Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*NEIC **01** 00:03:40.7±1.0, 35°.285N±0°.008×97°.76W±0°.02, h6^{km}±2^{km}, Error ellipse: s-maj=1.9km s-min=1.0km az=72.0*

NEIC 01 00:03:40.5±0.9**, 35°.280N**±0°.008×**97°.778W**±0°.010**, h5**^{km}±1^{km}**, ML1.9**/6**, ML1.8**/34**, Error ellipse: s-maj=2.2km s-min=1.7km az=142.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.31	94	Pg	Pg	00 03 46.9	+0.3
FNO				Sg	Sg	00 03 51.6	+0.9
OK029	Liberty Lake	0.58	27		Pg	00 03 52.4	+0.7
OK029					Sg	00 03 59.8	+0.5
OK029				IAML		00 04 04.3	
	39nm,0.2s						
OK029				IAML		00 04 12.0	
	52nm,0.3s						
WMOK	Wichita Mounta	0.98	237		Pg	00 03 59.0	-0.4
WMOK					Sb	00 04 13.1	-0.4
OK052	Battle Ridge R	1.07	48	Pg	Pg	00 04 00.6	-0.5
OK052					Sg	00 04 14.8	-0.1
DEOK	Depew	1.19	61	Pg	Pg	00 04 01.8	-1.4
DEOK				IAML		00 04 24.4	
	comp=N,20nm,0.6s						
DEOK				IAML		00 04 24.5	
	comp=E,30nm,0.3s						
CROK	Carrier	1.23	352	Pg	Pg	00 04 03.4	-0.8
QUOK	Quay	1.25	44	Pg	Pg	00 04 03.4	-1.0
OK038	West end E0370	1.43	327		Pn	00 04 06.8	-0.3
TUL3	Leonard	1.74	68	Pn	Pn	00 04 11.1	-0.2

---

*IDC **01** 00:32:08.0±1.6, 7°.99S×122°.94E, h243^{km}±16^{km}, mb3.0/3, mbtmp3.8/7, Error ellipse: s-maj=86.7km s-min=18.4km az=59.0*

*NEIC **01** 00:32:08.2±0.8, 7°.9S±0°.2×123°.0E±0°.1, h242^{km}±10^{km}, mb4.1/6, Error ellipse: s-maj=24.5km s-min=15.9km az=205.0*

ISC 01 00:32:08.6±1.1**, 8°.0S**±0°.1×**123°.0E**±0°.1**, h250**^{km}**, n19,** σ**1ˢ10**/24**, mb3.7**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.01	231		Pn	00 32 42.4	-1.3
MMRI				Sn	S	00 33 10.1	-1.2
SOEI	Soe	2.14	145		Pn	00 32 52.2	-0.2
SOEI				Sn	S	00 33 25.9	-1.1
BATI	Baumata	2.29	164	P	Pn	00 32 52.7	-1.1
	67nm,0.4s,baz=344,slow=7.4,SNR=9.5						
BATI				S	S	00 33 28.9	-0.7
	121nm,0.3s,baz=148,slow=21,SNR=13						
KNRA	Kununurra	9.47	144	Pn	Pn	00 34 21.0	+0.4
FITZ	Fitzroy Crossi	10.36	166	Pn	Pn	00 34 32.5	+0.7
FITZ	Fitzroy Crossi	10.36	166	P	Pn	00 34 32.3	+0.5
	1.1nm,0.3s,baz=5.2,slow=11,SNR=9.0						
FITZ				S	S	00 36 26.2	-1.9
	4.2nm,0.4s,baz=78,slow=6.6,SNR=6.3						
MBWA	Marble Bar	13.47	193		P	00 35 12.9	+1.4
WB0	Warramunga Arr	16.07	138	P	P	00 35 40.6	+0.3
WB0				IAmb	IAmb	00 35 40.9	
	comp=Z,5.8nm,0.9s						
WRA	Warramunga Arr	16.16	138	P	P	00 35 40.9	-0.4
WRA	Warramunga Arr	16.16	138	P	P	00 35 41.4	+0.1
	comp=Z,2.0nm,0.6s,baz=314,slow=12,SNR=13						
WRA				S	S	00 38 35.4	-2.6
	comp=Z,0.5nm,0.8s,baz=316,slow=24,SNR=1.8						
AS31	Alice Springs	18.75	147	P	P	00 36 10.4	+1.0
AS31				IAmb	IAmb	00 36 15.4	
	comp=Z,3.4nm,0.5s						
ASAR	Alice Springs	18.75	147	P	P	00 36 10.4	+1.0
ASAR	Alice Springs	18.75	147	P	P	00 36 10.8	+1.4
	comp=Z,4.8nm,0.7s,baz=321,slow=11,SNR=27						
MORW	Morawa	21.97	197	P	P	00 36 42.7	+0.3
BBOO	Buckleboo	27.49	156	P	P	00 37 32.6	+0.5
BBOO				IAmb	IAmb	00 37 48.2	
	comp=Z,8.3nm,1.2s						
STKA	Stephens Creek	29.38	146	P	P	00 37 49.7	+0.9
	comp=Z,0.6nm,0.3s,baz=323,slow=10,SNR=1.7						
	comp=Z,0.6nm,0.3s						
MKAR	Makanchi Array	65.47	330	P	P	00 42 25.1	+0.1
	comp=Z,0.3nm,0.6s,baz=134,slow=8.3,SNR=2.8						
	comp=Z,0.3nm,0.6s						
KURBB	Kurchatov Arra	69.91	332	P	P	00 42 51.8	-0.8
	comp=Z,0.1nm,0.4s,baz=139,slow=5.7,SNR=2.5						
	comp=Z,0.1nm,0.4s						
QSPA	South Pole Qui	81.99	180	P	P	00 44 01.2	+0.6
QSPA				IAmb	IAmb	00 44 08.9	
	comp=Z,2.3nm,1.3s						

---

*NEIC **01** 00:43:18.7±1.7, 14°.17N±0°.08×93°.46E±0°.09, h10^{km}±1^{km}, mb4.5/26, Error ellipse: s-maj=15.1km s-min=12.1km az=243.0*

*NDI **01** 00:43:21.2±1.7, 14°.29N×93°.51E, h8^{km}±13^{km}, ML4.6, MW4.4, mb4.5(NEIC)*

*IDC **01** 00:43:22.3±3.0, 14°.13N×93°.53E, h40^{km}±28^{km}, mb3.7/17, mbtmp4.0/20, ML4.2/3, MS3.3/18, Error ellipse: s-maj=19.0km s-min=15.2km az=82.0*

*BKK **01** 00:43:23.0±1.8, 14°N±5°×9°4E±1°6, h10^{km}, M4.3/11, mB4.6/5, mb4.6/8, Mjma4.2/11, ML4.7/10, MLv4.4/6, Mw(mB)3.8/5*

ISC 01 00:43:21.4±0.4**, 14°.30N**±0°.05×**93°.43E**±0°.05**, h30**^{km}**, n81,** σ**1ˢ80**/82**, mb4.2**/27**, MS3.3**/15**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	1.22	204	eP	Pb	00 43 45.2	+1.4
DGPR				eS	Sb	00 44 02.0	+2.8
DGPR				IAML		00 44 06.6	
	comp=N,5μm,0.2s						
DGPR				IAML		00 44 06.9	
	comp=E,5μm,0.4s						
KHLT	Khaolaem Dam	5.02	84	P	Pn	00 44 35.8	+1.1
UTHA	Uthaitani	5.95	77	P	Pn	00 44 49.7	+2.3
	comp=E,0.7nmcomp=E,18nm,0.5s						
CM31	Chiang Mai Arr	6.71	51		Pn	00 44 58.6	+0.6
CMAR	Chiang Mai Arr	6.71	51		Pn	00 44 58.9	+0.9
CMAR	Chiang Mai Arr	6.71	51	P	Pn	00 44 59.1	+1.1
	comp=E,2.5nm,0.3s,baz=240,slow=15,SNR=24						
CMAR				S	Sn	00 46 15.5	+2.0
	comp=E,7.3nm,0.8s,baz=238,slow=28,SNR=5.3						
CMAR				LR	LR	00 48 06.8	
	comp=E,151nm,20.4s,baz=235,slow=42						
	comp=E,8.7nm,0.6s						
CHTO	Chiang Mai	6.93	49		Pn	00 45 01.5	+0.5
RNTT	Ranong	6.94	134	P	Pn	00 45 02.5	+1.4
	comp=E,0.3nmcomp=E,0.2nmcomp=E,0.8nmcomp=E,24nm,0.5s						
CMAI	Chiengmai2	7.76	43	P	Pn	00 45 14.9	+2.4
	comp=E,0.3nmcomp=E,0.4nmcomp=E,25nm,0.5s						
SRIT	Nakonsritamara	8.29	132		Pn	00 45 18.6	-1.1
BWNR	Bhubaneshwar	9.41	310	eP	Pn	00 45 37.0	+1.9
BWNR				eS	Sn	00 47 14.4	-5.5
BWNR				IAML		00 47 15.5	
	comp=N,564nm,0.2s						
BWNR				IAML		00 47 15.6	
	comp=E,517nm,0.2s						
AZL	Aizawl	9.41	356	eP	Pn	00 45 36.5	+1.4
AZL				eS	Sn	00 47 15.5	-4.7
AZL				IAML		00 47 20.1	
	comp=N,391nm,0.3s						
VIS	Vishakhapatnam	10.29	291	eP	Pn	00 45 49.3	+2.2
VIS				eS	Sn	00 47 36.9	-4.6
VIS				IAML		00 47 38.2	
	comp=N,282nm,0.4s						
VIS				IAML		00 47 38.8	
	comp=E,271nm,0.3s						
SHL	Shillong	11.30	353	Pn	Pn	00 46 02.7	+1.6
KOHI	KOHIMA	11.38	3	eP	Pn	00 46 02.4	+0.3
KOHI				eS	Sn	00 48 01.4	-6.9
KOHI				IAML		00 48 01.9	
	comp=N,158nm,0.2s						
KULM	Kulim	11.43	141		Pn	00 46 01.7	-1.0
BOK	Bokaro	11.83	324	eP	Pn	00 46 10.9	+2.7
BOK				eS	Sn	00 48 14.3	-5.0
BOK				IAML		00 48 15.2	
	comp=N,117nm,0.3s						
BOK				IAML		00 48 15.2	
	comp=E,66nm,0.5s						
SHBG	Sahibganj	12.14	334	eP	Pn	00 46 14.6	+2.2
SHBG				eS	Sn	00 48 21.5	-5.2
SHBG				IAML		00 48 24.1	
	comp=E,151nm,0.2s						
SHBG				IAML		00 48 24.2	
	comp=N,125nm,0.2s						
TEZP	TEZPUR	12.27	357	eP	Pn	00 46 14.4	+0.3
TEZP				eS	Sn	00 48 23.1	-6.8
TEZP				IAML		00 48 24.1	
	comp=E,189nm,0.3s						
TEZP				IAML		00 48 24.3	
	comp=N,210nm,0.3s						
PSI	Prapat	12.65	154	P	Pn	00 46 17.7	-1.8
	comp=N,0.6nm,0.3s,baz=324,slow=8.7,SNR=1.4						
PSI				LR	LR	00 50 46.0	
	comp=N,99nm,20.4s,baz=292,slow=35						
	comp=N,2.7nm,0.3s						
RPSI	Rantau Prapat	12.74	154		Pn	00 46 17.7	-2.9
PALK	Pallekele	14.32	242	Pn	Pn	00 46 41.1	-1.2
PALK	Pallekele	14.32	242	P	Pn	00 46 42.3	0.0
	comp=N,0.6nm,0.3s,baz=62,slow=15,SNR=1.9						
PALK				S	Sn	00 49 10.2	-10
	comp=N,10nm,0.6s,baz=356,slow=19,SNR=4.7						
PALK				LR	LR	00 51 48.1	
	comp=N,103nm,21.1s,baz=67,slow=35						
	comp=N,5.3nm,0.6s						
HYB	Hyderabad	14.65	284	eP	P	00 46 52.8	+0.1
HYB				eS	S	00 49 49.6	+3.0
EVN	Everest	14.92	337		Pn	00 46 51.0	+0.2
LSA	Lhasa	15.47	353	Pn	Pn	00 46 59.6	+1.6
LSA				IAmb	IAmb	00 47 23.5	
	comp=Z,8.6nm,0.5s						
NIL	Nilore	26.57	320	P	P	00 48 57.3	+0.3
NIL				IAmb	IAmb	00 49 15.2	
	comp=Z,8.1nm,0.8s						
AAK	Ala-Archa	32.62	334	LR	LR	01 05 07.3	
	comp=Z,54nm,20.5s,baz=142,slow=40						
MKAR	Makanchi Array	33.71	346	P	P	00 50 01.2	+1.2
MKAR	Makanchi Array	33.71	346	P	P	00 50 01.7	+1.7
	comp=Z,0.5nm,0.7s,baz=149,slow=7.9,SNR=4.3						
MKAR				PcP	PcP	00 52 38.9	-0.4
	comp=Z,0.3nm,0.6s,baz=188,slow=2.9,SNR=1.8						
MKAR				LR	LR	01 06 10.0	
	comp=Z,32nm,19.3s,baz=103,slow=40						
	comp=Z,0.5nm,0.7s						
KK31	Karatay Array	34.81	330	P	P	00 50 09.8	+0.2
KKAR	Karatay Array	34.81	330	P	P	00 50 10.6	+1.0
SONM	Songino Array	35.13	15	P	P	00 50 12.8	+0.5
	comp=Z,0.4nm,0.4s,baz=190,slow=7.3,SNR=1.6						
SONM				LR	LR	01 06 43.8	
	comp=Z,51nm,20.1s,baz=190,slow=40						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	38.19	345	P	P	00 50 39.5	+1.3
	comp=Z,0.9nm,0.7s,baz=161,slow=7.8,SNR=11						
	comp=Z,0.9nm,0.7s						
KURK	Kurchatov	38.26	345	P	P	00 50 39.8	+1.0
KSRS	Korea Array	38.33	47	P	P	00 50 39.0	-0.6
	comp=Z,0.5nm,0.5s,baz=231,slow=7.7,SNR=2.2						
	comp=Z,0.5nm,0.5s						
JNU	Nakatsue	38.80	55	LR	LR	01 07 04.5	
	comp=Z,40nm,19.0s,baz=215,slow=37						
ZAA0	Zalesovo Array	40.13	352	P	P	00 50 55.4	+1.0
ZALV	Zalesovo Beam	40.13	352	P	P	00 50 55.1	+0.7
ZALV	Zalesovo Beam	40.13	352	P	P	00 50 55.8	+1.4
	comp=Z,1.4nm,0.5s,baz=178,slow=8.6,SNR=8.8						
ZALV				LR	LR	01 09 50.8	
	comp=Z,26nm,19.0s,baz=152,slow=39						
	comp=Z,1.4nm,0.5s						
BVAR	Borovoye Array	42.74	340	P	P	00 51 17.3	+1.4
	comp=Z,0.2nm,0.4s,baz=172,slow=4.4,SNR=2.0						
BVAR				LR	LR	01 12 10.4	
	comp=Z,22nm,19.8s,baz=194,slow=40						
	comp=Z,0.2nm,0.4s						
AB31	Akbulak array	44.35	329		P	00 51 28.8	0.0
AB31				IAmb	IAmb	00 51 47.1	
	comp=Z,3.7nm,0.8s						
ABKAR	Akbulak array	44.35	329	P	P	00 51 29.1	+0.3
FITZ	Fitzroy Crossi	45.22	134	P	P	00 51 33.7	-2.5
MJAR	Matsushiro Arr	45.60	53	LR	LR	01 12 22.0	
	comp=Z,31nm,19.5s,baz=182,slow=38						
MORW	Morawa	48.33	153	P	P	00 51 58.7	-1.7
GNI	Garni	49.60	311	LR	LR	01 16 14.8	
	comp=Z,20nm,19.3s,baz=126,slow=40						
ASAJ	Asahikawa	51.18	44	LR	LR	01 15 49.4	
	comp=Z,26nm,18.3s,baz=174,slow=38						
GURO	Guroymak-BITLI	51.20	308	P	P	00 52 23.4	+1.0
GURO				IAmb	IAmb	00 52 42.9	
	comp=Z,3.2nm,0.9s						
WB0	Warramunga Arr	52.63	129	P	P	00 52 30.8	-2.2
WRA	Warramunga Arr	52.70	129	P	P	00 52 31.1	-2.4
	comp=Z,1.1nm,0.8s,baz=312,slow=8.0,SNR=1.6						
	comp=Z,1.1nm,0.8s						
ASAR	Alice Springs	54.68	133	P	P	00 52 46.0	-2.0
	comp=Z,0.7nm,0.5s,baz=310,slow=6.8,SNR=11						
	comp=Z,0.7nm,0.5s						
KIRV	Kirov	54.95	334	LR	LR	01 19 09.9	
	comp=Z,36nm,20.3s,baz=112,slow=39						
MMAI	Mount Meron Ar	55.64	300	LR	LR	01 20 59.6	
	comp=Z,30nm,18.3s,baz=139,slow=40						
EIL	Elat	55.81	296	LR	LR	01 21 21.9	
	comp=Z,36nm,19.0s,baz=132,slow=41						
FORT	Forrest	55.84	144	P	P	00 52 54.0	-2.2
FORT				IAmb	IAmb	00 52 56.0	
	comp=Z,6.1nm,1.1s						
BR131	Keskin Array S	57.83	308	P	P	00 53 10.3	-0.3
BRTR	Keskin Array B	57.83	308	P	P	00 53 10.4	-0.1
BRTR	Keskin Array B	57.83	308	P	P	00 53 10.9	+0.4
	comp=Z,1.3nm,0.9s,baz=113,slow=8.2,SNR=9.1						
	comp=Z,1.3nm,0.9s						
RDO	Rodhopi	64.13	309	P	P	00 53 53.6	+0.6
RDO				IAmb	IAmb	00 54 28.2	
	comp=Z,2.7nm,0.9s						
BURAR	Bucovina Array	64.90	316	P	P	00 53 58.6	+0.4
FINES	FINESS Array B	66.76	331	P	P	00 54 09.9	+0.3
FINES	FINESS Array B	66.76	331	P	P	00 54 10.2	+0.5
	comp=Z,1.7nm,0.7s,baz=144,slow=4.2,SNR=4.9						
	comp=Z,1.7nm,0.7s						
ITM	Ithomi	66.84	305	P	P	00 54 10.2	-0.6
ARCES	ARCESS Array B	69.03	340	P	P	00 54 24.7	+0.8
	comp=Z,2.5nm,0.9s,baz=106,slow=6.9,SNR=3.8						
ARCES				LR	LR	01 28 18.8	
	comp=Z,42nm,18.4s,baz=216,slow=39						
	comp=Z,2.5nm,0.9s						
LSZ	Lusaka	70.88	248	P	P	00 54 36.0	-0.3
LSZ				IAmb	IAmb	00 54 38.5	
	comp=Z,4.2nm,0.8s						
HFS	Hagfors	72.61	329	P	P	00 54 46.0	+0.2
	comp=Z,1.8nm,0.8s,baz=106,slow=5.4,SNR=7.2						
HFS				LR	LR	01 30 10.5	
	comp=Z,19nm,19.6s,baz=138,slow=39						
	comp=Z,1.8nm,0.8s						
GEC2	GERESS Array S	72.64	317	P	P	00 54 46.8	+0.5
GEC2				IAmb	IAmb	00 54 48.0	
	comp=Z,2.7nm,0.9s						
GERES	GERESS Array B	72.64	317	P	P	00 54 46.8	+0.5
	comp=Z,1.5nm,0.7s,baz=86,slow=5.5,SNR=18						
	comp=Z,1.5nm,0.7s						
STAL	STALIGIAL	73.43	314	P	P	00 54 50.5	-0.5
STAL				IAmb	IAmb	00 55 09.0	
	comp=Z,2.9nm,0.8s						
SPITS	Spitsbergen Ar	73.45	348	P	P	00 54 51.2	+0.7
	comp=Z,0.8nm,0.5s,baz=88,slow=4.6,SNR=1.0						
	comp=Z,0.8nm,0.5s						
NOA	NORSAR Array B	73.84	330	P	P	00 54 52.9	-0.2
	comp=Z,0.4nm,0.7s,baz=128,slow=2.7,SNR=2.3						
NOA				LR	LR	01 30 33.2	
	comp=Z,18nm,18.2s,baz=80,slow=38						
	comp=Z,0.4nm,0.7s						
MREMI	Moremi	74.28	241	P	P	00 54 56.7	+0.3
MREMI				IAmb	IAmb	00 54 57.8	
	comp=Z,5.4nm,0.7s						
KSANE	Kasane	74.49	247	P	P	00 54 58.2	+0.5
KSANE				IAmb	IAmb	00 54 59.9	
	comp=Z,5.4nm,0.7s						
LPHEP	Lephephe	75.93	241	P	P	00 55 05.4	-0.5
LBTB	Lobatse	76.78	240	P	P	00 55 09.9	-0.9
LBTB				IAmb	IAmb	00 55 16.4	
	comp=Z,6.3nm,1.2s						
SENIN	Lac Senin/Sane	77.15	315	P	P	00 55 12.8	+0.2
SENIN				IAmb	IAmb	00 55 14.2	
	comp=Z,8.9nm,1.4s						
BOSA	Boshof	78.47	236	P	P	00 55 20.1	0.0
BOSA	Boshof	78.47	236	P	P	00 55 20.2	+0.1
	comp=Z,5.2nm,0.7s,baz=62,slow=4.1,SNR=15						
	comp=Z,5.2nm,0.7s						
TORD	Torodi Ar. Bea	88.46	283	P	P	00 56 11.9	+0.3
	comp=Z,2.1nm,0.7s,baz=74,slow=4.8,SNR=16						
	comp=Z,2.1nm,0.7s						
TXAR	Lajitas Array	133.59	21	PKP	PKPdf	01 02 36.2	+0.3
	comp=Z,0.2nm,0.5s,baz=294,slow=0.5,SNR=5.2						

---

*SDD **01** 00:48:16.5±1.9, 19°.49N×67°.81W, h20^{km}±81^{km}, MD3.5, ML3.5, MW3.6*

*NEIC **01** 00:48:17.7±2.1, 19°.35N±0°.05×67°.78W±0°.04, h10^{km}±2^{km}, ML3.3/27, Md3.0/15(RSPR), Error ellipse: s-maj=9.2km s-min=5.3km az=33.0*

*OSPL **01** 00:48:18.3±1.5, 19°.40N×67°.76W, h0^{km}±7^{km}, ML3.3*

*RSPR **01** 00:48:19.2, 19°.53N×67°.80W, h9^{km}±3^{km}, MD3.0/15*

ISC 01 00:48:12.8±1.4**, 19°.60N**±0°.07×**67°.79W**±0°.03**, h10**^{km}±10^{km}**, n72,** σ**1ˢ03**/99**, 38C-4D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	1.22	208	eSg	Sb	00 48 50.0	-1.7
PCDR				IAML		00 49 00.2	
	comp=N,381nm,0.4s						
IDE	Isla Desecheo	1.24	166		Pn	00 48 35.2	-1.1
IDE					Sb	00 48 49.5	-3.0
IDE	Isla Desecheo	1.24	166	⇑eP	Pn	00 48 35.2	-1.1
IDE	Isla Desecheo	1.24	166	eS	Sb	00 48 49.5	-3.0
AGPR	Aguadilla, PR	1.29	150		Pg	00 48 37.7	0.0
AGPR					Sb	00 48 53.2	-0.7
AGPR				IAML		00 48 54.8	
	comp=N,834nm,0.3s						
AGPR				IAML		00 48 58.0	
	comp=E,667nm,0.5s						
AGPR	Aguadilla, PR	1.29	150	⇑eP	Pg	00 48 38.5	+0.8
AGPR	Aguadilla, PR	1.29	150	eS	Sb	00 48 54.2	+0.2
AGPR	Aguadilla, PR	1.29	150	i P	Pg	00 48 37.7	0.0
AGPR				eS	Sb	00 48 52.5	-1.5
AGPR				IAML		00 48 57.8	
	comp=Z,671nm,0.2s						
AGPR	Aguadilla, PR	1.29	150	⇑ePg	Pg	00 48 37.5	-0.2
AGPR				⇑eSg	Sb	00 48 53.8	-0.2
AGPR				IAML		00 48 54.7	
	comp=N,1μm,0.2s						
HIDR	Higuey Centro	1.33	221	⇑eP	Pn	00 48 37.1	-0.5
HIDR	Higuey Centro	1.33	221	eS	Sb	00 48 52.9	-2.2
HIDR	Higuey Centro	1.33	221	⇑ePg	Pn	00 48 37.1	-0.5
HIDR				⇑eSg	Sb	00 48 53.2	-1.9
HIDR				IAML		00 48 55.9	
	comp=N,2μm,0.2s						
MIDR	Miches	1.34	243	⇑ePg	Pg	00 48 39.1	+0.5
MIDR				⇑eSg	Sn	00 48 55.8	+0.3
MIDR				IAML		00 48 56.7	
	comp=N,892nm,0.3s						
SMDR	Samana, DR	1.36	257	⇑eP	Pg	00 48 40.0	+1.0
SMDR	Samana, DR	1.36	257	eS	Sg	00 48 57.6	+1.1
SMDR	Samana, DR	1.36	257	⇑ePg	Pg	00 48 39.9	+1.0
SMDR				⇑eSg	Sg	00 48 57.6	+1.1
SMDR				IAML		00 49 04.2	
	comp=N,311nm,0.7s						
PRSN	Puerto Rico Se	1.50	156		Pn	00 48 39.3	-0.6
PRSN					Sn	00 48 59.9	+0.4
PRSN	Puerto Rico Se	1.50	156	⇑eP	Pg	00 48 41.8	+0.1
PRSN	Puerto Rico Se	1.50	156	eS	Sn	00 49 00.4	+0.8
PRSN	Puerto Rico Se	1.50	156	⇓ePg	Pb	00 48 40.7	-0.1
PRSN				⇑eSg	Sn	00 49 00.3	+0.8
PRSN				IAML		00 49 03.1	
	comp=N,2μm,0.3s						
LSP	Las Mesas	1.56	155		Pg	00 48 43.0	+0.2
LSP					Sn	00 49 01.8	+0.7
LSP	Las Mesas	1.56	155	⇑eP	Pg	00 48 43.0	+0.2
LSP	Las Mesas	1.56	155	eS	Sn	00 49 01.8	+0.7
EMPR	Esperanza - Ma	1.63	133		Pg	00 48 44.5	+0.4
EMPR					Sb	00 49 04.6	+0.9
EMPR				IAML		00 49 17.7	
	comp=N,646nm,0.5s						
EMPR	Esperanza - Ma	1.63	133	⇑eP	Pg	00 48 45.4	+1.3
EMPR	Esperanza - Ma	1.63	133	eS	Sg	00 49 05.5	+0.3
UUPR	Utuado, UPR, P	1.68	143		Pb	00 48 44.1	+0.2
UUPR					Sb	00 49 05.2	+0.2
UUPR	Utuado, UPR, P	1.68	143	⇑eP	Pg	00 48 44.6	-0.4
UUPR	Utuado, UPR, P	1.68	143	eS	Sn	00 49 04.9	+1.0
SADR	Isla Saona	1.68	214	⇑ePg	Pn	00 48 43.1	+0.7
SADR				⇑eSg	Sn	00 49 05.3	+1.2
SADR				IAML		00 49 11.4	
	comp=N,375nm,0.4s						
CRPR	Cabo Rojo, PR	1.71	158		Pn	00 48 43.2	+0.5
CRPR					Sn	00 49 05.6	+0.9
CRPR				IAML		00 49 09.8	
	comp=E,372nm,0.5s						
CRPR	Cabo Rojo, PR	1.71	158	⇑eP	Pb	00 48 45.0	+0.7
CRPR	Cabo Rojo, PR	1.71	158	i P	Pb	00 48 44.4	+0.1
CRPR				eS	Sn	00 49 05.7	+1.0
CRPR				IAML		00 49 08.2	
	comp=Z,637nm,0.6s						
CRPR	Cabo Rojo, PR	1.71	158	⇑ePg	Pb	00 48 44.4	+0.1
CRPR				⇑eSg	Sn	00 49 05.7	+1.0
CRPR				IAML		00 49 10.2	
	comp=N,304nm,0.3s						
GBPR	Guanica, Bosqu	1.83	152		Pb	00 48 46.6	+0.2
GBPR	Guanica, Bosqu	1.83	152	⇑eP	Pb	00 48 46.6	+0.2
ECPR	Experimental S	1.85	133	⇑eP	Pg	00 48 47.7	-0.7
ECPR	Experimental S	1.85	133	eS	Sb	00 49 09.9	-0.2
CELP	Cerrillos	1.90	143		Pb	00 48 47.4	-0.2
CELP					Sn	00 49 10.8	+1.4
CELP				IAML		00 49 13.5	
	comp=N,325nm,0.2s						
CELP				IAML		00 49 15.2	
	comp=E,261nm,0.3s						
CELP	Cerrillos	1.90	143	⇓eP	Pb	00 48 47.8	+0.1
CELP	Cerrillos	1.90	143	eS	Sb	00 49 11.2	-0.3
CELP	Cerrillos	1.90	143	⇓ePg	Pb	00 48 47.8	+0.1
CELP				⇑eSg	Sb	00 49 11.1	-0.3
CELP				IAML		00 49 13.5	
	comp=N,341nm,0.2s						
OBIP	Obispado Ponce	1.91	144		Pb	00 48 47.6	-0.2
OBIP					Sn	00 49 10.2	+0.6
OBIP				IAML		00 49 18.0	
	comp=N,327nm,0.5s						
OBIP	Obispado Ponce	1.91	144	⇓eP	Pb	00 48 48.0	+0.2
OBIP	Obispado Ponce	1.91	144	eS	Sb	00 49 11.5	-0.2
NADR	Nagua	1.97	263	⇑ePg	Pg	00 48 50.7	+0.1
NADR				IAML		00 49 31.0	
	comp=N,779nm,0.4s						
GCPR	Guaynabo City	2.06	128		Pb	00 48 49.7	-0.7
GCPR	Guaynabo City	2.06	128	⇑eP	Pb	00 48 50.1	-0.3
SJG	San Juan	2.14	133		Pb	00 48 51.2	-0.6
SJG				IAML		00 49 23.1	
	comp=N,218nm,0.2s						
SJG				IAML		00 49 26.4	
	comp=N,224nm,0.3s						
SJG	San Juan	2.14	133	⇑eP	Pg	00 48 52.5	-1.4
SJG	San Juan	2.14	133	eS	Sn	00 49 17.1	+1.7
SJG	San Juan	2.14	133	i P	Pb	00 48 51.7	-0.1
SJG				eS	Sn	00 49 16.0	+0.6
SJG				IAML		00 49 24.5	
	comp=Z,145nm,0.2s						
DR08	Loma La Naviza	2.20	254	⇑ePg	Pg	00 48 54.6	-0.5
DR08				⇑eSg	Sb	00 49 20.9	+0.6
DR08				IAML		00 49 29.4	
	comp=N,4μm,0.2s						
IGPR	InterUniversit	2.27	135		Pb	00 48 54.2	+0.2
IGPR					Sn	00 49 20.0	+1.3
IGPR	InterUniversit	2.27	135	⇑eP	Pb	00 48 54.2	+0.2
IGPR	InterUniversit	2.27	135	eS	Sn	00 49 20.0	+1.3
PDPR	Patillas Dam,	2.29	133		Pb	00 48 52.5	-1.9
PDPR				IAML		00 49 21.4	
	comp=N,167nm,0.2s						
PDPR	Patillas Dam,	2.29	133	⇑eP	Pb	00 48 54.6	+0.2
PDPR	Patillas Dam,	2.29	133	eS	Sn	00 49 20.6	+1.5
SDD	Santo Domingo	2.31	241		Pb	00 48 54.5	-0.1
SDD					Sn	00 49 21.0	+1.5
SDD				IAML		00 49 25.1	
	comp=E,130nm,0.9s						
SDD	Santo Domingo	2.31	241	⇑eP	Pb	00 48 54.7	+0.1
SDD	Santo Domingo	2.31	241	i P	Pb	00 48 54.7	+0.1
SDD				eS	Sn	00 49 21.7	+2.2
SDD	Santo Domingo	2.31	241	⇑ePg	Pb	00 48 55.0	+0.4
SDD				⇑eSg	Sb	00 49 23.1	-0.1
SDD				IAML		00 49 36.2	
	comp=N,35nm,1.5s						
HUMP	Col San Antoni	2.34	128		Pb	00 48 53.4	-1.7
HUMP					Sn	00 49 21.0	+0.8
HUMP				IAML		00 49 28.5	
	comp=E,171nm,0.2s						
HUMP	Col San Antoni	2.34	128	⇑eP	Pb	00 48 54.4	-0.7
HUMP	Col San Antoni	2.34	128	eS	Sn	00 49 21.6	+1.4
BANI	BANI	2.71	244	Pn	Pb	00 49 00.8	-0.8
BANI	BANI	2.71	244	⇑ePg	Pb	00 49 01.7	+0.1
BANI				IAML		00 49 41.6	
	comp=N,211nm,0.8s						
SC01	Santiago de lo	2.78	267	Pn	Pb	00 49 01.5	-1.1

SC01				IAML			00 49 59.3	
	comp=N,169nm,0.6s							
ABDR	**Alto Bandera**	**2.79**	**254**	*e*Pg		**Pb**	**00 49 02.8**	**-0.4**
ABDR				⇑*e*Sg		**Sb**	**00 49 37.1**	**-0.5**
ABDR				IAML			00 49 49.0	
	comp=N,161nm,0.9s							
SDDR	**Presa de Saban**	**3.36**	**260**			**Pb**	**00 49 09.9**	**-2.8**
SDDR				IAML			00 50 06.0	
	comp=N,98nm,0.8s							
SDDR				IAML			00 50 10.2	
	comp=N,101nm,0.8s							
SDDR	**Presa de Saban**	**3.36**	**260**	*i* P		**Pb**	**00 49 10.3**	**-2.3**
SDDR				IAML			00 50 10.7	
	comp=Z,59nm,0.7s							

*IDC **01** 01:11:20.0±0.9,55˙00S×31˙35W,h0km,mb3.8/7, mbtmp3.9/7,MS3.5/3,Error ellipse: s-maj=40.5km s-min=18.8km az=70.0*

*NEIC **01** 01:11:21.7±1.7,55˙1S±0˙1×31˙6W±0˙2,h10km±1km, mb4.5/14,Error ellipse: s-maj=23.7km s-min=15.1km az=201.0*

ISC 01 01:11:21.5±0.5,55˙1S±0˙1×31˙5W±0˙1,h10km,n47, σ0871/41,mb4.4/11,4D,South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.98**	**283**		**Pn**	**01 12 07.6**	**-1.0**
VNA1	**Neumayer--Stat**	**18.69**	**156**	⇓P	**P**	**01 15 39.3**	**-0.1**
	comp=Z,6.0nm,0.9s						
PMSA	**Palmer Station**	**18.76**	**226**	LR	LR	01 22 18.7	
	comp=Z,111nm,18.7s,baz=18,slow=35						
VNA3	**Neumayer Olymp**	**18.81**	**158**	⇓P	**P**	**01 15 40.8**	**0.0**
	comp=Z,6.9nm,0.8s						
SNAA	**Sanae**	**20.69**	**155**	⇓P	**P**	**01 16 01.8**	**+0.5**
	comp=Z,76nm,0.7s						
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**01 16 01.4**	**+0.1**
SNAA	**Sanae**	**20.69**	**155**	P	**P**	**01 16 02.4**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=303,slow=9.9,SNR=10						
	comp=Z,3.9nm,0.9s						
TROLL	**Troll, Antarti**	**22.26**	**153**	⇓P	**P**	**01 16 19.5**	**+1.2**
	comp=Z,217nm,0.7s						
MG04	**Isla Riesco**	**23.44**	**259**	P	**P**	**01 16 30.0**	**-0.5**
MG05	**Puerto Natales**	**24.43**	**261**	P	**P**	**01 16 38.7**	**-1.1**
MG05				IAmb	IAmb	01 16 40.6	
	comp=Z,17nm,1.0s						
CPUP	**Villa Florida**	**34.33**	**316**	P	**P**	**01 18 08.9**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=170,slow=6.1,SNR=5.0						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**01 18 16.3**	**+0.8**
QSPA				IAmb	IAmb	01 18 17.5	
	comp=Z,6.0nm,1.3s						
QSPA	**South Pole Qui**	**35.21**	**180**	P	**P**	**01 18 16.2**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=179,slow=4.9,SNR=7.5						
QSPA				LR	LR	01 31 38.8	
	comp=Z,67nm,18.8s,baz=212,slow=35						
	comp=Z,1.9nm,1.0s						
GO02	**Mina Guanaco**	**40.85**	**301**	P	**P**	**01 19 04.1**	**+0.5**
BDFB	**Brasilia**	**41.34**	**336**	P	**P**	**01 19 08.3**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=168,slow=9.3,SNR=1.8						
	comp=Z,0.9nm,0.3s						
AF01	**San Pedro de A**	**42.03**	**305**	P	**P**	**01 19 13.3**	**-0.1**
SIV	**San Ignacio**	**45.13**	**318**	LR	LR	01 39 12.7	
	comp=Z,47nm,18.3s,baz=116,slow=37						
VNDA	**Vanda**	**47.44**	**184**	P	**P**	**01 19 55.4**	**0.0**
	comp=Z,0.8nm,0.8s,baz=168,slow=11,SNR=4.0						
	comp=Z,0.8nm,0.8s						
LPAZ	**La Paz**	**47.80**	**309**	P	**P**	**01 20 00.4**	**+0.7**
LPAZ				IAmb	IAmb	01 20 03.6	
	comp=Z,2.1nm,0.7s						
LPAZ	**La Paz**	**47.80**	**309**	P	**P**	**01 19 59.9**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=148,slow=8.4,SNR=8.7						
	comp=Z,2.1nm,0.6s						
H10N1	**ASCENSION HYDR**	**49.00**	**23**	T	T	02 13 32.1	
	baz=192,slow=75,SNR=2.7						
H10N3	**ASCENSION HYDR**	**49.00**	**23**	T	T	02 13 36.5	
	baz=192,slow=75,SNR=5.7						
H10N2	**ASCENSION HYDR**	**49.02**	**23**	T	T	02 13 37.6	
	baz=192,slow=75,SNR=7.2						
KOOLE	**Kule**	**49.75**	**71**	P	**P**	**01 20 12.1**	**-1.9**
LBTB	**Lobatse**	**51.15**	**78**	P	**P**	**01 20 23.9**	**-0.7**
LBTB				IAmb	IAmb	01 20 24.9	
	comp=Z,9.6nm,1.1s						
GRTLG	**Ghanzi**	**51.62**	**71**	P	**P**	**01 20 27.6**	**-0.6**
GRTLG				IAmb	IAmb	01 20 30.9	
	comp=Z,5.1nm,1.2s						
GMARE	**Gumare**	**53.74**	**71**	P	**P**	**01 20 44.3**	**+0.5**
MREMI	**Moremi**	**54.11**	**78**	P	**P**	**01 20 46.0**	**-0.5**
MREMI				IAmb	IAmb	01 20 50.5	
	comp=Z,6.1nm,1.0s						
CASY	**Casey**	**55.65**	**162**	P	**P**	**01 20 56.3**	**-0.7**
CASY				IAmb	IAmb	01 20 59.2	
	comp=Z,8.0nm,1.5s						
BOAV	**Boa Vista**	**62.03**	**327**	P	**P**	**01 21 41.7**	**-0.1**
BOAV				IAmb	IAmb	01 21 45.0	
	comp=Z,5.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.50**	**34**	P	**P**	**01 22 54.1**	**0.0**
TORD	**Torodi Ar. Bea**	**73.50**	**34**	P	**P**	**01 22 53.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=200,slow=6.6,SNR=5.2						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**144.16**	**65**	PKPdf	**PKPdf**	**01 30 55.6**	**-0.5**
ZALV	**Zalesovo Beam**	**144.16**	**65**	PKP	**PKPdf**	**01 30 55.5**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=250,slow=3.0,SNR=4.5						
G29M	**Pine Creek**	**144.68**	**319**	PKPdf	PKPbc	01 30 56.4	+0.7
M27K	**Edge Creek, AK**	**144.76**	**311**	PKPbc	**PKPab**	**01 30 56.4**	**+0.2**
BCAR	**Beaver Creek A**	**144.96**	**312**	PKPbc	**PKPbc**	**01 30 56.2**	**-0.6**
I28M	**Miner Creek**	**144.97**	**316**	PKPbc	**PKPbc**	**01 30 56.8**	**0.0**
VRDI	**Verde Repeater**	**145.05**	**308**	PKPbc	**PKPbc**	**01 30 57.2**	**-0.1**
ILAR	**Eielson Array**	**147.62**	**314**	PKPbc	**PKPdf**	**01 31 03.3**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=122,slow=1.9,SNR=13						
RED	**Redoubt Volcan**	**149.11**	**304**	PKPab	**PKPab**	**01 31 13.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**149.20**	**312**	PKPbc	**PKPbc**	**01 31 08.8**	**+0.1**
G23K	**Bananza Creek**	**149.26**	**317**	PKPbc	**PKiKP**	**01 31 10.3**	**+0.3**
TOLK	**Toolik Lake Re**	**149.32**	**321**	PKPbc	**PKiKP**	**01 31 09.8**	**-0.2**
C23K	**Itkillik River**	**149.77**	**323**	PKPbc	**PKiKP**	**01 31 11.0**	**+0.1**
P18K	**Big Mountain,**	**150.00**	**302**	PKPbc	**PKPbc**	**01 31 10.6**	**-0.2**
SONM	**Songino Array**	**153.15**	**88**	PKPbc	**PKPbc**	**01 31 17.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=247,slow=3.0,SNR=2.1						

*NEIC **01** 01:15:12.2±2.0,23˙50N±0˙08×142˙8E±0˙1,h10km±1km, mb4.8/19,Error ellipse: s-maj=19.7km s-min=13.0km az=86.0*

*IDC **01** 01:15:19.3±2.8,23˙53N×142˙61E,h70km±24km,mb3.8/14, mbtmp4.2/19,MS3.3/2,Error ellipse: s-maj=36.3km s-min=16.9km az=82.0*

*JMA **01** 01:15:25.4±0.2,23˙9N±0˙7×142˙4E±0˙7,h119km,IOTO ISLANDS REGION*

ISC 01 01:15:21.9±0.6,23˙69N±0˙06×142˙8E±0˙1,h100km,n80, σ2819/76,mb4.4/24,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.98**	**349**	*e*P	**Pn**	**01 16 08.7**	**+1.3**
JHH2				*e*S	**Sn**	**01 16 42.2**	**-0.3**
JHH2	**Haha-jima-NKT2**	**2.98**	**349**	A	A	01 16 08.7	
	comp=N,6.0nm,0.4s,comp=E,6.0nm,0.3s						
JCJ	**Chichijima**	**3.43**	**351**	Pn	**Pn**	**01 16 15.0**	**+1.5**
JCJ				Sn	**Sn**	**01 16 52.1**	**-1.2**
JCJ	**Chichijima**	**3.43**	**351**	P	**Pn**	**01 16 13.9**	**+0.5**
	comp=E,210nm,0.3s,baz=282,slow=23,SNR=137						
JCJ				S	**Sn**	**01 16 47.9**	**-5.4**
	comp=E,798nm,0.3s,baz=103,slow=24,SNR=26						
JCJ	**Chichijima**	**3.43**	**351**	P	**Pn**	**01 16 15.4**	**+1.9**
CBIJ	**Chichi jima**	**3.44**	**351**	P	**Pn**	**01 16 15.3**	**+1.8**
CBIJ				*e*S	**Sn**	**01 16 52.2**	**-1.1**
JHJ2	**Mitsune**	**9.74**	**345**	Pn	**Pn**	**01 17 34.6**	**-4.5**
JHJ2	**Mitsune**	**9.74**	**345**	P	**Pn**	**01 17 40.3**	**+1.2**
JHJ	**Hachijo jima 2**	**9.76**	**345**	P	**Pn**	**01 17 38.9**	**-0.4**
	comp=E,22nm,0.3s,baz=255,slow=22,SNR=1.6						
JHJ				S	**Sn**	**01 19 20.4**	**-6.5**
	comp=E,28nm,0.4s,baz=86,slow=19,SNR=2.0						
JKDJ	**Kitadaitoujima**	**10.69**	**285**	*e*P	**Pn**	**01 17 52.2**	**+0.3**
JMZ	**Minamidaito 2**	**10.73**	**284**	Pn	Pn	01 17 46.1	-6.4
JMZ	**Minamidaito 2**	**10.73**	**284**	P	**Pn**	**01 17 55.8**	**+3.3**
JMZ	**Minamidaito 2**	**10.73**	**284**	*e*P	**Pn**	**01 17 54.5**	**+2.0**
JKO	**Kozu shima**	**10.94**	**344**	*e*P	**Pn**	**01 17 55.8**	**+0.5**
BSO1	**Boso 1**	**11.04**	**352**	P	**Pn**	**01 17 56.0**	**-0.1**
BSO1				*e*S	**Sn**	**01 19 55.4**	**-1.8**
BSO3	**Boso 3**	**11.25**	**350**	*e*P	**Pn**	**01 17 58.3**	**-0.9**
JIM2	**Oshima 3**	**11.37**	**346**	*e*P	**Pn**	**01 17 56.6**	**-4.6**
INU	**Inuyama**	**12.65**	**338**		Pn	01 18 12.8	-5.4
INU	**Inuyama**	**12.65**	**338**	P	**Pn**	**01 18 19.5**	**+1.3**
JMN	**Monobe**	**12.69**	**324**		**Pn**	**01 18 14.6**	**-4.1**
JMN	**Monobe**	**12.69**	**324**	P	**Pn**	**01 18 21.8**	**+3.1**
JGF	**Kuroka**	**12.77**	**340**		**Pn**	**01 18 17.4**	**-2.4**
JGF	**Kuroka**	**12.77**	**340**	P	**Pn**	**01 18 19.5**	**-0.3**
MJAR	**Matsushiro Arr**	**13.40**	**344**		**Pn**	**01 18 24.7**	**-3.4**
MJAR	**Matsushiro Arr**	**13.40**	**344**	P	**Pn**	**01 18 25.9**	**-2.2**
	comp=E,2.1nm,0.3s,baz=164,slow=9.3,SNR=16						
MAJO	**Matsushiro**	**13.41**	**344**		**Pn**	**01 18 24.6**	**-3.5**
MAJO	**Matsushiro**	**13.41**	**344**	P	**Pn**	**01 18 29.5**	**+1.4**
MJB9	**Matsu-Tunnel**	**13.41**	**344**		**Pn**	**01 18 24.6**	**-3.5**
JNU	**Nakatsue**	**14.07**	**315**	Pn	**Pn**	**01 18 32.5**	**-4.2**
JNU	**Nakatsue**	**14.07**	**315**	P	**Pn**	**01 18 36.1**	**-0.6**
	comp=E,6.4nm,0.8s,baz=143,slow=8.3,SNR=5.1						
JNU				LR	LR	01 22 54.8	
	comp=E,95nm,18.2s,baz=26,slow=32						
JNU	**Nakatsue**	**14.07**	**315**	P	**P**	**01 18 41.8**	**+0.5**
JMM	**Marumori**	**14.23**	**354**	Pn	**Pn**	**01 18 36.8**	**-2.0**
JMM	**Marumori**	**14.23**	**354**	P	**Pn**	**01 18 37.7**	**-1.0**
JSD	**Sado**	**14.82**	**346**	P	**Pn**	**01 18 43.6**	**-2.6**
JTU	**Tsushima**	**15.91**	**316**	P	**P**	**01 19 04.1**	**+2.5**
JTM	**Tenmabayashi**	**17.11**	**356**		**Pn**	**01 19 14.2**	**-0.5**
JTM				IAmb	IAmb	01 19 18.7	
	comp=Z,20nm,0.6s						
KSRS	**Korea Array**	**18.73**	**320**	P	**P**	**01 19 33.0**	**+0.3**
	comp=Z,7.5nm,0.6s,baz=134,slow=12,SNR=33						
KSAR	**Wonju Array Be**	**18.75**	**320**		**P**	**01 19 30.9**	**-2.0**
KS19	**Wonju Array Si**	**18.80**	**321**		**P**	**01 19 32.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**22.30**	**339**	P	**P**	**01 20 10.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**22.30**	**339**	P	**P**	**01 20 10.4**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=158,slow=11,SNR=11						
	comp=Z,4.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**22.73**	**95**	T	T	01 44 18.6	
	baz=282,slow=74,SNR=16						
H11N2	**WAKE ISLAND Hy**	**22.73**	**95**	T	T	01 44 18.4	
	baz=282,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hy**	**22.74**	**95**	T	T	01 44 36.2	
	baz=282,slow=74,SNR=19						
TGY	**Tagaytay City**	**22.75**	**249**	LR	LR	01 26 32.8	
	comp=Z,104nm,21.6s,baz=165,slow=30						
H11S3	**WAKE ISLAND Hy**	**22.87**	**99**	T	T	01 44 23.9	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**22.88**	**98**	T	T	01 44 30.1	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**22.89**	**99**	T	T	01 45 02.8	
	baz=284						
FAKI	**Fak Fak**	**28.38**	**203**	P	**P**	**01 21 05.0**	**-1.8**
FAKI				IAmb	IAmb	01 21 07.0	
	comp=Z,33nm,1.0s						
HIA	**Hailar**	**31.30**	**330**	P	**P**	**01 21 31.7**	**-0.8**
HIA				IAmb	IAmb	01 21 40.1	
	comp=Z,4.8nm,0.6s						
ULN	**Ulaanbaatar**	**37.21**	**319**	P	**P**	**01 22 24.4**	**+0.7**
SONM	**Songino Array**	**37.59**	**319**	P	**P**	**01 22 27.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=141,slow=7.5,SNR=2.2						
	comp=Z,0.4nm,0.5s						
YAK	**Yakutsk**	**39.35**	**350**	P	**P**	**01 22 40.5**	**-0.6**
YAK				IAmb	IAmb	01 22 44.9	
	comp=Z,18nm,0.6s						
WR0	**Warramunga Arr**	**44.13**	**191**	P	**P**	**01 23 18.7**	**-1.9**
WR8	**Warramunga Arr**	**44.13**	**191**	P	**P**	**01 23 18.3**	**-2.3**
WRAB	**Tennant Creek**	**44.14**	**191**	P	**P**	**01 23 19.0**	**-1.7**
WRA	**Warramunga Arr**	**44.15**	**191**	P	**P**	**01 23 17.4**	**-3.3**
FITZ	**Fitzroy Crossi**	**44.78**	**203**	P	**P**	**01 23 24.6**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=35,slow=10,SNR=20						
	comp=Z,2.5nm,0.3s						
P08K	**Saint George I**	**47.59**	**34**	P	**P**	**01 23 48.7**	**+1.3**
P08K				IAmb	IAmb	01 23 49.3	
	comp=Z,122nm,1.0s						
EVN	**Everest**	**50.21**	**287**	P	**P**	**01 24 08.5**	**-0.1**
EVN				IAmb	IAmb	01 24 10.7	
	comp=Z,3.5nm,0.8s						
PINNC	**Pines Island,**	**51.89**	**151**	P	**P**	**01 24 20.0**	**-0.3**
PINNC				IAmb	IAmb	01 24 21.9	
	comp=Z,161nm,1.9s						
ZAA0	**Zalesovo Array**	**52.44**	**321**	P	**P**	**01 24 24.0**	**-0.1**
ZALV	**Zalesovo Beam**	**52.44**	**321**	P	**P**	**01 24 23.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=105,slow=9.8,SNR=4.4						
	comp=Z,0.9nm,0.3s						
MK31	**Makanchi Array**	**53.10**	**312**	P	**P**	**01 24 29.6**	**+0.5**
MKAR	**Makanchi Array**	**53.10**	**312**	P	**P**	**01 24 29.2**	**0.0**
MKAR	**Makanchi Array**	**53.10**	**312**	P	**P**	**01 24 29.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=88,slow=8.5,SNR=13						
	comp=Z,1.1nm,0.6s						
STKA	**Stephens Creek**	**55.27**	**181**	P	**P**	**01 24 43.5**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=356,slow=6.2,SNR=5.6						
	comp=Z,2.2nm,0.4s						
KURBB	**Kurchatov Arra**	**55.84**	**316**	P	**P**	**01 24 49.1**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=92,slow=8.0,SNR=38						
	comp=Z,2.7nm,0.6s						
FORT	**Forrest**	**55.97**	**195**	P	**P**	**01 24 50.0**	**0.0**
FORT				IAmb	IAmb	01 24 50.8	
	comp=Z,3.8nm,0.7s						
J20K	**Nowinta River**	**57.24**	**28**	P	**P**	**01 24 59.6**	**+1.1**
J20K				IAmb	IAmb	01 25 05.8	
	comp=Z,11nm,1.9s						
BOOM	**Boomskoye usch**	**57.63**	**306**	P	**P**	**01 25 01.5**	**-0.4**
BOOM				IAmb	IAmb	01 25 04.9	
	comp=Z,4.5nm,1.4s						
ILAR	**Eielson Array**	**60.44**	**28**	P	**P**	**01 25 22.7**	**+2.0**
	comp=Z,0.2nm,0.6s,baz=264,slow=8.4,SNR=3.0						
	comp=Z,0.2nm,0.6s						
BVAR	**Borovoye Array**	**60.94**	**319**	P	**P**	**01 25 25.1**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=86,slow=7.0,SNR=11						
	comp=Z,1.7nm,0.4s						
AB31	**Akbulak array**	**67.88**	**315**	P	**P**	**01 26 09.5**	**-0.1**
AB31				IAmb	IAmb	01 26 12.2	
	comp=Z,6.7nm,1.8s						
ABKAR	**Akbulak array**	**67.88**	**315**	P	**P**	**01 26 10.2**	**+0.7**
ARCES	**ARCESS Array B**	**76.93**	**341**	P	**P**	**01 27 05.3**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=79,slow=8.8,SNR=5.5						
	comp=Z,0.9nm,0.7s						
KBZ	**Khabaz**	**80.74**	**314**	P	**P**	**01 27 26.4**	**+2.1**
	comp=Z,4.5nm,0.8s,baz=90,slow=5.0,SNR=12						
	comp=Z,4.5nm,0.8s						
FINES	**FINESS Array B**	**81.24**	**334**	P	**P**	**01 27 28.3**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=64,slow=4.5,SNR=20						
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	**86.76**	**337**	P	**P**	**01 27 55.3**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=29,slow=3.3,SNR=1.3						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**88.72**	**313**	P	**P**	**01 28 05.7**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=59,slow=2.3,SNR=2.4						
	comp=Z,0.6nm,1.0s						

*BJI **01** 01:22:13.3,19˙84S×134˙35E,h11km,mB5.4/29,mb5.3/81, Ms4.8/18,Ms7 4.4/20*

*IDC **01** 01:22:14.9±0.4,19˙84S×133˙78E,h0km,mb5.2/16, mbtmp5.2/20,ML5.3/3,MS4.4/42,Error ellipse: s-maj=11.5km s-min=6.8km az=23.0*

*NOU **01** 01:22:14.5,20˙03S×133˙65E,h0km,ML5.2/81,Northern Territory, Australia*

*MOS **01** 01:22:15.7±1.1,19˙75S×133˙94E,h12km,mb5.6/42,Error ellipse: s-maj=9.9km s-min=5.8km az=117.0*

*AUST **01** 01:22:15.8±0.1,20˙S±2˙×13˙4E±˚,h10km,mb5.2/56, ML5.3/13,ML6.1/8,Mw5.0/33,MwMwp4.9/1,Mwp5.2/1, Error ellipse: s-maj=4.5km s-min=3.2km az=40.4,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.29; Mθθ-0.80; Mϕϕ-1.50; Mrθ2.19; Mθϕ1.17; Mϕr-0.24; Fault plane solution: Mo3.21097×10¹⁶ NP1: ϕs116.04661°,δ66.92699°,λ67.64591°. NP2: ϕs342.42531°,δ31.69372°,λ131.75961°. Principal axes: T 3.4551, Plg61.4947°, Azm351.7472°; N -0.5627, Plg20.4815°, Azm125.2019°; P -2.8924, Plg18.9375°, Azm222.5650°;*

*NEIC **01** 01:22:17.0±1.4,19˙77S±0˙07×133˙90E±0˙04,h10km±1km, mb5.4/50,Mww5.1/16 Error ellipse: s-maj=12.1km s-min=5.5km az=194.0*

*NEIC **01** 01:22:17.5,19˙77S×133˙70E,h12km,Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10¹⁶Nm; Mrr4.08; Mθθ-1.66; Mϕϕ-2.42; Mrθ-2.71; Mθϕ1.48; Mϕr0.46; Fault plane solution: Mo4.73000×10¹⁶ NP1: ϕs155.03000°,δ32.41000°,λ119.17000°. NP2: ϕs301.56000°,δ62.09000°,λ72.80000°. Principal axes: T 5.1568, Plg68.0000°, Azm177.0000°; N -1.0214, Plg15.0000°, Azm310.0000°; P -4.1354, Plg15.0000°, Azm44.0000°;*

*NEIC **01** 01:22:17.5,19˙77S×133˙92E,h12km*

*GCMT **01** 01:22:18.0±0.1,19˙82S±0˙01×133˙76E±0˙01,h12km, MW5.1/138,Moment Tensor Solution. s63,c81; s138,c200; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.12±.07; Mθθ-3.20±.07; Mϕϕ-1.92±.07; Mrθ-0.37±.25; Mθϕ2.25±.06; Mϕr-0.51±.26; Best double couple: Mo5.04600×10¹⁶ NP1:ϕs300.00000°,δ45.00000°, λ81.00000°. NP2:ϕs134.00000°,δ45.00000°,λ99.00000°. Principal axes: T 5.1930, Plg83.0000°, Azm126.0000°; N -0.2940, Plg7.0000°, Azm307.0000°; P -4.8990, Plg0.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 01:22:16.7±0.5,19˙87S±0˙03×133˙85E±0˙03,h15km±2km, h15km:pP-P,n747,σ1975/775,mb5.4/110,MS4.4/51, 54C-28D,Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I07AU	**WARRAMUNGA INF**	**0.46**	**98**	Pg	**Pb**	**01 22 26.4**	**-0.1**
	baz=277,slow=35						
WRA	**Warramunga Arr**	**0.47**	**99**		**Pg**	**01 22 25.6**	**-0.4**
WRA	**Warramunga Arr**	**0.47**	**99**	Pg	**Pg**	**01 22 25.9**	**-0.2**
	1μm,0.3s,baz=279,slow=18						
WRA				Lg	Lg	01 22 32.2	
	26μm,0.3s,baz=276,slow=31,SNR=94						
WRA				LR	LR	01 22 55.7	
	comp=Z,242μm,21.9s,baz=123,slow=74						
WRAB	**Tennant Creek**	**0.48**	**98**		**Pg**	**01 22 25.6**	**-0.6**
WRAB				Sg	**Sg**	**01 22 32.0**	**-0.6**
WRAB	**Tennant Creek**	**0.48**	**98**	⇓P	**Pg**	**01 22 26.1**	**-0.2**
WRAB				S	**Sg**	**01 22 32.1**	**-0.6**
WRAB	**Tennant Creek**	**0.48**	**98**	P	**Pg**	**01 22 25.6**	**-0.6**
WRAB						01 22 32.0	
WB0	**Warramunga Arr**	**0.52**	**79**		**Pg**	**01 22 26.2**	**-0.9**
WB0				Sg	**Sg**	**01 22 32.5**	**-1.6**
WB10	**Warramunga Arr**	**0.52**	**79**	⇓P	**Pg**	**01 22 26.4**	**-0.7**
WR8	**Warramunga Arr**	**0.62**	**98**		**Pg**	**01 22 28.4**	**-0.5**
WR8				Sg	**Sg**	**01 22 36.3**	**-0.9**
WR0	**Warramunga Arr**	**0.66**	**98**	⇓P	**Pg**	**01 22 29.2**	**-0.4**
AS06	**Alice Springs**	**3.76**	**178**	⇑P	**Pn**	**01 23 17.5**	**+3.2**
AS31	**Alice Springs**	**3.78**	**179**		**Pn**	**01 23 17.7**	**+3.2**
AS31	**Alice Springs**	**3.78**	**179**	P	**Pn**	**01 23 17.9**	**+3.4**
AS31	**Alice Springs**	**3.78**	**179**	S	**Sn**	**01 24 02.5**	**+3.8**
ASAR	**Alice Springs**	**3.78**	**179**		**Pn**	**01 23 17.1**	**+2.6**
ASAR	**Alice Springs**	**3.78**	**179**	Pn	**Pn**	**01 23 16.9**	**+2.3**
	253nm,0.3s,baz=6.5,slow=13,SNR=1325						
ASAR				Sn	**Sn**	**01 24 02.5**	**+3.8**
	235nm,0.3s,baz=357,slow=18,SNR=9.9						
ASAR				Lg	Lg	01 24 15.9	
	2μm,0.3s,baz=2.0,slow=31,SNR=21						
	386nm,0.4s						
QIS	**Mount Isa**	**5.45**	**98**	⇑P	**Pn**	**01 23 38.4**	**+1.0**
	comp=Z,718nm,0.9s,comp=Z,38nmcomp=Z,28884μm						
QIS	**Mount Isa**	**5.45**	**98**	S	**Sn**	**01 24 36.6**	**-3.4**
QIS	**Mount Isa**	**5.45**	**98**	P	**Pn**	**01 23 39.4**	**+1.9**
KNRA	**Kununurra**	**6.39**	**310**		**Pn**	**01 23 48.1**	**-2.3**
KNRA	**Kununurra**	**6.39**	**310**	P	**Pn**	**01 23 48.5**	**-1.9**
	comp=Z,179nm,0.5s,comp=Z,7.4nmcomp=Z,6217μm						
KNRA				S	**Sn**	**01 24 59.7**	**-3.5**
KDU	**Kakadu**	**7.26**	**349**	⇑P	**Pn**	**01 24 00.9**	**-1.5**
	comp=Z,418nm,0.4s,comp=Z,6.6nmcomp=Z,11026μm						
KDU	**Kakadu**	**7.26**	**349**	S	**Sn**	**01 25 20.0**	**-4.7**
KDU	**Kakadu**	**7.26**	**349**	P	**Pn**	**01 24 01.1**	**-1.3**
WRKA	**Warakurna**	**7.27**	**224**	P	**Pn**	**01 24 02.6**	**+0.1**
	comp=Z,108nm,1.0s,comp=Z,3.1nmcomp=Z,3861μm						
WRKA				S	**Sn**	**01 25 20.7**	**-4.1**
MTN	**Manton Dam**	**7.46**	**339**		**Pn**	**01 24 02.6**	**-2.5**
MTN	**Manton Dam**	**7.46**	**339**	⇓P	**Pn**	**01 24 02.7**	**-2.3**
MTN	**Manton Dam**	**7.46**	**339**	S	**Sn**	**01 25 24.0**	**-5.4**
MTN	**Manton Dam**	**7.46**	**339**	P	**Pn**	**01 24 03.2**	**-1.8**
DPH	**Darwin Parliam**	**7.91**	**338**	P	**Pn**	**01 24 08.9**	**-2.3**
	comp=Z,71nm,0.5s,comp=Z,23nmcomp=Z,3675μm						
DPH				S	**Sn**	**01 25 34.7**	**-5.8**
DRS	**Darwin Rock St**	**7.92**	**339**	P	**Pn**	**01 24 08.6**	**-2.8**
	comp=Z,73nm,0.4s,comp=Z,2.6nmcomp=Z,3966μm						
DRS				S	**Sn**

DNDOZ **Balladonia** 15.40 213 P Pn **01 25 49.5 -4.0**
MEEK Meekatharra 15.53 241 P Pn **01 25 50.5 -4.8**
MEEK Meekatharra 15.53 241 P Pn **01 25 50.7 -4.6**
KMBL Kambalda 15.72 221 P Pn **01 25 53.1 -4.6**
CMSA Cobar Meteorol 15.76 140 P Pn **01 25 54.0 -4.2**
CMSA Cobar Meteorol 15.76 140 P Pn **01 25 55.2 -3.0**
MMRI Maumere 15.84 313 Pn Pn **01 25 57.2 -2.2**
MMRI IAmb IAmb 01 26 05.2
comp=Z,236nm,1.0s
MMRI Maumere 15.84 313 P P **01 26 03.0 -0.1**
MMRI Maumere 15.84 313 P P **01 26 01.5 -1.6**
comp=Z,3μmcomp=Z,183nm,1.2s
BASI Baing, Sumba 16.00 305 P Pn **01 26 00.8 -0.6**
comp=Z,273nm,1.1s
EDFI Ende, Flores 16.14 312 P Pn **01 25 59.2 -4.1**
EDFI Ende, Flores 16.14 312 P Pn **01 25 59.6 -3.7**
comp=Z,117nm,1.3s
KELC Kelly Hill Cav 16.27 171 P Pn **01 26 02.6 -2.1**
PMG Port Moresby 16.54 53 Pn Pn **01 26 07.6 -0.7**
PMG Port Moresby 16.54 53 ⇓P Pn **01 26 08.4 0.0**
comp=Z,634nm,1.3s
PMG Port Moresby 16.54 53 P Pn **01 26 08.3 0.0**
comp=Z,612nm,1.3s
PMG Port Moresby 16.54 53 *de*P Pn **01 26 08.3 0.0**
PMG MLR MLR
comp=Z,10μm,11.0s
WSI Waingapu 16.56 306 P Pn **01 26 05.0 -3.5**
GD1S Gladstone Soft 16.56 107 P P **01 26 10.5 -0.5**
EIDS Eidsvold 16.82 112 ⇑P Pn **01 26 12.8 +1.0**
comp=Z,316nm,1.2s
EIDS Eidsvold 16.82 112 P P **01 26 13.7 -0.2**
FAKI Fak Fak 16.92 355 Pn Pn **01 26 09.9 -3.2**
FAKI IAmb IAmb 01 26 16.9
comp=Z,355nm,1.5s
FAKI Fak Fak 16.92 355 P Pn **01 26 10.3 -2.9**
FAKI Fak Fak 16.92 355 P Pn **01 26 10.8 -2.3**
FAKI Fak Fak 16.92 355 P Pn **01 26 09.7 -3.4**
comp=Z,2μmcomp=Z,120nm,1.2s
WBSI Waikabubak, Su 17.27 304 P Pn **01 26 18.0 +0.4**
comp=Z,4μmcomp=Z,317nm,1.3s
NLAI Namlea 17.79 337 P Pn **01 26 23.7 -0.3**
comp=Z,88nm,1.2s
NLAI Namlea 17.79 337 P Pn **01 26 22.6 -1.4**
comp=Z,2μmcomp=Z,148nm,1.2s
BBSI Bau Bau 18.02 321 P Pn **01 26 25.6 -1.2**
comp=Z,77nm,0.9s
BBSI Bau Bau 18.02 321 P Pn **01 26 25.4 -1.4**
comp=Z,3μmcomp=Z,129nm,1.2s
ARPS Mount Arapiles 18.23 159 ⇓P Pn **01 26 26.6 -2.7**
GENI Genyem 18.25 21 P P **01 26 30.8 +1.1**
comp=Z,0.0nmcomp=Z,133nm,0.6s
GENI Genyem 18.25 21 P P **01 26 31.7 +2.0**
GENI Genyem 18.25 21 P Pn **01 26 29.6 0.0**
comp=Z,2μmcomp=Z,4μmcomp=Z,135nm,0.6s
RKPI Ransiki, Papua 18.25 1 P P **01 26 30.5 +0.8**
comp=Z,164nm,0.8s
SMPI Sarmi 18.39 16 P P **01 26 31.2 -0.1**
comp=Z,3μmcomp=Z,170nm,1.4s
JAY Jayapura 18.50 22 P P **01 26 30.5 -2.1**
comp=Z,65nm,1.0s,baz=226,slow=4.4,SNR=11
JAY S Sn **01 29 50.8 -8.7**
comp=Z,38nm,1.1s,baz=49,slow=17,SNR=2.0
JAY Lg Lg 01 31 56.2
comp=Z,0.9nm,0.3s,baz=272,slow=9.9,SNR=3.2
JAY LR LR 01 34 25.0
comp=Z,5μm,18.3s,baz=168,slow=40
JAY Jayapura 18.50 22 P P **01 26 30.2 -2.4**
KLBR Kellerberrin 18.59 228 ⇓P P **01 26 27.8 -5.6**
KLBR Kellerberrin 18.59 228 P P **01 26 28.5 -4.9**
MORW Morawa 18.60 237 P P **01 26 29.0 -4.5**
MORW IAmb IAmb 01 26 35.8
comp=Z,254nm,1.4s
MORW Morawa 18.60 237 P P **01 26 28.7 -4.8**
MORW Morawa 18.60 237 P P **01 26 29.5 -4.0**
BAKI Biak 18.70 7 P P **01 26 34.8 +0.2**
comp=Z,3μmcomp=Z,202nm,1.2s
MGBR Mount Gambier 18.73 163 P Pn **01 26 36.7 +1.3**
BLDU Ballidu 18.81 232 P P **01 26 31.5 -4.3**
BLDU Ballidu 18.81 232 P P **01 26 31.7 -4.2**
CVQOZ **Cooralya Stati** 18.86 252 P P **01 26 35.2 -1.2**
comp=Z,721nm,1.3s
PLAI Plampang 19.03 303 P P **01 26 38.5 +0.2**
comp=Z,104nm,1.1s
PLAI Plampang 19.03 303 P P **01 26 38.2 -0.1**
PLAI Plampang 19.03 303 P P **01 26 38.5 +0.2**
comp=Z,2μmcomp=Z,104nm,1.1s
SWI Sorong 19.06 352 P P **01 26 37.9 -0.7**
comp=Z,2μmcomp=Z,101nm,1.4s
ARMA Armidale 19.20 127 P P **01 26 40.5 +0.3**
ARMA Armidale 19.20 127 P Pn **01 26 40.9 -0.3**
comp=Z,102nm,1.2s
ARMA Armidale 19.20 127 P Pn **01 26 41.5 +0.4**
SANI Sanana 19.31 336 P Pn **01 26 42.3 -0.1**
SANI Sanana 19.31 336 P P **01 26 37.9 -3.4**
comp=Z,2μmcomp=Z,82nm,1.3s
YNG Young 19.31 141 P Pn **01 26 42.1 -0.4**
comp=Z,103nm,1.4s
BRAT Ballarat 19.69 156 P P **01 26 46.0 +0.7**
comp=Z,116nm,1.3s
BRAT Ballarat 19.69 156 P P **01 26 45.7 +0.4**
NWAO Narrogin (SRO) 19.73 225 P P **01 26 43.6 -2.3**
NWAO IAmb IAmb 01 26 44.9
comp=Z,161nm,0.9s
NWAO Narrogin (SRO) 19.73 225 P P **01 26 42.3 -3.5**
comp=Z,110nm,0.8s,baz=49,slow=11,SNR=36
NWAO S S 01 30 09.2 -19
comp=Z,106nm,0.5s,baz=113,slow=4.7,SNR=8.3
NWAO Lg Lg 01 32 22.4
comp=Z,7.7nm,0.3s,baz=142,slow=14,SNR=3.8
NWAO LR LR 01 34 24.7
comp=Z,6μm,18.2s,baz=62,slow=37
NWAO Narrogin (SRO) 19.73 225 P P **01 26 43.3 -2.6**
NWAO Narrogin (SRO) 19.73 225 P P **01 26 43.6 -2.3**
NWAO pmax pmax
comp=Z,161nm,1.0s
GC1S Gold Coast 1 S 19.75 118 P Pn **01 26 47.7 +0.1**
MUN Mundaring 19.89 229 P P **01 26 45.1 -2.6**
comp=Z,166nm,1.6s
MUN Mundaring 19.89 229 P P **01 26 46.1 -1.6**
DLN Dalton (NSW) 20.07 141 P P **01 26 50.6 +0.9**
comp=Z,78nm,1.1s
GVL Greenvale 20.14 154 P Pn 01 26 51.6 -0.5
comp=Z,108nm,1.0s
KAPI Kappang 20.16 315 P P **01 26 50.4 -0.3**
KAPI Kappang 20.16 315 P P **01 26 48.5 -2.2**
comp=Z,9.7nm,0.7s,baz=130,slow=5.5,SNR=5.0
KAPI LR LR 01 35 25.0
comp=Z,514nm,20.3s,baz=104,slow=39
comp=Z,9.7nm,0.7s
KAPI Kappang 20.16 315 P P **01 26 50.7 0.0**
KAPI Kappang 20.16 315 ⇓*e*P P **01 26 51.0 +0.3**
KAPI pmax pmax
comp=Z,48nm,1.3s
KAPI MLR MLR
comp=Z,503nm,20.0s
YARR Yarramundi, NS 20.30 136 P Pn 01 26 53.8 -0.3
comp=Z,142nm,1.6s
MGCD Mangrove Creek 20.33 134 P Pn 01 26 53.9 -0.6
comp=Z,132nm,1.0s
MGCD Mangrove Creek 20.33 134 P P **01 26 52.8 +0.4**
TOO Toolangi 20.35 153 P P **01 26 53.4 +0.8**
TOO IAmb IAmb 01 26 56.5
comp=Z,379nm,1.4s
TOO Toolangi 20.35 153 P Pn 01 26 54.1 -0.6
TOO Toolangi 20.35 153 P P **01 26 53.4 +0.8**
TOO pmax pmax
comp=Z,379nm,1.4s
CAN Canberra 20.38 142 P P **01 26 53.0 0.0**
CAN Canberra 20.38 142 P P **01 26 54.1 +1.1**
comp=Z,443nm,1.5s
CAN Canberra 20.38 142 P P **01 26 54.1 +1.1**
CAN Canberra 20.38 142 P P **01 26 53.0 0.0**
CAN pmax pmax
comp=Z,1μm,1.6s
BNSI Bone 20.39 317 P Pn 01 26 55.3 0.0
comp=Z,3μmcomp=Z,149nm,1.6s
GEXS Deakin Univers 20.39 156 P Pn 01 26 54.5 -0.6
CATI Cattai, Sydney 20.41 135 P Pn 01 26 55.3 -0.2

SYDH Sydney Hard Ro 20.42 136 P Pn 01 26 55.5 0.0
SYDH Sydney Hard Ro 20.42 136 P Pn 01 26 54.8 -0.7
PHB Parliment Hous 20.45 142 P Pn 01 26 55.6 -0.3
comp=Z,96nm,0.9s
OKDL Oakdale 20.45 137 P Pn 01 26 55.6 -0.3
comp=Z,216nm,1.3s
NTLH Newcastle Hard 20.56 133 P Pn 01 26 56.8 -0.4
comp=Z,182nm,1.1s
NTLH Newcastle Hard 20.56 133 P P **01 26 55.9 +1.0**
CNB Canberra Magne 20.59 142 P P **01 26 56.3 +1.0**
comp=Z,282nm,1.6s
CNB Canberra Magne 20.59 142 P P **01 26 56.4 +1.0**
MABG Mt Annan Botan 20.63 137 P Pn 01 26 57.6 -0.3
comp=Z,152nm,1.1s
WTPK Wilton Park 20.64 137 P Pn 01 26 57.9 -0.3
comp=Z,128nm,1.2s
RIV Riverview 20.74 136 P Pn 01 26 58.7 -0.5
comp=Z,421nm,1.1s
RIV Riverview 20.74 136 P Pn 01 26 58.8 -0.4
WOLH Wollongong Har 20.91 137 P P **01 26 59.0 +0.3**
comp=Z,126nm,1.3s
SPSI Sidrap Palu 20.94 317 P P **01 27 00.0 +0.9**
RKGY Rocky Gully 20.94 222 P P **01 26 59.0 -0.1**
comp=Z,437nm,1.2s
SRBI Singaraja 21.52 300 P P **01 27 06.1 +0.7**
comp=Z,2μmcomp=Z,150nm,1.3s
TTSI Tana Toraja 21.62 319 P P **01 27 08.2 +1.8**
JAGI Jajag, Banyuwa 22.18 298 P P **01 27 11.1 -1.3**
JAGI IAmb IAmb 01 27 30.5
comp=Z,103nm,1.0s
JAGI Jajag, Banyuwa 22.18 298 P P **01 27 12.0 -0.5**
comp=Z,119nm,0.8s
JAGI Jajag, Banyuwa 22.18 298 P P **01 27 12.0 -0.5**
JAGI Jajag, Banyuwa 22.18 298 P P **01 27 10.2 -2.3**
comp=Z,121nm,0.8s
APSI Ampana 22.31 326 P P **01 27 09.1 -4.7**
comp=Z,2μmcomp=Z,91nm,1.6s
GMJI Gumukmas 22.87 297 P P **01 27 17.5 -2.4**
comp=Z,101nm,1.3s
PCI Palu 23.31 322 P P **01 27 23.6 -0.7**
comp=Z,4μmcomp=Z,254nm,1.2s
MRSI Marisa 23.35 329 P P **01 27 24.4 -0.3**
comp=Z,2μmcomp=Z,120nm,1.5s
GLAD Gladstone 24.27 153 P P **01 27 34.4 +1.1**
comp=Z,190nm,1.1s
GLAD Gladstone 24.27 153 P P **01 27 34.0 +0.7**
MPSI Mapaga 24.30 324 P P **01 27 31.7 -2.1**
CORO Coronation Par 24.31 155 P P **01 27 34.8 +1.2**
TOLI2 Tolitoli 24.48 327 P P **01 27 34.5 -0.9**
TOLI2 Tolitoli 24.48 327 P P **01 27 35.0 -0.4**
comp=Z,64nm,2.1s
TOLI2 Tolitoli 24.48 327 P P **01 27 35.8 +0.4**
SGSI Sangihe 24.80 340 P P **01 27 37.4 -0.9**
PCJI Pacitan 24.83 295 P P **01 27 37.6 -1.0**
comp=Z,3μmcomp=Z,200nm,1.4s
NGJI Ngawi 25.01 297 P P **01 27 43.6 +3.3**
NGJI Ngawi 25.01 297 P P **01 27 42.0 +1.7**
comp=Z,139nm,1.2s
MOO Moorlands 25.17 156 P P **01 27 42.9 +1.4**
comp=Z,265nm,1.4s
MOO Moorlands 25.17 156 P P **01 27 42.2 +0.7**
WOJI Wonogiri, Jawa 25.23 295 P P **01 27 40.1 -2.1**
SMRI Semarang 26.04 296 P P **01 27 50.1 +0.4**
SMRI Semarang 26.04 296 P P **01 27 51.4 +1.7**
SMRI Semarang 26.04 296 P P **01 27 48.8 -0.9**
SMRI Semarang 26.04 296 P P **01 27 49.0 -0.7**
HNR Honiara 27.26 71 LR LR 01 37 59.6
comp=Z,1μm,19.9s,baz=254,slow=35
TATA Tatamba Isabel 27.59 69 P P **01 28 06.7 +3.1**
BBJI Bungbulang 28.23 292 P P **01 28 09.4 0.0**
LEM Lembang 28.57 293 LR LR 01 39 24.6
comp=Z,496nm,20.2s,baz=194,slow=36
NOUC Port Laguerre 30.35 100 P P **01 28 27.6 -0.5**
comp=Z,38nm,1.5s
DZM Mont Dzumac 30.49 100 P P **01 28 29.4 0.0**
DZM Mont Dzumac 30.49 100 P P **01 28 29.9 +0.5**
comp=Z,33nm,1.6s
DZM Mont Dzumac 30.49 100 *e*S S **01 33 26.7 -3.8**
comp=Z,309nm,25.6s
DZM *e*LR LR 01 36 21.6
comp=Z,1μm,21.9s
DZM Mont Dzumac 30.49 100 LR LR 01 40 32.3
comp=Z,2μm,18.2s,baz=298,slow=36
DZM Mont Dzumac 30.49 100 P P **01 28 31.1 +1.7**
ONTNC Ouen Toro 30.49 100 P P **01 28 29.5 +0.1**
comp=Z,49nm,1.4s
SBUM Sibu 30.71 314 P P **01 28 31.6 +0.3**
SBUM Sibu 30.71 314 P P **01 28 32.9 +1.6**
SBUM Sibu 30.71 314 P P **01 28 31.7 +0.4**
YATNC Mamie plateau, 30.90 100 P P **01 28 34.0 +1.0**
comp=Z,46nm,1.6s
KSM Kuching 31.36 310 P P **01 28 36.5 -0.5**
KSM Kuching 31.36 310 P P **01 28 36.8 -0.2**
GUMO Guam 34.97 19 LR LR 01 44 08.9
comp=Z,798nm,18.1s,baz=184,slow=38
PATS Pohnpei 35.83 45 P P **01 29 16.4 +0.4**
comp=Z,137nm,1.9s
TGY Tagaytay City 36.07 338 LR LR 01 47 14.6
comp=Z,114nm,18.4s,baz=122,slow=42
JCZ Jackson Bay 37.78 138 P P **01 29 33.9 +1.4**
JCZ Jackson Bay 37.78 138 P P **01 29 34.7 +2.2**
MLZ Mavora Lakes 38.01 140 P P **01 29 34.9 +0.6**
MLZ IAmb IAmb 01 29 46.5
comp=Z,131nm,1.5s
MLZ Mavora Lakes 38.01 140 P P **01 29 35.5 +1.2**
WHZ Wether Hill Ro 38.17 141 P P **01 29 38.0 +2.4**
WKZ Wanaka 38.29 139 P P **01 29 38.1 +1.4**
WKZ Wanaka 38.29 139 P P **01 29 38.4 +1.7**
APZ The Paps 38.70 142 P P **01 29 40.5 +0.5**
APZ The Paps 38.70 142 P P **01 29 41.2 +1.2**
LBZ Lake Benmore 38.82 137 P P **01 29 42.1 +1.0**
LBZ IAmb IAmb 01 29 43.2
comp=Z,110nm,1.3s
LBZ Lake Benmore 38.82 137 P P **01 29 42.0 +1.0**
RPZ Rata Peaks 39.08 136 P P **01 29 44.7 +1.4**
RPZ Rata Peaks 39.08 136 P P **01 29 41.8 -1.5**
ODZ Otahua Downs 39.41 138 P P **01 29 48.8 +2.8**
LTZ Lake Taylor 39.51 134 P P **01 29 47.8 +0.9**
LTZ IAmb IAmb 01 29 57.8
comp=Z,112nm,1.4s
LTZ Lake Taylor 39.51 134 P P **01 29 49.0 +2.1**
THZ Tophouse 39.56 132 P P **01 29 47.6 +0.3**
THZ IAmb IAmb 01 29 50.5
comp=Z,122nm,1.3s
THZ Tophouse 39.56 132 P P **01 29 49.0 +1.7**
OXZ Oxford 39.57 135 P P **01 29 47.5 +0.2**
NNZ Nelson 39.70 131 P P **01 29 49.0 +0.6**
HIZ Hauiti 39.94 127 P P **01 29 53.5 +3.0**
TUWZ Tuamarina 40.17 131 P P **01 29 53.4 +1.0**
TCW Tory Channel 40.33 131 P P **01 29 54.6 +0.9**
BHW Baring Head 40.82 131 P P **01 29 58.1 +0.4**
RPSI Rantau Prapat 40.97 299 P P **01 29 58.5 -0.8**
PSI Prapat 41.03 299 LR LR 01 47 28.7
comp=Z,503nm,20.9s,baz=106,slow=37
PSI Prapat 41.03 299 P P **01 29 58.5 -1.4**
PSI Prapat 41.03 299 P P **01 29 58.5 -1.4**
PSI pmax pmax
comp=Z,34nm,1.0s
MRZ Mangatainoka R 41.09 130 P P **01 29 59.8 -0.2**
MRZ IAmb IAmb 01 30 02.0
comp=Z,79nm,1.1s
MRZ Mangatainoka R 41.09 130 P P **01 30 01.4 +1.4**
TSZ Takapari Road 41.20 129 P P **01 30 03.0 +2.1**
GSI Gunungsitoli 41.33 296 P P **01 30 02.3 +0.1**
BKZ Black Stump Fm 41.35 127 P P **01 30 03.2 +1.0**
BKZ IAmb IAmb 01 30 04.8
comp=Z,117nm,1.1s
BKZ Black Stump Fm 41.35 127 P P **01 30 03.7 +1.5**
BKZ Black Stump Fm 41.35 127 P P **01 30 03.2 +1.0**
BKZ Black Stump Fm 41.35 127 P P **01 30 03.8 +1.6**
RTZ Ruatahuna 41.58 126 P P **01 30 05.0 +0.9**
RTZ IAmb IAmb 01 30 09.2
comp=Z,109nm,1.2s
RTZ Ruatahuna 41.58 126 P P **01 30 07.7 +3.6**
BFZ Birch Farm 41.59 129 P P **01 30 05.6 +1.6**
URZ Urewera 41.59 126 LR LR 01 48 37.9
comp=Z,334nm,18.2s,baz=306,slow=38
MSVF Nonsavu 41.81 95 P P **01 30 07.4 +1.1**
MSVF IAmb IAmb 01 30 09.7
comp=Z,127nm,1.4s
MSVF Nonsavu 41.81 95 P P **01 30 07.4 +1.1**
MSVF Nonsavu 41.81 95 P P **01 30 08.0 +1.7**
MSVF Nonsavu 41.81 95 ⇓*e*P P **01 30 08.0 +1.7**
MSVF pmax pmax

comp=Z,116nm,1.4s
MWZ Matawai 41.93 126 P P **01 30 09.2 +2.3**
DGTI Dogotuki 43.67 93 P P **01 30 23.0 +1.7**
SSLB Suanglung 45.18 343 P P **01 30 32.2 -0.9**
SSLB Suanglung 45.18 343 P P **01 30 33.9 +0.7**
QIZ Qiongzhong 45.26 327 P P **01 30 35.0 +1.1**
QIZ S S **01 37 17.8 +4.0**
QIZ LR LR
comp=Z,710nm,6.3s
QIZ LR LR
comp=Z,1μm,6.7s
NACB Ninganchiao 45.38 344 P P **01 30 33.7 -0.9**
JOW Kunigami 46.74 353 LR LR 01 50 24.4
comp=Z,343nm,20.1s,baz=99,slow=36
DRV Dumont d'Urvil 46.95 177 P P **01 30 46.9 +0.3**
JCJ Chichijima 47.38 10 LR LR 01 49 55.1
comp=Z,247nm,20.8s,baz=142,slow=35
CTZ Chatham Island 47.51 132 P P **01 30 52.1 +0.8**
CASY Casey 48.80 192 P P **01 31 01.6 +0.7**
CASY PcP PcP **01 32 26.5 +1.0**
CASY Casey 48.80 192 P P **01 31 01.2 +0.3**
SLVN Son La 50.35 323 P P **01 31 13.8 +0.4**
CMAR Chiang Mai Arr 51.22 316 P P **01 31 19.5 -0.4**
CMAR PcP PcP **01 32 36.4 +1.2**
CMAR Chiang Mai Arr 51.22 316 P P **01 31 20.2 +0.2**
comp=Z,3.7nm,0.6s,baz=149,slow=6.5,SNR=18
CMAR PcP PcP **01 32 35.0 -0.2**
comp=Z,2.6nm,0.4s,baz=155,slow=4.3,SNR=8.7
CMAR LR LR 01 55 37.6
comp=Z,120nm,19.5s,baz=130,slow=39
comp=Z,3.7nm,0.6s
CMAR Chiang Mai Arr 51.22 316 *i* P P **01 31 20.8 +0.9**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 51.48 316 P P **01 31 22.5 +0.6**
CHTO Chiang Mai 51.48 316 P P **01 31 22.5 +0.6**
CHTO Chiang Mai 51.48 316 P P **01 31 22.7 +0.8**
CHTO P P **01 31 22.7 +0.8**
CHTO Chiang Mai 51.48 316 P P **01 31 22.2 +0.3**
CHTO Chiang Mai 51.48 316 P P **01 31 22.5 +0.6**
CHTO pmax pmax
comp=Z,23nm,0.9s
JNU Nakatsue 52.77 357 P P **01 31 31.0 -0.3**
JNU IAmb IAmb 01 31 32.6
comp=Z,63nm,1.1s
JNU Nakatsue 52.77 357 P P **01 31 31.0 -0.3**
JNU Nakatsue 52.77 357 LR LR 01 53 02.3
comp=Z,235nm,20.8s,baz=158,slow=35
JNU Nakatsue 52.77 357 P P **01 31 32.3 +1.0**
JHJ Hachijo jima 2 52.99 6 LR LR 01 51 46.3
comp=Z,352nm,21.9s,baz=206,slow=33
JMN Monobe 53.30 0 P P **01 31 35.5 +0.4**
JMN IAmb IAmb 01 31 37.2
comp=Z,73nm,1.2s
JMN PcP PcP **01 32 44.3 +1.6**
JMN Monobe 53.30 0 P P **01 31 35.2 0.0**
JMN Monobe 53.30 0 P P **01 31 36.3 +1.2**
WHN Wuhan 53.52 339 P P **01 31 38.7 +2.0**
WHN pmax pmax
comp=Z,120nm,1.0s
NJ2 Nanjing 53.59 344 *e*P P **01 31 40.4 +3.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 54.00 325 P P **01 31 42.7 +2.0**
KMI pmax pmax
comp=Z,37nm,1.4s
NPW Naypyitaw 54.02 315 P P **01 31 40.5 -0.1**
JTU Tsushima 54.26 355 P P **01 31 43.6 +1.5**
INU Inuyama 55.00 3 P P **01 31 47.2 -0.2**
INU Inuyama 55.00 3 P P **01 31 48.9 +1.4**
ENH Enshi 55.09 334 P P **01 31 49.1 +0.8**
JGF Kuroka 55.27 3 P P **01 31 48.9 -0.6**
JGF IAmb IAmb 01 31 50.6
comp=Z,54nm,1.2s
JGF Kuroka 55.27 3 P P **01 31 50.5 +1.0**
CCD Concordia, Ant 55.55 183 P P **01 31 52.1 +0.6**
PZH PanZhiHua 55.63 325 P P **01 31 53.2 +0.8**
PZH pmax pmax
comp=Z,30nm,1.1s
MJAR Matsushiro Arr 56.26 4 P P **01 31 55.6 -0.9**
MJAR PcP PcP **01 32 54.1 +0.1**
MJAR Matsushiro Arr 56.26 4 P P **01 31 56.1 -0.5**
comp=Z,32nm,1.3s,baz=191,slow=7.0,SNR=28
MJAR LR LR 01 53 40.8
comp=Z,291nm,21.9s,baz=166,slow=34
comp=Z,32nm,1.3s
MAJO Matsushiro 56.26 4 P P **01 31 56.5 0.0**
MAJO IAmb IAmb 01 31 57.3
comp=Z,62nm,1.4s
MAJO Matsushiro 56.26 4 P P **01 31 56.2 -0.3**
MAJO Matsushiro 56.26 4 P P **01 31 58.1 +1.6**
MAJO Matsushiro 56.26 4 *ce*P P **01 31 56.0 -0.5**
MAJO pmax pmax
comp=Z,25nm,1.2s
MJB9 Matsu-Tunnel 56.26 4 P P **01 31 56.3 -0.3**
MJB9 IAmb IAmb 01 31 57.3
comp=Z,61nm,1.4s
TJN Taejon 56.28 354 P P **01 31 56.2 -0.4**
TJN Taejon 56.28 354 P P **01 31 57.8 +1.2**
TJN Taejon 56.28 354 ⇓*e*P P **01 31 57.5 +0.9**
TNCH TengChong 56.33 321 ⇑P P **01 31 58.1 +0.6**
TNCH pP pP 01 32 02.8 +0.4
TNCH S S **01 39 43.6 -4.0**
TNCH sS sS 01 39 55.3 -0.3
TNCH pmax pmax
comp=Z,67nm,1.1s
TNCH LR LR
comp=Z,280nm,4.4s
TNCH LR LR
comp=Z,160nm,4.2s
KSAR Wonju Array Be 57.28 354 P P **01 32 03.6 -0.1**
KSAR Wonju Array Be 57.28 354 P P **01 32 03.6 -0.1**
KSRS Korea Array 57.29 354 P P **01 32 04.2 +0.4**
comp=Z,16nm,1.0s,baz=172,slow=8.5,SNR=50
KSRS LR LR 01 56 10.1
comp=Z,95μm,21.0s,baz=180,slow=36
comp=Z,16nm,1.0s
KS19 Wonju Array Si 57.34 354 P P **01 32 04.3 +0.1**
KS19 IAmb IAmb 01 32 05.6
comp=Z,40nm,1.2s
JMM Marumori 57.80 6 P P **01 32 07.0 -0.3**
JMM IAmb IAmb 01 32 08.6
comp=Z,49nm,1.1s
JMM Marumori 57.80 6 P P **01 32 07.4 0.0**
JMM Marumori 57.80 6 P P **01 32 08.4 +1.0**
LYN LuoYang 57.82 339 ⇓P P **01 32 08.4 +0.8**
LYN sP sP 01 32 16.8 +2.5
LYN pmax pmax
comp=Z,80nm,1.1s
TIA Tai'an 57.98 344 P P **01 32 08.5 -0.2**
TIA PcP PcP **01 33 03.2 +2.5**
TIA pmax pmax
comp=Z,42nm,1.2s
CD2 Chengdu 58.18 330 P P **01 32 11.3 +1.0**
XAN Xi'an 58.63 336 P P **01 32 13.5 +0.1**
XAN pmax pmax
comp=Z,63nm,1.2s
XAN pmax pmax
comp=Z,350nm,4.1s
PALK Pallekele 58.83 292 P P **01 32 15.7 +0.5**
PALK IAmb IAmb 01 32 17.8
comp=Z,44nm,1.1s
PALK Pallekele 58.83 292 P P **01 32 12.1 -3.1**
PALK Pallekele 58.83 292 LR LR 01 56 43.4
comp=Z,207nm,20.3s,baz=128,slow=35
PALK Pallekele 58.83 292 P P **01 32 16.0 +0.8**
PALK Pallekele 58.83 292 ⇓*e*P P **01 32 16.8 +1.6**
PALK pmax pmax
comp=Z,56nm,1.1s
BRDH Bariadhala 59.04 314 LR LR 02 00 51.2
comp=Z,125nm,20.4s,baz=155,slow=39
VNDA Vanda 59.30 173 P P **01 32 18.0 +0.6**
VNDA Vanda 59.30 173 P P **01 32 17.5 0.0**
VNDA Vanda 59.30 173 P P **01 32 17.3 -0.1**
comp=Z,18nm,1.1s,baz=322,slow=8.3,SNR=29
VNDA LR LR 01 56 08.8
comp=Z,253nm,18.9s,baz=330,slow=34
comp=Z,18nm,1.1s
VNDA Vanda 59.30 173 P P **01 32 18.0 +0.6**
VNDA pmax pmax
comp=Z,69nm,1.4s
MALK Mahakanadarawa 59.51 293 P P **01 32 21.0 +1.2**
HNS HongShan 59.75 342 ⇑P P **01 32 21.6 +0.6**
HNS S S **01 40 29.3 -2.2**

HNS pmax pmax
comp=Z,92nm,1.3s
HNS LR LR
comp=Z,260nm,20.7s
HNS LR LR
comp=Z,200nm,19.1s
SBA Scott Base 60.16 172 P **P** **01 32 25.0 +1.7**
SBA IAmb IAmb 01 32 33.2
comp=Z,46nm,1.2s
SBA Scott Base 60.16 172 P **P** **01 32 24.6 +1.2**
SBA Scott Base 60.16 172 P **P** **01 32 25.0 +1.7**
SBA pmax pmax
comp=Z,46nm,1.2s
JTM Tenmabayashi 60.72 6 P **P** **01 32 26.6 -0.9**
JTM Tenmabayashi 60.72 6 P **P** **01 32 29.3 +1.8**
TIY Taiyuan 60.72 341 *e*P **P** **01 32 28.8 +1.1**
TIY pmax pmax
comp=Z,68nm,0.6s
SHL Shillong 60.85 316 P **P** **01 32 29.0 0.0**
SHL IAmb IAmb 01 32 30.9
comp=Z,47nm,1.1s
SHL Shillong 60.85 316 P **P** **01 32 30.0 +1.0**
SNR=13
SHL Shillong 60.85 316 P **P** **01 32 29.0 0.0**
SHL pmax pmax
comp=Z,47nm,1.1s
RAR Rarotonga 61.74 104 P **P** **01 32 36.9 +1.9**
BJT Baijiatuau 61.82 345 P **P** **01 32 35.9 +0.9**
BJI Beijing 61.84 345 P **P** **01 32 35.9 +0.8**
BJI pP **pP** **01 32 39.8 -0.3**
BJI PcP **PcP** **01 33 17.9 +1.9**
BJI S **S** **01 41 01.4 +3.3**
BJI pmax pmax
comp=Z,12nm,1.4s
BJI LR LR
comp=Z,69nm,17.9s
BJI LR LR
comp=Z,56nm,17.1s
BJI LR LR
comp=Z,110nm,18.4s
SNY Shenyang 62.12 351 ⇓P **P** **01 32 37.3 +0.3**
SNY S **S** **01 40 59.0 -2.5**
SNY pmax pmax
comp=Z,26nm,1.4s
SNY pmax pmax
comp=Z,100nm,4.4s
SNY LR LR
comp=Z,170nm,8.7s
SNY LR LR
comp=Z,140nm,11.6s
SNY LR LR
comp=Z,240nm,21.0s
MSHR Mys Shultsa 62.19 358⇑*e*P **P** **01 32 36.7 -0.7**
MSHR pmax pmax
comp=Z,22nm,1.0s
PSTR Posyet 62.27 357⇑*e*P **P** **01 32 39.2 +1.2**
LZH Lanzhou 62.48 333 ⇑P **P** **01 32 41.5 +1.7**
LZH pP sP 01 32 47.2 +0.6
LZH sP pP 01 32 52.1 +7.4
LZH sS sS 01 41 19.0 +4.1
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,290nm,4.5s
VLA Vladivostok 62.70 358⇑*e*P **P** **01 32 41.9 +1.1**
VLA pmax pmax
comp=Z,71nm,2.0s
USA0B Ussuriysk Arra 63.78 359 P **P** **01 32 48.5 +0.5**
USA0B IAmb IAmb 01 32 49.6
comp=Z,42nm,1.3s
USA0B Ussuriysk Arra 63.78 359 P **P** **01 32 48.5 +0.5**
USA0B pmax pmax
comp=Z,42nm,1.3s
USRK Ussuriysk Ar. 63.78 359 P **P** **01 32 47.9 -0.1**
comp=Z,12nm,0.9s,baz=189,slow=5.6,SNR=24
USRK LR LR 01 58 15.5
comp=Z,239nm,21.1s,baz=158,slow=34
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 63.86 341 *e*P **P** **01 32 49.9 +1.1**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,160nm,3.6s
HHC LR LR
comp=Z,140nm,14.5s
HHC LR LR
comp=Z,160nm,14.5s
HHC LR LR
comp=Z,180nm,14.5s
BTO Baotou 64.12 340 *e*P **P** **01 32 52.4 +1.9**
BTO pP **sP** **01 32 57.1 -0.2**
BTO sP **pP** **01 32 59.5 +4.1**
BTO PP **PP** **01 35 16.4 +4.5**
BTO S **S** **01 41 29.8 +2.8**
BTO sS **sS** **01 41 38.6 +3.5**
BTO SS **SS** **01 45 42.3 +5.6**
BTO pmax pmax
comp=Z,64nm,1.0s
BTO pmax pmax
comp=Z,370nm,6.3s
ASAJ Asahikawa 64.17 7 LR LR 01 58 21.0
comp=Z,141nm,20.7s,baz=192,slow=34
LSA Lhasa 64.20 319 P **P** **01 32 52.9 +1.2**
LSA pmax pmax
comp=Z,37nm,1.1s
LSA LR LR
comp=Z,410nm,46.7s
MDJ Mudanjiang 64.29 357 P **P** **01 32 51.6 +0.3**
MDJ pmax pmax
comp=Z,32nm,1.4s
MDJ pmax pmax
comp=Z,230nm,4.4s
MDJ Mudanjiang 64.29 357 P **P** **01 32 53.1 +1.8**
YUK Yuzh-Kuril'sk 64.54 10⇑*e*P **P** **01 32 52.4 -0.5**
MAW Mawson 64.56 204 P **P** **01 32 54.1 +1.2**
MAW Mawson 64.56 204 P **P** **01 32 53.7 +0.8**
comp=Z,37nm,1.1s,baz=70,slow=8.3,SNR=36
MAW LR LR 01 57 38.5
comp=Z,546nm,18.7s,baz=70,slow=33
comp=Z,37nm,1.1s
BNX BinXian 65.56 355 ⇑P **P** **01 32 59.1 -0.5**
BNX pmax pmax
comp=Z,26nm,1.1s
HYB Hyderabad 65.73 301 *e*P **P** **01 33 01.0 -0.3**
HYB *es*P **pP** **01 33 05.7 -0.6**
HYB *e*PcP **PcP** **01 33 32.1 -0.5**
HYB *e*PP **PP** **01 35 26.0 -0.2**
HYB *e*S **S** **01 41 48.3 +0.9**
EVN Everest 65.80 315 P **P** **01 33 03.3 +1.0**
GOMU GeErMu 66.88 326 P **P** **01 33 10.4 +1.6**
GOMU pP pP 01 33 13.8 +0.1
GOMU sP sP 01 33 18.2 +2.6
GOMU pmax pmax
comp=Z,15nm,1.3s
YSS Yuzhno-Sakhali 66.99 7*ce*P **P** **01 33 09.6 +0.9**
YSS *e* 01 35 34.8
YSS *e*S **S** **01 42 01.5 -0.1**
YSS *e*SS **SS** **01 46 21.2 +0.3**
YSS pmax pmax
comp=Z,200nm,4.8s
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,100nm,18.0s
YSS MLR MLR
comp=N,100nm,17.0s
GTA Gaotai 67.01 332 *e*P **P** **01 33 11.4 +2.2**
GTA sP sP 01 33 24.9 +8.9
GTA pmax pmax
comp=N,120nm,1.1s
HEH HeiHe 70.04 356 *e*P **P** **01 33 27.4 -0.3**
HEH pmax pmax
comp=N,19nm,1.1s
HEH LR LR
comp=N,360nm,22.0s
HEH LR LR
comp=N,200nm,19.8s
HEH LR LR
comp=N,220nm,17.9s
QSPA South Pole Qui 70.18 180 P **P** **01 33 30.1 +1.4**
comp=N,134nm,1.1s,baz=336,slow=2.8,SNR=122
QSPA LR LR 02 02 28.8
comp=N,1µm,20.8s,baz=347,slow=34
comp=N,134nm,1.1s
GRNR Gornyy 70.36 2⇑*i*P **P** **01 33 30.8 +1.1**

GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,260nm,17.0s
TBI Tubuai 70.59 109 *e*S **S** **01 42 42.7 -2.7**
comp=E,305nm,29.0s
TBI *e*SS **SS** **01 47 08.2 -8.8**
comp=E,391nm,28.5s
TBI *e*LR LR 01 54 52.7
comp=E,1µm,32.2s
TYV Tymovskoe 70.85 6 *e*P **P** **01 33 34.3 +1.7**
TYV pmax pmax
comp=Z,100nm,3.1s
TYV pmax pmax
comp=Z,15nm,1.2s
ULN Ulaanbaatar 71.58 341 P **P** **01 33 38.5 +1.1**
ULN IAmb IAmb 01 33 40.0
comp=Z,22nm,0.8s
ULN Ulaanbaatar 71.58 341 P **P** **01 33 38.8 +1.4**
ULN Ulaanbaatar 71.58 341 P **P** **01 33 38.8 +1.4**
ULN P **P** **01 33 38.8 +1.4**
ULN Ulaanbaatar 71.58 341*ce*P **P** **01 33 38.6 +1.1**
ULN pmax pmax
comp=Z,27nm,0.8s
SONM Songino Array 71.76 341 P **P** **01 33 39.7 +1.2**
comp=Z,19nm,0.5s,baz=159,slow=6.0,SNR=112
comp=Z,19nm,0.5s
PPT2 Papeete2 71.95 103 *e*LQ LQ 01 52 27.2
comp=Z,342nm,27.2s
PPT2 *e*LR LR 01 55 34.0
comp=Z,184nm,22.5s
PPT2 *e*LR LR 01 55 40.7
comp=Z,147nm,30.0s
PPT Papeete 71.95 103 LR LR 02 01 31.9
comp=Z,98nm,21.3s,baz=308,slow=33
SKR Severo-Kuril's 72.94 15 *e*P **P** **01 33 42.3 -2.9**
SKR pmax pmax
comp=Z,100nm,2.9s
SYO Syowa Base 73.14 202⇑*i*P **P** **01 33 47.5 +1.2**
ZAK Zakamensk 74.97 340 *e*P **P** **01 33 58.0 +0.7**
ZAK pmax pmax
comp=Z,38nm,1.5s
PETK Petropavlovsk- 75.56 15 P **P** **01 34 01.6 +1.1**
comp=Z,17nm,0.9s,baz=173,slow=2.4,SNR=16
PETK LR LR 02 06 25.7
comp=Z,180nm,20.5s,baz=199,slow=35
comp=Z,17nm,0.9s
PET Petropavlovsk 75.71 15 *e*P **P** **01 34 02.6 +1.3**
PET *e*S **S** **01 43 44.6 +2.5**
PET pmax pmax
comp=Z,31nm,1.1s
PET MLR MLR
comp=Z,200nm,22.0s
PET Petropavlovsk 75.71 15 P **P** **01 34 01.9 +0.6**
comp=Z,12nm,0.8s
WMQ Urumqi 76.18 327 ⇑P **P** **01 34 06.2 +1.8**
WMQ S **S** **01 43 52.1 +4.1**
WMQ pmax pmax
comp=Z,130nm,1.3s
WMQ pmax pmax
comp=Z,470nm,3.9s
WMQ LR LR
comp=Z,120nm,24.7s
IRK Irkutsk 76.30 342 *e*P **P** **01 34 05.5 +0.8**
IRK pmax pmax
comp=Z,98nm,1.7s
MOY Mondy 76.82 340 *e*P **P** **01 34 09.4 +1.6**
MOY pmax pmax
comp=Z,150nm,1.9s
KIP Kipapa 78.24 62⇓*e*P **P** **01 34 19.1 +2.8**
KIP pmax pmax
comp=Z,117nm,1.1s
NIL Nilore 78.52 312 P **P** **01 34 18.9 +1.3**
NIL Nilore 78.52 312 P **P** **01 34 18.9 +1.3**
BOD Bodaibo 79.14 349 *e*P **P** **01 34 19.3 -1.1**
BOD pmax pmax
comp=Z,56nm,1.4s
SBV Sambava 79.92 259 P **P** **01 34 24.2 -1.4**
KSH Kashi 80.04 318 P **P** **01 34 27.1 +1.2**
KSH pmax pmax
comp=Z,30nm,1.1s
ZSN Zaisan 80.15 329 *e*P **P** **01 34 27.4 +1.2**
ZSN Zaisan 80.15 329 *e*P **P** **01 34 27.4 +1.2**
SHLS Shalkode 80.17 323 *e*P **P** **01 34 26.1 -0.4**
SHLS pmax pmax
comp=Z,58nm,1.4s
SHLS Shalkode 80.17 323 *e*P **P** **01 34 26.1 -0.4**
comp=Z,58nm,1.4s
VOI Vohitsoka 80.20 250 P **P** **01 34 29.1 +1.9**
VOI Vohitsoka 80.20 250 P **P** **01 34 29.0 +1.7**
SNR=5.3
SHEM Shemya Is, Ala 80.29 23 LR LR 02 06 02.4
comp=Z,463nm,21.9s,baz=247,slow=33
MA2 Magadan 80.36 9 P **P** **01 34 27.6 +0.6**
MA2 Magadan 80.36 9 LR LR 02 08 29.7
comp=Z,103nm,21.4s,baz=194,slow=34
MA2 Magadan 80.36 9*ce*P **P** **01 34 27.7 +0.6**
MA2 pmax pmax
comp=Z,40nm,1.3s
MA2 Magadan 80.36 9 P **P** **01 34 27.6 +0.6**
comp=Z,608nmcomp=Z,31nm,2.0s
UZB Uzynbulak 80.41 323 *e*P **P** **01 34 28.7 +0.9**
UZB pmax pmax
comp=Z,68nm,1.4s
UZB Uzynbulak 80.41 323 *e*P **P** **01 34 28.8 +0.9**
comp=Z,68nm,1.4s
SATY Saty 80.71 322 *e*P **P** **01 34 30.2 +0.8**
SATY pmax pmax
comp=Z,51nm,1.6s
SATY Saty 80.71 322 *e*P **P** **01 34 30.3 +0.8**
comp=Z,51nm,1.6s
KPKS Kokpek 80.80 323 *e*P **P** **01 34 30.6 +0.7**
KPKS Kokpek 80.80 323 *e*P **P** **01 34 30.7 +0.8**
MK31 Makanchi Array 80.99 327*ce*P **P** **01 34 31.8 +1.0**
MKAR Makanchi Array 80.99 327 P **P** **01 34 31.9 +1.2**
comp=Z,52nm,0.7s,baz=131,slow=6.6,SNR=213
MKAR PKKPbc **PKKPbc** **01 53 09.5 -0.9**
comp=Z,1.1nm,0.9s,baz=15,slow=1.4,SNR=6.7
MKAR PKPPKP **P'P'df** **02 01 11.8 +2.8**
comp=Z,0.3nm,0.6s,baz=122,slow=4.4,SNR=4.1
comp=Z,52nm,0.7s
MKAR Makanchi Array 80.99 327 P **P** **01 34 32.0 +1.2**
ULHL Ulahol 81.48 321 P **P** **01 34 35.5 +1.8**
SNR=16
TNSS Tian-Shan 81.54 322 *e*P **P** **01 34 34.7 +0.5**
TNSS Tian-Shan 81.54 322 *e*P **P** **01 34 34.8 +0.5**
AAA Alma-Ata 81.67 322 *e*P **P** **01 34 35.4 +1.0**
AAA pmax pmax
comp=Z,22nm,0.6s
AAA Alma-Ata 81.67 322 *e*P **P** **01 34 35.4 +1.0**
comp=Z,22nm,0.6s
YAK Yakutsk 81.69 358 LR LR 02 09 02.8
comp=Z,164nm,21.8s,baz=170,slow=34
YAK Yakutsk 81.69 358 *e*P **P** **01 34 33.8 -0.2**
YAK *e**PP **pP** **01 34 37.6 -1.5**
YAK *e* 01 34 39.3
YAK *e* 01 37 39.8
YAK *e*PPP PPP 01 39 31.3
YAK *e*S **S** **01 44 48.7 +3.0**
YAK *e**SS **SKSac** **01 44 52.9 0.0**
YAK *e*SS **SS** **01 50 07.7 +3.8**
YAK *e*SSS SSS 01 53 35.3
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=Z,76nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,196nm,5.3s
YAK pmax pmax
comp=N,85nm,5.7s
YAK pmax pmax
comp=E,67nm,5.7s
YAK smax smax
comp=E,37nm,2.8s
YAK smax smax
comp=N,23nm,2.6s
YAK MLR MLR
comp=Z,257nm,24.0s
YAK MLR MLR
comp=N,99nm,22.0s
YAK MLR MLR
comp=E,46nm,23.0s
TDK Taldyqorghan 81.92 324 *e*P **P** **01 34 36.7 +1.0**
TDK pmax pmax
comp=Z,43nm,1.1s
TDK Taldyqorghan 81.92 324 *e*P **P** **01 34 36.7 +1.0**
comp=Z,43nm,1.1s
KBL Kabul 81.95 311 P **P** **01 34 37.0 +0.7**
KBL Kabul 81.95 311 P **P** **01 34 37.5 +1.2**
SNR=13
CHKK Chushkaly 82.01 322 *e*P **P** **01 34 36.9 +0.7**
CHKK Chushkaly 82.01 322 *e*P **P** **01 34 37.0 +0.7**
TKM2 Tokmak 2 82.27 321 P **P** **01 34 38.2 +0.4**
SNR=26
KBK Karagaybulak 82.50 320 P **P** **01 34 40.8 +1.8**
SNR=6.2
TROLL Troll, Antarti 82.64 194⇑P **P** **01 34 40.4 +1.1**
comp=Z,3µm,1.1s
AAK Ala-Archa 82.76 320 P **P** **01 34 41.6 +1.3**
AAK Ala-Archa 82.76 320 LR LR 02 15 48.9
comp=Z,67nm,21.4s,baz=126,slow=39
AAK Ala-Archa 82.76 320 P **P** **01 34 42.1 +1.8**
AAK Ala-Archa 82.76 320 P **P** **01 34 41.8 +1.4**
SNR=12
AAK Ala-Archa 82.76 320*ce*P **P** **01 34 41.9 +1.6**
AAK pmax pmax
comp=Z,56nm,1.1s
AAK Ala-Archa 82.76 320 *i* P **P** **01 34 41.6 +1.3**
SNR=13
CHMS Chumysh 82.82 321 P **P** **01 34 41.8 +1.3**
SNR=5.3
USP Ospenovka 83.12 321 P **P** **01 34 43.2 +1.1**
SNR=40
SGDS Sogindy 83.15 321⇑*i*P **P** **01 34 43.0 +0.7**
comp=Z,22nm,1.4s
EKS2 Erkin-Say 83.21 320 P **P** **01 34 44.0 +1.4**
SNR=22
TAOE Nuku Hiva Isla 83.31 97*ce*LR LR 02 00 48.9
comp=Z,296nm,22.0s
SEY Seymchan 83.81 8⇑*e*P **P** **01 34 45.8 +0.8**
SEY pmax pmax
comp=Z,40nm,1.6s
SNAA Sanae 84.04 193 ⇑P **P** **01 34 47.2 +0.8**
comp=Z,725nm,1.0s
SNAA Sanae 84.04 193 P **P** **01 34 47.2 +0.8**
SNAA Sanae 84.04 193 P **P** **01 34 46.7 +0.3**
comp=Z,56nm,1.1s,baz=136,slow=4.5,SNR=77
SNAA LR LR 02 10 18.3
comp=Z,835nm,20.0s,baz=181,slow=34
comp=Z,56nm,1.1s
SNAA Sanae 84.04 193*ce*P **P** **01 34 47.3 +0.9**
SNAA pmax pmax
comp=Z,132nm,1.4s
BTLS Baital 84.41 322*c i*P **P** **01 34 49.3 +0.8**
BTLS pmax pmax
comp=Z,38nm,1.5s
BTLS Baital 84.41 322⇑*i*P **P** **01 34 49.4 +0.8**
comp=Z,38nm,1.5s
DQM DQM 84.54 293 P **P** **01 34 51.0 +1.3**
MHTO MHTO 84.59 294 P **P** **01 34 50.3 +0.3**
ZAA0 Zalesovo Array 84.71 333 P **P** **01 34 49.6 -0.2**
ZALV Zalesovo Beam 84.71 333 P **P** **01 34 49.8 0.0**
comp=Z,54nm,0.9s,baz=121,slow=4.3,SNR=153
ZALV PKKPbc **PKKPbc** **01 53 00.3 -1.7**
comp=Z,0.9nm,0.5s,baz=298,slow=3.2,SNR=6.7
ZALV PKPPKP **P'P'df** 02 01 09.8 +8.1
comp=Z,0.5nm,0.5s,baz=288,slow=1.4,SNR=6.1
comp=Z,54nm,0.9s
IUG Iuzhnay 85.24 318*c i*P **P** **01 34 53.8 +0.9**
IUG pmax pmax
comp=Z,37nm,1.3s
IUG Iuzhnay 85.24 318⇑*i*P **P** **01 34 53.8 +0.9**
comp=Z,37nm,1.3s
SMDO Samad 85.35 296 P **P** **01 34 54.2 +0.3**
KURBB Kurchatov Arra 85.37 328 P **P** **01 34 53.8 +0.6**
comp=Z,43nm,0.9s,baz=128,slow=4.1,SNR=210
KURBB PKKPbc **PKKPbc** **01 52 59.5 -0.7**
comp=Z,0.4nm,0.4s,baz=295,slow=3.0,SNR=7.6
comp=Z,43nm,0.9s
KURK Kurchatov 85.39 328 P **P** **01 34 53.9 +0.6**
KURK Kurchatov 85.39 328 P **P** **01 34 54.4 +1.2**
KURK P **P** **01 34 54.4 +1.2**
KURK Kurchatov 85.39 328*ce*P **P** **01 34 54.0 +0.7**
KURK pmax pmax
comp=Z,99nm,1.1s
CHM Chimkent 85.60 318 *e*P **P** **01 34 55.3 +0.7**
CHM pmax pmax
comp=Z,48nm,1.3s
CHM Chimkent 85.60 318 *e*P **P** **01 34 55.4 +0.7**
comp=Z,48nm,1.3s
VNA3 Neumayer Olymp 85.70 191⇑P **P** **01 34 55.2 +0.5**
comp=Z,45nm,1.0s
BRLS Borolday 85.83 319 *e*P **P** **01 34 56.2 +0.5**
BRLS pmax pmax
comp=Z,32nm,1.5s
BRLS Borolday 85.83 319 *e*P **P** **01 34 56.2 +0.5**
comp=Z,32nm,1.5s
VNA1 Neumayer--Stat 85.93 192⇑P **P** **01 34 56.7 +0.9**
comp=Z,74nm,1.1s
DMTO DMTO 85.96 290 P **P** **01 34 57.5 +0.6**
HOQ Hoqain 86.18 297 P **P** **01 34 58.6 +0.7**
HOQ P **P** **01 34 58.6 +0.7**
RBK Rabkut 86.53 290 P **P** **01 35 01.6 +1.8**
ARQ Araqi 86.75 296 P **P** **01 35 01.5 +0.8**
DOK Doka 87.02 291 P **P** **01 35 02.5 +0.4**
SOHO SOHO 87.05 297 P **P** **01 35 03.1 +0.9**
SOHO P **P** **01 35 03.1 +0.9**
SOHO SOHO 87.05 297 *i* P **P** **01 35 03.0 +0.9**
SNR=11
SOHO *i* P **P** **01 35 04.0 +1.8**
SNR=5.2
WHFO Wadi Hawf 87.07 290 P **P** **01 35 02.8 +0.4**
ABTO Aybut 87.28 289 P **P** **01 35 04.8 +1.3**
UOSS Minazif 87.64 297 P **P** **01 35 04.6 -0.4**
UOSS Minazif 87.64 297 P **P** **01 35 05.8 +0.8**
UOSS P **P** **01 35 05.8 +0.8**
UOSS Minazif 87.64 297 *i* P **P** **01 35 05.1 +0.1**
SNR=7.1
HATD Hatta, Dubai 87.66 297 P **P** **01 35 06.5 +1.4**
HATD P **P** **01 35 06.5 +1.4**
HATD Hatta, Dubai 87.66 297 *i* P **P** **01 35 05.8 +0.7**
SNR=8.3
ASHO Ashiyiah 87.66 297 P **P** **01 35 05.9 +0.7**
SNR=9.4
ASHO Ashiyiah 87.66 297 *i* P **P** **01 35 05.6 +0.5**
SNR=21
ALNE Al Ain 87.68 296 P **P** **01 35 06.1 +0.8**
SNR=5.6
ALNE Al Ain 87.68 296 P **P** **01 35 06.0 +0.8**
MDH Madha 87.70 298 P **P** **01 35 06.3 +1.0**
MSFE Esma-Masafi 87.84 298 *i* P **P** **01 35 07.0 +1.0**
SNR=14
MASF Masafi 87.85 298 P **P** **01 35 07.0 +1.0**
SNR=7.1
BRZS Berezniki 88.00 326 *e*P **P** **01 35 06.8 +0.7**
BRZS Berezniki 88.00 326 *e*P **P** **01 35 06.9 +0.7**
FAQ Al Faqa, Dubai 88.08 297 P **P** **01 35 08.5 +1.5**
SNR=6.5
FAQ P **P** **01 35 08.5 +1.5**
SNR=6.5
NAZ Nazwa, Dubai 88.11 297 P **P** **01 35 08.4 +1.1**
SNR=9.3
NAZ Nazwa, Dubai 88.11 297 *i* P **P** **01 35 07.9 +0.7**
SNR=5.1
SHME Shamm 88.13 298 P **P** **01 35 08.1 +0.9**
SHME P **P** **01 35 08.1 +0.9**
SHME Shamm 88.13 298 P **P** **01 35 08.2 +0.9**
ASUD Al Ashush, Dub 88.25 297 P **P** **01 35 08.8 +0.9**
SNR=5.9
ASUD Al Ashush, Dub 88.25 297 *i* P **P** **01 35 08.8 +0.9**
SNR=8.3
AJN Ajban 88.52 297 P **P** **01 35 10.2 +1.1**
SNR=6.4
AJN P **P** **01 35 10.2 +1.1**
SNR=6.4
AJN Ajban 88.52 297 *i* P **P** **01 35 09.5 +0.3**
SNR=5.4
MZR Muzera 89.21 295 P **P** **01 35 13.7 +1.3**
SNR=12
MZR P **P** **01 35 13.7 +1.3**
SNR=12
MZR Muzera 89.21 295 *i* P **P** **01 35 13.4 +0.9**
SNR=24
JRN Qarnain Island 90.46 296 P **P** **01 35 19.0 +0.8**
BILL Bilibino 90.81 12⇓*e*P **P** **01 35 19.7 +0.8**
BILL pmax pmax
comp=Z,15nm,1.1s
BILL MLR MLR
comp=Z,123nm,20.0s
BVAR Borovoye Array 90.87 327 P **P** **01 35 19.9 +0.4**

comp=Z,28nm,1.1s,baz=132,slow=4.4,SNR=77
BVAR PKKPbc **PKKPbc** **01 52 47.0 +0.4**
comp=Z,0.7nm,0.7s,baz=285,slow=2.9,SNR=4.8
comp=Z,28nm,1.1s
BRVK Borovoye 90.94 327 P **P** **01 35 19.8 0.0**
BRVK Borovoye 90.94 327 P **P** **01 35 20.3 +0.5**
BRVK P **P** **01 35 20.3 +0.5**
BRVK Borovoye 90.94 327 *ce*P **P** **01 35 20.2 +0.4**
BRVK pmax pmax
comp=Z,40nm,1.3s
TIXI Tiksi 91.35 358 P **P** **01 35 21.5 +0.2**
TIXI Tiksi 91.35 358 LR LR 02 15 31.0
comp=Z,148nm,20.5s,baz=183,slow=35
TIXI Tiksi 91.35 358‖ *e*P **P** **01 35 21.2 0.0**
TIXI pmax pmax
comp=Z,35nm,1.4s
TIXI MLR MLR
comp=Z,187nm,18.0s
SMRA Abu-Samra 92.10 295 P **P** **01 35 26.7 +0.9**
PMSA Palmer Station 94.50 172 LR LR 02 16 18.5
comp=Z,161nm,20.3s,baz=196,slow=34
KIBK Kibwezi 94.67 266 P **P** **01 35 39.6 +1.5**
KIBK Kibwezi 94.67 266 P **P** **01 35 40.0 +1.9**
KMBO Kilima Mbogo 95.83 267‖ *e*P **P** **01 35 45.4 +1.8**
BOSA Boshof 95.90 237 P **P** **01 35 44.1 +0.5**
comp=Z,5.1nm,1.1s,baz=117,slow=6.8,SNR=3.5
BOSA LR LR 02 15 35.2
comp=Z,383nm,18.2s,baz=132,slow=33
comp=Z,5.1nm,1.1s
MATP Matopo 96.69 246 LR LR 02 13 59.7
comp=Z,304nm,20.9s,baz=110,slow=32
LBTB Lobatse 97.20 240 LR LR 02 14 18.1
comp=Z,342nm,18.8s,baz=123,slow=32
SVE Sverdlovsk 97.63 328 *e*P **P** **01 35 50.0 -0.4**
SVE pmax pmax
comp=Z,16nm,1.5s
KDAK Kodiak Island 98.20 31 LR LR 02 15 55.4
comp=Z,220nm,21.8s,baz=243,slow=33
ARTI Arti 98.59 327 LR LR 02 26 14.4
comp=Z,36nm,18.4s,baz=97,slow=39
ARTI Arti 98.59 327 *c i*P **P** **01 35 54.2 -0.5**
ARTI 01 39 55.4
ARTI S **SKSac** **01 46 32.4 +0.4**
ARTI SP **SP** **01 48 52.8 +4.9**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
LSZ Lusaka 99.02 250 P **Pdif** **01 35 59.0 +1.2**
LSZ Lusaka 99.02 250 LR LR 02 17 38.9
comp=Z,241nm,19.1s,baz=120,slow=34
LSZ Lusaka 99.02 250 P **Pdif** **01 35 59.1 +1.3**
LSZ P **Pdif** **01 35 59.1 +1.3**
ILAR Eielson Array 103.31 26 Pdiff **Pdif** **01 36 15.0 -0.5**
comp=Z,0.3nm,0.6s,baz=269,slow=5.1,SNR=4.4
ILAR PP **PP** **01 40 28.5 -2.7**
comp=Z,2.9nm,1.2s,baz=246,slow=7.3,SNR=6.5
ILAR PKKPbc **PKKPbc** **01 52 10.4 -2.1**
comp=Z,0.4nm,0.8s,baz=15,slow=2.2,SNR=4.3
KLMR Klimovskoe 109.23 329 *e*P **Pdif** **01 36 40.5 -1.4**
KLMR *e* 01 41 12.3
KLMR *e* 01 51 48.6
BRTR Keskin Array B 110.10 306 PKiKP **PKiKP** **01 40 48.9 +0.6**
comp=Z,1.4nm,0.9s,baz=126,slow=3.2,SNR=6.9
BRTR PKKPbc **PKKPbc** **01 51 49.6 -1.1**
comp=Z,0.7nm,1.1s,baz=250,slow=3.7,SNR=4.0
OBN Obninsk 110.19 323 *i*P **Pdif** **01 36 47.0 +0.7**
OBN *i* 01 40 48.3
OBN *e* 01 41 22.4
OBN *e*PPP PPP 01 43 40.8
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 114.32 318 PKP PKPdf 01 40 55.7 0.0
comp=Z,1.9nm,0.5s,baz=73,slow=2.4,SNR=9.3
SORM Soroca 114.79 315 ⇑P PKPdf 01 40 56.2 -0.4
ARCES ARCESS Array B 114.86 338 PKP PKPdf 01 40 56.4 +0.2
comp=Z,8.3nm,1.0s,baz=115,slow=2.0,SNR=8.0
MNK Minsk 115.18 322 *i* PKiKP **PKiKP** **01 40 56.7 -0.5**
MNK *i* 01 41 57.0
MNK *i* PPP PPP 01 44 22.1
MNK *i* 01 48 10.6
MNK *i* SS SS 01 57 56.2 +2.1
MNK *i* SSS SSS 02 02 15.8
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,1.1s
MNK pmax pmax
comp=Z,10.0nm,1.0s
MNK MLR MLR
comp=E,32nm,17.0s
MNK MLR MLR
comp=N,42nm,22.0s
MNK MLR MLR
comp=Z,25nm,17.0s
FINES FINESS Array B 115.74 329 PKP **PKPdf** **01 40 58.2 +0.1**
comp=Z,3.8nm,0.6s,baz=98,slow=2.8,SNR=21
NVAR Mina Array Bea 115.83 56 PKP **PKiKP** **01 41 00.6 +1.3**
comp=Z,5.0nm,1.0s,baz=234,slow=3.0,SNR=19
NVAR PKKPbc **PKKPbc** **01 51 31.6 0.0**
comp=Z,1.1nm,0.8s,baz=107,slow=3.2,SNR=7.1
ELND Elena 116.27 309 ⇑P **PKPdf** **01 40 58.7 -1.0**
BURAR Bucovina Array 116.89 314 ⇑P **PKiKP** **01 41 03.4 +2.5**
YKA Yellowknife Ar 117.37 29 PKP **PKiKP** **01 41 01.2 +0.1**
comp=Z,4.7nm,1.0s,baz=298,slow=2.5,SNR=13
YKA PKKPbc **PKKPbc** **01 51 24.6 -1.8**
comp=Z,2.2nm,0.9s,baz=90,slow=3.7,SNR=9.1
DEV Deva 118.48 312 ⇑P **PKiKP** **01 41 04.3 +0.5**
GZR Gura Zlata 118.57 312 ⇑P **PKiKP** **01 41 05.0 +0.8**
DRGR 118.60 313 ⇑P **PKiKP** **01 41 05.2 +1.0**
KOLS Kolonicke sedl 118.83 316 *e*PKiKP **PKiKP** **01 41 05.9 +1.4**
KOLS Kolonicke sedl 118.83 316 *e*PKP **PKiKP** **01 41 05.9 +1.4**
SURR Surduc 119.02 312 ⇑P **PKPdf** **01 40 02.2 -2.7**
SIRR Siria 119.34 313 ⇑P **PKiKP** **01 41 06.6 +1.0**
BZS Buzias 119.38 312 ⇑P **PKiKP** **01 41 06.6 +1.0**
STHS Stebnicka Huta 119.48 316 *e*PKiKP **PKiKP** **01 41 06.2 +0.4**
STHS Stebnicka Huta 119.48 316 *e*PKP **PKiKP** **01 41 06.2 +0.4**
NIE Niedzica 120.09 316 *e*PKPdf **PKiKP** **01 41 08.2 +1.2**
OJC Ojcow 120.35 317 *e*PKPdf **PKiKP** **01 41 08.0 +0.5**
LANS Liptovska Anna 120.66 316 *e*PKiKP **PKiKP** **01 41 08.4 +0.3**
LANS *e* 01 42 35.8
LANS Liptovska Anna 120.66 316 *e*PKP **PKiKP** **01 41 08.4 +0.3**
LANS *e*PP **PP** **01 42 35.8 -0.1**
VYHS Vyhne 121.13 315 *e*PKiKP **PKiKP** **01 41 09.9 +0.9**
VYHS Vyhne 121.13 315 *e*PKP **PKiKP** **01 41 09.9 +0.9**
MORH Mrgy, Hungar 121.43 313 ⇑P **PKiKP** **01 41 10.5 +0.9**
MAUC Maruska 121.71 316 *e*PKP **PKiKP** **01 41 10.9 +0.7**
MORC Moravsky Berou 121.85 317 *e*PKP **PKiKP** **01 41 11.0 +0.6**
JAVC Velka Javorina 121.86 316 *e*PKP **PKiKP** **01 41 11.9 +1.4**
MODS Modra-Piesok 122.17 315 *e*PKiKP **PKPdf** **01 41 09.8 -1.1**
MODS Modra-Piesok 122.17 315 *e*PKP **PKPdf** **01 41 09.8 -1.1**
KRLC Kraliky 122.30 317 *e*PKiKP **PKiKP** **01 41 12.2 +0.9**
KRLC Kraliky 122.30 317 *e*PKPDF **PKiKP** **01 41 12.2 +0.9**
KSP Ksiaz 122.50 318 *e*PKPdf **PKiKP** **01 41 12.4 +0.8**
KSP Ksiaz 122.50 318 PKP **PKiKP** **01 41 12.1 +0.5**
VRAC Vranov 122.52 316 *e*PKP **PKiKP** **01 41 12.1 +0.4**
VRAC Vranov 122.52 316 ⇑P **PKiKP** **01 41 13.1 +1.3**
BLY Banja Luka 122.55 311 ⇑P **PKiKP** **01 41 12.0 +0.1**
DPC Dobruska-Polom 122.55 318 *e*PKiKP **PKiKP** **01 41 12.9 +1.1**
DPC MLR MLR
comp=Z,100nm,20.4s
DPC Dobruska-Polom 122.55 318 *e*PKPDF **PKiKP** **01 41 12.9 +1.1**
DPC AMS AMS 02 42 00.0
comp=Z,100nm,20.4s
DPC Dobruska-Polom 122.55 318 PKP **PKiKP** **01 41 12.2 +0.4**
OSTC Ostas 122.59 318 *e*PKiKP **PKiKP** **01 41 12.8 +1.0**
OSTC Ostas 122.59 318 *e*PKPDF **PKiKP** **01 41 12.8 +1.0**
PDAR Pinedale Array 122.61 51 PKP **PKPdf** **01 41 11.6 -0.6**
comp=Z,4.0nm,0.9s,baz=222,slow=2.0,SNR=29
KRUC Moravsky 122.68 316 *e*PKP **PKiKP** **01 41 12.3 +0.3**
CHVC Chvalec 122.69 318 *e*PKiKP **PKiKP** **01 41 12.5 +0.5**
CHVC Chvalec 122.69 318 *e*PKPDF **PKiKP** **01 41 12.5 +0.5**
UPC Upice 122.73 318 *e*PKiKP **PKiKP** **01 41 13.9 +1.8**
UPC Upice 122.73 318 *e*PKPDF **PKiKP** **01 41 13.9 +1.8**
NB2 NORSAR Subarra 122.83 331 PKPdf **PKiKP** **01 41 12.2 +0.2**
comp=Z,1.7nm,1.0s,baz=68,slow=1.9
NOA NORSAR Array B 122.83 331 PKP **PKiKP** **01 41 12.0 0.0**
comp=Z,4.8nm,1.0s,baz=76,slow=2.8,SNR=8.4
NOA NORSAR Array B 122.83 331 PKiKP **PKiKP** **01 41 12.0 0.0**
RONA Rosalia, Austr 122.90 314 *e*PKP **PKiKP** **01 41 13.0 +0.5**
comp=Z,9.2nm,0.9s
MATE Matera 123.09 306 ⇑P **PKiKP** **01 41 14.0 +0.9**
CONA Conrad Observa 123.17 315 *e*PKP **PKiKP** **01 41 14.1 +1.0**
comp=Z,8.8nm,1.0s,SNR=5.4
CONA Conrad Observa 123.17 315 *e*P **PKiKP** **01 41 14.1 +1.0**
comp=Z,8.8nm,1.0s,SNR=5.4
TREC Trest 123.24 316 *e*PKiKP **PKiKP** **01 41 14.1 +0.9**
TREC MLR MLR
comp=Z,200nm,23.0s
TREC Trest 123.24 316 *e*PKPDF **PKiKP** **01 41 14.1 +0.9**
TREC AMS AMS 02 42 40.0
comp=Z,200nm,23.0s
ARSA Arzberg 123.47 314 *i* PKP **PKiKP** **01 41 14.7 +1.0**
comp=Z,5.8nm,0.6s
RGN Rugen 123.58 323 *e*PKP **PKPdf** **01 41 07.9 -5.4**
baz=78,slow=2.2
PVCC Panska Ves 123.63 318 *e*PKiKP **PKiKP** **01 41 14.9 +1.0**
PVCC Panska Ves 123.63 318 *e*PKPDF **PKiKP** **01 41 14.9 +1.0**
PRU Pruhonice 123.74 317 *e*PKiKP **PKiKP** **01 41 15.1 +1.0**
PRU Pruhonice 123.74 317 *e*PKPDF **PKiKP** **01 41 15.1 +1.0**
RUE Ruedersdorf 123.76 320 *e*PKP **PKPdf** **01 41 13.1 -0.7**
baz=78,slow=2.2
BOJS Bojanci 123.85 312 *i* PKPdf **PKiKP** **01 41 14.9 +0.5**
SOKA Soboth 123.87 313 *i* PKP **PKiKP** **01 41 14.8 +0.3**
comp=Z,22nm,1.2s,SNR=18
SOKA Soboth 123.87 313 *i* P **PKiKP** **01 41 14.8 +0.3**
comp=Z,22nm,1.2s,SNR=18
BRG Berggiesshubel 123.97 319 *e*PKP **PKiKP** **01 41 15.1 +0.6**
baz=78,slow=2.2
BRG Berggiesshubel 123.97 319 *i* PKP **PKiKP** **01 41 15.5 +1.0**
BRG Amp 01 41 17.0
comp=Z,12nm,0.9s
BRG PP **PP** **01 42 59.0 +0.8**
BRG Amp 01 43 00.9
comp=Z,3.4nm,1.1s
CKRC Cesky Krumlov 124.07 316 *e*PKiKP **PKiKP** **01 41 15.4 +0.6**
CKRC Cesky Krumlov 124.07 316 *e*PKPDF **PKiKP** **01 41 15.4 +0.6**
OBKA Obir 124.23 313 *i* PKP **PKiKP** **01 41 16.1 +0.8**
comp=Z,8.7nm,1.0s,SNR=5.3
OBKA Obir 124.23 313 *i* P **PKiKP** **01 41 16.1 +0.8**
comp=Z,8.7nm,1.0s,SNR=5.3
MOA Molln 124.24 315 *i* PKP **PKiKP** **01 41 15.7 +0.5**
comp=Z,6.3nm,1.1s
LJU Ljubljana 124.30 313 *i* PKPdf **PKiKP** **01 41 15.9 +0.6**
CEY Cerknica 124.40 312 *i* PKPdf **PKiKP** **01 41 15.6 0.0**
GEC2 GERESS Array S 124.47 316 *e*PKP **PKiKP** **01 41 15.7 0.0**
baz=78,slow=2.2
GERES GERESS Array B 124.47 316 PKP **PKiKP** **01 41 16.0 +0.3**
comp=Z,6.2nm,0.7s,baz=58,slow=2.4,SNR=47
CLL Collm 124.47 319⇑ *i*PKiKP **PKiKP** **01 41 15.7 +0.2**
CLL pmax pmax
comp=Z,19nm,1.2s
CLL Collm 124.47 319 PKP **PKPdf** **01 41 15.1 -0.1**
CLL Collm 124.47 319 *e*PKP **PKiKP** **01 41 15.5 +0.1**
baz=78,slow=2.2
CLL Collm 124.47 319⇑ *i*PKPdf **PKiKP** **01 41 15.7 +0.2**
CLL LmV 02 48 00.0
comp=Z,100nm,18.4s
KHC Kasperske Hory 124.50 317 *e*PKiKP **PKiKP** **01 41 16.5 +0.8**
KHC Kasperske Hory 124.50 317 *e*PKPDF **PKiKP** **01 41 16.5 +0.8**
KHC Kasperske Hory 124.50 317 PKP **PKiKP** **01 41 15.7 0.0**
BIOA Bad Ischl, Aus 124.68 315 *i* PKP **PKiKP** **01 41 16.4 +0.3**
comp=Z,8.5nm,0.9s,SNR=5.9
BIOA Bad Ischl, Aus 124.68 315 *i* P **PKiKP** **01 41 16.4 +0.3**
comp=Z,8.5nm,0.9s,SNR=5.9
MYKA Tesin, Mystica 124.83 313 *i* PKP **PKiKP** **01 41 16.6 +0.2**
comp=Z,6.0nm,1.1s
WET Wettzell 124.95 317 *e*PKP **PKiKP** **01 41 16.9 +0.4**
baz=78,slow=2.2
KBA Koelnbreinsper 124.97 314 *i* PKP **PKiKP** **01 41 16.9 0.0**
comp=Z,13nm,1.4s
TANN Tannenbergstha 124.98 318 *e*PKP **PKiKP** **01 41 16.8 +0.2**
baz=78,slow=2.2
GORT1 Trebel 125.11 321 *e*PKP **PKiKP** **01 41 17.4 +0.8**
baz=78,slow=2.2
RJOB Jochberg 125.24 315 *e*PKP **PKiKP** **01 41 17.3 +0.1**
baz=78,slow=2.2
MANZ Manzenberg 125.29 318 *e*PKP **PKiKP** **01 41 17.5 +0.3**
baz=78,slow=2.2
FLTG Flechtingen 125.31 321 *e*PKP **PKiKP** **01 41 17.3 +0.2**
baz=78,slow=2.2
LESA Schwarzleotal 125.37 315 *e*PKP **PKiKP** **01 41 17.5 0.0**
comp=Z,12nm,1.1s,SNR=8.0
LESA Schwarzleotal 125.37 315 *e*P **PKiKP** **01 41 17.5 0.0**
comp=Z,12nm,1.1s,SNR=8.0
MOX Moxa 125.46 319 *e*PKP **PKPdf** **01 41 16.6 -0.5**
baz=78,slow=2.2
MOX *e*L L 02 50 01.8
comp=Z,80nm,19.2s
ABTA Abfaltersbach 125.58 314 *i* PKP **PKiKP** **01 41 17.9 -0.1**
comp=Z,23nm,1.0s,SNR=14
ABTA Abfaltersbach 125.58 314 *i* P **PKiKP** **01 41 17.9 -0.1**
comp=Z,23nm,1.0s,SNR=14
ASSE Asse, Remlinge 125.70 321 *e*PKP **PKiKP** **01 41 18.5 +0.7**
baz=78,slow=2.2
GRF Grafenberg Arr 125.91 318 *e*PKP **PKiKP** **01 41 18.9 +0.5**
baz=78,slow=2.2
GRF *e*L L 02 45 22.6
comp=Z,102nm,20.8s
NRDL Niedersach Rie 125.94 321 *e*PKP **PKiKP** **01 41 19.2 +1.0**
baz=78,slow=2.2
CLZ Clausthal 125.95 320 *e*PKP **PKiKP** **01 41 19.0 +0.5**
baz=78,slow=2.2
WTTA Wattenberg 126.09 315 *i* PKP **PKiKP** **01 41 19.6 +0.5**
comp=Z,45nm,1.1s,SNR=19
WTTA Wattenberg 126.09 315 *i* P **PKiKP** **01 41 19.6 +0.5**
comp=Z,45nm,1.1s,SNR=19
WATA Walderalm 126.12 315 *i* PKP **PKiKP** **01 41 19.2 +0.1**
comp=Z,35nm,1.3s,SNR=14
WATA Walderalm 126.12 315 *i* P **PKiKP** **01 41 19.2 +0.1**
comp=Z,35nm,1.3s,SNR=14
FUR Fuerstenfeldbru 126.17 316 *e*PKP **PKiKP** **01 41 19.0 0.0**
baz=78,slow=2.2
GTTG Gottingen 126.27 320 *e*PKP **PKiKP** **01 41 19.7 +0.6**
baz=78,slow=2.2
RETH Rethem/Aller, 126.32 322 *e*PKP **PKiKP** **01 41 19.7 +0.6**
baz=78,slow=2.2
SQTA Sankt Quirin 126.39 315 *i* PKP **PKiKP** **01 41 20.2 +0.5**
comp=Z,32nm,1.3s,SNR=11
SQTA Sankt Quirin 126.39 315 *i* P **PKiKP** **01 41 20.2 +0.5**
comp=Z,32nm,1.3s,SNR=11
UBBA Unterbreizbach 126.42 319 *e*PKP **PKiKP** **01 41 19.7 +0.5**
baz=78,slow=2.2
MOTA Moosalm 126.44 315 *i* PKP **PKiKP** **01 41 20.0 +0.3**
comp=Z,25nm,1.1s,SNR=12
MOTA Moosalm 126.44 315 *i* P **PKiKP** **01 41 20.0 +0.3**
comp=Z,25nm,1.1s,SNR=12
RETA Reutte 126.64 315 *e*PKP **PKiKP** **01 41 20.3 +0.3**
comp=Z,14nm,1.5s
FETA Feichten 126.75 314 *i* PKP **PKiKP** **01 41 20.8 +0.4**
comp=Z,20nm,1.3s,SNR=11
FETA Feichten 126.75 314 *i* P **PKiKP** **01 41 20.8 +0.4**
comp=Z,20nm,1.3s,SNR=11
DAVA Damuels 127.26 315 *e*PKP **PKiKP** **01 41 21.8 +0.4**
comp=Z,38nm,1.1s,SNR=14
DAVA Damuels 127.26 315 *e*P **PKiKP** **01 41 21.8 +0.4**
comp=Z,38nm,1.1s,SNR=14
KASTN Kahler Asten 127.29 320 *e*PKP **PKiKP** **01 41 21.1 -0.1**
baz=78,slow=2.2
TXAR Lajitas Array 127.31 68 PKP **PKiKP** **01 41 22.5 +0.6**
comp=Z,1.2nm,1.1s,baz=290,slow=1.4,SNR=3.5
TXAR PP **PP** **01 43 21.9 +0.6**
comp=Z,1.3nm,1.0s,baz=248,slow=5.3,SNR=4.8
IBBN Ibbenburen 127.38 321 *e*PKP **PKiKP** **01 41 21.6 +0.4**
baz=78,slow=2.2
STU Stuttgart 127.40 317 *e*PKP **PKiKP** **01 41 21.3 -0.1**
baz=78,slow=2.2
TNS Taunus Mts 127.53 319 *e*PKP **PKiKP** **01 41 21.7 0.0**
baz=78,slow=2.2
BUG Bochum--Univer 127.92 320 *e*PKP **PKiKP** **01 41 22.4 +0.1**
baz=78,slow=2.2
BFO Black Forest 128.06 316 *e*PKP **PKPdf** **01 41 22.3 +0.1**
baz=78,slow=2.2
BTNL Ternell 128.86 320 *d*PKP **PKiKP** **01 41 24.5 +0.2**
MEM Membach 128.92 320 *d*PKP **PKiKP** **01 41 24.9 +0.5**
BHOU Houvegnez 129.00 319 *d*PKiKP **PKiKP** **01 41 25.9 +1.3**
KEST Kesra 129.06 300 PKP **PKiKP** **01 41 26.2 +1.0**
comp=Z,5.3nm,1.0s,baz=90,slow=8.1,SNR=3.8
KEST Kesra 129.06 300 P **PKPdf** **01 41 24.0 -0.6**
WLF Walferdange 129.11 319 *d*PKP **PKiKP** **01 41 25.5 +0.7**
WLF Walferdange 129.11 319 *e*PKP **PKiKP** **01 41 24.9 +0.1**
baz=78,slow=2.2
CPSB Cacapava Do Su 129.53 172 *e*P **PKPdf** **01 41 25.3 -0.4**
RCHB Rochefort 129.54 319 *d*PKiKP **PKiKP** **01 41 27.0 +1.4**
BMRD Maredsous 129.77 320 *d*PKiKP **PKiKP** **01 41 27.2 +1.1**
DOU Dourbes 129.94 319 *d*PKiKP **PKiKP** **01 41 28.0 +1.6**
EKA Eskdalemuir Ar 132.12 328 PKP **PKiKP** **01 41 31.1 +0.4**
comp=Z,6.6nm,1.0s,baz=44,slow=5.0,SNR=7.4
CPUP Villa Florida 132.81 166 PKP **PKiKP** **01 41 32.6 -0.4**
comp=Z,4.5nm,1.0s,baz=203,slow=7.7,SNR=15
CPUP SKPbc **SKPbc** **01 44 58.9 -0.1**
comp=Z,1.4nm,0.9s,baz=99,slow=1.8,SNR=6.5
CPUP Villa Florida 132.81 166 *e*P **PKiKP** **01 41 32.7 -0.4**
ITAB Concordia 132.82 173 *e*P **PKPdf** **01 41 32.2 +0.3**
TORD Torodi Ar. Bea 133.76 269 PKP **PKPdf** **01 41 34.3 +0.3**
comp=Z,6.6nm,0.6s,baz=66,slow=1.9,SNR=29
SJPY San Joaquin 134.36 167 *e*P **PKPdf** **01 41 35.5 +0.6**
PET01 Itanhaem-SP 136.09 179 *e*P **PKPdf** **01 41 38.5 +0.4**
AMBA Amambai (Brazi 136.60 168 *e*P **PKPdf** **01 41 40.0 +0.9**
TRCS Terra Rica 137.12 171 *e*P **PKPdf** **01 41 40.8 +0.6**
MURT Porto Murtinho 137.23 164 *e*P **PKPdf** **01 41 40.5 +0.2**
VAO Valinhos 137.38 179 *e*P **PKPdf** **01 41 40.9 +0.2**
DBIC Dimbokro 137.85 258 PKhKP PKPpre 01 41 30.5
comp=Z,1.9nm,0.5s,baz=175,slow=2.4,SNR=4.0
DBIC PKP **PKPdf** **01 41 42.6 +1.0**
comp=Z,7.6nm,0.9s,baz=146,slow=3.0,SNR=2.8
LPAZ La Paz 138.07 147 PKhKP PKPpre 01 41 32.1
comp=Z,1.6nm,0.7s,baz=133,slow=1.7,SNR=6.4
LPAZ PKP **PKiKP** **01 41 44.3 -0.4**
comp=Z,15nm,1.2s,baz=180,slow=1.0,SNR=17
LPAZ SKPbc **SKiKP** **01 45 18.9 -1.7**
comp=Z,2.9nm,0.8s,baz=165,slow=2.1,SNR=5.9
LPAZ La Paz 138.07 147 *e*P **PKPdf** **01 41 42.8 +0.1**
PCMB Pacaembu 138.47 173 *e*P **PKPdf** **01 41 41.8 -0.8**
BDQN Bodoquena, MS 138.61 165 *e*P **PKPdf** **01 41 43.2 +0.3**
AQDB Aquidauana 138.83 166 *e*P **PKPdf** **01 41 43.7 +0.5**
ESDC Sonseca Array 138.86 308 PKhKP PKPpre 01 41 34.3
comp=Z,1.1nm,0.9s,baz=103,slow=4.2,SNR=4.8
ESDC PKP **PKiKP** **01 41 44.0 -1.0**
comp=Z,3.5nm,1.1s,baz=32,slow=2.3,SNR=8.1
RPRD Ribas do Rio P 139.22 169 *e*P **PKPdf** **01 41 43.3 -0.7**
BSCB Bom Sucesso 139.36 182 *e*P **PKPdf** **01 41 43.9 -0.4**
ITRB Iturama 140.46 174 *e*P **PKPdf** **01 41 46.3 +0.5**
BBSD Serra de San D 140.53 158 *e*P **PKPdf** **01 41 45.6 -0.9**
C2SB Chapadao do Su 141.04 170 *e*P **PKPdf** **01 41 46.5 -0.8**
SJMB Sao Joao De Ma 141.36 188 *e*P **PKPdf** **01 41 48.0 +0.1**
SCHQ Schefferville 141.72 19 PKP **PKPdf** **01 41 46.2 -1.2**
comp=Z,7.4nm,0.9s,baz=315,slow=4.3,SNR=6.1
PMNB Patos De Minas 141.83 180 *e*P **PKPdf** **01 41 49.4 +0.5**
DIAM Diamantina, MG 141.99 184 *e*P **PKPdf** **01 41 49.6 +0.4**
CZSB Cruzeiro do Su 142.11 134 *e*P **PKPdf** **01 41 48.6 -0.8**
IPMB Ipameri, GO 142.33 177 *e*P **PKPdf** **01 41 46.6 -3.1**
PTLB Pontes e Lacer 142.65 159 *e*P **PKPdf** **01 41 49.2 -1.1**
OTAV Otavalo 142.84 118 *e*P **PKPdf** **01 41 50.0 -1.2**
SALV Santo Antonio 143.24 165 *e*P **PKPbc** 01 41 49.3 +1.2
GUA01 Guaratinga, BA 143.24 190 *e*P **PKPbc** 01 41 49.1 +0.9
ARAG Araguaiana, MT 144.21 171 *e*P **PKPdf** **01 41 52.4 -0.6**
CMC01 Camacan, BA 144.39 191 *e*P **PKPdf** **01 41 52.9 -0.4**
VILB Vilhena 144.57 156 *e*P **PKPdf** **01 41 53.5 -0.2**
BDFB Brasilia 144.66 177 PKP **PKPdf** **01 41 53.5 -0.4**
comp=Z,30nm,1.2s,baz=190,slow=1.4,SNR=20
JANB Januaria 145.24 183 *e*P **PKPdf** **01 41 54.9 +0.1**
TBTG Tabatinga, AM 146.58 133 *e*P **PKPdf** **01 41 56.4 -0.8**
PDRB Porto dos Gac 147.03 161 *e*P **PKPdf** **01 41 57.0 -0.9**
SDBA SAO DESIDERIO 147.90 182 *e*P **PKPdf** **01 41 58.0 -1.4**
SNDB Serra Nova Dou 147.95 170 *e*P **PKPdf** **01 41 58.4 -1.0**
CLDB Colider 148.01 162 *e*P **PKPdf** **01 42 00.6 +1.1**
ROSC El Rosal 148.77 115 PKPbc **PKiKP** **01 42 05.9 -0.6**
comp=Z,37nm,0.4s,baz=240,slow=7.4,SNR=25
NBAN Anadia - AL 149.08 199 *e*P **PKPdf** **01 42 02.0 +0.8**
TEFE Tefe 150.51 140 *e*P **PKPdf** **01 42 04.5 +0.9**
BBTS Babate 151.27 264 PKPbc **PKiKP** **01 42 10.9 -0.1**
comp=Z,94nm,1.0s,baz=121,slow=3.2,SNR=10
SMTB Santa Maria do 151.41 177 *e*P **PKPdf** **01 42 05.7 +0.7**
NPGB Novo Progresso 151.76 160 *e*P **PKPdf** **01 42 06.1 +0.6**
MACA Manacapuru-AM 153.03 146 *e*P **PKPdf** **01 42 08.7 +1.4**
PRPB Parauapebas 153.87 172 *e*P **PKPdf** **01 42 08.3 -0.3**
SDV Santo Domingo 153.93 111 *e*P **PKPdf** **01 42 09.9 +1.1**
ITTB Itaituba 154.14 158 *e*P **PKPdf** **01 42 09.1 +0.2**
NBCL Cascavel-CE 154.84 199 *e*P **PKPdf** **01 42 09.1 -0.8**
BOAV Boa Vista 157.67 139 *e*P **PKPdf** **01 42 12.6 -1.0**

IDC 01 02:16:00.1±1.8, 0.89N×125.34E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=211.0km s-min=23.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.50**	**157**	P	P	02 21 01.2	-0.3
	1.1nm,0.7s,baz=336,slow=10,SNR=6.5						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.79**	**162**	P	P	02 21 33.1	+0.1
	0.4nm,0.5s,baz=342,slow=8.7,SNR=2.8						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.12**	**327**	P	P	02 26 02.2	-0.3
	0.2nm,0.5s,baz=120,slow=8.5,SNR=2.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.40**	**329**	P	P	02 26 31.6	+0.3
	0.2nm,0.5s,baz=135,slow=6.5,SNR=4.9						
	0.2nm,0.5s						

*IDC **01** 02:42:17.1±0.7, 16°.50S×173°.49W, h0km, mb4.1/10, mbtmp4.2/11, ML3.8/1, MS3.2/4, Error ellipse: s-maj=28.1km s-min=17.9km az=132.0*
*NEIC **01** 02:42:22.7±1.1, 16°.54S±0°.02×173°.5W±0°.1, h35km±1km, mb4.5/29, Error ellipse: s-maj=21.2km s-min=3.0km az=84.0*

ISC 01 02:42:25.3±0.5, 16°.58S±0°.07×173°.36W±0°.09, h66km, n56, σ1§26/52, mb4.2/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.06**	**30**		**Pn**	**02 43 09.0**	**-2.3**
NIUE	**Niue**	**4.11**	**128**		**Pn**	**02 43 24.3**	**-1.3**
RAR	**Rarotonga**	**13.66**	**112**	Pn	**Pn**	**02 45 34.4**	**-1.6**
RAR	**Rarotonga**	**13.66**	**112**	Pn	**Pn**	**02 45 34.1**	**-1.9**
	4.4nm,0.3s,baz=282,slow=14,SNR=9.1						
RAR				Sn	Sn	02 47 57.3	-8.8
	0.8nm,0.3s,baz=346,slow=14,SNR=1.4						
RAR				LR	LR	02 49 07.8	
	comp=Z,111nm,19.0s,baz=282,slow=30						
	17nm,0.4s						
DZM	**Mont Dzumac**	**19.82**	**251**	*e*LR	LR	02 51 48.1	
	189nm,25.7s						
DZM	**Mont Dzumac**	**19.82**	**251**	LR	LR	02 52 21.6	
	comp=Z,61nm,19.0s,baz=70,slow=31						
MXZ	**Matakaoa Point**	**22.16**	**198**	P	**P**	**02 47 14.3**	**-1.4**
PPT2	**Papeete2**	**22.75**	**96**	*e*LR	LR	02 52 44.7	
	69nm,26.8s						
URZ	**Urewera**	**23.17**	**199**	P	**P**	**02 47 25.6**	**-0.6**
	9.8nm,0.5s,baz=350,slow=1.2,SNR=11						
URZ				S	**S**	**02 51 33.6**	**+0.9**
	4.6nm,0.7s,baz=27,slow=17,SNR=1.6						
	9.8nm,0.5s						
TBI	**Tubuai**	**23.43**	**111**	*e*LR	LR	02 52 59.9	
	751nm,31.8s						
HNR	**Honiara**	**26.94**	**282**	LR	LR	02 57 18.6	
	comp=Z,95nm,19.1s,baz=116,slow=34						
QRZ	**Quartz Range**	**27.08**	**204**	P	**P**	**02 48 04.4**	**+2.7**
GVZ	**Greta Valley S**	**28.75**	**201**	P	**P**	**02 48 16.5**	**-0.2**
LTZ	**Lake Taylor**	**28.86**	**202**	P	**P**	**02 48 18.2**	**+0.5**
STKA	**Stephens Creek**	**43.50**	**241**	P	**P**	**02 50 22.0**	**-0.4**
	2.6nm,0.8s,baz=108,slow=6.4,SNR=4.6						
	2.6nm,0.8s						
BBOO	**Buckleboo**	**48.27**	**241**	P	**P**	**02 50 58.9**	**-1.1**
WR8	**Warramunga Arr**	**49.47**	**258**	P	**P**	**02 51 08.6**	**-0.8**
WR8				IAmb	IAmb	02 51 10.1	

comp=Z,1.4nm,0.7s,baz=88,slow=2.0,SNR=10
comp=Z,1.4nm,0.7s
PETK Petropavlovsk- 73.75 342 P **P** **02 53 53.1 +0.9**
comp=Z,1.8nm,0.8s,baz=130,slow=8.1,SNR=5.3
comp=Z,1.8nm,0.8s
NVAR Mina Array Bea 75.17 42 P **P** **02 54 02.4 +1.4**
comp=Z,1.5nm,0.8s,baz=228,slow=10,SNR=3.9
comp=Z,1.5nm,0.8s
PINE Pine Mountain 76.82 36 P **P** **02 54 11.2 +1.0**
PINE IAmb IAmb 02 54 12.7
comp=Z,5.8nm,1.0s
L18K Granite Mounta 79.63 8 P **P** **02 54 27.4 +2.3**
L18K IAmb IAmb 02 54 28.5
comp=Z,7.8nm,1.5s
TXAR Lajitas Array 81.23 56 P **P** **02 54 35.6 +1.0**
comp=Z,0.5nm,0.9s,baz=207,slow=5.3,SNR=4.7
comp=Z,0.5nm,0.9s
S22A 4UR Ranch, Cre 82.53 47 P **P** **02 54 42.1 +0.7**
S22A IAmb IAmb 02 54 44.0
comp=Z,3.6nm,0.8s
FXWY Fox Creek 82.63 40 P **P** **02 54 42.8 +1.0**
FXWY IAmb IAmb 02 54 44.5
comp=Z,4.8nm,1.4s
BW06 Boulder Array 83.11 42 P **P** **02 54 44.6 +0.3**
PD31 Pinedale Array 83.11 42 P **P** **02 54 44.6 +0.3**
PDAR Pinedale Array 83.11 42 P **P** **02 54 44.3 0.0**
PDAR Pinedale Array 83.11 42 P **P** **02 54 44.5 +0.3**
comp=Z,1.8nm,0.8s,baz=213,slow=3.5,SNR=12
comp=Z,1.8nm,0.8s
YHL Hebgen Lake 83.16 39 P **P** **02 54 45.0 +0.5**
YHL IAmb IAmb 02 54 47.2
comp=Z,4.9nm,0.9s
CCB Clear Creek Bu 83.30 11 P **P** **02 54 45.0 +0.5**
CCB IAmb IAmb 02 54 45.4
comp=Z,3.5nm,1.3s
ILAR Eielson Array 83.58 11 P **P** **02 54 45.8 -0.1**
comp=Z,0.2nm,0.5s,baz=213,slow=4.5,SNR=5.2
comp=Z,0.2nm,0.5s
K29M Barlow Dome 84.81 15 P **P** **02 54 53.1 +0.8**
MMPY Sheldon Lake, 85.55 18 P **P** **02 54 57.1 +1.2**
I28M Miner Creek 85.59 13 P **P** **02 54 56.3 +0.1**
J30M Hart River 85.71 15 P **P** **02 54 58.1 +1.3**
J30M IAmb IAmb 02 55 00.3
comp=Z,2.5nm,1.2s
I30M Mount Dempster 86.23 15 P **P** **02 54 59.9 +0.5**
I30M IAmb IAmb 02 55 04.2
comp=Z,2.1nm,1.1s
BMAR Burnt Mountain 86.39 11 P **P** **02 55 01.8 +1.8**
D25K Kavik River 87.79 9 P **P** **02 55 08.0 +1.2**
D25K IAmb IAmb 02 55 15.0
comp=Z,2.4nm,1.2s
SNAA Sanae 91.74 177 P **P** **02 55 26.1 +0.7**
SNAA IAmb IAmb 02 55 32.8
comp=Z,5.7nm,1.5s
CMAR Chiang Mai Arr 93.02 288 LR LR 03 32 21.0
comp=Z,7.3nm,21.9s,baz=155,slow=32
DRLN Deer Lake 119.22 42 PKPdf **PKPdf** **03 01 07.3 +0.5**
CMLA Cha da Macela 144.71 47 PKPdf **PKPdf** **03 01 55.1 +0.2**
SHEL Horse Pasture 145.44 159 PKPdf **PKPab** **03 01 57.3 +0.2**
BRTR Keskin Array B 147.08 320 PKPbc **PKPab** **03 02 02.7 -0.2**
comp=Z,2.2nm,1.1s,baz=66,slow=1.9,SNR=6.6
GERES GERESS Array B 147.30 351 PKPbc **PKPbc** **03 02 02.2 +0.8**
comp=Z,0.7nm,0.7s,baz=36,slow=5.0,SNR=7.0

*PAS **01** 02:49:50.9±1.5,35°.035N×0°.010×116°.78W±0°.01, h-1km±1km, ML3.1/107, ML3.0/136(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=52.0*

NEIC 01 02:49:50.4±1.5,**35°.035N**×0°.010×**116°.78W**±0°.01, **h5**km±2km, **Error ellipse: s-maj=3.0km s-min=1.8km az=61.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RRX	**Edison Barstow**	**0.24**	**228**		Pg	02 49 55.7	+0.6
RRX					Sg	02 49 59.4	+1.1
GSC	**Goldstone, Bar**	**0.27**	**355**		Pg	02 49 56.4	+0.7
GSC				IAML		02 50 02.7	
	comp=N,2μm,0.6s						
GSC				IAML		02 50 04.8	
	comp=E,2μm,0.5s						
HEC	**Hector,Ludlow**	**0.42**	**119**		Pb	02 49 59.7	-0.6
HEC					Sb	02 50 06.0	-1.0
DSCC	**Desert Studies**	**0.56**	**79**		Pb	02 50 02.3	-0.5
DSCC					Sb	02 50 10.4	-0.8
VTV	**Victorville**	**0.66**	**224**		Pg	02 50 03.3	+0.2
VTV					Sg	02 50 12.4	+0.9
HYS	**Haystack Butte**	**0.67**	**255**		Pg	02 50 03.4	+0.1
HYS					Sg	02 50 12.3	+0.2
CCCA	**Chr Cany lake**	**0.69**	**316**		Sb	02 50 13.6	-1.1
CCCA	**Chr Cany lake**	**0.69**	**316**		Pg	02 50 04.2	+0.6
CCCA				IAML		02 50 14.8	
	comp=E,872nm,0.4s						
CCCA				IAML		02 50 18.1	
	comp=N,1μm,0.4s						
SIL	**Silver Peak**	**0.69**	**183**		Sb	02 50 14.0	-0.8
BBRC	**Big Bear Solar**	**0.78**	**189**		Pg	02 50 05.9	+0.5
BBRC					Sb	02 50 16.6	-1.0
TUQ	**Turquoise Moun**	**0.81**	**60**		Sb	02 50 17.8	-0.5
WSHM	**Spangler Hills**	**0.81**	**314**		Sg	02 50 19.2	+0.3
WSHM	**Spangler Hills**	**0.81**	**314**		Pg	02 50 06.2	+0.2
WSHM				IAML		02 50 20.8	
	comp=N,604nm,0.5s						
WSHM				IAML		02 50 21.4	
	comp=N,748nm,0.3s						
GTM	**Goat Mountain**	**0.82**	**155**		Pg	02 50 06.6	+0.5
GTM					Sb	02 50 17.8	-0.7
LRMC	**Laurel Mtn Rad**	**0.86**	**301**		Pg	02 50 07.0	0.0
LRMC				IAML		02 50 22.5	
	comp=N,802nm,0.3s						
DTP	**Desert Tortois**	**0.90**	**285**		Pg	02 50 07.7	-0.1
SBB	**Saddle Back Bu**	**0.93**	**248**		Pg	02 50 07.9	-0.3
SBB					Sg	02 50 20.3	0.0
QSM	**Queen of Sheba**	**0.93**	**356**		Pg	02 50 08.4	+0.1
GMRC	**Granite Mounta**	**0.95**	**105**		Pb	02 50 09.3	-0.2
SHOC	**Shoshone, Teco**	**0.96**	**25**		Pg	02 50 09.1	+0.3
SVD	**Seven Oaks Dam**	**0.96**	**196**		Pg	02 50 08.9	0.0
SVD					Sb	02 50 22.7	0.0
EDW2	**Edwards Air Fo**	**1.01**	**262**		Pg	02 50 09.6	-0.2
CFT	**Crafton Hills**	**1.03**	**195**		Pg	02 50 10.3	0.0
BFSC	**Mount Baldy Ra**	**1.07**	**223**		Sg	02 50 25.1	+0.1
BFSC	**Mount Baldy Ra**	**1.07**	**223**		Pg	02 50 10.7	-0.3
BFSC				IAML		02 50 27.8	
	comp=N,316nm,0.5s						
BFSC				IAML		02 50 28.1	
	comp=E,310nm,0.4s						
MTPC	**Mountain Pass**	**1.10**	**66**		Pg	02 50 11.4	-0.1
MTPC				IAML		02 50 28.8	
	comp=E,407nm,0.3s						
MTPC				IAML		02 50 28.9	
	comp=N,445nm,0.5s						
TPC	**Twentynine Pal**	**1.10**	**147**		Pb	02 50 12.0	-0.1
GWY	**Greenwater Val**	**1.15**	**4**		Pg	02 50 12.3	-0.3
GWY				IAML		02 50 32.3	
	comp=N,544nm,0.5s						
TPO	**Tropico Hills**	**1.20**	**263**		Pg	02 50 13.0	-0.5
DANC	**Danby, Needles**	**1.22**	**109**		Pg	02 50 13.0	-0.8
BELC	**Belle Mtn. Jos**	**1.22**	**148**		Pg	02 50 13.1	-0.7
BELC				IAML		02 50 33.5	
	comp=N,213nm,0.5s						
BELC				IAML		02 50 40.8	
	comp=E,164nm,0.6s						
MWC	**Mount Wilson**	**1.33**	**233**		Pn	02 50 15.2	-0.7
MWC				IAML		02 50 35.8	
	comp=E,201nm,0.5s						
MWC				IAML		02 50 37.9	
	comp=N,248nm,0.8s						
PMD	**Palm Desert**	**1.42**	**166**		Pn	02 50 16.4	-0.6
PMD				IAML		02 50 38.1	
	comp=E,161nm,0.7s						
FURC	**Furnace Creek,**	**1.43**	**357**	IAML		02 50 42.4	
	comp=N,361nm,0.8s						
PFO	**Pinyon Flats O**	**1.44**	**169**		Pn	02 50 17.1	-0.3
PFO				IAML		02 50 40.1	
	comp=N,115nm,0.4s						
PASC	**Pasadena Art C**	**1.45**	**234**	IAML		02 50 38.8	
	comp=E,241nm,0.4s						
PASC				IAML		02 50 41.6	
	comp=N,126nm,0.9s						
ELS	**Elsinore Mount**	**1.48**	**201**		Pn	02 50 17.7	-0.2
ISA	**Isabella, Lake**	**1.52**	**295**		Pn	02 50 17.8	-0.6
IRM	**Iron Mountain**	**1.61**	**123**	IAML		02 50 44.8	
	comp=N,100nm,0.3s						
V12A	**Nelson**	**1.72**	**66**		Pn	02 50 21.1	0.0
V12A				IAML		02 50 47.5	
	comp=E,195nm,0.4s						
WCT	**Wildcat Mounta**	**1.76**	**4**		Pn	02 50 21.6	-0.1
BC3	**Big Chuckawall**	**1.76**	**141**		Pn	02 50 20.7	-1.0
BC3				IAML		02 50 51.4	
	comp=E,82nm,0.5s						
BC3				IAML		02 50 55.2	
	comp=N,105nm,0.9s						
BORC	**Borrego Spring**	**1.79**	**170**	Pn	Pn	02 50 22.3	+0.3
BORC				IAML		02 50 49.6	
	comp=E,156nm,0.4s						
BORC				IAML		02 50 49.9	
	comp=N,119nm,0.9s						
NEE2	**Needles Airpor**	**1.79**	**98**		Pn	02 50 22.6	+0.6
TPNV	**Topopah Spring**	**1.96**	**13**		Pn	02 50 24.5	+0.1
TPNV				IAML		02 51 01.9	
	comp=N,120nm,0.8s						
TPNV				IAML		02 51 02.1	
	comp=N,136nm,0.8s						
SHPR	**Sheep Range**	**1.97**	**41**		Pn	02 50 25.4	+0.8
DPP	**Dos Picos Cty**	**2.04**	**184**		Pn	02 50 26.4	+1.0
VES	**Vestal, Richgr**	**2.05**	**294**		Pn	02 50 25.6	0.0
VES				IAML		02 51 08.6	
	comp=E,110nm,0.7s						
CPE	**Camp Elliot**	**2.16**	**187**	IAML		02 50 59.1	
	comp=N,72nm,0.3s						
CPE				IAML		02 51 00.1	
	comp=E,150nm,0.5s						
BLYC	**Blythe**	**2.26**	**124**		Pn	02 50 27.7	-0.8
GMN	**Gold Mountain**	**2.29**	**350**		Pn	02 50 29.7	+0.5
GMN				IAML		02 51 13.1	
	comp=E,45nm,0.7s						
TIN	**Tinemaha, Big**	**2.33**	**330**	Pn	Pn	02 50 29.9	+0.3
TIN				IAML		02 51 13.8	
	comp=N,124nm,0.9s						
TIN				IAML		02 51 16.1	
	comp=E,108nm,1.1s						
W13A	**Hualapai Mount**	**2.37**	**88**		Pn	02 50 30.1	-0.2
W13A				IAML		02 51 08.0	
	comp=N,61nm,0.8s						
W13A				IAML		02 51 08.3	
	comp=E,57nm,0.8s						
YUH	**Yuha Desert**	**2.48**	**163**	Pn	Pn	02 50 31.7	+0.2
DSP	**Deep Springs**	**2.52**	**338**		Pn	02 50 32.6	+0.6
GLA	**Glamis**	**2.56**	**140**	Pn	Pn	02 50 33.3	+0.7
GLA				IAML		02 51 16.8	
	comp=E,103nm,0.6s						
GLA				IAML		02 51 16.8	
	comp=N,74nm,0.7s						
CBX	**Cerro Bola**	**2.72**	**178**	Pn	Pn	02 50 34.9	+0.1
S11A	**Rachel**	**2.73**	**17**	Pn	Pn	02 50 34.7	-0.4
S11A				IAML		02 51 24.6	
	comp=N,50nm,0.8s						
S11A				IAML		02 51 24.7	
	comp=E,62nm,1.2s						
PRN	**Pahroc Range**	**2.75**	**30**	IAML		02 51 31.9	
	comp=E,38nm,0.7s						
PRN				IAML		02 51 32.1	
	comp=N,44nm,0.7s						
ESJX	**Sierra Juarez**	**3.10**	**167**	IAML		02 52 29.8	
	comp=E,28nm,0.1s						
Y14A	**Wickenburg**	**3.30**	**108**	IAML		02 51 41.9	
	comp=N,59nm,0.7s						
Y14A				IAML		02 51 47.9	
	comp=E,42nm,0.9s						
KNB	**Kanab**	**3.77**	**57**	IAML		02 51 55.3	
	comp=N,23nm,0.8s						
KNB				IAML		02 52 00.7	
	comp=E,22nm,0.9s						
U15A	**North Rim**	**3.91**	**68**	IAML		02 51 57.9	
	comp=N,22nm,1.3s						
U15A				IAML		02 51 58.6	
	comp=E,36nm,0.5s						
CMB	**Columbia Colle**	**4.17**	**317**	IAML		02 52 11.7	
	comp=N,12nm,0.8s						
PSUT	**Pine Spring**	**4.21**	**33**	IAML		02 52 19.3	
	comp=E,15nm,1.4s						
PSUT				IAML		02 52 23.0	
	comp=N,15nm,1.3s						
SPR3	**Spring Creek 3**	**4.42**	**26**	IAML		02 52 19.2	
	comp=E,8.2nm,1.0s						
WUAZ	**Wupatki**	**4.45**	**82**	IAML		02 52 13.9	
	comp=E,15nm,0.5s						

*THE **01** 03:20:22.3,41°.N±1°.×2°.1E±°, h3km±2km, M2.7/11, MLh2.7/11*
*SKO **01** 03:20:23.7, 40°.55N×20°.85E, h20km, ML2.7*
*BEO **01** 03:20:24.3±0.3, 40°.51N×20°.90E, h11km±2km, ML2.7/5*

ISC 01 03:20:23.1±1.0, **40°.49N**±0°.02×**20°.80E**±0°.03, **h10**km±8km, **n54, σ1°.05/77, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.20**	**111**	P	**Pg**	**03 20 27.4**	**0.0**
NEST				S	**Sg**	**03 20 31.5**	**+1.2**
PENT	**Pentalofos**	**0.39**	**138**	P	**Pg**	**03 20 30.5**	**-0.3**
PENT				S	**Sb**	**03 20 37.5**	**-0.8**
FNA	**Florina**	**0.53**	**56**	P	**Pg**	**03 20 32.8**	**-0.7**
FNA				S	**Sb**	**03 20 41.1**	**-1.2**
FNA	**Florina**	**0.53**	**56**	*i* Pg	**Pg**	**03 20 32.7**	**-0.7**
FNA				*i* Sg	**Sb**	**03 20 41.4**	**-0.9**
FNA	**Florina**	**0.53**	**56**	*e*Pg	**Pg**	**03 20 32.7**	**-0.7**
FNA				*e*Sg	**Sg**	**03 20 40.9**	**+0.5**
OHR	**Ohrid**	**0.62**	**0**	*i* Pg	**Pg**	**03 20 35.0**	**-0.2**
OHR				*i* Sg	**Sb**	**03 20 44.3**	**-0.7**
OHR				*e*Lg	Lg	03 20 44.9	
	comp=E,818nm,0.7s						
OHR				*e*Lg	Lg	03 20 45.7	
	comp=N,356nm,0.4s						
KZN	**Kozani**	**0.76**	**103**	P	**Pg**	**03 20 37.0**	**-0.8**
KZN				S	**Sb**	**03 20 49.4**	**+0.3**
JAN	**Janina**	**0.83**	**177**	P	**Pg**	**03 20 37.6**	**-1.4**
PRMD	**Pramanda**	**0.98**	**166**	P	**Pg**	**03 20 41.0**	**-0.9**
IGT	**Igoumenitsa**	**1.02**	**201**	P	**Pg**	**03 20 42.1**	**-0.6**
IGT	**Igoumenitsa**	**1.02**	**201**	*i* Pg	**Pb**	**03 20 42.5**	**-0.3**
IGT				*i* Sg	**Sn**	**03 20 59.3**	**+1.5**
IGT	**Igoumenitsa**	**1.02**	**201**	*e*Pg	**Pb**	**03 20 42.5**	**-0.3**
IGT				*e*Sg	**Sn**	**03 20 59.4**	**+1.6**
TIR	**Tirane**	**1.11**	**321**	*i* Pg	**Pg**	**03 20 43.0**	**-1.5**
TIR				*i* Sg	**Sn**	**03 21 03.9**	**+3.7**
TIR	**Tirane**	**1.11**	**321**	*e*Pg	**Pb**	**03 20 44.1**	**-0.4**
TIR				*e*Sg	**Sn**	**03 21 02.1**	**+1.9**
TET	**Tetrakomo, Epi**	**1.20**	**162**	P	**Pg**	**03 20 45.5**	**-0.6**
THL	**Klokotos Trika**	**1.31**	**134**	P	**Pn**	**03 20 46.8**	**-0.6**
THL				S	**Sn**	**03 21 06.0**	**+0.9**
TYRN	**Tyrnavos**	**1.34**	**125**	P	**Pb**	**03 20 48.0**	**-0.4**
TYRN				S	**Sn**	**03 21 07.3**	**+1.4**
SKO	**Skopje**	**1.56**	**18**	*i* Pg	**Pb**	**03 20 51.7**	**-0.4**
SKO				*i* Sg	**Sg**	**03 21 12.9**	**-0.4**
VAY	**Valandovo**	**1.58**	**58**	*i* Pn	**Pn**	**03 20 51.3**	**+0.1**
VAY				*i* Sn	**Sg**	**03 21 15.0**	**+1.1**
VAY				*e*Lg	Lg	03 21 15.7	
	comp=N,51nm,0.6s						
VAY				*e*Lg	Lg	03 21 18.4	
	comp=Z,32nm,0.6s						
AMPL	**Ampelaki**	**1.59**	**168**	P	**Pb**	**03 20 51.7**	**-0.9**
THE	**Thessaloniki**	**1.66**	**84**	*i* Pn	**Pn**	**03 20 52.5**	**+0.3**
THE				*i* Sn	**Sb**	**03 21 14.6**	**0.0**
KNT	**Kendrikon**	**1.73**	**66**	P	**Pn**	**03 20 53.2**	**0.0**
KNT				S	**Sn**	**03 21 15.7**	**+0.3**
KNT	**Kendrikon**	**1.73**	**66**	*i* Pn	**Pn**	**03 20 53.2**	**0.0**
SOH	**Sokhos**	**1.97**	**79**	*i* Pn	**Pn**	**03 20 57.1**	**+0.5**
SOH				*i* Sn	**Sb**	**03 21 23.0**	**-0.8**
DRME	**Dracevica, Mon**	**2.09**	**325**	*e*Pn	**Pb**	**03 21 00.0**	**-1.1**
SRS	**Serrai**	**2.21**	**73**	*i* Pn	**Pn**	**03 20 59.8**	**-0.1**
SRS	**Serrai**	**2.21**	**73**	*e*Pn	**Pn**	**03 21 01.2**	**+1.3**
PDG	**Podgorica**	**2.26**	**330**	*e*Pn	**Pn**	**03 21 01.9**	**+1.3**
BOSS	**Bosilegrad**	**2.37**	**32**	*e*Pn	**Pn**	**03 21 02.0**	**-0.1**
BARS	**Barje**	**2.45**	**18**	*i* Pn	**Pn**	**03 21 03.2**	**0.0**
BARS	**Barje**	**2.45**	**18**	*e*Pn	**Pn**	**03 21 03.0**	**-0.2**
BARS				*e*Sn	**Sn**	**03 21 33.8**	**+0.6**
KOME	**Kolasin**	**2.55**	**338**	*e*Pn	**Pb**	**03 21 07.2**	**-1.8**
SELS	**Selova**	**2.74**	**5**	*e*Pn	**Pn**	**03 21 08.3**	**+1.1**
SELS				*e*Sn	**Sn**	**03 21 41.8**	**+1.4**
VTS	**Vitosha**	**2.81**	**40**	*e*Pn	**Pn**	**03 21 08.6**	**+0.4**
SJES	**Sjenica**	**2.84**	**348**	*e*Pn	**Pb**	**03 21 11.8**	**-2.2**
SJES				*e*Sn	**Sn**	**03 21 43.7**	**+0.7**
TREB	**Trebinje**	**2.89**	**321**	*e*Pn	**Pn**	**03 21 07.9**	**-1.3**
TREB	**Trebinje**	**2.89**	**321**	*e*Pn	**Pn**	**03 21 09.4**	**+0.2**
ZAPS	**Zavoj**	**3.10**	**26**	*e*Pn	**Pn**	**03 21 11.8**	**-0.4**
IVAS	**Ivanjica**	**3.12**	**351**	*e*Pn	**Pn**	**03 21 13.0**	**+0.5**
KLINJ	**Klinje**	**3.15**	**329**	*e*Pn	**Pn**	**03 21 13.4**	**+0.5**
BOVS	**Bovan**	**3.22**	**12**	*e*Pn	**Pn**	**03 21 13.5**	**-0.2**
RUDO	**Rudo**	**3.31**	**342**	*e*Pn	**Pn**	**03 21 16.4**	**+1.5**
STON	**Ston**	**3.33**	**317**	*e*Pn	**Pn**	**03 21 14.6**	**-0.6**
STON	**Ston**	**3.33**	**317**	*e*Pn	**Pn**	**03 21 15.2**	**0.0**
ZAGS	**Zajecar**	**3.49**	**17**	*e*Pn	**Pn**	**03 21 18.8**	**+1.4**
ZAGS				*e*Sn	**Sn**	**03 21 57.4**	**-1.4**
TRUS	**Trudelj**	**3.75**	**356**	*e*Pn	**Pn**	**03 21 21.0**	**0.0**
KUBS	**Kucevo**	**3.98**	**9**	*e*Pn	**Pn**	**03 21 22.8**	**-1.3**
TEKS	**Tekeris**	**4.17**	**347**	*e*Pn	**Pn**	**03 21 28.6**	**+1.8**
KIJV	**Kijevo**	**4.79**	**319**	*e*Pn	**Pn**	**03 21 35.3**	**-0.1**
BLY	**Banja Luka**	**5.03**	**329**	*e*Pn	**Pn**	**03 21 38.4**	**-0.1**
A050A	**Klekovaca**	**5.09**	**323**	*e*Pn	**Pn**	**03 21 40.4**	**+0.9**
A051A	**Mrakovica**	**5.35**	**329**	*e*Pn	**Pn**	**03 21 42.8**	**-0.3**
BRJN	**Brijuni**	**6.81**	**313**	*e*Pn	**Pn**	**03 22 02.4**	**-0.7**
STHS	**Stebnicka Huta**	**8.94**	**2**	*e*PG	**Pg**	**03 23 15.1**	**+1.1**
STHS				*e*SG	**Sg**	**03 25 11.8**	**+2.1**

*NEIC **01** 03:23:49.4±1.7, 17°.7S±0°.1×178°.7W±0°.1, h549km±9km, mb4.4/27, Error ellipse: s-maj=21.0km s-min=18.2km az=164.0*
*IDC **01** 03:23:50.1±2.8, 17°.70S×178°.80W, h559km±30km, mb3.4/11, mbtmp4.2/12, Error ellipse: s-maj=18.2km s-min=15.7km az=53.0*

ISC 01 03:23:49.0±0.6, **17°.7S**±0°.1×**178°.74W**±0°.09, **h547**km, **n54, σ0°.89/54, mb4.2/24, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.06**	**269**	P	**P**	**03 25 06.1**	**+1.9**
FUTU	**Fugatoga**	**3.44**	**10**	P	**P**	**03 25 07.4**	**+0.7**
NIUE	**Niue**	**8.48**	**101**	P	**P**	**03 25 51.2**	**-0.2**
PINNC	**Pines Island,**	**13.85**	**247**	P	**P**	**03 26 46.2**	**-0.4**
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**03 26 51.8**	**-2.6**
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**03 26 54.7**	**+0.4**
	3.2nm,0.7s,baz=93,slow=18,SNR=1.2						
DZM				S	S	03 29 12.8	-14
	5.5nm,0.8s,baz=106,slow=21,SNR=1.6						
URZ	**Urewera**	**20.79**	**189**	P	**P**	**03 27 51.0**	**-1.1**
	3.7nm,0.3s,baz=24,slow=8.5,SNR=6.6						
	3.7nm,0.3s						
MRZ	**Mangatainoka R**	**23.38**	**191**	P	**P**	**03 28 13.9**	**-1.5**
QRZ	**Quartz Range**	**24.23**	**196**	P	**P**	**03 28 23.2**	**+0.3**
TKNZ	**Takaka Hill**	**24.31**	**195**	P	**P**	**03 28 22.8**	**-0.8**
TUWZ	**Tuamarina**	**24.45**	**193**	P	**P**	**03 28 25.4**	**+0.6**
MRNZ	**Matariki Terra**	**24.70**	**195**	P	**P**	**03 28 26.8**	**-0.3**
FOZ	**Fox Glacier**	**27.50**	**198**	P	**P**	**03 28 51.1**	**-0.5**
WKZ	**Wanaka**	**28.91**	**198**	P	**P**	**03 29 02.8**	**-1.2**
EIDS	**Eidsvold**	**29.03**	**250**	P	**P**	**03 29 04.2**	**-1.2**
EIDS				IAmb	IAmb	03 29 04.5	
	comp=Z,19nm,1.4s						
MLZ	**Mavora Lakes**	**29.67**	**199**	P	**P**	**03 29 11.1**	**+0.5**
CTAO	**Charters Tower**	**33.16**	**260**	P	**P**	**03 29 40.2**	**-0.5**
CTAO				IAmb	IAmb	03 29 40.3	
	comp=Z,37nm,1.5s						
COEN	**Coen**	**36.78**	**270**	P	**P**	**03 30 11.7**	**+0.8**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**03 30 25.0**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=75,slow=8.6,SNR=3.2						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**43.22**	**241**	P	**P**	**03 31 02.8**	**+0.6**
BBOO				IAmb	IAmb	03 31 08.6	
	comp=Z,19nm,1.5s						
WR8	**Warramunga Arr**	**44.20**	**259**	P	**P**	**03 31 09.7**	**-0.3**
WR8				IAmb	IAmb	03 31 25.6	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**44.32**	**260**	P	**P**	**03 31 10.4**	**-0.6**
WB0				IAmb	IAmb	03 31 48.9	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**03 31 10.3**	**-0.9**
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**03 31 10.7**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=96,slow=7.3,SNR=22						
	comp=Z,2.1nm,0.6s						
AS31	**Alice Springs**	**44.53**	**254**	P	**P**	**03 31 13.1**	**+0.5**
AS31				IAmb	IAmb	03 31 13.5	
	comp=Z,5.4nm,0.6s						
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**03 31 12.6**	**0.0**
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**03 31 12.4**	**-0.2**
	comp=Z,17nm,0.6s,baz=88,slow=8.1,SNR=226						
ASAR				S	**S**	**03 37 06.7**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=89,slow=16,SNR=4.1						
	comp=Z,17nm,0.6s						
MTN	**Manton Dam**	**48.48**	**268**	P	**P**	**03 31 42.9**	**+0.4**
MTN				IAmb	IAmb	03 31 53.6	
	comp=Z,29nm,1.4s						
FORT	**Forrest**	**49.80**	**244**	P	**P**	**03 31 52.1**	**+0.1**
FORT				IAmb	IAmb	03 32 12.8	
	comp=Z,5.3nm,1.0s						
KNRA	**Kununurra**	**50.19**	**264**	P	**P**	**03 31 55.3**	**+0.3**
KNRA				IAmb	IAmb	03 32 39.0	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.74**	**260**	P	**P**	**03 32 14.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**52.74**	**260**	P	**P**	**03 32 13.9**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=92,slow=5.9,SNR=7.0						
	comp=Z,0.9nm,0.3s						
MBWA	**Marble Bar**	**57.81**	**256**	P	**P**	**03 32 48.8**	**+0.1**
MBWA				IAmb	IAmb	03 32 50.7	
	comp=Z,21nm,1.2s						
VNDA	**Vanda**	**60.61**	**185**	P	**P**	**03 33 07.9**	**+1.5**
VNDA	**Vanda**	**60.61**	**185**	P	**P**	**03 33 07.2**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=12,slow=6.0,SNR=7.4						
	comp=Z,1.3nm,0.8s						
CASY	**Casey**	**66.18**	**205**	P	**P**	**03 33 42.9**	**+0.7**
CASY				IAmb	IAmb	03 33 56.6	
	comp=Z,6.5nm,1.2s						
MJAR	**Matsushiro Arr**	**67.56**	**324**	P	**P**	**03 33 51.2**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=160,slow=6.5,SNR=6.7						
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**03 34 20.6**	**+1.3**
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**

PCOS	**Crockett Middl**	**0.96**	**104**			Sg	03 49 43.5	+0.1
CLN7	**Carlsbad 7**	**1.02**	**41**			Pg	03 49 31.8	-0.3
HTMS	**Hat Mesa**	**1.16**	**45**			Pg	03 49 34.0	-0.8
CPRX	**Cap Rock**	**1.51**	**24**			Pn	03 49 40.7	+0.2
ALPN	**Alpine**	**1.51**	**147**			Pn	03 49 39.7	-0.7
ALPN						Sn	03 49 59.3	-1.3
MNHN	**Monahans**	**1.60**	**101**			Pn	03 49 41.8	+0.3
EPT	**El Paso**	**1.63**	**275**			Pb	03 49 42.7	-0.5
EPT				IAML			03 50 07.8	
	comp=E,38nm,0.3s							
EPT				IAML			03 50 09.2	
	comp=N,32nm,0.3s							
ODSA	**Odessa**	**1.81**	**74**	Pn		Pn	03 49 44.8	+0.3
TX31	**Lajitas Ar. Si**	**2.44**	**161**			Pn	03 49 54.5	+1.3
TXAR	**Lajitas Array**	**2.44**	**161**			Pn	03 49 53.3	+0.1
SAND	**Sanderson**	**2.72**	**128**			Pn	03 49 56.7	-0.2
SAND				IAmb_Lg			03 50 44.2	
	comp=Z,18nm,0.8s							
MSTX	**Muleshoe**	**2.78**	**33**			Pn	03 49 58.0	+0.1
121A	**Cookes Peak, D**	**2.84**	**289**			Pn	03 49 58.8	0.0
SGCY	**Sterling City**	**2.97**	**84**	Pn		Pn	03 50 00.3	-0.1
SGCY				IAmb_Lg			03 50 50.5	
	comp=Z,11nm,0.9s							
POST	**Post**	**2.98**	**61**	Pn		Pn	03 50 00.9	+0.4
OZNA	**Ozona**	**3.06**	**103**	IAmb_Lg			03 50 56.6	
	comp=Z,11nm,1.0s							
SN07	**Snyder 07**	**3.45**	**64**	IAmb_Lg			03 51 01.3	
	comp=Z,9.8nm,0.8s							
ANMO	**Albuquerque**	**3.64**	**335**	IAmb_Lg			03 51 09.4	
	comp=Z,7.1nm,0.9s							
ANMO	**Albuquerque**	**3.64**	**335**	IAmb_Lg			03 51 08.9	
	comp=Z,6.8nm,0.8s							
DRIO	**Del Rio**	**4.09**	**122**	IAmb_Lg			03 51 26.5	
	comp=Z,10nm,0.9s							
APMT	**Aspermont**	**4.14**	**65**	IAmb_Lg			03 51 27.0	
	comp=Z,10nm,0.9s							
JCT	**Junction City**	**4.28**	**105**	IAmb_Lg			03 51 32.2	
	comp=Z,9.8nm,0.8s							
ABTX	**Abilene, Hawle**	**4.32**	**76**	IAmb_Lg			03 51 28.5	
	comp=Z,6.3nm,0.8s							
BRDY	**Brady**	**4.80**	**93**	IAmb_Lg			03 51 48.9	
	comp=Z,6.2nm,0.7s							
HNDO	**Hondo**	**5.05**	**113**	IAmb_Lg			03 52 06.0	
	comp=Z,9.4nm,1.0s							

*IDC **01** 04:00:51.3±6.6, 7.°05S×130.°00E, h63km±61km, mb3.5/2, mbtmp4.3/6, ML4.6/4, Error ellipse: s-maj=73.0km s-min=22.8km az=53.0*
*NEIC **01** 04:00:57.3±1.5, 6.°78S±0.°10×129.°33E±0.°10, h125km±12km, mb4.1/10, Error ellipse: s-maj=15.3km s-min=12.4km az=142.0*
ISC 01 04:00:58.4±0.6, 7.°17S±0.°06×129.°53E±0.°06, h139km, n43, σ2s80/44, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.94**	**115**	Pn	**Pn**	**04 01 34.5**	**+2.4**
SAUI				Sn	**Sn**	**04 01 56.5**	**-1.5**
FAKI	**Fak Fak**	**5.01**	**33**	Pn	Pn	04 02 08.7	-3.2
FAKI	**Fak Fak**	**5.01**	**33**	P	**Pn**	**04 02 11.3**	**-0.6**
FAKI	**Fak Fak**	**5.01**	**33**	S	**Sn**	**04 03 06.0**	**-3.1**
DRS	**Darwin Rock St**	**5.41**	**166**	P	**Pn**	**04 02 17.9**	**+0.8**
SOEI	**Soe**	**5.80**	**243**		**Pn**	**04 02 21.1**	**-1.5**
SOEI	**Soe**	**5.80**	**243**	P	**Pn**	**04 02 24.1**	**+1.6**
MTN	**Manton Dam**	**5.86**	**164**	Pn	**Pn**	**04 02 24.0**	**+0.8**
MTN	**Manton Dam**	**5.86**	**164**	P	**Pn**	**04 02 24.0**	**+0.8**
KDU	**Kakadu**	**6.21**	**152**	P	**Pn**	**04 02 27.9**	**+0.1**
BATI	**Baumata**	**6.54**	**242**	P	**Pn**	**04 02 33.0**	**+0.7**
	30nm,0.3s,baz=54,slow=3.6,SNR=7.3						
BATI				S	**Sn**	**04 03 42.4**	**-3.3**
	52nm,0.4s,baz=120,slow=22,SNR=4.2						
	63nm,0.4s						
KNRA	**Kununurra**	**8.49**	**185**		**Pn**	**04 02 57.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.51**	**199**		**Pn**	**04 03 36.5**	**-2.1**
FITZ	**Fitzroy Crossi**	**11.51**	**199**	P	**Pn**	**04 03 36.3**	**-2.3**
	2.0nm,0.3s,baz=26,slow=11,SNR=31						
FITZ				S	Sn	04 05 35.5	-10
	28nm,0.5s,baz=70,slow=20,SNR=9.9						
	4.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.51**	**199**	P	**Pn**	**04 03 40.0**	**+1.4**
PLAI	**Plampang**	**11.75**	**261**	P	**Pn**	**04 03 42.4**	**+0.5**
WB0	**Warramunga Arr**	**13.39**	**160**		**Pn**	**04 04 00.4**	**-2.7**
WRAB	**Tennant Creek**	**13.53**	**160**	Pn	**Pn**	**04 04 02.6**	**-2.3**
WRA	**Warramunga Arr**	**13.53**	**160**		Pn	04 04 00.1	-4.8
WRA	**Warramunga Arr**	**13.53**	**160**	P	**Pn**	**04 04 01.8**	**-3.1**
	4.0nm,0.3s,baz=339,slow=14,SNR=53						
WRA				S	**Sn**	**04 06 26.8**	**-7.8**
	4.6nm,0.5s,baz=341,slow=22,SNR=8.8						
	6.6nm,0.4s						
WB2	**Warramunga Arr**	**13.54**	**160**	Pn	**Pn**	**04 04 02.3**	**-2.7**
WR8	**Warramunga Arr**	**13.60**	**160**		**Pn**	**04 04 03.1**	**-2.7**
WR0	**Warramunga Arr**	**13.62**	**160**	Pn	**Pn**	**04 04 03.2**	**-2.7**
COEN	**Coen**	**15.01**	**118**	Pn	**Pn**	**04 04 25.0**	**+1.3**
COEN				IAmb	IAmb	04 04 28.1	
	comp=Z,15nm,1.1s						
MYLDM	**Lahad Datu**	**16.48**	**318**		**Pn**	**04 04 37.1**	**-4.5**
MYLDM				IAmb	IAmb	04 04 48.9	
	comp=Z,10.0nm,0.9s						
QIS	**Mount Isa**	**16.51**	**145**	P	**P**	**04 04 42.9**	**+0.7**
MBWA	**Marble Bar**	**16.83**	**213**		**Pn**	**04 04 47.2**	**+1.3**
MBWA				IAmb	IAmb	04 04 48.5	
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**16.94**	**166**		**Pn**	**04 04 49.3**	**+2.0**
ASAR	**Alice Springs**	**16.94**	**166**		**Pn**	**04 04 49.5**	**+2.3**
ASAR	**Alice Springs**	**16.94**	**166**	P	**P**	**04 04 46.3**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=334,slow=10,SNR=24						
ASAR				S	**Sn**	**04 07 47.6**	**-8.8**
	comp=Z,0.5nm,0.5s,baz=355,slow=20,SNR=1.5						
	comp=Z,2.0nm,0.6s						
AS01	**Alice Springs**	**16.95**	**166**	P	**Pn**	**04 04 47.9**	**+0.5**
PSA00	**Pilbara Seismi**	**17.11**	**212**		**Pn**	**04 04 50.8**	**+1.5**
PSA00	**Pilbara Seismi**	**17.11**	**212**	P	**Pn**	**04 04 51.1**	**+1.8**
BBJI	**Bungbulang**	**21.70**	**268**	P	**P**	**04 05 39.7**	**+1.0**
FORT	**Forrest**	**23.53**	**183**	P	**P**	**04 05 58.9**	**+2.9**
FORT				IAmb	IAmb	04 06 37.4	
	comp=Z,6.8nm,1.1s						
BBOO	**Buckleboo**	**26.23**	**167**	P	**P**	**04 06 24.7**	**+4.2**
BBOO				IAmb	IAmb	04 07 06.2	
	comp=Z,21nm,1.4s						
YOJ	**Yonaguni jima**	**32.07**	**349**	P	P	04 07 07.4	-4.9
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**04 11 44.9**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=123,slow=7.8,SNR=8.1						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**72.41**	**329**	P	**P**	**04 12 11.4**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=132,slow=5.3,SNR=5.4						
	comp=Z,0.6nm,0.6s						
ABKAR	**Akbulak array**	**82.35**	**322**	P	**P**	**04 13 02.5**	**-2.2**
QSPA	**South Pole Qui**	**82.81**	**180**	P	**P**	**04 13 08.4**	**+1.4**
QSPA				IAmb	IAmb	04 13 40.6	
	comp=Z,1.9nm,1.1s						
SNAA	**Sanae**	**95.39**	**194**	P	**P**	**04 14 09.1**	**+2.3**
LPAZ	**La Paz**	**150.87**	**143**	PKPbc	**PKiKP**	**04 20 38.7**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=231,slow=6.5,SNR=6.0						

IDC 01 04:34:30.4±8.6, 7.°88S×147.°11E, h0km, mb3.6/3, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=280.2km s-min=34.1km az=108.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.23**	**225**	P	Pn	04 38 32.4	-0.3
	0.2nm,0.3s,baz=48,slow=12,SNR=7.4						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**20.17**	**217**	P	P	04 39 06.6	0.0
	0.5nm,0.5s,baz=40,slow=11,SNR=8.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**79.01**	**321**	P	P	04 46 37.4	+1.0
	0.2nm,0.5s,baz=101,slow=6.0,SNR=3.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**82.79**	**323**	P	P	04 46 55.8	-0.6
	0.4nm,0.2s,baz=112,slow=5.2,SNR=8.6						
	0.4nm,0.2s						

*IDC **01** 04:35:09.1±12.0, 44.°08N×144.°55E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=306.7km s-min=32.7km az=167.0*
*MOS **01** 04:35:09.9±0.9, 42.°83N×144.°78E, h77km, mb4.2/1, Error ellipse: s-maj=27.9km s-min=14.3km az=68.3*
*SKHL **01** 04:35:11.3±0.1, 42.°90N×145.°00E, h87km±2km, mb4.6/4, msha5.4/4*

*JMA **01** 04:35:12.4±0.1, 42.°9N±0.°5×145.°0E±0.°6, h75km±1km, MV3.3/39, OFF NEMURO PENINSULA*
ISC 01 04:35:12.0±0.9, 42.°92N±0.°07×144.°95E±0.°04, h76km±6km, n34, σ0s60/47, mb3.6/5, 2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKK	**Akkeshi**	**0.12**	**319**	*i* P	**Pn**	**04 35 23.3**	**+0.2**
AKK				*e*S	**Sn**	**04 35 31.3**	**+0.1**
JAK	**Akkeshi**	**0.20**	**291**	P	**Pn**	**04 35 23.6**	**+0.3**
JAK				S	**Sn**	**04 35 32.1**	**+0.4**
JKHN	**Kushirohamanak**	**0.22**	**44**	*i* P	**Pn**	**04 35 24.1**	**+0.6**
JKHN				*e*S	**Sn**	**04 35 32.3**	**+0.5**
JNK	**Nakash**	**0.68**	**346**	P	**Pn**	**04 35 27.0**	**-0.2**
JNK				S	**Sn**	**04 35 37.9**	**-0.5**
NMR	**Nemuro--Hokkai**	**0.72**	**52**	*i* PN	**Pn**	**04 35 27.6**	**0.0**
NMR				*i* S	**Sn**	**04 35 38.6**	**-0.5**
NMR	**Nemuro--Hokkai**	**0.72**	**52**	*i* P	**Pn**	**04 35 27.6**	**0.0**
NMR				AMB	AMB	04 35 27.8	
	170nm,0.3s						
NMR				*i* S	**Sn**	**04 35 38.8**	**-0.3**
NMR				A	A	04 35 39.0	
	390nm,0.3s						
NMR				A	A	04 35 39.0	
	390nm,0.3s						
NEM2	**Nemuro 2**	**0.73**	**52**	P	**Pn**	**04 35 27.7**	**0.0**
NEM2				S	**Sn**	**04 35 38.7**	**-0.6**
JOB	**Onbets**	**0.82**	**269**	P	**Pn**	**04 35 29.3**	**+0.6**
JOB				S	**Sn**	**04 35 41.6**	**+0.5**
GLVR	**Golovnino**	**0.91**	**27**	*e*PN	**Pn**	**04 35 30.0**	**+0.2**
GLVR				*i* S	**Sn**	**04 35 43.3**	**+0.3**
GLVR				pmax	pmax		
	comp=N,81nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,286nm,0.1s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.2s						
GLVR	**Golovnino**	**0.91**	**27**	*e*P	**Pn**	**04 35 30.0**	**+0.2**
GLVR				AMB	AMB	04 35 30.9	
	comp=E,290nm,0.3s						
GLVR				*i* S	**Sn**	**04 35 43.0**	**0.0**
GLVR				A	A	04 35 46.1	
	comp=E,2μm,0.4s						
GLVR				A	A	04 35 46.1	
	comp=E,2μm,0.4s						
JAR	**Ashorobuto**	**0.94**	**294**	P	**Pn**	**04 35 30.6**	**+0.5**
JAR				S	**Sn**	**04 35 44.2**	**+0.5**
JRA	**Rausu**	**1.02**	**7**	P	**Pn**	**04 35 31.6**	**+0.5**
JRA				S	**Sn**	**04 35 45.6**	**+0.4**
RUSJ	**Misakicho**	**1.20**	**10**	*e*PN	**Pn**	**04 35 33.7**	**+0.4**
RUSJ				*i* S	**Sn**	**04 35 49.7**	**+0.5**
JCH	**Churui**	**1.21**	**256**	P	**Pn**	**04 35 34.0**	**+0.6**
JCH				S	**Sn**	**04 35 49.5**	**0.0**
JTKR	**Abashiri--Toko**	**1.29**	**324**	P	**Pn**	**04 35 35.2**	**+0.8**
JTKR				S	**Sn**	**04 35 52.2**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.29**	**31**	*e*PN	**Pn**	**04 35 35.1**	**+0.6**
YUK				*i* S	**Sn**	**04 35 51.5**	**+0.2**
YUK				pmax	pmax		
	comp=Z,114nm,0.3s						
YUK				pmax	pmax		
	comp=N,77nm,0.2s						
YUK				pmax	pmax		
	comp=E,36nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,444nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.29**	**31**	*e*P	**Pn**	**04 35 34.9**	**+0.4**
YUK				AMB	AMB	04 35 36.9	
	comp=E,130nm,0.3s						
YUK				*e*S	**Sn**	**04 35 51.7**	**+0.4**
YUK				A	A	04 35 52.8	
	comp=E,1μm,0.4s						
YUK				A	A	04 35 52.8	
	comp=E,440nm,0.4s						
JMP	**Maruseppu**	**1.59**	**314**	P	**Pn**	**04 35 38.9**	**+0.6**
SHO	**Shikotan**	**1.66**	**55**	*d* PN	**Pn**	**04 35 41.7**	**+2.4**
SHO				*i* S	**Sn**	**04 36 00.9**	**+0.9**
SHO				pmax	pmax		
	comp=N,5.0nm,0.2s						
SHO				pmax	pmax		
	comp=Z,49nm,0.2s						
SHO				smax	smax		
	comp=N,533nm,0.5s						
SHO				smax	smax		
	comp=E,277nm,0.2s						
SHO	**Shikotan**	**1.66**	**55**	*e*P	**Pn**	**04 35 39.9**	**+0.6**
SHO				AMB	AMB	04 35 42.7	
	comp=E,90nm,0.2s						
SHO				*e*S	**Sn**	**04 36 00.5**	**+0.5**
SHO				A	A	04 36 02.9	
	comp=E,530nm,0.4s						
SHO				A	A	04 36 02.9	
	comp=E,280nm,0.4s						
KUR	**Kuril'sk**	**3.12**	**41**	*e*S	**Sn**	**04 36 35.1**	**+0.1**
KUR				A	A	04 36 42.0	
	comp=E,40nm,0.2s						
KUR				A	A	04 36 42.0	
	comp=E,40nm,0.2s						
SONM	**Songino Array**	**27.32**	**294**	P	**P**	**04 40 49.1**	**-0.5**
	comp=E,0.6nm,0.3s,baz=95,slow=7.2,SNR=2.5						
	comp=E,0.6nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**29.60**	**135**	T	T	05 12 19.0	
	baz=327,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**29.61**	**135**	T	T	05 12 25.6	
	baz=327,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**29.61**	**135**	T	T	05 12 19.4	
	baz=327,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**30.51**	**136**	T	T	05 13 31.1	
	baz=328,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**30.52**	**136**	T	T	05 13 31.8	
	baz=328,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy**	**30.53**	**136**	T	T	05 13 35.4	
	baz=328,slow=76,SNR=20						
ILAR	**Eielson Array**	**43.10**	**36**	P	**P**	**04 43 04.2**	**+0.1**
	comp=E,0.6nm,1.0s,baz=280,slow=5.5,SNR=6.8						
	comp=E,0.6nm,1.0s						
MKAR	**Makanchi Array**	**43.55**	**298**	P	**P**	**04 43 07.8**	**-0.3**
	comp=E,0.2nm,0.4s,baz=72,slow=9.5,SNR=2.6						
	comp=E,0.2nm,0.4s						
KURK	**Kurchatov**	**44.66**	**304**	P	**P**	**04 43 17.0**	**+0.1**
KURK	**Kurchatov**	**44.66**	**304**	*e*P	**P**	**04 43 17.0**	**+0.1**
KURBB	**Kurchatov Arra**	**44.74**	**304**	P	**P**	**04 43 17.0**	**-0.5**
	comp=E,0.6nm,0.6s,baz=71,slow=8.7,SNR=4.4						
	comp=E,0.6nm,0.6s						
FINES	**FINESS Array B**	**64.87**	**332**	P	**P**	**04 45 41.8**	**-0.9**
	comp=E,2.4nm,1.0s,baz=36,slow=6.3,SNR=8.3						
	comp=E,2.4nm,1.0s						

*SOME **01** 04:46:23.7, 38.°80N×73.°75E, h5km*
*NNC **01** 04:46:26.7±2.2, 38.°88N×73.°73E, h12km±13km, mb3.7, mpv3.3, Error ellipse: s-maj=16.1km s-min=8.6km az=169.0*
ISC 01 04:46:27.6±3.0, 39.°0N±0.°2×73.°74E±0.°07, h10km, n11, σ2s91/15, 4C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**3.72**	**9**	⇑Pg	**Pb**	**04 47 35.3**	**+1.9**
	1.7nm,0.6s						
AAK				⇑Lg	Lg	04 48 27.3	
	4.3nm,0.6s						
MRKS	**Merke**	**3.80**	**354**	*e*P	**Pb**	**04 47 37.8**	**+2.9**
	3.8nm,0.3s						
MRKS				*e*S	**Sg**	**04 48 29.9**	**+0.2**
	6.4nm,0.5s						
IUG	**Iuzhnay**	**4.26**	**320**	Pg	**Pg**	**04 47 46.4**	**-2.8**
	30nm,0.3s						
IUG				Lg	Lg	04 48 45.1	
	21nm,1.0s						
KST	**Kastek**	**4.41**	**22**	Pg	**Pg**	**04 47 49.7**	**-2.4**
	1.1nm,0.3s						
KST				Lg	Lg	04 48 50.7	
	11nm,0.7s						
KST	**Kastek**	**4.41**	**22**	*e*P	**Pg**	**04 47 49.6**	**-2.5**
	1.1nm,0.3s						
KST				*e*S	**Sg**	**04 48 50.7**	**+1.5**
	11nm,0.7s						
DGS	**Degeres**	**4.54**	**19**	Pg	**Pb**	**04 47 50.9**	**+3.4**
DGS				Lg	Lg	04 48 53.3	
TNSS	**Tian-Shan**	**4.74**	**30**	Pg	**Pb**	**04 47 54.1**	**+3.1**
	0.7nm,0.1s						
TNSS				Lg	Lg	04 48 58.4	
	2.0nm,0.7s						
TNSS	**Tian-Shan**	**4.74**	**30**	*e*P	**Pb**	**04 47 54.0**	**+3.0**
	0.7nm,0.1s						
TNSS				*e*S	**Sg**	**04 48 58.4**	**-1.4**
	2.0nm,0.7s						
KK31	**Karatay Array**	**4.80**	**330**	⇑Pn	**Pn**	**04 47 39.8**	**-0.3**
	0.7nm,0.4s,baz=164,slow=14,SNR=9.5						
KK31				⇑Pg	**Pb**	**04 47 54.6**	**+2.6**
	1.5nm,0.5s,baz=154,slow=16,SNR=5.4						
KK31				Lg	Lg	04 49 00.5	
	2.1nm,0.5s,baz=159,slow=27,SNR=5.4						
KTBS	**Karatobe**	**5.24**	**24**	Pg	**Pb**	**04 48 02.7**	**+3.4**
	2.1nm,0.3s						
KTBS				Lg	Lg	04 49 16.6	
	4.5nm,0.8s						
ARXS	**Arharly**	**6.07**	**29**	Pg	**Pg**	**04 48 19.8**	**-4.1**
ARXS				Lg	Lg	04 49 42.8	

*IDC **01** 04:53:55.9±1.2, 69.°30N×145.°08W, h0km, mb3.5/4, mbtmp3.5/6, ML3.3/2, MS2.8/1, Error ellipse: s-maj=33.3km s-min=19.3km az=85.0*
*AEIC **01** 04:53:55.7±2.8, 69.°11N±0.°02×144.°69W±0.°08, h11km±5km, ML3.4, ML3.5/140(NEIC), Error ellipse: s-maj=4.9km s-min=1.7km az=121.0*
*NEIC **01** 04:53:56.1±2.5, 69.°11N±0.°03×144.°64W±0.°07, h5km±2km, Error ellipse: s-maj=4.3km s-min=2.8km az=218.0*
ISC 01 04:53:56.0±0.6, 69.°11N±0.°03×144.°57W±0.°03, h10km, n156, σ1s30/141, mb3.9/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
C27K	**Jago River**	**0.60**	**30**		**Pb**	**04 54 07.7**	**-1.0**
C27K	**Jago River**	**0.60**	**30**		**Sb**	**04 54 15.9**	**-1.3**
D25K	**Kavik River**	**0.68**	**289**		**Pg**	**04 54 07.8**	**-1.3**
D25K					**Sg**	**04 54 16.0**	**-1.9**
D25K	**Kavik River**	**0.68**	**289**	IAML		04 54 17.9	
	comp=E,3μm,0.6s						
C26K	**Camden Bay**	**0.82**	**352**		**Pb**	**04 54 11.7**	**-0.6**
C26K					**Sg**	**04 54 22.3**	**-0.2**
C26K	**Camden Bay**	**0.82**	**352**	IAML		04 54 23.7	
	comp=E,2μm,0.7s						
C26K				IAML		04 54 25.0	
	comp=N,3μm,0.5s						
D27M	**Malcolm River**	**1.30**	**82**		**Pg**	**04 54 20.7**	**-0.1**
D27M					**Sn**	**04 54 38.1**	**+0.5**
D27M	**Malcolm River**	**1.30**	**82**	IAML		04 54 44.1	
	comp=N,715nm,0.5s						
D27M				IAML		04 54 44.6	
	comp=E,648nm,0.5s						
F26K	**Sheenjek River**	**1.43**	**173**		**Pn**	**04 54 22.2**	**+0.2**
F26K				IAML		04 54 44.8	
	comp=E,611nm,1.1s						
F26K	**Sheenjek River**	**1.43**	**173**		**Sg**	**04 54 42.3**	**+0.4**
E27K	**Coleen River**	**1.43**	**129**		**Sg**	**04 54 43.3**	**+1.4**
E27K	**Coleen River**	**1.43**	**129**	Pn	**Pg**	**04 54 22.9**	**-0.5**
E27K				IAML		04 54 51.0	
	comp=E,576nm,0.6s						
D24K	**Happy Valley**	**1.52**	**274**		**Pb**	**04 54 24.2**	**-0.1**
F25K	**Christian Rive**	**1.57**	**195**		**Pn**	**04 54 24.2**	**+0.3**
F25K				IAML		04 54 50.8	
	comp=E,477nm,0.6s						
F25K				IAML		04 54 52.5	
	comp=N,603nm,0.9s						
F25K	**Christian Rive**	**1.57**	**195**		**Sg**	**04 54 47.4**	**+0.9**
C24K	**Franklin Bluff**	**1.58**	**295**		**Pb**	**04 54 24.8**	**-0.5**
C24K					**Sb**	**04 54 45.5**	**+0.2**
C24K	**Franklin Bluff**	**1.58**	**295**	IAML		04 54 49.0	
	comp=N,667nm,0.6s						
C24K				IAML		04 54 50.7	
	comp=E,585nm,0.3s						
BMAR	**Burnt Mountain**	**1.69**	**180**	Pn	**Pn**	**04 54 24.6**	**-0.9**
E24K	**Your Creek**	**1.77**	**236**		**Pn**	**04 54 27.8**	**+1.1**
E24K	**Your Creek**	**1.77**	**236**	IAML		04 54 57.5	
	comp=E,476nm,1.1s						
TOLK	**Toolik Lake Re**	**1.87**	**258**		**Pn**	**04 54 29.2**	**+1.1**
E28M	**Babbage River**	**1.90**	**103**	Pn	**Pb**	**04 54 29.5**	**-1.1**
E28M				IAML		04 55 04.6	
	comp=N,354nm,0.8s						
F24K	**Squaw Lake**	**2.02**	**219**		**Pn**	**04 54 31.2**	**+1.2**
D28M	**Stokes Point**	**2.09**	**81**		**Pb**	**04 54 32.2**	**-1.7**
E23K	**Chandalar**	**2.13**	**243**	Pn	**Pn**	**04 54 31.3**	**-0.3**
E23K				IAML		04 55 06.5	
	comp=N,380nm,0.5s						
E23K				IAML		04 55 08.6	
	comp=E,474nm,0.6s						
G26K	**Porcupine Rive**	**2.19**	**172**		**Pb**	**04 54 34.4**	**-1.2**
G26K	**Porcupine Rive**	**2.19**	**172**	IAML		04 55 07.8	
	comp=N,325nm,0.8s						
G26K				IAML		04 55 09.6	
	comp=E,372nm,1.0s						
D23K	**Nanushuk River**	**2.20**	**269**	Pn	**Pn**	**04 54 31.5**	**-1.0**
D23K				IAML		04 55 10.7	
	comp=E,352nm,1.0s						
D23K				IAML		04 55 25.0	
	comp=N,381nm,1.1s						
C23K	**Itkillik River**	**2.25**	**292**		**Pn**	**04 54 33.9**	**+0.7**
F28M	**Old Crow**	**2.30**	**129**		**Pb**	**04 54 35.9**	**-1.6**
G25K	**Bearman Lake**	**2.42**	**194**		**Pn**	**04 54 37.4**	**+1.8**
G25K					**Pb**	**04 54 37.6**	**-1.9**
E29M	**Blow River**	**2.54**	**103**		**Pb**	**04 54 39.7**	**-1.9**
E29M	**Blow River**	**2.54**	**103**	IAML		04 55 22.2	
	comp=N,189nm,0.7s						
E29M				IAML		04 55 29.8	
	comp=E,190nm,0.6s						
G27K	**Doyon Strip**	**2.56**	**153**		**Pb**	**04 54 39.6**	**-2.3**
FYU	**Fort Yukon**	**2.57**	**186**		**Pn**	**04 54 37.2**	**-0.3**
FYU				IAML		04 55 21.0	
	comp=N,261nm,0.8s						
FYU				IAML		04 55 27.4	
	comp=E,337nm,0.8s						
G24K	**Hadweenzic Riv**	**2.66**	**206**		**Pn**	**04 54 40.1**	**+1.3**
G24K	**Hadweenzic Riv**	**2.66**	**206**	IAML		04 55 24.5	
	comp=E,154nm,0.6s						
G24K				IAML		04 55 30.4	
	comp=N,218nm,0.9s						
COLD	**Coldfoot**	**2.83**	**231**		**Pn**	**04

F21K	**Alatna River**	**3.83 245**			**Pn**	**04 54 56.4 +1.5**
F21K			IAML			04 56 10.7
	comp=N,102nm,0.7s					
F21K			IAML			04 56 15.6
	comp=E,98nm,0.8s					
I26K	**Coal Creek Min**	**3.86 171**			**Pn**	**04 54 57.2 +1.9**
I26K			IAML			04 56 08.5
	comp=N,112nm,0.7s					
I26K			IAML			04 56 12.4
	comp=E,98nm,1.0s					
A22K	**Sinclair Lake**	**4.04 303**			**Pn**	**04 54 58.0 +0.3**
A22K					Pb	04 54 58.5 -8.6
EPYK	**Eagle Plains**	**4.06 129**			**Pn**	**04 54 59.6 +1.5**
I28M	**Miner Creek**	**4.09 152**			**Pn**	**04 55 00.0 +1.4**
I28M			IAML			04 56 17.1
	comp=E,75nm,1.8s					
I28M			IAML			04 56 20.4
	comp=N,55nm,0.9s					
INK	**Inuvik**	**4.11 96**			**Pn**	**04 55 00.7 +2.1**
H22K	**Ishtalitna Cre**	**4.15 222**			**Pn**	**04 55 01.0 +1.7**
H22K					Pb	04 55 01.4 -7.7
POKR	**Poker Plat Res**	**4.16 197**			**Pn**	**04 55 01.2 +1.8**
POKR	**Poker Plat Res**	**4.16 197**	IAML			04 56 21.2
	comp=E,48nm,1.0s					
G21K	**Allakaket**	**4.27 237**			**Pn**	**04 55 01.4 +0.5**
E20K	**Nigu River**	**4.33 264**			**Pn**	**04 55 03.7 +2.0**
E20K					Pb	04 55 04.3 -7.7
D20K	**Etivluk River**	**4.37 270**			**Pn**	**04 55 03.1 +0.8**
D20K			IAML			04 56 38.1
	comp=E,66nm,1.1s					
I23K	**Minto, Yukon-K**	**4.39 207**			**Pn**	**04 55 04.6 +2.0**
I23K	**Minto, Yukon-K**	**4.39 207**	IAML			04 56 31.3
	comp=E,52nm,1.3s					
I23K			IAML			04 56 31.4
	comp=N,43nm,0.7s					
COLA	**College**	**4.44 198**			**Pn**	**04 55 05.7 +2.4**
G31M	**Satah River**	**4.45 115**			**Pn**	**04 55 05.8 +2.4**
G31M	**Satah River**	**4.45 115**	IAML			04 56 27.8
	comp=E,42nm,1.7s					
G31M			IAML			04 56 27.8
	comp=N,50nm,1.5s					
IL31		**4.45 193**			**Pn**	**04 55 04.1 +0.7**
ILAR	**Eielson Array**	**4.45 193**			**Pn**	**04 55 04.3 +0.9**
ILAR	**Eielson Array**	**4.45 193**	Pn		**Pn**	**04 55 05.7 +2.2**
	comp=N,1.0nm,0.3s,baz=4.0,slow=13,SNR=48					
ILAR			Sn		**Sn**	**04 55 55.5 +0.3**
	comp=N,1.7nm,0.3s,baz=14,slow=20,SNR=5.6					
	comp=N,5.5nm,0.7s					
I29M	**Ogilvie Camp,**	**4.48 144**			**Pn**	**04 55 04.2 +0.3**
I29M			IAML			04 56 28.7
	comp=E,53nm,1.2s					
I29M			IAML			04 56 28.8
	comp=N,35nm,0.6s					
B20K	**Meade River**	**4.50 287**			**Pn**	**04 55 04.6 +0.5**
B20K			IAML			04 56 35.0
	comp=E,69nm,1.1s					
J25K	**Salcha River,**	**4.53 184**			**Pn**	**04 55 05.2 +0.7**
J25K			IAML			04 56 29.4
	comp=E,45nm,0.8s					
J26L	**Joseph Creek**	**4.64 175**			**Pn**	**04 55 06.1 -0.1**
J26L			IAML			04 56 33.6
	comp=E,34nm,0.8s					
A21K	**Barrow**	**4.66 304**			**Pn**	**04 55 07.0 +0.9**
CCB	**Clear Creek Bu**	**4.66 197**			**Pn**	**04 55 07.1 +0.9**
F20K	**Avaraart Lake**	**4.66 249**			**Pn**	**04 55 07.1 +0.8**
F20K			IAML			04 56 31.3
	comp=E,49nm,0.9s					
F20K			IAML			04 56 36.3
	comp=N,57nm,1.1s					
H21K	**Melozitna Rive**	**4.70 226**			**Pn**	**04 55 06.5 -0.3**
H21K			IAML			04 56 28.1
	comp=E,37nm,0.7s					
H21K			IAML			04 56 35.9
	comp=N,44nm,1.2s					
IMAR	**Indian Mountai**	**4.71 233**			**Pn**	**04 55 06.2 -0.8**
MLY	**Manley**	**4.75 213**			**Pn**	**04 55 06.7 -0.8**
HDA	**Harding Lake**	**4.81 192**			**Pn**	**04 55 08.0 -0.4**
HDA			IAML			04 56 40.8
	comp=N,28nm,0.9s					
WRH	**Wood River Hil**	**4.86 198**			**Pn**	**04 55 07.9 -1.2**
WRH			IAML			04 56 43.6
	comp=E,32nm,0.8s					
NEA2	**Nenana**	**4.87 203**			**Pn**	**04 55 08.9 -0.3**
I21K	**Tanana**	**4.89 220**			**Pn**	**04 55 09.2 -0.1**
D19K	**Kuna River**	**4.95 269**			**Pn**	**04 55 10.1 -0.3**
D19K			IAML			04 56 59.5
	comp=N,54nm,1.0s					
E19K	**Redstone River**	**4.98 257**			**Pn**	**04 55 10.1 -0.7**
I30M	**Mount Dempster**	**5.04 137**			**Pn**	**04 55 11.8 +0.2**
I30M			IAML			04 56 48.0
	comp=N,25nm,1.2s					
I30M			IAML			04 56 53.9
	comp=E,28nm,0.9s					
H31M	**Peel River**	**5.14 125**			**Pn**	**04 55 12.9 -0.1**
H31M			IAML			04 56 49.0
	comp=N,28nm,1.0s					
H31M			IAML			04 56 58.8
	comp=E,30nm,1.2s					
SCRK	**Sand Creek**	**5.16 177**			**Pn**	**04 55 12.7 -0.5**
SCRK			IAML			04 56 48.0
	comp=E,32nm,1.0s					
K27K	**Chicken**	**5.20 168**			**Pn**	**04 55 13.3 -0.4**
K24K	**Donnelly Dome**	**5.35 186**			**Pn**	**04 55 16.1 +0.3**
C19K	**Lookout Ridge**	**5.37 277**			**Pn**	**04 55 17.2 +1.1**
C19K	**Lookout Ridge**	**5.37 277**	IAML			04 57 10.9
	comp=E,31nm,0.9s					
H20K	**Anotleneega Mo**	**5.39 233**			**Pn**	**04 55 17.7 +1.4**
RIDG	**Independent Ri**	**5.39 181**			**Pn**	**04 55 17.8 +0.2**
F19K	**Shaleruckik Mo**	**5.46 252**			**Pn**	**04 55 17.5 +0.2**
DAWY	**Dawson**	**5.47 155**			**Pn**	**04 55 17.7 +0.3**
DOT	**Dot Lake**	**5.49 178**			**Pn**	**04 55 17.6 0.0**
J30M	**Hart River**	**5.59 141**			**Pn**	**04 55 19.5 +0.3**
G19K	**Purcell Mounta**	**5.63 244**			**Pn**	**04 55 19.8 +0.3**
BPAW	**Bear Paw Mtn.**	**5.64 210**			**Pn**	**04 55 19.2 -0.6**
MCK	**McKinley**	**5.67 200**			**Pn**	**04 55 19.4 -0.8**
H19K	**Roundabout Mou**	**5.83 238**			**Pn**	**04 55 22.1 -0.1**
A19K	**Wainwright**	**5.86 288**			**Pn**	**04 55 23.4 +0.7**
RND	**Reindeer**	**5.98 199**			**Pn**	**04 55 23.8 -0.7**
K29M	**Barlow Dome**	**5.99 149**			**Pn**	**04 55 24.7 0.0**
C18K	**Utukok River**	**6.02 273**			**Pn**	**04 55 25.6 +0.6**
B18K	**Kokolik River**	**6.13 280**			**Pn**	**04 55 27.0 +0.6**
L26K	**Log Cabin Wild**	**6.13 175**			**Pn**	**04 55 26.1 -0.4**
TRF	**Thorofare Moun**	**6.13 205**			**Pn**	**04 55 25.8 -0.8**
KTH	**Kantishna Hill**	**6.13 208**			**Pn**	**04 55 28.1 +1.6**
BCAR	**Beaver Creek A**	**6.17 168**			**Pn**	**04 55 27.0 -0.1**
L27K	**Beaver Creek,**	**6.17 168**			**Pn**	**04 55 26.6 -0.5**
PAX	**Paxson**	**6.18 184**			**Pn**	**04 55 26.4 -0.8**
E18K	**Tukpahlearik C**	**6.19 262**			**Pn**	**04 55 26.0 -1.2**
MENT	**Mentasta**	**6.21 176**			**Pn**	**04 55 26.9 -0.6**
F18K	**Selawik**	**6.23 253**			**Pn**	**04 55 30.0 +2.3**
J20K	**Nowinta River**	**6.24 222**			**Pn**	**04 55 26.5 -1.4**
CAST	**Castle Rocks**	**6.46 211**			**Pn**	**04 55 30.5 -0.5**
L29M	**L29M**	**6.56 153**			**Pn**	**04 55 32.5 0.0**
E17K	**Hotham Inlet**	**6.76 261**			**Pn**	**04 55 36.0 +1.0**
C17K	**DeLong Mountai**	**6.77 273**			**Pn**	**04 55 35.2 -0.1**
M27K	**Edge Creek, AK**	**6.87 169**			**Pn**	**04 55 36.3 -0.4**
K20K	**Telida**	**6.92 218**			**Pn**	**04 55 35.8 -1.6**
PPLA	**Purkeypile**	**6.96 210**			**Pn**	**04 55 37.2 -0.8**
D17K	**Noatak River**	**6.97 267**			**Pn**	**04 55 38.1 +0.2**
A36M	**Sachs Harbour**	**7.05 57**			**Pn**	**04 55 39.3 +0.3**
M29M	**Somme Creek**	**7.14 157**			**Pn**	**04 55 40.1 -0.3**
G17K	**Kiwalik Mounta**	**7.18 247**			**Pn**	**04 55 42.8 +1.9**
M30M	**Minto, Yukon**	**7.29 150**			**Pn**	**04 55 41.4 -0.9**
SCM	**Sheep Creek Mo**	**7.39 190**			**Pn**	**04 55 43.0 -0.9**
YUK2	**White River**	**7.51 166**			**Pn**	**04 55 49.5 +4.0**
C16K	**Lisburne Hills**	**7.60 273**			**Pn**	**04 55 45.6 -0.9**
M20K	**Styx River**	**8.07 210**			**Pn**	**04 55 53.0 -0.1**
N30M	**Aishikik Lake**	**8.29 154**			**Pn**	**04 55 55.7 -0.4**
M19K	**Big River Lodg**	**8.29 214**			**Pn**	**04 55 55.5 -0.5**
MMPY	**Sheldon Lake,**	**8.47 134**			**Pn**	**04 55 58.6 -0.1**
KDAK	**Kodiak Island**	**11.90 201**	LR		LR	05 01 58.3
	comp=E,45nm,19.4s,baz=357,slow=40					
YKA	**Yellowknife Ar**	**13.83 104**	Pn		**Pn**	**04 57 11.2 -0.5**
	comp=E,0.2nm,0.3s,baz=312,slow=14,SNR=5.5					
	comp=E,0.7nm,0.6s					
TXAR	**Lajitas Array**	**46.24 128**	P		**P**	**05 02 24.6 +3.5**
	baz=339,slow=7.8,SNR=1.8					
FINES	**FINESS Array B**	**49.57 6**	P		**P**	**05 02 46.6 +0.3**
	comp=E,1.1nm,0.8s,baz=354,slow=7.4,SNR=5.0					
	comp=E,1.1nm,0.8s					
HFS	**Hagfors**	**50.11 14**	P		**P**	**05 02 50.6 +0.1**
	comp=E,2.2nm,0.9s,baz=350,slow=7.3,SNR=5.3					
	comp=E,2.2nm,0.9s					
KURBB	**Kurchatov Arra**	**56.44 329**	P		**P**	**05 03 36.6 -0.6**
	comp=E,0.2nm,0.2s,baz=18,slow=6.8,SNR=4.2					
	comp=E,0.2nm,0.2s					

*IDC **01** 05:06:56.9±2.2,32.95N×139.96E,h0km,mb3.8/2, mbtmp3.7/3,ML2.6/1,Error ellipse: s-maj=96.6km s-min=26.0km az=78.0*
*JMA **01** 05:06:59.1±0.2,33.5N±0.5×14.1E±,h59km,MV3.1/26,E OFF HACHIJOJIMA ISLAND*
ISC 01 05:06:58.7±1.8,33.41N±0.06×140.98E±0.08,h30km±13km, n23,σ1°58/29,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.01**	**253**	P			**Pb**	**05 07 18.1**	**+0.4**
JHJ2	**Mitsune**	**1.01**	**253**	S			**Sn**	**05 07 31.6**	**+1.6**
JHJ2	**Mitsune**	**1.01**	**253**	*i* P			**Pb**	**05 07 18.0**	**+0.4**
JHJ2				S			**Sn**	**05 07 31.4**	**+1.4**
JHCJ	**Hachijojimakas**	**1.04**	**252**	P			**Pb**	**05 07 18.3**	**+0.2**
JHCJ				*e*S			**Sb**	**05 07 31.6**	**+0.2**
BSO1	**Boso 1**	**1.24**	**0**	*e*P			**Pn**	**05 07 19.7**	**+0.2**
JMKN	**Mikurajimanish**	**1.25**	**293**	*e*P			**Pn**	**05 07 19.6**	**-0.5**
JMKN				*e*S			**Sn**	**05 07 35.9**	**-0.1**
JMYK	**Miyake Tsubota**	**1.36**	**299**	*e*P			**Pn**	**05 07 22.1**	**+0.5**
JMYK				*e*S			**Sn**	**05 07 38.6**	**+0.1**
JAOM	**Aogashimamukai**	**1.39**	**228**	*e*P			**Pb**	**05 07 23.3**	**-0.7**
JAOM				*e*S			**Sb**	**05 07 41.0**	**-0.3**
BSO3	**Boso 3**	**1.44**	**345**	*e*P			**Pn**	**05 07 22.7**	**+0.2**
JIM2	**Oshima 3**	**1.83**	**316**	P			**Pn**	**05 07 27.9**	**-0.2**
JIM2				*e*S			**Sn**	**05 07 49.3**	**-0.9**
JIZS	**Izushimoda**	**2.18**	**307**	P			**Pn**	**05 07 33.6**	**+0.8**
JIZS				*e*S			**Sn**	**05 07 58.8**	**+0.1**
JOD2	**Odawara 2**	**2.42**	**320**	P			**Pn**	**05 07 36.3**	**+0.1**
JOD2				*e*S			**Sn**	**05 08 03.9**	**-0.9**
JYN	**Shimob**	**2.90**	**317**	P			**Pn**	**05 07 44.2**	**+1.4**
JGF	**Kuroka**	**3.70**	**307**	P			**Pn**	**05 07 56.6**	**+2.7**
JGF	**Kuroka**	**3.70**	**307**	S			**Sb**	**05 08 44.9**	**-3.0**
MJAR	**Matsushiro Arr**	**3.87**	**325**	Pn			**Pn**	**05 07 57.9**	**+1.8**
	0.4nm,0.3s,baz=156,slow=12,SNR=8.7								
MJAR					Sn		**Sn**	**05 08 42.5**	**+2.1**
	0.2nm,0.3s,baz=158,slow=28,SNR=1.4								
	2.8nm,0.3s								
MAJO	**Matsushiro**	**3.87**	**325**	P			**Pn**	**05 08 00.2**	**+4.1**
JMM	**Marumori**	**4.45**	**358**	P			**Pn**	**05 08 06.7**	**+2.6**
H11N2	**WAKE ISLAND Hy**	**26.80**	**114**	T			T	05 41 30.1	
	baz=302								
H11N1	**WAKE ISLAND Hy**	**26.80**	**114**	T			T	05 41 30.2	
	baz=302								
H11N3	**WAKE ISLAND Hy**	**26.82**	**114**	T			T	05 41 35.8	
	baz=302								
WRA	**Warramunga Arr**	**53.43**	**188**	P			**P**	**05 16 14.3**	**-1.5**
	1.1nm,0.5s,baz=4.7,slow=7.6,SNR=13								
	1.1nm,0.5s								
ASAR	**Alice Springs**	**57.15**	**188**	P			**P**	**05 16 41.4**	**-1.2**
	0.4nm,0.4s,baz=4.1,slow=6.6,SNR=7.0								
	0.4nm,0.4s								

*IDC **01** 05:27:07.4±1.5,26.01S×69.69E,h0km,mb3.7/8, mbtmp3.7/8,MS3.4/7,Error ellipse: s-maj=56.2km s-min=26.7km az=77.0*
ISC 01 05:27:09.2±1.7,26.0S±0.2×69.8E±0.4,h10km,n23, σ1°13/8,mb3.8/8,MS3.4/7,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.45**	**9**	T			T	05 50 19.5	
	baz=185,slow=75,SNR=39								
H08S2	**Diego Garcia H**	**18.45**	**9**	T			T	05 50 17.7	
	baz=185,slow=75,SNR=28								
H08S3	**Diego Garcia H**	**18.46**	**9**	T			T	05 50 21.2	
	baz=185,slow=75,SNR=46								
H04N2	**CROZET ISLANDS**	**24.69**	**211**	T			T	05 58 56.1	
	baz=44,slow=74,SNR=296								
H04N1	**CROZET ISLANDS**	**24.70**	**211**	T			T	05 58 51.8	
	baz=44,slow=74,SNR=232								
H04N3	**CROZET ISLANDS**	**24.71**	**211**	T			T	05 58 50.5	
	baz=44,slow=74,SNR=213								
PALK	**Pallekele**	**34.75**	**19**	LR			LR	05 43 57.0	
	comp=Z,81nm,21.2s,baz=166,slow=29								
H01W2	**Cape Leeuwin H**	**39.01**	**114**	T			T	06 14 37.7	
	baz=271,slow=75,SNR=9.2								
H01W3	**Cape Leeuwin H**	**39.01**	**114**	T			T	06 14 37.5	
	baz=271,slow=75,SNR=8.8								
H01W1	**Cape Leeuwin H**	**39.02**	**114**	T			T	06 14 38.9	
	baz=271,slow=75,SNR=13								
LBTB	**Lobatse**	**39.72**	**261**	LR			LR	05 49 32.4	
	comp=Z,47nm,18.7s,baz=128,slow=34								
MAW	**Mawson**	**41.82**	**184**	LR			LR	05 48 17.8	
	comp=Z,65nm,20.6s,baz=4.5,slow=30								
TSUM	**Tsumeb**	**48.38**	**267**	LR			LR	05 53 47.7	
	comp=Z,31nm,18.8s,baz=270,slow=33								
CMAR	**Chiang Mai Arr**	**52.52**	**36**	P			**P**	**05 36 21.3**	**-1.5**
	0.7nm,0.3s,baz=218,slow=7.6,SNR=4.4								
CMAR					LR		LR	05 56 14.7	
	comp=Z,21nm,18.7s,baz=220,slow=33								
	0.7nm,0.3s								
ASAR	**Alice Springs**	**57.73**	**103**	P			**P**	**05 37 00.7**	**0.0**
	0.3nm,0.6s,baz=254,slow=7.3,SNR=2.4								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**59.26**	**99**	P			**P**	**05 37 12.1**	**+0.8**
	0.6nm,0.8s,baz=250,slow=7.7,SNR=2.8								
	0.6nm,0.8s								
VNDA	**Vanda**	**65.26**	**166**	P			**P**	**05 37 50.2**	**-0.4**
	1.3nm,0.9s,baz=276,slow=6.4,SNR=5.5								
	1.3nm,0.9s								
AAK	**Ala-Archa**	**68.44**	**4**	LR			LR	06 03 35.7	
	comp=Z,39nm,21.1s,baz=155,slow=32								
JAY	**Jayapura**	**71.79**	**84**	LR			LR	06 11 46.6	
	comp=Z,21nm,18.0s,baz=110,slow=37								
MKAR	**Makanchi Array**	**73.34**	**9**	P			**P**	**05 38 40.9**	**-0.1**
	0.4nm,0.6s,baz=198,slow=5.1,SNR=4.3								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**76.69**	**6**	P			**P**	**05 39 00.3**	**+0.2**
	0.3nm,0.4s,baz=188,slow=5.6,SNR=4.5								
	0.3nm,0.4s								
SONM	**Songino Array**	**80.55**	**24**	P			**P**	**05 39 23.3**	**+1.7**
	0.2nm,0.3s,baz=222,slow=1.9,SNR=3.5								
	0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**80.69**	**9**	P			**P**	**05 39 21.3**	**-0.7**
	0.7nm,0.5s,baz=216,slow=7.1,SNR=2.0								
	0.7nm,0.5s								

*ASRS **01** 06:00:21.0±0.5,54.19N×86.40E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 01 06:00:23.1±2.8,54.23N×86.41E,h0km,mbtmp2.9/2, ML2.6/2,Error ellipse: s-maj=20.7km s-min=13.7km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**254**	I			I	06 05 30.9	
	baz=74,slow=309,SNR=2.9								
ZALV	**Zalesovo Beam**	**0.98**	**254**	Pg			Pg	06 00 40.8	-1.1
	1.3nm,0.3s,baz=72,slow=16,SNR=10								
ZALV					Lg		Lg	06 00 55.5	
	3.6nm,0.3s,baz=74,slow=29,SNR=14								
KURBB	**Kurchatov Arra**	**6.02**	**236**	Pn			Pn	06 01 53.7	+0.4
	0.1nm,0.3s,baz=54,slow=13,SNR=4.0								
KURBB					Sn		Sn	06 03 03.7	+0.7
	0.1nm,0.3s,baz=48,slow=30,SNR=2.6								
KURBB					Lg		Lg	06 03 36.4	
	0.1nm,0.3s,baz=48,slow=30,SNR=1.8								
	0.4nm,0.3s								
MKAR	**Makanchi Array**	**7.89**	**201**	Pn			Pn	06 02 20.3	+1.2
	0.2nm,0.3s,baz=21,slow=14,SNR=6.1								
	0.3nm,0.4s								

IDC 01 06:14:33.6±1.6,54.49N×83.56E,h0km,mbtmp2.8/3, ML2.4/3,Error ellipse: s-maj=14.1km s-min=9.6km az=178.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**126**	I			I	06 20 10.0	
	baz=307,slow=315,SNR=2.6								
ZALV	**Zalesovo Beam**	**0.91**	**126**	Pg			Pg	06 14 50.8	-0.3
	1.7nm,0.3s,baz=308,slow=15,SNR=15								
ZALV					Lg		Lg	06 15 04.5	
	2.7nm,0.3s,baz=307,slow=29,SNR=17								
KURBB	**Kurchatov Arra**	**4.94**	**220**	Pn			Pn	06 15 49.1	+0.1
	0.1nm,0.3s,baz=38,slow=14,SNR=2.3								
KURBB					Lg		Lg	06 17 09.6	
	0.1nm,0.3s,baz=42,slow=29,SNR=1.2								
	0.6nm,0.4s								
MKAR	**Makanchi Array**	**7.75**	**186**	Pn			Pn	06 16 27.8	+0.2
	0.1nm,0.3s,baz=6.3,slow=14,SNR=3.7								
MKAR					Lg		Lg	06 18 38.8	
	0.1nm,0.3s,baz=4.5,slow=24,SNR=2.9								
	0.3nm,0.6s								
BVAR	**Borovoye Array**	**7.95**	**265**	Pn			Pn	06 16 29.6	-0.7
	baz=75,slow=17,SNR=1.9								
	0.5nm,0.4s								

IDC 01 06:22:55.5±2.8,31.44S×177.85W,h0km,mb3.6/2, mbtmp3.8/4,ML3.3/2,Error ellipse: s-maj=60.5km s-min=36.0km az=110.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.96**	**210**	Pn			Pn	06 24 51.4	-1.0
	0.2nm,0.3s,baz=37,slow=5.1,SNR=2.0								
URZ					Sn		Sn	06 26 22.7	-0.4
	0.4nm,0.3s,baz=352,slow=20,SNR=2.3								
	7.6nm,0.9s								
DZM	**Mont Dzumac**	**16.83**	**300**	Pn			Pn	06 26 51.7	-1.0
	0.3nm,0.3s,baz=127,slow=20,SNR=1.6								
	4.1nm,0.7s								
ASAR	**Alice Springs**	**43.19**	**268**	P			P	06 30 58.5	+0.1
	0.4nm,0.5s,baz=108,slow=7.9,SNR=7.0								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**44.27**	**273**	P			P	06 31 07.5	+0.4
	0.5nm,0.4s,baz=112,slow=7.8,SNR=5.4								
	0.5nm,0.4s								
FINES	**FINESS Array B**	**146.17**	**340**	PKPbc			PKPdf	06 42 35.9	0.0
	1.2nm,0.4s,baz=51,slow=4.7,SNR=8.0								

*IDC **01** 06:29:43.4±0.7,20.61N×121.85E,h0km,mb3.9/12, mbtmp4.0/14,ML3.9/2,MS3.1/16,Error ellipse: s-maj=25.4km s-min=14.4km az=70.0*
*NEIC **01** 06:29:45.7±1.8,20.74N±0.03×121.8E±0.1,h10km±1km, mb4.2/8,Error ellipse: s-maj=16.5km s-min=4.6km az=91.0*
*NIED **01** 06:29:47.3,21.19N×121.95E,h4km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr0.59; Mθθ0.90; Mφφ-1.50; Mrθ0.50; Mθφ-0.43; Mφr-0.42; Fault plane solution: M0 1.51000×10^15 NP1:ϕs50.00000°, δ58.00000°,λ159.00000°. NP2:ϕs151.00000°,δ72.00000°, λ34.00000°.*
*JMA **01** 06:29:47.3±0.8,21.7N×12.7E×,h4km,MV4.5/13, TAIWAN REGION*
ISC 01 06:29:44.8±0.6,20.81N±0.06×122.00E±0.07,h10km,n64, σ1°56/57,mb3.8/13,MS3.0/15,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.18**	**337**				**Pn**	**06 30 19.7**	**-1.5**
YULB	**Yu-li**	**2.65**	**346**				**Pn**	**06 30 27.5**	**-0.2**
YULB	**Yu-li**	**2.65**	**346**	P			**Pn**	**06 30 27.1**	**-0.6**
TPUB	**Ta-pu**	**2.79**	**333**				**Pn**	**06 30 30.4**	**+0.8**
TPUB	**Ta-pu**	**2.79**	**333**	P			**Pn**	**06 30 30.3**	**+0.8**
SSLB	**Suanglung**	**3.12**	**342**				**Pn**	**06 30 35.5**	**+1.3**
SSLB	**Suanglung**	**3.12**	**342**	P			**Pn**	**06 30 35.4**	**+1.3**
NACB	**Ninganchiao**	**3.37**	**354**				**Pn**	**06 30 37.4**	**-0.2**
NACB	**Ninganchiao**	**3.37**	**354**	P			**Pn**	**06 30 36.2**	**-1.4**
HATJ	**Hateruma jima**	**3.64**	**27**	*e*P			**Pn**	**06 30 41.6**	**+0.3**
HATJ				*e*S			**Sn**	**06 31 20.9**	**-3.4**
JYNG	**Yonagunijimaku**	**3.73**	**13**	*e*P			**Pn**	**06 30 42.2**	**-0.3**
JYNG				*e*S			**Sn**	**06 31 23.5**	**-3.0**
YOJ	**Yonaguni jima**	**3.76**	**14**				**Pn**	**06 30 43.7**	**+0.8**
YOJ	**Yonaguni jima**	**3.76**	**14**	P			**Pn**	**06 30 43.0**	**+0.1**
YOJ	**Yonaguni jima**	**3.76**	**14**	*e*P			**Pn**	**06 30 43.8**	**+0.9**
YOJ				*e*S			**Sn**	**06 31 25.4**	**-1.8**
IRIF	**Iriomote-Funau**	**3.86**	**24**	P			**Pn**	**06 30 44.6**	**+0.4**
IRIF				*e*S			**Sn**	**06 31 27.3**	**-2.4**
YHNB	**Yeheng**	**3.89**	**352**				**Pn**	**06 30 45.8**	**+1.1**
YHNB	**Yeheng**	**3.89**	**352**	P			**Pn**	**06 30 45.5**	**+0.8**
JKRS	**Kuro-shima**	**3.89**	**28**	P			**Pn**	**06 30 45.2**	**+0.5**
JKRS				*e*S			**Sn**	**06 31 28.1**	**-2.3**
JIJ	**Ishigaki jima**	**4.06**	**29**	*e*P			**Pn**	**06 30 47.0**	**0.0**
JIJ				*e*S			**Sn**	**06 31 30.8**	**-3.8**
JISG	**Ishigakijimahi**	**4.33**	**29**	*e*P			**Pn**	**06 30 50.5**	**-0.2**
JISG				S			**Sn**	**06 31 37.7**	**-3.5**
JTJ	**Tarama**	**4.56**	**33**	*e*P			**Pn**	**06 30 54.5**	**+0.6**
JTJ				S			**Sn**	**06 31 43.6**	**-3.4**
KNMB	**Chin-men Tao**	**4.93**	**318**	Pn			**Pn**	**06 30 57.9**	**-1.1**
JOW	**Kunigami**	**8.31**	**43**	Pn			**Pn**	**06 31 46.5**	**+1.1**
	4.0nm,0.3s,baz=139,slow=20,SNR=23								
	11nm,0.2s								
JNU	**Nakatsue**	**14.59**	**31**	LR			LR

AAK	**Ala-Archa**	**45.19**	**310**	LR	LR	06 57 23.4	
	comp=Z,41nm,19.9s,baz=130,slow=37						
AS31	**Alice Springs**	**45.70**	**165**	P	**P**	**06 38 06.5**	**+0.3**
ASAR	**Alice Springs**	**45.70**	**165**	P	**P**	**06 38 06.5**	**+0.3**
ASAR	**Alice Springs**	**45.70**	**165**	P	**P**	**06 38 05.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=351,slow=8.4,SNR=25						
ASAR				PcP	**PcP**	**06 39 43.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=348,slow=5.2,SNR=1.8 comp=Z,1.2nm,0.5s						
HNR	**Honiara**	**47.90**	**125**	LR	LR	06 58 56.6	
	comp=Z,28nm,18.1s,baz=28,slow=37						
BVAR	**Borovoye Array**	**50.77**	**322**	P	**P**	**06 38 46.0**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=110,slow=7.9,SNR=4.8 comp=Z,1.2nm,0.5s						
TIXI	**Tiksi**	**51.01**	**3**	LR	LR	07 02 25.1	
	comp=Z,47nm,18.7s,baz=204,slow=38						
STKA	**Stephens Creek**	**55.65**	**160**	P	**P**	**06 39 20.4**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=348,slow=7.5,SNR=4.4 comp=Z,1.3nm,0.4s						
ARTI	**Arti**	**58.35**	**324**	P	**P**	**06 39 40.7**	**+0.6**
ILAR	**Eielson Array**	**71.87**	**27**	LR	LR	07 14 08.4	
	comp=Z,22nm,18.4s,baz=284,slow=37						
NOA	**NORSAR Array B**	**81.55**	**333**	P	**P**	**06 42 02.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=61,slow=4.7,SNR=2.1						
NOA				LR	LR	07 21 32.8	
	comp=Z,22nm,18.3s,baz=60,slow=38 comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**85.78**	**23**	P	**P**	**06 42 25.6**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=309,slow=5.4,SNR=2.4 comp=Z,0.4nm,0.6s						

*OSPL **01** 06:33:35.7±2.4, 18.61N×70.36W, h14km±232km, ML1.6*
*SDD **01** 06:33:36.1±0.7, 18.57N×70.35W, h12km±38km, MD2.5, ML2.0, MW2.2*

ISC 01 06:33:35.2±1.1, 18.58N±0.04×70.31W±0.04, h34km, n9, σ1s24/12, 2C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANI	**BANI**	**0.20**	**194**	⇓*e*Pg	**Pn**	**06 33 39.8**	**-0.9**
BANI				⇓*e*Sg	**Sn**	**06 33 42.8**	**+0.4**
BANI				IAML		06 33 43.8	
	comp=N,263nm,0.1s						
ABDR	**Alto Bandera**	**0.38**	**307**	⇑*e*Pg	**Pb**	**06 33 43.1**	**-1.3**
SDD	**Santo Domingo**	**0.40**	**108**	*e*S	**Sb**	**06 33 50.0**	**-0.5**
SDDR	**Presa de Saban**	**1.01**	**293**	*i* P	**Pn**	**06 33 52.4**	**-0.6**
SDDR				IAML		06 34 10.3	
	comp=Z,16nm,1.8s						
PODR	**Polo**	**1.01**	**246**	*i* P	**Pn**	**06 33 52.5**	**-0.7**
LONE3	**El Aguacate, B**	**1.09**	**271**	*i* P	**Pb**	**06 33 56.7**	**+1.0**
LONE3				*e*S	**Sb**	**06 34 12.2**	**+2.5**
LONE3				IAML		06 34 15.9	
	comp=Z,9.3nm,1.4s						
LODU1	**El Espartillar**	**1.13**	**258**	*i* P	**Pb**	**06 33 55.4**	**-0.9**
LODU1				IAML		06 34 17.1	
	comp=Z,26nm,1.0s						
MIDR	**Miches**	**1.26**	**71**	⇓*e*Pg	**Pb**	**06 33 58.2**	**-0.2**
MIDR				IAML		06 34 42.1	
	comp=N,24nm,2.1s						
HIDR	**Higuey Centro**	**1.51**	**89**	⇑*e*Pg	**Pb**	**06 34 03.3**	**+0.7**
HIDR				*e*Sg	**Sb**	**06 34 22.8**	**+1.3**
HIDR				IAML		06 34 29.3	
	comp=N,26nm,1.4s						

AUST 01 06:52:59.8±0.6, 19.3S±4.×12.0E±., h10km, mb4.0/5, ML2.7/4, ML3.2/4, Error ellipse: s-maj=10.7km s-min=5.2km az=143.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.75**	**72**	S	Sb	06 53 54.7	+0.8
MBWA	**Marble Bar**	**2.73**	**195**	P	Pn	06 53 44.4	+0.7
MBWA				S	Sn	06 54 18.9	+2.0
PSAC1	**Pilbara Seismi**	**3.07**	**192**	P	Pn	06 53 48.9	+0.3
PSAC1				S	Sn	06 54 26.4	+1.0
PSA00	**Pilbara Seismi**	**3.11**	**191**	P	Pn	06 53 50.1	+1.2
PSA00				S	Sn	06 54 27.1	+1.0
FITZ	**Fitzroy Crossi**	**4.91**	**86**	P	Pn	06 54 12.6	-1.1
GIRL	**Giralia**	**7.16**	**234**	P	Pn	06 54 42.1	-2.6
	comp=Z,272µmcomp=Z,70nm,2.2s,comp=Z,0.2nm						
GIRL				S	Sn	06 55 58.1	-8.0
MEEK	**Meekatharra**	**8.27**	**192**	P	Pn	06 55 00.8	+0.8
	comp=Z,0.1nmcomp=Z,11nm,2.5s						
MEEK	**Meekatharra**	**8.27**	**192**	S	Sn	06 56 29.9	-3.7
CVQOZ	**Cooralya Stati**	**8.40**	**224**	P	Pn	06 55 01.8	+0.2
	comp=Z,340nm,0.5s,comp=Z,0.8nm						
WRKA	**Warakurna**	**9.73**	**133**	S	Sn	06 57 08.4	-1.1
MORW	**Morawa**	**11.27**	**200**	P	Pn	06 55 41.4	+0.4
	comp=Z,16nm,2.4s						
MORW	**Morawa**	**11.27**	**200**	S	Sn	06 57 36.3	-11
BLDU	**Ballidu**	**12.53**	**195**	P	Pn	06 55 57.1	-1.2
	comp=Z,19nm,2.9s						
BLDU	**Ballidu**	**12.53**	**195**	S	Sn	06 58 06.4	-12

*NOU **01** 06:59:42.8, 17.68S×178.11W, h578km, mb4.4/23, Fiji Islands Region*
*IDC **01** 06:59:43.9±2.2, 17.85S×178.71W, h544km±24km, mb3.5/11, mbtmp4.4/11, Error ellipse: s-maj=16.2km s-min=11.7km az=136.0*
*NEIC **01** 06:59:45.6±1.1, 17.8S±0.1×178.6W±0.1, h570km±9km, mb4.3/47, Error ellipse: s-maj=21.6km s-min=15.4km az=134.0*

ISC 01 06:59:46.4±0.5, 17.85S±0.09×178.63W±0.09, h579km, n94, σ1s25/96, mb4.3/37, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAVE	**Taveuni**	**1.66**	**313**	P	**P**	**07 00 55.6**	**-1.9**
DGTI	**Dogotuki**	**2.19**	**314**	P	**P**	**07 00 57.3**	**-2.4**
MSVF	**Nonsavu**	**3.16**	**272**	P	**P**	**07 01 03.2**	**-1.6**
MSVF	**Nonsavu**	**3.16**	**272**	P	**P**	**07 01 03.9**	**-1.0**
AFI	**Afiamalu**	**7.67**	**60**	P	**P**	**07 01 39.5**	**-2.5**
SANVU	**Saraoutou**	**13.78**	**278**	P	**P**	**07 02 42.9**	**-0.5**
PINNC	**Pines Island,**	**13.90**	**248**	P	**P**	**07 02 43.3**	**-1.2**
YATNC	**Mamie plateau,**	**14.24**	**251**	P	**P**	**07 02 49.1**	**+1.2**
OUENC	**Ouen Island, N**	**14.38**	**249**	P	**P**	**07 02 49.7**	**+0.5**
DZM	**Mont Dzumac**	**14.64**	**251**	P	**P**	**07 02 53.8**	**+1.9**
ONTNC	**Ouen Toro**	**14.70**	**250**	P	**P**	**07 02 52.9**	**+0.7**
ONTNC	**Ouen Toro**	**14.70**	**250**	P	**P**	**07 02 54.1**	**+1.8**
OUZ	**Omahuta**	**18.64**	**200**	P	**P**	**07 03 30.3**	**+1.8**
KUZ	**Kuaotunu**	**19.48**	**194**	P	**P**	**07 03 36.3**	**+0.1**
URZ	**Urewera**	**20.68**	**190**	P	**P**	**07 03 44.1**	**-2.9**
	5.9nm,0.3s,baz=22,slow=5.4,SNR=12 5.9nm,0.3s						
URZ	**Urewera**	**20.68**	**190**	P	**P**	**07 03 43.9**	**-3.1**
BKZ	**Black Stump Fm**	**21.66**	**190**	P	**P**	**07 03 52.1**	**-3.8**
BKZ	**Black Stump Fm**	**21.66**	**190**	P	**P**	**07 03 53.4**	**-2.5**
QRZ	**Quartz Range**	**24.13**	**197**	P	**P**	**07 04 17.5**	**-0.3**
QRZ	**Quartz Range**	**24.13**	**197**	P	**P**	**07 04 18.2**	**+0.4**
KHZ	**Kahutara**	**25.39**	**194**	P	**P**	**07 04 26.9**	**-1.9**
JCZ	**Jackson Bay**	**28.22**	**199**	P	**P**	**07 04 52.5**	**-1.2**
EIDS	**Eidsvold**	**29.09**	**250**	P	**P**	**07 05 00.4**	**-1.0**
EIDS				IAmb	IAmb	07 05 02.0	
	comp=Z,12nm,0.8s						
ARMA	**Armidale**	**29.79**	**240**	P	**P**	**07 05 08.1**	**+0.5**
ARMA	**Armidale**	**29.79**	**240**	P	**P**	**07 05 08.2**	**+0.6**
CTAO	**Charters Tower**	**33.25**	**260**	P	**P**	**07 05 36.4**	**-0.6**
CNB	**Canberra Magne**	**33.30**	**232**	P	**P**	**07 05 37.9**	**+0.6**
CAN	**Canberra**	**33.57**	**232**	P	**P**	**07 05 39.8**	**+0.2**
CMSA	**Cobar Meteorol**	**34.99**	**240**	P	**P**	**07 05 51.7**	**+0.2**
QLP	**Quilpie**	**35.36**	**249**	P	**P**	**07 05 54.7**	**+0.2**
COEN	**Coen**	**36.89**	**270**	P	**P**	**07 06 08.1**	**+0.8**
TOO	**Toolangi**	**37.04**	**231**		**P**	**07 06 08.7**	**+0.4**
TOO				IAmb	IAmb	07 06 09.7	
	comp=Z,7.4nm,0.6s						
STKA	**Stephens Creek**	**38.47**	**241**		**P**	**07 06 20.5**	**+0.6**
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**07 06 19.6**	**-0.3**
	comp=Z,6.9nm,0.3s,baz=95,slow=11,SNR=23 comp=Z,6.9nm,0.3s						
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**07 06 20.8**	**+0.9**
HTT	**Hallett**	**40.99**	**239**	P	**P**	**07 06 40.6**	**+0.5**
BBOO	**Buckleboo**	**43.25**	**241**		**P**	**07 06 57.7**	**-0.1**
BBOO	**Buckleboo**	**43.25**	**241**	P	**P**	**07 06 57.9**	**+0.1**
WB0	**Warramunga Arr**	**44.40**	**260**	P	**P**	**07 07 05.9**	**-0.9**
WB0				IAmb	IAmb	07 07 07.5	
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**07 07 05.8**	**-1.3**
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**07 07 06.4**	**-0.7**
	comp=Z,3.9nm,0.5s,baz=91,slow=7.0,SNR=79 comp=Z,3.9nm,0.5s						

AS31	**Alice Springs**	**44.60**	**254**		**P**	**07 07 08.1**	**-0.3**
ASAR	**Alice Springs**	**44.60**	**254**		**P**	**07 07 07.8**	**-0.6**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**07 07 08.2**	**-0.1**
	comp=Z,68nm,0.6s,baz=89,slow=8.2,SNR=1029						
ASAR				ScP	**ScP**	**07 11 41.1**	**+4.9**
	comp=Z,0.8nm,1.0s,baz=91,slow=3.7,SNR=3.2						
ASAR				S	**S**	**07 13 02.3**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=90,slow=14,SNR=5.4						
FORT	**Forrest**	**49.84**	**245**		**P**	**07 07 47.0**	**-0.5**
FORT				IAmb	IAmb	07 07 47.5	
	comp=Z,9.8nm,0.6s						
KNRA	**Kununurra**	**50.28**	**264**	P	**P**	**07 07 50.4**	**-0.5**
KNRA				IAmb	IAmb	07 07 52.0	
	comp=Z,16nm,1.2s						
PSA00	**Pilbara Seismi**	**57.72**	**255**	P	**P**	**07 08 42.7**	**-0.3**
MBWA	**Marble Bar**	**57.88**	**256**	P	**P**	**07 08 43.6**	**-0.6**
MBWA				IAmb	IAmb	07 08 47.8	
	comp=Z,24nm,1.4s						
MORW	**Morawa**	**60.31**	**246**	P	**P**	**07 08 59.6**	**-0.7**
MORW				IAmb	IAmb	07 09 02.1	
	comp=Z,15nm,1.2s						
SBA	**Scott Base**	**60.47**	**184**	P	**P**	**07 09 01.0**	**+0.5**
VNDA	**Vanda**	**60.49**	**185**	P	**P**	**07 09 01.1**	**+0.5**
VNDA	**Vanda**	**60.49**	**185**	P	**P**	**07 09 01.6**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=43,slow=2.4,SNR=5.1 comp=Z,0.3nm,0.4s						
GIRL	**Giralia**	**62.71**	**253**	P	**P**	**07 09 15.2**	**-0.8**
CASY	**Casey**	**66.10**	**205**	P	**P**	**07 09 36.5**	**-0.1**
CASY				IAmb	IAmb	07 09 59.6	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**67.73**	**323**	P	**P**	**07 09 47.1**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=144,slow=6.6,SNR=6.0 comp=Z,2.3nm,0.5s						
KIWB	**Kanaga Island**	**69.41**	**1**	P	**P**	**07 09 56.4**	**-0.4**
KIWB				IAmb	IAmb	07 10 36.3	
	comp=Z,14nm,1.1s						
ADK	**Adak**	**69.45**	**1**	P	**P**	**07 09 56.0**	**-1.1**
ADK				IAmb	IAmb	07 10 34.7	
	comp=Z,22nm,1.2s						
ATKA	**Atka Island**	**69.86**	**3**	P	**P**	**07 09 58.2**	**-1.2**
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**07 10 14.5**	**+1.2**
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**07 10 14.3**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=31,slow=7.6,SNR=20 comp=Z,2.7nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.56**	**345**	P	**P**	**07 10 20.7**	**-0.3**
PEA0B				IAmb	IAmb	07 10 22.4	
	comp=Z,8.3nm,0.8s						
PETK	**Petropavlovsk-**	**73.56**	**345**	P	**P**	**07 10 21.1**	**+0.2**
PETK	**Petropavlovsk-**	**73.56**	**345**	P	**P**	**07 10 21.4**	**+0.5**
	comp=Z,4.1nm,0.6s,baz=118,slow=7.4,SNR=12 comp=Z,4.1nm,0.6s						
S12K	**Black Hills**	**74.59**	**10**	P	**P**	**07 10 25.4**	**-1.3**
SAO	**San Andreas Ge**	**76.53**	**44**	P	**P**	**07 10 38.1**	**+0.2**
PLK4	**Peulik 4**	**77.45**	**12**	P	**P**	**07 10 42.2**	**-0.3**
PLK4				IAmb	IAmb	07 10 43.4	
	comp=Z,13nm,0.8s						
OHAK	**Old Harbor**	**77.72**	**14**	P	**P**	**07 10 43.6**	**-0.2**
OHAK				IAmb	IAmb	07 10 55.7	
	comp=Z,16nm,1.4s						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**07 10 55.3**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=224,slow=8.3,SNR=16 comp=Z,2.2nm,0.8s						
M16K	**Timber Creek**	**80.17**	**10**	P	**P**	**07 10 57.7**	**+1.0**
M16K				IAmb	IAmb	07 10 59.1	
	comp=Z,9.2nm,1.0s						
J05D	**Fort Rock, OR**	**80.41**	**39**		**P**	**07 10 57.0**	**-1.6**
J05D				IAmb	IAmb	07 11 00.8	
	comp=Z,6.6nm,0.8s						
H04A	**Detroit Lake**	**80.67**	**37**	P	**P**	**07 11 00.3**	**+0.6**
H04A				IAmb	IAmb	07 11 00.8	
	comp=Z,3.9nm,0.6s						
K15K	**Wolf Creek Mou**	**81.01**	**8**	P	**P**	**07 11 01.0**	**-0.1**
K15K				IAmb	IAmb	07 11 03.4	
	comp=Z,18nm,1.1s						
L18K	**Granite Mounta**	**81.67**	**10**	P	**P**	**07 11 05.1**	**+0.7**
J08A	**Circle Bar Ran**	**82.11**	**40**		**P**	**07 11 05.9**	**-1.3**
GHO	**Glory Hole Cre**	**82.80**	**14**	P	**P**	**07 11 10.3**	**+0.1**
GHO				IAmb	IAmb	07 11 11.4	
	comp=Z,12nm,0.9s						
K20K	**Telida**	**83.18**	**11**	P	**P**	**07 11 11.9**	**-0.1**
CAST	**Castle Rocks**	**83.61**	**12**		**P**	**07 11 13.1**	**-1.0**
CAST				IAmb	IAmb	07 11 14.3	
	comp=Z,5.9nm,0.7s						
TRF	**Thorofare Moun**	**84.00**	**12**	P	**P**	**07 11 15.4**	**-0.8**
TRF				IAmb	IAmb	07 11 16.9	
	comp=Z,8.5nm,0.7s						
RND	**Reindeer**	**84.26**	**13**		**P**	**07 11 17.4**	**0.0**
RND				IAmb	IAmb	07 11 18.3	
	comp=Z,7.7nm,0.8s						
S34M	**Telegraph Cree**	**85.07**	**23**		**P**	**07 11 22.2**	**+0.8**
S34M				IAmb	IAmb	07 11 23.6	
	comp=Z,5.5nm,0.8s						
CCB	**Clear Creek Bu**	**85.57**	**13**	P	**P**	**07 11 23.4**	**-0.2**
ILAR	**Eielson Array**	**85.87**	**13**	P	**P**	**07 11 24.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=224,slow=5.2,SNR=49 comp=Z,1.2nm,0.4s						
J25K	**Salcha River,**	**86.07**	**14**	P	**P**	**07 11 25.9**	**-0.3**
J25K				IAmb	IAmb	07 11 26.8	
	comp=Z,2.6nm,0.5s						
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**07 11 29.0**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=216,slow=5.9,SNR=31 comp=Z,1.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**87.08**	**315**	*e*P	**P**	**07 11 33.7**	**+2.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.5s						
YHL	**Hebgen Lake**	**87.38**	**41**	P	**P**	**07 11 34.7**	**+1.6**
YHL				IAmb	IAmb	07 11 35.8	
	comp=Z,3.5nm,0.9s						
PDAR	**Pinedale Array**	**87.45**	**44**	P	**P**	**07 11 33.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=218,slow=3.4,SNR=20 comp=Z,1.2nm,0.5s						
MMPY	**Sheldon Lake,**	**88.39**	**20**		**P**	**07 11 37.6**	**+0.6**
MMPY				IAmb	IAmb	07 11 38.4	
	comp=Z,3.3nm,0.7s						
PZH	**PanZhiHua**	**88.94**	**298**	P	**P**	**07 11 41.1**	**+0.6**
BVAR	**Borovoye Array**	**116.66**	**321**	PKP	**PKPdf**	**07 17 24.6**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=82,slow=2.0,SNR=3.8						
ARCES	**ARCESS Array B**	**126.22**	**350**	PKP	**PKiKP**	**07 17 43.3**	**-0.3**
	comp=Z,2.5nm,1.1s,baz=45,slow=2.4,SNR=4.6						
FINES	**FINESS Array B**	**133.07**	**344**	PKP	**PKPdf**	**07 17 55.8**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=93,slow=3.8,SNR=3.4						
BRTR	**Keskin Array B**	**144.59**	**315**	PKP	**PKPab**	**07 18 18.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=75,slow=1.7,SNR=6.7						
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	**PKPbc**	**07 18 26.5**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=20,slow=4.3,SNR=14						

*LDG **01** 07:19:55.6±0.1, 47.51N×4.90E, h18km, Md2.3/1, Ml2.6/16, Error ellipse: s-maj=1.4km s-min=1.0km az=148.0*
*STR **01** 07:19:56.2±0.3, 48.N±2.×±., h5km, MLv2.2/18, LOCSAT earthModelID haslach_taup-2.11 preliminary*

ISC 01 07:19:55.4±1.0, 47.52N±0.02×4.89E±0.02, h13km±9km, n43, σ1s11/78, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
A213A	**Autrey-Les-Gra**	**0.40**	**93**	Pg	**Pb**	**07 20 04.6**	**+0.2**
A213A				Sg	**Sb**	**07 20 10.7**	**+0.2**
PLYF	**Puligny Montra**	**0.57**	**190**	Pg	**Pg**	**07 20 07.3**	**+0.7**
PLYF				Sg	**Sg**	**07 20 15.2**	**+1.0**
SFTF	**Sexfontaines**	**0.69**	**8**	*e*Pg	**Pg**	**07 20 09.3**	**+0.4**
	baz=186						
SFTF				*e*Sg	**Sg**	**07 20 18.8**	**+0.7**
	17nm,0.2s						
LOR	**Lormes**	**0.74**	**251**	*e*Pg	**Pg**	**07 20 09.8**	**0.0**
	baz=74						
LOR				*e*Sg	**Sg**	**07 20 20.1**	**+0.6**
	86nm,0.2s						
LOR	**Lormes**	**0.74**	**251**	Pg	**Pg**	**07 20 09.9**	**+0.1**
LOR				Sg	**Sg**	**07 20 20.0**	**+0.5**
FOURG	**Fourg**	**0.75**	**123**	Pg	**Pb**	**07 20 10.4**	**0.0**
FOURG				Sg	**Sb**	**07 20 20.2**	**-0.3**
BOUC	**Bouclans**	**0.97**	**106**	Pg	**Pg**	**07 20 14.1**	**-0.1**
BOUC				Sg	**Sb**	**07 20 26.9**	**0.0**
MEZF	**Maizieres J'vi**	**0.99**	**6**	*e*Pg	**Pb**	**07 20 15.0**	**+0.6**
MEZF				*e*Sg	**Sg**	**07 20 27.6**	**+0.2**
	13nm,0.2s						
RIVEL	**MONT RIVEL**	**1.04**	**137**	Pg	**Pg**	**07 20 15.3**	**-0.1**
RIVEL				Sg	**Sb**	**07 20 29.0**	**+0.2**
SSF	**Saint Saulge**	**1.04**	**245**	*e*Pn	**Pb**	**07 20 14.6**	**-0.7**
SSF	**Saint Saulge**	**1.04**	**245**	*e*Pg	**Pb**	**07 20 15.5**	**+0.2**
SSF				*e*Sg	**Sb**	**07 20 28.6**	**-0.3**
	9.7nm,0.2s						

ETNF	**Estrennes**	**1.07**	**46**	Pg	**Pb**	**07 20 15.4**	**-0.5**
ETNF				Sg	**Sg**	**07 20 30.1**	**-0.1**
HAU	**Haudompre**	**1.10**	**63**	*e*Pn	**Pb**	**07 20 14.0**	**-2.3**
HAU	**Haudompre**	**1.10**	**63**	*e*Pg	**Pb**	**07 20 15.8**	**-0.5**
HAU				*e*Sg	**Sb**	**07 20 30.5**	**-0.1**
	25nm,0.2s						
A158A	**Haudompre, 880**	**1.10**	**63**	Pg	**Pb**	**07 20 15.7**	**-0.6**
A158A				Sg	**Sg**	**07 20 30.7**	**-0.3**
SAVF	**Savonnieres en**	**1.11**	**8**	*e*Pg	**Pg**	**07 20 17.1**	**+0.3**
SAVF	**Savonnieres en**	**1.11**	**8**	*e*Pg	**Pn**	**07 20 17.2**	**+0.6**
SAVF				*e*Sg	**Sb**	**07 20 31.2**	**+0.4**
	5.3nm,0.2s						
SAVF				*e*Sg	**Sb**	**07 20 31.2**	**+0.4**
	5.8nm,0.2s						
SAVF	**Savonnieres en**	**1.11**	**8**	Pg	**Pb**	**07 20 16.4**	**0.0**
SAVF				Sg	**Sb**	**07 20 31.4**	**+0.6**
SMF	**Signal de Mont**	**1.13**	**220**	*e*Pn	**Pb**	**07 20 14.8**	**-2.0**
SMF	**Signal de Mont**	**1.13**	**220**	*e*Pg	**Pb**	**07 20 16.5**	**-0.3**
SMF				*e*Sn	**Sb**	**07 20 28.3**	**-3.0**
SMF				*e*Sg	**Sg**	**07 20 31.0**	**-0.8**
PAGF	**Fort de Pagny**	**1.18**	**28**	*e*Pg	**Pg**	**07 20 18.4**	**+0.3**
PAGF				*e*Sg	**Sb**	**07 20 33.2**	**+0.3**
	11nm,0.1s						
RONF	**Ronchamp**	**1.21**	**80**	Pg	**Pb**	**07 20 17.5**	**-0.6**
RONF				Sg	**Sg**	**07 20 33.9**	**-0.5**
CABF	**La Chapelle**	**1.23**	**137**	*e*Pg	**Pn**	**07 20 18.4**	**+0.1**
CABF				*e*Sg	**Sb**	**07 20 34.3**	**+0.1**
	16nm,0.3s						
CHMF	**Charmoille**	**1.23**	**102**	Pg	**Pn**	**07 20 18.3**	**0.0**
CHMF				Sg	**Sb**	**07 20 34.4**	**+0.1**
AVF	**Avril sur Loir**	**1.27**	**236**	*e*Pn	**Pn**	**07 20 17.3**	**-1.6**
AVF	**Avril sur Loir**	**1.27**	**236**	*e*Pg	**Pn**	**07 20 19.4**	**+0.5**
AVF				*e*Sg	**Sb**	**07 20 35.8**	**+0.3**
HINF	**Hinteralfeld**	**1.36**	**77**	*e*Pn	**Pn**	**07 20 17.5**	**-2.7**
HINF	**Hinteralfeld**	**1.36**	**77**	*e*Pg	**Pb**	**07 20 20.8**	**0.0**
HINF				*e*Sg	**Sn**	**07 20 38.5**	**+0.4**
	8.9nm,0.3s						
GIMEL	**St. Georges /**	**1.36**	**136**	Pg	**Pb**	**07 20 21.3**	**+0.5**
GIMEL				Sg	**Sn**	**07 20 38.7**	**+0.5**
XAFF	**Xaffevillers**	**1.47**	**52**	Pg	**Pb**	**07 20 22.5**	**0.0**
XAFF				Sg	**Sb**	**07 20 41.5**	**+0.4**
HYF	**Humbligny**	**1.55**	**262**	*e*Sg	**Sb**	**07 20 45.4**	**+2.0**
BOURR	**Bourrignon**	**1.60**	**94**	Pn	**Pb**	**07 20 24.7**	**-0.1**
BOURR				Sn	**Sg**	**07 20 45.8**	**-1.0**
ILLF	**Illfurth**	**1.61**	**83**	Pn	**Pn**	**07 20 24.4**	**+0.8**
ILLF				Sn	**Sg**	**07 20 46.7**	**-0.6**
WALT	**Westhalten**	**1.68**	**74**	Pg	**Pg**	**07 20 27.8**	**+0.2**
WALT				Sn	**Sg**	**07 20 48.7**	**-0.6**
ECH	**Echery**	**1.68**	**65**	Pn	**Pb**	**07 20 26.0**	**-0.2**
ECH				Sn	**Sg**	**07 20 48.6**	**-0.9**
BGF	**Bois d'Agland**	**1.69**	**236**	*e*Pn	**Pn**	**07 20 23.3**	**-1.4**
BGF				*e*Sg	**Sb**	**07 20 48.2**	**+0.6**
	5.3nm,0.2s						
PLDF	**La Plantade**	**1.78**	**210**	Pn	**Pn**	**07 20 24.2**	**-1.7**
PLDF				Sn	**Sn**	**07 20 49.8**	**+1.5**
OGMY	**Moye**	**1.78**	**157**	Pn	**Pn**	**07 20 26.9**	**+1.1**
OGMY				Sn	**Sb**	**07 20 51.3**	**+1.2**
CDF	**Champ du Feu**	**1.84**	**60**	*e*Pg	**Pb**	**07 20 29.8**	**+0.9**
CDF				*e*Sg	**Sg**	**07 20 53.8**	**-0.7**
	3.7nm,0.2s						
TCF	**Toulx Ste Croi**	**2.21**	**237**	*e*Pn	**Pn**	**07 20 29.8**	**-2.0**
TCF				*e*Sg	**Sb**	**07 21 04.2**	**+1.7**
	4.0nm,0.3s						
RJF	**Les Rejaudoux**	**3.21**	**228**	*e*Sg	**Sb**	**07 21 35.9**	**+4.5**
	2.9nm,0.3s						
LDF	**La Druitiere**	**3.53**	**290**	*e*Sg	**Sg**	**07 21 46.5**	**-2.1**
	2.4nm,0.3s						
FLN	**La Foliniere**	**3.80**	**291**	*e*Sg	**Sg**	**07 21 55.6**	**-1.9**
	3.6nm,0.2s						

*CATAC **01** 07:26:45.6±0.6, 13.7N±4.×9.0W±., h24km±4km, M2.8/21, MLv2.8/21, Error ellipse: s-maj=8.7km s-min=5.3km az=20.2, confirmed*
*SNET **01** 07:26:46.1±1.0, 13.12N×89.51W, h35km, ML2.7*

**ISC 01 07:26:43.5±1.8, 13.00N±0.08×89.52W±

ISC 01 07:34:40.0±0.9, 18.57N±0.06×70.29W±0.04, h17km±9km, n10, σ1s09/18, 11C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANI	**BANI**	**0.19**	**199**	*ie*Pg	**Pg**	**07 34 44.9**	**+0.1**
BANI				↑*e*Sg	**Sg**	**07 34 48.3**	**+0.3**
BANI				IAML		07 34 50.2	
	comp=N,214nm,0.3s						
SDD	**Santo Domingo**	**0.38**	**107**	*e*S	**Sb**	**07 34 54.9**	**+1.1**
SDD	**Santo Domingo**	**0.38**	**107**	↑*e*Pg	**Pb**	**07 34 48.5**	**+0.2**
SDD				↑*e*Sg	**Sb**	**07 34 54.0**	**+0.2**
ABDR	**Alto Bandera**	**0.40**	**308**	↑*e*Pg	**Pg**	**07 34 48.3**	**0.0**
ABDR				↑*e*Sg	**Sg**	**07 34 53.4**	**-0.6**
SFDR	**San Fco. de Ma**	**0.71**	**4**	↑*e*Pg	**Pn**	**07 34 54.9**	**-0.4**
SFDR				↑*e*Sg	**Sb**	**07 35 04.9**	**+1.3**
SFDR				IAML		07 35 05.9	
	comp=N,60nm,0.2s						
SDDR	**Presa de Saban**	**1.03**	**294**	*i* P	**Pb**	**07 35 00.3**	**+1.0**
SDDR				*e*S	**Sg**	**07 35 13.0**	**-0.5**
SDDR				IAML		07 35 20.0	
	comp=Z,17nm,2.5s						
SDDR	**Presa de Saban**	**1.03**	**294**	↑*e*Pg	**Pb**	**07 35 00.5**	**+1.1**
SDDR				↑*e*Sg	**Sg**	**07 35 13.4**	**-0.1**
LONE3	**El Aguacate, B**	**1.10**	**272**	*i* P	**Pg**	**07 34 60.0**	**-1.5**
LONE3				*e*S	**Sg**	**07 35 14.7**	**-1.3**
LONE3				IAML		07 35 17.0	
	comp=Z,17nm,2.4s						
LODU1	**El Espartillar**	**1.14**	**259**	*i* P	**Pg**	**07 35 00.7**	**-1.4**
LODU1				IAML		07 35 17.5	
	comp=Z,24nm,1.2s						
HIDR	**Higuey Centro**	**1.50**	**89**	↑*e*Pg	**Pn**	**07 35 06.6**	**+0.6**
HIDR				↑*e*Sg	**Sg**	**07 35 26.2**	**-2.1**
HIDR				IAML		07 35 28.9	
	comp=N,19nm,0.3s						

RSNC 01 07:42:55.2±0.0, 7.N±1.×77.3W±.°, h149km±1km, M3.2, mB5.3, mb3.6, ML3.0, Mw(mB)4.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**193**	P	Pn	07 43 15.2	-0.6
BARC				S	Sn	07 43 30.6	-0.8
BRJC	**Barrancabermej**	**0.63**	**284**	P	Pn	07 43 16.9	-0.2
BRJC				S	Sn	07 43 34.0	+0.2
PAMC	**Pamplona, Colo**	**0.67**	**40**	P	Pn	07 43 18.0	0.0
PAMC				S	Sn	07 43 35.1	-0.2
RUSC	**La Rusia**	**0.92**	**177**	P	Pn	07 43 19.2	-0.6
RUSC				S	Sn	07 43 38.1	-0.5
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	Pn	07 43 21.8	-1.3
PTBC				S	Sn	07 43 43.0	-1.5
OCAC	**Ocana**	**1.42**	**352**	P	Pn	07 43 23.7	-0.4
OCAC				S	Sn	07 43 45.9	-0.3
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	Pn	07 43 27.6	-0.8
ZARC				S	Sn	07 43 53.5	-0.4
NORC	**Norcasia**	**2.13**	**234**	P	Pn	07 43 31.3	-0.6
NORC				S	Sn	07 43 59.0	-1.1
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	07 43 34.9	+0.7
ROSC				S	Sn	07 44 06.0	+1.8
HELC	**Santa Helena**	**2.46**	**255**	P	Pn	07 43 35.8	-0.4
HELC				S	Sn	07 44 07.9	+0.2
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P	Pn	07 43 36.6	+0.2
CVER				S	Sn	07 44 08.1	0.0
UREC	**San Jos de Ur**	**2.56**	**291**	P	Pn	07 43 35.7	-1.3
UREC				S	Sn	07 44 06.5	-2.7
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	07 43 39.5	-0.1
GUY2C				S	Sn	07 44 12.4	-1.4
VILC	**Villavicencio,**	**2.75**	**192**	P	Pn	07 43 38.5	-1.0
VILC				S	Sn	07 44 13.2	-0.6
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	07 43 42.7	-0.2
CBOC				S	Sn	07 44 19.5	-0.3
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	07 43 42.6	-0.8
DBBC				S	Sn	07 44 19.1	-1.6
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	07 43 45.8	+0.5
ARGC				S	Sn	07 44 24.4	+0.3
SDV	**Santo Domingo**	**3.21**	**50**	P	Pn	07 43 44.8	-0.7
SDV				S	Sn	07 44 22.4	-2.0
PRAC	**Prado**	**3.55**	**210**	P	Pn	07 43 49.0	-0.6
PRAC				S	Sn	07 44 30.8	-1.0
ORTC	**Ortega, Tolima**	**3.58**	**216**	P	Pn	07 43 49.6	-0.4
ORTC				S	Sn	07 44 32.9	+0.4
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	07 43 49.0	-1.1
APAC				S	Sn	07 44 31.5	-1.1
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	07 43 50.7	-0.5
PLMC				S	Sn	07 44 34.0	-0.6
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	07 43 49.4	-1.8
SJCC				S	Sn	07 44 30.3	-4.4
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	07 43 52.2	-0.2
URMC				S	Sn	07 44 35.7	-1.2
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	07 43 57.8	-1.3
YOTC				S	Sn	07 44 49.1	+0.4
GUVC	**San Jose del G**	**4.28**	**173**	P	Pn	07 43 58.1	-1.0
GUVC				S	Sn	07 44 47.0	-1.9
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	07 44 00.9	-0.5
SMRC				S	Sn	07 44 48.6	-4.3
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	07 44 02.4	-2.3
MACC				S	Sn	07 44 53.8	-5.0
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	07 44 05.9	-2.5
JAMC	**Jamundi, Valle**	**5.03**	**225**	P	Pn	07 44 09.8	+0.6
	6.0nm,0.6s						
JAMC				S	Sn	07 45 08.4	+1.5
	6.0nm,0.6s						
GARC	**Garzon, Huila**	**5.17**	**207**	P	Pn	07 44 09.7	-1.5
GARC				S	Sn	07 45 07.2	-3.2
BBAC	**Balboa, Cauca**	**6.29**	**221**	P	Pn	07 44 26.4	+0.4

*ASRS **01** 07:51:13.0±1.0, 53.65N×86.82E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 07:51:14.2±3.1, 53.78N×86.90E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=30.1km s-min=16.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**279**	I	I	07 57 10.0	
	baz=95,slow=311,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.25**	**279**	Pg	Pb	07 51 38.5	-0.1
	0.7nm,0.3s,baz=98,slow=14,SNR=9.4						
ZALV				Lg	Lg	07 51 54.0	
	1.0nm,0.3s,baz=98,slow=27,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.04**	**242**	Pn	Pn	07 52 45.9	+1.2
	baz=59,slow=14,SNR=2.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.59**	**205**	Pn	Pn	07 53 06.8	+0.7
	0.1nm,0.3s,baz=23,slow=14,SNR=5.7						
	0.1nm,0.3s						

IDC 01 08:02:06.7±1.6, 0.08S×125.34E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=177.7km s-min=23.2km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.62**	**156**	P	P	08 06 56.9	-1.8
	0.6nm,0.4s,baz=334,slow=11,SNR=6.7						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**24.88**	**161**	P	P	08 07 32.5	+1.1
	0.5nm,0.4s,baz=344,slow=11,SNR=16						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.93**	**327**	P	P	08 12 14.2	-0.5
	0.1nm,0.4s,baz=142,slow=7.3,SNR=2.3						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.22**	**329**	P	P	08 12 43.7	+0.3
	0.1nm,0.4s,baz=128,slow=6.2,SNR=1.8						
	0.1nm,0.4s						

*IDC **01** 08:23:48.2±1.1, 13.97N×146.79E, h0km, mb4.0/12, mbtmp4.0/12, MS3.3/1, Error ellipse: s-maj=27.1km s-min=20.8km az=134.0*

ISC 01 08:23:53.5±1.1, 13.9N±0.2×146.8E±0.1, h35km, n14, σ0s60/14, mb4.1/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.87**	**260**	Pn	**Pn**	**08 24 22.7**	**-0.3**
	860nm,0.3s,baz=108,slow=5.8,SNR=392						
GUMO				Sn	**Sn**	**08 24 45.8**	**+0.4**
	199nm,0.3s,baz=2.0,slow=20,SNR=28						
HNR	**Honiara**	**26.65**	**150**	LR	LR	08 38 28.4	
	comp=Z,59nm,19.2s,baz=214,slow=33						
KSRS	**Korea Array**	**28.81**	**328**	P	**P**	**08 29 47.9**	**-0.4**
	1.5nm,0.7s,baz=143,slow=10.0,SNR=7.3						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**35.81**	**200**	P	**P**	**08 30 49.7**	**-0.1**
	2.0nm,0.8s,baz=21,slow=9.3,SNR=12						
	2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.04**	**282**	P	**P**	**08 32 14.4**	**+0.2**
	0.6nm,0.3s,baz=87,slow=9.1,SNR=1.9						
	0.6nm,0.3s						
SONM	**Songino Array**	**47.52**	**324**	P	**P**	**08 32 26.2**	**+0.7**
	0.7nm,0.6s,baz=125,slow=7.6,SNR=2.5						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**62.42**	**324**	P	**P**	**08 34 12.3**	**-0.5**
	1.5nm,0.7s,baz=108,slow=6.9,SNR=5.4						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**62.52**	**316**	P	**P**	**08 34 13.8**	**+0.1**
	0.7nm,0.5s,baz=90,slow=7.8,SNR=7.5						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**65.55**	**319**	P	**P**	**08 34 33.6**	**+0.1**
	3.4nm,0.8s,baz=100,slow=6.7,SNR=22						
	3.4nm,0.8s						
ILAR	**Eielson Array**	**67.47**	**25**	P	**P**	**08 34 45.0**	**-0.5**
	0.3nm,0.6s,baz=260,slow=5.5,SNR=5.5						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**70.80**	**322**	P	**P**	**08 35 06.6**	**+0.2**
	1.7nm,0.5s,baz=99,slow=9.2,SNR=8.9						
	1.7nm,0.5s						
NVAR	**Mina Array Bea**	**85.27**	**52**	P	**P**	**08 36 28.0**	**+0.8**
	0.1nm,0.3s,baz=282,slow=8.3,SNR=2.7						
	0.1nm,0.3s						
ARCES	**ARCESS Array B**	**87.31**	**342**	P	**P**	**08 36 37.0**	**+0.6**
	2.7nm,0.9s,baz=99,slow=6.2,SNR=2.3						
	2.7nm,0.9s						
FINES	**FINESS Array B**	**91.61**	**336**	P	**P**	**08 36 55.5**	**-1.2**
	1.0nm,0.6s,baz=90,slow=3.8,SNR=4.6						
	1.0nm,0.6s						

*IDC **01** 08:30:32.0±3.3, 21.61S×169.66E, h0km, mb3.9/4, mbtmp3.9/5, ML3.0/1, Error ellipse: s-maj=185.4km s-min=25.9km az=159.0*

*NOU **01** 08:30:34.5, 21.39S×169.40E, h0km, MLv4.3/12, Southeast of Loyalty Islands*

ISC 01 08:30:35.5±1.3, 21.55S±0.1×169.6E±0.1, h21km, n18, σ0s68/19, mb3.9/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INH	**Isangel**	**1.94**	**352**	P	**Pn**	**08 31 05.9**	**-1.3**
PINNC	**Pines Island,**	**2.27**	**240**	P	**Pn**	**08 31 11.1**	**-0.6**
YATNC	**Mamie plateau,**	**2.56**	**256**	P	**Pn**	**08 31 14.6**	**-1.1**
YATNC	**Mamie plateau,**	**2.56**	**256**	S	**Sn**	**08 31 46.5**	**+0.3**
OUENC	**Ouen Island, N**	**2.70**	**249**	P	**Pn**	**08 31 18.3**	**+0.6**
DZM	**Mont Dzumac**	**2.97**	**258**	Pn	**Pn**	**08 31 21.8**	**+0.3**
	2.0nm,0.3s,baz=118,slow=10,SNR=39						
DZM				Sn	**Sn**	**08 31 55.7**	**-0.7**
	17nm,0.3s,baz=207,slow=23,SNR=13						
	15nm,0.6s						
DZM	**Mont Dzumac**	**2.97**	**258**	P	**Pn**	**08 31 21.7**	**+0.3**
DZM	**Mont Dzumac**	**2.97**	**258**	S	**Sn**	**08 31 55.9**	**-0.5**
ONTNC	**Ouen Toro**	**3.01**	**254**	P	**Pn**	**08 31 22.1**	**+0.2**
ONTNC	**Ouen Toro**	**3.01**	**254**	S	**Sn**	**08 31 56.9**	**-0.5**
DVP	**Devils Point**	**3.95**	**340**	P	**Pn**	**08 31 35.5**	**+0.6**
VLAKA	**Lakatoro**	**5.72**	**339**	P	**Pn**	**08 31 59.7**	**+0.5**
WRA	**Warramunga Arr**	**32.95**	**266**	P	**P**	**08 37 08.0**	**-0.8**
	0.5nm,0.8s,baz=101,slow=7.8,SNR=2.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**32.96**	**259**	P	**P**	**08 37 09.3**	**+0.4**
	1.0nm,0.8s,baz=85,slow=9.2,SNR=10						
	1.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.38**	**267**	P	**P**	**08 38 21.0**	**+0.6**
	4.1nm,0.8s,baz=116,slow=5.3,SNR=3.5						
	4.1nm,0.8s						
NVAR	**Mina Array Bea**	**90.05**	**48**	P	**P**	**08 43 34.3**	**+0.3**
	0.8nm,0.7s,baz=233,slow=7.6,SNR=6.2						
	0.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.76**	**353**	PKPbc	**PKPdf**	**08 50 11.7**	**-0.4**
	1.2nm,0.6s,baz=354,slow=2.6,SNR=8.1						
GERES	**GERESS Array B**	**146.59**	**331**	PKPbc	**PKPbc**	**08 50 15.6**	**+0.2**
	0.4nm,0.4s,baz=29,slow=3.0,SNR=4.1						

*IDC **01** 08:38:56.0±1.0, 7.24S×115.08E, h0km, mb3.9/7, mbtmp3.9/8, ML4.5/2, MS2.7/1, Error ellipse: s-maj=50.7km s-min=16.2km az=49.0*

*NEIC **01** 08:39:10.2±1.6, 8.35S±0.1×114.1E±0.1, h149km±5km, mb4.4/11, Error ellipse: s-maj=19.3km s-min=10.8km az=218.0*

*DJA **01** 08:39:11.0±0.1, 8.35S±0.1×114.1E±.°, h146km±2km, M4.5/28, mB5.2/6, mb4.5/21, MLv4.3/28, Mw(mB)4.5/6*

ISC 01 08:39:10.1±0.6, 8.35S±0.06×114.07E±0.05, h154km±5km, n77, σ1s23/82, mb3.9/12, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.14**	**146**		**Pn**	**08 39 30.9**	**+0.2**
JAGI				Sn	**Sn**	**08 39 45.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**0.14**	**146**	P	**Pn**	**08 39 31.2**	**+0.5**
JAGI	**Jajag, Banyuwa**	**0.14**	**146**	S	**Sn**	**08 39 45.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**0.14**	**146**	P	**Pn**	**08 39 31.1**	**+0.4**
JAGI				S	**Sn**	**08 39 45.6**	**-0.9**
ABJI	**Asem Bagus**	**0.57**	**16**	P	**Pn**	**08 39 33.1**	**+0.9**
ABJI				S	**Sn**	**08 39 50.1**	**+1.0**
GMJI	**Gumukmas**	**0.62**	**277**	P	**Pn**	**08 39 33.4**	**+0.9**
GMJI				S	**Sn**	**08 39 49.6**	**+0.1**
SRBI	**Singaraja**	**1.16**	**77**	P	**Pn**	**08 39 37.4**	**+0.8**
SRBI				S	**Sn**	**08 39 57.1**	**+0.3**
KMMI	**Kalianget**	**1.30**	**355**	P	**Pn**	**08 39 39.0**	**+1.1**
KMMI				S	**Sn**	**08 40 00.3**	**+1.1**
GRJI	**Gresik**	**2.13**	**312**	P	**Pn**	**08 39 48.5**	**+1.6**
TBJI	**Tambak Boyo**	**2.68**	**304**	P	**Pn**	**08 39 55.0**	**+1.4**
NGJI	**Ngawi**	**2.76**	**291**	P	**Pn**	**08 39 57.4**	**+2.8**
TWSI	**Taliwang, Sumb**	**2.81**	**98**	P	**Pn**	**08 39 54.9**	**-0.3**
BWJI	**Bawean**	**2.85**	**330**	P	**Pn**	**08 39 57.3**	**+1.6**
PCJI	**Pacitan**	**2.87**	**273**	P	**Pn**	**08 39 57.7**	**+1.8**
WOJI	**Wonogiri, Jawa**	**3.16**	**279**	P	**Pn**	**08 40 01.6**	**+2.0**
UGM	**Wanagama**	**3.54**	**277**		**Pn**	**08 40 05.0**	**+0.5**
UGM	**Wanagama**	**3.54**	**277**	P	**Pn**	**08 40 05.2**	**+0.7**
UGM	**Wanagama**	**3.54**	**277**	P	**Pn**	**08 40 05.9**	**+1.4**
PLAI	**Plampang**	**3.69**	**98**	P	**Pn**	**08 40 07.3**	**+0.8**
PLAI	**Plampang**	**3.69**	**98**	S	**Sn**	**08 40 51.1**	**+0.8**
PLAI	**Plampang**	**3.69**	**98**	P	**Pn**	**08 40 06.3**	**-0.2**
SMRI	**Semarang**	**3.82**	**290**	Pn	**Pn**	**08 40 08.9**	**+0.7**
SMRI	**Semarang**	**3.82**	**290**	P	**Pn**	**08 40 10.3**	**+2.1**
WBSI	**Waikabubak, Su**	**5.41**	**104**	P	**Pn**	**08 40 29.1**	**+0.1**
	1µm51nm,0.6s						
CMJI	**Cimerak**	**5.60**	**275**	P	**Pn**	**08 40 31.6**	**+0.1**
	0.5nm3µm79nm,0.5s						
BBJI	**Bungbulang**	**6.42**	**277**	P	**Pn**	**08 40 42.8**	**+0.3**
BBJI	**Bungbulang**	**6.42**	**277**	S	**Sn**	**08 41 55.3**	**+0.3**
LEM	**Lembang**	**6.57**	**283**	Pn	**Pn**	**08 40 46.9**	**+2.2**
	13nm,0.3s,baz=52,slow=11,SNR=14						
LEM				LR	LR	08 44 22.8	
	comp=Z,66nm,21.2s,baz=146,slow=44						
LEM	**Lembang**	**6.57**	**283**	P	**Pn**	**08 40 46.0**	**+1.4**
	123nm,0.7s						
BASI	**Baing, Sumba**	**6.69**	**107**	P	**Pn**	**08 40 46.4**	**+0.4**
	168nm,1.6s						
BKSI	**Bulukumba**	**6.72**	**64**	P	**Pn**	**08 40 45.9**	**-0.5**
	0.1nm45nm,1.1s						
BSSI	**Bau Bau, Buton**	**6.74**	**71**	P	**Pn**	**08 40 47.5**	**+0.8**
	0.3nm68nm,1.4s						
CNJI	**Cibinong**	**6.96**	**278**	P	**Pn**	**08 40 51.0**	**+1.4**
	0.3nm2µm48nm,1.1s						
BNSI	**Bone**	**7.17**	**57**	P	**Pn**	**08 40 53.9**	**+1.5**
	0.1nm30nm,1.0s						
DBJI	**Dramaga**	**7.48**	**283**	P	**Pn**	**08 40 58.4**	**+1.9**
	95nm,0.8s						
EDFI	**Ende, Flores**	**7.55**	**94**	P	**Pn**	**08 40 58.0**	**+0.4**
	920nm0.2nm27nm,0.4s						
TTSI	**Tana Toraja**	**7.78**	**48**	P	**Pn**	**08 41 03.1**	**+2.6**
	0.1nm16nm,0.8s						
CGJI	**Cibinong**	**8.48**	**281**	P	**Pn**	**08 41 10.9**	**+0.9**
XMI	**Christmas Isla**	**8.53**	**255**	P	**Pn**	**08 41 10.9**	**+0.3**
STKI	**Sintang**	**8.75**	**343**	P	**Pn**	**08 41 15.9**	**+2.4**
KASI	**Kota Agung**	**9.91**	**286**	P	**Pn**	**08 41 30.1**	**+1.2**
	28nm,1.3s						
SBUM	**Sibu**	**10.89**	**350**		**Pn**	**08 41 41.3**	**-0.5**
MNAI	**Manna**	**11.73**	**289**	Pn	**Pn**	**08 41 52.1**	**-0.8**
MNAI	**Manna**	**11.73**	**289**	P	**Pn**	**08 41 52.8**	**-0.1**
MNAI	**Manna**	**11.73**	**289**	S	**Sn**	**08 44 02.9**	**+0.1**
MNAI	**Manna**	**11.73**	**289**	P	**Pn**	**08 41 52.6**	**-0.3**
	218nm,1.2s						
MBWA	**Marble Bar**	**13.86**	**157**		**Pn**	**08 42 18.9**	**-1.1**
PSA00	**Pilbara Seismi**	**14.28**	**158**	Pn	**Pn**	**08 42 24.7**	**-0.7**
PSA00	**Pilbara Seismi**	**14.28**	**158**	Pn	**Pn**	**08 42 24.6**	**-0.7**
PSA00	**Pilbara Seismi**	**14.28**	**158**	P	**P**	**08 42 28.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**14.85**	**132**	Pn	**Pn**	**08 42 29.7**	**-2.8**
	0.9nm,0.3s,baz=283,slow=6.9,SNR=15						
FITZ				Sn	Sn	08 45 05.0	-13
	1.5nm,0.3s,baz=199,slow=22,SNR=11						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.85**	**132**	P	**P**	**08 42 34.8**	**+0.4**
KNRA	**Kununurra**	**16.10**	**118**	P	**Pn**	**08 42 48.4**	**+0.4**
KNRA				IAmb	IAmb	08 42 49.3	
	comp=Z,13nm,0.8s						
MTN	**Manton Dam**	**17.35**	**106**	P	**P**	**08 43 01.9**	**-0.2**
MTN				IAmb	IAmb	08 43 07.0	
	comp=Z,18nm,0.4s						
MEEK	**Meekatharra**	**18.69**	**167**	P	**Pn**	**08 43 19.9**	**+1.0**
FAKI	**Fak Fak**	**18.87**	**74**	P	**P**	**08 43 19.2**	**+0.4**
FAKI	**Fak Fak**	**18.87**	**74**	P	**P**	**08 43 19.0**	**+0.2**
	comp=Z,43nm,1.2s						
MORW	**Morawa**	**20.69**	**175**	P	Pn	08 43 41.6	-0.9
WB0	**Warramunga Arr**	**22.71**	**122**	P	**P**	**08 43 58.8**	**-0.2**
WB0				IAmb	IAmb	08 44 40.2	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**22.75**	**123**	P	**P**	**08 43 58.2**	**-1.2**
WRA	**Warramunga Arr**	**22.75**	**123**	P	**P**	**08 43 59.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=300,slow=11,SNR=17						
	comp=Z,1.5nm,0.5s						
KLBR	**Kellerberrin**	**23.38**	**172**	P	**P**	**08 44 08.2**	**+3.2**
AS31	**Alice Springs**	**24.35**	**131**	P	**P**	**08 44 14.4**	**+0.4**
ASAR	**Alice Springs**	**24.35**	**131**	P	**P**	**08 44 14.4**	**+0.4**
ASAR	**Alice Springs**	**24.35**	**131**	P	**P**	**08 44 16.0**	**+2.1**
	comp=Z,1.0nm,0.5s,baz=305,slow=8.7,SNR=16						
	comp=Z,1.0nm,0.5s						
FORT	**Forrest**	**25.86**	**152**	P	**P**	**08 44 29.1**	**+1.6**
FORT				IAmb	IAmb	08 45 08.9	
	comp=Z,6.0nm,0.9s						
COEN	**Coen**	**29.08**	**104**	P	**P**	**08 44 55.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.54**	**331**	P	**P**	**08 45 08.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=157,slow=8.6,SNR=1.8						
	comp=Z,0.8nm,0.3s						
STKA	**Stephens Creek**	**34.67**	**136**	P	**P**	**08 45 45.9**	**+0.8**
STKA	**Stephens Creek**	**34.67**	**136**	P	**P**	**08 45 47.1**	**+2.0**
	comp=Z,1.2nm,0.4s,baz=320,slow=8.1,SNR=7.0						
	comp=Z,1.2nm,0.4s						
JMN	**Monobe**	**45.88**	**23**	P	**P**	**08 47 16.2**	**-1.1**
JMN				IAmb	IAmb	08 47 52.9	
	comp=Z,15nm,1.4s						
JMM	**Marumori**	**52.31**	**27**	P	**P**	**08 48 06.2**	**+0.3**
JMM				IAmb	IAmb	08 48 28.3	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**56.35**	**354**	P	**P**	**08 48 32.8**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=176,slow=8.1,SNR=2.5						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**61.76**	**336**	P	**P**	**08 49 12.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=145,slow=7.2,SNR=8.3						
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**66.80**	**342**	P	**P**	**08 49 43.4**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=142,slow=4.9,SNR=2.5						
	comp=Z,0.6nm,0.3s						
AB31	**Akbulak array**	**74.28**	**327**	P	**P**	**08 50 29.5**	**-0.8**
AB31				IAmb	IAmb	08 50 38.0	
	comp=Z,1.8nm,1.1s						
ABKAR	**Akbulak array**	**74.28**	**327**	P	**P**	**08 50 29.7**	**-0.7**

*NEIC **01** 08:39:23.4±1.4, 25.85N±0.05×128.51E±0.06, h10km±1km, mb4.2/10, Error ellipse: s-maj=11.6km s-min=6.0km az=49.0*

*NIED **01** 08:39:24.9, 25.87N×128.54E, h46km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr4.38; Mθθ-1.96; Mϕϕ-2.41; Mrθ0.37; Mθϕ-2.82; Mrϕ0.08; Fault plane solution: M0 4.71000×1015 NP1: ϕs219.00000°, δ43.00000°, λ85.00000°. NP2:ϕs46.00000°, δ47.00000°, λ95.00000°.*

*JMA **01** 08:39:24.9±0.3, 26.N±1.×129.E±.°, h46km, MV3.6/18, NEAR OKINAWAJIMA ISLAND*

*IDC **01** 08:39:25.4±1.0, 25.51N×127.36E, h0km, mb4.0/12, mbtmp4.0/12, MS3.7/22, Error ellipse: s-maj=44.8km s-min=18.5km az=65.0*

ISC 01 08:39:21.9±2.0, 25.83N±0.05×128.50E±0.04, h2km±12km, n71, σ1s09/60, mb4.1/18, MS3.8/19, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**0.71**	**296**	P	**Pn**	**08 39 39.2**	**+0.2**
JJT3				*e*S	**Sn**	**08 39 49.3**	**-1.2**
JNTH	**Nagotoyohara**	**0.81**	**328**	P	**Pn**	**08 39 39.4**	**-0.9**
JOW	**Kunigami**	**

KURK					IAmb	IAmb	08 47 53.2	
	comp=Z,4.0nm,0.8s							
KURBB	**Kurchatov Arra**	**45.31**	**317**	P		**P**	**08 47 40.3**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=101,slow=7.9,SNR=8.7							
	comp=Z,0.8nm,0.6s							
WRA	**Warramunga Arr**	**45.85**	**172**	P		**P**	**08 47 47.4**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=353,slow=8.4,SNR=7.9							
	comp=Z,1.8nm,0.8s							
AAK	**Ala-Archa**	**46.90**	**305**	LR		LR	09 09 58.3	
	comp=Z,67nm,18.0s,baz=116,slow=40							
PALK	**Pallekele**	**49.07**	**257**	LR		LR	09 11 40.1	
	comp=Z,65nm,18.6s,baz=77,slow=40							
AS31	**Alice Springs**	**49.48**	**173**	P		**P**	**08 48 13.3**	**-0.6**
ASAR	**Alice Springs**	**49.49**	**173**	P		**P**	**08 48 14.3**	**+0.4**
ASAR	**Alice Springs**	**49.49**	**173**	P		**P**	**08 48 16.4**	**+2.5**
	comp=Z,1.0nm,0.7s,baz=6.0,slow=11,SNR=5.8							
	comp=Z,1.0nm,0.7s							
KK31	**Karatay Array**	**49.84**	**306**	P		**P**	**08 48 16.7**	**+0.3**
KKAR	**Karatay Array**	**49.84**	**306**	P		**P**	**08 48 16.6**	**+0.1**
BVAR	**Borovoye Array**	**50.73**	**319**	P		**P**	**08 48 23.9**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=61,slow=16,SNR=5.3							
BVAR					LR	LR	09 11 11.1	
	comp=Z,95nm,18.6s,baz=90,slow=38							
	comp=Z,1.5nm,0.5s							
KBL	**Kabul**	**51.49**	**295**	P		**P**	**08 48 29.0**	**-0.3**
KBL					IAmb	IAmb	08 48 39.7	
	comp=Z,5.0nm,0.8s							
AB31	**Akbulak array**	**57.09**	**313**	P		**P**	**08 49 09.6**	**0.0**
AB31					IAmb	IAmb	08 49 11.9	
	comp=Z,1.9nm,0.7s							
ABKAR	**Akbulak array**	**57.09**	**313**	P		**P**	**08 49 09.8**	**+0.2**
ARTI	**Arti**	**57.95**	**322**	P		**P**	**08 49 15.4**	**-0.1**
ARTI	**Arti**	**57.95**	**322**	LR		LR	09 17 17.1	
	comp=Z,148nm,18.4s,baz=108,slow=40							
AKTO	**Aktyubinsk**	**58.28**	**315**	P		**P**	**08 49 19.3**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=87,slow=7.8,SNR=4.1							
	comp=Z,1.3nm,0.7s							
NWAO	**Narrogin (SRO)**	**59.41**	**191**	LR		LR	09 18 51.7	
	comp=Z,84nm,18.0s,baz=346,slow=40							
ILAR	**Eielson Array**	**64.67**	**28**	P		P	08 50 10.1	+9.2
	comp=Z,0.2nm,0.7s,baz=278,slow=6.8,SNR=4.8							
	comp=Z,0.2nm,0.7s							
INK	**Inuvik**	**69.16**	**23**	LR		LR	09 24 23.1	
	comp=Z,46nm,18.4s,baz=270,slow=39							
KBZ	**Khabaz**	**69.60**	**310**	P		**P**	**08 50 34.3**	**+1.8**
	comp=Z,3.6nm,0.8s,baz=46,slow=7.0,SNR=5.8							
	comp=Z,3.6nm,0.8s							
ARCES	**ARCESS Array B**	**70.46**	**339**	LR		LR	09 28 41.8	
	comp=Z,66nm,18.7s,baz=34,slow=42							
AKASG	**Malin Array Be**	**75.99**	**320**	P		**P**	**08 51 10.8**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=61,slow=6.3,SNR=6.0							
	comp=Z,1.6nm,0.5s							
BRTR	**Keskin Array B**	**77.47**	**308**	P		**P**	**08 51 20.2**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=104,slow=5.2,SNR=8.0							
	comp=Z,1.4nm,0.8s							
HFS	**Hagfors**	**79.28**	**332**	LR		LR	09 30 37.0	
	comp=Z,112nm,18.4s,baz=61,slow=39							
NB2	**NORSAR Subarra**	**79.77**	**334**	P		**P**	**08 51 31.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=52,slow=5.6							
NOA	**NORSAR Array B**	**79.77**	**334**	P		**P**	**08 51 31.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=52,slow=5.6,SNR=4.1							
VRAC	**Vranov**		**83.82**	**322**	LR		LR	09 32 49.2
	comp=Z,104nm,18.1s,baz=64,slow=38							
GERES	**GERESS Array B**	**85.66**	**323**	LR		LR	09 33 47.2	
	comp=Z,115nm,18.5s,baz=38,slow=38							
DAVOX	**Davos/Dischmat**	**88.96**	**323**	LR		LR	09 36 13.0	
	comp=Z,98nm,18.9s,baz=84,slow=38							
FRB	**Frobisher Bay**	**89.71**	**7**	LR		LR	09 34 33.9	
	comp=Z,42nm,21.0s,baz=338,slow=37							

*NNC **01** 08:44:11.8±3.9, 55.°40N×86.°29E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=70.3km s-min=30.6km az=130.0, Suspected Mining explosion.*
*ASRS **01** 08:44:17.0±1.0, 54.°43N×86.°85E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 08:44:19.2±3.3, 54.°47N×86.°86E, h0km, mbtmp3.3/2, ML2.9/2, 5C-1D, Error ellipse: s-maj=30.8km s-min=18.9km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**247**	I		I	08 51 00.0	
	0.1nm,1.0s,baz=68,slow=312,SNR=18							
ZAA0	**Zalesovo Array**	**1.31**	**247**	⇑Pn		Pg	08 44 42.3	-2.0
	0.8nm,0.5s							
ZAA0				⇑Sn		Sn	08 45 06.0	+3.1
	2.6nm,0.7s							
ZALV	**Zalesovo Beam**	**1.31**	**247**	Pg		Pg	08 44 42.7	-1.6
	2.4nm,0.3s,baz=66,slow=16,SNR=22							
ZALV				Lg		Lg	08 45 01.4	
	2.2nm,0.3s,baz=61,slow=25,SNR=7.1							
KURK	**Kurchatov**	**6.27**	**237**	⇑Pn		Pn	08 45 51.3	-1.6
	4.1nm,0.8s							
KURK				⇑Sn		Sn	08 47 05.6	+0.4
	1.8nm,0.7s							
KURK				⇑Lg		Lg	08 47 41.9	
	9.2nm,1.3s							
KURBB	**Kurchatov Arra**	**6.38**	**236**	Pn		Pn	08 45 55.3	+1.0
	0.2nm,0.3s,baz=54,slow=14,SNR=26							
	3.2nm,0.4s							
MK31	**Makanchi Array**	**8.22**	**203**	⇓Pn		Pn	08 46 22.0	+2.4
	0.5nm,0.5s,baz=28,slow=12,SNR=6.3							
MKAR	**Makanchi Array**	**8.22**	**203**	Pn		Pn	08 46 20.5	+0.9
	0.2nm,0.3s,baz=22,slow=12,SNR=6.4							
	0.3nm,0.4s							

*IDC **01** 08:50:27.0±1.0, 23.°26N×118.°54E, h0km, mb3.7/6, mbtmp3.8/8, ML3.5/2, MS3.2/6, Error ellipse: s-maj=33.2km s-min=19.6km az=66.0*
*BJI **01** 08:50:28.6, 23.°39N×118.°59E, h8km, mb4.3/2, ML4.7/5, Ms4.3/3, Ms7 4.3/3*
*TAP **01** 08:50:29.3, 23.°35N×118.°58E, h29km, ML4.7, D*
*NEIC **01** 08:50:31.1±1.4, 23.°63N±0.°03×118.°75E±0.°06, h10km±1km, mb4.2/6, Error ellipse: s-maj=10.2km s-min=3.4km az=70.0*

ISC 01 08:50:29.1±1.1, 23.°40N±0.°03×118.°59E±0.°02, h9km±8km, n187, σ1§16/293, mb3.8/10, MS3.0/4, 13C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VCHM	**Qimei**	**0.80**	**104**	⇓*i*	P	**Pg**	**08 50 44.3**	**-0.1**
VCHM				*i*	S	**Sg**	**08 50 55.1**	**+0.2**
PNG	**Penghu**	**0.91**	**79**	⇑*i*	P	**Pg**	**08 50 46.4**	**-0.2**
PNG					eS	**Sg**	**08 50 58.6**	**+0.3**
PHUB	**P'eng-hu**	**0.91**	**83**	⇑*i*	P	**Pg**	**08 50 46.6**	**-0.1**
PHUB				*i*	S	**Sg**	**08 50 58.8**	**+0.3**
ZPLA	**Ao Xicun**	**0.93**	**305**	⇓*i*	P	**Pg**	**08 50 47.0**	**0.0**
ZPLA				*i*	S	**Sg**	**08 50 59.8**	**+0.7**
WDGT	**Dungji**	**1.00**	**98**	⇓*i*	P	**Pg**	**08 50 48.0**	**-0.2**
WDGT					S	**Sg**	**08 51 01.2**	**0.0**
KNM	**Kinmen**	**1.02**	**352**	⇓*i*	P	**Pg**	**08 50 49.1**	**+0.4**
KNM					eS	**Sb**	**08 51 03.2**	**+0.8**
KNMB	**Chin-men Tao**	**1.07**	**350**			**Pb**	**08 50 49.0**	**-0.7**
KNMB	**Chin-men Tao**	**1.07**	**350**	⇓*i*	P	**Pb**	**08 50 49.5**	**-0.3**
KNMB				*i*	S	**Sg**	**08 51 04.3**	**+0.6**
DSXP	**Dongshan**	**1.11**	**286**	⇓*i*	P	**Pb**	**08 50 49.4**	**-1.0**
DSXP				*i*	S	**Sg**	**08 51 04.0**	**-0.7**
TSCK	**Chigu Township**	**1.40**	**100**	*e*	P	**Pn**	**08 50 54.9**	**+0.1**
TSCK					eS	**Sn**	**08 51 12.1**	**-1.3**
CHN8	**Yiju**	**1.50**	**92**	*e*	P	**Pn**	**08 50 54.9**	**-1.2**
SCLT	**Jiali**	**1.50**	**98**	*e*	P	**Pn**	**08 50 55.6**	**-0.4**
SCLT					eS	**Sb**	**08 51 16.1**	**+0.1**
WSL	**Shuilin Townsh**	**1.51**	**85**	*e*	P	**Pn**	**08 50 56.1**	**-0.2**
WSL					eS	**Sb**	**08 51 16.5**	**-0.1**
WSF	**Szhu**	**1.52**	**81**	*e*	P	**Pn**	**08 50 55.1**	**-1.3**
WSF					eS	**Sn**	**08 51 16.5**	**+0.3**
QZH	**Quanzhou**	**1.54**	**0**	Pn		**Pn**	**08 50 56.0**	**-0.6**
QZH				Pg		**Pb**	**08 50 57.8**	**+0.1**
QZH				Sg		**Sb**	**08 51 18.1**	**+0.9**
QZH				smax		smax		
	comp=N,5μm,0.7s							
QZH				smax		smax		
	comp=E,17μm,0.7s							
TAI1	**Yung-k'ang**	**1.55**	**103**	*e*	P	**Pb**	**08 50 58.1**	**+0.2**
ICHU	**Yijhu**	**1.56**	**91**	*i*	P	**Pn**	**08 50 57.0**	**+0.1**
ICHU					eS	**Sn**	**08 51 17.1**	**-0.1**
SSHA	**Shanhua**	**1.59**	**99**	*e*	P	**Pb**	**08 50 58.2**	**-0.3**
SSHA					eS	**Sn**	**08 51 18.1**	**+0.2**
AXDP	**Jialang**	**1.59**	**339**	*e*	P	**Pn**	**08 50 57.3**	**-0.1**
AXDP					eS	**Sn**	**08 51 17.4**	**-0.7**
WTCT	**Ta-ch'eng**	**1.62**	**73**	*e*	P	**Pn**	**08 50 56.7**	**-1.1**
WTCT					eS	**Sn**	**08 51 18.8**	**0.0**
SHHT	**Tainan City**	**1.67**	**103**	*e*	P	**Pn**	**08 50 58.3**	**-0.1**
SHHT					eS	**Sb**	**08 51 20.7**	**-0.2**
CHN3	**Shinhua**	**1.67**	**101**	*e*	P	**Pn**	**08 50 56.8**	**-1.6**
CHN3					eS	**Sb**	**08 51 20.8**	**-0.3**
WTK	**Tuku**	**1.68**	**80**	P		**Pn**	**08 50 57.9**	**-0.6**
WTK					eS	**Sn**	**08 51 20.0**	**-0.2**
CHY	**Chiayi**	**1.69**	**86**	*e*	P	**Pn**	**08 50 58.8**	**+0.1**
CHY					eS	**Sn**	**08 51 20.4**	**-0.1**
PTMZ	**Houxiangcun**	**1.70**	**17**	P		**Pn**	**08 50 58.1**	**-0.8**
PTMZ					eS	**Sn**	**08 51 21.5**	**+0.7**
SNST	**Tainan City**	**1.77**	**95**	*e*	P	**Pn**	**08 50 59.5**	**-0.3**
SNST					eS	**Sn**	**08 51 22.6**	**+0.3**
VWUC	**VWUC**	**1.77**	**26**	P		**Pn**	**08 50 59.3**	**-0.5**
VWUC					eS	**Sn**	**08 51 22.5**	**+0.1**
TWM1	**Shoushan**	**1.79**	**108**	*e*	P	**Pb**	**08 51 01.4**	**-0.5**
CHN1	**Nanshi**	**1.80**	**96**	P		**Pn**	**08 51 00.0**	**-0.2**
CHN1					eS	**Sn**	**08 51 22.7**	**-0.5**
WDLH	**Douliu**	**1.81**	**81**	*i*	P	**Pn**	**08 51 00.3**	**-0.1**
WDLH					S	**Sn**	**08 51 24.1**	**+0.5**
SCST	**Cishan**	**1.83**	**106**	*e*	P	**Pn**	**08 51 00.0**	**-0.6**
WGK	**Gukeng**	**1.84**	**81**	P		**Pn**	**08 51 00.8**	**+0.1**
WGK					eS	**Sb**	**08 51 25.8**	**-0.1**
CHN4	**Tsaushan**	**1.84**	**91**	⇑*i*	P	**Pn**	**08 51 00.7**	**-0.1**
CHN4					eS	**Sn**	**08 51 23.2**	**-1.1**
WCKO	**Fanlu**	**1.85**	**88**	*e*	P	**Pn**	**08 51 00.8**	**-0.3**
WCKO					eS	**Sn**	**08 51 23.5**	**-1.0**
WTP	**Ta-pu**	**1.87**	**94**	*e*	P	**Pn**	**08 51 01.0**	**-0.3**
WTP					eS	**Sn**	**08 51 24.3**	**-0.8**
TPUB	**Ta-pu**	**1.88**	**93**			**Pn**	**08 51 00.3**	**-1.0**
TPUB	**Ta-pu**	**1.88**	**93**	P		**Pn**	**08 51 01.3**	**-0.1**
TPUB	**Ta-pu**	**1.88**	**93**	P		**Pn**	**08 51 01.1**	**+0.1**
TPUB					eS	**Sn**	**08 51 23.7**	**-1.6**
WCHH	**Zhanghua**	**1.93**	**69**	*e*	P	**Pn**	**08 51 02.1**	**+0.1**
WCHH					eS	**Sn**	**08 51 26.1**	**-0.2**
CHN5	**Tsauling**	**1.93**	**84**	⇑*i*	P	**Pn**	**08 51 01.7**	**-0.4**
CHN5				*i*	S	**Sn**	**08 51 26.7**	**+0.1**
TWP	**Hsiaoliuchiu**	**1.95**	**122**	*e*	P	**Pn**	**08 51 03.2**	**+1.0**
TWP					eS	**Sn**	**08 51 27.5**	**+0.7**
WLCH	**Liuqiu**	**1.96**	**122**	*e*	P	**Pn**	**08 51 02.4**	**0.0**
WLCH					eS	**Sn**	**08 51 26.0**	**-1.0**
WNT	**Mingjian**	**1.98**	**76**	P		**Pn**	**08 51 02.7**	**0.0**
WNT					eS	**Sn**	**08 51 26.8**	**-0.9**
SSD	**Sandimen**	**1.99**	**109**	P		**Pn**	**08 51 02.8**	**-0.2**
WJS	**Zhushan**	**2.01**	**78**	*e*	P	**Pn**	**08 51 03.0**	**-0.1**
WJS					eS	**Sn**	**08 51 29.1**	**+0.8**
TSMG	**Majia**	**2.02**	**110**	*e*	P	**Pn**	**08 51 03.3**	**+0.1**
TSMG					eS	**Sn**	**08 51 27.9**	**-0.7**
STYH	**Taoyuan**	**2.03**	**96**	*e*	P	**Pn**	**08 51 03.3**	**+0.0**
STYH					eS	**Sn**	**08 51 27.9**	**-0.9**
ALS	**Alishan**	**2.04**	**86**	P		**Pn**	**08 51 03.8**	**-0.1**
ALS					eS	**Sn**	**08 51 29.4**	**-0.1**
MASBT	**Mashibuluo**	**2.04**	**112**	P		**Pn**	**08 51 03.0**	**-0.6**
TCU	**Taichung**	**2.06**	**68**	*e*	P	**Pn**	**08 51 03.7**	**0.0**
TCU					eS	**Sn**	**08 51 29.2**	**-0.2**
WHYT	**Xinyi Township**	**2.10**	**82**	*i*	P	**Pn**	**08 51 04.2**	**-0.2**
WHYT					eS	**Sn**	**08 51 30.8**	**+0.1**
WDJ	**Dajia District**	**2.10**	**63**	*e*	P	**Pn**	**08 51 04.3**	**-0.1**
SCZT	**Fangliau**	**2.14**	**118**	P		**Pn**	**08 51 04.4**	**-0.5**
SCZT					eS	**Sn**	**08 51 29.7**	**-1.8**
TYC	**Yuchr**	**2.14**	**76**	*e*	P	**Pn**	**08 51 04.8**	**-0.1**
TYC					*i* S	**Sn**	**08 51 32.3**	**+0.7**
SMLT	**Sun Moon Lake**	**2.18**	**77**	⇓*i*	P	**Pn**	**08 51 05.5**	**0.0**
SMLT					eS	**Sn**	**08 51 32.9**	**+0.3**
SSLB	**Suanglung**	**2.21**	**79**			**Pn**	**08 51 05.1**	**-0.8**
SSLB	**Suanglung**	**2.21**	**79**	P		**Pn**	**08 51 08.1**	**-0.1**
SSLB	**Suanglung**	**2.21**	**79**	S		**Sn**	**08 51 33.3**	**-0.1**
SSLB	**Suanglung**	**2.21**	**79**	⇑*i*	P	**Pn**	**08 51 05.5**	**-0.4**
SSLB					S	**Sn**	**08 51 32.9**	**-0.4**
WCS	**Beigang Elemen**	**2.23**	**72**	*e*	P	**Pn**	**08 51 05.7**	**-0.5**
WCS					eS	**Sn**	**08 51 33.6**	**-0.2**
NSY	**Sanyi**	**2.23**	**63**	*e*	P	**Pn**	**08 51 06.8**	**+0.5**
ELDTW	**Lidau**	**2.25**	**95**	*e*	P	**Pn**	**08 51 06.7**	**+0.3**
NMLH	**Miaoli**	**2.31**	**60**	*e*	P	**Pn**	**08 51 07.2**	**-0.1**
NMLH					eS	**Sn**	**08 51 34.5**	**-1.4**
EAST	**Anshuo**	**2.32**	**115**	⇓*i*	P	**Pn**	**08 51 06.9**	**-0.5**
EAST					S	**Sn**	**08 51 35.5**	**-0.6**
ECL	**Taimali**	**2.32**	**110**	*e*	P	**Pn**	**08 51 07.4**	**0.0**
ECL					eS	**Sn**	**08 51 32.9**	**-3.2**
WHP	**Taichung City**	**2.33**	**68**	P		**Pn**	**08 51 07.3**	**-0.4**
TWG	**Pinlang**	**2.36**	**104**			**Pn**	**08 51 08.2**	**+0.2**
TWG	**Pinlang**	**2.36**	**104**	*e*	P	**Pn**	**08 51 08.3**	**+0.3**
TWG					eS	**Sn**	**08 51 35.4**	**-1.7**
TWGBT	**Beinan**	**2.37**	**104**	P		**Pn**	**08 51 07.7**	**+0.6**
TWGBT	**Beinan**	**2.37**	**104**	*e*	P	**Pn**	**08 51 06.6**	**-1.4**
TWGBT					eS	**Sn**	**08 51 35.5**	**-1.7**
TAW	**Tawu**	**2.37**	**116**	*e*	P	**Pn**	**08 51 07.8**	**-0.3**
TAW					eS	**Sn**	**08 51 34.9**	**-2.4**
VWDT	**VWDT**	**2.37**	**81**	*e*	P	**Pn**	**08 51 08.3**	**+0.2**
VWDT					eS	**Sn**	**08 51 37.4**	**+0.1**
TAWH	**Dawu Township**	**2.37**	**116**	P		**Pn**	**08 51 07.4**	**-0.7**
TAWH					eS	**Sn**	**08 51 34.8**	**-2.5**
LONT	**Longtian**	**2.39**	**101**	*e*	P	**Pn**	**08 51 08.4**	**0.0**
LONT					eS	**Sn**	**08 51 36.1**	**-1.8**
WUSB	**Renai**	**2.40**	**75**	⇑*i*	P	**Pn**	**08 51 08.4**	**-0.1**
WUSB					eS	**Sn**	**08 51 36.8**	**-1.3**
EHD	**Haiduan**	**2.42**	**95**	*e*	P	**Pn**	**08 51 09.3**	**+0.4**
EHD					eS	**Sn**	**08 51 38.0**	**-0.6**
HEN	**Hengchun**	**2.42**	**125**	P		**Pn**	**08 51 08.5**	**-0.3**
HEN					eS	**Sn**	**08 51 38.0**	**-0.6**
OWD	**Renai**	**2.44**	**76**	*e*	P	**Pn**	**08 51 09.3**	**+0.1**
OWD					eS	**Sn**	**08 51 38.1**	**-1.1**
ECS	**Chishang**	**2.44**	**97**	*e*	P	**Pn**	**08 51 09.0**	**-0.1**
ECS					eS	**Sn**	**08 51 39.3**	**+0.3**
SMST	**Manzhou Townsh**	**2.49**	**123**	*e*	P	**Pn**	**08 51 09.2**	**-0.5**
SMST					eS	**Sn**	**08 51 38.1**	**-2.1**
TWF1	**Yuli**	**2.49**	**91**	*e*	P	**Pn**	**08 51 10.1**	**+0.3**
TWF1					eS	**Sn**	**08 51 38.4**	**-1.9**
YULB	**Yu-li**	**2.49**	**90**			**Pn**	**08 51 09.7**	**-0.1**
YULB	**Yu-li**	**2.49**	**90**	P		**Pn**	**08 51 10.6**	**+0.8**
YULB	**Yu-li**	**2.49**	**90**	P		**Pn**	**08 51 10.3**	**+0.5**
YULB					eS	**Sn**	**08 51 37.3**	**-3.0**
FULB	**Fuli**	**2.50**	**94**	*e*	P	**Pn**	**08 51 11.2**	**+1.3**
FULB					eS	**Sn**	**08 51 40.2**	**-0.3**
TDCB	**Techi**	**2.50**	**70**	⇑*i*	P	**Pn**	**08 51 09.6**	**-0.5**
TDCB					eS	**Sn**	**08 51 39.1**	**-1.7**
TWK1	**Hengchun**	**2.51**	**125**	P		**Pn**	**08 51 09.5**	**-0.5**
TWK1					eS	**Sn**	**08 51 39.0**	**-1.7**
EHY	**Hungye**	**2.52**	**87**	*e*	P	**Pn**	**08 51 09.0**	**-0.3**
EHY					eS	**Sn**	**08 51 40.1**	**-0.6**
TWKBT	**Hengchun**	**2.52**	**125**	*e*	P	**Pn**	**08 51 09.8**	**-0.4**
TWKBT					eS	**Sn**	**08 51 37.9**	**-3.0**
TWT	**Tachien**	**2.52**	**70**	*e*	P	**Pn**	**08 51 09.8**	**-0.5**
TWT					eS	**Sn**	**08 51 39.0**	**-2.3**
EHYH	**Wanrong**	**2.54**	**87**	*e*	P	**Pn**	**08 51 11.0**	**+0.6**
EHYH					eS	**Sn**	**08 51 40.0**	**-1.4**
EDH	**Donghe**	**2.54**	**99**	*e*	P	**Pn**	**08 51 11.0**	**+0.6**
EDH					*i* S	**Sn**	**08 51 41.4**	**0.0**
LIOB	**Emei**	**2.54**	**60**	*e*	P	**Pn**	**08 51 10.2**	**-0.3**
LIOB					eS	**Sn**	**08 51 40.0**	**-1.6**
WHF	**Hehuan Shan**	**2.56**	**73**	*e*	P	**Pn**	**08 51 11.4**	**+0.3**
CHKT	**Chengkung**	**2.57**	**96**	*e*	P	**Pn**	**08 51 11.6**	**+0.7**
WARBT	**Fenglin Townsh**	**2.59**	**82**	*e*	P	**Pn**	**08 51 11.0**	**-0.2**
WARBT					eS	**Sn**	**08 51 40.4**	**-2.3**
CHKH	**Chenggong**	**2.59**	**94**	*e*	P	**Pn**	**08 51 11.6**	**+0.5**
CHKH					S	**Sn**	**08 51 43.7**	**+1.0**
SBCB	**Hsinchu**	**2.59**	**57**	*e*	P	**Pn**	**08 51 10.9**	**-0.3**
TSEB	**Hengchuen, Pin**	**2.61**	**124**	P		**Pn**	**08 51 10.7**	**-0.7**
TSEB					eS	**Sn**	**08 51 40.2**	**-3.0**
HGSD	**Ruisui**	**2.61**	**87**	*e*	P	**Pn**	**08 51 12.2**	**+0.8**
HGSD					eS	**Sn**	**08 51 43.2**	**+0.1**
NFF	**Wufeng Townshi**	**2.62**	**62**	P		**Pn**	**08 51 11.3**	**-0.3**
NFF					eS	**Sn**	**08 51 42.3**	**-1.2**
EGFH	**Guangfu**	**2.62**	**84**	*e*	P	**Pn**	**08 51 11.4**	**-0.1**
ESL	**Shilin**	**2.64**	**80**	*e*	P	**Pn**	**08 51 12.0**	**+0.1**
ESL					eS	**Sn**	**08 51 42.7**	**-1.3**
LXIB	**Xiulin Townshi**	**2.67**	**76**	⇑P		**Pn**	**08 51 12.2**	**0.0**
LXIB					eS	**Sn**	**08 51 44.0**	**-0.8**
MHZQ	**Yeshan**	**2.72**	**8**	*e*	P	**Pn**	**08 51 13.1**	**+0.2**
MHZQ					eS	**Sn**	**08 51 44.2**	**-1.6**
ETM	**Tongmen**	**2.72**	**78**	*e*	P	**Pn**	**08 51 13.6**	**+0.6**
KSHI	**Guanxi Townshi**	**2.73**	**59**	*e*	P	**Pn**	**08 51 13.3**	**+0.1**
LDUT	**Ludao**	**2.75**	**105**	*e*	P	**Pn**	**08 51 13.9**	**+0.6**
NNS	**Nan Shan**	**2.75**	**67**	*e*	P	**Pn**	**08 51 12.9**	**-0.5**
NNSB	**Datong**	**2.76**	**68**	P		**Pn**	**08 51 12.7**	**-0.8**
NNSB					eS	**Sn**	**08 51 45.4**	**-1.6**
SHUL	**Shoufeng**	**2.76**	**81**	*e*	P	**Pn**	**08 51 13.8**	**+0.4**
SHUL					eS	**Sn**	**08 51 47.0**	**+0.2**
ETLH	**Xiulin Townshi**	**2.77**	**73**	*e*	P	**Pn**	**08 51 13.4**	**-0.2**
ETLH					eS	**Sn**	**08 51 47.6**	**+0.3**
TEYL	**Yanliau Villag**	**2.80**	**80**	*e*	P	**Pn**	**08 51 14.1**	**+0.1**
HWA	**Hwalien**	**2.83**	**78**	*e*	P	**Pn**	**08 51 13.9**	**-0.4**
HWA					eS	**Sn**	**08 51 49.3**	**+0.8**
NSK	**Sanguang**	**2.83**	**63**	⇑*i*	P	**Pn**	**08 51 14.2**	**-0.4**
NSK					eS	**Sn**	**08 51 47.4**	**-1.4**
NCUH	**Zhongli**	**2.84**	**56**	*e*	P	**Pn**	**08 51 15.0**	**+0.4**
TWD	**Chiawan**	**2.84**	**76**	*e*	P	**Pn**	**08 51 14.1**	**-0.4**
TWD					eS	**Sn**	**08 51 49.3**	**+0.5**
YHNB	**Yeheng**	**2.85**	**63**			**Pn**	**08 51 13.8**	**-1.0**
YHNB	**Yeheng**	**2.85**	**63**	P		**Pn**	**08 51 14.3**	**-0.4**
YHNB	**Yeheng**	**2.85**	**63**	⇑P		**Pn**	**08 51 14.2**	**-0.6**
YHNB					eS	**Sn**	**08 51 47.8**	**-1.4**
NACB	**Ninganchiao**	**2.86**	**74**			**Pn**	**08 51 14.0**	**-0.9**
NACB	**Ninganchiao**	**2.86**	**74**	P		**Pn**	**08 51 14.8**	**-0.1**
NACB	**Ninganchiao**	**2.86**	**74**	*e*	P	**Pn**	**08 51 14.6**	**-0.2**
NACB					eS	**Sn**	**08 51 47.3**	**-2.1**
LATG	**Datong**	**2.92**	**67**	⇑P		**Pn**	**08 51 15.4**	**-0.4**
LATG					eS	**Sn**	**08 51 49.4**	**-1.6**
ENTT	**Nioudou**	**2.99**	**65**	⇑P		**Pn**	**08 51 16.5**	**-0.1**
ENTT					eS	**Sn**	**08 51 51.4**	**-1.3**
NWLT	**Wulai**	**3.00**	**62**	⇑P		**Pn**	**08 51 16.2**	**-0.5**
NWLT					eS	**Sn**	**08 51 50.8**	**-2.0**
MATB	**Ma-tsu**	**3.00**	**24**	*e*	P	**Pn**	**08 51 16.6**	**-0.2**
MATB					eS	**Sn**	**08 51 51.5**	**-1.4**
LAY	**Lan-yu**	**3.06**	**116**	*e*	P	**Pn**	**08 51 16.3**	**-1.2**
LAY					eS	**Sn**	**08 51 51.7**	**-2.5**
FUSB	**Fushanzhiwuyua**	**3.06**	**63**	P		**Pn**	**08 51 17.4**	**-0.3**
FUSB					*i* S	**Sn**	**08 51 53.4**	**-1.0**
ENA	**Nanau**	**3.06**	**70**	*e*	P	**Pn**	**08 51 18.1**	**+0.5**
ENA					eS	**Sn**	**08 51 52.4**	**-2.0**
TATO	**Taipei**	**3.08**	**59**			**Pn**	**08 51 17.0**	**-0.8**
TWS1	**Kuangyinshan**	**3.09**	**56**	*e*	P	**Pn**	**08 51 17.6**	**-0.3**
EWUT	**Wuta**	**3.10**	**70**	*e*	P	**Pn**	**08 51 18.6**	**+0.5**
SXFK	**Yanhouchang**	**3.10**	**344**	*e*	P	**Pn**	**08 51 17.8**	**-0.4**
TWE	**Neicheng**	**3.11**	**64**	*e*	P	**Pn**	**08 51 18.7**	**+0.5**
NDS	**Dongshan**	**3.12**	**66**	*e*	P	**Pn**	**08 51 17.5**	**-0.8**
NTST	**Danshui**	**3.15**	**56**	*e*	P	**Pn**	**08 51 19.1**	**+0.3**
TWA	**Mucha

σ1ᵍ**05**/59, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.39**	**185**	P	**Pg**	**09 02 22.2**	**+0.3**
PAJU				S	**Sg**	**09 02 27.4**	**+0.5**
PAJU	**Pajala**	**0.39**	**185**	PG	**Pg**	**09 02 22.2**	**+0.3**
	baz=11						
PAJU				SG	**Sg**	**09 02 27.8**	**+0.8**
LANU	**Lannavaara**	**0.79**	**325**	P	**Pg**	**09 02 29.5**	**0.0**
LANU	**Lannavaara**	**0.79**	**325**	PG	**Pg**	**09 02 29.0**	**-0.5**
LANU				SB	**Sb**	**09 02 42.7**	**+0.5**
ERTU	**Ertsjaerv**	**0.95**	**205**	P	**Pg**	**09 02 32.4**	**-0.2**
ERTU	**Ertsjaerv**	**0.95**	**205**	PG	**Pg**	**09 02 32.5**	**-0.1**
ERTU				SB	**Sb**	**09 02 46.9**	**+0.1**
HEF	**Hetta**	**1.02**	**10**	PG	**Pg**	**09 02 33.0**	**-0.9**
	baz=191						
HEF				MSG		09 02 45.2	
	comp=Z,5.8nm,0.2s						
HEF				SB	**Sg**	**09 02 47.2**	**+0.2**
DUNU	**Dundret**	**1.06**	**255**	P	**Pb**	**09 02 35.2**	**-0.5**
KUA	**Kurravaara**	**1.22**	**298**	P	**Pg**	**09 02 37.7**	**-0.2**
RNF	**Rovaniemi**	**1.37**	**125**	PG	**Pn**	**09 02 39.0**	**-1.7**
RNF				SG	**Sg**	**09 02 57.0**	**-1.3**
TOF	**Tornio**	**1.41**	**161**	PG	**Pn**	**09 02 40.4**	**-1.0**
TOF				MSG		09 02 57.7	
	comp=Z,3.7nm,0.2s						
TOF				SG	**Sg**	**09 02 59.1**	**-0.6**
KOVU	**Salmi**	**1.41**	**307**	P	**Pg**	**09 02 41.3**	**-0.3**
RATU	**Laukkuluspa**	**1.44**	**288**	P	**Pn**	**09 02 41.7**	**-0.1**
HARU	**Harads**	**1.53**	**216**	P	**Pn**	**09 02 42.9**	**-0.1**
KALU	**Kalix**	**1.56**	**178**	P	**Pn**	**09 02 43.1**	**-0.2**
KALU	**Kalix**	**1.56**	**178**	PG	**Pn**	**09 02 43.2**	**-0.2**
KALU				SN	**Sg**	**09 03 07.5**	**+3.0**
KTK1	**Kautokeino**	**1.61**	**0**	*e*P	**Pn**	**09 02 43.1**	**-1.0**
KTK1	**Kautokeino**	**1.61**	**0**	PG	**Pn**	**09 02 43.2**	**-0.9**
KTK1				SN	**Sg**	**09 03 06.9**	**+0.8**
NIKU	**Nikkaluokta**	**1.66**	**288**	P	**Pb**	**09 02 45.5**	**-0.3**
KIF	**Kilpisjarvi**	**1.83**	**332**	*e*P	**Pb**	**09 02 48.3**	**-0.6**
KIF	**Kilpisjarvi**	**1.83**	**332**	PG	**Pb**	**09 02 48.3**	**-0.6**
KIF				MSG		09 03 10.6	
	comp=Z,5.6nm,0.2s						
KIF				SG	**Sg**	**09 03 14.0**	**+0.7**
RANF	**Ranua**	**2.00**	**133**	PG	**Pn**	**09 02 50.1**	**+0.6**
RANF				SG	**Sn**	**09 03 15.8**	**+0.7**
RAJF	**Raja-Jooseppi**	**2.21**	**59**	PB	**Pn**	**09 02 52.3**	**0.0**
RAJF				SG	**Sn**	**09 03 21.1**	**+0.9**
ARA0	**ARCESS Array S**	**2.30**	**21**	PB	**Pn**	**09 02 53.1**	**-0.4**
ARA0				SB	**Sn**	**09 03 22.8**	**+0.3**
ARCES	**ARCESS Array B**	**2.30**	**21**	Pn	**Pn**	**09 02 53.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=201,slow=15,SNR=14						
ARCES				Sn	**Sn**	**09 03 23.3**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=202,slow=28,SNR=10						
	comp=Z,0.5nm,0.3s						
I37NO	**I37NO**	**2.39**	**316**	I	I	09 17 18.3	
	comp=Z,0.1nm,0.7s,baz=133,slow=317,SNR=6.9						
VRF	**Varrio**	**2.48**	**79**	PB	**Pn**	**09 02 57.0**	**+0.9**
	baz=261						
VRF				MSG		09 03 26.7	
	comp=Z,3.2nm,0.2s						
VRF				SG	**Sn**	**09 03 29.0**	**+2.1**
OUL	**Oulu**	**2.58**	**154**	PB	**Pn**	**09 02 58.9**	**+1.6**
OUL				SG	**Sb**	**09 03 33.2**	**-0.4**
KU2	**Taivalkoski**	**2.64**	**128**	PB	**Pn**	**09 03 00.7**	**+2.5**
KU2				SG	**Sb**	**09 03 35.7**	**+0.3**
OLKF	**Oulanka, Finla**	**2.68**	**111**	PN	**Pn**	**09 02 59.7**	**+0.9**
OLKF				MSG		09 03 32.9	
	comp=Z,1.9nm,0.2s						
OLKF				SG	**Sb**	**09 03 36.4**	**-0.3**
KEV	**Kevo**	**2.74**	**29**	PN	**Pn**	**09 02 59.7**	**+0.1**
KEV				SB	**Sn**	**09 03 34.7**	**+1.4**
MSF	**Maaselka**	**2.77**	**120**	PN	**Pn**	**09 03 00.5**	**+0.5**
	baz=310						
KU6	**Riekki**	**3.00**	**115**	PN	**Pn**	**09 03 03.5**	**+0.3**
KU6				MSG		09 03 42.2	
	comp=Z,0.9nm,0.2s						
KU6				SG	**Sb**	**09 03 44.7**	**-1.1**
OBF8	**Ulkokalla**	**3.10**	**178**	PB	**Pb**	**09 03 08.4**	**-1.9**
	baz=3.0						
OBF8				MSG		09 03 46.4	
	comp=Z,1.6nm,0.2s						
OUF	**Merijarvi**	**3.12**	**168**	PB	**Pn**	**09 03 06.9**	**+2.1**
OUF				SB	**Sb**	**09 03 46.6**	**-2.7**
OUF				MSG		09 03 46.9	
	comp=Z,1.2nm,0.2s						
KU1	**Kurvinen**	**3.15**	**123**	PN	**Pn**	**09 03 05.0**	**-0.2**
FINES	**FINESS Array B**	**6.12**	**167**	Pn	**Pn**	**09 03 47.2**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=12,SNR=3.5						
FINES				Sn	**Sn**	**09 04 55.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=359,slow=21,SNR=1.4						
FINES				Lg	Lg	09 05 23.4	
	baz=3.3,slow=27,SNR=1.7						
	comp=Z,1.4nm,0.7s						
HFS	**Hagfors**	**8.42**	**214**	Pn	**Pn**	**09 04 17.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=1.0						
	comp=Z,0.2nm,0.4s						

*IDC **01** 09:13:47.1±0.8, 31°.13N×95°.37E, h0km, mb3.7/11, mbtmp3.7/14, ML3.8/2, MS3.3/12, Error ellipse: s-maj=41.9km s-min=15.5km az=56.0*

ISC 01 09:13:51.9±0.8, **31°.1N**±0°.1×**95°.4E**±0°.2, **h35**km, **n21,** σ1ᵍ**40**/15, **mb3.7**/10, **MS3.3**/10, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.96**	**165**	Pn	**Pn**	**09 16 52.6**	**-1.1**
	0.3nm,0.3s,baz=337,slow=12,SNR=1.8						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**18.67**	**331**	P	**P**	**09 18 05.9**	**-1.0**
	0.1nm,0.3s,baz=134,slow=12,SNR=5.9						
MKAR				LR	LR	09 25 06.8	
	comp=Z,58nm,19.4s,baz=144,slow=36						
	0.2nm,0.4s						
SONM	**Songino Array**	**18.75**	**24**	P	**P**	**09 18 07.2**	**-0.6**
	1.7nm,0.8s,baz=213,slow=10,SNR=7.6						
SONM				LR	LR	09 26 30.5	
	comp=Z,50nm,21.4s,baz=210,slow=41						
AAK	**Ala-Archa**	**20.26**	**311**	P	**P**	**09 18 24.3**	**0.0**
	1.6nm,0.3s,baz=109,slow=9.8,SNR=7.4						
AAK				LR	LR	09 27 39.1	
	comp=Z,76nm,18.7s,baz=114,slow=41						
	1.6nm,0.3s						
KURBB	**Kurchatov Arra**	**23.22**	**332**	P	**P**	**09 18 55.1**	**-0.6**
	1.1nm,0.7s,baz=139,slow=12,SNR=8.6						
KURBB				LR	LR	09 27 41.3	
	comp=Z,51nm,20.0s,baz=174,slow=36						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**24.10**	**345**	P	**P**	**09 19 04.4**	**+0.3**
	0.6nm,0.3s,baz=179,slow=7.4,SNR=3.7						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**28.47**	**328**	P	**P**	**09 19 42.0**	**-1.5**
	0.4nm,0.3s,baz=132,slow=11,SNR=4.1						
BVAR				LR	LR	09 31 01.7	
	comp=Z,46nm,19.2s,baz=125,slow=36						
	0.4nm,0.3s						
JNU	**Nakatsue**	**30.06**	**77**	LR	LR	09 33 18.3	
	comp=Z,64nm,18.1s,baz=272,slow=39						
DAV	**Davao City (W)**	**36.98**	**124**	LR	LR	09 36 57.8	
	comp=Z,40nm,18.3s,baz=282,slow=38						
YAK	**Yakutsk**	**38.09**	**26**	LR	LR	09 38 11.9	
	comp=Z,65nm,20.0s,baz=326,slow=38						
KIRV	**Kirov**	**41.42**	**325**	LR	LR	09 38 54.8	
	comp=Z,41nm,20.9s,baz=99,slow=36						
GNI	**Garni**	**41.67**	**297**	LR	LR	09 43 51.0	
	comp=Z,26nm,18.9s,baz=136,slow=43						
MA2	**Magadan**	**46.37**	**35**	LR	LR	09 42 46.3	
	comp=Z,36nm,18.2s,baz=250,slow=38						
BRTR	**Keskin Array B**	**50.19**	**298**	P	**P**	**09 22 45.2**	**+0.9**
	0.9nm,0.8s,baz=100,slow=6.0,SNR=5.4						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**51.91**	**312**	P	**P**	**09 22 56.9**	**0.0**
	0.3nm,0.3s,baz=76,slow=6.6,SNR=1.1						
AKASG				LR	LR	09 50 03.0	
	comp=Z,29nm,18.1s,baz=60,slow=42						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**53.41**	**326**	P	**P**	**09 23 08.0**	**+0.1**
	0.8nm,0.8s,baz=95,slow=8.6,SNR=4.4						
	0.8nm,0.8s						
ARCES	**ARCESS Array B**	**54.23**	**336**	P	**P**	**09 23 14.2**	**+0.4**
	5.8nm,1.2s,baz=113,slow=9.2,SNR=4.3						
	5.8nm,1.2s						
NB2	**NORSAR Subarra**	**60.59**	**326**	P	**P**	**09 24 02.4**	**+3.7**
	comp=Z,0.7nm,0.7s,baz=79,slow=6.9						
NOA	**NORSAR Array B**	**60.59**	**326**	P	**P**	**09 23 57.2**	**-1.5**
	comp=Z,1.7nm,1.2s,baz=78,slow=6.7,SNR=3.9						
	comp=Z,1.7nm,1.2s						
WRA	**Warramunga Arr**	**63.02**	**138**	P	**P**	**09 24 16.3**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=321,slow=6.8,SNR=4.9						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**65.76**	**141**	P	**P**	**09 24 34.6**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=326,slow=6.4,SNR=11						
	comp=Z,0.4nm,0.5s						

UPA 01 09:16:24.3±0.6, **8°.38N**×**82°.83W**, **h32**km±6km, **ML2.5, MW2.4, 2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.05**	**54**	*e*P	Pb	09 16 29.4	-0.4
LESP3				AMP		09 16 29.5	
	comp=Z,533nm,0.1s						
BAGA3	**Bagala, Chiriq**	**0.32**	**73**	⇓*i*P	Pb	09 16 32.2	+0.1
BAGA3				AMP		09 16 32.5	
	comp=Z,1μm,0.1s						
BAGA3				*e*S	Sn	09 16 37.9	-0.3
DVD	**David**	**0.38**	**81**	*e*P	Pb	09 16 32.9	-0.2
DVD				*e*S	Sb	09 16 39.1	0.0
LOCO3	**Loma Colorado,**	**0.41**	**85**	⇓*i*P	Pb	09 16 33.1	-0.4
LOCO3				AMP		09 16 33.3	
	comp=Z,733nm,0.1s						
LOCO3				*e*S	Sb	09 16 40.1	+0.3
BRU2	**Volcan**	**0.44**	**19**	*e*P	Pn	09 16 34.3	-0.2
BRU2				AMP		09 16 34.4	
	comp=Z,102nm,0.1s						
BRU2				*e*S	Sn	09 16 41.8	+0.4
BC3P	**Paso Ancho**	**0.49**	**27**	*e*P	Pb	09 16 34.8	-0.1
BC3P				*e*S	Sn	09 16 43.0	+0.2
LNBQ3	**Los Naranjos,**	**0.56**	**43**	*e*S	Sb	09 16 43.6	-0.4

*ASRS **01** 09:19:32.0±0.9, 53°.63N×87°.93E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 01 09:19:36.7±3.0, **53°.53N**×**87°.86E**, **h0**km, **mbtmp2.9**/2, **ML2.7**/2, **Error ellipse: s-maj=25.9km s-min=15.7km az=66.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**284**	I	I	09 31 25.2	
	0.1nm,0.9s,baz=98,slow=301,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.85**	**284**	Pn	Pn	09 20 09.6	-0.2
	1.5nm,0.3s,baz=98,slow=16,SNR=12						
ZALV				Lg	Lg	09 20 35.7	
	3.4nm,0.3s,baz=106,slow=24,SNR=22						
ZALV				I	I	09 31 36.1	
	baz=79,slow=22,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.45**	**247**	Pn	Pn	09 21 13.1	+0.4
	0.1nm,0.3s,baz=61,slow=14,SNR=3.1						
KURBB				Lg	Lg	09 23 00.1	
	0.1nm,0.3s,baz=60,slow=35,SNR=1.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.63**	**210**	Pn	Pn	09 21 30.6	+1.5
	0.2nm,0.3s,baz=28,slow=15,SNR=4.5						
MKAR				Sn	Sn	09 22 56.0	-0.2
	0.1nm,0.3s,baz=37,slow=29,SNR=1.8						
MKAR				Lg	Lg	09 23 37.2	
	0.1nm,0.3s,baz=32,slow=36,SNR=2.4						
	0.2nm,0.3s						

STR 01 09:19:51.8±1.2, **45°N**±7°×±°, **h11**km, **MLv1.1**/7, **LOCSAT earthModelID alpes_taup-2.11 preliminary, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRN	**Grenoble**	**0.07**	**175**	Pg	Pg	09 19 54.6	+0.3
GRN				Sg	Sg	09 19 55.5	-0.5
ORIF	**Oris-en-Rattie**	**0.41**	**166**	Pg	Pg	09 19 59.7	-0.2
ORIF				Sg	Sg	09 20 05.5	+0.2
SSB	**Saint Sauveur**	**0.84**	**268**	Pg	Pg	09 20 07.8	-0.3
SSB				Pn	Pn	09 20 09.6	0.0
SSB				Sg	Sg	09 20 19.4	+0.4

*IDC **01** 09:25:49.4±0.7, 20°.57S×67°.79E, h0km, mb4.0/14, mbtmp4.0/14, MS3.5/13, Error ellipse: s-maj=25.4km s-min=17.1km az=101.0*

ISC 01 09:25:51.7±0.7, **20°.6S**±0°.1×**67°.8E**±0°.2, **h15**km, **n23,** σ0ᵍ**61**/14, **mb4.2**/14, **MS3.6**/13, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.64**	**20**	T	T	09 42 48.4	
	baz=200,slow=75,SNR=81						
H08S2	**Diego Garcia H**	**13.65**	**20**	T	T	09 42 46.0	
	baz=200,slow=75,SNR=135						
H08S3	**Diego Garcia H**	**13.66**	**20**	T	T	09 42 47.1	
	baz=200,slow=75,SNR=150						
H04N2	**CROZET ISLANDS**	**28.68**	**203**	T	T	10 01 56.3	
	baz=33,slow=75,SNR=376						
H04N1	**CROZET ISLANDS**	**28.68**	**204**	T	T	10 01 57.2	
	baz=33,slow=75,SNR=419						
H04N3	**CROZET ISLANDS**	**28.70**	**203**	T	T	10 01 56.0	
	baz=33,slow=75,SNR=430						
PALK	**Pallekele**	**30.46**	**26**	LR	LR	09 42 04.7	
	comp=Z,90nm,18.9s,baz=205,slow=32						
BOSA	**Boshof**	**39.31**	**250**	P	**P**	**09 33 19.7**	**-0.9**
	2.1nm,0.9s,baz=76,slow=12,SNR=1.9						
BOSA				LR	LR	09 47 01.5	
	comp=Z,56nm,18.3s,baz=48,slow=32						
	2.1nm,0.9s						
MAW	**Mawson**	**47.12**	**183**	P	**P**	**09 34 23.0**	**+0.2**
	1.4nm,0.6s,baz=19,slow=7.1,SNR=3.7						
MAW				LR	LR	09 49 50.7	
	comp=Z,57nm,19.4s,baz=44,slow=31						
	1.4nm,0.6s						
BRDH	**Bariadhala**	**48.90**	**30**	LR	LR	09 53 49.3	
	comp=Z,76nm,19.6s,baz=162,slow=34						
CMAR	**Chiang Mai Arr**	**49.39**	**40**	P	**P**	**09 34 40.2**	**-0.8**
	1.0nm,0.3s,baz=238,slow=7.6,SNR=5.6						
CMAR				LR	LR	09 52 01.7	
	comp=Z,41nm,21.7s,baz=225,slow=32						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**60.85**	**106**	P	**P**	**09 36 03.8**	**-0.3**
	2.1nm,0.8s,baz=269,slow=6.7,SNR=20						
ASAR				LR	LR	09 58 43.1	
	comp=Z,42nm,19.1s,baz=280,slow=32						
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**62.03**	**102**	P	**P**	**09 36 11.8**	**-0.3**
	1.5nm,0.8s,baz=259,slow=6.2,SNR=6.0						
	1.5nm,0.8s						
SNAA	**Sanae**	**64.54**	**199**	P	**P**	**09 36 27.6**	**-0.3**
	1.6nm,0.8s,baz=86,slow=5.9,SNR=6.3						
	1.6nm,0.8s						
BRTR	**Keskin Array B**	**67.93**	**332**	P	**P**	**09 36 50.8**	**+0.7**
	0.4nm,0.5s,baz=130,slow=5.8,SNR=2.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.33**	**11**	P	**P**	**09 36 52.2**	**-0.1**
	0.8nm,0.8s,baz=195,slow=3.8,SNR=5.6						
MKAR				LR	LR	10 06 07.0	
	comp=Z,33nm,19.1s,baz=1.0,slow=35						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**69.53**	**180**	P	**P**	**09 37 00.7**	**+0.9**
	2.0nm,1.0s,baz=326,slow=3.6,SNR=7.8						
QSPA				LR	LR	10 03 03.9	
	comp=Z,67nm,20.2s,baz=356,slow=32						
	2.0nm,1.0s						
KURBB	**Kurchatov Arra**	**71.52**	**7**	P	**P**	**09 37 12.5**	**+0.7**
	1.1nm,0.8s,baz=201,slow=6.6,SNR=2.0						
KURBB				LR	LR	10 06 06.8	
	comp=Z,36nm,21.4s,baz=168,slow=34						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**73.33**	**2**	P	**P**	**09 37 22.1**	**-0.4**
	0.3nm,0.3s,baz=179,slow=5.8,SNR=1.7						
BVAR				LR	LR	10 08 05.2	
	comp=Z,36nm,21.6s,baz=171,slow=35						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**75.66**	**10**	P	**P**	**09 37 36.4**	**+0.4**
	1.6nm,0.7s,baz=250,slow=3.0,SNR=7.3						
ZALV				LR	LR	10 09 49.4	
	comp=Z,22nm,19.3s,baz=208,slow=35						
	1.6nm,0.7s						
SONM	**Songino Array**	**76.41**	**26**	P	**P**	**09 37 40.5**	**-0.2**
	0.4nm,0.5s,baz=223,slow=5.2,SNR=4.5						
SONM				LR	LR	10 10 08.0	
	comp=Z,31nm,20.0s,baz=200,slow=35						
	0.4nm,0.5s						
MJAR	**Matsushiro Arr**	**87.40**	**49**	P	**P**	**09 38 39.0**	**+0.4**
	1.5nm,0.7s,baz=213,slow=2.5,SNR=5.0						
	1.5nm,0.7s						
ARCES	**ARCESS Array B**	**94.78**	**346**	LR	LR	10 20 29.5	
	comp=Z,18nm,18.3s,baz=18,slow=35						

*NNC **01** 09:47:00.8±2.9, 39°.65N×76°.81E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=19.8km s-min=15.0km az=172.0*
*SOME **01** 09:47:00.9, 39°.63N×76°.65E, h15km*

ISC 01 09:47:00.7±3.5, **39.7N**±0°.2×**76°.55E**±0°.09, **h10**km, **n13,** σ1ᵍ**86**/17, **2C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.37**	**333**	⇓Pg	**Pb**	**09 48 01.7**	**+1.1**
	1.4nm,0.6s						
AAK				⇓Lg	Lg	09 48 53.4	
	15nm,0.7s						
TNSS	**Tian-Shan**	**3.40**	**5**	Pg	**Pg**	**09 48 04.3**	**-1.6**
	1.3nm,0.3s						
TNSS				Lg	Lg	09 48 48.8	
	11nm,1.1s						
TNSS	**Tian-Shan**	**3.40**	**5**	*e*P	**Pg**	**09 48 04.1**	**-1.8**
	1.3nm,0.3s						
TNSS				*e*S	**Sg**	**09 48 48.8**	**-1.1**
	11nm,1.1s						
SATY	**Saty**	**3.68**	**22**	Pg	**Pb**	**09 48 06.7**	**+0.8**
	5.7nm,0.4s						
SATY				Lg	Lg	09 48 53.6	
	24nm,0.5s						
UZB	**Uzynbulak**	**3.96**	**27**	Pg	**Pb**	**09 48 11.4**	**+0.8**
	3.1nm,0.4s						
UZB				Lg	Lg	09 49 01.2	
	10nm,0.8s						
UZB	**Uzynbulak**	**3.96**	**27**	*e*P	**Pb**	**09 48 11.3**	**+0.7**
	3.1nm,0.4s						
UZB				*e*S	**Sb**	**09 49 01.2**	**+2.6**
	10nm,0.8s						
KTBS	**Karatobe**	**4.06**	**1**	Pg	**Pb**	**09 48 15.1**	**+2.8**
	1.4nm,0.4s						
KTBS				Lg	Lg	09 49 10.2	
	15nm,0.9s						
SHLS	**Shalkode**	**4.13**	**31**	Pg	**Pg**	**09 48 18.2**	**-1.7**
	8.1nm,0.7s						
SHLS				Lg	Lg	09 49 13.3	
	13nm,0.7s						
SHLS	**Shalkode**	**4.13**	**31**	*e*P	**Pg**	**09 48 18.4**	**-1.4**
	8.1nm,0.7s						
SHLS				*e*S	**Sg**	**09 49 13.3**	**0.0**
	13nm,0.7s						
CHKK	**Chushkaly**	**4.21**	**4**	Pg	**Pg**	**09 48 18.9**	**-2.5**
	25nm,0.3s						
CHKK				Lg	Lg	09 49 14.8	
	5.6nm,0.3s						
CHKK	**Chushkaly**	**4.21**	**4**	*e*P	**Pg**	**09 48 19.2**	**-2.2**
	25nm,0.3s						
CHKK				*e*S	**Sg**	**09 49 14.8**	**-1.2**
	5.6nm,0.3s						
PDGK	**Podgornoye**	**4.29**	**30**	⇑Pg	**Pb**	**09 48 16.6**	**+0.3**
	6.0nm,0.8s						
PDGK				⇑Lg	Lg	09 49 16.7	
	13nm,0.7s						
ARXS	**Arharly**	**4.66**	**11**	Pg	**Pb**	**09 48 25.2**	**+2.6**
	1.5nm,0.4s						
ARXS				Lg	Lg	09 49 24.8	
	8.7nm,0.7s						

*IDC **01** 10:13:52.6±1.3, 20°.12S×178°.49W, h619km±14km, mb3.8/16, mbtmp4.7/17, Error ellipse: s-maj=18.3km s-min=10.7km az=143.0*
*NOU **01** 10:13:52.1, 20°.27S×178°.17W, h630km, ML4.3/25, Fiji Islands Region*
*NEIC **01** 10:13:53.2±1.8, 20°.1S±0°.1×178°.4W±0°.1, h626km±7km, mb4.5/307, Error ellipse: s-maj=20.0km s-min=14.4km az=126.0*

ISC 01 10:13:52.6±0.4, **20°.30S**±0°.07×**178°.33W**±0°.08, **h626**km, **n552,** σ0ᵍ**94**/431, **mb4.5**/166, **10C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**2.10**	**347**	P	**P**	**10 15 10.2**	**+0.4**
TAVE	**Taveuni**	**3.87**	**337**	P	**P**	**10 15 19.3**	**0.0**
MSVF	**Nonsavu**	**4.27**	**306**		**P**	**10 15 22.1**	**+0.1**
MSVF	**Nonsavu**	**4.27**	**306**	P	**P**	**10 15 22.4**	**+0.4**
DGTI	**Dogotuki**	**4.38**	**335**	P	**P**	**10 15 22.1**	**-0.6**
FUTU	**Fugatoga**	**5.96**	**2**	P	**P**	**10 15 32.9**	**-2.1**
FUTU	**Fugatoga**	**5.96**	**2**	P	**P**	**10 15 34.7**	**-0.2**
NIUE	**Niue**	**8.00**	**83**	P	**P**	**10 15 53.0**	**+0.1**
AFI	**Afiamalu**	**8.92**	**46**	P	**P**	**10 15 59.3**	**-2.3**
AFI	**Afiamalu**	**8.92**	**46**	P	**P**	**10 15 59.2**	**-2.5**
PINNC	**Pines Island,**	**13.45**	**258**	P	**P**	**10 16 45.4**	**+0.1**
DZM	**Mont Dzumac**	**14.32**	**260**	P	**P**	**10 16 53.4**	**-0.2**
	10nm,0.6s,baz=114,slow=22,SNR=10						
OUZ	**Omahuta**	**16.48**	**204**	P	**P**	**10 17 16.4**	**+3.4**
WCZ	**Waipu Caves**	**16.86**	**201**	P	**P**	**10 17 19.7**	**+3.2**
HAZ	**Te Kaha**	**17.72**	**190**	P	**P**	**10 17 24.8**	**+0.5**
MWZ	**Matawai**	**18.33**	**190**	P	**P**	**10 17 29.1**	**-0.9**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**10 17 27.7**	**-2.1**
	6.6nm,0.4s,baz=253,slow=3.3,SNR=16						
URZ				S	**S**	**10 20 19.4**	**-6.5**
	12nm,1.1s,baz=148,slow=16,SNR=1.8						
URZ	**Urewera**	**18.33**	**191**	P	**P**	**10 17 30.2**	**+0.3**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**10 17 27.8**	**-2.1**
BKZ	**Black Stump Fm**	**19.33**	**192**	P	**P**	**10 17 37.5**	**-1.5**
BFZ	**Birch Farm**	**20.84**	**192**	P	**P**	**10 17 52.1**	**-0.3**
MRZ	**Mangatainoka R**	**20.95**	**193**	P	**P**	**10 17 52.9**	**-0.6**
OGWZ	**Otaki Gorge**	**21.19**	**194**	P	**P**	**10 17 55.6**	**-0.1**
TCW	**Tory Channel**	**21.78**	**195**	P	**P**	**10 18 01.4**	**+0.6**
QRZ	**Quartz Range**	**21.90**	**199**	P	**P**	**10 18 03.1**	**+1.2**
QRZ	**Quartz Range**	**21.90**	**199**	P	**P**	**10 18 02.9**	**+1.0**
NNZ	**Nelson**	**22.02**	**197**	P	**P**	**10 18 02.8**	**-0.2**
TUWZ	**Tuamarina**	**22.07**	**196**	P	**P**	**10 18 03.3**	**-0.1**
**M

WRA	Warramunga Arr	44.33	262	P		P	10 21 08.6	-0.8	
	comp=Z,11nm,0.6s,baz=98,slow=8.1,SNR=153								
	comp=Z,11nm,0.6s								
HMH	Humu'ula Sheep	45.53	31	P		P	10 21 19.0	+0.2	
DHH	Diamond Head	45.92	27	P		P	10 21 21.6	+0.2	
FORT	Forrest	49.09	246	P		P	10 21 44.7	-0.2	
PSA00	Pilbara Seismi	57.42	257	P		P	10 22 43.3	-0.4	
MBWA	Marble Bar	57.60	257	P		P	10 22 44.3	-0.7	
SBA	Scott Base	58.05	184	P		P	10 22 50.3	+3.3	
VNDA	Vanda	58.08	185	P		P	10 22 49.9	+2.6	
VNDA	Vanda	58.08	185	P		P	10 22 49.0	+1.7	
	comp=Z,1.8nm,0.9s,baz=355,slow=7.5,SNR=8.2								
	comp=Z,1.8nm,0.9s								
CASY	Casey	64.02	205	P		P	10 23 27.0	+1.0	
MJAR	Matsushiro Arr	69.87	324	P		P	10 24 01.8	-0.5	
MJAR	Matsushiro Arr	69.87	324	P		P	10 24 01.4	-0.8	
	comp=Z,6.4nm,0.7s,baz=155,slow=5.7,SNR=19								
	comp=Z,6.4nm,0.7s								
MAJO	Matsushiro	69.87	324	P		P	10 24 01.8	-0.5	
MAJO				IAmb		IAmb	10 24 02.0		
	comp=Z,7.8nm,0.7s								
MAJO	Matsushiro	69.87	324	P		P	10 24 01.7	-0.5	
MJB9	Matsu-Tunnel	69.87	324	IAmb		IAmb	10 24 02.0		
	comp=Z,7.6nm,0.7s								
ADK	Adak	71.88	1	P		P	10 24 12.8	-0.8	
ADK	Adak	71.88	1	P		P	10 24 12.9	-0.7	
JNU	Nakatsue	71.92	317	P		P	10 24 13.3	-1.1	
JNU				IAmb		IAmb	10 24 15.2		
	comp=Z,14nm,1.0s								
JNU	Nakatsue	71.92	317	P		P	10 24 14.0	-0.4	
ATKA	Atka Island	72.28	3	P		P	10 24 14.8	-1.1	
ATKA	Atka Island	72.28	3	P		P	10 24 14.8	-1.1	
NIKH	Nikolski High	73.42	6	P		P	10 24 20.5	-1.9	
	baz=189								
UNV	Unalaska Valle	74.54	7	P		P	10 24 26.9	-1.7	
	baz=192								
YSS	Yuzhno-Sakhali	75.58	334	P		P	10 24 35.0	+0.4	
YSS				IAmb		IAmb	10 24 36.0		
	comp=Z,22nm,0.9s								
YSS	Yuzhno-Sakhali	75.58	334	P		P	10 24 34.2	-0.4	
PET	Petropavlovsk	75.70	346	P		P	10 24 33.6	-1.5	
	comp=Z,18nm,2.0s								
PEA0B	Petropavlovsk-	76.00	345	P		P	10 24 35.5	-1.3	
PEA0B				IAmb		IAmb	10 24 36.8		
	comp=Z,17nm,0.8s								
PETK	Petropavlovsk-	76.00	345	P		P	10 24 35.0	-1.8	
PETK	Petropavlovsk-	76.00	345	P		P	10 24 36.0	-0.8	
	comp=Z,12nm,0.7s,baz=130,slow=7.4,SNR=27								
	comp=Z,12nm,0.7s								
KSRS	Korea Array	76.53	319	P		P	10 24 40.2	+0.2	
	comp=Z,2.4nm,0.7s,baz=132,slow=5.9,SNR=13								
	comp=Z,2.4nm,0.7s								
KSAR	Wonju Array Be	76.55	319	P		P	10 24 39.4	-0.8	
SDPT	Sand Point	76.86	10	P		P	10 24 39.9	-1.5	
	baz=197								
S12K	Black Hills	76.95	9	P		P	10 24 40.7	-1.2	
	baz=196,SNR=5.0								
SPIA	Saint Paul Isl	77.47	4	P		P	10 24 43.6	-1.1	
	baz=188								
S14K	Fog Glacier	77.92	11	P		P	10 24 46.3	-0.9	
	baz=198								
SAO	San Andreas Ge	78.09	43	IAmb		IAmb	10 24 50.8		
	comp=Z,11nm,0.8s								
CHGN	Chignik	78.13	11	P		P	10 24 47.6	-0.6	
	baz=199								
CHIR	Chirikof Islan	78.23	13	P		P	10 24 48.1	-0.6	
	baz=202								
USA0B	Ussuriysk Arra	78.63	326	P		P	10 24 51.6	+0.4	
USA0B				IAmb		IAmb	10 24 52.7		
	comp=Z,8.8nm,0.8s								
USRK	Ussuriysk Ar.	78.63	326			P	10 24 50.8	-0.4	
USRK	Ussuriysk Ar.	78.63	326	P		P	10 24 52.1	+0.9	
	comp=Z,7.5nm,0.8s,baz=114,slow=3.6,SNR=23								
	comp=Z,7.5nm,0.8s								
VES	Vestal, Richgr	79.10	45	IAmb		IAmb	10 24 55.8		
	comp=Z,20nm,1.3s								
SII	Sitkinak Islan	79.22	13	P		P	10 24 53.1	-0.9	
	baz=203								
O02D	Mt. Diablo Mer	79.32	40	IAmb		IAmb	10 24 57.8		
	comp=Z,16nm,0.8s								
ISA	Isabella, Lake	79.41	46	IAmb		IAmb	10 24 58.0		
	comp=Z,14nm,1.4s								
NJ2	Nanjing	79.52	310	*e*P		P	10 24 56.5	+0.4	
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
R17L	Mt. Peulik Vol	79.77	12	P		P	10 24 56.2	-0.7	
	baz=201								
OHAK	Old Harbor	80.02	14	P		P	10 24 57.5	-0.6	
	baz=204								
L02F	Cave Junction	80.06	38	IAmb		IAmb	10 25 01.3		
	comp=Z,15nm,1.4s								
R18K	Karluk	80.09	13	P		P	10 24 57.6	-0.9	
	baz=203,SNR=5.3								
MDJ	Mudanjiang	80.18	325	P		P	10 25 00.1	+0.8	
MDJ				pmax		pmax			
	comp=Z,14nm,0.8s								
YBH	Yreka Blue Hor	80.32	39	IAmb		IAmb	10 25 02.7		
	comp=Z,12nm,0.8s								
WAKR	Walker	80.40	43	IAmb		IAmb	10 25 03.3		
	comp=Z,18nm,1.1s								
Q17K	Contact Creek	80.45	12	P		P	10 24 59.5	-1.0	
	baz=201,SNR=13								
MPK	Martis Peak	80.49	42	IAmb		IAmb	10 25 03.6		
	comp=Z,25nm,1.1s								
O14K	Tigyukauivet M	80.49	9	P		P	10 24 59.4	-1.1	
	baz=196								
GLA	Glamis	80.53	50	IAmb		IAmb	10 25 04.2		
	comp=Z,12nm,0.9s								
O15K	Ungalikthiuk R	80.63	10	P		P	10 25 00.4	-0.9	
	baz=198								
KDAK	Kodiak Island	80.69	14	P		P	10 25 00.6	-1.0	
	comp=Z,6.5nm,0.8s,baz=174,slow=3.0,SNR=9.0								
	comp=Z,6.5nm,0.8s								
KDAK	Kodiak Island	80.69	14	P		P	10 25 01.1	-0.4	
	baz=204								
Q16K	King Salmon	80.70	11	P		P	10 25 01.2	-0.4	
	baz=201,SNR=6.8								
PIX	Pinacate	80.75	52	IAmb		IAmb	10 25 04.8		
	comp=Z,10nm,1.0s								
LHV	Little Huntoon	80.86	44	IAmb		IAmb	10 25 05.4		
	comp=Z,10nm,1.0s								
L04D	Klamath Falls	80.86	39	IAmb		IAmb	10 25 05.2		
	comp=Z,20nm,0.8s								
DANC	Danby, Needles	80.97	48	IAmb		IAmb	10 25 06.1		
	comp=Z,17nm,1.2s								
Q18K	Katmai Hardscr	80.98	12	P		P	10 25 02.4	-0.8	
	baz=202,SNR=16								
N14K	Kuskokwak Cree	81.08	8	P		P	10 25 03.4	-0.1	
	baz=196,SNR=8.4								
NVAR	Mina Array Bea	81.09	44	P		P	10 25 05.0	+0.6	
NVAR	Mina Array Bea	81.09	44	P		P	10 25 05.5	+1.1	
	comp=Z,6.3nm,0.8s,baz=224,slow=8.7,SNR=49								
	comp=Z,6.3nm,0.8s								
PAHR	Pah Rah Range	81.13	42	IAmb		IAmb	10 25 06.6		
	comp=Z,13nm,1.1s								
NV11	Mina Array Sit	81.19	44	IAmb		IAmb	10 25 06.9		
	comp=Z,14nm,1.2s								
P17K	Kvichak River	81.22	11	P		P	10 25 03.4	-0.9	
	baz=201,SNR=11								
O16K	Kokwok River B	81.31	10	IAmb		IAmb	10 25 04.5		
	comp=Z,17nm,0.9s								
O16K	Kokwok River B	81.31	10	P		P	10 25 03.5	-1.2	
	baz=199,SNR=6.7								
M13K	Dall Lake	81.34	7	P		P	10 25 04.9	+0.1	
	baz=194								
Q20K	Shuyak Island	81.49	13	P		P	10 25 05.4	-0.2	
	baz=205								
Q19K	Cape Douglas,	81.52	13	P		P	10 25 05.3	-0.5	
	baz=203								
N15K	Kwethluk River	81.54	9	P		P	10 25 05.9	0.0	
	baz=197,SNR=8.2								
TPNV	Topopah Spring	81.62	46	IAmb		IAmb	10 25 09.2		
	comp=Z,8.6nm,0.8s								
P18K	Big Mountain,	81.63	12	P		P	10 25 05.3	-1.1	
	baz=202								
O17K	Koliganek Bris	81.65	11	P		P	10 25 05.5	-0.9	
	baz=200								
BUCK	Buck Mountain	81.70	37	IAmb		IAmb	10 25 10.1		
	comp=Z,29nm,1.4s								
M14K	Bethel	81.84	8	IAmb		IAmb	10 25 08.7		
	comp=Z,19nm,0.8s								
M14K	Bethel	81.84	8	P		P	10 25 07.3	-0.1	
	baz=196,SNR=6.4								
M15K	Kasigluk River	81.96	9	P		P	10 25 08.1	+0.1	
	baz=197,SNR=14								
N16K	Nishlik Lake	82.04	10	P		P	10 25 08.3	-0.2	
	baz=199,SNR=24								
H04D	Lebanon	82.04	37	IAmb		IAmb	10 25 11.1		
	comp=Z,23nm,1.2s								
O18K	Koktuh Hills	82.07	12	P		P	10 25 08.0	-0.6	
	baz=202								
BNX	BinXian	82.08	325	⇓P		P	10 25 08.6	-0.4	
BNX				pmax		pmax			
	comp=Z,9.0nm,0.8s								
SHPR	Sheep Range	82.12	47	P		P	10 25 09.7	+0.1	
G03D	McMinnville, O	82.18	36	IAmb		IAmb	10 25 11.2		
	comp=Z,15nm,0.9s								
L14K	Kuka Creek	82.32	8	P		P	10 25 09.8	0.0	
	baz=195								
S11A	Rachel	82.33	45	IAmb		IAmb	10 25 12.5		
	comp=Z,11nm,0.7s								
N17K	Nushagak Hills	82.34	10	IAmb		IAmb	10 25 10.6		
	comp=Z,12nm,1.2s								
N17K	Nushagak Hills	82.34	10	P		P	10 25 09.5	-0.5	
	baz=200								
H04A	Detroit Lake	82.45	37	IAmb		IAmb	10 25 12.0		
	comp=Z,9.7nm,0.5s								
M16K	Timber Creek	82.53	9	P		P	10 25 11.1	+0.2	
	baz=198,SNR=16								
O19K	Port Alsworth	82.55	12	P		P	10 25 10.2	-0.8	
	baz=203,SNR=12								
CNPM	China Poot	82.57	14	P		P	10 25 11.1	0.0	
HOM	Homer	82.61	13	P		P	10 25 10.4	-0.8	
	baz=205								
G04A	Muling	82.61	36	IAmb		IAmb	10 25 14.7		
	comp=Z,17nm,0.8s								
PRN	Pahroc Range	82.67	46	IAmb		IAmb	10 25 14.8		
	comp=Z,11nm,0.9s								
K13K	Kusilvak Mount	82.67	6	IAmb		IAmb	10 25 13.0		
	comp=Z,19nm,0.9s								
K13K	Kusilvak Mount	82.67	6	P		P	10 25 11.6	+0.1	
	baz=193,SNR=5.9								
N18K	Kilae Creek	82.71	11	P		P	10 25 11.0	-0.9	
	baz=201								
I05D	Terrebonne, OR	82.72	37	IAmb		IAmb	10 25 14.4		
	comp=Z,14nm,1.0s								
O20K	Slope Mountain	82.78	13	P		P	10 25 11.4	-0.8	
	baz=204								
L15K	Ungalak Mounta	82.80	8	P		P	10 25 11.8	-0.3	
	baz=196,SNR=6.0								
N19K	Bonanza Creek	83.09	12	P		P	10 25 12.4	-1.4	
	baz=203								
M17K	Holitna River	83.13	10	IAmb		IAmb	10 25 15.7		
	comp=Z,14nm,0.9s								
M17K	Holitna River	83.13	10	P		P	10 25 13.8	0.0	
	baz=200,SNR=7.7								
HOOD	Mount Hood Mea	83.14	36	IAmb		IAmb	10 25 16.3		
	comp=Z,7.3nm,0.9s								
WVOR	Wild Horse Val	83.17	40	IAmb		IAmb	10 25 16.9		
	comp=Z,14nm,1.2s								
NLWA	Neilton Lookou	83.24	34	IAmb		IAmb	10 25 17.0		
	comp=Z,15nm,0.9s								
K15K	Wolf Creek Mou	83.39	8	IAmb		IAmb	10 25 17.4		
	comp=Z,17nm,0.9s								
K15K	Wolf Creek Mou	83.39	8	P		P	10 25 14.5	-0.6	
	baz=196								
M18K	Stony River	83.48	11	P		P	10 25 15.0	-0.6	
	baz=201,SNR=5.2								
SEW	Seward	83.49	14	P		P	10 25 15.1	-0.6	
	baz=207								
MA2	Magadan	83.51	345	P		P	10 25 14.6	-1.2	
	comp=Z,14nm,0.9s								
L17K	Donlin	83.69	9	P		P	10 25 16.7	+0.1	
	baz=199								
CAPN	Captain Cook N	83.72	13	P		P	10 25 16.7	0.0	
	baz=206								
O22K	Cooper Landing	83.77	14	P		P	10 25 16.9	-0.1	
	baz=207								
319A	Douglas	83.77	53	IAmb		IAmb	10 25 20.9		
	comp=Z,18nm,1.1s								
J08A	Circle Bar Ran	83.80	39	IAmb		IAmb	10 25 19.9		
	comp=Z,16nm,1.3s								
P23K	Montague Islan	83.88	15	P		P	10 25 17.3	-0.3	
	baz=209								
N20K	Mount Spurr	83.89	12	P		P	10 25 16.4	-1.3	
	baz=205								
SPCR	Spurr Chakacha	83.89	12	P		P	10 25 16.6	-1.1	
	baz=205								
GNW	Green Mountain	83.90	34	IAmb		IAmb	10 25 19.8		
	comp=Z,8.0nm,0.8s								
SPU	Mount Spurr	83.91	12	IAmb		IAmb	10 25 17.4		
	comp=Z,11nm,1.1s								
GAMB	Gambell	83.95	3	P		P	10 25 17.5	-0.3	
	baz=186								
L18K	Granite Mounta	84.02	10	IAmb		IAmb	10 25 19.6		
	comp=Z,8.8nm,0.8s								
L18K	Granite Mounta	84.02	10	P		P	10 25 18.1	-0.2	
	baz=200,SNR=11								
U15A	North Rim	84.05	48	IAmb		IAmb	10 25 21.8		
	comp=Z,3nm,0.7s								
D05A	Enumclaw	84.11	35	IAmb		IAmb	10 25 21.4		
	comp=Z,15nm,1.0s								
M19K	Big River Lodg	84.12	11	IAmb		IAmb	10 25 19.0		
	comp=Z,9.9nm,0.7s								
M19K	Big River Lodg	84.12	11	P		P	10 25 17.8	-1.0	
	baz=203,SNR=7.2								
K17K	Iditarod	84.24	9	P		P	10 25 19.0	-0.3	
	baz=199								
STLK	Strandline Lak	84.24	12	IAmb		IAmb	10 25 18.8		
	comp=Z,10nm,0.8s								
WUAZ	Wupatki	84.24	49	P		P	10 25 19.9	-0.2	
PGC	Sidney	84.26	33	IAmb		IAmb	10 25 21.3		
	comp=Z,11nm,0.9s								
L19K	White Mountain	84.30	11	IAmb		IAmb	10 25 20.6		
	comp=Z,12nm,1.0s								
L19K	White Mountain	84.30	11	P		P	10 25 19.3	-0.3	
	baz=202,SNR=6.9								
RC01	Rabbit Creek A	84.31	14	P		P	10 25 18.6	-1.1	
	baz=207								
M20K	Styx River	84.34	12	P		P	10 25 18.3	-1.5	
	baz=204								
ELK	Elko	84.34	43	P		P	10 25 20.6	0.0	
PWL	Port Wells	84.42	14	P		P	10 25 19.5	-0.8	
	baz=208,SNR=5.4								
SUA	Susitna One	84.43	13	P		P	10 25 19.5	-0.9	
	baz=206								
J16K	Anvik River	84.46	8	P		P	10 25 19.3	-1.1	
	baz=197								
PKCU	Pink Cliffs	84.55	47	IAmb		IAmb	10 25 24.8		
	comp=Z,8.2nm,0.8s								
G08A	Pilot Rock	84.64	38	IAmb		IAmb	10 25 23.8		
	comp=Z,11nm,1.0s								
CRAG	Craig	84.66	24	P		P	10 25 20.2	-1.3	
	baz=222								
GLI	Glacier Island	84.73	15	P		P	10 25 20.8	-0.9	
	baz=209								
SKT	Skwentna	84.74	12	P		P	10 25 20.1	-1.7	
	baz=205								
L20K	Farewell, AK	84.75	11	P		P	10 25 21.0	-0.8	
	baz=203								
EYAK	Cordova Ski Ar	84.77	15	P		P	10 25 21.1	-0.7	
	baz=211								
J17K	VABM Dome	84.78	9	P		P	10 25 20.4	-1.4	
	baz=198								
M22K	Willow	84.82	13	P		P	10 25 21.3	-0.8	
	baz=207								
KNK	Knik Glacier	84.88	14	IAmb		IAmb	10 25 23.0		
	comp=Z,15nm,0.9s								
KNK	Knik Glacier	84.88	14	P		P	10 25 21.2	-1.3	
	baz=208								
PMR	Palmer	84.89	14	IAmb		IAmb	10 25 22.3		
	comp=Z,9.0nm,0.8s								
PMR	Palmer	84.89	14	P		P	10 25 21.9	-0.5	
PMR	Palmer	84.89	14	P		P	10 25 21.3	-1.2	
	baz=208,SNR=7.1								
HAWA	Hanford	84.97	36	IAmb		IAmb	10 25 25.3		
	comp=Z,9.7nm,0.8s								
HEH	HeiHe	84.98	328	*e*P		P	10 25 22.6	-0.5	
HEH				pmax		pmax			
	comp=Z,8.0nm,1.0s								
V35K	Ketchikan	85.13	25	IAmb		IAmb	10 25 25.5		
	comp=Z,11nm,0.9s								
V35K	Ketchikan	85.13	25	P		P	10 25 23.4	-0.4	
	baz=223,SNR=9.8								
U33K	Whale Pass	85.14	24	IAmb		IAmb	10 25 25.1		
	comp=Z,9.0nm,0.8s								
U33K	Whale Pass	85.14	24	P		P	10 25 23.8	+0.1	
	baz=222,SNR=5.4								
J18K	Innoko River	85.19	10	IAmb		IAmb	10 25 24.7		
	comp=Z,16nm,1.4s								
J18K	Innoko River	85.19	10	P		P	10 25 23.1	-0.8	
	baz=200								
DIV	Divide	85.27	15	IAmb		IAmb	10 25 25.0		
	comp=Z,15nm,0.9s								
BMO	Blue Mountains	85.35	39	IAmb		IAmb	10 25 26.8		
	comp=Z,6.2nm,0.8s								
CUT	Chulitna	85.38	13	P		P	10 25 23.8	-1.0	
	baz=206								
M23K	Glacier View	85.39	14	P		P	10 25 23.7	-1.2	
	baz=209								
LYN	LuoYang	85.39	309	P		P	10 25 26.0	+0.5	
LYN				pmax		pmax			
	comp=Z,24nm,1.0s								
BMRM	Bremner River	85.42	16	IAmb		IAmb	10 25 25.9		
	comp=Z,11nm,0.9s								
BMRM	Bremner River	85.42	16	P		P	10 25 24.8	-0.3	
	baz=212,SNR=5.2								
MFID	Camas Ranch	85.43	40	IAmb		IAmb	10 25 27.6		
	comp=Z,7.0nm,1.0s								
S31K	Pelican	85.44	21	P		P	10 25 25.2	+0.1	
	baz=219								
PPLA	Purkeypile	85.44	12	P		P	10 25 24.9	-0.4	
	baz=205								
WAX	Waxell Ridge	85.44	17	P		P	10 25 25.3	0.0	
WAX				IAmb		IAmb	10 25 26.5		
	comp=Z,10nm,0.7s								
MESA	MESA	85.47	17	P		P	10 25 25.2	-0.3	
	baz=214								
SCM	Sheep Creek Mo	85.51	14	P		P	10 25 25.5	-0.1	
	baz=209,SNR=14								
K20K	Telida	85.53	11	IAmb		IAmb	10 25 26.8		
	comp=Z,17nm,1.4s								
K20K	Telida	85.53	11	P		P	10 25 25.1	-0.4	
	baz=203,SNR=11								
KLU	Klutina	85.55	15	IAmb		IAmb	10 25 26.4		
	comp=Z,7.3nm,0.8s								
KLU	Klutina	85.55	15	P		P	10 25 25.3	-0.5	
	baz=210								
S32K	Killisnoo	85.63	22	P		P	10 25 25.2	-0.8	
	baz=221								
CRQE	Cirque	85.63	17	P		P	10 25 25.8	-0.4	
	baz=213								
WRAK	Wrangell Islan	85.65	24	IAmb		IAmb	10 25 27.9		
	comp=Z,12nm,0.8s								
WRAK	Wrangell Islan	85.65	24	P		P	10 25 26.4	+0.2	
	baz=223,SNR=7.5								
D08A	Wollman Farm,	85.70	36	IAmb		IAmb	10 25 28.7		
	comp=Z,15nm,1.2s								
PNL	Peninsula	85.79	19	P		P	10 25 26.5	-0.3	
	baz=216								
E09A	Wood Farm, Sta	85.82	37	IAmb		IAmb	10 25 28.9		
	comp=Z,14nm,1.3s								
J19K	Poorman	85.86	10	P		P	10 25 26.5	-0.6	
	baz=201								
PINM	Pinnacle	85.88	18	P		P	10 25 26.6	-0.7	
	baz=216								
CAST	Castle Rocks	85.94	12	P		P	10 25 25.9	-1.6	
CAST				IAmb		IAmb	10 25 26.7		
	comp=Z,11nm,0.7s								
CAST	Castle Rocks	85.94	12	P		P	10 25 25.7	-1.8	
	baz=205,SNR=15								
N25K	Chitina, Valde	85.97	15	P		P	10 25 27.1	-0.6	
	baz=212,SNR=12								
GRNC	Granite Creek	85.98	17	IAmb		IAmb	10 25 28.9		
	comp=Z,11nm,0.8s								
F14K	Arctic Creek	85.99	5	P		P	10 25 27.1	-0.5	
	baz=191								
M24K	Tolsona, Glenn	86.02	15	P		P	10 25 27.5	-0.4	
	baz=210								
GLB	Gilahina Butte	86.03	16	IAmb		IAmb	10 25 28.2		
	comp=Z,9.8nm,0.6s								
SEY	Seymchan	86.11	347	P		P	10 25 27.9	-0.3	
	comp=Z,12nm,0.7s,baz=140,slow=5.6,SNR=40								
	comp=Z,12nm,0.7s								
MCARA	McCarthy VSAT	86.18	16	IAmb		IAmb	10 25 31.3		
	comp=Z,7.4nm,0.7s								
MCARA	McCarthy VSAT	86.18	16	P		P	10 25 28.3	-0.4	
	baz=213								
TMUT	Trail Mountain	86.23	46	IAmb		IAmb	10 25 59.0		
	comp=Z,5.2nm,0.6s								
B08A	Colville Reser	86.24	35			P	10 25 29.6	+0.3	
B08A				IAmb		IAmb	10 25 30.4		
	comp=Z,8.5nm,0.7s								
PLID	Pearl Lake	86.25	39	IAmb		IAmb	10 25 30.7		
	comp=Z,6.8nm,0.7s								
P29M	Windy Craggy	86.26	19	IAmb		IAmb	10 25 30.7		
	comp=Z,13nm,1.1s								
P29M	Windy Craggy	86.26	19	P		P	10 25 29.3	+0.2	
	baz=218								
R32K	Eaglecrest	86.26	22	P		P	10 25 28.9	-0.2	
	baz=221								
J20K	Nowinta River	86.27	10	P		P	10 25 28.4	-0.5	
	baz=203,SNR=5.1								
LLLB	Lillooet	86.28	32	IAmb		IAmb	10 25 30.4		
	comp=Z,6.1nm,0.6s								
CTG	Chitna Glacier	86.29	17	P		P	10 25 28.8	-0.6	
	baz=215,SNR=5.7								
CTGM	Chitina Glacie	86.29	17	IAmb		IAmb	10 25 30.3		
	comp=Z,12nm,0.8s								
TRF	Thorofare Moun	86.32	12	P		P	10 25 28.1	-1.4	
	baz=206,SNR=19								
CHUM	Lake Minchumin	86.32	11	P		P	10 25 28.0	-1.2	
	baz=204								
HLID	Hailey	86.37	41	IAmb		IAmb	10 25 32.4		
	comp=Z,8.3nm,0.9s								
O28M	Mount Upton	86.45	18	IAmb		IAmb	10 25 31.3		
	comp=Z,9.5nm,0.8s								
O28M	Mount Upton	86.45	18	P		P	10 25 29.7	-0.5	
	baz=216,SNR=5.6								
HARP	HAARP	86.51	15	P		P	10 25 29.9	-0.3	
	baz=211								
O29M	Mount Kennedy	86.54	19	IAmb		IAmb	10 25 31.9		
	comp=Z,8.2nm,1.0s								
O29M	Mount Kennedy	86.54	19	P		P	10 25 29.6	-0.9	
	baz=217								
H18K	Honhosa River	86.55	8	P		P	10 25 29.8	-0.5	
	baz=199								
SRU	San Rafael Swe	86.60	46	IAmb		IAmb	10 25 33.2		
	comp=Z,5.5nm,0.8s								
VHRN	Van Horn	86.79	56	IAmb		IAmb	10 25 35.0		
	comp=Z,9.0nm,1.

	comp=Z,6.0nm,0.9s							
M27K	**Edge Creek, AK**	**87.30**	**16**	P	**P**	**10 25 33.8**	**-0.2**	
	baz=214,SNR=16							
PV23	**Carpenter Ridg**	**87.32**	**47**	IAmb	IAmb	10 25 36.5		
	comp=Z,9.1nm,0.9s							
YUK4	**Talbot Arm**	**87.36**	**18**	P	**P**	**10 25 34.6**	**+0.1**	
	baz=217,SNR=6.6							
H20K	**Anotleesega Mo**	**87.38**	**10**	P	**P**	**10 25 34.2**	**0.0**	
	baz=202,SNR=5.7							
PV02	**Paradox Valley**	**87.39**	**48**	IAmb	IAmb	10 25 37.6		
	comp=Z,11nm,1.2s							
PV12	**Saucer Basin,**	**87.40**	**48**	IAmb	IAmb	10 25 39.0		
	comp=Z,6.2nm,1.0s							
F17K	**Baldwin Pennin**	**87.43**	**7**	P	**P**	**10 25 34.8**	**+0.5**	
	baz=196							
L26K	**Log Cabin Wild**	**87.49**	**15**	IAmb	IAmb	10 25 35.8		
	comp=Z,5.8nm,1.1s							
L26K	**Log Cabin Wild**	**87.49**	**15**	P	**P**	**10 25 34.6**	**-0.2**	
	baz=213							
ANMO	**Albuquerque**	**87.52**	**51**	P	**P**	**10 25 35.5**	**-0.3**	
ANMO				IAmb	IAmb	10 25 38.3		
	comp=Z,8.1nm,1.4s							
P32M	**Atlin**	**87.53**	**21**	P	**P**	**10 25 35.3**	**+0.2**	
	baz=221							
Q32M	**Nakina River**	**87.56**	**22**	IAmb	IAmb	10 25 37.1		
	comp=Z,6.5nm,0.8s							
Q32M	**Nakina River**	**87.56**	**22**	P	**P**	**10 25 35.3**	**-0.1**	
	baz=223,SNR=6.7							
I21K	**Tanana**	**87.57**	**11**	P	**P**	**10 25 34.8**	**-0.2**	
	baz=205							
NEA2	**Nenana**	**87.58**	**12**	IAmb	IAmb	10 25 35.0		
	comp=Z,6.3nm,0.6s							
NEA2	**Nenana**	**87.58**	**12**	P	**P**	**10 25 33.7**	**-1.4**	
	baz=207							
K24K	**Donnelly Dome**	**87.58**	**14**	P	**P**	**10 25 34.7**	**-0.5**	
	baz=210,SNR=9.8							
BVCY	**Beaver Creek**	**87.61**	**16**	P	**P**	**10 25 34.9**	**-0.4**	
	baz=215,SNR=14							
MLY	**Manley**	**87.66**	**11**	P	**P**	**10 25 33.7**	**-1.8**	
	baz=206							
G19K	**Purcell Mounta**	**87.66**	**8**	IAmb	IAmb	10 25 36.1		
	comp=Z,5.9nm,0.8s							
G19K	**Purcell Mounta**	**87.66**	**8**	P	**P**	**10 25 33.8**	**-1.6**	
	baz=200							
ALPN	**Alpine**	**87.67**	**57**	IAmb	IAmb	10 25 38.8		
	comp=Z,7.4nm,1.0s							
O30N	**Mendenhall**	**87.67**	**19**	P	**P**	**10 25 35.2**	**-0.5**	
	baz=219,SNR=16							
RIDG	**Independent Ri**	**87.74**	**14**	P	**P**	**10 25 35.0**	**-0.9**	
	baz=211							
F18K	**Selawik**	**87.76**	**7**	P	**P**	**10 25 34.5**	**-1.3**	
	baz=198							
HDA	**Harding Lake**	**87.86**	**13**	P	**P**	**10 25 35.8**	**-0.6**	
	baz=209,SNR=25							
H21K	**Melozitna Rive**	**87.86**	**10**	IAmb	IAmb	10 25 37.1		
	comp=Z,6.8nm,0.8s							
H21K	**Melozitna Rive**	**87.86**	**10**	P	**P**	**10 25 36.0**	**-0.4**	
	baz=204,SNR=9.8							
L27K	**Beaver Creek,**	**87.90**	**16**	P	**P**	**10 25 36.7**	**0.0**	
	baz=214,SNR=6.6							
N30M	**Aishikik Lake**	**87.91**	**18**	IAmb	IAmb	10 25 37.8		
	comp=Z,4.3nm,0.7s							
N30M	**Aishikik Lake**	**87.91**	**18**	P	**P**	**10 25 36.9**	**+0.1**	
	baz=218,SNR=6.4							
BCAR	**Beaver Creek A**	**87.91**	**16**	P	**P**	**10 25 36.2**	**-0.5**	
WHY	**Whitehorse**	**87.96**	**20**	P	**P**	**10 25 37.0**	**-0.1**	
	baz=220,SNR=6.9							
DLBC	**Dease Lake**	**87.98**	**23**	P	**P**	**10 25 37.8**	**+0.6**	
	baz=225,SNR=6.7							
IMAR	**Indian Mountai**	**88.01**	**10**	P	**P**	**10 25 36.8**	**-0.3**	
I23K	**Minto, Yukon-K**	**88.02**	**12**	IAmb	IAmb	10 25 37.1		
	comp=Z,6.3nm,0.7s							
I23K	**Minto, Yukon-K**	**88.02**	**12**	P	**P**	**10 25 35.5**	**-1.6**	
	baz=207							
AHID	**Auburn Hatcher**	**88.03**	**43**	IAmb	IAmb	10 25 40.1		
	comp=Z,7.0nm,1.1s							
COLA	**College**	**88.08**	**13**	P	**P**	**10 25 36.8**	**-0.6**	
COLA	**College**	**88.08**	**13**	P	**P**	**10 25 36.2**	**-1.2**	
COLA	**College**	**88.08**	**13**	P	**P**	**10 25 36.1**	**-1.2**	
	baz=208							
SCRK	**Sand Creek**	**88.14**	**14**	IAmb	IAmb	10 25 39.8		
	comp=Z,6.8nm,0.9s							
SCRK	**Sand Creek**	**88.14**	**14**	P	**P**	**10 25 37.5**	**-0.4**	
	baz=212,SNR=8.3							
IL31		**88.19**	**13**	IAmb	IAmb	10 25 37.9		
	comp=Z,9.7nm,1.0s							
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**10 25 36.6**	**-1.3**	
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**10 25 36.9**	**-1.0**	
	comp=Z,5.5nm,0.6s,baz=217,slow=5.3,SNR=101							
ILAR				PP	**PP**	**10 29 18.6**	**+1.0**	
	comp=Z,0.8nm,0.8s,baz=222,slow=6.6,SNR=6.6							
	comp=Z,5.5nm,0.6s							
F19K	**Shaleruckik Mo**	**88.22**	**8**	P	**P**	**10 25 37.5**	**-0.6**	
	baz=199							
M29M	**Somme Creek**	**88.29**	**17**	P	**P**	**10 25 38.2**	**-0.4**	
	baz=217,SNR=23							
P33M	**Teslin, Yukon**	**88.30**	**21**	IAmb	IAmb	10 25 40.4		
	comp=Z,3.9nm,0.8s							
P33M	**Teslin, Yukon**	**88.30**	**21**	P	**P**	**10 25 38.9**	**+0.2**	
	baz=222,SNR=6.1							
N31M	**Braeburn, Yuko**	**88.32**	**19**	P	**P**	**10 25 38.7**	**0.0**	
	baz=220,SNR=9.4							
H22K	**Ishtalitna Cre**	**88.32**	**11**	P	**P**	**10 25 38.0**	**-0.6**	
	baz=205,SNR=14							
R33M	**Jennings River**	**88.33**	**22**	IAmb	IAmb	10 25 40.7		
	comp=Z,12nm,1.4s							
R33M	**Jennings River**	**88.33**	**22**	P	**P**	**10 25 38.7**	**-0.2**	
	baz=224,SNR=6.7							
J25K	**Salcha River,**	**88.37**	**14**	IAmb	IAmb	10 25 39.2		
	comp=Z,8.1nm,0.7s							
J25K	**Salcha River,**	**88.37**	**14**	P	**P**	**10 25 38.1**	**-0.8**	
	baz=211,SNR=13							
POKR	**Poker Plat Res**	**88.38**	**13**	IAmb	IAmb	10 25 38.6		
	comp=Z,13nm,1.0s							
POKR	**Poker Plat Res**	**88.38**	**13**	P	**P**	**10 25 37.2**	**-1.6**	
	baz=209							
TPAW	**Teton Pass**	**88.49**	**42**	IAmb	IAmb	10 25 42.3		
	comp=Z,5.2nm,0.8s							
S22A	**4UR Ranch, Cre**	**88.51**	**49**	IAmb	IAmb	10 25 42.6		
	comp=Z,6.7nm,1.3s							
G21K	**Allakaket**	**88.54**	**10**	P	**P**	**10 25 39.1**	**-0.5**	
	baz=203							
H23K	**Yukon River**	**88.59**	**11**	P	**P**	**10 25 39.2**	**-0.6**	
	baz=207							
O20A	**White River Ci**	**88.64**	**46**	IAmb	IAmb	10 25 42.2		
	comp=Z,4.8nm,1.0s							
K27K	**Chicken**	**88.64**	**15**	P	**P**	**10 25 40.7**	**+0.6**	
	baz=214							
J26L	**Joseph Creek**	**88.69**	**14**	P	**P**	**10 25 40.2**	**-0.2**	
	baz=212,SNR=30							
F20K	**Avaraart Lake**	**88.70**	**9**	IAmb	IAmb	10 25 40.9		
	comp=Z,7.9nm,0.8s							
F20K	**Avaraart Lake**	**88.70**	**9**	P	**P**	**10 25 39.9**	**-0.3**	
	baz=201,SNR=6.3							
LOHW	**Long Hollow**	**88.77**	**42**	IAmb	IAmb	10 25 43.2		
	comp=Z,4.6nm,0.7s							
M30M	**Minto, Yukon**	**88.87**	**18**	P	**P**	**10 25 40.9**	**-0.4**	
	baz=219,SNR=28							
E19K	**Redstone River**	**88.88**	**8**	P	**P**	**10 25 41.0**	**-0.2**	
	baz=200							
N32M	**Quiet Lake**	**88.91**	**20**	P	**P**	**10 25 41.3**	**-0.2**	
	baz=222							
L29M	**L29M**	**88.92**	**17**	P	**P**	**10 25 41.6**	**+0.2**	
	baz=217,SNR=24							
HHC	**Hu-ho-hao-te**	**88.99**	**314**	*e*P	**P**	**10 25 45.4**	**+3.0**	
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,110nm,5.5s							
BW06	**Boulder Array**	**89.02**	**43**	IAmb	IAmb	10 25 43.9		
	comp=Z,5.8nm,0.7s							
PD31	**Pinedale Array**	**89.02**	**43**	IAmb	IAmb	10 25 44.0		
	comp=Z,5.7nm,0.7s							
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**10 25 42.9**	**+0.3**	
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**10 25 43.2**	**+0.6**	
	comp=Z,4.3nm,0.6s,baz=208,slow=3.6,SNR=55							
	comp=Z,4.3nm,0.6s							
PRP	**Porcupine Dome**	**89.12**	**13**	P	**P**	**10 25 42.6**	**+0.1**	
	baz=211							
BOZ	**Bozeman (W)**	**89.13**	**40**	IAmb	IAmb	10 25 45.0		
	comp=Z,5.3nm,0.9s							
F21K	**Alatna River**	**89.19**	**9**	IAmb	IAmb	10 25 42.5		
	comp=Z,3.6nm,0.8s							
F21K	**Alatna River**	**89.19**	**9**	P	**P**	**10 25 42.0**	**-0.6**	
	baz=203							
C17K	**DeLong Mountai**	**89.20**	**6**	P	**P**	**10 25 42.0**	**-0.6**	
	baz=194							
G22K	**Bettles**	**89.24**	**10**	P	**P**	**10 25 42.6**	**-0.1**	
	baz=205							
M31M	**Drury Creek, Y**	**89.30**	**19**	IAmb	IAmb	10 25 43.8		
	comp=Z,5.2nm,1.0s							
M31M	**Drury Creek, Y**	**89.30**	**19**	P	**P**	**10 25 42.9**	**-0.3**	
	baz=221,SNR=6.4							
G23K	**Bananza Creek**	**89.30**	**11**	IAmb	IAmb	10 25 44.0		
	comp=Z,7.2nm,1.2s							
G23K	**Bananza Creek**	**89.30**	**11**	P	**P**	**10 25 42.5**	**-0.7**	
	baz=206,SNR=5.8							
DAWY	**Dawson**	**89.35**	**16**	P	**P**	**10 25 43.3**	**-0.1**	
	baz=216,SNR=21							
I26K	**Coal Creek Min**	**89.46**	**14**	P	**P**	**10 25 43.6**	**-0.3**	
	baz=213							
K29M	**Barlow Dome**	**89.67**	**17**	P	**P**	**10 25 45.0**	**0.0**	
	baz=218,SNR=17							
COLD	**Coldfoot**	**89.73**	**11**	IAmb	IAmb	10 25 46.2		
	comp=Z,8.0nm,0.9s							
COLD	**Coldfoot**	**89.73**	**11**	P	**P**	**10 25 45.1**	**+0.1**	
	baz=206,SNR=8.5							
D19K	**Kuna River**	**89.76**	**7**	P	**P**	**10 25 45.0**	**-0.2**	
	baz=199							
CMAR	**Chiang Mai Arr**	**89.76**	**290**	P	**P**	**10 25 46.1**	**-0.2**	
	comp=Z,0.7nm,0.5s,baz=134,slow=4.1,SNR=4.8							
	comp=Z,0.7nm,0.5s							
E20K	**Nigu River**	**89.77**	**8**	P	**P**	**10 25 45.4**	**+0.1**	
	baz=201							
YNE	**Yellowstone No**	**89.83**	**41**	IAmb	IAmb	10 25 48.6		
	comp=Z,5.7nm,0.9s							
OZNA	**Ozona**	**89.86**	**57**	IAmb	IAmb	10 25 47.7		
	comp=Z,3.1nm,0.7s							
MAYO	**Mayo, Yukon**	**89.93**	**18**	P	**P**	**10 25 45.9**	**-0.1**	
	baz=219,SNR=8.4							
I27K	**Kandik River**	**90.06**	**14**	P	**P**	**10 25 46.9**	**+0.2**	
	baz=214							
TOAD	**Toad River Com**	**90.09**	**25**	P	**P**	**10 25 47.4**	**+0.5**	
	baz=229,SNR=13							
LIRD	**Liard River Hi**	**90.13**	**24**	P	**P**	**10 25 47.1**	**+0.1**	
	baz=228							
D20K	**Etivluk River**	**90.15**	**8**	P	**P**	**10 25 46.5**	**-0.4**	
	baz=200							
C19K	**Lookout Ridge**	**90.17**	**7**	P	**P**	**10 25 46.5**	**-0.6**	
	baz=198							
E21K	**Killik River**	**90.25**	**9**	P	**P**	**10 25 46.6**	**-0.9**	
	baz=203							
E22K	**Anaktuvuk Pass**	**90.29**	**10**	P	**P**	**10 25 47.2**	**-0.5**	
	baz=205,SNR=8.3							
I28M	**Miner Creek**	**90.34**	**15**	IAmb	IAmb	10 25 48.5		
	comp=Z,4.8nm,0.7s							
I28M	**Miner Creek**	**90.34**	**15**	P	**P**	**10 25 47.8**	**-0.2**	
	baz=216,SNR=6.5							
PZH	**PanZhiHua**	**90.34**	**298**	P	**P**	**10 25 49.1**	**+0.1**	
F24K	**Squaw Lake**	**90.41**	**11**	IAmb	IAmb	10 25 48.8		
	comp=Z,2.7nm,0.7s							
F24K	**Squaw Lake**	**90.41**	**11**	P	**P**	**10 25 47.8**	**-0.5**	
	baz=208							
J30M	**Hart River**	**90.57**	**17**	IAmb	IAmb	10 25 49.6		
	comp=Z,4.0nm,1.1s							
J30M	**Hart River**	**90.57**	**17**	P	**P**	**10 25 49.0**	**-0.2**	
	baz=219							
MMPY	**Sheldon Lake,**	**90.58**	**20**	IAmb	IAmb	10 25 51.3		
	comp=Z,4.3nm,0.8s							
MMPY	**Sheldon Lake,**	**90.58**	**20**	P	**P**	**10 25 49.2**	**0.0**	
	baz=224,SNR=7.5							
E23K	**Chandalar**	**90.58**	**10**	IAmb	IAmb	10 25 49.9		
	comp=Z,7.5nm,1.1s							
E23K	**Chandalar**	**90.58**	**10**	P	**P**	**10 25 48.8**	**-0.3**	
	baz=207,SNR=5.5							
H27K	**Steamboat Moun**	**90.61**	**14**	P	**P**	**10 25 49.1**	**-0.1**	
	baz=214,SNR=5.2							
I29M	**Ogilvie Camp,**	**90.67**	**16**	IAmb	IAmb	10 25 49.4		
	comp=Z,4.0nm,0.7s							
I29M	**Ogilvie Camp,**	**90.67**	**16**	P	**P**	**10 25 49.0**	**-0.5**	
	baz=217,SNR=7.8							
G26K	**Porcupine Rive**	**90.72**	**13**	IAmb	IAmb	10 25 51.5		
	comp=Z,7.3nm,0.9s							
G26K	**Porcupine Rive**	**90.72**	**13**	P	**P**	**10 25 49.8**	**+0.2**	
	baz=212,SNR=5.3							
E24K	**Your Creek**	**90.79**	**11**	P	**P**	**10 25 49.5**	**-0.5**	
	baz=208							
TGTN	**Hyland Airport**	**90.79**	**22**	P	**P**	**10 25 50.1**	**0.0**	
	baz=226							
C21K	**Knifeblade Rid**	**90.80**	**8**	P	**P**	**10 25 49.5**	**-0.4**	
	baz=202							
D22K	**Ayikyak River**	**90.84**	**9**	P	**P**	**10 25 50.1**	**-0.1**	
	baz=204							
F25K	**Christian Rive**	**90.89**	**12**	P	**P**	**10 25 50.4**	**-0.1**	
	baz=211							
K22A	**Casper**	**90.95**	**45**	IAmb	IAmb	10 25 52.9		
	comp=Z,6.7nm,1.1s							
BMAR	**Burnt Mountain**	**90.96**	**12**	P	**P**	**10 25 50.5**	**-0.3**	
G27K	**Doyon Strip**	**91.06**	**14**	P	**P**	**10 25 51.1**	**-0.1**	
	baz=214							
I30M	**Mount Dempster**	**91.06**	**16**	IAmb	IAmb	10 25 52.1		
	comp=Z,7.6nm,1.0s							
I30M	**Mount Dempster**	**91.06**	**16**	P	**P**	**10 25 50.8**	**-0.6**	
	baz=219,SNR=7.1							
D23K	**Nanushuk River**	**91.22**	**10**	P	**P**	**10 25 51.6**	**-0.3**	
	baz=206,SNR=7.3							
F26K	**Sheenjek River**	**91.28**	**12**	P	**P**	**10 25 51.7**	**-0.5**	
	baz=212							
H29M	**Whitestone**	**91.34**	**15**	P	**P**	**10 25 52.1**	**-0.5**	
	baz=217,SNR=7.8							
D24K	**Happy Valley**	**91.69**	**10**	P	**P**	**10 25 53.6**	**-0.4**	
	baz=208							
EPYK	**Eagle Plains**	**91.87**	**16**	P	**P**	**10 25 54.2**	**-0.8**	
	baz=219,SNR=5.4							
G29M	**Pine Creek**	**91.98**	**15**	P	**P**	**10 25 54.7**	**-0.7**	
	baz=218							
C23K	**Itkillik River**	**92.02**	**9**	P	**P**	**10 25 54.7**	**-0.9**	
	baz=206							
H31M	**Peel River**	**92.05**	**17**	P	**P**	**10 25 54.8**	**-1.0**	
	baz=221							
F28M	**Old Crow**	**92.12**	**14**	P	**P**	**10 25 55.1**	**-1.0**	
	baz=216							
E27K	**Coleen River**	**92.22**	**13**	P	**P**	**10 25 56.2**	**-0.3**	
	baz=214							
C24K	**Franklin Bluff**	**92.22**	**10**	P	**P**	**10 25 56.2**	**-0.2**	
	baz=208							
D25K	**Kavik River**	**92.26**	**11**	P	**P**	**10 25 56.0**	**-0.8**	
	baz=210							
G30M	**tAoh Zraii Nji**	**92.47**	**15**	P	**P**	**10 25 57.1**	**-0.7**	
	baz=219,SNR=6.3							
G31M	**Satah River**	**92.92**	**16**	P	**P**	**10 25 58.8**	**-0.9**	
	baz=221,SNR=6.5							
LAO	**LASA Array**	**92.95**	**41**	IAmb	IAmb	10 26 02.6		
	comp=Z,4.4nm,0.8s							
E28M	**Babbage River**	**93.00**	**13**	IAmb	IAmb	10 26 00.8		
	comp=Z,4.1nm,0.8s							
E28M	**Babbage River**	**93.00**	**13**	P	**P**	**10 25 59.1**	**-1.0**	
	baz=216							
C27K	**Jago River**	**93.01**	**11**	P	**P**	**10 25 59.1**	**-1.0**	
	baz=212							
F30M	**Barrier River**	**93.07**	**15**	P	**P**	**10 25 59.4**	**-1.0**	
	baz=220							
E29M	**Blow River**	**93.19**	**14**	P	**P**	**10 25 59.7**	**-1.2**	
	baz=218							
F31M	**Tsiigehtchic**	**93.45**	**16**	P	**P**	**10 26 01.3**	**-0.8**	
	baz=221							
INK	**Inuvik**	**94.16**	**15**	P	**P**	**10 26 04.7**	**-0.6**	
	comp=Z,2.4nm,0.7s,baz=258,slow=6.4,SNR=5.1							
	comp=Z,2.4nm,0.7s							
INK	**Inuvik**	**94.16**	**15**	P	**P**	**10 26 04.4**	**-0.8**	
	baz=222							
ZALV	**Zalesovo Beam**	**110.14**	**321**	PKiKP	**PKiKP**	**10 31 12.3**	**-1.9**	
	comp=Z,0.6nm,0.4s,baz=132,slow=2.1,SNR=3.5							
MKAR	**Makanchi Array**	**110.84**	**314**	PKiKP	**PKiKP**	**10 31 14.5**	**-1.3**	
	comp=Z,0.6nm,0.6s,baz=191,slow=0.6,SNR=6.1							
KURBB	**Kurchatov Arra**	**113.69**	**317**	PKiKP	**PKiKP**	**10 31 19.9**	**-1.2**	
	comp=Z,0.6nm,0.2s,baz=116,slow=2.2,SNR=6.8							
BVAR	**Borovoye Array**	**118.73**	**320**	PKP	**PKPdf**	**10 31 30.0**	**-0.7**	
	comp=Z,2.4nm,0.6s,baz=70,slow=1.7,SNR=10							
ARCES	**ARCESS Array B**	**128.67**	**350**	PKP	**PKPdf**	**10 31 48.4**	**-0.9**	
	comp=Z,1.5nm,0.6s,baz=29,slow=2.8,SNR=9.1							
ARCES				PP	**PP**	**10 34 11.8**	**+6.3**	
	comp=Z,4.6nm,0.9s,baz=5.6,slow=10,SNR=4.4							
FINES	**FINESS Array B**	**135.49**	**344**	PKP	**PKPdf**	**10 32 02.1**	**-0.2**	
	comp=Z,4.2nm,0.9s,baz=46,slow=5.5,SNR=6.2							
FINES				SKPbc	**SKPbc**	**10 34 36.6**	**+0.7**	
	comp=Z,1.6nm,0.6s,baz=77,slow=2.5,SNR=11							
NB2	**NORSAR Subarra**	**138.74**	**353**	PKP	PKPpre	10 31 58.9		
	comp=Z,1.1nm,0.6s,baz=20,slow=3.7							
NOA	**NORSAR Array B**	**138.74**	**353**	PKhKP	PKPpre	10 31 59.7		
	comp=Z,0.6nm,0.7s,baz=18,slow=2.7,SNR=6.1							
NOA				SKPbc	**SKPbc**	**10 34 46.2**	**+0.9**	
	comp=Z,1.2nm,0.8s,baz=17,slow=4.5,SNR=3.4							
HFS	**Hagfors**	**139.29**	**351**	PKhKP	PKPpre	10 32 00.5		
	comp=Z,1.1nm,0.4s,baz=66,slow=3.6,SNR=13							
HFS				SKPbc	**SKPbc**	**10 34 47.4**	**+0.6**	
	comp=Z,1.3nm,0.8s,baz=108,slow=4.8,SNR=4.1							
STRU	**Stroemstad**	**140.70**	**352**	*i* P	PKPpre	10 32 06.1		
HOMB	**Homborsund**	**141.75**	**354**	*i* P	PKPpre	10 32 09.9		
SNART	**Snartemo**	**141.79**	**355**	*i* P	PKPpre	10 32 10.0		
BORU	**Boraas**	**141.83**	**350**	*i* P	PKPpre	10 32 08.9		
ONAU	**Onsala**	**142.19**	**351**	*i* P	PKPpre	10 32 10.0		
FABU	**Falkenberg**	**142.44**	**350**	*i* P	PKPpre	10 32 10.9		
OVD	**Ostervraa, Den**	**142.50**	**352**	*i* P	PKPpre	10 32 11.1		
BLEU	**Blekinge**	**142.53**	**347**	*i* P	PKPpre	10 32 10.9		
AKASG	**Malin Array Be**	**142.69**	**331**	PKhKP	PKPpre	10 32 12.0		
	comp=Z,8.4nm,0.5s,baz=44,slow=4.4,SNR=55							
AKASG				SKPbc	**SKPbc**	**10 34 56.1**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=83,slow=1.7,SNR=5.7							
KIEV	**Kiev**	**142.70**	**331**		PKPpre	10 32 12.1		
DEL	**Delary**	**142.75**	**349**	*i* P	PKPpre	10 32 12.6		
MUD	**Monsted U'grnd**	**143.46**	**353**	*i* P	PKPab	10 32 15.2	-0.5	
RNPP9	**Sopachiv**	**143.61**	**334**	PKP	PKPab	10 32 15.6	-0.9	
LUNU	**Lund**	**143.62**	**349**	*i* P	PKPab	10 32 15.5	-0.8	
RNPP8	**Varash**	**143.68**	**334**	PKP	PKPab	10 32 15.7	-1.0	
RNPP5	**Staryi Chortor**	**143.75**	**334**	PKP	PKPbc	10 32 15.8	-1.1	
COP	**Copenhagen**	**143.75**	**350**	*i* P	PKPbc	10 32 16.5	-0.2	
BSD	**Bornholm Skovb**	**143.82**	**347**	*i* P	PKPbc	10 32 16.2	-0.7	
LUBAR	**Lubar, Ukraine**	**143.91**	**331**	PKP	PKPbc	10 32 15.8	-1.6	
EKA	**Eskdalemuir Ar**	**144.83**	**5**	PKP	**PKPdf**	**10 32 19.6**	**+0.3**	
	comp=Z,9.1nm,0.8s,baz=327,slow=2.3,SNR=18							
EKA				SKPbc	**SKiKP**	**10 35 02.1**	**+1.0**	
	comp=Z,0.5nm,0.4s,baz=1.4,slow=3.8,SNR=4.1							
BR131	**Keskin Array S**	**146.48**	**312**		**PKPbc**	**10 32 25.0**	**-0.4**	
BRTR	**Keskin Array B**	**146.48**	**312**	PKPbc	**PKPbc**	**10 32 24.9**	**-0.6**	
	comp=Z,2.6nm,0.7s,baz=139,slow=3.9,SNR=14							
BRTR				SKPbc	**SKiKP**	**10 35 05.7**	**+0.4**	
	comp=Z,0.9nm,0.8s,baz=172,slow=2.9,SNR=3.9							
BURAR	**Bucovina Array**	**146.74**	**330**		**PKPbc**	**10 32 26.0**	**+0.2**	
OJC	**Ojcow**	**146.86**	**339**	*e*PKP	**PKPbc**	**10 32 25.7**	**-0.2**	
KOLS	**Kolonicke sedl**	**147.00**	**335**	*e*PKP	**PKPab**	**10 32 29.4**	**-0.5**	
STHS	**Stebnicka Huta**	**147.01**	**336**	*e*PKP	**PKPab**	**10 32 29.6**	**-0.4**	
KSP	**Ksiaz**	**147.41**	**343**	*e*PKP	**PKPbc**	**10 32 27.5**	**+0.2**	
MMAI	**Mount Meron Ar**	**147.45**	**300**	PKPbc	**PKPbc**	**10 32 28.3**	**+0.2**	
	comp=Z,4.5nm,0.7s,baz=57,slow=6.3,SNR=6.7							
OSTC	**Ostas**	**147.69**	**343**	⇑*e*PKP	**PKPbc**	**10 32 28.9**	**+0.9**	
STEB	**Steborice**	**147.77**	**340**	⇑*e*PKP	**PKPbc**	**10 32 28.7**	**+0.4**	
STEB				*ex*	x	10 32 33.5		
CLL	**Collm**	**147.80**	**347**		**PKPbc**	**10 32 28.3**	**+0.1**	
CLL	**Collm**	**147.80**	**347**	*e*PKPdf	**PKPdf**	**10 32 24.0**	**-0.4**	
CLL				⇓*i*PKPbc	**PKPbc**	**10 32 28.2**	**0.0**	
	comp=Z,23nm,0.8s							
CLL				⇑*i*PKPab	**PKPab**	**10 32 32.4**	**-0.7**	
CLL				*ex*	x	10 32 37.0		
DPC	**Dobruska-Polom**	**147.84**	**342**	⇑*e*PKP	**PKPbc**	**10 32 28.9**	**+0.4**	
KRLC	**Kraliky**	**147.95**	**342**	⇑*e*PKP	**PKPbc**	**10 32 29.0**	**+0.2**	
MORC	**Moravsky Berou**	**147.98**	**340**	*e*PKP	**PKPbc**	**10 32 28.9**	**0.0**	
BRG	**Berggiesshubel**	**147.99**	**345**	*i* PKP	**PKPbc**	**10 32 29.3**	**+0.6**	
BRG				Amp		10 32 30.0		
	comp=Z,9.4nm,0.9s							
BRG	**Berggiesshubel**	**147.99**	**345**	P	**PKPab**	**10 32 33.9**	**0.0**	
BRG				Amp		10 32 34.5		
	comp=Z,9.4nm,0.7s							
PRU	**Pruhonice**	**148.66**	**344**	⇑*e*PKP	**PKPbc**	**10 32 30.8**	**+0.4**	
PRU				*e*PKPAB	**PKPab**	**10 32 36.8**	**+0.1**	
VYHS	**Vyhne**	**148.66**	**338**	*e*PKP	**PKPbc**	**10 32 30.9**	**+0.4**	
GOPC	**GO Pecny, Ondr**	**148.66**	**344**	⇑*e*PKP	**PKPbc**	**10 32 30.8**	**+0.3**	
VRAC	**Vranov**	**148.69**	**341**	*e*PKP	**PKPbc**	**10 32 30.7**	**+0.1**	
KRUC	**Moravsky**	**148.97**	**341**	*e*PKP	**PKPbc**	**10 32 31.3**	**+0.1

comp=E,3µm,0.4s
SRTC Snort 0.27 186 Pg 10 31 30.4 +0.5
SRTC Sg 10 31 35.2 +1.9
WSHM Spangler Hills 0.40 153 Pg 10 31 32.4 0.0
WSHM Sg 10 31 38.0 +0.4
WSHM Spangler Hills 0.40 153 IAML 10 31 38.7
comp=E,4µm,0.4s
WSHM IAML 10 31 38.7
comp=E,2µm,0.3s
LRMC Laurel Mtn Rad 0.48 177 Pg 10 31 33.8 -0.1
LRMC Sg 10 31 40.8 +0.7
LRMC Laurel Mtn Rad 0.48 177 IAML 10 31 41.1
comp=N,2µm,0.2s
LRMC IAML 10 31 41.9
comp=E,2µm,0.2s
WORM Onyx Ranch 0.50 239 Pg 10 31 34.2 -0.2
WORM Sg 10 31 41.0 +0.1
CCCA Chr Cany lake 0.52 147 Pg 10 31 35.0 +0.3
CCCA Sg 10 31 42.6 +1.3
CCCA Chr Cany lake 0.52 147 IAML 10 31 43.0
comp=N,3µm,0.5s
CCCA IAML 10 31 44.2
comp=E,2µm,0.4s
WBSM Bird Springs 0.54 220 Sg 10 31 42.6 +0.4
CWC Cottonwood Cre 0.57 328 Pg 10 31 35.8 +0.1
CWC Sg 10 31 43.4 +0.3
CWC Cottonwood Cre 0.57 328 IAML 10 31 44.3
comp=E,471nm,0.3s
CWC IAML 10 31 44.4
comp=N,505nm,0.2s
WHFM Hanning Flat 0.58 244 Pg 10 31 35.7 -0.1
WHFM Sg 10 31 43.5 +0.2
CGO Cerro Gordo 0.60 353 Pg 10 31 36.9 -0.4
CGO Sg 10 31 44.8 +0.7
ISA Isabella, Lake 0.69 245 Sg 10 31 46.9 +0.2
ISA Isabella, Lake 0.69 245 Pg 10 31 37.8 0.0
ISA IAML 10 31 47.1
comp=N,2µm,0.3s
ISA IAML 10 31 47.9
comp=E,2µm,0.2s
QSM Queen of Sheba 0.69 89 Pg 10 31 37.7 -0.2
QSM Sg 10 31 47.2 +0.4
QSM Queen of Sheba 0.69 89 IAML 10 31 50.3
comp=E,500nm,0.5s
QSM IAML 10 31 51.0
comp=N,475nm,0.5s
DTP Desert Tortois 0.70 189 Pg 10 31 37.7 -0.4
DTP Sg 10 31 47.5 +0.4
WASM Alta Sierra Ca 0.72 253 Pg 10 31 38.4 -0.1
WASM Sg 10 31 48.1 +0.2
CCAC Calif City Air 0.84 197 Pg 10 31 40.5 -0.4
CCAC Sg 10 31 52.0 +0.3
FURC Furnace Creek, 0.86 53 Pg Pg 10 31 41.2 0.0
FURC IAML 10 31 59.4
comp=E,796nm,0.9s
FURC IAML 10 31 59.6
comp=N,876nm,0.7s
FURC Furnace Creek, 0.86 53 Sg 10 31 52.4 +0.1
GWY Greenwater Val 0.88 75 Pg Pg 10 31 41.6 0.0
GWY IAML 10 31 53.9
comp=N,479nm,0.3s
GWY IAML 10 32 00.0
comp=E,557nm,0.4s
GWY Greenwater Val 0.88 75 Sg 10 31 53.2 +0.3
SPG2 Springville 2 0.89 286 Pg 10 31 41.1 -0.7
SPG2 Sg 10 31 52.5 -0.7
GSC Goldstone, Bar 0.99 131 Pg 10 31 43.1 -0.6
GSC Goldstone, Bar 0.99 131 Pg 10 31 43.2 -0.4
GSC IAML 10 31 59.3
comp=E,466nm,0.7s
GSC IAML 10 32 00.9
comp=N,245nm,0.5s
GSC Goldstone, Bar 0.99 131 Sg 10 31 56.5 +0.1
GRAC Grapevine Rang 1.07 15 Pg Pg 10 31 44.9 -0.4
GRAC IAML 10 32 03.6
comp=E,516nm,0.6s
GRAC IAML 10 32 06.5
comp=N,542nm,0.8s
GRAC Grapevine Rang 1.07 15 Sb 10 31 60.0 -0.6
TEJ El Tejon 1.08 228 Pg 10 31 44.5 -0.9
TEJ Sg 10 31 58.5 -0.9
HYS Haystack Butte 1.10 174 Pg 10 31 45.0 -0.8
EDW2 Edwards Air Fo 1.10 192 Pg 10 31 44.8 -1.0
EDW2 Sg 10 31 59.3 -0.7
VES Vestal, Richgr 1.12 265 Pg 10 31 45.8 -0.4
VES Sg 10 32 00.0 -0.7
TPO Tropico Hills 1.15 202 Pg 10 31 46.1 -0.8
TPO Sg 10 32 01.5 -0.3
TPO Tropico Hills 1.15 202 IAML 10 32 04.7
comp=N,424nm,0.9s
TPO IAML 10 32 06.9
comp=E,388nm,0.7s
SHOC Shoshone, Teco 1.17 92 Pg 10 31 46.9 -0.3
SHOC IAML 10 32 12.0
comp=E,476nm,0.6s
TIN Tinemaha, Big 1.17 339 Pg 10 31 46.9 -0.3
TIN IAML 10 32 06.2
comp=N,328nm,0.6s
TIN IAML 10 32 07.9
comp=E,339nm,0.7s
WCT Wildcat Mounta 1.21 46 Pg 10 31 47.4 -0.6
WCT IAML 10 32 05.4
comp=E,198nm,0.4s
WCT IAML 10 32 06.2
comp=N,150nm,0.5s
VOG Valley Oaks Go 1.40 286 Pn 10 31 50.8 -0.4
DSP Deep Springs 1.43 352 Pn 10 31 50.9 -0.7
DSP IAML 10 32 11.4
comp=E,110nm,0.4s
TPNV Topopah Spring 1.54 50 Pn 10 31 52.6 -0.7
TPNV IAML 10 32 18.2
comp=E,184nm,0.8s
TPNV IAML 10 32 19.2
comp=E,176nm,0.9s
OSI Osito Audit: C 1.57 212 Pn 10 31 53.2 -0.4
OSI IAML 10 32 21.3
comp=E,147nm,0.7s
OSI IAML 10 32 22.0
comp=N,158nm,0.7s
BFSC Mount Baldy Ra 1.71 178 Pn 10 31 54.7 -1.0
MWC Mount Wilson 1.75 189 IAML 10 32 22.5
comp=N,247nm,0.5s
MWC IAML 10 32 23.9
comp=E,167nm,0.3s
MZP Montezuma Peak 1.76 9 Pn 10 31 56.2 -0.2
MTPC Mountain Pass 1.82 104 Pn 10 31 55.9 -1.2
MTPC IAML 10 32 24.1
comp=N,98nm,0.4s
MTPC IAML 10 32 24.5
comp=E,103nm,0.4s
KCC Kaiser Creek 1.88 317 Pb 10 31 59.4 -0.4
SHPR Sheep Range 2.13 74 Pn 10 32 01.2 -0.3
TPH Tonopah 2.15 10 Pn 10 32 02.2 +0.4
TPH IAML 10 32 45.1
comp=E,172nm,0.9s
S11A Rachel 2.31 43 Pn Pn 10 32 03.8 0.0
S11A IAML 10 32 40.4
comp=E,125nm,1.1s
S11A IAML 10 32 44.4
comp=N,108nm,0.6s
ELS Elsinore Mount 2.31 174 Pn 10 32 03.1 -0.7
DANC Danby, Needles 2.32 124 Pn Pn 10 32 03.0 -0.9
DANC IAML 10 32 43.6
comp=E,77nm,0.6s
DANC IAML 10 32 47.3
comp=N,89nm,0.8s
V12A Nelson 2.34 95 Pn Pn 10 32 04.1 -0.1
LHV Little Huntoon 2.38 345 Pn 10 32 05.4 +0.8
LHV IAML 10 32 47.2
comp=E,39nm,0.7s
BELC Belle Mtn. Jos 2.41 144 IAML 10 32 43.2
comp=N,51nm,0.5s
BELC IAML 10 32 45.2
comp=E,67nm,0.6s
NV11 Mina Array Sit 2.50 352 Pn 10 32 07.6 +1.1
PMPB Monarch Peak 2.52 277 Pn 10 32 07.6 +1.0
PMPB IAML 10 32 48.5
comp=E,89nm,0.7s
PMPB IAML 10 32 48.8
comp=N,85nm,0.7s
CRY Cary Ranch 2.52 161 Pn 10 32 06.2 -0.5
PMD Palm Desert 2.55 154 Pn Pn 10 32 06.4 -0.7
PFO Pinyon Flats O 2.56 156 Pn Pn 10 32 06.5 -0.7
PRN Pahroc Range 2.58 55 Pn 10 32 07.6 0.0
PRN IAML 10 32 58.2
comp=N,70nm,0.8s
PRN IAML 10 32 59.4
comp=E,63nm,0.7s
MYLM Yosemite Lake 2.60 304 Pb 10 32 11.0 -1.0
BBGB Big Mountain B 2.76 284 Pn 10 32 11.6 +1.6
BBGB IAML 10 33 09.1
comp=N,98nm,0.9s
IRM Iron Mountain 2.77 130 Pn 10 32 08.4 -1.6
IRM IAML 10 32 59.7
comp=E,32nm,0.8s
BORC Borrego Spring 2.89 158 IAML 10 32 59.5
comp=E,25nm,0.7s
BC3 Big Chuckawall 2.95 140 IAML 10 33 01.1
comp=N,36nm,0.4s
BC3 IAML 10 33 07.8
comp=E,26nm,0.7s
DPP Dos Picos Cty 3.02 168 Pn 10 32 13.0 -0.5
SAO San Andreas Ge 3.12 286 Pn 10 32 16.2 +1.3
KNB Kanab 4.08 74 Pn 10 32 29.0 +0.8
ESJX Sierra Juarez 4.21 159 IAML 10 33 38.4
comp=N,8.9nm,0.7s
ESJX IAML 10 33 41.4
comp=E,12nm,3.6s

DJA 01 10:33:03.9±0.8, 2°S±2°×12°3E±°, h27km±8km, M4.3/16, mb4.5/2, MLv4.2/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.80**	**2**	P	Pb	10 33 17.7	-1.6
APSI	**Ampana**	**1.44**	**311**	P	Pn	10 33 27.7	-0.5
MRSI	**Marisa**	**2.45**	**341**	P	Pn	10 33 41.6	-0.5
MRSI				S	Sn	10 34 11.7	+0.6
KMSI	**Cibinong**	**2.71**	**27**	P	Pn	10 33 45.3	-0.4
TTSI	**Tana Toraja**	**3.15**	**248**	P	Pn	10 33 51.6	-0.2
TTSI				S	Sn	10 34 29.0	+0.5
SANI	**Sanana**	**3.25**	**94**	P	Pn	10 33 51.8	-1.4
MPSI	**Mapaga**	**3.58**	**307**	P	Pn	10 33 58.6	+1.0
BBSI	**Bau Bau**	**3.62**	**183**	P	Pn	10 33 59.4	+0.2
SPSI	**Sidrap Palu**	**3.63**	**235**	P	Pn	10 33 59.4	+1.0
SPSI				S	Sn	10 34 42.5	+2.0
BNSI	**Bone**	**3.65**	**226**	P	Pn	10 33 59.0	+0.3
BNSI				S	Sn	10 34 40.8	-0.1
BKSI	**Bulukumba**	**4.33**	**217**	P	Pn	10 34 08.3	+0.3
BKSI				S	Sn	10 34 57.0	-0.6
NLAI	**Namlea**	**4.57**	**108**	P	Pn	10 34 11.8	+0.5
BSSI	**Bau Bau, Buton**	**4.82**	**208**	P	Pn	10 34 15.2	+0.5
EDFI	**Ende, Flores**	**6.93**	**189**	P	Pn	10 34 43.6	-0.3
	0.1nm19nm,0.6s						

*NOU **01** 10:38:29.3, 44°.94S×167°.72E, h28km, MLv3.7/10, South Island, New Zealand*
*WEL **01** 10:38:29.1±0.8, 45°S±4°×16°8E±°, h57km±8km, M3.4/12, ML3.6/13, MLv3.4/12, Error ellipse: s-maj=7.7km s-min=4.1km az=125.0, confirmed*
ISC 01 10:38:27.9±1.6, 44°90S±0°.04×167°57E±0°.06, h83km±10km, n34, σ0°73/44, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.34**	**49**	P	**Pn**	**10 38 41.2**	**+0.5**
MSZ				S	**Sn**	**10 38 50.1**	**-0.1**
MLZ	**Mavora Lakes**	**0.61**	**141**	P	**Pn**	**10 38 42.9**	**-0.1**
MLZ				S	**Sn**	**10 38 53.3**	**-0.8**
DCZ	**Deep Cove**	**0.64**	**207**	P	**Pn**	**10 38 42.5**	**-0.7**
DCZ				S	**Sn**	**10 38 52.9**	**-1.6**
MOSS	**Mossburn Schoo**	**0.90**	**149**	P	**Pn**	**10 38 46.3**	**+0.4**
MOSS				S	**Sn**	**10 38 59.7**	**+0.2**
WHZ	**Wether Hill Ro**	**1.03**	**165**	P	**Pn**	**10 38 47.3**	**-0.2**
WKZ	**Wanaka**	**1.03**	**87**	P	**Pn**	**10 38 48.8**	**+1.3**
WKZ				S	**Sn**	**10 39 03.5**	**+1.3**
JCZ	**Jackson Bay**	**1.20**	**47**	P	**Pn**	**10 38 49.9**	**+0.3**
JCZ	**Jackson Bay**	**1.20**	**47**	S	**Sn**	**10 39 06.0**	**+0.1**
JCZ	**Jackson Bay**	**1.20**	**47**	P	**Pn**	**10 38 50.2**	**+0.6**
RRKS	**Rarakau**	**1.25**	**183**	P	**Pn**	**10 38 50.5**	**+0.3**
RRKS				S	**Sn**	**10 39 06.4**	**-0.4**
EAZ	**Earnscleugh**	**1.28**	**106**	P	**Pn**	**10 38 51.5**	**+1.0**
EAZ				S	**Sn**	**10 39 07.6**	**+0.1**
PYZ	**Puysegur Point**	**1.41**	**206**	P	**Pn**	**10 38 53.3**	**+1.1**
PYZ	**Puysegur Point**	**1.41**	**206**	S	**Sn**	**10 39 11.8**	**+1.3**
PYZ	**Puysegur Point**	**1.41**	**206**	P	**Pn**	**10 38 53.4**	**+1.2**
TUZ	**Tuapeka**	**1.79**	**127**	P	**Pn**	**10 38 57.7**	**+0.6**
LBZ	**Lake Benmore**	**1.94**	**76**	P	**Pn**	**10 38 59.5**	**+0.5**
LBZ				S	**Sn**	**10 39 21.8**	**-0.9**
APZ	**The Paps**	**1.96**	**172**	P	**Pn**	**10 38 59.3**	**0.0**
APZ				S	**Sn**	**10 39 22.7**	**-0.5**
SYZ	**Scrubby Hill**	**1.97**	**147**	P	**Pn**	**10 38 59.7**	**+0.3**
SYZ	**Scrubby Hill**	**1.97**	**147**	S	**Sn**	**10 39 22.9**	**-0.6**
SYZ	**Scrubby Hill**	**1.97**	**147**	P	**Pn**	**10 38 59.9**	**+0.5**
SYZ				S	**Sn**	**10 39 22.5**	**-1.0**
FOZ	**Fox Glacier**	**2.12**	**51**	P	**Pn**	**10 39 01.2**	**-0.2**
ODZ	**Otahua Downs**	**2.19**	**95**	P	**Pn**	**10 39 02.5**	**+0.2**
ODZ	**Otahua Downs**	**2.19**	**95**	P	**Pn**	**10 39 02.6**	**+0.3**
HHSZ	**Highcliff Hill**	**2.35**	**116**	P	**Pn**	**10 39 05.3**	**+0.8**
TMZ	**Timaru**	**2.51**	**79**	P	**Pn**	**10 39 06.5**	**-0.1**
RPZ	**Rata Peaks**	**2.77**	**66**	P	**Pn**	**10 39 09.9**	**-0.2**
RPZ	**Rata Peaks**	**2.77**	**66**	S	**Sn**	**10 39 42.6**	**0.0**
RPZ	**Rata Peaks**	**2.77**	**66**	P	**Pn**	**10 39 09.9**	**-0.2**
WVZ	**Waitaha Valley**	**2.92**	**53**	P	**Pn**	**10 39 12.1**	**0.0**
INZ	**Inchbonnie**	**3.55**	**54**	P	**Pn**	**10 39 21.0**	**+0.4**
OXZ	**Oxford**	**3.58**	**66**	P	**Pn**	**10 39 19.9**	**-1.2**
MQZ	**McQueen's Vall**	**3.84**	**74**	P	**Pn**	**10 39 23.8**	**-0.8**
LTZ	**Lake Taylor**	**4.00**	**60**	P	**Pn**	**10 39 25.9**	**-1.0**
QRZ	**Quartz Range**	**5.46**	**44**	P	**Pn**	**10 39 47.2**	**+0.5**

*SOME **01** 10:39:02.1, 41°.13N×77°.10E, h5km*
*KRNET **01** 10:39:03.4±0.1, 41°.18N×77°.03E, h14km, mb2.9*
*NNC **01** 10:39:05.2±1.4, 41°.25N×77°.15E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=10.6km s-min=6.8km az=177.0*
ISC 01 10:39:03.3±1.5, 41°18N±0°.05×77°01E±0°.03, h9km±13km, n31, σ1°30/48, 13C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.96**	**8**	⇑*i*P	**Pb**	**10 39 21.8**	**-0.5**
KDJ				⇑*i*S	**Sb**	**10 39 35.1**	**-0.1**
JNKS	**Jany-Kuch**	**1.03**	**264**	⇑*i*P	**Pg**	**10 39 23.3**	**+0.1**
JNKS				⇑*i*S	**Sb**	**10 39 37.9**	**+0.6**
ULHL	**Ulahol**	**1.21**	**332**	⇑*i*P	**Pg**	**10 39 26.6**	**0.0**
ULHL				⇑*i*S	**Sn**	**10 39 43.5**	**+0.1**
BOOM	**Boomskoye usch**	**1.54**	**329**	⇓*i*P	**Pb**	**10 39 32.2**	**+0.1**
BOOM				⇓*i*S	**Sg**	**10 39 53.6**	**+0.9**
TNSS	**Tian-Shan**	**1.86**	**359**	Pg	**Pg**	**10 39 38.7**	**-0.2**
	7.3nm,0.4s						
TNSS				Lg	Lg	10 40 04.6	
	8.2nm,0.9s						
TNSS	**Tian-Shan**	**1.86**	**359**	*e*P	**Pg**	**10 39 38.4**	**-0.6**
	7.3nm,0.4s						
TNSS				*e*S	**Sg**	**10 40 04.6**	**+1.5**
	8.2nm,0.9s						
KST	**Kastek**	**2.02**	**338**	Pg	**Pb**	**10 39 41.0**	**+0.7**
	5.8nm,0.3s						
KST				Lg	Lg	10 40 09.1	
	7.9nm,0.2s						
KST	**Kastek**	**2.02**	**338**	*e*P	**Pb**	**10 39 41.0**	**+0.7**
	5.8nm,0.3s						
KST				*e*S	**Sg**	**10 40 09.1**	**+0.8**
	7.9nm,0.2s						
TKM2	**Tokmak 2**	**2.04**	**329**	⇑*i*P	**Pb**	**10 39 40.8**	**+0.2**
TKM2				⇑*i*S	**Sg**	**10 40 08.2**	**-0.5**
KBK	**Karagaybulak**	**2.13**	**314**	⇑*i*P	**Pb**	**10 39 42.3**	**0.0**
KBK				⇑*i*S	**Sb**	**10 40 10.7**	**+1.7**
UCH	**Uchtor**	**2.14**	**300**	⇓*i*P	**Pb**	**10 39 42.5**	**-0.1**
UCH				⇓*i*S	**Sb**	**10 40 11.1**	**+1.6**
SATY	**Saty**	**2.15**	**28**	Pg	**Pb**	**10 39 42.2**	**-0.3**
	3.1nm,0.2s						
SATY				Lg	Lg	10 40 11.2	
	38nm,0.3s						
DGS	**Degeres**	**2.26**	**336**	Pg	**Pg**	**10 39 46.4**	**-0.2**
	8.2nm,0.6s						
DGS				Lg	Lg	10 40 17.7	
	8.7nm,0.7s						
AAK	**Ala-Archa**	**2.38**	**309**	⇓Pn	**Pb**	**10 39 47.0**	**+0.6**
	2.7nm,0.7s						
AAK				⇑Lg	Lg	10 40 20.9	
	4.8nm,0.5s						
AAK	**Ala-Archa**	**2.38**	**309**	⇓*i*P	**Pb**	**10 39 45.6**	**-0.8**
AAK				⇓*i*S	**Sb**	**10 40 16.5**	**+0.5**
SALK	**Salom-Alik**	**2.43**	**264**	⇓*i*P	**Pb**	**10 39 46.5**	**-0.9**
SALK				⇓*i*S	**Sb**	**10 40 17.9**	**+0.4**
UZB	**Uzynbulak**	**2.47**	**37**	Pg	**Pb**	**10 39 47.5**	**-0.6**
	2.9nm,0.3s						
UZB				Lg	Lg	10 40 20.4	
	14nm,0.3s						
UZB	**Uzynbulak**	**2.47**	**37**	*e*P	**Pb**	**10 39 47.6**	**-0.4**
	2.9nm,0.3s						
UZB				*e*S	**Sg**	**10 40 20.4**	**-2.3**
	14nm,0.3s						
CHMS	**Chumysh**	**2.48**	**318**	⇓*i*P	**Pb**	**10 39 46.8**	**-1.3**
CHMS				⇓*i*S	**Sb**	**10 40 18.6**	**-0.1**
KTBS	**Karatobe**	**2.54**	**355**	Pg	**Pg**	**10 39 50.5**	**-1.6**
	12nm,0.5s						
KTBS				Lg	Lg	10 40 25.6	
	14nm,0.6s						
CHKK	**Chushkaly**	**2.67**	**360**	Pg	**Pb**	**10 39 50.8**	**-0.6**
	47nm,0.5s						
CHKK				Lg	Lg	10 40 27.7	
	22nm,0.3s						
CHKK	**Chushkaly**	**2.67**	**360**	*e*P	**Pb**	**10 39 51.9**	**+0.5**
	47nm,0.5s						
CHKK				*e*S	**Sg**	**10 40 27.7**	**-1.5**
	22nm,0.3s						
SHLS	**Shalkode**	**2.69**	**42**	Pg	**Pg**	**10 39 55.6**	**+0.7**
	12nm,0.4s						
SHLS				Lg	Lg	10 40 34.1	
	27nm,0.5s						
SHLS	**Shalkode**	**2.69**	**42**	*e*P	**Pg**	**10 39 55.6**	**+0.7**
	12nm,0.4s						
SHLS				*e*S	**Sg**	**10 40 34.1**	**+4.4**
	27nm,0.5s						
KUU	**Kurty**	**2.76**	**350**	*e*P	**Pb**	**10 39 52.3**	**-0.5**
	4.5nm,0.1s						
KUU				*e*S	**Sb**	**10 40 28.1**	**+1.4**
	212nm,0.4s						
USP	**Ospenovka**	**2.80**	**319**	⇓*i*P	**Pb**	**10 39 51.5**	**-2.1**
USP				⇓*i*S	**Sb**	**10 40 26.4**	**-1.6**
PDGK	**Podgornoye**	**2.83**	**40**	⇑Pn	**Pb**	**10 39 50.6**	**-3.5**
	3.1nm,0.5s						
PDGK				⇓Lg	Lg	10 40 30.8	
	18nm,0.6s						
SGDS	**Sogindy**	**2.88**	**323**	Pg	**Pg**	**10 39 56.9**	**-1.6**
	6.3nm,0.5s						
SGDS				Lg	Lg	10 40 36.5	
	7.6nm,0.8s						
ARXS	**Arharly**	**3.09**	**11**	Pg	**Pb**	**10 39 59.1**	**+0.5**
	2.3nm,0.5s						
ARXS				Lg	Lg	10 40 41.1	
	14nm,0.5s						
MRKS	**Merke**	**3.23**	**300**	*e*P	**Pg**	**10 40 04.3**	**-0.9**
	1.9nm,0.2s						
MRKS				*e*S	**Sg**	**10 40 48.6**	**+1.6**
	6.7nm,0.3s						
KK31	**Karatay Array**	**5.20**	**294**	⇑Lg	Lg	10 41 50.1	
	0.6nm,0.5s,baz=103,slow=29,SNR=3.5						

*IDC **01** 10:57:10.0±1.5, 21°.80S×173°.87W, h0km, mb4.1/7, mbtmp4.1/8, ML3.3/1, MS3.4/2, Error ellipse: s-maj=70.2km s-min=22.7km az=158.0*
ISC 01 10:57:14.7±1.2, 22°05±0°.4×173°7W±0°.1, h35km, n10, σ1°33/8, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.00**	**89**	Pn	**Pn**	**11 00 16.6**	**-0.4**
	1.4nm,0.3s,baz=259,slow=7.5,SNR=7.4						
RAR				Sn	Sn	11 02 30.5	-10
	1.0nm,0.3s,baz=310,slow=9.3,SNR=1.9						
	6.2nm,0.6s						
PPT	**Papeete**	**23.13**	**83**	LR	LR	11 11 12.7	
	comp=Z,94nm,18.2s,baz=286,slow=36						
ASAR	**Alice Springs**	**48.08**	**257**	P	**P**	**11 05 51.2**	**-0.1**
	2.8nm,0.8s,baz=91,slow=8.3,SNR=22						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**48.35**	**262**	P	**P**	**11 05 52.0**	**-1.4**
	1.2nm,0.5s,baz=95,slow=8.0,SNR=18						
	1.2nm,0.5s						
ASAJ	**Asahikawa**	**76.97**	**329**	LR	LR	11 35 56.8	
	comp=Z,20nm,19.8s,baz=121,slow=30						
PETK	**Petropavlovsk-**	**78.77**	**343**	P	**P**	**11 09 12.2**	**-1.3**
	0.4nm,0.4s,baz=160,slow=5.4,SNR=1.6						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**79.42**	**41**	P	**P**	**11 09 19.0**	**+1.3**
	1.8nm,0.9s,baz=227,slow=8.6,SNR=7.7						
	1.8nm,0.9s						
PDAR	**Pinedale Array**	**87.35**	**42**	P	**P**	**11 09 58.6**	**+0.2**
	0.1nm,0.4s,baz=226,slow=7.0,SNR=2.5						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**88.92**	**11**	P	**P**	**11 10 04.9**	**-0.1**
	0.6nm,1.0s,baz=215,slow=5.0,SNR=4.4						
	0.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.36**	**288**	P	**P**	**11 10 33.2**	**+1.8**
	1.5nm,0.3s,baz=102,slow=4.9,SNR=4.9						
	1.5nm,0.3s						

*SOME **01** 11:10:43.4, 42°.12N×82°.48E, h15km*
*NNC **01** 11:10:49.1±2.0, 42°32N×82°34E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=19.0km s-min=11.4km az=151.0*
ISC 01 11:10:46.4±4.0, 42°0N±0°.2×82°2E±0°.1, h10km, n5, σ0°51/7, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.31**	**300**	*e*P	**Pn**	**11 11 24.2**	**-0.4**
	21nm,0.1s						
SHLS				*e*S	**Sn**	**11 11 53.2**	**0.0**
	31nm,0.3s						
PDGK	**Podgornoye**	**2.38**	**304**	⇑Pn	**Pb**	**11 11 28.9**	**-0.5**
	3.1nm,0.3s						
PDGK				⇓Lg	Lg	11 12 03.3	
	8.0nm,0.4s						
UZB	**Uzynbulak**	**2.60**	**296**	*e*P	**Pb**	**11 11 33.7**	**+0.6**
	4.6nm,0.2s						
UZB				*e*S	**Sg**	**11 12 10.0**	**+0.2**
	7.5nm,0.4s						
MK31	**Makanchi Array**	**4.75**	**1**	⇑Pn	**Pn**	**11 11 58.5**	**+0.4**
	0.1nm,0.2s,baz=186,slow=13,SNR=13						
MK31				⇑Pg	**Pb**	**11 12 09.5**	**-0.2**
	0.2nm,0.3s,baz=167,slow=15,SNR=3.8						
MK31				⇓Lg	Lg	11 13 12.6	
	1.1nm,0.5s,baz=181,slow=24,SNR=6.2						
MAKZ	**Makanchi**	**4.77**	**358**	⇓Lg	Lg	11 13 12.3	
	1.9nm,0.9s						

AUST 01 11:19:47.3±0.7, 18°S±5°×12°0E±°, h10km, mb3.8/7, ML3.2/5, ML3.2/1, Error ellipse: s-maj=15.2km s-min=5.2km az=137.3, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.87**	**78**	P	Pn	11 20 19.7	+0.3
AUBRM				S	Sb	11 20 44.7	-0.2
MBWA	**Marble Bar**	**2.83**	**191**	P	Pn	11 20 33.6	+1.1
MBWA				S	Sn	11 21 07.6	+0.8
PSA00	**Pilbara Seismi**	**3.22**	**188**	P	Pn	11 20 39.0	+1.1
PSA00				S	Sn	11 21 16.4	+0.1
FITZ	**Fitzroy Crossi**	**5.07**	**88**	S	Sn	11 21 57.3	-4.6
GIRL	**Giralia**	**7.11**	**232**	P	Pn	11 21 31.8	+0.3
	comp=Z,48nm,2.5s						
GIRL				S	Sn	11 22 46.9	-5.4
MEEK	**Meekatharra**	**8.38**	**191**	P	Pn	11 21 49.1	+0.3
	comp=Z,14nm,2.8s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.38**	**191**	S	Sn	11 23 18.8	-4.8
KNRA	**Kununurra**	**8.51**	**73**	P	Pn	11 21 48.7	-2.0
	comp=Z,8.9nm,1.7s,comp=Z,0.0nm						
KNRA				S	Sn	11 23 18.6	-8.3
WRKA	**Warakurna**	**9.95**	**133**	P	Pn	11 22 09.9	-0.5
	comp=Z,3.9nm,2.5s,comp=Z,0.0nm						
WRKA				S	Sn	11 23 57.1	-5.1
MORW	**Morawa**	**11.34**	**199**	P	Pn	11 22 28.8	-0.7
	comp=Z,13nm,2.7s						
MORW	**Morawa**	**11.34**	**199**	S	Sn	11 24 27.3	-9.1
BLDU	**Ballidu**	**12.62**	**194**	P	Pn	11 22 46.4	-0.6
	comp=Z,10nm,2.0s						
BLDU	**Ballidu**	**12.62**	**194**	S	Sn	11 24 57.1	-11
KMBL	**Kambalda**	**13.02**	**174**	P	Pn	11 22 52.4	0.0
	comp=Z,6.8nm,1.9s						
KMBL				S	Sn	11 25 07.7	-10

*IDC **01** 11:53:53.8±1.6, 2°.88N×127°.17E, h0km, mb3.6/5,*

mbtmp3.6/5,MS3.4/2,Error ellipse: s-maj=104.4km s-min=19.9km az=70.0
*DJA **01** 11:53:53.8±0.4,2.7°N×12.7°E±.°,h10km,M3.5/6,MLv3.5/6*
ISC 01 11:54:01.1±1.8,**2.8N**±0.2°×**126.9E**±0.4,**h53**km,**n8**,σ0.9**43**/6,**mb3.6**/4,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.68**	**304**	P	**Pn**	**11 54 28.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.75**	**183**	P	**P**	**11 58 37.7**	**+0.1**
	0.8nm,0.6s,baz=10,slow=12,SNR=7.4 0.8nm,0.6s						
WRA	**Warramunga Arr**	**23.69**	**162**	P	**P**	**11 59 07.7**	**-0.5**
	0.8nm,0.4s,baz=343,slow=11,SNR=9.2 0.8nm,0.4s						
ASAR	**Alice Springs**	**27.12**	**166**	P	**P**	**11 59 39.6**	**+0.3**
	0.3nm,0.4s,baz=345,slow=8.8,SNR=13 0.3nm,0.4s						
NWAO	**Narrogin (SRO)**	**36.65**	**194**	LR	LR	12 17 15.2	
	comp=Z,70nm,18.3s,baz=290,slow=38						
MKAR	**Makanchi Array**	**58.47**	**326**	P	**P**	**12 03 52.1**	**+0.4**
	0.2nm,0.5s,baz=120,slow=8.7,SNR=4.0 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.67**	**328**	P	**P**	**12 04 20.1**	**-0.2**
	0.4nm,0.3s,baz=131,slow=6.3,SNR=6.4 0.4nm,0.3s						
GNI	**Garni**	**82.26**	**310**	LR	LR	12 48 16.7	
	comp=Z,14nm,18.8s,baz=220,slow=40						

IDC 01 12:03:08.6±4.5,**4.58S**×**150.47E**,**h0**km,**mb3.7**/4,**mbtmp3.8**/5,**ML1.7**/1,**Error ellipse: s-maj=128.3km s-min=30.5km az=107.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.81**	**214**	Pn	Pn	12 04 36.6	+0.6
	1.3nm,0.3s,baz=17,slow=11,SNR=3.7						
PMG				Sn	Sn	12 05 47.7	+4.2
	8.1nm,0.3s,baz=246,slow=16,SNR=8.4 14nm,0.9s						
WRA	**Warramunga Arr**	**21.90**	**224**	P	P	12 08 02.0	-1.6
	0.5nm,0.4s,baz=51,slow=11,SNR=6.4 0.5nm,0.4s						
ASAR	**Alice Springs**	**24.80**	**219**	P	P	12 08 32.5	-0.1
	1.5nm,0.8s,baz=46,slow=9.3,SNR=9.3 1.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.75**	**239**	P	P	12 08 59.8	+0.6
	2.4nm,0.7s,baz=70,slow=12,SNR=6.8 2.4nm,0.7s						
MKAR	**Makanchi Array**	**78.64**	**319**	P	P	12 15 12.8	+0.3
	0.3nm,0.5s,baz=116,slow=6.6,SNR=3.6 0.3nm,0.5s						

*BEO **01** 12:05:04.5±0.8,40.08N×21.99E,h15km,ML2.2/2*
*SKO **01** 12:05:13.8,40.50N×20.92E,h17km,ML2.6*
*THE **01** 12:05:13.0,40.5N±1.0×20.8E±0.9,h9km±2km,M2.5/9,ML h2.5/9*
*ATH **01** 12:05:13.4,40.49N×20.81E,h6km±2km,ML2.5/12,*
Manual Solution by G.Panopoulou First location: 2019/08/01 12:06:44, This location: 2019/08/01 12:49:03
ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
ISC 01 12:05:13.0±0.9,**40.51N**±0.02°×**20.87E**±0.03,**h14**km±7km,**n40**,σ1.9**18**/61,**4D**,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBN	**Korca**	**0.13**	**331**	P	**Pg**	**12 05 15.3**	**-1.4**
KBN				S	**Sg**	**12 05 17.8**	**-1.4**
NEST	**Nestorio**	**0.16**	**124**	P	**Pb**	**12 05 17.6**	**-0.3**
NEST				S	**Sb**	**12 05 21.2**	**+0.1**
NEST	**Nestorio**	**0.16**	**124**	P	**Pb**	**12 05 17.7**	**-0.3**
NEST				S	**Sb**	**12 05 20.6**	**-0.6**
PENT	**Pentalofos**	**0.37**	**147**	P	**Pg**	**12 05 20.8**	**+0.3**
PENT				S	**Sb**	**12 05 28.1**	**+0.9**
PENT	**Pentalofos**	**0.37**	**147**	P	**Pg**	**12 05 20.8**	**+0.3**
PENT				S	**Sg**	**12 05 25.4**	**-0.3**
LMS2	**Laimos Florina**	**0.39**	**32**	P	**Pg**	**12 05 20.8**	**0.0**
LMS2				S	**Sb**	**12 05 27.7**	**0.0**
FNA	**Florina**	**0.47**	**54**	P	**Pb**	**12 05 22.9**	**-0.4**
FNA				S	**Sb**	**12 05 30.4**	**+0.3**
FNA	**Florina**	**0.47**	**54**	⇓*i* Pg	**Pb**	**12 05 22.8**	**-0.4**
FNA				*i* Sg	**Sn**	**12 05 31.4**	**-2.2**
FNA	**Florina**	**0.47**	**54**	*e* Pg	**Pg**	**12 05 22.7**	**+0.3**
FNA				*e* Sg	**Sn**	**12 05 31.7**	**-2.0**
FNA	**Florina**	**0.47**	**54**	P	**Pb**	**12 05 23.0**	**-0.2**
FNA				S	**Sb**	**12 05 30.9**	**+0.8**
OHR	**Ohrid**	**0.61**	**355**	*i* Pg	**Pg**	**12 05 25.1**	**+0.1**
OHR				*e* Lg	Lg	12 05 35.1	
	comp=E,417nm,0.7s						
OHR				*i* Sg	**Sb**	**12 05 35.3**	**+1.3**
OHR				*e* Lg	Lg	12 05 35.6	
	comp=N,146nm,0.4s						
KZN	**Kozani**	**0.71**	**106**	P	**Pn**	**12 05 27.7**	**-1.0**
KZN				S	**Sn**	**12 05 39.9**	**+0.3**
KZN	**Kozani**	**0.71**	**106**	P	**Pn**	**12 05 27.8**	**-1.0**
KZN				S	**Sn**	**12 05 37.7**	**-2.0**
SRN	**Sarande**	**0.92**	**227**	P	**Pb**	**12 05 29.8**	**-0.9**
SRN				S	**Sb**	**12 05 43.2**	**+0.5**
PRMD	**Pramanda**	**0.99**	**170**	P	**Pb**	**12 05 31.7**	**-0.3**
IGT	**Igoumenitsa**	**1.06**	**203**	P	**Pb**	**12 05 33.0**	**-0.1**
IGT	**Igoumenitsa**	**1.06**	**203**	⇓*i* Pg	**Pb**	**12 05 33.0**	**-0.1**
IGT				*i* Sg	**Sn**	**12 05 49.7**	**+1.7**
IGT	**Igoumenitsa**	**1.06**	**203**	*e* Pg	**Pb**	**12 05 31.9**	**-1.2**
IGT				*e* Sg	**Sb**	**12 05 47.4**	**+0.6**
IGT	**Igoumenitsa**	**1.06**	**203**	P	**Pb**	**12 05 32.8**	**-0.3**
IGT				S	**Sb**	**12 05 46.3**	**-0.5**
KEK	**Kerkira**	**1.14**	**226**	P	**Pn**	**12 05 33.7**	**-0.9**
TETR	**Tetrakomo, Epi**	**1.20**	**165**	P	**Pb**	**12 05 35.9**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.20**	**165**	P	**Pb**	**12 05 35.8**	**+0.2**
THL	**Klokotos Trika**	**1.28**	**137**	P	**Pg**	**12 05 37.3**	**-0.5**
THL	**Klokotos Trika**	**1.28**	**137**	P	**Pg**	**12 05 37.2**	**-0.5**
THL				S	**Sg**	**12 05 54.5**	**0.0**
TYRN	**Tyrnavos**	**1.31**	**127**	P	**Pg**	**12 05 37.8**	**-0.5**
TYRN				S	**Sg**	**12 05 56.1**	**+0.8**
SKO	**Skopje**	**1.53**	**16**	⇓*i* Pg	**Pn**	**12 05 39.2**	**-0.7**
SKO				*i* Sg	**Sg**	**12 06 04.3**	**+2.1**
KNT	**Kendrikon**	**1.67**	**66**	⇓*i* Pg	**Pb**	**12 05 43.4**	**-0.1**
KNT				*i* Sg	**Sg**	**12 06 08.8**	**+2.0**
TSLK	**Tsoukalades, L**	**1.69**	**186**	P	**Pn**	**12 05 42.9**	**+0.8**
HORT	**Hortiatis**	**1.70**	**86**	P	**Pb**	**12 05 44.0**	**-0.1**
LKD2	**Lefkada island**	**1.72**	**186**	P	**Pb**	**12 05 44.1**	**-0.3**
EVR	**Evrytania**	**1.74**	**155**	P	**Pb**	**12 05 44.4**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.78**	**147**	P	**Pb**	**12 05 45.5**	**+0.1**
SOH	**Sokhos**	**1.91**	**80**	*e* Pg	**Pn**	**12 05 45.6**	**+0.3**
SOH				*i* Sg	**Sg**	**12 06 14.2**	**-0.4**
DRME	**Dracevica, Mon**	**2.11**	**323**	*e* Pn	**Pn**	**12 05 50.0**	**+2.1**
KOME	**Kolasin**	**2.55**	**337**	*e* Pn	**Pn**	**12 05 56.4**	**+2.3**
SELS	**Selova**	**2.72**	**4**	*e* Pn	**Pn**	**12 05 53.4**	**-2.9**
SJES	**Sjenica**	**2.83**	**347**	*e* Pn	**Pn**	**12 05 58.6**	**+0.6**
ZAPS	**Zavoj**	**3.06**	**25**	*e* Pn	Pn	12 05 53.7	-7.4
IVAS	**Ivanjica**	**3.12**	**350**	*e* Pn	**Pn**	**12 06 00.5**	**-1.3**
ZAGS	**Zajecar**	**3.46**	**17**	*e* Pn	**Pn**	**12 06 02.4**	**-4.0**

*NEIC **01** 12:06:36.7±0.5,58.99N±0.07×152.67W±0.10,h73km±9km,*
Error ellipse: s-maj=10.2km s-min=7.4km az=172.0
AEIC 01 12:06:37.1±0.5,**58.98N**±0.10×**152.7W**±0.1,**h74**km±7km,**ML2.7**,**ML2.9**/24(NEIC),**Error ellipse: s-maj=13.6km s-min=7.5km az=168.0**,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYI	**Shuyak Island**	**0.40**	**158**	Pn	Pn	12 06 49.0	-0.4
Q19K	**Cape Douglas,**	**0.51**	**265**	Pn	Pn	12 06 49.9	-0.5
AUL	**Augustine Lava**	**0.56**	**316**		Pn	12 06 50.4	-0.5
OPT	**Oil Point**	**0.73**	**337**		Pn	12 06 52.2	-0.6
P19K	**Oil Pt**	**0.73**	**337**	Pn	Pn	12 06 52.1	-0.6
HOM	**Homer**	**0.86**	**37**	Pn	Pn	12 06 54.0	-0.1
CNPM	**China Poot**	**0.92**	**53**	Pn	Pn	12 06 54.5	-0.4
ILS	**Iliamna Low So**	**1.00**	**349**		Pn	12 06 55.0	-0.9
ILSW	**Iliamna Southw**	**1.03**	**347**	Pn	Pn	12 06 55.5	-0.9
IVE	**Iliamna Volcan**	**1.06**	**351**		Pn	12 06 55.8	-0.9
O20K	**Slope Mountain**	**1.11**	**1**		Pn	12 06 56.8	-0.4
RED	**Redoubt Volcan**	**1.45**	**358**	Pn	Pn	12 07 00.9	-0.6
RED				IAML		12 07 39.9	
	comp=E,92nm,0.5s						
O19K	**Port Alsworth**	**1.48**	**326**	Pn	Pn	12 07 01.3	-0.6
RDSO	**Redoubt South**	**1.48**	**359**		Pn	12 07 01.4	-0.7
O18K	**Koktuh Hills**	**1.56**	**305**		Pn	12 07 02.6	-0.5
SEW	**Seward**	**1.99**	**54**		Pn	12 07 07.5	-1.2
N19K	**Bonanza Creek**	**2.05**	**334**		Pn	12 07 09.2	-0.4
N18K	**Kilae Creek**	**2.36**	**318**		Pn	12 07 13.3	-0.3
PWL	**Port Wells**	**2.89**	**47**		Pn	12 07 19.9	-0.9
M18K	**Stony River**	**2.97**	**329**		Pn	12 07 21.7	-0.2
HIN	**Hinchinbrook I**	**3.44**	**63**		Pn	12 07 27.8	-0.5
FID	**Port Fidalgo**	**3.59**	**58**		Pn	12 07 28.7	-1.6

*NEIC **01** 12:06:42.5±1.1,58.44N±0.04×153.63W±0.06,h66km±8km,*
Error ellipse: s-maj=5.6km s-min=4.2km az=177.0
*AEIC **01** 12:06:43.3±1.1,58.44N±0.04×153.64W±0.06,h64km±5km,*
ML3.2,ML3.4/132(NEIC),Error ellipse: s-maj=5.5km s-min=4.1km az=168.0
*IDC **01** 12:06:43.5±2.6,58.58N×153.17W,h46km±22km,mb3.2/1,*
mbtmp3.4/5,ML3.6/3,Error ellipse: s-maj=41.1km s-min=13.2km az=91.0
ISC 01 12:06:41.6±0.9,**58.43N**±0.03×**153.60W**±0.04,**h78**km,**n129**,σ1.9**13**/115,**Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPH	**Katmai Pasha**	**0.42**	**293**		**Pn**	**12 06 54.3**	**-0.3**
KAPH					**Sn**	**12 07 03.5**	**-0.7**
Q19K	**Cape Douglas,**	**0.50**	**357**		**Pn**	**12 06 55.1**	**-0.1**
Q19K				IAML		12 07 07.9	
	comp=N,1μm,0.9s						
Q19K				IAML		12 07 10.6	
	comp=E,2μm,0.6s						
Q19K	**Cape Douglas,**	**0.50**	**357**		**Sn**	**12 07 00.7**	**-4.5**
KAHG	**Katmai Hook Gl**	**0.50**	**277**		**Pn**	**12 06 54.8**	**-0.4**
SYI	**Shuyak Island**	**0.66**	**74**		**Sn**	**12 07 07.8**	**+0.1**
SYI	**Shuyak Island**	**0.66**	**74**	Pn	**Pn**	**12 06 57.2**	**+0.6**
SYI				IAML		12 07 08.7	
	comp=N,3μm,0.4s						
SYI				IAML		12 07 09.6	
	comp=E,2μm,0.3s						
KAHC	**Katmai Hardscr**	**0.77**	**287**		**Pn**	**12 06 57.5**	**-0.4**
KAHC					**Sn**	**12 07 09.4**	**-0.7**
KAHC	**Katmai Hardscr**	**0.77**	**287**		**Pn**	**12 06 57.6**	**-0.4**
KDAK	**Kodiak Island**	**0.85**	**140**		**Pn**	**12 06 59.2**	**+0.6**
KDAK	**Kodiak Island**	**0.85**	**140**	LR	LR	12 06 54.2	
	comp=E,19nm,18.8s,baz=353,slow=12						
KDAK				P	**Pn**	**12 06 58.4**	**-0.2**
	comp=E,260nm,0.3s,baz=351,slow=3.7,SNR=5574						
KDAK				S	**Sn**	**12 07 11.5**	**+0.2**
	comp=E,367nm,0.4s,baz=212,slow=22,SNR=39						
ACHA	**Angle Creek He**	**0.94**	**257**		**Pn**	**12 06 59.8**	**0.0**
R18K	**Karluk**	**0.98**	**208**		**Pn**	**12 07 00.5**	**+0.3**
R18K	**Karluk**	**0.98**	**208**	IAML		12 07 15.9	
	comp=E,1μm,0.4s						
R18K				IAML		12 07 17.0	
	comp=N,1μm,0.5s						
OHAK	**Old Harbor**	**1.23**	**172**		**Pn**	**12 07 03.9**	**+0.7**
OHAK				IAML		12 07 20.2	
	comp=N,668nm,0.3s						
OHAK				IAML		12 07 21.2	
	comp=E,328nm,0.2s						
OHAK	**Old Harbor**	**1.23**	**172**	P	**Pn**	**12 07 03.8**	**+0.5**
OHAK	**Old Harbor**	**1.23**	**172**	S	**Sn**	**12 07 19.1**	**-0.4**
OPT	**Oil Point**	**1.24**	**9**		**Pn**	**12 07 04.1**	**+0.7**
P19K	**Oil Pt**	**1.24**	**9**		**Sn**	**12 07 20.6**	**+0.7**
P19K	**Oil Pt**	**1.24**	**9**		**Pn**	**12 07 04.1**	**+0.6**
P19K				IAML		12 07 22.1	
	comp=E,772nm,0.3s						
P19K				IAML		12 07 22.2	
	comp=N,879nm,0.3s						
P18K	**Big Mountain,**	**1.28**	**319**		**Pn**	**12 07 03.7**	**-0.3**
P18K				IAML		12 07 20.2	
	comp=E,417nm,0.4s						
P18K				IAML		12 07 20.2	
	comp=N,385nm,0.7s						
ILS	**Iliamna Low So**	**1.55**	**10**		**Pn**	**12 07 08.1**	**+0.5**
ILS					**Sn**	**12 07 27.2**	**0.0**
ILSW	**Iliamna Southw**	**1.57**	**8**		**Sn**	**12 07 27.6**	**-0.1**
ILSW	**Iliamna Southw**	**1.57**	**8**	Pn	**Pn**	**12 07 08.3**	**+0.4**
ILSW				IAML		12 07 28.6	
	comp=N,587nm,0.4s						
ILSW				IAML		12 07 28.7	
	comp=E,474nm,0.4s						
HOM	**Homer**	**1.59**	**39**		**Sn**	**12 07 29.8**	**+1.9**
HOM	**Homer**	**1.59**	**39**	Pn	**Pn**	**12 07 06.5**	**-1.5**
CNPM	**China Poot**	**1.64**	**47**		**Pn**	**12 07 08.5**	**-0.2**
CNPM				IAML		12 07 32.7	
	comp=N,302nm,0.5s						
CNPM				IAML		12 07 34.6	
	comp=E,267nm,0.5s						
O18K	**Koktuh Hills**	**1.65**	**330**		**Pn**	**12 07 08.9**	**+0.2**
O18K				IAML		12 07 28.9	
	comp=E,212nm,0.8s						
O18K				IAML		12 07 29.8	
	comp=N,343nm,0.8s						
P17K	**Kvichak River**	**1.66**	**299**		**Pn**	**12 07 09.4**	**+0.5**
PLK4	**Peulik 4**	**1.67**	**242**		**Pn**	**12 07 09.9**	**+0.8**
PLK5	**Peulik 5**	**1.79**	**257**		**Pn**	**12 07 10.9**	**+0.3**
O19K	**Port Alsworth**	**1.81**	**348**		**Pn**	**12 07 11.2**	**+0.4**
O19K				IAML		12 07 36.1	
	comp=N,376nm,0.4s						
PLBL	**Peulik Blue Cr**	**1.86**	**248**		**Pn**	**12 07 12.6**	**+1.0**
SII	**Sitkinak Islan**	**1.91**	**190**		**Pn**	**12 07 12.9**	**+0.8**
SII				IAML		12 07 49.3	
	comp=N,236nm,0.7s						
SII				IAML		12 07 50.6	
	comp=E,298nm,0.6s						
SII	**Sitkinak Islan**	**1.91**	**190**	P	**Pn**	**12 07 12.6**	**+0.4**
SII	**Sitkinak Islan**	**1.91**	**190**	S	**Sn**	**12 07 34.9**	**-0.5**
BRLK	**Bradley Lake**	**1.93**	**45**		**Pn**	**12 07 13.2**	**+0.6**
BRLK				IAML		12 07 35.8	
	comp=N,253nm,0.1s						
BRLK				IAML		12 07 36.1	
	comp=E,334nm,0.6s						
RED	**Redoubt Volcan**	**2.04**	**12**		**Pn**	**12 07 14.5**	**+0.6**
RDJH	**Redoubt Jeurge**	**2.20**	**10**		**Pn**	**12 07 17.0**	**+0.8**
O17K	**Koliganek Bris**	**2.25**	**308**		**Pn**	**12 07 16.9**	**+0.3**
R16K	**Pilot Point**	**2.29**	**249**		**Pn**	**12 07 17.8**	**+0.7**
R16K	**Pilot Point**	**2.29**	**249**	IAML		12 07 46.1	
	comp=E,205nm,0.7s						
R16K				IAML		12 07 46.2	
	comp=N,232nm,0.8s						
P16K	**Nushagak River**	**2.37**	**287**		**Pn**	**12 07 19.1**	**+0.9**
P16K				IAML		12 07 48.2	
	comp=E,249nm,0.8s						
P16K				IAML		12 07 49.8	
	comp=N,205nm,0.8s						
N19K	**Bonanza Creek**	**2.43**	**350**		Sn	12 07 34.4	-14
N19K	**Bonanza Creek**	**2.43**	**350**	IAML		12 07 47.8	
	comp=E,64nm,0.7s						
N19K				IAML		12 07 51.4	
	comp=N,48nm,0.5s						
N18K	**Kilae Creek**	**2.54**	**334**		**Pn**	**12 07 21.1**	**+0.5**
N18K				IAML		12 08 04.6	
	comp=N,58nm,0.6s						
N18K				IAML		12 08 05.9	
	comp=E,56nm,0.8s						
N18K	**Kilae Creek**	**2.54**	**334**		Sn	12 07 41.5	-9.0
O16K	**Kokwok River B**	**2.60**	**299**		**Pn**	**12 07 22.0**	**+0.6**
SLKM	**Skilak Lake**	**2.70**	**38**		**Pn**	**12 07 23.4**	**+0.6**
SLKM				IAML		12 07 55.7	
	comp=N,149nm,0.2s						
SLKM				IAML		12 07 57.2	
	comp=E,114nm,0.2s						
SEW	**Seward**	**2.71**	**50**		**Pn**	**12 07 24.5**	**+1.6**
SEW				IAML		12 07 53.7	
	comp=E,89nm,0.9s						
SEW				IAML		12 07 53.8	
	comp=N,75nm,0.5s						
N17K	**Nushagak Hills**	**2.79**	**320**	IAML		12 08 08.2	
	comp=N,99nm,0.8s						
N17K				IAML		12 08 08.2	
	comp=E,90nm,0.8s						
CHIR	**Chirikof Islan**	**2.84**	**204**		**Pn**	**12 07 24.9**	**+0.1**
CHIR	**Chirikof Islan**	**2.84**	**204**	IAML		12 08 27.5	
	comp=N,68nm,1.1s						
CHIR	**Chirikof Islan**	**2.84**	**204**	P	**Pn**	**12 07 24.8**	**+0.1**
O22K	**Cooper Landing**	**2.85**	**42**		**Pn**	**12 07 25.1**	**+0.3**
SPCR	**Spurr Chakacha**	**2.86**	**14**		**Pn**	**12 07 26.0**	**+1.0**
M18K	**Stony River**	**3.27**	**341**		**Pn**	**12 07 31.0**	**+0.6**
RC01	**Rabbit Creek A**	**3.30**	**35**		**Pn**	**12 07 31.8**	**+0.9**
RC01				IAML		12 08 09.6	
	comp=N,74nm,0.3s						
RC01				IAML		12 08 09.9	
	comp=E,122nm,0.3s						
O15K	**Ungalikthiuk R**	**3.32**	**286**		**Pn**	**12 07 32.2**	**+1.0**
O15K				IAML		12 08 25.1	
	comp=N,48nm,1.0s						
O15K				IAML		12 08 26.0	
	comp=E,74nm,0.8s						
N16K	**Nishlik Lake**	**3.34**	**310**		**Pn**	**12 07 32.2**	**+0.8**
SUA	**Susitna One**	**3.36**	**24**	Pn	**Pn**	**12 07 32.5**	**+0.7**
SUA				IAML		12 08 29.1	
	comp=E,79nm,1.1s						
SUA				IAML		12 08 30.6	
	comp=N,66nm,1.1s						
M17K	**Holitna River**	**3.55**	**329**		**Pn**	**12 07 35.1**	**+0.9**
M17K				IAML		12 08 14.8	
	comp=N,76nm,0.7s						
M17K				IAML		12 08 32.8	
	comp=E,60nm,0.7s						
P23K	**Montague Islan**	**3.55**	**61**		**Pn**	**12 07 34.8**	**+0.5**
P23K	**Montague Islan**	**3.55**	**61**	IAML		12 08 13.4	
	comp=N,96nm,0.6s						
P23K				IAML		12 08 14.3	
	comp=E,94nm,0.5s						
PWL	**Port Wells**	**3.61**	**45**		**Pn**	**12 07 35.3**	**+0.1**
SKT	**Skwentna**	**3.71**	**15**		**Pn**	**12 07 36.9**	**+0.5**
M16K	**Timber Creek**	**3.76**	**316**	IAML		12 08 34.9	
	comp=N,34nm,0.9s						
M16K				IAML		12 08 47.0	
	comp=E,34nm,0.9s						
N15K	**Kwethluk River**	**3.76**	**300**		**Pn**	**12 07 38.5**	**+1.4**
M22K	**Willow**	**3.76**	**26**		**Pn**	**12 07 38.2**	**+1.1**
L19K	**White Mountain**	**3.81**	**351**		**Pn**	**12 07 38.8**	**+0.9**
PMR	**Palmer**	**3.88**	**33**		**Pn**	**12 07 39.0**	**+0.3**
PMR				IAML		12 08 22.8	
	comp=E,30nm,0.4s						
Q23K	**Middleton Isla**	**3.89**	**72**		**Pn**	**12 07 39.3**	**+0.5**
Q23K	**Middleton Isla**	**3.89**	**72**	IAML		12 09 58.8	
	comp=N,78nm,1.1s						
KNK	**Knik Glacier**	**3.95**	**39**		**Pn**	**12 07 40.4**	**+0.6**
KNK	**Knik Glacier**	**3.95**	**39**	IAML		12 08 25.0	
	comp=E,56nm,0.2s						
KNK				IAML		12 08 25.2	
	comp=N,56nm,0.5s						
O14K	**Tigyukauivet M**	**4.07**	**285**	IAML		12 08 57.8	
	comp=E,8nm,0.9s						
GHO	**Glory Hole Cre**	**4.08**	**33**	IAML		12 08 28.0	
	comp=N,54nm,0.5s						
GHO				IAML		12 08 28.3	
	comp=E,43nm,0.5s						
L18K	**Granite Mounta**	**4.10**	**339**		**Pn**	**12 07 42.8**	**+1.0**
L18K				IAML		12 08 28.9	
	comp=N,43nm,1.0s						
GLI	**Glacier Island**	**4.11**	**51**	IAML		12 08 30.9	
	comp=N,57nm,0.2s						
CUT	**Chulitna**	**4.31**	**21**	IAML		12 08 45.2	
	comp=E,51nm,0.3s						
CUT				IAML		12 09 21.6	
	comp=N,40nm,1.1s						
N14K	**Kuskokwak Cree**	**4.42**	**293**		**Pn**	**12 07 47.0**	**+0.9**
N14K	**Kuskokwak Cree**	**4.42**	**293**	IAML		12 09 10.6	
	comp=E,37nm,0.7s						
N14K				IAML		12 09 18.4	
	comp=N,34nm,1.2s						
PPLA	**Purkeypile**	**4.53**	**8**		**Pn**	**12 07 48.9**	**+1.1**
DIV	**Divide**	**4.79**	**52**	IAML		12 08 43.1	
	comp=N,37nm,0.5s						
DIV				IAML		12 08 44.3	
	comp=E,31nm,0.5s						
M14K	**Bethel**	**4.84**	**302**		**Pn**	**12 07 52.4**	**+0.6**
M14K	**Bethel**	**4.84**	**302**	IAML		12 09 20.2	
	comp=E,16nm,1.0s						
M14K				IAML		12 09 22.2	
	comp=N,16nm,1.0s						
SDPT	**Sand Point**	**4.88**	**234**	P	**Pn**	**12 07 54.2**	**+1.9**
SDPT	**Sand Point**	**4.88**	**234**	S	**Sn**	**12 08 45.4**	**-2.0**
CHNA	**Chernabura Isl**	**4.90**	**225**	P	**Pn**	**12 07 53.8**	**+1.2**
KLU	**Klutina**	**4.93**	**48**		**Pn**	**12 07 53.6**	**+0.5**
K20K	**Telida**	**4.95**	**358**		**Pn**	**12 07 53.8**	**+0.6**
RAGM	**Ragged Mountai**	**4.96**	**63**	Pn	**Pn**	**12 07 54.0**	**+0.5**
BMRM	**Bremner River**	**5.21**	**57**		**Pn**	**12 07 56.6**	**-0.4**
BMRM				IAML		12 08 58.0	
	comp=N,27nm,0.6s						
M24K	**Tolsona, Glenn**	**5.22**	**42**	IAML		12 09 01.4	
	comp=N,28nm,0.7s						
TRF	**Thorofare Moun**	**5.29**	**16**	IAML		12 09 04.0	
	comp=N,12nm,0.8s						
SUCK	**Suckling Hills**	**5.30**	**68**	Pn	**Pn**	**12 07 59.0**	**+0.8**
SUCK				IAML		12 08 59.9	
	comp=N,26nm,0.6s						
SUCK				IAML		12 09 04.8	
	comp=E,20nm,0.4s						
K15K	**Wolf Creek Mou**	**5.52**	**318**		**Pn**	**12 08 02.1**	**+1.0**
J17K	**VABM Dome**	**5.65**	**334**		**Pn**	**12 08 02.7**	**-0.1**
J19K	**Poorman**	**5.67**	**351**		**Pn**	**12 08 03.0**	**-0.1**
HARP	**HAARP**	**5.77**	**43**		**Pn**	**12 08 05.2**	**+0.7**
J20K	**Nowinta River**	**5.77**	**358**		**Pn**	**12 08 05.3**	**+0.8**
BPAW	**Bear Paw Mtn.**	**5.82**	**11**	Pn	**Pn**	**12 08 06.5**	**+1.3**
WACK	**Wrangell Chich**	**5.83**	**48**		**Pn**	**12 08 05.4**	**-0.2**
J16K	**Anvik River**	**5.95**	**328**		**Pn**	**12 08 07.1**	**+0.2**
ISLE	**Juniper Island**	**6.13**	**64**		**Pn**	**12 08 09.9**	**+0.4**
KIAG	**Kiagna River**	**6.22**	**62**		**Pn**	**12 08 10.5**	**-0.2**
PTPK	**Patty Peak**	**6.26**	**59**		**Pn**	**12 08 11.3**	**0.0**
BALM	**Baldy**	**6.26**	**61**		**Pn**	**12 08 11.2**	**-0.1**
RKAV	**Rock Avalanche**	**6.54**	**68**		**Pn**	**12 08 15.8**	**+0.7**
K24K	**Donnelly Dome**	**6.58**	**32**		**Pn**	**12 08 17.2**

WR8	**Warramunga Arr**	**24.98**	**223**	P	**P**	**12 21 09.4**	**-1.1**
WR8				IAmb	IAmb	12 21 11.7	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**25.07**	**223**	P	**P**	**12 21 11.4**	**0.0**
WB2	**Warramunga Arr**	**25.08**	**223**	P	**P**	**12 21 11.1**	**-0.3**
WRA	**Warramunga Arr**	**25.09**	**223**	P	**P**	**12 21 10.2**	**-1.3**
WRA	**Warramunga Arr**	**25.09**	**223**	P	**P**	**12 21 11.2**	**-0.3**
	comp=Z,11nm,0.7s,baz=46,slow=9.5,SNR=95						
	comp=Z,11nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**25.82**	**33**	T	T	12 49 00.1	
	baz=219,slow=29,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**25.84**	**33**	T	T	12 49 00.7	
	baz=219,slow=29,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**25.84**	**33**	T	T	12 48 58.4	
	baz=219,slow=29,SNR=9.3						
KNRA	**Kununurra**	**26.92**	**238**	P	**P**	**12 21 28.9**	**+0.8**
ASAR	**Alice Springs**	**28.02**	**218**	P	**P**	**12 21 36.4**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=52,slow=8.1,SNR=13						
	comp=Z,1.0nm,0.5s						
ARMA	**Armidale**	**28.38**	**181**	P	**P**	**12 21 42.3**	**+1.2**
ARMA				IAmb	IAmb	12 21 49.3	
	comp=Z,7.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.70**	**237**	P	**P**	**12 22 01.0**	**-0.8**
STKA	**Stephens Creek**	**31.48**	**198**	P	**P**	**12 22 10.3**	**+1.9**
STKA	**Stephens Creek**	**31.48**	**198**	P	**P**	**12 22 08.5**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=21,slow=14,SNR=3.7						
	comp=Z,1.3nm,0.5s						
MBWA	**Marble Bar**	**37.04**	**236**	P	**P**	**12 22 55.0**	**-1.9**
MBWA				IAmb	IAmb	12 22 57.9	
	comp=Z,6.4nm,0.8s						
RPZ	**Rata Peaks**	**44.87**	**161**	LR	LR	12 43 52.6	
	comp=Z,94nm,18.6s,baz=134,slow=38						
KSRS	**Korea Array**	**45.19**	**332**	P	**P**	**12 24 03.6**	**0.0**
	comp=Z,0.5nm,0.4s,baz=147,slow=9.3,SNR=5.6						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**54.99**	**4**	P	**P**	**12 25 16.7**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=201,slow=7.7,SNR=4.4						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**56.21**	**294**	P	**P**	**12 25 26.1**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=123,slow=7.8,SNR=2.3						
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**63.61**	**327**	P	**P**	**12 26 18.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=153,slow=9.7,SNR=1.7						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**77.81**	**319**	P	**P**	**12 27 43.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=94,slow=7.0,SNR=4.1						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**78.46**	**326**	P	**P**	**12 27 46.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=123,slow=7.1,SNR=3.7						
	comp=Z,0.4nm,0.4s						
CCB	**Clear Creek Bu**	**79.28**	**22**	P	**P**	**12 27 52.8**	**+0.9**
ILAR	**Eielson Array**	**79.69**	**22**	P	**P**	**12 27 54.5**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=245,slow=5.6,SNR=8.5						
	comp=Z,1.1nm,0.9s						
J25K	**Salcha River,**	**80.19**	**23**	P	**P**	**12 27 58.8**	**+1.9**
J25K				IAmb	IAmb	12 28 07.9	
	comp=Z,3.6nm,0.6s						
M27K	**Edge Creek, AK**	**80.69**	**26**	P	**P**	**12 28 02.2**	**+2.5**
M27K				IAmb	IAmb	12 28 11.9	
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**81.21**	**322**	P	**P**	**12 28 02.3**	**-0.2**
	comp=Z,0.4nm,0.2s,baz=110,slow=4.1,SNR=2.0						
	comp=Z,0.4nm,0.2s						
I26K	**Coal Creek Min**	**81.34**	**23**	P	**P**	**12 28 05.4**	**+2.4**
G26K	**Porcupine Rive**	**81.80**	**21**	P	**P**	**12 28 06.9**	**+1.7**
G26K				IAmb	IAmb	12 28 18.7	
	comp=Z,4.3nm,1.1s						
BBB	**Bella Bella**	**85.12**	**37**	LR	LR	12 56 38.1	
	comp=Z,16nm,20.6s,baz=208,slow=29						
BVAR	**Borovoye Array**	**86.62**	**323**	P	**P**	**12 28 30.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=100,slow=6.0,SNR=2.4						
	comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**88.05**	**180**	P	**P**	**12 28 37.0**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=332,slow=1.7,SNR=4.1						
	comp=Z,2.0nm,1.0s						

*JMA **01** 12:31:50.3±0.2,23°N±1°×122°9E±0°.8,h54km,MV2.8/17,*
NEAR ISHIGAKIJIMA ISLAND
*TAP **01** 12:31:52.1,23°.31N×122°.81E,h57km,ML3.6,D*
ISC 01 12:31:47.9±1.1,23°23N±0°.02×122°80E±0°.02,h16km±8km,
n125,σ1s04/246,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.99**	**334**	P	**Pn**	**12 32 08.4**	**+1.6**
EOS4				*i* S	**Sn**	**12 32 20.7**	**+0.3**
EOS3	**EOS3**	**1.14**	**337**	*i* P	**Pg**	**12 32 11.0**	**+1.0**
EOS3				*i* S	**Sn**	**12 32 25.0**	**+0.5**
JYNG	**Yonagunijimaku**	**1.22**	**6**	*e*P	**Pg**	**12 32 11.9**	**+0.4**
JYNG				*e*S	**Sg**	**12 32 27.2**	**-0.3**
HATJ	**Hateruma jima**	**1.23**	**48**	*e*P	**Pn**	**12 32 11.1**	**+0.6**
HATJ				*e*S	**Sb**	**12 32 26.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.24**	**9**	*i* P	**Pg**	**12 32 12.3**	**+0.5**
YOJ				S	**Sg**	**12 32 27.9**	**-0.2**
YOJ	**Yonaguni jima**	**1.24**	**9**	*e*P	**Pg**	**12 32 12.5**	**+0.6**
YOJ				*e*S	**Sg**	**12 32 27.9**	**-0.2**
ECBN	**Changbin**	**1.25**	**274**	*i* P	**Pg**	**12 32 12.6**	**+0.6**
ECBN				*i* S	**Sg**	**12 32 27.8**	**-0.4**
TEGC	**Jichi Village**	**1.25**	**293**	*i* P	**Pg**	**12 32 12.5**	**+0.4**
TEGC				*i* S	**Sg**	**12 32 28.2**	**-0.3**
SHUL	**Shoufeng**	**1.27**	**296**	*i* P	**Pg**	**12 32 12.7**	**+0.3**
SHUL				*i* S	**Sn**	**12 32 27.9**	**+0.2**
TEYL	**Yanliau Villag**	**1.28**	**300**	*i* P	**Pg**	**12 32 12.5**	**0.0**
TEYL				*e*S	**Sb**	**12 32 27.9**	**+0.1**
HGSD	**Ruisui**	**1.29**	**282**	*i* P	**Pg**	**12 32 12.8**	**-0.1**
HGSD				*i* S	**Sb**	**12 32 27.9**	**-0.4**
CHKH	**Chenggong**	**1.29**	**269**	*i* P	**Pg**	**12 32 12.9**	**0.0**
CHKH				*i* S	**Sb**	**12 32 28.2**	**-0.1**
EOS2	**EOS2**	**1.30**	**336**	*i* P	**Pg**	**12 32 13.4**	**+0.5**
EOS2				*i* S	**Sg**	**12 32 29.7**	**0.0**
HWA	**Hwalien**	**1.33**	**304**	P	**Pg**	**12 32 14.0**	**+0.5**
HWA				*e*S	**Sb**	**12 32 28.8**	**-0.4**
CHKT	**Chengkung**	**1.33**	**265**	*i* P	**Pg**	**12 32 13.4**	**-0.1**
CHKT				*i* S	**Sb**	**12 32 28.7**	**-0.6**
EGFH	**Guangfu**	**1.34**	**289**	P	**Pg**	**12 32 13.9**	**+0.2**
EGFH				S	**Sb**	**12 32 29.3**	**-0.3**
LDUT	**Ludao**	**1.35**	**246**	*i* P	**Pg**	**12 32 14.0**	**+0.1**
LDUT				*i* S	**Sb**	**12 32 29.2**	**-0.6**
EHYH	**Wanrong**	**1.37**	**281**	P	**Pg**	**12 32 14.3**	**+0.1**
EHYH				S	**Sg**	**12 32 31.1**	**-0.9**
ESL	**Shilin**	**1.39**	**295**	*i* P	**Pb**	**12 32 13.8**	**+0.4**
ESL				*e*S	**Sn**	**12 32 28.4**	**-2.2**
EHY	**Hungye**	**1.39**	**282**	*i* P	**Pg**	**12 32 14.7**	**0.0**
EHY				*i* S	**Sb**	**12 32 31.3**	**+0.3**
FULB	**Fuli**	**1.39**	**269**	*i* P	**Pg**	**12 32 14.2**	**-0.5**
FULB				S	**Sn**	**12 32 29.1**	**-1.6**
WARBT	**Fenglin Townsh**	**1.39**	**291**	*i* P	**Pg**	**12 32 14.2**	**-0.5**
WARBT				S	**Sn**	**12 32 26.4**	**-4.3**
TWF1	**Yuli**	**1.39**	**275**	*i* P	**Pg**	**12 32 14.7**	**0.0**
TWF1				*e*S	**Sn**	**12 32 28.4**	**-2.3**
IRIF	**Iriomote-Funau**	**1.39**	**37**	*e*S	**Sn**	**12 32 30.2**	**-0.5**
TWD	**Chiawan**	**1.39**	**308**	*i* P	**Pb**	**12 32 13.9**	**+0.3**
TWD				*i* S	**Sn**	**12 32 29.6**	**-1.2**
YULB	**Yu-li**	**1.39**	**277**	*i* P	**Pg**	**12 32 14.8**	**+0.1**
YULB				*e*S	**Sn**	**12 32 26.6**	**-4.2**
EDH	**Donghe**	**1.40**	**260**	*i* P	**Pg**	**12 32 14.5**	**-0.5**
EDH				*i* S	**Sn**	**12 32 31.5**	**+0.4**
ETM	**Tongmen**	**1.41**	**302**	*i* P	**Pb**	**12 32 14.2**	**+0.4**
ETM				*e*S	**Sn**	**12 32 31.1**	**-0.1**
ETL	**Fush Village**	**1.42**	**311**	*i* P	**Pb**	**12 32 14.5**	**+0.4**
ETL				S	**Sn**	**12 32 31.1**	**-0.5**
NACB	**Ninganchiao**	**1.45**	**311**	*i* P	**Pb**	**12 32 14.7**	**+0.1**
NACB				*i* S	**Sn**	**12 32 31.3**	**-1.0**
ECS	**Chishang**	**1.46**	**265**	*i* P	**Pg**	**12 32 16.1**	**+0.1**
ECS				S	**Sg**	**12 32 34.3**	**-0.9**
EAHA	**Aohua**	**1.47**	**319**	*i* P	**Pg**	**12 32 15.4**	**-0.7**
EAHA				S	**Sb**	**12 32 33.6**	**+0.3**
EHD	**Haiduan**	**1.47**	**267**	*i* P	**Pg**	**12 32 15.8**	**-0.5**
EHD				*i* S	**Sb**	**12 32 33.9**	**+0.5**
JKRS	**Kuro-shima**	**1.49**	**47**	*e*S	**Sn**	**12 32 32.5**	**-0.8**
LXIB	**Xiulin Townshi**	**1.50**	**302**	*i* P	**Pb**	**12 32 15.7**	**+0.2**
LXIB				*e*S	**Sn**	**12 32 32.9**	**-0.8**
EWUT	**Wuta**	**1.53**	**322**	*i* P	**Pb**	**12 32 16.4**	**+0.5**
EWUT				*i* S	**Sn**	**12 32 33.9**	**-0.3**
ENA	**Nanau**	**1.54**	**321**	*i* P	**Pb**	**12 32 16.5**	**+0.4**
ENA				*i* S	**Sn**	**12 32 34.5**	**0.0**
ETLH	**Xiulin Townshi**	**1.55**	**309**	*i* P	**Pb**	**12 32 16.4**	**+0.1**
ETLH				*i* S	**Sn**	**12 32 34.5**	**-0.5**
LONT	**Longtian**	**1.57**	**259**	*i* P	**Pg**	**12 32 17.9**	**-0.2**
LONT				*i* S	**Sb**	**12 32 37.0**	**+0.6**
ESAO	**Su ao**	**1.60**	**327**	*i* P	**Pb**	**12 32 16.7**	**-0.4**
ESAO				S	**Sn**	**12 32 36.0**	**0.0**
VWDT	**VWDT**	**1.61**	**289**	*i* P	**Pg**	**12 32 18.3**	**-0.6**
VWDT				*e*S	**Sn**	**12 32 33.0**	**-3.2**
TWC	**Suao**	**1.63**	**328**	*i* P	**Pb**	**12 32 17.5**	**-0.1**
TWC				*i* S	**Sn**	**12 32 36.2**	**-0.4**
TWGBT	**Beinan**	**1.64**	**256**	*i* P	**Pg**	**12 32 18.8**	**-0.6**
TWGBT				S	**Sb**	**12 32 38.4**	**+0.2**
ELDTW	**Lidau**	**1.64**	**269**	*i* P	**Pb**	**12 32 18.2**	**+0.3**
ELDTW				S	**Sn**	**12 32 37.5**	**+0.3**
TWG	**Pinlang**	**1.65**	**256**	*i* P	**Pg**	**12 32 19.0**	**-0.6**
TWG				*i* S	**Sn**	**12 32 38.2**	**+1.1**
LAY	**Lan-yu**	**1.66**	**225**	*i* P	**Pb**	**12 32 18.3**	**+0.3**
LAY				S	**Sn**	**12 32 37.5**	**+0.2**
OWD	**Renai**	**1.66**	**296**	*i* P	**Pb**	**12 32 18.5**	**+0.3**
OWD				*i* S	**Sn**	**12 32 37.1**	**-0.4**
JIJ	**Ishigaki jima**	**1.67**	**47**	*e*P	**Pn**	**12 32 17.2**	**+0.7**
JIJ				*e*S	**Sn**	**12 32 36.0**	**-1.6**
WHF	**Hehuan Shan**	**1.68**	**303**	*i* P	**Pb**	**12 32 18.6**	**-0.1**
WHF				*i* S	**Sn**	**12 32 38.6**	**+0.1**
NDS	**Dongshan**	**1.72**	**325**	*i* P	**Pn**	**12 32 17.7**	**+0.6**
NDS				S	**Sn**	**12 32 38.2**	**-0.6**
WUSB	**Renai**	**1.72**	**297**	*i* P	**Pb**	**12 32 19.7**	**+0.4**
WUSB				*e*S	**Sn**	**12 32 39.4**	**+0.2**
LATG	**Datong**	**1.75**	**318**	*i* P	**Pb**	**12 32 19.6**	**-0.1**
LATG				S	**Sn**	**12 32 40.6**	**+0.8**
FUSS	**Fushou**	**1.75**	**306**	P	**Pb**	**12 32 20.4**	**+0.5**
FUSS				S	**Sn**	**12 32 40.1**	**0.0**
NNSB	**Datong**	**1.77**	**313**	*i* P	**Pb**	**12 32 20.0**	**0.0**
NNSB				S	**Sn**	**12 32 40.0**	**-0.2**
NNS	**Nan Shan**	**1.78**	**313**	*i* P	**Pb**	**12 32 20.2**	**0.0**
NNS				*i* S	**Sn**	**12 32 40.5**	**0.0**
SSLB	**Suanglung**	**1.79**	**289**	*i* P	**Pg**	**12 32 21.3**	**-0.9**
SSLB				*e*S	**Sb**	**12 32 42.1**	**-0.4**
EGS		**1.80**	**334**	*i* P	**Pb**	**12 32 20.6**	**+0.2**
EGS				*e*S	**Sb**	**12 32 42.4**	**-0.3**
ENTT	**Nioudou**	**1.81**	**321**	*i* P	**Pb**	**12 32 20.8**	**+0.2**
ENTT				*i* S	**Sn**	**12 32 41.5**	**+0.6**
TWT	**Tachien**	**1.81**	**305**	*i* P	**Pb**	**12 32 21.4**	**+0.6**
TWT				*i* S	**Sn**	**12 32 41.5**	**+0.3**
TWE	**Neicheng**	**1.81**	**305**	*i* P	**Pb**	**12 32 21.0**	**+0.3**
TWE				S	**Sb**	**12 32 43.2**	**0.0**
ECL	**Taimali**	**1.82**	**250**	*i* P	**Pb**	**12 32 20.7**	**-0.1**
ECL				*i* S	**Sn**	**12 32 42.2**	**+1.0**
TDCB	**Techi**	**1.82**	**304**	*i* P	**Pb**	**12 32 21.0**	**+0.1**
TDCB				S	**Sn**	**12 32 42.5**	**+0.9**
WHYT	**Xinyi Township**	**1.85**	**285**	*i* P	**Pb**	**12 32 22.2**	**+0.8**
WHYT				*e*S	**Sn**	**12 32 40.2**	**-1.9**
ALS	**Alishan**	**1.86**	**279**	*i* P	**Pg**	**12 32 22.9**	**-0.8**
ALS				*e*S	**Sb**	**12 32 44.9**	**+0.1**
SMLT	**Sun Moon Lake**	**1.86**	**291**	*i* P	**Pb**	**12 32 22.1**	**+0.5**
SMLT				*e*S	**Sg**	**12 32 52.8**	**+4.8**
STYH	**Taoyuan**	**1.87**	**269**	*i* P	**Pb**	**12 32 22.8**	**+0.5**
STYH				S	**Sb**	**12 32 44.4**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.89**	**324**	*i* P	**Pb**	**12 32 22.1**	**0.0**
FUSB				S	**Sn**	**12 32 43.9**	**+0.7**
TYC	**Yuchr**	**1.91**	**291**	*i* P	**Pg**	**12 32 24.4**	**-0.1**
TYC				*e*S	**Sn**	**12 32 43.9**	**+0.3**
WCS	**Beigang Elemen**	**1.92**	**296**	*i* P	**Pb**	**12 32 22.8**	**+0.2**
WCS				*i* S	**Sg**	**12 32 50.5**	**+0.7**
TWB1	**Santiao Chiao**	**1.92**	**337**	*i* P	**Pb**	**12 32 21.6**	**-1.0**
TWB1				*i* S	**Sn**	**12 32 43.1**	**-0.8**
JISG	**Ishigakijimahi**	**1.93**	**45**	*e*P	**Pn**	**12 32 20.6**	**+0.5**
JISG				*e*S	**Sn**	**12 32 42.9**	**-1.2**
YHNB	**Yeheng**	**1.94**	**318**	*i* P	**Pb**	**12 32 22.7**	**-0.2**
YHNB				*e*S	**Sn**	**12 32 45.4**	**+0.9**
NWLT	**Wulai**	**1.95**	**323**	*i* P	**Pb**	**12 32 23.2**	**+0.2**
NWLT				*e*S	**Sn**	**12 32 43.6**	**-1.0**
TIPB	**Shuangxi**	**1.95**	**333**	*i* P	**Pb**	**12 32 22.7**	**-0.7**
TIPB				*e*S	**Sn**	**12 32 43.7**	**-1.0**
NSK	**Sanguang**	**1.96**	**318**	*i* P	**Pb**	**12 32 23.0**	**-0.2**
NSK				*e*S	**Sn**	**12 32 44.7**	**-0.1**
TAW	**Tawu**	**1.96**	**244**	*i* P	**Pb**	**12 32 23.4**	**+0.2**
TAW				*e*S	**Sn**	**12 32 46.0**	**+1.2**
TAWH	**Dawu Township**	**1.98**	**244**	*i* P	**Pb**	**12 32 23.6**	**+0.1**
TAWH				S	**Sn**	**12 32 46.2**	**+1.0**
CHN5	**Tsauling**	**1.99**	**281**	*i* P	**Pg**	**12 32 25.0**	**-1.0**
CHN5				*i* S	**Sg**	**12 32 49.9**	**-2.0**
EAST	**Anshuo**	**1.99**	**245**	*i* P	**Pb**	**12 32 23.6**	**-0.2**
EAST				*e*S	**Sn**	**12 32 46.7**	**+1.1**
WJS	**Zhushan**	**1.99**	**288**	P	**Pg**	**12 32 25.4**	**-0.8**
WJS				S	**Sb**	**12 32 48.7**	**+0.2**
WHP	**Taichung City**	**2.00**	**302**	*i* P	**Pb**	**12 32 24.9**	**+1.0**
WHP				*e*S	**Sb**	**12 32 47.9**	**-0.7**
TPUB	**Ta-pu**	**2.00**	**272**	*i* P	**Pg**	**12 32 25.3**	**-1.0**
TPUB				S	**Sb**	**12 32 49.3**	**+0.6**
WTP	**Ta-pu**	**2.01**	**271**	*i* P	**Sb**	**12 32 25.1**	**+1.2**
WTP				S	**Sg**	**12 32 51.1**	**-1.6**
WCKO	**Fanlu**	**2.03**	**276**	*i* P	**Pg**	**12 32 26.0**	**-0.9**
WCKO				*i* S	**Sg**	**12 32 51.6**	**-1.7**
SXI1	**Grass Mountain**	**2.04**	**336**	*i* P	**Pb**	**12 32 23.7**	**-1.0**
SXI1				*e*S	**Sn**	**12 32 47.6**	**+0.7**
WNT	**Mingjian**	**2.05**	**289**	*e*P	**Pg**	**12 32 27.4**	**+0.2**
WNT				*i* S	**Sb**	**12 32 50.9**	**+0.8**
TSMG	**Majia**	**2.06**	**256**	*i* P	**Pb**	**12 32 25.0**	**+0.1**
TSMG				*e*S	**Sn**	**12 32 46.0**	**-1.2**
SSD	**Sandimen**	**2.06**	**257**	*i* P	**Pb**	**12 32 24.9**	**0.0**
SSD				*e*S	**Sn**	**12 32 44.9**	**-2.3**
TWA	**Mucha**	**2.07**	**328**	*i* P	**Pn**	**12 32 19.6**	**-2.5**
TWA				*e*S	**Sb**	**12 32 50.0**	**-0.7**
NFF	**Wufeng Townshi**	**2.08**	**313**	*i* P	**Pb**	**12 32 25.6**	**+0.3**
NFF				*e*S	**Sb**	**12 32 50.7**	**-0.3**
MASBT	**Mashibuluo**	**2.09**	**253**	*i* P	**Pb**	**12 32 25.3**	**-0.2**
MASBT				*e*S	**Sn**	**12 32 47.5**	**-0.6**
CHN1	**Nanshi**	**2.09**	**269**	*i* P	**Pg**	**12 32 27.8**	**-1.1**
CHN1				*i* S	**Sg**	**12 32 53.4**	**-1.9**
SLIU	**Shizi**	**2.11**	**242**	P	**Pb**	**12 32 25.7**	**0.0**
SLIU				*e*S	**Sn**	**12 32 50.4**	**+2.0**
WGK	**Gukeng**	**2.11**	**283**	*i* P	**Pg**	**12 32 28.0**	**-0.3**
WGK				*i* S	**Sb**	**12 32 53.0**	**+1.3**
SNST	**Tainan City**	**2.12**	**270**	*i* P	**Pg**	**12 32 27.4**	**-1.2**
SNST				*i* S	**Sb**	**12 32 53.4**	**+1.3**
TWK	**Hsinying**	**2.13**	**271**	*i* P	**Pb**	**12 32 27.4**	**+1.2**
TWK				*i* S	**Sb**	**12 32 53.9**	**+1.5**
WDLH	**Douliu**	**2.13**	**283**	P	**Pg**	**12 32 27.9**	**-0.8**
WDLH				*i* S	**Sg**	**12 32 54.5**	**-1.9**
KSHI	**Guanxi Townshi**	**2.14**	**316**	*i* P	**Pb**	**12 32 27.1**	**+0.7**
KSHI				*i* S	**Sb**	**12 32 53.2**	**+0.5**
SCST	**Cishan**	**2.15**	**261**	*i* P	**Pg**	**12 32 28.1**	**-1.1**
SCST				S	**Sg**	**12 32 56.0**	**-1.2**
TCU	**Taichung**	**2.15**	**296**	*e*P	**Pg**	**12 32 29.2**	**-0.1**
TCU				*i* S	**Sb**	**12 32 54.5**	**+1.5**
LIOB	**Emei**	**2.16**	**311**	*i* P	**Pb**	**12 32 27.1**	**+0.4**
LIOB				S	**Sb**	**12 32 52.2**	**-1.0**
TWQ1	**Liyutan**	**2.17**	**301**	*i* P	**Pb**	**12 32 27.8**	**+1.0**
TWQ1				*i* S	**Sb**	**12 32 54.5**	**+1.0**
SMST	**Manzhou Townsh**	**2.18**	**237**	P	**Pb**	**12 32 27.3**	**+0.4**
SMST				*i* S	**Sn**	**12 32 52.6**	**+2.4**
SCZT	**Fangliau**	**2.19**	**247**	*i* P	**Pb**	**12 32 27.0**	**-0.1**
SCZT				*e*S	**Sn**	**12 32 51.6**	**+1.2**
CHY	**Chiayi**	**2.20**	**277**	*e*P	**Pb**	**12 32 28.6**	**+1.2**
CHY				*i* S	**Sb**	**12 32 56.3**	**+1.9**
NSY	**Sanyi**	**2.21**	**303**	*i* P	**Pb**	**12 32 28.7**	**+1.2**
NSY				*e*S	**Sb**	**12 32 55.9**	**+1.1**
YM01	**YM01**	**2.22**	**330**	*i* P	**Pb**	**12 32 26.9**	**-0.7**
YM01				S	**Sn**	**12 32 51.9**	**+0.7**
WCHH	**Zhanghua**	**2.23**	**293**	P	**Pg**	**12 32 29.4**	**-1.3**
WCHH				*i* S	**Sb**	**12 32 56.1**	**+1.0**
TWM1	**Shoushan**	**2.23**	**260**	*i* P	**Pg**	**12 32 30.9**	**+0.3**
TWM1				*e*S	**Sg**	**12 32 30.5**	**+0.8**
WCH1	**Changhua City**	**2.23**	**293**	*e*P	**Pg**	12 32 35.6	**+4.9**
WCH1				*i* S	**Sb**	**12 32 56.9**	**+1.6**
JTJ	**Tarama**	**2.23**	**51**	P	**Pn**	**12 32 25.8**	**+1.5**
JTJ				*e*S	**Sn**	**12 32 50.5**	**-1.1**
ZUZH	**Zhuzihu**	**2.24**	**329**	*i* P	**Pb**	**12 32 27.1**	**-1.0**
ZUZH				*i* S	**Sn**	**12 32 53.0**	**+1.2**
YM08	**YM08**	**2.24**	**331**	P	**Pb**	**12 32 27.1**	**-1.0**
YM08				*e*S	**Sn**	**12 32 49.0**	**-2.9**
TWS1	**Kuangyinshan**	**2.25**	**326**	*i* P	**Pb**	**12 32 27.2**	**-1.0**
TWS1				*i* S	**Sn**	**12 32 54.0**	**+2.0**
NMLH	**Miaoli**	**2.26**	**306**	*i* P	**Pb**	**12 32 29.5**	**+1.2**
NMLH				*i* S	**Sb**	**12 32 56.2**	**+0.2**
HEN	**Hengchun**	**2.26**	**238**	P	**Pb**	**12 32 27.9**	**-0.5**
HEN				*e*S	**Sb**	**12 32 54.9**	**-1.3**
WTK	**Tuku**	**2.26**	**282**	*e*P	**Pb**	**12 32 29.7**	**+1.3**
WTK				*e*S	**Sb**	**12 32 57.5**	**+1.3**
NTST	**Danshui**	**2.29**	**328**	*e*P	**Pg**	**12 32 30.4**	**-1.4**
NTST				*e*S	**Sn**	**12 32 53.9**	**+1.0**
HSN	**Hsinchu**	**2.29**	**313**	*e*P	**Pg**	**12 32 33.4**	**+1.5**
HSN				S	**Sb**	**12 32 56.0**	**-1.1**
TWY	**Chenhua**	**2.32**	**332**	*i* P	**Pb**	**12 32 28.8**	**-0.5**
TWY				*e*S	**Sn**	**12 32 55.3**	**+1.7**
WSL	**Shuilin Townsh**	**2.38**	**278**	P	**Pb**	**12 32 30.9**	**+0.5**
WSL				*i* S	**Sb**	**12 32 59.3**	**-0.4**
CHN8	**Yiju**	**2.39**	**273**	*e*P	**Pb**	**12 32 31.5**	**+1.0**
CHN8				*i* S	**Sb**	**12 33 00.4**	**+0.7**
JIRB	**Irabujima**	**2.69**	**53**	*e*P	**Pn**	**12 32 31.9**	**+1.4**
JIRB				*e*S	**Sn**	**12 33 01.8**	**-1.0**
JMJ2	**Miyako jima3**	**2.76**	**56**	*e*P	**Pn**	**12 32 32.9**	**+1.4**
JMJ2				*e*S	**Sn**	**12 33 03.9**	**-0.6**
JIKM	**Ikemajima**	**2.80**	**52**	*e*S	**Sn**	**12 33 04.5**	**-1.0**

IDC 01 12:32:05.5±1.4,0°.78N×124°.26E,h0km,mb3.6/4,
mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=124.4km
s-min=19.8km az=66.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.80**	**176**	P	P	12 36 24.8	-2.0
	0.1nm,0.3s,baz=350,slow=15,SNR=6.7						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**22.84**	**155**	P	P	12 37 09.9	-0.5
	0.8nm,0.3s,baz=335,slow=11,SNR=24						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**26.04**	**160**	P	P	12 37 41.9	+1.2
	0.4nm,0.5s,baz=345,slow=8.4,SNR=23						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**58.63**	**327**	P	P	12 42 05.4	+0.8
	0.3nm,0.4s,baz=114,slow=7.5,SNR=4.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.94**	**329**	P	P	12 42 32.9	-0.8
	0.5nm,0.5s,baz=118,slow=7.8,SNR=5.3						
	0.5nm,0.5s						

*RSNC **01** 13:02:14.5±0.0,11°N±4°×7°2W±°,h64km±6km,M2.4,mb3.2,*
ML2.3,MLv3.0
*FUNV **01** 13:02:22.1,10°.59N×71°.18W,h4km,MW3.5*
ISC 01 13:02:09.6±1.1,11°13N±0°.05×71°54W±0°.04,h23km,n10,
σ2s49/19,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.72**	**322**	P	**Pn**	**13 02 26.8**	**+2.4**
URIC				S	**Sn**	**13 02 36.3**	**+1.6**
CRJC	**Cerrejon, Guaj**	**1.32**	**265**	P	**Pn**	**13 02 32.7**	**-0.1**
CRJC				S	**Sn**	**13 02 46.6**	**-3.2**
MCQV	**Machiques**	**1.46**	**222**	*e*P	**Sn**	**13 02 49.0**	**-3.9**
SOCV	**Socops**	**2.91**	**167**	*e*P	**Pb**	**13 02 59.1**	**-1.8**
SOCV				*e*S	**Sn**

4.3nm,1.1s,baz=96,slow=10.0,SNR=8.4
CMAR LR LR 13 22 50.6
comp=Z,26nm,19.2s,baz=185,slow=36
4.3nm,1.1s
FAKI Fak Fak 20.61 142 P **P** **13 15 09.7 -1.5**
JNU Nakatsue 21.81 26 P **P** **13 15 21.9 -2.0**
JNU Nakatsue 21.81 26 P **P** **13 15 25.1 +1.1**
4.4nm,0.9s,baz=5.7,slow=10,SNR=2.1
JNU LR LR 13 23 50.9
comp=Z,73nm,21.4s,baz=218,slow=36
4.4nm,0.9s
PSI Prapat 23.30 244 LR LR 13 25 17.4
comp=Z,135nm,18.6s,baz=100,slow=38
JMN Monobe 23.69 30 P **P** **13 15 40.5 -2.6**
BATI Baumata 24.06 171 P **P** **13 15 48.2 +1.6**
44nm,0.4s,baz=339,slow=3.6,SNR=9.3
GUMO Guam 24.35 87 LR LR 13 25 05.9
comp=Z,62nm,20.3s,baz=218,slow=36
KSRS Korea Array 24.74 16 P **P** **13 15 52.0 -0.6**
2.5nm,0.7s,baz=199,slow=11,SNR=17
2.5nm,0.7s
JAY Jayapura 26.25 126 LR LR 13 27 45.6
comp=Z,72nm,18.2s,baz=348,slow=39
JHJ Hachijo jima 2 26.55 40 LR LR 13 26 26.1
comp=Z,50nm,18.4s,baz=270,slow=36
JGF Kuroka 26.93 33 P **P** **13 16 11.1 -1.5**
JGF IAmb IAmb 13 16 31.9
comp=Z,16nm,1.5s
USA0B Ussuriysk Arra 32.14 17 P **P** **13 16 57.5 -1.0**
USA0B IAmb IAmb 13 17 14.1
comp=Z,5.5nm,0.8s
USRK Ussuriysk Ar. 32.14 17 P **P** **13 16 57.3 -1.2**
USRK Ussuriysk Ar. 32.14 17 P **P** **13 16 57.7 -0.8**
comp=Z,2.1nm,0.7s,baz=209,slow=5.9,SNR=3.5
comp=Z,2.1nm,0.7s
MBWA Marble Bar 34.64 180 P **P** **13 17 20.0 -0.5**
PSA00 Pilbara Seismi 35.05 180 P **P** **13 17 23.0 -1.1**
PSA00 IAmb IAmb 13 17 46.8
comp=Z,15nm,1.4s
SONM Songino Array 35.82 345 P **P** **13 17 30.4 -0.2**
SONM PcP **PcP** **13 19 58.1 +0.8**
comp=Z,0.8nm,0.4s,baz=174,slow=5.8,SNR=4.7
comp=Z,0.4nm,0.3s,baz=151,slow=3.3,SNR=2.0
comp=Z,0.8nm,0.4s
COEN Coen 35.92 139 P **P** **13 17 29.8 -1.9**
ASAJ Asahikawa 36.04 28 LR LR 13 33 22.4
comp=Z,36nm,18.5s,baz=206,slow=38
WB0 Warramunga Arr 36.22 156 P **P** **13 17 33.7 -0.5**
WB0 IAmb IAmb 13 17 35.3
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 36.36 157 P **P** **13 17 34.0 -1.4**
WRA Warramunga Ar 36.36 157 P **P** **13 17 35.2 -0.2**
comp=Z,5.9nm,0.6s,baz=336,slow=9.5,SNR=42
WRA PcP **PcP** **13 19 59.8 +0.6**
comp=Z,0.4nm,0.6s,baz=315,slow=3.1,SNR=1.8
comp=Z,5.9nm,0.6s
WR8 Warramunga Arr 36.43 156 P **P** **13 17 35.6 -0.4**
WR8 IAmb IAmb 13 17 37.3
comp=Z,8.3nm,0.8s
PALK Pallekele 38.94 265 LR LR 13 33 56.7
comp=Z,64nm,18.1s,baz=126,slow=36
AS31 Alice Springs 39.61 159 **P** **13 18 03.2 +0.4**
ASAR Alice Springs 39.61 159 P **P** **13 18 03.1 +0.3**
ASAR Alice Springs 39.61 159 P **P** **13 18 03.4 +0.6**
comp=Z,3.1nm,0.4s,baz=335,slow=6.6,SNR=110
ASAR PcP **PcP** **13 20 09.7 +0.5**
comp=Z,1.2nm,0.7s,baz=348,slow=3.4,SNR=7.1
comp=Z,3.1nm,0.4s
CTAO Charters Tower 42.48 142 P **P** **13 18 26.6 +0.3**
CTAO IAmb IAmb 13 18 35.0
comp=Z,25nm,1.5s
MORW Morawa 42.67 185 P **P** **13 18 28.1 +0.3**
MORW IAmb IAmb 13 18 36.8
comp=Z,23nm,1.4s
FORT Forrest 44.93 170 P **P** **13 18 45.6 -0.2**
FORT IAmb IAmb 13 18 49.1
comp=Z,6.7nm,0.8s
FORT PcP **PcP** **13 20 28.1 +1.5**
MKAR Makanchi Array 45.52 324 P **P** **13 18 51.3 +0.8**
MKAR Makanchi Array 45.52 324 P **P** **13 18 51.2 +0.7**
comp=Z,0.8nm,0.7s,baz=133,slow=8.5,SNR=8.4
MKAR PcP **PcP** **13 20 29.8 +1.2**
comp=Z,0.8nm,0.7s,baz=108,slow=4.7,SNR=3.6
comp=Z,0.8nm,0.7s
INKA Innaminka 45.92 154 P **P** **13 18 54.0 +0.2**
INKA IAmb IAmb 13 18 55.6
comp=Z,5.9nm,1.1s
AAK Ala-Archa 48.46 315 LR LR 13 40 43.8
comp=Z,63nm,20.5s,baz=126,slow=37
ZALV Zalesovo Beam 48.66 333 P **P** **13 19 14.2 -0.6**
comp=Z,1.4nm,0.6s,baz=134,slow=4.3,SNR=5.7
ZALV PcP **PcP** **13 20 40.7 +1.2**
comp=Z,0.9nm,0.2s,baz=113,slow=3.7,SNR=6.1
comp=Z,1.4nm,0.6s
BBOO Buckleboo 48.79 162 P **P** **13 19 16.3 +0.3**
BBOO PcP **PcP** **13 20 41.0 +0.8**
PETK Petropavlovsk- 49.45 29 P **P** **13 19 19.4 -1.4**
comp=Z,2.4nm,1.0s,baz=260,slow=4.4,SNR=3.7
comp=Z,2.4nm,1.0s
KURBB Kurchatov Arra 49.71 327 P **P** **13 19 23.5 +0.6**
comp=Z,2.9nm,1.0s,baz=122,slow=7.9,SNR=18
comp=Z,2.9nm,1.0s
KURK Kurchatov 49.71 327 P **P** **13 19 22.4 -0.5**
KURK IAmb IAmb 13 19 34.0
comp=Z,6.0nm,0.9s
STKA Stephens Creek 49.90 156 P **P** **13 19 24.9 +0.4**
comp=Z,7.1nm,1.1s,baz=301,slow=11,SNR=4.6
STKA LR LR 13 41 53.7
comp=Z,72nm,19.1s,baz=204,slow=38
comp=Z,7.1nm,1.1s
KK31 Karatay Array 51.36 315 P **P** **13 19 36.4 +0.9**
KKAR Karatay Array 51.36 315 P **P** **13 19 35.8 +0.3**
BVAR Borovoye Array 55.29 326 P **P** **13 20 05.5 +1.3**
comp=Z,0.8nm,0.6s,baz=119,slow=9.2,SNR=5.0
comp=Z,0.8nm,0.6s
BRVK Borovoye 55.36 326 P **P** **13 20 04.8 +0.1**
CAN Canberra 56.05 151 P **P** **13 20 10.4 +0.5**
AB31 Akbulak array 60.17 319 **P** **13 20 39.0 +0.6**
AB31 IAmb IAmb 13 20 40.6
comp=Z,4.3nm,1.1s
ABKAR Akbulak array 60.17 319 P **P** **13 20 39.0 +0.6**
L14K Kuka Creek 72.09 30 P **P** **13 21 54.8 +0.1**
CAST Castle Rocks 77.02 27 **P** **13 22 23.2 -0.1**
BRTR Keskin Array B 78.47 308 P **P** **13 22 32.1 +0.2**
comp=Z,0.9nm,0.9s,baz=100,slow=6.8,SNR=3.6
BRTR LR LR 14 03 03.4
comp=Z,60nm,20.9s,baz=315,slow=40
comp=Z,0.9nm,0.9s
ARCES ARCESS Array B 78.78 339 P **P** **13 22 33.4 +0.5**
comp=Z,0.7nm,0.5s,baz=78,slow=7.8,SNR=12
comp=Z,0.7nm,0.5s
ILAR Eielson Array 79.13 26 P **P** **13 22 34.4 -0.5**
comp=Z,0.4nm,0.7s,baz=250,slow=3.9,SNR=6.5
comp=Z,0.4nm,0.7s
FINES FINESS Array B 79.86 331 P **P** **13 22 39.9 +1.0**
comp=Z,0.7nm,0.5s,baz=57,slow=7.0,SNR=6.9
comp=Z,0.7nm,0.5s
RIDG Independent Ri 80.19 27 P **P** **13 22 40.2 -0.5**
RIDG IAmb IAmb 13 22 41.9
comp=Z,7.4nm,1.1s
I26K Coal Creek Min 80.59 25 P **P** **13 22 42.4 -0.4**
I26K IAmb IAmb 13 22 46.4
comp=Z,3.8nm,0.6s
K27K Chicken 81.32 26 P **P** **13 22 46.8 +0.1**
I28M Miner Creek 81.87 25 **P** **13 22 49.3 -0.4**
I28M IAmb IAmb 13 22 51.7
comp=Z,3.2nm,0.7s
G29M Pine Creek 82.22 23 P **P** **13 22 50.6 -0.8**
G29M IAmb IAmb 13 22 53.0
comp=Z,4.0nm,0.7s
H29M Whitestone 82.28 24 **P** **13 22 52.2 +0.5**
H29M IAmb IAmb 13 22 53.7
comp=Z,3.7nm,0.7s
L29M L29M 83.27 27 IAmb IAmb 13 22 59.9
comp=Z,3.3nm,0.7s
K29M Barlow Dome 83.31 26 IAmb IAmb 13 22 59.3
comp=Z,2.5nm,0.8s
M29M Somme Creek 83.31 27 IAmb IAmb 13 23 00.6
comp=Z,2.2nm,0.7s
HFS Hagfors 86.06 331 P **P** **13 23 10.4 -0.6**
comp=Z,1.4nm,0.7s,baz=64,slow=5.0,SNR=3.0
comp=Z,1.4nm,0.7s
NB2 NORSAR Subarra 86.86 332 P **P** **13 23 15.1 +0.1**
comp=Z,1.6nm,0.8s,baz=68,slow=4.4
NB2 NORSAR Subarra 86.86 332 P **P** **13 23 15.1 +0.1**
baz=68,slow=4.4
NOA NORSAR Array B 86.86 332 P **P** **13 23 14.9 -0.1**
comp=Z,1.0nm,0.7s,baz=67,slow=4.6,SNR=7.2
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 93.11 22 P **P** **13 23 44.0 -0.2**
comp=Z,0.6nm,0.7s,baz=309,slow=4.5,SNR=3.6
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 120.08 44 PKP **PKPdf** **13 29 22.0 +0.2**
comp=Z,0.3nm,0.5s,baz=224,slow=1.4,SNR=4.9
PLCA Paso Flores 151.58 163 PKPbc **PKiKP** **13 30 26.0 +0.7**
comp=Z,4.0nm,0.8s,baz=124,slow=1.1,SNR=6.1

RSNC 01 13:13:26.0±0.0, 7°N±1′×7°3W±°, h145km±2km, M1.8, ML1.6, MLv1.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.20**	**186**	P		Pn	13 13 45.5	-0.5
BARC				S		Sn	13 14 00.6	-0.6
BRJC	**Barrancabermej**	**0.61**	**287**	P		Pn	13 13 46.7	-0.7
BRJC				S		Sn	13 14 04.4	+0.8
PAMC	**Pamplona, Colo**	**0.71**	**40**	P		Pn	13 13 48.2	-0.4
PAMC				S		Sn	13 14 06.2	+0.4
RUSC	**La Rusia**	**0.90**	**175**	P		Pn	13 13 49.9	-0.1
RUSC				S		Sn	13 14 08.1	-0.2
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	P		Pn	13 13 52.3	-1.0
PTBC				S		Sn	13 14 13.1	-0.9
OCAC	**Ocana**	**1.45**	**354**	P		Pn	13 13 53.8	-1.0
OCAC				S		Sn	13 14 16.5	-0.4
ZARC	**Zaragoza, Cauc**	**1.82**	**293**	P		Pn	13 14 20.3	+1.5
ZARC				S		Sn	13 14 23.5	-0.4
PRAC	**Prado**	**3.51**	**209**	P		Pn	13 14 19.3	-0.5

*UPA **01** 13:24:06.8±0.8, 10°.24N×83°.87W, h11km±9km, MW3.8*
*UCR **01** 13:24:08.1±1.1, 9°.98N×84°.06W, h79km±1km, MW3.8*
*CATAC **01** 13:24:08.8±0.5, 10°N±3′×8°4W±°, h63km±5km, M3.7/12, MLv3.7/12, Error ellipse: s-maj=6.7km s-min=4.1km az=38.4, confirmed*

ISC 01 13:24:09.3±1.2, 9°.96N±0°.03×84°.08W±0°.03, h71km±4km, n139, σ0°77/199, 19C-42D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEXI	**Barrio Mexico**	**0.02**	**206**	*eP*		**Pn**	**13 24 19.3**	**-0.5**
MEXI				*eS*		**Sn**	**13 24 28.0**	**+0.6**
DOMI	**Santo Domingo**	**0.03**	**322**	*eP*		**Pn**	**13 24 19.7**	**-0.1**
DOMI				*eS*		**Sn**	**13 24 28.2**	**+0.7**
LUPE	**Guadalupe**	**0.03**	**126**	*eP*		**Pn**	**13 24 20.3**	**+0.4**
LUPE				*eS*		**Sn**	**13 24 28.0**	**+0.5**
SJS	**Escuela Geolog**	**0.03**	**138**	*eP*		**Pn**	**13 24 19.4**	**-0.4**
SJS				*eS*		**Sn**	**13 24 28.1**	**+0.7**
ECI	**Escuela Centro**	**0.03**	**136**	*eP*		**Pn**	**13 24 19.4**	**-0.4**
ECI				*eS*		**Sn**	**13 24 28.0**	**+0.5**
SJS3	**Mercedes San J**	**0.03**	**137**	*eP*		**Pn**	**13 24 19.6**	**-0.2**
SJS3				*eS*		**Sn**	**13 24 28.2**	**+0.7**
LUJA	**Lujan**	**0.04**	**174**	*eP*		**Pn**	**13 24 19.2**	**-0.6**
LUJA				*eS*		**Sn**	**13 24 27.6**	**+0.1**
HDC	**Heredia**	**0.05**	**315**	*eP*		**Pn**	**13 24 19.7**	**-0.2**
HDC				*eS*		**Sn**	**13 24 28.0**	**+0.5**
HEME	**Heredia, Merce**	**0.07**	**298**	*eP*		**Pn**	**13 24 19.7**	**-0.2**
HEME				*eS*		**Sn**	**13 24 28.2**	**+0.7**
CORON	**Coronado**	**0.07**	**82**	*eP*		**Pn**	**13 24 19.7**	**-0.2**
CORON				*eS*		**Sn**	**13 24 28.6**	**+1.0**
TRIO	**Tres Rios**	**0.10**	**125**	*iP*		**Pn**	**13 24 19.4**	**-0.5**
TRIO				*eS*		**Sn**	**13 24 27.8**	**-0.2**
BELE	**Belen**	**0.11**	**277**	*eP*		**Pn**	**13 24 19.6**	**-0.3**
BELE				*eS*		**Sn**	**13 24 27.9**	**+0.3**
SANTA	**Santa Ana**	**0.11**	**255**	*eP*		**Pn**	**13 24 19.4**	**-0.5**
CVIMO	**Finca Echandi**	**0.14**	**65**	*eP*		**Pn**	**13 24 19.7**	**-0.4**
CVIMO				*eS*		**Sn**	**13 24 28.5**	**+0.5**
TAGO	**Cartago**	**0.18**	**123**	*eP*		**Pn**	**13 24 19.9**	**-0.3**
TAGO				*eS*		**Sn**	**13 24 28.7**	**+0.5**
ACOS	**Acosta**	**0.19**	**208**	*iP*		**Pn**	**13 24 19.6**	**-0.6**
ACOS				*eS*		**Sn**	**13 24 28.2**	**+0.1**
VICA	**Volcano Irazu**	**0.23**	**85**	*eP*		**Pn**	**13 24 20.7**	**-0.1**
TCS1	**Tacares**	**0.23**	**290**	*iP*		**Pn**	**13 24 20.1**	**-0.2**
TCS1				*eS*		**Sn**	**13 24 29.4**	**+1.0**
TCS1	**Tacares**	**0.23**	**290**	P		**Pn**	**13 24 20.3**	**-0.1**
REPA	**Paraso**	**0.24**	**123**	*iP*		**Pn**	**13 24 19.9**	**-0.6**
REPA				*eS*		**Sn**	**13 24 29.0**	**+0.3**
GREC	**Grecia**	**0.26**	**296**	*eP*		**Pn**	**13 24 20.5**	**-0.1**
PURI	**Puriscal**	**0.26**	**244**	*eP*		**Pn**	**13 24 20.5**	**-0.4**
PURI				*eS*		**Sn**	**13 24 29.3**	**+0.5**
RAFA	**San Farael, Vo**	**0.26**	**91**	*eP*		**Pn**	**13 24 21.6**	**+0.8**
PCAYA	**Pacayas**	**0.27**	**100**	*eP*		**Pn**	**13 24 20.3**	**-0.4**
PCAYA				*eS*		**Sn**	**13 24 29.4**	**+0.3**
VPS8	**V Poas**	**0.27**	**323**	*iP*		**Pn**	**13 24 20.6**	**-0.3**
VPS5	**V. Poas**	**0.27**	**326**	*iP*		**Pn**	**13 24 20.4**	**-0.5**
VPS5				*eS*		**Sn**	**13 24 29.8**	**+0.5**
VTLA	**Turrialba Volc**	**0.30**	**82**	*eP*		**Pn**	**13 24 20.8**	**-0.2**
ATEO	**Atenas**	**0.30**	**273**	*eP*		**Pn**	**13 24 20.4**	**-0.4**
ATEO				*eS*		**Sn**	**13 24 29.2**	**+0.1**
PITB	**Pirrs, San**	**0.30**	**170**	*eP*		**Pn**	**13 24 20.1**	**-0.8**
PITB				*eS*		**Sn**	**13 24 29.2**	**-0.2**
RAZU	**San Marcos de**	**0.31**	**170**	*eP*		Pn	13 24 15.5	-5.4
RAZU				*eS*		**Sn**	**13 24 24.9**	**-4.5**
CVTQ	**Turrialba Volc**	**0.31**	**82**	*eP*		**Pn**	**13 24 20.8**	**-0.3**
VTR0	**Volcan Turrial**	**0.32**	**80**	*eP*		**Pn**	**13 24 21.1**	**-0.2**
CVTR	**Volcan Turrial**	**0.32**	**80**	*eP*		**Pn**	**13 24 21.0**	**-0.2**
CVTV	**Tajo**	**0.32**	**83**	*eP*		**Pn**	**13 24 21.0**	**-0.2**
CVTV				*eS*		**Sn**	**13 24 30.8**	**+0.9**
PISJ	**San Jernim**	**0.33**	**188**	*iP*		**Pn**	**13 24 20.1**	**-0.9**
PISJ				*eS*		**Sn**	**13 24 29.8**	**+0.1**
VINA	**Juan Vinas**	**0.33**	**102**	*eP*		**Pn**	**13 24 20.6**	**-0.5**
VINA				*eS*		**Sn**	**13 24 29.9**	**+0.3**
VTCV	**VTCV, Calle Va**	**0.34**	**87**	*eP*		**Pn**	**13 24 20.7**	**-0.5**
VTCV				*eS*		**Sn**	**13 24 30.3**	**+0.4**
PICV	**PH. Pirrs**	**0.35**	**199**	*eP*		**Pn**	**13 24 20.4**	**-0.7**
PICV				*eS*		**Sn**	**13 24 29.7**	**0.0**
ABRB	**Las Abras (San**	**0.36**	**83**	*iP*		**Pn**	**13 24 21.1**	**-0.2**
ABRB				*eS*		**Sn**	**13 24 31.1**	**+1.0**
PIEC	**Cerro El Cedra**	**0.36**	**161**	*eP*		**Pn**	**13 24 20.4**	**-1.0**
PIEC				*eS*		**Sn**	**13 24 29.8**	**-0.3**
PALD	**Palmares**	**0.36**	**284**	*eP*		**Pn**	**13 24 20.7**	**-0.5**
PALD				*eS*		**Sn**	**13 24 30.2**	**+0.2**
VERB	**Verbena**	**0.38**	**93**	*eP*		**Pn**	**13 24 21.1**	**-0.3**
VERB				*eS*		**Sn**	**13 24 30.8**	**+0.6**
ZARE	**Zarcero**	**0.38**	**305**	*eP*		**Pn**	**13 24 21.3**	**-0.2**
ZARE				*eS*		**Sn**	**13 24 30.5**	**+0.1**
TURIB	**Turrialba**	**0.39**	**98**	*eP*		**Pn**	**13 24 20.9**	**-0.4**
PAR1A	**Puntarenas Pro**	**0.40**	**206**	*eP*		**Pn**	**13 24 21.4**	**-0.1**
PAR1A				*eS*		**Sn**	**13 24 31.8**	**+1.5**
RAMO	**San Ramon**	**0.41**	**288**	*iP*		**Pn**	**13 24 21.2**	**-0.4**
RAMO				*eS*		**Sn**	**13 24 31.2**	**+0.6**
SRA1	**San Ramn**	**0.42**	**287**	*iP*		**Pn**	**13 24 21.3**	**-0.4**
SRA1				*eS*		**Sn**	**13 24 31.0**	**+0.3**
RVSTA	**Santa Teresita**	**0.42**	**88**	*eP*		**Pn**	**13 24 21.4**	**-0.2**
RVSTA				*eS*		**Sn**	**13 24 31.4**	**+0.7**
OROT	**Orotina**	**0.45**	**264**	*eP*		**Pn**	**13 24 21.4**	**-0.4**
VPL2	**V. Platanar**	**0.46**	**319**	*eP*		**Pn**	**13 24 22.1**	**0.0**
LLNJ	**Naranjito**	**0.49**	**183**	*eP*		**Pn**	**13 24 21.7**	**-0.5**
RVLA	**Villa Bonita**	**0.50**	**73**	*iP*		**Pn**	**13 24 22.0**	**-0.3**
ITAL	**Pital**	**0.52**	**338**	*eP*		**Pn**	**13 24 22.1**	**-0.4**
ITAL				*eS*		**Sn**	**13 24 32.4**	**+0.2**
LCO0	**El Coco**	**0.52**	**77**	*iP*		**Pn**	**13 24 21.9**	**-0.6**
LCOCO				*eS*		**Sn**	**13 24 32.6**	**+0.4**
QUEP	**Quepos**	**0.54**	**189**	*eP*		**Pn**	**13 24 22.0**	**-0.6**
QUEP	**Quepos**	**0.54**	**189**	S		**Sn**	**13 24 33.4**	**+1.0**
QUEP	**Quepos**	**0.54**	**189**	P		**Pn**	**13 24 22.1**	**-0.5**
SVQ2	**Quepos**	**0.54**	**190**	*eP*		**Pn**	**13 24 21.7**	**-0.9**
SVQ2				*eS*		**Sn**	**13 24 32.9**	**+0.5**
IRES	**Siquirres**	**0.58**	**77**	*eP*		**Pn**	**13 24 22.5**	**-0.5**
IRES				*eS*		**Sn**	**13 24 34.0**	**+0.9**
ARZA	**Esparza**	**0.58**	**273**	*eP*		**Pn**	**13 24 22.8**	**-0.3**
ROBF	**Roble, Puntare**	**0.65**	**272**	*iP*		**Pn**	**13 24 23.4**	**-0.3**
SOCE	**Pocosol**	**0.68**	**308**	*iP*		**Pn**	**13 24 23.9**	**-0.2**
SOCE				*eS*		**Sn**	**13 24 35.8**	**+0.8**
SOCE	**Pocosol**	**0.68**	**308**	P		**Pn**	**13 24 24.0**	**-0.2**
FORC	**Fortuna**	**0.77**	**311**	*eP*		**Pn**	**13 24 24.9**	**-0.2**
FORC				*eS*		**Sn**	**13 24 37.9**	**+1.0**
VACR	**Volcan Arenal**	**0.78**	**311**	*iP*		**Pn**	**13 24 25.1**	**-0.2**
VACR				*eS*		**Sn**	**13 24 37.9**	**+0.8**
CASO	**Castillo**	**0.80**	**306**	*iP*		**Pn**	**13 24 25.3**	**-0.2**
CASO				*eS*		**Sn**	**13 24 38.3**	**+0.8**
VARE2	**V. Arenal**	**0.80**	**308**	*eP*		**Pn**	**13 24 25.5**	**-0.2**
VARE2				*eS*		**Sn**	**13 24 38.9**	**+1.2**
CEDE	**Laguna Cedeo**	**0.81**	**310**	*iP*		**Pn**	**13 24 25.5**	**-0.2**
COVE	**Coope Vega, Sa**	**0.82**	**337**	S		**Sn**	**13 24 37.4**	**-0.4**
COVE	**Coope Vega, Sa**	**0.82**	**337**	P		**Pn**	**13 24 24.9**	**-0.8**
MTEVE	**Monteverde**	**0.82**	**296**	*eP*		**Pn**	**13 24 25.7**	**-0.2**
SAJE	**San Jernim**	**0.83**	**138**	*eP*		**Pn**	**13 24 24.8**	**-1.2**
TABAC	**Tabacon**	**0.86**	**308**	*iP*		**Pn**	**13 24 26.1**	**-0.2**
TABAC				*eS*		**Sn**	**13 24 41.0**	**+2.0**
VERH	**Veragua Rainfo**	**0.87**	**92**	*iP*		**Pn**	**13 24 25.5**	**-0.9**
JTS	**Las Juntas de**	**0.92**	**291**	*iP*		**Pn**	**13 24 26.7**	**-0.3**
JTS				*eS*		**Sn**	**13 24 41.0**	**+0.9**
JTS	**Las Juntas de**	**0.92**	**291**	*iP*		**Pn**	**13 24 26.7**	**-0.3**
JTS	**Las Juntas de**	**0.92**	**291**	P		**Pn**	**13 24 26.6**	**-0.3**
JTS				S		**Sn**	**13 24 40.8**	**+0.7**
JUNT	**Juntas**	**0.93**	**290**	*iP*		**Pn**	**13 24 26.8**	**-0.2**
EDPE	**Pejibaye, P**	**0.94**	**148**	*eP*		**Pn**	**13 24 26.8**	**-0.4**
EDPE				*eS*		**Sn**	**13 24 40.7**	**+0.2**
OCHAL	**Ojochal**	**0.96**	**154**	S		**Sn**	**13 24 41.3**	**+0.5**
OCHAL	**Ojochal**	**0.96**	**154**	P		**Pn**	**13 24 27.1**	**-0.3**
TILA	**Tilaran**	**1.01**	**300**	*eP*		**Pn**	**13 24 27.7**	**-0.4**
LAES	**El Progreso Va**	**1.03**	**101**	*iP*		**Pn**	**13 24 27.8**	**-0.5**
LAES				*eS*		**Sn**	**13 24 42.6**	**+0.2**
QUEB	**Quebradon, Cot**	**1.04**	**309**	*eP*		**Pn**	**13 24 27.9**	**-0.6**
BURE	**Buenos Aires**	**1.07**	**137**	*eP*		**Pn**	**13 24 28.4**	**-0.4**
DRK0	**Durika**	**1.07**	**130**	*eP*		**Pn**	**13 24 28.0**	**-1.0**
DRK0				*eS*		**Sn**	**13 24 42.9**	**-0.8**
DRK0	**Durika**	**1.07**	**130**	*eP*		**Pn**	**13 24 27.9**	**-1.0**
DRK0	**Durika**	**1.07**	**130**	P		**Pn**	**13 24 28.0**	**-1.0**
INVE	**Universidad In**	**1.10**	**298**	*iP*		**Pn**	**13 24 29.1**	**-0.1**
INVE				*eS*		**Sn**	**13 24 45.2**	**+1.3**
CNAS	**Canas**	**1.10**	**295**	*eP*		**Pn**	**13 24 28.8**	**-0.3**
TIMP	**Tierras Morena**	**1.11**	**304**	*iP*		**Pn**	**13 24 29.1**	**-0.3**
TENO	**El Achiote**	**1.15**	**310**	*eP*		**Pn**	**13 24 29.8**	**-0.1**
CEUA	**Cerro Uatsi, L**	**1.17**	**107**	*eP*		**Pn**	**13 24 30.2**	**+0.1**
FIMO	**Fila Mora**	**1.20**	**144**	*eP*		**Pn**	**13 24 30.3**	**-0.3**
MOTZ	**Rio Naranjo**	**1.22**	**306**	*iP*		**Pn**	**13 24 30.8**	**+0.1**
CUI	**Cuipilapa**	**1.27**	**303**	*iP*		**Pn**	**13 24 31.3**	**-0.1**
EDP2	**Potrero Grande**	**1.29**	**137**	*eP*		**Pn**	**13 24 31.4**	**-0.3**
BAGA	**Bagaces**	**1.29**	**296**	*eP*		**Pn**	**13 24 31.5**	**-0.2**
UPAL	**Upala**	**1.31**	**315**	*eP*		**Pn**	**13 24 31.2**	**-0.6**
COLC	**Colonia**	**1.31**	**302**	*iP*		**Pn**	**13 24 31.6**	**-0.3**
COLC				*eS*		**Sn**	**13 24 49.6**	**+0.8**
HORNC	**Hornillas**	**1.32**	**305**	*eP*		**Pn**	**13 24 31.7**	**-0.3**
VMAR	**Armenia, Volca**	**1.32**	**310**	*eP*		**Pn**	**13 24 31.6**	**-0.5**
CMARA	**Lajas Hojancha**	**1.33**	**273**	*iP*		**Pn**	**13 24 31.5**	**-0.7**
CMARA				*eS*		**Sn**	**13 24 48.9**	**-0.4**
CMARA	**Lajas Hojancha**	**1.33**	**273**	P		**Pn**	**13 24 31.4**	**-0.7**
MESS	**Mesas**	**1.34**	**305**	*eP*		**Pn**	**13 24 32.3**	**-0.1**
NICO	**Nicoya**	**1.36**	**277**	*eP*		**Pn**	**13 24 32.4**	**-0.1**
INDI	**Punta indio, G**	**1.41**	**266**	S		**Sn**	**13 24 49.6**	**-1.5**
INDI	**Punta indio, G**	**1.41**	**266**	P		**Pn**	**13 24 31.9**	**-1.2**
JUD3	**Juan Diaz 3**	**1.46**	**278**	*eP*		**Pn**	**13 24 33.4**	**-0.4**
GPS2	**Hotel Rincn d**	**1.48**	**302**	*eP*		**Pn**	**13 24 33.8**	**-0.3**
GPS1	**Guardaparques**	**1.49**	**303**	*eP*		**Pn**	**13 24 34.2**	**-0.1**
GPS3	**Bodega del ICE**	**1.49**	**302**	*eP*		**Pn**	**13 24 36.9**	**+2.6**
VRLE	**La Escondida,**	**1.51**	**303**	*eP*		**Pn**	**13 24 34.2**	**-0.4**
PEJA	**Penjamo Buenos**	**1.53**	**307**	*eP*		**Pn**	**13 24 34.4**	**-0.4**
LAPC	**Finca la Perla**	**1.56**	**301**	*eP*		**Pn**	**13 24 34.5**	**-0.6**
PG27	**Guanacaste Pro**	**1.56**	**304**	*eP*		**Pn**	**13 24 35.5**	**+0.2**
ALIBA	**Liberia Airpor**	**1.58**	**294**	*eP*		**Pn**	**13 24 35.3**	**-0.1**
ALCO	**Alturas Coton,**	**1.59**	**129**	*eP*		**Pn**	**13 24 34.8**	**-0.9**
ELI1	**Hacienda Flor**	**1.60**	**295**	*eP*		**Pn**	**13 24 35.4**	**-0.3**
ELI1	**Hacienda Flor**	**1.60**	**295**	P		**Pn**	**13 24 35.8**	**+0.1**
FITO	**Golfito**	**1.61**	**146**	*eP*		**Pn**	**13 24 36.2**	**+0.4**
BRU2	**Volcan**	**1.79**	**130**	*eP*		**Pn**	**13 24 38.0**	**-0.5**
BRU2				*eS*		**Sn**	**13 24 59.6**	**-0.8**
BRU2	**Volcan**	**1.79**	**130**	*eP*		**Pn**	**13 24 37.9**	**-0.5**
BC3P	**Paso Ancho**	**1.84**	**128**	*eP*		**Pn**	**13 24 38.5**	**-0.6**
BC3P				*eS*		**Sn**	**13 25 03.0**	**+1.4**
CLLRA	**Cordillera,**	**1.88**	**130**	*iP*		**Pn**	**13 24 39.2**	**-0.4**
LCRUZ	**La Cruz**	**1.89**	**306**	*iP*		**Pn**	**13 24 39.2**	**-0.3**
BANCO	**falda S V. Bar**	**1.96**	**129**	*eP*		**Pn**	**13 24 40.0**	**-0.8**
LNBQ3	**Los Naranjos,**	**1.99**	**126**	*eP*		**Pn**	**13 24 40.1**	**-0.9**
LNBQ3				*eS*		**Sn**	**13 25 05.9**	**+0.8**
JEFFS	**S de V. Baru**	**1.99**	**130**	*eP*		**Pn**	**13 24 40.3**	**-0.7**
WILLF	**Boquete**	**2.02**	**127**	*eP*		**Pn**	**13 24 40.4**	**-1.0**
BQSF3	**Alto Boquete,**	**2.02**	**127**	*eP*		**Pn**	**13 24 40.9**	**-0.6**
PTPM	**Petroterminale**	**2.11**	**146**	*eP*		**Pn**	**13 24 44.3**	**+1.8**
PTPM				*eS*		**Sn**	**13 25 11.3**	**+3.5**
PTPA	**Petro Terminal**	**2.12**

KUU			*e*S	**Sg**	**13 30 45.5**	**-0.4**
	47nm,0.3s						
USP	**Ospenovka**	**3.96 305**	⇓*i*P	**Pn**	**13 29 57.8**	**-0.6**
USP			⇓*i*S	**Sn**	**13 30 48.1**	**+2.8**

*ISK **01** 13:31:20.2, 38˚.19N×23˚.59E, h2km, ML3.2/28*
*IDC **01** 13:31:21.0±1.2, 38˚.24N×23˚.49E, h0km, mb3.6/6, mbtmp3.6/9, ML3.5/2, MS2.3/1, Error ellipse: s-maj=22.9km s-min=19.9km az=114.0*
*ATH **01** 13:31:22.8, 38˚.14N×23˚.54E, h12km, ML3.5/38, Manual Solution by G.Panopoulou First location: 2019/08/01 13:32:14, This location: 2019/08/01 14:11:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **01** 13:31:23.2, 38˚.1N±0.4×23˚.5E±0˚.3, h7km, M3.5/41, MLh3.5/41*
*NAO **01** 13:31:44.0, 39˚.71N×21˚.93E, h33km, mb3.3*
ISC 01 13:31:22.7±0.7, **38˚.14N**±0˚.02×**23˚.54E**±0˚.01, **h11**km±3km, **n158**, σ0≥**80**/202, **mb3.5**/5, **3C-7D**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STFN	**Stefani**	**0.03**	**10**	P	**Pg**	**13 31 25.1**	**+0.3**
STFN				S	**Sg**	**13 31 26.6**	**+0.2**
STFN	**Stefani**	**0.03**	**10**	P	**Pg**	**13 31 25.3**	**0.4**
STFN				S	**Sg**	**13 31 26.9**	**+0.5**
MAGU	**Magoula**	**0.07**	**196**	P	**Pg**	**13 31 24.8**	**-0.2**
MAGU				S	**Sg**	**13 31 26.3**	**-0.5**
MAGU	**Magoula**	**0.07**	**196**	P	**Pg**	**13 31 24.9**	**-0.2**
MAGU				S	**Sg**	**13 31 26.5**	**-0.3**
PARN3	**Mandra,Attica,**	**0.08**	**200**	P	**Pg**	**13 31 24.9**	**-0.2**
PARN3				S	**Sg**	**13 31 26.3**	**-0.7**
PARN3	**Mandra,Attica,**	**0.08**	**200**	P	**Pg**	**13 31 25.0**	**-0.2**
PARN3				S	**Sg**	**13 31 26.6**	**-0.4**
PARN2	**Moni Osiou Mel**	**0.08**	**308**	P	**Pg**	**13 31 25.5**	**+0.2**
PARN2				S	**Sg**	**13 31 27.5**	**+0.4**
PARN2	**Moni Osiou Mel**	**0.08**	**308**	P	**Pg**	**13 31 25.6**	**+0.4**
PARN2				S	**Sg**	**13 31 27.7**	**+0.5**
PARN1	**Fyli,Attica,Gr**	**0.11**	**111**	P	**Pg**	**13 31 25.9**	**+0.2**
PARN1				S	**Sg**	**13 31 27.7**	**0.0**
PARN1	**Fyli,Attica,Gr**	**0.11**	**111**	P	**Pg**	**13 31 25.9**	**+0.2**
PARN1				S	**Sg**	**13 31 27.8**	**0.0**
FILI	**Fyli**	**0.12**	**105**	P	**Pg**	**13 31 26.0**	**+0.2**
FILI				S	**Sg**	**13 31 28.0**	**+0.1**
FILI	**Fyli**	**0.12**	**105**	P	**Pg**	**13 31 26.1**	**+0.4**
FILI				S	**Sg**	**13 31 27.8**	**0.0**
VILL	**Villia**	**0.18**	**277**	P	**Pg**	**13 31 27.0**	**+0.3**
VILL				S	**Sg**	**13 31 29.7**	**+0.3**
VIL2	**Platees**	**0.22**	**288**	P	**Pg**	**13 31 27.1**	**-0.3**
VIL2				S	**Sg**	**13 31 30.0**	**-0.6**
ATH	**Athens Observa**	**0.22**	**140**	P	**Pg**	**13 31 27.5**	**+0.1**
ATH				S	**Sg**	**13 31 30.8**	**+0.3**
ATH	**Athens Observa**	**0.22**	**140**	P	**Pg**	**13 31 27.5**	**+0.1**
ATH				S	**Sg**	**13 31 30.9**	**+0.3**
ATH5	**Athens Parliam**	**0.23**	**137**	P	**Pg**	**13 31 27.6**	**+0.1**
ATH5				S	**Sg**	**13 31 31.2**	**+0.4**
ATHU	**Athens Univers**	**0.26**	**132**	P	**Pg**	**13 31 28.0**	**-0.1**
ATHU				S	**Sg**	**13 31 31.8**	**0.0**
ATHU	**Athens Univers**	**0.26**	**132**	P	**Pg**	**13 31 28.0**	**-0.1**
ATHU				S	**Sg**	**13 31 32.7**	**+1.0**
PTL	**Penteli**	**0.28**	**110**	P	**Pg**	**13 31 28.8**	**+0.2**
PTL	**Penteli**	**0.28**	**110**	P	**Pg**	**13 31 28.5**	**+0.2**
PTL				S	**Sg**	**13 31 32.3**	**+0.1**
DION	**Dionisos Attik**	**0.32**	**102**	P	**Pg**	**13 31 29.5**	**+0.3**
DION				S	**Sg**	**13 31 33.9**	**+0.4**
DION	**Dionisos Attik**	**0.32**	**102**	P	**Pg**	**13 31 29.4**	**+0.3**
DION				S	**Sg**	**13 31 33.9**	**+0.4**
LOUT	**Loutraki**	**0.47**	**251**	P	**Pg**	**13 31 32.1**	**+0.2**
LOUT				S	**Sg**	**13 31 38.9**	**+0.7**
MET4	**Agioi Theodoro**	**0.53**	**192**	P	**Pg**	**13 31 32.9**	**-0.1**
MET5	**Makryloggos,Me**	**0.54**	**195**	P	**Pg**	**13 31 33.3**	**0.0**
MET2	**Kameni Chora,**	**0.56**	**197**	P	**Pg**	**13 31 33.3**	**-0.2**
MET2				S	**Sg**	**13 31 40.5**	**-0.4**
MET6	**Megalochori,Me**	**0.57**	**195**	P	**Pg**	**13 31 33.6**	**-0.2**
MET6				S	**Sg**	**13 31 41.9**	**+0.5**
KYMI	**Kymi, Euboea I**	**0.66**	**42**	P	**Pb**	**13 31 35.8**	**-0.4**
KYMI				S	**Sb**	**13 31 46.0**	**+0.6**
KYMI	**Kymi, Euboea I**	**0.66**	**42**	P	**Pb**	**13 31 35.8**	**-0.6**
KYMI				S	**Sb**	**13 31 45.2**	**-0.2**
LKR	**Lokris**	**0.66**	**320**	P	**Pg**	**13 31 35.4**	**-0.2**
LKR				S	**Sb**	**13 31 45.6**	**+0.2**
LKR	**Lokris**	**0.66**	**320**	P	**Pg**	**13 31 35.3**	**-0.2**
KARY	**Karystos**	**0.72**	**99**	P	**Pg**	**13 31 36.6**	**0.0**
KARY	**Karystos**	**0.72**	**99**	P	**Pg**	**13 31 36.3**	**-0.3**
KARY				S	**Sg**	**13 31 46.0**	**-0.1**
ARS1	**Argos**	**0.82**	**232**	P	**Pg**	**13 31 39.0**	**+0.6**
ARS1				S	**Sg**	**13 31 50.0**	**+0.8**
AXAR	**Agios Charalam**	**0.93**	**312**	P	**Pg**	**13 31 40.2**	**-0.4**
AXAR	**Agios Charalam**	**0.93**	**312**	P	**Pg**	**13 31 40.1**	**-0.4**
AXAR				S	**Sb**	**13 31 53.9**	**+0.8**
GUR	**Goura**	**0.97**	**258**	P	**Pb**	**13 31 41.9**	**+0.4**
GUR	**Goura**	**0.97**	**258**	P	**Pg**	**13 31 41.4**	**+0.1**
AOS	**Alonnisos**	**1.06**	**15**	P	**Pg**	**13 31 42.4**	**-0.7**
SKY	**Skiros Island**	**1.08**	**47**	P	**Pb**	**13 31 43.2**	**-0.3**
SKY	**Skiros Island**	**1.08**	**47**	P	**Pb**	**13 31 43.5**	**0.0**
SKY				S	**Sn**	**13 31 58.4**	**-0.3**
KLV	**Kalavryta, Ach**	**1.10**	**265**	P	**Pg**	**13 31 43.8**	**-0.1**
KLV	**Kalavryta, Ach**	**1.10**	**265**	P	**Pg**	**13 31 43.6**	**-0.2**
KLV				S	**Sg**	**13 31 58.4**	**+0.3**
SKY1	**Skyros Island**	**1.11**	**46**	P	**Pn**	**13 31 44.3**	**+0.2**
SKY1				S	**Sb**	**13 31 58.4**	**+0.1**
KALE	**Kalithea**	**1.13**	**283**	P	**Pg**	**13 31 43.8**	**-0.6**
KALE	**Kalithea**	**1.13**	**283**	P	**Pg**	**13 31 43.8**	**-0.6**
KLV1	**Kalavrita**	**1.13**	**265**	P	**Pg**	**13 31 44.3**	**-0.2**
KLV1				S	**Sg**	**13 31 59.5**	**+0.3**
LAM2	**Lamia**	**1.15**	**311**	P	**Pb**	**13 31 44.6**	**0.0**
NEO	**Neokhori**	**1.19**	**348**	P	**Pn**	**13 31 45.3**	**0.0**
NEO	**Neokhori**	**1.19**	**348**	P	**Pn**	**13 31 45.2**	**-0.1**
NEO				S	**Sn**	**13 32 00.7**	**-0.7**
SERG	**Sergoula**	**1.20**	**283**	P	**Pg**	**13 31 45.4**	**-0.3**
SERG				S	**Sn**	**13 32 02.4**	**+0.8**
SERG	**Sergoula**	**1.20**	**283**	P	**Pg**	**13 31 45.0**	**-0.7**
VLX	**Vlachokerasia**	**1.20**	**230**	P	**Pg**	**13 31 45.5**	**-0.3**
VLX	**Vlachokerasia**	**1.20**	**230**	P	**Pg**	**13 31 45.4**	**-0.4**
VLX				S	**Sg**	**13 32 02.0**	**+0.6**
AGG	**Agios Georgios**	**1.29**	**313**	P	**Pn**	**13 31 46.8**	**+0.1**
AGG	**Agios Georgios**	**1.29**	**313**	P	**Pn**	**13 31 46.5**	**-0.1**
AGG				S	**Sn**	**13 32 04.2**	**+0.2**
EFP	**Efpalio**	**1.31**	**283**	P	**Pn**	**13 31 47.4**	**+0.5**
EFP	**Efpalio**	**1.31**	**283**	P	**Pn**	**13 31 47.0**	**0.0**
ANX	**Ano Chora**	**1.35**	**290**	P	**Pb**	**13 31 48.0**	**0.0**
ANX	**Ano Chora**	**1.35**	**290**	P	**Pn**	**13 31 47.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.40**	**309**	P	**Pg**	**13 31 49.0**	**-0.6**
DRO	**Drossia**	**1.45**	**263**	P	**Pn**	**13 31 50.0**	**+1.0**
VLI	**Veliai**	**1.50**	**199**	P	**Pn**	**13 31 49.0**	**-0.6**
VLI	**Veliai**	**1.50**	**199**	P	**Pn**	**13 31 48.9**	**-0.6**
EVR	**Evrytania**	**1.56**	**300**	P	**Pb**	**13 31 51.6**	**0.0**
EVR				S	**Sn**	**13 32 10.6**	**-0.1**
AMT	**Artemida-Makis**	**1.57**	**248**	P	**Pn**	**13 31 51.6**	**+1.1**
ITM	**Ithomi**	**1.60**	**233**	Pn	**Pn**	**13 31 51.4**	**+0.5**
ITM				Sn	**Sb**	**13 32 14.2**	**+1.7**
ITM	**Ithomi**	**1.60**	**233**	P	**Pn**	**13 31 51.4**	**+0.5**
MHLO	**Agia Marina, M**	**1.61**	**154**	P	**Pn**	**13 31 50.9**	**-0.1**
MHLO	**Agia Marina, M**	**1.61**	**154**	P	**Pn**	**13 31 50.8**	**-0.1**
RLS	**Riolos of Patr**	**1.64**	**268**	P	**Pn**	**13 31 52.4**	**+1.0**
PVO	**Paravola**	**1.65**	**287**	P	**Pn**	**13 31 52.5**	**+0.9**
AXS	**Araxos**	**1.70**	**272**	P	**Pn**	**13 31 53.5**	**+1.2**
YRMI	**Loutra Irminis**	**1.73**	**269**	P	**Pb**	**13 31 54.0**	**-0.3**
THL	**Klokotos Trika**	**1.85**	**321**	P	**Pn**	**13 31 55.2**	**+0.9**
THL	**Klokotos Trika**	**1.85**	**321**	P	**Pn**	**13 31 55.0**	**+0.6**
TYRN	**Tyrnavos**	**1.87**	**327**	P	**Pn**	**13 31 55.2**	**+0.7**
TYRN	**Tyrnavos**	**1.87**	**327**	P	**Pn**	**13 31 55.3**	**+0.7**
APE	**Apeiranthos**	**1.91**	**124**	Pn	**Pn**	**13 31 54.6**	**-0.7**
KTHA	**Kythira Island**	**1.92**	**192**	Pn	**Pn**	**13 31 55.2**	**-0.1**
KTHA	**Kythira Island**	**1.92**	**192**	P	**Pn**	**13 31 55.0**	**-0.3**
CHOS	**Chios island**	**2.00**	**82**	Pn	**Pn**	**13 31 56.4**	**-0.1**
CHOS	**Chios island**	**2.00**	**82**	P	**Pn**	**13 31 56.7**	**+0.2**
CHOS	**Chios island**	**2.00**	**82**	P	**Pn**	**13 31 56.4**	**-0.1**
SIGR	**SIGRI**	**2.10**	**59**	Pn	**Pn**	**13 31 56.9**	**-0.9**
SIGR				Sn	**Sn**	**13 32 23.5**	**-0.5**
TETR	**Tetrakomo, Epi**	**2.14**	**305**	P	**Pn**	**13 31 58.8**	**+0.4**
LIA	**Limnos Island**	**2.17**	**36**	P	**Pn**	**13 31 58.1**	**-0.7**
OUR	**Ouranopolis**	**2.21**	**9**	Pn	**Pn**	**13 31 58.7**	**-0.6**
OUR				Sn	**Sn**	**13 32 26.4**	**-0.3**
OUR	**Ouranopolis**	**2.21**	**9**	P	**Pn**	**13 31 59.3**	**0.0**
OUR	**Ouranopolis**	**2.21**	**9**	P	**Pn**	**13 31 59.4**	**0.0**
PLG	**Polygyros**	**2.23**	**358**	P	**Pn**	**13 31 59.9**	**+0.3**
PLG	**Polygyros**	**2.23**	**358**	P	**Pn**	**13 31 59.6**	**0.0**
SAP3	**Santorini-Thir**	**2.23**	**139**	P	**Pn**	**13 32 00.6**	**+1.0**
THR5	**Thira Island,**	**2.25**	**139**	P	**Pn**	**13 31 60.0**	**+0.1**
ANKY	**Antikythira Is**	**2.28**	**185**	P	**Pn**	**13 32 00.0**	**-0.2**
ANKY	**Antikythira Is**	**2.28**	**185**	P	**Pn**	**13 31 59.7**	**-0.6**
THERA	**Ancient Thera,**	**2.35**	**138**	P	**Pn**	**13 32 01.3**	**0.0**
THERA	**Ancient Thera,**	**2.35**	**138**	P	**Pn**	**13 32 01.4**	**0.0**
TSLK	**Tsoukalades, L**	**2.36**	**288**	P	**Pn**	**13 32 02.4**	**+1.1**
URLA	**Izmir**	**2.42**	**84**	Pn	**Pn**	**13 32 01.3**	**-0.9**
HORT	**Hortiatis**	**2.47**	**352**	P	**Pn**	**13 32 03.5**	**+0.5**
HORT	**Hortiatis**	**2.47**	**352**	P	**Pn**	**13 32 03.3**	**+0.3**
KZN	**Kozani**	**2.56**	**328**	P	**Pn**	**13 32 05.3**	**+1.1**
BOZC	**Bozcaada**	**2.59**	**48**	Pn	**Pn**	**13 32 03.7**	**-0.8**
THAS	**Thassos island**	**2.62**	**20**	P	**Pn**	**13 32 04.2**	**-0.8**
SMG	**Samos**	**2.65**	**98**	P	**Pn**	**13 32 05.7**	**+0.4**
SMG	**Samos**	**2.65**	**98**	P	**Pn**	**13 32 05.7**	**+0.4**
SOH	**Sokhos**	**2.68**	**357**	P	**Pn**	**13 32 06.4**	**+0.7**
SOH	**Sokhos**	**2.68**	**357**	P	**Pn**	**13 32 06.3**	**+0.5**
EZN	**Ezine**	**2.75**	**51**	Pn	**Pn**	**13 32 06.1**	**-0.6**
EZN	**Ezine**	**2.75**	**51**	⇓P	**Pg**	**13 32 19.6**	**+4.3**
GADA	**Gvkgeada**	**2.75**	**41**	Pn	**Pn**	**13 32 05.9**	**-0.8**
BLCB	**Balcova**	**2.77**	**84**	Pn	**Pn**	**13 32 06.8**	**-0.2**
KNDR	**Palaiochora Ch**	**2.91**	**178**	Pn	**Pn**	**13 32 09.7**	**+0.8**
KAVA	**Kavala**	**2.95**	**15**	P	**Pn**	**13 32 08.9**	**-0.6**
GCAM	**G?zelcaml?**	**2.96**	**97**	Pn	**Pn**	**13 32 09.0**	**-0.5**
SRS	**Serrai**	**2.97**	**1**	P	**Pn**	**13 32 10.3**	**+0.6**
SRS	**Serrai**	**2.97**	**1**	P	**Pn**	**13 32 10.1**	**+0.3**
COMU	**Canakkale**	**3.00**	**49**	Pn	**Pn**	**13 32 09.4**	**-0.8**
IDI	**Anoyia**	**3.05**	**159**	Pn	**Pn**	**13 32 10.9**	**0.0**
IDI	**Anoyia**	**3.05**	**159**	P	**Pn**	**13 32 10.9**	**0.0**
IDI	**Anoyia**	**3.05**	**159**	Pn	**Pn**	**13 32 11.1**	**+0.2**
	12nm,0.3s,baz=317,slow=16,SNR=26						
IDI				Sn	**Sn**	**13 32 45.3**	**-2.1**
	6.2nm,0.3s,baz=292,slow=20,SNR=3.6						
KNT	**Kendrikon**	**3.05**	**351**	P	**Pn**	**13 32 12.1**	**+1.1**
YAYO	**Edremit-Balk**	**3.12**	**61**	Pn	**Pn**	**13 32 11.2**	**-0.7**
GELI	**Tayfur-Gelibol**	**3.20**	**44**	Pn	**Pn**	**13 32 12.0**	**-0.9**
GVD	**Gavdhos**	**3.33**	**172**	Pn	**Pn**	**13 32 16.1**	**+1.4**
ALN	**Alexandroupoli**	**3.37**	**34**	Pn	**Pn**	**13 32 14.6**	**-0.6**
ALN	**Alexandroupoli**	**3.37**	**34**	P	**Pn**	**13 32 14.0**	**-1.1**
ERIK	**Erikli-Kesan**	**3.42**	**41**	Pn	**Pn**	**13 32 15.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**3.44**	**92**	Pn	**Pn**	**13 32 16.0**	**-0.4**
DAT	**Datca**	**3.51**	**112**	Pn	**Pn**	**13 32 17.2**	**-0.1**
ODEM	**Odemis-Izmir**	**3.58**	**86**	Pn	**Pn**	**13 32 18.3**	**+0.1**
OHR	**Ohrid**	**3.64**	**325**	*i* Pn	**Pb**	**13 32 24.2**	**-2.9**
KRBG	**Karabiga-Canak**	**3.68**	**51**	Pn	**Pn**	**13 32 19.5**	**0.0**
ZKR	**Zakros**	**3.71**	**144**	Pn	**Pn**	**13 32 21.1**	**+1.1**
GORD	**Gordes-Manisa**	**3.72**	**77**	Pn	**Pn**	**13 32 20.0**	**-0.1**
KARP	**Karpathos**	**3.89**	**131**	Pn	**Pn**	**13 32 23.7**	**+1.2**
SUSR	**Susurluk-Balik**	**3.98**	**61**	Pn	**Pn**	**13 32 24.2**	**+0.6**
TURN	**Turunc**	**3.99**	**109**	Pn	**Pn**	**13 32 24.4**	**+0.7**
PLVB	**Pleven**	**5.30**	**9**	⇑P	**Pg**	**13 33 02.8**	**-1.4**
TIP	**Timpagrande**	**5.41**	**283**	⇓P	**Pn**	**13 32 44.7**	**+1.4**
ARR	**Arges**	**7.26**	**6**	⇓P	**Pn**	**13 33 09.0**	**+0.2**
MLR	**Muntele Rosu**	**7.56**	**13**	Pn	**Pn**	**13 33 10.2**	**-2.7**
	0.6nm,0.3s,baz=152,slow=6.6,SNR=4.6						
MLR				LR	LR	13 36 12.7	
	comp=Z,25nm,21.8s,baz=228,slow=39 3.6nm,0.5s						
MLR	**Muntele Rosu**	**7.56**	**13**	⇑P	**Pn**	**13 33 14.1**	**+1.3**
DOPR	**Dopca**	**7.94**	**9**	⇓P	**Pn**	**13 33 18.6**	**+0.6**
BRTR	**Keskin Array B**	**8.03**	**76**	Pn	**Pn**	**13 33 22.1**	**+2.7**
	0.1nm,0.3s,baz=245,slow=13,SNR=4.2 0.4nm,0.6s						
PLOR	**Plostina**	**8.04**	**16**	⇑P	**Pn**	**13 33 22.7**	**+3.3**
VRI	**Vrincioaia**	**8.07**	**16**	⇓P	**Pn**	**13 33 22.0**	**+2.2**
GIUM	**Giurgiulesti**	**8.12**	**24**	⇓P	**Pn**	**13 33 19.6**	**-0.8**
BLY	**Banja Luka**	**8.14**	**326**	⇓P	**Pn**	**13 33 23.4**	**+2.7**
ESDC	**Sonseca Array**	**21.43**	**283**	P	**P**	**13 36 10.3**	**-0.4**
	1.1nm,0.7s,baz=76,slow=11,SNR=7.3 1.1nm,0.7s						
HFS	**Hagfors**	**22.88**	**347**	P	**P**	**13 36 25.4**	**-0.6**
	1.2nm,0.7s,baz=158,slow=12,SNR=2.4 1.2nm,0.7s						
NB2	**NORSAR Subarra**	**24.19**	**345**	P	**P**	**13 36 38.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=158,slow=10						
NOA	**NORSAR Array B**	**24.19**	**345**	P	**P**	**13 36 38.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=148,slow=9.6,SNR=5.0 comp=Z,1.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.58**	**224**	P	**P**	**13 37 45.5**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=31,slow=8.9,SNR=1.8 comp=Z,1.3nm,0.3s						
KURBB	**Kurchatov Arra**	**40.34**	**54**	P	**P**	**13 39 00.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=281,slow=8.7,SNR=3.2 comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**43.29**	**59**	P	**P**	**13 39 24.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=275,slow=7.8,SNR=4.9 comp=Z,0.5nm,0.6s						

*BJI **01** 13:52:18.7, 45˚.17N×147˚.99E, h164km, mB4.7/19, mb4.9/64*
*MOS **01** 13:52:20.9±1.1, 45˚.21N×147˚.66E, h167km, mb5.0/55, Error ellipse: s-maj=6.0km s-min=4.4km az=104.3*
*IDC **01** 13:52:22.0±0.5, 45˚.26N×147˚.58E, h160km±4km, mb4.4/27, mbtmp4.8/38, MS3.3/18, Error ellipse: s-maj=9.3km s-min=7.1km az=144.0*
*JMA **01** 13:52:22.0±0.4, 45˚N±2˚×14˚8E±˚, h179km, MD4.6/38, MW4.7/38, NEAR ETOROFU ISLAND*
JMA Felt I J1 at NEAR ETOROFU ISLAND .
*NIED **01** 13:52:22.0, 44˚.76N×147˚.85E, h179km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.53; Mθθ-0.46; Mφφ-0.07; Mrθ0.69; Mθφ-0.60; Mφr0.31; Fault plane solution: M0 1.05000×10^16 NP1: φs212.00000°, δ25.00000°, λ58.00000°. NP2:φs67.00000°, δ69.00000°, λ104.00000°.*
*SKHL **01** 13:52:22.2±0.0, 45˚.20N×147˚.70E, h155km±4km, mb5.6/11, msh5.0/4, msha6.4/6*
*NEIC **01** 13:52:22.8±2.5, 45˚.24N±0˚.09×147˚.6E±0˚.1, h172km±7km, mb4.8/405, Error ellipse: s-maj=13.8km s-min=11.7km az=135.0*
*BGR **01** 13:52:30.5, 46˚.85N×147˚.54E, h164km±6km, mb5.3*
ISC 01 13:52:21.4±0.3, **45˚.08N**±0˚.03×**147˚.68E**±0˚.04, **h164**km±2km, **h164**km:**pP-P**, **n996**, σ1≥**26**/893, **mb4.8**/328, **72C-39D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.20**	**42**	*c* iPN	**Pn**	**13 52 43.0**	**-0.3**
KUR				*i* S	**Sn**	**13 52 59.3**	**-0.9**
KUR	**Kuril'sk**	**0.20**	**42**	*i* P	**Pn**	**13 52 43.7**	**+0.4**
KUR				AMB	AMB	13 52 46.9	
	500nm,0.3s						
KUR				AMB	AMB	13 52 46.9	
	420nm,0.3s						
KUR				AMB	AMB	13 52 46.9	
	2μm,0.3s						
KUR				*i* S	**Sn**	**13 53 00.5**	**+0.3**
KUR				A	A	13 53 00.9	
	71μm,1.8s						
KUR				A	A	13 53 00.9	
	31μm,1.8s						
KUR				A	A	13 53 06.1	
	16μm,0.4s						
KUR				A	A	13 53 06.1	
	11μm,0.4s						
SHO	**Shikotan**	**1.36**	**207**	*e*PN	**Pn**	**13 52 52.8**	**+2.1**
SHO				*i* S	**Sn**	**13 53 13.5**	**+0.4**
SHO				pmax	pmax		
	comp=N,5μm,0.4s						
SHO				pmax	pmax		
	comp=Z,13μm,0.4s						
SHO				pmax	pmax		
	comp=E,3μm,0.2s						
SHO				smax	smax		
	comp=N,20μm,0.3s						
SHO				smax	smax		
	comp=E,23μm,0.3s						
SHO	**Shikotan**	**1.36**	**207**	*e*P	**Pn**	**13 52 52.8**	**+2.1**
SHO				AMB	AMB	13 52 53.4	
	comp=E,16μm,0.4s						
SHO				*i* S	**Sn**	**13 53 13.8**	**+0.7**
SHO				A	A	13 53 14.3	
	comp=E,23μm,0.6s						
SHO				A	A	13 53 14.3	
	comp=E,28μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**232**	*e*PN	**Pn**	**13 52 54.9**	**+1.2**
YUK				*i* S	**Sn**	**13 53 19.1**	**+0.4**
YUK				pmax	pmax		
	comp=Z,5μm,0.4s						
YUK				pmax	pmax		
	comp=N,334nm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.5s						
YUK				smax	smax		
	comp=N,6μm,0.4s						
YUK				smax	smax		
	comp=E,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.67**	**232**	*e*P	**Pn**	**13 52 55.0**	**+1.2**
YUK				AMB	AMB	13 52 56.3	
	comp=E,330nm,0.3s						
YUK				AMB	AMB	13 52 56.3	
	comp=E,2μm,0.3s						
YUK				AMB	AMB	13 52 56.3	
	comp=E,5μm,0.3s						
YUK				*i* S	**Sn**	**13 53 19.9**	**+1.2**
YUK				A	A	13 53 20.4	
	comp=E,6μm,0.3s						
YUK				A	A	13 53 20.4	
	comp=E,6μm,0.3s						
RUSJ	**Misakicho**	**1.99**	**241**	⇑*i*PN	**Pn**	**13 52 58.6**	**+1.3**
RUSJ				*e*S	**Sn**	**13 53 26.6**	**+1.6**
GLVR	**Golovnino**	**2.05**	**230**	⇑*i*PN	**Pn**	**13 52 59.2**	**+1.3**
GLVR				*i* S	**Sn**	**13 53 26.4**	**+0.3**
GLVR				pmax	pmax		
	comp=Z,6μm,0.4s						
GLVR				pmax	pmax		
	comp=N,314nm,0.1s						
GLVR				pmax	pmax		
	comp=E,346nm,0.1s						
GLVR				smax	smax		
	comp=N,5μm,0.4s						
GLVR				smax	smax		
	comp=E,9μm,0.3s						
GLVR	**Golovnino**	**2.05**	**230**	*i* P	**Pn**	**13 52 59.2**	**+1.3**
GLVR				AMB	AMB	13 52 59.8	
	comp=E,6μm,0.4s						
GLVR				*i* S	**Sn**	**13 53 26.4**	**+0.3**
GLVR				A	A	13 53 34.3	
	comp=E,4μm,0.5s						
GLVR				A	A	13 53 34.3	
	comp=E,8μm,0.5s						
JRA	**Rausu**	**2.16**	**239**	P	**Pn**	**13 53 00.4**	**+1.2**
JRA				*e*S	**Sn**	**13 53 29.9**	**+1.6**
JRA	**Rausu**	**2.16**	**239**	A	A	13 53 00.4	
	comp=N,7.0nm,3.2s,comp=E,6.0nm,1.7s						
NEM2	**Nemuro 2**	**2.21**	**220**	P	**Pn**	**13 52 59.5**	**-0.3**
NEM2				S	**Sn**	**13 53 27.1**	**-2.4**
NEM2	**Nemuro 2**	**2.21**	**220**	A	A	13 52 59.5	
	comp=N,6.0nm,1.8s,comp=E,5.0nm,3.3s						
NMR	**Nemuro--Hokkai**	**2.21**	**220**	⇑*i*PN	**Pn**	**13 52 59.5**	**-0.3**
NMR				*i* S	**Sn**	**13 53 27.0**	**-2.5**
NMR	**Nemuro--Hokkai**	**2.21**	**220**	*i* P	**Pn**	**13 52 59.5**	**-0.3**
JNSB	**Nemuroshibetsu**	**2.32**	**237**	P	**Pn**	**13 53 02.5**	**+1.4**
JNSB				S	**Sn**	**13 53 33.8**	**+2.1**
JNSB	**Nemuroshibetsu**	**2.32**	**237**	A	A	13 53 02.5	
	comp=N,15nm,0.9s,comp=E,12nm,2.6s						
JNK	**Nakash**	**2.60**	**236**	P	**Pn**	**13 53 05.6**	**+1.2**
JNK				*e*S	**Sn**	**13 53 38.6**	**+1.0**
JNK	**Nakash**	**2.60**	**236**	A	A	13 53 05.6	
	comp=N,7.0nm,1.2s,comp=E,5.0nm,3.4s						
JKHN	**Kushirohamanak**	**2.70**	**223**	P	**Pn**	**13 53 05.6**	**-0.1**
JKHN				*e*S	**Sn**	**13 53 38.4**	**-1.5**
JKHN	**Kushirohamanak**	**2.70**	**223**	A	A	13 53 05.6	
	comp=N,7.0nm,1.5s,comp=E,8.0nm,1.6s						
AKK	**Akkeshi**	**2.91**	**226**	*e*P	**Pn**	**13 53 08.3**	**+0.1**
JTKR	**Abashiri--Toko**	**2.92**	**249**	P	**Pn**	**13 53 09.8**	**+1.5**
JAK	**Akkeshi**	**3.00**	**227**	P	**Pn**	**13 53 09.3**	**0.0**
JAK				*e*S	**Sn**	**13 53 44.6**	**-1.8**
JAK	**Akkeshi**	**3.00**	**227**	A	A	13 53 09.3	
	comp=N,10.0nm,2.3s,comp=E,7.0nm,0.8s						
JAR	**Ashorobuto**	**3.33**	**239**	P	**Pn**	**13 53 14.9**	**+1.4**
**JAR

TYV smax smax
comp=E,400nm,5.5s
TYV Tymovskoe 6.69 332 *i* P **Pn 13 53 58.2 +0.9**
TYV AMB AMB 13 53 59.1
comp=E,30nm,0.9s
TYV *e*S **Sn 13 55 12.2 -0.4**
TYV A A 13 55 17.6
comp=E,10.0nm,0.6s
TYV A A 13 55 17.6
comp=E,10.0nm,0.6s
TYV A A 13 55 20.0
comp=E,500nm,5.0s
TYV A A 13 55 20.0
comp=E,400nm,5.0s
JMK Ichinoseki 7.79 220 *e*P **Pn 13 54 09.6 -2.3**
JMK *e*S **Sn 13 55 32.6 -6.4**
TEY Ternei 7.84 274⇑ *e*PN **Pn 13 54 15.2 +2.6**
TEY *e* 13 55 41.6
TEY pmax pmax
comp=E,20nm,0.7s
TEY pmax pmax
comp=Z,20nm,0.7s
TEY Ternei 7.84 274 *i* P **Pn 13 54 14.9 +2.3**
TEY AMB AMB 13 54 15.9
comp=Z,20nm,0.7s
TEY AMB AMB 13 54 15.9
comp=Z,20nm,0.7s
TEY *e*S **Sn 13 55 41.6 +1.4**
SKR Severo-Kuril's 7.97 42 *e*PN **Pn 13 54 11.6 -2.6**
SKR pmax pmax
comp=Z,86nm,0.8s
SKR MLR MLR
comp=Z,200nm,13.0s
SKR Severo-Kuril's 7.97 42 *e*P **Pn 13 54 14.2 0.0**
SKR AMB AMB 13 54 14.6
comp=Z,90nm,0.8s
JMM Marumori 8.87 218 Pn 13 54 22.8 -3.4
OKH Okha 9.02 342 *e*P **Pn 13 54 30.9 +2.8**
OKH AMB AMB 13 54 33.2
comp=Z,60nm,0.3s
OKH AMS AMS 13 59 41.7
comp=Z,100nm,15.0s
KHBR Khabarovsk 9.30 296 *e*P **Pn 13 54 33.9 +2.1**
KHBR AMB AMB 13 54 37.2
comp=Z,20nm,0.3s
GRNR Gornyy 9.45 311⇑ *i*PN **Pn 13 54 31.3 -2.6**
GRNR pmax pmax
comp=Z,3.0nm,0.8s
GRNR MLR MLR
comp=E,180nm,13.0s
GRNR MLR MLR
comp=N,190nm,15.0s
GRNR MLR MLR
comp=Z,90nm,17.0s
GRNR Gornyy 9.45 311 *i* P **Pn 13 54 35.1 +1.2**
GRNR AMB AMB 13 54 35.7
comp=Z,10.0nm,0.6s
GRNR AMS AMS 13 58 36.0
comp=Z,200nm,16.0s
GRNR AMS AMS 13 58 36.0
comp=Z,200nm,16.0s
GRNR AMS AMS 13 58 36.0
comp=Z,100nm,16.0s
PEA0B Petropavlovsk- 10.37 36*ce*PN **Pn 13 54 45.5 -0.3**
PETK Petropavlovsk- 10.37 36 P **Pn 13 54 44.7 -1.1**
comp=Z,30nm,1.0s,baz=194,slow=9.1,SNR=36
PETK LR LR 13 59 46.1
comp=Z,29nm,18.1s,baz=226,slow=43
PET Petropavlovsk 10.71 38 *e*PN **Pn 13 54 49.4 -0.9**
PET *e*S **Sn 13 56 44.1 -4.8**
PET MLR MLR
comp=Z,100nm,14.0s
PET Petropavlovsk 10.71 38 *e*P **Pn 13 54 51.7 +1.4**
PET AMB AMB 13 54 55.3
comp=Z,10.0nm,0.4s
PET AMS AMS 13 59 26.0
comp=Z,100nm,14.0s
MAJO Matsushiro 11.14 223 Pn 13 54 55.7 -0.5
MAJO Matsushiro 11.14 223 *i* PN **Pn 13 54 56.1 0.0**
MJAR Matsushiro Arr 11.14 223 Pn 13 54 54.2 -1.9
MJAR Matsushiro Arr 11.14 223 P **Pn 13 54 56.3 +0.2**
comp=Z,4.1nm,0.7s,baz=34,slow=13,SNR=12
MJAR S **Sn 13 56 59.1 -0.5**
comp=Z,2.8nm,0.6s,baz=13,slow=28,SNR=2.2
MJAR LR LR 13 59 52.6
comp=Z,81nm,20.8s,baz=41,slow=40
USA0B Ussuriysk Arra 11.22 271 *i* PN **Pn 13 54 57.3 +0.3**
USRK Ussuriysk Ar. 11.22 271 Pn 13 54 56.8 -0.3
USRK Ussuriysk Ar. 11.22 271 P **Pn 13 54 58.0 +1.0**
comp=Z,9.5nm,0.5s,baz=79,slow=14,SNR=17
USRK S **Sn 13 56 58.1 -3.1**
comp=Z,2.9nm,0.7s,baz=86,slow=22,SNR=2.2
VLA Vladivostok 11.53 266 *i* PN **Pn 13 55 01.8 +0.8**
VLA pmax pmax
comp=Z,18nm,0.7s
MSHR Mys Shultsa 12.19 264 *i* PN **Pn 13 55 09.0 -0.7**
MDJ Mudanjiang 12.85 274 P **Pn 13 55 18.5 +0.5**
MDJ S **Sn 13 57 36.5 -3.9**
MDJ pmax pmax
comp=Z,5.0nm,0.8s
JHJ2 Mitsune 13.41 210 Pn 13 55 22.8 -2.5
JHJ Hachijo jima 2 13.42 210 P **Pn 13 55 26.4 +1.0**
comp=Z,35nm,0.7s,baz=203,slow=3.9,SNR=9.1
JHJ S Sn 13 57 44.6 -10
comp=Z,89nm,0.5s,baz=52,slow=23,SNR=12
BNX BinXian 14.26 280⇑ P **P 13 55 37.9 -0.4**
BNX pmax pmax
comp=Z,7.0nm,0.5s
HEH HeiHe 14.59 298 *e*P **Pn 13 55 40.0 +0.2**
HEH S **Sn 13 58 19.7 -2.2**
HEH pmax pmax
comp=Z,35nm,1.0s
MA2 Magadan 14.63 6 Pn 13 55 37.3 -3.1
MA2 Magadan 14.63 6 P **Pn 13 55 39.5 -0.9**
comp=Z,13nm,0.6s,baz=182,slow=11,SNR=16
MA2 Magadan 14.63 6*ce*P **Pn 13 55 39.8 -0.6**
MA2 pmax pmax
comp=Z,96nm,1.7s
MA2 Magadan 14.63 6 *e*P **Pn 13 55 39.8 -0.6**
ZEA Zeya 15.82 310 *e*P **P 13 55 55.4 -0.1**
ZEA AMB AMB 13 55 57.5
comp=Z,10.0nm,0.5s
CN2 Changchun 15.93 273 *e*P **Pn 13 55 54.0 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KSRS Korea Array 16.67 250 P **Pn 13 56 05.4 0.0**
comp=Z,1.2nm,0.5s,baz=56,slow=12,SNR=9.3
KSRS PcP **PcP 14 00 45.4 +0.9**
comp=Z,1.3nm,0.9s,baz=78,slow=1.7,SNR=5.3
JNU Nakatsue 17.64 233 P **Pn 13 56 17.5 +0.3**
comp=Z,8.7nm,0.9s,baz=18,slow=3.9,SNR=4.8
SEY Seymchan 18.09 7 P **P 13 56 20.2 0.0**
comp=Z,33nm,1.0s,baz=189,slow=10,SNR=43
SEY Seymchan 18.09 7*ce*P **P 13 56 20.3 0.0**
SEY pmax pmax
comp=Z,67nm,1.3s
JCJ Chichijima 18.48 196 P **Pn 13 56 27.2 +0.2**
comp=Z,40nm,0.6s,baz=279,slow=19,SNR=1.9
JCJ S **S 13 59 44.5 -2.7**
comp=Z,48nm,0.6s,baz=119,slow=23,SNR=4.7
SHEM Shemya Is, Ala 18.90 57 P **P 13 56 29.0 -0.2**
comp=Z,139nm,1.1s,baz=249,slow=5.9,SNR=3.5
YAK Yakutsk 19.94 335 P **P 13 56 38.2 -2.1**
comp=Z,85nm,0.4s,baz=334,slow=0.8,SNR=45
YAK Yakutsk 19.94 335 *e*P **P 13 56 37.9 -2.4**
YAK *e*S **S 14 00 12.1 -3.2**
YAK pmax pmax
comp=Z,135nm,1.1s
YAK pmax pmax
comp=N,33nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK smax smax
comp=N,171nm,2.5s
YAK smax smax
comp=E,142nm,2.3s
YAK Yakutsk 19.94 335 *e*P **P 13 56 37.9 -2.4**
DL2 Dalian 20.27 261 P **P 13 56 45.8 +1.7**
DL2 pmax pmax
comp=E,37nm,0.7s
XLT XiLinHaoTe 22.50 278 *e*P **P 13 57 08.2 +0.9**
XLT S **S 14 01 03.1 +1.4**
XLT ScP **ScP 14 04 18.4 +1.4**
XLT pmax pmax
comp=E,42nm,1.1s
XLT pmax pmax
comp=E,84nm,4.2s
BOD Bodaibo 24.26 314 *e*P **P 13 57 20.1 -2.9**
BOD pmax pmax
comp=Z,33nm,1.1s
TIA Tai'an 24.70 260 P **P 13 57 29.5 +2.2**
TIA pP **pwP 13 58 02.8 -0.4**
TIA PP **PnPn 13 58 11.9 +1.5**
TIA pmax pmax
comp=Z,34nm,0.8s
BILL Bilibino 24.97 17 P **P 13 57 26.4 -3.0**
BILL IAmb IAmb 13 58 11.3
comp=Z,22nm,1.4s
BILL Bilibino 24.97 17*ce*P **P 13 57 30.5 +1.1**
BILL pmax pmax
comp=Z,9.0nm,1.3s
HNS HongShan 25.82 264⇑ P **P 13 57 40.8 +3.5**
HNS pmax pmax
comp=Z,19nm,1.2s
NJ2 Nanjing 25.87 250 *e*P **P 13 57 37.4 -0.4**
NJ2 pmax pmax
comp=Z,15nm,0.5s
HHC Hu-ho-hao-te 26.62 274 *e*P **P 13 57 46.3 +1.7**
HHC S **S 14 02 03.9 -3.4**
HHC sS sS 14 03 08.0 +0.5
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.2s
BTO Baotou 27.80 274 *e*P **P 13 57 57.4 +2.3**
BTO pP **pwP 13 58 30.5 -1.6**
BTO sP **sP 13 58 49.5 +2.7**
BTO PP **PnPn 13 58 53.8 +2.9**
BTO pmax pmax
comp=Z,38nm,1.0s
BTO pmax pmax
comp=Z,310nm,5.4s
ULN Ulaanbaatar 27.89 290 P **P 13 57 54.6 -1.3**
ULN IAmb IAmb 13 57 57.8
comp=Z,9.2nm,0.5s
ULN Ulaanbaatar 27.89 290*ce*P **P 13 57 56.6 +0.7**
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 27.89 290 *e*P **P 13 57 56.6 +0.7**
SONM Songino Array 28.33 290 P 13 57 58.6 -1.2
SONM Songino Array 28.33 290 P **P 13 58 01.2 +1.4**
comp=Z,5.1nm,0.4s,baz=83,slow=8.3,SNR=25
SONM pP **pP 13 58 34.2 +1.3**
comp=Z,10nm,1.1s,baz=87,slow=8.3,SNR=3.0
SONM LR LR 14 11 32.2
comp=Z,65nm,18.1s,baz=90,slow=41
comp=Z,5.1nm,0.4s
SONM Songino Array 28.33 290 P **P 13 57 58.6 -1.2**
SONM pmax pmax
comp=Z,8.0nm,0.9s
SPIA Saint Paul Isl 28.56 50 P **P 13 58 01.2 -0.3**
SPIA Saint Paul Isl 28.56 50 P **P 13 58 00.7 -0.9**
baz=263
P08K Saint George I 28.88 51 P **P 13 58 03.8 -0.5**
baz=265
IRK Irkutsk 29.18 300 *e*P **P 13 58 05.8 -1.4**
IRK pmax pmax
comp=Z,23nm,1.8s
IRK Irkutsk 29.18 300 *e*P **P 13 58 05.8 -1.4**
NIKH Nikolski High 29.19 59 P **P 13 58 06.5 -0.6**
baz=272
GAMB Gambell 29.40 36 P **P 13 58 08.6 -0.3**
baz=250
H11N2 WAKE ISLAND Hy 29.89 142 T T 14 29 34.2
baz=333,slow=75
H11N1 WAKE ISLAND Hy 29.90 142 T T 14 29 34.7
baz=333,slow=75
H11N3 WAKE ISLAND Hy 29.90 142 T T 14 29 36.9
baz=333,slow=75
ZAK Zakamensk 29.98 296 *e*P **P 13 58 13.4 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
UNV Unalaska Valle 30.56 57 P **P 13 58 18.7 -0.5**
baz=272
H11S1 WAKE ISLAND Hy 30.88 143 T T 14 30 53.3
baz=334,slow=76
H11S3 WAKE ISLAND Hy 30.89 143 T T 14 30 50.1
baz=334,slow=76
H11S2 WAKE ISLAND Hy 30.90 143 T T 14 30 55.6
baz=334,slow=76
TNA Tin City 31.53 34 P **P 13 58 26.4 -1.2**
TNA Tin City 31.53 34 P **P 13 58 27.6 +0.1**
baz=251
XAN Xi'an 31.57 263 P **P 13 58 23.7 -4.7**
XAN pmax pmax
comp=Z,16nm,0.9s
K13K Kusilvak Mount 32.06 41 P **P 13 58 32.4 +0.2**
baz=261
F14K Arctic Creek 32.13 34 P **P 13 58 33.5 +0.6**
baz=253
ANM Nome 32.28 36 P **P 13 58 34.3 +0.1**
baz=256
FALS False Pass 32.32 55 P **P 13 58 35.0 +0.4**
baz=273
M13K Dall Lake 32.49 44 P **P 13 58 36.5 +0.5**
baz=264
J14K Nanvaranak Lak 32.70 40 P **P 13 58 38.1 +0.3**
baz=260
F15K North Star Dit 32.87 34 P **P 13 58 39.7 +0.4**
baz=255
L14K Kuka Creek 32.91 43 P **P 13 58 40.5 +0.8**
baz=263,SNR=6.1
G15K Niukluk 32.94 36 P **P 13 58 40.1 +0.2**
baz=256
S12K Black Hills 33.05 53 P **P 13 58 38.0 -3.0**
S12K Black Hills 33.05 53 P **P 13 58 40.1 -0.9**
baz=273
M14K Bethel 33.20 44 P 13 58 40.9 -1.3
M14K IAmb IAmb 13 58 44.3
comp=Z,33nm,1.4s
M14K Bethel 33.20 44 P **P 13 58 43.0 +0.8**
baz=265
N14K Kuskokwak Cree 33.28 45 P 13 58 41.1 -1.8
N14K IAmb IAmb 13 58 45.1
comp=Z,36nm,1.1s
N14K Kuskokwak Cree 33.28 45 P **P 13 58 43.4 +0.6**
baz=267,SNR=9.0
C16K Lisburne Hills 33.38 30 P **P 13 58 43.7 0.0**
baz=250
O14K Tigyukauivet M 33.46 46 P 13 58 45.6 +1.2
O14K IAmb IAmb 13 58 46.6
comp=Z,15nm,0.9s
O14K Tigyukauivet M 33.46 46 P **P 13 58 44.3 -0.2**
baz=268
L15K Ungalak Mounta 33.52 42 P **P 13 58 45.0 +0.1**
baz=264
K15K Wolf Creek Mou 33.56 41 P **P 13 58 45.3 0.0**
baz=263
H16K Elim 33.62 37 P **P 13 58 45.8 0.0**
baz=259
G16K Koyuk River 33.72 35 P **P 13 58 46.7 +0.1**
baz=258
M15K Kasigluk River 33.82 44 P **P 13 58 48.2 +0.6**
baz=266,SNR=8.4
D17K Noatak River 34.02 31 P **P 13 58 48.9 -0.2**
baz=254
N15K Kwethluk River 34.09 45 P 13 58 50.9 +1.0
N15K IAmb IAmb 13 58 52.1
comp=Z,34nm,1.1s
N15K Kwethluk River 34.09 45 P **P 13 58 50.5 +0.6**
baz=268,SNR=12
LZH Lanzhou 34.12 270 *e*P **P 13 58 52.2 +1.5**
LZH pP pwP 13 59 30.6 +2.3
LZH sP sP 13 59 47.4 +4.5
LZH pmax pmax
comp=Z,54nm,1.2s
RDOG Red Dog Mine 34.18 31 P **P 13 58 50.1 -0.5**
baz=253
O15K Ungalikthiuk R 34.20 47 IAmb IAmb 13 58 52.9
comp=Z,34nm,1.1s
O15K Ungalikthiuk R 34.20 47 P **P 13 58 51.0 +0.1**
baz=269,SNR=9.0
C17K DeLong Mountai 34.21 30 P **P 13 58 50.6 -0.3**
baz=252,SNR=8.9
E17K Hotham Inlet 34.32 32 P **P 13 58 51.6 -0.2**
baz=256,SNR=6.7
F17K Baldwin Pennin 34.39 34 P **P 13 58 52.7 +0.3**
baz=257
S14K Fog Glacier 34.42 52 P **P 13 58 53.2 +0.3**
baz=274
G17K Kiwalik Mounta 34.44 35 P **P 13 58 53.3 +0.5**
baz=259,SNR=8.5
H17K Granite Mounta 34.65 36 P 13 58 54.1 -0.6
H17K IAmb IAmb 13 58 56.6
comp=Z,25nm,1.1s
H17K Granite Mounta 34.65 36 P **P 13 58 55.3 +0.7**
baz=261,SNR=5.2
M16K Timber Creek 34.68 43 IAmb IAmb 13 58 57.0
comp=Z,27nm,1.2s
M16K Timber Creek 34.68 43 P **P 13 58 55.6 +0.6**
baz=267,SNR=9.5
N16K Nishlik Lake 34.76 44 P **P 13 58 56.4 +0.8**
baz=268,SNR=14
J17K VABM Dome 34.81 39 IAmb IAmb 13 58 58.4
comp=Z,30nm,1.2s
J17K VABM Dome 34.81 39 P **P 13 58 57.0 +1.0**
baz=264,SNR=5.4
E18K Tukpahlearik C 34.86 32 IAmb IAmb 13 58 58.9
comp=Z,14nm,0.6s
E18K Tukpahlearik C 34.86 32 P **P 13 58 56.7 +0.3**
baz=257
B18K Kokolik River 34.95 29 P **P 13 58 57.8 +0.6**
baz=253
C18K Utukok River 34.96 30 IAmb IAmb 13 58 57.6
comp=Z,24nm,0.8s
C18K Utukok River 34.96 30 P **P 13 58 57.1 -0.3**
baz=254,SNR=6.3
F18K Selawik 35.05 34 P **P 13 58 58.7 +0.6**
baz=259,SNR=5.4
CHGN Chignik 35.06 52 P **P 13 58 57.7 -0.5**
baz=275
L17K Donlin 35.06 41 P **P 13 58 58.9 +0.7**
baz=266,SNR=8.5
O16K Kokwok River B 35.09 46 IAmb IAmb 13 59 00.5
comp=Z,24nm,1.4s
O16K Kokwok River B 35.09 46 P **P 13 58 58.9 +0.5**
baz=270,SNR=5.1
K17K Iditarod 35.10 40 IAmb IAmb 13 59 00.3
comp=Z,15nm,0.9s
K17K Iditarod 35.10 40 P **P 13 58 59.5 +0.9**
baz=266
P16K Nushagak River 35.15 47 P **P 13 58 59.7 +0.8**
baz=271
G18K Tagagawik 35.33 35 P **P 13 59 00.7 +0.3**
baz=261,SNR=20
H18K Honhosa River 35.33 36 P **P 13 59 01.4 +0.8**
baz=262
R16K Pilot Point 35.42 49 P **P 13 59 02.3 +1.0**
baz=274
M17K Holitna River 35.43 43 IAmb IAmb 13 59 03.9
comp=Z,33nm,1.0s
M17K Holitna River 35.43 43 P **P 13 59 02.8 +1.3**
baz=268,SNR=14
GTA Gaotai 35.46 278 P **P 13 59 04.1 +2.0**
GTA pP pwP 13 59 42.5 +2.5
GTA PcP **PcP 14 01 29.7 +1.8**
GTA ScP **ScP 14 04 58.9 +0.8**
GTA pmax pmax
comp=Z,63nm,0.9s
N17K Nushagak Hills 35.54 44 P 13 59 00.7 -1.6
N17K Nushagak Hills 35.54 44 P **P 13 59 03.4 +1.1**
baz=270,SNR=5.8
O17K Koliganek Bris 35.59 46 P **P 13 59 03.7 +1.0**
baz=271,SNR=12
C19K Lookout Ridge 35.64 29 P **P 13 59 02.9 -0.3**
baz=255,SNR=7.4
L18K Granite Mounta 35.82 41 IAmb IAmb 13 59 06.6
comp=Z,10nm,0.7s
L18K Granite Mounta 35.82 41 P **P 13 59 05.9 +1.2**
baz=268,SNR=6.9
F19K Shaleruckik Mo 35.83 33 P 13 59 04.5 -0.2
F19K Shaleruckik Mo 35.83 33 P **P 13 59 04.6 -0.1**
baz=260,SNR=22
Q16K King Salmon 35.85 47 P **P 13 59 05.7 +0.8**
baz=273
J18K Innoko River 35.87 39 IAmb IAmb 13 59 06.9
comp=Z,54nm,1.8s
J18K Innoko River 35.87 39 P **P 13 59 05.8 +0.7**
baz=266,SNR=7.8
GCSA Galena City Sc 35.91 37 P **P 13 59 05.3 0.0**
baz=264
P17K Kvichak River 35.94 47 P **P 13 59 06.2 +0.5**
baz=272
G19K Purcell Mounta 36.00 35 IAmb IAmb 13 59 07.1
comp=Z,38nm,1.3s
G19K Purcell Mounta 36.00 35 P **P 13 59 06.1 0.0**
baz=262,SNR=12
D19K Kuna River 36.02 31 P **P 13 59 06.1 -0.3**
baz=258
R17L Mt. Peulik Vol 36.07 49 P **P 13 59 07.9 +1.0**
baz=274
E19K Redstone River 36.15 32 P **P 13 59 07.6 +0.2**
baz=260
H19K Roundabout Mou 36.18 36 P **P 13 59 08.4 +0.8**
baz=263,SNR=37
N18K Kilae Creek 36.18 44 IAmb IAmb 13 59 10.4
comp=Z,24nm,1.0s
N18K Kilae Creek 36.18 44 P **P 13 59 08.8 +1.0**
baz=271,SNR=13
M18K Stony River 36.21 43 P **P 13 59 09.0 +1.0**
baz=270
Q17K Contact Creek 36.28 48 P **P 13 59 09.1 +0.3**
baz=274,SNR=7.0
J19K Poorman 36.39 38 IAmb IAmb 13 59 11.1
comp=Z,29nm,1.1s
J19K Poorman 36.39 38 P **P 13 59 10.0 +0.4**
baz=266,SNR=15
O18K Koktuh Hills 36.54 45 P **P 13 59 11.7 +0.8**
baz=272
P18K Big Mountain, 36.55 46 IAmb IAmb 13 59 13.0
comp=Z,31nm,1.1s
P18K Big Mountain, 36.55 46 P **P 13 59 11.7 +0.7**
baz=273,SNR=5.4
D20K Etivluk River 36.60 30 P **P 13 59 11.1 -0.2**
baz=259
F20K Avaraart Lake 36.66 33 P **P 13 59 11.9 +0.2**
baz=262,SNR=7.5
CHIR Chirikof Islan 36.66 52 P **P 13 59 12.2 +0.3**
baz=277
E20K Nigu River 36.67 31 P **P 13 59 11.9 0.0**
baz=260
L19K White Mountain 36.68 41 P **P 13 59 12.6 +0.6**
baz=270
B20K Meade River 36.69 28 P **P 13 59 11.6 -0.3**
baz=257,SNR=7.3
Q18K Katmai Hardscr 36.71 47 P **P 13 59 12.9 +0.5**
baz=274,SNR=6.8
H20K Anotleneega Mo 36.82 36 P **P 13 59 13.7 +0.5**
baz=265,SNR=20
N19K Bonanza Creek 36.87 44 IAmb IAmb 13 59 16.1
comp=Z,19nm,1.1s
N19K Bonanza Creek 36.87 44 P **P 13 59 14.9 +1.2**
baz=272,SNR=6.7
M19K Big River Lodg 36.89 42 P **P 13 59 14.8 +1.0**
baz=270
I20K Naaghedeneel 36.94 37 P **P 13 59 14.8 +0.7**
baz=266
O19K Port Alsworth 36.97 45 P **P 13 59 15.2 +0.7**
baz=273
J20K Nowinta River 37.05 38 P **P 13 59 15.9 +0.8**
baz=267,SNR=14
K20K Telida 37.06 40 P **P 13 59 16.0 +0.8**
baz=269
R18K Karluk 37.10 49 P **P 13 59 14.7 -0.8**
baz=276
L20K Farewell, AK 37.13 41 P **P 13 59 16.6 +0.8**
baz=270
A21K Barrow 37.18 26 P **P 13 59 16.6 +0.6**
baz=256
IMAR Indian Mountai 37.33 35 P **P 13 59 17.6 +0.2**
C21K Knifeblade Rid 37.33 30 P **P 13 59 17.8 +0.3**
baz=260,SNR=12
SII Sitkinak Islan 37.37 51 P **P 13 59 18.6 +0.7**
baz=278
Q19K Cape Douglas, 37.40 47 P **P 13 59 18.2 +0.1**
baz=275
B21K Ikpikpuk River 37.47 29 P **P 13 59 18.4 -0.1**
baz=260,SNR=10
G21K Allakaket 37.47 34 P **P 13 59 19.1 +0.4**
baz=265
M20K Styx River 37.49 42 P **P 13 59 20.2 +1.3**
baz=271,SNR=5.1
E21K Killik River 37.52 31 IAmb IAmb 13 59 19.7
comp=Z,27nm,0.8s
E21K Killik River 37.52 31 P **P 13 59 18.7 -0.3**
baz=262
F21K Alatna River 37.55 33 IAmb IAmb 13 59 20.5
comp=Z,20nm,0.9s
F21K Alatna River 37.55 33 P **P 13 59 19.5 +0.2**
baz=264,SNR=20
A22K Sinclair Lake 37.62 27 P **P 13 59 20.1 +0.4**

baz=258
H21K Melozitna Rive 37.70 36 IAmb IAmb 13 59 21.7
comp=Z,22nm,0.7s
H21K Melozitna Rive 37.70 36 P **P** **13 59 21.0 +0.5**
baz=267,SNR=22
OHAK Old Harbor 37.77 50 IAmb IAmb 13 59 22.1
comp=Z,28nm,1.0s
OHAK Old Harbor 37.77 50 P **P** **13 59 21.0 -0.2**
baz=277,SNR=6.9
O20K Slope Mountain 37.83 45 P **P** **13 59 22.2 +0.5**
baz=274
CHUM Lake Minchumin 37.85 39 P **P** **13 59 23.1 +1.3**
baz=270
PPLA Purkeypile 37.91 40 P **P** **13 59 23.9 +1.4**
baz=271,SNR=5.8
CAST Castle Rocks 37.95 39 **P** **13 59 20.8 -1.9**
CAST IAmb IAmb 13 59 24.5
comp=Z,16nm,0.6s
CAST Castle Rocks 37.95 39 P **P** **13 59 23.8 +1.1**
baz=270,SNR=22
N20K Mount Spurr 37.96 43 P **P** **13 59 24.3 +1.5**
baz=273
SPCR Spurr Chakacha 37.96 43 P **P** **13 59 24.2 +1.4**
baz=273
I21K Tanana 38.02 37 IAmb IAmb 13 59 25.3
comp=Z,29nm,1.1s
I21K Tanana 38.02 37 P **P** **13 59 23.8 +0.6**
baz=268
D22K Ayikyak River 38.04 30 P **P** **13 59 23.4 0.0**
baz=263,SNR=8.8
KDAK Kodiak Island 38.07 49 **P** **13 59 23.4 -0.3**
KDAK Kodiak Island 38.07 49 *i* P **P** **13 59 23.3 -0.4**
KDAK pmax pmax
comp=Z,53nm,1.0s
KDAK Kodiak Island 38.07 49 P **P** **13 59 23.7 0.0**
baz=277
KDAK Kodiak Island 38.07 49 P **P** **13 59 23.4 -0.3**
Q20K Shuyak Island 38.08 47 P **P** **13 59 23.6 -0.1**
baz=276
F22K John River 38.08 33 P **P** **13 59 24.1 +0.4**
baz=265,SNR=29
STLK Strandline Lak 38.12 43 IAmb IAmb 13 59 26.5
comp=Z,16nm,1.1s
SKT Skwentna 38.24 42 P **P** **13 59 25.5 +0.4**
baz=273
E22K Anaktuvuk Pass 38.28 32 P **P** **13 59 25.7 +0.3**
baz=264,SNR=36
G22K Bettles 38.30 34 P **P** **13 59 25.6 +0.1**
baz=266
H22K Ishtalitna Cre 38.30 35 P **P** **13 59 26.3 +0.8**
baz=268,SNR=20
BPAW Bear Paw Mtn. 38.44 38 P **P** **13 59 27.4 +0.7**
baz=270
MLY Manley 38.54 37 IAmb IAmb 13 59 29.8
comp=Z,22nm,1.2s
MLY Manley 38.54 37 P **P** **13 59 28.5 +0.9**
baz=269,SNR=7.7
SUA Susitna One 38.65 43 P **P** **13 59 28.6 -0.1**
baz=274
TRF Thorofare Moun 38.76 39 IAmb IAmb 13 59 33.0
comp=Z,16nm,1.2s
TRF Thorofare Moun 38.76 39 P **P** **13 59 30.1 +0.6**
baz=272,SNR=6.7
D23K Nanushuk River 38.77 30 IAmb IAmb 13 59 30.7
comp=Z,41nm,1.3s
D23K Nanushuk River 38.77 30 P **P** **13 59 29.8 +0.4**
baz=265,SNR=9.3
CUT Chulitna 38.81 41 P **P** **13 59 30.1 +0.3**
baz=273
COLD Coldfoot 38.83 33 IAmb IAmb 13 59 31.3
comp=Z,33nm,1.2s
COLD Coldfoot 38.83 33 P **P** **13 59 30.3 +0.4**
baz=267,SNR=14
G23K Bananza Creek 38.87 34 P **P** **13 59 30.8 +0.4**
baz=268,SNR=22
C23K Itkillik River 38.88 29 P **P** **13 59 30.3 -0.1**
baz=264,SNR=7.9
M22K Willow 38.92 42 P **P** **13 59 30.7 -0.1**
baz=274
H23K Yukon River 39.05 36 P **P** **13 59 32.9 +1.0**
baz=270,SNR=37
E23K Chandalar 39.09 32 P **P** **13 59 32.8 +0.5**
baz=267,SNR=29
I23K Minto, Yukon-K 39.13 37 IAmb IAmb 13 59 34.4
comp=Z,43nm,1.4s
I23K Minto, Yukon-K 39.13 37 P **P** **13 59 33.2 +0.8**
baz=271,SNR=22
TOLK Toolik Lake Re 39.15 31 P **P** **13 59 32.6 0.0**
baz=266,SNR=15
RC01 Rabbit Creek A 39.16 43 P **P** **13 59 33.0 +0.2**
baz=275
O22K Cooper Landing 39.23 44 P **P** **13 59 33.2 -0.1**
baz=276
NEA2 Nenana 39.26 37 P **P** **13 59 33.9 +0.3**
baz=272
MCK McKinley 39.35 39 IAmb IAmb 13 59 35.7
comp=Z,56nm,1.8s
MCK McKinley 39.35 39 P **P** **13 59 34.6 +0.3**
baz=273,SNR=6.7
RND Reindeer 39.41 39 IAmb IAmb 13 59 36.8
comp=Z,20nm,1.1s
SEW Seward 39.41 45 P **P** **13 59 34.6 -0.1**
baz=277
PMR Palmer 39.41 42 P **P** **13 59 34.8 +0.1**
baz=275,SNR=5.8
D24K Happy Valley 39.45 30 P **P** **13 59 35.1 +0.1**
baz=266,SNR=41
GHO Glory Hole Cre 39.49 42 IAmb IAmb 13 59 37.0
comp=Z,28nm,1.0s
E24K Your Creek 39.52 32 P **P** **13 59 36.1 +0.4**
baz=268,SNR=35
C24K Franklin Bluff 39.53 29 P **P** **13 59 35.5 -0.2**
baz=266
WRH Wood River Hil 39.69 38 IAmb IAmb 13 59 39.0
comp=Z,47nm,1.6s
F24K Squaw Lake 39.73 33 IAmb IAmb 13 59 38.7
comp=Z,15nm,0.5s
F24K Squaw Lake 39.73 33 P **P** **13 59 37.6 +0.1**
baz=269,SNR=20
H24K Noodor Dome 39.73 36 P **P** **13 59 38.4 +0.9**
baz=271,SNR=28
KNK Knik Glacier 39.75 42 P **P** **13 59 37.9 +0.2**
baz=276,SNR=7.5
COLA College 39.77 37 P **P** **13 59 38.6 +0.8**
COLA College 39.77 37 *i* P **P** **13 59 38.2 +0.5**
COLA pmax pmax
comp=Z,52nm,1.0s
COLA College 39.77 37 P **P** **13 59 38.4 +0.7**
baz=272
COLA College 39.77 37 P **P** **13 59 38.6 +0.8**
COLA sP **sP** **14 00 32.8 +1.7**
PWL Port Wells 39.87 43 P **P** **13 59 38.5 -0.1**
baz=277
G24K Hadweenzic Riv 39.89 34 P **P** **13 59 39.5 +0.8**
baz=270,SNR=35
POKR Poker Plat Res 39.94 37 P **P** **13 59 40.2 +1.0**
baz=272,SNR=11
M23K Glacier View 40.05 42 P **P** **13 59 40.2 0.0**
baz=276
HDA Harding Lake 40.19 38 P **P** **13 59 39.0 -2.2**
HDA IAmb IAmb 13 59 42.1
comp=Z,41nm,1.4s
HDA Harding Lake 40.19 38 P **P** **13 59 40.9 -0.3**
baz=274,SNR=18
IL31 40.19 37 IAmb IAmb 13 59 43.1
comp=Z,20nm,0.9s
ILAR Eielson Array 40.19 37 P **P** **13 59 41.2 0.0**
comp=Z,12nm,0.7s,baz=267,slow=6.3,SNR=77
ILAR PcP **PcP** **14 01 41.3 -0.5**
comp=Z,1.0nm,0.5s,baz=281,slow=3.8,SNR=3.5
ILAR ScP **ScP** **14 05 14.6 -0.8**
comp=Z,0.8nm,0.8s,baz=269,slow=4.2,SNR=6.1
comp=Z,12nm,0.7s
SCM Sheep Creek Mo 40.24 42 P **P** **13 59 42.1 +0.4**
baz=276,SNR=8.2
D25K Kavik River 40.33 30 P **P** **13 59 42.1 -0.3**
D25K Kavik River 40.33 30 P **P** **13 59 42.1 -0.3**
baz=268,SNR=39
G25K Bearman Lake 40.43 34 P **P** **13 59 44.1 +0.9**
baz=272,SNR=7.3
P23K Montague Islan 40.44 45 P **P** **13 59 43.6 +0.3**
baz=278
GOMU GeErMu 40.45 276 P **P** **13 59 45.5 +1.3**
GOMU pmax pmax
comp=Z,31nm,1.0s
GLI Glacier Island 40.47 43 P **P** **13 59 43.3 -0.2**
baz=278
ZAA0 Zalesovo Array 40.51 306 P **P** **13 59 42.0 -2.0**
baz=280,SNR=26
MK31 Makanchi Array 44.31 297 *ce* P **P** **14 00 14.9 +0.1**
MKAR Makanchi Array 44.31 297 **P** **14 00 13.4 -1.4**
MKAR Makanchi Array 44.31 297 P **P** **14 00 14.8 0.0**
comp=Z,17nm,0.7s,baz=76,slow=7.9,SNR=123
MKAR pP **pP** **14 00 49.7 -0.2**
comp=Z,3.8nm,0.8s,baz=67,slow=9.3,SNR=0.7
MKAR PcP **PcP** **14 01 56.9 +0.9**
comp=Z,3.3nm,0.6s,baz=57,slow=5.1,SNR=4.2
MKAR ScP **ScP** **14 05 32.2 -0.1**
comp=Z,0.4nm,0.8s,baz=201,slow=14,SNR=2.4
MKAR LR LR 14 20 04.7
comp=Z,66nm,18.2s,baz=77,slow=38
comp=Z,17nm,0.7s
F30M Barrier River 44.35 32 P **P** **14 00 16.2 +1.5**
baz=280,SNR=53
K29M Barlow Dome 44.36 38 IAmb IAmb 14 00 17.4
comp=Z,31nm,1.4s
K29M Barlow Dome 44.36 38 P **P** **14 00 16.3 +1.3**
baz=282,SNR=17
YUK4 Talbot Arm 44.41 41 P **P** **14 00 16.8 +1.2**
baz=284,SNR=8.4
PNL Peninsula 44.46 44 P **P** **14 00 16.5 +0.7**
baz=285
MAKZ Makanchi 44.51 297 P **P** **14 00 16.3 0.0**
I30M Mount Dempster 44.56 36 P **P** **14 00 17.7 +1.1**
baz=282,SNR=79
YUK6 Outpost Mounta 44.64 42 P **P** **14 00 18.3 +0.9**
baz=284
O29M Mount Kennedy 44.70 43 P **P** **14 00 18.7 +0.9**
baz=285
J30M Hart River 44.71 37 IAmb IAmb 14 00 20.1
comp=Z,32nm,1.4s
J30M Hart River 44.71 37 P **P** **14 00 19.1 +1.2**
baz=282,SNR=24
M30M Minto, Yukon 44.97 39 P **P** **14 00 21.6 +1.8**
baz=284,SNR=18
G31M Satah River 45.05 33 P **P** **14 00 20.8 +0.5**
baz=282,SNR=27
INK Inuvik 45.06 31 IAmb IAmb 14 00 21.2
comp=Z,26nm,0.6s
INK Inuvik 45.06 31 P **P** **14 00 20.6 +0.2**
baz=281,SNR=22
HYT Haines Junctio 45.08 42 P **P** **14 00 22.9 +2.2**
baz=285,SNR=90
KURK Kurchatov 45.11 303 **P** **14 00 20.2 -0.8**
KURK IAmb IAmb 14 00 22.2
comp=Z,16nm,0.5s
KURK Kurchatov 45.11 303 *ce* P **P** **14 00 20.1 -0.8**
KURK pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 45.11 303 P **P** **14 00 20.2 -0.8**
KURK PcP **PcP** **14 01 59.2 +0.7**
N30M Aishikik Lake 45.11 41 P **P** **14 00 22.2 +1.3**
baz=285,SNR=7.3
F31M Tsiigehtchic 45.15 32 P **P** **14 00 21.5 +0.5**
baz=282,SNR=20
KURBB Kurchatov Arra 45.20 303 P **P** **14 00 20.9 -0.7**
comp=Z,12nm,0.5s,baz=72,slow=8.0,SNR=119
KURBB PcP **PcP** **14 01 59.6 +0.7**
comp=Z,2.5nm,0.5s,baz=76,slow=3.7,SNR=8.2
comp=Z,12nm,0.5s
H31M Peel River 45.26 35 P **P** **14 00 22.9 +0.9**
baz=283,SNR=34
P29M Windy Craggy 45.29 44 IAmb IAmb 14 00 25.4
comp=Z,45nm,0.9s
P29M Windy Craggy 45.29 44 P **P** **14 00 24.3 +1.9**
baz=286,SNR=20
P30M Million Dollar 45.53 43 P **P** **14 00 26.3 +2.1**
baz=286,SNR=29
N31M Braeburn, Yuko 45.71 41 IAmb IAmb 14 00 28.7
comp=Z,25nm,0.9s
N31M Braeburn, Yuko 45.71 41 P **P** **14 00 27.7 +2.1**
baz=286,SNR=25
O30N Mendenhall 45.76 42 P **P** **14 00 27.4 +1.4**
baz=286,SNR=8.2
M31M Drury Creek, Y 46.14 39 IAmb IAmb 14 00 31.6
comp=Z,21nm,1.0s
M31M Drury Creek, Y 46.14 39 P **P** **14 00 30.6 +1.6**
baz=286,SNR=27
WHY Whitehorse 46.36 42 IAmb IAmb 14 00 33.5
comp=Z,38nm,1.2s
WHY Whitehorse 46.36 42 P **P** **14 00 32.5 +1.7**
baz=287,SNR=11
SKAG Skagway 46.51 43 P **P** **14 00 33.2 +1.4**
baz=288
S31K Pelican 46.53 45 P **P** **14 00 32.2 +0.2**
baz=289
LSA Lhasa 46.54 271 P **P** **14 00 34.6 +1.6**
LSA pmax pmax
comp=Z,15nm,0.8s
R31K City Hall, Gus 46.64 45 P **P** **14 00 34.2 +1.4**
baz=283
N32M Quiet Lake 47.05 41 P **P** **14 00 36.9 +0.8**
baz=288
P32M Atlin 47.25 43 P **P** **14 00 39.1 +1.5**
baz=289
R32K Eaglecrest 47.29 45 P **P** **14 00 39.4 +1.5**
baz=290,SNR=7.4
SIT Sitka 47.30 46 IAmb IAmb 14 00 41.2
comp=Z,33nm,1.4s
SIT Sitka 47.30 46 P **P** **14 00 39.9 +2.0**
baz=290
MMPY Sheldon Lake, 47.41 38 P **P** **14 00 40.7 +1.8**
baz=288,SNR=12
P33M Teslin, Yukon 47.47 42 IAmb IAmb 14 00 42.1
comp=Z,28nm,1.1s
P33M Teslin, Yukon 47.47 42 P **P** **14 00 41.1 +1.7**
baz=289,SNR=30
TDK Taldyqorghan 47.52 296 *eP* **P** **14 00 40.6 +0.7**
TDK pmax pmax
comp=Z,26nm,0.5s
TDK Taldyqorghan 47.52 296 *eP* **P** **14 00 40.7 +0.7**
comp=Z,26nm,0.5s
S32K Killisnoo 47.54 46 P **P** **14 00 41.7 +1.9**
baz=290
SHLS Shalkode 47.67 293 *eP* **P** **14 00 39.7 -1.5**
SHLS pmax pmax
comp=Z,13nm,0.5s
SHLS Shalkode 47.67 293 *eP* **P** **14 00 39.7 -1.5**
comp=Z,13nm,0.5s
JAY Jayapura 47.80 189 P **P** **14 00 44.3 +2.0**
comp=Z,23nm,1.0s
UZB Uzynbulak 47.96 293 *eP* **P** **14 00 44.0 +0.6**
UZB Uzynbulak 47.96 293 *eP* **P** **14 00 44.1 +0.6**
KPKS Kokpek 48.03 294 *eP* **P** **14 00 44.9 +0.9**
KPKS Kokpek 48.03 294 *eP* **P** **14 00 44.9 +0.9**
Q32M Nakina River 48.16 43 P **P** **14 00 47.0 +2.1**
baz=290,SNR=6.3
CMAR Chiang Mai Arr 48.27 253 P **P** **14 00 48.0 +2.0**
comp=Z,0.9nm,0.4s,baz=39,slow=7.7,SNR=6.3
CMAR ScP **ScP** **14 05 51.0 +1.8**
comp=Z,1.9nm,0.9s,baz=23,slow=3.0,SNR=6.0
CMAR LR LR 14 22 05.0
comp=Z,17nm,18.1s,baz=185,slow=37
comp=Z,0.9nm,0.4s
SATY Saty 48.40 294 *eP* **P** **14 00 47.6 +0.8**
SATY pmax pmax
comp=Z,17nm,0.8s
SATY Saty 48.40 294 *eP* **P** **14 00 47.6 +0.8**
comp=Z,17nm,0.8s
SHL Shillong 48.50 266 P **P** **14 00 48.8 +1.0**
SHL pmax pmax
comp=Z,23nm,1.1s
R33M Jennings River 48.63 42 P **P** **14 00 50.4 +2.1**
baz=291,SNR=14
U33K Whale Pass 48.77 47 P **P** **14 00 51.4 +2.1**
baz=292
CHKK Chushkaly 48.95 295 *eP* **P** **14 00 51.5 +0.7**
CHKK Chushkaly 48.95 295 *eP* **P** **14 00 51.6 +0.7**
BVAR Borovoye Array 48.96 309 P **P** **14 00 50.2 -0.6**
comp=Z,3.7nm,0.4s,baz=58,slow=11,SNR=25
BVAR PcP **PcP** **14 02 13.0 +0.7**
comp=Z,5.3nm,0.5s,baz=73,slow=3.6,SNR=7.5
BVAR ScP **ScP** **14 05 51.3 -0.3**
comp=Z,1.2nm,0.7s,baz=20,slow=4.7,SNR=3.7
BVAR LR LR 14 23 00.8
comp=Z,28nm,18.3s,baz=83,slow=38
comp=Z,3.7nm,0.4s
BRVK Borovoye 49.00 309 **P** **14 00 48.6 -2.5**
BRVK IAmb IAmb 14 00 51.3
comp=Z,14nm,0.8s
BRVK Borovoye 49.00 309 P **P** **14 00 48.6 -2.5**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 49.00 309 P **P** **14 00 50.7 -0.4**
BRVK PcP **PcP** **14 02 12.8 +0.4**
ZALV Zalesovo Beam 40.51 306 P **P** **13 59 42.4 -1.6**
ZALV Zalesovo Beam 40.51 306 P **P** **13 59 42.7 -1.3**
comp=Z,3.9nm,0.4s,baz=70,slow=7.8,SNR=17
ZALV PcP **PcP** **14 01 43.9 +0.8**
comp=Z,5.7nm,0.6s,baz=86,slow=1.9,SNR=9.9
ZALV ScP **ScP** **14 05 16.6 -0.2**
comp=Z,1.3nm,0.5s,baz=67,slow=3.9,SNR=7.0
ZALV LR LR 14 16 41.9
comp=Z,34nm,19.3s,baz=56,slow=36
comp=Z,3.9nm,0.4s
H25L Birch Creek 40.56 35 P **P** **13 59 45.4 +1.2**
baz=272,SNR=24
F25K Christian Rive 40.59 33 P **P** **13 59 45.3 +0.8**
baz=271,SNR=22
PRP Porcupine Dome 40.72 36 P **P** **13 59 46.5 +0.7**
baz=274,SNR=8.4
K24K Donnelly Dome 40.75 39 P **P** **13 59 45.7 -0.2**
baz=275,SNR=9.5
M24K Tolsona, Glenn 40.75 41 P **P** **13 59 47.1 +1.3**
M24K IAmb IAmb 13 59 48.1
comp=Z,49nm,1.2s
M24K Tolsona, Glenn 40.75 41 P **P** **13 59 46.0 +0.1**
baz=277,SNR=5.2
J25K Salcha River, 40.85 37 P **P** **13 59 45.8 -0.9**
baz=275,SNR=11
C26K Camden Bay 40.86 29 P **P** **13 59 46.9 +0.3**
baz=269
KLU Klutina 40.95 42 P **P** **13 59 47.1 -0.5**
KLU IAmb IAmb 13 59 49.4
comp=Z,41nm,1.2s
KLU Klutina 40.95 42 P **P** **13 59 47.8 +0.3**
baz=278,SNR=18
PAX Paxson 40.97 40 P **P** **13 59 48.2 +0.5**
baz=276,SNR=8.3
PZH PanZhiHua 41.00 259 P **P**
PZH pmax pmax **13 59 49.6 +1.2**
comp=Z,10.0nm,0.6s
Q23K Middleton Isla 41.06 45 P **P** **13 59 48.8 +0.5**
baz=280
DIV Divide 41.07 43 IAmb IAmb 13 59 50.5
comp=Z,44nm,1.2s
F26K Sheenjek River 41.16 33 IAmb IAmb 13 59 51.4
comp=Z,28nm,0.8s
F26K Sheenjek River 41.16 33 P **P** **13 59 50.0 +0.8**
baz=272,SNR=31
RIDG Independent Ri 41.16 39 P **P** **13 59 48.9 -0.3**
RIDG IAmb IAmb 13 59 50.2
comp=Z,13nm,0.7s
RIDG Independent Ri 41.16 39 P **P** **13 59 49.5 +0.2**
baz=276,SNR=13
EYAK Cordova Ski Ar 41.17 44 P **P** **13 59 50.2 +1.0**
baz=279
HARP HAARP 41.18 41 P **P** **13 59 50.2 +0.8**
baz=277,SNR=7.9
C27K Jago River 41.27 30 P **P** **13 59 50.3 +0.3**
baz=270,SNR=12
G26K Porcupine Rive 41.34 34 P **P** **13 59 51.9 +1.4**
baz=273,SNR=34
SCRK Sand Creek 41.52 38 IAmb IAmb 13 59 53.3
comp=Z,40nm,1.5s
SCRK Sand Creek 41.52 38 P **P** **13 59 52.1 -0.1**
baz=277,SNR=16
N25K Chitina, Valde 41.56 42 P **P** **13 59 53.3 +0.7**
baz=279,SNR=5.8
J26L Joseph Creek 41.64 37 P **P** **13 59 52.7 -0.5**
baz=276,SNR=6.9
BMRM Bremner River 41.66 43 IAmb IAmb 13 59 55.3
comp=Z,32nm,1.1s
BMRM Bremner River 41.66 43 P **P** **13 59 54.2 +0.9**
baz=280,SNR=14
RAGM Ragged Mountai 41.72 44 IAmb IAmb 13 59 56.3
comp=Z,35nm,1.3s
I26K Coal Creek Min 41.73 36 P **P** **13 59 53.6 -0.2**
baz=276
L26K Log Cabin Wild 41.92 40 P **P** **13 59 56.5 +1.1**
baz=278,SNR=15
WMQ Urumqi 41.97 290 *eP* **P** **13 59 53.4 -2.7**
WMQ pmax pmax
comp=Z,37nm,0.9s
E27K Coleen River 42.10 32 IAmb IAmb 13 59 58.4
comp=Z,15nm,0.9s
E27K Coleen River 42.10 32 P **P** **13 59 57.4 +0.6**
baz=274,SNR=9.6
VRDI Verde Repeater 42.16 42 IAmb IAmb 13 59 59.7
comp=Z,21nm,1.1s
M26K Nabesna, AK 42.18 40 P **P** **13 59 59.0 +1.5**
baz=279,SNR=34
G27K Doyon Strip 42.19 34 P **P** **13 59 58.6 +1.1**
baz=275,SNR=11
D27M Malcolm River 42.26 30 P **P** **13 59 58.3 +0.2**
baz=273
H27K Steamboat Moun 42.30 35 P **P** **14 00 00.0 +1.6**
baz=276,SNR=26
I27K Kandik River 42.33 36 P **P** **14 00 00.3 +1.6**
baz=277,SNR=8.3
MCARA McCarthy VSAT 42.34 42 IAmb IAmb 14 00 03.0
comp=Z,27nm,1.0s
MCARA McCarthy VSAT 42.34 42 P **P** **13 59 60.0 +1.2**
baz=280,SNR=7.7
K27K Chicken 42.34 38 P **P** **13 59 59.6 +0.8**
baz=278
CRQE Cirque 42.42 43 P **P** **14 00 00.8 +1.2**
baz=281,SNR=15
ZSN Zaisan 42.44 297 *eP* **P** **14 00 00.5 +0.8**
ZSN Zaisan 42.44 297 *eP* **P** **14 00 00.6 +0.8**
BGLC Bering Glacier 42.45 44 P **P** **14 00 01.0 +1.4**
baz=281
TGL Tana Glacier 42.55 43 IAmb IAmb 14 00 02.9
comp=Z,33nm,1.2s
WAX Waxell Ridge 42.60 43 IAmb IAmb 14 00 03.4
comp=Z,32nm,1.0s
L27K Beaver Creek, 42.60 39 P **P** **14 00 02.4 +1.5**
baz=279,SNR=44
BCAR Beaver Creek A 42.62 39 P **P** **14 00 01.1 0.0**
M27K Edge Creek, AK 42.70 40 P **P** **14 00 03.4 +1.6**
baz=280,SNR=34
F28M Old Crow 42.80 33 P **P** **14 00 03.5 +1.1**
baz=276,SNR=17
ISLE Juniper Island 42.82 43 IAmb IAmb 14 00 04.8
comp=Z,23nm,1.0s
E28M Babbage River 42.82 31 P **P** **14 00 03.1 +0.5**
baz=275,SNR=12
I28M Miner Creek 43.05 36 IAmb IAmb 14 00 06.6
comp=Z,36nm,0.8s
I28M Miner Creek 43.05 36 P **P** **14 00 05.7 +1.1**
baz=278,SNR=54
BARN Barnard Glacie 43.05 42 IAmb IAmb 14 00 07.1
comp=Z,31nm,1.2s
GRNC Granite Creek 43.07 43 IAmb IAmb 14 00 07.1
comp=Z,36nm,1.0s
MESA MESA 43.09 44 P **P** **14 00 06.3 +1.2**
baz=282
YAH Yahtse 43.15 43 IAmb IAmb 14 00 08.0
comp=Z,27nm,1.0s
BVCY Beaver Creek 43.16 40 P **P** **14 00 06.5 +1.1**
baz=281,SNR=21
CTG Chitna Glacier 43.22 42 P **P** **14 00 07.2 +1.2**
baz=282,SNR=12
CTGM Chitina Glacie 43.22 42 IAmb IAmb 14 00 08.4
comp=Z,46nm,1.2s
LOGN Logan Glacier 43.41 42 P **P** **14 00 07.2 -0.4**
TABL Table Mountain 43.43 43 IAmb IAmb 14 00 09.7
comp=Z,21nm,0.9s
E29M Blow River 43.45 31 P **P** **14 00 08.3 +0.8**
baz=277,SNR=25
YUK3 Moose Creek 43.47 41 P **P** **14 00 08.9 +0.8**
baz=282
DAWY Dawson 43.51 38 P **P** **14 00 08.6 +0.4**
baz=280,SNR=7.7
H29M Whitestone 43.57 34 P **P** **14 00 09.7 +1.1**
baz=279,SNR=21
G29M Pine Creek 43.60 33 P **P** **14 00 10.2 +1.4**
baz=278,SNR=38
I29M Ogilvie Camp, 43.73 36 P **P** **14 00 10.9 +0.9**
baz=280,SNR=58
O28M Mount Upton 43.81 42 P **P** **14 00 11.9 +1.0**
baz=283,SNR=11
YUK8 Steele Glacier 43.90 42 P **P** **14 00 12.3 +0.8**
baz=283
EPYK Eagle Plains 44.20 34 P **P** **14 00 14.6 +1.0**
baz=280,SNR=62
M29M Somme Creek 44.24 40 P **P** **14 00 15.5 +1.4**
baz=283,SNR=10
L29M L29M 44.25 39 IAmb IAmb 14 00 17.1
comp=Z,29nm,1.1s
L29M L29M 44.25 39 P **P** **14 00 15.8 +1.7**
baz=282,SNR=25
G30M tAoh Zrail Nji 44.29 33 P **P** **14 00 15.1 +0.7**

CRAG Craig 49.02 48 P P 14 00 53.2 +2.0
baz=293
KMSI Cibinong 49.03 212 P P 14 00 54.1 +2.4
WRAK Wrangell Islan 49.06 46 P P 14 00 53.5 +2.1
baz=293
S34M Telegraph Cree 49.10 44 P P 14 00 53.7 +1.9
baz=292,SNR=5.9
TGTN Hyland Airport 49.11 39 P P 14 00 53.2 +1.4
baz=291
AAA Alma-Ata 49.30 294 eP P 14 00 54.4 +0.8
AAA pmax pmax
comp=Z,38nm,0.7s
AAA Alma-Ata 49.30 294 eP P 14 00 54.4 +0.8
comp=Z,38nm,0.7s
AAA Alma-Ata 49.30 294 eP P 14 00 54.4 +0.8
KUU Kurty 49.35 295 eP P 14 00 54.3 +0.5
KUU pmax pmax
comp=Z,21nm,0.6s
KUU Kurty 49.35 295 eP P 14 00 54.4 +0.5
comp=Z,21nm,0.6s
TNSS Tian-Shan 49.36 294 eP P 14 00 54.8 +0.4
TNSS Tian-Shan 49.36 294 eP P 14 00 54.9 +0.5
WTLY Watson Lake, Y 49.39 41 P P 14 00 55.5 +1.5
baz=292
DLBC Dease Lake 49.44 43 P P 14 00 56.5 +2.1
baz=292,SNR=10
V35K Ketchikan 49.87 48 P P 14 00 59.3 +1.8
baz=294
T35M Bob Quinn 49.90 45 P P 14 01 00.4 +2.5
baz=294
ULHL Ulahol 50.19 294 P P 14 01 02.0 +1.5
SNR=6.2
BTLS Baital 50.26 298 eP P 14 01 01.2 +0.5
BTLS Baital 50.26 298 eP P 14 01 01.3 +0.5
TKM2 Tokmak 2 50.28 295 P P 14 01 02.4 +1.2
SNR=29
WRGLY Wrigley 50.53 36 P P 14 01 04.0 +1.6
baz=293
EVN Everest 50.63 272 P 14 01 04.7 +0.2
SGDS Sogindy 50.65 296 eP P 14 01 04.5 +0.8
comp=Z,13nm,0.7s
USP Ospenovka 50.82 296 P P 14 01 06.3 +1.3
SNR=31
KBK Karagaybulak 50.83 295 P P 14 01 06.2 +0.9
SNR=12
LIRD Liard River Hi 50.92 41 P P 14 01 07.0 +1.5
baz=294
AAK Ala-Archa 51.13 295 LR LR 14 23 35.9
comp=Z,26nm,19.1s,baz=119,slow=37
AAK Ala-Archa 51.13 295 P P 14 01 08.7 +1.2
SNR=9.4
AAK Ala-Archa 51.13 295 ceP P 14 01 08.4 +0.9
AAK pmax pmax
comp=Z,42nm,1.3s
AAK Ala-Archa 51.13 295 i P P 14 01 08.4 +0.9
SNR=9.6
AAK Ala-Archa 51.13 295 eP P 14 01 08.4 +0.9
AAK Ala-Archa 51.13 295 P P 14 01 08.6 +1.2
TOAD Toad River Com 51.56 42 P P 14 01 12.1 +1.8
baz=295,SNR=14
EKS2 Erkin-Say 51.58 295 P P 14 01 12.1 +1.3
SNR=26
KSH Kashi 51.73 291 P P 14 01 16.6 +4.6
KSH pmax pmax
comp=Z,23nm,1.1s
SVE Sverdlovsk 52.44 316 deP P 14 01 16.0 -0.7
SVE pmax pmax
comp=Z,25nm,0.6s
DZA Taraz 53.02 297 eP P 14 01 21.8 +0.5
DZA pmax pmax
comp=Z,18nm,0.7s
DZA Taraz 53.02 297 eP P 14 01 21.8 +0.5
comp=Z,18nm,0.7s
KKAR Karatay Array 53.43 297 P 14 01 24.8 +0.5
KKAR Karatay Array 53.43 297 P P 14 01 24.8 +0.5
KBS Kingsbay 53.53 350 P P 14 01 22.6 -1.8
KBS IAmb IAmb 14 01 23.4
comp=Z,18nm,0.8s
KBS Kingsbay 53.53 350 ceP P 14 01 23.2 -1.2
KBS pmax pmax
comp=Z,21nm,1.3s
SPITS Spitsbergen Ar 53.55 349 P P 14 01 22.3 -2.3
comp=Z,1.7nm,0.5s,baz=46,slow=6.0,SNR=8.6
SPITS PcP PcP 14 02 29.4 +0.4
comp=Z,0.7nm,0.3s,baz=76,slow=6.1,SNR=5.1
comp=Z,1.7nm,0.5s
ARTI Arti 53.74 316 P 14 01 24.6 -1.7
ARTI Arti 53.74 316 LR LR 14 26 30.6
comp=Z,28nm,18.7s,baz=194,slow=38
ARTI Arti 53.74 316 c iP P 14 01 25.0 -1.2
ARTI *PP pwP 14 02 05.2 -1.7
ARTI 14 02 29.8
ARTI S S 14 08 46.2 -1.2
ARTI pmax pmax
comp=Z,56nm,1.1s
ARTI Arti 53.74 316 P P 14 01 25.1 -1.2
ARTI PcP PcP 14 02 30.2 +0.1
BRLS Boroldaу 53.89 297 eP P 14 01 29.7 +2.1
BRLS Boroldaу 53.89 297 eP P 14 01 29.8 +2.1
IUG luzhnay 54.23 296 eP P 14 01 30.7 +0.6
IUG pmax pmax
comp=Z,24nm,0.5s
IUG luzhnay 54.23 296 eP P 14 01 30.8 +0.6
comp=Z,24nm,0.5s
CHM Chimkent 54.41 297 eP P 14 01 32.0 +0.7
CHM pmax pmax
comp=Z,26nm,0.6s
CHM Chimkent 54.41 297 eP P 14 01 32.0 +0.7
comp=Z,26nm,0.6s
YKAW3 Yellowknife Wh 54.45 34 IAmb IAmb 14 01 33.2
comp=Z,36nm,0.9s
YKA Yellowknife Ar 54.48 34 P P 14 01 31.3 -0.2
YKA Yellowknife Ar 54.48 34 P P 14 01 32.5 +1.0
comp=Z,18nm,0.8s,baz=307,slow=7.6,SNR=68
comp=Z,18nm,0.8s
YKA Yellowknife Ar 54.48 34 i P P 14 01 32.5 +1.0
YKA pmax pmax
comp=Z,19nm,0.8s
YKAW1 Yellowknife Wh 54.54 34 IAmb IAmb 14 01 33.9
comp=Z,26nm,0.8s
HNR Honiara 55.38 165 LR LR 14 25 34.2
comp=Z,25nm,18.7s,baz=296,slow=36
ABKAR Akbulak array 56.53 308 P 14 01 45.8 -0.5
LVZ Lovozero 56.74 335 ceP P 14 01 46.8 -0.8
LVZ pmax pmax
comp=Z,33nm,2.5s
NIL Nilore 56.78 286 P P 14 01 49.8 +1.4
NIL Nilore 56.78 286 P P 14 01 49.8 +1.4
NIL pmax pmax
comp=Z,82nm,1.1s
KIRV Kirov 56.78 322 ceP P 14 01 46.9 -1.0
AKTO Aktyubinsk 56.96 310 LR LR 14 28 41.4
comp=Z,32nm,19.7s,baz=262,slow=38
APA Apatity 57.32 335 eP P 14 01 48.7 -2.9
APA MLR MLR
comp=Z,442nm,3.3s
DAG Danmarks Havn 58.11 356 P P 14 01 54.9 -2.1
DAG pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 58.13 339 P P 14 01 55.6 -1.6
ARCES IAmb IAmb 14 01 56.6
comp=Z,16nm,1.0s
ARCES ARCESS Array B 58.13 339 P P 14 01 55.8 -1.5
comp=Z,10nm,0.9s,baz=46,slow=7.1,SNR=25
ARCES pP pP 14 02 33.4 -0.7
comp=Z,0.9nm,0.5s,baz=67,slow=9.3,SNR=1.2
comp=Z,10nm,0.9s
ARCES ARCESS Array B 58.13 339 P P 14 01 55.6 -1.6
ARCES pmax pmax
comp=Z,16nm,1.0s
KTK1 Kautokeino 59.07 340 eP P 14 02 02.3 -1.4
KBL Kabul 59.10 289 P P 14 02 03.4 -1.3
KBL Kabul 59.10 289 P P 14 02 03.4 -1.3
KBL pmax pmax
comp=Z,44nm,1.1s
JETT Jettan, Norway 59.33 341 eP P 14 02 02.5 -3.1
KLMR Klimovskoe 59.51 327 eP P 14 02 03.9 -2.9
KLMR e*PP pP 14 02 43.2 -0.7
KLMR e*SP sP 14 03 01.7 +0.3
KLMR S S 14 09 58.2 -4.8
KLMR pmax pmax
comp=Z,46nm,1.4s
MTN Manton Dam 59.57 199 P 14 02 07.5 -0.3
TRO Tromso 59.61 342 eP P 14 02 05.9 -1.4
MSF Maaselka 59.72 335 P P 14 02 07.5 -0.7
MSF pmax pmax
comp=Z,42nm,1.1s
BLKN Baker Lake 60.11 27 P 14 02 10.4 -0.4
ILON Igloolik, Nuna 60.20 18 P 14 02 09.8 -1.6
ILON IAmb IAmb 14 02 10.3
comp=Z,11nm,0.5s
C09A Chrisman Ranch 60.82 50 IAmb IAmb 14 02 18.0
comp=Z,12nm,1.1s
JOF Joensuu 61.09 332 eP P 14 02 16.4 -1.1
NEW Newport 61.17 49 P P 14 02 19.2 +0.8
NEW pmax pmax
comp=Z,12nm,1.1s
BELG Belogornoye 61.19 316 P P 14 02 17.5 -0.8
BELG pmax pmax
comp=Z,3.0nm,0.6s
E09A Wood Farm, Sta 61.65 52 IAmb IAmb 14 02 23.9
comp=Z,19nm,1.2s
LOF Lofoten 61.99 342 eP P 14 02 22.2 -1.2
SJUU Sjulsmark 62.12 338 eP P 14 02 22.9 -1.4
FAUS Fauske 62.22 341 eP P 14 02 24.1 -0.9
SUMG Summit 62.56 2 P P 14 02 25.8 -1.9
SUMG pmax pmax
comp=Z,20nm,2.4s
O02D Mt. Diablo Mer 62.74 60 IAmb IAmb 14 02 31.6
comp=Z,8.1nm,1.1s
HATC Hat Creek Radi 63.16 58 IAmb IAmb 14 02 34.9
comp=Z,15nm,1.1s
MOR8 Moi Rana 63.40 341 eP P 14 02 30.0 -2.8
STOK Stokkvaagen 63.60 341 eP P 14 02 32.6 -1.4
KEF Keuruu 63.70 334 eP P 14 02 33.3 -1.5
PLID Pearl Lake 63.71 52 IAmb IAmb 14 02 37.6
comp=Z,9.1nm,0.8s
LEIR Leirfjorden 63.76 341 eP P 14 02 33.6 -1.6
WVOR Wild Horse Val 63.85 55 IAmb IAmb 14 02 38.8
comp=Z,9.1nm,1.0s
WVOR Wild Horse Val 63.85 55 P P 14 02 37.9 +1.6
WVOR pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 63.86 333 P P 14 02 34.4 -1.4
FINES FINESS Array B 63.86 333 P P 14 02 34.6 -1.2
comp=Z,48nm,0.5s,baz=38,slow=7.5,SNR=295
FINES LR LR 14 32 54.3
comp=Z,22nm,18.1s,baz=73,slow=38
comp=Z,48nm,0.5s
FINES FINESS Array B 63.86 333 i P P 14 02 34.5 -1.4
FINES pmax pmax
comp=Z,48nm,0.5s
FFC Flin Flon 64.40 37 P P 14 02 40.1 +0.6
FFC IAmb IAmb 14 02 41.3
comp=Z,17nm,1.1s
FFC Flin Flon 64.40 37 P P 14 02 40.2 +0.6
FFC pmax pmax
comp=Z,17nm,1.1s
FFC Flin Flon 64.40 37 P P 14 02 40.2 +0.6
FFC PcP PcP 14 03 13.1 +0.6
BEKR Beckworth 64.41 59 IAmb IAmb 14 02 42.2
comp=Z,8.7nm,0.9s
OBN Obninsk 64.47 324 ceP P 14 02 38.2 -1.7
OBN e 14 03 12.2
OBN e*PP pP 14 03 17.2 -0.4
OBN e*SP sP 14 03 35.1 +0.2
OBN e 14 05 04.4
OBN ePPP PPP 14 06 40.6
OBN eS S 14 11 04.9 -0.3
OBN eSS SS 14 15 19.3 +1.8
OBN pmax pmax
comp=Z,34nm,1.3s
MPK Martis Peak 64.96 59 IAmb IAmb 14 02 46.3
comp=Z,20nm,1.2s
PAHR Pah Rah Range 65.10 58 IAmb IAmb 14 02 46.8
comp=Z,7.5nm,0.9s
EGMT Eagleton 65.19 46 IAmb IAmb 14 02 46.9
comp=Z,20nm,1.1s
MEF Metsahovi 65.33 333 eP P 14 02 44.5 -0.9
ARBE Arbavere 65.39 331 eP P 14 02 44.3 -1.5
DLMT Dillon 65.41 50 IAmb IAmb 14 02 48.9
comp=Z,15nm,1.1s
RAF Rauma 65.54 334 eP P 14 02 45.9 -0.9
BOZ Bozeman (W) 65.78 49 IAmb IAmb 14 02 51.1
comp=Z,9.1nm,0.7s
WR8 Warramunga Arr 65.83 194 P P 14 02 49.6 +0.5
WR8 IAmb IAmb 14 02 50.3
comp=Z,9.3nm,0.7s
WRAB Tennant Creek 65.83 194 i P P 14 02 48.9 -0.2
WRAB pmax pmax
comp=Z,12nm,0.9s
WRA Warramunga Arr 65.85 194 P P 14 02 48.9 -0.3
WRA Warramunga Arr 65.85 194 P P 14 02 49.9 +0.7
comp=Z,8.7nm,0.6s,baz=9.8,slow=6.8,SNR=62
WRA pP pP 14 03 28.0 0.0
comp=Z,4.4nm,0.9s,baz=8.3,slow=6.3,SNR=4.1
comp=Z,8.7nm,0.6s
VSU Vasula 65.86 330 ceP P 14 02 46.9 -1.9
VSU pmax pmax
comp=Z,46nm,1.3s
VSU Vasula 65.86 330 eP P 14 02 47.1 -1.8
NVAR Mina Array Bea 66.55 59 P P 14 02 54.6 +0.6
NVAR Mina Array Bea 66.55 59 P P 14 02 55.4 +1.5
comp=Z,5.9nm,0.8s,baz=286,slow=6.7,SNR=34
NVAR pP pP 14 03 33.2 +0.3
comp=Z,1.6nm,0.7s,baz=298,slow=7.0,SNR=3.5
comp=Z,5.9nm,0.8s
ELK Elko 66.89 55 P P 14 02 57.5 +1.5
RLMT Red Lodge 67.35 48 IAmb IAmb 14 03 01.5
comp=Z,20nm,1.4s
FXWY Fox Creek 67.38 50 IAmb IAmb 14 03 02.1
comp=Z,17nm,1.4s
DSP Deep Springs 67.44 59 IAmb IAmb 14 03 02.1
comp=Z,11nm,0.9s
TPAW Teton Pass 67.52 51 IAmb IAmb 14 03 03.1
comp=Z,15nm,0.9s
LOHW Long Hollow 67.63 50 IAmb IAmb 14 03 03.7
comp=Z,17nm,1.5s
DGMT Dagmar 67.66 43 IAmb IAmb 14 03 01.8
comp=Z,15nm,0.7s
UPP Uppsala 67.72 335 eP P 14 02 59.5 -1.0
LAO LASA Array 67.87 46 IAmb IAmb 14 03 04.3
comp=Z,22nm,1.1s
CWC Cottonwood Cre 67.97 60 IAmb IAmb 14 03 04.9
comp=Z,21nm,1.9s
GRAC Grapevine Rang 68.04 59 IAmb IAmb 14 03 05.8
comp=Z,16nm,1.0s
MOL Molde 68.06 341 eP P 14 03 02.2 -0.4
GOF Gofitskoye 68.22 312 c iP P 14 03 05.1 +1.1
NC303 NORSAR Array S 68.30 339 IAmb IAmb 14 04 58.2
comp=Z,44nm,1.8s
NC405 NORSAR Array S 68.30 339 IAmb IAmb 14 03 04.8
comp=Z,16nm,0.8s
NC204 NORSAR Array S 68.41 339 IAmb IAmb 14 03 10.8
comp=Z,26nm,1.4s
MNK Minsk 68.41 327 i P P 14 03 05.5 +0.5
MNK i *PP pP 14 03 44.8 +1.7
MNK i 14 05 38.2
MNK i PPP PPP 14 07 17.0
MNK i S S 14 11 53.0 +0.2
MNK i SS SS 14 16 22.0 +3.4
MNK pmax pmax
comp=Z,42nm,0.9s
MNK pmax pmax
comp=E,26nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.6s
NB201 NORSAR Array S 68.47 339 IAmb IAmb 14 03 05.8
comp=Z,19nm,0.9s
NB2 NORSAR Subarra 68.50 339 P P 14 03 04.4 -1.0
comp=Z,4.2nm,0.4s,baz=31,slow=6.5
NB2 NORSAR Subarra 68.50 339 P P 14 03 04.4 -1.0
baz=31,slow=6.5
NOA NORSAR Array B 68.50 339 P P 14 03 04.5 -1.0
comp=Z,2.3nm,0.4s,baz=32,slow=6.7,SNR=75
NOA LR LR 14 37 03.2
comp=Z,14nm,18.0s,baz=70,slow=39
comp=Z,2.3nm,0.4s
S11A Rachel 68.60 58 IAmb IAmb 14 03 09.2
comp=Z,15nm,1.1s
HFS Hagfors 68.61 337 P P 14 03 04.8 -1.3
comp=Z,13nm,0.4s,baz=53,slow=5.7,SNR=108
comp=Z,13nm,0.4s
NBO00 NORSAR Array S 68.61 339 IAmb IAmb 14 03 06.7
comp=Z,19nm,1.1s
DUG Dugway, Tooele 68.65 54 IAmb IAmb 14 03 09.5
comp=Z,13nm,1.1s
NC602 NORSAR Array S 68.67 339 eP P 14 03 05.2 -1.3
FURC Furnace Creek, 68.69 59 IAmb IAmb 14 03 09.6
comp=Z,23nm,0.9s
NAO01 NORSAR Array S 68.75 339 IAmb IAmb 14 03 06.9
comp=Z,9.5nm,0.9s
TPNV Topopah Spring 68.75 59 IAmb IAmb 14 03 10.0
comp=Z,11nm,0.9s
PDAR Pinedale Array 68.76 50 P P 14 03 07.8 +0.1
PDAR Pinedale Array 68.76 50 P P 14 03 08.6 +0.9
comp=Z,4.9nm,0.9s,baz=318,slow=2.0,SNR=25
PDAR pP pP 14 03 46.2 -0.5
comp=Z,2.0nm,0.7s,baz=279,slow=2.1,SNR=1.7
comp=Z,4.9nm,0.9s
NCK Nalchik 68.98 311 i P P 14 03 09.9 +1.1
NCK pmax pmax
comp=Z,73nm,1.0s
QSM Queen of Sheba 69.02 60 IAmb IAmb 14 03 11.4
comp=Z,13nm,0.9s
PABE Paberze 69.10 330 eP P 14 03 09.1 -0.1
KIV Kislovodsk 69.16 312 P P 14 03 11.5 +1.6
KIV Kislovodsk 69.16 312 ⇑P P 14 03 11.1 +1.2
KIV Kislovodsk 69.16 312 eP P 14 03 11.0 +1.1
KIV pmax pmax
comp=Z,114nm,1.1s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV Kislovodsk 69.16 312 i P P 14 03 11.2 +1.3
SNR=14
KIV Kislovodsk 69.16 312 eP P 14 03 11.0 +1.1
KBZ Khabaz 69.20 311 P P 14 03 11.4 +1.4
comp=Z,54nm,0.9s,baz=66,slow=4.4,SNR=84
KBZ Khabaz 69.20 311 i P P 14 03 11.2 +1.2
KBZ pmax pmax
comp=Z,61nm,0.9s
KBZ Khabaz 69.20 311 eP P 14 03 11.2 +1.2
SHA1 Shidzhatmaz 69.32 312 i P P 14 03 12.2 +1.1
MPU Maple Canyon 69.44 54 IAmb IAmb 14 03 14.3
comp=Z,13nm,1.1s
ASAR Alice Springs 69.56 193 P P 14 03 14.3 +1.8
ASAR Alice Springs 69.56 193 P P 14 03 14.2 +1.7
comp=Z,6.1nm,0.7s,baz=7.7,slow=4.9,SNR=71
ASAR pP pP 14 03 52.6 +1.0
comp=Z,2.3nm,0.8s,baz=11,slow=6.5,SNR=3.8
comp=Z,6.1nm,0.7s
TRLG Trialeti 70.04 309 P P 14 03 16.7 +1.2
TMUT Trail Mountain 70.17 54 IAmb IAmb 14 03 18.8
comp=Z,13nm,1.2s
STRU Stroemstad 70.22 338 eP P 14 03 15.1 -0.9
STRU Stroemstad 70.22 338 i P P 14 03 15.2 -0.8
ASK Askoy 70.43 341 eP P 14 03 17.1 -0.2
Q16A Castle Valley 70.45 54 IAmb IAmb 14 03 20.6
comp=Z,13nm,1.3s
GNI Garni 70.63 308 LR LR 14 36 47.7
comp=Z,18nm,19.3s,baz=61,slow=38
GNI Garni 70.63 308 i P P 14 03 19.8 +0.7
GNI pmax pmax
comp=Z,50nm,1.4s
SRU San Rafael Swe 70.69 54 P P 14 03 19.5 0.0
SRU IAmb IAmb 14 03 21.6
comp=Z,16nm,0.9s
SRU San Rafael Swe 70.69 54 P P 14 03 19.5 0.0
SRU pmax pmax
comp=Z,16nm,0.9s
AK03 Malin Array Si 70.71 324 P P 14 03 18.2 -0.9
AK23 Malin Array Si 70.72 324 P P 14 03 18.4 -0.8
AKASG Malin Array Be 70.73 324 P P 14 03 19.2 0.0
AKASG IAmb IAmb 14 03 20.2
comp=Z,18nm,1.1s
AKASG Malin Array Be 70.73 324 P P 14 03 18.8 -0.4
comp=Z,10nm,0.4s,baz=39,slow=6.3,SNR=89
comp=Z,10nm,0.4s
AKASG Malin Array Be 70.73 324 P P 14 03 19.3 0.0
AKASG pmax pmax
comp=Z,18nm,1.1s
AKBB Malin Array Si 70.73 324 i P P 14 03 18.5 -0.7
AKBB pmax pmax
comp=Z,37nm,0.8s
AKBB Malin Array Si 70.73 324 P P 14 03 18.2 -1.0
AK04 Malin Array Si 70.74 324 P P 14 03 18.3 -1.0
KIEV Kiev 70.74 324 P P 14 03 18.8 -0.5
KIEV Kiev 70.74 324 ⇓P P 14 03 18.4 -0.9
KIEV Kiev 70.74 324 P P 14 03 18.8 -0.5
KIEV pmax pmax
comp=Z,31nm,0.9s
KIEV Kiev 70.74 324 i P P 14 03 18.8 -0.5
SNR=5.4
KIEV Kiev 70.74 324 P P 14 03 18.4 -0.9
comp=Z,1μmcomp=Z,171nm,1.2s
KIEV Kiev 70.74 324 P P 14 03 18.8 -0.5
AK01 Malin Array Si 70.74 324 P P 14 03 18.2 -1.1
AK21 Malin Array Si 70.75 324 P P 14 03 18.2 -1.2
AK22 Malin Array Si 70.75 324 P P 14 03 18.2 -1.2
AK08 Malin Array Si 70.77 324 P P 14 03 18.3 -1.2
AK09 Malin Array Si 70.77 324 P P 14 03 18.3 -1.2
AK15 Malin Array Si 70.78 324 P P 14 03 18.7 -0.8
AK16 Malin Array Si 70.80 324 P P 14 03 17.8 -1.9
AK19 Malin Array Si 70.80 324 P P 14 03 17.8 -1.9
AK17 Malin Array Si 70.81 324 P P 14 03 17.9 -1.8
AK06 Malin Array Si 70.83 324 P P 14 03 18.0 -1.8
AK14 Malin Array Si 70.83 324 P P 14 03 18.4 -1.5
AK07 Malin Array Si 70.85 324 P P 14 03 18.5 -1.5
AK13 Malin Array Si 70.86 324 P P 14 03 18.6 -1.5
SOC Sochi 70.97 313 eP P 14 03 18.5 -2.3
SOC e 14 05 57.8
SOC eS S 14 12 20.2 -2.9
SOC pmax pmax
comp=Z,37nm,0.7s
BORU Boraas 70.98 336 i P P 14 03 19.9 -0.7
BLEU Blekinge 71.19 334 i P P 14 03 20.5 -1.4
ANN Anapa 71.27 315 eP P 14 03 21.1 -1.5
ANN pmax pmax
comp=Z,21nm,0.5s
HMU Henry Mountain 71.36 55 P P 14 03 24.8 +1.1
HMU IAmb IAmb 14 03 25.8
comp=Z,19nm,1.0s
ONAU Onsala 71.42 337 i P P 14 03 22.8 -0.5
U15A North Rim 71.47 57 IAmb IAmb 14 03 27.1
comp=Z,10nm,1.0s
FABU Falkenberg 71.53 336 i P P 14 03 23.7 -0.2
RNPP9 Sopachiv 71.55 326 P P 14 03 22.9 -1.3
EPLO Experimental L 71.56 37 IAmb IAmb 14 03 25.1
comp=Z,14nm,0.9s
RNPP8 Varash 71.62 326 P P 14 03 23.5 -1.1
DEL Delary 71.64 335 i P P 14 03 23.5 -1.1
RNPP5 Staryi Chortor 71.69 326 P P 14 03 24.3 -0.7
LUBAR Lubar, Ukraine 71.94 324 P P 14 03 25.5 -1.0
PV21 Cone Mtn., Par 71.94 53 IAmb IAmb 14 03 29.3
comp=Z,13nm,0.9s
PV23 Carpenter Ridg 72.00 53 IAmb IAmb 14 03 29.7
comp=Z,29nm,1.2s
PV14 Lion Creek, Pa 72.05 54 IAmb IAmb 14 03 29.9
comp=Z,29nm,1.5s
PV22 Blue Mesa, Par 72.07 53 IAmb IAmb 14 03 29.9
comp=Z,13nm,1.0s
PV04 Paradox Valley 72.10 53 IAmb IAmb 14 03 30.3
comp=Z,15nm,1.1s
PV20 West Nyswonger 72.10 54 IAmb IAmb 14 03 30.2
comp=Z,32nm,1.1s
PV19 Morning Glory 72.11 54 IAmb IAmb 14 03 30.3
comp=Z,30nm,1.0s
PV17 East Wray Mesa 72.15 54 IAmb IAmb 14 03 30.4
comp=Z,27nm,1.0s
PV16 Nyswonger Mesa 72.15 54 IAmb IAmb 14 03 30.5
comp=Z,16nm,1.1s
PV11 David Mesa, Pa 72.18 53 IAmb IAmb 14 03 30.7
comp=Z,20nm,1.1s
PV18 Skein Mesa, Pa 72.20 54 IAmb IAmb 14 03 30.8
comp=Z,30nm,1.1s
PV05 Paradox Valley 72.21 54 IAmb IAmb 14 03 31.0
comp=Z,17nm,1.0s
PV12 Saucer Basin, 72.21 53 IAmb IAmb 14 03 31.8
comp=Z,15nm,1.1s
PV03 Paradox Valley 72.23 54 IAmb IAmb 14 03 30.9
comp=Z,14nm,1.1s
PV13 Radium Mtn., P 72.31 54 IAmb IAmb 14 03 31.5
comp=Z,17nm,1.1s
BSD Bornholm Skovb 72.46 334 eP P 14 03 29.3 -0.2
BSD Bornholm Skovb 72.46 334 i P P 14 03 28.9 -0.6
BSD IAmb IAmb 14 03 29.9
comp=Z,24nm,0.5s
LUNU Lund 72.48 335 i P P 14 03 29.8 +0.2
SIM Simferopol' 72.79 317 eP P 14 03 32.6 +0.9
SIM pmax pmax
comp=Z,72nm,1.1s
HORU Horodok 73.03 324 P P 14 03 31.9 -1.1
SORM Soroca 73.05 322 ⇑P P 14 03 33.0 -0.1
SORM Soroca 73.05 322 ⇑P P 14 03 33.0 -0.1
BANOM Banah 73.05 290 i P P 14 03 34.5 +0.9
SNR=6.1
KOPT Kop Dagi 73.06 310 IAmb IAmb 14 03 37.0

comp=Z,33nm,1.3s
SHME Shamm 73.07 290 *i* P P 14 03 34.4 +0.8
SNR=6.2
BEL Belsk 73.17 329 *e*P P 14 03 34.1 +0.4
KMPD K-Podol'skiy 73.52 324 P P 14 03 34.2 -1.7
LVV L'vov 73.53 326 P P 14 03 34.8 -1.1
UOSS Minazif 73.77 289 P P 14 03 36.3 -1.5
UOSS IAmb IAmb 14 03 39.3
comp=Z,17nm,0.9s
UOSS Minazif 73.77 289 P P 14 03 38.4 +0.7
MILM Milestii Mici 73.77 321 *i* P P 14 03 36.9 -0.5
comp=Z,170nm,2.1s
MILM Milestii Mici 73.77 321*c* *i* P P 14 03 36.9 -0.5
MILM pmax pmax
comp=Z,170nm,2.1s
EYMN Ely 73.83 37 IAmb IAmb 14 03 38.7
comp=Z,14nm,0.9s
HATD Hatta, Dubai 73.90 289 *i* P P 14 03 39.3 +0.8
SNR=7.4
ASHO Ashiyiah 74.05 289 *i* P P 14 03 38.7 -0.7
SNR=6.3
KWP Kalwaria Pacla 74.21 326 *e*P P 14 03 40.6 +0.7
KWP Kalwaria Pacla 74.21 326 P P 14 03 40.7 +0.8
KWP Kalwaria Pacla 74.21 326 P P 14 03 39.3 -0.6
STNU Starunia 74.22 325 P P 14 03 39.4 -0.6
VASR Vaslui 74.44 322 ⇑P P 14 03 41.9 +0.6
ASUD Al Ashush, Dub 74.57 289 P P 14 03 43.7 +1.3
ALNE Al Ain 74.67 289 P P 14 03 44.2 +1.2
ECSD EROS Data Cent 74.73 43 IAmb IAmb 14 03 44.3
comp=Z,20nm,1.2s
BUR08 Bucovina Ar. S 74.77 324 P P 14 03 43.8 +0.5
BURAR Bucovina Array 74.78 324 ⇑P P 14 03 43.5 +0.1
BURAR Bucovina Array 74.78 324 ⇑P P 14 03 43.5 +0.1
OJC Ojcow 74.84 328 *e*P P 14 03 44.0 +0.5
OJC Ojcow 74.84 328 P P 14 03 44.0 +0.5
VLDR Vladesti 74.92 321 ⇑P P 14 03 44.6 +0.6
KOLS Kolonicke sedl 74.94 326 *e*P P 14 03 44.9 +0.8
KOLS pmax pmax
comp=Z,24nm,0.9s
KOLS Kolonicke sedl 74.94 326 *e*P P 14 03 44.9 +0.8
STHS Stebnicka Huta 74.95 327 *e*P P 14 03 44.5 +0.3
STHS pmax pmax
comp=Z,43nm,1.4s
STHS Stebnicka Huta 74.95 327 *e*P P 14 03 44.5 +0.3
TESR Tescani 75.04 322 ⇑P P 14 03 45.4 +0.7
BZK Bozkurt 75.05 315 ⇓P P 14 03 45.7 +0.8
GHRR 75.06 322 ⇑P P 14 03 45.9 +1.1
TLCR 75.10 320 ⇑P P 14 03 45.9 +0.9
ONER Baraj Valea Uz 75.28 322 ⇑P P 14 03 47.3 +1.1
NIE Niedzica 75.31 328 *e*P P 14 03 47.2 +1.0
GORT1 Trebel 75.39 334 *e*P P 14 03 47.1 +0.6
comp=Z,58nm,1.3s,baz=29,slow=5.7
CFR Carcaliu 75.41 321 ⇓P P 14 03 47.0 +0.2
CFR Carcaliu 75.41 321 ⇓P P 14 03 47.0 +0.2
ODBI Odobesti 75.44 322 ⇑P P 14 03 48.9 +1.9
VRI Vrincioaia 75.50 322 ⇑P P 14 03 48.4 +1.0
VRI Vrincioaia 75.50 322 ⇑P P 14 03 48.4 +1.0
TPGR Topolog 75.53 320 ⇑P P 14 03 48.1 +0.5
PLOR Plostina 75.55 322 ⇑P P 14 03 48.6 +0.9
PLOR Plostina 75.55 322 ⇑P P 14 03 48.6 +0.9
KSP Ksiaz 75.59 331 *e*P P 14 03 48.0 +0.3
KSP Ksiaz 75.59 331 P P 14 03 48.5 +0.7
OZUR 75.73 322 ⇑P P 14 03 50.3 +1.5
BISRR Bisoca 75.76 322 ⇓P P 14 03 50.3 +1.3
LANS Liptovska Anna 75.84 328 *e*P P 14 03 51.0 +1.7
LANS pmax pmax
comp=Z,28nm,1.1s
LANS Liptovska Anna 75.84 328 *e*P P 14 03 51.0 +1.7
TIRR Tirgusor 75.84 320 ⇓P P 14 03 49.4 +0.1
TIRR Tirgusor 75.84 320 ⇓P P 14 03 49.4 +0.1
HARR Harsova 75.88 320 ⇓P P 14 03 50.0 +0.5
HARR Harsova 75.88 320 ⇓P P 14 03 50.0 +0.5
CHVC Chvalec 75.89 331 *e*P P 14 03 50.2 +0.7
CHVC Chvalec 75.89 331 *e*P P 14 03 50.2 +0.7
ANMO Albuquerque 75.92 55 *i* P P 14 03 50.5 +0.3
ANMO pmax pmax
comp=Z,4.0nm,0.9s
TLBR Topalu 75.94 320 ⇓P P 14 03 51.1 +1.2
FLTG Flechtingen 75.98 334 *e*P P 14 03 49.5 -0.4
comp=Z,42nm,1.1s,baz=29,slow=5.7
DPC Dobruska-Polom 75.99 330 *e*P P 14 03 51.1 +1.0
DPC Dobruska-Polom 75.99 330 *e*P P 14 03 51.1 +1.0
DOPR Dopca 76.01 323 ⇑P P 14 03 51.6 +1.3
MORC Moravsky Berou 76.04 329 P P 14 03 50.5 +0.1
MORC Moravsky Berou 76.04 329 *e*P P 14 03 51.1 +0.7
MORC Moravsky Berou 76.04 329 ⇓P P 14 03 51.1 +0.7
MORC Moravsky Berou 76.04 329 P P 14 03 50.5 +0.1
MORC pmax pmax
comp=Z,44nm,1.0s
KRLC Kraliky 76.06 330 *e*P P 14 03 51.2 +0.7
KRLC Kraliky 76.06 330 *e*P P 14 03 51.2 +0.7
MLR Muntele Rosu 76.14 322 ⇑P P 14 03 52.1 +1.0
MLR Muntele Rosu 76.14 322 ⇑P P 14 03 52.1 +1.0
ISR Istrita 76.17 321 ⇑P P 14 03 52.7 +1.5
ISR Istrita 76.17 321 ⇑P P 14 03 52.7 +1.5
CJR Cluj-Napoca 76.17 324 ⇑P P 14 03 51.6 +0.4
CJR Cluj-Napoca 76.17 324 ⇑P P 14 03 51.6 +0.4
NRDL Niedersach Rie 76.19 335 *e*P P 14 03 51.2 +0.2
comp=Z,22nm,1.1s,baz=29,slow=5.7
NRDL *e*pP pP 14 04 29.7 -0.1
RETH Rethem/Aller, 76.19 335 *e*P P 14 03 51.2 +0.1
comp=Z,29nm,1.2s,baz=29,slow=5.7
SCHQ Schefferville 76.24 20 IAmb IAmb 14 03 52.3
comp=Z,21nm,1.1s
SCHQ Schefferville 76.24 20 P P 14 03 51.3 -0.1
comp=Z,12nm,0.7s,baz=344,slow=6.3,SNR=10
comp=Z,12nm,0.7s
MAUC Maruska 76.27 329 *e*P P 14 03 52.5 +0.8
CLL Collm 76.31 333 ⇑*i*P P 14 03 51.7 -0.1
CLL pmax pmax
comp=Z,61nm,1.0s
CLL Collm 76.31 333 *e*P P 14 03 51.8 -0.1
comp=Z,53nm,1.0s,baz=29,slow=5.7
CLL Collm 76.31 333 ⇑*i*P P 14 03 51.7 -0.1
comp=Z,61nm,1.0s
ASSE Asse, Remlinge 76.33 334 *e*P P 14 03 52.0 +0.2
comp=Z,21nm,1.1s,baz=29,slow=5.7
BRG Berggiesshubel 76.37 332 *e*P P 14 03 52.4 +0.3
comp=Z,19nm,1.1s,baz=29,slow=5.7
BRG Berggiesshubel 76.37 332 ⇑*i*P P 14 03 52.5 +0.3
BRG Amp 14 03 53.8
comp=Z,19nm,1.1s
ICOR Ion Corvin 76.38 320 ⇓P P 14 03 53.8 +1.4
SHAB Shabla 76.46 319 ⇓P P 14 04 01.6 +8.8
DRGR 76.48 325 ⇑P P 14 03 53.8 +0.8
DRGR 76.48 325 ⇑P P 14 03 53.8 +0.8
VYHS Vyhne 76.62 328 *e*P P 14 03 54.6 +0.9
VYHS pmax pmax
comp=Z,23nm,0.9s
VYHS Vyhne 76.62 328 *e*P P 14 03 54.6 +0.9
CLZ Clausthal 76.67 334 *e*P P 14 03 54.5 +0.6
comp=Z,55nm,1.1s,baz=29,slow=5.7
PSZ Piszkesteto 76.69 327 ⇑P P 14 03 55.1 +1.0
PSZ Piszkesteto 76.69 327 ⇑P P 14 03 55.1 +1.0
PSZ Piszkesteto 76.69 327 *e*P P 14 03 53.4 -0.7
JAVC Velka Javorina 76.75 329 *e*P P 14 03 56.0 +1.6
319A Douglas 76.77 59 IAmb IAmb 14 03 57.4
comp=Z,20nm,0.9s
VRAC Vranov 76.77 330 LR LR 14 43 30.1
comp=Z,18nm,19.3s,baz=40,slow=40
VRAC Vranov 76.77 330 *e*P P 14 03 55.2 +0.7
VRAC Vranov 76.77 330 ⇓P P 14 03 55.9 +1.4
NEUB Neuenburg 76.78 333 *e*P P 14 03 54.7 +0.2
comp=Z,64nm,1.2s,baz=29,slow=5.7
STKA Stephens Creek 76.80 185 P P 14 03 56.8 +2.2
comp=Z,3.7nm,0.7s,baz=350,slow=9.8,SNR=7.8
comp=Z,3.7nm,0.7s
ARR Arges 76.81 323 ⇑P P 14 03 57.3 +2.4
121A Cookes Peak, D 76.85 57 IAmb IAmb 14 03 58.4
comp=Z,13nm,1.1s
GOPC GO Pecny, Ondr 76.89 331 *e*P P 14 03 56.0 +0.8
GOPC GO Pecny, Ondr 76.89 331 *e*P P 14 03 56.0 +0.8
BR131 Keskin Array S 76.90 314 IAmb IAmb 14 03 57.7
comp=Z,19nm,1.1s
BR131 Keskin Array S 76.90 314 *i* P P 14 03 55.9 +0.3
BRTR Keskin Array B 76.90 314 P P 14 03 55.8 +0.3
BRTR Keskin Array B 76.90 314 P P 14 03 56.5 +0.9
comp=Z,8.7nm,1.0s,baz=66,slow=4.2,SNR=31
comp=Z,8.7nm,1.0s
BRTR Keskin Array B 76.90 314 *i* P P 14 03 56.5 +0.9
BRTR pmax pmax
comp=Z,5.0nm,0.7s
MZR Muzera 76.91 289 *i* P P 14 03 56.5 +0.8
SNR=8.5

PRU Pruhonice 76.92 331 *e*P P 14 03 56.0 +0.7
PRU Pruhonice 76.92 331 *e*P P 14 03 56.0 +0.7
EKA Eskdalemuir Ar 76.95 343 P P 14 03 55.7 +0.4
comp=Z,4.2nm,0.3s,baz=20,slow=5.1,SNR=51
comp=Z,4.2nm,0.3s
IBBN Ibbenburen 77.04 336 *e*P P 14 03 55.9 0.0
comp=Z,35nm,1.1s,baz=29,slow=5.7
KRUC Moravsky 77.05 330 *e*P P 14 03 56.7 +0.7
GTTG Gottingen 77.06 334 *e*P P 14 03 56.6 +0.6
comp=Z,40nm,1.0s,baz=29,slow=5.7
LOT Lotru 77.11 323 ⇓P P 14 03 55.9 -0.7
DEV Deva 77.13 324 ⇑P P 14 03 57.5 +1.0
DEV Deva 77.13 324 ⇑P P 14 03 57.5 +1.0
TREC Trest 77.17 330 *e*P P 14 03 57.5 +0.8
TREC Trest 77.17 330 *e*P P 14 03 57.5 +0.8
KIRS Kirsehir-Merke 77.20 313 ⇑P P 14 03 57.8 +0.7
ANTO Ankara 77.22 314 ⇓P P 14 03 58.9 +1.6
ANTO Ankara 77.22 314 ⇓P P 14 03 58.9 +1.6
TANN Tannenbergstha 77.25 332 *e*P P 14 03 57.3 +0.2
comp=Z,46nm,1.8s,baz=29,slow=5.7
TANN *e*pP pwP 14 04 38.7 -1.0
MODS Modra-Piesok 77.30 329 *e*P P 14 03 56.2 -1.3
MODS pmax pmax
comp=Z,81nm,1.1s
MODS Modra-Piesok 77.30 329 *e*P P 14 03 56.2 -1.3
MOX Moxa 77.32 333 *e*P P 14 03 57.8 +0.2
comp=Z,42nm,1.3s,baz=29,slow=5.7
SIRR Siria 77.33 325 ⇓P P 14 03 58.1 +0.4
LOZB Loznitsa 77.51 320 ⇓P P 14 03 59.7 +1.0
COPA Copaceanca 77.53 322 ⇓P P 14 03 58.9 +0.1
SURR Surduc 77.56 324 ⇓P P 14 03 57.0 -1.9
GZR Gura Zlata 77.57 324 ⇑P P 14 03 59.2 +0.1
GZR Gura Zlata 77.57 324 ⇑P P 14 03 59.2 +0.1
UBBA Unterbreizbach 77.68 334 *e*P P 14 03 59.5 +0.1
comp=Z,11nm,0.6s,baz=29,slow=5.7
MANZ Manzenberg 77.73 332 *e*P P 14 04 00.2 +0.3
comp=Z,7.7nm,1.3s,baz=29,slow=5.7
KASTN Kahler Asten 77.83 335 *e*P P 14 04 00.8 +0.5
comp=Z,36nm,1.1s,baz=29,slow=5.7
BZS Buzias 77.88 325 ⇓P P 14 04 00.8 +0.1
ROTZ Rotzenmuhle 77.89 332 *e*P P 14 04 01.2 +0.5
comp=Z,5.1nm,0.9s,baz=29,slow=5.7
BUG Bochum--Univer 77.95 336 *e*P P 14 04 01.2 +0.2
comp=Z,48nm,1.3s,baz=29,slow=5.7
KHC Kasperske Hory 77.97 331 *e*P P 14 04 02.0 +0.8
KHC Kasperske Hory 77.97 331 *e*P P 14 04 02.0 +0.8
CKRC Cesky Krumlov 77.99 331 *e*P P 14 04 01.9 +0.6
CKRC Cesky Krumlov 77.99 331 *e*P P 14 04 01.9 +0.6
HERR Herculane 78.14 324 ⇓P P 14 04 02.4 +0.3
GEC2 GERESS Array S 78.18 331 P P 14 04 02.6 +0.2
GEC2 GERESS Array S 78.18 331 *e*P P 14 04 02.2 -0.2
comp=Z,20nm,0.6s,baz=29,slow=5.7
GERES GERESS Array B 78.18 331 P P 14 04 02.6 +0.2
GERES GERESS Array B 78.18 331 P P 14 04 02.7 +0.3
comp=Z,18nm,0.6s,baz=36,slow=6.1,SNR=100
comp=Z,18nm,0.6s
ELND Elena 78.19 320 ⇑P P 14 04 02.7 +0.2
CONA Conrad Observa 78.19 329 *i* P P 14 04 03.6 +1.1
comp=Z,35nm,0.7s,SNR=18
WET Wettzell 78.20 332 *e*P P 14 04 03.4 +0.9
comp=Z,56nm,1.1s,baz=29,slow=5.7
RONA Rosalia, Austr 78.22 329 *i* P P 14 04 03.9 +1.3
comp=Z,67nm,1.1s,SNR=21
GRF Grafenberg Arr 78.28 333 *e*P P 14 04 03.7 +0.9
comp=Z,93nm,1.1s,baz=29,slow=5.7
GRFO Grafenberg 78.28 333 P P 14 04 03.1 +0.3
GRFO Grafenberg 78.28 333 P P 14 04 03.1 +0.3
GRFO pmax pmax
comp=Z,83nm,1.1s
PLVB Pleven 78.38 321 ⇑P P 14 04 03.5 0.0
MDVR Moldovita 78.51 324 ⇑P P 14 04 03.5 -0.8
L40A Anamosa 78.55 41 IAmb IAmb 14 04 05.1
comp=Z,9.7nm,0.9s
MORH Mrgy, Hungar 78.58 327 ⇓P P 14 04 04.0 -0.5
AMTX Amarillo 78.67 52 IAmb IAmb 14 04 07.6
comp=Z,20nm,1.0s
TNS Taunus Mts 78.68 335 *e*P P 14 04 05.5 +0.4
comp=Z,56nm,1.3s,baz=29,slow=5.7
MOA Molln 78.83 330 *i* P P 14 04 06.5 +0.6
comp=Z,14nm,0.8s,SNR=8.5
ARSA Arzberg 78.89 329 IAmb IAmb 14 04 08.2
comp=Z,23nm,1.3s
ARSA Arzberg 78.89 329 *i* P P 14 04 07.1 +0.9
comp=Z,14nm,0.7s,SNR=6.9
BEBN Eben Emael 78.98 337 *d*P P 14 04 06.6 0.0
comp=Z,64nm,0.7s
BTNL Ternell 79.04 336 *d*P P 14 04 07.1 +0.1
comp=Z,14nm,0.8s
MEM Membach 79.05 336 *d*P P 14 04 06.8 -0.2
comp=Z,21nm,1.1s
VLDQ Val d'Or 79.11 29 IAmb IAmb 14 04 07.4
comp=Z,16nm,0.9s
BIOA Bad Ischl, Aus 79.19 330 *e*P P 14 04 08.9 +1.0
comp=Z,43nm,1.3s
BSTI Sart Tilman 79.20 337 *d*P P 14 04 08.3 +0.5
BHOU Houvegnez 79.28 336 *d*P P 14 04 08.8 +0.4
comp=Z,14nm,0.0s
KOGS Kog 79.30 328 *i* P P 14 04 08.7 +0.3
SMWD Samnorwood 79.30 51 IAmb IAmb 14 04 10.9
comp=Z,17nm,0.9s
P38A Dawn 79.35 44 IAmb IAmb 14 04 10.2
comp=Z,18nm,1.1s
RJOB Jochberg 79.44 331 *e*P P 14 04 10.2 +0.9
comp=Z,25nm,0.9s,baz=29,slow=5.7
BOVS Bovan 79.45 323 ⇓P P 14 04 09.4 +0.1
BGES Gesves 79.52 337 *d*P P 14 04 09.7 +0.1
comp=Z,17nm,0.9s
SOKA Sopot 79.55 329 *i* P P 14 04 10.4 +0.5
comp=Z,46nm,1.0s,SNR=22
PERS Pernice 79.56 329 *i* P P 14 04 10.3 +0.4
FUR Furstenfeldbru 79.58 332 *e*P P 14 04 10.7 +0.8
comp=Z,52nm,0.9s,baz=29,slow=5.7
BMRD Maredsous 79.68 337 *d*P P 14 04 10.6 +0.2
comp=Z,26nm,0.9s
RCHB Rochefort 79.68 337 *d*P P 14 04 10.5 +0.1
comp=Z,13nm,1.1s
STU Stuttgart 79.73 334 *e*P P 14 04 11.2 +0.5
comp=Z,79nm,0.7s,baz=29,slow=5.7
RDO Rodhopi 79.75 319 IAmb IAmb 14 04 13.1
comp=Z,27nm,1.0s
LESA Schwarzleotal 79.75 331 *i* P P 14 04 11.8 +0.9
comp=Z,33nm,0.6s,SNR=24
KBA Koelnbreinsper 79.81 330 *i* P P 14 04 12.2 +0.8
comp=Z,39nm,0.6s
OBKA Obir 79.87 329 *i* P P 14 04 11.9 +0.3
comp=Z,13nm,0.7s,SNR=6.0
DOU Dourbes 79.91 337 *d*P P 14 04 11.6 -0.1
comp=Z,8.3nm,0.8s
T35A Sooner Cattle 79.93 47 IAmb IAmb 14 04 13.7
comp=Z,14nm,0.9s
MYKA Terra Mystica 80.09 330 *i* P P 14 04 12.8 0.0
comp=Z,16nm,1.0s,SNR=8.8
P40A Paris 80.14 43 IAmb IAmb 14 04 14.6
comp=Z,21nm,1.1s
WATA Walderalm 80.20 331 *i* P P 14 04 14.2 +0.7
comp=Z,23nm,0.5s,SNR=16
ODSA Odessa 80.21 54 IAmb IAmb 14 04 15.8
comp=Z,16nm,0.9s
WTTA Wattenberg 80.25 331 *i* P P 14 04 14.6 +0.9
comp=Z,36nm,0.5s,SNR=20
RETA Reutte 80.34 332 *i* P P 14 04 14.9 +0.8
comp=Z,50nm,1.0s,SNR=9.1
MOTA Moosalm 80.35 332 *i* P P 14 04 15.0 +0.7
comp=Z,82nm,0.9s,SNR=26
BFO Black Forest 80.39 334 P P 14 04 14.0 -0.3
BFO IAmb IAmb 14 04 15.5
comp=Z,29nm,1.0s
BFO Black Forest 80.39 334 P P 14 04 14.0 -0.3
BFO pmax pmax
comp=Z,29nm,1.0s
BFO Black Forest 80.39 334 *e*P P 14 04 14.5 +0.2
comp=Z,24nm,0.9s,baz=29,slow=5.7
ABTA Abfaltersbach 80.39 331 *i* P P 14 04 14.5 +0.1
comp=Z,10nm,1.0s,SNR=5.3
SQTA Sankt Quirin 80.43 332 *i* P P 14 04 15.3 +0.6
comp=Z,64nm,1.0s,SNR=14
CEY Cerknica 80.57 329 *i* P P 14 04 15.2 -0.2
APMT Aspermont 80.69 52 IAmb IAmb 14 04 17.8
comp=Z,13nm,1.0s
STAL STALIGIAL 80.74 330 IAmb IAmb 14 04 16.3
comp=Z,17nm,0.9s
FETA Feichten 80.76 332 *i* P P 14 04 17.1 +0.6
comp=Z,34nm,1.2s,SNR=12
DAVA Damuels 80.81 332 *i* P P 14 04 17.3 +0.5
comp=Z,47nm,0.9s,SNR=5.2
ECH Echery 80.85 334 IAmb IAmb 14 04 17.9

comp=Z,34nm,1.1s
MMAI Mount Meron Ar 80.96 308 P P 14 04 19.5 +1.8
comp=Z,4.8nm,0.4s,baz=47,slow=6.3,SNR=23
MMAI LR LR 14 43 31.2
comp=Z,30nm,18.8s,baz=354,slow=38
comp=Z,4.8nm,0.4s
R40A Maddies Statio 81.00 44 IAmb IAmb 14 04 18.9
comp=Z,16nm,1.1s
SGCY Sterling City 81.17 53 IAmb IAmb 14 04 20.6
comp=Z,15nm,0.7s
CTI Castel Tesino 81.29 331 IAmb IAmb 14 04 19.5
comp=Z,14nm,0.8s
SADO Sadowa 81.37 32 LR LR 14 41 42.1
comp=Z,24nm,18.0s,baz=340,slow=36
PDG Podgorica 81.46 324 ⇑P P 14 04 20.2 +0.2
TX31 Lajitas Ar. Si 81.60 57 IAmb IAmb 14 04 23.4
comp=Z,10nm,0.9s
TXAR Lajitas Array 81.60 57 P P 14 04 22.1 +0.9
TXAR Lajitas Array 81.60 57 P P 14 04 22.4 +1.2
comp=Z,6.6nm,0.8s,baz=295,slow=3.9,SNR=86
TXAR pP pP 14 05 02.7 +1.2
comp=Z,4.4nm,0.8s,baz=296,slow=3.6,SNR=5.5
TXAR sP sP 14 05 19.0 +0.2
comp=Z,1.4nm,0.5s,baz=302,slow=4.1,SNR=2.8
comp=Z,6.6nm,0.8s
TUE Stuetta 81.70 332 P P 14 04 22.1 +0.6
RAYN Ar Rayn 81.78 295 ⇑P P 14 04 23.4 +1.3
RAYN Ar Rayn 81.78 295 *i* P P 14 04 23.3 +1.3
SNR=6.7
SENIN Lac Senin/Sane 82.46 334 P P 14 04 25.5 0.0
SENIN IAmb IAmb 14 04 26.3
comp=Z,12nm,0.7s
SIUC Southern Illin 82.93 42 IAmb IAmb 14 04 28.9
comp=Z,14nm,0.6s
FCAR Ozark Folk Cen 82.96 45 IAmb IAmb 14 04 29.0
comp=Z,51nm,1.9s
PBMO Poplar Bluff 83.09 43 IAmb IAmb 14 04 30.4
comp=Z,14nm,1.0s
MIAR Mount Ida 83.27 47 IAmb IAmb 14 04 31.5
comp=Z,10nm,0.9s
LCAR Lake Charles 83.30 44 IAmb IAmb 14 04 31.9
comp=Z,17nm,1.5s
DRIO Del Rio 83.32 55 IAmb IAmb 14 04 31.9
comp=Z,27nm,1.1s
WHAR Wooly Hollow 83.35 45 IAmb IAmb 14 04 31.4
comp=Z,23nm,1.2s
OSSC Osservatorio P 83.63 330 IAmb IAmb 14 04 32.3
comp=Z,35nm,1.3s
CAMP Campotosto 83.69 328 IAmb IAmb 14 04 33.3
comp=Z,25nm,1.1s
X40A Basin Creek Fa 83.70 46 IAmb IAmb 14 04 34.4
comp=Z,17nm,1.4s
BNI Bardonecchia 83.82 333 IAmb IAmb 14 04 34.2
comp=Z,12nm,0.9s
INTR Introdacqua 83.95 327 IAmb IAmb 14 04 36.6
comp=Z,7.7nm,0.6s
SSB Saint Sauveur 84.28 335 IAmb IAmb 14 04 35.9
comp=Z,11nm,0.7s
SSB Saint Sauveur 84.28 335 P P 14 04 35.2 +0.6
H62A Milan 84.30 27 IAmb IAmb 14 04 36.3
comp=Z,16nm,0.9s
T47A Sharon Grove 84.51 41 IAmb IAmb 14 04 37.6
comp=Z,21nm,1.1s
Q51A Peebles 84.52 37 IAmb IAmb 14 04 37.9
comp=Z,23nm,1.1s
IDI Anoyia 84.72 316 P P 14 04 36.1 -0.8
IDI IAmb IAmb 14 04 40.2
comp=Z,17nm,0.8s
WVT Waverly 84.86 42 P P 14 04 38.3 +0.7
TIP Timpagrande 85.22 324 ⇓P P 14 04 39.4 0.0
SSPA Standing Stone 85.39 33 P P 14 04 38.7 -1.4
Q56A Snyder Ridge, 86.24 35 IAmb IAmb 14 04 46.0
comp=Z,11nm,1.0s
SWET Sewanee 86.50 41 IAmb IAmb 14 04 47.0
comp=Z,26nm,1.2s
R55A Marlinton 86.51 36 IAmb IAmb 14 04 47.4
comp=Z,17nm,0.9s
W50A Signal Mountai 86.80 41 IAmb IAmb 14 04 48.7
comp=Z,12nm,1.0s
CPCT Cooper Cave 86.96 40 IAmb IAmb 14 04 49.5
comp=Z,14nm,1.0s
U54A Nelsons Funny 87.27 38 IAmb IAmb 14 04 51.1
comp=Z,14nm,1.0s
Y49A Blount Mountai 87.39 42 IAmb IAmb 14 04 51.3
comp=Z,12nm,1.0s
S57A Dark Hollow, R 87.43 35 IAmb IAmb 14 04 51.9
comp=Z,8.9nm,1.0s
V53A Saluda 87.55 39 IAmb IAmb 14 04 52.5
comp=Z,8.5nm,1.0s
T57A Hurt 87.96 36 IAmb IAmb 14 04 54.2
comp=Z,12nm,1.1s
V55A Taylorsville 88.10 38 IAmb IAmb 14 04 54.9
comp=Z,13nm,1.3s
Y52A Lilburn 88.48 41 IAmb IAmb 14 04 57.0
comp=Z,12nm,0.9s
KMSC Kings Mountain 88.65 38 IAmb IAmb 14 04 57.4
comp=Z,7.7nm,0.8s
PAULI Pauline 88.70 39 IAmb IAmb 14 04 57.7
comp=Z,9.3nm,0.8s
HODGE Hodges 89.00 39 IAmb IAmb 14 04 59.5
comp=Z,13nm,1.1s
V58A Windy Hill, Pi 89.05 36 IAmb IAmb 14 04 59.4
comp=Z,12nm,1.1s
GOGA Godfrey 89.14 41 IAmb IAmb 14 05 00.2
comp=Z,11nm,1.1s
W57A Gilead 89.22 37 IAmb IAmb 14 05 00.2
comp=Z,20nm,1.2s
JSC Jenkinsville 89.41 39 IAmb IAmb 14 05 01.1
comp=Z,9.4nm,1.0s
KEST Kesra 91.16 327 P P 14 05 07.0 -0.8
comp=Z,3.1nm,0.8s,baz=15,slow=5.0,SNR=4.8
comp=Z,3.1nm,0.8s
ESDC Sonseca Array 91.86 338 P P 14 05 10.3 -0.5
comp=Z,1.2nm,0.6s,baz=12,slow=4.1,SNR=6.1
ESDC LR LR 14 54 00.4
comp=Z,44nm,18.2s,baz=111,slow=40
comp=Z,1.2nm,0.6s
QSPA South Pole Qui 134.82 180 PKhKP PKPpre 14 11 08.3
comp=Z,0.8nm,0.9s,baz=0.0,slow=0.0,SNR=2.0
QSPA PKP **PKiKP** **14 11 21.5 +0.7**
comp=Z,1.9nm,1.1s,baz=243,slow=2.3,SNR=5.5
BDFB Brasilia 147.80 29 PKPbc **PKPbc** **14 11 48.0 +0.8**
comp=Z,5.5nm,0.7s,baz=32,slow=2.1,SNR=8.5
TROLL Troll, Antarti 148.38 200 ⇑P **PKiKP** **14 11 48.7 0.0**
comp=Z,133nm,0.5s
TROLL pPKPdf **pPKPbc** **14 12 29.2 -0.7**
SNAA Sanae 149.84 198 ⇑P **PKiKP** **14 11 52.8 +1.2**
comp=Z,32nm,1.0s
SNAA pPKPdf **pPKPbc** **14 12 32.2 -1.5**
SNAA Sanae 149.84 198 PKPbc **PKiKP** **14 11 51.3 -0.3**
comp=Z,1.9nm,0.8s,baz=23,slow=5.2,SNR=5.5
VNA3 Neumayer Olymp 151.56 195 ⇑P **PKiKP** **14 11 55.6 +0.5**
comp=Z,3.2nm,0.7s
VNA3 pPKPdf **pPKPbc** **14 12 37.1 -0.5**
VNA1 Neumayer--Stat 151.77 197 ⇑P **PKiKP** **14 11 55.4 -0.1**
comp=Z,1.8nm,0.7s
VNA1 pPKPdf **pPKPbc** **14 12 36.7 -1.5**
PLCA Paso Flores 151.84 95 PKPbc **PKiKP** **14 11 57.9 +1.2**
comp=Z,2.4nm,0.7s,baz=176,slow=1.9,SNR=4.6

DJA 01 14:09:21.4±0.7, 7°S±3°×10°4E±°, h11km±5km, M4.1/15, mb4.5/5, MLv4.0/15, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.11**	**10**	P	Pb	14 09 41.5	-1.1
KASI				S	Sg	14 09 57.4	+0.3
CGJI	**Cibinong**	**1.38**	**90**	P	Pn	14 09 45.4	-1.3
CGJI				S	Sb	14 10 05.0	0.0
BLSI	**Bandar Lampung**	**1.56**	**37**	P	Pn	14 09 49.1	0.0
BLSI				S	Sn	14 10 09.4	+0.1
LWLI	**Liwa**	**1.61**	**351**	P	Pb	14 09 50.7	-0.5
LWLI				S	Sn	14 10 10.9	+0.2
KLI	**Kotabumi**	**1.83**	**18**	P	Pn	14 09 53.1	+0.3
MDSI	**Maura Dua**	**2.12**	**357**	P	Pn	14 09 56.7	-0.2
MNAI	**Manna**	**2.61**	**329**	P	Pn	14 10 04.1	+0.5
MNAI				S	Sn	14 10 36.4	+1.0
LHSI	**Lahat**	**2.88**	**344**	P	Pn	14 10 07.2	-0.1
LHSI				S	Sn	14 10 42.9	+1.0
CNJI	**Cibinong**	**2.89**	**104**	P	Pn	14 10 07.7	+0.3
CNJI				S	Sn	14 10 43.0	+0.8
LEM	**Lembang**	**3.30**	**94**	P	Pn	14 10 13.2	0.0
KSI	**Kapahiang**	**3.40**	**330**	P	Pn	14 10 14.4	-0.1
PPSI	**Pulau Pagai**	**5.74**	**312**	P	Pn	14 10 45.3	-1.3
UGM	**Wanagama**	**6.31**	**102**	P	Pn	14 10 55.5	+1.1
	94nm,2.0s						

PCJI	**Pacitan**	**7.00**	**103**	P	Pn	14 11 03.4 -0.5

*KRNET **01** 14:12:12.7±0.1,39˚14N×73˚14E,mb3.2*
*SOME **01** 14:12:22.3,39˚58N×73˚45E,h5km*
ISC 01 14:12:12.7±2.9,39˚2N±0˚1×73˚22E±0˚06,h10km,n12,
σ1s90/24,8C-8D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
OHH	**Osh**	**1.39**	**346**	⇑*i*	P		**Pn**	**14 12 37.9**	**-0.3**
OHH				⇑*eS*			**Sn**	14 12 56.5	**-0.1**
SALK	**Salom-Alik**	**1.77**	**15**	⇓*i*	P		**Pn**	**14 12 43.7**	**+0.2**
SALK				⇓*i*	S		**Sn**	**14 13 06.1**	**0.0**
JNKS	**Jany-Kuch**	**2.65**	**44**	⇑*i*	P		**Pn**	**14 12 56.1**	**+0.4**
JNKS				⇑*i*	S		**Sn**	**14 13 27.9**	**-0.1**
UCH	**Uchtor**	**3.20**	**17**	⇓*i*	P		**Pn**	**14 13 03.8**	**+0.3**
UCH				⇓*i*	S		**Sn**	**14 13 41.1**	**-0.9**
EKS2	**Erkin-Say**	**3.51**	**7**	⇓*i*	P		**Pn**	**14 13 07.7**	**+0.3**
EKS2				⇓*i*	S		**Sn**	**14 13 47.9**	**-1.1**
MRKS	**Merke**	**3.57**	**0**	*eP*			**Pg**	**14 13 20.7**	**-0.3**
	3.4nm,0.2s								
MRKS				*eS*			**Sb**	**14 14 03.0**	**+3.8**
	15nm,0.4s								
AAK	**Ala-Archa**	**3.59**	**15**	⇑*eP*			**Pn**	**14 13 08.9**	**+0.3**
AAK				⇑*i*S			**Sn**	**14 13 50.2**	**-0.9**
KBK	**Karagaybulak**	**3.72**	**20**	⇓*i*	P		**Pn**	**14 13 10.9**	**+0.6**
KBK				⇓*i*S			**Sn**	**14 13 53.2**	**-1.0**
ULHL	**Ulahol**	**3.83**	**36**	⇑*i*	P		**Pn**	**14 13 12.4**	**+0.5**
ULHL				⇑*i*S			**Sn**	**14 13 56.0**	**-1.1**
KST	**Kastek**	**4.38**	**27**	*eP*			**Pg**	**14 13 35.5**	**-1.1**
	0.9nm,0.2s								
KST				*eS*			**Sb**	**14 14 28.5**	**+5.6**
	8.6nm,0.6s								
BRLS	**Borolday**	**4.62**	**328**	*eP*			**Pg**	**14 13 41.3**	**+0.1**
	1.1nm,0.3s								
BRLS				*eS*			**Sg**	**14 14 38.3**	**-2.7**
	1.8nm,0.3s								
TNSS	**Tian-Shan**	**4.78**	**35**	*eP*			**Pg**	**14 13 43.7**	**-0.4**
	0.1nm,0.0s								
TNSS				*eS*			**Sg**	**14 14 42.1**	**-3.9**
	1.0nm,0.4s								

*TEH **01** 14:40:21.5,36˚32N×45˚57E,h10km±49km*
*ISN **01** 14:40:24.1±1.6,36˚25N×45˚51E,h10km,ML2.7*
ISC 01 14:40:21.0±1.0,36˚29N±0˚04×45˚56E±0˚06,h10km,n11,
σ0s83/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
MAHB	**Mahabad**	**0.49**	**13**	Pg			**Pg**	**14 40 30.3**	**-0.4**
MAHB				Sg			**Sb**	**14 40 38.0**	**-1.2**
IKRK	**Kirkuk**	**1.33**	**229**	*e*Pg			**Pn**	**14 40 46.0**	**+0.3**
	baz=48								
IKRK				*e*Sg			**Sg**	**14 41 05.0**	**+1.1**
IKRK				AML		AML	AML	14 41 06.0	
	comp=E,164nm,0.7s								
IKRK				AML		AML	AML	14 41 09.4	
	comp=N,172nm,0.6s								
IAZR	**Azarshahr**	**1.43**	**13**	Pg			**Pb**	**14 40 47.9**	**-0.1**
IAZR				Sg			**Sg**	**14 41 08.6**	**+1.5**
IHSH	**Hashtrud**	**1.70**	**53**	Pg			**Pb**	**14 40 52.2**	**-0.4**
IDHR	**Dehrash**	**1.72**	**157**	Pg			**Pn**	**14 40 51.0**	**-0.3**
ISHB	**Shabestar**	**1.99**	**1**	Pn			**Pb**	**14 40 56.7**	**-0.8**
ITBZ	**Tabriz**	**2.00**	**13**	Pn			**Pb**	**14 40 58.0**	**+0.4**
GLG1	**Gilan-e-Gharb**	**2.19**	**172**	Pn			**Pb**	**14 41 00.2**	**-0.6**
SNQR	**Sonqor, Kerman**	**2.21**	**130**	Pn			**Pb**	**14 41 01.1**	**-0.1**
IHRS	**Heris**	**2.35**	**30**	Pn			**Pb**	**14 41 04.2**	**+0.6**
HGHA	**Hamedan- Ghaye**	**2.79**	**106**	Pn			**Pb**	**14 41 11.7**	**+0.5**

*IDC **01** 14:41:29.3±4.9,6˚31S×130˚24E,h195km±46km,mb3.1/1,*
mbtmp3.8/4,Error ellipse: s-maj=78.1km s-min=20.1km
az=72.0
ISC 01 14:41:22.8±1.1,6˚22S±0˚09×130˚2E±0˚1,h146km,n11,
σ3s63/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
SANI	**Sanana**	**5.90**	**314**	P			**Pn**	**14 42 44.9**	**-3.2**
DRS	**Darwin Rock St**	**6.21**	**174**	P			**Pn**	**14 42 56.5**	**+4.2**
MTN	**Manton Dam**	**6.65**	**172**	P			**Pn**	**14 43 01.9**	**+3.8**
KDU	**Kakadu**	**6.81**	**161**	P			**Pn**	**14 43 01.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**12.62**	**200**	P			**Pn**	**14 44 21.4**	**+4.1**
	1.6nm,0.3s,baz=23,slow=9.6,SNR=20								
FITZ				S			**Sn**	**14 46 32.8**	**-4.0**
	0.8nm,0.5s,baz=135,slow=19,SNR=1.4								
WRA	**Warramunga Arr**	**14.22**	**164**	P			**Pn**	**14 44 39.6**	**+1.9**
	0.4nm,0.2s,baz=344,slow=13,SNR=14								
WRA				S			**Sn**	**14 47 10.3**	**-5.1**
	1.2nm,0.6s,baz=344,slow=21,SNR=5.4								
COEN	**Coen**	**14.90**	**122**	P			**Pn**	**14 44 44.7**	**-1.6**
QIS	**Mount Isa**	**16.93**	**148**	P			**Pn**	**14 45 13.8**	**+2.7**
ASAR	**Alice Springs**	**17.71**	**169**	P			**Pn**	**14 45 23.3**	**+2.8**
	1.4nm,0.6s,baz=349,slow=9.5,SNR=41								
ASAR				S			**S**	**14 48 34.2**	**-1.7**
	0.3nm,0.4s,baz=354,slow=25,SNR=4.5								
AS01	**Alice Springs**	**17.72**	**169**	P			**Pn**	**14 45 24.5**	**+3.9**
MKAR	**Makanchi Array**	**67.69**	**327**	P			**P**	**14 52 06.0**	**+1.8**
	0.3nm,0.4s,baz=118,slow=7.6,SNR=4.9								
	0.3nm,0.4s								

*IDC **01** 15:01:29.5±0.9,17˚93S×174˚68W,h0km,mb4.2/8,*
mbtmp4.2/10,ML3.3/2,Error ellipse: s-maj=29.7km
s-min=20.6km az=152.0
*NEIC **01** 15:01:39.2±1.2,17˚97S±0˚10×174˚66W±0˚09,h77km±9km,*
mb4.5/15,Error ellipse: s-maj=14.7km s-min=12.1km
az=152.0
ISC 01 15:01:40.1±0.6,18˚05S±0˚08×174˚59W±0˚07,h100km,
n35,σ2s27/34,mb4.3/16,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
NIUE	**Niue**	**4.54**	**104**				**Pn**	**15 02 46.4**	**-0.2**
AFI	**Afiamalu**	**4.92**	**34**				**Pn**	**15 02 51.4**	**-0.5**
AFI	**Afiamalu**	**4.92**	**34**				**Sn**	**15 03 43.7**	**-4.1**
MSVF	**Nonsavu**	**7.01**	**271**	Pn			**Pn**	**15 03 18.3**	**-2.0**
RAR	**Rarotonga**	**14.31**	**105**	Pn			**Pn**	**15 04 55.3**	**-2.8**
	1.1nm,0.3s,baz=281,slow=16,SNR=1.9								
	6.8nm,0.6s								
DZM	**Mont Dzumac**	**18.26**	**254**	P			**P**	**15 05 44.8**	**-1.2**
	0.1nm,0.3s,baz=280,slow=20,SNR=1.5								
	3.9nm,0.8s								
URZ	**Urewera**	**21.41**	**198**	P			**P**	**15 06 20.4**	**+0.6**
	13nm,0.5s,baz=11,slow=2.8,SNR=22								
URZ				S			**S**	**15 10 03.9**	**-7.8**
	9.7nm,1.1s,baz=52,slow=18,SNR=1.5								
	13nm,0.5s								
RTZ	**Ruatahuna**	**21.77**	**198**				**P**	**15 06 21.2**	**-2.6**
RTZ						IAmb	IAmb	15 06 48.9	
	comp=Z,42nm,1.3s								
MRZ	**Mangatainoka R**	**24.07**	**199**	P			**P**	**15 06 44.9**	**-1.3**
TUWZ	**Tuamarina**	**25.29**	**200**	P			**P**	**15 06 57.3**	**+0.1**
INZ	**Inchbonnie**	**27.31**	**203**	P			**P**	**15 07 13.2**	**-2.2**
ARMA	**Armidale**	**33.05**	**242**	P			**P**	**15 08 06.3**	**0.0**
ARMA						IAmb	IAmb	15 08 27.7	
	comp=Z,15nm,1.2s								
STKA	**Stephens Creek**	**41.76**	**242**	P			**P**	**15 09 20.9**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=96,slow=11,SNR=3.9								
	comp=Z,2.0nm,0.7s								
BBOO	**Buckleboo**	**46.53**	**242**	P			**P**	**15 09 58.4**	**+0.6**
BBOO						IAmb	IAmb	15 10 20.5	
	comp=Z,17nm,1.4s								
WR8	**Warramunga Arr**	**48.02**	**259**	P			**P**	**15 10 10.0**	**+0.4**
WR8						IAmb	IAmb	15 10 20.6	
	comp=Z,11nm,1.4s								
WB0	**Warramunga Arr**	**48.15**	**259**	P			**P**	**15 10 11.3**	**+0.7**
WB0						IAmb	IAmb	15 10 12.0	
	comp=Z,4.6nm,1.0s								
WRA	**Warramunga Arr**	**48.18**	**259**	P			**P**	**15 10 11.6**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=96,slow=6.9,SNR=14								
	comp=Z,1.1nm,0.3s								
AS31	**Alice Springs**	**48.25**	**254**				**P**	**15 10 10.9**	**-0.4**
AS31						IAmb	IAmb	15 10 13.6	
	comp=Z,4.1nm,0.8s								
ASAR	**Alice Springs**	**48.25**	**254**				**P**	**15 10 10.9**	**-0.4**
ASAR	**Alice Springs**	**48.25**	**254**	P			**P**	**15 10 12.0**	**+0.7**
	comp=Z,15nm,0.7s,baz=91,slow=8.4,SNR=172								
ASAR				PcP			**PcP**	**15 11 37.3**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=90,slow=3.9,SNR=1.5								
	comp=Z,15nm,0.7s								
FORT	**Forrest**	**53.23**	**245**	P			**P**	**15 10 48.4**	**-0.2**
FORT						IAmb	IAmb	15 10 50.1	
	comp=Z,5.5nm,0.9s								
KNRA	**Kununurra**	**54.09**	**263**	P			**P**	**15 10 55.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**56.59**	**260**	P			**P**	**15 11 13.1**	**+0.2**
SBA	**Scott Base**	**60.53**	**184**	P			**P**	**15 11 42.6**	**+3.3**
SBA						IAmb	IAmb	15 11 43.3	
	comp=Z,2.0nm,0.8s								
VNDA	**Vanda**	**60.64**	**186**	P			**P**	**15 11 42.8**	**+2.7**
VNDA	**Vanda**	**60.64**	**186**	P			**P**	**15 11 42.2**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=12,slow=6.1,SNR=6.8								
	comp=Z,1.0nm,0.8s								
QSPA	**South Pole Qui**	**72.01**	**180**	P			**P**	**15 12 55.1**	**+2.2**
QSPA						IAmb	IAmb	15 12 56.7	
	comp=Z,2.9nm,0.7s								
QSPA	**South Pole Qui**	**72.01**	**180**	P			**P**	**15 12 55.7**	**+2.7**
	comp=Z,2.8nm,0.7s,baz=34,slow=2.0,SNR=27								
	comp=Z,2.8nm,0.7s								
NVAR	**Mina Array Bea**	**77.05**	**42**	P			**P**	**15 13 23.2**	**+0.6**
NVAR	**Mina Array Bea**	**77.05**	**42**	P			**P**	**15 13 24.5**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=230,slow=8.3,SNR=5.9								
	comp=Z,0.9nm,0.8s								
GMN	**Gold Mountain**	**77.07**	**44**	P			**P**	**15 13 23.7**	**+0.9**
TXAR	**Lajitas Array**	**83.03**	**56**	P			**P**	**15 13 58.3**	**+3.4**
	comp=Z,0.5nm,0.7s,baz=211,slow=7.1,SNR=4.4								
	comp=Z,0.5nm,0.7s								
H03S2	**Juan Fernandez**	**84.69**	**124**	T			**T**	16 47 08.9	
	baz=249,slow=75,SNR=6.5								
H03S1	**Juan Fernandez**	**84.71**	**124**	T			**T**	16 47 01.4	
	baz=249,slow=75,SNR=6.4								
H03S3	**Juan Fernandez**	**84.71**	**124**	T			**T**	16 46 54.9	
	baz=249,slow=75,SNR=4.9								

SDD 01 15:17:44.4±1.7,19˚77N×67˚88W,h180km±36km,MD3.3,
ML3.3,MW3.5,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
AGPR	**Aguadilla, PR**	**1.49**	**150**	*e*Pg			Pn	15 18 14.3	-2.0
AGPR				*e*Sg			Sn	15 18 36.7	-4.2
AOPR	**Arecibo Observ**	**1.77**	**143**	*e*Pg			Pn	15 18 18.7	-0.5
AOPR				*e*Sg			Sn	15 18 42.9	-3.2
AOPR				IAML				15 18 47.7	
	comp=N,199nm,2.9s								
CRPR	**Cabo Rojo, PR**	**1.90**	**157**	*e*Pg			Pn	15 18 19.4	-1.0
CRPR				IAML				15 18 46.4	
	comp=N,49nm,0.3s								
MLPR	**Magueyes Islan**	**1.96**	**156**	*e*Sg			Sn	15 18 45.0	-4.5
CELP	**Cerrillos**	**2.09**	**144**	*e*Pg			Pn	15 18 20.4	-2.1
CELP				IAML				15 18 30.8	
	comp=N,82nm,0.4s								
DR08	**Loma La Naviza**	**2.17**	**249**	*e*Pg			Pn	15 18 21.0	-2.4
DR08				*e*Sg			Sn	15 18 50.5	-3.2
DR08				IAML				15 18 56.5	
	comp=N,348nm,0.7s								

*OSPL **01** 15:18:16.6±0.6,17˚77N×66˚18W,h22km±10km,ML2.1*
RSPR 01 15:18:17.9,17˚88N×66˚31W,h11km,MD2.4/8,6C-5D,
Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
IGPR	**InterUniversit**	**0.21**	**65**	⇓*i*	P		Pg	15 18 22.5	+0.2
IGPR	**InterUniversit**	**0.21**	**65**	*eS*			Sg	15 18 26.1	+0.7
SJG	**San Juan**	**0.28**	**33**	⇓*eP*			Pg	15 18 23.8	+0.2
SJG	**San Juan**	**0.28**	**33**	*i* P			Pg	15 18 23.8	+0.2
SJG				*eS*			Sg	15 18 28.4	+1.0
SJG				IAML				15 18 29.6	
	comp=Z,83nm,0.3s								
SJG	**San Juan**	**0.28**	**33**	*e*Pg			Pg	15 18 24.0	+0.4
PDPR	**Patillas Dam,**	**0.31**	**63**	⇓*i*P			Pg	15 18 24.0	-0.1
PDPR	**Patillas Dam,**	**0.31**	**63**	*eS*			Sg	15 18 29.1	+0.8
CELP	**Cerrillos**	**0.33**	**307**	⇑*i*P			Pg	15 18 24.4	-0.1
CELP	**Cerrillos**	**0.33**	**307**	*eS*			Sg	15 18 29.3	+0.5
OBIP	**Obispado Ponce**	**0.33**	**300**	⇑*i*P			Pg	15 18 24.4	-0.2
ECPR	**Experimental S**	**0.44**	**353**	⇑*eP*			Pg	15 18 26.9	+0.3
ECPR	**Experimental S**	**0.44**	**353**	*eS*			Sg	15 18 32.9	+0.4
GCPR	**Guaynabo City**	**0.48**	**26**	⇑*eP*			Pg	15 18 26.6	-0.7
GCPR	**Guaynabo City**	**0.48**	**26**	*eS*			Sg	15 18 34.5	+0.8
HUMP	**Col San Antoni**	**0.51**	**59**	⇓*i*P			Pg	15 18 27.5	-0.4
HUMP	**Col San Antoni**	**0.51**	**59**	*eS*			Sg	15 18 34.8	+0.2
UUPR	**Utuado, UPR, P**	**0.54**	**314**	⇓*eP*			Pg	15 18 28.1	-0.4
UUPR	**Utuado, UPR, P**	**0.54**	**314**	*eS*			Sg	15 18 35.5	-0.2
AOPR	**Arecibo Observ**	**0.63**	**318**	⇓*eP*			Pg	15 18 29.6	-0.6
AOPR	**Arecibo Observ**	**0.63**	**318**	*eS*			Sg	15 18 38.7	+0.2
CRPR	**Cabo Rojo, PR**	**0.77**	**280**	⇓*eP*			Pg	15 18 32.0	-0.8
CRPR	**Cabo Rojo, PR**	**0.77**	**280**	*eS*			Sg	15 18 42.5	-0.6
CRPR	**Cabo Rojo, PR**	**0.77**	**280**	*i* P			Pg	15 18 32.2	-0.6
CRPR				*eS*			Sb	15 18 44.6	+0.6
CRPR				IAML				15 18 50.8	
	comp=Z,55nm,2.4s								
CRPR	**Cabo Rojo, PR**	**0.77**	**280**	*e*Sg			Sb	15 18 44.9	+1.0
LSP	**Las Mesas**	**0.80**	**292**	⇑*eP*			Pg	15 18 32.4	-0.9
AGPR	**Aguadilla, PR**	**0.96**	**308**	*i* P			Pg	15 18 35.5	-1.0
AGPR				IAML				15 18 55.5	
	comp=Z,68nm,1.1s								
IDE	**Isla Desecheo**	**1.22**	**295**	⇑*eP*			Pn	15 18 39.5	-1.5
IDE	**Isla Desecheo**	**1.22**	**295**	*eS*			Sb	15 18 54.7	-2.1

*IDC **01** 15:21:47.0±3.9,22˚10S×179˚47W,h534km±40km,mb3.3/9,*
mbtmp4.2/11,Error ellipse: s-maj=27.7km s-min=17.7km
az=77.0
*NEIC **01** 15:21:49.1±1.3,22˚2S±0˚1×179˚4W±0˚1,h561km±7km,*
mb4.3/54,Error ellipse: s-maj=16.8km s-min=14.3km
az=158.0
ISC 01 15:21:50.2±0.5,22˚30S±0˚08×179˚53W±0˚08,h579km,
n108,σ1s29/88,mb4.2/32,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
MSVF	**Nonsavu**	**5.08**	**333**	P			**P**	**15 23 22.4**	**-0.3**
NIUE	**Niue**	**9.54**	**72**	P			P	15 24 00.1	-4.0
AFI	**Afiamalu**	**11.13**	**43**	P			**P**	**15 24 16.8**	**-3.5**
PINNC	**Pines Island,**	**12.05**	**266**	P			**P**	**15 24 28.5**	**-0.9**
DZM	**Mont Dzumac**	**13.00**	**268**	P			**P**	**15 24 38.9**	**-0.4**
DZM	**Mont Dzumac**	**13.00**	**268**	P			**P**	**15 24 36.2**	**-3.0**
	11nm,1.1s,baz=82,slow=20,SNR=7.6								
URZ	**Urewera**	**16.17**	**190**	P			**P**	**15 25 08.5**	**-1.4**
	8.9nm,0.9s,baz=267,slow=3.9,SNR=13								
URZ				S			**S**	**15 27 46.4**	**-6.2**
	3.5nm,0.6s,baz=101,slow=20,SNR=6.1								
RTZ	**Ruatahuna**	**16.54**	**190**	P			**P**	**15 25 11.0**	**-2.4**
MRZ	**Mangatainoka R**	**18.77**	**192**	P			**P**	**15 25 32.4**	**-1.1**
LTZ	**Lake Taylor**	**21.54**	**197**	P			**P**	**15 25 59.0**	**+0.3**
ARMA	**Armidale**	**27.02**	**247**	P			**P**	**15 26 49.4**	**+2.0**
ARMA						IAmb	IAmb	15 26 52.4	
	comp=Z,7.0nm,1.1s								
CTAO	**Charters Tower**	**31.94**	**268**	P			**P**	**15 27 30.2**	**+0.4**
TOO	**Toolangi**	**33.70**	**235**	P			**P**	**15 27 45.9**	**+1.5**
TOO						IAmb	IAmb	15 28 06.9	
	comp=Z,7.8nm,1.3s								
STKA	**Stephens Creek**	**35.74**	**246**	P			**P**	**15 28 02.3**	**+0.8**
STKA						IAmb	IAmb	15 28 36.5	
	comp=Z,2.2nm,0.3s								
STKA	**Stephens Creek**	**35.74**	**246**	P			**P**	**15 28 01.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=96,slow=9.2,SNR=2.0								
	comp=Z,0.6nm,0.4s								
INKA	**Innaminka**	**36.29**	**253**	P			**P**	**15 28 06.6**	**+0.5**
COEN	**Coen**	**36.32**	**277**	P			**P**	**15 28 05.0**	**-1.5**
TAOE	**Nuku Hiva Isla**	**40.09**	**77**	P			**P**	**15 28 38.9**	**+1.9**
BBOO	**Buckleboo**	**40.49**	**245**	P			**P**	**15 28 40.5**	**+0.6**
BBOO						IAmb	IAmb	15 29 10.9	
	comp=Z,23nm,1.4s								
AS31	**Alice Springs**	**42.74**	**259**	P			**P**	**15 28 58.1**	**+0.2**
ASAR	**Alice Springs**	**42.74**	**259**	P			**P**	**15 28 57.7**	**-0.1**
ASAR	**Alice Springs**	**42.74**	**259**	P			**P**	**15 28 58.2**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=89,slow=7.2,SNR=62								
ASAR				PcP			**PcP**	**15 30 36.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=110,slow=4.2,SNR=10								
ASAR				S			**S**	**15 34 38.9**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=97,slow=16,SNR=6.8								
	comp=Z,1.1nm,0.3s								
WR8	**Warramunga Arr**	**42.82**	**264**	P			**P**	**15 28 58.2**	**-0.2**
WR8						IAmb	IAmb	15 29 14.1	
	comp=Z,16nm,1.5s								
WB0	**Warramunga Arr**	**42.96**	**265**	P			**P**	**15 28 59.0**	**-0.5**
WB0						IAmb	IAmb	15 29 09.7	
	comp=Z,8.2nm,1.3s								
WRA	**Warramunga Arr**	**42.97**	**264**	P			**P**	**15 28 59.4**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.9,SNR=43								
WRA				PcP			**PcP**	**15 30 36.8**	**0.0**
	comp=Z,1.7nm,0.9s,baz=104,slow=3.2,SNR=4.6								
	comp=Z,1.5nm,0.5s								
FORT	**Forrest**	**47.29**	**248**	P			**P**	**15 29 32.5**	**+0.1**
FORT						IAmb	IAmb	15 30 08.2	
	comp=Z,7.9nm,1.1s								
KNRA	**Kununurra**	**49.15**	**268**	P			**P**	**15 29 46.7**	**+0.3**
KNRA						IAmb	IAmb	15 29 47.4	
	comp=Z,5.6nm,0.7s								
FITZ	**Fitzroy Crossi**	**51.40**	**264**	P			**P**	**15 30 03.4**	**+0.6**
PSA00	**Pilbara Seismi**	**55.89**	**258**	P			**P**	**15 30 34.6**	**+0.2**
PSA00	**Pilbara Seismi**	**55.89**	**258**	P			**P**	**15 30 34.6**	**+0.2**
PSA00						IAmb	IAmb	15 30 44.6	
	comp=Z,7.2nm,1.0s								
VNDA	**Vanda**	**56.00**	**185**	P			**P**	**15 30 35.4**	**+1.1**
MBWA	**Marble Bar**	**56.09**	**259**	P			**P**	**15 30 35.4**	**-0.4**
MORW	**Morawa**	**57.84**	**249**	P			**P**	**15 30 48.0**	**+0.4**
MORW						IAmb	IAmb	15 31 30.3	
	comp=Z,14nm,1.2s								
CASY	**Casey**	**61.73**	**206**	P			**P**	**15 31 13.9**	**+1.1**
TOLI2	**Tolitoli**	**62.61**	**284**	P			**P**	**15 31 19.2**	**-0.1**
VA02	**Isla de Pascua**	**63.12**	**110**	P			**P**	**15 31 21.4**	**-1.0**
JAGI	**Jajag, Banyuwa**	**64.96**	**271**	P			**P**	**15 31 33.7**	**-0.6**
JHJ2	**Mitsune**	**67.38**	**324**	P			**P**	**15 31 49.3**	**+0.5**
QSPA	**South Pole Qui**	**67.78**	**180**	P			**P**	**15 31 53.5**	**+2.5**
QSPA	**South Pole Qui**	**67.78**	**180**	P			**P**	**15 31 53.4**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=212,slow=1.3,SNR=18								
	comp=Z,1.9nm,0.8s								
UGM	**Wanagama**	**68.52**	**270**	P			**P**	**15 31 56.5**	**+0.3**
KKM	**Kota Kinabalu**	**68.86**	**286**	P			**P**	**15 31 58.6**	**+0.3**
MJAR	**Matsushiro Arr**	**70.83**	**325**	P			**P**	**15 32 09.3**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=161,slow=6.0,SNR=6.4								
	comp=Z,2.3nm,0.7s								
NACB	**Ninganchiao**	**73.53**	**305**	P			**P**	**15 32 24.9**	**-0.3**
TPUB	**Ta-pu**	**73.78**	**304**	P			**P**	**15 32 26.1**	**-0.6**
SSLB	**Suanglung**	**73.80**	**305**	P			**P**	**15 32 26.3**	**-0.5**
SSLB						IAmb	IAmb	15 32 26.7	
	comp=Z,9.6nm,0.6s								
KIWB	**Kanaga Island**	**73.86**	**2**	P			**P**	**15 32 26.3**	**-0.2**
ADK	**Adak**	**73.90**	**2**	P			**P**	**15 32 26.2**	**-0.4**
JKA	**Kamikawa-asahi**	**74.64**	**333**	P			**P**	**15 32 33.2**	**+2.2**
JKA						IAmb	IAmb	15 32 45.0	
	comp=Z,12nm,1.2s								
NIKH	**Nikolski High**	**75.53**	**7**	P			**P**	**15 32 34.9**	**-0.8**
KSRS	**Korea Array**	**77.31**	**320**	P			**P**	**15 32 46.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=137,slow=7.2,SNR=5.3								
	comp=Z,0.6nm,0.6s								
PEA0B	**Petropavlovsk-**	**77.65**	**346**	P			**P**	**15 32 47.5**	**+0.2**
PEA0B						IAmb	IAmb	15 33 19.1	
	comp=Z,24nm,1.4s								
PETK	**Petropavlovsk-**	**77.65**	**346**	P			**P**	**15 32 47.1**	**-0.3**
PETK	**Petropavlovsk-**	**77.65**	**346**	P			**P**	**15 32 47.6**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=120,slow=6.6,SNR=13								
	comp=Z,3.5nm,0.7s								
PLK4	**Peulik 4**	**81.95**	**12**	P			**P**	**15 33 09.6**	**-0.3**
N14K	**Kuskokwak Cree**	**83.22**	**9**	P			**P**	**15 33 16.4**	**+0.4**
N14K						IAmb	IAmb	15 33 19.3	
	comp=Z,17nm,1.3s								
O16K	**Kokwok River B**	**83.47**	**11**	P			**P**	**15 33 16.8**	**-0.5**
O16K						IAmb	IAmb	15 33 54.4	
	comp=Z,11nm,1.4s								
N15K	**Kwethluk River**	**83.69**	**10**	P			**P**	**15 33 19.7**	**+1.3**
N15K						IAmb	IAmb	15 33 20.3	
	comp=Z,8.8nm,0.8s								
O18K	**Koktuh Hills**	**84.25**	**12**	P			**P**	**15 33

IGPR	**InterUniversit**	**0.23**	**55**			**Pb**	**15 37 32.5**	**-0.2**
IGPR						**Sb**	**15 37 36.3**	**-0.5**
IGPR	**InterUniversit**	**0.23**	**55**	⇑	*eP*	**Pb**	**15 37 32.5**	**-0.2**
IGPR	**InterUniversit**	**0.23**	**55**		*eS*	**Sb**	**15 37 36.3**	**-0.5**
SJG	**San Juan**	**0.32**	**28**			**Pb**	**15 37 33.7**	**+0.1**
SJG	**San Juan**	**0.32**	**28**		Sg	**Sb**	**15 37 38.5**	**+0.2**
SJG					IAML		15 37 39.6	
	1µm,0.1s							
SJG					IAML		15 37 40.1	
	2µm,0.2s							
SJG	**San Juan**	**0.32**	**28**	⇑	*eP*	**Pb**	**15 37 33.7**	**+0.1**
SJG	**San Juan**	**0.32**	**28**		*i P*	**Pb**	**15 37 33.8**	**+0.1**
SJG					*eS*	**Sb**	**15 37 38.6**	**+0.3**
SJG					IAML		15 37 39.4	
	comp=Z,889nm,0.4s							
SJG	**San Juan**	**0.32**	**28**		*eP*g	**Pb**	**15 37 33.9**	**+0.3**
SJG					*eS*g	**Sb**	**15 37 38.8**	**+0.5**
PDPR	**Patillas Dam,**	**0.33**	**55**			**Pb**	**15 37 33.9**	**+0.2**
PDPR					Sg	**Sb**	**15 37 38.8**	**+0.2**
PDPR	**Patillas Dam,**	**0.33**	**55**	⇓	*iP*	**Pb**	**15 37 34.0**	**+0.2**
PDPR	**Patillas Dam,**	**0.33**	**55**		*eS*	**Sb**	**15 37 39.0**	**+0.4**
CELP	**Cerrillos**	**0.35**	**313**			**Pb**	**15 37 34.3**	**+0.2**
CELP						**Sb**	**15 37 39.4**	**+0.1**
CELP					IAML		15 37 40.9	
	comp=N,1µm,0.3s							
CELP	**Cerrillos**	**0.35**	**313**	⇑	*iP*	**Pb**	**15 37 34.4**	**+0.2**
CELP	**Cerrillos**	**0.35**	**313**		*eS*	**Sb**	**15 37 39.6**	**+0.3**
CELP	**Cerrillos**	**0.35**	**313**		*eP*g	**Pb**	**15 37 34.5**	**+0.3**
CELP					*eS*g	**Sb**	**15 37 39.9**	**+0.5**
CELP					IAML		15 37 40.8	
	comp=N,1µm,0.5s							
OBIP	**Obispado Ponce**	**0.35**	**306**			**Pb**	**15 37 34.3**	**+0.2**
OBIP					IAML		15 37 40.0	
	comp=E,1µm,0.4s							
OBIP	**Obispado Ponce**	**0.35**	**306**			**Sb**	**15 37 39.8**	**+0.5**
OBIP	**Obispado Ponce**	**0.35**	**306**	⇑	*iP*	**Sb**	**15 37 34.4**	**+0.2**
OBIP	**Obispado Ponce**	**0.35**	**306**		*eS*	**Sb**	**15 37 39.8**	**+0.5**
ECPR	**Experimental S**	**0.49**	**354**		*eP*	**Sb**	**15 37 36.7**	**+0.2**
ECPR	**Experimental S**	**0.49**	**354**		*eS*	**Sb**	**15 37 43.2**	**0.0**
GCPR	**Guaynabo City**	**0.52**	**24**			**Pb**	**15 37 37.2**	**+0.1**
GCPR						**Sb**	**15 37 44.3**	**+0.1**
GCPR	**Guaynabo City**	**0.52**	**24**	⇑	*eP*	**Pb**	**15 37 37.2**	**+0.1**
GCPR	**Guaynabo City**	**0.52**	**24**		*eS*	**Sb**	**15 37 44.6**	**+0.4**
HUMP	**Col San Antoni**	**0.53**	**55**			**Pb**	**15 37 37.4**	**+0.1**
HUMP					IAML		15 37 46.6	
	comp=E,937nm,0.3s							
HUMP	**Col San Antoni**	**0.53**	**55**			**Sb**	**15 37 44.8**	**+0.2**
HUMP	**Col San Antoni**	**0.53**	**55**	⇓	*iP*	**Pb**	**15 37 37.4**	**+0.1**
HUMP	**Col San Antoni**	**0.53**	**55**		*eS*	**Sb**	**15 37 44.8**	**+0.2**
UUPR	**Utuado, UPR, P**	**0.57**	**317**			**Pb**	**15 37 38.0**	**-0.1**
UUPR						**Sb**	**15 37 45.4**	**-0.5**
UUPR	**Utuado, UPR, P**	**0.57**	**317**	⇑	*eP*	**Pb**	**15 37 38.0**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.57**	**317**		*eS*	**Sb**	**15 37 46.0**	**0.0**
AOPR	**Arecibo Observ**	**0.67**	**320**			**Pb**	**15 37 39.5**	**-0.2**
AOPR						**Sb**	**15 37 48.4**	**-0.1**
AOPR					IAML		15 37 50.5	
	comp=N,2µm,0.4s							
AOPR	**Arecibo Observ**	**0.67**	**320**	⇑	*eP*	**Sb**	**15 37 39.6**	**0.0**
AOPR	**Arecibo Observ**	**0.67**	**320**		*eS*	**Sb**	**15 37 48.7**	**+0.2**
AOPR	**Arecibo Observ**	**0.67**	**320**		*eP*g	**Sb**	**15 37 39.7**	**0.0**
AOPR					*eS*g	**Sb**	**15 37 48.7**	**+0.2**
AOPR					IAML		15 37 50.4	
	comp=N,2µm,0.4s							
EMPR	**Esperanza - Ma**	**0.68**	**342**			**Pb**	**15 37 40.1**	**+0.4**
EMPR						**Sb**	**15 37 49.1**	**+0.4**
EMPR					IAML		15 37 53.1	
	comp=E,2µm,0.7s							
EMPR					IAML		15 37 55.4	
	comp=N,1µm,0.5s							
EMPR	**Esperanza - Ma**	**0.68**	**342**	⇑	*eP*	**Pb**	**15 37 40.2**	**+0.4**
EMPR	**Esperanza - Ma**	**0.68**	**342**		*eS*	**Sn**	**15 37 49.8**	**-1.1**
MLPR	**Magueyes Islan**	**0.72**	**281**	⇑	*eP*	**Pb**	**15 37 40.9**	**+0.5**
MLPR	**Magueyes Islan**	**0.72**	**281**		*eS*	**Sn**	**15 37 51.2**	**-0.7**
MLPR	**Magueyes Islan**	**0.72**	**281**		*eP*g	**Pn**	**15 37 41.1**	**-0.4**
MLPR					*eS*g	**Sn**	**15 37 52.3**	**+0.4**
MLPR					IAML		15 37 55.4	
	comp=N,301nm,0.3s							
CRPR	**Cabo Rojo, PR**	**0.79**	**283**			**Sn**	**15 37 52.9**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.79**	**283**			**Pb**	**15 37 41.8**	**+0.2**
CRPR					IAML		15 37 56.5	
	comp=N,596nm,0.3s							
CRPR					IAML		15 37 57.0	
	comp=E,444nm,0.4s							
CRPR	**Cabo Rojo, PR**	**0.79**	**283**	⇑	*eP*	**Pb**	**15 37 42.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.79**	**283**		*eS*	**Sn**	**15 37 52.9**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.79**	**283**		*i P*	**Pb**	**15 37 42.0**	**+0.4**
CRPR					*eS*	**Sn**	**15 37 54.1**	**+0.5**
CRPR					IAML		15 37 56.3	
	comp=Z,729nm,0.4s							
CRPR	**Cabo Rojo, PR**	**0.79**	**283**		*eP*g	**Pn**	**15 37 42.2**	**-0.2**
CRPR					*eS*g	**Sn**	**15 37 52.9**	**-0.7**
CRPR					IAML		15 37 56.4	
	comp=N,684nm,0.3s							
LSP	**Las Mesas**	**0.82**	**295**			**Pb**	**15 37 42.3**	**+0.1**
LSP						**Sb**	**15 37 51.1**	**-1.7**
LSP	**Las Mesas**	**0.82**	**295**	⇑	*eP*	**Pb**	**15 37 42.3**	**+0.1**
LSP	**Las Mesas**	**0.82**	**295**		*eS*	**Sb**	**15 37 51.1**	**-1.7**
PRSN	**Puerto Rico Se**	**0.89**	**296**			**Pb**	**15 37 43.3**	**0.0**
PRSN					IAML		15 38 01.3	
	comp=E,1µm,0.3s							
PRSN	**Puerto Rico Se**	**0.89**	**296**		*eP*g	**Pb**	**15 37 43.4**	**0.0**
PRSN					*eS*g	**Sn**	**15 37 57.8**	**+1.7**
PRSN					IAML		15 37 58.9	
	comp=N,834nm,0.2s							
AGPR	**Aguadilla, PR**	**0.99**	**310**			**Pn**	**15 37 45.3**	**0.0**
AGPR						**Sn**	**15 37 58.8**	**0.0**
AGPR					IAML		15 38 03.9	
	comp=N,503nm,0.4s							
AGPR					IAML		15 38 04.0	
	comp=E,715nm,0.5s							
AGPR	**Aguadilla, PR**	**0.99**	**310**	⇑	*eP*	**Pn**	**15 37 45.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.99**	**310**		*eS*	**Sb**	**15 37 55.9**	**-1.9**
AGPR	**Aguadilla, PR**	**0.99**	**310**		*i P*	**Pn**	**15 37 45.4**	**0.0**
AGPR					*eS*	**Sn**	**15 37 58.8**	**0.0**
AGPR					IAML		15 38 03.7	
	comp=Z,277nm,0.2s							
AGPR	**Aguadilla, PR**	**0.99**	**310**		*eP*g	**Pn**	**15 37 45.5**	**+0.2**
AGPR					*eS*g	**Sn**	**15 37 59.1**	**+0.3**
AGPR					IAML		15 38 03.9	
	comp=N,892nm,0.4s							
IDE	**Isla Desecheo**	**1.24**	**297**			**Pb**	**15 37 49.2**	**-0.1**
IDE						**Sn**	**15 38 01.8**	**-3.0**
IDE	**Isla Desecheo**	**1.24**	**297**	⇑	*eP*	**Pb**	**15 37 49.2**	**-0.1**
IDE	**Isla Desecheo**	**1.24**	**297**		*eS*	**Sn**	**15 38 01.8**	**-3.0**
SADR	**Isla Saona**	**2.38**	**279**		*eP*g	**Pb**	**15 38 07.5**	**-1.3**
SADR					*eS*g	**Sb**	**15 38 39.8**	**+2.1**
SADR					IAML		15 38 60.0	
	comp=N,194nm,2.0s							
HIDR	**Higuey Centro**	**2.41**	**289**		*eP*g	**Pb**	**15 38 09.4**	**0.0**
HIDR					*eS*g	**Sb**	**15 38 40.5**	**+1.9**
HIDR					IAML		15 38 52.8	
	comp=N,98nm,0.7s							
MIDR	**Miches**	**2.85**	**294**		*eP*g	**Pb**	**15 38 16.7**	**0.0**
MIDR					*eS*g	**Sb**	**15 38 54.8**	**+3.6**
MIDR					IAML		15 39 07.3	
	comp=N,41nm,3.2s							
DR08	**Loma La Naviza**	**3.70**	**288**		*eP*g	**Pb**	**15 38 29.8**	**-1.6**
DR08					*eS*g	**Sb**	**15 39 19.4**	**+3.4**
DR08					IAML		15 39 22.3	
	comp=N,490nm,0.1s							
BANI	**BANI**	**3.89**	**279**		*eP*g	**Pb**	**15 38 34.3**	**-0.4**
BANI					IAML		15 39 42.0	
	comp=N,64nm,1.4s							
ABD	**La Joyeuse, An**	**4.80**	**106**		Pn	**Pn**	**15 38 38.0**	**+0.3**

*UCR **01** 15:40:00.8±1.2,8°.32N×82°.77W,h25km±2km,MW3.8*
*UPA **01** 15:40:01.4±1.0,8°.42N×82°.79W,h27km±4km,MW3.8*

ISC 01 15:40:00.9±1.0,8°.36N±0°.04×82°.78W±0°.02,h33km±5km, n57,σ1§00/86,7C-22D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.05**	**350**	*eP*	**Pb**	**15 40 05.8**	**-0.6**
LESP3				*eS*	**Sb**	**15 40 08.7**	**-1.5**
LPPC	**Paso Canoas**	**0.18**	**342**	⇓ *iP*	**Pb**	**15 40 06.8**	**-0.5**
LPPC				*eS*	**Sb**	**15 40 11.6**	**-0.1**
PTPA	**Petro Terminal**	**0.18**	**209**	⇑ *iP*	**Pb**	**15 40 06.9**	**-0.4**
PTPA				*eS*	**Sb**	**15 40 12.7**	**+1.1**
PTPM	**Petroterminale**	**0.18**	**212**	⇑ *iP*	**Pb**	**15 40 06.9**	**-0.4**
PTPM				*eS*	**Sb**	**15 40 12.8**	**+1.2**

BAGA3	**Bagala, Chiriq**	**0.27**	**67**	⇓	*iP*	**Pb**	**15 40 08.5**	**+0.2**
BAGA3					*eS*	**Sn**	**15 40 13.5**	**-0.2**
DMCAL	**E. de Neily**	**0.31**	**358**	⇓	*iP*	**Pb**	**15 40 08.7**	**-0.1**
NELY	**Ciudad Neily**	**0.33**	**331**	⇓	*iP*	**Pb**	**15 40 08.6**	**-0.5**
NELY					*eS*	**Sb**	**15 40 14.7**	**+0.2**
DVD	**David**	**0.34**	**77**	⇓	*iP*	**Pb**	**15 40 09.0**	**-0.1**
DVD					*eS*	**Sn**	**15 40 15.2**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.36**	**86**		*eP*	**Pb**	**15 40 09.1**	**-0.3**
PEDE3					*eS*	**Sn**	**15 40 15.8**	**0.0**
LOCO3	**Loma Colorada,**	**0.36**	**82**		*eP*	**Pb**	**15 40 08.9**	**-0.6**
LOMA3	**Las Lomas, Chi**	**0.39**	**80**	⇓	*iP*	**Pb**	**15 40 09.7**	**-0.2**
LOMA3					*eS*	**Sb**	**15 40 16.1**	**+0.1**
CLLRA	**Cordillera,**	**0.41**	**24**	⇓	*iP*	**Pb**	**15 40 10.2**	**-0.1**
CLLRA					*eS*	**Sn**	**15 40 17.7**	**+0.2**
MLIR3	**Monte Lirio, C**	**0.43**	**354**		*eP*	**Pb**	**15 40 10.7**	**+0.1**
BRU2	**Volcan**	**0.44**	**12**	⇓	*iP*	**Pb**	**15 40 10.5**	**-0.2**
BRU2					*eS*	**Sb**	**15 40 17.0**	**-0.4**
BRU2	**Volcan**	**0.44**	**12**	⇓	*iP*	**Pb**	**15 40 10.5**	**-0.2**
BRU2					*eS*	**Sn**	**15 40 17.9**	**-0.2**
TBS2		**0.45**	**16**	⇓	*iP*	**Pn**	**15 40 11.5**	**+0.2**
CHIR3	**Chiriqui UPA,**	**0.45**	**86**		*eP*	**Pb**	**15 40 10.4**	**-0.3**
CHIR3					*eS*	**Sb**	**15 40 17.9**	**+0.4**
FITO	**Golfito**	**0.45**	**306**		*eP*	**Pb**	**15 40 09.6**	**-1.1**
FITO					*eS*	**Sb**	**15 40 16.8**	**-0.8**
SCLRA	**Santa Clara, W**	**0.47**	**360**	⇓	*eP*	**Pb**	**15 40 11.1**	**0.0**
SCLRA					*eS*	**Sn**	**15 40 19.1**	**+0.3**
EDAD	**Golfito**	**0.48**	**307**	⇑	*iP*	**Pb**	**15 40 10.1**	**-1.1**
EDAD					*eS*	**Sb**	**15 40 17.6**	**-0.7**
BC3P	**Paso Ancho**	**0.48**	**21**	⇓	*iP*	**Pb**	**15 40 11.0**	**-0.4**
BC3P					*eS*	**Sb**	**15 40 17.8**	**-0.8**
BQTLY	**Boquete Panama**	**0.51**	**39**	⇓	*iP*	**Pb**	**15 40 11.5**	**-0.3**
BQTLY					*eS*	**Sb**	**15 40 19.3**	**+0.1**
GUAL3	**Gualaca, Chiri**	**0.51**	**70**		*eP*	**Pb**	**15 40 11.3**	**-0.3**
GUAL3					*eS*	**Sb**	**15 40 18.3**	**-0.7**
BQSF3	**Alto Boquete,**	**0.51**	**42**		*eP*	**Pb**	**15 40 11.4**	**-0.4**
BQSF3					*eS*	**Sb**	**15 40 19.2**	**-0.1**
WILLF	**Boquete**	**0.52**	**41**	⇓	*iP*	**Pb**	**15 40 11.5**	**-0.4**
WILLF					*eS*	**Sb**	**15 40 19.3**	**-0.1**
LNBQ3	**Los Naranjos,**	**0.54**	**38**	⇓	*iP*	**Pb**	**15 40 11.8**	**-0.6**
LNBQ3					*eS*	**Sb**	**15 40 19.2**	**-1.0**
DAP26	**falda E V. Bar**	**0.55**	**40**	⇓	*iP*	**Pb**	**15 40 11.9**	**-0.6**
DAP26					*eS*	**Sb**	**15 40 20.0**	**-0.4**
PSOM3	**Paja de Sombre**	**0.56**	**55**	⇓	*iP*	**Sb**	**15 40 11.9**	**-0.5**
PSOM3					*eS*	**Sb**	**15 40 19.7**	**-0.7**
ALCO	**Alturas Coton,**	**0.59**	**355**	⇓	*iP*	**Pb**	**15 40 12.2**	**-0.9**
EDP2	**Potrero Grande**	**0.76**	**329**	⇓	*eP*	**Pb**	**15 40 15.4**	**-0.4**
EDP2					*eS*	**Sn**	**15 40 26.9**	**+1.1**
PBNVO	**Pueblo Nuevo,**	**0.79**	**48**	⇓	*iP*	**Sb**	**15 40 15.2**	**-1.0**
PBNVO					*eS*	**Sb**	**15 40 26.0**	**-0.6**
RBALA	**Bur**	**0.81**	**50**	⇓	*iP*	**Pb**	**15 40 15.9**	**-0.7**
RBALA					*eS*	**Sb**	**15 40 27.0**	**-0.2**
FIMO	**Fila Mora**	**0.84**	**318**	⇑	*iP*	**Pb**	**15 40 16.4**	**-0.8**
FIMO					*eS*	**Sb**	**15 40 28.3**	**0.0**
PANP	**Palmar Norte**	**0.90**	**312**		*eP*	**Pb**	**15 40 17.0**	**-1.0**
DRK0	**Durika**	**1.01**	**333**		*eP*	**Pn**	**15 40 18.8**	**-0.2**
DRK0	**Durika**	**1.01**	**333**	⇑	*iP*	**Pn**	**15 40 18.9**	**-0.2**
KKNTU	**Kakint²**	**1.08**	**64**	⇓	*iP*	**Pn**	**15 40 19.4**	**-0.4**
EDPE	**Pejibaye, P**	**1.11**	**316**		*eP*	**Pn**	**15 40 20.3**	**0.0**
SAJE	**San Jernim**	**1.21**	**324**		*eP*	**Pn**	**15 40 21.5**	**-0.3**
CEUA	**Cerro Uatsi, L**	**1.26**	**353**	⇑	*iP*	**Pb**	**15 40 24.9**	**+0.7**
CEUA					*eS*	**Sb**	**15 40 43.5**	**+3.2**
LAES	**El Progreso Va**	**1.42**	**349**		*eP*	**Pn**	**15 40 25.9**	**+1.5**
VERH	**Veragua Rainfo**	**1.61**	**345**		*eP*	**Pn**	**15 40 28.1**	**+0.9**
PIEC	**Cerro El Cedra**	**1.71**	**317**		*eP*	**Pn**	**15 40 29.3**	**+0.6**
REPA	**Paraso**	**1.81**	**324**		*eP*	**Pb**	**15 40 32.8**	**-0.8**
VERB	**Verbena**	**1.81**	**330**		*eP*	**Pn**	**15 40 27.5**	**-2.6**
RVSTA	**Santa Teresita**	**1.82**	**332**		*eP*	**Pn**	**15 40 31.9**	**+1.8**
PISJ	**San Jernim**	**1.83**	**314**	⇓	*iP*	**Pb**	**15 40 32.6**	**-1.3**
VTCV	**VTCV, Calle Va**	**1.86**	**330**		*eP*	**Pn**	**15 40 32.2**	**+1.4**
LCOCO	**El Coco**	**1.88**	**336**		*eP*	**Pn**	**15 40 33.0**	**+2.2**
ABRB	**Las Abras (San**	**1.88**	**331**		*eP*	**Pn**	**15 40 32.6**	**+1.6**
PICV	**PH. Pirrs**	**1.88**	**312**		*eP*	**Pn**	**15 40 32.8**	**+1.9**
CVTV	**Tajo**	**1.89**	**330**		*eP*	**Pn**	**15 40 32.9**	**+1.6**
CVTQ	**Turrialba Volc**	**1.90**	**329**		*eP*	**Pn**	**15 40 33.4**	**+2.0**
VTR0	**Volcan Turrial**	**1.91**	**330**		*eP*	**Pn**	**15 40 33.6**	**+2.0**
ACOS	**Acosta**	**1.97**	**316**		*eP*	**Pn**	**15 40 34.5**	**+2.3**
VARE2	**V. Arenal**	**2.83**	**318**		*eP*	**Pb**	**15 40 48.7**	**-2.2**
JTS	**Las Juntas de**	**2.88**	**312**		*eP*	**Pn**	**15 40 44.4**	**-0.2**

IDC 01 16:09:06.2±1.4,8°.37S×104°.25E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=129.9km s-min=34.7km az=77.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**58.31**	**342**	P	P	16 19 03.6	+0.7
	0.7nm,0.6s,baz=141,slow=8.2,SNR=8.5						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**62.85**	**342**	P	P	16 19 33.6	-0.2
	0.6nm,0.7s,baz=151,slow=7.9,SNR=4.3						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**64.22**	**347**	P	P	16 19 41.6	-1.2
	0.6nm,0.4s,baz=142,slow=5.4,SNR=2.8						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**81.63**	**180**	P	P	16 21 26.0	0.0
	1.2nm,0.9s,baz=299,slow=4.2,SNR=2.6						
	1.2nm,0.9s						
TXAR	**Lajitas Array**	**146.50**	**48**	PKPbc	PKPbc	16 28 49.8	-0.5
	0.3nm,0.6s,baz=312,slow=3.1,SNR=3.7						

NOU 01 16:11:19.7,11°.34S×165°.49E,h337km,mb4.1/6,Santa Cruz Islands,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**3.63**	**284**	P	Pn	16 12 24.2	0.0
VLAKA	**Lakatoro**	**5.09**	**159**	P	Pn	16 12 39.9	+0.1
NGOA	**Tingoa Renbel**	**5.33**	**267**	P	Pn	16 12 42.7	+0.3
ALEG	**Aligegeo Malai**	**5.38**	**298**	P	Pn	16 12 43.5	+0.5
SAVO	**Savo Central**	**6.00**	**291**	P	Pn	16 12 50.0	-0.1
TATA	**Tatamba Isabel**	**6.32**	**297**	P	Pn	16 12 54.0	+0.1

*IDC **01** 16:39:07.5±0.9,18°.69N×121°.33E,h0km,mb3.5/7, mbtmp3.5/8,ML3.6/1,MS3.0/5,Error ellipse: s-maj=42.4km s-min=18.3km az=66.0*

ISC 01 16:39:18.2±0.9,18°.8N±0°.1×121°.3E±0°.2,h89km,n13, σ1§50/11,mb3.4/7,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**12.33**	**160**	LR	LR	16 47 27.7	
	comp=Z,66nm,20.8s,baz=349,slow=41						
JNU	**Nakatsue**	**16.69**	**29**	LR	LR	16 49 19.5	
	comp=Z,59nm,18.7s,baz=212,slow=37						
KSRS	**Korea Array**	**19.52**	**16**	P	**P**	**16 43 36.5**	**-1.9**
	0.2nm,0.3s,baz=196,slow=11,SNR=4.8						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**21.20**	**273**	P	**P**	**16 43 55.1**	**-1.7**
	0.5nm,0.3s,baz=82,slow=11,SNR=1.4						
	0.5nm,0.3s						
SONM	**Songino Array**	**31.46**	**341**	P	**P**	**16 45 31.4**	**0.0**
	0.3nm,0.4s,baz=153,slow=9.7,SNR=1.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**40.52**	**161**	P	**P**	**16 46 47.7**	**-1.0**
	0.5nm,0.5s,baz=342,slow=9.0,SNR=5.0						
WRA				PcP	**PcP**	**16 48 51.8**	**+2.1**
	0.3nm,0.6s,baz=348,slow=3.2,SNR=1.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**42.44**	**320**	P	**P**	**16 47 04.4**	**+0.1**
	0.3nm,0.5s,baz=120,slow=8.9,SNR=5.5						
MKAR				PcP	**PcP**	**16 48 57.6**	**+1.8**
	0.5nm,0.7s,baz=134,slow=4.2,SNR=3.9						
	0.3nm,0.5s						
YAK	**Yakutsk**	**43.64**	**6**	LR	LR	17 08 25.8	
	comp=Z,12nm,19.2s,baz=204,slow=40						
ASAR	**Alice Springs**	**43.91**	**163**	P	**P**	**16 47 15.4**	**-0.8**
	0.2nm,0.6s,baz=342,slow=7.6,SNR=6.8						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**44.93**	**330**	LR	LR	17 05 55.1	
	comp=Z,20nm,20.6s,baz=112,slow=36						
KURBB	**Kurchatov Arra**	**46.42**	**323**	P	**P**	**16 47 36.0**	**+0.1**
	0.5nm,0.4s,baz=123,slow=7.5,SNR=6.0						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**52.02**	**323**	P	**P**	**16 48 19.4**	**+0.9**
	0.4nm,0.5s,baz=115,slow=8.6,SNR=4.4						
BVAR				PcP	**PcP**	**16 49 30.6**	**+1.0**
	0.8nm,0.6s,baz=121,slow=5.6,SNR=5.1						
	0.4nm,0.5s						
NOA	**NORSAR Array B**	**83.07**	**333**	LR	LR	17 30 59.8	
	comp=Z,16nm,18.2s,baz=60,slow=37						

AUST 01 16:42:37.7±0.5,18°.5S×12°.0E±°,h10km,mb4.1/2, ML3.1/7,ML3.2/4,Error ellipse: s-maj=11.9km s-min=4.7km az=143.2,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**2.02**	**79**	P	Pn	16 43 11.8	-0.1
AUBRM				S	Sn	16 43 37.7	+0.5
MBWA	**Marble Bar**	**2.82**	**188**	P	Pn	16 43 24.2	+1.3
MBWA				S	Sn	16 43 59.4	+2.4
PSAC1	**Pilbara Seismi**	**3.18**	**186**	P	Pn	16 43 28.9	+1.0
PSA00	**Pilbara Seismi**	**3.22**	**185**	P	Pn	16 43 29.6	+1.2
PSA00				S	Sn	16 44 06.0	-0.8
FITZ	**Fitzroy Crossi**	**5.23**	**88**	P	Pn	16 43 53.7	-2.3
GIRL	**Giralia**	**7.00**	**231**	P	Pn	16 44 22.0	+1.7
	comp=Z,238µmcomp=Z,0.2nmcomp=Z,78nm,2.0s						
GIRL				S	Sn	16 45 38.1	-1.8
CVQOZ	**Cooralya Stati**	**8.29**	**222**	P	Pn	16 44 38.6	+0.5
MEEK	**Meekatharra**	**8.37**	**189**	P	Pn	16 44 39.4	+0.2
	comp=Z,0.1nmcomp=Z,12nm,2.4s						
KNRA	**Kununurra**	**8.66**	**73**	P	Pn	16 44 44.8	+1.6
WRKA	**Warakurna**	**10.08**	**133**	P	Pn	16 45 01.8	-0.9
BLDU	**Ballidu**	**12.60**	**194**	P	Pn	16 45 36.0	-1.1

*IDC **01** 16:49:18.0±1.7,34°.61S×117°.75E,h0km,mb3.7/3, mbtmp3.9/4,ML4.1/1,Error ellipse: s-maj=32.5km s-min=14.7km az=71.0*
*CUPWA **01** 16:49:18.4±0.7,34°.67S×117°.48E,h4km±17km,Region: WESTERN AUSTRALIA*
*AUST **01** 16:49:18.0±0.3,35°.2S±2°×11°.8E±°,h10km,mb4.3/9, ML3.8/14,Error ellipse: s-maj=5.7km s-min=3.6km az=32.2*
*NEIC **01** 16:49:19.4±1.5,34°.62S±0°.08×117°.7E±0°.1,h10km±2km, mb4.2/11,Error ellipse: s-maj=19.4km s-min=9.5km az=237.0*
*NOU **01** 16:49:19.4,34°.60S×117°.02E,h0km,mb4.3/8,Western Australia*

ISC 01 16:49:16.9±1.3,34°.68S±0°.04×117°.50E±0°.03,h12km±9km, n65,σ2§09/79,mb4.3/5,1C-2D,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKGY	**Rocky Gully**	**0.43**	**279**	⇓	P	**Pb**	**16 49 26.4**	**-0.2**
RKGY					S	**Sb**	**16 49 31.8**	**-1.2**
RKGY	**Rocky Gully**	**0.43**	**279**		P	**Pb**	**16 49 26.4**	**-0.2**
AUALB	**St Joseph's Co**	**0.46**	**134**		P	**Pb**	**16 49 27.5**	**+0.5**
AUALB					S	**Sb**	**16 49 33.8**	**-0.1**
GNOT	**Gnowangerup To**	**0.88**	**33**		P	**Pg**	**16 49 34.5**	**+0.6**
GNOT					S	**Sg**	**16 49 45.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**1.76**	**353**		P	**Pb**	**16 49 49.5**	**+0.3**
NWAO					Sn	**Sn**	**16 50 11.1**	**+1.5**
NWAO	**Narrogin (SRO)**	**1.76**	**353**		Pg	**Pb**	**16 49 49.3**	**+0.1**
	82nm,0.3s,baz=160,slow=12,SNR=342							
NWAO					Lg	Lg	16 50 12.7	
	42nm,0.3s,baz=90,slow=20,SNR=5.7

comp=Z,0.4nm,0.7s,baz=357,slow=5.4,SNR=1.4
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 144.87 87 PKP **PKPdf 17 08 56.0 +1.8**
comp=Z,0.5nm,0.7s,baz=244,slow=3.4,SNR=5.0

*HVO **01** 16:52:19.9±0.8, 19°.38N±0°.03×156°.15W±0°.07, h40km±7km, Error ellipse: s-maj=9.4km s-min=4.3km az=86.0*
NEIC 01 16:52:18.2±0.8, 19°.38N±0°.03×156°.14W±0°.06, h48km±5km, ML2.6/38, **ML2.4**/6(HVO), **Error ellipse: s-maj=8.1km s-min=3.8km az=89.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUH	**Hualalai**	**0.42**	**43**	Pn	Pn	16 52 28.6	0.0
HUH	**Hualalai**	**0.42**	**43**		Sn	16 52 36.5	+0.5
ALEP	**Alea Permanent**	**0.49**	**70**		Pn	16 52 30.0	+0.4
ALEP					Sn	16 52 37.3	-0.4
KHU	**Kahuku**	**0.51**	**105**		Pn	16 52 29.7	+0.1
KHU					Sn	16 52 37.2	-0.6
MWH	**Mokuaweoweo**	**0.52**	**78**		Sn	16 52 37.8	-0.8
MWH	**Mokuaweoweo**	**0.52**	**78**	Pn	Pn	16 52 29.9	-0.2
MWH				IAML		16 52 36.3	
	comp=E,314nm,2.4s						
MWH				IAML		16 52 42.1	
	comp=N,218nm,2.5s						
AIN	**Ainahou**	**0.64**	**90**		Sn	16 52 40.1	-0.6
AIN				IAML		16 52 58.7	
	comp=N,263nm,3.0s						
AIN	**Ainahou**	**0.64**	**90**		Pn	16 52 31.5	+0.2
HMH	**Humu'ula Sheep**	**0.66**	**70**		Pn	16 52 32.0	+0.4
HMH	**Humu'ula Sheep**	**0.66**	**70**		Sn	16 52 41.1	-0.1
HMH				IAML		16 52 51.6	
	comp=N,205nm,2.8s						
HMH				IAML		16 52 54.0	
	comp=E,221nm,2.5s						
POHA	**Pohakuloa**	**0.68**	**56**	Pn	Pn	16 52 31.9	+0.1
POHA					Sn	16 52 40.9	-0.8
POHA	**Pohakuloa**	**0.68**	**56**	IAML		16 52 42.3	
	comp=E,184nm,1.7s						
HTC	**Hot Caves**	**0.71**	**101**		Pn	16 52 32.3	+0.3
MLH	**Mauna Loa**	**0.72**	**80**		Sn	16 52 42.2	-0.3
MLH	**Mauna Loa**	**0.72**	**80**	Pn	Pn	16 52 32.5	+0.2
MLH				IAML		16 52 45.4	
	comp=E,175nm,2.6s						
MLH				IAML		16 52 50.1	
	comp=N,206nm,2.7s						
HPAH	**Hawaii Prepara**	**0.77**	**32**		Sn	16 52 41.8	-1.8
HPAH	**Hawaii Prepara**	**0.77**	**32**	Pn	Pn	16 52 33.0	+0.2
HPAH				IAML		16 52 42.1	
	comp=N,107nm,1.0s						
HPAH				IAML		16 52 42.1	
	comp=E,162nm,0.7s						
HLP	**Hilina Pali**	**0.79**	**96**		Sn	16 52 43.5	-0.4
WRMHI	**West Rim**	**0.79**	**88**		Pn	16 52 33.1	0.0
WRMHI					Sn	16 52 43.3	-0.8
SDHHI	**Sand Hill**	**0.80**	**89**		Pn	16 52 33.3	+0.1
SDHHI					Sn	16 52 43.1	-1.0
UWE	**Uwekahuna**	**0.80**	**87**	Pn	Pn	16 52 33.4	+0.2
UWE	**Uwekahuna**	**0.80**	**87**		Sn	16 52 43.5	-0.7
OBL	**Observatory Le**	**0.81**	**87**		Pn	16 52 33.5	+0.1
OBL					Sn	16 52 43.5	-0.8
RIM	**Rim**	**0.81**	**88**		Pn	16 52 33.6	+0.1
RIM					Sn	16 52 43.8	-0.8
RSD	**Rainshed**	**0.81**	**84**		Sn	16 52 44.2	-0.4
HATHI	**Halema'uma'u T**	**0.83**	**87**	Pn	Pn	16 52 33.4	-0.2
HATHI				IAML		16 52 50.2	
	comp=N,187nm,2.2s						
HATHI				IAML		16 53 05.3	
	comp=E,236nm,3.6s						
HATHI	**Halema'uma'u T**	**0.83**	**87**		Sn	16 52 43.9	-1.0
MHA	**Mahukona**	**0.84**	**15**	Pn	Pn	16 52 34.2	+0.5
PUH	**Pauahi**	**0.87**	**90**	Pn	Pn	16 52 34.0	-0.1
STCH	**Steam Cracks**	**0.95**	**89**		Sn	16 52 46.2	-1.7
STCH	**Steam Cracks**	**0.95**	**89**	Pn	Pn	16 52 35.1	-0.2
STCH				IAML		16 52 54.0	
	comp=E,193nm,3.3s						
STCH				IAML		16 53 00.4	
	comp=N,216nm,3.5s						
NPOC	**North of Pu'u**	**0.97**	**89**		Pn	16 52 35.3	-0.2
NPOC					Sn	16 52 46.8	-1.4
JCUZ	**Jacuzzi**	**0.98**	**89**		Pn	16 52 35.9	+0.3
JCUZ					Sn	16 52 47.3	-1.1
JOKA	**Jonika Flow**	**1.07**	**87**	Pn	Pn	16 52 36.7	-0.1
JOKA					Sn	16 52 49.1	-1.5
HLK	**Haleakala**	**1.38**	**356**	Pn	Pn	16 52 41.3	0.0

*UPP **01** 17:03:19.1±0.1, 67°.07N×20°.93E, h0km, ML2.4, Unknown Suspected explosion*
*IDC **01** 17:03:20.2±1.1, 67°.08N×21°.19E, h0km, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=19.8km s-min=8.3km az=111.0*
ISC 01 17:03:19.0±0.9, 67°.07N±0°.03×20°.92E±0°.03, h0km, n17, σ0s66/23, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**291**	P	**Pg**	**17 03 22.3**	**+0.5**
DUNU				S	**Sg**	**17 03 24.7**	**+1.0**
MASU	**Masugnsbyn**	**0.57**	**47**	P	**Pg**	**17 03 30.0**	**0.0**
MASU				S	**Sg**	**17 03 37.7**	**+0.4**
ERTU	**Ertsjaerv**	**0.72**	**135**	P	**Pg**	**17 03 32.7**	**-0.1**
PAJU	**Pajala**	**0.86**	**92**	P	**Pg**	**17 03 35.1**	**-0.3**
PAJU				S	**Sg**	**17 03 47.2**	**+0.6**
HARU	**Harads**	**0.91**	**179**	P	**Pg**	**17 03 36.2**	**-0.2**
RATU	**Laukkuluspa**	**0.92**	**327**	P	**Pg**	**17 03 36.1**	**-0.4**
KUA	**Kurravaara**	**0.92**	**346**	P	**Pg**	**17 03 36.3**	**-0.3**
KUA				S	**Sg**	**17 03 48.5**	**0.0**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**	**17 03 37.7**	**-0.3**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 03 38.9**	**-0.5**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 03 39.2**	**-0.5**
KOVU	**Salmi**	**1.20**	**346**	P	**Pg**	**17 03 41.3**	**-0.6**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**17 03 47.7**	**-0.2**
SJUU	**Sjulsmark**	**1.59**	**170**	P	**Pn**	**17 03 48.4**	**0.0**
I37NO	**I37NO**	**2.19**	**338**	I	I	17 17 18.6	
	baz=157,slow=325,SNR=12						
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 04 07.9**	**+0.1**
	0.3nm,0.3s,baz=213,slow=14,SNR=34						
ARCES				Sn	**Sn**	**17 04 45.6**	**+1.1**
	0.5nm,0.3s,baz=216,slow=26,SNR=7.1						
	0.8nm,0.2s						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 04 51.4**	**+1.5**
	0.2nm,0.3s,baz=346,slow=13,SNR=8.6						
FINES				Sn	**Sn**	**17 05 59.4**	**-0.7**
	0.2nm,0.3s,baz=343,slow=24,SNR=6.8						
FINES				Lg	Lg	17 06 27.4	
	0.1nm,0.3s,baz=343,slow=28,SNR=1.8						
	0.4nm,0.2s						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**17 05 11.8**	**0.0**
	0.1nm,0.3s,baz=26,slow=14,SNR=6.3						
HFS				Sn	**Sn**	**17 06 38.0**	**-1.2**
	0.1nm,0.3s,baz=29,slow=30,SNR=1.9						
HFS				Lg	Lg	17 07 21.1	
	0.1nm,0.3s,baz=24,slow=28,SNR=2.2						
	0.5nm,0.5s						

*SNET **01** 17:53:19.8±1.0, 13°.23N×90°.26W, h16km, ML3.4*
*GCG **01** 17:53:20.7±0.5, 13°.40N×90°.32W, h25km±4km, MD3.9*
*CATAC **01** 17:53:20.2±0.8, 13°.4±°×9°.0W±°, h14km±4km, M3.7/11, MLv3.7/11, Error ellipse: s-maj=9.6km s-min=8.1km az=27.5, confirmed*
ISC 01 17:53:19.7±2.1, 13°.24N±0°.08×90°.27W±0°.06, h19km±3km, n37, σ0s57/43, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.64**	**22**	P	**Pg**	**17 53 32.5**	**0.0**
FAME	**Alcaldia de Sa**	**0.64**	**22**	S	**Sb**	**17 53 41.7**	**+0.8**
NUBE	**Las Nubes**	**0.81**	**36**	*eP*	**Pg**	**17 53 35.1**	**-0.5**
NUBE				*eS*	**Sg**	**17 53 45.8**	**-0.6**
NUBE	**Las Nubes**	**0.81**	**36**	*i* P	**Pg**	**17 53 35.2**	**-0.5**
NUBE				*i* S	**Sg**	**17 53 45.6**	**-0.7**
NUBE	**Las Nubes**	**0.81**	**36**	P	**Pg**	**17 53 35.3**	**-0.3**
CEVE	**Cerro Verde**	**0.85**	**47**	*eP*	**Pb**	**17 53 36.4**	**+0.3**
CEVE				*eS*	**Sg**	**17 53 48.4**	**+0.6**
CEVE	**Cerro Verde**	**0.85**	**47**	P	**Pb**	**17 53 36.3**	**+0.3**
CEVE	**Cerro Verde**	**0.85**	**47**	S	**Sb**	**17 53 47.5**	**+0.3**
LOAL	**Lomas de Alarc**	**0.89**	**32**	*eP*	**Pb**	**17 53 36.4**	**-0.1**
LOAL				*eS*	**Sg**	**17 53 49.0**	**+0.2**
LOAL	**Lomas de Alarc**	**0.89**	**32**	S	**Sg**	**17 53 48.8**	**+0.1**
LOAL	**Lomas de Alarc**	**0.89**	**32**	P	**Pb**	**17 53 36.3**	**-0.2**
JAYA	**Jayaque - finc**	**0.89**	**63**	*eP*	**Pb**	**17 53 36.5**	**-0.1**
JAYA				*eS*	**Sb**	**17 53 48.8**	**+0.6**
JAYA	**Jayaque - finc**	**0.89**	**63**	*i* P	**Pb**	**17 53 36.6**	**-0.1**
JAYA	**Jayaque - finc**	**0.89**	**63**	P	**Pb**	**17 53 36.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.91**	**31**	S	**Sg**	**17 53 49.5**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.91**	**31**	P	**Pb**	**17 53 36.7**	**-0.2**
LALI	**Alcalda de L**	**0.95**	**75**	*eP*	**Pb**	**17 53 37.0**	**-0.6**
LALI	**Alcalda de L**	**0.95**	**75**	P	**Pb**	**17 53 37.5**	**-0.1**
LALI	**Alcalda de L**	**0.95**	**75**	S	**Sb**	**17 53 49.3**	**-0.5**
PMON	**Piamonte**	**1.03**	**63**	P	**Pb**	**17 53 39.1**	**0.0**
FG8	**Yepocapa, Chim**	**1.05**	**344**	*i* P	**Pg**	**17 53 42.0**	**+1.9**
BOQS	**Boqueron**	**1.07**	**63**	*eP*	**Pb**	**17 53 39.8**	**-0.1**
LOMA	**Loma Larga**	**1.14**	**69**	*eP*	**Pb**	**17 53 40.0**	**-0.9**
LOMA	**Loma Larga**	**1.14**	**69**	P	**Pb**	**17 53 40.3**	**-0.6**
LOMA	**Loma Larga**	**1.14**	**69**	S	**Sb**	**17 53 55.3**	**0.0**
LFU	**La Fuente**	**1.23**	**66**	*eS*	**Sg**	**17 53 59.4**	**-0.2**
LFRS	**El Faro**	**1.23**	**72**	*eP*	**Pn**	**17 53 42.0**	**-0.1**
ESSG	**Sabana Grande**	**1.26**	**334**	*i* P	**Pn**	**17 53 40.5**	**-1.9**
LBRS	**Las Brisas**	**1.29**	**67**	*eP*	**Pn**	**17 53 43.0**	**+0.3**
PAVA	**Las Pavas**	**1.37**	**70**	*eP*	**Pn**	**17 53 44.4**	**+0.4**
MTO3	**Montecristo**	**1.45**	**37**	*eP*	**Pn**	**17 53 44.9**	**-0.2**
MTO3	**Montecristo**	**1.45**	**37**	*i* P	**Pn**	**17 53 44.8**	**-0.2**
MTO3	**Montecristo**	**1.45**	**37**	P	**Pn**	**17 53 44.7**	**-0.3**
ESQI	**Esquipulas**	**1.59**	**34**	*eP*	**Pn**	**17 53 46.9**	**0.0**
ESQI	**Esquipulas**	**1.59**	**34**	P	**Pn**	**17 53 46.9**	**0.0**
PACA	**Pacayal**	**1.90**	**83**	P	**Pn**	**17 53 51.5**	**+0.3**
CNCH	**Conchagua**	**2.37**	**89**	P	**Pn**	**17 53 58.2**	**+0.5**
CNCH				S	**Sn**	**17 54 26.5**	**+0.2**

*IDC **01** 17:54:59.8±0.5, 21°.03N×45°.67W, h0km, mb4.2/23, mbtmp4.2/24, ML4.6/1, MS3.8/19, Error ellipse: s-maj=15.3km s-min=11.9km az=138.0*
*NEIC **01** 17:55:02.2±2.2, 21°.0N±0°.1×45°.7W±0°.1, h10km±1km, mb4.9/246, Error ellipse: s-maj=17.5km s-min=16.4km az=147.0*
*GCMT **01** 17:55:03.2±0.3, 21°.06N±0°.03×45°.61W±0°.02, h12km±1km, MW4.9/89, Moment Tensor Solution. s22,c25; s89,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.17; $M_{\theta\theta}$-0.06±.10; $M_{\phi\phi}$2.50±.11; $M_{r\theta}$-0.48±.36; $M_{r\phi}$-0.01±.06; $M_{\theta\phi}$-0.35±.25; Best double couple: M_o2.54100×10^{16} NP1:ϕ_s169.00000°, δ42.00000°, λ-106.00000°. NP2: ϕ_s11.00000°, δ50.00000°, λ-76.00000°. Principal axes: T 2.5250, Plg4.0000°, Azm90.0000°; N 0.0310, Plg11.0000°, Azm181.0000°; P -2.5580, Plg78.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **01** 17:55:03.0±4.7, 20°.85N×45°.60W, h10km, M4.7, mb4.8, Ms3.7, #DIST_RANGE: DISTANT*
ISC 01 17:55:01.7±0.3, 21°.03N±0°.07×45°.73W±0°.06, h10km, n485, σ0s91/381, mb4.8/165, MS3.8/18, 5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**17.20**	**204**	LR	LR	18 04 11.9	
	comp=Z,192nm,19.4s,baz=33,slow=32						
GCPR	**Guaynabo City**	**19.36**	**265**	P	**P**	**17 59 26.0**	**-1.6**
PDPR	**Patillas Dam,**	**19.36**	**265**	P	**P**	**17 59 25.8**	**-1.8**
PDPR				IAmb	IAmb	17 59 33.5	
	comp=Z,172nm,2.0s						
SJG	**San Juan**	**19.46**	**265**	P	**Pn**	**17 59 30.2**	**+0.3**
SJG				IAmb	IAmb	17 59 34.5	
	comp=Z,72nm,1.4s						
SJG	**San Juan**	**19.46**	**265**	P	**P**	**17 59 29.9**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=76,slow=8.3,SNR=5.7						
SJG				LR	LR	18 05 24.1	
	comp=Z,637nm,21.7s,baz=91,slow=32						
	comp=Z,7.5nm,0.2s						
CELP	**Cerrillos**	**19.87**	**265**	P	**Pn**	**17 59 35.0**	**+0.2**
CELP				IAmb	IAmb	17 59 37.7	
	comp=Z,110nm,1.6s						
OBIP	**Obispado Ponce**	**19.90**	**265**	P	**P**	**17 59 34.7**	**+1.2**
UUPR	**Utuado, UPR, P**	**19.96**	**266**	P	**P**	**17 59 35.4**	**+1.2**
AOPR	**Arecibo Observ**	**19.98**	**266**	P	Pn	17 59 36.3	+0.2
AOPR				IAmb	IAmb	17 59 43.8	
	comp=Z,50nm,1.1s						
BBSR	**BB Station**	**20.33**	**308**	P	Pn	17 59 40.0	0.0
PCRV	**Puerto La Cruz**	**21.14**	**242**	P	**P**	**17 59 47.4**	**+0.3**
	comp=Z,15nm,0.9s,baz=4.3,slow=8.8,SNR=5.5						
PCRV				LR	LR	18 06 53.3	
	comp=Z,218nm,21.7s,slow=34						
	comp=Z,15nm,0.9s						
BOAV	**Boa Vista**	**23.47**	**220**		**P**	**18 00 08.2**	**-3.5**
BOAV	**Boa Vista**	**23.47**	**220**	*eP*	**P**	**18 00 13.3**	**+1.6**
BAUV	**El Baul**	**24.64**	**244**		**P**	**18 00 20.4**	**-2.2**
SDV	**Santo Domingo**	**26.87**	**247**		**P**	**18 00 43.8**	**+0.7**
SDV				IAmb	IAmb	18 00 49.5	
	comp=Z,27nm,1.4s						
SDV	**Santo Domingo**	**26.87**	**247**	LR	LR	18 10 52.7	
	comp=Z,260nm,21.9s,baz=65,slow=35						
HAL	**Halifax**	**27.79**	**332**	P	**P**	**18 00 49.4**	**-1.4**
PMOZ	**Porto Moniz, M**	**27.93**	**59**	*i* IAMs_20	IAMs_20	18 09 11.3	
	comp=Z,295nm,22.0s						
PMOZ				*eT*	T	18 29 28.1	
PMAR	**Madeira**	**28.13**	**60**	*eT*	T	18 29 36.9	
RCBR	**Riachuelo**	**28.39**	**159**	LR	LR	18 09 09.7	
	comp=Z,79nm,21.6s,baz=338,slow=30						
BBTS	**Babate**	**28.48**	**98**	LR	LR	18 09 19.1	
	comp=Z,644nm,20.1s,baz=280,slow=30						
PMPST	**Porto Santo, M**	**28.70**	**59**	*eP*	**P**	**18 00 58.0**	**-1.1**
NPGB	**Novo Progresso**	**29.46**	**200**	*eP*	**P**	**18 01 06.7**	**+0.7**
RUSC	**La Rusia**	**30.48**	**244**		**P**	**18 01 17.1**	**+1.5**
G62A	**West of Eustis**	**31.59**	**326**	P	**P**	**18 01 24.7**	**+0.1**
HNH	**Hanover**	**31.61**	**322**	P	**P**	**18 01 25.8**	**+1.1**
HNH				IAmb	IAmb	18 01 34.3	
	comp=Z,16nm,1.2s						
ROSC	**El Rosal**	**32.08**	**244**	LR	LR	18 15 49.5	
	comp=Z,149nm,19.9s,baz=63,slow=39						
MVL	**Millersville**	**32.22**	**313**	P	**P**	**18 01 30.6**	**+0.5**
MVL				IAmb	IAmb	18 01 34.6	
	comp=Z,26nm,1.6s						
KSPA	**Keystone Colle**	**32.57**	**316**	P	**P**	**18 01 34.4**	**+1.2**
KSPA				IAmb	IAmb	18 01 35.1	
	comp=Z,25nm,1.6s						
J59A	**Piesco**	**32.78**	**320**	P	**P**	**18 01 35.5**	**+0.4**
W57A	**Gilead**	**33.16**	**302**	P	**P**	**18 01 37.6**	**-0.8**
CLDB	**Colider**	**33.22**	**198**	*eP*	**P**	**18 01 40.0**	**+0.9**
SNDB	**Serra Nova Dou**	**33.26**	**190**	*eP*	**P**	**18 01 40.5**	**+1.2**
LONY	**Lake Ozonia**	**33.48**	**321**	P	**P**	**18 01 41.6**	**+0.5**
K57A	**Scipio Center**	**33.64**	**317**	P	**P**	**18 01 43.5**	**+1.0**
K57A				IAmb	IAmb	18 01 44.2	
	comp=Z,11nm,1.0s						
J57A	**Williamstown**	**33.66**	**318**	P	**P**	**18 01 44.0**	**+1.3**
Q56A	**Snyder Ridge,**	**33.82**	**310**	P	**P**	**18 01 45.5**	**+1.4**
Q56A				IAmb	IAmb	18 01 53.4	
	comp=Z,31nm,1.6s						
TKL	**Tuckaleechee C**	**36.27**	**302**	LR	LR	18 15 14.5	
	comp=Z,269nm,19.2s,baz=101,slow=33						
SADO	**Sadowa**	**36.30**	**319**	LR	LR	18 14 47.7	
	comp=Z,242nm,18.1s,baz=137,slow=33						
BDFB	**Brasilia**	**36.52**	**184**	P	**P**	**18 02 08.5**	**+0.9**
BDFB	**Brasilia**	**36.52**	**184**	P	**P**	**18 02 06.7**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=16,slow=6.9,SNR=7.0						
BDFB				LR	LR	18 16 09.4	
	comp=Z,158nm,18.1s,baz=358,slow=35						
	comp=Z,4.7nm,0.8s						
S51A	**Beattyville**	**36.63**	**305**	P	**P**	**18 02 08.0**	**-0.4**
VILB	**Vilhena**	**36.65**	**204**	*eP*	**P**	**18 02 09.3**	**+0.7**
PVAQ	**Vaqueiros**	**36.68**	**55**	P	**P**	**18 02 09.8**	**+1.0**
PVAQ	**Vaqueiros**	**36.68**	**55**	*eP*	**P**	**18 02 11.7**	**+2.9**
PVAQ				*i* IAmb	IAmb	18 02 12.8	
	comp=Z,62nm,1.7s						
ARAG	**Araguaiana, MT**	**37.00**	**190**	*eP*	**P**	**18 02 13.2**	**+1.6**
PSARD	**Sardoal**	**37.00**	**52**	*eP*	**P**	**18 02 11.1**	**-0.4**
PSARD				*i* IAmb	IAmb	18 02 40.4	
	comp=Z,28nm,2.0s						
SCHQ	**Schefferville**	**37.32**	**340**	P	**P**	**18 02 13.0**	**-1.0**
SCHQ	**Schefferville**	**37.32**	**340**	P	**P**	**18 02 12.9**	**-1.1**
	comp=Z,3.5nm,0.7s,baz=142,slow=7.9,SNR=6.0						
SCHQ				LR	LR	18 15 35.9	
	comp=Z,81nm,20.5s,baz=138,slow=33						
	comp=Z,3.5nm,0.7s						
PBAR	**Barrancos**	**37.41**	**54**	*eP*	**P**	**18 02 14.7**	**-0.3**
PMRV	**Marv??o**	**37.51**	**52**	*eS*	**S**	**18 08 05.1**	**+0.3**
PMRV				*eLR*	LR	18 12 13.6	
PMRV				*i* IAMs_20	IAMs_20	18 14 16.9	
	comp=Z,128nm,20.0s						
PCBR	**Castelo Branco**	**37.58**	**51**	*eP*	**P**	**18 02 17.9**	**+1.5**
PCBR				*i* IAmb	IAmb	18 02 19.4	
	comp=Z,26nm,1.5s						
PGAV	**Gavieira, Arco**	**37.75**	**48**	*e*LR	LR	18 12 01.2	
PGAV				*i* IAMs_20	IAMs_20	18 13 47.5	
	comp=Z,95nm,20.0s						
POLO	**Lamas de Olo**	**37.86**	**49**	*eP*	**P**	**18 02 20.4**	**+1.5**
ESPN	**Las Esperanzas**	**37.91**	**263**		**P**	**18 02 18.7**	**-0.8**
ESPN				IAmb	IAmb	18 02 23.3	
	comp=Z,35nm,1.3s						
SALV	**Santo Antonio**	**37.99**	**196**	*eP*	**P**	**18 02 21.2**	**+1.2**
OTAV	**Otavalo**	**38.06**	**241**	P	**P**	**18 02 21.2**	**0.0**
OTAV				IAmb	IAmb	18 02 24.8	
	comp=Z,26nm,1.4s						
OTAV	**Otavalo**	**38.06**	**241**	*eP*	**P**	**18 02 23.0**	**+1.8**
MDT	**Midelt**	**38.28**	**63**	LR	LR	18 15 25.7	
	comp=Z,237nm,19.9s,baz=238,slow=32						
MVO	**Moncorvo**	**38.33**	**50**	*eP*	**P**	**18 02 24.9**	**+2.1**
MVO				*i* IAmb	IAmb	18 02 30.2	
	comp=Z,23nm,1.8s						
MVO				*eS*	**S**	**18 08 24.0**	**+6.6**
MVO				*eLR*	LR	18 12 43.2	
MVO				*i* IAMs_20	IAMs_20	18 14 28.6	
	comp=Z,138nm,20.0s						
PTLB	**Pontes e Lacer**	**38.57**	**201**		**P**	**18 02 24.6**	**-0.3**
PTLB	**Pontes e Lacer**	**38.57**	**201**	*eP*	**P**	**18 02 26.2**	**+1.4**
PBRG	**Braganca**	**38.75**	**49**	*eP*	**P**	**18 02 28.9**	**+2.6**
PBRG				*i* IAmb	IAmb	18 02 31.6	
	comp=Z,22nm,1.5s						
CZSB	**Cruzeiro do Su**	**38.98**	**226**	*eP*	**P**	**18 02 29.1**	**+0.7**
JTS	**Las Juntas de**	**39.15**	**260**	LR	LR	18 17 41.1	
	comp=Z,76nm,21.5s,baz=68,slow=35						
ESDC	**Sonseca Array**	**40.12**	**53**		**P**	**18 02 37.3**	**-0.5**
ESDC	**Sonseca Array**	**40.12**	**53**	P	**P**	**18 02 37.4**	**-0.4**
	comp=Z,3.0nm,1.1s,baz=259,slow=8.0,SNR=10.0						
ESDC				LR	LR	18 16 36.6	
	comp=Z,174nm,18.8s,baz=248,slow=32						
	comp=Z,3.0nm,1.1s						
ITRB	**Iturama**	**40.74**	**187**	*eP*	**P**	**18 02 44.2**	**+1.3**
MTO3	**Montecristo**	**41.98**	**268**	P	**P**	**18 02 55.8**	**+2.2**
MTO3				IAmb	IAmb	18 02 57.7	
	comp=Z,23nm,1.1s						
H10N3	**ASCENSION HYDR**	**42.01**	**130**	T	T	18 47 20.2	
	baz=314,slow=74,SNR=459						
H10N2	**ASCENSION HYDR**	**42.01**	**130**	T	T	18 47 18.5	
	baz=314,slow=74,SNR=791						
H10N1	**ASCENSION HYDR**	**42.02**	**130**	T	T	18 47 21.6	
	baz=314,slow=74,SNR=598						
DBIC	**Dimbokro**	**42.03**	**104**	P	**P**	**18 02 52.8**	**-0.9**
DBIC	**Dimbokro**	**42.03**	**104**	P	**P**	**18 02 52.6**	**-1.0**
	comp=Z,12nm,0.8s,baz=314,slow=9.1,SNR=7.6						
DBIC				LR	LR	18 17 21.4	
	comp=Z,288nm,18.0s,baz=312,slow=32						
	comp=Z,12nm,0.8s						
AQDB	**Aquidauana**	**42.39**	**194**	P	**P**	**18 02 56.9**	**+0.4**
AQDB	**Aquidauana**	**42.39**	**194**	*eP*	**P**	**18 02 58.3**	**+1.8**
CCM	**Cathedral Cave**	**42.63**	**304**	P	**P**	**18 02 57.8**	**-0.5**
PCMB	**Pacaembu**	**42.72**	**188**	*eP*	**P**	**18 03 00.7**	**+1.5**
LPAZ	**La Paz**	**43.12**	**212**		**P**	**18 03 03.6**	**+0.5**
LPAZ				IAmb	IAmb	18 03 05.2	
	comp=Z,19nm,1.2s						
LPAZ	**La Paz**	**43.12**	**212**	P	**P**	**18 03 03.5**	**+0.4**
	comp=Z,8.3nm,1.0s,baz=19,slow=10,SNR=17						
	comp=Z,8.3nm,1.0s						
LPAZ	**La Paz**	**43.12**	**212**	*eP*	**P**	**18 03 03.9**	**+0.8**
G40A	**Rib Lake**	**43.66**	**314**	P	**P**	**18 03 06.7**	**0.0**
G40A				IAmb	IAmb	18 03 08.7	
	comp=Z,29nm,1.6s						
TBO	**Thunder Bay**	**44.35**	**319**		**P**	**18 03 11.7**	**-0.4**
TBO				IAmb	IAmb	18 03 13.0	
	comp=Z,11nm,0.7s						
LDASE	**Londrina, Braz**	**44.47**	**187**	*eP*	**P**	**18 03 14.9**	**+1.6**
AMBA	**Amambai (Brazi**	**44.62**	**192**	*eP*	**P**	**18 03 16.0**	**+1.6**
FRB	**Frobisher Bay**	**45.37**	**346**	LR	LR	18 19 56.4	
	comp=Z,72nm,21.9s,baz=120,slow=33						
EYMN	**Ely**	**45.39**	**317**		**P**	**18 03 20.1**	**-0.3**
I37A	**Lemond, Waseca**	**45.50**	**312**	IAmb	IAmb	18 05 07.0	
	comp=Z,18nm,0.9s						
TORD	**Torodi Ar. Bea**	**45.87**	**92**		**P**	**18 03 22.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**45.87**	**92**	P	**P**	**18 03 23.4**	**-1.2**
	comp=Z,3.7nm,1.1s,baz=308,slow=11,SNR=9.0						
TORD				LR	LR	18 20 27.7	
	comp=Z,443nm,20.5s,baz=322,slow=33						
	comp=Z,3.7nm,1.1s						
**

comp=Z,8.2nm,1.1s
MYKA Terra Mystica 54.09 47 *e*P P 18 04 27.0 +0.2
comp=Z,11nm,0.9s,SNR=5.8
BIOA Bad Ischl, Aus 54.22 46 *e*P P 18 04 27.8 +0.2
comp=Z,14nm,1.5s
KHC Kasperske Hory 54.39 44 *e*P P 18 04 31.0 +2.1
KHC Kasperske Hory 54.39 44 P P 18 04 29.4 +0.5
comp=Z,7.0nm,2.2s
CLL Collm 54.40 41 *i* P P 18 04 28.2 -0.6
comp=Z,12nm,1.4s
CLL *e*S S 18 12 06.0 -1.1
CLL Lm MLR 18 23 00.0
comp=N,100nm,20.4s
CLL Lm MLR 18 23 00.0
comp=E,100nm,20.6s
CLL Lm MLR 18 23 00.0
comp=Z,100nm,20.8s
GEC2 GERESS Array S 54.43 44 IAmb IAmb 18 04 32.1
comp=Z,13nm,1.2s
GERES GERESS Array B 54.43 44 P P 18 04 28.0 -1.2
GERES GERESS Array B 54.43 44 P P 18 04 28.7 -0.5
comp=Z,3.8nm,1.0s,baz=258,slow=6.4,SNR=16
comp=Z,3.8nm,1.0s
BLKN Baker Lake 54.46 336 P P 18 04 28.9 -0.1
BLKN IAmb IAmb 18 04 29.9
comp=Z,13nm,1.3s
ANMO Albuquerque 54.64 299 P P 18 04 31.1 0.0
OBKA Obir 54.70 47 *e*P P 18 04 30.8 -0.4
comp=Z,6.3nm,0.7s
S22A 4UR Ranch, Cre 54.87 302 IAmb IAmb 18 04 36.5
comp=Z,14nm,1.3s
BRG Berggiesshubel 54.91 42 *e*P P 18 04 34.0 +1.5
BRG Amp 18 04 35.5
comp=Z,2.8nm,0.9s
SOKA Soboth 55.05 47 *e*P P 18 04 35.2 +1.5
comp=Z,2.2nm,1.0s
CUC Castrocucco 55.22 55 IAmb IAmb 18 04 38.5
comp=Z,16nm,1.2s
ARSA Arzberg 55.44 46 IAmb IAmb 18 04 42.4
comp=Z,12nm,1.2s
ARSA Arzberg 55.44 46 *i* P P 18 04 37.4 +1.0
comp=Z,8.6nm,1.0s,SNR=5.6
CONA Conrad Observa 55.74 46 *e*P P 18 04 39.7 +1.0
comp=Z,7.3nm,1.2s
121A Cookes Peak, D 55.89 296 IAmb IAmb 18 04 42.7
comp=Z,12nm,1.2s
NB2 NORSAR Subarra 55.96 29 P P 18 04 39.3 -0.7
comp=Z,0.3nm,0.6s,baz=250,slow=7.4
NOA NORSAR Array B 55.96 29 P P 18 04 39.5 -0.5
comp=Z,0.5nm,0.7s,baz=256,slow=4.8,SNR=4.0
comp=Z,0.5nm,0.7s
RONA Rosalia, Austr 56.01 46 *e*P P 18 04 41.2 +0.7
comp=Z,8.0nm,0.9s,SNR=5.8
KRUC Moravsky 56.22 44 *e*P P 18 04 42.3 +0.3
DPC Dobruska-Polom 56.33 43 P P 18 04 43.3 +0.5
comp=Z,4.5nm,1.5s
VRAC Vranov 56.37 44 *e*P P 18 04 42.0 -1.1
PV18 Skein Mesa, Pa 56.51 303 IAmb IAmb 18 05 52.1
comp=Z,13nm,1.4s
PV19 Morning Glory 56.56 303 IAmb IAmb 18 04 55.2
comp=Z,18nm,1.7s
PV10 Paradox Valley 56.60 303 IAmb IAmb 18 04 49.9
comp=Z,24nm,1.6s
PV05 Paradox Valley 56.66 302 IAmb IAmb 18 04 48.4
comp=Z,19nm,1.8s
MODS Modra-Piesok 56.73 45 *e*P P 18 04 45.6 0.0
HFS Hagfors 56.85 31 P P 18 04 45.6 -0.7
comp=Z,1.9nm,0.6s,baz=242,slow=3.2,SNR=11
comp=Z,1.9nm,0.6s
BW06 Boulder Array 56.99 308 IAmb IAmb 18 04 48.8
comp=Z,14nm,1.4s
PD31 Pinedale Array 56.99 308 IAmb IAmb 18 04 48.8
comp=Z,14nm,1.4s
PDAR Pinedale Array 56.99 308 P 18 04 47.8 -0.1
PDAR Pinedale Array 56.99 308 P P 18 04 47.4 -0.5
comp=Z,1.3nm,0.6s,baz=97,slow=8.1,SNR=10.0
comp=Z,1.3nm,0.6s
MORC Moravsky Berou 57.04 44 *e*P P 18 04 48.5 +0.6
W18A Petrified Fore 57.32 299 IAmb IAmb 18 04 52.4
comp=Z,14nm,1.2s
EGMT Eagleton 57.38 314 IAmb IAmb 18 04 52.8
comp=Z,22nm,1.6s
YMP Mirror Lake Pl 57.47 310 IAmb IAmb 18 04 52.9
comp=Z,12nm,1.3s
MORH Mrgy, Hungar 57.50 48 P P 18 04 52.0 +0.9
comp=Z,8.1nm,1.3s
P18A Preston Nutter 57.51 304 IAmb IAmb 18 05 00.1
comp=Z,17nm,1.6s
SRU San Rafael Swe 57.74 304 IAmb IAmb 18 04 55.1
comp=Z,13nm,1.4s
LOHW Long Hollow 57.77 309 IAmb IAmb 18 04 54.6
comp=Z,16nm,1.6s
VYHS Vyhne 57.77 45 *e*P P 18 04 54.1 +1.1
PDG Podgorica 57.84 52 IAmb IAmb 18 04 57.3
comp=Z,9.6nm,1.0s
HMU Henry Mountain 57.96 302 IAmb IAmb 18 04 58.4
comp=Z,15nm,1.3s
YHL Hebgen Lake 58.21 310 IAmb IAmb 18 04 58.8
comp=Z,14nm,1.4s
Q16A Castle Valley 58.26 303 IAmb IAmb 18 04 58.8
comp=Z,12nm,1.4s
OJC Ojcow 58.53 43 P P 18 04 58.7 +0.4
comp=Z,7.6nm,1.4s
X16A Lo Mia Camp, P 58.77 298 IAmb IAmb 18 05 03.4
comp=Z,11nm,1.2s
NIE Niedzica 58.80 44 P P 18 05 01.8 +1.6
comp=Z,5.9nm,1.4s
U15A North Rim 59.29 301 IAmb IAmb 18 05 07.0
comp=Z,14nm,1.4s
FNA Florina 59.46 54 IAmb IAmb 18 05 08.6
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 59.47 305 IAmb IAmb 18 05 07.7
comp=Z,20nm,1.6s
BGU Big Grassy Mou 59.60 306 IAmb IAmb 18 05 07.7
comp=Z,17nm,1.3s
KNB Kanab 59.67 301 IAmb IAmb 18 05 09.5
comp=Z,10.0nm,1.5s
CCUT Cedar City 60.06 302 P 18 05 09.8 +0.4
CCUT IAmb IAmb 18 05 11.7
comp=Z,16nm,1.3s
Y14A Wickenburg 60.11 298 IAmb IAmb 18 05 12.1
comp=Z,14nm,1.1s
HOLU Holmets 60.13 45 P P 18 05 09.3 0.0
BERU Beregovo 60.30 46 P P 18 05 11.1 +0.6
MUKU Mukachevo 60.33 45 P P 18 05 11.1 +0.4
PSUT Pine Spring 60.37 303 IAmb IAmb 18 05 13.9
comp=Z,8.7nm,1.2s
KWP Kalwaria Pacla 60.37 44 P P 18 05 12.5 +1.4
comp=Z,8.0nm,2.6s
HLID Hailey 60.53 309 IAmb IAmb 18 05 14.8
comp=Z,14nm,1.9s
BRIU Brid 60.55 46 P P 18 05 12.5 +0.3
SPR3 Spring Creek 3 60.71 304 P 18 05 14.6 +0.7
SPR3 IAmb IAmb 18 05 16.3
comp=Z,16nm,1.2s
PIX Pinacate 60.79 295 IAmb IAmb 18 05 18.6
comp=Z,20nm,1.5s
MEZ Mezhgor'ye 60.88 45 P P 18 05 15.8 +1.3
113A Mohawk Valley, 60.88 297 IAmb IAmb 18 05 17.1
comp=Z,19nm,1.6s
ELK Elko 61.28 306 IAmb IAmb 18 05 19.1
comp=Z,16nm,1.4s
RAKU Rahkiv 61.31 46 P P 18 05 17.0 -0.5
PRN Pahroc Range 61.41 302 IAmb IAmb 18 05 21.9
comp=Z,16nm,1.4s
V12A Nelson 61.42 300 IAmb IAmb 18 05 20.9
comp=Z,12nm,1.3s
STNU Starunia 61.54 45 P P 18 05 19.6 +0.6
MFID Camas Ranch 61.57 309 IAmb IAmb 18 05 20.8
comp=Z,12nm,1.3s
PLID Pearl Lake 61.62 311 IAmb IAmb 18 05 21.0
comp=Z,12nm,1.4s
GLA Glamis 61.73 297 IAmb IAmb 18 05 23.1
comp=Z,11nm,1.1s
R11B Troy Canyon, C 61.74 303 IAmb IAmb 18 05 22.7
comp=Z,12nm,1.4s
YKA Yellowknife Ar 61.81 331 P P 18 05 19.6 -0.9
comp=Z,1.2nm,0.6s,baz=94,slow=7.1,SNR=7.0
comp=Z,1.2nm,0.6s
IRM Iron Mountain 61.85 298 IAmb IAmb 18 05 23.9
comp=Z,9.0nm,1.3s
BUR08 Bucovina Ar. S 62.01 46 IAmb IAmb 18 05 26.5
comp=Z,9.2nm,1.4s
MTPC Mountain Pass 62.02 300 IAmb IAmb 18 05 25.1
comp=Z,20nm,1.9s
BURAR Bucovina Array 62.02 46 P 18 05 22.8 +0.4
BI02 San Fabin de 62.25 203 P P 18 05 23.8 -0.1

TPNV Topopah Spring 62.41 302 IAmb IAmb 18 05 27.9
comp=Z,10nm,1.2s
RNPP8 Varash 62.42 42 P P 18 05 25.0 +0.2
RNPP5 Staryi Chortor 62.44 42 P P 18 05 25.2 +0.3
RDO Rodhopi 62.58 54 IAmb IAmb 18 05 30.1
comp=Z,12nm,1.2s
MLR Muntele Rosu 62.60 49 P 18 05 25.9 -0.4
MLR Muntele Rosu 62.60 49 P P 18 05 27.6 +1.3
comp=Z,344nmcomp=Z,35nm,1.2s
WCT Wildcat Mounta 62.73 301 IAmb IAmb 18 05 29.8
comp=Z,12nm,1.2s
ISR Istrita 63.04 49 P P 18 05 30.1 +0.9
FINES FINESS Array B 63.06 31 P P 18 05 27.9 -0.9
comp=Z,1.2nm,0.6s,baz=238,slow=4.9,SNR=14
comp=Z,1.2nm,0.6s
PLOR5 Plostina Array 63.08 48 P P 18 05 30.4 +1.0
comp=Z,5.4nm,1.2s
VRI Vrincioaia 63.13 48 P P 18 05 30.7 +1.0
comp=Z,12nm,1.4s
NV11 Mina Array Sit 63.74 303 IAmb IAmb 18 05 42.7
comp=Z,14nm,1.7s
NVAR Mina Array Bea 63.86 303 P P 18 05 34.9 0.0
NVAR Mina Array Bea 63.86 303 P P 18 05 35.3 +0.4
comp=Z,1.1nm,0.7s,baz=93,slow=7.0,SNR=7.2
comp=Z,1.1nm,0.7s
ARCES ARCESS Array B 63.91 22 P P 18 05 35.8 +1.4
comp=Z,1.4nm,0.8s,baz=258,slow=6.7,SNR=4.0
comp=Z,1.4nm,0.8s
CWC Cottonwood Cre 63.93 301 IAmb IAmb 18 05 38.4
comp=Z,13nm,1.5s
RYN Ryan 64.00 304 IAmb IAmb 18 05 37.0
comp=Z,7.4nm,1.0s
LHV Little Huntoon 64.04 303 IAmb IAmb 18 05 44.9
comp=Z,9.6nm,1.4s
AKASG Malin Array Be 64.56 43 P P 18 05 38.0 -0.9
comp=Z,0.9nm,0.5s,baz=274,slow=5.9,SNR=7.0
comp=Z,0.9nm,0.5s
WAKR Walker 64.73 304 P 18 05 41.3 +0.7
WAKR IAmb IAmb 18 05 42.6
comp=Z,9.3nm,1.1s
LLLB Lillooet 65.32 317 IAmb IAmb 18 05 44.9
comp=Z,11nm,1.1s
CMB Columbia Colle 65.54 303 IAmb IAmb 18 05 47.6
comp=Z,8.6nm,1.5s
PLCA Paso Flores 65.65 200 P P 18 05 45.2 -1.0
comp=Z,5.6nm,0.9s,baz=36,slow=7.9,SNR=7.9
comp=Z,5.6nm,0.9s
PLCA Paso Flores 65.65 200 *e*P P 18 05 47.1 +1.0
BBOR Butler Butte 66.61 309 IAmb IAmb 18 05 53.0
comp=Z,12nm,1.6s
TOAD Toad River Com 66.84 326 P P 18 05 53.6 -0.1
baz=88
A36M Sachs Harbour 66.92 341 P P 18 05 54.1 +0.2
baz=93
TGTN Hyland Airport 68.20 329 P P 18 06 02.0 -0.3
baz=86
BR106 Keskin Array S 68.88 54 P P 18 06 08.0 +1.0
comp=Z,3.5nm,1.1s
BR105 Keskin Array S 68.88 54 P P 18 06 08.0 +1.0
comp=Z,57nmcomp=Z,4.9nm,1.4s
BRTR Keskin Array B 68.90 54 P 18 06 06.6 -0.5
BRTR Keskin Array B 68.90 54 P P 18 06 06.5 -0.6
comp=Z,1.2nm,0.7s,baz=251,slow=3.8,SNR=8.3
comp=Z,1.2nm,0.7s
BR104 Keskin Array S 68.90 54 P P 18 06 08.0 +0.9
DLBC Dease Lake 69.37 326 P P 18 06 09.7 +0.1
baz=83
MMPY Sheldon Lake, 69.51 331 IAmb IAmb 18 06 27.8
comp=Z,11nm,1.7s
MMPY Sheldon Lake, 69.51 331 P P 18 06 10.3 0.0
baz=84
T35M Bob Quinn 69.67 324 P P 18 06 11.3 -0.1
baz=83
R33M Jennings River 69.74 327 IAmb IAmb 18 06 13.4
comp=Z,14nm,1.4s
R33M Jennings River 69.74 327 P P 18 06 12.2 +0.3
baz=83,SNR=8.7
INK Inuvik 69.84 337 IAmb IAmb 18 06 13.1
comp=Z,19nm,1.5s
INK Inuvik 69.84 337 P P 18 06 12.4 +0.3
baz=84
S34M Telegraph Cree 70.02 326 P P 18 06 14.1 +0.7
baz=82
F31M Tsiigehtchic 70.02 336 P P 18 06 13.7 +0.4
baz=83
G31M Satah River 70.29 335 P P 18 06 13.6 -1.3
baz=83
H31M Peel River 70.46 334 P P 18 06 15.3 -0.8
baz=82
Q32M Nakina River 70.46 327 P P 18 06 15.2 -1.2
baz=82
P33M Teslin, Yukon 70.56 328 IAmb IAmb 18 06 17.8
comp=Z,16nm,1.6s
P33M Teslin, Yukon 70.56 328 P P 18 06 16.5 -0.4
baz=82,SNR=7.9
V35K Ketchikan 70.66 323 P P 18 06 17.9 +0.4
baz=81
F30M Barrier River 70.78 336 P P 18 06 17.4 -0.5
baz=82
WRAK Wrangell Islan 70.89 324 P P 18 06 18.9 +0.1
baz=81
M31M Dry Creek, Y 71.01 330 P P 18 06 19.6 +0.1
baz=81
G30M tAoh Zraii Nji 71.04 335 P P 18 06 18.8 -0.8
baz=81
P32M Atlin 71.10 327 P P 18 06 19.5 -0.6
baz=81
EPYK Eagle Plains 71.33 335 P P 18 06 20.7 -0.7
baz=80
U33K Whale Pass 71.37 324 P P 18 06 21.4 -0.3
baz=80
I30M Mount Dempster 71.39 334 P P 18 06 20.8 -1.1
baz=80
E29M Blow River 71.44 337 P P 18 06 21.3 -0.6
baz=80
J30M Hart River 71.48 333 P P 18 06 21.5 -1.0
baz=80
CRAG Craig 71.49 323 P P 18 06 22.4 0.0
baz=80
WHY Whitehorse 71.50 329 P P 18 06 21.8 -0.8
baz=80
R32K Eaglecrest 71.74 326 P P 18 06 23.3 -0.7
baz=80
G29M Pine Creek 71.75 335 P P 18 06 23.4 -0.5
baz=79
N31M Braeburn, Yuko 71.78 330 P P 18 06 23.4 -0.8
baz=80,SNR=8.1
S32K Killisnoo 71.92 325 P P 18 06 24.4 -0.6
baz=79
SKAG Skagway 71.93 328 P P 18 06 24.4 -0.6
baz=79
E28M Babbage River 71.99 337 P P 18 06 25.0 -0.3
baz=78
H29M Whitestone 72.02 335 P P 18 06 24.7 -0.8
baz=79
M30M Minto, Yukon 72.05 331 P P 18 06 25.0 -0.8
baz=79
O30N Mendenhall 72.06 329 IAmb IAmb 18 06 27.8
comp=Z,15nm,1.3s
O30N Mendenhall 72.06 329 P P 18 06 25.8 -0.1
baz=79,SNR=7.8
K29M Barlow Dome 72.13 332 P P 18 06 26.0 -0.3
baz=79
I29M Ogilvie Camp, 72.16 334 P P 18 06 25.4 -1.0
baz=79
F28M Old Crow 72.32 336 P P 18 06 26.7 -0.6
baz=78
D27M Malcolm River 72.36 338 P P 18 06 27.5 0.0
baz=77
SIT Sitka 72.39 325 P P 18 06 28.1 +0.3
baz=78
N30M Aishikik Lake 72.40 330 P P 18 06 27.3 -0.6
baz=78
L29M L29M 72.54 332 P P 18 06 27.9 -0.8
baz=78
P30M Million Dollar 72.61 328 P P 18 06 29.1 -0.1
baz=78
S31K Pelican 72.69 326 P P 18 06 28.8 -0.7
baz=78
HYT Haines Junctio 72.73 329 IAmb IAmb 18 06 31.4
comp=Z,11nm,1.5s
HYT Haines Junctio 72.73 329 P P 18 06 29.6 -0.4
baz=78
I28M Miner Creek 72.81 334 P P 18 06 30.8 +0.4
baz=77
E27K Coleen River 72.83 337 P P 18 06 30.3 0.0
baz=76
M29M Somme Creek 72.83 331 IAmb IAmb 18 06 32.4
comp=Z,17nm,1.8s
M29M Somme Creek 72.83 331 P P 18 06 29.8 -0.8
baz=78,SNR=5.5
DAWY Dawson 72.89 333 IAmb IAmb 18 06 31.6
comp=Z,15nm,1.4s
DAWY Dawson 72.89 333 P P 18 06 30.1 -0.7
baz=77
P29M Windy Craggy 73.10 328 P P 18 06 31.9 -0.1
baz=77
YUK6 Outpost Mounta 73.11 329 P P 18 06 32.1 -0.3
baz=77,SNR=5.8
YUK4 Talbot Arm 73.16 330 P P 18 06 31.7 -1.0
baz=77
G27K Doyon Strip 73.17 336 P P 18 06 32.2 -0.2
baz=76
C27K Jago River 73.21 339 P P 18 06 32.1 -0.5
baz=75
H27K Steamboat Moun 73.26 335 P P 18 06 32.6 -0.3
baz=76
O29M Mount Kennedy 73.36 329 P P 18 06 33.2 -0.5
baz=77
I27K Kandik River 73.45 334 P P 18 06 33.4 -0.7
baz=76
C26K Camden Bay 73.54 339 P P 18 06 34.0 -0.4
baz=74
YUK8 Steele Glacier 73.70 330 P P 18 06 35.2 -0.6
baz=76
F26K Sheenjek River 73.88 337 IAmb IAmb 18 06 38.4
comp=Z,11nm,1.3s
F26K Sheenjek River 73.88 337 P P 18 06 36.6 +0.1
baz=74
YUK3 Moose Creek 73.90 330 P P 18 06 36.5 -0.4
baz=76,SNR=6.4
PNL Peninsula 73.91 328 P P 18 06 37.0 +0.1
baz=76
BVCY Beaver Creek 73.92 331 P P 18 06 36.8 -0.1
baz=76
G26K Porcupine Rive 73.95 336 P P 18 06 36.9 0.0
baz=74
O28M Mount Upton 74.02 329 IAmb IAmb 18 06 39.1
comp=Z,11nm,1.4s
O28M Mount Upton 74.02 329 P P 18 06 37.5 -0.3
baz=76
K27K Chicken 74.04 333 P P 18 06 37.3 -0.2
baz=75
I26K Coal Creek Min 74.15 334 P P 18 06 37.7 -0.4
baz=74
BCAR Beaver Creek A 74.17 332 P 18 06 37.6 -0.8
L27K Beaver Creek, 74.19 332 IAmb IAmb 18 06 39.4
comp=Z,12nm,1.5s
L27K Beaver Creek, 74.19 332 P P 18 06 38.1 -0.3
baz=75,SNR=6.7
D25K Kavik River 74.20 339 P P 18 06 38.3 -0.1
baz=72
PINM Pinnacle 74.22 329 P P 18 06 38.3 -0.4
baz=75
M27K Edge Creek, AK 74.40 331 IAmb IAmb 18 06 40.9
comp=Z,11nm,1.3s
M27K Edge Creek, AK 74.40 331 P P 18 06 39.4 -0.4
baz=75
F25K Christian Rive 74.46 337 IAmb IAmb 18 06 43.5
comp=Z,20nm,1.6s
F25K Christian Rive 74.46 337 P P 18 06 39.8 -0.1
baz=73
CTG Chitna Glacier 74.52 330 P P 18 06 40.2 -0.3
baz=75
J26L Joseph Creek 74.54 334 P P 18 06 40.3 -0.2
baz=74
C24K Franklin Bluff 74.85 339 P P 18 06 42.0 -0.1
baz=70
G25K Bearman Lake 74.88 336 P P 18 06 41.9 -0.4
baz=72
M26K Nabesna, AK 74.89 331 P P 18 06 41.9 -0.6
baz=74
H25L Birch Creek 74.93 336 P P 18 06 41.9 -0.7
baz=72
PRP Porcupine Dome 75.04 335 P P 18 06 43.5 0.0
baz=72
D24K Happy Valley 75.08 339 P P 18 06 43.0 -0.5
baz=70
MCARA McCarthy VSAT 75.19 330 P P 18 06 44.2 0.0
baz=73
J25K Salcha River, 75.25 334 P P 18 06 43.9 -0.7
baz=72
RIDG Independent Ri 75.30 333 P P 18 06 45.0 +0.1
baz=72
F24K Squaw Lake 75.30 337 IAmb IAmb 18 06 46.9
comp=Z,23nm,1.6s
F24K Squaw Lake 75.30 337 P P 18 06 45.0 +0.2
baz=71
E24K Your Creek 75.33 338 P P 18 06 45.3 +0.4
baz=70
G24K Hadweenzic Riv 75.42 336 P P 18 06 45.3 -0.2
baz=71
C23K Itkillik River 75.43 340 P P 18 06 45.7 +0.2
baz=69
TOLK Toolik Lake Re 75.51 338 P P 18 06 45.9 -0.1
baz=70
GLB Gilahina Butte 75.53 331 IAmb IAmb 18 06 47.5
comp=Z,16nm,1.6s
E23K Chandalar 75.73 338 P P 18 06 47.4 +0.1
baz=69
D23K Nanushuk River 75.77 339 P P 18 06 47.2 -0.2
baz=69
PAX Paxson 75.81 332 P P 18 06 46.8 -1.0
baz=72
ILAR Eielson Array 75.82 334 P P 18 06 47.4 -0.4
comp=Z,3.0nm,0.8s,baz=68,slow=4.6,SNR=29
comp=Z,3.0nm,0.8s
N25K Chitina, Valde 75.84 331 P P 18 06 47.5 -0.6
baz=72
HARP HAARP 75.85 332 P P 18 06 47.4 -0.6
baz=72
H24K Noodor Dome 75.86 335 P P 18 06 47.7 -0.4
baz=70
POKR Poker Plat Res 75.93 335 P P 18 06 47.5 -0.9
baz=70
BMRM Bremner River 76.04 330 P P 18 06 48.5 -0.7
baz=72
A22K Sinclair Lake 76.33 341 P P 18 06 50.3 -0.3
baz=65
G23K Bananza Creek 76.37 337 IAmb IAmb 18 06 52.6
comp=Z,24nm,1.6s
G23K Bananza Creek 76.37 337 P P 18 06 50.3 -0.6
baz=69,SNR=5.4
M24K Tolsona, Glenn 76.39 332 P P 18 06 51.1 -0.1
baz=71
WRH Wood River Hil 76.41 334 IAmb IAmb 18 06 51.9
comp=Z,13nm,1.2s
E22K Anaktuvuk Pass 76.47 338 IAmb IAmb 18 06 52.9
comp=Z,17nm,1.5s
E22K Anaktuvuk Pass 76.47 338 P P 18 06 51.6 +0.1
baz=67
D22K Ayikyak River 76.48 339 P P 18 06 51.4 0.0
baz=67
KLU Klutina 76.48 331 P P 18 06 50.9 -0.8
baz=71
H23K Yukon River 76.51 336 IAmb IAmb 18 07 01.2
comp=Z,8.9nm,0.9s
H23K Yukon River 76.51 336 P P 18 06 51.2 -0.5
baz=69
I23K Minto, Yukon-K 76.68 335 IAmb IAmb 18 06 53.9
comp=Z,23nm,1.6s
I23K Minto, Yukon-K 76.68 335 P P 18 06 52.6 0.0
baz=69,SNR=5.2
EYAK Cordova Ski Ar 76.71 330 P P 18 06 52.4 -0.4
baz=71
NEA2 Nenana 76.77 334 P P 18 06 52.6 -0.6
baz=69
B21K Ikpikpuk River 76.80 340 P P 18 06 52.9 -0.3
baz=65
G22K Bettles 76.83 337 P P 18 06 52.5 -1.0
baz=67
SCM Sheep Creek Mo 77.00 332 P P 18 06 53.8 -0.8
baz=70
MCK McKinley 77.02 334 IAmb IAmb 18 06 55.3
comp=Z,13nm,1.2s
MCK McKinley 77.02 334 P P 18 06 53.8 -0.9
baz=69
C21K Knifeblade Rid 77.05 340 P P 18 06 54.6 -0.1
baz=65
H22K Ishtalitna Cre 77.18 336 P P 18 06 55.5 0.0
baz=67
M23K Glacier View 77.19 332 P P 18 06 55.2 -0.4
baz=70
GLI Glacier Island 77.22 331 P P 18 06 55.4 -0.4
baz=70
MLY Manley 77.27 335 P P 18 06 55.2 -0.8
baz=68

Q23K	Middleton Isla	77.37 329	P	P	18 06 56.2	-0.4	
	baz=70						
F21K	Alatna River	77.42 338	P	P	18 06 56.2	-0.6	
	baz=66						
B20K	Meade River	77.43 341	P	P	18 06 56.8	0.0	
	baz=63						
KNK	Knik Glacier	77.65 331	P	P	18 06 57.5	-0.7	
	baz=69						
P23K	Montague Islan	77.67 330	P	P	18 06 58.0	-0.3	
	baz=69						
TRF	Thorofare Moun	77.69 334	IAmb	IAmb	18 07 08.9		
	comp=Z,9.8nm,1.1s						
TRF	Thorofare Moun	77.69 334	P	P	18 06 58.3	-0.2	
	baz=68						
G21K	Allakaket	77.72 337	IAmb	IAmb	18 07 08.4		
	comp=Z,10nm,1.0s						
G21K	Allakaket	77.72 337	P	P	18 06 58.5	0.0	
	baz=66						
BPAW	Bear Paw Mtn.	77.72 334	P	P	18 06 58.1	-0.5	
	baz=67						
KOOLE	Kule	77.73 121	P	P	18 06 59.1	-0.3	
KOOLE			IAmb	IAmb	18 07 02.3		
	comp=Z,17nm,1.3s						
PWL	Port Wells	77.80 331	P	P	18 06 58.6	-0.4	
	baz=69						
H21K	Melozitna Rive	77.82 336	P	P	18 06 58.8	-0.2	
	baz=66						
E20K	Nigu River	77.91 339	P	P	18 06 59.5	-0.1	
	baz=64						
IMAR	Indian Mountai	78.04 337	P	P	18 06 58.6	-1.6	
CUT	Chulitna	78.08 333	P	P	18 07 00.4	-0.1	
	baz=68						
M22K	Willow	78.26 332	P	P	18 07 01.7	+0.2	
	baz=68						
F20K	Avaraart Lake	78.29 338	P	P	18 07 01.8	+0.2	
	baz=64						
RC01	Rabbit Creek A	78.35 331	P	P	18 07 02.2	+0.1	
	baz=68						
CHUM	Lake Minchumin	78.35 334	P	P	18 07 02.2	+0.2	
	baz=66						
D19K	Kuna River	78.43 340	P	P	18 07 02.0	-0.4	
	baz=62						
CAST	Castle Rocks	78.44 334	P	P	18 07 01.8	-0.8	
	baz=66						
SEW	Seward	78.59 330	P	P	18 07 02.6	-0.7	
	baz=68						
E19K	Redstone River	78.63 339	P	P	18 07 03.5	+0.1	
	baz=62						
SUA	Susitna One	78.65 332	P	P	18 07 03.7	-0.2	
	baz=67						
H20K	Anotleneega Mo	78.67 336	P	P	18 07 03.9	+0.1	
	baz=64						
PPLA	Purkeypile	78.70 333	P	P	18 07 03.7	-0.5	
	baz=66						
SKT	Skwentna	78.79 332	P	P	18 07 04.7	+0.2	
	baz=66						
J20K	Nowinta River	78.96 335	P	P	18 07 04.6	-0.7	
	baz=64						
B18K	Kokolik River	79.16 341	P	P	18 07 06.3	-0.1	
	baz=59						
G19K	Purcell Mounta	79.19 337	P	P	18 07 06.7	+0.2	
	baz=62						
H19K	Roundabout Mou	79.24 337	P	P	18 07 06.6	-0.2	
	baz=63						
K20K	Telida	79.28 334	IAmb	IAmb	18 07 07.7		
	comp=Z,15nm,1.4s						
K20K	Telida	79.28 334	P	P	18 07 06.8	-0.3	
	baz=64						
C18K	Utukok River	79.34 340	P	P	18 07 07.4	0.0	
	baz=59						
M20K	Styx River	79.52 333	P	P	18 07 07.6	-1.0	
	baz=65						
L20K	Farewell, AK	79.58 333	P	P	18 07 08.0	-0.8	
	baz=64						
J19K	Poorman	79.62 335	P	P	18 07 08.2	-0.8	
	baz=63						
E18K	Tukpahlearik C	79.78 339	P	P	18 07 09.2	-0.6	
	baz=59						
HOM	Homer	79.78 330	P	P	18 07 09.8	-0.1	
	baz=66						
G18K	Tagagawik	79.87 337	P	P	18 07 09.4	-0.9	
	baz=61						
F18K	Selawik	79.87 338	P	P	18 07 10.0	-0.2	
	baz=60						
M19K	Big River Lodg	80.05 333	P	P	18 07 10.2	-1.1	
	baz=64						
C17K	DeLong Mountai	80.05 341	P	P	18 07 10.6	-0.6	
	baz=57						
O20K	Slope Mountain	80.06 331	P	P	18 07 11.1	-0.3	
	baz=65						
L19K	White Mountain	80.12 333	IAmb	IAmb	18 07 12.3		
	comp=Z,16nm,1.4s						
L19K	White Mountain	80.12 333	P	P	18 07 11.0	-0.8	
	baz=64						
H18K	Honhosa River	80.12 337	P	P	18 07 11.7	0.0	
	baz=61						
J18K	Innoko River	80.30 335	P	P	18 07 12.0	-0.7	
	baz=62						
E17K	Hotham Inlet	80.36 339	P	P	18 07 11.2	-1.7	
	baz=58						
D17K	Noatak River	80.44 340	P	P	18 07 12.2	-1.1	
	baz=57						
F17K	Baldwin Pennin	80.50 338	P	P	18 07 13.5	-0.1	
	baz=59						
N19K	Bonanza Creek	80.57 332	P	P	18 07 13.4	-0.9	
	baz=64						
H17K	Granite Mounta	80.80 337	P	P	18 07 14.6	-0.7	
	baz=60						
M18K	Stony River	80.85 333	P	P	18 07 15.2	-0.4	
	baz=63						
L18K	Granite Mounta	80.87 334	P	P	18 07 15.4	-0.3	
	baz=62						
KDAK	Kodiak Island	81.01 329	P	P	18 07 15.8	-0.7	
	baz=65						
N18K	Kilae Creek	81.25 332	P	P	18 07 17.1	-0.7	
	baz=62						
K17K	Iditarod	81.29 335	P	P	18 07 17.6	-0.3	
	baz=61						
O18K	Koktuh Hills	81.33 331		P	18 07 17.4	-0.8	
O18K	Koktuh Hills	81.33 331	P	P	18 07 18.0	-0.3	
	baz=63						
P18K	Big Mountain,	81.55 331	P	P	18 07 18.8	-0.6	
	baz=63						
L17K	Donlin	81.57 334	P	P	18 07 19.2	-0.2	
	baz=61						
M17K	Holitna River	81.57 333	P	P	18 07 18.9	-0.6	
	baz=61						
OHAK	Old Harbor	81.60 328	P	P	18 07 19.1	-0.6	
	baz=64						
Q18K	Katmai Hardscr	81.78 330	P	P	18 07 19.2	-1.6	
	baz=63						
H16K	Elim	81.81 337	P	P	18 07 20.3	-0.4	
	baz=58						
N17K	Nushagak Hills	81.89 332	P	P	18 07 20.5	-0.6	
	baz=61						
R18K	Karluk	82.01 329	P	P	18 07 21.4	-0.5	
	baz=63						
F15K	North Star Dit	82.07 339	P	P	18 07 21.2	-0.8	
	baz=56						
O17K	Koliganek Bris	82.21 332	P	P	18 07 22.4	-0.5	
	baz=61						
G15K	Niukluk	82.26 338	P	P	18 07 23.1	+0.1	
	baz=56						
L16K	Owhat River	82.27 334	P	P	18 07 24.0	+0.9	
	baz=60						
Q17K	Contact Creek	82.37 330	P	P	18 07 23.2	-0.7	
	baz=62						
M16K	Timber Creek	82.40 333		P	18 07 24.7	+0.9	
M16K			IAmb	IAmb	18 07 28.6		
	comp=Z,17nm,1.3s						
M16K	Timber Creek	82.40 333	P	P	18 07 24.5	+0.6	
	baz=60						
N16K	Nishlik Lake	82.59 333	P	P	18 07 25.0	+0.1	
	baz=60						
O16K	Kokwok River B	82.74 332	P	P	18 07 26.1	+0.5	
	baz=60						
K15K	Wolf Creek Mou	82.80 335	P	P	18 07 26.3	+0.4	
	baz=58						
ANM	Nome	82.97 338	P	P	18 07 25.9	-0.8	
	baz=55						
L15K	Ungalak Mounta	83.11 334	P	P	18 07 27.8	+0.3	
	baz=58						
TNA	Tin City	83.26 339	P	P	18 07 29.7	+1.5	
	baz=53						
M15K	Kasigluk River	83.30 333	P	P	18 07 28.9	+0.4	
	baz=58						
N15K	Kwethluk River	83.32 333	P	P	18 07 29.7	+1.0	
	baz=59						
J14K	Nanvaranak Lak	83.33 336	P	P	18 07 29.2	+0.6	
	baz=56						
CHIR	Chirikof Isla	83.39 328	P	P	18 07 29.2	+0.1	
	baz=62						
O15K	Ungalikthiuk R	83.71 332	P	P	18 07 31.5	+0.8	
	baz=59						
L14K	Kuka Creek	83.77 334	P	P	18 07 31.0	+0.1	
	baz=57						
M14K	Bethel	83.80 334	P	P	18 07 31.4	+0.4	
	baz=57						
AB31	Akbulak array	84.02 39		P	18 07 32.4	-0.1	
AB31			IAmb	IAmb	18 07 33.9		
	comp=Z,11nm,1.7s						
ABKAR	Akbulak array	84.02 39		P	18 07 32.2	-0.2	
N14K	Kuskokwak Cree	84.13 333	P	P	18 07 33.2	+0.5	
	baz=58						
K13K	Kusilvak Mount	84.22 335	P	P	18 07 33.6	+0.4	
	baz=55						
O14K	Tigyukauivet M	84.30 332	P	P	18 07 33.6	-0.1	
	baz=58						
GAMB	Gambell	85.65 339	P	P	18 07 40.5	+0.2	
	baz=49						
SDPT	Sand Point	86.01 329	P	P	18 07 42.2	-0.1	
	baz=58						
BVAR	Borovoye Array	87.94 33	P	P	18 07 51.9	+0.1	
	comp=Z,0.5nm,0.6s,baz=316,slow=4.1,SNR=3.6						
	comp=Z,0.5nm,0.6s						
PZH	PanZhiHua	123.19 35	PKP	PKPdf	18 13 57.8	-1.8	
CMAR	Chiang Mai Arr	127.67 44	PKP	PKPdf	18 14 06.7	-1.4	
	comp=Z,0.3nm,0.4s,baz=328,slow=1.9,SNR=1.6						

*IDC **01** 17:58:04.1±1.0,56°.10S×24°.55W,h0km,mb3.9/5, mbtmp3.9/6,ML3.9/1,MS3.4/1,Error ellipse: s-maj=41.2km s-min=21.6km az=75.0*

ISC 01 17:58:05.5±0.9,56°.2S×0°.1×24°.6W±0°.2,h10km,n12, σ1s25/11,mb4.0/4,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	16.16	160	⇑P	Pn	18 01 50.6	-1.8
	comp=Z,0.3nm,0.2s						
VNA3	Neumayer Olymp	16.42	163	⇑P	Pn	18 01 53.3	-2.4
	comp=Z,1.2nm,0.2s						
SNAA	Sanae	18.06	158	⇑P	P	18 02 17.0	+0.4
	comp=Z,8.8nm,0.2s						
SNAA	Sanae	18.06	158	P	P	18 02 17.0	+0.4
	comp=Z,0.4nm,0.3s,baz=302,slow=11,SNR=11						
	comp=Z,1.1nm,0.4s						
TROLL	Troll, Antarti	19.50	155	⇑P	Pn	18 02 35.0	+1.3
	comp=Z,12nm,0.2s						
PMSA	Palmer Station	20.93	230	LR	LR	18 09 10.3	
	comp=Z,98nm,18.4s,baz=108,slow=32						
QSPA	South Pole Qui	34.08	180	P	P	18 04 50.5	+0.7
	comp=Z,4.2nm,0.6s,baz=216,slow=1.1,SNR=59						
	comp=Z,4.2nm,0.6s						
CPUP	Villa Florida	38.01	308	P	P	18 05 23.5	-0.1
	comp=Z,0.2nm,0.5s,baz=219,slow=7.3,SNR=1.5						
	comp=Z,0.2nm,0.5s						
VNDA	Vanda	46.51	182	P	P	18 06 32.9	+0.7
	comp=Z,1.5nm,0.9s,baz=171,slow=6.7,SNR=8.1						
	comp=Z,1.5nm,0.9s						
LPAZ	La Paz	51.66	302	P	P	18 07 12.8	-0.2
	comp=Z,1.0nm,0.4s,baz=180,slow=5.1,SNR=2.2						
	comp=Z,1.0nm,0.4s						
TORD	Torodi Ar. Bea	72.47	27	P	P	18 09 32.1	+0.1
	comp=Z,0.4nm,0.3s,baz=205,slow=5.6,SNR=5.6						
	comp=Z,0.4nm,0.3s						
SONM	Songino Array	149.28	85	PKPbc	PKPbc	18 17 52.8	-0.7
	comp=Z,0.5nm,0.5s,baz=222,slow=3.9,SNR=2.8						

NEIC 01 18:05:57.3±0.1,37°.01N±0°.01×104°.92W±0°.01,h5km±2km, ML1.1/10,Error ellipse: s-maj=3.0km s-min=2.7km az=308.0,Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	Trinidad	0.43	72	Pg	Pg	18 06 06.1	+0.6
T25A				Sg	Sg	18 06 12.1	+1.0
T25A				IAML		18 06 12.3	
	comp=N,21nm,0.5s						
T25A				IAML		18 06 12.3	
	comp=E,34nm,0.4s						
SDCO	Great Sand Dun	0.87	328	Pg	Pg	18 06 14.0	0.0
SDCO				IAML		18 06 29.4	
	comp=E,3.7nm,0.1s						
RTBA	Rita Blanca	1.84	107	Pn	Pn	18 06 30.2	+0.6

*IDC **01** 18:09:11.5±4.2,36°.85N×71°.46E,h0km,mb3.6/4, mbtmp3.6/9,ML3.2/5,Error ellipse: s-maj=64.2km s-min=26.7km az=152.0*

*NNC **01** 18:09:15.3±2.3,36°.96N×70°.05E,h0km,mb3.8,mpv3.8, Error ellipse: s-maj=41.4km s-min=27.3km az=87.0*

ISC 01 18:09:15.9±2.3,37°.0N±0°.2×70°.5E±0°.1,h10km,n13, σ3s25/13,mb3.6/4,1C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.13	360	⇑P	Pn	18 10 46.6	+0.1
	2.9nm,0.3s,baz=173,slow=12,SNR=107						
KK31				⇓S	Sn	18 11 59.6	+2.9
	2.2nm,0.3s,baz=189,slow=24,SNR=3.5						
AAK	Ala-Archa	6.43	27	Pn	Pn	18 10 47.6	-3.2
	0.4nm,0.3s,baz=202,slow=11,SNR=1.5						
AAK				Sn	Sn	18 12 01.8	-2.5
	0.4nm,0.3s,baz=194,slow=4.2,SNR=1.5						
	4.4nm,0.4s						
MK31	Makanchi Array	13.14	38	⇓P	Pn	18 12 27.0	+4.5
	0.7nm,0.6s,baz=220,slow=14,SNR=6.4						
MKAR	Makanchi Array	13.14	38	Pn	Pn	18 12 16.7	-5.9
	0.1nm,0.3s,baz=216,slow=12,SNR=4.1						
	0.4nm,0.6s						
AB31	Akbulak array	14.50	331	⇓P	Pn	18 12 40.1	-0.9
	0.4nm,0.3s						
BVA0	Borovoye Array	16.06	360	P	Pn	18 13 02.6	+0.9
	0.9nm,0.6s,baz=0.0,slow=0.1,SNR=6.4						
BVAR	Borovoye Array	16.06	360	Pn	Pn	18 12 57.3	-4.3
	0.1nm,0.3s,baz=172,slow=12,SNR=6.7						
	1.1nm,0.7s						
AKTO	Aktyubinsk	16.19	330	Pn	P	18 13 03.0	-3.6
	0.5nm,0.3s,baz=145,slow=10,SNR=9.2						
	1.0nm,0.5s						
ZALV	Zalesovo Beam	19.65	26	P	P	18 13 39.2	-5.4
	0.4nm,0.3s,baz=209,slow=12,SNR=10.0						
	1.4nm,0.4s						
ARTI	Arti	21.08	341	P	P	18 14 00.9	+0.7
	1.8nm,0.6s,baz=170,slow=11,SNR=4.3						
	1.8nm,0.6s						
FINES	FINESS Array B	36.89	326	P	P	18 16 24.9	+0.6
	1.4nm,0.9s,baz=124,slow=9.5,SNR=4.7						
	1.4nm,0.9s						
HFS	Hagfors	42.47	322	P	P	18 17 12.8	+2.0
	0.6nm,0.5s,baz=99,slow=8.9,SNR=5.5						
	0.6nm,0.5s						
NOA	NORSAR Array B	43.79	323	P	P	18 17 23.5	+2.0
	0.1nm,0.5s,baz=95,slow=8.0,SNR=1.7						
	0.1nm,0.5s						

*IDC **01** 18:12:10.0±0.7,6°.79N×73°.08W,h156km±7km,mb3.5/7, mbtmp4.0/9,Error ellipse: s-maj=16.9km s-min=7.9km az=128.0*

*NEIC **01** 18:12:11.0±1.2,6°.77N±0°.07×72°.95W±0°.09,h156km±8km, mb4.2/32,Error ellipse: s-maj=13.8km s-min=10.3km az=102.0*

*RSNC **01** 18:12:11.4±0.0,7°.1N×7°.3W±°,h154km±1km,M4.1, mB4.8,mb4.5,ML3.7,Mw(mB)4.1*

ISC 01 18:12:10.6±0.6,6°.82N±0°.03×73°.08W±0°.03,h159km±5km, n106,σ1s59/144,mb4.2/22,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.25	204	P	Pn	18 12 32.2	-0.2
BARC				S	Sn	18 12 48.4	-0.6
PAMC	Pamplona, Colo	0.64	36	P	Pn	18 12 35.0	+0.7
PAMC				S	Sn	18 12 52.4	0.0
BRJC	Barrancabermej	0.67	283	P	Pn	18 12 34.0	+0.1
BRJC				S	Sn	18 12 51.3	-0.4
RUSC	La Rusia	0.92	180		Pn	18 12 35.7	-0.6
RUSC				Sn	Sn	18 12 54.8	-1.0
RUSC	La Rusia	0.92	180	P	Pn	18 12 36.0	-0.2
RUSC				S	Sn	18 12 54.6	-1.2
PTBC	PUERTO BERRIO,	1.39	259	P	Pn	18 12 38.7	-1.1
PTBC				S	Sn	18 13 00.2	-2.0
OCAC	Ocana	1.43	351	P	Pn	18 12 40.3	0.0
OCAC				S	Sn	18 13 02.6	-0.6
ZARC	Zaragoza, Cauc	1.88	291	P	Pn	18 12 44.2	-0.8
ZARC				S	Sn	18 13 11.1	-0.4
NORC	Norcasia	2.17	235	P	Pn	18 12 47.8	-0.5
NORC				S	Sn	18 13 16.4	-1.0
ROSC	El Rosal	2.32	212	P	Pn	18 12 50.7	+0.2
	240nm,0.3s,baz=314,slow=3.6,SNR=94						
ROSC				S	Sn	18 13 19.6	-1.5
	275nm,0.3s,baz=99,slow=13,SNR=6.9						
ROSC	El Rosal	2.32	212	P	Pn	18 12 51.4	+0.9
ROSC				S	Sn	18 13 21.0	-0.2
CVER	Cruz Verde, Cu	2.49	203	P	Pn	18 12 53.4	+0.9
CVER				S	Sn	18 13 24.3	-0.6
HELC	Santa Helena	2.51	256	P	Pn	18 12 52.9	+0.2
HELC				S	Sn	18 13 24.3	-0.8
UREC	San Jos de Ur	2.60	291	P	Pn	18 12 52.0	-1.4
UREC				S	Sn	18 13 24.2	-2.3
VILC	Villavicencio,	2.76	193	P	Pn	18 12 55.3	-0.2
VILC				S	Sn	18 13 28.9	-1.4
GUY2C	Guyana, Caldas	2.77	235	P	Pn	18 12 56.0	0.0
GUY2C				S	Sn	18 13 29.9	-1.1
PTGC	Puerto Gaitan,	2.77	160	P	Pn	18 12 55.0	-0.5
PTGC				S	Sn	18 13 28.2	-2.1
CBOC	Ciudad Bolivar	3.06	252	P	Pn	18 12 59.7	+0.4
CBOC				S	Sn	18 13 35.7	-1.3
DBBC	Dabeiba	3.11	274	P	Pn	18 12 59.6	-0.2
DBBC				S	Sn	18 13 36.8	-1.1
SDV	Santo Domingo	3.18	50	P	Pn	18 13 01.5	+0.7
SDV	Santo Domingo	3.18	50	P	Pn	18 13 01.1	+0.4
	62nm,0.3s,baz=225,slow=12,SNR=22						
SDV				S	Sn	18 13 39.2	-0.4
	167nm,0.3s,baz=218,slow=11,SNR=30						
SDV	Santo Domingo	3.18	50	P	Pn	18 13 01.7	+0.9
SDV				S	Sn	18 13 39.1	-0.6
ARGC	Ariguani, Magd	3.23	339	P	Pn	18 13 02.0	+0.7
ARGC				S	Sn	18 13 40.8	+0.2
PRAC	Prado	3.57	210	P	Pn	18 13 05.6	-0.1
PRAC				S	Sn	18 13 47.9	-0.6
ORTC	Ortega, Tolima	3.61	217	P	Pn	18 13 06.3	+0.2
ORTC				S	Sn	18 13 49.5	+0.2
APAC	Apartado, Choc	3.63	287	P	Pn	18 13 06.1	-0.3
APAC				S	Sn	18 13 49.6	-0.1
SJCC	San Jacinto, C	3.69	326	P	Pn	18 13 05.8	-1.4
SJCC				S	Sn	18 13 47.5	-3.8
PLMC	San Jos del P	3.71	239	P	Pn	18 13 07.7	+0.2
PLMC				S	Sn	18 13 47.7	-3.9
URMC	La Uribe, Meta	3.78	200	P	Pn	18 13 08.4	0.0
URMC				S	Sn	18 13 51.9	-1.4
CRJC	Cerrejon, Guaj	4.18	3	P	Pn	18 13 12.2	-1.3
CRJC				S	Sn	18 14 00.3	-2.3
GUVC	San Jose del G	4.27	174	P	Pn	18 13 14.5	-0.2
GUVC				S	Sn	18 14 02.8	-1.9
YOTC	Yotoco, Valle	4.30	229	P	Pn	18 13 14.6	-0.6
YOTC				S	Sn	18 14 05.8	+0.3
SMRC	Santa Marta, M	4.46	345	Pn	Pn	18 13 16.6	-0.6
SMRC	Santa Marta, M	4.46	345	P	Pn	18 13 16.3	-0.8
SMRC				S	Sn	18 14 05.3	-3.8
CAPC	Capurgana	4.60	293	P	Pn	18 13 17.3	-1.6
CAPC				S	Sn	18 14 07.2	-5.1
MACC	Macarena, Meta	4.71	189	P	Pn	18 13 18.6	-1.8
MACC				S	Sn	18 14 09.7	-5.2
BETC	Betania	4.74	210	P	Pn	18 13 20.0	-0.8
BETC				S	Sn	18 14 13.3	-2.3
URIC	Uribia, Colomb	4.97	12	P	Pn	18 13 22.4	-1.4
URIC				S	Sn	18 14 17.3	-3.7
JAMC	Jamundi, Valle	5.06	225	P	Pn	18 13 24.8	-0.5
	819nm29nm,0.7s						
JAMC				S	Sn	18 14 22.9	-0.6
	819nm29nm,0.7s						
GARC	Garzon, Huila	5.19	208	P	Pn	18 13 25.8	-1.2
GARC				S	Sn	18 14 25.1	-1.6
BAUV	El Baul	5.42	67		Pn	18 13 27.4	-2.4
POPC	Popayan, Colom	5.56	220	P	Pn	18 13 31.8	0.0
	514nm28nm,0.7s						
FLOC	Florencia	5.80	206		Pn	18 13 33.7	-1.2
FLOC	Florencia	5.80	206	P	Pn	18 13 34.3	-0.6
	1µm60nm,0.7s						
FLOC				S	Sn	18 14 39.5	-1.3
	1µm60nm,0.7s						
BBAC	Balboa, Cauca	6.32	221	P	Pn	18 13 42.7	+0.8
	1µm49nm,0.6s						
GR1C	Gorgona, Isla	6.33	233	P	Pn	18 13 42.1	+0.3
OTAV	Otavalo	8.45	220		Pn	18 14 09.9	-0.6
STH	Stony Hill	11.76	342	eP	Pn	18 14 57.4	+3.7
MTDJ	Mount Denham	12.14	339	Pn	Pn	18 15 01.6	+3.0
MTDJ	Mount Denham	12.14	339	eP	Pn	18 15 01.7	+3.0
MTDJ				eS	Sn	18 17 04.5	-8.6
SDDR	Presa de Saban	12.21	8	eP	Pn	18 15 02.7	+3.2
SDDR				eS	Sn	18 17 08.6	-6.2
JTS	Las Juntas de	12.23	287	Pn	Pn	18 15 01.5	+1.7
JTS	Las Juntas de	12.23	287	P	P	18 15 07.0	+1.4
	7.5nm,0.5s,baz=56,slow=19,SNR=8.1						
GTBY	Guantanamo Bay	13.18	352	P	P	18 15 15.5	-0.5
GTBY	Guantanamo Bay	13.18	352	eP	P	18 15 15.9	-0.1
MASC	Masc	13.32	355	eP	Pn	18 15 16.0	+2.4
MARVS	Santiago de Cu	13.38	348	eP	P	18 15 17.8	-0.5
QMBU	Quimbuelo	13.40	353	eP	P	18 15 18.4	-0.2
PILO	Pilon	13.67	343	eP	Pn	18 15 19.7	+1.6
YAR	Yar	13.84	347	eP	P	18 15 24.6	+1.2
MOAC	Moa	13.88	353	eP	P	18 15 23.5	-0.4
HLGC	Holguin	14.28	349	eP	P	18 15 32.9	+4.6
CBCY	The Bluff, Cay	14.38	334	eP	P	18 15 30.0	+0.5
CZSB	Cruzeiro do Su	14.46	178		Pn	18 15 26.4	-1.6
LTUP	Las Tunas	14.56	345	eP	P	18 15 35.1	+3.7
ATAH	Atahualpa	14.84	201	P	P	18 15 35.8	+0.7
	2.5nm,0.7s,baz=37,slow=15,SNR=4.8						
MTO3	Montecristo	17.67	297	P	Pn	18 16 07.6	+0.1
TEIG	Tepich	19.87	314	P	P	18 16 31.0	+1.4
LPAZ	La Paz	23.48	168	P	P	18 17 05.4	-1.4
LPAZ	La Paz	23.48	168	P	P	18 17 06.7	-0.1
	0.8nm,0.4s,baz=353,slow=15,SNR=4.5						
	0.8nm,0.4s						
X48A	Hartselle	30.37	337	P	P	18 18 09.0	+1.4
X48A				IAmb	IAmb	18 18 10.1	
	comp=Z,4.4nm,0.8s						
HBVL	Hebbronville	31.57	313	P	P	18 18 18.7	+0.4
WVT	Waverly	32.15	337	P	P	18 18 24.2	+1.1
WVT				IAmb	IAmb	18 18 24.7	
	comp=Z,3.1nm,0.7s						
T47A	Sharon Grove	32.64	339	P	P	18 18 27.8	+0.3
BDFB	Brasilia	33.39	132	P	P	18 18 34.1	-0.2
	comp=Z,1.4nm,0.4s,baz=254,slow=15,SNR=1.9						
	comp=Z,1.4nm,0.4s						
LCAR	Lake Charles	33.49	333	P	P	18 18 36.1	+1.2
PBMO	Poplar Bluff	33.76	334	P	P	18 18 38.2	+1.0
FCAR	Ozark Folk Cen	33.79	332	P	P	18 18 37.9	+0.4
FCAR				IAmb	IAmb	18 18 38.8	
	comp=Z,4.9nm,0.9s						
FVM	French Village	34.79	336	P	P	18 18 46.9	+0.8
SFIN	Lafayette	35.70	342	P	P	18 18 54.9	+1.2
R40A	Maddies Statio	35.83	334	P	P	18 18 55.4	+0.5
R40A				IAmb	IAmb	18 18 56.0	
	comp=Z,8.9nm,1.3s						
TXAR	Lajitas Array	36.49	312	P	P	18 19 00.7	-0.1
	comp=Z,1.2nm,0.6s,baz=127,slow=9.7,SNR=20						
	comp=Z,1.2nm,0.6s						
MNTX	Cornudas Mount	39.00	314		P	18 19 22.6	+0.9
EYMN	Ely

LCMT	**Little Creek M**	**47.30**	**315**	P		**P**	**18 20 29.6**	**+1.2**
PDAR	**Pinedale Array**	**48.10**	**324**	P		**P**	**18 20 34.2**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=128,slow=9.7,SNR=4.9							
	comp=Z,0.7nm,0.4s							
BGU	**Big Grassy Mou**	**49.17**	**320**			**P**	**18 20 43.6**	**+0.8**
BGU				IAmb		IAmb	18 20 44.3	
	comp=Z,3.8nm,0.7s							
LOHW	**Long Hollow**	**49.22**	**324**	P		**P**	**18 20 43.8**	**+0.7**
DSP	**Deep Springs**	**50.82**	**314**	-		**P**	**18 20 56.0**	**+1.0**
NVAR	**Mina Array Bea**	**51.51**	**315**	P		**P**	**18 21 00.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=101,slow=6.4,SNR=5.6							
	comp=Z,0.9nm,0.6s							
G08A	**Pilot Rock**	**55.14**	**322**			**P**	**18 21 27.1**	**+0.4**
G08A				IAmb		IAmb	18 21 28.2	
	comp=Z,3.0nm,0.7s							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**18 22 21.9**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=131,slow=6.3,SNR=10							
	comp=Z,2.5nm,0.7s							
ILAR	**Eielson Array**	**76.98**	**335**	P		**P**	**18 23 45.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=114,slow=4.9,SNR=4.2							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**122.31**	**20**	PKP		**PKPdf**	**18 30 46.0**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=290,slow=3.4,SNR=5.9							
ASAR	**Alice Springs**	**149.14**	**234**	PKP		**PKPdf**	**18 31 35.5**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=93,slow=1.8,SNR=1.8							
ASAR				PKPbc		**PKPbc**	**18 31 40.1**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=117,slow=3.7,SNR=7.3							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**	**18 31 43.3**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=109,slow=2.5,SNR=35							
CMAR	**Chiang Mai Arr**	**153.68**	**17**	PKPbc		**PKPbc**	**18 31 51.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=323,slow=3.4,SNR=2.6							

IDC 01 18:17:56.4±2.0, 18.19S×176.27W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=58.4km s-min=43.8km az=24.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.59**	**259**	P		P	18 26 26.4	-0.2
	0.3nm,0.3s,baz=97,slow=7.6,SNR=5.5							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**46.68**	**254**	P		P	18 26 27.2	0.0
	0.6nm,0.7s,baz=86,slow=8.4,SNR=12							
	0.6nm,0.7s							
QSPA	**South Pole Qui**	**71.87**	**180**	P		P	18 29 21.2	+0.1
	0.5nm,0.6s,baz=34,slow=6.6,SNR=6.9							
	0.5nm,0.6s							
GERES	**GERESS Array B**	**148.37**	**347**	PKPbc		PKPbc	18 37 44.2	-0.7
	0.2nm,0.6s,baz=32,slow=3.2,SNR=3.5							

*SJA **01** 18:27:59.7±0.6, 34.25S×72.50W, h10km, ML6.5, MW6.8*
*IDC **01** 18:28:02.7±0.3, 34.31S×71.99W, h0km, mb5.4/23, mbtmp5.4/25, ML4.8/2, MS6.7/33, Error ellipse: s-maj=15.5km s-min=11.8km az=82.0*
*BJI **01** 18:28:04.8, 34.23S×72.26W, h10km, mB6.5/45, Ms7.0/94, Ms7 7.0/93*
*MOS **01** 18:28:04.0±1.1, 34.21S×72.23W, h10km, mb6.2/24, MS6.8/39, Error ellipse: s-maj=11.1km s-min=6.9km az=82.2*
*GUC **01** 18:28:04.2±0.8, 34.25S×72.50W, h10km±3km, ML6.5*
*VAO **01** 18:28:05.1±0.2, 34.21S×72.14W, h10km, mb6.1*
*NEIC **01** 18:28:05.1, 34.23S×72.30W, h10km*
*NEIC **01** 18:28:05.1, 34.23S×72.30W, h10km*
*IPGP **01** 18:28:05.0, 34.24S×72.28W, h24km, Mw6.8, Fault plane solution: NP1:φs16.00000°, δ22.00000°, λ105.00000°. NP2:φs180.00000°, δ69.00000°, λ84.00000°.*
*ISC-PP **01** 18:28:07, 34.24S×72.31W, h32km, Mwppsm6.8, Moment Tensor Solution. s26 Moment tensor: Scale 10^19Nm; Mrr0.55±.15; Mθθ0.10±.18; Mϕϕ-0.66±.17; Mrθ0.01±.13; Mθϕ-0.33±.24; Mϕr0.15±.11; Fault plane solution: M○2.11000×10^19 NP1:φs174.20000°, δ59.00000°, λ95.90000°. NP2:φs342.90000°, δ31.50000°, λ80.30000°.*
*OSUNB **01** 18:28:07.3±0.3, 34.18S×72.16W, h31km±2km, Mw6.6/63 Error ellipse: s-maj=1.6km s-min=1.6km az=0.0*
*NEIC **01** 18:28:07.3, 34.24S×72.30W, h24km, Moment Tensor Solution. Duration: 13s1 Moment tensor: Scale 10^19Nm; Mrr0.74; Mθθ-0.02; Mϕϕ-0.72; Mrθ-0.12; Mθϕ-0.14; Mϕr-1.50; Fault plane solution: M○1.68000×10^19 NP1: φs17.18000°, δ13.43000°, λ101.72000°. NP2: φs185.14000°, δ76.85000°, λ87.22000°. Principal axes: T 1.6806, Plg58.0000°, Azm91.0000°; N -0.0035, Plg3.0000°, Azm186.0000°; P -1.6771, Plg32.0000°, Azm277.0000°;*
*NEIC **01** 18:28:07.3, 34.24S×72.30W, h24km*
*NEIC **01** 18:28:07.3±1.9, 34.24S±0.04×72.31W±0.06, h25km±1km, mb6.2/572, Ms_20 6.4/1089, Mwb6.6/121, Mwr6.7/76, Mww6.8/48, Mww6.8(GUC), Error ellipse: s-maj=8.7km s-min=6.9km az=285.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr5.65; Mθθ1.98; Mϕϕ-7.63; Mrθ0.69; Mθϕ-2.63; Mϕr-5.94; Fault plane solution: M○9.47000×10^18 NP1:φs38.03000°, δ29.61000°, λ127.30000°. NP2:φs176.81000°, δ66.85000°, λ71.00000°. Principal axes: T 8.3294, Plg63.0000°, Azm56.0000°; N 1.9742, Plg17.0000°, Azm185.0000°; P -10.3036, Plg20.0000°, Azm281.0000°; Moment Tensor Solution. Moment tensor: Scale 10^19 Nm; Mrr0.52; Mθθ0.24; Mϕϕ-0.76; Mrθ-0.38; Mθϕ-0.38; Mϕr-0.85; Fault plane solution: M○1.21000×10^19 NP1:φs205.02000°, δ71.62000°, λ96.35000°. NP2:φs5.57000°, δ19.41000°, λ71.58000°. Principal axes: T 0.9905, Plg63.0000°, Azm125.0000°; N 0.3578, Plg6.0000°, Azm23.0000°; P -1.3484, Plg26.0000°, Azm290.0000°;*
*GCMT **01** 18:28:16.3±0.0, 34.32S×72.24W, h25km, MW6.8/167, Moment Tensor Solution. s166,c440; s167,c734; Duration: 6s0 Moment tensor: Scale 10^19Nm; Mrr0.82±.00; Mθθ0.01±.00; Mϕϕ-0.83±.00; Mrθ-0.05±.01; Mθϕ-0.16±.00; Mϕr-1.66±.02; Best double couple: M○1.86400×10^19 NP1:φs19.00000°, δ14.00000°, λ106.00000°. NP2:φs183.00000°, δ77.00000°, λ86.00000°. Principal axes: T 1.8510, Plg58.0000°, Azm87.0000°; N 0.0250, Plg4.0000°, Azm184.0000°; P -1.8760, Plg32.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 01 18:28:06.6±0.4, 34.27S±0.02×72.29W±0.03, h23km±2km, h23km:pP-P, n1771, σ2s08/1461, mb6.2/376, MS6.4/658, 98C-63D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BO03	**Pichilemu**	**0.36**	**130**	⇓*e*P		**Pb**	**18 28 14.0**	**-0.4**
BO03				*e*S		**Sb**	**18 28 20.6**	**+0.8**
BO03				IAML			18 28 26.1	
	comp=E,3534μm,0.5s							
VA05	**Santo Domingo**	**0.83**	**43**			**Pb**	**18 28 21.9**	**-0.5**
VA05	**Santo Domingo**	**0.83**	**43**	*e*P		**Pb**	**18 28 21.4**	**-1.0**
VA05				*e*S		**Sb**	**18 28 33.6**	**+0.5**
VA05				IAML			18 28 41.4	
	comp=E,2370μm,0.5s							
MT01	**Popeta**	**0.95**	**65**			**Pb**	**18 28 23.3**	**-1.2**
MT01	**Popeta**	**0.95**	**65**	⇓*e*P		**Pb**	**18 28 23.4**	**-1.1**
MT01				*i* S		**Sn**	**18 28 38.1**	**+0.6**
MT01	**Popeta**	**0.95**	**65**	*e*P		**Pb**	**18 28 22.5**	**-2.0**
BO01	**Tunca**	**1.01**	**97**			**Pn**	**18 28 23.9**	**-1.4**
BO01	**Tunca**	**1.01**	**97**	⇓*e*P		**Pn**	**18 28 23.9**	**-1.4**
BO01				*e*S		**Sn**	**18 28 40.4**	**+1.6**
BO01	**Tunca**	**1.01**	**97**	*e*P		**Pn**	**18 28 23.2**	**-2.1**
BO01				IAML			18 28 44.7	
	comp=Z,327μm,0.5s							
MT09	**Talagante**	**1.19**	**66**			**Pn**	**18 28 27.0**	**-1.0**
MT09	**Talagante**	**1.19**	**66**	⇓*e*P		**Pn**	**18 28 27.1**	**-0.8**
MT09				*e*S		**Sb**	**18 28 45.2**	**+1.6**
MT09				IAML			18 28 51.1	
	comp=N,704μm,0.6s							
VA01	**Torpederas**	**1.35**	**24**			**Pn**	**18 28 29.1**	**-1.0**
VA01	**Torpederas**	**1.35**	**24**	*e*P		**Pn**	**18 28 28.6**	**-1.4**
VA01	**Torpederas**	**1.35**	**24**	*e*P		**Pn**	**18 28 28.6**	**-1.4**
BO02	**Sierra Bellavi**	**1.35**	**113**			**Pn**	**18 28 30.0**	**-0.1**
BO02	**Sierra Bellavi**	**1.35**	**113**	⇓*e*P		**Pn**	**18 28 30.1**	**-0.1**
BO02				IAML			18 28 56.3	
	comp=N,2044μm,0.3s							
BO02	**Sierra Bellavi**	**1.35**	**113**	*e*P		**Pn**	**18 28 30.1**	**-0.1**
BO02				IAML			18 29 01.3	
	comp=Z,476μm,2.3s							

BO02	**Sierra Bellavi**	**1.35**	**113**	⇓P		**Pn**	**18 28 30.1**	**-0.1**
MT02	**Curacav**	**1.39**	**44**			**Pn**	**18 28 29.8**	**-0.8**
MT02	**Curacav**	**1.39**	**44**	⇑*i*P		**Pn**	**18 28 29.9**	**-0.7**
MT02				*e*S		**Sb**	**18 28 49.0**	**-0.3**
MT02	**Curacav**	**1.39**	**44**	*e*P		Pn	18 28 25.6	-5.1
BO04	**La Punta**	**1.42**	**79**			**Pn**	**18 28 30.7**	**-0.4**
BO04	**La Punta**	**1.42**	**79**	⇓*e*P		**Pn**	**18 28 30.9**	**-0.2**
MT12	**Pirque**	**1.54**	**70**	⇓*e*P		**Pn**	**18 28 32.8**	**+0.1**
MT12				*e*S		**Sb**	**18 28 54.7**	**+1.0**
MT12				IAML			18 29 08.5	
	comp=N,1178μm,0.9s							
MT05	**Renca**	**1.56**	**56**			**Pn**	**18 28 32.3**	**-0.7**
MT05	**Renca**	**1.56**	**56**	⇓*e*P		**Pn**	**18 28 32.9**	**-0.1**
MT05				IAML			18 29 06.7	
	comp=E,1116μm,0.7s							
MT05	**Renca**	**1.56**	**56**	*e*P		**Pn**	**18 28 33.1**	**+0.1**
MT05				*e*S		**Sb**	**18 28 58.7**	**+4.5**
MT05				IAML			18 29 04.7	
	comp=Z,746μm,1.4s							
MT15	**Las Vizcachas**	**1.63**	**66**	⇓*i*P		**Pn**	**18 28 34.1**	**+0.1**
MT15				IAML			18 29 06.6	
	comp=N,625μm,0.4s							
ML02	**Panimavida**	**1.66**	**155**			**Pn**	**18 28 34.5**	**+0.2**
ML02	**Panimavida**	**1.66**	**155**	*e*P		**Pn**	**18 28 33.8**	**-0.5**
ML02				IAML			18 29 09.0	
	comp=N,1099μm,0.7s							
ML02	**Panimavida**	**1.66**	**155**	*e*P		**Pn**	**18 28 33.3**	**-0.9**
ML02				IAML			18 29 07.2	
	comp=Z,329μm,1.6s							
ROC1	**El Roble**	**1.67**	**40**	*e*P		**Pn**	**18 28 34.3**	**-0.4**
ROC1				*e*S		**Sb**	**18 29 03.3**	**+5.7**
ROCH	**El Roble**	**1.68**	**40**	⇑*e*P		**Pn**	**18 28 34.4**	**-0.3**
ROCH				*e*S		**Sb**	**18 28 57.3**	**-0.5**
ROCH				IAML			18 29 10.2	
	comp=N,737μm,0.5s							
MT16	**CCHEN**	**1.69**	**61**			**Pn**	**18 28 35.2**	**+0.4**
MT16	**CCHEN**	**1.69**	**61**	⇑*e*P		**Pn**	**18 28 35.2**	**+0.4**
MT16				IAML			18 29 07.6	
	comp=E,333μm,0.8s							
MT14	**Cerro Cal¡n**	**1.70**	**60**	⇑*e*P		**Pn**	**18 28 35.4**	**+0.4**
MT14				IAML			18 29 07.6	
	comp=N,568μm,0.6s							
PEL	**Peldehue**	**1.75**	**51**			**Pn**	**18 28 36.0**	**+0.5**
PEL	**Peldehue**	**1.75**	**51**	P		**Pn**	**18 28 36.0**	**+0.5**
PEL	**Peldehue**	**1.75**	**51**	*e*P		**Pn**	**18 28 35.8**	**+0.3**
PEL	**Peldehue**	**1.75**	**51**	⇑P		**Pn**	**18 28 36.0**	**+0.5**
MT10	**Hacienda Santa**	**1.77**	**56**	⇑*e*P		**Pn**	**18 28 36.3**	**+0.4**
MT10				IAML			18 29 12.8	
	comp=N,932μm,0.7s							
LMEL	**Las Melosas**	**1.79**	**77**			**Pn**	**18 28 36.5**	**+0.3**
LMEL	**Las Melosas**	**1.79**	**77**	⇓*e*P		**Pn**	**18 28 36.8**	**+0.6**
LMEL				*e*S		**Sb**	**18 29 02.1**	**+1.3**
LMEL				IAML			18 29 11.0	
	comp=N,671μm,0.9s							
LMEL	**Las Melosas**	**1.79**	**77**	*e*P		**Pn**	**18 28 36.9**	**+0.7**
LMEL				*e*S		**Sb**	**18 29 04.7**	**+3.9**
VA06	**Catapilco**	**1.89**	**26**			**Pn**	**18 28 36.5**	**-1.0**
VA06	**Catapilco**	**1.89**	**26**	⇑*e*P		**Pn**	**18 28 36.7**	**-0.8**
VA06				IAML			18 29 19.7	
	comp=E,502μm,0.5s							
FCH	**Farellones**	**1.91**	**61**	⇑*e*P		**Pn**	**18 28 38.3**	**+0.2**
FCH				*e*S		**Sb**	**18 29 05.6**	**+1.0**
MT04	**Ro Olivares**	**1.99**	**65**	⇑*e*P		**Pn**	**18 28 39.4**	**-0.4**
MT04	**Ro Olivares**	**1.99**	**65**	*e*P		**Pn**	**18 28 39.4**	**+0.4**
MT04				*e*S		**Sb**	**18 29 10.1**	**+3.4**
MT04				IAML			18 29 13.9	
	comp=Z,450μm,2.0s							
MT08	**Bocatoma Ro**	**2.06**	**67**			**Pn**	**18 28 40.8**	**+0.7**
MT08	**Bocatoma Ro**	**2.06**	**67**	⇑*e*P		**Pn**	**18 28 40.8**	**+0.7**
MT08	**Bocatoma Ro**	**2.06**	**67**	*e*P		**Pn**	**18 28 40.9**	**+0.9**
MT08				*e*S		**Sb**	**18 29 11.7**	**+2.9**
MT08				IAML			18 29 16.4	
	comp=Z,279μm,1.2s							
VA03	**San Esteban**	**2.09**	**45**			**Pn**	**18 28 40.7**	**+0.4**
VA03	**San Esteban**	**2.09**	**45**	⇑*e*P		**Pn**	**18 28 40.7**	**+0.4**
VA03				IAML			18 29 18.0	
	comp=E,614μm,0.6s							
BI02	**San Fabin de**	**2.53**	**161**			**Pn**	**18 28 46.5**	**+0.1**
BI02	**San Fabin de**	**2.53**	**161**	⇑*e*P		**Pn**	**18 28 46.7**	**+0.3**
BI02				IAML			18 29 33.2	
	comp=N,138μm,0.7s							
BI02	**San Fabin de**	**2.53**	**161**	*e*P		**Pn**	**18 28 46.1**	**-0.2**
BI02				IAML			18 29 40.5	
	comp=E,85μm,0.7s							
BI05	**Punta Hualpn**	**2.58**	**196**			**Pn**	**18 28 45.8**	**-1.2**
BI05	**Punta Hualpn**	**2.58**	**196**	*e*P		**Pn**	**18 28 46.0**	**-0.9**
BI05	**Punta Hualpn**	**2.58**	**196**	*e*P		**Pn**	**18 28 46.0**	**-0.9**
RFA	**San Rafael**	**3.20**	**100**	*e*P		**Pn**	**18 28 57.0**	**+1.4**
RFA				IAML			18 29 55.0	
	comp=Z,87μm,1.4s							
CO02	**Combarbal**	**3.24**	**20**			**Pn**	**18 28 55.6**	**-0.6**
CO02	**Combarbal**	**3.24**	**20**	*e*P		**Pn**	**18 28 54.9**	**-1.3**
CO02				IAML			18 29 55.9	
	comp=E,84μm,0.8s							
CO02	**Combarbal**	**3.24**	**20**	⇑P		**Pn**	**18 28 55.6**	**-0.6**
ASAL	**Salagasta**	**3.34**	**61**	*e*P		**Pb**	**18 29 01.5**	**-3.7**
RTLS	**Leoncito**	**3.52**	**46**	*e*P		**Pn**	**18 29 02.7**	**+2.5**
RTLS				IAML			18 30 16.2	
	comp=Z,233μm,1.4s							
CO03	**El Pedregal**	**3.68**	**22**			**Pn**	**18 29 01.6**	**-0.5**
CO03	**El Pedregal**	**3.68**	**22**	*e*P		**Pn**	**18 29 02.0**	**-0.2**
CO03				IAML			18 30 10.1	
	comp=Z,88μm,0.8s							
ZON	**Zonda**	**4.08**	**49**			**Pn**	**18 29 08.8**	**+1.2**
ZON	**Zonda**	**4.08**	**49**	P		**Pn**	**18 29 08.8**	**+1.2**
ZON	**Zonda**	**4.08**	**49**	⇑P		**Pn**	**18 29 09.0**	**+1.5**
GO04	**Tololo Observa**	**4.27**	**18**			**Pn**	**18 29 09.7**	**-0.8**
GO04	**Tololo Observa**	**4.27**	**18**	*e*P		**Pn**	**18 29 09.5**	**-1.0**
GO04	**Tololo Observa**	**4.27**	**18**	⇑P		**Pn**	**18 29 09.5**	**-1.0**
CFA	**Coronel Fontan**	**4.32**	**53**	Pn		**Pn**	**18 29 11.7**	**+0.8**
	comp=Z,47nm,0.3s,baz=228,slow=11,SNR=168							
CFA				Lg		Lg	18 30 13.5	
	comp=Z,567nm,0.3s,baz=311,slow=20,SNR=8.7							
CFA				LR		LR	18 31 15.5	
	comp=Z,930μm,19.7s,baz=220,slow=46							
CO01	**Juntas del Tor**	**4.67**	**24**	*e*P		**Pn**	**18 29 15.9**	**0.0**
CO01				IAML			18 30 47.4	
	comp=Z,32μm,1.6s							
GO06	**Curarrehue**	**5.35**	**173**	⇓P		**Pn**	**18 29 25.3**	**+0.2**
LR03	**Panguipulli**	**5.36**	**180**			**Pn**	**18 29 24.6**	**-0.5**
LCO	**Las Campanas**	**5.41**	**15**			**Pn**	**18 29 24.8**	**-1.4**
LCO	**Las Campanas**	**5.41**	**15**	P		**Pn**	**18 29 24.8**	**-1.4**
LCO	**Las Campanas**	**5.41**	**15**	⇑P		**Pn**	**18 29 24.8**	**-1.4**
VA04	**Juan Fernndez**	**5.47**	**275**			**Pn**	**18 29 25.1**	**-1.5**
VA04	**Juan Fernndez**	**5.47**	**275**	⇓P		**Pn**	**18 29 24.0**	**-2.6**
H03S1	**Juan Fernandez**	**5.50**	**273**	Pn		**Pn**	**18 29 24.6**	**-2.3**
	baz=62,slow=16							
H03S1				T		T	18 35 23.7	
	baz=96,slow=74,SNR=2312							
H03S3	**Juan Fernandez**	**5.51**	**273**	Pn		**Pn**	**18 29 24.9**	**-2.1**
	baz=62,slow=16							
H03S3				T		T	18 35 28.8	
	baz=96,slow=74,SNR=3959							
H03S2	**Juan Fernandez**	**5.52**	**273**	Pn		**Pn**	**18 29 25.0**	**-2.1**
	baz=62,slow=16							
H03S2				T		T	18 35 29.0	
	baz=96,slow=74,SNR=3049							
H03N1	**Juan Fernandez**	**5.57**	**277**	Pn		**Pn**	**18 29 27.2**	**-0.6**
	baz=132,slow=24							
H03N1				T		T	18 35 36.1	
	baz=101,slow=80,SNR=36							
H03N3	**Juan Fernandez**	**5.58**	**276**	Pn		**Pn**	**18 29 27.1**	**-0.8**
	baz=132,slow=24							
H03N3				T		T	18 35 34.8	
	baz=101,slow=80,SNR=39							
H03N2	**Juan Fernandez**	**5.58**	**277**	Pn		**Pn**	**18 29 27.1**	**-0.8**
	baz=132,slow=24							
H03N2				T		T	18 35 38.2	
	baz=101,slow=80,SNR=44							
LR04	**Corral**	**5.68**	**189**			**Pn**	**18 29 26.5**	**-2.9**
PLCA	**Paso Flores**	**6.60**	**168**	Pn		**Pn**	**18 29 43.4**	**+1.1**
	comp=Z,15nm,0.3s,baz=333,slow=12,SNR=126							
PLCA				Sn		**Sn**	**18 31 00.9**	**+4.1**
	comp=Z,63nm,0.3s,baz=280,slow=15,SNR=2.9							
PLCA				LR		LR	18 32 35.7	
	comp=Z,913μm,18.1s,baz=349,slow=42							
PLCA	**Paso Flores**	**6.60**	**168**	⇑P		**Pn**	**18 29 42.9**	**+0.7**
PLCA	**Paso Flores**	**6.60**	**168**	P		**Pn**	**18 29 42.0**	**-0.3**
PLCA				S		**Sn**	**18 30 56.1**	**-0.7**
PLCA	**Paso Flores**	**6.60**	**168**	*e*P		**Pn**	**18 29 42.8**	**+0.5**
GO03	**Copiapo**	**6.88**	**15**	⇓P		**Pn**	**18 29 44.2**	**-2.0**
LL01	**San Ignacio de**	**8.10**	**181**	*i* P		**Pn**	**18 30 02.6**	**-0.2**
LL01				AMP			18 33 53.4	
	comp=Z,218μm,11.6s							

LL01	**San Ignacio de**	**8.10**	**181**	⇑P		**Pn**	**18 30 02.2**	**-0.5**
LL02	**Futaleuf**	**8.92**	**178**	*i* P		**Pn**	**18 30 15.1**	**+1.2**
LL02				*e*S		**Sn**	**18 31 55.3**	**+1.7**
LL02	**Futaleuf**	**8.92**	**178**	⇑P		**Pn**	**18 30 16.6**	**+2.6**
TRQA	**Tornquist**	**9.16**	**117**			**Pn**	**18 30 17.7**	**+0.4**
TRQA	**Tornquist**	**9.16**	**117**	P		**Pn**	**18 30 17.7**	**+0.4**
TRQA	**Tornquist**	**9.16**	**117**	P		**Pn**	**18 30 17.6**	**+0.3**
TRQA				S		**Sn**	**18 31 58.9**	**-0.7**
GO02	**Mina Guanaco**	**9.37**	**15**	⇑P		**Pn**	**18 30 16.9**	**-3.7**
PB10	**IPOC Station P**	**10.82**	**9**			**Pn**	**18 30 37.1**	**-3.0**
COYC	**Coyhaique**	**11.29**	**179**			**Pn**	**18 30 47.1**	**+0.6**
COYC	**Coyhaique**	**11.29**	**179**	⇑P		**Pn**	**18 30 50.0**	**+3.5**
PB05	**IPOC Station P**	**11.52**	**10**			**Pn**	**18 30 47.0**	**-2.8**
AY03	**Cochrane**	**12.97**	**181**			**Pn**	**18 31 10.1**	**+0.6**
TA01	**Diego Aracena**	**13.78**	**8**			**Pn**	**18 31 20.1**	**-0.4**
PB08	**IPOC Station P**	**14.34**	**12**	P		**Pn**	**18 31 28.2**	**-0.4**
PB08				S		**Sn**	**18 34 08.4**	**+1.2**
CPUP	**Villa Florida**	**15.14**	**63**	Pn		**Pn**	**18 31 33.5**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=100,slow=17,SNR=34							
CPUP				Sn		**Sn**	**18 34 27.3**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=180,slow=20,SNR=4.4							
CPUP				Lg		Lg	18 35 38.8	
	comp=Z,2.9nm,0.3s,baz=193,slow=14,SNR=4.3							
CPUP				LR		LR	18 37 55.2	
	comp=Z,223μm,21.1s,baz=96,slow=40							
	comp=Z,6.3nm,0.8s							
CPUP	**Villa Florida**	**15.14**	**63**	P		Pn	18 31 31.6	-7.4
CPUP				S		**Sn**	**18 34 27.0**	**+1.0**
I41PY	**VILLA FLORIDA**	**15.15**	**63**	I		I	19 45 00.0	
	baz=232,slow=316,SNR=1.1							
PLTB	**Pedras Altas**	**15.88**	**86**			**Pn**	**18 31 47.1**	**-1.5**
PLTB	**Pedras Altas**	**15.88**	**86**	P		**Pn**	**18 31 42.8**	**-5.8**
PLTB				S		**Sn**	**18 34 39.7**	**-4.3**
PLTB	**Pedras Altas**	**15.88**	**86**	*e*P		**Pn**	**18 31 47.3**	**-1.3**
CPSB	**Cacapava Do Su**	**16.39**	**82**	P		**Pn**	**18 31 49.0**	**-6.2**
CPSB	**Cacapava Do Su**	**16.39**	**82**	*e*P		**Pn**	**18 31 53.0**	**-2.2**
PB18	**Visviri**	**16.80**	**9**	IAmb		IAmb	18 32 08.9	
	comp=Z,2μm,1.3s							
SJPY	**San Joaquin**	**16.82**	**61**	*e*P		**Pn**	**18 31 57.1**	**-3.5**
MURT	**Porto Murtinho**	**18.03**	**50**	*e*P		**Pn**	**18 32 12.8**	**-2.8**
LPAZ	**La Paz**	**18.29**	**13**	P		**Pn**	**18 32 19.1**	**-0.4**
	comp=Z,5.5nm,0.3s,baz=183,slow=8.5,SNR=123							
	comp=Z,652nm,1.3s							
LPAZ	**La Paz**	**18.29**	**13**	⇑P		**Pn**	**18 32 18.6**	**-0.9**
LPAZ	**La Paz**	**18.29**	**13**	P		**Pn**	**18 32 19.3**	**-0.2**
LPAZ				S		**Sn**	**18 35 41.5**	**-1.9**
LPAZ	**La Paz**	**18.29**	**13**	*e*P		**Pn**	**18 32 19.1**	**-0.4**
LPAZ	**La Paz**	**18.29**	**13**	P		**P**	**18 32 19.6**	**+0.1**
MG02	**Cerro Sombrero**	**18.64**	**174**	⇑P		**Pn**	**18 32 23.8**	**+0.9**
ITAB	**Concordia**	**18.68**	**73**	P		**P**	**18 32 22.1**	**-0.7**
ITAB	**Concordia**	**18.68**	**73**	P		**P**	**18 32 19.8**	**-3.3**
ITAB				S		**Sn**	**18 35 48.4**	**-3.4**
ITAB	**Concordia**	**18.68**	**73**	*e*P		**P**	**18 32 21.9**	**-1.2**
CNLB	**Canela**	**18.87**	**81**	P		**P**	**18 32 21.7**	**-3.6**
CNLB				S		**Sn**	**18 35 55.9**	**-0.7**
CNLB	**Canela**	**18.87**	**81**	*e*P		**P**	**18 32 24.7**	**-0.7**
BDQN	**Bodoquena, MS**	**19.46**	**49**	*e*P		**P**	**18 32 30.3**	**-1.5**
MG03	**Isla Dawson**	**19.62**	**177**	P		**Pn**	**18 32 35.1**	**+0.5**
MG03				IAmb		IAmb	18 32 42.6	
	comp=Z,2μm,1.6s							
PTGB	**Pitanga**	**19.99**	**67**	P		**P**	**18 32 37.2**	**-0.3**
PTGB				S		**S**	**18 36 21.4**	**+0.1**
PTGB	**Pitanga**	**19.99**	**67**	*e*P		**P**	**18 32 36.8**	**-0.7**
AQDB	**Aquidauana**	**20.11**	**51**	P		**P**	**18 32 38.0**	**-0.8**
AQDB				IAmb		IAmb	18 32 45.7	
	comp=Z,2μm,1.2s							
AQDB	**Aquidauana**	**20.11**	**51**	P		**P**	**18 32 38.1**	**-0.7**
AQDB				S		**S**	**18 36 19.1**	**-4.6**
AQDB	**Aquidauana**	**20.11**	**51**

PDRB S S 18 38 14.8 -2.8
PDRB Porto dos Gac 26.65 36 *e*P P 18 33 43.0 -0.7
CANS Sao Roque de M 26.81 65 P P 18 33 43.8 -1.5
IPMB Ipameri, GO 26.93 59 P P 18 33 44.8 -1.4
IPMB S S 18 38 21.3 -0.7
IPMB Ipameri, GO 26.93 59 *e*P P 18 33 44.4 -1.8
MAN01 Angra dos Reis 27.26 73 P P 18 33 47.9 -1.4
MAN01 Angra dos Reis 27.26 73 *e*P P 18 33 48.8 -0.5
SFA1 Serra Facao 27.30 60 P P 18 33 47.6 -2.0
BSCB Bom Sucesso 27.63 69 P P 18 33 51.6 -1.1
BSCB S S 18 38 36.5 +3.3
BSCB Bom Sucesso 27.63 69 *e*P P 18 33 51.8 -0.8
CLDB Colider 27.74 37 P P 18 33 52.6 -1.0
CLDB S S 18 38 32.3 -2.5
CLDB Colider 27.74 37 *e*P P 18 33 52.4 -1.2
PMNB Patos De Minas 27.85 62 ⇑P P 18 33 53.3 -1.3
PMNB Patos De Minas 27.85 62 P P 18 33 53.3 -1.3
PMNB S S 18 38 31.6 -5.0
PMNB Patos De Minas 27.85 62 *e*P P 18 33 54.2 -0.3
BAT2 UHE Batalha 27.86 59 P P 18 33 52.8 -1.9
VAS01 Vassouras-RJ 27.98 72 P P 18 33 54.6 -1.1
VAS01 Vassouras-RJ 27.98 72 *e*P P 18 33 55.4 -0.2
BDFB Brasilia 28.66 56 IAmb IAmb 18 34 39.4
comp=Z,483nm,1.0s
BDFB Brasilia 28.66 56 P P **18 34 00.3 -1.5**
comp=Z,210nm,0.8s,baz=223,slow=8.4,SNR=112
BDFB S S **18 38 47.4 -2.1**
comp=Z,58nm,1.1s,baz=153,slow=24,SNR=1.4
BDFB Lg Lg 18 42 56.1
comp=Z,1.4nm,0.3s,baz=134,slow=16,SNR=4.5
BDFB LR LR 18 46 42.8
comp=Z,625µm,18.4s,baz=228,slow=39
comp=Z,210nm,0.8s
DUB01 Friburgo-RJ 28.92 73 P P **18 34 03.2 -0.9**
DUB01 Friburgo-RJ 28.92 73 *e*P P **18 34 03.8 -0.3**
SNDB Serra Nova Dou 29.30 46 P P **18 34 06.1 -1.2**
SNDB S S **18 38 51.6 -7.7**
SNDB Serra Nova Dou 29.30 46 *e*P P **18 34 06.2 -1.2**
CAM01 Campos-RJ 29.62 73 P P **18 34 08.9 -1.4**
CAM01 Campos-RJ 29.62 73 *e*P P **18 34 09.4 -0.9**
TBTG Tabatinga, AM 30.01 5 P P **18 34 14.2 +0.5**
TBTG Tabatinga, AM 30.01 5 P P **18 34 14.5 +0.8**
TBTG S S **18 39 09.5 -1.0**
TBTG Tabatinga, AM 30.01 5 *e*P P **18 34 13.9 +0.3**
TBTG Tabatinga, AM 30.01 5 P P **18 34 14.3 +0.6**
comp=Z,55µmcomp=Z,30µmcomp=Z,3µm,1.1s
DIAM Diamantina, MG 30.05 65 P P **18 34 12.8 -1.4**
DIAM S S **18 39 07.6 -3.8**
DIAM Diamantina, MG 30.05 65 *e*P P **18 34 13.6 -0.7**
JQT1 Jequitai-MG 30.20 63 P P **18 34 14.2 -1.2**
MCRA Macar, Loja 30.59 345 P P **18 34 20.2 +1.4**
comp=Z,30µmcomp=Z,4µmcomp=Z,125nm,1.6s
ESPZ Base Esperanza 30.67 167 P P **18 34 19.1 0.0**
ESPZ IAmb IAmb 18 34 44.3
comp=Z,230nm,0.8s
ESPZ IAMs_20 IAMs_20 18 45 31.6
comp=Z,122µm,22.0s
PMSA Palmer Station 30.95 173 P P **18 34 21.5 0.0**
PMSA Palmer Station 30.95 173 LR LR 18 46 44.7
comp=Z,169µm,19.0s,baz=343,slow=36
PMSA Palmer Station 30.95 173 *e*P P **18 34 22.3 +0.8**
NPGB Novo Progresso 31.28 34 P P **18 34 23.1 -1.7**
NPGB S S **18 39 24.9 -5.5**
NPGB Novo Progresso 31.28 34 *e*P P **18 34 23.2 -1.7**
TEFE Tefe 31.42 15 P P **18 34 25.6 -0.5**
TEFE Tefe 31.42 15 *e*P P **18 34 26.3 +0.2**
JANB Januaria 31.65 60 P P **18 34 26.4 -1.8**
JANB S S **18 39 30.5 -5.8**
JANB Januaria 31.65 60 *e*P P **18 34 26.6 -1.6**
SJMB Sao Joao De Ma 31.71 69 P P **18 34 27.0 -1.6**
SJMB S S **18 39 29.4 -7.7**
SJMB Sao Joao De Ma 31.71 69 *e*P P **18 34 27.1 -1.6**
RIB01 Linhares ES 31.97 70 P P **18 34 29.9 -1.1**
RIB01 Linhares ES 31.97 70 *e*P P **18 34 30.5 -0.5**
HOPE Hope Point 32.02 140 P P **18 34 31.3 +0.3**
HOPE IAmb IAmb 18 34 36.7
comp=Z,299nm,1.0s
HOPE Hope Point 32.02 140 P P **18 34 31.3 +0.3**
HOPE pmax pmax
comp=Z,299nm,1.0s
HOPE MLR MLR
comp=Z,206µm,20.0s
RPN Rapa Nui 32.50 272 IAMs_20 IAMs_20 18 44 19.8
comp=Z,53µm,19.0s
MACA Manacapuru-AM 32.78 22 IAmb IAmb 18 34 40.5
comp=Z,272nm,0.8s
MACA Manacapuru-AM 32.78 22 P P **18 34 37.8 -0.3**
MACA S S **18 39 49.9 -3.9**
MACA Manacapuru-AM 32.78 22 *e*P P **18 34 36.3 -1.8**
SDBA SAO DESIDERIO 33.07 55 P P **18 34 39.3 -1.6**
SDBA S S **18 39 54.9 -3.5**
SDBA SAO DESIDERIO 33.07 55 *e*P P **18 34 39.2 -1.4**
ITTB Itaituba 33.49 31 P P **18 34 42.9 -1.4**
ITTB S S **18 40 01.9 -2.9**
ITTB Itaituba 33.49 31 *e*P P **18 34 43.4 -0.9**
PIAT Ana Tenorio 33.56 349 P P **18 34 48.6 +3.3**
comp=Z,31µmcomp=Z,5µmcomp=Z,223nm,1.4s
SMTB Santa Maria do 33.97 48 P P **18 34 47.2 -1.3**
SMTB S S **18 40 10.1 -2.3**
SMTB Santa Maria do 33.97 48 *e*P P **18 34 47.3 -1.3**
GUA01 Guaratinga, BA 34.02 67 P P **18 34 47.6 -1.2**
GUA01 Guaratinga, BA 34.02 67 *e*P P **18 34 47.7 -1.2**
SGC2 Sao Gabriel da 34.30 9 P P **18 34 50.2 -1.1**
SGC2 S S **18 40 11.2 -6.1**
SGC2 Sao Gabriel da 34.30 9 *e*P P **18 34 49.5 -1.8**
ANA01 Lindo Horizont 34.59 63 P P **18 34 52.5 -1.5**
OTAV Otavalo 34.81 349 P P **18 34 57.3 +1.1**
OTAV IAmb IAmb 18 35 36.3
comp=Z,352nm,1.3s
OTAV Otavalo 34.81 349 P P **18 34 57.3 +1.1**
OTAV pmax pmax
comp=Z,352nm,1.3s
OTAV Otavalo 34.81 349 ⇑P P **18 34 57.9 +1.7**
OTAV Otavalo 34.81 349 P P **18 34 57.8 +1.7**
OTAV S S **18 40 27.2 +1.2**
OTAV Otavalo 34.81 349 *e*P P **18 34 55.7 -0.4**
OTAV Otavalo 34.81 349 P P **18 34 57.8 +1.6**
comp=Z,28µmcomp=Z,5µmcomp=Z,131nm,1.2s
PRPB Parauapebas 34.84 42 P P **18 34 54.4 -1.6**
PRPB S S **18 40 21.5 -4.3**
PRPB Parauapebas 34.84 42 *e*P P **18 34 54.9 -1.1**
CMC01 Camacan, BA 34.98 66 P P **18 34 55.6 -1.6**
CMC01 Camacan, BA 34.98 66 *e*P P **18 34 56.3 -0.9**
TULM Tulcn-Chalpat 35.18 350 P P **18 35 02.3 +2.9**
comp=Z,31µmcomp=Z,3µmcomp=Z,124nm,1.2s
FLOC Florencia 35.80 354 IAMs_20 IAMs_20 18 50 31.1
comp=Z,65µm,18.0s
FLOC Florencia 35.80 354 P P **18 35 06.4 +2.2**
comp=Z,35µmcomp=Z,6µmcomp=Z,182nm,1.6s
CRUC La Cruz 35.91 352 P P **18 35 09.0 +3.4**
ATM1 UHE Belo Monte 36.04 36 P P **18 35 05.0 -1.3**
ATM1 S S **18 40 40.2 -4.0**
BMO2 UHE Belo Monte 36.11 36 P P **18 35 05.6 -1.2**
BMO2 S S **18 40 41.4 -3.8**
MACC Macarena, Meta 36.25 357 P P **18 35 09.4 +1.3**
comp=Z,34µmcomp=Z,8µmcomp=Z,275nm,1.8s
MAL2 Monte Alegre, 36.27 32 P P **18 35 07.9 -0.3**
MAL2 S S **18 40 43.5 -4.2**
GARC Garzon, Huila 36.38 355 P P **18 35 11.2 +1.7**
comp=Z,36µmcomp=Z,4µmcomp=Z,84nm,0.8s
BMO1 UHE Belo Monte 36.39 36 P P **18 35 07.5 -1.7**
BMO1 S S **18 40 45.4 -4.0**
BBAC Balboa, Cauca 36.40 352 P P **18 35 11.9 +2.4**
comp=Z,33µmcomp=Z,7µmcomp=Z,250nm,1.0s
TUC4 UHE Tucurui 36.59 40 P P **18 35 10.4 -0.6**
TUC4 S S **18 40 49.5 -3.1**
GUVC San Jose del G 36.62 359 P P **18 35 15.4 +4.2**
POPC Popayan, Colom 36.84 353 P P **18 35 14.7 +1.3**
comp=Z,33µmcomp=Z,5µmcomp=Z,156nm,1.7s
URMC La Uribe, Meta 37.37 357 P P **18 35 18.9 +1.3**
comp=Z,10µmcomp=Z,418nm,1.5s
PAYG Puerto Ayora 37.42 329 IAMs_20 IAMs_20 18 46 28.1
comp=Z,50µm,22.0s
GR1C Gorgona, Isla 37.48 350 P P **18 35 20.6 +2.1**
JAMC Jamundi, Valle 37.51 353 P P **18 35 19.6 +0.6**
comp=Z,32µmcomp=Z,4µmcomp=Z,85nm,1.5s
PRAC Prado 37.86 356 P P **18 35 23.3 +1.5**
comp=Z,33µmcomp=Z,13µmcomp=Z,497nm,1.7s
ORTC Ortega, Tolima 38.07 355 P P **18 35 25.3 +1.7**
comp=Z,34µmcomp=Z,13µmcomp=Z,448nm,1.6s
BOAV Boa Vista 38.11 19 IAmb IAmb 18 36 24.8
comp=Z,423nm,1.4s
BOAV Boa Vista 38.11 19 P P **18 35 23.0 -0.9**
BOAV S S **18 41 12.6 -3.0**
BOAV Boa Vista 38.11 19 *e*P P **18 35 23.5 -0.4**
BOAV Boa Vista 38.11 19 P P **18 35 23.2 -0.7**
comp=Z,52µmcomp=Z,9µmcomp=Z,291nm,1.7s
VILC Villavicencio, 38.20 358 P P **18 35 27.6 +2.9**
comp=Z,2µmcomp=Z,257nm,0.8s
YOTC Yotoco, Valle 38.24 353 P P **18 35 25.4 +0.3**
comp=Z,30µmcomp=Z,4µmcomp=Z,185nm,0.8s
PTGC Puerto Gaitan, 38.26 0 P P **18 35 25.5 +0.4**
comp=Z,38µmcomp=Z,14µmcomp=Z,443nm,2.0s
CVER Cruz Verde, Cu 38.62 357 P P **18 35 30.6 +2.0**
comp=Z,8µmcomp=Z,144nm,1.3s
TMAB Tom-Au,PA,Br 38.94 41 P P **18 35 30.5 -0.4**
TMAB S S **18 41 25.0 -3.1**
TMAB Tom-Au,PA,Br 38.94 41 *e*P P **18 35 30.8 -0.1**
ROSC El Rosal 38.94 357 P P **18 35 33.0 +1.7**
comp=Z,54nm,0.7s,baz=177,slow=4.1,SNR=15
ROSC S S **18 41 27.5 -1.4**
comp=Z,4.7nm,0.3s,baz=250,slow=20,SNR=0.9
comp=Z,54nm,0.7s
ROSC El Rosal 38.94 357 P P **18 35 33.0 +1.7**
comp=Z,44µmcomp=Z,8µmcomp=Z,192nm,1.6s
NBLA Lagarto - SE 39.08 62 P P **18 35 30.1 -2.0**
PLMC San Jos del P 39.14 354 P P **18 35 33.3 +0.7**
comp=Z,34µmcomp=Z,8µmcomp=Z,257nm,1.7s
PIZC Pizarro, Choco 39.31 352 P P **18 35 36.4 +2.5**
comp=Z,10µmcomp=Z,331nm,1.8s
GUY2C Guyana, Caldas 39.38 355 P P **18 35 36.6 +1.5**
comp=Z,31µmcomp=Z,6µmcomp=Z,182nm,0.9s
NORC Norcasia 39.69 356 P P **18 35 37.4 +0.3**
comp=Z,30µmcomp=Z,6µmcomp=Z,112nm,1.1s
RUSC La Rusia 39.95 359 IAMs_20 IAMs_20 18 55 22.1
comp=Z,48µm,18.0s
RUSC La Rusia 39.95 359 P P **18 35 41.0 +1.2**
comp=Z,36µmcomp=Z,26µmcomp=Z,1µm,1.6s
CBOC Ciudad Bolivar 40.07 354 P P **18 35 40.8 +0.4**
comp=Z,27µmcomp=Z,8µmcomp=Z,253nm,1.9s
CN01 Coaracy Nunes 40.20 34 P P **18 35 38.6 -2.8**
CN01 S S **18 41 41.6 -5.4**
HELC Santa Helena 40.35 355 P P **18 35 43.3 +0.3**
comp=Z,33µmcomp=Z,7µmcomp=Z,280nm,1.5s
PTBC PUERTO BERRIO, 40.63 357 P P **18 35 44.7 -0.2**
comp=Z,769nmcomp=Z,69nm,0.9s
BARC Barichara 40.65 359 P P **18 35 48.2 +2.9**
ROSB Rosrio 40.77 46 S S **18 41 51.7 -3.9**
NBMA Muriti-CE 40.88 57 P P **18 35 45.8 -1.2**
BRJC Barrancabermej 41.04 358 P P **18 35 47.1 -1.1**
comp=Z,31µmcomp=Z,8µmcomp=Z,311nm,1.3s
NBAN Anadia - AL 41.06 62 P P **18 35 46.9 -1.7**
NBAN S S **18 41 53.6 -6.5**
NBAN Anadia - AL 41.06 62 *e*P P **18 35 47.8 -0.8**
DBBC Dabeiba 41.23 354 P P **18 35 51.8 +1.9**
NBPS Pedro II - PI 41.27 51 P P **18 35 49.0 -1.3**
PAMC Pamplona, Colo 41.38 359 P P **18 35 54.5 +2.9**
PTAC Punta Ardita, 41.52 352 P P **18 35 54.1 +1.9**
comp=Z,10µmcomp=Z,257nm,1.2s
ZARC Zaragoza, Cauc 41.60 356 P P **18 35 52.4 -0.5**
comp=Z,10µmcomp=Z,275nm,1.3s
NBPB Pedra_Branca-C 41.63 54 P P **18 35 52.3 -1.0**
NBPB S S **18 42 05.6 -2.9**
NBPB Pedra_Branca-C 41.63 54 *e*P P **18 35 52.5 -0.7**
UREC San Jos de Ur 41.90 355 P P **18 35 57.4 +2.1**
comp=Z,0µmcomp=Z,69nm,1.6s
APAC Apartado, Choc 42.13 354 P P **18 35 59.6 +2.4**
comp=Z,42µmcomp=Z,8µmcomp=Z,402nm,1.3s
CACAO El Cacao, Vera 42.17 347 P P **18 35 58.0 +0.5**
comp=Z,22µmcomp=Z,4µmcomp=Z,294nm,1.5s
OCAC Ocana 42.28 358 P P **18 35 56.8 -1.8**
AZU Azuero 42.51 348 P P **18 36 03.5 +3.3**
SBBR Sobral 42.52 52 P P **18 35 57.2 -3.2**
GMAL Guarumal, Vera 42.65 347 P P **18 36 03.6 +2.2**
comp=Z,18µmcomp=Z,245nm,1.1s
CAPC Capurgana 42.94 353 P P **18 36 05.0 +1.3**
comp=Z,22µmcomp=Z,6µmcomp=Z,136nm,1.2s
SDV Santo Domingo 42.94 2 P P **18 36 04.2 +0.2**
SDV IAmb IAmb 18 36 20.4
comp=Z,728nm,1.6s
SDV IAMs_20 IAMs_20 18 55 48.5
comp=Z,77µm,20.0s
SDV Santo Domingo 42.94 2 P P **18 36 03.4 -0.6**
SDV S S **18 42 24.5 -3.5**
SDV Santo Domingo 42.94 2 *e*P P **18 36 04.0 0.0**
SDV Santo Domingo 42.94 2 P P **18 36 03.4 -0.6**
comp=Z,37µmcomp=Z,6µmcomp=Z,244nm,1.1s
LCBC Los Cobras 43.06 354 P P **18 36 06.7 +2.0**
comp=Z,9µmcomp=Z,470nm,1.6s
BAUV El Baul 43.16 6 *e*P P **18 36 05.9 +0.4**
NBPA Parau_RN 43.17 57 P P **18 36 05.3 -0.4**
MDP Montagnes des 43.33 29 LR LR 18 56 00.8
comp=Z,257µm,18.1s,baz=200,slow=39
MPGF Montagnes des 43.34 29 ⇑P P **18 36 06.2 -0.8**
NBCL Cascavel-CE 43.47 54 P P **18 36 07.5 -0.6**
NBCL Cascavel-CE 43.47 54 *e*P P **18 36 07.9 -0.2**
BCIP Isla Barro Col 43.78 349 IAmb IAmb 18 36 35.0
comp=Z,858nm,1.6s
BCIP IAMs_20 IAMs_20 18 57 47.7
comp=Z,41µm,22.0s
BCIP Isla Barro Col 43.78 349 ⇑P P **18 36 11.9 +1.3**
BCIP Isla Barro Col 43.78 349 P P **18 36 10.9 +0.3**
comp=Z,31µmcomp=Z,6µmcomp=Z,301nm,1.4s
ARGC Ariguani, Magd 43.92 357 P P **18 36 11.9 +0.2**
comp=Z,32µmcomp=Z,14µmcomp=Z,340nm,1.6s
RCBR Riachuelo 43.96 58 P P **18 36 11.6 -0.6**
RCBR IAmb IAmb 18 36 15.9
comp=Z,690nm,1.6s
RCBR Riachuelo 43.96 58 LR LR 18 55 45.1
comp=Z,160µm,19.3s,baz=222,slow=38
RCBR Riachuelo 43.96 58 P P **18 36 11.6 -0.6**
RCBR pmax pmax
comp=Z,690nm,1.6s
RCBR MLR MLR
comp=Z,411µm,19.0s
RCBR Riachuelo 43.96 58 ⇑P P **18 36 12.1 -0.1**
RCBR Riachuelo 43.96 58 P P **18 36 11.5 -0.6**
RCBR S S **18 42 47.3 +4.5**
RCBR Riachuelo 43.96 58 *e*P P **18 36 12.1 -0.1**
NBPV Pedro Velho 43.98 59 P P **18 36 11.6 -0.7**
SJCC San Jacinto, C 44.01 356 P P **18 36 12.3 -0.1**
comp=Z,34µmcomp=Z,7µmcomp=Z,328nm,1.2s
PCRV Puerto La Cruz 44.79 11 LR LR 18 58 38.7
comp=Z,156µm,18.9s,slow=41
PCRV Puerto La Cruz 44.79 11 *e*P P **18 36 15.7 -2.9**
CRJC Cerrejon, Guaj 45.04 359 P P **18 36 18.1 -2.6**
SMRC Santa Marta, M 45.22 357 IAMs_20 IAMs_20 18 58 45.7
comp=Z,38µm,19.0s
SMRC Santa Marta, M 45.22 357 P P **18 36 21.8 -0.2**
comp=Z,29µmcomp=Z,10µmcomp=Z,218nm,1.2s
HDC Heredia 45.43 344 *e*P P **18 36 23.5 -0.3**
URIC Uribia, Colomb 45.71 0 P P **18 36 23.2 -2.7**
TRN Trinidad (W) 45.85 15 *e*P P **18 36 26.2 -0.8**
JTS Las Juntas de 45.91 343 P P **18 36 27.6 0.0**
JTS IAmb IAmb 18 36 54.1
comp=Z,429nm,1.5s
JTS Las Juntas de 45.91 343 P P **18 36 27.6 0.0**
JTS pmax pmax
comp=Z,429nm,1.5s
JTS Las Juntas de 45.91 343 ⇑P P **18 36 29.6 +2.0**
JTS Las Juntas de 45.91 343 P P **18 36 25.2 -2.4**
GRFF Grenada Fort F 47.14 14 *e*P P **18 36 36.9 -0.3**
GRGR Grenville 47.24 14 *e*P P **18 36 35.4 -2.5**
GRGR Grenville 47.24 14 ⇑P P **18 36 37.8 -0.1**
GRGR Grenville 47.24 14 P P **18 36 37.4 -0.5**
comp=Z,32µmcomp=Z,11µmcomp=Z,742nm,1.2s
GRW Mount Saint Ca 47.26 14 *e*P P **18 36 36.9 -1.3**
SAIC Isla e San And 47.40 347 P P **18 36 40.2 +1.1**
comp=Z,24µmcomp=Z,11µmcomp=Z,447nm,1.8s
GRSS Sisters 47.41 14 *e*P P **18 36 37.8 -1.4**
ACON Acoyapa 47.58 343 P P **18 36 40.0 -0.6**
ACON IAmb IAmb 18 37 03.1
comp=Z,458nm,1.7s
ACON Acoyapa 47.58 343 P P **18 36 38.7 -1.9**
ESPN Las Esperanzas 47.59 344 IAmb IAmb 18 37 45.3
comp=Z,295nm,1.3s
ESPN Las Esperanzas 47.59 344 P P **18 36 39.5 -1.2**
comp=Z,5µmcomp=Z,143nm,2.8s
MGAN Managua 48.02 342 P P **18 36 44.4 +0.4**
comp=Z,7µmcomp=Z,152nm,1.2s
RNCC Cayo Roncador, 48.15 350 P P **18 36 45.9 +0.9**
comp=Z,11µmcomp=Z,498nm,1.2s
PRVC Isla de Provid 48.16 348 P P **18 36 45.4 +0.4**
comp=Z,24µmcomp=Z,6µmcomp=Z,267nm,1.8s
BOAB BOACO BROADBAN 48.17 342 P P **18 36 45.7 +0.6**
BOAB S S **18 43 44.1 +1.2**
BOAB BOACO BROADBAN 48.17 342 ⇑P P **18 36 45.2 +0.1**
CNGN Cerro Negro 48.48 341 P P **18 36 46.1 -1.5**
comp=Z,49µmcomp=Z,2µm,1.5s
BBGH Gun Hill 48.68 17 P P **18 36 51.8 +2.7**
SIUN Universidad Ur 49.17 344 IAmb IAmb 18 37 16.8
comp=Z,200nm,1.6s
VNA3 Neumayer Olymp 49.19 158 ⇑P P **18 36 53.0 +0.5**
comp=Z,222nm,0.7s
VNA3 ⇑S S **18 43 58.2 +1.8**
SLBI Saint Lucia, B 49.22 15 *e*P P **18 36 50.8 -2.3**
VNA1 Neumayer--Stat 49.51 157 ⇑P P **18 36 55.5 +0.6**
comp=Z,198nm,1.0s
H05S1 Guadeloupe/Mar 49.63 15 P P **18 36 55.2 -1.1**
SNR=9.9
BIM Bigot 49.67 14 *e*P P **18 36 53.8 -2.9**
FDF Fort de France 49.87 14 ⇑P P **18 36 57.2 -0.9**
ILAM Ilet Lapin Mar 49.97 14 *e*P P **18 36 56.1 -2.8**
SVN Savane Anatole 49.97 14 *e*P P **18 36 57.4 -1.6**
DRTD Roseau, Domini 50.37 14 *e*P P 18 36 52.6 -9.3
DWS Wesley 50.65 14 *e*P P **18 37 02.5 -1.5**
TDBA Terre de Bas, 50.86 13 IAmb IAmb 18 37 14.8
comp=Z,518nm,1.4s
TDBA IAMs_20 IAMs_20 19 01 55.5
comp=Z,59µm,20.0s
TBG Guadaloupe-3 50.86 13 *e*P P **18 37 05.9 +0.3**
MMLZ Guadeloupe Bro 51.04 13 *e*P P **18 37 05.3 -1.6**
MTO3 Montecristo 51.05 339 IAmb IAmb 18 37 33.1
comp=Z,418nm,1.6s
CBE Ff, Capester 51.08 13 IAmb IAmb 18 37 20.9
comp=Z,271nm,0.9s
ATGZ Broadband at L 51.08 13 *e*P P **18 37 06.9 -0.4**
DHSZ Broadband at M 51.25 13 *e*P P **18 37 05.5 -3.0**
SNAA Sanae 51.42 158 ⇑P P **18 37 09.8 +0.4**
comp=Z,2µm,0.8s
SNAA ⇑S S **18 44 27.4 0.0**
SNAA Sanae 51.42 158 P P **18 37 09.6 +0.2**
SNAA IAmb IAmb 18 37 23.3
comp=Z,346nm,0.9s
SNAA IAMs_20 IAMs_20 18 58 38.7
comp=Z,48µm,19.0s
SNAA Sanae 51.42 158 P P **18 37 09.4 0.0**
comp=Z,165nm,1.0s,baz=262,slow=7.5,SNR=106
SNAA S S **18 44 23.6 -3.9**
comp=Z,5.7nm,1.0s,baz=252,slow=6.1,SNR=2.0
SNAA LR LR 18 58 41.6
comp=Z,45µm,18.3s,baz=292,slow=36
SNAA PKPPKP P'P'df 19 07 36.8 -19
comp=Z,2.6nm,1.1s,baz=27,slow=8.9,SNR=3.7
comp=Z,165nm,1.0s
SNAA Sanae 51.42 158 *c i*P P **18 37 10.3 +0.9**
SNAA pmax pmax
comp=Z,942nm,2.0s
SNAA MLR MLR
comp=Z,44µm,18.0s
SNAA Sanae 51.42 158 ⇑P P **18 37 09.7 +0.3**
DSDZ La Diserade, G 51.42 14 *e*P P **18 37 07.2 -2.6**
GDSD La Dsirade Is 51.42 14 IAmb IAmb 18 37 11.6
comp=Z,364nm,1.1s
H05N1 Guadeloupe/Mar 51.43 14 P P **18 37 07.5 -2.4**
SNR=25
ABD La Joyeuse, An 51.50 13 IAmb IAmb 18 37 11.5
comp=Z,320nm,0.8s
MBFL Flemmings, Mon 51.63 12 *e*P P **18 37 11.4 0.0**
RTAL Retalhuleu 51.91 336 IAMs_20 IAMs_20 19 03 28.2
comp=Z,26µm,19.0s
SKOC St. Kitts, UWI 52.07 12 *e*P P **18 37 14.0 -0.7**
SKI Saint Kitts 52.11 12 *e*P P **18 37 13.1 -1.9**
CRPR Cabo Rojo, PR 52.22 6 IAmb IAmb 18 37 37.0
comp=Z,338nm,1.1s
CELP Cerrillos 52.33 7 IAmb IAmb 18 37 27.5
comp=Z,324nm,0.8s
SJG San Juan 52.41 7 P P **18 37 16.4 -0.8**
SJG IAmb IAmb 18 37 26.9
comp=Z,342nm,1.1s
SJG San Juan 52.41 7 P P **18 37 16.4 -0.8**
SJG pmax pmax
comp=Z,342nm,1.2s
SJG MLR MLR
comp=Z,72µm,20.0s
SJG San Juan 52.41 7 ⇑P P **18 37 15.1 -2.1**
SJG San Juan 52.41 7 P P **18 37 15.9 -1.3**
comp=Z,15µmcomp=Z,4µmcomp=Z,146nm,1.4s
PRSN Puerto Rico Se 52.42 6 IAmb IAmb 18 37 28.0
comp=Z,412nm,1.2s
MTDJ Mount Denham 52.44 354 P P **18 37 17.4 -0.1**
MTDJ IAmb IAmb 18 37 29.9
comp=Z,642nm,1.6s
MTDJ Mount Denham 52.44 354 ⇑P P **18 37 17.9 +0.3**
HUMP Col San Antoni 52.48 8 IAmb IAmb 18 37 46.3
comp=Z,666nm,1.9s
AOPR Arecibo Observ 52.59 7 IAmb IAmb 18 37 35.6
comp=Z,325nm,1.1s
ANWB Willy Bob 52.61 13 IAMs_20 IAMs_20 19 01 16.6
comp=Z,58µm,22.0s
ANWB Willy Bob 52.61 13 *e*P P **18 37 15.4 -3.2**
ANWB Willy Bob 52.61 13 ⇑P P **18 37 16.7 -1.9**
GCPR Guaynabo City 52.62 7 IAMs_20 IAMs_20 19 03 17.9
comp=Z,54µm,20.0s
SDDR Presa de Saban 52.96 1 IAMs_20 IAMs_20 19 02 03.0
comp=Z,43µm,19.0s
SDDR Presa de Saban 52.96 1 ⇑P P **18 37 20.6 -0.8**
TROLL Troll, Antarti 53.12 158 ⇑P P **18 37 22.5 +0.4**
comp=Z,9µm,0.6s
TROLL ⇑S S **18 44 52.4 +1.5**
PETF Flores 53.58 339 IAmb IAmb 18 37 44.3
comp=Z,186nm,0.9s
CCIG Comitan 53.70 336 IAMs_20 IAMs_20 19 04 46.6
comp=Z,27µm,21.0s
GTBY Guantanamo Bay 53.96 357 IAmb IAmb 18 37 39.7
comp=Z,382nm,1.3s
GTBY Guantanamo Bay 53.96 357 P P **18 37 28.7 +0.2**
comp=Z,27µmcomp=Z,7µmcomp=Z,181nm,1.2s
CHIV Chivirico 54.08 355 IAMs_20 IAMs_20 19 00 35.7
comp=Z,17µm,21.0s
GRTK Grand Turk 55.48 1 IAMs_20 IAMs_20 19 03 42.7
comp=Z,44µm,20.0s
QSPA South Pole Qui 55.97 180 P P **18 37 44.1 +1.2**
QSPA South Pole Qui 55.97 180 IAMs_20 IAMs_20 19 00 18.6
comp=Z,28µm,22.0s
QSPA South Pole Qui 55.97 180 P P **18 37 43.8 +1.0**
comp=Z,131nm,0.9s,baz=162,slow=1.3,SNR=118
QSPA S S **18 45 27.1 -2.2**
comp=Z,8.8nm,1.1s,baz=152,slow=24,SNR=5.6
QSPA LR LR 19 00 41.1
comp=Z,26µm,21.9s,baz=166,slow=35
QSPA PKPPKP P'P'df 19 07 39.8 -10
comp=Z,11nm,1.2s,baz=294,slow=3.4,SNR=4.6
QSPA PKP2bc 19 07 53.9
comp=Z,18nm,1.1s,baz=277,slow=3.5,SNR=6.0
comp=Z,131nm,0.9s
TEIG Tepich 56.29 342 P P **18 37 45.4 0.0**
TEIG IAMs_20 IAMs_20 19 05 53.0
comp=Z,21µm,19.0s
TEIG Tepich 56.29 342 P P **18 37 45.2 -0.2**
TLIG Tlapa 57.29 330 IAMs_20 IAMs_20 18 56 41.7
comp=Z,41µm,22.0s
SOR Soroa 57.65 348 IAmb IAmb 18 38 18.1
comp=Z,435nm,1.3s
CAMR Camarioca 57.66 350 IAmb IAmb 18 38 14.2
comp=Z,474nm,0.9s
CAMR IAMs_20 IAMs_20 19 06 43.5
comp=Z,33µm,20.0s
UNM Universidad Na 59.13 330 IAMs_20 IAMs_20 18 57 51.3
comp=Z,41µm,21.0s
MOIG Morelia 60.29 328 IAMs_20 IAMs_20 18 58 01.8
comp=Z,24µm,21.0s
061Z Ochoppi 60.36 351 IAMs_20 IAMs_20 19 08 46.9
comp=Z,26µm,20.0s
SHEL Horse Pasture 61.95 91 P P **18 38 26.0 +1.0**
SHEL Horse Pasture 61.95 91 P P **18 38 26.0 +1.0**
SHEL pmax pmax
comp=Z,2µm,2.0s
SHEL MLR MLR
comp=Z,95µm,20.0s
SBA Scott Base 62.77 192 P P **18 38 30.7 +1.2**
SBA IAmb IAmb 18 38 48.2
comp=Z,445nm,1.6s
SBA Scott Base 62.77 192 IAMs_20 IAMs_20 19 05 20.4
comp=Z,18µm,18.0s
SBA Scott Base 62.77 192 P P **18 38 30.7 +1.2**
SBA pmax pmax
comp=Z,445nm,1.6s
SBA MLR MLR
comp=Z,18µm,18.0s
VNDA Vanda 63.80 191 P P **18 38 37.5 +1.2**
VNDA Vanda 63.80 191 P P **18 38 36.0 -0.3**
comp=Z,4.5nm,0.7s,baz=127,slow=5.9,SNR=24
VNDA S S **18 47 06.3 -3.1**

comp=Z,2.0nm,1.0s,baz=107,slow=9.6,SNR=1.9
VNDA LR LR 19 03 43.1
comp=Z,13µm,20.5s,baz=134,slow=34
VNDA PKP2bc 19 07 30.8
comp=Z,2.7nm,0.9s,baz=301,slow=4.4,SNR=8.8
comp=Z,4.5nm,0.7s
VNDA Vanda 63.80 191 P **P** **18 38 37.5 +1.2**
VNDA pmax pmax
comp=Z,137nm,1.4s
553A Crawfordville 65.13 348 IAMs_20 IAMs_20 19 12 22.2
comp=Z,22µm,21.0s
456A Hilliard 65.29 351 IAMs_20 IAMs_20 19 09 11.6
comp=Z,23µm,22.0s
SYO Syowa Base 65.70 158‖ *e*P **P** **18 38 47.2 -1.5**
SYO Syowa Base 65.70 158‖ *i*pP pP 18 38 54.8 -1.0
SYO Syowa Base 65.70 158‖ *i*sP sP 18 38 57.1 -1.6
SYO Syowa Base 65.70 158‖ *i*PcP **PcP** **18 39 18.0 -1.9**
451A Vernon 65.77 347 IAmb IAmb 18 39 05.1
comp=Z,234nm,1.0s
HBVL Hebbronville 65.92 334 IAmb IAmb 18 39 36.3
comp=Z,204nm,1.1s
TIGA Tifton 66.22 349 IAmb IAmb 18 39 07.1
comp=Z,186nm,0.9s
257A Skidaway Islan 66.40 352 IAMs_20 IAMs_20 19 13 25.9
comp=Z,21µm,18.0s
352A Blakely 66.47 348 IAMs_20 IAMs_20 19 13 02.4
comp=Z,27µm,20.0s
BRAL Brewton 66.56 346 IAmb IAmb 18 39 09.9
comp=Z,214nm,0.9s
BBSR BB Station 66.67 7 P **P** **18 38 55.6 +0.3**
BBSR IAmb IAmb 18 39 06.6
comp=Z,201nm,1.1s
TAOE Nuku Hiva Isla 66.78 275 IAMs_20 IAMs_20 19 01 38.0
comp=Z,22µm,19.0s
TAOE Nuku Hiva Isla 66.78 275 *e*PKP1 P 18 39 04.8 +8.1
comp=Z,474nm,1.3s
TAOE Nuku Hiva Isla 66.78 275 *e*PP **PP** **18 41 20.0 -3.9**
comp=Z,2µm,30.1s
TAOE *e*S **S** **18 47 45.7 -2.2**
comp=Z,25µm,24.8s
TAOE *e*SS SS 18 51 51.6 -14
comp=Z,7µm,27.2s
TAOE *e*LQ LQ 18 55 53.2
comp=Z,10µm,30.2s
TAOE *e*LR LR 18 59 03.2
comp=Z,28µm,31.7s
TBI Tubuai 67.05 257 *e*P P 18 39 07.4 +9.3
comp=Z,401nm,1.4s
TBI Tubuai 67.05 257 *e*PP **PP** **18 41 18.5 -7.3**
comp=Z,9µm,32.2s
TBI *e*S **S** **18 47 52.0 +1.2**
comp=Z,107µm,27.8s
TBI *e*SS **SS** **18 52 03.4 -6.1**
comp=Z,28µm,27.0s
TBI *e*LQ LQ 18 55 42.2
comp=Z,82µm,32.0s
TBI *e*LR LR 18 59 08.7
comp=Z,407µm,30.8s
TBI *e*LR LR 18 59 10.5
comp=Z,87µm,31.0s
250A Grady 67.19 347 IAMs_20 IAMs_20 19 13 57.0
comp=Z,22µm,20.0s
154A Montrose 67.30 350 IAMs_20 IAMs_20 19 07 43.7
comp=Z,18µm,21.0s
SACV Santiago Islan 67.38 52 P **P** **18 39 00.4 +0.2**
SACV IAmb IAmb 18 39 13.1
comp=Z,186nm,1.1s
152A Waverly Hall 67.60 349 IAmb IAmb 18 39 13.0
comp=Z,508nm,1.9s
HKT Hockley 67.63 338*c i*P **P** **18 39 01.9 +0.5**
HKT pmax pmax
comp=Z,393nm,2.0s
GOGA Godfrey 68.14 350 P **P** **18 39 03.8 -0.7**
GOGA Godfrey 68.14 350 IAMs_20 IAMs_20 19 11 45.9
comp=Z,17µm,22.0s
GOGA Godfrey 68.14 350 P **P** **18 39 03.8 -0.7**
GOGA pmax pmax
comp=Z,707nm,1.9s
GOGA MLR MLR
comp=Z,17µm,22.0s
Y58A Scranton 68.17 353 IAmb IAmb 18 39 20.2
comp=Z,202nm,1.0s
Y58A IAMs_20 IAMs_20 19 14 42.7
comp=Z,16µm,20.0s
Y57A Sumter 68.35 353 IAmb IAmb 18 39 21.2
comp=Z,161nm,1.1s
LRAL Lakeview Retre 68.36 347 P **P** **18 39 05.7 -0.3**
LRAL IAMs_20 IAMs_20 19 14 43.9
comp=Z,27µm,21.0s
LPIG La Paz 68.37 323 LR LR 19 02 15.0
comp=Z,4µm,18.6s,baz=128,slow=30
HPIG 68.60 328 IAMs_20 IAMs_20 19 03 14.2
comp=Z,24µm,22.0s
Y52A Lilburn 68.67 350 IAmb IAmb 18 39 23.4
comp=Z,227nm,1.1s
Y52A IAMs_20 IAMs_20 19 11 52.0
comp=Z,17µm,21.0s
JSC Jenkinsville 68.71 352 IAmb IAmb 18 39 20.3
comp=Z,563nm,1.9s
JSC IAMs_20 IAMs_20 19 12 53.0
comp=Z,17µm,21.0s
Z47A Carrollton 68.73 346 IAMs_20 IAMs_20 19 15 08.6
comp=Z,19µm,21.0s
DRIO Del Rio 68.77 334 IAmb IAmb 18 39 29.2
comp=Z,346nm,1.6s
HODGE Hodges 68.78 351 IAMs_20 IAMs_20 19 11 38.9
comp=Z,21µm,21.0s
X58A Rowland 68.78 354 IAmb IAmb 18 39 23.5
comp=Z,167nm,0.8s
BIRD Birdtown, Kers 68.98 353 IAMs_20 IAMs_20 19 15 13.2
comp=Z,18µm,20.0s
Y49A Blount Mountai 69.05 347 IAMs_20 IAMs_20 19 13 09.1
comp=Z,17µm,22.0s
PAULI Pauline 69.30 352 IAmb IAmb 18 39 26.9
comp=Z,201nm,1.1s
PAULI IAMs_20 IAMs_20 19 13 11.8
comp=Z,19µm,20.0s
W59A Clinton 69.31 355 IAmb IAmb 18 39 26.8
comp=Z,126nm,0.9s
W59A IAMs_20 IAMs_20 19 14 33.1
comp=Z,20µm,21.0s
W57A Gilead 69.44 353 IAmb IAmb 18 39 27.3
comp=Z,172nm,1.0s
W57A IAMs_20 IAMs_20 19 15 36.3
comp=Z,25µm,20.0s
KMSC Kings Mountain 69.56 352 IAmb IAmb 18 39 28.2
comp=Z,130nm,0.9s
KMSC IAMs_20 IAMs_20 19 15 38.7
comp=Z,17µm,20.0s
FPAL Fort Paine 69.58 348 IAmb IAmb 18 39 25.8
comp=Z,319nm,1.8s
VAH Vaihoa 69.59 265 *e*P **P** **18 39 13.9 -0.2**
comp=Z,117nm,1.2s
VAH *e*S S 18 48 12.1 -9.0
comp=Z,9µm,28.1s
VAH Vaihoa 69.59 265 *e*LR LR 19 00 15.4
comp=Z,8µm,24.7s
BG3 Lake Jocassee 69.62 351 IAMs_20 IAMs_20 19 15 19.1
comp=Z,15µm,20.0s
TVO Taravao 69.62 262 *e*PKP1 P 18 39 28.0 +14
comp=Z,83nm,1.1s
TVO *e*S **S** **18 48 17.4 -4.3**
comp=Z,6µm,23.6s
TVO Taravao 69.62 262 *e*LR LR 19 00 16.7
comp=Z,10µm,28.9s
Y45A Yeager Farm, C 69.68 345 IAMs_20 IAMs_20 19 15 15.8
comp=Z,19µm,19.0s
X48A Hartselle 69.74 347 IAmb IAmb 18 39 29.9
comp=Z,237nm,1.0s
X48A IAMs_20 IAMs_20 19 13 33.5
comp=Z,19µm,21.0s
V61A Roper 69.81 356 IAMs_20 IAMs_20 19 12 52.3
comp=Z,22µm,22.0s
SAND Sanderson 69.81 333 IAmb IAmb 18 40 04.4
comp=Z,233nm,1.2s
W52A Murphy 69.85 350 IAMs_20 IAMs_20 19 13 47.4
comp=Z,19µm,20.0s
TX31 Lajitas Ar. Si 69.86 331 IAmb IAmb 18 40 02.3
comp=Z,554nm,2.0s
TXAR Lajitas Array 69.86 331 P **P** **18 39 15.9 +0.3**
TXAR Lajitas Array 69.86 331 P **P** **18 39 15.7 +0.2**
comp=Z,5.2nm,0.5s,baz=151,slow=8.0,SNR=50
TXAR S **S** **18 48 29.7 +5.8**
comp=Z,0.3nm,0.7s,baz=106,slow=11,SNR=4.2
TXAR LR LR 19 04 54.2
comp=Z,16µm,21.1s,baz=136,slow=32
TXAR PKP2bc 19 07 19.1
comp=Z,2.2nm,1.1s,baz=236,slow=1.4,SNR=8.1
comp=Z,5.2nm,0.5s
TXAR Lajitas Array 69.86 331 P **P** **18 39 15.9 +0.3**
PMOR Pomariorio Ree 69.93 265 *e*P P 18 39 23.1 +6.9
comp=Z,312nm,1.4s
PMOR *e*S **S** **18 48 18.4 -6.8**
comp=Z,21µm,29.6s
PMOR Pomariorio Ree 69.93 265 *e*LR LR 19 00 26.1
comp=Z,22µm,27.6s
PAE Paea 69.95 262 *e*PKP1 P 18 39 24.0 +7.6
comp=Z,133nm,1.3s
PPT2 Papeete2 69.99 262 *e*PKP1 P 18 39 21.5 +4.8
comp=Z,331nm,1.3s
PPT2 Papeete2 69.99 262 *e*PP **PP** **18 41 49.0 -2.5**
comp=Z,2µm,29.2s
PPT2 *e*S **S** **18 48 25.2 -0.8**
comp=Z,31µm,24.5s
PPT2 *e*SS **SS** **18 52 55.8 +0.5**
PPT2 comp=Z,6µm,25.8s *e*LQ LQ 18 56 50.6
PPT2 comp=Z,14µm,31.2s *e*LR LR 19 00 22.5
PPT2 comp=Z,86µm,30.8s *e*LR LR 19 00 26.9
comp=Z,51µm,32.5s
V58A Windy Hill, Pi 69.99 354 IAMs_20 IAMs_20 19 16 01.0
comp=Z,14µm,19.0s
PPT Papeete 70.00 262 P **P** **18 39 19.5 +2.8**
comp=Z,34nm,0.3s,baz=64,slow=6.8,SNR=5.6
PPT LR LR 19 02 56.3
comp=Z,10µm,18.4s,baz=112,slow=30
comp=Z,34nm,0.3s
V55A Taylorsville 70.25 352 IAmb IAmb 18 39 32.6
comp=Z,196nm,1.0s
V55A IAMs_20 IAMs_20 19 16 01.9
comp=Z,25µm,21.0s
V53A Saluda 70.27 351 IAmb IAmb 18 39 32.7
comp=Z,230nm,1.0s
V53A IAMs_20 IAMs_20 19 12 24.3
comp=Z,19µm,21.0s
SWET Sewanee 70.29 348 IAMs_20 IAMs_20 19 14 36.9
comp=Z,17µm,22.0s
CPCT Cooper Cave 70.29 349 IAmb IAmb 18 39 32.9
comp=Z,203nm,1.0s
CPCT IAMs_20 IAMs_20 19 14 03.0
comp=Z,18µm,21.0s
TKL Tuckaleechee C 70.39 350 IAmb IAmb 18 39 33.1
comp=Z,131nm,0.9s
TKL Tuckaleechee C 70.39 350 P **P** **18 39 17.9 -0.6**
comp=Z,38nm,0.8s,baz=170,slow=6.9,SNR=56
TKL S **S** **18 48 28.2 -1.4**
comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=10
comp=Z,38nm,0.8s
PLAL Pickwick Lake 70.46 346 IAmb IAmb 18 39 33.8
comp=Z,215nm,0.9s
U56A King 70.66 353 IAmb IAmb 18 39 35.3
comp=Z,159nm,1.0s
U56A IAMs_20 IAMs_20 19 16 20.6
comp=Z,21µm,20.0s
ALPN Alpine 70.78 332 IAmb IAmb 18 39 43.0
comp=Z,407nm,1.8s
U54A Nelsons Funny 70.98 352 IAmb IAmb 18 39 36.9
comp=Z,206nm,0.9s
U54A IAMs_20 IAMs_20 19 16 39.3
comp=Z,21µm,21.0s
T59A Double "B" Far 71.04 356 IAMs_20 IAMs_20 19 16 20.9
comp=Z,22µm,19.0s
T57A Hurt 71.20 354 IAMs_20 IAMs_20 19 15 49.9
comp=Z,25µm,20.0s
SGCY Sterling City 71.21 334 IAmb IAmb 18 39 47.4
comp=Z,581nm,2.0s
CLTN Cedars of Leba 71.21 348 IAmb IAmb 18 39 38.2
comp=Z,163nm,1.0s
TZTN Tazewell 71.23 350 IAMs_20 IAMs_20 19 13 06.7
comp=Z,21µm,22.0s
MNHN Monahans 71.30 333 IAmb IAmb 18 39 48.5
comp=Z,522nm,1.7s
MIAR Mount Ida 71.30 342 IAmb IAmb 18 40 13.4
comp=Z,400nm,1.6s
MBO M'Bour 71.46 57 P **P** **18 39 26.1 +0.7**
WVT Waverly 71.52 347 P **P** **18 39 25.0 -0.3**
WVT Waverly 71.52 347 P **P** **18 39 25.0 -0.3**
WVT pmax pmax
comp=Z,758nm,1.0s
WVT MLR MLR
comp=Z,12µm,20.0s
U49A Red Boiling Sp 71.53 349 IAmb IAmb 18 39 37.6
comp=Z,573nm,1.7s
U49A IAMs_20 IAMs_20 19 17 02.8
comp=Z,18µm,19.0s
S61A Accomac 71.65 357 IAMs_20 IAMs_20 19 12 36.0
comp=Z,20µm,21.0s
PECS Peos 71.75 332 IAmb IAmb 18 40 28.9
comp=Z,274nm,1.7s
T50A Nancy 71.88 349 IAmb IAmb 18 39 39.5
comp=Z,356nm,1.7s
T50A IAMs_20 IAMs_20 19 16 50.0
comp=Z,15µm,20.0s
S57A Dark Hollow, R 71.93 354 IAMs_20 IAMs_20 19 14 11.3
comp=Z,26µm,21.0s
BBTS Babate 71.94 57 LR LR 19 10 14.7
comp=Z,213µm,19.7s,baz=228,slow=35
R58B Mineral 72.05 355 IAmb IAmb 18 39 45.6
comp=Z,232nm,1.2s
R58B IAMs_20 IAMs_20 19 15 21.6
comp=Z,25µm,21.0s
LCAR Lake Charles 72.16 344 IAMs_20 IAMs_20 19 17 23.4
comp=Z,16µm,19.0s
SN07 Snyder 07 72.19 335 IAmb IAmb 18 39 49.5
comp=Z,272nm,1.5s
FCAR Ozark Folk Cen 72.21 343 IAMs_20 IAMs_20 19 17 30.8
comp=Z,16µm,19.0s
T47A Sharon Grove 72.22 348 IAmb IAmb 18 39 43.9
comp=Z,381nm,1.1s
T47A IAMs_20 IAMs_20 19 15 58.1
comp=Z,18µm,22.0s
CBN Corbin Frederi 72.26 356 IAmb IAmb 18 40 37.0
comp=Z,306nm,1.4s
CBN IAMs_20 IAMs_20 19 15 44.1
comp=Z,20µm,20.0s
R61A Willards 72.29 357 IAMs_20 IAMs_20 19 17 16.8
comp=Z,24µm,19.0s
S51A Beattyville 72.31 351 IAmb IAmb 18 39 44.4
comp=Z,203nm,1.0s
S51A IAMs_20 IAMs_20 19 17 34.4
comp=Z,21µm,20.0s
POST Post 72.38 335 IAmb IAmb 18 39 50.7
comp=Z,419nm,1.7s
R55A Marlinton 72.55 354 IAmb IAmb 18 39 47.0
comp=Z,192nm,0.9s
R55A IAMs_20 IAMs_20 19 16 35.7
comp=Z,22µm,20.0s
MNTX Cornudas Mount 72.64 331 IAMs_20 IAMs_20 19 06 12.2
comp=Z,26µm,22.0s
PBMO Poplar Bluff 72.68 345 IAmb IAmb 18 39 47.2
comp=Z,179nm,1.0s
DKNS Dickens 72.72 335 IAmb IAmb 18 39 47.0
comp=Z,637nm,2.0s
MAW Mawson 72.98 164 P **P** **18 39 33.5 -0.4**
comp=Z,57nm,0.9s,baz=204,slow=6.8,SNR=92
MAW S **S** **18 48 58.5 -0.4**
comp=Z,3.7nm,1.2s,baz=266,slow=15,SNR=1.7
MAW LR LR 19 10 34.9
comp=Z,62µm,22.0s,baz=230,slow=35
comp=Z,57nm,0.9s
CGM3 Cape Girardeau 73.01 346 IAmb IAmb 18 39 46.4
comp=Z,688nm,1.9s
HHAR Hobbs 73.04 342 IAmb IAmb 18 39 46.8
comp=Z,241nm,1.4s
R50A Paris 73.04 350 IAmb IAmb 18 39 46.2
comp=Z,636nm,1.9s
R50A IAMs_20 IAMs_20 19 15 33.8
comp=Z,17µm,20.0s
EPT El Paso 73.16 330 IAMs_20 IAMs_20 19 07 00.1
comp=Z,20µm,21.0s
R49A Shelbyville 73.18 349 IAMs_20 IAMs_20 19 14 36.3
comp=Z,16µm,22.0s
TUL3 Leonard 73.19 340 IAmb IAmb 18 39 57.7
comp=Z,226nm,1.0s
RLO Rose Lookout 73.21 341 IAmb IAmb 18 40 11.2
comp=Z,288nm,1.7s
Q56A Snyder Ridge, 73.22 354 IAmb IAmb 18 39 55.3
comp=Z,240nm,1.3s
Q56A IAMs_20 IAMs_20 19 16 26.5
comp=Z,17µm,20.0s
USIN University of 73.27 347 IAMs_20 IAMs_20 19 18 15.9
comp=Z,17µm,19.0s
WCI Wyandotte Cave 73.29 349 P **P** **18 39 35.5 -0.4**
WCI Wyandotte Cave 73.29 349 P **P** **18 39 35.5 -0.4**
WCI pmax pmax
WCI MLR MLR
comp=Z,11µm,20.0s
U38A Gravette 73.30 342 IAmb IAmb 18 39 48.5
comp=Z,368nm,1.9s
Q54A Coxs Mills 73.31 353 IAmb IAmb 18 40 47.4
comp=Z,360nm,1.9s
Q54A IAMs_20 IAMs_20 19 17 22.9
comp=Z,25µm,20.0s
S44A Carbondale 73.31 346 IAmb IAmb 18 39 50.3
comp=Z,229nm,1.0s
SIUC Southern Illin 73.33 346 IAmb IAmb 18 39 50.4
comp=Z,224nm,0.9s
Q52A Bidwell 73.45 352 IAmb IAmb 18 39 51.1
comp=Z,242nm,1.0s
Q52A IAMs_20 IAMs_20 19 16 34.5
comp=Z,16µm,22.0s
MGMO Mountain Grove 73.45 343 IAMs_20 IAMs_20 19 18 16.6
comp=Z,14µm,19.0s
OK052 Battle Ridge R 73.55 339 IAmb IAmb 18 40 00.1
comp=Z,422nm,1.2s
P57A Homestead Farm 73.57 355 IAmb IAmb 18 39 53.9
comp=Z,247nm,1.2s
P57A IAMs_20 IAMs_20 19 16 24.8
comp=Z,21µm,20.0s
P61A Hammonton 73.61 358 IAMs_20 IAMs_20 19 15 59.8
comp=Z,29µm,19.0s
Q51A Peebles 73.64 351 IAmb IAmb 18 39 53.3
comp=Z,342nm,1.1s
Q51A IAMs_20 IAMs_20 19 15 51.6
comp=Z,14µm,20.0s
SMWD Samnorwood 73.80 336 IAmb IAmb 18 40 02.1
comp=Z,333nm,1.2s
P53A Whipple 73.87 353 IAmb IAmb 18 39 58.3
comp=Z,487nm,1.7s
P53A IAMs_20 IAMs_20 19 17 43.6
comp=Z,20µm,20.0s
MCWV Mont Chateau 73.89 354 IAmb IAmb 18 39 51.8
comp=Z,636nm,1.9s
MCWV IAMs_20 IAMs_20 19 15 24.2
comp=Z,24µm,22.0s
MVL Millersville 73.99 357 IAmb IAmb 18 39 53.0
comp=Z,420nm,1.6s
MVL IAMs_20 IAMs_20 19 14 09.9
comp=Z,23µm,22.0s
319A Douglas 74.01 328 IAmb IAmb 18 40 11.2
comp=Z,493nm,1.7s
319A IAMs_20 IAMs_20 19 17 35.6
comp=Z,17µm,18.0s
P51A Williamsport 74.05 351 IAmb IAmb 18 39 55.0
comp=Z,295nm,1.1s
CCM Cathedral Cave 74.08 345 P **P** **18 39 40.4 -0.1**
CCM IAmb IAmb 18 39 55.8
comp=Z,295nm,1.0s
CCM Cathedral Cave 74.08 345 P **P** **18 39 40.4 -0.1**
CCM pmax pmax
comp=Z,295nm,1.0s
P52A Corning 74.09 352 IAmb IAmb 18 39 55.2
comp=Z,202nm,0.9s
P52A IAMs_20 IAMs_20 19 15 41.6
comp=Z,17µm,22.0s
OLIL Olney 74.10 347 IAmb IAmb 18 39 52.1
comp=Z,424nm,1.6s
OLIL IAMs_20 IAMs_20 19 18 41.7
comp=Z,15µm,19.0s
T35A Sooner Cattle 74.33 340 IAmb IAmb 18 40 04.9
comp=Z,279nm,1.0s
121A Cookes Peak, D 74.36 329 IAmb IAmb 18 40 32.8
comp=Z,336nm,1.4s
121A IAMs_20 IAMs_20 19 06 52.8
comp=Z,24µm,22.0s
P48A Milroy 74.36 349 IAMs_20 IAMs_20 19 18 55.7
comp=Z,18µm,19.0s
CROK Carrier 74.37 339 IAmb IAmb 18 40 05.0
comp=Z,199nm,0.9s
BLOK Blackwell 74.39 339 IAmb IAmb 18 40 05.3
comp=Z,302nm,1.1s
ELIS Ellis County 74.41 337 IAmb IAmb 18 40 06.0
comp=Z,413nm,1.3s
Q44A Meyer Farm, Va 74.44 347 IAMs_20 IAMs_20 19 17 20.7
comp=Z,20µm,22.0s
O54A Avella 74.46 354 IAMs_20 IAMs_20 19 15 32.2
comp=Z,25µm,22.0s
R40A Maddies Statio 74.54 344 IAmb IAmb 18 39 57.8
comp=Z,260nm,1.1s
O52A Adamsville 74.54 352 IAmb IAmb 18 39 57.3
comp=Z,173nm,1.0s
O52A IAMs_20 IAMs_20 19 18 05.4
comp=Z,19µm,19.0s
OK038 West end E0370 74.58 338 IAmb IAmb 18 40 06.4
comp=Z,270nm,1.0s
O53A New Philadelph 74.60 353 IAMs_20 IAMs_20 19 18 21.1
comp=Z,26µm,20.0s
BRNJ Basking Ridge 74.61 358 IAmb IAmb 18 39 56.5
comp=Z,508nm,1.8s
BRNJ IAMs_20 IAMs_20 19 14 58.3
comp=Z,29µm,20.0s
CPNY Central Park 74.70 359 IAMs_20 IAMs_20 19 14 46.8
comp=Z,25µm,20.0s
SSPA Standing Stone 74.71 356 P **P** **18 39 44.0 -0.1**
SSPA IAmb IAmb 18 40 03.5
comp=Z,247nm,1.4s
SSPA Standing Stone 74.71 356 IAMs_20 IAMs_20 19 17 43.0
comp=Z,18µm,19.0s
ACSO Alum Creek Sta 74.78 352 IAmb IAmb 18 39 59.3
comp=Z,282nm,0.9s
ACSO IAMs_20 IAMs_20 19 17 25.9
comp=Z,18µm,20.0s
P46A Rosedale 74.80 348 IAmb IAmb 18 39 58.4
comp=Z,262nm,0.9s
P46A IAMs_20 IAMs_20 19 15 48.3
comp=Z,30µm,22.0s
N62A Caumsett State 74.84 359 IAMs_20 IAMs_20 19 18 27.3
comp=Z,24µm,19.0s
N58A Sunbury 74.85 357 IAmb IAmb 18 40 04.5
comp=Z,594nm,1.9s
N58A IAMs_20 IAMs_20 19 18 03.6
comp=Z,19µm,20.0s
SUR Sutherland 74.89 119 P **P** **18 39 45.9 0.0**
SUR IAmb IAmb 18 39 54.1
comp=Z,318nm,0.9s
O49A Covington 74.92 350 IAmb IAmb 18 39 59.4
comp=Z,256nm,1.0s
PAL Palisades 74.92 359 IAMs_20 IAMs_20 19 14 52.4
comp=Z,26µm,21.0s
O48B Farmland 75.10 350 IAmb IAmb 18 39 59.6
comp=Z,214nm,1.2s
O48B IAMs_20 IAMs_20 19 19 30.3
comp=Z,18µm,20.0s
N53A Lisbon 75.12 353 IAMs_20 IAMs_20 19 16 05.7
comp=Z,25µm,22.0s
Y22A Socorro 75.24 331 IAMs_20 IAMs_20 19 08 17.0
comp=Z,21µm,21.0s
P43A Skaggs, Pawnee 75.25 346 IAmb IAmb 18 40 02.0
comp=Z,326nm,0.9s
P43A IAMs_20 IAMs_20 19 17 46.1
comp=Z,17µm,22.0s
M63A Gales Ferry 75.30 0 IAMs_20 IAMs_20 19 17 09.6
comp=Z,21µm,20.0s
Y22D IRIS PASSCAL I 75.34 331 IAMs_20 IAMs_20 19 08 20.7
comp=Z,19µm,20.0s
M57A Sunshine Farm, 75.37 356 IAMs_20 IAMs_20 19 18 31.3
comp=Z,21µm,20.0s
N51A Ashland 75.39 352 IAmb IAmb 18 40 02.3
comp=Z,239nm,0.9s
N51A IAMs_20 IAMs_20 19 18 32.9
comp=Z,20µm,20.0s
DBIC Dimbokro 75.47 71 IAmb IAmb 18 39 54.5
comp=Z,255nm,1.1s
DBIC Dimbokro 75.47 71 P **P** **18 39 47.2 -1.9**
DBIC comp=Z,87nm,0.7s,baz=249,slow=5.2,SNR=55 LR LR 19 11 14.5
comp=Z,93nm,19.0s,baz=252,slow=34
comp=Z,87nm,0.7s
DBIC Dimbokro 75.47 71 P **P** **18 39 49.2 0.0**
M65A Busby, Falmout 75.47 1 IAMs_20 IAMs_20 19 18 33.2
comp=Z,23µm,19.0s
KSPA Keystone Colle 75.52 357 IAMs_20 IAMs_20 19 17 39.4
comp=Z,27µm,19.0s
SFIN Lafayette 75.52 348 IAMs_20 IAMs_20 19 16 06.5
comp=Z,21µm,22.0s
KSCT Kent School, K 75.63 359 IAmb IAmb 18 40 01.9
comp=Z,377nm,1.1s
P40A Paris 75.67 344 IAMs_20 IAMs_20 19 16 14.4
comp=Z,14µm,21.0s
UCCT U. Connecticut 75.69 0 P **P** **18 39 50.9 +1.1**
UCCT IAMs_20 IAMs_20 19 17 31.9

comp=Z,21µm,20.0s
N47A Urbana **75.79 350** IAMs_20 IAMs_20 19 16 59.5
comp=Z,15µm,20.0s
L64A Middleborough **75.84 1** IAmb IAmb 18 40 02.6
comp=Z,225nm,1.3s
L64A IAMs_20 IAMs_20 19 18 54.9
comp=Z,20µm,19.0s
RTBA Rita Blanca **75.86 335** IAmb IAmb 18 40 15.5
comp=Z,586nm,1.8s
M52A Chesterland **75.90 353** IAMs_20 IAMs_20 19 19 18.3
comp=Z,23µm,20.0s
ANMO Albuquerque **75.92 332** P **P** **18 39 52.5 +1.0**
ANMO Albuquerque **75.92 332** IAMs_20 IAMs_20 19 08 19.0
comp=Z,24µm,22.0s
ANMO Albuquerque **75.92 332** P **P** **18 39 53.5 +2.1**
comp=Z,16nm,0.9s,baz=217,slow=5.1,SNR=24
ANMO S **S** **18 49 31.4 -1.5**
comp=Z,0.5nm,0.4s,baz=218,slow=6.2,SNR=1.3
ANMO LR LR 19 08 31.1
comp=Z,32µm,21.9s,baz=243,slow=32
comp=Z,16nm,0.9s
ANMO Albuquerque **75.92 332***c i* P **P** **18 39 52.6 +1.1**
ANMO pmax pmax
comp=Z,189nm,1.7s
M50A Fremont **75.95 352** IAMs_20 IAMs_20 19 16 48.7
comp=Z,24µm,22.0s
HDIL Hopedale **76.09 347** IAmb IAmb 18 40 06.3
comp=Z,278nm,1.0s
HDIL IAMs_20 IAMs_20 19 20 04.4
comp=Z,14µm,21.0s
P38A Dawn **76.10 343** IAmb IAmb 18 40 14.4
comp=Z,188nm,0.9s
L59A Walton **76.13 358** IAMs_20 IAMs_20 19 15 34.5
comp=Z,29µm,22.0s
BINY Binghamton **76.17 357** IAmb IAmb 18 40 04.1
comp=Z,301nm,1.6s
BINY IAMs_20 IAMs_20 19 18 08.6
comp=Z,30µm,19.0s
L56A Greenwood **76.19 356** IAMs_20 IAMs_20 19 18 59.0
comp=Z,20µm,20.0s
BCX Boston College **76.24 1** IAMs_20 IAMs_20 19 19 08.4
comp=Z,15µm,19.0s
WES Weston **76.29 1** IAMs_20 IAMs_20 19 19 09.6
comp=Z,14µm,19.0s
SFX San Felipe **76.34 323** IAmb IAmb 18 40 20.0
comp=Z,349nm,1.8s
SFX IAMs_20 IAMs_20 19 06 18.5
comp=Z,18µm,22.0s
L61B Northampton **76.35 360** IAmb IAmb 18 40 06.2
comp=Z,400nm,1.5s
L61B IAMs_20 IAMs_20 19 17 43.2
comp=Z,21µm,20.0s
R32A Long Quarter, **76.37 339** IAmb IAmb 18 40 16.9
comp=Z,266nm,1.1s
RAR Rarotonga **76.37 254** IAMs_20 IAMs_20 19 06 47.5
comp=Z,13µm,18.0s
RAR Rarotonga **76.37 254** P **P** **18 39 55.3 +1.0**
comp=Z,6.4nm,0.4s,baz=171,slow=9.9,SNR=6.9
RAR LR LR 19 06 50.6
comp=Z,11µm,18.0s,baz=148,slow=30
comp=Z,6.4nm,0.4s
KSU1 Kansas State U **76.40 341** IAmb IAmb 18 40 16.2
comp=Z,185nm,0.9s
HRV Adam Dziewonsk **76.41 1** P **P** **18 39 54.2 +0.4**
HRV IAmb IAmb 18 40 06.9
comp=Z,307nm,1.4s
HRV Adam Dziewonsk **76.41 1** IAMs_20 IAMs_20 19 10 49.8
comp=Z,16µm,22.0s
HRV Adam Dziewonsk **76.41 1** P **P** **18 39 54.2 +0.4**
HRV pmax pmax
comp=Z,307nm,1.4s
HRV MLR MLR
comp=Z,16µm,22.0s
WVNY West Valley, N **76.52 355** IAMs_20 IAMs_20 19 15 47.9
comp=Z,16µm,21.0s
N41A Harden Midland **76.54 346** IAMs_20 IAMs_20 19 18 52.5
comp=Z,17µm,22.0s
K62A Royalston **76.56 0** P **P** **18 39 55.2 +0.6**
K62A IAMs_20 IAMs_20 19 18 35.9
comp=Z,16µm,20.0s
TRY Troy **76.64 359** IAmb IAmb 18 40 08.1
comp=Z,430nm,1.3s
TRY IAMs_20 IAMs_20 19 16 10.9
comp=Z,23µm,21.0s
K57A Scipio Center **76.72 357** IAMs_20 IAMs_20 19 17 33.2
comp=Z,22µm,20.0s
MMNY Mt. Morris Dam **76.80 356** IAMs_20 IAMs_20 19 19 29.2
comp=Z,22µm,19.0s
AAM Ann Arbor **76.91 351** IAmb IAmb 18 40 08.4
comp=Z,286nm,1.3s
AAM IAMs_20 IAMs_20 19 17 31.1
comp=Z,28µm,21.0s
L46A Eue Claire **76.99 349** IAmb IAmb 18 40 10.7
comp=Z,172nm,0.9s
X18A Snowflake **76.99 329** IAmb IAmb 18 40 23.1
comp=Z,456nm,1.9s
X18A IAMs_20 IAMs_20 19 18 25.5
comp=Z,16µm,19.0s
HQIL Hanson Quary C **77.03 348** IAMs_20 IAMs_20 19 18 17.5
comp=Z,17µm,21.0s
CBKS Cedar Bluff **77.04 338** IAmb IAmb 18 40 20.9
comp=Z,416nm,1.3s
VTX Valle De La Tr **77.10 323** IAMs_20 IAMs_20 19 08 44.4
comp=Z,13µm,18.0s
WIN Windhoek **77.18 109** IAmb IAmb 18 40 18.7
comp=Z,327nm,1.3s
J61A Chester **77.24 360** IAMs_20 IAMs_20 19 18 56.9
comp=Z,17µm,20.0s
K50A Casco **77.25 352** IAmb IAmb 18 40 12.3
comp=Z,363nm,1.0s
K50A IAMs_20 IAMs_20 19 20 15.2
comp=Z,20µm,19.0s
MEDO Medina **77.27 355** IAMs_20 IAMs_20 19 19 45.6
comp=Z,22µm,19.0s
ACCN Adirondack Com **77.29 359** IAmb IAmb 18 40 18.5
comp=Z,554nm,1.9s
ACCN IAMs_20 IAMs_20 19 16 17.2
comp=Z,21µm,22.0s
J55A Hilton **77.33 356** IAMs_20 IAMs_20 19 17 41.2
comp=Z,21µm,20.0s
J57A Williamstown **77.38 357** IAMs_20 IAMs_20 19 18 52.6
comp=Z,26µm,19.0s
J59A Piesco **77.39 358** IAMs_20 IAMs_20 19 16 38.8
comp=Z,27µm,21.0s
W18A Petrified Fore **77.40 329** IAMs_20 IAMs_20 19 10 17.4
comp=Z,13µm,19.0s
L44A Lake County Fo **77.41 348** IAMs_20 IAMs_20 19 21 05.5
comp=Z,20µm,20.0s
L42A Oliver, Polo **77.56 347** IAmb IAmb 18 40 14.5
comp=Z,281nm,0.9s
L42A IAMs_20 IAMs_20 19 21 04.3
comp=Z,15µm,21.0s
HNH Hanover **77.60 0** IAmb IAmb 18 40 13.0
comp=Z,191nm,1.1s
HNH IAMs_20 IAMs_20 19 19 45.4
comp=Z,14µm,20.0s
ESJX Sierra Juarez **77.67 323** IAMs_20 IAMs_20 19 06 45.7
comp=Z,16µm,22.0s
I62A Tamworth **77.78 1** IAmb IAmb 18 40 21.6
comp=Z,381nm,1.5s
I62A IAMs_20 IAMs_20 19 20 13.0
comp=Z,23µm,20.0s
L40A Anamosa **77.92 346** IAmb IAmb 18 40 17.1
comp=Z,338nm,1.0s
L40A IAMs_20 IAMs_20 19 21 17.9
comp=Z,17µm,19.0s
PECO Prince Edward **77.95 357** IAmb IAmb 18 40 21.5
comp=Z,488nm,1.7s
PECO IAMs_20 IAMs_20 19 19 16.6
comp=Z,28µm,20.0s
I63A Otisfield **77.96 1** IAMs_20 IAMs_20 19 18 52.0
comp=Z,20µm,20.0s
GLA Glamis **77.98 325** IAmb IAmb 18 40 28.5
comp=Z,420nm,1.7s
J47A Sunmer **77.98 351** IAmb IAmb 18 40 16.4
comp=Z,214nm,1.0s
J47A IAMs_20 IAMs_20 19 18 07.5
comp=Z,22µm,22.0s
K43A Burlington **78.00 348** IAmb IAmb 18 40 27.9
comp=Z,220nm,1.1s
K43A IAMs_20 IAMs_20 19 21 24.9
comp=Z,19µm,20.0s
LBNH Lisbon **78.14 0** IAMs_20 IAMs_20 19 20 27.6
comp=Z,20µm,19.0s
YUH Yuha Desert **78.18 324** IAMs_20 IAMs_20 19 07 04.1
comp=Z,15µm,21.0s
SCIA State Center **78.20 344** IAmb IAmb 18 40 18.7
comp=Z,238nm,0.8s
SCIA IAMs_20 IAMs_20 19 19 56.3
comp=Z,16µm,20.0s
VT1 Waterbury **78.23 360** IAMs_20 IAMs_20 19 19 44.7
comp=Z,13µm,20.0s
CBX Cerro Bola **78.28 323** IAMs_20 IAMs_20 19 07 02.7
comp=Z,15µm,22.0s
GRHM Grahamstown, E **78.38 122** P **P** **18 40 05.8 +0.4**
GRHM IAmb IAmb 18 40 19.9
comp=Z,366nm,1.0s
I49A Point Hope **78.42 352** IAmb IAmb 18 40 19.0
comp=Z,174nm,1.0s
I49A IAMs_20 IAMs_20 19 21 07.3
comp=Z,24µm,18.0s
H62A Milan **78.48 1** IAMs_20 IAMs_20 19 20 50.6
comp=Z,25µm,18.0s
WVL Waterville **78.50 2** IAmb IAmb 18 40 18.7
comp=Z,505nm,1.5s
WVL IAMs_20 IAMs_20 19 20 10.1
comp=Z,18µm,20.0s
S22A 4UR Ranch, Cre **78.51 333** IAmb IAmb 18 40 27.4
comp=Z,340nm,1.8s
S22A IAMs_20 IAMs_20 19 09 49.7
comp=Z,14µm,22.0s
ACRG Accra **78.53 75** IAmb IAmb 18 40 11.6
comp=Z,221nm,1.0s
LONY Lake Ozonia **78.54 358** IAmb IAmb 18 40 18.3
comp=Z,452nm,1.6s
LONY IAMs_20 IAMs_20 19 17 11.4
comp=Z,23µm,22.0s
JFWS Jewell Farm **78.55 347** IAmb IAmb 18 40 18.0
comp=Z,437nm,1.4s
JFWS Jewell Farm **78.55 347** IAMs_20 IAMs_20 19 18 32.5
comp=Z,19µm,22.0s
DELO Deloro Mine **78.56 356** IAmb IAmb 18 40 23.9
comp=Z,418nm,1.9s
DELO IAMs_20 IAMs_20 19 19 47.9
comp=Z,24µm,20.0s
MVCO Mesa Verde **78.69 331** IAmb IAmb 18 40 31.8
comp=Z,316nm,1.4s
MVCO IAMs_20 IAMs_20 19 10 21.3
comp=Z,20µm,20.0s
EMMW East Machias **78.73 4** IAmb IAmb 18 40 19.8
comp=Z,379nm,1.3s
EMMW IAMs_20 IAMs_20 19 16 19.2
comp=Z,22µm,22.0s
SADO Sadowa **78.91 355** IAMs_20 IAMs_20 19 18 55.1
comp=Z,24µm,21.0s
SADO Sadowa **78.91 355** P **P** **18 40 07.8 +0.1**
comp=Z,25nm,0.7s,baz=188,slow=4.1,SNR=26
comp=Z,25nm,0.7s
BORC Borrego Spring **78.93 324** IAmb IAmb 18 40 33.9
comp=Z,356nm,1.8s
BORC IAMs_20 IAMs_20 19 07 26.8
comp=Z,13µm,21.0s
HAL Halifax **78.93 6** IAmb IAmb 18 40 21.0
comp=Z,243nm,1.2s
HAL IAMs_20 IAMs_20 19 16 26.7
comp=Z,32µm,22.0s
WBO Williamsburg **78.94 358** IAmb IAmb 18 40 23.2
comp=Z,211nm,0.9s
WBO IAMs_20 IAMs_20 19 17 27.9
comp=Z,30µm,21.0s
I45A Fountain **78.96 350** IAMs_20 IAMs_20 19 21 02.4
comp=Z,13µm,20.0s
BGNE Belgrade **78.97 340** IAmb IAmb 18 40 23.3
comp=Z,323nm,1.0s
L34A Svendsen Farm, **79.02 342** IAmb IAmb 18 40 22.8
comp=Z,228nm,1.0s
G62A West of Eustis **79.13 1** IAmb IAmb 18 40 21.9
comp=Z,401nm,1.3s
G62A IAMs_20 IAMs_20 19 20 23.9
comp=Z,21µm,20.0s
GGN Saint George **79.17 4** IAmb IAmb 18 40 22.2
comp=Z,366nm,1.3s
PKME Peaks-Kenny Pk **79.21 2** IAmb IAmb 18 40 22.2
comp=Z,313nm,1.4s
PKME IAMs_20 IAMs_20 19 19 15.9
comp=Z,19µm,20.0s
G65A Princeton **79.21 3** IAmb IAmb 18 40 22.5
comp=Z,267nm,1.3s
G65A IAMs_20 IAMs_20 19 16 33.1
comp=Z,26µm,22.0s
PMD Palm Desert **79.21 324** IAMs_20 IAMs_20 19 07 37.4
comp=Z,16µm,22.0s
PFO Pinyon Flats O **79.22 324** P **P** **18 40 11.9 +2.1**
PFO IAmb IAmb 18 40 34.8
comp=Z,243nm,1.4s
PFO Pinyon Flats O **79.22 324** P **P** **18 40 12.4 +2.5**
comp=Z,13nm,0.8s,baz=116,slow=5.1,SNR=19
PFO S **S** **18 50 07.3 -1.3**
comp=Z,1.0nm,0.7s,baz=117,slow=8.3,SNR=1.1
PFO LR LR 19 08 44.0
comp=Z,7µm,20.0s,baz=138,slow=31
comp=Z,13nm,0.8s
PFO Pinyon Flats O **79.22 324***c i* P **P** **18 40 11.5 +1.6**
PFO pmax pmax
comp=Z,324nm,1.4s
I42A Draeger Farm, **79.25 348** IAmb IAmb 18 40 24.5
comp=Z,233nm,1.0s
I42A IAMs_20 IAMs_20 19 22 20.1
comp=Z,16µm,19.0s
BELC Belle Mtn. Jos **79.31 324** IAMs_20 IAMs_20 19 08 17.1
comp=Z,13µm,21.0s
TSUM Tsumeb **79.34 106** P **P** **18 40 11.4 +0.3**
TSUM IAmb IAmb 18 40 25.1
comp=Z,397nm,1.3s
TSUM Tsumeb **79.34 106** LR LR 19 10 21.7
comp=Z,143µm,21.0s,baz=239,slow=32
KOOLE Kule **79.37 110** *i* P **P** **18 40 11.4 +0.3**
MNTQ Montreal, Queb **79.41 359** IAmb IAmb 18 40 23.0
comp=Z,552nm,1.6s
GLMI Grayling **79.51 351** IAMs_20 IAMs_20 19 19 30.0
comp=Z,20µm,20.0s
PV01 Paradox Valley **79.52 332** IAmb IAmb 18 40 32.8
comp=Z,490nm,1.9s
PV01 IAMs_20 IAMs_20 19 11 00.5
comp=Z,23µm,20.0s
DANC Danby, Needles **79.54 325** IAmb IAmb 18 40 42.6
comp=Z,175nm,1.0s
I40A Norwalk **79.56 347** IAmb IAmb 18 40 23.3
comp=Z,284nm,1.4s
I40A IAMs_20 IAMs_20 19 19 02.3
comp=Z,18µm,21.0s
BUKO Buck Lake **79.60 355** IAMs_20 IAMs_20 19 19 16.3
comp=Z,25µm,21.0s
U15A North Rim **79.61 328** IAmb IAmb 18 40 33.7
comp=Z,293nm,1.6s
U15A IAMs_20 IAMs_20 19 18 55.9
comp=Z,11µm,19.0s
H43A Windswept, Lux **79.62 349** IAmb IAmb 18 40 26.6
comp=Z,220nm,1.0s
H43A IAMs_20 IAMs_20 19 19 07.9
comp=Z,14µm,22.0s
PV13 Radium Mtn., P **79.64 332** IAmb IAmb 18 40 36.0
comp=Z,351nm,1.6s
PV13 IAMs_20 IAMs_20 19 10 52.7
comp=Z,24µm,20.0s
PV15 Paradox Valley **79.67 332** IAmb IAmb 18 40 36.5
comp=Z,596nm,1.9s
PV15 IAMs_20 IAMs_20 19 11 05.3
comp=Z,23µm,21.0s
PV05 Paradox Valley **79.68 331** IAMs_20 IAMs_20 19 10 54.0
comp=Z,23µm,20.0s
OGNE Ogallala **79.70 338** IAmb IAmb 18 40 37.6
comp=Z,292nm,1.2s
PV03 Paradox Valley **79.74 332** IAmb IAmb 18 40 33.4
comp=Z,297nm,1.6s
PV03 IAMs_20 IAMs_20 19 10 56.1
comp=Z,24µm,20.0s
CASY Casey **79.75 181** P **P** **18 40 12.5 +0.3**
PV12 Saucer Basin, **79.77 332** IAmb IAmb 18 40 36.7
comp=Z,241nm,1.2s
PV11 David Mesa, Pa **79.78 332** IAmb IAmb 18 40 33.8
comp=Z,467nm,1.7s
PV11 IAMs_20 IAMs_20 19 10 47.4
comp=Z,30µm,21.0s
PV17 East Wray Mesa **79.80 331** IAmb IAmb 18 40 33.8
comp=Z,251nm,1.4s
PV16 Nyswonger Mesa **79.81 332** IAmb IAmb 18 40 38.5
comp=Z,241nm,1.4s
PV16 IAMs_20 IAMs_20 19 10 48.1
comp=Z,23µm,20.0s
PV07 Paradox Valley **79.82 332** IAMs_20 IAMs_20 19 11 09.3
comp=Z,23µm,21.0s
F64A Sherman **79.84 3** IAmb IAmb 18 40 25.8
comp=Z,377nm,1.4s
F64A IAMs_20 IAMs_20 19 19 58.7
comp=Z,21µm,20.0s
PV20 West Nyswonger **79.86 332** IAmb IAmb 18 40 37.1
comp=Z,327nm,1.4s
PV04 Paradox Valley **79.88 332** IAmb IAmb 18 40 38.2
comp=Z,374nm,1.4s
PV04 IAMs_20 IAMs_20 19 11 00.8
comp=Z,28µm,21.0s
PV14 Lion Creek, Pa **79.91 331** IAMs_20 IAMs_20 19 11 01.7
comp=Z,23µm,21.0s
PV10 Paradox Valley **79.92 331** IAmb IAmb 18 40 34.0
comp=Z,411nm,1.4s
PV22 Blue Mesa, Par **79.95 332** IAmb IAmb 18 40 34.9
comp=Z,330nm,1.7s
PV22 IAMs_20 IAMs_20 19 11 02.9
comp=Z,22µm,20.0s
PV23 Carpenter Ridg **79.97 332** IAmb IAmb 18 40 39.5
comp=Z,375nm,1.4s
LMN Caledonia Moun **80.03 5** IAmb IAmb 18 40 26.4
comp=Z,201nm,1.2s
LMN IAMs_20 IAMs_20 19 15 20.9
comp=Z,22µm,22.0s
PV21 Cone Mtn., Par **80.05 332** IAmb IAmb 18 40 38.2
comp=Z,344nm,1.6s
PV21 IAMs_20 IAMs_20 19 11 05.5
comp=Z,23µm,21.0s
PHPEN Phepeng **80.06 114** IAmb IAmb 18 40 34.0
comp=Z,308nm,1.1s
PHPEN Phepeng **80.06 114** *i* P **P** **18 40 17.1 +2.3**
BOSA Boshof **80.13 118** P **P** **18 40 14.0 -1.2**
comp=Z,131nm,1.0s,baz=239,slow=4.6,SNR=50
BOSA S **S** **18 50 11.8 -7.0**
comp=Z,2.2nm,1.0s,baz=170,slow=21,SNR=1.2
BOSA LR LR 19 13 51.6
comp=Z,56µm,18.0s,baz=240,slow=34
comp=Z,131nm,1.0s
BOSA Boshof **80.13 118** P **P** **18 40 15.3 +0.1**
BOSA S **S** **18 50 18.1 -0.7**
TRQ Mont Tremblant **80.14 358** IAmb IAmb 18 40 29.5
comp=Z,242nm,1.0s
TRQ IAMs_20 IAMs_20 19 20 53.6
comp=Z,13µm,20.0s
HMU Henry Mountain **80.23 330** IAMs_20 IAMs_20 19 11 39.2
comp=Z,15µm,21.0s
I37A Lemond, Waseca **80.25 345** IAMs_20 IAMs_20 19 22 56.6
comp=Z,15µm,20.0s
BFSC Mount Baldy Ra **80.32 323** IAmb IAmb 18 40 40.2
comp=Z,216nm,1.3s
KNB Kanab **80.34 328** IAmb IAmb 18 40 41.4
comp=Z,474nm,1.4s
KNB IAMs_20 IAMs_20 19 22 23.1
comp=Z,13µm,21.0s
PKCU Pink Cliffs **80.47 329** IAMs_20 IAMs_20 19 20 44.7
comp=Z,13µm,21.0s
E62A Clayton Lake **80.55 2** IAMs_20 IAMs_20 19 20 06.6
comp=Z,19µm,20.0s
G40A Rib Lake **80.81 347** IAmb IAmb 18 40 30.1
comp=Z,293nm,1.6s
G40A IAMs_20 IAMs_20 19 23 21.4
comp=Z,14µm,18.0s
MTPU Mount Pierson **80.92 329** IAmb IAmb 18 40 51.8
comp=Z,290nm,1.7s
MTPU IAMs_20 IAMs_20 19 20 07.5
comp=Z,13µm,18.0s
E46A Sault Ste Mari **80.99 352** IAmb IAmb 18 40 33.8
comp=Z,362nm,1.0s
E46A IAMs_20 IAMs_20 19 22 08.1
comp=Z,27µm,20.0s
KGCAE Kacgae **81.00 111** *i* P **P** **18 40 20.6 +0.7**
CCUT Cedar City **81.02 328** IAmb IAmb 18 40 45.4
comp=Z,426nm,1.7s
D62A Allapoint, All **81.03 2** IAmb IAmb 18 40 38.6
comp=Z,378nm,1.5s
D62A IAMs_20 IAMs_20 19 20 29.2
comp=Z,23µm,20.0s
GRTLG Ghanzi **81.04 110** IAmb IAmb 18 40 39.5
comp=Z,314nm,1.1s
GRTLG Ghanzi **81.04 110** *i* P **P** **18 40 20.5 +0.4**
TPO Tropico Hills **81.11 323** IAMs_20 IAMs_20 19 11 41.7
comp=Z,12µm,18.0s
O20A White River Ci **81.13 333** IAmb IAmb 18 40 45.6
comp=Z,355nm,1.5s
O20A IAMs_20 IAMs_20 19 16 43.1
comp=Z,16µm,20.0s
SRU San Rafael Swe **81.14 331** IAMs_20 IAMs_20 19 11 26.3
comp=Z,14µm,21.0s
CCCA Chr Cany lake **81.21 324** IAMs_20 IAMs_20 19 09 35.2
comp=Z,15µm,22.0s
Q16A Castle Valley **81.24 330** IAmb IAmb 18 40 44.8
comp=Z,444nm,1.5s
Q16A IAMs_20 IAMs_20 19 11 17.9
comp=Z,15µm,21.0s
SPMN Marine on St. **81.28 345** IAmb IAmb 18 40 34.5
comp=Z,170nm,0.9s
SPMN IAMs_20 IAMs_20 19 20 12.8
comp=Z,14µm,20.0s
LRMC Laurel Mtn Rad **81.32 324** IAMs_20 IAMs_20 19 09 26.3
comp=Z,15µm,22.0s
WSHM Spangler Hills **81.33 324** IAMs_20 IAMs_20 19 09 38.4
comp=Z,16µm,22.0s
BATG Bathurst New B **81.37 4** IAmb IAmb 18 40 40.6
comp=Z,257nm,1.4s
BATG IAMs_20 IAMs_20 19 19 33.1
comp=Z,20µm,20.0s
SKOMA Sekoma **81.41 114** *i* P **P** **18 40 22.2 +0.2**
LMQ La Malbaie **81.46 1** IAmb IAmb 18 40 33.9
comp=Z,285nm,1.3s
LMQ IAMs_20 IAMs_20 19 22 01.6
comp=Z,15µm,20.0s
P18A Preston Nutter **81.47 331** IAmb IAmb 18 40 43.0
comp=Z,419nm,1.3s
P18A IAMs_20 IAMs_20 19 12 01.1
comp=Z,20µm,21.0s
TCRU Three Creeks R **81.51 329** IAMs_20 IAMs_20 19 18 57.1
comp=Z,16µm,21.0s
P17A Butcher Ranch, **81.54 331** IAMs_20 IAMs_20 19 11 38.8
comp=Z,15µm,22.0s
TMUT Trail Mountain **81.58 330** IAMs_20 IAMs_20 19 11 39.9
comp=Z,12µm,20.0s
PRN Pahroc Range **81.65 327** IAmb IAmb 18 40 38.4
comp=Z,188nm,1.0s
LDAQ Lac Daran **81.86 1** IAmb IAmb 18 40 42.9
comp=Z,337nm,1.6s
LDAQ IAMs_20 IAMs_20 19 22 18.3
comp=Z,19µm,19.0s
WCT Wildcat Mounta **81.88 325** IAmb IAmb 18 40 49.7
comp=Z,264nm,1.5s
SUSD Miller **82.01 341** IAmb IAmb 18 40 39.0
comp=Z,301nm,0.9s
EOSO Osorio **82.01 48** P **P** **18 40 27.4 +2.6**
EOSO S **S** **18 50 41.0 +3.1**
PSUT Pine Spring **82.05 328** IAMs_20 IAMs_20 19 13 58.5
comp=Z,12µm,18.0s
HHSZ Highcliff Hill **82.10 219** P **P** **18 40 29.4 +4.2**
S11A Rachel **82.16 327** IAMs_20 IAMs_20 19 14 13.4
comp=Z,16µm,19.0s
CWC Cottonwood Cre **82.28 324** IAMs_20 IAMs_20 19 10 08.7
comp=Z,16µm,22.0s
E38A The Farm, Brul **82.35 347** IAMs_20 IAMs_20 19 21 55.2
comp=Z,13µm,22.0s
MPU Maple Canyon **82.36 331** IAMs_20 IAMs_20 19 21 57.6
comp=Z,19µm,18.0s
LBTB Lobatse **82.38 115** LR LR 19 15 06.3
comp=Z,80µm,18.1s,baz=228,slow=34
MQZ McQueen's Vall **82.44 222** P **P** **18 40 28.0 +1.1**
BSUT Blindstream Ca **82.45 331** IAmb IAmb 18 40 56.1
comp=Z,337nm,1.5s
BSUT IAMs_20 IAMs_20 19 12 33.0
comp=Z,21µm,22.0s
KDWAN Kaudwane **82.59 113** *i* P **P** **18 40 28.6 +0.4**
ODZ Otahua Downs **82.64 220** IAMs_20 IAMs_20 19 07 51.5
comp=Z,13µm,21.0s
ODZ Otahua Downs **82.64 220** P **P** **18 40 30.4 +2.4**
F33A 5 Mile Ranch, **82.64 343** IAMs_20 IAMs_20 19 24 20.8
comp=Z,18µm,20.0s
SPR3 Spring Creek 3 **82.64 328** IAmb IAmb 18 40 53.0
comp=Z,467nm,1.5s
SPR3 IAMs_20 IAMs_20 19 14 14.2
comp=Z,13µm,19.0s
R11B Troy Canyon, C **82.67 327** IAmb IAmb 18 40 52.8
comp=Z,353nm,1.5s
R11B IAMs_20 IAMs_20 19 14 49.7
comp=Z,14µm,18.0s
PUZ Puketiti **82.73 229** P **P** **18 40 32.8 +4.1**
MRZ Mangatainoka R **82.73 225** IAMs_20 IAMs_20 19 19 04.4
comp=Z,11µm,18.0s
MRZ Mangatainoka R **82.73 225** P **P** **18 40 32.4 +3.8**
JLU Jordanelle **82.78 331** IAMs_20 IAMs_20 19 12 31.8
comp=Z,18µm,22.0s
KHZ Kahutara **82.79 223** P **P** **18 40 31.7 +2.9**

SNZO South Karori 82.83 224 S SKSac 18 50 48.6 -0.6
TIN Tinemaha, Big 82.85 325 IAMs_20 IAMs_20 19 09 44.6
comp=Z,13µm,22.0s
GMARE Gumare 82.86 108 IAmb IAmb 18 40 49.5
comp=Z,286nm,1.5s
DSP Deep Springs 82.98 325 IAMs_20 IAMs_20 19 09 51.0
comp=Z,12µm,22.0s
CTU Camp Tracy 82.98 331 IAMs_20 IAMs_20 19 12 38.0
comp=Z,15µm,22.0s
CALA Caldeira 82.99 33 eP P 18 40 33.2 +3.4
CALA *i* IAmb IAmb 18 40 43.2
comp=Z,569nm,1.9s
PCAN Candelaria 82.99 33 eP P 18 40 33.8 +4.1
PCAN *i* IAmb IAmb 18 41 23.7
comp=Z,432nm,1.7s
DUG Dugway, Tooele 83.00 330 IAmb IAmb 18 40 54.7
comp=Z,361nm,1.3s
DUG IAMs_20 IAMs_20 19 13 40.4
comp=Z,11µm,20.0s
MWZ Matawai 83.02 228 P P 18 40 30.6 +0.5
MWZ PcP **sP 18 40 39.3 -1.1**
PCED Cedros 83.03 33 eP P 18 40 33.4 +3.6
PCED *i* IAmb IAmb 18 40 44.4
comp=Z,495nm,1.8s
PCED *eS* S 18 50 58.6 +11
PICO Pico 83.05 33 eP P 18 40 33.9 +3.9
PICO *i* IAmb IAmb 18 40 51.4
comp=Z,852nm,1.7s
PICO *eS* **S 18 50 56.9 +8.8**
PPNO Prainha do Nor 83.10 33 eP P 18 40 34.0 +3.7
PPNO *i* IAmb IAmb 18 40 53.0
comp=Z,573nm,1.7s
PPNO *eS* **SKSac 18 50 50.1 -0.6**
BKZ Black Stump Fm 83.13 227 P P 18 40 30.8 0.0
BKZ IAmb IAmb 18 40 44.9
comp=Z,325nm,1.5s
BKZ IAMs_20 IAMs_20 19 08 06.0
comp=Z,18µm,22.0s
PID Ribeirinha 83.14 33 eP P 18 40 33.6 +3.1
PID *i* IAmb IAmb 18 40 54.9
comp=Z,1µm,1.6s
PID *eS* S 18 51 00.4 +12
RTZ Ruatahuna 83.18 228 IAMs_20 IAMs_20 19 08 08.3
comp=Z,19µm,22.0s
RSSD Black Hills 83.20 338 IAMs_20 IAMs_20 19 24 46.7
comp=Z,13µm,20.0s
EAZ Earnscleugh 83.21 219 PcP PcP 18 40 38.2 +2.7
HAZ Te Kaha 83.22 229 PcP PcP 18 40 39.7 +4.1
LTZ Lake Taylor 83.26 222 P P 18 40 35.8 +4.4
LTZ PcP **pP 18 40 39.4 +0.8**
RPZ Rata Peaks 83.31 221 IAMs_20 IAMs_20 19 12 41.2
comp=Z,12µm,19.0s
RPZ Rata Peaks 83.31 221 LR LR 19 11 23.4
comp=Z,10µm,18.7s,baz=136,slow=31
RPZ Rata Peaks 83.31 221 P P 18 40 34.4 +2.9
RPZ PcP **pP 18 40 39.0 +0.2**
PMAN Manadas 83.31 33 eP P 18 40 34.8 +3.5
PMAN *i* IAmb IAmb 18 40 55.1
comp=Z,824nm,1.6s
PMAN *eS* S 18 51 00.4 +10
ROSA Rosais 83.31 33 eP P 18 40 33.8 +2.5
ROSA *i* IAmb IAmb 18 41 00.0
comp=Z,649nm,1.8s
ROSA *eS* **S 18 50 56.0 +5.4**
LBZ Lake Benmore 83.32 220 IAMs_20 IAMs_20 19 07 46.6
comp=Z,15µm,22.0s
LBZ Lake Benmore 83.32 220 P P 18 40 34.2 +2.6
LBZ PcP **pP 18 40 39.0 +0.2**
URZ Urewera 83.32 228 LR LR 19 08 33.5
comp=Z,15µm,22.0s,baz=130,slow=29
URZ Urewera 83.32 228 P P 18 40 35.3 +3.6
URZ PcP **pP 18 40 39.0 +0.1**
PSMA Santa Maria 83.40 36 eP P 18 40 33.8 +2.0
PSMA *i* IAmb IAmb 18 40 56.3
comp=Z,367nm,1.9s
PSMA *eS* **SKSac 18 50 53.8 +1.3**
PSMN Pico do Norte, 83.43 36 eP P 18 40 32.1 +0.2
PSMN *i* IAmb IAmb 18 40 46.8
comp=Z,375nm,1.8s
PSMN *eS* **SKSac 18 50 53.7 +1.0**
WHZ Wether Hill Ro 83.45 218 PcP PcP 18 40 39.0 +2.5
LPHEP Lephephe 83.51 114 *i* P **P 18 40 33.4 +0.4**
ICQ Pointe Anglais 83.54 3 IAmb IAmb 18 40 43.4
comp=Z,160nm,1.2s
ICQ IAMs_20 IAMs_20 19 20 43.6
comp=Z,17µm,20.0s
THZ Tophouse 83.57 223 P P 18 40 34.5 +1.6
EYMN Ely 83.63 347 IAmb IAmb 18 40 47.6
comp=Z,158nm,1.0s
EYMN Ely 83.63 347 IAMs_20 IAMs_20 19 22 23.0
comp=Z,15µm,21.0s
WKZ Wanaka 83.64 219 IAMs_20 IAMs_20 19 08 21.8
comp=Z,17µm,21.0s
WKZ Wanaka 83.64 219 P P 18 40 37.8 +4.6
NNZ Nelson 83.66 224 P P 18 40 36.0 +2.7
NNZ PcP **pP 18 40 41.7 +1.1**
HWUT Hardware Ranch 83.68 331 IAMs_20 IAMs_20 19 13 24.6
comp=Z,20µm,21.0s
BGU Big Grassy Mou 83.70 330 IAmb IAmb 18 40 57.1
comp=Z,319nm,1.6s
MLZ Mavora Lakes 83.73 218 P P 18 40 34.1 +0.5
INZ Inchbonnie 83.75 222 IAMs_20 IAMs_20 19 12 39.1
comp=Z,11µm,20.0s
INZ Inchbonnie 83.75 222 P P 18 40 35.1 +1.3
PSET Sete Cidades 83.77 35 eP P 18 40 34.7 +1.0
PSET *i* IAmb IAmb 18 41 20.9
comp=Z,626nm,1.8s
Q09A Carvers 83.78 326 IAMs_20 IAMs_20 19 17 59.4
comp=Z,10µm,18.0s
PSCM Serra do Cume 83.81 34 eP P 18 40 32.7 -1.2
PSCM *i* IAmb IAmb 18 40 54.0
comp=Z,417nm,1.6s
CMLA Cha da Macela 83.81 36 eP P 18 40 34.9 +1.0
CMLA *i* IAmb IAmb 18 41 20.7
comp=Z,405nm,1.8s
CMLA *eS* **S 18 51 00.8 +5.1**
PAGU Agualva, Azore 83.83 34 eP P 18 40 37.6 +3.7
PAGU *i* IAmb IAmb 18 40 57.9
comp=Z,514nm,1.7s
PAGU *eS* **S 18 51 03.9 +8.1**
BBGB Big Mountain B 83.86 323 IAMs_20 IAMs_20 19 16 00.3
comp=Z,11µm,18.0s
PGRON Lagoa das Cont 83.89 36 eP P 18 40 37.5 +3.2
PGRON *i* IAmb IAmb 18 40 58.6
comp=Z,746nm,1.8s
PYZ Puysegur Point 83.90 217 IAMs_20 IAMs_20 19 13 35.6
comp=Z,10µm,19.0s
BW06 Boulder Array 83.91 333 IAMs_20 IAMs_20 19 13 31.4
comp=Z,18µm,22.0s
PDAR Pinedale Array 83.91 333 P P 18 40 34.9 +0.3
PDAR Pinedale Array 83.91 333 P P 18 40 35.9 +1.3
comp=Z,3.2nm,0.5s,baz=158,slow=4.8,SNR=14
PDAR S S 18 50 43.5 -13
comp=Z,0.4nm,0.3s,baz=117,slow=4.5,SNR=2.2
PDAR PKKPbc **PKKPbc 18 58 49.4 -2.1**
comp=Z,1.0nm,0.5s,baz=22,slow=1.3,SNR=4.6
comp=Z,3.2nm,0.5s
WVZ Waitaha Valley 83.91 221 P P 18 40 39.8 +5.3
TBO Thunder Bay 83.95 349 IAmb IAmb 18 40 48.7
comp=Z,133nm,1.1s
TBO IAMs_20 IAMs_20 19 22 59.4
comp=Z,16µm,22.0s
NVAR Mina Array Bea 83.98 325 P P 18 40 36.1 +1.1
NVAR Mina Array Bea 83.98 325 P P 18 40 36.2 +1.2
comp=Z,7.1nm,0.8s,baz=152,slow=5.6,SNR=40
NVAR PKPPKP **P'P'df 19 06 54.8 +3.7**
comp=Z,0.1nm,0.3s,baz=183,slow=1.2,SNR=4.0
comp=Z,7.1nm,0.8s
BART Pico Bartolome 84.00 36 eP P 18 40 37.5 +2.6
BART *i* IAmb IAmb 18 40 55.8
comp=Z,788nm,1.6s
FOZ Fox Glacier 84.09 220 IAMs_20 IAMs_20 19 13 24.1
comp=Z,17µm,18.0s
DRLN Deer Lake 84.19 10 IAmb IAmb 18 40 47.8
comp=Z,235nm,1.1s
VRZ Vera Road 84.20 226 P P 18 40 39.8 +3.6
DSZ Denniston Nort 84.20 223 P P 18 40 39.2 +3.0
RYN Ryan 84.24 325 IAmb IAmb 18 41 06.7
comp=Z,277nm,1.6s
PHDHD Phuduhudu 84.27 110 *i* P **P 18 40 37.5 +0.5**
HVU Hansel Valley 84.31 331 IAmb IAmb 18 40 58.1
comp=Z,192nm,1.3s
QRZ Quartz Range 84.40 224 P P 18 40 41.7 +4.6
PMOZ Porto Moniz, M 84.45 44 P P 18 40 38.3 +0.8
PMOZ Porto Moniz, M 84.45 44 eP P 18 40 38.0 +0.6

PMOZ *i* IAmb IAmb 18 41 42.2
comp=Z,222nm,1.6s
PMOZ *eSKSac* **S 18 51 05.4 +2.9**
PMOZ *eSS* **SS 18 56 41.6 +7.7**
PMOZ *eLQ* LQ 19 06 33.6
PMOZ *eLR* LR 19 10 04.2
PMOZ *i* IAMs_20 IAMs_20 19 19 04.2
comp=Z,25µm,18.0s
ELK Elko 84.48 329 IAMs_20 IAMs_20 19 15 24.7
comp=Z,12µm,18.0s
ELK Elko 84.48 329 P P 18 40 38.6 +1.1
comp=Z,11nm,0.8s,baz=146,slow=2.9,SNR=38
ELK S **S 18 51 02.2 -0.5**
comp=Z,0.6nm,0.7s,baz=198,slow=20,SNR=11
ELK LR LR 19 15 36.0
comp=Z,12µm,18.2s,baz=140,slow=34
comp=Z,11nm,0.8s
AHID Auburn Hatcher 84.49 332 IAMs_20 IAMs_20 19 14 01.8
comp=Z,14µm,20.0s
TORD Torodi Ar. Bea 84.50 70 P P 18 40 37.5 -0.5
comp=Z,91nm,1.0s,baz=266,slow=3.6,SNR=84
TORD S **SKSac 18 50 58.2 -2.5**
comp=Z,2.3nm,0.8s,baz=251,slow=4.5,SNR=5.1
TORD PKKPbc **PKKPbc 18 58 48.1 0.0**
comp=Z,0.7nm,0.3s,baz=58,slow=3.7,SNR=5.6
TORD LR LR 19 17 25.5
comp=Z,111µm,18.5s,baz=231,slow=35
comp=Z,91nm,1.0s
FUL Funchal 84.50 44 eP P 18 40 39.0 +1.5
FUL *i* IAmb IAmb 18 40 54.7
comp=Z,381nm,1.6s
FUL *ePP* **PP 18 43 55.5 +2.0**
HIZ Hauiti 84.53 227 P P 18 40 38.4 +0.5
PMAR Madeira 84.54 44 eP P 18 40 39.0 +1.0
PMAR *i* IAmb IAmb 18 40 55.2
comp=Z,366nm,1.3s
PMAR *ePP* **PP 18 44 00.8 +6.8**
WAKR Walker 84.58 325 IAmb IAmb 18 41 03.9
comp=Z,273nm,1.6s
WAKR IAMs_20 IAMs_20 19 11 35.5
comp=Z,18µm,22.0s
TOZ Tahuroa Road 84.64 228 IAMs_20 IAMs_20 19 14 02.0
comp=Z,12µm,18.0s
TOZ Tahuroa Road 84.64 228 P P 18 40 44.4 +6.0
MTOS Mt Oso, Westle 84.72 323 IAMs_20 IAMs_20 19 14 08.2
comp=Z,10µm,18.0s
AGMN Agassiz Nation 84.86 344 IAmb IAmb 18 40 51.2
comp=Z,162nm,1.1s
AGMN IAMs_20 IAMs_20 19 25 32.4
comp=Z,13µm,21.0s
SNOW Snow King Moun 84.95 333 IAMs_20 IAMs_20 19 14 02.0
comp=Z,15µm,22.0s
LOHW Long Hollow 85.02 333 IAmb IAmb 18 41 04.3
comp=Z,176nm,1.6s
LOHW IAMs_20 IAMs_20 19 14 16.0
comp=Z,17µm,21.0s
TPAW Teton Pass 85.05 333 IAMs_20 IAMs_20 19 13 52.7
comp=Z,14µm,22.0s
PMPS Porto Santo 85.12 44 eP P 18 40 43.1 +2.5
PMPS *i* IAmb IAmb 18 41 16.7
comp=Z,206nm,1.7s
PMPST Porto Santo, M 85.14 44 eP P 18 40 42.0 +1.3
PMPST *i* IAmb IAmb 18 41 25.2
comp=Z,320nm,1.9s
PMPST *ePP* **PP 18 44 02.2 +3.5**
MREMI Moremi 85.16 114 *i* P **P 18 40 42.0 +0.6**
MDND Maddock 85.33 342 IAMs_20 IAMs_20 19 26 12.0
comp=Z,13µm,20.0s
MPK Martis Peak 85.49 325 IAMs_20 IAMs_20 19 12 05.5
comp=Z,13µm,22.0s
PAHR Pah Rah Range 85.51 325 IAmb IAmb 18 41 04.1
comp=Z,360nm,1.6s
NIUE Niue 85.52 250 IAMs_20 IAMs_20 19 12 52.8
comp=Z,12µm,19.0s
AFDM Forest Hills D 85.67 324 IAmb IAmb 18 41 04.2
comp=Z,297nm,1.6s
EPLO Experimental L 85.71 346 IAmb IAmb 18 40 56.8
comp=Z,129nm,1.2s
EPLO IAMs_20 IAMs_20 19 23 19.1
comp=Z,20µm,22.0s
YMP Mirror Lake Pl 85.83 334 IAmb IAmb 18 41 46.7
comp=Z,197nm,1.1s
YMP IAMs_20 IAMs_20 19 18 21.2
comp=Z,11µm,19.0s
YFT Old Faithful 85.83 333 IAmb IAmb 18 41 09.6
comp=Z,188nm,1.4s
RLMT Red Lodge 85.84 335 IAMs_20 IAMs_20 19 26 43.5
comp=Z,14µm,19.0s
BROLN Tlhalogang 85.91 113 *i* P **P 18 40 45.4 +0.2**
YNR Norris Junctio 86.00 334 IAMs_20 IAMs_20 19 15 01.7
comp=Z,18µm,22.0s
YNE Yellowstone No 86.00 334 IAmb IAmb 18 41 08.0
comp=Z,158nm,1.2s
YNM Yellowstone No 86.01 334 IAMs_20 IAMs_20 19 15 13.2
comp=Z,18µm,21.0s
KSANE Kasane 86.11 109 IAmb IAmb 18 41 08.1
comp=Z,262nm,1.4s
KSANE Kasane 86.11 109 *i* P **P 18 40 46.3 +0.2**
YHB Horse Butte 86.22 333 IAMs_20 IAMs_20 19 15 07.6
comp=Z,13µm,22.0s
YHL Hebgen Lake 86.30 333 IAmb IAmb 18 41 14.5
comp=Z,263nm,1.6s
YHL IAMs_20 IAMs_20 19 14 46.7
comp=Z,13µm,22.0s
HLID Hailey 86.46 331 IAmb IAmb 18 41 08.4
comp=Z,211nm,1.3s
ULM Lac du Bonnet 86.70 345*c* *i* P **P 18 40 47.1 -0.9**
MFID Camas Ranch 86.92 330 IAMs_20 IAMs_20 19 17 33.4
comp=Z,11µm,18.0s
BOZ Bozeman (W) 87.10 334 IAMs_20 IAMs_20 19 15 12.9
comp=Z,12µm,21.0s
XMAS Kiritimati 87.13 274 IAMs_20 IAMs_20 19 13 24.3
comp=Z,11µm,18.0s
MATP Matopo 87.19 113 LR LR 19 18 47.3
comp=Z,57µm,18.0s,baz=234,slow=35
DLMT Dillon 87.26 333 IAMs_20 IAMs_20 19 15 26.2
comp=Z,15µm,21.0s
WVOR Wild Horse Val 87.34 328 IAmb IAmb 18 41 13.6
comp=Z,381nm,2.0s
O02D Mt. Diablo Mer 87.51 324 IAmb IAmb 18 41 30.9
comp=Z,203nm,1.6s
O02D IAMs_20 IAMs_20 19 16 36.0
comp=Z,10µm,18.0s
MOPA Mopani 87.57 117 *i* P **P 18 40 55.7 +2.6**
KMRM Mail Ridge 88.00 323 IAMs_20 IAMs_20 19 20 55.5
comp=Z,9µm,18.0s
KMPM Mount Pierce 88.35 323 IAMs_20 IAMs_20 19 18 38.2
comp=Z,12µm,18.0s
PLID Pearl Lake 88.37 331 IAMs_20 IAMs_20 19 28 17.5
comp=Z,10µm,18.0s
KHMM Horse Mountain 88.50 324 IAmb IAmb 18 41 18.8
comp=Z,213nm,1.3s
EGMT Eagleton 88.52 336 IAmb IAmb 18 41 20.0
comp=Z,101nm,1.1s
EGMT IAMs_20 IAMs_20 19 28 16.4
comp=Z,12µm,22.0s
YBH Yreka Blue Hor 88.66 325 P P 18 40 58.0 +0.2
comp=Z,0.7nm,0.8s,baz=59,slow=3.6,SNR=23
YBH S **SKSac 18 51 24.7 -0.7**
baz=178,slow=13,SNR=1.4
YBH Yreka Blue Hor 88.66 325 P P 18 40 58.0 +0.2
BMO Blue Mountains 88.71 330 IAMs_20 IAMs_20 19 15 34.7
comp=Z,12µm,22.0s
L04D Klamath Falls 88.85 325 IAmb IAmb 18 41 23.0
comp=Z,149nm,1.1s
SCHQ Schefferville 88.86 3 IAmb IAmb 18 41 07.5
comp=Z,204nm,1.5s
SCHQ Schefferville 88.86 3 P P 18 40 57.9 -0.4
comp=Z,22nm,1.0s,baz=181,slow=4.8,SNR=13
SCHQ S **SKSac 18 51 21.6 -4.2**
comp=Z,1.5nm,0.6s,baz=121,slow=12,SNR=1.4
SCHQ LR LR 19 21 25.3
comp=Z,15µm,21.8s,baz=170,slow=36
comp=Z,22nm,1.0s
MSO Missoula 89.00 333 IAmb IAmb 18 41 52.8
comp=Z,193nm,1.8s
MSO IAMs_20 IAMs_20 19 27 21.3
comp=Z,14µm,18.0s
KRMB Red Mountain 89.08 324 IAmb IAmb 18 41 25.0
comp=Z,200nm,1.4s
J05D Fort Rock, OR 89.18 327 IAmb IAmb 18 41 24.3
comp=Z,208nm,1.3s
TIO Tioulne 89.21 51 P P 18 41 01.9 +1.2
KSXB Camp Six Broad 89.30 324 P P 18 41 02.1 +1.3
KSXB IAmb IAmb 18 41 24.0
comp=Z,147nm,1.3s
PINE Pine Mountain 89.44 327 IAmb IAmb 18 41 22.9

comp=Z,191nm,1.3s
PINE IAMs_20 IAMs_20 19 18 05.1
comp=Z,10µm,19.0s
J04A Umpqua Nationa 89.55 326 IAmb IAmb 18 41 37.9
comp=Z,158nm,1.0s
G08A Pilot Rock 89.76 329 IAMs_20 IAMs_20 19 17 34.4
comp=Z,15µm,19.0s
AFI Afiamalu 89.92 253 IAMs_20 IAMs_20 19 13 55.4
comp=Z,12µm,19.0s
LSZ Lusaka 89.92 108 P P 18 41 05.3 +0.8
LSZ Lusaka 89.92 108 LR LR 19 17 03.4
comp=Z,146µm,21.1s,baz=234,slow=33
LSZ Lusaka 89.92 108 P P 18 41 05.3 +0.8
LSZ pmax pmax
comp=Z,566nm,1.8s
LSZ MLR MLR
comp=Z,156µm,21.0s
LNOR Lincton Mounta 89.94 330 IAMs_20 IAMs_20 19 24 26.3
comp=Z,11µm,20.0s
I05D Terrebonne, OR 90.05 327 IAMs_20 IAMs_20 19 18 17.1
comp=Z,12µm,18.0s
KRI Karoi 90.14 110 *i* P **P 18 41 06.9 +1.4**
YPT Yellepit 90.37 330 IAMs_20 IAMs_20 19 19 57.5
comp=Z,12µm,18.0s
F07A Phinny Hill Vi 90.65 329 IAMs_20 IAMs_20 19 21 48.1
comp=Z,10µm,19.0s
BUCK Buck Mountain 90.69 326 IAmb IAmb 18 41 31.7
comp=Z,140nm,1.1s
H04A Detroit Lake 90.70 327 IAMs_20 IAMs_20 19 15 03.3
comp=Z,13µm,22.0s
HAWA Hanford 90.88 329 IAmb IAmb 18 41 32.4
comp=Z,192nm,1.4s
HAWA IAMs_20 IAMs_20 19 19 48.1
comp=Z,15µm,18.0s
HOOD Mount Hood Mea 90.95 328 IAMs_20 IAMs_20 19 19 38.1
comp=Z,11µm,18.0s
E07A Sunnyside 91.15 329 IAMs_20 IAMs_20 19 19 47.1
comp=Z,13µm,18.0s
D08A Wollman Farm, 91.15 330 IAmb IAmb 18 41 33.3
comp=Z,162nm,1.6s
WAH2 Wahluke Slope 91.18 330 IAMs_20 IAMs_20 19 18 56.1
comp=Z,10µm,18.0s
G04A Mulino 91.23 327 IAMs_20 IAMs_20 19 15 42.5
comp=Z,10µm,21.0s
MXC Moxie City 91.35 329 IAMs_20 IAMs_20 19 21 27.5
comp=Z,14µm,18.0s
NEW Newport 91.41 332 P P 18 41 11.3 +1.0
comp=Z,2.5nm,0.7s,baz=139,slow=3.5,SNR=6.7
NEW S **SKSac 18 51 33.9 -7.0**
comp=Z,1.4nm,0.8s,baz=117,slow=14,SNR=1.2
comp=Z,2.5nm,0.7s
LTY Liberty 92.04 329 IAMs_20 IAMs_20 19 22 40.7
comp=Z,12µm,19.0s
KUQ Kuujjuuaa 92.08 2 IAMs_20 IAMs_20 19 29 32.5
comp=Z,12µm,20.0s
LON Longmire 92.13 328 IAMs_20 IAMs_20 19 21 24.3
comp=Z,12µm,18.0s
MDT Midelt 92.15 51 LR LR 19 23 13.9
comp=Z,49µm,18.9s,baz=242,slow=36
FFC Flin Flon 92.24 343 P P 18 41 14.1 +0.1
FFC Flin Flon 92.24 343 P P 18 41 14.1 +0.1
FFC pmax pmax
comp=Z,104nm,1.8s
FFC MLR MLR
comp=Z,23µm,19.0s
PFVI Vila Bisbo 92.36 46 P P 18 41 15.4 +0.4
PFVI Vila Bisbo 92.36 46 eP P 18 41 17.9 +2.9
PFVI *i* IAmb IAmb 18 41 22.4
comp=Z,130nm,1.6s
PFVI *ePP* **PP 18 44 57.2 +0.8**
D05A Enumclaw 92.55 329 IAMs_20 IAMs_20 19 22 10.3
comp=Z,12µm,18.0s
MORF Marmelete 92.58 46 eP P 18 41 16.4 +0.3
MORF *ePP* **PP 18 44 57.8 -0.4**
MORF *eSKSac* **SKSac 18 51 49.9 +1.8**
MORF IAMs_20 IAMs_20 19 21 49.2
comp=Z,71µm,19.8s
MORF Marmelete 92.58 46 eP P 18 41 16.9 +0.8
MORF *i* IAmb IAmb 18 41 33.7
comp=Z,113nm,1.8s
MORF *ePP* **PP 18 44 58.5 +0.4**
PTEO Sao Teotonio 92.70 45 eP P 18 41 17.8 +1.2
PTEO *i* IAmb IAmb 18 41 39.9
comp=Z,153nm,1.6s
PTEO *ePP* **PP 18 44 59.4 +0.3**
E03A Lebam 92.75 327 IAmb IAmb 18 41 47.2
comp=Z,180nm,1.6s
PBDV Barranco-do-Ve 92.97 46 P P 18 41 18.6 +0.8
PBDV Barranco-do-Ve 92.97 46 eP P 18 41 19.2 +1.4
PBDV *i* IAmb IAmb 18 41 31.5
comp=Z,154nm,2.2s
PBDV *ePP* **PP 18 44 57.4 -3.9**
TAM Tamanrasset 93.13 65 IAmb IAmb 18 41 22.2
comp=Z,61nm,0.8s
TAM Tamanrasset 93.13 65 P P 18 41 20.5 +1.4
PCVE Castro Verde 93.16 46 P P 18 41 19.5 +0.8
PCVE Castro Verde 93.16 46 eP P 18 41 19.2 +0.5
PCVE *i* IAmb IAmb 18 41 42.9
comp=Z,83nm,1.7s
PCVE *ePP* **PP 18 45 03.3 +0.6**
MESJ Messejana 93.19 45 eP P 18 41 19.1 +0.2
MESJ *ePP* **PP 18 45 02.6 -0.3**
MESJ *eSKSac* **SKSac 18 51 53.2 +1.8**
MESJ IAMs_20 IAMs_20 19 24 02.2
comp=Z,71µm,18.4s
MESJ Messejana 93.19 45 eP P 18 41 19.6 +0.7
MESJ *i* IAmb IAmb 18 41 42.1
comp=Z,104nm,1.6s
MESJ *ePP* **PP 18 45 03.8 +0.9**
PVAQ Vaqueiros 93.20 46 P P 18 41 19.4 +0.5
PVAQ Vaqueiros 93.20 46 eP P 18 41 19.6 +0.8
PVAQ *i* IAmb IAmb 18 42 03.4
comp=Z,113nm,1.5s
PVAQ *ePP* **PP 18 45 03.8 +0.8**
PVAQ *eSKSac* **SKSac 18 51 55.3 +3.8**
PVAQ *eSS* **SS 18 58 43.6 +2.7**
PVAQ *eLQ* LQ 19 10 31.8
PVAQ *eLR* LR 19 13 40.5
PVAQ *i* IAMs_20 IAMs_20 19 22 35.1
comp=Z,31µm,20.0s
LIS Lisbon 93.24 44 eP P 18 41 19.3 +0.3
LIS *ePP* **PP 18 45 02.7 -0.6**
LIS *eSKSac* **SKSac 18 51 53.5 +1.9**
LIS IAMs_20 IAMs_20 19 20 52.9
comp=Z,64µm,22.4s
LIS Lisbon 93.24 44 eP P 18 41 20.1 +1.1
LIS *i* IAmb IAmb 18 41 46.7
comp=Z,146nm,1.6s
LIS *ePP* **PP 18 45 03.9 +0.7**
PMAFR Mafra 93.32 44 P P 18 41 20.2 +0.8
PMAFR Mafra 93.32 44 eP P 18 41 20.4 +1.0
PMAFR *ePP* **PP 18 45 03.7 -0.2**
PARRA Arraiolos 93.36 44 eP P 18 41 22.5 +2.9
PARRA *i* IAmb IAmb 18 41 51.5
comp=Z,66nm,1.9s
PARRA *ePP* **PP 18 45 09.6 +5.3**
EGRO El Granado 93.43 46 P P 18 41 20.6 +0.7
SFS San Fernando 93.50 48 P P 18 41 21.4 +1.2
PBEJ Beja 93.53 46 eP P 18 41 22.1 +1.7
PBEJ *i* IAmb IAmb 18 42 04.6
comp=Z,82nm,1.7s
NLWA Neilton Lookou 93.53 328 IAMs_20 IAMs_20 19 30 03.2
comp=Z,9µm,20.0s
ECEU Ceuta 93.64 48 P P 18 41 22.0 +1.0
EVO Evora 93.78 45 P P 18 41 22.1 +0.6
EVO Evora 93.78 45 eP P 18 41 21.6 +0.1
EVO *i* IAmb IAmb 18 41 48.8
comp=Z,67nm,1.9s
EVO *ePP* **PP 18 45 08.5 +1.0**
ESPR Espera 93.97 47 P P 18 41 23.6 +1.2
PMTG Montargil 94.01 45 eP P 18 41 22.9 +0.3
PMTG *i* IAmb IAmb 18 42 06.8
comp=Z,84nm,1.5s
PMTG *ePP* **PP 18 45 10.2 +0.9**
A04D Lummi Island 94.04 329 IAMs_20 IAMs_20 19 20 36.7
comp=Z,10µm,19.0s
EMIN Mina Concepcio 94.07 46 P P 18 41 23.6 +0.8
PBAR Barrancos 94.11 46 P P 18 41 24.0 +1.0
PBAR Barrancos 94.11 46 eP P 18 41 23.2 +0.1
PBAR *i* IAmb IAmb 18 41 46.9
comp=Z,69nm,1.8s
PBAR *ePP* **PP 18 45 07.2 -3.0**
PESTR Estremoz 94.24 45 P P 18 41 24.7 +1.0
PESTR Estremoz 94.24 45 eP P 18 41 23.9 +0.2
PESTR *i* IAmb IAmb 18 42 08.8

PESTR ePP PP 18 45 11.6 +0.4
comp=Z,78nm,1.8s
PSARD Sardoal 94.40 44 eP P 18 41 24.5 +0.2
PSARD i IAmb IAmb 18 42 10.7
comp=Z,58nm,1.5s
PSARD ePP PP 18 45 09.6 -2.8
PCAS Casmilo, Conde 94.50 44 eP P 18 41 25.5 +0.6
PCAS i IAmb IAmb 18 41 42.2
comp=Z,79nm,1.9s
PCAS ePP PP 18 45 09.8 -3.3
EBAD Badajoz 94.51 45 P P 18 41 25.8 +0.9
COI Coimbra 94.66 44 eP P 18 41 27.7 +2.2
COI i IAmb IAmb 18 42 08.5
comp=Z,98nm,1.6s
COI ePP PP 18 45 14.6 +0.3
PMRV Marv??o 94.73 45 eP P 18 41 26.2 +0.3
PMRV i IAmb IAmb 18 41 47.6
comp=Z,46nm,1.4s
PMRV ePP PP 18 45 15.8 +0.8
PMRV eSKSac SKSac 18 52 02.8 +3.0
PMRV eSS SS 18 59 06.9 +4.2
PMRV eLQ LQ 19 11 45.3
PMRV eLR LR 19 15 27.3
PMRV i IAMs_20 IAMs_20 19 25 00.8
comp=Z,49µm,18.0s
EMAL Malaga-Limoner 94.78 48 P P 18 41 26.5 +0.3
PCBR Castelo Branco 94.95 44 eP P 18 41 28.3 +1.4
PCBR i IAmb IAmb 18 41 38.3
comp=Z,55nm,1.8s
PCBR ePP PP 18 45 16.6 0.0
ECAB El Cabril 95.02 47 P P 18 41 28.0 +0.7
EGOR Sierra Gorda, 95.20 48 P P 18 41 28.8 +0.5
PVIS Viseu 95.29 44 eP P 18 41 27.7 -0.8
PVIS ePP PP 18 45 19.7 +0.4
ELGU Los Guajares, 95.35 49 P P 18 41 30.1 +1.2
MSVF Nonsavu 95.50 244 iP P 18 41 31.7 +1.6
MSVF pmax pmax
comp=Z,63nm,1.7s
EADA Adamuz 95.59 47 P P 18 41 31.5 +1.6
EQTA Presa de Quent 95.68 48 P P 18 41 32.0 +1.6
HUH Hualalai 95.73 290 IAMs_20 IAMs_20 19 18 51.4
comp=Z,10µm,19.0s
PVRL Vila Real 95.76 43 eP P 18 41 31.8 +1.2
PVRL i IAmb IAmb 18 41 53.2
comp=Z,64nm,1.7s
PVRL ePP PP 18 45 21.6 -1.4
POLO Lamas de Olo 95.78 43 eP P 18 41 31.6 +0.9
POLO i IAmb IAmb 18 41 38.5
comp=Z,22nm,2.4s
POLO ePP PP 18 45 20.1 -3.0
PCAB Cabril 95.87 43 eP P 18 41 32.1 +1.0
PCAB i IAmb IAmb 18 42 20.3
comp=Z,53nm,1.9s
PCAB ePP PP 18 45 25.6 +1.8
PGAV Gavieira, Arco 95.90 42 eP P 18 41 31.7 +0.4
PGAV i IAmb IAmb 18 42 28.7
comp=Z,65nm,1.6s
PGAV ePP PP 18 45 25.2 +1.1
PGAV eSKSac SKSac 18 52 07.7 +1.6
PGAV eLQ LQ 19 12 12.5
PGAV eLR LR 19 13 29.7
PGAV i IAMs_20 IAMs_20 19 25 23.3
comp=Z,65µm,18.0s
MVO Moncorvo 96.08 44 eP P 18 41 31.9 -0.1
MVO i IAmb IAmb 18 42 23.6
comp=Z,65nm,1.6s
MVO ePP PP 18 45 22.1 -3.4
MVO eSKSac SKSac 18 52 08.0 +1.1
MVO eSS SS 18 59 26.7 +4.8
MVO eLQ LQ 19 08 57.2
MVO eLR LR 19 13 26.3
MVO i IAMs_20 IAMs_20 19 25 30.3
comp=Z,56µm,18.0s
PAB San Pablo 96.60 46 P P 18 41 34.4 -0.1
PAB San Pablo 96.60 46 P P 18 41 34.4 -0.1
PAB pmax pmax
comp=Z,77nm,1.7s
PAB MLR MLR
comp=Z,34µm,18.0s
PBRG Braganca 96.66 43 eP P 18 41 34.5 -0.1
PBRG i IAmb IAmb 18 42 18.8
comp=Z,69nm,1.4s
PBRG ePP PP 18 45 28.1 -1.8
ECAL Calabor 96.75 43 P P 18 41 35.4 +0.2
ESDC Sonseca Array 96.91 46 P P 18 41 35.1 -0.8
ESDC Sonseca Array 96.91 46 P P 18 41 34.7 -1.2
comp=Z,5.8nm,1.1s,baz=248,slow=4.0,SNR=20
ESDC PP PP 18 45 27.9 -4.1
comp=Z,7.5nm,1.2s,baz=236,slow=6.5,SNR=4.1
ESDC S SKSac 18 52 10.1 -1.2
comp=Z,0.2nm,0.3s,baz=149,slow=5.8,SNR=0.9
ESDC LR LR 19 25 15.0
comp=Z,33µm,18.1s,baz=210,slow=36
comp=Z,5.8nm,1.1s
FRB Frobisher Bay 97.73 2 LR LR 19 29 46.9
comp=Z,22µm,19.6s,baz=165,slow=38
UCM Universidad Co 97.74 46 P Pdif 18 41 40.4 +0.8
KIP Kipapa 98.39 290 IAMs_20 IAMs_20 19 20 15.8
comp=Z,8µm,18.0s
ECHE Chera 98.68 48 P Pdif 18 41 45.9 +2.1
CAN Canberra 100.73 213 IAMs_20 IAMs_20 19 19 01.2
comp=Z,9µm,21.0s
DZM Mont Dzumac 100.91 234 eP Pdif 18 41 53.8 -0.6
comp=Z,930nm,29.4s
DZM Mont Dzumac 100.91 234 ePP PP 18 45 56.1 -5.9
comp=Z,2µm,27.9s
DZM eSKSac SKSac 18 52 25.9 -6.7
comp=Z,4µm,28.9s
DZM eSS SS 19 00 30.6 +1.7
comp=Z,27µm,27.1s
DZM Mont Dzumac 100.91 234 eLQ LQ 19 10 34.5
comp=Z,21µm,37.4s
DZM eLR LR 19 14 44.9
comp=Z,42µm,32.2s
YKA Yellowknife Ar 102.24 341 Pdiff Pdif 18 41 59.1 +0.1
comp=Z,1.8nm,0.8s,baz=138,slow=4.0,SNR=6.8
YKA PP PP 18 46 13.4 +1.5
comp=Z,0.4nm,0.5s,baz=133,slow=5.6,SNR=1.7
YKA S SKSac 18 52 33.0 -3.4
comp=Z,0.4nm,0.5s,baz=49,slow=2.8,SNR=1.6
U35K Hyder 102.37 331 IAMs_20 IAMs_20 19 35 42.0
comp=Z,13µm,22.0s
CCA1 Carnmenellis 102.82 37 eP Pdif 18 42 03.0 +1.1
CCA1 IAMs_20 IAMs_20 19 26 27.7
comp=Z,45µm,19.2s
AIS Amsterdam Isla 103.02 156 IAMs_20 IAMs_20 19 22 41.2
comp=Z,18µm,21.0s
KEST Kesra 103.17 56 PKiKP PKiKP 18 46 17.8 -5.7
comp=Z,5.3nm,0.9s,baz=180,slow=4.0,SNR=3.6
T35M Bob Quinn 103.20 332 IAMs_20 IAMs_20 19 35 55.0
comp=Z,15µm,20.0s
ARMA Armidale 103.47 218 IAMs_20 IAMs_20 19 30 24.8
comp=Z,7µm,18.0s
DYA Yadsworthy 103.63 38 eP Pdif 18 42 05.9 +0.4
DYA IAMs_20 IAMs_20 19 29 38.1
comp=Z,47µm,18.7s
WRAK Wrangell Islan 103.66 330 IAMs_20 IAMs_20 19 36 35.2
comp=Z,10µm,22.0s
HTL Hartland 103.69 37 eP Pdif 18 42 07.8 +2.0
HTL IAMs_20 IAMs_20 19 31 48.6
comp=Z,45µm,17.4s
U33K Whale Pass 103.78 330 IAMs_20 IAMs_20 19 35 38.3
comp=Z,8µm,18.0s
JSA Saint Aubin 103.78 39 eP Pdif 18 42 07.5 +1.3
JSA IAMs_20 IAMs_20 19 34 03.9
comp=Z,31µm,18.0s
S34M Telegraph Cree 104.19 332 IAMs_20 IAMs_20 19 26 56.1
comp=Z,9µm,19.0s
WTLY Watson Lake, Y 104.84 334 IAMs_20 IAMs_20 19 39 57.3
comp=Z,10µm,18.0s
MCH1 Michaelchurch 105.04 37 eP Pdif 18 42 11.5 -0.2
MCH1 IAMs_20 IAMs_20 19 27 45.4
comp=Z,43µm,19.8s
MONM Monmouth 105.04 37 eP Pdif 18 42 12.4 +0.7
MONM IAMs_20 IAMs_20 19 27 46.1
comp=Z,43µm,19.5s
OLDB Oldbury-Upon-S 105.06 37 eP Pdif 18 42 13.4 +1.6
OLDB IAMs_20 IAMs_20 19 30 33.1
comp=Z,46µm,19.3s
JOHN Johnston Islan 105.09 280 IAMs_20 IAMs_20 19 24 54.3
comp=Z,10µm,18.0s
WLF1 Llynfaes 105.14 35 eP Pdif 18 42 13.9 +1.8
WLF1 IAMs_20 IAMs_20 19 34 24.6
comp=Z,72µm,17.3s
WPS Cemaes, Angles 105.16 35 eP Pdif 18 42 12.0 -0.1
WPS IAMs_20 IAMs_20 19 31 21.5
comp=Z,38µm,18.5s
S32K Killisnoo 105.28 330 IAMs_20 IAMs_20 19 36 11.8
comp=Z,10µm,19.0s
WRGLY Wrigley 105.34 339 IAMs_20 IAMs_20 19 37 40.2
comp=Z,16µm,20.0s
Q32M Nakina River 105.34 332 IAMs_20 IAMs_20 19 39 56.6
comp=Z,11µm,19.0s
SWN1 Swindon 105.35 38 eP Pdif 18 42 15.2 +2.1
SWN1 IAMs_20 IAMs_20 19 31 18.6
comp=Z,38µm,18.2s
FOEL Foel Wylfa 105.47 36 eP Pdif 18 42 12.8 -0.9
FOEL IAMs_20 IAMs_20 19 34 15.0
comp=Z,43µm,17.5s
IOMK Kirk Michael 105.65 34 eP Pdif 18 42 15.9 +1.5
IOMK IAMs_20 IAMs_20 19 27 07.5
comp=Z,25µm,20.9s
R32K Eaglecrest 105.78 331 IAMs_20 IAMs_20 19 40 23.1
comp=Z,9µm,19.0s
GAL1 Galloway 105.95 34 eP Pdif 18 42 16.5 +0.9
GAL1 IAMs_20 IAMs_20 19 29 44.2
comp=Z,49µm,19.6s
HMNX Herstmonceux 106.08 39 eP Pdif 18 42 18.0 +1.7
HMNX IAMs_20 IAMs_20 19 40 15.2
comp=Z,37µm,17.7s
S31K Pelican 106.28 330 IAMs_20 IAMs_20 19 37 48.3
comp=Z,11µm,22.0s
P32M Atlin 106.32 332 IAMs_20 IAMs_20 19 28 01.3
comp=Z,11µm,22.0s
NEWG New Galloway 106.32 34 eP Pdif 18 42 19.3 +1.9
NEWG IAMs_20 IAMs_20 19 30 04.4
comp=Z,49µm,19.5s
P33M Teslin, Yukon 106.39 333 IAMs_20 IAMs_20 19 32 15.1
comp=Z,11µm,21.0s
LAWE Loch Awe, Argy 106.48 32 eP Pdif 18 42 20.1 +2.1
LAWE IAMs_20 IAMs_20 19 34 50.6
comp=Z,29µm,16.9s
KESW Keswick, Cumbr 106.53 35 eP Pdif 18 42 19.1 +0.8
KESW IAMs_20 IAMs_20 19 27 42.7
comp=Z,43µm,20.2s
PGBU Glenifferbraes 106.62 33 eP Pdif 18 42 21.3 +2.7
PGBU IAMs_20 IAMs_20 19 34 08.2
comp=Z,122µm,17.3s
ELSH Elham, Standar 106.65 39 eP Pdif 18 42 19.1 +0.2
ELSH IAMs_20 IAMs_20 19 27 36.7
comp=Z,33µm,22.4s
SKAG Skagway 106.86 332 IAMs_20 IAMs_20 19 37 34.8
comp=Z,9µm,21.0s
STKA Stephens Creek 106.88 210 PKKP 18 58 00.0
comp=Z,1.5nm,0.7s,baz=332,slow=6.1,SNR=9.4
EKA Eskdalemuir Ar 106.94 34 Pdiff Pdif 18 42 20.6 +0.5
comp=Z,1.3nm,0.9s,baz=279,slow=4.8,SNR=2.6
EKA PKiKP PKiKP 18 46 31.3 +1.6
comp=Z,0.6nm,0.5s,baz=236,slow=1.8,SNR=4.2
LEWI Lewis, Hebride 107.01 30 eP Pdif 18 42 22.1 +1.8
LEWI IAMs_20 IAMs_20 19 31 14.6
comp=Z,32µm,20.5s
KPL Plockton 107.03 31 eP Pdif 18 42 22.9 +2.5
KPL IAMs_20 IAMs_20 19 34 13.5
comp=Z,32µm,17.3s
N32M Quiet Lake 107.10 334 IAMs_20 IAMs_20 19 41 27.0
comp=Z,16µm,20.0s
INVG Invergeldie, C 107.19 33 eP Pdif 18 42 23.4 +2.3
INVG IAMs_20 IAMs_20 19 34 27.0
comp=Z,51µm,17.6s
MMPY Sheldon Lake, 107.43 335 IAMs_20 IAMs_20 19 41 36.6
comp=Z,14µm,19.0s
WHY Whitehorse 107.46 333 IAMs_20 IAMs_20 19 28 17.4
comp=Z,19µm,22.0s
GDLE Glaisdale, N Y 107.52 36 eP Pdif 18 42 24.7 +2.0
GDLE IAMs_20 IAMs_20 19 33 39.5
comp=Z,41µm,17.4s
DOU Dourbes 107.92 41 dPdif Pdif 18 42 26.0 +1.4
DOU dPP PP 18 46 53.2 -1.1
P29M Windy Craggy 107.93 331 IAMs_20 IAMs_20 19 40 60.0
comp=Z,8µm,20.0s
O30N Mendenhall 107.99 332 IAMs_20 IAMs_20 19 36 09.5
comp=Z,10µm,19.0s
BMRD Maredsous 108.13 41 dPdif Pdif 18 42 26.2 +0.7
BMRD dPP PP 18 46 54.5 -1.3
BBOO Buckleboo 108.15 205 IAMs_20 IAMs_20 19 37 10.9
comp=Z,11µm,20.0s
UCC Uccle 108.17 41 dPP PP 18 46 54.3 -1.7
DRUM Mains of Drumt 108.17 33 eP Pdif 18 42 29.1 +3.5
DRUM IAMs_20 IAMs_20 19 35 04.5
comp=Z,48µm,17.3s
MCD Coleburn Disti 108.22 32 eP Pdif 18 42 27.6 +1.9
MCD IAMs_20 IAMs_20 19 35 21.4
comp=Z,37µm,17.6s
RCHB Rochefort 108.30 41 dPdif Pdif 18 42 26.4 +0.1
RCHB dPP PP 18 46 55.5 -1.5
N31M Braeburn, Yuko 108.32 333 IAMs_20 IAMs_20 19 41 28.2
comp=Z,11µm,18.0s
BGES Gesves 108.34 41 dPP PP 18 46 57.6 +0.2
BIGH Upper Bighouse 108.47 31 eP Pdif 18 42 29.0 +2.2
BIGH IAMs_20 IAMs_20 19 35 59.3
comp=Z,31µm,18.3s
WLF Walferdange 108.56 42 dPdif Pdif 18 42 28.4 +0.9
WLF dPP PP 18 46 55.4 -3.5
HYT Haines Junctio 108.57 332 IAMs_20 IAMs_20 19 37 53.9
comp=Z,8µm,18.0s
O29M Mount Kennedy 108.67 331 IAMs_20 IAMs_20 19 40 05.6
comp=Z,8µm,19.0s
BSTI Sart Tilman 108.71 41 dPP PP 18 46 58.2 -1.8
N30M Aishikik Lake 108.80 333 IAMs_20 IAMs_20 19 29 25.8
comp=Z,10µm,20.0s
BHOU Houvegnez 108.83 42 dPP PP 18 46 59.7 -1.3
BEBN Eben Emael 108.88 41 dPdif Pdif 18 42 30.4 +1.6
BEBN dPP PP 18 47 00.3 -0.9
BCPM Bancas Point 108.89 331 IAMs_20 IAMs_20 19 39 16.4
comp=Z,8µm,20.0s
BTNL Ternell 109.02 41 dPP PP 18 47 01.9 -0.5
PCA Pinnacle 109.23 331 IAMs_20 IAMs_20 19 39 36.3
comp=Z,12µm,21.0s
MAYO Mayo, Yukon 109.67 335 IAMs_20 IAMs_20 19 39 26.9
comp=Z,13µm,22.0s
TABL Table Mountain 109.79 331 IAMs_20 IAMs_20 19 41 09.1
comp=Z,8µm,20.0s
MESA MESA 109.97 330 IAMs_20 IAMs_20 19 41 30.9
comp=Z,7µm,20.0s
YAH Yahtse 109.99 330 IAMs_20 IAMs_20 19 40 01.5
comp=Z,11µm,20.0s
TNS Taunus Mts 110.12 42 ePKPdf PKiKP 18 46 38.5 +2.7
baz=254,slow=1.4
CTGM Chitina Glacie 110.17 331 IAMs_20 IAMs_20 19 43 02.1
comp=Z,8µm,20.0s
L29M L29M 110.18 334 IAMs_20 IAMs_20 19 41 25.4
comp=Z,15µm,22.0s
ISLE Juniper Island 110.37 330 IAMs_20 IAMs_20 19 40 01.5
comp=Z,11µm,21.0s
K29M Barlow Dome 110.40 335 IAMs_20 IAMs_20 19 39 49.2
comp=Z,15µm,20.0s
J30M Hart River 110.43 336 IAMs_20 IAMs_20 19 39 48.8
comp=Z,16µm,20.0s
WAX Waxell Ridge 110.50 330 IAMs_20 IAMs_20 19 39 57.8
comp=Z,7µm,19.0s
TULEG Thule 110.56 1 ePP PP 18 47 15.8 +2.9
TULEG IAmb IAmb 18 47 17.6
comp=Z,32nm,1.2s
KASTN Kahler Asten 110.58 42 ePKPdf PKiKP 18 46 38.4 +1.7
baz=254,slow=1.4
TGL Tana Glacier 110.66 330 IAMs_20 IAMs_20 19 40 21.0
comp=Z,10µm,22.0s
SUCK Suckling Hills 110.67 329 IAMs_20 IAMs_20 19 43 11.6
comp=Z,9µm,19.0s
CRQM Cirque 110.78 330 IAMs_20 IAMs_20 19 40 23.8
comp=Z,10µm,22.0s
BERG Berg Lake 110.82 330 IAMs_20 IAMs_20 19 40 44.3
comp=Z,12µm,20.0s
HMT Hamilton 111.02 330 IAMs_20 IAMs_20 19 40 39.7
comp=Z,11µm,19.0s
MCARA McCarthy VSAT 111.08 331 IAMs_20 IAMs_20 19 43 31.2
comp=Z,11µm,20.0s
M27K Edge Creek, AK 111.16 332 IAMs_20 IAMs_20 19 44 10.4
comp=Z,13µm,21.0s
VRDI Verde Repeater 111.17 331 IAMs_20 IAMs_20 19 43 46.6
comp=Z,10µm,20.0s
DAWY Dawson 111.20 334 IAMs_20 IAMs_20 19 43 26.3
comp=Z,10µm,20.0s
RAGM Ragged Mountai 111.22 329 IAMs_20 IAMs_20 19 40 47.0
comp=Z,11µm,20.0s
CADS Cadrg 111.32 48 i Pdiff Pdif 18 42 39.7 -0.2
GLB Gilahina Butte 111.43 331 IAMs_20 IAMs_20 19 43 52.5
comp=Z,10µm,19.0s
Q23K Middleton Isla 111.44 328 IAMs_20 IAMs_20 19 38 51.6
comp=Z,8µm,20.0s
BMRM Bremner River 111.50 330 IAMs_20 IAMs_20 19 43 05.4
comp=Z,10µm,22.0s
GTTG Gottingen 111.60 42 ePKPdf PKiKP 18 46 39.0 +0.4
baz=254,slow=1.4
M26K Nabesna, AK 111.62 332 IAMs_20 IAMs_20 19 42 22.6
comp=Z,11µm,21.0s
ROCAM Rodrigues Isla 111.69 135 IAMs_20 IAMs_20 19 30 02.4
comp=Z,17µm,20.0s
LJU Ljubljana 111.73 48 ePdiff Pdif 18 42 43.4 +1.7
LJU ePKiKP PKiKP 18 46 41.4 +2.4
LJU ePP PP 18 47 20.0 -2.0
LJU e 18 49 41.6
LJU eSKSac SKSac 18 53 19.6 +0.7
LJU e 18 55 13.7
LJU ePS PS 18 56 56.6 +2.2
LJU eSS SS 19 03 03.6 +6.8
LJU e 19 13 45.8
EYAK Cordova Ski Ar 111.76 329 IAMs_20 IAMs_20 19 43 51.3
comp=Z,10µm,21.0s
N25K Chitina, Valde 111.84 331 IAMs_20 IAMs_20 19 43 56.3
comp=Z,9µm,20.0s
HIN Hinchinbrook I 112.00 329 IAMs_20 IAMs_20 19 30 23.7
comp=Z,7µm,20.0s
DIV Divide 112.07 330 IAMs_20 IAMs_20 19 44 06.5
comp=Z,7µm,20.0s
MOX Moxa 112.10 43 ePKPdf PKiKP 18 46 41.9 +2.3
baz=254,slow=1.4
NRDL Niedersach Rie 112.12 41 ePKPdf PKiKP 18 46 40.2 +0.8
baz=254,slow=1.4
WET Wettzell 112.14 45 ePKPdf PKiKP 18 46 42.7 +3.0
baz=254,slow=1.4
K27K Chicken 112.16 334 IAMs_20 IAMs_20 19 44 11.7
comp=Z,10µm,21.0s
FID Port Fidalgo 112.17 329 IAMs_20 IAMs_20 19 41 19.2
comp=Z,8µm,20.0s
P23K Montague Islan 112.19 328 IAMs_20 IAMs_20 19 44 09.6
comp=Z,12µm,20.0s
MENT Mentasta 112.19 332 IAMs_20 IAMs_20 19 44 56.7
comp=Z,15µm,20.0s
NEEM North Greenlan 112.21 5 ePP PP 18 47 23.7 -1.4
NEEM IAmb IAmb 18 47 24.8
comp=Z,17nm,1.1s
ASSE Asse, Remlinge 112.26 41 ePKPdf PKiKP 18 46 41.3 +1.6
baz=254,slow=1.4
KLU Klutina 112.32 330 IAMs_20 IAMs_20 19 44 24.0
comp=Z,8µm,19.0s
NEUB Neuenburg 112.45 43 ePKPdf PKiKP 18 46 42.2 +2.0
baz=254,slow=1.4
TANN Tannenbergstha 112.48 44 ePKPdf PKiKP 18 46 41.6 +1.3
baz=254,slow=1.4
GEC2 GERESS Array S 112.49 45 ePKPdf PKiKP 18 46 40.8 +0.3
baz=254,slow=1.4
GERES GERESS Array B 112.49 45 PKiKP PKiKP 18 46 40.5 +0.1
comp=Z,2.7nm,0.6s,baz=207,slow=1.2,SNR=17
GERES PKKPbc PKKPbc 18 57 31.5 +0.9
comp=Z,1.3nm,0.8s,baz=83,slow=3.1,SNR=4.1
GLI Glacier Island 112.50 329 IAMs_20 IAMs_20 19 41 57.8
comp=Z,8µm,20.0s
KHC Kasperske Hory 112.55 45 iP Pdif 18 42 46.4 +1.1
KHC e 18 47 25.2
KHC e 18 53 21.9
KHC ePS PS 18 57 04.9 +3.0
KHC MLR MLR
comp=Z,40µm,20.6s
KHC Kasperske Hory 112.55 45 ePDIFF Pdif 18 42 46.4 +1.1
KHC epPKP PKiKP 18 46 49.4 +8.9
KHC ePP PP 18 47 25.2 -2.6
KHC eSKS SKSac 18 53 21.9 -0.2
KHC ePS PS 18 57 04.9 +3.0
KHC AMS AMS 19 34 20.0
comp=Z,40µm,20.6s
NWAO Narrogin (SRO) 112.56 189 IAMs_20 IAMs_20 19 31 15.0
comp=Z,13µm,21.0s
DOT Dot Lake 112.70 333 IAMs_20 IAMs_20 19 44 29.1
comp=Z,11µm,22.0s
M24K Tolsona, Glenn 112.74 331 IAMs_20 IAMs_20 19 42 59.0
comp=Z,10µm,21.0s
BLY Banja Luka 112.82 51 ↓P PKiKP 18 46 42.4 +1.3
CKRC Cesky Krumlov 112.84 46 iP Pdif 18 42 47.2 +0.6
CKRC e 18 47 27.4
CKRC MLR MLR
comp=Z,32µm,17.5s
CKRC Cesky Krumlov 112.84 46 ePDIFF Pdif 18 42 47.2 +0.6
CKRC ePP PP 18 47 27.4 -2.5
CKRC AMS AMS 19 44 00.0
comp=Z,32µm,17.5s
SCRK Sand Creek 112.84 333 IAMs_20 IAMs_20 19 42 04.8
comp=Z,11µm,22.0s
KMY Karmoy 112.87 33 ePP PP 18 47 30.1 +0.3
KMY eSKSac SKSac 18 53 22.9 +0.2
KMY e 18 55 09.9
KMY ePS PS 18 57 04.8 +0.5
KMY IVMs_BB IVMs_BB 19 39 47.0
comp=Z,16µm,16.6s
PAX Paxson 112.89 332 IAMs_20 IAMs_20 19 43 17.2
comp=Z,16µm,22.0s
KOGS Kog 112.98 49 ePdiff Pdif 18 42 48.4 +1.2
KOGS ePKiKP PKiKP 18 46 42.2 +0.9
KOGS ePP PP 18 47 26.5 -4.3
ZVC Zvikov 113.04 45 ePDIFF Pdif 18 42 48.5 +1.1
ZVC ePKP PKiKP 18 46 43.3 +1.9
ZVC ex x 18 47 28.1
ZVC ePS PS 18 57 09.0 +2.7
ZVC AMS AMS 19 34 20.0
comp=Z,36µm,21.4s
RIDG Independent Ri 113.05 333 IAMs_20 IAMs_20 19 42 16.2
comp=Z,10µm,20.0s
SCM Sheep Creek Mo 113.07 330 IAMs_20 IAMs_20 19 43 40.9
comp=Z,13µm,22.0s
SEW Seward 113.13 328 IAMs_20 IAMs_20 19 44 49.7
comp=Z,11µm,21.0s
CLL Collm 113.18 43 eP Pdif 18 42 51.0 +3.0
CLL e 18 46 42.0
CLL e 18 53 26.0
CLL MLR MLR
comp=Z,43µm,21.1s
CLL Collm 113.18 43 ePKPdf PKiKP 18 46 42.1 +0.6
baz=254,slow=1.4
I26K Coal Creek Min 113.24 334 IAMs_20 IAMs_20 19 44 18.1
comp=Z,13µm,19.0s
KNK Knik Glacier 113.34 329 IAMs_20 IAMs_20 19 45 45.0
comp=Z,11µm,20.0s
SNART Snartemo 113.36 34 ePP PP 18 47 33.2 -0.1
SNART eSP SP 18 57 08.8 +3.4
SNART IVMs_BB IVMs_BB 19 43 49.1
comp=Z,21µm,17.4s
F28M Old Crow 113.37 337 IAMs_20 IAMs_20 19 43 57.6
comp=Z,15µm,20.0s
O22K Cooper Landing 113.43 328 IAMs_20 IAMs_20 19 44 22.6
comp=Z,8µm,19.0s
K24K Donnelly Dome 113.44 332 IAMs_20 IAMs_20 19 42 26.5
comp=Z,14µm,20.0s
MUD Monsted U'grnd 113.45 37 ePP PP 18 47 28.1 -5.8
ASK Askoy 113.46 32 ePP PP 18 47 34.5 +0.6
ASK IVmB_BB 18 47 47.8
comp=Z,2µm,4.4s
ASK eSS SS 19 03 22.9 +3.9
ASK IVMs_BB IVMs_BB 19 38 52.5
comp=Z,12µm,17.5s
BER Bergen 113.47 32 ePP PP 18 47 33.5 -0.5
BER ePS PS 18 57 13.2 +3.4
BER eSS SS 19 03 20.4 +1.2
BER IVMs_BB IVMs_BB 19 38 08.4
comp=Z,11µm,18.6s
RICC Richard 113.47 44 AMS AMS 19 37 40.0
comp=Z,34µm,18.8s
KDAK Kodiak Island 113.48 325 IAMs_20 IAMs_20 19 26 27.0
comp=Z,8µm,19.0s
PRU Pruhonice 113.49 45 iP Pdif 18 42 49.5 +0.1
PRU MLR MLR
comp=Z,38µm,20.0s
PRU Pruhonice 113.49 45 ePDIFF Pdif 18 42 49.5 +0.1
PRU AMS AMS 19 34 50.0
comp=Z,38µm,20.0s
BLS5 Blasjo 113.52 33 ePP PP 18 47 32.1 -2.4
BLS5 eSP SP 18 57 12.5 +5.7
BRG Berggiesshubel 113.53 44 ePKPdf PKiKP 18 46 43.7 +1.4
baz=254,slow=1.4
BRG Berggiesshubel 113.53 44 PKP PKiKP 18 46 43.6 +1.4
BRG Amp 18 46 49.0
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 113.53 44 PP PP 18 47 35.0 +0.3
BRG Amp 18 47 58.3
comp=Z,43nm,1.6s
BRG Berggiesshubel 113.53 44 PS PS 18 57 14.0 +3.3

BRG PKKP **PKKPab** **18 57 34.2 +2.9**
BRG Amp 18 57 47.7
comp=Z,8,6nm,1.1s
SUE **Sulen** **113.54** **31** *e*PP **PP** **18 47 34.9 +0.4**
SUE *e* 18 55 17.1
SUE *e*SP SP 18 57 12.6 +5.7
SUE *e*SS **SS** **19 03 25.4 +5.4**
SUE IVMs_BB IVMs_BB 19 38 32.1
comp=Z,11µm,16.5s
OHAK **Old Harbor** **113.56** **324** IAMs_20 IAMs_20 19 29 36.3
comp=Z,7µm,20.0s
GOPC **GO Pecny, Ondr** **113.60** **45** *i* P **Pdif** **18 42 51.1 +1.2**
GOPC MLR MLR
comp=Z,33µm,19.0s
GOPC **GO Pecny, Ondr** **113.60** **45** *e*PDIFF **Pdif** **18 42 51.1 +1.2**
GOPC AMS AMS 19 35 10.0
comp=Z,33µm,19.0s
BRLK **Bradley Lake** **113.61** **327** IAMs_20 IAMs_20 19 44 48.4
comp=Z,7µm,21.0s
DBG **Daneborg** **113.63** **14** *e*PP **PP** **18 47 27.5 -7.3**
DBG IAmb IAmb 18 47 28.9
comp=Z,13nm,1.2s
OHR **Ohrid** **113.63** **55** *i* Pn **PKiKP** **18 46 45.4 +2.5**
CNPM **China Poot** **113.66** **327** IAMs_20 IAMs_20 19 45 16.6
comp=Z,8µm,22.0s
SLKM **Skilak Lake** **113.66** **328** IAMs_20 IAMs_20 19 42 39.7
comp=Z,8µm,20.0s
J25K **Salcha River,** **113.69** **333** IAMs_20 IAMs_20 19 42 20.1
comp=Z,16µm,20.0s
GHO **Glory Hole Cre** **113.70** **330** IAMs_20 IAMs_20 19 44 15.7
comp=Z,15µm,22.0s
PMR **Palmer** **113.70** **329** IAMs_20 IAMs_20 19 45 43.7
comp=Z,10µm,20.0s
SII **Sitkinak Islan** **113.71** **323** IAMs_20 IAMs_20 19 28 33.1
comp=Z,10µm,19.0s
PVCC **Panska Ves** **113.74** **44** *i* P **Pdif** **18 42 52.1 +1.6**
PVCC MLR MLR
comp=Z,34µm,20.6s
PVCC **Panska Ves** **113.74** **44** *e*PDIFF **Pdif** **18 42 52.1 +1.6**
PVCC AMS AMS 19 34 20.0
comp=Z,34µm,20.6s
TREC **Trest** **113.75** **46** *i* P **Pdif** **18 42 51.6 +1.0**
TREC MLR MLR
comp=Z,40µm,18.5s
TREC **Trest** **113.75** **46** *e*PDIFF **Pdif** **18 42 51.6 +1.0**
TREC AMS AMS 19 39 30.0
comp=Z,40µm,18.5s
SYI **Shuyak Island** **113.77** **326** IAMs_20 IAMs_20 19 46 01.6
comp=Z,8µm,21.0s
E28M **Babbage River** **113.82** **338** IAMs_20 IAMs_20 19 41 49.3
comp=Z,13µm,21.0s
ODD1 **Odda** **113.83** **33** *e*PP **PP** **18 47 37.0 +0.4**
ODD1 *e* 18 55 20.9
ODD1 *e*PS **PS** **18 57 14.2 +1.0**
ODD1 *e*SS SS 19 03 25.2 +1.2
ODD1 IVMs_BB IVMs_BB 19 40 09.8
comp=Z,13µm,16.0s
FOO **Floro** **113.92** **31** *e*PP **PP** **18 47 33.4 -3.7**
FOO *i* 18 55 23.4
FOO *e*PS **PS** **18 57 14.8 +1.0**
FOO *e*SS SS 19 03 29.4 +4.4
FOO IVMs_BB IVMs_BB 19 38 36.2
comp=Z,15µm,18.6s
HOMB **Homborsund** **113.94** **35** *e*PP **PP** **18 47 35.6 -1.7**
HOMB *e*PS **PS** **18 57 16.0 +1.9**
HOMB IVMs_BB IVMs_BB 19 39 00.0
comp=Z,13µm,18.7s
FIS **Fire Island** **113.96** **329** IAMs_20 IAMs_20 19 45 06.4
comp=Z,8µm,21.0s
CHIR **Chirikof Islan** **114.10** **322** IAMs_20 IAMs_20 19 25 36.6
comp=Z,8µm,20.0s
JMIC **Jan Mayen** **114.18** **19** *e*PKPdf **PKiKP** **18 46 44.5 +1.6**
HDA **Harding Lake** **114.18** **333** IAMs_20 IAMs_20 19 44 10.2
comp=Z,10µm,20.0s
KRUC **Moravsky** **114.19** **46** *e*PDIFF **Pdif** **18 42 51.9 -0.6**
KRUC **Moravsky** **114.19** **46** *e*PKP **PKiKP** **18 46 44.7 +1.1**
KRUC *e*PP **PP** **18 47 36.8 -2.6**
KRUC *e*SP SP 18 57 13.5 0.0
CAPN **Captain Cook N** **114.19** **328** IAMs_20 IAMs_20 19 44 47.6
comp=Z,11µm,21.0s
M22K **Willow** **114.20** **329** IAMs_20 IAMs_20 19 43 56.8
comp=Z,12µm,22.0s
HYA **Hoyanger** **114.21** **31** *e*PP **PP** **18 47 37.9 -1.3**
HYA *e* 18 55 20.7
HYA *e*PS **PS** **18 57 17.6 +1.1**
HYA *e*SS SS 19 03 35.2 +6.3
HYA IVMs_BB IVMs_BB 19 39 18.1
comp=Z,10µm,15.0s
JNW **Jan Mayen West** **114.23** **19** *e*PP **PP** **18 47 36.9 -2.2**
JNW *e*PS **PS** **18 57 19.7 +3.3**
JNW *e*SS SS 19 03 32.4 +3.7
JNW IVMs_BB IVMs_BB 19 35 06.7
comp=Z,7µm,16.1s
E27K **Coleen River** **114.23** **337** IAMs_20 IAMs_20 19 41 59.3
comp=Z,12µm,20.0s
JNE **Jan Mayen East** **114.24** **19** *e*PP **PP** **18 47 39.5 +0.3**
JNE *e*PS **PKKPbc** **18 57 21.1 -3.9**
JNE *e*SS SS 19 03 32.4 +3.6
JNE IVMs_BB IVMs_BB 19 35 15.8
comp=Z,7µm,18.1s
SUA **Susitna One** **114.33** **329** IAMs_20 IAMs_20 19 44 44.3
comp=Z,15µm,22.0s
ILAR **Eielson Array** **114.34** **333** PKP PKPdf 18 46 43.1 -0.3
comp=Z,1.5nm,0.7s,baz=149,slow=1.4,SNR=9.6
ILAR PKKPbc **PKKPbc** **18 57 22.4 -2.2**
comp=Z,0.8nm,0.8s,baz=316,slow=3.3,SNR=4.1
MORH **Mrgy, Hungar** **114.38** **50** ⇑P PKPdf 18 46 43.6 -0.4
VRAC **Vranov** **114.41** **46** *e*PDIFF **Pdif** **18 42 52.6 -0.9**
VRAC **Vranov** **114.41** **46** *e*PKP **PKiKP** **18 46 44.7 +0.7**
VRAC *e*PP **PP** **18 47 37.2 -3.8**
VRAC *e*SP SP 18 57 15.1 -0.4
VRAC **Vranov** **114.41** **46** ⇓P **PKiKP** **18 46 44.8 +0.7**
VRAC **Vranov** **114.41** **46** ⇓PKiKP **PKiKP** **18 46 44.8 +0.7**
MODS **Modra-Piesok** **114.43** **47** *i* PKiKP PKPdf 18 46 44.0 -0.1
MODS *e* 18 47 39.7
MODS **Modra-Piesok** **114.43** **47** *e*PKP PKPdf 18 46 44.0 -0.1
MODS *e*PP **PP** **18 47 39.7 -1.5**
RND **Reindeer** **114.45** **331** IAMs_20 IAMs_20 19 42 35.3
comp=Z,13µm,21.0s
CUT **Chulitna** **114.56** **330** IAMs_20 IAMs_20 19 45 13.2
comp=Z,7µm,20.0s
UPC **Upice** **114.56** **45** *i* P **Pdif** **18 42 53.6 -0.6**
UPC MLR MLR
comp=Z,49µm,21.1s
UPC **Upice** **114.56** **45** *e*PDIFF **Pdif** **18 42 53.6 -0.6**
UPC AMS AMS 19 35 30.0
comp=Z,49µm,21.1s
D27M **Malcolm River** **114.60** **339** IAMs_20 IAMs_20 19 42 45.9
comp=Z,16µm,22.0s
CHVC **Chvalec** **114.62** **44** *i* P **Pdif** **18 42 53.6 -0.8**
CHVC MLR MLR
comp=Z,46µm,20.9s
CHVC **Chvalec** **114.62** **44** *e*PDIFF **Pdif** **18 42 53.6 -0.8**
CHVC AMS AMS 19 35 20.0
comp=Z,46µm,20.9s
CCB **Clear Creek Bu** **114.62** **333** IAMs_20 IAMs_20 19 44 30.8
comp=Z,11µm,19.0s
MCK **McKinley** **114.63** **332** IAMs_20 IAMs_20 19 43 21.1
comp=Z,12µm,21.0s
WRH **Wood River Hil** **114.65** **332** IAMs_20 IAMs_20 19 43 27.5
comp=Z,10µm,19.0s
CTAO **Charters Tower** **114.67** **220** IAMs_20 IAMs_20 19 34 25.7
comp=Z,8µm,18.0s
DPC **Dobruska-Polom** **114.68** **45** *i* P **Pdif** **18 42 55.8 +1.1**
DPC *e* 18 47 40.6
DPC MLR MLR
comp=Z,39µm,20.4s
DPC **Dobruska-Polom** **114.68** **45** *e*PDIFF **Pdif** **18 42 55.8 +1.1**
DPC *e*PP **PP** **18 47 40.6 -2.3**
DPC AMS AMS 19 35 40.0
comp=Z,39µm,20.4s
OSTC **Ostas** **114.70** **45** *i* P **Pdif** **18 42 55.8 +1.0**
OSTC *e* 18 46 45.4
OSTC *e* 18 47 40.7
OSTC *e*PS **PKKPab** **18 57 25.8 -0.5**
OSTC MLR MLR
comp=Z,46µm,20.3s
OSTC **Ostas** **114.70** **45** *e*PDIFF **Pdif** **18 42 55.8 +1.0**
OSTC *e*PKP **PKiKP** **18 46 45.4 +0.8**
OSTC *e*PP **PP** **18 47 40.7 -2.4**
OSTC *e*PS **PKKPab** **18 57 25.8 -0.5**
OSTC AMS AMS 19 35 30.0
comp=Z,46µm,20.3s
ILSW **Iliamna Southw** **114.72** **327** IAMs_20 IAMs_20 19 46 02.8
comp=Z,7µm,21.0s

COLA **College** **114.75** **333** IAMs_20 IAMs_20 19 42 52.2
comp=Z,13µm,21.0s
COLA **College** **114.75** **333** *i* PKiKP PKPdf 18 46 43.1 -1.0
COLA MLR MLR
comp=Z,9µm,22.0s
COP **Copenhagen** **114.76** **38** *e*PP **PP** **18 47 39.6 -3.7**
STLK **Strandline Lak** **114.81** **329** IAMs_20 IAMs_20 19 44 58.1
comp=Z,8µm,22.0s
KRLC **Kraliky** **114.83** **45** *i* P **Pdif** **18 42 57.3 +1.9**
KRLC *e* 18 46 44.8
KRLC *e* 18 47 41.7
KRLC MLR MLR
comp=Z,32µm,19.7s
KRLC **Kraliky** **114.83** **45** *e*PDIFF **Pdif** **18 42 57.3 +1.9**
KRLC *e*PKP PKPdf 18 46 44.8 -0.1
KRLC *e*PP **PP** **18 47 41.7 -2.3**
KRLC AMS AMS 19 37 20.0
comp=Z,32µm,19.7s
KSP **Ksiaz** **114.86** **44** *e*Pdif **Pdif** **18 42 57.0 +1.5**
KSP *e*PP **PP** **18 47 41.7 -2.5**
KSP *e*PS **PKKPab** **18 57 28.5 +3.0**
KSP *e*L L 19 36 08.8
comp=Z,53µm,20.9s
JAVC **Velka Javorina** **114.87** **47** *e*PDIFF **Pdif** **18 42 56.9 +1.3**
JAVC **Velka Javorina** **114.87** **47** *e*PKP **PKiKP** **18 46 45.6 +0.6**
JAVC *e*PP **PP** **18 47 43.0 -1.3**
JAVC *e*SP SP 18 57 20.6 +0.8
SKT **Skwentna** **114.90** **329** IAMs_20 IAMs_20 19 44 37.3
comp=Z,10µm,22.0s
SKAR **Skarslia** **114.92** **32** *e*PP **PP** **18 47 42.2 -2.1**
SKAR *e* 18 55 29.7
SKAR *e*PS **PKKPab** **18 57 25.8 +1.0**
SKAR *e* 19 03 45.8
SKAR IVMs_BB IVMs_BB 19 35 57.8
comp=Z,14µm,20.0s
ACHA **Angle Creek He** **114.98** **325** IAMs_20 IAMs_20 19 29 58.7
comp=Z,6µm,18.0s
BWN **Browne** **115.04** **332** IAMs_20 IAMs_20 19 45 02.2
comp=Z,10µm,20.0s
TRF **Thorofare Moun** **115.04** **331** IAMs_20 IAMs_20 19 43 52.0
comp=Z,12µm,22.0s
KONO **Kongsberg** **115.06** **34** *e*PP **PP** **18 47 46.5 +1.3**
KONO *e* 18 55 34.1
KONO *e*PS **PS** **18 57 24.6 +0.2**
KONO IVMs_BB IVMs_BB 19 39 54.1
comp=Z,10µm,17.6s
NEA2 **Nenana** **115.08** **332** IAMs_20 IAMs_20 19 43 07.9
comp=Z,11µm,20.0s
MORC **Moravsky Berou** **115.16** **46** *e*PDIFF **Pdif** **18 42 56.3 -0.6**
MORC **Moravsky Berou** **115.16** **46** *e*PKP **PKPdf** **18 46 45.5 0.0**
MORC *e*PP **PP** **18 47 43.6 -2.8**
MORC *e*SP SP 18 57 21.5 -1.0
MORC **Moravsky Berou** **115.16** **46** ⇓P **PKPdf** **18 46 45.1 -0.4**
MORC **Moravsky Berou** **115.16** **46** ⇓PKiKP **PKPdf** **18 46 45.1 -0.4**
MAUC **Maruska** **115.17** **46** *e*PDIFF **Pdif** **18 42 57.6 +0.7**
LUNU **Lund** **115.26** **39** *e*PP **PP** **18 47 44.2 -2.5**
BOVS **Bovan** **115.30** **53** ⇓P **PKPdf** **18 46 40.0 -5.9**
KTH **Kantishna Hill** **115.34** **331** IAMs_20 IAMs_20 19 43 58.9
comp=Z,13µm,21.0s
O19K **Port Alsworth** **115.35** **327** IAMs_20 IAMs_20 19 45 50.3
comp=Z,13µm,22.0s
STEB **Steborice** **115.36** **46** *e*PKP **PKiKP** **18 46 47.6 +1.8**
MOL **Molde** **115.41** **30** *e*PP **PP** **18 47 49.4 +1.7**
MOL *e* 18 55 36.0
MOL *e*PS **PS** **18 57 30.8 +3.4**
MOL *e*SS SS 19 03 49.5 +4.9
MOL IVMs_BB IVMs_BB 19 38 29.8
comp=Z,12µm,18.7s
VYHS **Vyhne** **115.43** **47** *i* PKiKP **PKPdf** **18 46 45.9 -0.1**
VYHS **Vyhne** **115.43** **47** *e*PKP **PKPdf** **18 46 45.9 -0.1**
FABU **Falkenberg** **115.45** **37** *e*PP **PP** **18 47 42.5 -5.5**
G24K **Hadweenzic Riv** **115.47** **335** IAMs_20 IAMs_20 19 45 38.0
comp=Z,14µm,19.0s
M20K **Styx River** **115.54** **329** IAMs_20 IAMs_20 19 46 10.2
comp=Z,11µm,20.0s
OKC **Ostrava-Krasne** **115.55** **46** *i* P **Pdif** **18 43 00.0 +1.5**
OKC MLR MLR
comp=Z,39µm,19.1s
OKC **Ostrava-Krasne** **115.55** **46** *e*PDIFF **Pdif** **18 43 00.0 +1.5**
OKC AMS AMS 19 40 10.0
comp=Z,39µm,19.1s
PPLA **Purkeypile** **115.57** **330** IAMs_20 IAMs_20 19 45 14.1
comp=Z,12µm,21.0s
BPAW **Bear Paw Mtn.** **115.61** **331** IAMs_20 IAMs_20 19 45 13.9
comp=Z,8µm,20.0s
O18K **Koktuh Hills** **115.61** **326** IAMs_20 IAMs_20 19 46 06.3
comp=Z,10µm,22.0s
DAG **Danmarks Havn** **115.61** **12** *e*PP **PP** **18 47 42.7 -6.0**
DAG IAmb IAmb 18 47 44.8
comp=Z,6.2nm,0.8s
C27K **Jago River** **115.63** **338** IAMs_20 IAMs_20 19 41 42.2
comp=Z,11µm,21.0s
N19K **Bonanza Creek** **115.68** **327** IAMs_20 IAMs_20 19 46 07.1
comp=Z,13µm,21.0s
OSL **Oslo** **115.69** **34** *e* 18 55 43.8
OSL *e*SP SP 18 57 26.3 -0.3
OSL *e*SS **SS** **19 03 48.1 -0.3**
OSL IVMs_BB IVMs_BB 19 43 33.5
comp=Z,11µm,18.4s
CHGN **Chignik** **115.73** **322** IAMs_20 IAMs_20 19 30 17.6
comp=Z,7µm,18.0s
CNBA **Chernabura Isl** **115.75** **320** IAMs_20 IAMs_20 19 28 36.4
comp=Z,7µm,18.0s
CAST **Castle Rocks** **115.75** **331** IAMs_20 IAMs_20 19 46 16.8
comp=Z,15µm,21.0s
R16K **Pilot Point** **115.81** **323** IAMs_20 IAMs_20 19 30 44.7
comp=Z,7µm,18.0s
DEL **Delary** **115.82** **38** *e*PP **PP** **18 47 46.2 -4.5**
MLY **Manley** **115.92** **332** IAMs_20 IAMs_20 19 46 36.1
comp=Z,14µm,19.0s
BZS **Buzias** **116.03** **51** ⇓P **PKPdf** **18 46 45.8 -1.5**
BZS **Buzias** **116.03** **51** ⇓PKiKP **PKPdf** **18 46 45.8 -1.5**
LANS **Liptovska Anna** **116.07** **47** *i* PKiKP **PKiKP** **18 46 50.0 +2.7**
LANS **Liptovska Anna** **116.07** **47** *e*PKP **PKiKP** **18 46 50.0 +2.7**
M19K **Big River Lodg** **116.09** **329** IAMs_20 IAMs_20 19 45 54.8
comp=Z,10µm,21.0s
N18K **Kilae Creek** **116.26** **327** IAMs_20 IAMs_20 19 46 15.3
comp=Z,10µm,22.0s
HERR **Herculane** **116.26** **52** ⇑P **PKiKP** **18 46 48.0 +0.3**
SIRR **Siria** **116.31** **51** ⇓P **PKiKP** **18 46 48.3 +0.5**
GKP **Gorka Klasztor** **116.36** **42** *e*PP PP 18 47 52.8 -1.8
GKP *e*PS **PS** **18 57 40.0 +3.5**
GKP *e*L L 19 37 58.1
comp=Z,54µm,19.3s
NB2 **NORSAR Subarra** **116.36** **33** PKPdf **PKiKP** **18 46 47.8 +0.3**
comp=Z,77nm,2.5s,baz=248,slow=1.9
NB2 PKKP **PKKPab** **18 57 20.4 +1.9**
comp=Z,18nm,1.1s,baz=69,slow=4.4
NB2 **NORSAR Subarra** **116.36** **33** PKPdf **PKiKP** **18 46 47.8 +0.3**
baz=248,slow=1.9
NOA **NORSAR Array B** **116.36** **33** PKP **PKPdf** **18 46 46.4 -1.0**
comp=Z,1.9nm,0.6s,baz=250,slow=2.2,SNR=17
NOA PKKPbc **PKKPab** **18 57 20.1 +1.6**
comp=Z,3.6nm,0.9s,baz=68,slow=4.5,SNR=9.4
G23K **Bananza Creek** **116.38** **334** IAMs_20 IAMs_20 19 46 38.1
comp=Z,12µm,19.0s
NC602 **NORSAR Array S** **116.39** **33** *e*PKPdf **PKiKP** **18 46 48.6 +1.2**
NC602 IVmB_BB 18 46 50.3
comp=Z,532nm,3.6s
L19K **White Mountain** **116.40** **329** IAMs_20 IAMs_20 19 42 38.0
comp=Z,8µm,21.0s
SURR **Surduc** **116.41** **51** ⇑P **PKPdf** **18 46 44.2 -3.8**
E24K **Your Creek** **116.44** **336** IAMs_20 IAMs_20 19 46 41.6
comp=Z,15µm,20.0s
MORW **Morawa** **116.52** **188** IAMs_20 IAMs_20 19 35 54.7
comp=Z,14µm,20.0s
K20K **Telida** **116.54** **330** IAMs_20 IAMs_20 19 46 00.7
comp=Z,12µm,22.0s
P16K **Nushagak River** **116.59** **325** IAMs_20 IAMs_20 19 30 57.2
comp=Z,8µm,20.0s
NIE **Niedzica** **116.67** **47** *e*Pdif **Pdif** **18 43 06.4 +2.7**
NIE *e*PKP **PKiKP** **18 46 50.8 +2.4**
NIE *e*PP **PP** **18 47 55.0 -2.0**
NIE *e*PS PKKPdf 18 57 54.7 +12
NIE *e*L L 19 40 10.6
comp=Z,32µm,20.0s
OJC **Ojcow** **116.68** **46** *e*Pdif **Pdif** **18 43 05.7 +2.2**
OJC *e*PKP **PKiKP** **18 46 50.3 +1.9**
OJC *e*PP **PP** **18 47 54.7 -2.3**
OJC *e*PS PKKPdf 18 57 53.0 +10
OJC *e*L L 19 32 40.5
comp=Z,24µm,23.2s
N17K **Nushagak Hills** **116.79** **327** IAMs_20 IAMs_20 19 46 46.4
comp=Z,8µm,21.0s
O16K **Kokwok River B** **116.85** **325** IAMs_20 IAMs_20 19 47 47.1
comp=Z,10µm,21.0s
J20K **Nowinta River** **116.90** **331** IAMs_20 IAMs_20 19 46 34.1
comp=Z,11µm,19.0s
MIDW **Midway** **116.98** **287** IAMs_20 IAMs_20 19 34 29.3
comp=Z,6µm,18.0s
D24K **Happy Valley** **117.02** **337** IAMs_20 IAMs_20 19 47 11.9
comp=Z,11µm,20.0s
HFS **Hagfors** **117.14** **34** PKP **PKPdf** **18 46 47.6 -1.3**
comp=Z,3.9nm,0.6s,baz=202,slow=3.2,SNR=13
HFS PKKPbc **PKKPab** **18 57 16.6 +1.6**
comp=Z,6.0nm,0.9s,baz=52,slow=2.4,SNR=6.8
DRGR **117.18** **50** ⇓P **PKiKP** **18 46 50.7 +1.1**
DRGR **117.18** **50** ⇓PKiKP **PKiKP** **18 46 50.7 +1.1**
L18K **Granite Mounta** **117.21** **328** IAMs_20 IAMs_20 19 44 51.4
comp=Z,9µm,21.0s
C24K **Franklin Bluff** **117.22** **338** IAMs_20 IAMs_20 19 44 04.3
comp=Z,13µm,20.0s
ASAR **Alice Springs** **117.23** **207** **PKPdf** **18 46 48.9 -1.6**
ASAR **Alice Springs** **117.23** **207** PKP **PKPdf** **18 46 49.5 -1.0**
comp=Z,1.8nm,0.4s,baz=128,slow=1.6,SNR=22
ASAR PKKPbc **PKKPbc** **18 57 15.1 +1.3**
comp=Z,2.7nm,0.6s,baz=337,slow=3.1,SNR=25
ASAR PKPPKP **P'P'df** **19 05 50.8 -6.2**
comp=Z,0.7nm,0.8s,baz=293,slow=1.5,SNR=5.5
I20K **Naaghedeneel** **117.28** **331** IAMs_20 IAMs_20 19 47 26.0
comp=Z,12µm,20.0s
LOT **Lotru** **117.36** **52** ⇓P **PKPdf** **18 46 49.1 -0.9**
J19K **Poorman** **117.43** **330** IAMs_20 IAMs_20 19 44 50.1
comp=Z,9µm,21.0s
IMAR **Indian Mountai** **117.45** **333** **PKPdf** **18 46 48.7 -0.7**
O15K **Ungalikthiuk R** **117.52** **325** IAMs_20 IAMs_20 19 47 41.9
comp=Z,13µm,21.0s
G21K **Allakaket** **117.57** **333** IAMs_20 IAMs_20 19 48 29.6
comp=Z,10µm,19.0s
J18K **Innoko River** **117.68** **330** IAMs_20 IAMs_20 19 45 26.9
comp=Z,10µm,20.0s
KOLS **Kolonicke sedl** **117.70** **48** *e*PKiKP **PKiKP** **18 46 53.3 +2.9**
KOLS **Kolonicke sedl** **117.70** **48** *e*PKP **PKiKP** **18 46 53.3 +2.9**
TNR **Turnu Rosu** **117.77** **52** ⇓P **PKPdf** **18 46 49.7 -1.0**
TNR **Turnu Rosu** **117.77** **52** ⇓PKiKP **PKPdf** **18 46 49.7 -1.0**
M16K **Timber Creek** **117.78** **327** IAMs_20 IAMs_20 19 47 32.6
comp=Z,9µm,22.0s
HUMR **Humele** **117.82** **53** ⇑P **PKPdf** **18 46 50.2 -0.6**
ELND **Elena** **117.83** **55** ⇓P **PKPdf** **18 46 50.5 -0.3**
BEL **Belsk** **117.85** **44** *e*PP PP 18 48 02.6 -2.4
BEL *e*PS **PS** **18 57 56.3 +6.2**
BEL *e*L L 19 31 36.7
comp=Z,33µm,24.8s
C23K **Itkillik River** **117.88** **337** IAMs_20 IAMs_20 19 44 33.6
comp=Z,11µm,20.0s
ARR **Arges** **117.90** **52** ⇓P **PKiKP** **18 46 52.0 +1.0**
N15K **Kwethluk River** **118.00** **326** IAMs_20 IAMs_20 19 45 53.5
comp=Z,8µm,20.0s
NSS **Namsos** **118.00** **29** *e*PKPdf **PKiKP** **18 46 50.9 +0.5**
NSS *e* 18 55 50.3
NSS *e* 18 57 39.7
NSS *e*SS SS 19 04 19.7 +1.4
NSS IVMs_BB IVMs_BB 19 42 48.9
comp=Z,8µm,19.2s
BMR **Baia Mare** **118.01** **50** ⇑P **PKPdf** **18 46 50.7 -0.3**
K17K **Iditarod** **118.09** **329** IAMs_20 IAMs_20 19 46 17.6
comp=Z,10µm,20.0s
D22K **Ayikyak River** **118.18** **336** IAMs_20 IAMs_20 19 45 15.7
comp=Z,13µm,18.0s
R9F13 **Warsaw-Wawer** **118.19** **44** *e*P **Pdif** **18 43 13.3 +3.1**
R9F13 *e*PP **PP** **18 48 06.0 -1.3**
R9F13 *e*S 18 51 33.8
R9F13 *e*SKS **SKSdf** **18 53 54.5 -6.9**
R9F13 *e*SS **SS** **19 04 24.7 +3.4**
KWP **Kalwaria Pacla** **118.21** **47** *e*PKP **PKiKP** **18 46 52.9 +1.5**
KWP *e*PP **PP** **18 48 05.5 -2.1**
KWP *e*PS **PS** **18 58 00.8 +7.2**
KWP *e*L L 19 39 56.2
comp=Z,33µm,23.0s
O14K **Tigyukauivet M** **118.24** **324** IAMs_20 IAMs_20 19 32 34.9
comp=Z,8µm,20.0s
E21K **Killik River** **118.46** **335** IAMs_20 IAMs_20 19 48 43.0
comp=Z,14µm,19.0s
RAZG **Razgrad** **118.49** **55** ⇑P **PKiKP** **18 46 53.0 +0.9**
F20K **Avaraart Lake** **118.58** **334** IAMs_20 IAMs_20 19 48 46.4
comp=Z,14µm,20.0s
DOPR **Dopca** **118.61** **52** ⇓P **PKiKP** **18 46 52.7 +0.4**
J17K **VABM Dome** **118.66** **329** IAMs_20 IAMs_20 19 33 54.6
comp=Z,11µm,22.0s
N14K **Kuskokwak Cree** **118.67** **325** IAMs_20 IAMs_20 19 32 59.2
comp=Z,8µm,20.0s
G19K **Purcell Mounta** **118.78** **332** IAMs_20 IAMs_20 19 49 23.7
comp=Z,12µm,18.0s
MLR **Muntele Rosu** **118.81** **53** ⇓P **PKiKP** **18 46 52.9 +0.1**
MLR **Muntele Rosu** **118.81** **53** ⇓PKiKP **PKiKP** **18 46 52.9 +0.1**
OZUR **118.92** **52** ⇑P **PKiKP** **18 46 54.4 +1.5**
B22K **Teshekpuk Lake** **118.96** **338** IAMs_20 IAMs_20 19 49 30.2
comp=Z,10µm,20.0s
LEIR **Leirfjorden** **119.00** **28** *e*PKPdf **PKiKP** **18 46 52.8 +0.4**
LEIR *e*PP **PP** **18 48 11.2 -1.3**
LEIR *e*PS **PS** **18 58 00.3 +0.3**
LEIR *e*SS SS 19 04 32.1 +0.9
LEIR IVMs_BB IVMs_BB 19 38 35.6
comp=Z,7µm,20.2s
STOK **Stokkvaagen** **119.04** **27** *i* 18 48 05.1
STOK *e* 18 56 06.5
STOK *e*PS **PS** **18 58 00.8 +0.5**
STOK *e*SS SS 19 04 31.0 -0.6
STOK IVMs_BB IVMs_BB 19 38 26.1
comp=Z,7µm,19.8s
NOR **Nord** **119.05** **8** *e*PP PP 18 48 09.6 -3.0
M14K **Bethel** **119.07** **326** IAMs_20 IAMs_20 19 48 13.7
comp=Z,8µm,21.0s
BURAR **Bucovina Array** **119.08** **50** **PKPdf** **18 46 52.7 -0.5**
BURAR **Bucovina Array** **119.08** **50** ⇑P **PKiKP** **18 46 54.0 +0.8**
BURAR **Bucovina Array** **119.08** **50** ⇑PKiKP **PKiKP** **18 46 54.0 +0.8**
B21K **Ikpikpuk River** **119.09** **337** IAMs_20 IAMs_20 19 46 34.7
comp=Z,11µm,20.0s
UNV **Unalaska Valle** **119.18** **317** IAMs_20 IAMs_20 19 38 06.1
comp=Z,7µm,22.0s
VAGH **Vaagaholmen** **119.27** **27** *e*PKPdf **PKiKP** **18 46 54.4 +1.5**
VAGH *e* 18 56 08.8
VAGH *e*PS **PS** **18 58 03.6 +1.3**
VAGH *e* 19 04 30.6
VAGH IVMs_BB IVMs_BB 19 46 19.9
comp=Z,9µm,17.0s
F19K **Shaleruckik Mo** **119.27** **333** IAMs_20 IAMs_20 19 49 31.6
comp=Z,13µm,19.0s
J16K **Anvik River** **119.27** **329** IAMs_20 IAMs_20 19 34 01.8
comp=Z,10µm,22.0s
G18K **Tagagawik** **119.30** **332** IAMs_20 IAMs_20 19 49 00.6
comp=Z,13µm,19.0s
BISRR **Bisoca** **119.33** **53** ⇓P **PKPdf** **18 46 53.5 -0.2**
K15K **Wolf Creek Mou** **119.36** **328** IAMs_20 IAMs_20 19 47 23.4
comp=Z,9µm,21.0s
ONER **Baraj Valea Uz** **119.39** **52** ⇑P **PKiKP** **18 46 54.4 +0.6**
PLOR **Plostina** **119.39** **52** ⇓P **PKPdf** **18 46 53.2 -0.6**
VRI **Vrincioaia** **119.45** **52** ⇑P **PKPdf** **18 46 53.2 -0.7**
VRI **Vrincioaia** **119.45** **52** ⇑PKiKP **PKPdf** **18 46 53.2 -0.7**
I17K **Unalakleet** **119.50** **329** IAMs_20 IAMs_20 19 48 43.8
comp=Z,12µm,20.0s
MOR8 **Moi Rana** **119.53** **28** *e*PKPdf **PKiKP** **18 46 54.0 +0.6**
MOR8 *e* 18 56 15.1
MOR8 *e*PS **PS** **18 58 06.9 +2.0**
MOR8 *e*SS SS 19 04 44.1 +6.0
MOR8 IVMs_BB IVMs_BB 19 39 05.7
comp=Z,9µm,19.8s
L14K **Kuka Creek** **119.59** **326** IAMs_20 IAMs_20 19 47 42.4
comp=Z,8µm,20.0s
M13K **Dall Lake** **119.61** **325** IAMs_20 IAMs_20 19 49 33.2
comp=Z,9µm,20.0s
TESR **Tescani** **119.62** **52** ⇑P **PKPdf** **18 46 53.9 -0.3**
PRAR **RASCA** **119.63** **51** ⇑P **PKiKP** **18 46 55.1 +0.8**
LOF **Lofoten** **119.81** **26** *e*PKPdf **PKiKP** **18 46 55.1 +1.2**
LOF *e*PP **PP** **18 48 18.0 -0.1**
LOF *e* 18 56 16.4
LOF *e*SP SP 18 58 06.6 +3.2
LOF *e* 19 04 50.3
LOF IVMs_BB IVMs_BB 19 37 12.4
comp=Z,6µm,18.7s
HARR **Harsova** **119.85** **54** ⇑P **PKiKP** **18 46 55.2 +0.6**
D19K **Kuna River** **119.92** **335** IAMs_20 IAMs_20 19 48 03.6
comp=Z,13µm,20.0s
SUW **Suwalki** **119.94** **43** *e*Pdif **Pdif** **18 43 20.0 +2.1**
SUW *e*PKP **PKPdf** **18 46 54.3 -0.2**
SUW *e*PP **PP** **18 48 16.1 -3.3**
SUW *e*PS **PS** **18 58 19.6 +11**
SUW *e*L L 19 34 36.2
comp=Z,34µm,23.2s

GHRR 119.96 52 ⇓P PKiKP 18 46 56.4 +1.6
B20K Meade River 120.05 337 IAMs_20 IAMs_20 19 44 59.1
comp=Z,12μm,21.0s
TIRR Tirgusor 120.09 54 ⇑P PKiKP 18 46 55.6 +0.4
TIRR Tirgusor 120.09 54 ⇑PKiKP PKiKP 18 46 55.6 +0.4
CFR Carcaliu 120.15 54 ⇑P PKPdf 18 46 54.9 -0.2
CFR Carcaliu 120.15 54 ⇑PKiKP PKPdf 18 46 54.9 -0.2
FAUS Fauske 120.22 27 ePKPdf PKPdf 18 46 54.3 -0.3
FAUS IVmB_BB 18 46 58.1
comp=Z,500nm,3.6s
FAUS ePS PS 18 58 12.5 +1.6
FAUS eSS SS 19 04 51.3 +4.6
FAUS IVMs_BB IVMs_BB 19 47 18.1
comp=Z,10μm,19.0s
SCTR Scanteiesti 120.22 53 ⇑P PKiKP 18 46 57.4 +2.1
TPGR Topolog 120.23 54 ⇑P PKPdf 18 46 54.7 -0.7
VLDR Vladesti 120.33 53 ⇑P PKPdf 18 46 55.2 -0.3
STEI Steigen 120.36 26 ePP PP 18 48 20.7 -1.2
STEI eSS SS 19 04 54.8 +6.3
STEI IVMs_BB IVMs_BB 19 47 22.3
comp=Z,11μm,18.5s
HORU Horodok 120.36 49 PKP PKPdf 18 46 55.1 -0.4
J14K Nanvaranak Lak 120.39 328 IAMs_20 IAMs_20 19 49 58.6
comp=Z,9μm,20.0s
WRA Warramunga Arr 120.43 209 PKP PKPdf 18 46 55.6 -1.0
comp=Z,5.0nm,0.5s,baz=156,slow=1.6,SNR=53
WRA PKKPbc PKKPbc 18 57 02.2 +0.1
comp=Z,1.4nm,0.6s,baz=340,slow=4.5,SNR=10
WRAB Tennant Creek 120.43 209 i PKiKP PKPdf 18 46 56.0 -0.6
F17K Baldwin Pennin 120.47 332 IAMs_20 IAMs_20 19 50 26.5
comp=Z,12μm,20.0s
SAHE Sakarya_HENDEK 120.54 59 ⇑P PKPdf 18 46 55.4 -0.7
C19K Lookout Ridge 120.61 335 IAMs_20 IAMs_20 19 48 12.8
comp=Z,14μm,20.0s
G16K Koyuk River 120.62 331 IAMs_20 IAMs_20 19 50 10.4
comp=Z,13μm,18.0s
RNPP5 Staryi Chortor 120.66 46 PKP PKiKP 18 46 56.1 +0.1
K13K Kusilvak Mount 120.66 327 IAMs_20 IAMs_20 19 50 10.7
comp=Z,8μm,21.0s
RNPP8 Varash 120.67 46 PKP PKiKP 18 46 56.1 0.0
RNPP9 Sopachiv 120.72 46 PKP PKiKP 18 46 56.2 0.0
NDNU Novodnistrovsk 120.76 50 PKP PKiKP 18 46 56.4 +0.1
M11K Mekoryuk 120.96 325 IAMs_20 IAMs_20 19 33 35.8
comp=Z,11μm,18.0s
MMAI Mount Meron Ar 121.03 69 PKP PKPdf 18 46 57.2 -0.1
comp=Z,3.5nm,0.6s,baz=264,slow=2.3,SNR=9.5
C18K Utukok River 121.05 335 IAMs_20 IAMs_20 19 51 00.5
comp=Z,9μm,20.0s
MILM Milestii Mici 121.16 52 i PKP PKPdf 18 46 56.0 -1.0
MILM Milestii Mici 121.16 52 ePP PP 18 48 22.0 -5.9
comp=Z,580nm,2.5s
MILM eSKS SKSac 18 53 48.0 -5.9
MILM eSKKS SKKSac 18 55 20.0 -5.3
MILM Milestii Mici 121.16 52 i PS PS 18 58 22.0 +2.0
MILM eL L 19 20 40.0
MILM LQM 19 42 56.0
comp=Z,42μm,20.0s
MILM LRM MLR 19 43 31.0
comp=Z,44μm,19.0s
MILM Milestii Mici 121.16 52 ⇓P PKPdf 18 46 55.7 -1.3
MILM Milestii Mici 121.16 52 i PKiKP PKPdf 18 46 56.0 -1.0
MILM e 18 53 48.0
MILM i PS PS 18 58 22.0 +2.0
KIS Kishinev 121.19 52 ePKP PKPdf 18 46 56.0 -1.1
KIS Kishinev 121.19 52 i PS PS 18 58 22.0 +1.8
KIS eL L 19 27 51.0
KIS LRM MLR 19 43 51.0
comp=Z,9μm,18.5s
KIS Kishinev 121.19 52 ePKiKP PKPdf 18 46 56.0 -1.1
KIS i PS PS 18 58 22.0 +1.8
SORM Soroca 121.24 50 ⇑P PKPdf 18 46 56.2 -0.9
SORM Soroca 121.24 50 ⇑PKiKP PKPdf 18 46 56.2 -0.9
COEN Coen 121.37 221 IAMs_20 IAMs_20 19 38 30.2
comp=Z,7μm,20.0s
LUBAR Lubar, Ukraine 121.40 48 PKP PKPdf 18 46 57.3 -0.1
ANTO Ankara 121.58 61 PKPdf 18 46 57.8 -0.4
ANTO Ankara 121.58 61 ⇓P PKiKP 18 46 59.3 +0.9
ANTO Ankara 121.58 61 PKiKP PKPdf 18 46 57.8 -0.4
ANTO MLR MLR
comp=Z,51μm,21.0s
ANTO Ankara 121.58 61 PKP PKPdf 18 46 58.0 -0.2
ANTO Ankara 121.58 61 PKP PKiKP 18 47 00.5 +2.1
ANM Nome 121.65 330 IAMs_20 IAMs_20 19 50 56.7
comp=Z,13μm,18.0s
TRO Tromso 122.08 24 ePKPdf PKPdf 18 46 57.5 -0.6
TRO ePP PP 18 48 35.4 +1.9
TRO e 18 56 34.1
TRO eSS SS 19 05 13.3 +2.8
TRO IVMs_BB IVMs_BB 19 34 56.8
comp=Z,8μm,19.7s
BR105 Keskin Array S 122.13 61 PKP PKPdf 18 46 59.2 -0.2
BR106 Keskin Array S 122.14 61 PKP PKPdf 18 46 59.2 -0.2
BR104 Keskin Array S 122.14 61 PKP PKPdf 18 46 59.2 -0.2
BR131 Keskin Array S 122.15 61 i PKiKP PKiKP 18 46 59.6 0.0
BRTR Keskin Array B 122.15 61 PKPdf 18 46 58.5 -0.9
BRTR Keskin Array B 122.15 61 PKP PKPdf 18 46 59.1 -0.3
comp=Z,6.7nm,0.7s,baz=190,slow=3.2,SNR=28
BRTR SKKP 19 00 55.8
comp=Z,2.0nm,1.0s,baz=132,slow=3.8,SNR=4.8
KIRS Kirsehir-Merke 122.15 62 ⇑P PKiKP 18 47 00.3 +0.8
SPIA Saint Paul Isl 122.17 320 IAMs_20 IAMs_20 19 51 36.1
comp=Z,8μm,21.0s
KBS Kingsbay 122.26 13 PKPdf 18 46 57.7 -0.6
KBS IAMs_20 IAMs_20 19 39 24.2
comp=Z,14μm,21.0s
KBS Kingsbay 122.26 13 i PKiKP PKiKP 18 46 59.8 +1.3
KBS MLR MLR
comp=Z,13μm,19.0s
KBS Kingsbay 122.26 13 ePKPdf PKiKP 18 46 60.0 +1.5
KBS IVmB_BB 18 47 04.8
comp=Z,426nm,2.5s
KBS ePP PP 18 48 33.8 -0.8
KBS eSP SP 18 58 27.2 +2.3
KBS eSS SS 19 05 17.3 +4.8
KBS IVMs_BB IVMs_BB 19 39 12.2
comp=Z,4μm,18.6s
CIDE Kastamonu/Cide 122.37 59 ⇓P PKPdf 18 46 59.3 -0.2
KIEV Kiev 122.52 48 PKPdf 18 46 58.2 -1.3
KIEV Kiev 122.52 48 ⇑P PKPdf 18 46 58.8 -0.7
KIEV Kiev 122.52 48 PKiKP PKPdf 18 46 58.2 -1.3
KIEV MLR MLR
comp=Z,25μm,20.0s
KIEV Kiev 122.52 48 PKPdf PKPdf 18 46 58.9 -0.6
AKASG Malin Array Be 122.53 48 PKPdf 18 46 58.2 -1.4
AKASG Malin Array Be 122.53 48 PKP PKPdf 18 46 58.4 -1.2
comp=Z,9.6nm,0.7s,baz=260,slow=2.8,SNR=31
AKASG PP PP 18 48 37.4 +0.2
comp=Z,24nm,1.2s,baz=253,slow=6.4,SNR=4.1
AKBB Malin Array Si 122.53 48c i PKiKP PKPdf 18 46 58.3 -1.2
JETT Jettan, Norway 122.58 25 eP PKiKP 18 46 59.5 +0.2
HSPB Hornsund (broa 122.60 16 ePP PP 18 48 35.9 -1.0
HSPB ePS PS 18 58 44.5 +13
HSPB eL L 19 34 00.0
comp=Z,18μm,24.3s
PMG Port Moresby 122.68 228 IAMs_20 IAMs_20 19 46 23.7
comp=Z,6μm,18.0s
MNK Minsk 122.72 43 ePKiKP PKiKP 18 47 00.0 0.0
TNA Tin City 122.92 330 IAMs_20 IAMs_20 19 52 13.3
comp=Z,12μm,19.0s
SPA0 Spitsbergen Ar 122.99 14 ePKPdf PKiKP 18 47 01.1 +1.2
SPITS Spitsbergen Ar 122.99 14 PKP PKPdf 18 46 58.9 -0.9
comp=Z,6.1nm,0.5s,baz=335,slow=6.5,SNR=18
SPITS PKKPbc PKKPbc 18 56 52.3 -0.8
comp=Z,3.5nm,0.7s,baz=182,slow=2.4,SNR=3.6
SPITS Spitsbergen Ar 122.99 14 PKiKP PKPdf 18 46 59.7 -0.1
BJO1 Bjornoya 123.01 19 ePKPdf PKiKP 18 47 02.0 +2.0
BJO1 ePP PP 18 48 40.9 +1.1
BJO1 eSS SS 19 05 25.4 +3.2
BJO1 IVMs_BB IVMs_BB 19 32 42.4
comp=Z,5μm,22.3s
VSU Vasula 123.03 38 i PKiKP PKPdf 18 47 00.1 -0.2
GIRL Giralia 123.07 187 IAMs_20 IAMs_20 19 38 31.2
comp=Z,7μm,20.0s
ATKA Atka Island 123.15 314 PKPdf 18 47 00.6 -0.1
ATKA IAMs_20 IAMs_20 19 36 24.4
comp=Z,6μm,19.0s
PSA00 Pilbara Seismi 123.28 194 PKPdf 18 47 00.8 -1.3
FINES FINESS Array B 123.33 35 PKPdf 18 46 60.0 -0.8
FINES FINESS Array B 123.33 35 PKhKP PKPpre 18 46 55.2
comp=Z,1.8nm,0.5s,baz=62,slow=5.5,SNR=14
FINES PKP PKPdf 18 47 00.6 -0.1
comp=Z,5.5nm,0.6s,baz=192,slow=1.5,SNR=14
FINES PKKPbc PKKPbc 18 56 51.3 -0.2
comp=Z,1.3nm,0.6s,baz=93,slow=3.8,SNR=5.7

KTK1 Kautokeino 123.48 25 ePKPdf PKPdf 18 47 00.5 -0.4
KTK1 ePP PP 18 48 44.3 +1.3
KTK1 eSS SS 19 05 29.9 +1.7
KTK1 IVMs_BB IVMs_BB 19 34 37.4
comp=Z,9μm,21.4s
MBWA Marble Bar 123.71 194 PKPdf 18 47 02.1 -0.8
MBWA Marble Bar 123.71 194 PKP PKPdf 18 47 02.4 -0.5
HAMF Hammerfest 123.86 24 ePKPdf PKiKP 18 47 03.0 +1.2
HAMF ePP PP 18 48 46.1 +0.6
HAMF e 18 56 45.5
HAMF eSS SS 19 05 37.2 +4.2
HAMF IVMs_BB IVMs_BB 19 48 35.4
comp=Z,6μm,21.8s
SIM Simferopol' 124.11 55 i P Pdif 18 43 41.0 +4.3
SIM i 18 47 04.0
SIM e 18 48 45.0
SIM PPP PPP 18 51 29.0
SIM SP SP 18 58 46.0 +3.0
SIM PS PS 18 58 48.0 +1.7
SIM SS SS 19 05 44.0 +6.5
SIM pmax pmax
comp=Z,90nm,13.0s
SIM pmax pmax
comp=Z,140nm,3.0s
SIM pmax pmax
comp=Z,700nm,7.7s
GAMB Gambell 124.21 328 IAMs_20 IAMs_20 19 52 43.6
comp=Z,11μm,19.0s
ARA0 ARCESS Array S 124.35 25 eP PKPdf 18 47 02.6 0.0
ARA0 ePKPdf PKiKP 18 47 03.5 +0.7
ARA0 ePP PP 18 48 49.0 +0.2
ARCES ARCESS Array B 124.35 25 PKPdf 18 47 01.9 -0.6
ARCES ARCESS Array B 124.35 25 PKP PKPdf 18 47 02.1 -0.4
comp=Z,6.6nm,0.6s,baz=242,slow=2.7,SNR=25
ADK Adak 124.57 313 IAMs_20 IAMs_20 19 37 54.9
comp=Z,7μm,18.0s
HOPEN Hopen 124.72 16 ePKPdf PKiKP 18 47 05.2 +1.9
HOPEN ePP PP 18 48 51.3 +0.2
HOPEN eSS SS 19 05 47.3 +3.8
HOPEN IVMs_BB IVMs_BB 19 37 34.6
comp=Z,6μm,17.3s
RAYN Ar Rayn 125.23 84 PKPdf 18 47 05.5 -0.2
RAYN Ar Rayn 125.23 84 PKiKP PKPdf 18 47 05.5 -0.2
RAYN MLR MLR
comp=Z,42μm,20.0s
RAYN Ar Rayn 125.23 84 PKPdf PKPdf 18 47 05.5 -0.2
H11S2 WAKE ISLAND Hyd 125.56 269 T T 21 05 34.4
baz=118,slow=74,SNR=140
H11S1 WAKE ISLAND Hyd 125.57 269 T T 21 05 37.6
baz=118,slow=74,SNR=466
H11S3 WAKE ISLAND Hyd 125.57 269 T T 21 05 34.4
baz=118,slow=74,SNR=85
VADS Vadso 125.72 24 ePKPdf PKiKP 18 47 07.2 +1.7
VADS ePP PP 18 48 58.0 +0.1
VADS e 18 57 02.9
VADS ePS PS 18 59 01.2 +1.6
VADS e 19 05 52.2
VADS IVMs_BB IVMs_BB 19 34 17.2
comp=Z,5μm,26.9s
H11N3 WAKE ISLAND Hyd 125.97 271 T T 21 06 09.8
baz=120,slow=75,SNR=97
H11N1 WAKE ISLAND Hyd 125.99 271 T T 21 06 03.5
baz=120,slow=75,SNR=297
H11N2 WAKE ISLAND Hyd 125.99 271 T T 21 06 09.4
baz=120,slow=75,SNR=94
ANN Anapa 126.34 56 i PKiKP PKPdf 18 47 06.3 -0.7
ANN ePS PS 18 59 11.5 +5.6
ANN eSS SS 19 06 03.0 -2.6
ANN pmax pmax
comp=Z,28nm,0.9s
APA Apatity 127.12 28 i PKiKP PKPdf 18 47 07.0 -0.9
APA e 18 49 04.5
APA ePS PS 18 59 09.9 -2.1
APA eSS SS 19 06 09.0 -5.0
APA MLR MLR
comp=Z,31μm,22.4s
LVZ Lovozero 127.60 27 PKPdf 18 47 09.1 +0.2
LVZ Lovozero 127.60 27 i PKiKP PKPdf 18 47 08.6 -0.2
SOC Sochi 127.63 58 i PKiKP PKPdf 18 47 09.5 -0.1
SOC ePPP PPP 18 51 54.3
SOC e 18 54 09.7
SOC ePS PS 18 59 13.5 -3.8
SOC eSS SS 19 06 17.4 -4.4
SOC eSSS SSS 19 11 10.0
SOC pmax pmax
comp=Z,37nm,0.8s
OBN Obninsk 127.78 43 PKPdf 18 47 08.8 -0.6
OBN Obninsk 127.78 43c i PKiKP PKPdf 18 47 09.2 -0.2
OBN i 18 49 08.2
OBN ePPP PPP 18 51 54.1
OBN e 18 54 12.5
OBN eSS SS 19 06 24.4 +1.6
OBN eSSS SSS 19 11 11.9
OBN pmax pmax
comp=Z,136nm,1.7s
OBN MLR MLR
comp=Z,48μm,20.0s
OBN Obninsk 127.78 43 PKP PKiKP 18 47 10.7 +0.7
VSLR Vesyoloye 127.82 59 i PKiKP PKiKP 18 47 10.9 +0.4
MOS Moscow 128.45 43 i PKiKP PKiKP 18 47 11.5 +0.2
MOS e 18 49 14.5
MOS ePPP PPP 18 52 00.8
MOS e 18 54 14.7
MOS eSP SP 18 59 27.0 +6.7
MOS eSS SS 19 06 31.8 +0.7
MOS eSSS SSS 19 11 22.4
MOS pmax pmax
comp=Z,96nm,1.3s
MOS pmax pmax
comp=Z,700nm,2.5s
ERBR Yeremizino-Bor 128.65 56 i PKiKP PKiKP 18 47 12.0 -0.1
ERBR ePS PS 18 59 28.8 +2.7
ERBR eSS SS 19 06 30.3 -4.0
ERBR pmax pmax
comp=Z,67nm,1.6s
VSR Storozhevoye 128.78 49 ePKiKP PKPdf 18 47 08.9 -2.6
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 128.82 49 ePKiKP PKPdf 18 47 09.8 -1.8
VORD pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 128.83 47 ePKiKP PKPdf 18 47 11.0 -0.5
LPSR pmax pmax
comp=Z,30nm,0.9s
SHA1 Shidzhatmaz 129.74 59 i PKiKP PKPdf 18 47 13.2 -0.7
KLMR Klimovskoe 129.74 36c i PKiKP PKPdf 18 47 13.2 +0.2
KLMR e 18 49 24.0
KLMR SS SS 19 06 52.8 +6.0
KLMR SSS SSS 19 11 37.5
KIV Kislovodsk 129.81 58 PKPdf 18 47 13.7 -0.2
KIV Kislovodsk 129.81 58 ⇑P PKiKP 18 47 15.3 +0.7
KIV Kislovodsk 129.81 58 i P Pdif 18 44 00.5 -1.7
KIV i 18 47 14.1
KIV e 18 49 23.6
KIV e 18 54 20.5
KIV ePS PS 18 59 33.4 -3.1
KIV eSS SS 19 06 47.1 -1.8
KIV eSSS SSS 19 11 33.2
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,16μm,23.0s
KIV Kislovodsk 129.81 58 i PKPdf PKPdf 18 47 13.5 -0.4
SNR=18
KIV Kislovodsk 129.81 58 PKP PKPdf 18 47 13.9 0.0
KIV Kislovodsk 129.81 58 PKP PKPdf 18 47 13.8 0.0
KBZ Khabaz 129.91 59 PKhKP PKPpre 18 47 05.5
comp=Z,1.2nm,0.8s,baz=248,slow=5.4,SNR=4.3
KBZ PKP PKPdf 18 47 13.6 -0.3
comp=Z,7.7nm,1.0s,baz=266,slow=4.0,SNR=19
KBZ Khabaz 129.91 59c i PKiKP PKiKP 18 47 14.8 +0.1
GOF Gofitskoye 130.28 57ce PKiKP PKiKP 18 47 15.2 -0.2
SHEM Shemya Is, Ala 130.29 313 PKP PKiKP 18 47 14.9 -0.3
comp=Z,51nm,0.8s,baz=119,slow=5.1,SNR=2.9
NCK Nalchik 130.36 59 i PKiKP PKiKP 18 47 17.2 +1.5
VRH Novokhopyorsk 130.37 49 ePKiKP PKPdf 18 47 14.3 -0.2
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,34μm,19.0s
GNI Garni 130.43 64c i PKiKP PKiKP 18 47 16.3 +0.2
GNI MLR MLR
comp=Z,28μm,21.0s

MZR Muzera 131.59 88 i PKiKP PKPdf 18 47 18.2 +0.4
SNR=12
JAY Jayapura 132.03 227 PKhKP PKPpre 18 47 13.2
comp=Z,23nm,1.2s,baz=46,slow=3.4,SNR=6.4
BILL Bilibino 132.98 334 IAMs_20 IAMs_20 19 58 48.0
comp=Z,9μm,22.0s
BILL Bilibino 132.98 334c i PKiKP PKiKP 18 47 19.8 -0.4
MAK Makhachkala 133.06 61 i P Pdif 18 44 14.1 -2.4
MAK i 18 47 17.5
MAK e 18 49 43.2
MAK e 18 54 24.2
MAK eSS SS 19 07 24.5 -3.9
MAK pmax pmax
comp=Z,123nm,1.1s
BATI Baumata 133.25 202 PKP PKiKP 18 47 22.4 0.0
comp=Z,21nm,0.8s,baz=203,slow=3.6,SNR=4.2
SOEI Soe 133.48 203 PKP PKPdf 18 47 20.6 -1.2
AJN Ajban 133.51 87 i PKPdf PKPdf 18 47 21.7 +0.4
SNR=6.0
ASUD Al Ashush, Dub 133.82 87 PKPdf PKPdf 18 47 21.9 0.0
ALNE Al Ain 133.93 88 i PKPdf PKPdf 18 47 22.5 +0.3
SNR=9.2
FAQ Al Faqa, Dubai 134.09 87 i PKiKP PKiKP 18 47 24.1 +0.3
SNR=8.2
BELG Belogornoye 134.11 48c i PKiKP PKPdf 18 47 18.9 -2.6
BELG MLR MLR
comp=Z,6μm,23.0s
NAZ Nazwa, Dubai 134.24 87 i PKiKP PKiKP 18 47 24.7 +0.7
SNR=9.7
ASHO Ashiyiah 134.44 88 i PKiKP PKiKP 18 47 25.7 +1.2
SNR=9.9
HATD Hatta, Dubai 134.56 88 i PKiKP PKiKP 18 47 25.9 +1.2
SNR=9.3
UOSS Minazif 134.67 88 PKP PKPdf 18 47 21.6 -1.9
KIRV Kirov 134.87 39c i PKiKP PKPdf 18 47 23.1 +0.4
MDH Madha 134.90 87 i PKiKP PKiKP 18 47 26.0 +0.6
SNR=8.2
SHME Shamm 135.06 86 i PKPdf PKPdf 18 47 24.0 -0.2
SNR=7.3
MMRI Maumere 135.16 201 IAMs_20 IAMs_20 19 54 45.3
comp=Z,9μm,18.0s
UGM Wanagama 137.97 184 IAMs_20 IAMs_20 19 48 47.0
comp=Z,7μm,20.0s
SMRI Semarang 138.83 184 IAMs_20 IAMs_20 19 44 39.8
comp=Z,12μm,21.0s
LEM Lembang 139.13 180 PKhKP PKPpre 18 47 26.7
comp=Z,50nm,0.7s,baz=149,slow=7.1,SNR=6.3
KAPI Kappang 139.31 199 PKP PKiKP 18 47 33.9 -0.9
comp=Z,9.1nm,0.4s,baz=66,slow=4.4,SNR=3.8
KAPI Kappang 139.31 199 PKP PKPpre 18 47 26.3
PET Petropavlovsk 139.63 314 IAMs_20 IAMs_20 20 03 49.2
comp=Z,7μm,20.0s
PET Petropavlovsk 139.63 314 eP Pdif 18 44 55.6 +10
PET e 18 50 30.8
PET eSS SS 19 08 50.2 +4.1
PET eSSS SSS 19 14 06.2
PET pmax pmax
comp=Z,3μm,22.3s
PET MLR MLR
comp=Z,11μm,20.0s
SANI Sanana 139.99 209 PKP PKPdf 18 47 31.8 -1.9
ARTI Arti 140.00 41 i PKiKP PKPdf 18 47 33.4 +1.1
ARTI 18 50 30.0
ARTI PPP PPP 18 53 34.2
ARTI SS SS 19 08 52.4 +2.2
PEA0B Petropavlovsk- 140.19 314c i PKiKP PKPdf 18 47 33.4 +0.6
PETK Petropavlovsk- 140.19 314 PKhKP PKPpre 18 47 26.7
comp=Z,3.2nm,0.8s,baz=91,slow=9.6,SNR=8.9
AKTO Aktyubinsk 140.67 50 PKHKP PKPpre 18 47 26.6
TIXI Tiksi 140.92 350 PKPdf 18 47 33.0 -0.6
TIXI IAMs_20 IAMs_20 19 59 59.3
comp=Z,9μm,19.0s
TIXI Tiksi 140.92 350 i PKiKP PKPdf 18 47 33.1 -0.4
TIXI MLR MLR
comp=Z,8μm,21.0s
SVE Sverdlovsk 141.10 40 i PKiKP PKPdf 18 47 32.1 -2.2
SVE e 18 50 34.9
SVE e 19 03 03.5
SVE eSS SS 19 09 01.6 -1.4
SVE pmax pmax
comp=Z,42nm,1.5s
SVE MLR MLR
comp=E,19μm,20.0s
SVE MLR MLR
comp=Z,27μm,20.0s
SVE MLR MLR
comp=N,11μm,19.0s
SKR Severo-Kuril's 141.46 310 i PKiKP PKPdf 18 47 34.3 -0.8
SKR e 18 50 40.6
SKR eSS SS 19 09 02.7 -4.9
SKR pmax pmax
comp=Z,2μm,3.8s
MA2 Magadan 142.22 325 PKhKP PKPpre 18 47 30.1
comp=Z,7.3nm,0.7s,baz=66,slow=5.3,SNR=14
MA2 Magadan 142.22 325 i PKiKP PKPdf 18 47 37.7 +1.5
PALK Pallekele 143.37 131 PKPbc 18 47 37.0 +0.1
PALK Pallekele 143.37 131 PKP PKPbc 18 47 37.3 +0.4
comp=Z,42nm,1.0s,baz=250,slow=3.3,SNR=7.8
PALK Pallekele 143.37 131 PKiKP PKPbc 18 47 37.0 +0.1
PALK MLR MLR
comp=Z,26μm,20.0s
PALK Pallekele 143.37 131 PKP PKPab 18 47 34.6 -1.2
KOD Kodaikanal 143.44 124 eP PKPdf 18 47 39.7 -0.4
KOD eS SKSdf 18 54 50.7 +1.8
KOD IAMs_20 IAMs_20 18 55 19.5
comp=Z,2μm,27.1s
BKB Balikpapan 143.62 196 IAMs_20 IAMs_20 19 48 19.0
comp=Z,12μm,22.0s
MALK Mahakanadarawa 144.13 130 PKP PKPbc 18 47 39.4 +0.3
GOA Goa 144.26 113 eP PKPbc 18 47 40.0 +0.7
TOLI2 Tolitoli 144.82 203 PKPab 18 47 40.2 -0.9
TOLI2 IAMs_20 IAMs_20 20 05 23.4
comp=Z,5μm,21.0s
BHUJ Bhuj 145.07 98 eP PKPdf 18 47 42.6 +0.3
KAD Karad 145.62 111 eP PKPbc 18 47 43.8 +0.1
KAD eS SKSdf 18 54 52.8 +1.3
KAD IAMs_20 IAMs_20 18 55 14.0
comp=Z,1μm,20.8s
BKNI Bangkinang 145.66 168 PKP PKPdf 18 47 43.0 -0.8
POO Poona 146.06 109 eP PKPab 18 47 45.6 -0.1
POO eS SKSdf 18 54 53.4 +1.4
POO IAMs_20 IAMs_20 18 55 44.1
comp=Z,2μm,15.0s
MDRS Chennai 147.35 124 eP PKPdf 18 47 46.7 +0.2
MDRS eS SKSdf 18 54 51.4 -2.5
MDRS IAMs_20 IAMs_20 18 55 43.4
comp=Z,2μm,21.3s
RPSI Rantau Prapat 147.54 163 PKPdf 18 47 47.4 +0.5
KUR Kuril'sk 147.55 302 ePKiKP PKPdf 18 47 46.2 +0.3
KUR i 18 47 51.5
KUR e 19 04 01.0
KUR i SS SS 19 10 20.7 +2.9
KUR eSSS SSS 19 15 48.6
KUR pmax pmax
comp=Z,1μm,1.3s
KUR pmax pmax
comp=E,468nm,2.6s
KUR pmax pmax
comp=N,293nm,1.7s
BRVK Borovoye 147.55 43 PKPdf 18 47 46.0 +0.4
BRVK Borovoye 147.55 43c i PKiKP PKPdf 18 47 46.4 +0.8
BRVK MLR MLR
comp=Z,43μm,20.0s
JASL Jaisalmer 147.62 93 eP PKPbc 18 47 49.6 +0.3
JASL eS SKSdf 18 54 57.3 +3.4
JASL IAMs_20 IAMs_20 18 55 23.7
comp=Z,3μm,19.3s
BVA0 Borovoye Array 147.62 43 i PKiKP PKPdf 18 47 46.4 +0.6
BVAR Borovoye Array 147.62 43 PKPbc PKPdf 18 47 46.6 +0.8
comp=Z,7.1nm,0.6s,baz=298,slow=2.2,SNR=47
PSI Prapat 147.64 163 PKPbc PKPdf 18 47 47.7 +0.5
comp=Z,49nm,0.8s,baz=186,slow=6.7,SNR=26
PSI Prapat 147.64 163 PKiKP PKPdf 18 47 47.4 +0.2
PSI MLR MLR
comp=Z,32μm,21.0s
SBUM Sibu 148.07 189 IAMs_20 IAMs_20 19 48 53.9
comp=Z,11μm,22.0s
KBL Kabul 148.23 78 PKPdf 18 47 47.8 +0.1
KBL Kabul 148.23 78 PKiKP PKPdf 18 47 47.8 +0.1
KBU Kabul Universi 148.30 78 PKP PKPdf 18 47 49.0 +1.2
DAV Davao City (W) 148.30 215 IAMs_20 IAMs_20 19 55 26.7
comp=Z,6μm,20.0s
DAV Davao City (W) 148.30 215 PKP PKPdf 18 47 44.8 -3.3
YAK Yakutsk 148.91 340 PKPdf 18 47 47.5 0.0
YAK Yakutsk 148.91 340 PKP PKPdf 18 47 47.1 -0.5

comp=Z,83nm,0.8s,baz=68,slow=0.5,SNR=13
YAK PKPbc **PKPbc** **18 47 50.9 -0.7**
comp=Z,68nm,0.6s,baz=73,slow=0.7,SNR=14
YAK Yakutsk 148.91 340 *e*PKIKP **PKPdf** **18 47 48.5 +0.9**
YAK *e* 18 51 23.8
YAK *e*SSS SSS 19 16 11.7
YAK pmax pmax
comp=Z,435nm,1.5s
YAK pmax pmax
comp=N,63nm,1.5s
YAK pmax pmax
comp=E,59nm,1.7s
YAK pmax pmax
comp=E,894nm,5.4s
YAK pmax pmax
comp=N,1μm,4.0s
YAK pmax pmax
comp=Z,1μm,4.0s
YAK MLR MLR
comp=Z,6μm,17.0s
YAK MLR MLR
comp=E,3μm,17.0s
UDPR Udaipur 148.98 99 *e*P **PKPdf** **18 47 50.0 +1.0**
UDPR *e*S **SKSdf** **18 54 58.9 +3.0**
UDPR IAMs_20 IAMs_20 18 55 16.2
comp=Z,2μm,16.2s
HYB Hyderabad 149.01 115 IVmB_BB 18 47 53.8
comp=Z,3μm,4.5s
HYB *e*PKiKP **PKiKP** **18 47 54.4 -0.1**
HYB *e*pPKiKP pPKiKP 18 48 02.8 +0.6
HYB *e*SKSdf **SKSdf** **18 54 54.7 -1.5**
HYB *e*SKKSac **SKKSac** **18 58 13.1 -1.4**
HYB *e*SS **SS** **19 10 35.8 +1.2**
HYB IVMs_BB IVMs_BB 19 50 15.9
comp=Z,14μm,18.9s
YUK Yuzh-Kuril'sk 149.08 300 *e*PKHKP PKPpre 18 47 47.9
YUK *i* 18 47 48.8
YUK *i* 18 47 57.0
YUK *i* 18 51 33.9
YUK *i* SSS SSS 19 16 08.3
YUK pmax pmax
comp=Z,434nm,3.0s
CHM Chimkent 149.24 63 *e*PKIKP **PKPdf** **18 47 48.9 +0.1**
CHM Chimkent 149.24 63 *e*PKP **PKPdf** **18 47 49.0 +0.1**
CHM LR LR 19 57 22.5
comp=Z,13μm,20.6s
BRLS Borolday 149.37 62 *e*PKIKP **PKPdf** **18 47 49.0 0.0**
BRLS *e* 18 51 25.8
BRLS Borolday 149.37 62 *e*PKP **PKPdf** **18 47 49.0 0.0**
BRLS *e*PP **PP** **18 51 25.9 -0.4**
IUG luzhnay 149.56 64 *e*PKHKP PKPpre 18 47 49.4
IUG *e* 18 51 23.1
IUG luzhnay 149.56 64 *e*PKP **PKPdf** **18 47 49.5 0.0**
IUG *e*SKP 18 51 23.1
JCJ Chichijima 149.60 266 PKPbc **PKPbc** **18 47 52.8 -1.6**
comp=Z,94nm,0.7s,baz=68,slow=1.5,SNR=5.8
TYV Tymovskoe 149.74 314 *e*PKP2 **PKiKP** **18 47 55.7 +0.7**
TYV pmax pmax
comp=Z,4μm,6.0s
TYV pmax pmax
comp=Z,114nm,1.3s
KK31 Karatay Array 149.86 62 *i* PKHKP PKPpre 18 47 50.2
KKAR Karatay Array 149.86 62 **PKPdf** **18 47 49.7 -0.1**
KKAR Karatay Array 149.86 62 PKHKP PKPpre 18 47 49.7
BRZS Berezniki 149.98 48 *e*PKHKP PKPpre 18 47 50.1
BRZS *e* 18 51 30.0
BRZS Berezniki 149.98 48 *e*PKP **PKPdf** **18 47 50.2 +0.5**
BRZS *e*PP **PP** **18 51 30.0 +0.7**
BKNR BIKANER 149.98 92 *e*P **PKPdf** **18 47 51.7 +1.3**
BKNR *e*S **SKSdf** **18 54 57.3 +0.3**
BKNR IAMs_20 IAMs_20 18 55 13.3
comp=Z,2μm,16.7s
NKL Nikolayevsk 149.98 319 *i* PKP2 **PKiKP** **18 47 57.4 +2.0**
CMBY CAMPBELL BAY 150.04 152 *e*P **PKPdf** **18 47 52.7 +1.8**
CMBY *e*S **SKSdf** **18 54 55.5 -2.2**
CMBY IAMs_20 IAMs_20 18 56 21.6
comp=Z,2μm,18.2s
DZA Taraz 150.47 62 *e*PKIKP **PKPdf** **18 47 50.8 +0.1**
DZA Taraz 150.47 62 *e*PKP **PKPdf** **18 47 50.8 +0.1**
UGL Uglegorsk 150.67 311 *e*PKIKP **PKiKP** **18 47 59.2 +2.3**
UGL *e* 19 10 56.3
UGL pmax pmax
comp=Z,4μm,6.5s
YSS Yuzhno-Sakhali 150.78 306 **PKPdf** **18 47 51.7 +0.7**
YSS IAMs_20 IAMs_20 20 08 25.7
comp=Z,9μm,21.0s
YSS Yuzhno-Sakhali 150.78 306 *i* PKIKP **PKPdf** **18 47 52.4 +1.4**
YSS *e* 18 51 39.9
YSS *e*SS SS 19 10 55.3 +1.5
YSS pmax pmax
comp=Z,100nm,1.0s
NRDN NARMADA NAGAR 150.91 105 *e*P **PKPbc** **18 47 57.0 -0.7**
NRDN *e*S **SKSdf** **18 54 58.9 +0.5**
NRDN IAMs_20 IAMs_20 18 55 15.2
comp=Z,3μm,14.7s
ERM Erimo 151.22 296 IAMs_20 IAMs_20 20 09 01.3
comp=Z,8μm,21.0s
ERM Erimo 151.22 296 PKP **PKPdf** **18 47 53.3 +1.4**
JKA Kamikawa-asahi 151.41 301 IAMs_20 IAMs_20 20 08 20.1
comp=Z,7μm,21.0s
ASAJ Asahikawa 151.41 301 PKP **PKPdf** **18 47 52.3 +0.2**
comp=Z,14nm,0.8s,baz=42,slow=14,SNR=9.4
ASAJ PKPbc **PKPbc** **18 47 58.1 -0.1**
comp=Z,14nm,0.8s,baz=131,slow=1.5,SNR=6.5
GUNA GUNA 151.96 102 *e*P **PKPdf** **18 47 56.5 +2.9**
GUNA *e*S **SKSdf** **18 55 01.4 +1.7**
GUNA IAMs_20 IAMs_20 18 55 22.0
comp=N,3μm,17.9s
BTLS Baital 152.12 57 *e*PKIKP **PKPdf** **18 47 53.3 +0.2**
BTLS *e* 18 51 42.1
BTLS Baital 152.12 57 *e*PKP **PKPdf** **18 47 53.4 +0.2**
BTLS *e*PP **PP** **18 51 42.1 +0.2**
JMU Jammu 152.66 84 *e*P **PKPdf** **18 47 55.2 +0.9**
JMU *e*S **SKSdf** **18 54 57.3 -2.8**
JMU IAMs_20 IAMs_20 18 55 31.6
comp=Z,2μm,19.7s
KUDL Kundal 152.68 94 *e*P **PKPdf** **18 47 54.4 -0.1**
KUDL *e*S **SKSdf** **18 54 56.9 -3.4**
KUDL IAMs_20 IAMs_20 18 55 37.2
comp=Z,2μm,18.1s
VIS Vishakhapatnam 152.69 121 *e*P **PKPdf** **18 47 52.7 -2.0**
VIS *e*S **SKSdf** **18 55 01.5 +0.8**
VIS IAMs_20 IAMs_20 18 55 31.8
comp=Z,1μm,13.1s
SGDS Sogindy 152.81 60 *e*PKP **PKPdf** **18 47 54.4 +0.1**
AAK Ala-Archa 152.82 62 **PKPdf** **18 47 55.4 +0.9**
AAK Ala-Archa 152.82 62 PKIKP **PKPdf** **18 47 55.4 +0.9**
AAK MLR MLR
comp=Z,24μm,19.0s
AAK Ala-Archa 152.82 62 *i* PKiKP **PKiKP** **18 48 02.6 +0.7**
SNR=53
AAK Ala-Archa 152.82 62 PKP **PKPdf** **18 47 55.3 +0.8**
JTM Tenmabayashi 152.86 294 IAMs_20 IAMs_20 20 09 45.0
comp=Z,9μm,22.0s
JTM Tenmabayashi 152.86 294 P **PKPdf** **18 47 52.8 -1.6**
SRNI Srinagar 152.88 81 *e*P **PKPdf** **18 47 56.8 +2.2**
SRNI *e*S **SKSdf** **18 55 01.0 +0.7**
SRNI IAMs_20 IAMs_20 18 55 25.1
comp=Z,4μm,30.5s
JHJR Jhajjar 152.97 93 *e*P **PKPdf** **18 47 55.2 +0.3**
JHJR *e*S **SKSdf** **18 54 57.3 -3.4**
JHJR IAMs_20 IAMs_20 18 55 08.4
comp=Z,1μm,11.1s
JMM Marumori 153.09 287 IAMs_20 IAMs_20 19 53 00.5
comp=Z,6μm,21.0s
KURBB Kurchatov Arra 153.21 44 PKP **PKPdf** **18 47 54.2 -0.3**
comp=Z,7.0nm,0.7s,baz=301,slow=1.6,SNR=63
KURBB PKPbc **pPKPdf** **18 48 02.3 +0.1**
comp=Z,48nm,0.7s,baz=301,slow=2.9,SNR=50
KURBB PP **PP** **18 51 51.3 +3.7**
comp=Z,2.9nm,0.8s,baz=296,slow=5.0,SNR=5.2
KURK Kurchatov 153.22 43 **PKPdf** **18 47 54.5 -0.1**
KURK Kurchatov 153.22 43 PKIKP **PKPdf** **18 47 54.5 -0.1**
KURK MLR MLR
comp=Z,32μm,20.0s
BHGR Bahadurgarh 153.24 94 *e*P **PKPdf** **18 47 54.6 -0.7**
BHGR *e*S **SKSdf** **18 54 57.3 -3.7**
BHGR IAMs_20 IAMs_20 18 55 47.2
comp=Z,3μm,17.5s
JHNI Jhansi 153.30 101 *e*P **PKPdf** **18 47 55.6 +0.1**
JHNI *e*S **SKSdf** **18 55 01.4 +0.1**
JHNI IAMs_20 IAMs_20 18 55 39.1
comp=Z,4μm,14.5s
JHJ2 Mitsune 153.31 277 IAMs_20 IAMs_20 20 01 16.8
comp=Z,5μm,20.0s
AYAN Aya Nagar 153.32 94 *e*P **PKPdf** **18 47 56.9 +1.5**
AYAN *e*S **SKSdf** **18 55 01.4 +0.3**
AYAN IAMs_20 IAMs_20 18 55 48.3
comp=Z,1μm,16.2s
TLWR Talawar 153.36 86 *e*P **PKPdf** **18 47 56.0 +0.5**
TLWR *e*S **SKSdf** **18 55 01.0 -0.1**
TLWR IAMs_20 IAMs_20 18 55 23.7
comp=Z,3μm,26.3s
GRNR Gornyy 153.40 317 ⇓*i*PKIKP **PKPdf** **18 47 55.5 +0.6**
GRNR pmax pmax
comp=Z,5.0nm,1.1s
GRNR MLR MLR
comp=E,6μm,18.0s
NPLP NPLP New Delhi 153.41 94 *e*P **PKPdf** **18 47 55.4 -0.2**
NPLP *e*S **SKSdf** **18 55 01.0 -0.2**
NPLP IAMs_20 IAMs_20 18 55 11.0
comp=Z,3μm,23.9s
GNR GANAUR 153.45 93 *e*P **PKPdf** **18 47 56.2 +0.6**
GNR *e*S **SKSdf** **18 54 59.3 -1.9**
GNR IAMs_20 IAMs_20 18 55 15.0
comp=Z,1μm,12.4s
NDI New Delhi 153.47 94 *e*P **PKPdf** **18 47 56.0 +0.4**
NDI *e*S **SKSdf** **18 55 01.0 -0.3**
NDI IAMs_20 IAMs_20 18 55 10.8
comp=Z,2μm,13.1s
JMIU JAMIA UNIVERSI 153.49 94 *e*P **PKPdf** **18 47 57.1 +1.5**
JMIU *e*S **SKSdf** **18 55 05.5 +4.2**
JMIU IAMs_20 IAMs_20 18 55 43.0
comp=Z,3μm,17.9s
AGRA Agra 153.54 97 *e*P **PKPdf** **18 47 54.4 -1.3**
AGRA *e*S **SKSdf** **18 55 01.4 0.0**
AGRA IAMs_20 IAMs_20 18 55 42.5
comp=Z,4μm,17.9s
BHK Bhakra 153.61 87 *e*P **PKPdf** **18 47 57.2 +1.4**
BHK *e*S **SKSdf** **18 55 03.4 +2.1**
BHK IAMs_20 IAMs_20 18 55 41.0
comp=Z,2μm,18.8s
DHRM DHARAMSHALA 153.71 86 *e*P **PKPdf** **18 47 58.5 +2.3**
DHRM *e*S **SKSdf** **18 55 03.5 +1.6**
DHRM IAMs_20 IAMs_20 18 55 44.6
comp=Z,2μm,20.8s
CGRH CHANDIGARH 153.73 89 *e*P **PKPdf** **18 47 56.1 +0.2**
CGRH *e*S **SKSdf** **18 55 01.4 -0.1**
CGRH IAMs_20 IAMs_20 18 55 54.3
comp=Z,2μm,24.4s
ASOR Ausora 153.95 94 *e*P **PKPdf** **18 47 58.6 +2.4**
ASOR *e*S **SKSdf** **18 55 01.4 -0.4**
ASOR IAMs_20 IAMs_20 18 55 47.0
comp=Z,3μm,22.2s
SMLA Simla 154.16 88 *e*P **PKPdf** **18 47 58.0 +1.5**
SMLA *e*S **SKSdf** **18 54 59.5 -2.4**
SMLA IAMs_20 IAMs_20 18 55 48.2
comp=Z,2μm,21.3s
KSH Kashi 154.16 69 PKPbc **PKPdf** **18 47 56.9 +0.4**
KSH SKKS 18 58 41.2
KSH SS **SS** **19 11 30.0 -2.0**
KSH LR LR
comp=Z,23μm,20.8s
KSH LR LR
comp=Z,15μm,22.7s
KSH LR LR
comp=Z,31μm,22.5s
BLSP Bilaspur 154.50 112 *e*P **PKPdf** **18 47 58.5 +1.2**
BLSP *e*S **SKSdf** **18 55 03.4 +0.7**
TNSS Tian-Shan 154.54 61 *e*PKIKP **PKPdf** **18 47 56.8 -0.4**
TNSS Tian-Shan 154.54 61 *e*PKP **PKPdf** **18 47 56.9 -0.4**
ZAA0 Zalesovo Array 154.56 32 **PKPdf** **18 47 55.4 -0.9**
ZALV Zalesovo Beam 154.56 32 **PKPdf** **18 47 54.8 -1.5**
ZALV Zalesovo Beam 154.56 32 PKP **PKPdf** **18 47 55.1 -1.3**
comp=Z,11nm,0.7s,baz=286,slow=2.4,SNR=36
ZALV PKPbc **PKiKP** **18 48 04.8 0.0**
comp=Z,74nm,0.7s,baz=308,slow=2.1,SNR=44
DDI Dehra Dun 154.67 91 *e*P **PKPdf** **18 47 56.8 -0.6**
DDI *e*S **SKSdf** **18 55 03.5 +0.8**
DDI IAMs_20 IAMs_20 18 55 50.1
comp=Z,3μm,14.0s
JSG Sagara 154.91 280 IAMs_20 IAMs_20 20 11 16.0
comp=Z,8μm,21.0s
TKRD Thakurdwara 154.97 94 *e*P **PKPdf** **18 47 57.8 +0.1**
TKRD *e*S **SKSdf** **18 54 58.9 -4.0**
TKRD IAMs_20 IAMs_20 18 55 20.8
comp=Z,3μm,23.9s
MJAR Matsushiro Arr 155.08 284 PKP **PKPdf** **18 47 56.6 -1.1**
comp=Z,7.2nm,1.1s,baz=158,slow=0.6,SNR=11
MAJO Matsushiro 155.08 284 IAMs_20 IAMs_20 20 09 56.4
comp=Z,7μm,21.0s
MAJO Matsushiro 155.08 284 ⇑PKIKP **PKPdf** **18 47 59.8 +2.1**
MAJO Matsushiro 155.08 284 PKP **PKPdf** **18 47 56.5 -1.2**
MAT Matsushiro 155.08 284 P **PKPdf** **18 47 56.6 -1.1**
TDK Taldyqorghan 155.15 56 *e*PKIKP **PKPdf** **18 47 57.7 +0.2**
TDK *e* 18 51 59.1
TDK Taldyqorghan 155.15 56 *e*PKP **PKPdf** **18 47 57.7 +0.2**
TDK *e*PP **PP** **18 51 59.1 +0.2**
TDK LR LR 19 59 07.9
comp=Z,12μm,20.2s
KLP Kalpa 155.16 88 *e*P **PKPdf** **18 47 59.7 +1.3**
KLP *e*S **SKSdf** **18 55 01.0 -2.8**
KLP IAMs_20 IAMs_20 18 55 15.8
comp=Z,1μm,22.5s
TEY Ternei 155.41 305 *e*PKIKP PKPdf 18 47 48.6 -9.2
SATY Saty 155.59 60 *e*PKIKP **PKPdf** **18 47 58.3 0.0**
SATY Saty 155.59 60 *e*PKP **PKPdf** **18 47 58.3 0.0**
SATY *e*SKP 18 51 31.2
JGF Kuroka 155.69 282 P **PKPdf** **18 47 58.9 +0.3**
KPKS Kokpek 155.71 59 *e*PKIKP **PKPdf** **18 47 58.4 0.0**
KPKS Kokpek 155.71 59 *e*PKP **PKPdf** **18 47 58.4 0.0**
KPKS *e*SKP 18 51 31.2
LKN LUCKNOW 155.76 101 *e*P **PKPdf** **18 47 57.9 -1.0**
LKN *e*S **SKSdf** **18 55 01.0 -2.9**
LKN IAMs_20 IAMs_20 18 55 14.1
comp=Z,1μm,13.9s
JOSI Joshimath 155.98 91 *e*P **PKPdf** **18 48 00.3 +1.0**
JOSI *e*S **SKSdf** **18 55 05.5 +1.0**
JOSI IAMs_20 IAMs_20 18 55 27.8
comp=Z,2μm,11.1s
UZB Uzynbulak 156.02 60 *e*PKIKP **PKPdf** **18 47 58.9 0.0**
UZB *e* 18 52 04.0
UZB Uzynbulak 156.02 60 *e*PKP **PKPdf** **18 47 58.9 0.0**
UZB *e*PP **PP** **18 52 04.1 0.0**
BOD Bodaibo 156.06 352 *e*PKIKP **PKPdf** **18 47 58.0 -0.3**
BOD pmax pmax
comp=Z,219nm,1.6s
BWNR Bhubaneshwar 156.14 120 *e*P **PKPdf** **18 48 00.0 +0.5**
BWNR *e*S **SKSdf** **18 55 01.4 -3.1**
BWNR IAMs_20 IAMs_20 18 55 59.2
comp=Z,2μm,20.5s
LGTI Lohaghat 156.22 94 *e*P **PKPdf** **18 47 59.6 +0.3**
LGTI *e*S **SKSdf** **18 54 58.9 -5.3**
LGTI IAMs_20 IAMs_20 18 55 13.3
comp=Z,3μm,19.3s
PTH Pithoragarh 156.23 94 *e*P **PKPdf** **18 48 00.9 +1.3**
PTH *e*S **SKSdf** **18 55 03.0 -1.7**
PTH IAMs_20 IAMs_20 18 55 12.1
comp=Z,3μm,16.2s
SHLS Shalkode 156.33 60 *e*PKIKP **PKPdf** **18 47 59.6 +0.3**
SHLS Shalkode 156.33 60 *e*PKP **PKPdf** **18 47 59.6 +0.3**
BRCI Bahraich 156.65 100 *e*P **PKPdf** **18 48 00.4 +0.4**
BRCI *e*S **SKSdf** **18 55 01.4 -3.4**
MAKZ Makanchi 156.90 49 ⇓PKIKP **PKPdf** **18 48 00.3 +0.5**
MK31 Makanchi Array 157.10 49 *i* PKIKP **PKPdf** **18 47 59.0 -1.0**
MKAR Makanchi Array 157.10 49 **PKPdf** **18 47 59.1 -0.9**
MKAR Makanchi Array 157.10 49 PKP **PKPdf** **18 48 00.0 0.0**
comp=Z,4.1nm,0.8s,baz=281,slow=1.4,SNR=26
GKPR Gorakhpur 157.82 103 *e*P **PKPdf** **18 48 01.6 +0.1**
GKPR *e*S **SKSdf** **18 54 57.3 -8.7**
GKPR IAMs_20 IAMs_20 18 55 25.2
comp=Z,1μm,12.7s
BOK Bokaro 158.30 113 *e*P **PKPdf** **18 48 01.8 -0.5**
BOK *e*S **SKSdf** **18 55 07.6 +0.9**
BOK IAMs_20 IAMs_20 18 56 24.6
comp=Z,3μm,20.1s
JMN Monobe 158.31 276 P **PKPdf** **18 48 02.1 +0.1**
GAYA Gaya 158.33 110 *e*P **PKPdf** **18 48 01.6 -0.6**
GAYA *e*S **SKSdf** **18 55 07.5 +0.9**
GAYA IAMs_20 IAMs_20 18 55 47.0
comp=Z,3μm,17.5s
ZSN Zaisan 158.38 46 *e*PKIKP **PKPdf** **18 48 01.9 +0.3**
ZSN *e* 18 52 17.1
ZSN Zaisan 158.38 46 *e*PKP **PKPdf** **18 48 01.1 -0.5**
ZSN *e*PP **PP** **18 52 17.2 +0.7**
HEH HeiHe 158.47 324 *e*PKP **PKPdf** **18 47 59.8 -1.7**
HEH PKS **PKSdf** **18 51 30.2 -4.8**
HEH PP **PP** **18 52 19.8 +3.1**
HEH SKKS 18 59 03.2
HEH AMB AMB
comp=Z,2μm,7.9s
HEH LR LR
comp=Z,12μm,19.6s
HEH LR LR
comp=Z,14μm,20.6s
HEH LR LR
comp=Z,30μm,20.4s
USRK Ussuriysk Ar. 158.80 305 PKPab **PKPab** **18 48 37.5 -0.6**
comp=Z,10.0nm,1.0s,baz=46,slow=6.1,SNR=4.3
MDJ Mudanjiang 160.25 308 PKP **PKPdf** **18 48 03.7 -0.1**
MDJ AMB AMB
comp=Z,1μm,6.4s
MDJ LR LR
comp=Z,5μm,20.2s
MDJ LR LR
comp=Z,12μm,19.4s
MDJ LR LR
comp=Z,27μm,17.6s
SHBG Sahibganj 160.43 112 *e*P **PKPdf** **18 48 05.0 +0.4**
SHBG *e*S **SKSdf** **18 55 09.2 +0.7**
SHBG IAMs_20 IAMs_20 18 55 23.5
comp=Z,2μm,19.7s
JNU Nakatsue 160.69 273 PKP **PKPdf** **18 48 04.3 -0.4**
comp=Z,4.4nm,1.1s,baz=135,slow=2.9,SNR=2.2
JNU PKPab **PKPab** **18 48 45.4 -1.3**
comp=Z,8.2nm,0.9s,baz=122,slow=4.3,SNR=5.3
JNU Nakatsue 160.69 273 P **PKPdf** **18 48 04.7 0.0**
ARIA ARARIA 160.74 109 *e*P **PKPdf** **18 48 02.2 -2.7**
ARIA *e*S 18 54 57.3
ARIA IAMs_20 IAMs_20 18 55 24.4
comp=Z,3μm,19.2s
BNX BinXian 161.11 313 ⇓PKP **PKPdf** **18 48 03.1 -1.6**
BNX PP **PP** **18 52 29.7 -1.6**
BNX SS SS 19 12 47.6 +2.9
BNX AMB AMB
comp=Z,2μm,7.6s
BNX LR LR
comp=Z,6μm,21.7s
BNX LR LR
comp=Z,5μm,21.7s
BNX LR LR
comp=Z,16μm,22.5s
WMQ Urumqi 161.80 52 PKP **PKPdf** **18 48 06.5 +0.9**
WMQ PKPab **PKPab** **18 48 50.2 -1.1**
WMQ PP **PP** **18 52 33.9 -1.4**
WMQ AMB AMB
comp=Z,6μm,11.7s
WMQ LR LR
comp=Z,31μm,23.3s
WMQ LR LR
comp=Z,23μm,24.9s
WMQ LR LR
comp=Z,32μm,21.5s
IRK Irkutsk 161.86 7 *e*PKIKP **PKPdf** **18 48 05.8 +0.5**
IRK *e* 18 48 52.0
IRK pmax pmax
comp=Z,185nm,3.8s
MOY Mondy 161.94 14 *e*PKIKP **PKPdf** **18 48 07.0 +1.5**
MOY pmax pmax
comp=Z,296nm,2.9s
GTK Tadong 162.20 108 *e*P **PKPdf** **18 48 09.2 +2.6**
AGT Agartala 162.30 121 *e*S **SKSdf** **18 55 15.5 +5.4**
COBR COOCHBEHAR 162.37 112 *e*P **PKPdf** **18 48 07.1 +0.5**
COBR *e*S **SKSdf** **18 55 09.6 -0.5**
COBR IAMs_20 IAMs_20 18 55 28.4
comp=Z,3μm,19.2s
CMAR Chiang Mai Arr 162.42 151 **PKPdf** **18 48 03.8 -3.1**
CMAR Chiang Mai Arr 162.42 151 PKP **PKPdf** **18 48 05.1 -1.8**
comp=Z,11nm,1.2s,baz=253,slow=2.8,SNR=14
CMAR PP **PP** **18 52 36.7 -1.1**
comp=Z,5.4nm,1.1s,baz=230,slow=6.4,SNR=4.0
CHTO Chiang Mai 162.74 151 PKP **PKPdf** **18 48 06.8 -0.4**
AZL Aizawl 163.21 125 *e*P **PKPdf** **18 48 11.3 +3.6**
AZL *e*S **SKSdf** **18 55 15.5 +4.5**
AZL IAMs_20 IAMs_20 18 56 53.1
comp=Z,2μm,19.8s
CN2 Changchun 163.28 310 PKP **PKPdf** **18 48 07.6 +0.7**
CN2 PP **PP** **18 52 50.1 +7.2**
CN2 SKS **SKSdf** **18 55 14.6 +4.6**
CN2 AMB AMB
comp=Z,1μm,7.0s
CN2 LR LR
comp=Z,2μm,25.0s
CN2 LR LR
comp=Z,5μm,25.0s
CN2 LR LR
comp=Z,3μm,23.1s
KSRS Korea Array 163.31 287 PKP **PKPdf** **18 48 07.0 -0.1**
comp=Z,4.9nm,0.9s,baz=155,slow=0.2,SNR=19
KSAR Wonju Array Be 163.34 287 **PKPdf** **18 48 05.6 -1.6**
KSAR Wonju Array Be 163.34 287 PKIKP **PKPdf** **18 48 05.6 -1.6**
ZAK Zakamensk 163.57 10 *e*PKIKP **PKPdf** **18 48 08.0 +0.8**
ZAK pmax pmax
comp=Z,37nm,2.8s
SHL Shillong 163.79 118 **PKPdf** **18 48 07.7 -0.6**
SHL Shillong 163.79 118 *e*P **PKPdf** **18 48 09.4 +1.2**
SHL *e*S **SKSdf** **18 55 11.6 0.0**
SHL IAMs_20 IAMs_20 18 55 40.5
comp=Z,4μm,17.4s
SHL Shillong 163.79 118 PKIKP **PKPdf** **18 48 07.7 -0.6**
QIZ Qiongzhong 164.71 188 PKP **PKPdf** **18 48 08.6 -0.4**
QIZ PP **PP** **18 52 50.1 +0.7**
QIZ SKS **SKSdf** **18 55 13.0 +0.9**
QIZ SS **SS** **19 13 25.1 +4.8**
QIZ LR LR
comp=Z,11μm,15.2s
QIZ LR LR
comp=Z,31μm,19.1s
LSA Lhasa 165.23 103 PKP **PKPdf** **18 48 09.3 -0.5**
LSA LR LR
comp=Z,16μm,23.0s
LSA LR LR
comp=Z,33μm,23.7s
SNY Shenyang 165.41 306 ⇑PKP **PKPdf** **18 48 05.8 -3.1**
SNY PP **PP** **18 53 00.5 +6.3**
SNY SS SS 19 13 35.2 +5.6
SNY AMB AMB
comp=Z,2μm,8.6s
SNY LR LR
comp=Z,9μm,24.5s
SNY LR LR
comp=Z,6μm,22.6s
SNY LR LR
comp=Z,13μm,24.8s
ULN Ulaanbaatar 166.41 2 **PKPab** **18 49 12.3 +0.9**
ULN Ulaanbaatar 166.41 2 PKP2 **PKPab** **18 49 12.3 +0.9**
SONM Songino Array 166.41 4 PKP **PKPdf** **18 48 08.4 -1.3**
comp=Z,3.0nm,0.8s,baz=255,slow=0.6,SNR=16
SONM PKPab **PKPab** **18 49 12.8 +1.5**
comp=Z,18nm,0.9s,baz=331,slow=3.8,SNR=8.7
SONM PP **PP** **18 52 58.8 +0.4**
comp=Z,11nm,1.2s,baz=337,slow=3.9,SNR=2.7
QZH Quanzhou 166.74 228 PKP **PKPdf** **18 48 11.3 +0.8**
QZH PP PP 18 53 09.2 +8.3
QZH SKKS 18 59 50.6
QZH LR LR
comp=Z,16μm,19.1s
QZH LR LR
comp=Z,13μm,19.3s
QZH LR LR
comp=Z,24μm,17.8s
TNCH TengChong 167.82 137 PKP **PKPdf** **18 48 11.3 -0.2**
TNCH sPKP 18 48 16.4
TNCH PKPab **PKPab** **18 49 19.4 +1.1**
TNCH PP **PP** **18 53 05.6 -0.9**
TNCH SKKS 18 59 53.2
TNCH SS **SS** **19 13 54.1 +0.3**
TNCH AMB AMB
comp=Z,4μm,7.0s
TNCH LR LR
comp=Z,10μm,20.5s
TNCH LR LR
comp=Z,10μm,18.1s
TNCH LR LR
comp=Z,44μm,19.7s
DL2 Dalian 167.89 296 PKP **PKPdf** **18 48 07.9 -3.0**
DL2 PP **PP** **18 53 12.8 +5.5**
DL2 SKKS 18 59 57.9
DL2 AMB AMB
comp=Z,640nm,10.3s
DL2 LR LR
comp=Z,18μm,19.1s

DL2				LR	LR			
	comp=Z,10μm,19.4s							
DL2				LR	LR			
	comp=Z,25μm,20.6s							
SSE	**Sheshan**	**168.21**	**258**	PKP	**PKPdf**	**18**	**48**	**10.8 -0.6**
SSE				PP	**PP**	**18**	**53**	**10.9 +1.7**
SSE				SS	SS	19	13	56.1 -2.8
SSE				AMB	AMB			
	comp=Z,620nm,11.1s							
SSE				LR	LR			
	comp=Z,2μm,22.6s							
SSE				LR	LR			
	comp=Z,4μm,22.6s							
XLT	**XiLinHaoTe**	**168.39**	**328**	*e*PKP	**PKPdf**	**18**	**48**	**12.3 +1.1**
XLT				PP	**PP**	**18**	**53**	**10.3 +1.3**
XLT				SS	SS	19	14	04.4 +5.6
XLT				LR	LR			
	comp=Z,16μm,20.2s							
XLT				LR	LR			
	comp=Z,28μm,21.8s							
GOMU	**GeErMu**	**169.28**	**76**	PKP	**PKPdf**	**18**	**48**	**13.0 +0.6**
GOMU				PP	**PP**	**18**	**53**	**11.1 -4.0**
GOMU				SS	SS	19	14	12.1 +1.7
GOMU				AMB	AMB			
	comp=Z,4μm,8.3s							
GOMU				LR	LR			
	comp=Z,12μm,19.5s							
GOMU				LR	LR			
	comp=Z,7μm,19.3s							
GOMU				LR	LR			
	comp=Z,9μm,19.8s							
KMI	**Kunming**	**169.92**	**153**	⇑PKP	**PKPdf**	**18**	**48**	**13.1 +0.2**
NJ2	**Nanjing**	**170.40**	**260**	⇓PKP	**PKPdf**	**18**	**48**	**09.0 -3.7**
NJ2				pPKP	**pPKPdf**	**18**	**48**	**16.7 -3.7**
NJ2				sPKP		18	48	21.6
NJ2				PP	**PP**	**18**	**53**	**20.8 +0.5**
NJ2				SS	SS	19	14	19.7 -1.1
NJ2				AMB	AMB			
	comp=Z,3μm,7.3s							
NJ2				LR	LR			
	comp=Z,15μm,21.2s							
NJ2				LR	LR			
	comp=Z,10μm,19.2s							
NJ2				LR	LR			
	comp=Z,21μm,21.4s							
PZH	**PanZhiHua**	**170.71**	**145**	PKP	**PKPdf**	**18**	**48**	**12.7 -0.5**
PZH				PKPab	**PKPab**	**18**	**49**	**30.8 -0.1**
PZH				PP	**PP**	**18**	**53**	**19.1 -1.7**
PZH				SKS	**SKSdf**	**18**	**55**	**12.5 -2.9**
PZH				SKKS	**SKKSac**	**19**	**00**	**13.0 +6.0**
PZH				SS	**SS**	**19**	**14**	**19.5 -2.5**
PZH				AMB	AMB			
	comp=Z,5μm,13.5s							
PZH				LR	LR			
	comp=Z,13μm,22.7s							
PZH				LR	LR			
	comp=Z,10μm,22.2s							
PZH				LR	LR			
	comp=Z,18μm,23.0s							
BJI	**Beijing**	**171.12**	**313**	PKP	**PKPdf**	**18**	**48**	**12.7 -0.1**
BJI				PP	**PP**	**18**	**53**	**30.2 +7.2**
BJI				LR	LR			
	comp=Z,7μm,19.2s							
BJI				LR	LR			
	comp=Z,9μm,20.5s							
BJI				LR	LR			
	comp=Z,16μm,20.1s							
GTA	**Gaotai**	**171.85**	**49**	*e*PKP	**PKPdf**	**18**	**48**	**13.4 0.0**
GTA				PKPab	**PKPab**	**18**	**49**	**38.4 +2.6**
GTA				PP	**PP**	**18**	**53**	**26.5 -0.5**
GTA				SKKS		19	00	10.4
GTA				SS	**SS**	**19**	**14**	**35.1 +1.0**
GTA				LR	LR			
	comp=Z,7μm,22.5s							
GTA				LR	LR			
	comp=Z,21μm,22.2s							
GTA				LR	LR			
	comp=Z,34μm,22.2s							
TIA	**Tai'an**	**172.05**	**287**	PKP	**PKPdf**	**18**	**48**	**13.3 -0.1**
TIA				PP	**PP**	**18**	**53**	**32.9 +4.5**
TIA				SS	SS	19	14	39.3 +2.3
TIA				AMB	AMB			
	comp=Z,3μm,6.0s							
TIA				LR	LR			
	comp=Z,10μm,18.4s							
TIA				LR	LR			
	comp=Z,22μm,20.0s							
TIA				LR	LR			
	comp=Z,29μm,19.0s							
GYA	**Guiyang**	**172.17**	**173**	⇑PKP	**PKPdf**	**18**	**48**	**13.5 -0.4**
GYA				PKPab	**PKPab**	**18**	**49**	**38.0 +0.7**
GYA				PP	**PP**	**18**	**53**	**27.2 -0.2**
GYA				SS	SS	19	14	35.1 -0.1
GYA				LR	LR			
	comp=Z,11μm,20.1s							
GYA				LR	LR			
	comp=Z,7μm,18.6s							
GYA				LR	LR			
	comp=Z,15μm,20.3s							
HHC	**Hu-ho-hao-te**	**172.75**	**336**	*e*PKP	**PKPdf**	**18**	**48**	**13.6 -0.1**
HHC				PP	**PP**	**18**	**53**	**31.9 +1.3**
HHC				SS	SS	19	14	39.4 -2.1
HHC				LR	LR			
	comp=Z,21μm,16.8s							
HHC				LR	LR			
	comp=Z,20μm,16.0s							
HHC				LR	LR			
	comp=Z,39μm,15.3s							
WHN	**Wuhan**	**173.27**	**238**	PKP	**PKPdf**	**18**	**48**	**15.5 +1.4**
WHN				PP	**PP**	**18**	**53**	**40.8 +6.8**
WHN				SKKS		19	00	19.9
WHN				LR	LR			
	comp=Z,31μm,23.0s							
WHN				LR	LR			
	comp=Z,27μm,21.2s							
WHN				LR	LR			
	comp=Z,55μm,24.1s							
BTO	**Baotou**	**173.41**	**344**	*e*PKP	**PKPdf**	**18**	**48**	**14.1 +0.1**
BTO				PP	**PP**	**18**	**53**	**33.5 -0.2**
BTO				LR	LR			
	comp=Z,42μm,18.4s							
BTO				LR	LR			
	comp=Z,42μm,18.0s							
BTO				LR	LR			
	comp=Z,75μm,19.0s							
HNS	**HongShan**	**173.51**	**301**	⇑PKP	**PKPdf**	**18**	**48**	**14.7 +0.8**
HNS				PP	**PP**	**18**	**53**	**37.5 +2.3**
HNS				SS	SS	19	14	55.9 +5.4
HNS				LR	LR			
	comp=Z,22μm,21.6s							
HNS				LR	LR			
	comp=Z,11μm,23.5s							
HNS				LR	LR			
	comp=Z,33μm,22.6s							
TIY	**Taiyuan**	**174.85**	**313**	*e*PKP	**PKPdf**	**18**	**48**	**14.8 +0.3**
TIY				PP	**PP**	**18**	**53**	**44.3 +2.8**
TIY				AMB	AMB			
	comp=Z,830nm,6.7s							
TIY				LR	LR			
	comp=Z,13μm,17.2s							
TIY				LR	LR			
	comp=Z,16μm,19.9s							
TIY				LR	LR			
	comp=Z,32μm,20.6s							
CD2	**Chengdu**	**175.28**	**134**	PKP	**PKPdf**	**18**	**48**	**15.0 +0.2**
CD2				sPKP		18	48	20.5
CD2				PP	**PP**	**18**	**53**	**42.0 -1.5**
CD2				SKKS		19	00	31.6
CD2				SS	**SS**	**19**	**15**	**03.7 -3.2**
CD2				AMB	AMB			
	comp=Z,8μm,6.7s							
CD2				LR	LR			
	comp=Z,20μm,19.2s							
CD2				LR	LR			
	comp=Z,19μm,21.0s							
CD2				LR	LR			
	comp=Z,26μm,21.0s							
LYN	**LuoYang**	**176.05**	**275**	⇓PKP	**PKPdf**	**18**	**48**	**16.4 +1.6**
LYN				SKKS		19	00	33.5
LYN				AMB	AMB			
	comp=Z,4μm,11.1s							
LYN				LR	LR			
	comp=Z,17μm,21.0s							
LYN				LR	LR			
	comp=Z,11μm,21.6s							
LYN				LR	LR			
	comp=Z,22μm,20.6s							
LZH	**Lanzhou**	**176.35**	**59**	⇑PKP	**PKPdf**	**18**	**48**	**15.8 +0.7**
LZH				PKPab	**PKPab**	**18**	**49**	**59.0 +3.0**
LZH				PP	**PP**	**18**	**53**	**50.2 +1.0**
LZH				SKKS		19	00	37.4
LZH				AMB	AMB			
	comp=Z,9μm,11.0s							
LZH				LR	LR			
	comp=Z,28μm,21.4s							
LZH				LR	LR			
	comp=Z,21μm,21.0s							
LZH				LR	LR			
	comp=Z,24μm,22.0s							
XAN	**Xi'an**	**178.97**	**258**	PKP	**PKPdf**	**18**	**48**	**15.4 +0.1**
XAN				PKPab	**pPKPab**	**18**	**50**	**13.1 -1.9**
XAN				PP	**PP**	**18**	**54**	**03.9 +2.2**
XAN				SKKS		19	00	46.5
XAN				LR	LR			
	comp=Z,14μm,19.2s							
XAN				LR	LR			
	comp=Z,28μm,18.4s							
XAN				LR	LR			
	comp=Z,40μm,21.5s							

*NEIC **01** 18:32:03.3±1.4, 19°.191N±0°.009×155°.64W±0°.01, h10km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=242.0*

HVO 01 18:32:03.2±1.1, 19°.193N±0°.009×155°.68W±0°.02, h6km±3km, ML2.7/12, ML2.5/36(NEIC), Error ellipse: s-maj=2.2km s-min=1.3km az=79.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHU	**Kahuku**	**0.08**	**50**		Pg	18 32 06.0	+0.6
KHU					Sg	18 32 07.5	+0.5
HPO	**Honuapo**	**0.16**	**130**		Sg	18 32 09.9	+1.2
HPO	**Honuapo**	**0.16**	**130**	Pg	Pg	18 32 06.5	0.0
HTC	**Hot Caves**	**0.27**	**81**		Pg	18 32 08.8	+0.1
AIN	**Ainahou**	**0.28**	**50**	Pg	Pg	18 32 09.1	+0.3
MWH	**Mokuaweoweo**	**0.30**	**16**	Pg	Pg	18 32 09.0	-0.4
MWH				IAML		18 32 18.1	
	comp=E,522nm,1.4s						
ALEP	**Alea Permanent**	**0.35**	**6**		Pg	18 32 10.1	-0.1
ALEP					Sg	18 32 15.7	+0.8
CPH	**Captain Cook**	**0.37**	**323**		Pg	18 32 10.5	+0.1
HLP	**Hilina Pali**	**0.37**	**74**		Pg	18 32 11.0	+0.6
HLP					Sg	18 32 15.9	+0.6
HLP	**Hilina Pali**	**0.37**	**74**	IAML		18 32 22.1	
	comp=N,696nm,1.0s						
MLH	**Mauna Loa**	**0.41**	**43**	Pg	Pg	18 32 11.0	-0.3
MLH				Sg	Sb	18 32 18.2	-1.4
SDHHI	**Sand Hill**	**0.42**	**62**		Pg	18 32 11.2	-0.2
SDHHI					Sg	18 32 17.4	+0.5
WRMHI	**West Rim**	**0.42**	**59**		Pg	18 32 11.5	+0.1
WRMHI					Sg	18 32 17.8	+0.8
UWE	**Uwekahuna**	**0.43**	**58**		Pg	18 32 10.3	-1.4
UWE				IAML		18 32 25.9	
	comp=E,549nm,1.4s						
UWE				IAML		18 32 26.6	
	comp=N,458nm,0.4s						
RIM	**Rim**	**0.44**	**62**		Pg	18 32 11.5	-0.3
RIM					Sg	18 32 17.9	+0.5
OBL	**Observatory Le**	**0.44**	**59**		Pg	18 32 11.6	-0.2
OBL					Sg	18 32 18.1	+0.5
KKO	**Keanakako'i**	**0.44**	**63**		Pg	18 32 11.8	0.0
KKO					Sg	18 32 18.2	+0.5
UWB	**Uwekahuna Bluf**	**0.45**	**59**		Pg	18 32 11.9	-0.1
HMH	**Humu'ula Sheep**	**0.45**	**25**		Sg	18 32 18.2	+0.2
HMH	**Humu'ula Sheep**	**0.45**	**25**		Pg	18 32 11.2	-0.8
HMH				IAML		18 32 20.6	
	comp=E,617nm,0.2s						
HMH				IAML		18 32 20.9	
	comp=N,764nm,0.2s						
BYL	**Byron's Ledge**	**0.46**	**61**	Pg	Pg	18 32 10.7	-1.4
BYL				IAML		18 32 22.4	
	comp=E,299nm,1.8s						
BYL				IAML		18 32 25.4	
	comp=N,341nm,2.3s						
SBLHI	**Steaming Bluff**	**0.46**	**59**		Pg	18 32 11.6	-0.5
SBLHI					Sg	18 32 18.0	-0.1
HATHI	**Halema'uma'u T**	**0.46**	**60**		Sg	18 32 18.6	+0.3
HATHI	**Halema'uma'u T**	**0.46**	**60**	Pg	Pg	18 32 11.5	-0.7
HATHI				IAML		18 32 24.1	
	comp=E,265nm,0.9s						
HATHI				IAML		18 32 26.6	
	comp=N,243nm,1.2s						
PUH	**Pauahi**	**0.48**	**68**	Pg	Pg	18 32 11.2	-1.3
PUH				IAML		18 32 22.6	
	comp=N,330nm,2.2s						
HUH	**Hualalai**	**0.51**	**344**		Pg	18 32 12.7	-0.5
STCH	**Steam Cracks**	**0.56**	**70**	Pg	Pg	18 32 12.8	-1.3
STCH				IAML		18 32 22.9	
	comp=N,236nm,3.0s						
JOKA	**Jonika Flow**	**0.68**	**69**	Pg	Pg	18 32 15.1	-1.4
JOKA				IAML		18 32 31.6	
	comp=E,231nm,2.3s						
JOKA				IAML		18 32 33.2	
	comp=N,282nm,1.9s						

*IDC **01** 18:36:14.1±5.9, 45°.66N×152°.41E, h0km, mb3.4/4, mbtmp3.5/8, ML3.3/4, Error ellipse: s-maj=116.2km s-min=30.1km az=135.0*
*MOS **01** 18:36:15.4±1.1, 45°.53N×152°.55E, h38km, mb4.3/1, Error ellipse: s-maj=21.8km s-min=10.6km az=157.1*
*SKHL **01** 18:36:17.6±0.5, 45°.20N×152°.50E, h59km±4km, mb4.8/6*
*JMA **01** 18:36:18.4±0.8, 46°.N±6°×15°.2E±°, h30km, MV4.5/12, KURILE ISLANDS REGION*

ISC 01 18:36:16.3±1.4, 45°.1N±0°.1×152°.6E±0°.1, h60km, n34, σ2s39/46, mb3.5/3, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.34**	**274**	*e*PN	**Pn**	**18**	**37**	**05.9 -0.2**
KUR	**Kuril'sk**	**3.34**	**274**	*e*P	**Pn**	**18**	**37**	**06.3 +0.2**
KUR				AMB	AMB	18	37	12.7
	60nm,0.4s							
KUR				*i* S	**Sn**	**18**	**37**	**41.4 -3.2**
KUR				A	A	18	37	51.7
	220nm,0.4s							
KUR				A	A	18	37	51.7
	230nm,0.4s							
SHO	**Shikotan**	**4.30**	**255**	*e*PN	**Pn**	**18**	**37**	**22.3 +3.1**
SHO				pmax	pmax			
	comp=Z,38nm,0.3s							
SHO				pmax	pmax			
	comp=N,12nm,0.2s							
SHO				pmax	pmax			
	comp=E,18nm,0.2s							
SHO	**Shikotan**	**4.30**	**255**	*e*P	**Pn**	**18**	**37**	**21.0 +1.8**
SHO				AMB	AMB	18	37	24.9
	comp=E,20nm,0.2s							
SHO				*e*S	**Sn**	**18**	**38**	**07.7 -0.4**
SHO				A	A	18	38	16.5
	comp=E,90nm,0.3s							
SHO				A	A	18	38	16.5
	comp=E,40nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.93**	**260**	*c i*PN	**Pn**	**18**	**37**	**29.0 +1.2**
YUK				pmax	pmax			
	comp=N,10.0nm,0.2s							
YUK				pmax	pmax			
	comp=Z,139nm,0.2s							
YUK				pmax	pmax			
	comp=E,5.0nm,0.1s							
YUK	**Yuzh-Kuril'sk**	**4.93**	**260**	*i* P	**Pn**	**18**	**37**	**29.0 +1.2**
YUK				AMB	AMB	18	37	30.3
	comp=E,130nm,0.4s							
YUK				*e*S	**Sn**	**18**	**38**	**22.0 -1.4**
YUK				A	A	18	38	37.2
	comp=E,220nm,0.5s							
YUK				A	A	18	38	37.2
	comp=E,100nm,0.5s							
NEM2	**Nemuro 2**	**5.22**	**253**	P	**Pn**	**18**	**37**	**32.3 +0.5**
NEM2				*e*S	**Sn**	**18**	**38**	**28.7 -1.9**
NMR	**Nemuro--Hokkai**	**5.23**	**253**	*i*PN	**Pn**	**18**	**37**	**32.4 +0.5**
NMR	**Nemuro--Hokkai**	**5.23**	**253**	*i* P	**Pn**	**18**	**37**	**32.4 +0.5**
NMR				*e*S	**Sn**	**18**	**38**	**27.8 -3.0**
GLVR	**Golovnino**	**5.25**	**257**	*e*PN	**Pn**	**18**	**37**	**33.9 +1.8**
GLVR				pmax	pmax			
	comp=N,103nm,0.2s							
GLVR				pmax	pmax			
	comp=E,55nm,0.2s							
GLVR				pmax	pmax			
	comp=Z,88nm,0.2s							
GLVR	**Golovnino**	**5.25**	**257**	*e*P	**Pn**	**18**	**37**	**33.9 +1.8**
GLVR				AMB	AMB	18	37	40.0
	comp=Z,90nm,0.3s							
GLVR				*e*S	**Sn**	**18**	**38**	**28.8 -2.5**
GLVR				A	A	18	38	40.8
	comp=Z,110nm,0.4s							
GLVR				A	A	18	38	40.8
	comp=Z,180nm,0.4s							
RUSJ	**Misakicho**	**5.34**	**262**	*e*PN	**Pn**	**18**	**37**	**36.1 +2.7**
JRA	**Rausu**	**5.47**	**260**	*e*P	**Pn**	**18**	**37**	**37.3 +2.2**
JRA				*e*S	**Sn**	**18**	**38**	**36.1 -0.5**
JNK	**Nakash**	**5.85**	**258**	*e*P	**Pn**	**18**	**37**	**41.9 +1.5**
JNK				*e*S	**Sn**	**18**	**38**	**45.5 -0.6**
AKK	**Akkeshi**	**5.96**	**252**	*i* P	**Pn**	**18**	**37**	**43.5 +1.6**
AKK				*e*S	**Sn**	**18**	**38**	**46.8 -2.0**
JAK	**Akkeshi**	**6.07**	**252**	*e*P	**Pn**	**18**	**37**	**44.1 +0.7**
JAK				*e*S	**Sn**	**18**	**38**	**47.6 -3.8**
JTKR	**Abashiri--Toko**	**6.31**	**263**	*e*P	**Pn**	**18**	**37**	**48.7 +2.0**
JAR	**Ashorobuto**	**6.59**	**257**	*e*P	**Pn**	**18**	**37**	**52.9 +2.3**
JAR				*e*S	**Sn**	**18**	**39**	**01.1 -3.3**
YSS	**Yuzhno-Sakhali**	**7.09**	**289**	*e*P	**Pn**	**18**	**37**	**58.6 +1.2**
YSS				AMB	AMB	18	38	01.5
	comp=Z,20nm,0.4s							
YSS				*e*S	**Sn**	**18**	**39**	**13.2 -3.3**
YSS				A	A	18	39	18.1
	comp=Z,10.0nm,0.3s							
YSS				A	A	18	39	18.1
	comp=Z,10.0nm,0.3s							
JCH	**Churui**	**7.12**	**253**	P	**Pn**	**18**	**37**	**58.9 +1.1**
JKK2	**Kamakawa 2**	**7.15**	**264**	*e*P	**Pn**	**18**	**38**	**00.9 +2.7**
JKA	**Kamikawa-asahi**	**7.20**	**266**	*e*P	**Pn**	**18**	**38**	**01.5 +2.6**
ASAJ	**Asahikawa**	**7.20**	**266**	Pn	**Pn**	**18**	**38**	**01.5 +2.6**
	comp=Z,1.7nm,0.3s,baz=76,slow=11,SNR=17							
	comp=Z,3.6nm,0.3s							
JNBK	**Urakawa-nobuka**	**7.67**	**252**	*e*P	**Pn**	**18**	**38**	**08.3 +3.0**
PETK	**Petropavlovsk-**	**8.68**	**21**	Pn	**Pn**	**18**	**38**	**15.4 -3.7**
	comp=Z,0.2nm,0.3s,baz=203,slow=13,SNR=8.4							
	comp=Z,2.5nm,1.2s							
JANG	**Nango**	**9.42**	**244**	*e*P	**Pn**	**18**	**38**	**29.3 0.0**
JANG				*e*S	**Sn**	**18**	**40**	**06.5 -7.1**
MJAR	**Matsushiro Arr**	**13.83**	**237**	Pn	**P**	**18**	**39**	**35.2 -0.7**
	baz=46,slow=35,SNR=1.7							
	comp=Z,0.3nm,0.3s							
USRK	**Ussuriysk Ar.**	**14.69**	**274**	Pn	**Pn**	**18**	**39**	**41.2 +0.6**
	comp=Z,0.2nm,0.3s,baz=76,slow=10,SNR=4.2							
	comp=Z,1.8nm,0.7s							
KSRS	**Korea Array**	**20.00**	**256**	P	Pn	18	40	47.5 +1.4
	comp=Z,0.6nm,0.6s,baz=64,slow=9.8,SNR=1.3							
	comp=Z,0.6nm,0.6s							
SONM	**Songino Array**	**31.57**	**292**	P	**P**	**18**	**42**	**36.0 +2.9**
	comp=Z,0.4nm,0.6s,baz=88,slow=7.6,SNR=2.5							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**47.39**	**298**	P	**P**	**18**	**44**	**46.6 +2.2**
	comp=Z,0.3nm,0.5s,baz=78,slow=8.4,SNR=5.9							
	comp=Z,0.3nm,0.5s							
KURK	**Kurchatov**	**47.99**	**305**	P	**P**	**18**	**44**	**51.1 +2.2**
KURK	**Kurchatov**	**47.99**	**305**	*e*P	**P**	**18**	**44**	**51.1 +2.2**
KURBB	**Kurchatov Arra**	**48.08**	**305**	P	**P**	**18**	**44**	**51.1 +1.6**
	comp=Z,0.4nm,0.6s,baz=74,slow=8.5,SNR=6.4							
	comp=Z,0.4nm,0.6s							

AUST 01 18:42:49.7±0.5, 25°.S±3°×11°.7E±°, h10km, mb3.9/3, ML3.0/5, ML3.7/7, Error ellipse: s-maj=10.0km s-min=6.3km az=62.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEEK	**Meekatharra**	**2.03**	**130**	P	Pn	18	43	24.2 +0.2
MEEK				S	Sn	18	43	49.2 -0.2
CVQOZ	**Cooralya Stati**	**2.70**	**288**	P	Pn	18	43	32.1 -1.0
GIRL	**Giralia**	**3.61**	**317**	P	Pn	18	43	45.1 -0.5
MORW	**Morawa**	**3.80**	**191**	P	Pn	18	43	49.5 +1.1
MORW	**Morawa**	**3.80**	**191**	S	Sn	18	44	34.9 +1.8
BLDU	**Ballidu**	**5.27**	**182**	P	Pn	18	44	09.9 +1.4
	comp=Z,0.1nmcomp=Z,53μmcomp=Z,21nm,2.3s							
BLDU	**Ballidu**	**5.27**	**182**	S	Sn	18	45	08.9 -0.4
KLBR	**Kellerberrin**	**6.29**	**173**	P	Pn	18	44	23.6 +1.1
	comp=Z,0.0nmcomp=Z,34μmcomp=Z,10nm,0.9s							
MUN	**Mundaring**	**6.65**	**185**	P	Pn	18	44	28.3 +0.8
	comp=Z,0.1nmcomp=Z,64μmcomp=Z,20nm,1.3s							
MUN	**Mundaring**	**6.65**	**185**	S	Sn	18	45	42.5 -0.9

IDC 01 19:02:14.7±5.8, 4°.07S×152°.38E, h165km±48km, mb3.2/4, mbtmp3.7/5, Error ellipse: s-maj=116.1km s-min=24.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.42**	**224**	P	Pn	19	04	00.2 -0.2
	4.2nm,0.3s,baz=29,slow=10,SNR=1.4							
PMG				S	Sn	19	05	23.1 -0.4
	6.4nm,0.4s,baz=346,slow=19,SNR=7.6							
WRA	**Warramunga Arr**	**23.63**	**227**	P		19	07	11.7 +0.8
	1.2nm,0.3s,baz=52,slow=10,SNR=26							
	1.2nm,0.3s							
ASAR	**Alice Springs**	**26.42**	**221**	P	P	19	07	35.9 -0.3
	0.1nm,0.3s,baz=44,slow=9.2,SNR=4.6							
	0.1nm,0.3s							
PETK	**Petropavlovsk-**	**57.14**	**4**	P	P	19	11	44.6 +0.7
	0.4nm,0.5s,baz=178,slow=7.4,SNR=4.7							
	0.4nm,0.5s							
ILAR	**Eielson Array**	**81.64**	**22**	P	P	19	14	12.7 -1.4
	0.4nm,0.8s,baz=225,slow=4.7,SNR=3.4							
	0.4nm,0.8s							

KRNET 01 19:11:09.3±0.1, 39°.33N×72°.83E, h16km, mb2.6, 6C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**1.19**	**359**	⇑*i*P	Pg	19	11	32.2 -0.1
OHH				⇑*i*S	Sg	19	11	48.7 +0.9
SALK	**Salom-Alik**	**1.73**	**26**	⇓*i*P	Pb	19	11	41.6 +0.9
SALK				⇓*i*S	Sg	19	12	05.5 +0.6
GAR	**Garm**	**1.98**	**261**	⇑*i*P	Pg	19	11	46.2 -1.1
GAR				⇑*i*S	Sg	19	12	13.0 0.0
JNKS	**Jany-Kuch**	**2.77**	**51**	⇑*i*P	Pb	19	11	57.2 -1.3
JNKS				⇑*i*S	Sb	19	12	32.3 0.0

*GUC **01** 19:21:31.1±0.8, 34°.22S×72°.26W, h22km±7km, ML3.6*
*SJA **01** 19:21:45.3±0.6, 34°.79S×69°.84W, h181km, ML3.5, MW3.9*

ISC 01 19:21:31.1±1.7, 34°.20S±0°.04×72°.17W±0°.09, h16km±9km, n27, σ1s47/36, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**0.34**	**150**	⇑*e*P	**Pg**	**19**	**21**	**38.6 +0.3**
BO03				*e*S	**Sg**	**19**	**21**	**43.9 +0.7**
BO03				IAML		19	21	44.5
	comp=E,14μm,0.5s							
VA05	**Santo Domingo**	**0.71**	**41**	*e*P	**Pg**	**19**	**21**	**45.2 +0.2**
VA05				*e*S	**Sg**	**19**	**21**	**55.3 +0.9**
VA05				IAML		19	22	00.5
	comp=E,4μm,0.5s							
MT01	**Popeta**	**0.83**	**67**	*e*P	**Pg**	**19**	**21**	**46.6 -0.7**
MT01				*e*S	**Sg**	**19**	**21**	**58.3 0.0**
BO01	**Tunca**	**0.92**	**102**	⇓*e*P	**Pg**	**19**	**21**	**47.5 -1.5**
BO01				*e*S	**Sg**	**19**	**22**	**01.0 0.0**
MT09	**Talagante**	**1.07**	**67**	*e*P	**Pb**	**19**	**21**	**50.4 -0.9**
MT09				IAML		19	22	08.7
	comp=E,1μm,0.7s							
MT02	**Curacav**	**1.27**	**43**	⇑*e*P	**Pn**	**19**	**21**	**53.5 -0.7**
MT02				*e*S	**Sb**	**19**	**22**	**10.7 -0.1**
BO02	**Sierra Bellavi**	**1.29**	**118

MT10	**Hacienda Santa**	**1.64**	**56**	*eP*		**Pn**	**19 22 00.0**	**+0.5**
MT10				*eS*		**Sn**	**19 22 21.9**	**+1.5**
MT10				IAML			19 22 26.4	
	comp=N,1μm,0.3s							
VA03	**San Esteban**	**1.97**	**44**	*eP*		**Pn**	**19 22 06.0**	**+2.1**
VA03				IAML			19 22 39.1	
	comp=E,1μm,0.6s							
VA03	**San Esteban**	**1.97**	**44**	*eP*		**Sg**	**19 22 34.6**	**+0.1**
VA03				IAML			19 23 19.9	
	comp=Z,82nm,0.8s							
AAGR	**Agrelo**	**3.00**	**69**	*eP*		**Pn**	**19 22 20.5**	**+2.4**
AAGR				IAML			19 23 17.1	
	comp=Z,94nm,4.8s							
ARCO	**CERRO ARCO**	**3.02**	**64**	*eP*		**Pb**	**19 22 25.4**	**+0.8**
ARCO				IAML			19 23 12.2	
	comp=Z,78nm,1.5s							
AUSP	**Uspallata**	**3.05**	**51**	*eP*		**Pn**	**19 22 17.5**	**-1.5**
ASAL	**Salagasta**	**3.22**	**61**	*eP*		**Pb**	**19 22 27.3**	**-0.6**
RTLS	**Leoncito**	**3.40**	**46**	*eP*		**Pn**	**19 22 22.0**	**-1.7**
RTLS				IAML			19 23 26.6	
	comp=Z,282nm,0.7s							
ZON	**Zonda**	**3.95**	**49**	*eP*		**Pb**	**19 22 39.2**	**-1.2**
ZON				IAML			19 23 48.3	
	comp=Z,48nm,1.0s							
RTLL	**Cerro Villicun**	**4.23**	**48**	*eP*		**Pb**	**19 22 43.2**	**-1.9**
ACCO	**Cerro Coronel**	**4.46**	**37**	*eP*		**Pn**	**19 22 36.0**	**-2.3**
AROD	**Rodeo**	**4.62**	**30**	*eP*		**Pn**	**19 22 43.2**	**+2.6**
ACDV	**Cuesta del Vie**	**4.78**	**34**	*eS*		**Sb**	**19 23 48.2**	**-3.6**
ACDV				IAML			19 24 23.9	
	comp=Z,121nm,0.3s							
AVFE	**Valle Fertil**	**5.32**	**50**	*eP*		Pn	19 22 55.5	+5.5
AVFE				IAML			19 24 08.3	
	comp=Z,44nm,0.8s							
APLL	**PUNTA DE LOS L**	**6.10**	**53**	*eP*		**Pn**	**19 23 02.3**	**+1.7**

SJA 01 19:29:22.0±1.2, 34˚02S×73˚23W, h10km, ML3.6, MW3.3,
Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**2.12**	**61**	*eP*	Pb	19 30 00.1	-0.6
ROC1				*eS*	Sb	19 30 27.3	0.0
PEL	**Peldehue**	**2.30**	**68**	*eP*	Pn	19 29 59.5	-0.6
PEL				*eS*	Sn	19 30 29.0	+0.6
PEL				IAML		19 30 34.8	
	comp=Z,420nm,0.5s						
VA03	**San Esteban**	**2.57**	**62**	*eP*	Pb	19 30 06.2	-2.0
VA03				IAML		19 31 03.0	
	comp=Z,167nm,0.6s						
AUSP	**Uspallata**	**3.69**	**62**	*eP*	Pn	19 30 21.0	+1.6
AUSP				*eS*	Sb	19 31 08.3	-4.1
ARCO	**CERRO ARCO**	**3.78**	**73**	*eP*	Pn	19 30 23.5	+3.0
ARCO				IAML		19 31 33.2	
	comp=Z,51nm,2.0s						
AAGR	**Agrelo**	**3.79**	**77**	*eP*	Pn	19 30 24.4	+3.8
AAGR				IAML		19 31 30.7	
	comp=Z,58nm,3.5s						
ASAL	**Salagasta**	**3.95**	**70**	*eP*	Pn	19 30 25.2	+2.5
ASAL				*eS*	Sn	19 31 13.6	+4.5
ASAL				IAML		19 31 20.0	
	comp=Z,0.0nm,3.3s						
RTLS	**Leoncito**	**3.98**	**57**	*eP*	Pn	19 30 26.1	+2.7
RTLS				IAML		19 31 37.5	
	comp=Z,187nm,0.9s						
ACCO	**Cerro Coronel**	**4.92**	**47**	*eP*	Pn	19 30 39.9	+3.7
AROD	**Rodeo**	**4.99**	**41**	*eP*	Pn	19 30 42.1	+4.8
AVFE	**Valle Fertil**	**5.93**	**57**	*eP*	Pn	19 30 50.2	+0.3
AVFE				*eS*	Sn	19 32 01.9	+4.0
AVFE				IAML		19 32 06.8	
	comp=Z,30nm,1.1s						
APLL	**PUNTA DE LOS L**	**6.73**	**59**	*eP*	Pn	19 31 00.8	-0.2

*IDC **01** 19:36:24.2±0.6, 34˚15S×71˚87W, h0km, mb4.4/13, mbtmp4.3/17, ML4.0/4, Error ellipse: s-maj=20.1km s-min=12.9km az=107.0*
*NEIC **01** 19:36:25.6±1.5, 34˚19S±0˚04×72˚19W±0˚05, h10km±1km, mb4.9/89, ML4.6(GUC), Error ellipse: s-maj=7.8km s-min=6.7km az=303.0*
*SJA **01** 19:36:26.3±0.8, 34˚18S×72˚06W, h30km±4km, ML4.6, MW4.9*
*VAO **01** 19:36:26.0±0.5, 34˚15S×72˚10W, h10km, mb4.8*
*GUC **01** 19:36:26.8±0.8, 34˚20S×72˚19W, h18km±3km, ML4.6*
ISC 01 19:36:26.5±1.0, 34˚17S±0˚02×72˚08W±0˚04, h17km±6km, n219, σ1↑36/216, mb4.8/55, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.34**	**163**	*eP*	**Pb**	**19 36 34.6**	**+0.4**
BO03				*i* S	**Sb**	**19 36 39.7**	**+0.4**
BO03				IAML		19 36 40.5	
	comp=E,43μm,0.3s						
VA05	**Santo Domingo**	**0.64**	**37**		**Pn**	**19 36 40.7**	**-0.1**
VA05	**Santo Domingo**	**0.64**	**37**	*eP*	**Pn**	**19 36 40.9**	**+0.1**
VA05				*i* S	**Sn**	**19 36 50.9**	**+0.3**
VA05				IAML		19 36 55.3	
	comp=E,76μm,0.4s						
MT01	**Popeta**	**0.76**	**66**		**Pn**	**19 36 42.0**	**-0.4**
MT01	**Popeta**	**0.76**	**66**	*eP*	**Pn**	**19 36 42.2**	**-0.2**
MT01				*i* S	**Sn**	**19 36 53.2**	**-0.1**
MT01	**Popeta**	**0.76**	**66**	*eP*	**Pg**	**19 36 41.5**	**+0.2**
MT01				IAML		19 36 56.9	
	comp=Z,13μm,0.3s						
BO01	**Tunca**	**0.86**	**105**		**Pb**	**19 36 42.9**	**0.0**
BO01	**Tunca**	**0.86**	**105**	*eP*	**Pb**	**19 36 42.5**	**-0.4**
BO01				IAML		19 37 01.8	
	comp=Z,11μm,0.7s						
MT09	**Talagante**	**0.99**	**67**		**Pn**	**19 36 45.8**	**0.0**
MT09	**Talagante**	**0.99**	**67**	*eP*	**Pn**	**19 36 45.9**	**+0.2**
MT09				*i* S	**Sn**	**19 37 00.2**	**+0.8**
MT09				IAML		19 37 05.6	
	comp=N,18μm,0.5s						
VA01	**Torpederas**	**1.20**	**18**		**Pg**	**19 36 49.3**	**-0.4**
VA01	**Torpederas**	**1.20**	**18**	*eP*	**Pg**	**19 36 49.4**	**-0.4**
VA01				*i* S	**Sg**	**19 37 05.8**	**+0.4**
VA01				IAML		19 37 12.3	
	comp=N,8μm,0.7s						
VA01	**Torpederas**	**1.20**	**18**	*eP*	**Pb**	**19 36 48.9**	**+0.2**
VA01				IAML		19 37 10.7	
	comp=Z,8μm,1.0s						
MT02	**Curacav**	**1.20**	**41**		**Pb**	**19 36 49.1**	**+0.3**
MT02	**Curacav**	**1.20**	**41**	*eP*	**Pb**	**19 36 49.1**	**+0.3**
MT02				*i* S	**Sg**	**19 37 07.1**	**+1.6**
MT02	**Curacav**	**1.20**	**41**	*eP*	**Pn**	**19 36 48.6**	**+0.1**
MT02				IAML		19 37 16.2	
	comp=Z,8μm,0.7s						
BO04	**La Punta**	**1.24**	**82**		**Pb**	**19 36 49.7**	**+0.3**
BO04	**La Punta**	**1.24**	**82**	*eP*	**Pb**	**19 36 49.8**	**+0.4**
BO04				*i* S	**Sg**	**19 37 07.9**	**+1.3**
BO04				IAML		19 37 12.7	
	comp=N,17μm,0.5s						
BO02	**Sierra Bellavi**	**1.24**	**120**		**Pg**	**19 36 50.0**	**-0.5**
BO02	**Sierra Bellavi**	**1.24**	**120**	*eP*	**Pb**	**19 36 49.4**	**-0.2**
BO02				*i* S	**Sg**	**19 37 07.2**	**+0.4**
BO02				IAML		19 37 11.4	
	comp=N,26μm,0.3s						
BO02	**Sierra Bellavi**	**1.24**	**120**	*eP*	**Pb**	**19 36 49.5**	**0.0**
BO02				IAML		19 37 10.3	
	comp=Z,14μm,0.5s						
MT12	**Pirque**	**1.35**	**72**	*eP*	**Pb**	**19 36 51.8**	**+0.5**
MT12				*i* S	**Sg**	**19 37 11.0**	**+0.8**
MT12				IAML		19 37 13.7	
	comp=E,26μm,0.6s						
MT05	**Renca**	**1.36**	**56**		**Pb**	**19 36 51.9**	**+0.3**
MT05	**Renca**	**1.36**	**56**	*eP*	**Pb**	**19 36 51.9**	**+0.3**
MT05				*i* S	**Sg**	**19 37 11.5**	**+0.9**
MT05				IAML		19 37 19.5	
	comp=E,20μm,0.5s						
MT05	**Renca**	**1.36**	**56**	*eP*	**Pb**	**19 36 51.6**	**0.0**
MT05				IAML		19 37 13.6	
	comp=Z,8μm,1.2s						
MT15	**Las Vizcachas**	**1.43**	**67**	*eP*	**Pb**	**19 36 53.1**	**+0.4**
MT15				*i* S	**Sg**	**19 37 13.4**	**+0.6**
ROC1	**El Roble**	**1.49**	**37**	*eP*	**Pn**	**19 36 48.9**	**-3.8**
ROCH	**El Roble**	**1.49**	**37**	*eP*	**Pn**	**19 36 53.9**	**+1.1**
ROCH				*eP*	**Pb**	**19 36 53.7**	**-0.2**
ROCH				*i* S	**Sg**	**19 37 15.1**	**+0.3**
ROCH				*i* S	**Sb**	**19 37 15.4**	**+2.8**
ROCH				IAML		19 37 25.9	
	comp=N,23μm,0.4s						
MT16	**CCHEN**	**1.50**	**61**		**Pb**	**19 36 54.0**	**+0.2**
MT16	**CCHEN**	**1.50**	**61**	*eP*	**Pg**	**19 36 54.7**	**-0.6**
MT16				*i* S	**Sg**	**19 37 15.6**	**+0.8**
MT14	**Cerro Cal¡n**	**1.50**	**60**	*eP*	**Pb**	**19 36 54.4**	**+0.4**
MT14				*i* S	**Sg**	**19 37 15.4**	**+0.4**
MT14				IAML		19 37 22.5	
	comp=E,26μm,0.8s						
PEL	**Peldehue**	**1.55**	**49**		**Pb**	**19 36 54.7**	**-0.1**
PEL	**Peldehue**	**1.55**	**49**	*eP*	**Pb**	**19 36 55.2**	**+0.4**
PEL				*i* S	**Sg**	**19 37 16.8**	**+0.2**
PEL				IAML		19 37 23.5	
	comp=E,13μm,0.5s						
PEL	**Peldehue**	**1.55**	**49**	*eP*	**Pn**	**19 36 49.8**	**-3.6**
MT10	**Hacienda Santa**	**1.57**	**56**	*eP*	**Pb**	**19 36 55.7**	**+0.6**
MT10				*i* S	**Sg**	**19 37 17.3**	**+0.1**
LMEL	**Las Melosas**	**1.59**	**79**		**Pb**	**19 36 55.5**	**-0.1**
LMEL	**Las Melosas**	**1.59**	**79**	*eP*	**Pb**	**19 36 55.7**	**+0.1**
LMEL				*i* S	**Sg**	**19 37 18.5**	**+0.5**
LMEL				IAML		19 37 22.1	
	comp=N,10μm,0.3s						
LMEL	**Las Melosas**	**1.59**	**79**	*eP*	**Pb**	**19 36 55.2**	**-0.4**
ML02	**Panimavida**	**1.68**	**161**		**Pn**	**19 36 55.7**	**+0.6**
ML02	**Panimavida**	**1.68**	**161**	*eP*	**Pn**	**19 36 55.8**	**+0.6**
ML02				*i* S	**Sb**	**19 37 17.7**	**-0.2**
ML02				IAML		19 37 24.5	
	comp=N,9μm,0.7s						
ML02	**Panimavida**	**1.68**	**161**	*eP*	**Pn**	**19 36 55.9**	**+0.8**
ML02				IAML		19 37 30.1	
	comp=Z,5μm,1.1s						
FCH	**Farellones**	**1.71**	**61**	*eP*	**Pb**	**19 36 57.6**	**-0.2**
FCH				*i* S	**Sg**	**19 37 22.1**	**+0.2**
VA06	**Catapilco**	**1.73**	**23**		**Pn**	**19 36 56.6**	**+0.8**
MT04	**Ro Olivares**	**1.79**	**65**	*eP*	**Pb**	**19 36 58.2**	**-0.8**
MT04				IAML		19 37 28.0	
	comp=Z,4μm,0.4s						
MT08	**Bocatoma Ro**	**1.87**	**68**		**Pb**	**19 36 60.0**	**-0.3**
MT08	**Bocatoma Ro**	**1.87**	**68**	*eP*	**Pb**	**19 37 00.4**	**+0.2**
MT08				*i* S	**Sg**	**19 37 26.0**	**-0.7**
MT08				IAML		19 37 34.5	
	comp=N,7μm,0.7s						
MT08	**Bocatoma Ro**	**1.87**	**68**	*eP*	**Pb**	**19 36 60.0**	**-0.3**
MT08				*eS*	**Sn**	**19 37 21.6**	**+0.5**
MT08				IAML		19 37 30.9	
	comp=Z,5μm,1.4s						
VA03	**San Esteban**	**1.90**	**43**	*eP*	**Pb**	**19 37 00.1**	**-0.7**
VA03				IAML		19 37 33.0	
	comp=Z,8μm,1.1s						
BI02	**San Fabin de**	**2.58**	**165**		**Pn**	**19 37 08.0**	**+0.6**
BI02	**San Fabin de**	**2.58**	**165**	*eP*	**Pn**	**19 37 08.1**	**+0.6**
BI02				IAML		19 37 52.2	
	comp=Z,1μm,1.0s						
EDS3	**Malargue**	**2.72**	**127**	*eP*	**Pn**	**19 37 09.2**	**-0.3**
EDS3				*eS*	**Sg**	**19 37 51.0**	**-3.1**
BI05	**Punta Hualpn**	**2.73**	**199**		**Pn**	**19 37 08.8**	**-0.7**
AAGR	**Agrelo**	**2.92**	**69**	*eP*	**Pn**	**19 37 13.2**	**+0.9**
AAGR				IAML		19 38 17.6	
	comp=Z,1μm,1.2s						
ARCO	**CERRO ARCO**	**2.95**	**64**	*eP*	**Pn**	**19 37 14.0**	**+1.3**
ARCO				IAML		19 38 09.0	
	comp=Z,2μm,1.1s						
RFA	**San Rafael**	**3.05**	**102**	*eP*	**Pn**	**19 37 12.7**	**-1.3**
RFA				IAML		19 38 12.8	
	comp=Z,709nm,0.7s						
AVIZ	**Vizcacheras**	**3.05**	**78**	*eP*	**Pn**	**19 37 14.4**	**+0.4**
CO02	**Combarbal**	**3.10**	**17**		**Pn**	**19 37 15.5**	**+0.8**
CO02	**Combarbal**	**3.10**	**17**	*eP*	**Pn**	**19 37 15.8**	**+1.2**
CO02				*eS*	**Sb**	**19 37 57.3**	**-1.4**
CO02				IAML		19 38 07.9	
	comp=Z,4μm,0.7s						
ASAL	**Salagasta**	**3.14**	**61**	*eP*	**Pn**	**19 37 16.9**	**+1.6**
ASAL				*eS*	**Sg**	**19 38 04.9**	**-2.6**
RTLS	**Leoncito**	**3.33**	**45**	*eP*	**Pn**	**19 37 16.5**	**-1.5**
RTLS				IAML		19 38 25.3	
	comp=Z,6μm,0.8s						
CO03	**El Pedregal**	**3.52**	**20**	*eP*	**Pn**	**19 37 22.5**	**+1.9**
CO03				*eS*	**Sb**	**19 38 13.6**	**+2.6**
CO03				IAML		19 38 24.7	
	comp=Z,2μm,1.1s						
ZON	**Zonda**	**3.88**	**49**		**Pn**	**19 37 28.1**	**+2.7**
ZON	**Zonda**	**3.88**	**49**	*eP*	**Pn**	**19 37 26.5**	**+1.1**
ZON				*eS*	**Sb**	**19 38 25.5**	**+4.3**
ZON				IAML		19 38 39.8	
	comp=Z,851nm,1.8s						
CFA	**Coronel Fontan**	**4.12**	**53**	Pn	**Pn**	**19 37 27.8**	**-0.9**
	comp=Z,3.5nm,0.3s,baz=248,slow=14,SNR=33						
CFA				Sn	**Sn**	**19 38 15.8**	**-0.8**
	comp=Z,22nm,0.3s,baz=245,slow=12,SNR=5.9						
CFA				Lg	Lg	19 38 27.7	
	comp=Z,12nm,0.3s,baz=294,slow=20,SNR=6.8						
	comp=Z,22nm,0.8s						
CFA	**Coronel Fontan**	**4.12**	**53**	*eP*	**Pn**	**19 37 29.1**	**+0.4**
CFA				*eS*	**Sb**	**19 38 26.6**	**-1.6**
GO04	**Tololo Observa**	**4.13**	**16**	*eP*	**Pn**	**19 37 30.3**	**+1.3**
GO04				*eS*	**Sb**	**19 38 24.5**	**-4.1**
ACCO	**Cerro Coronel**	**4.39**	**36**	*eP*	**Pn**	**19 37 30.4**	**-2.2**
ACCO				*eS*	**Sb**	**19 38 36.9**	**+0.8**
CO01	**Juntas del Tor**	**4.51**	**23**	*eP*	**Pn**	**19 37 36.4**	**+2.2**
CO01				*eS*	**Sb**	**19 38 40.9**	**+1.4**
CO01				IAML		19 38 56.5	
	comp=Z,861nm,0.8s						
AROD	**Rodeo**	**4.56**	**30**	*eP*	**Pn**	**19 37 39.1**	**+4.1**
AROD				*eS*	**Sb**	**19 38 42.0**	**+0.9**
AVFE	**Valle Fertil**	**5.25**	**49**	*eS*	**Sb**	**19 38 55.5**	**-5.2**
AVFE				IAML		19 39 03.1	
	comp=Z,648nm,0.9s						
LCO	**Las Campanas**	**5.28**	**13**		**Pn**	**19 37 45.1**	**+0.3**
LCO	**Las Campanas**	**5.28**	**13**	*eP*	**Pn**	**19 37 45.4**	**+0.6**
LCO				IAML		19 39 21.0	
	comp=Z,1μm,1.1s						
VA04	**Juan Fernndez**	**5.63**	**273**		**Pn**	**19 37 47.1**	**-2.4**
H03S1	**Juan Fernandez**	**5.68**	**271**	T	T	19 43 39.5	
	baz=93,slow=74,SNR=2397						
H03S3	**Juan Fernandez**	**5.68**	**272**	T	T	19 43 42.0	
	baz=93,slow=74,SNR=2343						
H03S2	**Juan Fernandez**	**5.69**	**271**	T	T	19 43 41.0	
	baz=93,slow=74,SNR=2345						
H03N1	**Juan Fernandez**	**5.73**	**275**	Pn	**Pn**	**19 37 50.6**	**+0.1**
	baz=132,slow=23						
H03N1				T	T	19 43 51.5	
	baz=90,slow=71,SNR=18						
H03N3	**Juan Fernandez**	**5.74**	**275**	Pn	**Pn**	**19 37 50.8**	**+0.2**
	baz=132,slow=23						
H03N3				T	T	19 43 53.8	
	baz=90,slow=71,SNR=22						
H03N2	**Juan Fernandez**	**5.75**	**275**	Pn	**Pn**	**19 37 51.0**	**+0.3**
	baz=132,slow=23						
H03N2				T	T	19 43 53.6	
	baz=90,slow=71,SNR=13						
LR04	**Corral**	**5.80**	**190**		**Pn**	**19 37 48.5**	**-3.2**
AC04	**Llanos de Chal**	**6.01**	**9**		**Pn**	**19 37 53.4**	**-1.2**
LR05	**Currie**	**6.05**	**179**		**Pn**	**19 37 55.6**	**+0.4**
PLCA	**Paso Flores**	**6.66**	**170**	Pn	**Pn**	**19 38 03.6**	**0.0**
	comp=Z,1.3nm,0.3s,baz=336,slow=11,SNR=26						
PLCA				Sn	**Sn**	**19 39 22.1**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=339,slow=13,SNR=1.7						
PLCA				Lg	Lg	19 39 45.0	
	comp=Z,1.2nm,0.3s,baz=260,slow=21,SNR=2.9						
	comp=Z,4.9nm,0.4s						
PLCA	**Paso Flores**	**6.66**	**170**	*eP*	**Pn**	**19 38 04.7**	**+1.1**
LL01	**San Ignacio de**	**8.20**	**182**	Pn	**Pn**	**19 38 24.3**	**-0.3**
TRQA	**Tornquist**	**9.05**	**118**		**Pn**	**19 38 40.2**	**+3.9**
PB03	**IPOC Station P**	**12.25**	**10**		**Pn**	**19 39 22.4**	**+2.1**
PB11	**IPOC Station P**	**14.51**	**9**		**Pn**	**19 39 50.4**	**-0.9**
GO01	**Chusmiza**	**14.67**	**11**	P	**Pn**	**19 39 54.6**	**+0.8**
CPUP	**Villa Florida**	**14.94**	**62**		**Pn**	**19 39 58.5**	**+1.5**
CPUP	**Villa Florida**	**14.94**	**62**	Pn	**Pn**	**19 39 54.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=7.0						
CPUP				Lg	Lg	19 43 56.9	
	comp=Z,0.1nm,0.3s,baz=323,slow=5.1,SNR=2.9						
	comp=Z,0.5nm,0.7s						
CPSB	**Cacapava Do Su**	**16.20**	**82**	*eP*	**P**	**19 40 15.6**	**-0.9**
PB18	**Visviri**	**16.68**	**9**	IAmb	IAmb	19 40 28.1	
	comp=Z,80nm,1.1s						
MURT	**Porto Murtinho**	**17.83**	**49**	*eP*	**P**	**19 40 34.3**	**-0.1**
LPAZ	**La Paz**	**18.16**	**12**	P	**P**	**19 40 38.9**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=190,slow=6.5,SNR=34						
	comp=Z,21nm,0.7s						
LPAZ	**La Paz**	**18.16**	**12**	*eP*	**P**	**19 40 40.1**	**+1.3**
ITAB	**Concordia**	**18.48**	**73**		**P**	**19 40 41.4**	**-0.2**
ITAB	**Concordia**	**18.48**	**73**	*eP*	**Pn**	**19 40 43.3**	**+1.5**
AMBA	**Amambai (Brazi**	**18.70**	**58**	*eP*	**Pn**	**19 40 45.4**	**+0.9**
PTGB	**Pitanga**	**19.79**	**67**	*eP*	**Pn**	**19 40 56.9**	**-0.7**
AQDB	**Aquidauana**	**19.91**	**51**		**P**	**19 40 57.6**	**+0.3**
AQDB	**Aquidauana**	**19.91**	**51**	*eP*	**Pn**	**19 40 58.6**	**-0.4**
TRCB	**Terra Rica**	**20.47**	**61**	P	**P**	**19 41 03.8**	**+0.3**
TRCB	**Terra Rica**	**20.47**	**61**	*eP*	**P**	**19 41 03.9**	**+0.4**
SIV	**San Ignacio**	**20.64**	**31**	P	**P**	**19 41 04.7**	**-0.6**
	comp=Z,14nm,0.6s,baz=210,slow=9.9,SNR=57						
	comp=Z,14nm,0.6s						
RPRD	**Ribas do Rio P**	**21.23**	**55**	*eP*	**P**	**19 41 12.0**	**+0.4**
PTLB	**Pontes e Lacer**	**22.00**	**35**		**P**	**19 41 19.8**	**0.0**
PTLB				IAmb	IAmb	19 41 23.1	
	comp=Z,39nm,1.0s						
PTLB	**Pontes e Lacer**	**22.00**	**35**	*eP*	**P**	**19 41 20.4**	**+0.6**
PCMB	**Pacaembu**	**22.20**	**61**	*eP*	**P**	**19 41 21.3**	**-0.8**
SALV	**Santo Antonio**	**23.42**	**43**	*eP*	**P**	**19 41 33.9**	**-0.9**
VILB	**Vilhena**	**23.72**	**30**		**P**	**19 41 37.1**	**-0.7**
VILB				IAmb	IAmb	19 41 39.9	
	comp=Z,28nm,0.9s						
VILB	**Vilhena**	**23.72**	**30**	*eP*	**P**	**19 41 37.9**	**+0.2**
SPB	**Sao Paulo**	**23.96**	**70**	*eP*	**P**	**19 41 40.5**	**+0.5**
ITRB	**Iturama**	**24.07**	**59**	*eP*	**P**	**19 41 40.6**	**-0.4**
BB19B	**Bebedouro**	**24.55**	**64**	*eP*	**P**	**19 41 45.8**	**+0.3**
VAO	**Valinhos**	**24.64**	**70**		**P**	**19 41 45.1**	**-1.2**
VAO				IAmb	IAmb	19 42 15.8	
	comp=Z,19nm,1.0s						
VAO	**Valinhos**	**24.64**	**70**	*eP*	**P**	**19 41 47.2**	**+0.9**
ARAG	**Araguaiana, MT**	**25.91**	**50**	*eP*	**P**	**19 41 57.7**	**-0.1**
CZSB	**Cruzeiro do Su**	**26.32**	**359**	P	**P**	**19 42 02.1**	**+0.7**
CZSB				IAmb	IAmb	19 42 13.8	
	comp=Z,38nm,1.1s						
CZSB	**Cruzeiro do Su**	**26.32**	**359**	*eP*	**P**	**19 42 02.3**	**+0.9**
PDRB	**Porto dos Gac**	**26.47**	**36**	*eP*	**P**	**19 42 03.0**	**+0.2**
IPMB	**Ipameri, GO**	**26.73**	**59**	*eP*	**P**	**19 42 06.4**	**+1.2**
BSCB	**Bom Sucesso**	**27.43**	**69**	*eP*	**P**	**19 42 11.8**	**+0.2**
CLDB	**Colider**	**27.56**	**37**	*eP*	**P**	**19 42 12.9**	**+0.3**
PMNB	**Patos De Minas**	**27.65**	**62**	*eP*	**P**	**19 42 14.9**	**+1.4**
BDFB	**Brasilia**	**28.46**	**56**		**P**	**19 42 20.0**	**-0.8**
BDFB				IAmb	IAmb	19 42 29.8	
	comp=Z,12nm,0.8s						
BDFB	**Brasilia**	**28.46**	**56**	P	**P**	**19 42 19.8**	**-1.0**
	comp=Z,8.1nm,0.8s,baz=224,slow=7.9,SNR=12						
	comp=Z,8.1nm,0.8s						
SNDB	**Serra Nova Dou**	**29.10**	**46**	*eP*	**P**	**19 42 27.9**	**+1.5**
TBTG	**Tabatinga, AM**	**29.90**	**4**	*eP*	**P**	**19 42 34.8**	**+1.3**
NPGB	**Novo Progresso**	**31.10**	**34**	*eP*	**P**	**19 42 42.8**	**-1.3**
TEFE	**Tefe**	**31.28**	**14**	*eP*	**P**	**19 42 46.9**	**+1.2**
RIB01	**Linhares ES**	**31.78**	**70**	*eP*	**P**	**19 42 49.1**	**-0.9**
SDBA	**SAO DESIDERIO**	**32.87**	**55**	*eP*	**P**	**19 42 59.0**	**-0.6**
ITTB	**Itaituba**	**33.32**	**31**	*eP*	**P**	**19 43 04.4**	**+0.9**
SMTB	**Santa Maria do**	**33.78**	**47**	*eP*	**P**	**19 43 07.5**	**-0.1**
BOAV	**Boa Vista**	**37.96**	**19**		**P**	**19 43 43.4**	**0.0**
BOAV	**Boa Vista**	**37.96**	**19**	*eP*	**P**	**19 43 43.4**	**0.0**
RUSC	**La Rusia**	**39.85**	**358**		**P**	**19 43 59.5**	**-0.2**
NBPB	**Pedra_Branca-C**	**41.44**	**54**	*eP*	**P**	**19 44 12.3**	**-0.1**
BAUV	**El Baul**	**43.05**	**6**		**P**	**19 44 25.2**	**-0.2**
BAUV				IAmb	IAmb	19 44 37.0	
	comp=Z,18nm,1.0s						
VNA3	**Neumayer Olymp**	**49.22**	**158**	⇑P	**P**	**19 45 13.8**	**+0.3**
	comp=Z,9.1nm,0.9s						
VNA1	**Neumayer--Stat**	**49.53**	**157**	⇑P	**P**	**19 45 17.2**	**+1.4**
	comp=Z,9.5nm,1.0s						
SNAA	**Sanae**	**51.44**	**158**	⇑P	**P**	**19 45 30.7**	**+0.3**
	comp=Z,179nm,0.8s						
SNAA	**Sanae**	**51.44**	**158**		**P**	**19 45 30.5**	**+0.1**
SNAA				IAmb	IAmb	19 45 42.2	
	comp=Z,25nm,1.0s						
SNAA	**Sanae**	**51.44**	**158**	P	**P**	**19 45 29.6**	**-0.7**
	comp=Z,14nm,1.0s,baz=284,slow=6.5,SNR=28						
	comp=Z,14nm,1.0s						
TROLL	**Troll, Antarti**	**53.15**	**158**	⇑P	**P**	**19 45 43.6**	**+0.5**
	comp=Z,349nm,0.8s						
QSPA	**South Pole Qui**	**56.07**	**180**	P	**P**	**19 46 05.1**	**+0.8**
	comp=Z,8.6nm,0.9s,baz=145,slow=3.0,SNR=18						
	comp=Z,8.6nm,0.9s						
TEIG	**Tepich**	**56.25**	**342**	P	**P**	**19 46 06.4**	**+0.5**
VNDA	**Vanda**	**63.93**	**191**	P	**P**	**19 46 59.1**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=146,slow=6.6,SNR=4.3						
	comp=Z,0.7nm,0.8s						
X48A	**Hartselle**	**69.69**	**347**	IAmb	IAmb	19 47 36.1	
	comp=Z,8.6nm,

comp=Z,1.3nm,0.8s
TORD Torodi Ar. Bea 84.30 70 P 19 48 57.9 +0.1
TORD IAmb IAmb 19 48 59.0
comp=Z,11nm,1.0s
TORD Torodi Ar. Bea 84.30 70 P **P 19 48 59.1 +1.3**
comp=Z,6.5nm,0.9s,baz=270,slow=4.0,SNR=16
comp=Z,6.5nm,0.9s
HVU Hansel Valley 84.31 331 IAmb IAmb 19 49 09.7
comp=Z,5.2nm,0.8s
BROLN Tlhalogang 85.79 113 *i* P **P 19 49 04.3 -1.1**
RLMT Red Lodge 85.82 335 IAmb IAmb 19 49 17.4
comp=Z,4.7nm,0.8s
J08A Circle Bar Ran 88.01 328 IAmb IAmb 19 49 29.4
comp=Z,8.1nm,0.9s
PLID Pearl Lake 88.37 331 IAmb IAmb 19 49 30.1
comp=Z,7.6nm,0.9s
ESDC Sonseca Array 96.72 46 P **P 19 49 56.3 +0.5**
comp=Z,0.6nm,0.9s,baz=250,slow=3.7,SNR=3.0
comp=Z,0.6nm,0.9s
BRTR Keskin Array B 121.95 61 PKP **PKPdf 19 55 19.9 0.0**
comp=Z,0.9nm,0.8s,baz=236,slow=4.0,SNR=4.7
AKASG Malin Array Be 122.33 48 PKP **PKPdf 19 55 19.0 -1.1**
comp=Z,0.6nm,0.5s,baz=266,slow=1.4,SNR=1.9
H11S2 WAKE ISLAND Hyl 25.73 269 T T 22 13 53.6
baz=120,slow=74,SNR=3.8
H11S1 WAKE ISLAND Hyl 25.74 269 T T 22 13 50.6
baz=120,slow=74,SNR=13
H11S3 WAKE ISLAND Hyl 25.75 269 T T 22 13 55.2
baz=120,slow=74,SNR=5.1
H11N3 WAKE ISLAND Hyl 26.15 270 T T 22 14 26.4
baz=115
H11N1 WAKE ISLAND Hyl 26.16 270 T T 22 14 27.0
baz=115,slow=74
H11N2 WAKE ISLAND Hyl 26.17 270 T T 22 14 26.8
baz=115,slow=74
BVAR Borovoye Array 147.43 43 PKPbc **PKPbc 19 56 09.6 +0.7**
comp=Z,3.7nm,0.7s,baz=219,slow=3.8,SNR=19
KURBB Kurchatov Arra 153.02 44 PKP **PKPdf 19 56 13.8 -1.4**
comp=Z,0.3nm,0.6s,baz=326,slow=1.1,SNR=2.0
KURBB PKPbc **pPKPdf 19 56 20.7 -0.4**
comp=Z,1.1nm,0.3s,baz=301,slow=2.7,SNR=9.2
ZALV Zalesovo Beam 154.39 32 PKP **PKPdf 19 56 16.5 -0.5**
comp=Z,0.6nm,0.6s,baz=229,slow=1.4,SNR=4.7
ZALV PKPbc **PKiKP 19 56 25.6 +0.2**
comp=Z,4.8nm,0.7s,baz=288,slow=3.4,SNR=19
MKAR Makanchi Array 156.90 49 PKPbc PKPbc 19 56 30.8
comp=Z,1.6nm,0.9s,baz=272,slow=3.4,SNR=8.3
MKAR PKPab **PKPab 19 56 50.7 0.0**
comp=Z,2.1nm,0.7s,baz=294,slow=4.4,SNR=11
SONM Songino Array 166.30 4 PKPab **PKPab 19 57 32.1 +0.5**
comp=Z,1.2nm,0.9s,baz=342,slow=4.0,SNR=7.1
NJ2 Nanjing 170.59 260 *e*P **PKPdf 19 56 33.2 -0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 170.68 143 PKP **PKPdf 19 56 33.6 -0.5**
GTA Gaotai 171.66 49 *e*PKP **PKPdf 19 56 34.7 +0.5**
GTA PKPab **PKPab 19 57 56.7 +0.9**
HHC Hu-ho-hao-te 172.73 338 *e*P **PKPdf 19 56 30.1 -4.5**
CD2 Chengdu 175.22 132 PKP **PKPdf 19 56 35.0 -0.7**
XAN Xi'an 179.16 261 PKP **PKPdf 19 56 28.6 -7.6**

---

*SJA **01** 20:01:25.2±0.7,34.˚28S×72.˚49W,h12km±2km,ML5.5, MW5.4*
*IDC **01** 20:01:25.8±0.4,34.˚24S×72.˚13W,h0km,mb5.1/15, mbtmp5.1/17,ML4.8/2,MS5.4/15,Error ellipse: s-maj=19.4km s-min=12.7km az=87.0*
*MOS **01** 20:01:26.7±1.0,34.˚31S×72.˚23W,h10km,mb5.7/31, MS5.5/7,Error ellipse: s-maj=13.6km s-min=7.1km az=82.3*
*NEIC **01** 20:01:27.7,34.˚28S×72.˚36W,h10km*
*NEIC **01** 20:01:28.2±1.3,34.˚28S±0.˚04×72.˚37W±0.˚06,h15km±3km, mb5.6/424,Ms_20 5.7/77,Mwr5.4/75,Mww5.6/13, Mww5.7(GUC),Error ellipse: s-maj=7.2km s-min=5.6km az=98.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.76; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-0.63; $M_{r\theta}$0.10; $M_{\theta\phi}$-0.42; $M_{\phi r}$-1.39; Fault plane solution: $M_0$1.62000×10^{17} NP1: ϕ_s51.01000°,δ20.35000°,λ137.29000°. NP2: ϕ_s181.88000°,δ76.36000°,λ74.75000°. Principal axes: T 1.6780, Plg56.0000°, Azm72.0000°; N -0.1190, Plg15.0000°, Azm186.0000°; P -1.5590, Plg30.0000°, Azm284.0000°;*
*NEIC **01** 20:01:28.4,34.˚27S×72.˚37W,h24km*
*VAO **01** 20:01:28.0±0.3,34.˚29S×72.˚11W,h10km,mb5.5*
*GUC **01** 20:01:28.5±0.8,34.˚32S×72.˚42W,h21km±3km,ML5.4*
*NEIC **01** 20:01:28.4,34.˚27S×72.˚25W,h24km,Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.43; $M_{\theta\theta}$0.25; $M_{\phi\phi}$-1.68; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.46; $M_{\phi r}$-2.36; Fault plane solution: $M_0$2.87000×10^{17} NP1:ϕ_s28.88000°, δ18.77000°,λ116.88000°. NP2:ϕ_s180.72000°,δ73.32000°, λ81.26000°. Principal axes: T 2.7261, Plg61.0000°, Azm78.0000°; N 0.2699, Plg8.0000°, Azm183.0000°; P -2.9960, Plg28.0000°, Azm278.0000°;*
*GCMT **01** 20:01:33.2±0.3,34.˚35S±0.˚03×72.˚08W±0.˚03,h15km±2km, MW5.9/78,Moment Tensor Solution. s32,c38; s78,c95; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}3.75±.36; $M_{\theta\theta}$-0.11±.18; $M_{\phi\phi}$-3.64±.24; $M_{r\theta}$-0.17±.37; $M_{\theta\phi}$0.02±.11; $M_{\phi r}$-7.69±1.32; Best double couple: $M_0$8.53300×10^{17} NP1:ϕ_s358.00000°,δ13.00000°, λ87.00000°. NP2:ϕ_s181.00000°,δ77.00000°,λ91.00000°. Principal axes: T 8.5890, Plg58.0000°, Azm92.0000°; N -0.1090, Plg1.0000°, Azm1.0000°; P -8.4770, Plg32.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 20:01:29.9±0.4,34.˚34S±0.˚02×72.˚30W±0.˚03,h27km±2km, h27km:pP-P,n702,σ_1^{s}71/573,mb5.5/232,MS5.6/51, 16C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.32**	**120**	*e*P		**Pb**	**20 01 36.9**	**-0.6**
BO03				*i* S		**Sb**	**20 01 42.5**	**-0.1**
VA05	**Santo Domingo**	**0.89**	**40**			**Pn**	**20 01 45.1**	**-1.5**
VA05	**Santo Domingo**	**0.89**	**40**	*e*P		**Pn**	**20 01 45.3**	**-1.3**
VA05				*i* S		**Sb**	**20 01 57.0**	**-1.1**
VA05				IAML			20 02 04.7	
comp=E,172μm,0.5s								
MT01	**Popeta**	**0.99**	**62**			**Pn**	**20 01 46.7**	**-1.3**
MT01	**Popeta**	**0.99**	**62**	*e*P		**Pn**	**20 01 46.8**	**-1.2**
MT01				*i* S		**Sn**	**20 02 00.6**	**-0.5**
MT01	**Popeta**	**0.99**	**62**	*e*P		**Pn**	**20 01 46.5**	**-1.5**
MT01				*e*S		**Sb**	**20 02 01.9**	**+0.8**
MT01				IAML			20 02 04.7	
comp=Z,40μm,0.5s								
BO01	**Tunca**	**1.01**	**93**			**Pn**	**20 01 46.6**	**-1.6**
BO01	**Tunca**	**1.01**	**93**	*e*P		**Pn**	**20 01 47.1**	**-1.1**
BO01				*i* S		**Sn**	**20 02 01.3**	**-0.2**
BO01	**Tunca**	**1.01**	**93**	*e*P		**Pn**	**20 01 47.2**	**-1.1**
MT09	**Talagante**	**1.22**	**63**			**Pn**	**20 01 50.2**	**-1.2**
MT09	**Talagante**	**1.22**	**63**	*e*P		**Pn**	**20 01 50.5**	**-0.8**
MT09				*i* S		**Sb**	**20 02 07.5**	**-0.4**
BO02	**Sierra Bellavi**	**1.33**	**110**			**Pn**	**20 01 52.9**	**0.0**
BO02	**Sierra Bellavi**	**1.33**	**110**	*e*P		**Pn**	**20 01 53.0**	**+0.2**
BO02				*i* S		**Sb**	**20 02 11.6**	**+0.5**
BO02	**Sierra Bellavi**	**1.33**	**110**	*e*P		**Pn**	**20 01 53.4**	**+0.5**
BO02				*e*S		**Sn**	**20 02 08.7**	**-1.0**
BO02				IAML			20 02 13.7	
comp=Z,74μm,1.5s								
BO02				*e*S		**Sb**	**20 02 14.0**	**+3.0**
VA01	**Torpederas**	**1.42**	**23**			**Pn**	**20 01 52.6**	**-1.3**
VA01	**Torpederas**	**1.42**	**23**	*e*P		**Pn**	**20 01 52.9**	**-1.0**
VA01				*i* S		**Sn**	**20 02 10.5**	**-1.1**
VA01	**Torpederas**	**1.42**	**23**	*e*P		**Pn**	**20 01 52.6**	**-1.3**
VA01				*e*S		**Sb**	**20 02 17.2**	**+3.9**
VA01				IAML			20 02 20.5	
comp=Z,31μm,1.2s								
BO04	**La Punta**	**1.44**	**77**			**Pn**	**20 01 53.9**	**-0.4**
BO04	**La Punta**	**1.44**	**77**	*e*P		**Pn**	**20 01 54.3**	**0.0**
BO04				*i* S		**Sb**	**20 02 13.9**	**-0.3**
BO04				IAML			20 02 20.7	
comp=E,78μm,0.6s								
MT02	**Curacav**	**1.45**	**42**			**Pn**	**20 01 53.4**	**-0.9**
MT02	**Curacav**	**1.45**	**42**	*e*P		**Pn**	**20 01 53.6**	**-0.7**
MT02				*i* S		**Sn**	**20 02 12.2**	**-0.2**
MT02	**Curacav**	**1.45**	**42**	*e*P		**Pn**	**20 01 53.4**	**-0.9**
MT02				*e*S		**Sb**	**20 02 14.6**	**+0.4**
MT02				IAML			20 02 20.1	
comp=Z,31μm,1.0s								
MT12	**Pirque**	**1.57**	**68**	*e*P		**Pn**	**20 01 56.4**	**+0.3**
MT12				*i* S		**Sb**	**20 02 17.4**	**-0.5**
MT12				IAML			20 02 30.5	
comp=N,87μm,0.6s								
ML02	**Panimavida**	**1.60**	**153**			**Pn**	**20 01 56.8**	**+0.4**
ML02	**Panimavida**	**1.60**	**153**	*e*P		**Pn**	**20 01 56.6**	**+0.3**
ML02	**Panimavida**	**1.60**	**153**	*e*P		**Pn**	**20 01 57.1**	**+0.7**
ML02				*e*S		**Sb**	**20 02 19.8**	**+1.3**
ML02				IAML			20 02 39.4	
comp=Z,55μm,1.2s								
MT05	**Renca**	**1.60**	**54**			**Pn**	**20 01 56.1**	**-0.4**
MT05	**Renca**	**1.60**	**54**	*e*P		**Pn**	**20 01 56.7**	**+0.2**
MT05				*i* S		**Sb**	**20 02 17.8**	**-1.0**
MT05				IAML			20 02 28.4	
comp=E,102μm,0.8s								
MT05	**Renca**	**1.60**	**54**	*e*P		**Pn**	**20 01 56.5**	**0.0**
MT05				*e*S		**Sb**	**20 02 24.5**	**+5.7**
MT05				IAML			20 02 27.3	
comp=Z,77μm,1.4s								
MT15	**Las Vizcachas**	**1.66**	**64**	*e*P		**Pn**	**20 01 57.7**	**+0.3**
MT15				*i* S		**Sb**	**20 02 19.7**	**-0.8**
MT15				IAML			20 02 27.9	
comp=E,79μm,0.4s								
ROC1	**El Roble**	**1.73**	**39**	*e*P		**Pn**	**20 01 57.9**	**-0.6**
ROC1				*e*S		**Sb**	**20 02 28.3**	**+5.7**
MT16	**CCHEN**	**1.73**	**59**			**Pn**	**20 01 57.9**	**-0.4**
MT16	**CCHEN**	**1.73**	**59**	*e*P		**Pn**	**20 01 58.6**	**+0.3**
MT16				*i* S		**Sb**	**20 02 21.4**	**-1.1**
MT16				IAML			20 02 35.5	
comp=E,43μm,0.7s								
ROCH	**El Roble**	**1.73**	**39**	*e*P		**Pn**	**20 01 58.1**	**-0.4**
ROCH				*i* S		**Sb**	**20 02 21.2**	**-1.5**
ROCH				IAML			20 02 34.7	
comp=N,64μm,0.6s								
MT14	**Cerro Calן**	**1.74**	**58**	*e*P		**Pn**	**20 01 58.8**	**+0.4**
MT14				*i* S		**Sb**	**20 02 21.7**	**-1.0**
MT14				IAML			20 02 30.8	
comp=E,137μm,0.9s								
PEL	**Peldehue**	**1.80**	**49**			**Pn**	**20 01 59.2**	**0.0**
PEL	**Peldehue**	**1.80**	**49**	P		**Pn**	**20 01 59.0**	**-0.2**
PEL				*S*		**Sn**	**20 02 22.4**	**+1.3**
PEL	**Peldehue**	**1.80**	**49**	*e*P		**Pn**	**20 01 59.5**	**+0.4**
PEL				*i* S		**Sb**	**20 02 23.1**	**-1.2**
PEL				IAML			20 02 32.0	
comp=N,59μm,0.7s								
PEL	**Peldehue**	**1.80**	**49**	*e*P		**Pn**	**20 01 59.6**	**+0.4**
PEL				*e*S		**Sb**	**20 02 28.7**	**+4.4**
LMEL	**Las Melosas**	**1.81**	**75**			**Pn**	**20 01 59.8**	**+0.4**
LMEL	**Las Melosas**	**1.81**	**75**	*e*P		**Pn**	**20 02 00.2**	**+0.8**
LMEL				*i* S		**Sb**	**20 02 24.4**	**-0.3**
LMEL	**Las Melosas**	**1.81**	**75**	*e*P		**Pn**	**20 02 00.4**	**+1.0**
LMEL				*e*S		**Sb**	**20 02 26.6**	**+1.9**
MT10	**Hacienda Santa**	**1.81**	**55**	*e*P		**Pn**	**20 01 59.9**	**+0.4**
MT10				*i* S		**Sb**	**20 02 23.6**	**-1.3**
FCH	**Farellones**	**1.95**	**60**	*e*P		**Pn**	**20 02 01.8**	**+0.2**
FCH				*i* S		**Sb**	**20 02 28.4**	**-0.7**
VA06	**Catapilco**	**1.96**	**26**			**Pn**	**20 01 59.7**	**-1.6**
VA06	**Catapilco**	**1.96**	**26**	*e*P		**Pn**	**20 02 00.4**	**-0.9**
VA06				*i* S		**Sn**	**20 02 26.4**	**+1.4**
VA06				IAML			20 02 38.0	
comp=E,116μm,0.6s								
MT04	**Ro Olivares**	**2.02**	**63**	*e*P		**Pn**	**20 02 02.9**	**+0.4**
MT04				*i* S		**Sb**	**20 02 30.3**	**-0.8**
MT04				IAML			20 02 39.2	
comp=E,29μm,0.7s								
MT04	**Ro Olivares**	**2.02**	**63**	*e*P		**Pn**	**20 02 02.9**	**+0.4**
MT04				*e*S		**Sb**	**20 02 32.0**	**+1.0**
MT04				IAML			20 02 36.7	
comp=Z,39μm,1.4s								
MT08	**Bocatoma Ro**	**2.10**	**66**			**Pn**	**20 02 03.6**	**+0.2**
MT08	**Bocatoma Ro**	**2.10**	**66**	*e*P		**Pn**	**20 02 04.3**	**+0.8**
MT08				*i* S		**Sb**	**20 02 32.4**	**-0.7**
MT08				IAML			20 02 46.5	
comp=E,22μm,0.8s								
MT08	**Bocatoma Ro**	**2.10**	**66**	*e*P		**Pn**	**20 02 04.2**	**+0.8**
MT08				*e*S		**Sb**	**20 02 34.6**	**+1.5**
MT08				IAML			20 02 39.8	
comp=Z,20μm,1.8s								
VA03	**San Esteban**	**2.14**	**43**			**Pn**	**20 02 03.5**	**-0.5**
VA03	**San Esteban**	**2.14**	**43**	*e*P		**Pn**	**20 02 04.3**	**+0.3**
VA03				*i* S		**Sb**	**20 02 32.8**	**-1.6**
VA03	**San Esteban**	**2.14**	**43**	*e*P		**Pn**	**20 02 04.2**	**+0.3**
VA03				*e*S		**Sb**	**20 02 39.9**	**+5.5**
VA03				IAML			20 02 51.9	
comp=Z,51μm,0.8s								
BI02	**San Fabin de**	**2.47**	**160**			**Pn**	**20 02 08.8**	**+0.4**
BI02	**San Fabin de**	**2.47**	**160**	*e*P		**Pn**	**20 02 09.3**	**+0.9**
BI02				*i* S		**Sn**	**20 02 39.1**	**+1.4**
BI02				IAML			20 02 48.6	
comp=N,19μm,0.8s								
BI02	**San Fabin de**	**2.47**	**160**	*e*P		**Pn**	**20 02 09.5**	**+1.1**
BI02				*e*S		**Sb**	**20 02 41.6**	**-2.0**
BI02				IAML			20 02 48.2	
comp=Z,18μm,0.8s								
BI05	**Punta Hualpn**	**2.51**	**197**			**Pn**	**20 02 08.2**	**-0.7**
BI05	**Punta Hualpn**	**2.51**	**197**	*e*P		**Pn**	**20 02 08.7**	**-0.2**
BI05				*e*S		**Sn**	**20 02 36.3**	**-2.4**
BI05				IAML			20 02 51.1	
comp=Z,11μm,0.7s								
EDS3	**Malargue**	**2.78**	**122**	*e*P		**Pb**	**20 02 17.1**	**-1.8**
EDS3				*e*S		Sb	20 03 06.3	+14
AAGR	**Agrelo**	**3.15**	**68**	*e*P		**Pn**	**20 02 21.0**	**+3.1**
ARCO	**CERRO ARCO**	**3.18**	**63**	*e*P		**Pn**	**20 02 21.7**	**+3.3**
ARCO				*e*S		Sb	20 03 16.9	+13
ARCO				IAML			20 03 17.8	
comp=Z,8μm,1.2s								
RFA	**San Rafael**	**3.19**	**99**	*e*P		**Pn**	**20 02 20.6**	**+2.2**
RFA				*e*S		**Sb**	**20 03 11.8**	**+7.3**
RFA				IAML			20 03 21.0	
comp=Z,7μm,1.3s								
AVIZ	**Vizcacheras**	**3.26**	**76**	*e*P		**Pn**	**20 02 22.8**	**+3.4**
CO02	**Combarbal**	**3.31**	**20**			**Pn**	**20 02 19.0**	**-1.1**
CO02	**Combarbal**	**3.31**	**20**	*e*P		**Pn**	**20 02 19.6**	**-0.5**
CO02				*e*S		**Sb**	**20 03 13.7**	**+5.8**
CO02				IAML			20 03 16.1	
comp=Z,17μm,0.6s								
ASAL	**Salagasta**	**3.38**	**60**	*e*P		**Pn**	**20 02 23.7**	**+2.8**
ASAL				*e*S		Sb	20 03 21.9	+12
RTLS	**Leoncito**	**3.57**	**46**	*e*P		**Pn**	**20 02 26.4**	**+2.5**
RTLS				*e*S		**Sb**	**20 03 24.1**	**+8.4**
CO03	**El Pedregal**	**3.74**	**22**	*e*P		**Pn**	**20 02 25.9**	**-0.1**
CO03				*e*S		**Sb**	**20 03 26.1**	**+5.7**
CO03				IAML			20 03 33.1	
comp=Z,14μm,0.8s								
ZON	**Zonda**	**4.12**	**49**			**Pn**	**20 02 32.2**	**+1.0**
ZON	**Zonda**	**4.12**	**49**	P		**Pn**	**20 02 32.2**	**+1.0**
ZON	**Zonda**	**4.12**	**49**	*e*P		**Pn**	**20 02 33.0**	**+1.8**
ZON				*e*S		**Sb**	**20 03 39.4**	**+8.1**
ZON				IAML			20 03 55.6	
comp=Z,9μm,1.3s								
GO04	**Tololo Observa**	**4.34**	**17**	*e*P		**Pn**	**20 02 33.7**	**-0.6**
GO04				*e*S		**Sb**	**20 03 45.8**	**+8.1**
CFA	**Coronel Fontan**	**4.37**	**53**	Pn		**Pn**	**20 02 34.8**	**+0.3**
comp=Z,25nm,0.3s,baz=232,slow=13,SNR=193								
CFA				Sn		**Sn**	**20 03 20.1**	**-4.5**
comp=Z,54nm,0.3s,baz=213,slow=19,SNR=4.7								
CFA				Lg		Lg	20 03 35.5	
comp=Z,85nm,0.3s,baz=319,slow=21,SNR=5.9								
CFA				LR		LR	20 04 36.3	
comp=Z,28μm,18.3s,baz=219,slow=45								
CFA	**Coronel Fontan**	**4.37**	**53**	*e*P		**Pn**	**20 02 35.9**	**+1.4**
RTLL	**Cerro Villicun**	**4.40**	**48**	*e*P		**Pn**	**20 02 36.6**	**+1.6**
RTLL				*e*S		**Sb**	**20 03 42.6**	**+3.4**
ACCO	**Cerro Coronel**	**4.63**	**37**	*e*P		**Pn**	**20 02 40.4**	**+2.0**
CO01	**Juntas del Tor**	**4.73**	**24**	*e*P		**Pn**	**20 02 39.8**	**0.0**
CO01				IAML			20 04 04.0	
comp=Z,6μm,0.8s								
AROD	**Rodeo**	**4.80**	**31**	*e*P		**Pn**	**20 02 42.2**	**+1.5**
GO06	**Curarrehue**	**5.28**	**173**	*e*P		**Pn**	**20 02 48.0**	**+1.0**
VA04	**Juan Fernndez**	**5.47**	**275**			**Pn**	**20 02 47.5**	**-2.1**
LCO	**Las Campanas**	**5.48**	**15**			**Pn**	**20 02 47.8**	**-2.2**
LCO	**Las Campanas**	**5.48**	**15**	P		**Pn**	**20 02 47.8**	**-2.2**
H03S1	**Juan Fernandez**	**5.50**	**273**	Pn		**Pn**	**20 02 48.6**	**-1.2**
baz=59,slow=15								
H03S1				T		T	20 08 41.8	
baz=98,slow=74,SNR=4592								
H03S3	**Juan Fernandez**	**5.51**	**273**	T		T	20 08 39.6	
baz=98,slow=74,SNR=5905								
H03S2	**Juan Fernandez**	**5.52**	**273**	T		T	20 08 39.6	
baz=98,slow=74,SNR=4457								
H03N1	**Juan Fernandez**	**5.57**	**277**	T		T	20 08 52.8	
baz=104,slow=74								
H03N3	**Juan Fernandez**	**5.58**	**277**	Pn		**Pn**	**20 02 49.8**	**-1.1**
baz=132,slow=25								
H03N3				T		T	20 09 01.4	
baz=104								
H03N2	**Juan Fernandez**	**5.59**	**277**	T		T	20 08 58.6	
baz=104,slow=74								
LR05	**Currie**	**5.89**	**178**			**Pn**	**20 02 55.4**	**+0.1**
AC04	**Llanos de Chal**	**6.20**	**10**			**Pn**	**20 02 57.6**	**-2.1**
PLCA	**Paso Flores**	**6.53**	**168**			**Pn**	**20 03 04.5**	**+0.3**
PLCA	**Paso Flores**	**6.53**	**168**	Pn		**Pn**	**20 03 05.7**	**+1.4**
comp=Z,3.4nm,0.3s,baz=333,slow=13,SNR=102								
PLCA				Lg		Lg	20 04 50.0	
comp=Z,5.8nm,0.3s,baz=271,slow=24,SNR=5.0								
PLCA				LR		LR	20 05 14.3	
comp=Z,2μm,19.2s,baz=346,slow=35								
comp=Z,40nm,0.7s								
PLCA	**Paso Flores**	**6.53**	**168**	*e*P		**Pn**	**20 03 05.7**	**+1.4**
AC02	**Maricunga**	**7.96**	**21**			**Pn**	**20 03 22.2**	**-2.0**
COYC	**Coyhaique**	**11.22**	**179**			**Pn**	**20 04 08.4**	**0.0**
PB05	**IPOC Station P**	**11.59**	**10**			**Pn**	**20 04 09.8**	**-3.9**
PB11	**IPOC Station P**	**14.71**	**10**	P		**Pn**	**20 04 56.8**	**+0.5**
CPUP	**Villa Florida**	**15.18**	**62**	Pn		**Pn**	**20 04 56.0**	**-6.4**
comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=7.2								
CPUP				LR		LR	20 11 51.5	
comp=Z,4μm,19.1s,baz=96,slow=42								
CPUP	**Villa Florida**	**15.18**	**62**	*e*P		**Pn**	**20 04 59.5**	**-2.9**
PLTB	**Pedras Altas**	**15.89**	**86**			**Pn**	**20 05 09.3**	**-2.3**
PLTB	**Pedras Altas**	**15.89**	**86**	*e*P		**Pn**	**20 05 09.2**	**-2.5**
PB16	**IPOC Station P**	**16.13**	**10**	P		**Pn**	**20 05 15.3**	**0.0**
PB16				IAmb		IAmb	20 05 17.9	
comp=Z,498nm,1.4s								
CPSB	**Cacapava Do Su**	**16.41**	**81**	*e*P		**Pn**	**20 05 16.7**	**-1.6**
SJPY	**San Joaquin**	**16.86**	**61**	*e*P		**Pn**	**20 05 21.6**	**-2.5**
PB18	**Visviri**	**16.87**	**9**	IAmb		IAmb	20 05 31.1	
comp=Z,970nm,1.4s								
GO09	**Cerro Castillo**	**16.93**	**180**			**Pn**	**20 05 24.5**	**-0.1**
MURT	**Porto Murtinho**	**18.08**	**49**	*e*P		**Pn**	**20 05 37.5**	**-1.6**
LPAZ	**La Paz**	**18.36**	**13**	P		**P**	**20 05 42.6**	**-0.5**
LPAZ	**La Paz**	**18.36**	**13**	P		**P**	**20 05 41.7**	**-1.4**
comp=Z,2.2nm,0.3s,baz=179,slow=7.9,SNR=105								
comp=Z,150nm,1.1s								
LPAZ	**La Paz**	**18.36**	**13**	P		**P**	**20 05 42.7**	**-0.5**
LPAZ				pmax		pmax		
comp=Z,201nm,1.1s								
LPAZ	**La Paz**	**18.36**	**13**	*e*P		**Pn**	**20 05 43.1**	**-0.1**
LPAZ	**La Paz**	**18.36**	**13**	P		**Pn**	**20 05 43.2**	**-0.1**
comp=Z,5μmcomp=Z,191nm,0.9s								
ITAB	**Concordia**	**18.70**	**73**	P		**P**	**20 05 44.5**	**-1.6**
ITAB				IAmb		IAmb	20 05 53.7	
comp=Z,277nm,1.0s								
ITAB	**Concordia**	**18.70**	**73**	*e*P		**P**	**20 05 44.6**	**-1.6**
CNLB	**Canela**	**18.89**	**81**	*e*P		**P**	**20 05 47.8**	**-0.5**
AMBA	**Amambai (Brazi**	**18.95**	**58**	*e*P		**P**	**20 05 48.0**	**-0.9**
BDQN	**Bodoquena, MS**	**19.51**	**49**	*e*P		**P**	**20 05 53.6**	**-1.5**
MG03	**Isla Dawson**	**19.55**	**177**	P		**P**	**20 05 55.8**	**+0.5**
MG03				IAmb		IAmb	20 06 09.5	
comp=Z,584nm,1.5s								
PTGB	**Pitanga**	**20.02**	**67**	*e*P		**P**	**20 05 59.8**	**-0.9**
EFI	**East Falkland**	**20.15**	**154**	P		**P**	**20 06 01.5**	**-0.4**
EFI	**East Falkland**	**20.15**	**154**	P		**P**	**20 06 01.5**	**-0.4**
EFI				pmax		pmax		
comp=Z,121nm,1.3s								
EFI				MLR		MLR		
comp=Z,7μm,20.0s								
AQDB	**Aquidauana**	**20.16**	**51**	P		**P**	**20 06 01.2**	**-0.9**
AQDB	**Aquidauana**	**20.16**	**51**	*e*P		**P**	**20 06 01.3**	**-0.8**
TRCB	**Terra Rica**	**20.71**	**61**	P		**P**	**20 06 07.1**	**-1.1**
TRCB				IAMs_20		IAMs_20	20 14 49.1	
comp=Z,20μm,18.0s								
TRCB	**Terra Rica**	**20.71**	**61**	*e*P		**P**	**20 06 07.5**	**-0.7**
MG01	**Puerto William**	**20.85**	**172**	P		**P**	**20 06 10.4**	**+1.0**
MG01				IAmb		IAmb	20 06 22.3	
comp=Z,284nm,0.8s								
SIV	**San Ignacio**	**20.87**	**32**	P		**P**	**20 06 08.3**	**-1.6**
comp=Z,385nm,1.2s,baz=211,slow=9.9,SNR=147								
SIV				LR		LR	20 15 56.8	
comp=Z,18μm,19.4s,baz=230,slow=42								
comp=Z,385nm,1.2s								
MAJ01	**Sao Joao Batis**	**21.13**	**77**	*e*P		**P**	**20 06 11.6**	**-1.0**
RPRD	**Ribas do Rio P**	**21.47**	**55**	*e*P		**P**	**20 06 15.6**	**-0.8**
LDASE	**Londrina, Braz**	**21.48**	**65**	*e*P		**P**	**20 06 16.0**	**-0.5**
PTLB	**Pontes e Lacer**	**22.23**	**35**	P		**P**	**20 06 23.4**	**-1.2**
PTLB				IAmb		IAmb	20 06 27.0	
comp=Z,445nm,1.2s								
PTLB				IAMs_20		IAMs_20	20

RIB01 **Linhares ES** 32.00 70 *e*P P 20 07 52.9 -1.1
VA02 **Isla de Pascua** 32.57 272 IAMs_20 IAMs_20 20 17 26.4
comp=Z,9µm,19.0s
SDBA **SAO DESIDERIO** 33.11 55 *e*P P 20 08 02.5 -1.3
ITTB **Itaituba** 33.56 31 *e*P P 20 08 06.4 -1.2
PIAT **Ana Tenorio** 33.63 349 P P 20 08 11.2 +2.5
comp=Z,35nm,1.2s
SMTB **Santa Maria do** 34.02 48 *e*P P 20 08 10.9 -0.8
GUA01 **Guaratinga, BA** 34.05 67 *e*P P 20 08 08.2 -3.8
SGC2 **Sao Gabriel da** 34.37 9 P P 20 08 13.4 -1.3
comp=Z,44nm,0.8s
OTAV **Otavalo** 34.87 349 P P 20 08 22.8 +3.2
OTAV **Otavalo** 34.87 349 *e*P P 20 08 20.9 +1.3
OTAV **Otavalo** 34.87 349 P P 20 08 22.6 +3.0
comp=Z,25nm,1.3s
PRPB **Parauapebas** 34.90 42 *e*P P 20 08 17.3 -2.0
CMC01 **Camacan, BA** 35.02 66 *e*P P 20 08 19.5 -0.8
FLOC **Florencia** 35.87 354 P P 20 08 29.0 +1.4
comp=Z,39nm,1.3s
MACC **Macarena, Meta** 36.32 357 P P 20 08 32.6 +1.2
comp=Z,52nm,1.4s
BBAC **Balboa, Cauca** 36.46 352 P P 20 08 36.0 +3.1
comp=Z,41nm,1.4s
POPC **Popayan, Colom** 36.91 353 P P 20 08 39.9 +3.1
comp=Z,27nm,1.7s
URMC **La Uribe, Meta** 37.43 357 P P 20 08 42.3 +1.3
comp=Z,63nm,1.2s
JAMC **Jamundi, Valle** 37.58 353 P P 20 08 41.9 -0.5
comp=Z,27nm,1.0s
PRAC **Prado** 37.92 356 P P 20 08 47.0 +1.9
comp=Z,100nm,1.7s
ORTC **Ortega, Tolima** 38.14 355 P P 20 08 48.7 +1.8
comp=Z,95nm,0.9s
BOAV **Boa Vista** 38.18 19 *e*P P 20 08 46.5 -0.7
BOAV **Boa Vista** 38.18 19 P P 20 08 46.4 -0.8
comp=Z,46nm,0.8s
YOTC **Yotoco, Valle** 38.30 353 P P 20 08 50.3 +1.9
comp=Z,44nm,1.1s
PTGC **Puerto Gaitan,** 38.33 0 P P 20 08 49.3 +0.8
comp=Z,190nm,1.4s
TMAB **Tom-Au,PA,Br** 39.00 41 *e*P P 20 08 53.9 -0.2
ROSC **El Rosal** 39.01 357 P P 20 08 53.1 -1.5
comp=Z,3.8nm,0.3s,baz=151,slow=6.9,SNR=7.7
comp=Z,3.8nm,0.3s
ROSC **El Rosal** 39.01 357 P P 20 08 56.6 +2.0
comp=Z,52nm,0.8s
PLMC **San Jos del P** 39.21 354 P P 20 08 56.6 +0.6
comp=Z,68nm,1.5s
GUY2C **Guyana, Caldas** 39.45 355 P P 20 08 59.6 +1.2
comp=Z,33nm,1.0s
NORC **Norcasia** 39.76 356 P P 20 09 02.0 +1.5
comp=Z,27nm,0.7s
RUSC **La Rusia** 40.02 359 P P 20 09 03.9 +0.8
RUSC **La Rusia** 40.02 359 P P 20 09 04.1 +1.0
comp=Z,314nm,1.5s
CBOC **Ciudad Bolivar** 40.14 354 P P 20 09 04.7 +0.9
comp=Z,79nm,1.2s
HELC **Santa Helena** 40.42 355 P P 20 09 07.4 +1.0
comp=Z,72nm,1.2s
PTBC **PUERTO BERRIO,** 40.70 357 P P 20 09 07.5 -0.8
comp=Z,260nmcomp=Z,27nm,1.0s
BARC **Barichara** 40.72 359 P P 20 09 08.9 +0.3
DBBC **Dabeiba** 41.30 354 P P 20 09 15.4 +2.2
PAMC **Pamplona, Colo** 41.45 359 P P 20 09 14.8 -0.1
ZARC **Zaragoza, Cauc** 41.67 356 P P 20 09 16.5 +0.3
comp=Z,78nm,1.3s
APAC **Apartado, Choc** 42.20 354 P P 20 09 23.7 +3.2
comp=Z,104nm,1.1s
SDV **Santo Domingo** 43.01 2 P P 20 09 26.6 -0.7
SDV IAmb IAmb 20 09 36.2
comp=Z,108nm,1.1s
SDV **Santo Domingo** 43.01 2 *e*P P 20 09 27.3 -0.1
SDV **Santo Domingo** 43.01 2 P P 20 09 27.4 0.0
comp=Z,86nm,1.0s
MDP **Montagnes des** 43.40 29 LR LR 20 29 22.1
comp=Z,10µm,18.4s,baz=200,slow=39
NBCL **Cascavel-CE** 43.52 54 *e*P P 20 09 31.2 -0.1
RCBR **Riachuelo** 44.00 58 P P 20 09 35.2 -0.1
RCBR IAmb IAmb 20 09 36.6
comp=Z,120nm,1.2s
RCBR **Riachuelo** 44.00 58 LR LR 20 29 06.7
comp=Z,4µm,18.1s,baz=200,slow=38
RCBR **Riachuelo** 44.00 58 P P 20 09 35.2 -0.1
RCBR pmax pmax
comp=Z,120nm,1.2s
RCBR MLR MLR
comp=Z,11µm,18.0s
RCBR **Riachuelo** 44.00 58 *e*P P 20 09 35.2 -0.1
SJCC **San Jacinto, C** 44.07 356 P P 20 09 36.7 +1.0
comp=Z,93nm,1.0s
PCRV **Puerto La Cruz** 44.86 11 LR LR 20 30 37.3
comp=Z,6µm,18.2s,slow=39
CRJC **Cerrejon, Guaj** 45.11 359 P P 20 09 44.0 0.0
comp=Z,49nm,1.4s
GRGR **Grenville** 47.31 14 P P 20 10 00.4 -0.8
comp=Z,261nm,1.1s
ACON **Acoyapa** 47.65 343 P P 20 10 03.1 -0.7
ACON IAmb IAmb 20 10 16.2
comp=Z,36nm,1.1s
ACON **Acoyapa** 47.65 343 P P 20 10 05.0 +1.2
comp=Z,31nm,1.1s
VNA3 **Neumayer Olymp** 49.13 158 ⇑P P 20 10 15.8 +1.0
comp=Z,40nm,0.8s
VNA3 sP **sP** 20 10 27.0 +1.0
SIUN **Universidad Ur** 49.24 344 IAmb IAmb 20 11 48.5
comp=Z,27nm,1.4s
VNA1 **Neumayer--Stat** 49.45 157 ⇑P P 20 10 18.6 +1.4
comp=Z,108nm,0.9s
VNA1 sP **sP** 20 10 29.9 +1.5
SNAA **Sanae** 51.36 158 ⇑P P 20 10 32.7 +1.0
comp=Z,4µm,0.9s
SNAA sP **sP** 20 10 44.0 +1.1
SNAA **Sanae** 51.36 158 P P 20 10 31.6 0.0
SNAA **Sanae** 51.36 158 P P 20 10 32.3 +0.7
comp=Z,57nm,1.0s,baz=279,slow=6.7,SNR=128
comp=Z,57nm,1.0s
SNAA **Sanae** 51.36 158 *ce*P P 20 10 32.6 +1.0
SNAA pmax pmax
comp=Z,186nm,1.7s
CRPR **Cabo Rojo, PR** 52.29 6 IAmb IAmb 20 10 52.8
comp=Z,87nm,0.8s
CELP **Cerrillos** 52.40 7 P P 20 10 39.1 -0.7
PDPR **Patillas Dam,** 52.41 8 IAmb IAmb 20 10 47.8
comp=Z,119nm,1.1s
SJG **San Juan** 52.48 7 P P 20 10 39.2 -1.3
SJG IAmb IAmb 20 10 48.4
comp=Z,125nm,1.1s
SJG **San Juan** 52.48 7 P P 20 10 39.2 -1.3
SJG pmax pmax
comp=Z,125nm,1.1s
SJG **San Juan** 52.48 7 P P 20 10 39.2 -1.3
SDDR **Presa de Saban** 53.03 1 IAmb IAmb 20 10 55.7
comp=Z,66nm,1.1s
TROLL **Troll, Antarti** 53.06 158 ⇑P P 20 10 45.4 +1.0
comp=Z,5µm,0.9s
TROLL sP **sP** 20 10 56.8 +1.1
GTBY **Guantanamo Bay** 54.03 357 P P 20 10 50.6 -1.2
QSPA **South Pole Qui** 55.90 180 P P 20 11 06.4 +1.3
comp=Z,49nm,0.9s,baz=146,slow=2.2,SNR=139
QSPA PKPPKP P'P'df 20 41 01.8 -10
comp=Z,2.8nm,1.0s,baz=188,slow=1.5,SNR=4.9
comp=Z,49nm,0.9s
TEIG **Tepich** 56.35 342 P P 20 11 07.7 -0.9
TEIG IAmb IAmb 20 11 20.7
comp=Z,70nm,0.8s
SBA **Scott Base** 62.70 192 P P 20 11 52.1 +0.4
SBA IAmb IAmb 20 12 15.8
comp=Z,103nm,1.7s
SBA **Scott Base** 62.70 192 P P 20 11 52.1 +0.4
SBA pmax pmax
comp=Z,103nm,1.7s
VNDA **Vanda** 63.73 191 P P 20 11 59.5 +0.9
VNDA **Vanda** 63.73 191 P P 20 11 59.8 +1.3
comp=Z,3.6nm,0.8s,baz=134,slow=5.5,SNR=23
VNDA PKP2bc 20 40 53.2
comp=Z,0.7nm,0.8s,baz=300,slow=4.6,SNR=3.6
comp=Z,3.6nm,0.8s
VNDA **Vanda** 63.73 191 P P 20 11 59.5 +0.9
VNDA pmax pmax
comp=Z,26nm,1.2s
SYO **Syowa Base** 65.63 158 ⇑*i*P P 20 12 11.2 +0.2
SYO **Syowa Base** 65.63 158 ⇑*ep*P P 20 12 13.9 +2.9
SYO **Syowa Base** 65.63 158 ⇑ePcP PcP 20 12 39.4 -3.0
HBVL **Hebbronville** 65.98 334 P P 20 12 13.7 -0.1
HBVL IAmb IAmb 20 12 28.0
comp=Z,26nm,1.0s

BBSR **BB Station** 66.74 7 P P 20 12 18.2 -0.3
TBI **Tubuai** 67.03 257 *e*S S 20 21 06.8 -6.1
comp=Z,11µm,26.5s
TBI **Tubuai** 67.03 257 *e*LR LR 20 32 26.2
comp=Z,6µm,27.5s
TBI *e*LR LR 20 32 33.7
comp=Z,22µm,26.2s
346A **Big Creek Wild** 67.35 344 P P 20 12 21.8 -0.6
154A **Montrose** 67.37 350 P P 20 12 21.4 -1.0
HNDO **Hondo** 68.45 335 IAmb IAmb 20 12 43.2
comp=Z,37nm,0.9s
HPIG 68.65 328 IAmb IAmb 20 12 51.1
comp=Z,36nm,1.3s
HPIG IAMs_20 IAMs_20 20 38 08.1
comp=Z,3µm,20.0s
JSC **Jenkinsville** 68.78 352 IAmb IAmb 20 12 40.7
comp=Z,72nm,1.4s
DRIO **Del Rio** 68.83 334 IAmb IAmb 20 12 48.7
comp=Z,31nm,1.3s
HODGE **Hodges** 68.85 351 IAmb IAmb 20 12 41.2
comp=Z,64nm,1.3s
X58A **Rowland** 68.85 354 IAmb IAmb 20 12 41.2
comp=Z,66nm,1.0s
PAULI **Pauline** 69.37 352 IAMs_20 IAMs_20 20 45 13.3
comp=Z,3µm,18.0s
JCT **Junction City** 69.50 335 IAmb IAmb 20 12 49.0
comp=Z,76nm,1.1s
X48A **Hartselle** 69.81 347 IAmb IAmb 20 12 49.9
comp=Z,58nm,1.0s
TXAR **Lajitas Array** 69.92 331 P P 20 12 39.0 +0.4
TXAR **Lajitas Array** 69.92 331 P P 20 12 39.4 +0.7
comp=Z,5.5nm,0.8s,baz=150,slow=8.1,SNR=38
TXAR PKP2bc 20 40 43.7
comp=Z,0.8nm,0.9s,baz=226,slow=3.3,SNR=5.3
comp=Z,5.5nm,0.8s
PPT2 **Papeete2** 69.97 262 *e*S S 20 21 46.0 -2.2
comp=Z,3µm,26.0s
PPT2 **Papeete2** 69.97 262 *e*LR LR 20 33 47.9
comp=Z,3µm,27.8s
PPT2 *e*LR LR 20 33 54.4
comp=Z,2µm,31.8s
V58A **Windy Hill, Pi** 70.06 354 IAmb IAmb 20 12 50.8
comp=Z,30nm,0.8s
WHTX **Lake Whitney,** 70.10 337 IAmb IAmb 20 12 52.3
comp=Z,64nm,1.1s
W50A **Signal Mountai** 70.24 349 IAmb IAmb 20 12 43.0
comp=Z,49nm,0.8s
OZNA **Ozona** 70.37 334 IAmb IAmb 20 12 53.0
comp=Z,33nm,0.9s
PLAL **Pickwick Lake** 70.52 346 IAmb IAmb 20 12 53.9
comp=Z,40nm,0.9s
PLPT **Palo Pinto** 71.13 337 IAmb IAmb 20 12 58.6
comp=Z,50nm,1.1s
CLTN **Cedars of Leba** 71.28 348 IAmb IAmb 20 12 56.3
comp=Z,52nm,1.2s
ABTX **Abilene, Hawle** 71.40 336 IAmb IAmb 20 13 04.0
comp=Z,62nm,1.2s
WHAR **Wooly Hollow** 71.75 343 IAmb IAmb 20 12 59.3
comp=Z,101nm,1.4s
BBTS **Babate** 71.98 57 LR LR 20 43 55.0
comp=Z,5µm,18.7s,baz=208,slow=36
WTFS **Witchita Falls** 72.06 337 IAmb IAmb 20 13 03.9
comp=Z,72nm,1.2s
APMT **Aspermont** 72.20 336 IAmb IAmb 20 13 04.4
comp=Z,60nm,1.3s
T47A **Sharon Grove** 72.29 348 IAmb IAmb 20 13 01.9
comp=Z,51nm,1.0s
PARMO **Parma** 72.49 345 IAMs_20 IAMs_20 20 36 54.7
comp=Z,3µm,19.0s
PBMO **Poplar Bluff** 72.74 345 IAmb IAmb 20 13 23.5
comp=Z,35nm,1.1s
MAW **Mawson** 72.92 164 P P 20 12 56.6 +0.5
comp=Z,32nm,1.0s,baz=213,slow=7.0,SNR=49
comp=Z,32nm,1.0s
WMOK **Wichita Mounta** 73.05 337 IAmb IAmb 20 13 09.6
comp=Z,38nm,1.4s
R50A **Paris** 73.11 350 IAmb IAmb 20 13 06.7
comp=Z,59nm,1.2s
R49A **Shelbyville** 73.24 349 IAmb IAmb 20 13 09.8
comp=Z,60nm,1.1s
TUL3 **Leonard** 73.25 340 IAmb IAmb 20 13 10.4
comp=Z,40nm,0.9s
RLO **Rose Lookout** 73.28 341 P P 20 12 57.9 -0.7
USIN **University of** 73.34 347 IAmb IAmb 20 13 10.8
comp=Z,88nm,1.1s
S44A **Carbondale** 73.38 346 IAmb IAmb 20 13 10.8
comp=Z,28nm,0.9s
DEOK **Depew** 73.39 340 IAmb IAmb 20 13 18.3
comp=Z,58nm,1.1s
SIUC **Southern Illin** 73.39 346 IAmb IAmb 20 13 10.9
comp=Z,35nm,0.8s
SDMD **Sodier's Deli** 73.50 356 IAmb IAmb 20 13 10.0
comp=Z,44nm,1.2s
OK052 **Battle Ridge R** 73.61 339 IAmb IAmb 20 13 13.5
comp=Z,102nm,1.3s
OK029 **Liberty Lake** 73.62 339 IAmb IAmb 20 13 12.9
comp=Z,108nm,1.3s
P57A **Homestead Farm** 73.64 355 IAmb IAmb 20 13 11.1
comp=Z,107nm,1.3s
MSTX **Muleshoe** 73.71 334 IAmb IAmb 20 13 12.8
comp=Z,35nm,0.9s
QUOK **Quoky** 73.75 340 IAmb IAmb 20 13 13.8
comp=Z,102nm,1.2s
SMWD **Samnorwood** 73.86 336 IAmb IAmb 20 13 14.8
comp=Z,44nm,1.0s
MCWV **Mont Chateau** 73.96 354 IAmb IAmb 20 13 12.1
comp=Z,116nm,1.6s
WUPA **West Chester U** 73.96 357 IAmb IAmb 20 13 12.9
comp=Z,80nm,1.3s
MVL **Millersville** 74.06 357 IAmb IAmb 20 13 13.5
comp=Z,101nm,1.4s
319A **Douglas** 74.07 328 IAmb IAmb 20 13 18.8
comp=Z,47nm,1.1s
CCM **Cathedral Cave** 74.15 345 P P 20 13 03.1 -0.5
CCM IAmb IAmb 20 13 15.8
comp=Z,104nm,1.1s
CCM **Cathedral Cave** 74.15 345 P P 20 13 03.1 -0.5
CCM pmax pmax
comp=Z,104nm,1.2s
AMTX **Amarillo** 74.15 335 IAmb IAmb 20 13 16.7
comp=Z,62nm,1.1s
T35A **Sooner Cattle** 74.39 340 IAmb IAmb 20 13 17.6
comp=Z,70nm,1.2s
121A **Cookes Peak, D** 74.42 329 IAmb IAmb 20 13 18.4
comp=Z,40nm,1.1s
121A IAMs_20 IAMs_20 20 50 50.7
comp=Z,4µm,19.0s
CROK **Carrier** 74.44 339 IAmb IAmb 20 13 17.7
comp=Z,57nm,1.2s
BLOK **Blackwell** 74.45 339 IAmb IAmb 20 13 18.0
comp=Z,40nm,1.1s
ELIS **Ellis County** 74.47 337 IAmb IAmb 20 13 18.6
comp=Z,35nm,0.9s
Q44A **Meyer Farm, Va** 74.50 347 IAmb IAmb 20 13 16.9
comp=Z,48nm,1.2s
R40A **Maddies Statio** 74.60 344 IAmb IAmb 20 13 18.3
comp=Z,72nm,1.1s
O52A **Adamsville** 74.61 352 IAmb IAmb 20 13 15.4
comp=Z,55nm,1.1s
OK038 **West end E0370** 74.64 338 IAmb IAmb 20 13 09.4
comp=Z,53nm,1.0s
BRNJ **Basking Ridge** 74.68 358 IAmb IAmb 20 13 17.0
comp=Z,106nm,1.4s
SSPA **Standing Stone** 74.78 356 P P 20 13 07.0 -0.3
SSPA IAmb IAmb 20 13 17.1
comp=Z,76nm,1.4s
ACSO **Alum Creek Sta** 74.85 352 IAmb IAmb 20 13 16.9
comp=Z,103nm,1.1s
SUR **Sutherland** 74.86 119 P P 20 13 09.1 +0.7
P46A **Rosedale** 74.87 348 IAmb IAmb 20 13 16.5
comp=Z,59nm,1.2s
P46A IAMs_20 IAMs_20 20 41 24.7
comp=Z,3µm,19.0s
N58A **Sunbury** 74.92 357 IAmb IAmb 20 13 18.1
comp=Z,71nm,1.2s
O48B **Farmland** 75.17 350 IAmb IAmb 20 13 18.3
comp=Z,106nm,1.6s
N53A **Lisbon** 75.19 353 IAmb IAmb 20 13 19.2
comp=Z,90nm,1.3s
P43A **Skaggs, Pawnee** 75.31 346 IAmb IAmb 20 13 22.0
comp=Z,74nm,1.1s
M57A **Sunshine Farm,** 75.44 356 IAmb IAmb 20 13 21.1
comp=Z,84nm,1.3s
N51A **Ashland** 75.46 352 IAmb IAmb 20 13 20.3
comp=Z,94nm,1.1s
DBIC **Dimbokro** 75.49 71 P P 20 13 12.3 +0.3
DBIC IAmb IAmb 20 13 20.9
comp=Z,83nm,0.9s

DBIC **Dimbokro** 75.49 71 P P 20 13 11.9 -0.1
comp=Z,45nm,0.9s,baz=262,slow=4.1,SNR=19
DBIC LR LR 20 44 43.1
comp=Z,2µm,19.1s,baz=133,slow=34
comp=Z,45nm,0.9s
DBIC **Dimbokro** 75.49 71 P P 20 13 12.3 +0.3
DBIC pmax pmax
comp=Z,83nm,1.0s
KSPA **Keystone Colle** 75.59 357 IAmb IAmb 20 13 22.0
comp=Z,63nm,1.3s
UCCT **U. Connecticut** 75.76 0 IAmb IAmb 20 13 23.0
comp=Z,86nm,1.4s
N47A **Urbana** 75.86 350 IAmb IAmb 20 13 24.4
comp=Z,77nm,1.1s
L64A **Middleborough** 75.91 1 P P 20 13 13.9 +0.2
ANMO **Albuquerque** 75.97 332 P P 20 13 15.1 +0.6
ANMO **Albuquerque** 75.97 332 P P 20 13 15.1 +0.6
ANMO pmax pmax
comp=Z,26nm,1.1s
P38A **Dawn** 76.17 343 IAmb IAmb 20 13 27.0
comp=Z,56nm,1.1s
P38A IAMs_20 IAMs_20 20 48 16.1
comp=Z,4µm,21.0s
L59A **Walton** 76.20 358 IAmb IAmb 20 13 25.6
comp=Z,95nm,1.2s
BINY **Binghamton** 76.24 357 IAmb IAmb 20 13 25.6
comp=Z,71nm,1.4s
BCX **Boston College** 76.31 1 IAmb IAmb 20 13 26.3
comp=Z,56nm,1.4s
WES **Weston** 76.36 1 IAmb IAmb 20 13 26.7
comp=Z,75nm,1.3s
ERPA **Erie** 76.41 354 IAmb IAmb 20 13 26.0
comp=Z,52nm,1.2s
L61B **Northampton** 76.42 360 IAmb IAmb 20 13 26.8
comp=Z,103nm,1.2s
R32A **Long Quarter,** 76.43 339 IAmb IAmb 20 13 30.2
comp=Z,91nm,1.3s
HRV **Adam Dziewonsk** 76.48 1 P P 20 13 17.4 +0.5
HRV **Adam Dziewonsk** 76.48 1 IAMs_20 IAMs_20 20 37 26.5
comp=Z,3µm,18.0s
HRV **Adam Dziewonsk** 76.48 1 P P 20 13 17.4 +0.5
HRV pmax pmax
comp=Z,115nm,1.3s
HRV MLR MLR
comp=Z,2µm,18.0s
N41A **Harden Midland** 76.61 346 IAmb IAmb 20 13 29.3
comp=Z,52nm,1.0s
K62A **Royalston** 76.63 0 IAmb IAmb 20 13 28.5
comp=Z,104nm,1.2s
M44A **Midewin, Midew** 76.73 348 IAmb IAmb 20 13 29.8
comp=Z,66nm,1.0s
M44A IAMs_20 IAMs_20 20 50 27.1
comp=Z,3µm,20.0s
K57A **Scipio Center** 76.79 357 IAmb IAmb 20 13 28.3
comp=Z,114nm,1.8s
CBKS **Cedar Bluff** 77.10 338 IAmb IAmb 20 13 33.6
comp=Z,75nm,1.1s
T25A **Trinidad** 77.14 334 IAmb IAmb 20 13 34.9
comp=Z,105nm,1.2s
VTX **Valle De La Tr** 77.15 323 IAMs_20 IAMs_20 20 41 06.1
comp=Z,5µm,20.0s
WIN **Windhoek** 77.16 109 P P 20 13 22.5 +0.8
WIN **Windhoek** 77.16 109 P P 20 13 22.5 +0.8
WIN pmax pmax
comp=Z,110nm,1.2s
J61A **Chester** 77.31 360 IAmb IAmb 20 13 32.4
comp=Z,70nm,1.2s
MEDO **Medina** 77.33 355 IAmb IAmb 20 13 31.3
comp=Z,62nm,1.2s
J55A **Hilton** 77.40 356 IAmb IAmb 20 13 31.6
comp=Z,84nm,1.4s
J57A **Williamstown** 77.45 357 IAmb IAmb 20 13 32.1
comp=Z,79nm,1.2s
J59A **Piesco** 77.46 358 IAmb IAmb 20 13 32.4
comp=Z,105nm,1.4s
W18A **Petrified Fore** 77.46 329 IAMs_20 IAMs_20 20 45 22.3
comp=Z,4µm,20.0s
X16A **Lo Mia Camp, P** 77.60 328 IAmb IAmb 20 13 37.3
comp=Z,29nm,1.0s
L42A **Oliver, Polo** 77.62 347 IAmb IAmb 20 13 26.0
comp=Z,43nm,0.9s
L42A IAMs_20 IAMs_20 20 52 36.7
comp=Z,3µm,20.0s
HNH **Hanover** 77.67 0 IAmb IAmb 20 13 34.4
comp=Z,82nm,1.2s
L40A **Anamosa** 77.99 346 IAmb IAmb 20 13 37.0
comp=Z,90nm,1.2s
PECO **Prince Edward** 78.02 357 IAmb IAmb 20 13 35.3
comp=Z,118nm,1.5s
GLA **Glamis** 78.03 325 IAmb IAmb 20 13 42.9
comp=Z,52nm,1.4s
J47A **Sunmer** 78.05 351 IAmb IAmb 20 13 34.6
comp=Z,52nm,1.0s
LBNH **Lisbon** 78.21 0 IAmb IAmb 20 13 37.1
comp=Z,100nm,1.1s
GRHM **Grahamstown, E** 78.34 122 P P 20 13 28.1 +0.2
TKX **Tecate** 78.51 323 IAMs_20 IAMs_20 20 41 26.1
comp=Z,4µm,20.0s
H62A **Milan** 78.55 1 IAmb IAmb 20 13 41.0
comp=Z,45nm,1.1s
ACRG **Accra** 78.56 75 P P 20 13 29.5 +0.2
ACRG IAmb IAmb 20 13 38.5
comp=Z,92nm,1.0s
ACRG IAMs_20 IAMs_20 20 45 00.6
comp=Z,4µm,20.0s
LONY **Lake Ozonia** 78.61 358 IAmb IAmb 20 13 38.9
comp=Z,96nm,1.2s
DELO **Deloro Mine** 78.63 356 IAmb IAmb 20 13 38.6
comp=Z,91nm,1.5s
TJX **Tijuana** 78.69 323 IAMs_20 IAMs_20 20 39 43.8
comp=Z,5µm,21.0s
MVCO **Mesa Verde** 78.75 331 IAmb IAmb 20 13 43.6
comp=Z,33nm,1.1s
SADO **Sadowa** 78.98 355 IAmb IAmb 20 13 40.3
comp=Z,106nm,1.4s
HAL **Halifax** 79.00 6 IAmb IAmb 20 13 41.7
comp=Z,115nm,1.2s
WBO **Williamsburg** 79.01 358 IAmb IAmb 20 13 40.9
comp=Z,109nm,1.2s
L34A **Svendsen Farm,** 79.08 342 IAmb IAmb 20 13 33.6
comp=Z,31nm,0.9s
PKME **Peaks-Kenny Pk** 79.28 2 IAmb IAmb 20 13 42.9
comp=Z,110nm,1.2s
PFO **Pinyon Flats O** 79.28 324 P P 20 13 34.4 +1.5
PFO **Pinyon Flats O** 79.28 324 P P 20 13 34.4 +1.5
PFO pmax pmax
comp=Z,24nm,1.1s
G65A **Princeton** 79.28 3 IAmb IAmb 20 13 43.2
comp=Z,118nm,1.3s
I42A **Draeger Farm,** 79.32 348 IAmb IAmb 20 13 44.5
comp=Z,49nm,1.2s
TSUM **Tsumeb** 79.33 106 P P 20 13 33.6 -0.1
TSUM IAmb IAmb 20 13 46.6
comp=Z,107nm,1.2s
TSUM **Tsumeb** 79.33 106 LR LR 20 42 47.3
comp=Z,3µm,21.9s,baz=225,slow=31
KOOLE **Kule** 79.35 110 *i*P P 20 13 34.6 +0.9
MNTQ **Montreal, Queb** 79.47 359 IAmb IAmb 20 13 44.3
comp=Z,112nm,1.5s
DANC **Danby, Needles** 79.59 325 IAmb IAmb 20 13 52.4
comp=Z,112nm,1.7s
I40A **Norwalk** 79.63 347 IAmb IAmb 20 13 43.7
comp=Z,59nm,1.3s
BUKO **Buck Lake** 79.67 355 IAmb IAmb 20 13 44.3
comp=Z,130nm,1.4s
CASY **Casey** 79.68 181 P P 20 13 35.4 +0.8
H43A **Windswept, Lux** 79.69 349 IAmb IAmb 20 13 44.1
comp=Z,117nm,1.4s
PV02 **Paradox Valley** 79.71 332 IAmb IAmb 20 13 53.9
comp=Z,39nm,1.0s
PV03 **Paradox Valley** 79.80 332 IAMs_20 IAMs_20 20 49 46.1
comp=Z,4µm,20.0s
PV18 **Skein Mesa, Pa** 79.81 332 IAmb IAmb 20 13 48.5
comp=Z,40nm,1.1s
PV12 **Saucer Basin,** 79.83 332 IAmb IAmb 20 13 48.3
comp=Z,34nm,1.0s
GBN **Guysborough** 79.97 8 IAmb IAmb 20 13 46.7
comp=Z,86nm,1.3s
PV10 **Paradox Valley** 79.98 331 IAmb IAmb 20 13 49.0
comp=Z,47nm,1.1s
PHPEN **Phepeng** 80.04 114 IAmb IAmb 20 13 49.9
comp=Z,96nm,1.1s
PHPEN **Phepeng** 80.04 114 *i*P P 20 13 38.5 +1.0
BOSA **Boshof** 80.11 118 P P 20 13 38.2 +0.5
comp=Z,52nm,0.9s,baz=242,slow=5.8,SNR=46
comp=Z,52nm,0.9s
LMN **Caledonia Moun** 80.11 5 IAmb IAmb 20 13 47.2
comp=Z,120nm,1.2s

TRQ	Mont Tremblant	80.21	358	IAmb	IAmb	20 13 47.2						
	comp=Z,115nm,1.1s											
HMU	Henry Mountain	80.29	330	IAmb	IAmb	20 13 49.8						
	comp=Z,80nm,1.5s											
I37A	Lemond, Waseca	80.32	345	IAmb	IAmb	20 13 47.6						
	comp=Z,61nm,1.0s											
MTPC	Mountain Pass	80.36	325	IAMs_20	IAMs_20	20 44 57.2						
	comp=Z,3µm,20.0s											
KNB	Kanab	80.39	328	IAmb	IAmb	20 14 04.4						
	comp=Z,42nm,1.1s											
ECSD	EROS Data Cent	80.80	342	IAmb	IAmb	20 13 43.9						
	comp=Z,52nm,0.9s											
G40A	Rib Lake	80.88	347	IAmb	IAmb	20 13 50.5						
	comp=Z,95nm,1.9s											
KGCAE	Kacgae	80.98	111	IAmb	IAmb	20 13 55.0						
	comp=Z,134nm,1.4s											
KGCAE	Kacgae	80.98	111	*i* P	P	20 13 43.1	+0.6					
GRTLG	Ghanzi	81.02	110	IAmb	IAmb	20 13 55.3						
	comp=Z,93nm,1.1s											
GRTLG	Ghanzi	81.02	110	*i* P	P	20 13 43.6	+0.8					
SPMN	Marine on St.	81.34	345	IAmb	IAmb	20 13 52.5						
	comp=Z,37nm,1.1s											
SKOMA	Sekoma	81.38	114	*i* P	P	20 13 45.2	+0.6					
WSHM	Spangler Hills	81.38	324	IAMs_20	IAMs_20	20 41 13.1						
	comp=Z,3µm,20.0s											
BATG	Bathurst New B	81.44	4	IAmb	IAmb	20 13 54.5						
	comp=Z,112nm,1.4s											
GWY	Greenwater Val	81.46	325	IAMs_20	IAMs_20	20 38 09.2						
	comp=Z,4µm,19.0s											
COWI	Conover	81.50	348	IAmb	IAmb	20 13 54.0						
	comp=Z,44nm,1.2s											
P18A	Preston Nutter	81.53	331	IAmb	IAmb	20 14 09.3						
	comp=Z,39nm,1.1s											
PRN	Pahroc Range	81.71	327	IAmb	IAmb	20 13 50.9						
	comp=Z,34nm,0.9s											
WCT	Wildcat Mounta	81.93	325	IAmb	IAmb	20 14 04.2						
	comp=Z,72nm,1.9s											
WCT					IAMs_20	IAMs_20	20 37 41.7					
	comp=Z,3µm,18.0s											
LDAQ	Lac Daran	81.94	1	IAmb	IAmb	20 13 56.6						
	comp=Z,104nm,1.2s											
SUSD	Miller	82.07	341	IAmb	IAmb	20 13 49.8						
	comp=Z,74nm,1.0s											
S11A	Rachel	82.22	327	IAmb	IAmb	20 14 08.0						
	comp=Z,37nm,1.0s											
LBTB	Lobatse	82.36	115	LR	LR	20 48 27.7						
	comp=Z,2µm,18.1s,baz=25,slow=34											
E38A	The Farm, Brul	82.42	347	IAmb	IAmb	20 13 58.5						
	comp=Z,51nm,1.3s											
KDWAN	Kaudwane	82.56	113	*i* P	P	20 13 51.9	+1.0					
GMN	Gold Mountain	82.64	325	IAMs_20	IAMs_20	20 53 00.4						
	comp=Z,2µm,19.0s											
SPR3	Spring Creek 3	82.70	328	IAmb	IAmb	20 14 04.3						
	comp=Z,36nm,1.1s											
K22A	Casper	82.78	335	IAmb	IAmb	20 14 01.9						
	comp=Z,60nm,1.3s											
DUG	Dugway, Tooele	83.05	330	IAmb	IAmb	20 14 09.3						
	comp=Z,59nm,1.4s											
PCED	Cedros	83.09	33	*e*P	P	20 13 53.8	+0.9					
PCED				*i* IAmb	IAmb	20 14 07.2						
	comp=Z,190nm,1.4s											
RSSD	Black Hills	83.26	338	P	P	20 13 53.8	-0.1					
RSSD				IAmb	IAmb	20 14 06.6						
	comp=Z,31nm,1.2s											
RSSD	Black Hills	83.26	338	P	P	20 13 53.8	-0.1					
RSSD				pmax	pmax							
	comp=Z,31nm,1.2s											
PMAN	Manadas	83.37	33	*e*P	P	20 13 56.0	+1.7					
PMAN				*i* IAmb	IAmb	20 14 06.1						
	comp=Z,266nm,1.2s											
LPHEP	Lephephe	83.48	114	IAMs_20	IAMs_20	20 47 50.6						
	comp=Z,4µm,20.0s											
LPHEP	Lephephe	83.48	114	*i* P	P	20 13 56.5	+0.8					
EYMN	Ely	83.70	347	IAmb	IAmb	20 14 05.1						
	comp=Z,51nm,1.2s											
HWUT	Hardware Ranch	83.74	331	IAmb	IAmb	20 14 08.9						
	comp=Z,37nm,1.0s											
PDAR	Pinedale Array	83.97	333	P	P	20 13 57.0	-0.6					
PDAR	Pinedale Array	83.97	333	P	P	20 13 57.5	0.0					
	comp=Z,5.2nm,0.8s,baz=158,slow=4.8,SNR=12											
	comp=Z,5.2nm,0.8s											
LHV	Little Huntoon	83.99	325	IAmb	IAmb	20 14 26.1						
	comp=Z,29nm,1.1s											
TBO	Thunder Bay	84.02	349	IAmb	IAmb	20 14 06.8						
	comp=Z,48nm,1.2s											
NVAR	Mina Array Bea	84.04	325	P	P	20 13 57.8	-0.3					
NVAR	Mina Array Bea	84.04	325	P	P	20 13 58.9	+0.9					
	comp=Z,7.5nm,0.9s,baz=155,slow=5.8,SNR=28											
	comp=Z,7.5nm,0.9s											
RYN	Ryan	84.30	325	IAmb	IAmb	20 14 15.9						
	comp=Z,36nm,1.4s											
HVU	Hansel Valley	84.37	331	IAmb	IAmb	20 14 11.2						
	comp=Z,26nm,1.0s											
TORD	Torodi Ar. Bea	84.53	70	P	P	20 14 00.8	-0.1					
	comp=Z,43nm,1.0s,baz=284,slow=3.9,SNR=109											
TORD				LR	LR	20 50 56.3						
	comp=Z,3µm,18.8s,baz=234,slow=35											
	comp=Z,43nm,1.0s											
AHID	Auburn Hatcher	84.55	332	IAmb	IAmb	20 14 15.8						
	comp=Z,22nm,1.1s											
AGMN	Agassiz Nation	84.92	344	IAmb	IAmb	20 14 11.6						
	comp=Z,72nm,1.5s											
TPAW	Teton Pass	85.11	333	IAmb	IAmb	20 14 15.7						
	comp=Z,24nm,1.1s											
TPAW					IAMs_20	IAMs_20	20 48 09.7					
	comp=Z,4µm,20.0s											
MREMI	Moremi	85.14	114	*i* P	P	20 14 04.9	+0.9					
AFDM	Forest Hills D	85.72	324	IAmb	IAmb	20 14 25.1						
	comp=Z,39nm,1.5s											
EPLO	Experimental L	85.78	346	IAmb	IAmb	20 14 15.4						
	comp=Z,44nm,1.6s											
BROLN	Tlhalogang	85.89	113	*i* P	P	20 14 08.4	+0.6					
RLMT	Red Lodge	85.90	335	IAmb	IAmb	20 14 25.1						
	comp=Z,25nm,1.0s											
KSANE	Kasane	86.09	109	*i* P	P	20 14 09.8	+1.0					
LAO	LASA Array	86.25	337	IAmb	IAmb	20 14 21.1						
	comp=Z,61nm,1.2s											
YHB	Horse Butte	86.28	333	IAMs_20	IAMs_20	20 50 12.6						
	comp=Z,3µm,19.0s											
YHL	Hebgen Lake	86.36	333	IAmb	IAmb	20 14 20.6						
	comp=Z,35nm,1.5s											
YHL					IAMs_20	IAMs_20	20 59 53.7					
	comp=Z,4µm,21.0s											
HLID	Hailey	86.52	331	IAmb	IAmb	20 14 22.8						
	comp=Z,26nm,1.1s											
ULM	Lac du Bonnet	86.77	345	*e*P	P	20 14 09.8	-1.3					
MATP	Matopo	87.17	113	LR	LR	20 51 58.9						
	comp=Z,1µm,18.2s,baz=323,slow=35											
DLMT	Dillon	87.32	333	IAmb	IAmb	20 14 27.6						
	comp=Z,43nm,1.2s											
HATC	Hat Creek Radi	87.41	325	IAmb	IAmb	20 14 18.7						
	comp=Z,44nm,0.9s											
J08A	Circle Bar Ran	88.06	328	IAmb	IAmb	20 14 31.5						
	comp=Z,46nm,1.0s											
PLID	Pearl Lake	88.42	331	IAmb	IAmb	20 14 31.6						
	comp=Z,29nm,1.0s											
KHMM	Horse Mountain	88.56	324	IAmb	IAmb	20 14 33.9						
	comp=Z,44nm,1.3s											
EGMT	Eagleton	88.58	336	IAmb	IAmb	20 15 49.8						
	comp=Z,28nm,1.4s											
K05A	Summer Lake	88.64	326	IAmb	IAmb	20 14 33.4						
	comp=Z,40nm,1.0s											
L04D	Klamath Falls	88.90	325	IAmb	IAmb	20 14 37.4						
	comp=Z,23nm,1.0s											
SCHQ	Schefferville	88.93	3	P	P	20 14 21.0	-0.3					
	comp=Z,12nm,1.0s,baz=162,slow=3.2,SNR=7.2											
	comp=Z,12nm,1.0s											
J05D	Fort Rock, OR	89.23	327	IAmb	IAmb	20 14 45.6						
	comp=Z,27nm,1.2s											
PINE	Pine Mountain	89.50	327	IAmb	IAmb	20 14 28.6						
	comp=Z,18nm,1.0s											
LSZ	Lusaka	89.91	108	LR	LR	20 50 24.2						
	comp=Z,3µm,21.3s,baz=221,slow=33											
G06A	Carlson Farm,	90.50	328	IAmb	IAmb	20 14 41.6						
	comp=Z,44nm,1.9s											
G03D	McMinnville, O	91.65	327	IAMs_20	IAMs_20	20 58 40.8						
	comp=Z,3µm,20.0s											
MD31	MD31	92.13	51	IAmb	IAmb	20 14 49.8						
	comp=Z,24nm,1.4s											
FFC	Flin Flon	92.31	343	P	P	20 14 36.5	-0.5					
FFC				IAmb	IAmb	20 14 46.4						
	comp=Z,19nm,1.4s											
FFC	Flin Flon	92.31	343	P	P	20 14 36.5	-0.5					
FFC				pmax	pmax							
	comp=Z,19nm,1.4s											
TAM	Tamanrasset	93.16	65	IAmb	IAmb	20 14 43.6						
	comp=Z,37nm,1.1s											
TAM	Tamanrasset	93.16	65	P	P	20 14 42.1	+0.1					

OZB	Mount Ozzard	95.48	328	IAMs_20	IAMs_20	20 52 08.3						
	comp=Z,3µm,21.0s											
ESDC	Sonseca Array	96.97	46	P	P	20 14 58.4	-0.5					
	comp=Z,2.4nm,1.0s,baz=235,slow=4.6,SNR=11											
	comp=Z,2.4nm,1.0s											
YKA	Yellowknife Ar	102.31	341	Pdiff	Pdif	20 15 21.6	-0.4					
	comp=Z,1.6nm,0.9s,baz=145,slow=3.1,SNR=3.7											
KIBK	Kibwezi	105.35	104	IAMs_20	IAMs_20	20 58 18.1						
	comp=Z,3µm,20.0s											
DOU	Dourbes	107.98	41	*d*PP	PP	20 20 18.0	+0.6					
DAVA	Damuels	109.55	46	*e*pPKiKP	PKiKP	20 20 05.1	+7.3					
	comp=Z,9.0nm,1.5s											
FETA	Feichten	109.92	46	*e*pPKiKP	PKiKP	20 20 04.7	+6.2					
	comp=Z,6.7nm,1.1s											
RETA	Reutte	110.17	46	*e*pPKiKP	PKiKP	20 20 03.3	+4.5					
	comp=Z,7.7nm,1.6s											
MOTA	Moosalm	110.31	46	*e*pPKiKP	PKiKP	20 20 08.6	+9.4					
	comp=Z,5.2nm,1.1s											
SQTA	Sankt Quirin	110.31	46	*e*pPKiKP	PKiKP	20 20 07.2	+8.0					
	comp=Z,6.9nm,1.1s											
SQTA				*e*PP	PP	20 20 34.6	0.0					
	comp=Z,9.0nm,1.7s											
WTTA	Wattenberg	110.58	46	*e*PP	PP	20 20 40.2	+3.5					
	comp=Z,6.7nm,1.2s											
LESA	Schwarzleotal	111.28	47	*e*PKiKP	PKiKP	20 20 01.1	+0.2					
	comp=Z,1.6nm,0.7s											
KBA	Koelnbreinsper	111.53	47	*e*PKiKP	PKiKP	20 20 02.9	+1.4					
	comp=Z,2.1nm,1.0s											
KBA				*e*PP	PP	20 20 41.1	-2.3					
	comp=Z,5.2nm,1.4s											
BIOA	Bad Ischl, Aus	111.98	47	PKiKP	PKiKP	20 20 02.3	+0.2					
	comp=Z,2.5nm,1.0s											
GERES	GERESS Array B	112.54	46	PKiKP	PKiKP	20 20 02.6	-0.7					
	comp=Z,1.7nm,0.8s,baz=208,slow=2.3,SNR=14											
GERES				PKKPbc	PKKPbc	20 30 54.2	+1.1					
	comp=Z,0.4nm,0.8s,baz=35,slow=4.9,SNR=4.0											
KHC	Kasperske Hory	112.60	45	*i* PKiKP	PKiKP	20 20 03.0	-0.3					
CLL	Collm	113.24	43	*i* PKiKP	PKiKP	20 20 04.3	-0.1					
CLL				*i*		20 20 55.3						
CLL				pmax	pmax							
	comp=Z,6.0nm,1.0s											
CLL				pmax	pmax							
	comp=Z,9.0nm,1.5s											
CLL	Collm	113.24	43	*i* PKiKP	PKiKP	20 20 04.3	-0.1					
	comp=Z,6.0nm,1.0s											
CLL				*i* sPKiKP	sPKiKP	20 20 13.2	-3.2					
CLL				*i* PP	PP	20 20 55.3	-0.1					
	comp=Z,9.0nm,1.5s											
CLL				*i* x	x	20 21 38.1						
CONA	Conrad Observa	113.43	47	*e*PKiKP	PKiKP	20 20 04.3	-0.7					
	comp=Z,1.9nm,0.7s											
BRG	Berggiesshubel	113.58	44	*e*PKP	PKiKP	20 20 06.5	+1.4					
BRG				Amp		20 20 06.8						
	comp=Z,2.4nm,0.8s											
BRG	Berggiesshubel	113.58	44	P	PKiKP	20 20 14.9	+10					
BRG				Amp		20 20 21.7						
	comp=Z,2.8nm,0.8s											
KRUC	Moravsky	114.24	46	*e*PKP	PKPdf	20 20 05.3	-1.1					
ILAR	Eielson Array	114.40	333	PKP	PKPdf	20 20 05.4	-0.8					
	comp=Z,1.1nm,0.8s,baz=174,slow=0.7,SNR=12											
COLA	College	114.81	333	*i* PKiKP	PKiKP	20 20 08.0	+1.1					
JAVC	Velka Javorina	114.92	47	*e*PKP	PKPdf	20 20 07.4	-0.4					
MORC	Moravsky Berou	115.22	46	*e*PKP	PKPdf	20 20 07.5	-0.8					
VYHS	Vyhne	115.48	47	*i* PKiKP	PKiKP	20 20 09.5	+0.7					
VYHS	Vyhne	115.48	47	*e*PKP	PKiKP	20 20 09.5	+0.7					
NB2	NORSAR Subarra	116.42	33	PKPdf	PKPdf	20 20 10.1	-0.2					
	comp=Z,8.4nm,1.2s,baz=248,slow=1.9											
NB2				PKKP	PKKPab	20 30 43.2	+2.3					
	comp=Z,0.4nm,0.7s,baz=73,slow=5.1											
NB2	NORSAR Subarra	116.42	33	PKPdf	PKPdf	20 20 10.1	-0.2					
	comp=Z,8.4nm,1.2s,baz=248,slow=1.9											
NOA	NORSAR Array B	116.42	33	PKP	PKPdf	20 20 10.1	-0.2					
	comp=Z,1.8nm,0.9s,baz=249,slow=1.8,SNR=7.9											
NOA				PKKPbc	PKKPab	20 30 42.6	+1.7					
	comp=Z,0.4nm,0.7s,baz=59,slow=1.6,SNR=4.2											
ASAR	Alice Springs	117.17	207	PKP	PKPdf	20 20 12.4	-0.6					
	comp=Z,1.7nm,0.8s,baz=139,slow=1.5,SNR=15											
ASAR				PKKPbc	PKKPbc	20 30 37.0	+0.4					
	comp=Z,1.3nm,0.7s,baz=336,slow=3.5,SNR=7.5											
HFS	Hagfors	117.20	34	PKP	PKPdf	20 20 11.2	-0.5					
	comp=Z,4.1nm,0.9s,baz=204,slow=3.3,SNR=8.2											
HFS				PKKPbc	PKKPab	20 30 39.5	+2.0					
	comp=Z,3.0nm,0.8s,baz=83,slow=5.1,SNR=6.7											
KOLS	Kolonicke sedl	117.75	48	*e*PKiKP	PKiKP	20 20 17.4	+4.2					
KOLS	Kolonicke sedl	117.75	48	*e*PKP	PKiKP	20 20 17.4	+4.2					
SUW	Suwalki	119.99	43	*e*PKP	PKPdf	20 20 17.1	-0.2					
WRA	Warramunga Arr	120.36	209	PKP	PKPdf	20 20 18.8	-0.4					
	comp=Z,2.9nm,0.6s,baz=154,slow=1.6,SNR=37											
WRA				PKKPbc	PKKPbc	20 30 24.7	-0.3					
	comp=Z,0.4nm,0.5s,baz=340,slow=4.7,SNR=5.2											
NDNU	Novodnistrovsk	120.81	50	PKP	PKPdf	20 20 17.6	-1.4					
MMAI	Mount Meron Ar	121.06	69	PKP	PKPdf	20 20 19.8	-0.4					
	comp=Z,0.7nm,0.4s,baz=318,slow=1.1,SNR=3.6											
MILM	Milestii Mici	121.21	52	*e*PKP	PKPdf	20 20 19.0	-0.8					
	comp=Z,50nm,1.1s											
MILM	Milestii Mici	121.21	52	*e*PP	PP	20 21 50.0	-1.0					
MILM				*e*L	L	21 14 46.0						
MILM				LRM	MLR	21 17 10.0						
	comp=Z,2µm,19.0s											
MILM	Milestii Mici	121.21	52	*e*PKiKP	PKPdf	20 20 19.0	-0.8					
MILM				*e*		20 20 27.0						
MILM				*e*		20 21 50.0						
MILM				pmax	pmax							
	comp=Z,50nm,1.1s											
ANTO	Ankara	121.62	61	PKP	PKPdf	20 20 20.2	-0.8					
BR105	Keskin Array S	122.17	61	PKP	PKPdf	20 20 21.4	-0.8					
BR106	Keskin Array S	122.17	61	PKP	PKPdf	20 20 21.4	-0.8					
BR104	Keskin Array S	122.18	61	PKP	PKPdf	20 20 21.4	-0.8					
BRTR	Keskin Array B	122.19	61	PKP	PKiKP	20 20 22.4	+0.1					
	comp=Z,4.1nm,0.8s,baz=188,slow=3.2,SNR=21											
KBS	Kingsbay	122.33	13	*ce*PKiKP	PKiKP	20 20 23.1	+1.8					
KBS				pmax	pmax							
	comp=Z,23nm,2.5s											
AK13	Malin Array Si	122.45	48	PKP	PKPdf	20 20 21.1	-1.0					
AK19	Malin Array Si	122.45	48	PKP	PKPdf	20 20 21.1	-1.0					
AK20	Malin Array Si	122.46	48	PKP	PKPdf	20 20 20.7	-1.4					
AK17	Malin Array Si	122.47	48	PKP	PKPdf	20 20 20.8	-1.3					
AK14	Malin Array Si	122.49	48	PKP	PKPdf	20 20 20.8	-1.4					
AK21	Malin Array Si	122.49	48	PKP	PKPdf	20 20 20.8	-1.4					
AK18	Malin Array Si	122.49	48	PKP	PKPdf	20 20 20.8	-1.4					
AK16	Malin Array Si	122.50	48	PKP	PKPdf	20 20 20.8	-1.4					
AK22	Malin Array Si	122.50	48	PKP	PKPdf	20 20 20.8	-1.4					
AK15	Malin Array Si	122.52	48	PKP	PKPdf	20 20 20.8	-1.4					
AKASG	Malin Array Be	122.58	48	PKP	PKPdf	20 20 21.8	-0.6					
	comp=Z,6.8nm,0.9s,baz=266,slow=2.6,SNR=14											
AKASG				PP	PP	20 21 57.9	-2.3					
	comp=Z,0.1nm,0.3s,baz=258,slow=6.5,SNR=4.1											
AKBB	Malin Array Si	122.58	48	*ce*PKiKP	PKPdf	20 20 21.7	-0.6					
AKBB	Malin Array Si	122.58	48	PKP	PKPdf	20 20 21.1	-1.2					
MNK	Minsk	122.78	43	*i* PKiKP	PKiKP	20 20 23.0	+0.2					
MNK				*i*		20 22 00.3						
MNK				*i* PPP	PPP	20 24 35.8						
MNK				*i*		20 27 37.7						
MNK				*i* SS	SS	20 38 52.0	+9.5					
MNK				pmax	pmax							
	comp=Z,41nm,0.8s											
MNK				pmax	pmax							
	comp=N,13nm,0.7s											
MNK				pmax	pmax							
	comp=E,17nm,0.9s											
MNK				MLR	MLR							
	comp=Z,1µm,17.0s											
MNK				MLR	MLR							
	comp=E,497nm,13.0s											
MNK				MLR	MLR							
	comp=N,592nm,18.0s											
SPITS	Spitsbergen Ar	123.06	14	PKP	PKPdf	20 20 20.9	-1.7					
	comp=N,4.2nm,0.6s,baz=248,slow=1.5,SNR=8.9											
VSU	Vasula	123.09	38	*ce*PKiKP	PKPdf	20 20 22.4	-0.7					
VSU				pmax	pmax							
	comp=Z,14nm,0.7s											
FINES	FINESS Array B	123.39	35	PKP	PKPdf	20 20 22.6	-0.9					
	comp=Z,5.3nm,0.9s,baz=164,slow=3.4,SNR=13											
FINES				PKKPbc	PKKPbc	20 30 21.1	+7.1					
	comp=Z,1.4nm,0.8s,baz=98,slow=6.6,SNR=4.2											
ARCES	ARCESS Array B	124.41	25	PKP	PKPdf	20 20 25.0	-0.4					
	comp=Z,3.0nm,0.6s,baz=251,slow=2.6,SNR=11											
ARCES	ARCESS Array B	124.41	25	PKiKP	PKPdf	20 20 25.0	-0.4					
FITZ	Fitzroy Crossi	125.13	201	PKP	PKPdf	20 20 28.1	-0.2					
	comp=Z,6.4nm,0.8s,baz=199,slow=4.4,SNR=9.4											
H11S2	WAKE ISLAND Hyl	125.55	269	T	T	22 38 57.2						
	baz=107,slow=72,SNR=30											
H11S1	WAKE ISLAND Hyl	125.56	269	T	T	22 38 52.1						
	baz=107,slow=72,SNR=23											
H11S3	WAKE ISLAND Hyl	125.57	269	T	T	22 39 00.5						
	baz=107,slow=72,SNR=15											

H11N3	WAKE ISLAND Hyl	125.97	270	T	T	22 39 22.2						
	baz=116,slow=77,SNR=12											
H11N1	WAKE ISLAND Hyl	125.98	270	T	T	22 39 23.0						
	baz=116,slow=77,SNR=23											
H11N2	WAKE ISLAND Hyl	125.99	270	T	T	22 39 29.5						
	baz=116,slow=77,SNR=20											
APA	Apatity	127.19	28	*i* PKiKP	PKPdf	20 20 30.6	-0.1					
APA				MLR	MLR							
	comp=Z,1µm,20.3s											
LVZ	Lovozero	127.66	27	*ce*PKiKP	PKiKP	20 20 33.3	+1.1					
LVZ				pmax	pmax							
	comp=Z,61nm,2.5s											
LVZ	Lovozero	127.66	27	PKP	PKPdf	20 20 30.9	-0.8					
SOC	Sochi	127.67	58	*i* PKiKP	PKPdf	20 20 30.9	-1.5					
SOC				pmax	pmax							
	comp=Z,9.0nm,0.7s											
SOC				MLR	MLR							
	comp=Z,690nm,18.0s											
OBN	Obninsk	127.83	43	*e*PKiKP	PKiKP	20 20 32.9	+0.1					
OBN				*e*		20 20 39.8						
OBN				*e*		20 22 33.8						
OBN				*e*PPP	PPP	20 25 19.3						
OBN				pmax	pmax							
	comp=Z,39nm,1.7s											
OBN	Obninsk	127.83	43	PKP	PKPdf	20 20 31.6	-0.6					
MOS	Moscow	128.50	43	*i* PKiKP	PKPdf	20 20 32.8	-0.7					
MOS				pmax	pmax							
	comp=Z,42nm,1.3s											
VSR	Storozhevoye	128.83	49	*e*PKiKP	PKPdf	20 20 32.0	-2.3					
VSR				pmax	pmax							
	comp=Z,10.0nm,1.0s											
VORD	Divnogorie	128.87	49	*e*PKiKP	PKPdf	20 20 32.8	-1.6					
VORD				pmax	pmax							
	comp=Z,10.0nm,1.0s											
LPSR	Galich'ya Gora	128.88	47	*e*PKiKP	PKPdf	20 20 33.4	-0.9					
LPSR				pmax	pmax							
	comp=Z,20nm,1.0s											
KLMR	Klimovskoe	129.80	36	*e*PKiKP	PKPdf	20 20 34.7	-1.1					
KLMR				*e*		20 22 47.9						
KLMR	

KURBB				PKPbc	**PKiKP**	**20 21 25.2**	**+0.2**
	comp=Z,15nm,0.7s,baz=304,slow=2.9,SNR=48								
KURK	**Kurchatov**	**153.27**	**43**	PKiKP	**PKPdf**	**20 21 16.8**	**-0.5**
KURK						20 21 25.2	
KSH	**Kashi**	**154.19**	**69**	PKPbc	**PKPdf**	**20 21 19.7**	**+0.5**
TNSS	**Tian-Shan**	**154.58**	**61**	*e*PKiKP	**PKPdf**	**20 21 19.2**	**-0.8**
TNSS	**Tian-Shan**	**154.58**	**61**	*e*PKP	**PKPdf**	**20 21 19.2**	**-0.8**
ZALV	**Zalesovo Beam**	**154.63**	**32**	PKP	**PKPdf**	**20 21 18.5**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=283,slow=2.7,SNR=30								
ZALV				PKPbc	**pPKPdf**	**20 21 27.9**	**-0.2**
	comp=Z,35nm,0.9s,baz=294,slow=3.4,SNR=48								
MJAR	**Matsushiro Arr**	**155.09**	**284**	PKP	**PKPdf**	**20 21 18.6**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=113,slow=2.3,SNR=5.3								
TDK	**Taldyqorghan**	**155.19**	**56**	*e*PKiKP	**PKPdf**	**20 21 19.8**	**-0.4**
TDK	**Taldyqorghan**	**155.19**	**56**	*e*PKP	**PKPdf**	**20 21 19.9**	**-0.4**
SATY	**Saty**	**155.63**	**60**	*e*PKiKP	**PKPdf**	**20 21 20.5**	**-0.5**
SATY	**Saty**	**155.63**	**60**	*e*PKP	**PKPdf**	**20 21 20.6**	**-0.5**
UZB	**Uzynbulak**	**156.06**	**60**	*e*PKiKP	**PKPdf**	**20 21 21.1**	**-0.5**
UZB	**Uzynbulak**	**156.06**	**60**	*e*PKP	**PKPdf**	**20 21 21.2**	**-0.5**
BOD	**Bodaibo**	**156.13**	**352**	*e*PKiKP	**PKPdf**	**20 21 19.1**	**-1.9**
BOD				pmax	pmax		
	comp=Z,98nm,1.5s								
SHLS	**Shalkode**	**156.37**	**60**	*e*PKiKP	**PKPdf**	**20 21 21.8**	**-0.2**
SHLS	**Shalkode**	**156.37**	**60**	*e*PKP	**PKPdf**	**20 21 21.9**	**-0.1**
MAKZ	**Makanchi**	**156.94**	**50**	PKiKP	**PKPdf**	**20 21 19.0**	**-3.5**
MK31	**Makanchi Array**	**157.15**	**49**	*i* PKiKP	**PKPdf**	**20 21 22.3**	**-0.5**
MKAR	**Makanchi Array**	**157.15**	**49**	PKP	**PKPdf**	**20 21 22.5**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=288,slow=1.9,SNR=22								
MKAR				PKPab	**PKPab**	**20 21 53.7**	**+0.1**
	comp=Z,14nm,1.0s,baz=292,slow=4.1,SNR=9.4								
DLV	**Lat**	**157.70**	**182**	IAMs_20	IAMs_20	21 15 45.4	
	comp=Z,1μm,20.0s								
ZSN	**Zaisan**	**158.43**	**46**	*e*PKiKP	**PKPdf**	**20 21 24.1**	**-0.2**
ZSN				*e*		20 25 40.1	
ZSN	**Zaisan**	**158.43**	**46**	*e*PKP	**PKPdf**	**20 21 24.1**	**-0.2**
ZSN				*e*PP	**PP**	**20 25 40.1**	**+0.6**
HEH	**HeiHe**	**158.53**	**324**	*e*P	PKPdf	20 21 32.4	+8.1
HEH				pmax	pmax		
	comp=Z,9.0nm,1.6s								
USRK	**Ussuriysk Ar.**	**158.84**	**305**	PKP	**PKPdf**	**20 21 24.5**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=108,slow=5.4,SNR=2.5								
MDJ	**Mudanjiang**	**160.28**	**308**	PKP	**PKPdf**	**20 21 25.3**	**-1.2**
BNX	**BinXian**	**161.15**	**313**	⇓PKP	**PKPdf**	**20 21 25.7**	**-1.7**
WMQ	**Urumqi**	**161.85**	**53**	*e*PKP	**PKPdf**	**20 21 29.2**	**+0.9**
WMQ				pPKP	pPKPdf	20 21 34.4	-2.9
WMQ				LR	LR		
	comp=Z,830nm,16.7s								
WMQ				LR	LR		
	comp=Z,570nm,20.5s								
WMQ				LR	LR		
	comp=Z,740nm,22.9s								
MOY	**Mondy**	**162.01**	**14**	*e*PKiKP	**PKPdf**	**20 21 28.0**	**-0.3**
MOY				pmax	pmax		
	comp=Z,28nm,2.1s								
CMAR	**Chiang Mai Arr**	**162.36**	**152**	PKP	**PKPdf**	**20 21 29.6**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=232,slow=2.3,SNR=12								
CMAR				PKPab	**PKPab**	**20 22 16.4**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=229,slow=6.2,SNR=5.5								
CN2	**Changchun**	**163.32**	**310**	*e*PKP	**PKPdf**	**20 21 26.5**	**-3.2**
KSRS	**Korea Array**	**163.32**	**287**	PKP	**PKPdf**	**20 21 29.8**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=77,slow=0.1,SNR=16								
KSRS				PKPab	**PKPab**	**20 22 23.2**	**+2.4**
	comp=Z,5.0nm,1.1s,baz=102,slow=4.2,SNR=8.4								
ZAK	**Zakamensk**	**163.64**	**10**	*e*PKiKP	**PKPdf**	**20 21 29.1**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s								
LSA	**Lhasa**	**165.22**	**104**	PKP	**PKPdf**	**20 21 29.4**	**-3.1**
LSA				LR	LR		
	comp=Z,2μm,18.7s								
LSA				LR	LR		
	comp=Z,2μm,19.0s								
SONM	**Songino Array**	**166.48**	**4**	PKP	**PKPdf**	**20 21 31.7**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=259,slow=0.3,SNR=13								
SONM				PKPab	**PKPab**	**20 22 35.2**	**+0.9**
	comp=Z,8.6nm,0.9s,baz=336,slow=4.6,SNR=14								
XLT	**XiLinHaoTe**	**168.45**	**328**	*e*PKP	**PKPdf**	**20 21 33.9**	**-0.1**
XLT				pPKP	pPKPdf	20 21 41.6	-1.4
GOMU	**GeErMu**	**169.30**	**76**	PKP	**PKPdf**	**20 21 36.1**	**+1.0**
GOMU				SS	SS	20 47 30.2	-2.8
GOMU				LR	LR		
	comp=Z,570nm,18.8s								
GOMU				LR	LR		
	comp=Z,480nm,19.0s								
GOMU				LR	LR		
	comp=Z,370nm,19.1s								
KMI	**Kunming**	**169.86**	**154**	PKP	**PKPdf**	**20 21 34.8**	**-0.8**
KMI				sPKP		20 21 43.8	
NJ2	**Nanjing**	**170.38**	**259**	*e*PKP	**PKPdf**	**20 21 35.5**	**+0.1**
PZH	**PanZhiHua**	**170.65**	**145**	PKP	**PKPdf**	**20 21 35.8**	**-0.1**
PZH				sPKP		20 21 43.4	
PZH				PKPab	**PKPab**	**20 22 52.3**	**-1.1**
BJI	**Beijing**	**171.16**	**313**	PKP	**PKPdf**	**20 21 35.9**	**+0.4**
GTA	**Gaotai**	**171.90**	**49**	*e*PKP	**PKPdf**	**20 21 37.0**	**+0.9**
GTA				pPKP	pPKPdf	20 21 44.7	-0.4
GTA				PKPab	**PKPab**	**20 22 59.2**	**+0.4**
GTA				PP	**PP**	**20 26 48.0**	**-1.9**
GTA				SKKS		20 33 32.8	
TIA	**Tai'an**	**172.07**	**286**	PKP	**PKPdf**	**20 21 36.1**	**0.0**
GYA	**Guiyang**	**172.10**	**173**	⇑PKP	**PKPdf**	**20 21 36.0**	**-0.6**
GYA				PP	**PP**	**20 26 53.4**	**+3.6**
HHC	**Hu-ho-hao-te**	**172.81**	**336**	*e*PKP	**PKPdf**	**20 21 33.9**	**-2.5**
HHC				LR	LR		
	comp=Z,560nm,17.6s								
HHC				LR	LR		
	comp=Z,580nm,16.0s								
HHC				LR	LR		
	comp=Z,840nm,16.8s								
WHN	**Wuhan**	**173.23**	**238**	PKP	**PKPdf**	**20 21 38.0**	**+1.3**
BTO	**Baotou**	**173.48**	**344**	*e*PKP	**PKPdf**	**20 21 37.4**	**+0.7**
HNS	**HongShan**	**173.54**	**300**	⇑PKP	**PKPdf**	**20 21 37.1**	**+0.5**
CD2	**Chengdu**	**175.23**	**135**	PKP	**PKPdf**	**20 21 37.0**	**-0.5**
LZH	**Lanzhou**	**176.39**	**60**	*e*PKP	**PKPdf**	**20 21 38.7**	**+0.9**
LZH				PKPab	**PKPab**	**20 23 20.1**	**+1.2**
LZH				LR	LR		
	comp=Z,840nm,22.3s								
LZH				LR	LR		
	comp=Z,730nm,21.6s								
LZH				LR	LR		
	comp=Z,1μm,22.0s								
XAN	**Xi'an**	**178.94**	**254**	PKP	**PKPdf**	**20 21 37.8**	**-0.2**
XAN				PKPab	**pPKPab**	**20 23 32.7**	**-6.0**
XAN				PP	**PP**	**20 27 27.7**	**+3.4**
XAN				LR	LR		
	comp=Z,890nm,20.8s								
XAN				LR	LR		
	comp=Z,940nm,20.4s								
XAN				LR	LR		
	comp=Z,1μm,20.3s								

IDC 01 20:03:02.1±2.1, 0°.97N×125°.80E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=195.4km s-min=27.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.41**	**159**	P	P	20 08 02.4	-0.2
	0.9nm,0.9s,baz=337,slow=10,SNR=3.1						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**25.73**	**163**	P	P	20 08 34.5	0.0
	0.3nm,0.4s,baz=335,slow=7.1,SNR=6.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.30**	**327**	P	P	20 13 05.8	0.0
	0.2nm,0.5s,baz=112,slow=8.6,SNR=4.3						
	0.2nm,0.5s						

PRU 01 20:27:12.2, 50°.08N×18°.36E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**210**	*e*PG	Pg	20 27 17.2	-0.3
OKC				*e*SG	Sg	20 27 21.6	+0.5
STEB	**Steborice**	**0.41**	**249**	*e*PG	Pg	20 27 19.8	-0.2
STEB				*e*SG	Sg	20 27 25.4	+0.2
MORC	**Moravsky Berou**	**0.61**	**240**	*e*PG	Pg	20 27 23.1	-0.8
MORC				*e*SG	Sg	20 27 32.2	+0.5
KRLC	**Kraliky**	**1.02**	**270**	*e*PG	Pg	20 27 30.2	-1.5
KRLC				*e*SG	Sg	20 27 43.9	-0.9
LANS	**Liptovska Anna**	**1.18**	**142**	*e*PG	Pg	20 27 33.4	-1.3
LANS				*e*SG	Sb	20 27 50.8	-0.4
LANS				*e*LG	Lg	20 27 52.4	
JAVC	**Velka Javorina**	**1.30**	**200**	*e*PG	Pg	20 27 35.9	-1.2
DPC	**Dobruska-Polom**	**1.34**	**282**	*e*PG	Pg	20 27 36.7	-1.1
DPC				*e*SG	Sg	20 27 55.3	+0.2
	4.2nm,0.6s						
VRAC	**Vranov**	**1.38**	**237**	*e*PG	Pg	20 27 37.0	-1.7
VRAC				*e*SG	Sg	20 27 55.9	-0.7
CHVC	**Chvalec**	**1.56**	**290**	*e*PG	Pn	20 27 39.6	-1.7
UPC	**Upice**	**1.56**	**287**	*e*SG	Sn	20 28 02.3	0.0
KRUC	**Moravsky**	**1.64**	**232**	*e*SG	Sn	20 28 03.3	-0.7

BJI ***01*** *20:35:16.9, 0°.48N×122°.12E, h48km, mb5.0/53, Ms5.1/6, Ms7 4.9/6*

MOS ***01*** *20:35:19.8±0.8, 1°.13N×121°.75E, h38km, mb5.2/48, Error ellipse: s-maj=10.9km s-min=5.3km az=120.8*

NEIC ***01*** *20:35:22.6±2.3, 1°.11N±0°.07×121°.79E±0°.06, h38km±5km, mb5.0/90, Error ellipse: s-maj=10.6km s-min=8.1km az=201.0*

IDC ***01*** *20:35:23.3±1.4, 1°.05N×121°.75E, h56km±12km, mb4.4/28, mbtmp4.7/33, Error ellipse: s-maj=13.6km s-min=7.1km az=77.0*

DJA ***01*** *20:35:23.5±0.2, 1°.N±2°×12°2E±°, h50km±2km, M5.1/77, mb5.1/77, mB5.5/11, MLv5.3/25, Mw(mB)5.0/11, MwMwp7.7/1, Mwp7.3/1*

ISC 01 20:35:23.3±0.4, 1°.06N±0°.04×121°.73E±0°.04, h52km±3km, h52km:pP-P, n575, σ1°.19/590, mb5.0/130, MS5.2/4, 17C-2D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.62**	**160**	P	**Pn**	**20 35 34.5**	**-1.7**
TOLI2	**Tolitoli**	**0.94**	**273**		**Pn**	**20 35 39.0**	**-1.3**
TOLI2	**Tolitoli**	**0.94**	**273**	P	**Pn**	**20 35 39.7**	**-0.7**
TOLI2	**Tolitoli**	**0.94**	**273**	S	**Sn**	**20 35 52.6**	**-0.3**
APSI	**Ampana**	**1.96**	**182**	P	**Pn**	**20 35 54.5**	**+0.3**
MPSI	**Mapaga**	**1.96**	**248**	P	**Pn**	**20 35 54.7**	**+0.5**
KMSI	**Cibinong**	**2.31**	**102**	P	**Pn**	**20 35 58.9**	**0.0**
LUWI	**Luwuk**	**2.34**	**153**	P	**Pn**	**20 36 01.1**	**+1.8**
PCI	**Palu**	**2.72**	**224**	P	**Pn**	**20 36 04.8**	**+0.2**
TTSI	**Tana Toraja**	**4.50**	**205**	P	**Pn**	**20 36 31.2**	**+2.1**
SGSI	**Sangihe**	**4.61**	**55**	P	**Pn**	**20 36 27.1**	**-3.4**
SMKI	**Samarinda**	**4.76**	**252**	P	**Pn**	**20 36 34.1**	**+1.5**
SANI	**Sanana**	**5.26**	**126**	P	**Pn**	**20 36 39.1**	**-0.4**
SANI	**Sanana**	**5.26**	**126**	S	**Sn**	**20 37 41.1**	**+2.2**
SANI	**Sanana**	**5.26**	**126**	P	**Pn**	**20 36 38.6**	**-0.9**
BKB	**Balikpapan**	**5.35**	**244**		**Pn**	**20 36 40.5**	**-0.2**
BKB	**Balikpapan**	**5.35**	**244**	P	**Pn**	**20 36 41.7**	**+1.0**
BKB	**Balikpapan**	**5.35**	**244**	P	**Pn**	**20 36 41.0**	**+0.3**
	3.0nm292nm,0.6s						
SPSI	**Sidrap Palu**	**5.36**	**201**	P	**Pn**	**20 36 42.8**	**+2.0**
TNTI	**Ternate**	**5.65**	**93**	Pn	**Pn**	**20 36 40.7**	**-4.1**
TNTI	**Ternate**	**5.65**	**93**	P	**Pn**	**20 36 46.7**	**+2.0**
TNTI	**Ternate**	**5.65**	**93**	P	**Pn**	**20 36 43.7**	**-1.0**
BNSI	**Bone**	**5.66**	**197**	P	**Pn**	**20 36 48.1**	**+3.1**
LBMI	**Labuha**	**6.02**	**106**	P	**Pn**	**20 36 49.1**	**-0.7**
KAPI	**Kappang**	**6.35**	**198**		**Pn**	**20 36 56.1**	**+1.7**
KAPI	**Kappang**	**6.35**	**198**	P	**Pn**	**20 36 55.4**	**+1.0**
	18nm,0.3s,baz=1.7,slow=12,SNR=16						
KAPI				S	**Sn**	**20 38 05.4**	**-0.2**
	48nm,0.6s,baz=11,slow=10,SNR=1.9						
KAPI	**Kappang**	**6.35**	**198**	P	**Pn**	**20 36 54.7**	**+0.3**
KAPI	**Kappang**	**6.35**	**198**	P	**Pn**	**20 36 56.1**	**+1.7**
BKSI	**Bukumbba**	**6.54**	**194**	P	**Pn**	**20 36 58.3**	**+1.3**
	0.5nm157nm,0.9s						
BBSI	**Bau Bau**	**6.56**	**173**	P	**Pn**	**20 36 59.0**	**+1.7**
	1.2nm323nm,1.0s						
NLAI	**Namlea**	**6.86**	**129**	P	**Pn**	**20 37 02.7**	**+1.3**
	5μm325nm,1.0s						
DAV	**Davao City (W)**	**7.10**	**33**	P	**Pn**	**20 37 05.7**	**+1.0**
	241nm,0.4s,baz=304,slow=8.7,SNR=3.0						
DAV				S	**Sn**	**20 38 26.3**	**+2.3**
	368nm,0.6s,baz=276,slow=23,SNR=4.1						
BSSI	**Bau Bau, Buton**	**7.26**	**190**	P	**Pn**	**20 37 10.0**	**+3.1**
	0.7nm144nm,0.8s						
KKM	**Kota Kinabalu**	**7.40**	**312**		**Pn**	**20 37 07.4**	**-1.5**
KKM	**Kota Kinabalu**	**7.40**	**312**	P	**Pn**	**20 37 09.1**	**+0.2**
AAI	**Ambon**	**8.00**	**126**	P	**Pn**	**20 37 19.5**	**+2.4**
	289nm,0.9s						
MSAI	**Masohi**	**8.43**	**121**	P	**Pn**	**20 37 23.4**	**+0.5**
	3μm199nm,0.9s						
SBUM	**Sibu**	**9.60**	**278**		**Pn**	**20 37 39.4**	**+0.5**
SBUM	**Sibu**	**9.60**	**278**	P	**Pn**	**20 37 41.2**	**+2.2**
MMRI	**Maumere**	**9.65**	**177**	P	**Pn**	**20 37 41.0**	**+1.4**
	57nm,0.7s						
SWI	**Sorong**	**9.72**	**101**	P	**Pn**	**20 37 40.9**	**+0.3**
	59nm,0.9s						
EDFI	**Ende, Flores**	**9.75**	**180**	P	**Pn**	**20 37 42.2**	**+1.1**
STKI	**Sintang**	**10.30**	**265**	P	**Pn**	**20 37 51.5**	**+3.0**
	58nm,1.2s						
PLAI	**Plampang**	**10.58**	**202**	P	**Pn**	**20 37 53.8**	**+1.4**
PLAI	**Plampang**	**10.58**	**202**	P	**Pn**	**20 37 53.4**	**+1.0**
	68nm,0.8s						
WBSI	**Waikabubak, Su**	**10.88**	**192**	P	**Pn**	**20 37 59.5**	**+2.9**
	57nm,0.6s						
SOEI	**Soe**	**11.04**	**167**	P	**Pn**	**20 38 01.7**	**+2.9**
	80nm,0.8s						
KMMI	**Kalianget**	**11.18**	**224**	P	**Pn**	**20 38 03.5**	**+3.0**
	111nm,0.8s						
FAKI	**Fak Fak**	**11.24**	**111**	Pn	**Pn**	**20 38 00.1**	**-1.3**
FAKI	**Fak Fak**	**11.24**	**111**	P	**Pn**	**20 38 02.2**	**+0.8**
FAKI	**Fak Fak**	**11.24**	**111**	P	**Pn**	**20 38 00.3**	**-1.1**
	56nm,1.2s						
BATI	**Baumata**	**11.36**	**170**	P	**Pn**	**20 38 03.8**	**+0.7**
	18nm,0.7s,baz=311,slow=24,SNR=2.1						
BATI	**Baumata**	**11.36**	**170**	P	**Pn**	**20 38 06.2**	**+3.1**
	94nm,0.6s						
KSM	**Kuching**	**11.42**	**272**	Pn	**Pn**	**20 38 04.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**12.11**	**218**		**Pn**	**20 38 11.6**	**-1.7**
JAGI	**Jajag, Banyuwa**	**12.11**	**218**	P	**Pn**	**20 38 12.6**	**-0.7**
JAGI	**Jajag, Banyuwa**	**12.11**	**218**	P	**Pn**	**20 38 16.2**	**+2.9**
	92nm,1.1s						
GRJI	**Gresik**	**12.16**	**229**	P	**Pn**	**20 38 15.4**	**+1.4**
	183nm,1.1s						
GMJI	**Gumukmas**	**12.42**	**222**	P	**Pn**	**20 38 19.7**	**+2.2**
	29nm,0.6s						
DRS	**Darwin Rock St**	**16.21**	**146**	P	**Pn**	**20 39 08.4**	**+0.7**
BBJI	**Bungbulang**	**16.40**	**239**	P	**P**	**20 39 11.8**	**-0.5**
MTN	**Manton Dam**	**16.67**	**146**		**P**	**20 39 15.5**	**+0.3**
MTN				IAmb	IAmb	20 39 18.6	
	comp=Z,49nm,0.3s						
MTN	**Manton Dam**	**16.67**	**146**	P	**Pn**	**20 39 13.6**	**0.0**
DBJI	**Dramaga**	**16.75**	**243**	P	**P**	**20 39 17.2**	**+1.0**
	comp=Z,87nm,1.1s						
CNJI	**Cibinong**	**16.77**	**240**	P	**P**	**20 39 17.8**	**+1.5**
	comp=Z,60nm,1.2s						
KDU	**Kakadu**	**17.33**	**142**	P	**P**	**20 39 22.7**	**+0.2**
CGJI	**Cibinong**	**17.73**	**244**	P	**P**	**20 39 28.8**	**+1.9**
	comp=Z,142nm,0.5s						
MYKOM	**Kota Tinggi**	**17.89**	**273**	P	**Pn**	**20 39 27.9**	**-0.7**
KNRA	**Kununurra**	**18.03**	**158**		**P**	**20 39 29.4**	**-0.8**
KNRA				IAmb	IAmb	20 39 33.9	
	comp=Z,60nm,0.8s						
MDSI	**Maura Dua**	**18.38**	**252**	P	**Pn**	**20 39 35.9**	**+1.3**
	comp=Z,71nm,0.7s						
KASI	**Kota Agung**	**18.41**	**249**	P	**Pn**	**20 39 36.4**	**+1.4**
	comp=Z,72nm,0.8s						
LWLI	**Liwa**	**18.65**	**251**	P	**Pn**	**20 39 40.1**	**+2.1**
LHSI	**Lahat**	**18.83**	**255**	P	**Pn**	**20 39 41.8**	**+1.8**
	comp=Z,94nm,1.0s						
JAY	**Jayapura**	**19.30**	**101**	P	**P**	**20 39 45.0**	**+0.7**
	comp=Z,9.3nm,0.8s,baz=181,slow=3.7,SNR=5.9						
JAY	**Jayapura**	**19.30**	**101**	P	**Pn**	**20 39 45.3**	**-0.5**
JAY	**Jayapura**	**19.30**	**101**	P	**P**	**20 39 45.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.43**	**169**		**P**	**20 39 45.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.43**	**169**	P	**P**	**20 39 45.1**	**-0.4**
	comp=Z,36nm,0.5s,baz=6.8,slow=7.6,SNR=298						
FITZ	**Fitzroy Crossi**	**19.43**	**169**	P	**P**	**20 39 46.3**	**+0.8**
MNAI	**Manna**	**19.51**	**254**	P	**Pn**	**20 39 47.9**	**-0.3**
MNAI	**Manna**	**19.51**	**254**	P	**Pn**	**20 39 48.5**	**+0.3**
KSI	**Kapahiang**	**19.69**	**256**	P	**Pn**	**20 39 51.3**	**+1.0**
SDSI	**Sungai Dareh**	**20.39**	**264**	P	Pn	20 39 57.6	-1.0
	comp=Z,158nm,1.0s						
BKNI	**Bangkinang**	**20.70**	**268**	P	Pn	20 40 01.0	-1.3
BKNI	**Bangkinang**	**20.70**	**268**	P	Pn	20 40 01.1	-1.1
IPM	**Ipoh**	**20.95**	**280**	P	**P**	**20 40 03.0**	**+0.8**
IPM				IAmb	IAmb	20 40 04.2	
	comp=Z,58nm,0.8s						
IPM	**Ipoh**	**20.95**	**280**	P	Pn	20 40 04.2	-1.1
PDSI	**Padang**	**21.35**	**265**	P	**P**	**20 40 07.7**	**+1.2**
	comp=Z,104nm,1.1s						
UBPT	**Khong Chiam**	**21.38**	**312**	P	**P**	**20 40 07.2**	**+0.5**
PPI	**Padang Panjang**	**21.38**	**266**	P	**P**	**20 40 08.3**	**+1.5**
	comp=Z,95nm,0.8s						
KULM	**Kulim**	**21.45**	**282**	P	**P**	**20 40 08.4**	**+0.9**
KULM				IAmb	IAmb	20 40 09.3	
	comp=Z,47nm,0.8s						
KULM	**Kulim**	**21.45**	**282**	P	**P**	**20 40 08.9**	**+1.3**
TPUB	**Ta-pu**	**22.13**	**357**	P	**P**	**20 40 15.6**	**+0.8**
TPUB				IAmb	IAmb	20 40 24.2	
	comp=Z,50nm,1.0s						
TPUB	**Ta-pu**	**22.13**	**357**	P	**P**	**20 40 17.2**	**+2.5**
MNSI	**Mandailing Nat**	**22.14**	**270**	P	**P**	**20 40 16.1**	**+1.1**
	comp=Z,2μmcomp=Z,103nm,0.9s						
MBWA	**Marble Bar**	**22.17**	**185**	P	**P**	**20 40 14.5**	**-0.7**
MBWA	**Marble Bar**	**22.17**	**185**	P	**P**	**20 40 15.1**	**0.0**
YULB	**Yu-li**	**22.20**	**359**		**P**	**20 40 16.4**	**+0.9**
PSA00	**Pilbara Seismi**	**22.57**	**185**		**P**	**20 40 16.9**	**-2.5**
PSA00				IAmb	IAmb	20 40 41.3	
	comp=Z,46nm,1.1s						
PSA00	**Pilbara Seismi**	**22.57**	**185**	P	**P**	**20 40 17.8**	**-1.7**
PSA00				IAmb	IAmb	20 40 41.3	
	comp=Z,28nm,1.2s						
PSA00	**Pilbara Seismi**	**22.57**	**185**	P	**P**	**20 40 20.0**	**+0.5**
SSLB	**Suanglung**	**22.60**	**358**	P	**P**	**20 40 19.1**	**-0.7**
SISI	**Saibi**	**22.76**	**264**	P	**P**	**20 40 21.4**	**-0.1**
	comp=Z,192nm,1.1s						
RPSI	**Rantau Prapat**	**22.85**	**274**	P	**P**	**20 40 22.4**	**-0.1**
RPSI				IAmb	IAmb	20 40 24.6	
	comp=Z,50nm,0.9s						
PSI	**Prapat**	**22.85**	**275**	P	**P**	**20 40 22.4**	**-0.3**
PSI				pmax	pmax		
	comp=Z,50nm,0.9s						
TSI	**Tuntungan**	**23.27**	**276**	P	**P**	**20 40 27.9**	**+1.3**
	comp=Z,243nm,1.1s						
WB0	**Warramunga Arr**	**24.14**	**150**	IAmb	IAmb	20 40 49.0	
	comp=Z,68nm,0.9s						
GSI	**Gunungsitoli**	**24.15**	**271**	P	**P**	**20 40 35.9**	**+1.1**
GSI	**Gunungsitoli**	**24.15**	**271**	P	**P**	**20 40 35.0**	**+0.2**
WRAB	**Tennant Creek**	**24.26**	**150**	P	**P**	**20 40 34.9**	**-0.9**
WRAB				IAmb	IAmb	20 40 38.4	
	comp=Z,47nm,1.1s						
WRAB	**Tennant Creek**	**24.26**	**150**	*i* P	**P**	**20 40 34.7**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,59nm,1.3s						
WRA	**Warramunga Arr**	**24.26**	**150**	P	**P**	**20 40 33.6**	**-2.2**
WRA	**Warramunga Arr**	**24.26**	**150**	P	**P**	**20 40 34.5**	**-1.3**
	comp=Z,19nm,0.5s,baz=336,slow=8.6,SNR=198						
WRA				PcP	**PcP**	**20 44 14.8**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=327,slow=2.1,SNR=5.3						
WRA				S	**S**	**20 44 51.6**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=333,slow=16,SNR=12						
	comp=Z,19nm,0.5s						
WRA	**Warramunga Arr**	**24.26**	**150**	*i* P	**P**	**20 40 34.7**	**-1.1**
WRA				pmax	pmax		
	comp=Z,23nm,0.4s						
WR8	**Warramunga Arr**	**24.36**	**150**	P	**P**	**20 40 35.4**	**-1.2**
LHMI	**Lhok Sumawe**	**25.08**	**280**	P	**P**	**20 40 45.1**	**+1.8**
	comp=Z,119nm,1.0s						
MLSI	**Meulaboh, Aceh**	**25.49**	**278**	P	**P**	**20 40 47.3**	**+0.2**
	comp=Z,181nm,1.0s						
COEN	**Coen**	**25.97**	**126**	P	**P**	**20 40 52.7**	**+1.3**
SLVN	**Son La**	**26.61**	**320**	P	**P**	**20 40 58.4**	**+1.2**
SLVN				IAmb	IAmb	20 41 15.6	
	comp=Z,58nm,1.8s						
ASAR	**Alice Springs**	**27.28**	**155**	P	**P**	**20 41 02.1**	**-1.1**
ASAR				PcP	**PcP**	**20 44 21.2**	**-0.8**
ASAR	**Alice Springs**	**27.28**	**155**	P	**P**	**20 41 02.4**	**-0.8**
	comp=Z,16nm,0.5s,baz=345,slow=14,SNR=297						
ASAR				PcP	**PcP**	**20 44 21.6**	**-0.3**
	comp=Z,4.5nm,0.3s,baz=347,slow=2.2,SNR=22						
ASAR				S	**S**	**20 45 38.1**	**-1.1**
	comp=Z,3.7nm,0.9s,baz=339,slow=21,SNR=10						
ASAR				ScP	**ScP**	**20 47 59.0**	**+0.7**
	comp=Z,1.1nm,1.1s,baz=18,slow=0.4,SNR=4.3						
	comp=Z,16nm,0.5s

BTO pmax pmax
comp=Z,15nm,0.9s
ARMA Armidale 42.32 140 P **P** **20 43 12.7 +0.2**
ARMA IAmb IAmb 20 43 14.7
comp=Z,12nm,0.7s
EVN Everest 42.79 312 P **P** **20 43 18.1 +1.2**
XLT XiLinHaoTe 42.95 354 *e*P **P** **20 43 17.8 +0.5**
XLT pP pP 20 43 29.0 -1.8
XLT pmax pmax
comp=Z,16nm,0.7s
GTA Gaotai 43.09 335 *e*P **P** **20 43 20.5 +1.9**
GTA PcP **PcP** **20 45 08.3 +0.5**
GTA pmax pmax
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 43.91 11 P **P** **20 43 24.5 -0.4**
USA0B Ussuriysk Arra 43.91 11 P **P** **20 43 24.5 -0.4**
USA0B pmax pmax
comp=Z,8.0nm,0.7s
USRK Ussuriysk Ar. 43.91 11 P **P** **20 43 24.6 -0.3**
comp=Z,6.1nm,0.7s,baz=204,slow=10,SNR=10
comp=Z,6.1nm,0.7s
MDJ Mudanjiang 43.93 8 P **P** **20 43 24.9 -0.2**
MDJ pmax pmax
comp=Z,38nm,1.0s
CAN Canberra 44.27 148 P **P** **20 43 28.2 +0.2**
CAN IAmb IAmb 20 43 30.6
comp=Z,23nm,0.5s
CAN Canberra 44.27 148 P **P** **20 43 28.5 +0.5**
CAN Canberra 44.27 148 P **P** **20 43 28.2 +0.2**
CAN pmax pmax
comp=Z,23nm,0.5s
CAN Canberra 44.27 148 P **P** **20 43 28.9 +0.9**
CAN pP **pP** **20 43 39.7 -2.3**
CAN PcP **PP** **20 45 12.1 +0.1**
BNX BinXian 44.77 6 ⇑P **P** **20 43 30.9 -0.9**
BNX pmax pmax
comp=Z,13nm,1.1s
HYB Hyderabad 45.44 294 *e*P **P** **20 43 39.4 +1.7**
HYB *e*pP **pP** **20 43 49.0 -2.4**
HYB *e*PcP **PcP** **20 45 16.3 +0.2**
HYB *e*PP **PP** **20 45 25.0 +0.2**
HYB *e*S **S** **20 50 18.1 +2.3**
VLAKA Lakatoro 48.23 113 P **P** **20 44 00.0 +0.7**
ULN Ulaanbaatar 48.33 347 P **P** **20 44 00.3 +0.5**
ULN IAmb IAmb 20 44 01.8
comp=Z,25nm,0.9s
ULN Ulaanbaatar 48.33 347 *ce*P **P** **20 43 58.9 -0.9**
ULN pmax pmax
comp=Z,30nm,1.0s
ULN Ulaanbaatar 48.33 347 P **P** **20 44 00.7 +0.9**
SONM Songino Array 48.45 346 P **P** **20 44 01.2 +0.4**
SONM IAmb IAmb 20 44 02.7
comp=Z,24nm,1.1s
SONM Songino Array 48.45 346 P **P** **20 44 01.1 +0.4**
comp=Z,18nm,0.9s,baz=165,slow=8.1,SNR=71
SONM PcP **PcP** **20 45 25.5 -0.8**
comp=Z,3.6nm,0.8s,baz=156,slow=2.6,SNR=4.1
comp=Z,18nm,0.9s
SONM Songino Array 48.45 346 P **P** **20 44 01.2 +0.4**
SONM pmax pmax
comp=Z,24nm,1.1s
HEH HeiHe 49.25 5 *e*P **P** **20 44 06.5 -0.1**
HEH pmax pmax
comp=Z,47nm,1.1s
DZM Mont Dzumac 49.30 121 P **P** **20 44 08.4 +0.8**
OUENC Ouen Island, N 49.77 121 P **P** **20 44 11.8 +0.7**
ZAK Zakamensk 51.58 345 *e*P **P** **20 44 24.7 +0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
WMQ Urumqi 52.23 329 *e*P **P** **20 44 32.5 +3.2**
WMQ LR LR
comp=Z,590nm,17.3s
WMQ LR LR
comp=Z,1μm,19.3s
WMQ LR LR
comp=Z,750nm,17.3s
MOY Mondy 53.36 344 *e*P **P** **20 44 38.4 +0.8**
MOY pmax pmax
comp=Z,17nm,1.5s
NIL Nilore 55.73 311 P **P** **20 44 55.2 +0.2**
NIL IAmb IAmb 20 44 56.7
comp=Z,18nm,0.8s
NIL Nilore 55.73 311 P **P** **20 44 55.2 +0.2**
NIL pmax pmax
comp=Z,18nm,0.8s
ZSN Zaisan 56.19 331 *e*P **P** **20 44 57.8 -0.2**
ZSN Zaisan 56.19 331 *e*P **P** **20 44 57.8 -0.2**
SHLS Shalkode 56.36 324 *e*P **P** **20 44 57.3 -2.1**
SHLS pmax pmax
comp=Z,21nm,1.0s
SHLS Shalkode 56.36 324 *e*P **P** **20 44 57.3 -2.1**
comp=Z,21nm,1.0s
KSH Kashi 56.54 318 P **P** **20 45 02.7 +1.9**
KSH PcP **PcP** **20 45 57.7 +0.7**
KSH pmax pmax
comp=Z,35nm,0.9s
UZB Uzynbulak 56.61 324 *e*P **P** **20 45 00.7 -0.6**
UZB pmax pmax
comp=Z,11nm,0.7s
UZB Uzynbulak 56.61 324 *e*P **P** **20 45 00.7 -0.6**
comp=Z,11nm,0.7s
SATY Saty 56.93 323 *e*P **P** **20 45 03.0 -0.5**
SATY pmax pmax
comp=Z,14nm,0.9s
SATY Saty 56.93 323 *e*P **P** **20 45 03.0 -0.5**
comp=Z,14nm,0.9s
KPKS Kokpek 57.00 324 *e*P **P** **20 45 03.6 -0.3**
KPKS Kokpek 57.00 324 *e*P **P** **20 45 03.6 -0.3**
MK31 Makanchi Array 57.05 329 *ce*P **P** **20 45 05.1 +1.0**
MKAR Makanchi Array 57.05 329 P **P** **20 45 04.2 +0.1**
MKAR Makanchi Array 57.05 329 P **P** **20 45 05.0 +0.9**
comp=Z,8.5nm,0.4s,baz=129,slow=8.3,SNR=146
MKAR PcP **PcP** **20 45 57.3 -1.4**
comp=Z,10nm,0.7s,baz=115,slow=5.8,SNR=10.0
comp=Z,8.5nm,0.4s
MAKZ Makanchi 57.22 329 P **P** **20 45 06.3 +1.0**
MAKZ PcP **PcP** **20 45 58.6 -0.7**
TNSS Tian-Shan 57.80 322 *e*P **P** **20 45 09.2 -0.8**
TNSS Tian-Shan 57.80 322 *e*P **P** **20 45 09.2 -0.8**
ULHL Ulahol 57.80 321 P **P** **20 45 11.6 +1.8**
SNR=7.1
AAA Alma-Ata 57.91 323 *e*P **P** **20 45 10.1 -0.2**
AAA Alma-Ata 57.91 323 *e*P **P** **20 45 10.1 -0.2**
TDK Taldyqorghan 58.06 325 *e*P **P** **20 45 10.9 -0.4**
TDK Taldyqorghan 58.06 325 *e*P **P** **20 45 10.9 -0.4**
TKM2 Tokmak 2 58.57 322 P **P** **20 45 16.0 +0.9**
SNR=50
KUU Kurty 58.64 323 *e*P **P** **20 45 15.0 -0.3**
KUU Kurty 58.64 323 *e*P **P** **20 45 15.1 -0.3**
KBK Karagaybulak 58.83 321 P **P** **20 45 18.6 +1.7**
SNR=18
AAK Ala-Archa 59.11 321 P **P** **20 45 20.4 +1.6**
AAK Ala-Archa 59.11 321 P **P** **20 45 20.9 +2.1**
SNR=10
AAK Ala-Archa 59.11 321 *ce*P **P** **20 45 19.5 +0.7**
AAK pmax pmax
comp=Z,63nm,1.7s
AAK Ala-Archa 59.11 321 P **P** **20 45 20.8 +2.0**
AAK PcP **PcP** **20 46 07.8 +0.7**
CHMS Chumysh 59.13 321 P **P** **20 45 19.9 +1.1**
SNR=8.4
KBL Kabul 59.29 310 P **P** **20 45 20.6 +0.4**
KBL Kabul 59.29 310 P **P** **20 45 20.6 +0.4**
KBL pmax pmax
comp=Z,45nm,0.8s
USP Ospenovka 59.43 321 P **P** **20 45 22.1 +1.2**
SNR=43
SGDS Sogindy 59.45 322 *e*P **P** **20 45 20.7 -0.4**
comp=Z,6.1nm,0.9s
EKS2 Erkin-Say 59.57 321 P **P** **20 45 23.7 +1.7**
SNR=24
PEA0B Petropavlovsk- 59.83 24 *ce*P **P** **20 45 22.4 -1.0**
PETK Petropavlovsk- 59.83 24 P **P** **20 45 22.9 -0.5**
comp=Z,5.0nm,0.7s,baz=186,slow=3.0,SNR=12
comp=Z,5.0nm,0.7s
PET Petropavlovsk 60.17 25 *ce*P **P** **20 45 26.8 +1.2**
PET pmax pmax
comp=Z,24nm,1.7s
BTLS Baital 60.64 323 *e*P **P** **20 45 28.8 -0.3**
BTLS pmax pmax
comp=Z,6.0nm,0.7s
BTLS Baital 60.64 323 *e*P **P** **20 45 28.8 -0.3**
comp=Z,6.2nm,0.7s
ZAA0 Zalesovo Array 60.83 336 IAmb IAmb 20 45 30.7
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 60.83 336 P **P** **20 45 29.1 -1.0**
ZALV Zalesovo Beam 60.83 336 P **P** **20 45 29.8 -0.3**
comp=Z,8.6nm,0.6s,baz=126,slow=6.5,SNR=50
ZALV PKPPKP **P'P'df** **21 14 51.2 +2.8**
comp=Z,0.3nm,0.3s,baz=324,slow=4.0,SNR=4.0
comp=Z,8.6nm,0.6s
SIMJ Simiganj 60.95 315 P **P** **20 45 31.9 +0.4**
SIMJ sP **pP** **20 45 47.6 +1.8**
YAK Yakutsk 61.11 4 P **P** **20 45 31.3 -0.5**
YAK Yakutsk 61.11 4 *e*P **P** **20 45 31.1 -0.8**
YAK *e**PP **pP** **20 45 44.0 -1.9**
YAK *e*S **S** **20 53 47.7 +0.6**
YAK *e**SS **pS** **20 54 06.3 +3.6**
YAK pmax pmax
comp=Z,64nm,1.2s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK smax smax
comp=N,645nm,14.8s
YAK smax smax
comp=E,417nm,14.9s
YAK Yakutsk 61.11 4 P **P** **20 45 31.4 -0.5**
DZA Taraz 61.26 320 *e*P **P** **20 45 33.0 -0.3**
DZA pmax pmax
comp=Z,11nm,1.1s
DZA Taraz 61.26 320 *e*P **P** **20 45 33.0 -0.3**
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 61.41 330 P **P** **20 45 34.2 +0.1**
comp=Z,15nm,0.9s,baz=118,slow=5.7,SNR=134
comp=Z,15nm,0.9s
KURK Kurchatov 61.43 330 P **P** **20 45 34.5 +0.3**
KURK Kurchatov 61.43 330 *ce*P **P** **20 45 34.7 +0.4**
KURK pmax pmax
comp=Z,51nm,1.0s
KURK Kurchatov 61.43 330 P **P** **20 45 34.9 +0.6**
IUG Iuzhnay 61.76 319 *e*P **P** **20 45 36.4 -0.4**
IUG pmax pmax
comp=Z,13nm,0.9s
IUG Iuzhnay 61.76 319 *e*P **P** **20 45 36.4 -0.4**
comp=Z,13nm,0.9s
KK31 Karatay Array 61.88 320 P **P** **20 45 37.6 +0.1**
KK31 IAmb IAmb 20 45 39.8
comp=Z,22nm,1.1s
KK31 Karatay Array 61.88 320 P **P** **20 45 37.6 +0.1**
KK31 pmax pmax
comp=Z,22nm,1.1s
KKAR Karatay Array 61.88 320 P **P** **20 45 37.3 -0.3**
KKAR Karatay Array 61.88 320 P **P** **20 45 37.3 -0.3**
CHM Chimkent 62.12 319 *e*P **P** **20 45 38.9 -0.2**
CHM pmax pmax
comp=Z,13nm,1.0s
CHM Chimkent 62.12 319 *e*P **P** **20 45 38.9 -0.2**
comp=Z,13nm,1.0s
QRZ Quartz Range 62.13 138 P **P** **20 45 40.4 +1.2**
BRLS Borolday 62.29 319 *e*P **P** **20 45 39.8 -0.5**
BRLS pmax pmax
comp=Z,8.0nm,0.8s
BRLS Borolday 62.29 319 *e*P **P** **20 45 39.8 -0.5**
comp=Z,8.5nm,0.8s
MA2 Magadan 62.57 16 P **P** **20 45 41.3 -0.5**
MA2 Magadan 62.57 16 *ce*P **P** **20 45 42.2 +0.5**
MA2 pmax pmax
comp=Z,19nm,0.7s
MA2 Magadan 62.57 16 P **P** **20 45 40.7 -1.0**
comp=Z,29nm,0.9s
RPZ Rata Peaks 62.62 142 P **P** **20 45 44.1 +1.6**
KHZ Kahutara 63.55 139 P **P** **20 45 49.7 +1.1**
BRZS Berezniki 64.08 327 *e*P **P** **20 45 51.7 -0.2**
BRZS Berezniki 64.08 327 *e*P **P** **20 45 51.8 -0.2**
BKZ Black Stump Fm 64.10 135 P **P** **20 45 53.6 +1.2**
URZ Urewera 64.17 134 P **P** **20 45 54.0 +1.3**
RTZ Ruatahuna 64.22 134 P **P** **20 45 53.3 +0.1**
BVAR Borovoye Array 66.92 329 P **P** **20 46 10.4 +0.2**
comp=Z,8.2nm,0.7s,baz=138,slow=9.0,SNR=51
comp=Z,8.2nm,0.7s
BRVK Borovoye 66.99 329 P **P** **20 46 10.6 -0.1**
BRVK Borovoye 66.99 329 *ce*P **P** **20 46 11.1 +0.4**
BRVK pmax pmax
comp=Z,29nm,1.3s
BRVK Borovoye 66.99 329 P **P** **20 46 11.0 +0.4**
TIXI Tiksi 70.63 2 *ce*P **P** **20 46 32.1 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 73.44 16 *ce*P **P** **20 46 50.6 +0.8**
BILL pmax pmax
comp=Z,7.0nm,1.7s
ATKA Atka Island 73.53 35 P **P** **20 46 51.7 +1.0**
SVE Sverdlovsk 73.67 330 *e*P **P** **20 46 51.0 -0.4**
SVE pmax pmax
comp=Z,28nm,1.3s
ARTI Arti 74.64 329 P **P** **20 46 56.1 -1.0**
ARTI IAmb IAmb 20 46 57.2
comp=Z,15nm,1.0s
ARTI Arti 74.64 329 *c i*P **P** **20 46 56.5 -0.6**
ARTI S **S** **20 56 30.0 +1.0**
ARTI pmax pmax
comp=Z,17nm,1.1s
OPO Ambohidratompo 75.70 251 P **P** **20 47 04.2 +0.1**
comp=Z,5.8nm,0.7s,baz=109,slow=4.5,SNR=10
comp=Z,5.8nm,0.7s
VOI Vohitsoka 76.44 247 P **P** **20 47 06.9 -1.4**
VOI IAmb IAmb 20 47 08.5
comp=Z,12nm,0.7s
NIKH Nikolski High 76.86 36 P **P** **20 47 12.1 +2.3**
NIKH Nikolski High 76.86 36 P **P** **20 47 08.6 -1.3**
baz=254
RAYN Ar Rayn 76.95 294 P **P** **20 47 10.3 -0.7**
RAYN IAmb IAmb 20 47 11.9
comp=Z,13nm,0.8s
RAYN Ar Rayn 76.95 294 P **P** **20 47 10.3 -0.7**
RAYN pmax pmax
comp=Z,13nm,0.9s
UNV Unalaska Valle 78.45 35 P **P** **20 47 17.7 -0.9**
baz=256
BELG Belogornoye 79.49 323 *i*P **P** **20 47 23.6 -0.8**
BELG pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 79.56 199 P **P** **20 47 22.6 -1.9**
comp=Z,1.6nm,0.9s,baz=56,slow=4.5,SNR=8.3
comp=Z,1.6nm,0.9s
KIRV Kirov 79.93 330 *ce*P **P** **20 47 26.4 -0.2**
M11K Mekoryuk 80.28 29 P **P** **20 47 27.3 -1.1**
baz=255
FALS False Pass 80.44 34 P **P** **20 47 29.4 0.0**
baz=258
GEVA Gevas 80.45 309 IAmb IAmb 20 47 32.3
comp=Z,14nm,0.7s
TNA Tin City 80.99 23 P **P** **20 47 32.2 0.0**
baz=252
KBZ Khabaz 81.19 314 P **P** **20 47 33.2 -0.5**
comp=Z,3.6nm,0.8s,baz=121,slow=6.1,SNR=7.7
comp=Z,3.6nm,0.8s
KBZ Khabaz 81.19 314 *ce*P **P** **20 47 34.0 +0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
GURO Guroymak-BITLI 81.28 309 IAmb IAmb 20 47 36.3
comp=Z,15nm,1.0s
SHA1 Shidzhatmaz 81.37 314 *i*P **P** **20 47 34.6 -0.4**
S12K Black Hills 81.37 34 P **P** **20 47 34.0 -0.4**
baz=259
KIV Kislovodsk 81.37 314 *e*P **P** **20 47 32.0 -2.8**
KIV pmax pmax
comp=Z,3.0nm,1.0s
K13K Kusilvak Mount 81.40 27 P **P** **20 47 35.3 +0.9**
baz=256
VNDA Vanda 81.47 172 P **P** **20 47 34.2 -0.3**
VNDA Vanda 81.47 172 P **P** **20 47 33.8 -0.8**
comp=Z,2.4nm,0.5s,baz=307,slow=6.6,SNR=14
comp=Z,2.4nm,0.5s
VNDA Vanda 81.47 172 P **P** **20 47 34.2 -0.3**
VNDA pmax pmax
comp=Z,20nm,2.0s
J14K Nanvaranak Lak 82.09 27 P **P** **20 47 39.0 +0.9**
baz=257
L14K Kuka Creek 82.18 28 IAmb IAmb 20 47 40.3
comp=Z,9.4nm,0.9s
L14K Kuka Creek 82.18 28 P **P** **20 47 39.8 +1.2**
baz=258
SDPT Sand Point 82.19 34 P **P** **20 47 38.9 +0.1**
baz=260
F15K North Star Dit 82.33 24 P **P** **20 47 40.2 +0.8**
baz=255
N14K Kuskokwak Cree 82.37 30 P **P** **20 47 40.2 +0.6**
baz=259
M14K Bethel 82.40 29 P **P** **20 47 41.3 +1.6**
baz=258,SNR=6.0
G15K Niukluk 82.41 24 P **P** **20 47 40.5 +0.8**
baz=256
O14K Tigyukauivet M 82.46 30 P **P** **20 47 40.7 +0.7**
baz=259
L15K Ungalak Mounta 82.81 28 P **P** **20 47 42.6 +0.8**
baz=259,SNR=6.6
S14K Fog Glacier 82.86 33 P **P** **20 47 42.9 +0.6**
baz=261
VRH Novokhopyorsk 82.91 321 *e*P **P** **20 47 40.7 -1.8**
VRH pmax pmax
comp=Z,20nm,0.6s
K15K Wolf Creek Mou 82.91 27 P **P** **20 47 43.1 +0.7**
baz=259
M15K Kasigluk River 83.00 29 P **P** **20 47 43.6 +0.7**
baz=260,SNR=8.7
H16K Elim 83.08 25 P **P** **20 47 44.0 +0.8**
baz=258
O15K Ungalikthiuk R 83.17 31 P **P** **20 47 44.2 +0.4**
baz=260
G16K Koyuk River 83.19 24 P **P** **20 47 44.3 +0.6**
baz=258
N15K Kwethluk River 83.20 30 P **P** **20 47 44.4 +0.5**
N15K IAmb IAmb 20 47 45.6
comp=Z,18nm,1.0s
N15K Kwethluk River 83.20 30 P **P** **20 47 44.9 +1.0**
baz=260,SNR=8.0
D17K Noatak River 83.42 22 P **P** **20 47 46.2 +1.4**
baz=257
CHGN Chignik 83.49 34 P **P** **20 47 45.9 +0.5**
baz=262
J16K Anvik River 83.52 26 P **P** **20 47 47.0 +1.5**
baz=259,SNR=7.3
C17K DeLong Mountai 83.57 21 P **P** **20 47 47.2 +1.5**
baz=256
KIBK Kibwezi 83.73 268 P **P** **20 47 47.9 +0.2**
KIBK IAmb IAmb 20 47 49.2
comp=Z,9.9nm,0.9s
E17K Hotham Inlet 83.76 23 P **P** **20 47 47.9 +1.3**
baz=258
M16K Timber Creek 83.89 29 IAmb IAmb 20 47 49.5
comp=Z,17nm,0.8s
M16K Timber Creek 83.89 29 P **P** **20 47 48.8 +1.3**
baz=261,SNR=11
N16K Nishlik Lake 83.90 29 P **P** **20 47 48.8 +1.3**
baz=261,SNR=16
G17K Kiwalik Mounta 83.91 24 P **P** **20 47 48.3 +0.9**
baz=259
P16K Nushagak River 84.09 31 P **P** **20 47 49.7 +1.3**
baz=262
O16K Kokwok River B 84.11 30 IAmb IAmb 20 47 50.0
comp=Z,11nm,0.7s
O16K Kokwok River B 84.11 30 P **P** **20 47 49.2 +0.6**
baz=262,SNR=12
H17K Granite Mounta 84.11 25 IAmb IAmb 20 47 50.9
comp=Z,17nm,0.9s
H17K Granite Mounta 84.11 25 P **P** **20 47 49.8 +1.3**
baz=260,SNR=5.6
J17K VABM Dome 84.21 26 IAmb IAmb 20 47 50.9
comp=Z,20nm,1.1s
J17K VABM Dome 84.21 26 P **P** **20 47 50.2 +1.2**
baz=261,SNR=6.2
E18K Tukpahlearik C 84.29 22 IAmb IAmb 20 47 51.2
comp=Z,20nm,1.0s
E18K Tukpahlearik C 84.29 22 P **P** **20 47 49.9 +0.6**
baz=259
L17K Donlin 84.37 28 P **P** **20 47 50.9 +1.0**
baz=262
VORD Divnogorie 84.40 321 *e*P **P** **20 47 48.6 -1.6**
VORD pmax pmax
comp=Z,30nm,0.9s
K17K Iditarod 84.46 27 IAmb IAmb 20 47 52.8
comp=Z,13nm,0.8s
K17K Iditarod 84.46 27 P **P** **20 47 51.6 +1.4**
baz=262,SNR=5.1
KMBO Kilima Mbogo 84.50 269 *i*P **P** **20 47 51.0 -0.8**
VSR Storozhevoye 84.50 321 *e*P **P** **20 47 49.4 -1.3**
VSR pmax pmax
comp=Z,20nm,0.8s
F18K Selawik 84.51 23 P **P** **20 47 51.4 +1.0**
baz=260
O17K Koliganek Bris 84.64 30 P **P** **20 47 51.8 +0.6**
baz=263
M17K Holitna River 84.68 28 P **P** **20 47 52.3 +0.9**
baz=262
N17K Nushagak Hills 84.69 29 P **P** **20 47 52.4 +1.0**
baz=263
R17L Mt. Peulik Vol 84.77 32 P **P** **20 47 52.0 +0.1**
baz=264
LPSR Galich'ya Gora 84.78 323 *e*P **P** **20 47 50.9 -1.2**
LPSR pmax pmax
comp=Z,50nm,0.9s
G18K Tagagawik 84.79 24 P **P** **20 47 52.1 +0.2**
baz=261
H18K Honhosa River 84.80 25 P **P** **20 47 52.6 +0.6**
baz=261
C19K Lookout Ridge 84.98 21 P **P** **20 47 53.6 +0.8**
baz=260
Q17K Contact Creek 85.09 32 P **P** **20 47 53.4 -0.3**
baz=264
L18K Granite Mounta 85.13 28 P **P** **20 47 54.9 +1.2**
baz=263
KLMR Klimovskoe 85.27 331 *e*P **P** **20 47 51.6 -2.8**
KLMR pmax pmax
comp=Z,53nm,1.0s
J18K Innoko River 85.27 26 P **P** **20 47 55.3 +0.9**
baz=263
N18K Kilae Creek 85.34 29 P **P** **20 47 55.9 +1.1**
baz=264
GCSA Galena City Sc 85.36 25 P **P** **20 47 55.7 +1.0**
baz=263
D19K Kuna River 85.40 21 IAmb IAmb 20 47 57.6
comp=Z,13nm,0.8s
D19K Kuna River 85.40 21 P **P** **20 47 55.8 +0.9**
baz=261,SNR=6.8
M18K Stony River 85.46 28 P **P** **20 47 56.2 +0.9**
baz=264
G19K Purcell Mounta 85.46 24 P **P** **20 47 56.1 +0.9**
baz=262,SNR=5.6
E19K Redstone River 85.58 22 P **P** **20 47 56.9 +1.1**
baz=262
Q18K Katmai Hardscr 85.58 31 P **P** **20 47 56.0 -0.2**
baz=265
O18K Koktuh Hills 85.59 30 P **P** **20 47 56.7 +0.7**
baz=264
H19K Roundabout Mou 85.64 24 P **P** **20 47 57.6 +1.5**
baz=263,SNR=5.7
TOKA Tokat 85.69 310 IAmb IAmb 20 48 00.7
comp=Z,6.2nm,0.7s
R18K Karluk 85.78 32 P **P** **20 47 57.3 +0.3**
baz=265
MOS Moscow 85.80 326 *e*P **P** **20 47 55.3 -1.8**
MOS pmax pmax
comp=Z,24nm,0.7s
J19K Poorman 85.82 26 P **P** **20 47 57.7 +0.7**
baz=264
SII Sitkinak Islan 85.85 34 P **P** **20 47 59.8 +2.4**
SII Sitkinak Islan 85.85 34 P **P** **20 47 57.7 +0.3**
baz=266
B20K Meade River 85.96 20 P **P** **20 47 58.6 +1.0**
baz=262
D20K Etivluk River 85.98 21 P **P** **20 47 58.4 +0.6**
baz=262
L19K White Mountain 85.98 28 P **P** **20 47 58.4 +0.5**
baz=265
E20K Nigu River 86.08 22 P **P** **20 47 58.9 +0.6**
baz=263
F20K Avaraart Lake 86.11 23 P **P** **20 47 59.1 +0.7**
baz=264
M19K Big River Lodg 86.18 28 P **P** **20 47 59.3 +0.4**
baz=265
H20K Anotleneega Mo 86.29 25 P **P** **20 47 59.7 +0.3**
baz=264
LODK Lodwar 86.31 273 P **P** **20 48 00.2 -0.4**
MMAI Mount Meron Ar 86.34 303 P **P** **20 48 00.7 +0.2**
comp=Z,1.0nm,0.5s,baz=104,slow=3.5,SNR=5.4
comp=Z,1.0nm,0.5s
OBN Obninsk 86.36 325 P **P** **20 47 59.5 -0.4**
OBN Obninsk 86.36 325 *de*P **P** **20 47 59.2 -0.6**
OBN *e**PP **pP** **20 48 12.6 -2.1**
OBN *e**SP **sP** **20 48 17.9 -2.5**
OBN *e* 20 51 21.0
OBN *e*PPP PPP 20 53 13.8
OBN pmax pmax
comp=Z,53nm,1.7s
OBN MLR MLR
comp=Z,996nm,17.0s

OBN	**Obninsk**	86.36	325	P		P	20 47 58.6	-1.2
	comp=Z,36nm,1.0s							
OHAK	**Old Harbor**	86.39	33	P		P	20 48 00.4	+0.4
	baz=266							
I20K	**Naaghedeneel**	86.39	25	P		P	20 48 00.6	+0.7
	baz=265							
K20K	**Telida**	86.45	27	P		P	20 48 00.9	+0.7
	baz=265							
L20K	**Farewell, AK**	86.46	28	P		P	20 48 00.2	-0.1
	baz=265							
J20K	**Nowinta River**	86.48	26	P		P	20 48 00.4	+0.1
	baz=265							
P19K	**Oil Pt**	86.58	30	P		P	20 48 01.1	+0.2
	baz=266							
C21K	**Knifeblade Rid**	86.69	21	P		P	20 48 02.2	+1.0
	baz=264							
KDAK	**Kodiak Island**	86.80	32	P		P	20 48 02.3	+0.3
	baz=267							
H21K	**Melozitna Rive**	87.16	24	P		P	20 48 03.7	+0.1
	baz=266							
SPCR	**Spurr Chakacha**	87.17	29	P		P	20 48 03.9	0.0
	baz=267							
B22K	**Teshekpuk Lake**	87.27	20	P		P	20 48 03.5	-0.5
	baz=265							
CAST	**Castle Rocks**	87.34	27	P		P	20 48 04.1	-0.5
	baz=267							
D22K	**Ayikyak River**	87.42	21	P		P	20 48 05.0	+0.1
	baz=266							
CAPN	**Captain Cook N**	87.67	29	P		P	20 48 05.9	-0.2
	baz=268							
E22K	**Anaktuvuk Pass**	87.70	22	P		P	20 48 06.2	0.0
	baz=267							
G22K	**Bettles**	87.75	23	P		P	20 48 06.7	+0.3
	baz=267							
H22K	**Ishtalitna Cre**	87.76	24	P		P	20 48 07.0	+0.5
	baz=268							
BR104	**Keskin Array S**	87.85	310	P		P	20 48 05.5	-2.2
	comp=Z,3.1nm,0.9s							
BR131	**Keskin Array S**	87.85	310	*i* P		P	20 48 06.6	-1.1
BRTR	**Keskin Array B**	87.85	310	P		P	20 48 06.0	-1.7
BRTR	**Keskin Array B**	87.85	310	P		P	20 48 06.6	-1.1
	comp=Z,1.9nm,0.7s,baz=127,slow=7.0,SNR=12							
	comp=Z,1.9nm,0.7s							
BPAW	**Bear Paw Mtn.**	87.86	26	P		P	20 48 07.3	+0.2
	baz=268							
BR105	**Keskin Array S**	87.87	310	P		P	20 48 06.3	-1.5
	comp=Z,4.7nm,0.8s							
BR106	**Keskin Array S**	87.87	310	P		P	20 48 06.3	-1.5
	comp=Z,3.4nm,0.8s							
SUA	**Susitna One**	87.89	29	P		P	20 48 07.3	-0.1
	baz=268							
MLY	**Manley**	88.00	25	IAmb		IAmb	20 48 09.2	
	comp=Z,5.3nm,0.9s							
MLY	**Manley**	88.00	25	P		P	20 48 08.2	+0.5
	baz=268							
D23K	**Nanushuk River**	88.15	21	P		P	20 48 09.1	+0.8
	baz=268							
SYO	**Syowa Base**	88.16	201	‖ *e*P		P	20 48 10.6	+2.4
SYO	**Syowa Base**	88.16	201	‖ *e*pP		pP	20 48 23.6	+0.1
C23K	**Itkillik River**	88.20	20	P		P	20 48 09.2	+0.8
	baz=268							
COLD	**Coldfoot**	88.28	23	P		P	20 48 09.1	+0.2
	baz=269							
G23K	**Bananza Creek**	88.34	23	IAmb		IAmb	20 48 11.1	
	comp=Z,7.0nm,1.1s							
G23K	**Bananza Creek**	88.34	23	P		P	20 48 10.3	+1.0
	baz=269							
APA	**Apatity**	88.38	337	*e*P		P	20 48 07.3	-2.1
APA				MLR		MLR		
	comp=Z,981nm,18.3s							
H23K	**Yukon River**	88.52	24	P		P	20 48 10.9	+0.8
	baz=269							
E23K	**Chandalar**	88.52	22	P		P	20 48 11.0	+0.9
	baz=269							
TOLK	**Toolik Lake Re**	88.54	21	P		P	20 48 11.4	+1.2
	baz=269							
I23K	**Minto, Yukon-K**	88.58	25	P		P	20 48 10.1	-0.3
	baz=269							
MCK	**McKinley**	88.76	26	P		P	20 48 10.8	-0.5
	baz=270							
D24K	**Happy Valley**	88.82	21	P		P	20 48 11.5	+0.1
	baz=270							
E24K	**Your Creek**	88.94	22	P		P	20 48 10.8	-1.3
	baz=270							
H24K	**Noodor Dome**	89.20	24	P		P	20 48 13.7	+0.3
	baz=271							
HDA	**Harding Lake**	89.62	26	P		P	20 48 14.8	-0.5
	baz=272							
ILAR	**Eielson Array**	89.64	25	P		P	20 48 13.3	-2.1
	comp=Z,0.7nm,0.6s,baz=247,slow=5.4,SNR=8.0							
ILAR				PKKPbc		**PKKPdf**	21 05 48.8	+1.9
	comp=Z,0.9nm,0.8s,baz=53,slow=1.6,SNR=8.6							
	comp=Z,0.7nm,0.6s							
C26K	**Camden Bay**	90.17	20	P		P	20 48 17.8	+0.1
	baz=273							
KLU	**Klutina**	90.20	29	P		P	20 48 18.1	-0.1
	baz=272							
J25K	**Salcha River,**	90.30	26	P		P	20 48 18.2	-0.3
	baz=273							
EYAK	**Cordova Ski Ar**	90.33	30	P		P	20 48 18.1	-0.5
	baz=273							
PAX	**Paxson**	90.34	27	P		P	20 48 18.9	+0.1
	baz=273							
RIDG	**Independent Ri**	90.58	26	P		P	20 48 19.7	-0.1
	baz=274							
F26K	**Sheenjek River**	90.60	22	P		P	20 48 20.2	+0.3
	baz=274							
C27K	**Jago River**	90.61	20	P		P	20 48 20.2	+0.4
	baz=275							
AK08	**Malin Array Si**	90.76	320	P		P	20 48 18.5	-2.3
AK10	**Malin Array Si**	90.76	320	P		P	20 48 18.5	-2.4
AKASG	**Malin Array Be**	90.78	321	P		P	20 48 19.2	-1.7
	comp=Z,4.5nm,0.8s,baz=73,slow=4.6,SNR=14							
	comp=Z,4.5nm,0.8s							
AKASG	**Malin Array Be**	90.78	321	*i* P		P	20 48 19.2	-1.7
AKASG				pmax		pmax		
	comp=Z,6.0nm,0.8s							
AKBB	**Malin Array Si**	90.78	321	*ce*P		P	20 48 19.3	-1.6
AKBB				pmax		pmax		
	comp=Z,8.0nm,0.9s							
AKBB	**Malin Array Si**	90.78	321	P		P	20 48 19.0	-1.9
AK03	**Malin Array Si**	90.78	321	P		P	20 48 18.9	-2.0
AK01	**Malin Array Si**	90.78	321	P		P	20 48 18.9	-2.1
KIEV	**Kiev**	90.79	321	P		P	20 48 19.2	-1.8
KIEV				IAmb		IAmb	20 48 21.0	
	comp=Z,6.1nm,0.6s							
KIEV	**Kiev**	90.79	321	P		P	20 48 19.2	-1.8
KIEV				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KIEV	**Kiev**	90.79	321	P		P	20 48 19.4	-1.6
AK02	**Malin Array Si**	90.79	321	P		P	20 48 18.9	-2.1
AK05	**Malin Array Si**	90.79	320	P		P	20 48 18.9	-2.1
AK07	**Malin Array Si**	90.80	320	P		P	20 48 18.9	-2.1
G26K	**Porcupine Rive**	90.80	23	P		P	20 48 21.3	+0.6
	baz=274							
AK06	**Malin Array Si**	90.80	320	P		P	20 48 19.0	-2.0
AK04	**Malin Array Si**	90.81	321	P		P	20 48 19.0	-2.1
AK12	**Malin Array Si**	90.82	320	P		P	20 48 19.1	-2.0
N25K	**Chitina, Valde**	90.83	28	P		P	20 48 21.1	0.0
	baz=274							
AK15	**Malin Array Si**	90.84	321	P		P	20 48 19.2	-2.0
AK22	**Malin Array Si**	90.87	321	P		P	20 48 19.3	-2.1
AK18	**Malin Array Si**	90.87	321	P		P	20 48 19.3	-2.1
AK17	**Malin Array Si**	90.88	321	P		P	20 48 19.3	-2.1
AK13	**Malin Array Si**	90.88	320	P		P	20 48 19.4	-2.0
AK21	**Malin Array Si**	90.89	321	P		P	20 48 19.4	-2.0
AK19	**Malin Array Si**	90.91	321	P		P	20 48 19.5	-2.1
AK20	**Malin Array Si**	90.91	321	P		P	20 48 19.5	-2.1
SCRK	**Sand Creek**	90.94	26	P		P	20 48 21.7	+0.1
	baz=274							
QSPA	**South Pole Qui**	90.99	180	P		P	20 48 21.6	-0.2
	comp=Z,2.6nm,0.6s,baz=298,slow=1.2,SNR=25							
	comp=Z,2.6nm,0.6s							
J26L	**Joseph Creek**	91.08	26	P		P	20 48 22.3	0.0
	baz=275							
I26K	**Coal Creek Min**	91.19	25	P		P	20 48 22.5	0.0
	baz=275							
ARCES	**ARCESS Array B**	91.19	340	P		P	20 48 22.1	-0.4
	comp=Z,2.3nm,0.9s,baz=87,slow=5.3,SNR=5.4							
ARCES				PKKPbc		**PKKPdf**	21 05 43.8	-0.4
	comp=Z,0.3nm,0.5s,baz=318,slow=1.6,SNR=4.2							
	comp=Z,2.3nm,0.9s							
MNK	**Minsk**	91.38	324	*i* P		P	20 48 23.1	-0.6
MNK				*i* *PP		pP	20 48 36.6	-2.0
MNK				*i*			20 52 01.0	
MNK				*i* PPP		PPP	20 53 59.5	
MNK				*i* S		SKSac	20 58 51.1	-0.6
MNK				*i* *SS		S	20 59 15.1	-3.7
MNK				*i* SS		SS	21 05 27.9	+3.0
MNK				*i* SSS		SSS	21 09 05.9	
MNK				pmax		pmax		
	comp=Z,18nm,0.8s							
MNK				pmax		pmax		
	comp=N,16nm,1.0s							
MNK				pmax		pmax		
	comp=E,7.0nm,0.8s							
MNK				MLR		MLR		
	comp=E,482nm,17.0s							
MNK				MLR		MLR		
	comp=Z,817nm,17.0s							
MNK				MLR		MLR		
	comp=N,453nm,18.0s							
E27K	**Coleen River**	91.51	22	P		P	20 48 24.1	+0.1
	baz=276							
M26K	**Nabesna, AK**	91.52	28	P		P	20 48 24.7	+0.5
	baz=275							
BGLC	**Bering Glacier**	91.58	30	P		P	20 48 24.5	+0.1
	baz=275							
MCARA	**McCarthy VSAT**	91.60	29	P		P	20 48 24.4	-0.2
	baz=275							
D27M	**Malcolm River**	91.61	21	P		P	20 48 24.8	+0.3
	baz=277							
CRQE	**Cirque**	91.62	29	P		P	20 48 24.8	0.0
	baz=275							
G27K	**Doyon Strip**	91.65	23	P		P	20 48 25.1	+0.4
	baz=276							
H27K	**Steamboat Moun**	91.76	24	P		P	20 48 25.3	0.0
	baz=276							
K27K	**Chicken**	91.78	26	P		P	20 48 25.8	+0.5
	baz=276							
FINES	**FINESS Array B**	91.78	331	P		P	20 48 23.8	-1.5
	comp=N,4.3nm,0.7s,baz=61,slow=5.3,SNR=20							
	comp=N,4.3nm,0.7s							
FINES	**FINESS Array B**	91.78	331	*i* P		P	20 48 23.7	-1.7
FINES				pmax		pmax		
	comp=Z,4.0nm,0.7s							
I27K	**Kandik River**	91.80	24	P		P	20 48 26.2	+0.8
	baz=276							
L27K	**Beaver Creek,**	91.99	27	P		P	20 48 26.4	0.0
	baz=276							
M27K	**Edge Creek, AK**	92.04	28	P		P	20 48 27.1	+0.3
	baz=276							
SPITS	**Spitsbergen Ar**	92.10	349	P		P	20 48 24.8	-1.8
	comp=Z,4.9nm,0.8s,baz=88,slow=8.4,SNR=3.3							
	comp=Z,4.9nm,0.8s							
E28M	**Babbage River**	92.21	21	P		P	20 48 27.1	-0.1
	baz=278							
CTG	**Chitna Glacier**	92.45	29	P		P	20 48 29.4	+0.8
	baz=276							
I28M	**Miner Creek**	92.51	24	P		P	20 48 29.2	+0.3
	baz=278							
RNPP9	**Sopachiv**	92.83	321	P		P	20 48 28.5	-1.9
DAWY	**Dawson**	92.94	26	P		P	20 48 31.1	+0.4
	baz=278							
H29M	**Whitestone**	93.03	24	P		P	20 48 31.2	+0.1
	baz=279							
G29M	**Pine Creek**	93.05	23	P		P	20 48 31.8	+0.6
	baz=280							
PINM	**Pinnacle**	93.09	30	P		P	20 48 31.6	0.0
	baz=277							
YUK8	**Steele Glacier**	93.17	29	P		P	20 48 31.9	-0.2
	baz=279							
I29M	**Ogilvie Camp,**	93.20	24	P		P	20 48 32.1	+0.2
	baz=279							
PNL	**Peninsula**	93.58	30	P		P	20 48 34.7	+0.9
	baz=278							
M29M	**Somme Creek**	93.61	27	P		P	20 48 35.0	+1.0
	baz=279							
BURAR	**Bucovina Array**	93.62	318	P		P	20 48 33.8	-0.6
BURAR				IAmb		IAmb	20 48 34.9	
	comp=Z,6.0nm,0.8s							
BUR08	**Bucovina Ar. S**	93.63	318	IAmb		IAmb	20 48 34.6	
	comp=Z,6.2nm,0.8s							
L29M	**L29M**	93.65	27	IAmb		IAmb	20 48 36.2	
	comp=Z,5.4nm,0.9s							
L29M	**L29M**	93.65	27	P		P	20 48 34.9	+0.9
	baz=280							
EPYK	**Eagle Plains**	93.66	23	P		P	20 48 34.8	+0.7
	baz=281							
LSZ	**Lusaka**	93.69	255	P		P	20 48 35.7	+0.3
	comp=Z,7.5nm,0.9s,baz=113,slow=2.6,SNR=5.7							
	comp=Z,7.5nm,0.9s							
G30M	**tAoh Zraii Nji**	93.74	23	P		P	20 48 34.2	-0.2
	baz=282							
F30M	**Barrier River**	93.77	22	P		P	20 48 34.7	+0.2
	baz=282							
K29M	**Barlow Dome**	93.79	26	P		P	20 48 35.6	+0.8
	baz=280							
O29M	**Mount Kennedy**	93.89	29	P		P	20 48 36.0	+0.7
	baz=279							
YUK6	**Outpost Mounta**	93.89	29	P		P	20 48 35.6	+0.1
	baz=279							
I30M	**Mount Dempster**	94.02	24	P		P	20 48 36.5	+0.7
	baz=281							
J30M	**Hart River**	94.17	25	P		P	20 48 37.2	+0.7
	baz=281							
HYT	**Haines Junctio**	94.33	29	P		P	20 48 37.9	+0.6
	baz=280							
M30M	**Minto, Yukon**	94.35	27	IAmb		IAmb	20 48 38.5	
	comp=Z,12nm,1.6s							
M30M	**Minto, Yukon**	94.35	27	P		P	20 48 38.1	+0.8
	baz=281							
N30M	**Aishikik Lake**	94.42	28	IAmb		IAmb	20 48 38.9	
	comp=Z,5.1nm,1.2s							
N30M	**Aishikik Lake**	94.42	28	P		P	20 48 38.2	+0.6
	baz=280							
P29M	**Windy Craggy**	94.42	30	P		P	20 48 38.1	+0.4
	baz=280							
INK	**Inuvik**	94.45	21	P		P	20 48 37.9	+0.4
	baz=284							
G31M	**Satah River**	94.50	23	P		P	20 48 38.0	+0.3
	baz=283							
P30M	**Million Dollar**	94.72	30	P		P	20 48 39.4	+0.4
	baz=280							
H31M	**Peel River**	94.73	24	P		P	20 48 39.3	+0.4
	baz=283							
O30N	**Mendenhall**	95.02	29	P		P	20 48 40.9	+0.5
	baz=281							
N31M	**Braeburn, Yuko**	95.03	28	IAmb		IAmb	20 48 58.0	
	comp=Z,8.4nm,1.1s							
N31M	**Braeburn, Yuko**	95.03	28	P		P	20 48 40.6	+0.2
	baz=281							
KOLS	**Kolonicke sedl**	95.42	319	*i* P		P	20 48 42.2	-0.2
KOLS	**Kolonicke sedl**	95.42	319	*e*PDIFF		P	20 48 42.2	-0.2
S31K	**Pelican**	95.49	32	P		P	20 48 42.7	+0.2
	baz=281							
M31M	**Drury Creek, Y**	95.52	27	P		P	20 48 43.4	+0.8
	baz=283							
WHY	**Whitehorse**	95.62	29	P		P	20 48 43.3	+0.1
	baz=282							
R31K	**City Hall, Gus**	95.66	31	P		P	20 48 43.8	+0.6
	baz=281							
A36M	**Sachs Harbour**	95.98	17	P		P	20 48 44.8	+0.4
	baz=292							
STHS	**Stebnicka Huta**	96.02	320	*i* P		P	20 48 44.7	-0.5
STHS	**Stebnicka Huta**	96.02	320	*e*PDIFF		P	20 48 44.7	-0.5
STHS	**Stebnicka Huta**	96.02	320	*e*P		P	20 48 44.9	-0.3
R32K	**Eaglecrest**	96.31	31	P		P	20 48 46.4	+0.1
	baz=282							
N32M	**Quiet Lake**	96.37	28	P		P	20 48 46.7	+0.1
	baz=284							
P32M	**Atlin**	96.43	30	P		P	20 48 46.9	+0.1
	baz=283							
P33M	**Teslin, Yukon**	96.72	29	P		P	20 48 48.4	+0.2
	baz=284							
MMPY	**Sheldon Lake,**	96.83	26	P		P	20 48 49.3	+0.7
	baz=286							
LANS	**Liptovska Anna**	97.21	320	*i* P		P	20 48 49.7	-0.9
LANS	**Liptovska Anna**	97.21	320	*e*PDIFF		P	20 48 49.7	-0.9
Q32M	**Nakina River**	97.30	30	P		Pdif	20 48 51.7	+0.7
	baz=284							
U33K	**Whale Pass**	97.53	33	P		Pdif	20 48 51.9	0.0
	baz=283							
R33M	**Jennings River**	97.84	30	P		P	20 48 53.3	0.0
	baz=286							
HFS	**Hagfors**	97.99	331	P		P	20 48 51.9	-1.9
	comp=Z,3.0nm,0.8s,baz=97,slow=3.6,SNR=6.0							
	comp=Z,3.0nm,0.8s							
T35M	**Bob Quinn**	98.86	32	P		Pdif	20 48 58.2	+0.4
	baz=286							
NB2	**NORSAR Subarra**	98.88	333	P		P	20 48 55.4	-2.4
	comp=Z,2.4nm,0.8s,baz=74,slow=4.6							
NOA	**NORSAR Array B**	98.88	333	P		P	20 48 55.8	-2.0
	comp=Z,2.4nm,0.9s,baz=74,slow=4.6,SNR=12							
	comp=Z,2.4nm,0.9s							
TOAD	**Toad River Com**	100.82	29	P		Pdif	20 49 06.7	+0.2
	baz=290							
GERES	**GERESS Array B**	100.98	320	P		Pdif	20 49 06.2	-1.3
	comp=Z,0.7nm,0.7s,baz=74,slow=5.7,SNR=8.0							
NVAR	**Mina Array Bea**	112.39	47	PKiKP		PKiKP	20 53 54.4	+0.1
	comp=Z,0.5nm,0.4s,baz=301,slow=2.9,SNR=3.5							
PDAR	**Pinedale Array**	116.62	40	PKP		PKPdf	20 54 01.7	-0.7
	comp=Z,0.4nm,0.3s,baz=132,slow=2.2,SNR=4.7							
PDAR				PKKPbc		**PKKPbc**	21 04 28.6	-2.6
	comp=Z,0.3nm,0.3s,baz=95,slow=5.1,SNR=4.4							
MSU	**Marysvale**	116.79	45			PKiKP	20 54 03.2	+0.4
MSU	**Marysvale**	116.79	45	PKiKP		PKiKP	20 54 03.2	+0.4
U15A	**North Rim**	117.57	47			PKiKP	20 54 05.4	+0.9
TORD	**Torodi Ar. Bea**	118.90	286	PKP		PKPdf	20 54 06.7	-0.5
	comp=Z,3.1nm,0.7s,baz=59,slow=2.0,SNR=19							
RSSD	**Black Hills**	119.31	36			PKPdf	20 54 06.3	-1.2
RSSD	**Black Hills**	119.31	36	PKiKP		PKPdf	20 54 06.3	-1.2
EPLO	**Experimental L**	121.01	26			PKPdf	20 54 09.2	-1.1
ANMO	**Albuquerque**	122.49	47			PKiKP	20 54 13.9	-0.1
ANMO	**Albuquerque**	122.49	47	*ce*PKiKP		PKPdf	20 54 12.7	-1.1
ANMO				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SCHQ	**Schefferville**	123.85	6	PKP		PKPdf	20 54 13.6	-2.0
	comp=Z,5.2nm,0.7s,baz=63,slow=1.2,SNR=5.9							
TXAR	**Lajitas Array**	127.16	51	PKP		PKiKP	20 54 23.4	+0.1
	comp=Z,1.2nm,0.7s,baz=247,slow=1.1,SNR=16							
MIAR	**Mount Ida**	131.54	40			PKiKP	20 54 31.8	0.0
MIAR	**Mount Ida**	131.54	40	PKiKP		PKiKP	20 54 31.8	0.0
BO01	**Tunca**	144.75	161			PKPab	20 54 53.3	-0.5
BOAB	**BOACO BROADBAND**	160.68	63			PKPdf	20 55 02.8	-0.9
LPAZ	**La Paz**	162.02	148			PKPdf	20 55 19.1	-1.7
LPAZ	**La Paz**	162.02	148	PKP		PKPdf	20 55 20.1	-0.6
	comp=Z,1.1nm,0.5s,baz=214,slow=3.6,SNR=5.8							
LPAZ				PKPab		PKPab	20 56 08.0	+1.1
	comp=Z,5.9nm,0.7s,baz=204,slow=4.2,SNR=17							
LPAZ	**La Paz**	162.02	148	PKiKP		PKPdf	20 55 19.1	-1.7

MEX ***01*** *20:35:30.6±0.7, 15.01N×92.94W, h83km±9km, MD3.9*
GCG ***01*** *20:35:30.6±0.6, 14.80N×92.98W, h40km±58km, MD3.6, ML3.5*

ISC 01 20:35:26.7±2.0, 14.75N±0.10×93.09W±0.08, h78km±19km, n12, σ2.2s24/21, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.81	79	*e*P	Pn	20 35 44.8	+1.5
THIG				*e*S	Sn	20 35 55.9	+0.1
PATR	**El Naranjo**	0.90	66	*e*P	Pn	20 35 44.9	+0.2
PATR				*e*S	Sn	20 35 56.1	-1.9
PCIG		0.96	352	*e*P	Pn	20 35 45.5	+0.4
PCIG				*e*S	Sn	20 35 57.4	-1.4
PAVE	**Pavencul**	0.98	63	*e*P	Pn	20 35 46.2	+0.5
PAVE				*e*S	Sn	20 35 58.3	-1.5
SMCA	**Catarina**	0.98	84	*i* P	Pn	20 35 46.3	+0.9
SMCA				*i* S	Sn	20 35 58.9	-0.5
SMCA				IAML		20 35 59.6	
	comp=E,718nm,0.2s						
RTAL	**Retalhuleu**	1.37	99	*e*P	Pn	20 35 51.8	+1.6
RTAL				*e*S	Sn	20 36 09.2	+1.3
HUEH	**Huehuetenango**	1.63	70	*e*S	Sn	20 36 16.2	+1.8
CCIG	**Comitan**	1.78	31	*e*P	Pn	20 35 58.0	+2.2
CCIG				*i* S	Sn	20 36 16.3	-1.5
CCIG	**Comitan**	1.78	31	*i* P	Pn	20 35 58.3	+2.5
CCIG				IAML		20 36 23.0	
	comp=E,172nm,0.4s						
TGIG		2.02	359	*e*P	Pn	20 35 59.2	+0.4
TGIG				*e*S	Sn	20 36 20.7	-2.6
FG16	**Alotenango, Sa**	2.54	100	*i* S	Sn	20 36 29.4	-6.7
FG16				IAML		20 36 33.7	
	comp=N,672nm,0.2s						
CMIG	**Matias Romero**	2.90	324	*e*P	Pn	20 36 11.8	+1.1
CMIG				*e*S	Sn	20 36 44.3	-0.2

PRE 01 20:37:41.4±1.1, 26.45S×27.50E, h2km, ML2.1, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	0.58	16	*e*P	Pg	20 37 53.0	+0.5
HRAO				*e*S	Sg	20 37 59.7	-0.3
HRAO				IAML		20 38 01.5	
	comp=Z,44nm,0.6s						
SNKL	**Senekal, Frees**	1.84	173	*e*P	Pb	20 38 15.1	-0.7
SNKL				*e*S	Sb	20 38 38.9	-0.4
SNKL				IAML		20 38 43.2	
	comp=Z,87nm,0.2s						
LBTB	**Lobatse**	2.23	309	*e*P	Pn	20 38 20.7	+1.1
LBTB				*e*S	Sn	20 38 48.1	+0.3
LBTB				IAML		20 38 54.8	
	comp=Z,33nm,0.3s						
NWCL	**Newcastle**	2.49	122	*e*P	Pn	20 38 24.1	+1.0
NWCL				*e*S	Sn	20 38 54.0	0.0
NWCL				IAML		20 38 59.9	
	comp=Z,14nm,0.5s						
LEPH	**Lephalale, Lim**	2.59	6	*e*P	Pn	20 38 25.6	+1.2
LEPH				*e*S	Sn	20 38 57.3	+0.7
LEPH				IAML		20 39 01.2	
	comp=Z,7.6nm,0.4s						
BOSA	**Boshof**	2.94	222	*e*P	Pn	20 38 30.8	+1.6
BOSA				*e*S	Sn	20 39 05.0	-0.2
BOSA				IAML		20 39 18.2	
	comp=Z,8.6nm,0.4s						
ALKP	**Alkanpan, Nort**	5.80	232	*e*P	Pn	20 39 09.7	+1.1
ALKP				*e*S	Sn	20 40 13.4	-2.3
ALKP				IAML		20 40 48.7	
	comp=Z,3.5nm,0.3s						
BFON	**Badsfontein, M**	6.29	211	*e*P	Pn	20 39 16.1	+0.8
BFON				*e*S	Sn	20 40 25.9	-1.9
BFON				IAML		20 41 10.4	
	comp=Z,2.1nm,0.6s						
BRAK	**Brakfontein**	6.67	216	*e*P	Pn	20 39 21.8	+1.3
BRAK				*e*S	Sn	20 40 34.2	-2.9
BRAK				IAML		20 41 29.1	
	comp=Z,2.2nm,0.6s						

**SJA 01 20:

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.57**	**115**	*e*P	**Pn**	**21 09 09.5**	**-0.2**
BO03				*i* S	**Sb**	**21 09 15.2**	**-0.7**
BO03				IAML		21 09 16.7	
	comp=N,2μm,0.4s						
MT01	**Popeta**	**1.18**	**71**	*e*P	**Pn**	**21 09 19.8**	**+1.7**
MT01				*i* S	**Sn**	**21 09 33.9**	**-0.7**
MT01				IAML		21 09 35.9	
	comp=N,717nm,0.2s						
BO01	**Tunca**	**1.25**	**97**	*e*P	**Pg**	**21 09 20.3**	**+1.5**
BO01				*i* S	**Sn**	**21 09 35.1**	**-1.3**
BO01				IAML		21 09 37.9	
	comp=N,492nm,0.2s						
MT09	**Talagante**	**1.41**	**71**	*e*P	**Pg**	**21 09 23.7**	**+1.9**
MT09				*i* S	**Sg**	**21 09 39.8**	**-0.4**
MT09				IAML		21 09 43.3	
	comp=E,687nm,0.2s						
MT02	**Curacav**	**1.57**	**51**	*e*P	**Pg**	**21 09 25.9**	**+1.1**
MT02				*i* S	**Sg**	**21 09 44.8**	**-0.2**
BO02	**Sierra Bellavi**	**1.59**	**110**	*e*P	**Pg**	**21 09 26.1**	**+0.9**
BO02				*i* S	**Sg**	**21 09 45.0**	**-0.8**
BO04	**La Punta**	**1.67**	**81**	*e*P	**Pg**	**21 09 27.5**	**+0.9**
BO04				*i* S	**Sg**	**21 09 47.5**	**-0.8**
BO04				IAML		21 09 48.6	
	comp=E,663nm,0.3s						
MT12	**Pirque**	**1.77**	**73**	*e*P	**Pg**	**21 09 29.6**	**+0.9**
MT12				*i* S	**Sg**	**21 09 50.2**	**-1.5**
MT12				IAML		21 09 56.4	
	comp=E,1μm,0.7s						
ML02	**Panimavida**	**1.79**	**148**	*e*P	**Pg**	**21 09 30.1**	**+1.1**
ML02				*i* S	**Sg**	**21 09 51.8**	**-0.3**
ROCH	**El Roble**	**1.84**	**46**	*e*P	**Pg**	**21 09 31.0**	**+1.0**
PEL	**Peldehue**	**1.94**	**56**	*e*P	**Pg**	**21 09 32.8**	**+0.9**
LMEL	**Las Melosas**	**2.02**	**79**	*e*P	**Pg**	**21 09 32.9**	**-0.6**
LMEL				*i* S	**Sg**	**21 09 57.2**	**-2.6**
LMEL				IAML		21 10 06.4	
	comp=N,547nm,0.3s						
CO02	**Combarbal**	**3.33**	**24**	*e*P	**Pb**	**21 09 51.6**	**-2.7**
CO02				*i* S	**Sn**	**21 10 28.9**	**+1.1**
AAGR	**Agrelo**	**3.35**	**71**	*e*P	**Pb**	**21 09 53.9**	**-0.9**
AAGR				*e*S	**Sg**	**21 10 46.4**	**+4.1**
AUSP	**Uspallata**	**3.36**	**54**	*e*P	**Pn**	**21 09 50.9**	**+2.5**
AUSP				*e*P	**Pb**	**21 09 53.9**	**-1.2**
ARCO	**CERRO ARCO**	**3.37**	**66**	*e*P	**Pb**	**21 09 53.4**	**-1.7**
ASAL	**Salagasta**	**3.55**	**63**	*e*S	**Sg**	**21 10 52.4**	**+3.5**
RTLS	**Leoncito**	**3.69**	**49**	*e*P	**Pb**	**21 09 58.4**	**-2.4**
RTLS				*e*S	**Sg**	**21 10 50.4**	**-3.1**
RTLS				IAML		21 11 00.6	
	comp=Z,137nm,0.7s						
ACCO	**Cerro Coronel**	**4.72**	**40**	*e*P	**Pn**	**21 10 09.9**	**+2.9**
ACCO				*e*S	**Sg**	**21 11 24.4**	**-2.0**
AROD	**Rodeo**	**4.86**	**34**	*e*P	Pn	21 10 00.3	-8.7
AROD				*e*S	**Sg**	**21 11 28.4**	**-2.5**

NEIC ***01*** *21:11:37.3±0.9, 36.19N±0.01×117.88W±0.02, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.5km az=84.0*

PAS 01 21:11:37.5±0.8, 36.194N±0.010×117.891W±0.008, h1km±1km, ML3.2/89, ML3.1/178(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=178.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.08**	**159**		Pg	21 11 39.3	+0.2
MFS					Sg	21 11 40.8	+0.5
WRVM	**Rose V. Centra**	**0.19**	**180**		Pg	21 11 41.3	+0.2
WRVM					Sg	21 11 44.3	+0.8
WCSM	**Coso Springs S**	**0.20**	**149**		Pg	21 11 41.6	+0.4
WCSM					Sg	21 11 44.8	+1.0
JRC2	**Joshua Ridge**	**0.22**	**163**		Pg	21 11 42.0	+0.2
JRC2					Sg	21 11 45.6	+1.0
WVPM	**Volcano Peak E**	**0.25**	**166**		Pg	21 11 42.6	+0.3
WVPM					Sg	21 11 46.5	+1.0
CWC	**Cottonwood Cre**	**0.29**	**328**		Pg	21 11 43.3	+0.2
CWC				IAML		21 11 47.9	
	comp=N,2μm,0.1s						
CWC				IAML		21 11 48.0	
	comp=E,3μm,0.2s						
WNMM	**Nine Mile Cany**	**0.35**	**182**		Pn	21 11 49.2	-0.4
MPMC	**Manual Prospec**	**0.35**	**113**	Pg	Pg	21 11 44.4	+0.2
MPMC				IAML		21 11 54.8	
	comp=E,2μm,0.7s						
MPMC	**Manual Prospec**	**0.35**	**113**		Sg	21 11 49.2	+0.4
CGO	**Cerro Gordo**	**0.36**	**11**		Sg	21 11 49.9	+0.6
TOW	**Tower One**	**0.40**	**165**		Pg	21 11 45.7	+0.6
TOW					Sb	21 11 52.4	-1.5
SRTC	**Snort**	**0.51**	**167**		Pg	21 11 47.9	+0.6
SRTC					Sb	21 11 55.9	-1.4
WORM	**Onyx Ranch**	**0.57**	**210**		Pg	21 11 48.3	-0.1
WORM					Sg	21 11 56.3	+0.4
WHFM	**Hanning Flat**	**0.62**	**217**		Pg	21 11 49.4	0.0
WHFM					Sg	21 11 58.0	+0.6
WSHM	**Spangler Hills**	**0.68**	**151**		Pg	21 11 50.4	0.0
WSHM				IAML		21 12 05.0	
	comp=E,619nm,1.0s						
WSHM				IAML		21 12 05.0	
	comp=E,673nm,0.6s						
WSHM	**Spangler Hills**	**0.68**	**151**		Sg	21 11 59.8	+0.7
WBSM	**Bird Springs**	**0.69**	**197**		Sg	21 12 00.3	+0.8
WASM	**Alta Sierra Ca**	**0.71**	**230**		Pg	21 11 51.0	-0.1
WASM					Sg	21 12 00.6	+0.5
SPG2	**Springville 2**	**0.71**	**271**		Pg	21 11 51.0	-0.1
SPG2					Sg	21 12 00.2	0.0
ISA	**Isabella, Lake**	**0.71**	**222**		Pg	21 11 51.1	+0.1
ISA	**Isabella, Lake**	**0.71**	**222**		Sg	21 12 00.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.73**	**167**		Pg	21 11 51.6	+0.1
LRMC				IAML		21 12 06.6	
	comp=E,708nm,0.9s						
LRMC	**Laurel Mtn Rad**	**0.73**	**167**		Sg	21 12 02.0	+1.0
CCCA	**Chr Cany lake**	**0.79**	**147**		Pg	21 11 53.0	+0.3
CCCA					Sb	21 12 04.5	-0.8
QSM	**Queen of Sheba**	**0.86**	**105**		Pg	21 11 54.0	+0.1
QSM				IAML		21 12 11.9	
	comp=N,1μm,0.7s						
QSM				IAML		21 12 13.4	
	comp=E,698nm,0.6s						
QSM	**Queen of Sheba**	**0.86**	**105**		Sg	21 12 05.3	+0.3
FURC	**Furnace Creek,**	**0.87**	**72**		Pg	21 11 54.4	+0.2
FURC					Sg	21 12 06.3	+0.7
TIN	**Tinemaha, Big**	**0.90**	**342**		Pg	21 11 55.0	+0.3
TIN					Sg	21 12 06.6	+0.1
GRAC	**Grapevine Rang**	**0.91**	**28**		Pg	21 11 54.7	-0.1
GRAC	**Grapevine Rang**	**0.91**	**28**		Pn	21 12 07.2	+10
GRAC				IAML		21 12 16.0	
	comp=E,1μm,0.5s						
GRAC	**Grapevine Rang**	**0.91**	**28**		Sg	21 12 07.5	+0.9
DTP	**Desert Tortois**	**0.93**	**178**		Pg	21 11 54.9	-0.3
DTP					Sg	21 12 07.4	+0.2
GWY	**Greenwater Val**	**0.99**	**90**		Pg	21 11 56.4	0.0
GWY					Sg	21 12 08.6	-0.6
GWY	**Greenwater Val**	**0.99**	**90**	IAML		21 12 17.5	
	comp=N,773nm,0.9s						
GWY				IAML		21 12 21.1	
	comp=E,679nm,0.7s						
VES	**Vestal, Richgr**	**1.03**	**250**		Pg	21 11 57.2	0.0
VES					Sg	21 12 10.7	+0.1
VES				IAML		21 12 19.7	
	comp=E,818nm,0.4s						
CCAC	**Calif City Air**	**1.04**	**186**		Pg	21 11 57.1	-0.4
CCAC					Sg	21 12 11.5	+0.5
SGV	**South Grapevin**	**1.05**	**41**		Pg	21 11 57.1	-0.4
SGV					Sg	21 12 10.6	-0.5
LCH	**Last Change Ra**	**1.06**	**11**		Pg	21 11 57.5	-0.2
LCH					Sg	21 12 10.7	-0.7
TEJ	**El Tejon**	**1.16**	**214**		Pg	21 11 58.9	-0.8
TEJ					Sg	21 12 15.0	+0.2
DSP	**Deep Springs**	**1.18**	**357**		Pg	21 11 59.5	-0.6
DSP				IAML		21 12 17.2	
	comp=E,248nm,0.5s						
DSP	**Deep Springs**	**1.18**	**357**		Sg	21 12 14.6	-0.7
WCT	**Wildcat Mounta**	**1.18**	**59**		Pg	21 11 59.7	-0.4
WCT				IAML		21 12 20.1	
	comp=E,397nm,1.5s						
WCT				IAML		21 12 20.2	
	comp=N,286nm,1.2s						
GMN	**Gold Mountain**	**1.22**	**24**		Pg	21 12 00.4	-0.4
GMN				IAML		21 12 21.2	
	comp=E,467nm,0.4s						
GMN				IAML		21 12 22.2	
	comp=N,257nm,0.6s						
GSC	**Goldstone, Bar**	**1.25**	**135**		Pg	21 11 59.7	-1.8
GSC				IAML		21 12 21.6	
	comp=E,418nm,0.7s						
GSC				IAML		21 12 22.1	
	comp=N,470nm,1.0s						
TPO	**Tropico Hills**	**1.34**	**192**		Pg	21 12 02.1	-1.1
TPO				IAML		21 12 26.9	
	comp=N,274nm,0.7s						
TPO				IAML		21 12 27.4	
	comp=E,300nm,0.7s						
SHOC	**Shoshone, Teco**	**1.34**	**102**		Pg	21 12 02.1	-1.0
TPNV	**Topopah Spring**	**1.52**	**60**		Pn	21 12 05.5	-0.4
TPNV				IAML		21 12 31.0	
	comp=E,268nm,1.1s						
TPNV				IAML		21 12 33.4	
	comp=E,282nm,0.9s						
MZP	**Montezuma Peak**	**1.56**	**15**		Pn	21 12 06.5	0.0
KCC	**Kaiser Creek**	**1.61**	**315**		Pn	21 12 07.1	0.0
OSI	**Osito Audit: C**	**1.72**	**204**		Pn	21 12 08.8	+0.2
OSI				IAML		21 12 37.4	
	comp=E,318nm,0.8s						
OSI				IAML		21 12 44.2	
	comp=N,181nm,1.0s						
TPH	**Tonopah**	**1.95**	**16**		Pn	21 12 12.0	+0.1
BFSC	**Mount Baldy Ra**	**1.96**	**174**		Pn	21 12 11.4	-0.6
MWC	**Mount Wilson**	**1.97**	**184**		Pn	21 12 12.6	+0.4
MWC				IAML		21 12 42.9	
	comp=E,128nm,0.8s						
MWC				IAML		21 12 47.6	
	comp=N,142nm,1.2s						
MTPC	**Mountain Pass**	**2.03**	**110**		Pn	21 12 12.3	-0.6
MTPC				IAML		21 12 46.1	
	comp=E,99nm,0.6s						
MTPC				IAML		21 12 50.4	
	comp=N,136nm,1.2s						
PASC	**Pasadena Art C**	**2.03**	**187**		Pn	21 12 11.8	-1.0
LHV	**Little Huntoon**	**2.11**	**347**		Pn	21 12 14.6	+0.7
LHV				IAML		21 12 49.9	
	comp=E,140nm,1.7s						
LHV				IAML		21 12 53.0	
	comp=N,102nm,1.3s						
SHPR	**Sheep Range**	**2.23**	**81**		Pn	21 12 15.6	0.0
NV11	**Mina Array Sit**	**2.24**	**355**		Pn	21 12 16.3	+0.4
S11A	**Rachel**	**2.25**	**49**		Pn	21 12 16.5	+0.6
NVAR	**Mina Array Bea**	**2.26**	**352**		Pn	21 12 16.7	+0.6
MYLM	**Yosemite Lake**	**2.35**	**301**		Pb	21 12 19.6	-1.0
PMPB	**Monarch Peak**	**2.35**	**271**		Pn	21 12 18.5	+1.2
RYN	**Ryan**	**2.48**	**348**		Pn	21 12 19.4	+0.2
V12A	**Nelson**	**2.51**	**100**		Pn	21 12 19.0	-0.5
V12A				IAML		21 13 09.7	
	comp=N,64nm,1.1s						
ELS	**Elsinore Mount**	**2.57**	**171**		Pn	21 12 19.5	-0.8
BBGB	**Big Mountain B**	**2.57**	**280**		Pn	21 12 20.9	+0.6
DANC	**Danby, Needles**	**2.57**	**126**	Pg	Pg	21 12 26.4	-0.4
DANC				IAML		21 13 08.2	
	comp=E,168nm,0.9s						
PRN	**Pahroc Range**	**2.58**	**61**		Pn	21 12 20.7	+0.2
WAKR	**Walker**	**2.62**	**332**		Pn	21 12 19.8	-1.3
WAKR				IAML		21 13 11.7	
	comp=E,65nm,1.1s						
BELC	**Belle Mtn. Jos**	**2.68**	**144**		Pn	21 12 21.3	-0.6
BELC				IAML		21 13 14.8	
	comp=E,56nm,0.9s						
BELC				IAML		21 13 19.9	
	comp=N,58nm,1.2s						
Q09A	**Carvers**	**2.69**	**12**		Pn	21 12 22.8	+0.6
CMB	**Columbia Colle**	**2.71**	**313**		Pn	21 12 21.6	-0.7
CMB				IAML		21 13 05.7	
	comp=E,99nm,0.8s						
CMB				IAML		21 13 05.8	
	comp=N,94nm,0.6s						
R11B	**Troy Canyon, C**	**2.83**	**40**		Pn	21 12 24.9	+0.9
R11B				IAML		21 13 10.3	
	comp=E,69nm,0.9s						
PFO	**Pinyon Flats O**	**2.83**	**155**		Pg	21 12 30.4	-1.3
SAO	**San Andreas Ge**	**2.92**	**282**		Pn	21 12 25.4	+0.4
NEE2	**Needles Airpor**	**3.03**	**117**	IAML		21 13 18.9	
	comp=N,102nm,1.0s						
NEE2				IAML		21 13 23.2	
	comp=E,97nm,0.8s						
BORC	**Borrego Spring**	**3.16**	**157**	IAML		21 13 31.1	
	comp=E,35nm,1.9s						
BC3	**Big Chuckawall**	**3.23**	**141**	IAML		21 13 28.5	
	comp=N,34nm,1.2s						
BC3				IAML		21 13 33.6	
	comp=E,34nm,1.7s						
DPP	**Dos Picos Cty**	**3.28**	**166**	IAML		21 13 28.4	
	comp=E,29nm,1.2s						
W13A	**Hualapai Mount**	**3.44**	**107**	IAML		21 13 35.1	
	comp=E,33nm,1.0s						
W13A				IAML		21 13 37.2	
	comp=N,26nm,1.3s						
AFDM	**Forest Hills D**	**3.68**	**319**	IAML		21 13 35.3	
	comp=N,69nm,0.5s						
BLYC	**Blythe**	**3.69**	**130**	IAML		21 13 47.6	
	comp=E,26nm,0.9s						
PSUT	**Pine Spring**	**3.97**	**53**	IAML		21 13 47.4	
	comp=E,53nm,1.1s						
PSUT				IAML		21 13 51.8	
	comp=N,50nm,1.2s						
SPR3	**Spring Creek 3**	**3.98**	**44**	IAML		21 13 47.1	
	comp=N,41nm,0.8s						
SPR3				IAML		21 13 47.6	
	comp=E,42nm,1.0s						
GLA	**Glamis**	**4.03**	**140**	IAML		21 14 00.7	
	comp=N,25nm,1.4s						
SZCU	**Shurtz Canyon**	**4.10**	**69**	IAML		21 14 06.5	
	comp=N,15nm,1.6s						
BEKR	**Beckworth**	**4.15**	**333**	IAML		21 14 03.4	
	comp=N,23nm,0.5s						
KNB	**Kanab**	**4.16**	**77**	IAML		21 13 54.4	
	comp=E,25nm,1.4s						
KNB				IAML		21 13 54.8	
	comp=N,30nm,1.4s						
U15A	**North Rim**	**4.53**	**85**	IAML		21 14 03.8	
	comp=E,26nm,1.3s						
U15A				IAML		21 14 04.2	
	comp=N,30nm,1.2s						
Y14A	**Wickenburg**	**4.60**	**118**	IAML		21 14 07.0	
	comp=N,25nm,0.8s						
Y14A				IAML		21 14 15.2	
	comp=E,25nm,0.9s						
PKCU	**Pink Cliffs**	**4.65**	**73**	IAML		21 14 07.6	
	comp=E,28nm,1.1s						
PKCU				IAML		21 14 25.5	
	comp=N,22nm,1.1s						
113A	**Mohawk Valley,**	**4.82**	**134**	IAML		21 14 33.5	
	comp=E,9.0nm,2.9s						
MTPU	**Mount Pierson**	**4.92**	**66**	IAML		21 14 19.7	
	comp=N,9.5nm,1.2s						
MTPU				IAML		21 14 34.0	
	comp=E,9.6nm,1.5s						
TCRU	**Three Creeks R**	**4.96**	**59**	IAML		21 14 27.1	
	comp=N,25nm,1.6s						
TCRU				IAML		21 14 38.5	
	comp=E,20nm,1.0s						

IDC 01 21:13:42.4±2.2, 17.99S×176.73W, h0km, mb4.2/5, mbtmp4.2/5, Error ellipse: s-maj=53.1km s-min=37.4km az=52.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.99**	**242**	P	P	21 21 20.4	+1.2
	2.0nm,0.7s,baz=69,slow=8.8,SNR=5.4						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**46.19**	**259**	P	P	21 22 08.8	-0.7
	1.3nm,0.4s,baz=98,slow=6.8,SNR=28						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**46.31**	**254**	P	P	21 22 09.7	-0.7
	2.4nm,0.4s,baz=94,slow=7.4,SNR=32						
	2.4nm,0.4s						
JNU	**Nakatsue**	**71.31**	**315**	P	P	21 25 04.3	+0.2
	6.5nm,0.9s,baz=126,slow=6.8,SNR=4.2						
	6.5nm,0.9s						
QSPA	**South Pole Qui**	**72.06**	**180**	P	P	21 25 08.4	+0.1
	0.6nm,0.5s,baz=21,slow=1.0,SNR=8.4						
	0.6nm,0.5s						

NEIC ***01*** *21:13:53.3±0.7, 35.833N±0.010×98.07W±0.01, h5km±1km, mb_Lg2.5/29, ML2.6/52, ML2.5/33, Error ellipse: s-maj=2.8km s-min=1.6km az=292.0*

NEIC 01 21:13:53.7±0.9, 35.847N±0.010×98.07W±0.01, h8km±4km, Error ellipse: s-maj=1.5km s-min=1.4km az=99.0,

Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.51**	**95**		Pg	21 14 03.3	-0.3
OK029					Sg	21 14 09.9	-0.3
CSTR	**Hydro, Custer**	**0.54**	**248**		Pg	21 14 04.0	-0.2
CSTR					Sg	21 14 11.8	+0.6
CROK	**Carrier**	**0.66**	**6**		Pg	21 14 06.5	0.0
CROK					Sg	21 14 15.8	+0.7
CROK				IAML		21 14 24.3	
	comp=N,294nm,0.3s						
CROK				IAML		21 14 28.7	
	comp=E,238nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**130**	Pg	Pg	21 14 06.2	-0.7
OKCSW				IAML		21 14 16.1	
	comp=E,360nm,0.3s						
FNO	**Franklin**	**0.81**	**137**	Pg	Pg	21 14 08.6	-0.6
FNO					Sg	21 14 19.8	+0.1
FNO				IAML		21 14 22.6	
	comp=E,265nm,0.7s						
FNO				IAML		21 14 22.9	
	comp=N,168nm,0.5s						
OK038	**West end E0370**	**0.83**	**320**		Pg	21 14 09.8	+0.1
OK038					Sg	21 14 20.7	+0.2
GC02	**Grant County #**	**1.02**	**10**		Pg	21 14 12.7	-0.7
GC02					Sg	21 14 26.7	+0.2
OK052	**Battle Ridge R**	**1.04**	**82**		Pg	21 14 13.1	-0.7
OK052					Sb	21 14 27.6	-0.3
OK052				IAML		21 14 28.6	
	comp=N,151nm,0.2s						
OK052				IAML		21 14 29.1	
	comp=N,182nm,0.2s						
ELIS	**Ellis County**	**1.11**	**282**		Pg	21 14 14.6	-0.5
ELIS				IAML		21 14 39.7	
	comp=E,158nm,0.3s						
KAN14	**Manchester OK**	**1.11**	**5**		Pg	21 14 14.2	-0.9
KAN14					Sg	21 14 29.5	0.0
KAN14				IAML		21 14 31.5	
	comp=N,141nm,0.1s						
KAN14				IAML		21 14 34.6	
	comp=E,162nm,0.3s						
BLOK	**Blackwell**	**1.15**	**37**		Pg	21 14 15.1	-0.7
BLOK					Sg	21 14 30.7	+0.1
QUOK	**Quay**	**1.15**	**73**		Pg	21 14 15.0	-0.9
QUOK					Sb	21 14 31.1	0.0
WMOK	**Wichita Mounta**	**1.25**	**208**	Sg	Sb	21 14 32.1	-1.7
DEOK	**Depew**	**1.28**	**90**		Pn	21 14 16.2	-1.7
DEOK					Sb	21 14 33.9	-0.9
DEOK				IAML		21 14 38.0	
	comp=E,136nm,0.2s						
DEOK				IAML		21 14 40.1	
	comp=N,128nm,0.2s						
T35A	**Sooner Cattle**	**1.65**	**49**		Pn	21 14 22.8	-0.3
T35A					Sn	21 14 43.4	-1.1
TUL3	**Leonard**	**1.85**	**87**		Pn	21 14 24.6	-1.3
TUL3				Sg	Sb	21 14 52.1	+0.8
SMWD	**Samnorwood**	**1.92**	**248**		Pn	21 14 26.4	-0.4
LOOK	**Love County**	**1.99**	**158**		Pn	21 14 27.7	0.0
LOOK				IAmb_Lg		21 15 00.7	
	comp=Z,31nm,0.7s						
WTFS	**Witchita Falls**	**2.10**	**189**		Pn	21 14 30.1	+0.9
WTFS					Sb	21 14 57.5	-0.8
RLO	**Rose Lookout**	**2.49**	**82**		Pn	21 14 34.5	-0.2
RLO					Sb	21 15 09.0	-0.7
Z35A	**Perchaven, San**	**2.60**	**165**		Pn	21 14 38.0	+1.9
APMT	**Aspermont**	**3.03**	**214**	Pn	Pn	21 14 42.9	+0.9
PLPT	**Palo Pinto**	**3.03**	**184**		Pn	21 14 41.5	-0.6
U38A	**Gravette**	**3.04**	**78**		Pn	21 14 41.6	-0.6
AMTX	**Amarillo**	**3.10**	**253**		Pn	21 14 42.9	-0.2
AMTX				IAmb_Lg		21 15 39.4	
	comp=Z,15nm,0.8s						
DKNS	**Dickens**	**3.20**	**228**	Pn	Pn	21 14 44.3	-0.1
DKNS				IAmb_Lg		21 15 42.4	
	comp=Z,13nm,0.8s						
CBKS	**Cedar Bluff**	**3.25**	**336**		Pn	21 14 43.7	-1.4
CBKS				IAmb_Lg		21 15 41.8	
	comp=Z,15nm,0.7s						
KSU1	**Kansas State U**	**3.45**	**19**	IAmb_Lg		21 15 44.4	
	comp=Z,12nm,0.7s						
X40A	**Basin Creek Fa**	**4.50**	**106**	IAmb_Lg		21 16 20.7	
	comp=Z,11nm,0.7s						
MGMO	**Mountain Grove**	**4.86**	**73**	IAmb_Lg		21 16 27.9	
	comp=Z,9.3nm,0.8s						
T25A	**Trinidad**	**5.26**	**286**	IAmb_Lg		21 16 41.9	
	comp=Z,8.9nm,0.9s						
SDCO	**Great Sand Dun**	**6.25**	**290**	IAmb_Lg		21 17 25.3	
	comp=Z,4.4nm,1.1s						
HNDO	**Hondo**	**6.38**	**190**	IAmb_Lg		21 17 17.7	
	comp=Z,4.8nm,0.8s						
FVM	**French Village**	**6.49**	**69**	IAmb_Lg		21 17 25.4	
	comp=Z,7.2nm,0.9s						
PECS	**Pecos**	**6.58**	**229**	IAmb_Lg		21 17 26.1	
	comp=Z,6.2nm,1.0s						
DRIO	**Del Rio**	**6.75**	**199**	IAmb_Lg		21 17 28.9	
	comp=Z,7.1nm,0.9s						
SAND	**Sanderson**	**6.79**	**211**	IAmb_Lg		21 17 37.0	
	comp=Z,6.0nm,0.8s						

IDC ***01*** *21:22:40.1±0.8, 34.23S×72.48W, h0km, mb3.9/5, mbtmp3.9/8, ML3.7/3, Error ellipse: s-maj=37.2km s-min=19.1km az=98.0*

GUC ***01*** *21:22:43.3±0.7, 34.28S×72.34W, h14km±3km, ML3.7*

ISC 01 21:22:42.0±2.0, 34.24S±0.04×72.33W±0.07, h11km±11km, n30, σ0=73/36, mb3.8/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.40**	**130**	*e*P	**Pb**	**21 22 51.3**	**+0.3**
BO03				*i* S	**Sb**	**21 22 56.7**	**-0.5**
BO03				IAML		21 22 58.0	
	comp=E,12μm,0.5s						
MT01	**Popeta**	**0.97**	**68**	*e*P	**Pn**	**21 23 01.7**	**+0.2**
MT01				*i* S	**Sn**	**21 23 15.3**	**0.0**
BO01	**Tunca**	**1.04**	**99**	*e*P	**Pb**	**21 23 02.2**	**+0.2**
BO01				*i* S	**Sn**	**21 23 16.8**	**-0.3**
BO01				IAML		21 23 20.6	
	comp=N,3μm,0.3s						
MT02	**Curacav**	**1.39**	**46**	*e*P	**Pn**	**21 23 07.9**	**+0.6**
MT02				*i* S	**Sn**	**21 23 25.8**	**+0.1**
BO02	**Sierra Bellavi**	**1.39**	**114**	*e*P	**Pg**	**21 23 08.6**	**-0.2**
BO02				*i* S	**Sg**	**21 23 26.6**	**-0.2**
BO04	**La Punta**	**1.45**	**81**	*e*P	**Pb**	**21 23 09.5**	**+0.5**
BO04				*i* S	**Sg**	**21 23 28.8**	**+0.2**
BO04				IAML		21 23 34.5	
	comp=N,4μm,0.7s						
MT05	**Renca**	**1.57**	**58**	*e*P	**Pb**	**21 23 11.2**	**+0.2**
MT05				*i* S	**Sg**	**21 23 32.8**	**+0.3**
ROCH	**El Roble**	**1.67**	**41**	*e*P	**Pb**	**21 23 13.0**	**+0.1**
ROCH				*e*P	**Pb**	**21 23 13.0**	**+0.1**
ROCH				*i* S	**Sg**	**21 23 36.0**	**+0.1**

PLCA					Lg	Lg		21 26 06.9		
	comp=N,0.5nm,0.3s,baz=253,slow=20,SNR=3.2									
	comp=N,1.5nm,0.5s									
LPAZ	**La Paz**	**18.27**	**13**	P		**Pn**		**21 26 56.0**	**-0.1**	
	comp=N,0.2nm,0.3s,baz=176,slow=7.3,SNR=12									
	comp=N,4.1nm,0.9s									
SIV	**San Ignacio**	**20.80**	**32**	P		**P**		**21 27 23.5**	**+0.2**	
	comp=N,6.0nm,0.8s,baz=199,slow=6.5,SNR=16									
	comp=N,6.0nm,0.8s									
SNAA	**Sanae**	**51.46**	**158**	P		**P**		**21 31 46.2**	**-0.7**	
	comp=N,0.7nm,0.6s,baz=285,slow=12,SNR=3.0									
	comp=N,0.7nm,0.6s									
QSPA	**South Pole Qui**	**56.00**	**180**	P		**P**		**21 32 21.2**	**+0.9**	
	comp=N,2.2nm,0.9s,baz=241,slow=1.8,SNR=14									
	comp=N,2.2nm,0.9s									
TXAR	**Lajitas Array**	**69.82**	**331**	P		**P**		**21 33 52.7**	**+0.1**	
	comp=N,0.4nm,0.5s,baz=156,slow=8.2,SNR=7.1									
	comp=N,0.4nm,0.5s									
TORD	**Torodi Ar. Bea**	**84.52**	**70**	P		**P**		**21 35 15.9**	**+0.6**	
	comp=N,0.7nm,1.0s,baz=293,slow=3.9,SNR=5.6									
	comp=N,0.7nm,1.0s									
WRA	**Warramunga Arr**	**120.44**	**209**	PKP		**PKPdf**		**21 41 32.4**	**-1.7**	
	comp=N,0.3nm,0.4s,baz=165,slow=1.7,SNR=8.3									
BVAR	**Borovoye Array**	**147.62**	**43**	PKPbc		**PKPbc**		**21 42 26.4**	**+0.5**	
	comp=N,2.1nm,0.5s,baz=292,slow=2.7,SNR=11									
KURBB	**Kurchatov Arra**	**153.21**	**43**	PKPbc		**PKPbc**		**21 42 39.3**	**-0.1**	
	comp=N,1.1nm,0.5s,baz=302,slow=2.9,SNR=11									
ZALV	**Zalesovo Beam**	**154.55**	**32**	PKPbc		**PKPbc**		**21 42 42.1**	**-0.1**	
	comp=N,1.9nm,0.7s,baz=297,slow=3.0,SNR=10									
MKAR	**Makanchi Array**	**157.10**	**49**	PKPab		**PKPab**		**21 43 06.3**	**-1.7**	
	comp=N,0.2nm,0.6s,baz=272,slow=3.2,SNR=2.4									

*SJA **01** 21:29:01.7±0.9,34.°68S×73.°05W,h10km,ML3.6,MW3.2*
*IDC **01** 21:29:09.1±1.3,34.°22S×72.°53W,h0km,mb3.6/3,*
mbtmp3.5/7,ML3.6/4, Error ellipse: s-maj=40.2km
s-min=23.4km az=103.0
*GUC **01** 21:29:10.3±0.7,34.°25S×72.°44W,h18km±6km,ML3.4*
ISC 01 21:29:11.0±2.0,34°29S±0.°04×72°30W±0.°08,h13km±12km,
n37,σ1°76/43,5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BO03	**Pichilemu**	**0.35**	**126**	*e*P		**Pb**	**21 29 19.6**	**+0.6**
BO03				IAML			21 29 26.5	
	comp=E,3µm,0.2s							
MT01	**Popeta**	**0.97**	**64**	*e*P		**Pb**	**21 29 29.6**	**-0.1**
MT01				*e*S		**Sn**	**21 29 43.7**	**-0.3**
MT01				IAML			21 29 47.4	
	comp=N,3µm,1.0s							
BO01	**Tunca**	**1.01**	**96**	*e*P		**Pg**	**21 29 29.9**	**-0.6**
MT09	**Talagante**	**1.20**	**65**	*e*P		**Pn**	**21 29 33.4**	**-0.3**
MT09				*e*S		**Sg**	**21 29 50.5**	**+0.7**
MT09				IAML			21 29 52.6	
	comp=N,921nm,0.4s							
BO02	**Sierra Bellavi**	**1.35**	**112**	*e*P		**Pg**	**21 29 35.8**	**-1.2**
BO02				*e*S		**Sg**	**21 29 55.6**	**+1.0**
MT02	**Curacav**	**1.41**	**44**	*e*P		**Pn**	**21 29 36.0**	**-0.5**
BO04	**La Punta**	**1.43**	**78**	*e*P		**Pb**	**21 29 37.3**	**-0.3**
BO04				*e*S		**Sg**	**21 29 57.3**	**0.0**
BO04				IAML			21 30 02.5	
	comp=N,900nm,0.5s							
MT12	**Pirque**	**1.56**	**70**	*e*P		**Pb**	**21 29 39.1**	**-0.7**
MT12				*e*S		**Sg**	**21 30 00.5**	**-0.6**
MT12				IAML			21 30 07.1	
	comp=E,1µm,0.3s							
ROC1	**El Roble**	**1.69**	**40**	*e*P		**Pg**	**21 29 44.2**	**+0.7**
ROC1				*e*S		**Sg**	**21 30 09.9**	**+4.4**
PEL	**Peldehue**	**1.77**	**50**	*e*P		**Pb**	**21 29 44.5**	**+1.2**
PEL				*e*S		**Sg**	**21 30 10.5**	**+2.7**
PEL				IAML			21 30 24.2	
	comp=Z,246nm,0.4s							
VA06	**Catapilco**	**1.92**	**26**	*e*P		**Pn**	**21 29 42.7**	**-0.7**
VA06				IAML			21 30 22.9	
	comp=E,592nm,0.5s							
VA03	**San Esteban**	**2.11**	**44**	*e*P		**Pb**	**21 29 49.5**	**+0.3**
VA03				*e*S		**Sg**	**21 30 19.5**	**+0.6**
VA03				IAML			21 30 25.7	
	comp=Z,306nm,0.3s							
BI02	**San Fabin de**	**2.51**	**161**	*e*P		**Pn**	**21 29 51.6**	**0.0**
BI02				IAML			21 30 35.0	
	comp=N,252nm,0.6s							
AAGR	**Agrelo**	**3.13**	**68**	*e*P		**Pb**	**21 30 04.2**	**-2.5**
AAGR				IAML			21 31 21.6	
	comp=Z,61nm,2.2s							
ARCO	**CERRO ARCO**	**3.16**	**64**	*e*P		**Pb**	**21 30 06.7**	**-0.4**
ARCO				IAML			21 31 00.3	
	comp=Z,51nm,0.7s							
AUSP	**Uspallata**	**3.19**	**51**	*e*P		**Pn**	**21 30 04.1**	**+2.9**
AUSP				*e*S		**Sg**	**21 30 52.0**	**-1.6**
CO02	**Combarbal**	**3.27**	**20**	*e*P		**Pn**	**21 30 01.8**	**-0.3**
ASAL	**Salagasta**	**3.35**	**61**	*e*P		**Pb**	**21 30 08.3**	**-2.1**
ASAL				*e*S		**Sg**	**21 30 56.4**	**-2.5**
ASAL				IAML			21 31 06.6	
RTLS	**Leoncito**	**3.54**	**46**	*e*P		**Pn**	**21 30 08.2**	**+2.2**
RTLS				IAML			21 31 10.9	
	comp=Z,190nm,1.3s							
ZON	**Zonda**	**4.09**	**49**	*e*P		**Pn**	**21 30 17.2**	**+3.9**
ZON				IAML			21 31 32.6	
	comp=Z,39nm,1.1s							
CFA	**Coronel Fontan**	**4.34**	**53**	Pn		**Pn**	**21 30 18.4**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=232,slow=13,SNR=26							
	comp=Z,4.7nm,0.3s							
ACCO	**Cerro Coronel**	**4.59**	**37**	*e*P		**Pn**	**21 30 22.3**	**+1.8**
ACCO				*e*S		**Sg**	**21 31 34.7**	**-3.9**
AROD	**Rodeo**	**4.76**	**31**	*e*P		**Pn**	**21 30 24.9**	**+2.1**
AROD				*e*S		**Sg**	**21 31 40.9**	**-3.0**
H03S1	**Juan Fernandez**	**5.50**	**273**	T		T	21 36 22.3	
	baz=97,slow=75,SNR=186							
H03S3	**Juan Fernandez**	**5.51**	**273**	T		T	21 36 23.7	
	baz=97,slow=75,SNR=207							
H03S2	**Juan Fernandez**	**5.52**	**273**	T		T	21 36 22.6	
	baz=97,slow=75,SNR=257							
H03N1	**Juan Fernandez**	**5.57**	**277**	T		T	21 36 36.9	
	baz=102,slow=79,SNR=10							
H03N3	**Juan Fernandez**	**5.57**	**277**	T		T	21 36 39.3	
	baz=102,slow=79,SNR=2.4							
H03N2	**Juan Fernandez**	**5.58**	**277**	T		T	21 36 40.4	
	baz=102,slow=79,SNR=7.8							
APLL	**PUNTA DE LOS L**	**6.24**	**53**	*e*P		**Pn**	**21 30 42.9**	**+0.1**
PLCA	**Paso Flores**	**6.58**	**168**	Pn		**Pn**	**21 30 48.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=340,slow=15,SNR=4.8							
PLCA				Lg		Lg	21 32 32.3	
	comp=Z,0.2nm,0.3s,baz=246,slow=15,SNR=3.7							
	comp=Z,0.8nm,0.4s							
CPUP	**Villa Florida**	**15.16**	**62**	Pn		**Pn**	**21 32 46.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=232,slow=1.2,SNR=1.4							
	comp=Z,0.2nm,0.4s							
LPAZ	**La Paz**	**18.32**	**13**	P		**Pn**	**21 33 24.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=190,slow=6.1,SNR=2.4							
	comp=Z,1.0nm,0.8s							
SIV	**San Ignacio**	**20.83**	**32**	P		**P**	**21 33 52.3**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=222,slow=12,SNR=5.9							
	comp=Z,2.7nm,1.0s							
QSPA	**South Pole Qui**	**55.95**	**180**	P		**P**	**21 38 49.2**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=229,slow=1.9,SNR=2.0							
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**69.88**	**331**	P		**P**	**21 40 21.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=169,slow=6.7,SNR=4.7							
	comp=Z,0.2nm,0.4s							
BVAR	**Borovoye Array**	**147.64**	**43**	PKPbc		**PKPbc**	**21 48 54.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=297,slow=1.9,SNR=1.9							

*SJA **01** 21:42:02.3±1.5,22.°04S×67.°22W,h199km,ML3.5,MW3.5*
*GUC **01** 21:42:04.3±0.7,22.°01S×67.°51W,h224km±8km,MB3.8*
*IDC **01** 21:42:07.7±3.5,21.°51S×66.°80W,h253km±47km,mb3.2/2,*
mbtmp3.8/4, Error ellipse: s-maj=44.3km s-min=28.3km
az=179.0
ISC 01 21:42:05.0±1.5,21°97S±0.°06×67°6W±0.°2,h227km±12km,
n31,σ1°22/53, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**1.51**	**276**	*e*P		**Pn**	**21 42 41.0**	**-0.4**
PB09				*i* S		**S**	**21 43 09.4**	**-0.4**
PB09	**IPOC Station P**	**1.51**	**276**	*e*P		**Pn**	**21 42 41.0**	**-0.4**
PB09				*e*S		**S**	**21 43 13.4**	**+3.7**
PB09				IAML			21 43 13.8	
	comp=Z,71nm,0.5s							
PB06	**IPOC Station P**	**1.94**	**248**	*e*P		**Pn**	**21 42 44.7**	**-0.5**
PB06				*i* S		**S**	**21 43 15.8**	**-0.7**
PB06				IAML			21 43 17.7	
	comp=E,362nm,0.2s							
PB06	**IPOC Station P**	**1.94**	**248**	*e*P		**Pn**	**21 42 44.8**	**-0.5**
PB06				*e*S		**S**	**21 43 16.5**	**-0.1**
PB06				IAML			21 43 19.4	
	comp=Z,92nm,0.3s							
PB01	**IPOC Station P**	**1.96**	**298**	*e*P		**Pn**	**21 42 44.9**	**-0.5**
PB01				*i* S		**S**	**21 43 15.5**	**-1.2**
PB01				IAML			21 43 17.1	
	comp=N,246nm,0.2s							
PB01	**IPOC Station P**	**1.96**	**298**	*e*P		**Pn**	**21 42 44.8**	**-0.6**
PB01				*e*S		**S**	**21 43 16.8**	**0.0**
PB01				IAML			21 43 17.3	
	comp=Z,123nm,0.2s							
PB03	**IPOC Station P**	**1.97**	**267**	*e*P		**Pn**	**21 42 45.1**	**-0.4**
PB03				*i* S		**S**	**21 43 16.3**	**-0.8**
PB03				IAML			21 43 17.2	
	comp=E,257nm,0.2s							
PB03	**IPOC Station P**	**1.97**	**267**	*e*P		**Pn**	**21 42 44.9**	**-0.6**
PB03				*e*S		**S**	**21 43 17.1**	**+0.1**
PB03				IAML			21 43 17.3	
	comp=Z,181nm,0.2s							
PB02	**IPOC Station P**	**2.21**	**287**	*e*P		**Pn**	**21 42 47.6**	**-0.2**
PB02				*i* S		**S**	**21 43 20.2**	**-0.8**
PB02				IAML			21 43 21.4	
	comp=N,350nm,0.2s							
PB02	**IPOC Station P**	**2.21**	**287**	*e*P		**Pn**	**21 42 47.6**	**-0.2**
PB02				*e*S		**S**	**21 43 20.8**	**-0.2**
PB02				IAML			21 43 22.2	
	comp=Z,342nm,0.3s							
PB08	**IPOC Station P**	**2.31**	**322**	*e*P		**Pn**	**21 42 49.0**	**-0.2**
PB08				*i* S		**S**	**21 43 23.8**	**+0.2**
PB08				IAML			21 43 25.1	
	comp=E,129nm,0.2s							
PB08	**IPOC Station P**	**2.31**	**322**	*e*P		**Pn**	**21 42 49.0**	**-0.2**
PB08				*e*S		**S**	**21 43 24.3**	**+0.7**
PB08				IAML			21 43 26.4	
	comp=Z,81nm,0.4s							
PB05	**IPOC Station P**	**2.54**	**249**	*e*P		**Pn**	**21 42 51.1**	**-0.1**
PB05				*i* S		**S**	**21 43 26.0**	**-1.2**
PB05				IAML			21 43 26.8	
	comp=N,148nm,0.3s							
PB05	**IPOC Station P**	**2.54**	**249**	*e*S		**S**	**21 43 26.8**	**-0.5**
PB05				IAML			21 43 28.4	
	comp=Z,88nm,0.3s							
HMBC	**Humberstone**	**2.70**	**308**	*e*P		**Pn**	**21 42 52.2**	**-0.8**
HMBC				*i* S		**S**	**21 43 29.1**	**-1.3**
HMBC	**Humberstone**	**2.70**	**308**	*e*P		**Pn**	**21 42 52.2**	**-0.8**
HMBC				*e*S		**S**	**21 43 30.4**	**0.0**
HMBC				IAML			21 43 31.9	
	comp=Z,204nm,0.6s							
GO01	**Chusmiza**	**2.72**	**327**	*e*P		**Pn**	**21 42 53.1**	**-0.5**
GO01				*e*S		**S**	**21 43 35.1**	**+3.7**
TA01	**Diego Aracena**	**2.76**	**300**	*e*P		**Pn**	**21 42 53.1**	**-0.3**
TA01				*i* S		**S**	**21 43 30.1**	**-1.3**
TA01				IAML			21 43 33.5	
	comp=N,178nm,0.2s							
TA01	**Diego Aracena**	**2.76**	**300**	*e*P		Pn	21 42 38.0	-16
TA01				*e*S		**S**	**21 43 31.4**	**+0.1**
TA01				IAML			21 43 31.8	
	comp=Z,62nm,0.3s							
TA02	**Huaiquique**	**2.88**	**305**	*e*P		**Pn**	**21 42 54.3**	**-0.5**
TA02				*e*S		**S**	**21 43 37.5**	**+3.7**
TA02				IAML			21 43 56.3	
	comp=Z,174nm,0.1s							
PB11	**IPOC Station P**	**2.90**	**319**	*e*P		**Pn**	**21 42 54.5**	**-0.8**
PB11				*i* S		**S**	**21 43 33.7**	**-0.8**
PB11	**IPOC Station P**	**2.90**	**319**	*e*P		**Pn**	**21 42 54.5**	**-0.8**
PB11				*e*S		**S**	**21 43 34.4**	**-0.2**
PB11				IAML			21 43 37.4	
	comp=Z,98nm,0.2s							
PB10	**IPOC Station P**	**3.11**	**240**	*e*P		**Pn**	**21 42 57.0**	**-0.3**
PB10				*i* S		**S**	**21 43 37.0**	**-1.4**
PB10	**IPOC Station P**	**3.11**	**240**	*e*P		**Pn**	**21 42 57.7**	**+0.3**
PB10				*e*S		**S**	**21 43 37.5**	**-0.8**
PB10				IAML			21 43 44.0	
	comp=Z,46nm,0.9s							
PB16	**IPOC Station P**	**4.03**	**334**	*e*P		**Pn**	**21 43 09.1**	**+0.3**
PB16				*i* S		**S**	**21 43 58.9**	**0.0**
PB16	**IPOC Station P**	**4.03**	**334**	*e*P		**Pn**	**21 43 09.0**	**+0.3**
PB16				IAML			21 44 02.4	
	comp=Z,26nm,0.6s							
LPAZ	**La Paz**	**5.67**	**355**	P		**Pn**	**21 43 28.5**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=164,slow=9.4,SNR=12							
LPAZ				S		**S**	**21 44 33.4**	**-2.6**
	comp=Z,2.9nm,0.6s,baz=283,slow=18,SNR=6.7							
SIV	**San Ignacio**	**8.59**	**47**	P		Pn	21 43 58.3	-7.7
	comp=Z,7.6nm,0.3s,baz=226,slow=10.0,SNR=25							
SIV				S		S	21 45 24.8	-18
	comp=Z,1.4nm,0.3s,baz=174,slow=19,SNR=6.4							
QSPA	**South Pole Qui**	**68.22**	**180**	P		P	21 52 45.1	+4.1
	comp=Z,0.9nm,1.0s,baz=124,slow=1.4,SNR=7.6							
	comp=Z,0.9nm,1.0s							
VNDA	**Vanda**	**76.59**	**190**	P		**P**	**21 53 32.0**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=105,slow=13,SNR=12							
	comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**145.30**	**37**	PKP		**PKPbc**	**22 01 14.2**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=310,slow=2.2,SNR=2.4							

*FUNV **01** 21:44:48.8,8.°44N×71.°78W,h5km,MW2.9*
*RSNC **01** 21:44:48.2±0.0,8.°N±1.°×7.°2W±.°,h5km±3km,M2.7,ML2.4*
ISC 01 21:44:47.1±1.4,8°44N±0.°03×71°85W±0.°03,h15km±11km,
n17,σ1°03/33, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAPV	**Capacho**	**0.73**	**219**	*e*P		**Pn**	**21 45 03.8**	**+0.6**
CAPV				*e*S		**Sn**	**21 45 15.2**	**+0.9**
SOCV	**Socops**	**0.99**	**99**	*e*P		**Pb**	**21 45 05.7**	**-0.3**
SOCV				*e*S		**Sb**	**21 45 18.8**	**-0.1**
SDV	**Santo Domingo**	**1.28**	**70**	P		**Pg**	**21 45 11.7**	**-0.1**
SDV				S		**Sg**	**21 45 29.6**	**+1.1**
PAMC	**Pamplona, Colo**	**1.38**	**218**	P		**Pn**	**21 45 11.2**	**-1.1**
PAMC				S		**Sn**	**21 45 31.7**	**+1.1**
OCAC	**Ocana**	**1.47**	**262**	P		**Pn**	**21 45 12.5**	**-0.8**
OCAC				S		**Sn**	**21 45 31.5**	**-0.8**
MCQV	**Machiques**	**1.74**	**337**	*e*P		**Pb**	**21 45 18.5**	**-0.3**
MCQV				*e*S		**Sg**	**21 45 42.8**	**-0.4**
BARC	**Barichara**	**2.26**	**216**	P		**Pn**	**21 45 25.4**	**+1.2**
BARC				S		**Sb**	**21 45 56.6**	**+0.8**
BRJC	**Barrancabermej**	**2.38**	**232**	P		**Pb**	**21 45 28.7**	**-1.0**
BRJC				S		**Sn**	**21 45 53.0**	**-1.6**
ARGC	**Ariguani, Magd**	**2.76**	**301**	P		**Pn**	**21 45 31.1**	**+0.3**
ARGC				S		**Sn**	**21 46 04.5**	**+0.6**
CRJC	**Cerrejon, Guaj**	**2.76**	**338**	P		**Pn**	**21 45 31.3**	**+0.3**
CRJC				S		**Sn**	**21 46 05.1**	**+1.0**
RUSC	**La Rusia**	**2.81**	**206**	P		**Pn**	**21 45 31.7**	**-0.3**
RUSC				S		**Sn**	**21 46 06.4**	**+0.5**
ZARC	**Zaragoza, Cauc**	**3.13**	**253**	P		**Pn**	**21 45 34.0**	**-1.9**
ZARC				S		**Sn**	**21 46 14.9**	**+1.8**
URIC	**Uribia, Colomb**	**3.25**	**357**	P		**Pn**	**21 45 36.9**	**-0.6**
URIC				S		**Sn**	**21 46 15.2**	**-0.8**
SJCC	**San Jacinto, C**	**3.60**	**294**	P		**Pn**	**21 45 44.1**	**+1.7**
SJCC				S		**Sn**	**21 46 25.3**	**+0.6**
MAPV	**Macapo**	**3.62**	**67**	*e*P		**Pn**	**21 45 43.1**	**+0.4**
BAUV	**El Baul**	**3.79**	**82**	*e*P		**Pn**	**21 45 45.2**	**+0.2**
BAUV				*e*S		**Sn**	**21 46 28.6**	**-0.9**
BENV	**Beln**	**4.46**	**70**	*e*P		**Pn**	**21 45 55.6**	**+1.3**
BENV				*e*S		**Sn**	**21 46 44.3**	**-1.7**

*NEIC **01** 22:06:51.4±1.1,15.°7S±0.°1×177.°5W±0.°1,h430km±8km,*
mb4.1/21, Error ellipse: s-maj=19.9km s-min=17.2km
az=112.0
*IDC **01** 22:06:52.1±5.9,15.°66S×177.°62W,h435km±63km,*
mb3.3/12,mbtmp4.1/12, Error ellipse: s-maj=23.2km
s-min=18.6km az=100.0
ISC 01 22:06:49.5±0.5,15°5S±0.°1×177°56W±0.°09,h400km,n70,
σ1°43/62,mb4.0/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.74**	**242**			**Pn**	**22 08 13.5**	**+4.6**
AFI	**Afiamalu**	**5.83**	**75**	P		**Pn**	**22 08 22.3**	**+1.8**
NIUE	**Niue**	**8.10**	**117**	P		**P**	**22 08 46.2**	**+0.1**
LTZ	**Lake Taylor**	**28.52**	**196**	P		P	22 12 06.1	-4.1
STKA	**Stephens Creek**	**40.51**	**239**	P		**P**	**22 13 51.3**	**-0.4**
	2.0nm,0.7s,baz=66,slow=7.1,SNR=3.4							
	2.0nm,0.7s							
JAY	**Jayapura**	**43.09**	**283**	P		**P**	**22 14 13.1**	**+0.4**
	4.8nm,0.5s,baz=105,slow=8.0,SNR=4.2							
	4.8nm,0.5s							
BBOO	**Buckleboo**	**45.28**	**239**	P		**P**	**22 14 29.7**	**+0.2**
WR8	**Warramunga Arr**	**45.75**	**257**	P		**P**	**22 14 32.3**	**-1.1**
WR8				IAmb		IAmb	22 14 35.6	
	comp=Z,15nm,1.4s							
WB0	**Warramunga Arr**	**45.86**	**257**	P		**P**	**22 14 32.8**	**-1.4**
WB0				IAmb		IAmb	22 15 02.6	
	comp=Z,19nm,1.5s							
WRA	**Warramunga Arr**	**45.90**	**257**	P		**P**	**22 14 32.8**	**-1.7**
WRA	**Warramunga Arr**	**45.90**	**257**	P		**P**	**22 14 33.0**	**-1.5**
	comp=Z,6.6nm,0.4s,baz=84,slow=6.3,SNR=23							
	comp=Z,6.6nm,0.4s							
AS31	**Alice Springs**	**46.25**	**252**	P		**P**	**22 14 36.4**	**-0.8**
AS31				IAmb		IAmb	22 14 36.8	
	comp=Z,3.1nm,0.4s							
ASAR	**Alice Springs**	**46.25**	**252**	P		**P**	**22 14 35.7**	**-1.5**
ASAR	**Alice Springs**	**46.25**	**252**	P		**P**	**22 14 36.0**	**-1.1**
	comp=Z,6.6nm,0.6s,baz=84,slow=7.9,SNR=104							
	comp=Z,6.6nm,0.6s							
MTN	**Manton Dam**	**49.72**	**266**	P		**P**	**22 15 02.6**	**-0.8**
KNRA	**Kununurra**	**51.57**	**262**	P		**P**	**22 15 15.9**	**-1.2**
SBA	**Scott Base**	**62.82**	**184**	P		**P**	**22 16 33.5**	**-0.3**
VNDA	**Vanda**	**62.86**	**185**	P		**P**	**22 16 32.9**	**-1.1**
VNDA	**Vanda**	**62.86**	**185**	P		**P**	**22 16 32.6**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=348,slow=7.2,SNR=6.5							
	comp=Z,0.5nm,0.5s							
MJAR	**Matsushiro Arr**	**66.52**	**322**	P		**P**	**22 16 57.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=148,slow=6.2,SNR=6.2							
	comp=Z,1.0nm,0.4s							
PETK	**Petropavlovsk-**	**71.61**	**345**	P		**P**	**22 17 28.6**	**0.0**
	comp=Z,2.9nm,0.8s,baz=124,slow=9.2,SNR=6.7							
	comp=Z,2.9nm,0.8s							
QSPA	**South Pole Qui**	**74.50**	**180**	P		**P**	**22 17 43.9**	**-1.5**
QSPA	**South Pole Qui**	**74.50**	**180**	P		**P**	**22 17 44.0**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=128,slow=20,SNR=1.4							
	comp=Z,0.6nm,0.9s							
NVAR	**Mina Array Bea**	**77.16**	**44**	P		**P**	**22 18 00.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=235,slow=5.2,SNR=5.6							
	comp=Z,1.0nm,0.7s							
L18K	**Granite Mounta**	**79.23**	**10**	P		**P**	**22 18 11.8**	**+0.6**
L18K				IAmb		IAmb	22 18 12.6	
	comp=Z,2.7nm,0.7s							
J20K	**Nowinta River**	**81.48**	**10**	P		**P**	**22 18 22.7**	**-0.3**
J20K				IAmb		IAmb	22 18 23.6	
	comp=Z,4.6nm,1.1s							
HDA	**Harding Lake**	**83.08**	**13**	P		**P**	**22 18 30.5**	**-0.6**
DOT	**Dot Lake**	**83.08**	**14**	P		**P**	**22 18 30.8**	**-0.4**
DOT				IAmb		IAmb	22 18 31.3	
	comp=Z,2.8nm,0.7s							
CCB	**Clear Creek Bu**	**83.11**	**12**			**P**	**22 18 30.3**	**-0.9**
CCB				IAmb		IAmb	22 18 30.9	
	comp=Z,5.9nm,1.0s							
L27K	**Beaver Creek,**	**83.14**	**16**	P		**P**	**22 18 31.0**	**-0.6**
BCAR	**Beaver Creek A**	**83.16**	**16**	P		**P**	**22 18 31.4**	**-0.3**
ILAR	**Eielson Array**	**83.41**	**13**	P		**P**	**22 18 31.3**	**-1.5**
ILAR	**Eielson Array**	**83.41**	**13**	P		**P**	**22 18 31.7**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=229,slow=6.4,SNR=16							
	comp=Z,1.7nm,0.7s							
F19K	**Shaleruckik Mo**	**83.43**	**8**	P		**P**	**22 18 32.7**	**-0.1**
F19K				IAmb		IAmb	22 18 41.3	
	comp=Z,9.0nm,1.5s							
J25K	**Salcha River,**	**83.60**	**13**	P		**P**	**22 18 33.2**	**-0.6**
J25K				IAmb		IAmb	22 18 33.9	
	comp=Z,3.3nm,0.7s							
TXAR	**Lajitas Array**	**84.05**	**58**	P		**P**	**22 18 37.6**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=209,slow=6.7,SNR=8.0							
	comp=Z,0.8nm,0.8s							
M30M	**Minto, Yukon**	**84.14**	**18**			**P**	**22 18 36.2**	**-0.4**
M30M				IAmb		IAmb	22 18 36.8	
	comp=Z,2.5nm,0.7s							
L29M	**L29M**	**84.18**	**17**	P		**P**	**22 18 36.7**	**0.0**
L29M				IAmb		IAmb	22 18 37.1	
	comp=Z,3.0nm,0.8s							
PDAR	**Pinedale Array**	**85.08**	**43**	P		**P**	**22 18 41.2**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=242,slow=5.1,SNR=1.9							
	comp=Z,0.4nm,0.7s							
BVAR	**Borovoye Array**	**115.51**	**322**	PKP		**PKPdf**	**22 24 42.5**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=104,slow=2

WRKA			S		Sn	22 54 35.4	-5.3
FITZ	**Fitzroy Crossi**	**7.97 281**	P		Pn	22 53 25.1	-0.2
	comp=Z,2.0nm,1.6s						
OOD	**Oodnadatta**	**8.17 169**	P		Pn	22 53 29.2	+1.3
	comp=Z,4.1nm,2.1s,comp=Z,0.0nm						
MULG	**Mulgathing**	**10.48 179**	P		Pn	22 53 59.2	-0.4
	comp=Z,11nm,2.1s,comp=Z,0.0nm						
FORT	**Forrest**	**12.17 204**	P		Pn	22 54 21.2	-1.4
	comp=Z,8.8nm,1.0s						

*NOU **01** 23:03:55.2, 18˚22S×120˚23E, h0km, mb5.3/27, Western Australia*
*IDC **01** 23:03:56.6±0.6, 18˚19S×120˚39E, h0km, mb4.1/12, mbtmp4.3/16, ML4.8/4, MS3.7/7, Error ellipse: s-maj=17.7km s-min=14.5km az=66.0*
*AUST **01** 23:03:57.0±0.2, 18˚S±2˚×120˚0E±˚, h10km, mb5.4/24, ML4.8/8, ML6.0/1, Error ellipse: s-maj=6.9km s-min=4.0km az=110.2*
*NEIC **01** 23:03:58.5±1.4, 18˚35S±0˙.06×120˚45E±0˙.06, h10km±1km, mb4.9/25, Error ellipse: s-maj=11.5km s-min=8.8km az=138.0*

ISC 01 23:03:57.8±0.4, 18˚36S±0˙.04×120˚38E±0˙.04, h10km, n154, σ2s26/157, mb4.7/30, 2C-2D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.80**	**78**	P	**Pg**	**23 04 31.9**	**-0.6**
AUBRM				S	**Sg**	**23 04 58.3**	**+2.5**
MBWA	**Marble Bar**	**2.85**	**192**		**Pn**	**23 04 45.3**	**+1.8**
MBWA	**Marble Bar**	**2.85**	**192**	⇑P	**Pn**	**23 04 45.9**	**+2.4**
MBWA				S	**Sn**	**23 05 19.6**	**+1.7**
MBWA	**Marble Bar**	**2.85**	**192**	P	**Pn**	**23 04 45.5**	**+2.1**
PSAC1	**Pilbara Seismi**	**3.21**	**190**	P	**Pn**	**23 04 50.6**	**+2.3**
PSAC1				S	**Sn**	**23 05 27.7**	**+1.1**
PSA00	**Pilbara Seismi**	**3.24**	**189**		**Pn**	**23 04 50.5**	**+1.8**
PSA00	**Pilbara Seismi**	**3.24**	**189**	⇑P	**Pn**	**23 04 51.0**	**+2.3**
PSA00				S	**Sn**	**23 05 28.0**	**+0.6**
PSA00	**Pilbara Seismi**	**3.24**	**189**	P	**Pn**	**23 04 51.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**5.00**	**88**	Pn	**Pn**	**23 05 13.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**5.00**	**88**	Pn	**Pn**	**23 05 13.6**	**+0.6**
	64nm,0.3s,baz=291,slow=10,SNR=417						
FITZ				Sn	**Sn**	**23 06 10.8**	**-0.1**
	105nm,0.3s,baz=48,slow=12,SNR=3.9						
FITZ				Lg	Lg	23 06 35.7	
	84nm,0.3s,baz=11,slow=8.1,SNR=4.6						
	140nm,0.3s						
GIRL	**Giralia**	**7.17**	**232**		**Pn**	**23 05 43.9**	**+1.1**
GIRL	**Giralia**	**7.17**	**232**	P	**Pn**	**23 05 43.1**	**+0.3**
	comp=Z,190nm,0.7s,comp=Z,1.2nmcomp=Z,4227μm						
GIRL				S	**Sn**	**23 06 58.1**	**-6.2**
BASI	**Baing, Sumba**	**8.09**	**1**	P	**Pn**	**23 05 53.6**	**-1.9**
MEEK	**Meekatharra**	**8.40**	**191**	P	**Pn**	**23 06 00.6**	**+0.9**
MEEK	**Meekatharra**	**8.40**	**191**	S	**Sn**	**23 07 30.1**	**-4.6**
MEEK	**Meekatharra**	**8.40**	**191**	P	**Pn**	**23 06 00.7**	**+0.9**
CVQOZ	**Cooralya Stati**	**8.44**	**223**	⇓P	**Pn**	**23 06 00.6**	**+0.4**
	comp=Z,1μm,0.8s,comp=Z,8.1nm						
CVQOZ				S	**Sn**	**23 07 27.7**	**-7.8**
KNRA	**Kununurra**	**8.45**	**73**		**Pn**	**23 05 59.8**	**-0.5**
KNRA	**Kununurra**	**8.45**	**73**	P	**Pn**	**23 06 00.1**	**-0.3**
	comp=Z,262nm,0.5s,comp=Z,1.3nm						
KNRA				S	**Sn**	**23 07 31.6**	**-4.3**
WSI	**Waingapu**	**8.64**	**359**	P	**Pn**	**23 06 01.0**	**-2.0**
	comp=Z,260nm,0.7s						
BATI	**Baumata**	**8.70**	**22**	Pn	**Pn**	**23 06 04.1**	**+0.2**
	comp=Z,14nm,0.3s,baz=170,slow=5.3,SNR=9.7						
BATI				Sn	**Sn**	**23 07 38.8**	**-3.4**
	comp=Z,16nm,0.3s,baz=188,slow=19,SNR=1.4						
BATI				LR	LR	23 09 48.1	
	comp=Z,274nm,18.8s,baz=232,slow=41						
BATI	**Baumata**	**8.70**	**22**	P	**Pn**	**23 06 04.5**	**+0.6**
	comp=Z,2μmcomp=Z,181nm,0.6s						
WBSI	**Waikabubak, Su**	**8.72**	**354**	P	**Pn**	**23 06 00.8**	**-3.3**
	comp=Z,2μmcomp=Z,163nm,0.8s						
SOEI	**Soe**	**9.34**	**24**		**Pn**	**23 06 15.4**	**+2.6**
SOEI	**Soe**	**9.34**	**24**	P	**Pn**	**23 06 15.3**	**+2.6**
SOEI	**Soe**	**9.34**	**24**	P	**Pn**	**23 06 10.2**	**-2.6**
SOEI	**Soe**	**9.34**	**24**	P	**Pn**	**23 06 11.6**	**-1.2**
	comp=Z,1μmcomp=Z,83nm,0.7s						
EDFI	**Ende, Flores**	**9.63**	**8**	P	**Pn**	**23 06 12.7**	**-4.0**
EDFI	**Ende, Flores**	**9.63**	**8**	P	**Pn**	**23 06 13.1**	**-3.6**
PLAI	**Plampang**	**9.81**	**345**	P	**Pn**	**23 06 15.5**	**-3.5**
	comp=Z,87nm,0.5s,comp=Z,0.4nm						
PLAI	**Plampang**	**9.81**	**345**	P	**Pn**	**23 06 15.3**	**-3.7**
PLAI	**Plampang**	**9.81**	**345**	P	**Pn**	**23 06 17.6**	**-1.4**
	comp=Z,2μmcomp=Z,123nm,1.0s						
MMRI	**Maumere**	**9.83**	**11**		**Pn**	**23 06 22.4**	**+3.1**
MMRI	**Maumere**	**9.83**	**11**	P	**Pn**	**23 06 17.9**	**-1.5**
	comp=Z,97nm,0.6s,comp=Z,0.3nm						
MMRI	**Maumere**	**9.83**	**11**	P	**Pn**	**23 06 18.2**	**-1.1**
	comp=Z,5μmcomp=Z,102nm,0.6s						
WRKA	**Warakurna**	**9.91**	**133**	P	**Pn**	**23 06 22.1**	**+1.6**
	comp=Z,39nm,0.5s,comp=Z,0.4nm						
MORW	**Morawa**	**11.38**	**200**		**Pn**	**23 06 39.3**	**-1.2**
MORW	**Morawa**	**11.38**	**200**	P	**Pn**	**23 06 38.8**	**-1.7**
	comp=Z,102nm,0.5s						
MORW	**Morawa**	**11.38**	**200**	P	**Pn**	**23 06 38.6**	**-1.9**
SRBI	**Singaraja**	**11.38**	**333**	P	**Pn**	**23 06 37.3**	**-3.3**
	comp=Z,2μmcomp=Z,80nm,0.5s						
JAGI	**Jajag, Banyuwa**	**11.54**	**328**	Pn	**Pn**	**23 06 38.1**	**-4.7**
JAGI	**Jajag, Banyuwa**	**11.54**	**328**	P	Pn	23 06 37.7	-5.1
JAGI	**Jajag, Banyuwa**	**11.54**	**328**	P	Pn	23 06 37.5	-5.3
JAGI	**Jajag, Banyuwa**	**11.54**	**328**	P	Pn	23 06 36.9	-5.9
DPH	**Darwin Parliam**	**11.66**	**61**	P	**Pn**	**23 06 44.1**	**-0.3**
	comp=Z,113nm,0.6s						
MTN	**Manton Dam**	**11.71**	**64**		**Pn**	**23 06 43.6**	**-1.5**
MTN	**Manton Dam**	**11.71**	**64**	⇓P	**Pn**	**23 06 43.5**	**-1.7**
MTN	**Manton Dam**	**11.71**	**64**	P	**Pn**	**23 06 43.9**	**-1.2**
DRS	**Darwin Rock St**	**11.72**	**61**	P	**Pn**	**23 06 45.0**	**-0.3**
	comp=Z,125nm,0.7s						
DRS	**Darwin Rock St**	**11.72**	**61**	P	**Pn**	**23 06 44.7**	**-0.6**
GMJI	**Gumukmas**	**12.08**	**325**	P	Pn	23 06 45.4	-4.8
	comp=Z,47nm,0.7s						
BLDU	**Ballidu**	**12.65**	**195**	P	**Pn**	**23 06 56.5**	**-1.4**
	comp=Z,115nm,0.4s						
BLDU	**Ballidu**	**12.65**	**195**	P	**Pn**	**23 06 56.8**	**-1.1**
KDU	**Kakadu**	**12.94**	**66**	P	**Pn**	**23 06 59.7**	**-2.3**
KDU	**Kakadu**	**12.94**	**66**	P	**Pn**	**23 06 59.6**	**-2.3**
BKSI	**Bulukumba**	**12.96**	**359**	P	**Pn**	**23 07 00.1**	**-2.1**
	comp=Z,58nm,0.6s						
KMBL	**Kambalda**	**13.02**	**174**	P	**Pn**	**23 07 02.6**	**-0.4**
	comp=Z,86nm,0.9s						
KAPI	**Kappang**	**13.28**	**357**	Pn	**Pn**	**23 07 04.1**	**-2.3**
	comp=Z,3.2nm,0.3s,baz=178,slow=17,SNR=2.2						
KAPI				Sn	**Sn**	**23 09 30.3**	**-4.0**
	comp=Z,1.2nm,0.3s,baz=148,slow=22,SNR=1.2						
KAPI				LR	LR	23 13 18.5	
	comp=Z,196nm,19.1s,baz=158,slow=43						
	comp=Z,7.3nm,0.3s						
WRA	**Warramunga Arr**	**13.28**	**99**		**Pn**	**23 07 05.4**	**-1.2**
WRA	**Warramunga Arr**	**13.28**	**99**	Pn	**Pn**	**23 07 05.1**	**-1.5**
	comp=Z,6.3nm,0.3s,baz=275,slow=14,SNR=92						
WRA				Sn	**Sn**	**23 09 27.1**	**-7.3**
	comp=Z,17nm,0.3s,baz=280,slow=25,SNR=9.4						
WRA				Lg	Lg	23 11 00.3	
	baz=130,slow=49						
WRA				LR	LR	23 13 04.1	
	comp=Z,195nm,18.8s,baz=290,slow=41						
	comp=Z,15nm,0.5s						
WRAB	**Tennant Creek**	**13.29**	**99**		**Pn**	**23 07 04.8**	**-1.9**
WB0	**Warramunga Arr**	**13.32**	**98**		**Pn**	**23 07 05.3**	**-1.8**
KLBR	**Kellerberrin**	**13.39**	**190**	P	**Pn**	**23 07 07.0**	**-0.9**
	comp=Z,344nm,0.6s						
KLBR	**Kellerberrin**	**13.39**	**190**	P	**Pn**	**23 07 07.2**	**-0.8**
WR8	**Warramunga Arr**	**13.44**	**99**		**Pn**	**23 07 06.9**	**-1.8**
PCJI	**Pacitan**	**13.50**	**317**	P	**Pn**	**23 07 05.9**	**-3.6**
ASAR	**Alice Springs**	**13.68**	**115**		**Pn**	**23 07 11.6**	**-0.5**
ASAR	**Alice Springs**	**13.68**	**115**	Pn	**Pn**	**23 07 11.2**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=293,slow=12,SNR=64						
ASAR				Sn	**Sn**	**23 09 39.7**	**-4.6**
	comp=Z,15nm,0.3s,baz=303,slow=23,SNR=10						
ASAR				Lg	Lg	23 11 15.1	
	comp=Z,3.3nm,0.3s,baz=296,slow=26,SNR=4.4						
ASAR				LR	LR	23 12 07.3	
	comp=Z,337nm,21.5s,baz=268,slow=36						
	comp=Z,5.6nm,0.3s						
AS31	**Alice Springs**	**13.68**	**115**		**Pn**	**23 07 11.4**	**-0.6**
AS31	**Alice Springs**	**13.68**	**115**	P	**Pn**	**23 07 11.9**	**-0.1**
	comp=Z,39nm,0.6s						
AS01	**Alice Springs**	**13.72**	**115**	P	**Pn**	**23 07 12.0**	**-0.6**
MUN	**Mundaring**	**14.08**	**195**	P	**Pn**	**23 07 15.2**	**-2.2**
	comp=Z,124nm,0.4s						
MUN	**Mundaring**	**14.08**	**195**	P	**Pn**	**23 07 15.7**	**-1.7**
UGM	**Wanagama**	**14.13**	**316**	P	**Pn**	**23 07 15.4**	**-2.8**
	comp=Z,74nm,0.9s						
UGM	**Wanagama**	**14.13**	**316**	P	**Pn**	**23 07 14.3**	**-4.0**
UGM	**Wanagama**	**14.13**	**316**	P	**Pn**	**23 07 14.2**	**-4.0**
	comp=Z,76nm,0.8s						
MTKN	**Mount Kenneth**	**14.14**	**196**	P	**Pn**	**23 07 19.0**	**+0.7**
	comp=Z,432nm,0.6s						
MTKN	**Mount Kenneth**	**14.14**	**196**	P	**Pn**	**23 07 19.3**	**+1.0**
FORT	**Forrest**	**14.19**	**152**		**Pn**	**23 07 16.5**	**-2.5**
FORT	**Forrest**	**14.19**	**152**	P	**Pn**	**23 07 15.8**	**-3.1**
DNDOZ	**Balladonia**	**14.39**	**168**	P	**Pn**	**23 07 20.2**	**-1.4**
	comp=Z,666nm,0.7s						
NWAO	**Narrogin (SRO)**	**14.78**	**190**		**Pn**	**23 07 24.5**	**-2.6**
NWAO	**Narrogin (SRO)**	**14.78**	**190**	P	**Pn**	**23 07 24.2**	**-2.8**
NWAO	**Narrogin (SRO)**	**14.78**	**190**	Pn	**Pn**	**23 07 24.2**	**-2.8**
	comp=Z,56nm,0.3s,baz=11,slow=13,SNR=246						
NWAO				Sn	Sn	23 09 58.1	-13
	comp=Z,42nm,0.3s,baz=307,slow=14,SNR=6.2						
NWAO				Lg	Lg	23 11 41.6	
	comp=Z,12nm,0.3s,baz=95,slow=24,SNR=4.7						
NWAO				LR	LR	23 13 27.7	
	comp=Z,323nm,20.8s,baz=20,slow=38						
NWAO	**Narrogin (SRO)**	**14.78**	**190**	P	**Pn**	**23 07 24.6**	**-2.4**
NWAO	**Narrogin (SRO)**	**14.78**	**190**	P	**Pn**	**23 07 24.4**	**-2.6**
TTSI	**Tana Toraja**	**15.23**	**358**	P	**P**	**23 07 42.7**	**+4.7**
BBJI	**Bungbulang**	**16.46**	**310**	P	**Pn**	**23 07 45.9**	**-3.2**
RKGY	**Rocky Gully**	**16.47**	**190**	P	**Pn**	**23 07 46.8**	**-2.2**
OOD	**Oodnadatta**	**16.91**	**127**	P	**Pn**	**23 07 53.0**	**-1.7**
MULG	**Mulgathing**	**17.19**	**136**	P	**Pn**	**23 07 55.8**	**-2.4**
QIS	**Mount Isa**	**18.26**	**100**	P	**Pn**	**23 08 11.3**	**-0.2**
	comp=Z,66nm,0.8s						
QIS	**Mount Isa**	**18.26**	**100**	P	**P**	**23 08 11.9**	**+0.2**
FAKI	**Fak Fak**	**19.25**	**39**	P	**P**	**23 08 21.9**	**-0.7**
BBOO	**Buckleboo**	**20.14**	**139**		**P**	**23 08 32.5**	**+0.4**
BBOO				IAmb	IAmb	23 08 34.6	
	comp=Z,60nm,0.6s						
BBOO	**Buckleboo**	**20.14**	**139**	P	**P**	**23 08 32.8**	**+0.6**
LCRK	**Leigh Creek**	**20.18**	**130**	P	Pn	23 08 34.5	-0.1
	comp=Z,29nm,0.6s						
YAPP	**Yappala Statio**	**21.04**	**133**	P	**P**	**23 08 43.8**	**+1.8**
	comp=Z,65nm,0.9s						
WHYH	**Whyalla**	**21.25**	**137**	P	**P**	**23 08 46.5**	**+2.3**
NAPP	**Napperby**	**21.72**	**136**	P	**P**	**23 08 51.5**	**+2.3**
LHSI	**Lahat**	**21.93**	**309**	P	P	23 09 00.4	+8.8
KSM	**Kuching**	**22.06**	**332**	P	**P**	**23 08 53.8**	**+0.8**
KSM				IAmb	IAmb	23 09 01.2	
	comp=Z,20nm,0.6s						
SBUM	**Sibu**	**22.18**	**338**	P	**P**	**23 08 54.9**	**+0.5**
COEN	**Coen**	**22.32**	**82**		**P**	**23 08 55.0**	**-0.8**
COEN				IAmb	IAmb	23 09 10.0	
	comp=Z,88nm,1.3s						
HTT	**Hallett**	**22.38**	**136**	P	**P**	**23 08 58.4**	**+2.0**
	comp=Z,13nm,0.7s						
HTT	**Hallett**	**22.38**	**136**	P	**P**	**23 08 58.8**	**+2.4**
SDAN	**Sedan**	**23.32**	**137**	P	**P**	**23 09 08.2**	**+2.1**
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**23.40**	**129**		**P**	**23 09 06.5**	**-0.4**
STKA	**Stephens Creek**	**23.40**	**129**	P	**P**	**23 09 08.2**	**+1.3**
	comp=Z,230nm,0.8s						
STKA	**Stephens Creek**	**23.40**	**129**	P	**P**	**23 09 08.8**	**+1.8**
	comp=Z,7.0nm,0.5s,baz=296,slow=11,SNR=18						
STKA				S	**S**	**23 13 19.9**	**-0.3**
	comp=Z,20nm,0.6s,baz=218,slow=20,SNR=4.3						
STKA				Lg	Lg	23 16 17.9	
	baz=25,slow=20						
	comp=Z,7.0nm,0.5s						
STKA	**Stephens Creek**	**23.40**	**129**	P	**P**	**23 09 08.9**	**+2.0**
QLP	**Quilpie**	**23.48**	**115**	P	**P**	**23 09 08.5**	**+0.6**
CMSA	**Cobar Meteorol**	**26.36**	**125**	P	**P**	**23 09 35.8**	**+1.6**
PMG	**Port Moresby**	**27.44**	**75**	LR	LR	23 21 29.6	
	comp=Z,200nm,20.6s,baz=170,slow=38						
PZH	**PanZhiHua**	**48.13**	**337**	P	**P**	**23 12 43.0**	**+4.7**
CASY	**Casey**	**48.33**	**185**	P	**P**	**23 12 40.2**	**+1.0**
CASY				IAmb	IAmb	23 12 41.0	
	comp=Z,5.0nm,0.6s						
BRDH	**Bariadhala**	**49.52**	**324**	LR	LR	23 38 46.5	
	comp=Z,123nm,18.2s,baz=150,slow=42						
NJ2	**Nanjing**	**50.14**	**358**	*eP*	**P**	**23 12 55.6**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
SHL	**Shillong**	**51.72**	**327**	P	**P**	**23 13 05.9**	**+0.2**
SHL				IAmb	IAmb	23 13 14.2	
	comp=Z,16nm,1.1s						
KSAR	**Wonju Array Be**	**55.95**	**7**	P	**P**	**23 13 36.0**	**-0.2**
KSRS	**Korea Array**	**55.96**	**7**	P	**P**	**23 13 36.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=190,slow=8.4,SNR=7.0						
	comp=Z,1.0nm,0.5s						
EVN	**Everest**	**56.35**	**324**	P	**P**	**23 13 40.4**	**+0.3**
EVN				IAmb	IAmb	23 13 49.9	
	comp=Z,7.5nm,0.9s						
MJAR	**Matsushiro Arr**	**57.14**	**17**	P	**P**	**23 13 43.4**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=191,slow=7.5,SNR=4.0						
	comp=Z,0.7nm,0.4s						
HHC	**Hu-ho-hao-te**	**59.47**	**352**	*eP*	**P**	**23 14 05.5**	**+4.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,65nm,5.7s						
GTA	**Gaotai**	**60.60**	**342**	*eP*	P	23 14 18.3	+9.4
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAW	**Mawson**	**61.01**	**202**	P	**P**	**23 14 12.4**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=54,slow=5.9,SNR=11						
	comp=Z,3.9nm,0.8s						
XLT	**XiLinHaoTe**	**62.08**	**356**	*eP*	P	23 14 27.2	+8.5
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VNDA	**Vanda**	**62.59**	**171**		**P**	**23 14 22.5**	**+0.8**
VNDA	**Vanda**	**62.59**	**171**	P	**P**	**23 14 23.7**	**+2.0**
	comp=Z,2.2nm,0.9s,baz=306,slow=7.1,SNR=11						
	comp=Z,2.2nm,0.9s						
ULN	**Ulaanbaatar**	**66.99**	**350**	P	**P**	**23 14 51.0**	**+0.1**
ULN				IAmb	IAmb	23 15 00.6	
	comp=Z,7.4nm,1.1s						
SONM	**Songino Array**	**67.07**	**350**	P	**P**	**23 14 51.5**	**+0.1**
SONM				IAmb	IAmb	23 15 01.0	
	comp=Z,8.3nm,1.2s						
SONM	**Songino Array**	**67.07**	**350**	P	**P**	**23 14 50.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=178,slow=7.2,SNR=3.8						
	comp=Z,0.6nm,0.5s						
NIL	**Nilore**	**68.51**	**319**	P	**P**	**23 15 01.2**	**+0.5**
NIL				IAmb	IAmb	23 15 09.0	
	comp=Z,11nm,0.9s						
WMQ	**Urumqi**	**68.74**	**335**	*eP*	**P**	**23 15 04.5**	**+2.6**
KSH	**Kashi**	**70.95**	**325**	P	**P**	**23 15 20.1**	**+4.4**
KSH				pP	sP	23 15 24.0	+3.9
KSH				pmax	pmax		
	comp=Z,13nm,0.6s						
QSPA	**South Pole Qui**	**71.69**	**180**	P	**P**	**23 15 21.6**	**+1.8**
	comp=Z,5.1nm,1.0s,baz=339,slow=3.6,SNR=9.4						
	comp=Z,5.1nm,1.0s						
KBL	**Kabul**	**71.75**	**317**	P	**P**	**23 15 20.9**	**+0.1**
KBL				IAmb	IAmb	23 15 30.0	
	comp=Z,8.7nm,0.7s						
MKAR	**Makanchi Array**	**73.38**	**334**	P	**P**	**23 15 30.0**	**+0.1**
MKAR	**Makanchi Array**	**73.38**	**334**	P	**P**	**23 15 29.4**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=138,slow=6.7,SNR=6.0						
	comp=Z,0.4nm,0.5s						
GAR	**Garm**	**73.81**	**322**	P	**P**	**23 15 33.0**	**+0.2**
GAR				IAmb	IAmb	23 15 42.2	
	comp=Z,13nm,0.6s						
ARSB	**Arslanbob**	**73.84**	**325**	P	**P**	**23 15 32.9**	**0.0**
KURBB	**Kurchatov Arra**	**77.92**	**334**	P	**P**	**23 15 55.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=146,slow=4.6,SNR=9.3						
	comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**77.95**	**334**	P	**P**	**23 15 57.0**	**+1.1**
ZAA0	**Zalesovo Array**	**78.22**	**339**	P	**P**	**23 15 57.2**	**-0.2**
ZALV	**Zalesovo Beam**	**78.22**	**339**	P	**P**	**23 15 57.8**	**+0.4**
ZALV	**Zalesovo Beam**	**78.22**	**339**	P	**P**	**23 15 56.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=146,slow=6.5,SNR=10.0						
	comp=Z,0.5nm,0.6s						
SNAA	**Sanae**	**82.39**	**195**	P	**P**	**23 16 20.9**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=167,slow=4.1,SNR=5.2						
	comp=Z,2.1nm,0.8s						
RAYN	**Ar Rayn**	**84.08**	**297**	P	**P**	**23 16 29.0**	**-0.4**
BOSA	**Boshof**	**85.73**	**241**	P	**P**	**23 16 38.4**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=123,slow=4.6,SNR=7.3						
	comp=Z,1.8nm,0.6s						
AB31	**Akbulak array**	**85.96**	**325**	P	**P**	**23 16 38.3**	**+0.2**
LSZ	**Lusaka**	**87.31**	**255**	P	**P**	**23 16 45.6**	**-0.2**
LSZ				IAmb	IAmb	23 16 56.4	
	comp=Z,3.8nm,0.8s						
BILL	**Bilibino**	**92.37**	**16**	P	**P**	**23 17 09.7**	**+1.6**
M14K	**Bethel**	**99.96**	**29**	Pdif	**Pdif**	**23 17 44.2**	**+1.6**
LPAZ	**La Paz**	**144.57**	**166**	PKP	**PKPdf**	**23 23 36.2**	**-0.1**
	comp=Z,8.6nm,0.7s,baz=195,slow=1.8,SNR=23						

*SJA **01** 23:15:55.3±1.5, 34˚13S×73˚94W, h10km, ML3.7, MW3.4*
*GUC **01** 23:16:05.2±0.8, 34˚25S×72˚57W, h8km±15km, ML3.3*

ISC 01 23:16:02.1±3.0, 34˚7S±0˙.1×72˚7W±0˙.1, h14km±14km, n23, σ1s98/31, 5C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**0.65**	**75**	⇓*eP*	**Pn**	**23 16 16.7**	**-0.2**
BO03				IAML		23 16 29.4	
	comp=N,2μm,0.3s						
BO01	**Tunca**	**1.38**	**79**	⇑*eP*	**Pg**	**23 16 27.4**	**-1.2**
BO01				*eS*	**Sn**	**23 16 45.8**	**+0.9**
BO01				IAML		23 16 51.4	
	comp=N,553nm,0.7s						
MT01	**Popeta**	**1.45**	**57**	⇑*eP*	**Pn**	**23 16 26.9**	**-1.1**
MT01				*eS*	**Sb**	**23 16 43.2**	**-4.2**
MT01				IAML		23 16 51.5	
	comp=N,480nm,0.3s						
BO02	**Sierra Bellavi**	**1.60**	**95**	⇑*eP*	**Pg**	**23 16 33.2**	**+0.4**
BO02				*eS*	**Sg**	**23 16 54.9**	**+1.3**
BO02				IAML		23 16 59.3	
	comp=N,2μm,0.2s						
MT09	**Talagante**	**1.69**	**59**	⇑*eP*	**Pn**	**23 16 30.4**	**-0.9**
MT09				*eS*	**Sn**	**23 16 49.5**	**-3.3**
MT09				IAML		23 17 04.5	
	comp=N,396nm,0.4s						
BO04	**La Punta**	**1.87**	**70**	⇑*eP*	**Pn**	**23 16 34.6**	**+0.8**
BO04				IAML		23 17 09.6	
	comp=N,570nm,0.5s						
MT02	**Curacav**	**1.92**	**44**	*eP*	**Pn**	**23 16 33.0**	**-1.4**
MT15	**Las Vizcachas**	**2.12**	**61**	*eP*	**Pn**	**23 16 38.8**	**+1.6**
MT15				IAML		23 17 10.9	
	comp=N,571nm,0.5s						
ROC1	**El Roble**	**2.20**	**41**	*eP*	Pg	23 16 45.7	+1.4
ROC1				⇓*eS*	**Sn**	**23 17 07.2**	**+1.5**
ROCH	**El Roble**	**2.21**	**41**	*eP*	**Pn**	**23 16 37.8**	**-0.8**
MT14	**Cerro Cal¡n**	**2.21**	**56**	*eP*	**Pn**	**23 16 38.7**	**+0.2**
MT14				*eS*	**Sn**	**23 17 04.0**	**-1.7**
MT14				IAML		23 17 13.0	
	comp=E,828nm,0.8s						
PEL	**Peldehue**	**2.27**	**49**	*eP*	**Pb**	**23 16 42.8**	**-0.2**
PEL				IAML		23 17 27.6	
	comp=Z,212nm,0.6s						
MT10	**Hacienda Santa**	**2.28**	**53**	*eP*	**Pn**	**23 16 39.6**	**+0.1**
MT10				IAML		23 17 18.0	
	comp=N,797nm,0.7s						
VA03	**San Esteban**	**2.62**	**44**	*eP*	**Pn**	**23 16 45.4**	**+1.3**
VA03				⇓*eS*	**Sb**	**23 17 21.9**	**+1.0**
VA03				IAML		23 17 26.6	
	comp=Z,279nm,0.7s						
ARCO	**CERRO ARCO**	**3.64**	**61**	*eP*	**Pb**	**23 17 05.7**	**-0.6**
ARCO				IAML		23 18 00.8	
	comp=Z,56nm,0.8s						
AUSP	**Uspallata**	**3.70**	**50**	*eP*	**Pb**	**23 17 04.3**	**-3.1**
AUSP				⇓*eS*	**Sb**	**23 17 55.2**	**+3.0**
ASAL	**Salagasta**	**3.84**	**59**	*eP*	**Pb**	**23 17 09.0**	**-0.8**
ASAL				IAML		23 18 03.9	
	comp=Z,0.0nm,1.3s						
RTLS	**Leoncito**	**4.05**	**46**	*eP*	**Pb**	**23 17 12.8**	**-0.6**
RTLS				⇓*eS*	**Sb**	**23 18 06.7**	**+4.4**
RTLS				IAML		23 18 10.1	
	comp=Z,156nm,0.8s						
ZON	**Zonda**	**4.60**	**49**	*eP*	**Pb**	**23 17 22.2**	**-0.4**
ZON				IAML		23 18 37.0	
	comp=Z,37nm,1.7s						
ACCO	**Cerro Coronel**

	comp=Z,4.5nm,0.6s						
DOT	**Dot Lake**	**57.66**	**31**	P	**P**	**23 27 43.9**	**+0.4**
DOT				IAmb	IAmb	23 27 49.7	
	comp=Z,7.4nm,1.0s						
AB31	**Akbulak array**	**61.25**	**313**	P	**P**	**23 28 08.4**	**+0.5**
G31M	**Satah River**	**61.40**	**27**	P	**P**	**23 28 10.6**	**+2.1**
G31M				IAmb	IAmb	23 28 28.8	
	comp=Z,11nm,1.4s						
FINES	**FINESS Array B**	**74.20**	**333**	P	**P**	**23 29 28.6**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=67,slow=5.4,SNR=8.7						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**78.77**	**322**	P	**P**	**23 29 53.7**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=65,slow=5.8,SNR=2.4						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**79.73**	**336**	P	**P**	**23 29 58.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=58,slow=5.4,SNR=5.8						
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**79.95**	**337**	P	**P**	**23 30 00.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=56,slow=5.9,SNR=2.6						
	comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**82.17**	**311**	P	**P**	**23 30 12.1**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=62,slow=5.5,SNR=5.8						
	comp=Z,0.9nm,0.8s						

*AEIC **01** 23:24:25.0±1.6,56°.03N±0°.07×149°.58W±0°.09,h12km±7km, Error ellipse: s-maj=9.8km s-min=7.4km az=177.0*

NEIC 01 23:24:19.5±1.6,55°.99N±0°.07×149°.588W±0°.006, h10km±2km,ML3.6/66,**ML3.4**(AEIC)**, Error ellipse: s-maj=12.6km s-min=3.0km az=178.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.39**	**303**		Pn	23 24 58.4	-0.3
OHAK					Sn	23 25 25.2	-2.8
KDAK	**Kodiak Island**	**2.44**	**319**		Pn	23 24 59.3	-0.1
KDAK					Sn	23 25 26.1	-3.1
SII	**Sitkinak Islan**	**2.63**	**285**	Pn	Pn	23 25 01.8	-0.2
SII				Sn	Sn	23 25 31.9	-1.9
SII				IAML		23 25 34.5	
	comp=N,372nm,0.6s						
SYI	**Shuyak Island**	**3.04**	**331**		Pn	23 25 07.5	-0.1
SYI	**Shuyak Island**	**3.04**	**331**		Sn	23 25 41.2	-2.8
R18K	**Karluk**	**3.11**	**303**		Pn	23 25 08.9	+0.3
R18K	**Karluk**	**3.11**	**303**	IAML		23 25 45.1	
	comp=N,130nm,0.5s						
R18K				IAML		23 25 53.4	
	comp=E,89nm,0.4s						
CHIR	**Chirikof Islan**	**3.40**	**270**		Sn	23 25 49.8	-3.2
CHIR	**Chirikof Islan**	**3.40**	**270**		Pn	23 25 12.2	-0.3
CNPM	**China Poot**	**3.66**	**347**		Pn	23 25 15.6	-0.6
CNPM				IAML		23 25 58.7	
	comp=E,71nm,0.5s						
CNPM	**China Poot**	**3.66**	**347**		Sn	23 25 56.4	-2.9
Q19K	**Cape Douglas,**	**3.68**	**325**		Pn	23 25 16.4	0.0
Q19K				IAML		23 26 07.1	
	comp=N,105nm,0.9s						
KAHG	**Katmai Hook Gl**	**3.69**	**315**		Pn	23 25 17.9	+1.4
CAHL	**Cahill**	**3.75**	**306**		Pn	23 25 18.2	+0.8
ACHA	**Angle Creek He**	**3.84**	**308**		Pn	23 25 19.3	+0.5
BRLK	**Bradley Lake**	**3.85**	**350**		Pn	23 25 17.5	-1.3
BRLK				IAML		23 26 05.1	
	comp=N,48nm,0.4s						
BRLK				IAML		23 26 06.2	
	comp=E,57nm,0.5s						
Q23K	**Middleton Isla**	**3.87**	**25**	Pn	Pn	23 25 18.2	-0.7
Q23K				IAML		23 26 02.5	
	comp=E,72nm,0.9s						
Q23K				IAML		23 26 03.3	
	comp=N,75nm,1.1s						
PLK4	**Peulik 4**	**4.07**	**297**		Pn	23 25 22.5	+0.6
PLK4				IAML		23 26 08.2	
	comp=E,86nm,0.6s						
PLK4				IAML		23 26 08.2	
	comp=N,65nm,0.6s						
PLK4	**Peulik 4**	**4.07**	**297**		Sn	23 26 07.1	-2.5
SEW	**Seward**	**4.13**	**1**	Pn	Pn	23 25 21.8	-0.8
P19K	**Oil Pt**	**4.16**	**334**	Pn	Pn	23 25 23.1	0.0
P19K				IAML		23 26 15.2	
	comp=N,114nm,0.4s						
P23K	**Montague Islan**	**4.19**	**15**	Pn	Pn	23 25 23.0	-0.4
P23K				IAML		23 26 09.0	
	comp=E,82nm,0.4s						
PLBL	**Peulik Blue Cr**	**4.33**	**296**		Pn	23 25 26.5	+1.2
O20K	**Slope Mountain**	**4.41**	**340**		Pn	23 25 26.0	-0.5
ILSW	**Iliamna Southw**	**4.43**	**336**		Pn	23 25 26.3	-0.6
ILSW				IAML		23 26 18.7	
	comp=E,52nm,0.9s						
ILSW				IAML		23 26 18.7	
	comp=N,38nm,0.5s						
SLKM	**Skilak Lake**	**4.55**	**356**	Pn	Pn	23 25 27.2	-1.2
SLKM				Sn	Sn	23 26 17.8	-3.4
SLKM				IAML		23 26 20.8	
	comp=N,68nm,0.3s						
SLKM				IAML		23 26 22.3	
	comp=E,68nm,0.4s						
P18K	**Big Mountain,**	**4.56**	**321**		Pn	23 25 28.6	+0.1
R16K	**Pilot Point**	**4.67**	**293**	Pn	Pn	23 25 30.5	+0.5
R16K				IAML		23 26 55.3	
	comp=E,33nm,1.1s						
Q16K	**King Salmon**	**4.69**	**308**		Pn	23 25 30.8	+0.7
HIN	**Hinchinbrook I**	**4.72**	**19**	Pn	Pn	23 25 30.6	-0.1
HIN				Sn	Sn	23 26 21.4	-4.0
RED	**Redoubt Volcan**	**4.75**	**341**	Pn	Pn	23 25 29.8	-1.4
RED					Sn	23 26 24.0	-2.4
RED				IAML		23 26 26.0	
	comp=E,48nm,0.7s						
RED				IAML		23 26 29.0	
	comp=N,52nm,0.6s						
KAIM	**Kayak Island**	**4.82**	**33**		Pn	23 25 31.8	-0.2
KAIM				IAML		23 26 29.1	
	comp=E,50nm,0.7s						
KAIM				IAML		23 26 31.3	
	comp=N,57nm,0.4s						
O18K	**Koktuh Hills**	**4.90**	**325**		Pn	23 25 33.0	-0.2
PWL	**Port Wells**	**4.93**	**7**	Pn	Pn	23 25 33.1	-0.5
CHGN	**Chignik**	**4.95**	**277**	Pn	Pn	23 25 33.8	0.0
CHGN				IAML		23 26 33.0	
	comp=E,64nm,0.3s						
EYAK	**Cordova Ski Ar**	**5.00**	**22**		Pn	23 25 34.1	-0.4
EYAK				IAML		23 26 29.1	
	comp=N,41nm,0.4s						
EYAK				IAML		23 26 30.0	
	comp=E,36nm,0.5s						
FID	**Port Fidalgo**	**5.05**	**18**	Pn	Pn	23 25 34.9	-0.4
FID				IAML		23 26 32.7	
	comp=N,38nm,0.4s						
GLI	**Glacier Island**	**5.08**	**14**	Pn	Pn	23 25 35.0	-0.6
GLI				IAML		23 26 31.2	
	comp=N,36nm,0.8s						
GLI				IAML		23 26 32.5	
	comp=E,39nm,0.5s						
RC01	**Rabbit Creek A**	**5.12**	**359**	Pn	Pn	23 25 34.9	-1.3
RC01				IAML		23 26 35.4	
	comp=N,40nm,0.4s						
RC01				IAML		23 26 36.0	
	comp=E,44nm,0.7s						
RAGM	**Ragged Mountai**	**5.12**	**28**		Pn	23 25 36.1	-0.1
SUCK	**Suckling Hills**	**5.13**	**35**		Pn	23 25 36.5	+0.2
SUCK				IAML		23 26 34.2	
	comp=N,32nm,0.3s						
SUCK				IAML		23 26 37.0	
	comp=E,36nm,1.0s						
HMT	**Hamilton**	**5.20**	**31**		Pn	23 25 37.4	+0.2
BGLC	**Bering Glacier**	**5.33**	**36**		Pn	23 25 39.3	+0.3
VNHG	**Veniaminof 1**	**5.37**	**276**		Pn	23 25 40.5	+0.8
SPU	**Mount Spurr**	**5.37**	**347**	Pn	Pn	23 25 39.4	-0.2
SPU				IAML		23 26 42.5	
	comp=N,16nm,0.7s						
SPU				IAML		23 26 43.5	
	comp=E,18nm,0.6s						
BERG	**Berg Lake**	**5.41**	**33**		Pn	23 25 39.7	-0.4
P16K	**Nushagak River**	**5.46**	**307**	Pn	Pn	23 25 41.3	+0.4
N19K	**Bonanza Creek**	**5.48**	**334**		Pn	23 25 40.4	-0.8
O17K	**Koliganek Bris**	**5.52**	**317**		Pn	23 25 41.8	+0.2
SUA	**Susitna One**	**5.53**	**354**	Pn	Pn	23 25 41.2	-0.7
DIV	**Divide**	**5.53**	**20**	Pn	Pn	23 25 41.9	0.0
VNFG	**Fog Glacier, M**	**5.58**	**277**		Pn	23 25 43.5	+0.9
BMRM	**Bremner River**	**5.64**	**26**		Pn	23 25 42.9	-0.5
STLK	**Strandline Lak**	**5.65**	**349**		Pn	23 25 42.7	-0.8
WAX	**Waxell Ridge**	**5.72**	**36**		Pn	23 25 44.3	-0.2
N18K	**Kilae Creek**	**5.76**	**327**		Pn	23 25 44.4	-0.6
BARK	**Barkley Ridge**	**5.80**	**37**		Pn	23 25 45.5	-0.2
O16K	**Kokwok River B**	**5.81**	**312**		Pn	23 25 46.3	+0.7
GHO	**Glory Hole Cre**	**5.82**	**3**		Pn	23 25 45.9	+0.1
CNBA	**Chernabura Isl**	**5.82**	**263**	Pn	Pn	23 25 45.3	-0.5
MESA	**MESA**	**5.84**	**41**	Pn	Pn	23 25 45.7	-0.5
KLU	**Klutina**	**5.84**	**18**		Pn	23 25 45.7	-0.5
CRQM	**Cirque**	**5.87**	**33**		Pn	23 25 46.3	-0.3
TGL	**Tana Glacier**	**5.96**	**34**		Pn	23 25 47.6	-0.2
ISLE	**Juniper Island**	**6.00**	**37**	Pn	Pn	23 25 48.8	+0.4
YAH	**Yahtse**	**6.04**	**40**	Pn	Pn	23 25 49.2	+0.2
N17K	**Nushagak Hills**	**6.07**	**322**		Pn	23 25 49.4	+0.2
CHX	**Chaix Hills**	**6.08**	**44**		Pn	23 25 49.2	-0.2
SKT	**Skwentna**	**6.10**	**351**	Pn	Pn	23 25 49.7	+0.1
VRDI	**Verde Repeater**	**6.16**	**29**		Pn	23 25 50.5	-0.1
M20K	**Styx River**	**6.19**	**344**	Pn	Pn	23 25 50.2	-0.8
SDPT	**Sand Point**	**6.20**	**269**	Pn	Pn	23 25 50.5	-0.4
N25K	**Chitina, Valde**	**6.20**	**23**		Pn	23 25 51.1	-0.1
GLB	**Gilahina Butte**	**6.24**	**26**		Pn	23 25 52.1	+0.5
GRNC	**Granite Creek**	**6.29**	**38**		Pn	23 25 52.6	+0.1
TABL	**Table Mountain**	**6.31**	**41**		Pn	23 25 52.8	+0.1
O15K	**Ungalikthiuk R**	**6.37**	**304**		Pn	23 25 54.1	+0.9
M24K	**Tolsona, Glenn**	**6.39**	**15**		Pn	23 25 54.3	+0.7
MCARA	**McCarthy VSAT**	**6.40**	**30**		Pn	23 25 53.9	+0.1
M19K	**Big River Lodg**	**6.43**	**339**	Pn	Pn	23 25 53.8	-0.5
PCA	**Pinnacle**	**6.44**	**46**		Pn	23 25 54.0	-0.4
BARN	**Barnard Glacie**	**6.56**	**36**		Pn	23 25 56.1	-0.1
WACK	**Wrangell Chich**	**6.60**	**22**		Pn	23 25 56.9	+0.2
CTGM	**Chitina Glacie**	**6.61**	**38**		Pn	23 25 56.5	-0.2
BCPM	**Bancas Point**	**6.62**	**49**	Pn	Pn	23 25 57.5	+0.7
LOGN	**Logan Glacier**	**6.62**	**39**		Pn	23 25 56.9	-0.1
L19K	**White Mountain**	**6.78**	**339**		Pn	23 25 58.2	-0.8
M17K	**Holitna River**	**6.80**	**326**		Pn	23 25 59.1	-0.1
HARP	**HAARP**	**6.82**	**18**		Pn	23 25 59.6	0.0
O28M	**Mount Upton**	**6.88**	**42**		Pn	23 26 00.7	+0.1
PS1A	**Pavlof South-1**	**6.89**	**270**		Pn	23 26 00.9	+0.4
N15K	**Kwethluk River**	**6.97**	**311**		Pn	23 26 02.5	+0.9
S12K	**Black Hills**	**7.03**	**273**	Pn	Pn	23 26 02.6	+0.2
M16K	**Timber Creek**	**7.04**	**320**		Pn	23 26 02.9	+0.4
PPLA	**Purkeypile**	**7.06**	**350**	Pn	Pn	23 26 02.8	-0.1
O14K	**Tigyukauivet M**	**7.07**	**302**		Pn	23 26 03.8	+0.8
L18K	**Granite Mounta**	**7.24**	**333**	Pn	Pn	23 26 04.3	-1.0
O29M	**Mount Kennedy**	**7.26**	**49**		Pn	23 26 06.5	+0.8
P29M	**Windy Craggy**	**7.31**	**55**		Pn	23 26 06.5	+0.3
PAX	**Paxson**	**7.31**	**15**	Pn	Pn	23 26 07.5	+1.1
YUK2	**White River**	**7.37**	**34**		Pn	23 26 07.7	+0.5
RND	**Reindeer**	**7.46**	**3**	Pn	Pn	23 26 09.6	+1.3
TRF	**Thorofare Moun**	**7.50**	**358**	Pn	Pn	23 26 09.0	0.0
M15K	**Kasigluk River**	**7.51**	**314**		Pn	23 26 09.5	+0.6
M27K	**Edge Creek, AK**	**7.51**	**29**		Pn	23 26 10.0	+0.8
N14K	**Kuskokwak Cree**	**7.55**	**307**		Pn	23 26 10.1	+0.6
CAST	**Castle Rocks**	**7.56**	**351**	Pn	Pn	23 26 10.4	+0.7
S31K	**Pelican**	**7.56**	**69**		Pn	23 26 08.5	-1.2
MENT	**Mentasta**	**7.58**	**21**	Pn	Pn	23 26 09.7	-0.3
K20K	**Telida**	**7.73**	**345**	Pn	Pn	23 26 11.1	-0.9
SIT	**Sitka**	**7.96**	**76**	Pn	Pn	23 26 12.9	-2.2
HYT	**Haines Junctio**	**7.98**	**48**		Pn	23 26 16.1	+0.5
M14K	**Bethel**	**8.06**	**311**		Pn	23 26 17.5	+1.0
K24K	**Donnelly Dome**	**8.07**	**12**	Pn	Pn	23 26 18.2	+1.4
K17K	**Iditarod**	**8.08**	**330**	Pn	Pn	23 26 16.0	-0.8
L27K	**Beaver Creek,**	**8.12**	**26**	Pn	Pn	23 26 17.8	+0.5
BCAR	**Beaver Creek A**	**8.13**	**26**	Pn	Pn	23 26 17.6	+0.2
RIDG	**Independent Ri**	**8.13**	**15**		Pn	23 26 18.6	+1.0
BPAW	**Bear Paw Mtn.**	**8.17**	**356**	Pn	Pn	23 26 17.7	-0.3
DOT	**Dot Lake**	**8.17**	**18**		Pn	23 26 18.7	+0.6
J18K	**Innoko River**	**8.32**	**337**	Pn	Pn	23 26 19.3	-0.7
SKAG	**Skagway**	**8.39**	**60**	Pn	Pn	23 26 21.6	+0.7
S32K	**Killisnoo**	**8.39**	**74**	Pn	Pn	23 26 19.6	-1.4
BESE	**Bessie Mountai**	**8.39**	**66**	Pn	Pn	23 26 20.9	-0.2
L15K	**Ungalak Mounta**	**8.40**	**318**		Pn	23 26 21.4	+0.3
SCRK	**Sand Creek**	**8.40**	**17**	Pn	Pn	23 26 23.2	+0.7
N30M	**Aishikik Lake**	**8.50**	**45**		Pn	23 26 23.4	+0.8
M13K	**Dall Lake**	**8.51**	**307**	Pn	Pn	23 26 23.4	+0.8
R32K	**Eaglecrest**	**8.51**	**68**	Pn	Pn	23 26 22.8	+0.1
J20K	**Nowinta River**	**8.53**	**346**	Pn	Pn	23 26 21.7	-1.1
O30N	**Mendenhall**	**8.55**	**50**		Pn	23 26 23.8	+0.5
J19K	**Poorman**	**8.58**	**342**	Pn	Pn	23 26 23.1	-0.6
M29M	**Somme Creek**	**8.62**	**37**		Pn	23 26 24.9	+0.6
CCB	**Clear Creek Bu**	**8.74**	**5**	Pn	Pn	23 26 26.1	+0.4
K15K	**Wolf Creek Mou**	**8.80**	**321**	Pn	Pn	23 26 27.3	+0.6
J17K	**VABM Dome**	**8.84**	**331**	Pn	Pn	23 26 26.4	-0.8
IL31		**8.92**	**7**		Pn	23 26 28.9	+0.8
ILAR	**Eielson Array**	**8.92**	**7**	Pn	Pn	23 26 29.1	+0.9
WHY	**Whitehorse**	**9.04**	**53**		Pn	23 26 30.4	+0.3
N31M	**Braeburn, Yuko**	**9.04**	**47**	Pn	Pn	23 26 30.9	+0.9
J26L	**Joseph Creek**	**9.05**	**17**	Pn	Pn	23 26 30.4	+0.3
J16K	**Anvik River**	**9.19**	**327**	Pn	Pn	23 26 31.8	-0.2
I23K	**Minto, Yukon-K**	**9.20**	**1**	Pn	Pn	23 26 32.3	+0.3
L29M	**L29M**	**9.20**	**34**		Pn	23 26 32.5	+0.3
P32M	**Atlin**	**9.21**	**60**		Pn	23 26 32.1	-0.2
U33K	**Whale Pass**	**9.22**	**82**	Pn	Pn	23 26 30.5	-1.8
POKR	**Poker Plat Res**	**9.22**	**6**	Pn	Pn	23 26 31.6	-0.8
M30M	**Minto, Yukon**	**9.29**	**39**		Pn	23 26 33.4	0.0
I17K	**Unalakleet**	**9.67**	**330**	Pn	Pn	23 26 38.8	+0.2
K13K	**Kusilvak Mount**	**9.79**	**314**	Pn	Pn	23 26 41.4	+1.2
Q32M	**Nakina River**	**9.79**	**65**	Pn	Pn	23 26 40.8	+0.4
J14K	**Nanvaranak Lak**	**9.82**	**319**	Pn	Pn	23 26 41.2	+0.7
P33M	**Teslin, Yukon**	**9.83**	**58**		Pn	23 26 40.8	0.0
H24K	**Noodor Dome**	**9.92**	**4**	Pn	Pn	23 26 42.0	0.0
K29M	**Barlow Dome**	**9.92**	**33**		Pn	23 26 42.8	+0.7
H18K	**Honhosa River**	**10.15**	**339**	Pn	Pn	23 26 44.6	-0.5
IMAR	**Indian Mountai**	**10.23**	**350**	Pn	Pn	23 26 46.0	-0.2
H17K	**Granite Mounta**	**10.31**	**335**	Pn	Pn	23 26 46.6	-0.6
R33M	**Jennings River**	**10.53**	**63**		Pn	23 26 50.3	-0.1
I28M	**Miner Creek**	**10.59**	**22**	Pn	Pn	23 26 52.3	+1.1
G21K	**Allakaket**	**10.73**	**352**	Pn	Pn	23 26 53.0	0.0
G22K	**Bananza Creek**	**10.77**	**359**	Pn	Pn	23 26 53.5	-0.1
J30M	**Hart River**	**10.81**	**32**	Pn	Pn	23 26 54.7	+0.4
I29M	**Ogilvie Camp,**	**10.89**	**26**	Pn	Pn	23 26 56.7	+1.4
H27K	**Steamboat Moun**	**10.98**	**17**	Pn	Pn	23 26 56.0	-0.5
I30M	**Mount Dempster**	**11.28**	**29**	Pn	Pn	23 27 00.8	+0.1

*TAP **01** 23:31:55.7,25°.13N×122°.80E,h145km±1km,ML3.0,D*
*JMA **01** 23:31:56.5±0.3,25°.5N×12°.3E±°,h152km,MV2.3/10,NW OFF ISHIGAKIJIMA IS*

ISC 01 23:31:56.3±2.3,25°.02N±0°.08×122°.77E±0°.04, h147km±15km,n41,s0°67/70,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.59**	**158**	eP	**Pn**	**23 32 17.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.59**	**158**	eP	**Pn**	**23 32 18.1**	**+0.3**
SXI1	**Grass Mountain**	**0.81**	**276**	eP	**Pn**	**23 32 19.5**	**+0.2**
EOS3	**EOS3**	**0.84**	**210**	eP	**Pn**	**23 32 19.4**	**+0.2**
EOS3				eS	**Sn**	**23 32 38.0**	**+1.3**
TIPB	**Shuangxi**	**0.86**	**267**	eP	**Pn**	**23 32 19.9**	**+0.3**
TIPB				eS	**Sn**	**23 32 37.2**	**-0.1**
PCYT	**Pengchaiyu**	**0.88**	**314**	eS	**Sn**	**23 32 35.8**	**-1.8**
EOS4	**EOS4**	**0.98**	**205**	eP	**Pn**	**23 32 20.2**	**+0.1**
EOS4				eS	**Sn**	**23 32 38.9**	**+0.5**
ENA	**Nanau**	**1.10**	**238**	P	**Pn**	**23 32 22.1**	**+0.4**
ENA				eS	**Sn**	**23 32 41.1**	**+0.1**
FUSB	**Fushanzhiwuyua**	**1.10**	**257**	eP	**Pn**	**23 32 21.4**	**-0.3**
FUSB				eS	**Sn**	**23 32 40.5**	**-0.5**
IRIF	**Iriomote-Funau**	**1.11**	**128**	eP	**Pn**	**23 32 22.8**	**+1.2**
NWLT	**Wulai**	**1.18**	**259**	eS	**Sn**	**23 32 41.4**	**-0.8**
LATG	**Datong**	**1.23**	**247**	eP	**Pn**	**23 32 23.5**	**+0.6**
LATG				eS	**Sn**	**23 32 43.6**	**+0.3**
YHNB	**Yeheng**	**1.31**	**255**	P	**Pn**	**23 32 24.1**	**+0.4**
YHNB				S	**Sn**	**23 32 44.6**	**-0.1**
NSK	**Sanguang**	**1.33**	**255**	eP	**Pn**	**23 32 24.1**	**+0.3**
NSK				eS	**Sn**	**23 32 44.5**	**-0.4**
NACB	**Ninganchiao**	**1.36**	**232**	P	**Pn**	**23 32 23.8**	**-0.3**
NACB				S	**Sn**	**23 32 44.9**	**-0.5**
JKRS	**Kuro-shima**	**1.37**	**124**	eS	**Sn**	**23 32 45.6**	**+0.2**
NNSB	**Datong**	**1.39**	**245**	eP	**Pn**	**23 32 24.7**	**+0.2**
NNSB				eS	**Sn**	**23 32 46.5**	**+0.3**
NNS	**Nan Shan**	**1.39**	**246**	eP	**Pn**	**23 32 25.1**	**+0.5**
NNS				eS	**Sn**	**23 32 46.4**	**+0.2**
JIJ	**Ishigaki jima**	**1.41**	**117**	eP	**Pn**	**23 32 24.6**	**+0.1**
JIJ				S	**Sn**	**23 32 45.1**	**-1.1**
ETLH	**Xiulin Townshi**	**1.42**	**236**	eP	**Pn**	**23 32 24.6**	**-0.3**
ETLH				eS	**Sn**	**23 32 45.8**	**-0.9**
JISG	**Ishigakijimahi**	**1.46**	**107**	P	**Pn**	**23 32 25.3**	**+0.1**
JISG				eS	**Sn**	**23 32 46.7**	**-0.5**
KSHI	**Guanxi Townshi**	**1.47**	**261**	eS	**Sn**	**23 32 48.0**	**+0.7**
ETM	**Tongmen**	**1.56**	**228**	eP	**Pn**	**23 32 25.8**	**-0.5**
ETM				eS	**Sn**	**23 32 48.6**	**-0.6**
LXIB	**Xiulin Townshi**	**1.58**	**232**	P	**Pn**	**23 32 26.3**	**-0.4**
LXIB				eS	**Sn**	**23 32 49.0**	**-0.9**
FUSS	**Fushou**	**1.59**	**241**	eP	**Pn**	**23 32 26.8**	**0.0**
FUSS				eS	**Sn**	**23 32 50.3**	**+0.3**
WHF	**Hehuan Shan**	**1.62**	**238**	eP	**Pn**	**23 32 27.7**	**+0.3**
WHF				eS	**Sn**	**23 32 51.0**	**-0.1**
LIOB	**Emei**	**1.64**	**257**	eS	**Sn**	**23 32 50.3**	**-0.3**
TWT	**Tachien**	**1.64**	**243**	eS	**Sn**	**23 32 51.1**	**+0.2**
SHUL	**Shoufeng**	**1.65**	**222**	eP	**Pn**	**23 32 27.1**	**0.0**
SHUL				eS	**Sn**	**23 32 50.5**	**-0.3**
TDCB	**Techi**	**1.65**	**243**	eP	**Pn**	**23 32 27.8**	**+0.4**
TDCB				eS	**Sn**	**23 32 50.8**	**-0.3**
JTJ	**Tarama**	**1.79**	**102**	P	**Pn**	**23 32 29.3**	**+0.5**
OWD	**Renai**	**1.80**	**234**	P	**Pn**	**23 32 29.3**	**+0.3**
OWD				eS	**Sn**	**23 32 52.8**	**-1.2**
WARBT	**Fenglin Townsh**	**1.81**	**225**	P	**Pn**	**23 32 28.2**	**-0.8**
WARBT				eS	**Sn**	**23 32 52.3**	**-1.7**
WHP	**Taichung City**	**1.82**	**246**	eP	**Pn**	**23 32 30.0**	**+0.9**
WHP				S	**Sn**	**23 32 54.4**	**+0.1**
WUSB	**Renai**	**1.82**	**236**	P	**Pn**	**23 32 29.9**	**+0.7**
WUSB				eS	**Sn**	**23 32 54.4**	**-0.1**
VWDT	**VWDT**	**1.95**	**230**	eP	**Pn**	**23 32 31.3**	**+0.7**
VWDT				eS	**Sn**	**23 32 56.5**	**-0.3**
HGSD	**Ruisui**	**1.95**	**219**	eP	**Pn**	**23 32 30.4**	**-0.3**
HGSD				eS	**Sn**	**23 32 57.0**	**0.0**
SSLB	**Suanglung**	**2.06**	**234**	eP	**Pn**	**23 32 31.9**	**-0.1**
SSLB				eS	**Sn**	**23 33 00.5**	**+1.2**
YULB	**Yu-li**	**2.10**	**220**	eP	**Pn**	**23 32 31.5**	**-0.9**
YULB				eS	**Sn**	**23 32 58.5**	**-1.7**
WHYT	**Xinyi Township**	**2.19**	**233**	eP	**Pn**	**23 32 33.8**	**+0.4**
WHYT				eS	**Sn**	**23 33 03.3**	**+1.2**
ALS	**Alishan**	**2.34**	**230**	eS	**Sn**	**23 33 06.5**	**+0.8**

*SJA **01** 23:42:16.9±0.6,21°.10S×68°.94W,h120km±3km,ML3.6, MW3.6*
*GUC **01** 23:42:19.0±0.7,21°.10S×68°.96W,h115km±3km,ML3.7*

ISC 01 23:42:19.2±1.4,21°.10S±0°.03×69°.06W±0°.05,h116km±9km, n30,s0°94/54,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**279**	eP	**Pn**	**23 42 35.6**	**-0.6**
PB01				*i* S	**Sn**	**23 42 48.8**	**-0.2**
PB01				IAML		23 42 49.6	
	comp=N,6µm,0.3s						
PB01	**IPOC Station P**	**0.40**	**279**	eP	**Pn**	**23 42 35.6**	**-0.6**
PB01				eS	**Sn**	**23 42 49.3**	**+0.3**
PB01				IAML		23 42 49.4	
	comp=Z,3µm,0.2s						
PB09	**IPOC Station P**	**0.71**	**194**	eP	**Pn**	**23 42 38.0**	**-0.5**
PB09				*i* S	**Sn**	**23 42 53.1**	**+0.1**
PB09	**IPOC Station P**	**0.71**	**194**	eP	**Pn**	**23 42 37.6**	**-0.8**
PB09				eS	**Sn**	**23 42 54.4**	**+1.4**
PB09				IAML		23 42 56.9	
	comp=Z,847nm,0.3s						
PB02	**IPOC Station P**	**0.81**	**254**	eP	**Pn**	**23 42 39.3**	**+0.1**
PB02				*i* S	**Sn**	**23 42 54.5**	**+0.3**
PB02	**IPOC Station P**	**0.81**	**254**	eP	Pn	23 42 33.9	-5.3
PB02				eS	**Sn**	**23 42 55.4**	**+1.2**
PB08	**IPOC Station P**	**0.96**	**355**	eP	**Pn**	**23 42 40.2**	**-0.7**
PB08				*i* S	**Sn**	**23 42 57.0**	**-0.3**
PB08				IAML		23 42 57.8	
	comp=N,2µm,0.3s						
PB08	**IPOC Station P**	**0.96**	**355**	eP	**Pn**	**23 42 39.6**	**-1.4**
PB08				eS	**Sn**	**23 42 57.0**	**-0.3**
PB08	

HELC				S		Sn	23 49 40.1	+1.1	
CVER	**Cruz Verde, Cu**	**2.48**	**203**	P		Pn	23 49 08.1	+0.7	
CVER				S		Sn	23 49 39.5	+0.1	
UREC	**San Jos de Ur**	**2.56**	**291**	P		Pn	23 49 06.3	-1.6	
UREC				S		Sn	23 49 37.5	-2.8	
GUY2C	**Guyana, Caldas**	**2.74**	**235**	P		Pn	23 49 10.6	0.0	
GUY2C				S		Sn	23 49 44.0	-1.1	
VILC	**Villavicencio,**	**2.76**	**192**	P		Pn	23 49 09.8	-0.7	
VILC				S		Sn	23 49 44.3	-0.7	
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P		Pn	23 49 09.7	-1.0	
PTGC				S		Sn	23 49 43.4	-2.1	
NIZA	**Niza - Manizal**	**2.93**	**233**	P		Pn	23 49 12.4	-0.3	
NIZA				S		Sn	23 49 50.2	+1.3	
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P		Pn	23 49 14.2	+0.3	
CBOC				S		Sn	23 49 50.8	-0.2	
DBBC	**Dabeiba**	**3.07**	**274**	P		Pn	23 49 13.9	-0.4	
DBBC				S		Sn	23 49 49.7	-2.1	
SDV	**Santo Domingo**	**3.20**	**50**	P		Pn	23 49 15.9	-0.1	
SDV				S		Sn	23 49 53.3	-1.6	
ARGC	**Ariguani, Magd**	**3.21**	**340**	P		Pn	23 49 16.6	+0.6	
ARGC				S		Sn	23 49 54.6	-0.3	
PRAC	**Prado**	**3.56**	**210**	P		Pn	23 49 20.1	-0.4	
PRAC				S		Sn	23 50 01.9	-1.1	
ORTC	**Ortega, Tolima**	**3.59**	**216**	P		Pn	23 49 20.8	-0.1	
ORTC				S		Sn	23 50 03.4	-0.3	
APAC	**Apartado, Choc**	**3.59**	**287**	P		Pn	23 49 20.2	-0.7	
APAC				S		Sn	23 50 01.6	-2.0	
SJCC	**San Jacinto, C**	**3.67**	**326**	P		Pn	23 49 20.2	-1.7	
SJCC				S		Sn	23 50 01.9	-3.5	
PLMC	**San Jos del P**	**3.68**	**239**	P		Pn	23 49 21.8	-0.3	
PLMC				S		Sn	23 50 04.2	-1.6	
URMC	**La Uribe, Meta**	**3.77**	**199**	P		Pn	23 49 23.2	-0.1	
URMC				S		Sn	23 50 07.0	-1.0	
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P		Pn	23 49 26.9	-1.6	
CRJC				S		Sn	23 50 14.7	-2.6	
YOTC	**Yotoco, Valle**	**4.28**	**229**	P		Pn	23 49 29.0	-0.9	
YOTC				S		Sn	23 50 19.3	-0.5	
GUVC	**San Jose del G**	**4.29**	**173**	P		Pn	23 49 29.3	-0.6	
GUVC				S		Sn	23 50 18.1	-1.8	
SOLC	**Bahia Solano**	**4.30**	**262**	P		Pn	23 49 26.2	-3.9	
SOLC				S		Sn	23 50 18.3	-1.9	
SMRC	**Santa Marta, M**	**4.44**	**346**	P		Pn	23 49 31.7	-0.3	
SMRC				S		Sn	23 50 19.7	-3.8	
CAPC	**Capurgana**	**4.56**	**293**	P		Pn	23 49 32.7	-0.8	
CAPC				S		Sn	23 50 22.3	-4.0	
MACC	**Macarena, Meta**	**4.71**	**189**	P		Pn	23 49 33.7	-1.8	
MACC				S		Sn	23 50 25.0	-4.9	
URIC	**Uribia, Colomb**	**4.97**	**13**	P		Pn	23 49 37.2	-1.7	
URIC				S		Sn	23 50 34.1	-1.8	
JAMC	**Jamundi, Valle** 14nm,1.1s	**5.04**	**225**	P		Pn	23 49 38.9	-1.2	
JAMC				S		Sn	23 50 37.3	-0.7	
	14nm,1.1s								
POPC	**Popayan, Colom** 6.2nm,0.5s	**5.54**	**220**	P		Pn	23 49 46.7	0.0	
POPC				S		Sn	23 50 50.1	+0.2	
	6.2nm,0.5s								
FLOC	**Florencia**	**5.79**	**206**	P		Pn	23 49 48.9	-1.0	
FLOC				S		Sn	23 50 55.1	-0.5	

IDC ***02*** *00:07:42.8±0.7, 6°.76N×72°.97W, h161km±9km, mb3.4/4, mbtmp4.0/7, MS3.8/1, Error ellipse: s-maj=29.1km s-min=8.0km az=133.0*

RSNC ***02*** *00:07:43.3±0.0, 7°.1N±1°×7°.3W±°, h153km±2km, M4.0, mB4.5, mb4.4, ML3.6, Mw(mB)3.7*

NEIC ***02*** *00:07:43.7±1.6, 6°.89N±0°.06×73°.05W±0°.07, h142km±8km, mb4.3/26, Error ellipse: s-maj=10.7km s-min=7.8km az=117.0*

ISC 02 00:07:43.4±0.6, **6°.85N**±0°.03×**73°.11W**±0°.04, **h153**km±5km, **n91**, σ1§**54**/124, **mb4.2**/18, **1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**197**	P		**Pn**	**00 08 04.1**	**-0.4**
BARC				S		**Sn**	**00 08 19.4**	**-1.2**
PAMC	**Pamplona, Colo**	**0.63**	**40**	P		**Pn**	**00 08 06.8**	**+0.4**
PAMC				S		**Sn**	**00 08 24.2**	**+0.3**
BRJC	**Barrancabermej**	**0.65**	**281**	P		**Pn**	**00 08 05.6**	**-0.3**
BRJC				S		**Sn**	**00 08 22.7**	**-0.3**
RUSC	**La Rusia**	**0.95**	**179**	P		**Pn**	**00 08 07.5**	**-1.1**
RUSC				Sn		**Sn**	**00 08 26.4**	**-1.4**
RUSC	**La Rusia**	**0.95**	**179**	P		**Pn**	**00 08 07.9**	**-0.8**
RUSC				S		**Sn**	**00 08 26.8**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P		**Pn**	**00 08 10.3**	**-1.7**
PTBC				S		**Sn**	**00 08 31.5**	**-2.3**
OCAC	**Ocana**	**1.40**	**351**	P		**Pn**	**00 08 12.0**	**-0.3**
OCAC				S		**Sn**	**00 08 34.1**	**-0.4**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P		**Pn**	**00 08 16.3**	**-0.7**
ZARC				S		**Sn**	**00 08 41.5**	**-1.4**
NORC	**Norcasia**	**2.17**	**234**	P		**Pn**	**00 08 19.5**	**-1.3**
NORC				S		**Sn**	**00 08 47.6**	**-1.9**
ROSC	**El Rosal**	**2.33**	**211**	Pn		**Pn**	**00 08 23.6**	**+0.5**
ROSC				Sn		**Sn**	**00 08 53.2**	**-0.3**
ROSC	**El Rosal**	**2.33**	**211**	P		**Pn**	**00 08 23.9**	**+0.9**
	205nm,0.3s,baz=244,slow=22,SNR=227							
ROSC				S		**Sn**	**00 08 54.0**	**+0.4**
	138nm,0.3s,baz=309,slow=20,SNR=5.5							
ROSC	**El Rosal**	**2.33**	**211**	P		**Pn**	**00 08 23.6**	**+0.5**
ROSC				S		**Sn**	**00 08 53.3**	**-0.3**
HELC	**Santa Helena**	**2.50**	**255**	P		**Pn**	**00 08 23.9**	**-1.1**
HELC				S		**Sn**	**00 08 56.3**	**-0.7**
CVER	**Cruz Verde, Co**	**2.50**	**203**	P		**Pn**	**00 08 25.6**	**+0.4**
CVER				S		**Sn**	**00 08 57.4**	**-0.1**
UREC	**San Jos de Ur**	**2.57**	**291**	P		**Pn**	**00 08 23.9**	**-1.6**
UREC				S		**Sn**	**00 08 55.0**	**-3.1**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P		**Pn**	**00 08 27.8**	**-0.6**
GUY2C				S		**Sn**	**00 09 02.9**	**-0.3**
VILC	**Villavicencio,**	**2.78**	**192**	P		**Pn**	**00 08 27.2**	**-1.1**
VILC				S		**Sn**	**00 09 01.3**	**-1.7**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P		**Pn**	**00 08 27.1**	**-1.4**
PTGC				S		**Sn**	**00 09 00.5**	**-2.9**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P		**Pn**	**00 08 31.7**	**+1.3**
RECRC				S		**Sn**	**00 09 07.7**	**+1.0**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P		**Pn**	**00 08 31.1**	**-0.6**
CBOC				S		**Sn**	**00 09 06.6**	**-2.4**
DBBC	**Dabeiba**	**3.09**	**273**	P		**Pn**	**00 08 31.3**	**-0.8**
DBBC				S		**Sn**	**00 09 07.3**	**-2.4**
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**	**00 08 33.6**	**+0.3**
	125nm,0.3s,baz=180,slow=3.0,SNR=57							
SDV				S		**Sn**	**00 09 10.8**	**-1.2**
	158nm,0.4s,baz=91,slow=20,SNR=16							
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**	**00 08 33.5**	**+0.2**
SDV				S		**Sn**	**00 09 10.3**	**-1.7**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P		**Pn**	**00 08 33.8**	**+0.4**
ARGC				S		**Sn**	**00 09 12.8**	**+0.6**
ANIL	**Santa Ana**	**3.27**	**224**	P		**Pn**	**00 08 35.3**	**+0.6**
ANIL				S		**Sn**	**00 09 14.7**	**+0.4**
PRAC	**Prado**	**3.58**	**210**	P		**Pn**	**00 08 37.2**	**-1.2**
PRAC				S		**Sn**	**00 09 19.9**	**-1.2**
APAC	**Apartado, Choc**	**3.60**	**287**	P		**Pn**	**00 08 38.2**	**-0.4**
SJCC	**San Jacinto, C**	**3.66**	**326**	P		**Pn**	**00 08 37.5**	**-1.9**
SJCC				S		**Sn**	**00 09 18.6**	**-4.3**
PLMC	**San Jos del P**	**3.70**	**239**	P		**Pn**	**00 08 39.2**	**-0.8**
PLMC				S		**Sn**	**00 09 22.6**	**-1.3**
URMC	**La Uribe, Meta**	**3.80**	**200**	P		**Pn**	**00 08 40.7**	**-0.5**
URMC				S		**Sn**	**00 09 23.9**	**-2.2**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P		**Pn**	**00 08 44.5**	**-1.3**
CRJC				S		**Sn**	**00 09 31.5**	**-2.9**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P		**Pn**	**00 08 46.1**	**-1.7**
GUVC	**San Jose del G**	**4.30**	**174**	P		**Pn**	**00 08 45.8**	**-2.0**
GUVC				S		**Sn**	**00 09 35.1**	**-2.8**
SMRC	**Santa Marta, M**	**4.43**	**346**	Pn		**Pn**	**00 08 49.0**	**-0.4**
SMRC				Sn		**Sn**	**00 09 37.4**	**-3.4**
MACC	**Macarena, Meta**	**4.73**	**189**	P		**Pn**	**00 08 50.8**	**-2.6**
MACC				S		**Sn**	**00 09 42.2**	**-5.8**
JAMC	**Jamundi, Valle** 751nm28nm,0.6s	**5.07**	**225**	P		**Pn**	**00 08 57.2**	**-0.8**
GARC	**Garzon, Huila**	**5.21**	**207**	P		**Pn**	**00 08 58.1**	**-1.8**
BAUV	**El Baul**	**5.43**	**67**			**Pn**	**00 09 00.3**	**-2.3**
BAUV				Sn		**Sn**	**00 10 01.4**	**-3.1**
POPC	**Popayan, Colom** 320nm24nm,0.5s	**5.57**	**220**	P		**Pn**	**00 09 04.0**	**-0.7**
FLOC	**Florencia**	**5.81**	**206**			**Pn**	**00 09 06.8**	**-1.0**
FLOC						**Sn**	**00 10 11.2**	**-2.6**
FLOC	**Florencia** 489nm30nm,0.8s	**5.81**	**206**	P		**Pn**	**00 09 06.6**	**-1.2**
BBAC	**Balboa, Cauca**	**6.33**	**221**	P		**Pn**	**00 09 14.0**	**-0.8**
CRUC	**La Cruz**	**6.50**	**216**	P		**Pn**	**00 09 19.6**	**+2.4**
BCIP	**Isla Barro Col**	**7.05**	**289**	P		**Pn**	**00 09 21.8**	**-2.4**

OTAV	**Otavalo**	**8.46**	**219**	Pn		**Pn**	**00 09 42.5**	**-0.9**	
PCRV	**Puerto La Cruz**	**9.01**	**68**	P		**Pn**	**00 09 49.3**	**-1.0**	
	11nm,0.6s,baz=311,slow=5.2,SNR=10								
STH	**Stony Hill**	**11.73**	**342**	*eP*		**Pn**	**00 10 27.8**	**+1.6**	
MTDJ	**Mount Denham**	**12.10**	**340**	Pn		**Pn**	**00 10 33.6**	**+2.5**	
MTDJ	**Mount Denham**	**12.10**	**340**	*eP*		**Pn**	**00 10 33.1**	**+2.0**	
GTBY	**Guantanamo Bay**	**13.14**	**352**	*eP*		**Pn**	**00 10 46.6**	**+2.2**	
RCC	**Rio Carpintero**	**13.31**	**349**	*eP*		**P**	**00 10 49.2**	**-1.5**	
MARVS	**Santiago de Cu**	**13.35**	**349**	*eP*		**Pn**	**00 10 49.3**	**+2.3**	
QMBU	**Quimbuelo**	**13.37**	**353**	*eP*		**Pn**	**00 10 48.6**	**+1.2**	
PINC	**Pinares de May**	**13.80**	**349**	*eP*		**P**	**00 10 55.2**	**-0.9**	
YAR	**Yar**	**13.81**	**347**	*eP*		**P**	**00 10 56.1**	**-0.2**	
HLGC	**Holguin**	**14.25**	**349**	*eP*		P	00 11 06.1	+5.0	
CBCY	**The Bluff, Cay**	**14.35**	**334**	*eP*		**P**	**00 11 02.0**	**-0.2**	
PETF	**Flores**	**19.19**	**303**	Pn		**Pn**	**00 11 59.2**	**+1.0**	
TEIG	**Tepich**	**19.83**	**314**	P		**P**	**00 12 04.0**	**+1.5**	
LPAZ	**La Paz**	**23.51**	**168**	LR		LR	00 22 28.4		
	comp=Z,210nm,18.8s,baz=162,slow=38								
PB10	**IPOC Station P**	**30.28**	**175**	P		**P**	**00 13 42.9**	**+2.7**	
WVT	**Waverly**	**32.11**	**337**	P		**P**	**00 13 56.7**	**+0.5**	
WVT				IAmb		IAmb	00 13 57.3		
	comp=Z,6.0nm,1.4s								
KSPA	**Keystone Colle**	**34.64**	**356**	P		**P**	**00 14 19.2**	**+1.1**	
FVM	**French Village**	**34.75**	**336**	P		**P**	**00 14 19.1**	**+0.1**	
FVM				IAmb		IAmb	00 14 20.7		
	comp=Z,11nm,1.4s								
CCM	**Cathedral Cave**	**35.15**	**335**	P		**P**	**00 14 22.4**	**-0.1**	
CCM				IAmb		IAmb	00 14 23.2		
	comp=Z,4.5nm,0.6s								
SFIN	**Lafayette**	**35.66**	**342**	P		**P**	**00 14 27.1**	**+0.3**	
SFIN				IAmb		IAmb	00 14 46.0		
	comp=Z,11nm,1.2s								
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**00 14 34.0**	**+0.1**	
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**00 14 33.2**	**-0.6**	
	comp=Z,0.4nm,0.5s,baz=127,slow=9.1,SNR=9.5								
	comp=Z,0.4nm,0.5s								
TX31	**Lajitas Ar. Si**	**36.45**	**312**	P		**P**	**00 14 33.9**	**0.0**	
J59A	**Piesco**	**36.49**	**358**	P		**P**	**00 14 34.1**	**+0.2**	
J59A				IAmb		IAmb	00 14 38.5		
	comp=Z,6.8nm,1.4s								
J57A	**Williamstown**	**36.50**	**356**	P		**P**	**00 14 34.4**	**+0.4**	
J57A				IAmb		IAmb	00 15 08.2		
	comp=Z,4.5nm,0.9s								
NCB	**Newcomb**	**36.99**	**359**	P		**P**	**00 14 39.5**	**+1.4**	
NCB				IAmb		IAmb	00 14 42.7		
	comp=Z,8.4nm,1.5s								
I63A	**Otisfield**	**37.12**	**3**	P		**P**	**00 14 39.2**	**+0.1**	
I63A				IAmb		IAmb	00 15 04.6		
	comp=Z,9.5nm,1.2s								
LBNH	**Lisbon**	**37.26**	**1**	P		**P**	**00 14 41.3**	**+1.0**	
LBNH				IAmb		IAmb	00 14 52.7		
	comp=Z,5.1nm,1.1s								
DELO	**Deloro Mine**	**37.73**	**355**	P		**P**	**00 14 44.7**	**+0.5**	
EMMW	**East Machias**	**38.03**	**7**	P		**P**	**00 14 47.6**	**+0.8**	
SADO	**Sadowa**	**38.14**	**353**	P		**P**	**00 14 47.4**	**-0.3**	
SADO				IAmb		IAmb	00 14 52.6		
	comp=Z,4.4nm,1.1s								
G62A	**West of Eustis**	**38.29**	**3**	P		**P**	**00 14 50.1**	**+1.2**	
G62A				IAmb		IAmb	00 15 26.3		
	comp=Z,6.3nm,1.3s								
G65A	**Princeton**	**38.51**	**6**	P		**P**	**00 14 51.3**	**+0.6**	
MNTX	**Cornudas Mount**	**38.96**	**314**	P		**P**	**00 14 55.0**	**+0.2**	
F64A	**Sherman**	**39.09**	**5**	P		**P**	**00 14 55.9**	**+0.4**	
F64A				IAmb		IAmb	00 14 57.4		
	comp=Z,12nm,1.4s								
TRQ	**Mont Tremblant**	**39.25**	**358**	P		**P**	**00 14 57.1**	**+0.1**	
E62A	**Clayton Lake**	**39.74**	**4**	P		**P**	**00 15 01.8**	**+0.7**	
E62A				IAmb		IAmb	00 15 38.5		
	comp=Z,12nm,1.4s								
D62A	**Allapoint, All**	**40.24**	**4**	P		**P**	**00 15 06.0**	**+0.9**	
LMQ	**La Malbaie**	**40.62**	**3**	P		**P**	**00 15 08.8**	**+0.5**	
LMQ				IAmb		IAmb	00 15 30.4		
	comp=Z,6.6nm,1.2s								
PDAR	**Pinedale Array**	**48.06**	**324**	P		**P**	**00 16 07.5**	**-0.3**	
	comp=Z,0.3nm,0.3s,baz=107,slow=6.1,SNR=2.2								
	comp=Z,0.3nm,0.3s								
SCHQ	**Schefferville**	**48.11**	**5**	P		**P**	**00 16 08.1**	**+0.5**	
	comp=Z,3.0nm,0.6s,baz=191,slow=5.9,SNR=5.8								
	comp=Z,3.0nm,0.6s								
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**00 17 54.4**	**-0.9**	
	comp=Z,0.8nm,0.6s,baz=138,slow=5.4,SNR=6.2								
	comp=Z,0.8nm,0.6s								
MKAR	**Makanchi Array**	**122.29**	**20**	PKP		**PKPdf**	**00 26 19.0**	**-1.5**	
	comp=Z,0.2nm,0.3s,baz=287,slow=2.7,SNR=4.3								
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPdf**	**00 27 12.2**	**+1.8**	
	comp=Z,0.4nm,0.5s,baz=124,slow=3.8,SNR=5.9								
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**00 27 15.4**	**-2.3**	
	comp=Z,0.3nm,0.5s,baz=108,slow=2.4,SNR=5.4								

SJA ***02*** *00:09:09.8±0.7, 34°.16S×72°.50W, h9km±5km, ML4.3, MW4.1*

IDC ***02*** *00:09:11.3±0.7, 34°.24S×72°.13W, h0km, mb4.3/6, mbtmp4.2/10, ML3.8/4, MS3.7/7, Error ellipse: s-maj=20.0km s-min=15.0km az=120.0*

GUC ***02*** *00:09:13.9±0.7, 34°.21S×72°.43W, h15km±8km, ML4.2*

NEIC ***02*** *00:09:14.2, 34°.14S×72°.28W, h15km*

NEIC ***02*** *00:09:15.0±1.5, 34°.15S±0°.04×72°.29W±0°.04, h24km±2km, mb4.6/20, Mwr4.2/54, ML4.2(GUC), Error ellipse: s-maj=5.3km s-min=4.2km az=152.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.02; Mθθ -0.09; Mϕϕ -0.93; Mrθ 0.59; Mrϕ -0.63; Mθr -2.15; Fault plane solution: M0 2.51000×10^15 NP1: ϕs 51.11000°, δ 20.92000°, λ 147.36000°. NP2: ϕs 172.00000°, δ 78.90000°, λ 72.16000°. Principal axes: T 2.6580, Plg53.0000°, Azm61.0000°; N -0.3263, Plg17.0000°, Azm176.0000°; P -2.3316, Plg32.0000°, Azm277.0000°;*

VAO ***02*** *00:09:19.9±0.9, 34°.05S×72°.20W, h67km±9km, mb4.4*

ISC 02 00:09:12.6±1.5, **34°.17S**±0°.03×**72°.33W**±0°.04, **h11**km±9km, **n153**, σ1§**12**/181, **mb4.5**/11, **MS3.7**/4, **5C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.44**	**137**	*eP*		**Pb**	**00 09 23.1**	**+0.6**
BO03				*eS*		**Sb**	**00 09 29.2**	**+0.1**
BO03				IAML			00 09 29.9	
	comp=E,24μm,0.3s							
MT01	**Popeta**	**0.94**	**71**			**Pg**	**00 09 31.5**	**+0.7**
MT01				Sn		**Sg**	**00 09 44.0**	**+0.9**
MT01	**Popeta**	**0.94**	**71**	*eP*		**Pg**	**00 09 31.5**	**+0.7**
MT01				*eS*		**Sn**	**00 09 44.9**	**-0.4**
MT01				IAML			00 09 46.7	
	comp=N,5μm,0.3s							
MT01	**Popeta**	**0.94**	**71**	*eP*		**Pb**	**00 09 30.8**	**-0.2**
MT01				*eS*		**Sn**	**00 09 45.6**	**+0.3**
MT01				IAML			00 09 47.8	
	comp=Z,4μm,0.3s							
BO01	**Tunca**	**1.05**	**103**			**Pb**	**00 09 32.6**	**-0.2**
BO01				Sg		**Sb**	**00 09 46.8**	**+0.2**
BO01	**Tunca**	**1.05**	**103**	*eP*		**Pb**	**00 09 32.4**	**-0.4**
BO01				IAML			00 09 54.3	
	comp=N,4μm,0.6s							
BO01	**Tunca**	**1.05**	**103**	*eP*		**Pb**	**00 09 32.5**	**-0.4**
BO01				*eS*		**Sn**	**00 09 49.7**	**+1.7**
BO01				IAML			00 09 58.3	
	comp=Z,4μm,0.8s							
MT09	**Talagante**	**1.18**	**71**			**Pb**	**00 09 35.4**	**+0.3**
MT09				Sn		**Sn**	**00 09 51.4**	**+0.1**
MT09	**Talagante**	**1.18**	**71**	*eP*		**Pb**	**00 09 35.2**	**+0.1**
MT09				*eS*		**Sn**	**00 09 52.0**	**+0.7**
MT09				IAML			00 09 54.5	
	comp=N,4μm,0.3s							
VA01	**Torpederas**	**1.28**	**27**			**Pn**	**00 09 36.9**	**+0.5**
VA01	**Torpederas**	**1.28**	**27**	*eP*		**Pb**	**00 09 37.0**	**+0.4**
VA01				*eS*		**Sb**	**00 09 53.2**	**+0.1**
VA01	**Torpederas**	**1.28**	**27**	*eP*		**Pn**	**00 09 36.6**	**+0.2**
VA01				*eS*		Sb	00 09 44.1	-9.0
MT02	**Curacav**	**1.34**	**48**			**Pn**	**00 09 37.8**	**+0.4**
MT02				Sn		**Sb**	**00 09 54.7**	**-0.3**
MT02	**Curacav**	**1.34**	**48**	*eP*		**Pn**	**00 09 37.4**	**+0.4**
MT02				*eS*		**Sg**	**00 09 56.1**	**+0.2**
MT02	**Curacav**	**1.34**	**48**	*eP*		**Pn**	**00 09 37.0**	**-0.3**
MT02				*eS*		**Sg**	**00 09 57.0**	**+1.1**
MT02				IAML			00 10 01.6	
	comp=Z,2μm,0.9s							
BO02	**Sierra Bellavi**	**1.42**	**116**			**Pn**	**00 09 38.7**	**+0.3**
BO02				Sn		**Sb**	**00 09 57.4**	**+0.1**
BO02	**Sierra Bellavi**	**1.42**	**116**	*eP*		**Pn**	**00 09 38.7**	**+0.3**
BO02				*eS*		**Sb**	**00 09 57.5**	**+0.2**
BO02				IAML			00 09 59.4	
	comp=N,21μm,0.1s							
BO02	**Sierra Bellavi**	**1.42**	**116**	*eP*		**Pn**	**00 09 38.9**	**+0.4**
BO02				IAML			00 10 02.2	
	comp=Z,6μm,0.1s							
BO04	**La Punta**	**1.44**	**83**			**Pn**	**00 09 39.2**	**+0.5**
BO04	**La Punta**	**1.44**	**83**	*eP*		**Pn**	**00 09 39.1**	**+0.5**
BO04				*eS*		**Sg**	**00 09 59.3**	**+0.5**
BO04				IAML			00 10 03.9	
	comp=N,8μm,0.5s							
MT05	**Renca**	**1.53**	**60**			**Pn**	**00 09 40.8**	**+0.9**
MT05	**Renca**	**1.53**	**60**	*eP*		**Pb**	**00 09 41.2**	**+0.2**
MT05				IAML			00 10 10.4	
	comp=E,5μm,0.2s							
MT05	**Renca**	**1.53**	**60**	*eP*		**Pb**	**00 09 41.0**	**0.0**
MT05				*eS*		Sn	00 09 45.3	-15
MT05				IAML			00 10 14.4	
	comp=Z,2μm,0.9s							
MT12	**Pirque**	**1.54**	**74**	*eP*		**Pb**	**00 09 41.1**	**0.0**
MT12				*eS*		**Sg**	**00 10 01.7**	**-0.5**
MT12				IAML			00 10 12.8	
	comp=E,10μm,0.7s							
ROCH	**El Roble**	**1.62**	**43**	*eP*		**Pn**	**00 09 42.2**	**+0.8**
MT16	**CCHEN**	**1.67**	**64**			**Pn**	**00 09 42.5**	**+0.6**
PEL	**Peldehue**	**1.71**	**54**			**Pn**	**00 09 43.2**	**+0.8**
MT10	**Hacienda Santa**	**1.74**	**60**	*eP*		**Pb**	**00 09 44.2**	**-0.5**
MT10				*eS*		**Sg**	**00 10 07.9**	**-0.7**
MT10				IAML			00 10 20.4	
	comp=N,7μm,0.6s							
ML02	**Panimavida**	**1.75**	**155**			**Pn**	**00 09 43.6**	**+0.7**
ML02	**Panimavida**	**1.75**	**155**	*eP*		**Pn**	**00 09 43.8**	**+0.8**
ML02				*eS*		Sn	00 09 44.1	-21
ML02				IAML			00 10 19.2	
	comp=Z,3μm,0.4s							
LMEL	**Las Melosas**	**1.79**	**80**			**Pn**	**00 09 44.6**	**+1.0**
LMEL				Sg		**Sg**	**00 10 09.2**	**-1.0**
LMEL	**Las Melosas**	**1.79**	**80**	*eP*		**Pb**	**00 09 45.0**	**-0.5**
LMEL				*eS*		**Sg**	**00 10 09.2**	**-1.0**
LMEL				IAML			00 10 13.8	
	comp=N,4μm,0.3s							
LMEL	**Las Melosas**	**1.79**	**80**	*eP*		**Pn**	**00 09 44.9**	**+1.3**
LMEL				*eS*		**Sn**	**00 10 05.5**	**-1.0**
LMEL				IAML			00 10 16.0	
	comp=Z,2μm,1.5s							
VA06	**Catapilco**	**1.82**	**28**			**Pn**	**00 09 44.3**	**+0.5**
MT04	**Ro Olivares**	**1.98**	**68**	*eP*		**Pn**	**00 09 47.5**	**+1.3**
MT04				*eS*		**Sg**	**00 10 16.7**	**+0.6**
MT04				IAML			00 10 18.2	
	comp=Z,1μm,1.4s							
VA03	**San Esteban**	**2.04**	**47**			**Pn**	**00 09 48.1**	**+1.1**
VA03	**San Esteban**	**2.04**	**47**	*eP*		**Pn**	**00 09 48.0**	**+1.1**
VA03				*eS*		**Sg**	**00 10 17.5**	**-0.8**
VA03				IAML			00 10 22.3	
	comp=Z,2μm,1.0s							
MT08	**Bocatoma Ro**	**2.05**	**70**			**Pn**	**00 09 48.3**	**+1.0**
MT08	**Bocatoma Ro**	**2.05**	**70**	*eP*		**Pn**	**00 09 48.7**	**+1.4**
MT08				*eS*		**Sb**	**00 10 15.0**	**-0.7**
MT08				IAML			00 10 26.3	
	comp=Z,1μm,0.5s							
BI02	**San Fabin de**	**2.63**	**161**			**Pn**	**00 09 56.0**	**+0.9**
BI02				Sn		**Sn**	**00 10 28.3**	**+1.2**
BI02	**San Fabin de**	**2.63**	**161**	*eP*		**Pn**	**00 09 55.5**	**+0.4**
BI02				IAML			00 10 37.0	
	comp=Z,1μm,0.9s							
BI05	**Punta Hualpn**	**2.67**	**195**			**Pn**	**00 09 57.6**	**+2.1**
CO02

LPAZ	La Paz	18.20	13			Pn	00 13 24.3	-1.7
LPAZ	La Paz	18.20	13	P		P	00 13 27.7	+1.5
	comp=Z,0.3nm,0.3s,baz=179,slow=8.3,SNR=9.1							
	comp=Z,8.9nm,0.9s							
LPAZ	La Paz	18.20	13	*eP*		P	00 13 27.0	+0.8
AMBA	Amambai (Brazi	18.87	58	*eP*		P	00 13 32.1	-0.9
BDQN	Bodoquena, MS	19.42	49	*eP*		P	00 13 38.2	-0.7
BBSD	Serra de San D	19.91	35	*eP*		P	00 13 44.2	-0.1
PTGB	Pitanga	19.97	67	*eP*		P	00 13 44.8	-0.3
AQDB	Aquidauana	20.07	51	P		P	00 13 46.4	+0.4
AQDB	Aquidauana	20.07	51	*eP*		P	00 13 45.1	-0.9
EFI	East Falkland	20.31	154	P		P	00 13 48.2	-0.2
EFI				IAmb		IAmb	00 14 08.0	
	comp=Z,24nm,1.1s							
TRCB	Terra Rica	20.65	62	P		P	00 13 52.3	-0.1
TRCB	Terra Rica	20.65	62	*eP*		P	00 13 51.8	-0.6
SIV	San Ignacio	20.74	32	P		P	00 13 53.5	0.0
	comp=Z,14nm,1.0s,baz=205,slow=7.7,SNR=27							
SIV				LR		LR	00 23 19.5	
	comp=Z,273nm,19.2s,baz=257,slow=41							
	comp=Z,14nm,1.0s							
RPRD	Ribas do Rio P	21.39	55	*eP*		P	00 14 00.6	+0.2
LDASE	Londrina, Braz	21.43	65	*eP*		P	00 13 59.4	-1.4
PTLB	Pontes e Lacer	22.11	36	P		P	00 14 09.0	+0.9
PTLB				IAmb		IAmb	00 14 11.1	
	comp=Z,22nm,1.0s							
PTLB	Pontes e Lacer	22.11	36	*eP*		P	00 14 08.9	+0.8
PCMB	Pacaembu	22.38	61	*eP*		P	00 14 09.6	-1.4
FRTB	Fartura	22.63	68	*eP*		P	00 14 14.8	+1.0
C2SB	Chapadao do Su	23.16	53	*eP*		P	00 14 19.6	+0.3
SALV	Santo Antonio	23.56	44	*eP*		P	00 14 22.3	-0.9
VILB	Vilhena	23.82	30	P		P	00 14 22.8	-3.0
VILB				IAmb		IAmb	00 14 37.9	
	comp=Z,18nm,0.8s							
VILB	Vilhena	23.82	30	*eP*		P	00 14 26.1	+0.3
SPB	Sao Paulo	24.15	71	*eP*		P	00 14 29.6	+0.8
ITRB	Iturama	24.24	59	*eP*		P	00 14 29.0	-0.7
BB19B	Bebedouro	24.73	64	*eP*		P	00 14 34.1	-0.1
PDRB	Porto dos Gac	26.59	36	*eP*		P	00 14 50.7	-0.3
IPMB	Ipameri, GO	26.90	59	*eP*		P	00 14 54.4	+0.6
CLDB	Cólider	27.68	37	*eP*		P	00 15 00.4	-0.4
VAS01	Vassouras-RJ	27.97	73	*eP*		P	00 15 04.3	+0.9
BDFB	Brasilia	28.63	56	P		P	00 15 08.1	-1.2
BDFB				IAmb		IAmb	00 15 09.3	
	comp=Z,7.5nm,0.8s							
BDFB	Brasilia	28.63	56	P		P	00 15 09.1	-0.3
	comp=Z,6.3nm,0.8s,baz=223,slow=9.9,SNR=9.6							
BDFB				LR		LR	00 28 45.0	
	comp=Z,211nm,18.5s,baz=199,slow=41							
	comp=Z,6.3nm,0.8s							
DUB01	Friburgo-RJ	28.92	73	*eP*		P	00 15 12.0	+0.1
SNDB	Serra Nova Dou	29.25	46	*eP*		P	00 15 14.8	0.0
CAM01	Campos-RJ	29.62	74	*eP*		P	00 15 18.4	+0.3
TBTG	Tabatinga, AM	29.92	5	*eP*		P	00 15 20.3	-0.4
DIAM	Diamantina, MG	30.04	66	*eP*		P	00 15 22.1	+0.2
PMSA	Palmer Station	31.05	173	LR		LR	00 26 31.2	
	comp=Z,142nm,18.7s,baz=328,slow=34							
PMSA	Palmer Station	31.05	173	*eP*		P	00 15 30.0	-0.2
NPGB	Novo Progresso	31.21	34	*eP*		P	00 15 31.2	-0.9
TEFE	Tefe	31.34	15	*eP*		P	00 15 33.2	0.0
JANB	Januaria	31.52	4	*eP*		P	00 15 35.9	0.0
SJMB	Sao Joao De Ma	31.70	69	*eP*		P	00 15 36.4	0.0
RIB01	Linhares ES	31.97	71	*eP*		P	00 15 38.9	+0.1
SDBA	SAO DESIDERIO	33.03	56	*eP*		P	00 15 47.2	-0.9
SMTB	Santa Maria do	33.93	48	*eP*		P	00 15 55.2	-0.7
MAL2	Monte Alegre,	36.20	32	P		P	00 16 14.5	-1.0
BOAV	Boa Vista	38.03	19	*eP*		P	00 16 30.5	-0.5
TMAB	Tom-Au,PA,Br	38.88	41	*eP*		P	00 16 38.0	-0.3
RUSC	La Rusia	39.85	359	P		P	00 16 47.7	+0.9
NBPB	Pedra_Branca-C	41.60	54	*eP*		P	00 17 00.4	-0.4
BAUV	El Baul	43.07	6	P		P	00 17 13.0	+0.4
BAUV				IAmb		IAmb	00 17 14.2	
	comp=Z,17nm,0.9s							
MDP	Montagnes des	43.26	29	LR		LR	00 37 04.8	
	comp=Z,165nm,18.7s,baz=160,slow=39							
NBCL	Cascavel-CE	43.43	54	*eP*		P	00 17 15.6	-0.1
SIUN	Universidad Ur	49.07	344	P		P	00 18 00.5	+0.6
SIUN				IAmb		IAmb	00 18 13.1	
	comp=Z,12nm,0.7s							
SNAA	Sanae	51.52	158			P	00 18 17.3	-0.7
SNAA				IAmb		IAmb	00 18 30.6	
	comp=Z,7.8nm,1.1s							
SNAA	Sanae	51.52	158	P		P	00 18 16.8	-1.2
	comp=Z,2.4nm,0.9s,baz=241,slow=7.5,SNR=5.7							
	comp=Z,2.4nm,0.9s							
QSPA	South Pole Qui	56.07	180	P		P	00 18 52.3	+0.8
	comp=Z,3.0nm,0.9s,baz=128,slow=2.6,SNR=8.8							
	comp=Z,3.0nm,0.9s							
TXAR	Lajitas Array	69.77	331	P		P	00 20 24.4	+1.5
	comp=Z,0.5nm,0.6s,baz=153,slow=8.4,SNR=9.2							
WVT	Waverly	71.42	347	P		P	00 20 33.1	+0.4
MAW	Mawson	73.08	164	P		P	00 20 42.7	+0.3
	comp=Z,3.5nm,0.9s,baz=249,slow=11,SNR=5.5							
	comp=Z,3.5nm,0.9s							
G62A	West of Eustis	79.03	1	P		P	00 21 16.6	+0.2
G62A				IAmb		IAmb	00 21 19.0	
	comp=Z,5.8nm,0.8s							
BOSA	Boshof	80.20	118	P		P	00 21 21.6	-1.9
	comp=Z,3.0nm,0.8s,baz=271,slow=2.0,SNR=4.1							
	comp=Z,3.0nm,0.8s							
ECSD	EROS Data Cent	80.64	342			P	00 21 25.5	+0.4
TCRU	Three Creeks R	81.41	329	P		P	00 21 27.7	-2.0
P17A	Butcher Ranch,	81.44	331	P		P	00 21 31.2	+1.5
P17A				IAmb		IAmb	00 21 37.9	
	comp=Z,2.9nm,0.5s							
BVAR	Borovoye Array	147.57	43	PKPbc		PKPbc	00 28 57.0	+0.6
	comp=Z,1.7nm,0.5s,baz=291,slow=3.4,SNR=12							
KURBB	Kurchatov Arra	153.16	43	PKPbc		PKPbc	00 29 10.3	+0.4
	comp=Z,1.4nm,0.7s,baz=294,slow=2.8,SNR=12							
ZALV	Zalesovo Beam	154.50	32	PKPbc		PKPbc	00 29 13.2	+0.5
	comp=Z,2.6nm,0.7s,baz=290,slow=3.5,SNR=12							
MKAR	Makanchi Array	157.06	49	PKPab		PKPab	00 29 36.7	-1.8
	comp=Z,0.6nm,0.7s,baz=308,slow=4.0,SNR=4.4							
SONM	Songino Array	166.31	4	PKPab		PKPab	00 30 19.8	+0.8
	comp=Z,0.6nm,0.7s,baz=349,slow=6.0,SNR=3.9							

IDC ***02*** *00:14:33.6±5.7, 3.7°S×152.1°E, h460km±63km, mb3.3/11, mbtmp4.0/11, Error ellipse: s-maj=39.4km s-min=18.4km az=95.0*

NEIC ***02*** *00:14:34.5±1.2, 3.7°S±0.1°×152.2°E±0.1°, h453km±9km, mb4.2/41, Error ellipse: s-maj=21.4km s-min=15.7km az=71.0*

ISC 02 00:14:33.8±0.5, **3.70S**±0.08×**152.1E**±0.1, **h450**km, **n56, σ0.94/56, mb4.1/32, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	Rabaul	0.49	175	P		P	00 15 30.3	+1.3
MANU	Manus Island	5.02	289	P		P	00 16 00.3	+1.8
CTAO	Charters Tower	17.26	199	P		P	00 18 09.1	+0.1
DZM	Mont Dzumac	22.95	144	P		P	00 19 02.3	+0.1
DZM				IAmb		IAmb	00 19 35.7	
	comp=Z,17nm,1.1s							
WB0	Warramunga Arr	23.54	226	P		P	00 19 06.5	-0.9
WB0				IAmb		IAmb	00 19 36.2	
	comp=Z,21nm,1.4s							
WR8	Warramunga Arr	23.58	225	P		P	00 19 06.9	-0.9
WR8				IAmb		IAmb	00 19 29.1	
	comp=Z,14nm,1.3s							
WB2	Warramunga Arr	23.68	226	P		P	00 19 07.7	-1.0
WB2				IAmb		IAmb	00 19 48.1	
	comp=Z,16nm,1.4s							
WRA	Warramunga Arr	23.69	226	P		P	00 19 07.0	-1.8
WRA	Warramunga Arr	23.69	226	P		P	00 19 07.5	-1.2
	comp=Z,0.8nm,0.4s,baz=48,slow=9.2,SNR=11							
	comp=Z,0.8nm,0.4s							
ASAR	Alice Springs	26.52	220	P		P	00 19 32.6	-1.4
	comp=Z,0.5nm,0.3s,baz=55,slow=8.3,SNR=9.2							
	comp=Z,0.5nm,0.3s							
ARMA	Armidale	26.58	181	P		P	00 19 34.3	-0.1
ARMA				IAmb		IAmb	00 19 56.5	
	comp=Z,24nm,1.5s							
MSVF	Nonsavu	28.98	121	P		P	00 19 54.6	-1.1
LBZ	Lake Benmore	43.54	161	P		P	00 21 56.2	0.0
JTM	Tenmabayashi	45.41	348	P		P	00 22 10.2	-0.6
KSRS	Korea Array	46.72	333	P		P	00 22 20.8	-0.1
	comp=Z,1.5nm,0.7s,baz=152,slow=8.5,SNR=8.3							
	comp=Z,1.5nm,0.7s							
USA0B	Ussuriysk Arra	51.00	341	P		P	00 22 53.0	+0.3
USA0B				IAmb		IAmb	00 22 54.9	
	comp=Z,5.1nm,0.6s							
USRK	Ussuriysk Ar.	51.00	341	P		P	00 22 53.3	+0.6
PETK	Petropavlovsk-	56.80	4	P		P	00 23 33.7	0.0
	comp=Z,1.4nm,0.4s,baz=157,slow=4.9,SNR=4.1							
	comp=Z,1.4nm,0.4s							
SONM	Songino Array	65.04	328	P		P	00 24 28.4	-0.2
SONM	Songino Array	65.04	328	P		P	00 24 28.6	0.0
	comp=Z,0.6nm,0.3s,baz=135,slow=5.7,SNR=6.1							
	comp=Z,0.6nm,0.3s							
S12K	Black Hills	70.07	26	P		P	00 24 58.8	-0.5
PALK	Pallekele	72.09	279	P		P	00 25 11.3	-0.8
GAMB	Gambell	72.52	16	P		P	00 25 14.2	+0.7
O14K	Tigyukauivet M	72.71	23	P		P	00 25 14.8	+0.1
O15K	Ungalikthiuk R	73.23	24	P		P	00 25 18.1	+0.4
O15K				IAmb		IAmb	00 25 27.6	
	comp=Z,10nm,1.4s							
M14K	Bethel	73.44	22	P		P	00 25 19.3	+0.5
M14K				IAmb		IAmb	00 25 29.7	
	comp=Z,14nm,1.4s							
L14K	Kuka Creek	73.57	21	P		P	00 25 20.5	+0.9
L14K				IAmb		IAmb	00 25 21.0	
	comp=Z,5.6nm,0.8s							
PLK4	Peulik 4	73.74	26	P		P	00 25 20.6	-0.3
N15K	Kwethluk River	73.76	23	P		P	00 25 21.2	+0.4
N15K				IAmb		IAmb	00 25 26.2	
	comp=Z,7.6nm,1.2s							
VNDA	Vanda	73.95	178	P		P	00 25 24.5	+3.0
O16K	Kokwok River B	74.19	24	P		P	00 25 22.2	-1.0
MKAR	Makanchi Array	79.06	319	P		P	00 25 50.1	-0.3
	comp=Z,0.5nm,0.5s,baz=100,slow=7.6,SNR=7.1							
	comp=Z,0.5nm,0.5s							
ZALV	Zalesovo Beam	79.87	326	P		P	00 25 53.2	-1.3
	comp=Z,1.9nm,0.5s,baz=124,slow=5.7,SNR=8.6							
	comp=Z,1.9nm,0.5s							
ILAR	Eielson Array	81.41	22	P		P	00 26 00.6	-1.7
	comp=Z,1.3nm,0.6s,baz=250,slow=5.2,SNR=16							
	comp=Z,1.3nm,0.6s							
MENT	Mentasta	81.84	25	P		P	00 26 05.1	+0.5
MENT				IAmb		IAmb	00 26 08.6	
	comp=Z,12nm,1.0s							
J25K	Salcha River,	81.91	23	P		P	00 26 04.2	-0.8
J25K				IAmb		IAmb	00 26 04.9	
	comp=Z,3.2nm,0.6s							
DOT	Dot Lake	82.00	24	P		P	00 26 04.8	-0.7
D23K	Nanushuk River	82.22	18	P		P	00 26 06.9	+0.5
F24K	Squaw Lake	82.37	20	P		P	00 26 07.6	+0.4
F24K				IAmb		IAmb	00 26 45.0	
	comp=Z,5.5nm,1.2s							
M27K	Edge Creek, AK	82.38	25	P		P	00 26 07.9	+0.4
KURBB	Kurchatov Arra	82.52	322	P		P	00 26 07.3	-1.0
	comp=Z,0.4nm,0.3s,baz=100,slow=4.1,SNR=1.6							
	comp=Z,0.4nm,0.3s							
L27K	Beaver Creek,	82.68	25	P		P	00 26 09.1	+0.2
BCAR	Beaver Creek A	82.70	25	P		P	00 26 08.9	-0.1
F26K	Sheenjek River	83.72	20	P		P	00 26 12.1	-2.0
F26K				IAmb		IAmb	00 26 54.0	
	comp=Z,8.3nm,1.4s							
L29M	L29M	84.27	25	P		P	00 26 17.0	+0.2
I28M	Miner Creek	84.36	23	P		P	00 26 16.8	-0.5
I28M				IAmb		IAmb	00 26 21.2	
	comp=Z,4.3nm,1.3s							
K29M	Barlow Dome	84.77	25	P		P	00 26 19.9	+0.5
K29M				IAmb		IAmb	00 26 20.7	
	comp=Z,2.7nm,0.8s							
E27K	Coleen River	84.81	20	P		P	00 26 19.8	+0.4
E27K				IAmb		IAmb	00 26 38.7	
	comp=Z,4.6nm,1.2s							
J30M	Hart River	85.50	24	P		P	00 26 23.2	+0.2
I30M	Mount Dempster	85.68	24	P		P	00 26 22.3	-1.6
I30M				IAmb		IAmb	00 26 23.5	
	comp=Z,4.6nm,1.4s							
Q32M	Nakina River	85.78	30	P		P	00 26 25.1	+0.5
Q32M				IAmb		IAmb	00 27 00.0	
	comp=Z,5.4nm,1.4s							
N32M	Quiet Lake	85.94	28	P		P	00 26 24.9	-0.1
N32M				IAmb		IAmb	00 26 34.9	
	comp=Z,3.7nm,1.1s							
QSPA	South Pole Qui	86.25	180	P		P	00 26 26.3	-0.3
	comp=Z,0.9nm,0.9s,baz=243,slow=0.7,SNR=7.2							
	comp=Z,0.9nm,0.9s							
R33M	Jennings River	86.53	30	P		P	00 26 28.4	+0.4
H31M	Peel River	86.67	23	P		P	00 26 27.8	-0.6
H31M				IAmb		IAmb	00 26 52.5	
	comp=Z,8.8nm,1.4s							
BVAR	Borovoye Array	87.96	323	P		P	00 26 33.3	-1.4
	comp=Z,1.4nm,0.6s,baz=108,slow=5.6,SNR=11							
	comp=Z,1.4nm,0.6s							

SJA ***02*** *00:52:07.8±0.8, 31.64S×69.35W, h120km±3km, ML3.5, MW3.5*

IDC ***02*** *00:52:08.8±3.0, 31.62S×69.42W, h106km±28km, mb3.2/2, mbtmp3.6/4, Error ellipse: s-maj=58.4km s-min=27.4km az=84.0*

ISC 02 00:52:09.3±0.8, **31.64S**±0.03×**69.35W**±0.04, **h116**km±6km, **n34, σ0.93/58, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTLS	Leoncito	0.17	166	*eP*		P	00 52 25.0	-0.6
RTLS				IAML			00 52 37.6	
	comp=Z,5μm,0.2s							
RTLS				*eS*		Sn	00 52 37.6	-0.4
ZON	Zonda	0.58	81	*eP*		Pn	00 52 26.9	-0.4
ZON				*eS*		Sn	00 52 41.0	+0.1
ZON				IAML			00 52 42.9	
	comp=Z,437nm,0.7s							
SJA	San Juan	0.68	81	*eP*		Pn	00 52 27.6	-0.5
SJA				*eS*		Sn	00 52 41.0	-1.2
SJA				*eS*			00 52 42.6	
SJA				IAML			00 52 43.0	
	comp=Z,775nm,0.3s							
RTLL	Cerro Villicun	0.81	68	*eP*		Pn	00 52 28.7	-0.4
RTLL				*eS*		Sn	00 52 44.0	-0.1
RTLL				IAML			00 52 45.2	
	comp=Z,784nm,0.3s							
CFA	Coronel Fontan	0.95	88	P		Pn	00 52 29.9	-0.5
	comp=Z,88nm,0.3s,baz=267,slow=14,SNR=798							
CFA				S		Sn	00 52 45.9	-0.5
	comp=Z,178nm,0.4s,baz=266,slow=15,SNR=132							
CFA	Coronel Fontan	0.95	88	*eP*		Pn	00 52 30.1	-0.3
CFA				*eS*		Sn	00 52 46.5	+0.1
ASAL	Salagasta	1.04	156	*eP*		Pn	00 52 31.4	-0.1
ASAL				*eS*		Sn	00 52 48.8	+0.5
ACCO	Cerro Coronel	1.07	13	*eP*		Pn	00 52 32.2	+0.1
ACCO				*eS*		Sn	00 52 50.7	+1.5
CO03	El Pedregal	1.40	304	*eP*		Pn	00 52 35.2	-0.2
CO03				*eS*		Sn	00 52 55.5	+0.4
CO03				*eS*			00 52 56.6	
CO03				IAML			00 52 57.3	
	comp=Z,640nm,0.1s							
CO02	Combarbal	1.48	287	*eP*		Pn	00 52 35.8	-0.5
CO02				*eS*		Sn	00 52 56.6	-0.2
CO02				*eS*			00 52 57.0	
CO02				IAML			00 52 57.6	
	comp=Z,1μm,0.3s							
VA03	San Esteban	1.52	222	*eP*		Pn	00 52 36.6	-0.1
VA03				*eS*		Sn	00 52 58.2	+0.6
VA03				IAML			00 52 59.5	
	comp=Z,357nm,0.2s							
CO01	Juntas del Tor	1.78	339	*eP*		Pn	00 52 40.6	+0.6
CO01				*eS*		Sn	00 53 05.9	+2.5
CO01				IAML			00 53 07.4	
	comp=Z,252nm,0.5s							
PEL	Peldehue	1.88	217	*eP*		Pn	00 52 40.5	-0.6
PEL				*eS*		Sn	00 53 05.0	-0.4
MT04	Ro Olivares	1.88	201	*eP*		Pn	00 52 41.3	0.0
MT04				*eP*			00 52 42.0	
MT04				*eP*			00 52 42.6	
MT04				*eS*		Sn	00 53 07.5	+1.8
MT04				*eS*			00 53 09.7	
MT08	Bocatoma Ro	1.89	197	*eP*		Pn	00 52 41.3	0.0
MT08				*eP*			00 52 42.0	
MT08				*eP*			00 52 42.6	
MT08				*eS*		Sn	00 53 04.5	-1.3
GO04	Tololo Observa	1.92	319	*eP*		Pn	00 52 41.2	-0.5
GO04				*eS*		Sn	00 53 06.7	+0.2
ROC1	El Roble	1.94	226	*eP*		Pn	00 52 41.0	-1.0
ROC1				*eS*		Sn	00 53 06.6	-0.5
MT05	Renca	2.11	214	*eP*		Pn	00 52 43.6	-0.3
MT05				*eS*		Sn	00 53 10.7	+0.3
MT05				IAML			00 53 11.4	
	comp=Z,227nm,0.2s							
MT02	Curacav	2.21	223	*eP*		Pn	00 52 43.8	-1.4
MT02				*eS*		Sn	00 53 11.9	-0.9
MT02				IAML			00 53 15.7	
	comp=Z,102nm,1.1s							
LMEL	Las Melosas	2.32	198	*eP*		Pn	00 52 46.9	+0.2
LMEL				*eS*		Sn	00 53 18.4	+3.0
VA01	Torpederas	2.39	234	*eP*		Pn	00 52 40.5	-6.9
VA01				*eS*		Sn	00 53 17.9	+1.2
VA01				IAML			00 53 41.3	
	comp=Z,121nm,0.3s							
MT01	Popeta	2.74	215	*eP*		Pn	00 52 42.6	-9.4
MT01				*eP*			00 52 49.9	
MT01				*eS*		Sn	00 53 23.5	-1.4
MT01				IAML			00 53 27.9	
	comp=Z,94nm,0.1s							
LCO	Las Campanas	2.87	336	*eP*		Pn	00 52 53.2	-0.7
LCO				*eS*		Sn	00 53 27.9	-0.4
LCO				IAML			00 53 28.4	
	comp=Z,372nm,0.3s							
BO01	Tunca	3.11	208	*eP*		Pn	00 52 42.0	-15
BO01				*eS*		Sn	00 53 31.7	-1.9
BO01				IAML			00 53 32.6	
	comp=Z,57nm,0.5s							
MRA	San Martin	3.18	105	*eP*		Pn	00 52 57.5	-0.3
MRA				*eS*		Sn	00 53 34.9	-0.5
MRA				IAML			00 53 36.1	
	comp=Z,122nm,0.3s							
BO02	Sierra Bellavi	3.37	201	*eP*		Pn	00 52 52.1	-8.2
BO02				*eS*		Sn	00 53 40.2	+0.4
BO02				IAML			00 53 48.2	
	comp=Z,76nm,0.4s							
AC04	Llanos de Chal	3.74	336	*eP*		Pn	00 53 04.2	-1.0
AC04				*eS*		Sn	00 53 36.7	-12
AC04				IAML			00 53 36.9	
	comp=Z,139nm,0.5s							
GO03	Copiapo	4.10	349	*eP*		Pn	00 53 09.7	-0.5
GO03				*eS*		Sn	00 53 56.6	-0.8
AC02	Maricunga	4.79	2	*eP*		Pn	00 53 19.3	-0.5
AC02				*eS*		Sn	00 54 14.0	-0.6
AC02				IAML			00 54 30.1	
	comp=Z,23nm,2.4s							
LPAZ	La Paz	15.32	4	P		P	00 55 40.8	-1.4
	comp=Z,2.0nm,0.7s,baz=193,slow=6.7,SNR=7.5							
SIV	San Ignacio	17.30	28	P		Pn	00 56 04.9	+1.1
	comp=Z,0.6nm,0.7s,baz=205,slow=19,SNR=2.1							
QSPA	South Pole Qui	58.59	180	P		P	01 01 54.8	+1.1
	comp=Z,0.9nm,0.8s,baz=149,slow=4.9,SNR=2.3							
	comp=Z,0.9nm,0.8s							
TXAR	Lajitas Array	68.86	328	P		P	01 03 01.5	0.0
	comp=Z,0.3nm,0.7s,baz=153,slow=9.6,SNR=5.1							
	comp=Z,0.3nm,0.7s							
ZALV	Zalesovo Beam	151.03	32	PKPbc		PKiKP	01 11 48.4	-0.2
	comp=Z,1.2nm,0.6s,baz=307,slow=3.0,SNR=5.9							

SJA ***02*** *00:55:12.0±0.9, 33.96S×72.28W, h18km±4km, ML5.3, MW5.3*

IDC ***02*** *00:55:14.4±0.4, 34.16S×72.06W, h0km, mb4.9/16, mbtmp4.8/20, ML4.6/4, MS5.0/40, Error ellipse: s-maj=16.8km s-min=11.0km az=93.0*

MOS ***02*** *00:55:15.2±1.1, 34.17S×72.15W, h14km, mb5.2/43, MS5.0/5, Error ellipse: s-maj=10.6km s-min=5.6km az=95.0*

NEIC ***02*** *00:55:16.1, 34.21S×72.32W, h16km*

NEIC ***02*** *00:55:16.7±1.2, 34.18S±0.03×72.20W±0.05, h13km±2km, mb5.1/520, Mwr5.2/70, Mww5.4/27, Mwr5.2(GUC), Error ellipse: s-maj=5.7km s-min=4.5km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}6.65; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-6.07; $M_{r\theta}$-2.57; $M_{\theta\phi}$1.19; $M_{\phi r}$-5.99; Fault plane solution: $M_0$9.20000×10^{16} NP1: ϕ_s333.58000°, δ26.87000°, λ56.06000°. NP2: ϕ_s190.61000°, δ67.98000°, λ105.80000°. Principal axes: T 9.7980, Plg64.0000°, Azm126.0000°; N -1.3422, Plg15.0000°, Azm5.0000°; P -8.4558, Plg21.0000°, Azm269.0000°;*

VAO ***02*** *00:55:16.7±0.4, 34.18S×72.08W, h10km, mb5.1*

NEIC ***02*** *00:55:16.9, 34.18S×72.20W, h24km*

NEIC ***02*** *00:55:16.9, 34.28S×72.20W, h24km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.35; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-1.47; $M_{r\theta}$-0.10; $M_{\theta\phi}$0.13; $M_{\phi r}$-0.96; Fault plane solution: $M_0$1.72000×10^{17} NP1: ϕ_s348.28000°, δ28.43000°, λ78.23000°. NP2: ϕ_s181.61000°, δ62.22000°, λ96.30000°. Principal axes: T 1.6575, Plg72.0000°, Azm106.0000°; N 0.1127, Plg6.0000°, Azm359.0000°; P -1.7702, Plg17.0000°, Azm267.0000°;*

GUC ***02*** *00:55:17.3±0.7, 34.17S×72.12W, h21km±8km, ML5.3*

GCMT ***02*** *00:55:21.7±0.1, 34.18S±0.01×72.30W±0.01, h24km, MW5.4/136, Moment Tensor Solution. s108,c180; s136,c224; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.11±.03; $M_{\theta\theta}$0.02±.01; $M_{\phi\phi}$-1.13±.02; $M_{r\theta}$-0.35±.02; $M_{\theta\phi}$-0.02±.01; $M_{\phi r}$-1.06±.03; Best double couple: $M_0$1.58100×10^{17} NP1:ϕ_s350.00000°, δ24.00000°, λ69.00000°. NP2:ϕ_s193.00000°, δ68.00000°, λ99.00000°. Principal axes: T 1.5950, Plg66.0000°, Azm119.0000°; N -0.0310, Plg8.0000°, Azm9.0000°; P -1.5670, Pl

comp=N,206µm,0.7s
ROC1 El Roble 1.53 40 *eP* **Pn 00 55 39.6 -3.8**
ROCH El Roble 1.53 40⇑ *eP* **Pb 00 55 44.7 -0.1**
ROCH IAML 00 56 18.9
comp=E,33µm,0.5s
ROCH IAML 00 56 18.9
comp=E,76µm,0.7s
MT16 CCHEN 1.56 63 Pb 00 55 44.9 -0.3
MT16 CCHEN 1.56 63⇓ *iP* **Pb 00 55 45.3 +0.2**
MT16 IAML 00 56 09.9
comp=E,65µm,0.7s
MT14 Cerro Cal|n 1.57 61⇓ *eP* **Pb 00 55 45.4 +0.1**
MT14 IAML 00 56 14.5
comp=E,162µm,0.6s
PEL Peldehue 1.61 51 Pb 00 55 46.2 +0.3
PEL Peldehue 1.61 51 P **Pb 00 55 46.2 +0.3**
PEL Peldehue 1.61 51 *eP* **Pb 00 55 45.9 0.0**
PEL IAML 00 56 19.5
comp=N,104µm,0.6s
PEL Peldehue 1.61 51 *eP* **Pn 00 55 41.1 -3.2**
MT10 Hacienda Santa 1.63 58 IAML 00 56 11.7
comp=N,147µm,0.7s
LMEL Las Melosas 1.67 80 Pb 00 55 46.5 -0.6
LMEL Las Melosas 1.67 80 *eP* **Pb 00 55 46.9 -0.2**
LMEL IAML 00 56 17.2
comp=N,57µm,0.4s
LMEL Las Melosas 1.67 80 *eP* **Pn 00 55 42.1 -3.2**
LMEL *eS* **Sn 00 56 06.6 +0.3**
ML02 Panimavida 1.72 159 Pn 00 55 46.0 +0.2
ML02 Panimavida 1.72 159 *eP* **Pn 00 55 46.5 +0.7**
ML02 IAML 00 56 15.9
comp=E,66µm,0.6s
ML02 Panimavida 1.72 159 *eP* **Pn 00 55 46.3 +0.5**
ML02 *eS* **Sn 00 56 06.6 -0.6**
ML02 IAML 00 56 16.2
comp=E,35µm,0.5s
VA06 Catapilco 1.75 25 Pn 00 55 47.1 +0.9
VA06 Catapilco 1.75 25 *i* P **Pn 00 55 46.8 +0.5**
VA06 *i* S **Sb 00 56 09.7 -0.3**
VA06 IAML 00 56 20.9
comp=E,78µm,0.5s
FCH Farellones 1.78 63 IAML 00 56 20.0
comp=E,30µm,0.4s
MT04 Ro Olivares 1.86 67 IAML 00 56 21.2
comp=E,36µm,0.4s
MT04 Ro Olivares 1.86 67 *eP* **Pn 00 55 44.6 -3.3**
MT04 IAML 00 56 21.3
comp=Z,22µm,1.9s
MT08 Bocatoma Ro 1.94 69 Pb 00 55 50.9 -0.8
MT08 Bocatoma Ro 1.94 69 IAML 00 56 26.1
comp=N,37µm,0.7s
MT08 Bocatoma Ro 1.94 69 *eP* **Pn 00 55 46.6 -2.4**
MT08 IAML 00 56 23.6
comp=Z,30µm,1.1s
VA03 San Esteban 1.95 45 Pb 00 55 51.0 -0.8
VA03 San Esteban 1.95 45⇑ *iP* **Pb 00 55 51.0 -0.8**
VA03 *i* S **Sb 00 56 15.3 -0.4**
VA03 IAML 00 56 31.1
comp=E,70µm,0.6s
VA03 San Esteban 1.95 45 *eP* **Pn 00 55 45.6 -3.4**
VA03 *eS* **Sb 00 56 16.1 +0.4**
VA03 IAML 00 56 24.2
comp=Z,38µm,0.7s
BI02 San Fabin de 2.61 164 Pn 00 55 58.6 +0.5
BI02 San Fabin de 2.61 164 *eP* **Pn 00 55 58.2 +0.1**
BI02 IAML 00 56 43.6
comp=Z,8µm,1.8s
BI05 Punta Hualpn 2.71 197 Pn 00 55 58.5 -1.0
BI05 Punta Hualpn 2.71 197 *eP* **Pn 00 55 58.5 -1.0**
BI05 IAML 00 56 47.3
comp=Z,9µm,0.8s
EDS3 Malargue 2.79 126 *eP* **Pn 00 56 01.6 +0.9**
EDS3 *eS* **Sg 00 56 43.6 -3.2**
CO02 Combarbal 3.11 19 Pn 00 56 06.0 +1.0
CO02 Combarbal 3.11 19 *eP* **Pn 00 56 00.6 -4.4**
CO02 *eS* **Sb 00 56 52.1 +2.9**
CO02 IAML 00 57 01.8
comp=Z,12µm,0.7s
ASAL Salagasta 3.21 62 *eP* **Pn 00 56 08.1 +1.8**
ASAL *eS* **Sb 00 56 54.6 +2.6**
RTLS Leoncito 3.38 47 *eP* **Pn 00 56 08.1 -0.8**
RTLS *eS* **Sg 00 57 02.1 -3.3**
CO06 Fray Jorge 3.50 8 IAML 00 57 22.3
comp=E,5µm,0.5s
CO03 El Pedregal 3.54 21 Pn 00 56 11.8 +0.9
CO03 El Pedregal 3.54 21 IAML 00 57 17.4
comp=E,9µm,0.5s
CO03 El Pedregal 3.54 21 *eP* **Pn 00 56 07.6 -3.3**
CO03 *eS* **Sn 00 56 50.1 -2.2**
CO03 IAML 00 57 12.6
comp=Z,6µm,1.8s
ZON Zonda 3.93 50 Pn 00 56 18.2 +1.9
ZON Zonda 3.93 50 P **Pn 00 56 18.2 +1.9**
ZON Zonda 3.93 50 *eP* **Pn 00 56 15.6 -0.7**
ZON IAML 00 57 32.8
comp=Z,5µm,3.1s
GO04 Tololo Observa 4.14 17 Pn 00 56 19.7 +0.4
GO04 Tololo Observa 4.14 17 *eP* **Pn 00 56 15.1 -4.2**
CFA Coronel Fontan 4.18 54 Pn **Pn 00 56 20.1 +0.4**
comp=Z,18nm,0.3s,baz=235,slow=13,SNR=25
CFA Lg Lg 00 57 24.6
comp=Z,175nm,0.3s,baz=146,slow=4.1,SNR=7.7
comp=Z,28nm,0.3s
CFA Coronel Fontan 4.18 54 *eP* **Pn 00 56 18.1 -1.6**
CFA *eS* **Sn 00 57 07.9 -0.1**
CFA *eS* **Sb 00 57 18.1 -1.9**
RTLL Cerro Villicun 4.21 49 *eP* **Pn 00 56 19.1 -1.0**
RTLL *eS* **Sb 00 57 19.1 -1.7**
CO05 La Serena 4.30 11 Pn 00 56 21.5 +0.2
ACCO Cerro Coronel 4.43 37 *eP* **Pn 00 56 22.1 -1.2**
CO01 Juntas del Tor 4.53 24 Pn 00 56 26.2 +1.5
CO01 Juntas del Tor 4.53 24 *eP* **Pn 00 56 22.1 -2.5**
CO01 *eS* **Sb 00 57 32.1 +1.9**
CO01 IAML 00 57 49.0
comp=Z,3µm,1.0s
LCO Las Campanas 5.28 14 Pn **Pn 00 56 35.1 +0.1**
LCO **Pn 00 56 35.3 +0.3**
LCO Las Campanas 5.28 14 P **Pn 00 56 35.1 +0.1**
LCO Las Campanas 5.28 14 *eP* **Pn 00 56 34.8 -0.2**
VA04 Juan Fernndez 5.55 273 Pn 00 56 36.8 -1.7
H03S1 Juan Fernandez 5.59 271 Pn **Pn 00 56 37.6 -1.2**
baz=60,slow=16
H03S1 T T 01 02 33.3
baz=95,slow=73,SNR=2708
H03S3 Juan Fernandez 5.60 272 Pn **Pn 00 56 37.7 -1.1**
baz=60,slow=16
H03S3 T T 01 02 33.3
baz=95,slow=73,SNR=3056
H03S2 Juan Fernandez 5.61 271 Pn **Pn 00 56 37.5 -1.5**
baz=60,slow=16
H03S2 T T 01 02 39.7
baz=95,slow=73,SNR=2611
H03N1 Juan Fernandez 5.65 275 Pn **Pn 00 56 39.4 -0.2**
baz=132,slow=24
H03N1 T T 01 02 46.0
baz=102,slow=79,SNR=73
H03N3 Juan Fernandez 5.66 275 Pn **Pn 00 56 39.7 0.0**
baz=132,slow=24
H03N3 T T 01 02 56.3
baz=102,slow=79,SNR=61
H03N2 Juan Fernandez 5.67 275 Pn **Pn 00 56 40.0 +0.2**
baz=132,slow=24
H03N2 T T 01 02 45.9
baz=102,slow=79,SNR=74
LR04 Corral 5.80 190 Pn 00 56 38.6 -3.2
AC04 Llanos de Chal 6.01 9 Pn 00 56 44.0 -0.7
LR05 Currie 6.06 179 Pn 00 56 44.6 -0.8
PLCA Paso Flores 6.69 169 Pn 00 56 53.9 -0.3
PLCA Paso Flores 6.69 169 Pn **Pn 00 56 54.9 +0.7**
comp=Z,4.0nm,0.3s,baz=333,slow=12,SNR=61
PLCA Lg Lg 00 58 46.7
comp=Z,5.8nm,0.3s,baz=61,slow=18,SNR=3.5
PLCA LR LR 00 59 54.4
comp=Z,12µm,18.8s,baz=348,slow=42
comp=Z,35nm,0.6s
PLCA Paso Flores 6.69 169 P **Pn 00 56 53.9 -0.3**
PLCA Paso Flores 6.69 169 *eP* **Pn 00 56 54.6 +0.5**
GO03 Copiapo 6.75 15 Pn 00 56 54.9 -0.2
AC06 Mina Casimiro 6.96 14 Pn 00 56 57.3 -0.5
LL05 Los Muermos 7.31 188 Pn 00 57 01.6 -1.0
AC02 Maricunga 7.76 21 Pn 00 57 08.6 -0.6
AC01 Pan de Azucar 8.10 10 Pn **Pn 00 57 12.8 -0.6**
LL01 San Ignacio de 8.21 181 Pn 00 57 13.5 -1.4
LL02 Futaleuf 9.02 178 Pn 00 57 24.8 -1.3

TRQA Tornquist 9.12 118 Pn 00 57 27.3 -0.2
TRQA Tornquist 9.12 118 P **Pn 00 57 27.3 -0.2**
PB05 IPOC Station P 11.40 9 Pn 00 57 58.7 -0.1
COYC Coyhaique 11.40 180 Pn 00 57 58.2 -0.4
PB06 IPOC Station P 11.64 12 Pn **Pn 00 58 01.9 -0.2**
PB02 IPOC Station P 12.95 10 Pn 00 58 19.0 -0.9
AY03 Cochrane 13.09 181 Pn 00 58 20.3 -1.3
PB01 IPOC Station P 13.28 11 Pn 00 58 23.9 -0.6
HMBC Humberstone 13.97 9 Pn 00 58 33.2 -0.8
PB08 IPOC Station P 14.22 12 Pn 00 58 36.8 -0.8
PB11 IPOC Station P 14.51 10 Pn 00 58 41.7 +0.3
GO01 Chusmiza 14.67 11 Pn 00 58 42.9 -1.0
CPUP Villa Florida 15.01 63 Pn 00 58 47.3 -0.7
CPUP Villa Florida 15.01 63 Pn **Pn 00 58 45.5 -2.5**
comp=Z,0.2nm,0.3s,baz=74,slow=14,SNR=7.1
CPUP LR LR 01 04 60.0
comp=Z,2µm,21.4s,baz=98,slow=39
comp=Z,2.1nm,1.0s
CPUP Villa Florida 15.01 63 P **Pn 00 58 47.3 -0.7**
CPUP pmax pmax
comp=Z,10.0nm,1.0s
CPUP Villa Florida 15.01 63 *eP* **Pn 00 58 47.6 -0.4**
PLTB Pedras Altas 15.78 86 Pn 00 58 56.6 -1.4
PLTB Pedras Altas 15.78 86 *eP* **Pn 00 58 57.9 -0.1**
PB16 IPOC Station P 15.94 9 Pn 00 58 59.8 -0.8
CPSB Cacapava Do Su 16.28 82 *eP* **P 00 59 08.7 +1.3**
PB18 Visviri 16.68 9 Pn 00 59 09.1 -1.0
SJPY San Joaquin 16.68 61 *eP* **P 00 59 11.2 -0.7**
GO09 Cerro Castillo 17.11 180 Pn 00 59 13.4 -1.4
GO09 IAmb IAmb 00 59 20.8
comp=Z,152nm,1.4s
MG05 Puerto Natales 17.51 181 Pn 00 59 18.0 -1.8
MURT Porto Murtinho 17.89 50 *eP* **Pn 00 59 24.8 +0.2**
LPAZ La Paz 18.16 13 P **Pn 00 59 28.2 -0.5**
LPAZ La Paz 18.16 13 P **P 00 59 29.9 +0.9**
comp=Z,2.0nm,0.3s,baz=178,slow=7.3,SNR=49
comp=Z,45nm,0.8s
LPAZ La Paz 18.16 13 *eP* **P 00 59 29.8 +0.9**
ITAB Concordia 18.56 74 P **Pn 00 59 33.2 +0.4**
ITAB Concordia 18.56 74 *eP* **Pn 00 59 34.3 +1.5**
CNLB Canela 18.76 81 *eP* **Pn 00 59 36.2 +0.8**
AMBA Amambai (Brazi 18.77 58 *eP* **Pn 00 59 36.0 +0.6**
BDQN Bodoquena, MS 19.32 49 *eP* **P 00 59 41.1 +0.2**
MG03 Isla Dawson 19.72 177 P **P 00 59 44.4 -0.7**
MG03 IAmb IAmb 00 59 49.8
comp=Z,135nm,0.9s
BBSD Serra de San D 19.83 34 *eP* **P 00 59 47.1 +0.6**
PTGB Pitanga 19.86 67 *eP* **P 00 59 47.6 +0.6**
AQDB Aquidauana 19.96 51 P **P 00 59 47.7 -0.3**
AQDB IAmb IAmb 00 59 54.3
comp=Z,76nm,0.9s
AQDB Aquidauana 19.96 51 *eP* **P 00 59 48.8 +0.8**
EFI East Falkland 20.27 154 P 00 59 50.5 -0.5
EFI IAmb IAmb 00 59 57.9
comp=Z,61nm,0.8s
EFI East Falkland 20.27 154 *ceP* **P 00 59 51.7 +0.6**
EFI pmax pmax
comp=Z,45nm,0.7s
TRCB Terra Rica 20.54 62 P **P 00 59 54.6 +0.3**
TRCB Terra Rica 20.54 62 *eP* **P 00 59 54.6 +0.3**
SIV San Ignacio 20.67 32 P **P 00 59 55.6 -0.1**
comp=Z,44nm,0.8s,baz=212,slow=8.7,SNR=89
SIV LR LR 01 09 19.9
comp=Z,9µm,18.9s,baz=226,slow=41
comp=Z,44nm,0.8s
MAJ01 Sao Joao Batis 20.99 78 *eP* **P 00 59 59.4 +0.2**
MG01 Puerto William 21.02 173 P **P 00 59 59.1 0.0**
RPRD Ribas do Rio P 21.29 55 *eP* **P 01 00 03.1 +0.7**
LDASE Londrina, Braz 21.31 65 *eP* **P 01 00 02.0 -0.6**
PTLB Pontes e Lacer 22.03 35 P 01 00 09.8 -0.5
PTLB Pontes e Lacer 22.03 35 *eP* **P 01 00 11.1 +0.8**
PCMB Pacaembu 22.27 61 *eP* **P 01 00 12.4 -0.5**
NNA Nana 22.48 348 P 01 00 15.2 0.0
NNA IAmb IAmb 01 00 28.9
comp=Z,185nm,1.9s
NNA Nana 22.48 348 P **P 01 00 16.9 +1.7**
comp=Z,6.0nm,0.3s,baz=204,slow=7.4,SNR=5.0
NNA LR LR 01 07 22.4
comp=Z,2µm,18.2s,baz=158,slow=32
comp=Z,6.0nm,0.3s
NNA Nana 22.48 348 *iP* **P 01 00 17.3 +2.2**
NNA pmax pmax
comp=Z,155nm,1.9s
FRTB Fartura 22.52 67 *eP* **P 01 00 15.1 -0.5**
C2SB Chapadao do Su 23.06 53 *eP* **P 01 00 21.1 -0.2**
SALV Santo Antonio 23.47 43 *eP* **P 01 00 25.0 -0.3**
VILB Vilhena 23.75 30 P 01 00 27.9 -0.2
VILB Vilhena 23.75 30 *eP* **P 01 00 28.3 +0.2**
PET01 Itanhaem-SP 23.80 72 *eP* **P 01 00 29.6 +1.0**
SPB Sao Paulo 24.04 71 P **P 01 00 30.2 -0.5**
SPB Sao Paulo 24.04 71 *eP* **P 01 00 30.4 -0.4**
ITRB Iturama 24.13 59 *eP* **P 01 00 31.6 -0.1**
RCLB Rio Claro- Sao 24.59 68 *eP* **P 01 00 36.0 0.0**
BB19B Bebedouro 24.61 64 *eP* **P 01 00 35.8 -0.4**
VAO Valinhos 24.71 70 P 01 00 36.6 -0.4
VAO Valinhos 24.71 70 *eP* **P 01 00 36.6 -0.4**
PARB Paraibuna 25.59 72 *eP* **P 01 00 45.1 +0.1**
ARAG Araguaiana, MT 25.96 50 *eP* **P 01 00 48.1 -0.2**
SLP01 Ubatuba-SP 25.96 73 *eP* **P 01 00 47.6 -0.8**
CZSB Cruzeiro do Su 26.30 359 P **P 01 00 51.9 +0.5**
CZSB IAmb IAmb 01 01 13.4
comp=Z,93nm,1.4s
CZSB Cruzeiro do Su 26.30 359 *eP* **P 01 00 53.5 +2.2**
PDRB Porto dos Gac 26.50 36 *eP* **P 01 00 53.5 +0.3**
IPMB Ipameri, GO 26.79 59 *eP* **P 01 00 55.6 -0.2**
ATAH Atahualpa 27.50 347 P **P 01 01 03.6 +1.0**
comp=Z,2.0nm,0.6s,baz=58,slow=7.8,SNR=4.2
ATAH LR LR 01 10 16.8
comp=Z,2µm,19.4s,baz=178,slow=33
comp=Z,2.0nm,0.6s
BSCB Bom Sucesso 27.50 69 *eP* **P 01 01 02.6 +0.3**
CLDB Colider 27.60 37 *eP* **P 01 01 03.3 +0.2**
PMNB Patos De Minas 27.71 62 *eP* **P 01 01 04.3 +0.1**
VAS01 Vassouras-RJ 27.85 72 *eP* **P 01 01 06.4 +1.0**
BDFB Brasilia 28.52 56 P 01 01 09.5 -1.9
BDFB IAmb IAmb 01 01 44.3
comp=Z,45nm,0.9s
BDFB Brasilia 28.52 56 P **P 01 01 11.2 -0.2**
comp=Z,19nm,0.8s,baz=227,slow=8.4,SNR=34
BDFB LR LR 01 13 56.0
comp=Z,5µm,18.6s,baz=229,slow=39
comp=Z,19nm,0.8s
DUB01 Friburgo-RJ 28.80 73 *eP* **P 01 01 15.2 +1.4**
SNDB Serra Nva Dou 29.15 46 *eP* **P 01 01 19.4 +2.5**
CAM01 Campos-RJ 29.50 73 *eP* **P 01 01 20.6 +0.6**
TBTG Tabatinga, AM 29.89 5 P 01 01 24.1 +0.7
TBTG Tabatinga, AM 29.89 5 *eP* **P 01 01 25.7 +2.2**
DIAM Diamantina, MG 29.92 65 *eP* **P 01 01 24.6 +0.7**
ESPZ Base Esperanza 30.76 167 P **P 01 01 30.1 -0.5**
ESPZ IAmb IAmb 01 01 43.9
comp=Z,23nm,0.7s
PMSA Palmer Station 31.05 173 LR LR 01 13 55.0
comp=Z,4µm,18.7s,baz=338,slow=36
NPGB Novo Progresso 31.14 34 *eP* **P 01 01 34.5 +0.1**
TEFE Tefe 31.29 15 *eP* **P 01 01 36.9 +1.1**
JANB Januaria 31.52 60 *eP* **P 01 01 38.0 +0.1**
SJMB Sao Joao De Ma 31.58 69 *eP* **P 01 01 38.8 +0.4**
HOPE Hope Point 32.05 140 P 01 01 41.1 -1.0
HOPE Hope Point 32.05 140 P **P 01 01 41.1 -1.0**
HOPE pmax pmax
comp=Z,59nm,0.9s
SDBA SAO DESIDERIO 32.93 55 *eP* **P 01 01 50.5 +0.2**
ITTB Itaituba 33.35 31 *eP* **P 01 01 54.1 +0.2**
SMTB Santa Maria do 33.83 48 *eP* **P 01 01 58.5 +0.4**
GUA01 Guaratinga, BA 33.89 67 *eP* **P 01 01 58.9 +0.3**
PRPB Parauapebas 34.70 42 *eP* **P 01 02 06.1 +0.5**
OTAV Otavalo 34.72 349 P P 01 02 06.7 +0.5
OTAV Otavalo 34.72 349 P **P 01 02 06.7 +0.5**
OTAV pmax pmax
comp=Z,10.0nm,0.9s
OTAV Otavalo 34.72 349 *eP* **P 01 02 08.9 +2.7**
CMC01 Camacan, BA 34.85 66 *eP* **P 01 02 07.1 +0.2**
FLOC Florencia 35.70 354 P **P 01 02 13.1 -1.1**
FLOC IAmb IAmb 01 03 33.6
comp=Z,22nm,1.1s
MAL2 Monte Alegre, 36.12 32 P P 01 02 17.6 -0.3
BOAV Boa Vista 37.98 19 P P 01 02 33.3 -0.3
BOAV Boa Vista 37.98 19 *eP* **P 01 02 34.8 +1.2**
TMAB Tom-Au,PA,Br 38.80 41 *eP* **P 01 02 41.6 +1.1**
ROSC El Rosal 38.84 357 P **P 01 02 42.9 +1.6**
comp=Z,15nm,0.5s,baz=90,slow=18,SNR=6.6
ROSC LR LR 01 19 03.9
comp=Z,2µm,18.6s,baz=194,slow=37
comp=Z,15nm,0.5s
RUSC La Rusia 39.84 359 P **P 01 02 49.6 -0.1**
NBPB Pedra_Branca-C 41.49 54 *eP* **P 01 03 03.8 +0.9**
SDV Santo Domingo 42.83 2 P **P 01 03 14.2 +0.3**
SDV IAmb IAmb 01 03 25.9
comp=Z,31nm,1.1s
SDV Santo Domingo 42.83 2 LR LR 01 22 03.1
comp=Z,724nm,18.8s,baz=192,slow=38
SDV Santo Domingo 42.83 2 *eP* **P 01 03 14.8 +0.8**
BAUV El Baul 43.04 6 P 01 03 15.8 +0.3
MDP Montagnes des 43.19 29 LR LR 01 23 06.2
comp=Z,4µm,18.9s,baz=199,slow=39
NBCL Cascavel-CE 43.33 54 *eP* **P 01 03 19.0 +1.2**
RCBR Riachuelo 43.83 58 P **P 01 03 21.6 -0.3**
RCBR Riachuelo 43.83 58 LR LR 01 22 49.3
comp=Z,1µm,19.2s,baz=224,slow=38
RCBR Riachuelo 43.83 58 P **P 01 03 21.6 -0.3**
RCBR pmax pmax
comp=Z,95nm,1.7s
PCRV Puerto La Cruz 44.67 11 LR LR 01 24 29.4
comp=Z,2µm,18.6s,slow=39
LCR2 La Lucha 2 45.08 343 P P 01 03 33.0 +1.0
BOAB BOACO BROADBAND 46.09 342 P P 01 03 55.5 +0.1
BOAB IAmb IAmb 01 04 46.4
comp=Z,30nm,1.1s
CNGN Cerro Negro 48.41 341 P P 01 03 58.7 +0.8
SIUN Universidad Ur 49.09 344 P P 01 04 03.2 +0.1
SIUN IAmb IAmb 01 04 31.8
comp=Z,6.8nm,0.9s
VNA3 Neumayer Olymp 49.26 158⇑ P **P 01 04 04.5 +0.7**
comp=Z,32nm,0.8s
VNA1 Neumayer--Stat 49.58 157⇑ P **P 01 04 07.5 +1.4**
comp=Z,35nm,1.1s
ILAM Ilet Lapin Mar 49.84 14 P 01 04 09.8 +1.0
SVN Savane Anatole 49.84 14 P P 01 04 08.8 -0.1
TGUH Tegucigalpa,Un 50.05 341 P P 01 04 10.8 +0.2
MTO3 Montecristo 50.98 338 P P 01 04 18.5 +0.9
ESQI Esquipulas 51.13 338 P P 01 04 20.2 +1.6
ESQI IAmb IAmb 01 05 47.5
comp=Z,25nm,0.8s
SNAA Sanae 51.48 158⇑ P **P 01 04 21.4 +0.7**
comp=Z,957nm,1.1s
SNAA Sanae 51.48 158 P 01 04 21.1 +0.4
SNAA Sanae 51.48 158 P **P 01 04 21.4 +0.7**
comp=Z,58nm,1.1s,baz=281,slow=5.9,SNR=96
SNAA LR LR 01 25 43.0
comp=Z,972nm,18.6s,baz=286,slow=36
comp=Z,58nm,1.1s
SNAA Sanae 51.48 158 *ceP* **P 01 04 21.9 +1.2**
SNAA pmax pmax
comp=Z,120nm,1.3s
CRPR Cabo Rojo, PR 52.10 6 P P 01 04 26.9 +1.2
SABA Saba 52.19 11 P P 01 04 26.4 0.0
CELP Cerrillos 52.21 7 P P 01 04 26.6 0.0
PDPR Patillas Dam, 52.21 7 P P 01 04 25.9 -0.7
PDPR IAmb IAmb 01 04 34.9
comp=Z,25nm,1.0s
SJG San Juan 52.29 7 P P 01 04 27.6 +0.4
SJG IAmb IAmb 01 04 29.0
comp=Z,28nm,0.9s
SJG San Juan 52.29 7 P P 01 04 27.6 +0.4
SJG pmax pmax
comp=Z,28nm,0.9s
UUPR Utuado, UPR, P 52.38 7 IAmb IAmb 01 04 29.6
comp=Z,30nm,0.8s
TROLL Troll, Antarti 53.19 158⇑ P **P 01 04 34.1 +0.7**
comp=Z,1µm,0.7s
CCIG Comitan 53.64 336 P P 01 04 38.2 +0.9
CCIG IAmb IAmb 01 05 26.3
comp=Z,22nm,1.2s
GTBY Guantanamo Bay 53.85 357 P P 01 04 38.5 -0.2
CMIG Matias Romero 55.36 333 LR LR 01 24 30.3
comp=Z,1µm,18.2s,baz=154,slow=32
QSPA South Pole Qui 56.08 180 P P 01 04 56.1 +1.6
comp=Z,50nm,0.9s,baz=156,slow=1.4,SNR=104
QSPA LR LR 01 28 42.8
comp=Z,538nm,18.6s,baz=164,slow=36
comp=Z,50nm,0.9s
TEIG Tepich 56.21 342 P P 01 04 55.9 +0.2
TLIG Tlapa 57.24 330 P P 01 05 04.3 +1.1
TLIG IAmb IAmb 01 05 11.3
comp=Z,26nm,1.5s
SOR Soroa 57.56 348 P P 01 05 05.2 0.0
SOR IAmb IAmb 01 05 07.4
comp=Z,22nm,0.8s
SOR Soroa 57.56 348 P P 01 05 05.2 0.0
SOR pmax pmax
comp=Z,22nm,0.8s
SBA Scott Base 62.90 192 P P 01 05 42.6 +1.4
SBA Scott Base 62.90 192 P P 01 05 42.6 +1.4
SBA pmax pmax
comp=Z,62nm,2.0s
ZAIG Zacatecas 63.56 329 P P 01 05 46.2 -0.4
VNDA Vanda 63.92 191 P 01 05 49.1 +1.1
VNDA IAmb IAmb 01 06 14.9
comp=Z,12nm,1.2s
VNDA Vanda 63.92 191 P P 01 05 50.0 +2.0
comp=Z,4.9nm,0.8s,baz=150,slow=5.6,SNR=19
comp=Z,4.9nm,0.8s
VNDA Vanda 63.92 191 P P 01 05 49.1 +1.1
VNDA pmax pmax
comp=Z,12nm,1.2s
656A Willston 63.94 350 P 01 05 49.1 +0.6
553A Crawfordville 65.04 348 P P 01 05 56.8 +1.1
SYO Syowa Base 65.76 158⇑ *iP* **P 01 05 59.4 -0.6**
SYO Syowa Base 65.76 158⇑ *ePP* PP 01 08 22.4 -1.9
HBVL Hebbronville 65.86 334 P 01 06 02.6 +1.5
HBVL IAmb IAmb 01 06 05.2
comp=Z,13nm,0.9s
BBSR BB Station 66.55 7 P P 01 06 06.2 +0.8
BBSR IAmb IAmb 01 06 07.5
comp=Z,18nm,1.0s
TAOE Nuku Hiva Isla 66.87 275 *eS* **S 01 14 53.6 -6.6**
comp=Z,585nm,24.2s
TAOE *eLQ* LQ 01 23 02.5
comp=Z,139nm,22.4s
TAOE *eLR* LR 01 26 13.3
comp=Z,916nm,21.4s
250A Grady 67.11 347 P P 01 06 09.1 +0.1
250A IAmb IAmb 01 06 11.2
comp=Z,16nm,0.8s
TBI Tubuai 67.17 257 *eP* P 01 06 00.5 -9.3
comp=Z,342nm,27.5s
TBI *eS* **S 01 15 00.0 -3.5**
comp=Z,2µm,25.0s
TBI *eSS* **SS 01 19 20.2 -2.4**
comp=Z,770nm,28.8s
TBI *eLQ* LQ 01 22 48.3
comp=Z,2µm,41.2s
TBI *eLR* LR 01 26 17.8
comp=Z,2µm,28.2s
TBI *eLR* LR 01 26 25.7
comp=Z,9µm,27.0s
CSU Charleston Sou 67.20 353 P P 01 06 10.3 +0.8
346A Big Creek Wild 67.20 344 P P 01 06 11.0 +1.4
154A Montrose 67.21 350 P P 01 06 10.3 +0.7
833A Chaparral WMA, 67.27 334 P P 01 06 10.3 +0.2
833A IAmb IAmb 01 06 13.0
comp=Z,21nm,0.9s
NHSC New Hope 67.33 353 P P 01 06 11.0 +0.6
152A Waverly Hall 67.51 349 P P 01 06 11.7 +0.1
152A IAmb IAmb 01 06 12.8
comp=Z,11nm,0.8s
EF04 Eagle Ford 04 67.52 336 P P 01 06 12.4 +0.7
HKT Hockley 67.56 338 P P 01 06 12.9 +1.1
HKT Hockley 67.56 338 *eP* **P 01 06 13.2 +1.4**
HKT pmax pmax
comp=Z,25nm,2.0s
MLDN Muldoon 67.81 337 P P 01 06 14.9 +1.5
Y60A Bolivia 68.04 355 P P 01 06 15.3 +0.5
GOGA Godfrey 68.04 350 P P 01 06 15.2 +0.3
GOGA IAmb IAmb 01 06 16.3
comp=Z,11nm,0.8s
GOGA Godfrey 68.04 350 P P 01 06 15.2 +0.3
GOGA pmax pmax
comp=Z,11nm,0.8s
Y58A Scranton 68.07 353 P P 01 06 15.5 +0.5
HNVL Huntsville, TX 68.20 338 P P 01 06 17.3 +1.3
HNVL IAmb IAmb 01 06 19.9
comp=Z,16nm,0.7s
VBMS Vicksburg 68.24 343 P P 01 06 17.4 +1.3
Y57A Sumter 68.25 353 P P 01 06 16.5 +0.3
146A Union 68.31 345 P P 01 06 17.4 +0.8
HNDO Hondo 68.33 335 P P 01 06 17.9 +1.1
HNDO IAmb IAmb 01 06 19.6

comp=Z,19nm,0.9s
LPIG La Paz 68.34 323 LR LR 01 29 18.1
comp=Z,280nm,20.6s,baz=142,slow=30
HPIG 68.55 328 P **P** **01 06 19.4 +0.9**
HPIG IAmb IAmb 01 06 31.7
comp=Z,30nm,1.5s
Y52A Lilburn 68.58 349 P **P** **01 06 18.5 +0.3**
JSC Jenkinsville 68.61 352 P **P** **01 06 19.0 +0.6**
JSC IAmb IAmb 01 06 20.0
comp=Z,9.9nm,0.8s
JSC Jenkinsville 68.61 352 P **P** **01 06 19.0 +0.6**
JSC pmax pmax
comp=Z,10.0nm,0.8s
Z47A Carrollton 68.64 346 P **P** **01 06 19.3 +0.7**
HODGE Hodges 68.68 351 P **P** **01 06 19.5 +0.6**
HODGE IAmb IAmb 01 06 28.6
comp=Z,20nm,1.2s
DRIO Del Rio 68.72 334 **P** **01 06 20.0 +0.8**
BIRD Birdtown, Kers 68.88 353 P **P** **01 06 20.9 +0.8**
BIRD IAmb IAmb 01 06 29.1
comp=Z,12nm,1.1s
435B Jarrell 68.90 337 P **P** **01 06 21.2 +0.9**
435B IAmb IAmb 01 06 40.6
comp=Z,18nm,1.0s
NATX Nacogdoches 68.90 340 P **P** **01 06 20.9 +0.6**
143A Socs Landing, 68.92 343 P **P** **01 06 21.9 +1.6**
Y49A Blount Mountai 68.96 347 P **P** **01 06 21.2 +0.5**
Y49A IAmb IAmb 01 06 46.9
comp=Z,12nm,1.0s
PAULI Pauline 69.21 352 P **P** **01 06 22.4 +0.3**
PAULI IAmb IAmb 01 06 23.9
comp=Z,15nm,0.8s
W57A Gilead 69.34 353 P **P** **01 06 23.4 +0.5**
W57A IAmb IAmb 01 06 32.6
comp=Z,16nm,0.9s
JCT Junction City 69.38 335 P **P** **01 06 24.6 +1.2**
JCT IAmb IAmb 01 06 37.3
comp=Z,20nm,1.1s
JCT Junction City 69.38 335 P **P** **01 06 24.6 +1.2**
JCT pmax pmax
comp=Z,20nm,1.1s
X51A Calhoun 69.39 349 P **P** **01 06 24.0 +0.7**
237A Washetta, Mont 69.47 339 P **P** **01 06 24.3 +0.5**
KMSC Kings Mountain 69.47 352 P **P** **01 06 23.8 0.0**
KMSC IAmb IAmb 01 06 25.8
comp=Z,13nm,0.8s
FPAL Fort Paine 69.49 348 P **P** **01 06 24.6 +0.7**
FPAL IAmb IAmb 01 06 33.7
comp=Z,26nm,1.8s
BG3 Lake Jocassee 69.52 351 P **P** **01 06 24.5 +0.4**
BG3 IAmb IAmb 01 06 34.1
comp=Z,19nm,0.9s
Y45A Yeager Farm, C 69.60 345 P **P** **01 06 25.9 +1.3**
X48A Hartselle 69.66 347 P **P** **01 06 25.5 +0.6**
V61A Roper 69.71 356 P **P** **01 06 24.7 -0.5**
SAND Sanderson 69.76 333 **P** **01 06 26.3 +0.6**
SAND IAmb IAmb 01 06 28.4
comp=Z,11nm,0.8s
W52A Murphy 69.76 350 P **P** **01 06 26.4 +0.8**
W52A IAmb IAmb 01 06 35.6
comp=Z,24nm,1.1s
Z41A Richland Creek 69.80 342 P **P** **01 06 26.6 +0.8**
TXAR Lajitas Array 69.81 331 **P** **01 06 27.1 +1.0**
TXAR Lajitas Array 69.81 331 P **P** **01 06 27.4 +1.2**
comp=Z,4.2nm,0.8s,baz=150,slow=8.7,SNR=46
TXAR LR LR 01 32 46.1
comp=Z,1μm,18.5s,baz=137,slow=32
TXAR PKPPKP P'P'df 01 34 35.8 +10
comp=Z,0.7nm,1.0s,baz=262,slow=2.5,SNR=4.5
comp=Z,4.2nm,0.8s
TX31 Lajitas Ar. Si 69.81 331 P **P** **01 06 26.9 +0.8**
TX31 IAmb IAmb 01 06 40.9
comp=Z,15nm,1.4s
BRDY Brady 69.83 336 **P** **01 06 26.8 +0.7**
BRDY IAmb IAmb 01 06 29.0
comp=Z,9.6nm,0.8s
V58A Windy Hill, Pi 69.89 354 P **P** **01 06 26.1 -0.2**
V58A IAmb IAmb 01 06 28.2
comp=Z,14nm,0.7s
WHTX Lake Whitney, 69.97 337 **P** **01 06 27.6 +0.8**
WHTX IAmb IAmb 01 06 29.6
comp=Z,16nm,0.7s
W50A Signal Mountai 70.08 349 P **P** **01 06 28.0 +0.4**
PPT2 Papeete2 70.09 262 *e*PKIKP P 01 06 21.6 -6.6
comp=Z,152nm,27.5s
PPT2 *e*S **S** **01 15 34.6 -4.0**
comp=Z,707nm,23.5s
PPT2 *e*SS **SS** **01 20 05.9 -2.3**
comp=Z,130nm,25.0s
PPT2 *e*LQ LQ 01 23 51.5
comp=Z,2μm,32.0s
PPT2 *e*LR LR 01 27 38.1
comp=Z,2μm,27.8s
PPT2 *e*LR LR 01 27 43.9
comp=Z,1μm,29.8s
PPT Papeete 70.11 262 LR LR 01 29 44.1
comp=Z,703nm,18.5s,baz=158,slow=30
V55A Taylorsville 70.16 352 P **P** **01 06 27.9 -0.1**
V55A IAmb IAmb 01 06 30.1
comp=Z,18nm,0.7s
CCAR Cane Creek 70.17 343 P **P** **01 06 28.9 +0.9**
V53A Saluda 70.17 351 P **P** **01 06 27.9 -0.2**
V53A IAmb IAmb 01 06 37.9
comp=Z,18nm,0.9s
OXF Oxford 70.19 345 **P** **01 06 28.6 +0.4**
OXF Oxford 70.19 345 P **P** **01 06 28.6 +0.4**
OXF pmax pmax
comp=Z,47nm,0.9s
CPCT Cooper Cave 70.20 349 P **P** **01 06 28.6 +0.3**
CPCT IAmb IAmb 01 06 30.4
comp=Z,17nm,0.7s
SWET Sewanee 70.20 348 P **P** **01 06 28.8 +0.5**
OZNA Ozona 70.25 334 **P** **01 06 29.1 +0.3**
OZNA IAmb IAmb 01 06 31.7
comp=Z,10nm,0.7s
WLAR White Oak Lake 70.29 342 **P** **01 06 30.4 +1.6**
TKL Tuckaleechee C 70.30 350 P **P** **01 06 29.0 +0.2**
TKL IAmb IAmb 01 06 30.6
comp=Z,12nm,0.7s
TKL Tuckaleechee C 70.30 350 P **P** **01 06 29.0 +0.2**
TKL pmax pmax
comp=Z,12nm,0.7s
PLAL Pickwick Lake 70.37 346 P **P** **01 06 29.3 0.0**
Z38A Mt. Pleasant 70.40 340 P **P** **01 06 30.6 +1.1**
Z38A IAmb IAmb 01 06 58.5
comp=Z,13nm,0.7s
U56A King 70.56 353 P **P** **01 06 30.2 -0.3**
ALPN Alpine 70.72 331 P **P** **01 06 32.5 +0.8**
U54A Nelsons Funny 70.89 352 P **P** **01 06 33.0 +0.5**
T59A Double "B" Far 70.94 355 **P** **01 06 33.7 +1.0**
X40A Basin Creek Fa 70.98 342 P **P** **01 06 33.4 +0.4**
PLPT Palo Pinto 71.00 337 P **P** **01 06 33.2 0.0**
PLPT IAmb IAmb 01 07 25.6
comp=Z,11nm,0.9s
T57A Hurt 71.10 354 P **P** **01 06 32.7 -0.9**
T57A IAmb IAmb 01 06 43.5
comp=Z,15nm,1.1s
CLTN Cedars of Leba 71.12 348 P **P** **01 06 34.3 +0.5**
CLTN IAmb IAmb 01 06 35.7
comp=Z,16nm,0.9s
UALR University of 71.13 343 P **P** **01 06 34.9 +1.0**
UALR IAmb IAmb 01 07 24.5
comp=Z,11nm,1.0s
TZTN Tazewell 71.13 350 P **P** **01 06 33.9 0.0**
TZTN IAmb IAmb 01 06 44.3
comp=Z,23nm,1.2s
Z35A Perchaven, San 71.14 338 P **P** **01 06 34.7 +0.6**
SGCY Sterling City 71.15 334 P **P** **01 06 35.3 +1.1**
SGCY IAmb IAmb 01 06 37.3
comp=Z,8.9nm,0.6s
MIAR Mount Ida 71.22 341 **P** **01 06 34.7 +0.2**
MIAR Mount Ida 71.22 341 P **P** **01 06 34.7 +0.2**
MIAR pmax pmax
comp=Z,8.0nm,1.0s
MNHN Monahans 71.24 333 P **P** **01 06 35.5 +0.8**
MNHN IAmb IAmb 01 06 57.4
comp=Z,9.9nm,0.7s
ABTX Abilene, Hawle 71.27 336 P **P** **01 06 35.0 +0.1**
ABTX IAmb IAmb 01 06 37.0
comp=Z,18nm,1.0s
MBO M'Bour 71.32 57 P **P** **01 06 36.8 +1.3**
BLA Blacksburg 71.42 353 P **P** **01 06 36.4 +0.7**
BLA IAmb IAmb 01 06 47.4
comp=Z,13nm,1.0s
BLA Blacksburg 71.42 353 P **P** **01 06 36.4 +0.7**
BLA pmax pmax
comp=Z,13nm,1.0s
WVT Waverly 71.44 347 P **P** **01 06 35.8 +0.1**
WVT Waverly 71.44 347 P **P** **01 06 35.8 +0.1**
WVT pmax pmax
comp=Z,78nm,0.8s
U49A Red Boiling Sp 71.44 348 P **P** **01 06 36.2 +0.5**
U49A IAmb IAmb 01 06 37.3
comp=Z,8.9nm,0.7s
WHAR Wooly Hollow 71.60 343 **P** **01 06 37.3 +0.6**
WHAR IAmb IAmb 01 06 49.4
comp=Z,21nm,1.2s
VHRN Van Horn 71.63 331 **P** **01 06 37.4 +0.2**
PECS Pecos 71.69 332 P **P** **01 06 38.1 +0.6**
T50A Nancy 71.79 349 P **P** **01 06 38.0 +0.2**
T50A IAmb IAmb 01 06 47.2
comp=Z,51nm,1.9s
BBTS Babate 71.80 57 LR LR 01 37 19.9
comp=Z,2μm,19.6s,baz=230,slow=35
S57A Dark Hollow, R 71.83 354 P **P** **01 06 38.0 -0.1**
S57A IAmb IAmb 01 06 48.2
comp=Z,19nm,0.9s
PEBM Pemiscott Bayo 71.83 345 P **P** **01 06 39.1 +1.1**
ODSA Odessa 71.86 333 P **P** **01 06 39.2 +0.8**
WTFS Witchita Falls 71.93 337 P **P** **01 06 39.3 +0.5**
WTFS IAmb IAmb 01 07 09.3
comp=Z,12nm,0.9s
R58B Mineral 71.95 355 P **P** **01 06 39.9 +1.1**
R58B IAmb IAmb 01 06 49.5
comp=Z,37nm,1.3s
SRIG Santa Rosalia 71.97 323 P **P** **01 06 39.6 +0.4**
SRIG IAmb IAmb 01 07 19.8
comp=Z,10nm,0.5s
APMT Aspermont 72.08 336 **P** **01 06 40.4 +0.7**
APMT IAmb IAmb 01 06 41.9
comp=Z,22nm,1.2s
LCAR Lake Charles 72.08 344 IAmb IAmb 01 06 41.6
comp=Z,21nm,0.7s
HICK Hickman 72.11 346 P **P** **01 06 40.7 +0.9**
SN07 Snyder 07 72.13 335 P **P** **01 06 39.6 -0.5**
FCAR Ozark Folk Cen 72.13 343 P **P** **01 06 40.2 +0.3**
FCAR IAmb IAmb 01 06 41.9
comp=Z,9.2nm,0.7s
T47A Sharon Grove 72.14 347 P **P** **01 06 40.5 +0.6**
T47A IAmb IAmb 01 06 41.4
comp=Z,26nm,1.0s
S51A Beattyville 72.22 351 P **P** **01 06 40.6 +0.2**
POST Post 72.32 334 P **P** **01 06 42.3 +1.1**
POST IAmb IAmb 01 06 44.1
comp=Z,12nm,0.8s
PARMO Parma 72.34 345 P **P** **01 06 41.6 +0.5**
R55A Marlinton 72.45 353 IAmb IAmb 01 06 52.2
comp=Z,23nm,1.0s
MNTX Cornudas Mount 72.59 331 **P** **01 06 42.7 -0.1**
PBMO Poplar Bluff 72.59 345 IAmb IAmb 01 07 09.2
comp=Z,13nm,0.7s
CLN7 Carlsbad 7 72.60 332 P **P** **01 06 43.2 +0.3**
DKNS Dickens 72.66 335 P **P** **01 06 44.1 +0.8**
DKNS IAmb IAmb 01 06 45.8
comp=Z,12nm,0.7s
HSIG 72.75 325 P **P** **01 06 45.7 +1.9**
HSIG IAmb IAmb 01 07 14.6
comp=Z,18nm,1.3s
WMOK Wichita Mounta 72.92 337 P **P** **01 06 44.3 -0.4**
WMOK IAmb IAmb 01 06 55.7
comp=Z,23nm,1.7s
WMOK Wichita Mounta 72.92 337 P **P** **01 06 44.3 -0.4**
WMOK pmax pmax
comp=Z,23nm,1.7s
CGM3 Cape Girardeau 72.93 345 P **P** **01 06 45.1 +0.5**
CGM3 IAmb IAmb 01 06 54.4
comp=Z,51nm,1.8s
R50A Paris 72.95 350 P **P** **01 06 44.8 +0.1**
R50A IAmb IAmb 01 06 46.9
comp=Z,11nm,0.7s
HHAR Hobbs 72.96 342 **P** **01 06 45.0 +0.1**
MAW Mawson 73.06 164 P **P** **01 06 45.6 +0.4**
comp=Z,23nm,0.8s,baz=206,slow=7.1,SNR=40
MAW LR LR 01 41 34.4
comp=Z,2μm,18.1s,baz=228,slow=38
comp=Z,23nm,0.8s
R49A Shelbyville 73.09 349 P **P** **01 06 45.5 -0.1**
R49A IAmb IAmb 01 06 46.8
comp=Z,16nm,1.0s
TUL3 Leonard 73.11 340 **P** **01 06 45.7 0.0**
TUL3 IAmb IAmb 01 06 47.3
comp=Z,21nm,1.2s
EPT El Paso 73.11 330 P **P** **01 06 46.7 +0.7**
EPT IAmb IAmb 01 07 17.8
comp=Z,10nm,0.7s
Q56A Snyder Ridge, 73.12 354 P **P** **01 06 46.6 +0.8**
Q56A IAmb IAmb 01 07 11.4
comp=Z,13nm,1.1s
OKCSW OKLAHOMA CITY 73.12 339 P **P** **01 06 45.5 -0.4**
CPRX Cap Rock 73.17 333 P **P** **01 06 46.8 +0.4**
USIN University of 73.19 347 P **P** **01 06 46.5 +0.4**
WCI Wyandotte Cave 73.20 348 P **P** **01 06 46.8 +0.5**
WCI Wyandotte Cave 73.20 348 P **P** **01 06 46.8 +0.5**
WCI pmax pmax
comp=Z,11nm,1.0s
Q54A Coxs Mills 73.22 353 P **P** **01 06 46.4 +0.1**
U38A Gravette 73.23 341 P **P** **01 06 47.0 +0.6**
U38A IAmb IAmb 01 06 56.6
comp=Z,33nm,2.0s
S44A Carbondale 73.23 346 P **P** **01 06 46.8 +0.4**
S44A IAmb IAmb 01 06 48.6
comp=Z,16nm,0.7s
SIUC Southern Illin 73.24 346 IAmb IAmb 01 06 48.4
comp=Z,17nm,0.8s
DEOK Depew 73.25 340 **P** **01 06 47.6 +1.0**
DEOK IAmb IAmb 01 06 48.3
comp=Z,17nm,0.9s
SDMD Soldier's Deli 73.33 356 P **P** **01 06 47.4 +0.4**
Q52A Bidwell 73.35 352 P **P** **01 06 47.0 0.0**
Q52A IAmb IAmb 01 06 48.6
comp=Z,20nm,0.9s
MGMO Mountain Grove 73.37 343 **P** **01 06 47.6 +0.3**
P57A Homestead Farm 73.47 355 P **P** **01 06 48.8 +1.0**
P57A IAmb IAmb 01 06 58.5
comp=Z,19nm,1.0s
OK052 Battle Ridge R 73.48 339 IAmb IAmb 01 07 12.3
comp=Z,22nm,1.0s
OK029 Liberty Lake 73.49 339 P **P** **01 06 48.4 +0.4**
OK029 IAmb IAmb 01 07 02.7
comp=Z,25nm,1.2s
Q51A Peebles 73.55 351 IAmb IAmb 01 06 50.2
comp=Z,22nm,0.8s
MSTX Muleshoe 73.60 334 **P** **01 06 49.6 +0.8**
MSTX IAmb IAmb 01 07 30.6
comp=Z,15nm,0.9s
QUOK Quay 73.62 340 **P** **01 06 49.2 +0.4**
QUOK IAmb IAmb 01 06 50.6
comp=Z,19nm,1.0s
SMWD Samnorwood 73.74 336 **P** **01 06 50.4 +0.9**
SMWD IAmb IAmb 01 06 52.0
comp=Z,14nm,0.7s
P53A Whipple 73.77 353 P **P** **01 06 50.4 +0.9**
P53A IAmb IAmb 01 07 23.5
comp=Z,29nm,1.5s
MCWV Mont Chateau 73.79 354 IAmb IAmb 01 06 59.6
comp=Z,11nm,0.8s
WUPA West Chester U 73.79 357 P **P** **01 06 50.8 +1.2**
MVL Millersville 73.89 357 P **P** **01 06 51.2 +1.0**
MVL IAmb IAmb 01 07 00.9
comp=Z,26nm,1.3s
P51A Williamsport 73.96 351 IAmb IAmb 01 07 00.1
comp=Z,30nm,1.0s
319A Douglas 73.97 328 **P** **01 06 52.3 +1.2**
P52A Corning 74.00 352 IAmb IAmb 01 07 00.4
comp=Z,24nm,0.9s
CCM Cathedral Cave 74.00 344 P **P** **01 06 51.7 +0.8**
CCM Cathedral Cave 74.00 344 P **P** **01 06 51.7 +0.8**
CCM pmax pmax
comp=Z,24nm,0.8s
OLIL Olney 74.01 347 P **P** **01 06 50.6 -0.3**
OLIL IAmb IAmb 01 07 01.0
comp=Z,16nm,1.0s
AMTX Amarillo 74.03 335 IAmb IAmb 01 06 53.6
comp=Z,11nm,0.8s
BLO Bloomington 74.16 348 **P** **01 06 51.8 0.0**
BLO IAmb IAmb 01 06 52.9
comp=Z,12nm,0.6s
BLO Bloomington 74.16 348 P **P** **01 06 51.8 0.0**
BLO pmax pmax
comp=Z,12nm,0.6s
T35A Sooner Cattle 74.26 340 **P** **01 06 53.0 +0.6**
T35A IAmb IAmb 01 06 54.5
comp=Z,15nm,0.9s
P48A Milroy 74.27 349 P **P** **01 06 52.3 -0.2**
CROK Carrier 74.31 339 P **P** **01 06 53.5 +0.7**
CROK IAmb IAmb 01 06 55.3
comp=Z,17nm,0.8s
121A Cookes Peak, D 74.31 329 P **P** **01 06 54.2 +1.1**
121A IAmb IAmb 01 06 56.9
comp=Z,11nm,0.8s
BLOK Blackwell 74.31 339 P **P** **01 06 54.0 +1.1**
BLOK IAmb IAmb 01 06 54.8
comp=Z,20nm,1.1s
Q44A Meyer Farm, Va 74.35 346 P **P** **01 06 52.9 0.0**
Q44A IAmb IAmb 01 07 02.3
comp=Z,20nm,1.0s
O54A Avella 74.36 353 P **P** **01 06 51.8 -1.2**
O52A Adamsville 74.44 352 P **P** **01 06 53.4 -0.1**
O52A IAmb IAmb 01 06 55.6
comp=Z,14nm,0.8s
R40A Maddies Statio 74.46 344 P **P** **01 06 54.2 +0.6**
R40A IAmb IAmb 01 06 56.0
comp=Z,16nm,0.7s
O53A New Philadelph 74.51 353 P **P** **01 06 53.8 0.0**
O53A IAmb IAmb 01 07 03.5
comp=Z,20nm,1.2s
OK038 West end E0370 74.51 338 P **P** **01 06 54.4 +0.4**
OK038 IAmb IAmb 01 06 56.4
comp=Z,20nm,0.7s
SSPA Standing Stone 74.61 355 P **P** **01 06 55.3 +0.8**
P46A Rosedale 74.71 348 P **P** **01 06 55.3 +0.3**
P46A IAmb IAmb 01 06 57.2
comp=Z,24nm,1.0s
NOKA Waynoka 74.72 338 P **P** **01 06 55.9 +0.7**
NOKA IAmb IAmb 01 07 27.9
comp=Z,13nm,0.8s
N58A Sunbury 74.75 356 P **P** **01 06 56.2 +1.1**
O49A Covington 74.82 350 IAmb IAmb 01 06 57.4
comp=Z,21nm,0.7s
SUR Sutherland 74.86 119 P **P** **01 06 58.2 +1.6**
DUN6 Lazy B Ranch 74.89 328 P **P** **01 06 56.4 0.0**
O48B Farmland 75.01 350 P **P** **01 06 56.6 -0.2**
O48B IAmb IAmb 01 06 58.4
comp=Z,18nm,0.8s
P43A Skaggs, Pawnee 75.16 346 P **P** **01 06 58.0 +0.4**
Y22A Socorro 75.19 331 P **P** **01 06 58.2 +0.1**
M57A Sunshine Farm, 75.26 356 **P** **01 06 58.4 +0.2**
M57A IAmb IAmb 01 07 08.6
comp=Z,24nm,1.2s
N51A Ashland 75.30 352 P **P** **01 06 58.8 +0.4**
DBIC Dimbokro 75.34 71 P **P** **01 06 59.3 0.0**
DBIC Dimbokro 75.34 71 P **P** **01 06 59.0 -0.3**
comp=Z,12nm,0.7s,baz=258,slow=7.6,SNR=7.1
DBIC LR LR 01 38 38.7
comp=Z,1μm,18.8s,baz=248,slow=35
comp=Z,12nm,0.7s
DBIC Dimbokro 75.34 71 P **P** **01 06 59.3 0.0**
DBIC pmax pmax
comp=Z,68nm,1.5s
KSPA Keystone Colle 75.42 357 P **P** **01 07 00.3 +1.2**
SFIN Lafayette 75.44 348 IAmb IAmb 01 07 07.9
comp=Z,12nm,1.0s
TUC Tucson 75.44 327 P **P** **01 07 00.1 +0.6**
TUC IAmb IAmb 01 07 18.7
comp=Z,26nm,1.9s
TUC Tucson 75.44 327 P **P** **01 07 00.1 +0.6**
TUC pmax pmax
comp=Z,26nm,2.0s
KSCT Kent School, K 75.52 359 P **P** **01 07 01.3 +1.7**
UCCT U. Connecticut 75.58 360 P **P** **01 06 59.6 -0.4**
L64A Middleborough 75.73 1 P **P** **01 07 02.2 +1.4**
L64A IAmb IAmb 01 07 03.5
comp=Z,14nm,0.9s
RTBA Rita Blanca 75.80 335 P **P** **01 07 02.5 +0.9**
M50A Fremont 75.85 352 P **P** **01 07 01.6 0.0**
M50A IAmb IAmb 01 07 11.0
comp=Z,22nm,0.9s
ANMO Albuquerque 75.86 332 P **P** **01 07 02.1 +0.1**
ANMO Albuquerque 75.86 332 LR LR 01 36 05.3
comp=Z,2μm,19.3s,baz=249,slow=32
ANMO Albuquerque 75.86 332 *ce*P **P** **01 07 03.6 +1.6**
ANMO pmax pmax
comp=Z,6.0nm,0.8s
L59A Walton 76.02 358 P **P** **01 07 03.1 +0.6**
L59A IAmb IAmb 01 07 05.0
comp=Z,16nm,0.9s
P38A Dawn 76.03 343 IAmb IAmb 01 07 04.4
comp=Z,14nm,0.7s
PIX Pinacate 76.06 325 P **P** **01 07 04.1 +1.1**
PIX IAmb IAmb 01 09 40.1
comp=Z,13nm,0.9s
BINY Binghamton 76.07 357 P **P** **01 07 03.0 +0.2**
BINY IAmb IAmb 01 07 13.0
comp=Z,16nm,1.1s
214A Organ Pipe Nat 76.08 325 **P** **01 07 03.9 +0.8**
L56A Greenwood 76.08 356 P **P** **01 07 03.3 +0.4**
WES Weston 76.18 1 P **P** **01 07 04.2 +0.8**
WES IAmb IAmb 01 09 34.1
comp=Z,41nm,1.8s
WES Weston 76.18 1 P **P** **01 07 04.2 +0.8**
WES pmax pmax
comp=Z,41nm,1.8s
L61B Northampton 76.24 360 **P** **01 07 05.0 +1.2**
L61B IAmb IAmb 01 07 06.2
comp=Z,18nm,0.9s
ERPA Erie 76.24 354 P **P** **01 07 03.5 -0.3**
HRV Adam Dziewonsk 76.30 0 P **P** **01 07 04.6 +0.5**
HRV IAmb IAmb 01 07 14.9
comp=Z,25nm,1.1s
HRV Adam Dziewonsk 76.30 0 P **P** **01 07 04.6 +0.5**
HRV pmax pmax
comp=Z,25nm,1.2s
R32A Long Quarter, 76.30 339 P **P** **01 07 04.5 +0.3**
R32A IAmb IAmb 01 07 06.9
comp=Z,17nm,0.7s
SFX San Felipe 76.31 323 **P** **01 07 04.9 +0.5**
SFX IAmb IAmb 01 07 08.1
comp=Z,13nm,0.8s
KSU1 Kansas State U 76.32 341 P **P** **01 07 05.2 +0.9**
WVNY West Valley, N 76.42 355 P **P** **01 07 04.5 -0.3**
K62A Royalston 76.45 360 P **P** **01 07 05.7 +0.8**
K62A IAmb IAmb 01 07 15.9
comp=Z,18nm,1.1s
N41A Harden Midland 76.46 346 P **P** **01 07 05.6 +0.6**
RAR Rarotonga 76.49 253 LR LR 01 33 14.2
comp=Z,573nm,19.4s,baz=146,slow=30
TRY Troy 76.53 359 IAmb IAmb 01 07 16.2
comp=Z,23nm,1.0s
K57A Scipio Center 76.62 357 P **P** **01 07 07.0 +1.1**
K57A IAmb IAmb 01 07 15.7
comp=Z,12nm,0.9s
MMNY Mt. Morris Dam 76.70 356 P **P** **01 07 07.3 +0.9**
MMNY IAmb IAmb 01 07 17.0
comp=Z,23nm,1.0s
L46A Eue Claire 76.90 349 P **P** **01 07 07.1 -0.4**
L46A IAmb IAmb 01 07 08.7
comp=Z,15nm,0.7s
X18A Snowflake 76.95 329 P **P** **01 07 09.7 +1.5**
CBKS Cedar Bluff 76.97 338 P **P** **01 07 09.4 +1.4**
CBKS IAmb IAmb 01 07 57.0
comp=Z,19nm,0.9s
CBKS Cedar Bluff 76.97 338 P **P** **01 07 09.4 +1.4**
CBKS pmax pmax
comp=Z,19nm,0.9s
T25A Trinidad 77.02 334 P **P** **01 07 09.6 +1.0**
T25A IAmb IAmb 01 07 11.7
comp=Z,22nm,1.0s
J61A Chester 77.13 360 IAmb IAmb 01 07 20.4
comp=Z,27nm,1.4s
ACCN Adirondack Com 77.18 359 P **P** **01 07 10.0 +1.0**
ACCN IAmb IAmb 01 07 19.7
comp=Z,32nm,1.4s
113A Mohawk Valley, 77.20 325 P **P** **01 07 09.2 -0.2**
113A IAmb IAmb 01 07 18.3
comp=Z,23nm,2.0s
J55A Hilton 77.22 356 P **P** **01 07 10.1 +0.8**
J55A IAmb IAmb 01 07 27.1
comp=Z,13nm,1.0s
J57A Williamstown 77.28 357 IAmb IAmb 01 07 19.6
comp=Z,18nm,1.0s
J59A Piesco 77.28 358 P **P** **01 07 10.8 +1.2**
W18A Petrified Fore 77.36 329 IAmb IAmb 01 07 23.0
comp=Z,28nm,1.4s
X16A Lo Mia Camp, P 77.50 328 **P** **01 07 12.5 +1.2**
ESJX Sierra Juarez 77.64 323 P **P** **01 07 12.8 +0.7**

ESJX IAmb IAmb 01 08 17.3
comp=Z,22nm,1.4s
I62A Tamworth 77.66 1 P P 01 07 13.3 +1.6
I62A IAmb IAmb 01 07 22.7
comp=Z,17nm,1.1s
N35A Tabor 77.72 342 P P **01 07 12.2 +0.1**
Y14A Wickenburg 77.81 326 P P **01 07 13.2 +0.3**
L40A Anamosa 77.84 346 IAmb IAmb 01 07 14.5
comp=Z,21nm,0.8s
PECO Prince Edward 77.84 356 P P **01 07 13.1 +0.4**
PECO IAmb IAmb 01 07 14.6
comp=Z,12nm,0.9s
I63A Otisfield 77.85 1 P P **01 07 14.2 +1.4**
I63A IAmb IAmb 01 07 24.1
comp=Z,28nm,1.0s
J47A Sunmer 77.89 351 P P **01 07 13.5 +0.5**
K43A Burlington 77.91 348 P P **01 07 13.4 +0.3**
K43A IAmb IAmb 01 07 59.0
comp=Z,22nm,1.0s
GLA Glamis 77.94 324 P P **01 07 14.5 +0.9**
GLA Glamis 77.94 324 P P **01 07 14.5 +0.9**
GLA pmax pmax
comp=Z,14nm,1.4s
SDCO Great Sand Dun 77.96 334 P 01 07 14.7 +0.8
LBNH Lisbon 78.03 0 P P **01 07 14.6 +0.8**
LBNH IAmb IAmb 01 07 17.9
comp=Z,18nm,0.9s
LBNH Lisbon 78.03 0 P P **01 07 14.6 +0.8**
LBNH pmax pmax
comp=Z,18nm,0.9s
KSCO Kaye Shedlock' 78.08 336 P P **01 07 15.9 +1.6**
KSCO IAmb IAmb 01 07 37.3
comp=Z,12nm,0.8s
VT1 Waterbury 78.12 360 P P **01 07 14.0 -0.3**
GRHM Grahamstown, E 78.36 122 P P **01 07 16.6 +0.4**
H62A Milan 78.37 1 P 01 07 16.4 +0.8
H62A IAmb IAmb 01 07 28.4
comp=Z,21nm,1.5s
WVL Waterville 78.38 2 P P **01 07 17.0 +1.3**
WVL IAmb IAmb 01 07 26.7
comp=Z,27nm,1.1s
ACRG Accra 78.42 75 P P **01 07 16.2 -0.5**
LONY Lake Ozonia 78.44 358 P 01 07 16.2 +0.2
LONY IAmb IAmb 01 07 26.3
comp=Z,17nm,1.1s
S22A 4UR Ranch, Cre 78.46 333 P 01 07 17.6 +0.9
S22A IAmb IAmb 01 07 39.2
comp=Z,19nm,1.6s
DELO Deloro Mine 78.46 356 P P **01 07 15.9 -0.2**
JFWS Jewell Farm 78.46 347 P P **01 07 16.6 +0.4**
JFWS IAmb IAmb 01 07 17.9
comp=Z,24nm,1.1s
JFWS Jewell Farm 78.46 347 P P **01 07 16.6 +0.4**
JFWS pmax pmax
comp=Z,25nm,1.1s
EMMW East Machias 78.61 3 P P **01 07 18.0 +1.1**
EMMW IAmb IAmb 01 07 20.4
comp=Z,20nm,0.7s
MVCO Mesa Verde 78.64 331 P 01 07 18.4 +0.7
BC3 Big Chuckawall 78.74 324 P 01 07 19.4 +1.3
SADO Sadowa 78.81 355 P P **01 07 18.4 +0.4**
SADO Sadowa 78.81 355 LR LR 01 43 54.5
comp=Z,269nm,20.0s,baz=168,slow=37
HAL Halifax 78.81 6 P P **01 07 19.5 +1.5**
HAL IAmb IAmb 01 07 21.1
comp=Z,16nm,0.9s
HAL Halifax 78.81 6 P P **01 07 19.5 +1.5**
HAL pmax pmax
comp=Z,16nm,0.9s
WBO Williamsburg 78.84 358 P P **01 07 19.0 +0.9**
WBO IAmb IAmb 01 07 28.4
comp=Z,26nm,1.0s
Q24A Divide 78.91 334 P P **01 07 20.1 +0.9**
Q24A IAmb IAmb 01 08 34.7
comp=Z,11nm,0.8s
L34A Svendsen Farm, 78.94 342 P 01 07 19.4 +0.5
L34A IAmb IAmb 01 07 21.0
comp=Z,18nm,0.6s
IRM Iron Mountain 79.00 325 P 01 07 20.8 +1.4
G62A West of Eustis 79.02 1 P 01 07 20.8 +1.6
GGN Saint George 79.05 4 P P **01 07 20.2 +0.9**
GGN IAmb IAmb 01 07 22.3
comp=Z,20nm,0.9s
PKME Peaks-Kenny Pk 79.09 2 P P **01 07 20.8 +1.2**
PKME IAmb IAmb 01 07 22.7
comp=Z,16nm,0.8s
G65A Princeton 79.10 3 P P **01 07 20.5 +0.9**
G65A IAmb IAmb 01 07 23.9
comp=Z,13nm,0.9s
I42A Draeger Farm, 79.16 348 IAmb IAmb 01 07 21.5
comp=Z,16nm,1.0s
W13A Hualapai Mount 79.18 326 P 01 07 21.8 +1.2
PMD Palm Desert 79.18 324 P P **01 07 21.8 +1.4**
PFO Pinyon Flats O 79.19 324 P P **01 07 22.3 +1.7**
PFO Pinyon Flats O 79.19 324 LR LR 01 35 13.3
comp=Z,823nm,21.6s,baz=149,slow=30
PFO Pinyon Flats O 79.19 324 P P 01 07 22.3 +1.7
PFO pmax pmax
comp=Z,8.0nm,1.0s
BELC Belle Mtn. Jos 79.28 324 P P **01 07 22.2 +1.1**
TSUM Tsumeb 79.28 106 P 01 07 22.2 +0.6
TSUM Tsumeb 79.28 106 LR LR 01 37 29.4
comp=Z,µm,20.9s,baz=242,slow=32
MNTQ Montreal, Queb 79.30 359 P P **01 07 21.6 +0.9**
MNTQ IAmb IAmb 01 07 31.2
comp=Z,12nm,0.8s
KOOLE Kule 79.32 110 *i* P P **01 07 22.6 +0.9**
PV01 Paradox Valley 79.47 332 P P **01 07 23.3 +1.1**
I40A Norwalk 79.48 347 P P **01 07 21.9 +0.2**
I40A IAmb IAmb 01 07 23.1
comp=Z,10nm,0.6s
BUKO Buck Lake 79.50 355 P P **01 07 21.8 0.0**
BUKO IAmb IAmb 01 07 32.5
comp=Z,21nm,1.2s
DANC Danby, Needles 79.50 325 P P **01 07 22.7 +0.5**
DANC IAmb IAmb 01 07 40.5
comp=Z,12nm,0.9s
H43A Windswept, Lux 79.53 349 P P **01 07 21.8 -0.2**
H43A IAmb IAmb 01 07 23.6
comp=Z,14nm,0.8s
U15A North Rim 79.57 328 P 01 07 23.2 +0.4
PV13 Radium Mtn., P 79.59 331 P P **01 07 23.8 +1.0**
PV02 Paradox Valley 79.60 332 P P **01 07 24.1 +1.3**
PV15 Paradox Valley 79.61 332 P P **01 07 24.6 +1.7**
PV03 Paradox Valley 79.68 331 P P **01 07 23.7 +0.4**
ELS Elsinore Mount 79.70 323 P P **01 07 24.2 +0.9**
ELS IAmb IAmb 01 07 42.7
comp=Z,31nm,1.6s
PV18 Skein Mesa, Pa 79.70 331 P P **01 07 24.2 +0.9**
PV18 IAmb IAmb 01 08 09.4
comp=Z,14nm,1.0s
PV12 Saucer Basin, 79.72 332 P P **01 07 23.6 +0.1**
PV12 IAmb IAmb 01 07 28.7
comp=Z,14nm,0.9s
F64A Sherman 79.72 3 P 01 07 24.8 +1.8
F64A IAmb IAmb 01 07 25.9
comp=Z,18nm,1.0s
PV16 Nyswonger Mesa 79.76 331 P P **01 07 24.0 +0.3**
PV16 IAmb IAmb 01 07 44.2
comp=Z,35nm,2.0s
PV07 Paradox Valley 79.76 332 P P **01 07 24.0 +0.3**
PV19 Morning Glory 79.79 331 P P **01 07 25.0 +1.1**
PV20 West Nyswonger 79.81 331 P 01 07 24.2 +0.3
ISCO Idaho Springs 79.81 334 P 01 07 25.1 +1.1
ISCO Idaho Springs 79.81 334 P P **01 07 25.2 +1.1**
ISCO pmax pmax
comp=Z,5.0nm,0.9s
PV04 Paradox Valley 79.83 331 P P **01 07 25.5 +1.5**
PV14 Lion Creek, Pa 79.86 331 P P **01 07 25.2 +1.0**
PV14 IAmb IAmb 01 09 22.0
comp=Z,9.7nm,0.4s
PV10 Paradox Valley 79.86 331 P P **01 07 24.7 +0.4**
PV10 IAmb IAmb 01 07 26.9
comp=Z,13nm,0.8s
LMN Caledonia Moun 79.92 5 P 01 07 25.2 +1.2
LMN IAmb IAmb 01 07 26.6
comp=Z,14nm,0.9s
PV23 Carpenter Ridg 79.92 331 P 01 07 25.6 +0.9
PV23 IAmb IAmb 01 08 40.6
comp=Z,56nm,1.8s
PV21 Cone Mtn., Par 80.00 332 P P **01 07 26.4 +1.4**
PHPEN Phepeng 80.02 114 P P **01 07 25.3 -0.2**
PHPEN IAmb IAmb 01 07 35.5
comp=Z,41nm,1.3s

TRQ Mont Tremblant 80.04 358 P P **01 07 25.6 +0.8**
TRQ IAmb IAmb 01 07 27.5
comp=Z,22nm,0.8s
BOSA Boshof 80.10 118 P 01 07 26.1 +0.2
BOSA Boshof 80.10 118 P P **01 07 26.2 +0.3**
comp=Z,30nm,0.9s,baz=216,slow=4.6,SNR=33
BOSA LR LR 01 40 50.9
comp=Z,668nm,18.0s,baz=220,slow=34
comp=Z,30nm,0.9s
BOSA Boshof 80.10 118 P P **01 07 26.1 +0.2**
BOSA pmax pmax
comp=Z,37nm,0.9s
V12A Nelson 80.14 326 P 01 07 26.7 +1.1
I37A Lemond, Waseca 80.17 345 P P **01 07 25.6 +0.2**
HMU Henry Mountain 80.18 330 P P **01 07 27.1 +1.1**
HMU IAmb IAmb 01 07 49.0
comp=Z,54nm,1.8s
BFSC Mount Baldy Ra 80.29 323 P P **01 07 27.6 +1.1**
KNB Kanab 80.29 328 P 01 07 27.7 +1.1
KNB IAmb IAmb 01 07 29.9
comp=Z,14nm,1.0s
KNB Kanab 80.29 328 P P **01 07 27.7 +1.1**
KNB pmax pmax
comp=Z,14nm,1.0s
PKCU Pink Cliffs 80.43 329 P 01 07 28.3 +0.8
E62A Clayton Lake 80.44 2 P P **01 07 27.9 +1.0**
E62A IAmb IAmb 01 07 29.6
comp=Z,15nm,0.9s
LCMT Little Creek M 80.47 328 P P **01 07 27.4 -0.1**
MWC Mount Wilson 80.47 323 P 01 07 28.4 +0.8
MWC IAmb IAmb 01 08 04.2
comp=Z,22nm,1.3s
MWC Mount Wilson 80.47 323 P P **01 07 28.4 +0.8**
MWC pmax pmax
comp=Z,22nm,1.3s
K30B Basset 80.48 340 P 01 07 28.8 +1.5
ECSD EROS Data Cent 80.66 342 IAmb IAmb 01 07 30.4
comp=Z,22nm,0.8s
GSC Goldstone, Bar 80.72 324 P P **01 07 30.1 +1.3**
GSC Goldstone, Bar 80.72 324 P P **01 07 30.1 +1.3**
GSC pmax pmax
comp=Z,19nm,0.3s
MTPU Mount Pierson 80.88 329 P P **01 07 31.0 +1.1**
SZCU Shurtz Canyon 80.89 328 P P **01 07 30.6 +0.8**
E46A Sault Ste Mari 80.90 352 IAmb IAmb 01 07 30.8
comp=Z,25nm,0.9s
D62A Allapoint, All 80.92 2 P P **01 07 30.3 +0.9**
D62A IAmb IAmb 01 07 39.9
comp=Z,23nm,1.1s
SHPR Sheep Range 80.92 326 P 01 07 30.8 +0.8
GRTLG Ghanzi 80.99 110 IAmb IAmb 01 07 40.9
comp=Z,41nm,1.3s
GRTLG Ghanzi 80.99 110 *i* P P **01 07 32.1 +1.3**
HAYD Hayden 81.05 334 P P **01 07 31.4 +0.8**
O20A White River Ci 81.08 333 P P **01 07 31.1 +0.3**
O20A IAmb IAmb 01 08 23.5
comp=Z,26nm,1.6s
SRU San Rafael Swe 81.09 331 P P **01 07 31.4 +0.6**
SRU San Rafael Swe 81.09 331 P P **01 07 31.4 +0.6**
SRU pmax pmax
comp=Z,6.0nm,0.8s
Q16A Castle Valley 81.19 330 P P **01 07 32.4 +1.0**
SPMN Marine on St. 81.19 345 IAmb IAmb 01 07 32.5
comp=Z,11nm,0.8s
MSU Marysvale 81.27 329 P 01 07 33.1 +1.3
MSU Marysvale 81.27 329 P P **01 07 33.1 +1.3**
QSM Queen of Sheba 81.29 325 IAmb IAmb 01 10 03.4
comp=Z,10nm,0.5s
COWI Conover 81.34 348 P P **01 07 32.1 +0.4**
LMQ La Malbaie 81.35 1 IAmb IAmb 01 07 33.9
comp=Z,14nm,0.9s
SKOMA Sekoma 81.36 114 *i* P P **01 07 33.6 +0.9**
GWY Greenwater Val 81.37 325 P P **01 07 32.4 +0.1**
P18A Preston Nutter 81.42 331 P P **01 07 33.0 +0.3**
P18A IAmb IAmb 01 07 35.5
comp=Z,12nm,0.9s
P17A Butcher Ranch, 81.49 331 P P **01 07 33.2 +0.4**
TMUT Trail Mountain 81.53 330 P P **01 07 34.5 +1.2**
PRN Pahroc Range 81.61 327 P P **01 07 34.9 +1.3**
MPMC Manual Prospec 81.66 324 P P **01 07 34.8 +0.9**
FURC Furnace Creek, 81.69 325 P P **01 07 35.0 +1.0**
LDAQ Lac Daran 81.75 1 P P **01 07 34.6 +0.7**
LDAQ IAmb IAmb 01 07 44.0
comp=Z,19nm,1.1s
TPNV Topopah Spring 81.79 326 P P **01 07 35.8 +1.3**
TPNV Topopah Spring 81.79 326 P P **01 07 35.8 +1.3**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
ISA Isabella, Lake 81.83 324 P P **01 07 35.0 +0.4**
ISA IAmb IAmb 01 10 05.9
comp=Z,10.0nm,0.5s
ISA Isabella, Lake 81.83 324 P P **01 07 35.0 +0.4**
ISA pmax pmax
comp=Z,10.0nm,0.5s
WCT Wildcat Mounta 81.84 325 P P **01 07 35.5 +0.8**
PSUT Pine Spring 82.01 328 P 01 07 36.2 +0.5
VLDQ Val d'Or 82.03 356 P 01 07 36.4 +1.1
VLDQ IAmb IAmb 01 07 37.8
comp=Z,20nm,0.9s
S11A Rachel 82.12 326 P P **01 07 36.8 +0.6**
CWC Cottonwood Cre 82.25 324 P P **01 07 37.8 +0.8**
E38A The Farm, Brul 82.27 347 IAmb IAmb 01 07 37.9
comp=Z,9.0nm,0.8s
VES Vestal, Richgr 82.27 323 P P **01 07 37.0 +0.2**
VES IAmb IAmb 01 08 14.7
comp=Z,27nm,1.2s
MPU Maple Canyon 82.31 330 P P **01 07 38.6 +1.3**
LBTB Lobatse 82.35 115 P 01 07 38.0 +0.2
LBTB Lobatse 82.35 115 LR LR 01 42 23.3
comp=Z,1µm,18.0s,baz=230,slow=34
LBTB Lobatse 82.35 115 P P **01 07 38.0 +0.2**
LBTB pmax pmax
comp=Z,66nm,1.3s
BSUT Blindstream Ca 82.40 331 P 01 07 38.9 +1.0
KDWAN Kaudwane 82.54 113 *i* P P **01 07 39.4 +0.5**
GMN Gold Mountain 82.55 325 P P **01 07 39.6 +1.1**
F33A 5 Mile Ranch, 82.56 343 IAmb IAmb 01 07 39.4
comp=Z,9.7nm,1.0s
SPR3 Spring Creek 3 82.60 328 P 01 07 38.9 0.0
SPR3 IAmb IAmb 01 07 41.6
comp=Z,10nm,1.0s
R11B Troy Canyon, C 82.62 327 P 01 07 39.9 +1.0
K22A Casper 82.65 335 P 01 07 39.5 +0.6
K22A IAmb IAmb 01 07 41.4
comp=Z,15nm,1.1s
JLU Jordanelle 82.73 331 P P **01 07 40.3 +0.9**
GMARE Gumare 82.81 108 P P **01 07 41.2 +0.9**
MRZ Mangatainoka R 82.88 225 P P **01 07 40.6 +0.4**
MZP Montezuma Peak 82.93 325 P P **01 07 41.6 +1.0**
DSP Deep Springs 82.94 325 P 01 07 41.5 +1.2
RSSD Black Hills 83.13 337 P 01 07 41.8 +0.4
RSSD IAmb IAmb 01 07 44.3
comp=Z,7.7nm,0.8s
RSSD Black Hills 83.13 337 P P **01 07 41.8 +0.4**
RSSD pmax pmax
comp=Z,8.0nm,0.8s
TPH Tonopah 83.15 326 P P **01 07 43.1 +1.4**
TPH Tonopah 83.15 326 P P **01 07 43.1 +1.4**
TPH pmax pmax
comp=Z,43nm,0.9s
URZ Urewera 83.47 228 LR LR 01 37 09.9
comp=Z,707nm,19.1s,baz=138,slow=30
LPHEP Lephephe 83.47 114 P 01 07 43.8 +0.1
LPHEP Lephephe 83.47 114 *i* P P **01 07 45.0 +1.3**
EYMN Ely 83.55 347 P 01 07 43.3 +0.1
EYMN IAmb IAmb 01 07 44.6
comp=Z,12nm,0.9s
HWUT Hardware Ranch 83.63 331 P 01 07 44.5 +0.5
HWUT IAmb IAmb 01 08 05.9
comp=Z,9.4nm,0.8s
BGU Big Grassy Mou 83.65 330 P 01 07 44.4 +0.3
BGU IAmb IAmb 01 08 47.1
comp=Z,21nm,1.7s
BW06 Boulder Array 83.85 333 P P **01 07 45.7 +0.6**
PD31 Pinedale Array 83.85 333 P 01 07 46.1 +1.0
PDAR Pinedale Array 83.85 333 P 01 07 45.7 +0.5
PDAR Pinedale Array 83.85 333 P P **01 07 46.0 +0.8**
comp=Z,2.3nm,0.8s,baz=145,slow=5.4,SNR=17
PDAR LR LR 01 41 35.6
comp=Z,761nm,18.3s,baz=147,slow=33
comp=Z,2.3nm,0.8s
TBO Thunder Bay 83.86 349 IAmb IAmb 01 07 46.2
comp=Z,14nm,1.0s
NV11 Mina Array Sit 83.88 325 P 01 07 46.2 +0.9

LHV Little Huntoon 83.90 325 P P **01 07 47.3 +2.1**
LHV IAmb IAmb 01 09 07.3
comp=Z,15nm,1.2s
NVAR Mina Array Bea 83.94 325 P P **01 07 46.6 +0.8**
NVAR Mina Array Bea 83.94 325 P P **01 07 47.2 +1.5**
comp=Z,4.2nm,0.7s,baz=157,slow=5.9,SNR=38
NVAR LR LR 01 38 12.8
comp=Z,385nm,21.8s,baz=146,slow=31
comp=Z,4.2nm,0.7s
MRNZ Matariki Terra 84.03 223 P P **01 07 45.7 -0.5**
RYN Ryan 84.21 325 P P **01 07 47.9 +0.9**
HVU Hansel Valley 84.26 331 P P **01 07 47.1 -0.1**
HVU IAmb IAmb 01 08 13.7
comp=Z,9.2nm,0.8s
HVU Hansel Valley 84.26 331 P P **01 07 47.1 -0.1**
HVU pmax pmax
comp=Z,9.0nm,0.8s
E28A Huff 84.37 341 P P **01 07 47.8 +0.3**
TORD Torodi Ar. Bea 84.38 70 P P **01 07 48.8 +0.6**
comp=Z,18nm,0.8s,baz=278,slow=3.8,SNR=48
TORD LR LR 01 44 40.6
comp=Z,1µm,18.6s,baz=230,slow=35
AHID Auburn Hatcher 84.43 332 P P **01 07 48.2 +0.1**
AHID IAmb IAmb 01 08 00.4
comp=Z,21nm,1.4s
ELK Elko 84.43 329 P 01 07 49.2 +1.0
ELK Elko 84.43 329 LR LR 01 42 41.7
comp=Z,662nm,18.1s,baz=145,slow=34
ELK Elko 84.43 329 P P **01 07 49.2 +1.0**
ELK pmax pmax
comp=Z,7.0nm,1.0s
WAKR Walker 84.54 325 P 01 07 50.0 +1.3
CMB Columbia Colle 84.64 324 P P **01 07 49.7 +0.7**
CMB Columbia Colle 84.64 324 P P **01 07 49.7 +0.7**
CMB pmax pmax
comp=Z,6.0nm,1.1s
AGMN Agassiz Nation 84.77 344 IAmb IAmb 01 07 51.0
comp=Z,11nm,0.9s
TPAW Teton Pass 84.99 333 P P **01 07 51.5 +0.6**
TPAW IAmb IAmb 01 08 12.4
comp=Z,8.1nm,0.9s
MREMI Moremi 85.12 114 P 01 07 52.4 +0.3
MREMI Moremi 85.12 114 *i* P P **01 07 53.3 +1.2**
FXWY Fox Creek 85.15 333 P P **01 07 52.4 +0.6**
MDND Maddock 85.25 342 P P **01 07 52.8 +0.9**
PAHR Pah Rah Range 85.47 325 P 01 07 53.8 +0.5
PAHR IAmb IAmb 01 08 19.2
comp=Z,29nm,1.8s
EPLO Experimental L 85.63 346 IAmb IAmb 01 08 07.3
comp=Z,9.9nm,1.1s
AFDM Forest Hills D 85.64 324 P 01 07 54.6 +0.6
AFDM IAmb IAmb 01 08 30.0
comp=Z,15nm,1.3s
YMP Mirror Lake PI 85.77 334 P P **01 07 56.1 +1.2**
YMP IAmb IAmb 01 08 32.9
comp=Z,10.0nm,0.8s
RLMT Red Lodge 85.78 335 P 01 07 55.2 +0.4
RLMT IAmb IAmb 01 07 57.0
comp=Z,16nm,1.2s
BROLN Tlhalogang 85.87 113 *i* P P **01 07 56.4 +0.5**
YNE Yellowstone No 85.94 334 IAmb IAmb 01 08 26.6
comp=Z,7.6nm,0.8s
KSANE Kasane 86.05 109 P 01 07 57.2 +0.4
BEKR Beckworth 86.06 325 IAmb IAmb 01 08 17.8
comp=Z,10nm,1.2s
YHH Holmes Hill 86.06 334 P P **01 07 57.3 +1.0**
LAO LASA Array 86.12 337 P 01 07 56.6 +0.3
YHB Horse Butte 86.16 333 P P **01 07 57.7 +1.0**
YHB IAmb IAmb 01 08 17.4
comp=Z,12nm,1.2s
YHL Hebgen Lake 86.24 333 P 01 07 57.6 +0.4
YHL IAmb IAmb 01 08 10.1
comp=Z,20nm,1.6s
ORV Oroville 86.36 324 P P **01 07 59.1 +1.5**
ORV IAmb IAmb 01 08 34.0
comp=Z,15nm,1.1s
ORV Oroville 86.36 324 P P **01 07 59.1 +1.5**
ORV pmax pmax
comp=Z,15nm,1.1s
HLID Hailey 86.41 331 P 01 07 58.5 +0.5
ULM Lac du Bonnet 86.62 345 *i* P P **01 07 57.7 -0.8**
MCMT McKenzie Canyo 86.85 332 P P **01 08 01.1 +0.9**
MFID Camas Ranch 86.88 330 P 01 08 01.2 +1.0
MATP Matopo 87.15 113 LR LR 01 45 55.4
comp=Z,681nm,18.0s,baz=234,slow=35
DLMT Dillon 87.21 333 P 01 08 02.8 +1.1
DLMT IAmb IAmb 01 08 25.1
comp=Z,9.8nm,1.1s
WVOR Wild Horse Val 87.29 328 P P **01 08 02.6 +0.4**
WVOR Wild Horse Val 87.29 328 P P **01 08 02.6 +0.4**
WVOR pmax pmax
comp=Z,8.0nm,1.2s
HATC Hat Creek Radi 87.32 325 P 01 08 03.3 +1.0
KCPM Cahto Peak 87.49 323 P P **01 08 03.9 +0.6**
LRM Limekiln Ridge 87.54 333 P P **01 08 04.2 +0.8**
J08A Circle Bar Ran 87.96 328 P 01 08 06.3 +0.9
KMRM Mail Ridge 87.96 323 P P **01 08 06.2 +0.8**
PLID Pearl Lake 88.32 331 IAmb IAmb 01 08 09.6
comp=Z,13nm,0.9s
BPMT Black Pine Rid 88.43 333 P 01 08 08.8 +1.1
KHMM Horse Mountain 88.47 324 P P **01 08 08.4 +0.5**
KHMM IAmb IAmb 01 08 12.1
comp=Z,8.3nm,0.8s
K05A Summer Lake 88.55 326 P 01 08 09.0 +0.8
K05A IAmb IAmb 01 08 11.4
comp=Z,16nm,1.0s
JCC Jacoby Creek, 88.57 323 P P **01 08 08.6 +0.5**
YBH Yreka Blue Hor 88.63 325 P P **01 08 09.0 +0.5**
YBH IAmb IAmb 01 08 10.8
comp=Z,6.4nm,0.8s
YBH Yreka Blue Hor 88.63 325 LR LR 01 42 09.5
comp=Z,31nm,20.1s,baz=126,slow=32
YBH Yreka Blue Hor 88.63 325 P P **01 08 09.0 +0.5**
YBH pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 88.66 330 P P **01 08 10.2 +1.6**
SCHQ Schefferville 88.75 3 P P **01 08 08.8 +0.1**
comp=Z,6.6nm,1.0s,baz=161,slow=3.3,SNR=3.8
SCHQ LR LR 01 48 38.9
comp=Z,354nm,20.6s,baz=174,slow=36
comp=Z,6.6nm,1.0s
L04D Klamath Falls 88.81 325 P 01 08 10.6 +1.2
L04D IAmb IAmb 01 08 11.6
comp=Z,12nm,1.1s
KRPM Rodgers 88.83 324 P P **01 08 11.4 +2.0**
KRPM IAmb IAmb 01 08 15.2
comp=Z,14nm,1.0s
KRMB Red Mountain 89.05 324 P P **01 08 12.0 +1.5**
KRMB IAmb IAmb 01 08 19.3
comp=Z,12nm,1.3s
J05D Fort Rock, OR 89.14 327 P P **01 08 12.3 +1.3**
J05D IAmb IAmb 01 08 13.8
comp=Z,10nm,1.1s
L02F Cave Junction 89.34 324 P P **01 08 12.9 +1.2**
L02F IAmb IAmb 01 08 25.0
comp=Z,22nm,1.7s
PINE Pine Mountain 89.40 327 P 01 08 13.8 +1.6
PINE IAmb IAmb 01 08 15.4
comp=Z,11nm,1.0s
J04A Umpqua Nationa 89.51 326 P P **01 08 14.2 +1.4**
J04A IAmb IAmb 01 08 16.6
comp=Z,14nm,0.7s
G08A Pilot Rock 89.71 329 P 01 08 14.6 +1.0
JTMT Jette 89.84 333 P 01 08 13.8 -0.3
LSZ Lusaka 89.87 108 P 01 08 15.1 0.0
LSZ IAmb IAmb 01 08 18.6
comp=Z,14nm,1.1s
LSZ Lusaka 89.87 108 LR LR 01 44 21.4
comp=Z,2µm,20.8s,baz=228,slow=33
LSZ Lusaka 89.87 108 P P **01 08 15.1 0.0**
LSZ pmax pmax
comp=Z,14nm,1.1s
MDT Midelt 92.01 51 LR LR 01 50 18.0
comp=Z,553nm,18.4s,baz=246,slow=36
ESDC Sonseca Array 96.77 46 P P **01 08 45.6 -0.5**
comp=Z,0.9nm,0.9s,baz=264,slow=3.2,SNR=6.3
ESDC LR LR 01 52 01.8
comp=Z,391nm,18.0s,baz=216,slow=35
comp=Z,0.9nm,0.9s
FRB Frobisher Bay 97.61 2 LR LR 01 57 01.2
comp=Z,298nm,19.3s,baz=164,slow=38
BBB Bella Bella 98.88 329 LR LR 01 47 59.6
comp=Z,259nm,21.5s,baz=186,slow=32
DZM Mont Dzumac 101.05 234 *e*SS SS 01 27 45.1 +3.0
comp=Z,304nm,24.2s

DZM					*e*LQ	LQ	01 37 41.1		
	comp=Z,918nm,38.5s								
DZM					*e*LR	LR	01 41 57.2		
	comp=Z,708nm,29.3s								
YKA	**Yellowknife Ar**	**102.17**	**341**		P	**Pdif**	**01 09 09.7**	**+0.1**	
	comp=Z,0.5nm,0.7s,baz=148,slow=3.1,SNR=3.8								
BRG	**Berggiesshubel**	**113.38**	**44**		*e*PP	**PP**	**01 14 37.0**	**-7.5**	
BRG	**Berggiesshubel**	**113.38**	**44**		SP	SP	01 24 26.0	+8.6	
BRG	**Berggiesshubel**	**113.38**	**44**		SS	SS	01 30 34.0	+4.2	
ILAR	**Eielson Array**	**114.28**	**333**		PKP	PKPdf	01 13 54.2	0.0	
	comp=Z,0.7nm,0.9s,baz=205,slow=1.6,SNR=6.1								
VYHS	**Vyhne**	**115.28**	**47**		*e*PKIKP	**PKiKP**	**01 13 57.3**	**+0.6**	
VYHS	**Vyhne**	**115.28**	**47**		*e*PKP	**PKiKP**	**01 13 57.3**	**+0.6**	
HFS	**Hagfors**	**117.00**	**34**		PKP	**PKPdf**	**01 13 58.8**	**-0.8**	
	comp=Z,0.9nm,0.8s,baz=123,slow=5.5,SNR=3.8								
ASAR	**Alice Springs**	**117.37**	**207**		PKP	**PKPdf**	**01 14 00.9**	**-0.8**	
	comp=Z,0.5nm,0.6s,baz=144,slow=1.9,SNR=6.6								
ASAR					PKKPbc	**PKKPbc**	**01 24 24.8**	**+0.7**	
	comp=Z,0.8nm,0.8s,baz=353,slow=4.8,SNR=4.7								
BURAR	**Bucovina Array**	**118.93**	**50**			**PKiKP**	**01 14 04.0**	**+0.1**	
WRA	**Warramunga Arr**	**120.57**	**209**			**PKPdf**	**01 14 07.2**	**-0.6**	
WRA	**Warramunga Arr**	**120.57**	**209**		PKP	**PKPdf**	**01 14 06.9**	**-0.9**	
	comp=Z,1.7nm,0.6s,baz=161,slow=1.6,SNR=9.9								
WRA	**Warramunga Arr**	**120.57**	**209**		PKIKP	**PKPdf**	**01 14 07.3**	**-0.6**	
BR131	**Keskin Array S**	**122.01**	**61**		*e*PKIKP	**PKPdf**	**01 14 10.3**	**+0.2**	
BRTR	**Keskin Array B**	**122.01**	**61**			**PKiKP**	**01 14 10.6**	**+0.4**	
BRTR	**Keskin Array B**	**122.01**	**61**		PKP	**PKPdf**	**01 14 10.1**	**0.0**	
	comp=Z,2.2nm,0.8s,baz=194,slow=3.5,SNR=15								
BRTR	**Keskin Array B**	**122.01**	**61**		PKIKP	**PKiKP**	**01 14 10.6**	**+0.4**	
NACGM	**Naroch**	**122.06**	**42**		*e*PKP	**PKiKP**	**01 14 10.3**	**+0.7**	
	comp=Z,9.0nm,0.9s,baz=255								
KIEV	**Kiev**	**122.37**	**48**			**PKPdf**	**01 14 10.1**	**0.0**	
KIEV	**Kiev**	**122.37**	**48**		PKIKP	**PKPdf**	**01 14 10.1**	**0.0**	
AKASG	**Malin Array Be**	**122.39**	**48**		PKP	**PKPdf**	**01 14 09.7**	**-0.5**	
	comp=Z,2.1nm,0.7s,baz=262,slow=2.7,SNR=9.1								
AKBB	**Malin Array Si**	**122.39**	**48**	*ce*	PKIKP	**PKPdf**	**01 14 10.4**	**+0.2**	
MNK	**Minsk**	**122.58**	**43**		*e*PKIKP	**PKiKP**	**01 14 11.0**	**+0.4**	
VSU	**Vasula**	**122.89**	**38**		*i* PKIKP	**PKPdf**	**01 14 09.3**	**-1.6**	
FINES	**FINESS Array B**	**123.19**	**35**		PKP	**PKPdf**	**01 14 10.8**	**-0.6**	
	comp=Z,2.3nm,1.0s,baz=66,slow=4.8,SNR=5.6								
ARCES	**ARCESS Array B**	**124.21**	**25**		PKP	**PKPdf**	**01 14 13.1**	**-0.1**	
	comp=Z,1.2nm,0.7s,baz=246,slow=3.6,SNR=8.8								
H11S2	**WAKE ISLAND Hyd**	**125.65**	**269**		T	T	03 32 44.4		
	baz=118,slow=75,SNR=15								
H11S1	**WAKE ISLAND Hyd**	**125.67**	**269**		T	T	03 32 44.4		
	baz=118,slow=75,SNR=15								
H11S3	**WAKE ISLAND Hyd**	**125.67**	**269**		T	T	03 32 44.4		
	baz=118,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hyd**	**126.07**	**271**		T	T	03 33 13.0		
	baz=116,slow=78,SNR=6.6								
H11N1	**WAKE ISLAND Hyd**	**126.08**	**271**		T	T	03 33 14.0		
	baz=116,slow=78,SNR=15								
H11N2	**WAKE ISLAND Hyd**	**126.08**	**271**		T	T	03 33 23.8		
	baz=116,slow=78,SNR=12								
ANN	**Anapa**	**126.20**	**56**		*i* PKIKP	**PKiKP**	**01 14 18.2**	**+0.1**	
ANN					*e*		01 14 22.6		
ANN					*e*		01 21 22.7		
ANN					pmax	pmax			
	comp=Z,16nm,1.0s								
SOC	**Sochi**	**127.49**	**58**		*e*PKIKP	**PKPdf**	**01 14 17.7**	**-2.5**	
SOC					*e*PPP	PPP	01 19 06.6		
SOC					*e*		01 21 33.6		
SOC					*e*PS	**PS**	**01 26 25.1**	**-1.8**	
SOC					*e*SS	SS	01 33 25.8	-5.5	
SOC					MLR	MLR			
	comp=Z,167nm,22.0s								
OBN	**Obninsk**	**127.63**	**43**		*e*PKIKP	**PKiKP**	**01 14 21.1**	**+0.5**	
OBN					*e*		01 16 22.7		
OBN					pmax	pmax			
	comp=Z,11nm,1.0s								
OBN					MLR	MLR			
	comp=Z,593nm,20.0s								
MOS	**Moscow**	**128.30**	**43**		*i* PKIKP	**PKPdf**	**01 14 20.7**	**-0.7**	
MOS					*e*		01 16 29.3		
MOS					MLR	MLR			
	comp=Z,700nm,22.0s								
VSR	**Storozhevoye**	**128.63**	**49**		*e*PKIKP	**PKPdf**	**01 14 21.1**	**-1.0**	
VSR					pmax	pmax			
	comp=Z,5.0nm,1.0s								
VORD	**Divnogorie**	**128.68**	**49**		*e*PKIKP	**PKPdf**	**01 14 20.5**	**-1.7**	
VORD					pmax	pmax			
	comp=Z,5.0nm,0.8s								
LPSR	**Galich'ya Gora**	**128.69**	**47**		*e*PKIKP	**PKPdf**	**01 14 22.2**	**0.0**	
LPSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KLMR	**Klimovskoe**	**129.60**	**36**		*e*PKIKP	**PKPdf**	**01 14 22.6**	**-1.1**	
KLMR					pmax	pmax			
	comp=Z,31nm,1.4s								
KLMR					MLR	MLR			
	comp=Z,516nm,20.0s								
KIV	**Kislovodsk**	**129.67**	**58**			**PKiKP**	**01 14 26.1**	**+0.8**	
KIV	**Kislovodsk**	**129.67**	**58**		*i* PKIKP	**PKiKP**	**01 14 25.6**	**+0.3**	
KIV					*e*		01 16 35.5		
KIV					*e*PS	**PS**	**01 26 46.7**	**+0.6**	
KIV					*e*SS	SS	01 34 00.8	+2.3	
KIV					pmax	pmax			
	comp=Z,7.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,212nm,23.0s								
KIV	**Kislovodsk**	**129.67**	**58**		PKP	**PKPdf**	**01 14 24.8**	**+0.3**	
KBZ	**Khabaz**	**129.78**	**59**		PKP	**PKiKP**	**01 14 25.4**	**+0.1**	
	comp=Z,2.6nm,1.0s,baz=209,slow=2.8,SNR=5.8								
KBZ	**Khabaz**	**129.78**	**59**	*ce*	PKIKP	**PKiKP**	**01 14 26.8**	**+1.5**	
NCK	**Nalchik**	**130.22**	**59**		PKIKP	**PKPdf**	**01 14 25.0**	**-0.5**	
VRH	**Novokhopyorsk**	**130.23**	**49**		*e*PKIKP	**PKPdf**	**01 14 24.8**	**-0.4**	
VRH					pmax	pmax			
	comp=Z,6.0nm,0.9s								
MAK	**Makhachkala**	**132.92**	**61**		*i* P	**Pdif**	**01 11 22.5**	**-4.3**	
MAK					*i*		01 14 28.7		
MAK					*e*		01 16 55.2		
MAK					*e*		01 21 36.7		
MAK					*e*PS	**PS**	**01 27 11.1**	**-2.8**	
MAK					*e*SS	SS	01 34 36.6	-1.4	
MAK					*e*SSS	SSS	01 39 31.5		
MAK					pmax	pmax			
	comp=Z,74nm,1.0s								
BILL	**Bilibino**	**132.92**	**334**	*ce*	PKIKP	**PKiKP**	**01 14 31.1**	**+0.1**	
BILL					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BELG	**Belogornoye**	**133.97**	**48**		*i* PKIKP	**PKPdf**	**01 14 32.6**	**+0.4**	
KIRV	**Kirov**	**134.72**	**39**	*ce*	PKIKP	**PKiKP**	**01 14 34.4**	**-0.4**	
ARTI	**Arti**	**139.85**	**41**			**PKiKP**	**01 14 44.4**	**-1.0**	
ARTI	**Arti**	**139.85**	**41**		*i* PKIKP	**PKiKP**	**01 14 44.7**	**-0.7**	
ARTI							01 17 42.4		
ARTI					SS	SS	01 36 06.7	+6.9	
SEY	**Seymchan**	**140.11**	**330**	*ce*	PKIKP	**PKiKP**	**01 14 44.9**	**-0.8**	
SEY					pmax	pmax			
	comp=Z,6.0nm,0.8s								
PEA0B	**Petropavlovsk-**	**140.18**	**314**		*i* PKIKP	**PKPdf**	**01 14 44.8**	**+1.1**	
PETK	**Petropavlovsk-**	**140.18**	**314**		PKP	**PKPdf**	**01 14 44.2**	**+0.5**	
	comp=Z,3.2nm,0.8s,baz=114,slow=3.6,SNR=7.6								
PDSI	**Padang**	**144.44**	**167**		PKP	**PKPab**	**01 14 50.7**	**0.0**	
PDSI					PKP	PKPbc	01 14 51.5	+0.5	
MPSI	**Mapaga**	**144.50**	**201**		PKP	**PKPab**	**01 14 50.1**	**-0.8**	
MPSI					PKP	PKPbc	01 14 51.2	+0.1	
SDSI	**Sungai Dareh**	**144.58**	**169**		PKP	**PKPab**	**01 14 50.8**	**-0.4**	
SDSI					PKP	PKPbc	01 14 51.3	-0.1	
PPI	**Padang Panjang**	**144.87**	**167**		PKP	**PKPdf**	**01 14 53.0**	**-0.3**	
PPI					PKP	PKPbc	01 14 53.6	+1.3	
BRVK	**Borovoye**	**147.40**	**43**			**PKPbc**	**01 14 57.9**	**-0.9**	
BRVK	**Borovoye**	**147.40**	**43**		PKP2	**PKPbc**	**01 14 57.9**	**-0.9**	
BVAR	**Borovoye Array**	**147.48**	**43**		PKP	**PKPbc**	**01 14 58.0**	**-1.1**	
	comp=Z,11nm,0.7s,baz=276,slow=2.8,SNR=32								
BVAR						PKPbc	**PKPab**	**01 15 00.1**	**-1.0**
	comp=Z,8.6nm,0.6s,baz=318,slow=2.3,SNR=41								
BVAR	**Borovoye Array**	**147.48**	**43**		PKP2	**PKPbc**	**01 14 58.0**	**-1.1**	
KBL	**Kabul**	**148.12**	**78**			**PKPbc**	**01 15 02.1**	**+0.5**	
KBL	**Kabul**	**148.12**	**78**		PKP2	**PKPbc**	**01 15 02.1**	**+0.5**	
YAK	**Yakutsk**	**148.84**	**340**		*e*PKP2	**PKPbc**	**01 15 02.0**	**-0.3**	
YAK					*e*		01 18 37.3		
YAK					pmax	pmax			
	comp=Z,46nm,1.2s								
YAK					pmax	pmax			
	comp=N,2.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,4.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,133nm,5.4s								
YAK					pmax	pmax			
	comp=N,69nm,7.4s								
YAK					pmax	pmax			
	comp=E,82nm,5.8s								
HYB	**Hyderabad**	**148.97**	**115**		*e*PKPdf	**PKPdf**	**01 14 59.7**	**-0.3**	
HYB					*e*PKiKP	**pPKPdf**	**01 15 05.6**	**-0.9**	
HYB					*ep*PKPbc	**PKPab**	**01 15 08.4**	**+0.2**	
HYB					*e*SKSdf	**SKSdf**	**01 22 07.6**	**0.0**	
KKAR	**Karatay Array**	**149.72**	**62**			**PKPdf**	**01 15 01.2**	**+0.8**	
KKAR	**Karatay Array**	**149.72**	**62**		PKHKP	PKPpre	01 15 01.3		
KULM	**Kulim**	**150.52**	**165**			**PKPbc**	**01 15 08.1**	**+0.2**	
YSS	**Yuzhno-Sakhali**	**150.79**	**306**		*i* PKIKP	**PKiKP**	**01 15 08.8**	**+0.6**	
YSS					pmax	pmax			
	comp=Z,20nm,0.6s								
NIL	**Nilore**	**151.38**	**81**			**PKPbc**	**01 15 09.7**	**+0.2**	
NIL	**Nilore**	**151.38**	**81**		PKIKP	**PKPbc**	**01 15 09.7**	**+0.2**	
ASAJ	**Asahikawa**	**151.44**	**301**		PKPbc	**PKPbc**	**01 15 09.3**	**+0.2**	
	comp=Z,14nm,1.0s,baz=0.0,slow=3.0,SNR=5.7								
AAK	**Ala-Archa**	**152.68**	**62**			**PKiKP**	**01 15 14.0**	**+1.5**	
AAK	**Ala-Archa**	**152.68**	**62**		PKIKP	**PKiKP**	**01 15 14.0**	**+1.5**	
KURBB	**Kurchatov Arra**	**153.06**	**43**		PKPbc	**PKiKP**	**01 15 13.0**	**+0.3**	
	comp=Z,5.6nm,0.6s,baz=306,slow=2.9,SNR=26								
KURBB					PP	**PP**	**01 19 00.3**	**+2.6**	
	comp=Z,0.6nm,0.8s,baz=280,slow=5.7,SNR=5.5								
KURK	**Kurchatov**	**153.07**	**43**		PKIKP	**PKiKP**	**01 15 13.0**	**+0.2**	
ZALV	**Zalesovo Beam**	**154.42**	**32**			**PKPdf**	**01 15 07.4**	**+0.3**	
ZALV	**Zalesovo Beam**	**154.42**	**32**		PKP	**PKPdf**	**01 15 07.1**	**+0.1**	
	comp=Z,3.7nm,0.8s,baz=267,slow=3.0,SNR=12								
ZALV					PKPbc	**PKiKP**	**01 15 16.1**	**+0.6**	
	comp=Z,13nm,0.7s,baz=296,slow=3.2,SNR=33								
ZALV	**Zalesovo Beam**	**154.42**	**32**		PKIKP	**PKPdf**	**01 15 07.4**	**+0.3**	
MKAR	**Makanchi Array**	**156.96**	**49**			**PKPab**	**01 15 41.7**	**+0.7**	
MKAR	**Makanchi Array**	**156.96**	**49**		PKP	**PKPdf**	**01 15 11.5**	**+0.7**	
	comp=Z,1.4nm,0.7s,baz=123,slow=3.3,SNR=5.2								
MKAR					PKPab	**PKPab**	**01 15 40.9**	**-0.1**	
	comp=Z,4.3nm,0.8s,baz=304,slow=4.7,SNR=9.0								
WMQ	**Urumqi**	**161.66**	**52**		PKP	**PKPdf**	**01 15 15.4**	**-1.0**	
WMQ					PP	**PP**	**01 19 40.3**	**-5.1**	
WMQ					AMB	AMB			
	comp=Z,210nm,7.7s								
WMQ					LR	LR			
	comp=N,470nm,17.5s								
WMQ					LR	LR			
	comp=E,360nm,17.5s								
WMQ					LR	LR			
	comp=Z,310nm,20.1s								
CMAR	**Chiang Mai Arr**	**162.47**	**151**		PKP	**PKPdf**	**01 15 17.6**	**-0.2**	
	comp=Z,1.4nm,0.7s,baz=245,slow=3.4,SNR=7.6								
CMAR					PKPab	**PKPab**	**01 16 05.0**	**-0.5**	
	comp=Z,1.2nm,0.3s,baz=244,slow=4.8,SNR=4.8								
KSRS	**Korea Array**	**163.36**	**287**		PKP	**PKPdf**	**01 15 18.3**	**+0.2**	
	comp=Z,1.9nm,0.9s,baz=138,slow=0.8,SNR=11								
KSRS					PKPab	**PKPab**	**01 16 09.7**	**+0.5**	
	comp=Z,0.6nm,0.4s,baz=113,slow=3.6,SNR=4.3								
KSAR	**Wonju Array Be**	**163.40**	**287**			**PKPdf**	**01 15 17.8**	**-0.4**	
KSAR	**Wonju Array Be**	**163.40**	**287**		PKIKP	**PKPdf**	**01 15 17.8**	**-0.4**	
SONM	**Songino Array**	**166.29**	**4**		PKP	**PKPdf**	**01 15 20.4**	**-0.2**	
	comp=Z,1.1nm,0.8s,baz=264,slow=0.2,SNR=5.3								
SONM					PKPab	**PKPab**	**01 16 22.7**	**+1.0**	
	comp=Z,2.8nm,0.9s,baz=328,slow=3.8,SNR=8.8								
ULN	**Ulaanbaatar**	**166.29**	**2**			**PKPab**	**01 16 24.0**	**+2.3**	
ULN	**Ulaanbaatar**	**166.29**	**2**		PKP2	**PKPab**	**01 16 24.0**	**+2.3**	
NJ2	**Nanjing**	**170.51**	**260**		*e*P	**PKPdf**	**01 15 24.1**	**+0.4**	
NJ2					pmax	pmax			
	comp=Z,11nm,0.6s								
PZH	**PanZhiHua**	**170.74**	**144**		PKP	**PKPdf**	**01 15 22.6**	**-1.5**	
GTA	**Gaotai**	**171.71**	**48**		PKP	**PKPdf**	**01 15 25.4**	**+1.1**	
GTA					PKPab	**pPKPab**	**01 16 50.0**	**-2.5**	
GTA					PP	**PP**	**01 20 38.4**	**+1.3**	
TIA	**Tai'an**	**172.11**	**288**		P	**PKPdf**	**01 15 24.8**	**+0.4**	
TIA					pmax	pmax			
	comp=Z,17nm,1.1s								
HHC	**Hu-ho-hao-te**	**172.69**	**337**		*e*P	**PKPdf**	**01 15 21.2**	**-3.4**	
HHC					LR	LR			
	comp=N,230nm,18.4s								
HHC					LR	LR			
	comp=E,310nm,18.2s								
HHC					LR	LR			
	comp=Z,440nm,18.0s								
BTO	**Baotou**	**173.33**	**345**		*e*PKP	**PKPdf**	**01 15 25.6**	**+0.7**	
BTO					PP	**PP**	**01 20 42.2**	**-1.9**	
HNS	**HongShan**	**173.53**	**302**	⇑	PKP	**PKPdf**	**01 15 22.7**	**-2.2**	
HNS					PP	**PP**	**01 20 48.0**	**+1.8**	
CD2	**Chengdu**	**175.28**	**132**		PKP	**PKPdf**	**01 15 25.0**	**-0.7**	
LZH	**Lanzhou**	**176.22**	**58**		*e*PKP	**PKPdf**	**01 15 23.3**	**-2.7**	
LZH					pPKP	sPKPdf	01 15 33.6	-1.1	
LZH					sPKP		01 15 36.8		
XAN	**Xi'an**	**179.08**	**263**		PKP	**PKPdf**	**01 15 26.8**	**+0.5**	
XAN					PKPab	pPKPab	01 17 25.5	+0.1	
XAN					PP	**PP**	**01 21 15.3**	**+2.1**	

*DJA **02** 00:55:36.1±0.7,8°S±6°×12°3E±°, h266km±7km, M3.9/9, mb3.9/1, MLv3.9/9*
*IDC **02** 00:55:37.7±1.4,8°01S×122°73E, h263km±13km, mb3.1/3, mbtmp4.0/7, Error ellipse: s-maj=80.6km s-min=17.5km az=59.0*
*NEIC **02** 00:55:37.6±1.1,7°78S±0°10×123°1E±0°1, h257km±10km, mb4.4/11, Error ellipse: s-maj=22.2km s-min=9.3km az=56.0*

ISC 02 00:55:37.1±0.8,**7°69S**±0°07×**123°25E**±0°08,**h250**km,**n32,** σ1§**72**/**38**,**mb4.5/6**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.37**	**227**			**Pn**	**00 56 14.3**	**-0.2**
MMRI	**Maumere**	**1.37**	**227**	P		**Pn**	**00 56 15.8**	**+1.3**
EDFI	**Ende, Flores**	**1.87**	**236**	P		**Pn**	**00 56 20.5**	**+2.0**
EDFI				S		**S**	**00 56 55.5**	**+4.3**
SOEI	**Soe**	**2.28**	**154**			**Pn**	**00 56 23.2**	**+0.8**
SOEI	**Soe**	**2.28**	**154**	P		**Pn**	**00 56 23.0**	**+0.6**
SOEI				S		**S**	**00 57 00.0**	**+1.9**
BATI	**Baumata**	**2.53**	**171**	P		**Pn**	**00 56 25.8**	**+1.0**
	123nm,0.3s,baz=293,slow=4.5,SNR=14							
BATI				S		**S**	**00 57 02.1**	**-0.3**
	297nm,0.4s,baz=304,slow=20,SNR=19							
BATI	**Baumata**	**2.53**	**171**	P		**Pn**	**00 56 25.4**	**+0.7**
BATI				S		**S**	**00 57 04.7**	**+2.3**
WSI	**Waingapu**	**3.52**	**236**	P		**Pn**	**00 56 38.1**	**+2.8**
BASI	**Baing, Sumba**	**3.64**	**226**	P		**Pn**	**00 56 38.1**	**+1.3**
WBSI	**Waikabubak, Su**	**4.28**	**243**	P		**Pn**	**00 56 45.6**	**+1.3**
BNSI	**Bone**	**4.53**	**316**	P		**Pn**	**00 56 46.8**	**-0.4**
PLAI	**Plampang**	**5.54**	**258**	P		**Pn**	**00 57 00.2**	**+0.7**
MTN	**Manton Dam**	**9.29**	**124**			**Pn**	**00 57 47.5**	**+0.7**
KNRA	**Kununurra**	**9.59**	**146**	Pn		**Pn**	**00 57 49.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.60**	**168**	P		**Pn**	**00 58 02.0**	**-1.2**
	1.8nm,0.7s,baz=1.1,slow=9.0,SNR=25							
FITZ				S		**S**	**00 59 57.6**	**-4.5**
	12nm,0.6s,baz=120,slow=7.2,SNR=11							
WB0	**Warramunga Arr**	**16.15**	**139**	P		**P**	**00 59 09.3**	**-0.4**
WB0				lAmb		lAmb	00 59 12.4	
	comp=Z,5.6nm,0.7s							
WRA	**Warramunga Arr**	**16.24**	**140**	P		**P**	**00 59 09.9**	**-0.8**
WRA	**Warramunga Arr**	**16.24**	**140**	P		**P**	**00 59 10.3**	**-0.4**
	comp=Z,4.5nm,0.6s,baz=316,slow=12,SNR=29							
WRA				S		**S**	**01 02 09.9**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=306,slow=24,SNR=4.7							
WR8	**Warramunga Arr**	**16.35**	**139**			**P**	**00 59 11.8**	**-0.1**
WR8				lAmb		lAmb	00 59 13.2	
	comp=Z,11nm,0.6s							
AS31	**Alice Springs**	**18.89**	**148**			**P**	**00 59 39.9**	**+0.5**
AS31				lAmb		lAmb	00 59 44.8	
	comp=Z,4.8nm,0.6s							
ASAR	**Alice Springs**	**18.89**	**148**	P		**P**	**00 59 39.9**	**+0.5**
ASAR	**Alice Springs**	**18.89**	**148**	P		**P**	**00 59 40.0**	**+0.7**
	comp=Z,9.7nm,0.7s,baz=338,slow=14,SNR=27							
COEN	**Coen**	**20.53**	**109**	P		**P**	**00 59 56.8**	**-0.2**
MYKOM	**Kota Tinggi**	**21.52**	**295**	P		**P**	**01 00 04.7**	**-2.3**
MORW	**Morawa**	**22.32**	**197**	P		**P**	**01 00 11.0**	**-3.1**
MORW				lAmb		lAmb	01 00 29.0	
	comp=Z,22nm,1.4s							
FORT	**Forrest**	**23.40**	**170**	P		**P**	**01 00 22.9**	**-1.0**
BBOO	**Buckleboo**	**27.68**	**156**	P		**P**	**01 01 01.2**	**-1.0**
BBOO				lAmb		lAmb	01 01 08.8	
	comp=Z,12nm,1.1s							
STKA	**Stephens Creek**	**29.51**	**147**	P		**P**	**01 01 18.4**	**-0.1**
STKA				lAmb		lAmb	01 01 38.3	
	comp=Z,27nm,1.2s							
STKA	**Stephens Creek**	**29.51**	**147**	P		**P**	**01 01 18.2**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=317,slow=9.1,SNR=12							
	comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**65.32**	**330**	P		**P**	**01 05 52.8**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=144,slow=7.4,SNR=2.1							
	comp=Z,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**69.75**	**331**	P		**P**	**01 06 18.5**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=129,slow=7.4,SNR=1.7							
	comp=Z,0.1nm,0.5s							
SKT	**Skwentna**	**94.48**	**28**	P		**P**	**01 08 31.4**	**+2.7**
SKT				lAmb		lAmb	01 08 32.7	
	comp=Z,6.1nm,1.1s							

*NAO **02** 00:57:17.4±0.6,71°34N×10°19W, h7km±3km, ML3.8*
*DNK **02** 00:57:17.7±4.2,71°21N×10°24W, h17km±109km, ML2.1*
*BER **02** 00:57:19.5±3.9,71°30N×10°07W, h10km, ML3.8, Mw4.3, ML3.8(NAO), Confirmed Earthquake*
*IDC **02** 00:57:19.0±4.0,71°46N×9°40W, h0km, mb3.4/4, mbtmp3.4/7, ML2.8/3, MS3.0/4, Error ellipse: s-maj=68.1km s-min=33.3km az=124.0*

ISC 02 00:57:17.0±1.6,**71°46N**±0°07×**9°82W**±0°07,**h6**km±11km, **n76,** σ1§**75**/**85**,**mb3.4**/**4**,**5C**,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.63**	**133**	⇑	*i* P	**Pg**	**00 57 28.9**	**-0.1**
JNW					*e*S	**Sg**	**00 57 36.1**	**-1.0**
JNW					IAML		00 57 38.5	
	comp=Z,6µm,0.2s							
JMIC	**Jan Mayen**	**0.64**	**138**		Pg	**Pg**	**00 57 28.9**	**-0.4**
JMIC					Sg	**Sg**	**00 57 36.6**	**-0.9**
JMIC	**Jan Mayen**	**0.64**	**138**		LR	LR	00 57 31.4	
	comp=Z,48nm,22.0s,baz=36,slow=22							
JMIC	**Jan Mayen**	**0.64**	**138**	⇑	*i* P	**Pg**	**00 57 28.8**	**-0.4**
JMIC					*e*S	**Sg**	**00 57 36.7**	**-0.9**
JMIC					IAML		00 57 38.7	
	comp=Z,5µm,0.3s							
JMIC	**Jan Mayen**	**0.64**	**138**	⇑	*i* P	**Pg**	**00 57 28.9**	**-0.4**
JMIC					*i* S	**Sg**	**00 57 35.9**	**-1.7**
JMI	**Jan Mayen**	**0.64**	**146**		Pg	**Pg**	**00 57 28.9**	**-0.4**
JMI					Sg	**Sg**	**00 57 36.8**	**-0.9**
JMI	**Jan Mayen**	**0.64**	**146**	⇑	*i* P	**Pg**	**00 57 29.0**	**-0.4**
JMI					*e*S	**Sg**	**00 57 37.2**	**-0.5**
JMI					IAML		00 57 37.4	
	comp=Z,3µm,0.3s							
JNE	**Jan Mayen East**	**0.68**	**133**	⇑	*i* P	**Pg**	**00 57 29.5**	**-0.6**
JNE					*e*S	**Sg**	**00 57 37.1**	**-1.9**
JNE					IAML		00 57 40.3	
	comp=Z,7µm,0.2s							
DBG	**Daneborg**	**4.19**	**318**		Pn	**Pn**	**00 58 21.7**	**+0.4**
DBG					Sn	**Sn**	**00 59 06.8**	**-3.8**
DBG	**Daneborg**	**4.19**	**318**	*e*	P	**Pn**	**00 58 21.7**	**+0.4**
DBG					Sn	**Sn**	**00 59 06.8**	**-3.8**
DBG	**Daneborg**	**4.19**	**318**	*i*	P	**Pn**	**00 58 21.8**	**+0.4**
DBG				*i*	S	**Sn**	**00 59 06.6**	**-4.0**
DBG					IAML		00 59 10.9	
	comp=Z,6.5nm,0.2s							
DAG	**Danmarks Havn**	**5.85**	**340**	*e*	P	**Pn**	**00 58 45.0**	**+0.9**
DAG					*e*S	**Sn**	**00 59 47.7**	**-3.7**
DAG	**Danmarks Havn**	**5.85**	**340**	*i*	P	**Pn**	**00 58 45.2**	**+1.1**
DAG				*i*	S	**Sn**	**00 59 47.4**	**-4.0**
DAG					IAML		00 59 57.5	
	comp=Z,5.1nm,0.3s							
EGRIP	**EGRIP Drilling**	**8

VRAC Vranov 25.33 137 LR LR 01 10 44.5
comp=Z,39nm,20.7s,baz=308,slow=32
AKASG Malin Array Be 27.23 119 P **P** **01 03 03.5 +2.3**
comp=Z,0.5nm,0.5s,baz=338,slow=9.1,SNR=2.6
comp=Z,0.5nm,0.5s
ESDC Sonseca Array 32.00 171 P **P** **01 03 46.1 +2.4**
comp=Z,0.1nm,0.3s,baz=342,slow=8.1,SNR=1.8
comp=Z,0.1nm,0.3s
KURBB Kurchatov Arra 42.59 70 P **P** **01 05 15.1 +1.9**
comp=Z,0.4nm,0.7s,baz=325,slow=8.4,SNR=4.6
comp=Z,0.4nm,0.7s

---

*TEH **02** 00:57:35.8, 37°.25N × 45°.07E, h5km*
*AFAD **02** 00:57:36.6, 37°.06N × 44°.70E, h14km ± 2km, ML2.6*
*ISN **02** 00:57:36.6 ± 2.8, 37°.18N × 45°.07E, h5km, ML2.8*
ISC 02 00:57:35.8 ± 1.3, 37°.24N ± 0°.03 × 45°.09E ± 0°.04, h15km ± 12km, n24, σ1 °70/31, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MAHB	**Mahabad**	**0.68**	**134**	Pg	**Pg**	**00 57 49.0**	**-0.2**
IAZR	**Azarshahr**	**0.83**	**58**	Pg	**Pb**	**00 57 52.1**	**-0.2**
ISHB	**Shabestar**	**1.12**	**22**	Pg	**Pb**	**00 57 56.4**	**-0.7**
HAKT	**HAKKARI**	**1.15**	**287**	P	**Pn**	**00 57 53.3**	**-4.4**
HAKT				S	**Sb**	**00 58 08.6**	**-3.7**
HAKT				*i* IAML		00 58 12.0	
	comp=N,175nm,0.5s						
HAKT				*i* IAML		00 58 13.0	
	comp=E,172nm,0.4s						
CUKT	**Cukurca**	**1.18**	**271**	P	Pn	00 57 48.6	-9.4
CUKT				S	Sb	00 58 02.4	-11
ITBZ	**Tabriz**	**1.30**	**40**	Pg	**Pb**	**00 57 59.9**	**-0.2**
OZAP	**Van, Ozalp-Mer**	**1.66**	**329**	P	**Pg**	**00 58 09.2**	**+1.4**
OZAP				S	**Sg**	**00 58 30.8**	**+1.4**
IHSH	**Hashtrud**	**1.73**	**87**	Pg	**Pg**	**00 58 08.5**	**-0.7**
TVAN	**Van**	**1.85**	**315**	P	**Pb**	**00 58 10.0**	**+0.4**
TVAN				S	**Sn**	**00 58 31.5**	**+0.9**
IHRS	**Heris**	**1.89**	**55**	Pn	**Pg**	**00 58 11.1**	**-0.9**
GEVA	**Gevas**	**1.93**	**304**	P	**Pb**	**00 58 10.8**	**-0.1**
GEVA				S	**Sb**	**00 58 35.0**	**+0.1**
GEVA				*i* IAML		00 58 38.0	
	comp=E,52nm,0.6s						
IKRK	**Kirkuk**	**1.93**	**198**	*e*Pg	**Pn**	**00 58 08.0**	**-0.2**
	baz=18						
IKRK				*e*Sg	**Sb**	**00 58 36.0**	**+1.2**
IKRK				AML	AML	00 58 38.1	
	comp=N,112nm,0.3s						
IKRK				AML	AML	00 58 38.5	
	comp=E,100nm,0.7s						
CLDR	**Caldiran**	**2.11**	**334**	P	**Pn**	**00 58 08.5**	**-2.4**
VMUR	**Van-Muradiye**	**2.12**	**326**	P	**Pg**	**00 58 16.7**	**+0.2**
MAKU	**Maku**	**2.14**	**352**	Pn	**Pb**	**00 58 14.4**	**0.0**
PERV	**Siirt/Pervari-**	**2.14**	**290**	P	**Pn**	**00 58 12.1**	**+0.8**
PERV				S	**Sn**	**00 58 37.3**	**-0.3**
PERV				*i* IAML		00 58 47.0	
	comp=E,67nm,0.9s						
PERV				*i* IAML		00 58 51.0	
	comp=E,70nm,0.6s						
SIRN	**Sirnak**	**2.15**	**278**	P	**Pn**	**00 58 10.0**	**-1.2**
SIRN				S	**Sn**	**00 58 38.0**	**+0.3**
SIRN				*i* IAML		00 58 49.0	
	comp=E,85nm,0.8s						
SIRN				*i* IAML		00 58 51.0	
	comp=E,61nm,1.4s						
SRTM	**Siirt_Merkez**	**2.62**	**288**	P	**Pn**	**00 58 18.4**	**+0.6**
SRTM				S	**Sn**	**00 58 51.4**	**+1.9**
SRTM				*i* IAML		00 59 03.0	
	comp=E,32nm,0.7s						
SRTM				*i* IAML		00 59 06.0	
	comp=E,39nm,0.7s						
BLIS	**Bitlis-Merkez**	**2.63**	**297**	P	**Pn**	**00 58 19.8**	**+1.9**
IDHR	**Dehrash**	**2.75**	**157**	Pn	**Pb**	**00 58 22.8**	**-2.0**
DORK	**Agr/Tutak/Do**	**2.81**	**320**	P	**Pn**	**00 58 22.1**	**+1.7**
MIDY	**Mardin/Midyat-**	**2.95**	**274**	P	**Pn**	**00 58 23.4**	**+1.2**
MIDY				*i* IAML		00 59 09.0	
	comp=E,19nm,0.4s						
MIDY				*i* IAML		00 59 20.0	
	comp=E,24nm,0.5s						
BTMN	**Batman**	**3.10**	**283**	P	**Pb**	**00 58 29.2**	**-1.6**
GLG1	**Gilan-e-Gharb**	**3.19**	**168**	Pn	**Pn**	**00 58 28.8**	**+3.2**

---

*IDC **02** 01:05:17.1 ± 1.1, 23°.25N × 143°.79E, h0km, mb3.9/10, mbtmp4.0/14, ML3.9/4, MS3.6/15, Error ellipse: s-maj=30.1km s-min=22.3km az=50.0*
*NEIC **02** 01:05:25.4 ± 1.0, 23°.23N ± 0°.08 × 143°.2E ± 0°.1, h35km ± 2km, mb4.5/8, Error ellipse: s-maj=22.2km s-min=10.0km az=120.0*
ISC 02 01:05:23.7 ± 0.9, 23°.22N ± 0°.09 × 143°.3E ± 0°.1, h35km, n46, σ1 °35/31, mb4.2/14, MS3.7/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JCJ	**Chichijima**	**3.99**	**345**	Pn	**Pn**	**01 06 23.3**	**+0.9**
JCJ	**Chichijima**	**3.99**	**345**	Pn	**Pn**	**01 06 22.3**	**-0.1**
	4.7nm,0.3s,baz=241,slow=20,SNR=11						
JCJ					Sn	**Sn**	**01 07 08.9**	**+1.0**
	8.0nm,0.3s,baz=71,slow=21,SNR=2.2						
	47nm,0.6s						
GUMO	**Guam**	**9.69**	**171**	LR	LR	01 10 39.4	
	comp=Z,203nm,21.2s,baz=353,slow=33						
JHJ	**Hachijo jima 2**	**10.34**	**343**	LR	LR	01 11 36.1	
	comp=Z,200nm,18.2s,baz=162,slow=36						
JSG	**Sagara**	**12.26**	**340**		**Pn**	**01 08 15.2**	**-0.6**
JMN	**Monobe**	**13.35**	**324**	Pn	**Pn**	**01 08 29.4**	**-1.3**
MJAR	**Matsushiro Arr**	**13.99**	**343**	Pn	**Pn**	**01 08 37.2**	**-2.2**
	0.1nm,0.3s,baz=165,slow=12,SNR=3.2						
MJAR				LR	LR	01 14 14.7	
	comp=Z,229nm,18.3s,baz=150,slow=38						
	1.2nm,0.6s						
JOW	**Kunigami**	**14.10**	**288**	Pn	**Pn**	**01 08 38.7**	**-2.2**
JOW	**Kunigami**	**14.10**	**288**	Pn	**Pn**	**01 08 42.9**	**+2.0**
	4.8nm,0.3s,baz=116,slow=19,SNR=7.2						
	9.9nm,0.3s						
JNU	**Nakatsue**	**14.74**	**315**	LR	LR	01 14 14.3	
	comp=Z,88nm,18.5s,baz=128,slow=36						
JMM	**Marumori**	**14.76**	**352**	Pn	**Pn**	**01 08 49.0**	**-0.8**
KSRS	**Korea Array**	**19.39**	**321**	P	**P**	**01 09 46.9**	**+0.3**
	0.1nm,0.3s,baz=134,slow=12,SNR=11						
	1.2nm,0.7s						
KSAR	**Wonju Array Be**	**19.41**	**320**	Pn	**Pn**	**01 09 49.2**	**+1.1**
H11N1	**WAKE ISLAND Hy**	**22.21**	**95**	T	T	01 33 00.1	
	baz=283,slow=74,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**22.22**	**95**	T	T	01 32 58.1	
	baz=283,slow=74,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**22.23**	**95**	T	T	01 32 55.4	
	baz=283,slow=74,SNR=5.7						
USA0B	**Ussuriysk Arra**	**22.91**	**339**	P	**P**	**01 10 26.6**	**+2.3**
USRK	**Ussuriysk Ar.**	**22.91**	**339**	P	**P**	**01 10 24.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**22.91**	**339**	P	**P**	**01 10 23.7**	**-0.6**
	1.8nm,0.6s,baz=94,slow=7.1,SNR=4.7						
USRK				LR	LR	01 18 37.5	
	comp=Z,95nm,21.5s,baz=151,slow=35						
	1.8nm,0.6s						
DAV	**Davao City (W)**	**23.42**	**230**	LR	LR	01 17 52.4	
	comp=Z,127nm,21.5s,baz=49,slow=32						
JAY	**Jayapura**	**25.70**	**186**	LR	LR	01 20 00.0	
	comp=Z,85nm,20.8s,baz=14,slow=34						
TOLI2	**Tolitoli**	**31.00**	**228**	P	**P**	**01 11 38.0**	**-0.1**
TOLI2				IAmb	IAmb	01 11 39.9	
	comp=Z,11nm,1.1s						
HNR	**Honiara**	**36.31**	**152**	LR	LR	01 24 06.9	
	comp=Z,73nm,19.9s,baz=359,slow=31						
ULN	**Ulaanbaatar**	**37.88**	**320**		**P**	**01 12 35.6**	**-1.8**
ULN				IAmb	IAmb	01 12 37.6	
	comp=Z,6.8nm,1.5s						
SONM	**Songino Array**	**38.26**	**319**	P	**P**	**01 12 40.6**	**0.0**
SONM	**Songino Array**	**38.26**	**319**	P	**P**	**01 12 40.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=141,slow=5.5,SNR=1.9						
SONM				LR	LR	01 29 18.8	
	comp=Z,122nm,18.2s,baz=172,slow=37						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.62**	**272**	LR	LR	01 29 58.2	
	comp=Z,44nm,19.9s,baz=65,slow=35						
WRA	**Warramunga Arr**	**43.78**	**192**	P	**P**	**01 13 25.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=17,slow=8.8,SNR=1.9						
	comp=Z,0.3nm,0.4s						
P08K	**Saint George I**	**47.73**	**33**	P	**P**	**01 13 58.6**	**+1.7**
ZALV	**Zalesovo Beam**	**53.10**	**321**	P	**P**	**01 14 38.1**	**+0.5**
ZALV	**Zalesovo Beam**	**53.10**	**321**	P	**P**	**01 14 38.2**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=108,slow=7.6,SNR=8.4						
ZALV				LR	LR	01 39 09.8	
	comp=Z,64nm,18.6s,baz=108,slow=38						
	comp=Z,1.4nm,0.5s						

MK31 Makanchi Array 53.77 312 P **P** **01 14 43.4 +0.8**
MK31 IAmb IAmb 01 14 53.6
comp=Z,4.3nm,1.1s
MKAR Makanchi Array 53.77 312 **P** **01 14 42.9 +0.3**
MKAR Makanchi Array 53.77 312 P **P** **01 14 44.1 +1.5**
comp=Z,1.9nm,0.7s,baz=91,slow=9.0,SNR=15
comp=Z,1.9nm,0.7s
KURK Kurchatov 56.45 316 **P** **01 15 02.0 +0.1**
KURK IAmb IAmb 01 15 14.4
comp=Z,10nm,0.9s
KURBB Kurchatov Arra 56.50 316 P **P** **01 15 03.0 +0.7**
comp=Z,3.6nm,0.9s,baz=92,slow=7.7,SNR=32
comp=Z,3.6nm,0.9s
ILAR Eielson Array 60.64 27 P **P** **01 15 28.4 -2.5**
comp=Z,1.2nm,0.9s,baz=259,slow=5.4,SNR=8.2
comp=Z,1.2nm,0.9s
KBZ Khabaz 81.40 314 P **P** **01 17 38.1 +1.1**
comp=Z,1.8nm,0.8s,baz=69,slow=4.9,SNR=4.2
comp=Z,1.8nm,0.8s
FINES FINESS Array B 81.86 334 P **P** **01 17 37.8 -1.4**
comp=Z,0.9nm,0.8s,baz=72,slow=6.2,SNR=4.3
comp=Z,0.9nm,0.8s
NVAR Mina Array Bea 82.11 52 P P 01 17 37.6 -3.6
comp=Z,0.5nm,0.8s,baz=278,slow=4.2,SNR=4.3
comp=Z,0.5nm,0.8s
HFS Hagfors 87.38 337 LR LR 02 02 29.4
comp=Z,173nm,18.3s,baz=229,slow=39
NOA NORSAR Array B 87.58 339 LR LR 02 01 47.7
comp=Z,44nm,19.4s,baz=240,slow=39
SFJD Kangerlussuaq 89.45 5 LR LR 02 00 09.7
comp=Z,268nm,18.4s,baz=197,slow=37
ASF Jabal al Asfar 90.73 306 LR LR 02 04 47.6
comp=Z,415nm,20.4s,baz=254,slow=39
ATD Arta Tunnel 94.93 285 LR LR 02 01 41.7
comp=Z,25nm,19.4s,baz=198,slow=36
LPAZ La Paz 149.66 83 PKPbc **PKPdf** **01 25 09.0 +2.5**
comp=Z,1.3nm,0.8s,baz=8.0,slow=9.1,SNR=5.3

---

*IDC **02** 01:19:47.8 ± 1.4, 42°.63N × 136°.97E, h299km ± 15km, mb3.1/8, mbtmp3.7/11, Error ellipse: s-maj=34.6km s-min=16.3km az=10.0*
*JMA **02** 01:19:49.1 ± 0.3, 43°.N ± 1°.× 13°.7E ± °, h309km, MV3.1/26, EASTERN SEA OF JAPAN*
ISC 02 01:19:47.8 ± 0.8, 42°.68N ± 0°.07 × 137°.24E ± 0°.07, h300km, n28, σ1 °38/33, mb3.4/8, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JOSM	**Okushiri--Mats**	**1.76**	**109**	*e*P	**Pn**	**01 20 33.9**	**+1.1**
JSH	**Shimam**	**2.07**	**90**	P	**Pn**	**01 20 36.5**	**+1.4**
JOMM	**Oshimamatsumae**	**2.36**	**118**	P	**Pn**	**01 20 38.9**	**+1.3**
JKB	**Kayabe**	**2.92**	**104**	*e*P	**Pn**	**01 20 43.9**	**+1.1**
JIW	**Iwasaki**	**2.94**	**134**	P	**Pn**	**01 20 44.4**	**+1.3**
JOT	**Ohata**	**3.12**	**113**	*e*P	**Pn**	**01 20 45.8**	**+1.0**
JANG	**Nango**	**3.95**	**124**	*e*P	**Pn**	**01 20 53.4**	**-0.2**
JNBK	**Urakawa-nobuka**	**4.10**	**94**	*e*P	**Pn**	**01 20 56.1**	**+1.1**
USRK	**Ussuriysk Ar.**	**4.11**	**293**	P	**Pn**	**01 20 54.0**	**-1.2**
	12nm,0.6s,baz=98,slow=12,SNR=18						
ASAJ	**Asahikawa**	**4.16**	**68**	P	**Pn**	**01 20 57.0**	**+1.3**
	6.8nm,0.4s,baz=269,slow=18,SNR=5.0						
JRG	**Rokugo**	**4.17**	**141**	*e*P	**Pn**	**01 20 56.3**	**+0.3**
JRG				*e*S	**S**	**01 21 48.9**	**-1.7**
JOM	**Ohasama**	**4.43**	**135**	*e*P	**Pn**	**01 21 00.0**	**+1.1**
JYK	**Kaneyama**	**4.44**	**147**	*e*P	**Pn**	**01 20 59.9**	**+0.9**
JYK				*e*S	**S**	**01 21 56.1**	**-0.1**
JCH	**Churui**	**4.52**	**89**	*e*P	**Pn**	**01 21 00.4**	**+0.7**
JCH				*e*S	**S**	**01 21 55.9**	**-1.5**
JSD	**Sado**	**4.71**	**170**	*e*P	**Pn**	**01 21 03.1**	**+1.1**
JAR	**Ashorobuto**	**4.83**	**80**	P	**Pn**	**01 21 04.0**	**+0.7**
JAR				*e*S	**S**	**01 22 02.2**	**-1.7**
JTKR	**Abashiri--Toko**	**5.03**	**73**	*e*P	**Pn**	**01 21 06.5**	**+0.9**
JMM	**Marumori**	**5.53**	**149**	P	**Pn**	**01 21 11.1**	**-0.4**
JMM				*e*S	**S**	**01 22 16.6**	**-2.3**
MJAR	**Matsushiro Arr**	**6.18**	**173**	P	**Pn**	**01 21 19.3**	**-0.1**
	0.9nm,0.4s,baz=341,slow=12,SNR=2.3						
JWT	**Wachi**	**7.53**	**192**	*e*P	**Pn**	**01 21 39.2**	**+3.5**
ZALV	**Zalesovo Beam**	**35.84**	**307**	P	**P**	**01 26 18.0**	**-1.2**
	0.6nm,0.3s,baz=91,slow=6.9,SNR=3.0						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**38.58**	**296**	P	**P**	**01 26 40.4**	**-1.8**
	0.3nm,0.5s,baz=78,slow=9.7,SNR=3.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**40.12**	**302**	P	**P**	**01 26 53.2**	**-1.6**
	2.5nm,0.5s,baz=80,slow=8.7,SNR=21						
	2.5nm,0.5s						
BVAR	**Bovoye Array**	**44.49**	**308**	P	**P**	**01 27 28.9**	**-0.8**
	1.0nm,0.4s,baz=74,slow=8.9,SNR=5.6						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**62.32**	**330**	P	**P**	**01 29 38.0**	**-0.3**
	1.2nm,0.8s,baz=36,slow=2.6,SNR=2.4						
	1.2nm,0.8s						
NVAR	**Mina Array Bea**	**74.12**	**52**	P	**P**	**01 30 53.7**	**+1.9**
	0.2nm,0.6s,baz=317,slow=6.7,SNR=2.3						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**75.93**	**44**	P	**P**	**01 31 03.1**	**+1.1**
	0.3nm,0.5s,baz=288,slow=1.4,SNR=3.8						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**89.07**	**50**	P	**P**	**01 32 10.3**	**+0.8**
	0.1nm,0.5s,baz=291,slow=3.4,SNR=3.9						
	0.1nm,0.5s						

---

*NEIC **02** 01:25:00.8 ± 1.8, 59°.74N ± 0°.01 × 153°.26W ± 0°.02, h10km ± 1km, Error ellipse: s-maj=2.9km s-min=2.0km az=336.0*
AEIC 02 01:25:00.4 ± 1.8, 59°.742N ± 0°.010 × 153°.29W ± 0°.03, h14km ± 3km, ML3.4, ML3.6/166(NEIC), Error ellipse: s-maj=2.5km s-min=1.4km az=76.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
OPT	**Oil Point**	**0.09**	**161**		Pg	01 25 03.5	-0.1
P19K	**Oil Pt**	**0.10**	**161**		Pg	01 25 03.5	0.0
P19K				Sg	Sg	01 25 05.7	+0.1
ILS	**Iliamna Low So**	**0.24**	**27**		Pg	01 25 05.9	+0.2
ILS					Sg	01 25 09.8	+0.4
ILSW	**Iliamna Southw**	**0.25**	**17**		Pg	01 25 06.1	+0.2
ILSW				Sg	Sg	01 25 10.0	+0.3
ILSW				IAML		01 25 10.6	
	comp=E,16μm,0.6s						
ILSW				IAML		01 25 11.5	
	comp=N,10μm,0.5s						
IVE	**Iliamna Volcan**	**0.31**	**27**		Pg	01 25 06.9	0.0
IVE					Sg	01 25 11.3	+0.1
AUL	**Augustine Lava**	**0.37**	**192**		Pg	01 25 08.2	+0.4
AUL					Sb	01 25 13.9	-0.4
AU22	**Augustine Moun**	**0.37**	**185**		Pg	01 25 08.2	+0.2
AU22					Sg	01 25 13.0	0.0
AUCH	**Augustine Cone**	**0.39**	**192**		Pg	01 25 08.6	+0.4
AUCH					Sg	01 25 13.9	+0.3
O20K	**Slope Mountain**	**0.48**	**44**		Pb	01 25 10.5	-0.2
O20K					Sb	01 25 17.8	+0.2
O19K	**Port Alsworth**	**0.69**	**312**		Pg	01 25 13.5	-0.3
O19K				Sg	Sg	01 25 22.7	-0.3
RED	**Redoubt Volcan**	**0.73**	**21**		Pg	01 25 14.3	-0.3
RED				Sg	Sg	01 25 24.3	+0.1
RED				IAML		01 25 25.3	
	comp=N,2μm,0.4s						
RDSO	**Redoubt South**	**0.77**	**21**		Sg	01 25 25.7	+0.3
RDWB	**Redoubt West**	**0.78**	**17**		Pg	01 25 15.1	-0.5
RDWB					Sg	01 25 25.7	-0.2
Q19K	**Cape Douglas,**	**0.83**	**193**		Pg	01 25 15.7	-0.9
Q19K					Sg	01 25 26.7	-0.8
Q19K				IAML		01 25 27.3	
	comp=E,3μm,0.6s						
Q19K				IAML		01 25 35.8	
	comp=N,3μm,0.7s						
HOM	**Homer**	**0.84**	**95**		Pg	01 25 16.1	-0.6
HOM				Sg	Sb	01 25 27.8	-0.1
NCT	**North Crescent**	**0.84**	**12**		Sg	01 25 27.4	-0.5
RDJH	**Redoubt Jeurge**	**0.89**	**16**		Pg	01 25 17.0	-0.6
RDJH					Sg	01 25 29.1	-0.1
DFR	**Drift River**	**0.91**	**19**		Pg	01 25 17.3	-0.6
DFR					Sg	01 25 29.5	-0.3
RDT	**Redoubt**	**0.94**	**28**		Pb	01 25 17.8	-0.8
RDT					Sb	01 25 30.4	-0.6
O18K	**Koktuh Hills**	**0.98**	**277**		Pb	01 25 18.4	-0.7
O18K	**Koktuh Hills**	**0.98**	**277**		Sb	01 25 31.6	-0.2
P18K	**Big Mountain,**	**1.05**	**251**		Pb	01 25 19.1	-1.2
P18K				IAML		01 25 35.8	
	comp=E,2μm,0.3s						
P18K	**Big Mountain,**	**1.05**	**251**		Sb	01 25 33.2	-0.7
CNPM	**China Poot**	**1.07**	**101**		Sb	01 25 34.2	-0.2
CNPM	**China Poot**	**1.07**	**101**		Pb	01 25 19.1	-1.6
CNPM				IAML		01 25 34.6	
	comp=E,2μm,0.4s						
BRLK	**Bradley Lake**	**1.22**	**88**		Pn	01 25 21.6	-1.5
BRLK				IAML		01 25 38.1	
	comp=N,2μm,0.4s						
BRLK				IAML		01 25 38.5	
	comp=E,1μm,0.2s						
SYI	**Shuyak Island**	**1.23**	**157**		Sb	01 25 38.3	-0.7
SYI	**Shuyak Island**	**1.23**	**157**		Pn	01 25 21.0	-2.1
SYI				IAML		01 25 38.9	
	comp=N,2μm,0.5s						
SYI				IAML		01 25 38.9	
	comp=E,2μm,0.4s						
N19K	**Bonanza Creek**	**1.23**	**332**		Pn	01 25 23.2	0.0
N19K				IAML		01 25 40.4	
	comp=E,919nm,0.7s						
N19K				IAML		01 25 40.4	
	comp=N,970nm,0.8s						
KAPH	**Katmai Pasha**	**1.27**	**206**		Pn	01 25 23.1	-0.7
KAHC	**Katmai Hardscr**	**1.41**	**220**		Pn	01 25 25.0	-0.7
KAHC					Pb	01 25 25.1	-1.4
KAHG	**Katmai Hook Gl**	**1.41**	**208**		Pn	01 25 25.1	-0.6
CAPN	**Captain Cook N**	**1.48**	**45**		Pg	01 25 28.4	-0.5
SPCR	**Spurr Chakacha**	**1.56**	**20**		Pn	01 25 28.0	+0.2
SPU	**Mount Spurr**	**1.57**	**22**		Pn	01 25 28.0	+0.1
SPCN	**Chakachatna No**	**1.59**	**20**		Pn	01 25 28.8	+0.6
N18K	**Kilae Creek**	**1.60**	**307**		Pn	01 25 28.6	+0.3
N18K				IAML		01 25 52.7	
	comp=N,1μm,0.4s						
N18K				IAML		01 25 52.8	
	comp=E,819nm,0.2s						
P17K	**Kvichak River**	**1.70**	**253**		Pn	01 25 29.8	+0.3
SLKM	**Skilak Lake**	**1.72**	**62**		Pn	01 25 29.3	-0.6
SLKM				IAML		01 25 57.5	
	comp=N,568nm,0.4s						
SLKM				IAML		01 25 57.9	
	comp=E,471nm,0.3s						
ACHA	**Angle Creek He**	**1.86**	**215**		Pn	01 25 31.6	-0.3
STLK	**Strandline Lak**	**1.90**	**22**		Pn	01 25 33.6	+1.1
ANCK	**Angle Creek**	**1.92**	**217**		Pn	01 25 32.6	-0.2
O17K	**Koliganek Bris**	**1.93**	**273**		Pn	01 25 33.0	+0.3
SEW	**Seward**	**1.97**	**78**		Pn	01 25 33.5	+0.3
SEW				IAML		01 26 06.2	
	comp=E,311nm,0.7s						
SEW				IAML		01 26 07.5	
	comp=N,286nm,0.7s						
CAHL	**Cahill**	**1.99**	**212**		Pn	01 25 33.6	0.0
KDAK	**Kodiak Island**	**2.00**	**169**		Pn	01 25 33.9	+0.2
KDAK				IAML		01 26 01.9	
	comp=N,444nm,0.7s						
KDAK				IAML		01 26 05.4	
	comp=N,450nm,0.6s						
Q16K	**King Salmon**	**2.03**	**240**		Sn	01 26 00.1	+0.7
KJL	**Kejulik**	**2.07**	**216**		Pn	01 25 34.9	+0.2
FIS	**Fire Island**	**2.07**	**46**		Pn	01 25 35.0	+0.2
FIS	**Fire Island**	**2.07**	**46**	IAML		01 26 15.3	
	comp=E,640nm,1.1s						
N17K	**Nushagak Hills**	**2.10**	**294**		Pn	01 25 35.4	+0.2
N17K				IAML		01 26 14.3	
	comp=E,588nm,0.5s						
SUA	**Susitna One**	**2.13**	**35**		Pn	01 25 36.9	+1.2
SUA				IAML		01 26 07.5	
	comp=E,314nm,0.8s						
M20K	**Styx River**	**2.15**	**2**		Pn	01 25 37.2	+1.3
M20K	**Styx River**	**2.15**	**2**	IAML		01 26 09.3	
	comp=E,387nm,1.0s						
M20K				IAML		01 26 09.9	
	comp=N,251nm,0.9s						
RC01	**Rabbit Creek A**	**2.22**	**51**		Pn	01 25 37.3	+0.5
M19K	**Big River Lodg**	**2.23**	**347**		Pn	01 25 37.5	+0.5
M19K				IAML		01 26 11.9	
	comp=N,392nm,0.5s						
R18K	**Karluk**	**2.27**	**196**		Pn	01 25 38.4	+1.1
R18K	**Karluk**	**2.27**	**196**	IAML		01 26 15.3	
	comp=N,329nm,0.5s						
R18K				IAML		01 26 17.1	
	comp=E,289nm,0.5s						
SKT	**Skwentna**	**2.41**	**20**		Pn	01 25 40.6	+1.3
SKT				IAML		01 26 16.3	
	comp=E,173nm,0.6s						
O16K	**Kokwok River B**	**2.44**	**269**		Pn	01 25 40.4	+0.6
O16K				IAML		01 26 22.8	
	comp=E,500nm,0.5s						
P16K	**Nushagak River**	**2.51**	**256**		Pn	01 25 41.6	+1.0
OHAK	**Old Harbor**	**2.53**	**180**		Pn	01 25 41.8	+0.9
PLK2	**Peulik 2**	**2.54**	**220**		Pn	01 25 41.4	+0.3
M22K	**Willow**	**2.55**	**36**	IAML		01 26 22.2	
	comp=N,323nm,0.7s						
M22K				IAML		01 26 28.9	
	comp=E,422nm,0.8s						
L19K	**White Mountain**	**2.56**	**343**		Pn	01 25 42.0	+0.5
L19K	**White Mountain**	**2.56**	**343**	IAML		01 26 22.3	
	comp=N,398nm,0.6s						
PLK1	**Peulik 1**	**2.60**	**223**		Pn	01 25 42.4	+0.4
PLK4	**Peulik 4**	**2.65**	**218**		Pn	01 25 43.3	+0.5
PLK4				IAML		01 26 38.1	
	comp=E,282nm,0.9s						
PLK4				IAML		01 26 46.1	
	comp=N,276nm,0.8s						
PWL	**Port Wells**	**2.71**	**63**		Pn	01 25 44.3	+0.8
PWL	**Port Wells**	**2.71**	**63**	IAML		01 26 27.3	
	comp=E,159nm,0.5s						
PWL				IAML		01 26 28.6	
	comp=N,179nm,0.6s						
PLBL	**Peulik Blue Cr**	**2.75**	**223**		Pn	01 25 44.5	+0.4
PMR	**Palmer**	**2.76**	**46**		Pn	01 25 45.9	+1.7
KNK	**Knik Glacier**	**2.92**	**53**		Pn	01 25 46.6	+0.2
KNK	**Knik Glacier**	**2.92**	**53**	IAML		01 26 41.9	
	comp=

TRF	**Thorofare Moun**	**3.99**	**20**			Pn	01 26 02.1	+0.8
TRF	**Thorofare Moun**	**3.99**	**20**	IAML			01 27 09.6	
	comp=E,48nm,0.8s							
TRF				IAML			01 27 43.5	
	comp=N,48nm,1.0s							
KLU	**Klutina**	**4.03**	**61**			Pn	01 26 02.4	+0.6
KLU	**Klutina**	**4.03**	**61**	IAML			01 26 51.9	
	comp=N,72nm,0.6s							
J18K	**Innoko River**	**4.08**	**338**			Pn	01 26 03.4	+1.1
J18K				IAML			01 27 11.4	
	comp=N,60nm,1.2s							
J18K				IAML			01 27 13.9	
	comp=E,98nm,0.8s							
O14K	**Tigyukauivet M**	**4.09**	**267**			Pn	01 26 03.8	+1.3
CHUM	**Lake Minchumin**	**4.18**	**6**			Pn	01 26 05.2	+1.5
M24K	**Tolsona, Glenn**	**4.21**	**53**			Pn	01 26 06.1	+2.0
M24K	**Tolsona, Glenn**	**4.21**	**53**	IAML			01 27 28.2	
	comp=E,95nm,1.2s							
M24K				IAML			01 27 29.6	
	comp=N,64nm,1.4s							
RND	**Reindeer**	**4.25**	**28**			Pn	01 26 07.3	+2.7
J19K	**Poorman**	**4.41**	**347**			Pn	01 26 07.5	+0.7
J19K	**Poorman**	**4.41**	**347**	IAML			01 27 25.0	
	comp=E,61nm,1.1s							
J19K				IAML			01 27 29.5	
	comp=N,60nm,1.2s							
J20K	**Nowinta River**	**4.47**	**355**			Pn	01 26 08.6	+0.9
J20K	**Nowinta River**	**4.47**	**355**	IAML			01 27 25.4	
	comp=E,82nm,0.7s							
J20K				IAML			01 27 35.1	
	comp=N,75nm,0.8s							
L15K	**Ungalak Mounta**	**4.47**	**299**			Pn	01 26 08.3	+0.7
BMRM	**Bremner River**	**4.49**	**70**	IAML			01 27 24.7	
	comp=N,31nm,1.0s							
BPAW	**Bear Paw Mtn.**	**4.51**	**13**	IAML			01 27 33.4	
	comp=N,36nm,1.0s							
BPAW				IAML			01 27 42.6	
	comp=E,31nm,0.9s							
MCK	**McKinley**	**4.51**	**25**	IAML			01 27 32.4	
	comp=N,32nm,1.0s							
J17K	**VABM Dome**	**4.59**	**325**			Pn	01 26 09.5	+0.2
J17K				IAML			01 27 32.0	
	comp=N,61nm,0.8s							
J17K				IAML			01 27 38.2	
	comp=E,60nm,1.1s							
N25K	**Chitina, Valde**	**4.67**	**63**			Pn	01 26 10.7	+0.2
K15K	**Wolf Creek Mou**	**4.75**	**306**			Pn	01 26 12.6	+1.1
K15K	**Wolf Creek Mou**	**4.75**	**306**	IAML			01 27 35.6	
	comp=N,58nm,1.0s							
K15K				IAML			01 27 38.7	
	comp=E,54nm,1.3s							
HARP	**HAARP**	**4.76**	**53**			Pn	01 26 13.7	+2.0
BWN	**Browne**	**4.80**	**20**	IAML			01 28 00.4	
	comp=N,71nm,1.1s							
WACK	**Wrangell Chich**	**4.92**	**59**			Pn	01 26 15.4	+1.2
GLB	**Gilahina Butte**	**4.97**	**66**			Pn	01 26 14.6	-0.1
J16K	**Anvik River**	**4.99**	**319**	IAML			01 27 51.9	
	comp=N,36nm,0.8s							
J16K				IAML			01 27 52.8	
	comp=E,31nm,0.8s							
WAX	**Waxell Ridge**	**5.27**	**78**			Pn	01 26 19.0	+0.2
WAX	**Waxell Ridge**	**5.27**	**78**	IAML			01 27 23.3	
	comp=E,22nm,0.5s							
WAX				IAML			01 28 12.5	
	comp=N,32nm,0.8s							
WRH	**Wood River Hil**	**5.34**	**25**			Pn	01 26 20.1	+0.6
K24K	**Donnelly Dome**	**5.41**	**38**			Pn	01 26 23.6	+2.9
PTPK	**Patty Peak**	**5.55**	**70**			Pn	01 26 23.2	+0.5
CCB	**Clear Creek Bu**	**5.55**	**25**			Pn	01 26 24.6	+2.1
MESA	**MESA**	**5.72**	**81**			Pn	01 26 27.5	+2.5
I23K	**Minto, Yukon-K**	**5.72**	**17**			Pn	01 26 26.5	+1.7
COLA	**College**	**5.74**	**24**			Pn	01 26 27.9	+2.8
ILAR	**Eielson Array**	**5.87**	**28**			Pn	01 26 29.2	+2.4
H21K	**Melozitna Rive**	**5.94**	**2**			Pn	01 26 28.4	+0.6
J25K	**Salcha River,**	**6.13**	**34**			Pn	01 26 32.9	+2.3
IMAR	**Indian Mountai**	**6.27**	**358**			Pn	01 26 33.7	+1.4
BCAR	**Beaver Creek A**	**6.45**	**54**			Pn	01 26 36.3	+1.4
G21K	**Allakaket**	**6.80**	**359**			Pn	01 26 40.8	+1.2
PNL	**Peninsula**	**7.03**	**85**			Pn	01 26 43.6	+0.8
E19K	**Redstone River**	**7.94**	**349**			Pn	01 26 56.9	+1.6
I28M	**Miner Creek**	**8.40**	**41**			Pn	01 27 03.0	+1.5
J30M	**Hart River**	**9.28**	**51**			Pn	01 27 15.1	+1.4

*JMA **02** 01:30:00.6±0.3,23°.70N±0°.5×12°.2E±°, h1km±2km, MV3.2/14, TAIWAN REGION*
*TAP **02** 01:30:01.0,23°.70N×121°.52E, h3km, ML3.5, C*
ISC 02 01:30:01.4±0.8,**23°.69N**±0°.01×**121°.54E**±0°.02,**h7**km±5km, **n140,**σ0°**80**/232,**12C-13D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.02**	**357**	⇑*i*P	**Pg**	**01 30 02.3**	**-0.3**
TEGC				*i* S	**Sg**	**01 30 03.4**	**-0.1**
SHUL	**Shoufeng**	**0.10**	**12**	⇓*i*P	**Pg**	**01 30 04.0**	**+0.4**
SHUL				*i* S	**Sg**	**01 30 06.6**	**+1.5**
EGFH	**Guangfu**	**0.11**	**258**	*e*P	**Pg**	**01 30 03.5**	**-0.2**
EGFH				*i* S	**Sg**	**01 30 05.2**	**-0.2**
WARBT	**Fenglin Townsh**	**0.14**	**281**	⇑*i*P	**Pg**	**01 30 04.1**	**-0.3**
WARBT				*i* S	**Sg**	**01 30 05.9**	**-0.5**
ESL	**Shilin**	**0.16**	**321**	⇓*i*P	**Pg**	**01 30 04.4**	**-0.2**
ESL				S	**Sg**	**01 30 06.8**	**-0.1**
TEYL	**Yanliau Villag**	**0.18**	**16**	*e*P	**Pg**	**01 30 06.5**	**+1.5**
HGSD	**Ruisui**	**0.23**	**209**	⇓*i*P	**Pg**	**01 30 06.6**	**+0.8**
HGSD				*i* S	**Sg**	**01 30 11.3**	**+2.4**
EHYH	**Wanrong**	**0.27**	**223**	*i* P	**Pg**	**01 30 06.7**	**+0.1**
EHYH				S	**Sb**	**01 30 12.4**	**-0.9**
EHY	**Hungye**	**0.27**	**228**	⇑*i*P	**Pg**	**01 30 06.7**	**-0.1**
EHY				*e*S	**Sg**	**01 30 11.2**	**+0.8**
ETM	**Tongmen**	**0.28**	**351**	⇓*i*P	**Pg**	**01 30 06.9**	**+0.1**
ETM				*e*S	**Sg**	**01 30 10.8**	**+0.3**
HWA	**Hwalien**	**0.29**	**12**	*e*P	**Pb**	**01 30 07.8**	**-1.2**
HWA				*e*S	**Sb**	**01 30 14.9**	**+0.9**
LXIB	**Xiulin Townshi**	**0.35**	**340**	⇓*i*P	**Pg**	**01 30 08.2**	**-0.1**
LXIB				*i* S	**Sg**	**01 30 12.9**	**0.0**
VWDT	**VWDT**	**0.37**	**280**	⇑*i*P	**Pb**	**01 30 08.9**	**-1.4**
VWDT				*i* S	**Sg**	**01 30 13.6**	**0.0**
YULB	**Yu-li**	**0.37**	**217**	P	**Pb**	**01 30 09.0**	**-1.3**
YULB	**Yu-li**	**0.37**	**217**	⇑*i*P	**Pg**	**01 30 08.7**	**+0.1**
YULB				S	**Sb**	**01 30 15.0**	**-1.3**
ECBN	**Changbin**	**0.38**	**192**	⇓*i*P	**Pb**	**01 30 09.8**	**-0.7**
ECBN				*e*S	**Sb**	**01 30 16.8**	**+0.2**
EYUL	**Yuli**	**0.40**	**211**	*e*P	**Pb**	**01 30 09.9**	**-0.8**
EYUL				*e*S	**Sb**	**01 30 17.1**	**+0.1**
TWF1	**Yuli**	**0.41**	**214**	⇑*i*P	**Pg**	**01 30 09.4**	**+0.2**
TWF1				*e*S	**Sb**	**01 30 17.7**	**+0.4**
OWD	**Renai**	**0.42**	**308**	P	**Pg**	**01 30 09.8**	**+0.1**
OWD				*e*S	**Sg**	**01 30 16.1**	**+0.8**
ETL	**Fush Village**	**0.47**	**9**	*e*P	**Pg**	**01 30 10.7**	**+0.1**
ETL				*e*S	**Sb**	**01 30 18.5**	**-0.8**
NACB	**Ninganchiao**	**0.48**	**6**	P	**Pg**	**01 30 10.7**	**0.0**
NACB	**Ninganchiao**	**0.48**	**6**	⇓*i*P	**Pg**	**01 30 10.6**	**-0.1**
NACB				*e*S	**Sb**	**01 30 18.5**	**-1.0**
WUSB	**Renai**	**0.49**	**308**	⇑*i*P	**Pb**	**01 30 11.2**	**-1.3**
WUSB				S	**Sg**	**01 30 17.7**	**+0.4**
CHKH	**Chenggong**	**0.52**	**195**	*e*P	**Pb**	**01 30 11.8**	**-0.9**
CHKH				S	**Sb**	**01 30 20.6**	**+0.2**
ETLH	**Xiulin Townshi**	**0.52**	**354**	*e*P	**Pg**	**01 30 11.2**	**-0.2**
ETLH				*e*S	**Sg**	**01 30 18.2**	**0.0**
WHF	**Hehuan Shan**	**0.52**	**331**	⇓*i*P	**Pg**	**01 30 11.4**	**-0.1**
WHF				*e*S	**Sg**	**01 30 18.4**	**+0.1**
FULB	**Fuli**	**0.54**	**205**	*e*P	**Pb**	**01 30 13.0**	**-0.2**
FULB				*e*S	**Sb**	**01 30 21.1**	**-0.1**
SSLB	**Suanglung**	**0.55**	**280**	P	**Pb**	**01 30 12.2**	**-1.1**
SSLB	**Suanglung**	**0.55**	**280**	S	**Sg**	**01 30 19.4**	**+0.3**
SSLB	**Suanglung**	**0.55**	**280**	⇑*i*P	**Pg**	**01 30 12.0**	**+0.1**
SSLB				S	**Sg**	**01 30 19.4**	**+0.3**
CHKT	**Chengkung**	**0.61**	**195**	*e*P	**Pb**	**01 30 13.6**	**-0.8**
CHKT				*e*S	**Sb**	**01 30 24.4**	**+1.2**
FUSS	**Fushou**	**0.62**	**334**	⇓P	**Pb**	**01 30 13.5**	**-1.2**
FUSS				*e*S	**Sb**	**01 30 22.8**	**-0.9**
SMLT	**Sun Moon Lake**	**0.62**	**288**	⇑P	**Pb**	**01 30 13.5**	**-1.1**
SMLT				*e*S	**Sb**	**01 30 22.1**	**-1.4**
EHD	**Haiduan**	**0.62**	**210**	*e*P	**Pb**	**01 30 13.5**	**-1.1**
EHD				*e*S	**Sb**	**01 30 24.1**	**+0.5**
WHYT	**Xinyi Township**	**0.63**	**271**	*e*P	**Pb**	**01 30 14.0**	**-0.7**
WHYT				*e*S	**Sb**	**01 30 23.5**	**-0.4**
TWT	**Tachien**	**0.65**	**329**	*e*P	**Pb**	**01 30 14.4**	**-0.9**
TWT				*e*S	**Sg**	**01 30 22.9**	**+0.3**
TDCB	**Techi**	**0.66**	**328**	⇓*i*P	**Pb**	**01 30 14.4**	**-0.9**
TDCB				*e*S	**Sg**	**01 30 22.8**	**0.0**
EAHA	**Aohua**	**0.66**	**16**	*e*P	**Pg**	**01 30 14.1**	**0.0**
EAHA				*e*S	**Sb**	**01 30 25.0**	**+0.3**
ECS	**Chishang**	**0.66**	**207**	*e*P	**Pb**	**01 30 15.1**	**-0.2**
ECS				*e*S	**Sb**	**01 30 25.8**	**+1.1**
WCS	**Beigang Elemen**	**0.68**	**302**	*e*P	**Pb**	**01 30 14.7**	**-0.9**
WCS				*e*S	**Sb**	**01 30 24.1**	**-1.2**
ELDTW	**Lidau**	**0.69**	**224**	P	**Pg**	**01 30 14.4**	**-0.3**
ELDTW				*e*S	**Sg**	**01 30 24.2**	**+0.4**
ALS	**Alishan**	**0.70**	**255**	*e*P	**Pb**	**01 30 15.3**	**-0.8**
ALS				*e*S	**Sb**	**01 30 25.7**	**-0.3**
EDH	**Donghe**	**0.75**	**197**	*e*P	**Pb**	**01 30 15.9**	**-0.8**
EDH				*e*S	**Sb**	**01 30 28.4**	**+1.2**
NNSB	**Datong**	**0.75**	**349**	⇓*i*P	**Pg**	**01 30 15.8**	**0.0**
NNSB				*e*S	**Sg**	**01 30 25.2**	**-0.4**
ENA	**Nanau**	**0.76**	**14**	⇑P	**Pg**	**01 30 15.9**	**0.0**
ENA				*e*S	**Sb**	**01 30 27.0**	**-0.4**
WJS	**Zhushan**	**0.76**	**280**	*e*P	**Pn**	**01 30 17.5**	**-1.0**
WJS				*e*S	**Sb**	**01 30 28.0**	**+0.5**
NNS	**Nan Shan**	**0.76**	**348**	⇓*i*P	**Pb**	**01 30 16.1**	**-0.9**
NNS				*i* S	**Sb**	**01 30 26.5**	**-1.2**
EWUT	**Wuta**	**0.78**	**16**	*e*P	**Pg**	**01 30 16.4**	**0.0**
EWUT				*e*S	**Sb**	**01 30 28.4**	**+0.2**
CHN5	**Tsauling**	**0.80**	**263**	P	**Pb**	**01 30 17.7**	**+0.1**
CHN5				*e*S	**Sb**	**01 30 28.8**	**+0.1**
WHP	**Taichung City**	**0.80**	**317**	*e*P	**Pb**	**01 30 17.3**	**-0.4**
WHP				*e*S	**Sb**	**01 30 27.7**	**-1.0**
WNT	**Mingjian**	**0.81**	**284**	*e*P	**Pb**	**01 30 18.1**	**+0.3**
WNT				*e*S	**Sb**	**01 30 29.1**	**+0.2**
EOS4	**EOS4**	**0.83**	**59**	*e*P	**Pb**	**01 30 18.1**	**+0.1**
LATG	**Datong**	**0.84**	**359**	*e*P	**Pg**	**01 30 17.4**	**-0.2**
LATG				*e*S	**Sb**	**01 30 30.2**	**+0.3**
LONT	**Longtian**	**0.87**	**206**	*e*P	**Pb**	**01 30 18.1**	**-0.6**
STYH	**Taoyuan**	**0.87**	**234**	*e*P	**Pb**	**01 30 18.2**	**-0.7**
STYH				*e*S	**Sb**	**01 30 30.7**	**-0.1**
WCKO	**Fanlu**	**0.90**	**254**	*e*P	**Pn**	**01 30 19.9**	**-0.6**
WCKO				*e*S	**Sb**	**01 30 32.5**	**+1.0**
WGK	**Gukeng**	**0.90**	**270**	*e*P	**Pb**	**01 30 19.5**	**+0.2**
WGK				*e*S	**Sn**	**01 30 32.8**	**-0.9**
TCU	**Taichung**	**0.91**	**300**	*e*P	**Pb**	**01 30 19.6**	**0.0**
WDL	**Douliou City**	**0.92**	**272**	*e*P	**Pn**	**01 30 20.2**	**-0.5**
WDLH	**Douliu**	**0.92**	**270**	*e*P	**Pn**	**01 30 20.7**	**0.0**
WDLH				*e*S	**Sn**	**01 30 34.6**	**+0.4**
ESAO	**Su ao**	**0.92**	**17**	*e*P	**Pb**	**01 30 19.2**	**-0.6**
ESAO				*e*S	**Sb**	**01 30 32.8**	**+0.5**
TPUB	**Ta-pu**	**0.92**	**245**	P	**Pn**	**01 30 20.2**	**-0.6**
TPUB	**Ta-pu**	**0.92**	**245**	S	**Sb**	**01 30 32.0**	**-0.2**
TPUB	**Ta-pu**	**0.92**	**245**	P	**Sb**	**01 30 19.8**	**+0.1**
TPUB				*e*S	**Sb**	**01 30 33.2**	**+0.9**
EOS3	**EOS3**	**0.93**	**50**	*e*P	**Pn**	**01 30 19.9**	**+0.2**
CHN4	**Tsaushan**	**0.93**	**249**	⇑P	**Pn**	**01 30 20.2**	**-0.7**
CHN4				*e*S	**Sn**	**01 30 33.7**	**+0.9**
ENTT	**Nioudou**	**0.94**	**1**	*e*P	**Pb**	**01 30 19.7**	**-0.4**
ENTT				*e*S	**Sb**	**01 30 33.5**	**+0.7**
NDS	**Dongshan**	**0.95**	**10**	*e*P	**Pb**	**01 30 19.6**	**-0.6**
NDS				*e*S	**Sg**	**01 30 32.2**	**+0.1**
TWC	**Suao**	**0.96**	**17**	*e*P	**Pg**	**01 30 19.6**	**-0.1**
TWC				*e*S	**Sb**	**01 30 33.8**	**+0.6**
TWQ1	**Liyutan**	**0.96**	**313**	*e*P	**Pn**	**01 30 21.5**	**+0.2**
TWQ1				*e*S	**Sb**	**01 30 34.1**	**+0.8**
WTP	**Ta-pu**	**0.96**	**243**	*i* P	**Pn**	**01 30 20.7**	**-0.6**
WTP				*e*S	**Sn**	**01 30 34.8**	**-0.5**
EOS2	**EOS2**	**0.96**	**41**	*e*P	**Pb**	**01 30 20.3**	**0.0**
TWGBT	**Beinan**	**0.97**	**206**	P	**Pb**	**01 30 19.9**	**-0.6**
TWGBT	**Beinan**	**0.97**	**206**	*e*P	**Pg**	**01 30 19.3**	**-0.6**
TWGBT				S	**Sb**	**01 30 33.6**	**+0.1**
TWG	**Pinlang**	**0.97**	**207**	*e*P	**Sb**	**01 30 20.0**	**-0.5**
TWG				*i* S	**Sn**	**01 30 33.5**	**-0.1**
WCHH	**Zhanghua**	**0.98**	**293**	*e*P	**Pn**	**01 30 20.1**	**-0.4**
WCHH				*e*S	**Sn**	**01 30 35.3**	**-0.4**
WCH1	**Changhua City**	**0.99**	**293**	*e*P	**Pb**	**01 30 20.2**	**-0.6**
WCH1				*e*S	**Sn**	**01 30 35.1**	**-0.8**
YHNB	**Yeheng**	**0.99**	**351**	P	**Pb**	**01 30 20.6**	**-0.3**
YHNB	**Yeheng**	**0.99**	**351**	*i* P	**Pb**	**01 30 20.6**	**-0.3**
YHNB				*e*S	**Sb**	**01 30 33.3**	**-0.8**
NSK	**Sanguang**	**0.99**	**350**	⇓P	**Pb**	**01 30 20.7**	**-0.3**
NSK				*i* S	**Sg**	**01 30 33.3**	**-0.1**
NFF	**Wufeng Townshi**	**1.01**	**338**	*e*P	**Pb**	**01 30 21.4**	**+0.1**
NFF				*e*S	**Sb**	**01 30 35.1**	**+0.2**
LDUT	**Ludao**	**1.01**	**184**	*e*P	**Pg**	**01 30 20.0**	**-0.8**
LDUT				*e*S	**Sg**	**01 30 33.9**	**-0.1**
NSY	**Sanyi**	**1.01**	**315**	*e*P	**Pn**	**01 30 22.7**	**+0.6**
TWE	**Neicheng**	**1.03**	**6**	*e*P	**Pn**	**01 30 21.5**	**-0.1**
TWE				*e*S	**Sb**	**01 30 35.7**	**+0.4**
CHY	**Chiayi**	**1.04**	**260**	*i* P	**Pn**	**01 30 23.1**	**+0.6**
CHY				*e*S	**Sn**	**01 30 36.6**	**-0.6**
WDJ	**Dajia District**	**1.05**	**309**	*e*P	**Pn**	**01 30 24.8**	**+0.8**
WTK	**Tuku**	**1.06**	**270**	*e*P	**Pn**	**01 30 22.6**	**-0.1**
WTK				*e*S	**Sn**	**01 30 37.9**	**+0.3**
CHN1	**Nanshi**	**1.06**	**242**	⇑P	**Pn**	**01 30 22.5**	**-0.2**
CHN1				*e*S	**Sn**	**01 30 37.3**	**-0.4**
FUSB	**Fushanzhiwuyua**	**1.06**	**2**	P	**Pb**	**01 30 21.8**	**-0.4**
FUSB				*e*S	**Sb**	**01 30 36.1**	**-0.3**
LIOB	**Emei**	**1.06**	**333**	*e*P	**Pn**	**01 30 22.5**	**-0.3**
LIOB				*e*S	**Sb**	**01 30 36.5**	**+0.2**
SGST	**Jiashian**	**1.07**	**236**	*e*P	**Pb**	**01 30 21.9**	**-0.3**
SGST				*i* S	**Sn**	**01 30 39.3**	**+1.4**
NWLT	**Wulai**	**1.08**	**358**	*e*P	**Pb**	**01 30 22.1**	**-0.3**
NWLT				*e*S	**Sg**	**01 30 36.1**	**-0.1**
ILA	**Ilan**	**1.09**	**10**	*e*P	**Pb**	**01 30 22.0**	**-0.5**
ILA				*e*S	**Sb**	**01 30 37.6**	**+0.7**
NMLH	**Miaoli**	**1.09**	**321**	*e*P	**Pn**	**01 30 23.2**	**+0.1**
NMLH				*e*S	**Sn**	**01 30 38.4**	**0.0**
KSHI	**Guanxi Townshi**	**1.13**	**343**	*e*P	**Pn**	**01 30 22.7**	**-0.6**
EGS		**1.20**	**17**	*e*P	**Pn**	**01 30 25.6**	**+1.0**
ICHU	**Yijhu**	**1.20**	**254**	*e*P	**Pn**	**01 30 25.2**	**+0.6**
ICHU				*e*S	**Sn**	**01 30 41.9**	**+0.6**
ECL	**Taimali**	**1.22**	**207**	*e*P	**Pn**	**01 30 24.6**	**-0.2**
WSL	**Shuilin Townsh**	**1.22**	**262**	*e*P	**Pn**	**01 30 25.4**	**+0.6**
WSL				S	**Sn**	**01 30 43.1**	**+1.6**
SCST	**Cishan**	**1.25**	**230**	*e*P	**Pn**	**01 30 26.1**	**+0.8**
SCST				*e*S	**Sn**	**01 30 45.9**	**+3.4**
SSD	**Sandimen**	**1.26**	**222**	*e*P	**Pn**	**01 30 25.4**	**0.0**
SSD				*e*S	**Sn**	**01 30 43.7**	**+1.1**
CHN8	**Yiju**	**1.27**	**255**	*e*P	**Pn**	**01 30 26.2**	**+0.6**
CHN8				*e*S	**Sn**	**01 30 44.4**	**+1.5**
TATO	**Taipei**	**1.28**	**358**	P	**Pn**	**01 30 25.9**	**+0.2**
TSMG	**Majia**	**1.28**	**220**	*e*P	**Pn**	**01 30 26.4**	**+0.7**
TIPB	**Shuangxi**	**1.30**	**11**	*e*P	**Pn**	**01 30 26.2**	**+0.2**
TIPB				*e*S	**Sn**	**01 30 44.4**	**+0.7**
TWM1	**Shoushan**	**1.34**	**230**	*e*P	**Pb**	**01 30 28.6**	**+1.6**
MASBT	**Mashibuluo**	**1.36**	**218**	*e*P	**Pn**	**01 30 0**	**-0.8**
MASBT				*e*S	**Sn**	**01 30 45.9**	**+0.8**
TWB1	**Santiao Chiao**	**1.37**	**17**	*e*P	**Pn**	**01 30 26.9**	**-0.1**
SXI1	**Grass Mountain**	**1.43**	**12**	*e*P	**Pn**	**01 30 28.4**	**0.0**
SXI1				*e*S	**Sn**	**01 30 50.2**	**+3.2**
TSCK	**Chigu Township**	**1.44**	**248**	*e*P	**Pg**	**01 30 29.2**	**+0.2**
TSCK				*i* S	**Sn**	**01 30 50.9**	**+3.8**
EAST	**Anshuo**	**1.45**	**206**	*e*P	**Pn**	**01 30 26.4**	**-1.7**
ZUZH	**Zhuzihu**	**1.47**	**0**	*e*P	**Pg**	**01 30 29.2**	**-0.3**
TNOU	**National Taiwa**	**1.47**	**8**	*e*S	**Sg**	**01 30 48.0**	**-0.6**
TAWH	**Dawu Township**	**1.47**	**204**	*e*P	**Pb**	**01 30 28.7**	**-0.4**
ANP	**Anpu**	**1.49**	**359**	*e*P	**Pg**	**01 30 29.6**	**-0.3**
JYNG	**Yonagunijimaku**	**1.49**	**59**	*e*S	**Sb**	**01 30 48.6**	**+0.1**
YOJ	**Yonaguni jima**	**1.55**	**60**	P	**Pb**	**01 30 30.2**	**-0.2**
YOJ	**Yonaguni jima**	**1.55**	**60**	*e*P	**Pn**	**01 30 28.3**	**-1.1**
YOJ	**Yonaguni jima**	**1.55**	**60**	P	**Pn**	**01 30 28.9**	**-0.4**
YOJ				*e*S	**Sn**	**01 30 50.0**	**+0.2**
SLIU	**Shizi**	**1.62**	**205**	*e*P	**Pb**	**01 30 30.9**	**-0.7**
LAY	**Lan-yu**	**1.65**	**180**	*e*P	**Pn**	**01 30 27.5**	**-3.3**
WDGT	**Dungji**	**1.78**	**256**	*e*P	**Pn**	**01 30 32.5**	**0.0**
WDGT				*e*S	**Sb**	**01 30 56.3**	**-0.6**
PHUB	**P'eng-hu**	**1.81**	**265**	*e*P	**Pn**	**01 30 33.7**	**+0.6**
PNG	**Penghu**	**1.83**	**267**	*e*P	**Pn**	**01 30 34.0**	**-1.1**
VCHM	**Qimei**	**2.00**	**257**	*e*P	**Pn**	**01 30 35.1**	**-0.4**
IRIF	**Iriomote-Funau**	**2.10**	**72**	*e*P	**Pn**	**01 30 36.8**	**-0.2**
IRIF				*e*S	**Sn**	**01 31 03.5**	**0.0**
HATJ	**Hateruma jima**	**2.10**	**80**	*e*S	**Sn**	**01 31 02.8**	**-0.7**
VWUC	**VWUC**	**2.31**	**305**	*e*P	**Pn**	**01 30 39.4**	**-0.4**
JKRS	**Kuro-shima**	**2.32**	**76**	*e*S	**Sn**	**01 31 09.1**	**+0.3**
JIJ	**Ishigaki jima**	**2.47**	**74**	*e*P	**Pn**	**01 30 41.5**	**-0.6**
JIJ				*e*S	**Sn**	**01 31 11.9**	**-0.6**
PTMZ	**Houxiangcun**	**2.58**	**302**	*e*P	**Pn**	**01 30 43.8**	**+0.1**
JISG	**Ishigakijimahi**	**2.68**	**70**	*e*P	**Pn**	**01 30 44.4**	**-0.6**
JISG				*e*S	**Sn**	**01 31 17.0**	**-0.7**
MATB	**Ma-tsu**	**2.85**	**330**	*e*P	**Pn**	**01 30 46.9**	**-0.4**
KNM	**Kinmen**	**2.93**	**285**	*e*P	**Pn**	**01 30 50.3**	**+1.8**
KNMB	**Chin-men Tao**	**2.98**	**286**	*e*P	**Pn**	**01 30 49.2**	**0.0**
JTJ	**Tarama**	**3.04**	**71**	*e*P	**Pn**	**01 30 50.1**	**+0.3**
JTJ				*e*S	**Sn**	**01 31 26.8**	**+0.2**
MHZQ	**Yeshan**	**3.31**	**317**	*e*P	**Pn**	**01 30 54.3**	**+0.7**
AXDP	**Jialang**	**3.47**	**291**	*e*P	**Pn**	**01 30 56.1**	**+0.3**
ZPLA	**Ao Xicun**	**3.48**	**275**	*e*P	**Pn**	**01 30 56.4**	**+0.5**
SXFK	**Yanhouchang**	**4.45**	**308**	*e*P	**Pn**	**01 31 09.2**	**0.0**

*IDC **02** 01:34:35.5±50.0, 17°.53S×175°.28W, h0km, mb4.3/3, mbtmp4.3/3, MS4.1/2, Error ellipse: s-maj=937.9km s-min=173.1km az=80.0*
*NEIC **02** 01:35:06.9±1.2, 17°.6S±0°.2×175°.27W±0°.10, h288km±6km, mb4.4/14, Error ellipse: s-maj=25.0km s-min=11.8km az=163.0*
ISC 02 01:35:06.8±0.7,**17°.5S**±0°.2×**175°.31W**±0°.10,**h300**km,**n22,** σ1°**44**/20,**mb4.2**/10,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.37**	**108**		**Pn**	**01 36 26.9**	**-1.7**
MSVF	**Nonsavu**	**6.34**	**266**		**Pn**	**01 36 40.5**	**+0.2**
PINNC	**Pines Island,**	**16.99**	**250**	P	**P**	**01 38 44.2**	**-1.5**
DZM	**Mont Dzumac**	**17.77**	**252**	P	**P**	**01 38 53.1**	**-1.1**
DZM				IAmb	IAmb	01 39 15.6	
	comp=Z,33nm,1.4s						
MRZ	**Mangatainoka R**	**24.43**	**197**	P	**P**	**01 40 01.1**	**+2.3**
PMG	**Port Moresby**	**37.31**	**277**	LR	LR	01 55 15.9	
	comp=Z,272nm,21.5s,baz=148,slow=33						
STKA	**Stephens Creek**	**41.44**	**241**	P	**P**	**01 42 24.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=79,slow=6.7,SNR=3.4						
	comp=Z,0.9nm,0.3s						
BBOO	**Buckleboo**	**46.21**	**241**	P	**P**	**01 43 00.7**	**-2.0**
BBOO				IAmb	IAmb	01 43 11.9	
	comp=Z,28nm,1.4s						
WR8	**Warramunga Arr**	**47.47**	**259**	P	**P**	**01 43 12.9**	**+0.4**
WB0	**Warramunga Arr**	**47.58**	**259**	P	**P**	**01 43 13.9**	**+0.5**
WB0				IAmb	IAmb	01 43 40.2	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**47.62**	**259**	P	**P**	**01 43 13.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=96,slow=7.4,SNR=15						
	comp=Z,1.3nm,0.6s						
AS31	**Alice Springs**	**47.75**	**254**	P	**P**	**01 43 14.8**	**+0.1**
ASAR	**Alice Springs**	**47.75**	**254**	P	**P**	**01 43 14.1**	**-0.7**
ASAR	**Alice Springs**	**47.75**	**254**	P	**P**	**

AS31					IAmb	IAmb	02 25 40.1	
	comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**32.46**	**250**	P		**P**	**02 25 39.0**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=78,slow=8.9,SNR=20							
	comp=Z,2.5nm,0.6s							
BBOO	**Buckleboo**	**33.16**	**233**	P		**P**	**02 25 46.4**	**+0.5**
FORT	**Forrest**	**38.96**	**240**	P		**P**	**02 26 34.7**	**-0.8**
FORT					IAmb	IAmb	02 27 09.2	
	comp=Z,4.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**39.94**	**260**	P		**P**	**02 26 43.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.41**	**240**	P		**P**	**02 27 48.9**	**-2.3**
JHJ	**Hachijo jima 2**	**55.05**	**332**	LR		LR	02 49 50.6	
	comp=Z,99nm,21.7s,baz=326,slow=33							
VNDA	**Vanda**	**62.09**	**181**	P		**P**	**02 29 27.6**	**-1.1**
SBA	**Scott Base**	**62.37**	**180**	P		**P**	**02 29 30.1**	**-0.4**
SBA					IAmb	IAmb	02 30 02.2	
	comp=Z,1.9nm,0.6s							
KSAR	**Wonju Array Be**	**64.42**	**326**	P		**P**	**02 29 45.5**	**+0.9**
QSPA	**South Pole Qui**	**74.53**	**180**	P		**P**	**02 30 44.6**	**-2.0**
QSPA					IAmb	IAmb	02 31 09.9	
	comp=Z,3.4nm,1.2s							
QSPA	**South Pole Qui**	**74.53**	**180**	P		**P**	**02 30 45.4**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=28,slow=2.5,SNR=6.0							
	comp=Z,1.2nm,0.8s							
SNAA	**Sanae**	**92.78**	**183**	P		**P**	**02 32 17.3**	**-2.5**
	comp=Z,1.2nm,1.1s,baz=170,slow=11,SNR=5.4							
	comp=Z,1.2nm,1.1s							

IDC ***02*** *02:24:49.6±0.7, 30°.19N×143°.08E, h0km, mb3.9/14, mbtmp3.9/18, ML3.3/4, Error ellipse: s-maj=22.0km s-min=17.4km az=70.0*

JMA ***02*** *02:24:51.5±0.2, 30°.2N±0°.5×14°3E±°, h50km, MV4.0/18, FAR E OFF IZU ISLANDS*

NEIC ***02*** *02:24:52.1±2.9, 30°.21N±0°.07×142°.7E±0°.2, h10km±1km, mb4.5/6, Error ellipse: s-maj=23.4km s-min=10.5km az=78.0*

ISC 02 02:24:54.5±0.6, 30°.18N±0°.05×142°.77E±0°.10, h30km, n41, σ1s82/48, mb3.9/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.12**	**190**	*eP*	**Pn**	**02 25 40.5**	**-1.1**
CBIJ				*eS*	**Sn**	**02 26 16.6**	**-1.2**
JCJ	**Chichijima**	**3.12**	**190**	Pn	**Pn**	**02 25 41.4**	**-0.2**
JCJ	**Chichijima**	**3.12**	**190**	Pn	**Pn**	**02 25 40.0**	**-1.7**
	4.8nm,0.3s,baz=12,slow=21,SNR=10						
JCJ				Sn	**Sn**	**02 26 15.1**	**-2.7**
	15nm,0.3s,baz=274,slow=23,SNR=1.9						
	20nm,0.4s						
JHJ2	**Mitsune**	**3.85**	**320**	Pn	**Pn**	**02 25 51.4**	**-0.3**
JHJ2	**Mitsune**	**3.85**	**320**	*eP*	**Pn**	**02 25 50.9**	**-0.9**
JHJ2				*eS*	**Sn**	**02 26 33.9**	**-2.1**
JHJ	**Hachijo jima 2**	**3.88**	**320**	Pn	**Pn**	**02 25 51.0**	**-1.1**
	9.1nm,0.3s,baz=58,slow=21,SNR=2.3						
JHJ				Sn	**Sn**	**02 26 32.9**	**-3.8**
	17nm,0.3s,baz=88,slow=19,SNR=2.8						
	22nm,0.3s						
BSO1	**Boso 1**	**4.71**	**342**	*eP*	**Pn**	**02 26 01.9**	**-1.1**
BSO1				*eS*	**Sn**	**02 26 55.5**	**-0.9**
JRY	**Ryogami san**	**6.66**	**332**	*eP*	**Pn**	**02 26 30.5**	**+0.1**
JHO	**Hitachi**	**6.67**	**345**	*eP*	**Pn**	**02 26 29.4**	**-1.0**
JAG	**Ashikaga**	**6.82**	**337**	*eP*	**Pn**	**02 26 30.9**	**-1.5**
JAG				*eS*	**Sn**	**02 27 46.4**	**-2.6**
MJAR	**Matsushiro Arr**	**7.40**	**330**		**Pn**	**02 26 37.9**	**-2.6**
MJAR	**Matsushiro Arr**	**7.40**	**330**	Pn	**Pn**	**02 26 38.8**	**-1.7**
	0.3nm,0.3s,baz=149,slow=9.6,SNR=19						
MJAR				Sn	**Sn**	**02 27 59.3**	**-4.1**
	0.1nm,0.3s,baz=157,slow=18,SNR=7.0						
	4.4nm,0.6s						
MAJO	**Matsushiro**	**7.40**	**330**		**Pn**	**02 26 38.1**	**-2.4**
MJB9	**Matsu-Tunnel**	**7.41**	**330**		**Pn**	**02 26 38.1**	**-2.4**
JMM	**Marumori**	**7.84**	**348**		**Pn**	**02 26 45.3**	**-1.2**
KSRS	**Korea Array**	**14.30**	**304**	Pn	**Pn**	**02 28 15.8**	**+0.9**
	0.1nm,0.3s,baz=115,slow=12,SNR=8.3						
	1.1nm,0.6s						
TWG	**Pinlang**	**20.73**	**254**	P	**P**	**02 29 29.8**	**-2.9**
TWG				IAmb	IAmb	02 29 57.8	
	comp=Z,20nm,1.1s						
SONM	**Songino Array**	**32.92**	**313**	P	**P**	**02 31 28.6**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=117,slow=8.5,SNR=5.9						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**47.54**	**317**	PcP	**PcP**	**02 34 56.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=103,slow=1.9,SNR=3.6						
MKAR	**Makanchi Array**	**48.96**	**308**	P	**P**	**02 33 41.2**	**+3.2**
MKAR	**Makanchi Array**	**48.96**	**308**	P	**P**	**02 33 40.1**	**+2.1**
	comp=Z,1.2nm,0.7s,baz=83,slow=9.9,SNR=8.5						
	comp=Z,1.2nm,0.7s						
WR8	**Warramunga Arr**	**50.48**	**190**	P	**P**	**02 33 49.6**	**-0.2**
WR8				IAmb	IAmb	02 34 21.5	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**50.49**	**190**	P	**P**	**02 33 49.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=8.7,slow=7.8,SNR=6.3						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**51.29**	**313**	P	**P**	**02 33 56.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=88,slow=7.9,SNR=8.3						
	comp=Z,0.8nm,0.6s						
E22K	**Anaktuvuk Pass**	**53.22**	**25**	P	**P**	**02 34 09.9**	**+0.1**
E22K				IAmb	IAmb	02 34 24.7	
	comp=Z,10nm,1.4s						
ASAR	**Alice Springs**	**54.21**	**190**	P	**P**	**02 34 17.2**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=15,slow=6.8,SNR=3.1						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**54.78**	**30**	P	**P**	**02 34 18.7**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=272,slow=5.6,SNR=6.1						
	comp=Z,0.8nm,0.9s						
BVAR	**Borovoye Array**	**56.15**	**316**	P	**P**	**02 34 33.0**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=99,slow=9.2,SNR=4.0						
	comp=Z,0.8nm,0.6s						
FORT	**Forrest**	**62.22**	**194**	P	**P**	**02 35 14.2**	**+0.9**
AB31	**Akbulak array**	**63.34**	**313**	P	**P**	**02 35 22.9**	**+2.2**
YKA	**Yellowknife Ar**	**69.20**	**29**	P	**P**	**02 35 56.9**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=297,slow=6.4,SNR=5.2						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**75.42**	**334**	P	**P**	**02 36 37.0**	**+1.9**
	comp=Z,2.3nm,0.9s,baz=64,slow=4.9,SNR=5.8						
	comp=Z,2.3nm,0.9s						
NVAR	**Mina Array Bea**	**78.23**	**52**	P	**P**	**02 36 50.7**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=283,slow=5.2,SNR=7.3						
	comp=Z,1.2nm,0.8s						
HFS	**Hagfors**	**80.80**	**337**	P	**P**	**02 37 04.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=77,slow=9.2,SNR=5.6						
	comp=Z,0.4nm,0.5s						
NB2	**NORSAR Subarra**	**80.94**	**338**	P	**P**	**02 37 07.8**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**80.94**	**338**	P	**P**	**02 37 04.9**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=47,slow=4.6,SNR=4.3						
	comp=Z,1.1nm,0.9s						
BRTR	**Keskin Array B**	**84.28**	**313**	P	**P**	**02 37 24.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=76,slow=5.2,SNR=5.8						
	comp=Z,1.0nm,0.8s						
RAYN	**Ar Rayn**	**84.37**	**294**	P	**P**	**02 37 26.9**	**+2.5**
RAYN				IAmb	IAmb	02 37 28.4	
	comp=Z,3.3nm,0.8s						
TXAR	**Lajitas Array**	**93.35**	**53**	P	**P**	**02 38 08.3**	**+1.1**
TXAR	**Lajitas Array**	**93.35**	**53**	P	**P**	**02 38 06.7**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=278,slow=2.7,SNR=10						
	comp=Z,0.9nm,0.9s						
LPAZ	**La Paz**	**148.54**	**71**	PKPbc	**PKPbc**	**02 44 39.2**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=345,slow=2.6,SNR=6.9						

CATAC ***02*** *02:27:25.0±0.7, 14°N±3°×9°3W±°, h8km±3km, M3.7/11, MLv3.7/11, Error ellipse: s-maj=7.9km s-min=4.6km az=26.8, confirmed*

MEX ***02*** *02:27:25.3±0.7, 14°.15N×93°.05W, h10km, MD3.8*

GCG ***02*** *02:27:26.0±1.3, 14°.12N×92°.91W, h22km±6km, MD4.2*

ISC 02 02:27:20.6±2.3, 14°06N±0°.08×93°06W±0°.06, h6km±12km, n26, σ2s51/40, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.14**	**43**	*eP*	**Pg**	**02 27 41.4**	**-1.2**
THIG				*eS*	**Sg**	**02 27 55.8**	**-1.6**
THIG		**1.14**	**43**	*eP*	**Pg**	**02 27 43.3**	**+0.8**
THIG				*i* S	**Sg**	**02 27 56.7**	**-0.7**
SMCA	**Catarina**	**1.24**	**50**	*eP*	**Pb**	**02 27 45.0**	**+0.6**
PATR	**El Naranjo**	**1.32**	**37**	*eP*	**Pn**	**02 27 45.1**	**-0.8**
PATR				*i* S	**Sb**	**02 28 00.8**	**-2.4**
RTAL	**Retalhuleu**	**1.40**	**71**	*eP*	**Pn**	**02 27 47.3**	**+0.5**
RTAL				*eS*	**Sb**	**02 28 03.8**	**-1.6**
RTAL	**Retalhuleu**	**1.40**	**71**	P	**Pn**	**02 27 47.6**	**+0.8**
RTAL	**Retalhuleu**	**1.40**	**71**	S	**Sb**	**02 28 04.7**	**-0.7**
PAVE	**Pavencul**	**1.41**	**37**	*eP*	**Pn**	**02 27 46.6**	**-0.5**
PAVE				*i* S	**Sb**	**02 28 02.8**	**-3.2**
PCIG		**1.64**	**355**	*eP*	**Pn**	**02 27 50.2**	**+0.2**
PCIG				*i* S	**Sn**	**02 28 05.5**	**-5.9**
QUEO	**Labor Ovalle**	**1.70**	**62**	*eP*	**Pn**	**02 27 52.3**	**+1.2**
QUEO				*i* S	**Sn**	**02 28 13.6**	**+0.2**
HUEH	**Huehuetenango**	**1.96**	**50**	*eP*	**Pn**	**02 27 56.2**	**+1.6**
HUEH				*i* S	**Sn**	**02 28 20.8**	**+1.1**
HUEH	**Huehuetenango**	**1.96**	**50**	*i* P	**Pn**	**02 27 56.9**	**+2.3**
HUEH				*i* S	**Sn**	**02 28 19.9**	**+0.3**
HUEH	**Huehuetenango**	**1.96**	**50**	P	**Pn**	**02 27 56.9**	**+2.3**
QUIS	**Sacapulas**	**2.26**	**57**	*eP*	**Pn**	**02 28 01.7**	**+3.0**
CCIG	**Comitan**	**2.38**	**22**	*eP*	**Pn**	**02 28 04.2**	**+3.8**
CCIG				*eS*	**Sn**	**02 28 30.6**	**+0.7**
CCIG	**Comitan**	**2.38**	**22**	*eP*	**Pn**	**02 28 04.1**	**+3.7**
CCIG				*eS*	**Sn**	**02 28 32.0**	**+2.0**
CCIG	**Comitan**	**2.38**	**22**	P	**Pn**	**02 28 04.5**	**+4.1**
CCIG	**Comitan**	**2.38**	**22**	S	**Sb**	**02 28 34.0**	**+0.2**
TGIG		**2.70**	**359**	*eP*	**Pn**	**02 28 07.8**	**+3.1**
TGIG				*eS*	**Sn**	**02 28 37.8**	**+0.1**
TGIG		**2.70**	**359**	*eP*	**Pn**	**02 28 07.7**	**+3.1**
TGIG				*i* S	**Sn**	**02 28 39.3**	**+1.5**
NUBE	**Las Nubes**	**3.19**	**92**	*eP*	**Pn**	**02 28 13.2**	**+1.7**
NUBE	**Las Nubes**	**3.19**	**92**	P	**Pn**	**02 28 13.3**	**+1.7**
NUBE	**Las Nubes**	**3.19**	**92**	S	**Sn**	**02 28 49.2**	**-0.7**
CMIG	**Matias Romero**	**3.48**	**330**	*eP*	**Pn**	**02 28 19.3**	**+3.9**
CMIG				*eS*	**Sn**	**02 28 57.0**	**0.0**
PETF	**Flores**	**4.19**	**47**	P	**Pn**	**02 28 29.2**	**+4.2**
CXUV	**Coxquihui**	**7.46**	**325**	*eS*	**Sn**	**02 30 29.4**	**-5.7**

IDC 02 02:29:10.0±5.7, 15°.46S×176°.25W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=341.2km s-min=81.9km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.16**	**257**	P	P	02 37 44.4	-0.2
	0.1nm,0.3s,baz=92,slow=7.0,SNR=5.7						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**47.48**	**252**	P	P	02 37 47.0	-0.1
	1.0nm,0.4s,baz=86,slow=8.5,SNR=22						
	1.0nm,0.4s						
BRTR	**Keskin Array B**	**144.43**	**319**	PKP	PKPdf	02 48 48.2	-0.5
	0.9nm,0.7s,baz=46,slow=3.6,SNR=5.4						

NEIC ***02*** *02:47:19.1±0.5, 35°.823N±0°.009×98°.10W±0°.01, h5km±1km, mb_Lg1.6/5, ML1.9/21, ML2.0/44, Error ellipse: s-maj=2.8km s-min=1.6km az=304.0*

NEIC 02 02:47:19.1±0.5, 35°.821N±0°.009×98°.10W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=305.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**112**		Pg	02 47 28.1	+0.6
BCOK					Sg	02 47 34.1	+1.0
CSTR	**Hydro, Custer**	**0.51**	**250**		Pg	02 47 29.5	+0.6
CSTR					Sg	02 47 36.3	+0.8
OK029	**Liberty Lake**	**0.53**	**93**		Pg	02 47 29.3	+0.1
OK029				IAmb_Lg		02 47 35.4	
	comp=Z,7.9nm,1.0s						
OK029					Sg	02 47 37.0	+1.0
CROK	**Carrier**	**0.69**	**8**		Pg	02 47 32.5	+0.1
CROK					Sg	02 47 42.1	+0.8
CROK				IAML		02 47 56.3	
	comp=N,86nm,0.2s						
CROK				IAML		02 47 57.2	
	comp=E,65nm,0.3s						
FNO	**Franklin**	**0.80**	**134**		Pg	02 47 34.7	+0.2
FNO				IAML		02 47 37.0	
	comp=N,49nm,0.8s						
FNO					Sg	02 47 45.4	+0.5
FNO				IAML		02 47 48.5	
	comp=E,45nm,0.5s						
OK038	**West end E0370**	**0.84**	**322**		Pg	02 47 35.5	+0.3
OK038					Sg	02 47 46.5	+0.5
GC02	**Grant County #**	**1.05**	**11**		Pg	02 47 38.8	-0.4
GC02					Sg	02 47 53.2	+0.4
NOKA	**Waynoka**	**1.05**	**321**		Pg	02 47 39.6	+0.3
NOKA					Sg	02 47 53.1	+0.1
OK052	**Battle Ridge R**	**1.07**	**80**		Pg	02 47 39.2	-0.4
OK052				IAML		02 47 54.8	
	comp=E,40nm,0.2s						
OK052				IAML		02 48 03.0	
	comp=E,41nm,0.2s						
QUOK	**Quay**	**1.18**	**72**		Pg	02 47 41.0	-0.8
WMOK	**Wichita Mounta**	**1.22**	**207**		Pg	02 47 41.3	-1.1
DEOK	**Depew**	**1.30**	**89**	IAML		02 48 07.8	
	comp=N,32nm,0.2s						
T35A	**Sooner Cattle**	**1.68**	**49**		Pn	02 47 49.5	+0.3
TUL3	**Leonard**	**1.88**	**87**	IAmb_Lg		02 48 23.6	
	comp=Z,4.5nm,0.8s						
LOOK	**Love County**	**1.98**	**157**		Pb	02 47 54.5	-1.0
WTFS	**Witchita Falls**	**2.07**	**188**		Pb	02 47 55.9	-1.2
RLO	**Rose Lookout**	**2.52**	**81**		Pn	02 48 02.4	+1.7
U38A	**Gravette**	**3.07**	**77**	IAmb_Lg		02 48 56.9	
	comp=Z,2.0nm,0.8s						

CATAC 02 02:48:57.2±0.4, 12°N±3°×87°W±°, h46km±4km, M2.8/16, MLv2.8/16, Error ellipse: s-maj=8.1km s-min=3.5km az=35.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.36**	**11**	P	Pn	02 49 07.5	+1.0
SAPS	**Ciudad Sandino**	**0.42**	**36**	P	Pn	02 49 08.8	+1.5
SAPS	**Ciudad Sandino**	**0.42**	**36**	S	Sn	02 49 17.4	+3.0
UNAN	**Cigeo UNAN**	**0.48**	**53**	P	Pn	02 49 09.3	+1.4
UNAN				S	Sn	02 49 18.3	+2.7
APQ2	**Apoyeque**	**0.49**	**41**	S	Sn	02 49 18.7	+2.8
R4DEC	**Barrio San Lui**	**0.52**	**51**	S	Sn	02 49 19.4	+3.0
R4DEC	**Barrio San Lui**	**0.52**	**51**	P	Pn	02 49 09.6	+1.2
APQ3	**Volcan Apoyequ**	**0.53**	**33**	P	Pn	02 49 09.8	+1.3
APQ3				S	Sn	02 49 19.3	+2.6
NANN	**Nandasmo**	**0.54**	**78**	P	Pn	02 49 10.8	+2.1
NANN	**Nandasmo**	**0.54**	**78**	S	Sn	02 49 20.2	+3.3
WILN	**Americas 2**	**0.57**	**54**	P	Pn	02 49 10.1	+1.1
WILN				S	Sn	02 49 20.6	+3.0
MOMN	**Momotombo**	**0.59**	**11**	P	Pn	02 49 10.4	+1.0
MOMN				S	Sn	02 49 20.2	+2.0
NADN	**Granada**	**0.62**	**97**	P	Pn	02 49 10.3	+0.6
NADN				S	Sn	02 49 20.4	+1.7
MOM2	**El Cardon**	**0.63**	**16**	P	Pn	02 49 11.0	+1.1
MOM2				S	Sn	02 49 21.5	+2.5
CNGN	**Cerro Negro**	**0.67**	**357**	P	Pn	02 49 11.3	+0.9
CNGN	**Cerro Negro**	**0.67**	**357**	S	Sn	02 49 22.3	+2.2
PLRN	**Geotermica Pol**	**0.76**	**352**	P	Pn	02 49 11.5	-0.1
PLRN				S	Sn	02 49 23.0	+0.9
BOAB	**BOACO BROADBAN**	**1.15**	**57**	P	Pn	02 49 17.2	+0.3
BOAB	**BOACO BROADBAN**	**1.15**	**57**	S	Sn	02 49 32.8	+1.3
CARN	**Rivas**	**1.28**	**119**	P	Pn	02 49 19.2	+0.6
CARN				S	Sn	02 49 35.0	+0.3
MATN	**Matagalpa**	**1.31**	**33**	P	Pn	02 49 18.9	-0.3
MATN	**Matagalpa**	**1.31**	**33**	S	Sn	02 49 35.7	+0.1
POTN	**Potosi Cosigui**	**1.43**	**325**	P	Pn	02 49 21.3	+0.6
POTN				S	Sn	02 49 38.9	+0.6
CSGN	**Cosiguina Volc**	**1.44**	**323**	P	Pn	02 49 21.5	+0.6
CSGN				S	Sn	02 49 38.8	0.0
ACON	**Acoyapa**	**1.46**	**84**	P	Pn	02 49 20.6	-0.5
ACON	**Acoyapa**	**1.46**	**84**	S	Sn	02 49 39.2	+0.1

IDC ***02*** *02:58:26.1±3.3, 23°.52S×179°.89W, h514km±32km, mb3.3/7, mbtmp4.3/8, Error ellipse: s-maj=28.8km s-min=19.0km az=33.0*

NEIC ***02*** *02:58:30.2±1.5, 23°.4S±0°.1×179°.8W±0°.1, h573km±12km, mb4.3/22, Error ellipse: s-maj=21.0km s-min=12.8km az=161.0*

ISC 02 02:58:28.3±0.8, 23°.4S±0°.1×179°.8W±0°.1, h550km, n38, σ1s23/38, mb4.4/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**11.76**	**271**	P	**P**	**03 01 05.3**	**+0.9**
DZM	**Mont Dzumac**	**12.75**	**273**	P	**P**	**03 01 16.6**	**+1.8**
TOZ	**Tahuroa Road**	**14.82**	**195**	P	**P**	**03 01 38.0**	**+2.2**
URZ	**Urewera**	**15.03**	**189**	P	**P**	**03 01 34.5**	**-3.3**
	12nm,0.5s,baz=296,slow=2.2,SNR=12						
QRZ	**Quartz Range**	**18.52**	**199**	P	**P**	**03 02 10.5**	**-0.2**
EIDS	**Eidsvold**	**26.56**	**260**	P	**P**	**03 03 23.0**	**+0.1**
EIDS				IAmb	IAmb	03 03 41.5	
	comp=Z,27nm,1.4s						
CTAO	**Charters Tower**	**31.65**	**269**	P	**P**	**03 04 07.5**	**+0.4**
TOO	**Toolangi**	**32.86**	**236**	P	**P**	**03 04 17.2**	**+0.1**
TOO				IAmb	IAmb	03 04 32.3	
	comp=Z,5.4nm,1.2s						
STKA	**Stephens Creek**	**35.06**	**247**	P	**P**	**03 04 35.7**	**0.0**
STKA	**Stephens Creek**	**35.06**	**247**	P	**P**	**03 04 35.0**	**-0.7**
	comp=Z,5.4nm,0.6s,baz=85,slow=9.6,SNR=12						
	comp=Z,5.4nm,0.6s						
COEN	**Coen**	**36.21**	**278**	P	**P**	**03 04 45.2**	**-0.1**
BBOO	**Buckleboo**	**39.79**	**246**	P	**P**	**03 05 13.2**	**-1.0**
BBOO				IAmb	IAmb	03 05 14.1	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**42.29**	**260**	P	**P**	**03 05 33.9**	**-0.4**
AS31				IAmb	IAmb	03 05 34.8	
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**03 05 33.4**	**-0.8**
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**03 05 33.8**	**-0.4**
	comp=Z,4.6nm,0.4s,baz=93,slow=7.4,SNR=85						
ASAR				ScP	**ScP**	**03 10 16.6**	**+3.0**
	comp=Z,0.8nm,0.9s,baz=102,slow=3.8,SNR=4.3						
	comp=Z,4.6nm,0.4s						
WR8	**Warramunga Arr**	**42.46**	**266**	P	**P**	**03 05 34.7**	**-0.9**
WR8				IAmb	IAmb	03 05 35.4	
	comp=Z,6.6nm,0.9s						
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**03 05 35.8**	**-1.0**
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**03 05 35.5**	**-1.3**
	comp=Z,10nm,0.6s,baz=96,slow=8.1,SNR=146						
	comp=Z,10nm,0.6s						
FORT	**Forrest**	**46.64**	**249**	P	**P**	**03 06 06.6**	**-1.0**
FORT				IAmb	IAmb	03 06 07.3	
	comp=Z,6.7nm,0.6s						
KNRA	**Kununurra**	**48.86**	**269**	P	**P**	**03 06 24.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**03 06 39.7**	**-0.6**
VNDA	**Vanda**	**54.87**	**185**	P	**P**	**03 07 07.8**	**+1.2**
VNDA	**Vanda**	**54.87**	**185**	P	**P**	**03 07 06.8**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=13,slow=6.8,SNR=5.5						
	comp=Z,0.4nm,0.5s						
PSA00	**Pilbara Seismi**	**55.42**	**259**	P	**P**	**03 07 10.5**	**-0.8**
MBWA	**Marble Bar**	**55.63**	**260**	P	**P**	**03 07 12.0**	**-0.8**
MBWA				IAmb	IAmb	03 07 12.3	
	comp=Z,24nm,1.2s						
MORW	**Morawa**	**57.20**	**250**	P	**P**	**03 07 23.1**	**-0.4**
MORW				IAmb	IAmb	03 07 23.3	
	comp=Z,7.7nm,0.5s						
GIRL	**Giralia**	**60.20**	**256**	P	**P**	**03 07 44.3**	**+0.6**
GIRL				IAmb	IAmb	03 08 00.5	
	comp=Z,61nm,1.4s						
CASY	**Casey**	**60.62**	**206**	P	**P**	**03 07 45.1**	**-0.6**
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**03 08 25.7**	**+1.2**
QSPA				IAmb	IAmb	03 08 27.4	
	comp=Z,9.2nm,1.5s						
QSPA	**South Pole Qui**	**66.67**	**180**	P	**P**	**03 08 24.9**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=312,slow=0.8,SNR=14						
	comp=Z,1.6nm,0.7s						
N15K	**Kwethluk River**	**84.83**	**10**	P	**P**	**03 10 05.5**	**+0.9**
N15K				IAmb	IAmb	03 10 40.2	
	comp=Z,8.9nm,1.3s						
SNAA	**Sanae**	**85.15**	**179**	P	**P**	**03 10 04.7**	**-1.5**
SNAA	**Sanae**	**85.15**	**179**	P	**P**	**03 10 05.1**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=242,slow=8.9,SNR=5.0						
	comp=Z,0.3nm,0.5s						
O18K	**Koktuh Hills**	**85.39**	**12**	P	**P**	**03 10 06.4**	**-0.9**
O18K				IAmb	IAmb	03 10 25.8	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**90.03**	**58**	P	**P**	**03 10 31.1**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=212,slow=7.1,SNR=6.7						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**142.11**	**349**	PKhKP	PKPpre	03 16 53.4	
	comp=Z,0.4nm,0.3s,baz=73,slow=5.1,SNR=8.6						
BRTR	**Keskin Array B**	**147.42**	**308**	PKPbc	**PKPab**	**03 17 12.8**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=77,slow=3.2,SNR=4.3						
MMAI	**Mount Meron Ar**	**147.66**	**295**	PKPbc	**PKiKP**	**03 17 12.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=70,slow=7.2,SNR=4.1						

IDC 02 03:09:49.2±2.3, 1°.57N×126°.99E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=183.7km s-min=28.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.56**	**162**	P	P	03 14 50.7	-0.5
	0.5nm,0.4s,baz=

QLABS	**Al Qalibar**	**3.00**	**81**	P		**Pn**	**03 17 37.5**	**+2.5**
HAGS	**Hagol**	**3.04**	**173**	P		**Pn**	**03 17 36.2**	**+0.7**
HAGS				S		**Sn**	**03 18 10.4**	**-1.5**
BRNS	**Bernies**	**3.57**	**187**	P		**Pn**	**03 17 43.8**	**+1.1**
GHAJ	**Ghor Haditha**	**3.97**	**12**	P		**Pn**	**03 17 49.4**	**+1.3**
GHAJ	**Ghor Haditha**	**3.97**	**12**	P		**Pn**	**03 17 49.0**	**+0.8**

*SKHL **02** 03:27:45.0±0.6,48°.70N×156°.60E,h49km±2km,mb4.1/3*
*KRSC **02** 03:27:45.5±4.0,48°.75N×156°.99E,h17km±36km,Ml4.2*
ISC 02 03:27:50.4±2.0,49°.0N±0°.1×155°.9E±0°.2,h50km,n15,
σ2s65/17,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.73**	**5**	*eS*	**Sn**	**03 28 40.2**	**+1.3**
SKR	**Severo-Kuril's**	**1.73**	**5**	*eP*	**Pn**	**03 28 15.9**	**-2.1**
SKR	20nm,0.3s			AMB	AMB	03 28 19.2	
SKR				*eS*	**Sn**	**03 28 39.5**	**+0.5**
SKR	130nm,0.5s			A	A	03 28 41.5	
SKR	130nm,0.5s			A	A	03 28 41.5	
PAU	**Pauzhetka**	**2.58**	**13**	*eS*	**Sn**	**03 29 03.4**	**+3.6**
PAU	**Pauzhetka**	**2.58**	**13**	*eP*	**Pn**	**03 28 27.7**	**-2.0**
PAU	20nm,0.2s			AMB	AMB	03 28 30.9	
PAU				*eS*	**Sn**	**03 28 59.3**	**-0.5**
PAU	90nm,0.4s			A	A	03 29 07.8	
PAU	50nm,0.4s			A	A	03 29 07.8	
ASAK	**Asacha**	**3.67**	**20**	*eP*	**Pn**	**03 28 45.2**	**+0.6**
MTVR	**Mutnovka**	**3.83**	**22**	*eP*	**Pn**	**03 28 47.2**	**+0.4**
MTVR				*eS*	**Sn**	**03 29 34.1**	**+3.5**
GRL	**Gorelyy**	**3.86**	**21**	*eP*	**Pn**	**03 28 48.2**	**+0.8**
GRL				*eS*	**Sn**	**03 29 35.9**	**+4.4**
PET	**Petropavlovsk**	**4.44**	**22**	*eP*	**Pn**	**03 28 51.6**	**-3.4**
PET	20nm,0.2s			AMB	AMB	03 28 52.7	
PET				*eS*	**Sn**	**03 29 40.1**	**-5.2**
PET	10.0nm,0.3s			A	A	03 29 43.3	
PET	40nm,0.3s			A	A	03 29 43.3	
UGLR	**Uglovaya**	**4.65**	**23**	*eP*	Pn	03 29 01.1	+3.1
SDLR	**Sedlovina**	**4.73**	**23**	*eP*	**Pn**	**03 28 59.2**	**+0.1**
KRX	**Arik**	**4.74**	**21**	*eP*	Pn	03 29 02.0	+2.6
SPN	**Mys Shipunski**	**4.91**	**31**	*eP*	**Pn**	**03 29 00.9**	**-0.6**
GNL	**Ganaly**	**4.92**	**15**	*eP*	Pn	03 29 03.8	+2.0
KUR	**Kuril'sk**	**6.61**	**239**	*eS*	**Sn**	**03 30 39.9**	**+1.2**
KUR	10.0nm,0.2s			A	A	03 30 41.6	
KUR	10.0nm,0.2s			A	A	03 30 41.6	
MKZ	**Mys Kozlova**	**6.68**	**31**	*eP*	**Pn**	**03 29 24.8**	**-1.0**

*IDC **02** 03:29:09.9±1.3,20°.73N×121°.91E,h0km,mb3.6/6,*
mbtmp3.6/7,ML3.5/1, Error ellipse: s-maj=69.3km
s-min=20.9km az=66.0
ISC 02 03:29:14.8±1.2,20°.8N±0°.2×122°.2E±0°.3,h35km,n7,
σ0s72/7,mb3.6/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**17.32**	**16**	P	**P**	**03 33 15.1**	**+0.2**
	0.2nm,0.3s,baz=196,slow=11,SNR=6.2 0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.40**	**318**	P	**P**	**03 36 57.4**	**-0.4**
	0.5nm,0.5s,baz=106,slow=12,SNR=5.8 0.5nm,0.5s						
WRA	**Warramunga Arr**	**42.23**	**163**	P	**P**	**03 37 04.0**	**-0.7**
	0.2nm,0.6s,baz=344,slow=8.5,SNR=1.5 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**43.56**	**329**	P	**P**	**03 37 14.5**	**-0.6**
	1.4nm,0.6s,baz=118,slow=8.3,SNR=5.6 1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.27**	**322**	P	**P**	**03 37 28.1**	**-0.7**
	1.8nm,0.9s,baz=117,slow=7.9,SNR=8.7 1.8nm,0.9s						
ASAR	**Alice Springs**	**45.67**	**165**	P	**P**	**03 37 33.0**	**+0.6**
	0.2nm,0.6s,baz=345,slow=8.6,SNR=1.5 0.2nm,0.6s						
BVAR	**Borovoye Array**	**50.85**	**322**	P	**P**	**03 38 12.4**	**+0.4**
	0.4nm,0.5s,baz=93,slow=10,SNR=3.6 0.4nm,0.5s						

*VAO **02** 03:31:13.6±0.2,5°.87S×50°.65W,h0km,mbR3.0*
*OSUNB **02** 03:31:14.5±0.3,5°.89S×50°.65W,h0km,mR2.7/6,Error*
ellipse: s-maj=2.0km s-min=1.9km az=0.0
ISC 02 03:31:15.1±0.9,5°.88S±0°.05×50°.60W±0°.05,h10km,n20,
σ1s36/35,Brazil

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRPB	**Parauapebas**	**0.83**	**111**	P	**Pg**	**03 31 30.8**	**-0.5**
PRPB				S	**Sg**	**03 31 41.1**	**-1.0**
PRPB	**Parauapebas**	**0.83**	**111**	*eP*	**Pg**	**03 31 30.7**	**-0.5**
PRPB				*eS*	**Sg**	**03 31 41.0**	**-1.1**
BMO2	**UHE Belo Monte**	**2.87**	**331**	P	**Pn**	**03 32 01.7**	**+0.7**
BMO2				S	**Sn**	**03 32 35.8**	**+0.2**
ATM1	**UHE Belo Monte**	**3.04**	**328**	P	**Pn**	**03 32 04.0**	**+0.6**
ATM1				S	**Sn**	**03 32 40.9**	**+1.1**
SMTB	**Santa Maria do**	**4.21**	**135**	P	**Pn**	**03 32 21.0**	**+1.6**
SMTB				S	**Sn**	**03 33 10.2**	**+1.5**
SMTB	**Santa Maria do**	**4.21**	**135**	*eP*	**Pn**	**03 32 20.1**	**+0.6**
SMTB				*eS*	**Sn**	**03 33 10.2**	**+1.5**
TMAB	**Tom-Au,PA,Br**	**4.29**	**36**	*eP*	**Pn**	**03 32 20.2**	**-0.2**
NPGB	**Novo Progresso**	**4.87**	**256**	P	**Pn**	**03 32 29.9**	**+1.4**
NPGB				S	**Sn**	**03 33 24.9**	**-0.1**
NPGB	**Novo Progresso**	**4.87**	**256**	*eP*	**Pn**	**03 32 28.1**	**-0.5**
NPGB				*eS*	**Sn**	**03 33 25.0**	**-0.1**
MAL2	**Monte Alegre,**	**5.24**	**317**	S	**Sn**	**03 33 34.8**	**+0.6**
ITTB	**Itaituba**	**5.33**	**286**	P	**Pn**	**03 32 36.6**	**+1.7**
ITTB				S	**Sn**	**03 33 35.6**	**-0.8**
ITTB	**Itaituba**	**5.33**	**286**	*eP*	**Pn**	**03 32 34.5**	**-0.4**
ITTB				*eS*	**Sn**	**03 33 35.6**	**-0.8**
SNDB	**Serra Nova Dou**	**6.10**	**186**	P	**Pn**	**03 32 49.5**	**+4.1**
SNDB				S	**Sn**	**03 33 55.6**	**+0.3**
SNDB	**Serra Nova Dou**	**6.10**	**186**	*eP*	**Pn**	**03 32 45.7**	**+0.3**
SNDB				*eS*	**Sn**	**03 33 56.0**	**+0.7**
CLDB	**Colider**	**7.15**	**226**	P	**Pn**	**03 33 01.4**	**+1.6**
CLDB				S	**Sn**	**03 34 20.0**	**-1.2**
CLDB	**Colider**	**7.15**	**226**	*eP*	**Pn**	**03 32 59.6**	**-0.2**
CLDB				*eS*	**Sn**	**03 34 18.2**	**-3.0**
PDRB	**Porto dos Gac**	**8.32**	**226**	P	**Pn**	**03 33 18.3**	**+2.3**
PDRB				S	**Sn**	**03 34 48.2**	**-1.8**
PDRB	**Porto dos Gac**	**8.32**	**226**	*eP*	**Pn**	**03 33 16.0**	**+0.1**
SDBA	**SAO DESIDERIO**	**8.59**	**140**	*eP*	**Pn**	**03 33 20.1**	**+0.5**
ARAG	**Araguaiana, MT**	**9.84**	**187**	*eP*	**Pn**	**03 33 37.1**	**+0.3**

*IDC **02** 03:32:35.9±0.6,49°.69S×111°.98W,h0km,mb4.0/10,*
mbtmp4.0/10,MS4.0/36,Error ellipse: s-maj=26.4km
s-min=17.4km az=142.0
ISC 02 03:32:37.4±0.5,49°.7S±0°.1×111°.94W±0°.09,h10km,n71,
σ1s29/33,mb4.0/10,MS4.0/36,Southern East Pacific
Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**29.00**	**69**	T	T	04 09 00.7	
	baz=224,slow=74,SNR=1091						
H03S1	**Juan Fernandez**	**29.00**	**69**	T	T	04 09 00.7	
	baz=224,slow=74,SNR=1043						
H03S3	**Juan Fernandez**	**29.02**	**69**	T	T	04 08 48.3	
	baz=224,slow=74,SNR=828						
PMSA	**Palmer Station**	**29.09**	**139**	LR	LR	03 47 20.6	
	comp=Z,273nm,18.0s,baz=268,slow=30						
H03N3	**Juan Fernandez**	**29.26**	**69**	T	T	04 09 17.5	
	baz=227,slow=72,SNR=2153						
H03N2	**Juan Fernandez**	**29.27**	**69**	T	T	04 09 16.2	
	baz=227,slow=72,SNR=1936						
H03N1	**Juan Fernandez**	**29.28**	**69**	T	T	04 09 14.8	
	baz=227,slow=72,SNR=1911						
PLCA	**Paso Flores**	**30.17**	**89**	P	**P**	**03 38 48.0**	**+0.4**
	2.9nm,1.1s,baz=227,slow=10,SNR=4.4						
PLCA				LR	LR	03 47 44.0	
	comp=Z,221nm,20.4s,baz=246,slow=30 2.9nm,1.1s						
TBI	**Tubuai**	**39.38**	**298**	*eS*	**S**	**03 46 10.1**	**+1.7**
	271nm,29.8s						
TBI				*eSS*	**SS**	**03 48 57.2**	**-5.0**
	556nm,34.2s						
TBI				*eLR*	LR	03 50 57.2	
	2µm,27.0s						
QSPA	**South Pole Qui**	**40.49**	**180**	P	**P**	**03 40 16.7**	**+0.7**
	2.9nm,0.9s,baz=254,slow=1.3,SNR=14						
QSPA				PcP	**PcP**	**03 42 19.2**	**+0.8**
	2.2nm,0.8s,baz=200,slow=0.8,SNR=7.0						
QSPA				LR	LR	03 54 08.8	
	comp=Z,252nm,21.6s,baz=104,slow=32 2.9nm,0.9s						
VNDA	**Vanda**	**41.25**	**199**	P	**P**	**03 40 22.9**	**+1.0**
	2.3nm,0.9s,baz=92,slow=7.0,SNR=7.7						
VNDA				LR	LR	03 53 29.6	
	comp=Z,160nm,19.1s,baz=58,slow=30 2.3nm,0.9s						
PPT2	**Papeete2**	**44.05**	**303**	*eS*	**S**	**03 47 18.7**	**+1.0**
	60nm,27.5s						
PPT2				*eSS*	**SS**	**03 50 36.1**	**+1.3**
	549nm,34.8s						
PPT2				*eLR*	LR	03 53 07.4	
	447nm,25.0s						
PPT2				*eLR*	LR	03 53 15.1	
	384nm,27.2s						
PPT	**Papeete**	**44.07**	**303**	LR	LR	03 55 27.0	
	comp=Z,168nm,18.3s,baz=135,slow=31						
RAR	**Rarotonga**	**47.14**	**289**	LR	LR	03 55 25.4	
	comp=Z,120nm,21.5s,baz=153,slow=29						
NNA	**Nana**	**47.42**	**50**	LR	LR	03 54 53.0	
	comp=Z,167nm,21.4s,baz=210,slow=28						
CPUP	**Villa Florida**	**47.71**	**82**	P	**P**	**03 41 14.2**	**+0.1**
	1.4nm,1.2s,baz=84,slow=9.0,SNR=4.0						
CPUP				LR	LR	03 58 00.5	
	comp=Z,80nm,20.4s,baz=69,slow=32 1.4nm,1.2s						
LPAZ	**La Paz**	**48.56**	**62**	P	**P**	**03 41 22.3**	**+0.8**
	5.2nm,1.1s,baz=131,slow=1.8,SNR=7.9						
LPAZ				LR	LR	03 56 38.1	
	comp=Z,172nm,21.3s,baz=230,slow=30 5.2nm,1.1s						
SNAA	**Sanae**	**49.12**	**157**	LR	LR	04 00 27.4	
	comp=Z,42nm,18.4s,baz=268,slow=34						
URZ	**Urewera**	**50.51**	**255**	LR	LR	03 59 06.8	
	comp=Z,352nm,18.3s,baz=214,slow=32						
ATAH	**Atahualpa**	**50.90**	**45**	LR	LR	03 58 18.3	
	comp=Z,217nm,18.3s,baz=229,slow=30						
SIV	**San Ignacio**	**52.97**	**69**	LR	LR	04 00 31.2	
	comp=Z,135nm,20.8s,baz=289,slow=32						
BDFB	**Brasilia**	**61.40**	**80**	P	**P**	**03 42 54.2**	**+0.3**
	1.0nm,0.6s,baz=68,slow=1.3,SNR=7.6						
BDFB				LR	LR	04 06 48.4	
	comp=Z,144nm,19.8s,baz=217,slow=33 1.0nm,0.6s						
MAW	**Mawson**	**62.94**	**178**	LR	LR	04 08 55.0	
	comp=Z,122nm,19.9s,baz=178,slow=35						
ROSC	**El Rosal**	**63.35**	**43**	LR	LR	04 07 23.3	
	comp=Z,85nm,18.4s,baz=209,slow=33						
JTS	**Las Juntas de**	**64.27**	**30**	LR	LR	04 04 33.0	
	comp=Z,78nm,21.2s,baz=191,slow=30						
DZM	**Mont Dzumac**	**68.16**	**261**	*eLR*	LR	04 03 56.4	
	237nm,24.1s						
CMIG	**Matias Romero**	**68.21**	**18**	LR	LR	04 05 37.7	
	comp=Z,92nm,21.5s,baz=172,slow=29						
SDV	**Santo Domingo**	**68.59**	**44**	LR	LR	04 09 12.4	
	comp=Z,78nm,19.1s,baz=250,slow=32						
PCRV	**Puerto La Cruz**	**72.56**	**49**	LR	LR	04 12 07.0	
	comp=Z,129nm,19.7s,slow=33						
LPIG	**La Paz**	**73.50**	**2**	LR	LR	04 10 03.1	
	comp=Z,80nm,19.1s,baz=201,slow=31						
MDP	**Montagnes des**	**74.76**	**63**	LR	LR	04 12 18.6	
	comp=Z,57nm,21.5s,baz=166,slow=32						
STKA	**Stephens Creek**	**75.92**	**237**	P	**P**	**03 44 24.4**	**+0.2**
	2.2nm,0.7s,baz=117,slow=12,SNR=5.0						
STKA				LR	LR	04 10 26.6	
	comp=Z,152nm,19.5s,baz=181,slow=30 2.2nm,0.7s						
RCBR	**Riachuelo**	**76.56**	**83**	LR	LR	04 15 30.5	
	comp=Z,104nm,21.6s,baz=241,slow=34						
TXAR	**Lajitas Array**	**79.05**	**7**	P	**P**	**03 44 42.8**	**+1.4**
	1.1nm,0.8s,baz=185,slow=8.8,SNR=9.7						
TXAR				LR	LR	04 12 02.6	
	comp=Z,28nm,19.6s,baz=188,slow=30 1.1nm,0.8s						
PFO	**Pinyon Flats O**	**83.06**	**356**	LR	LR	04 15 28.1	
	comp=Z,56nm,18.8s,baz=212,slow=31						
ANMO	**Albuquerque**	**84.44**	**5**	LR	LR	04 17 18.0	
	comp=Z,76nm,18.5s,baz=283,slow=32						
H01W1	**Cape Leeuwin H**	**86.37**	**216**	T	T	05 21 28.6	
	baz=151,slow=75,SNR=56						
H01W2	**Cape Leeuwin H**	**86.38**	**216**	T	T	05 21 28.8	
	baz=151,slow=75,SNR=48						
H01W3	**Cape Leeuwin H**	**86.39**	**216**	T	T	05 21 29.8	
	baz=151,slow=75,SNR=50						
ASAR	**Alice Springs**	**86.55**	**237**	P	**P**	**03 45 19.1**	**-1.7**
	0.9nm,0.9s,baz=150,slow=4.2,SNR=4.6						
ASAR				LR	LR	04 19 24.2	
	comp=Z,174nm,21.5s,baz=116,slow=32 0.9nm,0.9s						
NVAR	**Mina Array Bea**	**87.95**	**355**	P	**P**	**03 45 27.1**	**-0.1**
	0.3nm,0.4s,baz=193,slow=7.7,SNR=4.2 0.3nm,0.4s						
TKL	**Tuckaleechee C**	**88.60**	**23**	LR	LR	04 22 01.4	
	comp=Z,23nm,18.2s,baz=182,slow=34						
ELK	**Elko**	**90.13**	**357**	LR	LR	04 18 17.9	
	comp=Z,43nm,19.9s,baz=196,slow=30						
PDAR	**Pinedale Array**	**92.13**	**2**	LR	LR	04 20 02.2	
	comp=Z,45nm,19.0s,baz=203,slow=31						
BOSA	**Boshof**	**93.22**	**143**	LR	LR	04 21 08.7	
	comp=Z,67nm,18.7s,baz=194,slow=31						
FITZ	**Fitzroy Crossi**	**95.51**	**234**	LR	LR	04 26 51.4	
	comp=Z,128nm,18.5s,baz=142,slow=34						
LBTB	**Lobatse**	**96.58**	**142**	LR	LR	04 22 23.4	
	comp=Z,66nm,19.2s,baz=191,slow=31						
NEW	**Newport**	**97.71**	**357**	LR	LR	04 23 42.8	
	comp=Z,82nm,18.2s,baz=191,slow=31						
SADO	**Sadowa**	**98.36**	**23**	LR	LR	04 26 37.6	
	comp=Z,70nm,18.3s,baz=200,slow=33						
H11S2	**WAKE ISLAND Hy**	**98.47**	**288**	T	T	05 35 58.1	
	baz=140,slow=76,SNR=1124						
H11S3	**WAKE ISLAND Hy**	**98.48**	**288**	T	T	05 35 59.4	
	baz=140,slow=76,SNR=1177						
H11S1	**WAKE ISLAND Hy**	**98.48**	**288**	T	T	05 35 59.5	
	baz=140,slow=76,SNR=986						
H11N3	**WAKE ISLAND Hy**	**99.27**	**289**	T	T	05 36 57.9	
	baz=141,slow=76,SNR=391						
H11N1	**WAKE ISLAND Hy**	**99.28**	**289**	T	T	05 36 59.1	
	baz=141,slow=76,SNR=131						
H11N2	**WAKE ISLAND Hy**	**99.29**	**289**	T	T	05 36 59.2	
	baz=141,slow=76,SNR=319						
LESA	**Schwarzleotal**	**143.98**	**72**	*e*PKP	PKPbc	03 52 09.7	-0.6
	2.1nm,0.9s						
MYKA	**Terra Mystica**	**144.25**	**74**	*e*PKP	**PKPab**	**03 52 10.3**	**-0.4**
	3.8nm,0.6s						
KBA	**Koelnbreinsper**	**144.25**	**73**	*e*PKP	**PKPdf**	**03 52 12.4**	**-0.6**
	1.1nm,0.6s						
BIOA	**Bad Ischl, Aus**	**144.69**	**72**	*e*PKP	**PKPab**	**03 52 11.9**	**-0.3**
	0.8nm,0.4s						
OBKA	**Obir**	**144.76**	**74**	*e*PKP	**PKPab**	**03 52 12.2**	**-0.5**
	2.8nm,0.7s						
SOKA	**Soboth**	**145.13**	**74**	*e*PKP	**PKPbc**	**03 52 13.5**	**-0.4**
	0.5nm,0.6s						
MOA	**Molln**	**145.14**	**72**	*e*PKP	**PKPdf**	**03 52 13.7**	**-0.5**
	2.0nm,0.8s						
GERES	**GERESS Array B**	**145.18**	**70**	PKPbc	**PKPbc**	**03 52 12.5**	**-1.6**
	0.6nm,0.6s,baz=224,slow=3.7,SNR=7.1						
ARSA	**Arzberg**	**145.68**	**74**	*e*PKP	**PKPab**	**03 52 15.8**	**-0.2**
	4.4nm,1.4s						
CONA	**Conrad Observa**	**146.16**	**73**	*e*PKP	**PKPbc**	**03 52 16.2**	**-0.9**
	0.9nm,0.6s						
RONA	**Rosalia, Austr**	**146.34**	**73**	PKP	**PKPbc**	**03 52 16.9**	**-0.7**
	1.7nm,0.9s						
NB2	**NORSAR Subarra1**	**146.86**	**48**	PKPdf	**PKPbc**	**03 52 17.5**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=248,slow=1.9						
NOA	**NORSAR Array B**	**146.86**	**48**	PKPbc	**PKPdf**	**03 52 17.0**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=266,slow=4.1,SNR=4.2						
BRTR	**Keskin Array B**	**153.79**	**99**	PKP	**PKPdf**	**03 52 26.4**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=108,slow=4.0,SNR=4.0						
BRTR				PKPbc	**PKPbc**	**03 52 35.4**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=197,slow=2.0,SNR=5.0						
BRTR				PKPab	**PKPab**	**03 52 49.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=213,slow=5.9,SNR=5.0						
SONM	**Songino Array**	**154.85**	**281**	PKPbc	**PKiKP**	**03 52 38.0**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=163,slow=4.5,SNR=3.8						
SONM				PKPab	**PKPab**	**03 52 53.6**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=135,slow=4.2,SNR=4.9						
MKAR	**Makanchi Array**	**170.07**	**258**	PKPab	**PKPab**	**03 54 01.0**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=134,slow=6.2,SNR=7.2						

*MEX **02** 03:39:25.6±0.5,14°.11N×92°.39W,h17km±43km,MD3.8*
*GCG **02** 03:39:25.6±0.7,14°.24N×92°.17W,h65km±26km,MD3.3,*
ML3.2
ISC 02 03:39:16.5±3.8,13°.9N±0°.1×92°.35W±0°.08,h12km±16km,n9,
σ2s43/17,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.88**	**46**	*eP*	**Pn**	**03 39 38.4**	**+3.6**
RTAL				*eS*	**Sn**	**03 39 47.6**	**0.0**
STG2	**El Palmar, Qui**	**1.08**	**61**	*i P*	**Pn**	**03 39 40.3**	**+2.6**
STG2				*i* S	**Sn**	**03 39 53.1**	**+0.4**
PATR	**El Naranjo**	**1.21**	**5**	*eP*	**Pn**	**03 39 41.4**	**+2.0**
PATR				*eS*	**Sg**	**03 39 53.7**	**-1.7**
PAVE	**Pavencul**	**1.29**	**8**	*eP*	**Pn**	**03 39 42.7**	**+2.2**
PAVE				*eS*	**Sg**	**03 39 56.6**	**-1.4**
FG8	**Yepocapa, Chim**	**1.77**	**78**	*i P*	**Pn**	**03 39 47.1**	**0.0**
FG16	**Alotenango, Sa**	**1.82**	**78**	*eP*	**Pn**	**03 39 48.9**	**+1.0**
FG16				*i* S	**Sn**	**03 40 06.3**	**-4.8**
FG16	comp=N,618nm,0.2s			IAML		03 40 13.1	
PCIG		**1.97**	**335**	*eP*	**Pn**	**03 39 52.1**	**+2.4**
PCIG				*eS*	**Sn**	**03 40 11.8**	**-2.6**
CCIG	**Comitan**	**2.37**	**5**	*eP*	**Pb**	**03 40 00.0**	**+0.8**
CCIG				*eS*	**Sn**	**03 40 23.6**	**-0.9**
TGIG		**2.95**	**345**	*eP*	**Pn**	**03 40 03.6**	**+0.4**
TGIG				*eS*	**Sn**	**03 40 36.4**	**-2.3**

WEL 02 03:44:39.2±0.7,35°.S±12°×18°.0E±2°,h100km,M4.1/3,
MLv4.1/3,Error ellipse: s-maj=37.8km s-min=4.5km
az=113.4,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.15**	**205**	P	Pn	03 45 27.4	+0.6
MXZ				S	Sn	03 46 03.4	-0.2
HAZ	**Te Kaha**	**3.52**	**210**	P	Pn	03 45 34.0	+2.2
HAZ				S	Sn	03 46 14.6	+2.1
PUZ	**Puketiti**	**3.62**	**202**	P	Pn	03 45 34.2	+0.9
PUZ				S	Sn	03 46 14.7	-0.5
MWZ	**Matawai**	**4.12**	**208**	P	Pn	03 45 40.4	+0.5
MWZ				S	Sn	03 46 26.4	-0.7
URZ	**Urewera**	**4.23**	**212**	P	Pn	03 45 41.8	+0.4
URZ				S	Sn	03 46 29.2	-0.4
KNZ	**Kokohu**	**4.68**	**203**	P	Pn	03 45 46.6	-0.8
TOZ	**Tahuroa Road**	**4.71**	**229**	P	Pn	03 45 47.5	-0.4
GLKZ	**Green Lake**	**5.72**	**19**	P	Pn	03 45 59.6	-2.2
GLKZ				S	Sn	03 47 07.6	+1.5

*TAP **02** 04:09:57.8,24°.74N×122°.32E,h101km±1km,ML3.3,C*
*JMA **02** 04:09:58.0±0.2,25°.N±1°×122°.4E±0°.3,h100km±1km,*
MV2.6/12,TAIWAN REGION
ISC 02 04:09:58.3±1.5,24°.70N±0°.04×122°.35E±0°.03,h97km±8km,
n86,σ0s78/135,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.30**	**201**	*i P*	**Pn**	**04 10 13.0**	**+0.6**
EOS2				S	**Sn**	**04 10 24.8**	**+1.9**
EGS		**0.41**	**290**	*eP*	**Pn**	**04 10 13.3**	**+0.1**
EOS3	**EOS3**	**0.42**	**184**	*i P*	**Pn**	**04 10 13.8**	**+0.8**
EOS3				S	**Sn**	**04 10 25.9**	**+1.9**
TWB1	**Santiao Chiao**	**0.45**	**313**	*eP*	**Pn**	**04 10 13.2**	**-0.1**
TWC	**Suao**	**0.47**	**259**	P	**Pn**	**04 10 13.2**	**-0.4**
TWC				*eS*	**Sn**	**04 10 24.2**	**-0.7**
ESAO	**Su ao**	**0.48**	**255**	*eS*	**Sn**	**04 10 24.3**	**-0.8**
TIPB	**Shuangxi**	**0.55**	**299**	P	**Pn**	**04 10 14.0**	**-0.2**
TIPB				*eS*	**Sn**	**04 10 25.1**	**-1.0**
EOS4	**EOS4**	**0.58**	**183**	*eP*	**Pn**	**04 10 14.1**	**+0.1**
EOS4				*eS*	**Sn**	**04 10 26.4**	**+0.7**
EWUT	**Wuta**	**0.58**	**244**	*eS*	**Sn**	**04 10 26.5**	**0.0**
SXI1	**Grass Mountain**	**0.58**	**312**	*eP*	**Pn**	**04 10 14.3**	**-0.2**
JYNG	**Yonagunijimaku**	**0.60**	**115**	*eP*	**Pn**	**04 10 14.1**	**-0.4**
JYNG				*eS*	**Sn**	**04 10 26.7**	**+0.1**
ENA	**Nanau**	**0.62**	**244**	*eP*	**Pn**	**04 10 14.9**	**+0.2**
ENA				S	**Sn**	**04 10 27.2**	**+0.1**
TWE	**Neicheng**	**0.62**	**272**	*eP*	**Pn**	**04 10 14.7**	**0.0**
YOJ	**Yonaguni jima**	**0.65**	**112**	P	**Pn**	**04 10 14.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.65**	**112**	P	**Pn**	**04 10 14.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.65**	**112**	P	**Pn**	**04 10 14.9**	**0.0**
YOJ				*eS*	**Sn**	**04 10 27.3**	**0.0**
EAHA	**Aohua**	**0.67**	**236**	P	**Pn**	**04 10 15.2**	**0.0**
EAHA				*i* S	**Sn**	**04 10 28.2**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.70**	**275**	P	**Pn**	**04 10 15.2**	**-0.3**
ENTT	**Nioudou**	**0.72**	**265**	P	**Pn**	**04 10 16.0**	**+0.4**
LATG	**Datong**	**0.77**	**258**	P	**Pn**	**04 10 16.6**	**+0.4**
LATG				*eS*	**Sn**	**04 10 30.0**	**+0.3**
NWLT	**Wulai**	**0.78**	**276**	*eP*	**Pn**	**04 10 16.1**	**-0.1**
NWLT				*eS*	**Sn**	**04 10 29.2**	**-0.4**
YM01	**YM01**	**0.84**	**302**	P	**Pn**	**04 10 16.4**	**-0.4**
YM01				*eS*	**Sn**	**04 10 29.8**	**-0.9**
YM08	**YM08**	**0.84**	**305**	*eS*	**Sn**	**04 10 29.3**	**-1.5**

YULB	**Yu-li**	**1.62 217**	P	**Pn**	**04 10 24.9**	**-1.1**
YULB	**Yu-li**	**1.62 217**	*e*P	**Pn**	**04 10 24.8**	**-1.2**
TWF1	**Yuli**	**1.66 216**	*e*P	**Pn**	**04 10 25.4**	**-1.0**
JIJ	**Ishigaki jima**	**1.67 101**	P	**Pn**	**04 10 26.3**	**-0.1**
JIJ			*e*S	**Sn**	**04 10 47.5**	**-0.4**
WHYT	**Xinyi Township**	**1.70 234**	P	**Pn**	**04 10 27.9**	**+1.0**
WHYT			S	**Sn**	**04 10 50.1**	**+1.4**
WJS	**Zhushan**	**1.72 240**	*e*P	**Pn**	**04 10 28.4**	**+1.2**
WJS			S	**Sn**	**04 10 51.0**	**+1.8**
CHKH	**Chenggong**	**1.74 210**	*e*S	**Sn**	**04 10 47.8**	**-1.7**
FULB	**Fuli**	**1.78 213**	*e*P	**Pn**	**04 10 28.0**	**0.0**
FULB			*e*S	**Sn**	**04 10 50.1**	**-0.5**
JISG	**Ishigakijimahi**	**1.79 93**	P	**Pn**	**04 10 28.1**	**+0.1**
JISG			*e*S	**Sn**	**04 10 50.9**	**+0.3**
CHKT	**Chengkung**	**1.83 210**	*e*P	**Pn**	**04 10 27.5**	**-1.1**
CHKT			*e*S	**Sn**	**04 10 49.5**	**-2.2**
ALS	**Alishan**	**1.85 230**	P	**Pn**	**04 10 29.8**	**+0.7**
ALS			*e*S	**Sn**	**04 10 54.0**	**+1.5**
EHD	**Haiduan**	**1.87 214**	*e*P	**Pn**	**04 10 29.1**	**0.0**
CHN5	**Tsauling**	**1.88 235**	*e*P	**Pn**	**04 10 30.0**	**+0.7**
CHN5			*i* S	**Sn**	**04 10 54.1**	**+1.1**
ELDTW	**Lidau**	**1.94 219**	P	**Pn**	**04 10 29.5**	**-0.6**
ELDTW			*e*S	**Sn**	**04 10 53.1**	**-1.2**
EDH	**Donghe**	**1.97 209**	*e*P	**Pn**	**04 10 29.5**	**-0.9**
EDH			*e*S	**Sn**	**04 10 53.1**	**-1.8**
STYH	**Taoyuan**	**2.10 224**	*e*P	**Pn**	**04 10 32.7**	**+0.7**
STYH			*e*S	**Sn**	**04 10 58.8**	**+0.9**
TPUB	**Ta-pu**	**2.10 229**	P	**Pn**	**04 10 32.0**	**-0.2**
TPUB	**Ta-pu**	**2.10 229**	S	**Sn**	**04 10 59.5**	**+1.5**
TPUB	**Ta-pu**	**2.10 229**	P	**Pn**	**04 10 32.9**	**+0.7**
TPUB			*e*S	**Sn**	**04 10 58.9**	**+0.9**
LONT	**Longtian**	**2.11 212**	*e*P	**Pn**	**04 10 31.5**	**-0.7**
LONT			*e*S	**Sn**	**04 10 57.2**	**-0.9**
JTJ	**Tarama**	**2.14 91**	*e*P	**Pn**	**04 10 32.8**	**+0.2**
JTJ			*e*S	**Sn**	**04 10 59.0**	**+0.3**

*IDC **02** 04:53:52.0±4.9, 20°.80S×178°.02W, h384km±48km, mb3.5/10, mbtmp4.4/12, Error ellipse: s-maj=24.2km s-min=17.3km az=61.0*
*NEIC **02** 04:53:54.5±2.6, 20°.8S±0°.1×177°.9W±0°.1, h413km±9km, mb4.2/19, Error ellipse: s-maj=20.4km s-min=18.7km az=151.0*
*NOU **02** 04:56:16.9, 21°.71S×169°.57E, h0km, MLv3.4/4, Southeast of Loyalty Islands*
ISC 02 04:53:53.3±0.5, 20°.90S±0°.09×177°.84W±0°.09, h400km, n50, σ1°43/50, mb4.1/21, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.00**	**308**	P	**Pn**	**04 55 15.5**	**0.0**
NIUE	**Niue**	**7.66**	**78**	P	**Pn**	**04 55 42.5**	**-1.9**
PINNC	**Pines Island,**	**13.78**	**260**		**P**	**04 56 54.2**	**+1.6**
PINNC	**Pines Island,**	**13.78**	**260**	P	**P**	**04 56 54.2**	**+1.6**
YATNC	**Mamie plateau,**	**14.26**	**263**	P	**P**	**04 56 59.9**	**+2.0**
OUENC	**Ouen Island, N**	**14.32**	**261**	P	**P**	**04 57 00.0**	**+1.5**
DZM	**Mont Dzumac**	**14.68**	**263**		**P**	**04 57 03.5**	**+1.0**
DZM	**Mont Dzumac**	**14.68**	**263**	P	**P**	**04 57 01.7**	**-0.8**
	25nm,0.7s,baz=85,slow=16,SNR=16						
DZM	**Mont Dzumac**	**14.68**	**263**	P	**P**	**04 57 03.7**	**+1.2**
TOZ	**Tahuroa Road**	**17.74**	**198**	P	**P**	**04 57 37.6**	**+2.7**
URZ	**Urewera**	**17.84**	**193**	P	**P**	**04 57 34.7**	**-1.3**
	10nm,0.3s,baz=266,slow=3.4,SNR=22						
URZ				S	**S**	**05 00 37.2**	**-3.1**
	10nm,0.8s,baz=73,slow=22,SNR=8.6						
EIDS	**Eidsvold**	**28.89**	**255**	P	**P**	**04 59 17.4**	**-0.1**
EIDS				IAmb	IAmb	04 59 23.6	
	comp=Z,9.5nm,0.9s						
CTAO	**Charters Tower**	**33.60**	**265**	P	**P**	**04 59 58.2**	**-0.2**
CTAO				IAmb	IAmb	04 59 58.9	
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**37.75**	**245**	P	**P**	**05 00 32.6**	**-0.4**
STKA				IAmb	IAmb	05 00 51.3	
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**37.75**	**245**	P	**P**	**05 00 32.1**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=75,slow=11,SNR=4.2						
	comp=Z,0.9nm,0.4s						
COEN	**Coen**	**37.76**	**274**	P	**P**	**05 00 33.2**	**-0.1**
COEN				IAmb	IAmb	05 00 34.1	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**42.51**	**244**	P	**P**	**05 01 10.3**	**-1.2**
BBOO				IAmb	IAmb	05 01 28.9	
	comp=Z,27nm,1.5s						
WR8	**Warramunga Arr**	**44.55**	**262**	P	**P**	**05 01 26.1**	**-1.6**
WR8				IAmb	IAmb	05 01 28.7	
	comp=Z,5.8nm,0.8s						
AS31	**Alice Springs**	**44.58**	**257**	P	**P**	**05 01 26.9**	**-1.1**
ASAR	**Alice Springs**	**44.58**	**257**	P	**P**	**05 01 26.4**	**-1.5**
ASAR	**Alice Springs**	**44.58**	**257**	P	**P**	**05 01 26.9**	**-1.0**
	comp=Z,8.8nm,0.8s,baz=96,slow=8.4,SNR=75						
	comp=Z,8.8nm,0.8s						
WRA	**Warramunga Arr**	**44.70**	**262**		**P**	**05 01 27.2**	**-1.8**
WRA	**Warramunga Arr**	**44.70**	**262**	P	**P**	**05 01 27.3**	**-1.6**
	comp=Z,5.8nm,0.6s,baz=96,slow=5.1,SNR=56						
	comp=Z,5.8nm,0.6s						
FORT	**Forrest**	**49.28**	**247**	P	**P**	**05 02 01.2**	**-2.5**
KNRA	**Kununurra**	**50.78**	**266**	P	**P**	**05 02 14.0**	**-1.1**
SBA	**Scott Base**	**57.48**	**184**	P	**P**	**05 03 04.5**	**+2.7**
SBA				IAmb	IAmb	05 03 05.2	
	comp=Z,5.6nm,0.8s						
VNDA	**Vanda**	**57.52**	**185**		**P**	**05 03 03.8**	**+1.7**
VNDA	**Vanda**	**57.52**	**185**	P	**P**	**05 03 03.6**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=353,slow=8.6,SNR=13						
	comp=Z,1.7nm,0.7s						
QSPA	**South Pole Qui**	**69.17**	**180**	P	**P**	**05 04 19.4**	**+1.6**
QSPA	**South Pole Qui**	**69.17**	**180**	P	**P**	**05 04 19.3**	**+1.6**
	comp=Z,14nm,0.7s,baz=12,slow=0.7,SNR=74						
	comp=Z,14nm,0.7s						
MAW	**Mawson**	**81.24**	**200**	P	**P**	**05 05 25.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=147,slow=9.9,SNR=6.7						
	comp=Z,1.3nm,0.6s						
M16K	**Timber Creek**	**83.05**	**9**	P	**P**	**05 05 35.2**	**+0.5**
L18K	**Granite Mounta**	**84.53**	**10**	P	**P**	**05 05 43.0**	**+0.8**
L18K				IAmb	IAmb	05 06 21.1	
	comp=Z,5.6nm,1.4s						
CAST	**Castle Rocks**	**86.44**	**11**	P	**P**	**05 05 50.9**	**-0.6**
CAST				IAmb	IAmb	05 05 51.0	
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**87.14**	**57**	P	**P**	**05 05 57.5**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=4.7						
	comp=Z,0.4nm,0.7s						
TROLL	**Troll, Antarti**	**87.33**	**180**	⇑P	**P**	**05 05 54.8**	**-1.1**
	comp=Z,146nm,0.7s						
SNAA	**Sanae**	**87.61**	**178**	⇑P	**P**	**05 05 56.2**	**-0.9**
	comp=Z,34nm,0.7s						
SNAA	**Sanae**	**87.61**	**178**	P	**P**	**05 05 55.4**	**-1.7**
SNAA				IAmb	IAmb	05 06 37.1	
	comp=Z,4.5nm,1.4s						
SNAA	**Sanae**	**87.61**	**178**	P	**P**	**05 05 56.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=211,slow=7.9,SNR=15						
	comp=Z,1.0nm,0.6s						
VNA3	**Neumayer Olymp**	**87.73**	**176**	⇑P	**P**	**05 05 56.7**	**-0.9**
	comp=Z,14nm,0.7s						
CCB	**Clear Creek Bu**	**88.37**	**12**		**P**	**05 06 00.0**	**-0.4**
CCB				IAmb	IAmb	05 06 00.6	
	comp=Z,3.2nm,0.6s						
VNA1	**Neumayer--Stat**	**88.40**	**177**	⇑P	**P**	**05 06 00.4**	**-0.3**
	comp=Z,9.3nm,1.0s						
ILAR	**Eielson Array**	**88.67**	**13**	P	**P**	**05 06 01.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=216,slow=6.4,SNR=8.5						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**89.15**	**43**	P	**P**	**05 06 04.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=191,slow=5.3,SNR=4.5						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**111.58**	**313**	PKiKP	**PKiKP**	**05 11 40.4**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=103,slow=1.8,SNR=2.4						
ARCES	**ARCESS Array B**	**129.34**	**350**	PKP	**PKPdf**	**05 12 13.3**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=358,slow=3.6,SNR=5.1						
AKASG	**Malin Array Be**	**143.44**	**331**	PKhKP	PKPpre	05 12 37.5	
	comp=Z,1.4nm,0.4s,baz=44,slow=4.2,SNR=16						
EKA	**Eskdalemuir Ar**	**145.39**	**5**	PKPbc	**PKPdf**	**05 12 45.0**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=20,slow=1.2,SNR=4.6						
BRTR	**Keskin Array B**	**147.22**	**312**	PKPbc	**PKPdf**	**05 12 50.0**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=108,slow=4.7,SNR=3.3						
GERES	**GERESS Array B**	**150.63**	**344**	PKPbc	**PKPbc**	**05 12 58.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=46,slow=3.9,SNR=8.0						

*IDC **02** 05:00:22.5±3.4, 53°.67N×87°.89E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=32.4km s-min=19.1km az=53.0*
ASRS 02 05:00:19.0±1.1, 53°.63N×88°.00E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214

p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**281**	I	I	05 12 10.0	
	0.1nm,0.8s,baz=98,slow=317,SNR=6.5						
ZALV	**Zalesovo Beam**	**1.91**	**281**	Pn	Pb	05 00 54.9	+0.1
	1.0nm,0.3s,baz=97,slow=16,SNR=9.3						
ZALV				Lg	Lg	05 01 21.9	
	2.1nm,0.3s,baz=100,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.56**	**246**	Pn	Pn	05 01 58.6	+2.0
	baz=60,slow=14,SNR=4.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	Pn	05 02 19.2	+6.1
	0.1nm,0.3s,baz=30,slow=15,SNR=1.6						
	0.1nm,0.3s						

*IDC **02** 05:07:31.4±6.5, 38°.91N×15°.99E, h0km, mb3.6/5, mbtmp3.7/5, MS3.2/2, Error ellipse: s-maj=123.6km s-min=37.6km az=30.0*
*ROM **02** 05:07:41.4±0.2, 38°.629N±0°.010×15°.69E±0°.02, h103km±1km, ML3.4/138, Error ellipse: s-maj=1.2km s-min=1.0km az=128.0*
ISC 02 05:07:40.6±0.9, 38°.63N±0°.03×15°.70E±0°.04, h110km±5km, n87, σ1°15/110, mb3.7/4, 15C-16D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SICLA	**Scilla**	**0.37**	**179**	⇓P	**Pn**	**05 07 56.7**	**0.0**
SICLA				S	**Sn**	**05 08 07.8**	**-0.8**
SICLA				AML	AML		
	comp=E,2795μm,0.6s						
SICLA				AML	AML		
	comp=N,3050μm,0.4s						
SICLA				AML	AML		
	comp=N,3050μm,1.6s						
MSRU	**Castanea**	**0.39**	**203**	⇓P	**Pn**	**05 07 56.8**	**0.0**
MSRU				S	**Sn**	**05 08 07.9**	**-1.0**
MSRU				AML	AML		
	comp=E,10000μm,0.5s						
MSRU				AML	AML		
	comp=N,7075μm,1.1s						
CEL	**Celeste**	**0.40**	**158**	⇓P	**Pn**	**05 07 56.9**	**0.0**
CEL				S	**Sn**	**05 08 08.5**	**-0.5**
CEL				AML	AML		
	comp=E,965μm,0.6s						
CEL				AML	AML		
	comp=N,1140μm,0.3s						
CEL				AML	AML		
	comp=N,1155μm,0.3s						
CEL				AML	AML		
	comp=E,960μm,0.6s						
CEL				AML	AML		
	comp=N,1135μm,0.3s						
CEL				AML	AML		
	comp=E,960μm,0.6s						
CEL				AML	AML		
	comp=E,940μm,0.2s						
IST3	**Stromboli F**	**0.41**	**295**	⇓P	**Pn**	**05 07 57.3**	**+0.4**
IST3				S	**Sn**	**05 08 09.0**	**-0.1**
IST3				AML	AML		
	comp=N,11250μm,0.4s						
IST3				AML	AML		
	comp=N,11250μm,1.6s						
IST3				AML	AML		
	comp=E,8615μm,0.6s						
ISTR	**Stromboli Gino**	**0.43**	**292**	P	**Pn**	**05 07 57.1**	**+0.2**
GMB	**Gambarie**	**0.47**	**168**	AML	AML		
	comp=N,8670μm,0.2s						
GMB				AML	AML		
	comp=E,10645μm,0.1s						
MILZ	**Milazzo**	**0.51**	**226**	⇓P	**Pn**	**05 07 57.6**	**+0.1**
MILZ				S	**Sn**	**05 08 09.0**	**-1.1**
MILZ				AML	AML		
	comp=N,40150μm,0.3s						
MILZ				AML	AML		
MILZ				AML	AML		
	comp=N,40150μm,1.7s						
MPNC	**Port Mandanici**	**0.56**	**210**	⇓P	**Pn**	**05 07 57.7**	**-0.1**
MPNC				S	**Sn**	**05 08 09.8**	**-0.9**
MPNC				AML	AML		
	comp=E,8245μm,0.4s						
MPNC				AML	AML		
	comp=N,7110μm,0.2s						
MPNC				AML	AML		
	comp=E,8245μm,1.6s						
GRI	**Girifalco**	**0.59**	**71**	⇑P	**Pn**	**05 07 58.9**	**+0.8**
GRI				S	**Sn**	**05 08 11.6**	**+0.3**
GRI				AML	AML		
	comp=N,2725μm,1.0s						
GRI				AML	AML		
	comp=E,2070μm,0.3s						
PLAC	**Placanica**	**0.60**	**107**	⇓P	**Pn**	**05 07 59.0**	**+0.8**
PLAC				S	**Sn**	**05 08 11.5**	**+0.1**
PLAC				AML	AML		
	comp=E,2370μm,1.5s						
PLAC				AML	AML		
	comp=E,2375μm,1.5s						
PLAC				AML	AML		
	comp=N,3345μm,1.3s						
PLAC				AML	AML		
	comp=E,3510μm,1.3s						
PLAC				AML	AML		
	comp=N,2535μm,1.5s						
PLAC				AML	AML		
	comp=E,3510μm,0.7s						
PLAC				AML	AML		
	comp=N,2535μm,0.5s						
PLAC				AML	AML		
	comp=N,3345μm,0.7s						
PLAC				AML	AML		
	comp=E,2375μm,0.5s						
VPL	**Vulcano Piano**	**0.62**	**246**	P	**Pn**	**05 07 58.5**	**+0.3**
VPL				AML	AML		
	comp=N,7325μm,0.8s						
VPL				AML	AML		
	comp=E,6120μm,0.4s						
LLI	**Lipari**	**0.62**	**253**	P	**Pn**	**05 07 58.9**	**+0.7**
LLI				S	**Sn**	**05 08 10.2**	**-1.3**
LLI				AML	AML		
	comp=E,21500μm,0.2s						
LLI				AML	AML		
	comp=N,29750μm,0.3s						
LLI				AML	AML		
	comp=E,21500μm,1.8s						
SOI	**Samo**	**0.62**	**153**	⇓P	**Pn**	**05 07 58.9**	**+0.6**
SOI				S	**Sn**	**05 08 12.0**	**+0.5**
SOI				AML	AML		
	comp=N,766μm,0.5s						
SOI				AML	AML		
	comp=E,644μm,0.4s						
SOI				AML	AML		
	comp=N,765μm,0.5s						
SOI				AML	AML		
	comp=N,765μm,1.5s						
MTTG	**Motta San Giov**	**0.62**	**181**	⇓P	**Pn**	**05 07 59.1**	**+0.7**
MTTG				S	**Sn**	**05 08 12.0**	**+0.4**
MTTG				AML	AML		
	comp=E,1770μm,0.7s						
MTTG				AML	AML		
	comp=N,2290μm,0.6s						
CAR1	**CAROLEI**	**0.74**	**32**	⇓P	**Pn**	**05 07 59.7**	**+0.3**
CAR1				AML	AML		
	comp=N,2730μm,0.2s						
CAR1				AML	AML		
	comp=E,3780μm,0.2s						
CAR1				AML	AML		
	comp=E,3110μm,0.2s						
CAR1				AML	AML		
	comp=N,2810μm,1.0s						
CAR1				AML	AML		
	comp=N,2810μm,1.0s						
AIO	**Antillo**	**0.75**	**210**	⇓P	**Pn**	**05 08 00.1**	**+0.6**
AIO				S	**Sn**	**05 08 13.7**	**+0.1**
AIO				AML	AML		
	comp=E,3590μm,1.1s						
AIO				AML	AML		
	comp=E,3590μm,0.9s						
AIO				AML	AML		
	comp=N,2710μm,0.2s						
SPS2	**Spezzano della**	**0.83**	**36**	P	**Pn**	**05 08 00.5**	**+0.3**
ECTS	**Castiglione**	**0.87**	**212**	P	**Pn**	**05 08 01.4**	**+0.8**
ECTS				S	**Sn**	**05 08 16.8**	**+1.3**
ECTS				AML	AML		
	comp=E,5490μm,0.5s						
ECTS				AML	AML		
	comp=E,5485μm,0.5s						
ECTS				AML	AML		
	comp=N,4780μm,0.3s						
MUCR	**Ucria**	**0.88**	**228**	⇓P	**Pn**	**05 08 00.9**	**+0.3**
MUCR				S	**Sn**	**05 08 15.4**	**-0.3**
MUCR				AML	AML		
	comp=E,2130μm,0.6s						
MUCR				AML	AML		
	comp=N,1860μm,1.4s						
MUCR				AML	AML		
	comp=N,1860μm,0.6s						
IFIL	**Filicudi I Eol**	**0.89**	**266**	⇑P	**Pn**	**05 08 00.8**	**+0.1**
IFIL				AML	AML		
	comp=N,762μm,1.0s						
IFIL				AML	AML		
	comp=E,2055μm,0.6s						
IFIL				AML	AML		
	comp=N,762μm,1.0s						
CET2	**Cetraro**	**0.92**	**12**	⇓P	**Pn**	**05 08 01.5**	**+0.5**
CET2				S	**Sn**	**05 08 15.7**	**-0.8**
CET2				AML	AML		
	comp=E,3200μm,0.7s						
CET2				AML	AML		
	comp=N,7760μm,0.3s						
EPIT	**Pozzo Pitarron**	**0.96**	**212**	P	**Pn**	**05 08 02.6**	**+1.1**
EMCN	**Etna Monte Con**	**0.99**	**212**	P	**Pn**	**05 08 02.9**	**+1.0**
TIP	**Timpagrande**	**0.99**	**56**	⇑P	**Pn**	**05 08 02.9**	**+1.1**
TIP				S	**Sn**	**05 08 18.4**	**+0.7**
TIP				AML	AML		
	comp=E,863μm,0.6s						
TIP				AML	AML		
	comp=N,928μm,1.1s						
TIP				AML	AML		
	comp=E,898μm,0.6s						
TIP				AML	AML		
	comp=N,942μm,1.0s						
CELI	**Celico**	**1.00**	**39**	P	**Pn**	**05 08 02.9**	**+1.1**
CELI				AML	AML		
	comp=E,1625μm,0.3s						
CELI				AML	AML		
	comp=N,2065μm,0.8s						
EMSG	**Monte Spagnolo**	**1.00**	**217**	⇑P	**Pn**	**05 08 03.6**	**+1.6**
EMSG				S	**Sn**	**05 08 20.4**	**+2.5**
EMSG				AML	AML		
	comp=E,5440μm,0.5s						
EMSG				AML	AML		
	comp=N,4240μm,0.2s						
EPZF	**Pizzo Felice**	**1.04**	**220**	P	**Pn**	**05 08 03.8**	**+1.4**
EPZF				AML	AML		
	comp=E,3635μm,0.5s						
EPZF				AML	AML		
	comp=N,3985μm,0.3s						
MNO	**Monte Soro**	**1.05**	**229**	P	**Pn**	**05 08 04.4**	**+1.8**
MNO				AML	AML		
	comp=E,986μm,0.8s						
MNO				AML	AML		
	comp=N,1186μm,0.4s						
MNO				AML	AML		
	comp=E,986μm,1.2s						
IACL	**Alicudi**	**1.06**	**265**	⇑P	**Pn**	**05 08 02.6**	**+0.3**
IACL				AML	AML		
	comp=E,823μm,0.7s						
IACL				AML	AML		
	comp=N,640μm,0.5s						
IACL				AML	AML		
	comp=N,640μm,1.5s						
IACL				AML	AML		
	comp=E,823μm,1.3s						
ESLN	**Serra La Nave**	**1.09**	**212**	P	**Pn**	**05 08 03.1**	**+0.1**
ESLN				AML	AML		
	comp=N,1012μm,0.4s						
ESLN				AML	AML		
	comp=E,1045μm,0.6s						
GRIS	**Grisolia**	**1.12**	**6**	⇑P	**Pn**	**05 08 03.6**	**+0.6**
GRIS				S	**Sn**	**05 08 19.6**	**-0.5**
TDS	**Terranova Siba**	**1.14**	**25**	P	**Pn**	**05 08 04.1**	**+0.8**
TDS				AML	AML		
	comp=E,496μm,0.6s						
TDS				AML	AML		
	comp=N,274μm,0.7s						
TDS				AML	AML		
	comp=E,496μm,1.4s						
LADO	**San Nicola del**	**1.19**	**56**	P	**Pn**	**05 08 04.6**	**+0.8**
ESML	**S. M. di Licod**	**1.20**	**213**	P	**Pn**	**05 08 04.4**	**+0.5**
PIPA	**Pietrapaola**	**1.22**	**45**	⇑P	**Pn**	**05 08 05.4**	**+1.3**
PIPA				AML	AML		
	comp=E,797μm,1.5s						
PIPA				AML	AML		
	comp=E,848μm,1.5s						
PIPA				AML	AML		
	comp=N,740μm,0.7s						
PIPA				AML	AML		
	comp=E,796μm,1.5s						
PIPA				AML	AML		
	comp=E,796μm,0.5s						
PIPA				AML	AML		
	comp=N,674μm,0.3s						
PIPA				AML	AML		
	comp=E,848μm,0.5s						
GALF	**Gagliano Caste**	**1.28**	**225**	P	**Pn**	**05 08 06.4**	**+1.5**
GALF				AML	AML		
	comp=N,1115μm,0.4s						
GALF				AML	AML		
	comp=N,1115μm,1.6s						
GALF				AML	AML		
	comp=E,848μm,0.4s						
MMN	**Mormanno**	**1.28**	**10**	P	**Pn**	**05 08 05.2**	**+0.5**
SALB	**San Lorenzo Be**	**1.34**	**22**	P	**Pn**	**05 08 06.9**	**+1.2**
CUC	**Castrocucco**	**1.37**	**4**	⇑P	**Pn**	**05 08 06.2**	**+0.3**
CUC				S	**Sn**	**05 08 24.3**	**-0.7**
CUC				AML	AML		
	comp=E,374μm,0.3s						
CUC				AML	AML		
	comp=N,280μm,0.1s						
PLLN	**Pollina**	**1.38**	**243**	P	**Pn**	**05 08 06.5**	**+0.4**
HAGA	**Augusta**	**1.41**	**198**	⇓P	**Pn**	**05 08 05.7**	**-0.6**
HAGA				S	**Sn**	**05 08 23.8**	**-1.9**
HAGA				AML	AML		
	comp=E,2155μm,0.4s						
HAGA				AML	AML		
	comp=N,2405μm,0.4s						
AGST	**Augusta-Monte**	**1.42**	**196**	⇓P	**Pn**	**05 08 05.7**	**-0.7**
AGST				S	**Sn**	**05 08 23.8**	**-2.2**
AGST				AML	AML		
	comp=N,3330μm,0.4s						
AGST				AML	AML		
	comp=E,3085μm,0.4s						
HLNI	**Lentini**	**1.44**	**207**	⇓P	**Pn**	**05 08 06.2**	**-0.5**
HLNI				S	**Sn**	**05 08 24.8**	**-1.6**
HLNI				AML	AML		
	comp=E,2375μm,0.3s						
HLNI				AML	AML		
	comp=N,2570μm,1.0s						
GIB	**Gibilmanna**	**1.46**	**245**	P	**Pn**	**05 08 07.3**	**+0.3**
CSLB	**Castelbuono**	**1.47**	**242**	⇑P	**Pn**	**05 08 07.3**	**+0.3**
CSLB				AML	AML		
	comp=E,65μm,1.0s						
CSLB				AML	AML		
	comp=N,64μm,1.2s						
CSLB				AML	AML		
	comp=N,64μm,0.8s						
CSLB				AML	AML		
	comp=E,65μm,1.0s						
BULG	**Bulgheria - Ca**	**1.47**	**350**	P	**Pn**	**05 08 08.4**	**+1.3**
BULG				AML	AML		
	comp=N,239μm,0.5s						
BULG				AML	AML		
	comp=N,239μm,1.5s						
BULG				AML	AML		
	comp=E,210μm,0.6s						
PETRA	**Petralia Sopra**	**1.48**	**238**	⇑P	**Pn**	**05 08 08.2**	**+0.9**
PETRA				AML	AML		
	comp=N,268μm,0.9s						
PETRA				AML	AML		
	comp=E,231μm,0.8s						
MGR	**Morigerati**	**1.51**	**356**	P	**Pn**	**05 08 08.5**	**+0.9**
MGR				AML	AML		
	comp=E,4985μm,1.6s						
MGR				AML	AML		
	comp=N,4965μm,1.5s						
MGR				AML	AML		
	comp=N,199μm,1.5s						
MGR				AML	AML		
	comp=N,199μm,0.5s						
MGR				AML	AML		
	comp=E,4985μm,0.4s						

MGR					AML	AML			
	comp=E,216μm,0.2s								
MGR					AML	AML			
	comp=N,4965μm,0.5s								
ORI	**Oriolo Calabro**	**1.55**	**22**		P	**Pn**	**05 08 10.5**	**+2.5**	
ORI					AML	AML			
	comp=N,688μm,1.6s								
ORI					AML	AML			
	comp=E,704μm,0.7s								
ORI					AML	AML			
	comp=N,688μm,0.4s								
SSY	**Sortino**	**1.55**	**199**		P	**Pn**	**05 08 07.4**	**-0.6**	
SSY					S	**Sn**	**05 08 26.7**	**-2.2**	
SSY					AML	AML			
	comp=E,3315μm,1.2s								
SSY					AML	AML			
	comp=N,7885μm,0.2s								
SSY					AML	AML			
	comp=E,3315μm,0.8s								
SIRI	**Monte Sirino -**	**1.56**	**5**		P	**Pn**	**05 08 08.7**	**+0.6**	
SIRI					AML	AML			
	comp=N,374μm,0.2s								
SIRI					AML	AML			
	comp=N,356μm,0.2s								
SIRI					AML	AML			
	comp=E,350μm,0.2s								
SIRI					AML	AML			
	comp=E,339μm,0.2s								
MCEL	**Monticello**	**1.70**	**3**		P	**Pn**	**05 08 10.6**	**+0.7**	
RAFF	**Raffo Rosso**	**1.76**	**217**		P	**Pn**	**05 08 11.4**	**+0.9**	
RAFF					AML	AML			
	comp=E,372μm,0.5s								
RAFF					AML	AML			
	comp=N,278μm,0.3s								
SLCN	**Sala Consilina**	**1.76**	**358**		P	**Pn**	**05 08 13.3**	**+2.7**	
ALJA	**Alia**	**1.77**	**241**	⇑P		**Pn**	**05 08 12.3**	**+1.6**	
ALJA					AML	AML			
	comp=E,178μm,1.6s								
ALJA					AML	AML			
	comp=N,119μm,1.1s								
ALJA					AML	AML			
	comp=N,119μm,0.9s								
ALJA					AML	AML			
	comp=E,178μm,0.4s								
SOLUN	**Solunto**	**1.79**	**253**	⇑P		**Pn**	**05 08 11.5**	**+0.6**	
SOLUN					AML	AML			
	comp=E,318μm,1.3s								
SOLUN					AML	AML			
	comp=N,182μm,1.2s								
SOLUN					AML	AML			
	comp=E,318μm,0.7s								
CRAC	**Craco**	**1.83**	**18**		P	**Pn**	**05 08 13.1**	**+1.7**	
CRAC					AML	AML			
	comp=E,736μm,0.2s								
CRAC					AML	AML			
	comp=N,664μm,0.2s								
ACATE	**Acate (RG)**	**1.86**	**211**		AML	AML			
	comp=E,750μm,0.8s								
ACATE					AML	AML			
	comp=N,672μm,1.2s								
ACATE					AML	AML			
	comp=E,688μm,1.5s								
ACATE					AML	AML			
	comp=N,676μm,0.5s								
ACATE					AML	AML			
	comp=N,676μm,1.5s								
ACATE					AML	AML			
	comp=N,672μm,0.8s								
ACATE					AML	AML			
	comp=E,750μm,1.2s								
ACATE					AML	AML			
	comp=E,688μm,0.5s								
CDRU	**Civita di Ruta**	**1.89**	**351**		P	**Pn**	**05 08 13.2**	**+1.0**	
CDRU					AML	AML			
	comp=N,43μm,0.5s								
CDRU					AML	AML			
	comp=E,76μm,0.3s								
PTRP	**Pietrapertosa**	**1.91**	**8**		P	**Pn**	**05 08 15.1**	**+2.6**	
PTRP					AML	AML			
	comp=E,112μm,0.4s								
PTRP					AML	AML			
	comp=N,136μm,0.4s								
USI	**Ustica**	**1.98**	**273**		P	**Pn**	**05 08 13.5**	**+0.3**	
HPAC	**Pachino**	**1.98**	**194**		P	**Pn**	**05 08 13.2**	**-0.1**	
HPAC					AML	AML			
	comp=E,1805μm,0.3s								
HPAC					AML	AML			
	comp=N,1420μm,0.4s								
CLTA	**Licata**	**2.01**	**224**		P	**Pn**	**05 08 15.9**	**+2.2**	
CLTA					AML	AML			
	comp=E,169μm,0.8s								
CLTA					AML	AML			
	comp=N,94μm,0.8s								
CLTA					AML	AML			
	comp=E,169μm,1.2s								
CORL	**Corleone**	**2.02**	**250**	⇑P		**Pn**	**05 08 15.2**	**+1.3**	
CORL					AML	AML			
	comp=E,238μm,1.2s								
CORL					AML	AML			
	comp=N,223μm,0.6s								
CORL					AML	AML			
	comp=E,238μm,0.8s								
MIGL	**Miglionico**	**2.06**	**16**		P	**Pn**	**05 08 14.5**	**+0.2**	
MIGL					AML	AML			
	comp=N,630μm,0.7s								
MIGL					AML	AML			
	comp=E,633μm,1.0s								
MRLC	**Muro Lucano**	**2.13**	**356**		P	**Pn**	**05 08 17.4**	**+2.1**	
MRLC					AML	AML			
	comp=E,56μm,0.4s								
MRLC					AML	AML			
	comp=N,57μm,1.4s								
MRLC					AML	AML			
	comp=E,56μm,1.6s								
LTRZ	**Laterza**	**2.15**	**23**		P	**Pn**	**05 08 14.8**	**-0.7**	
LTRZ					S	**Sn**	**05 08 40.3**	**-2.0**	
MATE	**Matera**	**2.16**	**21**		P	**Pn**	**05 08 15.1**	**-0.5**	
MATE					AML	AML			
	comp=E,546μm,0.4s								
MATE					AML	AML			
	comp=N,780μm,0.2s								
ACER	**Acerenza**	**2.17**	**5**		P	**Pn**	**05 08 16.9**	**+1.2**	
ACER					AML	AML			
	comp=E,170μm,1.5s								
ACER					AML	AML			
	comp=N,158μm,0.6s								
ACER					AML	AML			
	comp=E,170μm,0.5s								
ACER					AML	AML			
	comp=N,158μm,1.4s								
TAR1	**Taranto**	**2.26**	**32**		P	**Pn**	**05 08 15.8**	**-1.0**	
TAR1					S	**Sn**	**05 08 42.5**	**-2.0**	
TAR1					AML	AML			
	comp=E,2380μm,0.2s								
TAR1					AML	AML			
	comp=N,1540μm,0.3s								
MBFT	**Monte Bonifato**	**2.27**	**253**	⇑P		**Pn**	**05 08 18.2**	**+1.2**	
MBFT					AML	AML			
	comp=E,86μm,1.0s								
MBFT					AML	AML			
	comp=N,64μm,0.9s								
MBFT					AML	AML			
	comp=N,64μm,1.1s								
CRJA	**Costa Raja**	**2.28**	**250**	⇑P		**Pn**	**05 08 19.2**	**+2.0**	
CRJA					AML	AML			
	comp=E,137μm,1.0s								
CRJA					AML	AML			
	comp=N,161μm,1.4s								
CRJA					AML	AML			
	comp=E,137μm,1.0s								
PALZ	**Palazzo San Ge**	**2.32**	**5**		P	**Pn**	**05 08 18.8**	**+1.1**	
PALZ					AML	AML			
	comp=N,120μm,0.9s								
PALZ					AML	AML			
	comp=E,84μm,1.0s								
AMUR	**Altamura**	**2.38**	**17**		P	**Pn**	**05 08 18.0**	**-0.5**	
AMUR					S	**Sn**	**05 08 45.5**	**-2.0**	
AMUR					AML	AML			
	comp=N,960μm,0.7s								
AMUR					AML	AML			
	comp=E,812μm,1.0s								
NOCI	**Noci**	**2.40**	**26**		P	**Pn**	**05 08 17.8**	**-0.9**	
NOCI					S	**Sn**	**05 08 46.0**	**-1.9**	
NOCI					AML	AML			
	comp=E,1010μm,0.2s								
NOCI					AML	AML			
	comp=N,1645μm,0.9s								
MRVN	**Minervino Murg**	**2.46**	**9**		P	**Pn**	**05 08 19.0**	**-0.5**	
MRVN					AML	AML			
	comp=E,135μm,0.2s								
MRVN					AML	AML			
	comp=N,126μm,0.4s								
KEK	**Kerkira**	**3.36**	**70**		P	**Pn**	**05 08 34.0**	**+2.6**	
KEK					AML	AML			
	comp=E,310μm,0.5s								
KEK					AML	AML			
	comp=N,262μm,1.2s								
SRN	**Sarande**	**3.56**	**68**		P	**Pn**	**05 08 34.0**	**0.0**	
SRN					AML	AML			
	comp=E,72μm,0.8s								
SRN					AML	AML			
	comp=N,116μm,0.2s								
SRN					AML	AML			
	comp=E,72μm,1.2s								
VLS	**Valsamata**	**3.87**	**95**		AML	AML			
	comp=E,476μm,0.2s								
VLS					AML	AML			
	comp=N,471μm,0.2s								
OHR	**Ohrid**	**4.64**	**56**	*i*	Pn	**Pn**	**05 08 49.7**	**+1.1**	
OHR				*i*	Sn	**Sn**	**05 09 41.8**	**+0.4**	
AKASG	**Malin Array Be**	**15.40**	**34**		LR	LR	05 16 52.8		
	comp=N,40nm,18.1s,baz=60,slow=37								
EKA	**Eskdalemuir Ar**	**20.98**	**329**		P	**P**	**05 12 14.4**	**-0.4**	
	comp=N,0.3nm,0.4s,baz=141,slow=11,SNR=4.7								
	comp=N,0.3nm,0.4s								
HFS	**Hagfors**	**21.57**	**357**		P	**P**	**05 12 19.8**	**-1.2**	
	comp=N,0.6nm,0.5s,baz=167,slow=13,SNR=4.8								
	comp=N,0.6nm,0.5s								
FINES	**FINESS Array B**	**23.73**	**12**		P	**P**	**05 12 41.7**	**-0.7**	
	comp=N,2.4nm,1.0s,baz=186,slow=11,SNR=2.5								
	comp=N,2.4nm,1.0s								
ZALV	**Zalesovo Beam**	**48.20**	**48**		P	**P**	**05 16 09.9**	**+0.2**	
	comp=N,0.9nm,0.3s,baz=284,slow=7.1,SNR=3.9								
	comp=N,0.9nm,0.3s								
MKAR	**Makanchi Array**	**48.28**	**58**		P	**P**	**05 16 11.8**	**+1.3**	
	comp=N,0.7nm,0.4s,baz=282,slow=7.2,SNR=9.2								
	comp=N,0.7nm,0.4s								
TSUM	**Tsumeb**	**57.55**	**178**		LR	LR	05 46 22.7		
	comp=N,45nm,18.7s,baz=333,slow=40								

*NEIC **02** 05:23:41.8±1.2,20.°91S±0.°10×178.°7W±0.°1,h553km±9km, mb4.2/18, Error ellipse: s-maj=18.6km s-min=12.0km az=55.0*

*IDC **02** 05:23:44.2±5.3,20.°96S×178.°86W,h576km±60km,mb3.2/9, mbtmp4.0/9,Error ellipse: s-maj=22.8km s-min=21.4km az=53.0*

ISC 02 05:23:41.8±0.5,20.°9S±0.°1×178.°8W±0.°1,h550km,n38, σ0s73/37,mb3.9/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**316**	P		**P**	**05 25 07.0**	**+0.3**
FUTU	**Fugatoga**	**6.61**	**5**	P		**P**	**05 25 25.9**	**-0.3**
NIUE	**Niue**	**8.51**	**79**	P		**P**	**05 25 42.9**	**-1.7**
TOZ	**Tahuroa Road**	**17.47**	**195**	P		**P**	**05 27 14.2**	**-0.5**
CTAO	**Charters Tower**	**32.74**	**265**	P		**P**	**05 29 29.8**	**-0.1**
WR8	**Warramunga Arr**	**43.69**	**263**	P		**P**	**05 30 57.3**	**-1.4**
WR8				IAmb		IAmb	05 31 25.8	
	comp=Z,17nm,1.5s							
AS31	**Alice Springs**	**43.73**	**257**	P		**P**	**05 30 58.3**	**-0.8**
ASAR	**Alice Springs**	**43.73**	**257**	P		**P**	**05 30 58.1**	**-1.0**
ASAR	**Alice Springs**	**43.73**	**257**	P		**P**	**05 30 58.8**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=93,slow=8.1,SNR=21							
ASAR				PcP		**PcP**	**05 32 33.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=88,slow=5.2,SNR=6.0							
	comp=Z,2.4nm,0.7s							
WRA	**Warramunga Arr**	**43.84**	**263**	P		**P**	**05 30 59.0**	**-0.9**
WRA	**Warramunga Arr**	**43.84**	**263**	P		**P**	**05 30 59.4**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=96,slow=8.1,SNR=24							
	comp=Z,2.6nm,0.8s							
FORT	**Forrest**	**48.48**	**247**	P		**P**	**05 31 34.3**	**-0.6**
FORT				IAmb		IAmb	05 31 36.7	
	comp=Z,4.2nm,0.9s							
MBWA	**Marble Bar**	**57.07**	**258**	P		**P**	**05 32 35.5**	**-0.8**
MBWA				IAmb		IAmb	05 32 46.7	
	comp=Z,30nm,1.3s							
SBA	**Scott Base**	**57.41**	**184**	P		**P**	**05 32 38.7**	**+1.1**
VNDA	**Vanda**	**57.43**	**185**	P		**P**	**05 32 38.3**	**+0.5**
VNDA	**Vanda**	**57.43**	**185**	P		**P**	**05 32 38.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=4.6,slow=6.6,SNR=5.9							
	comp=Z,0.6nm,0.7s							
GIRL	**Giralia**	**61.75**	**255**	P		**P**	**05 33 07.7**	**+0.2**
QSPA	**South Pole Qui**	**69.15**	**180**	P		**P**	**05 33 53.0**	**-0.2**
QSPA				IAmb		IAmb	05 34 05.2	
	comp=Z,5.6nm,1.5s							
QSPA	**South Pole Qui**	**69.15**	**180**	P		**P**	**05 33 53.0**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=16,slow=1.1,SNR=11							
	comp=Z,1.6nm,0.8s							
JGF	**Kuroka**	**69.92**	**323**	P		**P**	**05 33 57.5**	**-0.5**
JGF				IAmb		IAmb	05 34 02.2	
	comp=Z,13nm,1.5s							
S12K	**Black Hills**	**77.63**	**10**	P		**P**	**05 34 40.6**	**-0.7**
O02D	**Mt. Diablo Mer**	**80.06**	**40**	P		**P**	**05 34 55.5**	**+0.8**
O02D				IAmb		IAmb	05 35 13.3	
	comp=Z,5.6nm,1.5s							
PLK4	**Peulik 4**	**80.46**	**12**	P		**P**	**05 34 56.6**	**+0.3**
PLK4				IAmb		IAmb	05 35 13.2	
	comp=Z,18nm,1.5s							
NVAR	**Mina Array Bea**	**81.82**	**44**	P		**P**	**05 35 04.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=218,slow=9.2,SNR=6.6							
	comp=Z,0.7nm,0.6s							
TRF	**Thorofare Moun**	**87.01**	**12**			**P**	**05 35 28.2**	**-0.4**
TRF				IAmb		IAmb	05 35 29.2	
	comp=Z,5.7nm,0.8s							
RND	**Reindeer**	**87.27**	**13**			**P**	**05 35 29.6**	**-0.2**
RND				IAmb		IAmb	05 35 30.5	
	comp=Z,4.8nm,0.8s							
TXAR	**Lajitas Array**	**87.88**	**58**	P		**P**	**05 35 34.7**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=227,slow=5.0,SNR=6.2							
	comp=Z,0.7nm,0.8s							
ILAR	**Eielson Array**	**88.88**	**13**	P		**P**	**05 35 36.7**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=222,slow=5.8,SNR=9.4							
	comp=Z,1.0nm,0.8s							
M29M	**Somme Creek**	**89.01**	**18**	P		**P**	**05 35 38.4**	**+0.4**
M29M				IAmb		IAmb	05 35 39.4	
	comp=Z,2.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P		**P**	**05 35 42.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=104,slow=4.7,SNR=4.4							
	comp=Z,0.8nm,0.5s							
PDAR	**Pinedale Array**	**89.75**	**44**	P		**P**	**05 35 42.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=206,slow=4.2,SNR=10.0							
	comp=Z,0.9nm,0.7s							
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP		**PKPdf**	**05 41 46.2**	**-0.8**
	comp=Z,2.8nm,1.1s,baz=41,slow=2.2,SNR=9.0							
FINES	**FINESS Array B**	**135.97**	**343**	PKP		**PKPdf**	**05 42 00.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=66,slow=4.9,SNR=3.5							
HFS	**Hagfors**	**139.84**	**350**	PKHKP		PKPpre	05 42 00.6	
	comp=Z,0.6nm,0.3s,baz=48,slow=2.2,SNR=13							
AKASG	**Malin Array Be**	**143.03**	**330**	PKP		PKPab	05 42 10.1	-0.5
	comp=Z,2.9nm,0.5s,baz=45,slow=4.3,SNR=27							
EKA	**Eskdalemuir Ar**	**145.48**	**4**	PKPbc		**PKPdf**	**05 42 17.8**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=347,slow=3.4,SNR=6.2							
BRTR	**Keskin Array B**	**146.59**	**311**	PKPbc		**PKPdf**	**05 42 20.9**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=149,slow=3.2,SNR=5.6							
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc		**PKPbc**	**05 42 31.4**	**0.0**
	comp=Z,1.1nm,0.6s,baz=28,slow=3.2,SNR=9.7							

*IDC **02** 05:50:51.3±0.4,49.°74S×114.°20W,h0km,mb4.5/16, mbtmp4.5/16,MS5.5/48,Error ellipse: s-maj=19.7km s-min=14.2km az=129.0*

*MOS **02** 05:50:53.7±1.3,49.°62S×113.°88W,h10km,mb5.4/21, MS5.5/5, Error ellipse: s-maj=20.2km s-min=11.8km az=65.9*

*BJI **02** 05:50:54.8,49.°80S×113.°80W,h10km,mB5.5/10, Ms5.9/26,Ms7 5.8/26*

*NEIC **02** 05:50:55.4,49.°71S×113.°87W,h10km*

*NEIC **02** 05:50:55.3,50.°03S×113.°88W,h20km,Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^18^Nm; Mrr-0.09; Mθθ0.46; Mφφ-0.37; Mrθ-0.11; Mθφ1.09; Mφr0.08; Fault plane solution: M0 1.17000×10^18^ NP1: φs190.56000°,δ83.41000°,λ-176.36000°. NP2: φs100.14000°,δ86.39000°,λ-6.61000°. Principal axes: T 1.2085, Plg2.0000°, Azm145.0000°; N -0.0752, Plg82.0000°, Azm252.0000°; P -1.1333, Plg7.0000°, Azm55.0000°;*

*NEIC **02** 05:50:55.3,49.°73S×113.°88W,h20km*

*NEIC **02** 05:50:55.2±1.9,49.°73S±0.°09×113.°8W±0.°1,h10km±1km, mb5.4/102,Ms_20 5.8/668,Mwb5.8/60,Mww6.0/29,Error ellipse: s-maj=20.5km s-min=8.2km az=312.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-0.14; Mθθ3.27; Mφφ-3.13; Mrθ-0.51; Mθφ5.60; Mφr-1.55; Fault plane solution: M0 6.65000×10^17^ NP1: φs284.94000°,δ75.87000°,λ0.30000°. NP2:φs194.87000°, δ89.71000°,λ165.87000°. Principal axes: T 6.7368, Plg10.0000°, Azm149.0000°; N -0.1770, Plg76.0000°, Azm14.0000°; P -6.5597, Plg10.0000°, Azm241.0000°;*

*GCMT **02** 05:50:59.2±0.1,50.°03S×114.°17W,h12km,MW5.9/152, Moment Tensor Solution. s152,c338; s152,c497; Duration: 2s3 Moment tensor: Scale 10^18^Nm; Mrr-0.04±.01; Mθθ0.40±.01; Mφφ-0.35±.01; Mrθ-0.01±.01; Mθφ0.97±.01; Mφr0.03±.01; Best double couple: M0 1.03900×10^18^ NP1:φs101.00000°,δ88.00000°, λ-1.00000°. NP2:φs191.00000°,δ89.00000°, λ-178.00000°. Principal axes: T 1.0590, Plg0.0000°, Azm326.0000°; N -0.0400, Plg88.0000°, Azm224.0000°; P -1.0190, Plg2.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 02 05:50:54.3±0.2,49.°72S±0.°06×114.°06W±0.°05,h10km, n689,σ1s58/324,mb5.3/73,MS5.8/374,4C-2D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**22.80**	**11**	P		**P**	**05 55 57.1**	**-0.1**
MG05	**Puerto Natales**	**26.14**	**110**	P		**P**	**05 56 26.4**	**-2.0**
GO09	**Cerro Castillo**	**26.34**	**110**	P		**P**	**05 56 29.0**	**-1.1**
MG04	**Isla Riesco**	**26.48**	**113**	P		**P**	**05 56 28.5**	**-2.9**
MG04				IAmb		IAmb	05 56 41.1	
	comp=Z,150nm,1.2s							
AY03	**Cochrane**	**27.35**	**101**	P		**P**	**05 56 38.0**	**-1.3**
AY03				IAmb		IAmb	05 56 46.5	
	comp=Z,127nm,1.8s							
PTCN	**Pitcairn Islan**	**27.59**	**327**	IAMs_20		IAMs_20	06 04 26.0	
	comp=Z,31μm,20.0s							
COYC	**Coyhaique**	**28.31**	**98**			**P**	**05 56 47.9**	**0.0**
COYC				IAmb		IAmb	05 56 57.8	
	comp=Z,90nm,1.5s							
GO07	**Milladeo Hill,**	**28.35**	**92**	P		**P**	**05 56 46.2**	**-2.1**
MG01	**Puerto William**	**28.43**	**119**	P		**P**	**05 56 47.2**	**-1.6**
MG01				IAmb		IAmb	05 57 16.1	
	comp=Z,47nm,0.6s							
LL02	**Futaleuf**	**29.50**	**94**	P		**P**	**05 56 56.8**	**-1.7**
LL01	**San Ignacio de**	**29.51**	**92**	P		**P**	**05 56 57.5**	**-1.1**
LL01				IAmb		IAmb	05 57 07.4	
	comp=Z,89nm,1.9s							
PMSA	**Palmer Station**	**29.99**	**139**	IAMs_20		IAMs_20	06 05 14.7	
	comp=Z,22μm,21.0s							
PMSA	**Palmer Station**	**29.99**	**139**	LR		LR	06 05 36.1	
	comp=Z,20μm,19.8s,baz=260,slow=30							
H03S2	**Juan Fernandez**	**30.29**	**72**	T		T	06 28 56.8	
	baz=226,slow=74,SNR=1494							
H03S1	**Juan Fernandez**	**30.30**	**72**	T		T	06 29 04.1	
	baz=226,slow=74,SNR=1700							
H03S3	**Juan Fernandez**	**30.31**	**72**	T		T	06 28 55.9	
	baz=226,slow=74,SNR=1521							
H03N3	**Juan Fernandez**	**30.55**	**71**	T		T	06 29 20.2	
	baz=229,slow=71,SNR=5036							
H03N2	**Juan Fernandez**	**30.56**	**71**	T		T	06 29 16.9	
	baz=229,slow=71,SNR=8047							
H03N1	**Juan Fernandez**	**30.57**	**71**	T		T	06 29 09.6	
	baz=229,slow=71,SNR=5028							
LR03	**Panguipulli**	**30.97**	**87**	P		**P**	**05 57 11.1**	**-0.5**
PLCA	**Paso Flores**	**31.55**	**90**			**P**	**05 57 16.4**	**-0.3**
PLCA				IAmb		IAmb	05 57 23.4	
	comp=Z,60nm,1.7s							
PLCA	**Paso Flores**	**31.55**	**90**	P		**P**	**05 57 15.4**	**-1.3**
	comp=Z,4.1nm,1.1s,baz=237,slow=4.7,SNR=5.9							
PLCA				LR		LR	06 06 52.7	
	comp=Z,4μm,18.9s,baz=232,slow=30							
	comp=Z,4.1nm,1.1s							
PLCA	**Paso Flores**	**31.55**	**90**	P		**P**	**05 57 16.4**	**-0.3**
PLCA				pmax		pmax		
	comp=Z,60nm,1.7s							
PLCA	**Paso Flores**	**31.55**	**90**	*e*P		**P**	**05 57 15.6**	**-1.1**
ESPZ	**Base Esperanza**	**33.05**	**136**	P		**P**	**05 57 29.2**	**-0.3**
ML02	**Panimavida**	**33.81**	**82**	P		**P**	**05 57 36.7**	**+0.3**
BO02	**Sierra Bellavi**	**34.81**	**81**	P		**P**	**05 57 44.1**	**-1.1**
BO02				IAmb		IAmb	05 57 51.8	
	comp=Z,105nm,1.6s							
BO01	**Tunca**	**34.87**	**80**			**P**	**05 57 44.6**	**-1.0**
BO01				IAmb		IAmb	05 57 52.9	
	comp=Z,96nm,1.3s							
MT09	**Talagante**	**35.33**	**80**	P		**P**	**05 57 49.5**	**-0.2**
MT09				IAmb		IAmb	05 57 56.7	
	comp=Z,78nm,1.4s							
MT05	**Renca**	**35.73**	**79**			**P**	**05 57 53.5**	**+0.3**
LMEL	**Las Melosas**	**35.78**	**80**	P		**P**	**05 57 53.6**	**-0.1**
LMEL				IAmb		IAmb	05 58 03.8	
	comp=Z,130nm,1.7s							
MT16	**CCHEN**	**35.85**	**80**	P		**P**	**05 57 54.9**	**+0.7**
PEL	**Peldehue**	**35.93**	**79**	P		**P**	**05 57 55.0**	**+0.2**
PEL				IAMs_20		IAMs_20	06 08 20.2	
	comp=Z,13μm,21.0s							
PEL	**Peldehue**	**35.93**	**79**	P		**P**	**05 57 55.0**	**+0.2**
PEL				pmax		pmax		
	comp=Z,295nm,2.0s							
MT08	**Bocatoma Ro**	**36.16**	**80**	P		**P**	**05 57 57.3**	**+0.3**
MT08				IAmb		IAmb	05 58 05.1	
	comp=Z,118nm,1.9s							
TBI	**Tubuai**	**38.18**	**301**	*e*P		P	05 58 08.0	-5.9
	comp=Z,2μm,29.5s							
TBI				*e*S		**S**	**06 04 07.2**	**-0.1**
	comp=Z,8μm,29.0s							
TBI				*e*SS		**SnSn**	**06 06 45.5**	**-5.4**
	comp=Z,14μm,24.0s							
TBI				*e*LR		LR	06 08 30.8	
	comp=Z,82μm,25.8s							
TBI				*e*LR		LR	06 08 33.3	
	comp=Z,17μm,24.5s							
ZON	**Zonda**	**38.25**	**79**	P		**P**	**05 58 14.4**	**-0.2**
ZON				IAmb		IAmb	05 58 21.2	
	comp=Z,135nm,1.6s							
ZON	**Zonda**	**38.25**	**79**	P		**P**	**05 58 14.4**	**-0.2**
ZON				pmax		pmax		
	comp=Z,135nm,1.6s							
CFA	**Coronel Fontan**	**38.49**	**79**	LR		LR	06 10 22.4	
	comp=Z,3μm,20.5s,baz=218,slow=30							
TRQA	**Tornquist**	**38.57**	**93**	P		**P**	**05 58 17.6**	**+0.5**
TRQA				IAmb		IAmb	05 58 23.4	
	comp=Z,94nm,1.5s							
TRQA	**Tornquist**	**38.57**	**93**	P		**P**	**05 58 17.6**	**+0.5**
TRQA				pmax		pmax		
	comp=Z,94nm,1.5s							
SBA	**Scott Base**	**39.71**	**199**	P		**P**	**05 58 28.5**	**+2.3**
SBA	**Scott Base**	**39.71**	**199**	P		**P**	**05 58 28.5**	**+2.3**
SBA				pmax		pmax		
	comp=Z,80nm,2.0s							
QSPA	**South Pole Qui**	**40.48**	**180**	P		**P**	**05 58 33.2**	**+0.2**
QSPA				IAmb		IAmb	05 58 42.9	
	comp=Z,68nm,1.2s							
QSPA	**South Pole Qui**	**40.48**	**180**	P		**P**	**05 58 31.6**	**-1.3**
	comp=Z,32nm,1.1s,baz=112,slow=4.3,SNR=18							
QSPA				LR		LR	06 13 55.4	
	comp=Z,7μm,18.8s,baz=100,slow=34							
	comp=Z,32nm,1.1s							
VNDA	**Vanda**	**40.79**	**199**			**P**	**05 58 37.3**	**+2.1**
VNDA	**Vanda**	**40

PPT2 comp=Z,29µm,24.8s *e*LR LR 06 10 42.5
PPT comp=Z,25µm,27.2s **Papeete** 42.93 306 LR LR 06 12 32.9
PB03 comp=Z,10µm,18.2s,baz=140,slow=30 **IPOC Station P** 44.37 68 P **P** **05 59 05.7 +0.6**
PB02 **IPOC Station P** 44.84 67 P **P** **05 59 09.0 +0.3**
PB01 **IPOC Station P** 45.30 67 P **P** **05 59 12.2 -0.2**
TA02 **Huaiquique** 45.51 66 P **P** **05 59 13.2 -0.7**
HOPE comp=Z,14µm,20.0s **Hope Point** 45.72 127 IAMs_20 IAMs_20 06 12 51.2
RAR comp=Z,9µm,20.0s **Rarotonga** 45.85 291 IAMs_20 IAMs_20 06 12 18.8
RAR comp=Z,3µm,19.7s,baz=144,slow=29 **Rarotonga** 45.85 291 LR LR 06 13 07.0
TAOE comp=Z,444nm,27.3s **Nuku Hiva Isla** 46.18 323 *e*P P 05 59 09.2 -10
TAOE comp=Z,196nm,24.5s **Nuku Hiva Isla** 46.18 323 *e*PP **PP** **06 01 03.3 -4.4**
TAOE comp=Z,3µm,24.9s *e*S **S** **06 06 05.6 0.0**
TAOE comp=Z,5µm,24.9s *e*SS **SS** **06 09 33.9 +3.0**
TAOE comp=Z,34µm,26.5s *e*LR LR 06 12 21.7
PB11 comp=Z,113nm,1.6s **IPOC Station P** 46.18 66 **P** **05 59 19.4 0.0**
PB11 IAmb IAmb 05 59 30.9
GO01 comp=Z,33nm,1.1s **Chusmiza** 46.52 66 P **P** **05 59 22.4 -0.2**
GO01 IAmb IAmb 05 59 31.6
PB18 comp=Z,7nm,0.8s **Visviri** 47.98 64 P **P** **05 59 34.2 +0.3**
VNA3 comp=Z,11µm,21.0s,baz=214,slow=30 **Neumayer Olymp** 48.12 155 ⇑P **P** **05 59 32.5 -1.3**
BFZ comp=Z,14µm,20.0s **Birch Farm** 48.30 253 IAMs_20 IAMs_20 06 14 31.1
NNA comp=Z,9µm,20.0s **Nana** 48.49 52 IAMs_20 IAMs_20 06 14 51.7
NNA comp=Z,11µm,21.0s,baz=214,slow=30 **Nana** 48.49 52 LR LR 06 14 45.7
NNA comp=Z,72nm,1.4s **Nana** 48.49 52 P **P** **05 59 37.3 0.0**
NNA pmax pmax
BHW comp=Z,8µm,20.0s **Baring Head** 48.73 251 IAMs_20 IAMs_20 06 15 42.3
MQZ comp=Z,9µm,19.0s **McQueen's Vall** 48.76 247 IAMs_20 IAMs_20 06 15 02.2
VNA1 comp=Z,36nm,0.8s **Neumayer--Stat** 48.83 155 ⇑P **P** **05 59 38.1 -1.0**
MXZ comp=Z,10µm,20.0s **Matakaoa Point** 48.85 257 IAMs_20 IAMs_20 06 14 57.7
SNZO comp=Z,13µm,20.0s **South Karori** 48.88 251 IAMs_20 IAMs_20 06 15 28.6
GVZ comp=Z,10µm,20.0s **Greta Valley S** 48.95 248 IAMs_20 IAMs_20 06 14 03.2
KHZ comp=Z,9µm,21.0s **Kahutara** 48.96 249 IAMs_20 IAMs_20 06 14 57.5
BKZ comp=Z,14µm,21.0s **Black Stump Fm** 49.03 255 IAMs_20 IAMs_20 06 14 47.5
RTZ comp=Z,12µm,20.0s **Ruatahuna** 49.05 255 IAMs_20 IAMs_20 06 15 54.1
CPUP comp=Z,0.8nm,0.7s,baz=100,slow=8.3,SNR=5.0 **Villa Florida** 49.07 83 **P** **05 59 40.6 -1.0**
CPUP **Villa Florida** 49.07 83 P **P** **05 59 39.8 -1.8**
CPUP comp=Z,2µm,21.1s,baz=90,slow=32 LR LR 06 16 59.3
CPUP comp=Z,0.8nm,0.7s **Villa Florida** 49.07 83 P **P** **05 59 40.6 -1.0**
CPUP comp=Z,34nm,1.8s pmax pmax
CPUP comp=Z,9µm,22.0s **Villa Florida** 49.07 83 *e*P **P** **05 59 40.3 -1.3**
URZ comp=Z,12µm,19.0s,baz=123,slow=31 **Urewera** 49.18 256 LR LR 06 16 08.6
ODZ comp=Z,10µm,20.0s **Otahua Downs** 49.21 245 IAMs_20 IAMs_20 06 15 31.8
OXZ comp=Z,8µm,19.0s **Oxford** 49.35 248 IAMs_20 IAMs_20 06 16 30.7
LTZ comp=Z,9µm,20.0s **Lake Taylor** 49.52 248 IAMs_20 IAMs_20 06 14 54.2
SNAA comp=Z,100nm,0.7s **Sanae** 49.66 157 ⇑P **P** **05 59 44.3 -1.4**
SNAA comp=Z,9µm,22.0s **Sanae** 49.66 157 IAMs_20 IAMs_20 06 17 35.1
SNAA comp=Z,6.2nm,0.9s,baz=212,slow=4.3,SNR=15 **Sanae** 49.66 157 P **P** **05 59 44.2 -1.4**
SNAA comp=Z,9µm,21.5s,baz=272,slow=33 LR LR 06 17 57.3
SNAA comp=Z,6.2nm,0.9s **Sanae** 49.66 157 P **P** **05 59 45.6 -0.1**
SNAA comp=Z,31nm,1.4s pmax pmax
RPZ comp=Z,9µm,19.0s **Rata Peaks** 49.72 247 IAMs_20 IAMs_20 06 15 06.3
RPZ comp=Z,5µm,19.9s,baz=114,slow=31 **Rata Peaks** 49.72 247 LR LR 06 16 11.4
THZ comp=Z,8µm,19.0s **Tophouse** 49.72 250 IAMs_20 IAMs_20 06 15 21.7
NNZ comp=Z,7µm,18.0s **Nelson** 49.75 251 IAMs_20 IAMs_20 06 16 41.4
LPAZ comp=Z,45nm,1.0s **La Paz** 49.79 65 **P** **05 59 47.2 -0.7**
LPAZ IAmb IAmb 06 00 06.4
LPAZ comp=Z,14nm,1.0s,baz=194,slow=5.1,SNR=22 **La Paz** 49.79 65 P **P** **05 59 47.5 -0.4**
LPAZ comp=Z,3µm,19.6s,baz=228,slow=30 LR LR 06 16 05.6
LPAZ comp=Z,14nm,1.0s **La Paz** 49.79 65 P **P** **05 59 47.2 -0.7**
LPAZ pmax pmax
LPAZ comp=Z,45nm,1.0s **La Paz** 49.79 65 *e*P **P** **05 59 47.4 -0.5**
LBZ comp=Z,14µm,20.0s **Lake Benmore** 49.85 245 IAMs_20 IAMs_20 06 15 38.8
INZ comp=Z,10µm,20.0s **Inchbonnie** 50.05 248 IAMs_20 IAMs_20 06 15 32.2
DSZ comp=Z,9µm,20.0s **Denniston Nort** 50.40 249 IAMs_20 IAMs_20 06 16 28.6
HIZ comp=Z,10µm,20.0s **Hauiti** 50.44 254 IAMs_20 IAMs_20 06 16 03.9
QRZ comp=Z,6µm,20.0s **Quartz Range** 50.50 250 IAMs_20 IAMs_20 06 15 13.3
TOZ comp=Z,10µm,19.0s **Tahuroa Road** 50.51 255 IAMs_20 IAMs_20 06 16 50.8
FOZ comp=Z,10µm,21.0s **Fox Glacier** 50.56 246 IAMs_20 IAMs_20 06 15 43.6
TROLL comp=Z,2µm,0.9s **Troll, Antarti** 50.74 159 ⇑P **P** **05 59 51.9 -2.1**
RAO comp=Z,7µm,21.0s **Raoul Island** 51.70 268 IAMs_20 IAMs_20 06 15 27.0
RAO comp=Z,2µm,18.1s,baz=137,slow=33 **Raoul Island** 51.70 268 LR LR 06 19 12.7
ATAH comp=Z,3µm,21.8s,baz=222,slow=30 **Atahualpa** 51.89 47 LR LR 06 16 42.4
MURT **Porto Murtinho** 52.21 79 *e*P **P** **06 00 04.5 -0.8**
PAYG comp=Z,8µm,21.0s **Puerto Ayora** 52.93 30 IAMs_20 IAMs_20 06 16 47.3
AMBA **Amambai (Brazi** 52.97 82 *e*P **P** **06 00 09.1 -1.9**
OUZ comp=Z,9µm,20.0s **Omahuta** 53.28 257 IAMs_20 IAMs_20 06 17 55.0
PTGB **Pitanga** 53.60 86 *e*P **P** **06 00 14.7 -1.0**
BDQN **Bodoquena, MS** 53.63 79 *e*P **P** **06 00 14.4 -1.5**
BBSD **Serra de San D** 53.64 72 *e*P **P** **06 00 15.1 -0.9**
CZSB comp=Z,39nm,1.1s **Cruzeiro do Su** 54.23 54 P **P** **06 00 21.7 +1.4**
CZSB IAmb IAmb 06 00 29.0
CZSB comp=Z,4µm,21.1s,baz=247,slow=32 **Cruzeiro do Su** 54.23 54 *e*P **P** **06 00 22.1 +1.8**
SIV **San Ignacio** 54.26 71 LR LR 06 19 48.6
AQDB comp=Z,35nm,1.3s **Aquidauana** 54.28 79 **P** **06 00 20.9 +0.2**
AQDB IAmb IAmb 06 00 26.8
AQDB comp=Z,4µm,22.0s **Aquidauana** 54.28 79 *e*P **P** **06 00 20.2 -0.5**
COHC **Cochancay** 55.60 44 **P** **06 00 29.6 -0.5**
PTLB comp=Z,42nm,1.4s **Pontes e Lacer** 55.87 72 P **P** **06 00 31.5 -0.6**
PTLB IAmb IAmb 06 00 41.9
PTLB comp=Z,42nm,1.0s **Pontes e Lacer** 55.87 72 *e*P **P** **06 00 31.5 -0.6**
VILB **Vilhena** 57.14 70 P **P** **06 00 40.9 -0.4**
VILB IAmb IAmb 06 00 47.9
VILB comp=Z,4µm,22.0s **Vilhena** 57.14 70 *e*P **P** **06 00 42.0 +0.8**
SALV **Santo Antonio** 57.68 76 *e*P **P** **06 00 44.4 -0.6**
ITRB **Iturama** 58.27 83 *e*P **P** **06 00 50.6 +1.4**
OTAV **Otavalo** 58.36 43 P **P** **06 00 50.0 -0.3**
OTAV comp=Z,17nm,1.0s **Otavalo** 58.36 43 P **P** **06 00 50.0 -0.3**
OTAV pmax pmax
BB19B comp=Z,29nm,1.0s **Bebedouro** 58.47 86 *e*P **P** **06 00 50.0 -0.6**
TBTG comp=Z,29nm,1.0s **Tabatinga, AM** 58.69 54 P **P** **06 00 52.3 +0.2**
TBTG IAmb IAmb 06 01 08.1
TBTG comp=Z,33nm,1.6s **Tabatinga, AM** 58.69 54 *e*P **P** **06 00 53.4 +1.4**
CASY **Casey** 59.42 199 P **P** **06 00 57.0 +0.6**
CASY IAmb IAmb 06 01 06.5
SYO comp=Z,3,6nm,0.7s,baz=222,slow=9.5,SNR=6.0 **Syowa Base** 60.00 169‖ *e*P **P** **06 01 00.6 +0.2**
SYO **Syowa Base** 60.00 169‖ *j*sP sP 06 01 03.2 -0.3
ARAG comp=Z,4µm,20.4s,baz=211,slow=34 **Araguaiana, MT** 60.28 79 *e*P **P** **06 01 00.9 -2.1**
PDRB comp=Z,3,6nm,0.7s **Porto dos Gac** 60.30 72 *e*P **P** **06 01 01.1 -2.1**
IPMB **Ipameri, GO** 60.91 84 *e*P **P** **06 01 08.2 +0.7**
CLDB **Colider** 61.45 72 *e*P **P** **06 01 10.9 -0.1**
TEFE **Tefe** 62.12 59 *e*P **P** **06 01 16.4 +0.9**
MSVF comp=Z,28nm,0.8s **Nonsavu** 62.41 275 P **P** **06 01 20.1 +2.5**
MSVF IAmb IAmb 06 01 21.5
MSVF comp=Z,28nm,0.8s **Nonsavu** 62.41 275 P **P** **06 01 20.1 +2.5**
MSVF pmax pmax
BDFB comp=Z,17nm,1.2s **Brasilia** 62.76 82 P **P** **06 01 19.8 -0.2**
BDFB comp=Z,3.6nm,0.7s,baz=222,slow=9.5,SNR=6.0 **Brasilia** 62.76 82 P **P** **06 01 18.1 -1.8**
BDFB LR LR 06 25 57.1
BDFB comp=Z,3.6nm,0.7s **Brasilia** 62.76 82 P **P** **06 01 19.8 -0.2**
BDFB pmax pmax
MAW comp=Z,14nm,0.9s,baz=170,slow=8.8,SNR=17 **Mawson** 62.98 179 P **P** **06 01 18.6 -1.9**
MAW LR LR 06 27 42.9
TAU comp=Z,8µm,18.0s,baz=178,slow=35 **Tasmania Unive** 63.60 234 IAMs_20 IAMs_20 06 21 38.1
XMAS comp=Z,14nm,0.9s **Kiritimati** 63.61 310 IAMs_20 IAMs_20 06 23 06.2
DIAM comp=Z,8µm,21.0s **Diamantina, MG** 63.62 87 *e*P **P** **06 01 25.6 -0.1**
ROSC comp=Z,8µm,19.0s **El Rosal** 64.31 45 P **P** **06 01 28.9 -1.5**
ROSC comp=Z,5.1nm,0.6s,baz=157,slow=12,SNR=4.9 LR LR 06 24 48.2
NPGB comp=Z,6µm,19.5s,baz=209,slow=32 **Novo Progresso** 64.70 70 *e*P **P** **06 01 31.7 -0.9**
LHI comp=Z,5.1nm,0.6s **Lord Howe Isla** 64.79 250 P **P** **06 01 35.8 +2.8**
SJMB **Sao Joao De Ma** 64.94 90 *e*P **P** **06 01 35.6 +1.4**
JTS **Las Juntas de** 64.97 32 P **P** **06 01 35.5 +1.2**
JTS IAmb IAmb 06 02 02.5
JTS comp=Z,23nm,1.2s **Las Juntas de** 64.97 32 P **P** **06 01 35.5 +1.2**
JTS pmax pmax
HDC comp=Z,23nm,1.3s **Heredia** 64.99 33 P **P** **06 01 36.4 +1.8**
HDC IAMs_20 IAMs_20 06 22 50.0
HDC comp=Z,4µm,18.0s **Heredia** 64.99 33 *e*P P 06 01 39.5 +4.9
RIB01 **Linhares ES** 65.01 91 *e*P **P** **06 01 35.8 +1.2**
RUSC **La Rusia** 65.80 46 P **P** **06 01 39.9 -0.4**
RUSC IAmb IAmb 06 02 28.4
BCIP comp=Z,21nm,1.2s **Isla Barro Col** 65.83 37 IAMs_20 IAMs_20 06 22 58.8
ACON comp=Z,7µm,21.0s **Acoyapa** 66.46 31 P **P** **06 01 45.2 +1.3**
ACON IAmb IAmb 06 01 59.2
ITTB comp=Z,22nm,1.3s **Itaituba** 66.59 68 *e*P **P** **06 01 45.0 +0.2**
ONTNC comp=Z,5µm,19.0s **Ouen Toro** 66.62 263 IAMs_20 IAMs_20 06 23 46.7
BOAB **BOACO BROADBAND** 66.75 30 **P** **06 01 46.1 +0.4**
DZM comp=Z,113nm,23.7s **Mont Dzumac** 66.80 263 *e*P **P** **06 01 47.1 +0.9**
DZM comp=Z,103nm,25.9s **Mont Dzumac** 66.80 263 *e*PP **PP** **06 04 08.8 -4.3**
DZM *e*S **S** **06 10 34.9 -3.7**
DZM comp=Z,2µm,25.6s *e*SS **SS** **06 14 56.2 0.0**
DZM comp=Z,2µm,27.6s *e*LQ LQ 06 19 00.1
DZM comp=Z,11µm,28.1s *e*LR LR 06 21 50.6
DZM comp=Z,12µm,23.4s **Mont Dzumac** 66.80 263 LR LR 06 23 52.7
ESPN comp=Z,6µm,21.6s,baz=134,slow=30 **Las Esperanzas** 66.97 32 P **P** **06 01 47.5 +0.4**
ESPN IAmb IAmb 06 01 55.0
SDBA comp=Z,45nm,1.2s **SAO DESIDERIO** 67.17 82 *e*P **P** **06 01 48.3 -0.3**
GUA01 **Guaratinga, BA** 67.38 89 *e*P **P** **06 01 51.0 +1.2**
MTO3 **Montecristo** 67.45 26 P **P** **06 01 52.5 +2.1**
ESQI **Esquipulas** 67.61 26 P **P** **06 01 53.5 +2.2**
TGUH **Tegucigalpa,Un** 67.75 28 P **P** **06 01 54.3 +2.1**
TGUH IAmb IAmb 06 02 13.1
SMTB comp=Z,32nm,1.2s **Santa Maria do** 68.13 78 *e*P **P** **06 01 56.5 +1.8**
TLIG **Tlapa** 68.38 16 P **P** **06 01 56.5 +0.4**
TOO **Toolangi** 68.38 237 **P** **06 01 56.8 +0.8**
TOO **Toolangi** 68.38 237 P **P** **06 01 56.8 +0.8**
TOO pmax pmax
CMC01 comp=Z,12nm,1.0s **Camacan, BA** 68.46 88 *e*P **P** **06 01 59.5 +2.8**
CMIG **Matias Romero** 68.65 20 LR LR 06 25 46.3
PRPB comp=Z,2µm,19.3s,baz=187,slow=30 **Parauapebas** 68.80 74 *e*P **P** **06 01 59.9 +1.1**
BOAV **Boa Vista** 69.28 59 P **P** **06 02 01.3 -0.4**
BOAV IAmb IAmb 06 02 11.8
BOAV comp=Z,26nm,1.4s **Boa Vista** 69.28 59 *e*P **P** **06 02 03.1 +1.3**
MAL2 **Monte Alegre,** 69.38 67 P **P** **06 02 02.2 -0.2**
MAL2 IAmb IAmb 06 02 09.5
SDV comp=Z,21nm,0.9s **Santo Domingo** 69.57 46 IAMs_20 IAMs_20 06 28 11.6
SDV comp=Z,3µm,20.0s **Santo Domingo** 69.57 46 LR LR 06 28 33.5
PETF comp=Z,3µm,20.1s,baz=204,slow=32 **Flores** 69.71 25 P **P** **06 02 05.5 +1.3**
PETF IAmb IAmb 06 02 17.0
BAUV comp=Z,20nm,1.0s **El Baul** 70.86 49 **P** **06 02 12.4 +1.0**
BAUV IAmb IAmb 06 02 20.4
TMAB comp=Z,79nm,1.7s **Tom-Au,PA,Br** 72.82 73 *e*P **P** **06 02 25.9 +2.7**
SLBS comp=Z,6µm,20.0s **Sierra La Lagu** 73.17 4 IAMs_20 IAMs_20 06 27 30.9
TEIG comp=Z,4µm,22.0s **Tepich** 73.30 25 IAMs_20 IAMs_20 06 27 39.4
LPIG comp=Z,5µm,20.4s,baz=186,slow=30 **La Paz** 73.56 4 LR LR 06 27 51.4
PCRV comp=Z,9µm,21.3s,slow=33 **Puerto La Cruz** 73.61 51 LR LR 06 30 51.0
STKA comp=Z,9µm,21.3s,slow=33 **Stephens Creek** 74.75 239 P **P** **06 02 34.1 -0.3**
STKA comp=Z,6.6nm,0.9s,baz=144,slow=5.1,SNR=10 **Stephens Creek** 74.75 239 P **P** **06 02 32.4 -2.0**
STKA LR LR 06 30 08.7
STKA comp=Z,4µm,18.2s,baz=135,slow=32 **Stephens Creek** 74.75 239 P **P** **06 02 34.1 -0.3**
STKA comp=Z,6.6nm,0.9s pmax pmax
MTDJ comp=Z,161nm,1.5s **Mount Denham** 74.97 36 IAMs_20 IAMs_20 06 28 04.3
MDP comp=Z,5µm,22.0s **Montagnes des** 75.99 64 LR LR 06 31 37.2
HPIG comp=Z,2µm,21.3s,baz=208,slow=32 76.67 8 P **P** **06 02 46.5 +1.0**
HPIG IAmb IAmb 06 02 58.4
RCBR comp=Z,85nm,1.9s **Riachuelo** 77.92 85 IAMs_20 IAMs_20 06 34 28.5
RCBR comp=Z,7µm,22.0s **Riachuelo** 77.92 85 LR LR 06 34 39.5
KVTX comp=Z,3µm,21.4s,baz=214,slow=34 **Kingsville** 78.25 15 IAMs_20 IAMs_20 06 33 05.2
POHA comp=Z,3µm,18.0s **Pohakuloa** 78.32 320 IAMs_20 IAMs_20 06 29 05.7
BBGH comp=Z,5µm,21.0s **Gun Hill** 78.74 54 IAMs_20 IAMs_20 06 34 46.3
833A comp=Z,4µm,22.0s **Chaparral WMA,** 78.78 13 P **P** **06 02 57.2 +0.3**
833A IAmb IAmb 06 03 10.0
BIM comp=Z,77nm,1.6s **Bigot** 79.11 52 IAMs_20 IAMs_20 06 34 11.4
MPOM comp=Z,4µm,20.0s **Morne Pois Mar** 79.16 52 IAMs_20 IAMs_20 06 35 16.6
TXAR comp=Z,2.6nm,0.9s,baz=142,slow=6.3,SNR=15 **Lajitas Array** 79.24 9 P **P** **06 02 58.7 -0.8**
TXAR LR LR 06 31 23.6
TX31 comp=Z,2µm,21.4s,baz=185,slow=31 **Lajitas Ar. Si** 79.24 9 P **P** **06 02 59.5 0.0**
TX31 comp=Z,2.6nm,0.9s IAmb IAmb 06 03 12.7
FDF comp=Z,48nm,1.7s **Fort de France** 79.25 52 IAMs_20 IAMs_20 06 34 04.1
SVN comp=Z,6µm,21.0s **Savane Anatole** 79.34 52 IAMs_20 IAMs_20 06 34 06.3
ILAM comp=Z,5µm,20.0s **Ilet Lapin Mar** 79.43 52 IAMs_20 IAMs_20 06 34 40.7
DRIO comp=Z,5µm,20.0s **Del Rio** 79.69 12 P **P** **06 03 02.2 +0.3**
SJG **San Juan** 79.70 46 LR LR 06 34 39.6
HNDO comp=Z,2µm,20.4s,baz=202,slow=33 **Hondo** 79.98 13 P **P** **06 03 04.2 +0.7**
HNDO IAmb IAmb 06 03 14.5
SAND comp=Z,50nm,1.6s **Sanderson** 80.03 11 P **P** **06 03 04.9 +1.2**
CBE comp=Z,5µm,20.0s **Ff, Capester** 80.15 51 IAMs_20 IAMs_20 06 34 35.8
MAGL comp=Z,6µm,19.0s **Barre de l'ile** 80.22 51 IAMs_20 IAMs_20 06 34 39.5
GDHS comp=Z,5µm,20.0s **Morne Mazeau,** 80.25 50 IAMs_20 IAMs_20 06 34 37.8
ALPN comp=Z,1µm,21.1s,baz=146,slow=31 **Alpine** 80.27 9 P **P** **06 03 06.0 +0.9**
HNR comp=Z,49nm,1.9s **Honiara** 80.29 267 LR LR 06 32 07.2
VHRN comp=Z,49nm,1.9s **Van Horn** 80.55 8 P **P** **06 03 06.9 +0.2**
VHRN IAmb IAmb 06 03 19.0
ABD comp=Z,4µm,20.0s **La Joyeuse, An** 80.56 51 IAMs_20 IAMs_20 06 34 37.6
GDSD comp=Z,5µm,20.0s **La Dsirade Is** 80.63 51 IAMs_20 IAMs_20 06 34 51.6
SABA comp=Z,4µm,19.0s **Saba** 80.67 49 IAMs_20 IAMs_20 06 35 16.6
SEUS comp=Z,5µm,19.0s **St. Eustatius** 80.68 49 IAMs_20 IAMs_20 06 35 27.1
JCT comp=Z,136nm,1.8s **Junction City** 80.84 12 P **P** **06 03 08.8 +0.7**
JCT **Junction City** 80.84 12 P **P** **06 03 08.8 +0.7**
JCT pmax pmax
HKT comp=Z,65nm,1.6s **Hockley** 80.96 16 P **P** **06 03 08.7 +0.2**
HKT IAmb IAmb 06 03 21.7
HKT comp=Z,65nm,1.7s **Hockley** 80.96 16 P **P** **06 03 08.7 +0.2**
HKT pmax pmax
OZNA comp=Z,3µm,20.0s **Ozona** 81.10 11 P **P** **06 03 09.3 -0.2**
EPT comp=Z,3µm,20.0s **El Paso** 81.41 7 IAMs_20 IAMs_20 06 32 06.1
ANWB comp=Z,3µm,20.0s **Willy Bob** 81.42 50 IAMs_20 IAMs_20 06 35 21.6
MNTX comp=Z,3µm,20.0s **Cornudas Mount** 81.42 7 IAMs_20 IAMs_20 06 32 33.5
TUC comp=Z,33nm,1.4s **Tucson** 81.72 3 P **P** **06 03 13.3 +0.6**
TUC IAmb IAmb 06 03 31.6
TUC comp=Z,3µm,22.0s **Tucson** 81.72 3 IAMs_20 IAMs_20 06 31 56.5
TUC comp=Z,33nm,1.5s **Tucson** 81.72 3 P **P** **06 03 13.3 +0.6**
TUC pmax pmax
060A comp=Z,3µm,21.0s **Indiantown** 82.08 30 IAMs_20 IAMs_20 06 32 42.9
545A comp=Z,4µm,22.0s **Edgard** 82.13 20 IAMs_20 IAMs_20 06 39 05.6
JOHN comp=Z,3µm,21.0s **Johnston Islan** 82.25 307 IAMs_20 IAMs_20 06 29 47.2
DWPF comp=Z,3µm,19.0s **Disney Wildern** 82.74 29 IAMs_20 IAMs_20 06 34 43.4
PFO comp=Z,4µm,19.0s **Pinyon Flats O** 82.99 358 IAMs_20 IAMs_20 06 32 43.4
PFO comp=Z,3µm,18.6s,baz=178,slow=30 **Pinyon Flats O** 82.99 358 LR LR 06 32 54.6
PFO **Pinyon Flats O** 82.99 358 *i* P **P** **06 03 20.0 +0.6**
PFO pmax pmax
PMD comp=Z,42nm,2.1s **Palm Desert** 83.03 358 P **P** **06 03 20.1 +0.7**
PMD IAmb IAmb 06 03 39.2
Y14A comp=Z,34nm,1.8s **Wickenburg** 83.29 1 P **P** **06 03 20.3 -0.6**
Y22A **Socorro** 83.53 6 P **P** **06 03 22.7 +0.5**
PASC comp=Z,5µm,20.0s **Pasadena Art C** 83.60 357 IAMs_20 IAMs_20 06 32 00.7
Y22D comp=Z,3µm,19.0s **IRIS PASSCAL I** 83.67 6 IAMs_20 IAMs_20 06 34 12.9
451A comp=Z,3µm,21.0s **Vernon** 83.85 24 IAMs_20 IAMs_20 06 34 04.0
X18A comp=Z,3µm,22.0s **Snowflake** 83.96 3 P **P** **06 03 23.8 -0.6**
WTFS **Witchita Falls** 84.27 13 P **P** **06 03 26.9 +1.2**
Z38A comp=Z,3µm,19.0s **Mt. Pleasant** 84.33 16 IAMs_20 IAMs_20 06 36 50.1
W13A comp=Z,68nm,2.0s **Hualapai Mount** 84.45 0 P **P** **06 03 26.7 -0.2**
W13A IAmb IAmb 06 03 40.1
ANMO comp=Z,2µm,18.0s **Albuquerque** 84.56 6 IAMs_20 IAMs_20 06 35 19.7
ANMO comp=Z,3µm,18.2s,baz=276,slow=31 **Albuquerque** 84.56 6 LR LR 06 34 56.9
ANMO comp=Z,24nm,2.0s **Albuquerque** 84.56 6 *i* P **P** **06 03 26.6 -0.9**
ANMO pmax pmax
GSC comp=Z,31nm,1.5s **Goldstone, Bar** 84.68 358 P **P** **06 03 27.0 -1.0**
GSC IAmb IAmb 06 03 42.0
GSC comp=Z,31nm,1.5s **Goldstone, Bar** 84.68 358 P **P** **06 03 27.0 -1.0**
GSC pmax pmax
AMTX comp=Z,2µm,20.0s **Amarillo** 84.95 10 IAMs_20 IAMs_20 06 35 31.6
WSHM comp=Z,4µm,21.0s **Spangler Hills** 85.00 357 IAMs_20 IAMs_20 06 32 46.7
250A comp=Z,3µm,22.0s **Grady** 85.01 23 IAMs_20 IAMs_20 06 34 43.6
SHOC comp=Z,20nm,1.2s **Shoshone, Teco** 85.27 358 P **P** **06 03 30.4 -0.4**
SHOC IAmb IAmb 06 03 44.6
ASAR comp=Z,9.8nm,0.8s,baz=152,slow=4.4,SNR=28 **Alice Springs** 85.39 239 P **P** **06 03 28.6 -3.4**
ASAR LR LR 06 36 47.1
MPMC comp=Z,5µm,18.6s,baz=152,slow=32 **Manual Prospec** 85.46 357 P **P** **06 03 32.1 +0.1**
H01W1 comp=Z,9.8nm,0.8s **Cape Leeuwin H** 85.54 218 T T 07 38 45.3
H01W2 baz=150,slow=75,SNR=63 **Cape Leeuwin H** 85.55 218 T T 07 38 43.1
H01W3 baz=150,slow=75,SNR=58 **Cape Leeuwin H** 85.56 218 T T 07 38 48.4
CCAR baz=150,slow=75,SNR=62 **Cane Creek** 85.59 18 P **P** **06 03 33.6 +1.2**
LRAL comp=Z,3µm,20.2s,baz=132,slow=29 **Lakeview Retre** 85.83 23 P **P** **06 03 34.5 +0.9**
CWC **Cottonwood Cre** 85.86 357 P **P** **06 03 35.4 +1.4**
NWAO comp=Z,5µm,22.0s **Narrogin (SRO)** 85.97 221 IAMs_20 IAMs_20 06 32 04.2
NWAO comp=Z,3µm,20.2s,baz=132,slow=29 **Narrogin (SRO)** 85.97 221 LR LR 06 33 00.9
OKCSW **OKLAHOMA CITY** 86.03 14 P **P** **06 03 34.3 -0.2**
CSTR comp=Z,3µm,19.0s **Hydro, Custer** 86.08 12 P **P** **06 03 34.9 0.0**
TPNV comp=Z,3µm,19.0s **Topopah Spring** 86.31 358 IAMs_20 IAMs_20 06 34 05.5
OK029 comp=Z,16nm,0.8s **Liberty Lake** 86.41 13 P **P** **06 03 37.0 +0.5**
OK029 IAmb IAmb 06 03 44.4
257A comp=Z,3µm,19.0s **Skidaway Islan** 86.47 28 IAMs_20 IAMs_20 06 36 34.2
MVCO comp=Z,3µm,20.0s **Mesa Verde** 86.69 4 IAMs_20 IAMs_20 06 35 00.9
DSP comp=Z,75nm,2.0s **Deep Springs** 86.78 357 P **P** **06 03 39.2 +1.1**
DSP IAmb IAmb 06 03 51.5
OK038 comp=Z,3µm,21.0s **West end E0370** 86.89 12 IAMs_20 IAMs_20 06 36 12.0
T25A comp=Z,3µm,22.0s **Trinidad** 86.90 8 P **P** **06 03 39.9 +0.8**
T25A IAMs_20 IAMs_20 06 35 14.6
GOGA comp=Z,36nm,1.6s **Godfrey** 87.11 25 P **P** **06 03 40.1 +0.2**
GOGA IAmb IAmb 06 03 50.0
GOGA comp=Z,36nm,1.6s **Godfrey** 87.11 25 P **P** **06 03 40.1 +0.2**
GOGA pmax pmax
S22A comp=Z,36nm,1.6s **4UR Ranch, Cre** 87.32 6 IAMs_20 IAMs_20 06 35 53.8
comp=Z,4µm,21.0s

NHSC	**New Hope**	**87.78**	**28**	IAMs_20	IAMs_20	06 38 05.9	
	comp=Z,2µm,18.0s						
MCCM	**Marconi Confer**	**87.83**	**353**	IAMs_20	IAMs_20	06 34 02.0	
	comp=Z,5µm,20.0s						
NVAR	**Mina Array Bea**	**87.85**	**357**	P	**P**	**06 03 41.7**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=187,slow=7.1,SNR=9.2						
NVAR				LR	LR	06 34 40.5	
	comp=Z,7µm,21.0s,baz=176,slow=30						
	comp=Z,0.2nm,0.4s						
PSUT	**Pine Spring**	**87.88**	**0**	P	**P**	**06 03 44.0**	**+0.3**
WRA	**Warramunga Arr**	**88.10**	**241**	P	**P**	**06 03 41.5**	**-3.7**
	comp=Z,3.6nm,0.9s,baz=147,slow=4.1,SNR=9.1						
WRA				LR	LR	06 39 31.8	
	comp=Z,4µm,18.0s,baz=158,slow=33						
	comp=Z,3.6nm,0.9s						
Q16A	**Castle Valley**	**88.30**	**2**	P	**P**	**06 03 45.9**	**+0.2**
Q16A				IAmb	IAmb	06 03 59.2	
	comp=Z,47nm,1.6s						
W50A	**Signal Mountai**	**88.31**	**23**	IAMs_20	IAMs_20	06 36 35.1	
	comp=Z,3µm,22.0s						
PMG	**Port Moresby**	**88.52**	**257**	IAMs_20	IAMs_20	06 35 14.8	
	comp=Z,5µm,22.0s						
PMG	**Port Moresby**	**88.52**	**257**	LR	LR	06 35 48.9	
	comp=Z,5µm,21.6s,baz=139,slow=30						
Y57A	**Sumter**	**88.56**	**27**	IAMs_20	IAMs_20	06 37 56.6	
	comp=Z,3µm,19.0s						
Y58A	**Scranton**	**88.68**	**28**	IAMs_20	IAMs_20	06 39 32.7	
	comp=Z,3µm,18.0s						
R32A	**Long Quarter,**	**88.81**	**12**	IAMs_20	IAMs_20	06 37 38.7	
	comp=Z,3µm,20.0s						
KSCO	**Kaye Shedlock'**	**88.93**	**9**	IAMs_20	IAMs_20	06 37 05.1	
	comp=Z,4µm,21.0s						
SUR	**Sutherland**	**88.97**	**143**	IAMs_20	IAMs_20	06 35 57.6	
	comp=Z,4µm,20.0s						
ORV	**Oroville**	**89.14**	**354**	IAMs_20	IAMs_20	06 35 01.4	
	comp=Z,5µm,20.0s						
TKL	**Tuckaleechee C**	**89.14**	**24**	LR	LR	06 36 58.8	
	comp=Z,2µm,22.0s,baz=196,slow=31						
Y60A	**Bolivia**	**89.22**	**29**	IAMs_20	IAMs_20	06 37 53.0	
	comp=Z,2µm,20.0s						
X58A	**Rowland**	**89.38**	**28**	IAMs_20	IAMs_20	06 40 11.2	
	comp=Z,2µm,18.0s						
U49A	**Red Boiling Sp**	**89.44**	**22**	IAMs_20	IAMs_20	06 37 25.0	
	comp=Z,3µm,22.0s						
ISCO	**Idaho Springs**	**89.45**	**6**	IAMs_20	IAMs_20	06 37 39.0	
	comp=Z,4µm,19.0s						
ISCO	**Idaho Springs**	**89.45**	**6**	P	**P**	**06 03 53.6**	**+2.3**
ISCO				pmax	pmax		
	comp=Z,6.0nm,2.6s						
DUG	**Dugway, Tooele**	**89.54**	**1**	IAMs_20	IAMs_20	06 36 42.7	
	comp=Z,3µm,19.0s						
CCM	**Cathedral Cave**	**89.70**	**18**	P	**P**	**06 03 52.6**	**+0.5**
CCM				pmax	pmax		
	comp=Z,11nm,1.2s						
W57A	**Gilead**	**89.74**	**27**	IAMs_20	IAMs_20	06 38 41.7	
	comp=Z,2µm,19.0s						
ELK	**Elko**	**90.09**	**359**	IAMs_20	IAMs_20	06 36 37.3	
	comp=Z,3µm,19.0s						
ELK	**Elko**	**90.09**	**359**	LR	LR	06 36 58.3	
	comp=Z,3µm,19.5s,baz=187,slow=31						
ELK	**Elko**	**90.09**	**359**	P	P	06 04 00.6	+6.4
HATC	**Hat Creek Radi**	**90.39**	**354**	IAMs_20	IAMs_20	06 35 41.5	
	comp=Z,4µm,20.0s						
JCC	**Jacoby Creek,**	**90.58**	**352**	IAMs_20	IAMs_20	06 35 02.7	
	comp=Z,3µm,20.0s						
V58A	**Windy Hill, Pi**	**90.60**	**28**	IAMs_20	IAMs_20	06 40 00.4	
	comp=Z,2µm,18.0s						
U56A	**King**	**90.74**	**27**	IAMs_20	IAMs_20	06 39 16.1	
	comp=Z,2µm,20.0s						
OGNE	**Ogallala**	**90.90**	**9**	IAMs_20	IAMs_20	06 38 39.3	
	comp=Z,3µm,20.0s						
HWUT	**Hardware Ranch**	**90.97**	**2**	IAMs_20	IAMs_20	06 38 04.5	
	comp=Z,4µm,19.0s						
R49A	**Shelbyville**	**91.28**	**22**	IAMs_20	IAMs_20	06 39 02.6	
	comp=Z,2µm,21.0s						
V61A	**Roper**	**91.39**	**30**	IAMs_20	IAMs_20	06 37 54.3	
	comp=Z,5µm,22.0s						
YBH	**Yreka Blue Hor**	**91.39**	**354**	LR	LR	06 36 31.1	
	comp=Z,426nm,19.8s,baz=160,slow=30						
T57A	**Hurt**	**91.67**	**27**	IAMs_20	IAMs_20	06 39 59.9	
	comp=Z,2µm,19.0s						
BGNE	**Belgrade**	**91.82**	**12**	IAMs_20	IAMs_20	06 39 22.4	
	comp=Z,2µm,20.0s						
WVOR	**Wild Horse Val**	**91.86**	**357**	IAMs_20	IAMs_20	06 36 20.3	
	comp=Z,4µm,21.0s						
AHID	**Auburn Hatcher**	**92.14**	**2**	IAMs_20	IAMs_20	06 38 45.4	
	comp=Z,4µm,19.0s						
T59A	**Double "B" Far**	**92.16**	**28**	IAMs_20	IAMs_20	06 39 50.9	
	comp=Z,4µm,20.0s						
BW06	**Boulder Array**	**92.19**	**3**	IAMs_20	IAMs_20	06 37 48.7	
	comp=Z,3µm,22.0s						
PDAR	**Pinedale Array**	**92.19**	**3**		**P**	**06 04 03.8**	**-0.1**
PDAR	**Pinedale Array**	**92.19**	**3**	P	**P**	**06 04 01.1**	**-2.7**
	comp=Z,0.9nm,0.9s,baz=182,slow=4.1,SNR=12						
PDAR				LR	LR	06 38 10.7	
	comp=Z,2µm,21.8s,baz=183,slow=31						
	comp=Z,0.9nm,0.9s						
S57A	**Dark Hollow, R**	**92.47**	**27**	IAMs_20	IAMs_20	06 41 08.0	
	comp=Z,2µm,18.0s						
L34A	**Svendsen Farm,**	**92.61**	**13**	IAMs_20	IAMs_20	06 40 31.5	
	comp=Z,2µm,18.0s						
MFID	**Camas Ranch**	**92.76**	**359**	IAMs_20	IAMs_20	06 38 15.2	
	comp=Z,3µm,20.0s						
SNOW	**Snow King Moun**	**92.84**	**2**	IAMs_20	IAMs_20	06 39 18.0	
	comp=Z,4µm,18.0s						
TPAW	**Teton Pass**	**92.87**	**2**	IAMs_20	IAMs_20	06 39 08.7	
	comp=Z,4µm,19.0s						
K30B	**Basset**	**92.88**	**11**	IAMs_20	IAMs_20	06 40 48.6	
	comp=Z,2µm,18.0s						
HLID	**Hailey**	**92.90**	**360**	IAMs_20	IAMs_20	06 38 37.7	
	comp=Z,3µm,19.0s						
R58B	**Mineral**	**92.98**	**28**	IAMs_20	IAMs_20	06 40 21.4	
	comp=Z,3µm,20.0s						
LOHW	**Long Hollow**	**93.00**	**3**	IAMs_20	IAMs_20	06 39 41.1	
	comp=Z,4µm,18.0s						
FXWY	**Fox Creek**	**93.01**	**2**	IAMs_20	IAMs_20	06 39 12.5	
	comp=Z,3µm,19.0s						
O48B	**Farmland**	**93.14**	**22**	IAMs_20	IAMs_20	06 40 56.1	
	comp=Z,2µm,21.0s						
CBN	**Corbin Frederi**	**93.35**	**28**	IAMs_20	IAMs_20	06 40 39.4	
	comp=Z,4µm,20.0s						
M44A	**Midewin, Midew**	**93.56**	**19**	IAMs_20	IAMs_20	06 41 47.3	
	comp=Z,2µm,20.0s						
Q56A	**Snyder Ridge,**	**93.58**	**26**	IAMs_20	IAMs_20	06 41 20.6	
	comp=Z,2µm,19.0s						
N47A	**Urbana**	**93.61**	**21**	IAMs_20	IAMs_20	06 42 34.4	
	comp=Z,2µm,20.0s						
RSSD	**Black Hills**	**93.87**	**7**	IAMs_20	IAMs_20	06 40 10.9	
	comp=Z,2µm,21.0s						
MCWV	**Mont Chateau**	**93.97**	**26**	IAMs_20	IAMs_20	06 41 20.8	
	comp=Z,2µm,20.0s						
BOSA	**Boshof**	**94.03**	**145**	LR	LR	06 40 36.7	
	comp=Z,2µm,18.1s,baz=206,slow=32						
R61A	**Willards**	**94.11**	**30**	IAMs_20	IAMs_20	06 40 43.2	
	comp=Z,2µm,20.0s						
BMO	**Blue Mountains**	**94.23**	**358**	IAMs_20	IAMs_20	06 38 24.0	
	comp=Z,4µm,21.0s						
O54A	**Avella**	**94.31**	**25**	IAMs_20	IAMs_20	06 45 51.8	
	comp=Z,2µm,18.0s						
ECSD	**EROS Data Cent**	**94.31**	**13**	IAMs_20	IAMs_20	06 41 56.4	
	comp=Z,3µm,18.0s						
P57A	**Homestead Farm**	**94.34**	**27**	IAMs_20	IAMs_20	06 40 56.5	
	comp=Z,3µm,20.0s						
FITZ	**Fitzroy Crossi**	**94.39**	**235**	P	**P**	**06 04 11.7**	**-2.8**
	comp=Z,6.8nm,0.8s,baz=170,slow=7.0,SNR=3.7						
FITZ				LR	LR	06 40 28.0	
	comp=Z,7µm,21.9s,baz=152,slow=32						
	comp=Z,6.8nm,0.8s						
L46A	**Eue Claire**	**94.55**	**20**	IAMs_20	IAMs_20	06 42 29.3	
	comp=Z,2µm,20.0s						
RLMT	**Red Lodge**	**94.55**	**3**		**P**	**06 04 15.2**	**+0.5**
RLMT				IAmb	IAmb	06 04 34.7	
	comp=Z,33nm,1.9s						
RLMT				IAMs_20	IAMs_20	06 40 56.2	
	comp=Z,3µm,18.0s						
SUSD	**Miller**	**94.70**	**11**	IAMs_20	IAMs_20	06 40 37.8	
	comp=Z,3µm,22.0s						
DLMT	**Dillon**	**94.71**	**1**	IAMs_20	IAMs_20	06 39 27.4	
	comp=Z,3µm,20.0s						
MBWA	**Marble Bar**	**94.87**	**229**	IAMs_20	IAMs_20	06 44 33.6	
	comp=Z,4µm,18.0s						
BOZ	**Bozeman (W)**	**94.96**	**2**	IAMs_20	IAMs_20	06 40 40.0	
	comp=Z,2µm,18.0s						
I37A	**Lemond, Waseca**	**95.08**	**15**	IAMs_20	IAMs_20	06 41 50.7	
	comp=Z,2µm,20.0s						
SSPA	**Standing Stone**	**95.44**	**27**	IAMs_20	IAMs_20	06 41 21.6	
	comp=Z,3µm,20.0s						
P61A	**Hammonton**	**95.50**	**29**	IAMs_20	IAMs_20	06 41 25.2	
	comp=Z,3µm,20.0s						
MIDW	**Midway**	**95.77**	**308**	IAMs_20	IAMs_20	06 37 20.3	
	comp=Z,3µm,21.0s						
HAWA	**Hanford**	**95.85**	**356**	IAMs_20	IAMs_20	06 39 46.9	
	comp=Z,2µm,21.0s						
N58A	**Sunbury**	**95.97**	**28**	IAMs_20	IAMs_20	06 41 18.8	
	comp=Z,3µm,21.0s						
WIN	**Windhoek**	**96.00**	**136**	IAMs_20	IAMs_20	06 38 21.9	
	comp=Z,2µm,21.0s						
J47A	**Sunmer**	**96.05**	**21**	IAMs_20	IAMs_20	06 42 16.0	
	comp=Z,2µm,22.0s						
K50A	**Casco**	**96.14**	**23**	IAMs_20	IAMs_20	06 41 10.4	
	comp=Z,2µm,21.0s						
M57A	**Sunshine Farm,**	**96.31**	**27**	IAMs_20	IAMs_20	06 42 23.6	
	comp=Z,3µm,20.0s						
I45A	**Fountain**	**96.49**	**20**	IAMs_20	IAMs_20	06 44 00.6	
	comp=Z,2µm,19.0s						
E28A	**Huff**	**96.61**	**9**	IAMs_20	IAMs_20	06 42 29.4	
	comp=Z,2µm,20.0s						
L56A	**Greenwood**	**96.92**	**26**	IAMs_20	IAMs_20	06 42 07.8	
	comp=Z,3µm,21.0s						
N62A	**Caumsett State**	**97.07**	**30**	IAMs_20	IAMs_20	06 41 03.7	
	comp=Z,3µm,22.0s						
NLWA	**Neilton Lookou**	**97.10**	**353**	IAMs_20	IAMs_20	06 38 42.2	
	comp=Z,2µm,21.0s						
H11S2	**WAKE ISLAND Hy**	**97.17**	**290**	T	T	07 52 39.8	
	baz=140,slow=76,SNR=2864						
H11S3	**WAKE ISLAND Hy**	**97.18**	**290**	T	T	07 52 42.0	
	baz=140,slow=76,SNR=2151						
H11S1	**WAKE ISLAND Hy**	**97.18**	**290**	T	T	07 52 41.1	
	baz=140,slow=76,SNR=2091						
LBTB	**Lobatse**	**97.41**	**144**	LR	LR	06 40 06.8	
	comp=Z,5µm,21.3s,baz=204,slow=30						
EGMT	**Eagleton**	**97.43**	**3**	IAMs_20	IAMs_20	06 40 52.4	
	comp=Z,2µm,21.0s						
BINY	**Binghanton**	**97.44**	**28**	IAMs_20	IAMs_20	06 42 00.5	
	comp=Z,2µm,21.0s						
NEW	**Newport**	**97.64**	**358**	LR	LR	06 41 44.1	
	comp=Z,5µm,18.1s,baz=186,slow=31						
L59A	**Walton**	**97.72**	**28**	IAMs_20	IAMs_20	06 43 57.8	
	comp=Z,2µm,20.0s						
K57A	**Scipio Center**	**97.77**	**27**	IAMs_20	IAMs_20	06 43 28.2	
	comp=Z,3µm,20.0s						
J55A	**Hilton**	**97.88**	**26**	IAMs_20	IAMs_20	06 42 32.4	
	comp=Z,2µm,21.0s						
JAY	**Jayapura**	**97.89**	**257**	LR	LR	06 42 22.8	
	comp=Z,1µm,21.1s,baz=122,slow=32						
E38A	**The Farm, Brul**	**97.91**	**15**	IAMs_20	IAMs_20	06 43 33.5	
	comp=Z,3µm,20.0s						
M63A	**Gales Ferry**	**97.96**	**31**	IAMs_20	IAMs_20	06 42 35.2	
	comp=Z,2µm,20.0s						
H11N3	**WAKE ISLAND Hy**	**97.98**	**291**	T	T	07 53 39.7	
	baz=142,slow=76,SNR=470						
H11N1	**WAKE ISLAND Hy**	**97.98**	**291**	T	T	07 53 40.3	
	baz=142,slow=76,SNR=363						
H11N2	**WAKE ISLAND Hy**	**97.99**	**291**	T	T	07 53 41.2	
	baz=142,slow=76,SNR=249						
J57A	**Williamstown**	**98.54**	**27**	IAMs_20	IAMs_20	06 42 59.7	
	comp=Z,2µm,21.0s						
M65A	**Busby, Falmout**	**98.57**	**31**	IAMs_20	IAMs_20	06 44 06.3	
	comp=Z,2µm,19.0s						
TRY	**Troy**	**98.63**	**29**	IAMs_20	IAMs_20	06 41 55.1	
	comp=Z,3µm,22.0s						
L61B	**Northampton**	**98.69**	**30**	IAMs_20	IAMs_20	06 44 08.6	
	comp=Z,2µm,20.0s						
AGMN	**Agassiz Nation**	**98.89**	**12**	IAMs_20	IAMs_20	06 43 38.6	
	comp=Z,2µm,19.0s						
SADO	**Sadowa**	**98.91**	**24**	LR	LR	06 45 06.4	
	comp=Z,2µm,19.6s,baz=206,slow=33						
K62A	**Royalston**	**99.03**	**30**	IAMs_20	IAMs_20	06 44 26.5	
	comp=Z,3µm,19.0s						
J59A	**Peco**	**99.04**	**28**	IAMs_20	IAMs_20	06 43 49.9	
	comp=Z,3µm,20.0s						
WES	**Weston**	**99.08**	**31**	IAMs_20	IAMs_20	06 43 06.8	
	comp=Z,2µm,20.0s						
HRV	**Adam Dziewonsk**	**99.11**	**30**	IAMs_20	IAMs_20	06 43 17.6	
	comp=Z,2µm,21.0s						
TSUM	**Tsumeb**	**99.14**	**134**	LR	LR	06 41 11.0	
	comp=Z,1µm,21.9s,baz=170,slow=30						
EYMN	**Ely**	**99.22**	**15**	IAMs_20	IAMs_20	06 43 58.1	
	comp=Z,2µm,22.0s						
LONY	**Lake Ozonia**	**100.06**	**27**	IAMs_20	IAMs_20	06 44 35.0	
	comp=Z,3µm,21.0s						
VT1	**Waterbury**	**100.36**	**29**	IAMs_20	IAMs_20	06 42 56.6	
	comp=Z,3µm,22.0s						
I62A	**Tamworth**	**100.40**	**30**	IAMs_20	IAMs_20	06 44 18.9	
	comp=Z,3µm,21.0s						
I63A	**Otisfield**	**100.81**	**30**	IAMs_20	IAMs_20	06 44 29.6	
	comp=Z,2µm,21.0s						
H62A	**Milan**	**101.09**	**30**	IAMs_20	IAMs_20	06 45 57.0	
	comp=Z,2µm,19.0s						
G62A	**West of Eustis**	**101.86**	**30**	IAMs_20	IAMs_20	06 45 03.5	
	comp=Z,2µm,20.0s						
PKME	**Peaks-Kenny Pk**	**102.31**	**31**	IAMs_20	IAMs_20	06 46 47.3	
	comp=Z,2µm,20.0s						
FAKI	**Fak Fak**	**102.82**	**250**	IAMs_20	IAMs_20	06 48 32.3	
	comp=Z,3µm,19.0s						
F64A	**Sherman**	**103.15**	**31**	IAMs_20	IAMs_20	06 44 11.5	
	comp=Z,2µm,22.0s						
E62A	**Clayton Lake**	**103.43**	**30**	IAMs_20	IAMs_20	06 46 00.0	
	comp=Z,2µm,21.0s						
D62A	**Allapoint, All**	**103.99**	**30**	IAMs_20	IAMs_20	06 46 15.8	
	comp=Z,2µm,21.0s						
FFC	**Flin Flon**	**104.56**	**7**	IAMs_20	IAMs_20	06 47 41.9	
	comp=Z,2µm,20.0s						
U33K	**Whale Pass**	**106.65**	**349**	IAMs_20	IAMs_20	06 45 02.1	
	comp=Z,3µm,18.0s						
WRAK	**Wrangell Islan**	**106.86**	**350**	IAMs_20	IAMs_20	06 43 47.5	
	comp=Z,3µm,20.0s						
LSZ	**Lusaka**	**107.22**	**142**	IAMs_20	IAMs_20	06 46 40.1	
	comp=Z,3µm,22.0s						
KAPI	**Kappang**	**108.41**	**238**	IAMs_20	IAMs_20	06 50 47.1	
	comp=Z,3µm,20.0s						
JAGI	**Jajag, Banyuwa**	**108.45**	**231**	IAMs_20	IAMs_20	06 48 43.8	
	comp=Z,3µm,21.0s						
S31K	**Pelican**	**108.86**	**348**	IAMs_20	IAMs_20	06 47 06.5	
	comp=Z,3µm,18.0s						
Q32M	**Nana River**	**109.34**	**350**	IAMs_20	IAMs_20	06 44 26.0	
	comp=Z,3µm,20.0s						
ABPO	**Ambohimpanom**	**109.59**	**161**	IAMs_20	IAMs_20	06 49 05.7	
	comp=Z,4µm,21.0s						
P32M	**Atlin**	**110.12**	**350**	IAMs_20	IAMs_20	06 47 07.7	
	comp=Z,3µm,18.0s						
P29M	**Windy Craggy**	**110.68**	**347**	IAMs_20	IAMs_20	06 45 39.7	
	comp=Z,3µm,20.0s						
UGM	**Wanagama**	**110.73**	**228**	IAMs_20	IAMs_20	06 49 58.7	
	comp=Z,3µm,20.0s						
SII	**Sitkinak Islan**	**111.02**	**338**	IAMs_20	IAMs_20	06 44 05.3	
	comp=Z,3µm,22.0s						
SMRI	**Semarang**	**111.51**	**228**	IAMs_20	IAMs_20	06 50 39.6	
	comp=Z,2µm,20.0s						
N32M	**Quiet Lake**	**111.57**	**350**	IAMs_20	IAMs_20	06 47 22.1	
	comp=Z,2µm,21.0s						
UNV	**Unalaska Valle**	**112.23**	**330**	IAMs_20	IAMs_20	06 44 51.9	
	comp=Z,3µm,22.0s						
ISLE	**Juniper Island**	**112.31**	**345**	IAMs_20	IAMs_20	06 45 53.0	
	comp=Z,3µm,20.0s						
S12K	**Black Hills**	**112.41**	**333**	IAMs_20	IAMs_20	06 49 35.4	
	comp=Z,3µm,19.0s						
SYI	**Shuyak Island**	**112.44**	**339**	IAMs_20	IAMs_20	06 48 16.7	
	comp=Z,3µm,19.0s						
PLK4	**Peulik 4**	**112.52**	**337**	IAMs_20	IAMs_20	06 46 47.1	
	comp=Z,3µm,20.0s						
TOLI2	**Tolitoli**	**112.85**	**243**	IAMs_20	IAMs_20	06 51 51.4	
	comp=Z,2µm,22.0s						
BKB	**Balikpapan**	**113.09**	**238**	IAMs_20	IAMs_20	06 55 10.5	
	comp=Z,3µm,18.0s						
VRDI	**Verde Repeater**	**113.09**	**345**	IAMs_20	IAMs_20	06 46 44.5	
	comp=Z,3µm,20.0s						
SEW	**Seward**	**113.16**	**342**	IAMs_20	IAMs_20	06 47 03.7	
	comp=Z,3µm,20.0s						
MCARA	**McCarthy VSAT**	**113.16**	**345**	IAMs_20	IAMs_20	06 46 49.5	
	comp=Z,3µm,20.0s						
HOM	**Homer**	**113.22**	**340**	IAMs_20	IAMs_20	06 49 16.3	
	comp=Z,3µm,18.0s						
M29M	**Somme Creek**	**113.49**	**348**	IAMs_20	IAMs_20	06 46 23.9	
	comp=Z,4µm,22.0s						
O22K	**Cooper Landing**	**113.56**	**342**	IAMs_20	IAMs_20	06 48 04.3	
	comp=Z,3µm,19.0s						
P19K	**Oil Pt**	**113.57**	**340**	IAMs_20	IAMs_20	06 49 02.6	
	comp=Z,2µm,19.0s						
PWL	**Port Wells**	**113.63**	**342**	IAMs_20	IAMs_20	06 48 25.0	
	comp=Z,3µm,19.0s						
N25K	**Chitina, Valde**	**113.64**	**345**	IAMs_20	IAMs_20	06 49 00.1	
	comp=Z,3µm,18.0s						
SLKM	**Skilak Lake**	**113.69**	**341**	IAMs_20	IAMs_20	06 47 49.7	
	comp=Z,3µm,19.0s						
P18K	**Big Mountain,**	**113.80**	**338**	IAMs_20	IAMs_20	06 51 20.8	
	comp=Z,2µm,18.0s						
O18K	**Koktuh Hills**	**114.21**	**339**	IAMs_20	IAMs_20	06 51 08.5	
	comp=Z,3µm,18.0s						
FIS	**Fire Island**	**114.27**	**342**	IAMs_20	IAMs_20	06 46 52.9	
	comp=Z,3µm,21.0s						
O19K	**Port Alsworth**	**114.30**	**339**	IAMs_20	IAMs_20	06 48 31.0	
	comp=Z,3µm,19.0s						
ADK	**Adak**	**114.33**	**323**	IAMs_20	IAMs_20	06 47 09.8	
	comp=Z,3µm,21.0s						
SUA	**Susitna One**	**114.67**	**342**	IAMs_20	IAMs_20	06 47 06.4	
	comp=Z,2µm,21.0s						
O16K	**Kokwok River B**	**114.68**	**337**	IAMs_20	IAMs_20	06 46 43.2	
	comp=Z,3µm,21.0s						
L26K	**Log Cabin Wild**	**114.76**	**346**	IAMs_20	IAMs_20	06 46 54.7	
	comp=Z,4µm,22.0s						
M22K	**Willow**	**114.80**	**342**	IAMs_20	IAMs_20	06 51 14.0	
	comp=Z,2µm,18.0s						
N19K	**Bonanza Creek**	**114.89**	**339**	IAMs_20	IAMs_20	06 48 49.5	
	comp=Z,3µm,19.0s						
PAX	**Paxson**	**115.06**	**345**	IAMs_20	IAMs_20	06 49 46.7	
	comp=Z,3µm,18.0s						
J30M	**Hart River**	**115.27**	**350**	IAMs_20	IAMs_20	06 49 14.9	
	comp=Z,3µm,19.0s						
N17K	**Nushagak Hills**	**115.27**	**338**	IAMs_20	IAMs_20	06 50 59.7	
	comp=Z,2µm,19.0s						
DOT	**Dot Lake**	**115.46**	**346**	IAMs_20	IAMs_20	06 46 53.2	
	comp=Z,4µm,22.0s						
P08K	**Saint George I**	**115.49**	**330**	IAMs_20	IAMs_20	06 46 55.2	
	comp=Z,3µm,22.0s						
RIDG	**Independent Ri**	**115.67**	**345**	IAMs_20	IAMs_20	06 46 57.9	
	comp=Z,3µm,22.0s						
SCRK	**Sand Creek**	**115.76**	**346**	IAMs_20	IAMs_20	06 47 57.0	
	comp=Z,4µm,21.0s						
M17K	**Holitna River**	**116.10**	**338**	IAMs_20	IAMs_20	06 52 59.5	
	comp=Z,3µm,18.0s						
M16K	**Timber Creek**	**116.14**	**337**	IAMs_20	IAMs_20	06 47 28.6	
	comp=Z,4µm,22.0s						
SPIA	**Saint Paul Isl**	**116.19**	**330**	IAMs_20	IAMs_20	06 53 48.5	
	comp=Z,3µm,19.0s						
H31M	**Peel River**	**116.24**	**351**	IAMs_20	IAMs_20	06 52 02.5	
	comp=Z,3µm,18.0s						
PPLA	**Purkeypile**	**116.26**	**342**	IAMs_20	IAMs_20	06 47 56.5	
	comp=Z,3µm,22.0s						
J25K	**Salcha River,**	**116.57**	**345**	IAMs_20	IAMs_20	06 47 59.6	
	comp=Z,3µm,21.0s						
L18K	**Granite Mounta**	**116.64**	**339**	IAMs_20	IAMs_20	06 52 51.6	
	comp=Z,3µm,18.0s						
CAST	**Castle Rocks**	**116.70**	**342**	IAMs_20	IAMs_20	06 50 33.3	
	comp=Z,3µm,19.0s						
ILAR	**Eielson Array**	**116.97**	**345**	PKP	**PKPdf**	**06 09 35.6**	**-2.2**
	comp=Z,1.1nm,1.0s,baz=194,slow=2.6,SNR=6.0						
H29M	**Whitestone**	**117.10**	**349**	IAMs_20	IAMs_20	06 49 51.2	
	comp=Z,3µm,20.0s						
BPAW	**Bear Paw Mtn.**	**117.10**	**343**	IAMs_20	IAMs_20	06 48 02.7	
	comp=Z,3µm,21.0s						
G31M	**Satah River**	**117.32**	**351**	IAMs_20	IAMs_20	06 51 13.1	
	comp=Z,3µm,19.0s						
PRP	**Porcupine Dome**	**117.44**	**346**	IAMs_20	IAMs_20	06 48 48.5	
	comp=Z,4µm,22.0s						
K17K	**Iditarod**	**117.44**	**339**	IAMs_20	IAMs_20	06 51 42.0	
	comp=Z,3µm,19.0s						
MYLDM	**Lahad Datu**	**117.47**	**243**	IAMs_20	IAMs_20	07 00 04.7	
	comp=Z,2µm,18.0s						
H27K	**Steamboat Moun**	**117.52**	**348**	IAMs_20	IAMs_20	06 49 11.4	
	comp=Z,3µm,20.0s						
M11K	**Mekoryuk**	**117.54**	**334**	IAMs_20	IAMs_20	06 50 27.0	
	comp=Z,3µm,20.0s						
F31M	**Tsiigehtchic**	**117.78**	**352**	IAMs_20	IAMs_20	06 51 39.0	
	comp=Z,2µm,19.0s						
PMBI	**Palembang**	**117.80**	**225**	IAMs_20	IAMs_20	06 51 43.3	
	comp=Z,1µm,20.0s						
J20K	**Nowinta River**	**117.80**	**341**	IAMs_20	IAMs_20	06 49 46.3	
	comp=Z,3µm,20.0s						
MLY	**Manley**	**117.89**	**343**	IAMs_20	IAMs_20	06 52 23.7	
	comp=Z,3µm,18.0s						
F30M	**Barrier River**	**118.14**	**351**	IAMs_20	IAMs_20	06 53 27.8	
	comp=Z,3µm,18.0s						
J17K	**VABM Dome**	**118.21**	**339**	IAMs_20	IAMs_20	06 54 34.3	
	comp=Z,2µm,18.0s						
I21K	**Tanana**	**118.26**	**343**	IAMs_20	IAMs_20	06 52 51.4	
	comp=Z,3µm,18.0s						
I20K	**Naaghedeneel**	**118.42**	**342**	IAMs_20	IAMs_20	06 51 46.6	
	comp=Z,3µm,19.0s			

SSE					LR	LR			
	comp=Z,520nm,18.9s								
PALK	**Pallekele**	**135.92**	**201**		IAMs_20	IAMs_20	07 07 48.7		
	comp=Z,2μm,19.0s								
SCO	**Scoresbysund**	**136.43**	**29**		IAMs_20	IAMs_20	07 09 32.5		
	comp=Z,2μm,19.0s								
DSB	**Dublin**	**136.60**	**56**		IAMs_20	IAMs_20	07 12 07.0		
	comp=Z,1μm,22.0s								
NJ2	**Nanjing**	**137.23**	**266**	*e*PKP		**PKiKP**	**06 10 19.2**	**-0.1**	
ATD	**Arta Tunnel**	**137.41**	**145**		IAMs_20	IAMs_20	07 05 24.2		
	comp=Z,2μm,20.0s								
SLVN	**Son La**	**138.78**	**241**		IAMs_20	IAMs_20	07 07 46.2		
	comp=Z,1μm,21.0s								
CMAR	**Chiang Mai Arr**	**139.12**	**232**	PKP		**PKPdf**	**06 10 20.9**	**-0.5**	
	comp=Z,0.9nm,0.3s,baz=304,slow=0.9,SNR=4.5								
ESK	**Eskdalemuir**	**139.14**	**55**		IAMs_20	IAMs_20	07 03 34.2		
	comp=Z,1μm,22.0s								
EKA	**Eskdalemuir Ar**	**139.17**	**55**	PKP		**PKPdf**	**06 10 19.0**	**-1.3**	
	comp=Z,2.4nm,1.0s,baz=349,slow=3.3,SNR=3.8								
EKA	**Eskdalemuir Ar**	**139.17**	**55**	PKIKP		**PKPdf**	**06 10 19.0**	**-1.3**	
CLF	**Chambon-Foret**	**139.21**	**67**		IAMs_20	IAMs_20	07 03 08.1		
	comp=Z,2μm,22.0s								
SSB	**Saint Sauveur**	**139.30**	**72**		IAMs_20	IAMs_20	07 06 57.6		
	comp=Z,1μm,21.0s								
CHTO	**Chiang Mai**	**139.42**	**232**		IAMs_20	IAMs_20	07 07 18.5		
	comp=Z,1μm,20.0s								
BNI	**Bardonecchia**	**140.51**	**73**		IAMs_20	IAMs_20	07 06 19.7		
	comp=Z,2μm,22.0s								
WDD	**Wied Dalam**	**140.57**	**91**		IAMs_20	IAMs_20	07 11 17.1		
	comp=Z,2μm,20.0s								
SENIN	**Lac Senin/Sane**	**141.51**	**72**		IAMs_20	IAMs_20	07 12 02.1		
	comp=Z,1μm,20.0s								
WLF	**Walferdange**	**142.23**	**66**		IAMs_20	IAMs_20	07 08 37.1		
	comp=Z,1μm,21.0s								
TUE	**Stuetta**	**142.83**	**73**	PKP		**PKPdf**	**06 10 26.8**	**-0.6**	
CEL	**Celeste**	**142.87**	**89**		IAMs_20	IAMs_20	07 11 38.1		
	comp=Z,2μm,21.0s								
HNS	**HongShan**	**143.20**	**269**	*e*PKP		**PKPdf**	**06 10 29.9**	**+1.8**	
HNS				PP		**PP**	**06 13 45.8**	**+6.5**	
HNS				SS		SS	06 32 22.6	+3.4	
HNS				LR		LR			
	comp=Z,570nm,20.6s								
HNS				LR		LR			
	comp=Z,640nm,20.1s								
FUORN	**Ofenpass-Fuorn**	**143.46**	**73**		IAMs_20	IAMs_20	07 11 42.7		
	comp=Z,1μm,19.0s								
DAVA	**Damuels**	**143.51**	**72**	*i* PKP		**PKPdf**	**06 10 28.9**	**+0.3**	
	comp=Z,5.9nm,0.8s								
YAK	**Yakutsk**	**143.73**	**314**		IAMs_20	IAMs_20	07 05 29.9		
	comp=Z,2μm,20.0s								
YAK	**Yakutsk**	**143.73**	**314**	*e*PKIKP		PKPab	06 10 25.3	+0.2	
YAK				pmax		pmax			
	comp=Z,15nm,0.9s								
YAK				pmax		pmax			
	comp=N,3.0nm,1.3s								
YAK				pmax		pmax			
	comp=E,3.0nm,1.3s								
CUC	**Castrocucco**	**143.77**	**86**		IAMs_20	IAMs_20	07 14 15.0		
	comp=Z,996nm,20.0s								
FETA	**Feichten**	**143.92**	**73**	*e*PKP		PKPab	06 10 26.7	+0.2	
	comp=Z,7.7nm,0.9s								
TIP	**Timpagrande**	**143.94**	**88**		IAMs_20	IAMs_20	07 11 01.5		
	comp=Z,1μm,21.0s								
TIP	**Timpagrande**	**143.94**	**88**	PKP		**PKPdf**	**06 10 29.0**	**-0.5**	
PZH	**PanZhiHua**	**144.03**	**243**	PKP		**PKPdf**	**06 10 31.6**	**+1.5**	
RETA	**Reutte**	**144.14**	**72**	*i* PKP		**PKPdf**	**06 10 29.3**	**-0.3**	
	comp=Z,7.3nm,1.1s								
MOTA	**Moosalm**	**144.29**	**72**	*i* PKP		**PKPdf**	**06 10 29.6**	**-0.3**	
	comp=Z,12nm,0.9s								
SQTA	**Sankt Quirin**	**144.30**	**72**	*i* PKP		**PKPab**	**06 10 27.9**	**0.0**	
	comp=Z,11nm,1.0s								
WATA	**Walderalm**	**144.58**	**72**	*i* PKP		**PKPab**	**06 10 28.3**	**-0.7**	
	comp=Z,4.0nm,0.5s								
WTTA	**Wattenberg**	**144.58**	**73**	*e*PKP		**PKPab**	**06 10 28.6**	**-0.4**	
	comp=Z,11nm,0.9s								
TIXI	**Tiksi**	**144.60**	**331**	*i* PKHKP		PKPpre	06 10 25.8		
TNCH	**TengChong**	**144.71**	**238**	PKP		**PKPdf**	**06 10 32.5**	**+1.1**	
TNCH				PP		**PP**	**06 13 53.1**	**+4.9**	
TNCH				AMB		AMB			
	comp=Z,450nm,6.3s								
TNCH				LR		LR			
	comp=Z,1μm,18.7s								
TNCH				LR		LR			
	comp=Z,870nm,18.4s								
TNCH				LR		LR			
	comp=Z,2μm,23.8s								
TIY	**Taiyuan**	**144.86**	**268**	PKPbc		**PKiKP**	**06 10 36.5**	**+1.6**	
TIY				SS		SS	06 32 46.0	+7.6	
TIY				LR		LR			
	comp=Z,450nm,19.2s								
TIY				LR		LR			
	comp=Z,580nm,17.2s								
TIY				LR		LR			
	comp=Z,400nm,21.3s								
XAN	**Xi'an**	**144.90**	**260**	PKPbc		**PKPdf**	**06 10 31.7**	**+0.4**	
ABTA	**Abfaltersbach**	**144.91**	**74**	*e*PKP		**PKPab**	**06 10 30.1**	**0.0**	
	comp=Z,8.8nm,0.9s								
KBS	**Kingsbay**	**145.10**	**16**			**PKPbc**	**06 10 30.0**	**+0.2**	
KBS					IAMs_20	IAMs_20	07 13 37.8		
	comp=Z,2μm,18.0s								
KBS	**Kingsbay**	**145.10**	**16**	PKIKP		**PKPbc**	**06 10 30.0**	**+0.2**	
KBS				MLR		MLR			
	comp=Z,2μm,18.0s								
SABO	**M.te Sabotino**	**145.27**	**76**			**PKPbc**	**06 10 30.8**	**-0.5**	
GRFO	**Grafenberg**	**145.28**	**69**		IAMs_20	IAMs_20	07 07 39.8		
	comp=Z,1μm,21.0s								
GRA1	**Grafenberg Arr**	**145.28**	**69**		IAMs_20	IAMs_20	07 07 39.8		
	comp=Z,1μm,21.0s								
LESA	**Schwarzleotal**	**145.29**	**73**	*i* PKP		**PKPbc**	**06 10 30.8**	**-0.6**	
	comp=Z,12nm,1.4s								
SNART	**Snartemo**	**145.49**	**53**	*i* P		**PKiKP**	**06 10 40.0**	**+4.6**	
MYKA	**Terra Mystica**	**145.57**	**75**	*i* PKP		**PKPdf**	**06 10 32.3**	**+0.3**	
	comp=Z,6.3nm,0.8s								
KBA	**Koelnbreinsper**	**145.57**	**74**	*i* PKP		**PKPdf**	**06 10 32.1**	**0.0**	
	comp=Z,4.0nm,0.9s								
XLT	**XiLinHaoTe**	**145.72**	**280**	*e*PKPbc		**PKPdf**	**06 10 31.9**	**-0.5**	
MOX	**Moxa**	**145.86**	**67**	PKP2		**PKPab**	**06 10 34.0**	**+0.6**	
BIOA	**Bad Ischl, Aus**	**146.00**	**73**	*i* PKP		**PKPdf**	**06 10 33.1**	**+0.4**	
	comp=Z,5.5nm,0.8s								
CD2	**Chengdu**	**146.05**	**251**	PKPbc		**PKPdf**	**06 10 34.0**	**+0.6**	
OBKA	**Obir**	**146.09**	**75**	*e*PKP		**PKPdf**	**06 10 33.4**	**+0.4**	
	comp=Z,16nm,0.8s								
BOJS	**Bojanci**	**146.10**	**77**	*e*PKPbc		**PKPab**	**06 10 34.3**	**-0.1**	
HYB	**Hyderabad**	**146.21**	**202**	*e*PKPdf		**PKPdf**	**06 10 34.2**	**+0.2**	
HYB				*ep*PKPdf		**sPKPdf**	**06 10 37.7**	**+0.4**	
HYB				*e*PP		**PP**	**06 13 58.5**	**+2.2**	
HYB				*e*SKSdf		**SKSdf**	**06 17 44.5**	**+1.5**	
HYB				*e*SKKSac		**SKKSac**	**06 20 51.7**	**+2.5**	
MOA	**Molln**	**146.45**	**73**	*e*PKP		**PKPdf**	**06 10 34.0**	**+0.6**	
	comp=Z,2.7nm,0.5s								
SOKA	**Soboth**	**146.46**	**75**	*e*PKP		**PKPdf**	**06 10 34.0**	**+0.4**	
	comp=Z,4.9nm,0.9s								
GEC2	**GERESS Array S**	**146.48**	**71**			**PKPdf**	**06 10 33.9**	**+0.4**	
GERES	**GERESS Array B**	**146.48**	**71**			**PKPdf**	**06 10 33.1**	**-0.4**	
GERES	**GERESS Array B**	**146.48**	**71**	PKPbc		**PKPdf**	**06 10 33.0**	**-0.6**	
	comp=Z,5.4nm,0.7s,baz=205,slow=2.8,SNR=17								
GERES	**GERESS Array B**	**146.48**	**71**	PKIKP		**PKPdf**	**06 10 33.1**	**-0.4**	
PERS	**Pernice**	**146.50**	**75**	*e*PKPbc		**PKPbc**	**06 10 35.2**	**+0.2**	
KHC	**Kasperske Hory**	**146.51**	**70**	*e*PKP2		**PKPbc**	**06 10 35.6**	**+0.6**	
KHC				MLR		MLR			
	comp=Z,900nm,23.9s								
KHC	**Kasperske Hory**	**146.51**	**70**	*e*PKP		**PKPbc**	**06 10 35.6**	**+0.6**	
KHC				AMS		AMS	07 06 10.0		
	comp=Z,900nm,23.9s								
CKRC	**Cesky Krumlov**	**146.84**	**71**	*e*PKP2		**PKPbc**	**06 10 35.4**	**-0.5**	
CKRC				MLR		MLR			
	comp=Z,1μm,19.9s								
CKRC	**Cesky Krumlov**	**146.84**	**71**	*e*PKP		**PKPbc**	**06 10 35.4**	**-0.5**	
CKRC				AMS		AMS	07 18 00.0		
	comp=Z,1μm,19.9s								
CLL	**Collm**	**146.90**	**67**	*e*PKP2		**PKPab**	**06 10 37.0**	**-0.4**	
CLL				*i*			06 14 10.6		
KONO	**Kongsberg**	**146.93**	**51**		IAMs_20	IAMs_20	07 19 28.2		
	comp=Z,915nm,18.0s								
ZVC	**Zvikov**	**147.00**	**70**	*e*PKP		**PKiKP**	**06 10 40.8**	**+2.0**	
ZVC				AMS		AMS	07 06 40.0		
	comp=Z,1μm,23.5s								
ARSA	**Arzberg**	**147.00**	**75**	*i* PKP		**PKPdf**	**06 10 34.7**	**+0.4**	
	comp=Z,7.3nm,0.8s								
HHC	**Hu-ho-hao-te**	**147.14**	**272**	*e*PKPbc		**PKPdf**	**06 10 32.1**	**-2.8**	
HHC				LR		LR			
	comp=Z,520nm,16.5s								
HHC				LR		LR			
	comp=Z,620nm,16.3s								
HHC				LR		LR			
	comp=Z,990nm,17.8s								
RICC	**Richard**	**147.31**	**68**		AMS	AMS	07 08 00.0		
	comp=Z,1μm,22.9s								
BRG	**Berggiesshubel**	**147.33**	**68**	*e*PKP		**PKiKP**	**06 10 39.8**	**+0.3**	
BRG					Amp		06 10 41.8		
	comp=Z,5.9nm,0.8s								
BRG	**Berggiesshubel**	**147.33**	**68**	P		**PKiKP**	**06 10 45.4**	**+6.0**	
BRG					Amp		06 10 46.4		
	comp=Z,31nm,1.3s								
PRU	**Pruhonice**	**147.40**	**69**	*e*SS		SS	06 33 04.5	-2.4	
PRU					AMS	AMS	07 06 40.0		
	comp=Z,1μm,24.5s								
AGG	**Agios Georgios**	**147.47**	**92**	PKP2		**PKPab**	**06 10 40.1**	**0.0**	
CONA	**Conrad Observa**	**147.47**	**74**	*e*PKP		**PKPdf**	**06 10 35.9**	**+0.7**	
	comp=Z,2.4nm,0.9s								
GOPC	**GO Pecny, Ondr**	**147.52**	**70**		AMS	AMS	07 13 30.0		
	comp=Z,1μm,23.6s								
OHR	**Ohrid**	**147.59**	**88**	*i* P		**PKiKP**	**06 10 45.3**	**+4.9**	
PVCC	**Panska Ves**	**147.59**	**68**		AMS	AMS	07 08 10.0		
	comp=Z,1μm,22.1s								
RONA	**Rosalia, Austr**	**147.66**	**74**	*i* PKP		**PKPdf**	**06 10 36.5**	**+1.1**	
	comp=Z,7.1nm,1.2s								
TREC	**Trest**	**147.74**	**71**		AMS	AMS	07 17 20.0		
	comp=Z,1μm,21.5s								
NB2	**NORSAR Subarra1**	**147.89**	**48**	PKP		**PKPbc**	**06 10 38.8**	**+0.3**	
	comp=Z,45nm,2.0s,baz=264,slow=2.4								
NB2	**NORSAR Subarra1**	**147.89**	**48**	PKP		**PKPbc**	**06 10 38.8**	**+0.3**	
	baz=264,slow=2.4								
NOA	**NORSAR Array B**	**147.89**	**48**	PKPbc		**PKPbc**	**06 10 38.0**	**-0.4**	
	comp=Z,2.8nm,1.0s,baz=259,slow=2.1,SNR=4.8								
RGN	**Rugen**	**147.98**	**61**		IAMs_20	IAMs_20	07 12 17.1		
	comp=Z,2μm,20.0s								
BTO	**Baotou**	**148.01**	**271**	*e*PKPbc		**PKiKP**	**06 10 41.6**	**+0.3**	
BTO					LR	LR			
	comp=Z,1μm,16.8s								
BTO					LR	LR			
	comp=Z,2μm,21.0s								
BTO					LR	LR			
	comp=Z,2μm,19.8s								
BJUU	**Bjuv**	**148.14**	**58**	*i* P		**PKPab**	**06 10 44.8**	**+2.7**	
FABU	**Falkenberg**	**148.15**	**56**	*i* P		**PKPab**	**06 10 44.3**	**+2.2**	
KRUC	**Moravsky**	**148.22**	**72**	*e*PKP		**PKPbc**	**06 10 40.1**	**+0.5**	
BORU	**Boraas**	**148.28**	**55**	*i* P		**PKPab**	**06 10 44.2**	**+1.5**	
LUNU	**Lund**	**148.29**	**59**	*i* P		**PKPab**	**06 10 45.3**	**+2.6**	
VRAC	**Vranov**	**148.42**	**71**	*e*PKP		**PKPbc**	**06 10 41.1**	**+0.9**	
UPC	**Upice**	**148.46**	**69**	*e*PKP2		**PKiKP**	**06 10 42.5**	**+0.7**	
UPC					MLR	MLR			
	comp=Z,1μm,25.2s								
UPC	**Upice**	**148.46**	**69**	*e*PKP		**PKiKP**	**06 10 42.5**	**+0.7**	
UPC					AMS	AMS	07 07 20.0		
	comp=Z,1μm,25.2s								
CHVC	**Chvalec**	**148.51**	**69**		AMS	AMS	07 13 20.0		
	comp=Z,900nm,17.0s								
MODS	**Modra-Piesok**	**148.52**	**73**	*e*PKP2		**PKiKP**	**06 10 41.5**	**-0.5**	
MODS	**Modra-Piesok**	**148.52**	**73**	*e*PKP		**PKiKP**	**06 10 41.5**	**-0.5**	
MODS					*e*		06 10 45.8		
KARP	**Karpathos**	**148.53**	**102**		IAMs_20	IAMs_20	07 18 17.8		
	comp=Z,2μm,21.0s								
DPC	**Dobruska-Polom**	**148.60**	**69**		AMS	AMS	07 07 20.0		
	comp=Z,1μm,24.1s								
OSTC	**Ostas**	**148.60**	**69**	*e*PKP2		**PKPbc**	**06 10 40.6**	**0.0**	
OSTC					MLR	MLR			
	comp=Z,1μm,24.4s								
OSTC	**Ostas**	**148.60**	**69**	*e*PKP		**PKPbc**	**06 10 40.6**	**0.0**	
OSTC					AMS	AMS	07 07 20.0		
	comp=Z,1μm,24.4s								
SHL	**Shillong**	**148.61**	**229**	PKP2		**PKPbc**	**06 10 41.0**	**-0.6**	
KSP	**Ksiaz**	**148.73**	**69**	*e*PKP		**PKiKP**	**06 10 43.0**	**+0.7**	
KRLC	**Kraliky**	**148.79**	**70**	*e*PKP2		**PKPab**	**06 10 44.9**	**-0.2**	
KRLC	**Kraliky**	**148.79**	**70**	*e*PKP		**PKPab**	**06 10 44.9**	**-0.2**	
JAVC	**Velka Javorina**	**148.93**	**73**	*e*PKP		**PKPbc**	**06 10 41.2**	**-0.4**	
BSD	**Bornholm Skovb**	**149.00**	**60**	*i* P		**PKPab**	**06 10 49.4**	**+3.7**	
HFS	**Hagfors**	**149.04**	**50**	PKPbc		**PKPbc**	**06 10 39.7**	**-1.7**	
	comp=Z,2.3nm,0.8s,baz=160,slow=4.7,SNR=5.4								
MORC	**Moravsky Berou**	**149.16**	**71**	*e*PKP		**PKPbc**	**06 10 41.9**	**-0.2**	
MORC	**Moravsky Berou**	**149.16**	**71**	PKP2		**PKiKP**	**06 10 44.3**	**+1.0**	
RAYN	**Ar Rayn**	**149.34**	**141**		IAMs_20	IAMs_20	07 10 48.2		
	comp=Z,2μm,22.0s								
RAYN	**Ar Rayn**	**149.34**	**141**	PKP2		**PKiKP**	**06 10 44.6**	**+0.1**	
LZH	**Lanzhou**	**149.42**	**258**	*e*PKPbc		**PKiKP**	**06 10 45.3**	**+0.8**	
LZH					LR	LR			
	comp=Z,740nm,18.2s								
LZH					LR	LR			
	comp=Z,1μm,17.5s								
LZH					LR	LR			
	comp=Z,1μm,18.2s								
VYHS	**Vyhne**	**149.53**	**74**	*e*PKP2		**PKiKP**	**06 10 45.2**	**+1.1**	
VYHS	**Vyhne**	**149.53**	**74**	*e*PKP		**PKiKP**	**06 10 45.2**	**+1.1**	
VYHS					*e*		06 10 49.0		
OKC	**Ostrava-Krasne**	**149.55**	**71**		AMS	AMS	07 07 20.0		
	comp=Z,800nm,20.2s								
BLEU	**Blekinge**	**149.72**	**58**	*i* P		**PKPab**	**06 10 49.0**	**+0.4**	
LANS	**Liptovska Anna**	**150.15**	**73**	*e*PKIKP		**PKiKP**	**06 10 47.1**	**+1.7**	
LANS	**Liptovska Anna**	**150.15**	**73**	*e*PKP		**PKiKP**	**06 10 47.1**	**+1.7**	
OJC	**Ojcow**	**150.68**	**71**	*e*PKP		**PKiKP**	**06 10 47.7**	**+1.3**	
NIE	**Niedzica**	**150.75**	**73**	*e*PKP		**PKPbc**	**06 10 45.3**	**-0.6**	
GHAJ	**Ghor Haditha**	**150.77**	**118**		IAMs_20	IAMs_20	07 20 43.7		
	comp=Z,2μm,18.0s								
BOD	**Bodaibo**	**151.02**	**305**	*e*PKIKP		**PKPdf**	**06 10 42.2**	**+1.8**	
BOD					pmax	pmax			
	comp=Z,24nm,1.7s								
STHS	**Stebnicka Huta**	**151.33**	**73**	*e*PKIKP		**PKiKP**	**06 10 49.9**	**+2.1**	
STHS					*e*		06 10 56.7		
STHS	**Stebnicka Huta**	**151.33**	**73**	*e*PKP		**PKiKP**	**06 10 49.9**	**+2.1**	
STHS					*e*		06 10 56.7		
MMAI	**Mount Meron Ar**	**151.91**	**115**	PKPbc		**PKPbc**	**06 10 48.2**	**-1.0**	
	comp=Z,4.2nm,0.7s,baz=214,slow=5.8,SNR=5.4								
CSS	**Mathiatis**	**152.01**	**109**		IAMs_20	IAMs_20	07 12 35.7		
	comp=Z,2μm,22.0s								
KWP	**Kalwaria Pacla**	**152.31**	**73**	*e*PKP		**PKPbc**	**06 10 48.8**	**-0.7**	
ARCES	**ARCESS Array B**	**152.36**	**29**	PKPbc		**PKPbc**	**06 10 48.8**	**-0.2**	
	comp=Z,6.6nm,1.1s,baz=331,slow=7.3,SNR=3.8								
LSA	**Lhasa**	**152.37**	**233**	PKPbc		**PKPdf**	**06 10 41.6**	**-2.4**	
KEV	**Kevo**	**152.74**	**29**		IAMs_20	IAMs_20	07 16 51.3		
	comp=Z,2μm,20.0s								
MLR	**Muntele Rosu**	**152.94**	**84**		IAMs_20	IAMs_20	07 15 06.5		
	comp=Z,2μm,22.0s								
ULN	**Ulaanbaatar**	**153.09**	**282**		IAMs_20	IAMs_20	07 31 39.4		
	comp=Z,1μm,20.0s								
SONM	**Songino Array**	**153.50**	**282**	PKPbc		**PKPbc**	**06 10 51.3**	**-1.1**	
	comp=Z,1.6nm,0.7s,baz=144,slow=1.8,SNR=7.9								
SUW	**Suwalki**	**153.56**	**64**	*e*PKP		**PKPdf**	**06 10 47.3**	**+3.0**	
SUW	**Suwalki**	**153.56**	**64**		IAMs_20	IAMs_20	07 24 08.7		
	comp=Z,1μm,20.0s								
VRI	**Vrincioaia**	**153.59**	**83**	PKIKP		**PKPdf**	**06 10 45.0**	**+0.3**	
GTA	**Gaotai**	**153.96**	**260**	*e*PKPbc		**PKPdf**	**06 10 48.6**	**+3.0**	
GTA					PP	PP	06 14 51.2	+9.1	
GTA					SKKS		06 21 32.9		
GTA					SS	**SS**	**06 34 20.9**	**+0.7**	
GTA					LR	LR			
	comp=Z,590nm,22.2s								
GTA					LR	LR			
	comp=Z,650nm,20.7s								
GTA					LR	LR			
	comp=Z,1μm,20.4s								
UOSS	**Minazif**	**154.13**	**159**		IAMs_20	IAMs_20	07 10 57.2		
	comp=Z,2μm,22.0s								
FINES	**FINESS Array B**	**155.03**	**47**	PKP		**PKPdf**	**06 10 46.0**	**-0.1**	
	comp=Z,2.3nm,0.9s,baz=232,slow=1.6,SNR=3.7								
BRTR	**Keskin Array B**	**155.15**	**101**	PKP		**PKPdf**	**06 10 47.0**	**-0.3**	
	comp=Z,1.2nm,1.0s,baz=230,slow=3.6,SNR=5.4								
BRTR					PKPab		**PKPab**	**06 11 11.3**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=180,slow=2.3,SNR=6.6								
MILM	**Milestii Mici**	**155.32**	**82**	*e*PKP		**PKPdf**	**06 10 47.0**	**0.0**	
	comp=Z,340nm,7.0s								
MILM					*e*L	L	07 06 04.0		
MILM					LRM	MLR	07 38 07.0		
	comp=Z,1μm,19.5s								
MILM	**Milestii Mici**	**155.32**	**82**	*e*PKIKP		**PKPdf**	**06 10 47.0**	**0.0**	
MILM					pmax	pmax			
	comp=Z,340nm,7.0s								
LVZ	**Lovozero**	**156.07**	**29**		IAMs_20	IAMs_20	07 27 08.6		
	comp=Z,1μm,20.0s								
ZAK	**Zakamensk**	**156.17**	**286**	*e*PKP2		**PKPab**	**06 11 15.6**	**-0.5**	
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.4s								
KIEV	**Kiev**	**156.62**	**73**		IAMs_20	IAMs_20	07 32 34.2		
	comp=Z,2μm,21.0s								
AKASG	**Malin Array Be**	**156.63**	**73**	PKP		**PKPdf**	**06 10 48.2**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=278,slow=2.1,SNR=6.9								
ANN	**Anapa**	**160.10**	**93**	*e*PKP2		**PKPab**	**06 11 27.2**	**-5.9**	
ANN					pmax	pmax			
	comp=Z,18nm,1.2s								
SOC	**Sochi**	**161.04**	**99**	*e*PKIKP		**PKPdf**	**06 10 52.0**	**-2.1**	
SOC					*e*		06 15 20.2		
OBN	**Obninsk**	**161.37**	**62**	*e*PKIKP		**PKPdf**	**06 10 52.5**	**-1.5**	
OBN					*e*		06 15 20.4		
OBN					pmax	pmax			
	comp=Z,4.0nm,0.6s								
KLMR	**Klimovskoe**	**161.42**	**43**	*e*PKIKP		**PKPdf**	**06 10 51.9**	**-2.0**	
KLMR					*e*		06 11 35.8		
KLMR					pmax	pmax			
	comp=Z,21nm,1.6s								
KIV	**Kislovodsk**	**163.11**	**101**	*e*PKIKP		**PKPdf**	**06 10 56.3**	**0.0**	
KIV					pmax	pmax			
	comp=Z,8.0nm,1.0s								
KBZ	**Khabaz**	**163.14**	**102**	PKP		**PKPdf**	**06 10 56.4**	**+0.2**	
	comp=Z,0.8nm,0.5s,baz=179,slow=11,SNR=3.7								
WMQ	**Urumqi**	**164.00**	**257**	PKP		**PKPdf**	**06 10 58.3**	**+1.1**	
WMQ				LR		LR			
	comp=Z,2μm,20.5s								
WMQ				LR		LR			
	comp=Z,1μm,18.3s								
WMQ				LR		LR			
	comp=Z,1μm,24.2s								
MAK	**Makhachkala**	**165.60**	**111**	*e*PKIKP		**PKPdf**	**06 10 51.3**	**-7.1**	
MAK					*e*		06 17 56.0		
MAK					pmax	pmax			
	comp=Z,38nm,0.5s								
MKAR	**Makanchi Array**	**168.71**	**261**	PKPab		**PKPab**	**06 12 10.8**	**-0.2**	
	comp=Z,1.7nm,0.8s,baz=123,slow=4.5,SNR=8.8								
KURBB	**Kurchatov Arra**	**171.86**	**281**	PP		**PP**	**06 16 18.4**	**+1.7**	
	comp=Z,0.9nm,1.1s,baz=73,slow=4.1,SNR=4.0								
BVAR	**Borovoye Array**	**175.67**	**322**	PKPab		**PKPab**	**06 12 40.9**	**-0.7**	
	comp=Z,0.4nm,0.4s,baz=103,slow=1.9,SNR=2.3								
ABKAR	**Akbulak array**	**176.06**	**94**	PKPdf		**PKPdf**	**06 11 03.9**	**+0.2**	
ABKAR						**PKPab**	**06 12 41.3**	**-2.3**	

*IDC **02** 05:56:12.3±3.1,4°.37S×125°.65E,h460km±33km, mb3.3/6, mbtmp4.2/9, Error ellipse: s-maj=74.4km s-min=13.8km az=57.0*

*NEIC **02** 05:56:13.7±1.2,4°.5S±0°.1×125°.4E±0°.1, h466km±12km, mb4.4/11, Error ellipse: s-maj=23.0km s-min=15.2km az=223.0*

ISC 02 05:56:13.2±0.7,4°.50S±0°.09×125°.5E±0°.1,h466km,n26, σ0s81/27,mb4.0/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMRI	**Maumere**	**5.21**	**218**	P		**P**	**05 57 40.5**	**+0.1**
BATI	**Baumata**	**5.95**	**197**	P		**P**	**05 57 47.9**	**+0.2**
	38nm,0.3s,baz=40,slow=3.7,SNR=3.1							
FAKI	**Fak Fak**	**6.95**	**77**	P		**P**	**05 57 58.2**	**+0.4**
MTN	**Manton Dam**	**10.01**	**146**	P		**P**	**05 58 30.6**	**+0.1**
KNRA	**Kununurra**	**11.57**	**164**	P		**P**	**05 58 47.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**13.52**	**179**	P		**P**	**05 59 08.0**	**-0.3**
	5.7nm,0.7s,baz=16,slow=11,SNR=12							
SBUM	**Sibu**	**14.92**	**297**	P		**P**	**05 59 24.1**	**+0.8**
WB0

KU1	**Kurvinen**	**2.41**	**152**	*eP*		**Pn**	**06 00 45.3**	**+1.5**
KU1				*eS*		**Sn**	**06 01 14.9**	**+1.0**
VADS	**Vadso**	**2.59**	**19**	*eP*		**Pn**	**06 00 47.3**	**+1.0**
KIF	**Kilpisjarvi**	**2.60**	**303**	*eP*		**Pb**	**06 00 49.1**	**-1.5**
KIF				*eS*		**Sn**	**06 01 18.3**	**-0.3**
KIF	**Kilpisjarvi**	**2.60**	**303**	*eP*B		**Pb**	**06 00 50.3**	**-0.3**
KIF				*eS*		**Sb**	**06 01 21.6**	**-1.3**
I37NO	**I37NO**	**3.35**	**298**	I		I	06 20 10.0	
	comp=Z,0.1nm,0.8s,baz=112,slow=319,SNR=4.1							
FINES	**FINESS Array B**	**6.30**	**183**	Pn		**Pn**	**06 01 38.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=358,slow=14,SNR=1.8							
FINES				Sn		**Sn**	**06 02 50.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=7.8,slow=22,SNR=0.9							
	comp=Z,1.2nm,0.9s							

HEL ***02*** *06:06:57.7±0.1, 67.62N×33.86E, h0km, ML1.4, Explosion*
KOLA 02 06:06:57.4, 67.65N×33.82E, h0km, ML1.5, Error ellipse: s-maj=3.6km s-min=2.2km az=110.0, Khibiny, mines Rasvumchorr, Central, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
APA	**Apatity**	**0.18**	**243**	P	Pg		06 07 00.7	-0.1
APA0	**Apatity Array**	**0.32**	**262**	P	Pg		06 07 03.2	-0.3
APA0				S	Sg		06 07 07.8	+0.1
LVZ	**Lovozero**	**0.40**	**51**	S	Sg		06 07 10.3	+0.1
LVZ	**Lovozero**	**0.40**	**51**	PG	Pg		06 07 05.3	+0.2
	baz=225							
LVZ				SG	Sg		06 07 10.3	0.0
KVDA	**Kovda**	**1.03**	**202**	P	Pg		06 07 15.7	-1.4
KVDA				S	Sg		06 07 29.4	-1.1
VRF	**Varrio**	**1.61**	**275**	PG	Pn		06 07 27.0	-0.1
	baz=91							
VRF				MSG			06 07 46.4	
	comp=Z,2.9nm,0.2s							
VRF				SG	Sn		06 07 47.1	-1.4
TERR	**Teriberka**	**1.63**	**16**	S	Sn		06 07 47.7	-1.2
OLKF	**Oulanka, Finla**	**2.19**	**235**	PG	Pb		06 07 36.8	-1.0
OLKF				MSG			06 08 02.5	
	comp=Z,1.7nm,0.2s							
RAJF	**Raja-Jooseppi**	**2.23**	**294**	PG	Pb		06 07 37.5	-1.0
RAJF				SN	Sn		06 08 04.1	+0.4
KU6	**Riekki**	**2.25**	**225**	MSG			06 08 04.0	
	comp=Z,1.0nm,0.2s							
VADS	**Vadso**	**2.96**	**329**	S	Sn		06 08 19.8	-2.0
KEV	**Kevo**	**3.26**	**313**	SN	Sn		06 08 28.6	-0.5
ARA0	**ARCESS Array S**	**3.59**	**306**	PN	Pn		06 07 54.6	+0.5
ARA0				SN	Sn		06 08 36.3	-0.9
ARCES	**ARCESS Array B**	**3.59**	**306**	P	Pn		06 07 53.4	-0.8
ARCES				S	Sn		06 08 35.6	-1.6
HEF	**Hetta**	**3.89**	**286**	SG	Sb		06 08 57.6	+3.2
PAJU	**Pajala**	**4.19**	**266**	SN	Sn		06 08 51.9	-0.2

IDC ***02*** *06:11:22.9±0.9, 49.97S×114.43W, h0km, mb4.1/6, mbtmp4.0/6, Error ellipse: s-maj=43.0km s-min=23.6km az=112.0*
ISC 02 06:11:25.2±0.9, 50.0S±0.2×114.4W±0.3, h14km, n20, σ1$43/8, mb4.1/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H03N3	**Juan Fernandez**	**30.82**	**71**	T	T		06 49 20.6	
	baz=228,slow=71,SNR=30							
H03N2	**Juan Fernandez**	**30.83**	**71**	T	T		06 49 45.1	
	baz=228,slow=71,SNR=33							
H03N1	**Juan Fernandez**	**30.84**	**71**	T	T		06 49 33.8	
	baz=228,slow=71,SNR=30							
QSPA	**South Pole Qui**	**40.20**	**180**	P		**P**	**06 19 02.6**	**+1.8**
	4.8nm,0.9s,baz=106,slow=7.4,SNR=11							
	4.8nm,0.9s							
LPAZ	**La Paz**	**50.08**	**65**	P		**P**	**06 20 20.3**	**-0.1**
	5.6nm,1.0s,baz=181,slow=5.5,SNR=17							
	5.6nm,1.0s							
MAW	**Mawson**	**62.70**	**179**	P		**P**	**06 21 48.4**	**-0.5**
	3.0nm,1.0s,baz=194,slow=8.3,SNR=3.6							
	3.0nm,1.0s							
TXAR	**Lajitas Array**	**79.55**	**9**	P		**P**	**06 23 31.6**	**+0.2**
	0.2nm,0.5s,baz=183,slow=8.8,SNR=6.3							
	0.2nm,0.5s							
ASAR	**Alice Springs**	**85.08**	**239**	P		**P**	**06 23 59.4**	**-1.3**
	1.0nm,0.9s,baz=160,slow=6.1,SNR=6.4							
	1.0nm,0.9s							
H01W1	**Cape Leeuwin H**	**85.21**	**218**	T	T		07 59 13.7	
	baz=150,slow=75,SNR=12							
H01W2	**Cape Leeuwin H**	**85.21**	**218**	T	T		07 59 14.1	
	baz=150,slow=75,SNR=8.7							
H01W3	**Cape Leeuwin H**	**85.22**	**218**	T	T		07 59 13.3	
	baz=150,slow=75,SNR=8.2							
PDAR	**Pinedale Array**	**92.48**	**4**	P		**P**	**06 24 36.8**	**+1.4**
	0.5nm,0.8s,baz=178,slow=4.2,SNR=4.2							
	0.5nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**97.09**	**290**	T	T		08 13 13.1	
	baz=140,slow=76,SNR=61							
H11S3	**WAKE ISLAND Hy**	**97.10**	**290**	T	T		08 13 13.8	
	baz=140,slow=76,SNR=56							
H11S1	**WAKE ISLAND Hy**	**97.10**	**290**	T	T		08 13 14.0	
	baz=140,slow=76,SNR=62							
H11N3	**WAKE ISLAND Hy**	**97.90**	**291**	T	T		08 14 17.0	
	baz=142,slow=76,SNR=38							
H11N1	**WAKE ISLAND Hy**	**97.91**	**291**	T	T		08 14 11.7	
	baz=142,slow=76,SNR=23							
H11N2	**WAKE ISLAND Hy**	**97.92**	**291**	T	T		08 14 17.4	
	baz=142,slow=76,SNR=32							
GERES	**GERESS Array B**	**146.75**	**72**	PKPbc		**PKPbc**	**06 31 05.2**	**-0.7**
	1.1nm,0.8s,baz=219,slow=1.7,SNR=8.6							
BRTR	**Keskin Array B**	**155.27**	**102**	PKPab		**PKPab**	**06 31 41.2**	**-1.6**
	0.6nm,0.4s,baz=180,slow=3.6,SNR=4.1							

ASRS ***02*** *06:29:50.0±1.1, 54.13N×86.43E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 06:29:53.0±2.8, 54.13N×86.51E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.2km s-min=13.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**260**	I	I		06 36 20.0	
	baz=79,slow=313,SNR=1.2							
ZALV	**Zalesovo Beam**	**1.01**	**260**	Pg	Pg		06 30 11.8	-0.7
	0.6nm,0.3s,baz=79,slow=17,SNR=6.7							
ZALV				Lg	Lg		06 30 26.9	
	2.0nm,0.3s,baz=80,slow=28,SNR=10							
KURBB	**Kurchatov Arra**	**6.02**	**237**	Pn		Pn	06 31 23.6	+0.4
	0.1nm,0.3s,baz=55,slow=13,SNR=6.3							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.82**	**202**	Pn		Pn	06 31 49.3	+1.2
	0.2nm,0.3s,baz=24,slow=13,SNR=8.2							
	0.2nm,0.3s							

NEIC ***02*** *06:31:37.5±1.3, 4.95S±0.08×151.28E±0.09, h148km±4km, mb4.3/21, Error ellipse: s-maj=13.9km s-min=11.4km az=106.0*
IDC ***02*** *06:31:38.8±0.8, 4.97S×151.09E, h163km±7km, mb3.8/15, mbtmp4.3/16, Error ellipse: s-maj=20.2km s-min=10.1km az=104.0*
ISC 02 06:31:37.6±0.5, 5.00S±0.06×151.20E±0.08, h155km, n43, σ1$46/50, mb4.2/24, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RABL	**Rabaul**	**1.25**	**50**			**Pn**	**06 32 03.5**	**-1.7**
MANU	**Manus Island**	**4.83**	**307**			**Pn**	**06 32 50.0**	**+1.1**
PMG	**Port Moresby**	**5.94**	**222**			**Pn**	**06 33 03.7**	**+0.1**
PMG	**Port Moresby**	**5.94**	**222**	P		**Pn**	**06 33 04.0**	**+0.5**
	208nm,0.4s,baz=47,slow=6.0,SNR=41							
PMG				S		**Sn**	**06 34 10.0**	**-0.8**
	128nm,0.4s,baz=216,slow=23,SNR=8.6							
CTAO	**Charters Tower**	**15.75**	**197**			**P**	**06 35 12.8**	**+1.0**
CTAO				IAmb	IAmb		06 35 21.1	
	comp=Z,11nm,0.6s							
EIDS	**Eidsvold**	**20.25**	**180**	P		**P**	**06 36 01.6**	**+0.6**
EIDS				IAmb	IAmb		06 36 04.4	
	comp=Z,30nm,1.4s							
WRAB	**Tennant Creek**	**22.12**	**226**	P		**P**	**06 36 20.5**	**-0.3**
WRA	**Warramunga Arr**	**22.14**	**226**			**P**	**06 36 19.8**	**-1.2**
WRA	**Warramunga Arr**	**22.14**	**226**	P		**P**	**06 36 20.8**	**-0.2**
	comp=Z,10nm,0.6s,baz=50,slow=10,SNR=14							
WRA				S		**S**	**06 40 08.0**	**-5.9**
	comp=Z,5.1nm,0.8s,baz=14,slow=28,SNR=5.2							
	comp=Z,10nm,0.6s							
DZM	**Mont Dzumac**	**22.49**	**140**			**P**	**06 36 24.0**	**-0.4**
AS31	**Alice Springs**	**24.95**	**220**	P		**P**	**06 36 47.3**	**+0.5**
AS31				IAmb	IAmb		06 36 50.8	
	comp=Z,4.9nm,0.7s							
ASAR	**Alice Springs**	**24.95**	**220**	P		**P**	**06 36 48.0**	**+1.2**
ASAR	**Alice Springs**	**24.95**	**220**	P		**P**	**06 36 47.5**	**+0.7**
	comp=Z,13nm,0.7s,baz=57,slow=8.3,SNR=30							
ASAR				pP		**pP**	**06 37 20.9**	**+1.9**
	comp=Z,5.4nm,0.9s,baz=51,slow=11,SNR=2.6							
ASAR				S		**S**	**06 40 54.5**	**-4.6**
	comp=Z,1.9nm,0.8s,baz=17,slow=23,SNR=4.0							
	comp=Z,13nm,0.7s							
ARMA	**Armidale**	**25.28**	**179**	P		**P**	**06 36 50.0**	**+0.2**
STKA	**Stephens Creek**	**28.21**	**197**	P		**P**	**06 37 15.0**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=14,slow=12,SNR=4.9							
	comp=Z,1.4nm,0.4s							
MRNZ	**Matariki Terra**	**41.05**	**155**	P		**P**	**06 39 06.6**	**+0.7**
RPZ	**Rata Peaks**	**42.34**	**159**	P		**P**	**06 39 17.1**	**+0.7**
	comp=Z,29nm,0.8s,baz=316,slow=2.0,SNR=8.9							
	comp=Z,29nm,0.8s							
KSRS	**Korea Array**	**47.48**	**335**	P		**P**	**06 39 55.5**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=152,slow=8.0,SNR=5.1							
KSRS				pP		**pwP**	**06 40 34.1**	**0.0**
	comp=Z,1.3nm,0.9s,baz=151,slow=8.9,SNR=2.4							
	comp=Z,1.0nm,0.8s							
PETK	**Petropavlovsk-**	**58.15**	**5**	P		**P**	**06 41 15.7**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=163,slow=5.6,SNR=5.6							
	comp=Z,3.9nm,0.7s							
SONM	**Songino Array**	**65.66**	**329**	P		**P**	**06 42 06.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=135,slow=5.2,SNR=4.0							
SONM				pP		**pwP**	**06 42 43.6**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=144,slow=6.1,SNR=3.1							
	comp=Z,0.8nm,0.7s							
CASY	**Casey**	**67.36**	**197**	P		**P**	**06 42 15.6**	**-0.1**
CASY				IAmb	IAmb		06 42 17.8	
	comp=Z,5.9nm,1.3s							
S12K	**Black Hills**	**71.63**	**26**	P		**P**	**06 42 41.5**	**-0.6**
VNDA	**Vanda**	**72.69**	**178**	P		**P**	**06 42 49.1**	**+1.1**
VNDA	**Vanda**	**72.69**	**178**	P		**P**	**06 42 49.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=328,slow=2.6,SNR=5.9							
	comp=Z,0.8nm,0.6s							
O14K	**Tigyukauivet M**	**74.26**	**23**	P		**P**	**06 42 58.1**	**+0.7**
O14K				IAmb	IAmb		06 43 40.4	
	comp=Z,12nm,1.1s							
PLK4	**Peulik 4**	**75.31**	**26**	P		**P**	**06 43 03.5**	**-0.1**
K15K	**Wolf Creek Mou**	**76.15**	**21**	P		**P**	**06 43 08.5**	**+0.3**
K15K				IAmb	IAmb		06 43 33.8	
	comp=Z,11nm,1.2s							
TIXI	**Tiksi**	**77.89**	**353**	P		**P**	**06 43 15.5**	**-2.2**
TIXI				IAmb	IAmb		06 43 24.7	
	comp=Z,9.3nm,1.4s							
MKAR	**Makanchi Array**	**79.44**	**319**	P		**P**	**06 43 26.1**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=116,slow=6.6,SNR=5.4							
	comp=Z,0.7nm,0.9s							
K20K	**Telida**	**79.51**	**22**	P		**P**	**06 43 27.6**	**+0.8**
K20K				IAmb	IAmb		06 43 34.5	
	comp=Z,7.5nm,1.2s							
CAST	**Castle Rocks**	**80.29**	**22**	P		**P**	**06 43 30.4**	**-0.6**
ZALV	**Zalesovo Beam**	**80.44**	**327**	P		**P**	**06 43 31.5**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=98,slow=7.4,SNR=2.4							
	comp=Z,1.4nm,0.9s							
ILAR	**Eielson Array**	**82.95**	**22**	P		**P**	**06 43 43.9**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=250,slow=5.3,SNR=26							
ILAR				pP		**pP**	**06 44 25.8**	**+2.6**
	comp=Z,1.1nm,0.6s,baz=259,slow=5.4,SNR=2.1							
	comp=Z,1.3nm,0.5s							
KURBB	**Kurchatov Arra**	**82.98**	**322**	P		**P**	**06 43 45.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=118,slow=4.2,SNR=6.3							
	comp=Z,0.5nm,0.8s							
J25K	**Salcha River,**	**83.46**	**23**	P		**P**	**06 43 47.2**	**-0.3**
J25K				IAmb	IAmb		06 43 48.9	
	comp=Z,3.7nm,0.6s							
DOT	**Dot Lake**	**83.56**	**24**	P		**P**	**06 43 48.1**	**+0.1**
QSPA	**South Pole Qui**	**84.96**	**180**	P		**P**	**06 43 56.3**	**+1.1**
QSPA	**South Pole Qui**	**84.96**	**180**	P		**P**	**06 43 56.6**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=290,slow=0.7,SNR=20							
	comp=Z,2.1nm,0.6s							
H27K	**Steamboat Moun**	**85.59**	**22**	P		**P**	**06 43 59.3**	**+1.1**
H27K				IAmb	IAmb		06 44 19.8	
	comp=Z,6.9nm,1.5s							
K29M	**Barlow Dome**	**86.33**	**25**			**P**	**06 44 02.5**	**+0.5**
K29M				IAmb	IAmb		06 44 04.7	
	comp=Z,2.8nm,0.8s							
BVAR	**Borovoye Array**	**88.45**	**323**	P		**P**	**06 44 12.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=83,slow=4.8,SNR=2.2							
	comp=Z,0.6nm,0.5s							
NVAR	**Mina Array Bea**	**93.46**	**52**	P		**P**	**06 44 36.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=252,slow=5.6,SNR=6.8							
	comp=Z,0.9nm,0.7s							
PDAR	**Pinedale Array**	**100.16**	**48**	P		**Pdif**	**06 45 06.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=220,slow=2.7,SNR=5.7							

IDC ***02*** *06:38:03.4±0.8, 29.80S×179.19W, h233km±14km, mb3.3/3, mbtmp4.0/4, Error ellipse: s-maj=31.7km s-min=24.6km az=54.0*
ISC 02 06:38:02.5±1.0, 29.9S±0.1×179.6W±0.1, h200km, n6, σ2$36/8, mb3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**1.64**	**66**	P		**Pn**	**06 38 37.3**	**-0.1**
	292nm,0.2s,baz=90,slow=14,SNR=6.1							
RAO				S		**Sn**	**06 39 05.9**	**+1.5**
	212nm,0.2s,baz=58,slow=23,SNR=1.6							
URZ	**Urewera**	**8.74**	**197**	P		**Pn**	**06 40 07.6**	**+2.4**
	15nm,1.1s,baz=262,slow=3.6,SNR=13							
URZ				S		**Sn**	**06 41 41.3**	**-2.0**
	13nm,0.5s,baz=171,slow=24,SNR=12							
ASAR	**Alice Springs**	**41.72**	**267**	P		**P**	**06 45 33.6**	**+1.6**
	0.7nm,0.6s,baz=108,slow=7.5,SNR=4.3							
	0.7nm,0.6s							
WRA	**Warramunga Arr**	**42.67**	**273**	P		**P**	**06 45 40.3**	**+0.6**
	0.6nm,0.5s,baz=110,slow=8.3,SNR=5.8							
	0.6nm,0.5s							
QSPA	**South Pole Qui**	**60.18**	**180**	P		**P**	**06 47 47.7**	**-1.3**
	2.6nm,0.6s,baz=78,slow=13,SNR=24							
	2.6nm,0.6s							
FINES	**FINESS Array B**	**144.21**	**339**	PKP		**PKPab**	**06 57 08.7**	**-3.4**
	0.8nm,0.3s,baz=31,slow=4.1,SNR=8.8							

SJA ***02*** *06:41:33.6±0.5, 34.33S×72.97W, h9km, ML4.7, MW4.4*
IDC ***02*** *06:41:40.8±0.6, 34.13S×72.10W, h0km, mb4.2/10, mbtmp4.2/13, ML4.1/3, MS3.7/2, Error ellipse: s-maj=18.2km s-min=13.1km az=103.0*
GUC ***02*** *06:41:42.9±0.9, 34.15S×72.36W, h13km±6km, ML4.3*
NEIC ***02*** *06:41:42.6±1.4, 34.19S±0.04×72.27W±0.06, h14km±5km, mb4.7/28, Mwr4.6/60, ML4.3(GUC), Error ellipse: s-maj=7.5km s-min=6.2km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 6.10; Mθθ -1.11; Mϕϕ -4.99; Mrθ -2.41; Mθϕ 0.02; Mϕr -6.24; Fault plane solution: M0 8.74000×10^15 NP1: ϕs 353.13000°, δ 21.05000°, λ 69.12000°. NP2: ϕs 195.36000°, δ 70.39000°, λ 97.81000°. Principal axes: T 9.3680, Plg 64.0000°, Azm 118.0000°; N -1.4352, Plg 7.0000°, Azm 13.0000°; P -7.9328, Plg 25.0000°, Azm 279.0000°;*
VAO ***02*** *06:41:42.8±0.6, 34.13S×72.10W, h10km, mb4.6*
NEIC ***02*** *06:41:43.4, 34.21S×72.22W, h19km*
ISC 02 06:41:41.2±1.4, 34.17S±0.03×72.32W±0.04, h5km±8km, n138, σ1$41/155, mb4.6/22, 7C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BO03	**Pichilemu**	**0.44**	**138**	⇓*iP*		**Pb**	**06 41 52.2**	**+0.7**
BO03				*i* S		**Sb**	**06 41 58.5**	**+0.1**
BO03					IAML		06 41 59.0	
	comp=E,78μm,0.3s							
MT01	**Popeta**	**0.94**	**72**			**Pg**	**06 41 59.2**	**+0.1**
MT01	**Popeta**	**0.94**	**72**	⇓*iP*		**Pb**	**06 41 59.6**	**-0.3**
MT01				*eS*		**Sg**	**06 42 11.4**	**+0.1**
MT01					IAML		06 42 15.3	
	comp=N,10μm,0.3s							
BO01	**Tunca**	**1.04**	**103**			**Pg**	**06 42 00.6**	**-0.7**
BO01	**Tunca**	**1.04**	**103**	⇓*iP*		**Pg**	**06 42 00.8**	**-0.5**
BO01				*i* S		**Sb**	**06 42 16.0**	**+0.2**
MT09	**Talagante**	**1.17**	**71**			**Pg**	**06 42 03.2**	**-0.5**
MT09	**Talagante**	**1.17**	**71**	⇓*iP*		**Pg**	**06 42 03.3**	**-0.5**
MT09				*i* S		**Sg**	**06 42 18.7**	**-0.1**
MT09					IAML		06 42 21.7	
	comp=N,12μm,0.2s							
VA01	**Torpederas**	**1.27**	**26**			**Pg**	**06 42 05.1**	**-0.5**
VA01	**Torpederas**	**1.27**	**26**	*eP*		**Pg**	**06 42 04.9**	**-0.7**
MT02	**Curacav**	**1.33**	**48**			**Pn**	**06 42 05.7**	**-0.9**
BO02	**Sierra Bellavi**	**1.41**	**117**	Pn		**Pn**	**06 42 06.9**	**-0.8**
BO02	**Sierra Bellavi**	**1.41**	**117**	⇓*iP*		**Pn**	**06 42 07.3**	**-0.4**
BO02				*eS*		**Sb**	**06 42 26.6**	**+0.1**
BO02					IAML		06 42 29.1	
	comp=N,27μm,0.3s							
BO04	**La Punta**	**1.43**	**83**			**Pn**	**06 42 07.0**	**-0.9**
BO04	**La Punta**	**1.43**	**83**	⇓*iP*		**Pn**	**06 42 07.3**	**-0.6**
BO04				*i* S		**Sb**	**06 42 26.4**	**-0.5**
BO04					IAML		06 42 33.0	
	comp=N,6μm,0.4s							
MT05	**Renca**	**1.52**	**60**			**Pn**	**06 42 09.1**	**-0.1**
MT05	**Renca**	**1.52**	**60**		IAML		06 42 37.6	
	comp=E,10μm,0.6s							
MT05	**Renca**	**1.52**	**60**	*eP*		Pn	06 42 03.8	-5.4
MT05				*eP*		**Pb**	**06 42 09.4**	**-0.7**
MT05				*eS*		**Sg**	**06 42 36.7**	**+6.5**
MT05					IAML		06 42 38.1	
	comp=Z,3μm,1.6s							
ROCH	**El Roble**	**1.61**	**43**		IAML		06 42 42.3	
	comp=N,8μm,0.3s							
ROCH				⇑*iP*		**Pn**	**06 42 10.5**	**-0.1**
ROCH				*i* S		**Sn**	**06 42 31.3**	**-0.6**
ROCH					IAML		06 42 42.3	
	comp=N,4μm,0.3s							
MT16	**CCHEN**	**1.67**	**64**			**Pn**	**06 42 11.2**	**+0.1**
MT16	**CCHEN**	**1.67**	**64**		IAML		06 42 43.5	
	comp=N,4μm,0.6s							
MT14	**Cerro Cal¡n**	**1.67**	**63**	⇑*iP*		**Pn**	**06 42 11.6**	**+0.4**
MT14				*i* S		**Sn**	**06 42 33.0**	**-0.1**
MT14					IAML		06 42 39.4	
	comp=E,9μm,1.0s							
PEL	**Peldehue**	**1.70**	**54**			**Pb**	**06 42 12.4**	**-0.6**
PEL	**Peldehue**	**1.70**	**54**	⇑*iP*		**Pn**	**06 42 12.1**	**+0.5**
PEL				*i* S		**Sn**	**06 42 33.9**	**+0.1**
PEL					IAML		06 42 44.4	
	comp=E,5μm,0.6s							
MT10	**Hacienda Santa**	**1.73**	**60**		IAML		06 42 42.1	
	comp=E,11μm,0.5s							
ML02	**Panimavida**	**1.76**	**155**			**Pn**	**06 42 12.7**	**+0.4**
LMEL	**Las Melosas**	**1.78**	**80**			**Pn**	**06 42 12.9**	**0.0**
VA06	**Catapilco**	**1.81**	**28**			**Pn**	**06 42 13.4**	**+0.3**
VA03	**San Esteban**	**2.03**	**47**			**Pn**	**06 42 16.5**	**+0.3**
VA03	**San Esteban**	**2.03**	**47**		IAML		06 42 52.9	
	comp=E,6μm,0.5s							
MT08	**Bocatoma Ro**	**2.04**	**70**			**Pn**	**06 42 17.1**	**+0.6**
MT08	**Bocatoma Ro**	**2.04**	**70**		IAML		06 42 50.4	
	comp=N,2μm,0.2s							
MT08	**Bocatoma Ro**	**2.04**	**70**	*eP*		**Pn**	**06 42 17.5**	**+0.9**
MT08				*eS*		**Sn**	**06 42 40.3**	**-2.2**
MT08					IAML		06 42 49.7	
	comp=Z,3μm,0.8s							
BI05	**Punta Hualpn**	**2.67**	**195**			**Pn**	**06 42 24.6**	**-0.3**
AAGR	**Agrelo**	**3.10**	**71**	*eP*		**Pn**	**06 42 33.8**	**+2.9**
AAGR					IAML		06 43 31.5	
	comp=Z,819nm,2.1s							
CO02	**Combarbal**	**3.15**	**21**			**Pn**	**06 42 32.0**	**+0.3**
CO02	**Combarbal**	**3.15**	**21**	*eP*		**Pn**	**06 42 31.7**	**0.0**
CO02				*eS*		**Sb**	**06 43 14.8**	**-1.9**
CO02					IAML		06 43 32.0	
	comp=Z,2μm,0.7s							
RFA	**San Rafael**	**3.24**	**102**	*eP*		**Pn**	**06 42 34.7**	**+2.0**
RFA				*eS*		**Sb**	**06 43 19.8**	**+0.8**
ASAL	**Salagasta**	**3.31**	**63**	*eP*		**Pb**	**06 42 38.9**	**-1.6**
ASAL				*eS*		**Sg**	**06 43 24.8**	**-2.7**
RTLS	**Leoncito**	**3.47**	**48**	*eP*		**Pn**	**06 42 38.6**	**+2.5**
RTLS				*eS*		**Sb**	**06 43 27.8**	**+2.0**
RTLS					IAML		06 43 34.8	
	comp=Z,2μm,1.0s							
CO06	**Fray Jorge**	**3.53**	**10**			**Pn**	**06 42 36.4**	**-0.3**
CO06	**Fray Jorge**	**3.53**	**10**	*i* S		**Sg**	**06 43 35.0**	**+0.4**
CO03	**El Pedregal**	**3.59**	**23**			**Pn**	**06 42 37.6**	**+1.0**
CO03	**El Pedregal**	**3.59**	**23**	*eP*		**Pn**	**06 42 38.1**	**+0.4**
CO03				*eS*		**Sb**	**06 43 27.8**	**-1.4**
CO03					IAML		06 43 40.9	
	comp=Z,2μm,1.1s							
ZON	**Zonda**	**4.03**	**51**			**Pn**	**06 42 46.4**	**+2.8**
ZON	**Zonda**	**4.03**	**51**	*eP*		**Pn**	**06 42 47.0**	**+3.4**
ZON				*eS*		**Sb**	**06 43 40.8**	**-0.8**
ZON					IAML		06 43 55.6	
	comp=Z,456nm,1.3s							
GO04	**Tololo Observa**	**4.18**	**18**			**Pn**	**06 42 46.8**	**+0.8**
GO04	**Tololo Observa**	**4.18**	**18**	*eP*		**Pn**	**06 42 45.6**	**-0.3**
GO04	**Tololo Observa**	**4.18**	**18**	*eP*		**Pn**	**06 42 46.0**	**+0.1**
GO04				*eS*		**Sb**	**06 43 48.8**	**+2.4**
GO04					IAML		06 44

SALV	**Santo Antonio**	**23.55**	**44**	*eP*		**P**	**06 46 50.0**	**-2.6**
VILB	**Vilhena**	**23.82**	**30**			**P**	**06 46 54.0**	**-1.3**
VILB					IAmb	IAmb	06 47 06.6	
	comp=Z,25nm,0.9s							
VILB	**Vilhena**	**23.82**	**30**	*eP*		**P**	**06 46 54.4**	**-0.9**
SPB	**Sao Paulo**	**24.14**	**71**	*eP*		**P**	**06 46 57.1**	**-1.1**
ITRB	**Iturama**	**24.23**	**59**	*eP*		**P**	**06 46 57.1**	**-2.0**
BB19B	**Bebedouro**	**24.72**	**64**	*eP*		**P**	**06 47 01.3**	**-2.3**
CZSB	**Cruzeiro do Su**	**26.31**	**359**	*eP*		**P**	**06 47 18.7**	**+0.8**
PDRB	**Porto dos Gac**	**26.58**	**36**	*eP*		**P**	**06 47 19.3**	**-1.1**
IPMB	**Ipameri, GO**	**26.89**	**59**	*eP*		**P**	**06 47 23.5**	**+0.2**
CLDB	**Colider**	**27.67**	**37**	*eP*		**P**	**06 47 28.6**	**-1.6**
BDFB	**Brasilia**	**28.62**	**56**			**P**	**06 47 36.8**	**-2.1**
BDFB	**Brasilia**	**28.62**	**56**	P		**P**	**06 47 36.7**	**-2.1**
	comp=Z,5.7nm,0.8s,baz=223,slow=10,SNR=9.4							
	comp=Z,5.7nm,0.8s							
SNDB	**Serra Nova Dou**	**29.24**	**46**	*eP*		**P**	**06 47 44.2**	**0.0**
TBTG	**Tabatinga, AM**	**29.91**	**5**	*eP*		**P**	**06 47 50.8**	**+0.7**
MAL2	**Monte Alegre,**	**36.19**	**32**			**P**	**06 48 43.9**	**-1.0**
RUSC	**La Rusia**	**39.85**	**359**			**P**	**06 49 17.6**	**+1.2**
RUSC					IAmb	IAmb	06 49 19.5	
	comp=Z,26nm,1.4s							
BAUV	**El Baul**	**43.06**	**6**	P		**P**	**06 49 41.8**	**-0.4**
VNA3	**Neumayer Olymp**	**49.29**	**158**	⇑P		**P**	**06 50 30.8**	**+0.1**
	comp=Z,3.6nm,0.6s							
VNA1	**Neumayer--Stat**	**49.61**	**157**	⇑P		**P**	**06 50 33.6**	**+0.5**
	comp=Z,3.2nm,0.8s							
SNAA	**Sanae**	**51.52**	**158**	⇑P		**P**	**06 50 47.5**	**0.0**
	comp=Z,174nm,1.2s							
SNAA	**Sanae**	**51.52**	**158**	P		**P**	**06 50 47.3**	**-0.3**
SNAA					IAmb	IAmb	06 50 49.0	
	comp=Z,17nm,1.2s							
SNAA	**Sanae**	**51.52**	**158**	P		**P**	**06 50 47.3**	**-0.3**
	comp=Z,6.9nm,1.0s,baz=271,slow=6.3,SNR=18							
	comp=Z,6.9nm,1.0s							
CELP	**Cerrillos**	**52.24**	**7**	P		**P**	**06 50 52.8**	**-0.6**
TROLL	**Troll, Antarti**	**53.22**	**158**	⇑P		**P**	**06 51 00.4**	**+0.1**
	comp=Z,188nm,0.8s							
QSPA	**South Pole Qui**	**56.07**	**180**	P		**P**	**06 51 22.5**	**+1.4**
	comp=Z,6.8nm,0.8s,baz=145,slow=1.6,SNR=22							
	comp=Z,6.8nm,0.8s							
VNDA	**Vanda**	**63.89**	**191**	P		**P**	**06 52 16.1**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=114,slow=4.4,SNR=4.3							
	comp=Z,0.8nm,0.7s							
JCT	**Junction City**	**69.34**	**335**	P		**P**	**06 52 49.6**	**-0.1**
JCT					IAmb	IAmb	06 53 10.2	
	comp=Z,5.0nm,0.8s							
X48A	**Hartselle**	**69.64**	**347**	P		**P**	**06 52 51.2**	**-0.3**
X48A					IAmb	IAmb	06 52 52.1	
	comp=Z,4.2nm,0.7s							
TXAR	**Lajitas Array**	**69.77**	**331**	P		**P**	**06 52 53.5**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=147,slow=8.3,SNR=5.0							
	comp=Z,0.7nm,0.7s							
W50A	**Signal Mountai**	**70.07**	**349**	P		**P**	**06 52 53.6**	**-0.5**
V55A	**Taylorsville**	**70.15**	**352**	P		**P**	**06 52 54.2**	**-0.3**
V55A					IAmb	IAmb	06 52 54.9	
	comp=Z,3.9nm,0.7s							
SWET	**Sewanee**	**70.19**	**348**	P		**P**	**06 52 54.4**	**-0.5**
OZNA	**Ozona**	**70.21**	**334**	P		**P**	**06 52 56.0**	**+0.8**
OZNA					IAmb	IAmb	06 53 04.0	
	comp=Z,8.5nm,1.3s							
T59A	**Double "B" Far**	**70.94**	**356**	P		**P**	**06 52 59.5**	**+0.1**
WVT	**Waverly**	**71.42**	**347**	P		**P**	**06 53 01.6**	**-0.7**
T47A	**Sharon Grove**	**72.12**	**348**	P		**P**	**06 53 05.8**	**-0.7**
T47A					IAmb	IAmb	06 53 19.6	
	comp=Z,8.7nm,1.2s							
MAW	**Mawson**	**73.09**	**164**	P		**P**	**06 53 11.9**	**0.0**
	comp=Z,2.8nm,0.6s,baz=217,slow=5.6,SNR=9.8							
	comp=Z,2.8nm,0.6s							
CCM	**Cathedral Cave**	**73.98**	**345**	P		**P**	**06 53 16.9**	**-0.5**
CCM					IAmb	IAmb	06 53 18.4	
	comp=Z,6.2nm,0.9s							
P48A	**Milroy**	**74.26**	**349**	P		**P**	**06 53 18.1**	**-1.0**
P48A					IAmb	IAmb	06 53 18.6	
	comp=Z,6.3nm,0.8s							
R40A	**Maddies Statio**	**74.43**	**344**	P		**P**	**06 53 20.0**	**-0.1**
BOSA	**Boshof**	**80.20**	**118**	P		**P**	**06 53 52.3**	**-0.8**
	comp=Z,6.7nm,1.0s,baz=228,slow=8.3,SNR=4.5							
	comp=Z,6.7nm,1.0s							
KNB	**Kanab**	**80.24**	**328**	P		**P**	**06 53 53.5**	**+0.5**
ECSD	**EROS Data Cent**	**80.64**	**342**	P		**P**	**06 53 54.1**	**-0.6**
ECSD					IAmb	IAmb	06 53 55.2	
	comp=Z,4.5nm,0.8s							
PDAR	**Pinedale Array**	**83.81**	**333**	P		**P**	**06 54 12.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=5.1							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**83.89**	**325**	P		**P**	**06 54 13.6**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=156,slow=6.2,SNR=5.0							
	comp=Z,0.6nm,0.6s							
WRA	**Warramunga Arr**	**120.50**	**209**	PKP		**PKPdf**	**07 00 33.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=137,slow=1.7,SNR=1.5							
BVAR	**Borovoye Array**	**147.56**	**43**	PKPbc		**PKPbc**	**07 01 26.4**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=288,slow=1.4,SNR=4.3							
KURBB	**Kurchatov Arra**	**153.15**	**43**	PKPbc		**PKPbc**	**07 01 39.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=300,slow=2.9,SNR=8.7							
ZALV	**Zalesovo Beam**	**154.49**	**32**	PKPbc		**PKPbc**	**07 01 41.8**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=235,slow=4.7,SNR=4.2							
MKAR	**Makanchi Array**	**157.05**	**49**	PKPab		**PKPab**	**07 02 07.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=288,slow=1.2,SNR=6.7							
SONM	**Songino Array**	**166.31**	**4**	PKPab		**PKPab**	**07 02 48.7**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=316,slow=4.0,SNR=4.8							

GUC 02 06:42:15.4±0.7, 28°.03S×70°.94W, h22km±3km, ML3.6, 2C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AC04	**Llanos de Chal**	**0.21**	**214**	⇑*iP*		Pb	06 42 21.4	+0.1
AC04				*i* S		Sb	06 42 25.9	+0.5
AC04				IAML			06 42 26.1	
	comp=E,8μm,0.2s							
GO03	**Copiapo**	**0.76**	**56**	⇓*iP*		Pn	06 42 31.6	+0.8
GO03				*eS*		Sn	06 42 41.7	0.0
AC06	**Mina Casimiro**	**0.84**	**38**	⇓*iP*		Pb	06 42 31.5	+0.2
LCO	**Las Campanas**	**1.00**	**168**	⇓*iP*		Pn	06 42 35.5	+1.0
LCO				*i* S		Sn	06 42 50.2	+2.1
LCO				IAML			06 42 52.8	
	comp=E,5μm,0.2s							
CO05	**La Serena**	**1.90**	**188**	*eP*		Pn	06 42 47.1	+0.5
CO05				*i* S		Sb	06 43 13.9	+1.1
CO05				IAML			06 44 06.5	
	comp=E,586nm,0.7s							
AC02	**Maricunga**	**2.00**	**54**	⇑*iP*		Pb	06 42 51.8	+0.4
AC02				IAML			06 43 24.2	
	comp=E,273nm,0.2s							
CO06	**Fray Jorge**	**2.71**	**193**	IAML			06 43 47.6	
	comp=E,440nm,0.5s							
CO03	**El Pedregal**	**2.81**	**176**	IAML			06 43 45.9	
	comp=E,829nm,1.1s							
GO02	**Mina Guanaco**	**3.10**	**23**	IAML			06 43 55.2	
	comp=N,112nm,0.8s							

RSNC 02 06:48:04.0±0.0, 7°N±3°×7°6W±°, h7km±5km, M1.1, ML1.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DBBC	**Dabeiba**	**0.20**	**76**	P		Pg	06 48 07.2	-0.8
DBBC				S		Sg	06 48 11.5	+0.9
APAC	**Apartado, Choc**	**0.94**	**349**	P		Pg	06 48 19.6	-2.5
APAC				S		Sg	06 48 34.1	-0.3
UREC	**San Jos de Ur**	**1.16**	**48**	P		Pg	06 48 23.5	-2.8
UREC				S		Sg	06 48 39.2	-2.1
HELC	**Santa Helena**	**1.16**	**132**	P		Pg	06 48 25.2	-1.1
CBOC	**Ciudad Bolivar**	**1.16**	**161**	P		Pg	06 48 25.3	-1.1
CBOC				S		Sn	06 48 43.6	+0.5

SJA ***02*** *06:50:44.8±0.7, 34°.27S×72°.64W, h14km±3km, ML4.8, MW4.7*
IDC ***02*** *06:50:48.6±0.7, 34°.17S×72°.10W, h0km, mb4.1/9, mbtmp4.2/12, ML4.1/3, MS4.2/8, Error ellipse: s-maj=23.4km s-min=14.1km az=97.0*
VAO ***02*** *06:50:50.0±0.6, 34°.13S×72°.11W, h10km, mb4.4*
NEIC ***02*** *06:50:51.6, 34°.15S×72°.22W, h20km*
GUC ***02*** *06:50:51.8±0.5, 34°.15S×72°.30W, h28km±2km, ML4.6*
NEIC ***02*** *06:50:51.4±1.0, 34°.14S±0°.04×72°.25W±0°.07, h18km±4km, mb4.8/23, Mwr4.6/61, Mwr4.6(GUC), Error ellipse: s-maj=7.9km s-min=6.1km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.84; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-0.68; $M_{r\theta}$-0.10; $M_{\theta\phi}$-0.07; $M_{\phi r}$-0.74; Fault plane solution: M_o1.08000×10^{16} NP1:ϕ_s6.82000°,*

δ22.89000°, λ89.60000°. NP2:ϕ_s187.25000°, δ67.11000°, λ90.17000°. Principal axes: T 1.1413, Plg68.0000°, Azm98.0000°; N -0.1465, Plg0.0000°, Azm7.0000°; P -0.9949, Plg22.0000°, Azm277.0000°;

ISC 02 06:50:49.8±1.6, 34°.14S±0°.03×72°.28W±0°.05, h10km±9km, n138, σ1^{s}30/149, mb4.6/19, MS4.3/5, 8C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BO03	**Pichilemu**	**0.44**	**144**	⇓*iP*		**Pb**	**06 51 00.6**	**+0.9**
BO03				*i* S		**Sb**	**06 51 06.8**	**+0.4**
MT01	**Popeta**	**0.90**	**73**			**Pg**	**06 51 07.6**	**+0.6**
MT01	**Popeta**	**0.90**	**73**	⇓*iP*		**Pg**	**06 51 07.7**	**+0.6**
MT01				*eS*		**Sn**	**06 51 19.7**	**-1.8**
BO01	**Tunca**	**1.02**	**105**			**Pb**	**06 51 09.4**	**-0.2**
BO01	**Tunca**	**1.02**	**105**	⇓*iP*		**Pb**	**06 51 09.1**	**-0.4**
BO01				*eS*		**Sn**	**06 51 23.1**	**-1.5**
BO01	**Tunca**	**1.02**	**105**	*eP*		**Pb**	**06 51 09.1**	**-0.4**
BO01				*eS*		**Sn**	**06 51 27.2**	**+2.6**
MT09	**Talagante**	**1.13**	**72**			**Pg**	**06 51 12.1**	**+0.6**
MT09	**Talagante**	**1.13**	**72**	⇓*iP*		**Pb**	**06 51 11.4**	**-0.1**
MT09				*eS*		**Sg**	**06 51 26.6**	**+0.4**
MT09				IAML			06 51 29.6	
	comp=N,14μm,0.5s							
VA01	**Torpederas**	**1.23**	**26**			**Pn**	**06 51 12.9**	**-0.1**
VA01	**Torpederas**	**1.23**	**26**	*iP*		**Pn**	**06 51 13.0**	**0.0**
VA01				*eS*		**Sb**	**06 51 28.6**	**-0.5**
VA01	**Torpederas**	**1.23**	**26**	*eP*		**Pn**	**06 51 12.8**	**-0.1**
MT02	**Curacav**	**1.29**	**48**			**Pn**	**06 51 13.9**	**0.0**
MT02	**Curacav**	**1.29**	**48**	*eP*		**Pn**	**06 51 14.2**	**+0.3**
MT02				*eS*		**Sg**	**06 51 32.5**	**+1.1**
BO04	**La Punta**	**1.40**	**84**			**Pn**	**06 51 15.2**	**-0.2**
BO04	**La Punta**	**1.40**	**84**	⇓*iP*		**Pb**	**06 51 15.6**	**-0.4**
BO04				*eS*		**Sb**	**06 51 33.4**	**-0.5**
BO04				IAML			06 51 40.8	
	comp=N,12μm,0.4s							
BO02	**Sierra Bellavi**	**1.40**	**118**			**Pn**	**06 51 15.3**	**-0.2**
BO02	**Sierra Bellavi**	**1.40**	**118**	⇓*iP*		**Pn**	**06 51 15.4**	**0.0**
BO02				*eS*		**Sb**	**06 51 33.6**	**-0.4**
BO02				IAML			06 51 43.0	
	comp=E,17μm,0.4s							
BO02	**Sierra Bellavi**	**1.40**	**118**	*eP*		**Pn**	**06 51 15.0**	**-0.5**
BO02				IAML			06 51 41.0	
	comp=Z,10μm,0.4s							
MT05	**Renca**	**1.48**	**60**			**Pb**	**06 51 17.1**	**-0.3**
MT05	**Renca**	**1.48**	**60**	⇓*iP*		**Pn**	**06 51 17.0**	**+0.4**
MT05				*eS*		**Sb**	**06 51 35.9**	**-0.6**
MT05	**Renca**	**1.48**	**60**	*eP*		**Pb**	**06 51 17.8**	**+0.3**
MT05				*eS*		**Sg**	**06 51 40.6**	**+3.0**
MT05				IAML			06 51 46.1	
	comp=Z,6μm,0.7s							
MT15	**Las Vizcachas**	**1.57**	**70**	IAML			06 51 46.4	
	comp=E,16μm,0.7s							
ROCH	**El Roble**	**1.57**	**43**	⇑*iP*		**Pn**	**06 51 18.5**	**+0.5**
ROCH				*eS*		**Sb**	**06 51 39.2**	**+0.1**
ROCH				IAML			06 51 47.6	
	comp=N,13μm,0.4s							
MT16	**CCHEN**	**1.62**	**65**			**Pn**	**06 51 18.9**	**+0.4**
MT14	**Cerro Cal¡n**	**1.63**	**63**	IAML			06 51 50.8	
	comp=E,14μm,0.5s							
PEL	**Peldehue**	**1.66**	**54**			**Pn**	**06 51 19.7**	**+0.7**
PEL	**Peldehue**	**1.66**	**54**	⇑*iP*		**Pb**	**06 51 20.0**	**-0.5**
PEL				*eS*		**Sb**	**06 51 40.9**	**-0.5**
PEL				IAML			06 51 52.9	
	comp=N,8μm,0.5s							
MT10	**Hacienda Santa**	**1.69**	**60**	IAML			06 51 50.3	
	comp=E,17μm,0.5s							
LMEL	**Las Melosas**	**1.75**	**81**			**Pb**	**06 51 22.1**	**0.0**
LMEL	**Las Melosas**	**1.75**	**81**	IAML			06 51 47.9	
	comp=E,8μm,0.3s							
ML02	**Panimavida**	**1.77**	**157**			**Pn**	**06 51 20.8**	**+0.3**
ML02	**Panimavida**	**1.77**	**157**	IAML			06 51 56.4	
	comp=E,7μm,0.6s							
ML02	**Panimavida**	**1.77**	**157**	*eP*		Pn	06 51 01.1	-19
VA06	**Catapilco**	**1.77**	**28**			**Pn**	**06 51 20.9**	**+0.4**
VA06	**Catapilco**	**1.77**	**28**	*iP*		**Pn**	**06 51 20.3**	**-0.2**
VA06				*i* S		**Sn**	**06 51 42.8**	**-0.3**
VA06				IAML			06 51 52.5	
	comp=E,21μm,0.4s							
FCH	**Farellones**	**1.84**	**65**	IAML			06 51 51.5	
	comp=E,7μm,0.1s							
MT04	**Ro Olivares**	**1.93**	**68**	*eP*		**Pn**	**06 51 23.5**	**+0.7**
MT04				*eS*		**Sg**	**06 51 54.1**	**+2.3**
MT04				IAML			06 51 55.5	
	comp=Z,3μm,0.2s							
VA03	**San Esteban**	**1.99**	**47**			**Pn**	**06 51 24.3**	**+0.7**
VA03	**San Esteban**	**1.99**	**47**	⇑*iP*		**Pn**	**06 51 24.8**	**+1.2**
VA03				*eS*		**Sb**	**06 51 50.2**	**-0.9**
VA03				IAML			06 52 00.2	
	comp=N,13μm,0.5s							
VA03	**San Esteban**	**1.99**	**47**	*eP*		**Pn**	**06 51 25.1**	**+1.5**
VA03				*eS*		**Sb**	**06 51 51.1**	**0.0**
VA03				IAML			06 52 00.5	
	comp=Z,8μm,0.7s							
MT08	**Bocatoma Ro**	**2.01**	**70**			**Pn**	**06 51 24.9**	**+0.9**
MT08	**Bocatoma Ro**	**2.01**	**70**	⇑*iP*		**Pb**	**06 51 25.1**	**-1.4**
MT08				*eS*		**Sb**	**06 51 50.7**	**-1.0**
MT08				IAML			06 51 59.2	
	comp=N,4μm,0.6s							
MT08	**Bocatoma Ro**	**2.01**	**70**	*eP*		**Pb**	**06 51 25.7**	**-0.8**
MT08				*eS*		**Sg**	**06 51 55.2**	**+0.8**
MT08				IAML			06 51 56.5	
	comp=Z,4μm,0.6s							
BI05	**Punta Hualpn**	**2.71**	**196**			**Pn**	**06 51 34.0**	**+0.7**
AAGR	**Agrelo**	**3.06**	**71**	*eP*		**Pn**	**06 51 38.6**	**+0.2**
AAGR				*eS*		**Sg**	**06 52 26.6**	**-1.7**
AAGR				IAML			06 52 38.2	
	comp=Z,1μm,1.2s							
ARCO	**CERRO ARCO**	**3.08**	**66**	*eP*		**Pn**	**06 51 40.6**	**+1.9**
ARCO				*eS*		**Sb**	**06 52 24.1**	**+1.6**
ARCO				IAML			06 52 35.6	
	comp=Z,2μm,1.6s							
CO02	**Combarbal**	**3.12**	**21**			**Pn**	**06 51 39.0**	**-0.2**
CO02	**Combarbal**	**3.12**	**21**	*eP*		**Pn**	**06 51 39.9**	**+0.7**
CO02				*eS*		**Sb**	**06 52 23.1**	**-0.5**
CO02				*eS*		**Sg**	**06 52 26.6**	**-3.4**
CO02				IAML			06 52 35.8	
	comp=Z,3μm,0.7s							
RFA	**San Rafael**	**3.21**	**102**	*eP*		**Pn**	**06 51 38.6**	**-1.8**
RFA				*eP*		**Pb**	**06 51 42.7**	**-4.3**
RTLS	**Leoncito**	**3.42**	**48**	*eP*		**Pn**	**06 51 47.1**	**+3.6**
RTLS				*eS*		**Sb**	**06 52 36.1**	**+3.6**
RTLS				IAML			06 52 49.6	
	comp=Z,5μm,0.8s							
CO06	**Fray Jorge**	**3.50**	**9**			**Pn**	**06 51 44.4**	**+0.1**
CO03	**El Pedregal**	**3.55**	**23**			**Pn**	**06 51 45.5**	**+0.4**
CO03	**El Pedregal**	**3.55**	**23**	*eP*		**Pn**	**06 51 46.0**	**+1.0**
CO03				*eS*		**Sb**	**06 52 35.6**	**-0.5**
CO03				IAML			06 52 48.6	
	comp=Z,3μm,1.1s							
ZON	**Zonda**	**3.98**	**51**	*eP*		**Pn**	**06 51 52.6**	**+1.6**
ZON				*eS*		**Sg**	**06 52 53.1**	**-4.7**
ZON				IAML			06 53 03.3	
	comp=Z,738nm,1.8s							
GO04	**Tololo Observa**	**4.15**	**18**			**Pn**	**06 51 53.7**	**+0.3**
GO04	**Tololo Observa**	**4.15**	**18**	*eP*		**Pn**	**06 51 54.1**	**+0.7**
GO04				*eS*		**Sn**	**06 52 42.8**	**+0.7**
GO04				IAML			06 53 11.8	
	comp=Z,3μm,0.8s							
CFA	**Coronel Fontan**	**4.24**	**55**	Pn		**Pn**	**06 51 54.7**	**+0.2**
	comp=Z,7.8nm,0.3s,baz=234,slow=13,SNR=26							
CFA					Lg	Lg	06 52 58.0	
	comp=Z,16nm,0.3s,baz=271,slow=19,SNR=6.5							
CFA					LR	LR	06 53 52.5	
	comp=Z,2μm,19.0s,baz=248,slow=44							
	comp=Z,15nm,0.2s							
CFA	**Coronel Fontan**	**4.24**	**55**	*eP*		**Pn**	**06 51 56.7**	**+2.3**
CFA				*eS*		**Sb**	**06 52 51.1**	**-4.6**
CFA				*eS*		Sn	06 52 53.1	+9.1
CFA				IAML			06 53 09.0	
	comp=Z,438nm,0.8s							
CO05	**La Serena**	**4.30**	**12**			**Pn**	**06 51 55.4**	**+0.1**
ACCO	**Cerro Coronel**	**4.46**	**38**	*eP*		**Pn**	**06 52 00.8**	**+3.0**
ACCO				*eS*		**Sn**	**06 52 53.1**	**+3.1**
CO01	**Juntas del Tor**	**4.54**	**25**			**Pn**	**06 52 00.2**	**+1.3**
AROD	**Rodeo**	**4.62**	**32**	*eP*		**Pn**	**06 52 03.1**	**+3.2**
AROD				*eS*		**Sb**	**06 53 05.6**	**-1.4**
LCO	**Las Campanas**	**5.29**	**15**			**Pn**	**06 52 09.7**	**+0.7**
LR03	**Panguipulli**	**5.48**	**181**			**Pn**	**06 52 11.3**	**-0.3**
H03S1	**Juan Fernandez**	**5.51**	**271**	T		T	06 58 10.7	
	baz=95,slow=74,SNR=2928							
H03S3	**Juan Fernandez**	**5.52**	**271**	T		T	06 58 12.0	
	baz=95,slow=74,SNR=2114							
H03S2	**Juan Fernandez**	**5.53**	**271**	T		T	06 58 11.1	
	baz=95,slow=74,SNR=2830							
H03N1	**Juan Fernandez**	**5.57**	**275**	T		T	06 58 20.9	
	baz=89,slow=73,SNR=16							
H03N3	**Juan Fernandez**	**5.57**	**275**	T		T	06 58 25.6	
	baz=89,slow=73,SNR=15							
H03N2	**Juan Fernandez**	**5.58**	**275**	T		T	06 58 18.2	
	baz=89,slow=73,SNR=11							
LR04	**Corral**	**5.80**	**189**			**Pn**	**06 52 13.1**	**-2.8**
AC04	**Llanos de Chal**	**6.00**	**10**			**Pn**	**06 52 17.9**	**-0.8**
LR05	**Currie**	**6.08**	**178**			**Pn**	**06 52 20.6**	**+0.8**
PLCA	**Paso Flores**	**6.72**	**169**			**Pn**	**06 52 29.7**	**+1.1**
PLCA	**Paso Flores**	**6.72**	**169**	Pn		**Pn**	**06 52 28.5**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=335,slow=12,SNR=39							
PLCA					Lg	Lg	06 54 19.6	
	comp=Z,0.5nm,0.3s,baz=55,slow=20,SNR=3.9							
PLCA					LR	LR	06 55 29.2	
	comp=Z,2μm,18.8s,baz=346,slow=42							
	comp=Z,1.9nm,0.3s							
PLCA	**Paso Flores**	**6.72**	**169**	*eP*		**Pn**	**06 52 28.8**	**+0.1**
GO03	**Copiapo**	**6.76**	**16**			**Pn**	**06 52 28.4**	**-0.7**
AC06	**Mina Casimiro**	**6.96**	**14**			**Pn**	**06 52 31.2**	**-0.6**
AC02	**Maricunga**	**7.77**	**21**			**Pn**	**06 52 42.8**	**-0.5**
CPUP	**Villa Florida**	**15.07**	**63**	LR		LR	07 00 42.1	
	comp=Z,506nm,18.1s,baz=94,slow=40							
PB16	**IPOC Station P**	**15.93**	**10**	P		**Pn**	**06 54 36.8**	**+2.2**
PB18	**Visviri**	**16.67**	**9**	P		**P**	**06 54 47.1**	**+0.6**
PB18				IAmb		IAmb	06 54 52.1	
	comp=Z,81nm,1.2s							
LPAZ	**La Paz**	**18.16**	**13**	P		**Pn**	**06 55 03.1**	**+0.4**
LPAZ	**La Paz**	**18.16**	**13**	P		**P**	**06 55 04.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=182,slow=8.2,SNR=19							
	comp=Z,13nm,0.9s							
LPAZ	**La Paz**	**18.16**	**13**	*eP*		**Pn**	**06 55 02.3**	**-0.5**
BBSD	**Serra de San D**	**19.86**	**35**	*eP*		**P**	**06 55 20.2**	**-0.8**
AQDB	**Aquidauana**	**20.02**	**51**	P		**P**	**06 55 21.5**	**-1.2**
AQDB	**Aquidauana**	**20.02**	**51**	*eP*		**P**	**06 55 21.9**	**-0.8**
EFI	**East Falkland**	**20.32**	**154**	P		**P**	**06 55 23.9**	**-1.9**
EFI				IAmb		IAmb	06 55 37.4	
	comp=Z,87nm,1.4s							
SIV	**San Ignacio**	**20.70**	**32**	P		**P**	**06 55 30.0**	**-0.2**
	comp=Z,13nm,1.1s,baz=186,slow=7.9,SNR=22							
SIV					LR	LR	07 04 51.9	
	comp=Z,1μm,19.5s,baz=242,slow=41							
	comp=Z,13nm,1.1s							
PTLB	**Pontes e Lacer**	**22.06**	**36**	P		**P**	**06 55 44.8**	**-0.1**
PTLB				IAmb		IAmb	06 55 47.8	
	comp=Z,32nm,1.1s							
PTLB	**Pontes e Lacer**	**22.06**	**36**	*eP*		**P**	**06 55 44.4**	**-0.4**
C2SB	**Chapadao do Su**	**23.12**	**53**	*eP*		**P**	**06 55 55.7**	**-0.3**
SALV	**Santo Antonio**	**23.51**	**44**	*eP*		**P**	**06 55 59.1**	**-0.9**
VILB	**Vilhena**	**23.78**	**30**	P		**P**	**06 56 01.9**	**-0.8**
VILB				IAmb		IAmb	06 56 14.7	
	comp=Z,46nm,1.2s							
VILB	**Vilhena**	**23.78**	**30**	*eP*		**P**	**06 56 02.1**	**-0.5**
ITRB	**Iturama**	**24.19**	**59**	*eP*		**P**	**06 56 05.5**	**-1.0**
BB19B	**Bebedouro**	**24.68**	**64**	*eP*		**P**	**06 56 09.1**	**-1.9**
PDRB	**Porto dos Gac**	**26.54**	**36**	*eP*		**P**	**06 56 27.0**	**-0.8**
CLDB	**Colider**	**27.63**	**37**	*eP*		**P**	**06 56 37.0**	**-0.7**
BDFB	**Brasilia**	**28.58**	**56**	P		**P**	**06 56 45.1**	**-1.1**
	comp=Z,2.8nm,0.8s,baz=222,slow=12,SNR=3.6							
BDFB					LR	LR	07 09 19.0	
	comp=Z,771nm,18.3s,baz=237,slow=39							
	comp=Z,2.8nm,0.8s							
TBTG	**Tabatinga, AM**	**29.88**	**5**	P		**P**	**06 56 57.8**

	0.1nm,0.3s,baz=42,slow=31,SNR=7.0 0.4nm,0.6s							
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=8.0,slow=14,SNR=3.4 0.3nm,0.4s	**7.94**	**187**	Pn	Pn	06 59 53.4		+1.3

ASRS ***02*** *07:00:16.0±0.8, 55°.57N×86°.22E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 07:00:31.4±3.2, 55°.47N×86°.20E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=31.3km s-min=20.9km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=23,slow=317,SNR=2.6	**1.72**	**208**	I	I	07 11 50.0	
ZALV	**Zalesovo Beam** 3.2nm,0.3s,baz=29,slow=15,SNR=5.9	**1.72**	**208**	Pn	Pn	07 01 02.7	+0.1
ZALV				Lg	Lg	07 01 26.8	
KURBB	**Kurchatov Arra** 3.1nm,0.3s,baz=26,slow=16,SNR=5.5 baz=46,slow=14,SNR=2.0	**6.70**	**227**	Pn	Pn	07 02 09.7	-1.4
MKAR	**Makanchi Array** 0.3nm,0.4s 0.1nm,0.3s,baz=15,slow=13,SNR=1.2	**9.02**	**197**	Pn	Pn	07 02 42.5	-0.4
BVAR	**Borovoye Array** 0.2nm,0.4s 0.1nm,0.3s,baz=70,slow=13,SNR=4.0	**9.57**	**262**	Pn	Pn	07 02 50.5	+0.1
	0.6nm,0.4s						

ISC 02 07:00:47.5±4.6, 49°.09N±0°.07×19°.2E±0°.2, h50km±44km, n4, σ0s98/7, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.22**	**75**	*e*Pg	**Pn**	**07 00 56.3**	**+0.3**
LANS				*e*Sg	**Sn**	**07 01 02.1**	**0.0**
LANS				*e*Lg	Lg	07 01 03.9	
VYHS	**Vyhne**	**0.64**	**199**	*e*Pg	**Pn**	**07 01 00.2**	**-0.2**
VYHS				*e*Sg	**Sn**	**07 01 09.5**	**-0.3**
JAVC	**Velka Javorina**	**1.00**	**257**	*e*Pg	**Pn**	**07 01 06.3**	**+1.0**
MORC	**Moravsky Berou**	**1.25**	**304**	*e*Pg	**Pn**	**07 01 09.0**	**+0.3**
MORC				*e*Sg	**Sn**	**07 01 23.2**	**-1.2**

SNET ***02*** *07:01:01.5±1.2, 13°.04N×89°.55W, h44km, ML3.4*
CATAC ***02*** *07:01:01.9±0.5, 13°.N±3°×8°.9W±°, h28km±2km, M3.5/22, MLv3.5/22, Error ellipse: s-maj=5.9km s-min=3.1km az=22.6, confirmed*
GCG ***02*** *07:01:03.5±0.6, 13°.18N×89°.53W, h47km±6km, MD3.9, ML3.2*

ISC 02 07:01:03.4±1.6, 13°.10N±0°.07×89°.48W±0°.04, h43km±14km, n65, σ0s86/74, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.41**	**21**	*e*P	**Pn**	**07 01 13.0**	**-0.2**
LALI				*e*S	**Sn**	**07 01 21.2**	**+1.1**
LALI	**Alcalda de L**	**0.41**	**21**	*e*P	**Pn**	**07 01 12.9**	**-0.2**
LALI				IAML		07 01 21.2	
	comp=N,436nm,0.1s						
LALI	**Alcalda de L**	**0.41**	**21**	P	**Pn**	**07 01 12.9**	**-0.2**
LALI	**Alcalda de L**	**0.41**	**21**	S	**Sn**	**07 01 20.1**	**+0.1**
JAYA	**Jayaque - finc**	**0.55**	**3**	*e*P	**Pn**	**07 01 14.4**	**-0.7**
JAYA				*e*S	**Sn**	**07 01 22.7**	**-0.7**
JAYA	**Jayaque - finc**	**0.55**	**3**	P	**Pn**	**07 01 14.4**	**-0.7**
PANCS	**Alcalda de**	**0.58**	**30**	P	**Pn**	**07 01 14.7**	**-0.7**
PANCS	**Alcalda de**	**0.58**	**30**	S	**Sn**	**07 01 24.2**	**+0.2**
LOMA	**Loma Larga**	**0.62**	**29**	P	**Pn**	**07 01 15.4**	**-0.5**
LOMA	**Loma Larga**	**0.62**	**29**	S	**Sn**	**07 01 25.4**	**+0.6**
PMON	**Piamonte**	**0.63**	**14**	P	**Pn**	**07 01 15.4**	**-0.6**
PMON	**Piamonte**	**0.63**	**14**	S	**Sn**	**07 01 25.7**	**+0.6**
UTEC	**Universidad Te**	**0.65**	**24**	P	**Pn**	**07 01 15.8**	**-0.5**
UTEC	**Universidad Te**	**0.65**	**24**	S	**Sn**	**07 01 26.1**	**+0.4**
UEES	**Universidad Ev**	**0.65**	**21**	*e*P	**Pn**	**07 01 15.9**	**-0.5**
UEES				*e*S	**Sn**	**07 01 26.4**	**+0.7**
UEES	**Universidad Ev**	**0.65**	**21**	P	**Pn**	**07 01 15.8**	**-0.5**
LFRS	**El Faro**	**0.66**	**38**	*e*P	**Pn**	**07 01 16.1**	**-0.3**
BOQS	**Boqueron**	**0.66**	**17**	*e*P	**Pn**	**07 01 16.2**	**-0.4**
IGN	**Direccin Gen**	**0.68**	**26**	P	**Pn**	**07 01 16.3**	**-0.4**
IGN	**Direccin Gen**	**0.68**	**26**	S	**Sn**	**07 01 27.1**	**+0.9**
CEDA	**San Andres**	**0.70**	**6**	S	**Sn**	**07 01 27.3**	**+0.5**
CEDA	**San Andres**	**0.70**	**6**	P	**Pn**	**07 01 16.4**	**-0.6**
CEVE	**Cerro Verde**	**0.74**	**349**	*e*P	**Pn**	**07 01 17.1**	**-0.6**
CEVE				*e*S	**Sn**	**07 01 28.6**	**+0.7**
CEVE	**Cerro Verde**	**0.74**	**349**	P	**Pn**	**07 01 17.0**	**-0.6**
PAVA	**Las Pavas**	**0.80**	**41**	P	**Pn**	**07 01 18.1**	**-0.3**
PAVA	**Las Pavas**	**0.80**	**41**	S	**Sn**	**07 01 30.3**	**+1.0**
TECO	**Alcaldia de Te**	**0.80**	**57**	P	**Pn**	**07 01 17.4**	**-0.9**
TECO	**Alcaldia de Te**	**0.80**	**57**	S	**Sn**	**07 01 29.1**	**0.0**
NUBE	**Las Nubes**	**0.85**	**340**	*e*P	**Pn**	**07 01 18.1**	**-1.0**
NUBE				*i* S	**Sn**	**07 01 30.1**	**-0.3**
NUBE	**Las Nubes**	**0.85**	**340**	P	**Pn**	**07 01 18.1**	**-1.0**
NUBE	**Las Nubes**	**0.85**	**340**	S	**Sn**	**07 01 30.0**	**-0.5**
UESV	**Universidad de**	**0.86**	**51**	*e*P	**Pn**	**07 01 18.4**	**-0.7**
UESV				*e*S	**Sn**	**07 01 30.8**	**+0.3**
UESV	**Universidad de**	**0.86**	**51**	P	**Pn**	**07 01 18.4**	**-0.7**
FAME	**Alcaldia de Sa**	**0.91**	**325**	P	**Pn**	**07 01 18.5**	**-1.2**
FAME	**Alcaldia de Sa**	**0.91**	**325**	S	**Sn**	**07 01 30.8**	**-0.8**
ALJI	**Alcalda de J**	**0.91**	**76**	P	**Pn**	**07 01 20.7**	**+1.0**
LOAL	**Lomas de Alarc**	**0.94**	**342**	P	**Pn**	**07 01 20.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.94**	**51**	P	**Pn**	**07 01 19.9**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.94**	**51**	S	**Sn**	**07 01 33.3**	**+0.8**
SLOZ	**Alcaldia de Sa**	**0.97**	**342**	P	**Pn**	**07 01 19.9**	**-0.6**
SLOZ	**Alcaldia de Sa**	**0.97**	**342**	S	**Sn**	**07 01 33.8**	**+0.7**
PQSS	**Presa 15 de Se**	**1.03**	**60**	P	**Pn**	**07 01 20.8**	**-0.6**
PQSS	**Presa 15 de Se**	**1.03**	**60**	S	**Sn**	**07 01 34.6**	**-0.1**
LLGN	**La Laguna**	**1.18**	**26**	P	**Pn**	**07 01 22.8**	**-0.7**
LLGN	**La Laguna**	**1.18**	**26**	S	**Sn**	**07 01 40.4**	**+2.0**
LCY	**Lacayo**	**1.19**	**74**	*e*P	**Pn**	**07 01 23.8**	**0.0**
MTO3	**Montecristo**	**1.29**	**5**	*e*P	**Pn**	**07 01 24.5**	**-0.7**
MTO3	**Montecristo**	**1.29**	**5**	P	**Pn**	**07 01 24.5**	**-0.7**
MTO3	**Montecristo**	**1.29**	**5**	S	**Sn**	**07 01 41.5**	**0.0**
CNRM	**Centro Naciona**	**1.32**	**74**	S	**Sn**	**07 01 43.0**	**+1.1**
ESQI	**Esquipulas**	**1.46**	**5**	S	**Sn**	**07 01 46.4**	**+1.1**
ESQI	**Esquipulas**	**1.46**	**5**	P	**Pn**	**07 01 27.0**	**-0.4**
FG16	**Alotenango, Sa**	**1.54**	**319**	*i* P	**Pn**	**07 01 32.9**	**+4.3**
FG16				IAML		07 02 02.2	
	comp=N,1µm,0.2s						
LCND	**La Caada**	**1.56**	**82**	*e*P	**Pn**	**07 01 28.4**	**-0.2**
LCND	**La Caada**	**1.56**	**82**	P	**Pn**	**07 01 28.4**	**-0.2**
CNCH	**Conchagua**	**1.61**	**84**	P	**Pn**	**07 01 29.0**	**-0.4**
CNCH	**Conchagua**	**1.61**	**84**	S	**Sn**	**07 01 49.9**	**+0.9**
INTHN	**La Esperanza I**	**1.80**	**48**	P	**Pn**	**07 01 31.7**	**-0.5**
SARH	**Santa Rosa de**	**1.80**	**23**	*e*P	**Pn**	**07 01 32.1**	**0.0**
SARH	**Santa Rosa de**	**1.80**	**23**	P	**Pn**	**07 01 32.0**	**0.0**
ESSG	**Sabana Grande**	**1.83**	**314**	*i* P	**Pn**	**07 01 31.9**	**-0.6**
ESSG				*i* S	**Sn**	**07 01 53.4**	**-1.1**
ESSG				IAML		07 01 55.4	
	comp=E,194nm,0.2s						
CSGN	**Cosiguina Volc**	**1.87**	**94**	P	**Pn**	**07 01 32.4**	**-0.6**
CSGN				S	**Sn**	**07 01 55.1**	**-0.3**
POTN	**Potosi Cosigui**	**1.92**	**93**	S	**Sn**	**07 01 56.5**	**-0.1**
CHOHN	**Orocuina**	**2.29**	**80**	P	**Pn**	**07 01 37.9**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.34**	**66**	P	**Pn**	**07 01 38.7**	**-0.9**
TGUH				S	**Sn**	**07 02 06.6**	**-0.6**

NEIC ***02*** *07:22:12.8±1.7, 4°.98N±0°.06×125°.96E±0°.09, h96km±8km, mb4.5/25, Error ellipse: s-maj=13.7km s-min=8.9km az=78.0*
IDC ***02*** *07:22:14.0±1.5, 4°.91N×125°.65E, h119km±13km, mb3.7/11, mbtmp4.1/12, MS4.3/2, Error ellipse: s-maj=29.5km s-min=11.8km az=78.0*
DJA ***02*** *07:22:14.4±0.4, 5°.N±4°×12°.6E±°, h101km±7km, M4.9/13, mb4.9/11, mB5.3/6, MLv5.0/13, Mw(mB)4.7/6*

ISC 02 07:22:12.6±0.5, 4°.94N±0°.05×126°.01E±0°.08, h100km, n62, σ1s26/62, mb4.3/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.33**	**201**	P	**Pn**	**07 22 38.2**	**+1.3**
DAV	**Davao City (W)**	**2.16**	**349**	Pn	**Pn**	**07 22 45.6**	**-1.7**
DAV	**Davao City (W)** 343nm,0.3s,baz=264,slow=15,SNR=3.6	**2.16**	**349**	P	**Pn**	**07 22 48.2**	**+0.9**
DAV				S	**Sn**	**07 23 17.0**	**+3.2**
	815nm,0.3s,baz=239,slow=6.6,SNR=5.3						
TNTI	**Ternate**	**4.36**	**162**		**Pn**	**07 23 17.2**	**+0.5**
TNTI	**Ternate**	**4.36**	**162**	P	**Pn**	**07 23 17.7**	**+1.0**
KMSI	**Cibinong**	**4.78**	**205**	P	**Pn**	**07 23 23.7**	**+1.2**
MRSI	**Marisa**	**6.01**	**223**	P	**Pn**	**07 23 40.0**	**+0.9**
TOLI2	**Tolitoli**	**6.46**	**234**		**Pn**	**07 23 44.5**	**-0.7**
LUWI	**Luwuk** 142nm,0.7s	**6.76**	**209**	P	**Pn**	**07 23 51.0**	**+1.6**
SANI	**Sanana** 0.4nm2µm89nm,0.8s	**6.94**	**180**	P	**Pn**	**07 23 50.4**	**-1.4**
APSI	**Ampana**	**7.26**	**217**	P	**Pn**	**07 23 59.3**	**+3.2**
MYLDM	**Lahad Datu**	**7.48**	**272**		**Pn**	**07 23 59.9**	**+0.8**
MPSI	**Mapaga**	**7.62**	**233**	P	**Pn**	**07 24 02.7**	**+1.6**
NLAI	**Nanlea**	**8.20**	**172**	P	**Pn**	**07 24 08.1**	**-0.8**
TTSI	**Tana Toraja** 1µm52nm,0.9s	**10.05**	**218**	P	**Pn**	**07 24 36.2**	**+2.0**
SBUM	**Sibu**	**13.98**	**260**	P	**P**	**07 25 29.9**	**-1.2**
PLAI	**Plampang** 60nm,0.9s	**15.95**	**211**	P	**P**	**07 25 53.0**	**0.0**
KSM	**Kuching**	**16.05**	**258**	P	**P**	**07 25 53.8**	**-0.3**
KSM				IAmb	IAmb	07 25 57.9	
	comp=Z,36nm,1.3s						
TWSI	**Taliwang, Sumb**	**16.35**	**214**	P	**P**	**07 25 57.9**	**+0.4**
SSLB	**Suanglung**	**19.36**	**346**	P	**P**	**07 26 29.4**	**-1.1**
KNRA	**Kununurra**	**20.66**	**172**	P	**P**	**07 26 44.7**	**+0.1**
KNRA				IAmb	IAmb	07 26 55.8	
	comp=Z,26nm,1.1s						
JOW	**Kunigami**	**21.88**	**5**	P	**P**	**07 26 56.6**	**-0.9**
MYKOM	**Kota Tinggi**	**22.34**	**263**	P	**P**	**07 27 03.4**	**+1.0**
MYKOM				IAmb	IAmb	07 27 11.1	
	comp=Z,18nm,1.0s						
MANU	**Manus Island**	**22.44**	**108**	P	**P**	**07 27 02.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**22.89**	**181**	P	**P**	**07 27 07.2**	**-0.9**
BKNI	**Bangkinang**	**25.35**	**260**	P	**P**	**07 27 33.7**	**+3.1**
WB0	**Warramunga Arr**	**25.90**	**162**	P	**P**	**07 27 35.8**	**+0.3**
WB0				IAmb	IAmb	07 27 50.9	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**26.05**	**162**	P	**P**	**07 27 36.8**	**0.0**
WRA	**Warramunga Arr** comp=Z,2.0nm,0.6s,baz=338,slow=10,SNR=19	**26.05**	**162**	P	**P**	**07 27 37.0**	**+0.2**
	comp=Z,2.0nm,0.6s						
MBWA	**Marble Bar**	**26.66**	**193**	P	**P**	**07 27 41.7**	**-0.6**
MBWA				IAmb	IAmb	07 27 47.4	
	comp=Z,27nm,1.2s						
AS31	**Alice Springs**	**29.46**	**165**	P	**P**	**07 28 06.6**	**-0.7**
ASAR	**Alice Springs**	**29.46**	**165**	P	**P**	**07 28 06.5**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.7nm,0.4s,baz=343,slow=7.2,SNR=19	**29.46**	**165**	P	**P**	**07 28 07.2**	**0.0**
	comp=Z,0.7nm,0.4s						
JMN	**Monobe**	**29.57**	**13**	P	**P**	**07 28 08.2**	**+0.1**
JMN				IAmb	IAmb	07 28 10.9	
	comp=Z,8.9nm,0.8s						
CMAR	**Chiang Mai Arr** comp=Z,1.2nm,0.3s,baz=105,slow=8.4,SNR=1.7	**29.65**	**299**	P	**P**	**07 28 06.3**	**-2.7**
	comp=Z,1.2nm,0.3s						
INU	**Inuyama**	**31.93**	**17**	P	**P**	**07 28 28.4**	**-0.4**
INU				IAmb	IAmb	07 28 29.6	
	comp=Z,13nm,0.7s						
KSRS	**Korea Array** comp=Z,2.0nm,0.6s,baz=183,slow=11,SNR=14	**32.41**	**3**	P	**P**	**07 28 33.1**	**+0.1**
	comp=Z,2.0nm,0.6s						
MJAR	**Matsushiro Arr** comp=Z,3.0nm,0.7s,baz=198,slow=8.5,SNR=8.7	**33.39**	**18**	P	**P**	**07 28 41.0**	**-0.6**
	comp=Z,3.0nm,0.7s						
JMM	**Marumori**	**35.44**	**20**	P	**P**	**07 28 59.0**	**-0.3**
SHL	**Shillong**	**38.59**	**306**	P	**P**	**07 29 26.1**	**-0.2**
BBOO	**Buckleboo**	**38.74**	**166**	P	**P**	**07 29 27.3**	**+0.1**
BBOO				IAmb	IAmb	07 29 35.4	
	comp=Z,20nm,1.4s						
USA0B	**Ussuriysk Arra**	**39.45**	**7**	P	**P**	**07 29 33.1**	**0.0**
USA0B				IAmb	IAmb	07 29 34.1	
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**39.45**	**7**	P	**P**	**07 29 33.0**	**0.0**
USRK	**Ussuriysk Ar.** comp=Z,4.6nm,0.7s,baz=217,slow=6.8,SNR=7.6	**39.45**	**7**	P	**P**	**07 29 33.5**	**+0.4**
	comp=Z,4.6nm,0.7s						
STKA	**Stephens Creek**	**39.51**	**159**	P	**P**	**07 29 34.1**	**+0.4**
STKA	**Stephens Creek** comp=Z,2.5nm,0.5s,baz=330,slow=8.7,SNR=5.3	**39.51**	**159**	P	**P**	**07 29 34.5**	**+0.8**
	comp=Z,2.5nm,0.5s						
JKA	**Kamikawa-asahi**	**41.66**	**18**	P	**P**	**07 29 52.1**	**+0.9**
PETK	**Petropavlovsk-**	**54.60**	**23**	P	**P**	**07 31 31.7**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=201,slow=1.8,SNR=5.1						
PETK				LR	LR	07 54 55.5	
	comp=Z,225nm,20.3s,baz=310,slow=36						
	comp=Z,1.4nm,0.5s						
MKAR	**Makanchi Array**	**56.16**	**325**	P	**P**	**07 31 40.1**	**-1.9**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.6s,baz=122,slow=7.7,SNR=8.8	**56.16**	**325**	P	**P**	**07 31 39.6**	**-2.4**
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.5s,baz=123,slow=7.3,SNR=6.0	**60.34**	**327**	P	**P**	**07 32 08.9**	**-2.0**
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**60.34**	**327**	P	**P**	**07 32 09.3**	**-1.7**
LTZ	**Lake Taylor**	**63.31**	**143**	P	**P**	**07 32 31.5**	**+0.4**
ABKAR	**Aktubak array**	**70.76**	**321**	P	**P**	**07 33 19.7**	**+1.5**
CASY	**Casey**	**71.93**	**187**	P	**P**	**07 33 24.7**	**0.0**
CASY				IAmb	IAmb	07 33 37.9	
	comp=Z,4.9nm,1.1s						
M16K	**Timber Creek**	**78.46**	**29**	P	**P**	**07 34 02.9**	**+0.5**
M16K				IAmb	IAmb	07 34 14.8	
	comp=Z,8.0nm,1.2s						
O16K	**Kokwok River B**	**78.63**	**30**	P	**P**	**07 34 04.7**	**+1.3**
O16K				IAmb	IAmb	07 34 22.2	
	comp=Z,5.0nm,1.1s						
J17K	**VABM Dome**	**78.87**	**26**	P	**P**	**07 34 05.4**	**+0.8**
J17K				IAmb	IAmb	07 34 25.0	
	comp=Z,12nm,1.4s						
L18K	**Granite Mounta**	**79.74**	**28**	P	**P**	**07 34 09.4**	**+0.1**
H19K	**Roundabout Mou**	**80.37**	**24**	P	**P**	**07 34 13.8**	**+1.1**
KDAK	**Kodiak Island**	**81.26**	**32**	LR	LR	08 07 18.7	
	comp=Z,231nm,21.8s,baz=318,slow=33						
ILAR	**Eielson Array**	**84.33**	**25**	P	**P**	**07 34 33.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=226,slow=5.3,SNR=5.1						
	comp=Z,0.4nm,0.8s						

SDD ***02*** *07:23:17.2±1.7, 18°.99N×70°.79W, h84km±14km, MD3.0, ML2.3, MW3.0*
OSPL ***02*** *07:23:17.2±1.9, 18°.91N×70°.69W, h80km±18km, ML2.2*

ISC 02 07:23:18.3±2.2, 18°.99N±0°.05×70°.76W±0°.05, h69km±16km, n10, σ0s95/19, 5C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABDR	**Alto Bandera**	**0.22**	**145**	⇑*e*Pg	**Pn**	**07 23 28.9**	**-0.4**
ABDR				⇓*e*Sg	**Sn**	**07 23 38.9**	**+1.5**
ABDR				IAML		07 23 59.5	
	comp=N,88nm,4.9s						
SC01	**Santiago de lo**	**0.43**	**4**	*i* P	**Pn**	**07 23 30.5**	**0.0**
SC01				*e*S	**Sn**	**07 23 40.5**	**+1.2**
SDDR	**Presa de Saban**	**0.50**	**269**	*i* P	**Pn**	**07 23 30.0**	**-1.1**
SDDR				*e*S	**Sn**	**07 23 40.1**	**-0.4**
SDDR				IAML		07 23 40.7	
	comp=Z,19nm,1.8s						
SDDR	**Presa de Saban**	**0.50**	**269**	⇑*e*Pg	**Pn**	**07 23 29.7**	**-1.4**
SDDR				⇓*e*Sg	**Sn**	**07 23 39.6**	**-0.9**
SDDR				IAML		07 23 55.7	
	comp=N,21nm,2.6s						
MADR	**Mao Valverde**	**0.66**	**330**	⇑*e*Pg	**Pn**	**07 23 32.4**	**-0.3**
MADR				⇑*e*Sg	**Sn**	**07 23 43.5**	**+0.2**
MADR				IAML		07 23 49.0	
	comp=N,95nm,0.2s						
DR08	**Loma La Naviza**	**0.70**	**92**	⇓*e*Pg	**Pn**	**07 23 32.5**	**-0.7**
DR08				⇓*e*Sg	**Sn**	**07 23 43.2**	**-0.9**
DR08				IAML		07 23 48.8	
	comp=N,934nm,0.1s						
BANI	**BANI**	**0.71**	**147**	⇑*e*Pg	**Pn**	**07 23 33.4**	**0.0**
BANI				⇓*e*Sg	**Sn**	**07 23 44.8**	**+0.3**
BANI				IAML		07 24 04.1	
	comp=N,50nm,1.3s						
LONE3	**El Aguacate, B**	**0.77**	**240**	*i* P	**Pn**	**07 23 34.4**	**+0.3**
LONE3				*e*S	**Sn**	**07 23 47.1**	**+1.5**
LODU1	**El Espartillar**	**0.93**	**227**	*i* P	**Pn**	**07 23 35.6**	**-0.3**
LODU1				IAML		07 23 51.6	
	comp=Z,49nm,1.9s						
LOPP1	**Punta Rusia, P**	**0.95**	**334**	*i* P	**Pn**	**07 23 35.8**	**-0.4**
LOPP1				*e*S	**Sn**	**07 23 50.6**	**+1.3**
LOPP1				IAML		07 23 51.8	
	comp=Z,43nm,1.5s						

NEIC ***02*** *07:33:50.9±1.4, 35°.29N±0°.01×97°.671W±0°.007, h9km±5km, mb_Lg2.1/11, ML1.9, ML2.0/40, Error ellipse: s-maj=1.6km s-min=0.7km az=195.0*

NEIC 02 07:33:50.6±1.1, 35°.295N±0°.008×97°.67W±0°.01, h7km±1km, Error ellipse: s-maj=1.5km s-min=1.2km az=100.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.22**	**100**		Pg	07 33 55.3	+0.2
OK029	**Liberty Lake**	**0.53**	**19**		Pg	07 34 01.0	+0.1
OK029					Sg	07 34 07.7	-0.1
OK029				IAML		07 34 11.6	
	64nm,0.5s						
CSTR	**Hydro, Custer**	**0.90**	**293**	Pg	Pg	07 34 07.0	-1.0
OK052	**Battle Ridge R**	**0.99**	**45**		Pg	07 34 09.7	0.0
WMOK	**Wichita Mounta**	**1.07**	**239**		Pg	07 34 10.1	-1.1
WMOK					Sg	07 34 24.6	-0.5
WMOK	**Wichita Mounta**	**1.07**	**239**	Pg	Pg	07 34 09.8	-1.4
WMOK				IAmb_Lg		07 34 23.5	
	comp=Z,3.9nm,1.2s						
WMOK				IAML		07 34 25.1	
	comp=Z,29nm,0.3s						
WMOK				IAML		07 34 25.1	
	comp=Z,18nm,0.5s						
DEOK	**Depew**	**1.10**	**60**	Pg	Pg	07 34 10.7	-1.0
DEOK				IAML		07 34 27.9	
	comp=N,60nm,0.3s						
DEOK				IAML		07 34 31.6	
	comp=E,43nm,0.2s						
CROK	**Carrier**	**1.23**	**348**		Pg	07 34 13.6	-0.8
CROK					Sn	07 34 31.0	-0.3
LOOK	**Love County**	**1.36**	**163**		Pn	07 34 15.7	-0.4
LOOK					Sn	07 34 35.4	+1.0
OK038	**West end E0370**	**1.47**	**324**		Pn	07 34 17.4	-0.2
BLOK	**Blackwell**	**1.51**	**14**		Pn	07 34 18.5	+0.4
GC02	**Grant County #**	**1.56**	**354**		Pn	07 34 17.8	-1.1
TUL3	**Leonard**	**1.65**	**68**		Pn	07 34 20.0	-0.1
T35A	**Sooner Cattle**	**1.87**	**30**		Pn	07 34 22.2	-0.9
T35A				IAmb_Lg		07 34 49.3	
	comp=Z,3.9nm,0.8s						
SMWD	**Samnorwood**	**2.12**	**266**		Pn	07 34 26.4	-0.1
SMWD				IAmb_Lg		07 35 01.6	
	comp=Z,11nm,0.8s						
FW06	**Azle**	**2.32**	**178**		Pn	07 34 27.9	-1.4
R32A	**Long Quarter,** comp=Z,6.7nm,0.7s	**3.23**	**345**	IAmb_Lg		07 35 35.4	
BRDY	**Brady** comp=Z,2.7nm,0.8s	**4.15**	**196**	IAmb_Lg		07 36 07.0	
MGMO	**Mountain Grove** comp=Z,4.9nm,1.1s	**4.74**	**65**	IAmb_Lg		07 36 25.6	
R40A	**Maddies Statio** comp=Z,3.2nm,1.0s	**5.26**	**54**	IAmb_Lg		07 36 39.5	
P38A	**Dawn** comp=Z,3.8nm,0.7s	**5.43**	**36**	IAmb_Lg		07 36 45.9	

ASRS ***02*** *07:39:23.0±0.7, 54°.01N×86°.69E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 07:40:12.0±3.5, 54°.18N×87°.32E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=31.8km s-min=20.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=80,slow=310,SNR=2.6	**1.49**	**262**	I	I	07 49 20.0	
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=85,slow=16,SNR=9.7	**1.49**	**262**	Pg	Pn	07 40 38.0	-2.0
ZALV				Lg	Lg	07 40 59.8	
	1.4nm,0.3s,baz=82,slow=28,SNR=6.8						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=13,SNR=2.7	**6.45**	**240**	Pn	Pn	07 41 48.9	+0.8
	0.4nm,0.3s						
MKAR	**Makanchi Array** baz=27,slow=14,SNR=2.3 0.1nm,0.3s	**8.05**	**205**	Pn	Pn	07 42 11.7	+1.5

IDC ***02*** *07:55:06.6±3.4, 53°.62N×87°.88E, h0km, mbtmp2.8/2, ML2.7/2, Error ellipse: s-maj=33.6km s-min=19.1km az=54.0*

ASRS 02 07:55:02.0±1.1, 53°.60N×87°.89E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,0.9s,baz=99,slow=313,SNR=4.7	**1.86**	**282**	I	I	08 06 40.0	
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=101,slow=13,SNR=9.1	**1.86**	**282**	Pn	Pg	07 55 39.9	+2.4
ZALV				Lg	Lg	07 56 05.2	
	0.6nm,0.3s,baz=98,slow=26,SNR=5.3						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=64,slow=14,SNR=4.6	**6.49**	**246**	Pn	Pn	07 56 43.3	+4.7
	0.5nm,0.3s						
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=25,slow=13,SNR=4.0 0.2nm,0.4s	**7.70**	**210**	Pn	Pn	07 57

SCLA	**Alcaldia de Sa**	**2.49 321**	P		Pn	08 10 51.3	0.0	
SCLA	**Alcaldia de Sa**	**2.49 321**	S		Sb	08 11 24.1	-2.1	
JTS	**Las Juntas de**	**2.59 124**	P		Pn	08 10 54.9	+2.2	
JTS			S		Sn	08 11 22.1	-1.4	

IDC ***02*** *08:15:00.1±3.8, 53.67N×86.14E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=38.6km s-min=19.9km az=47.0*

ASRS 02 08:14:57.0±1.5, 53.65N×88.17E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01 280**		I	I	08 27 17.6	
	0.1nm,1.2s,baz=94,slow=307,SNR=3.7						
ZALV	**Zalesovo Beam**	**2.01 280**		Pn	Pg	08 15 35.4	-0.1
	1.2nm,0.3s,baz=100,slow=12,SNR=22						
ZALV				Lg	Lg	08 16 03.2	
	2.3nm,0.3s,baz=101,slow=24,SNR=13						
KURBB	**Kurchatov Arra**	**6.66 247**		Pn	Pn	08 16 39.2	+3.2
	0.1nm,0.3s,baz=60,slow=14,SNR=6.8						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.83 211**		Pn	Pn	08 16 56.5	+4.4
	0.1nm,0.3s,baz=30,slow=14,SNR=4.5						
	0.2nm,0.4s						

ASRS ***02*** *08:30:10.0±0.6, 55.70N×86.15E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 08:30:14.9±3.6, 55.64N×86.01E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=31.3km s-min=27.6km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83 203**		I	I	08 41 50.0	
	baz=22,slow=317,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.83 203**		Pn	Pn	08 30 46.4	-1.2
	4.2nm,0.3s,baz=23,slow=15,SNR=30						
ZALV				Lg	Lg	08 31 12.8	
	2.4nm,0.3s,baz=24,slow=26,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.75 225**		Pn	Pn	08 31 54.4	-0.6
	0.1nm,0.3s,baz=37,slow=14,SNR=3.9						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**9.16 196**		Pn	Pn	08 32 29.3	+1.1
	0.1nm,0.3s,baz=17,slow=14,SNR=1.9						
	0.1nm,0.3s						

IDC ***02*** *08:34:59.3±0.5, 18.05N×95.24W, h57km±5km, mb4.0/16, mbtmp4.4/20, MS3.4/22, Error ellipse: s-maj=22.5km s-min=5.6km az=68.0*

NEIC ***02*** *08:34:60.0±2.3, 18.03N±0.04×95.40W±0.03, h60km±5km, mb4.7/63, Error ellipse: s-maj=6.5km s-min=4.4km az=189.0*

CATAC ***02*** *08:34:59.4±0.3, 18°N±2"×9°5W±°, h63km±7km, M5.3/16, mb5.2/7, mB5.5/5, MLv5.4/16, Mw(mB)5.0/5, Error ellipse: s-maj=5.4km s-min=3.9km az=19.4, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr 0.52; Mθθ 0.42; Mφφ -0.94; Mrθ -0.37; Mθφ 0.32; Mφr -0.48; Fault plane solution: M0 1.06472×10^16 NP1: ϕs 200.92318°, δ 69.94690°, λ 132.23659°. NP2: ϕs 311.61328°, δ 45.93369°, λ 28.50322°. Principal axes: T 1.0095, Plg47.2436°, Azm155.3614°; N 0.1029, Plg39.1566°, Azm3.6311°; P -1.1124, Plg14.4376°, Azm261.5292°; confirmed*

MEX ***02*** *08:35:00.7±1.7, 18.03N×95.44W, h60km±17km, MD5.0, ML5.0*

GCG ***02*** *08:35:02.3±2.7, 18.05N×94.96W, h15km±126km, ML5.0, MW4.4*

ISC 02 08:34:59.4±0.5, 18.03N±0.03×95.39W±0.03, h57km±4km, n358, σ1ᵠ70/477, mb4.5/32, MS3.5/22, 5C-30D, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMUV	**Sontecomapan**	**0.57**	**26**		**Pn**	**08 35 12.2**	**+0.2**
PMUV					**Sn**	**08 35 21.3**	**+0.1**
PMUV	**Sontecomapan**	**0.57**	**26**	*i* P	**Pn**	**08 35 12.2**	**+0.2**
PMUV				*i* S	**Sn**	**08 35 21.3**	**+0.1**
MIHL	**Minatitlan**	**0.80**	**93**		**Pn**	**08 35 15.7**	**+0.9**
MIHL					**Sn**	**08 35 28.7**	**+2.7**
MIHL	**Minatitlan**	**0.80**	**93**	*e*P	**Pn**	**08 35 15.7**	**+0.9**
MIHL				*i* S	**Sn**	**08 35 28.7**	**+2.7**
TUIG	**Tuzandepetl**	**0.92**	**90**	⇓*i*P	**Pn**	**08 35 17.0**	**+0.8**
TUIG				*i* S	**Sn**	**08 35 30.0**	**+1.3**
TUIG	**Tuzandepetl**	**0.92**	**90**	P	**Pn**	**08 35 16.9**	**+0.6**
TUIG				S	**Sn**	**08 35 30.0**	**+1.3**
CMIG	**Matias Romero**	**1.05**	**153**		**Pn**	**08 35 18.0**	**0.0**
CMIG					**Sn**	**08 35 31.3**	**-0.6**
CMIG	**Matias Romero**	**1.05**	**153**	P	**Pn**	**08 35 17.8**	**-0.2**
	651nm,0.3s,baz=331,slow=7.1,SNR=6874						
CMIG				S	**Sn**	**08 35 31.0**	**-0.8**
	4μm,0.4s,baz=190,slow=22,SNR=34						
CMIG				LR	LR	08 35 49.4	
	comp=Z,1μm,19.0s,baz=308,slow=50						
CMIG	**Matias Romero**	**1.05**	**153**	⇓*i*P	**Pn**	**08 35 18.0**	**0.0**
	baz=318,slow=6.9						
CMIG				*e*S	**Sn**	**08 35 31.3**	**-0.6**
OXLC	**Oaxaca**	**1.58**	**233**		**Pn**	**08 35 25.3**	**-0.1**
OXLC					**Sn**	**08 35 44.6**	**-0.3**
OXLC	**Oaxaca**	**1.58**	**233**	*e*P	**Pn**	**08 35 25.3**	**-0.1**
OXLC				*e*S	**Sn**	**08 35 44.6**	**-0.3**
OXBJ	**Oaxaca**	**1.60**	**233**		**Pn**	**08 35 25.4**	**-0.2**
OXBJ					**Sn**	**08 35 44.8**	**-0.5**
OXBJ	**Oaxaca**	**1.60**	**233**	*e*P	**Pn**	**08 35 25.4**	**-0.2**
OXBJ				*e*S	**Sn**	**08 35 44.8**	**-0.5**
TOIG	**Toxpalan**	**1.60**	**272**		**Pn**	**08 35 25.4**	**-0.1**
TOIG					**Sn**	**08 35 44.0**	**-1.2**
TOIG	**Toxpalan**	**1.60**	**272**	⇓*i*P	**Pn**	**08 35 25.4**	**-0.1**
TOIG				*e*S	**Sn**	**08 35 44.0**	**-1.2**
OXIG	**Oaxaca**	**1.60**	**234**		**Pn**	**08 35 26.1**	**+0.5**
OXIG					**Sn**	**08 35 45.5**	**+0.2**
VHO	**Vista Hermosa**	**1.60**	**234**	⇓*e*P	**Pn**	**08 35 26.1**	**+0.5**
VHO				*i* S	**Sn**	**08 35 45.5**	**+0.2**
NILT	**Santiago Nilte**	**1.64**	**153**		**Pn**	**08 35 25.8**	**-0.1**
NILT	**Santiago Nilte**	**1.64**	**153**	*e*P	**Pn**	**08 35 25.8**	**-0.1**
NILT				*i* S	**Sn**	**08 35 44.6**	**-1.3**
JAUV	**Jalcomulco**	**1.89**	**315**		**Pn**	**08 35 28.3**	**-1.0**
JAUV	**Jalcomulco**	**1.89**	**315**	*e*P	**Pn**	**08 35 28.3**	**-1.0**
JAUV				*i* S	**Sn**	**08 35 49.5**	**-2.6**
LVIG	**Laguna Verde**	**1.94**	**330**	⇑*e*P	**Pn**	**08 35 28.4**	**-1.6**
LVIG				*i* S	**Sn**	**08 35 49.5**	**-3.9**
THEZ	**Tehuacan**	**1.95**	**283**		**Pn**	**08 35 30.1**	**-0.2**
THEZ					**Sn**	**08 35 52.1**	**-1.7**
THEZ	**Tehuacan**	**1.95**	**283**	*e*P	**Pn**	**08 35 30.1**	**-0.2**
THEZ				*i* S	**Sn**	**08 35 52.1**	**-1.7**
XALA	**Xalapa**	**2.07**	**316**		**Pn**	**08 35 30.9**	**-1.0**
XALA					**Sn**	**08 35 54.4**	**-2.3**
XALA	**Xalapa**	**2.07**	**316**	*e*P	**Pn**	**08 35 30.9**	**-1.0**
XALA				*i* S	**Sn**	**08 35 54.4**	**-2.3**
POHV	**Veracruz**	**2.07**	**300**		**Pn**	**08 35 32.6**	**+0.3**
POHV	**Veracruz**	**2.07**	**300**	*i* P	**Pn**	**08 35 32.6**	**+0.3**
HLIG	**Huajuapan de L**	**2.31**	**265**		**Pn**	**08 35 35.2**	**0.0**
HLIG					**Sn**	**08 36 01.9**	**-0.8**
HLIG	**Huajuapan de L**	**2.31**	**265**	⇓*i*P	**Pn**	**08 35 35.2**	**0.0**
HLIG				*i* S	**Sn**	**08 36 01.9**	**-0.8**
VHSA	**Villahermosa**	**2.33**	**91**		**Pn**	**08 35 36.0**	**+0.7**
VHSA					**Sn**	**08 36 04.7**	**+1.9**
VHSA	**Villahermosa**	**2.33**	**91**	*e*P	**Pn**	**08 35 36.0**	**+0.7**
VHSA				*e*S	**Sn**	**08 36 04.7**	**+1.9**
HUIG	**Huatulco**	**2.36**	**197**		**Pn**	**08 35 35.0**	**-0.7**
HUIG					**Sn**	**08 36 02.3**	**-1.2**
HUIG	**Huatulco**	**2.36**	**197**	⇓*e*P	**Pn**	**08 35 35.0**	**-0.7**
HUIG				*i* S	**Sn**	**08 36 02.3**	**-1.2**
YOIG	**Yosondua**	**2.37**	**241**		**Pn**	**08 35 36.3**	**+0.1**
YOIG					**Sn**	**08 36 04.7**	**+0.4**
YOIG	**Yosondua**	**2.37**	**241**	⇓*e*P	**Pn**	**08 35 36.3**	**+0.1**
YOIG				*e*S	**Sn**	**08 36 04.7**	**+0.4**
TXIG	**Tlaxiaco**	**2.40**	**251**		**Pn**	**08 35 36.8**	**+0.2**
TXIG					**Sn**	**08 36 04.4**	**-0.5**
TXIG	**Tlaxiaco**	**2.40**	**251**	⇓*e*P	**Pn**	**08 35 36.8**	**+0.2**
TXIG				*e*S	**Sn**	**08 36 04.4**	**-0.5**
TGIG		**2.50**	**120**		**Pn**	**08 35 38.0**	**+0.4**
TGIG		**2.50**	**120**	⇓*e*P	**Pn**	**08 35 38.0**	**+0.4**
TGIG				*e*S	**Sn**	**08 36 05.5**	**-1.5**
TGIG		**2.50**	**120**	*e*P	**Pn**	**08 35 38.0**	**+0.4**
TGIG				*i* S	**Sn**	**08 36 05.6**	**-1.5**
TGIG				IAML		08 36 06.7	
	comp=N,7μm,0.9s						
TGBT	**Tuxtla Gutierr**	**2.52**	**119**		**Pn**	**08 35 38.2**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.52**	**119**	*e*P	**Pn**	**08 35 38.2**	**+0.3**
TGBT				*e*S	**Sn**	**08 36 05.6**	**-2.0**
PEIG	**Puerto Escondi**	**2.63**	**220**		**Pn**	**08 35 38.1**	**-1.4**
PEIG					**Sn**	**08 36 09.9**	**-0.4**
PEIG	**Puerto Escondi**	**2.63**	**220**	⇓*e*P	**Pn**	**08 35 38.1**	**-1.4**
PEIG				*i* S	**Sn**	**08 36 09.9**	**-0.4**
PHPU	**Puebla**	**2.83**	**291**		**Pn**	**08 35 43.8**	**+1.5**
PHPU					**Sn**	**08 36 15.5**	**+0.1**
PHPU	**Puebla**	**2.83**	**291**	*e*P	**Pn**	**08 35 43.8**	**+1.5**
PHPU				*e*S	**Sn**	**08 36 15.5**	**+0.1**
CXUV	**Coxquihui**	**2.98**	**316**		**Pn**	**08 35 44.0**	**-0.3**
CXUV					**Sn**	**08 36 16.8**	**-2.0**
CXUV	**Coxquihui**	**2.98**	**316**	*e*P	**Pn**	**08 35 44.0**	**-0.3**
CXUV				*e*S	**Sn**	**08 36 16.8**	**-2.0**
TLIG	**Tlapa**	**3.07**	**262**		**Pn**	**08 35 45.2**	**-0.3**
TLIG	**Tlapa**	**3.07**	**262**	⇓*i*P	**Pn**	**08 35 45.7**	**+0.2**
TLIG				*e*S	**Sn**	**08 36 15.9**	**-5.2**
TLIG	**Tlapa**	**3.07**	**262**	P	**Pn**	**08 35 45.6**	**0.0**
TLIG	**Tlapa**	**3.07**	**262**	S	**Sn**	**08 36 20.2**	**-0.8**
PNIG	**Pinotepa**	**3.09**	**238**		**Pn**	**08 35 43.6**	**-2.1**
PNIG					**Sn**	**08 36 21.5**	**+0.1**
PNIG	**Pinotepa**	**3.09**	**238**	*e*P	**Pn**	**08 35 43.6**	**-2.1**
PNIG				⇓*e*P		08 35 43.6	
PNIG				*e*S	**Sn**	**08 36 12.8**	**-8.7**
PNIG				*e*S		08 36 21.5	
PCIG		**3.11**	**138**		**Pn**	**08 35 46.6**	**+0.7**
PCIG		**3.11**	**138**	*e*P	**Pn**	**08 35 46.6**	**+0.7**
PCIG				*e*S	**Sn**	**08 36 20.6**	**-1.4**
MGIG	**Malinaltepec**	**3.20**	**256**		**Pn**	**08 35 47.1**	**-0.3**
MGIG					**Sn**	**08 36 23.8**	**-0.6**
MGIG	**Malinaltepec**	**3.20**	**256**	⇓*e*P	**Pn**	**08 35 47.1**	**-0.3**
MGIG				*i* S	**Sn**	**08 36 23.8**	**-0.6**
PPM	**Popocatepetl**	**3.24**	**289**	⇓*i*P	**Pn**	**08 35 49.9**	**+1.6**
PPM				*e*S	**Sn**	**08 36 27.2**	**+1.3**
PPIG	**Popocatepetl**	**3.24**	**289**		**Pn**	**08 35 49.9**	**+1.6**
PPIG					**Sn**	**08 36 27.2**	**+1.3**
AMVM	**AMECAMECA**	**3.41**	**289**		**Pn**	**08 35 51.7**	**+1.3**
AMVM					**Sn**	**08 36 30.0**	**+0.3**
AMVM	**AMECAMECA**	**3.41**	**289**	*e*P	**Pn**	**08 35 51.7**	**+1.3**
AMVM				*e*S	**Sn**	**08 36 30.0**	**+0.3**
CCIG	**Comitan**	**3.56**	**119**		**Pn**	**08 35 52.4**	**0.0**
CCIG	**Comitan**	**3.56**	**119**	⇓*e*P	**Pn**	**08 35 52.7**	**+0.3**
CCIG				*i* S	**Sn**	**08 36 31.7**	**-1.6**
CCIG	**Comitan**	**3.56**	**119**	*e*P	**Pn**	**08 35 52.7**	**+0.3**
CCIG				IAML		08 36 41.5	
	comp=N,2μm,0.5s						
CCIG	**Comitan**	**3.56**	**119**	P	**Pn**	**08 35 52.6**	**+0.3**
YAIG	**Yautepec**	**3.59**	**284**		**Pn**	**08 35 53.6**	**+0.8**
YAIG					**Sn**	**08 36 33.2**	**-0.7**
YAIG	**Yautepec**	**3.59**	**284**	⇓*i*P	**Pn**	**08 35 53.6**	**+0.8**
YAIG				*e*S	**Sn**	**08 36 33.2**	**-0.7**
TXVM	**Universitario**	**3.62**	**293**		**Pn**	**08 35 52.0**	**-1.4**
TXVM					**Sn**	**08 36 33.4**	**-1.6**
TXVM	**Universitario**	**3.62**	**293**	*e*P	**Pn**	**08 35 52.0**	**-1.4**
TXVM				*i* S	**Sn**	**08 36 33.4**	**-1.6**
MPVM	**San Francisco**	**3.63**	**289**		**Pn**	**08 35 54.9**	**+1.6**
MPVM					**Sn**	**08 36 36.4**	**+1.3**
MPVM	**San Francisco**	**3.63**	**289**	*e*P	**Pn**	**08 35 54.9**	**+1.6**
MPVM				*i* S	**Sn**	**08 36 36.4**	**+1.3**
THVM	**De Xico**	**3.63**	**291**		**Pn**	**08 35 54.6**	**+1.2**
THVM	**De Xico**	**3.63**	**291**	*e*P	**Pn**	**08 35 54.6**	**+1.2**
THVM				*e*S	**Sn**	**08 36 39.1**	**+3.9**
VTVM	**Tizayuca**	**3.64**	**299**		**Pn**	**08 35 54.5**	**+0.9**
VTVM					**Sn**	**08 36 34.8**	**-0.7**
VTVM	**Tizayuca**	**3.64**	**299**	*e*P	**Pn**	**08 35 54.5**	**+0.9**
VTVM				*i* S	**Sn**	**08 36 34.8**	**-0.7**
TLVM	**San Miguel Top**	**3.76**	**289**		**Pn**	**08 35 56.6**	**+1.4**
TLVM	**San Miguel Top**	**3.76**	**289**	*e*P	**Pn**	**08 35 56.6**	**+1.4**
TLVM				*i* S	**Sn**	**08 36 42.9**	**+4.5**
PBVM	**Pinon**	**3.77**	**292**		**Pn**	**08 35 56.4**	**+1.4**
PBVM	**Pinon**	**3.77**	**292**	*i* P	**Pn**	**08 35 56.4**	**+1.4**
PBVM				*i* S	**Sn**	**08 36 41.0**	**+2.8**
CRIG	**Cruz Grande**	**3.80**	**251**		**Pn**	**08 35 53.3**	**-2.2**
CRIG					**Sn**	**08 36 37.2**	**-1.8**
CRIG	**Cruz Grande**	**3.80**	**251**	⇓*e*P	**Pn**	**08 35 53.3**	**-2.2**
CRIG				*i* S	**Sn**	**08 36 37.2**	**-1.8**
COVM	**Coyoacan**	**3.81**	**291**		**Pn**	**08 35 56.9**	**+1.1**
COVM					**Sn**	**08 36 40.5**	**+1.1**
COVM	**Coyoacan**	**3.81**	**291**	*e*P	**Pn**	**08 35 56.9**	**+1.1**
COVM				*i* S	**Sn**	**08 36 40.5**	**+1.1**
UNM	**Universidad Na**	**3.82**	**290**		**Pn**	**08 35 57.5**	**+1.5**
UNM	**Universidad Na**	**3.82**	**290**	⇓*e*P	**Pn**	**08 35 57.5**	**+1.5**
UNM				*e*S	**Sn**	**08 36 37.5**	**-2.3**
CUP5	**Mexico City**	**3.82**	**290**		**Pn**	**08 35 56.2**	**+0.2**
CUP5					**Sn**	**08 36 38.3**	**-1.5**
CUP5	**Mexico City**	**3.82**	**290**	*e*P	**Pn**	**08 35 56.2**	**+0.2**
CUP5				*i* S	**Sn**	**08 36 38.3**	**-1.5**
BJVM	**Benito Juarez**	**3.83**	**291**		**Pn**	**08 35 57.2**	**+1.1**
BJVM	**Benito Juarez**	**3.83**	**291**	*e*P	**Pn**	**08 35 57.2**	**+1.1**
BJVM				*i* S	**Sn**	**08 36 42.9**	**+2.9**
MHVM	**Bosque de Chap**	**3.87**	**291**		**Pn**	**08 35 58.5**	**+1.8**
MHVM	**Bosque de Chap**	**3.87**	**291**	*e*P	**Pn**	**08 35 58.5**	**+1.8**
MHVM				*e*S	**Sn**	**08 36 37.5**	**-3.6**
APVM	**Azcapotzalco**	**3.90**	**292**		**Pn**	**08 35 58.5**	**+1.5**
APVM	**Azcapotzalco**	**3.90**	**292**	*e*P	**Pn**	**08 35 58.5**	**+1.5**
APVM				*i* S	**Sn**	**08 36 46.0**	**+4.2**
ZUMP	**ZUMPANGO**	**3.92**	**298**		**Pn**	**08 35 58.4**	**+1.0**
ZUVM					**Sn**	**08 36 43.8**	**+1.4**
ZUVM	**ZUMPANGO**	**3.92**	**298**	*e*P	**Pn**	**08 35 58.4**	**+1.0**
ZUVM				*i* S	**Sn**	**08 36 43.8**	**+1.4**
CJVM	**Cuajimalpa**	**3.92**	**290**		**Pn**	**08 35 58.5**	**+1.0**
CJVM	**Cuajimalpa**	**3.92**	**290**	*e*P	**Pn**	**08 35 58.5**	**+1.0**
CJVM				*i* S	**Sn**	**08 36 46.6**	**+4.2**
AOVM	**Tlapan**	**3.93**	**289**		**Pn**	**08 35 58.9**	**+1.3**
AOVM					**Sn**	**08 36 45.4**	**+2.6**
AOVM	**Tlapan**	**3.93**	**289**	*e*P	**Pn**	**08 35 58.9**	**+1.3**
AOVM				*i* S	**Sn**	**08 36 45.4**	**+2.6**
INVM	**La Marquesa**	**3.99**	**289**		**Pn**	**08 35 59.6**	**+1.2**
INVM	**La Marquesa**	**3.99**	**289**	*i* P	**Pn**	**08 35 59.6**	**+1.2**
INVM				*e*S	**Sn**	**08 36 47.9**	**+3.8**
MAVM	**Malinalco, Edo**	**4.01**	**284**		**Pn**	**08 35 59.5**	**+1.0**
MAVM					**Sn**	**08 36 43.7**	**-0.6**
MAVM	**Malinalco, Edo**	**4.01**	**284**	*i* P	**Pn**	**08 35 59.5**	**+1.0**
MAVM				*i* S	**Sn**	**08 36 43.7**	**-0.6**
MEIG	**Mezcala**	**4.03**	**269**		**Pn**	**08 35 58.5**	**-0.2**
MEIG					**Sn**	**08 36 42.8**	**-2.0**
MEIG	**Mezcala**	**4.03**	**269**	⇓*i*P	**Pn**	**08 35 58.5**	**-0.2**
MEIG				*i* S	**Sn**	**08 36 42.8**	**-2.0**
SCIG	**Sabancuy**	**4.09**	**76**	⇓*e*P	**Pn**	**08 35 59.2**	**-0.3**
SCIG				*e*S	**Sn**	**08 36 42.1**	**-4.0**
SCIG	**Sabancuy**	**4.09**	**76**	*e*P	**Pn**	**08 35 59.0**	**-0.4**
SCIG				*e*S	**Sn**	**08 36 42.9**	**-3.2**
SCIG				IAML		08 36 47.9	
	comp=N,1μm,0.4s						
SCIG	**Sabancuy**	**4.09**	**76**	P	**Pn**	**08 35 58.6**	**-0.9**
DHIG	**Demacu**	**4.12**	**304**		**Pn**	**08 36 01.0**	**+0.9**
DHIG					**Sn**	**08 36 46.1**	**-1.0**
DEIG	**Demacu**	**4.12**	**304**	⇓*e*P	**Pn**	**08 36 01.0**	**+0.9**
DEIG				*i* S	**Sn**	**08 36 46.1**	**-1.0**
PAVE	**Pavencul**	**4.18**	**132**		**Pn**	**08 36 00.4**	**-0.5**
PAVE	**Pavencul**	**4.18**	**132**	*e*P	**Pn**	**08 36 00.4**	**-0.5**
PAVE				*e*S	**Sn**	**08 36 47.3**	**-1.2**
PATR	**El Naranjo**	**4.19**	**133**		**Pn**	**08 36 01.4**	**+0.4**
PATR					**Sn**	**08 36 47.9**	**-0.9**
PATR	**El Naranjo**	**4.19**	**133**	*e*P	**Pn**	**08 36 01.4**	**+0.4**
PATR				*e*S	**Sn**	**08 36 47.9**	**-0.9**
DAIG	**Los Arroyos**	**4.19**	**257**		**Pn**	**08 35 59.0**	**-1.8**
DAIG					**Sn**	**08 36 47.1**	**-1.5**
DAIG	**Los Arroyos**	**4.19**	**257**	⇓*e*P	**Pn**	**08 35 59.0**	**-1.8**
DAIG				*i* S	**Sn**	**08 36 47.1**	**-1.5**
THIG		**4.32**	**136**		**Pn**	**08 36 03.7**	**+1.2**
THIG					**Sn**	**08 36 51.7**	**+0.1**
THIG		**4.32**	**136**	*e*P	**Pn**	**08 36 03.7**	**+1.2**
THIG				*e*S	**Sn**	**08 36 51.7**	**+0.1**
THIG		**4.32**	**136**	*e*P	**Pn**	**08 36 03.9**	**+1.3**
THIG				*e*S	**Sn**	**08 36 52.0**	**+0.4**
THIG				IAML		08 36 55.1	
	comp=N,9μm,0.8s						
VNTA	**La Mica**	**4.38**	**256**	*e*P	**Pn**	**08 35 59.6**	**-3.7**
CTUV	**Llano Grande**	**4.42**	**321**		**Pn**	**08 36 02.6**	**-1.3**
CTUV	**Llano Grande**	**4.42**	**321**	*e*P	**Pn**	**08 36 02.6**	**-1.3**
CTUV				*e*S	**Sn**	**08 36 50.7**	**-3.4**
ACP2	**Acapulco**	**4.45**	**256**	*i* P	**Pn**	**08 36 01.8**	**-2.6**
ACP2				*i* S	Sn	08 37 12.6	+18
ATVM	**ATLACOMULCO**	**4.55**	**293**		**Pn**	**08 36 07.9**	**+1.8**
ATVM	**ATLACOMULCO**	**4.55**	**293**	*e*P	**Pn**	**08 36 07.9**	**+1.8**
HUEH	**Huehuetenango**	**4.60**	**125**		**Pn**	**08 36 06.2**	**-0.4**
HUEH	**Huehuetenango**	**4.60**	**125**	*e*P	**Pn**	**08 36 06.5**	**-0.1**
HUEH				*i* S	**Sn**	**08 36 56.8**	**-2.1**
HUEH	**Huehuetenango**	**4.60**	**125**	P	**Pn**	**08 36 06.5**	**-0.1**
TEJU	**Tejupilco**	**4.61**	**282**		**Pn**	**08 36 07.6**	**+0.8**
TEJU	**Tejupilco**	**4.61**	**282**	*e*P	**Pn**	**08 36 07.6**	**+0.8**
TEJU				*i* S	**Sn**	**08 36 55.7**	**-3.4**
ACIG	**Acambay**	**4.67**	**295**		**Pn**	**08 36 08.5**	**+1.0**
ACIG	**Acambay**	**4.67**	**295**	*e*P	**Pn**	**08 36 08.5**	**+1.0**
ACIG				*i* S	**Sn**	**08 37 05.8**	**+5.2**
ARIG	**Puente Sto Nin**	**4.72**	**274**		**Pn**	**08 36 08.2**	**+0.1**
ARIG					**Sn**	**08 37 00.3**	**-1.4**
ARIG	**Puente Sto Nin**	**4.72**	**274**	⇓*i*P	**Pn**	**08 36 08.2**	**+0.1**
ARIG				*i* S	**Sn**	**08 37 00.3**	**-1.4**
CAIG	**El Cayaco**	**4.76**	**259**		**Pn**	**08 36 06.5**	**-2.1**
CAIG					**Sn**	**08 37 02.6**	**+0.1**
CAIG	**El Cayaco**	**4.76**	**259**	⇓*i*P	**Pn**	**08 36 06.5**	**-2.1**
CAIG				*i* S	**Sn**	**08 37 02.6**	**+0.1**
ATYC	**Atoyac**	**4.88**	**261**		**Pn**	**08 36 08.9**	**-1.4**
ATYC					**Sn**	**08 37 02.6**	**-2.9**
ATYC	**Atoyac**	**4.88**	**261**	*i* P	**Pn**	**08 36 08.9**	**-1.4**
ATYC				*i* S	**Sn**	**08 37 02.6**	**-2.9**
RTAL	**Retalhuleu**	**4.97**	**134**		**Pn**	**08 36 13.0**	**+1.4**
RTAL	**Retalhuleu**	**4.97**	**134**	*i* P	**Pn**	**08 36 12.5**	**+0.9**
RTAL				*e*S	**Sn**	**08 37 06.6**	**-1.2**
RTAL	**Retalhuleu**	**4.97**	**134**	P	**Pn**	**08 36 12.5**	**+0.9**
RTAL	**Retalhuleu**	**4.97**	**134**	S	**Sn**	**08 37 07.5**	**-0.3**
PETF	**Flores**	**5.38**	**101**		**Pn**	**08 36 16.6**	**-0.6**
PETF	**Flores**	**5.38**	**101**	*e*P	**Pn**	**08 36 16.5**	**-0.6**
PETF				*e*S	**Sn**	**08 37 13.8**	**-4.0**
PETF	**Flores**	**5.38**	**101**	P	**Pn**	**08 36 16.4**	**-0.7**
PETF	**Flores**	**5.38**	**101**	S	**Sn**	**08 37 14.7**	**-3.2**
JRQG	**Juriquilla Cam**	**5.47**	**300**	Pn	**Pn**	**08 36 20.1**	**+1.6**
JRQG	**Juriquilla Cam**	**5.47**	**300**	*e*P	**Pn**	**08 36 20.1**	**+2.2**
JRQG				*i* S	**Sn**	**08 37 25.5**	**+5.3**
MOIG	**Morelia**	**5.73**	**287**		**Pn**	**08 36 23.8**	**+1.6**
MOIG	**Morelia**	**5.73**	**287**	⇓*e*P	**Pn**	**08 36 24.1**	**+1.9**
MOIG				*e*S	**Sn**	**08 37 32.4**	**+5.6**
MOIG	**Morelia**	**5.73**	**287**	P	**Pn**	**08 36 24.0**	**+1.9**
RPIG	**Rio Verde**	**5.78**	**312**		**Pn**	**08 36 23.3**	**+0.6**
RPIG	**Rio Verde**	**5.78**	**312**	⇑*e*P	**Pn**	**08 36 23.3**	**+0.6**
RPIG				*i* S	**Sn**	**08 37 31.9**	**+4.3**
ZIIG	**Zihuatanejo**	**5.81**	**267**		**Pn**	**08 36 22.1**	**-0.9**
ZIIG					**Sn**	**08 37 27.0**	**-1.2**
ZIIG	**Zihuatanejo**	**5.81**	**267**	⇓*e*P	**Pn**	**08 36 22.1**	**-0.9**
ZIIG				*i* S	**Sn**	**08 37 27.0**	**-1.2**
MYIG	**Merida**	**6.07**	**60**	⇑*e*P	**Pn**	**08 36 28.0**	**+1.5**
MYIG				*i* S	**Sn**	**08 37 32.4**	**-2.2**
MYIG	**Merida**	**6.07**	**60**	P	**Pn**	**08 36 27.6**	**+1.1**
GTIG	**Gomez Farias**	**6.13**	**325**		**Pn**	**08 36 26.4**	**-1.1**
GTIG	**Gomez Farias**	**6.13**	**325**	⇑*e*P	**Pn**	**08 36 26.4**	**-1.1**
GTIG				*i* S	**Sn**	**08 37 31.7**	**-4.7**
IGIG	**Irapuato, Guan**	**6.23**	**297**		**Pn**	**08 36 31.2

CHIV					IAmb	IAmb	08 39 11.8	
	comp=Z,84nm,0.6s							
HLGC	**Holguin**	**18.44**	**78**	*eP*	**Pn**		**08 39 13.8**	**+2.7**
MARVS	**Santiago de Cu**	**18.53**	**81**	*eP*	**Pn**		**08 39 16.3**	**+4.3**
CROK	**Carrier**	**18.54**	**353**	P	**Pn**		**08 39 11.9**	**-0.2**
CROK					IAmb	IAmb	08 39 19.9	
	comp=Z,53nm,1.1s							
PINC	**Pinares de May**	**18.66**	**79**	*eP*	**Pn**		**08 39 17.7**	**+4.0**
GOGA	**Godfrey**	**18.68**	**33**	P	**Pn**		**08 39 13.8**	**0.0**
RCC	**Rio Carpintero**	**18.72**	**81**	*eP*	**Pn**		**08 39 20.0**	**+5.6**
T35A	**Sooner Cattle**	**18.84**	**357**	P	**P**		**08 39 14.9**	**+0.3**
Y22A	**Socorro**	**18.93**	**329**	P	**P**		**08 39 16.2**	**+0.4**
DUN6	**Lazy B Ranch**	**19.01**	**322**	P	**Pn**		**08 39 17.8**	**-0.2**
WVT	**Waverly**	**19.23**	**19**	P	**P**		**08 39 19.5**	**+0.7**
GTBY	**Guantanamo Bay**	**19.27**	**81**	P	**P**		**08 39 19.2**	**-0.2**
GTBY					IAmb	IAmb	08 39 29.3	
	comp=Z,95nm,0.9s							
GTBY	**Guantanamo Bay**	**19.27**	**81**	*eP*	**Pn**		**08 39 27.6**	**+6.7**
GTBY	**Guantanamo Bay**	**19.27**	**81**	*iP*	Pn		08 39 28.2	+7.3
MOAC	**Moa**	**19.45**	**79**	*eP*	**P**		**08 39 22.2**	**+0.8**
ANMO	**Albuquerque**	**19.52**	**332**	P	**P**		**08 39 22.9**	**+0.6**
ANMO					IAmb	IAmb	08 39 24.1	
	comp=Z,13nm,0.6s							
ANMO	**Albuquerque**	**19.52**	**332**	P	**Pn**		**08 39 23.4**	**-0.6**
	comp=Z,16nm,0.6s,baz=229,slow=11,SNR=53							
QMBU	**Quimbuelo**	**19.56**	**80**	*eP*	**Pn**		**08 39 30.6**	**+6.2**
MASC	**Masc**	**20.10**	**81**	*eP*	Pn		08 39 39.3	+8.5
T47A	**Sharon Grove**	**20.24**	**19**	P	**P**		**08 39 30.3**	**+0.4**
T47A					IAmb	IAmb	08 39 43.8	
	comp=Z,18nm,0.7s							
CCM	**Cathedral Cave**	**20.27**	**9**	P	**P**		**08 39 30.9**	**+0.7**
CCM					IAmb	IAmb	08 39 43.9	
	comp=Z,16nm,0.7s							
TKL	**Tuckaleechee C**	**20.35**	**28**	P	**P**		**08 39 30.6**	**-0.6**
	comp=Z,8.6nm,1.1s,baz=200,slow=13,SNR=12							
TKL					LR	LR	08 49 02.9	
	comp=Z,56nm,19.8s,baz=233,slow=42							
	comp=Z,8.6nm,1.1s							
214A	**Organ Pipe Nat**	**20.97**	**315**		P		**08 39 38.1**	**+0.2**
214A					IAmb	IAmb	08 39 40.0	
	comp=Z,22nm,0.9s							
X16A	**Lo Mia Camp, P**	**21.71**	**322**	P	**P**		**08 39 46.3**	**+0.3**
V55A	**Taylorsville**	**21.74**	**32**	P	**P**		**08 39 47.1**	**+1.1**
V55A					IAmb	IAmb	08 40 05.7	
	comp=Z,16nm,0.9s							
Y14A	**Wickenburg**	**22.34**	**319**		**P**		**08 39 52.7**	**+0.1**
BLO	**Bloomington**	**22.43**	**18**	P	**P**		**08 39 52.5**	**-0.9**
BLO					IAmb	IAmb	08 40 18.3	
	comp=Z,27nm,0.8s							
WUAZ	**Wupatki**	**22.46**	**324**	P	**P**		**08 39 54.8**	**+0.8**
WUAZ					IAmb	IAmb	08 40 19.2	
	comp=Z,20nm,0.8s							
GLA	**Glamis**	**22.99**	**314**	P	**P**		**08 39 59.1**	**-0.3**
W13A	**Hualapai Mount**	**23.65**	**320**		**P**		**08 40 06.8**	**+0.9**
OTAV	**Otavalo**	**24.29**	**135**	*eP*	**P**		**08 40 11.4**	**-0.7**
PFO	**Pinyon Flats O**	**24.43**	**313**	LR	LR		08 50 01.7	
	comp=Z,118nm,20.2s,baz=112,slow=37							
SDV	**Santo Domingo**	**25.70**	**107**	P	**P**		**08 40 24.5**	**-0.2**
SDV					IAmb	IAmb	08 40 37.0	
	comp=Z,18nm,0.8s							
SDV	**Santo Domingo**	**25.70**	**107**	*eP*	**P**		**08 40 23.9**	**-0.8**
COHC	**Cochancay**	**25.84**	**140**	P	**P**		**08 40 24.2**	**-1.4**
SPR3	**Spring Creek 3**	**26.61**	**326**		**P**		**08 40 32.4**	**-0.4**
SPR3					IAmb	IAmb	08 40 51.4	
	comp=Z,13nm,1.0s							
PD31	**Pinedale Array**	**27.44**	**337**		**P**		**08 40 40.0**	**-0.1**
PDAR	**Pinedale Array**	**27.44**	**337**		**P**		**08 40 39.8**	**-0.3**
PDAR	**Pinedale Array**	**27.44**	**337**	P	**P**		**08 40 40.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=136,slow=9.9,SNR=17							
	comp=Z,1.8nm,0.8s							
SJG	**San Juan**	**27.78**	**85**	LR	LR		08 52 37.7	
	comp=Z,48nm,18.5s,baz=260,slow=38							
NVAR	**Mina Array Bea**	**28.51**	**320**	P	**P**		**08 40 50.5**	**+0.8**
	comp=Z,4.7nm,0.7s,baz=131,slow=9.4,SNR=50							
NVAR				pP	**pP**		**08 41 04.3**	**+0.4**
	comp=Z,9.0nm,0.7s,baz=134,slow=8.6,SNR=10							
	comp=Z,4.7nm,0.7s							
SADO	**Sadowa**	**29.93**	**24**	LR	LR		08 55 57.6	
	comp=Z,66nm,18.2s,baz=226,slow=42							
DLMT	**Dillon**	**30.80**	**336**		**P**		**08 41 10.5**	**+0.7**
DLMT					IAmb	IAmb	08 41 12.1	
	comp=Z,7.9nm,0.9s							
LRM	**Limekiln Ridge**	**31.13**	**337**	P	**P**		**08 41 13.8**	**+1.0**
YBH	**Yreka Blue Hor**	**33.20**	**321**	LR	LR		08 55 41.7	
	comp=Z,6.9nm,18.5s,baz=106,slow=37							
CZSB	**Cruzeiro do Su**	**34.01**	**137**	*eP*	**P**		**08 41 39.4**	**+1.3**
SCHQ	**Schefferville**	**42.73**	**24**	LR	LR		09 01 31.4	
	comp=Z,60nm,19.3s,baz=228,slow=37							
LPAZ	**La Paz**	**43.40**	**140**	P	**P**		**08 42 56.8**	**-0.5**
LPAZ					IAmb	IAmb	08 42 57.9	
	comp=Z,7.6nm,0.7s							
LPAZ	**La Paz**	**43.40**	**140**	P	**P**		**08 42 56.7**	**-0.6**
	comp=Z,7.1nm,0.6s,baz=329,slow=5.5,SNR=38							
	comp=Z,7.1nm,0.6s							
LPAZ	**La Paz**	**43.40**	**140**	*eP*	**P**		**08 42 57.0**	**-0.3**
PB18	**Visviri**	**43.62**	**143**	P	**P**		**08 42 59.4**	**+0.4**
PB16	**IPOC Station P**	**44.20**	**144**	P	**P**		**08 43 03.8**	**+0.1**
PB16					IAmb	IAmb	08 43 05.7	
	comp=Z,18nm,1.1s							
GO01	**Chusmiza**	**45.44**	**144**	P	**P**		**08 43 14.0**	**+0.5**
GO01					IAmb	IAmb	08 43 15.4	
	comp=Z,15nm,0.8s							
YKA	**Yellowknife Ar**	**46.40**	**348**	P	**P**		**08 43 18.7**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=151,slow=6.8,SNR=5.2							
YKA				pP	**pP**		**08 43 33.6**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=155,slow=6.9,SNR=3.2							
YKA				LR	LR		09 03 57.2	
	comp=Z,45nm,20.5s,baz=137,slow=38							
	comp=Z,0.7nm,0.7s							
VILB	**Vilhena**	**46.40**	**129**	P	**P**		**08 43 19.4**	**-1.3**
VILB	**Vilhena**	**46.40**	**129**	*eP*	**P**		**08 43 19.3**	**-1.3**
PTLB	**Pontes e Lacer**	**48.81**	**131**	P	**P**		**08 43 37.8**	**-1.4**
PTLB					IAmb	IAmb	08 43 38.9	
	comp=Z,18nm,1.0s							
PTLB	**Pontes e Lacer**	**48.81**	**131**	*eP*	**P**		**08 43 37.9**	**-1.3**
BBSD	**Serra de San D**	**48.95**	**134**	*eP*	**P**		**08 43 38.6**	**-1.7**
FRB	**Frobisher Bay**	**49.22**	**15**	LR	LR		09 07 24.8	
	comp=Z,51nm,18.6s,baz=134,slow=40							
AC02	**Maricunga**	**51.37**	**150**	P	**P**		**08 43 59.1**	**+0.1**
AC02					IAmb	IAmb	08 44 01.0	
	comp=Z,19nm,1.0s							
SALV	**Santo Antonio**	**51.63**	**128**	*eP*	**P**		**08 43 59.2**	**-1.3**
CO03	**El Pedregal**	**54.09**	**154**	P	**P**		**08 44 18.5**	**0.0**
ARAG	**Araguaiana, MT**	**54.47**	**125**	*eP*	**P**		**08 44 20.3**	**-1.1**
DAWY	**Dawson**	**54.74**	**338**	P	**P**		**08 44 23.1**	**+0.3**
DAWY					IAmb	IAmb	08 44 49.1	
	comp=Z,7.5nm,1.4s							
DAWY				PcP	**PcP**		**08 45 24.0**	**-0.8**
G31M	**Satah River**	**54.92**	**342**	P	**P**		**08 44 24.1**	**+0.1**
G31M				PcP	**PcP**		**08 45 26.1**	**+0.8**
NRS	**Narsarsuaq**	**55.54**	**27**	P	**P**		**08 44 28.8**	**+0.3**
NRS				PcP	**PcP**		**08 45 27.7**	**-0.1**
INK	**Inuvik**	**55.68**	**344**	LR	LR		09 12 56.5	
	comp=Z,61nm,18.6s,baz=79,slow=41							
VA03	**San Esteban**	**55.82**	**155**	P	**P**		**08 44 31.5**	**+0.5**
MT16	**CCHEN**	**56.41**	**155**	P	**P**		**08 44 35.4**	**+0.2**
RES	**Resolute Bay**	**56.67**	**0**	LR	LR		09 10 34.0	
	comp=Z,48nm,21.7s,baz=283,slow=38							
AMBA	**Amambai (Brazi**	**56.71**	**134**	*eP*	**P**		**08 44 36.2**	**-1.2**
SFJD	**Kangerlussuaq**	**56.74**	**19**	LR	LR		09 09 37.3	
	comp=Z,25nm,21.9s,baz=240,slow=37							
BO01	**Tunca**	**57.04**	**156**	P	**P**		**08 44 39.3**	**-0.2**
BDFB	**Brasilia**	**57.43**	**123**	P	**P**		**08 44 42.1**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=274,slow=10,SNR=3.8							
BDFB				LR	LR		09 09 47.8	
	comp=Z,91nm,18.2s,baz=300,slow=36							
	comp=Z,2.7nm,0.7s							
CPUP	**Villa Florida**	**57.55**	**139**	P	**P**		**08 44 41.6**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=187,slow=8.5,SNR=10							
	comp=Z,1.6nm,0.7s							
KDAK	**Kodiak Island**	**57.59**	**328**	LR	LR		09 09 31.9	
	comp=Z,40nm,18.6s,baz=161,slow=36							
ILAR	**Eielson Array**	**57.87**	**337**	P	**P**		**08 44 44.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=145,slow=5.5,SNR=6.5							
ILAR				pP	**pP**		**08 45 00.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=134,slow=4.9,SNR=7.6							
ILAR				PcP	**PcP**		**08 45 36.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=170,slow=2.8,SNR=4.4							
	comp=Z,0.2nm,0.4s							
IPMB	**Ipameri, GO**	**58.59**	**125**	*eP*	**P**		**08 44 49.6**	**-1.2**
TRF	**Thorofare Moun**	**58.62**	**334**	P	**P**		**08 44 50.6**	**+0.1**
PLCA	**Paso Flores**	**62.86**	**159**	P	**P**		**08 45 19.1**	**-0.3**
PLCA	**Paso Flores**	**62.86**	**159**	P	**P**		**08 45 19.8**	**+0.4**
	comp=Z,18nm,0.8s,baz=329,slow=7.5,SNR=31							
	comp=Z,18nm,0.8s							
PLCA	**Paso Flores**	**62.86**	**159**	*eP*	**P**		**08 45 19.8**	**+0.4**
LL01	**San Ignacio de**	**63.74**	**161**	P	**P**		**08 45 25.0**	**-0.1**
LL01					IAmb	IAmb	08 45 26.4	
	comp=Z,18nm,1.0s							
LL02	**Futaleuf**	**64.65**	**161**	P	**P**		**08 45 30.9**	**-0.1**
LL02					IAmb	IAmb	08 45 32.4	
	comp=Z,14nm,1.1s							
COYC	**Coyhaique**	**66.75**	**162**	P	**P**		**08 45 44.2**	**-0.3**
BORG	**Borgarnes**	**67.04**	**27**	LR	LR		09 15 36.8	
	comp=Z,30nm,19.3s,baz=264,slow=36							
EKA	**Eskdalemuir Ar**	**76.62**	**36**	P	**P**		**08 46 42.9**	**-0.9**
	comp=Z,3.1nm,0.5s,baz=280,slow=5.8,SNR=23							
	comp=Z,3.1nm,0.5s							
SPITS	**Spitsbergen Ar**	**76.80**	**11**	LR	LR		09 23 12.1	
	comp=Z,26nm,20.0s,baz=289,slow=38							
PAB	**San Pablo**	**79.53**	**52**	P	**P**		**08 46 59.5**	**-0.9**
PAB					IAmb	IAmb	08 47 00.6	
	comp=Z,6.4nm,0.9s							
ESDC	**Sonseca Array**	**79.78**	**52**	P	**P**		**08 47 00.9**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=293,slow=4.9,SNR=11							
ESDC					LR	LR	09 17 48.2	
	comp=Z,21nm,19.4s,baz=254,slow=32							
	comp=Z,2.6nm,1.0s							
MDT	**Midelt**	**81.08**	**58**	LR	LR		09 23 26.4	
	comp=Z,37nm,18.4s,baz=249,slow=36							
NB2	**NORSAR Subarra**	**82.16**	**28**	P	**P**		**08 47 14.2**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=294,slow=5.3							
NOA	**NORSAR Array B**	**82.16**	**28**	P	**P**		**08 47 14.4**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=293,slow=5.3,SNR=17							
NOA					LR	LR	09 24 35.1	
	comp=Z,16nm,20.4s,baz=300,slow=36							
	comp=Z,3.7nm,0.7s							
NB201	**NORSAR Array S**	**82.19**	**28**	P	**P**		**08 47 14.4**	**+0.4**
NB201					IAmb	IAmb	08 49 47.2	
	comp=Z,19nm,1.4s							
NC405	**NORSAR Array S**	**82.35**	**28**	P	**P**		**08 47 14.4**	**-0.5**
NC405					IAmb	IAmb	08 47 16.9	
	comp=Z,9.3nm,1.1s							
NC602	**NORSAR Array S**	**82.42**	**28**	P	**P**		**08 47 14.5**	**-0.7**
NC602					IAmb	IAmb	08 47 17.3	
	comp=Z,6.5nm,0.7s							
ARCES	**ARCESS Array B**	**83.33**	**18**	P	**P**		**08 47 19.6**	**-0.1**
ARCES					IAmb	IAmb	08 47 21.1	
	comp=Z,18nm,1.1s							
ARCES	**ARCESS Array B**	**83.33**	**18**	P	**P**		**08 47 20.1**	**+0.4**
	comp=Z,9.1nm,1.0s,baz=289,slow=3.7,SNR=12							
	comp=Z,9.1nm,1.0s							
HFS	**Hagfors**	**83.64**	**28**	P	**P**		**08 47 21.1**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=235,slow=5.2,SNR=4.4							
HFS					LR	LR	09 25 20.2	
	comp=Z,29nm,18.2s,baz=300,slow=36							
	comp=Z,2.4nm,0.9s							
PETK	**Petropavlovsk-**	**85.49**	**325**	P	**P**		**08 47 31.8**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=72,slow=9.7,SNR=3.7							
PETK				pP	**pP**		**08 47 47.8**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=68,slow=9.7,SNR=5.9							
	comp=Z,1.5nm,0.8s							
TIXI	**Tiksi**	**85.64**	**347**	LR	LR		09 33 41.3	
	comp=Z,31nm,18.2s,baz=86,slow=41							
FINES	**FINESS Array B**	**88.21**	**24**	P	**P**		**08 47 43.9**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=280,slow=3.3,SNR=5.8							
FINES					LR	LR	09 31 29.7	
	comp=Z,17nm,18.4s,baz=20,slow=38							
	comp=Z,2.1nm,0.7s							
HHC	**Hu-ho-hao-te**	**116.29**	**337**	*eP*	**PKPdf**		**08 53 39.8**	**+2.9**
WMQ	**Urumqi**	**118.39**	**357**	*ePKP*	**PKiKP**		**08 53 41.0**	**+0.2**
WMQ				LR	LR			
	comp=Z,140nm,24.2s							
NJ2	**Nanjing**	**120.36**	**326**	*eP*	**PKiKP**		**08 53 45.0**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
STKA	**Stephens Creek**	**127.07**	**243**	PKP	**PKPdf**		**08 53 57.1**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=68,slow=4.2,SNR=7.9							
MAW	**Mawson**	**128.53**	**170**	PKP	**PKPdf**		**08 53 59.0**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=179,slow=4.3,SNR=12							
PZH	**PanZhiHua**	**132.71**	**339**	PKP	**PKPdf**		**08 54 08.5**	**-0.2**
WRA	**Warramunga Arr**	**133.08**	**259**	PKP	**PKPdf**		**08 54 08.8**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=81,slow=2.3,SNR=20							
ASAR	**Alice Springs**	**133.78**	**254**	PKP	**PKPdf**		**08 54 10.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=84,slow=1.9,SNR=17							
ASAR				pPKP	**pPKPdf**		**08 54 29.1**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=120,slow=2.5,SNR=4.2							
VOI	**Vohitsoka**	**144.30**	**103**	PKPdf	**PKPab**		**08 54 27.4**	**-0.6**
PSA00	**Pilbara Seismi**	**146.71**	**258**	PKPbc	**PKPdf**		**08 54 34.4**	**+0.5**
MBWA	**Marble Bar**	**146.81**	**259**	PKPbc	**PKPdf**		**08 54 34.6**	**+0.5**

IDC 02 08:58:21.6±57.0, 16°.60S×178°.12W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1051.0km s-min=152.8km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.51**	**240**	P	P	09 05 54.4	+0.1
	1.7nm,0.5s,baz=88,slow=8.4,SNR=10.0						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**45.15**	**258**	P	P	09 06 40.2	-0.3
	0.4nm,0.4s,baz=94,slow=7.6,SNR=13						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**45.42**	**253**	P	P	09 06 42.4	-0.2
	3.8nm,0.4s,baz=89,slow=7.9,SNR=90						
	3.8nm,0.4s						

*VKMS **02** 09:00:03.0, 52°.31N×35°.37E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 02 09:00:12.9±3.5, 52°.31N×35°.33E, h0km, mbtmp3.4/4, ML3.0/4, Error ellipse: s-maj=42.2km s-min=13.9km az=125.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.91**	**14**	Lg	Lg	09 01 37.8	
	8.3nm,0.3s,baz=322,slow=22,SNR=7.8						
AKASG	**Malin Array Be**	**4.14**	**250**	Pn	Pn	09 01 15.8	-1.6
	1.4nm,0.3s,baz=63,slow=19,SNR=4.7						
AKASG				Sn	Sn	09 02 05.5	-1.0
	4.5nm,0.3s,baz=63,slow=23,SNR=8.1						
AKASG				Lg	Lg	09 02 20.8	
	6.3nm,0.3s,baz=65,slow=29,SNR=6.1						
	0.3nm,0.3s						
I43RU	**DUBNA INFRASON**	**4.56**	**13**	I	I	09 28 50.0	
	baz=196,slow=326,SNR=0.7						
FINES	**FINESS Array B**	**10.48**	**335**	Pn	Pn	09 02 38.3	-5.5
	0.2nm,0.3s,baz=150,slow=14,SNR=13						
	0.5nm,0.3s						
HFS	**Hagfors**	**14.31**	**312**	Pn	Pn	09 03 29.5	-7.1
	0.1nm,0.3s,baz=112,slow=13,SNR=5.9						
	0.4nm,0.3s						
ARCES	**ARCESS Array B**	**17.89**	**349**	Pn	Pn	09 04 17.0	-5.8
	0.1nm,0.3s,baz=157,slow=12,SNR=6.5						
	1.4nm,0.7s						

*SJA **02** 09:01:55.2±0.7, 34°.08S×72°.44W, h12km±3km, ML3.6, MW3.7*
*GUC **02** 09:01:57.2±0.7, 34°.06S×72°.45W, h30km±4km, ML3.3*

ISC 02 09:01:56.2±2.2, 34°.12S±0°.03×72°.37W±0°.08, h11km±13km, n29, σ1°.963/46, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.51**	**139**	*eP*	**Pn**	**09 02 08.9**	**-0.5**
BO03				*eS*	**Sn**	**09 02 16.5**	**-1.6**
BO03				IAML		09 02 17.4	
	comp=N,4μm,0.3s						
MT01	**Popeta**	**0.96**	**75**	*eP*	**Pn**	**09 02 15.3**	**-0.3**
MT01				*eS*	**Sb**	**09 02 27.1**	**-0.5**
MT01				IAML		09 02 30.3	
	comp=E,1μm,0.5s						
MT01	**Popeta**	**0.96**	**75**	*eP*	**Pb**	**09 02 14.7**	**-0.1**
MT01				*eS*	**Sn**	**09 02 28.6**	**-0.7**
MT01				IAML		09 02 29.4	
	comp=Z,2μm,1.4s						
BO01	**Tunca**	**1.10**	**105**	*eP*	**Pn**	**09 02 17.2**	**-0.3**
BO01	**Tunca**	**1.10**	**105**	*eP*	**Pn**	**09 02 17.2**	**-0.3**
BO01				*eS*	**Sb**	**09 02 30.9**	**-0.7**
BO01				IAML		09 02 39.2	
	comp=Z,758nm,0.7s						
MT09	**Talagante**	**1.20**	**74**	*eP*	**Pb**	**09 02 18.9**	**0.0**
MT09				IAML		09 02 39.2	
	comp=E,810nm,0.4s						
MT02	**Curacav**	**1.33**	**51**	*eP*	**Pb**	**09 02 20.9**	**-0.3**
MT02				*eS*	**Sg**	**09 02 39.1**	**-0.1**
BO04	**La Punta**	**1.47**	**86**	*eP*	**Pb**	**09 02 23.5**	**0.0**
BO02	**Sierra Bellavi**	**1.48**	**118**	*eP*	**Pb**	**09 02 24.0**	**+0.4**
BO02				*eS*	**Sg**	**09 02 44.5**	**+0.7**
BO02	**Sierra Bellavi**	**1.48**	**118**	*eP*	**Pb**	**09 02 24.2**	**+0.5**
BO02				IAML		09 02 47.2	
	comp=Z,1μm,0.2s						
MT05	**Renca**	**1.54**	**63**	*eP*	**Pb**	**09 02 24.4**	**-0.3**
MT05				*eS*	**Sg**	**09 02 47.1**	**+1.4**
ROCH	**El Roble**	**1.61**	**45**	*eP*	**Pb**	**09 02 25.1**	**-0.9**
ROCH				IAML		09 02 59.6	
	comp=N,407nm,0.4s						
PEL	**Peldehue**	**1.71**	**56**	*eP*	**Pb**	**09 02 27.2**	**-0.4**
PEL				*eS*	**Sb**	**09 02 49.2**	**+0.1**
PEL				IAML		09 02 57.2	
	comp=E,382nm,0.2s						
MT10	**Hacienda Santa**	**1.74**	**62**	*eP*	**Pb**	**09 02 27.4**	**-0.8**
MT10				*eS*	**Sb**	**09 02 50.7**	**+0.5**
MT10				IAML		09 02 55.0	
	comp=N,1μm,0.2s						
VA06	**Catapilco**	**1.79**	**30**	*eP*	**Pn**	**09 02 27.2**	**+0.2**
LMEL	**Las Melosas**	**1.82**	**82**	*eP*	**Pb**	**09 02 29.4**	**-0.2**
LMEL				*eS*	**Sn**	**09 02 48.9**	**-1.8**
LMEL				IAML		09 02 58.4	
	comp=Z,997nm,0.9s						
ML02	**Panimavida**	**1.82**	**155**	*eP*	**Pb**	**09 02 29.6**	**+0.1**
ML02				*eS*	**Sg**	**09 02 54.4**	**-0.4**
ML02				IAML		09 03 04.9	
	comp=Z,648nm,0.5s						
MT04	**Ro Olivares**	**1.99**	**70**	*eP*	**Pb**	**09 02 31.2**	**-1.3**
MT04				IAML		09 03 05.3	
	comp=N,246nm,0.4s						
MT04	**Ro Olivares**	**1.99**	**70**	*eP*	**Pb**	**09 02 31.3**	**-1.3**
MT04				*eS*	**Sg**	**09 03 01.6**	**+1.4**
VA03	**San Esteban**	**2.03**	**49**	*eP*	**Pb**	**09 02 31.4**	**-1.8**
VA03	**San Esteban**	**2.03**	**49**	*eP*	**Pb**	**09 02 31.6**	**-1.5**
VA03				IAML		09 03 11.2	
	comp=Z,568nm,0.6s						
MT08	**Bocatoma Ro**	**2.07**	**72**	*eP*	**Pb**	**09 02 33.0**	**-0.9**
MT08				*eS*	**Sb**	**09 02 59.9**	**+0.1**
MT08				IAML		09 03 07.2	
	comp=E,386nm,0.7s						
MT08	**Bocatoma Ro**	**2.07**	**72**	*eP*	**Pb**	**09 02 33.0**	**-0.9**
MT08				*eS*	**Sb**	**09 03 00.9**	**+1.2**
MT08				IAML		09 03 03.4	
	comp=Z,265nm,1.1s						
RTLS	**Leoncito**	**3.46**	**49**	*eP*	**Pb**	**09 02 54.6**	**-3.1**
RTLS				*eS*	**Sb**	**09 03 40.9**	**+0.9**
RTLS				IAML		09 03 52.6	
	comp=Z,228nm,0.8s						
CFA	**Coronel Fontan**	**4.28**	**55**	*eP*	**Pn**	**09 03 04.9**	**+3.5**
ACCO	**Cerro Coronel**	**4.49**	**39**	*eP*	**Pn**	**09 03 08.1**	**+3.6**
CO01	**Juntas del Tor**	**4.55**	**26**	*eP*	**Pn**	**09 03 07.1**	**+1.9**
CO01				*eS*	**Sn**	**09 03 58.8**	**+0.4**
CO01				IAML		09 04 26.9	
	comp=Z,38nm,3.4s						
AROD	**Rodeo**	**4.64**	**33**	*eP*	**Pn**	**09 03 09.5**	**+3.0**
AROD				*eS*	**Sg**	**09 04 20.4**	**-4.8**
ACDV	**Cuesta del Vie**	**4.80**	**36**	*eP*	**Pn**	**09 03 12.2**	**+3.6**
ACDV				IAML		09 04 35.0	
	comp=Z,32nm,2.8s						

*IDC **02** 09:07:58.0±3.8, 53°.74N×88°.28E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=37.3km s-min=21.1km az=49.0*

ASRS 02 09:07:57.0±0.6, 53°.74N×88°.17E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**277**	I	I	09 20 31.8	
	0.1nm,0.9s,baz=92,slow=318,SNR=8.2						
ZALV	**Zalesovo Beam**	**2.00**	**277**	Pn	Pb	09 08 34.3	+0.1
	1.3nm,0.3s,baz=94,slow=12,SNR=14						
ZALV				Lg	Lg	09 09 03.0	
	3.6nm,0.3s,baz=95,slow=25,SNR=15						
	6.4nm,0.6s		

I23K				IAmb	IAmb	09 19 03.4		
	comp=Z,7.7nm,1.4s							
WRH	**Wood River Hil**	**18.69**	**36**	P	**P**	**09 18 21.6**	**-0.6**
WRH				IAmb	IAmb	09 18 24.7		
	comp=Z,5.8nm,1.5s							
F21K	**Alatna River**	**18.70**	**25**	P	**P**	**09 18 21.9**	**-0.4**
F21K				IAmb	IAmb	09 19 05.3		
	comp=Z,9.4nm,1.4s							
CCB	**Clear Creek Bu**	**18.89**	**36**	P	**P**	**09 18 23.9**	**-0.5**
HDA	**Harding Lake**	**19.09**	**37**	P	**P**	**09 18 25.9**	**-0.8**
K24K	**Donnelly Dome**	**19.26**	**40**	P	**P**	**09 18 27.2**	**-1.4**
K24K				IAmb	IAmb	09 19 01.9		
	comp=Z,10nm,1.4s							
IL31		**19.29**	**36**	P	**P**	**09 18 28.1**	**-0.7**
ILAR	**Eielson Array**	**19.29**	**36**	P	**P**	**09 18 28.4**	**-0.4**
H24K	**Noodor Dome**	**19.51**	**33**	P	**P**	**09 18 31.3**	**0.0**
H24K				IAmb	IAmb	09 18 42.0		
	comp=Z,3.6nm,1.1s							
RIDG	**Independent Ri**	**19.61**	**40**	P	**P**	**09 18 31.8**	**-0.6**
RIDG				IAmb	IAmb	09 19 00.9		
	comp=Z,4.9nm,1.3s							
J25K	**Salcha River,**	**19.79**	**38**	P	**P**	**09 18 33.4**	**-0.9**
J25K				IAmb	IAmb	09 18 41.0		
	comp=Z,2.6nm,0.8s							
DOT	**Dot Lake**	**19.89**	**41**	P	**P**	**09 18 35.1**	**-0.3**
L26K	**Log Cabin Wild**	**19.96**	**43**	P	**P**	**09 18 35.4**	**-0.7**
L26K				IAmb	IAmb	09 18 54.4		
	comp=Z,5.9nm,1.5s							
GRNC	**Granite Creek**	**20.03**	**50**	P	**P**	**09 18 37.1**	**0.0**
GRNC				IAmb	IAmb	09 18 40.0		
	comp=Z,6.4nm,1.1s							
SCRK	**Sand Creek**	**20.05**	**40**	P	**P**	**09 18 36.8**	**-0.4**
LOGN	**Logan Glacier**	**20.41**	**50**	P	**P**	**09 18 39.8**	**-1.4**
LOGN				IAmb	IAmb	09 18 45.7		
	comp=Z,3.4nm,0.8s							
J26L	**Joseph Creek**	**20.44**	**39**	P	**P**	**09 18 41.2**	**-0.2**
J26L				IAmb	IAmb	09 18 42.2		
	comp=Z,3.1nm,0.8s							
L27K	**Beaver Creek,**	**20.62**	**44**	P	**P**	**09 18 43.0**	**-0.4**
BCAR	**Beaver Creek A**	**20.64**	**44**	P	**P**	**09 18 43.4**	**-0.2**
E24K	**Your Creek**	**20.68**	**27**	P	**P**	**09 18 43.3**	**-0.6**
I26K	**Coal Creek Min**	**20.94**	**37**	P	**P**	**09 18 46.2**	**-0.6**
I26K				IAmb	IAmb	09 18 48.7		
	comp=Z,5.3nm,1.4s							
I28M	**Miner Creek**	**22.23**	**38**	P	**P**	**09 18 59.7**	**-1.0**
I28M				IAmb	IAmb	09 19 44.1		
	comp=Z,2.9nm,1.2s							
K29M	**Barlow Dome**	**22.70**	**43**	P	**P**	**09 19 04.8**	**-0.9**
K29M				IAmb	IAmb	09 19 30.6		
	comp=Z,3.1nm,1.4s							
I29M	**Ogilvie Camp,**	**22.84**	**39**	P	**P**	**09 19 06.6**	**-0.5**
I29M				IAmb	IAmb	09 19 19.1		
	comp=Z,5.1nm,1.2s							
H29M	**Whitestone**	**23.12**	**37**	P	**P**	**09 19 08.6**	**-1.3**
J30M	**Hart River**	**23.40**	**42**	P	**P**	**09 19 13.1**	**+0.3**
I30M	**Mount Dempster**	**23.56**	**40**	P	**P**	**09 19 14.3**	**0.0**
E29M	**Blow River**	**24.16**	**32**	P	**P**	**09 19 19.5**	**-0.3**
A36M	**Sachs Harbour**	**29.49**	**28**	P	**P**	**09 20 07.1**	**-0.5**
MAKZ	**Makanchi**	**62.24**	**311**	P	**P**	**09 24 24.3**	**-1.0**
ABKAR	**Akbulak array**	**69.44**	**325**	P	**P**	**09 25 11.3**	**-0.2**
KK31	**Karatay Array**	**70.30**	**315**	P	**P**	**09 25 15.9**	**-1.1**
KKAR	**Karatay Array**	**70.30**	**315**	P	**P**	**09 25 15.6**	**-1.4**
ARSB	**Arslanbob**	**70.61**	**313**	P	**P**	**09 25 18.8**	**-0.2**

IDC 02 09:17:00.0±5.1, 21.77S×178.57W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=298.5km s-min=70.4km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.73**	**258**	P	P	09 25 07.2	-0.2
	1.1nm,0.8s,baz=106,slow=7.7,SNR=14 1.1nm,0.8s						
WRA	**Warramunga Arr**	**43.91**	**263**	P	P	09 25 08.9	0.0
	1.8nm,0.6s,baz=97,slow=8.3,SNR=33 1.8nm,0.6s						
HFS	**Hagfors**	**140.70**	**350**	PKP	PKPdf	09 36 30.7	-0.5
	0.9nm,0.8s,baz=48,slow=4.7,SNR=12						
AKASG	**Malin Array Be**	**143.85**	**330**	PKP	PKPdf	09 36 36.5	-0.6
	0.1nm,0.3s,baz=49,slow=3.5,SNR=4.8						

*IDC **02** 09:20:17.4±3.3, 54.35N×87.06E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=30.8km s-min=19.1km az=53.0*
ASRS 02 09:20:17.0±1.3, 54.29N×86.87E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**255**	I	I	09 28 30.0	
	baz=73,slow=313,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.25**	**255**	Pg	Pn	09 20 42.4	+0.6
	2.5nm,0.3s,baz=74,slow=17,SNR=17						
ZALV				Lg	Lg	09 21 01.9	
	2.5nm,0.3s,baz=74,slow=28,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.28**	**238**	Pn	Pn	09 21 53.0	+2.2
	0.1nm,0.3s,baz=50,slow=14,SNR=1.6 0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.05**	**203**	Pn	Pn	09 22 18.6	+3.4
	0.1nm,0.3s,baz=25,slow=13,SNR=5.8 0.2nm,0.3s						

IDC 02 09:26:07.3±3.1, 29.80S×178.09W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=88.6km s-min=37.5km az=40.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.06**	**266**	P	P	09 34 09.1	-0.1
	0.3nm,0.5s,baz=107,slow=7.4,SNR=6.6 0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.00**	**272**	P	P	09 34 16.6	-0.1
	0.6nm,0.4s,baz=112,slow=7.9,SNR=7.1 0.6nm,0.4s						
QSPA	**South Pole Qui**	**60.31**	**180**	P	P	09 36 17.6	0.0
	1.8nm,1.1s,baz=63,slow=0.8,SNR=7.1 1.8nm,1.1s						
FINES	**FINESS Array B**	**144.56**	**340**	PKP	PKPdf	09 45 44.5	-0.6
	0.5nm,0.5s,baz=38,slow=2.5,SNR=4.1						

IDC 02 09:38:58.6±2.4, 2.50N×127.37E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=180.0km s-min=28.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**163**	P	P	09 44 08.5	-0.1
	0.3nm,0.3s,baz=342,slow=10,SNR=9.3 0.3nm,0.3s						
ASAR	**Alice Springs**	**26.77**	**167**	P	P	09 44 40.4	-0.1
	0.4nm,0.7s,baz=352,slow=8.0,SNR=6.1 0.4nm,0.7s						
MKAR	**Makanchi Array**	**58.93**	**325**	P	P	09 48 59.8	+0.1
	0.2nm,0.4s,baz=110,slow=7.8,SNR=2.0 0.2nm,0.4s						

*HEL **02** 09:38:58.2±0.3, 61.56N×31.46E, h0km, ML1.7, Explosion*
IDC 02 09:39:00.3±3.8, 61.66N×31.03E, h0km, mbtmp3.1/3, ML1.7/3, Error ellipse: s-maj=46.3km s-min=19.1km az=134.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**1.02**	**258**	*eP*	Pg	09 39 19.8	-0.1
RUF				*eS*	Sb	09 39 34.8	0.0
JOF	**Joensuu**	**1.27**	**6**	*eP*	Pg	09 39 22.2	-2.5
JOF				*eS*	Sg	09 39 37.8	-3.4
VJF	**Virojoki**	**2.03**	**238**	*eP*	Pn	09 39 35.2	-0.4
VJF				*eS*	Sb	09 40 02.6	-1.0
VJF				MSG		09 40 07.1	
	comp=Z,1.8nm,0.1s						
KAF	**Kangasniemi**	**2.29**	**284**	*eP*	Pn	09 39 40.5	+1.4
KAF				*eS*	Sb	09 40 10.4	-0.7
KAF				MSG		09 40 14.4	
	comp=Z,2.7nm,0.2s						
NIF	**Nilsia**	**2.29**	**321**	*eP*	Pn	09 39 40.4	+1.1
NIF				*eS*	Sb	09 40 10.9	-0.5
FIA1	**FINESS Array S**	**2.38**	**267**	*eP*	Pn	09 39 41.2	+0.7
FIA1				*eS*	Sb	09 40 13.3	-0.5
FIA1				MSG		09 40 16.8	
	comp=Z,4.2nm,0.2s						
FINES	**FINESS Array B**	**2.38**	**267**	Pn	Pn	09 39 40.7	+0.2
	comp=Z,0.3nm,0.3s,baz=80,slow=16,SNR=15						
FINES				Sn	Sb	09 40 13.5	-0.3
	comp=Z,1.6nm,0.3s,baz=78,slow=25,SNR=22						
FINES				Rg	Rg	09 40 29.0	
	comp=Z,9.7nm,0.9s,baz=79,slow=20,SNR=8.0 comp=Z,2.7nm,0.7s						
SUF	**Sumiainen**	**2.53**	**297**	*e*PB	Pb	09 39 45.4	-1.1
SUF				*eS*	Sb	09 40 19.2	+1.2
RMF	**Romuvaara**	**2.62**	**349**	*eP*	Pn	09 39 43.6	-0.2
RMF				*eS*	Sn	09 40 17.1	+0.9
PVF	**Pernaja**	**2.75**	**248**	*eP*	Pn	09 39 45.7	+0.2
PVF				*eS*	Sn	09 40 20.3	+1.0
KEF	**Keuruu**	**2.96**	**283**	*eP*	Pn	09 39 50.1	+1.7
KEF				*eS*	Sb	09 40 28.1	-2.4
ARCES	**ARCESS Array B**	**8.23**	**346**	Pn	Pn	09 40 57.9	-2.9
	baz=159,slow=16,SNR=1.7 comp=Z,1.8nm,1.0s						
HFS	**Hagfors**	**8.59**	**267**	Pn	Pn	09 41 03.9	-1.8
	comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=2.2 comp=Z,1.9nm,1.0s						
I37NO	**I37NO**	**9.05**	**331**	I	I	10 32 40.0	
	baz=140,slow=323,SNR=3.8						

*NNC **02** 09:45:27.5±2.8, 40.84N×79.86E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=19.4km s-min=17.3km az=13.0*
*SOME **02** 09:45:28.1, 40.87N×79.80E, h10km*
ISC 02 09:45:32.0±2.9, 41.0N±0.1×79.73E±0.08, h10km, n11, σ1°29/16, 2C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.13**	**355**	Pg	**Pb**	**09 46 10.3**	**-0.5**
	14nm,0.3s						
SHLS				Lg	Lg	09 46 42.6	
	20nm,0.3s						
SHLS	**Shalkode**	**2.13**	**355**	*e*P	**Pb**	**09 46 11.1**	**+0.3**
	14nm,0.3s						
SHLS				*eS*	**Sg**	**09 46 42.1**	**+1.6**
	20nm,0.3s						
UZB	**Uzynbulak**	**2.18**	**346**	Pg	**Pb**	**09 46 10.2**	**-1.4**
	4.2nm,0.3s						
UZB				Lg	Lg	09 46 42.9	
	8.9nm,0.4s						
UZB	**Uzynbulak**	**2.18**	**346**	*e*P	**Pb**	**09 46 11.8**	**+0.3**
	3.1nm,0.1s						
UZB				*eS*	**Sg**	**09 46 43.4**	**+1.4**
	8.4nm,0.2s						
SATY	**Saty**	**2.25**	**334**	Pg	**Pb**	**09 46 12.3**	**-0.5**
	4.0nm,0.2s						
SATY				Lg	Lg	09 46 46.9	
	7.4nm,0.3s						
KPKS	**Kokpek**	**2.55**	**343**	Pg	**Pb**	**09 46 17.6**	**-0.3**
	0.6nm,0.3s						
KPKS				Lg	Lg	09 46 55.3	
	5.4nm,0.4s						
TNSS	**Tian-Shan**	**2.88**	**315**	*e*P	**Pg**	**09 46 25.2**	**-2.0**
	0.2nm,0.1s						
TNSS				*eS*	**Sg**	**09 47 06.3**	**+1.7**
	0.8nm,0.3s						
KST	**Kastek**	**3.45**	**307**	Pg	**Pb**	**09 46 34.1**	**+0.8**
	1.6nm,0.4s						
KST				Lg	Lg	09 47 24.0	
	6.1nm,0.6s						
KST	**Kastek**	**3.45**	**307**	*e*P	**Pb**	**09 46 34.2**	**+1.0**
	0.7nm,0.1s						
KST				*eS*	**Sg**	**09 47 21.9**	**-0.9**
	1.2nm,0.1s						
CHKK	**Chushkaly**	**3.47**	**325**	Pg	**Pb**	**09 46 34.7**	**+1.1**
	71nm,0.5s						
CHKK				Lg	Lg	09 47 24.6	
	6.6nm,0.4s						
MK31	**Makanchi Array**	**6.05**	**17**	⇑Pn	**Pn**	**09 47 02.9**	**+1.4**
	0.2nm,0.3s,baz=202,slow=14,SNR=17						
MK31				⇑Sn	**Sn**	**09 48 09.4**	**-1.4**
	0.2nm,0.3s,baz=194,slow=24,SNR=2.7						

*ASRS **02** 09:48:56.0±1.5, 54.28N×86.84E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 09:48:57.8±3.1, 54.31N×86.92E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=26.4km s-min=16.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**254**	I	I	09 56 40.0	
	baz=73,slow=313,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.29**	**254**	Pg	Pg	09 49 21.0	-1.5
	3.0nm,0.3s,baz=73,slow=17,SNR=18						
ZALV				Lg	Lg	09 49 39.4	
	1.7nm,0.3s,baz=77,slow=31,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.32**	**238**	Pn	Pn	09 50 32.4	+0.3
	0.1nm,0.3s,baz=55,slow=14,SNR=4.1						
KURBB				Lg	Lg	09 52 20.0	
	baz=58,slow=33,SNR=4.4 0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**203**	Pn	Pn	09 50 58.1	+1.7
	0.1nm,0.3s,baz=25,slow=14,SNR=5.1						
MKAR				Lg	Lg	09 53 16.5	
	baz=30,slow=26,SNR=2.9 0.2nm,0.3s						

*ASRS **02** 09:53:56.0±1.5, 53.75N×91.10E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 02 09:54:02.9±3.7, 53.60N×90.73E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=33.8km s-min=26.1km az=27.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.52**	**278**	I	I	10 15 49.9	
	0.1nm,1.5s,baz=90,slow=311,SNR=9.1						
ZALV	**Zalesovo Beam**	**3.52**	**278**	Pn	Pn	09 54 59.9	+1.0
	0.7nm,0.3s,baz=95,slow=15,SNR=5.9						
ZALV				Lg	Lg	09 55 52.9	
	1.3nm,0.3s,baz=95,slow=34,SNR=6.6 1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**8.08**	**253**	Pn	Pn	09 56 00.8	-0.6
	baz=65,slow=15,SNR=4.8						
KURBB				Sn	Sn	09 57 33.1	-0.2
	baz=68,slow=28,SNR=9.1						
KURBB				Lg	Lg	09 58 17.6	
	baz=65,slow=29,SNR=5.2 0.6nm,0.6s						
MKAR	**Makanchi Array**	**8.70**	**222**	Pn	Pn	09 56 10.7	+0.8
	0.1nm,0.3s,baz=38,slow=13,SNR=2.9						
MKAR				Lg	Lg	09 58 37.5	
	0.1nm,0.3s,baz=39,slow=21,SNR=4.1 0.2nm,0.4s						

IDC 02 09:59:35.6±1.8, 41.93S×84.67E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=53.6km s-min=25.6km az=109.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S1	**CROZET ISLANDS**	**23.81**	**247**	T	T	10 29 51.2	
	baz=89,slow=76,SNR=8.0						
H04S2	**CROZET ISLANDS**	**23.82**	**247**	T	T	10 29 58.4	
	baz=89,slow=76,SNR=44						
H04S3	**CROZET ISLANDS**	**23.83**	**247**	T	T	10 30 00.4	
	baz=89,slow=76,SNR=24						
H04N2	**CROZET ISLANDS**	**23.90**	**249**	T	T	10 30 04.5	
	baz=90,slow=75,SNR=225						
H04N3	**CROZET ISLANDS**	**23.91**	**249**	T	T	10 29 59.9	
	baz=90,slow=75,SNR=219						
H04N1	**CROZET ISLANDS**	**23.91**	**249**	T	T	10 30 08.5	
	baz=90,slow=75,SNR=185						
H01W2	**Cape Leeuwin H**	**24.05**	**83**	T	T	10 29 36.9	
	baz=244,slow=74,SNR=13						
H01W3	**Cape Leeuwin H**	**24.06**	**83**	T	T	10 29 36.5	
	baz=244,slow=74,SNR=8.6						
H01W1	**Cape Leeuwin H**	**24.07**	**83**	T	T	10 29 35.8	
	baz=244,slow=74,SNR=9.4						
H08S2	**Diego Garcia H**	**35.80**	**339**	T	T	10 44 11.3	
	baz=164,slow=76,SNR=116						
H08S1	**Diego Garcia H**	**35.81**	**339**	T	T	10 44 12.4	
	baz=164,slow=76,SNR=86						
H08S3	**Diego Garcia H**	**35.82**	**339**	T	T	10 44 13.0	
	baz=164,slow=76,SNR=206						

ASAR	**Alice Springs**	**44.57**	**82**	P	P	10 07 49.5	+0.1
	0.8nm,0.7s,baz=225,slow=6.6,SNR=9.6 0.8nm,0.7s						
VNDA	**Vanda**	**46.71**	**163**	P	P	10 08 05.7	+0.1
	0.6nm,0.6s,baz=286,slow=5.3,SNR=7.6 0.6nm,0.6s						
WRA	**Warramunga Arr**	**47.15**	**78**	P	P	10 08 09.2	-0.6
	1.4nm,0.8s,baz=232,slow=7.6,SNR=5.9 1.4nm,0.8s						
QSPA	**South Pole Qui**	**48.23**	**180**	P	P	10 08 17.6	-0.2
	1.0nm,0.8s,baz=285,slow=1.6,SNR=11 1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.51**	**15**	P	P	10 09 54.4	+0.1
	0.6nm,0.4s,baz=218,slow=6.2,SNR=4.8 0.6nm,0.4s						

*HEL **02** 10:00:16.1±0.2, 64.68N×30.78E, h0km, ML1.9, Suspected explosion*
*IDC **02** 10:00:17.9±2.5, 64.68N×30.67E, h0km, mbtmp2.8/4, ML2.2/4, Error ellipse: s-maj=35.4km s-min=8.7km az=101.0*
*KOLA **02** 10:00:17.4, 64.69N×30.74E, h0km, ML2.1, Error ellipse: s-maj=24.1km s-min=11.1km az=160.0, Kostomuksha, Karelia*
ISC 02 10:00:15.2±0.9, 64.68N±0.02×30.62E±0.04, h0km, n43, σ1°67/62, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.55**	**213**	PG	**Pg**	**10 00 26.6**	**+1.0**
RMF				MSG		10 00 35.0	
	comp=Z,26nm,0.2s						
RMF				SG	**Sb**	**10 00 36.0**	**0.0**
KU1	**Kurvinen**	**1.00**	**334**	PG	**Pb**	**10 00 34.8**	**-0.5**
	baz=153						
KU6	**Riekki**	**1.39**	**348**	PG	**Pg**	**10 00 41.3**	**-0.5**
	baz=164						
KU6				MSG		10 00 58.4	
	comp=Z,9.3nm,0.2s						
KU6				SG	**Sg**	**10 00 59.2**	**-0.5**
MSF	**Maaselka**	**1.41**	**333**	PG	**Pn**	**10 00 41.9**	**-0.1**
	baz=150						
MSF				SG	**Sb**	**10 01 00.1**	**-0.6**
KU2	**Taivalkoski**	**1.45**	**317**	PG	**Pb**	**10 00 42.8**	**-0.1**
OLKF	**Oulanka, Finla**	**1.73**	**343**	PG	**Pb**	**10 00 47.4**	**-0.4**
OLKF				MSG		10 01 08.2	
	comp=Z,9.4nm,0.2s						
OLKF				SN	**Sg**	**10 01 10.9**	**+0.3**
NIF	**Nilsia**	**1.79**	**225**	PG	**Pb**	**10 00 48.8**	**+0.1**
NIF				MSG		10 01 10.8	
	comp=Z,6.9nm,0.2s						
JOF	**Joensuu**	**1.79**	**170**	*eP*	**Pn**	**10 00 47.9**	**+0.5**
JOF	**Joensuu**	**1.79**	**170**	PG	**Pn**	**10 00 47.8**	**+0.5**
	baz=357						
JOF				SN	**Sn**	**10 01 11.3**	**+0.6**
OUL	**Oulu**	**2.06**	**284**	PG	**Pg**	**10 00 53.8**	**-0.7**
OUL				SB	**Sg**	**10 01 20.4**	**-0.7**
RANF	**Ranua**	**2.09**	**312**	PG	**Pb**	**10 00 53.7**	**-0.2**
	baz=129						
RANF				SB	**Sg**	**10 01 20.9**	**-1.4**
KVDA	**Kovda**	**2.23**	**24**	P	**Pn**	**10 00 53.8**	**+0.5**
KVDA				S	**Sb**	**10 01 23.4**	**-0.9**
OBF4	**Vikkela, Lumij**	**2.37**	**276**	PB	**Pb**	**10 00 58.8**	**+0.2**
OBF4				MSG		10 01 28.1	
	comp=Z,5.4nm,0.2s						
OBF4				SG	**Sg**	**10 01 33.3**	**+2.1**
OUF	**Merijarvi**	**2.56**	**266**	PN	**Pb**	**10 01 00.2**	**-1.8**
OUF				MSG		10 01 33.8	
	comp=Z,8.9nm,0.2s						
OUF				SB	**Sb**	**10 01 35.1**	**+1.2**
RNF	**Rovaniemi**	**2.72**	**318**	PB	**Pb**	**10 01 03.8**	**-0.8**
RNF				SB	**Sb**	**10 01 39.2**	**+0.7**
OBF0	**Syolatti, Pyha**	**2.76**	**269**	PB	**Pb**	**10 01 05.2**	**-0.1**
OBF0				MSG		10 01 39.3	
	comp=Z,5.3nm,0.2s						
SUF	**Sumiainen**	**2.79**	**227**	PB	**Pb**	**10 01 05.1**	**-0.8**
SUF				MSG		10 01 40.0	
	comp=Z,1.8nm,0.2s						
TOF	**Tornio**	**2.99**	**301**	PB	**Pb**	**10 01 08.6**	**-0.5**
TOF				MSG		10 01 45.5	
	comp=Z,2.5nm,0.2s						
TOF				SB	**Sb**	**10 01 46.6**	**+0.4**
APA0	**Apatity Array**	**3.10**	**17**	P	**Pn**	**10 01 06.6**	**+1.4**
APA0				S	**Sn**	**10 01 43.5**	**+0.6**
VRF	**Varrio**	**3.11**	**353**	PN	**Pn**	**10 01 07.1**	**+1.7**
	baz=174						
VRF				MSG		10 01 47.8	
	comp=Z,2.0nm,0.2s						
APA	**Apatity**	**3.12**	**20**	S	**Sn**	**10 01 43.1**	**-0.3**
KAF	**Kangasniemi**	**3.22**	**219**	PB	**Pb**	**10 01 12.2**	**-1.0**
	baz=36						
KAF				SG	**Sb**	**10 01 55.1**	**+2.2**
KALU	**Kalix**	**3.27**	**295**	PG	**Pb**	**10 01 15.4**	**+1.4**
KALU				SG	**Sg**	**10 01 58.3**	**-2.0**
RUF	**Ruokolahti**	**3.35**	**194**	PN	**Pn**	**10 01 11.1**	**+2.4**
KEF	**Keuruu**	**3.61**	**228**	*eP*	**Pn**	**10 01 14.9**	**+2.6**
KEF	**Keuruu**	**3.61**	**228**	PB	**Pb**	**10 01 17.0**	**-2.8**
KEF				SG	**Sg**	**10 02 09.2**	**-1.7**
KLF	**Kolari**	**3.74**	**316**	PB	**Pb**	**10 01 19.6**	**-2.4**
KLF				SG	**Sg**	**10 02 12.0**	**-3.2**
FIA0	**FINESS Array S**	**3.85**	**215**	PN	**Pn**	**10 01 17.5**	**+2.0**
	baz=31						
FIA0				SG	**Sg**	**10 02 17.2**	**-1.4**
FINES	**FINESS Array B**	**3.85**	**215**	Pn	**Pn**	**10 01 17.2**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=31,slow=13,SNR=7.2						
FINES				Lg	Lg	10 02 17.0	
	comp=Z,1.2nm,0.3s,baz=32,slow=26,SNR=11 comp=Z,0.5nm,0.3s						
SJUU	**Sjulsmark**	**3.90**	**286**	*eP*	Pn	10 01 03.1	-13
RAJF	**Raja-Jooseppi**	**3.92**	**347**	PN	**Pn**	**10 01 18.0**	**+1.4**
ERTU	**Ertsjaerv**	**3.97**	**302**	PN	**Pn**	**10 01 20.8**	**+3.6**
VJF	**Virojoki**	**4.39**	**200**	SG	**Sg**	**10 02 32.4**	**-3.6**
UMAU	**Umeaa**	**4.40**	**264**	PN	**Pn**	**10 01 24.1**	**+1.0**
UMAU				SG	**Sg**	**10 02 34.6**	**-1.9**
HEF	**Hetta**	**4.66**	**327**	SG	**Sb**	**10 02 38.8**	**+4.5**
ARCES	**ARCESS Array B**	**5.27**	**340**	Pn	**Pn**	**10 01 36.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=26						
ARCES				Sn	**Sn**	**10 02 33.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=22,SNR=1.7						
ARCES				Lg	Lg	10 03 00.4	
	comp=Z,0.3nm,0.3s,baz=157,slow=26,SNR=5.3 comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**5.27**	**340**	P	**Pn**	**10 01 36.0**	**+1.0**
ARCES				S	**Sn**	**10 02 34.9**	**-1.6**
RAF	**Rauma**	**5.46**	**232**	*eP*	**Pn**	**10 01 40.6**	**+2.9**
VADS	**Vadso**	**5.49**	**356**	S	**Sn**	**10 02 40.5**	**-1.3**
I37NO	**I37NO**	**6.46**	**318**	I	I	10 37 30.0	
	baz=128,slow=320,SNR=8.6						
FAUS	**Fauske**	**6.80**	**300**	S	**Sn**	**10 03 12.5**	**-1.6**
HFS	**Hagfors**	**9.06**	**248**	Pn	**Pn**	**10 02 27.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=5.6 comp=Z,0.4nm,0.3s						
NOA	**NORSAR Array B**	**9.57**	**257**	Pn	**Pn**	**10 02 34.8**	**+0.8**
	baz=65,slow=13,SNR=2.3 comp=Z

earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

*IDC **02** 10:26:15.5±1.7, 51°.62N×82°.46E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=16.9km s-min=14.9km az=160.0*

*NNC **02** 10:26:17.1±4.0, 51°.47N×82°.41E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=37.7km s-min=19.0km az=18.0, Suspected Mining explosion.*

ISC 02 10:26:15.6±1.3, 51°.69N±0°.10×82°.4E±0°.1, h0km, n7, σ0s59/7, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.55**	**249**	⇑Pg		**Pb**		**10 27 02.3**	**0.0**
KURK	1.4nm,0.7s			⇓Lg		Lg		10 27 36.6	
KURBB	4.0nm,0.6s **Kurchatov Arra**	**2.64**	**248**	Pg		**Pb**		**10 27 03.2**	**-0.6**
KURBB	0.1nm,0.3s,baz=71,slow=19,SNR=7.4			Lg		Lg		10 27 39.9	
KURBB	0.3nm,0.3s,baz=70,slow=33,SNR=9.6 **Kurchatov Arra**	**2.64**	**248**	⇓Pg		**Pb**		**10 27 04.6**	**+0.7**
KURBB	1.2nm,0.5s			⇑Lg		Lg		10 27 40.0	
I46RU	6.3nm,0.5s **ZALESOVO INFRA**	**2.70**	**32**	I		I		10 46 25.0	
ZALV	baz=216,slow=310,SNR=7.4 **Zalesovo Beam**	**2.70**	**32**	Pn		**Pn**		**10 27 00.0**	**-0.3**
ZALV	1.3nm,0.3s,baz=217,slow=15,SNR=11			Sn		**Sn**		**10 27 34.2**	**+0.5**
MK31	1.3nm,0.3s,baz=222,slow=21,SNR=8.2 2.9nm,0.3s **Makanchi Array**	**4.91**	**181**	⇓Pn		**Pn**		**10 27 30.3**	**-0.3**
MK31	0.7nm,0.6s,baz=12,slow=12,SNR=6.9			⇑Lg		Lg		10 28 44.6	
MKAR	2.0nm,0.6s,baz=9.1,slow=28,SNR=8.7 **Makanchi Array**	**4.91**	**181**	Pn		**Pn**		**10 27 30.7**	**+0.1**
MKAR	0.3nm,0.3s,baz=8.3,slow=12,SNR=8.3			Lg		Lg		10 28 47.1	
	0.4nm,0.3s,baz=3.6,slow=27,SNR=16 0.7nm,0.5s								

IDC 02 10:31:36.1±58.0, 20°.26S×176°.12W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1078.0km s-min=176.0km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.48**	**244**	P		P		10 39 07.9	-0.5
ASAR	0.8nm,0.4s,baz=78,slow=11,SNR=3.1 0.8nm,0.4s **Alice Springs**	**46.29**	**256**	P		P		10 40 03.5	-0.3
WRA	2.6nm,0.8s,baz=90,slow=7.6,SNR=30 2.6nm,0.8s **Warramunga Arr**	**46.38**	**261**	P		P		10 40 04.8	+0.3
	1.3nm,0.3s,baz=97,slow=8.0,SNR=133 1.3nm,0.3s								

*KRNET **02** 10:39:12.8±0.1, 43°.31N×70°.52E, mb3.0*

*NNC **02** 10:39:17.8±0.6, 42°.95N×71°.00E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.9km s-min=3.9km az=1.0, Suspected Mining explosion.*

*SOME **02** 10:39:17.1, 42°.98N×71°.07E, h10km*

ISC 02 10:39:16.0±0.9, 43°.07N±0°.06×71°.03E±0°.02, h0km, n14, σ0s79/28, 13C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZA	**Taraz**	**0.28**	**128**	*e*P		**Pg**		**10 39 21.1**	**-0.3**
DZA	154nm,0.2s			*e*S		**Sg**		**10 39 23.9**	**-1.1**
KK31	393nm,0.1s **Karatay Array**	**0.38**	**276**	⇑P		**Pb**		**10 39 25.1**	**-0.6**
KK31	2.8nm,0.2s,baz=114,slow=17,SNR=360			⇓S		**Sb**		**10 39 31.4**	**-0.8**
BRLS	7.0nm,0.1s,baz=120,slow=31,SNR=34 **Boroldav**	**0.87**	**268**	P		**Pn**		**10 39 36.1**	**+0.5**
BRLS	5.9nm,0.1s			S		**Sn**		**10 39 49.6**	**+0.5**
BRLS	0.4nm,0.2s **Boroldav**	**0.87**	**268**	*e*P		**Pn**		**10 39 36.1**	**+0.5**
BRLS	5.9nm,0.1s			*e*S		**Sn**		**10 39 49.8**	**+0.7**
IUG	6.4nm,0.1s **Iuzhnay**	**1.18**	**219**	P		**Pg**		**10 39 38.4**	**-0.1**
IUG	29nm,0.1s			S		**Sg**		**10 39 54.2**	**+0.4**
TRKS	21nm,0.2s **Terek-Say**	**1.54**	**177**	⇑*i*P		**Pn**		**10 39 44.0**	**-0.9**
TRKS				⇑*i*S		**Sn**		**10 40 06.8**	**+1.2**
MRKS	**Merke**	**1.65**	**100**	P		**Pg**		**10 39 47.8**	**+0.2**
MRKS	7.0nm,0.2s			S		**Sg**		**10 40 10.0**	**+1.1**
MRKS	9.4nm,0.3s **Merke**	**1.65**	**100**	*e*P		**Pn**		**10 39 46.8**	**+0.5**
MRKS	5.9nm,0.2s			*e*S		**Sn**		**10 40 08.1**	**-0.2**
EKS2	9.4nm,0.3s **Erkin-Say**	**2.06**	**100**	⇑*i*P		**Pn**		**10 39 51.8**	**-0.3**
EKS2				⇑*i*S		**Sb**		**10 40 20.4**	**-0.2**
ARSB	**Arslanbob**	**2.27**	**139**	⇓*i*P		**Pn**		**10 39 55.0**	**+0.1**
ARSB				⇓S		**Sb**		**10 40 25.9**	**-0.7**
USP	**Ospenovka**	**2.55**	**84**	⇑*i*P		**Pn**		**10 39 57.8**	**-0.9**
USP				⇑*i*S		**Sn**		**10 40 30.8**	**+0.4**
AAK	**Ala-Archa**	**2.58**	**98**	⇑*i*P		**Pn**		**10 39 59.3**	**0.0**
AAK				⇑*e*S		**Sn**		**10 40 33.1**	**+1.6**
CHMS	**Chumysh**	**2.73**	**90**	⇑*i*P		**Pn**		**10 40 00.7**	**-0.5**
CHMS				⇑*i*S		**Sn**		**10 40 35.8**	**+0.9**
SALK	**Salom-Alik**	**3.02**	**135**	⇑*e*P		**Pn**		**10 40 05.5**	**+0.3**
SALK				⇑*i*S		**Sn**		**10 40 43.9**	**+1.8**

*IDC **02** 10:44:45.0±0.5, 40°.11S×150°.43W, h0km, mb4.3/15, mbtmp4.4/15, MS3.8/32, Error ellipse: s-maj=18.2km s-min=16.4km az=172.0*

*NEIC **02** 10:44:46.8±1.8, 40°.01S±0°.09×150°.4W±0°.1, h10km±1km, mb4.9/127, Error ellipse: s-maj=17.5km s-min=10.7km az=139.0*

*GCMT **02** 10:44:48.8±0.2, 39°.94S±0°.02×150°.29W±0°.02, h20km±1km, MW5.0/93, Moment Tensor Solution. s24,c31; s93,c132; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.29±.16; Mθθ 1.11±.14; Mφφ-0.82±.12; Mrθ 0.40±.24; Mrφ 3.22±.10; Mθφ-0.42±.23; Best double couple: Mo3.41700×10^16 NP1:φs9.00000°, δ82.00000°, λ-173.00000°. NP2: φs278.00000°, δ83.00000°, λ-8.00000°. Principal axes: T 3.5060, Plg1.0000°, Azm323.0000°; N -0.1800, Plg79.0000°, Azm59.0000°; P -3.3280, Plg11.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 10:44:46.1±0.4, 39°.97S±0°.08×150°.43W±0°.07, h10km, n191, σ1s9/00/154, mb4.9/79, MS3.8/32, 4C, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**16.59**	**3**	*e*Pn		**Pn**		**10 48 36.2**	**-2.6**
TBI	6.7nm,0.1s			*e*Sn		Sn		10 51 21.7	-21
TBI	0.9nm,0.1s			*e*LR		LR		10 51 31.7	
TBI	1μm,14.8s **Tubuai**	**16.59**	**3**	*e*T		T		11 05 13.6	
CTZ	47nm,0.4s **Chatham Island**	**19.84**	**251**	P		**P**		**10 49 15.9**	**-1.0**
CTZ	comp=Z,81nm,1.1s			IAmb		IAmb		10 49 26.4	
RAR	**Rarotonga**	**20.33**	**334**	P		**P**		**10 49 22.0**	**-0.4**
RAR	comp=Z,138nm,1.6s			IAmb		IAmb		10 49 26.9	
RAR	**Rarotonga**	**20.33**	**334**	P		Pn		10 49 25.4	+1.0
RAR	comp=Z,8.6nm,0.4s,baz=195,slow=7.7,SNR=8.3			LR		LR		10 54 50.1	
TVO	comp=Z,262nm,20.3s,baz=146,slow=30 comp=Z,8.6nm,0.4s **Taravao**	**22.14**	**3**	*e*Pn		P		10 49 55.8	+14
PAE	comp=Z,15nm,0.4s **Paea**	**22.24**	**2**	*e*Pn		P		10 49 56.5	+13
PAE	comp=Z,1.0nm,0.2s **Paea**	**22.24**	**2**	*e*T		T		11 12 26.0	
	comp=Z,1.2nm,0.4s								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPT2	**Papeete2**	**22.32**	**2**	*e*Pn		P		10 49 57.4	+13
PPT2	comp=Z,2.0nm,0.2s			*e*LR		LR		10 54 18.2	
PPT2	comp=Z,443nm,22.2s			*e*LR		LR		10 54 40.0	
PPT2	comp=Z,360nm,32.5s **Papeete2**	**22.32**	**2**	*e*T		T		11 12 32.6	
PPTF	comp=Z,1.5nm,0.3s **Pamatai, Papee**	**22.32**	**2**	P		**P**		**10 49 43.4**	**-0.5**
PPT	**Papeete**	**22.32**	**2**	P		P		10 49 55.3	+11
PPT	comp=Z,320nm,0.4s,baz=116,slow=7.3,SNR=17			LR		LR		10 55 51.5	
PTCN	comp=Z,173nm,18.9s,baz=184,slow=30 **Pitcairn Islan**	**22.61**	**55**	P		**P**		**10 49 46.0**	**-1.0**
VAH	**Vaihoa**	**24.77**	**6**	*e*Pn		P		10 50 32.9	+25
VAH	comp=Z,14nm,0.3s **Vaihoa**	**24.77**	**6**	*e*T		T		11 15 38.4	
RAO	comp=Z,18nm,0.2s **Raoul Island**	**24.93**	**287**	P		**P**		**10 50 09.8**	**+0.4**
RAO	**Raoul Island**	**24.93**	**287**	LR		LR		10 57 18.1	
PMOR	comp=Z,263nm,19.9s,baz=273,slow=30 **Pomariorio Ree**	**24.98**	**6**	*e*Pn		P		10 50 36.2	+26
URZ	comp=Z,1.7nm,0.2s **Urewera**	**25.17**	**263**	LR		LR		10 57 51.7	
RTZ	comp=Z,498nm,21.4s,baz=106,slow=31 **Ruatahuna**	**25.19**	**263**	P		**P**		**10 50 10.2**	**-1.5**
RTZ	comp=Z,51nm,0.8s			IAmb		IAmb		10 50 44.0	
BKZ	**Black Stump Fm**	**25.44**	**261**	P		**P**		**10 50 13.1**	**-0.8**
NIUE	**Niue**	**26.75**	**315**	P		**P**		**10 50 25.6**	**-0.4**
LTZ	**Lake Taylor**	**27.98**	**252**	P		**P**		**10 50 35.4**	**-1.6**
RPZ	**Rata Peaks**	**28.76**	**250**	LR		LR		11 00 42.7	
ODZ	comp=Z,259nm,19.8s,baz=136,slow=33 **Otahua Downs**	**28.94**	**247**	P		**P**		**10 50 43.7**	**-1.6**
DCZ	**Deep Cove**	**31.37**	**246**	P		**P**		**10 51 05.5**	**-1.3**
TAOE	**Nuku Hiva Isla**	**32.32**	**19**	*e*LR		LR		10 58 57.1	
DZM	comp=Z,137nm,24.7s **Mont Dzumac**	**40.60**	**283**	LR		LR		11 04 48.5	
VNDA	comp=Z,269nm,21.4s,baz=126,slow=30 **Vanda**	**42.52**	**194**	P		**P**		**10 52 41.1**	**-0.1**
ARMA	comp=Z,1.0nm,1.0s,baz=33,slow=6.8,SNR=4.8 comp=Z,1.0nm,1.0s **Armidale**	**47.57**	**263**	P		**P**		**10 53 22.7**	**+0.7**
ARMA	comp=Z,18nm,1.1s			IAmb		IAmb		10 53 24.9	
TOO	**Toolangi**	**49.05**	**251**	P		**P**		**10 53 33.1**	**-0.2**
TOO	comp=Z,7.5nm,1.1s			IAmb		IAmb		10 53 36.4	
QSPA	**South Pole Qui**	**50.19**	**180**	P		**P**		**10 53 42.7**	**+1.0**
QSPA	**South Pole Qui**	**50.19**	**180**	P		**P**		**10 53 41.8**	**+0.1**
QSPA	comp=Z,4.3nm,0.9s,baz=68,slow=1.6,SNR=13			LR		LR		11 10 40.6	
PMSA	comp=Z,106nm,19.3s,baz=52,slow=31 comp=Z,4.3nm,0.9s **Palmer Station**	**53.20**	**148**	P		**P**		**10 54 04.2**	**+0.2**
HNR	**Honiara**	**53.46**	**291**	LR		LR		11 14 31.3	
STKA	comp=Z,35nm,19.0s,baz=156,slow=33 **Stephens Creek**	**54.45**	**256**	P		**P**		**10 54 14.9**	**+1.3**
STKA	**Stephens Creek**	**54.45**	**256**	P		**P**		**10 54 15.1**	**+1.4**
STKA	comp=Z,12nm,0.9s,baz=112,slow=8.4,SNR=21			LR		LR		11 14 54.5	
COYC	comp=Z,76nm,18.1s,baz=72,slow=33 comp=Z,12nm,0.9s **Coyhaique**	**55.63**	**124**	P		**P**		**10 54 22.5**	**+0.5**
COYC	comp=Z,14nm,0.9s			IAmb		IAmb		10 54 23.6	
H03S2	**Juan Fernandez**	**56.11**	**108**	T		T		11 54 57.2	
H03S1	baz=240,slow=74,SNR=10.0 **Juan Fernandez**	**56.12**	**108**	T		T		11 55 01.1	
H03S3	baz=240,slow=74,SNR=11 **Juan Fernandez**	**56.13**	**108**	T		T		11 54 55.5	
H03N3	baz=240,slow=74,SNR=9.9 **Juan Fernandez**	**56.29**	**108**	T		T		11 55 13.8	
H03N2	baz=241 **Juan Fernandez**	**56.30**	**108**	T		T		11 55 02.7	
H03N1	baz=241,SNR=3.1 **Juan Fernandez**	**56.31**	**108**	T		T		11 55 13.8	
ESPZ	baz=241 **Base Esperanza**	**56.59**	**147**	P		**P**		**10 54 28.1**	**-0.4**
LL02	**Futaleuf**	**56.79**	**121**	P		**P**		**10 54 30.3**	**0.0**
LL02	comp=Z,35nm,1.4s			IAmb		IAmb		10 54 45.4	
CTAO	**Charters Tower**	**57.12**	**271**	P		**P**		**10 54 34.9**	**+1.9**
INKA	**Innaminka**	**57.16**	**260**	P		**P**		**10 54 35.0**	**+1.9**
INKA	comp=Z,12nm,0.9s			IAmb		IAmb		10 54 36.1	
LR05	**Currie**	**58.01**	**118**	P		**P**		**10 54 39.4**	**+0.4**
BBOO	**Buckleboo**	**58.08**	**252**			**P**		**10 54 40.4**	**+0.8**
BBOO	comp=Z,22nm,0.9s			IAmb		IAmb		10 54 41.0	
PLCA	**Paso Flores**	**58.76**	**119**	P		**P**		**10 54 44.8**	**+0.4**
PLCA	comp=Z,17nm,1.1s			IAmb		IAmb		10 54 45.9	
PLCA	**Paso Flores**	**58.76**	**119**	P		**P**		**10 54 45.0**	**+0.7**
	comp=Z,7.1nm,0.9s,baz=244,slow=8.3,SNR=8.3 comp=Z,7.1nm,0.9s								
BO01	**Tunca**	**61.49**	**112**	P		**P**		**10 55 03.3**	**+0.2**
BO02	**Sierra Bellavi**	**61.50**	**113**	P		**P**		**10 55 03.6**	**+0.5**
BO02	comp=Z,19nm,0.8s			IAmb		IAmb		10 55 04.1	
MT02	**Curacav**	**62.03**	**111**	P		**P**		**10 55 07.6**	**+0.8**
PMG	**Port Moresby**	**62.93**	**281**	LR		LR		11 21 00.3	
AS31	comp=Z,50nm,18.4s,baz=142,slow=35 **Alice Springs**	**64.54**	**260**			**P**		**10 55 24.0**	**+0.5**
ASAR	**Alice Springs**	**64.54**	**260**			**P**		**10 55 23.5**	**-0.1**
ASAR	**Alice Springs**	**64.54**	**260**	P		**P**		**10 55 23.6**	**+0.1**
ASAR	comp=Z,6.0nm,0.8s,baz=123,slow=6.5,SNR=78			LR		LR		11 20 28.6	
FORT	comp=Z,99nm,20.4s,baz=123,slow=33 comp=Z,6.0nm,0.8s **Forrest**	**64.95**	**250**	P		**P**		**10 55 26.7**	**+0.7**
FORT	comp=Z,9.4nm,1.1s			IAmb		IAmb		10 55 26.9	
VNA3	**Neumayer Olymp**	**65.61**	**167**	⇑P		**P**		**10 55 28.7**	**-1.0**
TRQA	comp=Z,10nm,0.6s **Tornquist**	**65.84**	**120**	P		**P**		**10 55 30.9**	**-0.9**
WR8	**Warramunga Arr**	**66.22**	**263**	P		**P**		**10 55 35.1**	**+0.8**
WR8	comp=Z,14nm,1.2s			IAmb		IAmb		10 56 18.6	
SNAA	**Sanae**	**66.31**	**169**	⇑P		**P**		**10 55 33.6**	**-0.6**
	comp=Z,33nm,0.6s								
SNAA	**Sanae**	**66.31**	**169**	P		**P**		**10 55 33.9**	**-0.3**
SNAA	comp=Z,9.6nm,1.4s			IAmb		IAmb		10 55 39.3	
SNAA	**Sanae**	**66.31**	**169**	P		**P**		**10 55 33.6**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=230,slow=4.2,SNR=7.7 comp=Z,1.6nm,0.7s								
WB2	**Warramunga Arr**	**66.34**	**263**	P		**P**		**10 55 33.8**	**-1.4**
WB2	comp=Z,12nm,1.1s			IAmb		IAmb		10 55 44.2	
WRAB	**Tennant Creek**	**66.34**	**263**	P		**P**		**10 55 33.9**	**-1.2**
WRAB	comp=Z,8.9nm,0.9s			IAmb		IAmb		10 55 36.1	
WRA	**Warramunga Arr**	**66.34**	**263**			**P**		**10 55 34.2**	**-1.0**
WRA	**Warramunga Arr**	**66.34**	**263**	P		**P**		**10 55 35.4**	**+0.2**
WRA	comp=Z,3.1nm,0.6s,baz=122,slow=6.1,SNR=26			LR		LR		11 22 43.3	
VNA1	comp=Z,162nm,19.7s,baz=328,slow=34 comp=Z,3.1nm,0.6s **Neumayer--Stat**	**66.36**	**167**	⇑P		**P**		**10 55 34.5**	**+0.1**
WB0	comp=Z,7.9nm,0.9s **Warramunga Arr**	**66.41**	**263**	P		**P**		**10 55 34.9**	**-0.7**
TROLL	**Troll, Antarti**	**66.70**	**171**	⇑P		**P**		**10 55 34.0**	**-2.8**
AC02	comp=Z,126nm,0.7s **Maricunga**	**66.97**	**106**	P		**P**		**10 55 39.1**	**-0.6**
MAW	**Mawson**	**69.82**	**193**	P		**P**		**10 55 54.7**	**-1.5**
MAW	comp=Z,2.7nm,1.0s,baz=160,slow=4.2,SNR=3.7			LR		LR		11 22 20.3	
NWAO	comp=Z,48nm,19.7s,baz=168,slow=32 comp=Z,2.7nm,1.0s **Narrogin (SRO)**	**71.35**	**242**	LR		LR		11 20 35.0	
PB16	comp=Z,90nm,20.2s,baz=96,slow=30 **IPOC Station P**	**71.62**	**99**	P		**P**		**10 56 09.0**	**+0.3**
PB16	comp=Z,32nm,1.7s			IAmb		IAmb		10 56 19.6	
KNRA	**Kununurra**	**73.14**	**264**	P		**P**		**10 56 17.3**	**+0.3**
LPAZ	**La Paz**	**73.90**	**98**			**P**		**10 56 22.7**	**+0.4**
LPAZ	**La Paz**	**73.90**	**98**	P		**P**		**10 56 23.1**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=220,slow=4.2,SNR=14 comp=Z,3.4nm,0.7s								
LPIG	**La Paz**	**73.91**	**38**	LR		LR		11 19 59.8	
FITZ	comp=Z,51nm,21.7s,baz=206,slow=29 **Fitzroy Crossi**	**74.05**	**260**	P		**P**		**10 56 23.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**74.05**	**260**	P		**P**		**10 56 22.6**	**+0.3**
FITZ	comp=Z,12nm,0.8s,baz=186,slow=12,SNR=11			LR		LR		11 28 34.7	
	comp=Z,108nm,18.0s,baz=98,slow=36								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MORW	comp=Z,12nm,0.8s **Morawa**	**74.46**	**245**	P		**P**		**10 56 24.4**	**-0.4**
MORW	comp=Z,7.7nm,0.8s			IAmb		IAmb		10 56 25.8	
CZSB	**Cruzeiro do Su**	**75.67**	**88**			**P**		**10 56 32.4**	**+0.5**
CPUP	**Villa Florida**	**75.82**	**112**	P		**P**		**10 56 33.1**	**+0.5**
CPUP	**Villa Florida**	**75.82**	**112**	P		**P**		**10 56 32.5**	**-0.1**
CPUP	comp=Z,2.1nm,0.9s,baz=105,slow=7.6,SNR=7.1 comp=Z,13nm,20.0s,baz=96,slow=32 comp=Z,2.1nm,0.9s			LR		LR		11 25 20.6	
PSA00	**Pilbara Seismi**	**76.27**	**253**	P		**P**		**10 56 35.2**	**+0.1**
PSA00	comp=Z,13nm,1.4s			IAmb		IAmb		10 58 00.0	
OTAV	**Otavalo**	**76.40**	**78**	P		**P**		**10 56 38.0**	**+1.4**
OTAV	comp=Z,23nm,1.9s			IAmb		IAmb		10 56 44.0	
MBWA	**Marble Bar**	**76.61**	**254**	P		**P**		**10 56 37.7**	**+0.6**
MBWA	comp=Z,28nm,1.3s			IAmb		IAmb		10 59 19.7	
CMIG	**Matias Romero**	**76.77**	**54**	LR		LR		11 22 46.3	
SFX	comp=Z,35nm,20.1s,baz=184,slow=30 **San Felipe**	**77.98**	**31**	P		**P**		**10 56 45.6**	**+1.2**
SFX	comp=Z,7.8nm,0.6s			IAmb		IAmb		10 56 55.5	
JTS	**Las Juntas de**	**78.44**	**66**	P		**P**		**10 56 46.5**	**-0.8**
JTS	comp=Z,11nm,1.1s			IAmb		IAmb		10 57 03.3	
JTS	**Las Juntas de**	**78.44**	**66**	LR		LR		11 22 45.6	
HPIG	comp=Z,51nm,20.6s,baz=276,slow=29	**78.53**	**40**	P		**P**		**10 56 47.9**	**+0.1**
PIX	**Pinacate**	**79.00**	**32**	P		**P**		**10 56 50.0**	**+0.1**
PFO	**Pinyon Flats O**	**79.67**	**28**	LR		LR		11 23 15.2	
GUMO	comp=Z,39nm,21.2s,baz=226,slow=29 **Guam**	**80.22**	**297**	LR		LR		11 27 31.4	
TX31	comp=Z,15nm,21.7s,baz=138,slow=32 **Lajitas Ar. Si**	**81.50**	**40**	P		**P**		**10 57 03.8**	**+0.1**
TX31	comp=Z,4.7nm,0.7s			IAmb		IAmb		10 59 31.4	
TXAR	**Lajitas Array**	**81.50**	**40**	P		**P**		**10 57 04.0**	**+0.3**
TXAR	**Lajitas Array**	**81.50**	**40**	P		**P**		**10 57 05.8**	**+2.2**
TXAR	comp=Z,1.4nm,0.8s,baz=197,slow=7.6,SNR=10.0 comp=Z,21nm,20.4s,baz=220,slow=29 comp=Z,1.4nm,0.8s			LR		LR		11 24 22.8	
MPMC	**Manual Prospec**	**81.51**	**26**	P		**P**		**10 57 04.0**	**+0.4**
QSM	**Queen of Sheba**	**81.64**	**27**	P		**P**		**10 57 05.1**	**+0.9**
DUN6	**Lazy B Ranch**	**81.69**	**34**	P		**P**		**10 57 05.2**	**+0.6**
DUN6	comp=Z,21nm,1.1s			IAmb		IAmb		10 59 29.4	
VILB	**Vilhena**	**81.98**	**100**			**P**		**10 57 06.2**	**-0.4**
VILB	comp=Z,20nm,1.0s			IAmb		IAmb		10 57 07.2	
VHRN	**Van Horn**	**82.06**	**38**			**P**		**10 57 07.1**	**+0.5**
VHRN	comp=Z,9.2nm,0.9s			IAmb		IAmb		11 00 14.5	
BUCR	**Buckhorn Ranch**	**82.11**	**24**	P		**P**		**10 57 08.0**	**+1.4**
V12A	**Nelson**	**82.15**	**29**	P		**P**		**10 57 07.5**	**+0.6**
X16A	**Lo Mia Camp, P**	**82.31**	**32**	P		**P**		**10 57 09.0**	**+1.1**
ALPN	**Alpine**	**82.37**	**39**	P		**P**		**10 57 10.2**	**+1.9**
CMB	**Columbia Colle**	**82.38**	**24**	P		**P**		**10 57 09.4**	**+1.4**
GRAC	**Grapevine Rang**	**82.40**	**26**	P		**P**		**10 57 09.1**	**+0.9**
GRAC	comp=Z,23nm,1.9s			IAmb		IAmb		10 57 24.8	
WCT	**Wildcat Mounta**	**82.47**	**27**	P		**P**		**10 57 09.9**	**+1.3**
ROSC	**El Rosal**	**82.52**	**77**	LR		LR		11 28 38.8	
MNRC	comp=Z,65nm,18.5s,baz=193,slow=32 **McLaughlin Min**	**82.55**	**22**	P		**P**		**10 57 08.8**	**-0.1**
MNRC	comp=Z,19nm,1.2s			IAmb		IAmb		10 57 15.9	
MNTX	**Cornudas Mount**	**82.63**	**37**			**P**		**10 57 09.5**	**+0.1**
WELL	**Weller Preserv**	**82.64**	**23**	P		**P**		**10 57 09.6**	**+0.2**
GMN	**Gold Mountain**	**82.71**	**26**	P		**P**		**10 57 10.0**	**0.0**
SHPR	**Sheep Range**	**82.73**	**28**			**P**		**10 57 10.4**	**+0.4**
TPNV	**Topopah Spring**	**82.74**	**27**	P		**P**		**10 57 10.4**	**+0.3**
TPNV	comp=Z,4.7nm,0.9s			IAmb		IAmb		10 57 18.6	
SAND	**Sanderson**	**82.78**	**41**	P		**P**		**10 57 10.2**	**-0.1**
X18A	**Snowflake**	**83.02**	**33**	P		**P**		**10 57 11.9**	**+0.3**
X18A	comp=Z,6.2nm,0.7s			IAmb		IAmb		10 59 29.0	
AFDM	**Forest Hills D**	**83.04**	**23**	P		**P**		**10 57 12.7**	**+1.3**
AFDM	comp=Z,3.3nm,0.5s			IAmb		IAmb		10 57 28.5	
WAKR	**Walker**	**83.10**	**24**			**P**		**10 57 13.1**	**+1.2**
WAKR	comp=Z,8.1nm,1.0s			IAmb		IAmb		10 57 20.0	
WUAZ	**Wupatki**	**83.30**	**31**	P		**P**		**10 57 14.2**	**+1.2**
NVAR	**Mina Array Bea**	**83.39**	**25**	P		**P**		**10 57 14.7**	**+1.2**
NVAR	**Mina Array Bea**	**83.39**	**25**	P		**P**		**10 57 15.2**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=205,slow=8.0,SNR=10 comp=Z,0.8nm,0.7s								
NV11	**Mina Array Sit**	**83.44**	**25**			**P**		**10 57 15.2**	**+1.6**
RYN	**Ryan**	**83.50**	**25**	P		**P**		**10 57 15.2**	**+1.2**
RYN	comp=Z,7.0nm,0.9s			IAmb		IAmb		10 57 21.9	
PRN	**Pahroc Range**	**83.58**	**28**	P		**P**		**10 57 15.3**	**+1.0**
PRN	comp=Z,8.6nm,1.1s			IAmb		IAmb		10 57 22.6	
U15A	**North Rim**	**83.73**	**30**	P		**P**		**10 57 17.1**	**+1.7**
U15A	comp=Z,6.5nm,1.0s			IAmb		IAmb		10 57 23.1	
Y22A	**Socorro**	**83.79**	**35**			**P**		**10 57 15.8**	**+0.2**
LCMT	**Little Creek M**	**83.89**	**29**	P		**P**		**10 57 17.4**	**+1.4**
KNB	**Kanab**	**84.05**	**29**			**P**		**10 57 17.9**	**+1.0**
KNB	comp=Z,4.7nm,0.9s			IAmb		IAmb		10 57 24.4	
PAHR	**Pah Rah Range**	**84.22**	**24**			**P**		**10 57 19.1**	**+1.5**
PAHR	comp=Z,5.4nm,1.0s			IAmb		IAmb		10 57 25.8	
R11B	**Troy Canyon, C**	**84.23**	**27**			**P**		**10 57 19.5**	**+1.8**
R11B	comp=Z,10nm,1.0s			IAmb		IAmb		10 57 25.6	
CCUT	**Cedar City**	**84.32**	**29**	P		**P**		**10 57 19.0**	**+0.8**
CCUT	comp=Z,4.2nm,0.9s			IAmb		IAmb		10 57 26.6	
N02D	**Trinity Center**	**84.43**	**21**	P		**P**		**10 57 19.9**	**+1.4**
N02D	comp=Z,10.0nm,0.9s			IAm

PLID					IAmb	IAmb	10 57 57.5		
	comp=Z,5.7nm,1.4s								
BW06	**Boulder Array**	**90.29**	**29**	P		**P**	**10 57 46.4**	**-0.6**	
PD31	**Pinedale Array**	**90.29**	**29**	P		**P**	**10 57 47.7**	**+0.7**	
PDAR	**Pinedale Array**	**90.29**	**29**	P		**P**	**10 57 47.4**	**+0.4**	
PDAR	**Pinedale Array**	**90.29**	**29**	P		**P**	**10 57 47.1**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=175,slow=5.4,SNR=9.8								
PDAR					LR	LR	11 30 58.1		
	comp=Z,24nm,18.2s,baz=212,slow=31								
	comp=Z,0.7nm,0.8s								
TPAW	**Teton Pass**	**90.41**	**28**	P		**P**	**10 57 46.5**	**-1.1**	
TPAW					IAmb	IAmb	10 57 55.8		
	comp=Z,4.3nm,1.1s								
WLAR	**White Oak Lake**	**90.42**	**45**	P		**P**	**10 57 49.9**	**+2.4**	
SNOW	**Snow King Moun**	**90.45**	**28**	P		**P**	**10 57 47.3**	**-0.6**	
SNOW					IAmb	IAmb	11 00 12.8		
	comp=Z,3.6nm,0.8s								
FXWY	**Fox Creek**	**90.51**	**27**	P		**P**	**10 57 48.6**	**+0.5**	
FXWY					IAmb	IAmb	10 57 55.5		
	comp=Z,4.4nm,1.0s								
MCMT	**McKenzie Canyo**	**90.93**	**26**	P		**P**	**10 57 48.9**	**-1.1**	
K22A	**Casper**	**91.34**	**31**			**P**	**10 57 51.8**	**-0.1**	
YHB	**Horse Butte**	**91.42**	**27**	P		**P**	**10 57 53.0**	**+0.8**	
YHB					IAmb	IAmb	10 59 43.6		
	comp=Z,11nm,1.3s								
DLMT	**Dillon**	**91.48**	**26**	P		**P**	**10 57 52.5**	**+0.1**	
DLMT					IAmb	IAmb	10 58 00.1		
	comp=Z,9.1nm,1.3s								
YHL	**Hebgen Lake**	**91.52**	**27**			**P**	**10 57 53.0**	**+0.3**	
YHL					IAmb	IAmb	10 58 01.8		
	comp=Z,10nm,1.2s								
LRM	**Limekiln Ridge**	**91.94**	**26**	P		**P**	**10 57 55.2**	**+0.6**	
BOZ	**Bozeman (W)**	**92.02**	**26**	P		**P**	**10 57 55.7**	**+0.8**	
YNE	**Yellowstone No**	**92.06**	**27**	P		**P**	**10 57 56.4**	**+1.2**	
YNE					IAmb	IAmb	10 58 03.7		
	comp=Z,6.5nm,1.0s								
RLMT	**Red Lodge**	**92.42**	**28**	P		**P**	**10 57 56.5**	**-0.3**	
RLMT					IAmb	IAmb	10 58 23.2		
	comp=Z,17nm,1.8s								
NEW	**Newport**	**92.69**	**22**	LR		LR	11 33 02.4		
	comp=Z,29nm,18.1s,baz=224,slow=31								
OVMT	**Ovando**	**92.86**	**25**	P		**P**	**10 57 58.0**	**-0.8**	
PCRV	**Puerto La Cruz**	**93.26**	**80**	LR		LR	11 32 06.3		
	comp=Z,35nm,20.0s,slow=30								
BBB	**Bella Bella**	**93.81**	**14**	LR		LR	11 30 10.3		
	comp=Z,53nm,20.7s,baz=214,slow=29								
WVT	**Waverly**	**95.12**	**46**	P		**P**	**10 58 08.4**	**-0.9**	
KDAK	**Kodiak Island**	**97.41**	**359**	LR		LR	11 33 11.7		
	comp=Z,64nm,20.5s,baz=180,slow=30								
MDP	**Montagnes des**	**99.22**	**91**	LR		LR	11 37 43.8		
	comp=Z,68nm,18.6s,baz=160,slow=32								
MKAR	**Makanchi Array**	**141.70**	**298**	PKhKP		PKPpre	11 04 13.4		
	comp=Z,0.8nm,0.8s,baz=103,slow=5.4,SNR=5.0								
KURBB	**Kurchatov Arra**	**144.56**	**304**	PKP		PKPbc	11 04 21.6	+0.8	
	comp=Z,1.9nm,0.9s,baz=100,slow=3.5,SNR=10								
KK31	**Karatay Array**	**149.41**	**289**	PKPbc		**PKPbc**	**11 04 35.6**	**+0.6**	
KKAR	**Karatay Array**	**149.41**	**289**	PKPbc		**PKPbc**	**11 04 34.7**	**-0.3**	
BVAR	**Borovoye Array**	**149.46**	**309**	PKPbc		**PKPbc**	**11 04 34.8**	**0.0**	
	comp=Z,9.0nm,0.5s,baz=94,slow=1.4,SNR=24								
BRVK	**Borovoye**	**149.52**	**309**	PKPdf		**PKPdf**	**11 04 31.3**	**+1.0**	
BRVK						**PKPbc**	**11 04 35.1**	**+0.3**	
BRVK						**PKPab**	**11 04 41.1**	**+1.2**	
PFVI	**Vila Bisbo**	**149.99**	**83**	PKPdf		**PKPdf**	**11 04 29.6**	**-2.0**	
PFVI				PKPbc		**PKPbc**	**11 04 36.0**	**-0.5**	
PFVI				PKPab		**sPKPbc**	**11 04 41.2**	**+2.4**	
ARCES	**ARCESS Array B**	**150.30**	**3**	PKPbc		**PKPbc**	**11 04 35.6**	**-0.7**	
	comp=Z,2.0nm,0.5s,baz=332,slow=3.0,SNR=14								

CATAC 02 10:45:21.7±0.4, 12°N±2°×87°W±°, h38km±5km, M3.0/15, MLv3.0/15, Error ellipse: s-maj=6.1km s-min=2.5km az=35.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**0.61**	**44**	P		Pn	10 45 35.1	+1.0
CRIN	**San Cristobal**	**0.61**	**44**	S		Sn	10 45 45.4	+2.8
CSGN	**Cosiguina Volc**	**0.71**	**354**	P		Pn	10 45 35.7	+0.3
CSGN				S		Sn	10 45 46.4	+1.2
POTN	**Potosi Cosigui**	**0.73**	**358**	P		Pn	10 45 36.1	+0.5
POTN				S		Sn	10 45 46.6	+1.1
CNGN	**Cerro Negro**	**0.81**	**73**	P		Pn	10 45 37.3	+0.7
CNGN	**Cerro Negro**	**0.81**	**73**	S		Sn	10 45 49.7	+2.4
ILCN	**San Idelfonso**	**0.83**	**68**	P		Pn	10 45 37.1	+0.3
ILCN				S		Sn	10 45 48.9	+1.0
COPN	**Copaltepe**	**0.88**	**95**	P		Pn	10 45 37.2	-0.3
MOMN	**Momotombo**	**0.94**	**81**	P		Pn	10 45 38.7	+0.4
MOMN				S		Sn	10 45 51.0	+0.4
MOM2	**El Cardon**	**0.99**	**80**	P		Pn	10 45 39.5	+0.5
MOM2				S		Sn	10 45 53.0	+1.1
SAPS	**Ciudad Sandino**	**1.06**	**95**	P		Pn	10 45 40.8	+0.8
SAPS	**Ciudad Sandino**	**1.06**	**95**	S		Sn	10 45 53.3	+0.4
CNCH	**Conchagua**	**1.06**	**341**	P		Pn	10 45 40.2	0.0
CNCH	**Conchagua**	**1.06**	**341**	S		Sn	10 45 54.5	+0.7
APQ3	**Volcan Apoyequ**	**1.09**	**89**	S		Sn	10 45 54.8	+0.5
LCND	**La Caada**	**1.11**	**339**	P		Pn	10 45 40.8	0.0
TISN	**Laguna Tiscapa**	**1.20**	**96**	P		Pn	10 45 42.0	+0.1
UNAN	**Cigeo UNAN**	**1.20**	**97**	P		Pn	10 45 42.7	+0.8
UNAN				S		Sn	10 45 57.5	+0.6
R4DEC	**Barrio San Lui**	**1.22**	**95**	S		Sn	10 45 57.8	+0.5
CHOHN	**Orocuina**	**1.25**	**15**	S		Sn	10 45 59.2	+0.8
CHOHN	**Orocuina**	**1.25**	**15**	P		Pn	10 45 43.1	+0.3
WILN	**Americas 2**	**1.27**	**94**	P		Pn	10 45 43.3	+0.4
WILN				S		Sn	10 45 59.2	+0.4
NANN	**Nandasmo**	**1.37**	**103**	S		Sn	10 46 02.6	+1.3
NADN	**Granada**	**1.51**	**110**	S		Sn	10 46 04.2	-0.4
MATN	**Matagalpa**	**1.66**	**66**	P		Pn	10 45 47.5	-0.9
MATN	**Matagalpa**	**1.66**	**66**	S		Sn	10 46 08.0	-0.5
OCON	**Estacion meteo**	**1.68**	**36**	S		Sn	10 46 09.2	+0.3
PQSS	**Presa 15 de Se**	**1.71**	**322**	S		Sn	10 46 10.5	+0.9
BOAB	**BOACO BROADBAN**	**1.79**	**84**	P		Pn	10 45 50.4	+0.4
BOAB	**BOACO BROADBAN**	**1.79**	**84**	S		Sn	10 46 13.2	+1.7
YUSH	**Yuscaran**	**1.80**	**20**	S		Sn	10 46 12.1	+0.3
YUSH	**Yuscaran**	**1.80**	**20**	P		Pn	10 45 50.8	+0.5
TGUH	**Tegucigalpa,Un**	**1.80**	**7**	P		Pn	10 45 51.0	+0.7
TGUH				S		Sn	10 46 12.1	+0.2
RCVN	**Varillal2**	**1.82**	**44**	S		Sn	10 46 13.4	+0.9
RCVN	**Varillal2**	**1.82**	**44**	P		Pn	10 45 51.3	+0.7
RCPN	**Sur Rio San Ju**	**1.85**	**47**	P		Pn	10 45 50.6	-0.4
MARCA	**Marcala la Paz**	**1.96**	**344**	S		Sn	10 46 17.3	+1.3
JAYA	**Jayaque - finc**	**2.36**	**306**	S		Sn	10 46 25.1	-0.8
JAYA	**Jayaque - finc**	**2.36**	**306**	P		Pn	10 45 58.9	+0.8

*UPA **02** 10:46:13.2±1.1, 8°39N×82°85W, h25km±2km, ML3.8, MW3.8*
*UCR **02** 10:46:13.4±1.3, 8°41N×82°81W, h26km±2km, MW3.7*
ISC 02 10:46:13.2±0.9, 8°39N±0°03×82°84W±0°03, h32km±5km, n68, σ0°91/88, 3C-9D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.05**	**71**	*i* P		**Pb**	**10 46 18.2**	**-0.4**
LESP3				AMP			10 46 18.2	
	comp=Z,15μm,0.1s							
LESP3				*e*S		**Sb**	**10 46 21.2**	**-1.0**
LPPC	**Paso Canoas**	**0.14**	**358**	*e*P		**Pb**	**10 46 18.7**	**-0.5**
LPPC				*e*S		**Sb**	**10 46 23.6**	**+0.5**
PTPM	**Petroterminale**	**0.19**	**193**	*e*P		**Pb**	**10 46 19.1**	**-0.5**
PTPM				*e*S		**Sb**	**10 46 22.8**	**-1.1**
PTPA	**Petro Terminal**	**0.19**	**190**	*e*P		**Pb**	**10 46 19.1**	**-0.5**
PTPA				*e*S		**Sb**	**10 46 25.1**	**+1.2**
DMCAL	**E. de Neily**	**0.28**	**8**	*e*P		**Pb**	**10 46 20.5**	**-0.2**
NELY	**Ciudad Neily**	**0.28**	**337**	*e*P		**Pb**	**10 46 20.0**	**-0.6**
BAGA3	**Bagala, Chiriq**	**0.31**	**76**	*i*P		**Pb**	**10 46 20.9**	**-0.1**
BAGA3				AMP			10 46 21.1	
	comp=Z,22μm,0.1s							
BAGA3				*e*S		**Sb**	**10 46 26.6**	**+0.3**
DVD	**David**	**0.38**	**83**	*i*P		**Pb**	**10 46 21.5**	**-0.5**
DVD				AMP			10 46 21.5	
	comp=Z,20μm,0.1s							
DVD				*e*S		**Sn**	**10 46 28.5**	**-0.4**
FITO	**Golfito**	**0.39**	**306**	*e*P		**Pb**	**10 46 20.6**	**-1.5**
FITO				*e*S		**Sb**	**10 46 27.1**	**-1.1**
MLIR3	**Monte Lirio, C**	**0.40**	**2**	*e*P		**Pb**	**10 46 22.4**	**0.0**
MLIR3				*e*S		**Sb**	**10 46 28.4**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.41**	**91**	*i*P		**Pb**	**10 46 21.6**	**-0.7**
PEDE3				AMP			10 46 22.5	
	comp=Z,5μm,0.1s							
PEDE3				*e*S		**Sb**	**10 46 28.2**	**-0.4**
CLLRA	**Cordillera,**	**0.41**	**32**	*e*P		**Pb**	**10 46 22.2**	**-0.4**
LOCO3	**Loma Colorada,**	**0.41**	**87**	*i*P		**Pb**	**10 46 21.9**	**-0.5**
LOCO3				AMP			10 46 22.0	
	comp=Z,8μm,0.1s							
LOCO3				*e*S		**Sb**	**10 46 28.5**	**-0.2**
EDAD	**Golfito**	**0.42**	**308**	*e*P		**Pb**	**10 46 20.9**	**-1.6**
RSRNO	**Rio Sereno**	**0.42**	**357**	*e*P		**Pn**	**10 46 24.2**	**+0.9**
BRU2	**Volcan**	**0.42**	**20**	*i*P		**Pb**	**10 46 22.3**	**-0.5**
BRU2				AMP			10 46 23.1	
	comp=Z,2μm,0.1s							
BRU2				*e*S		**Sn**	**10 46 30.1**	**0.0**
BRU2	**Volcan**	**0.42**	**20**	*e*P		**Pb**	**10 46 22.3**	**-0.5**
TBS2		**0.44**	**24**	*e*P		**Pn**	**10 46 23.4**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.44**	**85**	*i*P		**Pb**	**10 46 22.2**	**-0.7**
LOMA3				AMP			10 46 22.3	
	comp=Z,2μm,0.2s							
LOMA3				*e*S		**Sb**	**10 46 29.6**	**+0.1**
SCLRA	**Santa Clara, W**	**0.44**	**7**	*e*P		**Pb**	**10 46 22.9**	**-0.2**
VITO	**San Vito**	**0.45**	**343**	*e*P		**Pb**	**10 46 22.8**	**-0.2**
BC3P	**Paso Ancho**	**0.48**	**28**	*i*P		**Pb**	**10 46 22.9**	**-0.7**
BC3P				AMP			10 46 23.7	
	comp=Z,3μm,0.1s							
BC3P				*e*S		**Sn**	**10 46 31.6**	**+0.1**
BQTLY	**Boquete Panama**	**0.52**	**45**	*e*P		**Pb**	**10 46 23.5**	**-0.7**
BQSF3	**Alto Boquete,**	**0.53**	**49**	*i*P		**Pb**	**10 46 23.5**	**-0.8**
BQSF3				AMP			10 46 24.9	
	comp=Z,3μm,0.1s							
BQSF3				*e*S		**Sn**	**10 46 32.5**	**-0.1**
WILLF	**Boquete**	**0.53**	**48**	*e*P		**Pb**	**10 46 23.5**	**-0.9**
ALCO	**Alturas Coton,**	**0.56**	**0**	*e*P		**Pb**	**10 46 24.0**	**-0.8**
LNBQ3	**Los Naranjos,**	**0.56**	**44**	*i*P		**Pb**	**10 46 23.7**	**-1.0**
LNBQ3				AMP			10 46 26.1	
	comp=Z,6μm,0.1s							
LNBQ3				*e*S		**Sn**	**10 46 33.2**	**-0.1**
DAP26	**falda E V. Bar**	**0.57**	**46**	*e*P		**Pb**	**10 46 23.9**	**-1.1**
EDP2	**Potrero Grande**	**0.71**	**331**	*e*P		**Pb**	**10 46 26.4**	**-0.8**
FIMO	**Fila Mora**	**0.79**	**319**	*e*P		**Pb**	**10 46 27.4**	**-1.2**
PBNVO	**Pueblo Nuevo,**	**0.81**	**52**	*e*P		**Pb**	**10 46 27.3**	**-1.5**
RBALA	**Bur**	**0.83**	**54**	*e*P		**Pb**	**10 46 27.9**	**-1.3**
BURE	**Buenos Aires**	**0.92**	**327**	*e*P		**Pb**	**10 46 29.4**	**-1.4**
DRK0	**Durika**	**0.96**	**335**	*e*P		**Pn**	**10 46 29.7**	**-1.0**
DRK0				AMP			10 46 31.3	
	comp=Z,22μm,0.1s							
DRK0				*e*S		**Sb**	**10 46 43.4**	**-0.5**
DRK0	**Durika**	**0.96**	**335**	*e*P		**Pn**	**10 46 29.7**	**-1.0**
EDPE	**Pejibaye, P**	**1.05**	**316**	*e*P		**Pn**	**10 46 31.4**	**-0.5**
KKNTU	**Kakint²**	**1.11**	**66**	*e*P		**Pn**	**10 46 31.7**	**-0.9**
PDCAN	**Manzana , Fuen**	**1.13**	**95**	*e*P		**Pn**	**10 46 31.7**	**-1.2**
SAJE	**San Jernim**	**1.16**	**325**	*e*P		**Pn**	**10 46 32.5**	**-0.9**
CEUA	**Cerro Uatsi, L**	**1.23**	**355**	*e*P		**Pb**	**10 46 36.2**	**+0.3**
LAES	**El Progreso Va**	**1.38**	**351**	*e*P		**Pn**	**10 46 37.3**	**+1.0**
VERH	**Veragua Rainfo**	**1.57**	**347**	*e*P		**Pn**	**10 46 39.5**	**+0.5**
LLNJ	**Naranjito**	**1.65**	**311**	*e*P		**Pn**	**10 46 40.8**	**+0.8**
MESA3	**La Mesa, Verag**	**1.65**	**98**	*e*P		**Pn**	**10 46 40.0**	**0.0**
MESA3				*e*S		**Sn**	**10 47 01.2**	**+1.0**
QMAL	**Guarumal, Vera**	**1.71**	**111**	*e*P		**Pn**	**10 46 40.1**	**-0.7**
RVSTA	**Santa Teresita**	**1.77**	**333**	*e*P		**Pn**	**10 46 42.9**	**+1.1**
LCR2	**La Lucha 2**	**1.77**	**319**	*e*P		**Pn**	**10 46 42.5**	**+0.6**
VTCV	**VTCV, Calle Va**	**1.81**	**331**	*e*P		**Pn**	**10 46 43.5**	**+1.0**
RESJ	**San Isidro (Tu**	**1.81**	**334**	*e*P		**Pn**	**10 46 43.5**	**+1.1**
PICV	**PH. Pirrs**	**1.82**	**313**	*e*P		**Pn**	**10 46 43.1**	**+0.7**
ABRB	**Las Abras (San**	**1.83**	**332**	*e*P		**Pn**	**10 46 43.8**	**+1.1**
LCOCO	**El Coco**	**1.83**	**337**	*e*P		**Pn**	**10 46 43.9**	**+1.4**
CVTV	**Tajo**	**1.84**	**331**	*e*P		**Pn**	**10 46 44.0**	**+1.0**
PAR1A	**Puntarenas Pro**	**1.84**	**311**	*e*P		**Pn**	**10 46 43.9**	**+1.2**
CVTQ	**Turrialba Volc**	**1.85**	**330**	*e*P		**Pn**	**10 46 44.1**	**+1.0**
VTLA	**Turrialba Volc**	**1.85**	**330**	*e*P		**Pn**	**10 46 44.1**	**+0.9**
CVTR	**Volcan Turrial**	**1.86**	**331**	*e*P		**Pn**	**10 46 44.2**	**+1.0**
ACOS	**Acosta**	**1.92**	**317**	*e*P		**Pn**	**10 46 45.1**	**+1.3**
SANTA	**Santa Ana**	**2.03**	**319**	*e*P		**Pn**	**10 46 45.8**	**+0.4**
PURI	**Puriscal**	**2.05**	**315**	*e*P		**Pn**	**10 46 46.5**	**+0.8**
ATEO	**Atenas**	**2.19**	**316**	*e*P		**Pn**	**10 46 48.9**	**+1.3**
CACAO	**El Cacao, Vera**	**2.21**	**118**	*e*P		**Pn**	**10 46 48.0**	**+0.2**
CACAO				*e*S		**Sn**	**10 47 14.8**	**+0.7**
CHIT3	**Chitre**	**2.43**	**100**	*e*P		**Pn**	**10 46 51.7**	**+0.9**
CHIT3				*e*S		**Sn**	**10 47 20.6**	**+1.1**
AZU	**Azuero**	**2.60**	**103**	*e*P		**Pn**	**10 46 54.4**	**+1.2**
AZU				*e*S		**Sn**	**10 47 24.2**	**+0.4**
VARE2	**V. Arenal**	**2.77**	**318**	*e*P		**Pn**	**10 46 58.5**	**+3.0**
BCIP	**Isla Barro Col**	**3.06**	**75**	*e*P		**Pn**	**10 47 00.6**	**+1.1**
BCIP	**Isla Barro Col**	**3.06**	**75**	*e*P		**Pn**	**10 47 00.6**	**+1.1**
GAMB1	**Gamboa**	**3.17**	**77**	*e*P		**Pn**	**10 47 01.6**	**+0.6**

*NEIC **02** 10:56:19.0±0.7, 36°362N±0°009×98°15W±0°01, h7km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=185.0*
*NEIC **02** 10:56:18.9, 36°36N×98°15W, h5km*
NEIC 02 10:56:18.9±0.6, 36°359N±0°007×98°16W±0°01, h4km±2km, mb_Lg3.4/119, ML3.7/50, ML3.4/27, Mwr3.4/25, Error ellipse: s-maj=1.3km s-min=1.1km az=58.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; M_{rr}=0.00; $M_{\theta\theta}$=1.40; $M_{\phi\phi}$=-1.40; $M_{r\theta}$=-0.22; $M_{\theta\phi}$=0.31; $M_{r\phi}$=0.05;
Fault plane solution: M_0=1.45000×10¹⁴ **NP1:** ϕ_s=309.04000°, δ86.39000°, λ7.96000°. **NP2:** ϕ_s=218.54000°, δ82.05000°, λ176.36000°. **Principal axes:** T 1.4648, Plg8.0000°, Azm174.0000°; N -0.0309, Plg81.0000°, Azm333.0000°; P -1.4340, Plg3.0000°, Azm84.0000°;

Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CROK	**Carrier**	**0.20**	**44**			Pg	10 56 23.5	+0.7
CROK				Sg		Sg	10 56 26.7	+1.2
CROK				IAML			10 56 26.9	
	comp=E,23μm,0.3s							
CROK				IAML			10 56 26.9	
	comp=N,23μm,0.5s							
OK038	**West end E0370**	**0.49**	**284**			Pg	10 56 28.7	+0.5
OK038						Sg	10 56 35.7	+1.2
GC02	**Grant County #**	**0.55**	**26**			Pg	10 56 29.6	+0.2
GC02						Sg	10 56 37.3	+0.8
KAN14	**Manchester OK**	**0.62**	**15**			Pg	10 56 30.9	+0.2
KAN14						Sg	10 56 39.5	+0.7
KAN14				IAML			10 56 39.6	
	comp=E,3μm,0.3s							
NOKA	**Waynoka**	**0.68**	**294**			Pg	10 56 32.2	+0.2
NOKA				IAML			10 56 48.8	
	comp=E,4μm,0.3s							
OK029	**Liberty Lake**	**0.80**	**134**	Pg		Pg	10 56 34.1	-0.1
OK029						Sg	10 56 45.3	+0.7
OK029				IAML			10 56 47.7	
	comp=E,3μm,0.4s							
OK029				IAML			10 56 48.0	
	comp=E,3μm,0.5s							
BCOK	**Bluff Creek, N**	**0.83**	**147**			Pg	10 56 34.7	-0.1
BCOK						Sg	10 56 46.2	+0.6
CSTR	**Hydro, Custer**	**0.83**	**211**			Pg	10 56 35.2	+0.4
BLOK	**Blackwell**	**0.86**	**62**			Pg	10 56 35.3	0.0
BLOK						Sg	10 56 46.8	+0.3
ADOK	**Arcadia Dam**	**0.95**	**138**			Pg	10 56 36.9	-0.2
ADOK				Sg		Sg	10 56 50.0	+0.5
OK004	**Okla Sci Mus**	**1.00**	**146**			Pg	10 56 37.8	-0.3
OK004						Sg	10 56 51.5	+0.5
ELIS	**Ellis County**	**1.06**	**254**			Pg	10 56 39.2	0.0
ELIS				IAML			10 57 03.2	
	comp=E,2μm,0.2s							
ELIS				IAML			10 57 07.6	
	comp=N,2μm,0.2s							
OKCSW	**OKLAHOMA CITY**	**1.12**	**148**			Pg	10 56 39.7	-0.5
OKCSW				IAmb_Lg			10 56 52.9	
	comp=Z,304nm,1.1s							
OKCSW				IAML			10 56 58.0	
	comp=N,2μm,0.7s							
OKCSW				IAML			10 57 02.5	
	comp=E,1μm,0.3s							
OK052	**Battle Ridge R**	**1.16**	**108**			Pg	10 56 40.6	-0.4
OK052				IAML			10 57 01.2	
	comp=E,962nm,0.3s							
QUOK	**Quay**	**1.19**	**99**			Pg	10 56 41.2	-0.4
QUOK				IAML			10 57 03.9	
	comp=N,2μm,0.3s							
QUOK				IAML			10 57 04.0	
	comp=E,1μm,0.2s							
FNO	**Franklin**	**1.26**	**151**			Pg	10 56 42.3	-0.8
FNO						Sg	10 56 59.4	0.0
FNO				IAML			10 57 07.0	
	comp=E,1μm,0.6s							
T35A	**Sooner Cattle**	**1.44**	**67**			Pn	10 56 45.5	-0.2
DEOK	**Depew**	**1.44**	**111**			Pn	10 56 45.3	-0.3
WMOK	**Wichita Mounta**	**1.70**	**198**	Pn		Pn	10 56 49.1	-0.2
WMOK	**Wichita Mounta**	**1.70**	**198**			Pn	10 56 49.0	-0.3
WMOK				IAmb_Lg			10 57 15.0	
	comp=Z,311nm,0.8s							
DRZT	**Darrouzett**	**1.73**	**273**			Pb	10 56 51.0	-0.2
TUL3	**Leonard**	**1.97**	**102**			Pn	10 56 53.6	+0.7
R32A	**Long Quarter,**	**2.11**	**348**			Pn	10 56 55.9	+1.0
SMWD	**Samnorwood**	**2.11**	**234**			Pn	10 56 55.9	+0.9
SMWD				IAmb_Lg			10 57 30.4	
	comp=Z,117nm,0.7s							
LOOK	**Love County**	**2.49**	**161**			Pn	10 57 00.7	+0.5
LOOK				IAmb_Lg			10 57 42.2	
	comp=Z,171nm,0.9s							
RLO	**Rose Lookout**	**2.54**	**93**			Pn	10 57 02.0	+1.1
WTFS	**Witchita Falls**	**2.60**	**186**			Pn	10 57 03.4	+1.7
CBKS	**Cedar Bluff**	**2.75**	**333**			Pn	10 57 04.6	+0.8
KSU1	**Kansas State U**	**3.00**	**24**	IAmb_Lg			10 57 58.5	
	comp=Z,158nm,1.0s							
U38A	**Gravette**	**3.04**	**87**			Pn	10 57 08.7	+0.9
HHAR	**Hobbs**	**3.41**	**90**	IAmb_Lg			10 58 09.2	
	comp=Z,105nm,0.8s							
APMT	**Aspermont**	**3.43**	**209**			Pn	10 57 13.9	+0.8
DKNS	**Dickens**	**3.52**	**221**			Pn	10 57 15.2	+0.9
DKNS				IAmb_Lg			10 58 13.6	
	comp=Z,163nm,0.8s							
PLPT	**Palo Pinto**	**3.54**	**182**			Pn	10 57 15.0	+0.4
RTBA	**Rita Blanca**	**3.70**	**273**			Pn	10 57 17.8	+0.9
RTBA				IAmb_Lg			10 58 20.2	
	comp=Z,75nm,0.8s							
ABTX	**Abilene, Hawle**	**3.92**	**199**	IAmb_Lg			10 58 27.5	
	comp=Z,105nm,0.9s							
SN07	**Snyder 07**	**3.96**	**215**	IAmb_Lg			10 58 30.7	
	comp=Z,112nm,0.8s							
TREL	**Terrell**	**4.00**	**154**			Pn	10 57 20.9	0.0
TREL				IAmb_Lg			10 58 35.6	
	comp=Z,107nm,1.0s							
Z38A	**Mt. Pleasant**	**4.05**	**139**	IAmb_Lg			10 58 31.3	
	comp=Z,169nm,0.9s							
MIAR	**Mount Ida**	**4.15**	**114**			Pn	10 57 24.3	+1.3
MIAR				IAmb_Lg			10 58 40.6	
	comp=Z,110nm,0.8s							
WHTX	**Lake Whitney,**	**4.40**	**172**			Pn	10 57 26.4	+0.1
KSCO	**Kaye Shedlock'**	**4.42**	**308**			Pn	10 57 28.2	+1.4
X40A	**Basin Creek Fa**	**4.73**	**112**	IAmb_Lg			10 58 53.3	
	comp=Z,99nm,0.7s							
237A	**Washetta, Mont**	**4.76**	**155**	IAmb_Lg			10 59 03.2	
	comp=Z,50nm,1.0s							
MGMO	**Mountain Grove**	**4.79**	**79**			Pn	10 57 32.1	+0.3
MGMO				IAmb_Lg			10 58 54.6	
	comp=Z,47nm,0.7s							
WHAR	**Wooly Hollow**	**4.89**	**101**	IAmb_Lg			10 58 58.3	
	comp=Z,65nm,0.9s							
P38A	**Dawn**	**4.90**	**47**			Pn	10 57 34.3	+1.1
P38A				IAmb_Lg			10 58 59.4	
	comp=Z,66nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.91**	**94**	IAmb_Lg			10 59 01.9	
	comp=Z,57nm,1.0s							
WLAR	**White Oak Lake**	**4.92**	**121**	IAmb_Lg			10 59 05.5	
	comp=Z,86nm,0.7s							

BO02					IAML			11 07 16.5
	comp=Z,3μm,0.3s							
MT05	**Renca**	**1.43**	**58**	*eP*		**Pg**		**11 06 58.9 -0.1**
MT05				*eS*		**Sg**		**11 07 18.0 +0.5**
MT05					IAML			11 07 24.6
	comp=N,2μm,0.2s							
MT05	**Renca**	**1.43**	**58**	*i P*		**Pg**		**11 06 58.9 -0.1**
MT05				*eS*		**Sg**		**11 07 18.3 +0.8**
MT05					IAML			11 07 23.7
	comp=Z,750nm,0.9s							
MT15	**Las Vizcachas**	**1.50**	**69**	*eP*		**Pg**		**11 06 59.8 -0.6**
MT15				*eS*		**Sg**		**11 07 20.3 +0.3**
MT15					IAML			11 07 26.1
	comp=E,3μm,0.2s							
ROC1	**El Roble**	**1.53**	**40**	*eS*		**Sg**		**11 07 22.1 +1.3**
ROCH	**El Roble**	**1.54**	**40**	*eP*		**Pb**		**11 07 00.1 +0.1**
ROCH				*eS*		**Sg**		**11 07 21.5 +0.5**
MT14	**Cerro Cal¡n**	**1.57**	**62**	*eP*		**Pg**		**11 07 01.1 -0.6**
MT14				*eS*		**Sg**		**11 07 21.6 -0.5**
MT14					IAML			11 07 28.8
	comp=E,3μm,0.5s							
PEL	**Peldehue**	**1.61**	**52**	*eP*		**Pg**		**11 07 01.7 -0.8**
PEL				*eS*		**Sg**		**11 07 22.9 -0.4**
PEL					IAML			11 07 29.3
	comp=E,896nm,0.4s							
MT10	**Hacienda Santa**	**1.63**	**58**	*eP*		**Pg**		**11 07 02.1 -0.8**
MT10				*eS*		**Sg**		**11 07 24.0 -0.2**
MT10					IAML			11 07 25.5
	comp=N,3μm,0.4s							
ML02	**Panimavida**	**1.72**	**159**	*i P*		**Pb**		**11 07 02.5 -0.6**
ML02					IAML			11 07 35.4
	comp=Z,936nm,0.6s							
VA06	**Catapilco**	**1.76**	**25**	*eP*		**Pb**		**11 07 02.5 -1.2**
VA06					IAML			11 07 37.6
	comp=E,2μm,0.4s							
MT04	**Ro Olivares**	**1.86**	**67**	*i P*		**Pb**		**11 07 05.9 +0.2**
MT04					IAML			11 07 36.5
	comp=Z,276nm,0.5s							
MT08	**Bocatoma Ro**	**1.94**	**69**	*eP*		**Pb**		**11 07 06.9 -0.1**
MT08				*eS*		**Sb**		**11 07 31.9 +0.7**
MT08					IAML			11 07 42.9
	comp=N,622nm,0.4s							
MT08	**Bocatoma Ro**	**1.94**	**69**	*i P*		**Pb**		**11 07 06.7 -0.3**
MT08					IAML			11 07 41.3
	comp=Z,537nm,0.8s							
VA03	**San Esteban**	**1.95**	**45**	*eP*		**Pb**		**11 07 06.4 -0.7**
VA03				*eS*		**Sb**		**11 07 32.3 +1.0**
VA03					IAML			11 07 40.9
	comp=E,1μm,0.6s							
VA03	**San Esteban**	**1.95**	**45**	*i P*		**Pb**		**11 07 06.0 -1.0**
VA03				*eS*		**Sg**		**11 07 34.5 +0.2**
VA03					IAML			11 07 39.4
	comp=Z,918nm,0.9s							
CO02	**Combarbal**	**3.11**	**19**	*i P*		**Pn**		**11 07 20.8 +0.3**
CO02					IAML			11 08 18.3
	comp=Z,270nm,0.9s							
CO03	**El Pedregal**	**3.54**	**21**	*i P*		**Pn**		**11 07 27.1 +0.6**
CO03					IAML			11 08 32.2
	comp=Z,133nm,0.8s							
GO04	**Tololo Observa**	**4.14**	**17**	*i P*		**Pn**		**11 07 35.3 +0.5**
GO04					IAML			11 08 53.7
	comp=Z,91nm,0.6s							
LCO	**Las Campanas**	**5.28**	**14**	*i P*		**Pn**		**11 07 50.5 0.0**
LCO					IAML			11 09 22.5
	comp=Z,102nm,0.9s							

NEIC ***02*** *11:09:29.4±1.8, 19.°0S±0.°2×177.°6W±0.°1, h556km±8km, mb4.2/24, Error ellipse: s-maj=23.3km s-min=16.2km az=162.0*

IDC ***02*** *11:09:29.2±3.7, 19.°10S×177.°79W, h546km±39km, mb3.4/10, mbtmp4.3/12, Error ellipse: s-maj=22.1km s-min=17.5km az=60.0*

ISC 02 11:09:30.4±0.5, 19.°1S±0.°1×177.°70W±0.°07, h570km, n57, σ1§16/59, mb4.1/22, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.25**	**288**	P	**P**	**11 10 53.4**	**-2.3**
NIUE	**Niue**	**7.35**	**91**	P	**P**	**11 11 19.8**	**-2.7**
NIUE				S	**S**	**11 12 52.4**	**-1.9**
AFI	**Afiamalu**	**7.67**	**49**	P	P	11 11 20.7	-5.0
PINNC	**Pines Island,**	**14.32**	**253**	P	**P**	**11 12 30.7**	**-2.0**
SANVU	**Saraoutou**	**14.86**	**282**	P	**P**	**11 12 37.7**	**-0.4**
DZM	**Mont Dzumac**	**15.14**	**256**	P	**P**	**11 12 41.5**	**+0.6**
DZM	**Mont Dzumac**	**15.14**	**256**	P	**P**	**11 12 40.5**	**-0.3**
	7.9nm,0.8s,baz=86,slow=23,SNR=5.9						
URZ	**Urewera**	**19.63**	**192**	P	**P**	**11 13 20.0**	**-1.9**
	3.5nm,0.3s,baz=301,slow=2.4,SNR=6.6						
STKA	**Stephens Creek**	**38.66**	**243**		**P**	**11 16 07.0**	**+1.0**
STKA	**Stephens Creek**	**38.66**	**243**	P	**P**	**11 16 05.8**	**-0.3**
	9.0nm,0.9s,baz=92,slow=8.3,SNR=14						
	9.0nm,0.9s						
INKA	**Innaminka**	**38.94**	**249**	P	**P**	**11 16 09.3**	**+1.1**
INKA				IAmb	IAmb	11 16 10.4	
	comp=Z,8.3nm,1.4s						
BBOO	**Buckleboo**	**43.43**	**242**	P	**P**	**11 16 43.7**	**0.0**
JAY	**Jayapura**	**43.88**	**287**	P	**P**	**11 16 48.1**	**+0.6**
	comp=Z,11nm,0.6s,baz=158,slow=4.4,SNR=7.7						
	comp=Z,11nm,0.6s						
WB0	**Warramunga Arr**	**45.06**	**261**		**P**	**11 16 55.4**	**-1.1**
WRA	**Warramunga Arr**	**45.09**	**261**		**P**	**11 16 56.1**	**-0.6**
WRA	**Warramunga Arr**	**45.09**	**261**	P	**P**	**11 16 55.9**	**-0.8**
	comp=Z,7.0nm,0.6s,baz=98,slow=7.8,SNR=105						
WRA				PcP	**PcP**	**11 18 25.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=94,slow=3.2,SNR=4.2						
	comp=Z,7.0nm,0.6s						
AS31	**Alice Springs**	**45.13**	**255**		**P**	**11 16 56.8**	**-0.2**
AS31				IAmb	IAmb	11 16 57.7	
	comp=Z,4.8nm,0.7s						
ASAR	**Alice Springs**	**45.13**	**255**		**P**	**11 16 56.2**	**-0.8**
ASAR	**Alice Springs**	**45.13**	**255**	P	**P**	**11 16 56.6**	**-0.4**
	comp=Z,18nm,0.7s,baz=89,slow=8.0,SNR=286						
ASAR				PcP	**PcP**	**11 18 25.6**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=106,slow=4.6,SNR=4.9						
ASAR				S	**S**	**11 22 53.5**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=95,slow=16,SNR=5.1						
	comp=Z,18nm,0.7s						
MTN	**Manton Dam**	**49.44**	**269**	P	**P**	**11 17 29.1**	**-0.3**
FORT	**Forrest**	**50.12**	**246**	P	**P**	**11 17 33.9**	**-0.2**
FORT				IAmb	IAmb	11 18 13.8	
	comp=Z,6.4nm,1.1s						
KNRA	**Kununurra**	**51.04**	**265**	P	**P**	**11 17 40.8**	**-0.2**
KNRA				IAmb	IAmb	11 17 41.5	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.50**	**261**	P	**P**	**11 17 58.8**	**+0.2**
PSA00	**Pilbara Seismi**	**58.27**	**256**	P	**P**	**11 18 31.3**	**-0.2**
PSA00				IAmb	IAmb	11 18 31.7	
	comp=Z,8.3nm,0.8s						
MBWA	**Marble Bar**	**58.44**	**256**	P	**P**	**11 18 32.4**	**-0.2**
MBWA				IAmb	IAmb	11 18 48.2	
	comp=Z,15nm,1.1s						
MORW	**Morawa**	**60.63**	**247**	P	**P**	**11 18 46.9**	**-0.1**
MORW				IAmb	IAmb	11 19 01.0	
	comp=Z,13nm,1.3s						
GIRL	**Giralia**	**63.20**	**254**	P	**P**	**11 19 05.3**	**+1.5**
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**11 19 53.2**	**+2.4**
QSPA				IAmb	IAmb	11 19 53.5	
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**11 19 52.9**	**+2.1**
	comp=Z,4.1nm,0.7s,baz=306,slow=0.2,SNR=25						
	comp=Z,4.1nm,0.7s						
L04D	**Klamath Falls**	**79.56**	**38**	P	**P**	**11 20 36.4**	**-2.5**
NVAR	**Mina Array Bea**	**79.81**	**43**	P	**P**	**11 20 41.8**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=227,slow=7.9,SNR=3.5						
	comp=Z,0.3nm,0.7s						
MAW	**Mawson**	**82.98**	**200**	P	**P**	**11 20 56.8**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=132,slow=8.6,SNR=6.1						
	comp=Z,1.7nm,0.6s						
J18K	**Innoko River**	**83.91**	**9**	P	**P**	**11 21 01.0**	**+0.6**
CAST	**Castle Rocks**	**84.65**	**11**	P	**P**	**11 21 04.2**	**+0.1**
GRNC	**Granite Creek**	**84.66**	**17**	P	**P**	**11 21 04.0**	**-0.4**
GRNC				IAmb	IAmb	11 21 39.7	
	comp=Z,4.9nm,1.1s						
TRF	**Thorofare Moun**	**85.02**	**12**	P	**P**	**11 21 06.1**	**+0.1**
TRF				IAmb	IAmb	11 21 15.7	
	comp=Z,6.9nm,1.4s						
TXAR	**Lajitas Array**	**86.06**	**57**	P	**P**	**11 21 14.3**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=209,slow=7.3,SNR=5.8						
	comp=Z,0.7nm,0.7s						
O30N	**Mendenhall**	**86.34**	**19**	P	**P**	**11 21 13.7**	**+1.5**
CCB	**Clear Creek Bu**	**86.59**	**12**	P	**P**	**11 21 13.4**	**+0.2**
ILAR	**Eielson Array**	**86.89**	**13**	P	**P**	**11 21 15.4**	**+0.7**
ILAR	**Eielson Array**	**86.89**	**13**	P	**P**	**11 21 14.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=233,slow=4.7,SNR=5.6						
	comp=Z,0.3nm,0.8s						
TROLL	**Troll, Antarti**	**89.13**	**180**	⇑P	**P**	**11 21 25.4**	**+0.1**
	comp=Z,95nm,0.8s						
SNAA	**Sanae**	**89.40**	**178**	⇑P	**P**	**11 21 27.1**	**+0.5**
	comp=Z,16nm,0.6s						
SNAA	**Sanae**	**89.40**	**178**	P	**P**	**11 21 27.2**	**+0.7**
SNAA				IAmb	IAmb	11 22 04.1	
	comp=Z,5.4nm,1.5s						
SNAA	**Sanae**	**89.40**	**178**	P	**P**	**11 21 26.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=212,slow=11,SNR=5.8						
	comp=Z,0.7nm,0.6s						
VNA3	**Neumayer Olymp**	**89.52**	**176**	⇑P	**P**	**11 21 27.7**	**+0.7**
	comp=Z,4.8nm,0.6s						
VNA1	**Neumayer--Stat**	**90.19**	**176**	⇑P	**P**	**11 21 31.4**	**+1.4**
	comp=Z,3.2nm,0.8s						
G31M	**Satah River**	**91.61**	**16**	P	**P**	**11 21 34.8**	**-1.7**
G31M				IAmb	IAmb	11 22 12.7	
	comp=Z,7.0nm,1.4s						
MKAR	**Makanchi Array**	**110.43**	**314**	PKiKP	**PKiKP**	**11 26 57.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=175,slow=2.3,SNR=4.1						
ARCES	**ARCESS Array B**	**127.59**	**350**	PKP	**PKPdf**	**11 27 30.9**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=29,slow=2.8,SNR=4.7						
EKA	**Eskdalemuir Ar**	**143.58**	**5**	PKP	PKPab	11 27 58.8	-0.4
	comp=Z,1.9nm,1.0s,baz=324,slow=2.6,SNR=4.3						
BURAR	**Bucovina Array**	**145.97**	**332**	PKPab	**PKPab**	**11 28 09.2**	**+0.3**
BRTR	**Keskin Array B**	**146.08**	**314**	PKPab	**PKPbc**	**11 28 08.4**	**+0.9**
BRTR	**Keskin Array B**	**146.08**	**314**	PKPbc	**PKPbc**	**11 28 08.1**	**+0.5**
	comp=Z,2.0nm,0.9s,baz=159,slow=3.7,SNR=6.4						
MMAI	**Mount Meron Ar**	**147.34**	**302**	PKPbc	**PKPbc**	**11 28 11.8**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=42,slow=6.7,SNR=3.6						
GERES	**GERESS Array B**	**148.92**	**345**	PKPbc	**PKPbc**	**11 28 15.6**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=35,slow=4.9,SNR=5.6						
RDO	**Rodhopi**	**150.38**	**323**	PKPbc	**PKPbc**	**11 28 18.7**	**+0.6**

IDC ***02*** *11:16:58.4±4.8, 35.°08N×141.°16E, h0km, mb3.5/4, mbtmp3.4/5, ML2.4/1, MS2.8/3, Error ellipse: s-maj=164.0km s-min=24.2km az=61.0*

JMA ***02*** *11:17:01.7±0.2, 35.°4N±0.°4×14.°1E±.°, h31km±1km, MV2.9/32, E OFF BOSO PENINSULA*

ISC 02 11:17:02.4±1.4, 35.°29N±0.°10×141.°2E±0.°1, h33km, n18, σ1§44/10, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.67**	**197**	P	**Pb**	**11 17 15.1**	**-0.2**
BSO3	**Boso 3**	**0.76**	**230**	P	**Pb**	**11 17 16.4**	**-0.6**
BSO3				*eX*		11 17 27.2	
BSO4	**Boso 4**	**0.78**	**247**	P	**Pb**	**11 17 16.6**	**-0.9**
JIHU	**Itakohorinouch**	**0.88**	**320**	*eP*	**Pn**	**11 17 17.3**	**-1.1**
JHO	**Hitachi**	**1.42**	**338**	P	**Pn**	**11 17 25.2**	**-0.6**
MJAR	**Matsushiro Arr**	**2.74**	**298**	Pn	**Pn**	**11 17 44.6**	**+0.5**
	0.7nm,0.3s,baz=99,slow=14,SNR=27						
MJAR				LR	LR	11 19 06.4	
	comp=Z,123nm,20.5s,baz=128,slow=46						
	2.6nm,0.4s						
JNU	**Nakatsue**	**8.83**	**259**	LR	LR	11 23 03.9	
	comp=Z,56nm,18.5s,baz=40,slow=42						
USRK	**Ussuriysk Ar.**	**11.38**	**324**	LR	LR	11 23 43.5	
	comp=Z,58nm,18.7s,baz=173,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.44**	**118**	T	T	11 51 47.3	
	baz=310,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.45**	**118**	T	T	11 51 54.7	
	baz=310,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.46**	**118**	T	T	11 51 50.6	
	baz=310,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	11 52 35.4	
	baz=312,slow=75,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	11 52 35.5	
	baz=312,slow=75,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	11 52 36.7	
	baz=312,slow=75,SNR=24						
MKAR	**Makanchi Array**	**44.93**	**304**	P	**P**	**11 25 17.3**	**+3.3**
	0.2nm,0.4s,baz=92,slow=6.4,SNR=2.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**46.96**	**309**	P	**P**	**11 25 29.7**	**-0.2**
	0.4nm,0.5s,baz=82,slow=7.6,SNR=4.2						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**55.32**	**188**	P	**P**	**11 26 32.5**	**-0.4**
	0.5nm,0.5s,baz=1.7,slow=7.7,SNR=12						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**59.05**	**188**	P	**P**	**11 26 58.5**	**-0.7**
	0.6nm,1.0s,baz=19,slow=10,SNR=2.8						
	0.6nm,1.0s						

IDC 02 11:31:52.6±4.5, 18.°74S×178.°55E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=339.1km s-min=31.1km az=155.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.64**	**261**	P	P	11 39 43.0	-0.1
	0.3nm,0.8s,baz=92,slow=8.1,SNR=1.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**41.78**	**255**	P	P	11 39 44.0	-0.2
	0.6nm,0.7s,baz=95,slow=8.2,SNR=7.3						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**82.04**	**45**	P	P	11 44 15.2	+0.1
	0.9nm,0.8s,baz=239,slow=7.4,SNR=8.4						
	0.9nm,0.8s						

IDC 02 11:41:15.2±3.1, 9.°46N×125.°88E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=280.0km s-min=23.1km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.38**	**164**	P	P	11 47 28.8	-0.4
	0.3nm,0.6s,baz=344,slow=8.7,SNR=1.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**33.85**	**167**	P	P	11 47 59.9	+0.2
	0.3nm,0.5s,baz=350,slow=7.3,SNR=13						
	0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.53**	**73**	T	T	12 31 46.3	
	baz=260,slow=73,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**40.54**	**73**	T	T	12 31 45.9	
	baz=260,slow=73,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**40.54**	**73**	T	T	12 31 45.1	
	baz=260,slow=73,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**40.88**	**71**	T	T	12 32 09.5	
	baz=264,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.89**	**71**	T	T	12 32 09.9	
	baz=264,slow=74,SNR=10						
H11N3	**WAKE ISLAND Hy**	**40.90**	**71**	T	T	12 32 13.9	
	baz=264,slow=74,SNR=11						
MKAR	**Makanchi Array**	**52.44**	**323**	P	P	11 50 29.9	+0.2
	0.9nm,0.6s,baz=124,slow=7.5,SNR=6.8						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**56.52**	**326**	P	P	11 50 58.8	-0.5
	0.3nm,0.4s,baz=126,slow=7.2,SNR=2.3						
	0.3nm,0.4s						

NEIC ***02*** *11:43:07.9±1.1, 35.°293N±0.°005×97.°69W±0.°01, h5km±1km, mb_Lg2.1/3, ML1.8/5, ML1.8/38, Error ellipse: s-maj=2.4km s-min=1.6km az=235.0*

NEIC 02 11:43:08.2±1.3, 35.°296N±0.°009×97.°67W±0.°01, h7km±3km, Error ellipse: s-maj=1.4km s-min=1.3km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNO	**Franklin**	**0.23**	**100**	Pg	Pg	11 43 13.1	+0.4
FNO					Sg	11 43 15.5	-0.2
BCOK	**Bluff Creek, N**	**0.36**	**8**		Pg	11 43 15.5	+0.2
BCOK					Sg	11 43 20.8	+0.6
ADOK	**Arcadia Dam**	**0.43**	**35**	Pg	Pg	11 43 16.4	-0.3
OK029	**Liberty Lake**	**0.53**	**20**		Pg	11 43 18.6	+0.1
OK029					Sg	11 43 26.3	+0.9
OK029				IAML		11 43 26.4	
	40nm,0.5s						
OK052	**Battle Ridge R**	**0.99**	**45**		Pg	11 43 27.1	-0.2
OK052					Sg	11 43 40.1	-0.1
WMOK	**Wichita Mounta**	**1.07**	**239**		Pg	11 43 27.7	-0.9
WMOK					Sg	11 43 42.1	-0.4
DEOK	**Depew**	**1.10**	**60**		Pg	11 43 28.1	-1.3
DEOK				IAML		11 43 45.5	
	comp=N,46nm,0.1s						
DEOK				IAML		11 43 45.6	
	comp=E,39nm,0.1s						
QUOK	**Quay**	**1.18**	**42**	Pg	Pg	11 43 28.7	-2.1
CROK	**Carrier**	**1.23**	**348**		Pb	11 43 30.2	-1.6
CROK				IAML		11 43 52.6	
	comp=N,37nm,0.3s						
CROK				IAML		11 43 53.7	
	comp=E,48nm,0.3s						
LOOK	**Love County**	**1.36**	**162**		Pn	11 43 32.9	-0.8
OK038	**West end E0370**	**1.47**	**324**		Pn	11 43 33.4	-1.7
BLOK	**Blackwell**	**1.51**	**14**		Pn	11 43 34.6	-1.0
GC02	**Grant County #**	**1.56**	**355**		Pn	11 43 35.6	-0.8
WTFS	**Witchita Falls**	**1.66**	**203**		Pn	11 43 36.3	-1.4
KAN14	**Manchester OK**	**1.67**	**352**		Pn	11 43 36.1	-1.9
NOKA	**Waynoka**	**1.68**	**323**		Pn	11 43 35.9	-2.1
T35A	**Sooner Cattle**	**1.87**	**30**	IAmb_Lg		11 44 10.6	
	comp=Z,6.8nm,0.8s						
P40A	**Paris**	**6.16**	**45**	IAmb_Lg		11 46 27.1	
	comp=Z,2.4nm,0.8s						
Q24A	**Divide**	**7.00**	**304**	IAmb_Lg		11 46 44.9	
	comp=Z,8.1nm,0.7s						

IDC ***02*** *12:03:19.5±0.3, 7.°23S×104.°86E, h0km, mb6.2/44, mbtmp6.1/47, ML4.9/2, MS6.2/59, Error ellipse: s-maj=11.3km s-min=9.2km az=66.0*

MOS ***02*** *12:03:24.1±1.0, 7.°10S×104.°94E, h38km, mb6.7/71, MS6.2/48, Error ellipse: s-maj=6.5km s-min=3.7km az=116.2*

BJI ***02*** *12:03:24.9, 7.°28S×104.°83E, h35km, mB6.8/80, mb6.5/95, Ms6.7/99, Ms7 6.7/99*

IPGP ***02*** *12:03:26.0, 7.°29S×104.°81E, h43km, Mw7.0, Fault plane solution: NP1:φs207.00000°, δ45.00000°, λ58.00000°. NP2:φs68.00000°, δ53.00000°, λ117.00000°.*

DJA ***02*** *12:03:26.6±0.2, 7.°S±2.°×10.°5E±.°, h55km±2km, M6.9/136, mB7.0/132, mb6.5/136, MLv7.2/30, Mw6.9/171, Mw(mB)6.9/132, MwMwp6.8/126, Mwp6.7/126*

ISC-PP ***02*** *12:03:27, 7.°28S×104.°79E, h40km, Mwppsm7.0, Moment Tensor Solution. s41 Moment tensor: Scale 10¹⁹Nm; Mrr0.20±.05; Mθθ0.69±.18; Mφφ0.19±.12; Mrθ0.17±.11; Mθφ-0.00±.07; Mφr-0.44±.11; Fault plane solution: M₀3.94000×10¹⁹ NP1:φs256.70000°, δ85.70000°, λ199.90000°. NP2:φs165.10000°, δ70.10000°, λ-4.60000°.*

NEIC ***02*** *12:03:27.0±1.5, 7.°28S±0.°07×104.°79E±0.°06, h49km±1km, mb6.6/290, Ms_20 6.5/602, Mwb6.8/58, Mww6.9/51 Error ellipse: s-maj=11.7km s-min=9.8km az=207.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr1.81; Mθθ-0.98; Mφφ-0.83; Mrθ0.26; Mφφ-1.08; Mθr-0.25; Fault plane solution: M₀1.94000×10¹⁹ NP1: φs215.27000°, δ46.00000°, λ73.20000°. NP2:φs58.76000°, δ46.48000°, λ106.66000°. Principal axes: T 1.8855, Plg78.0000°, Azm46.0000°; N 0.1012, Plg12.0000°, Azm227.0000°; P -1.9867, Plg0.0000°, Azm137.0000°;*

NEIC ***02*** *12:03:27.8, 7.°27S×104.°81E, h55km*

NEIC ***02*** *12:03:27.3, 7.°31S×104.°81E, h60km*

NEIC ***02*** *12:03:27.3, 7.°51S×104.°61E, h60km, Moment Tensor Solution. Duration: 13§7 Moment tensor: Scale 10¹⁹Nm; Mrr1.92; Mθθ-0.97; Mφφ-0.95; Mrθ0.65; Mθφ-1.76; Mφr-0.41; Fault plane solution: M₀2.54000×10¹⁹ NP1: φs200.81000°, δ48.78000°, λ53.67000°. NP2:φs68.95000°, δ52.70000°, λ124.07000°. Principal axes: T 2.2985, Plg63.0000°, Azm41.0000°; N 0.4278, Plg26.0000°, Azm227.0000°; P -2.7263, Plg2.0000°, Azm136.0000°;*

GCMT ***02*** *12:03:34.0±0.0, 7.°40S×104.°85E, h52km, MW6.9/172, Moment Tensor Solution. s172,c462; s168,c812; Duration: 6§8 Moment tensor: Scale 10¹⁹Nm; Mrr2.11±.01; Mθθ-0.95±.01; Mφφ-1.17±.01; Mrθ0.88±.01; Mθφ-1.76±.01; Mφr-0.26±.01; Best double couple: M₀2.68600×10¹⁹ NP1:φs200.00000°, δ45.00000°, λ55.00000°. NP2:φs65.00000°, δ54.00000°, λ120.00000°. Principal axes: T 2.5140, Plg65.0000°, Azm34.0000°; N 0.3360, Plg24.0000°, Azm227.0000°; P -2.8580, Plg5.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 02 12:03:26.9±0.2, 7.°27S±0.°02×104.°86E±0.°02, h52km±1km, h52km:pP-P, n2431, σ1§75/2518, mb6.5/391, MS6.4/453, 246C-78D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.06**	**52**	P	**Pn**	**12 03 46.6**	**+1.2**
SBJI	**Serang**	**1.71**	**48**	P	**Pn**	**12 03 56.3**	**+2.1**
SKJI	**Sukabumi**	**1.71**	**81**	P	**Pn**	**12 03 55.7**	**+1.4**
KASI	**Kota Agung**	**1.77**	**348**	P	**Pn**	**12 03 55.9**	**+0.8**
BLSI	**Bandar Lampung**	**1.93**	**12**	P	**Pn**	**12 03 58.9**	**+1.6**
DBJI	**Dramaga**	**2.01**	**69**	P	**Pn**	**12 04 01.0**	**+2.6**
TNG	**Tangerang**	**2.09**	**59**	P	**Pn**	**12 04 01.3**	**+1.9**
CNJI	**Cibinong**	**2.26**	**91**	P	**Pn**	**12 04 02.1**	**+0.3**
LWLI	**Liwa**	**2.37**	**340**	P	**Pn**	**12 04 04.1**	**+0.6**
KLI	**Kotabumi**	**2.39**	**0**	P	**Pn**	**12 04 05.5**	**+1.9**
LEM	**Lembang**	**2.78**	**81**	Pn	**Pn**	**12 04 10.9**	**+1.9**
	2μm,0.3s,baz=221,slow=9.5,SNR=525						
LEM	**Lembang**	**2.78**	**81**	P	**Pn**	**12 04 11.9**	**+2.9**
BBJI	**Bungbulang**	**2.78**	**94**	P	**Pn**	**12 04 09.2**	**+0.2**
BBJI	**Bungbulang**	**2.78**	**94**	S	**Sn**	**12 04 41.2**	**-0.2**
MDSI	**Maura Dua**	**2.85**	**346**	P	**Pn**	**12 04 10.5**	**+0.7**
XMI	**Christmas Isla**	**3.27**	**165**	P	**Pn**	**12 04 11.0**	**-4.6**
XMI	**Christmas Isla**	**3.27**	**165**	⇓P	Pn	12 04 10.3	-5.4
MNAI	**Manna**	**3.45**	**327**		**Pn**	**12 04 17.9**	**

JAGI Jajag, Banyuwa 9.29 98 ⇑P Pn **12 05 37.9 -0.3**
COCO West Island 9.29 238 Pn **12 05 35.5 -2.8**
COCO West Island 9.29 238 P Pn **12 05 36.0 -2.3**
COCO P Pn **12 05 36.0 -2.3**
COCO West Island 9.29 238 P Pn **12 05 35.5 -2.8**
COCO West Island 9.29 238 S Sn **12 07 15.0 -6.4**
COCO West Island 9.29 238 P Pn **12 05 35.5 -2.8**
COCO West Island 9.29 238 ⇑P Pn **12 05 34.8 -3.5**
MNSI Mandailing Nat 9.59 326 P Pn **12 05 38.9 -3.4**
66µm3µm,0.7s
PBSI Pulau Batu 9.71 317 P Pn **12 05 41.0 -3.0**
112µm7µm,1.3s
STKI Sintang 9.83 42 P Pn **12 05 48.8 +3.1**
423µm59µm4µm,1.3s
KSM Kuching 10.25 32 Pn **12 05 53.3 +2.0**
KSM Kuching 10.25 32 P Pn **12 05 53.9 +2.5**
KSM Kuching 10.25 32 ⇑P Pn **12 05 53.0 +1.7**
SRBI Singaraja 10.30 95 P Pn **12 05 51.9 -0.1**
GSI Gunungsitoli 11.19 319 Pn **12 06 01.2 -3.1**
GSI Gunungsitoli 11.19 319 P Pn **12 06 00.7 -3.6**
GSI Gunungsitoli 11.19 319 S Sn **12 08 06.1 -1.9**
GSI Gunungsitoli 11.19 319 P Pn **12 06 00.1 -4.2**
65µm4µm,0.6s
GSI Gunungsitoli 11.19 319 ⇓P Pn **12 05 60.0 -4.3**
RPSI Rantau Prapat 11.53 329 Pn **12 06 05.7 -3.2**
PSI Prapat 11.62 329 Pn Pn 12 06 04.8 -5.4
10nm,0.3s,baz=162,slow=13,SNR=58
133nm,0.8s
PSI Prapat 11.62 329 P Pn 12 06 05.3 -5.0
PSI Prapat 11.62 329 S Sn **12 08 12.9 -5.8**
PSI Prapat 11.62 329 P Pn **12 06 05.7 -4.6**
SBUM Sibu 12.13 38 Pn **12 06 20.3 +3.1**
SBUM Sibu 12.13 38 P Pn **12 06 18.6 +1.5**
SBUM Sibu 12.13 38 ⇑P Pn **12 06 20.0 +2.9**
IPM Ipoh 12.28 342 Pn **12 06 18.2 -1.0**
IPM Ipoh 12.28 342 P Pn **12 06 17.8 -1.4**
IPM Ipoh 12.28 342 ⇓P Pn **12 06 18.2 -1.0**
TSI Tuntungan 12.40 329 P Pn **12 06 16.2 -4.6**
50µm2µm,0.8s
PLAI Plampang 12.89 98 P Pn **12 06 26.5 -0.9**
PLAI Plampang 12.89 98 P Pn **12 06 24.0 -3.4**
80µm6µm,0.8s
KULM Kulim 13.16 341 Pn **12 06 28.6 -2.6**
KULM Kulim 13.16 341 P Pn **12 06 29.0 -2.2**
KULM Kulim 13.16 341 ⇓P Pn **12 06 28.2 -3.0**
BKB Balikpapan 13.40 64 Pn **12 06 36.8 +2.3**
BKB Balikpapan 13.40 64 P Pn **12 06 36.3 +1.8**
BKB Balikpapan 13.40 64 P P **12 06 38.8 -3.6**
399µm112µm3µm,0.8s
BKB Balikpapan 13.40 64 ⇑P P **12 06 39.1 -3.4**
SMKI Samarinda 14.06 62 P P **12 06 46.7 -3.0**
470µm10µm,1.6s
LHMI Lhok Sumawe 14.71 327 P Pn **12 06 48.6 -3.4**
KAPI Kappang 14.98 82 Pn **12 06 56.3 +0.8**
KAPI Kappang 14.98 82 Pn Pn **12 06 54.1 -1.4**
4.3nm,0.3s,baz=260,slow=11,SNR=49
KAPI Sn **Sn 12 09 44.9 +4.5**
2.0nm,0.3s,baz=152,slow=22,SNR=0.9
KAPI LR LR 12 13 30.2
comp=Z,253µm,21.1s,baz=264,slow=41
140nm,1.1s
KAPI Kappang 14.98 82 P Pn **12 06 52.8 -2.7**
KAPI P Pn **12 06 52.8 -2.7**
KAPI Kappang 14.98 82 P Pn **12 06 56.0 +0.5**
KAPI Kappang 14.98 82 ⇑P Pn **12 06 55.2 -0.2**
KAPI Kappang 14.98 82 P Pn **12 06 55.4 -0.1**
KAPI S Sn **12 09 37.8 -2.5**
SPSI Sidrap Palu 15.20 78 P Pn **12 06 58.3 -0.1**
441µm48µm1µm,1.1s
BKSI Bulukumba 15.30 84 P Pn **12 06 59.2 -0.4**
489µm42µm1µm,0.8s
BNSI Bone 15.44 80 P Pn **12 07 02.6 +1.2**
461µm73µm4µm,1.9s
TTSI Tana Toraja 15.48 75 P Pn **12 07 03.5 +1.5**
367µm59µm2µm,1.8s
BSSI Bau Bau, Buton 15.57 87 P Pn **12 07 02.2 -0.9**
477µm115µm4µm,1.0s
PCI Palu 16.22 68 P P **12 07 13.5 -0.2**
SRIT Nakonsritamara 16.61 342 Pn **12 07 12.8 -3.5**
SRIT Nakonsritamara 16.61 342 P Pn **12 07 15.3 -1.0**
EDFI Ende, Flores 16.74 96 P Pn **12 07 12.9 -5.1**
598µm34µm3µm,0.9s
MPSI Mapaga 16.80 64 P P **12 07 21.5 +1.3**
345µm13µm,1.5s
MMRI Maumere 17.27 96 Pn **12 07 22.6 -2.0**
MMRI IAmb IAmb 12 07 33.8
comp=Z,4µm,0.8s
MMRI Maumere 17.27 96 P Pn **12 07 22.9 -1.6**
MMRI Maumere 17.27 96 P Pn **12 07 21.4 -3.1**
comp=Z,604µmcomp=Z,66µmcomp=Z,6µm,1.0s
MMRI Maumere 17.27 96 ⇓P Pn **12 07 19.2 -5.3**
KKM Kota Kinabalu 17.42 41 P P **12 07 27.2 +0.1**
KKM IAmb IAmb 12 07 36.6
comp=Z,11µm,1.6s
KKM Kota Kinabalu 17.42 41 P P **12 07 28.3 +1.2**
GIRL Giralia 17.75 150 Pn **12 07 26.9 -3.5**
GIRL IAmb IAmb 12 07 34.5
comp=Z,9µm,1.5s
CMBY CAMPBELL BAY 17.89 322 *e*P P **12 07 33.9 +1.6**
CMBY *e*S S **12 10 53.9 -1.1**
APSI Ampana 17.89 70 P P **12 07 32.8 +0.5**
comp=Z,240µmcomp=Z,100µmcomp=Z,4µm,1.2s
TOLI2 Tolitoli 17.94 63 P P **12 07 32.9 +0.1**
TOLI2 Tolitoli 17.94 63 P P **12 07 34.2 +1.4**
MYLDM Lahad Datu 18.39 48 P Pn **12 07 41.0 +2.7**
MRSI Marisa 18.70 66 P P **12 07 40.7 -0.4**
comp=Z,270µmcomp=Z,63µmcomp=Z,4µm,1.1s
BATI Baumata 18.82 100 P P **12 07 42.5 0.0**
comp=Z,661nm,0.5s,baz=269,slow=1.4,SNR=36
BATI S Sn 12 10 59.6 -14
comp=Z,4µm,0.9s,baz=26,slow=22,SNR=6.3
BATI Baumata 18.82 100 P P **12 07 42.4 0.0**
comp=Z,463µmcomp=Z,86µmcomp=Z,4µm,0.8s
LUWI Luwuk 18.90 72 P P **12 07 42.7 -0.7**
comp=Z,305µmcomp=Z,65µmcomp=Z,6µm,1.1s
SOEI Soe 19.36 99 P P **12 07 48.6 +0.1**
SOEI S S **12 11 20.1 -4.8**
SOEI Soe 19.36 99 P P **12 07 48.4 0.0**
SOEI IAmb IAmb 12 08 02.2
comp=Z,4µm,0.8s
SOEI Soe 19.36 99 P Pn **12 07 50.0 0.0**
SOEI Soe 19.36 99 P P **12 07 47.8 -0.7**
comp=Z,528µmcomp=Z,125µmcomp=Z,9µm,1.0s
DLV Lat 19.43 11 P P **12 07 49.0 -0.2**
DLV Lat 19.43 11 P Pn **12 07 51.2 +0.4**
DLV Lat 19.43 11 ⇑P P **12 07 50.0 +0.7**
MBWA Marble Bar 19.94 135 P P **12 07 55.1 +0.5**
MBWA Marble Bar 19.94 135 P P **12 07 54.3 -0.4**
MBWA P P **12 07 54.3 -0.4**
MBWA P P **12 07 54.3 -0.4**
MBWA Marble Bar 19.94 135 P P **12 07 55.3 +0.7**
MBWA Marble Bar 19.94 135 ⇓P P **12 07 54.8 +0.2**
MBWA Marble Bar 19.94 135 P P **12 07 54.9 +0.2**
MBWA S Sn **12 11 41.7 +1.4**
PSA00 Pilbara Seismi 20.29 136 P P **12 07 58.6 +0.2**
PSA00 Pilbara Seismi 20.29 136 P P **12 07 59.1 +0.6**
KMSI Cibinong 20.61 69 P Pn 12 08 03.5 -1.1
comp=Z,331µmcomp=Z,90µmcomp=Z,7µm,0.9s
SANI Sanana 21.68 77 P P **12 08 12.1 -1.4**
SANI S S **12 12 07.0 -3.9**
SANI Sanana 21.68 77 P P **12 08 13.3 -0.2**
SANI Sanana 21.68 77 P P **12 08 11.8 -1.7**
comp=Z,235µmcomp=Z,29µmcomp=Z,2µm,1.2s
SANI Sanana 21.68 77 ⇑P P **12 08 12.0 -1.4**
UBPT Khong Chiam 22.41 2 P P **12 08 20.4 -0.9**
NLAI Namlea 22.51 81 P P **12 08 22.2 -0.2**
comp=Z,348µmcomp=Z,55µmcomp=Z,5µm,1.1s
FITZ Fitzroy Crossi 22.93 120 P P **12 08 26.6 -0.1**
FITZ Fitzroy Crossi 22.93 120 P P **12 08 26.4 -0.3**
comp=Z,528nm,0.8s,baz=288,slow=6.3,SNR=129
FITZ S S **12 12 33.5 +0.4**
comp=Z,515nm,0.7s,baz=196,slow=20,SNR=5.5
FITZ LR LR 12 18 26.2
comp=Z,264µm,20.7s,baz=326,slow=40
comp=Z,528nm,0.8s
MEEK Meekatharra 23.29 147 P P **12 08 29.9 -0.3**
SGSI Sangihe 23.33 63 P P **12 08 30.9 +0.2**
comp=Z,199µmcomp=Z,51µmcomp=Z,3µm,1.2s
AAI Ambon 23.50 83 P P **12 08 28.7 -3.7**
comp=Z,261µmcomp=Z,30µmcomp=Z,3µm,0.9s
DGPR DIGLIPUR 23.52 330 *e*P P **12 08 31.1 -1.3**
DGPR IAmb IAmb 12 08 39.9
comp=Z,4µm,2.8s
DGPR *e*S S **12 12 47.7 +5.1**

TNTI Ternate 23.84 71 P P **12 08 35.1 -0.3**
TNTI Ternate 23.84 71 P P **12 08 35.5 0.0**
TNTI Ternate 23.84 71 P P **12 08 34.8 -0.7**
comp=Z,62µmcomp=Z,5µm,1.6s
TNTI Ternate 23.84 71 ⇑P P **12 08 32.6 -2.9**
MORW Morawa 24.11 155 P P **12 08 37.3 -0.6**
MORW IAmb IAmb 12 09 06.3
comp=Z,1µm,1.1s
MORW Morawa 24.11 155 P P **12 08 37.5 -0.3**
MORW Morawa 24.11 155 ⇓P P **12 08 36.0 -1.9**
MSAI Masohi 24.28 82 P P **12 08 37.0 -2.5**
comp=Z,202µmcomp=Z,975nm,0.6s
KNRA Kununurra 24.85 112 P P **12 08 44.9 +0.2**
KNRA IAmb IAmb 12 09 17.5
comp=Z,1µm,0.7s
BNDI Bandanaira 25.06 85 P P **12 08 45.2 -1.5**
BNDI Bandanaira 25.06 85 P P **12 08 43.3 -3.4**
comp=Z,170µmcomp=Z,49µmcomp=Z,4µm,1.4s
BNDI Bandanaira 25.06 85 ⇑P P **12 08 42.3 -4.4**
DAV Davao City (W) 25.10 56 P P **12 08 47.3 +0.3**
DAV Davao City (W) 25.10 56 P P **12 08 47.1 +0.1**
comp=Z,109nm,0.3s,baz=317,slow=1.8,SNR=12
DAV LR LR 12 19 48.8
comp=Z,45µm,21.8s,baz=229,slow=39
comp=Z,109nm,0.3s
DAV Davao City (W) 25.10 56 P P **12 08 48.0 +1.0**
DAV P P **12 08 48.0 +1.0**
DAV P P **12 08 48.0 +1.0**
DAV Davao City (W) 25.10 56 P P **12 08 48.5 +1.5**
DAV Davao City (W) 25.10 56 P P **12 08 47.4 +0.3**
DAV Davao City (W) 25.10 56 P P **12 08 45.0 -2.0**
BLDU Ballidu 25.75 156 P P **12 08 52.0 -0.7**
DRS Darwin Rock St 26.16 103 P P **12 08 57.4 +0.8**
SAUI Saumlaki 26.22 93 P P **12 08 55.6 -1.5**
SAUI Saumlaki 26.22 93 P P **12 08 58.5 +1.4**
SAUI Saumlaki 26.22 93 P P **12 08 56.2 -0.9**
comp=Z,193µmcomp=Z,50µmcomp=Z,4µm,0.8s
CM31 Chiang Mai Arr 26.22 347 P P **12 08 56.9 -0.2**
CMAR Chiang Mai Arr 26.22 347 P P **12 08 57.0 -0.1**
CMAR Chiang Mai Arr 26.22 347 P P **12 08 56.5 -0.6**
comp=Z,587nm,0.9s,baz=180,slow=9.0,SNR=290
CMAR LR LR 12 19 53.7
comp=Z,69µm,21.4s,baz=170,slow=38
CMAR P3KPbc 12 41 40.7
comp=Z,3.1nm,1.0s,baz=332,slow=5.5,SNR=7.0
CMAR PKPPKP P'P'df 12 43 19.0 -12
comp=Z,1.8nm,0.8s,baz=279,slow=5.1,SNR=4.3
comp=Z,587nm,0.9s
CMAR Chiang Mai Arr 26.22 347 *i*P P **12 08 56.5 -0.6**
CMAR pmax pmax
comp=Z,632nm,0.9s
MTN Manton Dam 26.45 104 P P **12 08 58.7 -0.5**
MTN IAmb IAmb 12 09 26.5
comp=Z,1µm,0.8s
MTN Manton Dam 26.45 104 P P **12 09 00.5 +1.3**
TGY Tagaytay City 26.56 37 LR LR 12 21 03.9
comp=Z,69µm,20.6s,baz=218,slow=40
CHTO Chiang Mai 26.57 347 P P **12 08 60.0 -0.2**
CHTO IAmb IAmb 12 09 04.2
comp=Z,909nm,0.8s
CHTO Chiang Mai 26.57 347 P P **12 09 00.4 +0.2**
CHTO P P **12 09 00.4 +0.2**
CHTO Chiang Mai 26.57 347 P P **12 09 00.2 0.0**
CHTO Chiang Mai 26.57 347 P P **12 09 00.0 -0.2**
CHTO pmax pmax
comp=Z,909nm,0.8s
CHTO Chiang Mai 26.57 347 ⇑P P **12 08 59.7 -0.4**
CHTO Chiang Mai 26.57 347 P P **12 08 59.3 -0.9**
CHTO S S **12 13 28.1 -3.1**
QIZ Qiongzhong 26.59 11 P P **12 09 00.7 +0.3**
QIZ Qiongzhong 26.59 11 P P **12 09 01.7 +1.3**
QIZ pP pP **12 09 13.7 +0.7**
QIZ S S **12 13 33.4 +1.8**
QIZ pmax pmax
comp=Z,1µm,1.1s
QIZ pmax pmax
comp=Z,29µm,5.2s
QIZ LR LR
comp=Z,84µm,27.7s
QIZ LR LR
comp=Z,520µm,19.0s
MUN Mundaring 26.77 158 P P **12 09 01.9 0.0**
KLBR Kellerberrin 27.03 155 P P **12 09 03.5 -0.8**
SWI Sorong 27.08 78 P P **12 09 03.4 -1.5**
comp=Z,125µmcomp=Z,26µmcomp=Z,3µm,1.2s
HALK Hakmana 27.53 298 ⇓P P **12 09 11.9 +3.0**
FAKI Fak Fak 27.62 82 P P **12 09 09.0 -0.7**
FAKI IAmb IAmb 12 09 12.3
comp=Z,1µm,0.8s
FAKI Fak Fak 27.62 82 P P **12 09 09.1 -0.7**
FAKI Fak Fak 27.62 82 P P **12 09 08.1 -1.6**
comp=Z,113µmcomp=Z,34µmcomp=Z,2µm,1.6s
FAKI Fak Fak 27.62 82 ⇑P P **12 09 07.1 -2.6**
CRAI Chiangrai 27.68 351 IAMs_20 IAMs_20 12 20 50.5
comp=Z,133µm,21.0s
KDU Kakadu 27.71 103 P P **12 09 11.2 +0.6**
NWAO Narrogin (SRO) 28.00 157 P P **12 09 12.2 -0.6**
NWAO Narrogin (SRO) 28.00 157 P P **12 09 11.8 -1.0**
comp=Z,45nm,0.6s,baz=331,slow=8.0,SNR=47
NWAO LR LR 12 18 48.3
comp=Z,193µm,21.8s,baz=329,slow=33
comp=Z,45nm,0.6s
NWAO Narrogin (SRO) 28.00 157 P P **12 09 11.9 -1.0**
NWAO P P **12 09 11.9 -1.0**
NWAO Narrogin (SRO) 28.00 157 P P **12 09 12.3 -0.6**
NWAO Narrogin (SRO) 28.00 157 P P **12 09 12.3 -0.6**
NWAO pmax pmax
comp=Z,448nm,1.1s
PALK Pallekele 28.09 300 P P **12 09 13.2 -0.8**
PALK Pallekele 28.09 300 LR LR 12 18 57.0
comp=Z,50µm,21.4s,baz=116,slow=33
PALK Pallekele 28.09 300 P P **12 09 16.5 +2.5**
PALK P P **12 09 16.5 +2.5**
PALK Pallekele 28.09 300 P P **12 09 13.2 -0.8**
PALK pmax pmax
comp=Z,1µm,1.5s
PALK Pallekele 28.09 300 P P **12 09 18.3 +4.3**
PALK S S **12 13 55.4 -0.1**
SLVN Son La 28.44 358 P P **12 09 16.2 -0.8**
SLVN Son La 28.44 358 P P **12 09 18.1 +1.1**
H01W3 Cape Leeuwin H 28.78 164 T T 12 40 07.0
baz=344,slow=76,SNR=42
H01W1 Cape Leeuwin H 28.79 164 T T 12 40 03.4
baz=344,slow=76,SNR=24
H01W2 Cape Leeuwin H 28.79 164 T T 12 40 08.1
baz=344,slow=76,SNR=42
MALK Mahakanadarawa 28.80 302 P P **12 09 19.4 -0.9**
MALK S S **12 14 07.1 +0.4**
MALK Mahakanadarawa 28.80 302 ⇓P P **12 09 24.0 +3.7**
KMPI Kaimana, Papua 28.93 84 P P **12 09 19.9 -1.6**
SZP Santa 29.08 32 P P **12 09 24.3 +1.7**
RKPI Ransiki, Papua 29.78 80 P P **12 09 27.8 -1.1**
comp=Z,107µmcomp=Z,24µmcomp=Z,2µm,0.9s
HKPS Hong Kong Po S 30.74 17 P P **12 09 36.7 -0.6**
HKPS IAMs_20 IAMs_20 12 22 25.3
comp=Z,117µm,21.0s
HKC Hong Kong Obse 30.77 17 ⇑P P **12 09 39.0 +1.4**
WB0 Warramunga Arr 31.22 116 P P **12 09 42.0 +0.3**
WB0 IAmb IAmb 12 10 39.5
comp=Z,752nm,0.8s
WRA Warramunga Arr 31.23 117 P P **12 09 41.9 +0.1**
WRA Warramunga Arr 31.23 117 P P **12 09 41.4 -0.4**
comp=Z,136nm,0.7s,baz=288,slow=12,SNR=314
WRA PP PnPn **12 10 47.1 +1.7**
comp=Z,258nm,0.6s,baz=286,slow=14,SNR=7.1
WRA S S **12 14 44.6 -0.2**
comp=Z,82nm,1.1s,baz=262,slow=21,SNR=1.3
WRA P3KPbc 12 41 24.1
comp=Z,8.0nm,0.9s,baz=100,slow=4.0,SNR=11
comp=Z,136nm,0.7s
WRA Warramunga Arr 31.23 117 P P **12 09 41.9 +0.1**
WRA pmax pmax
comp=Z,137nm,1.6s
WRAB Tennant Creek 31.24 117 P P **12 09 42.0 +0.2**
WRAB IAmb IAmb 12 10 42.9
comp=Z,843nm,0.9s
WRAB Tennant Creek 31.24 117 *d*iP P **12 09 42.2 +0.4**
WRAB pmax pmax
comp=Z,432nm,0.9s
WRAB MLR MLR
comp=Z,197µm,20.0s
GZH Guangzhou 31.29 15 P P 12 09 47.7 +5.6
GZH PP PP **12 10 57.8 +4.2**
GZH PcP PcP **12 12 38.8 +3.3**

GZH S S 12 14 56.6 +11
GZH pmax pmax
comp=Z,19µm,5.1s
GZH LR LR
comp=Z,82µm,20.0s
GZH LR LR
comp=Z,37µm,14.7s
GZH LR LR
comp=Z,114µm,20.0s
WR8 Warramunga Arr 31.38 117 P P **12 09 43.4 +0.4**
WR8 IAmb IAmb 12 10 40.9
comp=Z,966nm,0.8s
MDRS Chennai 31.72 309 *e*P P **12 09 47.2 +1.3**
MDRS IAmb IAmb 12 09 59.8
comp=Z,2µm,2.0s
MDRS *e*S S **12 14 54.5 +2.2**
SRPI Serui, Papua 31.73 82 P P **12 09 44.2 -2.0**
comp=Z,10µmcomp=Z,842nm,1.0s
BAKI Biak 31.73 80 P P **12 09 45.1 -1.1**
comp=Z,98µmcomp=Z,15µmcomp=Z,1µm,0.9s
TRD Trivandrum 31.92 299 *e*P P **12 09 47.2 -0.6**
TRD IAmb IAmb 12 10 02.6
comp=Z,2µm,2.4s
TRD *e*S S **12 14 54.5 -1.1**
FORT Forrest 31.92 140 P P **12 09 47.6 0.0**
FORT IAmb IAmb 12 10 47.3
comp=Z,1µm,0.8s
H08S2 Diego Garcia H 32.09 267 P P **12 09 47.4 -1.6**
baz=58,slow=9.3,SNR=24
H08S2 T T 12 43 49.9
baz=96,SNR=29
H08S3 Diego Garcia H 32.10 267 P P **12 09 47.2 -1.9**
baz=58,slow=9.3,SNR=13
H08S3 T T 12 43 46.1
baz=96,SNR=24
H08S1 Diego Carcia H 32.10 267 P P **12 09 47.9 -1.3**
baz=58,slow=9.3,SNR=17
H08S1 T T 12 43 53.6
baz=96,SNR=23
DGAR Diego Garcia 32.13 268 P P **12 09 51.1 +1.4**
DGAR Diego Garcia 32.13 268 *d*iP P **12 09 50.5 +0.8**
DGAR pmax pmax
comp=Z,2µm,1.2s
DGAR MLR MLR
comp=Z,40µm,18.0s
KMI Kunming 32.26 356 ⇑P P **12 09 52.3 +1.4**
KMI sP sP 12 10 12.7 +3.0
KMI S S **12 14 58.3 -2.7**
KMI pmax pmax
comp=Z,540nm,1.2s
KMI pmax pmax
comp=Z,8µm,6.4s
KMI LR LR
comp=Z,175µm,21.3s
KMI LR LR
comp=Z,38µm,21.8s
KMI LR LR
comp=Z,193µm,23.1s
ASAR Alice Springs 32.29 124 P P **12 09 51.3 +0.2**
ASAR Alice Springs 32.29 124 P P **12 09 51.1 +0.1**
comp=Z,291nm,0.8s,baz=294,slow=8.2,SNR=520
ASAR PP PP **12 11 02.5 -2.3**
comp=Z,311nm,0.8s,baz=303,slow=12,SNR=5.0
ASAR PcP PcP **12 12 39.2 +0.9**
comp=Z,165nm,0.9s,baz=303,slow=3.6,SNR=4.3
ASAR S S **12 15 00.6 -0.6**
comp=Z,11nm,0.6s,baz=243,slow=36,SNR=1.7
ASAR LR LR 12 23 40.8
comp=Z,220µm,20.6s,baz=298,slow=38
ASAR P3KPbc 12 41 19.4
comp=Z,2.9nm,0.6s,baz=111,slow=4.1,SNR=33
comp=Z,291nm,0.8s
AS31 Alice Springs 32.29 124 P P **12 09 51.2 +0.2**
AS01 Alice Springs 32.33 124 P P **12 09 52.0 +0.6**
KOD Kodaikanal 32.34 302 *e*P P **12 09 55.0 +3.1**
KOD IAmb IAmb 12 10 06.8
comp=Z,4µm,2.8s
KOD *e*S S **12 15 06.7 +4.0**
BRDH Bariadhala 32.45 337 LR LR 12 25 01.5
comp=Z,72µm,21.3s,baz=154,slow=40
TNCH TengChong 32.69 349 ⇑P P **12 09 55.4 +0.8**
TNCH sP pP 12 10 07.6 +0.2
TNCH S S **12 15 09.4 +1.8**
TNCH sS sS 12 15 25.1 -3.9
TNCH pmax pmax
comp=Z,1µm,1.3s
TNCH pmax pmax
comp=Z,7µm,3.3s
TNCH LR LR
comp=Z,63µm,13.5s
TNCH LR LR
comp=Z,40µm,12.5s
TNCH LR LR
comp=Z,151µm,15.6s
VIS Vishakhapatnam 32.69 320 *e*P P **12 09 55.5 +1.1**
VIS IAmb IAmb 12 10 08.3
comp=Z,7µm,1.6s
VIS *e*S S **12 15 09.3 +1.9**
KAAM Kaadhehdhoo 32.70 282 P P **12 09 55.0 +0.3**
GULI GuiLin 32.80 9 ⇑P P **12 09 55.5 +0.1**
GULI pmax pmax
comp=Z,650nm,2.0s
GULI pmax pmax
comp=Z,11µm,5.4s
GULI LR LR
comp=Z,124µm,24.9s
GULI LR LR
comp=Z,34µm,19.5s
GULI LR LR
comp=Z,204µm,23.3s
AZL Aizawl 33.03 339 *e*P P **12 09 57.4 -0.1**
AZL IAmb IAmb 12 10 06.7
comp=Z,2µm,2.0s
AZL *e*S S **12 15 16.5 +3.8**
BWNR Bhubaneshwar 33.19 326 *e*P P **12 09 58.5 -0.2**
BWNR IAmb IAmb 12 10 04.3
comp=Z,2µm,2.0s
BWNR *e*S S **12 15 19.0 +3.9**
GYA Guiyang 33.57 3 ⇑P P **12 10 02.7 +0.5**
GYA pP pwP 12 10 16.6 -1.0
GYA S S **12 15 20.8 -0.3**
GYA pmax pmax
comp=Z,390nm,0.9s
GYA pmax pmax
comp=Z,12µm,5.8s
GYA LR LR
comp=Z,43µm,23.4s
GYA LR LR
comp=Z,38µm,14.1s
GYA LR LR
comp=Z,60µm,25.2s
IMP Imphal 33.63 342 *e*P P **12 10 02.7 0.0**
IMP IAmb IAmb 12 10 11.1
comp=Z,3µm,1.8s
IMP *e*S S **12 15 24.7 +2.8**
VJD Vijayawada 33.65 315 *e*P P **12 10 05.3 +2.4**
VJD IAmb IAmb 12 10 13.1
comp=Z,1µm,1.7s
AGT Agartala 33.69 337 *e*P P **12 10 04.5 +1.4**
AGT IAmb IAmb 12 10 07.0
comp=Z,4µm,3.0s
AGT *e*S S **12 15 22.7 -0.1**
PZH PanZhiHua 33.71 355 P P **12 10 03.9 +0.5**
PZH S S **12 15 22.4 -0.8**
PZH SS SnSn **12 17 33.5 +2.0**
PZH pmax pmax
comp=Z,290nm,0.9s
PZH pmax pmax
comp=Z,7µm,7.5s
PZH LR LR
comp=Z,111µm,25.0s
PZH LR LR
comp=Z,71µm,22.1s
PZH LR LR
comp=Z,177µm,24.5s
CAL Calcutta 33.76 332 *e*P P **12 10 05.2 +1.5**
CAL IAmb IAmb 12 10 29.7
comp=Z,1µm,2.4s
CAL *e*S S **12 15 25.1 +1.3**
TWGBT Beinan 33.86 28 P P **12 10 05.6 +1.0**
TPUB Ta-pu 34.07 26 IAmb IAmb 12 10 15.7
comp=Z,650nm,0.7s
TPUB IAMs_20 IAMs_20 12 23 44.8
comp=Z,107µm,21.0s
TPUB Ta-pu 34.07 26 P P **12 10 07.3 +0.8**
SMPI Sarmi 34.14 83 P P **12 10 05.3 -1.9**

comp=Z,23μmcomp=Z,1μm,1.7s
KNMB Chin-men Tao 34.19 22 P **P** **12 10 07.2 -0.2**
KNMB IAmb IAmb 12 10 09.0
comp=Z,639nm,1.0s
KOHI KOHIMA 34.42 343 *eP* **P** **12 10 09.3 -0.2**
KOHI IAmb IAmb 12 10 11.4
comp=Z,3μm,2.0s
KOHI *eS* **S** **12 15 32.9 -1.4**
YULB Yu-li 34.45 27 IAmb IAmb 12 10 23.8
comp=Z,932nm,1.1s
YULB Yu-li 34.45 27 P **P** **12 10 10.4 +0.6**
HMDM Hanimaadhoo 34.54 293 P **P** **12 10 11.4 +0.7**
SSLB Suanglung 34.64 27 IAmb IAmb 12 10 24.0
comp=Z,1μm,1.0s
SSLB IAMs_20 IAMs_20 12 24 01.8
comp=Z,83μm,22.0s
SSLB Suanglung 34.64 27 P **P** **12 10 12.9 +1.5**
QZH Quanzhou 34.70 22 *i*P **P** **12 10 11.3 -0.6**
QZH PP **PP** **12 11 32.2 +0.8**
QZH S **S** **12 15 40.6 +2.3**
QZH SS **SnSn** **12 17 58.1 +2.7**
QZH pmax pmax
comp=Z,520nm,2.1s
QZH pmax pmax
comp=Z,18μm,4.9s
QZH LR LR
comp=Z,70μm,24.1s
QZH LR LR
comp=Z,25μm,20.3s
QZH LR LR
comp=Z,105μm,24.4s
SHL Shillong 34.99 339 P **P** **12 10 15.2 +0.6**
SNR=216
SHL Shillong 34.99 339 *eP* **P** **12 10 14.7 +0.1**
SHL IAmb IAmb 12 10 26.6
comp=Z,3μm,2.5s
SHL *eS* **S** **12 15 45.1 +1.9**
SHL Shillong 34.99 339 P **P** **12 10 14.4 -0.2**
NACB Ninganchiao 35.26 27 P **P** **12 10 16.5 -0.2**
NACB IAmb IAmb 12 10 29.0
comp=Z,668nm,1.1s
NACB IAMs_20 IAMs_20 12 24 03.3
comp=Z,88μm,22.0s
NACB Ninganchiao 35.26 27 P **P** **12 10 17.6 +0.9**
JORH JORHAT 35.34 343 *eP* **P** **12 10 17.4 +0.1**
JORH IAmb IAmb 12 10 19.4
comp=Z,1μm,2.8s
GENI Genyem 35.48 84 P **P** **12 10 19.3 +0.5**
GENI Genyem 35.48 84 P **P** **12 10 16.6 -2.2**
comp=Z,88μmcomp=Z,27μmcomp=Z,2μm,1.3s
GENI Genyem 35.48 84 ⇑P **P** **12 10 17.1 -1.7**
YHNB Yeheng 35.60 26 IAmb IAmb 12 10 29.6
comp=Z,2μm,1.5s
YHNB IAMs_20 IAMs_20 12 24 34.1
comp=Z,87μm,21.0s
YHNB Yeheng 35.60 26 P **P** **12 10 20.2 +0.5**
GUWA GUWAHATI 35.63 339 *eP* **P** **12 10 20.2 +0.4**
GUWA IAmb IAmb 12 10 23.3
comp=Z,3μm,2.0s
GUWA *eS* **S** **12 15 53.2 +0.5**
TEZP TEZPUR 35.66 341 *eP* **P** **12 10 19.9 -0.2**
TEZP IAmb IAmb 12 10 22.7
comp=Z,1μm,3.0s
TEZP *eS* **S** **12 15 51.1 -1.8**
KNTI KHUNTI 35.71 328 *eP* **P** **12 10 21.9 +1.2**
KNTI IAmb IAmb 12 10 25.9
comp=Z,4μm,1.1s
KNTI *eS* **S** **12 15 56.7 +2.7**
HYB Hyderabad 35.74 314 *eP* **P** **12 10 20.7 -0.3**
HYB IVmB_BB 12 10 24.9
comp=Z,4μm,4.9s
HYB *es*P **sP** **12 10 39.4 -0.3**
HYB *eS* **S** **12 15 54.9 +0.4**
HYB IVMs_BB IVMs_BB 12 21 12.6
comp=Z,21μm,40.6s
DIBR DIBRUGARH 35.85 345 *eP* P 12 10 14.1 -7.6
DIBR IAmb IAmb 12 10 16.6
comp=Z,1μm,1.3s
DIBR *eS* S 12 15 43.0 -13
TATO Taipei 35.91 26 P **P** **12 10 22.2 -0.1**
TATO Taipei 35.91 26 IAMs_20 IAMs_20 12 24 53.6
comp=Z,63μm,22.0s
TATO Taipei 35.91 26 P **P** **12 10 22.8 +0.5**
TATO Taipei 35.91 26 P **P** **12 10 23.4 +1.1**
BOK Bokaro 36.01 330 *eP* **P** **12 10 23.6 +0.5**
BOK IAmb IAmb 12 10 43.1
comp=Z,4μm,2.5s
BOK *eS* **S** **12 15 59.1 +0.6**
JAY Jayapura 36.02 84 P **P** **12 10 21.3 -2.2**
comp=Z,906nm,0.8s,baz=249,slow=3.8,SNR=95
JAY S **S** **12 15 55.4 -3.6**
comp=Z,89nm,1.0s,baz=95,slow=17,SNR=3.8
comp=Z,906nm,0.8s
JAY Jayapura 36.02 84 P **P** **12 10 20.1 -3.4**
comp=Z,13μmcomp=Z,1μm,0.9s
CNSH ChangSha 36.10 12 P **P** **12 10 24.9 +1.1**
CNSH S **S** **12 16 02.9 +3.2**
CNSH pmax pmax
comp=Z,850nm,1.1s
CNSH LR LR
comp=Z,19μm,29.5s
CNSH LR LR
comp=Z,44μm,28.1s
CNSH LR LR
comp=Z,81μm,24.0s
QIS Mount Isa 36.12 115 P **P** **12 10 25.5 +1.2**
YOJ Yonaguni jima 36.17 29 P **P** **12 10 25.8 +1.3**
YOJ Yonaguni jima 36.17 29 P **P** **12 10 24.8 +0.3**
YOJ Yonaguni jima 36.17 29 ⇑P **P** **12 10 24.9 +0.3**
YOJ Yonaguni jima 36.17 29 P **P** **12 10 25.3 +0.8**
ZIRO ZIRO 36.19 343 *eP* **P** **12 10 24.8 -0.1**
ZIRO IAmb IAmb 12 10 27.1
comp=Z,3μm,2.2s
COBR COOCHBEHAR 36.56 336 *eP* **P** **12 10 28.9 +1.1**
COBR IAmb IAmb 12 10 38.8
comp=Z,6μm,1.9s
COBR *eS* **S** **12 16 10.2 +3.4**
BLSP Bilaspur 36.74 323 *eP* **P** **12 10 29.0 -0.4**
BLSP IAmb IAmb 12 10 41.5
comp=Z,4μm,2.7s
BLSP *eS* **S** **12 16 08.2 -1.6**
JPG JALPAIGURI 37.08 336 *eP* **P** **12 10 34.1 +1.9**
JPG IAmb IAmb 12 10 38.0
comp=Z,3μm,2.5s
JPG *eS* **S** **12 16 14.3 -0.5**
GAYA Gaya 37.17 330 *eP* **P** **12 10 34.3 +1.2**
GAYA IAmb IAmb 12 10 45.6
comp=Z,4μm,1.6s
GAYA *eS* **S** **12 16 18.4 +2.2**
JMJ Miyako jima 2 37.60 31 P **P** **12 10 37.5 +0.9**
GTK Tadong 37.81 336 *eP* **P** **12 10 39.5 +0.8**
GTK IAmb IAmb 12 10 42.3
comp=Z,3μm,3.0s
GTK *eS* **S** **12 16 25.8 -0.4**
CD2 Chengdu 37.98 358 P **P** **12 10 40.4 +0.6**
CD2 pP pwP 12 10 54.6 -0.7
CD2 PP **PnPn** **12 12 11.1 +1.8**
CD2 S **S** **12 16 25.6 -2.7**
CD2 sS sS 12 16 50.6 +0.6
CD2 pmax pmax
comp=Z,1μm,0.8s
CD2 pmax pmax
comp=Z,10μm,4.8s
CD2 LR LR
comp=Z,106μm,16.3s
CD2 LR LR
comp=Z,98μm,16.7s
CD2 LR LR
comp=Z,101μm,18.6s
GOA Goa 38.16 306 *eP* **P** **12 10 43.1 +1.6**
GOA IAmb IAmb 12 10 55.7
comp=Z,5μm,2.1s
GOA *eS* **S** **12 16 33.5 +2.0**
COEN Coen 38.21 103 IAmb IAmb 12 10 51.7
comp=Z,617nm,0.8s
COEN IAMs_20 IAMs_20 12 27 59.6
comp=Z,74μm,20.0s
COEN Coen 38.21 103 P **P** **12 10 42.2 +0.2**
COEN Coen 38.21 103 ⇑P **P** **12 10 41.9 -0.1**
BBOO Buckleboo 38.52 136 P **P** **12 10 44.1 -0.3**
WHN Wuhan 38.68 13 ⇑P **P** **12 10 46.6 +0.9**
WHN sP **sP** **12 11 06.7 +2.0**
WHN PP **PnPn** **12 12 20.0 +2.3**
WHN S **S** **12 16 37.8 -1.1**
WHN pmax pmax
comp=Z,3μm,1.1s
WHN pmax pmax
comp=Z,30μm,5.9s
WHN LR LR
comp=Z,146μm,15.6s
WHN LR LR
comp=Z,66μm,19.8s
WHN LR LR
comp=Z,278μm,20.6s
STMR SITAMARHI 38.79 331 *eP* **P** **12 10 47.8 +1.2**
STMR IAmb IAmb 12 10 59.4
comp=Z,5μm,2.8s
STMR *eS* **S** **12 16 41.7 +1.1**
KAD Karad 38.93 309 *eP* **P** **12 10 52.4 +4.4**
KAD IAmb IAmb 12 11 01.2
comp=Z,5μm,3.0s
KAD *eS* **S** **12 16 45.8 +2.7**
LSA Lhasa 39.05 341 P **P** **12 10 49.4 +0.1**
LSA pmax pmax
comp=Z,230nm,0.9s
LSA LR LR
comp=Z,35μm,26.9s
LSA LR LR
comp=Z,46μm,22.3s
EVN Everest 39.12 334 IAmb IAmb 12 11 30.4
comp=Z,1μm,1.1s
EVN Everest 39.12 334 ⇑P **P** **12 10 51.0 +0.8**
ALBI Allahabad 39.39 326 *eP* **P** **12 10 53.4 +1.7**
ALBI IAmb IAmb 12 11 11.2
comp=Z,3μm,1.9s
GKPR Gorakhpur 39.67 329 *eP* **P** **12 10 55.0 +0.9**
GKPR IAmb IAmb 12 11 07.9
comp=Z,2μm,2.5s
GKPR *eS* **S** **12 16 55.3 +1.4**
WHYH Whyalla 39.71 135 P **P** **12 10 54.6 +0.3**
MTSU Mount Surprise 39.89 110 P **P** **12 10 57.4 +1.3**
PTPS Port Pirie 40.08 135 P **P** **12 10 58.1 +0.8**
NRDN NARMADA NAGAR 40.28 318 *eP* **P** **12 11 01.7 +2.5**
NRDN IAmb IAmb 12 11 29.6
comp=Z,4μm,2.3s
NRDN *eS* **S** **12 17 03.5 +0.3**
BNDA BANDA 40.36 325 *eP* **P** **12 10 59.9 +0.2**
BNDA IAmb IAmb 12 11 19.4
comp=Z,5μm,2.8s
BNDA *eS* **S** **12 17 03.5 -0.7**
JOW Kunigami 40.80 33 P **P** **12 11 04.0 +0.6**
JOW Kunigami 40.80 33 P **P** **12 11 04.0 +0.6**
comp=Z,281nm,0.5s,baz=240,slow=7.1,SNR=41
JOW LR LR 12 29 54.0
comp=Z,20μm,18.3s,baz=220,slow=39
comp=Z,281nm,0.5s
JOW Kunigami 40.80 33 P **P** **12 11 04.3 +0.9**
JOW Kunigami 40.80 33 ⇑P **P** **12 11 04.2 +0.9**
JOW Kunigami 40.80 33 P **P** **12 11 04.5 +1.1**
HTT Hallett 40.87 134 P **P** **12 11 04.0 0.0**
HTT Hallett 40.87 134 ⇓P **P** **12 11 04.2 +0.1**
SSE Sheshan 41.23 21 P **P** **12 11 07.9 +1.1**
SSE S **S** **12 17 18.2 +1.3**
SSE sS **sS** **12 17 32.5 -6.2**
SSE pmax pmax
comp=Z,740nm,1.7s
SSE pmax pmax
comp=Z,9μm,3.8s
XAN Xi'an 41.26 5 ⇑P **P** **12 11 07.3 +0.2**
XAN pP pP 12 11 13.8 -6.5
XAN PP **PP** **12 12 45.3 +2.0**
XAN S **S** **12 17 18.4 +0.9**
XAN pmax pmax
comp=Z,2μm,0.9s
XAN pmax pmax
comp=Z,24μm,4.5s
XAN LR LR
comp=Z,93μm,22.3s
XAN LR LR
comp=Z,127μm,18.5s
XAN LR LR
comp=Z,186μm,21.3s
BRCI Bahraich 41.31 328 *eP* **P** **12 11 07.6 +0.1**
BRCI IAmb IAmb 12 11 19.8
comp=Z,1μm,2.6s
BRCI *eS* **S** **12 17 19.9 +1.7**
NJ2 Nanjing 41.32 18 *i*P **P** **12 11 09.1 +1.6**
NJ2 S **S** **12 17 20.3 +2.0**
NJ2 pmax pmax
comp=Z,630nm,1.1s
NJ2 pmax pmax
comp=Z,12μm,3.5s
NJ2 LR LR
comp=Z,42μm,24.6s
NJ2 LR LR
comp=Z,40μm,20.8s
NJ2 LR LR
comp=Z,62μm,20.4s
JHNI Jhansi 41.40 323 *eP* **P** **12 11 07.6 -0.8**
JHNI IAmb IAmb 12 11 20.2
comp=Z,6μm,2.3s
JHNI *eS* **S** **12 17 17.9 -1.9**
GHSS Government Hou 41.45 136 P **P** **12 11 09.1 +0.4**
GUNA GUNA 41.55 321 *eP* **P** **12 11 08.6 -0.9**
GUNA *eS* **S** **12 17 22.0 0.0**
JMZ Minamidaito 2 41.70 37 IAMs_20 IAMs_20 12 30 51.0
comp=Z,82μm,22.0s
JMZ Minamidaito 2 41.70 37 P **P** **12 11 11.3 +0.6**
JMZ Minamidaito 2 41.70 37 ⇓P **P** **12 11 10.9 +0.2**
JMZ Minamidaito 2 41.70 37 P **P** **12 11 10.1 -0.6**
PMG Port Moresby 41.89 96 P **P** **12 11 12.8 +0.2**
PMG Port Moresby 41.89 96 P **P** **12 11 13.0 +0.5**
comp=Z,1μm,0.8s,baz=293,slow=5.3,SNR=86
PMG S **S** **12 17 27.2 -0.2**
comp=Z,86nm,1.0s,baz=169,slow=23,SNR=6.7
comp=Z,1μm,0.8s
PMG Port Moresby 41.89 96 P **P** **12 11 13.3 +0.7**
PMG Port Moresby 41.89 96 P **P** **12 11 13.1 +0.5**
PMG Port Moresby 41.89 96 P **P** **12 11 12.8 +0.2**
PMG pmax pmax
comp=Z,3μm,1.2s
PMG MLR MLR
comp=Z,26μm,22.0s
PMG Port Moresby 41.89 96 ⇑P **P** **12 11 12.4 -0.2**
PMG Port Moresby 41.89 96 P **P** **12 11 13.0 +0.5**
PMG pP **pwP** **12 11 27.1 -1.5**
PMG sP **sP** **12 11 30.7 -0.8**
QLP Quilpie 42.04 122 P **P** **12 11 15.5 +1.9**
QLP Quilpie 42.04 122 ⇓P **P** **12 11 15.2 +1.5**
STKA Stephens Creek 42.06 131 P **P** **12 11 14.0 +0.3**
STKA Stephens Creek 42.06 131 P **P** **12 11 14.2 +0.5**
comp=Z,843nm,0.6s,baz=301,slow=8.1,SNR=58
STKA LR LR 12 28 49.8
comp=Z,153μm,21.9s,baz=298,slow=36
comp=Z,843nm,0.6s
STKA Stephens Creek 42.06 131 P **P** **12 11 14.2 +0.5**
STKA Stephens Creek 42.06 131 P **P** **12 11 14.0 +0.3**
STKA pmax pmax
comp=Z,4μm,0.9s
CTAO Charters Tower 42.07 112 P **P** **12 11 15.3 +1.4**
CTAO IAmb IAmb 12 11 24.4
comp=Z,1μm,1.1s
CTAO Charters Tower 42.07 112 P **P** **12 11 15.3 +1.4**
CTAO Charters Tower 42.07 112 P **P** **12 11 15.3 +1.4**
CTAO pmax pmax
comp=Z,1μm,1.1s
CTAO Charters Tower 42.07 112 ⇑P **P** **12 11 15.3 +1.4**
CTAO Charters Tower 42.07 112 P **P** **12 11 15.1 +1.2**
CTAO pP **pP** **12 11 28.5 +1.5**
CTAO sP **sP** **12 11 36.7 +3.9**
CTAO ScP **ScP** **12 17 01.3 +6.8**
LYN LuoYang 42.21 9 ⇑*i*P **P** **12 11 16.0 +1.2**
LYN sP pwP 12 11 31.4 +0.9
LYN PP **PP** **12 12 55.9 +2.4**
LYN sS sS 12 17 48.9 -4.4
LYN pmax pmax
comp=Z,5μm,1.9s
LYN pmax pmax
comp=Z,29μm,5.3s
LYN LR LR
comp=Z,131μm,24.0s
LYN LR LR
comp=Z,64μm,24.0s
LYN LR LR
comp=Z,197μm,25.8s
MANU Manus Island 42.67 85 P **P** **12 11 18.9 0.0**
MANU IAmb IAmb 12 11 22.1
comp=Z,2μm,1.3s
JAM Amami Oshima 42.77 33 P **P** **12 11 20.1 +0.7**
AGRA Agra 43.07 324 *eP* **P** **12 11 20.9 -0.9**
AGRA IAmb IAmb 12 11 41.0
comp=Z,6μm,1.9s
AGRA *eS* **S** **12 17 40.4 -3.9**
LZH Lanzhou 43.13 359 ⇑P **P** **12 11 23.6 +1.1**
LZH S **S** **12 17 44.4 -0.9**
LZH sS sS 12 18 06.8 -0.4
LZH pmax pmax
comp=Z,2μm,1.3s
LZH pmax pmax
comp=Z,14μm,4.5s
LZH LR LR
comp=Z,63μm,15.8s
LZH LR LR
comp=Z,58μm,15.5s
LZH LR LR
comp=Z,97μm,15.8s
LGTI Lohaghat 43.52 328 *eP* **P** **12 11 25.4 0.0**
LGTI IAmb IAmb 12 11 37.9
comp=Z,5μm,2.7s
LGTI *eS* **S** **12 17 52.7 +2.0**
PTH Pithoragarh 43.61 328 *eP* **P** **12 11 26.6 +0.2**
PTH IAmb IAmb 12 11 38.5
comp=Z,5μm,3.2s
PTH *eS* **S** **12 17 51.2 -1.3**
UDPR Udaipur 43.86 317 *eP* **P** **12 11 28.9 +0.5**
UDPR IAmb IAmb 12 11 41.4
comp=Z,3μm,3.2s
UDPR *eS* **S** **12 17 57.3 +1.3**
UGON Onchagaon 43.91 325 *eP* **P** **12 11 28.6 0.0**
UGON IAmb IAmb 12 11 36.4
comp=Z,3μm,2.5s
UGON *eS* **S** **12 17 59.4 +2.9**
TKRD Thakurdwara 44.02 327 *eP* **P** **12 11 30.0 +0.5**
TKRD IAmb IAmb 12 11 41.5
comp=Z,6μm,3.9s
TKRD *eS* **S** **12 17 59.4 +1.2**
GOMU GeErMu 44.26 348 P **P** **12 11 31.7 0.0**
GOMU S **S** **12 18 01.5 -0.6**
GOMU pmax pmax
comp=Z,180nm,1.3s
GOMU LR LR
comp=Z,31μm,19.8s
GOMU LR LR
comp=Z,39μm,19.4s
GOMU LR LR
comp=Z,47μm,19.5s
ASOR Ausora 44.32 325 *eP* **P** **12 11 32.8 +0.9**
ASOR IAmb IAmb 12 11 44.9
comp=Z,3μm,1.9s
SONA Sohna 44.34 324 *eP* **P** **12 11 32.6 +0.6**
SONA IAmb IAmb 12 11 41.5
comp=Z,6μm,1.1s
SONA *eS* **S** **12 18 03.5 +0.7**
JMIU JAMIA UNIVERSI 44.46 324 *eP* **P** **12 11 32.5 -0.5**
JMIU IAmb IAmb 12 11 42.5
comp=Z,7μm,2.2s
JMIU *eS* **S** **12 18 00.9 -3.6**
AYAN Aya Nagar 44.49 324 *eP* **P** **12 11 32.6 -0.6**
AYAN IAmb IAmb 12 11 46.4
comp=Z,5μm,3.0s
AYAN *eS* **S** **12 18 05.0 +0.1**
LDR Lodi Road 44.51 324 *eP* **P** **12 11 33.3 -0.1**
LDR IAmb IAmb 12 11 45.4
comp=Z,5μm,2.2s
LDR *eS* **S** **12 18 05.0 -0.2**
NPLP NPLP New Delhi 44.58 324 *eP* **P** **12 11 33.0 -1.0**
NPLP IAmb IAmb 12 11 46.8
comp=Z,3μm,1.4s
NPLP *eS* **S** **12 18 09.6 +3.3**
NDI New Delhi 44.59 325 *eP* **P** **12 11 33.5 -0.6**
NDI IAmb IAmb 12 11 45.9
comp=Z,2μm,1.5s
NDI *eS* **S** **12 18 01.4 -5.0**
KUDL Kundal 44.61 323 *eP* **P** **12 11 34.0 -0.2**
KUDL IAmb IAmb 12 11 46.2
comp=Z,4μm,1.0s
KUDL *eS* **S** **12 18 05.5 -1.2**
BHGR Bahadurgarh 44.75 324 *eP* **P** **12 11 34.8 -0.5**
BHGR IAmb IAmb 12 11 47.6
comp=Z,5μm,2.2s
BHGR *eS* **S** **12 18 09.1 +0.4**
JOSI Joshimath 44.75 328 *eP* **P** **12 11 36.2 +0.6**
JOSI IAmb IAmb 12 11 47.5
comp=Z,6μm,2.8s
JOSI *eS* **S** **12 18 07.1 -2.1**
TIA Tai'an 44.76 14 P **P** **12 11 35.3 0.0**
TIA PP **PcP** **12 13 17.2 +0.4**
TIA S **S** **12 18 06.8 -1.9**
TIA SS **ScS** **12 21 26.4 -2.0**
TIA pmax pmax
comp=Z,1μm,0.7s
TIA pmax pmax
comp=Z,11μm,3.9s
TIA LR LR
comp=Z,64μm,19.1s
TIA LR LR
comp=Z,22μm,16.2s
TIA LR LR
comp=Z,86μm,22.1s
GUMO Guam 44.81 63 P **P** **12 11 33.6 -2.4**
comp=Z,222nm,0.6s,baz=190,slow=4.5,SNR=25
comp=Z,222nm,0.6s
GUMO Guam 44.81 63 P **P** **12 11 34.1 -1.9**
GUMO Guam 44.81 63 P **P** **12 11 33.8 -2.2**
GUMO pmax pmax
comp=Z,2μm,1.8s
GUMO MLR MLR
comp=Z,19μm,19.0s
GUMO Guam 44.81 63 ⇑P **P** **12 11 33.2 -2.8**
GUMO Guam 44.81 63 P **P** **12 11 33.5 -2.6**
GUMO PcP **PcP** **12 13 16.4 -0.9**
JHJR Jhajjar 44.86 324 *eP* **P** **12 11 37.4 +1.1**
JHJR *eS* **S** **12 18 09.1 -1.3**
GNR GANAUR 45.04 325 *eP* **P** **12 11 38.0 +0.3**
GNR IAmb IAmb 12 11 47.4
comp=Z,1μm,2.1s
GNR *eS* **S** **12 18 17.3 +4.4**
CMSA Cobar Meteorol 45.06 128 P **P** **12 11 38.8 +0.9**
TIY Taiyuan 45.30 8 P **P** **12 11 40.6 +0.9**
TIY pP **pP** **12 11 46.7 -6.2**
TIY S **S** **12 18 14.6 -2.0**
TIY SS **ScS** **12 21 33.2 +1.2**
TIY pmax pmax
comp=Z,1μm,0.8s
TIY pmax pmax
comp=Z,14μm,5.7s
TIY LR LR
comp=Z,87μm,26.1s
TIY LR LR
comp=Z,36μm,19.2s
TIY LR LR
comp=Z,95μm,23.4s
DDI Dehra Dun 45.37 327 *eP* **P** **12 11 40.4 +0.1**
DDI IAmb IAmb 12 11 52.1
comp=Z,7μm,2.1s
DDI *eS* **S** **12 18 20.6 +2.8**
HNS HongShan 45.38 11 ⇑P **P** **12 11 40.8 +0.6**
HNS S **S** **12 18 16.8 -0.7**
HNS SS **ScS** **12 21 30.2 -2.0**
HNS pmax pmax
comp=Z,2μm,1.1s
HNS LR LR
comp=Z,38μm,20.7s
HNS LR LR
comp=Z,43μm,20.7s
HNS LR LR
comp=Z,55μm,21.5s
JSU Suzuyama 45.67 31 P **P** **12 11 42.6 0.0**
JFU Fukue jima 2 45.76 28 P **P** **12 11 43.0 -0.3**
RMQ Roma 45.86 120 P **P** **12 11 45.0 +0.7**
BHUJ Bhuj 45.88 312 *eP* **P** **12 11 42.5 -1.9**
BHUJ IAmb IAmb 12 11 58.3
comp=Z,6μm,2.5s
BHUJ *eS* **S** **12 18 24.6 -0.5**
KLP Kalpa 46.21 328 *eP* **P** **12 11 46.5 -0.8**
KLP IAmb IAmb 12 11 59.1
comp=Z,5μm,2.8s
KLP *eS* **S** **12 18 28.0 -2.4**
CGRH CHANDIGARH 46.39 326 *eP* **P** **12 11 49.7 +1.4**
CGRH IAmb IAmb 12 12 00.4
comp=Z,2μm,2.7s
CGRH *eS* **S** **12 18 35.8 +3.4**
SMLA Simla 46.48 327 *eP* **P** **12 11 49.2 +0.2**
SMLA IAmb IAmb 12 12 00.5
comp=Z,6μm,2.8s

SMLA eS **S** **12 18 32.7 -0.8**
BKNR BIKANER 46.49 320 eP **P** **12 11 48.8 -0.3**
BKNR IAmb IAmb 12 12 02.4
comp=Z,1μm,1.9s
BKNR eS **S** **12 18 33.7 -0.2**
BRAT Ballarat 46.50 136 P **P** **12 11 49.7 +0.6**
GTA Gaotai 46.68 355 P **P** **12 11 52.2 +1.6**
GTA PcP **PcP** **12 13 26.9 +3.3**
GTA PP **PP** **12 13 42.4 +1.3**
GTA PcS **PcS** **12 17 17.7 -0.8**
GTA S **S** **12 18 36.9 +0.5**
GTA ScS **ScS** **12 21 39.7 -1.2**
GTA pmax pmax
comp=Z,550nm,1.6s
GTA pmax pmax
comp=Z,16μm,5.8s
GTA LR LR
comp=Z,73μm,22.2s
GTA LR LR
comp=Z,66μm,22.2s
GTA LR LR
comp=Z,117μm,22.2s
HNLY HANLEY 46.83 330 eS **S** **12 18 37.8 -1.8**
GEXS Deakin Univers 47.07 137 P **P** **12 11 54.4 +0.8**
BHK Bhakra 47.11 326 eP **P** **12 11 51.8 -2.1**
BHK IAmb IAmb 12 12 03.9
comp=Z,6μm,2.8s
BHK eS **S** **12 18 39.9 -2.8**
RABL Rabaul 47.15 89 P **P** **12 11 53.3 -1.3**
RABL IAmb IAmb 12 12 14.9
comp=Z,550nm,0.9s
RABL Rabaul 47.15 89 ⇑P **P** **12 11 53.3 -1.3**
JNU Nakatsue 47.17 30 P **P** **12 11 54.0 -0.5**
JNU Nakatsue 47.17 30 P **P** **12 11 53.8 -0.7**
comp=Z,192nm,0.5s,baz=208,slow=4.4,SNR=184
JNU LR LR 12 32 49.0
comp=Z,15μm,20.2s,baz=200,slow=38
comp=Z,192nm,0.5s
JNU Nakatsue 47.17 30 P **P** **12 11 54.5 +0.1**
JNU Nakatsue 47.17 30 ⇑P **P** **12 11 53.8 -0.7**
JNU Nakatsue 47.17 30 P **P** **12 11 53.8 -0.7**
JASL Jaisalmer 47.30 317 eP **P** **12 11 56.6 +1.1**
JASL IAmb IAmb 12 12 00.9
comp=Z,2μm,1.7s
JASL eS **S** **12 18 50.1 +4.6**
GD1S Gladstone Soft 47.31 116 P **P** **12 11 56.6 +0.9**
TOO Toolangi 47.58 136 P **P** **12 11 58.2 +0.5**
TOO Toolangi 47.58 136 P **P** **12 11 58.2 +0.5**
TOO pmax pmax
comp=Z,661nm,2.0s
TOO Toolangi 47.58 136 ⇓P **P** **12 11 59.3 +1.7**
EIDS Eidsvold 47.59 118 IAmb IAmb 12 12 10.1
comp=Z,618nm,1.1s
EIDS Eidsvold 47.59 118 P **P** **12 11 59.9 +2.1**
EIDS Eidsvold 47.59 118 ⇑P **P** **12 11 59.6 +1.8**
JTU Tsushima 47.61 28 P **P** **12 11 57.4 -0.3**
JTU Tsushima 47.61 28 ⇑P **P** **12 11 57.3 -0.4**
JTU Tsushima 47.61 28 P **P** **12 11 57.3 -0.4**
TLWR Talawar 47.77 326 eP **P** **12 11 58.9 -0.2**
TLWR IAmb IAmb 12 12 07.1
comp=Z,5μm,2.5s
TLWR eS **S** **12 18 52.5 +0.5**
BTO Baotou 47.87 5 *i*P **P** **12 12 01.7 +1.9**
BTO pP **pP** **12 12 10.8 -2.3**
BTO sP **sP** **12 12 18.5 -0.4**
BTO S **S** **12 18 58.9 +5.5**
BTO pmax pmax
comp=Z,4μm,1.9s
BTO pmax pmax
comp=Z,9μm,5.1s
BTO LR LR
comp=Z,205μm,20.2s
BTO LR LR
comp=Z,126μm,15.7s
BTO LR LR
comp=Z,352μm,21.5s
BJT Baijiatuan 48.20 12 IAMs_20 IAMs_20 12 33 59.8
comp=Z,48μm,20.0s
BJI Beijing 48.22 12 P **P** **12 12 02.9 +0.6**
BJI pP **pP** **12 12 12.2 -3.4**
BJI S **S** **12 18 58.2 +0.2**
BJI pmax pmax
comp=Z,670nm,0.9s
BJI pmax pmax
comp=Z,7μm,5.2s
BJI LR LR
comp=Z,8μm,23.2s
BJI LR LR
comp=Z,20μm,20.5s
BJI LR LR
comp=Z,27μm,19.5s
HHC Hu-ho-hao-te 48.28 7 *i*P **P** **12 12 04.3 +1.4**
HHC pP pwP 12 12 18.8 -0.3
HHC PP **PP** **12 13 57.1 +1.2**
HHC S **S** **12 19 00.2 +1.1**
HHC sS sS 12 19 22.0 +0.7
HHC ScS **ScS** **12 21 48.4 -3.0**
HHC pmax pmax
comp=Z,1μm,0.9s
HHC pmax pmax
comp=Z,8μm,4.8s
HHC LR LR
comp=Z,83μm,18.2s
HHC LR LR
comp=Z,52μm,18.6s
HHC LR LR
comp=Z,129μm,19.6s
TJN Taejon 48.29 24 P **P** **12 12 03.0 0.0**
TJN Taejon 48.29 24*c i*P **P** **12 12 02.9 0.0**
DL2 Dalian 48.51 17 ⇑*i*P **P** **12 12 04.8 +0.2**
DL2 PcS **PcS** **12 17 25.0 -0.9**
DL2 S **S** **12 18 59.8 -2.3**
DL2 pmax pmax
comp=Z,1μm,1.3s
DL2 pmax pmax
comp=Z,13μm,5.3s
DL2 LR LR
comp=Z,41μm,22.4s
DL2 LR LR
comp=Z,42μm,18.0s
DL2 LR LR
comp=Z,58μm,28.6s
JMU Jammu 48.93 326 eP **P** **12 12 09.7 +1.7**
JMU IAmb IAmb 12 12 19.3
comp=Z,6μm,2.9s
JMU eS **S** **12 19 08.6 +0.3**
INCN Inchon 48.95 23 P **P** **12 12 07.8 -0.2**
INCN IAmb IAmb 12 12 14.8
comp=Z,527nm,0.8s
INCN Inchon 48.95 23 P **P** **12 12 07.8 -0.2**
INCN Inchon 48.95 23 P **P** **12 12 07.8 -0.2**
INCN Inchon 48.95 23 P **P** **12 12 07.9 -0.2**
INCN pmax pmax
comp=Z,527nm,0.8s
INCN Inchon 48.95 23 ⇑P **P** **12 12 07.5 -0.6**
INCN Inchon 48.95 23 P **P** **12 12 07.9 -0.2**
INCN pP **pP** **12 12 21.1 -0.3**
HJU Haeju 49.10 22 P **P** **12 12 08.8 -0.3**
HJU S **S** **12 19 07.9 -2.6**
HJU AmB
comp=Z,916nm,2.3s
HJU AMS AMS
comp=Z,55μm,33.2s
CAN Canberra 49.12 131 IAmb IAmb 12 12 42.4
comp=Z,636nm,1.0s
CAN Canberra 49.12 131 P **P** **12 12 11.2 +1.7**
CAN Canberra 49.12 131 P **P** **12 12 10.7 +1.2**
CAN Canberra 49.12 131 ⇑P **P** **12 12 10.7 +1.2**
CAN Canberra 49.12 131 P **P** **12 12 11.1 +1.6**
CAN pP **pwP** **12 12 25.1 -1.3**
MSEY Mahe Island 49.16 270 P **P** **12 12 09.0 -1.1**
MSEY Mahe Island 49.16 270 IAMs_20 IAMs_20 12 28 52.4
comp=Z,44μm,20.0s
MSEY Mahe Island 49.16 270 P **P** **12 12 10.9 +0.7**
MSEY Mahe Island 49.16 270 P **P** **12 12 09.0 -1.1**
MSEY pmax pmax
comp=Z,246nm,1.1s
MSEY Mahe Island 49.16 270 *i*P **P** **12 12 11.8 +1.7**
SNR=5.8
MSEY Mahe Island 49.16 270 ⇑P **P** **12 12 12.3 +2.2**
JMN Monobe 49.20 32 P **P** **12 12 10.0 -0.1**
JMN Monobe 49.20 32 P **P** **12 12 09.9 -0.1**
JMN Monobe 49.20 32 ⇑P **P** **12 12 09.4 -0.6**
JMN Monobe 49.20 32 P **P** **12 12 09.6 -0.5**

RER Riviere de l'E 49.36 248 IAMs_20 IAMs_20 12 27 34.5
comp=Z,49μm,22.0s
RER Riviere de l'E 49.36 248 ⇑P **P** **12 12 14.7 +3.0**
CNB Canberra Magne 49.39 131 P **P** **12 12 13.1 +1.5**
KSAR Wonju Array Be 49.41 24 P **P** **12 12 12.4 +0.9**
KSAR Wonju Array Be 49.41 24 P **P** **12 12 12.4 +0.9**
KSRS Korea Array 49.44 24 P **P** **12 12 12.2 +0.5**
comp=Z,126nm,0.5s,baz=213,slow=8.1,SNR=748
KSRS LR LR 12 34 03.1
comp=Z,7619μm,21.7s,baz=200,slow=37
KSRS PKPPKP **P'P'df** **12 43 06.7 -0.6**
comp=Z,4.2nm,1.1s,baz=76,slow=1.6,SNR=4.2
comp=Z,126nm,0.5s
ARMA Armidale 49.44 124 IAmb IAmb 12 12 22.9
comp=Z,813nm,1.9s
ARMA Armidale 49.44 124 P **P** **12 12 14.9 +2.8**
ARMA Armidale 49.44 124 ⇓P **P** **12 12 14.4 +2.3**
KS19 Wonju Array Si 49.46 24 P **P** **12 12 12.2 +0.2**
JCJ Chichijima 49.74 45 P **P** **12 12 10.6 -3.7**
comp=Z,202nm,0.5s,baz=286,slow=16,SNR=14
JCJ LR LR 12 34 00.5
comp=Z,15μm,21.8s,baz=232,slow=37
JCJ Chichijima 49.74 45 P **P** **12 12 13.5 -0.7**
JCJ Chichijima 49.74 45 ⇑P **P** **12 12 10.5 -3.7**
JHS Saijyo 49.79 31 P **P** **12 12 14.0 -0.5**
SYDH Sydney Hard Ro 49.85 129 P **P** **12 12 16.0 +1.0**
MGCD Mangrove Creek 49.94 128 P **P** **12 12 19.0 +3.3**
MILA Mila 49.95 133 ⇓P **P** **12 12 17.1 +1.2**
PYAG Pyongyang 50.00 21 P **P** **12 12 15.8 -0.1**
PYAG pP **sP** **12 12 39.8 +4.6**
PYAG S **S** **12 19 20.9 -2.2**
PYAG AmB
comp=Z,405nm,1.8s
PYAG AMS AMS
comp=Z,67μm,39.4s
SRNI Srinagar 50.00 327 eP **P** **12 12 16.5 +0.5**
SRNI IAmb IAmb 12 12 31.1
comp=Z,7μm,1.8s
SRNI eS **S** **12 19 27.3 +4.0**
RIV Riverview 50.20 128 P **P** **12 12 20.2 +2.6**
RIV Riverview 50.20 128 ⇑P **P** **12 12 19.4 +1.7**
JAD Aida 50.28 32 P **P** **12 12 17.3 -0.9**
NTLH Newcastle Hard 50.30 127 P **P** **12 12 19.4 +1.0**
GC1S Gold Coast 1 S 50.38 121 P **P** **12 12 22.3 +3.1**
comp=Z,151nm,1.0s
NIL Nilore 50.55 326 P **P** **12 12 19.6 -0.7**
NIL Nilore 50.55 326 P **P** **12 12 20.4 +0.2**
NIL Nilore 50.55 326 P **P** **12 12 19.6 -0.7**
NIL pmax pmax
comp=Z,1μm,1.0s
NIL MLR MLR
comp=Z,13μm,20.0s
CORO Coronation Par 50.61 139 P **P** **12 12 23.6 +3.0**
comp=Z,170nm,1.0s
GLAD Gladstone 50.95 138 P **P** **12 12 26.3 +3.1**
comp=Z,309nm,1.0s
MOO Moorlands 51.14 140 P **P** **12 12 26.8 +2.1**
MOO Moorlands 51.14 140 P **P** **12 12 25.8 +1.1**
JWT Wachi 51.19 32 P **P** **12 12 23.9 -1.1**
JIE Ise 51.23 34 P **P** **12 12 24.2 -1.1**
HHU Hamhung 51.42 22 P **P** **12 12 26.3 -0.4**
HHU S **S** **12 19 40.4 -2.3**
HHU AmB
comp=Z,6μm,2.1s
HHU AMS AMS
comp=Z,11μm,25.8s
TAU Tasmania Unive 51.47 141 P **P** **12 12 27.5 +0.4**
TAU IAmb IAmb 12 12 58.5
comp=Z,567nm,0.8s
TAU Tasmania Unive 51.47 141 P **P** **12 12 29.4 +2.4**
TAU Tasmania Unive 51.47 141 P **P** **12 12 27.5 +0.4**
TAU pmax pmax
comp=Z,567nm,0.9s
TAU MLR MLR
comp=Z,67μm,20.0s
TAU Tasmania Unive 51.47 141 ⇓P **P** **12 12 28.2 +1.2**
TAU Tasmania Unive 51.47 141 P **P** **12 12 28.6 +1.6**
SNY Shenyang 51.78 18 ⇑P **P** **12 12 28.8 -0.5**
SNY PP **PP** **12 14 27.1 -0.5**
SNY S **S** **12 19 44.7 -2.9**
SNY ScS **ScS** **12 22 18.9 +4.0**
SNY pmax pmax
comp=Z,840nm,1.9s
SNY LR LR
comp=Z,20μm,20.8s
SNY LR LR
comp=Z,18μm,17.1s
SNY LR LR
comp=Z,40μm,23.9s
XLT XiLinHaoTe 51.93 10 eP **P** **12 12 31.0 +0.4**
XLT S **S** **12 19 47.8 -2.1**
XLT sS sS 12 20 12.5 +0.4
XLT pmax pmax
comp=Z,720nm,1.2s
XLT pmax pmax
comp=Z,14μm,5.2s
XLT LR LR
comp=Z,4μm,19.6s
XLT LR LR
comp=Z,16μm,20.2s
XLT LR LR
comp=Z,37μm,19.0s
JHJ Hachijo jima 2 52.10 38 P **P** **12 12 29.6 -2.4**
comp=Z,128nm,0.6s,baz=261,slow=22,SNR=14
JHJ LR LR 12 34 26.0
comp=Z,21μm,21.6s,baz=244,slow=36
comp=Z,128nm,0.6s
INU Inuyama 52.11 33 P **P** **12 12 30.7 -1.2**
INU Inuyama 52.11 33 ⇑P **P** **12 12 30.2 -1.7**
INU Inuyama 52.11 33 P **P** **12 12 29.9 -2.0**
JHJ2 Mitsune 52.12 38 IAmb IAmb 12 12 54.0
comp=Z,772nm,1.3s
JHJ2 Mitsune 52.12 38 P **P** **12 12 31.6 -0.4**
JHJ2 Mitsune 52.12 38 ⇑P **P** **12 12 29.0 -3.0**
JHJ2 Mitsune 52.12 38 P **P** **12 12 29.2 -2.8**
JSG Sagara 52.27 35 P **P** **12 12 34.0 +0.9**
JSG Sagara 52.27 35 ⇑P **P** **12 12 32.1 -0.9**
JSG Sagara 52.27 35 P **P** **12 12 32.3 -0.8**
JGF Kuroka 52.48 34 P **P** **12 12 33.0 -1.7**
JGF Kuroka 52.48 34 ⇑P **P** **12 12 32.9 -1.9**
JGF Kuroka 52.48 34 P **P** **12 12 33.1 -1.6**
JGN Niukaw 52.92 33 P **P** **12 12 36.2 -1.8**
WMQ Urumqi 53.17 345 ⇑P **P** **12 12 41.0 +1.3**
WMQ S **S** **12 20 04.4 -2.4**
WMQ ScS **ScS** **12 22 23.9 -0.9**
WMQ pmax pmax
comp=Z,2μm,1.1s
WMQ pmax pmax
comp=Z,11μm,5.5s
WMQ LR LR
comp=Z,40μm,23.1s
WMQ LR LR
comp=Z,33μm,24.5s
WMQ LR LR
comp=Z,50μm,24.1s
JOD2 Odawara 2 53.20 35 P **P** **12 12 37.6 -2.4**
JLN Jalan Bani Buh 53.26 304 P **P** **12 12 41.8 +1.2**
SNR=21
JLN P **P** **12 12 41.8 +1.2**
SNR=21
NGCH Negor - Chabah 53.48 309 P **P** **12 12 43.9 +1.8**
SNR=6.2
KBU Kabul Universi 53.55 323 P **P** **12 12 43.2 +0.4**
KBU S **S** **12 20 11.1 -1.3**
KBL Kabul 53.62 323 P **P** **12 12 42.8 -0.5**
KBL IAmb IAmb 12 13 20.2
comp=Z,1μm,1.6s
KBL Kabul 53.62 323 P **P** **12 12 43.8 +0.4**
SNR=124
KBL P **P** **12 12 43.8 +0.4**
SNR=124
KBL Kabul 53.62 323 P **P** **12 12 42.8 -0.5**
KBL pmax pmax
comp=Z,1μm,1.6s
MAJO Matsushiro 53.64 33 P **P** **12 12 41.2 -2.0**
MAJO IAmb IAmb 12 13 11.1
comp=Z,336nm,0.8s
MAJO Matsushiro 53.64 33 P **P** **12 12 41.2 -2.0**
MAJO Matsushiro 53.64 33*c i*P **P** **12 12 41.2 -2.0**
MAJO pmax pmax
comp=Z,360nm,0.8s
MAJO MLR MLR
comp=Z,19μm,20.0s
MAJO Matsushiro 53.64 33 ⇑P **P** **12 12 40.9 -2.4**
MAJO Matsushiro 53.64 33 P **P** **12 12 40.7 -2.5**

MAJO S **S** **12 20 11.7 -1.5**
MAJO Matsushiro 53.64 33 P **P** **12 12 41.2 -2.0**
MAJO pP **pP** **12 12 56.4 -0.4**
MAT Matsushiro 53.64 33 P **P** **12 12 41.1 -2.1**
JRY Ryogami san 53.64 34 P **P** **12 12 41.4 -1.8**
MJAR Matsushiro Arr 53.64 33 P **P** **12 12 41.1 -2.1**
MJAR Matsushiro Arr 53.64 33 P **P** **12 12 41.1 -2.1**
comp=Z,111nm,0.6s,baz=204,slow=8.0,SNR=154
MJAR S **S** **12 20 16.4 +3.1**
comp=Z,1.7nm,0.3s,baz=296,slow=12,SNR=6.5
MJAR LR LR 12 36 24.6
comp=Z,15μm,21.5s,baz=221,slow=37
MJAR PKPPKP **P'P'df** **12 43 02.3 +0.2**
comp=Z,4.7nm,1.1s,baz=312,slow=2.0,SNR=5.4
comp=Z,111nm,0.6s
MJAR Matsushiro Arr 53.64 33 P **P** **12 12 41.1 -2.1**
MJAR pmax pmax
comp=Z,197nm,1.1s
MJB9 Matsu-Tunnel 53.64 33 IAmb IAmb 12 13 11.1
comp=Z,334nm,0.8s
KSH Kashi 53.68 332 P **P** **12 12 42.4 -1.2**
KSH pmax pmax
comp=Z,550nm,1.1s
KSH pmax pmax
comp=Z,14μm,8.8s
KSH LR LR
comp=Z,22μm,22.7s
KSH LR LR
comp=Z,18μm,22.7s
KSH LR LR
comp=Z,40μm,21.3s
DQM DQM 53.83 301 P **P** **12 12 46.9 +2.0**
SNR=20
DQM P **P** **12 12 46.9 +2.0**
SNR=20
WBK Wadi Bani Khal 53.84 305 P **P** **12 12 46.1 +1.1**
SNR=19
MHTO MHTO 53.93 302 P **P** **12 12 46.4 +0.9**
SNR=35
CN2 Changchun 54.15 18 ⇑P **P** **12 12 46.3 -0.4**
CN2 PP **PP** **12 14 48.8 -0.1**
CN2 ScP **ScP** **12 17 42.4 -2.4**
CN2 PcS **PcS** **12 17 47.5 -2.6**
CN2 S **S** **12 20 18.8 -1.0**
CN2 SS **SS** **12 23 59.7 -2.7**
CN2 pmax pmax
comp=Z,800nm,1.0s
CN2 pmax pmax
comp=Z,9μm,5.0s
CN2 LR LR
comp=Z,26μm,24.0s
CN2 LR LR
comp=Z,32μm,24.0s
CN2 LR LR
comp=Z,27μm,26.0s
SBV Sambava 54.30 259 P **P** **12 12 49.2 +0.8**
SNR=20
SBV Sambava 54.30 259 ⇑P **P** **12 12 50.0 +1.6**
SAVO Savo Central 54.39 96 P **P** **12 12 49.4 +0.3**
WSAR Wadi Sarin 54.41 305 LR LR 12 34 13.4
comp=Z,160nm,20.8s,baz=132,slow=34
TATA Tatamba Isabel 54.41 95 P **P** **12 12 49.4 +0.2**
JMDO Jabal Madar 54.44 304 P **P** **12 12 50.4 +1.1**
SNR=20
JMDO P **P** **12 12 50.4 +1.1**
SNR=20
HNR Honiara 54.51 96 P **P** **12 12 49.1 -0.8**
HNR Honiara 54.51 96 IAMs_20 IAMs_20 12 36 31.9
comp=Z,29μm,22.0s
HNR Honiara 54.51 96 LR LR 12 37 17.0
comp=Z,22μm,21.4s,baz=268,slow=37
HNR Honiara 54.51 96 P **P** **12 12 50.4 +0.5**
HNR Honiara 54.51 96 P **P** **12 12 49.1 -0.8**
HNR pmax pmax
comp=Z,6μm,1.7s
HNR MLR MLR
comp=Z,29μm,22.0s
HNR Honiara 54.51 96 ⇑P **P** **12 12 48.0 -1.9**
HNR Honiara 54.51 96 P **P** **12 12 49.8 -0.2**
HNR pP **pP** **12 13 02.9 -0.5**
HNR sP **sP** **12 13 09.9 +0.8**
JYT Yasato 54.52 35 P **P** **12 12 46.3 -3.3**
NGOA Tingoa Renbel 54.56 99 P **P** **12 12 50.6 +0.3**
SHAO Shalim 54.70 298 P **P** **12 12 53.1 +1.8**
SNR=6.7
JSD Sado 54.77 32 P **P** **12 12 50.1 -1.3**
JSD Sado 54.77 32 ⇑P **P** **12 12 49.8 -1.6**
JSD Sado 54.77 32 P **P** **12 12 49.8 -1.6**
SMDO Samad 54.80 305 P **P** **12 12 53.0 +1.0**
SNR=50
SMDO P **P** **12 12 53.0 +1.0**
SNR=50
SONM Songino Array 54.88 1 P **P** **12 12 53.1 +1.0**
SONM IAmb IAmb 12 12 55.7
comp=Z,934nm,1.2s
SONM Songino Array 54.88 1 P **P** **12 12 53.1 +1.0**
comp=Z,378nm,0.9s,baz=180,slow=9.4,SNR=275
SONM LR LR 12 39 10.0
comp=Z,87μm,20.4s,baz=172,slow=39
SONM PKPPKP 12 43 02.2
comp=Z,10.0nm,1.1s,baz=3.0,slow=0.5,SNR=7.6
SONM P4KPbc 12 50 09.1
comp=Z,4.4nm,0.9s,baz=183,slow=4.9,SNR=8.8
comp=Z,378nm,0.9s
SONM Songino Array 54.88 1 P **P** **12 12 53.1 +1.0**
SONM pmax pmax
comp=Z,934nm,1.2s
ULN Ulaanbaatar 54.93 2 P **P** **12 12 53.2 +0.7**
ULN IAmb IAmb 12 13 03.9
comp=Z,640nm,1.1s
ULN Ulaanbaatar 54.93 2 P **P** **12 12 54.0 +1.4**
ULN P **P** **12 12 54.0 +1.4**
ULN P **P** **12 12 54.0 +1.4**
ULN Ulaanbaatar 54.93 2*c i*P **P** **12 12 53.4 +0.8**
ULN pmax pmax
comp=Z,640nm,1.0s
ULN MLR MLR
comp=Z,44μm,17.0s
ULN Ulaanbaatar 54.93 2 ⇑P **P** **12 12 53.4 +0.8**
ULN Ulaanbaatar 54.93 2 P **P** **12 12 53.8 +1.2**
ULN pP **pP** **12 13 06.5 +0.4**
BIDO Bidbid 54.95 305 P **P** **12 12 54.2 +1.2**
SNR=92
BIDO P **P** **12 12 54.2 +1.2**
SNR=92
PSTR Posyet 55.02 23*c i*P **P** **12 12 53.1 0.0**
MSHR Mys Shultsa 55.10 24*c i*P **P** **12 12 53.7 +0.1**
MSHR pmax pmax
comp=Z,449nm,1.2s
PATS Pohnpei 55.13 76 P **P** **12 12 53.5 -1.0**
PATS IAmb IAmb 12 14 06.5
comp=Z,638nm,1.1s
PATS Pohnpei 55.13 76 P **P** **12 12 54.3 -0.1**
DMTO DMTO 55.18 297 P **P** **12 12 55.7 +1.0**
DMTO P **P** **12 12 55.7 +1.0**
SHLS Shalkode 55.24 338 eP **P** **12 12 53.2 -1.6**
SHLS eS **S** **12 20 32.0 -2.8**
SHLS pmax pmax
comp=Z,776nm,2.1s
SHLS Shalkode 55.24 338 eP **P** **12 12 53.3 -1.6**
comp=Z,776nm,2.1s
SHLS eS **S** **12 20 32.0 -2.8**
ALEG Aligegeo Malai 55.27 96 P **P** **12 12 54.3 -1.2**
KDJ Kajisay 55.28 335 P **P** **12 12 55.5 +0.2**
KDJ Kajisay 55.28 335 P **P** **12 12 55.5 +0.2**
KDJ pmax pmax
comp=Z,3μm,1.4s
PDGK Podgornoye 55.38 338 P **P** **12 12 55.9 +0.1**
UZB Uzynbulak 55.40 337 eP **P** **12 12 55.5 -0.5**
UZB eS **S** **12 20 36.2 -0.7**
UZB Uzynbulak 55.40 337 eP **P** **12 12 55.5 -0.5**
UZB eS **S** **12 20 36.3 -0.7**
SATY Saty 55.56 337 eP **P** **12 12 56.6 -0.6**
SATY eS **S** **12 20 38.4 -0.7**
SATY Saty 55.56 337 eP **P** **12 12 56.6 -0.6**
SATY eS **S** **12 20 38.4 -0.7**
HOQ Hoqain 55.64 305 P **P** **12 12 59.1 +1.1**
SNR=119
HOQ P **P** **12 12 59.1 +1.1**
SNR=119
RBK Rabkut 55.76 297 P **P** **12 12 59.9 +1.0**
SNR=16
RBK P **P** **12 12 59.9 +1.0**
SNR=16
ULHL Ulahol 55.77 335 P **P** **12 12 59.5 +0.7**

SNR=23
KPKS Kokpek 55.80 337 *e*P **P** **12 12 59.3 +0.5**
VLA Vladivostok 55.84 24*d* iP **P** **12 12 58.9 -0.1**
VLA pmax pmax
comp=Z,932nm,1.2s
LHI Lord Howe Isla 55.88 123 IAmb IAmb 12 13 11.1
comp=Z,570nm,0.9s
LHI Lord Howe Isla 55.88 123 ⇑P **P** **12 13 01.7 +2.1**
JYA Atsumi 55.96 33 P **P** **12 12 58.7 -1.2**
JMM Marumori 56.02 34 P **P** **12 12 58.9 -1.5**
JMM IAmb IAmb 12 13 05.5
comp=Z,350nm,0.8s
JMM Marumori 56.02 34 P **P** **12 12 59.2 -1.2**
JMM Marumori 56.02 34 ⇑P **P** **12 12 58.5 -1.9**
JMM Marumori 56.02 34 P **P** **12 12 58.6 -1.7**
GAR Garm 56.08 328 P **P** **12 12 59.7 -1.3**
BOOM Boomskoye usch 56.10 334 P **P** **12 13 00.7 -0.4**
BOOM IAmb IAmb 12 13 33.0
comp=Z,1μm,1.6s
BOOM Boomskoye usch 56.10 334 P **P** **12 13 00.7 -0.4**
BOOM pmax pmax
comp=Z,1μm,1.6s
ARQ Araqi 56.17 304 P **P** **12 13 03.0 +1.2**
SNR=42
ARQ P **P** **12 13 03.0 +1.2**
SNR=42
DOK Doka 56.24 298 P **P** **12 13 03.3 +1.0**
SNR=15
MDJ Mudanjiang 56.25 21 IAMs_20 IAMs_20 12 36 44.3
comp=Z,28μm,21.0s
MDJ Mudanjiang 56.25 21 P **P** **12 13 01.8 -0.1**
MDJ S **S** **12 20 47.3 -0.6**
MDJ sS sS 12 21 12.0 +0.2
MDJ pmax pmax
comp=Z,330nm,1.4s
MDJ pmax pmax
comp=Z,16μm,5.3s
MDJ LR LR
comp=Z,18μm,22.5s
MDJ LR LR
comp=Z,12μm,24.8s
MDJ LR LR
comp=Z,36μm,24.0s
AAA Alma-Ata 56.29 336 *e*P **P** **12 13 01.9 -0.3**
AAA MLR MLR
comp=Z,21μm,21.0s
AAA Alma-Ata 56.29 336 *e*P **P** **12 13 01.9 -0.3**
comp=Z,20μm,21.9s
AAA LR LR 12 38 00.7
comp=Z,21μm,20.9s
WHFO Wadi Hawf 56.30 297 P **P** **12 13 03.8 +1.0**
SNR=13
HURO Huro Makira 56.40 98 P **P** **12 13 04.4 +0.9**
BNX BinXian 56.50 19 ⇑P **P** **12 13 03.6 0.0**
BNX pP **pP** **12 13 15.4 -1.9**
BNX PP **PP** **12 15 09.8 -0.2**
BNX S **S** **12 20 53.8 +2.6**
BNX sS **sS** **12 21 12.8 -2.2**
BNX pmax pmax
comp=Z,2μm,0.9s
BNX pmax pmax
comp=Z,24μm,3.7s
BNX LR LR
comp=Z,29μm,23.9s
BNX LR LR
comp=Z,18μm,22.2s
BNX LR LR
comp=Z,44μm,26.0s
ARSB Arslanbob 56.51 332 P **P** **12 13 04.0 0.0**
ARSB Arslanbob 56.51 332 P **P** **12 13 04.0 0.0**
ARSB pmax pmax
comp=Z,2μm,1.3s
ABTO Aybut 56.51 296 P **P** **12 13 05.1 +0.8**
SNR=26
ABTO P **P** **12 13 05.1 +0.8**
SNR=26
SOHO SOHO 56.52 305 P **P** **12 13 05.2 +1.0**
SOHO SOHO 56.52 305 *i* P **P** **12 13 04.1 -0.1**
SNR=15
SIMJ Simiganj 56.54 327 P **P** **12 13 02.4 -1.8**
TKM2 Tokmak 2 56.60 335 P **P** **12 13 04.6 -0.1**
SNR=443
KBK Karagaybulak 56.67 334 P **P** **12 13 06.0 +0.9**
SNR=22
ARXS Arharly 56.76 337 *e*P **P** **12 13 04.8 -0.8**
CHKK Chushkaly 56.79 336 *e*P **P** **12 13 05.4 -0.4**
CHKK Chushkaly 56.79 336 *e*P **P** **12 13 05.4 -0.4**
USA0B Ussuriysk Arra 56.79 23*c* iP **P** **12 13 05.7 0.0**
USRK Ussuriysk Ar. 56.79 23 P **P** **12 13 05.6 -0.1**
comp=Z,440nm,0.5s,baz=216,slow=6.2,SNR=647
USRK PKPPKP **P'P'df** **12 43 00.3 +3.6**
comp=Z,2.3nm,0.7s,baz=56,slow=4.8,SNR=7.4
comp=Z,440nm,0.5s
AAK Ala-Archa 56.85 334 P **P** **12 13 06.8 +0.4**
AAK IAmb IAmb 12 14 05.5
comp=Z,458nm,1.1s
AAK Ala-Archa 56.85 334 LR LR 12 42 22.0
comp=Z,14μm,18.1s,baz=142,slow=41
AAK Ala-Archa 56.85 334 P **P** **12 13 06.8 +0.4**
AAK P **P** **12 13 06.8 +0.4**
AAK Ala-Archa 56.85 334 P **P** **12 13 06.7 +0.4**
SNR=27
AAK Ala-Archa 56.85 334 P **P** **12 13 06.8 +0.4**
AAK pmax pmax
comp=Z,458nm,1.1s
AAK MLR MLR
comp=Z,20μm,21.0s
AAK Ala-Archa 56.85 334 *i* P **P** **12 13 06.2 -0.2**
SNR=29
AAK Ala-Archa 56.85 334 P **P** **12 13 06.0 -0.5**
AAK S **S** **12 20 55.3 -1.0**
AAK Ala-Archa 56.85 334 P **P** **12 13 06.6 +0.2**
AAK pP **pP** **12 13 18.4 -1.7**
FRU1 Bishkek 56.93 334 P **P** **12 13 07.1 +0.3**
FRU1 IAmb IAmb 12 13 30.4
comp=Z,536nm,1.0s
FRU1 Bishkek 56.93 334 P **P** **12 13 07.1 +0.3**
FRU1 pmax pmax
comp=Z,536nm,1.0s
UMZA Um Al Zommool 57.02 303 P **P** **12 13 08.7 +0.9**
UMZA P **P** **12 13 08.7 +0.9**
CHMS Chumysh 57.03 334 P **P** **12 13 07.2 -0.3**
SNR=30
KUU Kurty 57.09 336 *e*P **P** **12 13 07.6 -0.2**
KUU MLR MLR
comp=Z,17μm,20.0s
KUU Kurty 57.09 336 *e*P **P** **12 13 07.7 -0.2**
comp=Z,17μm,20.2s
KUU LR LR 12 38 27.1
comp=Z,17μm,20.2s
ALNE Al Ain 57.13 305 P **P** **12 13 09.4 +0.9**
SNR=103
ALNE P **P** **12 13 09.4 +0.9**
SNR=103
ALNE Al Ain 57.13 305 *i* P **P** **12 13 08.9 +0.4**
SNR=45
ASHO Ashiyiah 57.16 305 P **P** **12 13 09.7 +0.9**
SNR=78
ASHO P **P** **12 13 09.7 +0.9**
SNR=78
ASHO Ashiyiah 57.16 305 *i* P **P** **12 13 09.4 +0.6**
SNR=32
UOSS Minazif 57.16 306 P **P** **12 13 08.6 -0.2**
UOSS IAmb IAmb 12 13 20.5
comp=Z,585nm,1.2s
UOSS Minazif 57.16 306 P **P** **12 13 09.1 +0.3**
UOSS Minazif 57.16 306 *i* P **P** **12 13 09.0 +0.3**
SNR=47
UOSS Minazif 57.16 306 P **P** **12 13 08.3 -0.4**
UOSS S **S** **12 20 59.1 -1.6**
HATD Hatta, Dubai 57.17 306 P **P** **12 13 09.7 +0.9**
SNR=85
HATD P **P** **12 13 09.7 +0.9**
SNR=85
HATD Hatta, Dubai 57.17 306 *i* P **P** **12 13 09.3 +0.5**
SNR=31
EKS2 Erkin-Say 57.19 333 P **P** **12 13 09.3 +0.6**
SNR=61
TDK Taldyqorghan 57.21 338*c* iP **P** **12 13 08.4 -0.3**
TDK *e*S **S** **12 21 00.1 -0.5**
TDK LR LR 12 38 30.5
comp=Z,21μm,20.0s
TDK Taldyqorghan 57.21 338 ⇑*i*P **P** **12 13 08.4 -0.3**
comp=Z,18μm,21.7s
TDK *e*S **S** **12 21 00.1 -0.5**
TDK LR LR 12 38 30.5
comp=Z,21μm,20.3s
MDH Madha 57.25 306 P **P** **12 13 09.2 -0.2**
SNR=31
MDH P **P** **12 13 09.2 -0.2**
SNR=31
MDH Madha 57.25 306 *i* P **P** **12 13 09.0 -0.4**
SNR=24
ZSN Zaisan 57.29 344 *e*P **P** **12 13 09.0 -0.2**
ZSN *e*S **S** **12 21 01.4 -0.1**
ZSN pmax pmax
comp=Z,844nm,1.8s
ZSN Zaisan 57.29 344 *e*P **P** **12 13 09.1 -0.2**
comp=Z,844nm,1.8s
ZSN *e*S **S** **12 21 01.4 -0.1**
USP Ospenovka 57.35 334 P **P** **12 13 09.6 -0.2**
SNR=80
MSFE Esma-Masafi 57.39 306 *i* P **P** **12 13 10.9 +0.5**
SNR=72
MASF Masafi 57.40 306 P **P** **12 13 11.4 +0.9**
SNR=72
MASF P **P** **12 13 11.4 +0.9**
SNR=72
MASF P **P** **12 13 11.4 +0.9**
SNR=72
ZAK Zakamensk 57.43 359 *e*P **P** **12 13 10.7 +0.4**
ZAK pmax pmax
comp=Z,305nm,1.0s
JOM Ohasama 57.44 33 P **P** **12 13 08.9 -1.5**
MK31 Makanchi Array 57.45 342 P **P** **12 13 10.2 -0.2**
MK31 IAmb IAmb 12 13 22.5
comp=Z,812nm,1.2s
MK31 Makanchi Array 57.45 342 P **P** **12 13 10.2 -0.2**
MK31 pmax pmax
comp=Z,812nm,1.2s
MKAR Makanchi Array 57.45 342 P **P** **12 13 10.2 -0.2**
comp=Z,395nm,0.8s,baz=145,slow=7.3,SNR=825
MKAR PKPPKP **P'P'df** **12 42 59.0 +3.5**
comp=Z,2.2nm,0.8s,baz=25,slow=4.0,SNR=4.3
MKAR LR LR 12 44 17.7
comp=Z,14μm,19.1s,baz=147,slow=43
MKAR P4KPbc 12 50 22.7
comp=Z,2.4nm,0.9s,baz=154,slow=4.6,SNR=7.4
comp=Z,395nm,0.8s
SGDS Sogindy 57.45 334 *e*P **P** **12 13 09.9 -0.5**
SGDS *e*S **S** **12 21 03.3 -0.6**
BANOM Banah 57.54 307 P **P** **12 13 12.1 +0.7**
BANOM Banah 57.54 307 *i* P **P** **12 13 12.1 +0.7**
SNR=23
MAKZ Makanchi 57.56 342 P **P** **12 13 11.1 0.0**
MAKZ IAmb IAmb 12 13 23.8
comp=Z,400nm,1.1s
MAKZ Makanchi 57.56 342 P **P** **12 13 11.1 0.0**
MAKZ pmax pmax
comp=Z,400nm,1.1s
MAKZ MLR MLR
comp=Z,10μm,21.0s
MAKZ Makanchi 57.56 342 P **P** **12 13 10.9 -0.2**
FAQ Al Faqa, Dubai 57.57 305 P **P** **12 13 12.3 +0.7**
SNR=163
FAQ P **P** **12 13 12.3 +0.7**
SNR=163
FAQ Al Faqa, Dubai 57.57 305 *i* P **P** **12 13 11.4 -0.2**
SNR=74
NAZ Nazwa, Dubai 57.62 306 P **P** **12 13 12.9 +0.9**
SNR=136
NAZ P **P** **12 13 12.9 +0.9**
SNR=136
NAZ Nazwa, Dubai 57.62 306 *i* P **P** **12 13 13.0 +1.0**
SNR=74
VOI Vohitsoka 57.72 249 P **P** **12 13 12.9 -0.1**
VOI IAmb IAmb 12 13 24.4
comp=Z,467nm,0.7s
VOI Vohitsoka 57.72 249 P **P** **12 13 14.6 +1.6**
SNR=73
VOI Vohitsoka 57.72 249 ⇓P **P** **12 13 13.9 +1.0**
ASUD Al Ashush, Dub 57.73 305 P **P** **12 13 13.8 +1.1**
SNR=54
ASUD P **P** **12 13 13.8 +1.1**
SNR=54
ASUD Al Ashush, Dub 57.73 305 *i* P **P** **12 13 13.2 +0.5**
SNR=12
SHME Shamm 57.73 307 P **P** **12 13 13.6 +0.9**
SNR=67
SHME P **P** **12 13 13.6 +0.9**
SNR=67
SHME Shamm 57.73 307 *i* P **P** **12 13 12.7 0.0**
SNR=30
UMQ Umm Al-Quwin 57.87 306 P **P** **12 13 15.2 +1.5**
SNR=16
UMQ Umm Al-Quwin 57.87 306 *i* P **P** **12 13 14.6 +1.0**
SNR=13
FOMA Nahampoana Res 57.89 245 IAmb IAmb 12 13 26.1
comp=Z,930nm,1.4s
FOMA Nahampoana Res 57.89 245 ⇑P **P** **12 13 14.6 +0.7**
AJN Ajban 57.98 305 P **P** **12 13 15.3 +0.8**
SNR=39
AJN P **P** **12 13 15.3 +0.8**
SNR=39
AJN Ajban 57.98 305 *i* P **P** **12 13 13.8 -0.6**
SNR=31
JTM Tenmabayashi 58.27 32 P **P** **12 13 14.9 -1.2**
JTM IAmb IAmb 12 13 45.8
comp=Z,714nm,1.0s
JTM Tenmabayashi 58.27 32 P **P** **12 13 15.4 -0.8**
JTM Tenmabayashi 58.27 32 P **P** **12 13 15.0 -1.2**
DZA Taraz 58.50 332 *e*P **P** **12 13 17.5 -0.3**
DZA Taraz 58.50 332 *e*P **P** **12 13 17.5 -0.3**
MZR Muzera 58.55 302 P **P** **12 13 19.6 +1.0**
SNR=140
MZR Muzera 58.55 302 *i* P **P** **12 13 19.1 +0.6**
SNR=59
IUG Iuzhnay 58.56 330 *e*P **P** **12 13 17.9 -0.5**
IUG pmax pmax
comp=Z,223nm,0.8s
IUG Iuzhnay 58.56 330 *e*P **P** **12 13 17.9 -0.5**
comp=Z,223nm,0.8s
JOT Ohata 58.69 31 P **P** **12 13 18.2 -0.9**
MOY Mondy 58.79 357 *e*P **P** **12 13 19.9 +0.1**
MOY *e* 12 21 20.8
MOY pmax pmax
comp=Z,2μm,3.4s
KOUNC Koumac, New Ca 58.89 110 P **P** **12 13 22.2 +1.3**
KOUNC Koumac, New Ca 58.89 110 ⇑P **P** **12 13 22.6 +1.6**
CHM Chimkent 58.90 330 *e*P **P** **12 13 20.2 -0.4**
CHM pmax pmax
comp=Z,156nm,0.8s
CHM Chimkent 58.90 330 *e*P **P** **12 13 20.2 -0.4**
comp=Z,156nm,0.8s
CHM LR LR 12 39 37.4
BTLS Baital 58.97 335*c* iP **P** **12 13 20.5 -0.5**
BTLS Baital 58.97 335 ⇑*i*P **P** **12 13 20.6 -0.5**
KK31 Karatay Array 59.05 331 *i* P **P** **12 13 20.8 -0.8**
KKAR Karatay Array 59.05 331 P **P** **12 13 20.7 -0.9**
KKAR Karatay Array 59.05 331 P **P** **12 13 20.7 -0.9**
CASY Casey 59.05 177 P **P** **12 13 20.6 -0.6**
CASY Casey 59.05 177 ⇓P **P** **12 13 20.4 -0.8**
CASY Casey 59.05 177 P **P** **12 13 20.8 -0.4**
CASY sP **sP** **12 13 43.5 +3.3**
CASY PcP **PcP** **12 14 08.5 -1.1**
JSH Shimam 59.11 30 P **P** **12 13 21.7 -0.3**
IRK Irkutsk 59.28 360 *e*P **P** **12 13 23.8 +0.8**
IRK *e*S **S** **12 21 30.2 +2.9**
IRK pmax pmax
comp=Z,2μm,2.6s
BRLS Borolday 59.32 331*c* iP **P** **12 13 22.3 -1.2**
BRLS Borolday 59.32 331 ⇑*i*P **P** **12 13 22.3 -1.2**
TEY Ternei 59.37 26⇓*e*P **P** **12 13 21.8 -1.9**
TEY *e* 12 21 23.7
TEY pmax pmax
comp=N,60nm,1.3s
TEY pmax pmax
comp=Z,200nm,1.0s
TEY pmax pmax
comp=E,400nm,4.7s
TEY pmax pmax
comp=N,600nm,5.4s
TEY pmax pmax
comp=Z,1μm,6.2s
GHWR Ruwais 59.45 303 P **P** **12 13 25.4 +0.6**
GHWR P **P** **12 13 25.4 +0.6**
H04N2 CROZET ISLANDS 59.68 220 P **P** **12 13 28.3 +2.6**
baz=83,slow=6.2,SNR=23
H04N2 T T 13 18 29.4
baz=65,slow=75,SNR=48
H04N1 CROZET ISLANDS 59.69 220 P **P** **12 13 29.0 +3.2**
baz=83,slow=6.2,SNR=20
H04N1 T T 13 18 46.0
baz=65,slow=75,SNR=17
H04N3 CROZET ISLANDS 59.70 220 P **P** **12 13 27.8 +1.9**
baz=83,slow=6.2,SNR=17
H04N3 T T 13 18 35.3
baz=65,slow=75,SNR=16
H04S1 CROZET ISLANDS 59.88 219 T T 13 18 37.7
baz=64,slow=75,SNR=189
JRN Qarnain Island 59.89 304 P **P** **12 13 28.6 +0.8**
SNR=14
H04S3 CROZET ISLANDS 59.90 219 T T 13 18 36.0
baz=64,slow=75,SNR=213
H04S2 CROZET ISLANDS 59.90 219 T T 13 18 35.3
baz=64,slow=75,SNR=242
JEW Eniwo 59.95 30 P **P** **12 13 27.2 -0.6**
ERM Erimo 60.24 32 P **P** **12 13 29.1 -0.6**
ERM IAmb IAmb 12 13 59.0
comp=Z,270nm,0.8s
ERM Erimo 60.24 32 IAMs_20 IAMs_20 12 39 11.5
comp=Z,32μm,21.0s
ERM Erimo 60.24 32 P **P** **12 13 29.6 -0.2**
ERM Erimo 60.24 32*c* iP **P** **12 13 28.9 -0.9**
ERM pmax pmax
comp=Z,258nm,0.8s
ERM MLR MLR
comp=Z,21μm,20.0s
ERM Erimo 60.24 32 P **P** **12 13 28.9 -0.9**
ERM S **S** **12 21 35.7 -4.3**
JEM Erimo 60.24 32 P **P** **12 13 29.0 -0.8**
LUES Luesalemba Tem 60.33 98 P **P** **12 13 32.8 +1.8**
HEH HeiHe 60.55 16 *e*P **P** **12 13 31.6 -0.1**
HEH pP **pP** **12 13 40.9 -4.6**
HEH PcP **PcP** **12 14 17.0 +1.2**
HEH PP **PP** **12 15 44.9 -0.9**
HEH S **S** **12 21 42.4 -1.2**
HEH sS **pS** **12 21 59.2 -1.0**
HEH pmax pmax
comp=Z,680nm,1.3s
HEH pmax pmax
comp=Z,16μm,4.1s
HEH LR LR
comp=Z,20μm,24.7s
HEH LR LR
comp=Z,31μm,23.8s
HEH LR LR
comp=Z,58μm,24.8s
DZM Mont Dzumac 61.00 111 P **P** **12 13 35.0 -0.5**
DZM Mont Dzumac 61.00 111 *e*P **P** **12 13 35.6 +0.1**
comp=Z,972nm,1.4s
DZM Mont Dzumac 61.00 111 *e*PP **PP** **12 15 49.4 -1.0**
comp=Z,13μm,23.4s
DZM *e*S **S** **12 21 45.4 -5.3**
comp=Z,59μm,27.9s
DZM *e*SS **SS** **12 25 49.3 -1.7**
comp=Z,74μm,24.6s
DZM *e*LQ LQ 12 28 34.9
comp=Z,46μm,28.2s
DZM *e*LR LR 12 31 43.9
comp=Z,277μm,31.6s
DZM Mont Dzumac 61.00 111 LR LR 12 40 30.7
comp=Z,73μm,21.7s,baz=272,slow=37
DZM Mont Dzumac 61.00 111 P **P** **12 13 36.9 +1.4**
DZM Mont Dzumac 61.00 111 P **P** **12 13 36.6 +1.1**
ONTNC Ouen Toro 61.03 111 P **P** **12 13 35.7 +0.1**
ONTNC IAmb IAmb 12 13 45.8
comp=Z,1μm,1.5s
ONTNC Ouen Toro 61.03 111 P **P** **12 13 37.5 +1.9**
TRNA Turayna 61.15 303 P **P** **12 13 36.8 +0.4**
SNR=30
OUENC Ouen Island, N 61.39 111 P **P** **12 13 39.5 +1.4**
YATNC Mamie plateau, 61.41 111 P **P** **12 13 39.4 +1.2**
ASAJ Asahikawa 61.45 30 P **P** **12 13 37.4 -0.6**
comp=Z,295nm,0.8s,baz=241,slow=10.0,SNR=191
ASAJ LR LR 12 39 47.3
comp=Z,13μm,21.9s,baz=244,slow=36
comp=Z,295nm,0.8s
ASAJ Asahikawa 61.45 30 P **P** **12 13 37.3 -0.7**
JKA Kamikawa-asahi 61.46 30 IAmb IAmb 12 13 42.2
comp=Z,352nm,0.9s
SMRA Abu-Samra 61.48 303 P **P** **12 13 39.1 +0.6**
SNR=68
SANVU Saraoutou 61.49 104 P **P** **12 13 38.9 0.0**
SANVU IAmb IAmb 12 13 51.0
comp=Z,648nm,0.9s
SANVU IAMs_20 IAMs_20 12 38 40.8
comp=Z,43μm,22.0s
SANVU Saraoutou 61.49 104 P **P** **12 13 40.3 +1.5**
VLAKA Lakatoro 61.70 104 P **P** **12 13 41.4 +1.2**
JMP Maruseppu 61.76 31 P **P** **12 13 39.6 -0.5**
SHMA Al-Shehemyia 61.82 304 P **P** **12 13 42.1 +1.3**
SNR=20
PINNC Pines Island, 61.96 112 P **P** **12 13 41.5 -0.4**
PINNC Pines Island, 61.96 112 P **P** **12 13 44.3 +2.4**
JWK2 Keihoku 61.99 29 P **P** **12 13 41.4 -0.1**
KURBB Kurchatov Arra 62.00 341 P **P** **12 13 41.6 0.0**
comp=Z,303nm,0.9s,baz=156,slow=6.4,SNR=242
KURBB S **S** **12 22 00.7 -1.4**
comp=Z,16nm,1.2s,baz=164,slow=11,SNR=5.2
KURBB PKPPKP **P'P'df** **12 42 56.1 +7.7**
comp=Z,14nm,1.1s,baz=328,slow=2.4,SNR=7.5
KURBB LR LR 12 45 06.6
comp=Z,23μm,20.5s,baz=152,slow=40
KURBB P4KPbc 12 50 40.9
comp=Z,2.8nm,0.8s,baz=151,slow=3.3,SNR=12
comp=Z,303nm,0.9s
KURBB Kurchatov Arra 62.00 341 P **P** **12 13 41.3 -0.2**
KURK Kurchatov 62.05 341 P **P** **12 13 42.1 +0.2**
KURK Kurchatov 62.05 341 P **P** **12 13 42.2 +0.2**
KURK P **P** **12 13 42.2 +0.2**
KURK P **P** **12 13 42.2 +0.2**
KURK Kurchatov 62.05 341*c* iP **P** **12 13 41.8 -0.1**
KURK pmax pmax
comp=Z,688nm,0.8s
KURK MLR MLR
comp=Z,36μm,21.0s
KURK Kurchatov 62.05 341 P **P** **12 13 42.0 +0.2**
KURK pP **pP** **12 13 55.2 -0.5**
KURK sP **sP** **12 14 01.3 0.0**
SAKB Bahrain 62.22 304 P **P** **12 13 44.3 +0.8**
DVP Devils Point 62.46 106 P **P** **12 13 48.7 +3.4**
YUK Yuzh-Kuril'sk 63.07 32*c* iP **P** **12 13 48.1 -0.7**
YUK *e* 12 14 26.3
YUK *e* 12 16 05.0
YUK *e*PPP PPP 12 17 38.9
YUK *e*S **S** **12 22 17.0 +1.3**
YUK *e* 12 23 38.2
YUK pmax pmax
comp=Z,3μm,2.5s
ZAA0 Zalesovo Array 63.29 347 P **P** **12 13 49.7 -0.4**
ZALV Zalesovo Beam 63.29 347 P **P** **12 13 50.0 -0.1**
ZALV Zalesovo Beam 63.29 347 P **P** **12 13 49.8 -0.3**
comp=Z,543nm,0.5s,baz=131,slow=4.1,SNR=672
ZALV S **S** **12 22 17.5 -0.6**
comp=Z,29nm,1.0s,baz=151,slow=3.4,SNR=6.2
ZALV PKPPKP 12 42 48.3
comp=Z,12nm,1.1s,baz=302,slow=2.8,SNR=8.6
ZALV LR LR 12 44 07.1
comp=Z,61μm,21.8s,baz=154,slow=39
comp=Z,543nm,0.5s
ZALV Zalesovo Beam 63.29 347 *i* P **P** **12 13 49.7 -0.3**
ZALV pmax pmax
comp=Z,548nm,0.5s
BRZS Berezniki 63.51 337 *e*P **P** **12 13 51.3 -0.3**
BRZS Berezniki 63.51 337 *e*P **P** **12 13 51.4 -0.3**
INH Isangel 63.52 108 P **P** **12 13 53.4 +1.0**
YSS Yuzhno-Sakhali 63.60 28 P **P** **12 13 51.8 -0.4**
YSS Yuzhno-Sakhali 63.60 28 P **P** **12 13 52.1 -0.1**
YSS Yuzhno-Sakhali 63.60 28*α* iP **P** **12 13 52.0 -0.1**
YSS *e* 12 16 10.4
YSS *i* S **S** **12 22 17.8 -4.4**
YSS *e*PS 12 23 00.0
YSS pmax pmax
comp=Z,610nm,1.0s
YSS pmax pmax
comp=Z,12μm,5.1s
YSS pmax pmax
comp=N,4μm,4.9s
YSS pmax pmax
comp=E,5μm,4.9s
YSS pmax pmax
comp=N,2μm,6.7s
YSS pmax pmax
comp=E,1μm,4.9s
YSS Yuzhno-Sakhali 63.60 28 P **P** **12 13 52.1 -0.1**
YSS pP **pP** **12 14 07.0 +0.9**

YSS sP **sP** 12 14 13.8 +2.0
KRAR Krasnoyarsk 63.83 353*c* *i*P **P** 12 13 54.1 +0.5
GRNR Gornyy 63.92 22⇑ *i*P **P** 12 13 54.7 +0.4
GRNR pmax pmax
comp=N,50nm,1.1s
GRNR pmax pmax
comp=E,20nm,1.1s
GRNR pmax pmax
comp=Z,80nm,1.0s
DRV Dumont d'Urvil 64.00 165 P **P** 12 13 53.9 -0.7
DRV pP **pP** 12 14 07.7 -0.4
ATD Arta Tunnel 64.44 286 P **P** 12 13 58.0 -0.6
ATD Arta Tunnel 64.44 286 LR LR 12 39 07.9
comp=Z,360nm,18.3s,baz=94,slow=33
UGL Uglegorsk 64.86 26 *e*P **P** 12 14 00.6 +0.2
UGL *e* 12 16 26.7
UGL *e*S **S** 12 22 31.1 -6.6
UGL *e*SS **SS** 12 26 42.6 -7.7
UGL pmax pmax
comp=Z,14µm,6.5s
UGL pmax pmax
comp=Z,600nm,0.9s
UGL smax smax
comp=E,7µm,13.0s
UGL smax smax
comp=N,7µm,10.0s
UGL MLR MLR
comp=N,9µm,18.0s
KUR Kuril'sk 64.94 32*c* *i*P **P** 12 13 59.8 -1.2
KUR *e* 12 14 27.0
KUR *e*S **S** 12 22 35.5 -3.3
KUR *e* 12 23 54.0
KUR pmax pmax
comp=Z,2µm,1.8s
KUR pmax pmax
comp=Z,16µm,5.3s
BOD Bodaibo 65.29 5⇓ *i*P **P** 12 14 03.0 -0.1
BOD pmax pmax
comp=Z,1µm,1.9s
RAYN Ar Rayn 65.53 300 P **P** 12 14 04.8 -0.6
RAYN Ar Rayn 65.53 300 P **P** 12 14 06.1 +0.7
RAYN Ar Rayn 65.53 300 P **P** 12 14 04.8 -0.6
RAYN pmax pmax
comp=Z,191nm,0.7s
RAYN Ar Rayn 65.53 300 *i*P **P** 12 14 05.8 +0.4
RAYN *i*P **P** 12 14 05.8 +0.4
SNR=71
SNR=7.3
DCZ Deep Cove 65.55 137 P **P** 12 14 06.0 +0.9
DCZ IAmb IAmb 12 14 37.4
comp=Z,447nm,1.0s
DCZ Deep Cove 65.55 137 P **P** 12 14 07.7 +2.6
KBD Kabd 65.83 306 P **P** 12 14 07.8 +0.7
MSZ Milford Sound 65.88 136 P **P** 12 14 07.7 +0.5
H11S3 WAKE ISLAND Hy 66.12 66 P **P** 12 14 08.0 -1.1
baz=219,slow=6.2,SNR=17
H11S2 WAKE ISLAND Hy 66.14 66 P **P** 12 14 07.0 -2.1
baz=219,slow=6.2,SNR=20
H11S1 WAKE ISLAND Hy 66.14 66 P **P** 12 14 08.6 -0.5
baz=219,slow=6.2,SNR=17
MLZ Mavora Lakes 66.19 137 P **P** 12 14 09.8 +0.5
WHZ Wether Hill Ro 66.20 137 P **P** 12 14 09.8 +0.5
JCZ Jackson Bay 66.34 135 P **P** 12 14 11.2 +0.8
JCZ Jackson Bay 66.34 135 P **P** 12 14 11.2 +0.8
TYV Tymovskoe 66.45 25 *e*P **P** 12 14 10.8 +0.1
TYV *e*S **S** 12 22 57.6 +0.5
TYV pmax pmax
comp=Z,12µm,6.5s
TYV pmax pmax
comp=Z,352nm,1.7s
TYV smax smax
comp=N,4µm,8.9s
TYV smax smax
comp=E,4µm,8.9s
MAW Mawson 66.50 196 P **P** 12 14 10.9 +0.1
comp=E,47nm,0.8s,baz=37,slow=6.6,SNR=73
MAW LR LR 12 40 40.3
comp=E,8µm,18.1s,baz=34,slow=34
MAW PKPPKP **P'P'df** **12 42 44.1 +0.8**
comp=E,8.9nm,0.8s,baz=253,slow=3.4,SNR=8.1
comp=E,47nm,0.8s
H11N1 WAKE ISLAND Hy 66.66 65 P **P** 12 14 12.2 -0.2
baz=258,slow=8.2,SNR=40
WKZ Wanaka 66.67 136 P **P** 12 14 13.2 +0.8
H11N2 WAKE ISLAND Hy 66.67 65 P **P** 12 14 12.3 -0.2
baz=258,slow=8.2,SNR=40
H11N3 WAKE ISLAND Hy 66.68 65 P **P** 12 14 12.3 -0.2
baz=258,slow=8.2,SNR=58
KIBK Kibwezi 66.71 271 P **P** 12 14 13.2 -0.1
KIBK S **S** 12 23 02.6 +0.8
KIBK Kibwezi 66.71 271 P **P** 12 14 13.3 +0.1
KIBK IAMs_20 IAMs_20 12 37 45.5
comp=Z,37µm,21.0s
KIBK Kibwezi 66.71 271 P **P** 12 14 14.0 +0.8
SNR=43
BVA0 Borovoye Array 66.80 338 P **P** 12 14 12.1 -0.8
BVAR Borovoye Array 66.80 338 P **P** 12 14 12.6 -0.4
comp=Z,340nm,0.7s,baz=142,slow=8.3,SNR=409
BVAR S **S** 12 23 01.3 -0.1
comp=Z,2.9nm,0.9s,baz=294,slow=36,SNR=1.5
BVAR PKPPKP **P'P'df** **12 42 45.2 +4.6**
comp=Z,5.0nm,1.0s,baz=22,slow=1.6,SNR=7.7
BVAR LR LR 12 47 59.2
comp=Z,17µm,20.8s,baz=131,slow=40
comp=Z,340nm,0.7s
BRVK Borovoye 66.87 338 P **P** 12 14 13.0 -0.3
BRVK IAmb IAmb 12 14 36.6
comp=Z,380nm,0.8s
BRVK Borovoye 66.87 338 IAMs_20 IAMs_20 12 47 39.3
comp=Z,18µm,20.0s
BRVK Borovoye 66.87 338 P **P** 12 14 13.5 +0.2
BRVK P **P** 12 14 13.5 +0.2
BRVK Borovoye 66.87 338 P **P** 12 14 13.0 -0.3
BRVK pmax pmax
comp=Z,380nm,0.9s
BRVK MLR MLR
comp=Z,18µm,20.0s
BRVK Borovoye 66.87 338 P **P** 12 14 13.5 +0.2
EAZ Earnscleugh 66.97 136 P **P** 12 14 16.7 +2.5
LBZ Lake Benmore 67.39 135 P **P** 12 14 17.8 +0.9
NKL Nikolayevsk 67.41 22 *e*P **P** 12 14 15.9 -0.8
NKL *e*S **S** 12 23 05.2 -3.3
NKL smax smax
comp=N,604nm,3.6s
NKL smax smax
comp=E,2µm,3.6s
WVZ Waitaha Valley 67.51 134 P **P** 12 14 18.8 +1.2
KMBO Kilima Mbogo 67.64 272*c* *i*P **P** 12 14 19.9 +0.5
ODZ Otahua Downs 67.85 136 P **P** 12 14 23.8 +4.0
RPZ Rata Peaks 67.86 134 P **P** 12 14 20.5 +0.6
RPZ Rata Peaks 67.86 134 LR LR 12 43 22.9
comp=E,108µm,21.4s,baz=258,slow=35
RPZ Rata Peaks 67.86 134 P **P** 12 14 21.3 +1.3
INZ Inchbonnie 67.95 133 P **P** 12 14 19.6 -0.9
INZ IAmb IAmb 12 14 28.6
comp=Z,514nm,1.0s
INZ Inchbonnie 67.95 133 P **P** 12 14 22.6 +2.1
TMZ Timaru 67.96 135 P **P** 12 14 21.5 +1.0
ARCZ Arundel 67.99 134 P **P** 12 14 21.8 +1.1
DSZ Denniston Nort 68.03 132 P **P** 12 14 19.5 -1.5
DSZ Denniston Nort 68.03 132 P **P** 12 14 23.9 +2.8
QRZ Quartz Range 68.42 131 P **P** 12 14 23.3 -0.1
QRZ IAmb IAmb 12 14 32.6
comp=Z,689nm,0.9s
QRZ Quartz Range 68.42 131 P **P** 12 14 24.8 +1.3
WACZ Wakanui South 68.46 134 P **P** 12 14 28.1 +4.4
OXZ Oxford 68.49 134 IAmb IAmb 12 14 32.9
comp=Z,432nm,0.9s
AB31 Akbulak array 68.57 330 P **P** 12 14 23.8 -0.3
AB31 IAmb IAmb 12 14 35.4
comp=Z,1µm,1.2s
AB31 Akbulak array 68.57 330 P **P** 12 14 23.4 -0.7
ABKAR Akbulak array 68.57 330 P **P** 12 14 23.9 -0.2
CCD Concordia, Ant 68.60 175 P **P** 12 14 24.9 +0.5
CCD pP **pwP** 12 14 40.6 -1.5
CCD sP **sP** 12 14 46.2 +2.5
MRNZ Matariki Terra 68.68 132 P **P** 12 14 25.9 +0.8
TKNZ Takaka Hill 68.77 131 P **P** 12 14 28.2 +2.5
THZ Tophouse 68.85 132 IAmb IAmb 12 14 35.3
comp=Z,683nm,0.8s
THZ Tophouse 68.85 132 P **P** 12 14 26.5 +0.3
AMCZ Amberley 68.90 133 P **P** 12 14 29.7 +3.3
NNZ Nelson 69.11 131 P **P** 12 14 28.6 +0.9
GVZ Greta Valley S 69.14 133 IAmb IAmb 12 14 35.4
comp=Z,995nm,1.6s
GVZ Greta Valley S 69.14 133 P **P** 12 14 30.2 +2.2
WCZ Waipu Caves 69.17 126 P **P** 12 14 30.5 +2.3
NEZ North Egmont 69.38 129 P **P** 12 14 32.7 +3.2
KHZ Kahutara 69.42 133 IAmb IAmb 12 14 37.8
comp=Z,395nm,0.9s
KHZ Kahutara 69.42 133 P **P** 12 14 31.0 +1.4
VRZ Vera Road 69.87 129 P **P** 12 14 34.7 +2.2
HIZ Hauiti 69.87 128 P **P** 12 14 34.8 +2.3
GRZ Great Barrier 70.10 126 P **P** 12 14 36.8 +2.8
SNZO South Karori 70.12 131 P **P** 12 14 33.4 -0.5
SNZO IAmb IAmb 12 14 41.5
comp=Z,448nm,0.8s
SNZO South Karori 70.12 131 P **P** 12 14 36.9 +3.0
SNZO South Karori 70.12 131 P **P** 12 14 35.1 +1.2
SNZO S **S** 12 23 36.8 -4.4
WAZ Wanganui 70.12 130 P **P** 12 14 36.1 +2.1
LODK Lodwar 70.16 276 IAmb IAmb 12 15 08.8
comp=Z,816nm,1.7s
LODK Lodwar 70.16 276 P **P** 12 14 36.3 +1.5
SNR=104
AKTO Aktyubinsk 70.28 330 LR LR 12 49 24.7
comp=Z,14µm,20.9s,baz=125,slow=39
AKTO Aktyubinsk 70.28 330 P **P** 12 14 33.9 -0.8
TOZ Tahuroa Road 70.29 127 P **P** 12 14 36.9 +1.8
KUZ Kuaotunu 70.36 126 P **P** 12 14 36.6 +1.1
KUZ Kuaotunu 70.36 126 P **P** 12 14 37.1 +1.5
TLZ Tolley Road 70.38 128 P **P** 12 14 37.7 +2.0
NGZ Ngauruhoe 70.53 129 P **P** 12 14 37.9 +1.2
MRZ Mangatainoka R 70.69 130 P **P** 12 14 38.2 +0.8
TSZ Takapari Road 70.91 130 P **P** 12 14 39.7 +0.9
BFZ Birch Farm 71.19 130 IAmb IAmb 12 14 49.2
comp=Z,626nm,0.9s
BFZ Birch Farm 71.19 130 P **P** 12 14 41.4 +0.9
BFZ Birch Farm 71.19 130 P **P** 12 14 41.1 +0.6
BKZ Black Stump Fm 71.21 129 P **P** 12 14 41.1 +0.4
BKZ Black Stump Fm 71.21 129 P **P** 12 14 41.4 +0.7
YSA Yasawairara 71.44 105 P **P** 12 14 44.2 +1.8
RTZ Ruatahuna 71.54 128 P **P** 12 14 44.9 +2.1
PXZ Pawanui 71.59 130 P **P** 12 14 44.2 +1.4
URZ Urewera 71.61 128 LR LR 12 46 14.3
comp=Z,75µm,21.9s,baz=284,slow=36
URZ Urewera 71.61 128 P **P** 12 14 44.4 +1.4
URZ Urewera 71.61 128 P **P** 12 14 43.6 +0.5
YAK Yakutsk 71.72 12 P **P** 12 14 43.0 -0.1
YAK Yakutsk 71.72 12 P **P** 12 14 42.7 -0.4
comp=Z,1µm,0.7s,baz=206,slow=4.4,SNR=244
YAK S **S** 12 23 57.5 -1.4
comp=Z,19nm,0.4s,baz=90,slow=23,SNR=7.8
YAK LR LR 12 48 12.7
comp=Z,23µm,21.5s,baz=205,slow=38
comp=Z,1µm,0.7s
YAK Yakutsk 71.72 12*c* *i*P **P** 12 14 42.3 -0.8
YAK *e**PP **pwP** 12 15 00.6 +0.7
YAK *e* 12 17 22.0
YAK *e*S **S** 12 23 57.1 -1.8
YAK *e**SS **sS** 12 24 27.9 +5.0
YAK *e*SS **SS** 12 28 34.5 -1.3
YAK pmax pmax
comp=Z,3µm,1.5s
YAK pmax pmax
comp=N,655nm,1.0s
YAK pmax pmax
comp=E,747nm,1.8s
YAK pmax pmax
comp=Z,2µm,4.2s
YAK pmax pmax
comp=N,991nm,2.3s
YAK pmax pmax
comp=E,1µm,4.1s
YAK smax smax
comp=E,3µm,3.1s
YAK smax smax
comp=N,3µm,3.4s
YAK Yakutsk 71.72 12 P **P** 12 14 43.0 -0.1
YAK pP **pP** 12 14 55.0 -2.2
POGA Pongola 71.75 244 IAmb IAmb 12 15 17.4
comp=Z,2µm,1.5s
MSVF Nonsavu 71.86 106 P **P** 12 14 45.0 0.0
MSVF IAmb IAmb 12 15 16.4
comp=Z,1µm,1.6s
MSVF Nonsavu 71.86 106 P **P** 12 14 46.0 +1.0
MSVF Nonsavu 71.86 106*c* *i*P **P** 12 14 46.0 +1.0
MSVF pmax pmax
comp=Z,766nm,1.7s
MSVF MLR MLR
comp=Z,26µm,19.0s
MWZ Matawai 71.94 128 P **P** 12 14 45.8 +0.7
MOPA Mopani 71.99 248 *i*P **P** 12 14 47.8 +2.1
MAK Makhachkala 72.09 319 *e*P **P** 12 14 43.6 -2.1
MAK *e**PP **pP** 12 14 57.6 -2.0
MAK *e**SP **pwP** 12 15 02.7 -0.4
MAK *e*PPP PPP 12 19 05.0
MAK *e*S **S** 12 24 00.8 -3.1
MAK *e*SS **SS** 12 28 44.3 +2.1
MAK *e*SSS SSS 12 31 58.8
MAK pmax pmax
comp=Z,518nm,0.9s
MAK MLR MLR
comp=Z,10µm,21.0s
HAZ Te Kaha 72.09 127 P **P** 12 14 46.0 0.0
KNZ Kokohu 72.11 129 P **P** 12 14 46.5 +0.5
MXZ Matakaoa Point 72.49 127 IAmb IAmb 12 14 56.6
comp=Z,532nm,0.5s
MXZ Matakaoa Point 72.49 127 P **P** 12 14 50.9 +2.6
MXZ Matakaoa Point 72.49 127 P **P** 12 14 49.3 +1.0
PUZ Puketitti 72.49 128 P **P** 12 14 49.3 +0.9
GNI Garni 72.65 316 P **P** 12 14 49.9 +0.5
GNI Garni 72.65 316 LR LR 12 50 42.1
comp=Z,5µm,21.3s,baz=121,slow=39
GNI Garni 72.65 316 P **P** 12 14 50.9 +1.5
GNI Garni 72.65 316*c* *i*P **P** 12 14 49.5 +0.1
GNI pmax pmax
comp=Z,416nm,0.9s
GNI MLR MLR
comp=Z,20µm,25.0s
GNI Garni 72.65 316 P **P** 12 14 49.9 +0.5
GNI Garni 72.65 316 P **P** 12 14 49.7 +0.3
comp=Z,14µmcomp=Z,353nm,1.1s
SKR Severo-Kuril's 72.67 31 *e*P **P** 12 14 48.8 -0.2
SKR pmax pmax
comp=Z,812nm,1.6s
SKR pmax pmax
comp=Z,4µm,5.1s
SKR MLR MLR
comp=Z,8µm,20.0s
GEVA Gevas 73.07 314 IAmb IAmb 12 15 34.8
comp=Z,911nm,1.8s
SVE Sverdlovsk 73.39 336*d* *i*P **P** 12 14 54.1 +0.9
SVE *e*PPP PPP 12 19 28.3
SVE *e*S **S** 12 24 17.8 -0.4
SVE pmax pmax
comp=Z,2µm,1.4s
SVE pmax pmax
comp=Z,8µm,11.6s
DGTI Dogotuki 73.53 105 P **P** 12 14 55.5 +0.6
FUNA Funafuti 73.54 97 P **P** 12 14 55.1 +0.1
FUNA Funafuti 73.54 97 IAMs_20 IAMs_20 12 49 06.3
comp=Z,22µm,18.0s
FUNA Funafuti 73.54 97 P **P** 12 14 57.0 +2.0
KRI Karoi 73.84 255 *i*P **P** 12 14 58.3 +1.4
TAVE Taveuni 73.85 105 P **P** 12 14 59.8 +3.1
ARTI Arti 74.01 335 P **P** 12 14 56.9 +0.1
ARTI IAmb IAmb 12 15 31.9
comp=Z,782nm,0.7s
ARTI Arti 74.01 335 LR LR 12 52 08.4
comp=Z,15µm,21.4s,baz=134,slow=40
ARTI Arti 74.01 335*c* *i*P **P** 12 14 56.9 +0.1
ARTI AP **sP** 12 15 16.1 -0.3
ARTI S **S** 12 24 26.1 +0.9
ARTI pmax pmax
comp=Z,353nm,0.6s
MBAR Mbarara 74.17 271 P **P** 12 14 58.1 -0.8
MBAR IAMs_20 IAMs_20 12 42 05.3
comp=Z,22µm,21.0s
MBAR Mbarara 74.17 271 P **P** 12 14 58.1 -0.8
MBAR pmax pmax
comp=Z,410nm,1.2s
MARD Mardin 74.34 312 IAmb IAmb 12 15 34.4
comp=Z,816nm,1.1s
SYO Syowa Base 74.52 200⇑ *i*P **P** 12 15 00.2 +0.6
SYO Syowa Base 74.52 200⇓ *i*PcP **PcP** 12 15 14.6 +0.7
SYO Syowa Base 74.52 200⇓ *i*sP sP 12 15 20.1 +1.2
MATP Matopo 74.75 251 LR LR 12 42 56.5
comp=Z,11µm,20.2s,baz=94,slow=32
LKBA Tubou, Lakemba 74.82 107 P **P** 12 15 03.3 +1.0
PEA0B Petropavlovsk- 74.87 30 IAmb IAmb 12 15 35.8
comp=Z,1µm,1.5s
PEA0B Petropavlovsk- 74.87 30*c* *i*P **P** 12 15 01.5 -0.4
PETK Petropavlovsk- 74.87 30 P **P** 12 15 00.4 -1.5
PETK Petropavlovsk- 74.87 30 P **P** 12 15 00.7 -1.2
comp=Z,222nm,0.9s,baz=198,slow=2.4,SNR=267
PETK PKPPKP 12 42 29.4
comp=Z,8.9nm,1.1s,baz=76,slow=6.3,SNR=6.9
PETK LR LR 12 50 34.0
comp=Z,6µm,19.0s,baz=231,slow=38
comp=Z,222nm,0.9s
NCK Nalchik 74.87 319*c* *i*P **P** 12 15 03.1 +0.9
NCK pmax pmax
comp=Z,620nm,1.1s
PET Petropavlovsk 75.30 30 P **P** 12 15 03.9 -0.4
PET IAmb IAmb 12 15 06.8
comp=Z,2µm,1.4s
PET Petropavlovsk 75.30 30 P **P** 12 15 04.2 -0.1
PET Petropavlovsk 75.30 30*c* *i*P **P** 12 15 03.9 -0.4
PET pmax pmax
comp=Z,2µm,1.6s
PET Petropavlovsk 75.30 30 P **P** 12 15 03.6 -0.7
comp=Z,19µmcomp=Z,925nm,1.8s
LSZ Lusaka 75.30 256 P **P** 12 15 06.0 +0.6
LSZ Lusaka 75.30 256 LR LR 12 43 37.6
comp=Z,52µm,21.2s,baz=104,slow=32
LSZ Lusaka 75.30 256 P **P** 12 15 06.2 +0.9
LSZ P **P** 12 15 06.2 +0.9
LSZ Lusaka 75.30 256 P **P** 12 15 06.0 +0.6
LSZ pmax pmax
comp=Z,3µm,2.0s
RAO Raoul Island 75.36 118 LR LR 12 47 37.0
comp=Z,76µm,21.7s,baz=238,slow=35
KBZ Khabaz 75.43 319 P **P** 12 15 05.6 +0.3
comp=Z,128nm,0.9s,baz=101,slow=5.4,SNR=128
KBZ S **S** 12 24 41.5 0.0
comp=Z,5.2nm,0.9s,baz=230,slow=22,SNR=4.0
KBZ PKPPKP 12 42 27.9
comp=Z,1.1nm,0.5s,baz=319,slow=0.5,SNR=4.3
comp=Z,128nm,0.9s
KBZ Khabaz 75.43 319*c* *i*P **P** 12 15 05.5 +0.2
KBZ pmax pmax
comp=Z,699nm,1.1s
KOPT Kop Dagi 75.57 314 IAmb IAmb 12 15 42.3
comp=Z,504nm,1.0s
ASF Jabal al Asfar 75.57 306 LR LR 12 48 13.9
comp=Z,22µm,21.2s,baz=122,slow=36
SHA1 Shidzhatmaz 75.59 319*c* *i*P **P** 12 15 06.7 +0.1
MREMI Moremi 75.65 249 IAmb IAmb 12 15 40.1
comp=Z,537nm,0.9s
MREMI Moremi 75.65 249 *i*P **P** 12 15 07.8 +0.6
KIV Kislovodsk 75.67 319 P **P** 12 15 06.7 -0.1
KIV IAmb IAmb 12 15 34.4
comp=Z,944nm,1.2s
KIV Kislovodsk 75.67 319 P **P** 12 15 08.4 +1.5
KIV Kislovodsk 75.67 319⇓ *i*P **P** 12 15 07.2 +0.3
KIV Kislovodsk 75.67 319 *e*P **P** 12 15 06.9 +0.1
KIV *e* 12 17 56.6
KIV *e*PPP PPP 12 19 41.3
KIV *e*S **S** 12 24 43.1 -1.3
KIV *e*SS **SS** 12 29 40.2 +3.2
KIV *e*SSS SSS 12 32 53.7
KIV pmax pmax
comp=Z,2µm,4.4s
KIV pmax pmax
comp=Z,504nm,1.0s
KIV MLR MLR
comp=Z,6µm,18.0s
KIV Kislovodsk 75.67 319 *i* P **P** 12 15 07.2 +0.3
SNR=148
KIV Kislovodsk 75.67 319 P **P** 12 15 07.0 +0.1
comp=Z,9µmcomp=Z,504nm,1.1s
KIV Kislovodsk 75.67 319 P **P** 12 15 06.7 -0.1
KIV S **S** 12 24 43.1 -1.3
FUTU Fugatoga 75.71 103 IAMs_20 IAMs_20 12 52 10.6
comp=Z,26µm,22.0s
FUTU Fugatoga 75.71 103 P **P** 12 15 08.7 +1.2
BROLN Tlhalogang 75.81 250 *i*P **P** 12 15 08.7 +0.5
GOF Gofitskoye 75.91 320*c* *i*P **P** 12 15 08.5 +0.5
GOF *e*S **S** 12 24 44.5 -2.3
MA2 Magadan 75.93 22 P **P** 12 15 08.1 +0.2
MA2 IAmb IAmb 12 15 15.1
comp=Z,593nm,0.9s
MA2 IAMs_20 IAMs_20 12 47 38.1
comp=Z,18µm,22.0s
MA2 Magadan 75.93 22 P **P** 12 15 08.0 +0.2
comp=Z,210nm,1.0s,baz=221,slow=5.7,SNR=133
MA2 LR LR 12 48 47.4
comp=Z,12µm,21.9s,baz=234,slow=36
comp=Z,210nm,1.0s
MA2 Magadan 75.93 22 P **P** 12 15 08.0 +0.2
MA2 Magadan 75.93 22*c* *i*P **P** 12 15 07.7 -0.1
MA2 pmax pmax
comp=Z,787nm,1.0s
MA2 Magadan 75.93 22 P **P** 12 15 07.6 -0.2
comp=Z,21µmcomp=Z,850nm,1.8s
VNDA Vanda 76.10 169 P **P** 12 15 08.2 -0.3
VNDA Vanda 76.10 169 P **P** 12 15 08.3 -0.3
comp=Z,65nm,0.8s,baz=306,slow=5.6,SNR=105
VNDA S **S** 12 24 47.9 0.0
comp=Z,2.1nm,1.1s,baz=106,slow=17,SNR=1.2
VNDA PKPPKP **P'P'df** **12 42 30.2 +3.7**
comp=Z,5.1nm,0.9s,baz=58,slow=1.0,SNR=5.5
VNDA LR LR 12 43 32.5
comp=Z,11µm,21.2s,baz=320,slow=32
comp=Z,65nm,0.8s
VNDA Vanda 76.10 169 P **P** 12 15 08.3 -0.3
VNDA pmax pmax
comp=Z,246nm,1.1s
GHAJ Ghor Haditha 76.39 305 IAmb IAmb 12 15 47.0
comp=Z,808nm,1.1s
EIL Elat 76.42 303 LR LR 12 48 27.6
comp=Z,13µm,19.1s,baz=112,slow=35
GRHM Grahamstown, E 76.43 238 P **P** 12 15 11.2 -0.2
GRHM IAmb IAmb 12 15 45.0
comp=Z,1µm,1.4s
BELG Belogornoye 76.72 328*c* *i*P **P** 12 15 12.2 -0.2
BELG pmax pmax
comp=Z,328nm,1.3s
BELG MLR MLR
comp=Z,3µm,23.0s
CTZ Chatham Island 76.72 133 P **P** 12 15 13.9 +1.1
RCY Rachaya 76.83 307 *e*P **P** 12 15 14.7 +1.0
SHBL Chebaa 76.86 307 *e*P **P** 12 15 14.7 +0.8
BEIL Beino 76.88 308 *e*P **P** 12 15 14.7 +0.8
GAZ Gaziantep 76.95 311 P **P** 12 15 14.5 +0.3
GAZ IAmb IAmb 12 15 48.8
comp=Z,929nm,1.5s
QRWL Qaraoun 76.97 307 *e*P **P** 12 15 15.4 +1.0
HWQ Hawqa 76.99 308 *e*P **P** 12 15 15.7 +1.2
MMAI Mount Meron Ar 77.03 306 P **P** 12 15 15.3 +0.5
comp=Z,34nm,0.6s,baz=94,slow=7.6,SNR=39
MMAI LR LR 12 49 11.9
comp=Z,19µm,21.5s,baz=96,slow=36
comp=Z,34nm,0.6s
LPHEP Lephephe 77.08 248 IAmb IAmb 12 15 48.4
comp=Z,917nm,1.2s
LPHEP Lephephe 77.08 248 *i*P **P** 12 15 16.1 +0.8
BHL Bhannes 77.10 307 *e*P **P** 12 15 16.2 +1.1
DQRL Deir Qamar 77.11 307 *e*P **P** 12 15 16.5 +1.3
SBA Scott Base 77.18 169 P **P** 12 15 15.3 +0.6
SBA IAmb IAmb 12 16 37.3
comp=Z,1µm,1.9s
SBA Scott Base 77.18 169 P **P** 12 15 15.3 +0.6
SBA pmax pmax
comp=Z,1µm,1.9s
VSLR Vesyoloye 77.22 317 *i*P **P** 12 15 15.5 0.0
VSLR pmax pmax
comp=Z,700nm,1.0s
LBTB Lobatse 77.25 246 IAmb IAmb 12 15 49.1
comp=Z,511nm,1.3s
LBTB Lobatse 77.25 246 LR LR 12 43 11.1
comp=Z,16µm,21.8s,baz=94,slow=31
BOSA Boshof 77.45 242 P **P** 12 15 17.1 -0.2
BOSA IAmb IAmb 12 15 50.0
comp=Z,753nm,1.3s
BOSA Boshof 77.45 242 P **P** 12 15 17.6 +0.3
comp=Z,31nm,0.8s,baz=95,slow=5.7,SNR=36
BOSA PKKPbc **PKKPbc** **12 34 22.5 +0.4**
comp=Z,6.0nm,0.8s,baz=185,slow=3.4,SNR=4.0
BOSA PKPPKP **P'P'df** **12 42 27.2 +0.8**
comp=Z,6.7nm,1.1s,baz=84,slow=1.8,SNR=4.3
BOSA LR LR 12 44 20.2
comp=Z,7µm,21.3s,baz=96,slow=32
comp=Z,31nm,0.8s

BOSA Boshof 77.45 242 P P 12 15 17.1 -0.2
BOSA pmax pmax
comp=Z,753nm,1.3s
BOSA Boshof 77.45 242 P P 12 15 17.1 -0.2
BOSA S S 12 25 04.8 +0.1
SOC Sochi 77.48 318 *e*P **P 12 15 14.3 -2.6**
SOC *e* 12 18 11.2
SOC *e*PPP PPP 12 19 58.5
SOC *e*S **S 12 24 59.6 -4.5**
SOC *e*SS **SS 12 30 02.9 -1.3**
SOC pmax pmax
comp=Z,414nm,1.0s
SOC MLR MLR
comp=Z,8µm,22.0s
ERBR Yeremizino-Bor 77.82 320*c i*P **P 12 15 18.5 -0.3**
ERBR *i* *PP **pP 12 15 32.7 -0.2**
ERBR *i* S **S 12 25 08.5 +0.8**
ERBR pmax pmax
comp=Z,229nm,1.3s
KSANE Kasane 78.04 253 IAmb IAmb 12 15 32.4
comp=Z,903nm,1.1s
KSANE Kasane 78.04 253 *i*P **P 12 15 21.9 +1.1**
KDWAN Kaudwane 78.18 248 IAmb IAmb 12 15 54.4
comp=Z,1µm,1.6s
KDWAN Kaudwane 78.18 248 *i*P **P 12 15 22.7 +1.3**
PHDHD Phuduhudu 78.47 251 *i*P **P 12 15 25.1 +2.0**
SEY Seymchan 78.77 20 P **P 12 15 23.9 +0.2**
comp=Z,86nm,0.7s,baz=239,slow=5.5,SNR=257
SEY LR LR 12 54 02.4
comp=Z,7µm,18.2s,baz=236,slow=39
comp=Z,86nm,0.7s
SEY Seymchan 78.77 20 *i*P **P 12 15 23.7 0.0**
SEY pmax pmax
comp=Z,1µm,1.9s
SKOMA Sekoma 78.79 246 *i*P **P 12 15 25.2 +0.5**
KIRV Kirov 79.18 334 LR LR 12 54 37.2
comp=Z,8µm,21.7s,baz=121,slow=39
KIRV Kirov 79.18 334*c i*P **P 12 15 26.6 +0.7**
CSS Mathiatis 79.25 308 P **P 12 15 26.8 -0.1**
CSS Mathiatis 79.25 308 P **P 12 15 27.4 +0.4**
comp=Z,12µmcomp=Z,1µm,1.1s
VRH Novokhopyorsk 79.38 325 *e*P **P 12 15 27.0 -0.2**
VRH *e*S **S 12 25 15.2 -8.8**
VRH pmax pmax
comp=Z,760nm,0.6s
VRH smax smax
comp=N,8µm,7.3s
ANN Anapa 79.46 318*c i*P **P 12 15 27.1 -0.7**
ANN *i* *PP **pP 12 15 41.0 -0.9**
ANN *i* S **S 12 25 25.6 +0.4**
ANN pmax pmax
comp=Z,48nm,0.8s
PHPEN Phepeng 79.71 245 IAmb IAmb 12 16 02.6
comp=Z,1µm,1.7s
PHPEN Phepeng 79.71 245 *i*P **P 12 15 29.4 -0.5**
KIRS Kirsehir-Merke 80.04 312 P **P 12 15 31.4 +0.2**
TIXI Tiksi 80.34 8 P **P 12 15 31.2 -0.8**
TIXI IAmb IAmb 12 15 34.0
comp=Z,704nm,0.8s
TIXI Tiksi 80.34 8 P **P 12 15 31.2 -0.8**
comp=Z,546nm,0.7s,baz=199,slow=3.9,SNR=98
TIXI PP **PP 12 18 36.6 +1.1**
comp=Z,72nm,1.0s,baz=223,slow=9.6,SNR=3.5
TIXI S **S 12 25 30.9 -2.5**
comp=Z,12nm,0.7s,baz=324,slow=22,SNR=19
TIXI LR LR 12 54 54.5
comp=Z,34µm,19.1s,baz=230,slow=38
comp=Z,546nm,0.7s
TIXI Tiksi 80.34 8*c i*P **P 12 15 31.0 -1.0**
TIXI pmax pmax
comp=Z,880nm,0.9s
TIXI MLR MLR
comp=Z,45µm,20.0s
BR104 Keskin Array S 80.42 312 P **P 12 15 33.0 -0.3**
comp=Z,2µmcomp=Z,282nm,1.1s
BRTR Keskin Array B 80.42 312 P **P 12 15 32.7 -0.7**
BRTR Keskin Array B 80.42 312 P **P 12 15 32.8 -0.6**
comp=Z,121nm,0.6s,baz=137,slow=6.9,SNR=178
BRTR PKKPbc **PKKPbc 12 34 16.6 +0.2**
comp=Z,2.4nm,0.8s,baz=236,slow=0.4,SNR=5.6
BRTR PKPPKP **P'P'df 12 42 21.0 +2.1**
comp=Z,2.0nm,1.0s,baz=204,slow=2.7,SNR=5.9
BRTR LR LR 12 52 56.7
comp=Z,13µm,21.1s,baz=111,slow=37
comp=Z,121nm,0.6s
BR131 Keskin Array S 80.42 312 P **P 12 15 33.8 +0.4**
SNR=132
BR131 P **P 12 15 33.8 +0.4**
SNR=132
BR131 Keskin Array S 80.42 312*c i*P **P 12 15 32.6 -0.7**
BR105 Keskin Array S 80.44 312 P **P 12 15 33.3 -0.1**
comp=Z,3µmcomp=Z,360nm,1.1s
BR106 Keskin Array S 80.44 312 P **P 12 15 33.3 -0.2**
comp=Z,3µmcomp=Z,381nm,1.0s
VORD Divnogorie 80.67 324 *e*P **P 12 15 33.8 -0.4**
VORD *e*S **S 12 25 30.5 -7.1**
VORD pmax pmax
comp=Z,240nm,0.7s
VORD smax smax
comp=N,570nm,3.7s
GMARE Gumare 80.76 252 *i*P **P 12 15 37.2 +1.6**
VSR Storozhevoye 80.84 325 *e*P **P 12 15 34.9 -0.2**
VSR *e*S **S 12 25 31.4 -8.0**
VSR pmax pmax
comp=Z,540nm,0.6s
VSR smax smax
comp=N,5µm,7.2s
BZK Bozkurt 80.85 314 ⇓P **P 12 15 36.3 +0.9**
ANTO Ankara 81.09 312 P **P 12 15 36.9 0.0**
ANTO IAmb IAmb 12 16 10.9
comp=Z,2µm,1.8s
ANTO Ankara 81.09 312 P **P 12 15 37.1 +0.3**
ANTO Ankara 81.09 312 ⇑P **P 12 15 36.9 0.0**
ANTO Ankara 81.09 312 P **P 12 15 36.9 0.0**
ANTO pmax pmax
comp=Z,2µm,1.8s
ANTO Ankara 81.09 312 P **P 12 15 36.8 0.0**
comp=Z,5µmcomp=Z,197nm,1.1s
ANTO Ankara 81.09 312 P **P 12 15 36.8 0.0**
ANTO S **S 12 25 39.1 -3.6**
SUR Sutherland 81.14 238 IAMs_20 IAMs_20 12 43 59.5
comp=Z,31µm,22.0s
SUR Sutherland 81.14 238 P **P 12 15 39.1 +1.6**
SUR P **P 12 15 39.1 +1.6**
GRTLG Ghanzi 81.49 250 IAmb IAmb 12 16 12.2
comp=Z,682nm,1.4s
GRTLG Ghanzi 81.49 250 *i*P **P 12 15 40.0 +0.6**
LPSR Galich'ya Gora 81.53 326 *e*P **P 12 15 39.9 +1.1**
LPSR *e* 12 18 47.6
LPSR *e*S **S 12 25 41.0 -5.5**
LPSR pmax pmax
comp=Z,1µm,0.8s
LPSR smax smax
comp=N,7µm,9.1s
CIDE Kastamonu/Cide 81.58 314 ⇓P **P 12 15 39.4 +0.2**
SIM Simferopol' 81.73 317*c i*P **P 12 15 40.2 +0.2**
SIM *e* 12 18 50.0
SIM *e*S **S 12 25 45.0 -3.9**
SIM pmax pmax
comp=Z,314nm,0.9s
AFI Afiamalu 81.88 103 P **P 12 15 42.5 +1.0**
AFI IAmb IAmb 12 15 53.5
comp=Z,1µm,1.4s
AFI Afiamalu 81.88 103 P **P 12 15 42.5 +1.0**
AFI Afiamalu 81.88 103 P **P 12 15 42.5 +1.0**
AFI pmax pmax
comp=Z,1µm,1.4s
ISP Isparta 82.22 310 P **P 12 15 42.2 -0.6**
ISP Isparta 82.22 310 P **P 12 15 42.3 -0.6**
ISP pmax pmax
comp=Z,238nm,1.1s
KOOLE Kule 82.31 248 *i*P **P 12 15 45.3 +1.5**
KSL Kastellorizon 82.51 308 P **P 12 15 42.9 -1.4**
QSPA South Pole Qui 82.72 180 P **P 12 15 44.5 -0.5**
QSPA IAmb IAmb 12 16 21.7
comp=Z,985nm,1.6s
QSPA South Pole Qui 82.72 180 P **P 12 15 45.2 +0.2**
comp=Z,90nm,0.8s,baz=297,slow=1.6,SNR=126
QSPA S **S 12 25 55.0 -3.7**
comp=Z,3.4nm,0.9s,baz=316,slow=20,SNR=3.2
QSPA PKKPbc **PKKPbc 12 34 11.9 -0.5**
comp=Z,19nm,1.0s,baz=197,slow=2.5,SNR=7.4
QSPA PKPPKP 12 42 16.9
comp=Z,19nm,1.1s,baz=291,slow=2.1,SNR=7.5
QSPA LR LR 12 46 52.9
comp=Z,12µm,22.0s,baz=326,slow=32
comp=Z,90nm,0.8s
MIDW Midway 82.75 60 P **P 12 15 45.3 -0.3**
MIDW IAmb IAmb 12 15 48.2
comp=Z,1µm,1.5s
MIDW Midway 82.75 60 P **P 12 15 46.8 +1.2**
SAHE Sakarya_HENDEK 82.79 313 ⇑P **P 12 15 45.9 +0.3**
NIUE Niue 83.16 108 IAmb IAmb 12 15 59.0
comp=Z,2µm,1.8s
NIUE Niue 83.16 108 P **P 12 15 51.6 +3.6**
NIUE Niue 83.16 108 P **P 12 15 49.3 +1.3**
SHEM Shemya Is, Ala 83.45 35 P **P 12 15 48.4 -0.4**
comp=Z,223nm,0.9s,baz=320,slow=3.5,SNR=21
SHEM LR LR 12 52 30.0
comp=Z,6µm,22.0s,baz=244,slow=35
comp=Z,223nm,0.9s
SMY Shemya 83.45 35 P **P 12 15 48.5 -0.2**
SMY Shemya 83.45 35 P **P 12 15 48.5 -0.2**
SMY pmax pmax
comp=Z,2µm,1.7s
MOS Moscow 83.48 328 *e*P **P 12 15 46.4 -2.4**
MOS *e* 12 15 54.6
MOS *e* 12 18 57.0
MOS *e*S **S 12 26 02.7 -3.6**
MOS *e*PS **PnS 12 26 56.3 -7.9**
MOS *e*SS **SS 12 31 30.4 -2.9**
MOS pmax pmax
comp=Z,993nm,1.8s
MOS pmax pmax
comp=Z,6µm,4.0s
MOS pmax pmax
comp=E,3µm,4.5s
MOS pmax pmax
comp=N,2µm,4.2s
MOS smax smax
comp=N,13µm,6.0s
MOS smax smax
comp=E,9µm,4.2s
MOS MLR MLR
comp=E,19µm,23.0s
MOS MLR MLR
comp=Z,19µm,23.0s
ARG Arkhangelos 83.67 308 P **P 12 15 50.1 -0.2**
ARG Arkhangelos 83.67 308 P **P 12 15 50.9 +0.6**
SILT Sile 83.75 313 ⇑P **P 12 15 50.8 +0.2**
OBN Obninsk 83.80 328 P **P 12 15 51.1 +0.7**
OBN IAMs_20 IAMs_20 12 59 29.2
comp=Z,14µm,20.0s
OBN Obninsk 83.80 328 LR LR 12 59 49.1
comp=Z,8µm,18.4s,baz=48,slow=40
OBN Obninsk 83.80 328 ⇑P **P 12 15 51.3 +0.9**
OBN Obninsk 83.80 328*c i*P **P 12 15 50.9 +0.5**
OBN *e* *PP **pwP 12 16 08.7 +0.9**
OBN *e* 12 19 03.7
OBN *e*PPP PPP 12 20 55.7
OBN *i* S **SKSac 12 26 07.1 -1.8**
OBN *e*SS **SS 12 31 38.5 +0.6**
OBN *e*SSS SSS 12 35 08.1
OBN pmax pmax
comp=Z,1µm,0.8s
OBN MLR MLR
comp=Z,21µm,26.0s
OBN Obninsk 83.80 328 P **P 12 15 51.0 +0.5**
comp=Z,20µmcomp=Z,2µm,1.2s
MANT Manisa 83.89 310 IAmb IAmb 12 16 25.5
comp=Z,770nm,1.6s
KLYT Kilyos 84.22 313 ⇓P **P 12 15 54.5 +1.6**
DAT Datca 84.22 308 P **P 12 15 51.1 -2.1**
KARP Karpathos 84.28 307 P **P 12 15 54.0 +0.5**
KARP Karpathos 84.28 307 P **P 12 15 54.2 +0.8**
comp=Z,22µmcomp=Z,2µm,1.0s
NE56 Odesa 84.40 318 P **P 12 15 54.0 +0.3**
NISR Nisiros 84.55 308 P **P 12 15 54.0 -0.7**
KLMR Klimovskoe 84.66 333*c i*P **P 12 15 52.6 -2.1**
KLMR S **SKSac 12 26 11.6 -2.6**
KLMR pmax pmax
comp=Z,2µm,1.5s
BAND Balkesir-Ban 84.69 312 ⇑P **P 12 15 55.5 +0.2**
CTYL Yalikoy Yolu 84.82 313 ⇑P **P 12 15 57.4 +1.5**
ZKR Zakros 84.94 306 P **P 12 15 56.3 -0.5**
BLCB Balcova 85.02 310 P **P 12 15 57.2 +0.2**
SMG Samos 85.02 309 P **P 12 15 57.0 -0.1**
PURM Purcari 85.03 318 ⇑P **P 12 15 57.9 +1.0**
TSUM Tsumeb 85.08 251 P **P 12 15 58.2 +0.3**
TSUM IAmb IAmb 12 16 31.2
comp=Z,669nm,1.5s
TSUM Tsumeb 85.08 251 LR LR 12 50 42.0
comp=Z,25µm,18.9s,baz=92,slow=33
WIN Windhoek 85.19 248 IAmb IAmb 12 16 09.8
comp=Z,343nm,1.0s
MANR Mangalia 85.20 315 ⇑P **P 12 15 58.7 +0.9**
KALB Balgarevo 85.21 315 ⇑P **P 12 15 58.8 +0.9**
EFOR EFORIE 85.23 315 ⇑P **P 12 15 59.6 +1.7**
JURR Jurilovca 85.24 316 ⇑P **P 12 15 59.1 +1.1**
TLCR 85.39 316 ⇑P **P 12 16 00.1 +1.4**
TLCR 85.39 316 ⇑P **P 12 16 00.1 +1.4**
PHSR Pinarhisar 85.42 313 ⇑P **P 12 15 59.8 +0.9**
NPS Neapolis 85.45 306 P **P 12 15 59.1 -0.2**
PSN Preselentsi 85.47 315 ⇑*i*P **P 12 15 59.4 +0.2**
TIRR Tirgusor 85.48 316 IAmb IAmb 12 16 33.7
comp=Z,343nm,1.2s
TIRR Tirgusor 85.48 316 ⇑P **P 12 15 59.8 +0.6**
TPGR Topolog 85.58 316 ⇑P **P 12 16 00.2 +0.5**
BAL3X Bal3x, Balta 85.60 319 P **P 12 16 00.0 +0.3**
TLBR Topalu 85.75 316 ⇑P **P 12 16 02.0 +1.5**
CHOS Chios island 85.77 309 P **P 12 16 00.7 -0.2**
THERA Ancient Thera, 85.79 307 P **P 12 16 00.3 -0.7**
ICOR Ion Corvin 85.82 315 ⇓P **P 12 16 01.9 +1.0**
MILM Milestii Mici 85.84 318 ⇑*i*P **P 12 16 00.5 -0.4**
comp=Z,7µm,3.7s
MILM *i* pP **pwP 12 16 19.0 +0.7**
MILM Milestii Mici 85.84 318 ⇑P **P 12 16 01.2 +0.3**
MILM Milestii Mici 85.84 318*c i*P **P 12 16 00.5 -0.4**
MILM *i* *PP **pwP 12 16 19.0 +0.7**
MILM *e* 12 26 19.0
MILM *e*S **S 12 26 27.5 -2.7**
MILM pmax pmax
comp=Z,7µm,3.7s
MILM smax smax
comp=N,21µm,18.0s
CFR Carcaliu 85.85 316 ⇑P **P 12 16 01.5 +0.5**
CFR Carcaliu 85.85 316 ⇑P **P 12 16 01.5 +0.5**
KIS Kishinev 85.86 318 ⇑*i*P **P 12 16 01.0 0.0**
comp=N,3µm,5.7s
KIS *e*pP **pwP 12 16 18.0 -0.4**
KIS Kishinev 85.86 318*c i*P **P 12 16 01.0 0.0**
KIS *e* *PP **pwP 12 16 18.0 -0.4**
KIS *e*PPP PPP 12 21 24.0
KIS *e* 12 26 18.0
KIS *i* S **S 12 26 27.0 -3.3**
KIS pmax pmax
comp=Z,3µm,5.7s
THR3 Thira Island, 85.86 307 P **P 12 16 00.6 -0.7**
PRD Provadia 85.86 314 ⇑*i*P **P 12 16 01.9 +0.8**
HARR Harsova 85.87 316 ⇑P **P 12 16 02.7 +1.6**
HARR Harsova 85.87 316 ⇑P **P 12 16 02.7 +1.6**
EZN Ezine 85.89 311 P **P 12 16 00.6 -0.7**
EZN Ezine 85.89 311 ⇓P **P 12 16 01.7 +0.4**
EZN Ezine 85.89 311 ⇓P **P 12 16 01.7 +0.4**
THR5 Thira Island, 85.90 307 P **P 12 15 59.0 -2.5**
NEF NEVSHA 85.98 314 *i*P **P 12 16 02.0 +0.2**
TATR Tatarca 86.02 317 ⇑P **P 12 16 02.7 +0.9**
IDI Anoyia 86.04 306 P **P 12 16 03.0 +0.7**
IDI Anoyia 86.04 306 P **P 12 16 02.3 +0.1**
IDI Anoyia 86.04 306 LR LR 12 55 01.4
comp=Z,4µm,21.8s,baz=94,slow=36
VLDR Vladesti 86.06 317 ⇓P **P 12 16 03.0 +0.9**
SCTR Scanteiesti 86.07 317 ⇓P **P 12 16 03.0 +0.9**
TMBK Timbaki Herakl 86.09 306 P **P 12 16 02.8 +0.3**
SIGR SIGRI 86.11 310 P **P 12 16 02.8 +0.3**
SCHLR Schela 86.13 317 ⇓P **P 12 16 03.3 +0.9**
CAVK Edirne/Enez-Ca 86.20 312 ⇑P **P 12 16 03.2 +0.3**
VARL Varlezi 86.23 317 ⇑P **P 12 16 03.4 +0.6**
AMRR Amara 86.26 316 ⇓P **P 12 16 03.9 +0.8**
AMRR Amara 86.26 316 ⇓P **P 12 16 03.9 +0.8**
TUDR 86.27 317 ⇑P **P 12 16 04.3 +1.2**
ALN Alexandroupoli 86.33 312 P **P 12 16 02.5 -1.0**
JMB Yambol 86.34 313 ⇑*i*P **P 12 16 04.1 +0.6**
JMB Yambol 86.34 313 P **P 12 16 03.3 -0.2**
PRNS Prines Rethymn 86.36 306 P **P 12 16 04.5 +0.7**
BILL Bilibino 86.44 19 P **P 12 16 03.1 -0.4**
BILL IAmb IAmb 12 16 10.0
comp=Z,219nm,0.9s
BILL IAMs_20 IAMs_20 12 58 45.7
comp=Z,18µm,21.0s
BILL Bilibino 86.44 19*c i*P **P 12 16 02.7 -0.7**
BILL pmax pmax
comp=Z,290nm,1.0s
BILL MLR MLR
comp=Z,16µm,19.0s
VASR Vaslui 86.45 318 ⇓P **P 12 16 05.0 +1.1**
SORM Soroca 86.46 319 ⇑P **P 12 16 04.3 +0.3**
SORM Soroca 86.46 319 ⇑P **P 12 16 04.3 +0.3**
LOZB Loznitsa 86.49 314 ⇑P **P 12 16 05.2 +0.9**
AK09 Malin Array Si 86.53 322 P **P 12 16 04.4 +0.2**
AK09 Malin Array Si 86.53 322 P **PKKPbc 12 34 00.5 -2.0**
AK10 Malin Array Si 86.54 322 P **P 12 16 04.5 +0.2**
GHRR 86.56 317 ⇑P **P 12 16 06.0 +1.5**
AKASG Malin Array Be 86.59 322 P **P 12 16 04.1 -0.4**
AKASG IAmb IAmb 12 16 15.7
comp=Z,649nm,1.8s
AKASG Malin Array Be 86.59 322 P **P 12 16 04.1 -0.4**
comp=Z,28nm,0.6s,baz=87,slow=4.7,SNR=94
AKASG PP **PP 12 19 33.2 +6.1**
comp=Z,4.4nm,0.2s,baz=88,slow=6.2,SNR=9.7
AKASG PKKPbc **PKKPbc 12 34 02.4 0.0**
comp=Z,1.2nm,0.4s,baz=284,slow=3.3,SNR=6.9
AKASG PKPPKP **P'P'df 12 42 11.9 +5.3**
comp=Z,0.8nm,0.7s,baz=279,slow=3.3,SNR=4.1
AKASG LR LR 13 00 08.2
comp=Z,5µm,21.2s,baz=104,slow=39
comp=Z,28nm,0.6s
AKASG Malin Array Be 86.59 322 P **P 12 16 04.1 -0.4**
AKASG pmax pmax
comp=Z,649nm,1.8s
AKBB Malin Array Si 86.59 322 IAmb IAmb 12 16 12.2
comp=Z,240nm,0.8s
AKBB Malin Array Si 86.59 322*c i*P **P 12 16 03.6 -0.9**
AKBB pmax pmax
comp=Z,177nm,0.9s
AKBB MLR MLR
comp=Z,12µm,21.0s
AKBB Malin Array Si 86.59 322 P **P 12 16 04.0 -0.5**
AKBB Malin Array Si 86.59 322 P **PKKPbc 12 34 00.4 -2.0**
AK01 Malin Array Si 86.59 322 P **PKKPbc 12 34 00.2 -2.1**
GVD Gavdhos 86.59 306 P **P 12 16 04.6 -0.3**
KIEV Kiev 86.59 322 P **P 12 16 03.9 -0.6**
KIEV IAmb IAmb 12 16 12.2
comp=Z,216nm,0.8s
KIEV Kiev 86.59 322 ⇑P **P 12 16 04.5 0.0**
KIEV Kiev 86.59 322 P **P 12 16 03.9 -0.6**
KIEV pmax pmax
comp=Z,216nm,0.8s
KIEV MLR MLR
comp=Z,7µm,21.0s
KIEV Kiev 86.59 322 *i*P **P 12 16 04.2 -0.3**
SNR=51
KIEV Kiev 86.59 322 P **P 12 16 03.9 -0.6**
comp=Z,33µmcomp=Z,1µm,0.9s
RAZG Razgrad 86.60 315 ⇓P **P 12 16 05.8 +1.0**
AK04 Malin Array Si 86.63 322 P **PKKPbc 12 34 00.1 -2.2**
GRER 86.70 316 ⇑P **P 12 16 08.3 +3.1**
AK19 Malin Array Si 86.72 322 P **PKKPbc 12 34 00.6 -1.4**
AK20 Malin Array Si 86.73 322 P **PKKPbc 12 33 59.2 -2.8**
ODBI Odobesti 86.73 317 ⇓P **P 12 16 08.0 +2.7**
LIA Limnos Island 86.76 311 P **P 12 16 05.0 -0.6**
CHAN Chania 86.76 306 P **P 12 16 06.2 +0.4**
RDO Rodhopi 86.76 312 IAmb IAmb 12 16 39.1
comp=Z,266nm,1.1s
RDO Rodhopi 86.76 312 P **P 12 16 05.0 -0.6**
ELND Elena 86.91 314 ⇑P **P 12 16 07.0 +0.7**
SZH Strazhitsa 86.91 314 ⇑*i*P **P 12 16 06.6 +0.3**
SZH Strazhitsa 86.91 314 P **P 12 16 06.5 +0.2**
BISRR Bisoca 86.92 316 ⇑P **P 12 16 08.2 +1.8**
BISRR Bisoca 86.92 316 P **P 12 16 08.0 +1.6**
comp=Z,33µmcomp=Z,1µm,1.2s
TROLL Troll, Antarti 86.92 198 ⇓P **P 12 16 06.8 +0.8**
comp=Z,6µm,0.9s
TROLL ⇑SKSac **SKSac 12 26 26.2 -2.4**
TROLL ⇑S **S 12 26 41.9 +1.6**
TROLL ⇑PKKPbc **PKKPbc 12 33 59.4 -2.6**
comp=Z,510nm,1.2s
TROLL ⇓P'P'df **P'P'df 12 42 02.1 -5.1**
ISR Istrita 86.93 316 ⇑P **P 12 16 08.0 +1.6**
ISR Istrita 86.93 316 ⇑P **P 12 16 08.0 +1.6**
ISR Istrita 86.93 316 P **P 12 16 07.6 +1.2**
comp=Z,18µmcomp=Z,587nm,1.9s
KARY Karystos 86.95 309 P **P 12 16 06.4 -0.2**
VRI Vrincioaia 86.98 317 ⇑P **P 12 16 08.0 +1.4**
VRI Vrincioaia 86.98 317 ⇑P **P 12 16 08.0 +1.4**
VRI Vrincioaia 86.98 317 P **P 12 16 07.5 +0.9**
comp=Z,15µmcomp=Z,869nm,1.1s
KNDR Palaiochora Ch 86.99 306 P **P 12 16 07.3 +0.4**
KDZ Kurdzhali 87.01 312 ⇑*i*P **P 12 16 07.1 +0.3**
KDZ Kurdzhali 87.01 312 P **P 12 16 06.4 -0.5**
PLOR5 Plostina Array 87.02 317 P **P 12 16 07.7 +0.9**
comp=Z,14µmcomp=Z,627nm,1.1s
PLOR Plostina 87.03 317 ⇑P **P 12 16 08.0 +1.1**
PLOR Plostina 87.03 317 ⇑P **P 12 16 08.0 +1.1**
SKY Skiros Island 87.03 310 P **P 12 16 07.3 +0.3**
SULR 87.03 316 ⇑P **P 12 16 08.2 +1.4**
SGRR Singureni 87.12 315 ⇑P **P 12 16 08.7 +1.4**
NEHR Nehoiu 87.17 316 ⇓P **P 12 16 09.3 +1.7**
TESR Tescani 87.18 317 ⇑P **P 12 16 08.6 +1.0**
TESR Tescani 87.18 317 P **P 12 16 08.2 +0.6**
comp=Z,18µmcomp=Z,950nm,1.3s
NDNU Novodnistrovsk 87.21 320 P **P 12 16 07.8 +0.2**
THAS Thassos island 87.25 311 P **P 12 16 08.0 0.0**
LUBAR Lubar, Ukraine 87.29 321 P **P 12 16 07.7 +0.3**
LUBAR Lubar, Ukraine 87.29 321 P **PKKPbc 12 33 54.7 -5.9**
ONER Baraj Valea Uz 87.31 317 ⇑P **P 12 16 09.2 +1.0**
KYMI Kymi, Euboea I 87.33 309 P **P 12 16 08.0 -0.4**
DION Dionisos Attik 87.34 309 P **P 12 16 08.0 -0.6**
PTL Penteli 87.39 309 P **P 12 16 08.0 -0.8**
ANKY Antikythira Is 87.42 306 P **P 12 16 09.7 +0.7**
MLR Muntele Rosu 87.43 316 ⇑P **P 12 16 10.2 +1.3**
MLR Muntele Rosu 87.43 316 ⇑P **P 12 16 10.2 +1.3**
MLR Muntele Rosu 87.43 316 P **P 12 16 09.7 +0.8**
comp=Z,13µmcomp=Z,872nm,1.1s
ATHU Athens Univers 87.44 309 P **P 12 16 08.0 -1.0**
PVL Pavlikeni 87.45 314 ⇑*i*P **P 12 16 09.6 +0.7**
RZN Rozhen 87.47 312 ⇑*i*P **P 12 16 10.0 +0.7**
RZN Rozhen 87.47 312 P **P 12 16 09.2 0.0**
KAVA Kavala 87.49 312 P **P 12 16 09.2 +0.1**
ATH Athens Observa 87.49 309 P **P 12 16 08.1 -1.1**
TURR Turia 87.51 317 ⇓P **P 12 16 10.5 +1.4**
FILI Fyli 87.55 309 P **P 12 16 08.8 -0.7**
PLD Plovdiv 87.55 313 P **P 12 16 09.3 -0.1**
PARN1 Fyli,Attica,Gr 87.55 309 P **P 12 16 08.2 -1.3**
AOS Alonnisos 87.60 310 P **P 12 16 09.3 -0.4**
COPA Copaceanca 87.64 315 ⇑P **P 12 16 10.4 +0.6**
PRAR RASCA 87.66 318 ⇓P **P 12 16 11.1 +1.3**
STFN Stefani 87.67 309 P **P 12 16 09.3 -0.8**
MAGU Magoula 87.67 309 P **P 12 16 09.3 -0.7**
PARN3 Mandra,Attica, 87.68 309 P **P 12 16 09.3 -0.8**
KTHA Kythira Island 87.68 307 P **P 12 16 09.3 -0.9**
PARN2 Moni Osiou Mel 87.73 309 P **P 12 16 09.3 -1.1**
OUR Ouranopolis 87.75 311 P **P 12 16 09.3 -1.0**
KMPD K-Podol'skiy 87.79 319 P **P 12 16 10.4 0.0**
KMPD P **P 12 16 10.1 -0.3**
VILL Villia 87.84 309 P **P 12 16 09.3 -1.6**
VLI Veliai 87.87 307 P **P 12 16 09.8 -1.3**
HUMR Humele 87.89 315 ⇑P **P 12 16 11.5 +0.6**
JOHN Johnston Islan 87.90 73 P **P 12 16 11.9 +0.3**
JOHN Johnston Islan 87.90 73 P **P 12 16 13.0 +1.4**
PLVB Pleven 87.90 314 ⇓P **P 12 16 11.9 +0.9**
DOPR Dopca 87.91 317 ⇑P **P 12 16 11.9 +0.8**
HORU Horodok 87.96 320 P **P 12 16 12.2 +1.0**
HORU Horodok 87.96 320 P **P 12 16 11.2 0.0**
MTUR Matau 87.98 316 ⇑P **P 12 16 12.4 +0.9**
MTUR Matau 87.98 316 ⇑P **P 12 16 12.4 +0.9**
PGB Panagyurishte 88.04 313 ⇑*i*P **P 12 16 12.8 +1.0**
CHRU Chernivtsi 88.08 319 P **P 12 16 11.7 -0.1**
comp=Z,5µmcomp=Z,305nm,1.2s
NEO Neokhori 88.12 310 P **P 12 16 10.2 -2.1**
MMB Musomishta 88.16 312 ⇑*i*P **P 12 16 12.2 -0.2**
MMB Musomishta 88.16 312 P **P 12 16 11.4 -1.0**
LKR Lokris 88.17 309 P **P 12 16 11.4 +1.1**
VLAD Vladila 88.18 315 ⇓P **P 12 16 13.4 +1.0**
SRS Serrai 88.19 312 P **P 12 16 11.8 -0.7**
ARR Arges 88.30 316 ⇑P **P 12 16 13.4 +0.4**
SOH Sokhos 88.31 311 P **P 12 16 11.8 -1.3**
KIWB Kanaga Island 88.31 37 P **P 12 16 12.9 +0.1**
MNK Minsk 88.38 325 *i*P **P 12 16 13.7 +0.7**
MNK *i* *PP **pP 12 16 28.4 +1.0**

MNK *i* 12 19 41.8
MNK *i* PPP PPP 12 21 37.6
MNK *i* S **SKSac** **12 26 39.0 +1.5**
MNK *i* SS **SS** **12 32 41.1 -4.0**
MNK *i* SSS SSS 12 36 22.1
MNK pmax pmax
comp=Z,223nm,0.9s
MNK pmax pmax
comp=E,52nm,0.8s
MNK pmax pmax
comp=N,200nm,1.3s
MNK MLR MLR
comp=Z,11µm,23.0s
BURAR Bucovina Array 88.39 318 P **P** **12 16 13.9 +0.5**
BURAR IAmb IAmb 12 16 55.8
comp=Z,186nm,0.8s
BURAR Bucovina Array 88.39 318 ⇓P **P** **12 16 15.2 +1.8**
BURAR Bucovina Array 88.39 318 ⇓P **P** **12 16 15.2 +1.8**
BUR08 Bucovina Ar. S 88.40 318 IAmb IAmb 12 16 37.1
comp=Z,472nm,1.2s
AXAR Agios Charalam 88.46 309 P **P** **12 16 12.7 -1.1**
HORT Hortiatis 88.46 311 P **P** **12 16 13.2 -0.7**
MPEP Malo Peshtene 88.52 314⇑*i*P **P** **12 16 15.2 +1.2**
PUL Pulkovo 88.54 331*c i*P **P** **12 16 14.3 +0.6**
PUL pmax pmax
comp=Z,1µm,1.0s
GUR Goura 88.55 308 P **P** **12 16 14.0 -0.4**
THE Thessaloniki 88.57 311 P **P** **12 16 13.4 -0.9**
PLNA Plana 88.58 313⇑*i*P **P** **12 16 15.2 +0.7**
ADK Adak 88.60 37 P **P** **12 16 13.8 -0.4**
ADK IAmb IAmb 12 16 42.7
comp=Z,562nm,1.2s
ADK Adak 88.60 37 IAMs_20 IAMs_20 12 54 47.0
comp=Z,23µm,22.0s
ADK Adak 88.60 37 P **P** **12 16 14.6 +0.5**
ADK Adak 88.60 37 P **P** **12 16 13.8 -0.4**
ADK pmax pmax
comp=Z,562nm,1.2s
ADK MLR MLR
comp=Z,23µm,22.0s
TNR Turnu Rosu 88.61 316⇑P **P** **12 16 15.3 +0.9**
TNR Turnu Rosu 88.61 316⇑P **P** **12 16 15.3 +0.9**
TGMR Targu Mures 88.62 317⇓P **P** **12 16 16.7 +2.3**
SNAA Sanae 88.63 198⇓P **P** **12 16 14.9 +0.8**
comp=Z,4µm,0.9s
SNAA ⇑SKSac **SKSac** **12 26 36.0 -2.8**
SNAA ⇑S **S** **12 26 58.6 +2.2**
SNAA ⇑PKKPbc **PKKPdf** **12 33 54.0 +2.3**
comp=Z,228nm,0.7s
SNAA ⇓P'P'df **P'P'df** **12 42 01.6 -2.3**
SNAA Sanae 88.63 198 P **P** **12 16 14.7 +0.6**
SNAA IAmb IAmb 12 16 23.7
comp=Z,451nm,1.2s
SNAA Sanae 88.63 198 P **P** **12 16 14.9 +0.8**
comp=Z,70nm,0.8s,baz=112,slow=4.7,SNR=129
SNAA PKKPbc **PKKPdf** **12 33 54.3 +2.6**
comp=Z,6.1nm,0.8s,baz=248,slow=4.6,SNR=12
SNAA PKPPKP **P'P'df** **12 42 06.0 +2.0**
comp=Z,13nm,1.1s,baz=300,slow=2.8,SNR=12
SNAA LR LR 12 50 21.5
comp=Z,10µm,21.7s,baz=95,slow=32
comp=Z,70nm,0.8s
SNAA Sanae 88.63 198 P **P** **12 16 14.7 +0.6**
SNAA pmax pmax
comp=Z,451nm,1.2s
SNAA MLR MLR
comp=Z,9µm,20.0s
KKB Krupnik 88.67 312⇑*i*P **P** **12 16 15.2 +0.4**
KKB Krupnik 88.67 312 P **P** **12 16 14.2 -0.6**
KNT Kendrikon 88.72 312 P **P** **12 16 14.4 -0.6**
KLV Kalavryta, Ach 88.72 308 P **P** **12 16 14.4 -0.8**
VTS Vitosha 88.74 313⇑*i*P **P** **12 16 15.6 +0.3**
VTS Vitosha 88.74 313 P **P** **12 16 15.5 +0.3**
ITM Ithomi 88.75 308 P **P** **12 16 14.4 -0.8**
RNPP5 Staryi Chortor 88.76 322 P **P** **12 16 15.1 +0.2**
KALE Kalithea 88.79 309 P **P** **12 16 14.7 -0.8**
RNPP9 Sopachiv 88.80 322 P **P** **12 16 15.3 +0.2**
RNPP8 Varash 88.81 322 P **P** **12 16 15.3 +0.2**
VALD Valchedram 88.81 314 P **P** **12 16 15.9 +0.6**
ARCR ARCALIA 88.85 318⇑P **P** **12 16 17.3 +1.8**
SERG Sergoula 88.86 309 P **P** **12 16 14.7 -1.0**
MAKR Makrakomi, Fth 88.91 309 P **P** **12 16 14.9 -1.1**
LOT Lotru 88.92 316⇓P **P** **12 16 16.4 +0.4**
EFP Efpalio 88.98 309 P **P** **12 16 16.2 0.0**
VAY Valandovo 88.99 312 *i* P **P** **12 16 15.9 -0.3**
ANX Ano Chora 89.00 309 P **P** **12 16 16.2 -0.2**
DRO Drossia 89.05 308 P **P** **12 16 16.8 +0.1**
STNU Starunia 89.09 319 P **P** **12 16 17.2 +0.7**
THL Klokotos Trika 89.09 310 P **P** **12 16 15.4 -1.3**
EVR Evrytania 89.14 309 P **P** **12 16 17.0 -0.2**
SRE Strehaia 89.16 315⇑P **P** **12 16 18.4 +1.4**
SRE Strehaia 89.16 315⇑P **P** **12 16 18.4 +1.4**
RAKU Rahkiv 89.17 319 P **P** **12 16 17.1 +0.2**
RLS Riolos of Patr 89.25 308 P **P** **12 16 18.4 +0.9**
PUNG Punghina 89.27 315⇑P **P** **12 16 18.5 +1.0**
CJR Cluj-Napoca 89.28 317⇑P **P** **12 16 19.2 +1.6**
CJR Cluj-Napoca 89.28 317⇑P **P** **12 16 19.2 +1.6**
LVZ Lovozero 89.38 339 P **P** **12 16 16.7 -0.8**
LVZ IAmb IAmb 12 16 26.1
comp=Z,303nm,1.0s
LVZ IAMs_20 IAMs_20 13 02 35.5
comp=Z,21µm,21.0s
LVZ Lovozero 89.38 339*c i*P **P** **12 16 16.6 -0.9**
LVZ pmax pmax
comp=Z,335nm,1.0s
LVZ MLR MLR
comp=Z,30µm,24.0s
LVZ Lovozero 89.38 339 P **P** **12 16 17.4 -0.1**
comp=Z,9µmcomp=Z,383nm,1.1s
BMR Baia Mare 89.54 318⇑P **P** **12 16 20.3 +1.7**
BMR Baia Mare 89.54 318⇑P **P** **12 16 20.3 +1.7**
MORS Morshin 89.56 320 P **P** **12 16 19.3 +0.5**
MORS Morshin 89.56 320 P **P** **12 16 19.4 +0.6**
GZR Gura Zlata 89.59 316⇑P **P** **12 16 20.0 +1.0**
GZR Gura Zlata 89.59 316⇑P **P** **12 16 20.0 +1.0**
DEV Deva 89.59 316⇓P **P** **12 16 20.8 +1.8**
DEV Deva 89.59 316⇓P **P** **12 16 20.8 +1.8**
AMPL Ampelaki 89.60 309 P **P** **12 16 19.9 +0.8**
LVV L'vov 89.62 320 P **P** **12 16 19.3 +0.3**
LVV L'vov 89.62 320 P **P** **12 16 19.6 +0.6**
TETR Tetrakomo, Epi 89.62 310 P **P** **12 16 19.9 +0.6**
LTHK Lithakia 89.69 308 P **P** **12 16 19.0 -0.6**
MEZ Mezhgor'ye 89.69 319 P **P** **12 16 20.0 +0.6**
APA Apatity 89.71 339 *eP* **P** **12 16 17.7 -1.3**
APA *eS* **SKSac** **12 26 39.7 -5.2**
APA MLR MLR
comp=Z,48µm,25.6s
HERR Herculane 89.75 315⇑P **P** **12 16 20.5 +0.8**
FNA Florina 89.78 311 P **P** **12 16 19.0 -1.1**
PRMD Pramanda 89.79 310 P **P** **12 16 21.4 +1.3**
KORU Korolevo 89.87 319 P **P** **12 16 21.2 +1.0**
DRGR 89.89 317⇓P **P** **12 16 21.2 +0.7**
DRGR 89.89 317⇓P **P** **12 16 21.2 +0.7**
SKO Skopje 89.94 312 *i* P **P** **12 16 20.3 -0.4**
PSDA Pessada-Kefalo 89.95 308 P **P** **12 16 20.4 -0.4**
VLS Valsamata 89.96 308 P **P** **12 16 20.4 -0.5**
NEST Nestorio 89.97 311 P **P** **12 16 20.4 -0.6**
TRSU Trosnyk 89.97 318 P **P** **12 16 22.1 +1.4**
EVGI Lefkada island 89.98 309 P **P** **12 16 20.8 -0.2**
VSU Vasula 89.98 329*c i*P **P** **12 16 19.0 -1.4**
VSU pmax pmax
comp=Z,756nm,0.9s
VSU MLR MLR
comp=Z,23µm,23.0s
BRIU Brid 89.98 319 P **P** **12 16 21.6 +0.9**
JAN Janina 89.99 310 P **P** **12 16 21.4 +0.3**
LKD2 Lefkada island 90.00 309 P **P** **12 16 21.4 +0.3**
BOVS Bovan 90.03 314⇑P **P** **12 16 21.4 +0.3**
SURR Surduc 90.11 316⇓P **P** **12 16 18.3 -3.0**
ATKA Atka Island 90.17 37 IAMs_20 IAMs_20 12 56 29.5
comp=Z,17µm,22.0s
ATKA Atka Island 90.17 37 P **P** **12 16 21.9 +0.4**
BERU Beregovo 90.20 319 P **P** **12 16 22.8 +1.1**
MDVR Moldovita 90.22 315⇑P **P** **12 16 22.7 +0.7**
OHR Ohrid 90.27 311 *i* P **P** **12 16 22.4 0.0**
VNA2 Neumayer--Watz 90.27 198⇓P **P** **12 16 21.7 0.0**
comp=Z,156nm,0.8s,baz=158,slow=20
VNA2 ⇑PKKPbc **PKKPdf** **12 33 50.2 +1.4**
comp=Z,6.1nm,0.8s,baz=303,slow=4.2
VNA2 ⇑P'P'df **P'P'df** **12 41 58.8 -2.0**
baz=251,slow=0.5
IGT Igoumenitsa 90.37 310 P **P** **12 16 23.0 +0.3**
KWP Kalwaria Pacla 90.42 320 *eP* **P** **12 16 23.1 +0.4**
KWP *eP* **P** **12 19 47.6 -10**
KWP *eS* **S** **12 27 11.8 -1.8**
KWP *eSS* **SS** **12 33 08.1 -7.0**
KWP *eL* L 12 52 45.1
comp=Z,30µm,31.8s
KWP Kalwaria Pacla 90.42 320 P **P** **12 16 23.5 +0.7**
comp=Z,8µmcomp=Z,294nm,1.5s
HOLU Holmets 90.43 319 P **P** **12 16 23.2 +0.4**
HOLU Holmets 90.43 319 P PKKPbc 12 33 27.9 -25
BZS Buzias 90.43 316⇑P **P** **12 16 23.7 +0.8**
BZS Buzias 90.43 316⇑P **P** **12 16 23.7 +0.8**
SIRR Siria 90.52 316⇑P **P** **12 16 24.3 +1.0**
KOLS Kolonicke sedl 90.58 319 *eP* **P** **12 16 24.8 +1.3**
KOLS pmax pmax
comp=Z,146nm,0.8s
KOLS Kolonicke sedl 90.58 319 *eP* **P** **12 16 24.8 +1.3**
VNA1 Neumayer--Stat 90.65 198⇓P **P** **12 16 24.7 +1.3**
comp=Z,322nm,1.0s
VNA1 ⇑PKKPbc **PKKPdf** **12 33 49.6 +1.6**
comp=Z,16nm,1.0s
VNA1 ⇓P'P'df **P'P'df** **12 41 57.8 -2.3**
BANR Banloc 90.73 316⇑P **P** **12 16 25.1 +0.9**
VNA3 Neumayer Olymp 90.82 197⇓P **P** **12 16 24.8 +0.5**
comp=Z,88nm,1.0s
VNA3 ⇑SKSac **SKSac** **12 26 48.0 -3.4**
VNA3 ⇑S **S** **12 27 18.1 +1.5**
VNA3 ⇑PKKPbc **PKKPdf** **12 33 49.8 +2.0**
comp=Z,9.5nm,0.8s
VNA3 ⇓P'P'df P'P'df 12 41 55.7 -4.1
MSF Maaselka 90.85 337 P **P** **12 16 24.6 +0.2**
SUW Suwalki 90.96 324 *eP* **P** **12 16 24.4 -0.7**
SUW *ePP* **PP** **12 20 00.2 -1.7**
SUW *eS* **S** **12 27 15.6 -2.7**
SUW *eSS* **SS** **12 33 14.2 -8.3**
SUW *eL* L 12 53 25.2
comp=Z,31µm,33.2s
FIA1 FINESS Array S 91.00 332 P **P** **12 16 25.6 +0.4**
FINES FINESS Array B 91.00 332 P **P** **12 16 25.1 0.0**
FINES FINESS Array B 91.00 332 P **P** **12 16 25.5 +0.3**
comp=Z,155nm,1.1s,baz=110,slow=4.8,SNR=101
FINES PKKPbc **PKKPbc** **12 33 51.1 -0.7**
comp=Z,4.3nm,0.8s,baz=246,slow=2.3,SNR=7.6
FINES LR LR 13 02 17.2
comp=Z,9µm,20.1s,baz=92,slow=39
comp=Z,155nm,1.1s
IVA Berane 91.21 313⇑*i*P **P** **12 16 26.7 0.0**
STHS Stebnicka Huta 91.32 320 *eP* **P** **12 16 26.8 -0.2**
STHS pmax pmax
comp=Z,37nm,0.8s
STHS Stebnicka Huta 91.32 320 *eP* **P** **12 16 26.8 -0.2**
KOME Kolasin 91.48 313⇑*i*P **P** **12 16 27.5 -0.5**
ULC Ulcinj 91.55 312⇑*i*P **P** **12 16 27.7 -0.5**
PDG Podgorica 91.61 312 IAmb IAmb 12 17 10.4
comp=Z,410nm,1.3s
PDG Podgorica 91.61 312⇑P **P** **12 16 29.1 +0.7**
PDG Podgorica 91.61 312⇑*i*P **P** **12 16 28.5 +0.1**
DRME Dracevica, Mon 91.63 312⇑*i*P **P** **12 16 28.4 -0.1**
PLE Pljevlja 91.65 313⇑*i*P **P** **12 16 28.9 +0.1**
RUDO Rudo 91.70 314 *eP* **P** **12 16 31.7 +2.8**
R9F13 Warsaw-Wawer 91.85 322 *eP* **P** **12 16 30.6 +1.3**
comp=Z,7.8nm,0.5s
R9F13 *e* 12 18 57.6
R9F13 *eS* SKiKP 12 25 30.7 +41
R9F13 *eSKS* **SKKSac** **12 27 15.7 +1.4**
BUM Brajici-Budva 91.86 312⇑*i*P **P** **12 16 29.5 -0.2**
SCTE Santa Cesarea 91.87 310 IAmb IAmb 12 17 09.2
comp=Z,394nm,1.1s
CEME Cevo 91.88 312⇑*i*P **P** **12 16 28.8 -1.0**
NKME Niksic 91.88 313⇑*i*P **P** **12 16 29.0 -0.8**
VADS Vadso 91.90 341 *eP* **P** **12 16 28.9 -0.2**
VADS IVmB_BB 12 16 29.8
comp=Z,2µm,2.4s
VADS *eSKSac* **SKSac** **12 26 58.0 +0.7**
VADS *eSS* **SS** **12 33 36.1 +0.8**
VADS IVMs_BB IVMs_BB 12 57 45.8
comp=Z,12µm,29.6s
NIE Niedzica 91.93 319 *eP* **P** **12 16 30.5 +0.6**
NIE *ePP* **PP** **12 20 06.1 -3.7**
NIE *eS* **S** **12 27 25.2 -2.2**
NIE *eSS* **SS** **12 33 31.3 -5.7**
NIE *eL* L 12 53 22.5
comp=Z,16µm,32.9s
NIE Niedzica 91.93 319 P **P** **12 16 30.4 +0.6**
comp=Z,2µmcomp=Z,58nm,1.1s
PSZ Piszkesteto 91.97 318⇑P **P** **12 16 30.5 +0.4**
PSZ Piszkesteto 91.97 318⇑P **P** **12 16 30.5 +0.4**
BEL Belsk 92.00 322 *eP* **P** **12 16 30.5 +0.5**
BEL *ePP* PP 12 19 52.6 -18
BEL *eS* S 12 27 13.2 -15
BEL *eL* L 12 52 46.8
comp=Z,519µm,36.6s
BRY Bratogost 92.20 313⇑*i*P **P** **12 16 31.4 0.0**
KLINJ Klinje 92.20 313 *eP* **P** **12 16 32.4 +1.1**
TREB Trebinje 92.31 313 *eP* **P** **12 16 31.5 -0.2**
OJC Ojcow 92.37 320 *eP* **P** **12 16 31.9 +0.2**
OJC *ePP* **PP** **12 20 13.5 +0.3**
OJC *eS* **S** **12 27 28.7 -2.6**
OJC *eSS* **SS** **12 33 38.0 -5.2**
OJC *eL* L 12 52 12.6
comp=Z,23µm,35.7s
OJC Ojcow 92.37 320 P **P** **12 16 32.0 +0.2**
comp=Z,4µmcomp=Z,83nm,1.5s
RAR Rarotonga 92.38 112 P **P** **12 16 31.9 -0.6**
RAR Rarotonga 92.38 112 IAMs_20 IAMs_20 12 57 54.5
comp=Z,16µm,21.0s
RAR Rarotonga 92.38 112 LR LR 12 56 05.5
comp=Z,14µm,21.7s,baz=259,slow=34
RAR Rarotonga 92.38 112 P **P** **12 16 33.8 +1.3**
RAR Rarotonga 92.38 112 P **P** **12 16 31.9 -0.6**
RAR pmax pmax
comp=Z,784nm,2.0s
RAR MLR MLR
comp=Z,16µm,21.0s
LANS Liptovska Anna 92.43 319 *eP* **P** **12 16 32.4 +0.2**
LANS pmax pmax
comp=Z,39nm,2.4s
LANS Liptovska Anna 92.43 319 *eP* **P** **12 16 32.4 +0.2**
MORH Mrgy, Hungar 92.58 316⇑*i*P **P** **12 16 33.0 +0.2**
MORH Mrgy, Hungar 92.58 316⇓P **P** **12 16 33.2 +0.4**
KEV Kevo 92.59 340 P **P** **12 16 31.8 -0.5**
KEV IAmb IAmb 12 16 42.8
comp=Z,246nm,1.1s
KEV IAMs_20 IAMs_20 13 04 31.2
comp=Z,20µm,20.0s
KEV Kevo 92.59 340 P **P** **12 16 31.8 -0.5**
KEV pmax pmax
comp=Z,246nm,1.1s
KEV Kevo 92.59 340 P **P** **12 16 31.7 -0.5**
KEV S S 12 27 21.7 -11
VYHS Vyhne 92.75 318 *eP* **P** **12 16 34.0 +0.4**
VYHS pmax pmax
comp=Z,302nm,2.5s
VYHS Vyhne 92.75 318 *eP* **P** **12 16 34.0 +0.4**
VYHS *ePP* PP 12 20 38.8 +23
VYHS *eS* S 12 27 25.8 -9.0
VYHS *eSS* SS 12 33 33.9 -15
STON Ston 92.81 313⇑*i*P **P** **12 16 33.1 -0.8**
SRO Srobarova 93.01 318 *eP* **P** **12 16 36.3 +1.5**
SRO pmax pmax
comp=Z,65nm,1.2s
SRO Srobarova 93.01 318 *eP* **P** **12 16 36.3 +1.5**
SRO *ePP* PP 12 20 39.9 +22
ARA0 ARCESS Array S 93.05 340 *eP* **P** **12 16 34.2 -0.3**
ARA0 *eP* **PcP** **12 16 34.7 -0.4**
ARA0 IVmB_BB 12 16 35.4
comp=Z,3µm,2.5s
ARA0 IVmB_BB 12 16 35.5
comp=Z,3µm,2.1s
ARA0 *eSKSac* **SKSac** **12 27 02.1 -1.8**
ARA0 *eSP* **SP** **12 28 47.3 -1.1**
ARA0 IVMs_BB IVMs_BB 12 58 03.6
comp=Z,12µm,29.4s
ARA0 IVMs_BB IVMs_BB 12 58 03.7
comp=Z,12µm,29.4s
ARCES ARCESS Array B 93.05 340 P **P** **12 16 34.7 +0.2**
ARCES IAmb IAmb 12 16 45.2
comp=Z,279nm,1.0s
ARCES ARCESS Array B 93.05 340 P **P** **12 16 34.5 0.0**
comp=Z,134nm,0.9s,baz=93,slow=6.9,SNR=118
ARCES PP **PP** **12 20 21.5 +3.5**
comp=Z,34nm,1.0s,baz=81,slow=7.9,SNR=3.8
ARCES PKKPbc **PKKPbc** **12 33 48.4 +1.5**
comp=Z,5.0nm,0.8s,baz=222,slow=1.6,SNR=5.7
comp=Z,134nm,0.9s
ARCES ARCESS Array B 93.05 340 P **P** **12 16 34.7 +0.2**
ARCES pmax pmax
comp=Z,279nm,1.0s
TIP Timpagrande 93.07 309 P **P** **12 16 34.2 -1.2**
TIP Timpagrande 93.07 309⇑P **P** **12 16 36.1 +0.8**
TIP Timpagrande 93.07 309 P **P** **12 16 36.0 +0.7**
comp=Z,5µmcomp=Z,72nm,1.1s
MATE Matera 93.28 310⇑P **P** **12 16 37.6 +1.4**
SPIA Saint Paul Isl 93.29 33 P **P** **12 16 39.4 +3.6**
SPIA Saint Paul Isl 93.29 33 P **P** **12 16 36.0 +0.2**
baz=262
OKC Ostrava-Krasne 93.38 320 *eP* **P** **12 16 37.0 +0.6**
OKC MLR MLR
comp=Z,7µm,20.3s
OKC Ostrava-Krasne 93.38 320 *eP* **P** **12 16 37.0 +0.6**
OKC AMS AMS 13 05 10.0
comp=Z,7µm,20.3s
BLY Banja Luka 93.41 315⇑*i*P **P** **12 16 38.9 +2.2**
BLY Banja Luka 93.41 315⇑P **P** **12 16 37.3 +0.6**
NIKH Nikolski High 93.51 37 P **P** **12 16 36.5 -0.4**
NIKH Nikolski High 93.51 37 P **P** **12 16 37.1 +0.1**
NIKH Nikolski High 93.51 37 P **P** **12 16 36.6 -0.4**
baz=263,SNR=37
MAUC Maruska 93.53 319 *eP* **P** **12 16 38.4 +1.2**
MAUC *eSKS* **SKSac** **12 27 10.7 +3.4**
JAVC Velka Javorina 93.57 319⇑*i*P **P** **12 16 38.5 +1.1**
GAMB Gambell 93.57 26 P **P** **12 16 38.0 +1.1**
baz=261
P08K Saint George I 93.59 34 P **P** **12 16 37.8 +0.6**
baz=262
STEB Steborice 93.63 320 *eP* **P** **12 16 38.5 +0.9**
CEL Celeste 93.63 308 IAmb IAmb 12 16 50.9
comp=Z,348nm,1.3s
CEL Celeste 93.63 308 P **P** **12 16 38.7 +0.7**
comp=Z,5µmcomp=Z,212nm,1.3s
A051A Mrakovica 93.64 315⇑*i*P **P** **12 16 38.0 +0.2**
SMOL Smolenice 93.69 318 *eP* **P** **12 16 38.0 +0.1**
SMOL pmax pmax
comp=Z,192nm,3.1s
KTK1 Kautokeino 93.74 339 *eP* **P** **12 16 37.7 0.0**
KTK1 IVmB_BB 12 16 38.2
comp=Z,1µm,2.2s
KTK1 *eSKSac* **SKSac** **12 27 08.5 +0.9**
KTK1 *eSP* SP 12 28 56.5 +0.5
KTK1 IVMs_BB IVMs_BB 12 57 17.8
comp=Z,9µm,30.5s
MORC Moravsky Berou 93.76 320 IAmb IAmb 12 17 11.3
comp=Z,251nm,1.7s
MORC Moravsky Berou 93.76 320⇑*i*P **P** **12 16 38.6 +0.4**
MORC Moravsky Berou 93.76 320⇓P **P** **12 16 38.7 +0.4**
MORC Moravsky Berou 93.76 320⇓P **P** **12 16 38.7 +0.4**
MODS Modra-Piesok 93.77 318 *eP* **P** **12 16 36.1 -2.2**
MODS pmax pmax
comp=Z,765nm,2.5s
MODS Modra-Piesok 93.77 318 *eP* **P** **12 16 36.1 -2.2**
MODS *ePP* PP 12 20 41.5 +17
MODS *eS* **SKSac** **12 27 00.6 -8.1**
MODS *eSS* SS 12 33 50.6 -13
MOSL Moslavina 93.81 315⇑*i*P **P** **12 16 38.0 -0.6**
A050A Klekovaca 93.84 314 *eP* **P** **12 16 38.0 -0.8**
ACER Acerenza 93.87 310 IAmb IAmb 12 16 51.0
comp=Z,198nm,1.0s
KIJV Kijevo 93.88 314⇑*i*P **P** **12 16 38.0 -0.9**
HAMF Hammerfest 93.88 341 *eP* **P** **12 16 37.8 -0.5**
HAMF IVmB_BB 12 17 08.6
comp=Z,4µm,2.9s
HAMF *e* 12 20 16.5
HAMF *eSKSac* **SKSac** **12 27 07.0 -1.3**
HAMF *eSS* **SS** **12 34 08.2 +4.5**
HAMF IVMs_BB IVMs_BB 12 58 42.7
comp=Z,11µm,29.3s
BEHE Becsehely 93.89 316 *eP* **P** **12 16 39.4 +0.5**
KOGS Kog 94.25 316 *i* P **P** **12 16 40.8 +0.3**
KOGS *ePP* **sP** **12 16 59.7 -0.6**
KOGS *e* 12 18 27.4
KRLC Kraliky 94.28 320 *eP* **P** **12 16 41.9 +1.2**
KRLC Kraliky 94.28 320 *eP* **P** **12 16 41.9 +1.2**
KRLC AMS AMS 12 55 00.0
comp=Z,23µm,31.8s
VRAC Vranov 94.32 319⇑*i*P **P** **12 16 41.1 +0.3**
VRAC Vranov 94.32 319⇑P **P** **12 16 41.3 +0.5**
VRAC Vranov 94.32 319⇑P **P** **12 16 41.3 +0.5**
GKP Gorka Klasztor 94.34 323 *eP* **P** **12 16 40.4 -0.3**
GKP *ePP* **PP** **12 20 28.1 -0.4**
GKP *eS* S **12 27 40.8 -7.6**
GKP *eSS* **SS** **12 34 08.8 -2.3**
GKP *eL* L 12 57 03.6
comp=Z,23µm,30.4s
RONA Rosalia, Austr 94.35 317 *eP* **P** **12 16 40.3 -0.7**
comp=Z,2.8nm,1.1s
RONA PP **PP** **12 20 26.3 -2.5**
comp=Z,33nm,1.4s
RONA SKS **SKSac** **12 27 11.4 -0.5**
comp=Z,8.4nm,1.8s
KRUC Moravsky 94.42 319⇑*i*P **P** **12 16 41.2 -0.1**
DPC Dobruska-Polom 94.60 320 *eP* **P** **12 16 43.2 +1.1**
DPC Dobruska-Polom 94.60 320 *eP* **P** **12 16 43.2 +1.1**
HOPEN Hopen 94.65 347 *eP* **P** **12 16 41.2 -0.5**
HOPEN IVmB_BB 12 16 47.1
comp=Z,1µm,2.9s
HOPEN *eSKSac* **SKSac** **12 27 13.2 +1.0**
HOPEN IVMs_BB IVMs_BB 13 05 32.5
comp=Z,14µm,20.8s
CONA Conrad Observa 94.66 318 *eP* **P** **12 16 42.4 -0.1**
comp=Z,22nm,2.5s,SNR=7.6
CONA PP **PP** **12 20 31.2 -0.1**
comp=Z,54nm,1.8s
CONA SKS **SKSac** **12 27 15.3 +1.6**
comp=Z,6.7nm,1.5s
KSP Ksiaz 94.67 321 *eP* **P** **12 16 42.9 +0.5**
KSP *ePP* **PP** **12 20 29.4 -1.7**
KSP *eS* **S** **12 27 46.7 -4.8**
KSP *eSS* SS 12 34 01.9 -14
KSP *eL* L 12 53 17.6
comp=Z,23µm,34.5s
OSTC Ostas 94.69 320 *eP* **P** **12 16 43.6 +1.1**
OSTC Ostas 94.69 320 *eP* **P** **12 16 43.6 +1.1**
OZLJ Ozalj 94.71 315⇑*i*P **P** **12 16 42.8 +0.2**
RAFF Raffo Rosso 94.73 307 IAmb IAmb 12 18 23.1
comp=Z,220nm,1.3s
CHVC Chvalec 94.80 320 *eP* **P** **12 16 44.0 +1.0**
CHVC Chvalec 94.80 320 *eP* **P** **12 16 44.0 +1.0**
JETT Jettan, Norway 94.81 339 *eP* **P** **12 16 42.5 -0.2**
JETT IVmB_BB 12 16 48.5
comp=Z,3µm,4.0s
JETT *ePP* **PP** **12 20 33.9 +2.0**
JETT *eSKSac* **SKSac** **12 27 12.2 -1.3**
JETT *eSP* **SP** **12 29 10.1 +2.2**
JETT IVMs_BB IVMs_BB 12 57 48.0
comp=Z,11µm,31.4s
UPC Upice 94.82 320 *eP* **P** **12 16 44.6 +1.6**
UPC MLR MLR
comp=Z,15µm,23.7s
UPC Upice 94.82 320 *eP* **P** **12 16 44.6 +1.6**
UPC AMS AMS 13 04 40.0
comp=Z,15µm,23.7s
ARSA Arzberg 94.83 317 *eP* **P** **12 16 43.4 +0.2**
comp=Z,14nm,1.3s,SNR=9.6
ARSA PP **PP** **12 20 29.1 -3.4**
comp=Z,63nm,1.8s
ARSA SKS **SKSac** **12 27 18.1 +3.7**
comp=Z,0.7nm,0.5s
UNV Unalaska Valle 95.01 36 P **P** **12 16 43.2 -0.6**
baz=265,SNR=29
TREC Trest 95.04 319 *eP* **P** **12 16 44.8 +0.7**
TREC *e* 12 27 14.7
TREC Trest 95.04 319 *eP* **P** **12 16 44.8 +0.7**
TREC *eSKS* **SKSac** **12 27 14.7 -0.8**
TREC AMS AMS 13 00 50.0
comp=Z,15µm,31.7s
SOKA Soboth 95.11 316 *ePcP* **PcP** **12 16 45.0 +0.2**
comp=Z,11nm,1.1s,SNR=11
SOKA PP **PP** **12 20 34.3 -0.5**
comp=Z,45nm,1.5s
SOKA S **S** **12 27 58.7 +3.1**
comp=Z,0.1nm,0.2s
SOKA Soboth 95.11 316 *eP* **PcP** **12 16 45.0 +0.2**
comp=Z,11nm,1.1s,SNR=11
EDA Edea 95.13 273 IAmb IAmb 12 17 18.5
comp=Z,224nm,1.1s
TRO Tromso 95.34 339⇑*i*P **P** **12 16 44.2 -0.7**
TRO IVmB_BB 12 16 45.2
comp=Z,1µm,2.4s
TRO *ePP* **PP** **12 20 36.6 +0.8**

TRO eSKSac **SKSac** **12 27 18.1 +2.0**
TRO eScS **ScS** **12 27 58.0 +0.8**
TRO eSS **SS** **12 34 31.1 +6.7**
TRO IVMs_BB IVMs_BB 12 58 05.5
comp=Z,11µm,30.2s
LJU Ljubljana 95.40 316 *i* P **P** **12 16 46.0 +0.2**
LJU *i* 12 16 51.6
LJU *i* pP **sP** **12 17 04.6 -1.0**
LJU *e* 12 17 09.9
LJU *e* 12 18 32.8
LJU *i* 12 20 07.2
LJU ePP PP 12 20 28.4 -8.6
LJU *e* 12 20 39.3
LJU *e* 12 22 55.4
LJU *e* 12 24 49.0
LJU eSKSac **SKSac** **12 27 17.4 -0.1**
LJU eS **S** **12 27 54.5 -3.6**
LJU eSS SS 12 34 38.6 +12
TNA Tin City 95.41 25 P **P** **12 16 45.1 -0.3**
baz=264
OBKA Obir 95.43 316 eP **P** **12 16 45.4 -0.6**
comp=Z,8.9nm,1.5s
OBKA PP **PP** **12 20 37.6 +0.4**
comp=Z,0.1nm,0.1s
OBKA SKS **SKSac** **12 27 20.2 +2.4**
comp=Z,2.7nm,0.9s
BLEU Blekinge 95.46 326 *i* P **P** **12 16 45.2 -0.6**
BLEU IAmb IAmb 12 16 46.7
comp=Z,69nm,1.6s
AKUT Akutan 95.47 36 P **P** **12 16 45.5 -0.4**
GOPC GO Pecny, Ondr 95.55 319 eP **P** **12 16 47.2 +0.8**
GOPC GO Pecny, Ondr 95.55 319 eP **P** **12 16 47.2 +0.8**
GOPC AMS AMS 13 01 20.0
comp=Z,18µm,29.2s
PRU Pruhonice 95.71 320 eP **P** **12 16 46.8 -0.3**
PRU *e* 12 20 37.2
PRU *e* 12 27 19.6
PRU MLR MLR
comp=Z,16µm,26.5s
PRU Pruhonice 95.71 320 eP **P** **12 16 46.8 -0.3**
PRU ePP **PP** **12 20 37.2 -2.0**
PRU eSKS **SKSac** **12 27 19.6 +0.6**
PRU AMS AMS 13 01 30.0
comp=Z,16µm,26.5s
MOA Molln 95.73 317 eP **P** **12 16 46.4 -0.9**
comp=Z,2.8nm,1.2s
MOA PP **PP** **12 20 40.4 +1.0**
comp=Z,21nm,1.1s
MOA S **S** **12 27 57.8 -3.0**
comp=Z,16nm,1.6s
PVCC Panska Ves 95.73 320 eP **P** **12 16 48.1 +0.9**
PVCC MLR MLR
comp=Z,12µm,20.2s
PVCC Panska Ves 95.73 320 eP **P** **12 16 48.1 +0.9**
PVCC AMS AMS 13 10 00.0
comp=Z,12µm,20.2s
M11K Mekoryuk 95.74 30 P **P** **12 16 48.4 +1.5**
baz=266
CKRC Cesky Krumlov 95.77 318 eP **P** **12 16 48.6 +1.1**
CKRC Cesky Krumlov 95.77 318 eP **P** **12 16 48.6 +1.1**
CKRC AMS AMS 13 01 20.0
comp=Z,15µm,32.3s
BJO1 Bjornoya 95.84 344 eP **P** **12 16 46.4 -0.8**
BJO1 IVmB_BB 12 16 47.0
comp=Z,2µm,3.8s
BJO1 ePP **PP** **12 20 40.9 +1.3**
BJO1 eSKSac **SKSac** **12 27 20.1 +1.4**
BJO1 IVMs_BB IVMs_BB 13 02 26.7
comp=Z,9µm,27.5s
BSD Bornholm Skovb 95.87 325 *i* P **P** **12 16 46.4 -1.3**
BSD *i* P **PcP** **12 16 49.3 +1.4**
BSD IAmb IAmb 12 16 49.6
comp=Z,20nm,0.8s
BSD IAmb IAmb 12 16 57.8
comp=Z,91nm,1.2s
ZVC Zvikov 95.90 319 eP **P** **12 16 48.5 +0.5**
ZVC eSKS **SKSac** **12 27 21.1 +1.1**
ZVC AMS AMS 13 01 40.0
comp=Z,15µm,30.2s
AQU L'Aquila 95.91 312 P **P** **12 16 48.5 +0.2**
AQU L'Aquila 95.91 312 P **P** **12 16 48.8 +0.5**
comp=Z,2µmcomp=Z,71nm,1.0s
RICC Richard 96.04 320 eP **P** **12 16 49.5 +0.9**
RICC AMS AMS 13 10 20.0
comp=Z,12µm,21.2s
MYKA Terra Mystica 96.06 316 eP **P** **12 16 48.5 -0.4**
comp=Z,0.2nm,0.3s
MYKA PP **PP** **12 20 38.7 -3.4**
comp=Z,3.0nm,0.6s
MYKA S **S** **12 28 07.2 +3.4**
comp=Z,4.3nm,1.0s
F14K Arctic Creek 96.07 25 P **P** **12 16 49.2 +0.8**
baz=266
BIOA Bad Ischl, Aus 96.14 317 *i* P **P** **12 16 48.6 -0.6**
comp=Z,34nm,1.5s
BIOA PP **PP** **12 20 42.6 0.0**
comp=Z,41nm,1.5s
BIOA SKS **SKSac** **12 27 19.8 -1.6**
comp=Z,0.9nm,0.3s
BRG Berggiesshubel 96.16 320 eP **P** **12 16 49.6 +0.5**
comp=Z,254nm,2.4s,baz=92,slow=4.4
BRG Berggiesshubel 96.16 320 eP **P** **12 16 49.6 +0.5**
BRG Amp 12 16 52.5
comp=Z,17nm,1.1s
BRG Berggiesshubel 96.16 320 S **S** **12 28 04.0 -0.3**
BRG Berggiesshubel 96.16 320 PS PS 12 29 26.0 -4.5
BRG PKKP **PKKPdf** **12 33 40.8 +2.0**
BRG Amp 12 33 45.7
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 96.16 320 SS SS 12 34 40.0 +3.0
GEC2 GERESS Array S 96.17 318 IAmb IAmb 12 17 28.8
comp=Z,164nm,1.4s
GEC2 GERESS Array S 96.17 318 eP **P** **12 16 49.3 -0.1**
comp=Z,312nm,2.5s,baz=92,slow=4.4
GERES GERESS Array B 96.17 318 P **P** **12 16 49.3 -0.1**
GERES GERESS Array B 96.17 318 P **P** **12 16 49.5 +0.1**
comp=Z,4.5nm,0.6s,baz=90,slow=3.1,SNR=30
GERES PP **PP** **12 20 44.5 +1.5**
comp=Z,8.4nm,0.8s,baz=79,slow=6.9,SNR=3.6
comp=Z,4.5nm,0.6s
KHC Kasperske Hory 96.28 319*c* *i* P **P** **12 16 49.8 0.0**
KHC pmax pmax
comp=Z,46nm,1.4s
KHC Kasperske Hory 96.28 319 eP **P** **12 16 51.0 +1.2**
KHC *ex* x 12 17 13.7
KHC ePP **PP** **12 20 43.9 +0.2**
KHC AMS AMS 13 10 00.0
comp=Z,10µm,20.8s
KHC Kasperske Hory 96.28 319 P **P** **12 16 49.8 0.0**
KBA Koelnbreinsper 96.29 317 eP **P** **12 16 48.5 -1.6**
comp=Z,0.2nm,0.3s
KBA PP **PP** **12 20 42.2 -1.8**
comp=Z,25nm,1.0s
RUE Ruedersdorf 96.36 322 eP **P** **12 16 50.3 +0.3**
comp=Z,119nm,1.6s,baz=92,slow=4.4
ANM Nome 96.41 26 P **P** **12 16 50.8 +0.8**
ANM IAMs_20 IAMs_20 13 08 14.6
comp=Z,9µm,18.0s
ANM Nome 96.41 26 P **P** **12 16 50.8 +0.8**
ANM pmax pmax
comp=Z,779nm,1.8s
ANM Nome 96.41 26 P **P** **12 16 51.0 +1.0**
baz=267
FAUS Fauske 96.49 337 eP **P** **12 16 50.4 +0.2**
FAUS IVmB_BB 12 16 56.9
comp=Z,2µm,0.7s
FAUS *e* 12 20 36.2
FAUS eSKSac **SKSac** **12 27 21.8 -0.5**
FAUS eSP **SP** **12 29 28.2 +2.0**
FAUS IVMs_BB IVMs_BB 13 01 43.3
comp=Z,8µm,25.1s
STEI Steigen 96.54 338⇑ *i* P **P** **12 16 49.9 -0.5**
STEI IVmB_BB 12 16 57.0
comp=Z,3µm,1.0s
STEI eSP SP 12 29 30.4 +3.7
STEI IVMs_BB IVMs_BB 13 02 07.7
comp=Z,12µm,27.3s
DEL Delary 96.55 326 *i* P **P** **12 16 50.0 -0.7**
DEL *i* P **P** **12 16 50.0 -0.7**
K13K Kusilvak Mount 96.59 28 IAmb IAmb 12 16 54.5
comp=Z,187nm,1.2s
K13K Kusilvak Mount 96.59 28 P **P** **12 16 51.9 +1.1**
baz=267
C16K Lisburne Hills 96.63 22 IAmb IAmb 12 16 52.9
comp=Z,452nm,1.8s

C16K Lisburne Hills 96.63 22 P **P** **12 16 50.9 0.0**
baz=267
STAL STALIGIAL 96.68 316 P **P** **12 16 51.2 -0.5**
STAL IAmb IAmb 12 17 19.9
comp=Z,380nm,1.9s
WET Wettzell 96.73 319 eP **P** **12 16 51.9 +0.1**
comp=Z,246nm,2.4s,baz=92,slow=4.4
LUNU Lund 96.74 325 *i* P **P** **12 16 51.0 -0.6**
LUNU *i* P **P** **12 16 51.0 -0.6**
SPA0 Spitsbergen Ar 96.75 348⇑ *i* P **P** **12 16 50.5 -0.8**
SPA0 IVmB_BB 12 16 51.5
comp=Z,3µm,2.6s
SPA0 ePP **PP** **12 20 46.8 +0.2**
SPA0 eSKSac **SKSac** **12 27 24.2 +0.8**
SPA0 IVMs_BB IVMs_BB 13 05 36.9
comp=Z,6µm,22.5s
SPITS Spitsbergen Ar 96.75 348 P **P** **12 16 50.7 -0.6**
comp=Z,121nm,0.8s,baz=112,slow=9.1,SNR=65
SPITS LR LR 13 08 23.9
comp=Z,15µm,20.1s,baz=99,slow=40
comp=Z,121nm,0.8s
SPITS Spitsbergen Ar 96.75 348 P **P** **12 16 50.3 -1.0**
SPITS pmax pmax
comp=Z,2µm,1.9s
MOR8 Moi Rana 96.76 336 eP **P** **12 16 50.6 -1.0**
MOR8 IVmB_BB 12 16 51.7
comp=Z,2µm,4.3s
MOR8 *i* 12 21 08.6
MOR8 *e* 12 27 10.8
MOR8 eSP SP 12 29 32.3 +3.0
MOR8 IVMs_BB IVMs_BB 13 00 04.5
comp=Z,8µm,29.6s
LESA Schwarzleotal 96.77 317 eP **P** **12 16 51.3 -0.9**
comp=Z,9.7nm,1.3s,SNR=5.9
LESA PP **PP** **12 20 47.9 +0.3**
comp=Z,37nm,1.3s
LESA S **S** **12 28 07.9 -2.0**
comp=Z,1.8nm,0.6s
CLL Collm 96.78 321 eP **P** **12 16 52.0 0.0**
CLL *i* *SP **pwP** **12 17 09.6 +0.2**
CLL *e* 12 27 26.0
CLL eS **S** **12 28 07.0 -2.6**
CLL pmax pmax
comp=Z,164nm,2.4s
CLL Collm 96.78 321 P **P** **12 16 51.9 0.0**
comp=Z,2µmcomp=Z,35nm,1.2s
CLL Collm 96.78 321 eP **P** **12 16 52.1 +0.2**
comp=Z,173nm,2.4s,baz=92,slow=4.4
CLL epP **pP** **12 17 01.4 -5.0**
baz=92,slow=4.4
F15K North Star Dit 96.78 25 IAmb IAmb 12 16 59.1
comp=Z,157nm,0.8s
F15K IAMs_20 IAMs_20 13 07 48.2
comp=Z,9µm,18.0s
F15K North Star Dit 96.78 25 P **P** **12 16 52.5 +0.9**
baz=268,SNR=19
HFS Hagfors 96.83 330 P **P** **12 16 52.2 +0.3**
comp=Z,24nm,0.7s,baz=106,slow=4.8,SNR=42
HFS PP **PP** **12 20 48.2 +0.7**
comp=Z,37nm,0.8s,baz=83,slow=12,SNR=3.9
HFS PKKPbc **PKKPbc** **12 33 34.9 -1.5**
comp=Z,2.8nm,0.6s,baz=204,slow=3.3,SNR=14
HFS LR LR 13 06 40.7
comp=Z,7µm,19.2s,baz=82,slow=39
comp=Z,24nm,0.7s
ABTA Abfaltersbach 96.84 316 P **P** **12 16 50.8 -1.7**
comp=Z,33nm,1.0s
ABTA PP **PP** **12 20 50.6 +2.4**
comp=Z,3.9nm,0.7s
ABTA S **S** **12 28 02.9 -7.7**
comp=Z,812nm,0.0s
HSPB Hornsund (broa 96.88 347 eP **P** **12 16 50.3 -1.5**
HSPB ePP PP 12 20 23.0 -25
HSPB eS **SKSac** **12 27 24.2 +0.2**
HSPB eSS SS 12 36 00.9 +75
HSPB eL L 12 58 51.4
comp=Z,53µm,31.4s
FALS False Pass 96.88 36 IAmb IAmb 12 16 54.0
comp=Z,334nm,1.3s
FALS IAMs_20 IAMs_20 12 58 29.9
comp=Z,19µm,22.0s
FALS False Pass 96.88 36 P **P** **12 16 51.9 -0.4**
FALS False Pass 96.88 36 P **P** **12 16 51.6 -0.7**
baz=267
G15K Niukluk 97.00 25 P Pdif 12 16 53.3 +0.5
baz=268
TANN Tannenbergstha 97.07 320 eP **P** **12 16 53.4 0.0**
comp=Z,182nm,2.6s,baz=92,slow=4.4
J14K Nanvaranak Lak 97.14 28 IAmb IAmb 12 16 56.1
comp=Z,439nm,1.6s
J14K Nanvaranak Lak 97.14 28 P Pdif 12 16 54.2 +0.9
baz=268
M13K Dall Lake 97.16 30 P Pdif 12 16 54.9 +1.4
baz=268
LOF Lofoten 97.18 338 eP **P** **12 16 52.6 -0.8**
LOF IVmB_BB 12 16 53.9
comp=Z,1µm,3.4s
LOF *e* 12 20 40.9
LOF eSKSac **SKSac** **12 27 24.3 -1.5**
LOF eSP **SP** **12 29 37.3 +3.5**
LOF IVMs_BB IVMs_BB 13 01 57.1
comp=Z,9µm,26.7s
BORU Boraas 97.20 327 *i* P **P** **12 16 53.6 -0.1**
ROTZ Rotzenmuhle 97.20 319 eP Pdif 12 16 54.4 +0.3
comp=Z,68nm,2.5s,baz=92,slow=4.4
FABU Falkenberg 97.21 327 *i* P **P** **12 16 53.6 -0.1**
VAGH Vaagaholmen 97.25 336⇑ *i* P **P** **12 16 53.2 -0.5**
VAGH IVmB_BB 12 16 54.6
comp=Z,1µm,3.7s
VAGH eSKSac **SKSac** **12 27 26.0 -0.2**
VAGH *e* 12 28 11.9
VAGH eSP **SP** **12 29 38.0 +3.4**
VAGH IVMs_BB IVMs_BB 13 00 07.4
comp=Z,9µm,28.0s
MANZ Manzenberg 97.28 319 eP Pdif 12 16 54.7 +0.3
comp=Z,88nm,2.6s,baz=92,slow=4.4
MANZ epP pP 12 17 02.4 -6.3
baz=92,slow=4.4
LEIR Leirfjorden 97.30 336 eP **P** **12 16 53.9 0.0**
LEIR IVmB_BB 12 16 54.9
comp=Z,1µm,2.2s
LEIR eSKSac **SKSac** **12 27 27.2 +0.7**
LEIR *e* 12 34 47.1
LEIR IVMs_BB IVMs_BB 13 08 09.3
comp=Z,8µm,20.0s
KONS Konsvik 97.31 336 eP Pdif 12 16 54.3 +0.3
COP Copenhagen 97.32 325 *i* P Pdif 12 16 54.4 +0.1
COP IAmb IAmb 12 17 02.9
comp=Z,75nm,0.7s
STOK Stokkvaagen 97.34 336⇑ *i* P **P** **12 16 54.0 -0.2**
STOK IVmB_BB 12 16 55.0
comp=Z,2µm,3.9s
STOK eSKSac **SKSac** **12 27 27.3 +0.6**
STOK eSP **SP** **12 29 39.1 +3.5**
STOK IVMs_BB IVMs_BB 13 00 41.4
comp=Z,8µm,27.3s
C17K DeLong Mountai 97.44 22 P Pdif 12 16 54.7 +0.1
baz=269
D17K Noatak River 97.46 23 P Pdif 12 16 54.8 +0.1
baz=269,SNR=20
WTTA Wattenberg 97.47 317 eP **P** **12 16 54.5 -0.9**
comp=Z,0.1nm,0.2s
WTTA ePP **PP** **12 20 58.4 +5.2**
comp=Z,25nm,0.8s
WTTA eSKS **SKSac** **12 27 28.6 -0.1**
comp=Z,7.7nm,1.1s
L14K Kuka Creek 97.51 29 IAmb IAmb 12 17 02.6
comp=Z,114nm,0.8s
L14K Kuka Creek 97.51 29 P Pdif 12 16 56.2 +1.2
baz=269,SNR=17
WATA Walderalm 97.51 317 eP **P** **12 16 54.5 -1.0**
comp=Z,3.2nm,0.5s
WATA PP **PP** **12 20 58.6 +5.2**
comp=Z,21nm,1.0s
WATA SKS **SKSac** **12 27 27.5 -1.3**
comp=Z,0.4nm,0.4s
RDOG Red Dog Mine 97.53 22 IAMs_20 IAMs_20 13 06 11.9
comp=Z,15µm,22.0s
RDOG Red Dog Mine 97.53 22 P Pdif 12 16 55.1 +0.1
baz=269
NEUB Neuenburg 97.54 321 eP Pdif 12 16 55.7 +0.3
comp=Z,375nm,2.6s,baz=92,slow=4.4
NEUB epP pP 12 17 05.1 -4.8
baz=92,slow=4.4
MOX Moxa 97.62 320 eP Pdif 12 16 56.2 +0.4
comp=Z,171nm,2.5s,baz=92,slow=4.4

MOX eL L 13 16 00.2
comp=Z,9µm,19.7s
KBS Kingsbay 97.65 349 P **P** **12 16 54.5 -0.8**
KBS IAmb IAmb 12 17 05.1
comp=Z,182nm,1.2s
KBS Kingsbay 97.65 349 P **P** **12 16 54.5 -0.8**
KBS pmax pmax
comp=Z,182nm,1.2s
KBS Kingsbay 97.65 349 eP **P** **12 16 54.3 -1.0**
KBS IVmB_BB 12 16 55.3
comp=Z,911nm,2.0s
KBS ePP **PP** **12 20 54.3 +0.9**
KBS eSKSac **SKSac** **12 27 27.3 -0.6**
KBS IVMs_BB IVMs_BB 13 07 18.2
comp=Z,14µm,20.6s
KBS Kingsbay 97.65 349 *i* P **P** **12 16 54.6 -0.7**
ONAU Onsala 97.66 327 *i* P **P** **12 16 55.4 -0.3**
S12K Black Hills 97.69 35 P **P** **12 16 54.9 -1.1**
baz=268
NSS Namsos 97.76 334 eP **P** **12 16 55.6 -0.4**
NSS IVmB_BB 12 16 56.8
comp=Z,1µm,4.6s
NSS ePP **PP** **12 20 54.8 +0.3**
NSS eSKSac **SKSac** **12 27 35.1 +6.2**
NSS *e* 12 28 17.7
NSS eSP **SP** **12 29 41.4 +1.3**
NSS IVMs_BB IVMs_BB 12 59 19.3
comp=Z,8µm,28.8s
SQTA Sankt Quirin 97.76 317 eP **P** **12 16 55.5 -1.2**
comp=Z,4.2nm,1.0s
SQTA PP **PP** **12 20 57.1 +1.8**
comp=Z,0.1nm,0.2s
SQTA SKS **SKSac** **12 27 33.5 +3.5**
comp=Z,0.4nm,0.4s
H16K Elim 97.77 26 P Pdif 12 16 56.8 +0.7
baz=270,SNR=12
MOTA Moosalm 97.83 317 eP **P** **12 16 55.5 -1.6**
comp=Z,0.2nm,0.3s
MOTA PP **PP** **12 20 58.3 +2.4**
comp=Z,42nm,1.7s
MOTA S S 12 28 07.1 -12
comp=Z,2.2nm,0.6s
GRF Grafenberg Arr 97.84 319 eP Pdif 12 16 57.4 +0.5
comp=Z,345nm,2.5s,baz=92,slow=4.4
GRF eL L 13 13 15.6
comp=Z,8µm,22.0s
GRFO Grafenberg 97.84 319 P Pdif 12 16 56.9 0.0
GRFO Grafenberg 97.84 319 P Pdif 12 16 56.9 +0.1
GRFO pmax pmax
comp=Z,116nm,1.4s
M14K Bethel 97.85 30 IAmb IAmb 12 17 06.5
comp=Z,171nm,1.0s
M14K Bethel 97.85 30 P Pdif 12 16 57.5 +0.9
baz=269,SNR=8.2
XMAS Kiritimati 97.89 89 IAMs_20 IAMs_20 13 06 05.0
comp=Z,13µm,21.0s
NC602 NORSAR Array S 97.91 330 P **P** **12 16 56.0 -0.8**
NC602 NORSAR Array S 97.91 330 eP **P** **12 16 56.2 -0.6**
NC602 IVmB_BB 12 16 57.6
comp=Z,1µm,3.9s
NC602 ePP **PP** **12 20 48.6 -7.2**
NC602 eSKSac **SKSac** **12 27 30.8 +0.8**
NC602 eScS **ScS** **12 28 19.9 +0.9**
NC602 eSP **SP** **12 29 42.1 +0.1**
NC602 eSP SP 12 29 43.4 +1.4
NC602 IVMs_BB IVMs_BB 12 57 27.4
comp=Z,6µm,32.2s
FLTG Flechtingen 97.91 322 eP **P** **12 16 56.8 -0.2**
comp=Z,204nm,2.6s,baz=92,slow=4.4
B18K Kokolik River 97.94 21 P Pdif 12 16 57.7 +0.9
baz=271
E17K Hotham Inlet 97.94 23 P Pdif 12 16 57.7 +0.9
baz=270,SNR=9.7
N14K Kuskokwak Cree 97.97 31 IAmb IAmb 12 17 09.9
comp=Z,171nm,0.9s
N14K Kuskokwak Cree 97.97 31 P Pdif 12 16 57.6 +0.5
baz=269,SNR=12
NC303 NORSAR Array S 98.00 331 P **P** **12 16 56.8 -0.4**
K15K Wolf Creek Mou 98.07 28 IAmb IAmb 12 17 00.6
comp=Z,296nm,1.8s
K15K Wolf Creek Mou 98.07 28 P Pdif 12 16 58.7 +1.2
baz=270,SNR=8.4
RETA Reutte 98.07 317 eP **P** **12 16 56.6 -1.3**
comp=Z,0.1nm,0.2s
RETA PP **PP** **12 21 02.0 +4.4**
comp=Z,17nm,1.1s
RETA eS **S** **12 28 16.9 -4.2**
comp=Z,1.6nm,0.6s
STRU Stroemstad 98.07 329 *i* P **P** **12 16 56.6 -1.0**
NB2 NORSAR Subarra 98.08 331 P **P** **12 16 57.4 -0.2**
comp=Z,1µm,5.0s,baz=90,slow=4.6
NB2 PP **PP** **12 20 59.3 +2.1**
comp=Z,281nm,2.0s,baz=103,slow=6.9
NB2 PKKP **PKKPbc** **12 33 31.9 -1.1**
comp=Z,14nm,0.6s,baz=278,slow=2.4
NOA NORSAR Array B 98.08 331 P **P** **12 16 57.1 -0.5**
comp=Z,13nm,1.0s,baz=91,slow=4.5,SNR=26
NOA PP **PP** **12 20 59.8 +2.7**
comp=Z,15nm,0.9s,baz=101,slow=7.2,SNR=4.2
NOA PKKPbc **PKKPbc** **12 33 32.5 -0.5**
comp=Z,3.2nm,0.7s,baz=281,slow=2.3,SNR=11
NOA LR LR 13 07 22.8
comp=Z,6µm,18.6s,baz=95,slow=39
comp=Z,13nm,1.0s
FETA Feichten 98.08 316 *i* P **P** **12 16 55.5 -2.7**
comp=Z,0.3nm,0.4s,SNR=7.2
FETA PP **PP** **12 21 01.2 +3.4**
comp=Z,8.2nm,0.9s
L15K Ungalak Mounta 98.09 29 P Pdif 12 16 58.3 +0.7
baz=270,SNR=28
C18K Utukok River 98.16 22 IAmb IAmb 12 16 59.9
comp=Z,221nm,1.6s
C18K IAMs_20 IAMs_20 13 09 48.7
comp=Z,14µm,19.0s
C18K Utukok River 98.16 22 P **P** **12 16 57.8 -0.1**
baz=271,SNR=8.5
A19K Wainwright 98.17 20 P Pdif 12 16 58.6 +0.7
baz=271
O14K Tigyukauivet M 98.18 31 IAmb IAmb 12 17 09.5
comp=Z,284nm,1.5s
O14K Tigyukauivet M 98.18 31 P Pdif 12 16 58.7 +0.7
baz=270,SNR=7.0
VLC Villacollemand 98.22 314 P **P** **12 16 57.9 -0.8**
ASSE Asse, Remlinge 98.25 322 eP Pdif 12 16 58.7 +0.2
comp=Z,235nm,2.4s,baz=92,slow=4.4
OSL Oslo 98.31 330 ePdif Pdif 12 16 59.0 +0.3
OSL IVmB_BB 12 17 05.4
comp=Z,1µm,2.6s
OSL ePP **PP** **12 20 55.1 -3.8**
OSL eSKSac **SKSac** **12 27 31.0 -0.9**
OSL IVMs_BB IVMs_BB 13 01 10.7
comp=Z,6µm,29.5s
E18K Tukpahlearik C 98.41 23 IAmb IAmb 12 17 01.5
comp=Z,519nm,2.0s
E18K Tukpahlearik C 98.41 23 Pdiff Pdif 12 16 59.6 +0.7
baz=271
G17K Kiwalik Mounta 98.43 25 Pdiff Pdif 12 16 59.9 +0.8
baz=271
CLZ Clausthal 98.44 321 eP Pdif 12 16 59.7 +0.2
comp=Z,184nm,2.5s,baz=92,slow=4.4
CLZ epP pP 12 17 09.3 -4.7
baz=92,slow=4.4
I17K Unalakleet 98.44 26 Pdiff Pdif 12 17 00.3 +1.2
baz=271
M15K Kasigluk River 98.47 30 Pdiff Pdif 12 17 00.0 +0.7
baz=270
J16K Anvik River 98.49 27 IAmb IAmb 12 17 08.0
comp=Z,131nm,0.8s
J16K Anvik River 98.49 27 Pdiff Pdif 12 17 00.6 +1.3
baz=271
OVD Ostervraa, Den 98.58 327 *i* P Pdif 12 17 00.1 +0.2
OVD *i* P **P** **12 17 00.7 +0.9**
OVD IAmb IAmb 12 17 11.3
comp=Z,190nm,0.9s
SDPT Sand Point 98.59 35 IAmb IAmb 12 17 05.7
comp=Z,158nm,0.9s
SDPT Sand Point 98.59 35 P **P** **12 16 59.9 0.0**
SDPT Sand Point 98.59 35 Pdiff **P** **12 16 59.2 -0.8**
baz=270
NRDL Niedersach Rie 98.61 322 eP Pdif 12 17 00.5 +0.5
comp=Z,232nm,2.5s,baz=92,slow=4.4
NRDL epP pP 12 17 09.1 -5.4
baz=92,slow=4.4
UBBA Unterbreizbach 98.65 320 eP **P** **12 17 00.1 -0.1**
comp=Z,205nm,2.6s,baz=92,slow=4.4
KEST Kesra 98.66 305 P Pdif 12 17 01.8 +0.9
comp=Z,8.4nm,0.7s,baz=246,slow=2.2,SNR=8.1

KEST PP **PP** **12 21 05.4 +2.9**
comp=Z,59nm,1.1s,baz=224,slow=5.4,SNR=3.6
KEST LR LR 13 01 52.0
comp=Z,5µm,22.0s,baz=96,slow=36
comp=Z,8.4nm,0.7s
KEST Kesra 98.66 305 P Pdif 12 17 02.2 +1.2
DAVA Damuels 98.66 317 *e*Pdiff **P** **12 17 00.2 -0.6**
comp=Z,20nm,1.1s,SNR=9.7
DAVA PP **PP** **12 21 03.3 +1.1**
comp=Z,73nm,1.0s
DAVA Damuels 98.66 317 *e*P **P** **12 17 00.2 -0.6**
comp=Z,20nm,1.1s,SNR=9.7
GTTG Gottingen 98.68 321 *e*P **P** **12 17 00.5 0.0**
comp=Z,183nm,2.4s,baz=92,slow=4.4
C19K Lookout Ridge 98.73 21 IAmb IAmb 12 17 03.1
comp=Z,400nm,1.9s
C19K Lookout Ridge 98.73 21 Pdiff Pdif 12 17 01.5 +1.0
baz=273
H17K Granite Mounta 98.76 25 IAmb IAmb 12 17 08.4
comp=Z,150nm,0.8s
H17K Granite Mounta 98.76 25 Pdiff Pdif 12 17 01.8 +1.3
baz=272
N15K Kwethluk River 98.77 30 IAmb IAmb 12 17 12.2
comp=Z,296nm,1.4s
N15K Kwethluk River 98.77 30 Pdiff Pdif 12 17 01.8 +1.1
baz=271
F18K Selawik 98.81 24 Pdiff Pdif 12 17 01.3 +0.6
baz=272
KONO Kongsberg 98.89 329 P **P** **12 17 00.7 -0.5**
KONO Kongsberg 98.89 329 IAMs_20 IAMs_20 13 07 51.9
comp=Z,10µm,22.0s
KONO Kongsberg 98.89 329 P **P** **12 17 00.7 -0.5**
KONO pmax pmax
comp=Z,72nm,1.0s
KONO Kongsberg 98.89 329 *e*Pdif Pdif 12 17 01.9 +0.7
KONO IVmB_BB 12 17 07.3
comp=Z,970nm,3.7s
KONO *e*PP **PP** **12 21 02.3 -1.0**
KONO *e*SKSac **SKSac** **12 27 35.8 +1.0**
KONO *e* 12 28 26.6
KONO *e*SP **SP** **12 29 53.0 +0.5**
KONO *e*SS **SS** **12 35 15.8 +1.0**
KONO *i* 12 39 54.2
KONO IVMs_BB IVMs_BB 13 01 26.8
comp=Z,5µm,27.0s
SSRD Sdr. Stenderup 98.90 325 *i* P Pdif 12 17 01.4 0.0
SSRD *i* P **P** **12 17 02.5 +1.2**
O15K Ungalikthiuk R 98.92 31 Pdiff Pdif 12 17 01.7 +0.3
baz=271
L16K Owhat River 99.05 29 IAmb IAmb 12 17 09.5
comp=Z,101nm,0.9s
L16K Owhat River 99.05 29 Pdiff **Pdif** **12 17 03.0 +1.1**
baz=272
RETH Rethem/Aller, 99.06 322 *e*P **Pdif** **12 17 01.9 -0.2**
comp=Z,136nm,2.5s,baz=92,slow=4.4
RETH *e*pP **pP** **12 17 11.7 -4.8**
baz=92,slow=4.4
CHNA Chernabura Isl 99.10 36 P **Pdif** **12 17 03.1 +0.9**
CHNA Chernabura Isl 99.10 36 Pdiff **Pdif** **12 17 01.8 -0.5**
baz=270
CNBA Chernabura Isl 99.10 36 IAMs_20 IAMs_20 12 57 54.4
comp=Z,11µm,22.0s
S14K Fog Glacier 99.11 34 Pdiff **Pdif** **12 17 02.2 -0.2**
baz=271
MUD Monsted U'grnd 99.15 326 *i* P **Pdif** **12 17 01.8 -0.6**
MUD *i* P pP 12 17 03.0 -14
MUD IAmb IAmb 12 17 04.1
comp=Z,5.8nm,0.5s
J17K VABM Dome 99.17 27 IAmb IAmb 12 17 10.2
comp=Z,432nm,1.9s
J17K VABM Dome 99.17 27 Pdiff **Pdif** **12 17 03.7 +1.2**
baz=272
KIP Kipapa 99.23 69 IAMs_20 IAMs_20 13 02 57.3
comp=Z,11µm,22.0s
G18K Tagagawik 99.25 24 Pdiff **Pdif** **12 17 03.2 +0.5**
baz=273
D19K Kuna River 99.30 22 IAmb IAmb 12 17 13.4
comp=Z,130nm,1.1s
D19K IAMs_20 IAMs_20 13 10 34.7
comp=Z,14µm,22.0s
D19K Kuna River 99.30 22 Pdiff **Pdif** **12 17 03.4 +0.5**
baz=274
M16K Timber Creek 99.31 29 IAmb IAmb 12 17 05.8
comp=Z,299nm,1.7s
M16K IAMs_20 IAMs_20 13 10 55.6
comp=Z,10µm,22.0s
M16K Timber Creek 99.31 29 Pdiff **Pdif** **12 17 04.1 +0.9**
baz=272
H18K Honhosa River 99.41 25 IAmb IAmb 12 17 14.8
comp=Z,162nm,1.2s
H18K Honhosa River 99.41 25 Pdiff **Pdif** **12 17 04.3 +0.9**
baz=273
N16K Nishlik Lake 99.42 30 Pdiff **Pdif** **12 17 05.0 +1.4**
baz=272
HOMB Homborsund 99.48 328 *e*Pdif **Pdif** **12 17 04.3 +0.4**
HOMB IVmB_BB 12 17 04.9
comp=Z,858nm,5.3s
HOMB *i* 12 21 26.1
HOMB *e*SP SP 12 30 00.3 +1.3
HOMB IVMs_BB IVMs_BB 13 06 57.7
comp=Z,5µm,20.8s
HOMB Homborsund 99.48 328 *i* P **Pdif** **12 17 04.9 +1.1**
HOMB *i* P **Pdif** **12 17 08.0 +4.1**
SKAR Skarslia 99.50 330 *e*Pdif **Pdif** **12 17 04.1 0.0**
SKAR IVmB_BB 12 17 11.4
comp=Z,1µm,3.6s
SKAR *e* 12 21 01.3
SKAR *e*SKSac **SKSac** **12 27 39.8 +1.7**
SKAR *i* 12 28 34.8
SKAR *e*SP **SP** **12 29 59.8 +0.5**
SKAR *e*SS **SS** **12 35 23.4 -0.2**
SKAR IVMs_BB IVMs_BB 13 03 42.8
comp=Z,6µm,23.0s
B20K Meade River 99.52 20 IAMs_20 IAMs_20 13 04 38.5
comp=Z,14µm,21.0s
B20K Meade River 99.52 20 Pdiff **Pdif** **12 17 04.4 +0.6**
baz=275
F19K Shaleruckik Mo 99.54 23 Pdiff **Pdif** **12 17 04.3 +0.3**
baz=274
K17K Iditarod 99.56 28 IAmb IAmb 12 17 07.9
comp=Z,165nm,1.1s
K17K IAMs_20 IAMs_20 13 09 10.9
comp=Z,10µm,20.0s
K17K Iditarod 99.56 28 Pdiff **Pdif** **12 17 05.5 +1.3**
baz=273
L17K Donlin 99.59 28 Pdiff **Pdif** **12 17 05.4 +1.1**
baz=273
KASTN Kahler Asten 99.65 321 *e*P **Pdif** **12 17 05.3 +0.4**
comp=Z,160nm,2.5s,baz=92,slow=4.4
E19K Redstone River 99.71 23 Pdiff **Pdif** **12 17 05.2 +0.5**
baz=275
BFO Black Forest 99.72 318 *e*P **Pdif** **12 17 05.0 -0.3**
comp=Z,132nm,2.8s,baz=92,slow=4.4
CHGN Chignik 99.74 34 Pdiff **Pdif** **12 17 04.4 -0.7**
baz=272
MOL Molde 99.78 332 *e*Pdif **Pdif** **12 17 05.9 +0.8**
MOL IVmB_BB 12 17 06.8
comp=Z,1µm,4.1s
MOL *e*SKSac **SKSac** **12 27 39.0 -0.2**
MOL *i* 12 28 35.4
MOL *e*SP **SP** **12 30 03.4 +1.4**
MOL *e*SS **SS** **12 35 30.2 +3.1**
MOL IVMs_BB IVMs_BB 13 01 36.6
comp=Z,9µm,29.3s
O16K Kokwok River B 99.80 31 Pdiff **Pdif** **12 17 05.8 +0.5**
baz=272
D20K Etivluk River 99.83 22 IAMs_20 IAMs_20 13 09 59.8
comp=Z,15µm,20.0s
D20K Etivluk River 99.83 22 Pdiff **Pdif** **12 17 05.9 +0.6**
baz=275
G19K Purcell Mounta 99.87 24 Pdiff **Pdif** **12 17 06.3 +0.8**
baz=274
P16K Nushagak River 99.87 31 Pdiff **Pdif** **12 17 06.1 +0.5**
baz=272
E20K Nigu River 100.03 22 Pdiff **Pdif** **12 17 06.8 +0.5**
baz=276
M17K Holitna River 100.03 29 **Pdif** **12 17 07.2 +0.9**
M17K Holitna River 100.03 29 Pdiff **Pdif** **12 17 07.5 +1.2**
baz=273
IBBN Ibbenburen 100.05 322 *e*P **Pdif** **12 17 06.6 +0.1**
comp=Z,167nm,2.5s,baz=92,slow=4.4
GCSA Galena City Sc 100.06 26 Pdiff **Pdif** **12 17 07.7 +1.4**
baz=274
A22K Sinclair Lake 100.14 19 Pdiff **Pdif** **12 17 06.4 -0.1**
baz=277
R16K Pilot Point 100.16 33 Pdiff **Pdif** **12 17 06.4 -0.5**
baz=272

SNART Snartemo 100.16 328 *e*Pdif **Pdif** **12 17 07.0 +0.1**
SNART IVmB_BB 12 17 08.3
comp=Z,1µm,3.8s
SNART Snartemo 100.16 328 *i* P **Pdif** **12 17 07.0 +0.1**
H19K Roundabout Mou 100.18 25 Pdiff **Pdif** **12 17 08.0 +1.2**
baz=275
N17K Nushagak Hills 100.20 30 IAMs_20 IAMs_20 13 09 00.3
comp=Z,10µm,21.0s
N17K Nushagak Hills 100.20 30 Pdiff **Pdif** **12 17 08.2 +1.1**
baz=273
J18K Innoko River 100.23 27 Pdiff **Pdif** **12 17 08.0 +0.8**
baz=274
O17K Koliganek Bris 100.30 31 Pdiff **Pdif** **12 17 08.1 +0.6**
baz=273
F20K Avaraart Lake 100.33 23 Pdiff **Pdif** **12 17 08.2 +0.7**
baz=276
L18K Granite Mounta 100.33 28 IAMs_20 IAMs_20 13 11 25.5
comp=Z,10µm,18.0s
L18K Granite Mounta 100.33 28 Pdiff **Pdif** **12 17 08.8 +1.2**
baz=274
ODD1 Odda 100.38 330 *e*Pdif **Pdif** **12 17 08.3 +0.4**
ODD1 IVmB_BB 12 17 09.1
comp=Z,718nm,5.0s
ODD1 *e*PP **PP** **12 21 15.0 +0.3**
ODD1 *e*SKSac **SKSac** **12 27 45.3 +2.9**
ODD1 *i* 12 28 38.4
ODD1 *e*SP SP 12 30 08.5 -0.1
ODD1 IVMs_BB IVMs_BB 13 02 22.6
comp=Z,7µm,29.0s
C21K Knifeblade Rid 100.44 21 Pdiff **Pdif** **12 17 08.8 +0.8**
baz=277
B21K Ikpikpuk River 100.44 20 IAMs_20 IAMs_20 13 11 21.8
comp=Z,19µm,22.0s
B21K Ikpikpuk River 100.44 20 Pdiff **Pdif** **12 17 08.1 +0.2**
baz=277
BLS5 Blasjo 100.49 329 *e*Pdif **Pdif** **12 17 09.8 +1.4**
BLS5 IVmB_BB 12 17 09.9
comp=Z,1µm,4.3s
BLS5 *e*PP **PP** **12 21 13.3 -2.3**
BLS5 *e*SP SP 12 30 11.4 +1.5
BLS5 IVMs_BB IVMs_BB 13 02 14.4
comp=Z,7µm,28.2s
HYA Hoyanger 100.51 331 *e*Pdif **Pdif** **12 17 09.3 +0.9**
HYA IVmB_BB 12 17 10.0
comp=Z,784nm,4.6s
HYA *e*PP **PP** **12 21 16.7 +1.1**
HYA *e*SKSac **SKSac** **12 27 43.8 +1.0**
HYA *i* 12 28 42.6
HYA *e*SP **SP** **12 30 09.0 -0.9**
HYA *e*SS **SS** **12 35 39.7 +2.4**
HYA IVMs_BB IVMs_BB 13 05 28.7
comp=Z,5µm,23.4s
Q16K King Salmon 100.58 32 Pdiff **Pdif** **12 17 08.4 -0.3**
baz=274
P17K Kvichak River 100.66 31 Pdiff **Pdif** **12 17 09.6 +0.5**
baz=274
J19K Poorman 100.67 26 Pdiff **Pdif** **12 17 09.9 +0.8**
baz=275
B22K Teshekpuk Lake 100.75 20 IAMs_20 IAMs_20 13 04 06.9
comp=Z,15µm,22.0s
B22K Teshekpuk Lake 100.75 20 Pdiff **Pdif** **12 17 09.9 +0.6**
baz=275
M18K Stony River 100.80 29 Pdiff **Pdif** **12 17 10.7 +1.0**
baz=275
R17L Mt. Peulik Vol 100.81 33 Pdiff **Pdif** **12 17 09.5 -0.3**
baz=274
PLK4 Peulik 4 100.81 33 IAMs_20 IAMs_20 12 59 00.3
comp=Z,12µm,22.0s
E21K Killik River 100.83 22 IAMs_20 IAMs_20 13 10 42.1
comp=Z,11µm,21.0s
E21K Killik River 100.83 22 Pdiff **Pdif** **12 17 10.0 +0.3**
baz=278
N18K Kilae Creek 100.83 30 Pdiff **Pdif** **12 17 11.1 +1.2**
baz=274
H20K Anotleneega Mo 100.83 25 Pdiff **Pdif** **12 17 11.0 +1.2**
baz=276
BER Bergen 100.99 330 *e*Pdif **Pdif** **12 17 11.2 +0.7**
BER IVmB_BB 12 17 17.8
comp=Z,1µm,3.1s
BER *i* 12 28 46.1
BER *e*SP SP 12 30 13.7 -1.3
BER *e*SS **SS** **12 35 39.2 -4.8**
BER IVMs_BB IVMs_BB 13 04 36.3
comp=Z,5µm,28.2s
Q17K Contact Creek 101.02 32 Pdiff **Pdif** **12 17 10.0 -0.9**
baz=274
FOO Floro 101.02 331 *e*Pdif **Pdif** **12 17 11.3 +0.6**
FOO IVmB_BB 12 17 17.9
comp=Z,1µm,3.1s
FOO *e*PP **PP** **12 21 24.3 +4.9**
FOO *e*SKSac **SKSac** **12 27 47.1 +1.9**
FOO *i* 12 28 49.5
FOO *e*SP SP 12 30 15.9 +0.5
FOO *e*SS **SS** **12 35 53.1 +8.6**
FOO IVMs_BB IVMs_BB 13 09 52.2
comp=Z,6µm,19.0s
ASK Askoy 101.05 330 *e*P **Pdif** **12 17 11.4 +0.6**
ASK IVmB_BB 12 17 17.5
comp=Z,1µm,5.7s
ASK *e*PP **PP** **12 21 17.4 -2.2**
ASK *e*SKSac **SKSac** **12 27 47.6 +2.2**
ASK *i* 12 28 46.2
ASK *e*SP SP 12 30 17.7 +2.0
ASK IVMs_BB IVMs_BB 13 02 58.2
comp=Z,5µm,22.7s
I20K Naaghedeneel 101.08 25 Pdiff **Pdif** **12 17 12.3 +1.5**
baz=277
KMY Karmoy 101.13 329 *e*Pdif **Pdif** **12 17 11.4 +0.3**
KMY IVmB_BB 12 17 12.6
comp=Z,904nm,4.3s
KMY *e*PP **PP** **12 21 21.7 +1.4**
KMY *e*SKSac **SKSac** **12 27 46.6 +0.8**
KMY *i* 12 28 48.1
KMY *e*SP **SP** **12 30 16.8 +0.2**
KMY *e*SS **SS** **12 35 46.7 +0.6**
KMY IVMs_BB IVMs_BB 13 02 29.9
comp=Z,6µm,31.4s
WLF Walferdange 101.13 319 P **Pdif** **12 17 12.1 +0.7**
WLF Walferdange 101.13 319 *d*PP **PP** **12 21 19.2 -1.5**
F21K Alatna River 101.18 23 Pdiff **Pdif** **12 17 11.7 +0.4**
baz=278
L19K White Mountain 101.19 28 Pdiff **Pdif** **12 17 12.6 +1.1**
baz=276
SUE Sulen 101.21 331 *e*Pdif **Pdif** **12 17 12.4 +0.9**
SUE IVmB_BB 12 17 18.3
comp=Z,1µm,3.5s
SUE *e*SKSac **SKSac** **12 27 48.2 +2.0**
SUE *e*SS **SS** **12 35 49.6 +2.5**
SUE IVMs_BB IVMs_BB 13 05 07.1
comp=Z,6µm,24.3s
D22K Ayikyak River 101.23 21 IAMs_20 IAMs_20 13 11 10.7
comp=Z,19µm,21.0s
D22K Ayikyak River 101.23 21 Pdiff **Pdif** **12 17 12.2 +0.6**
baz=279
O18K Koktuh Hills 101.24 30 Pdiff **Pdif** **12 17 12.5 +0.7**
baz=275
G21K Allakaket 101.27 24 Pdiff **Pdif** **12 17 12.4 +0.7**
baz=278
P18K Big Mountain, 101.27 31 Pdiff **Pdif** **12 17 11.7 -0.2**
baz=275
J20K Nowinta River 101.30 26 Pdiff **Pdif** **12 17 13.0 +1.2**
baz=277
CHIR Chirikof Islan 101.33 35 Pdiff **Pdif** **12 17 12.5 +0.4**
baz=274
TBI Tubuai 101.36 116 *e*P **Pdif** **12 17 11.4 -1.7**
comp=Z,20µm,31.0s
TBI Tubuai 101.36 116 *e*PP **PP** **12 21 24.9 +1.9**
comp=Z,29µm,31.5s
TBI *e*S **Sdif** **12 28 40.5 -9.0**
comp=Z,55µm,31.5s
TBI *e*SS **SS** **12 35 49.3 -1.6**
comp=Z,169µm,29.8s
TBI Tubuai 101.36 116 *e*LQ LQ 12 45 57.2
comp=Z,76µm,28.8s
TBI *e*LR LR 12 50 24.3
comp=Z,101µm,31.0s
TBI *e*LR LR 12 50 26.5
comp=Z,502µm,31.0s
BEBN Eben Emael 101.39 320 *d*PP **PP** **12 21 24.7 +2.1**
BEBN *d*PKiKP **PKiKP** **12 21 41.3 +4.6**
K20K Telida 101.43 27 Pdiff **Pdif** **12 17 13.6 +1.1**
baz=277
M19K Big River Lodg 101.44 28 Pdiff **Pdif** **12 17 13.8 +1.2**
baz=276
Q18K Katmai Hardscr 101.44 32 Pdiff **Pdif** **12 17 12.1 -0.7**
baz=275

N19K Bonanza Creek 101.51 29 Pdiff **Pdif** **12 17 14.0 +1.0**
baz=276
NOR Nord 101.57 353 *i* P **Pdif** **12 17 12.9 +0.1**
L20K Farewell, AK 101.61 28 Pdiff **Pdif** **12 17 14.4 +1.1**
baz=277
F22K John River 101.63 23 Pdiff **Pdif** **12 17 14.2 +0.8**
baz=279
O19K Port Alsworth 101.65 30 Pdiff **Pdif** **12 17 13.8 +0.3**
baz=276
E22K Anaktuvuk Pass 101.67 22 Pdiff **Pdif** **12 17 13.9 +0.3**
baz=280
H21K Melozitna River 101.67 24 Pdiff **Pdif** **12 17 14.4 +0.9**
baz=278
C23K Itkillik River 101.78 20 Pdiff **Pdif** **12 17 14.3 +0.4**
baz=281
R18K Karluk 101.83 33 Pdiff **Pdif** **12 17 14.2 -0.2**
baz=275
D23K Nanushuk River 101.93 21 IAMs_20 IAMs_20 13 12 09.1
comp=Z,18µm,20.0s
D23K Nanushuk River 101.93 21 Pdiff **Pdif** **12 17 15.2 +0.6**
baz=281
G22K Bettles 101.99 23 Pdiff **Pdif** **12 17 15.3 +0.4**
baz=280
M20K Styx River 102.04 28 Pdiff **Pdif** **12 17 16.1 +0.8**
baz=277
SII Sitkinak Islan 102.07 34 IAMs_20 IAMs_20 13 03 54.9
comp=Z,15µm,22.0s
SII Sitkinak Islan 102.07 34 P **Pdif** **12 17 16.7 +1.2**
SII Sitkinak Islan 102.07 34 Pdiff **Pdif** **12 17 16.4 +0.9**
baz=275
I21K Tanana 102.08 25 Pdiff **Pdif** **12 17 16.4 +1.1**
baz=279
DOU Dourbes 102.12 320 *d*PP **PP** **12 21 29.9 +1.9**
DOU *d*PKP **PKiKP** **12 21 44.8 +6.8**
Q19K Cape Douglas, 102.12 31 IAMs_20 IAMs_20 13 03 17.1
comp=Z,10µm,22.0s
Q19K Cape Douglas, 102.12 31 Pdiff **Pdif** **12 17 15.1 -0.6**
baz=276
CHUM Lake Minchumin 102.14 26 Pdiff **Pdif** **12 17 16.5 +0.9**
baz=278
H22K Ishtalitna Cre 102.22 24 Pdiff **Pdif** **12 17 17.0 +1.0**
baz=280
P19K Oil Pt 102.26 31 Pdiff **Pdif** **12 17 16.0 -0.2**
baz=277
CAST Castle Rocks 102.31 27 Pdiff **Pdif** **12 17 16.8 +0.4**
baz=278
PPLA Purkeypile 102.33 27 Pdiff **Pdif** **12 17 17.3 +0.6**
baz=276
TOLK Toolik Lake Re 102.39 21 IAMs_20 IAMs_20 13 13 01.3
comp=Z,17µm,21.0s
TOLK Toolik Lake Re 102.39 21 Pdiff **Pdif** **12 17 17.1 +0.4**
baz=282
COLD Coldfoot 102.44 23 IAMs_20 IAMs_20 13 11 51.6
comp=Z,15µm,21.0s
COLD Coldfoot 102.44 23 Pdiff **Pdif** **12 17 17.7 +0.8**
baz=281
C24K Franklin Bluff 102.46 20 Pdiff **Pdif** **12 17 16.9 0.0**
baz=283
PAE Paea 102.47 110 *e*PKP2 **Pdif** **12 17 17.3 -0.8**
comp=Z,861nm,29.0s
PAE Paea 102.47 110 *e*PP **PP** **12 21 28.2 -3.3**
comp=Z,993nm,28.8s
PAE *e*S **Sdif** **12 28 50.6 -8.3**
comp=Z,1µm,22.8s
PAE *e*SS **SS** **12 36 05.5 -1.1**
comp=Z,4µm,26.5s
PAE Paea 102.47 110 *e*LR LR 12 50 50.3
comp=Z,10µm,26.0s
PPT2 Papeete2 102.49 110 *e*PKP2 **Pdif** **12 17 12.8 -5.5**
comp=Z,6µm,29.8s
PPT2 Papeete2 102.49 110 *e*PP **PP** **12 21 28.7 -3.0**
comp=Z,8µm,30.5s
PPT2 *e*S **Sdif** **12 28 46.1 -13**
comp=Z,17µm,28.5s
PPT2 *e*SS **SS** **12 36 04.5 -2.5**
comp=Z,30µm,29.8s
PPT2 Papeete2 102.49 110 *e*LQ LQ 12 46 36.8
comp=Z,43µm,33.2s
PPT2 *e*LR LR 12 50 53.6
comp=Z,49µm,35.0s
PPT2 *e*LR LR 12 50 55.8
comp=Z,68µm,27.0s
E23K Chandalar 102.49 22 IAMs_20 IAMs_20 13 11 21.1
comp=Z,16µm,22.0s
E23K Chandalar 102.49 22 Pdiff **Pdif** **12 17 17.8 +0.6**
baz=282
OHAK Old Harbor 102.50 33 P **Pdif** **12 17 18.0 +0.7**
OHAK Old Harbor 102.50 33 Pdiff **Pdif** **12 17 17.8 +0.5**
baz=276
PPTF Pamatai, Papee 102.50 110 IAMs_20 IAMs_20 13 03 46.8
comp=Z,20µm,21.0s
O20K Slope Mountain 102.51 30 Pdiff **Pdif** **12 17 16.8 -0.6**
baz=277
D24K Happy Valley 102.54 21 IAMs_20 IAMs_20 13 08 58.3
comp=Z,17µm,22.0s
D24K Happy Valley 102.54 21 Pdiff **Pdif** **12 17 17.9 +0.6**
baz=283
N20K Mount Spurr 102.56 29 Pdiff **Pdif** **12 17 17.6 -0.1**
baz=278
SPCR Spurr Chakacha 102.56 29 Pdiff **Pdif** **12 17 17.4 -0.3**
baz=278
G23K Bananza Creek 102.61 23 Pdiff **Pdif** **12 17 18.7 +1.0**
baz=281
MLY Manley 102.62 25 Pdiff **Pdif** **12 17 18.4 +0.6**
baz=280
BPAW Bear Paw Mtn. 102.68 26 Pdiff **Pdif** **12 17 18.5 +0.4**
baz=280
TVO Taravao 102.75 110 *e*PKP2 **Pdif** **12 17 14.6 -4.9**
comp=Z,1µm,30.8s
TVO Taravao 102.75 110 *e*SS **SS** **12 36 11.4 +0.8**
comp=Z,4µm,25.6s
TVO *e*S **Sdif** **12 28 54.7 -6.7**
comp=Z,2µm,22.9s
TVO Taravao 102.75 110 *e*LR LR 12 51 04.6
comp=Z,8µm,22.0s
SKT Skwentna 102.77 28 Pdiff **Pdif** **12 17 18.0 -0.5**
baz=279
Q20K Shuyak Island 102.81 32 Pdiff **Pdif** **12 17 18.9 +0.3**
baz=277
KDAK Kodiak Island 102.81 32 IAMs_20 IAMs_20 13 09 23.3
comp=Z,12µm,22.0s
KDAK Kodiak Island 102.81 32 Pdiff **Pdif** **12 17 19.1 +0.4**
baz=277
E24K Your Creek 102.90 22 IAMs_20 IAMs_20 13 13 21.9
comp=Z,12µm,20.0s
E24K Your Creek 102.90 22 Pdiff **Pdif** **12 17 19.5 +0.5**
baz=283
H23K Yukon River 102.97 24 Pdiff **Pdif** **12 17 20.3 +1.0**
baz=281
HOM Homer 103.06 30 Pdiff **Pdif** **12 17 19.7 -0.1**
baz=278
TRF Thorofare Moun 103.10 26 IAMs_20 IAMs_20 13 02 34.4
comp=Z,10µm,22.0s
TRF Thorofare Moun 103.10 26 Pdiff **Pdif** **12 17 20.1 0.0**
baz=280
CAPN Captain Cook N 103.14 29 IAMs_20 IAMs_20 13 13 06.7
comp=Z,9µm,22.0s
CAPN Captain Cook N 103.14 29 Pdiff **Pdif** **12 17 20.8 +0.8**
baz=279
I23K Minto, Yukon-K 103.18 25 IAMs_20 IAMs_20 13 13 46.4
comp=Z,8µm,19.0s
I23K Minto, Yukon-K 103.18 25 Pdiff **Pdif** **12 17 20.9 +0.7**
baz=281
SUA Susitna One 103.22 29 IAMs_20 IAMs_20 13 07 41.9
comp=Z,10µm,22.0s
SUA Susitna One 103.22 29 Pdiff **Pdif** **12 17 20.3 -0.3**
baz=279
F24K Squaw Lake 103.25 22 IAMs_20 IAMs_20 13 05 26.2
comp=Z,10µm,22.0s
F24K Squaw Lake 103.25 22 Pdiff **Pdif** **12 17 21.4 +0.9**
baz=283
CUT Chulitna 103.29 28 Pdiff **Pdif** **12 17 20.5 -0.2**
baz=280
D25K Kavik River 103.35 20 Pdiff **Pdif** **12 17 21.3 +0.3**
baz=285
NEA2 Nenana 103.41 25 Pdiff **Pdif** **12 17 21.2 0.0**
baz=282
BRLK Bradley Lake 103.42 30 IAMs_20 IAMs_20 13 06 32.0
comp=Z,10µm,22.0s
M22K Willow 103.47 28 IAMs_20 IAMs_20 13 11 37.4
comp=Z,9µm,22.0s
M22K Willow 103.47 28 Pdiff **Pdif** **12 17 21.3 -0.3**
baz=280
G24K Hadweenzic Riv 103.60 23 IAMs_20 IAMs_20 13 12 39.4
comp=Z,15µm,20.0s
G24K Hadweenzic Riv 103.60 23 Pdiff **Pdif** **12 17 22.4 +0.3**
baz=284
SLKM Skilak Lake 103.63 29 IAMs_20 IAMs_20 13 13 32.7

comp=Z,9µm,21.0s
H24K Noodor Dome 103.64 24 Pdiff **Pdif** 12 17 23.0 +0.7
baz=283
MCK McKinley 103.64 26 Pdiff **Pdif** 12 17 22.3 0.0
baz=281
C26K Camden Bay 103.68 19 Pdiff **Pdif** 12 17 23.1 +0.7
baz=287
RND Reindeer 103.74 26 IAMs_20 IAMs_20 13 11 00.3
comp=Z,10µm,22.0s
RC01 Rabbit Creek A 103.77 29 Pdiff **Pdif** 12 17 22.9 0.0
baz=280
COLA College 103.86 25 P **Pdif** 12 17 24.4 +1.2
COLA College 103.86 25 Pdiff **Pdif** 12 17 22.6 -0.6
baz=283
COLA College 103.86 25 P **Pdif** 12 17 22.0 -1.2
ETOS Mallorca 103.86 309 P **Pdif** 12 17 24.8 +0.9
O22K Cooper Landing 103.88 29 IAMs_20 IAMs_20 13 13 39.3
comp=Z,12µm,21.0s
O22K Cooper Landing 103.88 29 Pdiff **Pdif** 12 17 23.2 -0.2
baz=280
PMR Palmer 103.96 28 P **Pdif** 12 17 24.5 +0.8
PMR Palmer 103.96 28 Pdiff **Pdif** 12 17 23.8 +0.1
baz=281
POKR Poker Plat Res 103.98 25 IAMs_20 IAMs_20 13 14 12.6
comp=Z,10µm,21.0s
POKR Poker Plat Res 103.98 25 Pdiff **Pdif** 12 17 23.3 -0.5
baz=283
F25K Christian Rive 104.07 22 Pdiff **Pdif** 12 17 25.4 +1.2
baz=285
SEW Seward 104.08 30 IAMs_20 IAMs_20 13 06 19.6
comp=Z,13µm,22.0s
SEW Seward 104.08 30 Pdiff **Pdif** 12 17 24.5 +0.3
baz=280
G25K Bearman Lake 104.11 23 Pdiff **Pdif** 12 17 25.4 +1.1
baz=285
C27K Jago River 104.16 20 IAMs_20 IAMs_20 13 13 52.1
comp=Z,13µm,21.0s
C27K Jago River 104.16 20 Pdiff **Pdif** 12 17 25.4 +0.9
baz=288
ELSH Elham, Standar 104.23 321 *e*P **Pdif** 12 17 27.0 +1.8
ELSH IAMs_20 IAMs_20 12 59 36.9
comp=Z,30µm,31.5s
LRW Lerwick 104.24 330 *e*P **Pdif** 12 17 25.3 +0.3
LRW IAMs_20 IAMs_20 13 06 40.0
comp=Z,21µm,27.0s
JNE Jan Mayen East 104.28 342 *e*Pdif **Pdif** 12 17 25.9 +1.0
JNE IVmB_BB 12 17 26.9
comp=Z,761nm,1.4s
JNE *e*PP **PP** 12 21 44.9 +1.4
JNE *e*SKSac **SKSac** 12 28 04.4 +4.2
JNE *e*SP SP 12 30 51.5 +2.3
JNE *e* 12 36 40.7
JNE IVMs_BB IVMs_BB 13 03 52.1
comp=Z,10µm,32.2s
ILAR Eielson Array 104.29 25 Pdiff **Pdif** 12 17 23.6 -1.5
comp=Z,2.0nm,0.8s,baz=286,slow=4.2,SNR=22
ILAR PP **PP** 12 21 46.6 +2.9
comp=Z,16nm,1.0s,baz=297,slow=6.8,SNR=6.3
ILAR PKKPbc **PKKPbc** 12 33 15.7 +0.6
comp=Z,5.3nm,0.8s,baz=124,slow=1.9,SNR=7.5
ILAR PKPPKP 12 41 37.5
comp=Z,3.7nm,1.0s,baz=173,slow=1.5,SNR=12
JNW Jan Mayen West 104.30 342 *e*Pdif **Pdif** 12 17 26.0 +0.9
JNW IVmB_BB 12 17 26.7
comp=Z,864nm,2.2s
JNW *e*PP **PP** 12 21 43.7 0.0
JNW *e*SKSac **SKSac** 12 28 07.4 +7.1
JNW *e*SP SP 12 30 50.2 +0.7
JNW *e*SS **SS** 12 36 33.6 +4.4
JNW IVMs_BB IVMs_BB 13 03 53.1
comp=Z,10µm,31.7s
KNK Knik Glacier 104.31 28 Pdiff **Pdif** 12 17 26.1 +0.8
baz=281
JMIC Jan Mayen 104.34 342 *e*Pdif **Pdif** 12 17 26.1 +0.8
JMIC IVmB_BB 12 17 27.2
comp=Z,898nm,1.3s
JMIC *e*PP **PP** 12 21 44.0 0.0
JMIC *e*SKSac **SKSac** 12 27 59.8 -0.7
JMIC *e*SP **SP** 12 30 51.1 +1.2
JMIC *e*SS **SS** 12 36 33.8 +4.1
JMIC IVMs_BB IVMs_BB 13 03 55.2
comp=Z,10µm,28.8s
HDA Harding Lake 104.35 25 Pdiff **Pdif** 12 17 24.6 -0.9
baz=283
H25L Birch Creek 104.35 23 Pdiff **Pdif** 12 17 26.2 +0.8
baz=285
DAG Danmarks Havn 104.39 349 P **Pdif** 12 17 23.8 -1.5
DAG Danmarks Havn 104.39 349 *i* P **Pdif** 12 17 24.5 -0.8
JMI Jan Mayen 104.43 342 *e*Pdif **Pdif** 12 17 26.7 +1.1
JMI IVmB_BB 12 17 27.3
comp=Z,976nm,3.0s
JMI *e*PP **PP** 12 21 44.0 -0.7
JMI *e*SP SP 12 30 53.0 +2.2
JMI IVMs_BB IVMs_BB 13 03 57.8
comp=Z,11µm,27.7s
PWL Port Wells 104.48 29 Pdiff **Pdif** 12 17 26.3 +0.2
baz=281
M23K Glacier View 104.58 28 Pdiff **Pdif** 12 17 26.9 +0.3
baz=282
F26K Sheenjek River 104.59 22 Pdiff **Pdif** 12 17 27.3 +0.8
baz=287
PMOR Pomariorio Ree 104.59 108 *e*P **Pdif** 12 17 24.3 -3.3
comp=Z,2µm,26.6s
PMOR Pomariorio Ree 104.59 108 *e*PP **PKiKP** 12 21 43.7 +0.2
comp=Z,5µm,26.5s
PMOR *e*S **Sdif** 12 29 13.8 -2.9
comp=Z,9µm,23.1s
PMOR *e*SS **SS** 12 36 37.2 +1.2
comp=Z,12µm,24.4s
PMOR Pomariorio Ree 104.59 108 *e*LR LR 12 51 51.6
comp=Z,80µm,24.1s
PRP Porcupine Dome 104.66 24 IAMs_20 IAMs_20 13 12 53.5
comp=Z,12µm,22.0s
PRP Porcupine Dome 104.66 24 Pdiff **Pdif** 12 17 26.7 -0.3
baz=285
SCM Sheep Creek Mo 104.75 28 Pdiff **Pdif** 12 17 27.9 +0.5
baz=282
HMNX Herstmonceux 104.76 321 *e*P **Pdif** 12 17 28.7 +1.1
HMNX IAMs_20 IAMs_20 12 58 03.1
comp=Z,24µm,31.1s
VAH Vaihoa 104.80 108 *e*SS SS 12 36 40.3 +1.6
comp=Z,8µm,27.5s
VAH Vaihoa 104.80 108 *e*LR LR 12 51 56.6
comp=Z,38µm,23.8s
G26K Porcupine Rive 104.94 22 IAMs_20 IAMs_20 13 13 49.8
comp=Z,11µm,21.0s
G26K Porcupine Rive 104.94 22 Pdiff **Pdif** 12 17 29.3 +1.3
baz=287
J25K Salcha River, 104.96 25 IAMs_20 IAMs_20 13 14 43.5
comp=Z,10µm,22.0s
J25K Salcha River, 104.96 25 Pdiff **Pdif** 12 17 27.4 -0.9
baz=285
GDLE Glaisdale, N Y 104.99 324 *e*P **Pdif** 12 17 29.7 +1.3
GDLE IAMs_20 IAMs_20 13 01 04.8
comp=Z,27µm,34.6s
K24K Donnelly Dome 104.99 26 Pdiff **Pdif** 12 17 28.3 -0.1
baz=284
GLI Glacier Island 105.07 29 Pdiff **Pdif** 12 17 29.1 +0.3
baz=282
P23K Montague Islan 105.11 30 IAMs_20 IAMs_20 13 09 25.8
comp=Z,10µm,20.0s
P23K Montague Islan 105.11 30 Pdiff **Pdif** 12 17 30.0 +1.1
baz=282
D27M Malcolm River 105.21 20 IAMs_20 IAMs_20 13 15 12.7
comp=Z,11µm,20.0s
D27M Malcolm River 105.21 20 Pdiff **Pdif** 12 17 29.5 +0.2
baz=290
M24K Tolsona, Glenn 105.22 27 IAMs_20 IAMs_20 13 08 43.7
comp=Z,9µm,22.0s
M24K Tolsona, Glenn 105.22 27 Pdiff **Pdif** 12 17 30.0 +0.5
baz=284
PAX Paxson 105.33 26 Pdiff **Pdif** 12 17 30.4 +0.4
baz=284
E27K Coleen River 105.35 21 IAMs_20 IAMs_20 13 10 22.6
comp=Z,12µm,21.0s
E27K Coleen River 105.35 21 Pdiff **Pdif** 12 17 30.2 +0.4
baz=290
FID Port Fidalgo 105.39 29 IAMs_20 IAMs_20 13 09 25.9
comp=Z,12µm,22.0s
RIDG Independent Ri 105.41 26 Pdiff **Pdif** 12 17 30.5 +0.2
baz=285
HIN Hinchinbrook I 105.46 29 IAMs_20 IAMs_20 13 05 20.1
comp=Z,13µm,22.0s
KLU Klutina 105.48 28 Pdiff **Pdif** 12 17 31.4 +0.7
baz=284
DRUM Mains of Drumt 105.50 327 *e*P **Pdif** 12 17 32.6 +1.9
DRUM IAMs_20 IAMs_20 13 04 36.0
comp=Z,23µm,33.5s
HARP HAARP 105.61 27 Pdiff **Pdif** 12 17 31.9 +0.8
baz=285
DIV Divide 105.64 28 IAMs_20 IAMs_20 13 09 09.8
comp=Z,9µm,22.0s
I26K Coal Creek Min 105.67 24 IAMs_20 IAMs_20 13 13 57.3
comp=Z,10µm,21.0s
I26K Coal Creek Min 105.67 24 Pdiff **Pdif** 12 17 31.6 +0.3
baz=287
SCRK Sand Creek 105.71 25 IAMs_20 IAMs_20 13 10 48.3
comp=Z,12µm,22.0s
SCRK Sand Creek 105.71 25 Pdiff **Pdif** 12 17 31.9 +0.2
baz=286
J26L Joseph Creek 105.74 25 Pdiff **Pdif** 12 17 31.9 +0.1
baz=287
Q23K Middleton Isla 105.75 30 IAMs_20 IAMs_20 13 09 44.0
comp=Z,9µm,20.0s
Q23K Middleton Isla 105.75 30 Pdiff **Pdif** 12 17 32.1 +0.4
baz=283
MCD Coleburn Disti 105.78 328 *e*P **Pdif** 12 17 33.3 +1.3
MCD IAMs_20 IAMs_20 13 04 54.0
comp=Z,20µm,27.4s
G27K Doyon Strip 105.78 22 IAMs_20 IAMs_20 13 15 16.1
comp=Z,14µm,22.0s
G27K Doyon Strip 105.78 22 Pdiff **Pdif** 12 17 32.4 +0.6
baz=289
EYAK Cordova Ski Ar 105.79 29 IAMs_20 IAMs_20 13 04 55.8
comp=Z,12µm,22.0s
EYAK Cordova Ski Ar 105.79 29 P **Pdif** 12 17 33.3 +1.4
EYAK Cordova Ski Ar 105.79 29 Pdiff **Pdif** 12 17 33.0 +1.1
baz=284
D28M Stokes Point 105.91 19 Pdiff **Pdif** 12 17 32.7 +0.4
baz=292
E28M Babbage River 105.92 20 IAMs_20 IAMs_20 13 11 31.5
comp=Z,10µm,20.0s
E28M Babbage River 105.92 20 Pdiff **Pdif** 12 17 32.8 +0.4
baz=292
BIGH Upper Bighouse 105.94 329 *e*P **Pdif** 12 17 34.9 +2.3
BIGH IAMs_20 IAMs_20 13 07 50.0
comp=Z,22µm,27.5s
STNC Stoke 106.01 323 *e*P **Pdif** 12 17 36.1 +3.0
STNC IAMs_20 IAMs_20 13 08 43.4
comp=Z,19µm,26.4s
SWN1 Swindon 106.01 321 *e*P **Pdif** 12 17 34.3 +1.2
SWN1 IAMs_20 IAMs_20 12 59 13.7
comp=Z,25µm,35.1s
H27K Steamboat Moun 106.02 23 Pdiff **Pdif** 12 17 33.5 +0.6
baz=289
N25K Chitina, Valde 106.07 28 Pdiff **Pdif** 12 17 34.2 +0.9
baz=285
MENT Mentasta 106.11 26 P **Pdif** 12 17 34.0 +0.6
F28M Old Crow 106.16 21 IAMs_20 IAMs_20 13 14 29.0
comp=Z,11µm,21.0s
F28M Old Crow 106.16 21 Pdiff **Pdif** 12 17 33.6 +0.2
baz=291
EKA Eskdalemuir Ar 106.17 326 Pdiff **Pdif** 12 17 34.2 +0.5
comp=Z,3.5nm,0.7s,baz=84,slow=5.3,SNR=11
EKA PP **PP** 12 21 54.6 -3.4
comp=Z,4.7nm,0.6s,baz=89,slow=7.1,SNR=5.5
EKA PKKPbc **PKKPbc** 12 33 09.0 0.0
comp=Z,0.7nm,0.5s,baz=270,slow=2.9,SNR=6.7
I27K Kandik River 106.19 23 Pdiff **Pdif** 12 17 34.4 +0.7
baz=289
ESK Eskdalemuir 106.20 326 *e*P **Pdif** 12 17 35.5 +1.6
ESK IAMs_20 IAMs_20 13 02 09.2
comp=Z,20µm,34.5s
BMRM Bremner River 106.23 28 IAMs_20 IAMs_20 13 10 17.4
comp=Z,13µm,22.0s
BMRM Bremner River 106.23 28 Pdiff **Pdif** 12 17 34.9 +0.9
baz=285
L26K Log Cabin Wild 106.25 26 Pdiff **Pdif** 12 17 35.1 +1.1
baz=286
KESW Keswick, Cumbr 106.28 325 *e*P **Pdif** 12 17 37.3 +3.1
KESW IAMs_20 IAMs_20 13 01 56.9
comp=Z,30µm,33.1s
RAGM Ragged Mountai 106.34 29 IAMs_20 IAMs_20 13 06 52.5
comp=Z,12µm,21.0s
INVG Invergeldie, C 106.44 327 *e*P **Pdif** 12 17 35.5 +0.6
INVG IAMs_20 IAMs_20 13 05 20.3
comp=Z,20µm,31.0s
HMT Hamilton 106.56 29 IAMs_20 IAMs_20 13 16 25.1
comp=Z,9µm,21.0s
E29M Blow River 106.56 20 IAMs_20 IAMs_20 13 12 10.4
comp=Z,10µm,20.0s
E29M Blow River 106.56 20 Pdiff **Pdif** 12 17 35.5 +0.3
baz=293
MONM Monmouth 106.58 322 *e*P **Pdif** 12 17 35.7 +0.1
MONM IAMs_20 IAMs_20 13 00 07.2
comp=Z,23µm,35.8s
KAIM Kayak Island 106.58 29 IAMs_20 IAMs_20 13 13 57.8
comp=Z,9µm,20.0s
KAIM Kayak Island 106.58 29 Pdiff **Pdif** 12 17 36.9 +1.4
baz=285
M26K Nabesna, AK 106.58 27 Pdiff **Pdif** 12 17 36.5 +1.0
baz=287
JSA Saint Aubin 106.59 319 *e*P **Pdif** 12 17 35.1 -0.5
JSA IAMs_20 IAMs_20 13 13 46.3
comp=Z,14µm,24.3s
FOEL Foel Wylfa 106.64 323 *e*P **Pdif** 12 17 36.8 +0.9
FOEL IAMs_20 IAMs_20 13 05 30.5
comp=Z,18µm,30.1s
MCH1 Michaelchurch 106.67 322 *e*P **Pdif** 12 17 38.2 +2.2
MCH1 IAMs_20 IAMs_20 13 00 08.8
comp=Z,24µm,38.0s
PGBU Glenifferbraes 106.81 326 *e*P **Pdif** 12 17 36.8 +0.2
PGBU IAMs_20 IAMs_20 13 08 19.6
comp=Z,34µm,27.7s
NEWG New Galloway 106.81 325 *e*P **Pdif** 12 17 38.5 +1.9
NEWG IAMs_20 IAMs_20 13 02 43.8
comp=Z,20µm,34.3s
SUCK Suckling Hills 106.86 29 IAMs_20 IAMs_20 13 15 27.1
comp=Z,12µm,19.0s
MCARA McCarthy VSAT 106.86 28 Pdiff **Pdif** 12 17 37.9 +1.2
baz=286
I28M Miner Creek 106.90 23 IAMs_20 IAMs_20 13 15 31.8
comp=Z,15µm,22.0s
I28M Miner Creek 106.90 23 Pdiff **Pdif** 12 17 37.4 +0.5
baz=290
L27K Beaver Creek, 106.90 26 IAMs_20 IAMs_20 13 16 09.0
comp=Z,9µm,21.0s
L27K Beaver Creek, 106.90 26 Pdiff **Pdif** 12 17 38.4 +1.5
baz=288
CRQM Cirque 106.98 28 IAMs_20 IAMs_20 13 07 10.8
comp=Z,10µm,22.0s
CRQE Cirque 107.00 28 Pdiff **Pdif** 12 17 38.4 +0.9
baz=286
BGLC Bering Glacier 107.08 29 Pdiff **Pdif** 12 17 39.5 +1.9
baz=286
G29M Pine Creek 107.09 22 IAMs_20 IAMs_20 13 13 20.6
comp=Z,8µm,20.0s
G29M Pine Creek 107.09 22 Pdiff **Pdif** 12 17 37.9 +0.3
baz=293
M27K Edge Creek, AK 107.09 27 IAMs_20 IAMs_20 13 15 24.1
comp=Z,8µm,19.0s
M27K Edge Creek, AK 107.09 27 Pdiff **Pdif** 12 17 39.2 +1.4
baz=288
KPL Plockton 107.10 328 *e*P **Pdif** 12 17 37.1 -0.7
KPL IAMs_20 IAMs_20 13 04 30.7
comp=Z,14µm,29.9s
TGL Tana Glacier 107.12 28 IAMs_20 IAMs_20 13 07 03.1
comp=Z,11µm,22.0s
GAL1 Galloway 107.14 325 *e*P **Pdif** 12 17 40.0 +2.0
GAL1 IAMs_20 IAMs_20 13 02 36.0
comp=Z,24µm,33.9s
IOMK Kirk Michael 107.18 325 *e*P **Pdif** 12 17 40.2 +2.0
IOMK IAMs_20 IAMs_20 13 02 22.1
comp=Z,12µm,31.5s
WAX Waxell Ridge 107.20 29 IAMs_20 IAMs_20 13 05 38.1
comp=Z,10µm,22.0s
LAWE Loch Awe, Argy 107.22 327 *e*P **Pdif** 12 17 40.1 +1.8
LAWE IAMs_20 IAMs_20 13 05 22.0
comp=Z,22µm,32.5s
H29M Whitestone 107.23 22 IAMs_20 IAMs_20 13 15 19.2
comp=Z,13µm,21.0s
H29M Whitestone 107.23 22 Pdiff **Pdif** 12 17 38.3 +0.1
baz=292
WLF1 Llynfaes 107.27 324 *e*P **Pdif** 12 17 40.0 +1.4
WLF1 IAMs_20 IAMs_20 13 02 10.4
comp=Z,39µm,33.6s
WPS Cemaes, Angles 107.31 324 *e*P **Pdif** 12 17 41.4 +2.6
WPS IAMs_20 IAMs_20 13 02 10.8
comp=Z,20µm,35.4s
ISLE Juniper Island 107.40 28 IAMs_20 IAMs_20 13 12 42.3
comp=Z,9µm,21.0s
DYA Yadsworthy 107.51 321 *e*P **Pdif** 12 17 41.8 +2.0
DYA IAMs_20 IAMs_20 13 00 49.3
comp=Z,20µm,34.6s
BVCY Beaver Creek 107.53 26 Pdiff **Pdif** 12 17 40.9 +1.3
baz=289
LEWI Lewis, Hebride 107.54 329 *e*P **Pdif** 12 17 40.8 +1.1
LEWI IAMs_20 IAMs_20 13 17 53.3
comp=Z,18µm,19.3s
SHEL Horse Pasture 107.54 251 IAMs_20 IAMs_20 13 00 07.9
comp=Z,17µm,21.0s
I29M Ogilvie Camp, 107.57 23 IAMs_20 IAMs_20 13 13 19.4
comp=Z,11µm,22.0s
I29M Ogilvie Camp, 107.57 23 Pdiff **Pdif** 12 17 39.8 0.0
baz=292
DAWY Dawson 107.60 25 Pdiff **Pdif** 12 17 40.2 +0.2
baz=290
F30M Barrier River 107.60 21 IAMs_20 IAMs_20 13 12 56.1
comp=Z,15µm,22.0s
F30M Barrier River 107.60 21 Pdiff **Pdif** 12 17 40.1 +0.2
baz=295
PMSA Palmer Station 107.67 185 IAMs_20 IAMs_20 13 02 02.8
comp=Z,17µm,22.0s
MESA MESA 107.71 29 IAMs_20 IAMs_20 13 05 06.5
comp=Z,9µm,20.0s
MESA MESA 107.71 29 Pdiff **Pdif** 12 17 42.4 +1.6
baz=287
G30M tAoh Zraii Nji 107.71 21 IAMs_20 IAMs_20 13 16 13.0
comp=Z,9µm,19.0s
G30M tAoh Zraii Nji 107.71 21 Pdiff **Pdif** 12 17 40.1 -0.3
baz=294
YAH Yahtse 107.75 29 IAMs_20 IAMs_20 13 05 17.6
comp=Z,12µm,22.0s
HTL Hartland 107.76 321 *e*P **Pdif** 12 17 42.5 +1.7
HTL IAMs_20 IAMs_20 13 00 20.0
comp=Z,25µm,35.8s
CTG Chitna Glacier 107.76 28 Pdiff **Pdif** 12 17 42.6 +1.7
baz=288
EPYK Eagle Plains 107.78 22 IAMs_20 IAMs_20 13 13 43.9
comp=Z,8µm,21.0s
EPYK Eagle Plains 107.78 22 Pdiff **Pdif** 12 17 40.6 -0.1
baz=294
CLGH Cloghs, Cushen 107.88 326 *e*P **Pdif** 12 17 42.9 +1.6
YUK3 Moose Creek 107.91 27 Pdiff **Pdif** 12 17 42.8 +1.1
baz=289
J29N Klondike Camp 107.94 24 IAMs_20 IAMs_20 13 16 19.3
comp=Z,14µm,21.0s
J29N Klondike Camp 107.94 24 Pdiff **Pdif** 12 17 42.5 +1.0
baz=292
LOGN Logan Glacier 107.96 28 IAMs_20 IAMs_20 13 16 38.1
comp=Z,9µm,21.0s
INK Inuvik 108.06 19 Pdiff **Pdif** 12 17 41.6 -0.2
baz=297
O28M Mount Upton 108.36 28 IAMs_20 IAMs_20 13 09 53.6
comp=Z,9µm,22.0s
O28M Mount Upton 108.36 28 Pdiff **Pdif** 12 17 45.0 +1.2
baz=289
I30M Mount Dempster 108.37 23 Pdiff **Pdif** 12 17 43.5 0.0
baz=294
CCA1 Carmenellis 108.38 320 *e*P **Pdif** 12 17 44.7 +1.0
CCA1 IAMs_20 IAMs_20 13 00 54.2
comp=Z,19µm,35.3s
F31M Tsiigehtchic 108.39 20 IAMs_20 IAMs_20 13 13 37.7
comp=Z,10µm,21.0s
F31M Tsiigehtchic 108.39 20 Pdiff **Pdif** 12 17 42.9 -0.4
baz=297
YUK8 Steele Glacier 108.39 27 Pdiff **Pdif** 12 17 45.3 +1.5
baz=289
G31M Satah River 108.43 21 IAMs_20 IAMs_20 13 13 21.0
comp=Z,13µm,21.0s
G31M Satah River 108.43 21 Pdiff **Pdif** 12 17 43.1 -0.4
baz=296
K29M Barlow Dome 108.45 24 Pdiff **Pdif** 12 17 44.5 +0.7
baz=292
L29M L29M 108.47 25 IAMs_20 IAMs_20 13 12 20.4
comp=Z,11µm,22.0s
L29M L29M 108.47 25 Pdiff **Pdif** 12 17 44.9 +1.0
baz=291
A36M Sachs Harbour 108.51 15 Pdiff **Pdif** 12 17 43.7 0.0
baz=307
PINM Pinnacle 108.54 29 Pdiff **Pdif** 12 17 45.7 +1.4
baz=288
M29M Somme Creek 108.57 26 Pdiff **Pdif** 12 17 45.8 +1.4
baz=291
J30M Hart River 108.65 24 Pdiff **Pdif** 12 17 45.4 +0.7
baz=294
YUK4 Talbot Arm 108.87 27 Pdiff **Pdif** 12 17 46.7 +0.7
baz=290
H31M Peel River 108.90 22 Pdiff **Pdif** 12 17 45.9 +0.2
baz=296
ESDC Sonseca Array 109.08 309 Pdiff **Pdif** 12 17 48.4 +1.3
comp=Z,0.5nm,0.6s,baz=55,slow=4.4,SNR=5.2
ESDC PP **PP** 12 22 19.8 -0.2
comp=Z,8.4nm,1.1s,baz=62,slow=7.8,SNR=4.4
ESDC PKKPbc **PKKPbc** 12 33 00.3 +0.9
comp=Z,2.8nm,1.0s,baz=299,slow=2.9,SNR=7.9
PNL Peninsula 109.09 29 Pdiff **Pdif** 12 17 47.9 +1.3
baz=289
YUK6 Outpost Mounta 109.14 27 Pdiff **Pdif** 12 17 48.7 +1.6
baz=290
MAYO Mayo, Yukon 109.22 24 Pdiff **Pdif** 12 17 47.8 +0.6
baz=294
M30M Minto, Yukon 109.24 26 IAMs_20 IAMs_20 13 10 38.8
comp=Z,10µm,22.0s
M30M Minto, Yukon 109.24 26 Pdiff **Pdif** 12 17 48.5 +1.2
baz=292
O29M Mount Kennedy 109.27 28 IAMs_20 IAMs_20 13 14 45.6
comp=Z,9µm,21.0s
O29M Mount Kennedy 109.27 28 Pdiff **Pdif** 12 17 49.2 +1.6
baz=290
N30M Aishikik Lake 109.53 27 IAMs_20 IAMs_20 13 16 13.6
comp=Z,11µm,22.0s
N30M Aishikik Lake 109.53 27 Pdiff **Pdif** 12 17 50.3 +1.7
baz=292
HYT Haines Junctio 109.58 27 Pdiff **Pdif** 12 17 50.5 +1.6
baz=291
P29M Windy Craggy 109.89 29 Pdiff **Pdif** 12 17 52.2 +2.0
baz=291
P30M Million Dollar 110.08 28 Pdiff **Pdif** 12 17 52.8 +1.6
baz=292
N31M Braeburn, Yuko 110.10 26 Pdiff **Pdif** 12 17 52.4 +1.3
baz=293
O30N Mendenhall 110.24 27 IAMs_20 IAMs_20 13 15 45.4
comp=Z,8µm,20.0s
O30N Mendenhall 110.24 27 Pdiff **Pdif** 12 17 53.5 +1.7
baz=292
DBIC Dimbokro 110.30 274 PP **PP** 12 22 25.7 -3.7
comp=Z,14nm,0.6s,baz=146,slow=5.5,SNR=4.3
DBIC PKKPbc **PKKPbc** 12 32 56.5 +1.9
comp=Z,7.4nm,0.8s,baz=303,slow=4.0,SNR=4.0
M31M Drury Creek, Y 110.42 25 IAMs_20 IAMs_20 13 18 57.8
comp=Z,7µm,18.0s
M31M Drury Creek, Y 110.42 25 Pdiff **Pdif** 12 17 53.2 +0.7
baz=295
HOPE Hope Point 110.64 203 IAMs_20 IAMs_20 13 05 27.9
comp=Z,9µm,22.0s
WHY Whitehorse 110.83 27 Pdiff **Pdif** 12 17 55.9 +1.4
baz=294
PBRG Braganca 110.88 312 *e*Pdif **Pdif** 12 17 52.3 -2.8
PBRG *e*PP **PP** 12 22 32.9 +0.1
SKAG Skagway 111.10 28 P **Pdif** 12 17 56.3 +0.8
SKAG Skagway 111.10 28 Pdiff **Pdif** 12 17 57.3 +1.7
baz=293
MVO Moncorvo 111.20 311 *e*Pdif **Pdif** 12 17 57.4 +0.8
MVO *e*PP **PP** 12 22 36.4 +1.3
MVO *e*LR LR 12 58 20.7
MVO *i* IAMs_20 IAMs_20 13 29 11.5
comp=Z,5µm,18.0s
S31K Pelican 111.22 30 Pdiff **Pdif** 12 17 57.8 +1.7
baz=291
R31K City Hall, Gus 111.30 29 Pdiff **Pdif** 12 17 58.1 +1.6
baz=292
BORG Borgarnes 111.39 338 IAMs_20 IAMs_20 13 14 30.3
comp=Z,13µm,22.0s
N32M Quiet Lake 111.43 26 IAMs_20 IAMs_20 13 16 09.6
comp=Z,11µm,22.0s
N32M Quiet Lake 111.43 26 Pdiff **Pdif** 12 17 58.2 +1.1
baz=296
MMPY Sheldon Lake, 111.54 24 Pdiff **Pdif** 12 17 58.7 +1.1
baz=298
PBAR Barrancos 111.65 308 *e*Pdif **Pdif** 12 17 59.5 +1.0
PBAR *e*PP **PP** 12 22 42.9 +4.5
BESE Bessie Mountai 111.67 29 IAMs_20 IAMs_20 13 19 25.2
comp=Z,9µm,22.0s
PVRL Vila Real 111.69 311 *e*PP **PP** 12 22 40.7 +2.0
POLO Lamas de Olo 111.73 312 *e*Pdif **Pdif** 12 17 59.2 +0.3
POLO *e*PP **PP** 12 22 31.4 -7.7
PMRV Marv??o 111.74 309 *e*Pdif **Pdif** 12 18 00.0 +1.1
PMRV *e*PP **PP** 12 22 35.5 -3.5
PMRV *e*LR LR 12 58 12.0
PMRV *i* IAMs_20 IAMs_20 13 22 34.2

comp=Z,5µm,20.0s
PCBR Castelo Branco 111.74 310 *e*PP **PP** **12 22 35.2 -3.8**
P32M Atlin 111.80 28 IAMs_20 IAMs_20 13 08 51.6
comp=Z,9µm,21.0s
P32M Atlin 111.80 28 Pdiff **Pdif** **12 17 60.0 +1.2**
baz=294
PCAB Cabril 111.85 312 *e*Pdif **Pdif** **12 17 58.8 -0.5**
PCAB *e*PP **PP** **12 22 34.1 -5.6**
PVIS Viseu 111.92 311 *e*Pdif **Pdif** **12 18 01.6 +1.8**
PVIS *e*PP **PP** **12 22 42.6 +2.3**
R32K Eaglecrest 111.95 29 IAMs_20 IAMs_20 13 16 33.7
comp=Z,9µm,22.0s
R32K Eaglecrest 111.95 29 Pdiff **Pdif** **12 18 01.3 +1.9**
baz=293
P33M Teslin, Yukon 111.95 27 IAMs_20 IAMs_20 13 10 40.5
comp=Z,9µm,21.0s
P33M Teslin, Yukon 111.95 27 Pdiff **Pdif** **12 18 00.4 +0.9**
baz=295
PESTR Estremoz 111.98 309 *e*Pdif **Pdif** **12 18 00.3 +0.3**
PESTR *e*PP **PP** **12 22 40.7 -0.1**
PGAV Gavieira, Arco 111.98 312 *e*Pdif **Pdif** **12 18 01.9 +1.9**
PGAV *e*PP **PP** **12 22 36.0 -4.8**
PGAV *e*LR LR 12 58 29.6
PGAV */* IAMs_20 IAMs_20 13 16 12.0
comp=Z,6µm,22.0s
SIT Sitka 112.01 31 Pdiff **Pdif** **12 18 01.6 +2.0**
baz=292
S32K Killisnoo 112.23 30 Pdiff **Pdif** **12 18 02.1 +1.5**
baz=293
PVAQ Vaqueiros 112.29 307 *e*Pdif **Pdif** **12 17 52.8 -8.6**
PVAQ *e*PP **PP** **12 22 42.1 -0.9**
PVAQ *e*LR LR 12 58 25.1
PVAQ */* IAMs_20 IAMs_20 13 32 05.7
comp=Z,8µm,20.0s
PSARD Sardoal 112.30 310 *e*Pdif **Pdif** **12 18 02.3 +0.9**
PSARD *e*PP **PP** **12 22 36.1 -6.9**
EVO Evora 112.36 309 *e*Pdif **Pdif** **12 18 03.0 +1.4**
EVO *e*PP PP 12 22 52.8 +9.4
COI Coimbra 112.39 310 *e*Pdif **Pdif** **12 18 04.5 +2.7**
COI *e*PP **PP** **12 22 44.9 +1.3**
PMTG Montargil 112.44 309 *e*Pdif **Pdif** **12 18 01.8 -0.1**
PMTG *e*PP **PP** **12 22 42.8 -1.2**
PBDV Barranco-do-Ve 112.48 307 *e*Pdif **Pdif** **12 17 58.9 -3.3**
PBDV *e*PP **PP** **12 22 44.4 0.0**
PCAS Casmilo, Conde 112.48 310 *e*Pdif **Pdif** **12 18 00.1 -2.1**
PCAS *e*PP **PP** **12 22 37.4 -6.9**
PCVE Castro Verde 112.51 308 *e*Pdif **Pdif** **12 18 01.7 -0.7**
PCVE *e*PP **PP** **12 22 44.0 -0.6**
MESJ Messejana 112.62 308 *e*Pdif **Pdif** **12 18 02.7 -0.2**
MESJ *e*PP **PP** **12 22 44.9 -0.5**
MESJ IAMs_20 IAMs_20 13 02 02.5
comp=Z,15µm,35.8s
MESJ Messejana 112.62 308 *e*Pdif **Pdif** **12 18 03.4 +0.6**
MESJ *e*PP **PP** **12 22 42.9 -2.4**
Q32M Nakina River 112.74 28 Pdiff **Pdif** **12 18 04.6 +1.4**
baz=296
MORF Marmelete 113.04 307 *e*PP **PP** **12 22 48.0 -0.5**
MORF IAMs_20 IAMs_20 13 01 58.5
comp=Z,18µm,39.8s
MORF Marmelete 113.04 307 *e*PP **PP** **12 22 47.0 -1.5**
PTEO Sao Teotonio 113.06 308 *e*Pdif **Pdif** **12 18 06.7 +1.9**
PTEO */* tx tx 12 21 56.6
PTEO *e*PP **PP** **12 22 47.1 -1.4**
PARRA Arraiolos 113.10 309 *e*Pdif **Pdif** **12 18 01.9 -3.1**
PARRA *e*PP PP 12 22 40.9 -7.8
R33M Jennings River 113.15 27 IAMs_20 IAMs_20 13 17 23.3
comp=Z,10µm,22.0s
R33M Jennings River 113.15 27 Pdiff **Pdif** **12 18 06.0 +1.1**
baz=297
PFVI Vila Bisbo 113.20 307 *e*PP **PP** **12 22 49.1 -0.5**
PMAFR Mafra 113.27 309 *e*PP **PP** **12 22 50.3 +0.4**
TAOE Nuku Hiva Isla 113.27 103 *e*PKP2 **Pdif** **12 18 02.2 -4.1**
comp=Z,2µm,30.9s
TAOE Nuku Hiva Isla 113.27 103 *e*PP **PP** **12 22 46.9 -3.8**
comp=Z,7µm,30.4s
TAOE *e*S Sdif 12 29 31.0 -58
comp=Z,7µm,30.4s
TAOE *e*SS **SS** **12 38 35.6 +2.3**
comp=Z,16µm,27.5s
TAOE Nuku Hiva Isla 113.27 103 *e*LQ LQ 12 50 58.8
comp=Z,18µm,32.5s
TAOE *e*LR LR 12 55 52.2
comp=Z,58µm,27.2s
TGTN Hyland Airport 113.30 25 Pdiff **Pdif** **12 18 06.0 +0.6**
baz=300
T33K Petersburg 113.31 30 Pdiff **Pdif** **12 18 06.5 +1.1**
baz=294
U33K Whale Pass 113.50 31 Pdiff **Pdif** **12 18 07.6 +1.3**
baz=294
S34M Telegraph Cree 113.73 29 Pdiff **Pdif** **12 18 08.6 +1.3**
baz=296
CRAG Craig 113.76 32 Pdiff **Pdif** **12 18 08.7 +1.3**
baz=293
WRAK Wrangell Islan 113.77 31 IAMs_20 IAMs_20 13 21 16.1
comp=Z,9µm,22.0s
WRAK Wrangell Islan 113.77 31 Pdiff **Pdif** **12 18 08.8 +1.3**
baz=294
WTLY Watson Lake, Y 113.78 26 Pdiff **Pdif** **12 18 08.5 +1.0**
baz=299
DLBC Dease Lake 114.02 28 Pdiff **Pdif** **12 18 10.1 +1.4**
baz=297
WRGLY Wrigley 114.26 22 Pdiff **Pdif** **12 18 10.2 +0.7**
baz=306
T35M Bob Quinn 114.58 30 Pdiff **Pdif** **12 18 12.4 +1.3**
baz=297
V35K Ketchikan 114.60 32 IAMs_20 IAMs_20 13 07 42.1
comp=Z,7µm,20.0s
V35K Ketchikan 114.60 32 Pdiff **Pdif** **12 18 12.6 +1.4**
baz=295
U35K Hyder 115.16 31 IAMs_20 IAMs_20 13 19 58.8
comp=Z,9µm,20.0s
U35K Hyder 115.16 31 Pdiff **Pdif** **12 18 15.0 +1.4**
baz=296
LIRD Liard River Hi 115.32 26 Pdiff **Pdif** **12 18 15.4 +1.1**
baz=302
KOTAN Kotaneelee Air 115.80 25 Pdiff **Pdif** **12 18 16.8 +0.4**
baz=304
TOAD Toad River Com 115.99 26 Pdiff **Pdif** **12 18 17.7 +0.3**
baz=302
ASCN Ascension 117.54 257 IAMs_20 IAMs_20 13 06 25.3
comp=Z,18µm,22.0s
YKA Yellowknife Ar 117.84 19 PKP **PKPdf** **12 22 06.5 -0.7**
comp=Z,28nm,0.9s,baz=314,slow=2.6,SNR=29
YKA PP **PP** **12 23 16.5 -4.4**
comp=Z,14nm,1.0s,baz=328,slow=6.6,SNR=3.7
YKA PKKPbc **PKKPab** **12 32 32.6 +1.3**
comp=Z,11nm,0.8s,baz=124,slow=3.8,SNR=11
EFI East Falkland 119.48 192 IAMs_20 IAMs_20 13 09 46.4
comp=Z,11µm,22.0s
PMPST Porto Santo, M 119.97 304 *e*PP **PP** **12 23 35.3 -1.7**
PMPS Porto Santo 119.98 304 *e*PP **PP** **12 23 40.3 +3.3**
FUL Funchal 120.52 304 *e*PP **PP** **12 23 42.9 +2.2**
PMAR Madeira 120.53 304 *e*PP **PP** **12 23 39.6 -1.4**
PMOZ Porto Moniz, M 120.74 304 PKP **PKiKP** **12 22 14.3 +0.4**
PMOZ Porto Moniz, M 120.74 304 *e*PP **PP** **12 23 40.8 -1.5**
PMOZ *e*LR LR 13 01 27.3
PMOZ */* IAMs_20 IAMs_20 13 27 07.3
comp=Z,5µm,18.0s
NLWA Neilton Lookou 122.47 37 IAMs_20 IAMs_20 13 12 12.8
comp=Z,8µm,22.0s
KRPM Rodgers 125.10 44 **PKiKP** **12 22 23.0 +0.8**
JCC Jacoby Creek, 125.24 44 IAMs_20 IAMs_20 13 10 27.9
comp=Z,9µm,22.0s
HAWA Hanford 125.55 37 IAMs_20 IAMs_20 13 22 48.2
comp=Z,7µm,22.0s
BART Pico Bartolome 125.61 312 *e*PKP **PKPdf** **12 22 22.9 -0.1**
PSMN Pico do Norte, 125.80 311 *e*PKP **PKPdf** **12 22 20.6 -2.7**
M02C Callahan 125.81 43 IAMs_20 IAMs_20 13 29 27.6
comp=Z,10µm,22.0s
PSMA Santa Maria 125.85 311 *e*PKP **PKPdf** **12 22 22.9 -0.5**
NEW Newport 125.90 33 IAMs_20 IAMs_20 13 25 23.0
comp=Z,7µm,22.0s
N02D Trinity Center 126.09 44 IAMs_20 IAMs_20 13 25 48.1
comp=Z,9µm,22.0s
TULE Intermountain 126.49 42 IAMs_20 IAMs_20 13 29 03.5
comp=Z,8µm,22.0s
HOPS Hopland Field 126.64 46 IAMs_20 IAMs_20 13 28 09.2
comp=Z,9µm,20.0s
PSBA Serra de Santa 126.81 314 *e*PKP **PKPdf** **12 22 24.4 -0.7**
O03E Paynes Creek 127.00 44 IAMs_20 IAMs_20 13 10 57.2
comp=Z,7µm,22.0s
HATC Hat Creek Radi 127.01 43 IAMs_20 IAMs_20 13 26 26.5
comp=Z,7µm,22.0s
MCCM Marconi Confer 127.11 47 IAMs_20 IAMs_20 13 28 38.8
comp=Z,8µm,22.0s

MNRC McLaughlin Min 127.14 46 IAMs_20 IAMs_20 13 28 40.1
comp=Z,9µm,20.0s
FARB Farallon Islan 127.20 48 IAMs_20 IAMs_20 13 28 26.0
comp=Z,6µm,19.0s
COYC Coyhaique 127.33 183 IAMs_20 IAMs_20 13 12 20.5
comp=Z,11µm,22.0s
CVS Carmenet Viney 127.34 47 IAMs_20 IAMs_20 13 29 10.6
comp=Z,8µm,21.0s
ROSA Rosais 127.48 314 *e*PKP **PKiKP** **12 22 27.9 +0.9**
ORV Oroville 127.52 45 IAMs_20 IAMs_20 13 12 20.4
comp=Z,7µm,22.0s
FFC Flin Flon 128.02 19 **PKPdf** **12 22 26.9 0.0**
FFC Flin Flon 128.02 19 IAMs_20 IAMs_20 13 23 55.6
comp=Z,13µm,22.0s
FFC Flin Flon 128.02 19 PKIKP **PKPdf** **12 22 26.9 0.0**
WVOR Wild Horse Val 128.12 40 IAMs_20 IAMs_20 13 31 15.7
comp=Z,7µm,21.0s
PLID Pearl Lake 128.34 36 IAMs_20 IAMs_20 13 29 54.9
comp=Z,7µm,22.0s
MSO Missoula 128.48 33 IAMs_20 IAMs_20 13 31 30.4
comp=Z,10µm,20.0s
MTOS Mt Oso, Westle 128.50 47 IAMs_20 IAMs_20 13 31 24.2
comp=Z,9µm,22.0s
WELL Weller Preserv 128.54 46 IAMs_20 IAMs_20 13 31 17.4
comp=Z,7µm,22.0s
SAO San Andreas Ge 128.70 48 IAMs_20 IAMs_20 13 13 09.0
comp=Z,8µm,22.0s
SCZ Santa Cruz 128.80 48 IAMs_20 IAMs_20 13 13 09.5
comp=Z,8µm,21.0s
CMB Columbia Colle 128.96 46 IAMs_20 IAMs_20 13 31 43.5
comp=Z,8µm,22.0s
HULI Fort Hunter Li 129.15 49 IAMs_20 IAMs_20 13 18 31.8
comp=Z,9µm,21.0s
RAMR Ramage Ranch 129.57 49 IAMs_20 IAMs_20 13 27 01.0
comp=Z,7µm,22.0s
LL02 Futaleuf 129.69 183 **PKiKP** **12 22 31.0 -0.3**
EGMT Eagleton 129.89 30 IAMs_20 IAMs_20 13 32 09.2
comp=Z,8µm,21.0s
DLMT Dillon 130.12 34 IAMs_20 IAMs_20 13 31 49.8
comp=Z,9µm,20.0s
HLID Hailey 130.14 37 IAMs_20 IAMs_20 13 30 13.6
comp=Z,8µm,21.0s
NVAR Mina Array Bea 130.25 45 PKP **PKPdf** **12 22 31.9 -0.1**
comp=Z,40nm,0.9s,baz=296,slow=2.8,SNR=13
NVAR SKPbc **SKPbc** **12 25 56.3 +5.3**
comp=Z,16nm,0.8s,baz=269,slow=3.5,SNR=4.0
NVAR SKKPbc **SKKPbc** **12 35 38.6 +6.9**
comp=Z,7.5nm,1.0s,baz=130,slow=5.0,SNR=6.0
ELK Elko 131.17 41 IAMs_20 IAMs_20 13 33 01.5
comp=Z,10µm,22.0s
PLCA Paso Flores 132.05 185 PKhKP PKPpre 12 22 28.8
comp=Z,4.5nm,1.0s,baz=215,slow=3.0,SNR=5.1
PLCA PKP **PKiKP** **12 22 35.9 -0.4**
comp=Z,19nm,0.7s,baz=280,slow=1.1,SNR=20
PLCA SKKPbc SKKPbc 12 35 28.4 +4.1
comp=Z,17nm,1.0s,baz=4.7,slow=4.9,SNR=4.2
PLCA Paso Flores 132.05 185 PKP **PKPdf** **12 22 35.5 +0.3**
PLCA Paso Flores 132.05 185 *e*P **PKiKP** **12 22 36.0 -0.3**
FXWY Fox Creek 132.07 35 IAMs_20 IAMs_20 13 32 34.5
comp=Z,7µm,21.0s
RLMT Red Lodge 132.08 32 IAMs_20 IAMs_20 13 32 26.6
comp=Z,10µm,21.0s
WSHM Spangler Hills 132.10 48 IAMs_20 IAMs_20 13 33 43.8
comp=Z,8µm,22.0s
SCHQ Schefferville 132.10 354 PKhKP PKPpre 12 22 27.6
comp=Z,3.1nm,0.5s,baz=354,slow=5.7,SNR=5.3
SCHQ PKP **PKPdf** **12 22 34.7 -0.1**
comp=Z,31nm,0.8s,baz=1.9,slow=2.6,SNR=13
SCHQ PP **PP** **12 24 59.5 +3.6**
comp=Z,56nm,0.9s,baz=16,slow=8.2,SNR=5.2
DGMT Dagmar 132.14 26 IAMs_20 IAMs_20 13 31 36.4
comp=Z,11µm,22.0s
PASC Pasadena Art C 132.18 50 IAMs_20 IAMs_20 13 20 56.2
comp=Z,6µm,20.0s
TPAW Teton Pass 132.20 35 IAMs_20 IAMs_20 13 30 27.0
comp=Z,7µm,21.0s
LOHW Long Hollow 132.32 35 IAMs_20 IAMs_20 13 31 09.2
comp=Z,10µm,21.0s
SNOW Snow King Moun 132.33 35 IAMs_20 IAMs_20 13 31 13.5
comp=Z,9µm,22.0s
TPNV Topopah Spring 132.38 45 IAMs_20 IAMs_20 13 29 03.1
comp=Z,9µm,21.0s
LAO LASA Array 132.54 29 IAMs_20 IAMs_20 13 29 46.2
comp=Z,9µm,21.0s
AHID Auburn Hatcher 132.56 36 IAMs_20 IAMs_20 13 33 00.7
comp=Z,8µm,22.0s
HWUT Hardware Ranch 132.99 37 IAMs_20 IAMs_20 13 19 25.1
comp=Z,9µm,22.0s
TRQA Tornquist 133.27 194 IAMs_20 IAMs_20 13 19 37.2
comp=Z,9µm,22.0s
BW06 Boulder Array 133.45 35 IAMs_20 IAMs_20 13 34 50.1
comp=Z,8µm,21.0s
PDAR Pinedale Array 133.45 35 PKhKP PKPpre 12 22 31.1
comp=Z,2.9nm,0.8s,baz=125,slow=1.1,SNR=7.7
PDAR PKP **PKPdf** **12 22 37.4 -0.6**
comp=Z,3.2nm,0.6s,baz=0.0,slow=3.0,SNR=8.8
PDAR SKP 12 26 15.7
PDAR SKKPbc SKKPbc 12 35 24.6 +4.1
comp=Z,14nm,1.1s,baz=144,slow=5.3,SNR=5.9
CPE Camp Elliot 133.52 51 IAMs_20 IAMs_20 13 15 25.8
comp=Z,9µm,22.0s
PFO Pinyon Flats O 133.72 50 IAMs_20 IAMs_20 13 25 34.0
comp=Z,8µm,21.0s
MDND Maddock 134.52 23 IAMs_20 IAMs_20 13 27 19.0
comp=Z,8µm,20.0s
E28A Huff 135.11 25 IAMs_20 IAMs_20 13 29 02.8
comp=Z,14µm,22.0s
K22A Casper 135.21 33 IAMs_20 IAMs_20 13 34 11.4
comp=Z,8µm,21.0s
RSSD Black Hills 135.46 30 IAMs_20 IAMs_20 13 34 20.6
comp=Z,7µm,20.0s
AGMN Agassiz Nation 135.50 20 IAMs_20 IAMs_20 13 23 02.4
comp=Z,9µm,22.0s
CAM01 Campos-RJ 136.25 228 PKP **PKPdf** **12 22 41.2 -2.2**
CAM01 Campos-RJ 136.25 228 *e*P **PKPdf** **12 22 44.3 +0.9**
WUAZ Wupatki 136.51 44 **PKPdf** **12 22 41.3 -2.5**
DUB01 Friburgo-RJ 136.61 227 PKP **PKPdf** **12 22 43.5 -0.8**
DUB01 Friburgo-RJ 136.61 227 *e*P **PKPdf** **12 22 44.9 +0.6**
EYMN Ely 137.14 16 IAMs_20 IAMs_20 13 31 04.7
comp=Z,11µm,21.0s
MAN01 Angra dos Reis 137.25 225 PKP PKPpre 12 22 37.9
MAN01 Angra dos Reis 137.25 225 *e*P **PKPdf** **12 22 44.6 -0.8**
VAS01 Vassouras-RJ 137.26 226 *e*P **PKPdf** **12 22 46.3 +1.0**
F33A 5 Mile Ranch, 137.45 22 IAMs_20 IAMs_20 13 32 50.4
comp=Z,9µm,21.0s
MVCO Mesa Verde 137.50 41 IAMs_20 IAMs_20 13 14 34.2
comp=Z,8µm,22.0s
SUSD Miller 137.55 25 IAMs_20 IAMs_20 13 30 06.3
comp=Z,9µm,22.0s
ISCO Idaho Springs 137.64 35 IAMs_20 IAMs_20 13 35 16.9
comp=Z,8µm,22.0s
SJMB Sao Joao De Ma 137.72 232 PKP PKPpre 12 22 37.5
SJMB Sao Joao De Ma 137.72 232 *e*P **PKPdf** **12 22 46.2 -0.1**
GUA01 Guaratinga, BA 137.76 236 PKP PKPpre 12 22 40.4
GUA01 Guaratinga, BA 137.76 236 *e*P **PKPdf** **12 22 46.8 +0.4**
SLP01 Ubatuba-SP 137.76 223 PKP PKPpre 12 22 40.1
SLP01 Ubatuba-SP 137.76 223 *e*P **PKPdf** **12 22 45.7 -0.7**
NBAN Anadia - AL 137.78 247 PKP PKPpre 12 22 37.5
NBAN Anadia - AL 137.78 247 *e*P **PKPdf** **12 22 46.4 -0.1**
PARB Paraibuna 138.07 223 PKP PKPpre 12 22 39.4
PARB Paraibuna 138.07 223 *e*P **PKPdf** **12 22 46.2 -0.8**
CMC01 Camacan, BA 138.15 237 PKP PKPpre 12 22 39.7
CMC01 Camacan, BA 138.15 237 *e*P **PKPdf** **12 22 47.9 +0.8**
S22A 4UR Ranch, Cre 138.23 39 IAMs_20 IAMs_20 13 32 13.1
comp=Z,8µm,21.0s
E38A The Farm, Brul 138.35 17 IAMs_20 IAMs_20 13 25 46.6
comp=Z,8µm,22.0s
Q24A Divide 138.46 36 IAMs_20 IAMs_20 13 38 11.8
comp=Z,8µm,20.0s
PET01 Itanhaem-SP 138.49 220 PKP PKPpre 12 22 40.1
PET01 Itanhaem-SP 138.49 220 *e*P **PKPdf** **12 22 47.9 +0.3**
TUC Tucson 138.55 48 IAMs_20 IAMs_20 13 31 11.9
comp=Z,8µm,21.0s
K30B Basset 138.66 28 IAMs_20 IAMs_20 13 26 16.1
comp=Z,10µm,22.0s
RCBR Riachuelo 138.74 253 PKP PKPpre 12 22 39.0
RCBR Riachuelo 138.74 253 *e*P **PKiKP** **12 22 51.2 +0.7**
OGNE Ogallala 138.79 31 IAMs_20 IAMs_20 13 36 29.9
comp=Z,10µm,22.0s
BSCB Bom Sucesso 139.03 226 PKP PKPpre 12 22 44.6
BSCB Bom Sucesso 139.03 226 *e*P **PKiKP** **12 22 50.2 -0.8**
SDCO Great Sand Dun 139.05 38 IAMs_20 IAMs_20 13 37 54.5
comp=Z,12µm,22.0s
SPB Sao Paulo 139.09 221 *e*P **PKiKP** **12 22 49.9 -1.0**
ECSD EROS Data Cent 139.10 24 IAMs_20 IAMs_20 13 32 44.2
comp=Z,11µm,22.0s

VAO Valinhos 139.19 222 **PKPdf** **12 22 49.1 0.0**
VAO Valinhos 139.19 222 *e*P **PKiKP** **12 22 50.4 -0.9**
VABB Valinhos 139.20 222 PKP **PKPdf** **12 22 46.1 -2.9**
SPMN Marine on St. 139.20 19 IAMs_20 IAMs_20 13 31 14.4
comp=Z,14µm,22.0s
COWI Conover 139.47 15 IAMs_20 IAMs_20 13 35 41.2
comp=Z,12µm,22.0s
PEL Peldehue 139.59 186 IAMs_20 IAMs_20 13 18 16.0
comp=Z,9µm,22.0s
DIAM Diamantina, MG 139.88 230 PKP PKPpre 12 22 44.6
RCLB Rio Claro- Sao 139.97 222 PKP **PKPdf** **12 22 51.0 +0.6**
RCLB Rio Claro- Sao 139.97 222 *e*P **PKPdf** **12 22 51.4 +0.9**
D62A Allapoint, All 139.99 354 IAMs_20 IAMs_20 13 33 26.0
comp=Z,11µm,20.0s
F42A Maple Grove Fa 140.04 14 IAMs_20 IAMs_20 13 35 06.2
comp=Z,12µm,21.0s
I37A Lemond, Waseca 140.06 21 IAMs_20 IAMs_20 13 30 00.4
comp=Z,12µm,22.0s
T25A Trinidad 140.10 38 IAMs_20 IAMs_20 13 23 50.4
comp=Z,10µm,21.0s
ANMO Albuquerque 140.17 42 IAMs_20 IAMs_20 13 39 05.8
comp=Z,13µm,22.0s
E46A Sault Ste Mari 140.25 10 IAMs_20 IAMs_20 13 31 09.6
comp=Z,12µm,22.0s
BGNE Belgrade 140.33 27 IAMs_20 IAMs_20 13 33 07.2
comp=Z,10µm,22.0s
Y22D IRIS PASSCAL I 140.37 43 IAMs_20 IAMs_20 13 34 32.2
comp=Z,13µm,22.0s
Y22D IRIS PASSCAL I 140.37 43 PKiKP **PKiKP** **12 22 52.8 -0.6**
baz=305
E62A Clayton Lake 140.50 354 IAMs_20 IAMs_20 13 30 15.4
comp=Z,13µm,22.0s
CFA Coronel Fontan 140.78 189 PKhKP PKPpre 12 22 45.7
comp=Z,6.9nm,0.6s,baz=186,slow=3.8,SNR=9.4
CFA PKP **PKPdf** **12 22 51.2 -0.4**
comp=Z,33nm,0.6s,baz=212,slow=2.0,SNR=22
JQT1 Jequitai-MG 141.03 231 PKP PKPpre 12 22 46.9
PTGB Pitanga 141.06 215 PKP **PKPdf** **12 22 53.5 +1.1**
PTGB Pitanga 141.06 215 *e*P **PKPdf** **12 22 53.4 +1.0**
I40A Norwalk 141.09 18 IAMs_20 IAMs_20 13 37 26.2
comp=Z,12µm,21.0s
F64A Sherman 141.10 352 IAMs_20 IAMs_20 13 37 49.5
comp=Z,11µm,20.0s
H43A Windswept, Lux 141.34 15 IAMs_20 IAMs_20 13 36 12.6
comp=Z,11µm,22.0s
NBCL Cascavel-CE 141.49 254 PKP PKPpre 12 22 46.7
NBCL Cascavel-CE 141.49 254 *e*P **PKPdf** **12 22 52.4 -0.9**
LDASE Londrina, Braz 141.53 217 *e*P **PKPdf** **12 22 53.7 +0.5**
CBKS Cedar Bluff 141.56 32 IAMs_20 IAMs_20 13 38 40.1
comp=Z,9µm,19.0s
BB19B Bebedouro 141.58 222 PKP **PKPdf** **12 22 54.4 +1.0**
BB19B Bebedouro 141.58 222 *e*P **PKPdf** **12 22 54.1 +0.8**
I42A Draeger Farm, 141.58 16 IAMs_20 IAMs_20 13 31 03.1
comp=Z,13µm,22.0s
PMNB Patos De Minas 141.80 227 *e*P **PKPdf** **12 22 54.5 +0.7**
EPT El Paso 141.94 46 IAMs_20 IAMs_20 13 35 32.3
comp=Z,8µm,22.0s
JFWS Jewell Farm 142.09 18 IAMs_20 IAMs_20 13 36 29.7
comp=Z,12µm,21.0s
I45A Fountain 142.11 13 IAMs_20 IAMs_20 13 38 44.0
comp=Z,8µm,21.0s
JANB Januaria 142.23 234 PKP PKPpre 12 22 44.6
JANB Januaria 142.23 234 *e*P **PKPdf** **12 22 54.4 -0.2**
NBPB Pedra_Branca-C 142.30 251 PKP PKPpre 12 22 49.5
NBPB Pedra_Branca-C 142.30 251 *e*P **PKPdf** **12 22 54.7 -0.1**
R32A Long Quarter, 142.38 31 IAMs_20 IAMs_20 13 37 09.8
comp=Z,11µm,22.0s
CPUP Villa Florida 142.39 207 PKhKP PKPpre 12 22 51.1
comp=Z,4.1nm,0.5s,baz=3.7,slow=3.4,SNR=18
CPUP PKP **PKPdf** **12 22 55.4 +0.9**
comp=Z,8.7nm,0.5s,baz=351,slow=2.8,SNR=19
CPUP Villa Florida 142.39 207 PKP PKPpre 12 22 49.9
CPUP Villa Florida 142.39 207 *e*P **PKPdf** **12 22 54.8 +0.2**
MNTX Cornudas Mount 142.78 45 IAMs_20 IAMs_20 13 40 53.3
comp=Z,7µm,21.0s
K43A Burlington 142.84 16 IAMs_20 IAMs_20 13 35 59.4
comp=Z,9µm,21.0s
SLBS Sierra La Lagu 142.85 60 **PKPdf** **12 22 53.8 -1.8**
SLBS Sierra La Lagu 142.85 60 IAMs_20 IAMs_20 13 31 60.0
comp=Z,9µm,21.0s
I49A Point Hope 142.86 9 IAMs_20 IAMs_20 13 34 49.4
comp=Z,12µm,22.0s
KSU1 Kansas State U 142.88 28 IAMs_20 IAMs_20 13 33 08.7
comp=Z,9µm,22.0s
N38A Joes South For 142.92 23 IAMs_20 IAMs_20 13 33 29.2
comp=Z,10µm,21.0s
PCMB Pacaembu 142.95 219 PKP PKPpre 12 22 52.1
SJPY San Joaquin 142.95 209 *e*P **PKPdf** **12 22 55.3 -0.3**
SFA1 Serra Facao 143.08 227 PKP PKPab 12 22 51.4 -0.1
L42A Oliver, Polo 143.09 18 IAMs_20 IAMs_20 13 38 12.3
comp=Z,12µm,21.0s
I63A Otisfield 143.15 355 IAMs_20 IAMs_20 13 31 43.5
comp=Z,13µm,22.0s
MSTX Muleshoe 143.17 40 IAMs_20 IAMs_20 13 37 52.9
comp=Z,8µm,22.0s
AMTX Amarillo 143.25 38 IAMs_20 IAMs_20 13 21 45.8
comp=Z,8µm,21.0s
IPMB Ipameri, GO 143.44 226 PKP PKPab 12 22 52.5 -0.4
IPMB Ipameri, GO 143.44 226 *e*P PKPbc 12 22 54.7 +0.7
LCO Las Campanas 143.68 187 IAMs_20 IAMs_20 13 24 34.3
comp=Z,10µm,21.0s
ITRB Iturama 143.75 222 PKP PKPbc 12 22 55.1 +0.3
ITRB Iturama 143.75 222 *e*P **PKPdf** **12 22 57.6 +0.4**
ITU3 Corumbazu 143.75 225 PKP PKPab 12 22 52.9 -1.2
OK038 West end E0370 143.82 33 IAMs_20 IAMs_20 13 37 04.2
comp=Z,9µm,20.0s
N41A Harden Midland 143.87 20 IAMs_20 IAMs_20 13 35 29.1
comp=Z,8µm,20.0s
J61A Chester 144.00 357 IAMs_20 IAMs_20 13 33 56.0
comp=Z,11µm,21.0s
L46A Eue Claire 144.02 14 IAMs_20 IAMs_20 13 37 15.4
comp=Z,10µm,22.0s
K50A Casco 144.03 9 IAMs_20 IAMs_20 13 35 34.4
comp=Z,13µm,22.0s
M44A Midewin, Midew 144.14 17 IAMs_20 IAMs_20 13 36 39.9
comp=Z,10µm,22.0s
SDBA SAO DESIDERIO 144.14 237 PKP PKPbc 12 22 56.2 0.0
SDBA SAO DESIDERIO 144.14 237 *e*P PKPbc 12 22 56.4 +0.3
HDIL Hopedale 144.52 19 IAMs_20 IAMs_20 13 32 42.3
comp=Z,10µm,21.0s
T35A Sooner Cattle 144.65 30 IAMs_20 IAMs_20 13 38 30.8
comp=Z,11µm,21.0s
HRV Adam Dziewonsk 144.76 355 PKPbc 12 22 57.3 +0.1
HRV Adam Dziewonsk 144.76 355 PKiKP PKPbc 12 22 57.3 +0.1
BDFB Brasilia 144.78 230 PKP **PKPdf** **12 22 59.0 -0.1**
comp=Z,101nm,0.3s,baz=122,slow=3.0,SNR=107
L61B Northampton 144.90 357 IAMs_20 IAMs_20 13 33 37.9
comp=Z,11µm,20.0s
BCX Boston College 144.90 355 IAMs_20 IAMs_20 13 28 37.0
comp=Z,11µm,21.0s
OK029 Liberty Lake 145.02 33 IAMs_20 IAMs_20 13 39 12.9
comp=Z,11µm,21.0s
ERPA Erie 145.03 6 IAMs_20 IAMs_20 13 34 54.7
comp=Z,7µm,22.0s
WMOK Wichita Mounta 145.06 35 IAMs_20 IAMs_20 13 36 40.5
comp=Z,12µm,22.0s
OK052 Battle Ridge R 145.21 32 IAMs_20 IAMs_20 13 40 48.9
comp=Z,8µm,22.0s
N47A Urbana 145.23 14 IAMs_20 IAMs_20 13 33 06.6
comp=Z,12µm,22.0s
L64A Middleborough 145.27 354 IAMs_20 IAMs_20 13 40 08.6
comp=Z,10µm,19.0s
P43A Skaggs, Pawnee 145.28 20 IAMs_20 IAMs_20 13 31 41.3
comp=Z,10µm,22.0s
RPRD Ribas do Rio P 145.29 217 *e*P **PKPdf** **12 23 00.8 +1.0**
M50A Fremont 145.29 10 IAMs_20 IAMs_20 13 36 15.8
comp=Z,10µm,20.0s
TXAR Lajitas Array 145.32 47 PKPbc **PKPab** **12 23 00.4 +0.6**
comp=Z,459nm,0.9s,baz=278,slow=1.9,SNR=703
SFIN Lafayette 145.34 16 IAMs_20 IAMs_20 13 41 04.6
comp=Z,11µm,22.0s
R40A Maddies Statio 145.45 24 IAMs_20 IAMs_20 13 41 49.3
comp=Z,11µm,20.0s
M65A Busby, Falmout 145.62 354 PKiKP **PKiKP** **12 23 04.6 +0.9**
baz=7.9
TUL3 Leonard 145.79 31 IAMs_20 IAMs_20 13 38 25.2
comp=Z,8µm,20.0s
N51A Ashland 145.88 10 IAMs_20 IAMs_20 13 34 19.4
comp=Z,11µm,22.0s
P46A Rosedale 146.02 17 IAMs_20 IAMs_20 13 38 03.6
comp=Z,12µm,21.0s
ABTX Abilene, Hawle 146.02 39 IAMs_20 IAMs_20 13 32 48.3
comp=Z,10µm,21.0s
C2SB Chapadao do Su 146.04 220 PKP **PKPbc** **12 23 01.9 -0.1**
C2SB Chapadao do Su 146.04 220 *e*P **PKPab** **12 23 02.5 0.0**
CCM Cathedral Cave 146.06 23 IAMs_20 IAMs_20 13 40 12.3

comp=Z,12µm,21.0s
CCM Cathedral Cave 146.06 23 PKP2 PKPdf 12 23 00.5 -0.1
U38A Gravette 146.06 28 IAMs_20 IAMs_20 13 42 13.0
comp=Z,12µm,21.0s
Q44A Meyer Farm, Va 146.11 20 IAMs_20 IAMs_20 13 38 55.3
comp=Z,12µm,21.0s
OZNA Ozona 146.17 43 PKPbc 12 23 01.8 -0.3
O49A Covington 146.20 13 PKPdf PKPdf 12 23 01.0 +0.2
N53A Lisbon 146.22 8 IAMs_20 IAMs_20 13 37 44.3
comp=Z,11µm,22.0s
AQDB Aquidauana 146.45 214 PKPbc PKPdf 12 23 01.7 0.0
AQDB Aquidauana 146.45 214 PKP PKPdf 12 23 00.7 -1.0
AQDB Aquidauana 146.45 214 eP PKPdf 12 23 01.9 +0.1
CPNY Central Park 146.60 358 PKPbc PKPdf 12 23 02.1 +0.7
P48A Milroy 146.64 15 PKPbc PKPdf 12 23 01.8 +0.2
Z35A Perchaven, San 146.95 35 IAMs_20 IAMs_20 13 38 43.5
comp=Z,12µm,22.0s
S44A Carbondale 147.12 21 IAMs_20 IAMs_20 13 40 05.1
comp=Z,11µm,21.0s
JCT Junction City 147.33 42 IAMs_20 IAMs_20 13 40 31.4
comp=Z,12µm,22.0s
P53A Whipple 147.44 9 IAMs_20 IAMs_20 13 39 49.5
comp=Z,12µm,22.0s
MCWV Mont Chateau 147.48 7 IAMs_20 IAMs_20 13 34 18.5
comp=Z,12µm,22.0s
ARAG Araguaiana, MT 147.52 225 eP PKPbc 12 23 05.0 -1.3
WCI Wyandotte Cave 147.57 16 PKPdf 12 23 03.2 +0.1
WCI Wyandotte Cave 147.57 16 IAMs_20 IAMs_20 13 38 06.6
comp=Z,9µm,22.0s
WCI Wyandotte Cave 147.57 16 PKIKP PKPdf 12 23 03.2 +0.1
P61A Hammonton 147.74 359 IAMs_20 IAMs_20 13 41 04.1
comp=Z,12µm,21.0s
R49A Shelbyville 147.81 15 IAMs_20 IAMs_20 13 43 49.9
comp=Z,11µm,22.0s
T45A Paducah 147.93 21 IAMs_20 IAMs_20 13 30 23.8
comp=Z,12µm,22.0s
SMTB Santa Maria do 148.20 240 PKP PKPdf 12 23 05.1 +0.2
SMTB Santa Maria do 148.20 240 eP PKPdf 12 23 05.6 +0.7
Z38A Mt. Pleasant 148.27 33 IAMs_20 IAMs_20 13 43 33.9
comp=Z,11µm,22.0s
T47A Sharon Grove 148.47 19 IAMs_20 IAMs_20 13 42 17.8
comp=Z,11µm,22.0s
PAL2 UHE Estreito - 148.95 244 PKP PKPdf 12 23 03.5 -2.6
WVT Waverly 149.02 20 PKPdf 12 23 05.3 -0.2
WVT Waverly 149.02 20 PKIKP PKPdf 12 23 05.3 -0.2
R61A Willards 149.08 0 PKPbc PKPbc 12 23 08.8 -0.9
PB10 IPOC Station P 149.08 188 PKPab 12 23 13.0 -1.3
S54A Dingess, Beckl 149.10 10 IAMs_20 IAMs_20 13 35 03.5
comp=Z,10µm,22.0s
U49A Red Boiling Sp 149.31 17 IAMs_20 IAMs_20 13 39 27.9
comp=Z,11µm,21.0s
CCAR Cane Creek 149.35 28 PKPdf 12 23 07.7 +1.6
EF04 Eagle Ford 04 149.48 42 PKPdf 12 23 08.4 +1.9
SNDB Serra Nova Dou 149.54 231 PKP PKPdf 12 23 06.9 -0.1
SNDB Serra Nova Dou 149.54 231 eP PKPdf 12 23 05.8 -1.2
NATX Nacogdoches 149.58 34 PKPdf 12 23 08.0 +1.4
735A Kenedy 149.70 42 IAMs_20 IAMs_20 13 37 43.2
comp=Z,11µm,22.0s
BLA Blacksburg 149.81 8 IAMs_20 IAMs_20 13 38 05.4
comp=Z,12µm,21.0s
SALV Santo Antonio 149.98 220 PKP PKPdf 12 23 07.8 +0.2
SALV Santo Antonio 149.98 220 eP PKPdf 12 23 08.1 +0.5
HKT Hockley 150.22 38 PKPdf 12 23 08.7 +1.1
HKT IAMs_20 IAMs_20 13 40 38.0
comp=Z,10µm,20.0s
HKT Hockley 150.22 38 PKIKP PKPdf 12 23 08.7 +1.1
Y45A Yeager Farm, C 150.37 25 IAMs_20 IAMs_20 13 43 50.7
comp=Z,9µm,19.0s
143A Socs Landing, 150.53 29 IAMs_20 IAMs_20 13 42 17.2
comp=Z,10µm,20.0s
TKL Tuckaleechee C 150.66 14 PKP PKPdf 12 23 08.6 +0.4
comp=Z,56nm,1.1s,baz=134,slow=2.7,SNR=29
TKL PKPbc PKiKP 12 23 14.1 -0.3
comp=Z,1µm,1.0s,baz=104,slow=0.8,SNR=92
W50A Signal Mountai 150.67 17 IAMs_20 IAMs_20 13 38 10.9
comp=Z,8µm,18.0s
X48A Hartselle 150.81 20 IAMs_20 IAMs_20 13 43 09.7
comp=Z,9µm,20.0s
W52A Murphy 151.15 15 IAMs_20 IAMs_20 13 37 55.4
comp=Z,12µm,22.0s
VBMS Vicksburg 151.34 28 IAMs_20 IAMs_20 13 44 19.8
comp=Z,9µm,20.0s
TMAB Tom-Au,PA,Br 151.36 251 PKP PKPdf 12 23 09.9 +0.1
TMAB Tom-Au,PA,Br 151.36 251 eP PKPdf 12 23 09.8 -0.1
PRPB Parauapebas 151.42 243 PKP PKPdf 12 23 09.4 -0.6
PRPB Parauapebas 151.42 243 eP PKPdf 12 23 10.0 0.0
BBSD Serra de San D 151.77 210 eP PKPdf 12 23 10.8 +0.4
TA02 Huaiquique 152.19 190 PKPdf 12 23 13.8 +2.9
Y52A Lilburn 152.28 16 IAMs_20 IAMs_20 13 41 20.3
comp=Z,9µm,19.0s
PTLB Pontes e Lacer 152.41 215 PKP PKPdf 12 23 11.4 +0.1
PTLB Pontes e Lacer 152.41 215 eP PKPdf 12 23 11.5 +0.1
346A Big Creek Wild 152.53 27 IAMs_20 IAMs_20 13 27 23.0
comp=Z,11µm,22.0s
GOGA Godfrey 152.87 15 IAMs_20 IAMs_20 13 43 22.8
comp=Z,11µm,22.0s
SIV San Ignacio 153.01 211 PKP PKPdf 12 23 12.5 +0.2
comp=Z,24nm,0.9s,baz=109,slow=1.7,SNR=42
BBSR BB Station 153.20 340 IAMs_20 IAMs_20 13 35 26.0
comp=Z,10µm,22.0s
250A Grady 153.32 21 IAMs_20 IAMs_20 13 36 35.3
comp=Z,11µm,21.0s
CLDB Colider 153.62 227 PKP PKPdf 12 23 12.5 -0.7
CLDB Colider 153.62 227 eP PKPdf 12 23 13.3 +0.1
UNM Universidad Na 153.76 60 IAMs_20 IAMs_20 13 27 04.2
comp=Z,11µm,21.0s
PDRB Porto dos Gac 153.78 224 PKP PKPdf 12 23 12.3 -1.1
PDRB Porto dos Gac 153.78 224 eP PKPdf 12 23 13.1 -0.3
352A Blakely 154.24 20 IAMs_20 IAMs_20 13 44 12.3
comp=Z,11µm,22.0s
BMO2 UHE Belo Monte 154.60 246 PKP PKPdf 12 23 14.1 -0.5
TIGA Tifton 154.69 17 IAMs_20 IAMs_20 13 43 41.3
comp=Z,10µm,20.0s
ATM1 UHE Belo Monte 154.84 246 PKP PKPdf 12 23 14.7 -0.3
VILB Vilhena 155.02 217 PKP PKPdf 12 23 15.2 0.0
VILB Vilhena 155.02 217 eP PKPdf 12 23 15.4 +0.3
LPAZ La Paz 155.59 196 PKP PKPdf 12 23 17.4 +0.7
comp=Z,43nm,1.1s,baz=95,slow=0.4,SNR=40
LPAZ La Paz 155.59 196 PKP PKPdf 12 23 17.6 +1.0
LPAZ La Paz 155.59 196 eP PKPdf 12 23 17.3 +0.7
NPGB Novo Progresso 155.68 235 PKP PKPdf 12 23 15.4 -0.7
NPGB Novo Progresso 155.68 235 eP PKPdf 12 23 15.8 -0.2
MAL2 Monte Alegre, 157.14 247 PKP PKPdf 12 23 17.8 -0.2
ITTB Itaituba 157.44 240 PKP PKPdf 12 23 18.1 -0.3
ITTB Itaituba 157.44 240 eP PKPdf 12 23 18.6 +0.2
CMIG Matias Romero 158.40 61 PKP PKPdf 12 23 19.5 +0.1
comp=Z,37nm,0.9s,baz=318,slow=2.5,SNR=23
CMIG PKPab PKPab 12 23 54.5 +0.5
comp=Z,64nm,0.8s,baz=315,slow=5.5,SNR=10.0
NNA Nana 160.79 175 PKP PKPdf 12 23 22.6 +0.3
comp=Z,40nm,1.0s,baz=325,slow=2.9,SNR=5.1
ANWB Willy Bob 163.37 310 eP PKPdf 12 23 22.5 -2.2
DSDZ La Diserade, G 163.56 304 eP PKPdf 12 23 21.9 -3.0
BBGH Gun Hill 163.59 292 eP PKPdf 12 23 25.6 +0.6
DWS Wesley 164.14 303 eP PKPdf 12 23 21.1 -4.3
ILAM Ilet Lapin Mar 164.14 299 eP PKPdf 12 23 22.4 -3.0
DHSZ Broadband at M 164.15 306 eP PKPdf 12 23 22.5 -2.9
MMLZ Guadeloupe Bro 164.19 305 eP PKPdf 12 23 24.6 -0.9
MBFL Flemmings, Mon 164.24 308 eP PKPdf 12 23 21.8 -3.8
TBG Guadaloupe-3 164.27 304 eP PKPdf 12 23 23.7 -1.8
SVN Savane Anatole 164.36 300 eP PKPdf 12 23 22.4 -3.3
BIM Bigot 164.42 299 eP PKPdf 12 23 24.3 -1.5
SLBI Saint Lucia, B 164.55 297 eP PKPdf 12 23 23.4 -2.5
BOAV Boa Vista 164.65 252 PKP PKPdf 12 23 25.5 -0.5
BOAV Boa Vista 164.65 252 eP PKPdf 12 23 26.1 0.0
CZSB Cruzeiro do Su 164.90 189 PKP PKPdf 12 23 25.5 -0.8
CZSB Cruzeiro do Su 164.90 189 eP PKPdf 12 23 25.1 -1.1
TEFE Tefe 165.01 225 eP PKPdf 12 23 26.1 -0.3
SVB Belmont 165.09 295 eP PKPdf 12 23 22.9 -3.4
GRGR Grenville 165.85 291 eP PKPdf 12 23 26.3 -6.7
TRIN Trinidad (W) 166.02 285 eP PKPdf 12 23 26.7 -0.4
SJG San Juan 166.11 322 PKP PKPdf 12 23 26.3 -0.8
comp=Z,59nm,1.0s,baz=28,slow=5.6,SNR=9.4
SJG PP PP 12 28 15.7 +1.5
comp=Z,6.3nm,0.3s,baz=37,slow=8.8,SNR=3.8
SJG San Juan 166.11 322 eP PKPdf 12 23 23.1 -4.0
AOPR Arecibo Observ 166.29 324 eP PKPdf 12 23 23.5 -3.8
GTBY Guantanamo Bay 167.42 360 ⇑i/P PKPdf 12 23 28.1 +0.1
TBTG Tabatinga, AM 167.48 205 PKP PKPdf 12 23 27.2 -1.1
TBTG Tabatinga, AM 167.48 205 eP PKPdf 12 23 27.2 -1.1
BOAB BOACO BROADBAND 168.43 63 PKP PKPdf 12 23 28.1 -0.8
MTDJ Mount Denham 168.86 12 ⇑i/P PKPdf 12 23 29.0 -0.2
SGC2 Sao Gabriel da 169.01 228 PKP PKPdf 12 23 28.3 -1.0
STH Stony Hill 169.14 8 ⇓i/P PKPdf 12 23 31.5 +2.2
PCRV Puerto La Cruz 169.22 286 PKP PKPdf 12 23 27.5 -2.0
comp=Z,14nm,1.0s,baz=355,slow=6.9,SNR=5.4
PCRV PP PP 12 28 32.7 +1.1
comp=Z,23nm,1.1s,baz=352,slow=12,SNR=3.6
PCRV Puerto La Cruz 169.22 286 eP PKPdf 12 23 23.5 -6.0
JTS Las Juntas de 169.85 72 PKPdf 12 23 27.8 -2.0
JTS Las Juntas de 169.85 72 PKP PKPdf 12 23 27.6 -2.3
comp=Z,11nm,0.8s,baz=328,slow=4.7,SNR=6.5
JTS PKPab PKPab 12 24 45.2 +0.7
comp=Z,26nm,0.6s,baz=258,slow=6.1,SNR=9.9
JTS PP PP 12 28 36.0 +1.3
comp=Z,27nm,1.2s,baz=247,slow=7.5,SNR=3.5
HDC Heredia 170.73 72 eP PKPdf 12 23 30.2 -0.2
OTAV Otavalo 172.28 155 PKP PKPdf 12 23 32.2 +0.5
OTAV Otavalo 172.28 155 eP PKPdf 12 23 31.9 +0.2
BAUV El Baul 172.77 284 eP PKPdf 12 23 27.8 -3.5
SDV Santo Domingo 175.25 290 PKP PKPdf 12 23 30.9 -1.5
comp=Z,17nm,0.8s,baz=187,slow=2.7,SNR=11
SDV PKPab PKPab 12 25 10.5 +1.8
comp=Z,75nm,0.9s,baz=33,slow=4.5,SNR=3.8
SDV PP PP 12 29 04.0 +2.5
comp=Z,37nm,1.0s,baz=347,slow=4.2,SNR=6.1
SDV Santo Domingo 175.25 290 PKP PKPdf 12 23 30.2 -2.2
SDV Santo Domingo 175.25 290 eP PKPdf 12 23 30.9 -1.5
ROSC El Rosal 177.45 199 PKP PKPdf 12 23 32.0 -1.1
comp=Z,27nm,0.8s,baz=38,slow=4.3,SNR=14

*NEIC **02** 12:18:42.1±2.0,35°.789N±0°.008×117°.62W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.5km az=185.0*

PAS 02 12:18:42.6±1.9,**35°.783N**±0°.008×**117°.616W**±0°.009, **h8**km±3km, **ML3.6**/3!5, **ML3.4**/184(NEIC), **Error ellipse: s-maj=1.1km s-min=1.1km az=146.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.12**	**282**				Pg	12 18 45.8	+0.5
TOW							Sg	12 18 49.0	+1.7
SRTC	**Snort**	**0.14**	**230**				Pg	12 18 46.1	+0.5
SRTC							Sg	12 18 49.4	+1.7
WSHM	**Spangler Hills**	**0.21**	**151**				Pg	12 18 46.9	+0.1
WSHM							Sg	12 18 50.1	+0.4
WVPM	**Volcano Peak E**	**0.23**	**316**				Pg	12 18 47.3	0.0
WVPM							Sg	12 18 50.9	+0.4
WCSM	**Coso Springs S**	**0.27**	**333**				Pg	12 18 47.9	-0.1
WCSM							Sg	12 18 51.9	+0.2
MPMC	**Manual Prospec**	**0.29**	**21**				Pg	12 18 48.4	-0.1
MPMC					IAML			12 18 53.0	
	comp=E,8µm,0.5s								
MPMC					IAML			12 18 53.0	
	comp=N,7µm,0.5s								
LRMC	**Laurel Mtn Rad**	**0.31**	**190**	Pg		Pg		12 18 48.6	0.0
LRMC				Sg		Sg		12 18 53.2	+0.5
WRVM	**Rose V. Centra**	**0.32**	**315**			Pg		12 18 48.7	-0.2
WRVM						Sg		12 18 53.2	+0.2
CCCA	**Chr Cany lake**	**0.33**	**141**			Pg		12 18 49.5	+0.4
CCCA						Sb		12 18 54.9	-1.3
CCCA					IAML			12 18 57.8	
	comp=E,7µm,0.4s								
MFS	**McCloud Flat S**	**0.39**	**330**				Pg	12 18 50.0	-0.2
MFS							Sg	12 18 55.3	0.0
WBSM	**Bird Springs**	**0.49**	**240**				Pg	12 18 51.8	-0.3
WBSM							Sg	12 18 58.7	+0.1
WORM	**Onyx Ranch**	**0.52**	**260**				Pg	12 18 52.2	-0.4
WORM							Sg	12 18 59.0	-0.4
DTP	**Desert Tortois**	**0.55**	**200**				Pg	12 18 52.7	-0.4
DTP							Sg	12 18 59.9	-0.4
WHFM	**Hanning Flat**	**0.60**	**262**				Pg	12 18 53.8	-0.4
WHFM							Sg	12 19 01.5	-0.6
QSM	**Queen of Sheba**	**0.63**	**73**				Pg	12 18 54.4	-0.4
QSM							Sg	12 19 02.9	-0.2
QSM					IAML			12 19 06.7	
	comp=N,2µm,0.5s								
QSM					IAML			12 19 06.9	
	comp=E,2µm,0.5s								
ISA	**Isabella, Lake**	**0.71**	**260**				Pg	12 18 55.7	-0.6
ISA					IAML			12 19 05.7	
	comp=N,943nm,0.6s								
ISA					IAML			12 19 09.7	
	comp=E,988nm,0.2s								
ISA	**Isabella, Lake**	**0.71**	**260**				Sg	12 19 05.2	-0.3
CCAC	**Calif City Air**	**0.71**	**208**				Pg	12 18 55.8	-0.4
CCAC							Sg	12 19 05.5	0.0
CWC	**Cottonwood Cre**	**0.76**	**330**				Pg	12 18 56.9	-0.3
CWC							Sg	12 19 07.1	0.0
WASM	**Alta Sierra Ca**	**0.77**	**267**				Pg	12 18 56.9	-0.5
WASM							Sg	12 19 07.4	0.0
CGO	**Cerro Gordo**	**0.78**	**349**				Pg	12 18 57.0	-0.7
CGO							Sg	12 19 08.4	+0.6
GSC	**Goldstone, Bar**	**0.82**	**126**				Sg	12 19 08.9	0.0
GSC	**Goldstone, Bar**	**0.82**	**126**	Pg			Pg	12 18 57.9	-0.4
GWY	**Greenwater Val**	**0.87**	**62**				Pg	12 18 58.9	-0.4
GWY							Sg	12 19 10.3	-0.2
GWY					IAML			12 19 12.5	
	comp=N,840nm,0.3s								
GWY					IAML			12 19 14.5	
	comp=E,1µm,0.4s								
FURC	**Furnace Creek,**	**0.92**	**42**				Pg	12 18 59.9	-0.2
FURC							Sg	12 19 11.7	-0.4
HYS	**Haystack Butte**	**0.92**	**178**				Pg	12 18 59.4	-0.8
HYS							Sg	12 19 12.0	-0.2
EDW2	**Edwards Air Fo**	**0.95**	**199**				Pg	12 18 59.9	-0.9
EDW2							Sg	12 19 12.5	-0.7
SPG2	**Springville 2**	**1.02**	**294**				Pg	12 19 01.1	-1.1
SPG2							Sg	12 19 14.0	-1.4
TPO	**Tropico Hills**	**1.03**	**209**				Pg	12 19 01.7	-0.7
TPO							Sg	12 19 15.7	-0.1
TPO					IAML			12 19 18.2	
	comp=N,2µm,0.8s								
TPO					IAML			12 19 20.6	
	comp=E,1µm,0.7s								
TEJ	**El Tejon**	**1.03**	**238**				Pg	12 19 01.0	-1.5
TEJ							Sg	12 19 14.8	-1.1
RRX	**Edison Barstow**	**1.04**	**151**				Pg	12 19 01.9	-0.7
RRX							Sb	12 19 17.1	+0.5
SHOC	**Shoshone, Teco**	**1.10**	**84**				Pg	12 19 02.2	-1.4
SHOC							Sg	12 19 17.8	-0.1
SBB	**Saddle Back Bu**	**1.11**	**189**				Pg	12 19 02.7	-1.1
SBB							Sg	12 19 16.9	-1.2
ARVC	**Arvin**	**1.19**	**237**				Pg	12 19 04.3	-1.0
TJR	**Tejon Ranch**	**1.19**	**231**				Pg	12 19 04.0	-1.4
TJR							Sg	12 19 20.0	-0.8
VES	**Vestal, Richgr**	**1.20**	**273**				Pb	12 19 04.7	-0.8
VES					IAML			12 19 24.0	
	comp=N,1µm,0.7s								
VES					IAML			12 19 29.6	
	comp=E,1µm,0.7s								
THC	**Tehachapi Micr**	**1.22**	**225**				Pg	12 19 04.6	-1.5
GRAC	**Grapevine Rang**	**1.23**	**9**				Pb	12 19 05.4	-0.7
GRAC					IAML			12 19 23.1	
	comp=E,1µm,0.3s								
GRAC					IAML			12 19 24.6	
	comp=N,1µm,0.8s								
GRAC	**Grapevine Rang**	**1.23**	**9**				Sb	12 19 22.4	+0.2
AMDNV	**Amargosa**	**1.27**	**58**				Pn	12 19 05.0	-1.7
LEOC	**Leona Valley**	**1.28**	**206**				Pn	12 19 05.5	-1.4
SGV	**South Grapevin**	**1.28**	**21**				Pn	12 19 05.9	-1.2
WCT	**Wildcat Mounta**	**1.29**	**38**				Pn	12 19 05.7	-1.3
WCT					IAML			12 19 25.2	
	comp=N,489nm,0.7s								
WCT					IAML			12 19 26.0	
	comp=E,534nm,0.4s								
BAKC	**Calstate**	**1.29**	**251**				Pn	12 19 06.5	-0.5
LRRC	**Littlerock Res**	**1.30**	**195**				Pn	12 19 05.7	-1.3
LRRC							Sg	12 19 24.3	-0.1
CJV	**Casa Juvan**	**1.32**	**199**				Pn	12 19 06.1	-1.5
CJV							Sb	12 19 24.9	0.0
HOLC	**Holcomb Ridge**	**1.33**	**188**				Pn	12 19 06.2	-1.5
JNH	**Juniper Hills**	**1.36**	**192**				Pn	12 19 06.6	-1.4
JNH							Sn	12 19 26.4	+0.1
TIN	**Tinemaha, Big**	**1.36**	**339**				Pn	12 19 07.9	-0.2
TIN					IAML			12 19 31.4	
	comp=N,467nm,0.6s								
TIN					IAML			12 19 44.8	
	comp=E,532nm,0.8s								
DSCC	**Desert Studies**	**1.39**	**117**				Pn	12 19 06.4	-1.9
DSCC							Sb	12 19 26.8	0.0
HEC	**Hector,Ludlow**	**1.42**	**132**				Pn	12 19 07.1	-1.6
HEC							Sn	12 19 27.7	+0.1
TUQ	**Turquoise Moun**	**1.42**	**104**				Pn	12 19 07.2	-1.7
LCH	**Last Change Ra**	**1.45**	**359**				Pn	12 19 08.4	-0.8
OSI	**Osito Audit: C**	**1.48**	**218**				Pn	12 19 08.3	-1.2
OSI					IAML			12 19 32.5	
	comp=E,633nm,0.7s								
OSI					IAML			12 19 32.8	
	comp=N,371nm,0.6s								
CHFC	**Chilao Flat St**	**1.48**	**193**				Pn	12 19 08.4	-1.3
BFSC	**Mount Baldy Ra**	**1.54**	**181**				Pn	12 19 09.2	-1.4
BFSC					IAML			12 19 32.9	
	comp=E,688nm,0.3s								
BFSC					IAML			12 19 36.6	
	comp=N,458nm,0.7s								
GMN	**Gold Mountain**	**1.54**	**11**				Pn	12 19 09.9	-0.7
GMN					IAML			12 19 34.5	
	comp=N,303nm,0.4s								
SSK	**Sunset Peak**	**1.57**	**182**				Pn	12 19 09.9	-1.0
SIL	**Silver Peak**	**1.57**	**155**				Pn	12 19 11.4	+0.4
MPI	**Mount Pinos, F**	**1.58**	**233**				Pb	12 19 12.0	-0.3
MWC	**Mount Wilson**	**1.60**	**193**				Pn	12 19 10.6	-0.8
MWC					IAML			12 19 34.6	
	comp=N,843nm,0.4s								
MWC					IAML			12 19 39.1	
	comp=E,783nm,0.4s								
TPNV	**Topopah Spring**	**1.60**	**43**				Pn	12 19 10.4	-1.0
TPNV					IAML			12 19 35.3	
	comp=E,579nm,0.3s								
TPNV					IAML			12 19 37.8	
	comp=E,553nm,0.6s								
DSP	**Deep Springs**	**1.61**	**350**				Pn	12 19 10.9	-0.4
DSP					IAML			12 19 34.9	
	comp=E,232nm,0.6s								
BBRC	**Big Bear Solar**	**1.62**	**159**				Pb	12 19 12.4	-0.5
PASC	**Pasadena Art C**	**1.67**	**196**				Pn	12 19 11.6	-0.7
PASC					IAML			12 19 40.2	
	comp=E,388nm,0.5s								
PASC					IAML			12 19 41.0	
	comp=N,312nm,0.4s								
BCW	**Bitter Crk WRg**	**1.69**	**241**				Pb	12 19 13.7	-0.3
PSRC	**Puddingstone R**	**1.69**	**185**				Pn	12 19 12.1	-0.4
MTPC	**Mountain Pass**	**1.71**	**99**				Pn	12 19 11.4	-1.5
MTPC					IAML			12 19 38.2	
	comp=E,534nm,0.4s								
MTPC					IAML			12 19 39.1	
	comp=N,414nm,0.5s								
SVD	**Seven Oaks Dam**	**1.73**	**166**				Pb	12 19 14.7	+0.1
MTUM	**Tungsten Hills**	**1.74**	**334**				Pb	12 19 14.9	-0.1
CRGC	**Crocker Grade**	**1.80**	**253**				Pb	12 19 15.7	-0.3
GTM	**Goat Mountain**	**1.81**	**145**				Pb	12 19 16.1	+0.1
GMRC	**Granite Mounta**	**1.89**	**121**				Pn	12 19 13.0	-2.2
MZP	**Montezuma Peak**	**1.92**	**6**				Pn	12 19 15.5	-0.4
BLAC	**Blackrock camp**	**1.98**	**149**				Pn	12 19 15.3	-1.3
SMMC	**Simmler**	**2.00**	**257**				Pn	12 19 17.9	+1.2
PKM	**Mcpherson Peak**	**2.01**	**244**				Pb	12 19 18.8	-0.6
MLAC	**Mammoth, Mammo**	**2.09**	**332**				Pb	12 19 21.2	+0.3
EW2	**E Wide Canyon**	**2.09**	**151**				Pn	12 19 16.8	-1.2
TPC	**Twentynine Pal**	**2.11**	**142**				Pn	12 19 16.8	-1.5
SHPR	**Sheep Range**	**2.11**	**69**				Pn	12 19 17.6	-0.9
HMTC	**Hemet**	**2.13**	**166**				Pn	12 19 17.5	-1.0
ELS	**Elsinore Mount**	**2.14**	**176**				Pn	12 19 17.8	-0.9
ELS					IAML			12 19 52.9	
	comp=E,221nm,0.4s								
MCSM	**Casa Diablo Ho**	**2.14**	**331**				Pb	12 19 22.1	+0.4
RPV	**Rancho Palos V**	**2.14**	**198**				Pn	12 19 18.2	-0.4
DANC	**Danby, Needles**	**2.16**	**121**				Pn	12 19 17.2	-1.7
POB	**Polly Butte**	**2.17**	**165**				Pn	12 19 18.2	-0.9
DGR	**Domenigoni Val**	**2.19**	**167**				Pn	12 19 18.4	-0.9
MURC	**Murrieta**	**2.21**	**171**				Pn	12 19 18.7	-0.9
BACC	**Bachelor Mtn.**	**2.22**	**167**				Pn	12 19 18.7	-1.0
BELC	**Belle Mtn. Jos**	**2.22**	**143**				Pn	12 19 18.5	-1.4
BELC					IAML			12 19 55.9	
	comp=E,199nm,0.6s								
BELC					IAML			12 20 02.0	
	comp=N,150nm,0.6s								
TSCN	**Private Proper**	**2.24**	**265**				Pn	12 19 20.0	0.0
V12A	**Nelson**	**2.25**	**91**				Pn	12 19 18.9	-1.4
V12A					IAML			12 19 55.5	
	comp=N,186nm,0.5s								
V12A					IAML			12 19 57.2	
	comp=E,150nm,0.5s								
TPH	**Tonopah**	**2.31**	**8**				Pn	12 19 20.9	-0.2
CRY	**Cary Ranch**	**2.33**	**162**				Pn	12 19 20.5	-0.8
PMD	**Palm Desert**	**2.36**	**154**				Pn	12 19 20.4	-1.3
PFO	**Pinyon Flats O**	**2.37**	**156**				Pn	12 19 20.7	-1.2
SNDA	**J Saunders Pla**	**2.37**	**159**				Pn	12 19 21.1	-0.9
S11A	**Rachel**	**2.39**	**38**				Pn	12 19 21.8	-0.4
S11A					IAML			12 20 02.0	
	comp=N,221nm,0.4s								
S11A					IAML			12 20 02.7	
	comp=E,353nm,0.5s								
FRD	**Ford Ranch, An**	**2.43**	**160**				Pn	12 19 21.3	-1.4
LHV	**Little Huntoon**	**2.56**	**344**	Pn		Pn		12 19 25.3	+0.9
IRM	**Iron Mountain**	**2.60**	**128**				Pn	12 19 22.7	-2.3
IRM					IAML			12 20 06.1	
	comp=E,311nm,0.4s								
IRM					IAML			12 20 06.3	
	comp=N,148nm,0.7s								
PMPB	**Monarch Peak**	**2.62**	**280**	Pn		Pn		12 19 23.9	-1.3
PMPB					IAML			12 20 11.7	
	comp=E,261nm,1.0s								
PMPB					IAML			12 20 17.9	
	comp=N,278nm,0.9s								
PRN	**Pahroc Range**	**2.62**	**51**				Pn	12 19 24.7	-0.7
PRN					IAML			12 20 11.7	
	comp=N,115nm,0.7s								
PRN					IAML			12 20 18.0	
	comp=E,134nm,0.7s								
RAMR	**Ramage Ranch**	**2.65**	**268**	Pn		Pn		12 19 25.1	-0.6
NEE2	**Needles Airpor**	**2.65**	**112**	Pn		Pn		12 19 23.9	-1.8
NEE2					IAML			12 20 14.9	
	comp=E,312nm,0.6s								
NEE2					IAML			12 20 15.7	
	comp=N,300nm,0.8s								
BORC	**Borrego Spring**	**2.70**	**158**	Pn		Pn		12 19 25.5	-0.8
NVAR	**Mina Array Bea**	**2.70**	**348**	Pn		Pn		12 19 26.4	-0.1
BC3	**Big Chuckawall**	**2.77**	**139**				Pn	12 19 25.5	-1.9
BC3					IAML			12 20 12.4	
	comp=N,142nm,0.6s								

MPK				IAML		12 21 10.5		
	comp=N,66nm,0.9s							
MPK				IAML		12 21 11.7		
	comp=E,49nm,0.7s							
ESJX	**Sierra Juarez**	**4.02**	**159**	Pn	Pn	12 19 44.0	-0.6	
KNB	**Kanab**	**4.06**	**71**		Pn	12 19 45.1	-0.1	
PSUT	**Pine Spring**	**4.07**	**46**	Pn	Pn	12 19 44.7	-0.6	
PSUT				IAML		12 20 58.4		
	comp=E,35nm,0.6s							
PSUT				IAML		12 20 59.5		
	comp=N,32nm,0.7s							
SPR3	**Spring Creek 3**	**4.14**	**38**	Pn	Pn	12 19 45.6	-0.8	
SPR3				IAML		12 20 54.9		
	comp=N,24nm,0.4s							
SPR3				IAML		12 20 58.3		
	comp=E,35nm,1.0s							
PAHR	**Pah Rah Range**	**4.16**	**341**	Pn	Pn	12 19 45.9	-0.6	
Y14A	**Wickenburg**	**4.21**	**115**	Pn	Pn	12 19 46.0	-1.2	
Y14A				IAML		12 20 58.2		
	comp=E,53nm,0.7s							
Y14A				IAML		12 21 01.4		
	comp=N,54nm,0.8s							
U15A	**North Rim**	**4.36**	**80**		Pn	12 19 49.3	-0.1	
U15A				IAML		12 21 10.4		
	comp=N,21nm,0.9s							
113A	**Mohawk Valley,**	**4.38**	**132**	Pn	Pn	12 19 47.1	-2.4	
PKCU	**Pink Cliffs**	**4.58**	**67**	Pn	Pn	12 19 52.1	-0.4	
PKCU				IAML		12 22 56.4		
	comp=N,60nm,0.8s							
MTPU	**Mount Pierson**	**4.90**	**61**		Pn	12 19 57.5	+0.6	
MTPU				IAML		12 22 53.1		
	comp=E,25nm,3.5s							
MTPU				IAML		12 22 56.9		
	comp=N,36nm,3.0s							
TCRU	**Three Creeks R**	**5.00**	**54**	Pn	Pn	12 19 57.2	-1.0	
WUAZ	**Wupatki**	**5.09**	**91**	Pn	Pn	12 19 58.4	-1.0	
MSU	**Marysvale**	**5.13**	**56**	Pn	Pn	12 19 58.0	-2.0	
ELK	**Elko**	**5.29**	**20**	Pn	Pn	12 20 02.0	-0.3	
ELK				IAML		12 22 43.5		
	comp=N,13nm,2.2s							
ELK				IAML		12 23 05.6		
	comp=N,15nm,2.0s							
214A	**Organ Pipe Nat**	**5.53**	**132**	Pn	Pn	12 20 02.9	-2.4	

NOU 02 12:43:37.8, 10°90S×161°44E, h0km, MLv4.6/12, Solomon Islands, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.63**	**47**	P	Pg	12 43 48.9	-0.9
NGOA	**Tingoa Renbel**	**1.50**	**244**	P	Pn	12 44 05.5	-0.5
NGOA	**Tingoa Renbel**	**1.50**	**244**	S	Sg	12 44 24.4	-1.7
HNR	**Honiara**	**2.07**	**315**	P	Pn	12 44 13.4	-0.5
HNR	**Honiara**	**2.07**	**315**	S	Sn	12 44 39.8	-0.6
ALEG	**Aligegeo Malai**	**2.25**	**341**	P	Pn	12 44 17.1	+0.7
ALEG	**Aligegeo Malai**	**2.25**	**341**	S	Sn	12 44 45.7	+0.8
SAVO	**Savo Central**	**2.37**	**317**	P	Pn	12 44 17.6	-0.3
TATA	**Tatamba Isabel**	**2.97**	**327**	P	Pn	12 44 27.5	+1.2
LUES	**Luesalemba Tem**	**4.40**	**87**	P	Pn	12 44 44.6	-1.3
SANVU	**Saraoutou**	**7.21**	**129**	P	Pn	12 45 24.8	+0.3
VLAKA	**Lakatoro**	**7.79**	**132**	P	Pn	12 45 33.1	+0.7

*OSPL **02** 12:55:26.3±0.9, 18°.68N×71°.90W, h40km±10km, ML2.1*
*SDD **02** 12:55:27.3±0.7, 18°.54N×71°.99W, h20km±4km, MD3.0, ML2.2, MW2.9*

ISC 02 12:55:25.7±1.1, 18°.60N±0°.05×71°.95W±0°.04, h26km±8km, n10, σ0s66/19, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.14**	**141**	*e*Pg	**Pb**	**12 55 30.9**	**0.0**
JIDR				*e*Sg	**Sb**	**12 55 34.3**	**-0.1**
JIDR				IAML		12 55 34.4	
	comp=N,3µm,0.1s						
PAPH	**Port-au-Prince**	**0.34**	**257**	*i* P	**Pn**	**12 55 35.0**	**0.0**
PAPH				*e*S	**Sn**	**12 55 41.4**	**+0.2**
PAPH				IAML		12 55 42.1	
	comp=Z,350nm,0.4s						
LONE3	**El Aguacate, B**	**0.46**	**90**	*i* P	**Pn**	**12 55 37.2**	**+0.4**
LONE3				*e*S	**Sn**	**12 55 44.6**	**+0.3**
LONE3				IAML		12 55 45.1	
	comp=Z,43nm,0.2s						
LODU1	**El Espartillar**	**0.51**	**119**	*i* P	**Pn**	**12 55 36.8**	**-0.5**
LODU1				*e*S	**Sb**	**12 55 43.6**	**+0.3**
LODU1				IAML		12 55 47.5	
	comp=Z,119nm,0.4s						
NEDR	**Neiba UASD**	**0.52**	**103**	*e*Pg	**Pn**	**12 55 36.6**	**-0.8**
NEDR				*e*Sg	**Sb**	**12 55 43.6**	**+0.2**
NEDR				IAML		12 55 48.5	
	comp=N,49nm,0.5s						
SDDR	**Presa de Saban**	**0.73**	**59**	*i* P	**Pb**	**12 55 38.2**	**-1.6**
SDDR	**Presa de Saban**	**0.73**	**59**	*e*Pg	**Pn**	**12 55 41.0**	**+0.6**
SDDR				*e*Sg	**Sn**	**12 55 51.8**	**+1.1**
PODR	**Polo**	**0.77**	**124**	*e*Pg	**Pn**	**12 55 41.4**	**+0.4**
PODR				*e*Sg	**Sb**	**12 55 51.1**	**+0.3**
PODR				IAML		12 55 58.0	
	comp=N,95nm,0.8s						
REDR	**Restauracion**	**0.77**	**43**	*e*Pg	**Pn**	**12 55 41.4**	**+0.5**
REDR				*e*Sg	**Sn**	**12 55 52.0**	**+0.5**
REDR				IAML		12 55 55.6	
	comp=N,53nm,0.1s						
LOBH	**Bahia de las A**	**0.79**	**158**	*i* P	**Pb**	**12 55 40.8**	**-0.1**
LOBH				*e*S	**Sn**	**12 55 51.9**	**-0.3**
LOBH				IAML		12 55 57.8	
	comp=Z,57nm,1.9s						

*IDC **02** 12:58:11.9±0.8, 48°.82S×120°.66E, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=47.5km s-min=17.7km az=104.0*

ISC 02 12:58:13.4±0.8, 48°.8S±0°.1×121°.0E±0°.3, h10km, n12, σ0s55/10, mb4.0/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.81**	**338**	T	T	13 17 08.2	
	baz=160,slow=74,SNR=18						
H01W2	**Cape Leeuwin H**	**14.81**	**337**	T	T	13 17 08.7	
	baz=160,slow=74,SNR=23						
H01W3	**Cape Leeuwin H**	**14.83**	**337**	T	T	13 17 09.6	
	baz=160,slow=74,SNR=17						
ASAR	**Alice Springs**	**27.11**	**27**	P	**P**	**13 03 56.5**	**0.0**
	0.6nm,0.7s,baz=206,slow=9.0,SNR=9.1						
ASAR				PcP	**PcP**	**13 07 15.9**	**-1.2**
	0.3nm,0.8s,baz=182,slow=2.1,SNR=6.2						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**30.75**	**25**	P	**P**	**13 04 28.9**	**+0.1**
	0.3nm,0.5s,baz=198,slow=7.8,SNR=2.0						
	0.3nm,0.5s						
VNDA	**Vanda**	**32.73**	**165**	P	**P**	**13 04 45.4**	**-0.2**
	0.7nm,0.6s,baz=306,slow=11,SNR=3.8						
	0.7nm,0.6s						
MAW	**Mawson**	**34.21**	**215**	P	**P**	**13 04 58.1**	**-0.4**
	1.7nm,0.8s,baz=70,slow=19,SNR=3.6						
	1.7nm,0.8s						
QSPA	**South Pole Qui**	**41.30**	**180**	P	**P**	**13 05 59.1**	**+0.4**
	2.5nm,0.7s,baz=324,slow=2.0,SNR=15						
	2.5nm,0.7s						
SNAA	**Sanae**	**53.45**	**199**	P	**P**	**13 07 33.5**	**+0.4**
	2.7nm,1.1s,baz=141,slow=9.3,SNR=4.5						
	2.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**69.80**	**338**	P	**P**	**13 09 24.2**	**+0.4**
	1.0nm,0.8s,baz=185,slow=4.3,SNR=4.7						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**144.79**	**80**	PKPbc	**PKPab**	**13 17 49.4**	**+0.2**
	1.5nm,0.9s,baz=201,slow=2.9,SNR=8.8						
YKA	**Yellowknife Ar**	**146.94**	**45**	PKPbc	**PKPdf**	**13 17 52.8**	**-0.1**
	2.3nm,0.8s,baz=279,slow=2.7,SNR=6.4						

*IDC **02** 13:02:32.2±1.7, 2°.49N×124°.52E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=212.7km s-min=22.4km az=64.0*
*DJA **02** 13:02:35.2±0.8, 4°N±12°×12°7E±°, h24km±15km, M3.9/6, mb4.4/1, MLv3.7/6*

ISC 02 13:02:36.2±1.5, 3°.6N±0°.2×126°.8E±0°.1, h48km, n5, σ0s44/6, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.26**	**276**	P	**Pn**	**13 02 57.2**	**-0.2**
SGSI				S	**Sn**	**13 03 13.3**	**+0.1**
WRA	**Warramunga Arr**	**24.50**	**163**	P	**P**	**13 07 51.0**	**-0.2**
	2.0nm,0.8s,baz=335,slow=11,SNR=8.9						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**27.93**	**166**	P	**P**	**13 08 22.4**	**+0.3**
	0.3nm,0.8s,baz=344,slow=8.4,SNR=5.2						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**13 12 22.7**	**+0.5**
	0.2nm,0.3s,baz=126,slow=6.7,SNR=5.3						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	**P**	**13 12 50.5**	**-0.4**
	0.3nm,0.3s,baz=126,slow=6.4,SNR=4.4						
	0.3nm,0.3s						

*IDC **02** 13:06:51.2±0.6, 48°.90S×121°.43E, h0km, mb4.4/12, mbtmp4.4/13, ML2.5/1, MS4.8/2, Error ellipse: s-maj=33.2km s-min=13.5km az=102.0*
*NEIC **02** 13:06:53.2±1.1, 48°.9S±0°.1×120°.8E±0°.2, h10km±1km, mb5.0/19, Error ellipse: s-maj=25.4km s-min=16.9km az=276.0*

ISC 02 13:06:52.6±0.4, 48°.83S±0°.07×121°.0E±0°.1, h10km, n70, σ0s87/62, mb4.7/20, 6C-1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.81**	**338**	T	T	13 25 58.5	
	baz=160,slow=74,SNR=127						
H01W2	**Cape Leeuwin H**	**14.81**	**337**	T	T	13 25 49.0	
	baz=160,slow=74,SNR=105						
H01W3	**Cape Leeuwin H**	**14.83**	**337**	T	T	13 25 48.0	
	baz=160,slow=74,SNR=97						
NWAO	**Narrogin (SRO)**	**16.13**	**349**	Pn	**Pn**	**13 10 37.0**	**-2.3**
NWAO	**Narrogin (SRO)**	**16.13**	**349**	Pn	**P**	**13 10 41.9**	**-0.7**
	0.9nm,0.3s,baz=163,slow=10,SNR=7.9						
NWAO				LR	LR	13 15 21.1	
	comp=Z,3µm,20.2s,baz=44,slow=31						
	4.0nm,0.6s						
CASY	**Casey**	**18.33**	**193**		**P**	**13 11 06.5**	**-0.1**
STKA	**Stephens Creek**	**22.98**	**50**	P	**P**	**13 11 58.5**	**+1.3**
STKA				IAmb	IAmb	13 12 12.3	
	comp=Z,68nm,1.2s						
STKA	**Stephens Creek**	**22.98**	**50**	P	**P**	**13 11 55.7**	**-1.5**
	comp=Z,8.4nm,1.1s,baz=206,slow=8.2,SNR=6.4						
	comp=Z,8.4nm,1.1s						
ASAR	**Alice Springs**	**27.11**	**27**		**P**	**13 12 35.3**	**-0.3**
ASAR	**Alice Springs**	**27.11**	**27**	P	**P**	**13 12 35.1**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=196,slow=9.1,SNR=30						
ASAR				PcP	**PcP**	**13 15 55.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=191,slow=2.6,SNR=6.1						
	comp=Z,4.8nm,0.8s						
AS31	**Alice Springs**	**27.11**	**27**		**P**	**13 12 36.4**	**+0.7**
PSA00	**Pilbara Seismi**	**27.21**	**358**	P	**P**	**13 12 36.7**	**+0.3**
WRA	**Warramunga Arr**	**30.76**	**25**	P	**P**	**13 13 07.0**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=198,slow=8.2,SNR=7.7						
	comp=Z,3.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.88**	**9**	P	**P**	**13 13 10.0**	**+0.9**
	comp=Z,3.4nm,0.8s,baz=168,slow=21,SNR=3.7						
	comp=Z,3.4nm,0.8s						
VNDA	**Vanda**	**32.73**	**165**	P	**P**	**13 13 24.6**	**-0.2**
VNDA				IAmb	IAmb	13 13 31.7	
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**32.73**	**165**	P	**P**	**13 13 24.0**	**-0.9**
	comp=Z,3.4nm,0.9s,baz=301,slow=9.5,SNR=12						
	comp=Z,3.4nm,0.9s						
SBA	**Scott Base**	**33.79**	**164**	P	**P**	**13 13 35.3**	**+1.2**
SBA				IAmb	IAmb	13 13 42.0	
	comp=Z,41nm,1.6s						
MAW	**Mawson**	**34.21**	**215**	P	**P**	**13 13 38.7**	**+1.0**
	comp=Z,6.8nm,1.0s,baz=84,slow=11,SNR=8.8						
MAW				LR	LR	13 24 40.2	
	comp=Z,1µm,19.9s,baz=120,slow=31						
	comp=Z,6.8nm,1.0s						
QSPA	**South Pole Qui**	**41.30**	**180**	P	**P**	**13 14 38.4**	**+0.4**
QSPA	**South Pole Qui**	**41.30**	**180**	P	**P**	**13 14 38.4**	**+0.4**
	comp=Z,17nm,1.0s,baz=193,slow=0.5,SNR=33						
	comp=Z,17nm,1.0s						
SYO	**Syowa Base**	**42.63**	**212**	*e*P	**P**	**13 14 47.8**	**-0.7**
SYO	**Syowa Base**	**42.63**	**212**	*e*sP	sP	13 14 54.0	+2.9
ONTNC	**Ouen Toro**	**44.57**	**70**	P	**P**	**13 15 05.8**	**+1.2**
DZM	**Mont Dzumac**	**44.74**	**70**	P	**P**	**13 15 06.9**	**+0.8**
DZM				IAmb	IAmb	13 15 07.8	
	comp=Z,33nm,1.3s						
TROLL	**Troll, Antarti**	**52.01**	**200**	P	**P**	**13 16 01.6**	**-0.1**
	comp=Z,244nm,0.9s						
SNAA	**Sanae**	**53.45**	**199**	P	**P**	**13 16 12.4**	**+0.2**
	comp=Z,268nm,0.9s						
SNAA	**Sanae**	**53.45**	**199**	P	**P**	**13 16 12.4**	**+0.2**
SNAA				IAmb	IAmb	13 16 20.2	
	comp=Z,29nm,1.1s						
SNAA	**Sanae**	**53.45**	**199**	P	**P**	**13 16 12.4**	**+0.2**
	comp=Z,17nm,1.2s,baz=139,slow=11,SNR=15						
	comp=Z,17nm,1.2s						
VNA2	**Neumayer--Watz**	**54.98**	**198**	P	**P**	**13 16 23.4**	**+0.1**
	comp=Z,9.6nm,0.9s,baz=158,slow=6.7						
VNA3	**Neumayer Olymp**	**55.19**	**197**	P	**P**	**13 16 24.5**	**-0.4**
	comp=Z,8.4nm,1.0s						
VNA1	**Neumayer--Stat**	**55.37**	**198**	P	**P**	**13 16 25.9**	**-0.2**
	comp=Z,18nm,1.0s						
DAV	**Davao City (W**	**55.80**	**6**	P	**P**	**13 16 29.7**	**-0.2**
H08S2	**Diego Garcia H**	**57.77**	**299**	T	T	14 19 29.0	
	baz=144,slow=76,SNR=9.2						
H08S1	**Diego Carcia H**	**57.78**	**299**	T	T	14 19 30.4	
	baz=144,slow=76,SNR=8.3						
H08S3	**Diego Garcia H**	**57.79**	**299**	T	T	14 19 31.7	
	baz=144,slow=76,SNR=8.4						
CM31	**Chiang Mai Arr**	**69.80**	**338**	P	**P**	**13 18 04.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**69.80**	**338**	P	**P**	**13 18 04.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**69.80**	**338**	P	**P**	**13 18 04.6**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=183,slow=5.5,SNR=13						
	comp=Z,2.0nm,0.6s						
SHL	**Shillong**	**78.50**	**333**	P	**P**	**13 18 54.5**	**+0.6**
KSAR	**Wonju Array Be**	**86.11**	**6**	P	**P**	**13 19 34.9**	**+1.7**
KSRS	**Korea Array**	**86.12**	**6**	P	**P**	**13 19 34.3**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=207,slow=5.2,SNR=6.8						
	comp=Z,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**86.36**	**14**	P	**P**	**13 19 35.2**	**+0.7**
MJAR				IAmb	IAmb	13 19 36.9	
	comp=Z,10.0nm,1.4s						
MJAR	**Matsushiro Arr**	**86.36**	**14**	P	**P**	**13 19 34.9**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=192,slow=6.1,SNR=6.2						
	comp=Z,2.0nm,0.8s						
MAJO	**Matsushiro**	**86.37**	**14**	P	**P**	**13 19 36.7**	**+2.2**
MAJO				IAmb	IAmb	13 19 38.6	
	comp=Z,15nm,1.4s						
MJB9	**Matsu-Tunnel**	**86.37**	**14**	IAmb	IAmb	13 19 38.5	
	comp=Z,15nm,1.4s						
PLCA	**Paso Flores**	**90.24**	**171**	P	**P**	**13 19 51.8**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=111,slow=6.3,SNR=3.4						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**97.11**	**350**	P	Pdif	13 20 25.2	+0.7
SONM				IAmb	IAmb	13 20 32.6	
	comp=Z,11nm,2.0s						
ILAR	**Eielson Array**	**133.52**	**36**	PKP	**PKPdf**	**13 26 06.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=279,slow=3.0,SNR=7.2						
NVAR	**Mina Array Bea**	**136.86**	**81**	PKP	**PKPdf**	**13 26 15.2**	**0.0**
	comp=Z,0.6nm,0.8s,baz=215,slow=5.1,SNR=3.7						
TXAR	**Lajitas Array**	**140.93**	**103**	PKP	**PKPdf**	**13 26 22.0**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=222,slow=3.4,SNR=5.0						
MNTX	**Comudas Mount**	**141.37**	**99**		**PKPdf**	**13 26 22.7**	**-0.6**
TPAW	**Teton Pass**	**144.22**	**79**		**PKPdf**	**13 26 28.2**	**-0.2**
O20A	**White River Ci**	**144.37**	**85**		**PKPdf**	**13 26 28.4**	**-0.2**
YHL	**Hebgen Lake**	**144.67**	**76**		**PKPdf**	**13 26 29.9**	**+0.7**
PDAR	**Pinedale Array**	**144.79**	**80**		**PKPab**	**13 26 27.9**	**-0.4**
PDAR	**Pinedale Array**	**144.79**	**80**	PKP	**PKPab**	**13 26 27.6**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=185,slow=3.7,SNR=8.1						
ABTX	**Abilene, Hawle**	**145.69**	**103**		**PKPdf**	**13 26 30.7**	**-0.2**
APMT	**Aspermont**	**145.82**	**102**		**PKPdf**	**13 26 31.1**	**-0.1**
EKA	**Eskdalemuir Ar**	**145.88**	**303**	PKPbc	**PKPbc**	**13 26 31.4**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=107,slow=2.9,SNR=7.2						
ISCO	**Idaho Springs**	**145.93**	**88**		**PKPbc**	**13 26 32.2**	**0.0**
PLPT	**Palo Pinto**	**146.66**	**104**		**PKPbc**	**13 26 33.6**	**-0.6**
YKA	**Yellowknife Ar**	**146.94**	**45**		**PKPbc**	**13 26 33.7**	**-0.4**
YKA	**Yellowknife Ar**	**146.94**	**45**	PKPbc	**PKPbc**	**13 26 33.8**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=285,slow=2.7,SNR=10						
WMOK	**Wichita Mounta**	**147.57**	**101**		**PKPbc**	**13 26 36.0**	**-0.7**
RSSD	**Black Hills**	**149.00**	**81**		**PKPbc**	**13 26 40.3**	**-0.1**
OK052	**Battle Ridge R**	**149.62**	**101**		**PKiKP**	**13 26 42.7**	**-0.2**
QUOK	**Quay**	**149.79**	**101**		**PKiKP**	**13 26 42.8**	**-0.5**
RES	**Resolute Bay**	**149.98**	**18**		**PKiKP**	**13 26 43.5**	**+1.0**
U38A	**Gravette**	**151.45**	**102**		**PKPbc**	**13 26 46.0**	**-0.3**
WHAR	**Wooly Hollow**	**152.09**	**107**		**PKiKP**	**13 26 48.9**	**+0.8**

AUST 02 13:08:09.1±0.5, 18°S±5°×12°0E±°, h10km, mb4.2/7, ML3.4/6, ML3.7/4, Error ellipse: s-maj=12.7km s-min=4.7km az=138.4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.84**	**82**	P	Pb	13 08 42.3	-0.6
AUBRM				S	Sb	13 09 07.1	+1.1
MBWA	**Marble Bar**	**2.96**	**191**	P	Pn	13 08 57.3	+1.1
MBWA				S	Sn	13 09 32.7	+0.9
PSA00	**Pilbara Seismi**	**3.35**	**188**	P	Pn	13 09 03.7	+2.1
PSA00				S	Sn	13 09 40.6	-0.9
FITZ	**Fitzroy Crossi**	**5.06**	**89**	P	Pn	13 09 24.3	-0.8
GIRL	**Giralia**	**7.19**	**231**	P	Pn	13 09 54.7	+0.3
	comp=Z,31nm,1.6s,comp=Z,118µmcomp=Z,0.1nm						
GIRL				S	Sn	13 11 11.5	-4.8
KNRA	**Kununurra**	**8.47**	**74**	P	Pn	13 10 10.9	-1.1
	comp=Z,15nm,1.9s,comp=Z,0.1nm						
CVQOZ	**Cooralya Stati**	**8.48**	**222**	P	Pn	13 10 12.5	+0.3
	comp=Z,79nm,0.9s,comp=Z,0.6nm						
MEEK	**Meekatharra**	**8.51**	**190**	P	Pn	13 10 13.4	+0.9
	comp=Z,16nm,2.9s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.51**	**190**	S	Sn	13 11 43.6	-5.0
WRKA	**Warakurna**	**10.04**	**134**	P	Pn	13 10 32.7	-0.8
WRKA				S	Sn	13 12 19.6	-6.7
MORW	**Morawa**	**11.47**	**199**	P	Pn	13 10 52.7	-0.4
	comp=Z,9.9nm,2.8s						
MORW	**Morawa**	**11.47**	**199**	S	Sn	13 12 50.5	-11
MTN	**Manton Dam**	**11.72**	**64**	P	Pn	13 10 53.9	-2.6
	comp=Z,18nm,1.2s						
BLDU	**Ballidu**	**12.75**	**194**	S	Sn	13 13 20.9	-12
KMBL	**Kambalda**	**13.15**	**174**	S	Sn	13 13 33.5	-8.9
KLBR	**Kellerberrin**	**13.50**	**189**	S	Sn	13 13 36.0	-15
MUN	**Mundaring**	**14.18**	**194**	S	Sn	13 13 55.1	-12
FORT	**Forrest**	**14.33**	**152**	P	Pn	13 11 30.6	-1.5
	comp=Z,9.2nm,0.9s						
FORT				S	Sn	13 14 02.5	-8.7
NWAO	**Narrogin (SRO)**	**14.89**	**190**	S	Sn	13 14 10.3	-15

*IDC **02** 13:14:28.7±1.6, 34°.11S×72°.12W, h0km, mb3.7/3, mbtmp3.6/6, ML3.6/3, Error ellipse: s-maj=40.3km s-min=16.8km az=109.0*
*GUC **02** 13:14:31.0±0.8, 34°.14S×72°.17W, h23km±22km, ML3.8*

ISC 02 13:14:31.7±1.1, 34°.09S±0°.05×72°.13W±0°.08, h19km, n31, σ0s90/17, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.43**	**161**	*i*/*i*P	**Pg**	**13 14 40.1**	**-0.5**
BO03				*e*S	**Sb**	**13 14 46.3**	**-0.7**
MT01	**Popeta**	**0.77**	**73**	*i*/*i*P	**Pn**	**13 14 47.2**	**-0.3**
MT01				*e*S	**Sn**	**13 14 58.9**	**+0.3**
MT01				IAML		13 15 00.5	
	comp=N,4µm,0.3s						
BO01	**Tunca**	**0.92**	**109**	*i* P	**Pg**	**13 14 48.5**	**-1.1**
BO01				IAML		13 15 08.8	
	comp=N,2µm,0.5s						
MT09	**Talagante**	**1.00**	**72**	*i* P	**Pg**	**13 14 50.9**	**-0.3**
MT09				*e*S	**Sn**	**13 15 06.0**	**+1.4**
MT09				IAML		13 15 12.9	
	comp=N,3µm,0.4s						
MT02	**Curacav**	**1.17**	**45**	*i*/*i*P	**Pg**	**13 14 53.5**	**-0.9**
BO04	**La Punta**	**1.27**	**86**	*e*P	**Pg**	**13 14 55.0**	**-1.2**
BO04				*e*S	**Sg**	**13 15 13.9**	**+1.0**
BO04				IAML		13 15 19.8	
	comp=N,2µm,0.2s						
BO02	**Sierra Bellavi**	**1.32**	**123**	IAML		13 15 22.1	
	comp=E,3µm,0.5s						
MT05	**Renca**	**1.35**	**59**	IAML		13 15 23.8	
	comp=E,3µm,0.2s						
MT15	**Las Vizcachas**	**1.44**	**71**	IAML		13 15 25.4	
	comp=N,4µm,0.4s						
ROCH	**El Roble**	**1.46**	**40**	IAML		13 15 29.1	
	comp=N,3µm,0.4s						
MT16	**CCHEN**	**1.49**	**64**	IAML		13 15 27.3	
	comp=E,840nm,0.5s						
MT14	**Cerro Calן**	**1.50**	**63**	IAML		13 15 28.9	
	comp=E,3µm,0.4s						
PEL	**Peldehue**	**1.53**	**52**	IAML		13 15 30.8	
	comp=N,2µm,0.4s						
MT10	**Hacienda Santa**	**1.56**	**59**	IAML		13 15 24.9	
	comp=N,3µm,0.3s						
LMEL	**Las Melosas**	**1.62**	**82**	IAML		13 15 27.3	
	comp=N,2µm,0.3s						
VA06	**Catapilco**	**1.68**	**25**	IAML		13 15 35.9	
	comp=E,3µm,0.6s						
VA03	**San Esteban**	**1.87**	**45**	IAML		13 15 39.1	
	comp=E,2µm,0.3s						
MT08	**Bocatoma Ro**	**1.88**	**71**	IAML		13 15 37.1	
	comp=N,870nm,0.4s						
CFA	**Coronel Fontan**	**4.11**	**54**	Pn	**Pn**	**13 15 34.3**	**+0.8**
	comp=N,1.9nm,0.3s,baz=228,slow=14,SNR=14						
CFA				Lg	Lg	13 16 38.1	
	comp=N,4.3nm,0.3s,baz=134,slow=1.1,SNR=4.1						
	comp=N,1.5nm,0.3s						
H03S1	**Juan Fernandez**	**5.63**	**271**	T	T	13 21 43.1	
	baz=92,slow=75,SNR=520						
H03S3	**Juan Fernandez**	**5.64**	**271**	T	T	13 21 39.4	

ANIL	**Santa Ana**	**3.24**	**224**	P	Pn	13 29 20.3 +1.3
ANIL				S	Sn	13 29 57.6 -0.4
PRAC	**Prado**	**3.55**	**210**	P	Pn	13 29 22.2 -0.6
PRAC				S	Sn	13 30 04.0 -0.9
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	13 29 23.5 +0.3
APAC				S	Sn	13 30 05.1 -0.6
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	13 29 24.5 +0.1
PLMC				S	Sn	13 30 06.0 -1.7
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	13 29 22.6 -1.8
SJCC				S	Sn	13 30 03.7 -4.0
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	13 29 26.2 +0.6
URMC				S	Sn	13 30 11.6 +1.7
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	P	Pn	13 29 28.6 -2.5
CRJC				S	Sn	13 30 15.6 -4.2
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	13 29 30.9 -1.4
YOTC				S	Sn	13 30 21.7 -0.1
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	13 29 40.0 -1.6
FLOC	**Florencia**	**5.78**	**206**	P	Pn	13 29 50.6 -1.7

IDC 02 13:33:11.1±4.8, 13°08N×126°47E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=392.1km s-min=23.5km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.72**	**167**	P	P	13 39 54.3	-0.1
	0.5nm,1.0s,baz=348,slow=8.1,SNR=1.6 0.5nm,1.0s						
ASAR	**Alice Springs**	**37.24**	**169**	P	P	13 40 24.5	-0.1
	0.1nm,0.6s,baz=344,slow=8.9,SNR=5.0 0.1nm,0.6s						
MKAR	**Makanchi Array**	**49.94**	**321**	P	P	13 42 06.5	-0.4
	0.5nm,0.6s,baz=113,slow=9.3,SNR=6.0 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**53.90**	**324**	P	P	13 42 36.4	+0.2
	0.5nm,0.2s,baz=122,slow=7.7,SNR=5.7 0.5nm,0.2s						

IDC ***02*** *13:53:07.5±0.6, 23°.60N×121°.70E, h0km, mb4.1/18, mbtmp4.1/22, ML3.7/4, Error ellipse: s-maj=18.4km s-min=14.3km az=66.0*

BJI ***02*** *13:53:08.8, 23°.65N×121°.64E, h8km, mB5.1/12, mb4.3/48, ML4.6/9, Ms4.8/30, Ms7 4.6/28*

TAP ***02*** *13:53:08.8, 23°.71N×121°.53E, h4km, ML4.7, B*

JMA ***02*** *13:53:08.1±0.1, 23°.7N±0°.4×121°.6E±0°.9, h0km, MV4.1/14, TAIWAN REGION*

NEIC ***02*** *13:53:10.0±1.4, 23°.71N±0°.04×121°.54E±0°.05, h10km±1km, mb4.9/63, Error ellipse: s-maj=9.6km s-min=4.1km az=127.0*

ISC 02 13:53:09.5±0.8, 23°67N±0°.01×121°59E±0°02, h7km±5km, n440, σ1º19/499, mb4.8/59, 18C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.06**	**309**	⇑*i*P	**Pg**	**13 53 10.1**	**-1.1**
TEGC				S	**Sg**	**13 53 11.4**	**-1.0**
SHUL	**Shoufeng**	**0.12**	**347**	⇓P	**Pg**	**13 53 11.7**	**-0.4**
SHUL				S	**Sg**	**13 53 14.8**	**+1.0**
EGFH	**Guangfu**	**0.15**	**269**	*e*P	**Pg**	**13 53 11.3**	**-1.4**
EGFH				*i* S	**Sg**	**13 53 13.2**	**-1.5**
WARBT	**Fenglin Townsh**	**0.19**	**284**	⇓*i*P	**Pg**	**13 53 11.8**	**-1.6**
WARBT				*i* S	**Sg**	**13 53 14.1**	**-2.0**
TEYL	**Yanliau Villag**	**0.20**	**2**	⇓P	**Pg**	**13 53 14.3**	**+0.8**
TEYL				*e*S	**Sg**	**13 53 19.0**	**+2.8**
ESL	**Shilin**	**0.20**	**314**	⇓*i*P	**Pg**	**13 53 12.1**	**-1.6**
ESL				S	**Sg**	**13 53 14.8**	**-1.6**
HGSD	**Ruisui**	**0.23**	**221**	⇓*i*P	**Pg**	**13 53 14.6**	**+0.5**
HGSD				*e*S	**Sg**	**13 53 19.4**	**+2.1**
EHYH	**Wanrong**	**0.29**	**232**	⇑P	**Pg**	**13 53 14.6**	**-0.6**
EHYH				*e*S	**Sg**	**13 53 19.0**	**0.0**
EHY	**Hungye**	**0.30**	**237**	⇑*i*P	**Pg**	**13 53 14.4**	**-0.9**
EHY				*e*S	**Sg**	**13 53 19.3**	**0.0**
HWA	**Hwalien**	**0.30**	**2**	*e*P	**Pg**	**13 53 15.7**	**+0.2**
HWA				*e*S	**Sg**	**13 53 20.0**	**+0.5**
ETM	**Tongmen**	**0.31**	**343**	*e*P	**Pg**	**13 53 14.5**	**-1.1**
ETM				*e*S	**Sg**	**13 53 18.6**	**-1.0**
ECBN	**Changbin**	**0.38**	**200**	⇓*i*P	**Pb**	**13 53 17.8**	**-0.7**
ECBN				S	**Sb**	**13 53 25.0**	**+0.5**
LXIB	**Xiulin Townshi**	**0.39**	**335**	⇓*i*P	**Pg**	**13 53 15.8**	**-1.3**
LXIB				S	**Sg**	**13 53 21.5**	**-0.7**
YULB	**Yu-li**	**0.39**	**224**		**Pg**	**13 53 16.5**	**-0.6**
YULB	**Yu-li**	**0.39**	**224**	P	**Pg**	**13 53 17.5**	**+0.5**
YULB	**Yu-li**	**0.39**	**224**	S	**Sb**	**13 53 23.6**	**-1.3**
YULB	**Yu-li**	**0.39**	**224**	⇑*i*P	**Pg**	**13 53 16.5**	**-0.6**
YULB				*e*S	**Sb**	**13 53 24.1**	**-0.8**
EYUL	**Yuli**	**0.41**	**218**	*e*P	**Pg**	**13 53 17.8**	**+0.4**
EYUL				*e*S	**Sb**	**13 53 25.4**	**0.0**
TWD	**Chiawan**	**0.41**	**1**	⇓*i*P	**Pg**	**13 53 16.9**	**-0.6**
TWD				S	**Sg**	**13 53 23.1**	**+0.3**
TWF1	**Yuli**	**0.42**	**221**	⇑P	**Pg**	**13 53 17.3**	**-0.3**
TWF1				*e*S	**Sb**	**13 53 25.2**	**-0.6**
VWDT	**VWDT**	**0.42**	**281**	⇑*e*P	**Pg**	**13 53 16.7**	**-1.0**
VWDT				S	**Sg**	**13 53 23.1**	**-0.1**
OWD	**Renai**	**0.47**	**307**	⇓*e*P	**Pg**	**13 53 17.3**	**-1.4**
OWD				S	**Sg**	**13 53 23.4**	**-1.5**
ETL	**Fush Village**	**0.49**	**3**	*e*P	**Pg**	**13 53 18.3**	**-0.6**
ETL				*e*S	**Sg**	**13 53 26.0**	**+0.7**
NACB	**Ninganchiao**	**0.50**	**0**		**Pg**	**13 53 18.3**	**-1.0**
NACB	**Ninganchiao**	**0.50**	**0**	P	**Pg**	**13 53 18.4**	**-0.8**
NACB	**Ninganchiao**	**0.50**	**0**	⇓*i*P	**Pg**	**13 53 18.2**	**-1.0**
NACB				*e*S	**Sb**	**13 53 26.6**	**-1.6**
CHKH	**Chenggong**	**0.51**	**201**	*e*P	**Pb**	**13 53 19.9**	**-0.8**
CHKH				*e*S	**Sb**	**13 53 28.9**	**+0.5**
WUSB	**Renai**	**0.54**	**306**	⇓P	**Pg**	**13 53 18.8**	**-1.2**
WUSB				S	**Sg**	**13 53 25.9**	**-1.1**
ETLH	**Xiulin Townshi**	**0.54**	**349**	⇓*i*P	**Pg**	**13 53 18.9**	**-1.1**
ETLH				*e*S	**Sg**	**13 53 27.3**	**+0.1**
FULB	**Fuli**	**0.54**	**210**	*e*P	**Pb**	**13 53 21.0**	**-0.4**
FULB				*e*S	**Sb**	**13 53 29.8**	**+0.4**
WHF	**Hehuan Shan**	**0.56**	**328**	⇓*i*P	**Pg**	**13 53 19.0**	**-1.4**
WHF				*e*S	**Sg**	**13 53 26.9**	**-0.9**
SSLB	**Suanglung**	**0.60**	**281**		**Pg**	**13 53 19.8**	**-1.3**
SSLB	**Suanglung**	**0.60**	**281**	P	**Pg**	**13 53 19.9**	**-1.1**
SSLB	**Suanglung**	**0.60**	**281**	S	**Sg**	**13 53 27.7**	**-1.1**
SSLB	**Suanglung**	**0.60**	**281**	⇑*i*P	**Pg**	**13 53 19.7**	**-1.3**
SSLB				S	**Sg**	**13 53 27.0**	**-1.8**
CHKT	**Chengkung**	**0.61**	**200**	⇓*i*P	**Pb**	**13 53 21.5**	**-0.9**
CHKT				*e*S	**Sb**	**13 53 32.6**	**+1.4**
EHD	**Haiduan**	**0.63**	**214**	*e*P	**Pg**	**13 53 21.5**	**-0.1**
EHD				*i* S	**Sb**	**13 53 31.4**	**-0.4**
FUSS	**Fushou**	**0.66**	**331**	⇓*i*P	**Pg**	**13 53 21.1**	**-1.1**
FUSS				*e*S	**Sg**	**13 53 30.3**	**-0.5**
ECS	**Chishang**	**0.67**	**211**	*e*P	**Pb**	**13 53 23.9**	**+0.4**
SMLT	**Sun Moon Lake**	**0.67**	**289**	*e*P	**Pg**	**13 53 21.6**	**-0.8**
SMLT				*e*S	**Sg**	**13 53 30.5**	**-0.6**
EAHA	**Aohua**	**0.67**	**12**	*e*P	**Pg**	**13 53 22.1**	**-0.3**
EAHA				*e*S	**Sb**	**13 53 32.4**	**-0.6**
WHYT	**Xinyi Township**	**0.68**	**272**	*e*P	**Pg**	**13 53 21.6**	**-0.9**
WHYT				*e*S	**Sg**	**13 53 29.9**	**-1.5**
TWT	**Tachien**	**0.69**	**327**	*e*P	**Pg**	**13 53 22.0**	**-0.9**
TWT				*e*S	**Sg**	**13 53 30.5**	**-1.5**
TDCB	**Techi**	**0.70**	**326**	*e*P	**Pg**	**13 53 21.8**	**-1.2**
TDCB				*e*S	**Sg**	**13 53 30.0**	**-2.3**
TYC	**Yuchr**	**0.71**	**289**	*e*P	**Pg**	**13 53 22.1**	**-1.1**
ELDTW	**Lidau**	**0.71**	**228**	*e*P	**Pg**	**13 53 22.4**	**-0.9**
WCS	**Beigang Elemen**	**0.73**	**302**	*e*P	**Pg**	**13 53 22.9**	**-0.7**
WCS				*e*S	**Sg**	**13 53 31.1**	**-2.0**
ALS	**Alishan**	**0.74**	**258**	⇑*i*P	**Pg**	**13 53 23.1**	**-0.7**
ALS				*e*S	**Sg**	**13 53 33.3**	**-0.2**
EDH	**Donghe**	**0.74**	**201**	⇓P	**Pb**	**13 53 23.9**	**-0.9**
EDH				*e*S	**Sb**	**13 53 36.4**	**+1.2**
ENA	**Nanau**	**0.77**	**10**	*e*P	**Pg**	**13 53 23.6**	**-0.7**
ENA				*e*S	**Sg**	**13 53 34.3**	**+0.1**
NNSB	**Datong**	**0.78**	**346**	⇓*i*P	**Pg**	**13 53 23.4**	**-1.1**
EWUT	**Wuta**	**0.79**	**12**	*e*P	**Pg**	**13 53 24.2**	**-0.5**
NNS	**Nan Shan**	**0.79**	**345**	⇓*i*P	**Pg**	**13 53 23.7**	**-1.1**
NNS				*e*S	**Sg**	**13 53 33.3**	**-1.8**
EOS4	**EOS4**	**0.80**	**56**	*e*P	**Pb**	**13 53 25.2**	**-0.4**
WJS	**Zhushan**	**0.81**	**281**	*e*P	**Pb**	**13 53 25.3**	**-0.6**
WHP	**Taichung City**	**0.84**	**316**	*e*P	**Pg**	**13 53 24.7**	**-1.0**
WHP				*e*S	**Sg**	**13 53 35.5**	**-1.3**
WNT	**Mingjian**	**0.86**	**284**	*e*P	**Pb**	**13 53 26.4**	**-0.3**
WNT				*e*S	**Sg**	**13 53 37.5**	**+0.4**
LATG	**Datong**	**0.86**	**356**	⇓P	**Pg**	**13 53 25.0**	**-1.1**
LONT	**Longtian**	**0.87**	**209**	*e*P	**Pg**	**13 53 25.9**	**-0.3**
STYH	**Taoyuan**	**0.90**	**237**	*i* P	**Pg**	**13 53 26.5**	**-0.3**
STYH				*e*S	**Sb**	**13 53 39.1**	**-0.6**
EOS3	**EOS3**	**0.90**	**47**	*e*P	**Pn**	**13 53 27.5**	**-1.0**
ESAO	**Su ao**	**0.93**	**14**	*e*P	**Pb**	**13 53 27.1**	**-0.8**
ESAO				*e*S	**Sb**	**13 53 40.1**	**-0.5**
WCKO	**Fanlu**	**0.94**	**256**	⇑*e*P	**Pb**	**13 53 27.7**	**-0.4**
WCKO				*e*S	**Sg**	**13 53 39.3**	**-0.3**
WGK	**Gukeng**	**0.94**	**271**	⇑⇑P	**Pb**	**13 53 27.9**	**-0.3**
WGK				*e*S	**Sb**	**13 53 40.9**	**0.0**
EOS2	**EOS2**	**0.95**	**38**	*e*P	**Pn**	**13 53 28.5**	**-0.6**
TPUB	**Ta-pu**	**0.96**	**248**		**Pg**	**13 53 27.5**	**-0.4**
TPUB	**Ta-pu**	**0.96**	**248**	P	**Pb**	**13 53 28.1**	**-0.3**
TPUB	**Ta-pu**	**0.96**	**248**	⇑*i*P	**Pg**	**13 53 27.5**	**-0.4**
TPUB				*e*S	**Sg**	**13 53 40.9**	**+0.5**
TCU	**Taichung**	**0.96**	**300**	*e*P	**Pb**	**13 53 28.8**	**+0.3**
TWC	**Suao**	**0.96**	**14**	*e*P	**Pb**	**13 53 27.8**	**-0.7**
ENTT	**Nioudou**	**0.96**	**359**	⇓P	**Pg**	**13 53 27.2**	**-0.9**
ENTT				*e*S	**Sg**	**13 53 40.0**	**-0.6**
NDS	**Dongshan**	**0.96**	**7**	*e*P	**Pg**	**13 53 26.0**	**-2.0**
WDL	**Douliou City**	**0.97**	**273**	*e*P	**Pb**	**13 53 28.4**	**-0.1**
WDL				*e*S	**Sg**	**13 53 41.2**	**+0.6**
WDLH	**Douliu**	**0.97**	**271**	⇑P	**Pb**	**13 53 28.5**	**-0.1**
WDLH				*e*S	**Sb**	**13 53 42.3**	**+0.8**
CHN4	**Tsaushan**	**0.97**	**251**	⇑*e*P	**Pg**	**13 53 28.1**	**-0.1**
CHN4				*e*S	**Sb**	**13 53 41.6**	**-0.1**
TWGBT	**Beinan**	**0.97**	**209**	P	**Pg**	**13 53 26.8**	**-1.4**
TWGBT	**Beinan**	**0.97**	**209**	*e*P	**Pg**	**13 53 26.7**	**-1.4**
TWGBT				*i* S	**Sb**	**13 53 41.9**	**+0.2**
TWG	**Pinlang**	**0.97**	**210**		**Pg**	**13 53 26.1**	**-2.0**
TWG	**Pinlang**	**0.97**	**210**	*e*P	**Pg**	**13 53 26.9**	**-1.2**
TWG				S	**Sb**	**13 53 41.7**	**0.0**
WTP	**Ta-pu**	**0.99**	**245**	⇑*i*P	**Pg**	**13 53 28.2**	**-0.3**
WTP				*e*S	**Sg**	**13 53 41.9**	**+0.4**
LDUT	**Ludao**	**1.00**	**187**	*e*P	**Pg**	**13 53 26.3**	**-2.3**
TTN	**Taitung**	**1.00**	**204**	*e*P	**Pb**	**13 53 28.6**	**-0.6**
TTN				*e*S	**Sn**	**13 53 44.3**	**0.0**
YHNB	**Yeheng**	**1.01**	**349**		**Pg**	**13 53 28.2**	**-0.8**
YHNB	**Yeheng**	**1.01**	**349**	P	**Pg**	**13 53 28.2**	**-0.8**
YHNB	**Yeheng**	**1.01**	**349**	⇓P	**Pg**	**13 53 28.1**	**-0.9**
NSK	**Sanguang**	**1.02**	**348**	⇓P	**Pg**	**13 53 28.2**	**-0.9**
NSK				S	**Sg**	**13 53 41.3**	**-1.2**
WCHH	**Zhanghua**	**1.03**	**293**	*i* P	**Pb**	**13 53 29.9**	**+0.2**
WCHH				*e*S	**Sg**	**13 53 42.7**	**+0.1**
CHN2	**Minshiung**	**1.03**	**263**	*e*P	**Pn**	**13 53 30.0**	**-0.4**
CHN2				*e*S	**Sg**	**13 53 42.9**	**+0.1**
WCH1	**Changhua City**	**1.04**	**293**	*e*P	**Pb**	**13 53 29.6**	**-0.2**
WCH1				*e*S	**Sg**	**13 53 42.6**	**-0.3**
TWE	**Neicheng**	**1.05**	**4**	⇓P	**Pg**	**13 53 28.9**	**-0.8**
NFF	**Wufeng Townshi**	**1.05**	**336**	*e*P	**Pg**	**13 53 29.1**	**-0.6**
NSY	**Sanyi**	**1.06**	**314**	*e*P	**Pb**	**13 53 30.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.08**	**360**	⇓P	**Pg**	**13 53 29.5**	**-0.8**
CHY	**Chiayi**	**1.08**	**261**	*e*P	**Pg**	**13 53 30.1**	**-0.2**
CHY				*e*S	**Sg**	**13 53 44.5**	**+0.1**
CHN1	**Nanshi**	**1.09**	**244**	*i* P	**Pb**	**13 53 30.4**	**-0.3**
CHN1				*e*S	**Sn**	**13 53 46.5**	**-0.1**
ILA	**Ilan**	**1.10**	**7**	*e*P	**Pg**	**13 53 30.0**	**-0.6**
SNST	**Tainan City**	**1.10**	**246**	*i* P	**Pb**	**13 53 30.6**	**-0.3**
SNST				S	**Sn**	**13 53 47.0**	**+0.1**
WDJ	**Dajia District**	**1.10**	**308**	⇓P	**Pn**	**13 53 31.5**	**+0.1**
WTK	**Tuku**	**1.10**	**271**	*e*P	**Pb**	**13 53 30.6**	**-0.3**
WTK				*e*S	**Sb**	**13 53 46.1**	**+0.6**
NWLT	**Wulai**	**1.10**	**356**	*e*P	**Pg**	**13 53 30.1**	**-0.6**
NMLH	**Miaoli**	**1.13**	**320**	*e*P	**Pn**	**13 53 31.8**	**0.0**
NMLH				*e*S	**Sg**	**13 53 45.5**	**-0.4**
KSHI	**Guanxi Townshi**	**1.17**	**341**	*e*P	**Pb**	**13 53 31.8**	**-0.2**
KSHI				*e*S	**Sg**	**13 53 46.5**	**-0.5**
EGS		**1.21**	**15**	*e*P	**Pn**	**13 53 33.4**	**+0.6**
WTCT	**Ta-ch'eng**	**1.22**	**279**	*e*P	**Pg**	**13 53 32.5**	**-0.3**
WTCT				S	**Sb**	**13 53 49.0**	**+0.3**
ECL	**Taimali**	**1.22**	**209**	*e*P	**Pg**	**13 53 29.9**	**-3.0**
ICHU	**Yijhu**	**1.24**	**256**	*i* P	**Pn**	**13 53 33.4**	**+0.1**
ICHU				*i* S	**Sn**	**13 53 51.3**	**+0.9**
SBCB	**Hsinchu**	**1.25**	**334**	*e*P	**Pn**	**13 53 34.0**	**+0.6**
WSF	**Szhu**	**1.26**	**269**	*e*P	**Pg**	**13 53 32.6**	**-1.0**
WSL	**Shuilin Townsh**	**1.26**	**264**	*e*P	**Pg**	**13 53 33.3**	**-0.3**
WSL				S	**Sn**	**13 53 51.2**	**+0.5**
HSN	**Hsinchu**	**1.26**	**333**	*e*P	**Pn**	**13 53 34.5**	**+0.9**
HSN				*e*S	**Sg**	**13 53 49.6**	**-0.5**
CHN3	**Shinhua**	**1.27**	**243**	*e*P	**Pb**	**13 53 34.8**	**+1.0**
CHN3				*e*S	**Sn**	**13 53 53.5**	**+2.5**
SSD	**Sandimen**	**1.27**	**224**	P	**Pg**	**13 53 33.0**	**-1.0**
SSD				*e*S	**Sn**	**13 53 51.3**	**+0.2**
SCST	**Cishan**	**1.28**	**232**	*e*P	**Pb**	**13 53 34.5**	**+0.7**
SCST				*e*S	**Sn**	**13 53 53.9**	**+2.7**
NHDH	**Xindian Distri**	**1.29**	**357**	*e*P	**Pb**	**13 53 33.7**	**-0.3**
TSMG	**Majia**	**1.30**	**222**	*e*P	**Pb**	**13 53 34.1**	**-0.2**
TSMG				*e*S	**Sb**	**13 53 51.4**	**+0.3**
TATO	**Taipei**	**1.30**	**356**	P	**Pb**	**13 53 34.1**	**-0.2**
TWA	**Mucha**	**1.30**	**360**	*e*P	**Pb**	**13 53 34.1**	**-0.3**
TWA				*e*S	**Sg**	**13 53 49.7**	**-1.8**
CHN8	**Yiju**	**1.31**	**256**	*e*P	**Pn**	**13 53 33.9**	**-0.2**
CHN8				*i* S	**Sn**	**13 53 53.5**	**+1.6**
SHHT	**Tainan City**	**1.31**	**241**	*e*P	**Pg**	**13 53 36.0**	**+1.3**
SHHT				*e*S	**Sn**	**13 53 55.6**	**+3.6**
TIPB	**Shuangxi**	**1.31**	**9**	*e*P	**Pn**	**13 53 33.9**	**-0.4**
NCUH	**Zhongli**	**1.34**	**344**	*e*P	**Pg**	**13 53 35.0**	**-0.3**
TWM1	**Shoushan**	**1.37**	**232**	*e*P	**Pg**	**13 53 36.8**	**+1.1**
MASBT	**Mashibuluo**	**1.38**	**220**	*e*P	**Pn**	**13 53 34.2**	**-0.9**
SCLT	**Jiali**	**1.38**	**249**	*e*P	**Pn**	**13 53 34.6**	**-0.5**
SCLT				*e*S	**Sn**	**13 53 54.0**	**+0.5**
TWB1	**Santiao Chiao**	**1.38**	**15**	*e*P	**Pg**	**13 53 35.8**	**-0.2**
SGLT	**Jiouru**	**1.38**	**227**	*e*P	**Pg**	**13 53 36.5**	**+0.5**
TAI1	**Yung-k'ang**	**1.40**	**244**	*e*P	**Pg**	**13 53 36.6**	**+0.2**
NWF	**Wu-fen Shan**	**1.41**	**7**	*e*P	**Pg**	**13 53 36.4**	**-0.1**
TWS1	**Kuangyinshan**	**1.43**	**354**	*e*P	**Pg**	**13 53 37.3**	**+0.3**
SXD	**Grass Mountain**	**1.44**	**10**	*e*P	**Pg**	**13 53 37.0**	**-0.1**
EAST	**Anshuo**	**1.45**	**208**	*e*P	**Pn**	**13 53 34.6**	**-1.7**
TAW	**Tawu**	**1.46**	**206**	*e*P	**Pn**	**13 53 34.2**	**-2.0**
JYNG	**Yonagunijimaku**	**1.46**	**58**	P	**Pb**	**13 53 36.1**	**-1.0**
JYNG				*e*S	**Sg**	**13 53 57.0**	**+0.6**
YM01	**YM01**	**1.47**	**359**	*e*P	**Pn**	**13 53 36.1**	**-0.3**
TAWH	**Dawu Township**	**1.48**	**206**	*e*P	**Pn**	**13 53 34.2**	**-2.3**
TSCK	**Chigu Township**	**1.48**	**250**	*e*P	**Pg**	**13 53 37.4**	**-0.5**
TSCK				S	**Sg**	**13 53 59.1**	**+2.0**
ZUZH	**Zhuzihu**	**1.49**	**358**	*e*P	**Pn**	**13 53 36.1**	**-0.6**
NTST	**Danshui**	**1.49**	**355**	*e*P	**Pg**	**13 53 38.5**	**+0.3**
ANP	**Anpu**	**1.51**	**358**	*e*P	**Pg**	**13 53 37.9**	**-0.7**
YM08	**YM08**	**1.51**	**360**	*e*P	**Pn**	**13 53 35.9**	**-1.2**
YOJ	**Yonaguni jima**	**1.52**	**58**		**Pb**	**13 53 36.9**	**-1.1**
YOJ	**Yonaguni jima**	**1.52**	**58**	P	**Pb**	**13 53 37.1**	**-0.9**
YOJ	**Yonaguni jima**	**1.52**	**58**	*e*P	**Pb**	**13 53 37.0**	**-0.9**
YOJ	**Yonaguni jima**	**1.52**	**58**	*e*P	**Pb**	**13 53 37.2**	**-0.9**
YOJ				*e*S	**Sg**	**13 53 58.9**	**+0.5**
SCZT	**Fangliau**	**1.57**	**215**	*e*P	**Pg**	**13 53 39.2**	**-0.6**
TWY	**Chenhua**	**1.60**	**0**	*e*P	**Pn**	**13 53 38.0**	**-0.2**
TWY				*e*S	**Sb**	**13 53 59.4**	**-0.4**
SLIU	**Shizi**	**1.62**	**207**	*e*P	**Pn**	**13 53 37.7**	**-0.9**
LAY	**Lan-yu**	**1.62**	**181**	*e*P	**Pn**	**13 53 35.5**	**-3.0**
LYUB	**Lan-yu**	**1.66**	**180**	*e*P	**Pn**	**13 53 35.7**	**-3.3**
WLCH	**Liuqiu**	**1.73**	**221**	*e*P	**Pg**	**13 53 42.6**	**0.0**
TWP	**Hsiaoliuchiu**	**1.74**	**221**	*e*P	**Pg**	**13 53 43.3**	**+0.5**
SMST	**Manzhou Townsh**	**1.78**	**203**	*e*P	**Pn**	**13 53 40.6**	**-0.1**
WDGT	**Dungji**	**1.82**	**257**	*e*P	**Pn**	**13 53 40.8**	**-0.4**
HEN	**Hengchun**	**1.83**	**206**	*e*P	**Pb**	**13 53 42.9**	**-0.5**
PHUB	**P'eng-hu**	**1.86**	**266**	*e*P	**Pn**	**13 53 40.8**	**-1.0**
TWKBT	**Hengchun**	**1.87**	**203**	*e*P	**Pb**	**13 53 42.6**	**-1.3**
PNG	**Penghu**	**1.87**	**267**	P	**Pn**	**13 53 41.7**	**-0.2**
VCHM	**Qimei**	**2.04**	**257**	*e*P	**Pn**	**13 53 43.7**	**-0.6**
HATJ	**Hateruma jima**	**2.06**	**79**	*e*P	**Pn**	**13 53 44.1**	**-0.4**
HATJ				*e*S	**Sn**	**13 54 09.9**	**-0.7**
IRIF	**Iriomote-Funau**	**2.06**	**71**	*e*P	**Pn**	**13 53 44.2**	**-0.4**
IRIF				*e*S	**Sb**	**13 54 11.4**	**-1.8**
JKRS	**Kuro-shima**	**2.28**	**75**	*e*P	**Pn**	**13 53 47.5**	**-0.1**
JKRS				*e*S	**Sn**	**13 54 15.9**	**-0.1**
VWUC	**VWUC**	**2.36**	**304**	*e*P	**Pn**	**13 53 47.3**	**-1.3**
JIJ	**Ishigaki jima**	**2.43**	**73**	*e*P	**Pn**	**13 53 48.8**	**-0.8**
JIJ				*e*S	**Sn**	**13 54 19.5**	**-0.2**
PTMZ	**Houxiangcun**	**2.63**	**302**	*e*P	**Pn**	**13 53 51.7**	**-0.8**
JISG	**Ishigakijimahi**	**2.65**	**69**	*e*P	**Pn**	**13 53 51.7**	**-0.9**
JISG				*e*S	**Sn**	**13 54 23.7**	**-1.2**
MATB	**Ma-tsu**	**2.89**	**329**	*e*P	**Pn**	**13 53 54.5**	**-1.5**
KNM	**Kinmen**	**2.98**	**285**	P	**Pn**	**13 53 58.1**	**+0.9**
JTJ	**Tarama**	**3.00**	**71**	*e*P	**Pn**	**13 53 57.8**	**+0.4**
QZH	**Quanzhou**	**3.02**	**295**	⇑*i*Pn	**Pn**	**13 53 56.8**	**-0.9**
QZH				Sn	**Sn**	**13 54 31.3**	**-2.8**
QZH				smax	smax		
	comp=N,3μm,1.3s						
QZH				smax	smax		
	comp=E,2μm,1.2s						
QZH				LR	LR		
	comp=N,11μm,6.9s						
QZH				LR	LR		
	comp=E,14μm,6.0s						
QZH				LR	LR		
	comp=Z,10μm,5.9s						
KNMB	**Chin-men Tao**	**3.03**	**286**		**Pn**	**13 53 57.2**	**-0.7**
KNMB	**Chin-men Tao**	**3.03**	**286**	*e*P	**Pn**	**13 53 56.9**	**-1.1**
MHZQ	**Yeshan**	**3.36**	**317**	*e*P	**Pn**	**13 54 02.6**	**+0.2**
XPSS	**Dashiqiu**	**3.48**	**339**	*e*P	**Pn**	**13 54 02.6**	**-1.5**
AXDP	**Jialang**	**3.52**	**291**	*e*P	**Pn**	**13 54 04.2**	**-0.4**
ZPLA	**Ao Xicun**	**3.53**	**275**	*e*P	**Pn**	**13 54 04.4**	**-0.3**
DSXP	**Dongshan**	**3.82**	**271**	*e*P	**Pn**	**13 54 07.2**	**-1.5**
SXFK	**Yanhouchang**	**4.49**	**308**	*e*P	**Pn**	**13 54 17.0**	**-1.1**
JOW	**Kunigami**	**6.82**	**61**	Pn	**Pn**	**13 54 48.1**	**-1.9**
	5.6nm,0.3s,baz=136,slow=15,SNR=9.2 16nm,0.4s						
GZH	**Guangzhou**	**7.60**	**267**	Pn	**Pn**	**13 54 56.2**	**-4.5**
GZH				Sn	**Sn**	**13 56 20.0**	**-7.1**
GZH				smax	smax		
	comp=N,670nm,1.2s						
GZH				smax	smax		
	comp=E,380nm,1.0s						
NJ2	**Nanjing**	**8.69**	**344**	*e*P	**Pn**	**13 55 17.1**	**+1.4**
NJ2				S	**Sn**	**13 56 55.7**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,24nm,0.9s						
NJ2				smax	smax		
	comp=N,200nm,1.6s						
NJ2				smax	smax		
	comp=E,160nm,1.5s						
NJ2				LR	LR		
	comp=N,2μm,6.9s						
NJ2				LR	LR		
	comp=E,2μm,5.0s						
NJ2				LR	LR		
	comp=Z,3μm,7.1s						
QIZ	**Qiongzhong**	**11.88**	**249**	P	**Pn**	**13 55 58.4**	**-1.0**
QIZ				S	**Sn**	**13 58 12.4**	**+0.1**
QIZ				LR	LR		
	comp=E,650nm,13.6s						
QIZ				LR	LR		
	comp=Z,3μm,15.3s						
LYN	**LuoYang**	**13.45**	**326**	*e*P	**Pn**	**13 56 23.7**	**+2.9**
LYN				pmax	pmax		
	comp=Z,13nm,0.

ULN	Ulaanbaatar	26.78	338	P	P	13 58 49.5	-0.7	
HEH	HeiHe	26.92	8	eP	P	13 58 52.7	+1.5	
HEH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
SONM	Songino Array	26.98	337		P	13 58 51.1	-0.9	
SONM	Songino Array	26.98	337	P	P	13 58 51.0	-0.9	
	comp=Z,2.4nm,0.9s,baz=170,slow=9.8,SNR=4.0							
	comp=Z,2.4nm,0.9s							
EDFI	Ende, Flores	32.22	180	P	P	13 59 36.9	-1.8	
	comp=Z,22nm,0.9s							
KSI	Kapahiang	32.87	217	P	P	13 59 46.3	+2.0	
WMQ	Urumqi	34.28	314	eP	P	13 59 57.6	+1.2	
MKAR	Makanchi Array	38.97	316	P	P	14 00 35.5	-0.8	
MKAR	Makanchi Array	38.97	316	P	P	14 00 36.2	-0.1	
	comp=Z,21nm,1.3s,baz=105,slow=9.7,SNR=11							
	comp=Z,21nm,1.3s							
KNRA	Kununurra	39.73	169	P	P	14 00 42.0	-0.8	
KNRA				IAmb	IAmb	14 00 49.8		
	comp=Z,45nm,1.5s							
ZAA0	Zalesovo Array	40.88	327		P	14 00 49.6	-2.4	
ZALV	Zalesovo Beam	40.88	327		P	14 00 50.2	-1.8	
ZALV	Zalesovo Beam	40.88	327	P	P	14 00 50.7	-1.3	
	comp=Z,2.7nm,0.7s,baz=114,slow=8.4,SNR=9.1							
	comp=Z,2.7nm,0.7s							
KSH	Kashi	41.49	303	P	P	14 01 01.2	+3.7	
KSH				pmax	pmax			
	comp=Z,5.0nm,1.6s							
H11N1	WAKE ISLAND Hy	42.15	86	T	T	14 45 56.8		
	baz=283,slow=75,SNR=446							
H11N2	WAKE ISLAND Hy	42.15	86	T	T	14 45 57.0		
	baz=283,slow=75,SNR=677							
H11N3	WAKE ISLAND Hy	42.16	86	T	T	14 46 00.2		
	baz=283,slow=75,SNR=747							
H11S3	WAKE ISLAND Hy	42.26	88	T	T	14 46 06.9		
	baz=284,slow=75,SNR=1550							
H11S1	WAKE ISLAND Hy	42.27	88	T	T	14 46 07.5		
	baz=284,slow=75,SNR=747							
H11S2	WAKE ISLAND Hy	42.28	88	T	T	14 46 07.8		
	baz=284,slow=75,SNR=613							
KURBB	Kurchatov Arra	42.74	320	P	P	14 01 06.2	-1.1	
	comp=Z,3.2nm,0.8s,baz=115,slow=7.1,SNR=8.7							
	comp=Z,3.2nm,0.8s							
WRA	Warramunga Arr	45.09	163	P	P	14 01 24.5	-2.1	
	comp=Z,1.7nm,0.5s,baz=345,slow=8.7,SNR=22							
	comp=Z,1.7nm,0.5s							
KKAR	Karatay Array	46.08	308		P	14 01 33.6	-0.6	
BVAR	Borovoye Array	48.30	321	P	P	14 01 52.1	+0.7	
	comp=Z,1.1nm,0.7s,baz=90,slow=9.3,SNR=13							
	comp=Z,2.1nm,0.7s							
ASAR	Alice Springs	48.55	165	P	P	14 01 52.8	-0.7	
ASAR	Alice Springs	48.55	165	P	P	14 01 51.8	-1.8	
	comp=Z,2.0nm,0.9s,baz=341,slow=6.7,SNR=12							
	comp=Z,2.0nm,0.9s							
AB31	Akbulak array	54.06	315		P	14 02 34.4	-0.3	
ABKAR	Akbulak array	54.06	315		P	14 02 34.1	-0.6	
BBOO	Buckleboo	57.84	166	P	P	14 03 00.5	-1.3	
BBOO				IAmb	IAmb	14 03 27.0		
	comp=Z,21nm,1.4s							
STKA	Stephens Creek	58.45	160		P	14 03 04.3	-1.9	
STKA	Stephens Creek	58.45	160	P	P	14 03 04.5	-1.7	
	comp=Z,3.3nm,0.7s,baz=322,slow=7.6,SNR=6.9							
	comp=Z,3.3nm,0.7s							
O15K	Ungalikthiuk R	64.17	34	P	P	14 03 43.1	-1.5	
	baz=273							
J17K	VABM Dome	64.35	29	P	P	14 03 44.2	-1.5	
	baz=272							
G18K	Tagagawik	64.47	27	P	P	14 03 45.0	-1.4	
	baz=271							
M16K	Timber Creek	64.50	32	P	P	14 03 44.3	-2.4	
	baz=273							
CHNA	Chernabura Isl	64.63	39	P	P	14 03 45.9	-1.8	
	baz=276							
N16K	Nishlik Lake	64.63	33	P	P	14 03 46.0	-1.6	
	baz=273							
D19K	Kuna River	64.65	24	P	P	14 03 46.3	-1.3	
	baz=270							
K17K	Iditarod	64.73	30	P	P	14 03 46.5	-1.7	
	baz=273							
L17K	Donlin	64.76	31	P	P	14 03 46.7	-1.7	
	baz=273							
F19K	Shaleruckik Mo	64.81	26	P	P	14 03 47.2	-1.4	
	baz=271							
B20K	Meade River	64.99	22	P	P	14 03 47.6	-2.1	
	baz=270							
E19K	Redstone River	65.00	25	P	P	14 03 47.9	-2.0	
	baz=272							
O16K	Kokwok River B	65.03	34	P	P	14 03 48.5	-1.7	
	baz=274							
G19K	Purcell Mounta	65.10	26	P	P	14 03 48.4	-2.2	
	baz=272							
P16K	Nushagak River	65.13	34	P	P	14 03 49.5	-1.3	
	baz=275							
D20K	Etivluk River	65.20	23	P	P	14 03 49.8	-1.4	
	baz=272							
M17K	Holitna River	65.22	32	P	P	14 03 49.9	-1.5	
	baz=274							
E20K	Nigu River	65.37	24	P	P	14 03 51.1	-1.3	
	baz=272							
H19K	Roundabout Mou	65.39	27	P	P	14 03 51.7	-0.8	
	baz=273							
J18K	Innoko River	65.41	29	P	P	14 03 52.0	-0.6	
	baz=274							
N17K	Nushagak Hills	65.41	33	P	P	14 03 51.6	-1.0	
	baz=275							
L18K	Granite Mounta	65.51	31	P	P	14 03 52.5	-0.8	
	baz=274							
O17K	Koliganek Bris	65.52	33	P	P	14 03 52.7	-0.6	
	baz=275							
F20K	Avaraart Lake	65.61	25	P	P	14 03 53.1	-0.7	
	baz=273							
J19K	Poorman	65.85	29	IAmb	IAmb	14 03 57.4		
	comp=Z,15nm,1.3s							
J19K	Poorman	65.85	29	P	P	14 03 54.6	-0.8	
	baz=275							
M18K	Stony River	65.98	31	P	P	14 03 55.7	-0.6	
	baz=276							
N18K	Kilae Creek	66.03	32	P	P	14 03 56.0	-0.6	
	baz=276							
H20K	Anotleneega Mo	66.05	27	P	P	14 03 56.3	-0.4	
	baz=275							
KBZ	Khabaz	66.09	309	P	P	14 03 58.7	+1.4	
	comp=Z,1.8nm,0.7s,baz=131,slow=5.7,SNR=5.4							
	comp=Z,1.8nm,0.7s							
E21K	Killik River	66.18	24	P	P	14 03 56.6	-0.9	
	baz=274							
B22K	Teshekpuk Lake	66.25	22	P	P	14 03 57.6	-0.2	
	baz=274							
I20K	Naaghedeneel	66.28	28	P	P	14 03 57.8	-0.3	
	baz=275							
Q17K	Contact Creek	66.30	35	P	P	14 03 57.5	-1.1	
	baz=277							
L19K	White Mountain	66.37	31	P	P	14 03 58.6	-0.3	
	baz=276							
O18K	Koktuh Hills	66.46	33	P	P	14 03 58.6	-0.8	
	baz=277							
F21K	Alatna River	66.47	25	P	P	14 03 58.8	-0.6	
	baz=275							
J20K	Nowinta River	66.48	28	P	P	14 03 58.7	-0.7	
	baz=276							
P18K	Big Mountain,	66.50	34	P	P	14 03 59.3	-0.4	
	baz=277							
G21K	Allakaket	66.52	26	P	P	14 03 59.0	-0.7	
	baz=275							
K20K	Telida	66.60	29	P	P	14 04 00.5	+0.2	
	baz=276							
M19K	Big River Lodg	66.62	31	IAmb	IAmb	14 04 04.2		
	comp=Z,17nm,1.4s							
M19K	Big River Lodg	66.62	31	P	P	14 04 00.7	+0.3	
	baz=277							
D22K	Ayikyak River	66.62	23	P	P	14 04 00.4	0.0	
	baz=275							
N19K	Bonanza Creek	66.70	32	P	P	14 03 59.8	-1.3	
	baz=277							
Q18K	Katmai Hardscr	66.71	34	P	P	14 04 00.4	-0.8	
	baz=277							
L20K	Farewell, AK	66.79	30	P	P	14 04 01.7	+0.2	
	baz=277							
O19K	Port Alsworth	66.86	33	P	P	14 04 01.5	-0.4	
	baz=277							
H21K	Melozitna Rive	66.89	27	IAmb	IAmb	14 04 04.1		
	comp=Z,13nm,1.1s							
H21K	Melozitna Rive	66.89	27	P	P	14 04 02.1	0.0	
	baz=276							
F22K	John River	66.94	25	P	P	14 04 02.4	0.0	
	baz=276							
E22K	Anaktuvuk Pass	67.01	24	P	P	14 04 02.9	0.0	
	baz=276							
M20K	Styx River	67.21	31	IAmb	IAmb	14 04 06.5		
	comp=Z,11nm,1.2s							
M20K	Styx River	67.21	31	P	P	14 04 04.4	+0.1	
	baz=278							
G22K	Bettles	67.27	25	P	P	14 04 04.2	-0.2	
	baz=277							
I21K	Tanana	67.29	27	IAmb	IAmb	14 04 08.5		
	comp=Z,14nm,1.3s							
I21K	Tanana	67.29	27	P	P	14 04 04.4	-0.3	
	baz=277							
CHUM	Lake Minchumin	67.32	29	P	P	14 04 04.4	-0.4	
	baz=278							
D23K	Nanushuk River	67.33	23	P	P	14 04 04.3	-0.5	
	baz=277							
SII	Sitkinak Islan	67.45	37	P	P	14 04 06.2	+0.4	
	baz=279							
H22K	Ishtalitna Cre	67.45	26	P	P	14 04 05.4	-0.2	
	baz=278							
CAST	Castle Rocks	67.48	29	IAmb	IAmb	14 04 07.2		
	comp=Z,10nm,1.2s							
CAST	Castle Rocks	67.48	29	P	P	14 04 05.8	-0.1	
	baz=278,SNR=6.3							
PPLA	Purkeypile	67.51	30	P	P	14 04 06.4	+0.1	
	baz=278							
COLD	Coldfoot	67.73	25	P	P	14 04 08.0	+0.6	
	baz=278							
TOLK	Toolik Lake Re	67.77	23	P	P	14 04 08.2	+0.5	
	baz=278							
OHAK	Old Harbor	67.83	36	P	P	14 04 07.7	-0.4	
	baz=279							
MLY	Manley	67.83	27	IAmb	IAmb	14 04 10.0		
	comp=Z,10nm,1.1s							
MLY	Manley	67.83	27	P	P	14 04 08.2	+0.1	
	baz=278,SNR=8.1							
E23K	Chandalar	67.84	24	IAmb	IAmb	14 04 11.7		
	comp=Z,12nm,1.1s							
E23K	Chandalar	67.84	24	P	P	14 04 07.7	-0.5	
	baz=278							
BPAW	Bear Paw Mtn.	67.87	28	IAmb	IAmb	14 04 10.2		
	comp=Z,16nm,1.4s							
BPAW	Bear Paw Mtn.	67.87	28	P	P	14 04 08.8	+0.5	
	baz=279,SNR=5.9							
G23K	Bananza Creek	67.88	25	P	P	14 04 08.6	+0.2	
	baz=278							
C24K	Franklin Bluff	67.93	22	P	P	14 04 07.1	-1.4	
	baz=278							
D24K	Happy Valley	67.97	23	P	P	14 04 07.9	-0.9	
	baz=278							
KTH	Kantishna Hill	67.98	29	IAmb	IAmb	14 04 10.5		
	comp=Z,12nm,1.2s							
KDAK	Kodiak Island	68.11	35	P	P	14 04 09.2	-0.7	
	baz=280							
H23K	Yukon River	68.21	26	P	P	14 04 10.7	+0.3	
	baz=279,SNR=7.7							
E24K	Your Creek	68.25	24	P	P	14 04 10.9	+0.1	
	baz=279							
TRF	Thorofare Moun	68.27	29	P	P	14 04 10.5	-0.5	
	baz=279							
I23K	Minto, Yukon-K	68.39	27	P	P	14 04 11.5	0.0	
	baz=280,SNR=5.6							
F24K	Squaw Lake	68.57	24	IAmb	IAmb	14 04 14.4		
	comp=Z,12nm,1.3s							
F24K	Squaw Lake	68.57	24	P	P	14 04 12.7	-0.1	
	baz=280							
NEA2	Nenana	68.61	28	IAmb	IAmb	14 04 13.8		
	comp=Z,12nm,1.1s							
NEA2	Nenana	68.61	28	P	P	14 04 13.0	+0.1	
	baz=280,SNR=6.7							
D25K	Kavik River	68.80	22	P	P	14 04 14.1	0.0	
	baz=281							
MCK	McKinley	68.82	29	P	P	14 04 14.0	-0.3	
	baz=280							
G24K	Hadweenzic Riv	68.88	25	IAmb	IAmb	14 04 16.5		
	comp=Z,8.3nm,1.1s							
G24K	Hadweenzic Riv	68.88	25	P	P	14 04 14.7	+0.1	
	baz=281							
H24K	Noodor Dome	68.88	26		P	14 04 15.4	+0.7	
H24K				IAmb	IAmb	14 04 16.7		
	comp=Z,10nm,1.2s							
H24K	Noodor Dome	68.88	26	P	P	14 04 15.4	+0.7	
	baz=281,SNR=5.7							
POKR	Poker Plat Res	69.20	27	P	P	14 04 16.5	-0.1	
	baz=281							
G25K	Bearman Lake	69.40	25	P	P	14 04 16.7	-1.1	
	baz=282							
F25K	Christian Rive	69.41	24	P	P	14 04 17.8	-0.1	
	baz=282							
KNK	Knik Glacier	69.49	31	P	P	14 04 17.6	-0.9	
	baz=282							
ILAR	Eielson Array	69.50	27	P	P	14 04 16.9	-1.5	
	comp=Z,0.6nm,0.5s,baz=271,slow=4.9,SNR=8.5							
	comp=Z,0.6nm,0.5s							
HDA	Harding Lake	69.55	28	P	P	14 04 17.6	-1.2	
	baz=282							
H25L	Birch Creek	69.62	26	P	P	14 04 18.6	-0.6	
	baz=282							
C27K	Jago River	69.66	22	P	P	14 04 18.6	-0.7	
	baz=283							
PRP	Porcupine Dome	69.90	26	P	P	14 04 20.9	-0.2	
	baz=283							
SCM	Sheep Creek Mo	69.93	30	P	P	14 04 21.0	-0.2	
	baz=283							
F26K	Sheenjek River	69.94	24	P	P	14 04 21.4	+0.2	
	baz=283							
J25K	Salcha River,	70.17	27	P	P	14 04 21.9	-0.7	
	baz=283							
K24K	Donnelly Dome	70.18	28	P	P	14 04 22.4	-0.3	
	baz=283							
GLI	Glacier Island	70.25	31	P	P	14 04 22.5	-0.7	
	baz=283							
G26K	Porcupine Rive	70.25	25	P	P	14 04 23.2	+0.2	
	baz=284							
P23K	Montague Islan	70.30	32	P	P	14 04 23.0	-0.5	
	baz=283							
M24K	Tolsona, Glenn	70.40	30	P	P	14 04 23.7	-0.4	
	baz=284							
PAX	Paxson	70.51	29	P	P	14 04 24.0	-0.8	
	baz=284							
RIDG	Ipendent Ri	70.60	28	IAmb	IAmb	14 04 35.4		
	comp=Z,18nm,1.4s							
RIDG	Independent Ri	70.60	28	P	P	14 04 24.4	-0.9	
	baz=284							
KLU	Klutina	70.66	31	P	P	14 04 24.9	-0.8	
	baz=284							
D27M	Malcolm River	70.69	22	P	P	14 04 25.3	-0.5	
	baz=286							
E27K	Coleen River	70.75	23	P	P	14 04 26.4	+0.2	
	baz=285							
SCRK	Sand Creek	70.91	28	IAmb	IAmb	14 04 27.3		
	comp=Z,9.1nm,1.4s							
SCRK	Sand Creek	70.91	28	P	P	14 04 27.3	0.0	
	baz=285							
I26K	Coal Creek Min	70.91	26	IAmb	IAmb	14 04 27.9		
	comp=Z,12nm,1.3s							
I26K	Coal Creek Min	70.91	26	P	P	14 04 27.1	+0.1	
	baz=285,SNR=5.9							
J26L	Joseph Creek	70.95	27	IAmb	IAmb	14 04 27.9		
	comp=Z,7.8nm,1.2s							
J26L	Joseph Creek	70.95	27	P	P	14 04 27.3	-0.2	
	baz=285							
EYAK	Cordova Ski Ar	70.97	31	P	P	14 04 27.4	-0.1	
	baz=284							
G27K	Doyon Strip	71.10	25	P	P	14 04 28.2	-0.1	
	baz=286							
N25K	Chitina, Valde	71.24	30	IAmb	IAmb	14 04 31.1		
	comp=Z,14nm,1.4s							
N25K	Chitina, Valde	71.24	30	P	P	14 04 29.3	0.0	
	baz=285							
H27K	Steamboat Moun	71.31	25	IAmb	IAmb	14 04 30.9		
	comp=Z,9.9nm,1.2s							
H27K	Steamboat Moun	71.31	25	P	P	14 04 30.6	+1.0	
	baz=286							
E28M	Babbage River	71.37	22	P	P	14 04 30.0	+0.1	
	baz=287							
BMRM	Bremner River	71.41	31	P	P	14 04 29.7	-0.6	
	baz=285							
L26K	Log Cabin Wild	71.43	29	IAmb	IAmb	14 04 31.9		
	comp=Z,8.5nm,1.2s							
L26K	Log Cabin Wild	71.43	29	P	P	14 04 30.8	+0.4	
	baz=286							
I27K	Kandik River	71.45	26	P	P	14 04 30.7	+0.2	
	baz=286,SNR=6.1							
F28M	Old Crow	71.54	24	P	P	14 04 31.0	+0.1	
	baz=287							
GLB	Gilahina Butte	71.65	30	IAmb	IAmb	14 04 33.7		
	comp=Z,16nm,1.2s							
M26K	Nabesna, AK	71.76	29	IAmb	IAmb	14 04 34.4		
	comp=Z,14nm,1.2s							
M26K	Nabesna, AK	71.76	29	P	P	14 04 33.6	+1.2	
	baz=286							
MCARA	McCarthy VSAT	72.03	30	P	P	14 04 34.4	+0.4	
	baz=286							
FINES	FINESS Array B	72.08	330	P	P	14 04 34.7	+0.5	
	comp=Z,1.3nm,0.7s,baz=34,slow=7.1,SNR=6.6							
	comp=Z,1.3nm,0.7s							
L27K	Beaver Creek,	72.09	28		P	14 04 34.8	+0.5	
L27K				IAmb	IAmb	14 04 36.4		
	comp=Z,11nm,1.2s							
L27K	Beaver Creek,	72.09	28	P	P	14 04 35.0	+0.7	
	baz=287							
BCAR	Beaver Creek A	72.11	28		P	14 04 34.1	-0.3	
I28M	Miner Creek	72.17	26	P	P	14 04 34.9	+0.1	
	baz=288							
M27K	Edge Creek, AK	72.27	29	P	P	14 04 35.8	+0.2	
	baz=287							
G29M	Pine Creek	72.44	24	P	P	14 04 36.5	+0.2	
	baz=289							
H29M	Whitestone	72.54	25	P	P	14 04 37.1	+0.2	
	baz=289							
BVCY	Beaver Creek	72.71	29	P	P	14 04 38.1	+0.1	
	baz=288							
DAWY	Dawson	72.82	27	P	P	14 04 39.0	+0.4	
	baz=289,SNR=8.7							
I29M	Ogilvie Camp,	72.84	26	P	P	14 04 38.0	-0.8	
I29M	Ogilvie Camp,	72.84	26	P	P	14 04 38.3	-0.4	
	baz=289							
CTG	Chitna Glacier	72.94	30	P	P	14 04 39.3	-0.2	
	baz=288							
F30M	Barrier River	73.02	23	P	P	14 04 39.4	-0.4	
	baz=291							
YUK3	Moose Creek	73.08	29	P	P	14 04 40.2	-0.3	
	baz=288							
G30M	tAoh Zraii Nji	73.09	24	P	P	14 04 39.7	-0.4	
	baz=290							
EPYK	Eagle Plains	73.11	24	P	P	14 04 40.5	+0.1	
	baz=290							
J29N	Klondike Camp	73.18	26	P	P	14 04 42.3	+1.5	
	baz=290							
O28M	Mount Upton	73.53	30	IAmb	IAmb	14 04 45.2		
	comp=Z,14nm,1.3s							
O28M	Mount Upton	73.53	30	P	P	14 04 44.4	+1.1	
	baz=289							
INK	Inuvik	73.56	22	P	P	14 04 43.1	+0.3	
	baz=292							
YUK8	Steele Glacier	73.56	30	P	P	14 04 43.4	+0.1	
	baz=289							
I30M	Mount Dempster	73.65	25	P	P	14 04 44.2	+0.6	
	baz=291							
L29M	L29M	73.67	28	IAmb	IAmb	14 04 45.8		
	comp=Z,15nm,1.2s							
L29M	L29M	73.67	28	P	P	14 04 44.6	+0.9	
	baz=290,SNR=9.3							
K29M	Barlow Dome	73.67	27	P	P	14 04 43.9	+0.1	
	baz=290,SNR=5.8							
PINM	Pinnacle	73.72	31	P	P	14 04 44.4	+0.3	
	baz=289							
M29M	Somme Creek	73.75	28	P	P	14 04 45.0	+0.7	
	baz=290,SNR=7.3							
BRTR	Keskin Array B	73.78	307	P	P	14 04 45.2	+0.4	
	comp=Z,1.0nm,0.8s,baz=81,slow=7.8,SNR=4.5							
	comp=Z,1.0nm,0.8s							
F31M	Tsiigehtchic	73.81	23	P	P	14 04 44.3	0.0	
	baz=293							
G31M	Satah River	73.82	23	P	P	14 04 43.8	-0.6	
	baz=292							
J30M	Hart River	73.90	26	P	P	14 04 45.6	+0.4	
	baz=291							
H31M	Peel River	74.22	25	P	P	14 04 46.4	-0.4	
	baz=292							
PNL	Peninsula	74.27	31	P	P	14 04 47.7	+0.5	
	baz=290							
YUK6	Outpost Mounta	74.31	30	P	P	14 04 48.4	+0.6	
	baz=290							
M30M	Minto, Yukon	74.43	28	IAmb	IAmb	14 04 50.8		
	comp=Z,17nm,1.4s							
M30M	Minto, Yukon	74.43	28	P	P	14 04 48.5	+0.3	
	baz=291,SNR=10.0							
N30M	Aishikik Lake	74.71	29	P	P	14 04 50.1	+0.3	
	baz=291							
HYT	Haines Junctio	74.75	30	IAmb	IAmb	14 04 52.8		
	comp=Z,12nm,1.3s							
HYT	Haines Junctio	74.75	30	P	P	14 04 50.1	-0.1	
	baz=291							
P29M	Windy Craggy	75.07	31	P	P	14 04 51.9	0.0	
	baz=291							
P30M	Million Dollar	75.26	30	P	P	14 04 53.3	+0.3	
	baz=292							
N31M	Braeburn, Yuko	75.28	29	IAmb	IAmb	14 04 55.7		
	comp=Z,21nm,1.4s							
N31M	Braeburn, Yuko	75.28	29	P	P	14 04 53.4	+0.3	
	baz=292							
O30N	Mendenhall	75.41	30	P	P	14 04 54.2	+0.3	
	baz=292							
M31M	Drury Creek, Y	75.61	28	P	P	14 04 54.9	-0.1	
	baz=293							
WHY	Whitehorse	76.01	30		P	14 04 57.9	+0.6	
WHY	Whitehorse	76.01	30	P	P	14 04 57.0	-0.4	
	baz=293							
SKAG	Skagway	76.27	31	P	P	14 04 58.9	+0.2	
	baz=293							
N32M	Quiet Lake	76.61	29	P	P	14 05 01.5	+0.8	
	baz=295							
P32M	Atlin	76.97	30	P	P	14 05 02.1	-0.7	
	baz=294							
P33M	Teslin, Yukon	77.12	30	P	P	14 05 04.4	+0.8	
	baz=295							
S32K	Killisnoo	77.44	33	P	P	14 05 05.4	+0.1	
	baz=294							
HFS	Hagfors	78.19	331	P	P	14 05 09.5	0.0	
	comp=Z,1.4nm,0.8s,baz=52,slow=9.9,SNR=4.2							
	comp=Z,1.4nm,0.8s							
R33M	Jennings River	78.32	30	P	P	14 05 09.8	-0.6	
	baz=297							
TGTN	Hyland Airport	78.51	27	P	P	14 05 11.6	+0.2	
	baz=299							
NOA	NORSAR Array B	78.85	332	P	P	14 05 12.6	-0.5	
	comp=Z,0.5nm,0.7s,baz=60,slow=5.6,SNR=4.4							
	comp=Z,0.5nm,0.7s							
WTLY	Watson Lake, Y	78.96	29	IAmb	IAmb	14 05 28.1		
	comp=Z,14nm,1.5s							
WTLY	Watson Lake, Y	78.96	29	P	P	14 05 15.2	+1.4	
	baz=298							
DLBC	Dease Lake	79.19	31	P	P	14 05 15.6	+0.5	
	baz=298							
VYHS	Vyhne	80.59	319	eP	P	14 05 24.4	+1.6	
TOAD	Toad River Com	81.17	29	P	P	14 05 26.2	+0.5	
	baz=302							
YKA	Yellowknife Ar	83.30	23	P	P	14 05 36.0	-0.8	
	comp=Z,2.6nm,1.0s,baz=325,slow=5.1,SNR=6.3							
	comp=Z,2.6nm,1.0s							
GERES	GERESS Array B	83.47	321	P	P	14 05 37.5	-0.6	
	comp=Z,0.2nm,0.4s,baz=64,slow=3.1,SNR=6.9							
	comp=Z,0.2nm,0.4s							

HEL ***02*** *13:53:53.2±0.3, 67.18N×20.87E, h0km, ML1.5, Suspected explosion*

IDC 02 13:53:50.5±2.4, 67.09N×20.76E, h0km, mbtmp2.7/2, ML1.8/2, Error ellipse: s-maj=34.3km s-min=10.1km az=92.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	Ertsjaerv	0.79	133	PG	Pn	13 54 08.0	-0.7
ERTU				SG	Sb	13 54 18.1	0.0
LANU	Lannavaara	1.07	26	PB	Pg	13 54 11.3	+0.4
LANU				SB	Sb	13 54 26.0	-0.3
KLF	Kolari	1.26	82	PG	Pg	13 54

I37NO	**I37NO**	**2.15**	**339**	I	I	14 07 00.0	
	baz=158,slow=326,SNR=3.9						
TRO	**Tromso**	**2.64**	**346**	SB	Sb	13 55 09.4	-2.0
RANF	**Ranua**	**2.64**	**111**	SG	Sg	13 55 14.2	-1.1
ARA0	**ARCESS Array S**	**3.02**	**34**	SB	Sb	13 55 19.8	-2.6
ARCES	**ARCESS Array B**	**3.02**	**34**	Pn	Pn	13 54 40.5	+1.0
	comp=Z,0.2nm,0.3s,baz=217,slow=14,SNR=9.0						
ARCES				Sn	Sn	13 55 15.7	-0.7
	comp=Z,0.8nm,0.3s,baz=215,slow=25,SNR=12						
	comp=Z,1.8nm,0.9s						
UMAU	**Umeaa**	**3.23**	**181**	SG	Sg	13 55 35.9	+1.9
VRF	**Varrio**	**3.48**	**75**	SG	Sb	13 55 38.4	+2.8
OLKF	**Oulanka, Finla**	**3.52**	**99**	PN	Pn	13 54 48.7	+2.4
OLKF				SG	Sg	13 55 42.0	-1.4
MSF	**Maaselka**	**3.52**	**106**	PN	Pn	13 54 49.2	+2.8
MSF				SG	Sg	13 55 43.0	-0.5
KEV	**Kevo**	**3.53**	**38**	SN	Sn	13 55 28.0	-0.8
KU6	**Riekki**	**3.80**	**102**	SG	Sg	13 55 51.0	-1.5
HEMU	**Hemsoen**	**4.59**	**196**	SG	Sg	13 56 17.2	-0.4
FINES	**FINESS Array B**	**6.13**	**155**	Pn	Pn	13 55 21.0	-1.1
	comp=Z,0.1nm,0.3s,baz=332,slow=15,SNR=1.8						
FINES				Sn	Sn	13 56 33.9	+1.2
	comp=Z,0.2nm,0.3s,baz=343,slow=23,SNR=4.1						
FINES				Lg	Lg	13 57 02.8	
	comp=Z,0.2nm,0.3s,baz=339,slow=27,SNR=6.2						
	comp=Z,1.6nm,0.9s						

*NEIC **02** 14:00:19.7±0.8, 6.2°S±0.1°×148.7°E±0.1°, h54km±9km, mb4.1/14, Error ellipse: s-maj=26.0km s-min=9.7km az=127.0*
*IDC **02** 14:00:19.3±2.5, 6.57°S×149.25°E, h78km±18km, mb3.4/4, mbtmp3.8/6, Error ellipse: s-maj=77.6km s-min=13.4km az=120.0*

ISC 02 14:00:19.0±0.7, 6.20°S±0.10°×148.7°E±0.1°, h50km, n29, σ0.990/32, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.52**	**205**		**Pn**	**14 01 12.1**	**+0.9**
PMG				Sn	**Sn**	**14 01 52.1**	**+0.5**
PMG	**Port Moresby**	**3.52**	**205**	P	**Pn**	**14 01 11.4**	**+0.2**
	36nm,0.4s,baz=311,slow=2.1,SNR=30						
PMG				S	**Sn**	**14 01 52.3**	**+0.7**
	181nm,0.4s,baz=101,slow=21,SNR=16						
RABL	**Rabaul**	**4.01**	**60**	Pn	**Pn**	**14 01 18.0**	**0.0**
COEN	**Coen**	**9.41**	**215**	Pn	**Pn**	**14 02 32.4**	**+0.3**
MTN	**Manton Dam**	**18.50**	**248**	P	**P**	**14 04 30.6**	**-0.7**
MTN				IAmb	IAmb	14 04 35.6	
	comp=Z,50nm,1.5s						
WB0	**Warramunga Arr**	**19.35**	**224**	P	**P**	**14 04 40.5**	**0.0**
WB0				IAmb	IAmb	14 05 19.6	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**19.38**	**224**	P	**P**	**14 04 41.2**	**+0.4**
WR8	**Warramunga Arr**	**19.40**	**224**	P	**P**	**14 04 40.5**	**-0.6**
WR8				IAmb	IAmb	14 05 07.9	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**19.49**	**224**	P	**P**	**14 04 42.3**	**+0.3**
WRAB				IAmb	IAmb	14 05 05.3	
	comp=Z,7.4nm,0.7s						
WB2	**Warramunga Arr**	**19.50**	**224**	P	**P**	**14 04 41.4**	**-0.8**
WB2				IAmb	IAmb	14 04 51.1	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**19.50**	**224**	P	**P**	**14 04 41.3**	**-0.9**
WRA	**Warramunga Arr**	**19.50**	**224**	P	**P**	**14 04 41.5**	**-0.7**
	comp=Z,3.5nm,0.3s,baz=53,slow=11,SNR=49						
KNRA	**Kununurra**	**21.67**	**243**	P	**P**	**14 05 04.8**	**-0.9**
AS31	**Alice Springs**	**22.43**	**218**	P	**P**	**14 05 13.6**	**-0.3**
ASAR	**Alice Springs**	**22.43**	**218**	P	**P**	**14 05 13.5**	**-0.4**
ASAR	**Alice Springs**	**22.43**	**218**	P	**P**	**14 05 13.2**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=54,slow=9.2,SNR=17						
ASAR				S	**S**	**14 09 15.2**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=32,slow=25,SNR=7.3						
	comp=Z,2.2nm,0.6s						
INKA	**Innaminka**	**22.71**	**198**	P	**P**	**14 05 16.4**	**-0.2**
INKA				IAmb	IAmb	14 05 27.9	
	comp=Z,6.7nm,1.4s						
FITZ	**Fitzroy Crossi**	**25.39**	**240**	P	**P**	**14 05 42.0**	**+0.1**
YULB	**Yu-li**	**39.75**	**319**	P	**P**	**14 07 46.6**	**-0.4**
PEA0B	**Petropavlovsk-**	**59.58**	**6**	P	**P**	**14 10 17.6**	**+0.2**
PETK	**Petropavlovsk-**	**59.58**	**6**	P	**P**	**14 10 17.3**	**-0.1**
PETK	**Petropavlovsk-**	**59.58**	**6**	P	**P**	**14 10 17.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=183,slow=7.0,SNR=7.6						
	comp=Z,1.0nm,0.7s						
AMKA	**Amchitka**	**63.09**	**21**	P	**P**	**14 10 42.2**	**+1.1**
MKAR	**Makanchi Array**	**78.71**	**320**	P	**P**	**14 12 17.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=98,slow=7.2,SNR=2.2						
	comp=Z,0.2nm,0.4s						
CAST	**Castle Rocks**	**82.36**	**23**	P	**P**	**14 12 36.7**	**+1.4**
CAST				IAmb	IAmb	14 13 07.6	
	comp=Z,5.1nm,1.4s						
IMAR	**Indian Mountai**	**83.09**	**20**	P	**P**	**14 12 39.5**	**+0.5**
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**14 12 42.5**	**-0.3**
QSPA				IAmb	IAmb	14 12 44.7	
	comp=Z,1.8nm,1.1s						
ILAR	**Eielson Array**	**85.02**	**23**	P	**P**	**14 12 47.4**	**-1.5**
ILAR	**Eielson Array**	**85.02**	**23**	P	**P**	**14 12 46.3**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=256,slow=4.1,SNR=4.1						
	comp=Z,0.2nm,0.6s						

IDC 02 14:09:16.6±11.0, 1.76N×126.79E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=170.7km s-min=167.1km az=138.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.80**	**161**	P	P	14 14 21.1	-0.2
	0.9nm,0.4s,baz=340,slow=11,SNR=11						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.20**	**165**	P	P	14 14 53.6	+0.3
	0.3nm,0.5s,baz=346,slow=7.8,SNR=8.6						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**36.28**	**158**	P	P	14 16 21.6	-0.3
	1.0nm,0.6s,baz=342,slow=9.6,SNR=1.7						
	1.0nm,0.6s						

*NOU **02** 14:14:36.3, 36.81S×177.55E, h209km, MLv3.9/15, Off E. Coast of N. Island, N.Z.*
*WEL **02** 14:14:39.7±1.3, 37.°S±13.°×17.°8E±1.°1, h166km±13km, M3.4/11, ML3.6/7, MLv3.4/11, Error ellipse: s-maj=20.0km s-min=10.7km az=35.1, confirmed*
*IDC **02** 14:14:41.9±1.5, 36.90S×176.87E, h181km±10km, mb3.5/3, mbtmp4.1/4, Error ellipse: s-maj=29.7km s-min=21.0km az=53.0*

ISC 02 14:14:39.6±1.1, 36.91S±0.08°×177.47E±0.07°, h191km±7km, n37, σ1.969/45, mb3.8/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.89**	**164**	P	**Pn**	**14 15 06.2**	**-1.4**
HAZ				S	**Sn**	**14 15 27.7**	**-1.8**
MXZ	**Matakaoa Point**	**0.94**	**135**	P	**Pn**	**14 15 06.0**	**-1.9**
MXZ	**Matakaoa Point**	**0.94**	**135**	P	**Pn**	**14 15 06.1**	**-1.8**
MXZ				S	**Sn**	**14 15 27.3**	**-2.7**
RUGZ	**Raukumara Rang**	**1.07**	**171**	P	**Pn**	**14 15 07.6**	**-1.5**
RUGZ				S	**Sn**	**14 15 30.4**	**-1.7**
PKGZ	**Pakihiroa**	**1.07**	**153**	P	**Pn**	**14 15 08.5**	**-0.4**
PKGZ				S	**Sn**	**14 15 30.9**	**-1.0**
WMGZ	**Waiomatatini S**	**1.18**	**141**	P	**Pn**	**14 15 08.6**	**-1.2**
WMGZ				S	**Sn**	**14 15 31.9**	**-1.4**
PUZ	**Puketiti**	**1.32**	**152**	P	**Pn**	**14 15 10.2**	**-0.7**
TWGZ	**Tauwhareparae**	**1.33**	**162**	P	**Pn**	**14 15 11.4**	**+0.3**
URZ	**Urewera**	**1.38**	**192**	P	**Pn**	**14 15 11.4**	**0.0**
	41nm,0.3s,baz=258,slow=5.2,SNR=333						
URZ				S	**Sn**	**14 15 37.1**	**+0.8**
	98nm,0.3s,baz=181,slow=23,SNR=50						
URZ	**Urewera**	**1.38**	**192**	P	**Pn**	**14 15 11.6**	**+0.2**
URZ	**Urewera**	**1.38**	**192**	S	**Sn**	**14 15 37.3**	**+1.1**
URZ	**Urewera**	**1.38**	**192**	P	**Pn**	**14 15 11.5**	**0.0**
KUZ	**Kuaotunu**	**1.41**	**276**	P	**Pn**	**14 15 10.6**	**-1.0**
KUZ	**Kuaotunu**	**1.41**	**276**	P	**Pn**	**14 15 10.7**	**-1.0**
MWZ	**Matawai**	**1.43**	**178**	P	**Pn**	**14 15 11.7**	**-0.2**
KARZ	**Kaharoa**	**1.48**	**221**	P	**Pn**	**14 15 14.4**	**+2.1**
KMRZ	**Kaimai**	**1.54**	**232**	P	**Pn**	**14 15 14.1**	**+1.2**
TKGZ	**Te Karaka**	**1.56**	**169**	P	**Pn**	**14 15 13.1**	**+0.1**
TKGZ				S	**Sn**	**14 15 39.0**	**-0.1**
RAGZ	**Rawiri**	**1.59**	**182**	P	**Pn**	**14 15 14.3**	**+0.9**
CNGZ	**Carnagh Statio**	**1.68**	**160**	P	**Pn**	**14 15 14.6**	**+0.4**
GRZ	**Great Barrier**	**1.75**	**291**	P	**Pn**	**14 15 13.3**	**-1.6**
BKZ	**Black Stump Fm**	**2.38**	**199**	P	**Pn**	**14 15 22.0**	**+0.4**
BKZ	**Black Stump Fm**	**2.38**	**199**	P	**Sn**	**14 15 56.5**	**+1.9**
BFZ	**Birch Farm**	**3.89**	**194**	P	**Pn**	**14 15 39.2**	**-0.4**
BFZ	**Birch Farm**	**3.89**	**194**	S	**Sn**	**14 16 27.2**	**+0.4**
SNZO	**South Karori**	**4.89**	**205**	P	**Pn**	**14 15 50.5**	**-1.8**
SNZO	**South Karori**	**4.89**	**205**	S	**Sn**	**14 16 50.2**	**+0.5**
QRZ	**Quartz Range**	**5.49**	**223**	P	**Pn**	**14 15 59.4**	**-0.7**
QRZ	**Quartz Range**	**5.49**	**223**	S	**Sn**	**14 17 04.0**	**+0.4**
KHZ	**Kahutara**	**6.28**	**208**	P	**Pn**	**14 16 08.0**	**-2.3**
RPZ	**Rata Peaks**	**8.38**	**214**	P	**Pn**	**14 16 35.0**	**-2.8**
	4.9nm,0.3s,baz=295,slow=1.3,SNR=8.1						
RPZ				S	**Sn**	**14 18 06.4**	**-5.3**
	7.4nm,0.4s,baz=356,slow=22,SNR=9.1						
RPZ	**Rata Peaks**	**8.38**	**214**	P	**Pn**	**14 16 35.8**	**-1.9**
ODZ	**Otahua Downs**	**9.62**	**210**	P	**Pn**	**14 16 51.1**	**-2.8**
ASAR	**Alice Springs**	**39.54**	**277**	P	**P**	**14 21 52.0**	**-0.1**
	1.3nm,0.5s,baz=118,slow=8.0,SNR=64						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**41.14**	**282**	P	**P**	**14 22 04.5**	**-0.7**
	1.1nm,0.4s,baz=120,slow=7.8,SNR=21						
	1.1nm,0.4s						
QSPA	**South Pole Qui**	**53.22**	**180**	P	**P**	**14 23 41.5**	**+3.6**
	0.8nm,0.4s,baz=212,slow=2.6,SNR=15						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**149.60**	**333**	PKPbc	**PKiKP**	**14 34 06.9**	**+0.5**
	0.9nm,0.9s,baz=46,slow=4.0,SNR=4.2						

GCG 02 14:28:07.0±0.8, 14.43N×91.86W, h60km±13km, MD3.3, ML3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG2	**El Palmar, Qui**	**0.47**	**90**	*i* P	Pn	14 28 18.1	-0.7
FG8	**Yepocapa, Chim**	**1.27**	**98**	*e*S	Sn	14 28 37.3	-7.7
FG16	**Alotenango, Sa**	**1.32**	**97**	*i* P	Pn	14 28 25.4	-4.0
FG16				*i* S	Sn	14 28 40.4	-5.8
FG16				IAML		14 28 40.8	
	comp=E,2μm,0.2s						

*MOS **02** 14:37:34.2±2.2, 22.81N×93.50E, h80km, mb4.3/13, Error ellipse: s-maj=19.3km s-min=6.7km az=122.0*
*IDC **02** 14:37:37.3±1.0, 23.33N×94.34E, h96km±9km, mb3.8/15, mbtmp4.1/16, Error ellipse: s-maj=36.1km s-min=11.8km az=58.0*
*NEIC **02** 14:37:38.0±1.2, 23.63N±0.04°×94.65E±0.08°, h93km±6km, mb4.6/20, Error ellipse: s-maj=10.8km s-min=5.1km az=96.0*
*NDI **02** 14:37:42.1±2.6, 23.71N×94.21E, h24km±47km, ML4.5, MW4.4, mb4.6(NEIC)*

ISC 02 14:37:38.0±0.5, 23.47N±0.05°×94.41E±0.05°, h99km, n89, σ2.553/110, mb4.4/37, 7C-4D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.42**	**343**	*e*P	**Pn**	**14 38 03.5**	**+0.2**
IMP				*e*S	**Sn**	**14 38 18.8**	**-3.8**
IMP				IAML		14 38 21.8	
	comp=E,2μm,0.1s						
IMP				IAML		14 38 21.9	
	comp=N,6μm,0.2s						
AZL	**Aizawl**	**1.60**	**280**	*e*P	**Pn**	**14 38 06.4**	**+0.8**
AZL				*e*S	**Sn**	**14 38 24.9**	**-1.7**
AZL				IAML		14 38 28.8	
	comp=N,8μm,0.3s						
KOHI	**KOHIMA**	**2.26**	**353**	*e*P	**Pn**	**14 38 14.9**	**+0.8**
KOHI				*e*S	**Sn**	**14 38 39.9**	**-1.8**
KOHI				IAML		14 38 41.7	
	comp=N,6μm,0.4s						
SHL	**Shillong**	**3.11**	**313**		**Pn**	**14 38 25.4**	**0.0**
SHL	**Shillong**	**3.11**	**313**	*e*P	**Pn**	**14 38 25.8**	**+0.4**
SHL				*e*S	**Sn**	**14 38 55.3**	**-6.6**
SHL				IAML		14 38 59.0	
	comp=N,3μm,0.3s						
SHL				IAML		14 38 59.2	
	comp=E,3μm,0.2s						
SHL	**Shillong**	**3.11**	**313**	P	**Pn**	**14 38 25.4**	**0.0**
TEZP	**TEZPUR**	**3.46**	**335**	*e*P	**Pn**	**14 38 28.6**	**-1.3**
TEZP				*e*S	**Sn**	**14 39 05.0**	**-5.0**
TEZP				IAML		14 39 05.8	
	comp=E,5μm,0.3s						
TEZP				IAML		14 39 05.8	
	comp=N,3μm,0.3s						
GUWA	**GUWAHATI**	**3.67**	**318**	*e*P	**Pn**	**14 38 31.9**	**-0.8**
GUWA				*e*S	**Sn**	**14 39 09.6**	**-5.5**
GUWA				IAML		14 39 13.1	
	comp=E,2μm,0.3s						
GUWA				IAML		14 39 13.1	
	comp=N,3μm,0.3s						
CHTO	**Chiang Mai**	**6.27**	**137**	Pn	**Pn**	**14 39 07.7**	**-0.3**
CHTO	**Chiang Mai**	**6.27**	**137**	P	**Pn**	**14 39 07.7**	**-0.3**
GTK	**Tadong**	**6.50**	**307**	*e*P	**Pn**	**14 39 12.4**	**+1.1**
GTK				*e*S	**Sn**	**14 40 18.7**	**-5.4**
GTK				IAML		14 40 21.3	
	comp=N,1μm,0.4s						
GTK				IAML		14 40 22.2	
	comp=E,902nm,0.3s						
CMAR	**Chiang Mai Arr**	**6.54**	**139**	P	**Pn**	**14 39 10.0**	**-1.7**
	comp=E,3.8nm,0.7s,baz=318,slow=13,SNR=18						
CMAR	**Chiang Mai Arr**	**6.54**	**139**	*e*P	**Pn**	**14 39 11.9**	**+0.2**
LSA	**Lhasa**	**6.86**	**336**	Pn	**Pn**	**14 39 15.8**	**-0.6**
LSA				Sn	Sn	14 40 07.2	-26
LSA				smax	smax		
	comp=N,79nm,0.8s						
ODAN	**Odare**	**7.20**	**299**	Pn	**Pn**	**14 39 20.7**	**-0.2**
	baz=309,slow=0.0						
ODAN				Sn	**Sn**	**14 40 38.3**	**-3.0**
	comp=N,418nm,0.4s,baz=309,slow=0.0						
RAMN	**Ramite**	**7.88**	**298**	Pn	**Pn**	**14 39 30.5**	**+0.4**
	baz=306,slow=0.0						
RAMN				Sn	**Sn**	**14 40 54.5**	**-3.2**
	comp=N,138nm,0.4s,baz=306,slow=0.0						
EVN	**Everest**	**8.18**	**305**		**Pn**	**14 39 34.3**	**-0.2**
GUN	**Gumba**	**8.88**	**302**	Pn	**Pn**	**14 39 44.5**	**+0.8**
	baz=309,slow=0.0						
GUN				Sn	**Sn**	**14 41 19.2**	**-3.0**
	comp=N,199nm,0.4s,baz=309,slow=0.0						
PKI	**Pulchoki**	**9.10**	**299**	Pn	**Pn**	**14 39 46.4**	**-0.4**
	baz=306,slow=0.0						
PKI				Sn	**Sn**	**14 41 22.4**	**-5.2**
	comp=N,87nm,0.6s,baz=306,slow=0.0						
PKIN	**Phulchoki**	**9.11**	**299**	Pn	**Pn**	**14 39 46.4**	**-0.5**
	baz=306,slow=0.0						
PKIN				Sn	**Sn**	**14 41 22.4**	**-5.4**
	comp=N,115nm,0.6s,baz=306,slow=0.0						
KKN	**Kakani**	**9.29**	**299**	Pn	**Pn**	**14 39 49.9**	**+0.6**
	baz=307,slow=0.0						
KKN				Sn	**Sn**	**14 41 27.7**	**-4.5**
	comp=N,143nm,0.6s,baz=307,slow=0.0						
DMN	**Daman**	**9.36**	**298**	Pn	**Pn**	**14 39 49.8**	**-0.5**
	baz=305,slow=0.0						
DMN				Sn	**Sn**	**14 41 29.4**	**-4.4**
	comp=N,86nm,0.5s,baz=305,slow=0.0						
GKN	**Gorkha**	**9.90**	**299**	Pn	**Pn**	**14 39 57.5**	**0.0**
	baz=306,slow=0.0						
GKN				Sn	**Sn**	**14 41 42.5**	**-4.4**
	comp=N,159nm,0.3s,baz=306,slow=0.0						
KOLN	**Koldanda**	**10.65**	**296**	Pn	**Pn**	**14 40 06.3**	**-1.5**
	baz=302,slow=0.0						
KOLN				Sn	**Sn**	**14 41 58.1**	**-7.2**
	comp=N,80nm,0.5s,baz=302,slow=0.0						
DANN	**Dangsing**	**10.75**	**299**	Pn	**Pn**	**14 40 08.4**	**-0.8**
	baz=305,slow=0.0						
DANN				Sn	**Sn**	**14 42 01.9**	**-5.8**
	comp=N,75nm,0.5s,baz=305,slow=0.0						
PYUN	**Piuthan**	**11.28**	**297**	Pn	**Pn**	**14 40 14.4**	**-1.8**
	baz=302,slow=0.0						
PYUN				Sn	**Sn**	**14 42 13.6**	**-6.8**
	comp=N,70nm,0.5s,baz=302,slow=0.0						
HYB	**Hyderabad**	**16.03**	**251**	*e*P	**P**	**14 41 22.3**	**+3.0**
IPM	**Ipoh**	**19.93**	**160**	P	**P**	**14 42 02.5**	**+0.3**
MYKOM	**Kota Tinggi**	**23.41**	**156**	P	**P**	**14 42 39.7**	**+1.3**
MYKOM				IAmb	IAmb	14 42 42.1	
	comp=Z,23nm,1.2s						
KDJ	**Kajisay**	**23.50**	**326**		**P**	**14 42 41.3**	**+2.1**
KDJ				IAmb	IAmb	14 42 43.5	
	comp=Z,17nm,1.3s						
KDJ	**Kajisay**	**23.50**	**326**	P	**P**	**14 42 41.3**	**+2.1**
KDJ				pmax	pmax		
	comp=Z,17nm,1.3s						
BOOM	**Boomskoye usch**	**24.40**	**325**		**P**	**14 42 49.1**	**+1.9**
BOOM	**Boomskoye usch**	**24.40**	**325**	P	**P**	**14 42 49.2**	**+1.9**
BOOM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MK31	**Makanchi Array**	**25.24**	**340**	*i* P	**P**	**14 42 55.9**	**+1.2**
MKAR	**Makanchi Array**	**25.24**	**340**		**P**	**14 42 55.6**	**+0.9**
MKAR	**Makanchi Array**	**25.24**	**340**	P	**P**	**14 42 55.9**	**+1.3**
	comp=Z,17nm,0.6s,baz=145,slow=9.7,SNR=131						
	comp=Z,17nm,0.6s						
AAK	**Ala-Archa**	**25.27**	**324**	*e*P	**P**	**14 42 56.6**	**+1.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MAKZ	**Makanchi**	**25.35**	**340**		**P**	**14 42 56.8**	**+1.1**
MAKZ				IAmb	IAmb	14 42 57.6	
	comp=Z,7.5nm,0.6s						
MAKZ	**Makanchi**	**25.35**	**340**	P	**P**	**14 42 56.8**	**+1.1**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GAR	**Garm**	**25.66**	**313**		**P**	**14 43 00.7**	**+1.9**
GAR				IAmb	IAmb	14 43 01.3	
	comp=Z,32nm,0.7s						
SONM	**Songino Array**	**26.13**	**19**	P	**P**	**14 43 03.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=198,slow=9.1,SNR=1.5						
SONM				pP	**pP**	**14 43 25.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=207,slow=9.1,SNR=2.3						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**29.79**	**339**	P	**P**	**14 43 35.6**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=153,slow=8.3,SNR=9.6						
	comp=Z,2.5nm,0.7s						
KURK	**Kurchatov**	**29.84**	**340**	*ce*P	**P**	**14 43 35.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
ZALV	**Zalesovo Beam**	**31.29**	**349**	P	**P**	**14 43 48.7**	**+0.3**
ZALV	**Zalesovo Beam**	**31.29**	**349**	P	**P**	**14 43 48.8**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=179,slow=8.5,SNR=8.4						
	comp=Z,1.5nm,0.5s						
BVAR	**Borovoye Array**	**34.69**	**334**	P	**P**	**14 44 19.0**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=140,slow=12,SNR=9.3						
	comp=Z,3.7nm,0.8s						
USA0B	**Ussuriysk Arra**	**37.01**	**47**	*e*P	P	14 44 48.8	+11
AB31	**Akbulak array**	**37.33**	**322**		**P**	**14 44 42.2**	**+1.5**
ABKAR	**Akbulak array**	**37.33**	**322**	P	**P**	**14 44 42.0**	**+1.4**
ARTI	**Arti**	**42.09**	**331**	*c i*P	**P**	**14 45 19.3**	**-0.7**
ARTI				S	**S**	**14 51 38.2**	**+6.3**
ARTI				SS	**SS**	**14 54 40.7**	**-2.1**
ARTI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YSS	**Yuzhno-Sakhali**	**45.04**	**46**	*e*P	P	14 45 55.1	+11
YSS				pmax	pmax		
	comp=Z,14nm,1.5s						
FAKI	**Fak Fak**	**45.23**	**120**	P	**P**	**14 45 44.8**	**-0.9**
YAK	**Yakutsk**	**45.36**	**22**	*e*P	P	14 45 54.8	+8.8
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NCK	**Nalchik**	**46.07**	**308**	*e*P	**P**	**14 45 49.9**	**-2.1**
NCK				pmax	pmax		
	comp=Z,19nm,0.5s						
KIV	**Kislovodsk**	**46.79**	**309**	*e*P	**P**	**14 45 53.6**	**-4.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VSLR	**Vesyoloye**	**48.64**	**308**	*e*P	**P**	**14 46 12.3**	**+0.4**
VSLR				pmax	pmax		
	comp=Z,20nm,0.7s						
MBWA	**Marble Bar**	**50.75**	**149**	P	**P**	**14 46 28.1**	**0.0**
PSA00	**Pilbara Seismi**	**51.16**	**149**	P	**P**	**14 46 30.6**	**-0.5**
PSA00				IAmb	IAmb	14 47 06.6	
	comp=Z,7.1nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.35**	**141**	P	**P**	**14 46 32.0**	**-0.6**
FITZ				IAmb	IAmb	14 46 37.2	
	comp=Z,4.7nm,1.3s						
KNRA	**Kununurra**	**51.40**	**136**	P	**P**	**14 46 32.5**	**-0.5**
OBN	**Obninsk**	**52.78**	**322**	*e*P	**P**	**14 46 42.3**	**-0.4**
OBN				*e*		14 48 41.6	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BRTR	**Keskin Array B**	**53.28**	**303**	P	**P**	**14 46 47.2**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=104,slow=6.1,SNR=2.8						
	comp=Z,0.4nm,0.4s						
AKASG	**Malin Array Be**	**56.59**	**316**	P	**P**	**14 47 09.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=85,slow=6.1,SNR=7.8						
	comp=Z,0.5nm,0.3s						
AKBB	**Malin Array Si**	**56.59**	**316**	*e*P	**P**	**14 47 10.1**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MNK	**Minsk**	**57.66**	**321**	*i* P	**P**	**14 47 20.1**	**+2.3**
MNK				*i*		14 49 27.4	
MNK				*i* PPP	PPP	14 50 43.9	
MNK				*i* S	**S**	**14 55 14.6**	**+6.1**
MNK				*i* SS	**SS**	**14 59 08.4**	**+8.6**
MNK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WB0	**Warramunga Arr**	**58.03**	**134**	P	**P**	**14 47 20.1**	**-0.8**
WB0				IAmb	IAmb	14 47 20.3	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**58.12**	**135**	P	**P**	**14 47 20.3**	**-1.2**
WRA	**Warramunga Arr**	**58.12**	**135**	P	**P**	**14 47 20.8**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=322,slow=7.5,SNR=34						
WRA				pP	**pP**	**14 47 43.9**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=323,slow=7.5,SNR=3.1						
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**58.12**	**135**	P	**P**	**14 47 20.3**	**-1.2**
WRA				pmax	pmax		

H11N1	**WAKE ISLAND Hy 40.83**	**71**	T		T	15 30 04.8		
	baz=265,slow=75,SNR=32							
H11N2	**WAKE ISLAND Hy 40.84**	**71**	T		T	15 30 04.2		
	baz=265,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy 40.85**	**71**	T		T	15 30 03.5		
	baz=265,slow=75,SNR=29							
MKAR	**Makanchi Array**	**52.47**	**323**	P	P	14 48 26.1	-0.1	
	0.4nm,0.6s,baz=122,slow=7.9,SNR=4.9							
	0.4nm,0.6s							

DJA 02 14:55:27.4±0.2, 3°S±2°×12°9E±°, h10km, M3.8/12, mB5.6/1, mb3.9/2, MLv3.8/12, Mw(mB)5.1/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.45**	**148**	P	Pg	14 55 36.3	0.0
MSAI				S	Sg	14 55 43.2	+1.0
AAI	**Ambon**	**0.88**	**214**	P	Pg	14 55 44.4	+0.1
AAI				S	Sb	14 55 56.6	+0.1
NLAI	**Namlea**	**1.61**	**260**	P	Pb	14 55 56.7	-0.6
BNDI	**Bandanaira**	**1.97**	**142**	P	Pn	14 56 00.8	-0.1
SANI	**Sanana**	**2.85**	**288**	P	Pn	14 56 11.5	-1.4
SWI	**Sorong**	**3.31**	**51**	P	Pn	14 56 19.7	+0.4
SWI				S	Sn	14 56 58.4	-0.3
FAKI	**Fak Fak**	**3.55**	**89**	P	Pn	14 56 22.2	-0.5
RKPI	**Ransiki, Papua**	**5.67**	**75**	P	Pn	14 56 52.0	+0.2
	5µm37nm,1.4s						

NEIC 02 14:55:48.0±0.2, 39°63N±0°03×98°00W±0°03, h5km±2km, mb_Lg2.7/65, Error ellipse: s-maj=5.8km s-min=3.3km az=352.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSU1	**Kansas State U**	**1.20**	**116**		Pg	14 56 09.5	-1.5
KSU1				Sg	Sg	14 56 25.3	-1.2
R32A	**Long Quarter,**	**1.33**	**205**		Pn	14 56 12.2	-1.2
R32A					Sg	14 56 29.4	-1.4
CBKS	**Cedar Bluff**	**1.58**	**239**		Pn	14 56 16.6	-0.2
CBKS					Sn	14 56 36.6	-1.0
CBKS				IAmb_Lg		14 56 38.7	
	comp=Z,62nm,0.8s						
BGNE	**Belgrade**	**1.78**	**356**	Pn	Pn	14 56 19.1	-0.4
N35A	**Tabor**	**2.18**	**55**	Pn	Pn	14 56 24.9	-0.1
L34A	**Svendsen Farm,**	**2.63**	**27**		Pn	14 56 30.8	-0.5
KAN14	**Manchester OK**	**2.67**	**179**	IAmb_Lg		14 57 17.8	
	comp=Z,27nm,1.1s						
BLOK	**Blackwell**	**2.93**	**168**	Pn	Pn	14 56 34.8	-0.6
T35A	**Sooner Cattle**	**2.95**	**156**	Pn	Pn	14 56 35.2	-0.4
T35A				IAmb_Lg		14 57 26.2	
	comp=Z,20nm,0.7s						
CROK	**Carrier**	**3.12**	**180**	IAmb_Lg		14 57 31.8	
	comp=Z,16nm,0.9s						
OK038	**West end E0370**	**3.20**	**191**	Pn	Pn	14 56 38.9	-0.2
K30B	**Basset**	**3.27**	**339**		Pn	14 56 40.2	+0.2
OGNE	**Ogallala**	**3.35**	**294**		Pn	14 56 41.0	-0.2
KSCO	**Kaye Shedlock'**	**3.65**	**262**	IAmb_Lg		14 57 52.3	
	comp=Z,32nm,0.7s						
ELIS	**Ellis County**	**3.74**	**198**	Pn	Pn	14 56 46.1	-0.3
OK052	**Battle Ridge R**	**3.75**	**165**	Pn	Pn	14 56 46.1	-0.5
N38A	**Joes South For**	**3.83**	**71**		Pn	14 56 47.0	-0.6
RLO	**Rose Lookout**	**4.18**	**145**	IAmb_Lg		14 58 01.4	
	comp=Z,14nm,0.7s						
ECSD	**EROS Data Cent**	**4.23**	**14**		Pn	14 56 52.2	-0.9
ECSD				IAmb_Lg		14 58 03.1	
	comp=Z,18nm,0.8s						
U38A	**Gravette**	**4.28**	**137**		Pn	14 56 52.9	-0.9
HHAR	**Hobbs**	**4.63**	**135**		Pn	14 56 58.4	-0.3
HHAR				IAmb_Lg		14 58 24.5	
	comp=Z,15nm,1.0s						
R40A	**Maddies Statio**	**4.66**	**105**	Pn	Pn	14 56 58.6	-0.4
SMWD	**Samnorwood**	**4.86**	**202**		Pn	14 57 01.1	-0.7
SMWD				IAmb_Lg		14 58 26.6	
	comp=Z,15nm,0.8s						
RTBA	**Rita Blanca**	**4.92**	**231**	IAmb_Lg		14 58 36.4	
	comp=Z,16nm,0.9s						
WMOK	**Wichita Mounta**	**4.93**	**188**	IAmb_Lg		14 58 29.7	
	comp=Z,10nm,1.1s						
MGMO	**Mountain Grove**	**5.13**	**117**	IAmb_Lg		14 58 37.1	
	comp=Z,14nm,0.9s						
CCM	**Cathedral Cave**	**5.50**	**105**	Pn	Pn	14 57 10.3	-0.3
CCM				IAmb_Lg		14 58 41.8	
	comp=Z,18nm,0.8s						
I37A	**Lemond, Waseca**	**5.56**	**37**	IAmb_Lg		14 58 55.1	
	comp=Z,17nm,0.7s						
AMTX	**Amarillo**	**5.58**	**213**	IAmb_Lg		14 58 52.0	
	comp=Z,19nm,0.7s						
T25A	**Trinidad**	**5.62**	**246**	Pn	Pn	14 57 10.6	-1.9
ISCO	**Idaho Springs**	**5.88**	**274**	Pn	Pn	14 57 14.4	-1.7
FCAR	**Ozark Folk Cen**	**5.97**	**127**	Pn	Pn	14 57 16.0	-1.0
FCAR				IAmb_Lg		14 58 55.1	
	comp=Z,15nm,0.7s						
MIAR	**Mount Ida**	**6.18**	**144**	IAmb_Lg		14 59 21.4	
	comp=Z,14nm,1.1s						
WHAR	**Wooly Hollow**	**6.28**	**132**	IAmb_Lg		14 59 16.5	
	comp=Z,16nm,1.0s						
F33A	**5 Mile Ranch,**	**6.33**	**11**	IAmb_Lg		14 59 07.5	
	comp=Z,7.2nm,0.9s						
RSSD	**Black Hills**	**6.36**	**317**	IAmb_Lg		14 59 20.5	
	comp=Z,11nm,0.8s						
DKNS	**Dickens**	**6.40**	**202**	IAmb_Lg		14 59 19.8	
	comp=Z,11nm,1.0s						
LCAR	**Lake Charles**	**6.48**	**121**	IAmb_Lg		14 59 19.2	
	comp=Z,9.0nm,0.8s						
X40A	**Basin Creek Fa**	**6.59**	**140**	Pn	Pn	14 57 25.3	-0.2
X40A				IAmb_Lg		14 59 31.8	
	comp=Z,10nm,0.9s						
UALR	**University of**	**6.62**	**135**	IAmb_Lg		14 59 14.0	
	comp=Z,15nm,1.1s						
SPMN	**Marine on St.**	**6.78**	**33**	IAmb_Lg		14 59 21.2	
	comp=Z,12nm,0.8s						
MSTX	**Muleshoe**	**6.83**	**216**	IAmb_Lg		14 59 31.5	
	comp=Z,8.7nm,0.9s						

*NEIC **02** 15:00:33.5±0.9, 35°832N±0°009×98°09W±0°01, h7km±3km, Error ellipse: s-maj=1.3km s-min=1.3km az=165.0*
NEIC 02 15:00:33.5±0.9, 35°831N±0°009×98°09W±0°01, h6km±2km, mb_Lg2.7/6, ML2.2/15, ML2.0/44, Error ellipse: s-maj=1.3km s-min=1.2km az=169.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.43**	**114**		Pg	15 00 42.1	+0.4
BCOK					Sg	15 00 48.2	+0.9
OK029	**Liberty Lake**	**0.52**	**94**		Pg	15 00 43.7	+0.3
OK029					Sg	15 00 51.2	+1.1
OK029				IAML		15 00 51.4	
	99nm,0.1s						
CSTR	**Hydro, Custer**	**0.52**	**249**		Pg	15 00 44.0	+0.5
CSTR					Sg	15 00 51.4	+1.1
CROK	**Carrier**	**0.68**	**7**		Pg	15 00 46.6	+0.1
CROK					Sg	15 00 56.0	+0.7
CROK				IAML		15 00 56.5	
	comp=E,90nm,0.4s						
CROK				IAML		15 01 02.8	
	comp=N,76nm,0.3s						
FNO	**Franklin**	**0.80**	**135**		Pg	15 00 48.7	-0.1
FNO					Sg	15 00 59.7	+0.4
FNO				IAML		15 01 02.6	
	comp=N,39nm,0.4s						
FNO				IAML		15 01 02.9	
	comp=E,70nm,0.4s						
OK038	**West end E0370**	**0.83**	**321**		Pg	15 00 49.4	-0.1
OK038					Sg	15 01 00.8	+0.5
GC02	**Grant County #**	**1.03**	**10**		Pg	15 00 52.8	-0.5
GC02					Sg	15 01 07.0	+0.3
OK052	**Battle Ridge R**	**1.06**	**81**		Pg	15 00 53.3	-0.4
OK052					Sb	15 01 08.1	-0.1
OK052				IAML		15 01 13.4	
	comp=E,42nm,0.2s						
OK052				IAML		15 01 13.9	
	comp=E,33nm,0.3s						
QUOK	**Quay**	**1.17**	**73**		Pg	15 00 55.1	-0.8
QUOK				IAML		15 01 16.7	
	comp=E,44nm,0.2s						
WMOK	**Wichita Mounta**	**1.23**	**208**		Pg	15 00 56.0	-1.0
WMOK	**Wichita Mounta**	**1.23**	**208**	IAML		15 01 13.1	
	comp=E,22nm,0.2s						
DEOK	**Depew**	**1.29**	**89**		Pn	15 00 57.0	-1.1
DEOK				IAML		15 01 21.1	
	comp=N,31nm,0.2s						
T35A	**Sooner Cattle**	**1.67**	**49**		Pn	15 01 03.4	+0.1
TUL3	**Leonard**	**1.87**	**87**	Pn	Pn	15 01 05.9	-0.1
SMWD	**Samnorwood**	**1.90**	**248**		Pn	15 01 06.7	+0.2
LOOK	**Love County**	**1.98**	**158**		Pn	15 01 05.7	-1.8
WTFS	**Witchita Falls**	**2.08**	**189**		Pn	15 01 09.9	+1.0
RLO	**Rose Lookout**	**2.51**	**81**	Pn	Pn	15 01 14.9	+0.1
DKNS	**Dickens**	**3.18**	**228**	Pn	Pn	15 01 24.9	+0.8
TREL	**Terrell**	**3.51**	**151**	IAmb_Lg		15 02 27.6	
	comp=Z,19nm,0.7s						
Z38A	**Mt. Pleasant**	**3.62**	**134**	IAmb_Lg		15 02 31.2	
	comp=Z,23nm,1.2s						
POST	**Post**	**3.94**	**227**	Pn	Pn	15 01 32.8	-1.8
Z41A	**Richland Creek**	**5.06**	**119**	IAmb_Lg		15 03 24.1	
	comp=Z,11nm,0.9s						

*IDC **02** 15:03:59.8±1.1, 32°20S×178°80W, h0km, mb4.2/4, mbtmp4.2/5, ML3.9/1, Error ellipse: s-maj=34.8km s-min=27.1km az=72.0*
*NEIC **02** 15:04:01.0±2.0, 32°52S±0°09×178°8W±0°2, h10km±1km, mb4.4/10, Error ellipse: s-maj=31.0km s-min=12.2km az=107.0*
*WEL **02** 15:04:10.1±1.2, 33°S±18°×17°9W±1°8, h288km±51km, M4.4/15, mB4.6/5, ML4.7/11, MLv4.7/15, Mw(mB)3.8/5, Error ellipse: s-maj=23.3km s-min=22.5km az=42.9, confirmed*
ISC 02 15:04:03.7±0.8, 32°35S±0°08×178°9W±0°2, h35km, n64, σ1s87/59, mb4.4/11, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.19**	**15**	Pn	Pn	15 04 52.4	+1.0
MXZ	**Matakaoa Point**	**5.70**	**203**	Pn	Pn	15 05 21.7	-4.1
MXZ	**Matakaoa Point**	**5.70**	**203**	P	Pn	15 05 28.0	+2.2
WMGZ	**Waiomatatini S**	**5.89**	**201**	P	Pn	15 05 31.6	+3.0
WMGZ				S	Sn	15 06 35.8	+0.9
PKGZ	**Pakihiroa**	**6.05**	**204**	P	Sn	15 06 38.6	0.0
HAZ	**Te Kaha**	**6.05**	**206**	P	Pn	15 06 32.2	+1.4
HAZ				S	Sn	15 06 43.0	+4.2
PUZ	**Puketiti**	**6.18**	**202**	P	Pn	15 05 34.7	+2.2
RUGZ	**Raukumara Rang**	**6.28**	**206**	P	Pn	15 05 35.7	+1.7
RUGZ				S	Sn	15 06 45.2	+0.7
TWGZ	**Tauwhareparae**	**6.36**	**203**	P	Pn	15 05 36.6	+1.6
CNGZ	**Carnagh Statio**	**6.57**	**200**	P	Pn	15 05 38.5	+0.7
WIAZ	**Waiheke Island**	**6.64**	**226**	MLv			
OPRZ	**Ohinepanea**	**6.64**	**213**	P	Pn	15 05 43.0	+4.2
TKGZ	**Te Karaka**	**6.64**	**203**	P	Pn	15 05 40.7	+2.0
TKGZ				S	Sn	15 06 50.9	-2.4
MWZ	**Matawai**	**6.66**	**205**	P	Pn	15 05 38.4	-0.7
MWZ				S	Sn	15 06 52.5	-1.2
WCZ	**Waipu Caves**	**6.67**	**236**	P	Pn	15 05 45.4	+6.3
URZ	**Urewera**	**6.75**	**208**	Pn	Pn	15 05 40.2	0.0
	2.0nm,0.3s,baz=265,slow=3.5,SNR=22						
URZ				Sn	Sn	15 06 53.9	-2.0
	4.8nm,0.3s,baz=57,slow=22,SNR=9.9						
	6.1nm,0.2s						
URZ	**Urewera**	**6.75**	**208**	P	Pn	15 05 40.2	0.0
URZ				S	Sn	15 06 56.2	+0.3
RAGZ	**Rawiri**	**6.84**	**205**	MLv			
OUZ	**Omahuta**	**6.89**	**243**	P	Pn	15 05 49.1	+6.9
RIGZ	**Rimuhau**	**6.91**	**202**	MLv			
RRRZ	**Republican Roa**	**7.07**	**211**	MLv			
PRGZ	**Paritu Road**	**7.07**	**201**	P	Pn	15 05 46.8	+2.1
PRGZ				S	Sn	15 07 01.3	-2.6
MUGZ	**Murupara**	**7.07**	**209**	P	Pn	15 05 44.8	0.0
MUGZ				S	Sn	15 07 04.3	+0.4
RTZ	**Ruatahuna**	**7.11**	**207**	Pn	Pn	15 05 42.8	-2.5
SNGZ	**Shannon Statio**	**7.12**	**205**	P	Pn	15 05 46.2	+0.8
SNGZ				S	Sn	15 07 03.9	-1.3
RAHZ	**Arahi**	**7.33**	**205**	MLv			
MTHZ	**Maungataniwha**	**7.37**	**207**	MLv			
MRHZ	**Matea Rd**	**7.52**	**209**	MLv			
NMHZ	**Naumai**	**7.60**	**206**	P	Pn	15 05 53.6	+1.6
ARHZ	**Aropaoanui**	**7.67**	**205**	P	Pn	15 05 54.6	+1.7
BKZ	**Black Stump Fm**	**7.78**	**208**	Pn	Pn	15 05 52.8	-1.7
BKZ	**Black Stump Fm**	**7.78**	**208**	P	Pn	15 05 54.8	+0.4
KWHZ	**Kaweka Forest**	**8.03**	**207**	MLv			
TWVZ	**Taurewa**	**8.15**	**213**	MLv			
SNVZ	**South Ngauruho**	**8.15**	**212**	MLv			
NGZ	**Ngauruhoe**	**8.16**	**212**	MLv			
KAHZ	**Kahuranaki**	**8.19**	**204**	P	Pn	15 05 59.3	-0.8
MTVZ	**Mangateitei**	**8.39**	**212**	MLv			
MRZ	**Mangatainoka R**	**9.42**	**207**	Pn	Pn	15 06 14.7	-2.2
TUWZ	**Tuamarina**	**10.73**	**210**	Pn	Pn	15 06 31.7	-3.1
GVZ	**Greta Valley S**	**12.38**	**209**	Pn	Pn	15 06 50.7	-6.7
CTAO	**Charters Tower**	**33.43**	**283**	P	P	15 10 39.5	+0.1
INKA	**Innaminka**	**35.11**	**267**	P	P	15 10 54.9	+1.1
INKA				IAmb	IAmb	15 11 33.0	
	comp=Z,5.5nm,1.4s						
AS31	**Alice Springs**	**42.30**	**269**	P	P	15 11 54.9	+0.7
ASAR	**Alice Springs**	**42.30**	**269**	P	P	15 11 54.7	+0.5
ASAR	**Alice Springs**	**42.30**	**269**	P	P	15 11 56.1	+1.9
	comp=Z,3.0nm,0.9s,baz=107,slow=7.6,SNR=26						
	comp=Z,3.0nm,0.9s						
WR8	**Warramunga Arr**	**43.32**	**275**	P	P	15 12 04.2	+1.6
WR8				IAmb	IAmb	15 12 10.7	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**43.46**	**275**	P	P	15 12 05.2	+1.5
WRA	**Warramunga Arr**	**43.46**	**275**	P	P	15 12 05.2	+1.5
	comp=Z,2.8nm,0.6s,baz=112,slow=8.1,SNR=12						
	comp=Z,2.8nm,0.6s						
WB0	**Warramunga Arr**	**43.50**	**275**	P	P	15 12 05.5	+1.6
WB0				IAmb	IAmb	15 12 06.6	
	comp=Z,8.8nm,1.1s						
SBA	**Scott Base**	**46.05**	**184**	P	P	15 12 23.4	-0.1
SBA				IAmb	IAmb	15 12 46.7	
	comp=Z,4.7nm,1.4s						
CASY	**Casey**	**53.08**	**209**	P	P	15 13 12.7	-4.4
CASY				IAmb	IAmb	15 13 13.2	
	comp=Z,4.6nm,1.1s						
QSPA	**South Pole Qui**	**57.77**	**180**	P	P	15 13 50.2	-0.9
QSPA	**South Pole Qui**	**57.77**	**180**	P	P	15 13 54.2	+3.1
	comp=Z,3.0nm,0.8s,baz=19,slow=0.9,SNR=18						
	comp=Z,3.0nm,0.8s						
TROLL	**Troll, Antarti**	**75.93**	**180**	⇑P	P	15 15 48.2	+1.6
	comp=Z,205nm,1.2s						
SNAA	**Sanae**	**76.23**	**179**	⇑P	P	15 15 48.9	+0.7
	comp=Z,23nm,0.6s						
SNAA	**Sanae**	**76.23**	**179**	P	P	15 15 49.3	+1.1
SNAA				IAmb	IAmb	15 16 05.3	
	comp=Z,5.8nm,1.5s						
SNAA	**Sanae**	**76.23**	**179**	P	P	15 15 49.4	+1.2
	comp=Z,1.3nm,0.8s,baz=184,slow=16,SNR=3.6						
	comp=Z,1.3nm,0.8s						
VNA3	**Neumayer Olymp**	**76.42**	**176**	⇑P	P	15 15 49.5	+0.3
	comp=Z,3.5nm,0.6s						
VNA1	**Neumayer--Stat**	**77.08**	**177**	⇑P	P	15 15 54.5	+1.6
	comp=Z,3.3nm,0.7s						
FINES	**FINESS Array B**	**146.69**	**338**	PKPbc	**PKPab**	15 23 41.6	-0.6
	comp=Z,4.9nm,0.6s,baz=47,slow=4.7,SNR=14						
NB2	**NORSAR Subarra**	**150.54**	**350**	PKP	**PKiKP**	15 23 51.5	-0.3
	comp=Z,0.7nm,0.7s,baz=18,slow=4.1						
NOA	**NORSAR Array B**	**150.54**	**350**	PKPbc	**PKPbc**	15 23 51.4	+0.3
	comp=Z,0.4nm,0.5s,baz=18,slow=4.1,SNR=3.5						
HFS	**Hagfors**	**150.98**	**347**	PKPbc	**PKiKP**	15 23 54.0	+1.4
	comp=Z,0.5nm,0.4s,baz=116,slow=3.4,SNR=7.8						

*IDC **02** 15:17:22.9±1.6, 6°14S×128°64E, h325km±18km, mb3.6/12, mbtmp4.4/18, Error ellipse: s-maj=16.9km s-min=11.9km az=67.0*
*NEIC **02** 15:17:22.7±1.9, 6°15S±0°10×128°6E±0°1, h324km±8km, mb4.4/20, Error ellipse: s-maj=17.6km s-min=12.7km az=65.0*
*DJA **02** 15:17:22.5±0.3, 6°S±3°×12°9E±°, h319km±5km, M4.5/18, mB5.0/3, mb4.3/11, MLv4.6/18, Mw(mB)4.4/3*
ISC 02 15:17:22.3±0.4, 6°18S±0°04×128°63E±0°05, h322km, n92, σ1s28/100, mb4.1/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.08**	**38**	P	Pn	15 18 13.5	+1.8
BNDI	**Bandanaira**	**2.08**	**38**	P	Pn	15 18 12.6	+0.9
BNDI				S	S	15 18 51.7	+0.6
AAI	**Ambon**	**2.52**	**350**	P	Pn	15 18 15.5	+0.2
MSAI	**Masohi**	**2.83**	**6**	P	Pn	15 18 17.3	-0.8
MSAI				S	S	15 18 57.9	-4.9
SAUI	**Saumlaki**	**3.19**	**124**	Pn	Pn	15 18 22.3	+0.9
SAUI				Sn	S	15 19 08.9	0.0
SAUI	**Saumlaki**	**3.19**	**124**	P	Pn	15 18 22.4	+0.9
SAUI	**Saumlaki**	**3.19**	**124**	P	Pn	15 18 22.0	+0.5
NLAI	**Namlea**	**3.30**	**332**	P	Pn	15 18 23.7	+1.2
FAKI	**Fak Fak**	**4.85**	**48**		Pn	15 18 38.0	-1.1
FAKI	**Fak Fak**	**4.85**	**48**	P	Pn	15 18 38.1	-0.9
FAKI	**Fak Fak**	**4.85**	**48**	P	Pn	15 18 37.7	-1.3
SANI	**Sanana**	**4.88**	**327**	P	Pn	15 18 39.8	+0.4
SANI	**Sanana**	**4.88**	**327**	P	Pn	15 18 39.1	-0.3
SOEI	**Soe**	**5.59**	**230**	Pn	Pn	15 18 48.3	+0.7
SOEI	**Soe**	**5.59**	**230**	P	Pn	15 18 48.8	+1.2
SOEI	**Soe**	**5.59**	**230**	S	S	15 19 55.6	-0.9
SOEI	**Soe**	**5.59**	**230**	P	Pn	15 18 48.5	+0.9
	1.1nm53nm,0.6s						
KMPI	**Kaimana, Papua**	**5.64**	**64**	P	Pn	15 18 48.2	+0.1
SWI	**Sorong**	**5.90**	**26**	P	Pn	15 18 49.1	-2.0
	0.5nm1µm42nm,0.7s						
BATI	**Baumata**	**6.34**	**231**	P	Pn	15 18 57.3	+1.1
	59nm,0.3s,baz=70,slow=3.3,SNR=20						
BATI				S	S	15 20 10.3	-1.9
	208nm,0.7s,baz=310,slow=4.5,SNR=12						
BATI	**Baumata**	**6.34**	**231**	P	Pn	15 18 57.2	+0.9
	0.8nm69nm,0.4s						
DRS	**Darwin Rock St**	**6.60**	**160**	P	Pn	15 19 00.2	+0.9
DRS	**Darwin Rock St**	**6.60**	**160**	S	S	15 20 14.9	-3.0
TNTI	**Ternate**	**7.02**	**350**	P	Pn	15 19 02.9	-1.5
	0.2nm43nm,1.5s						
MTN	**Manton Dam**	**7.06**	**160**	P	Pn	15 19 04.9	+0.1
RKPI	**Ransiki, Papua**	**7.22**	**50**	P	Pn	15 19 06.9	+0.1
EDFI	**Ende, Flores**	**7.34**	**249**	P	Pn	15 19 09.9	+1.6
KDU	**Kakadu**	**7.49**	**150**	P	Pn	15 19 09.9	-0.1
BKSI	**Bulukumba**	**8.51**	**275**	P	Pn	15 19 22.6	+0.3
	17nm,1.1s						
WBSI	**Waikabubak, Su**	**9.78**	**249**	P	Pn	15 19 37.3	-0.4
	38nm,1.4s						
TOLI2	**Tolitoli**	**10.67**	**312**	Pn	Pn	15 19 47.5	-1.1
TOLI2	**Tolitoli**	**10.67**	**312**	P	P	15 19 51.8	+1.3
PLAI	**Plampang**	**11.08**	**256**	P	P	15 19 55.5	+0.5
PLAI	**Plampang**	**11.08**	**256**	P	Pn	15 19 53.1	-0.3
FITZ	**Fitzroy Crossi**	**12.20**	**194**	P	Pn	15 20 04.9	-1.9
FITZ	**Fitzroy Crossi**	**12.20**	**194**	P	Pn	15 20 06.3	-0.6
	3.3nm,0.4s,baz=32,slow=11,SNR=25						
FITZ				S	S	15 22 25.1	+2.5
	3.6nm,0.3s,baz=258,slow=14,SNR=3.6						
FITZ	**Fitzroy Crossi**	**12.20**	**194**	P	Pn	15 20 07.2	+0.4
JAY	**Jayapura**	**12.57**	**74**	P	Pn	15 20 09.6	-1.9
	9.6nm,0.6s,baz=242,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**14.76**	**158**	P	P	15 20 36.1	+0.4
	14nm,0.4s,baz=340,slow=12,SNR=159						
WRA				S	S	15 23 13.2	-3.0
	8.8nm,0.9s,baz=334,slow=21,SNR=8.2						
WR8	**Warramunga Arr**	**14.83**	**158**		P	15 20 37.0	+0.6
COEN	**Coen**	**16.26**	**119**		P	15 20 52.8	+0.6
COEN	**Coen**	**16.26**	**119**	P	P	15 20 52.7	+0.6
QIS	**Mount Isa**	**17.82**	**144**	P	P	15 21 09.9	+1.0
AS31	**Alice Springs**	**18.11**	**164**		P	15 21 13.0	+1.0
AS31				IAmb	IAmb	15 21 14.2	
	comp=Z,15nm,0.8s						
ASAR	**Alice Springs**	**18.11**	**164**		P	15 21 12.8	+0.8
ASAR	**Alice Springs**	**18.11**	**164**	P	P	15 21 12.9	+1.0
	comp=Z,29nm,0.4s,baz=345,slow=12,SNR=1125						
ASAR				S	S	15 24 22.4	-0.2
	comp=Z,23nm,0.8s,baz=344,slow=20,SNR=68						
ASAR				ScP	ScP	15 28 33.9	-0.3
	comp=Z,1.9nm,0.6s,baz=352,slow=2.0,SNR=8.6						
AS01	**Alice Springs**	**18.12**	**164**	P	P	15 21 13.2	+1.1
SBUM	**Sibu**	**18.50**	**297**		P	15 21 17.9	+1.8
PMG	**Port Moresby**	**18.63**	**101**	P	P	15 21 17.9	+0.4
PMG				IAmb	IAmb	15 21 26.8	
	comp=Z,30nm,1.1s						
PMG	**Port Moresby**	**18.63**	**101**	P	P	15 21 19.2	+1.6
	comp=Z,15nm,0.6s,baz=201,slow=2.8,SNR=6.2						
PMG	**Port Moresby**	**18.63**	**101**	P	P	15 21 19.7	+2.1
MTSU	**Mount Surprise**	**19.37**	**129**	P	P	15 21 25.9	+0.4
CTAO	**Charters Tower**	**22.00**	**131**	P	P	15 21 52.2	+1.5
CTAO	**Charters Tower**	**22.00**	**131**	P	P	15 21 52.9	+2.2
QLP	**Quilpie**	**25.16**	**145**	P	P	15 22 20.9	+1.7
BBOO	**Buckleboo**	**27.38**	**166**	P	P	15 22 38.1	-0.8
BBOO				IAmb	IAmb	15 22 39.7	
	comp=Z,23nm,1.3s						
BBOO	**Buckleboo**	**27.38**	**166**	P	P	15 22 39.7	+0.8
STKA	**Stephens Creek**	**28.29**	**156**	P	P	15 22 46.3	-0.7
STKA	**Stephens Creek**	**28.29**	**156**	P	P	15 22 47.7	+0.7
	comp=Z,4.6nm,0.5s,baz=335,slow=9.0,SNR=12						
	comp=Z,4.6nm,0.5s						
STKA	**Stephens Creek**	**28.29**	**156**	P	P	15 22 48.1	+1.1
EIDS	**Eidsvold**	**28.73**	**134**	P	P	15 22 47.6	-3.3
EIDS				IAmb	IAmb	15 22 55.1	
	comp=Z,18nm,1.2s						
HTT	**Hallett**	**28.75**	**162**	P	P	15 22 51.8	+0.8
CMSA	**Cobar Meteorol**	**29.85**	**150**	P	P	15 23 02.1	+1.4
CAN	**Canberra**	**34.53**	**150**	P	P	15 23 42.9	+1.7
CAN				IAmb	IAmb	15 23 54.7	
	comp=Z,

ML3.3/113,**ML3.0**/134(NEIC), **Error ellipse: s-maj=2.3km s-min=2.1km az=178.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.04**	**240**		Pg	15 19 17.5	+0.1
CCCA	**Chr Cany lake**	**0.12**	**143**		Pg	15 19 19.3	+0.6
LRMC	**Laurel Mtn Rad**	**0.23**	**234**		Pg	15 19 21.1	+0.1
SRTC	**Snort**	**0.25**	**287**		Pg	15 19 21.9	+0.5
SRTC					Sg	15 19 26.4	+1.7
TOW	**Tower One**	**0.32**	**307**		Pg	15 19 23.1	+0.5
TOW					Sg	15 19 28.4	+1.7
WNMM	**Nine Mile Cany**	**0.43**	**301**		Pg	15 19 24.9	+0.2
WNMM					Sg	15 19 31.1	+0.8
MPMC	**Manual Prospec**	**0.44**	**356**		Pg	15 19 24.8	-0.1
MPMC				IAML		15 19 31.4	
	comp=E,2μm,0.4s						
MPMC				IAML		15 19 31.4	
	comp=E,2μm,0.3s						
MPMC	**Manual Prospec**	**0.44**	**356**		Sg	15 19 31.0	+0.4
WVPM	**Volcano Peak E**	**0.44**	**318**		Pg	15 19 25.0	0.0
WVPM					Sg	15 19 31.8	+1.0
JRC2	**Joshua Ridge**	**0.47**	**321**		Sg	15 19 32.2	+0.7
DTP	**Desert Tortois**	**0.48**	**223**		Pg	15 19 25.4	-0.2
DTP					Sg	15 19 32.2	+0.4
WCSM	**Coso Springs S**	**0.48**	**328**		Pg	15 19 25.7	0.0
WCSM					Sg	15 19 32.5	+0.6
WRVM	**Rose V. Centra**	**0.53**	**317**		Pg	15 19 26.5	-0.1
WRVM					Sg	15 19 33.8	+0.3
WBSM	**Bird Springs**	**0.57**	**262**		Sg	15 19 34.6	-0.1
QSM	**Queen of Sheba**	**0.59**	**54**		Pg	15 19 27.6	0.0
QSM				IAML		15 19 36.2	
	comp=E,1μm,0.2s						
QSM				IAML		15 19 36.4	
	comp=N,1μm,0.2s						
QSM	**Queen of Sheba**	**0.59**	**54**		Sg	15 19 35.6	+0.3
MFS	**McCloud Flat S**	**0.60**	**327**		Pg	15 19 27.8	-0.1
MFS					Sg	15 19 36.3	+0.7
GSC	**Goldstone, Bar**	**0.61**	**121**		Pg	15 19 28.1	-0.1
GSC				IAML		15 19 36.9	
	comp=N,1μm,0.5s						
GSC				IAML		15 19 37.2	
	comp=E,1μm,0.4s						
GSC	**Goldstone, Bar**	**0.61**	**121**		Sg	15 19 36.6	+0.4
WORM	**Onyx Ranch**	**0.65**	**277**		Pg	15 19 28.6	-0.3
WORM					Sg	15 19 37.2	-0.1
CCAC	**Calif City Air**	**0.66**	**225**		Pg	15 19 28.8	-0.2
CCAC					Sg	15 19 38.2	+0.7
WHFM	**Hanning Flat**	**0.74**	**276**		Pg	15 19 30.3	-0.3
WHFM					Sg	15 19 39.9	-0.2
HYS	**Haystack Butte**	**0.76**	**187**		Pg	15 19 30.5	-0.5
HYS					Sg	15 19 40.5	-0.3
RRX	**Edison Barstow**	**0.83**	**153**		Pg	15 19 32.1	-0.3
RRX					Sg	15 19 43.2	+0.1
ISA	**Isabella, Lake**	**0.83**	**273**		Pg	15 19 32.0	-0.5
ISA				IAML		15 19 43.7	
	comp=E,690nm,0.3s						
ISA				IAML		15 19 44.1	
	comp=N,774nm,0.2s						
ISA	**Isabella, Lake**	**0.83**	**273**		Sg	15 19 43.1	-0.2
GWY	**Greenwater Val**	**0.85**	**48**		Pg	15 19 32.4	-0.4
GWY				IAML		15 19 49.0	
	comp=N,624nm,0.7s						
GWY				IAML		15 19 49.0	
	comp=E,841nm,0.7s						
GWY	**Greenwater Val**	**0.85**	**48**		Sg	15 19 43.8	0.0
EDW2	**Edwards Air Fo**	**0.86**	**211**		Sg	15 19 44.1	0.0
WASM	**Alta Sierra Ca**	**0.91**	**278**		Pg	15 19 33.4	-0.4
WASM					Sg	15 19 45.4	-0.3
CWC	**Cottonwood Cre**	**0.96**	**328**		Pg	15 19 34.7	-0.3
CWC					Sg	15 19 47.8	+0.3
CWC	**Cottonwood Cre**	**0.96**	**328**	IAML		15 19 49.4	
	comp=N,392nm,0.2s						
CWC				IAML		15 19 49.6	
	comp=E,399nm,0.2s						
FURC	**Furnace Creek,**	**0.97**	**29**		Pg	15 19 34.8	-0.2
FURC					Sb	15 19 48.4	-0.7
FURC	**Furnace Creek,**	**0.97**	**29**	IAML		15 19 51.4	
	comp=N,720nm,0.8s						
CGO	**Cerro Gordo**	**0.97**	**343**		Pg	15 19 34.2	-0.9
CGO					Sg	15 19 48.3	+0.6
TPO	**Tropico Hills**	**0.97**	**221**		Pg	15 19 34.6	-0.6
TPO	**Tropico Hills**	**0.97**	**221**		Sg	15 19 47.7	0.0
SBB	**Saddle Back Bu**	**0.98**	**198**		Sg	15 19 47.6	-0.3
SHOC	**Shoshone, Teco**	**1.00**	**73**		Pg	15 19 35.1	-0.4
SHOC	**Shoshone, Teco**	**1.00**	**73**		Sg	15 19 49.0	+0.6
VTV	**Victorville**	**1.06**	**175**		Pb	15 19 37.4	-0.1
VTV					Sb	15 19 52.1	+0.3
TEJ	**El Tejon**	**1.08**	**249**		Pg	15 19 36.1	-1.0
TEJ					Sg	15 19 50.4	-0.8
TUQ	**Turquoise Moun**	**1.26**	**98**		Pg	15 19 39.5	-1.1
VES	**Vestal, Richgr**	**1.35**	**280**		Pn	15 19 41.3	-0.8
VES				IAML		15 20 03.8	
	comp=E,407nm,0.6s						
WCT	**Wildcat Mounta**	**1.35**	**29**		Pn	15 19 40.9	-1.3
WCT				IAML		15 20 02.5	
	comp=E,224nm,0.4s						
GRAC	**Grapevine Rang**	**1.38**	**3**		Pn	15 19 41.9	-0.7
GRAC				IAML		15 20 07.9	
	comp=E,325nm,0.6s						
OSI	**Osito Audit: C**	**1.45**	**227**		Pn	15 19 43.0	-0.6
OSI				IAML		15 20 05.2	
	comp=N,278nm,0.6s						
MWC	**Mount Wilson**	**1.48**	**200**		Pn	15 19 43.1	-1.0
MWC				IAML		15 20 06.6	
	comp=E,188nm,0.4s						
MWC				IAML		15 20 08.1	
	comp=N,225nm,0.3s						
MTPC	**Mountain Pass**	**1.55**	**94**		Pn	15 19 43.6	-1.5
MTPC				IAML		15 20 07.2	
	comp=E,164nm,0.3s						
MTPC				IAML		15 20 08.6	
	comp=N,232nm,0.2s						
PASC	**Pasadena Art C**	**1.57**	**203**		Pn	15 19 44.2	-0.9
PASC				IAML		15 20 10.6	
	comp=E,151nm,0.5s						
TPNV	**Topopah Spring**	**1.64**	**36**		Pn	15 19 45.5	-0.9
TPNV				IAML		15 20 12.2	
	comp=E,188nm,0.5s						
TPNV				IAML		15 20 14.2	
	comp=E,160nm,0.5s						
DSP	**Deep Springs**	**1.80**	**347**		Pn	15 19 48.0	-0.3
DSP				IAML		15 20 14.5	
	comp=N,90nm,0.5s						
DSP				IAML		15 20 14.7	
	comp=E,92nm,0.4s						
ELS	**Elsinore Mount**	**1.97**	**179**		Pn	15 19 49.9	-0.9
ELS				IAML		15 20 21.3	
	comp=E,101nm,0.3s						
BELC	**Belle Mtn. Jos**	**2.01**	**143**	IAML		15 20 23.1	
	comp=N,184nm,0.8s						
BELC				IAML		15 20 23.7	
	comp=E,162nm,0.4s						
SHPR	**Sheep Range**	**2.06**	**64**		Pn	15 19 51.4	-0.7
MZP	**Montezuma Peak**	**2.08**	**1**		Pn	15 19 52.0	-0.4
V12A	**Nelson**	**2.12**	**86**		Pn	15 19 51.3	-1.6
V12A				IAML		15 20 24.6	
	comp=N,110nm,0.6s						
V12A				IAML		15 20 27.7	
	comp=E,84nm,0.6s						
PMD	**Palm Desert**	**2.16**	**155**		Pn	15 19 51.7	-1.6
PMD				IAML		15 20 25.3	
	comp=E,92nm,0.4s						
PMD				IAML		15 20 26.7	
	comp=N,76nm,0.5s						
PFO	**Pinyon Flats O**	**2.16**	**158**		Pn	15 19 52.2	-1.2
MATG	**Mataguay Scout**	**2.50**	**164**		Pn	15 19 58.5	+0.3
BC3	**Big Chuckawall**	**2.56**	**139**		Pn	15 19 57.7	-1.2
BC3				IAML		15 20 40.5	
	comp=E,60nm,0.4s						
BC3				IAML		15 20 43.0	
	comp=N,81nm,0.6s						
PRN	**Pahroc Range**	**2.63**	**47**		Pn	15 19 59.5	-0.4
PRN				IAML		15 20 46.8	
	comp=N,99nm,0.5s						
PRN				IAML		15 20 48.1	
	comp=E,95nm,0.7s						
DPP	**Dos Picos Cty**	**2.65**	**171**		Pn	15 19 59.5	-0.5
DPP				IAML		15 20 40.2	
	comp=E,92nm,0.8s						
LHV	**Little Huntoon**	**2.76**	**342**		Pn	15 20 02.4	+0.9
LHV				IAML		15 20 50.4	
	comp=N,39nm,1.2s						
LHV				IAML		15 20 53.8	
	comp=E,52nm,0.8s						
PMPB	**Monarch Peak**	**2.78**	**283**		Pn	15 20 01.4	-0.5
PMPB				IAML		15 20 51.3	
	comp=E,82nm,1.0s						
PMPB				IAML		15 20 55.5	
	comp=N,81nm,0.9s						
NVAR	**Mina Array Bea**	**2.89**	**347**	Pn	Pn	15 20 03.5	0.0
W13A	**Hualapai Mount**	**2.96**	**99**		Pn	15 20 03.4	-1.1
W13A				IAML		15 20 54.3	
	comp=E,33nm,0.6s						
W13A				IAML		15 20 54.6	
	comp=N,30nm,0.8s						
BLYC	**Blythe**	**3.05**	**127**	IAML		15 20 54.5	
	comp=E,52nm,0.6s						
BLYC				IAML		15 20 56.1	
	comp=N,51nm,0.8s						
BBGB	**Big Mountain B**	**3.06**	**289**	Pg	Pg	15 20 13.8	-1.3
RYN	**Ryan**	**3.12**	**344**		Pg	15 20 15.6	-0.7
WAKR	**Walker**	**3.29**	**332**		Pb	15 20 17.4	+1.8
CBX	**Cerro Bola**	**3.36**	**169**		Pn	15 20 10.0	+0.1
CMB	**Columbia Colle**	**3.37**	**317**		Pb	15 20 18.8	+1.9
CMB				IAML		15 21 06.6	
	comp=E,30nm,0.8s						
ESJX	**Sierra Juarez**	**3.82**	**160**		Pn	15 20 16.0	-0.2
ESJX				IAML		15 21 21.2	
	comp=N,16nm,0.4s						
KNB	**Kanab**	**3.99**	**68**		Pn	15 20 18.8	+0.1
KNB				IAML		15 21 26.7	
	comp=E,13nm,1.1s						
KNB				IAML		15 21 33.2	
	comp=N,16nm,1.8s						
SZCU	**Shurtz Canyon**	**4.03**	**59**	IAML		15 21 24.4	
	comp=N,12nm,0.3s						
SZCU				IAML		15 21 31.1	
	comp=E,12nm,0.3s						
PSUT	**Pine Spring**	**4.09**	**44**	IAML		15 21 32.4	
	comp=E,13nm,0.7s						
U15A	**North Rim**	**4.26**	**78**	IAML		15 21 31.9	
	comp=N,16nm,1.1s						
U15A				IAML		15 21 43.9	
	comp=E,16nm,1.0s						
AFDM	**Forest Hills D**	**4.35**	**321**	IAML		15 21 42.0	
	comp=E,12nm,1.0s						
AFDM				IAML		15 21 46.8	
	comp=N,10.0nm,1.0s						
BEKR	**Beckworth**	**4.83**	**332**	IAML		15 22 03.1	
	comp=E,12nm,0.9s						
WUAZ	**Wupatki**	**4.95**	**89**	IAML		15 21 58.3	
	comp=E,16nm,0.8s						
WUAZ				IAML		15 22 02.6	
	comp=E,13nm,0.9s						

*JMA **02** 15:36:28.7±0.2,24.7N±0.7×122.0E±0.4,h78km±3km, MV2.3/11, TAIWAN REGION*
*TAP **02** 15:36:29.2,24.74N×122.07E,h69km,ML3.0,B*
ISC 02 15:36:29.8±1.3,**24.74N**±0.04×**122.07E**±0.03,**h69**km±7km, **n68**,σ0.63/107,**1C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.16**	**312**	*eP*	**Pn**	**15 36 40.3**	**+0.2**
TWC	**Suao**	**0.23**	**238**	P	**Pn**	**15 36 40.2**	**-0.3**
TWC				S	**Sn**	**15 36 47.8**	**-0.4**
ESAO	**Su ao**	**0.26**	**232**	*eP*	**Pn**	**15 36 40.5**	**-0.1**
ESAO				S	**Sn**	**15 36 48.0**	**-0.4**
TWB1	**Santiao Chiao**	**0.28**	**345**	*i* P	**Pn**	**15 36 40.5**	**-0.2**
TWB1				S	**Sn**	**15 36 48.6**	**-0.1**
ILA	**Ilan**	**0.29**	**276**	P	**Pn**	**15 36 40.8**	**0.0**
ILA				S	**Sn**	**15 36 49.2**	**+0.4**
TIPB	**Shuangxi**	**0.32**	**317**	P	**Pn**	**15 36 40.9**	**-0.2**
TIPB				*eS*	**Sn**	**15 36 48.9**	**-0.4**
EOS2	**EOS2**	**0.35**	**154**	*eS*	**Sn**	**15 36 51.1**	**+1.8**
TWE	**Neicheng**	**0.36**	**268**	*i* P	**Pn**	**15 36 41.3**	**0.0**
EWUT	**Wuta**	**0.39**	**222**	*i* P	**Pn**	**15 36 41.6**	**0.0**
EWUT				S	**Sn**	**15 36 50.4**	**+0.3**
SXI1	**Grass Mountain**	**0.40**	**334**	P	**Pn**	**15 36 41.4**	**-0.3**
SXI1				*eS*	**Sn**	**15 36 51.0**	**+0.5**
NWF	**Wu-fen Shan**	**0.42**	**322**	*eP*	**Pn**	**15 36 41.8**	**-0.2**
WFSB	**Wu-fen Shan**	**0.42**	**322**	*eP*	**Pn**	**15 36 41.9**	**0.0**
ENA	**Nanau**	**0.42**	**224**	P	**Pn**	**15 36 41.9**	**0.0**
ENA				*eS*	**Sn**	**15 36 51.2**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.44**	**273**	P	**Pn**	**15 36 41.9**	**-0.1**
ENTT	**Nioudou**	**0.47**	**258**	*eP*	**Pn**	**15 36 42.5**	**+0.3**
TNOU	**National Taiwa**	**0.49**	**327**	P	**Pn**	**15 36 42.1**	**-0.4**
TNOU				*eS*	**Sn**	**15 36 51.3**	**-0.4**
EAHA	**Aohua**	**0.50**	**216**	S	**Sn**	**15 36 52.6**	**+0.7**
EOS3	**EOS3**	**0.50**	**153**	*eP*	**Pn**	**15 36 43.0**	**+0.6**
TWA	**Mucha**	**0.50**	**299**	*eP*	**Pn**	**15 36 42.2**	**-0.3**
NWLT	**Wulai**	**0.51**	**275**	P	**Pn**	**15 36 42.5**	**-0.2**
LATG	**Datong**	**0.53**	**248**	P	**Pn**	**15 36 43.2**	**+0.2**
LATG				*eS*	**Sn**	**15 36 53.2**	**+0.7**
YM01	**YM01**	**0.61**	**312**	P	**Pn**	**15 36 43.2**	**-0.5**
YM01				*eS*	**Sn**	**15 36 53.3**	**-0.6**
YM08	**YM08**	**0.62**	**316**	*i* P	**Pn**	**15 36 43.3**	**-0.5**
YM08				S	**Sn**	**15 36 52.9**	**-1.3**
YHNB	**Yeheng**	**0.63**	**264**	*i* P	**Pn**	**15 36 44.0**	**0.0**
YHNB				S	**Sn**	**15 36 54.6**	**+0.3**
ZUZH	**Zhuzihu**	**0.64**	**312**	*i* P	**Pn**	**15 36 43.5**	**-0.5**
ZUZH				*eS*	**Sn**	**15 36 53.4**	**-1.0**
NSK	**Sanguang**	**0.65**	**265**	*i* P	**Pn**	**15 36 44.1**	**0.0**
NSK				*eS*	**Sn**	**15 36 54.7**	**0.0**
EOS4	**EOS4**	**0.65**	**159**	*eP*	**Pn**	**15 36 43.7**	**0.0**
EOS4				S	**Sn**	**15 36 54.8**	**+0.8**
TWS1	**Kuangyinshan**	**0.69**	**302**	*eP*	**Pn**	**15 36 44.4**	**-0.1**
NNSB	**Datong**	**0.69**	**244**	*i* P	**Pn**	**15 36 44.7**	**0.0**
NNS	**Nan Shan**	**0.70**	**245**	*i* P	**Pn**	**15 36 44.8**	**+0.1**
NNS				S	**Sn**	**15 36 55.9**	**+0.1**
ETL	**Fush Village**	**0.70**	**215**	*eP*	**Pn**	**15 36 44.2**	**-0.5**
NACB	**Ninganchiao**	**0.70**	**218**	*eP*	**Pn**	**15 36 43.9**	**-0.8**
NACB				*eS*	**Sn**	**15 36 54.9**	**-0.8**
NTST	**Danshui**	**0.70**	**307**	*eS*	**Sn**	**15 36 55.6**	**0.0**
ETLH	**Xiulin Townshi**	**0.75**	**225**	P	**Pn**	**15 36 44.8**	**-0.6**
TWD	**Chiawan**	**0.78**	**213**	*eP*	**Pn**	**15 36 45.0**	**-0.6**
TWD				*eS*	**Sn**	**15 36 56.5**	**-0.6**
KSHI	**Guanxi Townshi**	**0.81**	**273**	P	**Pn**	**15 36 46.2**	**+0.2**
KSHI				S	**Sn**	**15 36 59.0**	**+1.2**
NCUH	**Zhongli**	**0.83**	**286**	*eP*	**Pn**	**15 36 46.6**	**+0.4**
NCUH				S	**Sn**	**15 36 59.1**	**+0.7**
JYNG	**Yonagunijimaku**	**0.85**	**109**	P	**Pn**	**15 36 46.2**	**-0.2**
JYNG				S	**Sn**	**15 36 58.6**	**0.0**
NFF	**Wufeng Townshi**	**0.87**	**263**	P	**Pn**	**15 36 46.7**	**0.0**
NFF				S	**Sn**	**15 36 59.1**	**0.0**
FUSS	**Fushou**	**0.89**	**237**	P	**Pn**	**15 36 47.2**	**+0.1**
FUSS				*eS*	**Sn**	**15 37 00.0**	**0.0**
YOJ	**Yonaguni jima**	**0.90**	**107**	*i* P	**Pn**	**15 36 46.8**	**-0.2**
YOJ				S	**Sn**	**15 36 59.8**	**0.0**
YOJ	**Yonaguni jima**	**0.90**	**107**	P	**Pn**	**15 36 46.8**	**-0.2**
ETM	**Tongmen**	**0.93**	**214**	*eP*	**Pn**	**15 36 46.2**	**-1.2**
LXIB	**Xiulin Townshi**	**0.93**	**220**	*eP*	**Pn**	**15 36 46.4**	**-1.1**
TWT	**Tachien**	**0.94**	**240**	*eP*	**Pn**	**15 36 48.1**	**+0.4**
TWT				*eS*	**Sn**	**15 37 01.1**	**+0.2**
TDCB	**Techi**	**0.96**	**240**	P	**Pn**	**15 36 48.1**	**+0.2**
TDCB				*eS*	**Sn**	**15 37 01.2**	**0.0**
SHUL	**Shoufeng**	**1.05**	**206**	*eP*	**Pn**	**15 36 48.3**	**-0.6**
ESL	**Shilin**	**1.08**	**212**	*eP*	**Pn**	**15 36 47.8**	**-1.6**
WHP	**Taichung City**	**1.12**	**246**	*eP*	**Pn**	**15 36 50.2**	**+0.4**
WHP				S	**Sn**	**15 37 05.3**	**+0.5**
OWD	**Renai**	**1.12**	**226**	*eP*	**Pn**	**15 36 49.6**	**-0.4**
OWD				*eS*	**Sn**	**15 37 04.0**	**-1.0**
WUSB	**Renai**	**1.14**	**230**	*eP*	**Pn**	**15 36 50.1**	**-0.1**
WUSB				S	**Sn**	**15 37 04.9**	**-0.4**
NMLH	**Miaoli**	**1.18**	**261**	*eP*	**Pn**	**15 36 50.6**	**+0.1**
NMLH				*eS*	**Sn**	**15 37 06.0**	**0.0**
WARBT	**Fenglin Townsh**	**1.19**	**212**	*eP*	**Pn**	**15 36 48.9**	**-1.8**
EGFH	**Guangfu**	**1.21**	**209**	*eS*	**Sn**	**15 37 05.1**	**-1.7**
WCS	**Beigang Elemen**	**1.25**	**238**	*eP*	**Pn**	**15 36 51.9**	**+0.5**
WCS				*eS*	**Sn**	**15 37 08.2**	**+0.5**
VWDT	**VWDT**	**1.29**	**221**	P	**Pn**	**15 36 51.8**	**-0.2**
VWDT				*eS*	**Sn**	**15 37 07.9**	**-0.7**
SMLT	**Sun Moon Lake**	**1.36**	**232**	*eP*	**Pn**	**15 36 53.8**	**+0.8**
SSLB	**Suanglung**	**1.39**	**227**	*eP*	**Pn**	**15 36 53.9**	**+0.6**
YULB	**Yu-li**	**1.51**	**208**	*eP*	**Pn**	**15 36 53.2**	**-1.8**
WHYT	**Xinyi Township**	**1.52**	**227**	*eP*	**Pn**	**15 36 55.8**	**+0.8**
WHYT				*eS*	**Sn**	**15 37 15.3**	**+1.3**
WJS	**Zhushan**	**1.52**	**234**	*eS*	**Sn**	**15 37 15.2**	**+1.2**
IRIF	**Iriomote-Funau**	**1.57**	**104**	P	**Pn**	**15 36 55.4**	**-0.2**
IRIF				S	**Sn**	**15 37 14.7**	**-0.4**
ALS	**Alishan**	**1.68**	**224**	*eP*	**Pn**	**15 36 58.0**	**+0.6**
ALS				*eS*	**Sn**	**15 37 18.9**	**+0.7**
ELDTW	**Lidau**	**1.81**	**212**	*eP*	**Pn**	**15 36 58.5**	**-0.6**
JKRS	**Kuro-shima**	**1.84**	**105**	P	**Pn**	**15 36 59.5**	**+0.3**
JKRS				*eS*	**Sn**	**15 37 21.8**	**+0.2**
JIJ	**Ishigaki jima**	**1.93**	**101**	P	**Pn**	**15 37 00.3**	**-0.1**
JIJ				*eS*	**Sn**	**15 37 23.4**	**-0.3**
TPUB	**Ta-pu**	**1.94**	**223**	*eP*	**Pn**	**15 37 01.1**	**+0.5**
JISG	**Ishigakijimahi**	**2.05**	**94**	P	**Pn**	**15 37 02.3**	**+0.2**
JISG				*eS*	**Sn**	**15 37 27.6**	**+1.0**

*TAP **02** 15:49:31.6,24.69N×122.11E,h77km,ML2.9,C*
*JMA **02** 15:49:31.6±0.1,24.7N±1.0×122.1E±0.5,h76km,TAIWAN REGION*
ISC 02 15:49:31.9±1.4,**24.71N**±0.03×**122.15E**±0.03,**h75**km±6km, **n104**,σ0.88/200,**1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGS		**0.24**	**305**	*i* P	**Pn**	**15 49 43.3**	**+0.1**
EGS				S	**Sn**	**15 49 52.0**	**+0.3**
TWC	**Suao**	**0.29**	**250**	P	**Pn**	**15 49 43.2**	**-0.3**
TWC				S	**Sn**	**15 49 51.5**	**-0.6**
EOS2	**EOS2**	**0.30**	**165**	*eP*	**Pn**	**15 49 44.1**	**+0.7**
EOS2				*eS*	**Sn**	**15 49 53.5**	**+1.5**
ESAO	**Su ao**	**0.31**	**244**	P	**Pn**	**15 49 43.5**	**-0.2**
ESAO				S	**Sn**	**15 49 52.5**	**+0.2**
NTC	**Toucheng**	**0.32**	**297**	P	**Pn**	**15 49 43.7**	**0.0**
NTC				*eS*	**Sn**	**15 49 50.7**	**-1.8**
TWB1	**Santiao Chiao**	**0.33**	**334**	*i* P	**Pn**	**15 49 43.8**	**-0.1**
TWB1				*eS*	**Sn**	**15 49 52.2**	**-0.4**
ILA	**Ilan**	**0.37**	**279**	*eP*	**Pn**	**15 49 44.2**	**+0.1**
ILA				*eS*	**Sn**	**15 49 53.3**	**+0.2**
TIPB	**Shuangxi**	**0.39**	**312**	*i* P	**Pn**	**15 49 44.3**	**-0.1**
TIPB				*i* S	**Sn**	**15 49 53.1**	**-0.4**
NDS	**Dongshan**	**0.40**	**259**	*eP*	**Pn**	**15 49 42.4**	**-2.0**
NDS				*eS*	**Sn**	**15 49 51.5**	**-2.0**
EWUT	**Wuta**	**0.43**	**232**	P	**Pn**	**15 49 44.7**	**+0.1**
EWUT				*i* S	**Sn**	**15 49 54.0**	**+0.2**
TWE	**Neicheng**	**0.44**	**272**	*i* P	**Pn**	**15 49 44.7**	**+0.1**
TWE				S	**Sn**	**15 49 54.3**	**+0.2**
EOS3	**EOS3**	**0.45**	**160**	*eP*	**Pn**	**15 49 45.4**	**+0.9**
EOS3				*eS*	**Sn**	**15 49 55.5**	**+1.6**
SXI1	**Grass Mountain**	**0.46**	**327**	*eP*	**Pn**	**15 49 44.9**	**0.0**
SXI1				*i* S	**Sn**	**15 49 54.5**	**0.0**
ENA	**Nanau**	**0.46**	**233**	*i* P	**Pn**	**15 49 45.2**	**+0.3**
ENA				S	**Sn**	**15 49 54.5**	**0.0**
NWF	**Wu-fen Shan**	**0.49**	**317**	P	**Pn**	**15 49 45.4**	**+0.2**
NWF				*eS*	**Sn**	**15 49 55.1**	**+0.1**
WFSB	**Wu-fen Shan**	**0.49**	**317**	P	**Pn**	**15 49 45.4**	**+0.3**
WFSB				*eS*	**Sn**	**15 49 55.2**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.51**	**276**	*i* P	**Pn**	**15 49 45.5**	**+0.1**
FUSB				*i* S	**Sn**	**15 49 54.9**	**-0.4**
EAHA	**Aohua**	**0.53**	**225**	P	**Pn**	**15 49 45.6**	**+0.2**
EAHA				*eS*	**Sn**	**15 49 56.0**	**+0.5**
ENTT	**Nioudou**	**0.53**	**263**	*i* P	**Pn**	**15 49 46.0**	**+0.5**
ENTT				*eS*	**Sn**	**15 49 56.6**	**+1.0**
TNOU	**National Taiwa**	**0.56**	**322**	P	**Pn**	**15 49 45.7**	**0.0**
TNOU				S	**Sn**	**15 49 55.7**	**-0.2**
TWA	**Mucha**	**0.58**	**298**	P	**Pn**	**15 49 45.5**	**-0.5**
TWA				*eS*	**Sn**	**15 49 55.4**	**-1.0**
NWLT	**Wulai**	**0.59**	**277**	P	**Pn**	**15 49 46.5**	**+0.4**
NWLT				S	**Sn**	**15 49 56.1**	**-0.4**
LATG	**Datong**	**0.59**	**253**	*i* P	**Pn**	**15 49 46.6**	**+0.4**
LATG				S	**Sn**	**15 49 57.7**	**+0.9**
EOS4	**EOS4**	**0.61**	**165**	*eP*	**Pn**	**15 49 46.2**	**+0.4**
EOS4				*eS*	**Sn**	**15 49 56.7**	**+0.5**
NHDH	**Xindian Distri**	**0.62**	**294**	*eP*	**Pn**	**15 49 47.6**	**+1.3**
NHDH				*eS*	**Sn**	**15 49 56.2**	**-0.8**
TATO	**Taipei**	**0.65**	**294**	P	**Pn**	**15 49 46.6**	**-0.1**
TATO				S	**Sn**	**15 49 56.6**	**-1.0**
YM01	**YM01**	**0.68**	**310**	*eP*	**Pn**	**15 49 47.0**	**0.0**
YM01				*eS*	**Sn**	**15 49 57.3**	**-1.0**
YM08	**YM08**	**0.69**	**313**	P	**Pn**	**15 49 46.9**	**-0.3**
YM08				*eS*	**Sn**	**15 49 57.2**	**-1.2**
YHNB	**Yeheng**	**0.70**	**267**	*i* P	**Pn**	**15 49 47.7**	**+0.4**
YHNB				*eS*	**Sn**	**15 49 58.9**	**+0.1**
ZUZH	**Zhuzihu**	**0.71**	**310**	*eP*	**Pn**	**15 49 47.3**	**-0.1**
ZUZH				*i* S	**Sn**	**15 49 57.8**	**-1.0**
NSK	**Sanguang**	**0.72**	**268**	P	**Pn**	**15 49 47.6**	**+0.2**
NSK				*i* S	**Sn**	**15 49 59.0**	**0.0**
ETL	**Fush Village**	**0.73**	**221**	*eP*	**Pn**	**15 49 47.1**	**-0.5**
ETL				S	**Sn**	**15 49 58.9**	**-0.2**
NACB	**Ninganchiao**	**0.73**	**223**	*eP*	**Pn**	**15 49 46.9**	**-0.6**
NACB				S	**Sn**	**15 49 58.6**	**-0.5**
ANP	**Anpu**	**0.74**	**310**	P	**Pn**	**15 49 47.5**	**-0.2**
ANP	

SSLB				eS		Sn	15 50 15.6	+1.3	
TYC	**Yuchr**	**1.42**	**236**	P		Pn	15 49 56.4	+0.4	
TYC				eS		Sn	15 50 15.6	+1.4	
TCU	**Taichung**	**1.45**	**248**	P		Pn	15 49 56.7	+0.3	
TCU				S		Sn	15 50 14.7	-0.2	
WWF	**Wufeng**	**1.48**	**244**	eP		Pn	15 49 58.3	+1.6	
WWF				S		Sn	15 50 16.0	+0.5	
YULB	**Yu-li**	**1.52**	**211**	P		Pn	15 49 55.8	-1.6	
YULB				S		Sn	15 50 14.4	-2.2	
ECBN	**Changbin**	**1.53**	**205**	eP		Pn	15 49 57.6	+0.3	
ECBN				S		Sn	15 50 15.0	-1.6	
WHYT	**Xinyi Township**	**1.55**	**230**	P		Pn	15 49 59.3	+1.5	
WHYT				S		Sn	15 50 18.6	+1.2	
TWF1	**Yuli**	**1.56**	**210**	P		Pn	15 49 57.3	-0.5	
TWF1				eS		Sn	15 50 17.1	-0.3	
WJS	**Zhushan**	**1.57**	**236**	P		Pn	15 49 58.3	+0.4	
WJS				eS		Sn	15 50 17.8	+0.2	
WNT	**Mingjian**	**1.57**	**238**	P		Pn	15 49 58.4	+0.5	
WNT				S		Sn	15 50 18.1	+0.5	
YUS	**Yu-Shan**	**1.63**	**222**	P		Pn	15 49 59.3	0.0	
YUS				S		Sn	15 50 19.2	-0.7	
FULB	**Fuli**	**1.69**	**208**	P		Pn	15 49 59.3	-0.4	
FULB				S		Sn	15 50 20.3	-0.3	
ALS	**Alishan**	**1.71**	**226**	eP		Pn	15 50 01.8	+1.7	
ALS				eS		Sn	15 50 23.0	+1.6	
CHKT	**Chengkung**	**1.75**	**204**	eP		Pn	15 50 00.8	+0.4	
CHKT				S		Sn	15 50 19.8	-2.3	
WGK	**Gukeng**	**1.77**	**235**	eP		Pn	15 49 59.5	-1.0	
WGK				eS		Sn	15 50 20.9	-1.5	
EHD	**Haiduan**	**1.78**	**209**	P		Pn	15 49 60.0	-0.8	
EHD				eS		Sn	15 50 21.6	-0.9	
ELDTW	**Lidau**	**1.83**	**215**	P		Pn	15 50 00.9	-0.6	
ELDTW				S		Sn	15 50 22.5	-1.6	
EDH	**Donghe**	**1.89**	**204**	P		Pn	15 50 02.3	+0.1	
EDH				eS		Sn	15 50 22.2	-3.1	
WCKO	**Fanlu**	**1.89**	**228**	P		Pn	15 50 02.6	+0.3	
WCKO				S		Sn	15 50 26.7	+1.4	
WTK	**Tuku**	**1.90**	**238**	P		Pn	15 50 02.5	+0.2	
WTK				S		Sn	15 50 24.9	-0.5	
CHN4	**Tsaushan**	**1.96**	**227**	P		Pn	15 50 03.9	+0.7	
CHN4				eS		Sn	15 50 29.4	+2.4	
TPUB	**Ta-pu**	**1.97**	**225**	eP		Pn	15 50 04.7	+1.4	
TPUB				eS		Sn	15 50 29.4	+2.1	
STYT	**Tauyuan**	**2.00**	**220**	eP		Pn	15 50 04.4	+0.8	
STYT				eS		Sn	15 50 28.2	+0.3	
LONT	**Longtian**	**2.02**	**208**	eP		Pn	15 50 04.5	+0.5	
LONT				eS		Sn	15 50 28.2	-0.2	
WTP	**Ta-pu**	**2.02**	**224**	P		Pn	15 50 04.7	+0.7	
WTP				eS		Sn	15 50 30.1	+1.6	
TWK	**Hsinying**	**2.09**	**227**	P		Pn	15 50 06.1	+1.2	
TWK				eS		Sn	15 50 32.1	+2.0	
WSL	**Shuilin Townsh**	**2.11**	**236**	P		Pn	15 50 05.7	+0.5	
WSL				eS		Sn	15 50 29.3	-1.3	
SGST	**Jiashian**	**2.16**	**222**	P		Pn	15 50 06.2	+0.4	
SGST				S		Sn	15 50 31.9	+0.1	
MATB	**Ma-tsu**	**2.45**	**306**	eP		Pn	15 50 09.1	-0.7	
MATB				eS		Sn	15 50 37.5	-1.3	

JMA 02 15:49:37.7±0.2, 25°N±1°×123°6E±0°3, h10km, MV3.3/9, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.66**	**167**	P	Pg	15 49 50.4	-0.1
YOJ	**Yonaguni jima**	**0.72**	**224**	P	Pg	15 49 51.4	-0.2
JYNG	**Yonagunijimaku**	**0.77**	**227**	eP	Pg	15 49 52.4	-0.2
JISG	**Ishigakijimahi**	**0.78**	**120**	P	Pg	15 49 52.6	-0.1
JIJ	**Ishigaki jima**	**0.81**	**139**	P	Pg	15 49 52.5	-0.7
JKRS	**Kuro-shima**	**0.84**	**151**	P	Pg	15 49 53.8	-0.1
JKRS				eS	Sg	15 50 05.3	+0.4
HATJ	**Hateruma jima**	**0.94**	**167**	P	Pg	15 49 55.6	-0.2
JTJ	**Tarama**	**1.09**	**108**	eP	Pb	15 49 58.1	-0.4

*IDC **02** 15:58:42.7±2.7, 30°.82S×177°.36W, h0km, mb3.7/3, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=57.7km s-min=23.5km az=100.0*

ISC 02 15:58:43.5±2.5, 30°.89S±0°.09×177°.3W±0°.3, h10km, n6, σ1§34/8, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.71**	**343**	Pn	**Pn**	**15 59 12.7**	**-0.6**
	167nm,0.3s,baz=50,slow=15,SNR=8.6						
RAO				Sn	**Sn**	15 59 34.2	-1.0
	206nm,0.3s,baz=86,slow=21,SNR=4.8						
URZ	**Urewera**	**8.66**	**210**	Pn	**Pn**	**16 00 47.8**	**-1.0**
	0.7nm,0.3s,baz=255,slow=5.3,SNR=8.9						
URZ				Sn	**Sn**	**16 02 25.4**	**-1.1**
	2.0nm,0.3s,baz=252,slow=14,SNR=14						
	1.7nm,0.3s						
STKA	**Stephens Creek**	**34.93**	**257**	P	**P**	**16 05 37.8**	**+2.2**
	2.1nm,0.8s,baz=98,slow=12,SNR=3.2						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**43.66**	**267**	P	**P**	**16 06 48.5**	**-0.1**
	0.2nm,0.4s,baz=108,slow=7.3,SNR=11						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.69**	**272**	P	**P**	**16 06 57.3**	**+0.4**
	0.4nm,0.3s,baz=111,slow=8.1,SNR=7.2						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**145.80**	**340**	PKPbc	**PKPdf**	**16 18 22.1**	**+0.5**
	1.1nm,0.4s,baz=65,slow=4.7,SNR=14						

HEL 02 16:06:07.1±0.2, 65°.83N×24°.55E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.27**	**340**	PG	Pg	16 06 10.4	-1.9
TOF				SG	Sg	16 06 12.9	-2.9
KALU	**Kalix**	**0.49**	**274**	PG	Pg	16 06 14.2	-2.3
KALU				SG	Sg	16 06 21.8	-1.1
OUL	**Oulu**	**0.93**	**142**	PG	Pg	16 06 23.1	-1.9
RANF	**Ranua**	**0.94**	**77**	PG	Pg	16 06 22.8	-2.2
	baz=256						
RANF				SG	Sg	16 06 35.5	-1.6
RNF	**Rovaniemi**	**0.98**	**36**	PG	Pg	16 06 25.4	-0.5
RNF				SB	Sb	16 06 40.6	+0.1
ERTU	**Ertsjaerv**	**1.21**	**308**	PN	Pn	16 06 31.6	+0.4
ERTU				SN	Sn	16 06 49.0	+0.8
PAJU	**Pajala**	**1.33**	**335**	PG	Pg	16 06 30.6	-2.0
PAJU				SN	Sn	16 06 51.7	+0.3
OBF0	**Syolatti, Pyha**	**1.34**	**186**	PG	Pg	16 06 30.7	-2.1
OBF0				MSG		16 06 47.5	
	comp=Z,1.2nm,0.2s						
KLF	**Kolari**	**1.43**	**351**	PG	Pn	16 06 31.7	-2.6
KLF				MSG		16 06 50.1	
	comp=Z,1.6nm,0.2s						
KLF				SN	Sn	16 06 53.8	0.0
OUF	**Merijarvi**	**1.47**	**177**	PG	Pn	16 06 34.1	-0.7
	baz=355						
OUF				MSG		16 06 51.2	
	comp=Z,2.1nm,0.2s						
OUF				SG	Sg	16 06 52.6	-1.6
KU2	**Taivalkoski**	**1.52**	**93**	SN	Sn	16 06 57.6	+1.6
OBF8	**Ulkokalla**	**1.57**	**198**	PN	Pg	16 06 37.6	+0.3
OBF8				MSG		16 06 54.3	
	comp=Z,1.1nm,0.2s						
MSF	**Maaselka**	**1.85**	**85**	SG	Sn	16 07 04.4	+0.4
OLKF	**Oulanka, Finla**	**2.04**	**74**	MSG		16 07 07.5	
	comp=Z,1.1nm,0.2s						
OLKF				SG	Sn	16 07 09.1	+0.4
KU1	**Kurvinen**	**2.09**	**95**	PG	Pn	16 06 44.4	+1.1
KU1				SB	Sn	16 07 11.0	+1.0
KU6	**Riekki**	**2.20**	**82**	MSG		16 07 12.2	
	comp=Z,0.7nm,0.2s						
KU6				SB	Sn	16 07 13.6	+1.0
LANU	**Lannavaara**	**2.45**	**337**	PG	Pb	16 06 52.2	+0.3
UMAU	**Umeaa**	**2.56**	**222**	SG	Sb	16 07 25.1	-0.7
HEF	**Hetta**	**2.62**	**353**	SN	Sn	16 07 21.7	-1.2
HEF				MSG		16 07 24.1	
	comp=Z,1.2nm,0.2s						
KEV	**Kevo**	**4.05**	**12**	PN	Pn	16 07 09.9	-0.4

*ISK **02** 16:06:14.9, 42°.51N×43°.47E, h5km, ML3.5/9*
*AFAD **02** 16:06:14.2, 42°.58N×43°.32E, h8km, ML3.4*
*IDC **02** 16:06:14.9±1.4, 42°.55N×43°.32E, h0km, mb3.5/2, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=16.3km s-min=14.1km az=111.0*
*TIF **02** 16:06:14.8, 42°.51N×43°.49E, h14km*
*MOS **02** 16:06:15.3, 42°.51N×43°.38E, h4km, MPVA4.2*
*NORS **02** 16:06:15.3, 42°.49N×43°.35E, h4km, MPVA4.3*

ISC 02 16:06:15.4±1.0, 42°.50N±0°.01×43°.41E±0°.01, h5km±8km, n123, σ1§20/228, 2C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GARIG	**Gari**	**0.11**	**22**	P	**Pg**	**16 06 18.3**	**+0.4**
GARIG				S	**Sg**	**16 06 20.5**	**+1.0**
TKB	**Tkibuli**	**0.34**	**245**	P	**Pb**	**16 06 23.5**	**-0.5**
TKB				S	**Sb**	**16 06 29.2**	**-0.5**
TKB	**Tkibuli**	**0.34**	**245**	PG	**Pb**	**16 06 23.5**	**-0.5**
TKB				S	**Sb**	**16 06 29.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.42**	**17**	*i* Pg	**Pg**	**16 06 23.1**	**-0.5**
DIGR				*e*Sg	**Sg**	**16 06 29.2**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.42**	**17**	*i* PG	**Pg**	**16 06 23.1**	**-0.5**
ALIG	**Mtskhetisjvari**	**0.43**	**156**	P	**Pg**	**16 06 23.8**	**0.0**
ALIG				S	**Sg**	**16 06 30.0**	**+0.6**
ALIG	**Mtskhetisjvari**	**0.43**	**156**	PG	**Pg**	**16 06 23.8**	**0.0**
ALIG				S	**Sg**	**16 06 30.0**	**+0.6**
LACR	**Lac**	**0.73**	**63**	*i* Pg	**Pg**	**16 06 28.4**	**-1.1**
LACR				*e*Sg	**Sg**	**16 06 38.1**	**-0.9**
LACR	**Lac**	**0.73**	**63**	*i* PG	**Pg**	**16 06 28.4**	**-1.1**
LACR				eS	**Sg**	**16 06 38.1**	**-0.9**
KORR	**Kora**	**0.76**	**39**	*e*Pg	**Pg**	**16 06 29.7**	**-0.3**
KORR				*e*Sg	**Sb**	**16 06 41.2**	**-0.6**
KORR	**Kora**	**0.76**	**39**	*e*PG	**Pg**	**16 06 29.7**	**-0.3**
KORR				eS	**Sb**	**16 06 41.2**	**-0.6**
LSNR	**Lesken**	**0.84**	**21**	*e*Pg	**Pg**	**16 06 31.4**	**-0.1**
LSNR				*e*Sg	**Sb**	**16 06 44.1**	**0.0**
LSNR	**Lesken**	**0.84**	**21**	*e*PG	**Pg**	**16 06 31.4**	**-0.1**
LSNR				eS	**Sb**	**16 06 44.1**	**0.0**
ARNR	**Ardon**	**0.94**	**43**	*e*Pg	**Pb**	**16 06 33.6**	**-0.5**
ARNR				*e*Sg	**Sb**	**16 06 46.9**	**0.0**
ARNR	**Ardon**	**0.94**	**43**	*e*PG	**Pb**	**16 06 33.6**	**-0.5**
ARNR				eS	**Sb**	**16 06 46.9**	**0.0**
STDR	**Stavd-Durt**	**0.99**	**29**	*e*Pg	**Pn**	**16 06 35.5**	**-0.5**
STDR				*e*Sg	**Sn**	**16 06 49.3**	**-1.2**
STDR	**Stavd-Durt**	**0.99**	**29**	*e*PG	**Pn**	**16 06 35.5**	**-0.5**
STDR				eS	**Sn**	**16 06 49.3**	**-1.2**
NCK	**Nalchik**	**1.01**	**8**	*e*Pg	**Pb**	**16 06 35.0**	**-0.3**
NCK				*e*Sg	**Sb**	**16 06 48.5**	**-0.4**
NCK	**Nalchik**	**1.01**	**8**	*e*PG	**Pb**	**16 06 35.0**	**-0.3**
NCK				eS	**Sb**	**16 06 48.5**	**-0.4**
VLKR	**Vladikavkaz**	**1.08**	**59**	*e*Pg	**Pb**	**16 06 36.5**	**-0.1**
VLKR				*e*Sg	**Sn**	**16 06 52.3**	**-0.4**
VLKR	**Vladikavkaz**	**1.08**	**59**	*e*PG	**Pb**	**16 06 36.5**	**-0.1**
VLKR				eS	**Sn**	**16 06 52.3**	**-0.4**
TRLG	**Trialeti**	**1.09**	**152**	P	**Pg**	**16 06 35.6**	**-0.6**
TRLG				S	**Sg**	**16 06 50.4**	**0.0**
AKH	**Akhalkalaki**	**1.09**	**177**	Pn	**Pg**	**16 06 36.2**	**-0.1**
AKH				Sn	**Sb**	**16 06 51.7**	**+0.3**
AKH	**Akhalkalaki**	**1.09**	**177**	P	**Pg**	**16 06 36.1**	**-0.2**
AKH				S	**Sb**	**16 06 51.1**	**-0.4**
AKH	**Akhalkalaki**	**1.09**	**177**	*e*Pg	**Pg**	**16 06 36.1**	**-0.2**
AKH				*e*Sg	**Sb**	**16 06 51.4**	**0.0**
AKH	**Akhalkalaki**	**1.09**	**177**	*e*PG	**Pg**	**16 06 36.1**	**-0.2**
AKH				eS	**Sb**	**16 06 51.4**	**0.0**
EPOS	**Posof**	**1.12**	**207**	P	**Pb**	**16 06 36.8**	**-0.5**
EPOS				S	**Sn**	**16 06 53.6**	**-0.1**
EPOS				*i* IAML		16 06 57.0	
	comp=N,849nm,0.4s						
EPOS				*i* IAML		16 06 57.0	
	comp=E,686nm,0.3s						
BTKR	**Batakoyurt**	**1.21**	**43**	*e*Pg	**Pn**	**16 06 39.7**	**+0.7**
BTKR				*e*Sg	**Sn**	**16 06 55.9**	**+0.2**
BTKR	**Batakoyurt**	**1.21**	**43**	*e*PG	**Pn**	**16 06 39.7**	**+0.7**
BTKR				eS	**Sn**	**16 06 55.9**	**+0.2**
KMGR	**Komgaron**	**1.21**	**62**	*e*PG	**Pn**	**16 06 38.9**	**-0.1**
KMGR				eS	**Sn**	**16 06 57.6**	**+1.8**
BGD	**Bogdanovka**	**1.24**	**173**	P	**Pg**	**16 06 38.5**	**-0.7**
BGD				S	**Sn**	**16 06 56.6**	**-0.2**
BGD	**Bogdanovka**	**1.24**	**173**	PG	**Pg**	**16 06 38.5**	**-0.7**
BGD				S	**Sn**	**16 06 56.6**	**-0.2**
TBLG	**Delisi**	**1.25**	**127**	P	**Pg**	**16 06 38.1**	**-1.3**
TBLG				S	**Sg**	**16 06 55.1**	**-0.5**
TBLG	**Delisi**	**1.25**	**127**	PG	**Pg**	**16 06 38.1**	**-1.3**
TBLG				S	**Sg**	**16 06 55.1**	**-0.5**
SEAG	**Tbilisi Sea**	**1.27**	**125**	P	**Pn**	**16 06 39.5**	**-0.3**
SEAG				S	**Sg**	**16 06 56.2**	**0.0**
SEAG	**Tbilisi Sea**	**1.27**	**125**	PG	**Pn**	**16 06 39.5**	**-0.3**
SEAG				S	**Sg**	**16 06 56.2**	**0.0**
KBZ	**Khabaz**	**1.29**	**343**	Pg	**Pn**	**16 06 39.1**	**-0.9**
	15nm,0.3s,baz=166,slow=15,SNR=87						
KBZ				Lg	Lg	16 06 56.3	
	38nm,0.3s,baz=62,slow=22,SNR=16						
KBZ	**Khabaz**	**1.29**	**343**	*i* Pg	**Pb**	**16 06 39.5**	**-0.6**
KBZ				*e*Sg	**Sb**	**16 06 56.3**	**-0.6**
KBZ	**Khabaz**	**1.29**	**343**	*i* PG	**Pb**	**16 06 39.5**	**-0.6**
KBZ				eS	**Sb**	**16 06 56.3**	**-0.6**
SHTL	**Shatili**	**1.30**	**82**	P	**Pn**	**16 06 38.6**	**-1.7**
SHTL	**Shatili**	**1.30**	**82**	PG	**Pn**	**16 06 38.6**	**-1.7**
BTNK	**Botanikuri**	**1.31**	**128**	PG	**Pn**	**16 06 39.4**	**-1.1**
BTNK				S	**Sg**	**16 06 57.1**	**-0.6**
KBTC	**Kuba-Taba**	**1.32**	**360**	*e*Pg	**Pg**	**16 06 40.8**	**+0.1**
KBTC				*e*Sg	**Sn**	**16 06 57.6**	**-0.9**
KBTC	**Kuba-Taba**	**1.32**	**360**	*e*PG	**Pg**	**16 06 40.8**	**+0.1**
KBTC				eS	**Sn**	**16 06 57.6**	**-0.9**
KZRT	**Kazreti**	**1.33**	**146**	P	**Pn**	**16 06 37.6**	**-3.1**
KZRT				S	**Sb**	**16 06 55.2**	**-3.1**
KZRT	**Kazreti**	**1.33**	**146**	PG	**Pn**	**16 06 37.6**	**-3.1**
SHA1	**Shidzhatmaz**	**1.36**	**336**	*e*Pg	**Pb**	**16 06 41.6**	**+0.2**
SHA1				*e*Sg	**Sn**	**16 06 59.7**	**-0.1**
SHA1	**Shidzhatmaz**	**1.36**	**336**	*e*PG	**Pb**	**16 06 41.6**	**+0.2**
SHA1				eS	**Sn**	**16 06 59.7**	**-0.1**
PRTR	**Priterechnaya**	**1.41**	**27**	*e*Pg	**Pg**	**16 06 42.8**	**+0.4**
PRTR				*e*Sg	**Sg**	**16 07 03.1**	**+2.5**
PRTR	**Priterechnaya**	**1.41**	**27**	*e*PG	**Pg**	**16 06 42.8**	**+0.4**
PRTR				eS	**Sg**	**16 07 03.1**	**+2.5**
AHAN	**Ardahan-Merkez**	**1.46**	**204**	P	**Pg**	**16 06 43.4**	**0.0**
AHAN				S	**Sg**	**16 07 04.5**	**+2.2**
AHAN				*i* IAML		16 07 05.0	
	comp=N,555nm,0.5s						
AHAN				*i* IAML		16 07 10.0	
	comp=E,1μm,0.6s						
DOMR	**Dombai**	**1.54**	**302**	*e*Pg	**Pg**	**16 06 45.1**	**+0.3**
DOMR				*e*Sg	**Sg**	**16 07 05.5**	**+0.7**
DOMR	**Dombai**	**1.54**	**302**	*e*PG	**Pg**	**16 06 44.3**	**-0.6**
DOMR				eS	**Sg**	**16 07 07.4**	**+2.6**
DOMR				pmax	pmax		
	comp=Z,61nm,0.5s						
DOMR				smax	smax		
	comp=Z,194nm,0.9s						
KIV0	**Kislovodsk Arr**	**1.55**	**340**	*e*Pg	**Pg**	**16 06 44.3**	**-0.8**
KIV0				*e*Sg	**Sg**	**16 07 05.0**	**-0.2**
KIV	**Kislovodsk**	**1.55**	**340**	Pn	**Pb**	**16 06 43.8**	**-0.9**
KIV				Sn	**Sg**	**16 07 04.9**	**-0.3**
KIV	**Kislovodsk**	**1.55**	**340**	*i* Pg	**Pg**	**16 06 44.5**	**-0.7**
KIV				*e*Sg	**Sg**	**16 07 05.1**	**-0.2**
KIV	**Kislovodsk**	**1.55**	**340**	*i* PG	**Pg**	**16 06 44.5**	**-0.7**
KIV				eS	**Sg**	**16 07 05.1**	**-0.2**
TRKR	**Terskaya**	**1.56**	**38**	*e*Pg	**Pg**	**16 06 45.2**	**-0.1**
TRKR				*e*Sg	**Sg**	**16 07 07.5**	**+1.9**
TRKR	**Terskaya**	**1.56**	**38**	*e*PG	**Pg**	**16 06 45.2**	**-0.1**
TRKR				eS	**Sg**	**16 07 07.5**	**+1.9**
BATM	**Batumi**	**1.56**	**236**	P	**Pb**	**16 06 43.8**	**-1.0**
BATM				S	**Sg**	**16 07 06.7**	**+1.2**
BATM	**Batumi**	**1.56**	**236**	PG	**Pb**	**16 06 43.8**	**-1.0**
BATM				S	**Sg**	**16 07 06.7**	**+1.2**
BEYR	**Belyy Ugol+**	**1.57**	**344**	*e*Pg	**Pg**	**16 06 44.8**	**-0.8**
BEYR				*e*Sg	**Sg**	**16 07 06.0**	**0.0**
BEYR	**Belyy Ugol+**	**1.57**	**344**	*e*PG	**Pg**	**16 06 44.8**	**-0.8**
BEYR				eS	**Sg**	**16 07 06.0**	**0.0**
PYA1	**Pyatigorsk**	**1.58**	**352**	*i* Pg	**Pg**	**16 06 44.9**	**-0.8**
PYA1				*e*Sg	**Sg**	**16 07 05.8**	**-0.4**
PYA1	**Pyatigorsk**	**1.58**	**352**	*i* PG	**Pg**	**16 06 44.9**	**-0.8**
PYA1				eS	**Sg**	**16 07 05.8**	**-0.4**
BCA	**Borcka**	**1.70**	**232**	Pn	**Pb**	**16 06 46.4**	**-0.8**
BCA				Sn	**Sg**	**16 07 09.4**	**-0.6**
DBOC	**Borcka**	**1.74**	**229**	P	**Pb**	**16 06 46.8**	**-1.1**
DBOC				S	**Sg**	**16 07 11.9**	**+0.6**
DBOC				*i* IAML		16 07 13.0	
	comp=Z,598nm,0.3s						
GOLE	**Ardahan-G¶le**	**1.77**	**200**	P	**Pg**	**16 06 48.5**	**-0.9**
GOLE				S	**Sg**	**16 07 13.7**	**+1.4**
GOLE				*i* IAML		16 07 15.0	
	comp=Z,319nm,0.5s						
GOLE				*i* IAML		16 07 16.0	
	comp=Z,403nm,0.5s						
DGRG	**David-gareji**	**1.80**	**125**	P	**Pb**	**16 06 48.4**	**-0.5**
DGRG				S	**Sg**	**16 07 14.4**	**+1.2**
DGRG	**David-gareji**	**1.80**	**125**	PN	**Pb**	**16 06 48.4**	**-0.5**
DGRG				S	**Sg**	**16 07 14.4**	**+1.2**
HOPA	**Hopa-Artvin**	**1.84**	**234**	Pn	**Pb**	**16 06 48.5**	**-1.0**
HOPA				Sn	**Sg**	**16 07 12.8**	**-1.7**
BOZK	**Kars-Merkez-Bo**	**1.93**	**190**	P	**Pb**	**16 06 50.9**	**-0.4**
BOZK				S	**Sg**	**16 07 18.8**	**+1.2**
BOZK				*i* IAML		16 07 27.0	
	comp=Z,270nm,0.6s						
BOZK				*i* IAML		16 07 30.0	
	comp=Z,179nm,0.6s						
DBAD	**Bademkaya**	**1.96**	**222**	P	**Pb**	**16 06 51.0**	**-0.6**
DBAD				S	**Sg**	**16 07 18.6**	**+0.3**
DBAD				*i* IAML		16 07 19.0	
	comp=Z,714nm,0.4s						
DBAD				*i* IAML		16 07 20.0	
	comp=Z,698nm,0.4s						
DDEM	**Demirkent**	**2.03**	**218**	P	**Pb**	**16 06 52.4**	**-0.4**
DDEM				S	**Sg**	**16 07 20.7**	**+0.1**
DDEM				*i* IAML		16 07 23.0	
	comp=Z,1μm,0.3s						
DDEM				*i* IAML		16 07 26.0	
	comp=Z,2μm,0.3s						
DVE	**Vedeno**	**2.05**	**76**	*e*Pg	**Pb**	**16 06 53.0**	**-0.2**
DVE				*e*Sg	**Sb**	**16 07 19.7**	**+0.7**
DVE	**Vedeno**	**2.05**	**76**	*e*PN	**Pb**	**16 06 53.0**	**-0.2**
BTLR	**Botlikh**	**2.08**	**84**	*e*PN	**Pb**	**16 06 53.3**	**-0.4**
BTLR				eS	**Sb**	**16 07 20.9**	**+1.0**
DIGO	**Kars**	**2.08**	**181**	P	**Pb**	**16 06 53.5**	**-0.3**
DIGO				S	**Sg**	**16 07 23.9**	**+1.6**
DIGO				*i* IAML		16 07 28.0	
	comp=Z,393nm,0.6s						
DIGO				*i* IAML		16 07 29.0	
	comp=Z,417nm,0.9s						
SENK	**Senkaya-Erzuru**	**2.09**	**203**	Pn	**Pb**	**16 06 51.9**	**+0.6**
TLTR	**Tlyarata**	**2.22**	**99**	*e*PN	**Pb**	**16 06 55.0**	**-1.1**
TLTR				eS	**Sb**	**16 07 23.7**	**-0.2**
ALER	**Alexandrovskoy**	**2.29**	**351**	*e*Pn	**Pg**	**16 06 58.6**	**-0.8**
ALER				*e*Sn	**Sg**	**16 07 28.1**	**-1.0**
ALER	**Alexandrovskoy**	**2.29**	**351**	*e*PN	**Pg**	**16 06 58.6**	**-0.8**
ALER				eS	**Sg**	**16 07 28.1**	**-1.0**
GRYR	**Gornoye**	**2.34**	**314**	*e*Pn	**Pb**	**16 06 56.5**	**-1.6**
GRYR				*e*Sn	**Sg**	**16 07 29.3**	**-1.3**
GRYR	**Gornoye**	**2.34**	**314**	*e*PN	**Pb**	**16 06 56.5**	**-1.6**
GRYR				eS	**Sg**	**16 07 29.3**	**-1.3**
NVNR	**Nevinnomyssk**	**2.36**	**334**	*e*PN	**Pb**	**16 06 58.0**	**-0.5**
NVNR				eS	**Sg**	**16 07 30.3**	**-1.0**
CHOM	**Cayeli-Rize**	**2.43**	**236**	Pn	**Pn**	**16 06 56.1**	**+0.4**
DLMR	**Dylym**	**2.44**	**75**	*e*Pn	**Pg**	**16 07 01.0**	**-1.1**
DLMR				*e*Sn	**Sb**	**16 07 31.9**	**+1.8**
DLMR	**Dylym**	**2.44**	**75**	*e*PN	**Pg**	**16 07 01.0**	**-1.1**
DLMR				eS	**Sb**	**16 07 31.9**	**+1.8**
UNCR	**Uncukul**	**2.51**	**84**	*e*Pn	**Pb**	**16 07 00.9**	**0.0**
UNCR				*e*Sn	**Sb**	**16 07 33.9**	**+1.8**
UNCR	**Uncukul**	**2.51**	**84**	*e*PN	**Pb**	**16 07 00.9**	**0.0**
UNCR				eS	**Sb**	**16 07 33.9**	**+1.8**
GNI	**Garni**	**2.55**	**156**	Pn	**Pn**	**16 06 58.2**	**+0.6**
GNI	**Garni**	**2.55**	**156**	*e*Pn	**Pb**	**16 07 01.2**	**-0.6**
GNI				*e*Sn	**Sb**	**16 07 34.6**	**+1.1**
GNI	**Garni**	**2.55**	**156**	*e*PN	**Pb**	**16 07 01.2**	**-0.6**
GNI				eS	**Sb**	**16 07 34.6**	**+1.1**
VSHL	**Vashlovani**	**2.57**	**119**	P	**Pn**	**16 06 58.9**	**+1.2**
GOF	**Gofitskoye**	**2.57**	**354**	*ce*PN	**Pg**	**16 07 06.7**	**+2.0**
GOF				eS	**Sg**	**16 07 38.7**	**+0.6**
TASB	**TASBURUN-IGDIR**	**2.59**	**166**	Pn	**Pn**	**16 06 58.6**	**+0.6**
RPOR	**Krasnaya Polya**	**2.60**	**299**	*e*Pn	**Pb**	**16 07 00.3**	**-2.2**
RPOR				*e*Sn	**Sb**	**16 07 34.8**	**+0.1**
RPOR	**Krasnaya Polya**	**2.60**	**299**	*e*PN	**Pb**	**16 07 00.3**	**-2.2**
RPOR				eS	**Sb**	**16 07 34.8**	**+0.1**
KRNR	**Karanay**	**2

*MOS **02** 16:10:10.5±0.9,5.˚98N×125.˚71E,h168km,mb5.4/65,Error ellipse: s-maj=8.3km s-min=4.2km az=115.0*
*NEIC **02** 16:10:11.2±2.4,6.˚01N±0.˚08×125.˚83E±0.˚09,h148km±4km, mb5.2/289,Mww5.2/10,Error ellipse: s-maj=13.5km s-min=11.6km az=71.0*
*NEIC **02** 16:10:11.2,5.˚93N×126.˚23E,h130km,Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{16}Nm; M_{rr}3.64; $M_{\theta\theta}$-5.86; $M_{\phi\phi}$2.22; $M_{r\theta}$-2.09; $M_{\theta\phi}$-5.57; $M_{\phi r}$4.96; Fault plane solution: $M_0$9.28000×10^{16} NP1: ϕ_s279.76000°,δ60.46000°,λ149.67000°. NP2: ϕ_s25.85000°,δ63.94000°,λ33.29000°. Principal axes: T 9.7657, Plg41.0000°, Azm244.0000°; N -1.0509, Plg49.0000°, Azm60.0000°; P -8.7147, Plg2.0000°, Azm152.0000°;*
*NEIC **02** 16:10:11.2,6.˚03N×125.˚83E,h130km*
*GCMT **02** 16:10:13.2±0.4,6.˚08N±0.˚03×125.˚94E±0.˚03,h152km±5km, MW5.5/90,Moment Tensor Solution. s6,c6; s90,c122; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.10; $M_{\theta\theta}$0.23±.10; $M_{\phi\phi}$0.09±.12; $M_{r\theta}$0.40±.07; $M_{\theta\phi}$-1.31±.08; $M_{\phi r}$1.39±.08; Best double couple: $M_0$1.94800×10^{17} NP1:ϕ_s276.00000°,δ45.00000°, λ-168.00000°. NP2:ϕ_s177.00000°,δ81.00000°, λ-45.00000°. Principal axes: T 1.7650, Plg23.0000°, Azm234.0000°; N 0.3670, Plg44.0000°, Azm349.0000°; P -2.1320, Plg37.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 16:10:10.9±0.3,6.01N±0.03×125.89E±0.04,h153km±2km, h154km:pP-P,n1148,σ1s28/1120,mb5.3/298,53C-32D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.09**	**344**				**Pn**	**16 10 36.5**	**-0.3**
DAV	**Davao City (W)**	**1.09**	**344**	P			**Pn**	**16 10 36.3**	**-0.5**
	38µm,0.8s,baz=182,slow=1.4,SNR=576								
DAV				S			**Sn**	**16 10 56.1**	**-0.6**
	28µm,0.6s,baz=165,slow=19,SNR=8.4								
DAV	**Davao City (W)**	**1.09**	**344**	P			**Pn**	**16 10 36.4**	**-0.3**
DAV				S			**Sn**	**16 10 55.7**	**-0.9**
DAV	**Davao City (W)**	**1.09**	**344**	P			**Pn**	**16 10 36.6**	**-0.2**
DAV	**Davao City (W)**	**1.09**	**344**	P			**Pn**	**16 10 32.0**	**-4.8**
SGSI	**Sangihe**	**2.34**	**189**	P			**Pn**	**16 10 50.0**	**-0.3**
TNTI	**Ternate**	**5.41**	**164**	P			**Pn**	**16 11 28.8**	**-1.0**
TNTI	**Ternate**	**5.41**	**164**	S			**Sn**	**16 12 28.1**	**-3.5**
TNTI	**Ternate**	**5.41**	**164**	P			**Pn**	**16 11 28.3**	**-1.5**
	13nm24µm2µm,1.1s								
KMSI	**Cibinong**	**5.73**	**199**	P			**Pn**	**16 11 34.7**	**+0.7**
MRSI	**Marisa**	**6.77**	**216**	P			**Pn**	**16 11 48.8**	**+0.9**
	7.9nm13µm1µm,0.7s								
TOLI2	**Tolitoli**	**7.05**	**226**	P			**Pn**	**16 11 52.1**	**+0.5**
TOLI2	**Tolitoli**	**7.05**	**226**	S			**Sn**	**16 13 09.7**	**-1.0**
MYLDM	**Lahad Datu**	**7.40**	**264**	P			**Pn**	**16 11 58.3**	**+2.0**
LUWI	**Luwuk**	**7.67**	**204**	P			**Pn**	**16 12 01.9**	**+2.0**
	15µm2µm,1.1s								
SANI	**Sanana**	**8.01**	**179**	S			Sn	16 13 23.5	-10
SANI	**Sanana**	**8.01**	**179**	P			**Pn**	**16 12 00.8**	**-3.7**
	2µm,0.9s								
APSI	**Ampana**	**8.08**	**212**	P			**Pn**	**16 12 09.2**	**+3.9**
	4.6nm12µm1µm,1.1s								
MPSI	**Mapaga**	**8.22**	**227**	P			**Pn**	**16 12 08.1**	**+0.9**
	290nm,1.1s								
SWI	**Sorong**	**8.68**	**142**	P			**Pn**	**16 12 11.7**	**-1.7**
	2.0nm5µm683nm,1.0s								
PCI	**Palu**	**9.15**	**222**	P			**Pn**	**16 12 21.5**	**+1.8**
	8µm428nm,0.9s								
NLAI	**Namlea**	**9.27**	**172**	P			**Pn**	**16 12 18.8**	**-2.4**
TGY	**Tagaytay City**	**9.40**	**329**	P			**Pn**	**16 12 23.1**	**+0.2**
	90nm,0.4s,baz=264,slow=9.7,SNR=3.8								
TGY				LR			LR	16 16 00.6	
	comp=Z,1µm,19.2s,baz=182,slow=38								
KKM	**Kota Kinabalu**	**9.62**	**271**	P			**Pn**	**16 12 27.4**	**+1.4**
MSAI	**Masohi**	**9.78**	**162**	P			**Pn**	**16 12 27.5**	**-0.5**
	3µm374nm,0.9s								
AAI	**Ambon**	**9.91**	**167**	P			**Pn**	**16 12 27.9**	**-1.8**
	5µm489nm,0.8s								
KDI	**Kendari**	**10.43**	**198**	P			**Pn**	**16 12 36.1**	**-0.5**
SMKI	**Samarinda**	**10.78**	**234**	P			**Pn**	**16 12 44.8**	**+3.6**
TTSI	**Tana Toraja**	**10.85**	**214**	P			**Pn**	**16 12 44.3**	**+2.2**
	2µm,1.6s								
FAKI	**Fak Fak**	**10.91**	**144**	P			**Pn**	**16 12 42.8**	**-0.1**
FAKI	**Fak Fak**	**10.91**	**144**	S			**Sn**	**16 14 39.7**	**-4.1**
FAKI	**Fak Fak**	**10.91**	**144**	P			**Pn**	**16 12 41.0**	**-1.9**
	8µm810nm,1.1s								
RKPI	**Ransiki, Papua**	**11.15**	**132**	P			**Pn**	**16 12 44.4**	**-1.7**
	6µm829nm,1.0s								
BNDI	**Bandanaira**	**11.21**	**159**	P			**Pn**	**16 12 47.1**	**+0.3**
BNDI	**Bandanaira**	**11.21**	**159**	P			**Pn**	**16 12 46.3**	**-0.5**
	9µm640nm,1.1s								
BKB	**Balikpapan**	**11.53**	**231**	P			**Pn**	**16 12 51.0**	**0.0**
BKB	**Balikpapan**	**11.53**	**231**	P			**Pn**	**16 12 53.2**	**+2.2**
	1µm,1.5s								
SPSI	**Sidrap Palu**	**11.64**	**212**	P			**Pn**	**16 12 54.3**	**+1.8**
	3µm299nm,1.1s								
BNSI	**Bone**	**11.85**	**209**	P			**Pn**	**16 12 56.2**	**+1.1**
	9µm702nm,1.1s								
KMPI	**Kaimana, Papua**	**12.38**	**141**	P			**Pn**	**16 13 01.4**	**-0.7**
	8µm541nm,0.8s								
BAKI	**Biak**	**12.46**	**125**	P			**Pn**	**16 13 03.0**	**-0.1**
	6µm834nm,0.9s								
KAPI	**Kappang**	**12.55**	**209**	P			**Pn**	**16 13 05.5**	**+1.2**
	294nm,0.8s,baz=27,slow=9.5,SNR=89								
KAPI				ScP			**ScP**	**16 21 49.2**	**0.0**
	20nm,0.7s,baz=184,slow=3.8,SNR=6.6								
KAPI	**Kappang**	**12.55**	**209**	P			**Pn**	**16 13 05.3**	**+1.0**
KAPI				S			**Sn**	**16 15 25.6**	**+2.4**
BKSI	**Bulukumba**	**12.65**	**207**	P			**Pn**	**16 13 06.9**	**+1.4**
	2µm250nm,1.1s								
SRPI	**Serui, Papua**	**12.97**	**127**	P			**Pn**	**16 13 09.2**	**-0.4**
	8µm1µm,0.9s								
BSSI	**Bau Bau, Buton**	**13.22**	**204**	P			**Pn**	**16 13 14.1**	**+1.2**
SAUI	**Saumlaki**	**14.91**	**159**	P			**P**	**16 13 35.1**	**-0.9**
MMRI	**Maumere**	**15.00**	**194**	P			**P**	**16 13 36.4**	**-0.6**
	12µm895nm,1.4s								
SMPI	**Sarmi**	**15.07**	**121**	P			**Pn**	**16 13 34.9**	**-1.2**
	247nm,0.9s								
EDFI	**Ende, Flores**	**15.25**	**196**	P			**Pn**	**16 13 39.0**	**+0.5**
	4µm310nm,0.9s								
STKI	**Sintang**	**15.55**	**248**	P			**P**	**16 13 44.5**	**+1.4**
	8µm496nm,1.2s								
SOEI	**Soe**	**15.75**	**186**	P			**P**	**16 13 45.3**	**-0.1**
	5µm689nm,1.0s								
KSM	**Kuching**	**16.18**	**254**	P			**P**	**16 13 52.0**	**+1.9**
BATI	**Baumata**	**16.27**	**188**	P			**P**	**16 13 51.1**	**+0.1**
	428nm,0.6s,baz=352,slow=1.7,SNR=42								
BATI				S			**Sn**	**16 16 53.8**	**+1.3**
	470nm,0.8s,baz=83,slow=20,SNR=7.9								
BATI				ScP			**ScP**	**16 21 56.1**	**+0.4**
	50nm,0.7s,baz=131,slow=2.3,SNR=8.8								
BATI	**Baumata**	**16.27**	**188**	P			**P**	**16 13 52.0**	**+1.0**
	5µm587nm,0.6s								
WSI	**Waingapu**	**16.55**	**200**	P			**Pn**	**16 13 55.1**	**+0.9**
	7µm549nm,0.7s								
GENI	**Genyem**	**16.62**	**121**	P			**Pn**	**16 13 56.2**	**+1.0**
GENI	**Genyem**	**16.62**	**121**	P			**P**	**16 13 54.8**	**-0.1**
PLAI	**Plampang**	**16.82**	**209**	P			**Pn**	**16 13 58.1**	**+0.6**
	8µm910nm,0.9s								
WBSI	**Waikabubak, Su**	**16.85**	**203**	P			**Pn**	**16 13 58.3**	**+0.4**
	4µm503nm,0.8s								
BASI	**Baing, Sumba**	**16.97**	**198**	P			**Pn**	**16 14 00.3**	**+1.0**
	542nm,0.8s								
JAY	**Jayapura**	**17.05**	**119**	P			**P**	**16 13 59.4**	**-0.2**
	200nm,0.9s,baz=262,slow=5.9,SNR=55								
JAY				ScP			**ScP**	**16 21 58.1**	**+0.7**
	8.9nm,0.8s,baz=251,slow=4.4,SNR=4.4								
JAY	**Jayapura**	**17.05**	**119**	P			**P**	**16 13 58.6**	**-1.1**
	181nm,0.8s								
TWGBT	**Beinan**	**17.34**	**345**	P			**P**	**16 14 02.9**	**+0.2**
SRBI	**Singaraja**	**17.59**	**217**	P			**Pn**	**16 14 08.0**	**+1.2**
	4µm411nm,0.8s								
KMMI	**Kalianget**	**17.61**	**223**	P			**Pn**	**16 14 08.4**	**+1.5**
	5µm786nm,0.9s								
BWJI	**Bawean**	**17.70**	**228**	P			**Pn**	**16 14 09.3**	**+1.2**
YULB	**Yu-li**	**17.84**	**346**	P			**Pn**	**16 14 09.2**	**-0.4**
TPUB	**Ta-pu**	**17.92**	**344**	P			**P**	**16 14 09.8**	**+0.7**
DLV	**Lat**	**18.16**	**290**	P			**Pn**	**16 14 15.3**	**+1.5**
DLV	**Lat**	**18.16**	**290**	P			**Pn**	**16 14 14.6**	**+0.8**
SSLB	**Suanglung**	**18.30**	**345**	P			**P**	**16 14 12.0**	**-1.2**
SSLB	**Suanglung**	**18.30**	**345**	P			**P**	**16 14 13.5**	**+0.3**
GRJI	**Gresik**	**18.55**	**226**	P			**Pn**	**16 14 20.4**	**+2.4**
JAGI	**Jajag, Banyuwa**	**18.55**	**219**	P			**Pn**	**16 14 17.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**18.55**	**219**	P			**Pn**	**16 14 18.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**18.55**	**219**	P			**Pn**	**16 14 17.6**	**-0.5**
	4µm488nm,1.3s								
GMJI	**Gumukmas**	**18.85**	**221**	P			**Pn**	**16 14 22.9**	**+1.3**
	306nm,1.0s								
TBJI	**Tambak Boyo**	**18.94**	**228**	P			**Pn**	**16 14 24.1**	**+1.4**
	10µm640nm,1.2s								
DRS	**Darwin Rock St**	**18.99**	**165**	P			**P**	**16 14 21.6**	**+0.8**
YHNB	**Yeheng**	**19.05**	**347**	P			**P**	**16 14 21.4**	**-0.1**
MTN	**Manton Dam**	**19.45**	**164**	P			**P**	**16 14 26.0**	**+0.3**
MTN	**Manton Dam**	**19.45**	**164**	P			**P**	**16 14 25.8**	**0.0**
	comp=Z,299nm,0.7s								
MTN	**Manton Dam**	**19.45**	**164**	P			**P**	**16 14 26.5**	**+0.8**
NGJI	**Ngawi**	**19.59**	**227**	P			**Pn**	**16 14 31.0**	**+0.7**
	comp=Z,419nm,0.9s								
KDU	**Kakadu**	**19.70**	**161**	P			**P**	**16 14 28.4**	**0.0**
	comp=Z,994nm,1.1s								
KDU	**Kakadu**	**19.70**	**161**	P			**P**	**16 14 28.7**	**+0.3**
KNMB	**Chin-men Tao**	**19.71**	**339**	P			**P**	**16 14 29.7**	**+1.2**
GUMO	**Guam**	**20.15**	**67**	P			**P**	**16 14 33.1**	**-0.2**
	comp=Z,96nm,0.5s,baz=34,slow=0.4,SNR=14								
GUMO				LR			LR	16 23 36.3	
	comp=Z,229nm,18.2s,baz=242,slow=40								
	comp=Z,96nm,0.5s								
GUMO	**Guam**	**20.15**	**67**	P			**P**	**16 14 33.5**	**+0.2**
SMRI	**Semarang**	**20.15**	**230**	P			Pn	16 14 35.3	-1.6
SMRI	**Semarang**	**20.15**	**230**	P			Pn	16 14 36.4	-0.5
	comp=Z,454nm,0.8s								
TPI	**Tanjungpandan**	**20.19**	**245**	P			Pn	16 14 36.0	-1.4
	comp=Z,3µmcomp=Z,447nm,1.0s								
QIZ	**Qiongzhong**	**20.29**	**311**	P			**P**	**16 14 36.2**	**+1.4**
QIZ				pP			**pP**	**16 15 01.4**	**-0.3**
QIZ				pmax			pmax		
	comp=Z,230nm,0.9s								
QIZ				pmax			pmax		
	comp=Z,2µm,3.0s								
WOJI	**Wonogiri, Jawa**	**20.30**	**228**	P			**P**	**16 14 36.7**	**+1.8**
	comp=Z,432nm,1.1s								
PCJI	**Pacitan**	**20.36**	**226**	P			Pn	16 14 37.7	-1.7
	comp=Z,237nm,1.1s								
UGM	**Wanagama**	**20.65**	**228**	P			**P**	**16 14 40.6**	**+2.0**
UGM	**Wanagama**	**20.65**	**228**	P			Pn	16 14 40.8	-2.1
UGM	**Wanagama**	**20.65**	**228**	P			**P**	**16 14 40.7**	**+2.0**
	comp=Z,569nm,0.9s								
JOW	**Kunigami**	**20.83**	**6**	P			**P**	**16 14 42.1**	**+1.7**
JOW	**Kunigami**	**20.83**	**6**	P			**P**	**16 14 39.4**	**-1.1**
	comp=Z,22nm,0.5s,baz=190,slow=12,SNR=6.8								
	comp=Z,22nm,0.5s								
PPBI	**Pangkal Pinang**	**21.33**	**248**	P			**P**	**16 14 47.1**	**+1.1**
JCJI	**Jatiwangi**	**21.53**	**235**	P			**P**	**16 14 52.4**	**+4.3**
KNRA	**Kununurra**	**21.74**	**173**	P			**P**	**16 14 49.9**	**-0.3**
KNRA	**Kununurra**	**21.74**	**173**	P			**P**	**16 14 50.6**	**+0.3**
	comp=Z,357nm,0.7s								
TPRI	**Tanjung Pinang**	**21.91**	**257**	P			**P**	**16 14 53.3**	**+1.2**
	comp=Z,6µmcomp=Z,521nm,1.1s								
DSRI	**Dabo**	**22.23**	**254**	P			**P**	**16 14 56.8**	**+1.5**
	comp=Z,5µmcomp=Z,465nm,0.8s								
MYKOM	**Kota Tinggi**	**22.38**	**260**	P			**P**	**16 14 57.7**	**+0.9**
MYKOM	**Kota Tinggi**	**22.38**	**260**	P			**P**	**16 14 58.2**	**+1.5**
BBJI	**Bungbulang**	**22.59**	**234**	P			**P**	**16 14 59.2**	**+0.4**
DBJI	**Dramaga**	**22.82**	**237**	P			**P**	**16 15 02.8**	**+1.9**
	comp=Z,656nm,0.9s								
PMBI	**Palembang**	**22.88**	**248**	P			**P**	**16 15 04.5**	**+3.1**
PMBI	**Palembang**	**22.88**	**248**	P			**P**	**16 15 04.7**	**+3.3**
MANU	**Manus Island**	**22.89**	**110**	P			**P**	**16 15 01.2**	**-0.3**
CNJI	**Cibinong**	**22.92**	**235**	P			**P**	**16 15 01.8**	**0.0**
	comp=Z,2µmcomp=Z,317nm,0.8s								
SBJI	**Serang**	**23.11**	**239**	P			**P**	**16 15 06.2**	**+2.7**
SKJI	**Sukabumi**	**23.23**	**236**	P			**P**	**16 15 06.4**	**+1.8**
	comp=Z,5µmcomp=Z,605nm,1.1s								
BLSI	**Bandar Lampung**	**23.51**	**242**	P			**P**	**16 15 10.2**	**+3.0**
	comp=Z,551nm,0.9s								
KLI	**Kotabumi**	**23.62**	**243**	P			**P**	**16 15 10.0**	**+1.9**
CGJI	**Cibinong**	**23.74**	**238**	P			**P**	**16 15 10.5**	**+1.2**
	comp=Z,5µmcomp=Z,577nm,1.0s								
FITZ	**Fitzroy Crossi**	**23.96**	**181**	P			**P**	**16 15 11.1**	**0.0**
FITZ	**Fitzroy Crossi**	**23.96**	**181**	P			**P**	**16 15 11.5**	**+0.3**
	comp=Z,29nm,0.6s								
FITZ	**Fitzroy Crossi**	**23.96**	**181**	P			**P**	**16 15 12.0**	**+0.8**
MDSI	**Maura Dua**	**24.06**	**245**	P			**P**	**16 15 13.5**	**+1.3**
	comp=Z,4µmcomp=Z,437nm,1.0s								
KASI	**Kota Agung**	**24.24**	**242**	P			**P**	**16 15 16.4**	**+2.6**
	comp=Z,274nm,0.8s								
LHSI	**Lahat**	**24.38**	**247**	P			**P**	**16 15 18.1**	**+3.0**
LWLI	**Liwa**	**24.40**	**244**	P			**P**	**16 15 17.2**	**+1.8**
IPM	**Ipoh**	**24.81**	**268**	P			**P**	**16 15 18.4**	**-0.6**
IPM	**Ipoh**	**24.81**	**268**	P			**P**	**16 15 19.8**	**+0.8**
MNAI	**Manna**	**25.11**	**246**	P			**P**	**16 15 22.1**	**+0.4**
MNAI	**Manna**	**25.11**	**246**	P			**P**	**16 15 24.1**	**+2.3**
MNAI	**Manna**	**25.11**	**246**	P			**P**	**16 15 24.9**	**+3.1**
KULM	**Kulim**	**25.13**	**270**	P			**P**	**16 15 22.9**	**+1.0**
KSI	**Kapahiang**	**25.17**	**248**	P			**P**	**16 15 24.5**	**+2.2**
	comp=Z,7µmcomp=Z,685nm,0.9s								
SSE	**Sheshan**	**25.34**	**351**	P			**P**	**16 15 24.1**	**+0.5**
SSE				pmax			pmax		
	comp=Z,19nm,0.7s								
SSE				pmax			pmax		
	comp=Z,120nm,3.9s								
SSE				LR			LR		
	comp=Z,170nm,17.9s								
SDSI	**Sungai Dareh**	**25.38**	**255**	P			**P**	**16 15 24.7**	**+0.5**
	comp=Z,3µmcomp=Z,267nm,1.1s								
BKNI	**Bangkinang**	**25.44**	**258**	P			**P**	**16 15 26.4**	**+1.7**
BKNI	**Bangkinang**	**25.44**	**258**	P			**P**	**16 15 26.4**	**+1.7**
	comp=Z,326nm,0.8s								
JCJ	**Chichijima**	**26.08**	**35**	P			**P**	**16 15 28.2**	**-2.1**
JCJ				IAmb			IAmb	16 16 18.5	
	comp=Z,52nm,0.8s								
PMG	**Port Moresby**	**26.15**	**126**	P			**P**	**16 15 30.9**	**-0.2**
PMG	**Port Moresby**	**26.15**	**126**	P			**P**	**16 15 31.2**	**+0.1**
PMG	**Port Moresby**	**26.15**	**126**	P			**P**	**16 15 30.9**	**-0.2**
PMG				pmax			pmax		
	comp=Z,250nm,1.0s								
SLVN	**Son La**	**26.17**	**308**	P			**P**	**16 15 33.2**	**+1.9**
SRIT	**Nakonsritamara**	**26.20**	**277**	P			**P**	**16 15 33.0**	**+1.5**
COEN	**Coen**	**26.23**	**139**	P			**P**	**16 15 31.5**	**-0.3**
COEN	**Coen**	**26.23**	**139**	P			**P**	**16 15 31.3**	**-0.5**
	comp=Z,355nm,1.2s								
COEN	**Coen**	**26.23**	**139**	P			**P**	**16 15 31.7**	**-0.1**
PPI	**Padang Panjang**	**26.25**	**257**	P			**P**	**16 15 32.5**	**+0.5**
	comp=Z,2µmcomp=Z,271nm,0.9s								
PDSI	**Pang**	**26.30**	**256**	P			**P**	**16 15 32.9**	**+0.4**
	comp=Z,3µmcomp=Z,301nm,1.1s								
WHN	**Wuhan**	**26.70**	**337**	P			**P**	**16 15 38.0**	**+2.1**
WHN				pP			**pP**	**16 16 07.5**	**-0.5**
WHN				S			**S**	**16 20 01.1**	**+1.1**
WHN				pmax			pmax		
	comp=Z,78nm,1.2s								
NJ2	**Nanjing**	**26.73**	**347**	*e*P			**P**	**16 15 38.1**	**+2.1**
NJ2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
MNSI	**Mandailing Nat**	**26.76**	**260**	P			**P**	**16 15 36.6**	**0.0**
	comp=Z,75nm,0.9s								
WB0	**Warramunga Arr**	**26.95**	**162**	P			**P**	**16 15 37.4**	**-0.8**
PSI	**Prapat**	**27.07**	**264**	ScP			**ScP**	**16 22 22.1**	**-0.9**
	comp=Z,18nm,0.8s,baz=228,slow=3.4,SNR=5.0								
PSI				LR			LR	16 28 20.7	
	comp=Z,427nm,20.2s,baz=106,slow=40								
PSI	**Prapat**	**27.07**	**264**	P			**P**	**16 15 40.6**	**+1.1**
WRAB	**Tennant Creek**	**27.09**	**162**	P			**P**	**16 15 38.8**	**-0.6**
WRAB				IAmb			IAmb	16 15 52.5	
	comp=Z,110nm,0.9s								
WRAB	**Tennant Creek**	**27.09**	**162**	*d*	*i*	P	**P**	**16 15 39.0**	**-0.5**
WRAB				pmax			pmax		
	comp=Z,146nm,1.0s								
WRA	**Warramunga Arr**	**27.10**	**162**	P			**P**	**16 15 38.4**	**-1.1**
WRA	**Warramunga Arr**	**27.10**	**162**	P			**P**	**16 15 38.9**	**-0.6**
	comp=Z,52nm,0.9s,baz=342,slow=10,SNR=86								
WRA				S			**S**	**16 20 03.9**	**-2.6**
	comp=Z,14nm,1.0s,baz=328,slow=16,SNR=6.8								
	comp=Z,52nm,0.9s								
WRA	**Warramunga Arr**	**27.10**	**162**	*i*	P		**P**	**16 15 38.9**	**-0.6**
WRA				pmax			pmax		
	comp=Z,54nm,0.9s								
WR8	**Warramunga Arr**	**27.16**	**162**	IAmb			IAmb	16 15 53.0	
	comp=Z,99nm,0.9s								
JNU	**Nakatsue**	**27.37**	**9**	IAmb			IAmb	16 15 43.4	
	comp=Z,83nm,0.9s								
JNU	**Nakatsue**	**27.37**	**9**	P			**P**	**16 15 43.2**	**+1.4**
GYA	**Guiyang**	**27.38**	**320**	⇓P			**P**	**16 15 44.7**	**+2.6**
GYA				pP			pP	16 16 14.9	+0.5
GYA				S			**S**	**16 20 13.1**	**+2.0**
GYA				pmax			pmax		
	comp=Z,12nm,0.9s								
GYA				pmax			pmax		
	comp=Z,170nm,3.1s								
GYA				LR			LR		
	comp=Z,730nm,14.5s								
GYA				LR			LR		
	comp=Z,620nm,21.2s								
GYA				LR			LR		
	comp=Z,800nm,20.2s								
MBWA	**Marble Bar**	**27.67**	**192**	P			**P**	**16 15 44.3**	**-0.2**
MBWA				IAmb			IAmb	16 15 49.2	
	comp=Z,67nm,0.8s								
MBWA	**Marble Bar**	**27.67**	**192**	P			**P**	**16 15 44.2**	**-0.4**
	comp=Z,90nm,1.4s								
MBWA	**Marble Bar**	**27.67**	**192**	P			**P**	**16 15 44.4**	**-0.2**
MBWA	**Marble Bar**	**27.67**	**192**	P			**P**	**16 15 44.6**	**0.0**
SISI	**Saibi**	**27.73**	**256**	P			**P**	**16 15 45.4**	**+0.1**
PSA00	**Pilbara Seismi**	**28.05**	**192**	P			**P**	**16 15 47.7**	**-0.3**
PSA00				IAmb			IAmb	16 15 49.2	
	comp=Z,73nm,0.9s								
PSA00	**Pilbara Seismi**	**28.05**	**192**	IAmb			IAmb	16 15 49.2	
	comp=Z,107nm,0.8s								
PSA00	**Pilbara Seismi**	**28.05**	**192**	P			**P**	**16 15 47.6**	**-0.3**
	comp=Z,171nm,0.9s								
PSA00	**Pilbara Seismi**	**28.05**	**192**	P			**P**	**16 15 48.1**	**+0.2**
RABL	**Rabaul**	**28.13**	**111**	P			**P**	**16 15 49.4**	**+0.6**
JMN	**Monobe**	**28.56**	**14**	IAmb			IAmb	16 16 36.5	
	comp=Z,42nm,0.9s								
JMN	**Monobe**	**28.56**	**14**	P			**P**	**16 15 54.2**	**+1.8**
JTU	**Tsushima**	**28.56**	**6**	P			**P**	**16 15 54.4**	**+2.1**
GSI	**Gunungsitoli**	**28.63**	**262**	P			**P**	**16 15 52.7**	**-0.5**
GSI	**Gunungsitoli**	**28.63**	**262**	P			**P**	**16 15 53.2**	**-0.1**
GSI	**Gunungsitoli**	**28.63**	**262**	P			**P**	**16 15 52.6**	**-0.7**
	comp=Z,364nm,0.8s								
CMAR	**Chiang Mai Arr**	**29.04**	**298**				**PcP**	**16 19 02.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**29.04**	**298**	P			**P**	**16 15 56.8**	**0.0**
	comp=Z,21nm,0.7s,baz=112,slow=7.2,SNR=67								
CMAR				PcP			**PcP**	**16 19 02.7**	**+1.2**
	comp=Z,10nm,0.8s,baz=133,slow=1.3,SNR=11								
CMAR				ScP			**ScP**	**16 22 29.4**	**+0.6**
	comp=Z,9.3nm,0.9s,baz=118,slow=1.6,SNR=21								
	comp=Z,21nm,0.7s								
CMAR	**Chiang Mai Arr**	**29.04**	**298**	*i*	P		**P**	**16 15 57.7**	**+0.9**
CMAR				pmax			pmax		
	comp=Z,22nm,0.6s								
CHTO	**Chiang Mai**	**29.17**	**298**	P			**P**	**16 15 58.3**	**+0.3**
CHTO				IAmb			IAmb	16 16 33.5	
	comp=Z,60nm,1.1s								
CHTO							**PcP**	**16 19 02.8**	**+1.0**
CHTO	**Chiang Mai**	**29.17**	**298**	P			**P**	**16 15 58.4**	**+0.4**
CHTO	**Chiang Mai**	**29.17**	**298**	P			**P**	**16 16 00.1**	**+2.1**
KMI	**Kunming**	**29.20**	**313**	P			**P**	**16 15 59.8**	**+1.4**
KMI				pP			pP	16 16 33.1	+2.2
KMI				PcP			**PcP**	**16 19 03.5**	**+1.4**
KMI				S			**S**	**16 20 41.0**	**+1.1**
KMI				pmax			pmax		
	comp=Z,25nm,0.8s								
KMI				LR			LR		
	comp=Z,230nm,14.6s								
KMI				LR			LR		
	comp=Z,350nm,17.4s								
KMI				LR			LR		
	comp=Z,470nm,20.0s								
MLSI	**Meula

TIY **Taiyuan** 33.85 341 P **P** 16 16 41.1 +2.3
TIY sP **sP** 16 17 33.9 +4.8
TIY S **S** 16 21 50.2 -1.5
JMM Marumori 34.48 21 P **P** 16 16 44.8 +0.6
SNY Shenyang 35.72 357 ⇑P **P** 16 16 54.9 +0.2
SNY pmax pmax
comp=Z,100nm,0.6s
IMP Imphal 35.87 305 *e*P **P** 16 16 59.1 +2.8
IMP IAmb IAmb 16 17 01.4
comp=Z,178nm,2.8s
IMP *e*S **S** 16 22 20.4 -2.7
LZH Lanzhou 36.12 329 *e*P **P** 16 16 59.4 +1.0
LZH pP pP 16 17 34.2 +2.5
LZH pmax pmax
comp=Z,65nm,1.3s
LZH LR LR
comp=Z,330nm,13.4s
LZH LR LR
comp=Z,390nm,12.7s
LZH LR LR
comp=Z,350nm,13.1s
KOHI KOHIMA 36.14 306 *e*P **P** 16 16 57.1 -1.6
KOHI IAmb IAmb 16 16 60.0
comp=Z,190nm,2.4s
KOHI *e*S **S** 16 22 24.5 -2.8
MORW Morawa 36.15 195 P **P** 16 16 58.4 0.0
comp=Z,118nm,0.9s
MORW Morawa 36.15 195 P **P** 16 16 59.2 +0.7
AZL Aizawl 36.46 302 *e*P **P** 16 17 01.2 -0.2
AZL IAmb IAmb 16 17 08.1
comp=Z,163nm,2.7s
AZL *e*S **S** 16 22 32.6 +0.5
FORT Forrest 36.64 177 IAmb IAmb 16 17 07.9
comp=Z,55nm,0.7s
FORT Forrest 36.64 177 P **P** 16 17 02.8 +0.2
comp=Z,79nm,0.7s
MSHR Mys Shultsa 36.71 7*d i*P **P** 16 17 05.3 +2.2
MSHR pmax pmax
comp=Z,46nm,0.7s
TATA Tatamba Isabel 36.72 113 P **P** 16 17 03.8 +0.2
PSTR Posyet 36.74 6⇓*e*P **P** 16 17 06.2 +2.9
QLP Quilpie 36.96 152 P **P** 16 17 05.2 -0.2
comp=Z,142nm,0.9s
QLP Quilpie 36.96 152 P **P** 16 17 06.2 +0.8
HHC Hu-ho-hao-te 36.98 342 *e*P P 16 17 10.6 +5.0
HHC pP pP 16 17 41.8 +3.1
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,110nm,3.7s
ITAN ITANAGAR 37.11 308 *e*P **P** 16 17 05.2 -1.5
ITAN IAmb IAmb 16 17 12.4
comp=Z,170nm,2.6s
ITAN *e*S **S** 16 22 42.8 +1.0
JTM Tenmabayashi 37.20 19 IAmb IAmb 16 17 09.7
comp=Z,32nm,0.9s
ZIRO ZIRO 37.20 309 *e*P **P** 16 17 07.3 -0.4
ZIRO IAmb IAmb 16 17 10.4
comp=Z,198nm,2.1s
HNR Honiara 37.25 114 LR LR 16 31 37.1
comp=Z,166nm,19.4s,baz=204,slow=34
BTO Baotou 37.26 340 *e*P **P** 16 17 09.9 +2.0
BTO sP **sP** 16 18 03.2 +4.8
BTO PP **PnPn** 16 18 41.8 +3.1
BTO S **S** 16 22 48.4 +4.5
BTO pmax pmax
comp=Z,26nm,0.6s
BTO pmax pmax
comp=Z,250nm,7.3s
BTO LR LR
comp=Z,310nm,9.0s
BTO LR LR
comp=Z,300nm,10.2s
BTO LR LR
comp=Z,680nm,20.7s
VLA Vladivostok 37.33 7*d i*P **P** 16 17 10.8 +2.5
VLA pmax pmax
comp=Z,70nm,0.8s
KMBL Kambalda 37.37 186 P **P** 16 17 09.7 +0.9
comp=Z,80nm,0.9s
BLDU Ballidu 37.47 193 P **P** 16 17 09.3 -0.3
comp=Z,162nm,0.9s
BLDU Ballidu 37.47 193 P **P** 16 17 11.0 +1.4
TEZP TEZPUR 37.60 307 *e*P **P** 16 17 11.3 +0.5
TEZP IAmb IAmb 16 17 20.3
comp=Z,217nm,2.5s
TEZP *e*S **S** 16 22 50.9 +1.9
ALEG Aligegeo Malai 37.67 113 P **P** 16 17 12.1 +0.5
SHL Shillong 37.88 305 P **P** 16 17 13.8 +0.4
SNR=13
SHL S **S** 16 22 58.6 +4.9
SHL Shillong 37.88 305 *e*P **P** 16 17 15.1 +1.7
SHL IAmb IAmb 16 17 18.1
comp=Z,156nm,1.6s
SHL *e*S **S** 16 22 50.9 -2.8
KLBR Kellerberrin 38.19 191 P **P** 16 17 15.6 -0.1
comp=Z,297nm,0.9s
KLBR Kellerberrin 38.19 191 P **P** 16 17 16.5 +0.8
USA0B Ussuriysk Arra 38.41 7 IAmb IAmb 16 17 20.0
comp=Z,33nm,0.8s
USA0B Ussuriysk Arra 38.41 7*d i*P **P** 16 17 18.5 +1.2
USRK Ussuriysk Ar. 38.41 7 P **P** 16 17 18.5 +1.1
comp=Z,30nm,0.7s,baz=191,slow=7.7,SNR=116
USRK ScP **ScP** 16 23 01.6 +0.2
comp=Z,0.8nm,0.7s,baz=228,slow=1.7,SNR=4.4
comp=Z,30nm,0.7s
MDJ Mudanjiang 38.59 4 P **P** 16 17 21.2 +2.4
MDJ S **S** 16 23 05.2 +1.7
MDJ PcS **PcS** 16 23 14.9 -2.6
MDJ pmax pmax
comp=Z,62nm,0.9s
XLT XiLinHaoTe 38.71 349 *e*P **P** 16 17 19.8 -0.2
XLT S **S** 16 23 04.7 -0.8
XLT pmax pmax
comp=Z,31nm,0.7s
MUN Mundaring 38.89 193 P **P** 16 17 21.6 0.0
comp=Z,207nm,0.8s
MUN Mundaring 38.89 193 P **P** 16 17 22.7 +1.2
MTKN Mount Kenneth 38.95 194 P **P** 16 17 23.6 +1.6
ERM Erimo 39.00 21 P **P** 16 17 23.0 +0.7
ERM IAmb IAmb 16 17 27.4
comp=Z,44nm,0.9s
ERM Erimo 39.00 21 P **P** 16 17 23.9 +1.6
ERM Erimo 39.00 21 P **P** 16 17 23.0 +0.7
ERM pmax pmax
comp=Z,44nm,0.9s
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 27.7 +0.4
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 27.7 +0.4
comp=Z,491nm,0.9s
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 27.7 +0.4
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 28.2 +0.9
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 28.3 +0.9
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 27.7 +0.4
NWAO pmax pmax
comp=Z,280nm,1.1s
NWAO Narrogin (SRO) 39.59 191 P **P** 16 17 27.7 +0.4
BNX BinXian 39.59 2 ⇓P **P** 16 17 28.1 +0.9
BNX PP **PP** 16 19 01.5 +0.1
BNX S **S** 16 23 20.5 +2.0
BNX pmax pmax
comp=Z,19nm,0.6s
BNX LR LR
comp=Z,110nm,9.2s
BNX LR LR
comp=Z,590nm,15.7s
BNX LR LR
comp=Z,300nm,21.7s
EIDS Eidsvold 39.66 143 IAmb IAmb 16 17 28.9
comp=Z,77nm,0.8s
EIDS Eidsvold 39.66 143 P **P** 16 17 27.6 -0.5
comp=Z,124nm,0.9s
EIDS Eidsvold 39.66 143 P **P** 16 17 27.5 -0.5
BBOO Buckleboo 39.80 167 ScP **ScP** 16 23 06.7 -0.2
BBOO Buckleboo 39.80 167 P **P** 16 17 29.5 +0.4
comp=Z,278nm,0.9s
BBOO Buckleboo 39.80 167 P **P** 16 17 29.9 +0.8
TEY Ternei 39.98 12⇑*e*P **P** 16 17 31.3 +1.0
TEY *e* 16 23 24.7
TEY pmax pmax
comp=N,60nm,0.7s
TEY pmax pmax
comp=Z,100nm,0.7s
LSA Lhasa 40.32 310 P **P** 16 17 34.7 +0.7
WHYH Whyalla 40.39 165 P **P** 16 17 35.0 +1.2
STKA Stephens Creek 40.55 159 P **P** 16 17 35.8 +0.5

STKA Stephens Creek 40.55 159 P **P** 16 17 35.6 +0.4
comp=Z,976nm,1.0s
STKA Stephens Creek 40.55 159 P **P** 16 17 36.1 +0.9
comp=Z,160nm,0.8s,baz=333,slow=8.3,SNR=263
STKA ScP **ScP** 16 23 10.1 +0.3
comp=Z,13nm,0.8s,baz=329,slow=5.9,SNR=4.9
comp=Z,160nm,0.8s
STKA Stephens Creek 40.55 159 P **P** 16 17 36.0 +0.8
STKA Stephens Creek 40.55 159 P **P** 16 17 35.8 +0.5
STKA pmax pmax
comp=Z,657nm,0.8s
ASAJ Asahikawa 40.69 19 LR LR 16 34 30.1
comp=Z,243nm,21.9s,baz=204,slow=36
JKA Kamikawa-asahi 40.69 19 IAmb IAmb 16 17 38.8
comp=Z,68nm,0.8s
GTA Gaotai 40.72 329 P **P** 16 17 37.4 +0.6
GTA pP pP 16 18 13.2 +2.6
GTA PcP **PcP** 16 19 35.7 +0.4
GTA ScP **ScP** 16 23 10.9 +0.3
GTA S **S** 16 23 35.2 -0.6
GTA ScS **ScS** 16 27 24.4 -1.5
GTA pmax pmax
comp=Z,50nm,0.6s
HTT Hallett 41.13 163 P **P** 16 17 41.0 +1.0
comp=Z,21nm,1.2s
HTT Hallett 41.13 163 P **P** 16 17 40.9 +0.9
RKGY Rocky Gully 41.27 191 P **P** 16 17 42.5 +1.4
comp=Z,502nm,0.8s
GTK Tadong 41.28 305 *e*P **P** 16 17 43.9 +2.4
GTK IAmb IAmb 16 17 50.2
comp=Z,321nm,1.4s
GTK *e*S **S** 16 23 45.8 +1.5
GOMU GeErMu 41.39 321 P **P** 16 17 43.2 +0.6
GOMU pP pP 16 18 18.4 +2.0
GOMU S **S** 16 23 48.6 +2.4
GOMU pmax pmax
comp=Z,11nm,1.0s
GOMU LR LR
comp=Z,100nm,12.6s
GOMU LR LR
comp=Z,160nm,12.5s
GOMU LR LR
comp=Z,180nm,12.6s
BWNR Bhubaneshwar 41.40 294 *e*P **P** 16 17 40.5 -1.8
BWNR IAmb IAmb 16 17 56.8
comp=Z,190nm,2.6s
H11S3 WAKE ISLAND Hy 41.64 69 T T 17 02 21.0
baz=258,slow=75,SNR=64
H11S1 WAKE ISLAND Hy 41.66 69 T T 17 02 20.7
baz=258,slow=75,SNR=39
H11S2 WAKE ISLAND Hy 41.66 69 T T 17 02 15.2
baz=258,slow=75,SNR=42
YUK Yuzh-Kuril'sk 41.73 22*de*P **P** 16 17 45.6 +0.9
CMSA Cobar Meteorol 41.85 154 P **P** 16 17 46.3 +0.4
comp=Z,76nm,1.2s
CMSA Cobar Meteorol 41.85 154 P **P** 16 17 46.6 +0.7
H11N1 WAKE ISLAND Hy 42.09 67 T T 17 03 19.9
baz=265,slow=74,SNR=41
H11N2 WAKE ISLAND Hy 42.10 67 T T 17 02 53.5
baz=265,slow=74,SNR=25
H11N3 WAKE ISLAND Hy 42.11 67 T T 17 03 19.3
baz=265,slow=74,SNR=30
BOK Bokaro 42.30 299 *e*P **P** 16 17 49.5 -0.2
BOK IAmb IAmb 16 17 52.4
comp=Z,264nm,2.6s
BOK *e*S **S** 16 24 01.7 +2.4
GHSS Government Hou 42.44 164 P **P** 16 17 52.8 +2.2
KNTI KHUNTI 42.61 298 *e*P **P** 16 17 52.7 +0.4
LUES Luesalemba Tem 43.16 112 P **P** 16 17 57.9 +1.2
GAYA Gaya 43.19 300 *e*P **P** 16 17 57.0 +0.2
GAYA IAmb IAmb 16 18 10.1
comp=Z,158nm,2.6s
YSS Yuzhno-Sakhali 43.30 17 P **P** 16 17 57.5 +0.3
YSS IAmb IAmb 16 18 00.3
comp=Z,36nm,0.7s
YSS Yuzhno-Sakhali 43.30 17 P **P** 16 17 58.6 +1.3
YSS Yuzhno-Sakhali 43.30 17⇓*i*P **P** 16 17 58.0 +0.8
YSS *e*S **S** 16 24 15.8 +2.8
YSS *e*SS **SS** 16 27 31.4 -1.3
YSS pmax pmax
comp=Z,50nm,0.6s
YSS pmax pmax
comp=Z,100nm,2.9s
YSS smax smax
comp=N,100nm,9.0s
YSS smax smax
comp=E,100nm,9.6s
YSS Yuzhno-Sakhali 43.30 17 P **P** 16 17 58.1 +0.8
YSS pP **pP** 16 18 29.2 -2.1
YSS ScP **ScP** 16 23 22.9 +2.4
KUR Kuril'sk 43.50 23*ce*P **P** 16 17 59.4 +0.4
ARMA Armidale 43.83 147 P **P** 16 18 02.4 +0.4
comp=Z,178nm,0.8s
ARMA Armidale 43.83 147 P **P** 16 18 03.0 +1.1
HEH HeiHe 44.11 1 *e*P **P** 16 18 05.0 +1.3
HEH PcP **PcP** 16 19 40.4 -5.8
HEH S **S** 16 24 26.5 +1.7
HEH ScS **ScS** 16 27 43.4 -2.6
HEH pmax pmax
comp=Z,26nm,0.8s
ULN Ulaanbaatar 44.70 342 P **P** 16 18 08.1 -0.6
ULN Ulaanbaatar 44.70 342 P **P** 16 18 08.8 +0.1
ULN Ulaanbaatar 44.70 342 P **P** 16 18 08.1 -0.6
ULN pmax pmax
comp=Z,29nm,1.2s
ULN Ulaanbaatar 44.70 342 P **P** 16 18 08.7 0.0
ULN ScP **ScP** 16 23 26.9 +0.4
SONM Songino Array 44.88 341 P **P** 16 18 09.6 -0.5
SONM Songino Array 44.88 341 P **P** 16 18 09.4 -0.7
comp=Z,7.1nm,0.8s,baz=158,slow=9.0,SNR=27
SONM PcP **PcP** 16 19 49.8 +0.7
comp=Z,6.9nm,0.8s,baz=193,slow=1.3,SNR=4.1
SONM ScP **ScP** 16 23 27.0 -0.2
comp=Z,7.2nm,0.8s,baz=165,slow=4.9,SNR=10
comp=Z,7.1nm,0.8s
SONM Songino Array 44.88 341 P **P** 16 18 09.6 -0.5
SONM pmax pmax
comp=Z,47nm,1.4s
PALK Pallekele 44.89 274 P **P** 16 18 10.9 +0.3
PALK IAmb IAmb 16 18 14.5
comp=Z,48nm,1.3s
PALK Pallekele 44.89 274 P **P** 16 18 10.1 -0.5
PALK Pallekele 44.89 274 P **P** 16 18 10.9 +0.3
PALK pmax pmax
comp=Z,48nm,1.3s
UGL Uglegorsk 45.05 15 *e*P **P** 16 18 12.5 +1.3
UGL pmax pmax
comp=Z,100nm,0.7s
BLSP Bilaspur 45.17 295 *e*P **P** 16 18 13.4 +0.7
BLSP IAmb IAmb 16 18 28.3
comp=Z,291nm,2.3s
YNG Young 45.39 154 P **P** 16 18 15.0 +0.9
comp=Z,77nm,1.4s
GRNR Gornyy 45.47 9⇓*i*P **P** 16 18 16.4 +1.9
GRNR pmax pmax
comp=Z,20nm,0.7s
VJD Vijayawada 45.48 287 *e*P **P** 16 18 16.9 +1.8
VJD IAmb IAmb 16 18 24.4
comp=Z,227nm,2.7s
SYDH Sydney Hard Ro 46.03 151 P **P** 16 18 21.2 +2.0
SANVU Saraoutou 46.15 118 P **P** 16 18 21.0 +0.7
SANVU Saraoutou 46.15 118 P **P** 16 18 21.6 +1.3
SANVU Saraoutou 46.15 118 P **P** 16 18 21.1 +0.7
SANVU sP **sP** 16 19 07.6 -2.9
RIV Riverview 46.29 151 P **P** 16 18 22.6 +1.4
BRAT Ballarat 46.49 160 P **P** 16 18 24.2 +1.5
CAN Canberra 46.52 154 IAmb IAmb 16 18 25.9
comp=Z,120nm,1.0s
CAN Canberra 46.52 154 P **P** 16 18 24.4 +1.4
comp=Z,132nm,1.2s
CAN Canberra 46.52 154 P **P** 16 18 24.0 +1.0
CAN Canberra 46.52 154 P **P** 16 18 24.9 +1.9
CAN Canberra 46.52 154 P **P** 16 18 24.7 +1.7
CAN ScP **ScP** 16 23 35.5 +1.4
VLAKA Lakatoro 46.61 119 P **P** 16 18 24.5 +0.6
CNB Canberra Magne 46.67 153 P **P** 16 18 25.8 +1.6
TYV Tymovskoe 46.84 15 *e*P **P** 16 18 27.0 +1.8
TYV *e*S **S** 16 25 06.1 +2.1
TYV pmax pmax
comp=Z,21nm,0.7s
TYV pmax pmax
comp=Z,200nm,4.7s
TYV smax smax
comp=N,100nm,5.4s
TYV smax smax

comp=E,200nm,5.4s
TOO Toolangi 47.06 159 IAmb IAmb 16 18 30.4
comp=Z,79nm,1.6s
TOO Toolangi 47.06 159 P **P** 16 18 28.9 +1.7
comp=Z,30nm,1.3s
HYB Hyderabad 47.59 288 *e*P **P** 16 18 31.9 +0.3
KOD Kodaikanal 48.09 278 *e*P **P** 16 18 35.8 0.0
KOD IAmb IAmb 16 18 42.3
comp=Z,371nm,1.8s
ZAK Zakamensk 48.11 341 *e*P **P** 16 18 33.6 -1.6
NOUC Port Laguerre 48.45 127 P **P** 16 18 38.8 +0.7
NOUC pP **pP** 16 19 11.8 -0.4
NOUC sP **sP** 16 19 30.8 +1.7
DZM Mont Dzumac 48.54 126 P **P** 16 18 38.7 -0.2
DZM Mont Dzumac 48.54 126 P **P** 16 18 39.5 +0.6
DZM Mont Dzumac 48.54 126 P **P** 16 18 39.5 +0.6
DZM sP **sP** 16 19 30.0 +0.1
ONTNC Ouen Toro 48.67 127 P **P** 16 18 40.5 +0.7
YATNC Mamie plateau, 48.90 126 P **P** 16 18 42.6 +1.1
LGTI Lohaghat 48.90 304 *e*P **P** 16 18 41.6 +0.1
LGTI IAmb IAmb 16 18 43.5
comp=Z,160nm,1.4s
PTH Pithoragarh 48.96 304 *e*P **P** 16 18 41.1 -1.0
PTH IAmb IAmb 16 18 43.1
comp=Z,232nm,1.7s
OUENC Ouen Island, N 49.03 127 P **P** 16 18 43.5 +1.0
JHNI Jhansi 49.18 299 *e*P **P** 16 18 42.7 -1.0
JHNI IAmb IAmb 16 18 51.2
comp=Z,196nm,3.0s
PINNC Pines Island, 49.62 126 P **P** 16 18 47.4 +0.5
PINNC Pines Island, 49.62 126 P **P** 16 18 48.1 +1.2
NRDN NARMADA NAGAR 49.77 295 *e*P **P** 16 18 52.2 +4.0
NRDN IAmb IAmb 16 18 54.5
comp=Z,159nm,2.0s
MOY Mondy 49.96 340 *e*P **P** 16 18 49.3 0.0
MOY pmax pmax
comp=Z,14nm,1.6s
WMQ Urumqi 50.39 324 *e*P **P** 16 18 52.9 +0.3
WMQ pmax pmax
comp=Z,46nm,0.9s
WMQ LR LR
comp=Z,550nm,16.9s
WMQ LR LR
comp=Z,330nm,19.3s
WMQ LR LR
comp=Z,210nm,21.9s
UGON Onchagaon 50.50 302 *e*P P 16 18 59.9 +6.4
UGON IAmb IAmb 16 19 06.7
comp=Z,119nm,2.0s
DDI Dehra Dun 50.98 304 *e*P **P** 16 18 58.3 +1.0
DDI IAmb IAmb 16 18 60.0
comp=Z,253nm,2.3s
DDI *e*S **S** 16 26 01.1 -1.6
SKR Severo-Kuril's 51.17 24⇓*e*P **P** 16 18 58.6 +0.4
NDI New Delhi 51.19 302 *e*P **P** 16 18 57.3 -1.5
NDI IAmb IAmb 16 18 59.3
comp=Z,113nm,2.4s
NPLP NPLP New Delhi 51.22 302 *e*P **P** 16 18 57.4 -1.5
NPLP IAmb IAmb 16 18 59.3
comp=Z,151nm,2.0s
KLP Kalpa 51.22 306 *e*P **P** 16 18 59.9 +0.6
KLP IAmb IAmb 16 19 01.2
comp=Z,162nm,2.4s
KUDL Kundal 51.66 301 *e*P **P** 16 19 01.2 -0.9
KUDL IAmb IAmb 16 19 03.0
comp=Z,276nm,2.7s
SMLA Simla 51.96 305 *e*P **P** 16 19 04.6 +0.2
SMLA IAmb IAmb 16 19 07.3
comp=Z,265nm,1.6s
SMLA *e*S **S** 16 26 15.3 -0.6
HMDM Hanimaadhoo 52.36 274 P **P** 16 19 07.3 -0.4
BOD Bodaibo 52.50 352⇓*i*P **P** 16 19 08.1 +0.2
BOD pmax pmax
comp=Z,37nm,0.9s
TLWR Talawar 53.20 306 *e*P **P** 16 19 13.9 +0.3
TLWR IAmb IAmb 16 19 15.1
comp=Z,354nm,2.7s
UDPR Udaipur 53.25 296 *e*P **P** 16 19 14.3 +0.3
UDPR IAmb IAmb 16 19 16.5
comp=Z,107nm,2.1s
PEA0B Petropavlovsk- 53.66 23*d i*P **P** 16 19 17.9 +1.4
PETK Petropavlovsk- 53.66 23 P **P** 16 19 16.9 +0.4
PETK Petropavlovsk- 53.66 23 P **P** 16 19 17.1 +0.6
comp=Z,53nm,0.6s,baz=183,slow=2.9,SNR=213
comp=Z,53nm,0.6s
PET Petropavlovsk 53.97 24 P **P** 16 19 19.6 +0.8
PET IAmb IAmb 16 19 20.8
comp=Z,48nm,0.8s
PET Petropavlovsk 53.97 24 P **P** 16 19 20.0 +1.3
PET Petropavlovsk 53.97 24*d i*P **P** 16 19 19.7 +0.9
PET pmax pmax
comp=Z,146nm,1.7s
PET Petropavlovsk 53.97 24 P **P** 16 19 19.7 +0.9
PET pP **pP** 16 19 52.0 -2.2
ZSN Zaisan 54.15 327 *e*P **P** 16 19 19.9 -0.3
ZSN Zaisan 54.15 327 *e*P **P** 16 19 19.9 -0.3
SHLS Shalkode 55.07 320 *e*P **P** 16 19 24.5 -2.5
SHLS *e*S **S** 16 26 53.7 -4.1
SHLS pmax pmax
comp=Z,27nm,0.9s
SHLS Shalkode 55.07 320 *e*P **P** 16 19 24.5 -2.5
comp=Z,28nm,0.9s
SHLS *e*S **S** 16 26 53.7 -4.1
FUNA Funafuti 55.08 105 P **P** 16 19 28.8 +1.4
MK31 Makanchi Array 55.22 325*c i*P **P** 16 19 27.5 -0.4
MKAR Makanchi Array 55.22 325 P **P** 16 19 27.1 -0.8
MKAR Makanchi Array 55.22 325 P **P** 16 19 27.3 -0.6
comp=Z,24nm,0.5s,baz=119,slow=7.8,SNR=485
MKAR PcP **PcP** 16 20 26.7 -0.3
comp=Z,17nm,0.7s,baz=176,slow=4.9,SNR=7.3
MKAR ScP **ScP** 16 24 10.4 -1.0
comp=Z,7.3nm,0.9s,baz=128,slow=4.9,SNR=5.0
comp=Z,24nm,0.5s
MKAR Makanchi Array 55.22 325 *i* P **P** 16 19 27.2 -0.6
MKAR pmax pmax
comp=Z,25nm,0.5s
UZB Uzynbulak 55.35 320 *e*P **P** 16 19 28.9 -0.2
UZB Uzynbulak 55.35 320 *e*P **P** 16 19 28.4 -0.7
MAKZ Makanchi 55.40 325 P **P** 16 19 28.6 -0.6
MAKZ IAmb IAmb 16 19 29.9
comp=Z,67nm,1.4s
MAKZ Makanchi 55.40 325 P **P** 16 19 28.7 -0.6
MAKZ pmax pmax
comp=Z,67nm,1.4s
MAKZ Makanchi 55.40 325 P **P** 16 19 29.1 -0.2
MAKZ PcP **PcP** 16 20 27.3 -0.4
SATY Saty 55.71 319*c i*P **P** 16 19 31.0 -0.6
SATY pmax pmax
comp=Z,19nm,0.7s
SATY Saty 55.71 319⇑*i*P **P** 16 19 31.0 -0.6
comp=Z,19nm,0.7s
KPKS Kokpek 55.72 320 *e*P **P** 16 19 31.0 -0.6
KPKS Kokpek 55.72 320 *e*P **P** 16 19 31.0 -0.6
KSH Kashi 55.85 314 P **P** 16 19 33.9 +1.2
KSH pmax pmax
comp=Z,50nm,1.2s
YSA Yasawairara 55.86 115 P **P** 16 19 34.6 +1.7
NIL Nilore 55.88 307 P **P** 16 19 33.2 +0.3
NIL Nilore 55.88 307 P **P** 16 19 32.7 -0.2
NIL Nilore 55.88 307 P **P** 16 19 33.2 +0.3
NIL pmax pmax
comp=Z,219nm,0.7s
YAK Yakutsk 55.97 2 P **P** 16 19 33.8 +0.9
YAK Yakutsk 55.97 2 *e*P **P** 16 19 33.4 +0.5
YAK *e**PP **pP** 16 20 09.9 +1.4
YAK *e* 16 20 29.0
YAK *e* 16 21 38.9
YAK *e*PPP PPP 16 22 55.1
YAK *e*S **S** 16 27 09.7 +1.0
YAK *e* 16 29 04.2
YAK *e*SS **SS** 16 30 58.7 +1.6
YAK pmax pmax
comp=Z,94nm,0.8s
YAK pmax pmax
comp=N,38nm,1.4s
YAK pmax pmax
comp=E,12nm,1.5s
YAK pmax pmax
comp=Z,147nm,6.0s
YAK pmax pmax
comp=N,75nm,5.4s
YAK pmax pmax
comp=E,100nm,5.3s
YAK smax smax

comp=N,275nm,3.0s
YAK smax smax

comp=E,51nm,2.5s
YAK Yakutsk 55.97 2 P **P** **16 19 34.5 +1.7**
YAK pP **pP** **16 20 10.3 +1.9**
YAK sP **sP** **16 20 24.0 -1.1**
YAK ScP **ScP** **16 24 14.8 +0.6**
ARXS Arharly 56.61 320 *e*P **P** **16 19 37.3 -0.6**
TDK Taldyqorghan 56.62 321 *e*P **P** **16 19 37.4 -0.5**
TDK pmax pmax

comp=Z,33nm,0.5s
TDK Taldyqorghan 56.62 321 *e*P **P** **16 19 37.5 -0.5**
comp=Z,33nm,0.5s
MSVF Nonsavu 56.63 116 P **P** **16 19 39.1 +0.6**
MSVF Nonsavu 56.63 116 P **P** **16 19 40.3 +1.8**
MSVF Nonsavu 56.63 116*d* i P **P** **16 19 39.9 +1.4**
MSVF pmax pmax

comp=Z,125nm,0.9s
MSVF Nonsavu 56.63 116 P **P** **16 19 40.0 +1.4**
TNSS Tian-Shan 56.65 319 *e*P **P** **16 19 37.6 -1.0**
TNSS Tian-Shan 56.65 319 *e*P **P** **16 19 37.7 -1.0**
MA2 Magadan 56.72 15 P **P** **16 19 39.4 +1.1**
MA2 IAmb IAmb 16 19 40.6

comp=Z,21nm,0.7s
MA2 Magadan 56.72 15 P **P** **16 19 39.7 +1.5**
MA2 Magadan 56.72 15*c* e P **P** **16 19 39.0 +0.7**
MA2 pmax pmax

comp=Z,25nm,0.8s
MA2 Magadan 56.72 15 P **P** **16 19 39.8 +1.5**
MA2 pP **pP** **16 20 12.8 -1.3**
MA2 ScP **ScP** **16 24 18.5 +0.8**
AAA Alma-Ata 56.75 319 *e*P **P** **16 19 38.3 -0.6**
AAA pmax pmax

comp=Z,44nm,1.0s
AAA Alma-Ata 56.75 319 *e*P **P** **16 19 38.3 -0.6**
comp=Z,44nm,1.0s
ULHL Ulahol 56.78 317 P **P** **16 19 39.5 +0.2**
SNR=13
BOOM Boomskoye usch 57.09 318 IAmb IAmb 16 20 20.2
comp=Z,38nm,1.3s
TKM2 Tokmak 2 57.50 318 P **P** **16 19 43.8 -0.5**
SNR=38
DGTI Dogotuki 57.70 113 P **P** **16 19 46.8 +0.9**
KBK Karagaybulak 57.82 317 P **P** **16 19 46.9 +0.4**
SNR=17
CHMS Chumysh 58.09 318 P **P** **16 19 48.0 -0.2**
SNR=5.5
AAK Ala-Archa 58.12 317 P **P** **16 19 48.2 -0.4**
AAK IAmb IAmb 16 20 45.5

comp=Z,29nm,1.2s
AAK Ala-Archa 58.12 317 P **P** **16 19 48.7 +0.1**
AAK Ala-Archa 58.12 317 P **P** **16 19 48.9 +0.2**
SNR=8.3
AAK Ala-Archa 58.12 317 P **P** **16 19 48.2 -0.4**
AAK pmax pmax

comp=Z,29nm,1.3s
AAK Ala-Archa 58.12 317 *i* P **P** **16 19 48.5 -0.1**
SNR=8.2
TAVE Taveuni 58.15 114 P **P** **16 19 48.7 -0.3**
ZALV Zalesovo Beam 58.19 333 P **P** **16 19 47.0 -1.6**
ZALV Zalesovo Beam 58.19 333 P **P** **16 19 47.3 -1.3**
comp=Z,7.1nm,0.4s,baz=129,slow=7.2,SNR=39
comp=Z,7.1nm,0.4s
ZALV Zalesovo Beam 58.19 333 *i* P **P** **16 19 47.2 -1.4**
ZALV pmax pmax

comp=Z,7.0nm,0.4s
SGDS Sogindy 58.36 318 *e*P **P** **16 19 49.6 -0.6**
USP Ospenovka 58.37 318 P **P** **16 19 49.7 -0.6**
SNR=75
EKS2 Erkin-Say 58.61 317 P **P** **16 19 52.1 +0.1**
SNR=54
ARSB Arslanbob 58.65 315 IAmb IAmb 16 19 53.2
comp=Z,38nm,0.8s
KURBB Kurchatov Arra 59.38 327 P **P** **16 19 56.1 -0.8**
comp=Z,28nm,0.6s,baz=130,slow=6.8,SNR=299
comp=Z,28nm,0.6s
KURBB Kurchatov Arra 59.38 327 P **P** **16 19 55.8 -1.1**
KURK Kurchatov 59.38 327 P **P** **16 19 56.2 -0.8**
KURK Kurchatov 59.38 327 P **P** **16 19 56.6 -0.3**
KURK Kurchatov 59.38 327 P **P** **16 19 56.2 -0.8**
KURK pmax pmax

comp=Z,46nm,0.5s
KURK Kurchatov 59.38 327 P **P** **16 19 56.5 -0.5**
KURK pP **pP** **16 20 34.0 +1.2**
BTLS Baital 59.40 320*c i* P **P** **16 19 56.6 -0.6**
BTLS Baital 59.40 320⇑ *i* P **P** **16 19 56.6 -0.6**
KBL Kabul 59.49 307 P **P** **16 19 58.0 -0.3**
KBL Kabul 59.49 307 P **P** **16 19 58.2 -0.1**
SNR=36
KBL S **S** **16 27 57.2 +1.2**
KBL Kabul 59.49 307 P **P** **16 19 58.0 -0.3**
KBL pmax pmax

comp=Z,140nm,0.7s
SEY Seymchan 60.02 14*d* i P **P** **16 20 03.1 +2.0**
SEY pmax pmax

comp=Z,22nm,0.9s
DZA Taraz 60.37 316 *e*P **P** **16 20 03.3 -0.6**
DZA pmax pmax

comp=Z,20nm,0.7s
DZA Taraz 60.37 316 *e*P **P** **16 20 03.4 -0.6**
comp=Z,20nm,0.7s
SIMJ Simiganj 60.65 311 P **P** **16 20 05.8 -0.3**
KK31 Karatay Array 61.01 316 P **P** **16 20 07.5 -0.7**
KK31 IAmb IAmb 16 20 08.7

comp=Z,59nm,0.9s
KK31 Karatay Array 61.01 316 P **P** **16 20 07.5 -0.7**
KK31 pmax pmax

comp=Z,59nm,0.9s
KKAR Karatay Array 61.01 316 P **P** **16 20 07.9 -0.3**
KKAR Karatay Array 61.01 316 P **P** **16 20 07.9 -0.3**
IUG luzhnay 61.01 315 *e*P **P** **16 20 08.3 -0.1**
IUG luzhnay 61.01 315 *e*P **P** **16 20 07.8 -0.6**
comp=Z,48nm,0.8s
CHM Chimkent 61.37 315 *e*P **P** **16 20 10.2 -0.4**
CHM pmax pmax

comp=Z,15nm,0.6s
CHM Chimkent 61.37 315 *e*P **P** **16 20 10.2 -0.4**
comp=Z,15nm,0.6s
BRLS Borolday 61.44 316*c i* P **P** **16 20 10.6 -0.6**
BRLS pmax pmax

comp=Z,13nm,0.5s
BRLS Borolday 61.44 316⇑ *i* P **P** **16 20 10.7 -0.6**
comp=Z,14nm,0.5s
BRZS Berezniki 62.35 324 *e*P **P** **16 20 16.5 -0.6**
BRZS Berezniki 62.35 324 *e*P **P** **16 20 16.6 -0.6**
DCZ Deep Cove 63.12 149 P **P** **16 20 21.9 -0.3**
NGCH Negor - Chabah 64.65 295 P **P** **16 20 32.7 +0.1**
URZ Urewera 64.77 137 P **P** **16 20 33.8 +0.7**
BKZ Black Stump Fm 64.83 138 P **P** **16 20 33.1 -0.5**
BKZ Black Stump Fm 64.83 138 P **P** **16 20 34.7 +1.1**
RTZ Ruatahuna 64.87 138 P **P** **16 20 33.9 0.0**
BVA0 Borovoye Array 64.96 327 *i* P **P** **16 20 33.0 -1.1**
BVAR Borovoye Array 64.96 327 P **P** **16 20 33.2 -0.9**
comp=Z,22nm,0.5s,baz=133,slow=7.3,SNR=148
comp=Z,22nm,0.5s
BRVK Borovoye 65.03 327 P **P** **16 20 33.9 -0.7**
BRVK IAmb IAmb 16 20 34.8

comp=Z,32nm,0.8s
BRVK Borovoye 65.03 327 P **P** **16 20 34.0 -0.6**
BRVK Borovoye 65.03 327 P **P** **16 20 33.7 -0.9**
BRVK PcP **PcP** **16 21 05.8 -0.4**
TIXI Tiksi 65.59 1 P **P** **16 20 38.4 +0.7**
TIXI IAmb IAmb 16 20 42.6

comp=Z,27nm,0.8s
TIXI Tiksi 65.59 1⇑ *e*P **P** **16 20 38.6 +0.9**
TIXI pmax pmax

comp=Z,30nm,0.8s
JLN Jalan Bani Buh 65.98 291 P **P** **16 20 40.3 -1.0**
WBK Wadi Bani Khal 66.42 292 P **P** **16 20 43.7 -0.3**
ATKA Atka Island 67.12 35 P **P** **16 20 48.9 +1.1**
JMDO Jabal Madar 67.20 292 P **P** **16 20 48.2 -0.8**
BIDO Bidbid 67.25 293 P **P** **16 20 49.2 -0.1**
SNR=9.3
MHTO MHTO 67.27 290 P **P** **16 20 48.5 -1.0**
SMDO Samad 67.29 292 P **P** **16 20 48.4 -1.3**
BILL Bilibino 67.58 15*c i* P **P** **16 20 52.0 +1.5**
BILL pmax pmax

comp=Z,14nm,0.9s
DQM DQM 67.64 289 P **P** **16 20 51.6 -0.2**
SNR=5.3
HOQ Hoqain 68.00 293 P **P** **16 20 53.4 -0.6**
SNR=5.2
ARQ Araqi 68.71 293 P **P** **16 20 57.5 -0.9**
SOHO SOHO 68.74 293 P **P** **16 20 58.0 -0.6**
SOHO SOHO 68.74 293 *i* P **P** **16 20 57.8 -0.8**
SNR=14
MDH Madha 69.01 295 P **P** **16 20 57.8 -2.4**
MDH Madha 69.01 295 P **P** **16 20 58.4 -1.9**
UOSS Minazif 69.08 294 P **P** **16 20 59.5 -1.1**
UOSS IAmb IAmb 16 21 00.3

comp=Z,20nm,0.8s
UOSS Minazif 69.08 294 P **P** **16 20 59.4 -1.3**
UOSS Minazif 69.08 294 *i* P **P** **16 20 59.6 -1.1**
SNR=8.0
UOSS Minazif 69.08 294 P **P** **16 20 59.4 -1.3**
UOSS PcP **PcP** **16 21 22.2 -1.5**
UOSS pP **pP** **16 21 37.6 -0.1**
HATD Hatta, Dubai 69.14 294 P **P** **16 21 00.9 -0.2**
HATD Hatta, Dubai 69.14 294 *i* P **P** **16 21 00.4 -0.6**
SNR=13
MSFE Esma-Masafi 69.14 295 *i* P **P** **16 21 00.9 -0.2**
SNR=11
MASF Masafi 69.14 295 P **P** **16 21 00.9 -0.2**
ASHO Ashiyiah 69.20 294 P **P** **16 21 01.0 -0.5**
SNR=5.5
ASHO Ashiyiah 69.20 294 *i* P **P** **16 21 00.7 -0.8**
SNR=20
SHME Shamm 69.20 295 P **P** **16 21 01.3 -0.1**
SHME Shamm 69.20 295 *i* P **P** **16 21 00.7 -0.7**
SNR=10
SHAO Shalim 69.42 287 P **P** **16 21 02.9 +0.1**
ALNE Al Ain 69.45 293 P **P** **16 21 02.8 -0.2**
SNR=12
ALNE Al Ain 69.45 293 *i* P **P** **16 21 02.3 -0.6**
SNR=50
NAZ Nazwa, Dubai 69.57 294 P **P** **16 21 02.9 -0.8**
NAZ Nazwa, Dubai 69.57 294 *i* P **P** **16 21 02.7 -1.0**
SNR=6.7
UMQ Umm Al-Quwin 69.60 295 P **P** **16 21 04.5 +0.7**
FAQ Al Faqa, Dubai 69.62 294 P **P** **16 21 01.7 -2.3**
ASUD Al Ashush, Dub 69.86 294 P **P** **16 21 05.5 0.0**
SNR=5.2
ASUD Al Ashush, Dub 69.86 294 *i* P **P** **16 21 05.3 -0.1**
SNR=14
AB31 Akbulak array 69.86 320 IAmb IAmb 16 21 05.2
comp=Z,42nm,0.7s
AB31 Akbulak array 69.86 320 P **P** **16 21 03.9 -1.1**
ABKAR Akbulak array 69.86 320 P **P** **16 21 04.3 -0.7**
UMZA Um Al Zommool 69.94 292 P **P** **16 21 05.3 -0.7**
DMTO DMTO 70.06 287 P **P** **16 21 05.9 -0.9**
DMTO P **P** **16 21 06.5 -0.3**
AJN Ajban 70.17 294 P **P** **16 21 06.8 -0.5**
SNR=7.7
AJN Ajban 70.17 294 *i* P **P** **16 21 06.6 -0.7**
SNR=13
NIKH Nikolski High 70.45 36 P **P** **16 21 09.5 +1.0**
NIKH Nikolski High 70.45 36 P **P** **16 21 08.4 0.0**
baz=253
RBK Rabkut 70.77 286 P **P** **16 21 10.7 -0.4**
DOK Doka 70.84 288 P **P** **16 21 10.7 -0.8**
SPIA Saint Paul Isl 70.98 31 P **P** **16 21 12.3 +0.7**
baz=251
MSEY Mahe Island 71.10 263 P **P** **16 21 12.2 -1.0**
WHFO Wadi Hawf 71.18 287 P **P** **16 21 12.3 -1.3**
AKTO Aktyubinsk 71.36 321 P **P** **16 21 12.8 -1.3**
MZR Muzera 71.50 292 P **P** **16 21 15.3 -0.1**
SNR=21
MZR Muzera 71.50 292 *i* P **P** **16 21 14.8 -0.6**
SNR=104
SVE Sverdlovsk 71.59 328*de* P **P** **16 21 14.7 -0.6**
SVE *e*S **S** **16 30 18.2 -3.7**
SVE pmax pmax

comp=Z,65nm,0.9s
ABTO Aybut 71.64 286 P **P** **16 21 15.4 -1.0**
UNV Unalaska Valle 72.04 35 P **P** **16 21 19.1 +1.1**
UNV Unalaska Valle 72.04 35 P **P** **16 21 17.9 -0.1**
baz=255,SNR=13
GHWR Ruwais 72.07 293 P **P** **16 21 18.8 0.0**
JRN Qarnain Island 72.12 294 P **P** **16 21 18.8 -0.3**
SNR=10
AKUT Akutan 72.53 35 P **P** **16 21 21.0 +0.1**
ARTI Arti 72.66 327 P **P** **16 21 20.6 -1.0**
ARTI IAmb IAmb 16 21 22.1

comp=Z,44nm,0.6s
ARTI Arti 72.66 327*c i* P **P** **16 21 20.2 -1.4**
ARTI 16 21 37.2
ARTI *PP **pP** **16 21 57.9 -1.1**
ARTI S **S** **16 30 34.7 +0.6**
ARTI SS **SS** **16 35 13.1 -3.5**
ARTI pmax pmax

comp=Z,39nm,0.9s
GAMB Gambell 72.67 24 P **P** **16 21 22.4 +0.9**
baz=247
CASY Casey 72.97 186 P **P** **16 21 23.7 +0.5**
SLWR Sila 73.16 293 P **P** **16 21 25.2 0.0**
TRNA Turayna 73.60 294 P **P** **16 21 28.0 +0.2**
SNR=5.2
SMRA Abu-Samra 73.96 294 P **P** **16 21 29.8 -0.1**
SNR=8.5
M11K Mekoryuk 73.97 29 P **P** **16 21 29.9 +0.7**
baz=253
FALS False Pass 74.03 35 P **P** **16 21 30.2 +0.5**
FALS False Pass 74.03 35 P **P** **16 21 29.7 0.0**
baz=257
SAKB Bahrain 74.23 295 P **P** **16 21 31.2 -0.2**
S12K Black Hills 74.97 34 P **P** **16 21 35.7 +0.6**
baz=258
K13K Kusilvak Mount 75.12 27 P **P** **16 21 36.8 +1.0**
baz=254
M13K Dall Lake 75.34 29 P **P** **16 21 37.7 +0.6**
baz=256
F14K Arctic Creek 75.43 24 P **P** **16 21 38.0 +0.5**
baz=252
ANM Nome 75.54 25 P **P** **16 21 38.7 +0.4**
baz=253
SDPT Sand Point 75.79 34 P **P** **16 21 40.8 +1.0**
SDPT Sand Point 75.79 34 P **P** **16 21 39.9 +0.2**
baz=260,SNR=18
J14K Nanvaranak Lak 75.83 27 P **P** **16 21 41.0 +1.2**
baz=255
L14K Kuka Creek 75.88 28 IAmb IAmb 16 21 42.9
comp=Z,49nm,0.8s
L14K Kuka Creek 75.88 28 P **P** **16 21 41.5 +1.4**
baz=256,SNR=9.7
N14K Kuskokwak Cree 76.04 30 P **P** **16 21 42.3 +1.2**
baz=258
M14K Bethel 76.09 29 IAmb IAmb 16 21 43.9
comp=Z,68nm,0.7s
M14K Bethel 76.09 29 P **P** **16 21 42.6 +1.3**
baz=257,SNR=5.1
O14K Tigyukauivet M 76.11 30 IAmb IAmb 16 21 43.7
comp=Z,65nm,0.9s
O14K Tigyukauivet M 76.11 30 P **P** **16 21 42.4 +0.9**
baz=258
F15K North Star Dit 76.17 24 P **P** **16 21 42.3 +0.5**
baz=254
CNBA Chernabura Isl 76.20 35 IAmb IAmb 16 21 43.5
comp=Z,63nm,1.0s
CHNA Chernabura Isl 76.20 35 P **P** **16 21 42.4 +0.3**
CHNA Chernabura Isl 76.20 35 P **P** **16 21 42.4 +0.3**
baz=261,SNR=8.9
G15K Niukluk 76.21 24 P **P** **16 21 43.1 +1.1**
baz=254
S14K Fog Glacier 76.46 34 P **P** **16 21 44.2 +0.5**
baz=260,SNR=5.2
L15K Ungalak Mounta 76.52 28 P **P** **16 21 44.3 +0.5**
baz=257,SNR=5.3
K15K Wolf Creek Mou 76.63 27 IAmb IAmb 16 21 47.2
comp=Z,28nm,0.8s
K15K Wolf Creek Mou 76.63 27 P **P** **16 21 45.2 +0.8**
baz=257
C16K Lisburne Hills 76.66 21 P **P** **16 21 45.6 +1.1**
baz=252
M15K Kasigluk River 76.69 29 P **P** **16 21 45.7 +1.0**
baz=258,SNR=9.7
KBD Kabd 76.80 298 P **P** **16 21 45.2 -0.9**
O15K Ungalikthiuk R 76.83 31 P **P** **16 21 46.6 +1.0**
baz=260,SNR=5.5
H16K Elim 76.87 25 P **P** **16 21 46.4 +0.7**
baz=256
N15K Kwethluk River 76.88 30 IAmb IAmb 16 21 48.4
comp=Z,59nm,0.9s
N15K Kwethluk River 76.88 30 P **P** **16 21 46.9 +1.0**
baz=259,SNR=9.3
CHGN Chignik 77.09 34 IAmb IAmb 16 21 48.1
comp=Z,60nm,0.9s
CHGN Chignik 77.09 34 P **P** **16 21 47.3 +0.2**
baz=261,SNR=9.5
J16K Anvik River 77.26 26 P **P** **16 21 49.4 +1.4**
baz=258,SNR=5.2
D17K Noatak River 77.31 22 P **P** **16 21 49.5 +1.4**
baz=254
I17K Unalakleet 77.35 26 P **P** **16 21 49.6 +1.3**
baz=258
RDOG Red Dog Mine 77.47 21 P **P** **16 21 50.4 +1.4**
baz=255
C17K DeLong Mountai 77.49 21 P **P** **16 21 50.6 +1.5**
baz=254
PUH Pauahi 77.57 72 P **P** **16 21 50.3 -0.4**
N16K Nishlik Lake 77.58 29 P **P** **16 21 51.2 +1.4**
baz=260,SNR=17
M16K Timber Creek 77.58 29 IAmb IAmb 16 21 52.2
comp=Z,46nm,0.7s
M16K Timber Creek 77.58 29 P **P** **16 21 51.1 +1.4**
baz=260,SNR=12
E17K Hotham Inlet 77.63 22 P **P** **16 21 51.2 +1.4**
baz=256
RAR Rarotonga 77.70 113 P **P** **16 21 52.2 +1.1**
G17K Kiwalik Mounta 77.72 24 P **P** **16 21 51.0 +0.5**
baz=257
P16K Nushagak River 77.73 31 P **P** **16 21 51.4 +0.8**
baz=261
R16K Pilot Point 77.73 32 P **P** **16 21 50.9 +0.3**
baz=262
O16K Kokwok River B 77.77 30 IAmb IAmb 16 21 53.1
comp=Z,41nm,0.8s
O16K Kokwok River B 77.77 30 P **P** **16 21 51.6 +0.9**
baz=261,SNR=12
KIRV Kirov 77.85 329 LR LR 16 59 00.6
comp=Z,102nm,18.0s,baz=107,slow=38
KIRV Kirov 77.85 329*c i* P **P** **16 21 50.2 -1.0**
H17K Granite Mounta 77.91 25 P **P** **16 21 52.6 +1.2**
baz=258
J17K VABM Dome 77.96 26 IAmb IAmb 16 21 54.6
comp=Z,28nm,0.8s
J17K VABM Dome 77.96 26 P **P** **16 21 53.2 +1.4**
baz=259,SNR=7.4
L17K Donlin 78.09 28 P **P** **16 21 54.1 +1.6**
baz=260,SNR=14
BELG Belogornoye 78.10 322 LR LR 16 59 22.0
comp=Z,81nm,20.8s,baz=112,slow=38
BELG Belogornoye 78.10 322*c i* P **P** **16 21 51.5 -1.2**
BELG pmax pmax

comp=Z,28nm,0.8s
E18K Tukpahlearik C 78.17 22 P **P** **16 21 54.4 +1.6**
baz=257
K17K Iditarod 78.19 27 IAmb IAmb 16 21 56.0
comp=Z,52nm,0.8s
K17K Iditarod 78.19 27 P **P** **16 21 54.7 +1.6**
baz=260,SNR=11
B18K Kokolik River 78.20 20 P **P** **16 21 54.2 +1.2**
baz=255
C18K Utukok River 78.24 21 P **P** **16 21 54.3 +1.0**
baz=256
O17K Koliganek Bris 78.30 30 P **P** **16 21 55.1 +1.5**
baz=262,SNR=11
F18K Selawik 78.36 23 P **P** **16 21 55.0 +1.1**
baz=258
N17K Nushagak Hills 78.36 29 IAmb IAmb 16 21 57.0
comp=Z,36nm,1.0s
N17K Nushagak Hills 78.36 29 P **P** **16 21 55.7 +1.6**
baz=262,SNR=11
Q16K King Salmon 78.37 31 P **P** **16 21 54.9 +0.8**
baz=262
M17K Holitna River 78.37 29 IAmb IAmb 16 21 57.2
comp=Z,34nm,0.9s
M17K Holitna River 78.37 29 P **P** **16 21 55.7 +1.6**
baz=261,SNR=8.6
R17L Mt. Peulik Vol 78.39 32 P **P** **16 21 54.6 +0.3**
baz=263,SNR=20
P17K Kvichak River 78.55 31 P **P** **16 21 56.1 +1.1**
baz=262,SNR=8.3
CHIR Chirikof Islan 78.58 34 P **P** **16 21 56.8 +1.4**
CHIR Chirikof Islan 78.58 34 P **P** **16 21 56.4 +1.1**
baz=264,SNR=6.3
H18K Honhosa River 78.59 25 P **P** **16 21 56.0 +0.8**
baz=260
G18K Tagagawik 78.61 24 P **P** **16 21 56.5 +1.1**
baz=259
A19K Wainwright 78.66 19 P **P** **16 21 56.9 +1.4**
baz=256
Q17K Contact Creek 78.72 32 P **P** **16 21 56.0 -0.2**
baz=263,SNR=46
RAYN Ar Rayn 78.83 293 P **P** **16 21 56.6 -0.8**
RAYN Ar Rayn 78.83 293 P **P** **16 21 56.6 -0.8**
RAYN Ar Rayn 78.83 293 P **P** **16 21 56.7 -0.8**
RAYN pmax pmax

comp=Z,86nm,0.8s
RAYN Ar Rayn 78.83 293 *i* P **P** **16 21 56.7 -0.8**
SNR=6.7
L18K Granite Mounta 78.85 28 IAmb IAmb 16 21 59.6
comp=Z,31nm,0.8s
L18K Granite Mounta 78.85 28 P **P** **16 21 58.2 +1.5**
baz=262,SNR=14
C19K Lookout Ridge 78.91 21 P **P** **16 21 58.2 +1.3**
baz=258
N18K Kilae Creek 79.02 29 P **P** **16 21 58.7 +1.1**
baz=263,SNR=8.8
J18K Innoko River 79.02 27 P **P** **16 21 58.7 +1.0**
baz=261
F19K Shaleruckik Mo 79.13 23 P **P** **16 21 59.4 +1.3**
baz=260
GCSA Galena City Sc 79.15 25 P **P** **16 21 58.6 +0.4**
baz=261
M18K Stony River 79.15 29 P **P** **16 21 59.0 +0.7**
baz=262,SNR=18
P18K Big Mountain, 79.19 31 P **P** **16 21 58.8 +0.1**
baz=263
Q18K Katmai Hardscr 79.22 32 P **P** **16 21 58.9 -0.1**
baz=264,SNR=18
O18K Koktuh Hills 79.25 30 P **P** **16 22 00.4 +1.4**
baz=263,SNR=23
G19K Purcell Mounta 79.28 24 P **P** **16 22 00.2 +1.2**
baz=260
D19K Kuna River 79.31 21 IAmb IAmb 16 22 43.8
comp=Z,58nm,1.4s
D19K Kuna River 79.31 21 P **P** **16 22 00.1 +1.0**
baz=259
GNI Garni 79.39 310 P **P** **16 22 02.0 +1.7**
GNI Garni 79.39 310*ce* P **P** **16 22 00.5 +0.2**
GNI pmax pmax

comp=Z,56nm,0.9s
R18K Karluk 79.40 33 P **P** **16 21 59.9 +0.1**
baz=264
H19K Roundabout Mou 79.45 24 P **P** **16 22 00.9 +1.1**
H19K IAmb IAmb 16 22 02.7

comp=Z,56nm,1.2s
H19K Roundabout Mou 79.45 24 P **P** **16 22 00.8 +1.0**
baz=261,SNR=13
E19K Redstone River 79.45 22 P **P** **16 22 01.2 +1.3**
baz=260
SII Sitkinak Islan 79.46 34 P **P** **16 22 01.7 +1.6**
SII Sitkinak Islan 79.46 34 P **P** **16 22 01.2 +1.1**
baz=265,SNR=10
J19K Poorman 79.58 26 P **P** **16 22 02.0 +1.4**
baz=262,SNR=9.5
L19K White Mountain 79.69 28 IAmb IAmb 16 22 04.0
comp=Z,27nm,0.8s
L19K White Mountain 79.69 28 P **P** **16 22 02.7 +1.4**
baz=263,SNR=19
N19K Bonanza Creek 79.72 29 IAmb IAmb 16 22 04.2
comp=Z,32nm,0.7s
N19K Bonanza Creek 79.72 29 P **P** **16 22 03.0 +1.4**
baz=264,SNR=20
O19K Port Alsworth 79.73 30 P **P** **16 22 02.7 +1.2**
baz=264
M19K Big River Lodg 79.88 28 IAmb IAmb 16 22 09.5
comp=Z,27nm,0.8s
M19K Big River Lodg 79.88 28 P **P** **16 22 03.6 +1.2**
baz=264,SNR=16
D20K Etivluk River 79.89 21 IAmb IAmb 16 22 46.1
comp=Z,31nm,1.0s
D20K Etivluk River 79.89 21 P **P** **16 22 03.9 +1.6**
baz=260
TRLG Trialeti 79.90 311 P **P** **16 22 03.0 0.0**
B20K Meade River 79.92 20 P **P** **16 22 03.5 +1.2**
baz=260
Q19K Cape Douglas, 79.95 31 IAmb IAmb 16 22 03.7
comp=Z,79nm,0.8s
Q19K Cape Douglas, 79.95 31 P **P** **16 22 02.8 0.0**
baz=265,SNR=9.5
F20K Avaraart Lake 79.96 23 P **P** **16 22 03.8 +1.1**
baz=262,SNR=6.0
E20K Nigu River 79.97 22 P **P** **16 22 03.9 +1.2**
baz=261
OHAK Old Harbor 80.00 33 IAmb IAmb 16 22 05.0
comp=Z,62nm,0.8s
OHAK Old Harbor 80.00 33 P **P** **16 22 04.6 +1.6**

OHAK **Old Harbor** 80.00 33 P P 16 22 04.0 +1.0
baz=266,SNR=22
H20K **Anotleneega Mo** 80.09 25 P P 16 22 04.7 +1.4
baz=263,SNR=7.5
I20K **Naaghedeneel** 80.17 25 P P 16 22 05.4 +1.6
baz=263,SNR=7.8
L20K **Farewell, AK** 80.18 28 P P 16 22 05.3 +1.3
baz=264,SNR=8.8
K20K **Telida** 80.19 27 P P 16 22 05.5 +1.5
baz=264,SNR=7.3
P19K **Oil Pt** 80.23 31 P P 16 22 04.5 +0.2
baz=265
J20K **Nowinta River** 80.24 26 P P 16 22 05.8 +1.7
baz=264,SNR=14
NCK **Nalchik** 80.30 313 *e*P P 16 22 05.2 +0.2
NCK pmax pmax
comp=Z,38nm,0.7s
A21K **Barrow** 80.33 19 P P 16 22 05.2 +0.7
baz=260
KDAK **Kodiak Island** 80.42 33 P P 16 22 06.4 +1.2
KDAK **Kodiak Island** 80.42 33 P P 16 22 06.4 +1.2
KDAK pmax pmax
comp=Z,90nm,0.8s
KDAK **Kodiak Island** 80.42 33 P P 16 22 06.3 +1.0
baz=266
M20K **Styx River** 80.47 28 IAmb IAmb 16 22 08.3
comp=Z,56nm,0.8s
M20K **Styx River** 80.47 28 P P 16 22 07.2 +1.6
baz=265,SNR=39
O20K **Slope Mountain** 80.57 30 P P 16 22 06.1 0.0
baz=266
Q20K **Shuyak Island** 80.58 32 P P 16 22 06.8 +0.7
baz=266,SNR=6.0
SYI **Shuyak Island** 80.58 32 IAmb IAmb 16 22 08.1
comp=Z,59nm,0.8s
IMAR **Indian Mountai** 80.61 24 P P 16 22 07.8 +1.6
C21K **Knifeblade Rid** 80.61 21 P P 16 22 07.1 +1.0
baz=262
B21K **Ikpikpuk River** 80.74 20 IAmb IAmb 16 22 10.2
comp=Z,79nm,1.2s
B21K **Ikpikpuk River** 80.74 20 P P 16 22 08.0 +1.3
baz=262,SNR=5.0
G21K **Allakaket** 80.77 24 P P 16 22 07.9 +0.9
baz=264
A22K **Sinclair Lake** 80.81 19 P P 16 22 08.5 +1.4
baz=262
E21K **Killik River** 80.81 22 IAmb IAmb 16 22 09.9
comp=Z,35nm,1.1s
E21K **Killik River** 80.81 22 P P 16 22 08.3 +1.1
baz=263,SNR=5.4
KBZ **Khabaz** 80.81 313 P P 16 22 06.8 -0.8
comp=Z,18nm,0.9s,baz=113,slow=5.1,SNR=26
comp=Z,18nm,0.9s
KBZ **Khabaz** 80.81 313 *c i*P P 16 22 06.9 -0.8
KBZ pmax pmax
comp=Z,30nm,1.0s
F21K **Alatna River** 80.86 23 P P 16 22 08.5 +1.1
baz=264
N20K **Mount Spurr** 80.86 29 P P 16 22 08.2 +0.6
baz=266
SPCR **Spurr Chakacha** 80.86 29 P P 16 22 08.2 +0.5
baz=266
H21K **Melozitna Rive** 80.97 25 P P 16 22 09.4 +1.4
baz=264,SNR=9.9
KIV **Kislovodsk** 80.97 313 P P 16 22 07.3 -1.3
KIV IAmb IAmb 16 22 10.4
comp=Z,54nm,0.7s
KIV **Kislovodsk** 80.97 313 P P 16 22 08.4 -0.2
KIV **Kislovodsk** 80.97 313 *e*P P 16 22 05.5 -3.1
KIV *e*S S 16 32 01.8 -3.2
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,54nm,19.0s
KIV **Kislovodsk** 80.97 313 *i* P P 16 22 08.4 -0.2
SNR=6.6
SHA1 **Shidzhatmaz** 80.99 313 *c i*P P 16 22 07.5 -1.4
PPLA **Purkeypile** 80.99 27 IAmb IAmb 16 22 20.1
comp=Z,30nm,0.7s
PPLA **Purkeypile** 80.99 27 P P 16 22 09.5 +1.1
baz=266,SNR=8.8
CHUM **Lake Minchumin** 81.02 26 P P 16 22 09.7 +1.4
baz=265,SNR=9.0
HOM **Homer** 81.03 31 P P 16 22 09.1 +0.7
baz=266
CAST **Castle Rocks** 81.08 27 IAmb IAmb 16 22 11.0
comp=Z,44nm,0.8s
CAST **Castle Rocks** 81.08 27 P P 16 22 09.7 +1.0
baz=266,SNR=55
CNPM **China Poot** 81.23 31 IAmb IAmb 16 22 10.9
comp=Z,51nm,0.8s
SKT **Skwentna** 81.23 28 IAmb IAmb 16 22 10.8
comp=Z,28nm,0.8s
SKT **Skwentna** 81.23 28 P P 16 22 09.8 +0.3
baz=266,SNR=29
B22K **Teshekpuk Lake** 81.23 20 P P 16 22 10.4 +1.1
baz=263
I21K **Tanana** 81.27 25 IAmb IAmb 16 22 12.6
comp=Z,41nm,1.0s
I21K **Tanana** 81.27 25 P P 16 22 11.4 +1.8
baz=265,SNR=18
ABPO **Ambohimpanom** 81.30 250 P P 16 22 09.2 -1.7
ABPO **Ambohimpanom** 81.30 250 P P 16 22 09.2 -1.7
ABPO pmax pmax
comp=Z,13nm,0.9s
D22K **Ayikyak River** 81.33 21 IAmb IAmb 16 22 18.3
comp=Z,45nm,1.4s
D22K **Ayikyak River** 81.33 21 P P 16 22 11.2 +1.2
baz=264
CAPN **Captain Cook N** 81.34 30 P P 16 22 11.0 +0.9
baz=267
F22K **John River** 81.39 23 P P 16 22 12.0 +1.8
baz=265,SNR=9.6
H22K **Ishtalitna Cre** 81.57 24 P P 16 22 12.8 +1.5
baz=266,SNR=11
SUA **Susitna One** 81.58 29 IAmb IAmb 16 22 13.6
comp=Z,78nm,0.8s
SUA **Susitna One** 81.58 29 P P 16 22 11.2 -0.2
baz=267,SNR=37
E22K **Anaktuvuk Pass** 81.58 22 P P 16 22 12.2 +0.9
baz=265,SNR=8.6
G22K **Bettles** 81.60 23 P P 16 22 12.5 +1.2
baz=266
KTH **Kantishna Hill** 81.61 27 IAmb IAmb 16 22 14.3
comp=Z,26nm,0.8s
BPAW **Bear Paw Mtn.** 81.62 26 IAmb IAmb 16 22 13.9
comp=Z,65nm,1.0s
BPAW **Bear Paw Mtn.** 81.62 26 P P 16 22 12.7 +1.2
baz=266,SNR=39
VRH **Novokhopyorsk** 81.69 321 *e*P P 16 22 09.8 -2.3
VRH pmax pmax
comp=Z,60nm,0.8s
MLY **Manley** 81.78 25 IAmb IAmb 16 22 15.0
comp=Z,37nm,1.0s
MLY **Manley** 81.78 25 P P 16 22 13.4 +1.1
baz=266,SNR=39
SLKM **Skilak Lake** 81.79 30 IAmb IAmb 16 22 13.7
comp=Z,73nm,1.1s
CUT **Chulitna** 81.85 28 IAmb IAmb 16 22 15.0
comp=Z,81nm,1.4s
CUT **Chulitna** 81.85 28 P P 16 22 12.8 +0.1
baz=267
M22K **Willow** 81.89 29 P P 16 22 13.0 +0.1
baz=268,SNR=9.9
TRF **Thorofare Moun** 81.89 27 IAmb IAmb 16 22 14.9
comp=Z,43nm,1.0s
TRF **Thorofare Moun** 81.89 27 P P 16 22 13.3 +0.1
baz=267,SNR=14
ATD **Arta Tunnel** 82.03 281 IAmb IAmb 16 22 16.1
comp=Z,30nm,0.9s
O22K **Cooper Landing** 82.03 30 P P 16 22 14.1 +0.4
baz=268,SNR=7.3
RC01 **Rabbit Creek A** 82.05 29 IAmb IAmb 16 22 15.1
comp=Z,55nm,1.0s
RC01 **Rabbit Creek A** 82.05 29 P P 16 22 13.8 0.0
baz=268,SNR=7.9
D23K **Nanushuk River** 82.06 21 P P 16 22 14.5 +0.8
baz=266,SNR=5.3
COLD **Coldfoot** 82.13 23 P P 16 22 15.3 +1.2
baz=267,SNR=11
C23K **Itkillik River** 82.14 20 IAmb IAmb 16 22 17.2
comp=Z,89nm,1.2s
C23K **Itkillik River** 82.14 20 P P 16 22 15.1 +1.0
baz=266,SNR=6.1
SEW **Seward** 82.16 30 P P 16 22 14.9 +0.6
baz=268,SNR=14
G23K **Bananza Creek** 82.17 24 P P 16 22 16.6 +2.3
baz=267,SNR=12

VOI **Vohitsoka** 82.18 247 P P 16 22 13.8 -1.6
VOI IAmb IAmb 16 22 15.3
comp=Z,32nm,0.9s
VOI **Vohitsoka** 82.18 247 P P 16 22 13.7 -1.6
BWN **Browne** 82.29 26 IAmb IAmb 16 23 25.0
comp=Z,34nm,0.8s
H23K **Yukon River** 82.32 24 P P 16 22 16.8 +1.6
baz=268,SNR=14
PMR **Palmer** 82.36 29 IAmb IAmb 16 22 16.8
comp=Z,42nm,0.8s
PMR **Palmer** 82.36 29 P P 16 22 16.1 +0.8
PMR **Palmer** 82.36 29 P P 16 22 15.4 +0.1
baz=268,SNR=7.5
I23K **Minto, Yukon-K** 82.37 25 IAmb IAmb 16 22 18.2
comp=Z,57nm,1.2s
I23K **Minto, Yukon-K** 82.37 25 P P 16 22 16.6 +1.3
baz=268,SNR=24
E23K **Chandalar** 82.40 22 IAmb IAmb 16 22 28.1
comp=Z,44nm,1.1s
E23K **Chandalar** 82.40 22 P P 16 22 17.4 +1.8
baz=267,SNR=6.4
TOLK **Toolik Lake Re** 82.44 22 P P 16 22 17.2 +1.4
baz=267,SNR=5.8
GHO **Glory Hole Cre** 82.46 29 IAmb IAmb 16 22 29.4
comp=Z,24nm,0.8s
NEA2 **Nenana** 82.47 26 IAmb IAmb 16 22 18.9
comp=Z,32nm,0.9s
NEA2 **Nenana** 82.47 26 P P 16 22 16.8 +0.9
baz=268,SNR=34
MCK **McKinley** 82.51 27 IAmb IAmb 16 22 17.9
comp=Z,96nm,1.2s
MCK **McKinley** 82.51 27 P P 16 22 16.9 +0.7
baz=268,SNR=25
MARD **Mardin** 82.51 307 IAmb IAmb 16 22 18.5
comp=Z,61nm,0.7s
ERBR **Yeremizino-Bor** 82.53 315 *e*P P 16 22 15.5 -1.1
ERBR *e**PP pP 16 22 54.3 -0.6
ERBR *e*S S 16 32 20.2 -0.5
ERBR pmax pmax
comp=Z,62nm,0.8s
RND **Reindeer** 82.53 27 IAmb IAmb 16 22 17.8
comp=Z,64nm,1.4s
KNK **Knik Glacier** 82.67 29 IAmb IAmb 16 22 19.1
comp=Z,60nm,0.8s
KNK **Knik Glacier** 82.67 29 P P 16 22 17.8 +0.7
baz=269,SNR=16
PWL **Port Wells** 82.73 29 P P 16 22 18.1 +0.7
baz=269,SNR=38
D24K **Happy Valley** 82.74 21 IAmb IAmb 16 22 29.5
comp=Z,40nm,0.9s
D24K **Happy Valley** 82.74 21 P P 16 22 17.8 +0.6
baz=268,SNR=7.4
C24K **Franklin Bluff** 82.80 21 P P 16 22 18.2 +0.7
baz=268
E24K **Your Creek** 82.82 22 P P 16 22 18.6 +0.8
baz=268,SNR=5.4
WRH **Wood River Hil** 82.89 26 P P 16 22 19.0 +0.9
WRH IAmb IAmb 16 22 19.8
comp=Z,45nm,1.2s
VSLR **Vesyoloye** 82.90 313 *d i*P P 16 22 17.8 -0.8
VSLR pmax pmax
comp=Z,118nm,0.9s
COLA **College** 83.00 25 P P 16 22 20.1 +1.5
COLA **College** 83.00 25 *d i*P P 16 22 18.5 -0.1
COLA pmax pmax
comp=Z,19nm,0.9s
COLA **College** 83.00 25 P P 16 22 18.7 +0.1
baz=269
H24K **Noodor Dome** 83.01 24 P P 16 22 20.1 +1.4
H24K IAmb IAmb 16 22 34.5
comp=Z,21nm,0.8s
H24K **Noodor Dome** 83.01 24 P P 16 22 20.5 +1.8
baz=269,SNR=16
KLMR **Klimovskoe** 83.02 331 *e*P P 16 22 16.5 -2.3
KLMR *e* 16 25 29.7
KLMR pmax pmax
comp=Z,107nm,0.7s
CCB **Clear Creek Bu** 83.02 26 IAmb IAmb 16 22 20.2
comp=Z,36nm,1.2s
M23K **Glacier View** 83.03 29 P P 16 22 20.1 +1.2
baz=270,SNR=12
F24K **Squaw Lake** 83.03 23 P P 16 22 18.9 +0.1
baz=269,SNR=9.1
SOC **Sochi** 83.12 313 *e*P P 16 22 16.8 -2.9
SOC *e**SP sP 16 23 12.4 -2.1
SOC *e* 16 25 31.0
SOC *e*PPP PPP 16 27 20.8
SOC *i* S S 16 32 23.5 -3.3
SOC *e*SS SS 16 37 53.3 -1.0
SOC *e*SSS SSS 16 41 19.0
SOC pmax pmax
comp=Z,35nm,0.8s
G24K **Hadweenzic Riv** 83.18 24 IAmb IAmb 16 22 22.8
comp=Z,23nm,0.8s
G24K **Hadweenzic Riv** 83.18 24 P P 16 22 21.4 +1.9
baz=269,SNR=15
POKR **Poker Plat Res** 83.18 25 P P 16 22 21.1 +1.5
baz=270
P23K **Montague Islan** 83.18 30 P P 16 22 20.7 +1.0
baz=270,SNR=16
SCM **Sheep Creek Mo** 83.22 28 IAmb IAmb 16 22 30.1
comp=Z,102nm,1.4s
SCM **Sheep Creek Mo** 83.22 28 P P 16 22 20.8 +0.8
baz=270,SNR=12
VSR **Storozhevoye** 83.30 321 *e*P P 16 22 17.9 -2.5
VSR pmax pmax
comp=Z,50nm,0.8s
GLI **Glacier Island** 83.33 29 P P 16 22 21.3 +0.9
baz=270,SNR=11
HDA **Harding Lake** 83.39 26 IAmb IAmb 16 22 34.3
comp=Z,20nm,0.8s
HDA **Harding Lake** 83.39 26 P P 16 22 20.9 +0.2
baz=270,SNR=17
ILAR **Eielson Array** 83.42 26 P P 16 22 21.5 +0.7
ILAR **Eielson Array** 83.42 26 P P 16 22 20.4 -0.4
comp=Z,4.5nm,0.5s,baz=245,slow=5.2,SNR=66
comp=Z,4.5nm,0.5s
ILAR **Eielson Array** 83.42 26 P P 16 22 21.5 +0.7
LPSR **Galich'ya Gora** 83.42 322 *e*P P 16 22 18.5 -2.5
LPSR pmax pmax
comp=Z,80nm,0.9s
D25K **Kavik River** 83.61 21 P P 16 22 22.2 +0.4
baz=270
HIN **Hinchinbrook I** 83.63 30 IAmb IAmb 16 22 24.1
comp=Z,55nm,0.7s
FID **Port Fidalgo** 83.64 30 IAmb IAmb 16 22 23.9
comp=Z,46nm,0.7s
G25K **Bearman Lake** 83.73 24 P P 16 22 23.3 +1.0
baz=270,SNR=5.6
M24K **Tolsona, Glenn** 83.76 28 IAmb IAmb 16 22 33.8
comp=Z,56nm,1.0s
M24K **Tolsona, Glenn** 83.76 28 P P 16 22 23.5 +0.8
baz=271,SNR=8.6
H25L **Birch Creek** 83.85 24 P P 16 22 24.1 +1.1
baz=271,SNR=12
KLU **Klutina** 83.89 29 P P 16 22 22.7 -0.7
baz=271,SNR=8.2
F25K **Christian Rive** 83.90 23 P P 16 22 24.1 +0.8
baz=271
K24K **Donnelly Dome** 83.91 26 IAmb IAmb 16 22 37.4
comp=Z,41nm,0.9s
K24K **Donnelly Dome** 83.91 26 P P 16 22 23.7 +0.4
baz=271,SNR=14
PRP **Porcupine Dome** 83.98 25 P P 16 22 23.3 -0.5
baz=271
EYAK **Cordova Ski Ar** 84.00 30 IAmb IAmb 16 22 33.8
comp=Z,26nm,0.9s
EYAK **Cordova Ski Ar** 84.00 30 P P 16 22 25.1 +1.3
EYAK **Cordova Ski Ar** 84.00 30 P P 16 22 24.8 +1.0
baz=272,SNR=7.5
PAX **Paxson** 84.07 27 P P 16 22 24.9 +0.6
baz=272,SNR=16
J25K **Salcha River,** 84.07 26 P P 16 22 23.9 -0.3
baz=271,SNR=16
FYU **Fort Yukon** 84.08 24 IAmb IAmb 16 22 35.4
comp=Z,46nm,1.2s
MOS **Moscow** 84.09 325 *e*P P 16 22 22.3 -2.1
MOS *e**PP pP 16 23 03.7 +1.3
MOS *e*S SKSac 16 32 27.6 -5.6
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,103nm,0.7s
HARP **HAARP** 84.23 28 P P 16 22 26.1 +1.1
baz=272
BMAR **Burnt Mountain** 84.31 23 P P 16 22 27.6 +2.3
RIDG **Independent Ri** 84.32 27 IAmb IAmb 16 23 20.5

comp=Z,43nm,1.1s
RIDG **Independent Ri** 84.32 27 P P 16 22 26.1 +0.6
baz=272,SNR=16
F26K **Sheenjek River** 84.47 23 P P 16 22 27.3 +1.2
baz=272
N25K **Chitina, Valde** 84.52 29 P P 16 22 27.6 +1.0
baz=272,SNR=11
RAGM **Ragged Mountai** 84.54 30 IAmb IAmb 16 22 29.1
comp=Z,98nm,1.4s
C27K **Jago River** 84.55 21 IAmb IAmb 16 22 29.7
comp=Z,20nm,0.8s
C27K **Jago River** 84.55 21 P P 16 22 27.6 +1.1
baz=272
BMRM **Bremner River** 84.55 29 IAmb IAmb 16 22 28.9
comp=Z,40nm,1.0s
BMRM **Bremner River** 84.55 29 P P 16 22 27.2 +0.5
baz=272,SNR=15
G26K **Porcupine Rive** 84.64 23 IAmb IAmb 16 23 20.1
comp=Z,39nm,1.3s
G26K **Porcupine Rive** 84.64 23 P P 16 22 28.0 +1.1
baz=273,SNR=6.6
KAIM **Kayak Island** 84.69 30 P P 16 22 28.2 +0.9
baz=273,SNR=9.4
SCRK **Sand Creek** 84.69 26 P P 16 22 28.6 +1.1
SCRK **Sand Creek** 84.69 26 P P 16 22 27.4 0.0
baz=273,SNR=16
ANN **Anapa** 84.71 314 *e*P P 16 22 26.1 -1.6
ANN *e*S SKSac 16 32 35.4 -2.2
ANN pmax pmax
comp=Z,146nm,0.7s
OBN **Obninsk** 84.72 325 ⇓P P 16 22 26.7 -0.8
OBN **Obninsk** 84.72 325 *c i*P P 16 22 26.5 -1.0
OBN *e**PP pP 16 23 04.9 -1.1
OBN *e**SP sP 16 23 21.5 -0.2
OBN *e* 16 25 44.2
OBN *e*PPP PPP 16 27 38.5
OBN pmax pmax
comp=Z,109nm,0.8s
HMT **Hamilton** 84.75 30 P P 16 22 28.7 +1.1
HMT IAmb IAmb 16 22 30.0
comp=Z,30nm,0.8s
J26L **Joseph Creek** 84.85 26 P P 16 22 28.4 +0.3
baz=273,SNR=20
MENT **Mentasta** 84.87 27 P P 16 22 30.8 +2.6
GLB **Gilahina Butte** 84.91 29 IAmb IAmb 16 23 12.8
comp=Z,27nm,1.0s
I26K **Coal Creek Min** 84.98 25 IAmb IAmb 16 23 16.3
comp=Z,28nm,1.0s
I26K **Coal Creek Min** 84.98 25 P P 16 22 29.3 +0.7
baz=273
BERG **Berg Lake** 85.02 30 IAmb IAmb 16 22 31.6
comp=Z,51nm,1.0s
L26K **Log Cabin Wild** 85.03 27 P P 16 22 29.8 +0.8
baz=273
M26K **Nabesna, AK** 85.23 28 P P 16 22 30.3 +0.3
baz=274
BGLC **Bering Glacier** 85.24 30 P P 16 22 31.4 +1.3
baz=274
CRQM **Cirque** 85.27 30 IAmb IAmb 16 22 41.4
comp=Z,40nm,0.9s
MCARA **McCarthy VSAT** 85.29 29 IAmb IAmb 16 23 23.9
comp=Z,23nm,0.9s
MCARA **McCarthy VSAT** 85.29 29 P P 16 22 30.6 +0.3
baz=274
CRQE **Cirque** 85.30 30 P P 16 22 31.0 +0.5
baz=274,SNR=5.9
GAZ **Gaziantep** 85.36 307 IAmb IAmb 16 22 32.5
comp=Z,56nm,0.8s
E27K **Coleen River** 85.40 22 P P 16 22 31.1 +0.4
baz=274
TGL **Tana Glacier** 85.43 30 IAmb IAmb 16 22 41.6
comp=Z,34nm,1.0s
APA **Apatity** 85.44 337 *e*P P 16 22 27.7 -3.2
APA MLR MLR
comp=Z,295nm,3.6s
WAX **Waxell Ridge** 85.44 30 IAmb IAmb 16 22 33.9
comp=Z,47nm,1.0s
G27K **Doyon Strip** 85.49 23 P P 16 22 32.9 +1.6
baz=275,SNR=6.1
D27M **Malcolm River** 85.54 21 P P 16 22 32.4 +0.9
baz=275
H27K **Steamboat Moun** 85.58 24 P P 16 22 32.8 +1.1
baz=275,SNR=11
MAW **Mawson** 85.60 200 P P 16 22 32.0 +0.4
comp=Z,12nm,0.8s,baz=47,slow=4.5,SNR=22
comp=Z,12nm,0.8s
MAW **Mawson** 85.60 200 P P 16 22 32.0 +0.4
I27K **Kandik River** 85.60 25 P P 16 22 32.1 +0.3
baz=275,SNR=23
ISLE **Juniper Island** 85.68 30 IAmb IAmb 16 23 16.3
comp=Z,33nm,0.9s
L27K **Beaver Creek,** 85.72 27 P P 16 22 33.4 +0.9
baz=275,SNR=7.1
BCAR **Beaver Creek A** 85.74 27 P P 16 22 34.1 +1.5
M27K **Edge Creek, AK** 85.76 28 P P 16 22 33.8 +1.0
baz=275
VNDA **Vanda** 85.78 173 P P 16 22 32.6 +0.3
VNDA **Vanda** 85.78 173 P P 16 22 32.6 +0.3
comp=Z,4.4nm,0.8s,baz=317,slow=6.8,SNR=18
comp=Z,4.4nm,0.8s
VNDA **Vanda** 85.78 173 P P 16 22 32.6 +0.3
VNDA pmax pmax
comp=Z,7.0nm,0.8s
MESA **MESA** 85.91 30 P P 16 22 34.8 +1.2
baz=275
GRNC **Granite Creek** 85.95 29 IAmb IAmb 16 22 44.8
comp=Z,32nm,1.0s
YAH **Yahtse** 85.99 30 IAmb IAmb 16 23 19.1
comp=Z,22nm,0.9s
F28M **Old Crow** 86.10 23 P P 16 22 35.8 +1.6
baz=276
E28M **Babbage River** 86.12 22 P P 16 22 35.5 +1.3
baz=276,SNR=7.9
CTG **Chitna Glacier** 86.14 29 P P 16 22 35.4 +0.7
baz=275,SNR=5.6
CTGM **Chitina Glacie** 86.14 29 IAmb IAmb 16 23 19.6
comp=Z,54nm,1.2s
BVCY **Beaver Creek** 86.22 28 P P 16 22 36.4 +1.5
baz=276
TABL **Table Mountain** 86.28 30 IAmb IAmb 16 22 39.2
comp=Z,29nm,0.7s
I28M **Miner Creek** 86.31 25 IAmb IAmb 16 23 37.1
comp=Z,25nm,0.9s
I28M **Miner Creek** 86.31 25 P P 16 22 36.8 +1.4
baz=276,SNR=19
LOGN **Logan Glacier** 86.31 29 IAmb IAmb 16 22 39.4
comp=Z,16nm,0.7s
D28M **Stokes Point** 86.32 21 P P 16 22 36.1 +0.9
baz=277
YUK3 **Moose Creek** 86.48 28 P P 16 22 35.6 -0.8
baz=276
PPT **Papeete** 86.61 108 P P 16 22 38.8 +1.1
comp=Z,30nm,0.8s,baz=49,slow=8.6,SNR=4.1
comp=Z,30nm,0.8s
DAWY **Dawson** 86.70 26 P P 16 22 37.4 +0.1
baz=277
O28M **Mount Upton** 86.71 29 P P 16 22 37.6 -0.1
baz=276
E29M **Blow River** 86.74 22 P P 16 22 38.2 +0.9
baz=278
PINM **Pinnacle** 86.76 30 P P 16 22 38.5 +0.9
baz=276
H29M **Whitestone** 86.86 24 P P 16 22 38.6 +0.7
baz=278,SNR=6.7
YUK8 **Steele Glacier** 86.86 29 P P 16 22 38.6 +0.2
baz=277
G29M **Pine Creek** 86.90 23 IAmb IAmb 16 23 24.2
comp=Z,30nm,0.9s
G29M **Pine Creek** 86.90 23 P P 16 22 38.3 +0.2
baz=278,SNR=10
I29M **Ogilvie Camp,** 87.00 25 P P 16 22 39.4 +0.7
baz=278
SIM **Simferopol'** 87.05 315 *e*P P 16 22 37.1 -2.2
SIM *e*S S 16 33 03.0 -2.5
SIM pmax pmax
comp=Z,72nm,1.0s
MMAI **Mount Meron Ar** 87.17 303 P P 16 22 40.0 -0.2
comp=Z,14nm,0.8s,baz=86,slow=6.8,SNR=15
comp=Z,14nm,0.8s
GHAJ **Ghor Haditha** 87.19 301 IAmb IAmb 16 22 41.7
comp=Z,39nm,0.8s
PNL **Peninsula** 87.24 30 P P 16 22 39.8 -0.1
baz=277
M29M **Somme Creek** 87.33 28 P P 16 22 41.4 +1.0
baz=278
L29M **L29M** 87.39 27 IAmb IAmb 16 22 46.8
comp=Z,12nm,0.7s
L29M **L29M** 87.39 27 P P 16 22 41.3 +0.7

baz=278,SNR=10
YUK4 **Talbot Arm** 87.39 29 P P 16 22 41.5 +0.7
baz=278
BZK **Bozkurt** 87.43 312 ⇑P P 16 22 39.9 -1.2
EPYK **Eagle Plains** 87.50 24 P P 16 22 41.1 +0.1
baz=279
K29M **Barlow Dome** 87.55 26 P P 16 22 41.8 +0.4
baz=278
O29M **Mount Kennedy** 87.56 30 P P 16 22 41.2 -0.3
baz=278
YUK6 **Outpost Mounta** 87.58 29 P P 16 22 42.1 +0.3
baz=278
G30M **tAoh Zraii Nji** 87.59 23 P P 16 22 42.6 +1.2
baz=280
F30M **Barrier River** 87.65 22 IAmb IAmb 16 23 37.8
comp=Z,16nm,0.9s
F30M **Barrier River** 87.65 22 P P 16 22 42.0 +0.4
baz=280
KIRS **Kirsehir-Merke** 87.78 309 ⇑P P 16 22 41.5 -1.5
I30M **Mount Dempster** 87.82 25 P P 16 22 42.6 -0.1
baz=280
BR131 **Keskin Array S** 87.93 310 IAmb IAmb 16 22 44.8
comp=Z,35nm,0.9s
BR131 **Keskin Array S** 87.93 310 P P 16 22 42.1 -1.7
SNR=29
BR131 **Keskin Array S** 87.93 310 *c iP P 16 22 41.8 -2.0
BRTR **Keskin Array B** 87.93 310 P P 16 22 42.3 -1.4
BRTR **Keskin Array B** 87.93 310 P P 16 22 42.0 -1.7
comp=Z,23nm,0.8s,baz=115,slow=4.1,SNR=86
comp=Z,23nm,0.8s
BRTR **Keskin Array B** 87.93 310 *i* P P 16 22 42.0 -1.7
BRTR pmax pmax
comp=Z,27nm,0.9s
J30M **Hart River** 87.95 25 P P 16 22 44.2 +0.9
baz=280
HYT **Haines Junctio** 88.01 29 P P 16 22 44.2 +0.6
baz=279
ARA0 **ARCESS Array S** 88.03 340 *e*P P 16 22 42.8 -0.7
ARCES **ARCESS Array B** 88.03 340 P P 16 22 42.7 -0.7
ARCES IAmb IAmb 16 22 44.2
comp=Z,31nm,0.9s
ARCES **ARCESS Array B** 88.03 340 P P 16 22 42.5 -0.9
comp=Z,13nm,0.7s,baz=82,slow=7.2,SNR=50
ARCES PKKPbc **PKKPbc** 16 40 27.9 -3.1
comp=Z,0.8nm,0.5s,baz=285,slow=2.4,SNR=7.0
comp=Z,13nm,0.7s
ARCES **ARCESS Array B** 88.03 340 P P 16 22 42.7 -0.7
ARCES pmax pmax
comp=Z,31nm,1.0s
M30M **Minto, Yukon** 88.07 27 P P 16 22 44.4 +0.6
baz=279
P29M **Windy Craggy** 88.08 30 P P 16 22 43.9 0.0
baz=278
SPB2 **Spitsbergen Ar** 88.09 349 IAmb IAmb 16 22 45.8
comp=Z,18nm,0.8s
SPA0 **Spitsbergen Ar** 88.09 349 *e*P P 16 22 43.4 -0.2
SPITS **Spitsbergen Ar** 88.09 349 P P 16 22 42.5 -1.1
comp=Z,15nm,0.7s,baz=88,slow=7.8,SNR=30
comp=Z,15nm,0.7s
SPITS **Spitsbergen Ar** 88.09 349 P P 16 22 43.4 -0.2
SPITS pmax pmax
comp=Z,54nm,1.4s
KIBK **Kibwezi** 88.10 267 P P 16 22 42.8 -2.2
KIBK IAmb IAmb 16 22 46.4
comp=Z,23nm,0.9s
KIBK **Kibwezi** 88.10 267 P P 16 22 44.7 -0.3
N30M **Aishikik Lake** 88.11 28 P P 16 22 44.5 +0.4
baz=279
MAYO **Mayo, Yukon** 88.31 26 P P 16 22 45.5 +0.6
baz=280
INK **Inuvik** 88.36 21 P P 16 22 45.7 +0.8
baz=282
G31M **Satah River** 88.36 23 P P 16 22 45.1 +0.1
baz=281
P30M **Million Dollar** 88.39 30 P P 16 22 45.8 +0.4
baz=279
HAMF **Hammerfest** 88.39 341 *e*P P 16 22 44.2 -0.9
F31M **Tsiigehtchic** 88.45 22 P P 16 22 45.3 -0.1
baz=282
H31M **Peel River** 88.55 24 P P 16 22 46.1 +0.2
H31M IAmb IAmb 16 23 37.5
comp=Z,30nm,1.5s
H31M **Peel River** 88.55 24 P P 16 22 46.2 +0.2
baz=281
ANTO **Ankara** 88.56 310 P P 16 22 44.0 -2.7
ANTO IAmb IAmb 16 22 46.1
comp=Z,16nm,0.8s
ANTO **Ankara** 88.56 310 P P 16 22 45.4 -1.3
ANTO **Ankara** 88.56 310 ⇑P P 16 22 45.3 -1.3
ANTO **Ankara** 88.56 310 P P 16 22 44.0 -2.7
ANTO pmax pmax
comp=Z,15nm,0.8s
KBS **Kingsbay** 88.62 350 P P 16 22 45.4 -0.6
KBS IAmb IAmb 16 23 49.2
comp=Z,21nm,0.6s
KBS **Kingsbay** 88.62 350 P P 16 22 45.4 -0.6
KBS pmax pmax
comp=Z,21nm,0.6s
CSS **Mathiatis** 88.69 305 IAmb IAmb 16 22 47.4
comp=Z,30nm,0.8s
O30N **Mendenhall** 88.71 29 P P 16 22 46.8 0.0
baz=280
N31M **Braeburn, Yuko** 88.73 28 P P 16 22 46.9 0.0
baz=280
KMBO **Kilima Mbogo** 88.76 269 *d iP P 16 22 48.6 +0.3
KTK1 **Kautokeino** 88.93 339 *e*P P 16 22 47.1 -0.6
S31K **Pelican** 89.12 32 P P 16 22 48.1 -0.6
baz=280
M31M **Drury Creek, Y** 89.24 28 P P 16 22 49.1 -0.2
baz=281
WHY **Whitehorse** 89.31 29 IAmb IAmb 16 22 58.5
comp=Z,12nm,0.8s
WHY **Whitehorse** 89.31 29 P P 16 22 49.9 +0.1
baz=281
FINES **FINESS Array B** 89.44 332 P P 16 22 49.0 -1.2
comp=Z,28nm,0.6s,baz=60,slow=5.4,SNR=112
comp=Z,28nm,0.6s
FINES **FINESS Array B** 89.44 332 *i* P P 16 22 49.0 -1.2
FINES pmax pmax
comp=Z,28nm,0.6s
AKASG **Malin Array Be** 89.60 321 P P 16 22 49.4 -1.7
AKASG **Malin Array Be** 89.60 321 P P 16 22 49.5 -1.7
comp=Z,13nm,0.8s,baz=74,slow=3.9,SNR=29
comp=Z,13nm,0.8s
AKASG **Malin Array Be** 89.60 321 *i* P P 16 22 49.5 -1.7
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKBB **Malin Array Si** 89.60 321 IAmb IAmb 16 22 52.0
comp=Z,16nm,0.8s
AKBB **Malin Array Si** 89.60 321 *d iP P 16 22 49.7 -1.5
KIEV **Kiev** 89.61 321 P P 16 22 50.0 -1.1
KIEV IAmb IAmb 16 22 52.1
comp=Z,15nm,0.8s
KIEV **Kiev** 89.61 321 ⇑P P 16 22 49.6 -1.6
KIEV **Kiev** 89.61 321 P P 16 22 50.1 -1.1
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV **Kiev** 89.61 321 *i* P P 16 22 49.7 -1.5
SNR=16
VSU **Vasula** 89.69 329 *ce*P P 16 22 49.0 -2.4
VSU pmax pmax
comp=Z,36nm,0.8s
JETT **Jettan, Norway** 89.76 340 *e*P P 16 22 50.6 -0.9
SIT **Sitka** 89.76 33 P P 16 22 52.0 +0.2
baz=281
MNK **Minsk** 89.78 325 *i* P P 16 22 51.3 -0.6
MNK *i* *PP **pP** 16 23 29.2 -1.4
MNK *i* 16 26 25.4
MNK *i* PPP PPP 16 28 23.1
MNK *i* 16 33 03.2
MNK *i* SS SS 16 39 32.1 +1.1
MNK *i* SSS SSS 16 43 09.1
MNK pmax pmax
comp=N,22nm,1.1s
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=Z,59nm,0.9s
SAHE **Sakarya_HENDEK** 89.91 311 ⇑P P 16 22 51.4 -1.5
R32K **Eaglecrest** 89.95 31 P P 16 22 52.5 -0.1
baz=281
A36M **Sachs Harbour** 90.06 17 P P 16 22 52.5 -0.3
baz=290
N32M **Quiet Lake** 90.07 28 P P 16 22 52.5 -0.7
baz=282
S32K **Killisnoo** 90.08 32 P P 16 22 52.9 -0.3
baz=281
P32M **Atlin** 90.10 30 P P 16 22 52.0 -1.3
baz=282
TRO **Tromso** 90.23 340 *e*P P 16 22 51.5 -2.2
P33M **Teslin, Yukon** 90.41 29 P P 16 22 54.7 -0.1
baz=283
ISP **Isparta** 90.58 308 *ce*P P 16 22 53.5 -2.7
ISP pmax pmax
comp=Z,19nm,0.8s
SORM **Soroca** 90.58 318 ⇑P P 16 22 53.8 -1.9
SORM **Soroca** 90.58 318 P P 16 22 53.8 -1.9
Q32M **Nakina River** 90.96 30 P P 16 22 56.5 -1.1
baz=283
TPGR **Topolog** 91.08 315 ⇓P P 16 22 57.4 -0.8
U33K **Whale Pass** 91.14 33 P P 16 22 57.7 -0.5
baz=282
CFR **Carcaliu** 91.22 315 ⇑P P 16 22 57.3 -1.5
CFR **Carcaliu** 91.22 315 P P 16 22 57.3 -1.5
CRAG **Craig** 91.28 34 P P 16 22 58.2 -0.6
baz=282
WRAK **Wrangell Islan** 91.50 33 P P 16 22 59.5 -0.3
baz=283
R33M **Jennings River** 91.51 30 P P 16 23 00.6 +0.6
baz=284
S34M **Telegraph Cree** 91.79 31 P P 16 23 01.0 -0.2
baz=284
TESR **Tescani** 92.01 317 ⇑P P 16 23 00.7 -1.8
BAND **Balkesir-Ban** 92.06 311 ⇑P P 16 23 01.6 -1.3
STEI **Steigen** 92.07 339 *e*P P 16 23 01.0 -1.2
VRI **Vrincioaia** 92.07 316 ⇑P P 16 23 01.5 -1.3
VRI **Vrincioaia** 92.07 316 P P 16 23 02.2 -0.6
PLOR **Plostina** 92.13 316 ⇓P P 16 23 01.6 -1.5
PLOR **Plostina** 92.13 316 P P 16 23 01.5 -1.5
BISRR **Bisoca** 92.15 316 ⇑P P 16 23 01.7 -1.5
ONER **Baraj Valea Uz** 92.21 317 ⇑P P 16 23 02.8 -0.7
TGTN **Hyland Airport** 92.22 27 P P 16 23 02.7 -0.5
baz=287
DLBC **Dease Lake** 92.22 31 P P 16 23 02.4 -0.8
baz=285
FAUS **Fauske** 92.26 339 *e*P P 16 23 00.9 -2.2
NEHR **Nehoiu** 92.45 316 ⇑P P 16 23 04.0 -0.6
T35M **Bob Quinn** 92.48 32 P P 16 23 04.9 +0.5
baz=285
SUW **Suwalki** 92.59 325 *e*P P 16 23 04.0 -0.9
MLR **Muntele Rosu** 92.69 316 IAmb IAmb 16 23 07.6
comp=Z,19nm,0.9s
MLR **Muntele Rosu** 92.69 316 LR LR 17 07 52.1
comp=Z,119nm,21.6s,baz=82,slow=37
MLR **Muntele Rosu** 92.69 316 ⇑P P 16 23 04.5 -1.3
MLR **Muntele Rosu** 92.69 316 P P 16 23 04.9 -0.9
BURAR **Bucovina Array** 92.75 318 ⇑P P 16 23 05.0 -1.0
BURAR **Bucovina Array** 92.75 318 P P 16 23 05.0 -1.0
MOR8 **Moi Rana** 93.02 338 *e*P P 16 23 04.4 -2.3
ELND **Elena** 93.23 314 ⇑P P 16 23 06.0 -2.2
STOK **Stokkvaagen** 93.49 338 *e*P P 16 23 08.2 -0.6
EZN **Ezine** 93.49 310 ⇑P P 16 23 08.1 -1.3
EZN **Ezine** 93.49 310 P P 16 23 08.1 -1.3
LEIR **Leirfjorden** 93.54 338 *e*P P 16 23 08.7 -0.3
TNR **Turnu Rosu** 93.80 316 ⇑P P 16 23 09.5 -1.3
TNR **Turnu Rosu** 93.80 316 P P 16 23 09.5 -1.3
KWP **Kalwaria Pacla** 93.92 321 *e*P P 16 23 10.8 -0.4
SYO **Syowa Base** 94.24 201 ⇑*e*P P 16 23 12.7 +0.6
SYO **Syowa Base** 94.24 201 ⇓*e*PcP PcP 16 23 14.0 +1.5
SYO **Syowa Base** 94.24 201 ⇑*e*pP pP 16 23 51.0 +0.7
MARR **Marisel-Cluj** 94.35 318 ⇑P P 16 23 12.6 -0.8
KOLS **Kolonicke sedl** 94.37 320 *e*P P 16 23 12.2 -1.1
KOLS **Kolonicke sedl** 94.37 320 *e*P P 16 23 12.2 -1.1
TOAD **Toad River Com** 94.49 30 P P 16 23 14.2 +0.6
baz=289
BEL **Belsk** 94.54 323 *e*P P 16 23 14.2 +0.3
NSS **Namsos** 94.62 337 *e*P P 16 23 11.7 -2.3
KOTAN **Kotaneelee Air** 94.62 28 P P 16 23 14.2 +0.1
baz=290
GZR **Gura Zlata** 94.88 316 ⇓P P 16 23 14.3 -1.5
GZR **Gura Zlata** 94.88 316 P P 16 23 14.3 -1.5
DAG **Danmarks Havn** 94.89 352 *i* P P 16 23 13.2 -1.9
STHS **Stebnicka Huta** 94.90 321 *e*P P 16 23 15.2 -0.5
STHS **Stebnicka Huta** 94.90 321 *e*P P 16 23 15.2 -0.5
HERR **Herculane** 95.25 316 ⇑P P 16 23 16.2 -1.2
SIRR **Siria** 95.43 318 ⇑P P 16 23 17.2 -1.0
NIE **Niedzica** 95.49 321 *e*P P 16 23 17.6 -0.8
OJC **Ojcow** 95.58 322 *e*P P 16 23 17.9 -0.9
HFS **Hagfors** 95.62 332 P P 16 23 17.3 -1.4
comp=Z,9.6nm,0.7s,baz=92,slow=4.3,SNR=32
comp=Z,9.6nm,0.7s
BZS **Buzias** 95.62 317 ⇑P P 16 23 17.5 -1.5
BZS **Buzias** 95.62 317 P P 16 23 17.5 -1.5
MDVR **Moldovita** 95.76 316 ⇑P P 16 23 18.2 -1.6
QSPA **South Pole Qui** 95.91 180 P P 16 23 20.6 +0.7
QSPA IAmb IAmb 16 24 25.2
comp=Z,13nm,1.2s
QSPA **South Pole Qui** 95.91 180 P P 16 23 18.5 -1.5
comp=Z,3.7nm,0.8s,baz=176,slow=1.1,SNR=25
comp=Z,3.7nm,0.8s
BOVS **Bovan** 96.05 315 ⇓P P 16 23 19.6 -1.4
NC303 **NORSAR Array S** 96.24 334 IAmb IAmb 16 23 21.5
comp=Z,14nm,0.8s
NB201 **NORSAR Array S** 96.34 334 IAmb IAmb 16 23 21.9
comp=Z,16nm,1.0s
NC602 **NORSAR Array S** 96.36 333 *e*P P 16 23 21.2 -0.8
NB2 **NORSAR Subarra** 96.38 334 P P 16 23 20.4 -1.8
comp=Z,11nm,0.8s,baz=65,slow=4.6
NB2 **NORSAR Subarra** 96.38 334 P P 16 23 20.4 -1.8
baz=65,slow=4.6
NOA **NORSAR Array B** 96.38 334 P P 16 23 20.4 -1.8
comp=Z,8.7nm,0.7s,baz=66,slow=4.6,SNR=52
NOA LR LR 17 11 43.5
comp=Z,51nm,18.4s,baz=100,slow=38
comp=Z,8.7nm,0.7s
NAO01 **NORSAR Array S** 96.61 333 IAmb IAmb 16 23 23.4
comp=Z,16nm,0.8s
NEEM **North Greenlan** 96.64 359 *i* P P 16 23 24.3 +0.9
VYHS **Vyhne** 96.68 320 *i* P P 16 23 23.3 -0.5
VYHS **Vyhne** 96.68 320 *e*PDIFF P 16 23 23.3 -0.5
STEB **Steborice** 96.92 322 *e*PDIFF P 16 23 24.9 +0.1
OSL **Oslo** 97.07 333 *e*P P 16 23 24.7 -0.5
MORC **Moravsky Berou** 97.11 322 *e*P P 16 23 24.8 -0.9
DBG **Daneborg** 97.16 351 *i* P P 16 23 19.0 -6.4
JAVC **Velka Javorina** 97.31 321 *e*P Pdif 16 23 28.0 +1.3
JMIC **Jan Mayen** 97.45 346 LR LR 17 12 03.4
comp=Z,52nm,19.6s,baz=244,slow=38
MORH **Mrgy, Hungar** 97.46 318 ⇑P P 16 23 25.8 -1.5
KSP **Ksiaz** 97.53 323 *e*P P 16 23 27.2 -0.4
DPC **Dobruska-Polom** 97.67 322 *i* P P 16 23 27.9 -0.4
DPC **Dobruska-Polom** 97.67 322 *e*PDIFF P 16 23 27.9 -0.4
EGRIP **EGRIP Drilling** 97.78 356 *i* P Pdif 16 23 29.6 +1.0
SKAR **Skarslia** 97.82 334 *e*P P 16 23 28.4 -0.3
VRAC **Vranov** 97.84 321 LR LR 17 10 01.8
comp=Z,89nm,20.2s,baz=46,slow=37
VRAC **Vranov** 97.84 321 *e*P P 16 23 28.6 -0.4
KRUC **Moravsky** 98.04 321 *e*P P 16 23 29.1 -0.8
TREC **Trest** 98.53 322 *i* P P 16 23 32.1 0.0
TREC **Trest** 98.53 322 *e*PDIFF P 16 23 32.1 0.0
RONA **Rosalia, Austr** 98.54 320 *i* Pdiff P 16 23 31.7 -0.5
comp=Z,0.7nm,0.6s
BRG **Berggiesshubel** 98.92 323 ⇓*e*Pif 16 23 33.8
BRG Amp 16 23 34.7
comp=Z,9.9nm,0.9s
BRG **Berggiesshubel** 98.92 323 Amp 16 24 31.2
comp=Z,5.1nm,1.0s
BRG **Berggiesshubel** 98.92 323 P Pdif 16 23 39.8 +6.1
BRG **Berggiesshubel** 98.92 323 Amp 16 23 42.2
comp=Z,2.5nm,0.8s
BRG **Berggiesshubel** 98.92 323 ⇓pPif 16 24 13.9
BRG **Berggiesshubel** 98.92 323 Amp 16 24 15.7
comp=Z,2.8nm,0.8s
BRG **Berggiesshubel** 98.92 323 ⇓sPif 16 24 29.8
ARSA **Arzberg** 99.18 320 *i* Pdiff **Pdif** 16 23 34.5 -0.6
comp=Z,1.2nm,0.7s
BLS5 **Blasjo** 99.23 333 *e*P **Pdif** 16 23 33.8 -1.2
ZVC **Zvikov** 99.28 322 *e*PDIFF **Pdif** 16 23 35.1 -0.3
CLL **Collm** 99.31 324 *i* P **Pdif** 16 23 34.9 -0.6
CLL pmax pmax
comp=Z,11nm,1.3s
CLL **Collm** 99.31 324 *es*Pdif sP 16 24 29.0 -1.5
CLL **Collm** 99.31 324 *i* Pdif **Pdif** 16 23 34.9 -0.6
comp=Z,11nm,1.3s
CLL **Collm** 99.31 324 *ep*Pdif pP 16 24 13.0 -1.4
CKRC **Cesky Krumlov** 99.42 321 *i* P **Pdif** 16 23 36.0 -0.1
CKRC **Cesky Krumlov** 99.42 321 *e*PDIFF **Pdif** 16 23 36.0 -0.1
SOKA **Soboth** 99.69 319 *i* Pdiff **Pdif** 16 23 36.8 -0.6
comp=Z,1.7nm,0.7s
KHC **Kasperske Hory** 99.76 322 ⇑*e*P **Pdif** 16 23 36.9 -0.7
KHC pmax pmax
comp=Z,15nm,3.4s
KHC **Kasperske Hory** 99.76 322 *e*PDIFF **Pdif** 16 23 37.5 -0.1
MOA **Molln** 99.78 321 *i* Pdiff **Pdif** 16 23 37.5 -0.2
comp=Z,2.8nm,0.7s
GERES **GERESS Array B** 99.79 322 P **Pdif** 16 23 37.3 -0.5
comp=Z,3.0nm,0.8s,baz=66,slow=3.2,SNR=17
GERES SKiKP **SKiKP** 16 31 27.1 +0.8
comp=Z,0.8nm,0.7s,baz=40,slow=2.3,SNR=4.3
comp=Z,3.0nm,0.8s
MYKA **Terra Mystica** 100.61 320 *e*Pdiff **Pdif** 16 23 40.7 -0.8
comp=Z,0.9nm,0.6s
LESA **Schwarzleotal** 100.94 321 *i* Pdiff **Pdif** 16 23 41.9 -1.1
comp=Z,2.4nm,0.7s
ABTA **Abfaltersbach** 101.29 320 *e*Pdiff **Pdif** 16 23 43.3 -1.3
comp=Z,0.3nm,0.5s
WTTA **Wattenberg** 101.66 321 *i* Pdiff **Pdif** 16 23 45.2 -1.1
comp=Z,2.4nm,0.7s
WATA **Walderalm** 101.67 321 *e*Pdiff **Pdif** 16 23 45.3 -1.0
comp=Z,2.3nm,0.6s
SQTA **Sankt Quirin** 101.94 321 *i* Pdiff **Pdif** 16 23 46.6 -0.9
comp=Z,1.3nm,0.6s
MOTA **Moosalm** 101.96 321 *i* Pdiff **Pdif** 16 23 46.9 -0.7
comp=Z,2.2nm,0.8s
FETA **Feichten** 102.32 321 *i* Pdiff **Pdif** 16 23 48.1 -1.1
comp=Z,1.8nm,0.7s
EKA **Eskdalemuir Ar** 105.82 333 Pdiff **Pdif** 16 24 04.6 +0.2
comp=Z,0.8nm,0.8s,baz=51,slow=3.3,SNR=4.8
NVAR **Mina Array Bea** 106.00 47 Pdiff **Pdif** 16 24 06.6 +0.7
comp=Z,0.9nm,0.6s,baz=295,slow=5.3,SNR=5.4
NVAR PKKPbc **PKKPbc** 16 39 40.9 -0.2
comp=Z,2.0nm,0.7s,baz=132,slow=4.3,SNR=14
SNAA **Sanae** 107.19 195 PP **PP** 16 28 37.4 -1.1
comp=Z,2.9nm,1.0s,baz=72,slow=7.2,SNR=3.3
KEST **Kesra** 107.52 310 PP **PP** 16 28 42.8 +0.9
comp=Z,3.2nm,0.9s,baz=9.8,slow=5.2,SNR=6.4
PDAR **Pinedale Array** 110.18 40 PP **PP** 16 29 03.1 +2.2
comp=Z,1.0nm,0.9s,baz=299,slow=8.6,SNR=4.8
PDAR PKKPbc **PKKPbc** 16 39 25.7 -2.5
comp=Z,1.0nm,0.7s,baz=130,slow=4.4,SNR=9.2
ESDC **Sonseca Array** 115.19 319 PKP **PKiKP** 16 28 34.3 -0.2
comp=Z,0.6nm,0.8s,baz=40,slow=2.5,SNR=4.4
ESDC PP **PP** 16 29 34.2 -2.2
comp=Z,0.7nm,0.8s,baz=48,slow=5.0,SNR=4.7
SCHQ **Schefferville** 118.45 8 PKP **PKiKP** 16 28 40.4 +0.1
comp=Z,1.2nm,0.4s,baz=353,slow=2.7,SNR=5.4
TXAR **Lajitas Array** 120.84 51 PKP **PKiKP** 16 28 46.4 +0.6
comp=Z,0.7nm,0.7s,baz=233,slow=1.5,SNR=11
TXAR SKP 16 32 07.9
comp=Z,1.3nm,0.8s,baz=306,slow=0.7,SNR=5.7
TXAR PKKPbc **PKKPbc** 16 38 50.0 -0.7
comp=Z,1.2nm,0.8s,baz=142,slow=6.5,SNR=11
TORD **Torodi Ar. Bea** 121.40 289 PKP **PKPdf** 16 28 46.1 -0.9
comp=Z,2µm,0.4s,baz=35,slow=2.7,SNR=5.3
JCT **Junction City** 123.18 48 **PKiKP** 16 28 51.3 +0.9
JCT **Junction City** 123.18 48 PKiKP **PKiKP** 16 28 51.3 +0.9
R40A **Maddies Statio** 123.45 36 **PKiKP** 16 28 50.6 0.0
P53A **Whipple** 128.18 27 **PKiKP** 16 29 00.9 +0.9
DBIC **Dimbokro** 129.26 284 **PKiKP** 16 29 02.9 +0.1
DBIC **Dimbokro** 129.26 284 PKP **PKPdf** 16 29 01.8 -0.3
comp=Z,27nm,0.8s,baz=90,slow=2.1,SNR=19
DBIC SKPbc SKPab 16 32 08.9 +0.2
comp=Z,34nm,0.8s,baz=102,slow=4.4,SNR=15
DBIC **Dimbokro** 129.26 284 PKiKP **PKiKP** 16 29 02.9 +0.1
PLCA **Paso Flores** 142.42 159 PKP **PKPdf** 16 29 23.3 -2.6
comp=Z,2.6nm,0.7s,baz=196,slow=4.9,SNR=9.9
PLCA SKPbc **SKiKP** 16 32 50.5 -0.4
comp=Z,7.1nm,0.8s,baz=207,slow=3.3,SNR=11
ACON **Acoyapa** 144.31 60 **PKPdf** 16 29 29.8 0.0
TRQA **Tornquist** 147.31 168 **PKPbc** 16 29 37.8 +1.0
TRQA **Tornquist** 147.31 168 PKP2 **PKPbc** 16 29 37.8 +1.0
BO02 **Sierra Bellavi** 147.49 154 **PKiKP** 16 29 39.1 -0.4
BO01 **Tunca** 147.69 153 **PKPbc** 16 29 37.7 -0.3
MT02 **Curacav** 148.61 152 **PKiKP** 16 29 41.4 -0.4
CPUP **Villa Florida** 159.56 172 PKPab **PKPab** 16 30 32.4 +1.7
comp=Z,1.6nm,0.8s,baz=51,slow=4.0,SNR=7.9
LPAZ **La Paz** 162.88 128 PKP **PKPdf** 16 29 57.5 +1.0
comp=Z,1.8nm,0.8s,baz=6.7,slow=2.5,SNR=5.7
LPAZ PKPab **PKPab** 16 30 48.2 +1.8
comp=Z,12nm,0.8s,baz=228,slow=2.7,SNR=18
BDFB **Brasilia** 168.72 212 PKPab **PKPab** 16 31 11.9 +0.5
comp=Z,15nm,0.8s,baz=119,slow=3.4,SNR=14
SDBA **SAO DESIDERIO** 168.91 234 *e*P **PKPdf** 16 30 00.2 -0.5

AUST 02 16:11:12.0±0.5, 20°S±3°×13°4E±°, h10km, mb3.3/3, ML2.8/6, ML3.6/3, Error ellipse: s-maj=7.2km s-min=7.1km az=150.4, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB2	**Warramunga Arr**	**0.48**	**119**	P	Pg	16 11 21.5	+0.2
WB2				S	Sg	16 11 27.7	+0.1
AS31	**Alice Springs**	**3.93**	**180**	P	Pn	16 12 14.0	+1.5
AS31	**Alice Springs**	**3.93**	**180**	S	Sn	16 12 58.9	+0.1
AUALC	**St Philip's Co**	**3.96**	**180**	P	Pn	16 12 14.4	+1.6
AUALC	**St Philip's Co**	**3.96**	**180**	S	Sn	16 13 02.3	+2.9
QIS	**Mount Isa**	**5.42**	**100**	P	Pn	16 12 34.1	+1.2
KDU	**Kakadu**	**7.12**	**349**	P	Pn	16 12 56.7	+0.4
	comp=Z,1597µmcomp=Z,1.7nmcomp=Z,18nm,2.0s						
WRKA	**Warakurna**	**7.42**	**223**	P	Pn	16 12 58.2	-2.2
	comp=Z,0.0nmcomp=Z,14µmcomp=Z,2.8nm,1.4s						
OOD	**Oodnadatta**	**8.21**	**169**	P	Pn	16 13 11.6	+0.4
	comp=Z,0.0nmcomp=Z,2.9nm,2.9s						
MULG	**Mulgathing**	**10.53**	**179**	P	Pn	16 13 43.1	+0.1
FORT	**Forrest**	**12.22**	**204**	P	Pn	16 14 03.6	-2.5

JMA 02 16:15:23.4±0.1, 34°1N±0°1×135°2E±0°2, h2km, MV0.7/15, NW WAKAYAMA PREF, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.25**	**145**	P	Pg	16 15 28.6	+0.3
JWM				S	Sg	16 15 32.1	+0.6
JWY	**Kouya**	**0.38**	**65**	P	Pg	16 15 30.8	+0.1
JWY				S	Sg	16 15 36.8	+1.1
JTNC	**Tanabenakahech**	**0.43**	**123**	S	Sg	16 15 38.0	+0.7

ATH 02 16:20:58.0, 37°58N×20°65E, h10km±1km, ML2.3/13, Manual Solution by D.Makaris First location: 2019/08/02 16:22:10, This location: 2019/08/02 17:10:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.16**	**59**	P	Pg	16 21 01.8	+0.3
KRI1				S	Sg	16 21 04.0	+0.1
LTHK	**Lithakia**	**0.20**	**50**	P	Pg	16 21 02.3	+0.1
LTHK				S	Sg	16 21 04.9	-0.1
ORTH	**Orthonies,Zaky**	**0.27**	**8**	P	Pg	16 21 03.6	+0.1
ORTH				S	Sg	16 21 07.4	+0.1
KYPS	**Kipseli, Zakin**	**0.28**	**31**	P	Pg	16 21 04.0	+0.4
KYPS				S	Sg	16 21 07.7	+0.4
CLEM	**Kyllini,Ilia,G**	**0.49**	**51**	P	Pg	16 21 07.7	+0.1
CLEM				S	Sg	16 21 14.3	+0.1
PSDA	**Pessada-Kefalo**	**0.53**	**355**	P	Pg	16 21 08.3	-0.1
PSDA				S	Sg	16 21 15.8	+0.3
VLS	**Valsamata**	**0.60**	**356**	P	Pg	16 21 09.2	-0.4
VLS				S	Sg	16 21 17.8	+0.3
DMLN	**Damoulianata-K**	**0.69**	**342**	P	Pg	16 21 11.7	+0.3
DMLN				S	Sb	16 21 21.2	-0.6
YRMI	**Loutra Irminis**	**0.76**	**47**	P	Pg	16 21 12.2	-0.5
YRMI				S	Sg	16 21 22.5	-0.2
RLS	**Riolos of Patr**	**0.81**	**54**	P	Pg	16 21 13.1	-0.5
RLS				S	Sg	16 21 24.4	+0.3
AXS	**Araxos**	**0.84**	**43**	P	Pg	16 21 13.5	-0.8
AXS				S	Sb	16 21 25.8	-0.3
AMT	**Artemida-Makis**	**0.85**	**93**	P	Pg	16 21 14.4	+0.1
AMT				S	Sb	16 21 26.0	-0.3
FSK	**Fiskardo**	**0.88**	**356**	P	Pg	16 21 14.8	-0.1
FSK				S	Sb	16 21 27.1	0.0
DRO	**Drossia**	**0.92**	**66**	P	Pg	16 21 15.9	+0.1
EVGI	**Lefkada island**	**1.04**	**0**	P	Pn	16 21 18.6	0.0
PYL2	**Kinigos**	**1.09**	**128**	P	Pn	16 21 19.5	+0.1
ITM	**Ithomi**	**1.10**	**111**	P	Pn	16 21 19.8	+0.4
NYDR	**Nydri-Lefkada**	**1.13**	**2**	P	Pn	16 21 20.0	+0.1
LKD2	**Lefkada island**	**1.21**	**0**	P	Pn	16 21 21.3	+0.2
PVO	**Paravola**	**1.25**	**34**	P	Pn	16 21 21.4	-0.1
KLV	**Kalavryta, Ach**	**1.28**	**68**	P	Pn	16 21 21.8	-0.2
GUR	**Goura**	**1.39**	**75**	P	Pb	16 21 24.1	-0.1

SERG	**Sergoula**	**1.39**	**53**	P		Pn	16 21 23.1	-0.4
ANX	**Ano Chora**	**1.43**	**44**	P		Pb	16 21 24.4	-0.3
AGG	**Agios Georgios**	**1.96**	**42**	P		Pn	16 21 31.5	+0.2

RHSSO 02 16:21:36.0±0.6, 44.75N×15.44E, h4km, ML1.4/5, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIT	**Plitvice**	**0.18**	**47**	Pg	Pg	16 21 41.2	+1.6
PLIT				Sg	Sg	16 21 43.5	+1.5
UDBI	**Udbina**	**0.33**	**134**	Pg	Pg	16 21 42.7	+0.4
UDBI				Sg	Sg	16 21 46.2	-0.3
NVLJ	**Novalja**	**0.45**	**245**	Pg	Pn	16 21 49.6	+0.5
NVLJ				Sg	Sb	16 21 58.9	+5.5
VIRC	**Vir**	**0.54**	**211**	Pg	Pn	16 21 50.7	+0.3
VIRC				Sg	Sn	16 21 59.3	-0.6
DUGI	**Dugi Otok**	**0.81**	**200**	Pg	Pn	16 21 54.4	+0.2
DUGI				Sg	Sn	16 22 07.4	+0.8
A050A	**Klekovaca**	**0.83**	**109**	*e*Pg	Pg	16 21 50.9	-1.0
A050A				*e*Sg	Sg	16 22 02.6	0.0
OZLJ	**Ozalj**	**0.86**	**1**	*e*Pg	Pg	16 21 51.0	-1.5
OZLJ				*e*Sg	Sg	16 22 03.8	+0.1
MORI	**Morici**	**0.91**	**168**	Pg	Pn	16 21 55.9	+0.4
MORI				Sg	Sb	16 22 07.8	+1.0
KIJV	**Kijevo**	**1.02**	**137**	*e*Pg	Pg	16 21 54.1	-1.5
KIJV				*e*Sg	Sg	16 22 08.8	0.0
A051A	**Mrakovica**	**1.08**	**76**	*e*Pg	Pg	16 21 55.4	-1.2
A051A				*e*Sg	Sg	16 22 09.7	-0.9
ZIRJ	**Zirje**	**1.11**	**172**	Pg	Pn	16 21 59.3	+1.0
ZIRJ				Sg	Sn	16 22 14.6	+0.6
BLY	**Banja Luka**	**1.24**	**90**	*e*Pg	Pg	16 21 58.3	-1.5
BLY				*e*Sg	Sg	16 22 15.0	-1.0
MOSL	**Moslavina**	**1.27**	**47**	*e*Sg	Sg	16 22 16.7	0.0

IDC 02 16:33:51.6±2.3, 6.70S×128.91E, h0km, mb3.6/1, mbtmp3.7/3, ML4.1/2, Error ellipse: s-maj=141.1km s-min=32.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.18**	**159**	Pn	Pn	16 37 13.2	-0.6
	0.9nm,0.3s,baz=341,slow=12,SNR=20						
WRA				Sn	Sn	16 39 40.6	-11
	0.7nm,0.3s,baz=338,slow=22,SNR=9.9 0.4nm,0.4s						
ASAR	**Alice Springs**	**17.54**	**165**	P	Pn	16 37 58.0	+0.3
	0.4nm,0.3s,baz=344,slow=11,SNR=44						
ASAR				S	Sn	16 41 01.6	-12
	0.3nm,0.4s,baz=328,slow=22,SNR=6.0 2.5nm,0.7s						
MKAR	**Makanchi Array**	**67.39**	**327**	P	P	16 44 48.9	0.0
	0.3nm,0.5s,baz=118,slow=8.1,SNR=2.8 0.3nm,0.5s						

*DJA **02** 17:08:50.4±0.5, 8˚S×4˚×10˚4E±˚, h10km, M4.4/17, mB5.1/1, mb4.5/6, MLv4.4/17, Mw(mB)4.4/1*
*IDC **02** 17:08:51.6±5.3, 7.68S×104.43E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=214.5km s-min=23.2km az=53.0*
ISC 02 17:08:55.4±1.2, 7.72S±0.10×103.9E±0.1, h35km, n24, σ1§86/24, mb3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**2.07**	**58**	P	**Pn**	**17 09 27.7**	**0.0**
KASI	**Kota Agung**	**2.25**	**15**	P	**Pn**	**17 09 28.8**	**-1.4**
KASI				S	**Sn**	**17 09 56.7**	**-0.1**
LWLI	**Liwa**	**2.69**	**3**	P	**Pn**	**17 09 35.4**	**-0.9**
LWLI				S	**Sn**	**17 10 08.2**	**+0.5**
SKJI	**Sukabumi**	**2.71**	**75**	P	**Pn**	**17 09 36.3**	**-0.1**
CNJI	**Cibinong**	**3.20**	**83**	P	**Pn**	**17 09 42.2**	**-1.1**
MDSI	**Maura Dua**	**3.22**	**5**	P	**Pn**	**17 09 42.5**	**-1.1**
MDSI				S	**Sn**	**17 10 22.1**	**+1.4**
MNAI	**Manna**	**3.47**	**344**	P	**Pn**	**17 09 44.0**	**-3.0**
LEM	**Lembang**	**3.77**	**77**	P	**Pn**	**17 09 50.7**	**-0.5**
LHSI	**Lahat**	**3.89**	**354**	P	**Pn**	**17 09 51.6**	**-1.1**
TPI	**Tanjungpandan**	**6.17**	**37**	P	**Pn**	**17 10 23.1**	**-1.0**
	0.1nm30nm,1.5s						
UGM	**Wanagama**	**6.54**	**92**	P	**Pn**	**17 10 28.3**	**-0.9**
	59nm,1.6s						
WOJI	**Wonogiri, Jawa**	**6.94**	**91**	P	**Pn**	**17 10 33.4**	**-1.2**
	0.4nm78nm,2.1s						
PCJI	**Pacitan**	**7.20**	**94**	P	**Pn**	**17 10 37.0**	**-1.2**
DSRI	**Dabo**	**7.22**	**5**	P	**Pn**	**17 10 34.6**	**-4.0**
PPI	**Padang Panjang**	**8.03**	**334**	P	**Pn**	**17 10 47.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**26.47**	**349**	P	**P**	**17 14 30.2**	**+0.8**
	0.5nm,0.5s,baz=162,slow=9.3,SNR=4.4 0.5nm,0.5s						
H08S2	**Diego Garcia H**	**31.15**	**268**	T	T	17 48 40.6	
	baz=87						
H08S3	**Diego Garcia H**	**31.16**	**268**	T	T	17 48 36.8	
	baz=87						
H08S1	**Diego Carcia H**	**31.16**	**268**	T	T	17 48 43.3	
	baz=87						
WRA	**Warramunga Arr**	**31.86**	**116**	P	**P**	**17 15 14.6**	**-2.9**
	0.7nm,0.6s,baz=290,slow=9.0,SNR=8.6 0.7nm,0.6s						
ASAR	**Alice Springs**	**32.82**	**122**	P	**P**	**17 15 23.4**	**-2.5**
	0.6nm,1.1s,baz=305,slow=9.9,SNR=4.4 0.6nm,1.1s						
SONM	**Songino Array**	**55.35**	**2**	P	**P**	**17 18 27.7**	**+1.8**
	0.4nm,0.4s,baz=179,slow=7.2,SNR=2.0 0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.59**	**343**	P	**P**	**17 18 44.0**	**+2.2**
	0.3nm,0.5s,baz=145,slow=8.4,SNR=1.7 0.3nm,0.5s						
TXAR	**Lajitas Array**	**146.30**	**47**	PKPbc	**PKPdf**	**17 28 33.9**	**+1.8**
	0.3nm,0.7s,baz=296,slow=2.7,SNR=4.7						

*DJA **02** 17:22:01.4±0.7, 7˚S×4˚×10˚6E±˚, h19km±5km, M4.6/28, mB5.1/5, mb4.7/10, MLv4.7/28, Mw(mB)4.5/5*
*IDC **02** 17:22:03.2±3.3, 7.16S×106.31E, h75km±28km, mb3.9/17, mbtmp4.2/18, Error ellipse: s-maj=35.8km s-min=11.7km az=56.0*
*NEIC **02** 17:22:04.7±2.0, 7.0S±0.1×106.61E±0.06, h88km±7km, mb4.4/33, Error ellipse: s-maj=16.2km s-min=7.2km az=199.0*
ISC 02 17:22:02.0±0.8, 7.30S±0.07×106.44E±0.05, h67km±7km, n107, σ1§75/102, mb4.3/27, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.31**	**21**	P	**Pn**	**17 22 13.5**	**+0.6**
SKJI				S	**Sn**	**17 22 20.8**	**0.0**
CNJI	**Cibinong**	**0.68**	**91**	P	**Pn**	**17 22 15.9**	**-0.5**
CNJI				S	**Sn**	**17 22 24.9**	**-2.1**
DBJI	**Dramaga**	**0.80**	**22**	P	**Pn**	**17 22 19.5**	**+1.7**
CGJI	**Cibinong**	**1.01**	**312**	P	**Pn**	**17 22 22.0**	**+1.6**
TNG	**Tangerang**	**1.14**	**10**	P	**Pn**	**17 22 24.3**	**+2.2**
SBJI	**Serang**	**1.21**	**345**	P	**Pn**	**17 22 25.6**	**+2.6**
LEM	**Lembang**	**1.26**	**68**	P	**Pn**	**17 22 24.8**	**+1.0**
	3µm,0.4s,baz=259,slow=22,SNR=122						
LEM				S	**Sn**	**17 22 44.2**	**+4.2**
	4µm,0.5s,baz=12,slow=11,SNR=13						
LEM	**Lembang**	**1.26**	**68**	P	**Pn**	**17 22 25.0**	**+1.2**
JCJI	**Jatiwangi**	**1.98**	**66**	P	**Pn**	**17 22 31.8**	**-1.5**
BLSI	**Bandar Lampung**	**2.26**	**328**	P	**Pn**	**17 22 39.6**	**+2.6**
KASI	**Kota Agung**	**2.62**	**312**	P	**Pn**	**17 22 45.4**	**+3.5**
KLI	**Kotabumi**	**2.89**	**327**	P	**Pn**	**17 22 50.0**	**+4.4**
LWLI	**Liwa**	**3.28**	**314**	P	**Pn**	**17 22 54.5**	**+3.4**
MDSI	**Maura Dua**	**3.59**	**321**	P	**Pn**	**17 22 58.8**	**+3.6**
SMRI	**Semarang**	**3.98**	**87**	Pn	**Pn**	**17 23 01.2**	**+0.7**
SMRI	**Semarang**	**3.98**	**87**	P	**Pn**	**17 23 02.7**	**+2.2**
UGM	**Wanagama**	**4.09**	**99**	Pn	**Pn**	**17 23 02.2**	**+0.1**
UGM				Sn	**Sn**	**17 23 47.2**	**-1.6**
UGM	**Wanagama**	**4.09**	**99**	P	**Pn**	**17 23 02.4**	**+0.3**
WOJI	**Wonogiri, Jawa**	**4.47**	**97**	P	**Pn**	**17 23 07.7**	**+0.4**
LHSI	**Lahat**	**4.51**	**320**	P	Pn	17 23 13.0	+5.2
MNAI	**Manna**	**4.53**	**310**	Pn	**Pn**	**17 23 10.2**	**+2.0**
MNAI				Sn	**Sn**	**17 23 58.6**	**-1.0**
MNAI	**Manna**	**4.53**	**310**	P	**Pn**	**17 23 11.1**	**+3.0**
TPI	**Tanjungpandan**	**4.67**	**15**	P	**Pn**	**17 23 12.6**	**+2.6**
PCJI	**Pacitan**	**4.78**	**101**	P	**Pn**	**17 23 11.8**	**+0.4**
PPBI	**Pangkal Pinang**	**5.11**	**357**	P	**Pn**	**17 23 19.1**	**+3.1**
KSI	**Kapahiang**	**5.27**	**313**	P	**Pn**	**17 23 21.1**	**+2.8**
	0.8nm100nm,0.8s						
GMJI	**Gumukmas**	**7.01**	**98**	P	**Pn**	**17 23 44.5**	**+2.5**
	0.3nm52nm,1.8s						
DSRI	**Dabo**	**7.02**	**345**	P	**Pn**	**17 23 46.5**	**+4.3**
	0.1nm27nm,0.6s						
JAGI	**Jajag, Banyuwa**	**7.73**	**99**		**Pn**	**17 23 53.9**	**+2.0**
JAGI				Sn	**Sn**	**17 25 16.0**	**-2.0**
JAGI	**Jajag, Banyuwa**	**7.73**	**99**	P	**Pn**	**17 23 53.8**	**+2.0**
	0.3nm51nm,0.8s						
PPSI	**Pulau Pagai**	**7.83**	**305**	P	**Pn**	**17 23 53.5**	**+0.2**
SDSI	**Sungai Dareh**	**8.06**	**321**	P	**Pn**	**17 23 57.4**	**+1.0**
PDSI	**Padang**	**8.71**	**317**	P	**Pn**	**17 24 05.0**	**-0.3**
SRBI	**Singaraja**	**8.73**	**96**	P	**Pn**	**17 24 07.3**	**+1.8**
	57nm,1.5s						
MYKOM	**Kota Tinggi**	**9.39**	**344**	Pn	Pn	17 24 10.7	-3.9
GSI	**Gunungsitoli**	**12.30**	**314**		Pn	17 24 50.9	-3.5
KKM	**Kota Kinabalu**	**16.45**	**37**	Pn	**Pn**	**17 25 45.7**	**-3.1**
KKM				IAmb	IAmb	17 25 51.1	
	comp=Z,23nm,1.1s						
GIRL	**Giralia**	**17.00**	**155**	Pn	**Pn**	**17 25 54.3**	**-1.2**
GIRL				IAmb	IAmb	17 25 56.0	
	comp=Z,38nm,1.2s						
BATI	**Baumata**	**17.26**	**101**	P	**P**	**17 26 01.5**	**+2.1**
	comp=Z,18nm,0.6s,baz=78,slow=16,SNR=4.1						
SOEI	**Soe**	**17.80**	**99**	P	**P**	**17 26 04.2**	**-1.2**
MBWA	**Marble Bar**	**18.84**	**138**	P	**P**	**17 26 17.2**	**+0.5**
MBWA				IAmb	IAmb	17 26 23.6	
	comp=Z,28nm,1.5s						
PSA00	**Pilbara Seismi**	**19.21**	**139**	P	**P**	**17 26 21.5**	**+0.8**
PSA00				IAmb	IAmb	17 26 46.5	
	comp=Z,26nm,1.4s						
PSA00	**Pilbara Seismi**	**19.21**	**139**	P	**Pn**	**17 26 22.7**	**+0.4**
PSA00				IAmb	IAmb	17 26 35.5	
	comp=Z,6.7nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.56**	**122**	P	**P**	**17 26 46.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**21.56**	**122**	P	**P**	**17 26 46.6**	**+0.5**
	comp=Z,7.3nm,1.1s,baz=296,slow=13,SNR=6.3 comp=Z,7.3nm,1.1s						
KNRA	**Kununurra**	**23.39**	**113**	P	**P**	**17 27 04.0**	**-1.1**
KNRA				IAmb	IAmb	17 27 19.6	
	comp=Z,31nm,1.4s						
MORW	**Morawa**	**23.47**	**159**	P	**P**	**17 27 06.1**	**+0.3**
MORW				IAmb	IAmb	17 27 28.4	
	comp=Z,19nm,1.4s						
MTN	**Manton Dam**	**24.92**	**105**	P	**P**	**17 27 17.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**26.64**	**344**	P	**P**	**17 27 33.3**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=180,slow=8.7,SNR=7.8 comp=Z,0.8nm,0.6s						
H01W3	**Cape Leeuwin H**	**28.35**	**167**	T	T	17 57 24.6	
	baz=341,slow=78,SNR=233						
H01W1	**Cape Leeuwin H**	**28.37**	**167**	T	T	17 57 15.0	
	baz=341,slow=78,SNR=168						
H01W2	**Cape Leeuwin H**	**28.37**	**167**	T	T	17 57 24.7	
	baz=341,slow=78,SNR=284						
WB0	**Warramunga Arr**	**29.81**	**117**	P	**P**	**17 28 03.3**	**+0.4**
WRA	**Warramunga Arr**	**29.82**	**118**	P	**P**	**17 28 03.5**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=307,slow=9.2,SNR=17						
WRA				PcP	**PcP**	**17 31 04.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=310,slow=1.9,SNR=7.0 comp=Z,1.4nm,0.5s						
WR8	**Warramunga Arr**	**29.97**	**118**	P	**P**	**17 28 04.9**	**+0.5**
WR8				IAmb	IAmb	17 28 05.8	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**30.97**	**125**	P	**P**	**17 28 13.4**	**+0.2**
ASAR	**Alice Springs**	**30.97**	**125**	P	**P**	**17 28 13.0**	**-0.1**
ASAR	**Alice Springs**	**30.97**	**125**	P	**P**	**17 28 13.9**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=300,slow=7.9,SNR=42						
ASAR				PcP	**PcP**	**17 31 09.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=306,slow=2.3,SNR=5.5 comp=Z,0.6nm,0.4s						
H08S2	**Diego Garcia H**	**33.66**	**267**	T	T	18 04 14.9	
	baz=92,slow=76,SNR=231						
H08S3	**Diego Garcia H**	**33.67**	**267**	T	T	18 04 16.1	
	baz=92,slow=76,SNR=277						
H08S1	**Diego Carcia H**	**33.68**	**267**	T	T	18 04 16.6	
	baz=92,slow=76,SNR=229						
COEN	**Coen**	**36.67**	**104**	P	**P**	**17 29 01.4**	**-1.2**
BBOO	**Buckleboo**	**37.41**	**137**	P	**P**	**17 29 08.2**	**-0.6**
INKA	**Innaminka**	**38.30**	**126**	P	**P**	**17 29 16.3**	**0.0**
STKA	**Stephens Creek**	**40.86**	**132**	P	**P**	**17 29 38.6**	**+1.1**
STKA	**Stephens Creek**	**40.86**	**132**	P	**P**	**17 29 39.1**	**+1.6**
	comp=Z,8.8nm,0.4s,baz=308,slow=8.3,SNR=39 comp=Z,8.8nm,0.4s						
GTA	**Gaotai**	**46.88**	**353**	*e*P	**P**	**17 30 25.4**	**-0.3**
GTA				PcP	**PcP**	**17 31 59.2**	**+1.5**
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**54.89**	**360**	PcP	**PcP**	**17 32 27.4**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=182,slow=3.9,SNR=11						
KDJ	**Kajisay**	**55.98**	**334**	P	**P**	**17 31 33.0**	**-0.9**
KDJ				IAmb	IAmb	17 32 06.9	
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**57.98**	**341**	P	**P**	**17 31 45.8**	**-1.9**
MK31				IAmb	IAmb	17 31 57.7	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**57.98**	**341**	P	**P**	**17 31 44.9**	**-2.8**
	comp=Z,0.9nm,0.6s,baz=151,slow=8.6,SNR=10 comp=Z,0.9nm,0.6s						
UOSS	**Minazif**	**58.46**	**305**	P	**P**	**17 31 49.1**	**-2.4**
H04N2	**CROZET ISLANDS**	**60.68**	**221**	T	T	18 38 16.6	
	baz=68,slow=74,SNR=189						
H04N1	**CROZET ISLANDS**	**60.69**	**221**	T	T	18 38 16.9	
	baz=68,slow=74,SNR=385						
H04N3	**CROZET ISLANDS**	**60.70**	**221**	T	T	18 38 14.5	
	baz=68,slow=74,SNR=352						
H04S1	**CROZET ISLANDS**	**60.86**	**220**	T	T	18 38 14.1	
	baz=69,slow=75,SNR=18						
H04S3	**CROZET ISLANDS**	**60.88**	**220**	T	T	18 38 26.0	
	baz=69,slow=75,SNR=4.1						
H04S2	**CROZET ISLANDS**	**60.88**	**220**	T	T	18 38 15.3	
	baz=69,slow=75,SNR=4.7						
KURBB	**Kurchatov Arra**	**62.54**	**340**	P	**P**	**17 32 16.8**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=153,slow=6.2,SNR=4.4						
KURBB				PcP	**PcP**	**17 32 57.6**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=156,slow=3.8,SNR=4.3 comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**62.59**	**340**	P	**P**	**17 32 16.2**	**-2.8**
KURK				IAmb	IAmb	17 32 28.9	
	comp=Z,4.9nm,1.4s						
ZALV	**Zalesovo Beam**	**63.68**	**346**	P	**P**	**17 32 24.1**	**-2.1**
ZALV	**Zalesovo Beam**	**63.68**	**346**	P	**P**	**17 32 23.7**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=149,slow=5.0,SNR=4.9 comp=Z,0.6nm,0.3s						
RAYN	**Ar Rayn**	**66.91**	**299**	P	**P**	**17 32 47.2**	**-0.6**
RAYN				IAmb	IAmb	17 32 49.7	
	comp=Z,3.5nm,0.6s						
BVAR	**Borovoye Array**	**67.42**	**337**	P	**P**	**17 32 48.6**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=144,slow=9.2,SNR=16 comp=Z,2.2nm,0.6s						
BRVK	**Borovoye**	**67.49**	**337**	P	**P**	**17 32 49.3**	**-1.5**
AB31	**Akbulak array**	**69.39**	**329**	P	**P**	**17 33 01.8**	**-0.9**
AB31				IAmb	IAmb	17 33 03.4	
	comp=Z,4.9nm,0.8s						
ABKAR	**Akbulak array**	**69.39**	**329**	P	**P**	**17 33 01.6**	**-1.1**
BKZ	**Black Stump Fm**	**69.97**	**129**	P	**P**	**17 33 06.6**	**-0.1**
ARTI	**Arti**	**74.70**	**335**		**P**	**17 33 34.1**	**-0.2**
KBZ	**Khabaz**	**76.50**	**318**	P	**P**	**17 33 45.4**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=154,slow=2.4,SNR=6.2 comp=Z,3.1nm,0.8s						
GHAJ	**Ghor Haditha**	**77.70**	**304**	P	**P**	**17 33 51.5**	**-0.4**
MMAI	**Mount Meron Ar**	**78.32**	**306**	P	**P**	**17 33 56.4**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=88,slow=7.5,SNR=4.7 comp=Z,2.6nm,0.6s						
BR131	**Keskin Array S**	**81.61**	**312**	P	**P**	**17 34 11.7**	**-1.4**
BR131				IAmb	IAmb	17 34 14.5	
	comp=Z,2.9nm,0.7s						
BRTR	**Keskin Array B**	**81.61**	**312**	P	**P**	**17 34 11.6**	**-1.5**
BRTR	**Keskin Array B**	**81.61**	**312**	P	**P**	**17 34 13.8**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=135,slow=7.4,SNR=11 comp=Z,1.7nm,0.6s						
QSPA	**South Pole Qui**	**82.69**	**180**	P	**P**	**17 34 20.6**	**+2.3**
QSPA	**South Pole Qui**	**82.69**	**180**	P	**P**	**17 34 20.6**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=42,slow=0.2,SNR=27 comp=Z,0.7nm,0.5s						
AKASG	**Malin Array Be**	**87.58**	**322**	P	**P**	**17 34 42.9**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=90,slow=4.5,SNR=3.2 comp=Z,0.4nm,0.4s						
SNAA	**Sanae**	**89.08**	**197**	P	**P**	**17 34 51.7**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=125,slow=9.1,SNR=3.8 comp=Z,1.1nm,0.9s						
BURAR	**Bucovina Array**	**89.46**	**318**	P	**P**	**17 34 51.9**	**0.0**
BUR08	**Bucovina Ar. S**	**89.47**	**318**	P	**P**	**17 34 51.8**	**-0.1**
BUR08				IAmb	IAmb	17 34 54.8	
	comp=Z,3.4nm,1.1s						
ITM	**Ithomi**	**90.01**	**307**	P	**P**	**17 34 55.3**	**+0.7**
LIT	**Litokhoron**	**90.05**	**310**	P	**P**	**17 34 54.9**	**+0.2**
FINES	**FINESS Array B**	**91.77**	**332**	P	**P**	**17 35 02.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=103,slow=8.4,SNR=3.8 comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**93.62**	**340**	P	**P**	**17 35 09.9**	**-0.7**
ARCES	**ARCESS Array B**	**93.62**	**340**	P	**P**	**17 35 10.2**	**-0.4**
	comp=Z,3.7nm,1.1s,baz=105,slow=5.6,SNR=8.7 comp=Z,3.7nm,1.1s						
TXAR	**Lajitas Array**	**144.18**	**48**	PKP	**PKPdf**	**17 41 29.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=334,slow=1.4,SNR=17						

*MAN **02** 17:28:17.8, 12˚92N×125˚11E, h6km, mb5.7, ML4.7, MS5.1*
MAN INTENSITY IV - BOBON CATARMAN MONDRAGON AND PAMBUJAN NORTHERN SAMAR; INTENSITY III - ALLEN AND MAPANAS NORTHERN SAMAR; VIRAC CATANDUANES; INTENSITY II - LEGAZPI CITY ALBAY; SORSOGON CITY SORSOGON; ORAS EASTERN SAMAR.
*IDC **02** 17:28:17.2±0.5, 12˚72N×124˚88E, h0km, mb4.6/30, mbtmp4.7/33, ML4.9/3, MS4.2/41, Error ellipse: s-maj=17.3km s-min=10.0km az=77.0*
*MOS **02** 17:28:21.0±1.0, 12˚77N×124˚92E, h41km, mb5.2/61, MS4.5/4, Error ellipse: s-maj=8.0km s-min=4.0km az=117.1*
*BJI **02** 17:28:21.5, 12˚73N×125˚02E, h51km, mB5.0/32, mb4.9/77, Ms4.6/68, Ms7 4.5/67*
*NEIC **02** 17:28:23.6±1.8, 12˚86N±0˚07×124˚93E±0˚09, h43km±7km, mb5.0/128, Error ellipse: s-maj=12.6km s-min=9.4km az=72.0*
*DJA **02** 17:28:25.8±0.3, 13˚N±2˚×12˚5E±˚, h75km±3km, M5.0/57, mb5.0/57, mB5.4/25, MLv5.7/1, Mw(mB)4.8/25*
ISC 02 17:28:23.6±0.3, 12.83N±0.03×124.96E±0.05, h48km±2km, h48km:pP-P, n530, σ1§43/525, mb5.0/199, MS4.3/65, 48C-34D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.11**	**288**	Pn	**Pn**	**17 29 21.8**	**-2.2**
	170nm,0.3s,baz=143,slow=7.0,SNR=20						
TGY				LR	LR	17 31 13.9	
	comp=Z,9µm,19.0s,baz=115,slow=43 385nm,0.4s						
DAV	**Davao City (W)**	**5.76**	**174**	Pn	**Pn**	**17 29 47.2**	**+0.6**
DAV	**Davao City (W)**	**5.76**	**174**	LR	LR	17 32 39.6	
	comp=Z,8µm,18.2s,baz=22,slow=46						
SGSI	**Sangihe**	**9.10**	**176**	P	Pn	17 30 38.5	+6.0
	209nm,0.9s						
MYLDM	**Lahad Datu**	**9.92**	**221**		**Pn**	**17 30 44.0**	**+0.4**
MYLDM	**Lahad Datu**	**9.92**	**221**	P	Pn	17 30 51.2	+7.6
TWGBT	**Beinan**	**10.59**	**340**	P	**Pn**	**17 30 54.8**	**+1.9**
TWG	**Pinlang**	**10.60**	**340**		**Pn**	**17 30 50.6**	**-2.3**
YULB	**Yu-li**	**11.06**	**342**		**Pn**	**17 30 57.7**	**-1.6**
YULB	**Yu-li**	**11.06**	**342**	P	**Pn**	**17 30 58.4**	**-0.9**
TPUB	**Ta-pu**	**11.19**	**339**		**Pn**	**17 31 00.1**	**-1.0**
TPUB	**Ta-pu**	**11.19**	**339**	P	**Pn**	**17 31 01.9**	**+0.8**
SSLB	**Suanglung**	**11.54**	**341**		**Pn**	**17 31 04.9**	**-0.9**
SSLB	**Suanglung**	**11.54**	**341**	P	**Pn**	**17 31 06.5**	**+0.7**
YOJ	**Yonaguni jima**	**11.71**	**351**		**Pn**	**17 31 07.2**	**-1.0**
YOJ	**Yonaguni jima**	**11.71**	**351**	P	**Pn**	**17 31 08.2**	**+0.1**
YOJ	**Yonaguni jima**	**11.71**	**351**	P	**Pn**	**17 31 07.2**	**-1.0**
YOJ				S	**Sn**	**17 33 14.9**	**-2.6**
NACB	**Ninganchiao**	**11.72**	**345**		**Pn**	**17 31 06.6**	**-1.6**
NACB	**Ninganchiao**	**11.72**	**345**	P	**Pn**	**17 31 07.2**	**-1.1**
KMSI	**Cibinong**	**12.21**	**185**	P	P	17 31 20.8	-5.5
	4µm321nm,1.5s						
YHNB	**Yeheng**	**12.25**	**344**		**Pn**	**17 31 14.8**	**-0.7**
YHNB	**Yeheng**	**12.25**	**344**	P	**Pn**	**17 31 16.0**	**+0.4**
TOLI2	**Tolitoli**	**12.36**	**200**		**Pn**	**17 31 15.5**	**-1.5**
TOLI2	**Tolitoli**	**12.36**	**200**	P	**P**	**17 31 25.0**	**-2.9**
TATO	**Taipei**	**12.52**	**345**		**Pn**	**17 31 18.4**	**-0.7**
TATO	**Taipei**	**12.52**	**345**	P	**Pn**	**17 31 20.5**	**+1.4**
MRSI	**Marisa**	**12.63**	**194**	P	**P**	**17 31 26.4**	**-4.5**
	819nm47nm,1.2s						
MPSI	**Mapaga**	**13.39**	**202**	P	**P**	**17 31 37.7**	**-1.6**
LUWI	**Luwuk**	**13.95**	**189**	P	**P**	**17 31 44.2**	**-1.4**
	2µm155nm,1.3s						
APSI	**Ampana**	**14.04**	**194**	P	**P**	**17 31 46.6**	**0.0**
	3µm125nm,1.1s						
JOW	**Kunigami**	**14.27**	**12**		**Pn**	**17 31 42.8**	**-0.3**
JOW	**Kunigami**	**14.27**	**12**	Pn	**Pn**	**17 31 43.1**	**+0.1**
	15nm,0.3s,baz=132,slow=23,SNR=36						
JOW				LR	LR	17 36 17.3	
	comp=Z,800nm,22.0s,baz=126,slow=33 62nm,0.4s						
JOW	**Kunigami**	**14.27**	**12**	P	**Pn**	**17 31 43.4**	**+0.4**
PCI	**Palu**	**14.56**

comp=Z,379nm,21.2s,baz=206,slow=35
comp=Z,27nm,1.0s
JNU Nakatsue 20.91 14 P **P** **17 33 03.4 +1.2**
GENI Genyem 21.52 134 P **P** **17 33 11.6 +2.8**
GENI Genyem 21.52 134 P **P** **17 33 11.1 +2.3**
comp=Z,2μmcomp=Z,118nm,1.3s
EDFI Ende, Flores 21.68 189 P **P** **17 33 12.2 +1.5**
comp=Z,626nmcomp=Z,24nm,0.7s
SLVN Son La 21.81 296 P **P** **17 33 11.0 -0.9**
SLVN Son La 21.81 296 P **P** **17 33 11.3 -0.6**
JAY Jayapura 21.84 133 P **P** **17 33 12.1 -0.2**
comp=Z,20nm,1.1s,baz=74,slow=8.0,SNR=7.3
JAY LR LR 17 39 43.2
comp=Z,938nm,21.2s,baz=334,slow=31
comp=Z,20nm,1.1s
JAY Jayapura 21.84 133 P **P** **17 33 10.8 -1.5**
GYA Guiyang 21.88 311 ⇓P **P** **17 33 15.0 +2.2**
GYA S **S** **17 37 10.4 -1.7**
GYA pmax pmax
comp=Z,53nm,1.7s
GYA pmax pmax
comp=Z,390nm,8.5s
GYA LR LR
comp=Z,800nm,13.3s
GYA LR LR
comp=Z,1μm,19.7s
GYA LR LR
comp=Z,2μm,18.9s
JTU Tsushima 21.97 10 P **P** **17 33 14.8 +1.3**
JMN Monobe 22.34 20 P **P** **17 33 16.7 -0.8**
JMN Monobe 22.34 20 P **P** **17 33 19.9 +2.4**
SOEI Soe 22.45 182 P **P** **17 33 18.6 -0.3**
SOEI IAmb IAmb 17 33 28.8
comp=Z,107nm,1.4s
PLAI Plampang 22.67 199 P **P** **17 33 22.8 +1.7**
PLAI Plampang 22.67 199 P **P** **17 33 21.9 +0.8**
comp=Z,87nm,0.9s
BATI Baumata 22.92 183 P **P** **17 33 21.9 -1.9**
comp=Z,26nm,0.5s,baz=357,slow=3.0,SNR=5.8
BATI LR LR 17 44 14.4
comp=Z,388nm,18.1s,baz=10.0,slow=42
comp=Z,26nm,0.5s
TJN Taejon 23.55 5 P **P** **17 33 29.8 +0.2**
TJN Taejon 23.55 5 P **P** **17 33 29.8 +0.2**
TJN pmax pmax
comp=Z,533nm,0.8s
MYKOM **Kota Tinggi 23.60 244** P **P** **17 33 30.3 -0.2**
JAGI Jajag, Banyuwa 23.73 207 P **P** **17 33 31.7 +0.1**
JAGI Jajag, Banyuwa 23.73 207 P **P** **17 33 32.1 +0.5**
comp=Z,102nm,1.9s
NGJI Ngawi 24.13 214 P **P** **17 33 38.3 +3.0**
comp=Z,160nm,1.1s
DSRI Dabo 24.15 238 P **P** **17 33 40.2 +4.7**
comp=Z,54nm,1.0s
KMI Kunming 24.26 303 P **P** **17 33 37.7 +1.0**
KMI pmax pmax
comp=Z,21nm,1.0s
KMI LR LR
comp=Z,570nm,19.4s
KMI LR LR
comp=Z,1μm,21.9s
KMI LR LR
comp=Z,1μm,18.6s
JHJ Hachijo jima 2 24.32 31 LR LR 17 41 54.8
comp=Z,309nm,20.0s,baz=245,slow=33
TIA Tai'an 24.32 344 P **P** **17 33 37.2 +0.3**
TIA S **S** **17 37 49.8 -3.1**
TIA pmax pmax
comp=Z,120nm,0.8s
TIA pmax pmax
comp=Z,350nm,4.3s
TIA LR LR
comp=Z,420nm,22.4s
TIA LR LR
comp=Z,290nm,19.4s
TIA LR LR
comp=Z,570nm,23.5s
JHJ2 Mitsune 24.33 31 P **P** **17 33 36.8 -0.2**
LYN LuoYang 24.41 334 ⇓*i*P **P** **17 33 39.5 +1.8**
LYN pmax pmax
comp=Z,320nm,1.1s
LYN LR LR
comp=Z,840nm,14.8s
LYN LR LR
comp=Z,690nm,14.8s
LYN LR LR
comp=Z,1μm,15.5s
INCN Inchon 24.59 3 P **P** **17 33 38.3 -1.1**
INCN IAmb IAmb 17 33 42.0
comp=Z,57nm,1.1s
INCN Inchon 24.59 3 P **P** **17 33 40.7 +1.3**
INCN Inchon 24.59 3 P **P** **17 33 38.3 -1.1**
INCN pmax pmax
comp=Z,57nm,1.2s
KSAR Wonju Array Be 24.65 6 P **P** **17 33 40.6 +0.8**
KSAR Wonju Array Be 24.65 6 P **P** **17 33 40.6 +0.8**
KSRS Korea Array 24.66 6 P **P** **17 33 41.0 +1.1**
comp=Z,36nm,0.9s,baz=185,slow=10,SNR=126
comp=Z,36nm,0.9s
KS19 Wonju Array Si 24.71 6 P **P** **17 33 39.3 -1.0**
WOJI Wonogiri, Jawa 24.82 215 P **P** **17 33 44.0 +2.5**
comp=Z,175nm,1.1s
INU Inuyama 24.93 24 P **P** **17 33 42.0 -0.4**
INU IAmb IAmb 17 33 58.9
comp=Z,54nm,1.0s
INU Inuyama 24.93 24 P **P** **17 33 43.8 +1.4**
PCJI Pacitan 24.97 214 P **P** **17 33 44.8 +1.9**
comp=Z,106nm,1.1s
IPM Ipoh 25.05 253 P **P** **17 33 43.2 -0.5**
IPM IAmb IAmb 17 33 53.1
comp=Z,160nm,2.0s
KULM Kulim 25.13 255 P **P** **17 33 44.3 -0.1**
KULM IAmb IAmb 17 33 59.4
comp=Z,29nm,0.9s
SRIT Nakonsritamara 25.26 263 P **P** **17 33 45.7 +0.2**
SRIT IAmb IAmb 17 34 00.9
comp=Z,38nm,1.1s
JGF Kuroka 25.29 24 P **P** **17 33 45.3 -0.4**
JGF Kuroka 25.29 24 P **P** **17 33 46.5 +0.8**
CM31 Chiang Mai Arr 25.65 286 P **P** **17 33 48.4 -0.8**
CMAR Chiang Mai Arr 25.65 286 P **P** **17 33 48.2 -0.9**
CMAR Chiang Mai Arr 25.65 286 P **P** **17 33 48.7 -0.4**
comp=Z,2.3nm,0.6s,baz=97,slow=7.5,SNR=15
CMAR LR LR 17 45 05.7
comp=Z,535nm,18.5s,baz=105,slow=39
comp=Z,2.3nm,0.6s
XAN Xi'an 25.66 328 ⇑P **P** **17 33 48.8 -0.3**
XAN pP pP 17 33 59.1 -1.3
XAN S **S** **17 38 14.6 +0.2**
XAN pmax pmax
comp=Z,100nm,0.9s
XAN pmax pmax
comp=Z,490nm,4.3s
XAN LR LR
comp=Z,860nm,15.6s
XAN LR LR
comp=Z,800nm,16.5s
XAN LR LR
comp=Z,1μm,17.0s
PZH PanZhiHua 25.68 305 P **P** **17 33 48.8 -0.7**
PZH sP **pwP** **17 34 04.5 +1.0**
PZH sS **sS** **17 38 36.5 +0.8**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH LR LR
comp=Z,810nm,18.6s
PZH LR LR
comp=Z,890nm,21.4s
PZH LR LR
comp=Z,1μm,21.6s
CHTO Chiang Mai 25.70 287 P **P** **17 33 48.8 -0.8**
CHTO Chiang Mai 25.70 287 P **P** **17 33 48.8 -0.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
DRS Darwin Rock St 25.78 167 P **P** **17 33 53.7 +3.5**
HNS HongShan 26.13 341 ⇓P **P** **17 33 53.9 +0.7**
HNS S **S** **17 38 21.1 -0.4**
HNS pmax pmax
comp=Z,120nm,0.8s
HNS LR LR
comp=Z,400nm,15.1s
HNS LR LR
comp=Z,520nm,14.3s
HNS LR LR
comp=Z,560nm,17.5s
DL2 Dalian 26.14 354 P **P** **17 33 54.7 +1.4**
DL2 pmax pmax
comp=Z,52nm,0.7s
MTN Manton Dam 26.23 166 P **P** **17 33 54.4 0.0**
MTN IAmb IAmb 17 34 24.9
comp=Z,39nm,1.0s
KDU Kakadu 26.43 163 P **P** **17 33 54.2 -1.9**
MAJO Matsushiro 26.44 24 P **P** **17 33 54.3 -1.8**
MAJO Matsushiro 26.44 24 ⇓*e*P **P** **17 33 56.6 +0.5**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 26.44 24 P **P** **17 33 54.5 -1.6**
MJAR Matsushiro Arr 26.44 24 P **P** **17 33 56.8 +0.7**
comp=Z,0.9nm,0.6s,baz=199,slow=9.4,SNR=2.8
MJAR LR LR 17 44 01.9
comp=Z,374nm,18.7s,baz=210,slow=36
comp=Z,0.9nm,0.6s
MJAR Matsushiro Arr 26.44 24 P **P** **17 33 54.5 -1.6**
MJB9 Matsu-Tunnel 26.45 24 P **P** **17 33 54.5 -1.7**
CD2 Chengdu 26.57 316 P **P** **17 33 57.5 +0.1**
CD2 S **S** **17 38 28.2 -0.6**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,250nm,5.5s
CD2 LR LR
comp=Z,2μm,15.9s
CD2 LR LR
comp=Z,2μm,17.3s
CD2 LR LR
comp=Z,3μm,17.5s
BLSI Bandar Lampung 26.65 228 P P 17 34 07.0 +8.8
LHSI Lahat 26.96 234 P **P** **17 34 04.6 +3.6**
comp=Z,34nm,1.3s
SDSI Sungai Dareh 27.05 241 P **P** **17 34 04.2 +2.4**
TIY Taiyuan 27.18 338 P **P** **17 34 04.0 +1.2**
TIY pmax pmax
comp=Z,29nm,0.4s
TIY LR LR
comp=Z,430nm,22.7s
TIY LR LR
comp=Z,620nm,19.9s
TIY LR LR
comp=Z,470nm,22.0s
KSI Kapahiang 27.60 235 P **P** **17 34 09.1 +2.4**
comp=Z,87nm,1.1s
PSI Prapat 27.61 251 P **P** **17 34 06.5 -0.4**
comp=Z,3.1nm,0.4s,baz=65,slow=7.6,SNR=4.6
PSI LR LR 17 45 21.2
comp=Z,607nm,20.1s,baz=61,slow=37
comp=Z,3.1nm,0.4s
PSI Prapat 27.61 251 P **P** **17 34 06.3 -0.7**
PSI pmax pmax
comp=Z,13nm,0.8s
RPSI Rantau Prapat 27.66 251 P **P** **17 34 06.3 -0.9**
PPI Padang Panjang 27.71 243 P **P** **17 34 13.4 +5.7**
comp=Z,13nm,0.9s
TNCH TengChong 27.73 300 P **P** **17 34 06.4 -1.6**
TNCH sP pwP 17 34 22.7 +0.1
TNCH S **S** **17 38 44.4 -3.1**
TNCH pmax pmax
comp=Z,18nm,1.6s
TNCH pmax pmax
comp=Z,180nm,4.4s
TNCH LR LR
comp=Z,640nm,12.8s
TNCH LR LR
comp=Z,350nm,15.0s
TNCH LR LR
comp=Z,810nm,16.3s
KNRA Kununurra 28.57 172 P **P** **17 34 16.3 +1.0**
KNRA IAmb IAmb 17 34 24.5
comp=Z,24nm,0.8s
JMM Marumori 28.66 27 P **P** **17 34 14.6 -1.3**
GSI Gunungsitoli 29.44 249 P P 17 34 28.0 +4.9
comp=Z,31nm,1.3s
LZH Lanzhou 29.95 324 *e*P **P** **17 34 29.4 +1.8**
LZH sP sP 17 34 45.0 +0.7
LZH pmax pmax
comp=Z,33nm,1.3s
LZH LR LR
comp=Z,940nm,13.4s
LZH LR LR
comp=Z,700nm,12.4s
LZH LR LR
comp=Z,910nm,12.7s
MSHR Mys Shultsa 30.12 9 ⇑*e*P **P** **17 34 29.8 +1.0**
MSHR pmax pmax
comp=Z,9.0nm,1.0s
HHC Hu-ho-hao-te 30.28 340 *e*P **P** **17 34 31.8 +1.4**
HHC pP pP 17 34 39.8 -2.2
HHC S **S** **17 39 29.2 +2.1**
HHC sS sS 17 39 49.7 +1.9
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.0s
HHC LR LR
comp=Z,250nm,10.7s
HHC LR LR
comp=Z,300nm,9.2s
HHC LR LR
comp=Z,400nm,14.3s
BTO Baotou 30.62 337 *e*P **P** **17 34 35.5 +2.1**
BTO pP **pP** **17 34 45.8 +0.9**
BTO PP **PP** **17 35 36.6 -6.6**
BTO S **S** **17 39 36.7 +4.3**
BTO pmax pmax
comp=Z,21nm,0.6s
BTO pmax pmax
comp=Z,230nm,5.1s
BTO LR LR
comp=Z,830nm,18.6s
BTO LR LR
comp=Z,460nm,11.6s
BTO LR LR
comp=Z,600nm,16.1s
FITZ Fitzroy Crossi 30.74 179 P **P** **17 34 32.7 -1.7**
comp=Z,5.8nm,0.8s,baz=22,slow=6.9,SNR=14
comp=Z,5.8nm,0.8s
CN2 Changchun 30.86 1 *e*P **P** **17 34 35.3 0.0**
CN2 S **S** **17 39 35.7 -0.2**
CN2 sS sS 17 39 56.0 -0.6
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,150nm,15.0s
CN2 LR LR
comp=Z,310nm,15.0s
CN2 LR LR
comp=Z,210nm,18.0s
USA0B Ussuriysk Arra 31.84 10 P **P** **17 34 43.3 -0.6**
USA0B IAmb IAmb 17 34 56.8
comp=Z,20nm,0.7s
USA0B Ussuriysk Arra 31.84 10 P **P** **17 34 43.3 -0.6**
USA0B pmax pmax
comp=Z,20nm,0.7s
USRK Ussuriysk Ar. 31.84 10 P **P** **17 34 43.4 -0.5**
USRK Ussuriysk Ar. 31.84 10 P **P** **17 34 45.0 +1.1**
comp=Z,9.8nm,0.8s,baz=210,slow=8.5,SNR=15
USRK LR LR 17 47 29.5
comp=Z,222nm,19.2s,baz=194,slow=36
comp=Z,9.8nm,0.8s
USRK Ussuriysk Ar. 31.84 10 P **P** **17 34 45.0 +1.1**
XLT XiLinHaoTe 31.89 348 *e*P **P** **17 34 45.1 +0.6**
XLT S **S** **17 39 48.3 -3.8**
XLT pmax pmax
comp=Z,16nm,1.3s
XLT LR LR
comp=Z,320nm,14.3s
XLT LR LR
comp=Z,270nm,15.8s
MDJ Mudanjiang 31.92 6 P **P** **17 34 46.3 +1.6**
MDJ S **S** **17 39 48.8 -3.7**
MDJ pmax pmax
comp=Z,25nm,1.1s
MDJ pmax pmax
comp=Z,130nm,4.8s
MDJ LR LR
comp=Z,380nm,18.8s
MDJ LR LR
comp=Z,390nm,15.8s
MDJ LR LR
comp=Z,330nm,23.8s
BNX BinXian 32.87 3 ⇑P **P** **17 34 53.3 +0.4**
BNX pmax pmax
comp=Z,25nm,0.9s
BRDH Bariadhala 33.13 292 LR LR 17 50 34.0
comp=Z,661nm,18.2s,baz=148,slow=40
PATS Pohnpei 33.38 97 P **P** **17 34 56.2 -1.5**
SHL Shillong 33.60 297 P **P** **17 34 58.0 -1.8**
SHL IAmb IAmb 17 34 59.6
comp=Z,23nm,0.8s
SHL Shillong 33.60 297 P **P** **17 34 58.0 -1.8**
SHL pmax pmax
comp=Z,23nm,0.8s
WB0 Warramunga Arr 33.70 164 P **P** **17 34 58.5 -1.9**
WB0 IAmb IAmb 17 34 59.6
comp=Z,12nm,0.7s
WRAB Tennant Creek 33.85 164 P **P** **17 34 60.0 -1.8**
WRAB Tennant Creek 33.85 164 *c i*P **P** **17 35 00.2 -1.5**
WRAB pmax pmax
comp=Z,34nm,1.6s
WRA Warramunga Arr 33.85 164 P **P** **17 34 58.9 -2.8**
WRA Warramunga Arr 33.85 164 P **P** **17 34 60.0 -1.8**
comp=Z,11nm,0.9s,baz=342,slow=9.6,SNR=55
WRA LR LR 17 51 17.2
comp=Z,190nm,18.8s,baz=340,slow=41
comp=Z,11nm,0.9s
WRA Warramunga Arr 33.85 164 *i* P **P** **17 35 00.4 -1.4**
WRA pmax pmax
comp=Z,10.0nm,0.7s
WR8 Warramunga Arr 33.91 164 P **P** **17 35 00.2 -2.0**
WR8 IAmb IAmb 17 35 09.8
comp=Z,35nm,1.3s
PSA00 Pilbara Seismi 34.55 188 P **P** **17 35 05.9 -2.0**
PSA00 IAmb IAmb 17 36 12.6
comp=Z,24nm,1.4s
PSA00 Pilbara Seismi 34.55 188 P **P** **17 35 05.6 -2.2**
PSA00 IAmb IAmb 17 36 24.5
comp=Z,7.2nm,1.1s
GTA Gaotai 34.56 325 P **P** **17 35 09.5 +1.6**
GTA SS SS 17 42 48.9 -16
GTA pmax pmax
comp=Z,24nm,1.2s
GTA LR LR
comp=Z,300nm,19.3s
GTA LR LR
comp=Z,500nm,18.9s
GTA LR LR
comp=Z,650nm,18.2s
ASAJ Asahikawa 34.66 23 LR LR 17 49 15.7
comp=Z,222nm,19.6s,baz=198,slow=36
ASAJ Asahikawa 34.66 23 P **P** **17 35 08.0 -0.5**
ASAJ pmax pmax
comp=Z,23nm,1.2s
JKA Kamikawa-asahi 34.66 23 P **P** **17 35 08.0 -0.5**
JKA IAmb IAmb 17 35 29.7
comp=Z,23nm,1.2s
LSA Lhasa 35.52 304 P **P** **17 35 17.0 +0.3**
LSA pmax pmax
comp=Z,24nm,0.9s
GOMU GeErMu 35.71 316 P **P** **17 35 18.6 +0.5**
GOMU S **S** **17 40 53.9 +1.9**
GOMU pmax pmax
comp=Z,19nm,1.3s
GOMU LR LR
comp=Z,770nm,16.1s
GOMU LR LR
comp=Z,710nm,16.4s
GOMU LR LR
comp=Z,1μm,16.4s
QIS Mount Isa 36.17 156 P **P** **17 35 21.1 -0.7**
comp=Z,38nm,1.0s
GIRL Giralia 36.79 197 P **P** **17 35 26.1 -0.8**
YSS Yuzhno-Sakhali 37.16 20 *e*P **P** **17 35 31.3 +1.4**
YSS *e*S **S** **17 41 15.8 +2.7**
YSS smax smax
comp=N,100nm,4.2s
YSS smax smax
comp=E,100nm,5.8s
AS31 Alice Springs 37.31 166 P **P** **17 35 30.1 -1.4**
AS31 Alice Springs 37.31 166 P **P** **17 35 30.3 -1.2**
comp=Z,7.4nm,0.7s
ASAR Alice Springs 37.31 166 P **P** **17 35 30.6 -0.9**
ASAR Alice Springs 37.31 166 P **P** **17 35 30.5 -1.0**
comp=Z,8.4nm,0.7s,baz=342,slow=6.0,SNR=102
ASAR PcP **PcP** **17 37 49.9 -0.3**
comp=Z,1.9nm,0.7s,baz=333,slow=2.9,SNR=1.7
ASAR LR LR 17 51 42.2
comp=Z,252nm,21.1s,baz=353,slow=38
comp=Z,8.4nm,0.7s
HEH HeiHe 37.37 3 *e*P **P** **17 35 32.3 +0.7**
HEH pP **pP** **17 35 43.7 +0.4**
HEH sP **pwP** **17 35 48.2 +0.7**
HEH PP **PnPn** **17 37 02.2 +3.6**
HEH S **S** **17 41 17.0 +0.8**
HEH pmax pmax
comp=Z,23nm,0.9s
HEH pmax pmax
comp=Z,100nm,3.9s
HEH LR LR
comp=Z,270nm,17.7s
HEH LR LR
comp=Z,190nm,16.6s
HEH LR LR
comp=Z,460nm,19.3s
WRKA Warakurna 37.78 175 P **P** **17 35 35.0 -0.4**
comp=Z,24nm,1.3s
ULN Ulaanbaatar 37.99 340 P **P** **17 35 38.2 +1.1**
ULN IAmb IAmb 17 35 53.8
comp=Z,28nm,1.1s
ULN Ulaanbaatar 37.99 340 *c i*P **P** **17 35 38.3 +1.1**
ULN pmax pmax
comp=Z,41nm,1.5s
ULN Ulaanbaatar 37.99 340 P **P** **17 35 38.6 +1.5**
SONM Songino Array 38.19 340 P **P** **17 35 39.2 +0.5**
SONM IAmb IAmb 17 35 41.1
comp=Z,37nm,1.4s
SONM Songino Array 38.19 340 P **P** **17 35 39.8 +1.1**
comp=Z,12nm,0.9s,baz=160,slow=8.8,SNR=51
SONM LR LR 17 52 47.2
comp=Z,161nm,19.1s,baz=152,slow=38
comp=Z,12nm,0.9s
SONM Songino Array 38.19 340 P **P** **17 35 39.2 +0.5**
SONM pmax pmax
comp=Z,37nm,1.4s
EVN Everest 38.60 299 P **P** **17 35 42.2 -0.9**
EVN IAmb IAmb 17 35 44.2
comp=Z,27nm,1.3s
CTAO Charters Tower 38.85 147 P **P** **17 35 43.9 -0.5**
CTAO Charters Tower 38.85 147 P **P** **17 35 43.9 -0.5**
CTAO pmax pmax
comp=Z,95nm,2.0s
GRNR Gornyy 38.97 12 ⇑*i*P P 17 35 37.9 -7.2
GRNR pmax pmax
comp=Z,2.0nm,1.0s
GRNR MLR MLR
comp=N,110nm,13.0s
GRNR MLR MLR
comp=Z,140nm,12.0s
MEEK Meekatharra 39.71 189 P **P** **17 35 49.8 -1.8**
H11S3 WAKE ISLAND Hy 40.51 77 T T 18 19 43.3
baz=279,slow=76,SNR=411
H11S1 WAKE ISLAND Hy 40.52 77 T T 18 19 41.1
baz=279,slow=76,SNR=160
H11S2 WAKE ISLAND Hy 40.52 77 T T 18 19 36.9
baz=279,slow=76,SNR=215
H11N1 WAKE ISLAND Hy 40.75 75 T T 18 19 58.6
baz=267,slow=74,SNR=2296
H11N2 WAKE ISLAND Hy 40.76 75 T T 18 19 48.0
baz=267,slow=74,SNR=1573
H11N3 WAKE ISLAND Hy 40.77 75 T T 18 19 48.8
baz=267,slow=74,SNR=2404
HNR Honiara 41.20 121 LR LR 17 50 39.1
comp=Z,619nm,21.9s,baz=256,slow=33
ZAK Zakamensk 41.43 339 *e*P **P** **17 36 05.8 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
MORW Morawa 42.53 192 P **P** **17 36 12.1 -2.6**
MORW IAmb IAmb 17 36 30.0
comp=Z,21nm,1.1s
IRK Irkutsk 42.69 341 *e*P **P** **17 36 14.6 -1.1**
IRK pmax pmax
comp=Z,31nm,1.2s
QLP Quilpie 43.43 155 P **P** **17 36 20.8 -1.2**
comp=Z,27nm,0.9s
FORT Forrest 43.46 176 P **P** **17 36 20.8 -1.4**
FORT IAmb IAmb 17 36 42.5
comp=Z,16nm,0.7s
FORT Forrest 43.46 176 P **P** **17 36 21.4 -0.7**
comp=Z,23nm,0.6s
PALK Pallekele 43.88 267 LR LR 17 54 21.6

comp=Z,138nm,18.8s,baz=85,slow=36
KMBL Kambalda 44.04 184 P P 17 36 26.5 -0.3
comp=Z,17nm,1.0s
WMQ Urumqi 44.43 321 *e*P **P 17 36 31.6 +1.7**
WMQ pmax pmax
comp=Z,17nm,1.5s
WMQ LR LR
comp=Z,950nm,17.1s
WMQ LR LR
comp=Z,600nm,15.9s
WMQ LR LR
comp=Z,440nm,20.7s
HYB Hyderabad 44.94 282 *e*P **P 17 36 34.5 +0.1**
EIDS Eidsvold 45.72 146 P P 17 36 39.6 -0.6
EIDS IAmb IAmb 17 37 59.6
comp=Z,61nm,1.8s
NWAO Narrogin (SRO) 46.09 189 P P 17 36 41.4 -1.7
NWAO Narrogin (SRO) 46.09 189 LR LR 17 59 19.8
comp=Z,76nm,18.7s,baz=322,slow=40
NWAO Narrogin (SRO) 46.09 189 P P 17 36 41.4 -1.7
NWAO pmax pmax
comp=Z,124nm,1.9s
BBOO Buckleboo 46.61 167 P P 17 36 46.4 -0.7
BBOO Buckleboo 46.61 167 P P 17 36 47.0 -0.1
comp=Z,84nm,1.1s
STKA Stephens Creek 47.23 161 P P 17 36 51.6 -0.4
STKA Stephens Creek 47.23 161 P P 17 36 52.1 +0.1
comp=Z,156nm,1.0s
STKA Stephens Creek 47.23 161 P P 17 36 52.4 +0.4
comp=Z,18nm,0.8s,baz=336,slow=7.7,SNR=30
comp=Z,18nm,0.8s
STKA Stephens Creek 47.23 161 P P 17 36 51.6 -0.4
STKA pmax pmax
comp=Z,103nm,0.9s
PEA0B Petropavlovsk- 47.88 26 P P 17 36 57.5 +0.7
PEA0B Petropavlovsk- 47.88 26 P P 17 36 57.5 +0.7
PEA0B pmax pmax
comp=Z,44nm,1.3s
PETK Petropavlovsk- 47.88 26 P P 17 36 57.1 +0.2
PETK Petropavlovsk- 47.88 26 P P 17 36 58.5 +1.6
comp=Z,1nm,0.8s,baz=191,slow=3.9,SNR=12
comp=Z,6.1nm,0.8s
HTT Hallett 47.89 164 P P 17 36 57.9 +0.7
comp=Z,8.7nm,1.8s
ZSN Zaisan 48.05 324 *e*P **P 17 36 58.8 +0.6**
ZSN pmax pmax
comp=Z,9.0nm,1.2s
ZSN Zaisan 48.05 324 *e*P **P 17 36 58.9 +0.6**
comp=Z,9.0nm,1.2s
PET Petropavlovsk 48.24 27 P P 17 36 59.5 0.0
PET IAmb IAmb 17 37 19.1
comp=Z,27nm,1.2s
PET Petropavlovsk 48.24 27 *ce*P **P 17 37 00.6 +1.0**
PET pmax pmax
comp=Z,26nm,1.2s
CMSA Cobar Meteorol 48.39 156 P P 17 37 01.6 +0.5
comp=Z,57nm,0.8s
MK31 Makanchi Array 49.22 322 *c i*P **P 17 37 08.2 +0.9**
MKAR Makanchi Array 49.22 322 P P 17 37 07.5 +0.2
MKAR Makanchi Array 49.22 322 P P 17 37 08.5 +1.2
comp=Z,6.8nm,0.9s,baz=116,slow=8.6,SNR=27
comp=Z,6.8nm,0.9s
YAK Yakutsk 49.24 3 P P 17 37 06.8 -0.4
YAK Yakutsk 49.24 3 LR LR 17 59 51.8
comp=Z,222nm,19.1s,baz=176,slow=38
YAK Yakutsk 49.24 3 *c i*P **P 17 37 07.0 -0.1**
YAK *e**PP **pP 17 37 18.1 -1.0**
YAK *e* 17 38 29.2
YAK *e* 17 38 59.9
YAK *e*PPP PPP 17 39 53.4
YAK *e*S **S 17 44 10.7 +1.2**
YAK *e**SS **sS 17 44 31.0 0.0**
YAK *e* 17 46 55.4
YAK *e*SS **SS 17 47 44.1 +2.8**
YAK *e*SSS SSS 17 49 03.5
YAK pmax pmax
comp=Z,67nm,1.4s
YAK pmax pmax
comp=N,24nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=Z,110nm,7.7s
YAK pmax pmax
comp=N,70nm,4.8s
YAK pmax pmax
comp=E,78nm,4.2s
YAK smax smax
comp=E,65nm,4.6s
YAK smax smax
comp=N,57nm,4.5s
YAK Yakutsk 49.24 3 P P 17 37 07.4 +0.3
YAK pP **pP 17 37 20.7 +1.6**
SHLS Shalkode 49.40 317 *e*P **P 17 37 07.0 -1.9**
SHLS pmax pmax
comp=Z,7.0nm,0.9s
SHLS Shalkode 49.40 317 *e*P **P 17 37 07.0 -1.9**
comp=Z,7.3nm,0.9s
MAKZ Makanchi 49.42 322 P P 17 37 09.1 +0.3
MAKZ IAmb IAmb 17 37 13.3
comp=Z,32nm,1.3s
MAKZ Makanchi 49.42 322 P P 17 37 09.1 +0.3
MAKZ pmax pmax
comp=Z,32nm,1.3s
MAKZ Makanchi 49.42 322 P P 17 37 10.2 +1.3
PDGK Podgornoye 49.45 317 P P 17 37 10.0 +0.7
UZB Uzynbulak 49.70 316 *e*P **P 17 37 11.4 +0.3**
UZB pmax pmax
comp=Z,11nm,1.3s
UZB Uzynbulak 49.70 316 *e*P **P 17 37 11.4 +0.3**
comp=Z,11nm,1.3s
KPKS Kokpek 50.05 317 *e*P **P 17 37 14.0 +0.3**
KPKS Kokpek 50.05 317 *e*P **P 17 37 14.1 +0.3**
SATY Saty 50.08 316 *e*P **P 17 37 14.3 +0.3**
SATY Saty 50.08 316 *e*P **P 17 37 14.3 +0.3**
ARMA Armidale 50.08 150 P **P 17 37 14.7 +0.6**
ARMA IAmb IAmb 17 37 25.6
comp=Z,18nm,0.9s
ARMA Armidale 50.08 150 P **P 17 37 14.0 -0.1**
comp=Z,19nm,0.9s
MA2 Magadan 50.45 17 P **P 17 37 16.8 +0.5**
MA2 IAmb IAmb 17 37 31.8
comp=Z,10nm,1.0s
MA2 Magadan 50.45 17 *c i*P **P 17 37 16.7 +0.4**
MA2 pmax pmax
comp=Z,9.0nm,0.9s
MA2 Magadan 50.45 17 P **P 17 37 17.7 +1.4**
comp=Z,11nm,0.7s
KDJ Kajisay 50.58 315 P **P 17 37 19.7 +1.8**
KDJ pmax pmax
comp=Z,18nm,1.0s
KSH Kashi 50.58 311 P **P 17 37 20.2 +2.3**
KSH pP pP 17 37 31.9 +1.8
KSH pmax pmax
comp=Z,10.0nm,1.4s
KSH LR LR
comp=Z,300nm,16.5s
KSH LR LR
comp=Z,890nm,19.2s
KSH LR LR
comp=Z,1μm,19.2s
TDK Taldyqorghan 50.85 318 *e*P **P 17 37 20.2 +0.6**
TDK pmax pmax
comp=Z,9.0nm,0.6s
TDK Taldyqorghan 50.85 318 *e*P **P 17 37 20.2 +0.6**
comp=Z,8.9nm,0.6s
TNSS Tian-Shan 51.06 316 *e*P **P 17 37 21.7 0.0**
TNSS Tian-Shan 51.06 316 *e*P **P 17 37 21.8 0.0**
AAA Alma-Ata 51.15 316 *e*P **P 17 37 22.3 +0.3**
AAA pmax pmax
comp=Z,5.0nm,0.4s
AAA Alma-Ata 51.15 316 *e*P **P 17 37 22.4 +0.3**
comp=Z,5.4nm,0.4s
NIL Nilore 51.25 303 P 17 37 22.1 -0.8
NIL Nilore 51.25 303 P **P 17 37 22.1 -0.8**
NIL pmax pmax
comp=Z,20nm,0.7s
BOOM Boomskoye usch 51.56 315 P **P 17 37 24.2 -1.1**
BOOM IAmb IAmb 17 37 41.9
comp=Z,17nm,1.2s
BOOM Boomskoye usch 51.56 315 P **P 17 37 24.2 -1.1**
BOOM pmax pmax
comp=Z,17nm,1.2s
ZAA0 Zalesovo Array 51.77 331 P **P 17 37 26.8 +0.4**
ZALV Zalesovo Beam 51.77 331 P **P 17 37 26.5 +0.1**
comp=Z,23nm,0.7s,baz=117,slow=8.5,SNR=112
comp=Z,23nm,0.7s
ZALV Zalesovo Beam 51.77 331 P **P 17 37 27.0 +0.6**
comp=Z,23nm,0.7s
YNG Young 51.90 155 P **P 17 37 27.7 +0.2**
comp=Z,15nm,2.5s
AAK Ala-Archa 52.62 314 P **P 17 37 33.5 +0.4**
AAK Ala-Archa 52.62 314 LR LR 18 02 28.9
comp=Z,655nm,18.4s,baz=90,slow=39
AAK Ala-Archa 52.62 314 *ce*P **P 17 37 34.2 +1.1**
AAK pmax pmax
comp=Z,8.0nm,0.9s
SGDS Sogindy 52.79 315 *e*P **P 17 37 34.7 +0.4**
CAN Canberra 53.03 155 P **P 17 37 37.2 +1.2**
CAN Canberra 53.03 155 P **P 17 37 37.0 +1.1**
comp=Z,29nm,1.8s
CAN Canberra 53.03 155 P **P 17 37 37.2 +1.2**
CAN pmax pmax
comp=Z,78nm,1.6s
CAN Canberra 53.03 155 P **P 17 37 37.8 +1.8**
CAN sP **sP 17 37 55.2 +0.5**
CNB Canberra Magne 53.17 155 P **P 17 37 38.3 +1.3**
comp=Z,38nm,1.3s
OHH Osh 53.21 311 P **P 17 37 38.9 +1.5**
OHH pmax pmax
comp=Z,11nm,0.5s
KURK Kurchatov 53.24 325 P **P 17 37 38.2 +0.9**
KURK Kurchatov 53.24 325 P **P 17 37 38.2 +0.9**
KURK pmax pmax
comp=Z,65nm,1.0s
KURK Kurchatov 53.24 325 P **P 17 37 38.5 +1.2**
KURK pP **pP 17 37 51.4 +2.0**
KURBB Kurchatov Arra 53.25 325 P **P 17 37 38.4 +1.1**
comp=Z,25nm,0.7s,baz=122,slow=7.6,SNR=162
comp=Z,25nm,0.7s
KURBB Kurchatov Arra 53.25 325 P **P 17 37 37.8 +0.5**
ARSB Arslanbob 53.29 312 P **P 17 37 38.8 +0.7**
ARSB IAmb IAmb 17 38 13.7
comp=Z,13nm,1.1s
ARSB Arslanbob 53.29 312 P **P 17 37 38.8 +0.7**
ARSB pmax pmax
comp=Z,13nm,1.1s
DZM Mont Dzumac 53.47 130 P **P 17 37 38.8 -0.7**
DZM Mont Dzumac 53.47 130 *e*LR LR 17 52 59.7
comp=Z,412nm,29.9s
SEY Seymchan 53.68 15 LR LR 18 03 09.9
comp=Z,95nm,18.0s,baz=270,slow=39
SEY Seymchan 53.68 15⇑*i*P **P 17 37 42.1 +1.8**
SEY pmax pmax
comp=Z,14nm,1.8s
TOO Toolangi 53.72 160 P **P 17 37 41.4 +0.4**
TOO IAmb IAmb 17 37 43.0
comp=Z,9.9nm,0.9s
TOO Toolangi 53.72 160 P **P 17 37 41.4 +0.4**
comp=Z,12nm,1.3s
TOO Toolangi 53.72 160 P **P 17 37 41.4 +0.4**
TOO pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 53.73 317 *c i*P **P 17 37 41.5 +0.5**
BTLS Baital 53.73 317⇑*i*P **P 17 37 41.5 +0.5**
GAR Garm 54.68 309 P **P 17 37 48.4 +0.2**
KBL Kabul 54.84 303 P **P 17 37 49.3 -0.3**
KBL IAmb IAmb 17 38 05.9
comp=Z,17nm,0.8s
KBL Kabul 54.84 303 P **P 17 37 49.3 -0.3**
KBL pmax pmax
comp=Z,17nm,0.8s
DZA Taraz 54.92 314 *e*P **P 17 37 50.1 +0.4**
DZA Taraz 54.92 314 *e*P **P 17 37 50.1 +0.4**
KK31 Karatay Array 55.55 314 P **P 17 37 53.7 -0.6**
KK31 IAmb IAmb 17 38 10.7
comp=Z,17nm,0.8s
KK31 Karatay Array 55.55 314 P **P 17 37 53.7 -0.6**
KK31 pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 55.55 314 P **P 17 37 54.0 -0.3**
KKAR Karatay Array 55.55 314 P **P 17 37 54.0 -0.3**
SIMJ Simiganj 55.61 308 P **P 17 37 55.4 +0.5**
IUG Iuzhnay 55.64 313 *e*P **P 17 37 55.3 +0.3**
IUG pmax pmax
comp=Z,19nm,1.0s
IUG Iuzhnay 55.64 313 *e*P **P 17 37 55.3 +0.3**
comp=Z,19nm,1.0s
CHM Chimkent 55.99 313 *e*P **P 17 37 57.8 +0.4**
CHM Chimkent 55.99 313 *e*P **P 17 37 57.9 +0.4**
BRLS Boroldoy 56.01 313 *c i*P **P 17 37 58.3 +0.7**
BRLS Boroldoy 56.01 313⇑*i*P **P 17 37 58.4 +0.7**
BRZS Berezniki 56.37 322 *e*P **P 17 38 00.6 +0.6**
BRZS Berezniki 56.37 322 *e*P **P 17 38 00.7 +0.6**
TIXI Tiksi 58.83 1 P **P 17 38 16.9 +0.1**
TIXI IAmb IAmb 17 38 18.3
comp=Z,16nm,0.8s
TIXI Tiksi 58.83 1 LR LR 18 04 17.7
comp=Z,290nm,20.9s,baz=192,slow=37
TIXI Tiksi 58.83 1⇓*i*P **P 17 38 17.5 +0.6**
TIXI pmax pmax
comp=Z,23nm,1.0s
BVA0 Borovoye Array 58.84 325 *i* P **P 17 38 17.6 +0.3**
BVAR Borovoye Array 58.84 325 P **P 17 38 18.1 +0.8**
comp=Z,22nm,0.7s,baz=124,slow=9.6,SNR=107
comp=Z,22nm,0.7s
BRVK Borovoye 58.91 325 P **P 17 38 18.1 +0.3**
BRVK Borovoye 58.91 325 *c i*P **P 17 38 18.5 +0.7**
BRVK pmax pmax
comp=Z,39nm,0.7s
BRVK Borovoye 58.91 325⇑P **P 17 38 18.8 +1.0**
BILL Bilibino 61.31 16 P **P 17 38 34.1 +0.1**
BILL IAmb IAmb 17 38 50.7
comp=Z,11nm,0.6s
BILL Bilibino 61.31 16 *d i*P **P 17 38 35.4 +1.4**
BILL pmax pmax
comp=Z,24nm,1.4s
AB31 Akbulak array 64.11 319 IAmb IAmb 17 39 11.6
comp=Z,11nm,0.9s
AB31 Akbulak array 64.11 319 P **P 17 38 52.6 -0.3**
ABKAR Akbulak array 64.11 319 P **P 17 38 53.1 +0.2**
SVE Sverdlovsk 65.37 327 *de*P **P 17 39 01.8 +0.8**
SVE pmax pmax
comp=Z,41nm,0.9s
AKTO Aktyubinsk 65.55 320 LR LR 18 09 50.6
comp=Z,354nm,19.1s,baz=133,slow=38
AKTO Aktyubinsk 65.55 320 P **P 17 39 01.8 -0.5**
ARTI Arti 66.48 326 P **P 17 39 08.3 +0.2**
ARTI Arti 66.48 326 *c i*P **P 17 39 07.9 -0.2**
ARTI *ePP **pP 17 39 20.5 -0.2**
ARTI 17 39 37.0
ARTI 17 41 32.5
ARTI S **S 17 47 55.4 +0.3**
ARTI SS **SS 17 52 10.4 -2.0**
ARTI pmax pmax
comp=Z,20nm,0.8s
ARTI Arti 66.48 326⇑P **P 17 39 08.0 -0.1**
ARTI pP **pP 17 39 20.5 -0.2**
ARTI sP **sP 17 39 26.7 +0.9**
KIRV Kirov 71.61 328 *c i*P **P 17 39 40.0 +0.2**
BELG Belogornoye 72.21 321 LR LR 18 14 39.8
comp=Z,183nm,19.2s,baz=92,slow=38
BELG Belogornoye 72.21 321 *c i*P **P 17 39 43.7 +0.1**
BELG pmax pmax
comp=Z,6.0nm,1.0s
MAK Makhachkala 72.22 311 *c i*P **P 17 39 40.7 -3.1**
MAK *e**PP **pP 17 39 55.2 -1.4**
MAK *e**SP **pwP 17 40 00.8 +0.4**
MAK *e* 17 42 20.0
MAK *ePPP PPP 17 44 09.9
MAK *eS **S 17 49 00.0 -3.1**
MAK *eSS **SS 17 53 41.6 +0.3**
MAK pmax pmax
comp=Z,72nm,1.0s
H19K Roundabout Mou 73.68 25 P **P 17 39 52.6 +0.5**
H19K IAmb IAmb 17 40 08.4
comp=Z,17nm,0.9s
GNI Garni 74.41 308 LR LR 18 16 12.2
comp=Z,176nm,21.1s,baz=83,slow=39
GNI Garni 74.41 308 *de*P **P 17 39 59.0 +1.9**
GNI pmax pmax
comp=Z,19nm,2.1s
GNI Garni 74.41 308 P **P 17 39 58.2 +1.1**
comp=Z,12nm,1.4s
RAYN Ar Rayn 75.44 291 P **P 17 40 03.1 0.0**
RAYN IAmb IAmb 17 40 17.9
comp=Z,22nm,0.8s
RAYN Ar Rayn 75.44 291 P **P 17 40 03.1 0.0**
RAYN pmax pmax
comp=Z,22nm,0.9s
CAST Castle Rocks 75.47 27 IAmb IAmb 17 40 21.2
comp=Z,11nm,0.9s
KBZ Khabaz 75.54 312 P **P 17 40 04.3 +1.1**
comp=Z,4.9nm,1.0s,baz=110,slow=9.2,SNR=8.2
KBZ LR LR 18 17 35.2
comp=Z,307nm,18.1s,baz=79,slow=39
comp=Z,4.9nm,1.0s
KBZ Khabaz 75.54 312 *c i*P **P 17 40 03.8 +0.5**
KBZ pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 75.68 312 *e*P **P 17 40 04.4 +0.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,269nm,18.0s
KIV Kislovodsk 75.68 312 P **P 17 40 05.1 +0.9**
comp=Z,16nm,0.7s
SHA1 Shidzhatmaz 75.71 312⇓*e*P **P 17 40 05.2 +0.6**
GEVA Gevas 75.85 307 IAmb IAmb 17 41 12.9
comp=Z,8.8nm,0.5s
VRH Novokhopyorsk 75.89 320 *e*P **P 17 40 03.0 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
BPAW Bear Paw Mtn. 75.96 27 IAmb IAmb 17 40 23.5
comp=Z,19nm,1.0s
MLY Manley 76.06 26 P **P 17 40 06.9 +1.0**
D23K Nanushuk River 76.09 22 P **P 17 40 05.4 -0.6**
G23K Bananza Creek 76.34 24 P **P 17 40 07.0 -0.4**
G23K IAmb IAmb 17 40 49.2
comp=Z,12nm,1.2s
H23K Yukon River 76.55 25 P **P 17 40 08.7 0.0**
H23K IAmb IAmb 17 40 22.0
comp=Z,28nm,1.6s
GURO Guroymak-BITLI 76.63 307 P **P 17 40 10.2 +0.4**
GURO IAmb IAmb 17 40 23.8
comp=Z,26nm,1.2s
KLMR Klimovskoe 76.68 330 *e*P **P 17 40 07.9 -1.5**
KLMR *e**SP **pwP 17 40 24.7 -1.7**
KLMR pmax pmax
comp=Z,25nm,0.8s
KLMR MLR MLR
comp=Z,258nm,16.0s
NEA2 Nenana 76.78 26 IAmb IAmb 17 40 29.6
comp=Z,8.9nm,0.8s
MCK McKinley 76.88 27 P **P 17 40 10.7 +0.2**
MCK IAmb IAmb 17 40 28.4
comp=Z,13nm,0.8s
MCK McKinley 76.88 27 P **P 17 40 10.7 +0.2**
MCK pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 76.93 27 IAmb IAmb 17 40 30.5
comp=Z,12nm,1.2s
COLA College 77.30 26⇓*e*P **P 17 40 10.7 -2.1**
COLA pmax pmax
comp=Z,8.0nm,1.1s
VORD Divnogorie 77.43 320 *e*P **P 17 40 12.1 -1.7**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 77.49 320 *e*P **P 17 40 11.8 -2.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 77.52 321 *e*P **P 17 40 12.1 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VSLR Vesyoloye 77.64 312 *de*P **P 17 40 16.1 +0.9**
VSLR pmax pmax
comp=Z,24nm,0.9s
ILAR Eielson Array 77.71 26 P **P 17 40 16.6 +1.4**
comp=Z,1.8nm,1.1s,baz=235,slow=6.8,SNR=7.7
comp=Z,1.8nm,1.1s
SCM Sheep Creek Mo 77.72 29 P **P 17 40 16.2 +0.8**
SCM IAmb IAmb 17 40 34.4
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 77.72 29 P **P 17 40 16.2 +0.8**
SCM pmax pmax
comp=Z,15nm,1.0s
MARD Mardin 77.75 306 IAmb IAmb 17 40 29.5
comp=Z,12nm,1.0s
SOC Sochi 77.85 312 *e*P **P 17 40 14.5 -1.8**
SOC *e* 17 43 06.9
SOC *ePPP PPP 17 45 01.8
SOC *eS **S 17 50 05.5 -0.3**
SOC *eSS **SS 17 55 09.6 +2.7**
SOC *eSSS SSS 17 58 19.7
SOC MLR MLR
comp=Z,179nm,14.0s
F25K Christian Rive 78.01 23 IAmb IAmb 17 40 34.7
comp=Z,13nm,1.2s
MOS Moscow 78.01 325 *e*P **P 17 40 15.6 -1.4**
MOS pmax pmax
comp=Z,42nm,0.7s
BMAR Burnt Mountain 78.43 23 P 17 40 19.3 +0.2
OBN Obninsk 78.67 324 *d i*P **P 17 40 20.8 +0.2**
OBN *e* 17 40 30.2
OBN *e* 17 43 22.6
OBN *ePPP PPP 17 45 08.6
OBN pmax pmax
comp=Z,23nm,0.9s
OBN Obninsk 78.67 324 P **P 17 40 20.8 +0.2**
comp=Z,27nm,1.0s
RIDG Independent Ri 78.69 27 IAmb IAmb 17 40 38.1
comp=Z,17nm,1.2s
G26K Porcupine Rive 78.79 24 P 17 40 21.9 +0.9
APA Apatity 78.83 337 *e*P **P 17 40 20.6 -0.7**
APA *eS **S 17 50 13.1 -2.4**
APA *e* 17 50 39.6
APA MLR MLR
comp=Z,327nm,3.0s
N25K Chitina, Valde 79.04 29 P **P 17 40 22.5 -0.1**
DOT Dot Lake 79.05 27 P **P 17 40 22.9 +0.3**
ANN Anapa 79.34 314 *e*P **P 17 40 22.0 -2.5**
ANN *e**PP **pP 17 40 35.1 -2.1**
ANN *e* 17 43 23.7
ANN *eS **S 17 50 20.1 -1.5**
ANN *eSS **SS 17 55 32.7 +3.6**
ANN pmax pmax
comp=Z,56nm,1.2s
I28M Miner Creek 80.55 25 IAmb IAmb 17 40 48.3
comp=Z,11nm,0.9s
GAZ Gaziantep 80.59 306 IAmb IAmb 17 40 46.9
comp=Z,24nm,1.0s
G29M Pine Creek 81.04 23 IAmb IAmb 17 40 51.8
comp=Z,26nm,1.1s
SPB2 Spitsbergen Ar 81.27 349 IAmb IAmb 17 40 41.4
comp=Z,15nm,0.9s
SPITS Spitsbergen Ar 81.27 349 P **P 17 40 34.8 +0.5**
comp=Z,8.0nm,0.8s,baz=110,slow=14,SNR=8.5
SPITS LR LR 18 22 57.4
comp=Z,141nm,18.4s,baz=62,slow=40
comp=Z,8.0nm,0.8s
SPITS Spitsbergen Ar 81.27 349 P **P 17 40 33.4 -0.9**
SPITS pmax pmax
comp=Z,14nm,1.0s
ARCES ARCESS Array B 81.36 339 P 17 40 34.8 -0.1
ARCES IAmb IAmb 17 40 36.9
comp=Z,16nm,1.0s
ARCES ARCESS Array B 81.36 339 P **P 17 40 35.2 +0.3**
comp=Z,11nm,0.9s,baz=64,slow=5.6,SNR=16
comp=Z,11nm,0.9s
ARCES ARCESS Array B 81.36 339 P **P 17 40 34.8 -0.1**
ARCES pmax pmax
comp=Z,16nm,1.0s
ASF Jabal al Asfar 81.67 301 LR LR 18 21 23.2
comp=Z,133nm,21.9s,baz=75,slow=39
BZK Bozkurt 82.25 311 P **P 17 40 40.2 +0.1**
comp=Z,28nm,1.5s
INK Inuvik 82.39 22 LR LR 18 20 55.7
comp=Z,32nm,18.9s,baz=239,slow=38
HYT Haines Junctio 82.55 29 IAmb IAmb 17 40 58.6
comp=Z,7.3nm,0.9s
N30M Aishikik Lake 82.61 29 IAmb IAmb 17 40 58.9
comp=Z,8.4nm,0.9s
MMAI Mount Meron Ar 82.76 302 P **P 17 40 44.1 +1.1**
comp=Z,6.6nm,0.9s,baz=67,slow=8.6,SNR=5.7
MMAI LR LR 18 22 28.4
comp=Z,79nm,18.7s,baz=50,slow=39
comp=Z,6.6nm,0.9s
KIRS Kirsehir-Merke 82.82 308⇑P **P 17 40 44.3 +1.0**
BR131 Keskin Array S 82.92 309⇓*e*P **P 17 40 43.9 0.0**
BRTR Keskin Array B 82.92 309 P 17 40 42.7 -1.2
BRTR Keskin Array B 82.92 309 P **P 17 40 44.1 +0.3**
comp=Z,2.4nm,0.7s,baz=99,slow=4.1,SNR=15
BRTR LR LR 18 23 19.8
comp=Z,96nm,19.1s,baz=114,slow=40
comp=Z,2.4nm,0.7s
BR104 Keskin Array S 82.92 309 P **P 17 40 44.2 +0.3**

comp=Z,44nmcomp=Z,5.0nm,0.9s
BR106 Keskin Array S 82.94 309 P **P** 17 40 44.3 +0.4
comp=Z,31nmcomp=Z,3.7nm,0.8s
FINES FINESS Array B 83.04 331 P **P** 17 40 44.4 +0.6
comp=Z,3.6nm,0.7s,baz=63,slow=5.0,SNR=22
comp=Z,3.6nm,0.7s
VSU Vasula 83.43 328*c* *i*P **P** 17 40 45.2 -0.7
VSU pmax pmax
comp=Z,39nm,0.8s
MNK Minsk 83.73 324 *i* P **P** 17 40 48.0 +0.5
MNK *i* 17 44 01.1
MNK *i* PPP PPP 17 45 53.3
MNK *i* S **SKSac** 17 51 06.5 +0.1
MNK *i* SS **SS** 17 56 37.1 +3.2
MNK *i* SSS SSS 18 00 07.0
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=Z,48nm,0.9s
MNK pmax pmax
comp=N,30nm,1.1s
MNK MLR MLR
comp=Z,228nm,18.0s
MNK MLR MLR
comp=E,116nm,19.0s
MNK MLR MLR
comp=N,141nm,16.0s
AK09 Malin Array Si 83.76 320 P **P** 17 40 47.7 0.0
EIL Elat 85.76 299 LR LR 18 22 26.2
comp=N,224nm,20.9s,baz=71,slow=39
AKASG Malin Array Be 83.78 320 P **P** 17 40 47.6 -0.2
comp=N,2.2nm,0.7s,baz=67,slow=4.8,SNR=16
AKASG LR LR 18 21 49.3
comp=N,123nm,18.3s,baz=71,slow=38
comp=N,2.2nm,0.7s
AKBB Malin Array Si 83.78 320 IAmb IAmb 17 41 00.3
comp=Z,12nm,1.1s
AKBB Malin Array Si 83.78 320*ce* P **P** 17 40 47.6 -0.3
AKBB pmax pmax
comp=Z,10.0nm,1.1s
AKBB Malin Array Si 83.78 320 P **P** 17 40 47.5 -0.3
AK10 Malin Array Si 83.78 320 P **P** 17 40 47.7 -0.2
KIEV Kiev 83.79 320 P **P** 17 40 47.2 -0.7
KIEV IAmb IAmb 17 41 00.3
comp=Z,12nm,1.1s
KIEV Kiev 83.79 320 ⇑P **P** 17 40 47.6 -0.2
KIEV Kiev 83.79 320 P **P** 17 40 47.2 -0.7
KIEV pmax pmax
comp=Z,12nm,1.1s
KIEV Kiev 83.79 320 P **P** 17 40 47.5 -0.4
comp=Z,43nm,1.1s
NACGM Naroch 84.26 325 ⇓ *i*P **P** 17 40 51.3 +1.1
comp=Z,27nm,0.9s,baz=76
PURM Purcari 84.26 316 P **P** 17 40 50.7 +0.3
comp=Z,35nm,1.1s
MI28 Mi28,Pidlybu 84.69 321 P **P** 17 40 52.6 +0.2
SAHE Sakarya_HENDEK 84.79 311 ⇓P **P** 17 40 53.4 +0.2
LUBAR Lubar, Ukraine 84.87 320 P **P** 17 40 53.6 +0.2
SORM Soroca 84.91 318 ⇓P **P** 17 40 53.9 +0.3
SORM Soroca 84.91 318 ⇓P **P** 17 40 53.9 +0.3
SORM Soroca 84.91 318 P **P** 17 40 53.5 -0.1
comp=Z,21nm,1.2s
TLCR 85.28 315 ⇑P **P** 17 40 56.7 +1.2
TLCR 85.28 315 ⇑P **P** 17 40 56.7 +1.2
NDNU Novodnistrovsk 85.44 319 P **P** 17 40 56.1 -0.2
TPGR Topolog 85.63 315 ⇓P **P** 17 40 58.3 +0.9
VASR Vaslui 85.63 317 ⇑P **P** 17 40 58.5 +1.2
RNPP9 Sopachiv 85.65 322 P **P** 17 40 57.2 -0.1
ISP Isparta 85.70 308*de* P **P** 17 40 57.8 -0.1
ISP pmax pmax
comp=Z,20nm,0.8s
TIRR Tirgusor 85.73 314 ⇓P **P** 17 40 58.7 +0.9
TIRR Tirgusor 85.73 314 ⇓P **P** 17 40 58.7 +0.9
CFR Carcaliu 85.75 315 ⇓P **P** 17 40 58.7 +0.8
CFR Carcaliu 85.75 315 ⇓P **P** 17 40 58.7 +0.8
HORU Horodok 85.89 319 P **P** 17 40 58.2 -0.3
HORU Horodok 85.89 319 P **P** 17 40 58.8 +0.3
HARR Harsova 86.01 315 ⇑P **P** 17 41 00.3 +1.2
HARR Harsova 86.01 315 ⇑P **P** 17 41 00.3 +1.2
KMPD K-Podol'skiy 86.03 319 P **P** 17 40 59.0 -0.2
TESR Tescani 86.43 317 ⇑P **P** 17 41 01.7 +0.5
TESR Tescani 86.43 317 P **P** 17 41 01.7 +0.5
comp=Z,497nmcomp=Z,53nm,1.5s
SUW Suwalki 86.52 325 *e*P **P** 17 41 01.3 -0.2
VRI Vrincioaia 86.54 316 ⇑P **P** 17 41 03.0 +1.1
VRI Vrincioaia 86.54 316 P **P** 17 41 03.2 +1.4
VRI Vrincioaia 86.54 316 P **P** 17 41 03.1 +1.3
comp=Z,26nm,1.2s
PLOR5 Plostina Array 86.59 316 P **P** 17 41 03.3 +1.2
comp=Z,18nm,1.1s
PLOR Plostina 86.60 316 ⇑P **P** 17 41 03.7 +1.6
PLOR Plostina 86.60 316 ⇑P **P** 17 41 03.7 +1.6
BISRR Bisoca 86.63 316 ⇓P **P** 17 41 04.3 +2.0
BISRR Bisoca 86.63 316 P **P** 17 41 03.9 +1.6
comp=Z,13µmcomp=Z,53nm,1.4s
ONER Baraj Valea Uz 86.64 317 ⇑P **P** 17 41 03.4 +1.1
TURR Turia 86.97 316 ⇑P **P** 17 41 05.9 +2.0
BURAR Bucovina Array 87.08 318 **P** 17 41 05.0 +0.5
BURAR Bucovina Array 87.08 318 ⇓P **P** 17 41 05.7 +1.2
BURAR Bucovina Array 87.08 318 ⇓P **P** 17 41 05.7 +1.2
OZUR 87.11 317 ⇑P **P** 17 41 07.8 +3.2
MLR Muntele Rosu 87.17 316 LR LR 18 25 06.8
comp=Z,185nm,21.1s,baz=68,slow=39
MLR Muntele Rosu 87.17 316 ⇓P **P** 17 41 05.0 0.0
MLR Muntele Rosu 87.17 316 ⇓P **P** 17 41 05.0 0.0
MLR Muntele Rosu 87.17 316 P **P** 17 41 05.8 +0.8
comp=Z,199nmcomp=Z,17nm,1.2s
LVV L'vov 87.23 320 P **P** 17 41 06.3 +1.3
STNU Starunia 87.24 319 P **P** 17 41 05.3 +0.1
MORS Morshin 87.51 320 P **P** 17 41 06.9 +0.5
MORS Morshin 87.51 320 P **P** 17 41 06.7 +0.3
ELND Elena 87.90 313 ⇓P **P** 17 41 09.1 +0.7
KWP Kalwaria Pacla 88.10 321 *e*P **P** 17 41 10.2 +1.0
KWP Kalwaria Pacla 88.10 321 P **P** 17 41 10.4 +1.2
KWP pmax pmax
comp=Z,21nm,1.0s
KWP Kalwaria Pacla 88.10 321 P **P** 17 41 10.5 +1.2
comp=Z,21nm,1.0s
BRIU Brid 88.29 319 P **P** 17 41 10.9 +0.8
KOLS Kolonicke sedl 88.59 320 *e*P **P** 17 41 14.1 +2.5
KOLS Kolonicke sedl 88.59 320 *e*P **P** 17 41 14.0 +2.5
HOLU Holmets 88.64 320 P **P** 17 41 13.1 +1.3
PLVB Pleven 88.65 314 ⇓P **P** 17 41 12.8 +0.8
MARR Marisel-Cluj 88.72 318 ⇓P **P** 17 41 13.1 +0.8
STHS Stebnicka Huta 89.08 321 *e*P **P** 17 41 16.1 +2.2
STHS Stebnicka Huta 89.08 321 *e*P **P** 17 41 16.1 +2.2
HFS Hagfors 89.20 332 P **P** 17 41 14.5 +0.3
comp=Z,6.0nm,1.0s,baz=69,slow=7.9,SNR=9.0
comp=Z,6.0nm,1.0s
RES Resolute Bay 89.21 10 LR LR 18 23 28.1
comp=Z,61nm,20.6s,baz=204,slow=37
GZR Gura Zlata 89.33 316 ⇑P **P** 17 41 15.3 +0.1
GZR Gura Zlata 89.33 316 ⇑P **P** 17 41 15.3 +0.1
PPT2 Papeete2 89.59 108 *e*S **S** 17 52 06.4 +1.5
comp=Z,212nm,30.5s
PPT2 Papeete2 89.59 108 *e*LR LR 18 09 45.3
comp=Z,246nm,24.2s
PPT2 *e*LR LR 18 09 46.5
comp=Z,257nm,31.0s
NC405 NORSAR Array S 89.66 334 P **P** 17 41 15.4 -0.9
NC405 IAmb IAmb 17 41 31.9
comp=Z,6.6nm,0.8s
NIE Niedzica 89.66 321 *e*P **P** 17 41 17.7 +1.1
NIE Niedzica 89.66 321 P **P** 17 41 18.2 +1.6
SURR Surduc 89.66 317 ⇑P P 17 41 06.9 -10
OJC Ojcow 89.70 322 *e*P **P** 17 41 17.4 +0.7
SIRR Siria 89.81 318 ⇑P **P** 17 41 18.0 +0.6
NB2 NORSAR Subarra 89.91 334 P **P** 17 41 16.9 -0.7
comp=Z,2.7nm,0.8s,baz=66,slow=4.8
NOA NORSAR Array B 89.91 334 P **P** 17 41 16.8 -0.7
comp=Z,1.8nm,0.8s,baz=66,slow=4.8,SNR=8.1
comp=Z,1.8nm,0.8s
BZS Buzias 90.04 317 ⇑P **P** 17 41 22.5 +4.1
BZS Buzias 90.04 317 ⇑P **P** 17 41 22.5 +4.1
MDVR Moldovita 90.24 316 ⇑P **P** 17 41 23.7 +4.2
LANS Liptovska Anna 90.26 321 *e*P **P** 17 41 21.4 +2.0
LANS Liptovska Anna 90.26 321 *e*P **P** 17 41 21.4 +2.0
IDI Anoyia 90.72 306 LR LR 18 28 11.0
comp=Z,118nm,20.1s,baz=105,slow=40
VYHS Vyhne 90.88 320 *e*P **P** 17 41 25.4 +3.1
VYHS Vyhne 90.88 320 *e*P **P** 17 41 25.4 +3.1
TBI Tubuai 91.03 114 *e*LR LR 18 10 18.5
comp=Z,1µm,26.8s
MORC Moravsky Berou 91.22 322 *e*P **P** 17 41 22.0 -1.9
JAVC Velka Javorina 91.47 321 *e*P **P** 17 41 26.4 +1.3
KSP Ksiaz 91.56 323 *e*P **P** 17 41 25.8 +0.4
MORH Mrgy, Hungar 91.80 318 ⇓P **P** 17 41 26.8 +0.2
VRAC Vranov 91.96 322 LR LR 18 26 43.2
comp=Z,97nm,18.4s,baz=76,slow=38
PDG Podgorica 92.70 314 **P** 17 41 29.1 -1.6
PDG IAmb IAmb 17 41 45.4
comp=Z,7.0nm,0.7s
RONA Rosalia, Austr 92.75 320 *i* PcP **P** 17 41 31.5 +0.5
comp=Z,1.0nm,0.7s
CONA Conrad Observa 92.94 320 *e*PcP **P** 17 41 32.4 +0.5
comp=Z,0.4nm,0.6s
CLL Collm 93.27 324 *e*P **P** 17 41 33.0 -0.3
CLL *e**PP **pP** 17 41 44.0 -2.2
CLL Collm 93.27 324 *e*P **P** 17 41 33.0 -0.3
CLL *e*pP **pP** 17 41 44.0 -2.2
CLL *e*sP **pwP** 17 41 49.0 -1.9
CLL *e*S **S** 17 52 30.0 -7.0
CLL *e*SS **SS** 17 58 54.0 +1.3
CLL Lm MLR 18 27 00.0
comp=N,100nm,20.9s
CLL Lm MLR 18 27 00.0
comp=E,100nm,21.6s
CLL Lm MLR 18 27 00.0
comp=Z,200nm,19.8s
GERES GERESS Array B 93.89 322 P **P** 17 41 36.5 +0.2
comp=Z,0.5nm,0.7s,baz=318,slow=1.8,SNR=5.8
comp=Z,0.5nm,0.7s
SOKA Soboth 93.94 320 *e*P **P** 17 41 36.0 -0.6
comp=Z,0.3nm,0.5s
MOA Molln 93.96 321 *e*PcP **P** 17 41 36.9 +0.4
comp=Z,7.9nm,1.3s
OBKA Obir 94.32 320 *e*P **P** 17 41 37.3 -1.0
comp=Z,12nm,1.4s
BIOA Bad Ischl, Aus 94.41 321 *e*P **P** 17 41 38.0 -0.7
comp=Z,0.2nm,0.4s
MYKA Terra Mystica 94.84 320 *e*PcP **P** 17 41 41.2 +0.5
comp=Z,0.3nm,0.4s
KBA Koelnbreinsper 94.84 320 *e*PcP **P** 17 41 40.5 -0.3
comp=Z,0.1nm,0.4s
LESA Schwarzleotal 95.11 321 *e*P **P** 17 41 40.6 -1.3
comp=Z,0.8nm,0.6s
ABTA Abfaltersbach 95.50 320 *e*P **P** 17 41 41.7 -2.0
comp=Z,3.1nm,1.5s
WTTA Wattenberg 95.82 321 *i* PcP **P** 17 41 44.8 -0.4
comp=Z,0.4nm,0.5s
SQTA Sankt Quirin 96.10 321 *e*P **P** 17 41 45.8 -0.7
comp=Z,1.2nm,0.9s
MOTA Moosalm 96.11 321 *e*PcP **P** 17 41 47.3 +0.7
comp=Z,0.4nm,0.6s
TAOE Nuku Hiva Isla 96.66 98 *e*S **S** 17 53 07.2 -0.8
comp=Z,191nm,23.6s
TAOE Nuku Hiva Isla 96.66 98 *e*LR LR 18 13 11.5
comp=Z,274nm,22.9s
DAVOX Davos/Dischmat 97.11 321 LR LR 18 31 19.4
comp=Z,122nm,18.1s,baz=66,slow=39
BORG Borgarnes 98.55 346 LR LR 18 31 47.8
comp=Z,99nm,18.1s,baz=12,slow=39
EKA Eskdalemuir Ar 99.38 333 P **Pdif** 17 42 01.4 +0.6
comp=Z,0.9nm,0.8s,baz=36,slow=4.0,SNR=2.7
comp=Z,0.9nm,0.8s
SYO Syowa Base 100.22 201⇑ *e*PKiKP **PKiKP** 17 46 31.0 -0.2
SYO Syowa Base 100.22 201⇓ *e*sPKiKP sPKiKP 17 46 49.4 -1.1
NVAR Mina Array Bea 102.01 46 P **Pdif** 17 42 15.0 +1.7
comp=Z,0.2nm,0.4s,baz=242,slow=6.2,SNR=3.7
PLCA Paso Flores 149.05 157 PKPbc **PKPbc** 17 48 07.2 +0.3
comp=Z,3.7nm,0.8s,baz=193,slow=5.6,SNR=5.8

MRB ***02*** *17:36:35.6±0.3, 43.08N×0.12E, ML1.8/11, Error ellipse: s-maj=2.7km s-min=2.2km az=339.0*
LDG ***02*** *17:36:35.6±0.1, 43.06N×0.10E, h10km, Md2.4/2, Ml2.8/14, Error ellipse: s-maj=1.7km s-min=1.4km az=170.0*
STR ***02*** *17:36:36.3±0.4, 43°N±2°×±°, h5km, MLv1.9/6, LOCSAT earthModelID pyrenees_taup-2.11 preliminary*
MDD ***02*** *17:36:36.1±0.2, 43.05N×0.08E, h0km, mb_Lg2.4/18, Error ellipse: s-maj=2.2km s-min=1.4km az=12.0*

ISC 02 17:36:34.9±0.8, 43.10N±0.02×0.12E±0.02, h14km±4km, n51,σ0s89/90, France

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
LABF	**Labassere**	**0.07**	**211**		Pg	**Pg**	**17 36 37.8**	**0.0**
LABF					Sg	**Sg**	**17 36 39.5**	**-0.2**
PYLO	**Lourdes**	**0.12**	**267**		P	**Pg**	**17 36 38.3**	**-0.1**
PYLO					S	**Sg**	**17 36 40.4**	**-0.3**
PYLO	**Lourdes**	**0.12**	**267**		Pg	**Pg**	**17 36 38.3**	**-0.1**
PYLO					Sg	**Sg**	**17 36 40.4**	**-0.3**
EPF	**Esparros**	**0.18**	**114**	*e*	Pg	**Pg**	**17 36 39.5**	**+0.4**
EPF					eSg	**Sg**	**17 36 42.8**	**+0.8**
	103nm,0.2s							
VIEF	**Viey**	**0.23**	**198**		P	**Pg**	**17 36 39.8**	**-0.2**
VIEF					S	**Sg**	**17 36 42.8**	**-0.7**
VIEF	**Viey**	**0.23**	**198**		Pg	**Pg**	**17 36 39.3**	**-0.8**
VIEF					Sg	**Sg**	**17 36 41.5**	**-2.0**
REYF	**Montagne du Re**	**0.38**	**265**		Pg	**Pg**	**17 36 42.3**	**-0.3**
REYF					Sg	**Sg**	**17 36 47.6**	**-0.2**
ECHI	**Chisagues Biel**	**0.44**	**173**		Pg	**Pg**	**17 36 42.9**	**-0.9**
ECHI					Sg	**Sg**	**17 36 48.3**	**-1.4**
ECHI	**Chisagues Biel**	**0.44**	**173**		Pg	**Pg**	**17 36 42.9**	**-0.9**
ECHI					Sg	**Sg**	**17 36 48.3**	**-1.4**
MELF	**Melles**	**0.52**	**116**		Pg	**Pb**	**17 36 46.2**	**+0.3**
MELF					Sg	**Sg**	**17 36 53.1**	**+0.8**
ETSF	**Etsaut**	**0.54**	**248**	*e*	Pg	**Pg**	**17 36 44.8**	**-0.7**
ETSF					eSg	**Sg**	**17 36 51.6**	**-1.1**
	108nm,0.2s							
CANF	**Canfranc**	**0.58**	**234**		Pg	**Pg**	**17 36 45.7**	**-0.6**
CANF					Sg	**Sg**	**17 36 52.5**	**-1.5**
ATE	**Arette**	**0.60**	**269**		P	**Pg**	**17 36 46.4**	**-0.3**
ATE					S	**Sb**	**17 36 55.7**	**+0.1**
	19nm,0.1s							
ATE	**Arette**	**0.60**	**269**		Pg	**Pg**	**17 36 47.0**	**+0.3**
ATE					Sg	**Sg**	**17 36 55.1**	**+0.4**
URDF	**Urds**	**0.62**	**303**		Pg	**Pb**	**17 36 48.5**	**+1.0**
URDF					Sg	**Sb**	**17 36 57.4**	**+1.3**
CARA	**Val d'Aran**	**0.65**	**127**		P	**Pg**	**17 36 47.6**	**0.0**
CARA					S	**Sg**	**17 36 56.3**	**+0.1**
	33nm,0.3s							
MLS	**Moulis**	**0.73**	**101**		P	**Pg**	**17 36 49.6**	**+0.5**
IRAF	**Chalets d'Irat**	**0.85**	**266**		Pg	**Pg**	**17 36 51.7**	**+0.3**
IRAF					Sg	**Sg**	**17 37 02.9**	**+0.3**
CTRE	**Tremp**	**0.92**	**148**		P	**Pg**	**17 36 52.1**	**-0.6**
CTRE					S	**Sg**	**17 37 04.8**	**+0.1**
	19nm,0.2s							
CEST	**Esterri de Car**	**0.97**	**121**		P	**Pg**	**17 36 53.4**	**-0.4**
CEST					S	**Sb**	**17 37 06.9**	**+0.5**
	13nm,0.2s							
SJPF	**Ste Jean**	**0.98**	**271**	*e*	Pg	**Pb**	**17 36 53.4**	**-0.4**
SJPF					eSg	**Sg**	**17 37 06.8**	**0.0**
	12nm,0.2s							
CSOR	**Sort**	**1.04**	**134**		P	**Pb**	**17 36 54.6**	**-0.2**
CSOR					S	**Sg**	**17 37 09.1**	**+0.4**
	29nm,0.2s							
EORO	**Oroz-Betelu**	**1.07**	**259**		Pg	**Pn**	**17 36 55.9**	**+0.3**
EORO					Sg	**Sb**	**17 37 09.3**	**+0.2**
EORO				*i*	lVmb_Lg		17 37 11.5	
EALK	**Alkurruntz**	**1.20**	**276**		Pg	**Pg**	**17 36 58.1**	**+0.2**
EALK					Sg	**Sb**	**17 37 13.1**	**+0.3**
EALK				*i*	lVmb_Lg		17 37 18.3	
ARBS	**La Rabassa**	**1.24**	**122**		P	**Pn**	**17 36 58.2**	**+0.2**
ARBS					S	**Sg**	**17 37 15.8**	**+0.8**
	29nm,0.3s							
CORG	**Organya**	**1.24**	**134**		P	**Pn**	**17 36 58.0**	**+0.1**
CORG					S	**Sb**	**17 37 14.5**	**+0.5**
	11nm,0.4s							
CAVN	**Les Avellanes**	**1.31**	**159**		P	**Pn**	**17 36 59.3**	**+0.5**
CAVN					S	**Sn**	**17 37 16.7**	**+0.6**
	70nm,0.2s							
ESAC	**San Caprasio**	**1.45**	**198**		Pg	**Pb**	**17 37 02.1**	**+0.4**
ESAC					Sg	**Sb**	**17 37 20.6**	**+0.6**
CLLI	**Llivia**	**1.50**	**114**		P	**Pb**	**17 37 03.2**	**+0.6**
CLLI					S	**Sg**	**17 37 23.4**	**+0.2**
	9.7nm,0.3s							
MTLF	**Montolieu**	**1.55**	**81**	*e*	Pg	**Pg**	**17 37 05.0**	**+0.3**
MTLF					eSg	**Sg**	**17 37 25.5**	**+0.6**
	14nm,0.2s							
CBRU	**Bruguera**	**1.73**	**118**		S	**Sb**	**17 37 29.1**	**+1.1**
	13nm,0.3s							
CORI	**Orista**	**1.82**	**128**		Lg	Lg	17 37 32.8	
LFF	**La Frestale**	**1.89**	**13**	*e*	Pg	**Pg**	**17 37 12.0**	**+0.9**
LFF					eSg	**Sg**	**17 37 37.0**	**+1.4**
	19nm,0.2s							
EPOB	**Poblet**	**1.89**	**158**		Pg	**Pb**	**17 37 09.4**	**+0.1**
EPOB					Sg	**Sb**	**17 37 32.5**	**-0.2**
EPOB				*i*	lVmb_Lg		17 37 34.6	
EPOB	**Poblet**	**1.89**	**158**		P	**Pn**	**17 37 08.3**	**+1.4**
EPOB					S	**Sb**	**17 37 33.2**	**+0.5**
	18nm,0.5s							
ERTA	**Horta de San J**	**2.15**	**176**		Pg	**Pb**	**17 37 14.0**	**+0.4**
ERTA					Sg	**Sb**	**17 37 41.6**	**+1.4**
ERTA				*i*	lVmb_Lg		17 37 43.9	
CFON	**Fontmartina**	**2.18**	**127**		Lg	Lg	17 37 44.0	
CAF	**Calviac**	**2.30**	**37**	*e*	Pg	**Pg**	**17 37 19.4**	**+0.4**
CAF					eSg	**Sg**	**17 37 48.8**	**0.0**
	10nm,0.3s							
RJF	**Les Rejaudoux**	**2.42**	**24**	*e*	Pg	**Pg**	**17 37 21.2**	**-0.1**
RJF					eSg	**Sg**	**17 37 52.8**	**+0.2**
	9.2nm,0.2s							
EMOS	**Mosqueruela**	**2.77**	**189**		Pn	**Pb**	**17 37 23.1**	**-1.3**
EMOS					Sn	**Sn**	**17 37 53.5**	**+1.1**
EMOS					Sg	**Sg**	**17 38 03.4**	**-0.6**
LASF	**Ste Croix**	**2.88**	**69**	*e*	Pn	**Pn**	**17 37 19.4**	**-1.0**
LASF	**Ste Croix**	**2.88**	**69**	*e*	Pg	**Pg**	**17 37 28.9**	**-1.3**
LASF					eSg	**Sg**	**17 38 07.1**	**-0.4**
	3.6nm,0.2s							
TCF	**Toulx Ste Croi**	**3.52**	**24**	*e*	Pg	**Pg**	**17 37 40.9**	**-1.3**
TCF					eSg	**Sg**	**17 38 26.6**	**-1.1**
	4.5nm,0.3s							
VIVF	**Saint-Julien-l**	**3.72**	**60**	*e*	Pn	**Pn**	**17 37 31.0**	**-1.0**
VIVF	**Saint-Julien-l**	**3.72**	**60**	*e*	Pg	**Pg**	**17 37 44.4**	**-1.8**
VIVF					eSg	**Sg**	**17 38 32.7**	**-1.7**
	2.8nm,0.3s							
BGF	**Bois d'Agland**	**3.96**	**28**	*e*	Sg	**Sg**	**17 38 41.1**	**-0.9**
	13nm,0.4s							
AVF	**Avril sur Loir**	**4.34**	**31**	*e*	Pg	**Pg**	**17 37 56.2**	**-1.8**
AVF					eSg	**Sg**	**17 38 52.1**	**-2.1**
	2.5nm,0.4s							
SMF	**Signal de Mont**	**4.42**	**35**	*e*	Sg	**Sg**	**17 38 56.0**	**-0.7**
	2.0nm,0.3s							
SSF	**Saint Saulge**	**4.63**	**30**	*e*	Sg	**Sg**	**17 39 01.4**	**-2.0**
	2.1nm,0.3s							
LOR	**Lormes**	**4.93**	**31**	*e*	Sg	**Sg**	**17 39 11.0**	**-2.1**
	2.1nm,0.4s							
ROSF	**Rostrenen**	**5.75**	**337**	*e*	Pn	**Pn**	**17 38 00.0**	**+0.3**

PRU 02 17:40:32.0, 49.81N×18.45E, h0km, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
OKC	**Ostrava-Krasne**	**0.20**	**278**	*e*	PG	Pg	17 40 36.4	+0.6
OKC					eSG	Sg	17 40 39.5	+1.2
	9.5nm,0.5s							
STEB	**Steborice**	**0.46**	**286**		eSG	Sg	17 40 47.3	+0.7
MORC	**Moravsky Berou**	**0.59**	**267**	*e*	PG	Pg	17 40 42.8	-0.5
MORC					eSG	Sg	17 40 50.1	-0.8
MORC	**Moravsky Berou**	**0.59**	**267**	⇑	P	Pn	17 40 51.1	+3.6
LANS	**Liptovska Anna**	**0.94**	**134**	*e*	PG	Pg	17 40 47.4	-2.5
LANS					eSG	Sg	17 41 00.6	-1.4
LANS					eLG	Lg	17 41 06.2	
JAVC	**Velka Javorina**	**1.08**	**208**	*e*	PG	Pg	17 40 52.4	-0.3
KRLC	**Kraliky**	**1.11**	**284**		eSG	Sg	17 41 06.5	-1.1
VRAC	**Vranov**	**1.31**	**248**	*e*	PG	Pg	17 40 55.9	-1.2
VRAC					eSG	Sg	17 41 12.8	-1.2
VYHS	**Vyhne**	**1.34**	**169**	*e*	PG	Pg	17 40 54.9	-2.8
VYHS					eSG	Sg	17 41 14.0	-1.0
DPC	**Dobruska-Polom**	**1.47**	**292**	*e*	SG	Sg	17 41 18.5	-0.8
KRUC	**Moravsky**	**1.54**	**242**	*e*	PG	Pn	17 40 59.0	-1.7
KRUC					eSG	Sn	17 41 19.5	-1.8
OSTC	**Ostas**	**1.62**	**298**		eSG	Sn	17 41 22.5	-0.9
KHC	**Kasperske Hory**	**3.25**	**260**		eSG	Sg	17 42 14.3	-2.0

IDC ***02*** *17:57:25.9±1.9, 60.07N×153.24W, h110km±39km, mb3.4/4, mbtmp3.8/6, Error ellipse: s-maj=62.1km s-min=11.7km az=105.0*
NEIC ***02*** *17:57:27.4±1.0, 59.99N±0.04×153.15W±0.08, h144km±3km, Error ellipse: s-maj=5.7km s-min=5.5km az=167.0*
AEIC ***02*** *17:57:29.2±1.4, 59.98N±0.04×153.16W±0.06, h134km±3km, ML3.1, ML3.3/190(NEIC), Error ellipse: s-maj=5.5km s-min=4.0km az=179.0*

ISC 02 17:57:27.6±0.8, 59.97N±0.03×153.14W±0.03, h145km±5km, n185,σ1s00/209, mb3.6/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ILSW	**Iliamna Southw**	**0.01**	**356**			**Pn**	**17 57 46.9**	**-0.3**
ILSW					Sn	**Sn**	**17 58 01.1**	**-1.1**
ILSW					IAML		17 58 01.8	
	comp=E,258nm,1.0s							
ILS	**Iliamna Low So**	**0.04**	**113**			**Pn**	**17 57 46.9**	**-0.3**
ILS						**Sn**	**17 58 01.1**	**-0.9**
IVE	**Iliamna Volcan**	**0.08**	**55**			**Pn**	**17 57 46.8**	**-0.4**
IVE						**Sn**	**17 58 01.1**	**-1.0**
O20K	**Slope Mountain**	**0.28**	**67**			**Pn**	**17 57 47.5**	**0.0**
O20K						**Sn**	**17 58 02.1**	**-0.6**
P19K	**Oil Pt**	**0.33**	**188**			**Pn**	**17 57 47.4**	**-0.3**
P19K					Sn	**Sn**	**17 58 01.9**	**-1.0**
P19K					IAML		17 58 02.5	
	comp=N,820nm,0.6s							
P19K					IAML		17 58 03.6	
	comp=E,767nm,0.7s							
RED	**Redoubt Volcan**	**0.48**	**22**			**Pn**	**17 57 48.0**	**-0.4**
RED					Sn	**Sn**	**17 58 02.7**	**-1.6**
RED					IAML		17 58 03.6	
	comp=E,689nm,0.9s							
RED					IAML		17 58 03.8	
	comp=N,273nm,0.5s							
RDSO	**Redoubt South**	**0.52**	**22**			**Pn**	**17 57 48.4**	**-0.3**
RDSO						**Sn**	**17 58 03.5**	**-1.2**
RDWB	**Redoubt West**	**0.54**	**16**			**Pn**	**17 57 48.5**	**-0.3**
RDWB						**Sn**	**17 58 03.3**	**-1.5**
NCT	**North Crescent**	**0.60**	**10**			**Sn**	**17 58 04.2**	**-1.2**
AU22	**Augustine Moun**	**0.61**	**190**			**Pn**	**17 57 48.9**	**-0.1**
AUCH	**Augustine Cone**	**0.63**	**194**			**Pn**	**17 57 49.2**	**0.0**
AUCH						**Sn**	**17 58 05.2**	**-0.4**
O19K	**Port Alsworth**	**0.63**	**291**			**Pn**	**17 57 48.5**	**-0.6**
O19K					Sn	**Sn**	**17 58 04.0**	**-1.4**
O19K					IAML		17 58 04.7	
	comp=E,525nm,0.5s							
O19K					IAML		17 58 05.7	
	comp=N,219nm,0.4s							
RDJH	**Redoubt Jeurge**	**0.64**	**15**			**Pn**	**17 57 49.2**	**-0.1**
RDJH						**Sn**	**17 58 04.6**	**-1.3**
DFR	**Drift River**	**0.66**	**20**			**Pn**	**17 57 49.2**	**-0.2**
DFR						**Sn**	**17 58 04.9**	**-1.2**
RDT	**Redoubt**	**0.70**	**31**			**Sn**	**17 58 04.6**	**-1.9**
HOM	**Homer**	**0.82**	**112**			**Pn**	**17 57 50.4**	**0.0**
HOM					Sn	**Sn**	**17 58 07.4**	**-0.3**
HOM					IAML		17 58 08.6	
	comp=E,864nm,0.3s							
HOM					IAML		17 58 09.0	
	comp=N,749nm,0.4s							
O18K	**Koktuh Hills**	**1.05**	**264**		Pn	**Pn**	**17 57 51.6**	**-0.7**
O18K					Sn	**Sn**	**17 58 09.7**	**-1.4**
CNPM	**China Poot**	**1.06**	**114**			**Pn**	**17 57 52.3**	**-0.2**
CNPM					Sn	**Sn**	**17 58 09.8**	**-1.6**
CNPM					IAML		17 58 11.8	
	comp=N,692nm,0.3s							
CNPM					IAML		17 58 11.9	
	comp=E,804nm,0.3s							
N19K	**Bonanza Creek**	**1.07**	**322**			**Pn**	**17 57 52.0**	**-0.6**
N19K					Sn	**Sn**	**17 58 10.0**	**-1.8**
N19K					IAML		17

SPU	Mount Spurr	1.33	23			Sn	17 58 14.6	-1.4
SPU	Mount Spurr	1.33	23			Pn	17 57 54.5	-0.5
SPU					IAML		17 58 16.3	
	comp=N,172nm,0.8s							
SPU					IAML		17 58 16.9	
	comp=E,225nm,0.7s							
SPCN	Chakachatna No	1.34	20			Pn	17 57 55.4	+0.2
SPBG	Spurr Blockage	1.35	16			Sn	17 58 15.7	-0.7
SPCP	Crater Peak Br	1.39	20			Pn	17 57 55.9	+0.1
SYI	Shuyak Island	1.42	164			Sn	17 58 16.7	-0.8
SYI	Shuyak Island	1.42	164			Pn	17 57 55.7	-0.2
SPCG	Spurr Capps GI	1.43	22			Sn	17 58 17.3	-0.7
N18K	Kilae Creek	1.54	299			Pn	17 57 56.7	-0.5
SLKM	Skilak Lake	1.55	69			Pn	17 57 56.6	-0.8
KAHC	Katmai Hardscr	1.64	217			Pn	17 57 58.3	-0.2
KAHC	Katmai Hardscr	1.64	217			Pn	17 57 58.2	-0.2
KAHG	Katmai Hook Gl	1.65	207			Pn	17 57 58.5	0.0
STLK	Strandline Lak	1.66	22			Pn	17 57 58.2	-0.4
O22K	Cooper Landing	1.78	72			Pn	17 58 00.2	+0.4
SEW	Seward	1.86	84			Pn	17 58 00.4	-0.2
SEW					IAML		17 58 24.7	
	comp=N,214nm,0.4s							
SEW					IAML		17 58 25.9	
	comp=E,150nm,0.3s							
FIS	Fire Island	1.86	50	Pn		Pn	17 58 01.5	+0.8
FIS					IAML		17 58 33.4	
	comp=E,397nm,0.4s							
SUA	Susitna One	1.90	37			Pn	17 58 00.9	-0.5
M20K	Styx River	1.92	0			Pn	17 58 01.2	-0.3
O17K	Koliganek Bris	2.00	266			Pn	17 58 02.9	+0.5
M18K	Stony River	2.01	320			Pn	17 58 02.1	-0.4
RC01	Rabbit Creek A	2.02	55			Pn	17 58 02.0	-0.6
RC01					IAML		17 58 29.9	
	comp=E,390nm,0.2s							
RC01					IAML		17 58 30.0	
	comp=N,370nm,0.3s							
M19K	Big River Lodg	2.03	343			Pn	17 58 02.4	-0.3
N17K	Nushagak Hills	2.09	287			Pn	17 58 03.3	-0.2
ACHA	Angle Creek He	2.10	213			Pn	17 58 03.3	-0.4
SKT	Skwentna	2.16	21			Pn	17 58 03.5	-0.8
SKT					IAML		17 58 35.6	
	comp=E,65nm,0.3s							
SKT					IAML		17 58 36.6	
	comp=N,76nm,0.3s							
KDAK	Kodiak Island	2.22	172			Pn	17 58 03.5	-1.5
KDAK					IAML		17 58 33.3	
	comp=N,182nm,0.3s							
KDAK					IAML		17 58 33.5	
	comp=N,198nm,0.3s							
KDAK	Kodiak Island	2.22	172	P		Pn	17 58 03.8	-1.1
	comp=N,20nm,0.3s,baz=12,slow=5.5,SNR=169							
KDAK				S		Sn	17 58 31.6	-2.0
	comp=N,34nm,0.3s,baz=117,slow=22,SNR=11							
KJL	Kejulik	2.30	214			Pn	17 58 06.4	+0.3
M22K	Willow	2.32	38			Pn	17 58 06.0	-0.1
L19K	White Mountain	2.37	340			Pn	17 58 06.2	-0.6
R18K	Karluk	2.51	196			Pn	17 58 07.2	-1.4
R18K	Karluk	2.51	196		IAML		17 58 40.6	
	comp=N,270nm,0.5s							
R18K					IAML		17 58 41.8	
	comp=E,140nm,0.3s							
O16K	Kokwok River B	2.53	264	Pn		Pn	17 58 09.4	+0.6
PWL	Port Wells	2.54	67			Pn	17 58 09.4	+0.4
PWL					IAML		17 58 39.3	
	comp=N,263nm,0.3s							
PWL					IAML		17 58 39.5	
	comp=E,225nm,0.2s							
PMR	Palmer	2.55	49	Pn		Pn	17 58 08.0	-1.0
PMR					IAML		17 58 38.7	
	comp=E,100nm,0.3s							
PMR					IAML		17 58 40.2	
	comp=N,161nm,0.2s							
M17K	Holitna River	2.55	306			Pn	17 58 08.6	-0.5
M17K					IAML		17 58 42.4	
	comp=E,45nm,0.8s							
P16K	Nushagak River	2.65	251	Pn		Pn	17 58 11.3	+1.0
P16K					IAML		17 58 46.9	
	comp=E,56nm,1.2s							
KNK	Knik Glacier	2.72	56			Pn	17 58 09.2	-2.0
KNK					IAML		17 58 43.9	
	comp=N,152nm,0.2s							
KNK					IAML		17 58 44.6	
	comp=E,164nm,0.3s							
GHO	Glory Hole Cre	2.74	47			Pn	17 58 09.6	-1.9
GHO					IAML		17 58 46.1	
	comp=N,169nm,0.5s							
GHO					IAML		17 58 46.2	
	comp=E,213nm,0.7s							
OHAK	Old Harbor	2.76	182			Pn	17 58 10.2	-1.5
OHAK					IAML		17 58 43.8	
	comp=N,58nm,0.3s							
OHAK					IAML		17 58 44.5	
	comp=E,63nm,0.4s							
OHAK	Old Harbor	2.76	182	P		Pn	17 58 10.2	-1.5
OHAK	Old Harbor	2.76	182	S		Sn	17 58 43.0	-2.6
CUT	Chulitna	2.81	28			Pn	17 58 11.8	-0.4
CUT					IAML		17 58 47.4	
	comp=N,209nm,0.2s							
PLK1	Peulik 1	2.83	221			Pn	17 58 12.9	+0.4
L18K	Granite Mounta	2.84	324			Pn	17 58 11.7	-0.9
PLK4	Peulik 4	2.88	217			Pn	17 58 13.3	0.0
PLK4					IAML		17 58 52.7	
	comp=E,41nm,0.8s							
PLK4					IAML		17 58 57.9	
	comp=N,28nm,1.0s							
P23K	Montague Islan	2.88	87			Pn	17 58 13.6	+0.3
P23K					IAML		17 58 50.9	
	comp=E,173nm,0.3s							
PPLA	Purkeypile	2.97	8			Pn	17 58 14.5	+0.1
M16K	Timber Creek	3.06	293	Pn		Pn	17 58 16.3	+0.7
GLI	Glacier Island	3.13	71			Pn	17 58 16.8	+0.4
GLI					IAML		17 58 53.6	
	comp=N,99nm,0.4s							
GLI					IAML		17 58 54.1	
	comp=E,132nm,0.2s							
L17K	Donlin	3.31	313			Pn	17 58 18.6	-0.1
HIN	Hinchinbrook I	3.34	80			Pn	17 58 19.1	0.0
HIN					IAML		17 58 58.3	
	comp=N,135nm,0.8s							
SCM	Sheep Creek Mo	3.40	54			Pn	17 58 18.9	-1.0
FID	Port Fidalgo	3.40	74			Pn	17 58 19.3	-0.6
SII	Sitkinak Islan	3.47	190			Pn	17 58 19.0	-1.8
SII					IAML		17 59 00.7	
	comp=N,116nm,0.6s							
SII					IAML		17 59 02.4	
	comp=E,79nm,0.6s							
SII	Sitkinak Islan	3.47	190	P		Pn	17 58 19.5	-1.3
SII	Sitkinak Islan	3.47	190	S		Sn	17 58 59.0	-2.9
Q23K	Middleton Isla	3.48	96	Pn		Pn	17 58 20.8	-0.1
Q23K					IAML		17 59 08.0	
	comp=E,109nm,1.3s							
Q23K					IAML		17 59 35.1	
	comp=N,73nm,1.1s							
N15K	Kwethluk River	3.49	276	Pn		Pn	17 58 22.2	+1.2
O15K	Ungalikthiuk R	3.49	260	Pn		Pn	17 58 22.0	+1.0
O15K					IAML		17 59 05.9	
	comp=N,20nm,1.2s							
CAST	Castle Rocks	3.50	8			Pn	17 58 20.6	-0.5
K17K	Iditarod	3.71	320	Pn		Pn	17 58 23.7	-0.1
EYAK	Cordova Ski Ar	3.73	78			Pn	17 58 23.7	-0.4
EYAK					IAML		17 59 08.8	
	comp=N,63nm,0.5s							
EYAK					IAML		17 59 09.3	
	comp=E,43nm,0.8s							
EYAK	Cordova Ski Ar	3.73	78	P		Pn	17 58 24.4	+0.3
EYAK	Cordova Ski Ar	3.73	78	S		Sn	17 59 06.4	-1.4
TRF	Thorofare Moun	3.74	20			Pn	17 58 23.6	-0.9
TRF					IAML		17 59 07.9	
	comp=N,27nm,0.5s							
TRF					IAML		17 59 09.7	
	comp=E,32nm,0.6s							
KTH	Kantishna Hill	3.75	15			Pn	17 58 24.3	-0.1
KTH					IAML		17 59 09.4	
	comp=N,22nm,0.8s							
KTH					IAML		17 59 42.2	
	comp=E,15nm,0.8s							
DIV	Divide	3.82	69			Pn	17 58 25.3	0.0
DIV					IAML		17 59 11.6	
	comp=E,70nm,0.5s							
DIV	Divide	3.82	69			Sn	17 59 09.2	-1.0
KLU	Klutina	3.86	64	Pn		Pn	17 58 25.1	-0.8
RND	Reindeer	4.00	29			Pn	17 58 26.8	-1.0
RND					IAML		17 59 15.9	
	comp=E,26nm,0.3s							
RND					IAML		17 59 17.4	
	comp=N,26nm,0.4s							
M24K	Tolsona, Glenn	4.01	55			Pn	17 58 27.1	-0.7
O14K	Tigyukauivet M	4.19	264	Pn		Pn	17 58 31.4	+1.3
O14K					IAML		17 59 13.2	
	comp=N,15nm,1.3s							
J19K	Poorman	4.20	345			Pn	17 58 30.1	-0.2
GOAT	Goat Mountain	4.23	78			Pn	17 58 30.4	-0.3
J20K	Nowinta River	4.25	354			Pn	17 58 31.4	+0.6
RAGM	Ragged Mountai	4.25	81			Pn	17 58 30.4	-0.6
BPAW	Bear Paw Mtn.	4.26	13			Pn	17 58 30.1	-1.1
MCK	McKinley	4.27	26			Pn	17 58 30.7	-0.4
MCK					IAML		17 59 22.3	
	comp=E,21nm,0.3s							
MCK					IAML		17 59 23.5	
	comp=N,22nm,0.4s							
BMRM	Bremner River	4.34	73			Pn	17 58 31.8	-0.4
CHIR	Chirikof Islan	4.37	199	Pn		Pn	17 58 30.9	-1.5
CHIR					IAML		18 01 05.0	
	comp=N,38nm,1.2s							
CHIR					IAML		18 01 27.7	
	comp=E,36nm,1.2s							
CHIR	Chirikof Islan	4.37	199	P		Pn	17 58 31.0	-1.5
KAIM	Kayak Island	4.39	87			Pn	17 58 32.7	0.0
KAIM					IAML		17 59 31.1	
	comp=N,43nm,0.6s							
KAIM					IAML		17 59 31.1	
	comp=E,44nm,0.8s							
J17K	VABM Dome	4.45	323	Pn		Pn	17 58 33.0	-0.5
M14K	Bethel	4.45	284	Pn		Pn	17 58 34.2	+0.7
M14K					IAML		18 00 36.5	
	comp=N,41nm,1.1s							
M14K					IAML		18 00 52.8	
	comp=E,18nm,1.1s							
HMT	Hamilton	4.45	81			Pn	17 58 33.9	+0.3
HMT	Hamilton	4.45	81			Sn	17 59 24.8	-0.2
N25K	Chitina, Valde	4.50	65			Pn	17 58 33.8	-0.4
N25K					IAML		17 59 27.0	
	comp=N,55nm,0.5s							
BWN	Browne	4.55	21	Pn		Pn	17 58 34.7	-0.2
BWN					IAML		18 01 04.0	
	comp=E,49nm,0.1s							
HARP	HAARP	4.57	54			Pn	17 58 35.2	+0.1
NICHA	Nichawak Mount	4.60	83			Pn	17 58 35.5	0.0
CHGN	Chignik	4.62	219	Pn		Pn	17 58 35.4	-0.5
CHGN					IAML		17 59 24.5	
	comp=N,49nm,0.1s							
CHGN					IAML		18 01 52.1	
	comp=E,41nm,0.1s							
SUCK	Suckling Hills	4.70	85	Pn		Pn	17 58 36.6	-0.2
SUCK					IAML		17 59 32.3	
	comp=N,33nm,0.7s							
SUCK					IAML		17 59 33.9	
	comp=E,23nm,0.3s							
BERG	Berg Lake	4.73	81	Pn		Pn	17 58 37.1	-0.2
WACK	Wrangell Chich	4.74	61			Pn	17 58 38.1	+0.4
PAX	Paxson	4.75	47			Pn	17 58 37.5	-0.1
PAX					IAML		17 59 31.8	
	comp=N,32nm,0.4s							
PAX					IAML		17 59 33.6	
	comp=E,25nm,0.4s							
GLB	Gilahina Butte	4.81	68			Pn	17 58 38.2	-0.2
GLB					IAML		17 59 35.3	
	comp=N,33nm,0.3s							
GLB					IAML		17 59 35.4	
	comp=E,35nm,0.4s							
I20K	Naaghedeneel	4.88	353			Pn	17 58 39.6	+0.4
I20K					IAML		17 59 38.7	
	comp=E,27nm,1.2s							
I20K					IAML		18 00 24.4	
	comp=N,19nm,1.2s							
L14K	Kuka Creek	4.89	290	Pn		Pn	17 58 40.6	+1.3
L14K					IAML		17 59 55.8	
	comp=N,18nm,1.2s							
L14K					IAML		18 01 15.9	
	comp=E,16nm,1.3s							
VRDI	Verde Repeater	4.94	71	Pn		Pn	17 58 40.1	-0.1
VRDI					IAML		17 59 35.6	
	comp=E,34nm,0.4s							
NEA2	Nenana	5.01	21			Pn	17 58 39.9	-1.0
NEA2					IAML		17 59 38.4	
	comp=N,8.2nm,1.3s							
NEA2					IAML		17 59 39.9	
	comp=E,9.9nm,0.6s							
CRQM	Cirque	5.03	77			Pn	17 58 41.3	-0.1
WRH	Wood River Hil	5.09	25			Pn	17 58 40.9	-1.2
WRH					IAML		17 59 38.6	
	comp=E,13nm,0.4s							
WRH					IAML		17 59 38.6	
	comp=N,8.4nm,0.4s							
WAX	Waxell Ridge	5.15	80	Pn		Pn	17 58 42.9	-0.1
MCARA	McCarthy VSAT	5.17	70			Pn	17 58 42.5	-0.6
TGL	Tana Glacier	5.18	77			Pn	17 58 42.1	-1.2
TGL					IAML		17 59 46.4	
	comp=E,32nm,0.4s							
K24K	Donnelly Dome	5.18	39			Pn	17 58 43.3	0.0
MLY	Manley	5.20	11			Pn	17 58 42.5	-0.9
I21K	Tanana	5.25	5	Pn		Pn	17 58 43.1	-1.1
I21K					IAML		18 01 27.7	
	comp=N,25nm,0.1s							
CCB	Clear Creek Bu	5.31	26			Pn	17 58 43.7	-1.2
CCB					IAML		17 59 43.7	
	comp=E,10nm,0.5s							
CCB					IAML		17 59 45.1	
	comp=N,7.1nm,0.6s							
HDA	Harding Lake	5.31	30			Pn	17 58 44.1	-0.8
HDA					IAML		17 59 44.2	
	comp=E,28nm,0.4s							
BARK	Barkley Ridge	5.33	81			Pn	17 58 45.7	+0.3
PTPK	Patty Peak	5.40	72			Pn	17 58 47.1	+0.7
PTPK						Sn	17 59 45.3	-2.5
KIAG	Kiagna River	5.42	75			Pn	17 58 47.2	+0.6
BALM	Baldy	5.44	74			Pn	17 58 47.2	+0.4
BALM						Sn	17 59 45.8	-2.8
RIDG	Independent Ri	5.45	43			Pn	17 58 46.9	+0.1
M26K	Nabesna, AK	5.48	59			Pn	17 58 48.1	+0.9
COLA	College	5.50	24			Pn	17 58 46.7	-0.7
BAGL	Bagley Icefiel	5.53	80			Pn	17 58 48.4	+0.5
MESA	MESA	5.61	83	Pn		Pn	17 58 49.4	+0.2
IL31		5.62	28			Pn	17 58 47.8	-1.3
ILAR	Eielson Array	5.62	28			Pn	17 58 47.7	-1.4
ILAR	Eielson Array	5.62	28	P		Pn	17 58 47.9	-1.2
	comp=E,13nm,0.3s,baz=217,slow=14,SNR=171							
ILAR				S		Sn	17 59 48.1	-4.7
	comp=E,2.6nm,0.3s,baz=218,slow=23,SNR=9.3							
DOT	Dot Lake	5.67	46			Pn	17 58 49.6	-0.1
BARN	Barnard Glacie	5.78	74			Pn	17 58 52.1	+0.8
BARN						Sn	17 59 54.3	-2.3
POKR	Poker Plat Res	5.80	25			Pn	17 58 50.7	-0.7
SCRK	Sand Creek	5.89	43			Pn	17 58 52.0	-0.8
CTGM	Chitina Glacie	5.92	75			Pn	17 58 52.7	-0.6
M27K	Edge Creek, AK	5.95	61			Pn	17 58 54.8	+1.2
H22K	Ishtalitna Cre	6.00	7			Pn	17 58 53.9	-0.2
TABL	Table Mountain	6.00	80			Pn	17 58 54.0	-0.4
LOGN	Logan Glacier	6.08	77			Pn	17 58 56.3	+1.0
H23K	Yukon River	6.10	14			Pn	17 58 54.7	-0.8
CHNA	Chernabura Isl	6.22	217	P		Pn	17 58 56.2	-0.9
CNBA	Chernabura Isl	6.23	217			Pn	17 58 55.4	-1.8
YUK2	White River	6.27	68			Pn	17 58 59.3	+1.4
H24K	Noodor Dome	6.36	20			Pn	17 58 58.3	-0.6
J26L	Joseph Creek	6.37	40			Pn	17 58 58.6	-0.6
YUK3	Moose Creek	6.45	68			Pn	17 59 01.4	+1.0
PCA	Pinnacle	6.46	83			Pn	17 59 01.4	+1.1
PRP	Porcupine Dome	6.57	29			Pn	17 59 00.8	-1.1
G21K	Allakaket	6.57	359			Pn	17 59 01.9	+0.1
PNL	Peninsula	6.94	87			Pn	17 59 07.0	+0.3
PNL	Peninsula	6.94	87	P		Pn	17 59 07.3	+0.6
F20K	Avaraart Lake	7.20	352			Pn	17 59 11.0	+0.9
G24K	Hadweenzic Riv	7.21	18			Pn	17 59 09.7	-0.6
COLD	Coldfoot	7.40	9			Pn	17 59 12.5	-0.3
I27K	Kandik River	7.72	38			Pn	17 59 17.2	0.0
E19K	Redstone River	7.73	348			Pn	17 59 18.2	+1.0
P29M	Windy Craggy	7.78	86			Pn	17 59 19.9	+2.0
F24K	Squaw Lake	7.92	15			Pn	17 59 19.5	-0.3
I28M	Miner Creek	8.17	42			Pn	17 59 22.9	-0.3
H27K	Steamboat Moun	8.18	35			Pn	17 59 22.8	-0.5
E23K	Chandalar	8.26	9			Pn	17 59 24.4	0.0
F25K	Christian Rive	8.33	20			Pn	17 59 24.3	-1.0
E24K	Your Creek	8.38	12			Pn	17 59 25.7	-0.3
SONM	Songino Array	54.75	306	P		P	18 06 43.9	+2.1
	comp=E,0.3nm,0.4s,baz=15,slow=6.0,SNR=2.7							
	comp=E,0.3nm,0.4s							
ZALV	Zalesovo Beam	57.35	323	P		P	18 07 01.1	+1.1
	comp=E,0.9nm,0.5s,baz=41,slow=6.7,SNR=4.9							
	comp=E,0.9nm,0.5s							
BVAR	Borovoye Array	62.06	332	P		P	18 07 33.4	+1.2
	comp=E,0.4nm,0.5s,baz=41,slow=10,SNR=2.7							
	comp=E,0.4nm,0.5s							
MKAR	Makanchi Array	64.41	321	P		P	18 07 48.4	+0.6
	comp=E,0.4nm,0.6s,baz=31,slow=6.6,SNR=5.6							
	comp=E,0.4nm,0.6s							

IDC ***02*** *17:58:49.5±1.1,34.˚33S×72.˚00W,h0km,mb4.3/6, mbtmp4.1/10,ML4.0/4,MS3.6/5,Error ellipse: s-maj=34.8km s-min=14.7km az=108.0*
NEIC ***02*** *17:58:51.1,34.˚29S×72.˚40W,h23km*
NEIC ***02*** *17:58:51.4±2.2,34.˚31S±0.˚03×72.˚39W±0.˚07,h27km±5km, mb4.3/8,Mwr4.1/50,Mwr4.3(GUC),Error ellipse: s-maj=8.9km s-min=3.5km az=84.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.67; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.54; $M_{r\theta}$0.56; $M_{\theta\phi}$-0.46; $M_{\phi r}$-0.85; Fault plane solution: $M_0$1.96000×10^{15} NP1:ϕ_s175.65000°, δ59.42000°,λ67.82000°. NP2:ϕ_s34.36000°,δ37.14000°, λ122.57000°. Principal axes: T 2.0752, Plg67.0000°, Azm42.0000°; N -0.2581, Plg19.0000°, Azm187.0000°; P -1.8171, Plg12.0000°, Azm281.0000°;*
GUC ***02*** *17:58:52.0±0.9,34.˚25S×72.˚33W,h12km±5km,ML4.3*
VAO ***02*** *17:58:53.5±0.6,34.˚25S×71.˚56W,h10km,mb4.4*
ISC 02 17:58:50.3±1.5, 34.˚23S±0.˚03×72.˚24W±0.˚06, h11km±8km, n109,σ1°23/108, mb4.2/9, MS3.6/4, 10C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BO03	Pichilemu	0.35	139	⇓*iP*		Pb		17 58 59.5	+0.9
BO03				*eS*		Sg		17 59 04.6	+2.5
BO03				IAML				17 59 05.5	
	comp=E,90μm,0.4s								
MT01	Popeta	0.90	67			Pn		17 59 09.3	+0.5
MT01	Popeta	0.90	67	⇓*iP*		Pn		17 59 09.3	+0.5
BO01	Tunca	0.97	100			Pn		17 59 09.2	-0.6
BO01	Tunca	0.97	100	⇓*iP*		Pn		17 59 09.4	-0.4
BO01				*eS*		Sn		17 59 23.4	-0.2
MT09	Talagante	1.13	67	Pn		Pn		17 59 13.1	+0.9
MT09				Sn		Sn		17 59 28.6	+0.8
MT09	Talagante	1.13	67	⇓*iP*		Pn		17 59 13.1	+0.9
MT09				*eS*		Sn		17 59 28.5	+0.6
MT09				IAML				17 59 31.6	
	comp=N,8μm,0.3s								
VA01	Torpederas	1.30	23			Pn		17 59 15.1	+0.8
BO02	Sierra Bellavi	1.33	115	Pn		Pg		17 59 15.7	-0.2
BO02				Sn		Sn		17 59 33.9	+1.3
BO02	Sierra Bellavi	1.33	115	⇓*iP*		Pg		17 59 15.5	-0.4
BO02				*eS*		Sn		17 59 34.2	+1.5
MT02	Curacav	1.33	44			Pg		17 59 15.8	-0.1
MT02	Curacav	1.33	44	⇑*iP*		Pg		17 59 16.0	+0.1
BO04	La Punta	1.38	81	Pn		Pg		17 59 16.6	-0.1
BO04				Sn		Sn		17 59 36.1	+2.5
BO04	La Punta	1.38	81	⇓*iP*		Pg		17 59 16.6	-0.1
BO04				IAML				17 59 41.4	
	comp=E,6μm,0.3s								
MT12	Pirque	1.49	71	*eP*		Pg		17 59 18.7	-0.2
MT12				IAML				17 59 45.4	
	comp=N,9μm,0.5s								
MT05	Renca	1.50	57			Pg		17 59 18.8	-0.4
MT05				Sn		Sg		17 59 40.1	+1.4
MT05	Renca	1.50	57	⇑*iP*		Pg		17 59 18.8	-0.4
MT05				IAML				17 59 47.6	
	comp=E,7μm,0.4s								
MT15	Las Vizcachas	1.57	67	*eP*		Pg		17 59 20.1	-0.3
MT15				IAML				17 59 48.0	
	comp=N,11μm,0.3s								
ROCH	El Roble	1.62	40	*eP*		Pb		17 59 20.5	+0.2
ROCH				IAML				17 59 55.0	
	comp=N,6μm,0.5s								
MT16	CCHEN	1.64	61			Pg		17 59 20.9	-0.8
MT16				Sn		Sg		17 59 43.0	0.0
MT14	Cerro Cal¡n	1.65	60	⇑*iP*		Pg		17 59 21.1	-0.7
MT14				IAML				17 59 52.4	
	comp=E,5μm,0.6s								
ML02	Panimavida	1.67	156			Pn		17 59 19.7	+0.2
ML02				Sn		Sn		17 59 40.1	-0.8
ML02	Panimavida	1.67	156	*eP*		Pn		17 59 19.9	+0.3
ML02				IAML				17 59 48.6	
	comp=E,7μm,0.4s								
PEL	Peldehue	1.69	51			Pg		17 59 21.8	-0.9
PEL	Peldehue	1.69	51	⇑*iP*		Pg		17 59 21.8	-0.9
PEL				IAML				17 59 52.7	
	comp=E,5μm,0.4s								
MT10	Hacienda Santa	1.71	57	⇑*iP*		Pg		17 59 22.1	-1.0
MT10				IAML				18 00 00.1	
	comp=E,7μm,0.5s								
LMEL	Las Melosas	1.73	78	Pn		Pg		17 59 22.5	-1.0
VA06	Catapilco	1.84	26			Pn		17 59 22.6	+0.9
VA06	Catapilco	1.84	26	*eP*		Pn		17 59 22.4	+1.1
FCH	Farellones	1.86	62	*eP*		Pg		17 59 24.0	-1.9
FCH				IAML				17 59 56.1	
	comp=E,3μm,0.3s								
MT04	Ro Olivares	1.94	66	*eP*		Pb		17 59 25.1	-0.6
MT04				IAML				17 59 58.3	
	comp=E,2μm,0.2s								
MT08	Bocatoma Ro	2.01	68			Pg		17 59 26.6	-2.2
MT08	Bocatoma Ro	2.01	68	*eP*		Pg		17 59 26.4	-2.4
MT08				IAML				18 00 01.1	
	comp=E,1μm,0.3s								
VA03	San Esteban	2.03	45			Pb		17 59 26.7	-0.6
VA03	San Esteban	2.03	45	⇑*iP*		Pb		17 59 26.7	-0.6
VA03				IAML				18 00 02.0	
	comp=E,5μm,0.5s								
BI05	Punta Hualpn	2.63	197			Pn		17 59 26.7	-5.9
CO02	Combarbal	3.19	19			Pn		17 59 41.9	+1.4
CO06	Fray Jorge	3.58	8			Pn		17 59 45.8	+

AQDB	**Aquidauana**	20.05	51	P		**P**	18 03 23.8	+0.3
AQDB	**Aquidauana**	20.05	51	*e*P		**P**	18 03 22.1	-1.4
SIV	**San Ignacio**	20.76	32	P		**P**	18 03 31.8	+0.6
	comp=E,8.3nm,0.7s,baz=220,slow=11,SNR=11							
	comp=E,8.3nm,0.7s							
RPRD	**Ribas do Rio P**	21.37	55	*e*P		**P**	18 03 36.6	-1.2
LDASE	**Londrina, Braz**	21.39	65	*e*P		**P**	18 03 36.9	-1.1
PTLB	**Pontes e Lacer**	22.12	36			**P**	18 03 45.6	-0.2
PTLB					IAmb	IAmb	18 03 49.0	
	comp=Z,12nm,1.1s							
PTLB	**Pontes e Lacer**	22.12	36	*e*P		**P**	18 03 46.0	+0.2
PCMB	**Pacaembu**	22.35	61	*e*P		**P**	18 03 47.5	-0.8
SALV	**Santo Antonio**	23.55	43	*e*P		**P**	18 04 00.1	-0.7
PDRB	**Porto dos Gac**	26.59	36	*e*P		**P**	18 04 29.5	+0.9
CLDB	**Colider**	27.68	37	*e*P		**P**	18 04 41.5	+3.1
BDFB	**Brasilia**	28.60	56	P		**P**	18 04 45.2	-1.6
BDFB					IAmb	IAmb	18 04 46.9	
	comp=Z,4.3nm,0.7s							
BDFB	**Brasilia**	28.60	56	P		**P**	18 04 45.9	-0.8
	comp=Z,3.5nm,0.7s,baz=226,slow=9.1,SNR=3.7							
BDFB					LR	LR	18 17 35.2	
	comp=Z,131nm,21.1s,baz=312,slow=40							
	comp=Z,3.5nm,0.7s							
TBTG	**Tabatinga, AM**	29.97	5	*e*P		**P**	18 05 00.8	+2.1
SJMB	**Sao Joao De Ma**	31.65	69	*e*P		**P**	18 05 12.9	-0.8
SDBA	**SAO DESIDERIO**	33.01	55	*e*P		**P**	18 05 24.6	-1.1
GUA01	**Guaratinga, BA**	33.96	67	*e*P		**P**	18 05 33.5	-0.4
CMC01	**Camacan, BA**	34.93	66	*e*P		**P**	18 05 41.7	-0.5
BOAV	**Boa Vista**	38.06	19	*e*P		**P**	18 06 09.6	+0.7
RUSC	**La Rusia**	39.91	359	P		**P**	18 06 24.2	-0.7
RUSC					IAmb	IAmb	18 06 27.5	
	comp=Z,6.0nm,0.9s							
BAUV	**El Baul**	43.12	6	P		**P**	18 06 50.2	-0.5
MDP	**Montagnes des**	43.28	29	LR		LR	18 26 43.5	
	comp=Z,65nm,18.2s,baz=332,slow=39							
PCRV	**Puerto La Cruz**	44.74	11	LR		LR	18 28 08.1	
	comp=Z,62nm,19.2s,slow=39							
VNA3	**Neumayer Olymp**	49.21	158	⇑P		**P**	18 07 38.8	+0.6
	comp=Z,2.3nm,0.9s							
VNA1	**Neumayer--Stat**	49.53	157	⇑P		**P**	18 07 40.0	-0.5
	comp=Z,1.5nm,0.6s							
SNAA	**Sanae**	51.44	158	⇑P		**P**	18 07 55.1	+0.1
	comp=Z,42nm,0.7s							
SNAA	**Sanae**	51.44	158	P		**P**	18 07 53.7	-1.3
SNAA					IAmb	IAmb	18 07 55.6	
	comp=Z,3.5nm,0.9s							
SNAA					PcP	**PcP**	18 09 06.0	-3.4
SNAA	**Sanae**	51.44	158	P		**P**	18 07 54.7	-0.4
	comp=Z,1.6nm,0.7s,baz=260,slow=8.8,SNR=12							
	comp=Z,1.6nm,0.7s							
TROLL	**Troll, Antarti**	53.14	158	⇑P		**P**	18 08 07.9	+0.1
	comp=Z,95nm,0.8s							
QSPA	**South Pole Qui**	56.01	180	P		**P**	18 08 29.8	+1.1
	comp=Z,2.1nm,0.9s,baz=179,slow=0.8,SNR=9.3							
	comp=Z,2.1nm,0.9s							
TEIG	**Tepich**	56.26	342	P		**P**	18 08 30.9	+0.2
DBIC	**Dimbokro**	75.41	71	P		**P**	18 10 34.6	+0.2
	comp=Z,6.8nm,1.0s,baz=257,slow=10,SNR=3.0							
	comp=Z,6.8nm,1.0s							
BOSA	**Boshof**	80.11	118	P		**P**	18 11 00.4	-0.3
	comp=Z,2.0nm,0.8s,baz=244,slow=3.9,SNR=3.9							
	comp=Z,2.0nm,0.8s							
LSZ	**Lusaka**	89.89	108	LR		LR	18 48 19.6	
	comp=Z,79nm,18.4s,baz=42,slow=33							
PETK	**Petropavlovsk-**	140.19	314	PKP		**PKPdf**	18 18 21.5	+3.0
	comp=Z,1.2nm,0.3s,baz=76,slow=3.9,SNR=15							
BVAR	**Borovoye Array**	147.56	43	PKPbc		**PKPbc**	18 18 34.2	+0.2
	comp=Z,1.5nm,0.4s,baz=292,slow=1.8,SNR=11							
KURBB	**Kurchatov Arra**	153.15	44	PKPbc		**PKPbc**	18 18 47.3	-0.3
	comp=Z,1.1nm,0.6s,baz=298,slow=3.0,SNR=8.0							
ZALV	**Zalesovo Beam**	154.51	32	PKPbc		**PKPbc**	18 18 50.5	+0.1
	comp=Z,1.6nm,0.7s,baz=274,slow=2.7,SNR=8.6							
MKAR	**Makanchi Array**	157.04	49	PKPab		**PKPab**	18 19 16.6	+0.5
	comp=Z,0.6nm,0.8s,baz=274,slow=3.2,SNR=3.1							

*SJA **02** 18:00:07.6±0.6,24°.25S×67°.14W,h205km,ML3.9,MW3.8*
*GUC **02** 18:00:10.1±0.6,24°.21S×67°.50W,h225km±5km,ML4.3*

ISC 02 18:00:06.4±1.9,24°.25S±0°.04×67°.15W±0°.05, h218km±14km,n26,σ1=42/45,1C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.74	88	*e*P	**Pn**	18 00 36.8	-0.4
SLA	**San Lorenzo**	1.57	108	*e*P	**Pn**	18 00 43.2	+0.7
SLA				*e*S	**S**	18 01 09.5	-0.9
AF01	**San Pedro de A**	1.60	324	*e*P	**Pn**	18 00 44.8	+1.8
AF01				*i* S	**S**	18 01 12.0	+0.7
AZAP	**Zapla**	1.90	90	*e*P	**Pn**	18 00 46.0	+0.5
FSA	**Cafayete**	2.13	151	*e*P	**Pn**	18 00 48.7	+0.9
GO02	**Mina Guanaco**	2.40	247	*e*P	**Pn**	18 00 52.1	+1.4
GO02				*e*S	**S**	18 01 24.3	-0.7
GO02				IAML		18 01 28.5	
	comp=E,1μm,0.1s						
GO02	**Mina Guanaco**	2.40	247	*e*P	**Pn**	18 00 51.7	+1.1
GO02				*e*S	**S**	18 01 24.5	-0.5
PB06	**IPOC Station P**	2.71	304	*e*P	**Pn**	18 00 55.2	+1.3
PB06				*e*S	**S**	18 01 29.1	-1.7
PB06				IAML		18 01 31.2	
	comp=N,1μm,0.1s						
PB06	**IPOC Station P**	2.71	304	*e*P	**Pn**	18 00 54.9	+1.0
PB06				*e*S	**S**	18 01 29.8	-1.0
PB06				IAML		18 01 32.5	
	comp=Z,791nm,0.1s						
ALOL	**LOMAS DE OLMED**	2.92	82	*e*P	**Pn**	18 00 57.6	+1.4
PB09	**IPOC Station P**	3.12	321	*e*P	**Pn**	18 01 00.6	+2.0
PB09				*e*S	**S**	18 01 38.3	-0.9
PB09				IAML		18 01 43.4	
	comp=E,294nm,0.6s						
PB09	**IPOC Station P**	3.12	321	*e*P	**Pn**	18 01 00.1	+1.6
PB09				*e*S	**S**	18 01 39.3	+0.1
PB09				*e*S	S	18 01 39.8	+0.7
PB09				IAML		18 01 43.0	
	comp=Z,188nm,0.4s						
PB05	**IPOC Station P**	3.13	296	*e*P	**Pn**	18 00 59.8	+1.2
PB05				*e*S	**S**	18 01 36.7	-2.6
PB05				IAML		18 01 40.9	
	comp=N,256nm,0.6s						
PB05	**IPOC Station P**	3.13	296	*e*P	**Pn**	18 01 00.0	+1.4
PB05				*e*S	**S**	18 01 38.5	-0.8
PB05				IAML		18 01 39.4	
	comp=Z,241nm,0.5s						
AC02	**Maricunga**	3.13	214	*e*P	**Pn**	18 01 01.0	+2.0
PB10	**IPOC Station P**	3.21	283	*e*P	**Pn**	18 01 01.4	+2.0
PB10				*i* S	**S**	18 01 38.0	-2.6
PB10				IAML		18 01 42.5	
	comp=E,237nm,0.3s						
PB10	**IPOC Station P**	3.21	283	*e*P	**Pn**	18 01 01.4	+2.0
PB10				*e*S	**S**	18 01 39.8	-0.8
PB10				IAML		18 01 41.6	
	comp=Z,123nm,0.3s						
AC01	**Pan de Azucar**	3.65	238	*e*P	**Pn**	18 01 05.4	+0.8
AC01				*i* S	**S**	18 01 48.5	-1.7
AC01	**Pan de Azucar**	3.65	238	*e*P	**Pn**	18 01 04.7	0.0
AC01				*e*S	**S**	18 01 48.9	-1.4
AC01				IAML		18 01 49.4	
	comp=Z,73nm,0.3s						
PB01	**IPOC Station P**	3.86	325	*e*P	**Pn**	18 01 08.2	+0.9
PB01				*e*S	**S**	18 01 53.8	-1.1
PB01				IAML		18 01 55.5	
	comp=Z,121nm,0.4s						
PB02	**IPOC Station P**	3.87	318	*i* S	**S**	18 01 53.0	-2.1
GO03	**Copiapo**	4.34	219	*e*P	**Pn**	18 01 13.8	+0.7
PATCX	**Punta Patache**	4.40	320	*e*P	**Pn**	18 01 15.5	+1.6
PATCX				*i* S	**S**	18 02 05.8	-1.2
PATCX	**Punta Patache**	4.40	320	*e*P	**Pn**	18 01 15.2	+1.2
PATCX				*e*S	**S**	18 02 07.1	+0.1
PATCX				IAML		18 02 27.3	
	comp=Z,59nm,0.4s						
HMBC	**Humberstone**	4.70	327	*e*P	**Pn**	18 01 17.8	+0.1
HMBC				*i* S	**S**	18 02 11.1	-2.7
HMBC	**Humberstone**	4.70	327	*e*P	**Pn**	18 01 17.7	+0.1
HMBC				*e*S	**S**	18 02 12.3	-1.4
HMBC				IAML		18 02 13.4	
	comp=Z,68nm,0.4s						

*NEIC **02** 18:02:26.6±1.1,43°.78N±0°.05×105°.32W±0°.07,h0km±1km, ML3.5/67,Error ellipse: s-maj=10.2km s-min=6.6km az=50.0*
*IDC **02** 18:02:28.7±1.0,44°.12N×105°.68W,h0km,mb4.0/4, mbtmp3.7/9,ML3.4/5,Error ellipse: s-maj=21.8km s-min=10.0km az=144.0*

ISC 02 18:02:27.6±0.7,43°.78N±0°.06×105°.32W±0°.06,h0km,n93, σ1=92/90,mb4.1/6,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	0.99	69		**Pg**	18 02 47.0	+0.4
K22A	**Casper**	1.43	218		**Pg**	18 02 53.6	-1.4
K22A				IAML		18 03 23.7	
	396nm,0.3s						
LAO	**LASA Array**	2.98	348		**Pn**	18 03 15.7	-0.5
LAO				IAML		18 04 01.4	
	222nm,0.6s						
LAO				IAML		18 04 19.5	
	235nm,0.7s						
RLMT	**Red Lodge**	3.13	297		**Pn**	18 03 18.7	+0.3
RLMT				IAML		18 04 09.4	
	70nm,0.6s						
RLMT				IAML		18 04 23.1	
	71nm,0.7s						
BW06	**Boulder Array**	3.25	253	Pn	**Pn**	18 03 20.2	+0.1
PD31	**Pinedale Array**	3.25	253		**Pn**	18 03 20.6	+0.5
PDAR	**Pinedale Array**	3.25	253		**Pn**	18 03 21.0	+0.8
PDAR	**Pinedale Array**	3.25	253	Pn	**Pn**	18 03 21.3	+1.2
	4.5nm,0.3s,baz=64,slow=17,SNR=37						
PDAR				Lg	Lg	18 04 07.7	
	14nm,0.3s,baz=58,slow=34,SNR=5.6						
	6.2nm,0.4s						
HAYD	**Hayden**	3.56	205		**Pn**	18 03 25.8	+1.5
HAYD				IAML		18 04 41.1	
	comp=N,95nm,0.9s						
YNE	**Yellowstone No**	3.58	292		**Pn**	18 03 25.0	+0.4
YNE				IAML		18 04 25.9	
	comp=E,72nm,0.7s						
YNE				IAML		18 04 29.7	
	comp=N,58nm,0.7s						
YMP	**Mirror Lake Pl**	3.60	287		**Pn**	18 03 25.9	+0.9
YMP				IAML		18 04 25.0	
	comp=E,118nm,0.6s						
YMP				IAML		18 04 28.9	
	comp=N,134nm,0.7s						
OGNE	**Ogallala**	3.73	138		**Pn**	18 03 27.4	+0.8
LOHW	**Long Hollow**	3.83	269		**Pn**	18 03 29.5	+1.4
SNOW	**Snow King Moun**	3.96	267		**Pn**	18 03 30.5	+0.7
SNOW				IAML		18 04 44.6	
	comp=N,50nm,1.5s						
SNOW				IAML		18 04 52.2	
	comp=N,72nm,1.4s						
YNR	**Norris Junctio**	3.96	286		**Pn**	18 03 30.4	+0.5
ISCO	**Idaho Springs**	3.98	183		**Pn**	18 03 31.3	+1.1
TPAW	**Teton Pass**	4.10	268		**Pn**	18 03 32.8	+1.1
TPAW				IAML		18 04 59.5	
	comp=N,50nm,1.2s						
YHH	**Holmes Hill**	4.10	286		**Pn**	18 03 32.2	+0.4
FXWY	**Fox Creek**	4.14	270		**Pn**	18 03 33.5	+1.2
O20A	**White River Ci**	4.24	212		**Pn**	18 03 34.0	+0.3
O20A				IAML		18 05 09.5	
	comp=N,56nm,0.8s						
O20A				IAML		18 05 23.9	
	comp=N,61nm,2.1s						
E28A	**Huff**	4.30	48		**Pn**	18 03 35.2	+0.9
K30B	**Basset**	4.32	103		**Pn**	18 03 34.8	+0.2
YHB	**Horse Butte**	4.33	285		**Pn**	18 03 37.6	+2.7
AHID	**Auburn Hatcher**	4.34	259		**Pn**	18 03 36.9	+1.9
AHID				IAML		18 04 51.5	
	comp=N,44nm,0.7s						
AHID				IAML		18 05 20.4	
	comp=N,28nm,1.2s						
YHL	**Hebgen Lake**	4.34	286		**Pn**	18 03 35.5	+0.3
YHL				IAML		18 04 51.5	
	comp=N,30nm,1.2s						
YHL				IAML		18 04 59.2	
	comp=E,37nm,0.9s						
QLMT	**Earthquake Lak**	4.51	286		**Pn**	18 03 37.5	+0.2
SUSD	**Miller**	4.63	80		**Pn**	18 03 39.6	+0.7
DGMT	**Dagmar**	4.76	9		**Pn**	18 03 41.7	+1.1
Q24A	**Divide**	4.81	178		**Pn**	18 03 41.4	-0.2
Q24A				IAML		18 05 00.3	
	comp=E,42nm,0.7s						
Q24A				IAML		18 05 06.1	
	comp=N,21nm,0.8s						
BOZ	**Bozeman (W)**	4.85	294		**Pn**	18 03 42.3	+0.3
BOZ				IAML		18 05 03.8	
	comp=N,20nm,0.8s						
BOZ				IAML		18 05 05.7	
	comp=N,21nm,0.7s						
HWUT	**Hardware Ranch**	5.09	247		**Pn**	18 03 45.8	+0.5
HWUT				IAML		18 05 18.4	
	comp=N,39nm,0.7s						
HWUT				IAML		18 05 27.1	
	comp=N,35nm,1.3s						
KSCO	**Kaye Shedlock'**	5.17	156		**Pn**	18 03 46.1	-0.4
BSUT	**Blindstream Ca**	5.18	233		**Pn**	18 03 47.1	+0.3
BSUT				IAML		18 05 22.0	
	comp=N,18nm,1.3s						
BSUT				IAML		18 05 23.6	
	comp=E,16nm,1.7s						
EGMT	**Eagleton**	5.25	325		**Pn**	18 03 48.3	+0.9
DLMT	**Dillon**	5.43	289		**Pn**	18 03 50.5	+0.5
HRY	**Holter Researc**	5.45	305		**Pn**	18 03 50.5	+0.3
LRM	**Limekiln Ridge**	5.47	294		**Pn**	18 03 51.8	+1.2
MCMT	**McKenzie Canyo**	5.50	284		**Pn**	18 03 52.6	+1.6
P18A	**Preston Nutter**	5.55	223		**Pn**	18 03 51.7	0.0
JLU	**Jordanelle**	5.55	237		**Pn**	18 03 50.4	-1.3
MDND	**Maddock**	5.70	42		**Pn**	18 03 53.1	-0.5
BGNE	**Belgrade**	5.80	112		**Pn**	18 03 54.4	-0.5
HVU	**Hansel Valley**	5.84	253		**Pn**	18 03 55.5	0.0
PV22	**Blue Mesa, Par**	5.85	208		**Pn**	18 03 55.9	0.0
LYMT	**Lyon Mountain**	5.85	305		**Pn**	18 03 56.5	+0.6
PV07	**Paradox Valley**	5.89	206		**Pn**	18 03 56.2	-0.2
PV21	**Cone Mtn., Par**	5.89	209		**Pn**	18 03 57.2	+0.7
P17A	**Butcher Ranch,**	5.91	225		**Pn**	18 03 57.3	+0.6
PV15	**Paradox Valley**	5.93	205		**Pn**	18 03 57.0	+0.1
PV23	**Carpenter Ridg**	6.00	209		**Pn**	18 03 59.4	+1.4
PV04	**Paradox Valley**	6.02	208		**Pn**	18 03 59.0	+0.9
SDCO	**Great Sand Dun**	6.03	181		**Pn**	18 03 58.8	+0.5
PV12	**Saucer Basin,**	6.05	207		**Pn**	18 03 59.5	+0.8
SRU	**San Rafael Swe**	6.08	222		**Pn**	18 03 59.8	+0.8
PV11	**David Mesa, Pa**	6.10	207		**Pn**	18 04 00.0	+0.9
PV16	**Nyswonger Mesa**	6.10	208		**Pn**	18 03 59.6	+0.4
PV19	**Morning Glory**	6.12	208		**Pn**	18 04 00.5	+1.0
PV03	**Paradox Valley**	6.13	207		**Pn**	18 04 00.8	+1.2
S22A	**4UR Ranch, Cre**	6.13	191		**Pn**	18 04 00.1	+0.3
PV02	**Paradox Valley**	6.13	206		**Pn**	18 04 01.1	+1.4
PV01	**Paradox Valley**	6.15	205		**Pn**	18 04 01.6	+1.7
PV18	**Skein Mesa, Pa**	6.16	207	Pn	**Pn**	18 04 01.4	+1.4
PV13	**Radium Mtn., P**	6.21	206		**Pn**	18 04 01.8	+1.1
TMUT	**Trail Mountain**	6.29	227		**Pn**	18 04 01.8	-0.1
ECSD	**EROS Data Cent**	6.31	87		**Pn**	18 04 01.6	-0.3
OVMT	**Ovando**	6.32	304		**Pn**	18 04 02.8	+0.6
BPMT	**Black Pine Rid**	6.33	298		**Pn**	18 04 02.9	+0.4
PV05	**Paradox Valley**	6.37	208		**Pn**	18 04 01.7	-1.2
BGU	**Big Grassy Mou**	6.38	246		**Pn**	18 04 04.1	+1.0
CBKS	**Cedar Bluff**	6.50	138		**Pn**	18 04 05.2	+0.6
HLID	**Hailey**	6.60	271		**Pn**	18 04 06.5	+0.5
T25A	**Trinidad**	6.67	174		**Pn**	18 04 07.8	+0.8
F33A	**5 Mile Ranch,**	6.75	69		**Pn**	18 04 06.7	-1.1
L34A	**Svendsen Farm,**	6.82	102		**Pn**	18 04 08.2	-0.7
HMU	**Henry Mountain**	7.13	217		**Pn**	18 04 13.2	-0.2
RTBA	**Rita Blanca**	7.59	164		**Pn**	18 04 18.8	-0.9
ELK	**Elko**	7.95	251	Pn	**Pn**	18 04 26.1	+1.4
	comp=E,0.1nm,0.3s,baz=68,slow=15,SNR=4.6						
ELK				Lg	Lg	18 06 32.2	
	baz=139,slow=18,SNR=1.2						
	comp=E,0.7nm,0.4s						
AGMN	**Agassiz Nation**	7.98	52		**Pn**	18 04 23.9	-0.9
PSUT	**Pine Spring**	8.30	234		**Pn**	18 04 28.8	-0.5
CCUT	**Cedar City**	8.72	227		**Pn**	18 04 36.5	+1.3
I56US	**NEWPORT INFRAS**	9.36	303	I	I	18 59 50.0	
	baz=114,slow=309,SNR=4.8						
EPLO	**Experimental L**	9.90	49		**Pn**	18 04 49.2	-2.0
NVAR	**Mina Array Bea**	11.15	246	Pn	**Pn**	18 05 11.4	+2.9
	comp=E,0.1nm,0.3s,baz=54,slow=12,SNR=5.9						
	comp=E,0.8nm,0.6s						
YBH	**Yreka Blue Hor**	12.94	267	Pn	**Pn**	18 05 38.1	+5.2
	baz=84,slow=3.5,SNR=5.9						
TXAR	**Lajitas Array**	14.48	174	Pn	**P**	18 06 01.8	+1.0
	baz=350,slow=9.7,SNR=4.3						
TXAR				Lg	Lg	18 10 00.9	
	comp=E,0.1nm,0.3s,baz=354,slow=33,SNR=3.4						
	comp=E,0.3nm,0.7s						
YKA	**Yellowknife Ar**	19.52	347	P	**P**	18 06 54.8	-1.5
	comp=E,0.1nm,0.3s,baz=168,slow=13,SNR=1.9						
	comp=E,1.0nm,0.7s						

LPIG	**La Paz**	20.05	193	P	Pn		18 07 06.5	+2.5
	comp=E,69nm,0.3s,baz=172,slow=3.5,SNR=7.8							
INK	**Inuvik**	28.68	339	P	**P**		18 08 27.6	+1.9
	comp=E,0.6nm,0.3s,baz=184,slow=14,SNR=3.1							
PETK	**Petropavlovsk-**	60.20	316	P	**P**		18 12 38.6	+1.5
	comp=E,0.7nm,0.7s,baz=76,slow=12,SNR=2.4							
ARCES	**ARCESS Array B**	61.39	18	P	**P**		18 12 43.2	-1.8
	comp=E,1.4nm,0.8s,baz=311,slow=5.9,SNR=2.1							
	comp=E,1.4nm,0.8s							
ZALV	**Zalesovo Beam**	82.26	354	P	**P**		18 14 50.2	-0.3
	comp=E,1.0nm,0.6s,baz=354,slow=5.0,SNR=6.1							
	comp=E,1.0nm,0.6s							
BVAR	**Borovoye Array**	83.50	3	P	**P**		18 14 56.8	-0.2
	comp=E,0.7nm,0.6s,baz=243,slow=0.6,SNR=4.4							
	comp=E,0.7nm,0.6s							
MKAR	**Makanchi Array**	89.56	355	P	**P**		18 15 26.4	-0.4
	comp=E,0.8nm,0.7s,baz=9.9,slow=4.6,SNR=6.8							
	comp=E,0.8nm,0.7s							

*IDC **02** 18:14:06.2±0.9,39°.81S×173°.68E,h205km±10km,mb3.2/5, mbtmp4.0/7,Error ellipse: s-maj=17.8km s-min=9.8km az=125.0*
*NOU **02** 18:14:08.0,39°.94S×173°.81E,h233km,MLv4.1/20,Off W. Coast of N. Island, N.Z.*
*WEL **02** 18:14:10.4±1.1,40°.5±8°×17°.4E±1°.1,h221km±7km, M4.0/85,MLv4.0/85,Error ellipse: s-maj=14.7km s-min=9.0km az=116.8,confirmed*

ISC 02 18:14:08.6±0.7,39°.92S±0°.04×173°.80E±0°.05,h240km±5km, n182,σ1=11/192,mb3.5/5,Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	0.51	6	S	**S**	18 15 04.8	-0.4
PREZ	**Palmer Road**	0.64	25	P	**Pn**	18 14 41.0	+0.1
PREZ				S	**S**	18 15 05.1	-1.1
KHEZ	**Kahui Hut**	0.65	15	P	**Pn**	18 14 41.2	+0.2
KHEZ	**Kahui Hut**	0.65	15	S	**S**	18 15 05.7	-0.6
KHEZ	**Kahui Hut**	0.65	15	P	**Pn**	18 14 40.7	-0.3
KHEZ	**Kahui Hut**	0.65	15	S	**S**	18 15 05.6	-0.7
KHEZ	**Kahui Hut**	0.65	15	P	**Pn**	18 14 41.1	+0.2
KHEZ				S	**S**	18 15 05.3	-1.1
LREZ	**Lake Rotokare**	0.66	45	P	**Pn**	18 14 40.9	0.0
LREZ				S	**S**	18 15 05.4	-0.7
NBEZ	**Newall Road No**	0.66	4	P	**Pn**	18 14 41.2	+0.3
NEZ	**North Egmont**	0.69	19	P	**Pn**	18 14 41.3	+0.2
NEZ				S	**S**	18 15 04.7	-1.9
PKE	**Pukeiti**	0.74	11	P	**Pn**	18 14 41.5	+0.2
INHS	**Inglewood High**	0.82	21	P	**Pn**	18 14 41.2	-0.4
INHS				S	**S**	18 15 06.6	-0.9
DUWZ	**D'Urville Isla**	0.88	174	P	**Pn**	18 14 42.3	+0.4
DUWZ				S	**S**	18 15 06.2	-1.3
WAZ	**Wanganui**	0.93	80	P	**Pn**	18 14 42.9	+0.8
WAZ				S	**S**	18 15 08.2	-0.2
VRZ	**Vera Road**	1.09	43	P	**Pn**	18 14 42.5	-0.6
VRZ				S	**S**	18 15 07.8	-2.2
OHWZ	**Ohakea**	1.19	104	P	**Pn**	18 14 44.5	+0.8
KIW	**Kapiti Island**	1.26	138	P	**Pn**	18 14 44.3	+0.2
TKNZ	**Takaka Hill**	1.28	210	P	**Pn**	18 14 44.5	+0.3
QRZ	**Quartz Range**	1.33	227	P	**Pn**	18 14 44.7	+0.1
QRZ	**Quartz Range**	1.33	227	S	**S**	18 15 10.9	-2.0
QRZ	**Quartz Range**	1.33	227	P	**Pn**	18 14 44.7	+0.1
NNZ	**Nelson**	1.33	194	P	**Pn**	18 14 45.0	+0.4
TCW	**Tory Channel**	1.33	164	P	**Pn**	18 14 45.1	+0.5
PKVZ	**Pokaka**	1.35	62	P	**Pn**	18 14 44.6	-0.3
OGWZ	**Otaki Gorge**	1.37	131	P	**Pn**	18 14 45.2	+0.3
MTVZ	**Mangateitei**	1.40	68	P	**Pn**	18 14 45.2	0.0
TRVZ	**Turoa**	1.48	66	P	**Pn**	18 14 45.8	-0.3
FWVZ	**Far West T-bar**	1.51	64	P	**Pn**	18 14 45.9	-0.4
TUWZ	**Tuamarina**	1.51	176	P	**Pn**	18 14 47.0	+1.1
MAVZ	**Matarangi**	1.51	65	P	**Pn**	18 14 46.1	-0.3
WNVZ	**Wahianoa**	1.51	67	P	**Pn**	18 14 46.0	-0.2
WHVZ	**Whangaehu Hut**	1.52	66	P	**Pn**	18 14 46.2	-0.2
CAW	**Cannon Point**	1.52	141	P	**Pn**	18 14 46.3	+0.2
TWVZ	**Taurewa**	1.52	57	P	**Pn**	18 14 45.6	-0.7
COVZ	**Chateau Observ**	1.53	62	P	**Pn**	18 14 45.9	-0.4
MRZ	**Mangatainoka R**	1.54	119	P	**Pn**	18 14 46.4	+0.1

WTAZ	Waiatarua	3.05	12	P		Pn	18 15 00.7	-0.3		
URZ	Urewera	3.06	58	P		Pn	18 14 59.1	-2.0		
	191nm,0.3s,baz=243,slow=7.2,SNR=429									
URZ				S		S	18 15 36.9	-5.6		
	102nm,0.5s,baz=338,slow=24,SNR=13									
URZ	Urewera	3.06	58	P		Pn	18 14 59.2	-2.0		
URZ	Urewera	3.06	58	P		Pn	18 14 59.2	-1.9		
LTZ	Lake Taylor	3.08	201	P		Pn	18 15 00.8	-0.4		
ETAZ	East Tamaki Re	3.10	17	P		Pn	18 15 01.1	-0.4		
GVZ	Greta Valley S	3.10	191	P		Pn	18 15 00.9	-0.5		
KNZ	Kokohu	3.13	74	P		Pn	18 15 01.5	-0.3		
RAGZ	Rawiri	3.15	64	P		Pn	18 15 01.1	-1.1		
MHGZ	Mahia Peninsul	3.27	78	P		Pn	18 15 03.4	0.0		
MBAZ	Motutapu North	3.27	16	P		Pn	18 15 03.0	-0.5		
MWZ	Matawai	3.30	62	P		Pn	18 15 02.4	-1.5		
RIGZ	Rimuhau	3.30	70	P		Pn	18 15 03.3	-0.6		
INZ	Inchbonnie	3.31	212	P		Pn	18 15 03.3	-0.5		
PRGZ	Paritu Road	3.31	74	P		Pn	18 15 03.7	-0.3		
AMCZ	Amberley	3.36	195	P		Pn	18 15 03.9	-0.6		
TKGZ	Te Karaka	3.48	66	P		Pn	18 15 05.0	-0.8		
KUZ	Kuaotunu	3.51	26	P		Pn	18 15 05.4	-0.8		
KUZ	Kuaotunu	3.51	26	P		Pn	18 15 05.5	-0.8		
RUGZ	Raukumara Rang	3.60	58	P		Pn	18 15 04.9	-2.4		
OXZ	Oxford	3.65	201	P		Pn	18 15 06.7	-1.0		
TWGZ	Tauwhareparae	3.69	63	P		Pn	18 15 07.3	-1.1		
CNGZ	Carnagh Statio	3.71	69	P		Pn	18 15 08.2	-0.3		
HAZ	Te Kaha	3.79	56	P		Pn	18 15 07.0	-2.5		
OKCZ	Okains Bay	3.84	188	P		Pn	18 15 08.3	-0.7		
MQZ	McQueen's Vall	3.88	192	P		Pn	18 15 08.7	-1.6		
WVZ	Waitaha Valley	3.90	215	P		Pn	18 15 09.8	-0.8		
PKGZ	Pakihiroa	3.92	60	P		Pn	18 15 09.3	-1.7		
PUZ	Puketiti	3.93	63	P		Pn	18 15 09.6	-1.6		
MHCZ	Mount Hutt	3.97	204	P		Pn	18 15 10.6	-1.0		
RACZ	Rakaia	4.00	198	P		Pn	18 15 10.9	-0.9		
AKCZ	Akaroa Harbour	4.00	189	P		Pn	18 15 11.0	-0.9		
WMGZ	Waiomatatini S	4.17	61	P		Pn	18 15 12.3	-1.6		
MXZ	Matakaoa Point	4.24	58	P		Pn	18 15 13.0	-1.8		
MXZ	Matakaoa Point	4.24	58	P		Pn	18 15 13.1	-1.8		
WACZ	Wakanui South	4.27	199	P		Pn	18 15 14.5	-0.5		
GCSZ	Gaunt Creek Bo	4.28	216	P		Pn	18 15 14.3	-0.8		
RPZ	Rata Peaks	4.31	208	P		Pn	18 15 14.6	-0.9		
	110nm,0.4s,baz=22,slow=1.7,SNR=163									
RPZ				S		S	18 16 03.6	-5.1		
	68nm,0.3s,baz=325,slow=20,SNR=21									
RPZ	Rata Peaks	4.31	208	P		Pn	18 15 14.8	-0.8		
RPZ	Rata Peaks	4.31	208	P		Pn	18 15 14.7	-0.8		
ARCZ	Arundel	4.47	205	P		Pn	18 15 16.7	-0.8		
FOZ	Fox Glacier	4.68	218	P		Pn	18 15 19.0	-1.1		
OUZ	Omahuta	4.70	358	P		Pn	18 15 20.0	-0.4		
TMZ	Timaru	4.92	204	P		Pn	18 15 22.4	-0.6		
LBZ	Lake Benmore	5.21	210	P		Pn	18 15 25.3	-1.2		
JCZ	Jackson Bay	5.58	220	P		Pn	18 15 29.7	-1.6		
JCZ	Jackson Bay	5.58	220	P		Pn	18 15 29.7	-1.6		
ODZ	Otahua Downs	5.62	203	P		Pn	18 15 31.4	-0.3		
ODZ	Otahua Downs	5.62	203	S		S	18 16 35.6	-2.4		
ODZ	Otahua Downs	5.62	203	P		Pn	18 15 31.4	-0.3		
WKZ	Wanaka	6.05	214	P		Pn	18 15 35.2	-1.9		
EAZ	Earnscleugh	6.25	211	P		Pn	18 15 37.4	-2.3		
MSZ	Milford Sound	6.44	221	P		Pn	18 15 40.3	-1.6		
TUZ	Tuapeka	6.76	198	P		Pn	18 15 46.6	+0.7		
MLZ	Mavora Lakes	6.87	216	P		Pn	18 15 46.7	-0.7		
WHZ	Wether Hill Ro	7.35	214	P		Pn	18 15 51.6	-1.9		
DZM	Mont Dzumac	18.87	338	P		Pn	18 18 15.4	+0.4		
	9.0nm,1.1s,baz=112,slow=11,SNR=5.6									
ASAR	Alice Springs	37.24	284	P		P	18 20 57.6	+0.1		
	0.4nm,0.4s,baz=124,slow=6.9,SNR=16									
	0.4nm,0.4s									
VNDA	Vanda	38.04	184	P		P	18 21 05.0	+1.5		
	0.6nm,0.4s,baz=357,slow=7.8,SNR=4.9									
	0.6nm,0.4s									
WRA	Warramunga Arr	39.17	289	P		P	18 21 13.6	0.0		
	0.3nm,0.5s,baz=128,slow=7.5,SNR=6.0									
	0.3nm,0.5s									
QSPA	South Pole Qui	50.20	180	P		P	18 22 42.3	+2.4		
	2.0nm,0.5s,baz=6.9,slow=2.8,SNR=24									
	2.0nm,0.5s									
KSRS	Korea Array	87.77	325	P		P	18 26 30.9	+0.7		
	0.4nm,0.6s,baz=156,slow=6.1,SNR=3.2									
	0.4nm,0.6s									
ARCES	ARCESS Array B	145.94	341	PKPbc		PKPdf	18 33 17.2	-0.4		
	1.7nm,0.8s,baz=45,slow=2.1,SNR=6.6									

*MOS **02** 18:16:50.3±1.2,30.3°34S×177.3°95W,h33km,mb5.0/17, Error ellipse: s-maj=14.3km s-min=12.1km az=100.6*
*NEIC **02** 18:16:52.0±1.7,30.3°38S±0.3°06×177.3°9W±0.3°2,h34km±4km, mb5.0/54,Error ellipse: s-maj=18.9km s-min=8.0km az=99.0*
*IDC **02** 18:16:52.9±1.4,30.3°29S×177.3°93W,h45km±11km,mb4.2/16, mbtmp4.4/17,ML3.2/1,MS3.9/21,Error ellipse: s-maj=17.4km s-min=11.6km az=100.0*

ISC 02 18:16:52.6±0.3,30.3°37S±0.1°05×178.0°00W±0.1°07,h46km, n189,σt¶48/175,mb4.8/54,MS4.0/20,14C-9D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
RAO	**Raoul Island**	**1.12**	**4**			**Pn**	**18**	**17**	**11.3**	**-0.5**
RAO						Sn	**18**	**17**	**23.3**	**-2.8**
RAO	**Raoul Island**	**1.12**	**4**	P		**Pn**	**18**	**17**	**11.5**	**-0.4**
	1μm,0.3s,baz=119,slow=11,SNR=21									
RAO				S		**Sn**	**18**	**17**	**24.7**	**-1.4**
	13μm,0.3s,baz=72,slow=20,SNR=18									
RAO	**Raoul Island**	**1.12**	**4**	P		**Pn**	**18**	**17**	**11.4**	**-0.5**
RAO							18	17	23.3	
MXZ	**Matakaoa Point**	**7.80**	**202**	Pn		**Pn**	**18**	**18**	**42.0**	**-1.5**
URZ	**Urewera**	**8.85**	**206**	P		Pn	18	18	53.1	-4.7
	3.2nm,0.3s,baz=266,slow=5.0,SNR=7.6									
URZ				S		**Sn**	**18**	**20**	**32.3**	**-3.9**
	32nm,0.7s,baz=281,slow=5.4,SNR=9.6									
RTZ	**Ruatahuna**	**9.21**	**205**	Pn		**Pn**	**18**	**18**	**59.9**	**-3.0**
NIUE	**Niue**	**13.42**	**35**	Pn		Pn	18	19	53.0	-7.5
RPZ	**Rata Peaks**	**15.91**	**210**	P		**Pn**	**18**	**20**	**29.5**	**-3.8**
	5.0nm,0.3s,baz=108,slow=22,SNR=1.5									
RPZ				S		Sn	18	23	11.4	-17
	15nm,1.1s,baz=68,slow=15,SNR=1.3									
DZM	**Mont Dzumac**	**16.21**	**297**	*e*Pn		**P**	**18**	**20**	**42.6**	**+2.7**
	76nm,1.1s									
DZM				*e*LR		LR	18	24	27.6	
	1μm,25.2s									
DZM	**Mont Dzumac**	**16.21**	**297**	P		**P**	**18**	**20**	**42.2**	**+2.3**
	9.4nm,0.9s,baz=110,slow=14,SNR=3.2									
RAR	**Rarotonga**	**18.75**	**65**	P		**P**	**18**	**21**	**06.2**	**-1.6**
	0.8nm,0.3s,baz=254,slow=4.4,SNR=4.8									
RAR				LR		LR	18	26	22.5	
	comp=Z,273nm,21.2s,baz=271,slow=30									
	17nm,1.0s									
ARMA	**Armidale**	**26.16**	**262**	P		**P**	**18**	**22**	**24.2**	**+1.3**
TBI	**Tubuai**	**26.36**	**82**	*e*S		**S**	**18**	**26**	**59.6**	**+5.0**
	1μm,25.8s									
TBI				*e*LR		LR	18	28	51.5	
	2μm,27.2s									
EIDS	**Eidsvold**	**27.73**	**273**	P		**P**	**18**	**22**	**38.8**	**+1.8**
CAN	**Canberra**	**28.08**	**251**			**P**	**18**	**22**	**41.8**	**+1.8**
CAN					IAmb	IAmb	18	22	44.1	
	comp=Z,20nm,0.8s									
CAN	**Canberra**	**28.08**	**251**	P		**P**	**18**	**22**	**41.8**	**+1.8**
CAN					pmax	pmax				
	comp=Z,20nm,0.8s									
PPT2	**Papeete2**	**28.83**	**70**	*e*LQ		LQ	18	28	44.0	
	comp=Z,252nm,25.0s									
PPT2				*e*LR		LR	18	29	57.0	
	comp=Z,575nm,26.5s									
PPT2				*e*LR		LR	18	30	04.0	
	comp=Z,432nm,28.5s									
TOO	**Toolangi**	**30.98**	**247**	P		**P**	**18**	**23**	**07.3**	**+1.7**
TOO	**Toolangi**	**30.98**	**247**	P		**P**	**18**	**23**	**07.3**	**+1.7**
TOO					pmax	pmax				
	comp=Z,12nm,1.2s									
CTAO	**Charters Tower**	**33.79**	**279**			**P**	**18**	**23**	**33.3**	**+2.9**
CTAO	**Charters Tower**	**33.79**	**279**	P		**P**	**18**	**23**	**33.3**	**+2.9**
CTAO					pmax	pmax				
	comp=Z,51nm,0.8s									
CTAO	**Charters Tower**	**33.79**	**279**	P		**P**	**18**	**23**	**33.7**	**+3.3**
STKA	**Stephens Creek**	**34.48**	**257**			**P**	**18**	**23**	**38.9**	**+2.6**
STKA	**Stephens Creek**	**34.48**	**257**	P		**P**	**18**	**23**	**39.0**	**+2.7**
	comp=Z,63nm,0.8s,baz=98,slow=10,SNR=104									
STKA				LR		LR	18	36	51.6	
	comp=Z,296nm,18.3s,baz=54,slow=35									
INKA	**Innaminka**	**36.02**	**264**	P		**P**	**18**	**23**	**51.2**	**+1.7**
INKA					IAmb	IAmb	18	23	53.2	
	comp=Z,10nm,0.8s									
PMG	**Port Moresby**	**38.59**	**295**	LR		LR	18	37	14.5	
	comp=Z,230nm,21.9s,baz=140,slow=32									
BBOO	**Buckleboo**	**38.98**	**254**			**P**	**18**	**24**	**15.6**	**+1.1**
BBOO					IAmb	IAmb	18	24	18.3	
	comp=Z,35nm,0.9s									
COEN	**Coen**	**39.26**	**286**	P		**P**	**18**	**24**	**19.6**	**+2.6**
COEN					IAmb	IAmb	18	24	21.1	
	comp=Z,28nm,1.1s									
TAOE	**Nuku Hiva Isla**	**41.29**	**67**	*e*LR		LR	18	35	26.1	
	comp=Z,319nm,28.1s									
AS31	**Alice Springs**	**43.11**	**267**			**P**	**18**	**24**	**48.7**	**0.0**
ASAR	**Alice Springs**	**43.11**	**267**	P		**P**	**18**	**24**	**48.9**	**+0.2**
ASAR	**Alice Springs**	**43.11**	**267**	P		**P**	**18**	**24**	**49.2**	**+0.6**
	comp=Z,8.8nm,0.6s,baz=104,slow=7.3,SNR=245									
ASAR				PcP		**PcP**	**18**	**26**	**38.6**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=106,slow=4.5,SNR=2.7									
ASAR				ScP		**ScP**	**18**	**30**	**26.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=99,slow=4.0,SNR=1.9									
ASAR				LR		LR	18	42	24.8	
	comp=Z,304nm,18.0s,baz=130,slow=36									
	comp=Z,8.8nm,0.6s									
ASAR	**Alice Springs**	**43.11**	**267**	P		**P**	**18**	**24**	**48.9**	**+0.2**
WR8	**Warramunga Arr**	**43.95**	**272**			**P**	**18**	**24**	**55.8**	**+0.4**
WR8					IAmb	IAmb	18	24	58.4	
	comp=Z,15nm,0.6s									
WRAB	**Tennant Creek**	**44.09**	**272**	P		**P**	**18**	**24**	**56.7**	**+0.2**
WRAB					IAmb	IAmb	18	24	58.1	
	comp=Z,16nm,0.6s									
WRAB	**Tennant Creek**	**44.09**	**272**	*d*	*i*P	**P**	**18**	**24**	**57.4**	**+0.8**
WRAB					pmax	pmax				
	comp=Z,14nm,0.6s									
WRA	**Warramunga Arr**	**44.10**	**272**	P		**P**	**18**	**24**	**57.0**	**+0.4**
	comp=Z,18nm,0.5s,baz=111,slow=7.8,SNR=85									
WRA				ScP		**ScP**	**18**	**30**	**31.3**	**+1.9**
	comp=Z,1.6nm,1.2s,baz=109,slow=3.2,SNR=2.5									
WRA				LR		LR	18	41	57.8	
	comp=Z,214nm,20.1s,baz=49,slow=34									
	comp=Z,18nm,0.5s									
WRA	**Warramunga Arr**	**44.10**	**272**	*e*P		**P**	**18**	**24**	**55.8**	**-0.8**
WRA					pmax	pmax				
	comp=Z,18nm,0.5s									
WB0	**Warramunga Arr**	**44.12**	**272**			**P**	**18**	**24**	**57.3**	**+0.5**
WB0					IAmb	IAmb	18	24	58.8	
	comp=Z,25nm,0.6s									
DRV	**Dumont d'Urvil**	**44.17**	**202**	P		**P**	**18**	**24**	**56.7**	**+0.2**
FORT	**Forrest**	**46.05**	**255**	P		**P**	**18**	**25**	**11.8**	**-0.2**
FORT					IAmb	IAmb	18	25	13.6	
	comp=Z,13nm,1.0s									
JAY	**Jayapura**	**47.88**	**297**	P		**P**	**18**	**25**	**26.0**	**-0.5**
	comp=Z,8.8nm,0.9s									
SBA	**Scott Base**	**48.07**	**184**	P		**P**	**18**	**25**	**30.1**	**+3.1**
SBA					IAmb	IAmb	18	25	31.8	
	comp=Z,16nm,1.1s									
SBA	**Scott Base**	**48.07**	**184**	P		**P**	**18**	**25**	**30.1**	**+3.1**
SBA					pmax	pmax				
	comp=Z,16nm,1.2s									
SBA	**Scott Base**	**48.07**	**184**	P		**P**	**18**	**25**	**30.4**	**+3.4**
SBA					PcP	**PcP**	**18**	**26**	**54.0**	**-0.1**
VNDA	**Vanda**	**48.12**	**186**			**P**	**18**	**25**	**29.7**	**+2.2**
VNDA	**Vanda**	**48.12**	**186**	P		**P**	**18**	**25**	**29.5**	**+2.0**
	comp=Z,1.4nm,0.8s,baz=2.9,slow=6.6,SNR=6.3									
	comp=Z,1.4nm,0.8s									
VNDA	**Vanda**	**48.12**	**186**	P		**P**	**18**	**25**	**29.7**	**+2.2**
VNDA					pmax	pmax				
	comp=Z,10.0nm,1.5s									
MTN	**Manton Dam**	**49.98**	**279**	P		**P**	**18**	**25**	**42.4**	**-0.1**
KNRA	**Kununurra**	**50.70**	**274**	P		**P**	**18**	**25**	**48.0**	**+0.1**
KNRA					IAmb	IAmb	18	26	10.5	
	comp=Z,20nm,1.1s									
FITZ	**Fitzroy Crossi**	**52.36**	**270**			**P**	**18**	**26**	**01.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.36**	**270**	LR		LR	18	46	56.9	
	comp=Z,272nm,19.7s,baz=112,slow=34									
CCD	**Concordia, Ant**	**52.98**	**196**	P		**P**	**18**	**26**	**05.3**	**+0.7**
CCD				sP		**pwP**	**18**	**26**	**20.5**	**+0.1**
CCD				PcP		**PcP**	**18**	**27**	**14.3**	**+1.5**
STCH	**Steam Cracks**	**54.15**	**27**	P		**P**	**18**	**26**	**13.4**	**0.0**
NWAO	**Narrogin (SRO)**	**54.41**	**249**	LR		LR	18	48	56.9	
	comp=Z,120nm,18.0s,baz=124,slow=35									
CASY	**Casey**	**55.17**	**208**			**P**	**18**	**26**	**19.2**	**-0.9**
CASY					IAmb	IAmb	18	26	20.8	
	comp=Z,27nm,0.9s									
CASY	**Casey**	**55.17**	**208**	P		**P**	**18**	**26**	**19.4**	**-0.7**
CASY					PcP	**PcP**	**18**	**27**	**21.5**	**+0.8**
MBWA	**Marble Bar**	**56.23**	**264**	P		**P**	**18**	**26**	**26.9**	**-1.5**
GUMO	**Guam**	**56.46**	**315**	LR		LR	18	47	49.4	
	comp=Z,53nm,21.8s,baz=142,slow=33									
SOEI	**Soe**	**57.35**	**278**	P		**P**	**18**	**26**	**37.2**	**+0.6**
BATI	**Baumata**	**57.65**	**277**	LR		LR	18	50	49.0	
	comp=Z,496nm,19.3s,baz=138,slow=35									
QSPA	**South Pole Qui**	**59.74**	**180**	P		**P**	**18**	**26**	**54.9**	**+2.3**
QSPA	**South Pole Qui**	**59.74**	**180**	P		**P**	**18**	**26**	**54.2**	**+1.7**
	comp=Z,9.8nm,0.9s,baz=299,slow=1.1,SNR=22									
QSPA				LR		LR	18	51	19.0	
	comp=Z,62nm,18.4s,baz=21,slow=34									
	comp=Z,9.8nm,0.9s									
MAW	**Mawson**	**72.34**	**201**	P		**P**	**18**	**28**	**12.5**	**-0.6**
	comp=Z,6.5nm,0.8s,baz=113,slow=8.6,SNR=11									
MAW				LR		LR	18	58	54.0	
	comp=Z,107nm,18.3s,baz=84,slow=35									
	comp=Z,6.5nm,0.8s									
KKM	**Kota Kinabalu**	**72.55**	**288**	P		**P**	**18**	**28**	**14.7**	**-0.7**
KKM					IAmb	IAmb	18	29	08.8	
	comp=Z,38nm,1.3s									
LEM	**Lembang**	**73.12**	**272**	LR		LR	19	02	35.8	
	comp=Z,163nm,18.2s,baz=146,slow=38									
TNG	**Tangerang**	**74.28**	**272**	P		**P**	**18**	**28**	**23.0**	**-2.5**
JHJ	**Hachijo jima 2**	**74.72**	**324**	LR		LR	18	54	17.8	
	comp=Z,30nm,20.8s,baz=86,slow=30									
SYO	**Syowa Base**	**77.14**	**193**	⇑	*e*P	**P**	**18**	**28**	**41.1**	**+0.2**
SYO	**Syowa Base**	**77.14**	**193**	⇓	*e*PcP	**PcP**	**18**	**28**	**49.2**	**-2.4**
MDSI	**Maura Dua**	**77.24**	**272**	P		**P**	**18**	**28**	**40.8**	**-1.6**
	comp=Z,29nm,0.9s									
TROLL	**Troll, Antarti**	**77.90**	**180**	⇑	P	**P**	**18**	**28**	**45.8**	**+0.5**
	comp=Z,638nm,0.9s									
JGF	**Kuoka**	**77.90**	**324**	P		**P**	**18**	**28**	**44.1**	**-1.5**
SNAA	**Sanae**	**78.19**	**178**	⇑	P	**P**	**18**	**28**	**47.5**	**+0.7**
	comp=Z,122nm,0.8s									
SNAA	**Sanae**	**78.19**	**178**			**P**	**18**	**28**	**46.4**	**-0.4**
SNAA	**Sanae**	**78.19**	**178**	P		**P**	**18**	**28**	**47.0**	**+0.1**
	comp=Z,5.1nm,1.1s,baz=165,slow=5.5,SNR=5.4									
	comp=Z,5.1nm,1.1s									
SNAA	**Sanae**	**78.19**	**178**	P		**P**	**18**	**28**	**46.4**	**-0.4**
SNAA					pmax	pmax				
	comp=Z,7.0nm,1.0s									
MJA0	**Matsu Arr-Jizo**	**78.20**	**325**	*e*P		**P**	**18**	**28**	**48.2**	**+0.9**
MJA0					pmax	pmax				
	comp=Z,2.0nm,0.8s									
MJAR	**Matsushiro Arr**	**78.22**	**325**	P		**P**	**18**	**28**	**46.6**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=159,slow=5.0,SNR=5.3									
MJAR				LR		LR	19	02	41.6	
	comp=Z,20nm,19.1s,baz=150,slow=35									
	comp=Z,2.1nm,0.9s									
MAJO	**Matsushiro**	**78.22**	**325**	⇑	*e*P	**P**	**18**	**28**	**47.7**	**+0.4**
MAJO					pmax	pmax				
	comp=Z,8.0nm,2.2s									
VNA3	**Neumayer Olymp**	**78.33**	**176**	⇑	P	**P**	**18**	**28**	**47.4**	**-0.1**
	comp=Z,9.2nm,0.6s									
VNA1	**Neumayer--Stat**	**79.00**	**177**	⇑	P	**P**	**18**	**28**	**51.4**	**+0.3**
	comp=Z,11nm,0.8s									
H03S2	**Juan Fernandez**	**80.48**	**124**	T		T	19	58	16.1	
	baz=239,slow=74,SNR=39									
H03S1	**Juan Fernandez**	**80.49**	**124**	T		T	19	58	37.4	
	baz=239,slow=74,SNR=49									
H03S3	**Juan Fernandez**	**80.50**	**124**	T		T	19	58	36.2	
	baz=239,slow=74,SNR=66									
H03N3	**Juan Fernandez**	**80.67**	**123**	T		T	19	58	19.6	
	baz=163,slow=79,SNR=13									
H03N2	**Juan Fernandez**	**80.67**	**123**	T		T	19	58	30.9	
	baz=163,slow=79,SNR=14									
H03N1	**Juan Fernandez**	**80.69**	**123**	T		T	19	58	23.1	
	baz=163,slow=79,SNR=21									
ASAJ	**Asahikawa**	**82.41**	**333**	LR		LR	19	01	32.3	
	comp=Z,64nm,20.5s,baz=150,slow=32									
PLCA	**Paso Flores**	**82.53**	**133**	P		**P**	**18**	**29**	**10.9**	**+0.2**
	comp=Z,3.9nm,1.0s,baz=249,slow=2.7,SNR=4.1									
	comp=Z,3.9nm,1.0s									
PLCA	**Paso Flores**	**82.53**	**133**	*e*P		**P**	**18**	**29**	**11.6**	**+0.9**
PLCA					pmax	pmax				
	comp=Z,4.0nm,1.0s									
SHEM	**Shemya Is, Ala**	**83.03**	**355**	LR		LR	19	02	39.3	
	comp=Z,58nm,18.7s,baz=304,slow=33									
NIKH	**Nikolski High**	**83.37**	**6**	P		**P**	**18**	**29**	**14.9**	**+0.5**
KSRS	**Korea Array**	**84.33**	**320**	P		**P**	**18**	**29**	**19.7**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=151,slow=6.1,SNR=5.3									
	comp=Z,0.9nm,0.8s									
LPIG	**La Paz**	**84.52**	**58**	LR		LR	18	57	14.8	
	comp=Z,58nm,21.6s,baz=230,slow=29									
YSS	**Yuzhno-Sakhali**	**84.72**	**334**	*e*P		**P**	**18**	**29**	**18.5**	**-2.9**
PEA0B	**Petropavlovsk-**	**85.78**	**346**	P		**P**	**18**	**29**	**25.5**	**-1.1**
PEA0B					IAmb	IAmb	18	29	28.2	
	comp=Z,13nm,1.0s									
PEA0B	**Petropavlovsk-**	**85.78**	**346**	P		**P**	**18**	**29**	**25.5**	**-1.1**
PEA0B					pmax	pmax				
	comp=Z,13nm,1.0s									
PETK	**Petropavlovsk-**	**85.78**	**346**			**P**	**18**	**29**	**25.8**	**-0.8**
PETK	**Petropavlovsk-**	**85.78**	**346**	P		**P**	**18**	**29**	**26.7**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=134,slow=6.4,SNR=18									
PETK				LR		LR	19	00	31.8	
	comp=Z,46nm,21.7s,baz=141,slow=30									
	comp=Z,5.8nm,0.8s									
PETK	**Petropavlovsk-**	**85.78**	**346**	P		**P**	**18**	**29**	**25.8**	**-0.8**
GSI	**Gunungsitoli**	**85.84**	**274**	P		**P**	**18**	**29**	**26.1**	**-1.7**
TPO	**Tropico Hills**	**85.91**	**45**	P		**P**	**18**	**29**	**26.6**	**-1.1**
TPO					IAmb	IAmb	18	29	30.5	
	comp=Z,10nm,0.8s									
PFO	**Pinyon Flats O**	**86.19**	**47**	LR		LR	19	05	17.9	
	comp=Z,23nm,18.5s,baz=219,slow=34									
MSHR	**Mys Shultsa**	**86.33**	**325**	⇑	*e*P	**P**	**18**	**29**	**31.3**	**+1.8**
MSHR					pmax	pmax				
	comp=Z,7.0nm,1.4s									
VLA	**Vladivostok**	**86.38**	**326**	⇑	*e*P	**P**	**18**	**29**	**32.9**	**+3.2**
VLA					pmax	pmax				
	comp=Z,10.0nm,0.9s									
BUCR	**Buckhorn Ranch**	**86.63**	**42**	P		**P**	**18**	**29**	**31.2**	**-0.1**
O02D	**Mt. Diablo Mer**	**86.87**	**39**			**P**	**18**	**29**	**33.2**	**+0.8**
O02D					IAmb	IAmb	18	29	35.6	
	comp=Z,10nm,1.1s									
GSC	**Goldstone, Bar**	**87.06**	**46**	P		**P**	**18**	**29**	**33.1**	**-0.3**
GSC	**Goldstone, Bar**	**87.06**	**46**	P		**P**	**18**	**29**	**33.2**	**-0.3**
GSC					pmax	pmax				
	comp=Z,7.0nm,1.2s									
USRK	**Ussuriysk Ar.**	**87.14**	**327**	P		**P**	**18**	**29**	**34.0**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=102,slow=5.0,SNR=4.1									
	comp=Z,1.9nm,0.7s									
MPMC	**Manual Prospec**	**87.14**	**45**	P		**P**	**18**	**29**	**33.8**	**-0.2**
IRM	**Iron Mountain**	**87.37**	**48**	P		**P**	**18**	**29**	**35.1**	**+0.2**
IRM					IAmb	IAmb	18	29	55.2	
	comp=Z,31nm,1.9s									
QSM	**Queen of Sheba**	**87.46**	**45**	P		**P**	**18**	**29**	**35.4**	**+0.2**
O03E	**Paynes Creek**	**87.50**	**40**	P		**P**	**18**	**29**	**36.0**	**+0.6**
O03E					IAmb	IAmb	18	29	37.5	
	comp=Z,7.8nm,1.3s									
GWY	**Greenwater Val**	**87.72**	**45**	P		**P**	**18**	**29**	**36.7**	**0.0**
YBH	**Yreka Blue Hor**	**88.01**	**38**	P		**P**	**18**	**29**	**39.6**	**+1.7**

NB2	**NORSAR Subarra**	**148.72**	**351**	PKP	**PKPbc**	**18 36 33.8**	**-0.5**	
	comp=Z,11nm,0.8s,baz=13,slow=2.7							
NOA	**NORSAR Array B**	**148.72**	**351**	PKPbc	**PKPbc**	**18 36 34.0**	**-0.2**	
	comp=Z,7.2nm,0.7s,baz=14,slow=4.3,SNR=28							
HFS	**Hagfors**	**149.22**	**349**	PKPbc	**PKPbc**	**18 36 34.9**	**-0.6**	
	comp=Z,13nm,0.7s,baz=79,slow=0.8,SNR=31							
MNK	**Minsk**	**149.56**	**330**	*i* PKHKP	PKPpre	18 36 32.4		
MNK				*i*		18 40 06.8		
MNK				*i*		18 43 39.9		
MNK				*i* SS	SS	18 59 20.0	-0.1	
MNK				pmax	pmax			
	comp=Z,21nm,0.8s							
KONO	**Kongsberg**	**150.27**	**352**		**PKPbc**	**18 36 37.4**	**-0.6**	
KONO	**Kongsberg**	**150.27**	**352**	PKIKP	**PKPbc**	**18 36 37.4**	**-0.6**	
AKASG	**Malin Array Be**	**151.28**	**323**	PKPbc	**PKPbc**	**18 36 40.5**	**-0.2**	
	comp=Z,14nm,0.7s,baz=51,slow=2.7,SNR=42							
MMAI	**Mount Meron Ar**	**151.52**	**284**	PKPbc	**PKPbc**	**18 36 42.2**	**+0.2**	
	comp=Z,6.6nm,0.6s,baz=110,slow=3.6,SNR=12							
BRTR	**Keskin Array B**	**152.59**	**299**	PKPbc	**PKPbc**	**18 36 43.6**	**-0.6**	
	comp=Z,2.1nm,0.8s,baz=144,slow=2.3,SNR=13							
EKA	**Eskdalemuir Ar**	**154.78**	**7**	PKPab	**PKPab**	**18 37 02.5**	**-0.9**	
	comp=Z,3.5nm,1.0s,baz=360,slow=5.4,SNR=5.8							
BURAR	**Bucovina Array**	**155.21**	**321**	PKPdf	**PKPdf**	**18 36 38.6**	**-2.0**	
BURAR					**pPKPdf**	**18 36 49.1**	**-4.8**	
BURAR				PKPab	**PKPab**	**18 37 05.4**	**-0.3**	
VYHS	**Vyhne**	**157.80**	**329**	*e*PKP2	**PKPab**	**18 37 17.2**	**+0.5**	
GERES	**GERESS Array B**	**159.51**	**337**	PKP	**PKPdf**	**18 36 44.6**	**-1.4**	
	comp=Z,0.2nm,0.2s,baz=116,slow=3.1,SNR=3.7							
GERES				PKPab	**PKPab**	**18 37 23.5**	**-0.6**	
	comp=Z,0.6nm,0.7s,baz=24,slow=10,SNR=2.2							
TORD	**Torodi Ar. Bea**	**162.86**	**179**	PKPab	**PKPab**	**18 37 39.3**	**0.0**	
	comp=Z,4.0nm,1.0s,baz=158,slow=3.5,SNR=4.0							
ESDC	**Sonseca Array**	**169.51**	**26**	PKPab	**PKPab**	**18 38 07.3**	**-1.0**	
	comp=Z,0.6nm,0.9s,baz=332,slow=4.6,SNR=4.5							

IDC ***02*** *18:42:04.5±1.9,37.°12N×144.°81E,h0km,mb3.4/4, mbtmp3.5/8,ML3.0/4, Error ellipse: s-maj=43.9km s-min=23.4km az=74.0*

JMA ***02*** *18:42:10.6±0.3,37.°3N±0.°8×144.°4E±.°, h51km,MV3.7/27, FAR E OFF NORTH HONSHU*

ISC 02 18:42:08.3±1.4,37°23'N±0'.06×144°5E±0'.1,h26km,n27, σ2s59/36,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**2.67**	**295**	P	**Pn**	**18 42 50.5**	**+0.9**
JIKH				*e*S	**Sn**	**18 43 20.5**	**-0.6**
JIO	**Ouri**	**2.81**	**297**	P	**Pn**	**18 42 52.5**	**+1.0**
JIO				S	**Sn**	**18 43 24.0**	**-0.5**
JKMT	**Kesennumamotoy**	**2.90**	**304**	P	**Pn**	**18 42 53.6**	**+0.9**
JKMT				S	**Sn**	**18 43 25.6**	**-1.1**
OFUJ	**Ofunato**	**2.93**	**310**	P	**Pn**	**18 42 54.1**	**+0.9**
OFUJ				*e*S	**Sn**	**18 43 26.3**	**-1.1**
JMK	**Ichinoseki**	**3.14**	**304**	P	**Pn**	**18 42 57.3**	**+1.3**
JMK				*e*S	**Sn**	**18 43 32.2**	**-0.4**
JOTO	**OTAMA OYAMA**	**3.37**	**277**	P	**Pn**	**18 43 01.1**	**+1.9**
JOTO				*e*S	**Sn**	**18 43 38.0**	**-0.4**
JOM	**Ohasama**	**3.40**	**312**	P	**Pn**	**18 43 01.0**	**+1.3**
JOM				S	**Sn**	**18 43 39.0**	**-0.2**
BSO1	**Boso 1**	**3.87**	**229**	*e*S	**Sn**	**18 43 49.2**	**-0.7**
JRY	**Ryogami san**	**4.70**	**257**	P	**Pn**	**18 43 17.9**	**+0.4**
JRY				*e*S	**Sn**	**18 44 08.2**	**-2.9**
MJAR	**Matsushiro Ar**	**5.12**	**264**	Pn	**Pn**	**18 43 25.0**	**+1.6**
	0.3nm,0.3s,baz=76,slow=28,SNR=18						
MJAR				Sn	**Sn**	**18 44 17.4**	**-4.3**
	0.2nm,0.3s,baz=160,slow=22,SNR=6.9 1.7nm,0.4s						
JCH	**Churui**	**5.46**	**351**	*e*P	**Pn**	**18 43 28.1**	**+0.1**
JCH				*e*S	**Sn**	**18 44 26.5**	**-3.3**
JHJ2	**Mitsune**	**5.64**	**225**	*e*P	**Pn**	**18 43 29.4**	**-1.0**
JHJ2				*e*S	**Sn**	**18 44 30.5**	**-3.9**
JHJ	**Hachijo jima 2**	**5.66**	**225**	Pn	**Pn**	**18 43 29.5**	**-1.2**
	2.4nm,0.3s,baz=81,slow=15,SNR=1.7						
JHJ				Sn	**Sn**	**18 44 27.8**	**-7.0**
	12nm,0.3s,baz=47,slow=23,SNR=8.5 28nm,0.7s						
NEM2	**Nemuro 2**	**6.20**	**8**	*e*P	**Pn**	**18 43 36.0**	**-2.1**
NEM2				*e*S	**Sn**	**18 44 41.8**	**-6.3**
JTKR	**Abashiri--Toko**	**6.75**	**356**	*e*P	**Pn**	**18 43 46.0**	**+0.3**
JTKR				*e*S	**Sn**	**18 44 57.2**	**-4.6**
ASAJ	**Asahikawa**	**7.04**	**348**	Pn	**Pn**	**18 43 50.9**	**+1.2**
	0.2nm,0.3s,baz=176,slow=15,SNR=2.0						
ASAJ				Sn	**Sn**	**18 45 05.2**	**-3.6**
	0.2nm,0.3s,baz=93,slow=31,SNR=2.4 1.9nm,0.5s						
KSRS	**Korea Array**	**13.23**	**276**	Pn	**Pn**	**18 45 18.1**	**+3.7**
	0.1nm,0.3s,baz=85,slow=15,SNR=3.2 0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.16**	**126**	T	T	19 14 41.9	
	baz=317,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy**	**26.17**	**126**	T	T	19 14 42.4	
	baz=317,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**26.18**	**126**	T	T	19 14 46.5	
	baz=317,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hy**	**26.93**	**128**	T	T	19 15 32.5	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**26.93**	**128**	T	T	19 15 38.3	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**26.95**	**128**	T	T	19 15 43.7	
	baz=318						
MKAR	**Makanchi Array**	**46.13**	**302**	P	**P**	**18 50 31.9**	**+1.5**
	0.2nm,0.6s,baz=91,slow=8.9,SNR=1.6 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**47.85**	**308**	P	**P**	**18 50 45.9**	**+2.2**
	0.5nm,0.4s,baz=82,slow=8.2,SNR=11 0.5nm,0.4s						
WRA	**Warramunga Arr**	**57.67**	**191**	P	**P**	**18 51 56.1**	**-0.4**
	0.5nm,0.9s,baz=9.6,slow=7.1,SNR=5.0 0.5nm,0.9s						
ASAR	**Alice Springs**	**61.39**	**191**	P	**P**	**18 52 22.1**	**-0.1**
	0.3nm,0.7s,baz=8.3,slow=6.9,SNR=4.3 0.3nm,0.7s						

SFS ***02*** *18:45:34.5,35.°71N×9.°96W,h0km,ML3.2/8,ML3.0/14, MLv2.8/14*

MDD ***02*** *18:45:36.3±0.9,35.°74N×10.°22W,h50km,mb_Lg3.0/4, Error ellipse: s-maj=8.3km s-min=4.7km az=93.0*

IGIL ***02*** *18:45:36.7,35.°84N×10.°21W,h14km,ML2.1*

INMG ***02*** *18:45:37.3±1.3,35.°79N×10.°28W,h31km±18km,ML2.3, Error ellipse: s-maj=12.1km s-min=5.9km az=55.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos*

CNRM ***02*** *18:45:42.2,35.°20N×9.°86W,h72km,ML2.8*

ISC 02 18:45:37.0±2.9,36°04N±0'.09×9°95W±0'.09,h8km±11km, n55,σ1s45/74,1C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.41**	**39**	Sn	**Sn**	**18 46 23.8**	**+2.1**
PFVI				Pn	**Pg**	**18 46 05.3**	**+1.2**
PFVI	**Vila Bisbo**	**1.41**	**39**	*e*P	**Pg**	**18 46 04.2**	**+0.1**
PFVI				*e*S	**Sn**	**18 46 24.2**	**+2.5**
PFVI				*i* IAML		18 46 25.2	
PFVI				*i* IAML		18 46 25.6	
PFVI				*i* IAML		18 46 26.4	
MORF	**Marmelete**	**1.63**	**39**	*e*P	**Pn**	**18 46 07.4**	**+1.3**
MORF				*e*S	**Sg**	**18 46 29.7**	**+0.2**
MORF				IAML		18 46 31.8	
	comp=N,23nm,0.2s						
MORF	**Marmelete**	**1.63**	**39**	*e*P	**Pn**	**18 46 07.4**	**+1.3**
MORF				*e*S	**Sg**	**18 46 30.3**	**+0.7**
MORF				*i* IAML		18 46 31.2	
MORF				*i* IAML		18 46 31.6	
MORF				*i* IAML		18 46 34.1	
PTEO	**Sao Teotonio**	**1.79**	**33**	*e*P	**Pb**	**18 46 10.1**	**0.0**
PTEO				*e*S	**Sg**	**18 46 33.4**	**-1.3**
PTEO				*i* IAML		18 46 34.7	
PTEO				*i* IAML		18 46 36.8	
PTEO				*i* IAML		18 46 36.8	
PBDV	**Barranco-do-Ve**	**2.02**	**53**	Pn	**Pn**	**18 46 12.8**	**+1.6**
PBDV				Sn	**Sb**	**18 46 38.7**	**-0.5**
PBDV	**Barranco-do-Ve**	**2.02**	**53**	*e*P	**Pn**	**18 46 12.9**	**+1.6**
PBDV				*e*S	**Sb**	**18 46 39.1**	**0.0**
PBDV				*i* IAML		18 46 42.0	
PBDV				*i* IAML		18 46 43.6	
PBDV				*i* IAML		18 46 47.2	
PCVE	**Castro Verde**	**2.21**	**43**	Pn	**Pn**	**18 46 15.9**	**+2.0**
PCVE				Sn	**Sb**	**18 46 43.5**	**-1.0**
PCVE	**Castro Verde**	**2.21**	**43**	*e*P	**Pn**	**18 46 15.9**	**+2.0**
PCVE				*e*S	**Sb**	**18 46 43.7**	**-0.8**
PCVE				*i* IAML		18 46 45.5	
PCVE				*i* IAML		18 46 45.9	
PCVE				*i* IAML		18 46 46.5	
PVAQ	**Vaqueiros**	**2.25**	**52**	Pn	**Pn**	**18 46 15.9**	**+1.5**
PVAQ	**Vaqueiros**	**2.25**	**52**	*e*P	**Pn**	**18 46 16.1**	**+1.6**
PVAQ				*e*S	**Sb**	**18 46 44.8**	**-1.0**
PVAQ				*i* IAML		18 46 47.0	
PVAQ				*i* IAML		18 46 47.2	
PVAQ				*i* IAML		18 46 48.1	
MESJ	**Messejana**	**2.27**	**37**	*e*P	**Pn**	**18 46 16.2**	**+1.5**
MESJ				*e*S	**Sb**	**18 46 44.9**	**-1.4**
MESJ				IAML		18 46 46.7	
	comp=N,5.9nm,0.3s						
MESJ	**Messejana**	**2.27**	**37**	*e*P	**Pn**	**18 46 16.5**	**+1.8**
MESJ				*e*S	**Sb**	**18 46 45.2**	**-1.1**
MESJ				*i* IAML		18 46 47.6	
MESJ				*i* IAML		18 46 47.7	
MESJ				*i* IAML		18 46 49.1	
EGRO	**El Granado**	**2.48**	**52**	Pn	**Pn**	**18 46 19.0**	**+1.4**
EGRO				Sn	**Sn**	**18 46 49.7**	**+1.7**
EGRO	**El Granado**	**2.48**	**52**	Pg	**Pn**	**18 46 19.0**	**+1.4**
EGRO				Sg	**Sn**	**18 46 49.6**	**+1.7**
EGRO				*i* IVmb_Lg		18 46 52.5	
PBEJ	**Beja**	**2.59**	**39**	*e*S	**Sn**	**18 46 52.5**	**+1.7**
PBEJ				*i* IAML		18 46 53.8	
PBEJ				*i* IAML		18 46 53.9	
PBEJ				*i* IAML		18 46 54.4	
PARRA	**Arraiolos**	**2.86**	**14**	*e*P	**Pb**	**18 46 28.1**	**-0.2**
PARRA				*e*S	**Sg**	**18 47 06.1**	**-2.8**
PARRA				*i* IAML		18 47 06.9	
PARRA				*i* IAML		18 47 08.3	
PARRA				*i* IAML		18 47 09.1	
EVO	**Evora**	**2.92**	**31**	Sn	**Sn**	**18 47 00.1**	**+1.0**
EVO				Pn	**Pn**	**18 46 24.7**	**+0.9**
EVO	**Evora**	**2.92**	**31**	*e*P	**Pn**	**18 46 24.8**	**+1.1**
EVO				*e*S	**Sn**	**18 47 00.8**	**+1.7**
EVO				*i* IAML		18 47 02.4	
EVO				*i* IAML		18 47 03.5	
EVO				*i* IAML		18 47 03.6	
PMAFR	**Mafra**	**2.96**	**10**	*e*S	**Sn**	**18 46 59.5**	**-0.4**
PMAFR				*i* IAML		18 47 02.0	
PMAFR				*i* IAML		18 47 02.1	
EMIN	**Mina Concepcio**	**3.14**	**56**	Sn	**Sn**	**18 47 06.0**	**+1.7**
EMIN	**Mina Concepcio**	**3.14**	**56**	Sg	**Sn**	**18 47 04.4**	**+0.1**
PBAR	**Barrancos**	**3.15**	**47**	Pn	**Pn**	**18 46 28.1**	**+1.2**
PBAR				Sn	**Sn**	**18 47 06.1**	**+1.5**
PBAR	**Barrancos**	**3.15**	**47**	*e*P	**Pn**	**18 46 28.4**	**+1.5**
PBAR				*e*S	**Sn**	**18 47 06.8**	**+2.1**
PBAR				*i* IAML		18 47 07.5	
PBAR				*i* IAML		18 47 08.7	
PBAR				*i* IAML		18 47 10.9	
PMTG	**Montargil**	**3.32**	**24**	*e*P	**Pn**	**18 46 30.0**	**+0.8**
PMTG				*e*S	**Sn**	**18 47 09.3**	**+0.6**
PMTG				*i* IAML		18 47 12.1	
PMTG				*i* IAML		18 47 12.2	
PMTG				*i* IAML		18 47 12.2	
PESTR	**Estremoz**	**3.39**	**33**	Sn	**Sn**	**18 47 11.6**	**+1.1**
PESTR	**Estremoz**	**3.39**	**33**	*e*S	**Sn**	**18 47 10.3**	**-0.2**
PESTR				*i* IAML		18 47 13.4	
PESTR				*i* IAML		18 47 13.9	
PESTR				*i* IAML		18 47 14.4	
ESPR	**Espera**	**3.40**	**75**	Sn	**Sn**	**18 47 11.2**	**+0.4**
ESPR	**Espera**	**3.40**	**75**	Sg	**Sn**	**18 47 10.7**	**0.0**
EBAD	**Badajoz**	**3.58**	**40**	Pn	**Pn**	**18 46 34.0**	**+1.3**
EBAD				Sn	**Sn**	**18 47 16.4**	**+1.2**
EBAD	**Badajoz**	**3.58**	**40**	Pn	**Pn**	**18 46 33.9**	**+1.1**
EBAD				Sn	**Sn**	**18 47 09.5**	**-4.7**
EBAD				Sg	**Sn**	**18 47 16.3**	**+1.2**
EBAD				*i* IVmb_Lg		18 47 19.0	
ZHG	**ZHG**	**3.76**	**133**	P	Pn	18 46 29.5	-5.7
ZHG	**ZHG**	**3.76**	**133**	S	Sn	18 47 08.0	-12
PSARD	**Sardoal**	**3.82**	**21**	*e*P	**Pn**	**18 46 36.8**	**+0.6**
PSARD				*e*S	**Sn**	**18 47 21.1**	**-0.2**
PSARD				*i* IAML		18 47 24.4	
PSARD				*i* IAML		18 47 25.5	
PSARD				*i* IAML		18 47 25.9	
PMRV	**Marv??o**	**3.94**	**30**	*e*P	**Pn**	**18 46 38.6**	**+0.9**
PMRV				*e*S	**Sn**	**18 47 24.3**	**+0.2**
PMRV				*i* IAML		18 47 26.1	
PMRV				*i* IAML		18 47 26.1	
PMRV				*i* IAML		18 47 27.9	
ECAB	**El Cabril**	**4.15**	**59**	Pn	**Pn**	**18 46 41.8**	**+1.1**
ECAB				Sn	**Sn**	**18 47 28.5**	**-0.8**
ECAB	**El Cabril**	**4.15**	**59**	Pn	**Pn**	**18 46 41.8**	**+1.0**
ECAB				Sn	**Sn**	**18 47 28.6**	**-0.8**
ECAB				*i* IVmb_Lg		18 47 32.7	
PCAS	**Casmilo, Conde**	**4.17**	**15**	*e*S	**Sn**	**18 47 29.4**	**-0.3**
PCAS				*i* IAML		18 47 30.4	
PCAS				*i* IAML		18 47 33.4	
PCAS				*i* IAML		18 47 34.3	
EADA	**Adamuz**	**4.79**	**62**	Pn	**Pn**	**18 46 49.0**	**-0.4**
EADA				Sn	**Sn**	**18 47 44.8**	**-0.2**
EADA	**Adamuz**	**4.79**	**62**	Pn	**Pn**	**18 46 49.0**	**-0.4**
EADA				Sn	**Sn**	**18 47 43.7**	**-1.4**
EADA				*i* IVmb_Lg		18 47 48.6	
EPLA	**Plasencia**	**5.04**	**36**	Pn	Pn	18 46 58.1	+5.2
EPLA				Sn	**Sn**	**18 47 50.8**	**-0.5**
OUK	**Oukaimeden**	**5.12**	**160**	P	Pn	18 46 45.4	-8.9
OUK	**Oukaimeden**	**5.12**	**160**	S	Sn	18 47 35.4	-18
TISM	**Timmit**	**5.20**	**145**	P	Pn	18 46 48.1	-7.0
MD31	**MD31**	**5.33**	**125**	P	Pn	18 46 52.5	-4.4
MD31	**MD31**	**5.33**	**125**	S	Sn	18 47 47.5	-11
TIO	**Tiouine**	**5.57**	**156**	Pn	Pn	18 46 53.2	-7.1
TIO				Sn	Sn	18 47 49.3	-15
TIO	**Tiouine**	**5.57**	**156**	P	Pn	18 46 51.9	-8.4
TIO	**Tiouine**	**5.57**	**156**	S	Sn	18 47 47.5	-17
TTIG	**Tnine Tigouga,**	**5.62**	**167**	P	Pn	18 46 52.7	-8.3
TTIG	**Tnine Tigouga,**	**5.62**	**167**	S	Sn	18 47 46.0	-20
PAB	**San Pablo**	**5.65**	**50**	Sn	**Sn**	**18 48 03.8**	**-2.5**
PSIM	**Granatula de C**	**5.65**	**59**	Pn	**Pn**	**18 47 02.4**	**+1.1**
PSIM				Sn	**Sn**	**18 48 05.3**	**-1.1**
EQES	**Quesada**	**5.78**	**70**	Pn	**Pn**	**18 47 00.8**	**-2.4**
EQES				Sn	**Sn**	**18 48 08.2**	**-1.5**
ELOB	**Lobios**	**6.00**	**14**	Sg	**Sn**	**18 48 12.6**	**-2.4**

NEIC ***02*** *19:02:48.5±2.3,22.°3S±0.°1×176.°7W±0.°1,h130km±5km, mb4.9/28, Error ellipse: s-maj=17.2km s-min=15.4km az=152.0*

IDC ***02*** *19:02:52.0±7.9,22.°02S×176.°92W,h159km±68km, mb3.6/12,mbtmp4.0/12, Error ellipse: s-maj=23.1km s-min=18.0km az=82.0*

ISC 02 19:02:51.3±0.7,22°11S±0'.08×176°64W±0'.07, h164km±6km,n141,σ1s41/136,mb4.5/27,27C-2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.63**	**310**	Pn	**Pn**	**19 04 25.0**	**-1.6**
NIUE	**Niue**	**6.97**	**66**		**Pn**	**19 04 31.1**	**+0.1**
AFI	**Afiamalu**	**9.37**	**30**	Pn	**Pn**	**19 05 00.4**	**-2.6**
PINNC	**Pines Island,**	**14.73**	**265**	P	P	19 06 17.9	+4.3
DZM	**Mont Dzumac**	**15.68**	**267**	P	**P**	**19 06 26.6**	**+2.4**
	12nm,1.0s,baz=118,slow=15,SNR=4.0						
RAR	**Rarotonga**	**15.71**	**90**	S	**S**	**19 09 12.0**	**-7.3**
	6.9nm,0.3s,baz=162,slow=20,SNR=3.7						
URZ	**Urewera**	**16.97**	**197**	P	**P**	**19 06 34.3**	**-3.8**
	5.4nm,0.3s,baz=296,slow=3.1,SNR=13						
URZ				S	S	19 09 29.6	-17
	10.0nm,0.5s,baz=131,slow=20,SNR=12						
BKZ	**Black Stump Fm**	**17.99**	**198**	P	**P**	**19 06 45.8**	**-3.6**
NNZ	**Nelson**	**20.83**	**202**	P	**P**	**19 07 16.9**	**-3.0**
LTZ	**Lake Taylor**	**22.60**	**202**	P	**P**	**19 07 36.5**	**-1.6**
WHZ	**Wether Hill Ro**	**26.85**	**204**	P	**P**	**19 08 15.2**	**-1.2**
ARMA	**Armidale**	**29.56**	**247**	P	**P**	**19 08 41.1**	**+0.3**
ARMA				IAmb	IAmb	19 08 54.1	
	comp=Z,51nm,1.8s						
EIDS	**Eidsvold**	**29.69**	**257**	P	**P**	**19 08 40.7**	**-1.2**
EIDS				IAmb	IAmb	19 08 42.4	
	comp=Z,32nm,1.3s						
CAN	**Canberra**	**32.72**	**239**	P	**P**	**19 09 09.0**	**+0.6**
CAN				IAmb	IAmb	19 09 54.0	
	comp=Z,60nm,1.6s						
CTAO	**Charters Tower**	**34.63**	**266**	P	**P**	**19 09 25.5**	**+0.5**
CTAO				IAmb	IAmb	19 09 42.7	
	comp=Z,44nm,1.6s						
TOO	**Toolangi**	**36.02**	**236**	P	**P**	**19 09 35.6**	**-1.1**
TOO				IAmb	IAmb	19 10 14.3	
	comp=Z,12nm,1.5s						
PMG	**Port Moresby**	**36.95**	**284**	P	**P**	**19 09 45.4**	**+0.5**
PMG				IAmb	IAmb	19 10 55.8	
	comp=Z,55nm,1.4s						
STKA	**Stephens Creek**	**38.27**	**246**	P	**P**	**19 09 55.3**	**-0.5**
STKA	**Stephens Creek**	**38.27**	**246**	P	**P**	**19 09 55.2**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=99,slow=11,SNR=7.7 comp=Z,1.1nm,0.3s						
INKA	**Innaminka**	**38.91**	**253**	P	**P**	**19 10 01.6**	**+0.5**
COEN	**Coen**	**38.97**	**275**	P	**P**	**19 10 02.1**	**+0.4**
BBOO	**Buckleboo**	**43.00**	**245**	P	**P**	**19 10 32.5**	**-2.0**
BBOO				IAmb	IAmb	19 10 51.6	
	comp=Z,57nm,1.9s						
AS31	**Alice Springs**	**45.41**	**258**	P	**P**	**19 10 53.2**	**-0.6**
AS31				PcP	**PcP**	**19 12 30.8**	**+0.4**
ASAR	**Alice Springs**	**45.41**	**258**	P	**P**	**19 10 52.8**	**-1.1**
ASAR				PcP	**PcP**	**19 12 30.3**	**0.0**
ASAR	**Alice Springs**	**45.41**	**258**	P	**P**	**19 10 53.0**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=89,slow=7.6,SNR=59						
ASAR				PcP	**PcP**	**19 12 30.6**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=109,slow=3.8,SNR=15 comp=Z,3.7nm,0.7s						
WR8	**Warramunga Arr**	**45.51**	**263**	P	**P**	**19 10 53.2**	**-1.4**
WR8				IAmb	IAmb	19 11 03.1	
	comp=Z,41nm,2.0s						
WR8				PcP	**PcP**	**19 12 31.0**	**+0.3**
WRA	**Warramunga Arr**	**45.66**	**263**	P	**P**	**19 10 54.3**	**-1.5**
WRA				PcP	**PcP**	**19 12 30.6**	**-0.6**
WRA	**Warramunga Arr**	**45.66**	**263**	P	**P**	**19 10 54.4**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=97,slow=8.1,SNR=25						
WRA				PcP	**PcP**	**19 12 31.6**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=98,slow=3.4,SNR=6.6 comp=Z,0.6nm,0.3s						
FORT	**Forrest**	**49.84**	**248**	P	**P**	**19 11 26.0**	**-1.9**
FORT				IAmb	IAmb	19 11 27.9	
	comp=Z,12nm,0.7s						
MTN	**Manton Dam**	**50.46**	**271**	P	**P**	**19 11 31.3**	**-1.4**
KNRA	**Kununurra**	**51.83**	**267**	P	**P**	**19 11 42.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**54.09**	**263**	P	**P**	**19 11 59.0**	**-0.3**
FITZ				IAmb	IAmb	19 13 18.7	
	comp=Z,16nm,2.0s						
SBA	**Scott Base**	**56.36**	**184**	P	**P**	**19 12 14.9**	**+0.2**
SBA				PcP	**sP**	**19 13 12.2**	**+2.7**
SBA				IAmb	IAmb	19 13 23.9	
	comp=Z,23nm,2.0s						
VNDA	**Vanda**	**56.43**	**185**	P	**P**	**19 12 14.2**	**-1.0**
VNDA	**Vanda**	**56.43**	**185**	P	**P**	**19 12 17.5**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=328,slow=5.1,SNR=5.1 comp=Z,0.9nm,0.8s						
SOEI	**Soe**	**57.83**	**272**	P	**P**	**19 12 24.8**	**-1.3**
MBWA	**Marble Bar**	**58.75**	**258**	P	**P**	**19 12 31.2**	**-1.2**
MBWA				IAmb	IAmb	19 13 31.2	
	comp=Z,32nm,1.2s						
MMRI	**Maumere**	**60.09**	**273**	P	**P**	**19 12 40.2**	**-1.4**
MORW	**Morawa**	**60.41**	**248**	P	**P**	**19 12 42.3**	**-1.3**
MORW				IAmb	IAmb	19 14 51.0	
	comp=Z,54nm,1.9s						
CCD	**Concordia, Ant**	**61.24**	**195**	P	**P**	**19 12 50.5**	**+1.6**
CCD				PcP	**pwP**	**19 13 30.7**	**+0.6**
CASY	**Casey**	**63.06**	**206**	P	**P**	**19 12 59.6**	**-1.0**
QSPA	**South Pole Qui**	**67.97**	**180**	P	**P**	**19 13 34.2**	**+1.8**
QSPA	**South Pole Qui**	**67.97**	**180**	P	**P**	**19 13 34.3**	**+2.0**
	comp=Z,3.7nm,0.7s,baz=25,slow=0.8,SNR=21 comp=Z,3.7nm,0.7s						
MJAR	**Matsushiro Ar**	**72.25**	**323**	P	**P**	**19 13 59.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=161,slow=5.0,SNR=3.3 comp=Z,0.9nm,0.7s						
PETK	**Petropavlovsk-**	**78.15**	**345**	P	**P**	**19 14 32.8**	**+0.9**
PETK	**Petropavlovsk-**	**78.15**	**345**	P	**P**	**19 14 32.5**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=162,slow=6.0,SNR=3.7 comp=Z,0.8nm,0.7s						
VTX	**Valle De La Tr**	**78.91**	**50**	P	**P**	**19 14 37.2**	**+0.5**
VTX				IAmb	IAmb	19 17 06.7	
	comp=Z,42nm,1.8s						
MAW	**Mawson**	**80.48**	**200**	P	**P**	**19 14 45.7**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=136,slow=6.2,SNR=10 comp=Z,3.7nm,0.7s						
NVAR	**Mina Array Bea**	**81.33**	**43**	P	**P**	**19 14 51.5**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=253,slow=5.9,SNR=2.1 comp=Z,0.3nm,0.6s						
H03S2	**Juan Fernandez**	**84.04**	**124**	T	T	20 47 36.3	
	baz=245,slow=75,SNR=35						
H03S1	**Juan Fernandez**	**84.05**	**124**	T	T	20 47 28.4	
	baz=245,slow=75,SNR=38						
H03S3	**Juan Fernandez**	**84.06**	**124**	T	T	20 47 27.1	
	baz=245,slow=75,SNR=37						
H03N2	**Juan Fernandez**	**84.19**	**124**	T	T	20 47 34.7	
	baz=253,slow=73,SNR=14						
H03N3	**Juan Fernandez**	**84.19**	**124**	T	T	20 47 36.2	
	baz=253,slow=73,SNR=11						
H03N1	**Juan Fernandez**	**84.20**	**124**	T	T	20 47 34.5	
	baz=253,slow=73,SNR=6.6						
TXAR	**Lajitas Array**	**86.86**	**57**	P	**P**	**19 15 20.6**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=222,slow=1.7,SNR=4.1 comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**89.27**	**43**	P	**P**	**

MMAI	**Mount Meron Ar**	**149.70**	**298**	PKPbc	**PKiKP**	**19**	**22**	**23.3 +0.3**
	comp=Z,3.9nm,0.4s,baz=79,slow=6.0,SNR=33							
HARR	**Harsova**	**149.75**	**324**	⇑P	**PKiKP**	**19**	**22**	**22.7 +0.1**
CLL	**Collm**	**149.90**	**348**	*i* PKPbc	**PKiKP**	**19**	**22**	**22.9 +0.2**
	comp=Z,6.0nm,0.9s							
OZUR		**149.91**	**328**	⇑P	**PKiKP**	**19**	**22**	**23.0 +0.1**
UPC	**Upice**	**149.97**	**344**	*e*PKP	**PKiKP**	**19**	**22**	**24.1 +1.2**
STEB	**Steborice**	**149.99**	**341**	*e*PKP	**PKiKP**	**19**	**22**	**24.0 +1.1**
DPC	**Dobruska-Polom**	**150.03**	**343**	*e*PKP	**PKiKP**	**19**	**22**	**24.2 +1.1**
BRG	**Berggiesshubel**	**150.12**	**346**	*e*P	**PKiKP**	**19**	**22**	**24.2 +1.0**
BRG				Amp		19	22	25.3
	comp=Z,3.4nm,0.6s							
NEHR	**Nehoiu**	**150.12**	**327**	⇑P	**PKiKP**	**19**	**22**	**23.8 +0.3**
KRLC	**Kraliky**	**150.15**	**343**	*e*PKP	**PKiKP**	**19**	**22**	**24.3 +1.0**
MDUB	**Mudurnu**	**150.17**	**314**		**PKPbc**	**19**	**22**	**23.4 +0.4**
DOPR	**Dopca**	**150.20**	**328**	⇑P	**PKiKP**	**19**	**22**	**23.8 +0.3**
MORC	**Moravsky Berou**	**150.20**	**341**		**PKPbc**	**19**	**22**	**22.8 +0.1**
MORC	**Moravsky Berou**	**150.20**	**341**	*e*PKP	**PKiKP**	**19**	**22**	**23.9 +0.5**
MORC	**Moravsky Berou**	**150.20**	**341**	⇑P	**PKiKP**	**19**	**22**	**23.7 +0.2**
MLR	**Muntele Rosu**	**150.26**	**327**		**PKPbc**	**19**	**22**	**22.2 -0.8**
MLR	**Muntele Rosu**	**150.26**	**327**	⇑P	**PKiKP**	**19**	**22**	**24.1 +0.3**
MAUC	**Maruska**	**150.48**	**341**	*e*PKP	**PKiKP**	**19**	**22**	**25.4 +1.4**
MARR	**Marisel-Cluj**	**150.73**	**332**	⇑P	**PKiKP**	**19**	**22**	**24.8 +0.1**
PRU	**Pruhonice**	**150.81**	**345**	*e*PKP	**PKiKP**	**19**	**22**	**25.7 +1.1**
ARR	**Arges**	**151.00**	**328**	⇑P	**PKiKP**	**19**	**22**	**26.8 +1.6**
KRUC	**Moravsky**	**151.18**	**342**	*e*PKP	**PKiKP**	**19**	**22**	**25.9 +0.5**
LOT	**Lotru**	**151.36**	**329**	⇑P	**PKiKP**	**19**	**22**	**26.0 0.0**
SIRR	**Siria**	**151.68**	**333**	⇑P	**PKiKP**	**19**	**22**	**27.5 +0.9**
KHC	**Kasperske Hory**	**151.84**	**346**	*e*PKP	**PKiKP**	**19**	**22**	**28.0 +1.2**
GZR	**Gura Zlata**	**151.86**	**330**	⇑P	**PKiKP**	**19**	**22**	**27.5 +0.5**
SURR	**Surduc**	**151.88**	**331**	⇑P	**PKPdf**	**19**	**22**	**23.3 +3.3**
CKRC	**Cesky Krumlov**	**151.96**	**345**	*e*PKP	**PKiKP**	**19**	**22**	**28.2 +1.1**
GERES	**GERESS Array B**	**152.08**	**345**	PKPbc	**PKPbc**	**19**	**22**	**27.3 +0.2**
	comp=Z,0.8nm,0.5s,baz=15,slow=2.1,SNR=11							
BZS	**Buzias**	**152.21**	**332**	⇑P	**PKiKP**	**19**	**22**	**28.5 +0.8**
MORH	**Mrgy, Hungar**	**152.93**	**336**	⇑P	**PKiKP**	**19**	**22**	**29.9 +0.8**
TORD	**Torodi Ar. Bea**	**170.95**	**170**	PKPab	**PKPab**	**19**	**24**	**00.6 +0.7**
	comp=Z,0.9nm,0.3s,baz=183,slow=5.1,SNR=3.6							

CNRM ***02*** *19:49:49.5, 33˚.80N×15˚.87W, h85km, ML2.6*
INMG 02 19:49:42.5±0.7, 34˚.88N×16˚.51W, h10km, ML2.4, Error ellipse: s-maj=12.8km s-min=5.6km az=101.0, #DIST_RANGE: REGIONAL #IPMA_REGION: N Porto Santo (Madeira), Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PMPST	**Porto Santo, M**	**1.80**	**175**	*e*P		Pn	19	50	07.8	-5.9
PMPST				*e*S		Sn	19	50	27.1	-10
PMPST				*i* IAML			19	50	28.1	
PMPST				*i* IAML			19	50	29.1	
PMPST				*i* IAML			19	50	30.9	
PMPS	**Porto Santo**	**1.82**	**175**	*e*P		Pn	19	50	08.1	-5.8
PMPS				*i* IAML			19	50	30.8	
PMOZ	**Porto Moniz, M**	**2.13**	**196**	*e*P		Pn	19	50	12.6	-5.6
PMOZ				*e*S		Sn	19	50	34.8	-10
PMOZ				*i* IAML			19	50	37.3	
PMOZ				*i* IAML			19	50	38.5	
PMOZ				*i* IAML			19	50	45.4	
PMOZ	**Porto Moniz, M**	**2.13**	**196**	P		Pn	19	50	14.2	-4.0
PMOZ	**Porto Moniz, M**	**2.13**	**196**	S		Sn	19	50	34.0	-11
PMAR	**Madeira**	**2.18**	**189**	*e*P		Pn	19	50	12.9	-6.0
PMAR				*e*S		Sn	19	50	35.9	-10
PMAR				*i* IAML			19	50	39.2	
PMAR				*i* IAML			19	50	40.4	
PMAR				*i* IAML			19	50	40.6	
PMAR	**Madeira**	**2.18**	**189**	P		Pn	19	50	13.7	-5.3
PMAR	**Madeira**	**2.18**	**189**	S		Sn	19	50	32.5	-14
TIO	**Tiouine**	**8.71**	**114**	P		Pn	19	51	40.6	-8.1
TIO	**Tiouine**	**8.71**	**114**	S		Sn	19	53	08.2	-19
TISM	**Timmit**	**9.00**	**108**	P		Pn	19	51	45.9	-6.6
TISM	**Timmit**	**9.00**	**108**	S		Sn	19	53	18.0	-16
MD31	**MD31**	**9.97**	**98**	P		Pn	19	52	01.3	-4.6
MD31	**MD31**	**9.97**	**98**	S		Sn	19	53	45.1	-13

BER 02 20:03:42.5±1.6, 73˚.07N×5˚.22E, h10km, Mw3.6, Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
BJO1	**Bjornoya**	**4.12**	**63**	*e*P		Pn	20	04	43.3	-2.0
BJO1				IAML			20	04	45.8	
	comp=Z,3.8nm,0.3s									
TRO	**Tromso**	**5.58**	**121**	*e*P		Pn	20	05	02.5	-2.9
LOF	**Lofoten**	**5.68**	**147**	*e*P		Pn	20	05	04.3	-2.4
JETT	**Jettan, Norway**	**6.01**	**118**	*e*P		Pn	20	05	08.8	-2.6
STEI	**Steigen**	**6.15**	**142**	*e*P		Pn	20	05	09.8	-3.3
STEI				IAML			20	05	12.1	
	comp=Z,1.1nm,0.3s									
KIF	**Kilpisjarvi**	**6.50**	**121**	*e*P		Pn	20	05	15.0	-2.9
VAGH	**Vaagaholmen**	**6.94**	**153**	*e*P		Pn	20	05	21.4	-2.7
KTI	**Kautokeino**	**7.12**	**116**	*e*P		Pn	20	05	24.0	-2.5
KONS	**Konsvik**	**7.14**	**154**	*e*P		Pn	20	05	23.9	-2.9
KONS				IAML			20	05	25.7	
	comp=Z,2.3nm,0.5s									
STOK	**Stokkvaagen**	**7.28**	**154**	*e*P		Pn	20	05	25.8	-2.9
STOK				IAML			20	05	27.0	
	comp=Z,1.4nm,0.4s									
ARA0	**ARCESS Array S**	**7.39**	**109**	*e*P		Pn	20	05	28.2	-2.1
ARA0				*e*P		Pb	20	05	28.3	-22
LEIR	**Leirfjorden**	**7.51**	**155**	*e*P		Pn	20	05	29.2	-2.6
LEIR				IAML			20	05	30.6	
	comp=Z,1.0nm,0.2s									
MOR8	**Moi Rana**	**7.63**	**151**	*e*P		Pn	20	05	31.0	-2.5
MOR8				IAML			20	05	33.6	
	comp=Z,1.3nm,0.5s									
HEF	**Hetta**	**7.65**	**118**	*e*P		Pn	20	05	31.3	-2.6
KEV	**Kevo**	**7.68**	**105**	*e*P		Pn	20	05	30.6	-3.6

NDI ***02*** *20:29:11.1±2.4, 24˚.66N×94˚.43E, h63km±17km, ML3.7, MW3.5*
IDC ***02*** *20:29:12.4±4.0, 24˚.48N×94˚.44E, h88km±38km, mb3.3/13, mbtmp3.6/14, MS3.4/2, Error ellipse: s-maj=43.0km s-min=15.9km az=59.0*
ISC 02 20:29:13.2±1.3, 24.75N±0˚.08×94.12E±0˚.08, h74km±8km, n34, σ1s18/46, mb3.5/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
IMP	**Imphal**	**0.17**	**297**	*i* P		**Pn**	**20**	**29**	**22.6**	**-1.6**
IMP				*i* S		**Sn**	**20**	**29**	**31.2**	**-1.2**
IMP				IAML			20	29	31.7	
	comp=N,899nm,0.3s									
IMP				IAML			20	29	31.7	
	comp=E,630nm,0.2s									
KOHI	**KOHIMA**	**0.96**	**360**	*i* P		**Pn**	**20**	**29**	**31.6**	**0.0**
KOHI				*i* S		**Sn**	**20**	**29**	**46.0**	**+0.7**
KOHI				IAML			20	29	47.5	
	comp=N,391nm,0.3s									
AZL	**Aizawl**	**1.65**	**232**	*i* P		**Pn**	**20**	**29**	**40.0**	**-0.4**
AZL				*i* S		**Sn**	**20**	**30**	**02.9**	**+2.0**
AZL				IAML			20	30	04.5	
	comp=N,914nm,0.3s									
SHL	**Shillong**	**2.18**	**292**	*i* P		**Pn**	**20**	**29**	**48.3**	**+0.8**
SHL				*i* S		**Sn**	**20**	**30**	**15.8**	**+2.2**
SHL				IAML			20	30	17.5	
	comp=E,707nm,0.2s									
SHL				IAML			20	30	17.6	
	comp=N,336nm,0.2s									
TEZP	**TEZPUR**	**2.20**	**328**	*e*P		**Pn**	**20**	**29**	**48.0**	**+0.4**
TEZP				*e*S		**Sn**	**20**	**30**	**15.3**	**+1.3**
TEZP				IAML			20	30	17.5	
	comp=N,741nm,0.2s									
TEZP				IAML			20	30	17.6	
	comp=E,924nm,0.2s									
GUWA	**GUWAHATI**	**2.62**	**304**	*e*P		**Pn**	**20**	**29**	**53.6**	**+0.4**
GUWA				*e*S		**Sn**	**20**	**30**	**25.4**	**+1.4**
GUWA				IAML			20	30	26.0	
	comp=N,655nm,0.2s									
GUWA				IAML			20	30	26.1	
	comp=E,702nm,0.3s									
GTK	**Tadong**	**5.58**	**298**	*e*P		**Pn**	**20**	**30**	**34.7**	**+0.9**
GTK				*e*S		**Sn**	**20**	**31**	**37.3**	**+0.7**
GTK				IAML			20	31	40.9	
	comp=N,263nm,0.3s									
GTK				IAML			20	31	41.1	
	comp=E,275nm,0.3s									
ODAN	**Odare**	**6.41**	**291**	Pn		**Pn**	**20**	**30**	**46.5**	**+1.3**
	baz=296,slow=0.0									
ODAN				Sn		**Sn**	**20**	**31**	**56.7**	**-0.5**
	comp=E,133nm,0.5s,baz=296,slow=0.0									
RAMN	**Ramite**	**7.11**	**290**	Pn		**Pn**	**20**	**30**	**55.7**	**+0.9**
	baz=294,slow=0.0									
RAMN				Sn		**Sn**	**20**	**32**	**13.3**	**-1.0**
	comp=E,48nm,0.4s,baz=294,slow=0.0									
CMAR	**Chiang Mai Arr**	**7.71**	**143**	P		Pn	20	30	56.4	-6.4
	comp=E,0.8nm,0.4s,baz=326,slow=13,SNR=4.0									
GUN	**Gumba**	**8.03**	**295**	Pn		**Pn**	**20**	**31**	**08.2**	**+0.8**
	baz=299,slow=0.0									
GUN				Sn		**Sn**	**20**	**32**	**36.4**	**-0.5**
	comp=E,40nm,0.4s,baz=299,slow=0.0									
PKI	**Pulchoki**	**8.31**	**292**	Pn		**Pn**	**20**	**31**	**11.6**	**+0.4**
	baz=296,slow=0.0									
PKI				Sn		**Sn**	**20**	**32**	**42.0**	**-1.7**
	comp=E,11nm,0.2s,baz=296,slow=0.0									
PKIN	**Phulchoki**	**8.32**	**292**	Pn		**Pn**	**20**	**31**	**11.5**	**+0.2**
	baz=296,slow=0.0									
PKIN				Sn		**Sn**	**20**	**32**	**42.5**	**-1.4**
	comp=E,29nm,0.4s,baz=296,slow=0.0									
KKN	**Kakani**	**8.49**	**293**	Pn		**Pn**	**20**	**31**	**13.9**	**+0.4**
	baz=297,slow=0.0									
KKN				Sn		**Sn**	**20**	**32**	**46.9**	**-1.0**
	comp=E,15nm,0.2s,baz=297,slow=0.0									
DMN	**Daman**	**8.58**	**291**	Pn		**Pn**	**20**	**31**	**14.3**	**-0.5**
	baz=295,slow=0.0									
DMN				Sn		**Sn**	**20**	**32**	**49.5**	**-0.6**
	comp=E,17nm,0.3s,baz=295,slow=0.0									
GKN	**Gorkha**	**9.09**	**293**	Pn		**Pn**	**20**	**31**	**21.8**	**0.0**
	baz=297,slow=0.0									
GKN				Sn		**Sn**	**20**	**33**	**01.4**	**-1.2**
	comp=E,43nm,0.3s,baz=297,slow=0.0									
KOLN	**Koldanda**	**9.90**	**290**	Pn		**Pn**	**20**	**31**	**32.4**	**-0.5**
	baz=293,slow=0.0									
KOLN				Sn		**Sn**	**20**	**33**	**19.7**	**-2.8**
	comp=E,16nm,0.4s,baz=293,slow=0.0									
PYUN	**Piuthan**	**10.51**	**291**	Pn		**Pn**	**20**	**31**	**41.5**	**+0.3**
	baz=294,slow=0.0									
PYUN				Sn		**Sn**	**20**	**33**	**34.6**	**-2.8**
	comp=E,24nm,0.5s,baz=294,slow=0.0									
MKAR	**Makanchi Array**	**23.94**	**340**	P		**P**	**20**	**34**	**21.8**	**+1.4**
	comp=E,0.5nm,0.4s,baz=150,slow=10,SNR=19									
	comp=E,0.5nm,0.4s									
SONM	**Songino Array**	**25.01**	**20**	P		**P**	**20**	**34**	**30.4**	**+0.2**
	comp=E,0.9nm,0.6s,baz=200,slow=11,SNR=5.1									
	comp=E,0.9nm,0.6s									
KURBB	**Kurchatov Arra**	**28.50**	**339**	P		**P**	**20**	**35**	**02.1**	**+0.8**
	comp=E,0.2nm,0.3s,baz=132,slow=5.1,SNR=2.2									
	comp=E,0.2nm,0.3s									
ZALV	**Zalesovo Beam**	**29.98**	**349**	P		**P**	**20**	**35**	**14.7**	**+0.3**
	comp=E,0.5nm,0.4s,baz=147,slow=6.8,SNR=3.8									
	comp=E,0.5nm,0.4s									
ASAJ	**Asahikawa**	**43.70**	**51**	LR		LR	20	58	14.4	
	comp=E,20nm,18.6s,baz=177,slow=40									
GNI	**Garni**	**43.85**	**303**	LR		LR	21	00	59.4	
	comp=E,112nm,18.8s,baz=114,slow=43									
FINES	**FINESS Array B**	**58.09**	**328**	P		**P**	**20**	**38**	**58.9**	**+0.4**
	comp=E,0.9nm,0.8s,baz=86,slow=8.2,SNR=5.5									
	comp=E,0.9nm,0.8s									
WRA	**Warramunga Arr**	**59.21**	**135**	P		P	20	39	02.0	-4.9
	comp=E,0.3nm,0.8s,baz=324,slow=7.3,SNR=4.5									
	comp=E,0.3nm,0.8s									
ARCES	**ARCESS Array B**	**59.57**	**338**	P		**P**	**20**	**39**	**09.4**	**+0.7**
	comp=E,0.5nm,0.6s,baz=102,slow=7.3,SNR=7.1									
	comp=E,0.5nm,0.6s									
ASAR	**Alice Springs**	**61.68**	**138**	P		P	20	39	18.9	-4.9
	comp=E,0.3nm,0.8s,baz=312,slow=6.3,SNR=4.8									
	comp=E,0.3nm,0.8s									
HFS	**Hagfors**	**64.14**	**327**	P		**P**	**20**	**39**	**39.9**	**+0.4**
	comp=E,1.0nm,0.5s,baz=90,slow=5.9,SNR=11									
	comp=E,1.0nm,0.5s									
NB2	**NORSAR Subarra**	**65.26**	**328**	P		**P**	**20**	**39**	**46.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=83,slow=6.5									
NOA	**NORSAR Array B**	**65.26**	**328**	P		**P**	**20**	**39**	**46.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=83,slow=6.5,SNR=3.8									
	comp=Z,0.4nm,0.5s									
GERES	**GERESS Array B**	**65.63**	**314**	P		**P**	**20**	**39**	**50.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=69,slow=11,SNR=2.1									
	comp=Z,0.2nm,0.4s									
EKA	**Eskdalemuir Ar**	**73.98**	**324**	P		**P**	**20**	**40**	**40.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=69,slow=5.5,SNR=1.4									
	comp=Z,0.1nm,0.3s									
ILAR	**Eielson Array**	**79.20**	**22**	P		**P**	**20**	**41**	**07.2**	**-2.6**
	comp=Z,0.2nm,0.5s,baz=302,slow=6.2,SNR=1.8									
	comp=Z,0.2nm,0.5s									

IDC 02 20:50:33.0±2.2, 0˚.51S×128˚.08E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=166.2km s-min=27.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**20.27**	**163**	P		Pn	20	55	11.7	-0.4
	0.5nm,0.6s,baz=342,slow=11,SNR=2.3									
	0.5nm,0.6s									
ASAR	**Alice Springs**	**23.71**	**167**	P		P	20	55	45.7	-1.0
	0.3nm,0.5s,baz=344,slow=9.6,SNR=4.5									
	0.3nm,0.5s									
MKAR	**Makanchi Array**	**61.79**	**326**	P		P	21	00	53.7	0.0
	0.3nm,0.6s,baz=114,slow=7.4,SNR=5.8									
	0.3nm,0.6s									

TEH ***02*** *20:58:15.1, 38˚.17N×49˚.11E, h21km±31km*
AZER ***02*** *20:58:16.0, 38˚.19N×48˚.86E, h30km, ml3.7*
NNC ***02*** *20:58:24.0±2.0, 38˚.93N×50˚.06E, h0km, mb3.8, Error ellipse: s-maj=38.3km s-min=15.7km az=101.0*
ISC 02 20:58:14.9±1.2, 38˚.14N±0˚.03×49˚.11E±0˚.03, h12km±9km, n74, σ1s53/108, 4C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GAS1	**Astara - Iran**	**0.33**	**320**	Pg		**Pg**	**20**	**58**	**22.2**	**+0.7**
ASTR	**Astara**	**0.49**	**329**	P		**Pb**	**20**	**58**	**25.4**	**0.0**
ASTR				S		**Sb**	**20**	**58**	**33.3**	**+0.7**
CSN1	**Caspian**	**0.57**	**181**	Pg		**Pg**	**20**	**58**	**26.5**	**+0.4**
LKRN	**Lenkeran, Azer**	**0.63**	**336**	P		**Pb**	**20**	**58**	**28.0**	**+0.2**
LKRN				S		**Sb**	**20**	**58**	**37.1**	**+0.6**
LRK	**Lerik**	**0.79**	**310**	P		**Pg**	**20**	**58**	**29.6**	**-0.6**
LRK				S		**Sg**	**20**	**58**	**39.8**	**-0.7**
YRD	**Yardimli**	**1.03**	**319**	P		**Pg**	**20**	**58**	**34.5**	**-0.4**
YRD				S		**Sg**	**20**	**58**	**48.4**	**0.0**
GRMI	**Germi**	**1.17**	**305**	Pg		**Pb**	**20**	**58**	**36.0**	**-1.1**
GLBA	**Clilabad**	**1.24**	**333**	P		**Pn**	**20**	**58**	**37.5**	**-0.4**
GLBA				S		**Sb**	**20**	**58**	**54.7**	**+0.6**
IHRS	**Heris**	**1.64**	**277**	Pg		**Pn**	**20**	**58**	**43.6**	**-0.1**
IHSH	**Hashtrud**	**1.68**	**241**	Pg		**Pn**	**20**	**58**	**43.9**	**-0.5**
ALIB	**&Aumlli-Bayram**	**1.82**	**358**	Pn		**Pg**	**20**	**58**	**51.8**	**+2.0**
ALIB				Sn		**Sb**	**20**	**59**	**11.4**	**+0.6**
QRD	**Qoradiz**	**1.92**	**314**	Pn		**Pn**	**20**	**58**	**47.6**	**+0.2**
QRD				Sn		**Sn**	**20**	**59**	**12.4**	**+0.9**
IGZV	**Ghazvin**	**1.96**	**153**	Pn		**Pn**	**20**	**58**	**48.5**	**+0.4**
BLQ	**Beylaqan**	**1.99**	**323**	Pn		**Pn**	**20**	**58**	**48.3**	**0.0**
BLQ				Sn		**Sn**	**20**	**59**	**12.3**	**-0.9**
ITBZ	**Tabriz**	**2.34**	**273**	Pn		**Pn**	**20**	**58**	**53.0**	**-0.2**
KDMR	**Kurdemir**	**2.35**	**342**	Pn		**Pn**	**20**	**58**	**53.7**	**+0.5**
KDMR				Sn		**Sn**	**20**	**59**	**22.3**	**+0.4**
GBS	**Qobustan**	**2.40**	**357**	Pn		**Pb**	**20**	**58**	**58.4**	**+0.5**
GBS				Sn		**Sb**	**20**	**59**	**26.4**	**-1.1**
ZRD	**Zardab**	**2.41**	**333**	Pn		**Pn**	**20**	**58**	**55.1**	**+1.1**
ZRD				Sn		**Sn**	**20**	**59**	**25.1**	**+1.7**
QABG	**Abgarm-Qazvin**	**2.45**	**171**	Pn		**Pn**	**20**	**58**	**55.0**	**+0.1**
AGDM	**Agdam**	**2.51**	**322**	Pn		**Pn**	**20**	**58**	**56.0**	**+0.5**
AGDM				Sn		**Sn**	**20**	**59**	**27.2**	**+1.2**
IAZR	**Azarshahr**	**2.52**	**260**	Pn		**Pn**	**20**	**58**	**56.6**	**+0.8**
ORD	**Ordubad**	**2.57**	**289**	Pn		**Pn**	**20**	**58**	**57.5**	**+1.1**
ORD				Sn		**Sn**	**20**	**59**	**29.1**	**+1.6**
BRDA	**Brd**	**2.60**	**325**	Pn		**Pn**	**20**	**58**	**57.0**	**+0.4**
BRDA				Sn		**Sn**	**20**	**59**	**27.7**	**-0.4**
HGHA	**Hamedan- Ghaye**	**2.65**	**184**	Pn		**Pn**	**20**	**58**	**58.6**	**+1.0**
PQL	**Pirkuli**	**2.68**	**352**	Pn		**Pb**	**20**	**59**	**00.9**	**-1.9**
PQL				Sn		**Sn**	**20**	**59**	**31.4**	**+1.0**
ATGJ	**Altiaghaj**	**2.72**	**357**	Pn		**Pn**	**20**	**59**	**00.8**	**+2.3**
ATGJ				Sn		**Sn**	**20**	**59**	**33.0**	**+1.7**
IML	**Ismayilli**	**2.75**	**345**	Pn		**Pn**	**20**	**59**	**00.5**	**+1.7**
IML				Sn		**Sn**	**20**	**59**	**32.1**	**+0.2**
ISHB	**Shabestar**	**2.75**	**274**	Pn		**Pn**	**20**	**58**	**58.9**	**-0.1**
SIZA	**Siyzn**	**2.94**	**357**	Pg		**Pb**	**20**	**59**	**08.4**	**+1.1**
SIZA				Sg		**Sg**	**20**	**59**	**49.5**	**+0.2**
QBL	**Gabala**	**2.97**	**341**	Pn		**Pn**	**20**	**59**	**01.9**	**0.0**
QBL				Sn		**Sn**	**20**	**59**	**36.9**	**-0.6**
NAX	**Nakhchivan**	**3.01**	**291**	Pg		**Pb**	**20**	**59**	**07.4**	**-1.0**
NAX				Sg		**Sb**	**20**	**59**	**45.6**	**+0.4**
MAHB	**Mahabad**	**3.04**	**244**	Pn		**Pn**	**20**	**59**	**03.7**	**+0.9**
SBZ	**Shahbuz**	**3.05**	**295**	Pg		**Pb**	**20**	**59**	**06.5**	**-2.6**
SBZ				Sg		**Sb**	**20**	**59**	**47.0**	**+0.6**
MNGR	**Mingechevir, A**	**3.06**	**330**	Pn		**Pn**	**20**	**59**	**03.5**	**+0.5**
MNGR				Sn		**Sn**	**20**	**59**	**40.9**	**+1.4**
XNQ	**Khinaliq**	**3.12**	**346**	Pn		**Pn**	**20**	**59**	**05.5**	**+1.4**
XNQ				Sn		**Sn**	**20**	**59**	**41.2**	**-0.1**
IPRN	**Peran**	**3.20**	**125**	Pn		**Pn**	**20**	**59**	**05.6**	**+0.5**
QUBA	**Quba, Azerbaij**	**3.25**	**352**	Pn		**Pn**	**20**	**59**	**08.4**	**+2.8**
QUBA				Sn		**Sn**	**20**	**59**	**45.9**	**+1.7**
GANJ	**Ganja**	**3.31**	**320**	Pn		**Pn**	**20**	**59**	**06.1**	**-0.4**
GANJ				Sn		**Sn**	**20**	**59**	**44.3**	**-1.4**
SEKA	**Sheki**	**3.40**	**335**	Pn		**Pn**	**20**	**59**	**07.8**	**0.0**
SEKA				Sn		**Sn**	**20**	**59**	**47.6**	**-0.5**
QSAR	**Qusar**	**3.44**	**349**	Pn		**Pn**	**20**	**59**	**09.1**	**+0.8**
QSAR				Sn		**Sn**	**20**	**59**	**49.9**	**+1.0**
SNQR	**Sonqor, Kerman**	**3.48**	**200**	Pn		**Pn**	**20**	**59**	**10.5**	**+1.4**
IALA	**Alasht**	**3.60**	**124**	Pn		**Pn**	**20**	**59**	**12.0**	**+1.3**
GDB	**GEDABAY**	**3.66**	**316**	Pn		**Pn**	**20**	**59**	**11.4**	**0.0**
GDB				Sn		**Sn**	**20**	**59**	**53.5**	**-1.1**
MAKU	**Maku**	**3.67**	**291**	Pn		**Pn**	**20**	**59**	**12.6**	**+1.1**
HYR	**Heyderabad**	**3.68**	**297**	Pg		**Pb**	**20**	**59**	**19.1**	**-0.6**
HYR				Sg		**Sb**	**21**	**00**	**07.5**	**+3.2**
VSHL	**Vashlovani**	**3.73**	**327**	P		**Pn**	**20**	**59**	**13.5**	**+1.2**
VSHL				S		**Sn**	**20**	**59**	**56.9**	**+0.8**
IBZA	**Bozab**	**3.80**	**196**	Pn		**Pn**	**20**	**59**	**14.7**	**+1.3**
IFIR	**Firoozkooh**	**3.84**	**129**	Pn		**Pn**	**20**	**59**	**15.5**	**+1.5**
ZKTA	**Zakatala**	**3.98**	**332**	Pn		**Pn**	**20**	**59**	**17.1**	**+1.3**
ZKTA				Sn		**Sn**	**21**	**00**	**01.4**	**-0.9**
IDHR	**Dehrash**	**4.07**	**213**	Pn		**Pn**	**20**	**59**	**18.7**	**+1.6**
IGLO	**Ghaloghah**	**4.10**	**112**	Pn		**Pn**	**20**	**59**	**18.3**	**+0.7**
QZX	**Qazax, Azerbai**	**4.10**	**316**	Pg		**Pb**	**20**	**59**	**26.6**	**-0.4**
QZX				Sg		**Sb**	**21**	**00**	**20.3**	**+3.7**
IKIA	**Kiasar**	**4.13**	**116**	Pn		**Pn**	**20**	**59**	**19.2**	**+1.2**
BDRS	**Dareh Seyedi**	**4.18**	**183**	Pn		**Pn**	**20**	**59**	**19.9**	**+1.3**
IGDI	**IGDIR**	**4.28**	**295**	Pg		**Pb**

WNT				eS	Sg	21 00 11.7	+0.1		
EOS3	**EOS3**	0.90	44	eP	Pn	21 00 01.3	-0.2		
EOS3				eS	Sn	21 00 15.9	+1.3		
STYH	**Taoyuan**	0.91	239	P	Pb	21 00 00.2	-0.6		
STYH				*i* S	Sb	21 00 14.5	+1.4		
EOS2	**EOS2**	0.95	35	eP	Pn	21 00 02.6	+0.3		
ESAO	**Su ao**	0.95	12	eP	Pn	21 00 02.1	-0.2		
WCKO	**Fanlu**	0.96	258	eP	Pb	21 00 01.6	0.0		
WCKO				eS	Sb	21 00 15.3	+0.9		
TWGBT	**Beinan**	0.96	212	eP	Pg	21 00 00.5	-0.7		
TWGBT				eS	Sb	21 00 14.6	+0.1		
TWG	**Pinlang**	0.96	212	eP	Pg	21 00 00.4	-0.8		
TWG				eS	Sb	21 00 14.2	-0.4		
LDUT	**Ludao**	0.98	189	eP	Pg	21 00 00.6	-0.9		
LDUT				eS	Sn	21 00 16.1	-0.6		
TPUB	**Ta-pu**	0.98	250	⇑*i*P	Pb	21 00 01.7	-0.2		
TPUB				eS	Sb	21 00 14.9	-0.1		
WGK	**Gukeng**	0.98	273	⇑P	Pb	21 00 02.1	+0.2		
WGK				eS	Sn	21 00 16.5	-0.3		
TWC	**Suao**	0.98	12	eP	Pn	21 00 02.4	-0.4		
TWC				eS	Sn	21 00 17.0	+0.1		
TTN	**Taitung**	0.99	207	eP	Pb	21 00 02.2	+0.2		
TTN				eS	Sb	21 00 14.9	-0.3		
NDS	**Dongshan**	0.99	5	eP	Pg	20 59 59.9	-1.8		
NDS				eS	Sg	21 00 13.8	-0.8		
CHN4	**Tsaushan**	0.99	253	⇑P	Pb	21 00 02.1	0.0		
CHN4				eS	Sb	21 00 16.3	+0.9		
ENTT	**Nioudou**	0.99	357	eP	Pb	21 00 01.6	-0.5		
WDL	**Douliou City**	1.00	274	eP	Pn	21 00 02.7	-0.3		
WDL				eS	Sb	21 00 16.3	+0.7		
WDLH	**Douliu**	1.00	273	eP	Pb	21 00 02.4	+0.1		
WDLH				eS	Sb	21 00 16.1	+0.5		
TCU	**Taichung**	1.00	300	eP	Pn	21 00 02.9	-0.2		
TCU				eS	Sb	21 00 16.6	+0.8		
WTP	**Ta-pu**	1.01	247	P	Pb	21 00 02.3	-0.1		
WTP				eS	Sb	21 00 16.0	+0.1		
YHNB	**Yeheng**	1.05	347	P	Pb	21 00 02.4	-0.8		
YHNB				eS	Sg	21 00 15.2	-1.2		
TWQ1	**Liyutan**	1.05	312	eP	Pn	21 00 03.4	-0.4		
TWQ1				S	Sg	21 00 16.1	-0.4		
NSK	**Sanguang**	1.06	347	P	Pg	21 00 02.1	-0.9		
NSK				S	Sg	21 00 15.5	-1.3		
WCHH	**Zhanghua**	1.07	294	eP	Pb	21 00 03.5	0.0		
WCHH				eS	Sn	21 00 18.8	-0.2		
TWE	**Neicheng**	1.07	2	eP	Pb	21 00 03.5	0.0		
TWE				eS	Sb	21 00 17.7	0.0		
NFF	**Wufeng Townshi**	1.09	335	eP	Pb	21 00 03.4	-0.5		
NSY	**Sanyi**	1.10	314	eP	Pn	21 00 04.9	+0.4		
CHN1	**Nanshi**	1.11	246	⇑P	Pb	21 00 04.2	+0.1		
CHN1				eS	Sn	21 00 20.3	+0.3		
TWK	**Hsinying**	1.11	251	⇑P	Pb	21 00 04.1	-0.1		
TWK				eS	Sb	21 00 19.9	+1.1		
CHY	**Chiayi**	1.11	263	eP	Pn	21 00 04.4	-0.1		
CHY				eS	Sb	21 00 19.3	+0.4		
FUSB	**Fushanzhiwuyua**	1.11	358	eP	Pg	21 00 03.1	-1.0		
SNST	**Tainan City**	1.12	248	eP	Pn	21 00 04.6	0.0		
SNST				eS	Sn	21 00 20.3	0.0		
NWLT	**Wulai**	1.14	354	eP	Pg	21 00 03.7	-0.8		
WTK	**Tuku**	1.14	273	eP	Pb	21 00 04.5	-0.1		
WTK				eS	Sb	21 00 19.4	-0.1		
WDJ	**Dajia District**	1.14	308	eP	Pb	21 00 04.6	-0.1		
NMLH	**Miaoli**	1.17	320	eP	Pn	21 00 05.7	+0.2		
KSHI	**Guanxi Townshi**	1.20	340	eP	Pn	21 00 06.2	+0.4		
KSHI				eS	Sb	21 00 21.1	-0.3		
ECL	**Taimali**	1.21	211	eP	Pg	21 00 04.7	-1.2		
ECL				eS	Sb	21 00 22.0	+0.3		
EGS		1.23	13	eP	Pn	21 00 07.6	+1.5		
ICHU	**Yijhu**	1.27	257	eP	Pn	21 00 07.0	+0.2		
ICHU				eS	Sn	21 00 25.7	+1.7		
SSD	**Sandimen**	1.28	226	eP	Pb	21 00 06.7	-0.3		
SSD				eS	Sn	21 00 25.5	+1.3		
SBCB	**Hsinchu**	1.29	333	eP	Pn	21 00 07.3	+0.3		
SCST	**Cishan**	1.29	234	eP	Pn	21 00 08.2	+1.2		
SCST				eS	Sn	21 00 27.4	+3.1		
WSF	**Szhu**	1.29	270	eP	Pg	21 00 06.8	-0.6		
WSF				eS	Sn	21 00 24.8	+0.3		
WSL	**Shuilin Townsh**	1.29	265	eP	Pn	21 00 07.1	+0.1		
WSL				eS	Sn	21 00 25.4	+1.0		
CHN3	**Shinhua**	1.29	244	eP	Pn	21 00 08.2	+1.3		
CHN3				eS	Sn	21 00 28.9	+4.4		
TSMG	**Majia**	1.30	224	eP	Pn	21 00 07.4	+0.3		
HSN	**Hsinchu**	1.30	333	eP	Pn	21 00 08.8	+1.6		
HSN				eS	Sn	21 00 26.3	+1.5		
NHDH	**Xindian Distri**	1.32	356	eP	Pb	21 00 09.2	+1.5		
SHHT	**Tainan City**	1.33	243	eP	Pb	21 00 09.3	+1.4		
SHHT				eS	Sn	21 00 30.2	+4.8		
CHN8	**Yiju**	1.33	257	eP	Pb	21 00 08.4	+0.4		
CHN8				eS	Sn	21 00 26.6	+1.0		
TWA	**Mucha**	1.33	358	eP	Pb	21 00 08.2	+0.3		
TIPB	**Shuangxi**	1.34	8	eP	Pb	21 00 09.0	+1.0		
TIPB				eS	Sn	21 00 27.0	+1.3		
MASBT	**Mashibuluo**	1.38	222	eP	Pn	21 00 07.5	-0.7		
MASBT				eS	Sn	21 00 27.3	+0.8		
TWM1	**Shoushan**	1.38	234	eP	Pb	21 00 09.6	+0.9		
TWM1				eS	Sn	21 00 32.3	+5.6		
NCUH	**Zhongli**	1.38	343	eP	Pb	21 00 09.4	+0.7		
NCUH				eS	Sn	21 00 28.1	+1.4		
TAP	**Taipei**	1.40	355	eS	Sn	21 00 27.2	+0.1		
SCLT	**Jiali**	1.40	251	eS	Sn	21 00 29.2	+2.1		
TWB1	**Santiao Chiao**	1.40	14	eP	Pb	21 00 09.4	+0.4		
TWB1				eS	Sn	21 00 30.1	+2.9		
NWF	**Wu-fen Shan**	1.43	6	eP	Pb	21 00 09.6	0.0		
NWF				eS	Sn	21 00 30.3	+2.1		
WFSB	**Wu-fen Shan**	1.43	6	eP	Pg	21 00 10.6	+0.5		
EAST	**Anshuo**	1.45	210	eP	Pn	21 00 07.8	-1.3		
TAW	**Tawu**	1.45	208	eP	Pn	21 00 08.6	-0.5		
JYNG	**Yonagunijimaku**	1.45	56	eS	Sn	21 00 29.6	+1.2		
SXI1	**Grass Mountain**	1.46	9	eP	Pg	21 00 10.3	-0.4		
TAWH	**Dawu Township**	1.47	208	eP	Pn	21 00 07.8	-1.6		
YM01	**YM01**	1.50	358	eP	Pg	21 00 11.4	-0.1		
TSCK	**Chigu Township**	1.50	251	eP	Pg	21 00 10.8	-0.6		
TSCK				eS	Sg	21 00 31.3	+0.4		
YOJ	**Yonaguni jima**	1.50	57	eS	Sg	21 00 32.0	+0.9		
ZUZH	**Zhuzihu**	1.52	357	eP	Pg	21 00 11.0	-0.8		
ZUZH				eS	Sg	21 00 34.1	+2.7		
NTST	**Danshui**	1.52	354	eP	Pb	21 00 10.9	-0.3		
NTST				eS	Sg	21 00 32.8	+1.1		
YM08	**YM08**	1.54	359	eP	Pn	21 00 10.1	-0.4		
ANP	**Anpu**	1.54	356	eP	Pn	21 00 10.8	+0.2		
SCZT	**Fangliau**	1.57	216	eP	Pg	21 00 12.6	+0.2		
SCZT				eS	Sg	21 00 34.4	+1.3		
LAY	**Lan-yu**	1.60	183	eP	Pn	21 00 10.3	-0.9		
LAY				eS	Sn	21 00 29.7	-2.4		
LYUB	**Lan-yu**	1.63	181	eS	Sn	21 00 31.7	-1.2		
WDGT	**Dungji**	1.85	258	eP	Pn	21 00 12.9	-1.7		
WDGT				eS	Sn	21 00 38.4	+0.2		
PHUB	**P'eng-hu**	1.89	267	eP	Pn	21 00 16.0	+0.7		
PHUB				eS	Sn	21 00 39.5	+0.2		
PNG	**Penghu**	1.90	268	eP	Pn	21 00 15.7	+0.3		
PNG				eS	Sn	21 00 40.9	+1.3		
HATJ	**Hateruma jima**	2.04	78	eS	Sb	21 00 44.5	-0.9		
IRIF	**Iriomote-Funau**	2.04	70	eP	Pn	21 00 18.0	+0.7		
IRIF				eS	Sg	21 00 46.6	-1.7		
VCHM	**Qimei**	2.06	258	eP	Pn	21 00 17.7	+0.1		
VCHM				eS	Sn	21 00 43.5	-0.1		
JKRS	**Kuro-shima**	2.26	74	eS	Sb	21 00 50.5	-1.3		
VWUC	**VWUC**	2.40	304	eP	Pn	21 00 21.4	-0.9		
JIJ	**Ishigaki jima**	2.41	72	eS	Sn	21 00 53.1	+1.0		
JISG	**Ishigakijimahi**	2.63	68	eP	Pn	21 00 25.5	+0.1		
JISG				S	Sn	21 00 57.7	+0.2		
PTMZ	**Houxiangcun**	2.68	302	eP	Pn	21 00 24.9	-1.2		
JTJ	**Tarama**	2.98	70	eS	Sn	21 01 07.4	+1.2		
KNM	**Kinmen**	3.02	285	eP	Pn	21 00 32.2	+1.4		
KNMB	**Chin-men Tao**	3.07	286	eP	Pn	21 00 31.1	-0.4		
MHZQ	**Yeshan**	3.40	317	eP	Pn	21 00 35.7	-0.3		
ZPLA	**Ao Xicun**	3.56	275	eP	Pn	21 00 37.6	-0.6		
ZPLA				eS	Sn	21 01 20.3	-0.3		
AXDP	**Jialang**	3.56	291	eP	Pn	21 00 38.0	-0.3		

*SOME **02** 21:03:27.4, 43.42N×82.43E, h15km*
*NNC **02** 21:03:29.0±1.5, 43.44N×82.39E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=15.0km s-min=5.9km az=145.0
ISC 02 21:03:26.4±1.7**, 43°35N**±0.09×**82°47E**±0.07**, h10**km**, n22,**
σ2°44/32, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**2.17**	**271**	⇓Pn	**Pb**		**21 04 07.1**	**+1.2**
PDGK		4.8nm,0.3s		⇑Sn	**Sb**		**21 04 34.7**	**+1.8**
SHLS	**Shalkode**	**2.20**	**266**	Pg	**Pn**		**21 04 03.0**	**-0.2**
SHLS		104nm,0.6s		Lg	Lg		21 04 29.2	
SHLS	**Shalkode**	**2.20**	**266**	*e*P	**Pn**		**21 04 03.0**	**-0.2**
SHLS		368nm,0.5s		*e*S	**Sn**		**21 04 29.4**	**-1.2**
UZB	**Uzynbulak**	**2.52**	**267**	Pg	**Pb**		**21 04 13.2**	**+1.3**
UZB		5.7nm,0.1s		Lg	Lg		21 04 46.5	
UZB	**Uzynbulak**	**2.52**	**267**	*e*P	**Pb**		**21 04 13.2**	**+1.3**
UZB		47nm,0.5s		*e*S	**Sg**		**21 04 46.5**	**-1.1**
KPKS	**Kokpek**	**2.76**	**274**	Pg	**Pb**		**21 04 17.4**	**+1.5**
KPKS		76nm,0.2s		Lg	Lg		21 04 53.8	
SATY	**Saty**	**2.98**	**266**	Pg	**Pg**		**21 04 22.4**	**-1.1**
SATY		15nm,0.3s		Lg	Lg		21 05 02.3	
KURS	**Kuram**	**3.13**	**274**	Pg	**Pg**		**21 04 25.2**	**-1.3**
KURS		43nm,0.3s		Lg	Lg		21 05 07.1	
TDK	**Taldyqorghan**	**3.36**	**301**	Pg	**Pg**		**21 04 31.2**	**+0.5**
TDK		15nm,0.2s		Lg	Lg		21 05 17.4	
TDK	**Taldyqorghan**	**3.36**	**301**	*e*P	**Pb**		**21 04 28.2**	**+2.1**
TDK		30nm,0.5s		*e*S	**Sg**		**21 05 12.0**	**-2.2**
MK31	**Makanchi Array**	**3.45**	**358**	⇑Pn	**Pn**		**21 04 23.2**	**+2.9**
MK31		8.2nm,0.1s		⇑Pg	**Pg**		**21 04 30.0**	**-2.5**
MK31		19nm,0.2s		⇓Sn	**Sn**		**21 05 01.1**	**0.0**
MK31		0.2nm,0.3s,baz=190,slow=13,SNR=49		⇓Lg	Lg		21 05 13.3	
ARXS	**Arharly**	0.5nm,0.2s,baz=174,slow=16,SNR=5.7	**3.47 286**	Pg	**Pb**		**21 04 30.0**	**+2.0**
ARXS		1.1nm,0.3s,baz=192,slow=19,SNR=4.0		Lg	Lg		21 05 16.5	
CHKK	**Chushkaly**	13nm,0.6s,baz=174,slow=28,SNR=9.5	**4.01 279**	Pg	**Pb**		**21 04 40.2**	**+3.0**
CHKK		3.4nm,0.4s		Lg	Lg		21 05 32.8	
CHKK	**Chushkaly**	12nm,0.3s	**4.01 279**	*e*P	**Pb**		**21 04 40.2**	**+3.0**
CHKK		1.5nm,0.2s		*e*S	**Sg**		**21 05 32.8**	**-2.4**
TNSS	**Tian-Shan**	12nm,0.3s	**4.05 267**	Pg	**Pb**		**21 04 41.2**	**+3.2**
TNSS		1.0nm,0.3s		Lg	Lg		21 05 34.5	
TNSS	**Tian-Shan**	2.7nm,0.4s	**4.05 267**	*e*P	**Pb**		**21 04 41.2**	**+3.2**
TNSS		1.0nm,0.3s		*e*S	**Sg**		**21 05 34.5**	**-1.9**
KTBS	**Karatobe**	2.7nm,0.4s	**4.22 277**	Pg	**Pg**		**21 04 44.7**	**-2.6**
KTBS		1.9nm,0.5s		Lg	Lg		21 05 40.5	
ZSN	**Zaisan**	17nm,0.6s	**4.44 22**	Pg	**Pb**		**21 04 47.0**	**+2.5**
ZSN		7.1nm,0.3s		Lg	Lg		21 05 44.4	
ZSN	**Zaisan**	15nm,0.5s	**4.44 22**	*e*P	**Pg**		**21 04 48.2**	**-3.2**
ZSN		7.4nm,0.3s		*e*S	**Sg**		**21 05 46.4**	**-2.5**
KST	**Kastek**	15nm,0.4s	**4.76 269**	Pg	**Pb**		**21 04 54.2**	**+4.1**
KST		1.7nm,0.3s		Lg	Lg		21 05 56.8	
KST	**Kastek**	8.4nm,0.6s	**4.76 269**	*e*P	**Pb**		**21 04 54.2**	**+4.1**
KST		0.7nm,0.1s		*e*S	**Sg**		**21 05 56.8**	**-2.5**
DGS	**Degeres**	9.9nm,0.4s	**4.89 271**	Pg	**Pg**		**21 04 56.7**	**-3.3**
DGS		2.0nm,0.4s		Lg	Lg		21 06 01.1	
		7.5nm,0.4s						

*NEIC **02** 21:20:16.5±0.7, 38.11N±0.01×112.38W±0.02, h5km±1km,*
Error ellipse: s-maj=2.9km s-min=2.3km az=110.0
UUSS 02 21:20:16.8±0.8**, 38.12N**±0.01×**112.38W**±0.01**, h2**km±1km**,**
ML2.4/12**, ML2.8**/129(NEIC)**, Error ellipse: s-maj=2.1km**
s-min=2.0km az=152.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.18**	**117**	Pg	Pg		21 20 20.2	0.0
MTPU				Sg	Sg		21 20 22.8	+0.2
MTPU				IAML			21 20 23.6	
	comp=N,1μm,0.4s							
MSU	**Marysvale**	**0.42**	**22**	Pg	Pg		21 20 25.0	+0.1
MSU				Sg	Sg		21 20 31.7	+1.3
DWU	**Dry Willow Pea**	**0.49**	**268**		Pg		21 20 26.6	+0.5
TCRU	**Three Creeks R**	**0.49**	**354**		Pg		21 20 26.2	0.0
TCRU				Sg	Sg		21 20 33.3	+0.8
TCRU				IAML			21 20 34.0	
	comp=E,346nm,0.3s							
NMUT	**North Mineral**	**0.54**	**317**		Pg		21 20 27.1	-0.1
NMUT					Sg		21 20 35.1	+1.0
BTU	**Barney Top**	**0.54**	**132**		Pg		21 20 27.4	+0.2
PKCU	**Pink Cliffs**	**0.68**	**175**		Pg		21 20 29.9	+0.1
PKCU				Sg	Sg		21 20 38.5	-0.1
PKCU				IAML			21 20 40.8	
	comp=N,682nm,0.3s							
SZCU	**Shurtz Canyon**	**0.77**	**227**		Pg		21 20 31.3	-0.2
SZCU				Sg	Sg		21 20 41.5	+0.1
SZCU				IAML			21 20 42.9	
	comp=N,814nm,0.3s							
IMU	**Iron Mountain**	**0.80**	**310**		Pg		21 20 32.4	+0.3
MMU	**Miners Mountai**	**0.86**	**85**		Pg		21 20 32.7	-0.6
ARUT	**Antelope Range**	**0.90**	**249**		Pg		21 20 34.3	+0.2
CCUT	**Cedar City**	**0.96**	**234**		Pg		21 20 34.9	-0.4
CCUT				Sg	Sg		21 20 47.9	+0.1
CCUT				IAML			21 20 53.8	
	comp=E,110nm,0.6s							
OWUT	**Old Woman Plat**	**1.00**	**49**		Pg		21 20 35.8	-0.2
EKU	**East Kanab**	**1.05**	**185**		Pg		21 20 36.4	-0.5
KNB	**Kanab**	**1.16**	**198**	Pg	Pg		21 20 38.3	-0.6
KNB				Sg	Sg		21 20 52.9	-1.1
PSUT	**Pine Spring**	**1.23**	**290**		Pg		21 20 40.0	-0.3
Q16A	**Castle Valley**	**1.24**	**50**		Pg		21 20 39.8	-0.7
LCMT	**Little Creek M**	**1.30**	**212**		Pg		21 20 40.6	-1.1
LCMT				IAML			21 20 59.8	
	comp=E,153nm,0.2s							
LCMT				IAML			21 21 00.8	
	comp=N,149nm,0.2s							
HMU	**Henry Mountain**	**1.31**	**98**		Pg		21 20 40.7	-1.2
HMU				IAML			21 21 06.7	
	comp=N,137nm,0.6s							
HMU				IAML			21 21 06.8	
	comp=E,188nm,0.6s							
TMUT	**Trail Mountain**	**1.49**	**38**		Pn		21 20 44.2	-0.8
TMUT				IAML			21 21 05.0	
	comp=N,82nm,0.4s							
TMUT				IAML			21 21 05.0	
	comp=E,47nm,0.4s							
U15A	**North Rim**	**1.69**	**178**		Pn		21 20 47.6	0.0
U15A				IAML			21 21 12.3	
	comp=E,76nm,0.3s							
U15A				IAML			21 21 13.4	
	comp=N,61nm,0.5s							
SRU	**San Rafael Swe**	**1.76**	**55**		Pn		21 20 48.9	+0.4
SPR3	**Spring Creek 3**	**1.76**	**300**		Pn		21 20 47.7	-0.9
P17A	**Butcher Ranch,**	**1.86**	**43**		Pn		21 20 50.4	+0.4
MPU	**Maple Canyon**	**1.98**	**17**		Pn		21 20 51.9	+0.3
PRN	**Pahroc Range**	**2.23**	**252**		Pb		21 20 57.5	-0.5
PRN				IAML			21 21 29.3	
	comp=E,133nm,0.7s							
PRN				IAML			21 21 30.5	
	comp=N,147nm,0.5s							
P18A	**Preston Nutter**	**2.25**	**47**		Pb		21 20 57.5	-0.8
P18A				IAML			21 21 28.8	
	comp=E,29nm,0.5s							
R11B	**Troy Canyon, C**	**2.53**	**276**		Pn		21 20 59.0	-0.1
R11B				IAML			21 21 38.9	
	comp=E,16nm,0.4s							
JLU	**Jordanelle**	**2.58**	**16**		Pn		21 20 59.8	-0.1
JLU				Pg	Pg		21 21 05.7	-0.6
PV05	**Paradox Valley**	**2.59**	**90**		Pb		21 21 05.1	+1.0
PV10	**Paradox Valley**	**2.65**	**83**		Pb		21 21 04.1	-1.0
PV14	**Lion Creek, Pa**	**2.66**	**84**		Pb		21 21 04.4	-0.8
PV23	**Carpenter Ridg**	**2.67**	**82**		Pb		21 21 04.4	-1.2
PV19	**Morning Glory**	**2.68**	**85**	Pg	Pb		21 21 05.1	-0.6
PV20	**West Nyswonger**	**2.70**	**84**		Pn		21 21 01.9	+0.5
S11A	**Rachel**	**2.70**	**261**	Pn	Pn		21 21 01.8	+0.4
S11A				IAML			21 21 46.5	
	comp=E,59nm,0.4s							
S11A				IAML			21 21 48.0	
	comp=N,58nm,0.5s							
PV21	**Cone Mtn., Par**	**2.71**	**80**		Pn		21 21 03.8	+2.1
BSUT	**Blindstream Ca**	**2.72**	**27**		Pb		21 21 07.2	+0.8
WUAZ	**Wupatki**	**2.72**	**162**		Pn		21 21 02.5	+0.7
PV16	**Nyswonger Mesa**	**2.74**	**85**		Pn		21 21 03.5	+1.5
PV16				IAML			21 21 42.5	
	comp=N,65nm,0.5s							
PV16				IAML			21 21 46.5	
	comp=E,51nm,0.4s							
PV18	**Skein Mesa, Pa**	**2.74**	**86**		Pn		21 21 03.0	+0.9
PV18				IAML			21 21 42.0	
	comp=E,74nm,0.5s							
SHPR	**Sheep Range**	**2.74**	**235**		Pn		21 21 01.7	-0.3
PV04	**Paradox Valley**	**2.75**	**83**		Pb		21 21 04.6	-2.3
PV04				IAML			21 21 46.3	
	comp=E,61nm,0.5s							
PV04				IAML			21 21 47.3	
	comp=N,77nm,0.5s							
PV11	**David Mesa, Pa**	**2.77**	**85**		Pn		21 21 04.5	+2.1
PV03	**Paradox Valley**	**2.79**	**86**		Pb		21 21 06.7	-0.8
PV03				IAML			21 21 43.1	
	comp=E,60nm,0.4s							
PV03				IAML			21 21 43.1	
	comp=N,60nm,0.3s							
PV13	**Radium Mtn., P**	**2.81**	**88**		Pb		21 21 07.8	-0.1
PV13				IAML			21 21 44.9	
	comp=E,74nm,0.4s							
PV13				IAML			21 21 46.4	
	comp=N,66nm,0.5s							
PV12	**Saucer Basin,**	**2.83**	**85**		Pb		21 21 07.5	-0.7
PV22	**Blue Mesa, Par**	**2.86**	**81**	IAML			21 21 45.5	
	comp=N,74nm,0.7s							
PV22				IAML			21 21 45.7	
	comp=E,85nm,0.7s							
PV02	**Paradox Valley**	**2.88**	**87**		Pn		21 21 04.2	+0.3
PV07	**Paradox Valley**	**2.96**	**83**		Pn		21 21 05.1	+0.1
PV07				IAML			21 21 48.7	
	comp=N,24nm,0.7s							
PV07				IAML			21 21 49.2	
	comp=E,26nm,0.3s							
PV01	**Paradox Valley**	**3.01**	**89**		Pn		21 21 06.5	+0.8
PV01				IAML			21 21 49.5	
	comp=N,45nm,0.5s							
PV01				IAML			21 21 49.5	
	comp=E,43nm,0.5s							
PV15	**Paradox Valley**	**3.08**	**85**		Pn		21 21 07.3	+0.6
PV15				IAML			21 21 52.4	
	comp=E,30nm,0.8s							
PV15				IAML			21 21 52.5	
	comp=N,27nm,0.4s							
MVCO	**Mesa Verde**	**3.21**	**105**		Pn		21 21 10.0	+1.5
MVCO				IAML			21 21 58.3	
	comp=N,25nm,0.5s							
MVCO				IAML			21 21 59.5	
	comp=N,32nm,0.5s							
W13A	**Hualapai Mount**	**3.25**	**202**		Pn		21 21 11.3	+2.3
TPNV	**Topopah Spring**	**3.29**	**250**		Pn		21 21 09.4	-0.1
TPNV				IAML			21 22 06.0	
	comp=N,19nm,0.5s							
TPNV				IAML			21 22 07.5	
	comp=N,15nm,0.6s							
W18A	**Petrified Fore**	**3.68**	**144**	IAML			21 22 16.3	
	comp=N,29nm,0.9s							
W18A				IAML			21 22 19.6	
	comp=E,32nm,0.6s							
X16A	**Lo Mia Camp, P**	**3.77**	**168**	IAML			21 22 18.2	
	comp=N,14nm,0.5s							
X16A				IAML			21 22 18.3	
	comp=E,13nm,0.5s							
GWY	**Greenwater Val**	**3.93**	**242**	IAML			21 22 29.1	
	comp=E,8.8nm,0.7s							
GWY				IAML			21 22 38.0	
	comp=N,6.0nm,1.3s							
GMN	**Gold Mountain**	**3.95**	**260**	IAML			21 22 27.9	
	comp=N,7.2nm,0.8s							
GMN				IAML			21 22 34.4	
	comp=E,5.2nm,0.7s							
X18A	**Snowflake**	**4.09**	**151**	IAML			21 22 26.7	
	comp=N,24nm,0.5s							
S22A	**4UR Ranch, Cre**	**4.41**	**93**	IAML			21 22 41.8	
	comp=E,4.6nm,0.9s							
DSP	**Deep Springs**	**4.49**	**262**	IAML			21 22 10.4	
	comp=E,3.9nm,3.8s							
DSP				IAML			21 22 41.2	
	comp=N,3.9nm,0.8s							
LHV	**Little Huntoon**	**4.83**	**273**	IAML			21 22 54.5	
	comp=N,7.8nm,1.1s							
LHV				IAML			21 23 21.9	
	comp=E,7.2nm,4.1s							

*JMA **02** 21:23:19.2±0.4, 23.6N±0.9×12.2E±°, h0km, MV2.8/8,*
TAIWAN REGION
*TAP **02** 21:23:21.0, 23.69N×121.53E, h4km, ML3.0, C*
ISC 02 21:23:20.9±0.9**, 23.67N**±0.01×**121.61E**±0.02**, h7**km±6km**,**
n103, σ0.75/165, 7C-6D, Taiwan

| Code |

ETLH	**Xiulin Townshi**	**0.55**	**348**	*e*P	**Pg**	**21 23 31.6**	**0.0**
ETLH				*e*S	**Sg**	**21 23 39.5**	**+0.7**
WUSB	**Renai**	**0.55**	**306**	⇑P	**Pg**	**21 23 31.4**	**-0.3**
WUSB				*e*S	**Sg**	**21 23 38.1**	**-0.8**
WHF	**Hehuan Shan**	**0.57**	**327**	*e*P	**Pg**	**21 23 31.6**	**-0.4**
WHF				*e*S	**Sg**	**21 23 39.6**	**0.0**
CHKT	**Chengkung**	**0.61**	**201**	*e*P	**Pb**	**21 23 33.6**	**-0.2**
CHKT				*e*S	**Sb**	**21 23 43.3**	**+0.7**
SSLB	**Suanglung**	**0.61**	**282**	P	**Pg**	**21 23 32.0**	**-0.7**
SSLB	**Suanglung**	**0.61**	**282**	S	**Sg**	**21 23 40.2**	**-0.5**
SSLB	**Suanglung**	**0.61**	**282**	⇑P	**Pg**	**21 23 32.1**	**-0.6**
SSLB				S	**Sg**	**21 23 39.7**	**-1.0**
EHD	**Haiduan**	**0.63**	**216**	*e*P	**Pb**	**21 23 33.4**	**-0.9**
ECS	**Chishang**	**0.67**	**212**	*e*P	**Pb**	**21 23 35.6**	**+0.6**
EAHA	**Aohua**	**0.67**	**10**	*e*P	**Pb**	**21 23 34.8**	**-0.2**
EAHA				*e*S	**Sb**	**21 23 44.4**	**-0.1**
SMLT	**Sun Moon Lake**	**0.68**	**289**	*e*P	**Pg**	**21 23 33.6**	**-0.5**
SMLT				*e*S	**Sg**	**21 23 42.5**	**-0.5**
WHYT	**Xinyi Township**	**0.69**	**273**	*e*P	**Pg**	**21 23 34.0**	**-0.2**
TWT	**Tachien**	**0.70**	**326**	*e*P	**Pg**	**21 23 34.7**	**+0.2**
TDCB	**Techi**	**0.71**	**325**	*e*P	**Pg**	**21 23 34.8**	**0.0**
ELDTW	**Lidau**	**0.72**	**229**	*e*P	**Pg**	**21 23 34.4**	**-0.4**
ELDTW				*e*S	**Sg**	**21 23 44.4**	**+0.2**
TYC	**Yuchr**	**0.73**	**289**	*e*P	**Pg**	**21 23 34.3**	**-0.6**
TYC				*e*S	**Sg**	**21 23 43.7**	**-0.7**
EDH	**Donghe**	**0.74**	**202**	*e*P	**Pb**	**21 23 35.7**	**-0.5**
EDH				*e*S	**Sb**	**21 23 47.5**	**+0.9**
WCS	**Beigang Elemen**	**0.75**	**302**	*e*P	**Pg**	**21 23 35.1**	**-0.2**
WCS				*e*S	**Sg**	**21 23 44.4**	**-0.7**
ALS	**Alishan**	**0.75**	**258**	⇑P	**Pg**	**21 23 35.4**	**0.0**
ALS				*e*S	**Sg**	**21 23 45.5**	**+0.3**
ENA	**Nanau**	**0.77**	**9**	*e*P	**Pb**	**21 23 36.2**	**-0.5**
ENA				*e*S	**Sb**	**21 23 48.1**	**+0.7**
NNSB	**Datong**	**0.79**	**345**	⇓P	**Pg**	**21 23 36.1**	**0.0**
NNSB				*e*S	**Sg**	**21 23 45.9**	**-0.4**
EWUT	**Wuta**	**0.79**	**11**	*e*P	**Pb**	**21 23 36.8**	**-0.2**
EWUT				*e*S	**Sb**	**21 23 48.2**	**+0.2**
EOS4	**EOS4**	**0.79**	**55**	*e*S	**Sn**	**21 23 50.3**	**+0.2**
NNS	**Nan Shan**	**0.80**	**345**	*e*P	**Pg**	**21 23 36.4**	**0.0**
NNS				*e*S	**Sg**	**21 23 47.0**	**+0.2**
WJS	**Zhushan**	**0.82**	**281**	*e*P	**Pb**	**21 23 37.9**	**+0.4**
WJS				*e*S	**Sb**	**21 23 49.2**	**+0.4**
WHP	**Taichung City**	**0.86**	**315**	*e*P	**Pg**	**21 23 37.4**	**0.0**
WHP				*e*S	**Sg**	**21 23 48.4**	**-0.2**
LATG	**Datong**	**0.87**	**355**	*e*P	**Pb**	**21 23 37.8**	**-0.6**
LATG				*e*S	**Sb**	**21 23 49.9**	**-0.5**
WNT	**Mingjian**	**0.87**	**284**	*e*P	**Pb**	**21 23 38.5**	**+0.1**
LONT	**Longtian**	**0.87**	**210**	*e*P	**Pb**	**21 23 37.8**	**-0.6**
STYH	**Taoyuan**	**0.91**	**237**	*e*P	**Pg**	**21 23 38.1**	**-0.3**
WCKO	**Fanlu**	**0.95**	**256**	*e*P	**Pb**	**21 23 39.9**	**+0.2**
WCKO				*e*S	**Sb**	**21 23 52.8**	**+0.3**
WGK	**Gukeng**	**0.96**	**271**	*e*P	**Pb**	**21 23 40.2**	**+0.3**
TWC	**Suao**	**0.96**	**13**	*e*P	**Pn**	**21 23 40.7**	**-0.2**
TWC				*e*S	**Sn**	**21 23 55.0**	**+0.1**
TPUB	**Ta-pu**	**0.97**	**248**	P	**Pb**	**21 23 40.1**	**0.0**
TPUB	**Ta-pu**	**0.97**	**248**	S	**Sb**	**21 23 54.3**	**+1.2**
TPUB	**Ta-pu**	**0.97**	**248**	*e*P	**Pb**	**21 23 39.7**	**-0.3**
TPUB				*e*S	**Sg**	**21 23 52.5**	**+0.4**
NDS	**Dongshan**	**0.97**	**6**	*e*P	**Pg**	**21 23 38.5**	**-1.1**
NDS				*e*S	**Sg**	**21 23 52.5**	**+0.3**
ENTT	**Nioudou**	**0.97**	**358**	P	**Pb**	**21 23 39.9**	**-0.3**
TWGBT	**Beinan**	**0.97**	**210**	P	**Pb**	**21 23 39.6**	**-0.5**
TWGBT	**Beinan**	**0.97**	**210**	S	**Sb**	**21 23 53.1**	**-0.1**
TWGBT	**Beinan**	**0.97**	**210**	*e*P	**Pg**	**21 23 39.0**	**-0.6**
TWGBT				*e*S	**Sb**	**21 23 52.3**	**-0.9**
TWG	**Pinlang**	**0.97**	**210**	*e*P	**Pg**	**21 23 39.0**	**-0.7**
TWG				*e*S	**Sb**	**21 23 52.5**	**-0.7**
TCU	**Taichung**	**0.98**	**300**	*e*P	**Pb**	**21 23 40.2**	**0.0**
WDLH	**Douliu**	**0.98**	**272**	*e*P	**Pb**	**21 23 40.5**	**+0.3**
CHN4	**Tsaushan**	**0.98**	**252**	*e*P	**Pb**	**21 23 40.4**	**+0.1**
CHN4				*e*S	**Sb**	**21 23 53.1**	**-0.3**
WTP	**Ta-pu**	**1.00**	**246**	*e*P	**Pb**	**21 23 40.5**	**-0.1**
WTP				*e*S	**Sb**	**21 23 54.3**	**+0.2**
TWQ1	**Liyutan**	**1.02**	**312**	*e*P	**Pb**	**21 23 40.8**	**-0.1**
YHNB	**Yeheng**	**1.02**	**348**	P	**Pb**	**21 23 41.2**	**+0.2**
YHNB	**Yeheng**	**1.02**	**348**	S	**Sb**	**21 23 54.6**	**-0.1**
YHNB	**Yeheng**	**1.02**	**348**	*e*P	**Pb**	**21 23 40.7**	**-0.3**
YHNB				*e*S	**Sg**	**21 23 53.3**	**-0.5**
NSK	**Sanguang**	**1.03**	**347**	*e*P	**Pb**	**21 23 41.2**	**0.0**
NSK				*e*S	**Sg**	**21 23 53.8**	**-0.4**
CHN2	**Minshiung**	**1.05**	**263**	*e*P	**Pn**	**21 23 42.0**	**0.0**
TWE	**Neicheng**	**1.05**	**3**	*e*P	**Pn**	**21 23 41.9**	**-0.2**
NFF	**Wufeng Townshi**	**1.06**	**335**	*e*P	**Pb**	**21 23 41.6**	**-0.1**
NSY	**Sanyi**	**1.07**	**314**	*e*P	**Pn**	**21 23 42.9**	**+0.4**
FUSB	**Fushanzhiwuyua**	**1.09**	**359**	*e*P	**Pb**	**21 23 42.2**	**0.0**
FUSB				*e*S	**Sg**	**21 23 56.2**	**+0.1**
CHY	**Chiayi**	**1.10**	**261**	*e*P	**Pn**	**21 23 42.9**	**+0.2**
CHY				*e*S	**Sb**	**21 23 57.8**	**+1.0**
CHN1	**Nanshi**	**1.10**	**244**	*e*P	**Pn**	**21 23 42.8**	**-0.1**
CHN1				*e*S	**Sn**	**21 23 58.8**	**+0.6**
TWK	**Hsinying**	**1.10**	**249**	*e*P	**Pb**	**21 23 42.5**	**+0.2**
TWK				*e*S	**Sb**	**21 23 57.7**	**+0.8**
NWLT	**Wulai**	**1.11**	**355**	*e*P	**Pb**	**21 23 42.4**	**-0.1**
NWLT				S	**Sg**	**21 23 55.6**	**-1.2**
SNST	**Tainan City**	**1.11**	**247**	*e*P	**Pn**	**21 23 42.8**	**-0.1**
WTK	**Tuku**	**1.12**	**271**	*e*P	**Pb**	**21 23 42.8**	**+0.3**
WTK				*e*S	**Sb**	**21 23 57.7**	**+0.4**
NMLH	**Miaoli**	**1.14**	**320**	*e*P	**Pn**	**21 23 43.7**	**+0.3**
NMLH				*e*S	**Sb**	**21 23 58.7**	**+0.5**
KSHI	**Guanxi Townshi**	**1.17**	**341**	*e*P	**Pn**	**21 23 44.4**	**+0.6**
ECL	**Taimali**	**1.22**	**210**	*e*P	**Pg**	**21 23 43.3**	**-1.1**
WSL	**Shuilin Townsh**	**1.27**	**264**	*e*P	**Pb**	**21 23 45.2**	**0.0**
WSL				*e*S	**Sn**	**21 24 03.6**	**+1.1**
SSD	**Sandimen**	**1.28**	**225**	*e*P	**Pn**	**21 23 45.2**	**0.0**
SCST	**Cishan**	**1.28**	**233**	*e*P	**Pn**	**21 23 46.5**	**+1.2**
TSMG	**Majia**	**1.30**	**223**	*e*P	**Pg**	**21 23 45.2**	**-0.7**
TATO	**Taipei**	**1.31**	**355**	P	**Pb**	**21 23 48.0**	**+2.1**
TIPB	**Shuangxi**	**1.32**	**9**	*e*P	**Pb**	**21 23 46.8**	**+0.8**
MASBT	**Mashibuluo**	**1.38**	**221**	*e*P	**Pn**	**21 23 46.3**	**-0.3**
MASBT				*e*S	**Sn**	**21 24 05.8**	**+0.7**
TSCK	**Chigu Township**	**1.49**	**250**	*e*P	**Pg**	**21 23 49.6**	**+0.1**
TSCK				*e*S	**Sg**	**21 24 10.7**	**+1.8**
SCZT	**Fangliau**	**1.58**	**215**	*e*P	**Pg**	**21 23 50.6**	**-0.5**
SCZT				*e*S	**Sg**	**21 24 12.1**	**+0.5**
IRIF	**Iriomote-Funau**	**2.05**	**71**	*e*P	**Pb**	**21 23 56.7**	**-1.8**
JISG	**Ishigakijimahi**	**2.64**	**69**	*e*P	**Pn**	**21 24 04.2**	**+0.3**
JISG				*e*S	**Sn**	**21 24 36.3**	**+0.2**

JMA ***02*** *21:28:17.0±0.2,35.1°N±0.6°×14.1°E±.°, h80km±1km, MV3.0/38, KUJUKURI COAST BOSO PEN*
IDC ***02*** *21:28:20.6±4.2, 34.9°N×140.00E, h82km±26km, mb3.3/2, mbtmp3.4/3, MS2.9/1, Error ellipse: s-maj=82.3km s-min=6.3km az=71.0*

ISC 02 21:28:18.0±1.1, 35.11N±0.04×140.48E±0.06, h76km±7km, n30, σ1§02/35, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTR	**Katsuura**	**0.14**	**286**	*i* P	**Pn**	**21 28 28.6**	**-0.3**
KTR				*e*S	**Sn**	**21 28 37.1**	**0.0**
BSO4	**Boso 4**	**0.17**	**224**	*i* P	**Pn**	**21 28 29.0**	**+0.1**
BSO4				*e*X		21 28 38.9	
JKUC	**kamogawauchiur**	**0.24**	**282**	*i* P	**Pn**	**21 28 29.0**	**-0.4**
JKUC				*e*S	**Sn**	**21 28 37.9**	**+0.1**
BSO3	**Boso 3**	**0.31**	**175**	*i* P	**Pn**	**21 28 29.4**	**0.0**
BSO3				*e*X		21 28 39.6	
JSMT	**Sammumatsuo**	**0.53**	**357**	P	**Pn**	**21 28 31.3**	**-0.3**
JSMT				*e*S	**Sn**	**21 28 42.3**	**+0.7**
BSO1	**Boso 1**	**0.61**	**138**	*i* P	**Pn**	**21 28 31.8**	**+0.1**
JIM2	**Oshima 3**	**0.95**	**246**	*i* P	**Pn**	**21 28 35.3**	**-0.8**
JIM2				*e*S	**Sn**	**21 28 49.4**	**-0.2**
JOD2	**Odawara 2**	**1.15**	**278**	*i* P	**Pn**	**21 28 37.9**	**-0.7**
JOD2				S	**Sn**	**21 28 53.1**	**-1.0**
JMYK	**Miyake Tsubota**	**1.30**	**217**	*e*P	**Pn**	**21 28 40.7**	**+0.2**
JMYK				*e*S	**Sn**	**21 28 57.8**	**+0.4**
JIZS	**Izushimoda**	**1.37**	**254**	P	**Pn**	**21 28 41.0**	**-0.4**
JIZS				*e*S	**Sn**	**21 28 59.0**	**-0.1**
JMKN	**Mikurajimanish**	**1.42**	**211**	*e*P	**Pn**	**21 28 41.7**	**-0.4**
JMKN				S	**Sn**	**21 29 00.0**	**-0.2**
JAG	**Ashikaga**	**1.56**	**328**	*e*P	**Pn**	**21 28 43.4**	**-0.5**
JRY	**Ryogami san**	**1.57**	**306**	P	**Pn**	**21 28 44.1**	**0.0**
JRY				*e*S	**Sn**	**21 29 04.8**	**+0.9**
JYN	**Shimob**	**1.63**	**284**	*i* P	**Pn**	**21 28 44.5**	**-0.4**
JYN				S	**Sn**	**21 29 05.3**	**+0.1**
JHJ	**Hachijo jima 2**	**2.07**	**196**	P	**Pn**	**21 28 50.5**	**-0.1**
	65nm,0.3s,baz=30,slow=20,SNR=48						
JHJ				S	**Sn**	**21 29 14.2**	**-1.3**
	231nm,0.2s,baz=274,slow=22,SNR=18						
MJAR	**Matsushiro Arr**	**2.33**	**308**	P	**Pn**	**21 28 54.5**	**+0.2**
	2.3nm,0.3s,baz=128,slow=9.4,SNR=22						
MJAR				S	**Sn**	**21 29 19.8**	**-2.2**
	7.2nm,0.4s,baz=119,slow=15,SNR=7.0						
MAJO	**Matsushiro**	**2.34**	**308**	P	**Pn**	**21 28 55.3**	**+1.0**
JGF	**Kuroka**	**2.60**	**282**	P	**Pn**	**21 28 59.2**	**+1.4**
JMM	**Marumori**	**2.76**	**5**	P	**Pn**	**21 28 59.1**	**-0.9**
JSD	**Sado**	**3.42**	**329**	P	**Pn**	**21 29 09.2**	**+0.2**
JCJ	**Chichijima**	**8.12**	**169**	P	**Pn**	**21 30 10.0**	**-3.1**
	29nm,0.3s,baz=293,slow=22,SNR=13						
H11N2	**WAKE ISLAND Hy**	**27.89**	**116**	T	T	22 03 16.3	
	baz=309,slow=75,SNR=7.2						
H11N1	**WAKE ISLAND Hy**	**27.90**	**116**	T	T	22 03 20.2	
	baz=309,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.91**	**116**	T	T	22 03 42.5	
	baz=309,slow=75,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**28.53**	**119**	T	T	22 04 06.1	
	baz=311,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.53**	**119**	T	T	22 04 05.0	
	baz=311,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.54**	**119**	T	T	22 04 10.5	
	baz=311,slow=75,SNR=7.8						
SHEM	**Shemya Is, Ala**	**29.57**	**43**	LR	LR	21 44 11.5	
	comp=Z,22nm,20.2s,baz=311,slow=32						
WRA	**Warramunga Arr**	**55.06**	**187**	P	**P**	**21 37 41.3**	**-0.7**
	0.9nm,0.7s,baz=5.0,slow=7.6,SNR=8.5						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**58.78**	**187**	P	**P**	**21 38 10.9**	**+2.5**
	0.3nm,0.8s,baz=353,slow=8.1,SNR=2.2						
	0.3nm,0.8s						

SOME ***02*** *22:10:24.6, 43.6°N×74.2°E, h10km*
KNET ***02*** *22:10:24.4±0.4, 43.6°N×74.2°E, h15km±2km, ml0.9, Error ellipse: s-maj=2.6km s-min=2.0km az=171.0*
NNC ***02*** *22:10:25.9±2.4, 43.6°N×74.2°E, h0km, mb3.9, mpv2.8, Error ellipse: s-maj=24.2km s-min=7.4km az=50.0, Suspected Mining explosion.*

ISC 02 22:10:25.1±1.0, 43.60N±0.04×74.21E±0.04, h0km, n13, σ0§85/24, 3C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGDS	**Sogindy**	**0.34**	**116**	P	**Pg**	**22 10 30.9**	**-0.7**
	7.1nm,0.1s						
SGDS				S	**Sg**	**22 10 35.6**	**-0.4**
	9.5nm,0.1s						
USP	**Ospenovka**	**0.40**	**147**	P	**Pg**	**22 10 32.2**	**-0.4**
	7.8nm,0.1s,SNR=100						
USP				⇑S	**Sg**	**22 10 37.6**	**-0.1**
	19nm,0.2s						
CHMS	**Chumysh**	**0.72**	**146**	P	**Pg**	**22 10 38.1**	**-0.7**
	1.8nm,0.1s,SNR=24						
CHMS				⇓S	**Sg**	**22 10 48.1**	**-0.1**
	2.1nm,0.1s						
EKS2	**Erkin-Say**	**0.99**	**199**	⇑P	**Pg**	**22 10 42.8**	**-1.2**
	1.0nm,0.1s,SNR=11						
EKS2				⇓S	**Sg**	**22 10 57.1**	**+0.3**
	1.0nm,0.1s						
KBK	**Karagaybulak**	**1.09**	**150**	⇓P	**Pg**	**22 10 44.7**	**-1.2**
	2.2nm,0.1s,SNR=7.3						
KBK				⇓S	**Sg**	**22 11 00.8**	**+0.8**
	5.2nm,0.2s						
DGS	**Degeres**	**1.20**	**107**	P	**Pg**	**22 10 46.7**	**-1.2**
	1.3nm,0.2s						
DGS				S	**Sg**	**22 11 02.8**	**-0.6**
	1.7nm,0.3s						
TKM2	**Tokmak 2**	**1.22**	**123**	⇑P	**Pg**	**22 10 46.8**	**-1.6**
	1.3nm,0.1s,SNR=7.3						
TKM2				⇓del		22 11 03.2	
	3.5nm,0.1s						
KST	**Kastek**	**1.40**	**113**	P	**Pn**	**22 10 52.4**	**+0.5**
	0.8nm,0.1s						
KST				S	**Sn**	**22 11 12.6**	**+1.5**
	1.6nm,0.2s						
BTLS	**Baital**	**1.45**	**355**	P	**Pn**	**22 10 52.7**	**+0.2**
	0.6nm,0.1s						
BTLS				S	**Sn**	**22 11 12.9**	**+0.7**
	0.9nm,0.2s						
BTLS	**Baital**	**1.45**	**355**	*e*P	**Pn**	**22 10 52.7**	**+0.2**
	0.5nm,0.1s						
BTLS				*e*S	**Sn**	**22 11 12.9**	**+0.7**
	1.1nm,0.1s						
KTBS	**Karatobe**	**1.80**	**86**	P	**Pn**	**22 10 57.4**	**0.0**
	1.1nm,0.2s						
KTBS				S	**Sn**	**22 11 21.3**	**+0.4**
	3.0nm,0.3s						
CHKK	**Chushkaly**	**2.03**	**82**	Pg	**Pn**	**22 11 01.5**	**+0.9**
	10.0nm,0.3s						
CHKK				Lg	Lg	22 11 28.0	
	1.7nm,0.3s						
CHKK	**Chushkaly**	**2.03**	**82**	*e*P	**Pb**	**22 11 02.5**	**-0.4**
	1.1nm,0.0s						
CHKK				*e*S	**Sb**	**22 11 29.7**	**+1.0**
	1.4nm,0.1s						

HEL 02 22:15:19.4±0.3, 67.18N×20.65E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALU	**Saltoluokta**	**0.86**	**285**	*e*P	Pg	22 15 34.9	-0.8
ERTU	**Ertsjaerv**	**0.88**	**135**	PG	Pg	22 15 34.9	-1.2
PAJU	**Pajala**	**0.98**	**98**	PB	Pg	22 15 37.0	-1.1
PAJU				SB	Sg	22 15 50.7	0.0
LANU	**Lannavaara**	**1.01**	**30**	PG	Pg	22 15 37.6	-1.2
KLF	**Kolari**	**1.29**	**86**	PG	Pg	22 15 42.6	-1.5
	baz=273						
KLF				MSG		22 15 58.5	
	comp=Z,1.5nm,0.2s						
KLF				SN	Sn	22 16 05.5	+2.8
HEF	**Hetta**	**1.68**	**41**	*e*P	Pn	22 15 49.4	-0.6
HEF	**Hetta**	**1.68**	**41**	PG	Pn	22 15 49.5	-0.5
	baz=221						
HEF				MSG		22 16 09.7	
	comp=Z,1.6nm,0.2s						
HEF				SN	Sb	22 16 13.0	+0.2
KALU	**Kalix**	**1.71**	**139**	PG	Pn	22 15 50.4	0.0
KIF	**Kilpisjarvi**	**1.83**	**2**	PG	Pn	22 15 52.9	+0.8
KIF				MSG		22 16 15.1	
	comp=Z,2.4nm,0.2s						
KIF				SG	Sg	22 16 18.4	+0.2
TOF	**Tornio**	**1.84**	**125**	PG	Pn	22 15 52.5	+0.4
TOF				MSG		22 16 14.1	
	comp=Z,1.6nm,0.2s						
TOF				SN	Sb	22 16 17.1	-0.1
KTK1	**Kautokeino**	**2.08**	**27**	PG	Pn	22 15 56.6	+1.1
KTK1				SG	Sb	22 16 23.9	-0.4
RNF	**Rovaniemi**	**2.19**	**103**	PG	Pn	22 15 57.9	+0.9
RNF				SG	Sn	22 16 25.0	+0.1
TRO	**Tromso**	**2.54**	**346**	PG	Pb	22 16 05.0	-0.8
RANF	**Ranua**	**2.72**	**113**	SG	Sb	22 16 42.7	+0.1
OBF8	**Ulkokalla**	**3.09**	**157**	PG	Pn	22 16 12.0	+2.7
OBF8				MSG		22 16 50.1	
	comp=Z,0.7nm,0.2s						

UPP 02 22:15:53.8±0.1, 67.17N×20.67E, h0km, ML1.8, Unknown Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**216**	P	Pg	22 15 55.3	+0.3
	baz=34						
DUNU				S	Sg	22 15 56.3	+0.4
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	22 16 08.2	-0.4
RATU				S	Sg	22 16 18.9	+0.3
KUA	**Kurravaara**	**0.79**	**351**	S	Sg	22 16 20.0	+0.7
SALU	**Saltoluokta**	**0.86**	**285**	P	Pg	22 16 10.0	-0.3
SALU				S	Sg	22 16 21.6	+0.1
ERTU	**Ertsjaerv**	**0.87**	**135**	P	Pg	22 16 09.8	-0.5
NIKU	**Nikkaluokta**	**0.94**	**319**	P	Pg	22 16 11.6	-0.1
PAJU	**Pajala**	**0.97**	**98**	P	Pg	22 16 12.1	-0.2
HARU	**Harads**	**1.02**	**173**	P	Pg	22 16 13.0	-0.3

IDC ***02*** *22:24:42.0±0.6, 23.60°N×121.68E, h0km, mb4.1/22, mbtmp4.1/27, ML3.9/5, MS3.9/47, Error ellipse: s-maj=16.2km s-min=13.6km az=64.0*
NIED ***02*** *22:24:42.9, 23.63°N×121.69E, h0km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.30; Mθθ-2.81; Mφφ2.51; Mrθ8.74; Mθφ-2.93; Mφr2.25; Fault plane solution: M₀9.38000×10¹⁵ NP1:*
φs197.00000°, δ13.00000°, λ27.00000°. NP2:φs81.00000°, δ84.00000°, λ101.00000°.
JMA ***02*** *22:24:42.9±0.3, 23.6°N±0.8×12.2°E±.°, h0km, MD4.8/18, MV4.6/18, TAIWAN REGION*
MOS ***02*** *22:24:42.0±1.0, 23.56N×121.66E, h9km, mb4.9/50, MS4.2/4, Error ellipse: s-maj=7.9km s-min=5.7km az=104.2*
BJI ***02*** *22:24:43.7, 23.67N×121.68E, h10km, mB4.9/22, mb4.3/59, ML5.0/11, Ms4.8/69, Ms7 4.6/65*
TAP ***02*** *22:24:44.0, 23.69N×121.54E, h4km, ML5.0, C*
NEIC ***02*** *22:24:43.2±1.4, 23.60N±0.06×121.66E±0.05, h4km±4km, mb5.1/260, Mwr4.6/25, Error ellipse: s-maj=9.5km s-min=6.0km az=182.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.09; Mθθ-4.80; Mφφ1.71; Mrθ4.52; Mθφ-2.60; Mφr7.10; Fault plane solution: M₀9.76000×10¹⁵ NP1:φs284.95000°, δ25.52000°, λ155.87000°. NP2:φs36.96000°, δ79.85000°, λ66.45000°. Principal axes: T 9.7278, Plg50.0000°, Azm281.0000°; N 0.0656, Plg23.0000°, Azm41.0000°; P -9.7934, Plg31.0000°, Azm146.0000°;*
NEIC ***02*** *22:24:44.5, 23.63N×121.59E, h10km*

ISC 02 22:24:44.1±0.6, 23.66N±0.01×121.60E±0.01, h10km±3km, n912, σ1§25/1020, mb5.0/211, MS4.0/56, 58C-45D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.07**	**311**	⇓*i*P	**Pg**	**22 24 45.3**	**-1.0**
TEGC				*i* S	**Sg**	**22 24 46.4**	**-1.5**
SHUL	**Shoufeng**	**0.13**	**345**	⇓*i*P	**Pg**	**22 24 47.2**	**0.0**
SHUL				*e*S	**Sg**	**22 24 49.4**	**+0.1**
EGFH	**Guangfu**	**0.16**	**273**	⇓*i*P	**Pg**	**22 24 46.5**	**-1.0**
EGFH				S	**Sg**	**22 24 48.5**	**-1.5**
WARBT	**Fenglin Townsh**	**0.20**	**286**	⇑*i*P	**Pg**	**22 24 47.2**	**-1.1**
WARBT				*i* S	**Sg**	**22 24 49.0**	**-2.2**
TEYL	**Yanliau Villag**	**0.20**	**360**	⇓*i*P	**Pb**	**22 24 49.7**	**-0.3**
TEYL				S	**Sg**	**22 24 53.2**	**+1.9**
ESL	**Shilin**	**0.21**	**315**	⇓*i*P	**Pg**	**22 24 47.7**	**-0.9**
ESL				*i* S	**Sg**	**22 24 50.3**	**-1.3**
HGSD	**Ruisui**	**0.23**	**224**	⇓*i*P	**Pg**	**22 24 49.4**	**+0.5**
HGSD				S	**Sg**	**22 24 54.5**	**+2.3**
EHYH	**Wanrong**	**0.29**	**234**	⇑*i*P	**Pg**	**22 24 49.6**	**-0.3**
EHYH				S	**Sb**	**22 24 55.5**	**-0.7**
EHY	**Hungye**	**0.30**	**239**	⇑*i*P	**Pg**	**22 24 49.5**	**-0.5**
EHY				S	**Sg**	**22 24 54.6**	**+0.5**
HWA	**Hwalien**	**0.31**	**1**	⇓*e*P	**Pb**	**22 24 51.3**	**-0.5**
HWA				*e*S	**Sb**	**22 24 56.6**	**-0.4**
ETM	**Tongmen**	**0.32**	**342**	⇓*i*P	**Pg**	**22 24 50.2**	**-0.3**
ETM				S	**Sg**	**22 24 54.7**	**-0.1**
ECBN	**Changbin**	**0.37**	**202**	⇓*i*P	**Pb**	**22 24 52.5**	**-0.2**
ECBN				*e*S	**Sb**	**22 24 59.2**	**+0.7**
YULB	**Yu-li**	**0.39**	**226**		**Pg**	**22 24 51.2**	**-0.5**
YULB				Sg	**Sb**	**22 24 58.5**	**-0.6**
YULB	**Yu-li**	**0.39**	**226**	P	**Pb**	**22 24 52.5**	**-0.5**
YULB	**Yu-li**	**0.39**	**226**	S	**Sb**	**22 24 59.1**	**+0.1**
YULB	**Yu-li**	**0.39**	**226**	⇑*i*P	**Pg**	**22 24 51.5**	**-0.2**
YULB				S	**Sb**	**22 24 58.8**	**-0.2**
LXIB	**Xiulin Townshi**	**0.40**	**335**	⇓*i*P	**Pg**	**22 24 51.5**	**-0.5**
LXIB				S	**Sg**	**22 24 56.6**	**-0.7**
EYUL	**Yuli**	**0.41**	**219**	*e*P	**Pb**	**22 24 52.7**	**-0.6**
TWF1	**Yuli**	**0.41**	**222**	⇑*i*P	**Pg**	**22 24 52.2**	**0.0**
TWF1				*e*S	**Sb**	**22 25 00.1**	**+0.3**
TWD	**Chiawan**	**0.42**	**360**	⇓*i*P	**Pg**	**22 24 52.5**	**+0.2**
TWD				*e*S	**Sg**	**22 24 58.7**	**+0.9**
VWDT	**VWDT**	**0.43**	**282**	⇑*i*P	**Pg**	**22 24 52.0**	**-0.5**
VWDT				S	**Sg**	**22 24 58.3**	**+0.1**
OWD	**Renai**	**0.48**	**307**	⇑*i*P	**Pg**	**22 24 52.9**	**-0.7**
OWD				*e*S	**Sg**	**22 24 59.2**	**-0.8**
ETL	**Fush Village**	**0.50**	**2**	*e*P	**Pg**	**22 24 53.9**	**+0.2**
ETL				*e*S	**Sg**	**22 25 00.3**	**0.0**
CHKH	**Chenggong**	**0.50**	**202**	⇓*i*P	**Pb**	**22

CHN4 Tsaushan 0.97 252 eP Pb 22 25 03.3 +0.2
CHN4 eS Sg 22 25 15.3 -0.2
ENTT Nioudou 0.97 358 ⇑P Pg 22 25 02.6 -0.2
ENTT iS Sb 22 25 16.7 +0.7
TCU Taichung 0.97 300 iP Pn 22 25 03.9 +0.1
TCU eS Sg 22 25 15.7 +0.1
LDUT Ludao 0.99 187 eP Pg 22 25 01.4 -1.8
LDUT eS Sg 22 25 15.8 -0.2
TTN Taitung 0.99 205 eP Pg 22 25 03.2 0.0
WTP Ta-pu 0.99 246⇑iP Pb 22 25 03.5 0.0
WTP iS Sn 22 25 17.7 -0.6
TWQ1 Liyutan 1.02 312 eP Pn 22 25 04.3 -0.2
TWQ1 eS Sb 22 25 17.4 +0.1
YHNB Yeheng 1.02 349 Pb 22 25 03.9 -0.1
YHNB Yeheng 1.02 349 P Pb 22 25 03.9 -0.1
YHNB Yeheng 1.02 349 S Sb 22 25 18.0 +0.5
YHNB Yeheng 1.02 349 ⇑P Pg 22 25 03.6 -0.2
YHNB iS Sg 22 25 17.2 +0.1
NSK Sanguang 1.03 348⇑iP Pg 22 25 03.6 -0.4
NSK iS Sg 22 25 17.0 -0.4
CHN2 Minshiung 1.04 263 eP Pn 22 25 05.0 +0.3
WCHH Zhanghua 1.04 294 eP Pn 22 25 04.8 +0.1
WCHH eS Sn 22 25 18.7 -0.6
WCH1 Changhua City 1.05 293 eP Pn 22 25 05.6 +0.8
TWE Neicheng 1.06 3 P Pb 22 25 04.4 0.0
TWE iS Sn 22 25 19.4 -0.3
NFF Wufeng Townshi 1.06 336 iP Pb 22 25 04.7 +0.1
NFF eS Sg 22 25 17.1 -1.2
NSY Sanyi 1.07 315 eP Pn 22 25 06.2 +1.0
NSY eS Sb 22 25 19.2 +0.3
CHY Chiayi 1.09 262⇑eP Pn 22 25 05.7 +0.4
CHY eS Sb 22 25 19.3 0.0
CHN1 Nanshi 1.09 244⇑iP Pn 22 25 05.5 +0.1
CHN1 eS Sn 22 25 20.9 +0.3
FUSB Fushanzhiwuyua 1.09 359⇑eP Pb 22 25 04.5 -0.6
FUSB eS Sn 22 25 20.2 -0.6
TWK Hsinying 1.09 249⇑iP Pn 22 25 05.5 0.0
TWK eS Sb 22 25 19.7 +0.2
SNST Tainan City 1.10 247 ⇑P Pn 22 25 05.6 0.0
SNST eS Sn 22 25 21.0 +0.1
ILA Ilan 1.11 7 eP Pn 22 25 05.8 +0.2
WTK Tuku 1.11 272⇑eP Pn 22 25 05.9 +0.2
WTK eS Sn 22 25 21.1 +0.1
WDJ Dajia District 1.11 308 P Pn 22 25 06.7 +1.0
WDJ eS Sn 22 25 21.1 +0.1
NWLT Wulai 1.11 355 iP Pb 22 25 05.2 -0.3
NWLT iS Sn 22 25 20.7 -0.5
NMLH Miaoli 1.14 320 ⇑P Pn 22 25 07.0 +0.9
NMLH eS Sn 22 25 22.1 +0.2
KSHI Guanxi Townshi 1.18 341 eP Pg 22 25 07.3 +0.7
KSHI S Sn 22 25 23.0 +0.3
ECL Taimali 1.22 209 eP Pn 22 25 05.7 -1.4
ECL eS Sb 22 25 22.6 -0.3
EGS 1.22 14 eP Pg 22 25 08.8 +1.4
WTCT Ta-ch'eng 1.23 280 eP Pn 22 25 07.2 0.0
WTCT eS Sn 22 25 24.0 +0.1
ICHU Yijhu 1.25 256 iP Pn 22 25 08.3 +0.3
ICHU S Sn 22 25 26.4 +2.0
SBCB Hsinchu 1.26 334 eP Pg 22 25 09.2 +1.0
WSF Szhu 1.26 269 eP Pn 22 25 07.7 -0.1
WSF eS Sb 22 25 23.9 -0.2
WSL Shuilin Townsh 1.27 264 P Pn 22 25 08.2 +0.2
WSL eS Sg 22 25 26.6 +1.7
HSN Hsinchu 1.27 333 eP Pg 22 25 09.5 +1.0
HSN eS Sg 22 25 26.8 +1.8
SSD Sandimen 1.27 225 eP Pn 22 25 08.0 +0.1
SSD eS Sg 22 25 25.5 +0.4
CHN3 Shinhua 1.27 243 eP Pn 22 25 09.6 +1.0
CHN3 eS Sg 22 25 27.5 +2.4
SCST Cishan 1.28 233 iP Pg 22 25 09.5 +0.9
SCST S Sg 22 25 29.0 +3.8
TSMG Majia 1.29 223 eP Pb 22 25 08.6 +0.1
TSMG eS Sn 22 25 25.4 -0.2
NHDH Xindian Distri 1.30 357 eP Pg 22 25 09.0 0.0
NHDH eS Sn 22 25 25.7 +0.1
TATO Taipei 1.31 356 Pn 22 25 08.2 -0.2
TATO Taipei 1.31 356 P Pg 22 25 09.3 0.0
CHN8 Yiju 1.31 256 iP Pg 22 25 09.2 -0.1
CHN8 eS Sg 22 25 27.1 +0.7
TWA Mucha 1.31 359 eP Pb 22 25 09.0 +0.2
TWA eS Sg 22 25 26.5 +0.1
SHHT Tainan City 1.31 241 eP Pg 22 25 10.4 +1.1
TIPB Shuangxi 1.32 9 eP Pb 22 25 09.2 +0.2
NCUH Zhongli 1.35 344 eP Pg 22 25 10.7 +0.6
NCUH eS Sg 22 25 29.3 +1.6
TWM1 Shoushan 1.37 233 eP Pg 22 25 11.9 +1.5
MASBT Mashibuluo 1.37 221 eP Pn 22 25 09.2 -0.1
MASBT eS Sn 22 25 27.6 +0.1
TAP Taipei 1.37 356 eP Pg 22 25 10.9 +0.4
TAP S Sg 22 25 28.5 +0.1
SCLT Jiali 1.38 250 eP Pb 22 25 10.2 +0.3
SCLT eS Sg 22 25 28.6 +0.2
SGLT Jiouru 1.38 228 P Pg 22 25 12.6 +1.9
SGLT eS Sg 22 25 30.3 +1.8
TWB1 Santiao Chiao 1.39 15 eP Pg 22 25 11.2 +0.5
TAI1 Yung-k'ang 1.40 244 eP Pb 22 25 10.4 +0.1
NWF Wu-fen Shan 1.41 7 eP Pg 22 25 11.1 -0.1
WFSB Wu-fen Shan 1.41 7 eP Pb 22 25 10.3 -0.2
TWS1 Kuangyinshan 1.44 353 eP Pg 22 25 11.5 -0.3
SXI1 Grass Mountain 1.45 10 eP Pb 22 25 11.2 0.0
SXI1 eS Sg 22 25 31.8 +1.1
EAST Anshuo 1.45 209 eP Pn 22 25 09.0 -1.3
TAW Tawu 1.45 207 eP Pn 22 25 09.0 -1.3
JYNG Yonagunijimaku 1.46 57 eP Pb 22 25 11.6 +0.3
JYNG eS Sg 22 25 30.8 -0.3
JYNG Yonagunijimaku 1.46 57 A A 22 25 11.6
comp=N,24nm,4.9s,comp=E,17nm,5.7s
TAWH Dawu Township 1.47 207 eP Pn 22 25 09.7 -0.9
SNJT Kaohsiung City 1.47 232 eP Pg 22 25 14.4 +2.1
SNJT eS Sg 22 25 34.4 +2.9
YM01 YM01 1.48 359 eP Pb 22 25 12.1 +0.4
TSCK Chigu Township 1.48 250 eP Pb 22 25 11.8 +0.1
TSCK eS Sg 22 25 33.1 +1.4
TNOU National Taiwa 1.49 6 eP Pg 22 25 11.3 +0.4
ZUZH Zhuzihu 1.50 358 eP Pb 22 25 11.6 -0.4
ZUZH eS Sb 22 25 31.1 +0.1
NTST Danshui 1.50 355 eP Pg 22 25 13.7 +0.7
YOJ Yonaguni jima 1.52 58 Pn 22 25 11.0 -0.3
YOJ Yonaguni jima 1.52 58 P Pb 22 25 12.2 -0.1
YOJ Yonaguni jima 1.52 58 S Sb 22 25 34.1 +1.2
YOJ Yonaguni jima 1.52 58 P Pn 22 25 11.0 -0.3
YOJ Yonaguni jima 1.52 58 P Pb 22 25 12.2 -0.1
YOJ eS Sg 22 25 33.3 +0.4
YOJ Yonaguni jima 1.52 58 eP Pb 22 25 12.2 -0.1
YOJ eS Sg 22 25 32.5 -0.4
YM08 YM08 1.52 360 eP Pb 22 25 11.7 +0.3
ANP Anpu 1.52 357 eP Pb 22 25 12.5 +0.1
SCZT Fangliau 1.57 215 eP Pg 22 25 13.9 -0.3
SCZT eS Sg 22 25 34.6 +0.1
LAY Lan-yu 1.62 182 eP Pn 22 25 10.4 -2.3
SLIU Shizi 1.62 207 eP Pn 22 25 12.6 0.0
LYUB Lan-yu 1.65 180 eP Pn 22 25 09.9 -3.2
WLCH Liuqiu 1.72 221 eP Pg 22 25 17.6 +0.5
TWP Hsiaoliuchiu 1.74 221 eP Pg 22 25 17.6 +0.2
SMST Manzhou Townsh 1.78 203 eP Pb 22 25 16.0 -0.8
WDGT Dungji 1.82 258 P Pn 22 25 15.7 +0.2
WDGT eS Sb 22 25 39.7 -0.8
HEN Hengchun 1.83 206 eP Pb 22 25 18.3 +0.7
TWK1 Hengchun 1.86 203 eP Pn 22 25 15.9 -0.1
TWK1 S Sb 22 25 41.2 -0.3
TWKBT Hengchun 1.86 203 eP Pn 22 25 15.3 -0.7
PHUB P'eng-hu 1.87 266⇑iP Pn 22 25 16.2 +0.2
PHUB S Sb 22 25 41.1 -0.5
TSEB Hengchuen, Pin 1.87 200 eP Pb 22 25 17.8 -0.5
PNG Penghu 1.88 268⇑iP Pn 22 25 16.4 +0.2
PCYT Pengchaiyu 2.01 12 eP Pn 22 25 17.8 -0.2
VCHM Qimei 2.04 258 eP Pn 22 25 18.3 -0.2
HATJ Hateruma jima 2.06 79 eP Pn 22 25 19.3 +0.6
HATJ eS Sn 22 25 45.6 +1.2
HATJ Hateruma jima 2.06 79 A A 22 25 19.3
comp=N,26nm,4.1s,comp=E,24nm,3.6s
IRIF Iriomote-Funau 2.06 71 eP Pn 22 25 19.2 +0.5
IRIF eS Sb 22 25 46.1 -1.2
IRIF Iriomote-Funau 2.06 71 A A 22 25 19.2
comp=N,15nm,1.2s,comp=E,10.0nm,4.4s
JKRS Kuro-shima 2.28 75 eP Pn 22 25 22.4 +0.7
JKRS eS Sb 22 25 52.4 -1.1
JKRS Kuro-shima 2.28 75 A A 22 25 22.4
comp=N,21nm,3.9s,comp=E,25nm,4.7s
VWUC VWUC 2.37 304 eP Pn 22 25 22.4 -0.5

JIJ Ishigaki jima 2.43 73 eP Pn 22 25 23.8 0.0
JIJ eS Sn 22 25 55.2 +1.6
JISG Ishigakijimahi 2.64 69 P Pn 22 25 26.8 0.0
JISG eS Sn 22 25 59.1 +0.3
PTMZ Houxiangcun 2.65 302 eP Pn 22 25 26.4 -0.3
MATB Ma-tsu 2.90 329 eP Pn 22 25 29.5 -0.8
KNM Kinmen 2.99 285 eP Pn 22 25 33.2 +1.7
JTJ Tarama 3.00 70 eP Pn 22 25 31.8 +0.2
JTJ eS Sn 22 26 08.6 +1.0
QZH Quanzhou 3.03 296⇑iPn Pn 22 25 31.4 -0.6
QZH Sn Sn 22 26 07.6 -0.7
QZH smax smax
comp=E,5µm,1.2s
QZH smax smax
comp=E,5µm,1.2s
KNMB Chin-men Tao 3.04 286 Pn 22 25 32.2 0.0
KNMB Chin-men Tao 3.04 286 eP Pn 22 25 32.0 -0.2
MHZQ Yeshan 3.37 317 eP Pn 22 25 36.9 +0.2
JIRB Irabujima 3.46 70 eP Pn 22 25 38.8 +0.8
JIRB eS Sn 22 26 20.1 +1.0
XPSS Dashiqiu 3.50 339 eP Pn 22 25 38.3 -0.2
AXDP Jialang 3.53 291 eP Pn 22 25 39.1 +0.1
ZPLA Ao Xicun 3.54 275 eP Pn 22 25 39.1 0.0
JIKM Ikemajima 3.56 69 eS Sn 22 26 22.3 +0.8
JMJ Miyako jima 2 3.56 70 P Pn 22 25 40.7 +1.3
JMJ2 Miyako jima3 3.57 72 eP Pn 22 25 40.7 +1.2
JMJ2 eS Sn 22 26 24.2 +2.5
JOGS Gusukube 3.64 72 eS Sn 22 26 26.8 +3.3
DSXP Dongshan 3.83 272 eP Pn 22 25 43.0 0.0
SXFK Yanhouchang 4.50 308 eP Pn 22 25 52.3 -0.1
JOW Kunigami 6.82 61 Pn Pn 22 26 23.6 -0.6
JOW Kunigami 6.82 61 Pn Pn 22 26 23.4 -0.8
comp=E,6.7nm,0.3s,baz=233,slow=11,SNR=9.6
JOW Sn Sn 22 27 40.0 -1.9
comp=E,1.0nm,0.3s,baz=351,slow=28,SNR=1.0
comp=E,21nm,0.4s
JOW Kunigami 6.82 61 P Pn 22 26 23.6 -0.6
HKPS Hong Kong Po S 7.01 260 Pn 22 26 26.2 -0.6
SSE Sheshan 7.41 357 Pn Pn 22 26 35.1 +2.8
SSE Sn Sn 22 28 00.5 +4.0
SSE smax smax
comp=E,88nm,1.2s
SSE smax smax
comp=E,150nm,1.1s
SSE LR LR
comp=E,2µm,6.0s
SSE LR LR
comp=E,890nm,9.4s
GZH Guangzhou 7.61 267 Pn Pn 22 26 32.1 -2.9
GZH Sn Sn 22 27 56.3 -5.0
GZH smax smax
comp=E,650nm,1.4s
GZH smax smax
comp=E,640nm,1.2s
NJ2 Nanjing 8.70 344 eP Pn 22 26 51.0 +1.0
NJ2 S Sn 22 28 28.6 +0.4
NJ2 pmax pmax
comp=E,35nm,0.6s
NJ2 smax smax
comp=E,260nm,1.7s
NJ2 smax smax
comp=E,360nm,1.8s
NJ2 LR LR
comp=E,4µm,5.9s
NJ2 LR LR
comp=E,3µm,5.0s
NJ2 LR LR
comp=E,3µm,5.0s
JMZ Minamidaito 2 9.01 74 Pn Pn 22 26 51.4 -2.8
WHN Wuhan 9.41 318 ⇑P Pn 22 27 00.6 +0.8
WHN S Sn 22 28 45.4 -0.3
WHN LR LR
comp=E,6µm,5.7s
WHN LR LR
comp=E,7µm,6.9s
WHN LR LR
comp=E,8µm,7.1s
QIZ Qiongzhong 11.88 249 P Pn 22 27 34.6 +0.9
QIZ S Sn 22 29 49.0 +2.6
QIZ LR LR
comp=E,740nm,12.9s
QIZ LR LR
comp=E,2µm,10.8s
JNU Nakatsue 12.46 39 Pn 22 27 40.5 -1.1
JNU Nakatsue 12.46 39 Pn Pn 22 27 42.9 +1.3
comp=E,0.4nm,0.3s,baz=239,slow=13,SNR=6.0
JNU LR LR 22 33 24.4
comp=E,575nm,18.3s,baz=214,slow=42
comp=E,4.1nm,0.7s
TIA Tai'an 13.09 344 P Pn 22 27 52.2 +2.1
TIA LR LR
comp=E,2µm,6.7s
TIA LR LR
comp=E,1µm,8.2s
TIA LR LR
comp=E,4µm,8.2s
TJN Taejon 13.62 20 Pn Pn 22 27 57.7 +0.5
TJN Taejon 13.62 20 P Pn 22 27 57.7 +0.5
GYA Guiyang 13.82 285 ⇓P Pn 22 28 02.6 +2.4
GYA S Sn 22 30 37.9 +4.0
GYA pmax pmax
comp=E,48nm,0.9s
GYA pmax pmax
comp=E,240nm,3.1s
GYA LR LR
comp=E,3µm,8.6s
GYA LR LR
comp=E,2µm,7.5s
GYA LR LR
comp=E,4µm,9.0s
INCN Inchon 14.44 16 P P 22 28 15.6 +0.2
INCN Inchon 14.44 16 P P 22 28 15.6 +0.2
JMN Monobe 14.71 44 Pn Pn 22 28 12.1 -0.2
KSAR Wonju Array Be 14.76 20 Pn 22 28 14.0 +1.1
KSAR Wonju Array Be 14.76 20 P Pn 22 28 14.0 +1.1
KSRS Korea Array 14.78 20 Pn Pn 22 28 14.2 +1.1
comp=E,0.8nm,0.3s,baz=199,slow=13,SNR=24
comp=E,2.7nm,0.8s
KS19 Wonju Array Si 14.81 20 Pn 22 28 14.3 +0.8
HNS HongShan 14.92 338 ⇑P P 22 28 21.3 +0.6
HNS S S 22 31 14.1 -4.3
HNS pmax pmax
comp=Z,21nm,1.5s
HNS LR LR
comp=N,2µm,12.4s
HNS LR LR
comp=E,2µm,10.4s
HNS LR LR
comp=Z,2µm,12.7s
XAN Xi'an 15.16 316 P Pn 22 28 18.6 +0.2
XAN S Sn 22 31 09.1 +2.7
XAN pmax pmax
comp=Z,17nm,1.2s
XAN pmax pmax
comp=Z,300nm,5.0s
XAN LR LR
comp=Z,3µm,8.2s
XAN LR LR
comp=Z,2µm,9.8s
XAN LR LR
comp=Z,4µm,10.5s
SLVN Son La 16.52 265 Pn 22 28 34.7 -1.3
DAV Davao City (W) 16.93 166 LR LR 22 34 48.2
comp=Z,301nm,20.1s,baz=358,slow=36
BJI Beijing 16.96 346 P P 22 28 47.0 +3.7
BJI pmax pmax
comp=Z,9.0nm,1.2s
BJI LR LR
comp=Z,540nm,13.6s
BJI LR LR
comp=Z,310nm,11.7s
BJI LR LR
comp=Z,600nm,10.8s
DLV Lat 17.06 229 Pn Pn 22 28 40.4 -2.6
KMI Kunming 17.24 279 P P 22 28 49.7 +2.9
KMI pmax pmax
comp=Z,24nm,1.7s
KMI LR LR
comp=Z,2µm,6.8s
KMI LR LR
comp=Z,2µm,8.1s
KMI LR LR
comp=Z,2µm,9.0s
CD2 Chengdu 17.41 298 P P 22 28 48.6 +0.1
CD2 pmax pmax

comp=Z,90nm,1.1s
CD2 LR LR
comp=Z,4µm,7.0s
CD2 LR LR
comp=Z,4µm,8.4s
CD2 LR LR
comp=Z,6µm,8.4s
INU Inuyama 17.74 45 P 22 28 52.1 +0.1
JGF Kuroka 18.11 45 Pn 22 28 55.7 -0.2
SNY Shenyang 18.19 5 ⇓P Pn 22 28 56.0 -0.7
SNY pmax pmax
comp=Z,8.0nm,1.1s
SNY LR LR
comp=Z,370nm,15.4s
SNY LR LR
comp=Z,530nm,9.9s
SNY LR LR
comp=Z,730nm,10.7s
PZH PanZhiHua 18.21 283 P P 22 29 01.4 +4.0
PZH PP PnPn 22 29 15.3 +6.9
PZH S Sn 22 32 18.5 -2.1
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH LR LR
comp=Z,730nm,7.5s
PZH LR LR
comp=Z,2µm,9.0s
PZH LR LR
comp=Z,2µm,9.2s
KKM Kota Kinabalu 18.27 197 Pn 22 28 57.2 -0.6
JHJ Hachijo jima 2 18.54 55 P Pn 22 29 01.9 +0.9
comp=Z,2.1nm,0.3s,baz=208,slow=9.7,SNR=3.9
JHJ LR LR 22 36 03.4
comp=Z,166nm,20.6s,baz=272,slow=37
comp=Z,41nm,0.7s
HHC Hu-ho-hao-te 19.10 336 eP Pn 22 29 08.5 +0.6
HHC sP sP 22 29 13.8 +2.5
HHC PP PnPn 22 29 25.0 +4.4
HHC S Sn 22 32 38.4 -3.5
HHC sS S 22 32 43.6 -0.2
HHC SS SnSn 22 32 59.2 +3.1
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,240nm,4.9s
HHC LR LR
comp=Z,710nm,10.4s
HHC LR LR
comp=Z,750nm,11.2s
HHC LR LR
comp=Z,1µm,12.7s
MAJO Matsushiro 19.23 44 P Pn 22 29 09.5 +0.1
MAJO Matsushiro 19.23 44 P Pn 22 29 09.5 +0.1
MAJO pmax pmax
comp=Z,11nm,1.3s
MJB9 Matsu-Tunnel 19.23 44 P Pn 22 29 09.2 -0.2
MJAR Matsushiro Arr 19.23 44 P P 22 29 07.8 -0.7
MJAR Matsushiro Arr 19.23 44 P P 22 29 07.7 -0.8
comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=7.4
MJAR LR LR 22 37 35.9
comp=Z,393nm,19.3s,baz=226,slow=40
comp=Z,0.9nm,0.5s
MJAR Matsushiro Arr 19.23 44 P P 22 29 07.8 -0.7
MJAR pmax pmax
comp=Z,5.0nm,1.2s
LZH Lanzhou 19.72 313 eP Pn 22 29 17.8 +2.4
LZH sP sP 22 29 22.7 +4.5
LZH pmax pmax
comp=Z,13nm,1.3s
LZH pmax pmax
comp=Z,400nm,4.8s
LZH LR LR
comp=Z,2µm,12.7s
LZH LR LR
comp=Z,2µm,11.7s
LZH LR LR
comp=Z,2µm,12.4s
CN2 Changchun 20.34 8 eP P 22 29 21.4 +1.0
CN2 S S 22 33 04.3 -4.0
CN2 LR LR
comp=Z,350nm,16.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,610nm,14.0s
PSTR Posyet 20.42 20⇓iP P 22 29 18.8 -2.5
MSHR Mys Shultsa 20.47 21⇓eP Pn 22 29 23.7 -0.3
MSHR pmax pmax
comp=Z,14nm,1.5s
XLT XiLinHaoTe 20.69 349 eP P 22 29 25.3 +0.9
XLT S S 22 33 14.6 -0.9
XLT pmax pmax
comp=Z,15nm,2.0s
XLT LR LR
comp=Z,68nm,9.8s
XLT LR LR
comp=Z,340nm,10.0s
XLT LR LR
comp=Z,850nm,10.5s
TNCH TengChong 21.07 278 P P 22 29 30.6 +1.9
TNCH S S 22 33 21.9 -1.6
TNCH PcP PcP 22 33 36.1 +0.7
TNCH pmax pmax
comp=Z,64nm,1.5s
TNCH pmax pmax
comp=Z,400nm,3.7s
TNCH LR LR
comp=Z,770nm,7.5s
TNCH LR LR
comp=Z,2µm,9.0s
TNCH LR LR
comp=Z,2µm,8.9s
CHTO Chiang Mai 21.65 261 P 22 29 34.7 -0.2
CHTO Chiang Mai 21.65 261 P P 22 29 34.7 -0.2
CHTO pmax pmax
comp=Z,38nm,1.3s
JMM Marumori 21.68 45 P P 22 29 33.3 -1.6
CMAR Chiang Mai Arr 21.76 261 P P 22 29 35.3 -0.7
CMAR Chiang Mai Arr 21.76 261 P P 22 29 38.0 +2.0
comp=Z,3.0nm,0.5s,baz=66,slow=7.8,SNR=30
CMAR LR LR 22 39 49.6
comp=Z,194nm,18.7s,baz=70,slow=42
comp=Z,3.0nm,0.5s
CMAR Chiang Mai Arr 21.76 261ceP P 22 29 38.7 +2.7
CMAR pmax pmax
comp=Z,3.0nm,0.5s
MDJ Mudanjiang 21.90 15 P P 22 29 39.9 +2.6
MDJ pmax pmax
comp=Z,15nm,1.1s
USA0B Ussuriysk Arra 22.19 20⇓eP P 22 29 41.3 +0.9
USRK Ussuriysk Ar. 22.19 20 P P 22 29 40.0 -0.3
comp=Z,1.3nm,0.5s,baz=199,slow=11,SNR=5.1
USRK LR LR 22 39 17.9
comp=Z,240nm,18.9s,baz=200,slow=39
comp=Z,1.3nm,0.5s
TOLI2 Tolitoli 22.43 182 P P 22 29 44.1 +0.9
BNX BinXian 22.52 11 ⇓P P 22 29 44.1 +0.2
BNX pmax pmax
comp=Z,7.0nm,1.0s
BNX pmax pmax
comp=Z,110nm,4.6s
BNX LR LR
comp=Z,200nm,9.8s
BNX LR LR
comp=Z,630nm,19.5s
BNX LR LR
comp=Z,680nm,14.1s
SBUM Sibu 22.96 205 P P 22 29 47.8 -0.9
JTM Tenmabayashi 23.64 39 P P 22 29 55.9 +0.5
GUMO Guam 24.18 110 LR LR 22 38 01.5
comp=Z,58nm,21.4s,baz=296,slow=33
GTA Gaotai 24.22 316 eP P 22 30 03.4 +2.2
GTA S S 22 34 15.8 -3.9
GTA pmax pmax
comp=Z,7.0nm,1.5s
GTA pmax pmax
comp=Z,230nm,4.0s
GTA LR LR
comp=Z,700nm,13.8s
GTA LR LR
comp=Z,650nm,13.5s
GTA LR LR
comp=Z,630nm,15.6s
PCI Palu 24.48 184 P P 22 30 05.9 +2.4
comp=Z,2µmcomp=Z,53nm,1.3s
LUWI Luwuk 24.58 177 P P 22 30 12.7 +8.3

KSM Kuching 24.62 208 P P 22 30 02.3 -2.5
KSM IAmb IAmb 22 30 06.3
comp=Z,57nm,1.4s
ERM Erimo 25.63 39 P P 22 30 12.6 -1.1
ERM IAmb IAmb 22 30 14.4
comp=Z,52nm,1.4s
ERM Erimo 25.63 39 e P P 22 30 13.5 -0.2
ERM pmax pmax
comp=Z,47nm,1.3s
GOMU GeErMu 26.27 305 P P 22 30 24.6 +4.6
GOMU pP sP 22 30 27.9 +3.5
GOMU sP pP 22 30 31.9 +8.8
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU LR LR
comp=Z,2μm,13.1s
GOMU LR LR
comp=Z,620nm,13.4s
GOMU LR LR
comp=Z,660nm,13.6s
ASAJ Asahikawa 26.70 35 LR LR 22 41 33.9
comp=Z,295nm,18.2s,baz=192,slow=38
ULN Ulaanbaatar 26.79 338 P P 22 30 24.0 -0.4
ULN Ulaanbaatar 26.79 338 ce P P 22 30 24.4 0.0
ULN pmax pmax
comp=Z,14nm,1.2s
SONM Songino Array 27.00 337 P P 22 30 26.2 0.0
SONM Songino Array 27.00 337 P P 22 30 26.5 +0.3
comp=Z,1.0nm,0.6s,baz=153,slow=8.4,SNR=8.8
SONM LR LR 22 42 20.6
comp=Z,524nm,18.4s,baz=152,slow=39
comp=Z,1.0nm,0.6s
SONM Songino Array 27.00 337 P P 22 30 26.2 0.0
SONM pmax pmax
comp=Z,7.0nm,1.0s
SHL Shillong 27.06 280 P P 22 30 27.4 +0.4
SHL IAmb IAmb 22 30 34.7
comp=Z,38nm,1.3s
SHL Shillong 27.06 280 P P 22 30 27.5 +0.4
SHL pmax pmax
comp=Z,38nm,1.3s
LSA Lhasa 27.81 289 P P 22 30 22.4 -12
LSA S **S 22 35 22.7 +5.1**
LSA LR LR
comp=N,230nm,8.3s
LSA LR LR
comp=Z,240nm,7.1s
KAPI Kappang 28.56 184 LR LR 22 41 52.2
comp=Z,237nm,22.0s,baz=356,slow=36
YSS Yuzhno-Sakhali 28.77 31 eP P 22 30 47.0 +5.1
YSS eS **S 22 35 33.0 +1.6**
YSS MLR MLR
comp=Z,300nm,17.0s
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=E,400nm,16.0s
EVN Everest 31.54 285 P P 22 31 06.8 -0.6
EVN IAmb IAmb 22 31 21.5
comp=Z,15nm,1.1s
MMRI Maumere 32.10 179 P P 22 31 10.3 -1.3
EDFI Ende, Flores 32.21 180 P P 22 31 11.0 -1.7
comp=Z,30nm,0.8s
MDSI Maura Dua 32.73 214 P P 22 31 19.4 +2.3
comp=Z,20nm,1.0s
WMQ Urumqi 34.29 314 eP P 22 31 33.2 +2.6
WMQ LR LR
comp=Z,830nm,15.3s
WMQ LR LR
comp=Z,760nm,12.7s
WMQ LR LR
comp=Z,250nm,13.9s
YAK Yakutsk 38.75 6 P P 22 32 07.5 -0.7
YAK Yakutsk 38.75 6 LR LR 22 48 56.7
comp=Z,207nm,18.9s,baz=188,slow=38
YAK Yakutsk 38.75 6 e P P 22 32 08.1 -0.1
YAK pmax pmax
comp=Z,19nm,1.8s
MK31 Makanchi Array 38.98 316 c i P P 22 32 11.0 +0.5
MKAR Makanchi Array 38.98 316 P P 22 32 09.8 -0.7
MKAR Makanchi Array 38.98 316 P P 22 32 10.9 +0.5
comp=Z,2.3nm,0.8s,baz=107,slow=11,SNR=18
MKAR LR LR 22 49 49.0
comp=Z,227nm,18.5s,baz=104,slow=39
comp=Z,2.3nm,0.8s
MKAR Makanchi Array 38.98 316 i P P 22 32 11.3 +0.8
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 39.18 316 P P 22 32 12.3 +0.1
MAKZ Makanchi 39.18 316 P P 22 32 12.3 +0.1
MAKZ pmax pmax
comp=Z,14nm,1.1s
PETK Petropavlovsk- 40.09 33 LR LR 22 48 57.5
comp=Z,121nm,21.5s,baz=229,slow=36
HYB Hyderabad 40.67 270 eP P 22 32 25.4 +0.5
ZAA0 Zalesovo Array 40.89 327 P P 22 32 25.3 -0.8
ZALV Zalesovo Beam 40.89 327 P P 22 32 25.4 -0.7
ZALV Zalesovo Beam 40.89 327 P P 22 32 26.0 -0.2
comp=Z,2.2nm,0.5s,baz=114,slow=6.6,SNR=9.0
ZALV LR LR 22 50 25.0
comp=Z,194nm,18.6s,baz=126,slow=38
comp=Z,2.2nm,0.5s
ZALV Zalesovo Beam 40.89 327 i P P 22 32 25.7 -0.5
ZALV pmax pmax
comp=Z,2.0nm,0.6s
PMG Port Moresby 41.29 140 LR LR 22 52 44.2
comp=Z,51nm,18.1s,baz=291,slow=41
MA2 Magadan 41.32 22 LR LR 22 50 10.9
comp=Z,169nm,18.2s,baz=220,slow=37
MA2 Magadan 41.32 22 e P P 22 32 30.7 +1.0
MA2 pmax pmax
comp=Z,10.0nm,0.9s
KSH Kashi 41.50 303 P P 22 32 36.0 +4.4
KSH pmax pmax
comp=Z,4.0nm,1.5s
KSH LR LR
comp=Z,610nm,15.9s
KSH LR LR
comp=Z,350nm,14.5s
KSH LR LR
comp=Z,390nm,14.7s
H11N1 WAKE ISLAND Hy 42.14 86 T T 23 17 32.6
baz=283,slow=74,SNR=2372
H11N2 WAKE ISLAND Hy 42.14 86 T T 23 17 32.8
baz=283,slow=74,SNR=2476
H11N3 WAKE ISLAND Hy 42.16 86 T T 23 17 34.0
baz=283,slow=74,SNR=2229
H11S3 WAKE ISLAND Hy 42.25 88 T T 23 17 41.9
baz=284,slow=75,SNR=2557
H11S1 WAKE ISLAND Hy 42.26 88 T T 23 17 42.5
baz=284,slow=75,SNR=1077
H11S2 WAKE ISLAND Hy 42.27 88 T T 23 17 43.7
baz=284,slow=75,SNR=823
PALK Pallekele 42.46 254 LR LR 22 51 16.1
comp=Z,127nm,19.2s,baz=60,slow=38
KURK Kurchatov 42.73 320 P P 22 32 40.8 -0.6
KURK Kurchatov 42.73 320 ce P P 22 32 41.1 -0.2
KURK pmax pmax
comp=Z,17nm,1.6s
KURBB Kurchatov Arra 42.75 320 P P 22 32 41.1 -0.4
comp=Z,1.6nm,0.2s,baz=116,slow=7.3,SNR=15
KURBB LR LR 22 51 39.6
comp=Z,142nm,19.3s,baz=169,slow=38
comp=Z,1.6nm,0.2s
AAK Ala-Archa 43.12 308 P P 22 32 46.8 +1.9
AAK Ala-Archa 43.12 308 LR LR 22 50 47.1
comp=Z,197nm,21.1s,baz=94,slow=36
AAK Ala-Archa 43.12 308 eP P 22 32 47.4 +2.5
AAK pmax pmax
comp=Z,7.0nm,1.3s
ARSB Arslanbob 44.02 306 P P 22 32 52.9 +0.8
ARSB Arslanbob 44.02 306 P P 22 32 52.9 +0.8
ARSB pmax pmax
comp=Z,9.0nm,1.2s
WB0 Warramunga Arr 44.93 163 P P 22 32 59.8 +0.4
WB0 IAmb IAmb 22 33 06.1
comp=Z,25nm,1.4s
PSA00 Pilbara Seismi 44.99 182 P P 22 32 59.5 -0.3
WRAB Tennant Creek 45.08 163 e P P 22 32 59.0 -1.5
WRAB pmax pmax
comp=Z,19nm,1.3s
WRA Warramunga Arr 45.09 163 P P 22 33 00.0 -0.5
WRA Warramunga Arr 45.09 163 P P 22 32 58.7 -1.8
comp=Z,6.1nm,0.9s,baz=345,slow=8.7,SNR=20
comp=Z,6.1nm,0.9s
WRA Warramunga Arr 45.09 163 i P P 22 32 59.0 -1.5
WRA pmax pmax
comp=Z,8.0nm,1.0s
WR8 Warramunga Arr 45.14 163 P P 22 33 01.7 +0.7
GAR Garm 45.81 302 P P 22 33 06.1 -0.3
GAR IAmb IAmb 22 33 14.1
comp=Z,32nm,1.5s
KK31 Karatay Array 46.09 308 P P 22 33 09.0 +0.6
KK31 Karatay Array 46.09 308 P P 22 33 09.0 +0.6
KK31 pmax pmax
comp=Z,10.0nm,1.3s
KKAR Karatay Array 46.09 308 P P 22 33 08.7 +0.3
KKAR Karatay Array 46.09 308 P P 22 33 08.7 +0.3
KBL Kabul 46.73 296 P P 22 33 15.2 +1.4
KBL IAmb IAmb 22 33 33.9
comp=Z,21nm,1.2s
KBL Kabul 46.73 296 P P 22 33 15.2 +1.4
KBL pmax pmax
comp=Z,21nm,1.2s
TIXI Tiksi 48.19 3 LR LR 22 56 15.2
comp=Z,378nm,18.6s,baz=195,slow=39
BVAR Borovoye Array 48.32 321 P P 22 33 25.7 +0.2
comp=Z,1.2nm,0.5s,baz=103,slow=9.2,SNR=9.5
BVAR LR LR 22 53 29.5
comp=Z,95nm,20.3s,baz=102,slow=36
comp=Z,1.2nm,0.5s
BRVK Borovoye 48.39 321 P P 22 33 25.8 -0.2
BRVK Borovoye 48.39 321 c i P P 22 33 26.6 +0.5
BRVK pmax pmax
comp=Z,10.0nm,1.7s
AS31 Alice Springs 48.54 165 P P 22 33 27.1 -0.5
ASAR Alice Springs 48.54 165 P P 22 33 26.5 -1.1
ASAR Alice Springs 48.54 165 P P 22 33 26.9 -0.7
comp=Z,7.5nm,1.1s,baz=335,slow=6.5,SNR=12
ASAR ScP **ScP 22 38 47.0 -1.3**
comp=Z,0.8nm,0.9s,baz=334,slow=5.6,SNR=4.4
ASAR LR LR 22 54 03.5
comp=Z,96nm,18.0s,baz=324,slow=36
comp=Z,7.5nm,1.1s
ASAR Alice Springs 48.54 165 P P 22 33 26.5 -1.1
SHEM Shemya Is, Ala 48.98 40 LR LR 22 55 52.6
comp=Z,31nm,18.7s,baz=18,slow=38
BILL Bilibino 52.05 20 e P P 22 33 55.3 +1.7
BILL pmax pmax
comp=Z,11nm,1.3s
AB31 Akbulak array 54.08 315 P P 22 34 08.6 -0.3
ABKAR Akbulak array 54.08 315 P P 22 34 08.9 +0.1
SVE Sverdlovsk 54.69 324 eP P 22 34 23.7 +11
SVE pmax pmax
comp=Z,12nm,1.0s
ARTI Arti 55.84 323 P P 22 34 21.8 +0.3
ARTI Arti 55.84 323 LR LR 22 58 33.3
comp=Z,135nm,20.2s,baz=58,slow=36
ARTI Arti 55.84 323 c i P P 22 34 20.9 -0.6
ARTI 22 35 15.1
ARTI 22 36 22.1
ARTI S **S 22 42 08.9 +0.2**
ARTI SS **SS 22 45 48.7 -5.3**
ARTI pmax pmax
comp=Z,9.0nm,1.7s
STKA Stephens Creek 58.44 160 P P 22 34 39.4 -0.7
comp=Z,3.2nm,0.6s,baz=352,slow=8.0,SNR=7.5
comp=Z,3.2nm,0.6s
STKA Stephens Creek 58.44 160 e P P 22 34 40.2 +0.1
P08K Saint George I 58.97 37 P P 22 34 42.4 -1.2
baz=266
TNA Tin City 60.63 27 P P 22 34 54.1 -0.7
baz=262
UNV Unalaska Valle 60.64 40 P P 22 34 53.7 -1.4
baz=270
KIRV Kirov 60.86 325 LR LR 23 01 06.2
comp=Z,115nm,20.6s,baz=96,slow=36
KIRV Kirov 60.86 325 ce P P 22 34 55.6 -0.9
M11K Mekoryuk 60.95 33 P P 22 34 55.7 -1.4
baz=267
F14K Arctic Creek 61.28 27 P P 22 34 58.0 -1.3
baz=264
BELG Belogornoye 61.94 318 LR LR 23 03 29.0
comp=Z,87nm,18.2s,baz=74,slow=38
BELG Belogornoye 61.94 318 e P P 22 35 04.4 +0.5
BELG pmax pmax
comp=Z,3.0nm,1.4s
G15K Niukluk 62.21 28 P P 22 35 03.6 -1.9
baz=266
J14K Nanvaranak Lak 62.31 30 P P 22 35 04.8 -1.5
baz=268
M13K Dall Lake 62.36 33 P P 22 35 03.9 -2.7
baz=270
L14K Kuka Creek 62.70 32 P P 22 35 06.5 -2.3
baz=270
D17K Noatak River 62.77 25 P P 22 35 07.9 -1.3
baz=266
C17K DeLong Mountai 62.79 24 P P 22 35 07.3 -2.1
baz=265
RDOG Red Dog Mine 62.86 24 P P 22 35 08.1 -1.8
baz=266
MAK Makhachkala 62.91 308 eP P 22 35 05.6 -4.9
MAK eS **S 22 43 34.3 -6.1**
MAK eSS **SS 22 47 42.5 -2.8**
MAK MLR MLR
comp=Z,112nm,14.0s
H16K Elim 62.96 28 P P 22 35 08.6 -1.9
baz=268
DZM Mont Dzumac 63.00 133 eS S 22 43 44.2 +2.0
comp=Z,45nm,22.2s
DZM eSS **SS 22 47 41.5 -6.7**
comp=Z,66nm,22.3s
DZM eLR LR 22 53 55.7
comp=Z,145nm,25.4s
M14K Bethel 63.05 32 P P 22 35 08.8 -2.3
baz=270
S12K Black Hills 63.16 38 P P 22 35 09.7 -2.4
baz=270
K15K Wolf Creek Mou 63.25 31 P P 22 35 10.4 -2.1
baz=270
L15K Ungalak Mounta 63.27 31 P P 22 35 10.8 -1.9
baz=270
C18K Utukok River 63.53 24 P P 22 35 12.4 -2.0
baz=267
I17K Unalakleet 63.62 29 P P 22 35 12.7 -2.2
baz=270
G17K Kiwalik Mounta 63.65 27 P P 22 35 12.8 -2.3
baz=269
A19K Wainwright 63.66 22 P P 22 35 12.9 -2.2
baz=266
J16K Anvik River 63.67 30 P P 22 35 12.7 -2.6
baz=270
M15K Kasigluk River 63.68 32 P P 22 35 13.2 -2.1
baz=272
E18K Tukpahlearik C 63.71 25 P P 22 35 13.1 -2.4
baz=268
H17K Granite Mounta 63.96 28 P P 22 35 14.4 -2.8
baz=270
N15K Kwethluk River 63.99 33 P P 22 35 14.9 -2.5
baz=272
F18K Selawik 64.07 26 P P 22 35 15.4 -2.4
baz=270
SDPT Sand Point 64.08 38 P P 22 35 15.7 -2.3
baz=274
C19K Lookout Ridge 64.13 23 P P 22 35 16.1 -2.2
baz=268
O15K Ungalikthiuk R 64.17 34 P P 22 35 16.4 -2.3
baz=273
L16K Owhat River 64.23 31 P P 22 35 16.2 -2.8
baz=272
J17K VABM Dome 64.35 29 P P 22 35 17.3 -2.5
baz=272
G18K Tagagawik 64.47 27 P P 22 35 18.4 -2.1
baz=271
M16K Timber Creek 64.51 32 P P 22 35 18.7 -2.2
baz=273
H18K Honhosa River 64.61 27 P P 22 35 18.7 -2.8
baz=272
CHNA Chernabura Isl 64.63 39 P P 22 35 19.1 -2.6
baz=275
N16K Nishlik Lake 64.63 33 P P 22 35 19.5 -2.2
baz=273
D19K Kuna River 64.66 24 P P 22 35 19.3 -2.4
baz=270
K17K Iditarod 64.73 30 P P 22 35 21.7 -0.5
K17K Iditarod 64.73 30 P P 22 35 19.9 -2.4
baz=273
L17K Donlin 64.77 31 P P 22 35 21.9 -0.6
baz=273
TOO Toolangi 64.92 159 P P 22 35 21.6 -2.2
TOO IAmb IAmb 22 35 34.1
comp=Z,13nm,1.4s
TOO Toolangi 64.92 159 P P 22 35 21.6 -2.2
TOO pmax pmax
comp=Z,13nm,1.4s
E19K Redstone River 65.01 25 P P 22 35 22.3 -1.7
E19K IAmb IAmb 22 35 45.1
comp=Z,16nm,1.1s
E19K Redstone River 65.01 25 P P 22 35 23.3 -0.7
baz=271
O16K Kokwok River B 65.03 34 P P 22 35 24.4 +0.2
O16K IAmb IAmb 22 35 30.1
comp=Z,21nm,1.4s
O16K Kokwok River B 65.03 34 P P 22 35 23.5 -0.7
baz=274
G19K Purcell Mounta 65.11 26 P P 22 35 23.5 -1.1
G19K Purcell Mounta 65.11 26 P P 22 35 22.7 -2.0
baz=272
M17K Holitna River 65.22 32 P P 22 35 25.7 +0.2
M17K IAmb IAmb 22 35 32.1
comp=Z,22nm,1.3s
M17K Holitna River 65.22 32 P P 22 35 23.7 -1.7
baz=274
E20K Nigu River 65.38 24 P P 22 35 25.0 -1.5
baz=272
H19K Roundabout Mou 65.40 27 P P 22 35 27.1 +0.6
H19K Roundabout Mou 65.40 27 P P 22 35 24.6 -2.0
baz=273,SNR=7.7
J18K Innoko River 65.41 29 P P 22 35 25.5 -1.1
baz=274
N17K Nushagak Hills 65.41 33 P P 22 35 25.6 -1.1
baz=275
GNI Garni 65.41 305 LR LR 23 07 26.8
comp=Z,102nm,18.2s,baz=80,slow=39
L18K Granite Mounta 65.51 31 P P 22 35 27.9 +0.6
L18K Granite Mounta 65.51 31 P P 22 35 26.2 -1.1
baz=274
O17K Koliganek Bris 65.52 33 P P 22 35 26.4 -1.0
baz=275
F20K Avaraart Lake 65.61 25 P P 22 35 27.6 -0.2
F20K IAmb IAmb 22 35 31.0
comp=Z,15nm,1.4s
F20K Avaraart Lake 65.61 25 P P 22 35 27.0 -0.8
baz=273
VRH Novokhopyorsk 65.69 317 eP P 22 35 30.9 +2.2
VRH pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 65.81 328 eP P 22 35 29.4 +0.2
KLMR e 22 37 53.4
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR MLR MLR
comp=Z,323nm,17.0s
C21K Knifeblade Rid 65.85 23 P P 22 35 28.0 -1.4
baz=273
J19K Poorman 65.86 29 P P 22 35 29.9 +0.4
J19K Poorman 65.86 29 P P 22 35 28.5 -1.0
baz=274
B21K Ikpikpuk River 65.89 22 P P 22 35 29.3 -0.3
baz=273
P17K Kvichak River 65.91 34 P P 22 35 29.1 -0.8
baz=276
M18K Stony River 65.98 31 P P 22 35 28.7 -1.7
baz=275
N18K Kilae Creek 66.03 32 P P 22 35 29.7 -1.1
baz=276
H20K Anotleneega Mo 66.06 27 P P 22 35 30.1 -0.7
baz=274
KBZ Khabaz 66.10 309 P P 22 35 31.9 +0.5
comp=Z,1.6nm,0.9s,baz=151,slow=6.0,SNR=6.1
KBZ LR LR 23 08 56.1
comp=Z,72nm,20.9s,baz=69,slow=40
comp=Z,1.6nm,0.9s
KBZ Khabaz 66.10 309 e P P 22 35 32.3 +0.9
KBZ pmax pmax
comp=Z,8.0nm,1.1s
R17L Mt. Peulik Vol 66.13 36 P P 22 35 30.5 -0.9
baz=277
E21K Killik River 66.19 24 P P 22 35 31.2 -0.4
baz=274
KIV Kislovodsk 66.21 309 P P 22 35 33.4 +1.1
KIV Kislovodsk 66.21 309 eP P 22 35 33.0 +0.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,91nm,17.0s
KIV Kislovodsk 66.21 309 P P 22 35 33.6 +1.3
comp=Z,9.6nm,1.5s
B22K Teshekpuk Lake 66.25 22 P P 22 35 31.9 -0.1
baz=274
SHA1 Shidzhatmaz 66.27 309 e P P 22 35 35.2 +2.3
I20K Naaghedeneel 66.28 28 P P 22 35 32.1 -0.1
I20K Naaghedeneel 66.28 28 P P 22 35 31.6 -0.6
baz=275
Q17K Contact Creek 66.30 35 P P 22 35 31.6 -1.0
baz=277
L19K White Mountain 66.37 31 P P 22 35 33.0 0.0
L19K White Mountain 66.37 31 P P 22 35 32.1 -0.9
baz=276
O18K Koktuh Hills 66.46 33 P P 22 35 32.8 -0.7
O18K Koktuh Hills 66.46 33 P P 22 35 32.4 -1.1
baz=277
F21K Alatna River 66.47 25 P P 22 35 34.6 +1.2
F21K Alatna River 66.47 25 P P 22 35 33.4 -0.1
baz=275
IMAR Indian Mountai 66.48 26 P P 22 35 33.9 +0.4
J20K Nowinta River 66.49 28 P P 22 35 34.3 +0.7
J20K Nowinta River 66.49 28 P P 22 35 32.8 -0.8
baz=276,SNR=6.9
P18K Big Mountain, 66.51 34 P P 22 35 33.8 0.0
P18K IAmb IAmb 22 35 39.3
comp=Z,23nm,1.2s
P18K Big Mountain, 66.51 34 P P 22 35 32.9 -0.9
baz=277
G21K Allakaket 66.53 26 P P 22 35 34.5 +0.7
G21K Allakaket 66.53 26 P P 22 35 33.0 -0.8
baz=275,SNR=7.0
ACHA Angle Creek He 66.60 35 P P 22 35 34.5 0.0
ACHA IAmb IAmb 22 35 38.0
comp=Z,16nm,1.3s
K20K Telida 66.61 29 P P 22 35 35.1 +0.7
K20K IAmb IAmb 22 35 38.0
comp=Z,11nm,0.9s
K20K Telida 66.61 29 P P 22 35 33.3 -1.1
baz=276
M19K Big River Lodg 66.62 31 P P 22 35 35.2 +0.7
M19K Big River Lodg 66.62 31 P P 22 35 33.5 -1.0
baz=276
D22K Ayikyak River 66.62 23 P P 22 35 35.0 +0.6
D22K Ayikyak River 66.62 23 P P 22 35 33.4 -1.0
baz=275
N19K Bonanza Creek 66.70 32 P P 22 35 35.8 +0.6
N19K IAmb IAmb 22 35 39.2
comp=Z,30nm,1.5s
N19K Bonanza Creek 66.70 32 P P 22 35 34.1 -1.1
baz=277
Q18K Katmai Hardscr 66.71 34 P P 22 35 33.5 -1.7
baz=277
L20K Farewell, AK 66.79 30 P P 22 35 34.4 -1.2
baz=277
H21K Melozitna Rive 66.90 27 P P 22 35 36.4 +0.2
H21K Melozitna Rive 66.90 27 P P 22 35 35.3 -0.9
baz=276,SNR=9.3
F22K John River 66.95 25 P P 22 35 35.8 -0.7
baz=276
E22K Anaktuvuk Pass 67.02 24 P P 22 35 36.7 -0.3
E22K Anaktuvuk Pass 67.02 24 P P 22 35 35.7 -1.3
baz=276,SNR=7.0
R18K Karluk 67.15 36 P P 22 35 36.9 -1.0
baz=278
LPSR Galich'ya Gora 67.19 319 eP P 22 35 41.7 +3.4
LPSR pmax pmax
comp=Z,10.0nm,0.9s
M20K Styx River 67.22 31 P P 22 35 38.5 +0.1
M20K Styx River 67.22 31 P P 22 35 37.4 -1.0
baz=278,SNR=5.5
VORD Divnogorie 67.25 317 eP P 22 35 41.2 +2.6
VORD pmax pmax
comp=Z,6.0nm,1.1s
C23K Itkillik River 67.26 22 P P 22 35 37.2 -1.2
baz=276
G22K Bettles 67.27 25 P P 22 35 37.9 -0.6
baz=277
VSR Storozhevoye 67.28 317 eP P 22 35 41.8 +3.0
VSR pmax pmax
comp=Z,7.0nm,1.0s
I21K Tanana 67.30 27 P P 22 35 38.1 -0.6
I21K IAmb IAmb 22 35 44.8
comp=Z,23nm,1.2s

I21K	**Tanana**	**67.30**	**27**	P		**P**	**22 35 37.9**	**-0.8**
	baz=277,SNR=5.7								
CHUM	**Lake Minchumin**	**67.32**	**29**	P		**P**	**22 35 38.4**	**-0.5**
	baz=277								
D23K	**Nanushuk River**	**67.34**	**23**			**P**	**22 35 40.3**	**+1.4**
D23K	**Nanushuk River**	**67.34**	**23**	P		**P**	**22 35 38.2**	**-0.8**
	baz=277								
MOS	**Moscow**	**67.45**	**322**	*e*P		**P**	**22 35 36.2**	**-3.6**
H22K	**Ishtalitna Cre**	**67.45**	**26**	P		**P**	**22 35 38.3**	**-1.4**
	baz=277,SNR=16								
CAST	**Castle Rocks**	**67.49**	**29**			**P**	**22 35 41.1**	**+1.1**
CAST				IAmb	IAmb		22 35 42.3		
	comp=Z,14nm,1.0s								
CAST	**Castle Rocks**	**67.49**	**29**	P		**P**	**22 35 38.9**	**-1.1**
	baz=278,SNR=6.2								
PPLA	**Purkeypile**	**67.51**	**30**	P		**P**	**22 35 41.5**	**+1.2**
PPLA	**Purkeypile**	**67.51**	**30**	P		**P**	**22 35 39.5**	**-0.8**
	baz=278								
O20K	**Slope Mountain**	**67.72**	**33**	P		**P**	**22 35 40.0**	**-1.5**
	baz=279								
COLD	**Coldfoot**	**67.74**	**25**	P		**P**	**22 35 42.2**	**+0.8**
COLD				IAmb	IAmb		22 35 47.3		
	comp=Z,11nm,1.2s								
COLD	**Coldfoot**	**67.74**	**25**	P		**P**	**22 35 40.4**	**-1.1**
	baz=278								
N20K	**Mount Spurr**	**67.75**	**31**	P		**P**	**22 35 40.7**	**-1.1**
	baz=279								
SPCR	**Spurr Chakacha**	**67.75**	**31**	P		**P**	**22 35 40.7**	**-1.1**
	baz=279								
TOLK	**Toolik Lake Re**	**67.78**	**23**	P		**P**	**22 35 43.2**	**+1.5**
TOLK				IAmb	IAmb		22 35 57.9		
	comp=Z,11nm,1.0s								
TOLK	**Toolik Lake Re**	**67.78**	**23**	P		**P**	**22 35 40.8**	**-0.9**
	baz=278								
GURO	**Guroymak-BITLI**	**67.80**	**304**	P		**P**	**22 35 42.9**	**+0.3**
SPU	**Mount Spurr**	**67.83**	**31**	P		**P**	**22 35 40.4**	**-1.8**
SPU				IAmb	IAmb		22 35 51.9		
	comp=Z,8.3nm,1.0s								
OHAK	**Old Harbor**	**67.83**	**36**	P		**P**	**22 35 41.1**	**-1.1**
	baz=279								
MLY	**Manley**	**67.84**	**27**			**P**	**22 35 41.4**	**-0.8**
MLY				IAmb	IAmb		22 35 45.2		
	comp=Z,23nm,1.2s								
MLY	**Manley**	**67.84**	**27**	P		**P**	**22 35 41.8**	**-0.4**
	baz=278								
E23K	**Chandalar**	**67.84**	**24**	P		**P**	**22 35 42.5**	**+0.3**
E23K				IAmb	IAmb		22 35 44.6		
	comp=Z,23nm,1.3s								
E23K	**Chandalar**	**67.84**	**24**	P		**P**	**22 35 42.4**	**+0.1**
	baz=278								
BPAW	**Bear Paw Mtn.**	**67.87**	**28**	P		**P**	**22 35 43.6**	**+1.2**
BPAW	**Bear Paw Mtn.**	**67.87**	**28**	P		**P**	**22 35 41.9**	**-0.5**
	baz=278								
G23K	**Bananza Creek**	**67.88**	**25**	P		**P**	**22 35 42.0**	**-0.5**
G23K				IAmb	IAmb		22 35 48.2		
	comp=Z,17nm,1.1s								
G23K	**Bananza Creek**	**67.88**	**25**	P		**P**	**22 35 41.5**	**-1.0**
	baz=278,SNR=6.1								
STLK	**Strandline Lak**	**67.88**	**31**	P		**P**	**22 35 42.1**	**-0.5**
C24K	**Franklin Bluff**	**67.93**	**22**	P		**P**	**22 35 43.6**	**+1.0**
C24K	**Franklin Bluff**	**67.93**	**22**	P		**P**	**22 35 41.3**	**-1.3**
	baz=278								
SKT	**Skwentna**	**67.95**	**31**	P		**P**	**22 35 43.4**	**+0.5**
SKT				IAmb	IAmb		22 35 47.7		
	comp=Z,21nm,1.4s								
SKT	**Skwentna**	**67.95**	**31**	P		**P**	**22 35 42.0**	**-0.9**
	baz=279								
D24K	**Happy Valley**	**67.97**	**23**	P		**P**	**22 35 43.1**	**+0.2**
D24K				IAmb	IAmb		22 35 47.8		
	comp=Z,22nm,1.2s								
D24K	**Happy Valley**	**67.97**	**23**	P		**P**	**22 35 42.3**	**-0.6**
	baz=278								
Q20K	**Shuyak Island**	**68.07**	**34**	P		**P**	**22 35 43.0**	**-0.7**
	baz=280								
SYI	**Shuyak Island**	**68.07**	**34**	P		**P**	**22 35 43.1**	**-0.6**
KDAK	**Kodiak Island**	**68.11**	**35**	P		**P**	**22 35 44.6**	**+0.7**
KDAK	**Kodiak Island**	**68.11**	**35**	P		**P**	**22 35 44.7**	**+0.7**
KDAK				pmax	pmax				
	comp=Z,38nm,1.4s								
KDAK	**Kodiak Island**	**68.11**	**35**	P		**P**	**22 35 43.3**	**-0.7**
	baz=280								
OBN	**Obninsk**	**68.14**	**322**	P		**P**	**22 35 44.5**	**+0.4**
OBN	**Obninsk**	**68.14**	**322**	*e*P		**P**	**22 35 45.4**	**+1.2**
OBN				*e*			22 36 10.9		
OBN				*e*			22 38 17.3		
OBN				*e*PPP		PPP	22 39 51.9		
OBN				pmax		pmax			
	comp=Z,30nm,2.2s								
OBN				MLR		MLR			
	comp=Z,53nm,15.0s								
H23K	**Yukon River**	**68.21**	**26**	P		**P**	**22 35 45.5**	**+1.0**
H23K	**Yukon River**	**68.21**	**26**	P		**P**	**22 35 43.8**	**-0.7**
	baz=279,SNR=14								
E24K	**Your Creek**	**68.26**	**24**	P		**P**	**22 35 45.0**	**+0.1**
E24K				IAmb	IAmb		22 35 49.9		
	comp=Z,13nm,1.1s								
E24K	**Your Creek**	**68.26**	**24**	P		**P**	**22 35 44.5**	**-0.3**
	baz=279								
TRF	**Thorofare Moun**	**68.28**	**29**	P		**P**	**22 35 46.3**	**+1.1**
TRF				IAmb	IAmb		22 35 50.6		
	comp=Z,13nm,1.1s								
TRF	**Thorofare Moun**	**68.28**	**29**	P		**P**	**22 35 44.3**	**-0.8**
	baz=279								
I23K	**Minto, Yukon-K**	**68.40**	**27**	P		**P**	**22 35 45.9**	**+0.3**
I23K				IAmb	IAmb		22 35 48.5		
	comp=Z,26nm,1.5s								
I23K	**Minto, Yukon-K**	**68.40**	**27**	P		**P**	**22 35 44.7**	**-0.9**
	baz=280								
SUA	**Susitna One**	**68.40**	**31**	P		**P**	**22 35 46.5**	**+0.6**
CUT	**Chulitna**	**68.46**	**30**	P		**P**	**22 35 45.7**	**-0.4**
F24K	**Squaw Lake**	**68.58**	**24**			**P**	**22 35 46.7**	**-0.1**
F24K				IAmb	IAmb		22 36 05.1		
	comp=Z,12nm,1.0s								
F24K	**Squaw Lake**	**68.58**	**24**	P		**P**	**22 35 46.3**	**-0.5**
	baz=280,SNR=10								
NEA2	**Nenana**	**68.61**	**28**	P		**P**	**22 35 46.9**	**-0.1**
NEA2	**Nenana**	**68.61**	**28**	P		**P**	**22 35 46.3**	**-0.7**
	baz=280								
KOPT	**Kop Dagi**	**68.62**	**305**	P		**P**	**22 35 47.3**	**-0.6**
KOPT				IAmb	IAmb		22 36 01.9		
	comp=Z,13nm,1.3s								
M22K	**Willow**	**68.65**	**31**	P		**P**	**22 35 47.4**	**+0.2**
D25K	**Kavik River**	**68.81**	**22**	P		**P**	**22 35 49.1**	**+0.9**
D25K				IAmb	IAmb		22 35 52.9		
	comp=Z,20nm,1.2s								
D25K	**Kavik River**	**68.81**	**22**	P		**P**	**22 35 46.6**	**-1.6**
	baz=281								
MCK	**McKinley**	**68.83**	**28**	P		**P**	**22 35 49.0**	**+0.6**
MCK	**McKinley**	**68.83**	**28**	P		**P**	**22 35 49.0**	**+0.6**
MCK				pmax		pmax			
	comp=Z,36nm,1.4s								
MCK	**McKinley**	**68.83**	**28**	P		**P**	**22 35 46.9**	**-1.5**
	baz=280								
RAYN	**Ar Rayn**	**68.86**	**287**	P		**P**	**22 35 48.9**	**-0.4**
RAYN	**Ar Rayn**	**68.86**	**287**	P		**P**	**22 35 48.9**	**-0.4**
RAYN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
G24K	**Hadweenzic Riv**	**68.88**	**25**	P		**P**	**22 35 48.3**	**-0.4**
G24K				IAmb	IAmb		22 35 54.5		
	comp=Z,22nm,1.1s								
G24K	**Hadweenzic Riv**	**68.88**	**25**	P		**P**	**22 35 47.3**	**-1.4**
	baz=281,SNR=10								
H24K	**Noodor Dome**	**68.88**	**26**	P		**P**	**22 35 49.5**	**+0.7**
H24K	**Noodor Dome**	**68.88**	**26**	P		**P**	**22 35 47.7**	**-1.0**
	baz=281,SNR=6.0								
RND	**Reindeer**	**68.92**	**29**	P		**P**	**22 35 49.1**	**0.0**
RND	**Reindeer**	**68.92**	**29**	P		**P**	**22 35 49.1**	**0.0**
RND				pmax		pmax			
	comp=Z,43nm,1.2s								
RC01	**Rabbit Creek A**	**68.95**	**31**	P		**P**	**22 35 47.8**	**-1.3**
RC01				IAmb	IAmb		22 35 50.9		
	comp=Z,21nm,1.4s								
MARD	**Mardin**	**69.05**	**303**	P		**P**	**22 35 49.6**	**-0.8**
MARD				IAmb	IAmb		22 35 56.7		
	comp=Z,9.1nm,0.7s								
WRH	**Wood River Hil**	**69.05**	**28**	P		**P**	**22 35 50.6**	**+0.9**
WRH				IAmb	IAmb		22 35 52.9		
	comp=Z,28nm,1.4s								
COLA	**College**	**69.08**	**27**	*de*P		**P**	**22 35 49.4**	**-0.4**
COLA				pmax		pmax			
	comp=Z,15nm,1.4s								
CCB	**Clear Creek Bu**	**69.14**	**27**	P		**P**	**22 35 50.4**	**+0.1**
PMR	**Palmer**	**69.14**	**31**	P		**P**	**22 35 49.8**	**-0.5**
PMR				IAmb	IAmb		22 35 54.9		
	comp=Z,13nm,1.0s								
PMR	**Palmer**	**69.14**	**31**	P		**P**	**22 35 49.8**	**-0.5**
PMR				pmax		pmax			
	comp=Z,13nm,1.0s								
POKR	**Poker Plat Res**	**69.20**	**27**	P		**P**	**22 35 50.9**	**+0.2**
POKR	**Poker Plat Res**	**69.20**	**27**	P		**P**	**22 35 48.4**	**-2.3**
	baz=281,SNR=6.4								
SEW	**Seward**	**69.28**	**32**	P		**P**	**22 35 51.2**	**0.0**
SEW	**Seward**	**69.28**	**32**	P		**P**	**22 35 48.3**	**-2.9**
	baz=281								
G25K	**Bearman Lake**	**69.41**	**25**	P		**P**	**22 35 51.2**	**-0.7**
	baz=282,SNR=6.1								
F25K	**Christian Rive**	**69.41**	**24**	P		**P**	**22 35 52.5**	**+0.5**
F25K				IAmb	IAmb		22 35 57.3		
	comp=Z,14nm,1.1s								
F25K	**Christian Rive**	**69.41**	**24**	P		**P**	**22 35 50.9**	**-1.1**
	baz=282,SNR=9.5								
KNK	**Knik Glacier**	**69.49**	**31**	P		**P**	**22 35 52.4**	**-0.2**
KNK	**Knik Glacier**	**69.49**	**31**	P		**P**	**22 35 51.2**	**-1.3**
	baz=282								
ILAR	**Eielson Array**	**69.50**	**27**	P		**P**	**22 35 51.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=286,slow=7.1,SNR=9.3								
ILAR				LR		LR	23 09 03.7		
	comp=Z,34nm,18.2s,baz=236,slow=38								
	comp=Z,0.6nm,0.6s								
HDA	**Harding Lake**	**69.55**	**28**	P		**P**	**22 35 52.3**	**-0.5**
HDA				IAmb	IAmb		22 35 54.0		
	comp=Z,24nm,1.4s								
HDA	**Harding Lake**	**69.55**	**28**	P		**P**	**22 35 52.3**	**-0.5**
	baz=282								
H25L	**Birch Creek**	**69.62**	**26**	P		**P**	**22 35 52.5**	**-0.7**
	baz=282								
C27K	**Jago River**	**69.66**	**22**	P		**P**	**22 35 53.6**	**+0.2**
C27K	**Jago River**	**69.66**	**22**	P		**P**	**22 35 53.2**	**-0.2**
	baz=283								
PWL	**Port Wells**	**69.67**	**31**	P		**P**	**22 35 53.6**	**-0.1**
PWL				IAmb	IAmb		22 35 54.8		
	comp=Z,18nm,0.9s								
PWL	**Port Wells**	**69.67**	**31**	P		**P**	**22 35 53.2**	**-0.5**
	baz=282,SNR=6.5								
ANN	**Anapa**	**69.72**	**311**	*e*P		**P**	**22 35 52.9**	**-1.3**
ANN				*e**PP		**pP**	**22 35 56.2**	**-1.4**
ANN				*e*S		**S**	**22 45 00.6**	**-2.5**
ANN				*e*SS		**SS**	**22 49 33.7**	**+2.7**
ANN				pmax		pmax			
	comp=Z,23nm,1.0s								
M23K	**Glacier View**	**69.75**	**30**	P		**P**	**22 35 53.7**	**-0.5**
	baz=282								
FYU	**Fort Yukon**	**69.79**	**25**	P		**P**	**22 35 54.8**	**+0.6**
BMAR	**Burnt Mountain**	**69.84**	**24**			**P**	**22 35 55.7**	**+1.1**
PRP	**Porcupine Dome**	**69.90**	**26**	P		**P**	**22 35 55.5**	**+0.3**
PRP				IAmb	IAmb		22 35 57.8		
	comp=Z,15nm,1.3s								
PRP	**Porcupine Dome**	**69.90**	**26**	P		**P**	**22 35 55.1**	**-0.1**
	baz=283								
SCM	**Sheep Creek Mo**	**69.93**	**30**	P		**P**	**22 35 55.2**	**-0.1**
SCM	**Sheep Creek Mo**	**69.93**	**30**	P		**P**	**22 35 55.2**	**-0.1**
SCM				pmax		pmax			
	comp=Z,54nm,1.3s								
SCM	**Sheep Creek Mo**	**69.93**	**30**	P		**P**	**22 35 54.8**	**-0.5**
	baz=282,SNR=8.4								
F26K	**Sheenjek River**	**69.95**	**24**	P		**P**	**22 35 56.1**	**+0.8**
F26K				IAmb	IAmb		22 36 00.6		
	comp=Z,16nm,1.1s								
F26K	**Sheenjek River**	**69.95**	**24**	P		**P**	**22 35 54.4**	**-0.9**
	baz=283,SNR=5.8								
SPITS	**Spitsbergen Ar**	**70.07**	**348**	LR		LR	23 09 46.1		
	comp=Z,71nm,19.0s,baz=56,slow=38								
ARCES	**ARCESS Array B**	**70.16**	**338**	P		**P**	**22 35 57.2**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=59,slow=6.0,SNR=4.4								
ARCES				LR		LR	23 11 55.6		
	comp=Z,69nm,20.7s,baz=70,slow=40								
	comp=Z,1.5nm,0.9s								
J25K	**Salcha River,**	**70.17**	**27**	P		**P**	**22 35 55.8**	**-0.9**
J25K	**Salcha River,**	**70.17**	**27**	P		**P**	**22 35 56.0**	**-0.7**
	baz=283								
K24K	**Donnelly Dome**	**70.18**	**28**	P		**P**	**22 35 56.9**	**+0.1**
K24K	**Donnelly Dome**	**70.18**	**28**	P		**P**	**22 35 56.3**	**-0.5**
	baz=283,SNR=7.9								
GLI	**Glacier Island**	**70.25**	**31**	P		**P**	**22 35 56.5**	**-0.7**
	baz=283								
G26K	**Porcupine Rive**	**70.26**	**25**			**P**	**22 35 57.2**	**+0.1**
G26K				IAmb	IAmb		22 36 02.4		
	comp=Z,13nm,1.0s								
G26K	**Porcupine Rive**	**70.26**	**25**	P		**P**	**22 35 56.9**	**-0.2**
	baz=284,SNR=7.2								
P23K	**Montague Islan**	**70.31**	**32**	P		**P**	**22 35 57.2**	**-0.3**
	baz=283								
M24K	**Tolsona, Glenn**	**70.40**	**30**	P		**P**	**22 35 57.6**	**-0.5**
	baz=283								
PAX	**Paxson**	**70.51**	**29**			**P**	**22 35 58.9**	**0.0**
PAX				IAmb	IAmb		22 36 03.3		
	comp=Z,17nm,1.4s								
PAX	**Paxson**	**70.51**	**29**	P		**P**	**22 35 58.9**	**0.0**
PAX				pmax		pmax			
	comp=Z,17nm,1.4s								
PAX	**Paxson**	**70.51**	**29**	P		**P**	**22 35 57.9**	**-1.0**
	baz=284								
FID	**Port Fidalgo**	**70.58**	**31**	P		**P**	**22 35 59.0**	**-0.2**
RIDG	**Independent Ri**	**70.60**	**28**	P		**P**	**22 35 59.0**	**-0.3**
RIDG	**Independent Ri**	**70.60**	**28**	P		**P**	**22 35 58.3**	**-1.1**
	baz=284,SNR=8.5								
HIN	**Hinchinbrook I**	**70.65**	**32**	P		**P**	**22 35 59.5**	**-0.2**
KLU	**Klutina**	**70.66**	**31**	P		**P**	**22 35 59.8**	**0.0**
KLU				IAmb	IAmb		22 36 04.9		
	comp=Z,13nm,1.1s								
KLU	**Klutina**	**70.66**	**31**	P		**P**	**22 35 58.9**	**-0.9**
	baz=284								
D27M	**Malcolm River**	**70.70**	**22**			**P**	**22 35 58.9**	**-0.9**
D27M				IAmb	IAmb		22 36 02.0		
	comp=Z,12nm,1.1s								
D27M	**Malcolm River**	**70.70**	**22**	P		**P**	**22 35 59.4**	**-0.4**
	baz=286								
E27K	**Coleen River**	**70.76**	**23**			**P**	**22 36 00.5**	**+0.2**
E27K				IAmb	IAmb		22 36 05.1		
	comp=Z,16nm,1.2s								
E27K	**Coleen River**	**70.76**	**23**	P		**P**	**22 36 00.0**	**-0.2**
	baz=285								
HARP	**HAARP**	**70.79**	**30**	P		**P**	**22 35 59.9**	**-0.6**
	baz=284								
DIV	**Divide**	**70.82**	**31**	P		**P**	**22 36 00.6**	**-0.1**
DIV				IAmb	IAmb		22 36 04.0		
	comp=Z,32nm,1.4s								
SCRK	**Sand Creek**	**70.91**	**28**			**P**	**22 36 00.8**	**-0.6**
SCRK				IAmb	IAmb		22 36 03.3		
	comp=Z,21nm,1.4s								
SCRK	**Sand Creek**	**70.91**	**28**	P		**P**	**22 36 00.1**	**-1.3**
	baz=285,SNR=10								
I26K	**Coal Creek Min**	**70.92**	**26**	P		**P**	**22 36 00.4**	**-0.8**
	baz=285								
J26L	**Joseph Creek**	**70.96**	**27**	P		**P**	**22 36 01.2**	**-0.4**
J26L				IAmb	IAmb		22 36 05.2		
	comp=Z,12nm,1.0s								
J26L	**Joseph Creek**	**70.96**	**27**	P		**P**	**22 36 00.1**	**-1.5**
	baz=285,SNR=13								
DOT	**Dot Lake**	**70.96**	**28**	P		**P**	**22 36 01.4**	**-0.2**
DOT				IAmb	IAmb		22 36 06.0		
	comp=Z,15nm,1.3s								
EYAK	**Cordova Ski Ar**	**70.97**	**31**	P		**P**	**22 36 01.3**	**-0.3**
EYAK				IAmb	IAmb		22 36 07.3		
	comp=Z,32nm,1.4s								
EYAK	**Cordova Ski Ar**	**70.97**	**31**	P		**P**	**22 36 00.7**	**-0.9**
	baz=284								
G27K	**Doyon Strip**	**71.11**	**25**	P		**P**	**22 36 03.3**	**+0.9**
G27K				IAmb	IAmb		22 36 08.1		
	comp=Z,12nm,1.1s								
G27K	**Doyon Strip**	**71.11**	**25**	P		**P**	**22 36 01.6**	**-0.8**
	baz=286,SNR=9.2								
N25K	**Chitina, Valde**	**71.25**	**30**	P		**P**	**22 36 03.1**	**-0.3**
N25K				IAmb	IAmb		22 36 06.9		
	comp=Z,20nm,1.4s								
N25K	**Chitina, Valde**	**71.25**	**30**	P		**P**	**22 36 02.8**	**-0.6**
	baz=285,SNR=6.5								
MENT	**Mentasta**	**71.30**	**29**	P		**P**	**22 36 01.6**	**-2.0**
MENT				IAmb	IAmb		22 36 05.6		
	comp=Z,19nm,1.2s								
H27K	**Steamboat Moun**	**71.32**	**25**			**P**	**22 36 03.8**	**+0.2**
H27K				IAmb	IAmb		22 36 06.9		
	comp=Z,27nm,1.4s								
H27K	**Steamboat Moun**	**71.32**	**25**	P		**P**	**22 36 02.3**	**-1.4**
	baz=286,SNR=9.3								
E28M	**Babbage River**	**71.37**	**22**			**P**	**22 36 04.2**	**+0.3**
E28M				IAmb	IAmb		22 36 08.6		
	comp=Z,15nm,1.1s								
E28M	**Babbage River**	**71.37**	**22**	P		**P**	**22 36 02.3**	**-1.7**
	baz=287								
BMRM	**Bremner River**	**71.41**	**31**	P		**P**	**22 36 03.8**	**-0.5**
BMRM				IAmb	IAmb		22 36 31.6		
	comp=Z,11nm,1.1s								
BMRM	**Bremner River**	**71.41**	**31**	P		**P**	**22 36 03.1**	**-1.2**
	baz=285								
L26K	**Log Cabin Wild**	**71.44**	**29**	P		**P**	**22 36 03.8**	**-0.6**
L26K				IAmb	IAmb		22 36 07.2		
	comp=Z,21nm,1.5s								
L26K	**Log Cabin Wild**	**71.44**	**29**	P		**P**	**22 36 03.0**	**-1.4**
	baz=286,SNR=6.3								
I27K	**Kandik River**	**71.46**	**26**	P		**P**	**22 36 03.9**	**-0.6**
	baz=286,SNR=9.8								
TOKA	**Tokat**	**71.53**	**307**	P		**P**	**22 36 04.6**	**-0.9**
TOKA				IAmb	IAmb		22 36 08.3		
	comp=Z,5.2nm,0.5s								
RAGM	**Ragged Mountai**	**71.53**	**32**	P		**P**	**22 36 05.4**	**+0.3**
RAGM				IAmb	IAmb		22 36 07.8		
	comp=Z,29nm,1.2s								
F28M	**Old Crow**	**71.55**	**24**	P		**P**	**22 36 04.9**	**-0.1**
F28M				IAmb	IAmb		22 36 10.3		
	comp=Z,23nm,1.1s								
F28M	**Old Crow**	**71.55**	**24**	P		**P**	**22 36 03.5**	**-1.5**
	baz=287,SNR=10								
GLB	**Gilahina Butte**	**71.66**	**30**			**P**	**22 36 06.1**	**+0.3**
GLB				IAmb	IAmb		22 36 11.2		
	comp=Z,20nm,1.2s								
K27K	**Chicken**	**71.71**	**27**	P		**P**	**22 36 04.8**	**-1.2**
	baz=286								
HMT	**Hamilton**	**71.74**	**31**	P		**P**	**22 36 06.5**	**+0.2**
M26K	**Nabesna, AK**	**71.76**	**29**	P		**P**	**22 36 06.8**	**+0.3**
M26K				IAmb	IAmb		22 36 16.3		
	comp=Z,16nm,1.1s								
M26K	**Nabesna, AK**	**71.76**	**29**	P		**P**	**22 36 04.6**	**-1.8**
	baz=286,SNR=11								
KAIM	**Kayak Island**	**71.78**	**32**	P		**P**	**22 36 06.6**	**+0.1**
KAIM	**Kayak Island**	**71.78**	**32**	P		**P**	**22 36 05.1**	**-1.4**
	baz=286								
GAZ	**Gaziantep**	**71.84**	**303**	P		**P**	**22 36 06.3**	**-1.1**
GAZ				IAmb	IAmb		22 36 17.1		
	comp=Z,11nm,1.2s								
VRDI	**Verde Repeater**	**71.88**	**30**			**P**	**22 36 07.6**	**+0.3**
VRDI				IAmb	IAmb		22 36 12.5		
	comp=Z,29nm,1.5s								
BERG	**Berg Lake**	**72.00**	**31**	P		**P**	**22 36 07.6**	**-0.2**
BERG				IAmb	IAmb		22 36 13.1		
	comp=Z,21nm,1.2s								
E29M	**Blow River**	**72.02**	**23**			**P**	**22 36 07.9**	**+0.1**
E29M				IAmb	IAmb		22 36 12.2		
	comp=Z,13nm,1.2s								
E29M	**Blow River**	**72.02**	**23**	P		**P**	**22 36 07.0**	**-0.7**
	baz=288								
MCARA	**McCarthy VSAT**	**72.04**	**30**	P		**P**	**22 36 07.8**	**-0.2**
MCARA				IAmb	IAmb		22 36 12.9		
	comp=Z,20nm,1.1s								
MCARA	**McCarthy VSAT**	**72.04**	**30**	P		**P**	**22 36 06.7**	**-1.3**
	baz=286								
SUCK	**Suckling Hills**	**72.05**	**32**	P		**P**	**22 36 08.0**	**-0.1**
FINES	**FINESS Array B**	**72.09**	**330**	P		**P**	**22 36 08.1**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=53,slow=4.4,SNR=16								
FINES				LR		LR	23 10 41.0		
	comp=Z,183nm,18.2s,baz=74,slow=38								
	comp=Z,1.4nm,0.5s								
FINES	**FINESS Array B**	**72.09**	**330**	*i* P		**P**	**22 36 08.8**	**+0.5**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
L27K	**Beaver Creek,**	**72.09**	**28**			**P**	**22 36 09.2**	**+0.8**
L27K				IAmb	IAmb		22 36 14.3		
	comp=Z,25nm,1.2s								
L27K	**Beaver Creek,**	**72.09**	**28**	P		**P**	**22 36 07.5**	**-0.9**
	baz=287,SNR=18								
BCAR	**Beaver Creek A**	**72.11**	**28**			**P**	**22 36 09.1**	**+0.6**
CRQM	**Cirque**	**72.16**	**31**	P		**P**	**22 36 09.2**	**+0.1**
CRQM				IAmb	IAmb		22 36 14.1		
	comp=Z,21nm,1.0s								
I28M	**Miner Creek**	**72.17**	**26**			**P**	**22 36 09.1**	**+0.2**
I28M				IAmb	IAmb		22 36 14.4		
	comp=Z,20nm,1.2s								
I28M	**Miner Creek**	**72.17**	**26**	P		**P**	**22 36 07.1**	**-1.8**
	baz=288,SNR=13								
CRQE	**Cirque**	**72.18**	**31**	P		**P**	**22 36 07.3**	**-1.8**
	baz=286								
BGLC	**Bering Glacier**	**72.27**	**32**	P		**P**	**22 36 08.1**	**-1.2**
	baz=286								
M27K	**Edge Creek, AK**	**72.28**	**29**	P		**P**	**22 36 09.3**	**-0.3**
M27K	**Edge Creek, AK**	**72.28**	**29**	P		**P**	**22 36 07.7**	**-1.9**
	baz=287								
TGL	**Tana Glacier**	**72.31**	**31**	P		**P**	**22 36 09.7**	**0.0**
TGL				IAmb	IAmb		22 36 14.8		
	comp=Z,25nm,1.2s								
WAX	**Waxell Ridge**	**72.38**	**31**	P		**P**	**22 36 10.6**	**+0.4**
WAX				IAmb	IAmb		22 36 13.5		
	comp=Z,24nm,1.4s								
G29M	**Pine Creek**	**72.45**	**24**			**P**	**22 36 10.2**	**-0.2**
G29M	**Pine Creek**	**72.45**	**24**	P		**P**	**22 36 09.4**	**-1.0**
	baz=289,SNR=9.5								
H29M	**Whitestone**	**72.54**	**25**			**P**	**22 36 10.7**	**-0.2**
H

comp=Z,102nm,17.7s
MNK Minsk 73.17 323 *i* P **P** **22 36 16.4 +1.5**
MNK *i* 22 38 59.3
MNK *i* PPP PPP 22 40 43.9
MNK *i* S **SKiKP** **22 45 45.4 -1.7**
MNK *i* SS **SS** **22 50 28.0 +4.6**
MNK pmax pmax
comp=N,9.0nm,1.4s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=Z,4.0nm,0.9s
J29N Klondike Camp 73.18 26 P **P** **22 36 15.1 +0.2**
TABL Table Mountain 73.19 31 P **P** **22 36 15.9 +0.7**
TABL IAmb IAmb 22 36 32.7
comp=Z,21nm,1.2s
AKASG Malin Array Be 73.51 318 P **P** **22 36 16.9 0.0**
AKASG Malin Array Be 73.51 318 P **P** **22 36 16.8 -0.2**
comp=Z,0.2nm,0.4s,baz=61,slow=5.8,SNR=7.1
AKASG LR LR 23 07 47.0
comp=Z,57nm,18.3s,baz=48,slow=35
comp=Z,0.2nm,0.4s
AKASG Malin Array Be 73.51 318 P **P** **22 36 17.0 0.0**
AKASG pmax pmax
comp=Z,7.0nm,1.5s
AKBB Malin Array Si 73.51 318 ⇓ *e*P **P** **22 36 17.7 +0.8**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
O28M Mount Upton 73.53 30 P **P** **22 36 18.2 +0.9**
O28M IAmb IAmb 22 36 23.1
comp=Z,16nm,1.1s
O28M Mount Upton 73.53 30 P **P** **22 36 16.1 -1.2**
baz=289
INK Inuvik 73.56 22 **P** **22 36 17.3 +0.4**
INK IAmb IAmb 22 36 21.4
comp=Z,16nm,1.2s
INK Inuvik 73.56 22 LR LR 23 11 47.4
comp=Z,74nm,18.5s,baz=202,slow=38
INK Inuvik 73.56 22 P **P** **22 36 17.3 +0.4**
INK pmax pmax
comp=Z,16nm,1.2s
INK Inuvik 73.56 22 P **P** **22 36 16.2 -0.7**
baz=292,SNR=11
YUK8 Steele Glacier 73.56 30 P **P** **22 36 16.6 -0.9**
baz=289
I30M Mount Dempster 73.66 25 **P** **22 36 18.0 +0.2**
I30M IAmb IAmb 22 36 22.7
comp=Z,21nm,1.2s
I30M Mount Dempster 73.66 25 P **P** **22 36 17.0 -0.8**
baz=291,SNR=15
NACGM Naroch 73.66 323 *e*P **P** **22 36 22.1 +4.4**
comp=Z,12nm,0.9s,baz=72
L29M L29M 73.67 28 **P** **22 36 18.8 +1.0**
L29M IAmb IAmb 22 36 23.9
comp=Z,31nm,1.3s
L29M L29M 73.67 28 P **P** **22 36 17.4 -0.3**
baz=290,SNR=17
K29M Barlow Dome 73.68 27 **P** **22 36 18.2 +0.4**
K29M IAmb IAmb 22 36 23.4
comp=Z,15nm,1.2s
K29M Barlow Dome 73.68 27 P **P** **22 36 17.2 -0.7**
baz=290,SNR=8.8
PCA Pinnacle 73.72 31 P **P** **22 36 18.2 +0.1**
PINM Pinnacle 73.72 31 P **P** **22 36 17.9 -0.3**
baz=289
M29M Somme Creek 73.76 28 P **P** **22 36 19.0 +0.6**
M29M IAmb IAmb 22 36 23.8
comp=Z,14nm,1.1s
M29M Somme Creek 73.76 28 P **P** **22 36 18.0 -0.3**
baz=290,SNR=13
BR131 Keskin Array S 73.79 307 P **P** **22 36 18.5 -0.5**
BR131 Keskin Array S 73.79 307 P **P** **22 36 18.5 -0.5**
BR131 pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 73.79 307 **P** **22 36 18.6 -0.4**
BRTR Keskin Array B 73.79 307 P **P** **22 36 18.4 -0.7**
comp=Z,0.6nm,0.5s,baz=125,slow=4.6,SNR=8.5
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 73.79 307 *i* P **P** **22 36 19.8 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BR105 Keskin Array S 73.81 307 P **P** **22 36 20.0 +0.9**
comp=Z,44nmcomp=Z,5.3nm,1.1s
F31M Tsiigehtchic 73.82 23 P **P** **22 36 16.9 -1.5**
F31M IAmb IAmb 22 36 20.0
comp=Z,12nm,0.8s
F31M Tsiigehtchic 73.82 23 P **P** **22 36 18.3 -0.2**
baz=292
G31M Satah River 73.83 23 **P** **22 36 18.7 +0.2**
G31M IAmb IAmb 22 36 21.9
comp=Z,24nm,1.4s
G31M Satah River 73.83 23 P **P** **22 36 18.7 +0.2**
baz=292
J30M Hart River 73.91 26 **P** **22 36 20.0 +0.8**
J30M Hart River 73.91 26 P **P** **22 36 18.7 -0.5**
baz=291
YUK4 Talbot Arm 74.05 30 P **P** **22 36 19.6 -0.6**
baz=290
BCPM Bancas Point 74.06 31 P **P** **22 36 20.3 +0.3**
BCPM IAmb IAmb 22 36 25.2
comp=Z,34nm,1.5s
H31M Peel River 74.23 25 **P** **22 36 20.9 -0.1**
H31M IAmb IAmb 22 36 25.3
comp=Z,15nm,1.1s
H31M Peel River 74.23 25 P **P** **22 36 21.0 +0.1**
baz=292
PNL Peninsula 74.27 31 P **P** **22 36 21.3 0.0**
baz=290
YUK6 Outpost Mounta 74.32 30 P **P** **22 36 21.9 +0.1**
baz=290
ANTO Ankara 74.36 307 P **P** **22 36 21.9 -0.4**
ANTO Ankara 74.36 307 P **P** **22 36 21.9 -0.4**
ANTO pmax pmax
comp=Z,8.0nm,0.9s
ANTO Ankara 74.36 307 P **P** **22 36 24.2 +1.9**
comp=Z,5.0nm,1.1s
M30M Minto, Yukon 74.44 28 **P** **22 36 22.8 +0.6**
M30M IAmb IAmb 22 36 28.1
comp=Z,24nm,1.2s
M30M Minto, Yukon 74.44 28 P **P** **22 36 22.0 -0.2**
baz=291,SNR=21
O29M Mount Kennedy 74.44 31 P **P** **22 36 21.7 -0.7**
O29M Mount Kennedy 74.44 31 P **P** **22 36 22.4 0.0**
baz=290
A36M Sachs Harbour 74.51 17 P **P** **22 36 22.9 +0.6**
baz=299
N30M Aishikik Lake 74.71 29 P **P** **22 36 24.0 +0.1**
N30M IAmb IAmb 22 36 29.2
comp=Z,18nm,1.2s
N30M Aishikik Lake 74.71 29 P **P** **22 36 22.8 -1.1**
baz=291,SNR=9.3
HYT Haines Junctio 74.75 30 **P** **22 36 24.8 +0.6**
HYT IAmb IAmb 22 36 29.4
comp=Z,17nm,1.2s
HYT Haines Junctio 74.75 30 P **P** **22 36 23.5 -0.7**
baz=291,SNR=8.3
GHAJ Ghor Haditha 74.89 298 P **P** **22 36 25.5 +0.1**
P29M Windy Craggy 75.08 31 **P** **22 36 26.1 +0.1**
P29M IAmb IAmb 22 36 35.5
comp=Z,14nm,1.1s
P29M Windy Craggy 75.08 31 P **P** **22 36 25.7 -0.3**
baz=291
P30M Million Dollar 75.26 30 P **P** **22 36 26.8 -0.3**
baz=292
N31M Braeburn, Yuko 75.29 29 **P** **22 36 27.1 0.0**
N31M IAmb IAmb 22 36 33.1
comp=Z,28nm,1.3s
N31M Braeburn, Yuko 75.29 29 P **P** **22 36 26.9 -0.2**
baz=292
RNPP9 Sopachiv 75.29 320 P **P** **22 36 29.9 +2.6**
RNPP5 Staryi Chortor 75.35 320 P **P** **22 36 29.7 +2.1**
O30N Mendenhall 75.42 30 P **P** **22 36 28.6 +0.7**
O30N IAmb IAmb 22 36 33.1
comp=Z,17nm,1.2s
O30N Mendenhall 75.42 30 P **P** **22 36 27.7 -0.3**
baz=292
M31M Drury Creek, Y 75.61 28 P **P** **22 36 28.6 -0.4**
M31M Drury Creek, Y 75.61 28 P **P** **22 36 28.7 -0.4**
baz=293
KMPD K-Podol'skiy 75.89 317 P **P** **22 36 33.2 +2.4**
EIL Elat 75.92 296 LR LR 23 12 29.5
comp=Z,56nm,19.0s,baz=98,slow=38
CFR Carcaliu 75.94 313 ⇑P **P** **22 36 29.7 -1.4**
CFR Carcaliu 75.94 313 ⇑P **P** **22 36 29.7 -1.4**
SUW Suwalki 75.94 323 *e*P P 22 36 37.8 +6.9
SUW Suwalki 75.94 323 P **P** **22 36 31.4 +0.4**
SUW Suwalki 75.94 323 P **P** **22 36 31.4 +0.4**
WHY Whitehorse 76.01 30 **P** **22 36 32.0 +0.6**
WHY Whitehorse 76.01 30 P **P** **22 36 31.3 -0.2**
baz=293,SNR=6.1
SKAG Skagway 76.28 31 **P** **22 36 33.8 +1.1**
SKAG IAmb IAmb 22 36 43.2
comp=Z,25nm,1.2s
SKAG Skagway 76.28 31 P **P** **22 36 32.8 0.0**
baz=293
S31K Pelican 76.43 32 P **P** **22 36 33.8 +0.1**
baz=293
TESR Tescani 76.47 315 P **P** **22 36 35.5 +1.3**
comp=Z,7.9nm,1.6s
VRI Vrincioaia 76.64 314 ⇑P **P** **22 36 35.8 +0.7**
VRI Vrincioaia 76.64 314 ⇑P **P** **22 36 35.8 +0.7**
VRI Vrincioaia 76.64 314 P **P** **22 36 36.4 +1.2**
comp=Z,14nm,1.2s
PLOR5 Plostina Array 76.69 314 P **P** **22 36 37.0 +1.5**
comp=Z,8.8nm,1.5s
MMPY Sheldon Lake, 76.77 27 **P** **22 36 36.0 +0.4**
MMPY Sheldon Lake, 76.77 27 P **P** **22 36 34.8 -0.8**
baz=296
BESE Bessie Mountai 76.86 32 P **P** **22 36 36.2 0.0**
BESE IAmb IAmb 22 36 42.0
comp=Z,13nm,1.1s
P32M Atlin 76.98 30 **P** **22 36 36.2 -0.7**
P32M Atlin 76.98 30 P **P** **22 36 36.5 -0.3**
baz=294
BUR08 Bucovina Ar. S 77.00 316 P **P** **22 36 38.6 +1.3**
BURAR Bucovina Array 77.00 316 P **P** **22 36 36.1 -1.2**
TURR Turia 77.04 315 ⇑P **P** **22 36 37.0 -0.4**
P33M Teslin, Yukon 77.13 30 **P** **22 36 38.2 +0.5**
P33M IAmb IAmb 22 36 43.2
comp=Z,16nm,1.2s
P33M Teslin, Yukon 77.13 30 P **P** **22 36 38.0 +0.3**
baz=295,SNR=7.8
R32K Eaglecrest 77.14 32 P **P** **22 36 38.1 +0.4**
R32K IAmb IAmb 22 36 48.7
comp=Z,23nm,1.4s
R32K Eaglecrest 77.14 32 P **P** **22 36 37.8 +0.1**
baz=294
OZUR 77.17 315 ⇑P **P** **22 36 39.2 +1.0**
MORS Morshin 77.28 318 P **P** **22 36 40.2 +1.5**
MLR Muntele Rosu 77.28 314 **P** **22 36 38.6 -0.3**
MLR Muntele Rosu 77.28 314 LR LR 23 11 49.8
comp=Z,91nm,21.9s,baz=52,slow=36
MLR Muntele Rosu 77.28 314 ⇑P **P** **22 36 39.9 +1.0**
MLR Muntele Rosu 77.28 314 P **P** **22 36 38.6 -0.3**
MLR pmax pmax
comp=Z,6.0nm,1.0s
S32K Killisnoo 77.44 33 P **P** **22 36 39.4 0.0**
baz=294
KWP Kalwaria Pacla 77.82 319 *e*P **P** **22 36 41.6 -0.1**
KWP Kalwaria Pacla 77.82 319 P **P** **22 36 42.1 +0.4**
comp=Z,13nm,1.7s
Q32M Nakina River 77.92 31 P **P** **22 36 42.6 +0.3**
Q32M Nakina River 77.92 31 P **P** **22 36 41.5 -0.8**
baz=296
HFS Hagfors 78.20 331 P **P** **22 36 43.4 -0.2**
comp=Z,1.3nm,0.7s,baz=94,slow=4.9,SNR=4.2
HFS LR LR 23 14 21.4
comp=Z,206nm,19.0s,baz=64,slow=38
comp=Z,1.3nm,0.7s
ELND Elena 78.25 312 ⇑P **P** **22 36 48.4 +4.2**
R33M Jennings River 78.33 30 **P** **22 36 44.3 -0.2**
R33M Jennings River 78.33 30 P **P** **22 36 43.9 -0.6**
baz=297
TGTN Hyland Airport 78.52 27 P **P** **22 36 44.5 -0.9**
baz=298
NC405 NORSAR Array S 78.61 332 P **P** **22 36 45.0 -0.9**
MARR Marisel-Cluj 78.68 316 ⇑P **P** **22 36 47.5 +0.9**
LOT Lotru 78.72 315 ⇑P **P** **22 36 47.2 +0.3**
U33K Whale Pass 78.74 33 P **P** **22 36 45.6 -0.9**
baz=296
STHS Stebnicka Huta 78.78 319 *e*P **P** **22 36 47.0 0.0**
STHS Stebnicka Huta 78.78 319 *e*P **P** **22 36 47.0 0.0**
NB201 NORSAR Array S 78.82 332 P **P** **22 36 46.9 -0.2**
NB2 NORSAR Subarra 78.86 332 P **P** **22 36 47.1 -0.2**
comp=Z,1.9nm,0.8s,baz=61,slow=5.3
NOA NORSAR Array B 78.86 332 P **P** **22 36 47.3 +0.1**
comp=Z,0.9nm,0.6s,baz=62,slow=5.2,SNR=7.6
NOA LR LR 23 15 42.8
comp=Z,117nm,18.3s,baz=60,slow=39
comp=Z,0.9nm,0.6s
DRGR 78.89 316 ⇓P **P** **22 36 51.1 +3.3**
DRGR 78.89 316 ⇓P **P** **22 36 51.1 +3.3**
S34M Telegraph Cree 78.92 31 **P** **22 36 47.1 -0.5**
S34M Telegraph Cree 78.92 31 P **P** **22 36 46.7 -0.9**
baz=297
CRAG Craig 79.02 34 P **P** **22 36 47.4 -0.7**
baz=296
RES Resolute Bay 79.11 9 P **P** **22 36 48.6 +0.3**
RES IAmb IAmb 22 37 03.4
comp=Z,12nm,0.9s
RES Resolute Bay 79.11 9 LR LR 23 16 21.1
comp=Z,79nm,18.4s,baz=335,slow=39
RES Resolute Bay 79.11 9 P **P** **22 36 48.6 +0.3**
RES pmax pmax
comp=Z,12nm,0.9s
RDO Rodhopi 79.14 310 P **P** **22 36 49.4 +0.3**
DLBC Dease Lake 79.20 31 P **P** **22 36 48.4 -0.9**
baz=298
OJC Ojcow 79.32 320 *e*P **P** **22 36 50.8 +0.8**
OJC Ojcow 79.32 320 P **P** **22 36 48.8 -1.1**
OJC Ojcow 79.32 320 P **P** **22 36 48.8 -1.1**
NIE Niedzica 79.34 319 *e*P **P** **22 36 50.1 -0.1**
NIE Niedzica 79.34 319 P **P** **22 36 51.1 +1.0**
comp=Z,2.2nm,1.6s
JMIC Jan Mayen 79.43 345 LR LR 23 15 08.8
comp=Z,60nm,18.1s,baz=36,slow=38
PSZ Piszkesteto 80.20 318 P **P** **22 36 54.9 0.0**
PSZ Piszkesteto 80.20 318 ⇓P **P** **22 36 59.6 +4.8**
PSZ Piszkesteto 80.20 318 P **P** **22 36 54.9 0.0**
PSZ pmax pmax
comp=Z,11nm,1.3s
VYHS Vyhne 80.61 319 *e*P **P** **22 36 58.0 +1.0**
VYHS *e* 22 37 05.8
VYHS Vyhne 80.61 319 *e*P **P** **22 36 58.0 +1.0**
VYHS *e* 22 37 05.8
BKZ Black Stump Fm 80.86 140 P **P** **22 36 57.1 -1.2**
LBZ Lake Benmore 80.98 147 P **P** **22 36 57.9 -0.9**
KSP Ksiaz 81.07 322 *e*P **P** **22 37 00.9 +1.6**
KSP Ksiaz 81.07 322 P **P** **22 37 00.6 +1.2**
comp=Z,6.6nm,1.5s
TOAD Toad River Com 81.18 29 P **P** **22 36 59.3 -0.5**
baz=301
VRAC Vranov 81.58 320 LR LR 23 15 17.6
comp=Z,76nm,19.8s,baz=64,slow=37
FNA Florina 82.18 311 P **P** **22 37 05.1 -0.4**
FNA Florina 82.18 311 P **P** **22 37 05.1 -0.4**
FNA pmax pmax
comp=Z,1.0nm,0.9s
CONA Conrad Observa 82.64 319 *e*P **P** **22 37 08.0 +0.2**
comp=Z,7.3nm,1.5s
CLL Collm 82.70 323 P **P** **22 37 07.8 -0.1**
CLL Collm 82.70 323 *i* P **P** **22 37 08.3 +0.4**
CLL *i* 22 37 15.2
CLL pmax pmax
comp=Z,14nm,1.8s
CLL Collm 82.70 323 P **P** **22 37 07.9 -0.1**
comp=Z,4.7nm,1.1s
CLL Collm 82.70 323 *i* P **P** **22 37 08.3 +0.4**
comp=Z,14nm,1.8s
CLL *i* x x 22 37 15.2
comp=Z,6.0nm,1.0s
CLL *e*PP **PP** **22 40 17.0 -0.2**
ARSA Arzberg 83.16 319 *i* pP **P** **22 37 11.0 +0.6**
comp=Z,5.4nm,1.2s
BBB Bella Bella 83.18 36 P **P** **22 37 07.9 -2.5**
YKAW3 Yellowknife Wh 83.25 23 P **P** **22 37 10.4 -0.2**
YKAW3 IAmb IAmb 22 37 13.2
comp=Z,8.1nm,1.1s
YKA Yellowknife Ar 83.30 23 P **P** **22 37 10.1 -0.7**
YKA Yellowknife Ar 83.30 23 P **P** **22 37 11.3 +0.5**
comp=Z,3.6nm,1.0s,baz=317,slow=5.6,SNR=6.6
comp=Z,3.6nm,1.0s
YKA Yellowknife Ar 83.30 23 *i* P **P** **22 37 12.3 +1.5**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKAW1 Yellowknife Wh 83.35 23 P **P** **22 37 10.6 -0.5**
YKAW1 IAmb IAmb 22 37 12.6
comp=Z,6.9nm,1.0s
GERES GERESS Array B 83.48 321 P **P** **22 37 12.1 -0.1**
GERES GERESS Array B 83.48 321 P **P** **22 37 12.8 +0.6**
comp=Z,1.1nm,0.7s,baz=64,slow=6.1,SNR=8.0
GERES LR LR 23 16 35.2
comp=Z,70nm,18.9s,baz=30,slow=37
comp=Z,1.1nm,0.7s
GERES GERESS Array B 83.48 321 P **P** **22 37 12.1 -0.1**
MOA Molln 83.63 320 *e*pP **P** **22 37 14.4 +1.5**
comp=Z,5.5nm,1.1s
SOKA Soboth 83.72 318 *e*P **P** **22 37 13.1 -0.3**
comp=Z,3.7nm,0.9s
KBA Koelnbreinsper 84.55 319 *e*pP **P** **22 37 19.0 +1.2**
comp=Z,7.4nm,1.4s
WTTA Wattenberg 85.47 320 *i* P **P** **22 37 21.1 -1.2**
comp=Z,9.2nm,1.4s
ILON Igloolik, Nuna 85.70 8 P **P** **22 37 22.1 -0.7**
MOTA Moosalm 85.74 320 *e*P **P** **22 37 23.4 -0.3**
comp=Z,8.0nm,1.9s
DAVOX Davos/Dischmat 86.75 320 LR LR 23 19 53.7
comp=Z,87nm,18.2s,baz=72,slow=38
MEM Membach 86.83 325 *d*P **P** **22 37 28.0 -0.8**
CEL Celeste 87.09 311 P **P** **22 37 31.7 +1.3**
comp=Z,15nm,1.2s
TUE Stuetta 87.22 320 P **P** **22 37 30.8 -0.3**
comp=Z,13nm,0.8s
WLF Walferdange 87.29 324 *d*P **P** **22 37 31.3 +0.3**
comp=Z,5.9nm,1.2s
BORG Borgarnes 87.32 345 LR LR 23 19 21.1
comp=Z,70nm,19.8s,baz=27,slow=38
EKA Eskdalemuir Ar 88.35 332 P **P** **22 37 36.2 +0.2**
comp=Z,0.3nm,0.6s,baz=24,slow=6.4,SNR=1.4
comp=Z,0.3nm,0.6s
SFJD Kangerlussuaq 89.43 357 LR LR 23 20 08.1
comp=Z,40nm,18.4s,baz=354,slow=37
LON Longmire 89.57 38 P **P** **22 37 42.4 +0.4**
LON IAmb IAmb 22 37 54.9
comp=Z,13nm,1.2s
LON Longmire 89.57 38 P **P** **22 37 42.4 +0.4**
LON pmax pmax
comp=Z,13nm,1.2s
LTY Liberty 89.91 37 P **P** **22 37 43.9 +0.3**
LTY IAmb IAmb 22 37 48.7
comp=Z,9.3nm,1.1s
B08A Colville Reser 89.99 36 **P** **22 37 43.5 -0.4**
B08A IAmb IAmb 22 37 49.7
comp=Z,12nm,1.1s
G04A Mulino 90.06 39 P **P** **22 37 44.2 -0.1**
KEBM Edson Butte 90.25 42 P **P** **22 37 45.3 +0.1**
HOOD Mount Hood Mea 90.48 39 P **P** **22 37 46.5 +0.2**
MXC Moxie City 90.52 37 P **P** **22 37 46.4 0.0**
MXC IAmb IAmb 22 37 53.2
comp=Z,11nm,1.0s
E07A Sunnyside 90.77 37 P **P** **22 37 47.9 +0.3**
E07A IAmb IAmb 22 37 54.5
comp=Z,8.1nm,1.0s
WAH2 Wahluke Slope 90.82 37 P **P** **22 37 48.4 +0.7**
WAH2 IAmb IAmb 22 37 54.3
comp=Z,8.8nm,0.9s
HAWA Hanford 91.05 37 P **P** **22 37 49.2 +0.4**
HAWA IAmb IAmb 22 37 54.6
comp=Z,5.7nm,1.0s
KSXB Camp Six Broad 91.10 43 P **P** **22 37 48.8 -0.5**
KSXB IAmb IAmb 22 38 02.6
comp=Z,12nm,1.3s
F07A Phinny Hill Vi 91.13 38 P **P** **22 37 48.1 -1.1**
L02F Cave Junction 91.13 42 P **P** **22 37 50.0 +0.7**
L02F IAmb IAmb 22 37 55.4
comp=Z,7.8nm,1.1s
I05D Terrebonne, OR 91.22 40 P **P** **22 37 49.6 -0.2**
KRPM Rodgers 91.38 43 P **P** **22 37 49.8 -0.7**
KRPM IAmb IAmb 22 38 12.5
comp=Z,7.1nm,0.9s
J04A Umpqua Nationa 91.40 41 P **P** **22 37 50.4 -0.4**
PINE Pine Mountain 91.78 40 **P** **22 37 51.7 -0.8**
PINE IAmb IAmb 22 37 56.4
comp=Z,17nm,1.3s
L04D Klamath Falls 91.86 42 **P** **22 37 51.6 -1.2**
YBH Yreka Blue Hor 91.88 42 **P** **22 37 53.5 +0.6**
YBH IAmb IAmb 22 37 59.0
comp=Z,5.5nm,1.1s
YBH Yreka Blue Hor 91.88 42 P **P** **22 37 53.5 +0.6**
YBH pmax pmax
comp=Z,6.0nm,1.1s
J05D Fort Rock, OR 91.89 41 P **P** **22 37 51.8 -1.2**
J05D IAmb IAmb 22 38 03.3
comp=Z,8.6nm,1.1s
K04D Chiloquin, OR 91.96 41 P **P** **22 37 53.1 -0.2**
G08A Pilot Rock 92.03 38 P **P** **22 37 53.2 -0.4**
K05A Summer Lake 92.42 41 **P** **22 37 54.5 -1.0**
FRB Frobisher Bay 92.52 4 LR LR 23 24 29.8
comp=Z,42nm,18.3s,baz=84,slow=39
O02D Mt. Diablo Mer 92.71 44 P **P** **22 37 56.0 -0.8**
O02D IAmb IAmb 22 38 02.9
comp=Z,5.8nm,1.1s
KEST Kesra 92.89 311 P **P** **22 37 56.5 -1.2**
KEST IAmb IAmb 22 38 09.3
comp=Z,9.5nm,1.4s
HATC Hat Creek Radi 93.18 43 **P** **22 37 59.6 +0.7**
BMO Blue Mountains 93.23 38 **P** **22 38 00.3 +1.2**
BMO Blue Mountains 93.23 38 P **P** **22 38 00.3 +1.2**
BMO pmax pmax
comp=Z,4.0nm,1.2s
J08A Circle Bar Ran 93.48 39 **P** **22 38 01.0 +0.7**
J08A IAmb IAmb 22 38 06.9
comp=Z,9.3nm,1.2s
BEKR Beckworth 94.41 43 **P** **22 38 03.8 -0.9**
PAHR Pah Rah Range 95.11 43 P **P** **22 38 07.4 -0.5**
PAHR IAmb IAmb 22 38 13.3
comp=Z,6.5nm,1.1s
LRM Limekiln Ridge 95.23 35 P **P** **22 38 08.2 -0.3**
CMB Columbia Colle 95.46 44 P **P** **22 38 07.9 -1.5**
CMB IAmb IAmb 22 38 14.6
comp=Z,5.8nm,1.2s
CMB Columbia Colle 95.46 44 P **P** **22 38 07.9 -1.5**
CMB pmax pmax
comp=Z,6.0nm,1.2s
HLID Hailey 95.66 37 P **P** **22 38 09.4 -1.0**
PPT2 Papeete2 95.85 107 *e*LR LR 23 09 08.4
comp=Z,76nm,22.8s
NVAR Mina Array Bea 96.55 43 P **P** **22 38 13.4 -1.2**
comp=Z,0.5nm,0.7s,baz=303,slow=5.0,SNR=4.2
comp=Z,0.5nm,0.7s
TBI Tubuai 98.14 112 *e*LR LR 23 10 12.2
comp=Z,724nm,25.8s
ESDC Sonseca Array 99.08 321 LR LR 23 25 43.7
comp=Z,38nm,18.1s,baz=46,slow=37

FUNV ***02*** *23:04:41.6, 7.75N×72.27W, h1km, MW3.2*
RSNC ***02*** *23:04:43.7±0.0, 8.N±2.×7.2W±., h4km±5km, M2.2, ML2.0*
ISC 02 23:04:40.3±1.0, 7.73N±0.03×72.29W±0.03, h8km±8km, n14,
σ1§08/27, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CAPV	**Capacho**	**0.14**	**348**	*e*P	**Pg**	**23 04 43.4**		**-0.1**
CAPV				*e*S	**Sg**	**23 04 46.4**		**+0.8**
PAMC	**Pamplona, Colo**	**0.56**	**227**	P	**Pg**	**23 04 50.7**		**-0.5**
PAMC				S	**Sg**	**23 04 58.3**		**-0.4**
OCAC	**Ocana**	**1.15**	**297**	P	**Pb**	**23 05 01.4**		**-1.0**
OCAC				S	**Sb**	**23 05 17.2**		**-0.3**
BARC	**Barichara**	**1.44**	**218**	P	**Pb**	**23 05 07.4**		**0.0**
BARC				S	**Sg**	**23 05 27.3**		**+0.8**
SOCV	**Socops**	**1.52**	**68**	*e*P	**Pg**	**23 05 09.3**		**-0.1**
SOCV				*e*S	**Sg**	**23 05 29.4**		**+0.2**
BRJC	**Barrancabermej**	**1.63**	**243**	P	**Pn**	**23 05 09.2**		**-0.1**
BRJC				S	**Sn**	**23 05 29.8**		**-0.7**
RUSC	**La Rusia**	**1.99**	**204**	P	**Pb**	**23 05 16.6**		**-0.4**
RUSC				S	**Sb**	**23 05 41.5**		**-0.6**
SDV	**Santo Domingo**	**2.00**	**55**	P	**Pg**	**23 05 19.5**		**+0.8**
SDV				S	**Sg**	**23 05 44.1**		**-0.5**
MCQV	**Machiques**	**2.32**	**354**	*e*P	**Pn**	**23 05 19.5**		**+0.6**
MCQV				*e*S	**Sn**	**23 05 48.5**		**+0.8**
PTBC	**PUERTO BERRIO,**	**2.46**	**241**	P	**Pn**	**23 05 21.2**		**+0.5**
PTBC				S	**Sn**	**23 05 50.7**		**-0.3**
ZARC	**Zaragoza, Cauc**	**2.56**	**265**	P	**Pb**	**23 05 24.5**		**-2.0**
ZARC				S	**Sn**	**23 05 54.7**		**+1.1**
GUY2C	**Guyana, Caldas**	**3.94**	**231**	P	**Pn**	**23 05 44.3**		**+2.7**
GUY2C				S	**Sn**	**23 06 29.9**		**+1.6**
BAUV	**El Baul**	**4.37**	**74**	*e*P	**Pn**	**23 05 47.7**		**+0.7**
BAUV				*e*S	**Sn**	**23 06 36.1**		**-2.1**
BENV	**Beln**	**5.14**	**64**	*e*P	**Pn**	**23 05 58.2**		**+0.5**

IDC ***02*** *23:19:04.7±69.0, 33.69N×45.11E, h0km, mb3.5/3, mbtmp3.5/3, MS3.5/2, Error ellipse: s-maj=1398.0km s-min=41.9km az=18.0*

*ISN **02** 23:19:13.5±0.7,34.°60N×45.°79E, h9km±26km, ML3.5*
*TEH **02** 23:19:14.5,34.°61N×45.°83E, h8km±27km*
ISC 02 23:19:14.8±1.1,34.°61N±0.°03×45.°78E±0.°03, h11km±8km, n37,σ1°64/41, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.18	237	Pg	Pg	23 19 19.4	+0.6
GLG1	Gilan-e-Gharb	0.50	167	Pg	Pg	23 19 24.6	-0.1
GLG1				Sg	Sb	23 19 32.4	-0.7
IDHR	Dehrash	0.51	79	Pg	Pg	23 19 24.5	-0.3
IDHR				Sg	Sg	23 19 30.6	-1.0
IGHG	Ghaleghazi	0.71	113	Pg	Pg	23 19 28.3	-0.3
ILBA	Ilam Banvizeh	1.04	160	Pg	Pg	23 19 34.1	-0.7
KCHF	Cheshme Sefid,	1.10	107	Pg	Pg	23 19 35.7	-0.2
IKRK	Kirkuk	1.42	304	*e*Pg	Pn	23 19 41.0	+0.4
IKRK				*e*Sg	Sg	23 20 01.0	+0.5
IKRK	comp=N,2μm,0.6s			AML	AML	23 20 04.7	
IKRK	comp=E,2μm,0.4s			AML	AML	23 20 04.9	
IBDR	Badra	1.50	175	*e*Pn	Pn	23 19 42.0	+0.4
IBDR				*e*Sn	Sn	23 20 03.0	+1.9
IBDR	comp=E,473nm,0.9s			AML	AML	23 20 07.6	
IBDR	comp=N,295nm,1.8s			AML	AML	23 20 10.2	
SNQR	Sonqor, Kerman	1.54	80	Pg	Pn	23 19 42.9	+0.4
IBZA	Bozab	1.73	94	Pg	Pb	23 19 46.8	+0.1
BHD	Baghdad	1.77	221	*e*Pn	Pn	23 19 46.0	+0.7
BHD				*e*Sn	Sn	23 20 10.0	+2.2
IDOB	Doab	2.15	112	Pn	Pn	23 19 52.1	+1.3
MAHB	Mahabad	2.16	358	Pn	Pn	23 19 52.8	+2.0
BDRS	Dareh Seyedi	2.65	103	Pn	Pn	23 19 59.2	+1.5
HGHA	Hamedan- Ghaye	2.68	70	Pn	Pn	23 19 59.9	+1.9
HAGD	Aghdareh	2.78	85	Pn	Pn	23 20 01.1	+1.6
RAFI	Al-Rafai	2.89	174	*e*Pn	Pn	23 20 02.0	+1.3
RAFI				*e*Sn	Sn	23 20 37.0	+1.5
IHSH	Hashtrud	2.95	24	Pn	Pn	23 20 03.7	+1.8
IAZR	Azarshahr	3.07	3	Pn	Pn	23 20 05.3	+1.8
QABG	Abgarm-Qazvin	3.31	69	Pn	Pn	23 20 08.9	+2.2
ITBZ	Tabriz	3.63	5	Pn	Pn	23 20 12.5	+1.4
IHRS	Heris	3.84	15	Pn	Pn	23 20 16.2	+2.1
IQOM	Qom	4.37	85	Pn	Pn	23 20 21.9	+0.6
GRMI	Germi	4.53	21	Pn	Pn	23 20 25.1	+1.8
JHBN	Jahan bin	4.72	119	Pn	Pn	23 20 28.5	+2.2
QAMS	Qamsar	4.74	99	Pn	Pn	23 20 28.6	+2.2
MAKU	Maku	4.82	350	Pn	Pn	23 20 29.7	+2.2
ZNGN	Zangian	4.92	119	Pn	Pn	23 20 30.7	+1.8
IKLH	Kolahrood	4.99	103	Pn	Pn	23 20 32.0	+2.1
IZEF	Zefreh	5.72	106	Pn	Pn	23 20 41.7	+1.8
IFIR	Firoozkooh	5.81	78	Pn	Pn	23 20 42.4	+1.3
KLNJ	Kolanjah	6.07	125	Pn	Pn	23 20 46.5	+1.7
AKASG	Malin Array Be	20.10	328	P	P	23 23 44.5	-3.8
	comp=N,0.2nm,0.3s,baz=140,slow=10.0,SNR=5.5						
	comp=N,0.2nm,0.3s						
FINES	FINESS Array B	29.66	341	P	P	23 25 18.5	-1.6
	comp=N,1.6nm,0.9s,baz=156,slow=7.3,SNR=4.2						
	comp=N,1.6nm,0.9s						
MKAR	Makanchi Array	29.97	55	P	P	23 25 23.3	+0.2
	comp=N,0.5nm,0.7s,baz=254,slow=9.6,SNR=5.2						
	comp=N,0.5nm,0.7s						
SONM	Songino Array	46.34	54	LR	LR	23 48 36.4	
	comp=N,76nm,21.1s,baz=61,slow=37						
YAK	Yakutsk	57.33	34	LR	LR	23 59 29.6	
	comp=N,25nm,18.2s,baz=179,slow=42						

*IDC **02** 23:31:34.5±1.1,34.°68N×25.°90E, h0km, mb3.6/6, mbtmp3.5/12, ML3.0/7, MS2.6/3, Error ellipse: s-maj=22.6km s-min=13.1km az=13.0*
*ISK **02** 23:31:38.3,34.°59N×25.°88E, h28km, ML3.2/10*
*THE **02** 23:31:42.4,35.°N±4.°×2.°6E±.°, h19km±4km, M3.1/10, MLh3.1/10*
*GII **02** 23:31:43.7±0.0,34.°41N×26.°41E, h10km, Mws3.6, confirmed*
ISC 02 23:31:38.6±1.2,34.°65N±0.°05×25.°93E±0.°03, h30km±10km, n83,σ1°60/92, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.52	27	Pg	Pn	23 31 50.8	+0.9
ZKR				Sg	Sn	23 32 00.5	+2.7
ZKR	Zakros	0.52	27	P	Pn	23 31 50.6	+0.7
NPS	Neapolis	0.66	337	P	Pb	23 31 50.9	-0.8
NPS				S	Sb	23 31 58.6	-2.0
IACM	Heraklion	0.96	313	P	Pb	23 31 57.1	+0.4
TMBK	Timbaki Herakl	1.04	294	P	Pb	23 31 58.6	+0.5
TMBK				S	Sn	23 32 12.5	+1.8
IDI	Anoyia	1.06	307	Pg	Pn	23 31 57.9	+0.4
IDI				Sg	Sn	23 32 11.9	+0.6
IDI	Anoyia	1.06	307	P	Pn	23 31 58.2	+0.7
IDI				S	Sb	23 32 11.5	-0.6
IDI	Anoyia	1.06	307	Pn	Pn	23 31 57.4	-0.1
	28nm,0.3s,baz=154,slow=7.2,SNR=254						
IDI				Sn	Sn	23 32 12.6	+1.2
	59nm,0.3s,baz=235,slow=19,SNR=12						
KARP	Karpathos	1.35	48	Pn	Pb	23 32 02.9	-0.3
KARP				Sn	Sb	23 32 20.8	+0.7
KARP	Karpathos	1.35	48	P	Pb	23 32 05.5	+2.3
PRNS	Prines Rethymn	1.37	302	P	Pb	23 32 03.6	0.0
PRNS				S	Sb	23 32 20.9	+0.2
GVD	Gavdhos	1.53	277	Pn	Pn	23 32 04.2	+0.4
GVD	Gavdhos	1.53	277	P	Pb	23 32 07.1	+0.8
GVD				S	Sb	23 32 25.9	+0.7
THERA	Ancient Thera,	1.75	348	P	Pn	23 32 07.6	+0.8
THR6	Thira Island,	1.75	346	P	Pb	23 32 08.9	-1.3
CHAN	Chania	1.77	300	P	Pb	23 32 09.5	-1.0
SNT5	Nea Kammeni, S	1.80	346	P	Pn	23 32 08.1	+0.5
THR3	Thira Island,	1.81	346	P	Pn	23 32 08.4	+0.8
KNDR	Palaiochora Ch	1.93	288	Pn	Pn	23 32 10.6	+1.2
KNDR	Palaiochora Ch	1.93	288	P	Pb	23 32 13.2	0.0
ARG	Arkhangelos	2.38	48	Pn	Pn	23 32 17.8	+2.3
MHLO	Agia Marina, M	2.38	329	P	Pn	23 32 16.6	+1.0
DAT	Datca	2.47	32	Pn	Pn	23 32 18.6	+1.7
TURN	Turunc	2.83	41	Pn	Pn	23 32 24.1	+2.3
KTHA	Kythira Island	2.84	305	Pn	Pn	23 32 22.2	+0.4
CAME	Cameli-Denizli	3.57	49	Pn	Pn	23 32 34.6	+2.6
AYDB	Zeytinkoy-Aydi	3.65	25	Pn	Pn	23 32 35.1	+2.0
CSS	Mathiatis	6.10	85	P	Pn	23 33 08.8	+2.2
CSS	Mathiatis	6.10	85	S	Sn	23 34 15.0	-0.4
BRTR	Keskin Array B	7.96	48	Pn	Pn	23 33 31.9	-0.5
	baz=234,slow=14,SNR=1.7						
SLTI	Sal'it	7.98	105	P	Pn	23 33 34.0	+1.4
SLTI	Sal'it	7.98	105	S	Sn	23 34 59.7	-2.2
MMC7	Mount Meron ar	8.04	99	P	Pn	23 33 35.2	+1.8
KZIT	Kziot	8.05	115	P	Pn	23 33 34.4	+1.0
KZIT	Kziot	8.05	115	S	Sn	23 35 00.8	-2.6
MMA0B	Mount Meron ar	8.05	99	P	Pn	23 33 35.2	+1.7
MMA0B	Mount Meron ar	8.05	99	S	Sn	23 35 01.9	-1.6
MMAI	Mount Meron Ar	8.05	99	Pn	Pn	23 33 33.5	0.0
	1.0nm,0.3s,baz=277,slow=12,SNR=7.7						
MMAI				Sn	Sn	23 35 05.0	+1.4
	0.9nm,0.3s,baz=310,slow=24,SNR=2.2						
	0.2nm,0.3s						
AMAZ	Amatzia	8.15	110	P	Pn	23 33 36.2	+1.2
AMAZ	Amatzia	8.15	110	S	Sn	23 35 03.5	-2.6
GEM	Giv'at Ha'Em	8.22	97	P	Pn	23 33 37.4	+1.7
GEM	Giv'at Ha'Em	8.22	97	S	Sn	23 35 05.9	-1.6
MMLI	Mount Malkishu	8.22	103	P	Pn	23 33 37.3	+1.4
MMLI	Mount Malkishu	8.22	103	S	Sn	23 35 05.7	-2.2
NATI	Neve Ativ	8.27	97	P	Pn	23 33 38.0	+1.6
NATI	Neve Ativ	8.27	97	S	Sn	23 35 07.2	-1.5
HMDT	Nahal Hemdat	8.37	104	P	Pn	23 33 39.4	+1.5
HMDT	Nahal Hemdat	8.37	104	S	Sn	23 35 09.3	-1.9
YTIR	Yattir	8.38	110	P	Pn	23 33 39.2	+1.1
YTIR	Yattir	8.38	110	S	Sn	23 35 09.3	-2.4
DSI	Dead Sea	8.50	109	P	Pn	23 33 40.6	+1.0
DSI	Dead Sea	8.50	109	S	Sn	23 35 11.9	-2.6
MSBI	Mazada	8.59	110	P	Pn	23 33 42.2	+1.4
MSBI	Mazada	8.59	110	S	Sn	23 35 13.9	-2.8
KRMI	Paran Flat	8.70	119	P	Pn	23 33 43.5	+1.1
KRMI	Paran Flat	8.70	119	S	Sn	23 35 17.0	-2.5
GHAJ	Ghor Haditha	8.76	110	P	Pn	23 33 44.3	+1.2
GHAJ	Ghor Haditha	8.76	110	S	Sn	23 35 18.2	-2.6
PRNI	Paran	8.78	117	P	Pn	23 33 44.7	+1.2
PRNI	Paran	8.78	117	S	Sn	23 35 19.2	-2.2
ZFRI	Zfri	8.81	115	P	Pn	23 33 45.1	+1.3
ZFRI	Zfri	8.81	115	S	Sn	23 35 19.2	-2.8
HRFI	Mount Harif	8.97	118	P	Pn	23 33 47.5	+1.3
HRFI	Mount Harif	8.97	118	S	Sn	23 35 23.7	-2.5
MBRI	Mt Berech	9.02	120	P	Pn	23 33 47.9	+1.1
MBRI	Mt Berech	9.02	120	S	Sn	23 35 25.3	-2.1
EIL	Elat	9.12	121	Pn	Pn	23 33 49.0	+0.9
	0.3nm,0.3s,baz=304,slow=3.6,SNR=11						
EIL				Sn	Sn	23 35 30.1	+0.4
	0.5nm,0.3s,baz=359,slow=17,SNR=4.5						
	0.7nm,0.3s						
EIL	Elat	9.12	121	P	Pn	23 33 49.1	+1.0
EIL	Elat	9.12	121	S	Sn	23 35 26.9	-2.8
ASF	Jabal al Asfar	9.49	102	Sn	Sn	23 35 42.6	+3.5
	0.2nm,0.3s,baz=266,slow=14,SNR=1.3						
ASF				LR	LR	23 39 05.6	
	comp=Z,28nm,19.8s,baz=298,slow=47						
VAE	Valguarnera	9.74	290	Pn	Pn	23 33 56.5	-0.1
	1.1nm,0.3s,baz=165,slow=16,SNR=4.1						
	6.0nm,0.6s						
KBZ	Khabaz	15.95	50	Pn	P	23 35 24.6	+0.6
	0.1nm,0.3s,baz=210,slow=5.5,SNR=5.4						
	2.2nm,0.7s						
AKASG	Malin Array Be	16.22	8	Pn	Pn	23 35 21.5	-2.6
	0.3nm,0.3s,baz=200,slow=12,SNR=2.1						
	0.1nm,0.2s						
GERES	GERESS Array B	16.83	331	Pn	Pn	23 35 32.6	+0.6
	baz=143,slow=12,SNR=2.2						
	0.3nm,0.6s						
ESDC	Sonseca Array	24.28	291	P	P	23 36 52.4	-0.9
	0.2nm,0.5s,baz=88,slow=9.3,SNR=2.7						
	0.2nm,0.5s						
FINES	FINESS Array B	26.81	0	P	P	23 37 14.5	-1.3
	1.0nm,0.8s,baz=178,slow=10.0,SNR=4.5						
	1.0nm,0.8s						
NOA	NORSAR Array B	28.05	345	LR	LR	23 49 21.1	
	comp=Z,7.7nm,18.8s,baz=105,slow=38						
AKTO	Aktyubinsk	28.14	46	LR	LR	23 51 44.0	
	comp=Z,25nm,18.0s,baz=214,slow=43						
TORD	Torodi Ar. Bea	30.66	232	P	P	23 37 50.4	-0.1
	1μm,0.3s,baz=29,slow=9.0,SNR=4.2						
ARCES	ARCESS Array B	34.94	360	P	P	23 38 26.9	-0.4
	0.5nm,0.6s,baz=182,slow=8.5,SNR=5.8						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	40.95	51	P	P	23 39 18.9	+0.6
	0.3nm,0.4s,baz=270,slow=8.5,SNR=7.1						
	0.3nm,0.4s						
MKAR	Makanchi Array	43.53	56	P	P	23 39 40.5	+1.2
	0.9nm,0.5s,baz=272,slow=7.5,SNR=15						
	0.9nm,0.5s						
ZALV	Zalesovo Beam	44.90	46	P	P	23 39 50.5	+0.3
	0.5nm,0.4s,baz=258,slow=8.1,SNR=2.6						
	0.5nm,0.4s						

*ISN **02** 23:41:45.5±0.7,34.°60N×45.°79E, h9km±26km, ML3.2*
*TEH **02** 23:41:46.0,34.°61N×45.°81E, h8km±22km*
ISC 02 23:41:46.7±1.2,34.°60N±0.°03×45.°79E±0.°03, h3km±12km, n24,σ0°60/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.19	241	Pg	Pg	23 41 50.6	+0.2
GLG1	Gilan-e-Gharb	0.49	169	Pg	Pg	23 41 56.1	0.0
GLG1				Sg	Sg	23 42 04.1	+1.5
IDHR	Dehrash	0.50	78	Pg	Pg	23 41 55.9	-0.4
IDHR				Sg	Sg	23 42 02.8	0.0
IGHG	Ghaleghazi	0.70	113	Pg	Pg	23 41 59.9	-0.1
ILBA	Ilam Banvizeh	1.03	160	Pg	Pg	23 42 05.5	-0.9
KCHF	Cheshme Sefid,	1.08	107	Pg	Pg	23 42 07.2	-0.3
IKRK	Kirkuk	1.44	304	*e*Pg	Pn	23 42 13.0	-0.6
IKRK				*e*Sg	Sg	23 42 33.0	+0.2
IKRK	comp=N,366nm,0.8s			AML	AML	23 42 36.3	
IKRK	comp=E,643nm,0.2s			AML	AML	23 42 36.4	
IBDR	Badra	1.49	176	*e*Pn	Pn	23 42 14.0	-0.3
IBDR				*e*Sn	Sg	23 42 35.0	+0.4
IBDR	comp=E,464nm,0.6s			AML	AML	23 42 39.2	
IBDR	comp=N,208nm,1.2s			AML	AML	23 42 40.8	
SNQR	Sonqor, Kerman	1.53	80	Pg	Pn	23 42 14.8	-0.3
IBZA	Bozab	1.71	94	Pg	Pb	23 42 18.0	-0.9
BHD	Baghdad	1.77	222	*e*Pn	Pn	23 42 18.0	-0.1
BHD				*e*Sn	Sb	23 42 42.0	-0.3
IDOB	Doab	2.14	112	Pn	Pn	23 42 23.7	+0.3
MAHB	Mahabad	2.16	358	Pn	Pn	23 42 24.5	+0.8
HGHA	Hamedan- Ghaye	2.67	70	Pn	Pn	23 42 31.2	+0.5
HAGD	Aghdareh	2.77	84	Pn	Pn	23 42 33.0	+0.9
RAFI	Al-Rafai	2.88	175	*e*Pn	Pn	23 42 34.0	+0.6
RAFI				*e*Sn	Sn	23 43 09.0	+0.4
IHSH	Hashtrud	2.95	23	Pn	Pn	23 42 35.1	+0.4
IAZR	Azarshahr	3.08	3	Pn	Pn	23 42 36.8	+0.5
GRMI	Germi	4.53	21	Pn	Pn	23 42 56.6	+0.5
JHBN	Jahan bin	4.71	119	Pn	Pn	23 42 59.8	+0.9
MAKU	Maku	4.83	350	Pn	Pn	23 43 01.0	+0.6
ZNGN	Zangian	4.91	119	Pn	Pn	23 43 01.7	+0.1
IKLH	Kolahrood	4.97	103	Pn	Pn	23 43 02.8	+0.4
KRSH	Karshahi	5.29	95	Pn	Pn	23 43 07.1	+0.4

*IDC **02** 23:45:14.9±12.0,21.°08S×178.°81W, h573km±145km, mb2.7/4, mbtmp3.6/4, Error ellipse: s-maj=143.0km s-min=52.6km az=157.0*
ISC 02 23:45:18.5±2.2,21.°2S±0.°8×178.°9W±0.°4, h619km, n7, σ0°56/6, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.55	258	P	P	23 52 29.9	+0.1
	0.6nm,0.5s,baz=96,slow=7.7,SNR=10						
	0.6nm,0.5s						
WRA	Warramunga Arr	43.68	263	P	P	23 52 30.6	-0.3
	0.9nm,0.8s,baz=96,slow=8.3,SNR=5.1						
	0.9nm,0.8s						
TXAR	Lajitas Array	88.12	58	P	P	23 57 05.0	-0.2
	0.1nm,0.5s,baz=266,slow=5.0,SNR=4.0						
	0.1nm,0.5s						
ILAR	Eielson Array	89.14	13	P	P	23 57 08.9	0.0
	0.2nm,0.6s,baz=202,slow=3.9,SNR=1.6						
	0.2nm,0.6s						
ARCES	ARCESS Array B	129.41	349	PKP	PKiKP	00 03 19.0	+0.8
	4.7nm,1.2s,baz=25,slow=1.5,SNR=3.7						
HFS	Hagfors	140.05	350	PKhKP	PKPpre	00 03 32.8	
	0.4nm,0.4s,baz=66,slow=1.7,SNR=6.9						
AKASG	Malin Array Be	143.17	330	PKP	PKPdf	00 03 42.8	-0.3
	0.3nm,0.3s,baz=41,slow=3.6,SNR=4.8						

*SNET **02** 23:47:29.4±1.6,13.°11N×89.°54W, h57km, ML3.2*
*CATAC **02** 23:47:30.0±0.7,13.°N±5.°×9.°0W±.°, h27km±3km, M3.2/10, MLv3.2/10, Error ellipse: s-maj=10.1km s-min=4.9km az=19.9, confirmed*
*GCG **02** 23:47:30.7±0.5,13.°17N×89.°57W, h49km±9km, MD3.8, ML3.1*
ISC 02 23:47:28.8±2.1,13.°02N±0.°09×89.°53W±0.°06, h31km±11km, n51,σ0°60/56, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.50	24	*e*P	Pn	23 47 40.3	+0.4
LALI	Alcalda de L	0.50	24	P	Pb	23 47 39.7	+0.3
LALI	Alcalda de L	0.50	24	S	Sn	23 47 47.5	0.0
JAYA	Jayaque - finc	0.63	7	*e*P	Pb	23 47 41.8	+0.2
JAYA				*e*S	Sb	23 47 50.4	+0.1
JAYA	Jayaque - finc	0.63	7	*i*P	Pb	23 47 41.8	+0.2
JAYA	Jayaque - finc	0.63	7	P	Pb	23 47 41.8	+0.2
LOMA	Loma Larga	0.71	29	*e*P	Pb	23 47 42.8	0.0
LOMA				*e*S	Sn	23 47 53.4	+0.7
LOMA	Loma Larga	0.71	29	P	Pb	23 47 42.8	0.0
LOMA	Loma Larga	0.71	29	S	Sn	23 47 52.6	-0.2
PMON	Piamonte	0.72	17	*e*P	Pb	23 47 42.9	-0.1
PMON	Piamonte	0.72	17	P	Pb	23 47 43.0	+0.1
BOQS	Boqueron	0.75	19	*e*P	Pb	23 47 43.5	-0.1
LFRS	El Faro	0.75	37	*e*P	Pb	23 47 43.4	-0.1
PIC2	El Picacho	0.76	20	*e*P	Pn	23 47 44.0	+0.3
CEDA	San Andres	0.79	10	*e*S	Sn	23 47 54.7	+0.2
CEVE	Cerro Verde	0.81	353	*e*P	Pb	23 47 44.5	0.0
CEVE				*e*S	Sn	23 47 56.5	+1.3
CEVE	Cerro Verde	0.81	353	S	Sn	23 47 55.6	+0.3
CEVE	Cerro Verde	0.81	353	P	Pb	23 47 44.6	0.0
LFU	La Fuente	0.83	29	*e*P	Pn	23 47 44.8	+0.4
LBRS	Las Brisas	0.85	34	*e*P	Pn	23 47 45.0	+0.2
RTR	El Retiro	0.88	353	*e*P	Pn	23 47 45.4	+0.2
TECO	Alcaldia de Te	0.89	55	*e*P	Pn	23 47 44.9	-0.3
SNVI	San Vicente	0.89	49	*e*P	Pn	23 47 45.4	+0.1
PAVA	Las Pavas	0.90	40	*e*P	Pb	23 47 45.8	-0.2
PAVA	Las Pavas	0.90	40	S	Sn	23 47 57.7	+0.4
PAVA	Las Pavas	0.90	40	P	Pb	23 47 45.8	-0.2
NUBE	Las Nubes	0.91	344	*e*P	Pn	23 47 45.4	-0.2
NUBE	Las Nubes	0.91	344	*i*P	Pn	23 47 45.4	-0.2
NUBE				*i*S	Sb	23 47 57.1	-0.9
NUBE	Las Nubes	0.91	344	P	Pn	23 47 45.6	0.0
FAME	Alcaldia de Sa	0.94	330	P	Pn	23 47 46.0	+0.1
UESV	Universidad de	0.94	50	S	Sn	23 47 58.1	-0.4
UESV	Universidad de	0.94	50	P	Pn	23 47 46.1	+0.1
ALJI	Alcalda de J	0.98	72	*e*S	Sb	23 48 02.3	+2.3
SLOZ	Alcaldia de Sa	1.03	346	*e*P	Pn	23 47 47.4	+0.3
SCLA	Alcaldia de Sa	1.03	49	*e*P	Pn	23 47 47.6	+0.4
TECA	Tecapa	1.10	65	*e*P	Pb	23 47 49.2	-0.3
PACA	Pacayal	1.25	69	*e*P	Pb	23 47 51.8	-0.2
PACA	Pacayal	1.25	69	P	Pb	23 47 51.6	-0.4
PACA	Pacayal	1.25	69	S	Sb	23 48 07.1	-0.7
LCY	Lacayo	1.27	72	*e*P	Pb	23 47 51.4	-0.8
LLGN	La Laguna	1.27	27	*e*P	Pn	23 47 50.5	0.0
LLGN				*e*S	Sb	23 48 07.2	-1.0
BLLM	Bellamira	1.32	72	*e*P	Pn	23 47 52.0	+0.8
MTO3	Montecristo	1.38	7	*e*P	Pn	23 47 52.1	0.0
MTO3	Montecristo	1.38	7	*i*P	Pn	23 47 52.1	0.0
MTO3	Montecristo	1.38	7	S	Sn	23 48 08.6	-0.7
MTO3	Montecristo	1.38	7	P	Pn	23 47 52.2	+0.1
LCND	La Caada	1.62	80	*e*P	Pn	23 47 56.3	+1.1
LCND	La Caada	1.62	80	P	Pn	23 47 56.4	+1.1
LCND	La Caada	1.62	80	S	Sb	23 48 17.4	-0.9
CNCH	Conchagua	1.67	81	*e*P	Pn	23 47 54.7	-1.4
CNCH				*e*P		23 47 56.2	
SARH	Santa Rosa de	1.90	23	*i*S	Sn	23 48 21.8	-0.1

*AFAD **02** 23:48:38.9,35.°01N×26.°14E, h7km±6km, ML2.7*
*IDC **02** 23:48:40.5±1.1,34.°88N×26.°93E, h0km, mb3.7/6, mbtmp3.5/10, ML3.0/5, Error ellipse: s-maj=23.9km s-min=14.1km az=179.0*
*ISK **02** 23:48:43.0,35.°01N×26.°85E, h5km, ML2.9/15*
ISC 02 23:48:41.8±2.7,34.°89N±0.°06×26.°90E±0.°04, h5km±16km, n39,σ1°83/52, mb3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	1.66	37	Pn	Pn	23 49 13.8	+2.1
ARG				Sn	Sb	23 49 35.7	+1.4
IDI	Anoyia	1.69	284	Pn	Pn	23 49 14.3	+2.1
IDI				Sn	Sb	23 49 36.2	+0.9
IDI	Anoyia	1.69	284	Pn	Pn	23 49 14.0	+1.8
	16nm,0.3s,baz=112,slow=11,SNR=6.6						
IDI				Sn	Sb	23 49 36.2	+0.9
	34nm,0.3s,baz=125,slow=12,SNR=5.8						
DAT	Datca	1.92	17	Pn	Pn	23 49 16.6	+1.2
DAT				Sn	Sb	23 49 41.4	-0.4
TURN	Turunc	2.18	30	Pn	Pn	23 49 20.6	+1.8
TURN				Sn	Sb	23 49 48.4	-0.7
TURN	Turunc	2.18	30	P	Pb	23 49 22.1	+0.3
TURN				S	Sg	23 49 53.0	+1.2
TURN				*i* IAML		23 50 00.0	
	comp=N,77nm,0.7s						
TURN				*i* IAML		23 50 02.0	
	comp=E,64nm,0.4s						
BDRM	Kayabasi	2.22	11	P	Pn	23 49 21.2	+1.8
BDRM				S	Sg	23 49 51.3	-1.8
BDRM				*i* IAML		23 50 02.0	
	comp=E,53nm,0.7s						
MULA	Mugla, Merkez-	2.63	26	P	Pb	23 49 29.0	-0.5
MULA				*i* IAML		23 50 11.0	
	comp=E,29nm,0.5s						
MULA				*i* IAML		23 50 31.0	
	comp=N,16nm,1.0s						
KNDR	Palaiochora Ch	2.66	278	Pn	Pn	23 49 28.6	+3.2
GCAM	G?zelcami?	2.82	5	Pn	Pn	23 49 29.2	+1.6
CAME	Cameli-Denizli	2.83	43	Pn	Pn	23 49 30.4	+2.5
AYDN	Tasoluk	2.88	16	P	Pn	23 49 30.3	+1.8
AYDN				S	Sb	23 50 08.8	-0.5
AYDN				*i* IAML		23 50 09.0	
	comp=E,25nm,0.5s						
AYDN				*i* IAML		23 50 19.0	
	comp=N,34nm,0.7s						
DNZT	Denizli-Tavas-	2.94	35	P	Pn	23 49 31.9	+2.5
DNZT				S	Sb	23 50 14.1	+2.8
DNZT				*i* IAML		23 50 23.0	
	comp=N,24nm,0.6s						
DNZT				*i* IAML		23 50 27.0	
	comp=E,24nm,0.7s						
TAVA	DENIZLI_Tavas	3.05	32	P	Pn	23 49 32.9	+2.1
TAVA				S	Sb	23 50 15.9	+1.7
TAVA				*i* IAML		23 50 25.0	
	comp=E,30nm,0.4s						
TAVA				*i* IAML		23 50 26.0	
	comp=N,38nm,0.6s						
ES

*IDC **03** 23:55:20.2±1.0,20°.71N×122°.05E, h0km, mb3.8/9, mbtmp3.9/11, ML3.8/2, MS3.2/5, Error ellipse: s-maj=29.5km s-min=19.4km az=69.0*
*JMA **02** 23:55:22.5±0.7,21°N±3°×12°2E±°, h0km, MV4.3/12, TAIWAN REGION*
ISC 02 23:55:25.2±1.0,20°.76N±0°.10×122°.2E±0°.1, h35km, n28, σ0s89/20, mb3.6/9, MS3.6/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.61**	**24**	*eP*	**Pn**	**23 56 18.2**	**-0.5**
HATJ				*eS*	**Sn**	**23 56 59.7**	**-0.4**
YOJ	**Yonaguni jima**	**3.77**	**12**	*eP*	**Pn**	**23 56 22.0**	**+1.2**
IRIF	**Iriomote-Fonau**	**3.84**	**22**	*eP*	**Pn**	**23 56 21.4**	**-0.4**
JIJ	**Ishigaki jima**	**4.02**	**26**	*eS*	**Sn**	**23 57 09.8**	**-0.4**
JISG	**Ishigakijimahi**	**4.29**	**27**	*eP*	**Pn**	**23 56 27.2**	**-0.8**
JISG				*eS*	**Sn**	**23 57 17.3**	**+0.4**
JTJ	**Tarama**	**4.51**	**31**	*eP*	**Pn**	**23 56 31.6**	**+0.5**
JTJ				*eS*	**Sn**	**23 57 21.8**	**-0.5**
JOW	**Kunigami**	**8.23**	**42**	Pn	**Pn**	**23 57 21.4**	**-0.7**
	3.0nm,0.3s,baz=149,slow=19,SNR=7.2 9.8nm,0.2s						
JNU	**Nakatsue**	**14.54**	**30**	LR	LR	00 03 23.6	
	comp=Z,40nm,19.4s,baz=180,slow=33						
KSRS	**Korea Array**	**17.37**	**15**	P	**P**	**23 59 25.6**	**-0.3**
	0.3nm,0.3s,baz=196,slow=12,SNR=17 3.3nm,0.8s						
JHJ	**Hachijo jima 2**	**19.91**	**48**	LR	LR	00 06 30.8	
	comp=Z,31nm,21.4s,baz=170,slow=33						
MJAR	**Matsushiro Arr**	**21.05**	**38**	P	**P**	**00 00 08.9**	**+2.7**
	0.9nm,0.3s,baz=221,slow=9.8,SNR=1.3 0.9nm,0.3s						
SONM	**Songino Array**	**29.87**	**338**	P	**P**	**00 01 28.7**	**-0.8**
	0.4nm,0.3s,baz=141,slow=9.3,SNR=1.7 0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.46**	**318**	P	**P**	**00 03 09.0**	**+0.3**
	1.3nm,0.6s,baz=114,slow=9.3,SNR=18 1.3nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.87**	**83**	T	T	00 48 08.4	
	baz=276,slow=74,SNR=61						
H11N2	**WAKE ISLAND Hy**	**41.87**	**83**	T	T	00 48 09.5	
	baz=276,slow=74,SNR=65						
H11N3	**WAKE ISLAND Hy**	**41.88**	**83**	T	T	00 48 10.4	
	baz=276,slow=74,SNR=54						
H11S3	**WAKE ISLAND Hy**	**41.89**	**85**	T	T	00 48 12.0	
	baz=281,slow=74,SNR=218						
H11S1	**WAKE ISLAND Hy**	**41.90**	**85**	T	T	00 48 07.3	
	baz=281,slow=74,SNR=261						
H11S2	**WAKE ISLAND Hy**	**41.91**	**85**	T	T	00 48 13.3	
	baz=281,slow=74,SNR=168						
WRA	**Warramunga Arr**	**42.17**	**163**	P	**P**	**00 03 13.9**	**-0.8**
	0.3nm,0.6s,baz=343,slow=8.9,SNR=1.2 0.3nm,0.6s						
PETK	**Petropavlovsk-**	**42.24**	**31**	LR	LR	00 23 21.2	
	comp=Z,17nm,18.5s,baz=184,slow=40						
ZALV	**Zalesovo Beam**	**43.62**	**329**	P	**P**	**00 03 25.5**	**-0.6**
	1.7nm,0.4s,baz=117,slow=8.0,SNR=11 1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**45.33**	**322**	P	**P**	**00 03 39.8**	**0.0**
	1.7nm,0.6s,baz=117,slow=7.9,SNR=13 1.7nm,0.6s						
ASAR	**Alice Springs**	**45.61**	**165**	P	**P**	**00 03 42.8**	**+0.5**
	0.3nm,0.5s,baz=345,slow=8.2,SNR=4.3 0.3nm,0.5s						
BVAR	**Borovoye Array**	**50.91**	**322**	P	**P**	**00 04 22.8**	**-0.1**
	0.9nm,0.5s,baz=110,slow=7.7,SNR=9.7 0.9nm,0.5s						
ILAR	**Eielson Array**	**71.83**	**27**	P	**P**	**00 06 44.6**	**+0.4**
	0.2nm,0.5s,baz=282,slow=6.3,SNR=1.9 0.2nm,0.5s						
AKASG	**Malin Array Be**	**76.04**	**319**	LR	LR	00 40 14.5	
	comp=Z,75nm,19.1s,baz=129,slow=36						
VRAC	**Vranov**	**84.15**	**321**	LR	LR	00 45 52.9	
	comp=Z,26nm,18.6s,baz=104,slow=36						

*IDC **03** 00:24:01.4±1.9,31°.29S×177°.53W, h0km, mb3.7/2, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=51.0km s-min=23.6km az=106.0*
ISC 03 00:24:05.1±1.8,31°.24S±0°.09×177°.6W±0°.3, h27km, n7, σ1s30/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.00**	**352**	Pn	**Pn**	**00 24 36.8**	**-0.3**
	57nm,0.3s,baz=114,slow=20,SNR=2.0						
RAO				Sn	**Sb**	**00 25 04.1**	**-1.2**
	92nm,0.3s,baz=162,slow=20,SNR=2.5 201nm,0.4s						
URZ	**Urewera**	**8.24**	**210**	Pn	**Pn**	**00 26 00.4**	**-2.4**
	0.1nm,0.3s,baz=326,slow=17,SNR=0.9						
URZ				Sn	**Sn**	**00 27 35.6**	**+0.7**
	0.5nm,0.3s,baz=0.0,slow=19,SNR=1.0 3.9nm,0.7s						
ASAR	**Alice Springs**	**43.41**	**268**	P	**P**	**00 32 06.9**	**+1.3**
	0.5nm,0.8s,baz=104,slow=7.0,SNR=6.2						
ASAR				PcP	**PcP**	**00 33 54.5**	**+0.6**
	0.2nm,0.5s,baz=101,slow=3.5,SNR=1.8 0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.47**	**273**	P	**P**	**00 32 15.2**	**+1.0**
	1.1nm,0.4s,baz=112,slow=7.9,SNR=10 1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**121.91**	**313**	PKP	**PKiKP**	**00 42 57.5**	**+1.0**
	0.2nm,0.8s,baz=101,slow=2.3,SNR=1.8						
FINES	**FINESS Array B**	**146.05**	**340**	PKPbc	**PKPbc**	**00 43 41.9**	**+0.2**
	0.6nm,0.4s,baz=43,slow=4.0,SNR=9.8						
MMAI	**Mount Meron Ar**	**152.05**	**282**	PKPbc	**PKiKP**	**00 43 59.0**	**+0.5**
	0.3nm,0.4s,baz=116,slow=3.4,SNR=4.0						

*NAO **03** 00:25:51.2, 32°.74N×47°.47E, h33km, mb3.5*
*ISN **03** 00:26:04.5±0.5, 34°.62N×46°.28E, h9km±6km, ML4.2*
*DSN **03** 00:26:05.6±0.7, 34°.53N×46°.12E, h10km, mb4.7/1, Error ellipse: s-maj=12.4km s-min=7.3km az=48.0*
*MOS **03** 00:26:05.3±1.6, 34°.53N×46°.17E, h12km, mb4.4/29, Error ellipse: s-maj=7.4km s-min=3.6km az=118.3*
*IDC **03** 00:26:05.6±0.8, 34°.55N×46°.14E, h0km, mb4.1/20, mbtmp4.0/30, ML3.7/9, MS3.3/28, Error ellipse: s-maj=15.4km s-min=10.4km az=165.0*
*GII **03** 00:26:06.2±0.0, 34°.60N×46°.41E, h10km, confirmed*
*NEIC **03** 00:26:06.9±1.5, 34°.59N±0°.06×46°.25E±0°.09, h10km±2km, mb4.2/29, Error ellipse: s-maj=15.0km s-min=6.1km az=233.0*
*TEH **03** 00:26:06.2, 34°.59N×46°.22E, h8km±22km*
ISC 03 00:26:06.4±0.7, 34°.57N±0°.02×46°.27E±0°.02, h11km±4km, n414, σ2s03/437, mb4.3/68, MS3.2/23, 47C-23D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.17**	**36**	Pg	**Pg**	**00 26 09.8**	**-0.4**
IDHR				Sg	**Sg**	**00 26 12.9**	**0.0**
IGHG	**Ghaleghazi**	**0.34**	**133**	Pg	**Pb**	**00 26 14.3**	**-0.4**
GLG1	**Gilan-e-Gharb**	**0.54**	**213**	Pg	**Pg**	**00 26 16.8**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.56**	**264**	Pg	**Pg**	**00 26 16.8**	**-0.6**
KCHF	**Cheshme Sefid,**	**0.70**	**114**	Pg	**Pg**	**00 26 20.5**	**+0.4**
KCHF				Sg	**Sb**	**00 26 32.2**	**+1.7**
ILBA	**Ilam Banvizeh**	**0.94**	**183**	Pg	**Pb**	**00 26 25.0**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.16**	**75**	Pg	**Pn**	**00 26 29.1**	**+0.2**
IBZA	**Bozab**	**1.32**	**94**	Pg	**Pg**	**00 26 32.2**	**+0.4**
IBDR	**Badra**	**1.48**	**191**	*e*Pn	**Pb**	**00 26 34.0**	**+0.1**
IBDR				*e*Sn	**Sg**	**00 26 55.0**	**+1.0**
IBDR				AML	AML	00 27 10.5	
	comp=N,4μm,0.5s						
IBDR				AML	AML	00 27 17.0	
	comp=E,4μm,1.0s						
IDOB	**Doab**	**1.76**	**116**	Pn	**Pb**	**00 26 39.7**	**+0.8**
IKRK	**Kirkuk**	**1.79**	**298**	*e*Pn	**Pn**	**00 26 37.0**	**-0.3**
IKRK				*e*Sn	**Sb**	**00 27 01.0**	**-0.7**
BHD	**Baghdad**	**2.03**	**231**	*e*Pn	**Pn**	**00 26 41.0**	**+0.4**
BHD				*e*Sn	**Sb**	**00 27 08.0**	**-0.7**
MAHB	**Mahabad**	**2.24**	**348**	Pn	**Pb**	**00 26 45.9**	**-1.1**
HGHA	**Hamedan- Ghaye**	**2.31**	**66**	Pn	**Pb**	**00 26 48.3**	**0.0**
HAGD	**Aghdareh**	**2.38**	**83**	Pn	**Pb**	**00 26 48.8**	**-0.7**
IHSH	**Hashtrud**	**2.85**	**16**	Pn	**Pb**	**00 26 54.9**	**-2.6**
QABG	**Abgarm-Qazvin**	**2.94**	**66**	Pn	**Pb**	**00 26 56.4**	**-2.7**
IAZR	**Azarshahr**	**3.12**	**356**	Pn	**Pn**	**00 26 58.0**	**+2.2**
IGZV	**Ghazvin**	**3.70**	**59**	Pn	**Pn**	**00 27 07.6**	**+3.8**
IHRS	**Heris**	**3.80**	**9**	Pn	**Pn**	**00 27 06.8**	**+1.7**
IQOM	**Qom**	**3.96**	**85**	Pn	**Pn**	**00 27 09.8**	**+2.3**
IPIR	**Pirpir**	**4.29**	**115**	Pn	**Pn**	**00 27 14.6**	**+2.6**
QAMS	**Qamsar**	**4.33**	**100**	Pn	**Pn**	**00 27 15.7**	**+3.2**
GAS1	**Astara - Iran**	**4.34**	**28**	Pn	**Pn**	**00 27 15.1**	**+2.8**
JHBN	**Jahan bin**	**4.35**	**121**	Pn	**Pn**	**00 27 16.0**	**+3.2**
GRMI	**Germi**	**4.43**	**17**	Pn	**Pn**	**00 27 16.4**	**+2.6**
IVRN	**Varamin**	**4.51**	**83**	Pn	**Pn**	**00 27 17.6**	**+2.8**
GEVA	**Gevas**	**4.55**	**326**		**Pn**	**00 27 16.5**	**+1.1**
ZNGN	**Zangian**	**4.55**	**121**	Pn	**Pn**	**00 27 18.2**	**+2.7**
IKLH	**Kolahrood**	**4.59**	**104**	Pn	**Pn**	**00 27 19.6**	**+3.6**
IDMV	**Damavand**	**4.83**	**76**	Pn	**Pn**	**00 27 22.7**	**+3.3**
KRSH	**Karshahi**	**4.89**	**95**	Pn	**Pn**	**00 27 23.2**	**+3.0**
MAKU	**Maku**	**4.95**	**346**	Pn	**Pn**	**00 27 23.1**	**+2.3**
IBRJ	**Brojen**	**4.95**	**121**	Pn	**Pn**	**00 27 23.8**	**+2.7**
MARD	**Mardin**	**5.23**	**303**		**Pn**	**00 27 24.9**	**+0.1**
GURO	**Guroymak-BITLI**	**5.24**	**321**		**Pn**	**00 27 25.0**	**+0.1**
IZEF	**Zefreh**	**5.32**	**107**	Pn	**Pn**	**00 27 29.1**	**+3.0**
IFIR	**Firoozkooh**	**5.42**	**77**	Pn	**Pn**	**00 27 31.3**	**+3.8**
KBD	**Kabd**	**5.51**	**167**	P	**Pn**	**00 27 30.8**	**+2.4**
KBD				S	**Sn**	**00 28 33.4**	**+1.6**
GNI	**Garni**	**5.71**	**348**		**Pn**	**00 27 30.9**	**-0.3**
GNI	**Garni**	**5.71**	**348**	Pn	Pn	00 27 36.3	+5.1
	comp=E,0.8nm,0.3s,baz=162,slow=9.6,SNR=3.8						
GNI				Lg	Lg	00 29 08.7	
	comp=E,0.6nm,0.3s,baz=180,slow=20,SNR=6.7						
GNI				LR	LR	00 29 45.0	
	comp=E,113nm,18.9s,baz=170,slow=38 comp=E,9.4nm,0.9s						
GNI	**Garni**	**5.71**	**348**	P	**Pb**	**00 27 46.7**	**+0.6**
KLNJ	**Kolanjah**	**5.72**	**127**	Pn	**Pn**	**00 27 34.4**	**+2.8**
IRAM	**Ramesheh**	**5.81**	**117**	Pn	**Pn**	**00 27 35.7**	**+2.8**
ANAR	**Anarak**	**6.36**	**100**	Pn	**Pn**	**00 27 43.2**	**+3.0**
KOPT	**Kop Dagi**	**7.12**	**321**		**Pn**	**00 27 52.1**	**+1.2**
DSBU	**Dashti - Bushe**	**7.51**	**144**	Pn	**Pn**	**00 27 58.7**	**+2.7**
GAZ	**Gaziantep**	**7.80**	**292**		**Pn**	**00 28 00.7**	**+0.7**
ASF	**Jabal al Asfar**	**8.19**	**256**	Pn	**Pn**	**00 28 05.5**	**+0.1**
	comp=E,1.1nm,0.3s,baz=81,slow=15,SNR=16						
ASF				Lg	Lg	00 30 23.7	
	comp=E,0.7nm,0.3s,baz=137,slow=21,SNR=2.1 comp=E,7.3nm,0.6s						
MAK	**Makhachkala**	**8.44**	**6**	*e*P	**Pn**	**00 28 05.1**	**-3.5**
MAK				*e*S	**Sn**	**00 29 39.7**	**-4.1**
MAK				pmax	pmax		
	comp=Z,359nm,1.2s						
MAK				MLR	MLR		
	comp=Z,405nm,14.0s						
TPRV	**Parvadeh(Tabas**	**8.80**	**97**	Pn	**Pn**	**00 28 16.4**	**+2.6**
KSHT	**Keshet**	**8.85**	**263**	P	**Pn**	**00 28 16.6**	**+2.2**
NATI	**Neve Ativ**	**8.85**	**265**	P	**Pn**	**00 28 16.1**	**+1.8**
GEM	**Giv'at Ha'Em**	**8.92**	**264**	P	**Pn**	**00 28 17.3**	**+2.0**
TKDS	**Koohdasht(Taba**	**9.05**	**93**	Pn	**Pn**	**00 28 20.5**	**+3.3**
NCK	**Nalchik**	**9.15**	**348**	*e*P	**Pn**	**00 28 18.8**	**+0.3**
MMA0B	**Mount Meron ar**	**9.18**	**263**	P	**Pn**	**00 28 20.3**	**+1.5**
MMAI	**Mount Meron Ar**	**9.18**	**263**	Pn	**Pn**	**00 28 19.4**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=75,slow=16,SNR=11						
MMAI				Sn	Sn	00 30 14.5	+12
	comp=Z,0.3nm,0.3s,baz=68,slow=24,SNR=1.4						
MMAI				Lg	Lg	00 30 52.5	
	comp=Z,1.2nm,0.3s,baz=56,slow=31,SNR=5.4						
MMAI				LR	LR	00 32 37.0	
	comp=Z,161nm,19.8s,baz=70,slow=43 comp=Z,0.9nm,0.3s						
HMDT	**Nahal Hemdat**	**9.27**	**259**	P	**Pn**	**00 28 21.6**	**+1.5**
MMLI	**Mount Malkishu**	**9.30**	**260**	P	**Pn**	**00 28 22.1**	**+1.5**
SAKB	**Bahrain**	**9.32**	**156**	P	**Pn**	**00 28 21.0**	**+0.3**
SAKB				S	**Sn**	**00 30 01.7**	**-3.9**
HNTI	**Hanita**	**9.35**	**264**	P	**Pn**	**00 28 22.8**	**+1.7**
KBZ	**Khabaz**	**9.52**	**345**	Pn	Pn	00 28 28.4	+5.0
	comp=Z,0.1nm,0.3s,baz=161,slow=10,SNR=6.0						
KBZ				LR	LR	00 32 18.3	
	comp=Z,89nm,21.3s,baz=154,slow=39 comp=Z,2.5nm,0.7s						
GHAJ	**Ghor Haditha**	**9.56**	**253**		**Pn**	**00 28 24.1**	**0.0**
GHAJ	**Ghor Haditha**	**9.56**	**253**	P	**Pn**	**00 28 25.8**	**+1.8**
SHMA	**Al-Shehemyia**	**9.58**	**154**	P	**Pn**	**00 28 23.9**	**-0.5**
SHMA				S	**Sn**	**00 30 08.5**	**-3.5**
OFRI	**`Ofer**	**9.61**	**262**	P	**Pn**	**00 28 26.6**	**+1.8**
DSI	**Dead Sea**	**9.61**	**255**	P	**Pn**	**00 28 26.3**	**+1.6**
SLTI	**Sal'it**	**9.67**	**259**	P	**Pn**	**00 28 27.1**	**+1.5**
TOKA	**Tokat**	**9.67**	**309**	Pn	**Pn**	**00 28 26.2**	**+0.6**
MSBI	**Mazada**	**9.72**	**254**	P	**Pn**	**00 28 27.8**	**+1.6**
KIV	**Kislovodsk**	**9.78**	**345**		**Pn**	**00 28 26.2**	**-0.8**
KIV	**Kislovodsk**	**9.78**	**345**	*e*P	**Pn**	**00 28 30.0**	**+2.9**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,49nm,13.0s						
YTIR	**Yattir**	**9.90**	**254**	P	**Pn**	**00 28 30.8**	**+2.1**
ZFRI	**Zfri**	**10.18**	**250**	P	**Pn**	**00 28 33.8**	**+1.4**
SOC	**Sochi**	**10.34**	**332**	*e*P	**Pn**	**00 28 33.2**	**-1.5**
SOC				*e*		00 30 29.5	
SOC				MLR	MLR		
	comp=Z,106nm,14.0s						
PRNI	**Paran**	**10.40**	**249**	P	**Pn**	**00 28 36.8**	**+1.2**
SMRA	**Abu-Samra**	**10.56**	**157**	P	**Pn**	**00 28 38.0**	**+0.3**
SMRA				S	**Sn**	**00 30 30.2**	**-5.8**
TRNA	**Turayna**	**10.70**	**155**	P	**Pn**	**00 28 37.8**	**-1.8**
KRMI	**Paran Flat**	**10.72**	**249**	P	**Pn**	**00 28 41.8**	**+1.8**
MBRI	**Mt Berech**	**10.73**	**247**	P	**Pn**	**00 28 42.3**	**+2.2**
EIL	**Elat**	**10.76**	**246**	Pn	**Pn**	**00 28 40.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=51,slow=8.5,SNR=4.9						
EIL				Lg	Lg	00 31 43.9	
	comp=Z,0.4nm,0.3s,baz=67,slow=15,SNR=3.6						
EIL				LR	LR	00 32 16.0	
	comp=Z,47nm,20.9s,baz=70,slow=35 comp=Z,1.9nm,0.5s						
EIL	**Elat**	**10.76**	**246**	P	**Pn**	**00 28 42.1**	**+1.5**
RAYN	**Ar Rayn**	**11.03**	**184**		**Pn**	**00 28 43.6**	**-0.6**
RAYN	**Ar Rayn**	**11.03**	**184**	P	**Pn**	**00 28 43.6**	**-0.6**
RAYN	**Ar Rayn**	**11.03**	**184**	P	**Pn**	**00 28 43.0**	**-1.2**
JRN	**Qarnain Island**	**11.16**	**147**	P	**Pn**	**00 28 46.3**	**+0.3**
JRN				S	**Sn**	**00 30 44.7**	**-6.1**
BR131	**Keskin Array S**	**11.31**	**301**		**Pn**	**00 28 47.7**	**-0.5**
BR131	**Keskin Array S**	**11.31**	**301**	P	**Pn**	**00 28 47.7**	**-0.5**
BRTR	**Keskin Array B**	**11.31**	**301**	Pn	**Pn**	**00 28 52.0**	**+3.8**
	comp=Z,0.9nm,0.7s,baz=125,slow=14,SNR=6.5						
BRTR				Lg	Lg	00 32 02.2	
	comp=Z,0.1nm,0.3s,baz=68,slow=36,SNR=1.0						
BRTR				LR	LR	00 33 40.5	
	comp=Z,219nm,18.1s,baz=130,slow=40						
BRTR	**Keskin Array B**	**11.31**	**301**	P	**Pn**	**00 28 52.0**	**+3.8**
SLWR	**Sila**	**11.48**	**154**	P	**Pn**	**00 28 45.8**	**-4.5**
SLWR				S	**Sn**	**00 28 52.8**	**-5.7**
ANTO	**Ankara**	**11.97**	**300**	Pn	**Pn**	**00 28 56.4**	**-0.7**
ANTO	**Ankara**	**11.97**	**300**	P	**Pn**	**00 28 56.4**	**-0.7**
SHME	**Shamm**	**12.03**	**132**	P	**Pn**	**00 28 58.0**	**+0.2**
SHME	**Shamm**	**12.03**	**132**	P	**Pn**	**00 28 58.3**	**+0.5**
GHWR	**Ruwais**	**12.03**	**150**	P	**Pn**	**00 28 56.8**	**-1.1**
AJN	**Ajban**	**12.52**	**140**	P	**Pn**	**00 29 03.4**	**-1.2**
AJN				S	**Sn**	**00 31 17.1**	**-7.0**
MASF	**Masafi**	**12.54**	**134**	P	**Pn**	**00 29 05.9**	**+1.0**
	SNR=13						
MASF				S	**Sn**	**00 31 16.4**	**-8.2**
NAZ	**Nazwa, Dubai**	**12.55**	**137**	P	**Pn**	**00 29 06.0**	**+1.0**
	SNR=71						
NAZ				S	**Sn**	**00 31 18.9**	**-5.9**
NAZ	**Nazwa, Dubai**	**12.55**	**137**	*i* P	**Pn**	**00 29 06.0**	**+1.0**
	SNR=71						
MSFE	**Esma-Masafi**	**12.55**	**134**	*i* P	**Pn**	**00 29 05.0**	**-0.1**
	SNR=13						
MZWR	**Madinat Zayed**	**12.65**	**146**	P	**Pn**	**00 29 07.8**	**+1.5**
MZWR				S	**Sn**	**00 31 19.4**	**-7.8**
ASUD	**Al Ashush, Dub**	**12.65**	**139**	P	**Pn**	**00 29 08.0**	**+1.6**
	SNR=14						
ASUD	**Al Ashush, Dub**	**12.65**	**139**	*i* P	**Pn**	**00 29 07.0**	**+0.7**
	SNR=15						
MDH	**Madha**	**12.68**	**134**	P	**Pn**	**00 29 06.4**	**-0.4**
	SNR=8.1						
MDH				S	**Sn**	**00 31 19.4**	**-8.5**
MDH	**Madha**	**12.68**	**134**	*i* P	**Pn**	**00 29 06.2**	**-0.5**
	SNR=7.8						
FAQ	**Al Faqa, Dubai**	**12.70**	**138**	P	**Pn**	**00 29 07.2**	**+0.1**
	SNR=6.6						
UOSS	**Minazif**	**12.89**	**135**		**Pn**	**00 29 09.2**	**-0.5**
UOSS	**Minazif**	**12.89**	**135**	P	**Pn**	**00 29 08.9**	**-0.8**
UOSS				S	Sn	00 31 23.4	-10
UOSS	**Minazif**	**12.89**	**135**	*i* P	**Pn**	**00 29 08.5**	**-1.1**
	SNR=12						
HATD	**Hatta, Dubai**	**12.94**	**136**	P	**Pn**	**00 29 10.7**	**+0.3**
	SNR=8.4						
HATD				S	**Sn**	**00 31 26.6**	**-7.8**
HATD	**Hatta, Dubai**	**12.94**	**136**	*i* P	**Pn**	**00 29 09.9**	**-0.5**
	SNR=29						
ASHO	**Ashiyiah**	**13.01**	**137**	P	**Pn**	**00 29 12.0**	**+0.6**
	SNR=65						
ASHO				S	**Sn**	**00 31 28.7**	**-7.4**
ASHO	**Ashiyiah**	**13.01**	**137**	*i* P	**Pn**	**00 29 11.2**	**-0.1**
	SNR=26						
MZR	**Muzera**	**13.14**	**149**	P	**Pn**	**00 29 13.2**	**+0.2**
	SNR=27						
MZR				S	**Sn**	**00 31 34.2**	**-5.0**
MZR	**Muzera**	**13.14**	**149**	*i* P	**Pn**	**00 29 12.9**	**-0.1**
	SNR=27						
ALNE	**Al Ain**	**13.34**	**139**	P	**Pn**	**00 29 16.7**	**+1.0**
	SNR=10						
ALNE				S	**Sn**	**00 31 37.9**	**-6.2**
ALNE	**Al Ain**	**13.34**	**139**	*i* P	**Pn**	**00 29 16.0**	**+0.3**
	SNR=10						
SOHO	**SOHO**	**13.71**	**137**	P	**Pn**	**00 29 20.1**	**-0.8**
SOHO				P	**Pn**	**00 29 20.1**	**-0.8**
SOHO				S	**Sn**	**00 31 45.4**	**-7.7**
SOHO				S	**Sn**	**00 31 45.4**	**-7.7**
SOHO	**SOHO**	**13.71**	**137**	*i* P	**Pn**	**00 29 20.0**	**-0.8**
	SNR=18						
UMZA	**Um Al Zommool**	**14.15**	**144**	P	**Pn**	**00 29 25.2**	**-1.6**
UMZA				S	Sn	00 31 54.1	-10
ARQ	**Araqi**	**14.33**	**139**	P	**Pn**	**00 29 28.7**	**-0.7**
	SNR=14						
ARQ				S	**Sn**	**00 32 00.9**	**-7.5**
HOQ	**Hoqain**	**14.58**	**136**	P	**Pn**	**00 29 32.6**	**-0.2**
HOQ				P	**Pn**	**00 29 32.6**	**-0.2**
HOQ				S	**Sn**	**00 32 05.8**	**-8.6**
HOQ				S	**Sn**	**00 32 05.8**	**-8.6**
MANT	**Manisa**	**14.77**	**291**		**Pn**	**00 29 36.5**	**+1.0**
SMDO	**Samad**	**15.41**	**135**	P	**Pn**	**00 29 42.6**	**-1.4**
SMDO				P	**Pn**	**00 29 42.6**	**-1.4**
WSAR	**Wadi Sarin**	**15.62**	**133**	Pn	**Pn**	**00 29 46.1**	**-0.5**
	baz=305,slow=23,SNR=23						
WSAR				Sn	**Sn**	**00 32 32.2**	**-7.6**
	baz=31,slow=24,SNR=3.6						
JMDO	**Jabal Madar**	**15.98**	**136**	P	**Pn**	**00 29 51.8**	**+0.5**
JMDO				P	**Pn**	**00 29 51.8**	**+0.5**
WBK	**Wadi Bani Khal**	**16.30**	**134**	P	**Pn**	**00 29 56.1**	**+0.7**
VRH	**Novokhopyorsk**	**16.95**	**350**	*e*P	**Pn**	**00 30 01.2**	**-2.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MHTO	**MHTO**	**17.01**	**140**	P	**Pn**	**00 30 03.8**	**-0.6**
	SNR=7.4						
MHTO				S	Sn	00 33 02.4	-11
TPGR	**Topolog**	**17.12**	**312**	⇑P	**P**	**00 30 06.7**	**-0.6**
VORD	**Divnogorie**	**17.16**	**345**	*e*P	**Pn**	**00 30 05.4**	**-0.6**
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
ALN	**Alexandroupoli**	**17.18**	**298**		**Pn**	**00 30 07.0**	**+0.5**
ALN	**Alexandroupoli**	**17.18**	**298**	P	**Pn**	**00 30 07.0**	**+0.5**
PURM	**Purcari**	**17.22**	**319**	P	**P**	**00 30 08.5**	**+0.1**
	comp=Z,85nm,0.7s						
HARR	**Harsova**	**17.34**	**311**	⇑P	**P**	**00 30 09.4**	**-0.3**
HARR	**Harsova**	**17.34**	**311**	⇑P	**P**	**00 30 09.4**	**-0.3**
DOK	**Doka**	**17.36**	**154**	P	**Pn**	**00 30 06.7**	**-2.0**
VSR	**Storozhevoye**	**17.42**	**345**	*e*P	**Pn**	**00 30 08.8**	**-0.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CFR	**Carcaliu**	**17.45**	**313**	⇑P	**Pn**	**00 30 10.0**	**+0.2**
CFR	**Carcaliu**	**17.45**	**313**	⇑P	**Pn**	**00 30 10.0**	**+0.2**
IDI	**Anoyia**	**17.55**	**278**	P	**Pn**	**00 30 11.3**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=85,slow=11,SNR=7.4						
RDO	**Rodhopi**	**17.62**	**298**		**Pn**	**00 30 10.6**	**-1.3**
AB31	**Akbulak array**	**17.82**	**30**	P	**Pn**	**00 30 14.6**	**+0.4**
ABKAR	**Akbulak array**	**17.82**	**30**	P	**Pn**	**00 30 14.2**	**-0.1**
BELG	**Belogornoye**	**17.85**	**3**	P	**Pn**	**00 30 13.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=136,slow=8.1,SNR=6.0						
BELG				LR	LR	00 39 02.6	
	comp=Z,45nm,18.2s,baz=140,slow=44 comp=Z,10nm,0.5s						
ELND	**Elena**	**17.93**	**304**	⇑P	**P**	**00 30 17.3**	**+1.0**
AKTO	**Aktyubinsk**	**18.03**	**25**	P	**P**	**00 30 18.5**	**+1.2**
	comp=Z,0.4nm,0.3s,baz

comp=Z,8.9nm,0.8s
KIEV Kiev 20.35 328 ⇑P **P 00 30 42.2 -0.6**
KIEV Kiev 20.35 328 P **P 00 30 41.7 -1.0**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 20.35 328 *i* P **P 00 30 41.7 -1.0**
SNR=9.1
KIEV Kiev 20.35 328 P **P 00 30 42.1 -0.6**
comp=Z,50nm,1.1s
AK16 Malin Array Si 20.38 327 P **P 00 30 42.3 -0.7**
BURAR Bucovina Array 20.45 316 P **P 00 30 43.4 -0.6**
BURAR lAmb lAmb 00 30 47.7
comp=Z,10nm,0.8s
BURAR Bucovina Array 20.45 316 ⇑P Pn 00 30 45.1 -1.1
BURAR Bucovina Array 20.45 316 ⇑P Pn 00 30 45.1 -1.0
AK20 Malin Array Si 20.47 327 P **P 00 30 43.6 -0.4**
BUR08 Bucovina Ar. S 20.48 316 P **P 00 30 44.0 -0.3**
BUR08 lAmb lAmb 00 30 47.7
comp=Z,12nm,0.9s
LUBAR Lubar, Ukraine 20.49 324 P **P 00 30 43.7 -0.5**
FNA Florina 20.62 295 P **P 00 30 45.4 -0.4**
FNA lAmb lAmb 00 30 47.2
comp=Z,9.5nm,1.0s
FNA Florina 20.62 295 P **P 00 30 45.4 -0.4**
FNA pmax pmax
comp=Z,9.0nm,1.0s
KK31 Karatay Array 20.67 58 P **P 00 30 46.8 +0.5**
KK31 Karatay Array 20.67 58 P **P 00 30 46.8 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 20.67 58 P **P 00 30 46.9 +0.6**
KKAR Karatay Array 20.67 58 P **P 00 30 46.9 +0.6**
ARCR ARCALIA 20.69 314 ⇓P Pn 00 30 48.2 -0.6
HORU Horodok 20.70 321 P **P 00 30 46.0 -0.6**
HORU Horodok 20.70 321 P **P 00 30 46.2 -0.4**
MI30 MI30,Zelenitsa 20.84 326 P **P 00 30 47.1 -1.0**
comp=Z,40nm,0.8s
KSV Kosov 20.92 317 P **P 00 30 48.7 -0.2**
GZR Gura Zlata 20.93 308 ⇑P **P 00 30 49.5 +0.4**
GZR Gura Zlata 20.93 308 ⇑P **P 00 30 49.5 +0.4**
CJR Cluj-Napoca 20.97 312 ⇑P Pn 00 30 50.7 -1.4
CJR Cluj-Napoca 20.97 312 ⇑P Pn 00 30 50.7 -1.4
HERR Herculane 20.97 307 ⇑P **P 00 30 50.6 +1.1**
BOVS Bovan 21.04 303 ⇓P **P 00 30 51.5 +1.2**
MI28 Mi28,Pidlybu 21.21 326 P **P 00 30 51.3 -0.7**
MARR Marisel-Cluj 21.25 312 ⇑P **P 00 30 53.3 +0.7**
RAKU Rahkiv 21.27 316 P **P 00 30 52.7 0.0**
MDVR Moldovita 21.40 306 ⇓P **P 00 30 54.9 +0.7**
BMR Baia Mare 21.48 314 ⇑P **P 00 30 55.8 +0.8**
BMR Baia Mare 21.48 314 ⇑P **P 00 30 55.8 +0.8**
SURR Surduc 21.49 309 ⇑P **P 00 30 51.2 -3.9**
DRGR 21.55 312 ⇓P **P 00 30 56.4 +0.6**
DRGR 21.55 312 ⇓P **P 00 30 56.4 +0.6**
MESR Meseseni 21.56 313 ⇑P **P 00 30 56.4 +0.6**
OBN Obninsk 21.63 345 P **P 00 30 54.9 -1.5**
OBN Obninsk 21.63 345 P **P 00 30 55.6 -0.8**
comp=Z,9.2nm,0.6s,baz=136,slow=20,SNR=5.4
comp=Z,9.2nm,0.6s
OBN Obninsk 21.63 345*c e*P **P 00 30 57.9 +1.5**
OBN *e* 00 31 16.3
OBN *e*S **S 00 34 52.3 -3.4**
OBN pmax pmax
comp=Z,14nm,0.8s
OBN MLR MLR
comp=Z,42nm,18.0s
BZS Buzias 21.77 308 ⇓P **P 00 31 00.6 +2.6**
BZS Buzias 21.77 308 ⇓P **P 00 31 00.6 +2.6**
MEZ Mezhgor'ye 21.90 316 P **P 00 31 00.2 +0.8**
SIRR Siria 21.99 310 ⇑P **P 00 31 01.7 +1.3**
MOS Moscow 22.00 347 *e*P **P 00 30 59.4 -1.0**
TRSU Trosnyk 22.01 315 P **P 00 31 02.9 +2.3**
MORS Morshin 22.01 318 P **P 00 31 01.6 +0.9**
MORS Morshin 22.01 318 P **P 00 31 01.4 +0.7**
BRIU Brid 22.09 316 P **P 00 31 02.1 +0.6**
RNPP5 Staryi Chortor 22.25 325 P **P 00 31 02.1 -1.0**
BERU Beregovo 22.26 315 P **P 00 31 03.9 +0.6**
LVV L'vov 22.32 320 P **P 00 31 03.2 -0.8**
RNPP8 Varash 22.33 325 P **P 00 31 03.6 -0.4**
MUKU Mukachevo 22.34 316 P **P 00 31 05.3 +1.1**
NIL Nilore 22.34 85 **P 00 31 03.8 -0.6**
NIL lAmb lAmb 00 31 12.5
comp=Z,10nm,1.0s
NIL Nilore 22.34 85 P **P 00 31 03.8 -0.6**
NIL pmax pmax
comp=Z,10.0nm,1.0s
KOLS Kolonicke sedl 22.82 316 *e*P **P 00 31 10.6 +1.3**
KOLS pmax pmax
comp=Z,50nm,1.4s
KOLS Kolonicke sedl 22.82 316 *e*P **P 00 31 10.6 +1.3**
KWP Kalwaria Pacla 22.94 318 P **P 00 31 11.5 +1.0**
KWP Kalwaria Pacla 22.94 318 P **P 00 31 11.3 +0.8**
comp=Z,28nm,1.6s
ARTI Arti 23.35 17 P **P 00 31 13.7 -0.9**
ARTI Arti 23.35 17 P **P 00 31 14.9 +0.3**
comp=Z,4.8nm,0.7s,baz=191,slow=8.2,SNR=7.7
comp=Z,4.8nm,0.7s
ARTI Arti 23.35 17*c i*P **P 00 31 16.3 +1.7**
ARTI 00 31 44.4
ARTI 00 34 59.6
ARTI S **S 00 35 31.1 +3.9**
ARTI SS **SnSn 00 36 03.8 +2.0**
ARTI pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 23.41 61 LR LR 00 41 48.5
comp=Z,44nm,18.6s,baz=261,slow=40
MNK Minsk 23.72 333 *i* P **P 00 31 17.2 -1.1**
comp=E,13nm,0.8s
MNK *i* P **P 00 31 17.2 -1.1**
comp=N,9.0nm,0.8s
MNK *i* P **P 00 31 17.2 -1.1**
comp=Z,10.0nm,0.8s,baz=140
MNK *i* PP sP 00 31 44.4 +21
MNK *i* PPP PPP 00 31 52.3
MNK *i* S **S 00 35 33.0 -0.1**
MNK *i* SS **SnSn 00 36 11.6 +0.6**
MNK *i* SSS SSS 00 36 25.0
MNK *i* LQ LQ 00 38 37.2
MNK *i* LR LR 00 40 25.3
MNK *i* LRM MLR 00 41 48.9
comp=E,40nm,23.3s
MNK *i* LRM MLR 00 41 58.5
comp=N,28nm,17.8s
MNK *i* LRM MLR 00 42 01.3
comp=Z,51nm,19.5s
MNK Minsk 23.72 333 *i* P **P 00 31 17.2 -1.1**
MNK *i* PPP PPP 00 31 52.2
MNK *i* S **S 00 35 33.0 -0.1**
MNK *i* SS **SnSn 00 36 11.5 +0.6**
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=E,40nm,23.0s
MNK MLR MLR
comp=N,28nm,18.0s
MNK MLR MLR
comp=Z,51nm,20.0s
PSZ Piszkesteto 23.76 312 P **P 00 31 18.3 -0.6**
PSZ lAmb lAmb 00 31 21.5
comp=Z,8.9nm,0.8s
PSZ Piszkesteto 23.76 312 ⇑P **P 00 31 18.9 +0.1**
PSZ Piszkesteto 23.76 312 P **P 00 31 18.3 -0.6**
PSZ pmax pmax
comp=Z,9.0nm,0.8s
MORH Mrgy, Hungar 23.92 307 ⇑P **P 00 31 20.1 -0.2**
MORH Mrgy, Hungar 23.92 307 P **P 00 31 20.3 0.0**
comp=Z,7.4nm,1.6s
KIRV Kirov 24.12 4 LR LR 00 42 37.3
comp=Z,65nm,18.7s,baz=180,slow=41
KIRV Kirov 24.12 4⇓ *i*P **P 00 31 24.1 +2.1**
NIE Niedzica 24.19 316 P **P 00 31 23.8 +1.0**
comp=Z,4.4nm,2.2s
SVE Sverdlovsk 24.32 19 *e*P **P 00 31 26.9 +3.0**
SVE pmax pmax
comp=Z,14nm,1.3s
NACGM Naroch 24.44 332 *e*P **P 00 31 23.9 -1.1**
BLY Banja Luka 24.48 303 ⇓P **P 00 31 27.0 +1.5**
LANS Liptovska Anna 24.55 315 *e*P **P 00 31 27.7 +1.6**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 24.55 315 *e*P **P 00 31 27.7 +1.6**

VYHS Vyhne 24.64 313 *e*P **P 00 31 29.0 +2.0**
VYHS Vyhne 24.64 313 *e*P **P 00 31 28.9 +2.0**
CEL Celeste 24.67 287 P **P 00 31 27.8 +0.4**
CEL lAmb lAmb 00 31 37.6
comp=Z,6.1nm,0.7s
SRO Srobarova 24.70 311 *e*P **P 00 31 29.6 +2.2**
SRO pmax pmax
comp=Z,10.0nm,1.0s
SRO Srobarova 24.70 311 *e*P **P 00 31 29.6 +2.2**
OJC Ojcow 24.85 317 P **P 00 31 29.0 +0.2**
OJC Ojcow 24.85 317 P **P 00 31 29.0 +0.2**
BRVK Borovoye 25.14 35 P **P 00 31 32.1 +0.8**
BRVK Borovoye 25.14 35*c e*P **P 00 31 34.8 +3.4**
BRVK pmax pmax
comp=Z,15nm,1.7s
BVAR Borovoye Array 25.17 35 P **P 00 31 35.0 +3.3**
comp=Z,3.8nm,0.6s,baz=238,slow=8.2,SNR=25
BVAR LR LR 00 44 34.4
comp=Z,18nm,18.5s,baz=218,slow=44
comp=Z,3.8nm,0.6s
BVAR Borovoye Array 25.17 35 P **P 00 31 35.0 +3.3**
BEHE Becsehely 25.23 307 P **P 00 31 32.0 -0.2**
BEHE lAmb lAmb 00 31 35.7
comp=Z,4.8nm,0.7s
SUW Suwalki 25.32 327 P **P 00 31 33.2 +0.3**
SUW Suwalki 25.32 327 P **P 00 31 33.2 +0.3**
JAVC Velka Javorina 25.50 313 *e*P **P 00 31 35.3 +0.6**
SMOL Smolenice 25.51 312 *e*P **P 00 31 36.5 +1.7**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
MODS Modra-Piesok 25.55 311 *e*P **P 00 31 34.5 -0.7**
MODS pmax pmax
comp=Z,54nm,1.4s
MODS Modra-Piesok 25.55 311 *e*P **P 00 31 34.5 -0.7**
MAUC Maruska 25.61 314 *e*P **P 00 31 37.5 +1.8**
STEB Steborice 25.88 315 *e*P **P 00 31 38.5 +0.3**
RAFF Raffo Rosso 25.92 285 P **P 00 31 39.2 +0.6**
RONA Rosalia, Austr 25.93 309 *i* P **P 00 31 38.4 -0.3**
comp=Z,8.1nm,0.7s
MORC Moravsky Berou 25.95 315 P **P 00 31 39.1 +0.3**
MORC lAmb lAmb 00 31 44.9
comp=Z,9.1nm,1.0s
MORC Moravsky Berou 25.95 315 *e*P **P 00 31 38.7 -0.1**
MORC Moravsky Berou 25.95 315 ⇓P **P 00 31 39.1 +0.3**
MORC Moravsky Berou 25.95 315 P **P 00 31 39.1 +0.3**
MORC pmax pmax
comp=Z,9.0nm,1.0s
PABE Paberze 25.99 330 P **P 00 31 39.0 -0.1**
CONA Conrad Observa 26.28 310 *e*P **P 00 31 40.8 -1.1**
comp=Z,13nm,1.2s
ARSA Arzberg 26.28 308 P **P 00 31 41.2 -0.6**
ARSA lAmb lAmb 00 31 46.4
comp=Z,7.3nm,1.0s
ARSA Arzberg 26.28 308 *i* P **P 00 31 40.8 -1.1**
comp=Z,6.7nm,0.9s
VRAC Vranov 26.33 313 *e*P **P 00 31 42.4 +0.2**
VRAC Vranov 26.33 313 ⇓P **P 00 31 42.8 +0.6**
VRAC Vranov 26.33 313 ⇓P **P 00 31 42.8 +0.6**
KRUC Moravsky 26.35 312 *e*P **P 00 31 42.6 +0.2**
SOKA Soboth 26.44 307 *e*P **P 00 31 42.6 -0.8**
comp=Z,13nm,1.6s
KRLC Kraliky 26.52 315 *e*P **P 00 31 43.8 -0.2**
KRLC Kraliky 26.52 315 *e*P **P 00 31 43.8 -0.2**
KLMR Klimovskoe 26.66 353 *e*P **P 00 31 42.3 -2.8**
KLMR pmax pmax
comp=Z,12nm,1.0s
DPC Dobruska-Polom 26.91 315 *e*P **P 00 31 47.7 +0.2**
DPC Dobruska-Polom 26.91 315 *e*P **P 00 31 47.7 +0.2**
DPC Dobruska-Polom 26.91 315 P **P 00 31 47.7 +0.2**
comp=Z,4.8nm,1.2s
OSTC Ostas 27.05 315 *e*P **P 00 31 48.9 +0.1**
OSTC Ostas 27.05 315 *e*P **P 00 31 48.9 +0.1**
KSP Ksiaz 27.13 316 P **P 00 31 49.5 +0.1**
comp=Z,10nm,1.4s
CHVC Chvalec 27.16 315 *e*P **P 00 31 49.8 +0.1**
CHVC Chvalec 27.16 315 *e*P **P 00 31 49.8 +0.1**
VSU Vasula 27.22 337⇓ *e*P **P 00 31 51.5 +1.4**
VSU pmax pmax
comp=Z,17nm,1.0s
MOA Molln 27.27 309 *e*P **P 00 31 51.0 +0.2**
comp=Z,9.6nm,1.2s
CKRC Cesky Krumlov 27.55 311 *e*P **P 00 31 53.1 -0.2**
CKRC Cesky Krumlov 27.55 311 *e*P **P 00 31 53.1 -0.2**
BIOA Bad Ischl, Aus 27.63 308 *i* P **P 00 31 54.1 +0.1**
comp=Z,3.2nm,0.6s
KBA Koelnbreinsper 27.66 307 *i* P **P 00 31 54.5 +0.1**
comp=Z,4.6nm,0.6s
ZVC Zvikov 27.83 312 *e*P **P 00 31 57.6 +1.9**
GERES GERESS Array B 27.94 311 P **P 00 31 56.6 -0.2**
comp=Z,0.5nm,0.6s,baz=101,slow=6.9,SNR=6.1
GERES LR LR 00 45 43.0
comp=Z,34nm,18.7s,baz=104,slow=42
comp=Z,0.5nm,0.6s
KHC Kasperske Hory 28.11 311⇓ *e*P **P 00 31 58.5 +0.2**
KHC pmax pmax
comp=Z,8.0nm,1.6s
KHC Kasperske Hory 28.11 311 *e*P **P 00 31 58.0 -0.3**
KHC AMS AMS 00 46 20.0
comp=Z,100nm,13.4s
KHC Kasperske Hory 28.11 311 P **P 00 31 58.0 -0.3**
comp=Z,4.6nm,1.9s
ABTA Abfaltersbach 28.13 306 *i* P **P 00 31 57.5 -1.0**
comp=Z,9.4nm,1.4s
KURBB Kurchatov Arra 28.37 46 P **P 00 32 03.2 +2.7**
comp=Z,1.4nm,0.7s,baz=253,slow=8.9,SNR=12
KURBB LR LR 00 44 48.6
comp=Z,50nm,19.8s,baz=165,slow=40
comp=Z,1.4nm,0.7s
KURK Kurchatov 28.46 46 P **P 00 32 01.7 +0.4**
KURK Kurchatov 28.46 46⇓ *e*P **P 00 32 04.1 +2.8**
KURK pmax pmax
comp=Z,6.0nm,1.7s
ZCCA Zocca 28.75 301 P **P 00 32 03.9 -0.1**
WTTA Wattenberg 28.84 307 *i* P **P 00 32 05.0 +0.1**
comp=Z,9.4nm,1.1s
WATA Walderalm 28.89 307 *e*P **P 00 32 05.2 -0.1**
comp=Z,10nm,1.2s
SQTA Sankt Quirin 29.11 306 *i* P **P 00 32 07.3 0.0**
comp=Z,7.5nm,1.1s
MOTA Moosalm 29.21 307 *e*P **P 00 32 08.0 -0.2**
comp=Z,4.5nm,0.7s
CLL Collm 29.22 315 P **P 00 32 07.4 -0.6**
CLL Collm 29.22 315 *e*P **P 00 32 08.0 0.0**
CLL pmax pmax
comp=Z,6.0nm,1.4s
CLL Collm 29.22 315 *e*P **P 00 32 08.0 0.0**
comp=Z,6.0nm,1.4s
CLL *e*PPP PPP 00 33 12.0
FETA Feichten 29.39 306 *e*P **P 00 32 08.6 -1.2**
comp=Z,4.2nm,0.8s
RETA Reutte 29.47 307 *e*P **P 00 32 09.4 -1.0**
comp=Z,3.3nm,1.0s
MK31 Makanchi Array 29.66 55*d e*P **P 00 32 15.6 +3.5**
MKAR Makanchi Array 29.66 55 P **P 00 32 12.5 +0.4**
MKAR Makanchi Array 29.66 55 P **P 00 32 14.9 +2.9**
comp=Z,1.0nm,0.6s,baz=252,slow=7.6,SNR=13
MKAR LR LR 00 45 26.0
comp=Z,54nm,19.4s,baz=281,slow=39
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 29.66 55 *i* P **P 00 32 15.6 +3.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
GRF Grafenberg Arr 29.75 311 *e*P **P 00 32 13.1 +0.3**
comp=Z,4.1nm,1.4s,baz=107,slow=10
FINES FINESS Array B 29.84 341 P **P 00 32 12.9 -0.4**
comp=Z,1.3nm,0.5s,baz=149,slow=10,SNR=10.0
FINES LR LR 00 44 32.7
comp=Z,54nm,18.7s,baz=146,slow=37
comp=Z,1.3nm,0.5s
FINES FINESS Array B 29.84 341 *i* P **P 00 32 12.8 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
DAVOX Davos/Dischmat 29.91 305 LR LR 00 46 30.7
comp=Z,39nm,19.8s,baz=87,slow=41
DAVA Damuels 30.01 306 *i* P **P 00 32 14.6 -0.7**
comp=Z,3.9nm,0.4s
KEST Kesra 30.10 283 P **P 00 32 16.1 0.0**
comp=Z,1.3nm,0.7s,baz=94,slow=19,SNR=1.8
comp=Z,1.3nm,0.7s
SENIN Lac Senin/Sane 31.60 304 P **P 00 32 28.6 -0.8**
SENIN lAmb lAmb 00 32 31.8
comp=Z,3.7nm,0.9s
BNI Bardonecchia 31.88 301 P **P 00 32 31.0 -0.8**
BNI Bardonecchia 31.88 301 P **P 00 32 31.0 -0.8**
BNI pmax pmax

comp=Z,13nm,0.9s
WLF Walferdange 32.93 310 P **P 00 32 40.2 -0.5**
WLF Walferdange 32.93 310 P **P 00 32 40.2 -0.5**
WLF pmax pmax
comp=Z,8.0nm,1.1s
WMQ Urumqi 33.12 61 *e*P **P 00 32 45.5 +2.9**
ZAA0 Zalesovo Array 33.17 42 P **P 00 32 43.1 +0.3**
ZAA0 lAmb lAmb 00 32 46.2
comp=Z,2.7nm,0.9s
ZALV Zalesovo Beam 33.17 42 P **P 00 32 43.3 +0.5**
ZALV Zalesovo Beam 33.17 42 P **P 00 32 44.9 +2.0**
comp=Z,1.3nm,0.6s,baz=251,slow=8.5,SNR=8.6
ZALV LR LR 00 49 05.2
comp=Z,64nm,18.3s,baz=242,slow=42
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 33.17 42 *i* P **P 00 32 45.5 +2.7**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
HFS Hagfors 33.17 330 P **P 00 32 42.5 -0.3**
comp=Z,3.9nm,0.6s,baz=120,slow=8.8,SNR=34
HFS LR LR 00 48 06.3
comp=Z,57nm,19.4s,baz=118,slow=40
comp=Z,3.9nm,0.6s
NB2 NORSAR Subarra 34.70 331 P **P 00 32 55.3 -0.8**
comp=Z,0.4nm,0.5s,baz=124,slow=8.6
NOA NORSAR Array B 34.70 331 P **P 00 32 55.0 -1.0**
comp=Z,0.8nm,0.7s,baz=125,slow=8.7,SNR=5.4
NOA LR LR 00 48 42.3
comp=Z,33nm,20.0s,baz=130,slow=39
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 36.86 348 P **P 00 33 13.7 -0.7**
comp=Z,2.5nm,0.9s,baz=161,slow=8.7,SNR=7.8
ARCES LR LR 00 49 38.6
comp=Z,47nm,19.6s,baz=179,slow=38
comp=Z,2.5nm,0.9s
EKA Eskdalemuir Ar 39.63 317 P **P 00 33 37.6 -0.3**
comp=Z,2.6nm,0.5s,baz=104,slow=9.0,SNR=31
comp=Z,2.6nm,0.5s
ESDC Sonseca Array 39.95 293 P **P 00 33 40.7 -0.2**
comp=Z,1.2nm,0.7s,baz=64,slow=8.4,SNR=14
ESDC PcP **PcP 00 35 46.4 +0.2**
comp=Z,0.7nm,0.9s,baz=64,slow=3.0,SNR=4.1
ESDC LR LR 00 53 19.0
comp=Z,33nm,18.2s,baz=86,slow=41
comp=Z,1.2nm,0.7s
MVO Moncorvo 42.04 295 *e*P **P 00 33 58.1 0.0**
PBAR Barrancos 42.59 291 *e*P **P 00 34 02.2 -0.3**
PBAR *i* lAmb lAmb 00 34 03.1
comp=Z,14nm,1.3s
PCBR Castelo Branco 42.60 293 *e*P **P 00 34 02.9 +0.3**
PCBR *i* lAmb lAmb 00 34 05.2
comp=Z,17nm,1.7s
PMRV Marv??o 42.61 293 *e*P **P 00 34 02.5 -0.1**
PESTR Estremoz 42.87 292 *e*P **P 00 34 04.1 -0.7**
TORD Torodi Ar. Bea 45.55 253 P **P 00 34 26.9 +0.4**
comp=Z,6.2nm,0.4s,baz=34,slow=7.1,SNR=6.4
comp=Z,6.2nm,0.4s
SPITS Spitsbergen Ar 45.56 352 P **P 00 34 25.8 -0.1**
comp=Z,1.4nm,0.5s,baz=142,slow=9.6,SNR=9.0
comp=Z,1.4nm,0.5s
SONM Songino Array 46.03 54 LR LR 00 56 03.9
comp=Z,37nm,20.3s,baz=261,slow=39
LZH Lanzhou 46.40 71 *e*P **P 00 34 33.1 -0.1**
LZH pP sP 00 34 37.8 -0.9
LZH sP pP 00 34 39.9 +2.8
LZH pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 46.47 54⇓ *e*P **P 00 34 35.7 +2.1**
ULN pmax pmax
comp=Z,4.0nm,0.9s
PZH PanZhiHua 47.95 84 P P 00 34 35.9 -9.5
CMAR Chiang Mai Arr 49.26 95 P **P 00 34 56.1 +0.7**
comp=Z,0.8nm,0.4s,baz=299,slow=7.9,SNR=4.1
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 49.26 95 *i* P **P 00 34 56.7 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 50.98 63 *e*P **P 00 35 06.8 -1.5**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,74nm,4.9s
YAK Yakutsk 57.13 34 LR LR 01 04 18.9
comp=Z,45nm,18.5s,baz=257,slow=40
YAK Yakutsk 57.13 34⇓ *e*P **P 00 35 54.4 +1.7**
YAK pmax pmax
comp=Z,12nm,0.6s
MATP Matopo 57.24 200 LR LR 01 01 33.7
comp=Z,23nm,18.2s,baz=66,slow=37
SFJD Kangerlussuaq 61.29 334 LR LR 01 02 46.8
comp=Z,42nm,21.0s,baz=48,slow=36
KSRS Korea Array 64.07 61 P **P 00 36 40.9 +0.4**
comp=Z,1.2nm,0.8s,baz=271,slow=8.0,SNR=6.7
comp=Z,1.2nm,0.8s
BOSA Boshof 65.91 200 LR LR 01 07 30.8
comp=Z,72nm,18.3s,baz=112,slow=38
SEY Seymchan 66.58 29⇓ *e*P **P 00 36 56.8 +0.5**
MA2 Magadan 67.60 32 LR LR 01 09 29.8
comp=Z,36nm,18.4s,baz=284,slow=38
JNU Nakatsue 68.15 64 LR LR 01 11 56.6
comp=Z,26nm,19.9s,baz=52,slow=40
MAJO Matsushiro 71.80 58⇑ *e*P **P 00 37 30.5 +1.3**
MJAR Matsushiro Arr 71.80 58 LR LR 01 11 48.4
comp=Z,24nm,18.5s,baz=214,slow=38
COLA College 80.27 6⇑ *e*P **P 00 38 18.8 +1.9**
COLA pmax pmax
comp=Z,6.0nm,1.0s
ILAR Eielson Array 80.45 6 P **P 00 38 20.4 +2.4**
comp=Z,0.7nm,0.8s,baz=340,slow=4.4,SNR=7.8
comp=Z,0.7nm,0.8s

---

*JMA **03** 00:31:43.9±0.2, 23°.7N±0°.7×12°.2E±°, h0km, TAIWAN REGION*
*TAP **03** 00:31:44.3, 23°.68N×121°.54E, h3km, ML3.4, C*
ISC 03 00:31:44.6±0.9, 23°.66N±0°.01×121°.58E±0°.02, h5km±6km, n113,σ1s00/176, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.06**	**323**	*i* P		**Pg**	**00 31 45.7**	**-0.4**
TEGC				*i* S		**Sg**	**00 31 46.8**	**-0.3**
SHUL	**Shoufeng**	**0.13**	**353**	*i* P		**Pg**	**00 31 47.6**	**+0.3**
SHUL				*i* S		**Sg**	**00 31 50.8**	**+1.8**
EGFH	**Guangfu**	**0.14**	**273**	*i* P		**Pg**	**00 31 47.1**	**-0.4**
WARBT	**Fenglin Townsh**	**0.19**	**288**	*i* P		**Pg**	**00 31 47.8**	**-0.6**
WARBT				S		**Sg**	**00 31 50.1**	**-0.7**
ESL	**Shilin**	**0.20**	**319**	P		**Pg**	**00 31 48.3**	**-0.4**
ESL				S		**Sg**	**00 31 51.5**	**+0.2**
TEYL	**Yanliau Villag**	**0.21**	**5**	P		**Pg**	**00 31 50.3**	**+1.6**
TEYL				S		**Sg**	**00 31 55.6**	**+4.1**
HGSD	**Ruisui**	**0.22**	**220**	P		**Pg**	**00 31 49.7**	**+0.7**
HGSD				S		**Sg**	**00 31 53.9**	**+2.0**
EHYH	**Wanrong**	**0.27**	**232**	P		**Pg**	**00 31 50.2**	**+0.3**
EHYH				S		**Sb**	**00 31 55.8**	**-1.2**
EHY	**Hungye**	**0.28**	**237**	*i* P		**Pg**	**00 31 50.0**	**-0.1**
ETM	**Tongmen**	**0.31**	**345**	P		**Pg**	**00 31 50.7**	**-0.1**
ETM				S		**Sg**	**00 31 55.2**	**+0.3**
HWA	**Hwalien**	**0.32**	**4**	*e*P		**Pb**	**00 31 52.0**	**-0.7**
ECBN	**Changbin**	**0.36**	**199**	P		**Pb**	**00 31 52.7**	**-0.8**
ECBN				S		**Sb**	**00 31 59.1**	**-0.5**
YULB	**Yu-li**	**0.37**	**224**	P		**Pb**	**00 31 52.6**	**-1.1**
YULB	**Yu-li**	**0.37**	**224**	P		**Pg**	**00 31 52.3**	**+0.4**
YULB				S		**Sb**	**00 31 59.1**	**-0.8**
LXIB	**Xiulin Townshi**	**0.39**	**337**	P		**Pg**	**00 31 52.0**	**-0.2**
LXIB				*e*S		**Sg**	**00 31 57.4**	**0.0**
EYUL	**Yuli**	**0.39**	**218**	P		**Pb**	**00 31 53.4**	**-0.7**
TWF1	**Yuli**	**0.40**	**220**	P		**Pb**	**00 31 53.0**	**-1.2**
TWF1				S		**Sb**	**00 31 59.8**	**-0.9**
VWDT	**VWDT**	**0.41**	**283**	P		**Pg**	**00 31 52.6**	**0.0**
VWDT				*e*S		**Sb**	**00 31 59.2**	**-1.7**
TWD	**Chiawan**	**0.42**	**2**	P		**Pb**	**00 31 53.1**	**-1.4**
TWD				S		**Sb**	**00 31 59.6**	**-1.6**
OWD	**Renai**	**0.47**	**308**	P		**Pg**	**00 31 53.4**	**-0.3**
OWD				S		**Sg**	**00 31 59.7**	**-0.2**
CHKH	**Chenggong**	**0.50**	**200**	P		**Pb**	**00 31 54.8**	**-1.1**
ETL	**Fush Village**	**0.50**	**5**	*e*P		**Pb**	**00 31 54.5**	**-1.4**
NACB	**Ninganchiao**	**0.51**	**2**	P		**Pg**	**00 31 54.7**	**+0.2**
NACB	**Ninganchiao**	**0.51**	**2**	P		**Pg**	**00 31 54.4**	**-0.1**
FULB	**Fuli**	**0.53**	**210**	P		**Pb**	**00 31 56.4**	**0.0**
FULB				*e*S		**Sn**	**00 32 08.0**	**-0.3**
WUSB	**Renai**	**0.54**	**308**	⇑ *i*P		**Pg**	**00 31 54.9**	**-0.1**
WUSB				S		**Sg**	**00 32 02.1**	**+0.1**
ETLH	**Xiulin Townshi**	**0.55**	**351**	P		**Pg**	**00 31 55.1**	**-0.2**
ETLH				*e*S		**Sg**	**00 32 02.2**	**-0.2**

WHF	**Hehuan Shan**	**0.56 329**	P	**Pg**	**00 31 55.1**	**-0.4**
WHF			S	**Sg**	**00 32 02.7**	**-0.2**
SSLB	**Suanglung**	**0.59 282**	P	**Pg**	**00 31 55.5**	**-0.4**
SSLB	**Suanglung**	**0.59 282**	P	**Pg**	**00 31 55.7**	**-0.3**
SSLB			S	**Sg**	**00 32 03.8**	**+0.2**
CHKT	**Chengkung**	**0.59 199**	P	**Pb**	**00 31 56.5**	**-1.0**
CHKT			S	**Sb**	**00 32 06.3**	**+0.1**
EHD	**Haiduan**	**0.61 214**	*e*P	**Pb**	**00 31 57.4**	**-0.5**
EHD			S	**Sb**	**00 32 07.1**	**+0.2**
ECS	**Chishang**	**0.65 211**	*e*P	**Pn**	**00 31 59.5**	**-1.1**
FUSS	**Fushou**	**0.66 332**	P	**Pg**	**00 31 57.2**	**-0.1**
FUSS			S	**Sg**	**00 32 06.0**	**+0.1**
SMLT	**Sun Moon Lake**	**0.66 290**	P	**Pg**	**00 31 57.2**	**-0.2**
SMLT			S	**Sb**	**00 32 06.7**	**-1.6**
WHYT	**Xinyi Township**	**0.67 273**	*e*P	**Pg**	**00 31 57.5**	**+0.1**
EAHA	**Aohua**	**0.68 12**	*e*P	**Pb**	**00 31 57.9**	**-1.1**
TWT	**Tachien**	**0.70 328**	P	**Pg**	**00 31 58.1**	**+0.1**
ELDTW	**Lidau**	**0.70 228**	P	**Pg**	**00 31 58.0**	**-0.1**
ELDTW			*e*S	**Sg**	**00 32 07.5**	**+0.4**
TDCB	**Techi**	**0.70 327**	P	**Pg**	**00 31 58.2**	**0.0**
TDCB			S	**Sg**	**00 32 07.1**	**-0.3**
TYC	**Yuchr**	**0.70 290**	*e*P	**Pg**	**00 31 58.0**	**-0.2**
TYC			*e*S	**Sb**	**00 32 07.8**	**-1.6**
ALS	**Alishan**	**0.73 258**	P	**Pg**	**00 31 58.8**	**+0.2**
ALS			S	**Sb**	**00 32 09.6**	**-0.8**
WCS	**Beigang Elemen**	**0.73 303**	P	**Pg**	**00 31 58.6**	**0.0**
EDH	**Donghe**	**0.73 200**	*e*P	**Pg**	**00 31 58.6**	**-0.1**
EDH			*e*S	**Sb**	**00 32 10.6**	**+0.5**
ENA	**Nanau**	**0.78 11**	P	**Pb**	**00 31 59.8**	**-0.9**
ENA			*e*S	**Sb**	**00 32 11.6**	**+0.1**
NNSB	**Datong**	**0.79 347**	P	**Pg**	**00 31 59.7**	**-0.1**
NNSB			*e*S	**Sg**	**00 32 09.2**	**-0.7**
WJS	**Zhushan**	**0.80 282**	*e*P	**Pb**	**00 32 01.4**	**+0.4**
WJS			*e*S	**Sb**	**00 32 12.6**	**+0.5**
NNS	**Nan Shan**	**0.80 346**	P	**Pg**	**00 31 59.9**	**-0.1**
NNS			*e*S	**Sg**	**00 32 10.6**	**+0.2**
EWUT	**Wuta**	**0.80 13**	*e*P	**Pb**	**00 32 00.1**	**-0.9**
EOS4	**EOS4**	**0.82 56**	*e*P	**Pb**	**00 32 01.4**	**+0.3**
EOS4			*e*S	**Sn**	**00 32 13.7**	**-1.0**
WHP	**Taichung City**	**0.84 317**	P	**Pb**	**00 32 00.9**	**-0.9**
WHP			*e*S	**Sb**	**00 32 12.6**	**-1.0**
WNT	**Mingjian**	**0.85 285**	*e*P	**Pn**	**00 32 02.3**	**-0.9**
LONT	**Longtian**	**0.86 209**	*e*P	**Pb**	**00 32 01.9**	**-0.1**
LATG	**Datong**	**0.87 357**	P	**Pb**	**00 32 01.6**	**-0.8**
LATG			*e*S	**Sb**	**00 32 13.3**	**-1.1**
STYH	**Taoyuan**	**0.89 237**	P	**Pb**	**00 32 01.7**	**-0.8**
STYH			*e*S	**Sb**	**00 32 14.4**	**-0.2**
WCKO	**Fanlu**	**0.92 256**	*e*P	**Pb**	**00 32 03.2**	**+0.1**
WCKO			*e*S	**Sb**	**00 32 16.5**	**+0.8**
WGK	**Gukeng**	**0.93 272**	*e*P	**Pn**	**00 32 03.6**	**-0.8**
TPUB	**Ta-pu**	**0.94 248**	P	**Pb**	**00 32 03.6**	**+0.1**
TPUB	**Ta-pu**	**0.94 248**	S	**Sn**	**00 32 17.4**	**-1.1**
TPUB	**Ta-pu**	**0.94 248**	*e*P	**Pb**	**00 32 03.6**	**+0.1**
TPUB			S	**Sb**	**00 32 17.0**	**+0.7**
WDLH	**Douliu**	**0.95 272**	*e*P	**Pn**	**00 32 04.3**	**-0.4**
WDLH			*e*S	**Sn**	**00 32 19.2**	**+0.5**
CHN4	**Tsaushan**	**0.96 251**	*e*P	**Pn**	**00 32 04.0**	**-0.7**
CHN4			*e*S	**Sn**	**00 32 17.9**	**-0.9**
TWGBT	**Beinan**	**0.96 209**	P	**Pg**	**00 32 02.8**	**-0.2**
TWGBT	**Beinan**	**0.96 209**	*e*P	**Pg**	**00 32 01.9**	**-1.1**
TWG	**Pinlang**	**0.96 209**	*e*P	**Pg**	**00 32 02.0**	**-1.0**
TWG			*e*S	**Sg**	**00 32 15.5**	**0.0**
TCU	**Taichung**	**0.96 301**	*e*P	**Pn**	**00 32 04.0**	**-0.7**
WTP	**Ta-pu**	**0.98 245**	*e*P	**Pb**	**00 32 04.0**	**-0.1**
WTP			*e*S	**Sn**	**00 32 18.4**	**-1.0**
LDUT	**Ludao**	**0.99 186**	*e*P	**Pg**	**00 32 03.1**	**-0.5**
TWQ1	**Liyutan**	**1.01 313**	*e*P	**Pn**	**00 32 05.7**	**+0.2**
TWQ1			*e*S	**Sn**	**00 32 19.9**	**-0.2**
YHNB	**Yeheng**	**1.02 350**	P	**Pb**	**00 32 04.5**	**-0.4**
YHNB	**Yeheng**	**1.02 350**	P	**Pb**	**00 32 04.3**	**-0.5**
YHNB			*e*S	**Sg**	**00 32 17.0**	**-0.5**
WCHH	**Zhanghua**	**1.02 294**	*e*P	**Pn**	**00 32 05.3**	**-0.4**
WCHH			*e*S	**Sn**	**00 32 21.6**	**+1.2**
NSK	**Sanguang**	**1.03 349**	P	**Pb**	**00 32 04.4**	**-0.6**
NSK			*e*S	**Sg**	**00 32 17.5**	**-0.3**
NFF	**Wufeng Townshi**	**1.05 336**	*e*P	**Pn**	**00 32 05.7**	**-0.5**
NSY	**Sanyi**	**1.06 315**	*e*P	**Pn**	**00 32 06.6**	**+0.4**
CHY	**Chiayi**	**1.07 262**	*e*P	**Pn**	**00 32 06.3**	**0.0**
CHY			*e*S	**Sn**	**00 32 22.8**	**+1.2**
CHN1	**Nanshi**	**1.08 244**	*e*P	**Pn**	**00 32 06.2**	**-0.2**
CHN1			*e*S	**Sn**	**00 32 22.4**	**+0.7**
TWK	**Hsinying**	**1.08 249**	*e*P	**Pn**	**00 32 06.2**	**-0.3**
TWK			*e*S	**Sn**	**00 32 21.6**	**-0.2**
SNST	**Tainan City**	**1.09 246**	*e*P	**Pn**	**00 32 06.1**	**-0.5**
SNST			*e*S	**Sn**	**00 32 23.0**	**+1.0**
WTK	**Tuku**	**1.09 272**	*e*P	**Pn**	**00 32 06.1**	**-0.5**
WTK			*e*S	**Sn**	**00 32 22.6**	**+0.5**
FUSB	**Fushanzhiwuyua**	**1.09 0**	*e*P	**Pb**	**00 32 06.1**	**0.0**
NWLT	**Wulai**	**1.11 356**	*e*P	**Pb**	**00 32 06.3**	**-0.1**
NMLH	**Miaoli**	**1.13 321**	*e*P	**Pn**	**00 32 07.5**	**+0.4**
KSHI	**Guanxi Townshi**	**1.17 342**	*e*P	**Pn**	**00 32 08.8**	**+1.1**
ECL	**Taimali**	**1.21 209**	*e*P	**Pg**	**00 32 06.8**	**-1.0**
EGS		**1.22 15**	*e*P	**Pn**	**00 32 08.3**	**-0.1**
ICHU	**Yijhu**	**1.23 256**	*e*P	**Pn**	**00 32 08.8**	**+0.3**
ICHU			*e*S	**Sn**	**00 32 26.9**	**+1.4**
WSL	**Shuilin Townsh**	**1.25 264**	*e*P	**Pn**	**00 32 08.8**	**+0.1**
WSL			*e*S	**Sn**	**00 32 28.0**	**+2.1**
SSD	**Sandimen**	**1.26 224**	*e*P	**Pn**	**00 32 09.0**	**+0.1**
SSD			*e*S	**Sn**	**00 32 28.1**	**+1.9**
SCST	**Cishan**	**1.26 233**	*e*P	**Pn**	**00 32 10.3**	**+1.3**
SCST			*e*S	**Sn**	**00 32 30.6**	**+4.3**
TSMG	**Majia**	**1.28 222**	*e*P	**Pg**	**00 32 08.9**	**-0.3**
CHN8	**Yiju**	**1.29 256**	*e*P	**Pn**	**00 32 09.7**	**+0.3**
CHN8			*e*S	**Sn**	**00 32 29.2**	**+2.1**
SHHT	**Tainan City**	**1.30 241**	*i* P	**Pn**	**00 32 11.1**	**+1.7**
SHHT			S	**Sn**	**00 32 31.5**	**+4.3**
TATO	**Taipei**	**1.31 356**	P	**Pn**	**00 32 10.5**	**+0.9**
TWA	**Mucha**	**1.31 0**	*e*P	**Pn**	**00 32 11.2**	**+1.5**
TIPB	**Shuangxi**	**1.32 10**	*e*P	**Pb**	**00 32 09.8**	**-0.2**
MASBT	**Mashibuluo**	**1.36 220**	*e*P	**Pn**	**00 32 09.6**	**-0.7**
MASBT			*e*S	**Sn**	**00 32 29.7**	**+0.9**
TWB1	**Santiao Chiao**	**1.39 15**	*e*P	**Pb**	**00 32 11.5**	**+0.3**
TWB1			*e*S	**Sb**	**00 32 29.0**	**-0.2**
NWF	**Wu-fen Shan**	**1.42 7**	*e*P	**Pb**	**00 32 11.4**	**-0.2**
SXI1	**Grass Mountain**	**1.45 11**	*e*P	**Pb**	**00 32 12.7**	**+0.4**
TAWH	**Dawu Township**	**1.46 206**	*e*P	**Pn**	**00 32 11.8**	**+0.2**
TSCK	**Chigu Township**	**1.47 250**	*e*P	**Pg**	**00 32 12.9**	**+0.2**
TSCK			*e*S	**Sn**	**00 32 34.7**	**+3.4**
YM08	**YM08**	**1.52 0**	*e*P	**Pg**	**00 32 14.2**	**+0.4**
SCZT	**Fangliau**	**1.56 215**	*i* P	**Pg**	**00 32 14.5**	**0.0**
SCZT			*e*S	**Sg**	**00 32 36.0**	**+1.3**
LAY	**Lan-yu**	**1.61 181**	*e*P	**Pn**	**00 32 12.2**	**-1.6**
WDGT	**Dungji**	**1.81 258**	*e*P	**Pn**	**00 32 17.0**	**+0.5**
PHUB	**P'eng-hu**	**1.85 266**	*e*P	**Pb**	**00 32 18.4**	**-0.5**
TWKBT	**Hengchun**	**1.85 203**	*e*P	**Pn**	**00 32 14.5**	**-2.6**
PNG	**Penghu**	**1.86 268**	P	**Pn**	**00 32 17.7**	**+0.5**
PNG			S	**Sb**	**00 32 43.1**	**+0.4**
IRIF	**Iriomote-Funau**	**2.08 71**	*e*S	**Sn**	**00 32 46.9**	**+0.5**
JISG	**Ishigakijimahi**	**2.66 69**	*e*P	**Pn**	**00 32 27.3**	**-0.8**
KNMB	**Chin-men Tao**	**3.02 286**	*e*P	**Pn**	**00 32 32.5**	**-0.7**
AXDP	**Jialang**	**3.52 291**	*e*P	**Pn**	**00 32 39.7**	**-0.3**

*IDC **03** 00:36:48.5±0.6, 9.°88S×107.°91E, h0km, mb4.1/16, mbtmp4.1/18, ML4.2/2, MS3.4/7, Error ellipse: s-maj=27.7km s-min=13.1km az=61.0*
*NEIC **03** 00:36:50.2±1.7, 9.°90S±0.°07×108.°05E±0.°06, h10km±1km, mb4.4/10, Error ellipse: s-maj=13.0km s-min=9.4km az=201.0*
*DJA **03** 00:36:50.0±0.3, 10.°S±3.°×10.°8E±.°, h10km, M4.9/24, mB5.5/7, mb5.0/16, MLv4.8/24, Mw(mB)5.0/7*

ISC 03 00:36:49.7±0.5, 9.°95S±0.°06×108.°00E±0.°06, h10km, n72, σ1s49/71, mb4.3/22, MS3.5/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**2.76 342**		P	**Pn**	**00 37 32.4**	**-1.7**
LEM	**Lembang**	**3.12 353**		Pn	**Pn**	**00 37 39.0**	**-0.2**
	100nm,0.3s,baz=288,slow=22,SNR=12						
LEM				Sn	**Sn**	**00 38 15.7**	**-1.0**
	77nm,0.3s,baz=2.9,slow=20,SNR=9.3						
LEM				LR	LR	00 39 02.6	
	comp=Z,422nm,19.4s,baz=356,slow=44						
	228nm,0.4s						
LEM	**Lembang**	**3.12 353**		P	**Pn**	**00 37 39.9**	**+0.7**
UGM	**Wanagama**	**3.21 51**		Pn	**Pn**	**00 37 39.7**	**-0.6**
UGM				Sn	**Sn**	**00 38 14.5**	**-4.2**
UGM	**Wanagama**	**3.21 51**		P	**Pn**	**00 37 39.6**	**-0.7**
SKJI	**Sukabumi**	**3.25 334**		P	**Pn**	**00 37 40.2**	**-0.7**
WOJI	**Wonogiri, Jawa**	**3.57 54**		P	**Pn**	**00 37 44.7**	**-0.6**
DBJI	**Dramaga**	**3.59 340**		P	**Pn**	**00 37 45.6**	**+0.1**
PCJI	**Pacitan**	**3.59 61**		P	**Pn**	**00 37 44.5**	**-1.0**
SMRI	**Semarang**	**3.76 40**		Pn	**Pn**	**00 37 48.5**	**+0.6**
SMRI				Sn	**Sn**	**00 38 30.3**	**-1.9**
SMRI	**Semarang**	**3.76 40**		P	**Pn**	**00 37 48.6**	**+0.7**
SBJI	**Serang**	**4.23 334**		P	**Pn**	**00 37 52.8**	**-1.5**
NGJI	**Ngawi**	**4.28 53**		P	**Pn**	**00 37 56.7**	**+1.7**
TBJI	**Tambak Boyo**	**4.92 51**		P	**Pn**	**00 38 04.3**	**+0.5**
GRJI	**Gresik**	**5.36 56**		P	**Pn**	**00 38 10.6**	**+0.7**
	1.0nm208nm,1.4s						
KASI	**Kota Agung**	**5.60 321**		P	**Pn**	**00 38 12.4**	**-0.7**
	0.5nm1µm33nm,0.8s						
GMJI	**Gumukmas**	**5.63 73**		P	**Pn**	**00 38 15.2**	**+1.6**
	1.0nm3µm237nm,0.6s						
JAGI	**Jajag, Banyuwa**	**6.25 77**			**Pn**	**00 38 22.3**	**+0.2**
JAGI	**Jajag, Banyuwa**	**6.25 77**		P	**Pn**	**00 38 22.7**	**+0.6**
	6µm243nm,0.5s						
LWLI	**Liwa**	**6.26 321**		P	**Pn**	**00 38 21.0**	**-1.4**
ABJI	**Asem Bagus**	**6.52 71**		P	**Pn**	**00 38 27.0**	**+1.1**
	0.9nm136nm,1.0s						
MDSI	**Maura Dua**	**6.62 325**		P	**Pn**	**00 38 26.1**	**-1.0**
	1µm26nm,0.7s						
TPI	**Tanjungpandan**	**7.15 357**		P	**Pn**	**00 38 33.3**	**-1.2**
	0.1nm24nm,0.7s						
SRBI	**Singaraja**	**7.36 76**		P	**Pn**	**00 38 39.3**	**+1.9**
	0.6nm145nm,0.7s						
MNAI	**Manna**	**7.47 318**		Pn	**Pn**	**00 38 36.5**	**-2.4**
MNAI	**Manna**	**7.47 318**		P	**Pn**	**00 38 36.8**	**-2.1**
	243nm,1.6s						
PPBI	**Pangkal Pinang**	**7.95 346**		P	**Pn**	**00 38 44.7**	**-0.8**
PLAI	**Plampang**	**9.71 84**		P	**Pn**	**00 39 10.4**	**+0.7**
	95nm,0.7s						
KAPI	**Kappang**	**12.64 68**		LR	LR	00 45 04.3	
	comp=Z,129nm,18.7s,baz=236,slow=39						
PBSI	**Pulau Batu**	**13.79 315**		P	**Pn**	**00 40 03.5**	**-1.9**
	122nm,1.5s						
GIRL	**Giralia**	**13.97 155**		Pn	**Pn**	**00 40 04.6**	**-3.3**
GSI	**Gununggsitoli**	**15.25 317**			**Pn**	**00 40 22.6**	**-2.8**
MBWA	**Marble Bar**	**15.86 136**		Pn	**Pn**	**00 40 31.2**	**-2.0**
MBWA				IAmb	IAmb	00 40 37.0	
	comp=Z,36nm,1.4s						
SOEI	**Soe**	**16.03 91**		Pn	**Pn**	**00 40 34.3**	**-1.3**
SOEI				IAmb	IAmb	00 41 12.8	
	comp=Z,42nm,0.9s						
PSA00	**Pilbara Seismi**	**16.22 137**		Pn	**Pn**	**00 40 37.0**	**-0.9**
TOLI2	**Tolitoli**	**16.81 50**		P	**P**	**00 40 47.4**	**-0.2**
TOLI2				IAmb	IAmb	00 40 49.0	
	comp=Z,39nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.93 117**		Pn	**Pn**	**00 41 13.2**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=263,slow=23,SNR=1.4						
FITZ				Sn	Sn	00 44 24.9	-19
	comp=Z,0.3nm,0.3s,baz=286,slow=24,SNR=1.2						
	comp=Z,4.2nm,0.8s						
MORW	**Morawa**	**20.46 159**		Pn	Pn	00 41 29.8	0.0
MORW				IAmb	IAmb	00 41 44.0	
	comp=Z,18nm,1.2s						
DAV	**Davao City (W)**	**24.34 47**		LR	LR	00 54 30.2	
	comp=Z,41nm,18.4s,baz=111,slow=44						
WB0	**Warramunga Arr**	**27.28 114**		P	**P**	**00 42 31.7**	**-3.0**
WB0				IAmb	IAmb	00 42 48.9	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**27.28 114**		P	**P**	**00 42 35.0**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=286,slow=11,SNR=5.6						
	comp=Z,1.5nm,0.8s						
WR8	**Warramunga Arr**	**27.43 114**		P	**P**	**00 42 34.7**	**-1.3**
WR8				IAmb	IAmb	00 43 19.0	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**28.24 122**		P	**P**	**00 42 44.1**	**+0.9**
ASAR	**Alice Springs**	**28.24 122**		P	**P**	**00 42 42.9**	**-0.3**
ASAR	**Alice Springs**	**28.24 122**		P	**P**	**00 42 45.2**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=297,slow=9.1,SNR=7.3						
ASAR				PcP	**PcP**	**00 45 57.6**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=304,slow=2.5,SNR=2.9						
ASAR				LR	LR	00 54 40.5	
	comp=Z,81nm,18.4s,baz=286,slow=38						
	comp=Z,0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.61 342**		P	**P**	**00 42 54.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**29.61 342**		P	**P**	**00 42 55.1**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=176,slow=8.4,SNR=12						
	comp=Z,2.7nm,0.8s						
CHTO	**Chiang Mai**	**29.94 343**			**P**	**00 42 57.1**	**-1.2**
H08S2	**Diego Garcia H**	**35.15 271**		T	T	01 21 44.6	
	baz=93,slow=74						
H08S3	**Diego Garcia H**	**35.16 271**		T	T	01 21 44.3	
	baz=93,slow=74						
H08S1	**Diego Garcia H**	**35.17 271**		T	T	01 21 31.7	
	baz=93						
STKA	**Stephens Creek**	**37.97 130**		P	**P**	**00 44 09.2**	**+1.2**
	comp=Z,4.4nm,0.7s,baz=295,slow=10,SNR=7.2						
	comp=Z,4.4nm,0.7s						
XAN	**Xi'an**	**43.75 1**		P	**P**	**00 44 55.0**	**-0.5**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTA	**Gaotai**	**49.69 352**		*e*P	**P**	**00 45 44.3**	**+2.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BTO	**Baotou**	**50.33 2**		*e*P	**P**	**00 45 48.6**	**+1.7**
BTO				PP	**PP**	**00 47 45.9**	**+3.3**
BTO				S	**S**	**00 53 03.6**	**+3.7**
BTO				pmax	pmax		
	comp=Z,22nm,0.7s						
BTO				pmax	pmax		
	comp=Z,180nm,9.3s						
BTO				LR	LR		
	comp=N,180nm,6.8s						
BTO				LR	LR		
	comp=E,140nm,4.3s						
BTO				LR	LR		
	comp=Z,140nm,6.0s						
KSRS	**Korea Array**	**50.72 21**		P	**P**	**00 45 49.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=200,slow=9.0,SNR=1.8						
	comp=Z,0.4nm,0.4s						
KSH	**Kashi**	**57.50 331**		P	**P**	**00 46 41.1**	**+1.7**
KSH				sP	pwP	00 46 48.6	-0.8
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**57.54 359**		P	**P**	**00 46 39.7**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=178,slow=8.5,SNR=13						
SONM				PcP	**PcP**	**00 47 32.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=175,slow=6.9,SNR=1.6						
	comp=Z,3.1nm,0.6s						
AAK	**Ala-Archa**	**60.64 332**		LR	LR	01 17 16.5	
	comp=Z,35nm,18.3s,baz=141,slow=40						
MKAR	**Makanchi Array**	**60.98 340**		P	**P**	**00 47 02.5**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=150,slow=7.4,SNR=15						
	comp=Z,1.8nm,0.6s						
MAW	**Mawson**	**64.86 197**		P	**P**	**00 47 29.3**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=8.4,slow=9.0,SNR=3.9						
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**65.54 340**		P	**P**	**00 47 32.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=154,slow=6.2,SNR=14						
	comp=Z,0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**66.62 345**		P	**P**	**00 47 39.0**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=140,slow=5.6,SNR=5.7						
ZALV				LR	LR	01 18 27.8	
	comp=Z,37nm,18.0s,baz=129,slow=38						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**70.45 337**		P	**P**	**00 48 03.8**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=142,slow=7.5,SNR=14						
	comp=Z,2.7nm,0.5s						
KBZ	**Khabaz**	**79.49 318**		P	**P**	**00 48 56.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=190,slow=6.6,SNR=4.1						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**80.06 180**		P	**P**	**00 49 00.4**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=179,slow=2.3,SNR=3.1						
	comp=Z,1.2nm,1.0s						
SEY	**Seymchan**	**80.24 19**		LR	LR	01 28 31.9	
	comp=Z,61nm,18.2s,baz=154,slow=39						
MMAI	**Mount Meron Ar**	**81.11 306**		P	**P**	**00 49 06.8**	**+1.1**
	comp=Z,1.3nm,0.5s,baz=123,slow=6.1,SNR=6.1						
	comp=Z,1.3nm,0.5s						
BRTR	**Keskin Array B**	**84.51 312**		P	**P**	**00 49 23.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=129,slow=7.5,SNR=13						
	comp=Z,1.6nm,0.7s						
AKASG	**Malin Array Be**	**90.60 321**		P	**P**	**00 49 52.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=83,slow=1.4,SNR=1.5						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**144.67 52**		PKP	**PKPdf**	**00 56 27.4**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=282,slow=1.6,SNR=11						
LPAZ	**La Paz**	**153.65 188**		PKPbc	**PKPbc**	**00 56 50.7**	**0.0**
	comp=Z,0.7nm,0.5s,baz=207,slow=8.9,SNR=3.6						

AUST 03 00:37:03.3±0.7, 18.°5S±5.°×12.°0E±.°, h10km, mb4.1/4, ML2.8/5, ML3.3/2, Error ellipse: s-maj=14.9km s-min=5.6km az=135.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.91 77**		P	Pn	00 37 35.8	-0.1
AUBRM				S	Sn	00 38 00.8	+0.7
MBWA	**Marble Bar**	**2.79 191**		P	Pn	00 37 49.2	+1.2
MBWA				S	Sn	00 38 23.0	+1.2
PSAC1	**Pilbara Seismi**	**3.15 188**		P	Pn	00 37 53.9	+1.0
PSAC1				S	Sn	00 38 31.1	+0.5
PSAB2	**Pilbara Seismi**	**3.16 187**		P	Pn	00 37 54.1	+1.0
PSAB2				S	Sn	00 38 31.0	0.0
PSAA2	**Pilbara Seismi**	**3.17 187**		P	Pn	00 37 54.3	+1.0
PSAB1	**Pilbara Seismi**	**3.18 188**		P	Pn	00 37 54.7	+1.3
PSAB1				S	Sn	00 38 31.6	+0.1
PSAA00	**Pilbara Seismi**	**3.18 187**		P	Pn	00 37 54.4	+0.9
PSA00				S	Sn	00 38 32.0	+0.6
PSAA1	**Pilbara Seismi**	**3.18 187**		P	Pn	00 37 54.5	+1.0
PSAB3	**Pilbara Seismi**	**3.20 187**		P	Pn	00 37 54.7	+1.0
PSAB3				S	Sn	00 38 32.4	+0.5
GIRL	**Giralia**	**7.06 232**		P	Pn	00 38 47.0	+0.2
	comp=Z,36nm,1.7s						
CVQOZ	**Cooralya Stati**	**8.33 223**		S	Sn	00 40 32.7	-5.8
MEEK	**Meekatharra**	**8.34 190**		P	Pn	00 39 04.4	0.0
	comp=Z,12nm,3.0s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.34 190**		S	Sn	00 40 34.3	-4.4
MORW	**Morawa**	**11.30 199**		P	Pn	00 39 43.5	-1.4
	comp=Z,13nm,2.2s						
MORW	**Morawa**	**11.30 199**		S	Sn	00 41 41.9	-9.4
BLDU	**Ballidu**	**12.58 194**		P	Pn	00 40 00.9	-1.6
	comp=Z,18nm,1.9s						
BLDU	**Ballidu**	**12.58 194**		S	Sn	00 42 11.9	-11

*ISN **03** 00:49:13.1±0.8, 33.°60N×45.°67E, h8km±4km, ML2.7*
*TEH **03** 00:49:14.4, 33.°61N×45.°69E, h8km±69km*

ISC 03 00:49:14.5±0.9, 33.°59N±0.°03×45.°72E±0.°04, h13km, n11, σ0s79/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.41 85**		Pg	**Pg**	**00 49 22.8**	**+0.2**
IBDR	**Badra**	**0.51 160**		*e*Pg	**Pg**	**00 49 24.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**00 49 31.0**	**-0.4**
IBDR				AML	AML	00 49 50.4	
	comp=N,278nm,0.3s						
IBDR				AML	AML	00 50 01.3	
	comp=E,217nm,0.4s						
GLG1	**Gilan-e-Gharb**	**0.54 17**		Pg	**Pg**	**00 49 24.6**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.92 353**		Pg	**Pb**	**00 49 32.0**	**-0.3**
IGHG	**Ghaleghazi**	**1.02 44**		Pg	**Pn**	**00 49 34.6**	**-0.1**
BHD	**Baghdad**	**1.16 254**		*e*Pn	**Pg**	**00 49 37.0**	**+0.1**
BHD				*e*Sn	**Sn**	**00 49 54.0**	**+1.8**
BHD				AML	AML	00 49 59.9	
	comp=E,728nm,0.3s						
IDHR	**Dehrash**	**1.24 26**		Pg	**Pb**	**00 49 37.8**	**0.0**
KCHF	**Cheshme Sefid,**	**1.29 58**		Pg	**Pg**	**00 49 39.5**	**+0.1**
RAFI	**Al-Rafai**	**1.89 170**		*e*Pn	**Pb**	**00 49 48.0**	**-0.9**
RAFI				*e*Sn	**Sb**	**00 50 13.0**	**+0.6**
SNQR	**Sonqor, Kerman**	**2.02 51**		Pn	**Pb**	**00 49 51.8**	**+0.5**
IKRK	**Kirkuk**	**2.13 328**		*e*Pn	**Pn**	**00 49 50.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**00 50 18.0**	**-1.3**
IKRK				AML	AML	00 50 32.1	
	comp=E,47nm,0.4s						
IK

NATA	**Nata**	**1.50**	**157**	P	**Pn**	**01 10 07.0**	**+1.9**
NATA				S	**Sn**	**01 10 25.1**	**0.0**
NATA				AML	AML	01 10 31.9	
	0.9nm,0.3s						
NATA				AML	AML	01 10 34.8	
	1.3nm,0.4s						
NATA	**Nata**	**1.50**	**157**	P	**Pn**	**01 10 07.0**	**+1.9**
NATA				S	**Sn**	**01 10 26.8**	**+1.7**
XYLS	**Xyliatos**	**1.50**	**140**	P	**Pn**	**01 10 05.3**	**+0.2**
XYLS				S	**Sn**	**01 10 24.2**	**-1.0**
XYLS				AML	AML	01 10 26.4	
	0.9nm,0.2s						
XYLS				AML	AML	01 10 30.9	
	0.9nm,0.2s						
KRMN	**Karaman**	**1.51**	**48**	Pn	**Pn**	**01 10 05.9**	**+0.6**
KEBE	**Keben-Mersin**	**1.52**	**79**	Pn	**Pn**	**01 10 06.9**	**+1.5**
BUCA	**Burdur, Bucak-**	**1.57**	**318**	P	**Pn**	**01 10 06.3**	**+0.3**
BUCA				S	**Sn**	**01 10 27.4**	**+0.6**
BUCA				*i* IAML		01 10 30.0	
	comp=E,188nm,0.5s						
BUCA				*i* IAML		01 10 31.0	
	comp=N,108nm,0.5s						
ATHAL	**Athalassa**	**1.61**	**129**	P	**Pn**	**01 10 07.0**	**+0.5**
ATHAL				S	**Sn**	**01 10 25.8**	**-1.8**
ATHAL				AML	AML	01 10 28.1	
	1.1nm,0.4s						
ATHAL				AML	AML	01 10 29.2	
	1.2nm,0.3s						
SILI	**Silifke-Mersin**	**1.68**	**82**	Pn	**Pn**	**01 10 08.2**	**+1.0**
CSS	**Mathiatis**	**1.69**	**135**	Pn	**Pn**	**01 10 08.0**	**+0.6**
CSS	**Mathiatis**	**1.69**	**135**	P	**Pn**	**01 10 07.6**	**+0.1**
CSS				S	**Sn**	**01 10 28.6**	**-0.7**
CSS				AML	AML	01 10 37.7	
	0.4nm,0.5s						
CSS				AML	AML	01 10 39.4	
	0.4nm,0.6s						
CSS	**Mathiatis**	**1.69**	**135**	P	**Pn**	**01 10 08.1**	**+0.6**
CSS				S	**Sn**	**01 10 28.7**	**-0.7**
CSS	**Mathiatis**	**1.69**	**135**	P	**Pn**	**01 10 06.9**	**-0.5**
CSS	**Mathiatis**	**1.69**	**135**	S	**Sn**	**01 10 26.9**	**-2.5**
ASGA	**Asgata**	**1.78**	**140**	P	**Pn**	**01 10 10.0**	**+1.4**
ASGA				S	**Sn**	**01 10 30.9**	**-0.4**
ASGA				AML	AML	01 10 38.1	
	0.3nm,0.1s						
ASGA				AML	AML	01 10 38.7	
	0.5nm,0.4s						
ASGA	**Asgata**	**1.78**	**140**	P	**Pn**	**01 10 10.2**	**+1.7**
ASGA				S	**Sn**	**01 10 31.9**	**+0.6**
MVOU	**Mavrovouni**	**1.84**	**128**	P	**Pn**	**01 10 09.2**	**-0.1**
MVOU				S	**Sn**	**01 10 31.0**	**-1.6**
MVOU				AML	AML	01 10 34.3	
	0.4nm,0.4s						
MVOU				AML	AML	01 10 36.5	
	0.4nm,0.3s						
MVOU	**Mavrovouni**	**1.84**	**128**	P	**Pn**	**01 10 09.5**	**+0.2**
KSL	**Kastellorizon**	**1.85**	**270**	P	**Pn**	**01 10 09.0**	**-0.3**
KSL				S	**Sn**	**01 10 33.5**	**+0.7**
KSL	**Kastellorizon**	**1.85**	**270**	P	**Pn**	**01 10 09.7**	**+0.3**
KIZK	**Mersin**	**1.87**	**80**	Pn	**Pn**	**01 10 10.6**	**+1.0**
KIZK	**Mersin**	**1.87**	**80**	P	**Pn**	**01 10 10.6**	**+1.0**
KIZK				S	**Sn**	**01 10 33.1**	**-0.2**
KIZK				*i* IAML		01 10 35.0	
	comp=N,90nm,0.4s						
KIZK				*i* IAML		01 10 36.0	
	comp=E,66nm,0.7s						
LAR1C	**Larnaka City C**	**1.89**	**130**	S	**Sn**	**01 10 32.1**	**-1.7**
DOGA	**KONYA_Doganhis**	**1.95**	**355**	P	**Pn**	**01 10 11.1**	**+0.3**
DOGA				S	**Sn**	**01 10 35.1**	**-0.3**
DOGA				*i* IAML		01 10 36.0	
	comp=E,82nm,0.6s						
DOGA				*i* IAML		01 10 40.0	
	comp=N,95nm,0.4s						
ISP	**Isparta**	**1.98**	**327**	Pn	**Pn**	**01 10 11.8**	**+0.7**
ISP	**Isparta**	**1.98**	**327**	P	**Pn**	**01 10 10.9**	**-0.2**
ISP				S	**Sn**	**01 10 33.6**	**-2.3**
ISP	**Isparta**	**1.98**	**327**	P	**Pn**	**01 10 11.3**	**+0.2**
BAGO	**Egridir - ISPA**	**2.02**	**335**	P	**Pn**	**01 10 11.7**	**+0.1**
BAGO				*i* IAML		01 10 41.0	
	comp=N,50nm,0.6s						
BAGO				*i* IAML		01 10 41.0	
	comp=E,71nm,0.4s						
PAR1C	**Paralimni Civi**	**2.06**	**123**	S	**Sn**	**01 10 36.7**	**-0.9**
LADK	**Ladik-KONYA**	**2.07**	**11**	Pn	**Pn**	**01 10 12.6**	**+0.2**
PARAL	**Paralimni**	**2.12**	**123**	S	**Sn**	**01 10 37.9**	**-1.2**
PARAL				AML	AML	01 10 45.7	
	0.3nm,0.6s						
PARAL				AML	AML	01 10 47.4	
	0.2nm,0.5s						
YVAC	**Isparta, Yalva**	**2.16**	**347**	P	**Pn**	**01 10 14.2**	**+0.6**
YVAC				S	**Sn**	**01 10 39.6**	**-0.6**
YVAC				*i* IAML		01 10 40.0	
	comp=N,35nm,0.5s						
YVAC				*i* IAML		01 10 41.0	
	comp=E,49nm,0.3s						
KERG	**Konya-Eregli**	**2.20**	**55**	P	**Pn**	**01 10 14.5**	**+0.4**
KERG				S	**Sn**	**01 10 39.5**	**-1.7**
KERG				*i* IAML		01 10 41.0	
	comp=N,111nm,0.3s						
KERG				*i* IAML		01 10 41.0	
	comp=E,108nm,0.3s						
CAME	**Cameli-Denizli**	**2.21**	**291**	Pn	**Pn**	**01 10 15.4**	**+1.3**
YESY	**Yesilyurt**	**2.21**	**42**	Pn	**Pn**	**01 10 14.8**	**+0.7**
MERS	**Mersin**	**2.25**	**71**	Pn	**Pn**	**01 10 15.5**	**+0.9**
ALIN	**Konya, Altinte**	**2.28**	**20**	P	**Pn**	**01 10 15.2**	**+0.1**
ALIN				S	**Sn**	**01 10 41.2**	**-1.8**
ALIN				*i* IAML		01 10 42.0	
	comp=N,11nm,0.2s						
ALIN				*i* IAML		01 10 43.0	
	comp=E,9.8nm,0.3s						
SDAG	**Sultandagi-AFY**	**2.40**	**342**	Pn	**Pn**	**01 10 17.3**	**+0.7**
DED	**Mersin**	**2.49**	**70**	P	**Pn**	**01 10 18.6**	**+0.9**
DED				S	**Sn**	**01 10 47.2**	**-0.6**
DED				*i* IAML		01 10 50.0	
	comp=N,46nm,0.4s						
DED				*i* IAML		01 10 51.0	
	comp=E,34nm,0.3s						
CHBY	**Cihanbeyli**	**2.55**	**18**	Pn	**Pn**	**01 10 18.9**	**+0.3**
ARG	**Arkhangelos**	**3.03**	**272**	P	**Pn**	**01 10 24.8**	**0.0**
BRTR	**Keskin Array B**	**3.82**	**21**	P	**Pn**	**01 10 35.9**	**+0.3**
	2.4nm,0.4s,baz=198,slow=17,SNR=30						
BRTR				S	**Sn**	**01 11 17.6**	**-2.0**
	1.4nm,0.5s,baz=209,slow=23,SNR=8.3						
HWQ	**Hawqa**	**3.83**	**118**	*e*P	**Pn**	**01 10 36.2**	**+0.5**
BHL	**Bhannes**	**3.84**	**125**	*e*P	**Pn**	**01 10 35.8**	**0.0**
BEIL	**Beino**	**3.88**	**113**	*e*P	**Pn**	**01 10 36.2**	**-0.1**
ZAHL	**Zahle**	**4.02**	**124**	*e*P	**Pn**	**01 10 38.8**	**+0.5**
QRWL	**Qaraoun**	**4.08**	**129**	*e*P	**Pn**	**01 10 40.1**	**+1.1**
HNTI	**Hanita**	**4.11**	**137**	P	**Pn**	**01 10 40.5**	**+1.2**
HNTI	**Hanita**	**4.11**	**137**	S	**Sn**	**01 11 26.6**	**+0.2**
RCY	**Rachaya**	**4.21**	**128**	*e*P	**Pn**	**01 10 41.9**	**+1.1**
SHBL	**Chebaa**	**4.25**	**130**	*e*P	**Pn**	**01 10 42.5**	**+1.1**
MMC7	**Mount Meron ar**	**4.28**	**136**	P	**Pn**	**01 10 42.8**	**+1.2**
MMA0B	**Mount Meron ar**	**4.28**	**136**	P	**Pn**	**01 10 43.3**	**+1.2**
MMA0B	**Mount Meron ar**	**4.29**	**136**	S	**Sn**	**01 11 31.2**	**+0.4**
MMAI	**Mount Meron Ar**	**4.29**	**136**	P	**Pn**	**01 10 43.0**	**+1.2**
	4.2nm,0.2s,baz=324,slow=13,SNR=142						
MMAI				S	**Sn**	**01 11 29.3**	**-1.5**
	2.8nm,0.2s,baz=307,slow=11,SNR=7.1						
GEM	**Giv'at Ha'Em**	**4.30**	**132**	P	**Pn**	**01 10 43.0**	**+1.2**
GEM	**Giv'at Ha'Em**	**4.30**	**132**	S	**Sn**	**01 11 31.4**	**+0.5**
NATI	**Neve Ativ**	**4.30**	**131**	P	**Pn**	**01 10 43.2**	**+1.3**
NATI	**Neve Ativ**	**4.30**	**131**	S	**Sn**	**01 11 32.0**	**+0.9**
OFRI	**`Ofer**	**4.37**	**143**	P	**Pn**	**01 10 43.8**	**+0.9**
OFRI	**`Ofer**	**4.37**	**143**	S	**Sn**	**01 11 32.6**	**-0.2**
BLGI	**Bet Lehem HaGe**	**4.39**	**140**	P	**Pn**	**01 10 44.0**	**+0.9**
BLGI	**Bet Lehem HaGe**	**4.39**	**140**	S	**Sn**	**01 11 33.3**	**+1.2**
SLTI	**Sal'it**	**4.71**	**145**	P	**Pn**	**01 10 48.2**	**+0.7**
SLTI	**Sal'it**	**4.71**	**145**	S	**Sn**	**01 11 40.4**	**-0.7**
MMLI	**Mount Malkishu**	**4.74**	**141**	P	**Pn**	**01 10 48.7**	**+0.8**
MMLI	**Mount Malkishu**	**4.74**	**141**	S	**Sn**	**01 11 42.0**	**+0.3**
HMDT	**Nahal Hemdat**	**4.94**	**141**	P	**Pn**	**01 10 52.4**	**+1.8**
HMDT	**Nahal Hemdat**	**4.94**	**141**	S	**Sn**	**01 11 46.8**	**+0.3**
UJAP	**Al Uja**	**5.15**	**144**	P	**Pn**	**01 10 54.3**	**+0.9**
UJAP	**Al Uja**	**5.15**	**144**	S	**Sn**	**01 11 51.8**	**+0.2**
NPS	**Neapolis**	**5.17**	**262**	P	**Pn**	**01 10 54.6**	**+0.9**
THR3	**Thira Island,**	**5.23**	**275**	P	**Pn**	**01 10 54.7**	**+0.3**
SNT5	**Nea Kammeni, S**	**5.23**	**275**	P	**Pn**	**01 10 54.6**	**+0.1**
AMAZ	**Amatzia**	**5.27**	**150**	P	**Pn**	**01 10 55.9**	**+0.9**
AMAZ	**Amatzia**	**5.27**	**150**	S	**Sn**	**01 11 54.7**	**+0.2**
DSI	**Dead Sea**	**5.43**	**146**	P	**Pn**	**01 10 57.6**	**+0.4**
DSI	**Dead Sea**	**5.43**	**146**	S	**Sn**	**01 11 58.5**	**0.0**
YTIR	**Yattir**	**5.50**	**150**	P	**Pn**	**01 10 59.2**	**+1.0**
YTIR	**Yattir**	**5.50**	**150**	S	**Sn**	**01 12 00.6**	**+0.4**
MSBI	**Mazada**	**5.64**	**148**	P	**Pn**	**01 11 00.8**	**+0.8**
MSBI	**Mazada**	**5.64**	**148**	S	**Sn**	**01 12 03.9**	**+0.4**
KZIT	**Kziot**	**5.65**	**157**	P	**Pn**	**01 11 00.9**	**+0.7**
KZIT	**Kziot**	**5.65**	**157**	S	**Sn**	**01 12 03.3**	**-0.5**
IDI	**Anoyia**	**5.74**	**263**	P	**Pn**	**01 11 01.7**	**+0.3**
	12nm,0.3s,baz=118,slow=2.9,SNR=65						
IDI				S	**Sn**	**01 12 01.5**	**-4.5**
	12nm,0.8s,baz=333,slow=16,SNR=3.6						
GHAJ	**Ghor Haditha**	**5.74**	**146**	P	**Pn**	**01 11 03.4**	**+2.0**
GHAJ	**Ghor Haditha**	**5.74**	**146**	S	**Sn**	**01 12 06.4**	**+0.4**
ASF	**Jabal al Asfar**	**5.76**	**132**	P	**Pn**	**01 11 05.4**	**+3.6**
	1.4nm,0.3s,baz=0.7,slow=5.7,SNR=7.6						
ASF				S	**Sn**	**01 12 06.7**	**0.0**
	5.6nm,0.4s,baz=126,slow=9.2,SNR=8.2						
PRNS	**Prines Rethymn**	**6.04**	**265**	P	**Pn**	**01 11 06.3**	**+0.9**
MATC	**Matruh**	**6.16**	**220**	P	**Pn**	**01 11 08.9**	**+1.8**
ZFRI	**Zfri**	**6.24**	**153**	P	**Pn**	**01 11 09.1**	**+0.9**
ZFRI	**Zfri**	**6.24**	**153**	S	**Sn**	**01 12 17.9**	**-0.2**
PRNI	**Paran**	**6.36**	**155**	P	**Pn**	**01 11 10.9**	**+1.1**
PRNI	**Paran**	**6.36**	**155**	S	**Sn**	**01 12 21.2**	**+0.1**
KRMI	**Paran Flat**	**6.49**	**158**	P	**Pn**	**01 11 12.4**	**+0.8**
KRMI	**Paran Flat**	**6.49**	**158**	S	**Sn**	**01 12 23.9**	**-0.2**
HRFI	**Mount Harif**	**6.66**	**156**	P	**Pn**	**01 11 14.9**	**+0.9**
HRFI	**Mount Harif**	**6.66**	**156**	S	**Sn**	**01 12 27.7**	**-0.8**
KNDR	**Palaiochora Ch**	**6.72**	**264**	P	**Pn**	**01 11 16.2**	**+1.6**
MBRI	**Mt Berech**	**6.85**	**157**	P	**Pn**	**01 11 17.4**	**+0.9**
MBRI	**Mt Berech**	**6.85**	**157**	S	**Sn**	**01 12 33.3**	**+0.3**
ANKY	**Antikythira Is**	**6.95**	**270**	P	**Pn**	**01 11 17.8**	**0.0**
EIL	**Elat**	**6.97**	**157**	P	**Pn**	**01 11 19.6**	**+1.4**
	2.7nm,0.4s,baz=331,slow=4.1,SNR=18						
EIL				S	**Sn**	**01 12 33.3**	**-2.7**
	3.4nm,0.3s,baz=68,slow=19,SNR=8.2						
EIL	**Elat**	**6.97**	**157**	P	**Pn**	**01 11 19.0**	**+0.8**
EIL	**Elat**	**6.97**	**157**	S	**Sn**	**01 12 34.8**	**-1.2**
RYAN	**Fayoum**	**7.19**	**191**	P	**Pn**	**01 11 22.2**	**+1.1**
RYAN				S	**Sn**	**01 12 37.6**	**-3.5**
NUB	**Nuweibaa**	**7.49**	**161**	P	**Pn**	**01 11 26.9**	**+1.8**
NBNS	**Bani Suef**	**7.53**	**184**	P	**Pn**	**01 11 27.4**	**+1.6**
HKAT	**Jabal Katrina**	**7.83**	**166**	P	**Pn**	**01 11 31.4**	**+1.5**
TR2	**Tor 2**	**7.91**	**168**	⇑P	**Pn**	**01 11 32.3**	**+1.4**
SWA2		**8.76**	**220**	⇑P	**Pn**	**01 11 43.3**	**+0.9**
HFRF	**Wahat Farafira**	**9.48**	**200**	⇑P	**Pn**	**01 11 52.8**	**+0.5**
HFRF				S	**Sn**	**01 13 33.2**	**-3.8**
AKASG	**Malin Array Be**	**14.66**	**353**	P	**P**	**01 13 04.4**	**+0.4**
	1.8nm,0.4s,baz=179,slow=10,SNR=15						
FINES	**FINESS Array B**	**25.57**	**354**	P	**P**	**01 14 57.1**	**-0.3**
	0.6nm,0.4s,baz=156,slow=11,SNR=9.9						
	0.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**30.59**	**320**	P	**P**	**01 15 41.5**	**-0.8**
	0.1nm,0.4s,baz=100,slow=8.5,SNR=1.6						
	0.1nm,0.4s						
ARCES	**ARCESS Array B**	**33.61**	**356**	P	**P**	**01 16 08.3**	**-0.3**
	2.1nm,0.9s,baz=177,slow=9.3,SNR=2.5						
	2.1nm,0.9s						

*DJA **03** 01:29:47.6±0.3, 7°S±3°×12°9E±°, h183km±10km, M4.8/13, mB5.2/6, mb5.0/10, MLv5.0/13, Mw(mB)4.6/6*
*IDC **03** 01:29:47.3±2.5, 7°26S×128°81E, h152km±22km, mb3.9/12, mbtmp4.4/14, MS3.4/1, Error ellipse: s-maj=22.5km s-min=11.5km az=75.0*
*NEIC **03** 01:29:49.1±1.7, 7°34S±0°08×128°79E±0°06, h167km±8km, mb4.5/25, Error ellipse: s-maj=12.3km s-min=8.8km az=189.0*

ISC 03 01:29:47.2±0.4, 7°39S±0°05×128°73E±0°05, h150km, n82, σ1s42/83, mb4.4/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.61**	**103**		**Pn**		**01 30 32.1**	**+2.4**
SAUI	**Saumlaki**	**2.61**	**103**	P	**Pn**		**01 30 32.3**	**+2.6**
SAUI				S	**Sn**		**01 31 06.1**	**+3.6**
BNDI	**Bandanaira**	**3.07**	**22**	P	**Pn**		**01 30 37.1**	**+1.6**
AAI	**Ambon**	**3.71**	**352**	P	**Pn**		**01 30 44.7**	**+0.9**
MSAI	**Masohi**	**4.02**	**3**	P	**Pn**		**01 30 48.2**	**+0.4**
SOEI	**Soe**	**5.01**	**242**		**Pn**		**01 31 02.8**	**+2.0**
SOEI	**Soe**	**5.01**	**242**	P	**Pn**		**01 31 02.6**	**+1.7**
	2.6nm5µm407nm,0.7s							
FAKI	**Fak Fak**	**5.65**	**38**		**Pn**		**01 31 07.7**	**-1.6**
FAKI	**Fak Fak**	**5.65**	**38**	P	**Pn**		**01 31 07.9**	**-1.4**
BATI	**Baumata**	**5.74**	**240**	P	**Pn**		**01 31 12.2**	**+1.6**
	509nm,0.6s,baz=130,slow=2.0,SNR=40							
BATI				S	**Sn**		**01 32 15.5**	**-0.2**
	382nm,0.4s,baz=33,slow=20,SNR=10							
BATI				LR	LR		01 34 02.6	
	comp=Z,358nm,18.6s,baz=172,slow=44							
BATI	**Baumata**	**5.74**	**240**	P	**Pn**		**01 31 12.0**	**+1.4**
MTN	**Manton Dam**	**5.92**	**157**		**Pn**		**01 31 13.4**	**+0.5**
KMPI	**Kaimana, Papua**	**6.18**	**53**	P	**Pn**		**01 31 16.2**	**-0.1**
	287nm,0.7s							
MMRI	**Maumere**	**6.55**	**259**	P	**Pn**		**01 31 23.9**	**+2.5**
	0.6nm74nm,0.4s							
SWI	**Sorong**	**6.95**	**21**	P	**Pn**		**01 31 26.1**	**-0.6**
EDFI	**Ende, Flores**	**7.11**	**259**	P	**Pn**		**01 31 29.8**	**+1.0**
	0.2nm33nm,0.8s							
RKPI	**Ransiki, Papua**	**7.97**	**43**	P	**Pn**		**01 31 40.3**	**0.0**
	248nm,0.5s							
KNRA	**Kununurra**	**8.24**	**180**		**Pn**		**01 31 43.4**	**-0.5**
BASI	**Baing, Sumba**	**8.54**	**250**	P	**Pn**		**01 31 49.2**	**+1.3**
	358nm,1.2s							
BKSI	**Bulukumba**	**8.80**	**283**	P	**Pn**		**01 31 53.6**	**+2.2**
WBSI	**Waikabubak, Su**	**9.51**	**256**	P	**Pn**		**01 32 00.7**	**-0.1**
BAKI	**Biak**	**9.58**	**50**	P	**Pn**		**01 32 01.3**	**-0.5**
	103nm,1.0s							
FITZ	**Fitzroy Crossi**	**11.07**	**196**	P	**Pn**		**01 32 19.2**	**-2.1**
	6.7nm,0.3s,baz=14,slow=8.4,SNR=43							
FITZ				S	Sn		01 34 14.2	-10
	46nm,0.6s,baz=117,slow=17,SNR=9.8							
JAY	**Jayapura**	**12.87**	**69**	P	**Pn**		**01 32 43.5**	**-1.4**
	9.4nm,1.0s,baz=220,slow=9.2,SNR=5.8							
JAY				S	Sn		01 34 56.6	-11
	3.2nm,0.2s,baz=55,slow=15,SNR=7.6							
WB0	**Warramunga Arr**	**13.48**	**157**		**Pn**		**01 32 49.9**	**-2.7**
WRA	**Warramunga Arr**	**13.62**	**157**	P	Pn		01 32 51.2	-3.2
	3.3nm,0.6s,baz=330,slow=13,SNR=24							
WRA				S	Sn		01 35 15.7	-10
	4.8nm,0.4s,baz=335,slow=22,SNR=6.4							
WR8	**Warramunga Arr**	**13.69**	**156**		**Pn**		**01 32 52.8**	**-2.6**
COEN	**Coen**	**15.62**	**116**		**Pn**		**01 33 18.3**	**-1.1**
COEN				IAmb	IAmb		01 33 23.0	
	comp=Z,36nm,1.1s							
PSA00	**Pilbara Seismi**	**16.51**	**210**		**P**		**01 33 31.3**	**+1.1**
PSA00				IAmb	IAmb		01 33 49.3	
	comp=Z,41nm,1.3s							
PSA00	**Pilbara Seismi**	**16.51**	**210**		**P**		**01 33 31.0**	**+0.7**
PSA00				IAmb	IAmb		01 33 38.1	
	comp=Z,18nm,1.4s							
AS31	**Alice Springs**	**16.93**	**164**		**P**		**01 33 36.5**	**+1.6**
ASAR	**Alice Springs**	**16.93**	**164**	Pn	**P**		**01 33 37.1**	**+2.2**
ASAR	**Alice Springs**	**16.93**	**164**	P	**P**		**01 33 36.5**	**+1.6**
	comp=Z,4.7nm,0.5s,baz=338,slow=11,SNR=80							
ASAR				S	**S**		**01 36 39.8**	**-4.0**
	comp=Z,4.4nm,0.9s,baz=339,slow=20,SNR=10							
PMG	**Port Moresby**	**18.34**	**98**	P		**Pn**	**01 33 53.1**	**+1.0**
	comp=Z,37nm,0.7s,baz=290,slow=5.7,SNR=7.0							
SBUM	**Sibu**	**19.16**	**300**	P	**P**		**01 34 01.2**	**+2.0**
KSM	**Kuching**	**20.38**	**295**		**P**		**01 34 12.8**	**+0.3**
GIRL	**Giralia**	**20.62**	**221**	P	**P**		**01 34 17.2**	**+2.3**
FORT	**Forrest**	**23.28**	**181**	P	**P**		**01 34 42.2**	**+0.6**
FORT				IAmb	IAmb		01 34 43.9	
	comp=Z,11nm,0.8s							
MORW	**Morawa**	**24.67**	**207**	P	**P**		**01 34 55.0**	**+0.7**
BBOO	**Buckleboo**	**26.20**	**166**	P	**P**		**01 35 08.0**	**0.0**
BBOO				IAmb	IAmb		01 35 09.1	
	comp=Z,7.6nm,0.8s							
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**		**01 35 17.3**	**+0.7**
STKA				IAmb	IAmb		01 35 23.6	
	comp=Z,23nm,1.2s							
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**		**01 35 16.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=332,slow=12,SNR=5.0							
	comp=Z,1.2nm,0.3s							
NWAO	**Narrogin (SRO)**	**27.57**	**201**	P	**P**		**01 35 20.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**39.03**	**312**	P	**P**		**01 36 59.8**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=142,slow=7.0,SNR=12							
	comp=Z,1.9nm,0.3s							
NJ2	**Nanjing**	**40.33**	**347**	*e*P	**P**		**01 37 12.2**	**+2.1**
NJ2				pmax	pmax			
	comp=Z,140nm,0.5s							
PZH	**PanZhiHua**	**42.67**	**323**	P	**P**		**01 37 29.3**	**-0.1**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
MJAR	**Matsushiro Arr**	**44.59**	**11**	P	**P**		**01 37 42.9**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=187,slow=9.8,SNR=4.5							
	comp=Z,0.9nm,0.5s							
KSRS	**Korea Array**	**44.61**	**359**	P	**P**		**01 37 43.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=186,slow=7.3,SNR=1.9							
	comp=Z,0.5nm,0.5s							
HHC	**Hu-ho-hao-te**	**50.53**	**343**	*e*P	**P**		**01 38 33.0**	**+2.6**
HHC				pmax	pmax			
	comp=Z,14nm,0.6s							
HHC				pmax	pmax			
	comp=Z,90nm,4.1s							
DSZ	**Denniston Nort**	**51.18**	**139**	P	**P**		**01 38 33.7**	**-1.5**
EVN	**Everest**	**53.61**	**313**	P	**P**		**01 38 53.3**	**-0.7**
EVN				IAmb	IAmb		01 38 54.2	
	comp=Z,5.2nm,0.6s							
GTA	**Gaotai**	**53.72**	**332**	*e*P	**P**		**01 38 54.3**	**+0.3**
GTA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SONM	**Songino Array**	**58.42**	**343**	P	**P**		**01 39 28.6**	**+1.4**
SONM	**Songino Array**	**58.42**	**343**	P	**P**		**01 39 28.2**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=153,slow=5.2,SNR=2.4							
	comp=Z,0.6nm,0.4s							
CASY	**Casey**	**60.14**	**188**	P	**P**		**01 39 39.2**	**+0.6**
CASY				IAmb	IAmb		01 39 40.0	
	comp=Z,8.9nm,1.1s							
KSH	**Kashi**	**67.46**	**318**	P	**P**		**01 40 27.5**	**+0.4**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**		**01 40 28.8**	**-0.6**
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**		**01 40 28.9**	**-0.5**
	comp=Z,3.2nm,0.4s,baz=117,slow=8.6,SNR=79							
	comp=Z,3.2nm,0.4s							
MAKZ	**Makanchi**	**68.04**	**327**	P	**P**		**01 40 29.9**	**-0.6**
MAKZ				IAmb	IAmb		01 40 30.9	
	comp=Z,6.5nm,1.2s							
BOOM	**Boomskoye usch**	**69.04**	**321**	P	**P**		**01 40 37.3**	**+0.3**
ARSB	**Arslanbob**	**70.34**	**319**		**P**		**01 40 44.8**	**-0.2**
ARSB				IAmb	IAmb		01 40 45.6	
	comp=Z,19nm,1.4s							
ZAA0	**Zalesovo Array**	**71.38**	**334**	IAmb	IAmb		01 40 50.8	
	comp=Z,4.5nm,0.7s							
ZALV	**Zalesovo Beam**	**71.38**	**334**	P	**P**		**01 40 49.3**	**-1.4**
	comp=Z,4.2nm,0.5s,baz=126,slow=4.8,SNR=15							
	comp=Z,4.2nm,0.5s							
KURBB	**Kurchatov Arra**	**72.19**	**329**	P	**P**		**01 40 55.0**	**-0.5**
	comp=Z,6.0nm,0.5s,baz=132,slow=5.0,SNR=92							
	comp=Z,6.0nm,0.5s							
KURK	**Kurchatov**	**72.20**	**329**	P	**P**		**01 40 54.6**	**-1.0**
KURK				IAmb	IAmb		01 40 56.1	
	comp=Z,7.3nm,0.6s							
VNDA	**Vanda**	**72.22**	**173**	P	**P**		**01 40 55.8**	**+0.3**
VNDA	**Vanda**	**72.22**	**173**	P	**P**		**01 40 55.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=290,slow=6.4,SNR=4.7							
	comp=Z,0.7nm,0.5s							
KK31	**Karatay Array**	**72.81**	**319**	P	**P**		**01 40 58.6**	**-0.9**
KK31				IAmb	IAmb		01 41 00.6	
	comp=Z,8.2nm,1.3s							
KKAR	**Karatay Array**	**72.81**	**319**	P	**P**		**01 40 58.5**	**-1.0**
MAW	**Mawson**	**74.14**	**201**	P	**P**		**01 41 07.9**	**+1.1**
	comp=Z,4.6nm,0.6s,baz=78,slow=5.5,SNR=10							
	comp=Z,4.6nm,0.6s							
BVAR	**Borovoye Array**	**77.72**	**328**	P	**P**		**01 41 26.3**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=132,slow=4.4,SNR=12							
	comp=Z,3.3nm,0.7s							

comp=Z,2.7nm,0.5s
FITZ Fitzroy Crossi 19.86 219 P **P** **01 49 09.1 -0.6**
comp=Z,0.5nm,0.3s,baz=28,slow=9.4,SNR=6.3
FITZ S S 01 52 43.1 -10
comp=Z,5.1nm,0.9s,baz=128,slow=17,SNR=1.9
comp=Z,3.2nm,0.7s
AS31 Alice Springs 21.33 192 P **P** **01 49 25.3 -0.3**
ASAR Alice Springs 21.33 192 P **P** **01 49 25.1 -0.6**
comp=Z,8.2nm,0.7s,baz=22,slow=11,SNR=35
ASAR S **S** **01 53 16.4 -6.2**
comp=Z,5.8nm,1.0s,baz=11,slow=26,SNR=6.2
ASAR LR LR 01 58 32.2
comp=Z,453nm,20.8s,baz=5.0,slow=39
comp=Z,8.2nm,0.7s
HNR Honiara 22.31 108 LR LR 01 58 49.5
comp=Z,106nm,19.6s,baz=264,slow=38
PSA00 Pilbara Seismi 26.13 223 P **P** **01 50 13.4 +0.7**
PSA00 IAmb IAmb 01 50 48.8
comp=Z,20nm,1.4s
JCJ Chichijima 29.82 7 LR LR 02 01 28.4
comp=Z,105nm,18.2s,baz=139,slow=34
JNU Nakatsue 36.35 349 LR LR 02 06 14.2
comp=Z,165nm,18.8s,baz=180,slow=36
MJAR Matsushiro Arr 39.03 360 P P 01 52 12.8 +7.5
comp=Z,1.6nm,0.4s,baz=213,slow=7.1,SNR=5.5
MJAR LR LR 02 06 07.1
comp=Z,104nm,19.7s,baz=164,slow=33
KSRS Korea Array 41.14 347 P **P** **01 52 22.4 -0.3**
comp=Z,1.0nm,0.7s,baz=156,slow=9.1,SNR=5.6
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 44.28 300 LR LR 02 13 11.7
comp=Z,44nm,18.1s,baz=135,slow=39
XAN Xi'an 45.96 325 P **P** **01 53 00.6 -1.1**
XAN pmax pmax
comp=Z,10.0nm,0.7s
ASAJ Asahikawa 46.74 4 LR LR 02 11 00.6
comp=Z,87nm,22.0s,baz=158,slow=34
USRK Ussuriysk Ar. 47.05 354 LR LR 02 09 35.0
comp=Z,121nm,21.6s,baz=176,slow=32
TUWZ Tuamarina 49.99 145 P **P** **01 53 33.6 +0.9**
TCW Tory Channel 50.03 145 P **P** **01 53 34.0 +0.9**
XLT XiLinHaoTe 50.57 339 *eP* **P** **01 53 40.3 +3.1**
XLT pP sP 01 53 44.4 +2.5
XLT sP pP 01 53 48.2 +7.6
XLT pmax pmax
comp=Z,5.0nm,0.5s
GTA Gaotai 54.95 324 *eP* **P** **01 54 10.2 +0.4**
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 57.63 335 P **P** **01 54 28.8 +0.1**
comp=Z,1.3nm,0.8s,baz=149,slow=6.7,SNR=2.1
SONM LR LR 02 18 02.8
comp=Z,138nm,21.4s,baz=108,slow=35
comp=Z,1.3nm,0.8s
PETK Petropavlovsk- 57.88 14 P **P** **01 54 30.1 -0.2**
comp=Z,1.4nm,0.7s,baz=165,slow=4.1,SNR=4.6
comp=Z,1.4nm,0.7s
PALK Pallekele 58.55 280 LR LR 02 22 14.9
comp=Z,40nm,18.6s,baz=106,slow=39
CASY Casey 66.46 192 P **P** **01 55 29.2 +1.7**
MKAR Makanchi Array 69.67 322 P **P** **01 55 47.2 -0.9**
comp=Z,1.1nm,0.6s,baz=109,slow=7.1,SNR=10
comp=Z,1.1nm,0.6s
MAKZ Makanchi 69.86 322 P **P** **01 55 48.8 -0.6**
MAKZ IAmb IAmb 01 55 57.9
comp=Z,3.7nm,1.0s
ZALV Zalesovo Beam 71.83 330 P **P** **01 55 58.1 -3.0**
comp=Z,0.5nm,0.4s,baz=99,slow=8.9,SNR=1.8
ZALV LR LR 02 26 33.5
comp=Z,39nm,21.4s,baz=102,slow=35
comp=Z,0.5nm,0.4s
BOOM Boomskoye usch 72.02 316 P **P** **01 56 02.1 -0.7**
BOOM IAmb IAmb 01 56 16.7
comp=Z,4.6nm,1.1s
KURBB Kurchatov Arra 73.61 325 P **P** **01 56 10.4 -1.3**
comp=Z,0.5nm,0.5s,baz=108,slow=5.9,SNR=5.4
comp=Z,0.5nm,0.5s
ARSB Arslanbob 73.70 314 P **P** **01 56 13.1 +0.4**
VNDA Vanda 75.81 175 P **P** **01 56 24.5 +0.4**
VNDA Vanda 75.81 175 P **P** **01 56 23.7 -0.4**
comp=Z,1.5nm,0.6s,baz=341,slow=7.0,SNR=7.2
VNDA LR LR 02 30 24.1
comp=Z,143nm,18.0s,baz=354,slow=36
comp=Z,1.5nm,0.6s
BVAR Borovoye Array 79.20 325 P **P** **01 56 40.4 -3.0**
comp=Z,1.2nm,0.6s,baz=109,slow=7.8,SNR=6.0
comp=Z,1.2nm,0.6s
C18K Utukok River 82.07 19 P **P** **01 56 58.4 -0.2**
MAW Mawson 82.08 202 LR LR 02 32 47.3
comp=Z,92nm,18.5s,baz=57,slow=35
E19K Redstone River 82.85 20 P **P** **01 57 02.6 0.0**
E19K IAmb IAmb 01 57 08.0
comp=Z,8.0nm,1.1s
D19K Kuna River 83.00 19 P **P** **01 57 03.3 -0.2**
CCB Clear Creek Bu 85.47 24 IAmb IAmb 01 57 15.1
comp=Z,2.5nm,0.8s
ILAR Eielson Array 85.89 24 P **P** **01 57 15.7 -2.4**
comp=Z,1.4nm,0.7s,baz=262,slow=4.5,SNR=22
comp=Z,1.4nm,0.7s
F24K Squaw Lake 86.24 22 P **P** **01 57 20.3 +0.5**
F24K IAmb IAmb 01 57 32.6
comp=Z,5.2nm,1.3s
J26L Joseph Creek 87.21 25 IAmb IAmb 01 57 25.9
comp=Z,9.0nm,1.5s
QSPA South Pole Qui 87.26 180 P **P** **01 57 25.2 +0.2**
QSPA IAmb IAmb 01 57 46.4
comp=Z,4.9nm,1.1s
QSPA South Pole Qui 87.26 180 P **P** **01 57 24.7 -0.3**
comp=Z,2.0nm,0.7s,baz=21,slow=5.0,SNR=17
comp=Z,2.0nm,0.7s
H27K Steamboat Moun 88.39 24 P **P** **01 57 30.6 +0.3**
DAWY Dawson 88.93 26 IAmb IAmb 01 57 41.6
comp=Z,5.7nm,1.4s
BBB Bella Bella 94.17 38 LR LR 02 34 45.2
comp=Z,51nm,19.3s,baz=252,slow=32
LPAZ La Paz 147.60 126 PKPbc **PKPdf** **02 04 23.8 +1.7**
comp=Z,3.0nm,0.8s,baz=201,slow=1.6,SNR=8.2

*FUNV **03** 01:44:56.9, 10˚.75N×63˚.04W, h35km, MW3.1*
ISC 03 01:44:52.8±1.0, 10˚.4N±0˚.1×63˚.09W±0˚.05, h9km, n6, σ2§05/10, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.54**	**261**	*eP*	**Pb**	**01 45 22.7**	**+1.1**
PCRV				*eS*	**Sn**	**01 45 40.4**	**-0.3**
TRN	**Trinidad (W)**	**1.67**	**82**	*eP*	**Pg**	**01 45 26.9**	**+2.0**
TRN				*eS*	**Sn**	**01 45 40.6**	**-3.2**
GRGR	**Grenville**	**2.21**	**39**	*eP*	**Pg**	**01 45 35.3**	**+0.2**
GRGR				*eS*	**Sn**	**01 45 55.9**	**-1.1**
CACV	**CAICARA DEL OR**	**4.44**	**231**	*eP*	**Pn**	**01 45 59.3**	**-1.1**
CACV				*eS*	Sn	01 46 45.2	-6.9
BENV	**Beln**	**4.46**	**265**	*eP*	**Pn**	**01 46 01.6**	**+0.8**
BENV				*eS*	**Sn**	**01 46 50.4**	**-2.5**
BAUV	**El Baul**	**5.10**	**254**	*eS*	**Sn**	**01 47 06.5**	**-2.0**

CATAC 03 01:48:48.9±0.7, 11˚N±3˚×8˚7W±˚, h23km±7km, M2.9/18, MLv2.9/18, Error ellipse: s-maj=7.1km s-min=4.1km az=37.4, confirmed, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**0.85**	**52**	P	Pb	01 49 03.3	-1.8
ARIN	**Rivas**	**0.85**	**52**	S	Sb	01 49 15.9	-0.1
ELI1	**Hacienda Flor**	**0.99**	**106**	P	Pn	01 49 08.2	+0.8
ELI1	**Hacienda Flor**	**0.99**	**106**	S	Sn	01 49 22.6	+1.9
CARN	**Rivas**	**1.01**	**75**	P	Pn	01 49 06.8	-0.9
CARN				S	Sn	01 49 22.1	+0.9
JAPN	**Al SSO del Vol**	**1.01**	**54**	P	Pn	01 49 07.8	0.0
JAPN				S	Sn	01 49 23.1	+1.7
MORN	**Al O del Volca**	**1.05**	**54**	P	Pn	01 49 08.3	0.0
MORN				S	Sn	01 49 22.6	+0.3
NANN	**Nandasmo**	**1.08**	**21**	S	Sn	01 49 24.1	+1.2
NANN	**Nandasmo**	**1.08**	**21**	P	Pb	01 49 09.9	+0.9
UNAN	**Cigeo UNAN**	**1.20**	**12**	P	Pn	01 49 10.1	-0.3
UNAN				S	Sn	01 49 26.0	0.0
TISN	**Laguna Tiscapa**	**1.23**	**11**	P	Pn	01 49 10.8	0.0
SAPS	**Ciudad Sandino**	**1.24**	**5**	P	Pb	01 49 11.8	+0.1
SAPS	**Ciudad Sandino**	**1.24**	**5**	S	Sb	01 49 28.7	+1.5
MGAN	**Managua**	**1.24**	**12**	P	Pn	01 49 10.9	0.0
RADEC	**Barrio San Lui**	**1.24**	**12**	P	Pn	01 49 10.6	-0.3
COPN	**Copaltepe**	**1.25**	**357**	P	Pn	01 49 11.4	+0.4
WILN	**Americas 2**	**1.27**	**15**	P	Pn	01 49 11.0	-0.3
WILN				S	Sn	01 49 27.8	+0.2
APQ3	**Volcan Apoyequ**	**1.34**	**6**	S	Sn	01 49 29.8	+0.3
MOMN	**Momotombo**	**1.47**	**359**	P	Pn	01 49 14.3	+0.1
MOM2	**El Cardon**	**1.50**	**1**	P	Pn	01 49 14.6	+0.1
MOM2				S	Sn	01 49 33.6	+0.3
CNGA	**Al SSO del Vol**	**1.57**	**353**	P	Pn	01 49 15.7	+0.3
CNGN	**Cerro Negro**	**1.57**	**354**	P	Pn	01 49 16.0	+0.4
JTS	**Las Juntas de**	**1.66**	**112**	P	Pn	01 49 16.0	-0.8
ACON	**Acoyapa**	**1.67**	**52**	P	Pn	01 49 15.6	-1.3
BOAB	**BOACO BROADBAN**	**1.73**	**29**	S	Sn	01 49 39.0	+0.1
BOAB	**BOACO BROADBAN**	**1.73**	**29**	P	Pn	01 49 16.9	-0.7
POLN	**Al Sur del Vol**	**1.74**	**350**	P	Pn	01 49 17.8	0.0
AESN	**El Sauce Leon**	**1.95**	**359**	P	Pn	01 49 19.7	-1.0
MATN	**Matagalpa**	**2.07**	**16**	P	Pn	01 49 21.5	-1.0
ESPN	**Las Esperanzas**	**2.51**	**60**	P	Pb	01 49 34.6	+1.3

*IDC **03** 01:55:21.9±2.0, 8˚.39S×111˚.15E, h0km, mb3.8/8, mbtmp3.8/9, ML3.7/1, MS3.6/3, Error ellipse: s-maj=124.5km s-min=19.7km az=47.0*
ISC 03 01:55:29.2±1.7, 8˚.1S±0˚.5×111˚.8E±0˚.5, h50km, n11, σ2§22/10, mb3.8/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**4.32**	**286**	LR	LR	01 58 12.2	
	comp=Z,250nm,22.0s,baz=218,slow=44						
FITZ	**Fitzroy Crossi**	**16.76**	**128**	P	**Pn**	**01 59 22.2**	**+1.5**
	0.2nm,0.3s,baz=302,slow=13,SNR=1.4						
FITZ				S	**Sn**	**02 02 21.9**	**-4.2**
	8.0nm,1.1s,baz=0.0,slow=20,SNR=2.3						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**24.82**	**121**	P	**P**	**02 00 49.7**	**+2.7**
	0.5nm,0.9s,baz=290,slow=9.3,SNR=1.6						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**26.26**	**129**	P	**P**	**02 01 01.6**	**+1.5**
	0.6nm,1.0s,baz=294,slow=9.5,SNR=2.5						
	0.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.24**	**334**	P	**P**	**02 01 25.7**	**-1.0**
	1.8nm,0.3s,baz=177,slow=7.6,SNR=6.4						
	1.8nm,0.3s						
MKAR	**Makanchi Array**	**60.59**	**337**	P	**P**	**02 05 34.5**	**-0.3**
	0.5nm,0.6s,baz=140,slow=8.2,SNR=5.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**65.16**	**337**	P	**P**	**02 06 05.8**	**+0.7**
	0.4nm,0.4s,baz=155,slow=5.4,SNR=4.8						
KURBB				LR	LR	02 37 40.4	
	comp=Z,33nm,19.0s,baz=170,slow=39						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**65.84**	**343**	P	**P**	**02 06 10.5**	**+1.2**
	0.5nm,0.4s,baz=150,slow=1.2,SNR=5.7						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**70.27**	**335**	P	**P**	**02 06 36.2**	**-1.0**
	0.6nm,0.5s,baz=144,slow=5.5,SNR=4.0						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**86.10**	**311**	P	**P**	**02 08 04.2**	**-1.0**
	0.5nm,0.7s,baz=107,slow=4.8,SNR=3.6						
	0.5nm,0.7s						
SNAA	**Sanae**	**89.92**	**197**	LR	LR	02 44 12.6	
	comp=Z,100nm,18.9s,baz=84,slow=33						

*NEIC **03** 02:11:29.0±0.9, 35˚.294N±0˚.009×97˚.663W±0˚.009, h6km±2km, Error ellipse: s-maj=1.4km s-min=0.8km az=148.0*
NEIC 03 02:11:28.7±1.4, 35˚.266N±0˚.008×97˚.661W±0˚.005, h5km±1km, mb_Lg2.4/45, ML2.1/28, ML2.4/50, Error ellipse: s-maj=2.5km s-min=1.5km az=45.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.21**	**92**	Pg	Pg	02 11 33.8	+0.9
FNO				Sg	Sg	02 11 35.3	-0.4
OKCSW	**OKLAHOMA CITY**	**0.23**	**53**	Pg	Pg	02 11 33.6	+0.4
OKCSW				Sg	Sg	02 11 37.3	+1.1
OKCSW				IAML		02 11 40.5	
	comp=E,933nm,0.5s						
BCOK	**Bluff Creek, N**	**0.39**	**6**		Pg	02 11 36.4	+0.1
BCOK					Sg	02 11 41.4	-0.1
OK029	**Liberty Lake**	**0.56**	**18**	Pg	Pg	02 11 39.2	-0.2
OK029				Sg	Sg	02 11 47.1	+0.4
OK029				IAML		02 11 47.3	
	comp=E,162nm,0.4s						
CSTR	**Hydro, Custer**	**0.92**	**295**	Pg	Pg	02 11 46.3	-0.1
CSTR					Sg	02 11 58.9	+0.5
OK052	**Battle Ridge R**	**1.01**	**44**	Pg	Pg	02 11 47.8	-0.3
OK052				Sg	Sg	02 12 01.1	0.0
WMOK	**Wichita Mounta**	**1.06**	**241**	Pg	Pg	02 11 48.3	-0.8
WMOK	**Wichita Mounta**	**1.06**	**241**	Sg	Sg	02 12 03.1	+0.3
WMOK				IAML		02 12 03.4	
	comp=E,54nm,0.3s						
DEOK	**Depew**	**1.11**	**58**	Pg	Pg	02 11 49.1	-0.9
DEOK				Sg	Sg	02 12 04.5	+0.1
DEOK				IAML		02 12 06.3	
	comp=N,149nm,0.3s						
DEOK				IAML		02 12 06.4	
	comp=E,110nm,0.1s						
QUOK	**Quay**	**1.19**	**40**	Pg	Pg	02 11 50.7	-0.9
QUOK					Sg	02 12 06.6	-0.4
CROK	**Carrier**	**1.26**	**348**	Pg	Pg	02 11 51.8	-1.2
CROK					Sg	02 12 08.9	-0.4
LOOK	**Love County**	**1.33**	**163**		Pb	02 11 54.1	-0.1
LOOK					Sn	02 12 13.3	+1.3
LOOK				IAML		02 12 18.2	
	comp=N,67nm,0.3s						
LOOK				IAML		02 12 19.9	
	comp=E,85nm,0.3s						
OK038	**West end E0370**	**1.50**	**324**		Pn	02 11 56.0	-0.3
BLOK	**Blackwell**	**1.53**	**13**		Pn	02 11 56.6	-0.2
GC02	**Grant County #**	**1.59**	**354**		Pn	02 11 57.3	-0.3
WTFS	**Witchita Falls**	**1.64**	**204**		Pn	02 11 58.5	+0.3
TUL3	**Leonard**	**1.65**	**67**		Pn	02 11 58.3	-0.1
T35A	**Sooner Cattle**	**1.89**	**29**	Pn	Pn	02 12 01.6	-0.1
Z35A	**Perchaven, San**	**1.96**	**170**	Pn	Pn	02 12 03.8	+1.1
SMWD	**Samnorwood**	**2.12**	**266**	IAmb_Lg		02 12 40.0	
	comp=Z,21nm,0.8s						
RLO	**Rose Lookout**	**2.33**	**67**	Pn	Pn	02 12 07.8	+0.1
ABTX	**Abilene, Hawle**	**3.11**	**213**	Pn	Pn	02 12 18.6	+0.1
HHAR	**Hobbs**	**3.19**	**70**	IAmb_Lg		02 13 13.7	
	comp=Z,8.4nm,0.7s						
R32A	**Long Quarter,**	**3.26**	**345**	Pn	Pn	02 12 20.6	+0.1
R32A				IAmb_Lg		02 13 17.8	
	comp=Z,8.4nm,0.9s						
WHTX	**Lake Whitney,**	**3.27**	**177**	Pn	Pn	02 12 21.8	+1.2
AMTX	**Amarillo**	**3.32**	**265**	Pn	Pn	02 12 22.8	+1.4
MIAR	**Mount Ida**	**3.43**	**101**	Pn	Pn	02 12 24.3	+1.4
MIAR				IAmb_Lg		02 13 17.6	
	comp=Z,7.2nm,1.1s						
POST	**Post**	**3.87**	**237**	Pn	Pn	02 12 29.9	+1.0
POST				IAmb_Lg		02 13 41.3	
	comp=Z,9.0nm,1.1s						
CBKS	**Cedar Bluff**	**3.91**	**335**	IAmb_Lg		02 13 38.2	
	comp=Z,9.9nm,0.8s						
X40A	**Basin Creek Fa**	**4.04**	**100**	IAmb_Lg		02 13 47.8	
	comp=Z,7.5nm,0.8s						
BRDY	**Brady**	**4.12**	**196**	Pn	Pn	02 12 33.1	+0.7
BRDY				IAmb_Lg		02 13 40.7	
	comp=Z,7.7nm,1.2s						
WHAR	**Wooly Hollow**	**4.39**	**88**	Pn	Pn	02 12 36.0	-0.1
WHAR				IAmb_Lg		02 13 53.5	
	comp=Z,6.6nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.55**	**81**	IAmb_Lg		02 13 59.3	
	comp=Z,5.5nm,0.7s						
MGMO	**Mountain Grove**	**4.75**	**65**	IAmb_Lg		02 14 08.9	
	comp=Z,6.0nm,0.7s						
JCT	**Junction City**	**5.10**	**201**	IAmb_Lg		02 14 20.7	
	comp=Z,5.1nm,0.8s						
OZNA	**Ozona**	**5.22**	**215**	Pn	Pn	02 12 49.6	+2.1
R40A	**Maddies Statio**	**5.28**	**54**	IAmb_Lg		02 14 20.6	
	comp=Z,7.7nm,0.9s						
P38A	**Dawn**	**5.45**	**36**	IAmb_Lg		02 14 23.6	
	comp=Z,8.0nm,0.9s						
T25A	**Trinidad**	**5.77**	**291**	IAmb_Lg		02 14 36.1	
	comp=Z,5.0nm,0.9s						
MNHN	**Monahans**	**5.79**	**229**	IAmb_Lg		02 14 37.2	
	comp=Z,3.7nm,0.8s						
CCM	**Cathedral Cave**	**5.86**	**60**	IAmb_Lg		02 14 38.8	
	comp=Z,6.5nm,0.8s						
HNDO	**Hondo**	**5.88**	**194**	IAmb_Lg		02 14 49.4	
	comp=Z,5.9nm,0.8s						
PBMO	**Poplar Bluff**	**6.05**	**73**	IAmb_Lg		02 14 45.9	
	comp=Z,6.7nm,0.8s						
FVM	**French Village**	**6.42**	**63**	IAmb_Lg		02 14 56.2	
	comp=Z,4.9nm,0.7s						
L34A	**Svendsen Farm,**	**6.76**	**8**	IAmb_Lg		02 15 05.7	
	comp=Z,6.5nm,0.7s						
CGM3	**Cape Girardeau**	**6.77**	**70**	IAmb_Lg		02 15 16.6	
	comp=Z,5.6nm,1.1s						

*IDC **03** 02:13:10.0±1.8, 26˚.41N×143˚.91E, h0km, mb3.5/4, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=43.8km s-min=20.3km az=65.0*
ISC 03 02:13:13.9±1.5, 26˚.5N±0˚.2×144˚.0E±0˚.2, h31km, n7, σ0§81/8, mb3.6/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.70**	**291**	Pn	**Pn**	**02 13 41.1**	**-0.3**
	12nm,0.3s,baz=270,slow=20,SNR=11						
JCJ				Sn	**Sn**	**02 14 02.3**	**+0.1**
	90nm,0.3s,baz=111,slow=22,SNR=17						
MJAR	**Matsushiro Arr**	**11.15**	**335**	Pn	**Pn**	**02 15 50.4**	**-0.8**
	1.8nm,0.7s,baz=159,slow=10,SNR=7.8						
KSRS	**Korea Array**	**17.43**	**313**	P	**P**	**02 17 16.1**	**+0.4**
	0.3nm,0.3s,baz=122,slow=10,SNR=5.6						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**47.09**	**192**	P	**P**	**02 21 42.9**	**-0.2**
	0.6nm,0.6s,baz=13,slow=8.6,SNR=4.6						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**50.81**	**192**	P	**P**	**02 22 11.2**	**-0.4**
	0.1nm,0.4s,baz=9.7,slow=6.9,SNR=1.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**52.08**	**310**	P	**P**	**02 22 21.4**	**+0.4**
	0.5nm,0.8s,baz=92,slow=8.7,SNR=4.0						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**54.60**	**315**	P	**P**	**02 22 40.7**	**+1.4**
	0.6nm,0.7s,baz=90,slow=7.8,SNR=5.3						
	0.6nm,0.7s						

*IDC **03** 02:14:14.9±9.1, 11˚.45S×166˚.20E, h177km±84km, mb3.6/4, mbtmp4.1/5, Error ellipse: s-maj=68.2km s-min=38.0km az=174.0*
ISC 03 02:14:12.0±1.5, 11˚.5S±0˚.1×166˚.2E±0˚.3, h150km, n7, σ1§87/9, mb3.8/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.54**	**179**	P	**Pn**	**02 16 42.1**	**+2.8**
	6.2nm,0.9s,baz=43,slow=19,SNR=2.3						
DZM				S	**Sn**	**02 18 32.8**	**-3.2**
	2.4nm,0.7s,baz=252,slow=20,SNR=1.0						
WRA	**Warramunga Arr**	**31.76**	**251**	P	**P**	**02 20 22.0**	**-0.2**
	0.6nm,0.6s,baz=74,slow=9.1,SNR=6.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**33.01**	**244**	P	**P**	**02 20 33.8**	**+0.7**
	1.1nm,0.7s,baz=72,slow=9.3,SNR=12						
ASAR				PcP	**PcP**	**02 23 13.2**	**-0.4**
	0.4nm,0.6s,baz=88,slow=2.2,SNR=2.4						
	1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**72.69**	**294**	P	**P**	**02 25 23.9**	**-0.1**
	1.0nm,0.3s,baz=117,slow=6.3,SNR=4.2						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**02 27 13.7**	**0.0**
	1.3nm,0.6s,baz=89,slow=6.9,SNR=14						
	1.3nm,0.6s						
ARCES	**ARCESS Array B**	**116.86**	**346**	PKP	**PKPdf**	**02 32 36.8**	**-1.4**
	1.1nm,0.7s,baz=60,slow=2.2,SNR=4.0						
FINES	**FINESS Array B**	**122.33**	**339**	PKP	**PKPdf**	**02 32 48.3**	**-0.6**
	1.1nm,0.9s,baz=66,slow=3.4,SNR=1.5						

*IDC **03** 02:18:05.9±3.6, 11˚.44S×166˚.32E, h64km±31km, mb4.0/13, mbtmp4.3/15, ML4.5/2, MS3.4/27, Error ellipse: s-maj=25.4km s-min=17.0km az=83.0*
*NOU **03** 02:18:07.7, 11˚.455S×165˚.82E, h1km, MLv5.2/10, Santa Cruz Islands*
*NEIC **03** 02:18:07.9±1.2, 11˚.47S±0˚.08×166˚.3E±0˚.1, h77km±8km, mb4.7/24, Error ellipse: s-maj=17.1km s-min=11.6km az=73.0*
ISC 03 02:18:04.8±0.6, 11˚.50S±0˚.06×166˚.26E±0˚.08, h50km, n72, σ1§24/50, mb4.5/22, MS3.5/24, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.90**	**337**	P	**Pn**	**02 18 21.5**	**+0.3**
LUES	**Luesalemba Tem**	**0.90**	**337**	S	**Sn**	**02 18 33.9**	**+0.8**
SANVU	**Saraoutou**	**4.03**	**167**		**Pn**	**02 19 06.5**	**+2.4**
HURO	**Huro Makira**	**4.40**	**283**	P	**Pn**	**02 19 09.3**	**+0.2**
HURO	**Huro Makira**	**4.40**	**283**	S	**Sn**	**02 19 57.1**	**-2.1**
VLAKA	**Lakatoro**	**4.72**	**166**	P	**Pn**	**02 19 22.5**	**+9.0**
NGOA	**Tingoa Renbel**	**6.08**	**269**	P	**Pn**	**02 19 31.8**	**-0.3**
ALEG	**Aligegeo Malai**	**6.12**	**296**	P	**Pn**	**02 19 33.8**	**+1.1**
HNR	**Honiara**	**6.54**	**288**	Pn	**Pn**	**02 19 40.0**	**+1.5**
HNR	**Honiara**	**6.54**	**288**	P	**Pn**	**02 19 40.3**	**+1.8**
	46nm,0.3s,baz=192,slow=11,SNR=4.5						
HNR				S	**Sn**	**02 20 50.3**	**-1.5**
	143nm,0.8s,baz=246,slow=20,SNR=1.2						
HNR				LR	LR	02 22 31.8	
	comp=Z,467nm,19.4s,baz=108,slow=40						
	212nm,0.4s						
SAVO	**Savo Central**	**6.76**	**290**	P	**Pn**	**02 19 43.4**	**+1.9**
TATA	**Tatamba Isabel**	**7.07**	**295**	P	**Pn**	**02 19 47.5**	**+1.7**
DZM	**Mont Dzumac**	**10.52**	**179**	Pn	**Pn**	**02 20 35.9**	**+2.8**
DZM	**Mont Dzumac**	**10.52**	**179**	P	**Pn**	**02 20 35.5**	**+2.5**
	0.9nm,0.3s,baz=344,slow=16,SNR=8.7						
DZM				S	**Sn**	**02 22 26.2**	**-3.3**
	6.9nm,0.7s,baz=294,slow=19,SNR=1.6						
DZM				LR	LR	02 23 51.4	
	comp=Z,213nm,20.9s,baz=28,slow=33						
	5.4nm,0.6s						
PINNC	**Pines Island,**	**11.11**	**174**	Pn	Pn	02 20 46.7	+5.6
PMG	**Port Moresby**	**18.90**	**275**	LR	LR	02 28 59.7	
	comp=Z,257nm,20.0s,baz=130,slow=34						
PATS	**Pohnpei**	**19.86**	**336**	P	**P**	**02 22 33.0**	**+1.2**
EIDS	**Eidsvold**	**19.92**	**224**	Pn	**Pn**	**02 22 35.0**	**+0.6**
EIDS				IAmb	IAmb	02 22 47.3	
	comp=Z,29nm,1.2s						
COEN	**Coen**	**22.65**	**261**	P	**P**	**02 23 02.5**	**+0.5**
COEN				IAmb	IAmb	02 23 09.8	
	comp=Z,30nm,1.4s						
ARMA	**Armidale**	**23.22**	**214**	P	**P**	**02 23 08.5**	**+0.8**
BKZ	**Black Stump Fm**	**29.02**	**163**	P	**P**	**02 23 59.3**	**-0.8**
H11S2	**WAKE ISLAND Hy**	**29.80**	**1**	T	T	02 54 42.5	
	baz=181,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.80**	**1**	T	T	02 54 54.1	
	baz=181,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.82**	**1**	T	T	02 55 03.3	
	baz=181,slow=76						
STKA	**Stephens Creek**	**30.47**	**224**	P	**P**	**02 24 14.8**	**+1.7**
STKA	**Stephens Creek**	**30.47**	**224**	P	**P**	**02 24 14.3**	**+1.3**

MJAR				LR	LR	02 48 43.8	
	comp=Z,13nm,21.2s,baz=176,slow=34						
	comp=Z,1.2nm,0.5s						
JNU	**Nakatsue**	**55.74**	**324**	LR	LR	02 50 00.2	
	comp=Z,19nm,19.1s,baz=132,slow=34						
ASAJ	**Asahikawa**	**59.38**	**340**	LR	LR	02 50 14.4	
	comp=Z,26nm,21.0s,baz=139,slow=32						
KSRS	**Korea Array**	**60.53**	**325**	P	**P**	**02 28 08.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=128,slow=6.2,SNR=2.6						
	comp=Z,0.8nm,0.7s						
USA0B	**Ussuriysk Arra**	**63.58**	**333**	P	**P**	**02 28 28.5**	**-1.8**
USA0B				IAmb	IAmb	02 28 31.4	
	comp=Z,6.7nm,0.7s						
PETK	**Petropavlovsk-**	**64.76**	**354**	LR	LR	02 51 29.7	
	comp=Z,26nm,20.8s,baz=152,slow=31						
VNDA	**Vanda**	**66.06**	**181**	P	**P**	**02 28 45.9**	**-0.1**
VNDA				IAmb	IAmb	02 28 47.3	
	comp=Z,9.3nm,1.4s						
VNDA	**Vanda**	**66.06**	**181**	P	**P**	**02 28 44.9**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=353,slow=5.7,SNR=6.5						
VNDA				LR	LR	02 52 13.8	
	comp=Z,38nm,21.6s,baz=332,slow=31						
	comp=Z,2.0nm,0.9s						
MA2	**Magadan**	**71.92**	**352**	LR	LR	02 55 31.5	
	comp=Z,26nm,21.6s,baz=170,slow=31						
CMAR	**Chiang Mai Arr**	**72.76**	**294**	P	**P**	**02 29 28.4**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=126,slow=4.6,SNR=7.7						
CMAR				LR	LR	03 05 14.7	
	comp=Z,13nm,18.5s,baz=210,slow=39						
	comp=Z,1.2nm,0.3s						
KDAK	**Kodiak Island**	**76.81**	**21**	LR	LR	02 57 21.8	
	comp=Z,35nm,19.9s,baz=213,slow=31						
QSPA	**South Pole Qui**	**78.51**	**180**	P	**P**	**02 30 00.6**	**0.0**
QSPA				IAmb	IAmb	02 30 02.4	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**78.51**	**180**	P	**P**	**02 30 00.6**	**0.0**
	comp=Z,8.2nm,0.9s,baz=14,slow=4.0,SNR=17						
	comp=Z,8.2nm,0.9s						
L18K	**Granite Mounta**	**78.95**	**17**	P	**P**	**02 30 03.2**	**+0.4**
L18K				IAmb	IAmb	02 30 14.9	
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**79.33**	**324**	P	**P**	**02 30 05.6**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=116,slow=3.4,SNR=2.9						
	comp=Z,0.7nm,0.4s						
L19K	**White Mountain**	**79.45**	**17**	P	**P**	**02 30 05.5**	**-0.1**
L19K				IAmb	IAmb	02 30 19.1	
	comp=Z,25nm,1.6s						
E19K	**Redstone River**	**83.04**	**13**	P	**P**	**02 30 24.4**	**-0.1**
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**02 30 27.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=238,slow=5.2,SNR=7.3						
ILAR				LR	LR	03 03 18.8	
	comp=Z,17nm,19.4s,baz=120,slow=32						
	comp=Z,0.5nm,0.7s						
J25K	**Salcha River,**	**84.14**	**19**	IAmb	IAmb	02 30 32.3	
	comp=Z,4.2nm,0.8s						
MAW	**Mawson**	**84.50**	**202**	LR	LR	03 02 31.1	
	comp=Z,25nm,19.4s,baz=40,slow=32						
BBB	**Bella Bella**	**84.66**	**34**	LR	LR	03 04 51.6	
	comp=Z,28nm,18.1s,baz=186,slow=33						
NVAR	**Mina Array Bea**	**85.92**	**50**	P	**P**	**02 30 39.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=253,slow=5.9,SNR=4.1						
	comp=Z,0.4nm,0.7s						
PFO	**Pinyon Flats O**	**85.92**	**55**	LR	LR	02 59 28.6	
	comp=Z,40nm,21.9s,baz=244,slow=29						
G26K	**Porcupine Rive**	**86.20**	**18**	IAmb	IAmb	02 30 57.3	
	comp=Z,8.7nm,1.2s						
INK	**Inuvik**	**90.16**	**19**	LR	LR	03 09 15.2	
	comp=Z,27nm,19.2s,baz=220,slow=34						
PDAR	**Pinedale Array**	**93.48**	**47**	LR	LR	03 06 49.7	
	comp=Z,9.5nm,20.7s,baz=290,slow=31						
MKAR	**Makanchi Array**	**94.19**	**317**	P	**P**	**02 31 18.3**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=95,slow=6.1,SNR=27						
	comp=Z,4.9nm,0.9s						
ZALV	**Zalesovo Beam**	**94.22**	**324**	P	**P**	**02 31 17.6**	**-0.7**
	comp=Z,0.6nm,0.2s,baz=116,slow=3.4,SNR=4.8						
	comp=Z,0.6nm,0.2s						
ANMO	**Albuquerque**	**94.28**	**55**	LR	LR	03 07 02.4	
	comp=Z,28nm,18.7s,baz=310,slow=31						
YKA	**Yellowknife Ar**	**95.14**	**27**	LR	LR	03 04 55.3	
	comp=Z,15nm,21.1s,baz=332,slow=30						
TXAR	**Lajitas Array**	**95.60**	**61**	LR	LR	03 07 17.5	
	comp=Z,19nm,19.5s,baz=118,slow=31						
ESDC	**Sonseca Array**	**150.63**	**345**	PKPbc	**PKPbc**	**02 37 50.6**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=39,slow=3.3,SNR=5.7						

*TXNET **03** 03:05:08.5, 31.2N±0.6×103.3W±0.6, h3km, ML3.2/18, Error ellipse: s-maj=0.9km s-min=0.9km az=160.7, final*
*NEIC **03** 03:05:08.5±0.8, 31.167N±0.009×103.27W±0.02, h3km±6km, Error ellipse: s-maj=2.5km s-min=1.4km az=93.0*

NEIC 03 03:05:08.9±1.0, 31.15N±0.02×103.24W±0.01, h5km±2km, mb_Lg3.0/100, ML2.8/14, ML3.1/84, 9C-3D, Error ellipse: s-maj=3.3km s-min=2.9km az=206.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB16	**Coyonosa**	**0.03**	**195**	⇓P	Pg	03 05 09.9	-0.2
TPB16				S	Sg	03 05 10.8	-0.1
TPB04	**Verhalen**	**0.04**	**326**	⇑P	Pg	03 05 09.4	-0.8
TPB04				S	Sg	03 05 09.8	-1.3
TPB15	**Southwest of C**	**0.15**	**67**	⇑P	Pg	03 05 12.4	+0.4
TPB15				S	Sg	03 05 16.4	+2.5
TPB19	**West of Imperi**	**0.19**	**39**	⇑P	Pg	03 05 13.0	+0.2
TPB19				S	Sg	03 05 17.8	+2.5
TPB03	**Saragosa**	**0.24**	**254**	⇑P	Pg	03 05 14.4	+0.7
TPB03				S	Sg	03 05 18.2	+1.3
TPB05	**Hovey Rd**	**0.24**	**197**	⇑P	Pg	03 05 14.5	+0.8
TPB05				S	Sg	03 05 19.0	+2.1
LWM2	**Layne Water Mi**	**0.32**	**292**	P	Pg	03 05 15.5	+0.4
LWM2				S	Sb	03 05 20.9	-1.6
LWM1	**Layne Water Mi**	**0.34**	**283**	P	Pg	03 05 15.9	+0.3
LWM1				S	Sg	03 05 21.5	+1.5
PCOS	**Crockett Middl**	**0.34**	**318**		Pg	03 05 16.4	+0.8
PCOS					Sg	03 05 21.8	+1.6
PCOS	**Crockett Middl**	**0.34**	**318**		Pg	03 05 16.4	+0.7
PCOS					Sb	03 05 21.8	-1.6
PCOS	**Crockett Middl**	**0.34**	**318**	P	Pg	03 05 16.4	+0.7
PCOS				S	Sb	03 05 21.8	-1.6
PCOS	**Crockett Middl**	**0.34**	**318**	P	Pg	03 05 16.4	+0.8
PCOS				S	Sg	03 05 21.8	+1.6
TPB08	**Permian Basin**	**0.39**	**132**	P	Pb	03 05 17.8	-0.6
TPB08				S	Sb	03 05 24.5	-0.2
TPB27	**North of Pyote**	**0.43**	**13**	P	Pg	03 05 17.7	+0.4
TPB27				S	Sb	03 05 24.6	-1.4
MNHN	**Monahans**	**0.45**	**66**		Pg	03 05 17.9	+0.2
MNHN					Sg	03 05 25.0	+1.4
MNHN	**Monahans**	**0.45**	**66**	⇓P	Pg	03 05 17.9	+0.2
MNHN				S	Sg	03 05 25.0	+1.4
TPB10	**Southeast of T**	**0.46**	**287**	P	Pg	03 05 17.8	+0.1
TPB10				S	Sb	03 05 26.1	-0.6
TPB06	**Permian Basin**	**0.49**	**2**	P	Pg	03 05 18.7	+0.3
TPB06				S	Sg	03 05 25.9	+1.0
TPB01	**Permian Basin**	**0.51**	**246**	⇑P	Pg	03 05 18.6	-0.1
TPB01				S	Sb	03 05 27.2	-0.9
TPB07	**Mentone**	**0.56**	**320**	P	Pb	03 05 20.7	-0.6
PECS	**Pecos**	**0.58**	**292**		Pg	03 05 19.8	-0.3
PECS					Sg	03 05 28.3	+0.8
PECS				IAML		03 05 37.3	
	789nm,0.7s						
PECS	**Pecos**	**0.58**	**292**	P	Pg	03 05 19.8	-0.2
PECS				S	Sg	03 05 28.3	+0.8
TPB12	**Southwest of T**	**0.61**	**276**	P	Pg	03 05 20.5	-0.3
TPB12				S	Sg	03 05 29.1	+0.3
ALPN	**Alpine**	**0.85**	**204**		Pg	03 05 25.0	-0.2
ALPN					Sg	03 05 36.5	+0.3
ALPN				IAML		03 05 43.5	
	354nm,0.5s						
ALPN	**Alpine**	**0.85**	**204**	⇑P	Pg	03 05 25.0	-0.2
ALPN				S	Sg	03 05 36.5	+0.3
TPB11	**China Draw**	**1.03**	**319**	P	Pg	03 05 28.3	-0.5
TPB11				S	Sb	03 05 42.8	-0.5
TMB02	**Rankin**	**1.03**	**87**	P	Pg	03 05 28.6	-0.2
TMB02				S	Sb	03 05 43.5	+0.3
TMB01	**Midkiff**	**1.12**	**62**	P	Pg	03 05 29.8	-0.6
TMB01				S	Sb	03 05 45.9	+0.3
ODSA	**Odessa**	**1.13**	**31**		Pg	03 05 30.1	-0.5
ODSA					Sb	03 05 45.9	-0.2
ODSA	**Odessa**	**1.13**	**31**	P	Pg	03 05 30.0	-0.7
ODSA				S	Sb	03 05 45.9	-0.2
NM01	**Eunice**	**1.21**	**354**	P	Pg	03 05 31.9	-0.2
NM01				S	Sg	03 05 47.8	+0.1
CLNB	**Carlsbad**	**1.23**	**334**	P	Pg	03 05 32.1	-0.6
CLN7	**Carlsbad 7**	**1.34**	**339**		Pn	03 05 34.5	0.0
CLN7	**Carlsbad 7**	**1.34**	**339**	P	Pn	03 05 34.2	-0.3
HTMS	**Hat Mesa**	**1.36**	**346**		Pn	03 05 34.6	-0.1
HTMS	**Hat Mesa**	**1.36**	**346**	P	Pn	03 05 34.6	-0.1
HTMS				S	Sn	03 05 53.2	+0.1
CBET	**Carlsbad E Tow**	**1.42**	**333**		Pb	03 05 35.9	0.0
CBET	**Carlsbad E Tow**	**1.42**	**333**	P	Pb	03 05 35.9	0.0
TMB06	**Greenwood**	**1.48**	**56**	P	Pn	03 05 36.4	+0.1
TMB06				S	Sn	03 05 55.9	-0.2
SAND	**Sanderson**	**1.54**	**141**		Pb	03 05 37.9	-0.1
SAND					Sg	03 06 00.1	+1.8
SAND	**Sanderson**	**1.54**	**141**	P	Pb	03 05 37.7	-0.2
SAND				S	Sg	03 06 00.1	+1.8
VHRN	**Van Horn**	**1.54**	**257**		Pn	03 05 37.2	0.0
VHRN					Sn	03 05 57.4	-0.3
VHRN				IAML		03 06 03.2	
	164nm,0.6s						
VHRN				IAML		03 06 04.4	
	276nm,0.5s						
VHRN	**Van Horn**	**1.54**	**257**	⇑P	Pn	03 05 37.1	-0.1
VHRN				S	Sn	03 05 57.4	-0.3
TMB04	**Seminole**	**1.60**	**23**	P	Pn	03 05 37.9	-0.1
TMB04				S	Sg	03 06 00.1	-0.4
OZNA	**Ozona**	**1.83**	**97**		Pb	03 05 42.7	-0.2
OZNA					Sg	03 06 07.8	+0.1
OZNA	**Ozona**	**1.83**	**97**	⇓P	Pb	03 05 42.7	-0.3
OZNA				S	Sg	03 06 07.8	+0.1
TX31	**Lajitas Ar. Si**	**1.85**	**192**		Pb	03 05 42.9	-0.4
TX31					Sg	03 06 07.8	-0.5
TX31	**Lajitas Ar. Si**	**1.85**	**192**	⇑P	Pb	03 05 42.6	-0.7
TX31				S	Sg	03 06 07.8	-0.5
TXAR	**Lajitas Array**	**1.85**	**192**		Pb	03 05 42.8	-0.5
TMB05	**Klondike**	**1.88**	**38**	P	Pn	03 05 42.8	+1.0
TMB05				S	Sg	03 06 08.7	-0.7
MNTX	**Cornudas Mount**	**1.91**	**287**		Pb	03 05 43.2	-1.0
MNTX					Sb	03 06 09.2	+0.8
MNTX				IAML		03 06 10.6	
	118nm,0.9s						
MNTX	**Cornudas Mount**	**1.91**	**287**	P	Pn	03 05 43.1	+0.9
MNTX				S	Sb	03 06 09.2	+0.8
CPRX	**Cap Rock**	**1.95**	**344**		Pn	03 05 43.7	+0.9
CPRX	**Cap Rock**	**1.95**	**344**	P	Pn	03 05 43.8	+1.0
SGCY	**Sterling City**	**1.96**	**67**		Pb	03 05 44.5	-0.6
SGCY					Sg	03 06 11.3	-0.7
SGCY	**Sterling City**	**1.96**	**67**	P	Pb	03 05 44.2	-1.0
SGCY				S	Sg	03 06 11.3	-0.7
POST	**Post**	**2.41**	**37**		Pn	03 05 50.3	+1.1
SN07	**Snyder 07**	**2.78**	**45**		Pn	03 05 55.4	+1.3
MSTX	**Muleshoe**	**2.84**	**8**		Pn	03 05 56.2	+1.2
MSTX				IAmb_Lg		03 06 42.7	
	comp=Z,55nm,0.9s						
DRIO	**Del Rio**	**2.85**	**127**		Pn	03 05 56.2	+1.1
DRIO				IAmb_Lg		03 06 40.6	
	comp=Z,75nm,0.8s						
JCT	**Junction City**	**3.04**	**102**		Pn	03 05 59.8	+2.2
DKNS	**Dickens**	**3.18**	**37**		Pn	03 06 00.8	+1.0
ABTX	**Abilene, Hawle**	**3.40**	**63**		Pn	03 06 04.6	+2.0
ABTX				IAmb_Lg		03 06 57.8	
	comp=Z,66nm,0.7s						
APMT	**Aspermont**	**3.42**	**50**		Pn	03 06 03.8	+0.8
BRDY	**Brady**	**3.64**	**87**		Pn	03 06 07.8	+1.8
BRDY				IAmb_Lg		03 07 09.5	
	comp=Z,65nm,0.8s						
HNDO	**Hondo**	**3.79**	**114**		Pn	03 06 11.1	+3.1
HNDO				IAmb_Lg		03 07 17.5	
	comp=Z,57nm,1.1s						
121A	**Cookes Peak, D**	**4.10**	**291**	Pn	Pn	03 06 14.3	+1.8
121A				IAML		03 07 36.0	
	comp=N,27nm,0.9s						
121A				IAML		03 07 38.9	
	comp=E,26nm,0.6s						
BNM	**Barren Site**	**4.13**	**317**		Pn	03 06 14.6	+1.7
PLPT	**Palo Pinto**	**4.50**	**67**		Pn	03 06 18.5	+0.7
PLPT				IAmb_Lg		03 07 36.7	
	comp=Z,28nm,0.9s						
ANMO	**Albuquerque**	**4.65**	**325**	IAmb_Lg		03 07 45.3	
	comp=Z,13nm,0.7s						
SMWD	**Samnorwood**	**4.68**	**32**	IAmb_Lg		03 07 35.8	
	comp=Z,26nm,0.8s						
HPIG		**4.71**	**207**		Pn	03 06 21.4	+0.6
HPIG				IAML		03 07 44.1	
	comp=N,14nm,0.6s						
HPIG				IAML		03 07 45.6	
	comp=E,32nm,0.7s						
WHTX	**Lake Whitney,**	**5.01**	**79**	IAmb_Lg		03 07 58.1	
	comp=Z,30nm,0.9s						
EF04	**Eagle Ford 04**	**5.10**	**111**	IAmb_Lg		03 08 05.5	
	comp=Z,29nm,0.8s						
319A	**Douglas**	**5.17**	**274**		Pn	03 06 27.1	-0.1
WMOK	**Wichita Mounta**	**5.18**	**45**	IAmb_Lg		03 08 07.1	
	comp=Z,21nm,1.0s						
735A	**Kenedy**	**5.24**	**115**	IAmb_Lg		03 08 09.3	
	comp=Z,32nm,1.0s						
MLDN	**Muldoon**	**5.50**	**103**	IAmb_Lg		03 08 12.3	
	comp=Z,34nm,0.7s						
ELIS	**Ellis County**	**5.85**	**32**	IAmb_Lg		03 08 23.6	
	comp=Z,19nm,0.7s						
TREL	**Terrell**	**6.28**	**74**	IAmb_Lg		03 08 45.0	
	comp=Z,26nm,0.9s						
FNO	**Franklin**	**6.38**	**49**	IAmb_Lg		03 08 41.7	
	comp=Z,14nm,1.0s						
OK038	**West end E0370**	**6.50**	**34**	IAmb_Lg		03 08 52.1	
	comp=Z,19nm,0.8s						
TUC	**Tucson**	**6.53**	**282**	IAmb_Lg		03 08 49.6	
	comp=Z,3.0nm,1.0s						
TUC	**Tucson**	**6.53**	**282**	IAmb_Lg		03 08 49.7	
	comp=Z,3.2nm,1.0s						
OK029	**Liberty Lake**	**6.70**	**45**	IAmb_Lg		03 08 50.0	
	comp=Z,23nm,1.0s						
NATX	**Nacogdoches**	**7.36**	**83**	IAmb_Lg		03 09 18.8	
	comp=Z,15nm,0.8s						
TUL3	**Leonard**	**7.82**	**51**	IAmb_Lg		03 09 27.4	
	comp=Z,15nm,0.8s						
T35A	**Sooner Cattle**	**8.01**	**42**	IAmb_Lg		03 09 32.5	
	comp=Z,14nm,1.1s						
R32A	**Long Quarter,**	**8.15**	**26**	IAmb_Lg		03 09 49.3	
	comp=Z,12nm,1.0s						
CBKS	**Cedar Bluff**	**8.16**	**20**	IAmb_Lg		03 09 50.4	
	comp=Z,11nm,0.7s						
RLO	**Rose Lookout**	**8.48**	**52**	IAmb_Lg		03 09 45.7	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**8.81**	**65**	IAmb_Lg		03 10 07.3	
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	**9.28**	**54**	IAmb_Lg		03 10 14.0	
	comp=Z,8.2nm,0.7s						
OGNE	**Ogallala**	**9.82**	**5**	IAmb_Lg		03 10 31.0	
	comp=Z,16nm,0.8s						

SDD 03 03:33:39.8±1.0, 19.13N×69.59W, h47km±8km, MD2.8, ML2.4, MW3.6, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.34**	**311**	*i* P	Pn	03 33 48.7	-0.3
NADR				*e*Sg	Sn	03 33 54.4	-1.2
NADR				IAML		03 33 56.9	
	comp=N,286nm,0.4s						
HATOM	**Hato Mayor del**	**0.39**	**150**	⇑*e*Pg	Pn	03 33 49.2	-0.5
HATOM				⇑*e*Sg	Sn	03 33 55.4	-1.4
HATOM				IAML		03 33 55.5	
	comp=N,239nm,0.1s						
SMDR	**Samana, DR**	**0.41**	**67**	*i* P	Pn	03 33 48.4	-1.4
SMDR				*e*Sg	Sn	03 33 56.0	-1.0
DR08	**Loma La Naviza**	**0.44**	**248**	*i* P	Pn	03 33 49.9	-0.4
DR08				*e*Sg	Sn	03 33 57.4	-0.4
DR08				IAML		03 33 57.6	
	comp=N,5μm,0.1s						
MIDR	**Miches**	**0.53**	**106**	*i* P	Pn	03 33 50.7	-0.6
MIDR				*e*Sg	Sn	03 33 58.8	-0.6
MIDR				IAML		03 33 59.5	
	comp=N,38nm,0.2s						
MIDR				IAML		03 33 59.5	
	comp=N,38nm,0.2s						
BANI	**BANI**	**1.04**	**225**	*i* P	Pn	03 33 56.9	-1.2
BANI				*e*Sg	Sn	03 34 09.7	-1.8
BANI				IAML		03 34 16.7	
	comp=N,98nm,0.5s						

*UCR **03** 03:40:14.0±1.3, 7.15N×82.35W, h0km±63km, MW3.8*
*CATAC **03** 03:40:15.3±2.3, 7.1N±8.8×82.2W±.1, h3km±17km, M3.9/11, MLv3.9/11, Error ellipse: s-maj=16.8km s-min=4.7km az=11.7, confirmed*
*UPA **03** 03:40:16.8±1.1, 7.17N×82.34W, h22km±17km, MD4.0, MW4.5*

ISC 03 03:40:14.8±2.6, 7.16N±0.08×82.32W±0.04, h13km±15km, n79, σ1s11/93, 4C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMDIO	**Remedios, Chir**	**1.16**	**25**	*e*P	**Pb**	**03 40 36.9**	**+0.2**
PTPA	**Petro Terminal**	**1.17**	**332**	*e*P	**Pn**	**03 40 36.2**	**-0.6**
PTPM	**Petroterminale**	**1.18**	**332**	*e*P	**Pn**	**03 40 36.2**	**-0.7**
PTPM				*e*S	**Sb**	**03 40 50.4**	**-1.6**
GMAL	**Guarumal, Vera**	**1.23**	**61**	⇓*i*P	**Pn**	**03 40 37.4**	**-0.3**
GMAL				*e*S	**Sb**	**03 40 53.0**	**-0.6**
GMAL	**Guarumal, Vera**	**1.23**	**61**	*e*P	**Pn**	**03 40 37.5**	**-0.1**
LOMA3	**Las Lomas, Chi**	**1.26**	**357**	*e*P	**Pn**	**03 40 38.1**	**0.0**
LOMA3				*e*S	**Sb**	**03 40 54.4**	**-0.2**
DVD	**David**	**1.27**	**354**	⇓*i*P	**Pn**	**03 40 38.0**	**-0.2**
DVD				*e*S	**Sb**	**03 40 53.3**	**-1.6**
GUAL3	**Gualaca, Chiri**	**1.36**	**1**	*e*P	**Pn**	**03 40 39.6**	**+0.1**
LPPC	**Paso Canoas**	**1.46**	**339**	*e*P	**Pn**	**03 40 40.2**	**-0.5**
CACAO	**El Cacao, Vera**	**1.46**	**83**	⇓*i*P	**Pn**	**03 40 40.7**	**0.0**
CACAO				*e*S	**Sn**	**03 40 59.4**	**-0.3**
CDITO	**Canoas**	**1.51**	**339**	P	**Pn**	**03 40 41.0**	**+0.5**
CDITO	**Canoas**	**1.51**	**339**	S	**Sg**	**03 41 04.5**	**+1.1**
PSOM3	**Paja de Sombre**	**1.51**	**360**	*e*P	**Pn**	**03 40 41.9**	**+0.3**
PSOM3				*e*S	**Sn**	**03 40 59.4**	**-1.8**
PRISO	**Paraso**	**1.52**	**350**	*e*P	**Pn**	**03 40 41.7**	**+0.1**
BQSF3	**Alto Boquete,**	**1.57**	**356**	*e*P	**Pn**	**03 40 42.2**	**-0.3**
BQSF3				*e*S	**Sn**	**03 41 02.5**	**-0.3**
BQTLY	**Boquete Panama**	**1.59**	**355**	*e*P	**Pn**	**03 40 42.9**	**+0.1**
CLLRA	**Cordillera,**	**1.60**	**349**	*e*P	**Pn**	**03 40 42.9**	**+0.1**
NELY	**Ciudad Neily**	**1.60**	**337**	*e*P	**Pn**	**03 40 42.6**	**-0.2**
BRU2	**Volcan**	**1.66**	**347**	⇑*i*P	**Pn**	**03 40 43.6**	**-0.2**
BRU2				*e*S	**Sn**	**03 41 05.0**	**-0.1**
BRU2	**Volcan**	**1.66**	**347**	⇑*e*P	**Pn**	**03 40 43.6**	**-0.2**
BRU2	**Volcan**	**1.66**	**347**	S	**Sn**	**03 41 05.6**	**+0.6**
BRU2	**Volcan**	**1.66**	**347**	P	**Pn**	**03 40 43.8**	**0.0**
RBALA	**Bur**	**1.71**	**5**	*e*P	**Pb**	**03 40 45.4**	**-0.8**
PBNVO	**Pueblo Nuevo,**	**1.72**	**4**	*e*P	**Pn**	**03 40 44.9**	**+0.5**
ALCO	**Alturas Coton,**	**1.85**	**344**	*e*P	**Pn**	**03 40 46.2**	**-0.1**
CRIS3	**El Cristo, Coc**	**2.00**	**57**	*e*P	**Pb**	**03 40 49.7**	**-1.3**
CRIS3				*e*S	**Sn**	**03 41 13.6**	**+0.3**
EDP2	**Potrero Grande**	**2.03**	**335**	*e*P	**Pn**	**03 40 49.6**	**+1.0**
CHIT3	**Chitre**	**2.04**	**67**	⇑*i*P	**Pn**	**03 40 49.8**	**+1.0**
CHIT3				*e*S	**Sn**	**03 41 14.6**	**+0.4**
FIMO	**Fila Mora**	**2.09**	**331**	*e*P	**Pn**	**03 40 49.8**	**+0.3**
AZU	**Azuero**	**2.12**	**73**	⇓*i*P	**Pn**	**03 40 51.1**	**+1.2**
AZU				*e*S	**Sn**	**03 41 15.8**	**-0.3**
AZU	**Azuero**	**2.12**	**73**	*e*P	**Pn**	**03 40 50.8**	**+0.9**
DRK0	**Durika**	**2.28**	**336**	⇑*i*P	**Pn**	**03 40 52.7**	**+0.4**
DRK0				*e*S	**Sn**	**03 41 21.0**	**+0.7**
DRK0	**Durika**	**2.28**	**336**	*e*P	**Pn**	**03 40 52.8**	**+0.4**
DRK0	**Durika**	**2.28**	**336**	P	**Pn**	**03 40 52.8**	**+0.6**
OCHAL	**Ojochal**	**2.33**	**326**	S	**Sn**	**03 41 22.2**	**+0.9**
OCHAL	**Ojochal**	**2.33**	**326**	P	**Pn**	**03 40 52.9**	**+0.2**
EDPE	**Pejibaye, P**	**2.34**	**328**	*e*P	**Pn**	**03 40 53.4**	**+0.5**
SAJE	**San Jernim**	**2.47**	**332**	*e*P	**Pn**	**03 40 55.3**	**+0.5**
CEUA	**Cerro Uatsi, L**	**2.52**	**346**	*e*P	**Pb**	**03 40 58.1**	**-1.8**
VERH	**Veragua Rainfo**	**2.88**	**343**	*e*P	**Pn**	**03 41 02.1**	**+1.7**
PIEC	**Cerro El Cedra**	**2.93**	**327**	*e*P	**Pn**	**03 41 02.1**	**+0.8**
ZANG	**Zanguenga, Cho**	**3.01**	**54**	*e*P	**Pn**	**03 41 04.2**	**+2.0**
PISJ	**San Jernim**	**3.04**	**324**	*e*P	**Pn**	**03 41 03.3**	**+0.7**
LCR2	**La Lucha 2**	**3.06**	**327**	*e*P	**Pn**	**03 41 03.6**	**+0.5**
LCR2	**La Lucha 2**	**3.06**	**327**	P	**Pn**	**03 41 03.5**	**+0.5**
LCR2	**La Lucha 2**	**3.06**	**327**	S	**Sn**	**03 41 39.5**	**-0.1**
CHOR3	**La Chorrera**	**3.06**	**56**	*e*P	**Pn**	**03 41 03.6**	**+0.8**
CHOR3				*e*S	**Sn**	**03 41 39.3**	**0.0**
PICV	**PH. Pirrs**	**3.07**	**323**	*e*P	**Pn**	**03 41 03.4**	**+0.4**
PAR1A	**Puntarenas Pro**	**3.08**	**322**	*e*P	**Pn**	**03 41 03.7**	**+0.6**
RVSTA	**Santa Teresita**	**3.09**	**335**	*e*P	**Pn**	**03 41 05.3**	**+1.9**
PCAYA	**Pacayas**	**3.11**	**332**	*e*P	**Pn**	**03 41 05.0**	**+1.3**
VTCV	**VTCV, Calle Va**	**3.13**	**334**	*e*P	**Pn**	**03 41 05.6**	**+1.6**
RESJ	**San Isidro (Tu**	**3.14**	**335**	*e*P	**Pn**	**03 41 05.9**	**+2.0**
ABRB	**Las Abras (San**	**3.15**	**334**	*e*P	**Pn**	**03 41 06.0**	**+1.8**
RAFA	**San Farael, Vo**	**3.15**	**332**

MMAI Mount Meron Ar 147.69 294 PKPbc **PKPdf 04 01 28.8 +2.1**
0.2nm,0.3s,baz=90,slow=2.0,SNR=3.6
EKA Eskdalemuir Ar 148.82 3 PKPbc **PKPdf 04 01 28.4 +0.7**
0.1nm,0.4s,baz=9.1,slow=3.1,SNR=1.2

*MDD **03** 03:46:12.2±0.7,36°.85N×9°.73W,h18km±4km,mb_Lg3.0/31, Error ellipse: s-maj=6.1km s-min=3.5km az=36.0*
*SFS **03** 03:46:13.0,36°.79N×9°.75W,h39km,ML3.0/13,ML3.0/17, MLv2.7/17*
*INMG **03** 03:46:13.8±1.1,36°.79N×9°.72W,h30km±8km,ML2.2, Error ellipse: s-maj=5.7km s-min=2.6km az=59.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
*IGIL **03** 03:46:13.6,36°.77N×9°.72W,h32km,ML2.3*
*CNRM **03** 03:46:15.5,36°.67N×9°.16W,h54km,ML2.3*
ISC 03 03:46:12.2±1.5,36°.80N±0°.04×9°.63W±0°.06,h35km,n96, σ1s86/160,5C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.73**	**62**	Pn	**Pn**	**03 46 27.6**	**+1.5**
PFVI				Sn	**Sn**	**03 46 37.6**	**+1.7**
PFVI	**Vila Bisbo**	**0.73**	**62**	*iP*	**Pn**	**03 46 27.6**	**+1.5**
PFVI				*eS*	**Sn**	**03 46 37.9**	**+2.0**
PFVI				*i* IAML		03 46 38.2	
PFVI				*i* IAML		03 46 38.6	
PFVI				*i* IAML		03 46 38.9	
PFVI	**Vila Bisbo**	**0.73**	**62**	P	**Pn**	**03 46 27.6**	**+1.5**
PFVI	**Vila Bisbo**	**0.73**	**62**	S	**Sn**	**03 46 36.5**	**+0.6**
MORF	**Marmelete**	**0.94**	**57**	*eP*	**Pn**	**03 46 30.4**	**+1.5**
MORF				*eS*	**Sn**	**03 46 42.5**	**+1.4**
MORF				IAML		03 46 44.0	
	comp=E,80nm,0.1s						
MORF	**Marmelete**	**0.94**	**57**	*iP*	**Pn**	**03 46 30.4**	**+1.5**
MORF				*eS*	**Sn**	**03 46 42.6**	**+1.4**
MORF				*i* IAML		03 46 43.4	
MORF				*i* IAML		03 46 43.7	
MORF				*i* IAML		03 46 44.0	
PTEO	**Sao Teotonio**	**1.04**	**44**	*iP*	**Pn**	**03 46 31.8**	**+1.4**
PTEO				*eS*	**Sn**	**03 46 45.3**	**+1.6**
PTEO				*i* IAML		03 46 46.0	
PTEO				*i* IAML		03 46 47.6	
PTEO				*i* IAML		03 46 47.8	
PBDV	**Barranco-do-Ve**	**1.43**	**71**	Pn	**Pn**	**03 46 37.5**	**+1.7**
PBDV				Sn	**Sn**	**03 46 54.5**	**+1.1**
PBDV	**Barranco-do-Ve**	**1.43**	**71**	*iP*	**Pn**	**03 46 37.4**	**+1.7**
PBDV				*eS*	**Sn**	**03 46 54.5**	**+1.1**
PBDV				*i* IAML		03 46 55.8	
PBDV				*i* IAML		03 46 57.2	
PBDV				*i* IAML		03 46 58.0	
PCVE	**Castro Verde**	**1.52**	**56**	Pn	**Pn**	**03 46 38.6**	**+1.6**
PCVE				Sn	**Sn**	**03 46 56.5**	**+0.9**
PCVE	**Castro Verde**	**1.52**	**56**	*eP*	**Pn**	**03 46 38.6**	**+1.6**
PCVE				*eS*	**Sn**	**03 46 56.9**	**+1.4**
PCVE				*i* IAML		03 46 58.4	
PCVE				*i* IAML		03 46 58.8	
PCVE				*i* IAML		03 46 58.9	
MESJ	**Messejana**	**1.54**	**47**	*eP*	**Pn**	**03 46 38.5**	**+1.3**
MESJ				*eS*	**Sn**	**03 46 56.7**	**+0.8**
MESJ				IAML		03 46 59.7	
	comp=N,18nm,0.1s						
MESJ	**Messejana**	**1.54**	**47**	*eP*	**Pn**	**03 46 38.5**	**+1.3**
MESJ				*eS*	**Sn**	**03 46 57.1**	**+1.2**
MESJ				*i* IAML		03 46 59.8	
MESJ				*i* IAML		03 47 00.1	
MESJ				*i* IAML		03 47 00.2	
PVAQ	**Vaqueiros**	**1.65**	**68**	Pn	**Pn**	**03 46 40.3**	**+1.6**
PVAQ	**Vaqueiros**	**1.65**	**68**	*eP*	**Pn**	**03 46 40.2**	**+1.6**
PVAQ				*eS*	**Sn**	**03 46 59.5**	**+0.9**
PVAQ				*i* IAML		03 47 01.5	
PVAQ				*i* IAML		03 47 01.7	
PVAQ				*i* IAML		03 47 02.6	
PVAQ	**Vaqueiros**	**1.65**	**68**	P	**Pn**	**03 46 40.2**	**+1.6**
PVAQ	**Vaqueiros**	**1.65**	**68**	S	**Sn**	**03 46 55.3**	**-3.3**
PBEJ	**Beja**	**1.87**	**48**	*eP*	**Pn**	**03 46 42.8**	**+1.1**
PBEJ				*eS*	**Sn**	**03 47 04.6**	**+0.5**
PBEJ				*i* IAML		03 47 05.8	
PBEJ				*i* IAML		03 47 06.1	
PBEJ				*i* IAML		03 47 06.5	
EGRO	**El Granado**	**1.87**	**66**	Pn	**Pn**	**03 46 43.2**	**+1.4**
EGRO				Sn	**Sn**	**03 47 04.5**	**+0.4**
EGRO	**El Granado**	**1.87**	**66**	Pn	**Pn**	**03 46 43.1**	**+1.4**
EGRO				Sn	**Sn**	**03 47 05.2**	**+1.1**
EGRO				*i* IVmb_Lg		03 47 06.2	
PARRA	**Arraiolos**	**2.07**	**13**	*eP*	Pn	03 46 49.6	+5.1
PARRA				*eS*	**Sn**	**03 47 17.2**	**+8.1**
PARRA				*i* IAML		03 47 18.8	
PARRA				*i* IAML		03 47 18.8	
EVO	**Evora**	**2.16**	**36**	Pn	**Pn**	**03 46 46.7**	**+1.0**
EVO				Sn	**Sn**	**03 47 11.5**	**+0.2**
EVO	**Evora**	**2.16**	**36**	*eP*	**Pn**	**03 46 46.7**	**+1.0**
EVO				*eS*	**Sn**	**03 47 11.6**	**+0.4**
EVO				*i* IAML		03 47 12.2	
EVO				*i* IAML		03 47 12.3	
EVO				*i* IAML		03 47 16.8	
PMAFR	**Mafra**	**2.17**	**7**	Pn	**Pn**	**03 46 46.5**	**+0.5**
PMAFR				Sn	**Sn**	**03 47 10.2**	**-1.4**
PMAFR	**Mafra**	**2.17**	**7**	*eP*	**Pn**	**03 46 46.5**	**+0.5**
PMAFR				*eS*	**Sn**	**03 47 11.3**	**-0.3**
PMAFR				*i* IAML		03 47 12.7	
PMAFR				*i* IAML		03 47 13.1	
PMAFR				*i* IAML		03 47 14.2	
ARNO	**Arenosillo**	**2.34**	**82**	Sn	**Sn**	**03 47 16.4**	**+0.6**
PBAR	**Barrancos**	**2.48**	**56**	Pn	**Pn**	**03 46 51.4**	**+1.3**
PBAR				Sn	**Sn**	**03 47 19.8**	**+0.6**
PBAR	**Barrancos**	**2.48**	**56**	*eP*	**Pn**	**03 46 51.4**	**+1.3**
PBAR				*eS*	**Sn**	**03 47 19.9**	**+0.6**
PBAR				*i* IAML		03 47 21.3	
PBAR				*i* IAML		03 47 21.4	
PBAR				*i* IAML		03 47 21.7	
PMTG	**Montargil**	**2.53**	**26**	*eP*	**Pn**	**03 46 51.7**	**+0.9**
PMTG				*eS*	**Sn**	**03 47 19.9**	**-0.4**
PMTG				*i* IAML		03 47 21.7	
PMTG				*i* IAML		03 47 22.4	
PMTG				*i* IAML		03 47 24.4	
EMIN	**Mina Concepcio**	**2.55**	**67**	Pn	**Pn**	**03 46 52.3**	**+1.1**
EMIN				Sn	**Sn**	**03 47 21.9**	**+0.9**
EMIN	**Mina Concepcio**	**2.55**	**67**	Pn	**Pn**	**03 46 52.5**	**+1.3**
EMIN				Sn	**Sn**	**03 47 21.3**	**+0.3**
EMIN				*i* IVmb_Lg		03 47 25.5	
PESTR	**Estremoz**	**2.62**	**37**	Pn	**Pn**	**03 46 52.8**	**+0.7**
PESTR				Sn	**Sn**	**03 47 22.6**	**-0.2**
PESTR	**Estremoz**	**2.62**	**37**	*eP*	**Pn**	**03 46 52.9**	**+0.7**
PESTR				*eS*	**Sn**	**03 47 23.1**	**+0.3**
PESTR				*i* IAML		03 47 24.4	
PESTR				*i* IAML		03 47 24.9	
PESTR				*i* IAML		03 47 25.8	
PESTR	**Estremoz**	**2.62**	**37**	P	**Pn**	**03 46 53.9**	**+1.7**
PESTR	**Estremoz**	**2.62**	**37**	S	**Sn**	**03 47 24.2**	**+1.4**
EBAD	**Badajoz**	**2.85**	**46**	Pn	**Pn**	**03 46 56.0**	**+0.7**
EBAD				Sn	**Sn**	**03 47 28.2**	**-0.1**
EBAD	**Badajoz**	**2.85**	**46**	Pn	**Pn**	**03 46 56.0**	**+0.7**
EBAD				Sn	**Sn**	**03 47 28.0**	**-0.3**
EBAD				*i* IVmb_Lg		03 47 29.5	
PSARD	**Sardoal**	**3.03**	**22**	*eP*	**Pn**	**03 46 58.7**	**+1.0**
PSARD				*eS*	**Sn**	**03 47 32.4**	**-0.4**
PSARD				*i* IAML		03 47 34.2	
PSARD				*i* IAML		03 47 34.2	
PSARD				*i* IAML		03 47 34.8	
ESPR	**Espera**	**3.03**	**88**	Pn	**Pn**	**03 46 59.3**	**+1.6**
ESPR				Sn	**Sn**	**03 47 33.2**	**+0.4**
ESPR	**Espera**	**3.03**	**88**	Pn	**Pn**	**03 46 59.2**	**+1.5**
ESPR				Sn	**Sn**	**03 47 33.2**	**+0.4**
ESPR				*i* IVmb_Lg		03 47 34.7	
PMRV	**Marv??o**	**3.17**	**33**	*eP*	**Pn**	**03 47 00.6**	**+0.9**
PMRV				*eS*	**Sn**	**03 47 35.2**	**-0.9**
PMRV				*i* IAML		03 47 37.7	
PMRV				*i* IAML		03 47 37.8	
PMRV				*i* IAML		03 47 38.5	
PCAS	**Casmilo, Conde**	**3.37**	**15**	*eP*	**Pn**	**03 47 03.2**	**+0.8**
PCAS				*eS*	**Sn**	**03 47 40.1**	**-1.1**
PCAS				*i* IAML		03 47 43.2	
PCAS				*i* IAML		03 47 43.4	
PCAS				*i* IAML		03 47 45.6	
PCBR	**Castelo Branco**	**3.48**	**29**	*eP*	**Pn**	**03 47 05.2**	**+1.3**
PCBR				*eS*	**Sn**	**03 47 43.1**	**-0.7**
PCBR				*i* IAML		03 47 45.1	
PCBR				*i* IAML		03 47 46.2	
COI	**Coimbra**	**3.54**	**15**	*eP*	**Pn**	**03 47 04.9**	**+0.2**
COI				*eS*	**Sn**	**03 47 43.7**	**-1.6**
COI				*i* IAML		03 47 46.1	
COI				*i* IAML		03 47 46.2	
ECAB	**El Cabril**	**3.59**	**68**	Pn	**Pn**	**03 47 06.7**	**+1.2**
ECAB				Sn	**Sn**	**03 47 45.7**	**-0.9**
ECAB	**El Cabril**	**3.59**	**68**	Pn	**Pn**	**03 47 06.6**	**+1.2**
ECAB				Sn	**Sn**	**03 47 45.9**	**-0.7**
ECAB				*i* IVmb_Lg		03 47 47.6	
PVIS	**Viseu**	**4.14**	**19**	*eP*	**Pn**	**03 47 13.6**	**+0.5**
PVIS				*eS*	**Sn**	**03 47 58.5**	**-1.8**
ZHG	**ZHG**	**4.14**	**143**	P	**Pn**	**03 47 13.0**	**-0.1**
ZHG	**ZHG**	**4.14**	**143**	S	**Sn**	**03 47 58.5**	**-1.9**
EADA	**Adamuz**	**4.25**	**70**	Pn	**Pn**	**03 47 15.9**	**+1.4**
EADA				Sn	**Sn**	**03 48 02.8**	**-0.1**
EADA	**Adamuz**	**4.25**	**70**	Pn	**Pn**	**03 47 16.1**	**+1.7**
EADA				Sn	**Sn**	**03 48 01.7**	**-1.2**
EADA				*i* IVmb_Lg		03 48 05.3	
EPLA	**Plasencia**	**4.29**	**39**	Pn	**Pn**	**03 47 15.8**	**+0.7**
EPLA				Sn	**Sn**	**03 48 02.8**	**-1.1**
EPLA				*i* IVmb_Lg		03 48 05.0	
EGOR	**Sierra Gorda,**	**4.44**	**84**	Pn	**Pn**	**03 47 19.0**	**+1.9**
EGOR				Sn	**Sn**	**03 48 08.9**	**+1.3**
EGOR				*i* IVmb_Lg		03 48 12.6	
SRHM	**Skhour des Reh**	**4.55**	**161**	P	**Pn**	**03 47 22.4**	**+3.8**
SRHM	**Skhour des Reh**	**4.55**	**161**	S	**Sn**	**03 48 14.2**	**+3.9**
PVRL	**Vila Real**	**4.72**	**18**	*eS*	**Sn**	**03 48 11.3**	**-3.1**
PVRL				*i* IAML		03 48 15.0	
PVRL				*i* IAML		03 48 15.2	
POLO	**Lamas de Olo**	**4.79**	**17**	*eP*	**Pn**	**03 47 22.3**	**+0.4**
POLO				*eS*	**Sn**	**03 48 13.3**	**-3.0**
POLO				*i* IAML		03 48 16.5	
POLO				*i* IAML		03 48 16.8	
POLO				*i* IAML		03 48 17.2	
MVO	**Moncorvo**	**4.81**	**24**	*eP*	**Pn**	**03 47 22.9**	**+0.7**
MVO				*eS*	**Sn**	**03 48 14.9**	**-1.9**
MVO				*i* IAML		03 48 15.4	
MVO				*i* IAML		03 48 16.9	
MVO				*i* IAML		03 48 17.4	
ELGU	**Los Guajares,**	**4.82**	**87**	Pn	**Pn**	**03 47 23.8**	**+1.4**
ELGU				Sn	**Sn**	**03 48 16.0**	**-1.0**
ELGU				*i* IVmb_Lg		03 48 21.2	
PALE	**Palemas**	**4.88**	**107**	P	**Pn**	**03 47 21.3**	**-1.8**
PALE	**Palemas**	**4.88**	**107**	S	Sn	03 48 11.5	-6.9
PAB	**San Pablo**	**4.99**	**55**	Pn	**Pn**	**03 47 25.8**	**+1.1**
PAB				Sn	**Sn**	**03 48 19.4**	**-1.8**
PAB				*i* IVmb_Lg		03 48 21.8	
PAB	**San Pablo**	**4.99**	**55**	P	**Pn**	**03 47 26.0**	**+1.3**
LCRM	**LCR**	**4.99**	**127**	P	**Pn**	**03 47 23.3**	**-1.5**
LCRM	**LCR**	**4.99**	**127**	S	**Sn**	**03 48 14.7**	**-4.6**
E0803	**Jimena (Jaen)**	**5.02**	**76**	Pn	**Pn**	**03 47 26.3**	**+1.2**
E0803				Sn	**Sn**	**03 48 20.6**	**-1.3**
PCAB	**Cabril**	**5.06**	**14**	*eP*	**Pn**	**03 47 25.9**	**+0.2**
PCAB				*eS*	**Sn**	**03 48 20.2**	**-2.7**
PCAB				*i* IAML		03 48 22.0	
PCAB				*i* IAML		03 48 22.3	
PCAB				*i* IAML		03 48 23.6	
PSIM	**Granatula de C**	**5.07**	**65**	Pn	**Pn**	**03 47 26.9**	**+1.1**
PSIM				Sn	**Sn**	**03 48 21.4**	**-1.8**
ELOB	**Lobios**	**5.21**	**13**	Pn	**Pn**	**03 47 27.8**	**+0.1**
ELOB				Sn	**Sn**	**03 48 22.4**	**-4.2**
ELOB				*i* IVmb_Lg		03 48 28.4	
PGAV	**Gavieira, Arco**	**5.27**	**11**	*eP*	**Pn**	**03 47 28.9**	**+0.3**
PGAV				*eS*	**Sn**	**03 48 24.1**	**-4.0**
PGAV				*i* IAML		03 48 27.6	
PGAV				*i* IAML		03 48 28.2	
PGAV				*i* IAML		03 48 28.5	
ESDC	**Sonseca Array**	**5.31**	**56**	Pn	**Pn**	**03 47 30.1**	**+1.0**
ESDC				Sn	**Sn**	**03 48 27.3**	**-1.7**
ESDC				*i* IVmb_Lg		03 48 29.2	
ESBB	**Sonseca Array**	**5.31**	**56**	Pn	**Pn**	**03 47 30.1**	**+1.0**
ESBB				Sn	**Sn**	**03 48 26.8**	**-2.3**
EQES	**Quesada**	**5.33**	**77**	Pn	**Pn**	**03 47 31.1**	**+1.8**
EQES				Sn	**Sn**	**03 48 28.8**	**-0.8**
EQES				*i* IVmb_Lg		03 48 30.5	
EZAM	**Zamans**	**5.39**	**7**	Pn	**Pn**	**03 47 30.3**	**+0.1**
EZAM				Sn	**Sn**	**03 48 26.9**	**-4.2**
EZAM				*i* IVmb_Lg		03 48 30.2	
PBRG	**Braganca**	**5.48**	**23**	*eP*	**Pn**	**03 47 32.1**	**+0.7**
PBRG				*eS*	**Sn**	**03 48 30.8**	**-2.5**
PBRG				*i* IAML		03 48 32.5	
PBRG				*i* IAML		03 48 33.8	
PBRG				*i* IAML		03 48 34.4	
MD31	**MD31**	**5.61**	**133**	P	**Pn**	**03 47 31.6**	**-1.6**
MD31	**MD31**	**5.61**	**133**	S	**Sn**	**03 48 31.4**	**-5.0**
ECAL	**Calabor**	**5.61**	**23**	Pn	**Pn**	**03 47 34.1**	**+0.9**
ECAL				Sn	**Sn**	**03 48 34.0**	**-2.4**
ECAL	**Calabor**	**5.61**	**23**	Pn	**Pn**	**03 47 33.2**	**+0.1**
ECAL				Sn	**Sn**	**03 48 34.0**	**-2.4**
ECAL				*i* IVmb_Lg		03 48 40.5	
TISM	**Timmit**	**5.71**	**152**	P	**Pn**	**03 47 33.9**	**-0.6**
TISM	**Timmit**	**5.71**	**152**	S	**Sn**	**03 48 35.9**	**-3.0**
MDT	**Midelt**	**5.73**	**132**	P	**Pn**	**03 47 33.0**	**-2.0**
MDT	**Midelt**	**5.73**	**132**	S	**Sn**	**03 48 34.5**	**-5.1**
GUD	**Guadarrama**	**5.75**	**46**	Pn	**Pn**	**03 47 35.2**	**0.0**
GUD				Sn	**Sn**	**03 48 38.4**	**-1.7**
GUD				*i* IVmb_Lg		03 48 40.7	
UCM	**Universidad Co**	**6.11**	**53**	Pn	**Pn**	**03 47 41.7**	**+1.6**
UCM				Sn	**Sn**	**03 48 46.9**	**-1.9**
EAGO	**Agolada(Pontev**	**6.12**	**11**	Pn	**Pn**	**03 47 40.2**	**+0.1**
EAGO				Sn	**Sn**	**03 48 44.3**	**-4.6**
EAGO				*i* IVmb_Lg		03 48 49.0	
EMAZ	**Mazaricos**	**6.17**	**4**	Pn	**Pn**	**03 47 39.0**	**-1.0**
EMAZ				Sn	**Sn**	**03 48 44.5**	**-5.5**
EMAZ				*i* IVmb_Lg		03 48 47.1	
TIO	**Tiouine**	**6.18**	**161**	P	**Pn**	**03 47 41.3**	**+0.2**
TIO	**Tiouine**	**6.18**	**161**	S	**Sn**	**03 48 48.5**	**-2.1**
TTIG	**Tnine Tigouga,**	**6.31**	**171**	P	**Pn**	**03 47 44.0**	**+1.1**
TTIG	**Tnine Tigouga,**	**6.31**	**171**	S	**Sn**	**03 48 52.9**	**-0.9**
ETOR	**Torete**	**7.15**	**54**	Pn	**Pn**	**03 47 55.3**	**+0.9**
ETOR				Sn	**Sn**	**03 49 11.0**	**-3.5**
ETOR				*i* IVmb_Lg		03 49 33.3	
EARI	**Arriondas**	**7.33**	**26**	Pn	**Pn**	**03 47 58.1**	**+1.3**
EARI				*i* IVmb_Lg		03 49 28.1	
ECHE	**Chera**	**7.37**	**65**	Pn	**Pn**	**03 47 58.9**	**+1.5**
ECHE				Sn	**Sn**	**03 49 17.8**	**-2.0**
ECHE				*i* IVmb_Lg		03 49 36.4	
ELAN	**Lanestosa**	**7.99**	**35**	Pn	**Pn**	**03 48 06.3**	**+0.4**
EMOS	**Mosqueruela**	**8.01**	**61**	Pn	**Pn**	**03 48 06.7**	**+0.4**
EMOS				Sn	**Sn**	**03 49 36.2**	**+0.6**

*IDC **03** 04:09:45.5±1.1,26°.43N×144°.04E,h0km,mb3.7/8, mbtmp3.7/10,ML3.3/2,MS2.9/1,Error ellipse: s-maj=28.9km s-min=22.2km az=45.0*
*JMA **03** 04:09:48.2±0.1,27°.1N±0°.6×144°.0E±0°.4,h0km,MV4.6/8, NEAR CHICHIJIMA ISLAND*
ISC 03 04:09:52.9±1.3,26°.9N±0°.2×144°.02E±0°.09,h35km,n21, σ0s93/16,mb3.9/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.65**	**278**	*eP*	**Pn**	**04 10 17.8**	**-1.6**
CBIJ				*eS*	**Sn**	**04 10 39.0**	**-0.4**
JCJ	**Chichijima**	**1.65**	**278**	Pn	**Pn**	**04 10 17.7**	**-1.6**
	32nm,0.3s,baz=98,slow=23,SNR=33						
JCJ				Sn	**Sn**	**04 10 39.0**	**-0.4**
	115nm,0.3s,baz=104,slow=23,SNR=19						
JHH2	**Haha-jima-NKT2**	**1.66**	**262**	*eP*	**Pn**	**04 10 18.9**	**-0.6**
JHH2				*eS*	**Sn**	**04 10 41.2**	**+1.5**
MJAR	**Matsushiro Arr**	**10.83**	**334**	Pn	**Pn**	**04 12 25.7**	**+0.3**
	0.2nm,0.3s,baz=163,slow=10,SNR=14						
	2.3nm,0.5s						
GUMO	**Guam**	**13.24**	**176**	LR	LR	04 17 02.5	
	comp=Z,48nm,19.0s,baz=92,slow=34						
KSRS	**Korea Array**	**17.21**	**312**	P	**P**	**04 13 52.2**	**+0.5**
	0.1nm,0.3s,baz=125,slow=12,SNR=5.9						
	1.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**19.83**	**334**	P	**Pn**	**04 14 22.8**	**+0.6**
	1.1nm,0.6s,baz=162,slow=9.0,SNR=1.9						
	1.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**22.16**	**104**	T	T	04 37 39.5	
	baz=291,slow=75						
H11N1	**WAKE ISLAND Hy**	**22.16**	**104**	T	T	04 37 33.4	
	baz=291,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.18**	**104**	T	T	04 37 42.5	
	baz=291,slow=75						
H11S3	**WAKE ISLAND Hy**	**22.49**	**107**	T	T	04 37 48.8	
	baz=294,slow=75						
H11S1	**WAKE ISLAND Hy**	**22.50**	**107**	T	T	04 37 46.8	
	baz=294,slow=75						
H11S2	**WAKE ISLAND Hy**	**22.51**	**107**	T	T	04 37 51.4	
	baz=294,slow=75						
WRA	**Warramunga Arr**	**47.48**	**192**	P	P	04 18 18.2	-6.3
	1.3nm,0.9s,baz=14,slow=8.5,SNR=6.9						
	1.3nm,0.9s						
MKAR	**Makanchi Array**	**51.88**	**310**	P	**P**	**04 18 58.5**	**+0.7**
	0.7nm,0.8s,baz=111,slow=6.6,SNR=4.4						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**54.36**	**315**	P	**P**	**04 19 15.5**	**-0.5**
	1.0nm,0.8s,baz=91,slow=7.5,SNR=9.8						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**57.12**	**28**	P	**P**	**04 19 35.1**	**-0.5**
	0.4nm,0.8s,baz=273,slow=7.8,SNR=4.7						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**59.31**	**318**	P	**P**	**04 19 52.0**	**+0.9**
	0.5nm,0.4s,baz=99,slow=9.2,SNR=3.7						
	0.5nm,0.4s						
NVAR	**Mina Array Bea**	**79.36**	**52**	P	**P**	**04 21 55.7**	**+0.1**
	0.3nm,0.6s,baz=312,slow=7.4,SNR=2.3						
	0.3nm,0.6s						
NOA	**NORSAR Array B**	**84.41**	**339**	P	**P**	**04 22 21.2**	**-0.3**
	0.7nm,0.8s,baz=42,slow=4.6,SNR=3.3						
	0.7nm,0.8s						
LPAZ	**La Paz**	**148.39**	**77**	PKPbc	**PKPbc**	**04 29 36.5**	**-0.6**
	0.9nm,0.8s,baz=281,slow=5.7,SNR=4.1						

*PGC **03** 04:11:42.7±9.4,50°.23N×130°.14W,h10km,MLSn3.4/21, Mw4.6, 191km west of Port Alice, Bc Vancouver Island, Canada Region*
*IDC **03** 04:11:42.2±1.0,50°.27N×130°.04W,h0km,mb3.9/6, mbtmp3.7/14,ML3.4/8,MS3.7/59,Error ellipse: s-maj=19.3km s-min=11.3km az=63.0*
*NEIC **03** 04:11:45.1±1.8,50°.56N±0°.08×129°.8W±0°.1,h3km±5km, mb4.3/193,Mwr4.4/75,Error ellipse: s-maj=16.0km s-min=8.0km az=49.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.11; $M_{\phi\phi}$0.98; $M_{r\theta}$0.33; $M_{\theta\phi}$3.91; $M_{\phi r}$1.37; Fault plane solution: M_{o}4.28000×10^{15} NP1:ϕ_s87.08000°,δ69.85000°, λ-2.84000°. NP2:ϕ_s178.06000°,δ87.33000°, λ-159.83000°. Principal axes: T 4.7425, Plg12.0000°, Azm311.0000°; N -1.1606, Plg70.0000°, Azm185.0000°; P -3.5819, Plg16.0000°, Azm44.0000°;*
*GCMT **03** 04:11:45.1±0.4,50°.18N±0°.02×130°.31W±0°.03,h19km±1km, MW4.7/85,Moment Tensor Solution. s11,c11; s85,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.08; $M_{\theta\theta}$-0.48±.07; $M_{\phi\phi}$0.54±.07; $M_{r\theta}$0.33±.14; $M_{\phi\phi}$1.40±.06; $M_{\phi r}$-0.46±.14; Best double couple: M_{o}1.59300×10^{16} NP1:ϕ_s258.00000°,δ72.00000°,λ-9.00000°. NP2: ϕ_s351.00000°,δ82.00000°,λ-161.00000°. Principal axes: T 1.5500, Plg7.0000°, Azm124.0000°; N 0.0870, Plg70.0000°, Azm14.0000°; P -1.6370, Plg19.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 04:11:45.9,50°.50N×129°.85W,h10km*
ISC 03 04:11:46.4±3.1,50°.31N±0°.06×130°.04W±0°.06, h26km±25km,n241,σ2s01/118,mb4.3/27,MS3.8/50, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.26**	**74**		**Pn**	**04 12 05.8**	**-2.5**
HOLB	**Holberg**	**1.26**	**74**	P	**Pn**	**04 12 05.7**	**-2.7**
BPEB	**Brooks Peninsu**	**1.46**	**95**	Pn	**Pn**	**04 12 07.3**	**-3.8**
BPEB				Sn	**Sn**	**04 12 23.2**	**-6.3**
PACB	**Port Alice, BC**	**1.64**	**85**	Pn	**Pn**	**04 12 10.3**	**-3.1**
PACB				Sn	**Sn**	**04 12 29.9**	**-3.6**
PHC	**Port Hardy**	**1.71**	**75**	Pn	**Pn**	**04 12 12.0**	**-2.4**
PHC				Sn	**Sn**	**04 12 32.6**	**-2.9**
MAYB	**Maynard**	**1.84**	**86**	Pn	**Pn**	**04 12 13.4**	**-2.9**
EDB	**Eliza Dome**	**1.93**	**102**	Pn	**Pn**	**04 12 14.0**	**-3.4**
HG4B	**Hotspring**	**2.12**	**340**		**Pn**	**04 12 16.0**	**-4.0**
JEDB	**Jedway, Haida**	**2.12**	**340**	Pn	**Pn**	**04 12 15.7**	**-4.3**
BBB	**Bella Bella**	**2.24**	**32**		**Pn**	**04 12 20.1**	**-1.5**
BBB	**Bella Bella**	**2.24**	**32**	Pn	**Pn**	**04 12 19.9**	**-1.8**
	41nm,0.3s,baz=229,slow=12,SNR=292						
BBB				LR	LR	04 12 38.5	
	comp=Z,300nm,19.6s,baz=162,slow=25						
BBB				Sn	**Sn**	**04 12 46.9**	**-1.5**
	32nm,0.3s,baz=316,slow=17,SNR=9.0						
	100nm,0.3s						
BBB	**Bella Bella**	**2.24**	**32**	Pn	**Pn**	**04 12 19.9**	**-1.8**
ETB	**Estevan Point**	**2.45**	**111**	Pn	**Pn**	**04 12 22.8**	**-1.8**
BAIB	**Barry Inlet**	**2.51**	**335**	Pn	**Pn**	**04 12 21.2**	**-4.3**
NCSB	**Newcastle Ridg**	**2.55**	**86**	Pn	**Pn**	**04 12 24.2**	**-2.0**
BUTB	**Butedale**	**2.93**	**19**

AHID	**Auburn Hatcher**	**15.03 113**		**P**	**04 15 20.6**	**-1.6**
BGU	**Big Grassy Mou**	**15.12 122**		**Pn**	**04 15 18.2**	**0.0**
BGU			IAmb	IAmb	04 15 26.6	
	comp=Z,14nm,1.4s					
KDAK	**Kodiak Island**	**15.16 308**	LR	LR	04 19 39.1	
	comp=Z,1µm,20.4s,baz=153,slow=31					
K27K	**Chicken**	**15.18 339**	IAmb	IAmb	04 15 30.1	
	comp=Z,8.5nm,1.2s					
TPH	**Tonopah**	**15.27 138**		**Pn**	**04 15 22.0**	**+1.7**
I30M	**Mount Dempster**	**15.32 350**	P	**Pn**	**04 15 22.6**	**+2.0**
I30M			IAmb	IAmb	04 15 44.8	
	comp=Z,16nm,1.5s					
HWUT	**Hardware Ranch**	**15.48 117**		**Pn**	**04 15 24.3**	**+1.3**
MZP	**Montezuma Peak**	**15.52 139**		**Pn**	**04 15 25.6**	**+2.1**
MZP			IAmb	IAmb	04 15 33.0	
	comp=Z,23nm,1.1s					
DSP	**Deep Springs**	**15.56 142**		**Pn**	**04 15 25.8**	**+2.0**
SCRK	**Sand Creek**	**15.60 337**		**Pn**	**04 15 23.2**	**-1.0**
RiDG	**Independent Ri**	**15.63 335**	IAmb	IAmb	04 15 33.6	
	comp=Z,29nm,1.3s					
I29M	**Ogilvie Camp,**	**15.70 347**	IAmb	IAmb	04 15 35.0	
	comp=Z,13nm,1.2s					
H31M	**Peel River**	**15.70 353**	IAmb	IAmb	04 15 36.2	
	comp=Z,13nm,1.3s					
TIN	**Tinemaha, Big**	**15.73 143**		**P**	**04 15 29.7**	**-0.3**
R11B	**Troy Canyon, C**	**15.77 134**		**Pn**	**04 15 27.1**	**+0.4**
SPR3	**Spring Creek 3**	**15.86 129**		**Pn**	**04 15 29.7**	**+1.7**
SPR3			IAmb	IAmb	04 15 36.9	
	comp=Z,32nm,1.5s					
GMN	**Gold Mountain**	**15.91 140**	IAmb	IAmb	04 15 37.5	
	comp=Z,21nm,1.4s					
PD31	**Pinedale Array**	**15.95 110**		**P**	**04 15 31.2**	**-1.2**
PDAR	**Pinedale Array**	**15.95 110**		**Pn**	**04 15 30.6**	**+1.5**
PDAR	**Pinedale Array**	**15.95 110**	Pn	**Pn**	**04 15 29.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=304,slow=11,SNR=12					
PDAR			LR	LR	04 21 23.9	
	comp=Z,219nm,19.4s,baz=297,slow=36					
	comp=Z,1.6nm,0.8s					
PSUT	**Pine Spring**	**16.46 129**	IAmb	IAmb	04 15 42.5	
	comp=Z,24nm,1.3s					
H29M	**Whitestone**	**16.52 348**	IAmb	IAmb	04 15 44.7	
	comp=Z,18nm,1.1s					
I26K	**Coal Creek Min**	**16.52 340**	IAmb	IAmb	04 15 42.3	
	comp=Z,29nm,1.4s					
WCT	**Wildcat Mounta**	**16.61 139**	IAmb	IAmb	04 15 45.3	
	comp=Z,52nm,1.3s					
PRN	**Pahroc Range**	**16.78 135**	IAmb	IAmb	04 15 46.6	
	comp=Z,21nm,1.1s					
MCK	**McKinley**	**16.83 330**	IAmb	IAmb	04 15 48.5	
	comp=Z,18nm,1.2s					
MPMC	**Manual Prospec**	**16.89 143**	IAmb	IAmb	04 15 49.0	
	comp=Z,54nm,1.4s					
ILAR	**Eielson Array**	**17.00 335**	P	**Pn**	**04 15 42.6**	**+0.6**
ILAR	**Eielson Array**	**17.00 335**	Pn	**Pn**	**04 15 42.8**	**+0.9**
	baz=145,slow=11,SNR=12					
ILAR			LR	LR	04 21 45.0	
	comp=Z,427nm,18.6s,baz=135,slow=35					
	comp=Z,1.3nm,0.9s					
TRF	**Thorofare Moun**	**17.09 328**	IAmb	IAmb	04 15 51.4	
	comp=Z,42nm,1.5s					
G29M	**Pine Creek**	**17.14 349**	IAmb	IAmb	04 15 51.6	
	comp=Z,26nm,1.3s					
O18K	**Koktuh Hills**	**17.18 313**		**Pn**	**04 15 45.0**	**+0.6**
O18K			IAmb	IAmb	04 15 53.9	
	comp=Z,30nm,1.2s					
LRMC	**Laurel Mtn Rad**	**17.33 144**	IAmb	IAmb	04 15 53.5	
	comp=Z,40nm,1.3s					
SHOC	**Shoshone, Teco**	**17.52 140**	IAmb	IAmb	04 15 55.2	
	comp=Z,49nm,1.5s					
SZCU	**Shurtz Canyon**	**17.57 130**	IAmb	IAmb	04 15 57.2	
	comp=Z,37nm,1.4s					
G27K	**Doyon Strip**	**17.57 345**	IAmb	IAmb	04 15 57.9	
	comp=Z,26nm,1.5s					
FFC	**Flin Flon**	**17.58 65**	P	**Pn**	**04 15 49.4**	**+0.1**
TPO	**Tropico Hills**	**17.67 146**	IAmb	IAmb	04 15 55.9	
	comp=Z,30nm,1.2s					
MTPU	**Mount Pierson**	**17.67 127**	IAmb	IAmb	04 16 04.2	
	comp=Z,22nm,1.5s					
GSC	**Goldstone, Bar**	**17.82 142**	IAmb	IAmb	04 16 01.1	
	comp=Z,27nm,1.3s					
LCMT	**Little Creek M**	**17.95 131**	IAmb	IAmb	04 15 59.4	
	comp=Z,27nm,1.3s					
FYU	**Fort Yukon**	**18.05 340**	IAmb	IAmb	04 16 04.9	
	comp=Z,54nm,1.5s					
L19K	**White Mountain**	**18.06 321**	IAmb	IAmb	04 15 59.0	
	comp=Z,24nm,1.2s					
PKCU	**Pink Cliffs**	**18.07 129**	IAmb	IAmb	04 16 01.3	
	comp=Z,23nm,1.1s					
G26K	**Porcupine Rive**	**18.08 342**	IAmb	IAmb	04 16 05.0	
	comp=Z,21nm,1.2s					
INK	**Inuvik**	**18.14 356**	P	**P**	**04 15 56.6**	**+0.5**
	baz=204,slow=11,SNR=3.5					
	comp=Z,2.8nm,1.1s					
MTPC	**Mountain Pass**	**18.17 139**	IAmb	IAmb	04 16 02.4	
	comp=Z,24nm,1.2s					
MWC	**Mount Wilson**	**18.32 147**	IAmb	IAmb	04 16 05.5	
	comp=Z,23nm,1.2s					
O20A	**White River Ci**	**18.35 115**	IAmb	IAmb	04 16 05.1	
	comp=Z,20nm,1.4s					
K20K	**Telida**	**18.38 324**	IAmb	IAmb	04 16 07.2	
	comp=Z,18nm,1.2s					
BFSC	**Mount Baldy Ra**	**18.45 146**	IAmb	IAmb	04 16 05.4	
	comp=Z,16nm,1.2s					
BMAR	**Burnt Mountain**	**18.65 342**	P	**Pn**	**04 16 04.0**	**+1.7**
RSSD	**Black Hills**	**18.66 99**	P	**P**	**04 16 02.5**	**+0.1**
F26K	**Sheenjek River**	**18.80 343**	IAmb	IAmb	04 16 13.9	
	comp=Z,27nm,1.4s					
M17K	**Holitna River**	**18.81 317**	P	**P**	**04 16 01.5**	**-2.1**
L18K	**Granite Mounta**	**18.84 319**	P	**P**	**04 16 03.9**	**0.0**
L18K			IAmb	IAmb	04 16 09.1	
	comp=Z,31nm,1.4s					
U15A	**North Rim**	**18.88 131**	IAmb	IAmb	04 16 13.3	
	comp=Z,16nm,1.2s					
J20K	**Nowinta River**	**18.88 326**	IAmb	IAmb	04 16 10.7	
	comp=Z,31nm,1.4s					
ELS	**Elsinore Mount**	**19.06 146**	IAmb	IAmb	04 16 13.3	
	comp=Z,32nm,1.4s					
PV23	**Carpenter Ridg**	**19.07 120**	IAmb	IAmb	04 16 11.9	
	comp=Z,32nm,1.3s					
PV14	**Lion Creek, Pa**	**19.11 121**	IAmb	IAmb	04 16 13.1	
	comp=Z,27nm,1.5s					
PV04	**Paradox Valley**	**19.16 120**	IAmb	IAmb	04 16 12.2	
	comp=Z,21nm,1.3s					
PV16	**Nyswonger Mesa**	**19.22 121**	IAmb	IAmb	04 16 15.3	
	comp=Z,21nm,1.4s					
PV11	**David Mesa, Pa**	**19.25 120**	IAmb	IAmb	04 16 20.3	
	comp=Z,9.4nm,0.8s					
PV18	**Skein Mesa, Pa**	**19.27 121**	IAmb	IAmb	04 16 27.4	
	comp=Z,16nm,1.0s					
PV05	**Paradox Valley**	**19.28 121**	IAmb	IAmb	04 16 14.3	
	comp=Z,16nm,1.1s					
H21K	**Melozitna Rive**	**19.37 331**	IAmb	IAmb	04 16 14.5	
	comp=Z,15nm,1.1s					
PV13	**Radium Mtn., P**	**19.38 121**	IAmb	IAmb	04 16 15.3	
	comp=Z,28nm,1.3s					
PV02	**Paradox Valley**	**19.39 120**	IAmb	IAmb	04 16 14.8	
	comp=Z,22nm,1.2s					
PMD	**Palm Desert**	**19.45 144**	IAmb	IAmb	04 16 17.1	
	comp=Z,34nm,1.4s					
PFO	**Pinyon Flats O**	**19.45 144**	P	**Pn**	**04 16 13.4**	**+1.1**
PFO			IAmb	IAmb	04 16 17.4	
	comp=Z,39nm,1.4s					
PFO	**Pinyon Flats O**	**19.45 144**	P	**Pn**	**04 16 13.3**	**+1.1**
	comp=Z,8.5nm,1.1s,baz=329,slow=12,SNR=12					
IRM	**Iron Mountain**	**19.48 140**	IAmb	IAmb	04 16 20.1	
	comp=Z,36nm,1.4s					
PV01	**Paradox Valley**	**19.53 120**	IAmb	IAmb	04 16 18.2	
	comp=Z,22nm,1.2s					
BORC	**Borrego Spring**	**19.77 144**	IAmb	IAmb	04 16 20.3	
	comp=Z,21nm,1.4s					
BC3	**Big Chuckawall**	**19.80 142**	IAmb	IAmb	04 16 30.2	
	comp=Z,18nm,1.3s					
DPP	**Dos Picos Cty**	**19.82 146**	IAmb	IAmb	04 16 19.8	
	comp=Z,35nm,1.4s					
IMAR	**Indian Mountai**	**19.88 331**	P	**P**	**04 16 15.8**	**+0.5**
WUAZ	**Wupatki**	**20.05 130**	IAmb	IAmb	04 16 24.0	
	comp=Z,23nm,1.4s					
BLYC	**Blythe**	**20.09 140**	IAmb	IAmb	04 16 26.2	
	comp=Z,21nm,1.3s					
MVCO	**Mesa Verde**	**20.24 122**	IAmb	IAmb	04 16 43.7	
	comp=Z,21nm,1.2s					
YUH	**Yuha Desert**	**20.51 144**	IAmb	IAmb	04 16 29.2	
	comp=Z,17nm,1.2s					
Y14A	**Wickenburg**	**20.59 136**	IAmb	IAmb	04 16 28.5	
	comp=Z,26nm,1.2s					
F21K	**Alatna River**	**20.63 334**	P	Pn	04 16 26.3	+0.5
S22A	**4UR Ranch, Cre**	**20.78 118**	IAmb	IAmb	04 16 39.7	
	comp=Z,13nm,1.3s					
X16A	**Lo Mia Camp, P**	**20.91 132**	IAmb	IAmb	04 16 35.5	
	comp=Z,16nm,1.1s					
F20K	**Avaraart Lake**	**21.17 332**	P	**P**	**04 16 31.0**	**+1.8**
F20K			IAmb	IAmb	04 16 37.7	
	comp=Z,32nm,1.3s					
H17K	**Granite Mounta**	**21.39 324**	P	**P**	**04 16 33.8**	**+2.1**
H17K			IAmb	IAmb	04 16 38.8	
	comp=Z,26nm,1.1s					
SDCO	**Great Sand Dun**	**21.54 116**	IAmb	IAmb	04 16 41.6	
	comp=Z,16nm,1.4s					
X18A	**Snowflake**	**21.54 129**	P	**P**	**04 16 35.6**	**+1.9**
E19K	**Redstone River**	**21.88 332**	P	**P**	**04 16 40.6**	**+3.7**
E19K			IAmb	IAmb	04 16 50.0	
	comp=Z,21nm,1.1s					
214A	**Organ Pipe Nat**	**22.36 139**	IAmb	IAmb	04 16 47.7	
	comp=Z,11nm,1.2s					
T25A	**Trinidad**	**22.59 116**	IAmb	IAmb	04 17 00.6	
	comp=Z,12nm,1.2s					
BLKN	**Baker Lake**	**22.75 39**	P	**P**	**04 16 48.4**	**+2.3**
BLKN			IAmb	IAmb	04 16 54.8	
	comp=Z,8.5nm,1.0s					
F33A	**5 Mile Ranch,**	**22.86 88**	IAmb	IAmb	04 16 51.6	
	comp=Z,12nm,1.4s					
TUC	**Tucson**	**22.96 134**	P	**P**	**04 16 49.7**	**+1.0**
ANMO	**Albuquerque**	**23.03 123**	P	**P**	**04 16 50.1**	**+0.6**
ANMO			IAmb	IAmb	04 16 54.1	
	comp=Z,13nm,1.4s					
ANMO	**Albuquerque**	**23.03 123**	LR	LR	04 25 54.5	
	comp=Z,122nm,18.4s,baz=42,slow=37					
ECSD	**EROS Data Cent**	**23.57 93**	IAmb	IAmb	04 17 05.8	
	comp=Z,17nm,1.4s					
MNTX	**Cornudas Mount**	**26.11 126**	IAmb	IAmb	04 17 22.6	
	comp=Z,11nm,1.1s					
T35A	**Sooner Cattle**	**27.46 106**	P	**P**	**04 17 31.5**	**+1.4**
WMOK	**Wichita Mounta**	**27.54 112**	IAmb	IAmb	04 17 33.0	
	comp=Z,3.9nm,0.8s					
APMT	**Aspermont**	**27.76 116**	IAmb	IAmb	04 17 36.5	
	comp=Z,10nm,1.2s					
ALPN	**Alpine**	**28.06 125**	IAmb	IAmb	04 17 39.3	
	comp=Z,3.9nm,1.2s					
RES	**Resolute Bay**	**28.46 19**	LR	LR	04 28 15.8	
	comp=Z,148nm,21.6s,baz=218,slow=35					
TUL3	**Leonard**	**28.55 107**	P	**P**	**04 17 40.8**	**+0.9**
TUL3			IAmb	IAmb	04 17 42.0	
	comp=Z,5.8nm,0.9s					
TX31	**Lajitas Ar. Si**	**28.88 127**	IAmb	IAmb	04 17 47.6	
	comp=Z,6.3nm,1.2s					
TXAR	**Lajitas Array**	**28.88 127**	P	**P**	**04 17 44.8**	**+1.9**
TXAR	**Lajitas Array**	**28.88 127**	P	**P**	**04 17 44.4**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=327,slow=6.2,SNR=13					
TXAR			LR	LR	04 29 54.8	
	comp=Z,195nm,19.9s,baz=314,slow=38					
	comp=Z,1.6nm,0.9s					
JCT	**Junction City**	**30.06 120**	IAmb	IAmb	04 17 56.1	
	comp=Z,9.7nm,1.2s					
LPIG	**La Paz**	**30.32 142**	LR	LR	04 29 24.4	
	comp=Z,116nm,18.9s,baz=329,slow=35					
DRIO	**Del Rio**	**30.42 122**	IAmb	IAmb	04 17 59.8	
	comp=Z,4.8nm,0.9s					
MIAR	**Mount Ida**	**30.81 107**	P	**P**	**04 18 00.4**	**+0.6**
SHEM	**Shemya Is, Ala**	**34.11 296**	LR	LR	04 29 43.8	
	comp=Z,133nm,21.1s,baz=63,slow=32					
SADO	**Sadowa**	**34.24 79**	LR	LR	04 32 57.7	
	comp=Z,232nm,19.7s,baz=310,slow=37					
FRB	**Frobisher Bay**	**34.57 44**	LR	LR	04 32 49.4	
	comp=Z,172nm,18.7s,baz=282,slow=37					
TKL	**Tuckaleechee C**	**36.26 96**	LR	LR	04 33 35.3	
	comp=Z,222nm,21.0s,baz=312,slow=36					
U54A	**Nelsons Funny**	**36.98 93**	IAmb	IAmb	04 19 38.9	
	comp=Z,7.5nm,1.0s					
SCHQ	**Schefferville**	**37.52 58**	LR	LR	04 33 38.8	
	comp=Z,167nm,20.9s,baz=292,slow=35					
SFJD	**Kangerlussuaq**	**41.24 36**	LR	LR	04 36 59.0	
	comp=Z,191nm,19.8s,baz=302,slow=37					
CMIG	**Matias Romero**	**43.49 127**	LR	LR	04 40 25.8	
	comp=Z,88nm,19.0s,baz=330,slow=40					
TIXI	**Tiksi**	**46.47 335**	LR	LR	04 42 37.2	
	comp=Z,77nm,18.1s,baz=137,slow=40					
SPITS	**Spitsbergen Ar**	**50.15 9**	LR	LR	04 42 48.6	
	comp=Z,101nm,18.0s,baz=319,slow=37					
BORG	**Borgarnes**	**52.78 31**	LR	LR	04 43 36.6	
	comp=Z,100nm,18.3s,baz=326,slow=36					
ASAJ	**Asahikawa**	**56.39 300**	LR	LR	04 41 54.4	
	comp=Z,43nm,21.9s,baz=0.5,slow=32					
H11N2	**WAKE ISLAND Hy**	**57.92 262**	T	T	05 24 17.2	
	baz=42,slow=76					
H11N3	**WAKE ISLAND Hy**	**57.92 262**	T	T	05 24 17.4	
	baz=42,slow=76					
H11N1	**WAKE ISLAND Hy**	**57.93 262**	T	T	05 24 18.5	
	baz=42,slow=76					
H11S1	**WAKE ISLAND Hy**	**58.94 262**	T	T	05 25 29.9	
	baz=46					
H11S2	**WAKE ISLAND Hy**	**58.95 262**	T	T	05 25 31.3	
	baz=46					
H11S3	**WAKE ISLAND Hy**	**58.96 262**	T	T	05 25 35.0	
	baz=46					
ARCES	**ARCESS Array B**	**59.13 10**	LR	LR	04 47 11.2	
	comp=Z,61nm,21.4s,baz=327,slow=36					
TAOE	**Nuku Hiva Isla**	**59.57 192**	eLR	LR	04 39 18.8	
	comp=Z,133nm,26.0s					
SJG	**San Juan**	**59.63 98**	LR	LR	04 46 18.3	
	comp=Z,52nm,21.9s,baz=253,slow=35					
USRK	**Ussuriysk Ar.**	**62.02 306**	LR	LR	04 48 50.9	
	comp=Z,65nm,19.5s,baz=37,slow=36					
SDV	**Santo Domingo**	**63.88 109**	LR	LR	04 53 03.0	
	comp=Z,63nm,19.3s,baz=274,slow=39					
MJAR	**Matsushiro Arr**	**63.95 296**	LR	LR	04 45 42.0	
	comp=Z,36nm,21.9s,baz=40,slow=32					
NOA	**NORSAR Array B**	**64.73 20**	LR	LR	04 49 33.8	
	comp=Z,59nm,20.1s,baz=340,slow=35					
ROSC	**El Rosal**	**64.90 115**	LR	LR	04 53 12.0	
	comp=Z,38nm,20.7s,baz=253,slow=38					
HFS	**Hagfors**	**66.07 19**	LR	LR	04 52 05.7	
	comp=Z,102nm,18.8s,baz=342,slow=37					
PCRV	**Puerto La Cruz**	**66.58 103**	LR	LR	04 52 33.1	
	comp=Z,54nm,20.7s,slow=37					
FINES	**FINESS Array B**	**66.97 12**	LR	LR	04 51 37.0	
	comp=Z,63nm,21.7s,baz=349,slow=36					
PPT2	**Papeete2**	**69.76 200**	eLR	LR	04 43 50.1	
	comp=Z,133nm,33.0s					
PPT2			eLR	LR	04 44 01.3	
	comp=Z,133nm,28.8s					
XLT	**XiLinHaoTe**	**69.97 315**	eP	**P**	**04 22 54.8**	**-0.5**
XLT			sP	pP	04 23 04.2	+1.4
XLT			pmax	pmax		
	comp=Z,6.0nm,0.8s					
JNU	**Nakatsue**	**70.59 299**	LR	LR	04 50 21.5	
	comp=Z,38nm,21.7s,baz=32,slow=33					
SONM	**Songino Array**	**70.84 324**	LR	LR	04 54 16.1	
	comp=Z,131nm,20.2s,baz=74,slow=36					
ZALV	**Zalesovo Beam**	**72.06 339**	P	**P**	**04 23 07.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=28,slow=3.4,SNR=3.7					
ZALV			LR	LR	04 56 39.0	
	comp=Z,74nm,20.7s,baz=14,slow=37					
	comp=Z,0.5nm,0.4s					
ATAH	**Atahualpa**	**72.53 125**	LR	LR	04 55 42.5	
	comp=Z,67nm,18.4s,baz=292,slow=36					
ARTI	**Arti**	**73.44 355**	LR	LR	04 59 09.0	
	comp=Z,32nm,18.0s,baz=181,slow=39					
HHC	**Hu-ho-hao-te**	**74.42 316**	eP	**P**	**04 23 21.7**	**-0.2**
HHC			pmax	pmax		
	comp=Z,18nm,0.6s					
HHC			pmax	pmax		
	comp=Z,84nm,4.0s					
TBI	**Tubuai**	**75.32 198**	eLR	LR	04 46 35.3	
	comp=Z,280nm,29.5s					
RAR	**Rarotonga**	**75.91 208**	LR	LR	04 51 18.7	
	comp=Z,123nm,18.2s,baz=316,slow=31					
KURBB	**Kurchatov Arra**	**76.53 342**	P	**P**	**04 23 32.5**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=19,slow=6.9,SNR=2.9					
	comp=Z,1.1nm,0.3s					
GUMO	**Guam**	**76.56 275**	LR	LR	04 49 58.4	
	comp=Z,33nm,20.4s,baz=110,slow=30					
VRAC	**Vranov**	**76.72 22**	LR	LR	04 59 03.7	
	comp=Z,64nm,18.9s,baz=332,slow=37					
DAVOX	**Davos/Dischmat**	**77.28 27**	LR	LR	04 58 49.5	
	comp=Z,82nm,19.4s,baz=282,slow=37					
BELG	**Belegornoye**	**77.66 1**	LR	LR	05 05 49.5	
	comp=Z,23nm,18.4s,baz=311,slow=42					
AKASG	**Malin Array Be**	**77.83 13**	P	**P**	**04 23 40.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=342,slow=5.0,SNR=5.8					
AKASG			LR	LR	04 58 44.8	
	comp=Z,73nm,18.6s,baz=352,slow=36					
	comp=Z,0.3nm,0.4s					
MDP	**Montagnes des**	**78.05 96**	LR	LR	05 01 08.2	
	comp=Z,24nm,19.0s,baz=324,slow=38					
ESDC	**Sonseca Array**	**78.67 40**	P	**P**	**04 23 46.9**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=316,slow=5.8,SNR=5.7					
ESDC			LR	LR	04 56 34.3	
	comp=Z,57nm,18.1s,baz=332,slow=34					
	comp=Z,0.6nm,0.9s					
MKAR	**Makanchi Array**	**79.32 338**	P	**P**	**04 23 49.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=31,slow=5.0,SNR=8.2					
MKAR			LR	LR	05 03 13.9	
	comp=Z,82nm,18.2s,baz=9.0,slow=39					
	comp=Z,0.9nm,0.7s					
MLR	**Muntele Rosu**	**82.33 17**	LR	LR	05 01 33.9	
	comp=Z,89nm,19.2s,baz=356,slow=36					
AAK	**Ala-Archa**	**84.98 342**	LR	LR	05 05 37.0	
	comp=Z,33nm,18.7s,baz=41,slow=38					
KEST	**Kesra**	**87.13 32**	LR	LR	05 04 40.7	
	comp=Z,60nm,18.3s,baz=1.7,slow=36					
VAE	**Valguarnera**	**87.14 28**	LR	LR	05 04 36.4	
	comp=Z,88nm,19.4s,baz=316,slow=36					
GNI	**Garni**	**89.81 4**	LR	LR	05 08 48.5	
	comp=Z,15nm,19.9s,baz=346,slow=38					
DZM	**Mont Dzumac**	**91.23 236**	eLR	LR	04 54 05.6	
	comp=Z,77nm,25.4s					
JAY	**Jayapura**	**91.44 268**	LR	LR	04 58 34.3	
	comp=Z,57nm,21.3s,baz=336,slow=31					
DAV	**Davao City (W)**	**93.68 286**	LR	LR	04 58 47.2	
	comp=Z,48nm,21.4s,baz=263,slow=30					
MMAI	**Mount Meron Ar**	**96.05 12**	LR	LR	05 11 00.7	
	comp=Z,45nm,18.4s,baz=360,slow=37					
BDFB	**Brasilia**	**96.89 106**	LR	LR	05 14 14.9	
	comp=Z,25nm,19.5s,baz=356,slow=39					
ASF	**Jabal al Asfar**	**97.07 11**	LR	LR	05 11 28.8	
	comp=Z,31nm,21.1s,baz=341,slow=37					
CMAR	**Chiang Mai Arr**	**99.09 314**	LR	LR	05 11 53.3	
	comp=Z,48nm,18.1s,baz=25,slow=36					

DNK ***03*** *04:12:51.0±3.3,80.°57N×1.°63W,h10km,ML1.5*
BER ***03*** *04:12:55.1±2.7,80.°51N×1.°55W,h10km,Mw2.8,*
ML1.5(DNK),Confirmed Earthquake
FCIAR ***03*** *04:12:55.0,80.°61N×1.°60W,h10km,station ZFI2 has station magnitude of 3.80 station OMEGA has station magnitude of 3.70*

ISC 03 04:12:47.8±0.8, 80.°66N±0.°06×1.°92W±0.°04, h12km, n16, σ3ŝ13/27, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.47**	**300**	*i* P		**Pg**	**04 13 34.2**	**-0.9**
NOR					IAML		04 14 10.6	
	comp=Z,2.3nm,0.6s							
NOR	**Nord**	**2.47**	**300**	*i* P		**Pg**	**04 13 34.2**	**-0.9**
NOR				*i* S		**Sn**	**04 13 59.3**	**+1.5**
NOR					IAML		04 14 10.6	
	comp=Z,2.3nm,0.6s							
KBS	**Kingsbay**	**3.01**	**118**	*e*P		**Pb**	**04 13 38.8**	**-2.4**
KBS				*e*S		**Sn**	**04 14 10.7**	**-0.5**
KBS					IAML		04 14 15.4	
	comp=Z,2.8nm,0.2s							
KBS	**Kingsbay**	**3.01**	**118**	*i* P		**Pn**	**04 13 37.6**	**+2.4**
SPA0	**Spitsbergen Ar**	**4.17**	**117**	*e*P		**Pn**	**04 13 54.6**	**+3.5**
SPA0				*e*S		**Sn**	**04 14 39.3**	**-0.4**
SPA0	**Spitsbergen Ar**	**4.17**	**117**	*e*P		**Pn**	**04 13 55.3**	**+4.2**
SPA0				*e*S		**Sn**	**04 14 41.1**	**+1.4**
SPA0					IAML		04 14 45.6	
	comp=Z,1.5nm,0.4s							
HSPB	**Hornsund (broa**	**4.97**	**128**	*e*P		**Pn**	**04 14 06.6**	**+4.5**
HSPB				*e*S		**Sn**	**04 15 00.0**	**+0.7**
HSPB	**Hornsund (broa**	**4.97**	**128**	*e*P		Pn	04 14 07.3	+5.3
DAG	**Danmarks Havn**	**5.07**	**229**	*e*P		**Pn**	**04 14 07.8**	**+4.3**
DAG				*e*S		**Sn**	**04 15 01.3**	**-0.6**
DAG					IAML		04 15 13.4	
	comp=Z,1.6nm,0.6s							
DAG	**Danmarks Havn**	**5.07**	**229**	*e*P		**Pn**	**04 14 07.5**	**+4.0**
DAG				*i* S		**Sn**	**04 15 01.0**	**-0.9**
DAG					IAML		04 15 13.4	
	comp=Z,1.6nm,0.6s							
HOPEN	**Hopen**	**6.69**	**114**	*e*P		**Pn**	**04 14 28.6**	**+2.9**
HOPEN				*e*S		**Sn**	**04 15 39.3**	**-2.3**
DBG	**Daneborg**	**7.46**	**221**	*e*S		**Sn**	**04 15 55.7**	**-4.8**
ZFI2	**Zemlya Franca-**	**7.79**	**64**	*e*P		**Pn**	**04 14 44.1**	**+3.4**
ZFI2				*e*S		**Sn**	**04 16 04.9**	**-3.9**
	comp=Z,24nm,1.2s							
OMEGA	**Omega**	**7.82**	**65**	*e*P		**Pn**	**04 14 44.3**	**+3.3**
OMEGA				*e*S		**Sn**	**04 16 05.0**	**-4.3**
	comp=Z,19nm,1.4s							
EGRIP	**EGRIP Drilling**	**8.47**	**252**	*i* P		Pn	04 14 55.8	+5.4
EGRIP				*i* S		**Sn**	**04 16 23.0**	**-2.8**
EGRIP					IAML		04 16 36.4	
	comp=Z,1.9nm,0.6s							
EGRIP	**EGRIP Drilling**	**8.47**	**252**	*i* P		**Pn**	**04 14 53.2**	**+2.9**
EGRIP				*i* P		Pn	04 14 55.8	+5.4
EGRIP				*i* S		**Sn**	**04 16 21.9**	**-3.9**
EGRIP				*i* S		**Sn**	**04 16 23.0**	**-2.8**
EGRIP					IAML		04 16 36.4	
	comp=Z,1.9nm,0.6s							

IDC ***03*** *04:18:10.3±1.4,26.°59N×144.°05E,h0km,mb3.7/6,*
mbtmp3.7/8,ML3.3/1,Error ellipse: s-maj=30.8km
s-min=24.9km az=41.0

**ISC 03 04:18:14.8±1.2, 26.°7N±0.°2×144.°1E±0.°1, h31km, n9, σ1ŝ07/10, mb3.8/6, Bonin Islands region

comp=N,48nm,0.7s
HTW Haystack Looko 1.03 170 Pg 04 27 51.5 -1.0
B013 Quilcene 1.16 211 Pg 04 27 53.5 -1.5
WRW Wenatchee Ridg 1.23 141 Pb 04 27 54.6 -1.8
B04A Port Angeles 1.23 233 Pn 04 27 54.0 -2.4
B04A Port Angeles 1.23 233 Pn Pn 04 27 54.2 -2.2
B04A IAML 04 28 14.9
comp=N,33nm,0.9s
B04A IAML 04 28 15.0
comp=E,30nm,0.3s
HDW Hoodsport 1.35 211 Pn 04 27 56.2 -1.8
NLW Nelson Butte 1.35 122 Pn 04 27 57.3 -0.8
GNW Green Mountain 1.36 203 Pn 04 27 56.3 -1.7
GNW Sn Sb 04 28 14.4 -1.6
CLRS Cowichan Lake 1.38 271 Pn Pn 04 27 56.0 -2.4
WSLR Whistler 1.44 337 Pn 04 27 57.5 -1.8
P403 Sandy Floe Qua 1.59 243 Pg 04 28 03.9 +0.6
D05A Enumclaw 1.63 179 Pn Pn 04 28 01.6 -0.1
D05A Sn Sb 04 28 23.8 0.0
D05A IAML 04 28 24.0
comp=N,40nm,0.4s
D05A IAML 04 28 27.4
comp=E,23nm,0.4s
ETW Entiat 1.66 136 Pn 04 28 02.9 +0.5
OLQ Olympics--Lake 1.76 223 Pn 04 28 03.7 +0.1
LLLB Lillooet 1.80 3 Pn 04 28 04.0 -0.2
LLLB Sn Sn 04 28 27.2 -0.1
LLLB IAML 04 28 29.1
comp=E,21nm,0.9s
LLLB IAML 04 28 31.8
comp=N,26nm,0.6s
TXB Texada 1.80 300 Pn 04 28 02.7 -1.5
LTY Liberty 1.81 149 Pn 04 28 05.0 +0.7
LTY Sn Sb 04 28 28.9 -0.2
LTY IAML 04 28 30.0
comp=N,19nm,0.6s
LTY IAML 04 28 30.0
comp=E,18nm,0.6s
B941 Kapowsin 1.83 184 Pn 04 28 04.1 -0.4
B08A Colville Reser 1.85 103 Pn Pn 04 28 04.8 -0.2
B927 Port Alberni 1.87 284 Pn 04 28 03.7 -1.4
RVC Mount Rainier- 1.87 179 Pn 04 28 04.8 -0.4
NLWA Neilton Lookou 1.88 221 Pn Pn 04 28 05.1 -0.2
NLWA IAML 04 28 31.0
comp=E,21nm,2.7s
NLWA IAML 04 28 39.1
comp=E,20nm,2.8s
C03A Quillayute Air 1.90 244 Pn Pn 04 28 05.2 -0.2
OBSR Observation Ro 1.92 175 Pn 04 28 06.7 +0.6
PANH Panhandle Gap, 1.97 172 Pn 04 28 07.5 +0.7
WISH Wishkah 2.06 215 Pn Pn 04 28 07.2 -0.5
LON Longmire 2.07 176 Pn Pn 04 28 07.6 -0.3
LON Sn Sn 04 28 33.5 -0.5
LON IAML 04 28 36.1
comp=N,12nm,0.6s
LON IAML 04 28 37.0
comp=E,18nm,0.6s
OZB Mount Ozzard 2.29 275 Pn Pn 04 28 10.7 -0.1
CBB Campbell River 2.49 301 Pn Pn 04 28 13.1 -0.6
CBB IAML 04 29 19.0
comp=N,14nm,3.2s
CBB IAML 04 29 48.7
comp=E,13nm,3.1s
RADR Rader Ridge 2.67 207 Pn Pn 04 28 15.9 -0.3

*NEIC **03** 04:30:26.5±1.8,36.50N±0.08×70.28E±0.07, h199km±11km,mb4.2/7, Error ellipse: s-maj=11.7km s-min=7.9km az=177.0*
*IDC **03** 04:30:27.4±8.0,36.76N×70.18E,h187km±54km,mb3.4/5, mbtmp3.8/10, Error ellipse: s-maj=86.1km s-min=40.7km az=162.0*
ISC 03 04:30:26.7±0.8,**36.56N**±0.06×**70.51E**±0.08,**h204**km,**n42, σ1s81/48,mb4.0/9,2C-1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.34**	**211**			**Pn**	**04 31 07.0**	**-2.3**
GAR	**Garm**	**2.44**	**356**			**Pn**	**04 31 09.9**	**-0.4**
NIL	**Nilore**	**3.67**	**141**			**Pn**	**04 31 25.1**	**+0.5**
KSH	**Kashi**	**5.23**	**54**	Pn	Pn	04 31 40.1		-4.0
KSH				Sn	**S**	**04 32 39.9**		**-5.0**
KSH				smax	smax			
	comp=N,110nm,0.5s							
KSH				smax	smax			
	comp=E,36nm,0.4s							
JMU	**Jammu**	**5.27**	**135**	*e*P		**Pn**	**04 31 42.7**	**-1.9**
JMU				*e*S		**S**	**04 32 42.2**	**-3.5**
JMU				IAML			04 32 44.3	
	comp=E,272nm,0.3s							
JMU				IAML			04 32 44.5	
	comp=N,247nm,0.2s							
DHRM	**DHARAMSHALA**	**6.43**	**130**	*e*P		**Pn**	**04 31 59.1**	**-0.7**
DHRM				*e*S		**S**	**04 33 10.5**	**-2.8**
DHRM				IAML			04 33 11.0	
	comp=E,387nm,0.5s							
DHRM				IAML			04 33 11.0	
	comp=N,378nm,0.3s							
KK31	**Karatay Array**	**6.54**	**0**			**Pn**	**04 32 00.0**	**-0.9**
KK31	**Karatay Array**	**6.54**	**0**	⇓Pn		**Pn**	**04 31 60.0**	**-0.9**
	comp=N,3.9nm,0.2s,baz=187,slow=12,SNR=102							
KK31				Sn		**S**	**04 33 11.6**	**-3.9**
	comp=N,4.5nm,0.3s,baz=190,slow=19,SNR=6.5							
KKAR	**Karatay Array**	**6.54**	**0**			**Pn**	**04 31 59.9**	**-1.0**
AAK	**Ala-Archa**	**6.81**	**26**			**Pn**	**04 32 05.0**	**+0.6**
AAK	**Ala-Archa**	**6.81**	**26**	P		**Pn**	**04 32 04.9**	**+0.5**
	comp=N,5.4nm,0.3s,baz=218,slow=7.4,SNR=7.7							
AAK				S		**S**	**04 33 20.5**	**-1.5**
	comp=N,16nm,0.5s,baz=138,slow=22,SNR=12							
AAK	**Ala-Archa**	**6.81**	**26**	⇑Pn		**Pn**	**04 32 04.4**	**0.0**
	comp=N,3.2nm,0.6s							
AAK				⇑Sn		**S**	**04 33 20.1**	**-1.9**
	comp=N,4.5nm,0.5s							
BOOM	**Boomskoye usch**	**7.26**	**34**	Pn		**Pn**	**04 32 10.8**	**+0.5**
SMLA	**Simla**	**7.74**	**132**	*e*P		**Pn**	**04 32 17.6**	**+1.0**
SMLA				*e*S		**S**	**04 33 40.7**	**-3.3**
SMLA				IAML			04 33 41.2	
	comp=E,480nm,0.2s							
SMLA				IAML			04 33 41.2	
	comp=N,308nm,0.3s							
HNLY	**HANLEY**	**7.92**	**116**	*e*P		**Pn**	**04 32 20.4**	**+1.0**
HNLY				*e*S		**S**	**04 33 43.9**	**-5.3**
HNLY				IAML			04 33 45.9	
	comp=N,62nm,0.2s							
KLP	**Kalpa**	**8.14**	**126**	*e*P		**Pn**	**04 32 21.7**	**-0.4**
KLP				*e*S		S	04 33 48.2	-5.9
KLP				IAML			04 33 50.2	
	comp=E,234nm,0.4s							
KLP				IAML			04 33 50.2	
	comp=N,326nm,0.4s							
KUDL	**Kundal**	**9.79**	**147**	*e*P		**Pn**	**04 32 44.3**	**+1.2**
KUDL				*e*S		S	04 34 25.0	-7.9
KUDL				IAML			04 34 25.9	
	comp=E,175nm,0.3s							
KUDL				IAML			04 34 26.0	
	comp=N,140nm,0.3s							
PTH	**Pithoragarh**	**10.73**	**128**	*e*P		**Pn**	**04 32 56.6**	**+1.2**
PTH				*e*S		S	04 34 46.0	-10
PTH				IAML			04 34 49.6	
	comp=N,104nm,0.2s							
MAKZ	**Makanchi**	**13.34**	**36**			**Pn**	**04 33 29.8**	**+1.7**
MKAR	**Makanchi Array**	**13.48**	**37**	P		**Pn**	**04 33 31.1**	**+1.2**
	comp=N,1.4nm,0.8s,baz=206,slow=8.1,SNR=9.7							
AB31	**Akbulak array**	**14.85**	**332**			**P**	**04 33 47.9**	**+0.6**
ABKAR	**Akbulak array**	**14.85**	**332**	P		**P**	**04 33 47.8**	**+0.4**
WMQ	**Urumqi**	**14.99**	**56**	*e*P		**P**	**04 33 51.5**	**+2.4**
KURBB	**Kurchatov Arra**	**15.20**	**20**	P		**P**	**04 33 52.0**	**+0.8**
	comp=N,0.2nm,0.4s,baz=211,slow=10.0,SNR=4.1							
EVN	**Everest**	**16.23**	**117**			**P**	**04 34 04.2**	**+0.7**
EVN				IAmb		IAmb	04 34 09.2	
	comp=E,5.6nm,0.6s							
BVAR	**Borovoye Array**	**16.47**	**360**	P		**Pn**	**04 34 06.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=178,slow=12,SNR=6.7							
ZAA0	**Zalesovo Array**	**20.03**	**25**			**P**	**04 34 44.4**	**+0.7**
ZAA0				IAmb		IAmb	04 34 47.9	
	comp=Z,3.7nm,0.5s							
ZALV	**Zalesovo Beam**	**20.03**	**25**			**P**	**04 34 44.5**	**+0.7**
ZALV	**Zalesovo Beam**	**20.03**	**25**	P		**P**	**04 34 44.6**	**+0.8**
	comp=Z,2.8nm,0.4s,baz=212,slow=9.8,SNR=13							
PZH	**PanZhiHua**	**28.34**	**102**	P		**P**	**04 36 04.5**	**+2.7**
HHC	**Hu-ho-hao-te**	**32.11**	**70**	*e*P		**P**	**04 36 35.8**	**+1.0**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,55nm,4.3s							
AKASG	**Malin Array Be**	**32.60**	**309**	P		**P**	**04 36 37.7**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=84,slow=6.6,SNR=4.9							
	comp=Z,0.3nm,0.4s							
XLT	**XiLinHaoTe**	**35.19**	**64**	*e*P		P	04 37 08.1	+6.8
XLT				pmax	pmax			
	comp=Z,4.0nm,0.8s							
FIA1	**FINESS Array S**	**37.22**	**326**	P		**P**	**04 37 17.6**	**-0.4**
FINES	**FINESS Array B**	**37.22**	**326**	P		**P**	**04 37 17.9**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=122,slow=8.9,SNR=9.0							
	comp=Z,2.6nm,0.8s							
KEV	**Kevo**	**40.60**	**338**	P		**P**	**04 37 46.3**	**+0.3**
KEV				IAmb		IAmb	04 38 27.9	
	comp=Z,28nm,1.5s							
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**	**04 37 49.2**	**+0.4**
ARCES				IAmb		IAmb	04 38 08.7	
	comp=Z,13nm,1.5s							
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**	**04 37 48.9**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=110,slow=7.4,SNR=19							
	comp=Z,1.3nm,0.5s							
HFS	**Hagfors**	**42.78**	**322**	P		**P**	**04 38 03.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=106,slow=11,SNR=8.2							
	comp=Z,1.1nm,0.5s							
NC303	**NORSAR Array S**	**44.04**	**323**	P		**P**	**04 38 13.6**	**-0.3**
NC303				IAmb		IAmb	04 38 56.3	
	comp=Z,12nm,1.4s							
NB2	**NORSAR Subarra**	**44.10**	**323**	P		**P**	**04 38 13.5**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=99,slow=8.6							
NOA	**NORSAR Array B**	**44.10**	**323**	P		**P**	**04 38 13.6**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=98,slow=7.8,SNR=4.6							
	comp=Z,0.8nm,0.7s							

*MOS **03** 04:50:34.4±0.8,40.15N×49.12E,h45km,mb3.9/1, Error ellipse: s-maj=14.5km s-min=5.4km az=122.6*
*AZER **03** 04:50:40.0,40.75N×48.50E,h11km,ml3.5*
*IDC **03** 04:50:40.9±1.2,41.26N×48.46E,h0km,mb3.8/7, mbtmp3.6/10,ML3.0/3, Error ellipse: s-maj=21.7km s-min=12.0km az=161.0*
*TEH **03** 04:50:41.1,40.72N×48.52E,h23km±23km*
*DRS **03** 04:50:43.8,40.71N×48.32E,h54km*
ISC 03 04:50:40.8±0.8,**40.76N**±0.01×**48.52E**±0.02,**h18**km±4km, **n118,σ1s66/183,mb3.6/7,3C-3D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.06**	**61**	Pg		**Pg**	**04 50 44.4**	**+0.1**
PQL	**Pirkuli**	**0.06**	**61**	P		**Pg**	**04 50 44.5**	**+0.1**
PQL				S		**Sg**	**04 50 47.5**	**+0.7**
IML	**Ismayilli**	**0.26**	**277**	Pg		**Pb**	**04 50 47.5**	**+0.5**
IML	**Ismayilli**	**0.26**	**277**	P		**Pb**	**04 50 47.5**	**+0.5**
IML				S		**Sb**	**04 50 52.9**	**+1.8**
ATGJ	**Altiaghaj**	**0.33**	**72**	Pg		**Pb**	**04 50 48.8**	**+0.5**
ATGJ	**Altiaghaj**	**0.33**	**72**	P		**Pb**	**04 50 48.9**	**+0.5**
ATGJ				S		**Sn**	**04 50 55.1**	**-2.2**
GBS	**Qobustan**	**0.39**	**125**	Pg		**Pb**	**04 50 49.9**	**+0.6**
GBS	**Qobustan**	**0.39**	**125**	P		**Pb**	**04 50 49.9**	**+0.6**
GBS				S		**Sn**	**04 50 57.5**	**-1.1**
SIZA	**Siyzn**	**0.42**	**42**	Pg		**Pb**	**04 50 50.9**	**+1.0**
SIZA	**Siyzn**	**0.42**	**42**	P		**Pb**	**04 50 51.0**	**+1.1**
SIZA				S		**Sn**	**04 51 00.2**	**+0.6**
KDMR	**Kurdemir**	**0.46**	**214**	Pg		**Pb**	**04 50 50.8**	**+0.3**
KDMR	**Kurdemir**	**0.46**	**214**	P		**Pb**	**04 50 50.8**	**+0.3**
KDMR				S		**Sb**	**04 50 58.0**	**+1.1**
XNQ	**Khinaliq**	**0.50**	**325**	Pg		**Pb**	**04 50 51.9**	**+0.6**
XNQ	**Khinaliq**	**0.50**	**325**	P		**Pb**	**04 50 51.9**	**+0.6**
XNQ				S		**Sb**	**04 50 59.8**	**+1.4**
QBL	**Gabala**	**0.55**	**290**	P		**Pg**	**04 50 52.5**	**+0.5**
QBL				S		**Sn**	**04 51 02.1**	**-0.5**
QUBA	**Quba, Azerbaij**	**0.59**	**358**	P		**Pn**	**04 50 54.9**	**+0.4**
QUBA				S		**Sn**	**04 51 04.5**	**+0.7**
QUB	**Quba**	**0.63**	**349**	Pg		**Pn**	**04 50 54.8**	**-0.2**
QSAR	**Qusar**	**0.78**	**345**	Pg		**Pn**	**04 50 57.7**	**+0.7**
QSAR	**Qusar**	**0.78**	**345**	P		**Pn**	**04 50 57.7**	**+0.7**
QSAR				S		**Sn**	**04 51 09.7**	**+1.4**
ZRD	**Zardab**	**0.80**	**233**	P		**Pg**	**04 50 57.1**	**+0.6**
ZRD				S		**Sn**	**04 51 10.6**	**+1.9**
ALIB	**&Aumlli-Bayram**	**0.88**	**155**	P		**Pn**	**04 50 59.6**	**+1.3**
ALIB				S		**Sn**	**04 51 12.5**	**+1.8**
KSMR	**Kasumkent**	**0.89**	**341**	*e*Pg		**Pn**	**04 50 60.0**	**+1.3**
	459nm,0.5s							
KSMR				*e*Sg		**Sn**	**04 51 12.9**	**+1.7**
	3μm,0.4s							
KSMR	**Kasumkent**	**0.89**	**341**	*e*P		**Pn**	**04 50 59.9**	**+1.3**
KSMR				*e*S		**Sn**	**04 51 12.8**	**+1.7**
KSMR				pmax	pmax			
	comp=Z,459nm,0.5s							
SAAT	**Saatly**	**0.90**	**185**	P		**Pg**	**04 50 58.3**	**-0.1**
SAAT				S		**Sn**	**04 51 11.1**	**0.0**
AKT	**Akhty**	**0.94**	**320**	*i* Pg		**Pn**	**04 50 59.3**	**+0.1**
	comp=Z,269nm,0.2s							
AKT				*e*Sg		**Sb**	**04 51 11.8**	**+1.0**
	comp=Z,1μm,0.5s							
AKT	**Akhty**	**0.94**	**320**	⇑*i*P		**Pn**	**04 50 59.3**	**+0.1**
AKT				pmax	pmax			
	comp=Z,269nm,0.2s							
GOBA	**Gobu**	**0.99**	**111**	P		**Pg**	**04 51 02.8**	**+2.8**
GOBA				S		**Sn**	**04 51 19.5**	**+6.2**
MNGR	**Mingechevir, A**	**1.09**	**271**	Pg		**Pg**	**04 51 02.4**	**+0.4**
MNGR	**Mingechevir, A**	**1.09**	**271**	P		**Pg**	**04 51 02.3**	**+0.4**
MNGR				S		**Sg**	**04 51 18.5**	**+2.2**
MNGR	**Mingechevir, A**	**1.09**	**271**	P		**Pg**	**04 51 02.4**	**+0.4**
SEKA	**Sheki**	**1.10**	**295**	Pg		**Pn**	**04 51 01.3**	**-0.1**
SEKA	**Sheki**	**1.10**	**295**	P		**Pn**	**04 51 01.3**	**-0.1**
SEKA				S		**Sg**	**04 51 18.0**	**+1.4**
SEKA	**Sheki**	**1.10**	**295**	P		**Pn**	**04 51 01.3**	**-0.1**
NDR	**Nardaran**	**1.13**	**99**	S		**Sg**	**04 51 24.9**	**+7.4**
BRDA	**Brd**	**1.14**	**245**	Pg		**Pg**	**04 51 03.3**	**+0.4**
BRDA	**Brd**	**1.14**	**245**	P		**Pb**	**04 51 02.2**	**+0.2**
BRDA				S		**Sg**	**04 51 19.7**	**+1.9**
AGDM	**Agdam**	**1.26**	**239**	P		**Pb**	**04 51 04.3**	**+0.2**
AGDM				S		**Sg**	**04 51 23.2**	**+1.5**
BLQ	**Beylaqan**	**1.27**	**216**	Pg		**Pn**	**04 51 03.9**	**+0.2**
BLQ	**Beylaqan**	**1.27**	**216**	P		**Pn**	**04 51 03.9**	**+0.2**
BLQ				S		**Sg**	**04 51 21.7**	**-0.4**
GALA	**Gala**	**1.29**	**105**	P		**Pg**	**04 51 05.4**	**-0.4**
GALA				S		**Sg**	**04 51 24.5**	**+1.9**
GLBA	**Clilabad**	**1.52**	**184**	Pg		**Pn**	**04 51 07.3**	**+0.2**
GLBA	**Clilabad**	**1.52**	**184**	Pn		**Pn**	**04 51 07.2**	**+0.2**
GLBA				Sn		**Sg**	**04 51 28.8**	**-1.0**
URKR	**Urkarakh**	**1.56**	**335**	*e*Pg		**Pg**	**04 51 11.3**	**+0.5**
URKR	comp=Z,135nm,0.4s							
	comp=Z,280nm,0.4s			*e*Sg		**Sg**	**04 51 32.8**	**+1.7**
URKR	**Urkarakh**	**1.56**	**335**	*e*P		**Pg**	**04 51 11.3**	**+0.5**
URKR				*e*S		**Sg**	**04 51 32.8**	**+1.7**
URKR				pmax	pmax			
	comp=Z,135nm,0.4s							
QRD	**Qoradiz**	**1.59**	**216**	Pg		**Pn**	**04 51 08.9**	**+0.8**
QRD	**Qoradiz**	**1.59**	**216**	Pn		**Pn**	**04 51 08.8**	**+0.7**
QRD				Sn		**Sb**	**04 51 30.3**	**+0.9**
VSHL	**Vashlovani**	**1.68**	**287**	P		**Pb**	**04 51 11.9**	**+0.7**
VSHL				S		**Sg**	**04 51 36.8**	**+1.9**
GANJ	**Ganja**	**1.68**	**267**	Pg		**Pn**	**04 51 10.0**	**+0.7**
GANJ	**Ganja**	**1.68**	**267**	Pn		**Pn**	**04 51 09.7**	**+0.4**
GANJ				Sn		**Sn**	**04 51 31.6**	**+1.2**
GANJ	**Ganja**	**1.68**	**267**	P		**Pn**	**04 51 10.0**	**+0.7**
ZKTA	**Zakatala**	**1.68**	**302**	Pn		**Pb**	**04 51 11.3**	**+0.1**
ZKTA				Sn		**Sb**	**04 51 33.5**	**+1.4**
KMKR	**Kumukh**	**1.74**	**322**	*e*Pg		**Pg**	**04 51 14.6**	**+0.3**
	comp=Z,149nm,0.3s							
KMKR				*e*Sg		**Sg**	**04 51 38.1**	**+1.1**
	comp=Z,227nm,0.3s							
KMKR	**Kumukh**	**1.74**	**322**	*e*P		**Pg**	**04 51 14.6**	**+0.3**
KMKR				*e*S		**Sg**	**04 51 38.0**	**+1.1**
KMKR				pmax	pmax			
	comp=Z,149nm,0.3s							
YRD	**Yardimli**	**1.85**	**187**	Pn		**Pn**	**04 51 12.2**	**+0.3**
YRD				Sn		**Sb**	**04 51 36.5**	**-0.8**
GNBR	**Gunib**	**2.00**	**325**	*e*Pg		**Pb**	**04 51 18.1**	**+1.2**
	comp=Z,54nm,0.6s							
GNBR				*e*Sg		**Sg**	**04 51 45.2**	**-0.2**
	comp=Z,172nm,0.7s							
GNBR	**Gunib**	**2.00**	**325**	*e*P		**Pb**	**04 51 18.0**	**+1.2**
GNBR				*e*S		**Sg**	**04 51 45.2**	**-0.2**
GNBR				pmax	pmax			
	comp=Z,54nm,0.6s							
GRMI	**Germi**	**2.01**	**194**	Pn		**Pn**	**04 51 14.2**	**+0.2**
LKRN	**Lenkeran, Azer**	**2.06**	**174**	Pn		**Pn**	**04 51 15.8**	**+1.3**
LKRN				Sn		**Sb**	**04 51 42.7**	**-0.1**
GDB	**GEDABAY**	**2.10**	**270**	Pn		**Pn**	**04 51 15.9**	**+0.6**
GDB	**GEDABAY**	**2.10**	**270**	Pn		**Pn**	**04 51 16.2**	**+0.9**
GDB				Sn		**Sn**	**04 51 42.6**	**+1.5**
TLTR	**Tlyarata**	**2.11**	**310**	*e*Pg		**Pb**	**04 51 18.3**	**-0.4**
	comp=Z,1.0nm,0.5s							
TLTR				*e*Sg		**Sb**	**04 51 45.9**	**+1.2**
	comp=Z,31nm,1.3s							
TLTR	**Tlyarata**	**2.11**	**310**	*e*P		**Pb**	**04 51 18.3**	**-0.4**
TLTR				*e*S		**Sb**	**04 51 45.9**	**+1.2**
TLTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LRK	**Lerik**	**2.12**	**184**	Pn		**Pn**	**04 51 15.9**	**+0.4**
LRK	**Lerik**	**2.12**	**184**	Pn		**Pn**	**04 51 16.6**	**+1.1**
LRK				Sn		**Sb**	**04 51 45.4**	**+0.5**
ARKR	**Arakani**	**2.17**	**329**	*i* Pg		**Pb**	**04 51 20.7**	**+1.1**
	comp=Z,66nm,0.4s							
ARKR				*e*Sg		**Sg**	**04 51 49.6**	**-1.1**
	comp=Z,93nm,0.4s							
ARKR	**Arakani**	**2.17**	**329**	⇓*i*P		**Pb**	**04 51 20.7**	**+1.1**
ARKR				*e*S		**Sg**	**04 51 49.5**	**-1.1**
ARKR				pmax	pmax			
	comp=Z,66nm,0.4s							
ASTR	**Astara**	**2.21**	**175**	Pn		**Pn**	**04 51 16.9**	**+0.3**
ASTR	**Astara**	**2.21**	**175**	Pn		**Pn**	**04 51 16.5**	**0.0**
ASTR				Sn		**Sb**	**04 51 46.2**	**-0.9**
BUJR	**Buynaksk**	**2.32**	**333**	*e*Pn		**Pb**	**04 51 22.1**	**0.0**
	comp=Z,249nm,0.2s							
BUJR				*e*Sn		**Sb**	**04 51 53.0**	**+2.5**
	comp=Z,141nm,0.4s							
BUJR	**Buynaksk**	**2.32**	**333**	*e*P		**Pb**	**04 51 22.1**	**0.0**
BUJR				*e*S		**Sb**	**04 51 52.9**	**+2.5**
BUJR				pmax	pmax			
	comp=Z,249nm,0.2s							
UNCR	**Uncukul**	**2.34**	**327**	*e*Pn		**Pb**	**04 51 23.0**	**+0.4**
	comp=Z,48nm,0.6s							
UNCR				*e*Sn		**Sb**	**04 51 54.0**	**+2.8**
	comp=Z,77nm,0.6s							
UNCR	**Uncukul**	**2.34**	**327**	*e*P		**Pb**	**04 51 22.9**	**+0.4**
UNCR				*e*S		**Sb**	**04 51 53.9**	**+2.8**
UNCR				pmax	pmax			
	comp=Z,48nm,0.6s							
GAS1	**Astara - Iran**	**2.38**	**174**	Pn		**Pn**	**04 51 18.9**	**-0.1**
KRNR	**Karanay**	**2.39**	**330**	*e*Pn		**Pb**	**04 51 24.2**	**+0.7**
	comp=Z,19nm,0.4s							
KRNR				*e*Sn		**Sg**	**04 51 56.1**	**-1.7**
	comp=Z,28nm,0.4s							
KRNR	**Karanay**	**2.39**	**330**	*e*P		**Pb**	**04 51 24.1**	**+0.7**
KRNR				*e*S		**Sg**	**04 51 56.1**	**-1.7**
KRNR				pmax	pmax			
	comp=Z,19nm,0.4s							
QZX	**Qazax, Azerbai**	**2.41**	**278**	Pn		**Pn**	**04 51 21.4**	**+2.0**
QZX				Sn		**Sb**	**04 51 51.5**	**-1.4**
DGRG	**David-gareji**	**2.48**	**287**	P		**Pb**	**04 51 23.7**	**-1.2**
DGRG				S		**Sb**	**04 51 57.9**	**+2.8**
DGRG	**David-gareji**	**2.48**	**287**	P		**Pb**	**04 51 23.7**	**-1.2**
DGRG				S		**Sb**	**04 51 57.9**	**+2.8**
BTLR	**Botlikh**	**2.57**	**319**	*e*Pn		**Pb**	**04 51 25.3**	**-1.1**
	comp=Z,36nm,0.6s							
BTLR				*e*Sn		**Sb**	**04 51 57.4**	**-0.3**
	comp=Z,23nm,0.6s							
BTLR	**Botlikh**	**2.57**	**319**	*e*P		**Pb**	**04 51 25.3**	**-1.1**
BTLR				*e*S		**Sb**	**04 51 57.3**	**-0.3**
BTLR				pmax	pmax			
	comp=Z,36nm,0.6s							
SBZ	**Shahbuz**	**2.66**	**240**	Pn		**Pn**	**04 51 24.6**	**+1.8**
SBZ				Sn		**Sn**	**04 51 57.7**	**+3.1**
ORD	**Ordubad**	**2.67**	**228**	Pn		**Pn**	**04 51 24.1**	**+1.1**
ORD				Sn		**Sn**	**04 51 56.8**	**+1.8**
IHRS	**Heris**	**2.69**	**206**	Pn		**Pn**	**04 51 24.5**	**+1.0**
DLMR	**Dylym**	**2.71**	**329**	*e*Pn		**Pb**	**04 51 27.6**	**-1.2**
	comp=Z,69nm,0.1s							
DLMR	**Dylym**	**2.71**	**329**	P		**Pb**	**04 51 27.5**	**-1.2**
DLMR				S		**Sb**	**04 52 02.4**	**+0.8**
NAX	**Nakhchivan**	**2.81**	**237**	Pg		**Pb**	**04 51 28.8**	**-1.8**
NAX				Sg		**Sb**	**04 52 07.1**	**+2.4**
GNI	**Garni**	**2.95**	**259**	Pn		**Pb**	**04 51 33.6**	**+0.6**
	comp=Z,6.7nm,0.3s,baz=38,slow=4.5,SNR=8.4							
GNI				Sn		**Sb**	**04 52 12.7**	**+4.0**
	comp=Z,8.0nm,0.3s,baz=115,slow=15,SNR=3.1							
	comp=Z,9.1nm,0.5s							
HYR	**Heyderabad**	**3.00**	**251**	Pg		**Pg**	**04 51 36.4**	**-1.8**
HYR				Sg		**Sb**	**04 52 13.1**	**+3.1**
ITBZ	**Tabriz**	**3.12**	**217**	Pn		**Pn**	**04 51 30.4**	**+1.1**
SHTL	**Shatili**	**3.16**	**308**	P		**Pb**	**04 51 33.7**	**-2.7**
SHTL	**Shatili**	**3.16**	**308**	P		**Pb**	**04 51 33.7**	**-2.7**
MAKU	**Maku**	**3.26**	**246**	Pn		**Pn**	**04 51 33.5**	**+2.2**
ISHB	**Shabestar**	**3.34**	**223**	Pn		**Pn**	**04 51 33.2**	**+0.8**
TRLG	**Trialeti**	**3.43**	**285**	P		**Pn**	**04 51 36.0**	**+2.5**
TRLG	**Trialeti**	**3.43**	**285**	P		**Pn**	**04 51 36.0**	**+2.5**
IHSH	**Hashtrud**	**3.59**	**196**	Pn		**Pn**	**04 51 36.2**	**+0.3**
IAZR	**Azarshahr**	**3.66**	**214**	Pn		**Pn**	**04 51 37.8**	**+1.0**
ALIG	**Mtskhetisjvari**	**3.90**	**292**	P		**Pn**	**04 51 42.5**	**+2.6**
ALIG				S		**Sn**	**04 52 30.5**	**+5.2**
ALIG	**Mtskhetisjvari**	**3.90**	**292**	P		**Pn**	**04 51 42.5**	**+2.6**
ALIG				S		**Sn**	**04 52 30.5**	**+5.2**
GARIG	**Gari**	**4.21**	**298**	P		**Pn**	**04 51 46.4**	**+2.2**
TKB	**

	4.2nm,0.3s							
UZB				Lg	Lg	05 30 26.1		
	8.0nm,0.4s							
UZB	**Uzynbulak**	**3.81**	**285**	*eP*	**Pb**	**05 29 29.7**	**-3.7**	
	4.2nm,0.3s							
UZB				*eS*	**Sg**	**05 30 26.1**	**-2.3**	
	8.0nm,0.4s							
KPKS	**Kokpek**	**4.12**	**288**	Pg	**Pb**	**05 29 38.5**	**-0.2**	
	0.3nm,0.2s							
KPKS				Lg	Lg	05 30 41.0		
	8.4nm,0.4s							
SATY	**Saty**	**4.24**	**282**	Pg	Pb	05 29 34.8	-5.9	
	5.7nm,0.2s							
SATY				Lg	Lg	05 30 34.9		
	9.7nm,0.3s							
MK31	**Makanchi Array**	**4.68**	**345**	⇑Pg	**Pg**	**05 29 55.3**	**-0.3**	
	1.4nm,0.5s,baz=157,slow=16,SNR=16							
MK31				⇑Lg	Lg	05 30 57.0		
	8.0nm,0.6s,baz=159,slow=29,SNR=16							
MAKZ	**Makanchi**	**4.76**	**342**	Pg	**Pg**	**05 29 57.2**	**+0.1**	
	1.8nm,0.5s							
MAKZ				Lg	Lg	05 31 00.9		
	6.5nm,0.6s							

*RSNC **03** 05:59:40.9±0.2, 7°N±2″×8°0W±″, h0km, M3.2, mB5.0, mb3.7, ML2.6, MLv3.6, Mw(mB)4.4*
*UCR **03** 05:59:41.0±1.1, 6.88N×80.39W, h5km±999km, MW4.1*
*UPA **03** 05:59:42.8±2.3, 7.20N×80.46W, h0km±5km, MD3.7*
*CATAC **03** 05:59:42.2±2.9, 7°N±3″×8°0W±″, h1km±28km, M3.6/16, mb3.7/4, mB4.8/1, MLv3.6/16, Mw(mB)4.1/1, Error ellipse: s-maj=6.8km s-min=5.1km az=57.5, confirmed*

ISC 03 05:59:40.6±0.8, 7°05N±0°03×80°40W±0°02, h10km, n61, σ1§68/101, 3C-1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSI3	**Tonosi**	**0.36**	**353**	*eP*	**Pb**	**05 59 48.5**	**-0.6**
TOSI3				*eS*	**Sg**	**05 59 52.4**	**-0.1**
CACAO	**El Cacao, Vera**	**0.55**	**302**	⇑*iP*	**Pg**	**05 59 51.4**	**+0.2**
CACAO				*eS*	**Sg**	**05 59 58.8**	**+0.4**
CACAO	**El Cacao, Vera**	**0.55**	**302**	P	**Pg**	**05 59 51.4**	**+0.2**
CACAO				S	**Sg**	**05 59 58.4**	**0.0**
AZU	**Azuero**	**0.74**	**9**	*eP*	**Pg**	**05 59 55.1**	**+0.1**
AZU				*eS*	**Sg**	**06 00 04.9**	**+0.1**
AZU	**Azuero**	**0.74**	**9**	P	**Pg**	**05 59 54.9**	**-0.1**
AZU				S	**Sg**	**06 00 03.0**	**-1.8**
CHIT3	**Chitre**	**0.90**	**359**	*eP*	**Pg**	**05 59 57.7**	**-0.3**
CHIT3				*eS*	**Sg**	**06 00 08.7**	**-1.1**
GMAL	**Guarumal, Vera**	**1.09**	**310**	⇓*iP*	**Pn**	**06 00 01.6**	**0.0**
GMAL				*eS*	**Sn**	**06 00 17.1**	**0.0**
GMAL	**Guarumal, Vera**	**1.09**	**310**	P	**Pb**	**06 00 01.6**	**0.0**
GMAL				S	**Sb**	**06 00 16.0**	**+0.1**
STIA3	**Santiago, Vera**	**1.19**	**331**	*eP*	**Pn**	**06 00 01.8**	**-1.5**
STIA3				*eS*	**Sb**	**06 00 17.1**	**-1.6**
RSUS3	**Rio de Jesus,**	**1.20**	**321**	*eP*	**Pn**	**06 00 02.0**	**-1.4**
RSUS3				*eS*	**Sn**	**06 00 20.4**	**+0.6**
CRIS3	**El Cristo, Coc**	**1.21**	**350**	*eP*	**Pn**	**06 00 02.6**	**-1.1**
CRIS3				*eS*	**Sb**	**06 00 17.8**	**-1.7**
CALO3	**Calobre, Verag**	**1.34**	**341**	*eP*	**Pn**	**06 00 04.8**	**-0.6**
CALO3				*eS*	**Sb**	**06 00 22.0**	**-1.0**
MESA3	**La Mesa, Verag**	**1.34**	**324**	⇑*iP*	**Pn**	**06 00 04.9**	**-0.5**
MESA3				*eS*	**Sn**	**06 00 23.7**	**+0.3**
RMDIO	**Remedios, Chir**	**1.84**	**309**	*eP*	**Pn**	**06 00 13.0**	**+0.7**
RMDIO				*eS*	**Sb**	**06 00 37.1**	**-0.4**
CHOR3	**La Chorrera**	**1.94**	**19**	*eP*	**Pb**	**06 00 15.9**	**-0.2**
CHOR3				*eS*	**Sb**	**06 00 39.6**	**-0.7**
ZANG	**Zanguenga, Cho**	**1.96**	**15**	*eP*	**Pb**	**06 00 15.4**	**-1.1**
ZANG				*eS*	**Sn**	**06 00 38.5**	**-0.2**
FLAM	**Flamenco Islan**	**2.04**	**25**	*eP*	**Pb**	**06 00 16.6**	**-1.1**
FLAM				*eS*	**Sb**	**06 00 42.3**	**-0.9**
UPA	**Univ. de Panam**	**2.10**	**24**	*eP*	**Pn**	**06 00 17.0**	**+1.1**
UPA				*eS*	**Sb**	**06 00 44.1**	**-0.9**
GAMB1	**Gamboa**	**2.17**	**18**	*eP*	**Pn**	**06 00 17.6**	**+0.9**
GAMB1				*eS*	**Sb**	**06 00 45.4**	**-1.5**
BCIP	**Isla Barro Col**	**2.17**	**15**	⇑*iP*	**Pb**	**06 00 18.8**	**-1.3**
BCIP				*eS*	**Sn**	**06 00 45.2**	**+1.3**
BCIP	**Isla Barro Col**	**2.17**	**15**	P	**Pb**	**06 00 18.9**	**-1.2**
BCIP				S	**Sb**	**06 00 45.6**	**-1.5**
BCIP	**Isla Barro Col**	**2.17**	**15**	P	**Pn**	**06 00 17.9**	**+1.0**
BCIP				S	**Sb**	**06 00 46.0**	**-1.1**
MLIR	**Monte Lirio**	**2.24**	**14**	*eP*	**Pn**	**06 00 18.8**	**+1.0**
MLIR				*eS*	**Sb**	**06 00 48.0**	**-1.1**
FRIJ	**El Hiral**	**2.26**	**17**	*eP*	**Pn**	**06 00 18.9**	**+0.9**
GUAL3	**Gualaca, Chiri**	**2.39**	**308**	*eP*	**Pb**	**06 00 22.0**	**-1.8**
GUAL3				*eS*	**Sn**	**06 00 50.9**	**+1.7**
DVD	**David**	**2.46**	**304**	*eP*	**Pn**	**06 00 22.2**	**+1.5**
DVD				*eS*	**Sn**	**06 00 51.9**	**+1.0**
CHPO	**Chepo, Panama**	**2.46**	**31**	*eP*	**Pn**	**06 00 21.9**	**+1.1**
CHPO				*eS*	**Sb**	**06 00 54.0**	**-1.3**
PSOM3	**Paja de Sombre**	**2.50**	**311**	*eP*	**Pn**	**06 00 23.0**	**+1.5**
PSOM3				*eS*	**Sn**	**06 00 54.4**	**+2.3**
PBNVO	**Pueblo Nuevo,**	**2.55**	**316**	*eP*	**Pn**	**06 00 24.0**	**+2.0**
PBNVO				*eS*	**Sn**	**06 00 55.6**	**+2.4**
PTAC	**Punta Ardita,**	**2.57**	**88**	P	**Pn**	**06 00 21.6**	**-0.8**
BQTLY	**Boquete Panama**	**2.66**	**310**	*eP*	**Pb**	**06 00 26.3**	**-2.1**
BQTLY				*eS*	**Sb**	**06 01 01.3**	**+0.1**
PRISO	**Paraso**	**2.70**	**307**	*eP*	**Pn**	**06 00 26.6**	**+2.4**
BRU2	**Volcan**	**2.86**	**307**	P	**Pb**	**06 00 29.7**	**-2.1**
CDITO	**Canoas**	**2.88**	**302**	P	**Pb**	**06 00 30.3**	**-1.9**
SOLC	**Bahia Solano**	**3.08**	**105**	P	**Pn**	**06 00 28.8**	**-0.6**
DRK0	**Durika**	**3.57**	**308**	*eP*	**Pn**	**06 00 38.5**	**+2.1**
DRK0				*eS*	**Sn**	**06 01 19.9**	**+1.2**
DRK0	**Durika**	**3.57**	**308**	*eP*	**Pn**	**06 00 37.8**	**+1.5**
DRK0	**Durika**	**3.57**	**308**	P	**Pn**	**06 00 38.3**	**+2.0**
APAC	**Apartado, Choc**	**3.88**	**77**	P	**Pn**	**06 00 43.8**	**+3.4**
APAC				S	**Sn**	**06 01 26.9**	**+0.9**
VERH	**Veragua Rainfo**	**3.97**	**316**	*eP*	**Pn**	**06 00 44.8**	**+3.0**
DBBC	**Dabeiba**	**4.16**	**90**	P	**Pn**	**06 00 45.7**	**+1.4**
DBBC				S	**Sn**	**06 01 33.1**	**+0.1**
ABRB	**Las Abras (San**	**4.40**	**312**	*eP*	**Pn**	**06 00 51.6**	**+3.8**
LCR2	**La Lucha 2**	**4.46**	**307**	P	**Pn**	**06 00 50.7**	**+2.1**
CBOC	**Ciudad Bolivar**	**4.51**	**105**	P	**Pn**	**06 00 50.1**	**+0.8**
CBOC				S	**Sn**	**06 01 39.2**	**-2.8**
PLMC	**San Jos del P**	**4.62**	**117**	P	**Pn**	**06 00 50.5**	**-0.1**
PLMC				S	**Sn**	**06 01 43.2**	**-1.1**
HELC	**Santa Helena**	**4.91**	**100**	P	**Pn**	**06 00 56.8**	**+1.9**
HELC	**Santa Helena**	**4.91**	**100**	P	**Pn**	**06 00 57.6**	**+2.7**
HELC				S	**Sn**	**06 01 53.6**	**+1.6**
YOTC	**Yotoco, Valle**	**5.05**	**127**	P	**Pn**	**06 00 57.5**	**+0.8**
	0.0nm7.5nm,1.3s						
JAMC	**Jamundi, Valle**	**5.32**	**136**	P	**Pn**	**06 01 01.5**	**+1.1**
	0.0nm4.6nm,1.3s						
JAMC				S	**Sn**	**06 02 02.4**	**+0.5**
	0.0nm4.6nm,1.3s						
GUY2C	**Guyana, Caldas**	**5.32**	**110**	P	**Pn**	**06 01 03.3**	**+2.6**
GUY2C				S	**Sn**	**06 02 00.1**	**-2.2**
ZARC	**Zaragoza, Cauc**	**5.51**	**85**	P	**Pn**	**06 01 05.1**	**+2.2**
	6.6nm,0.6s						
ZARC				S	**Sn**	**06 02 03.5**	**-2.9**
	6.6nm,0.6s						
POPC	**Popayan, Colom**	**5.82**	**140**	P	**Pn**	**06 01 08.9**	**+1.7**
	4.0nm,0.8s						
SJCC	**San Jacinto, C**	**5.88**	**61**	P	**Pn**	**06 01 11.1**	**+3.1**
BBAC	**Balboa, Cauca**	**5.90**	**148**	P	**Pn**	**06 01 08.8**	**+0.4**
	1µm3.8nm,0.9s						
PTBC	**PUERTO BERRIO,**	**5.92**	**95**	P	**Pn**	**06 01 11.0**	**+2.5**
	3.4nm,0.6s						
UPAL	**Upala**	**5.95**	**310**	P	**Pn**	**06 01 10.5**	**+1.7**
ORTC	**Ortega, Tolima**	**6.00**	**121**	P	**Pn**	**06 01 12.6**	**+3.0**
	7.0nm,0.6s						
ORTC				S	**Sn**	**06 02 22.1**	**+3.6**
	7.0nm,0.6s						
PRVC	**Isla de Provid**	**6.36**	**351**	P	**Pn**	**06 01 16.6**	**+2.2**
PRAC	**Prado**	**6.41**	**121**	P	**Pn**	**06 01 18.1**	**+2.9**
PRAC	**Prado**	**6.41**	**121**	P	**Pn**	**06 01 17.9**	**+2.7**
PRAC				S	**Sn**	**06 02 31.8**	**+3.2**
FLOC	**Florencia**	**7.20**	**139**	P	**Pn**	**06 01 29.3**	**+3.2**

*IDC **03** 06:08:28.4±1.4, 3.58N×126.93E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=107.2km s-min=17.3km az=68.0*
*DJA **03** 06:08:34.3±0.7, 4°N±12″×12°7E±″, h28km±11km, M4.0/7, mb4.2/3, MLv3.9/7*

ISC 03 06:08:33.1±1.2, 3.8N±0.1×127.2E±0.1, h36km, n11, σ1§52/12, mb3.9/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.65**	**266**	P	**Pn**	**06 08 59.5**	**0.0**
SGSI				S	**Sn**	**06 09 18.8**	**-0.7**
TNTI	**Ternate**	**3.02**	**176**	P	**Pn**	**06 09 20.5**	**+2.0**
SANI	**Sanana**	**5.94**	**192**	P	**Pn**	**06 09 58.8**	**+0.2**
APSI	**Ampana**	**7.25**	**230**	P	**Pn**	**06 10 18.9**	**+2.4**
FITZ	**Fitzroy Crossi**	**21.82**	**184**	P	**P**	**06 13 21.0**	**-1.4**
	2.9nm,1.0s,baz=12,slow=9.3,SNR=5.6						
	2.9nm,1.0s						
WRA	**Warramunga Arr**	**24.63**	**164**	P	**P**	**06 13 49.0**	**-1.5**
	0.9nm,0.4s,baz=340,slow=11,SNR=17						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**28.09**	**167**	P	**P**	**06 14 20.5**	**-1.1**
	0.3nm,0.3s,baz=342,slow=11,SNR=17						
	0.3nm,0.3s						
STKA	**Stephens Creek**	**38.05**	**160**	P	**P**	**06 15 47.6**	**-0.7**
	2.1nm,0.6s,baz=344,slow=12,SNR=5.8						
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**57.74**	**325**	P	**P**	**06 18 22.1**	**+1.6**
	0.7nm,0.4s,baz=119,slow=7.8,SNR=10						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	**P**	**06 18 48.7**	**-0.3**
	0.3nm,0.3s,baz=123,slow=6.7,SNR=1.7						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**67.49**	**327**	P	**P**	**06 19 27.0**	**+1.5**
	0.5nm,0.4s,baz=122,slow=11,SNR=2.8						
	0.5nm,0.4s						

CATAC 03 06:09:55.3±1.7, 11°N±4°×8°7W±″, h28km±19km, M2.7/13, MLv2.7/13, Error ellipse: s-maj=12.1km s-min=6.0km az=58.7, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.96**	**18**	P	**Pn**	**06 10 12.7**	**-0.2**
NADN	**Granada**	**0.97**	**61**	P	**Pn**	**06 10 12.7**	**-0.5**
NANN	**Nandasmo**	**1.01**	**49**	P	**Pb**	**06 10 15.5**	**+1.2**
SAPS	**Ciudad Sandino**	**1.02**	**28**	P	**Pn**	**06 10 13.6**	**-0.2**
UNAN	**Cigeo UNAN**	**1.04**	**36**	S	**Sn**	**06 10 26.8**	**-1.0**
TISN	**Laguna Tiscapa**	**1.07**	**35**	P	**Pn**	**06 10 14.0**	**-0.5**
WILN	**Americas 2**	**1.13**	**38**	P	**Pb**	**06 10 15.9**	**-0.3**
MOMN	**Momotombo**	**1.19**	**17**	P	**Pn**	**06 10 15.9**	**-0.3**
JAPN	**AI SSO del Vol**	**1.23**	**78**	P	**Pb**	**06 10 17.3**	**-0.6**
MOM2	**El Cardon**	**1.23**	**19**	P	**Pn**	**06 10 16.7**	**0.0**
CNGA	**AI SSO del Vol**	**1.23**	**9**	P	**Pn**	**06 10 16.1**	**-0.7**
CNGA				S	**Sb**	**06 10 34.2**	**+0.6**
CNGN	**Cerro Negro**	**1.24**	**9**	P	**Pn**	**06 10 17.1**	**+0.2**
ROCN	**Rota Cerro Neg**	**1.25**	**7**	P	**Pn**	**06 10 17.2**	**+0.2**
CARN	**Rivas**	**1.35**	**93**	P	**Pn**	**06 10 19.0**	**+0.6**
ELI1	**Hacienda Flor**	**1.46**	**115**	P	**Pn**	**06 10 17.9**	**-1.9**
JTS	**Las Juntas de**	**2.15**	**117**	P	**Pn**	**06 10 31.4**	**+2.1**
CHOHN	**Orocuina**	**2.21**	**353**	P	**Pn**	**06 10 29.6**	**-0.8**
RANC	**El Ranchito**	**2.55**	**328**	P	**Pn**	**06 10 34.4**	**-0.5**
RANC				S	**Sn**	**06 10 58.2**	**-6.9**

RSNC 03 06:35:53.2±0.0, 5°N±1°×7°4W±″, h146km±2km, M2.1, mb3.9, ML1.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**0.71**	**233**	P	**Pn**	**06 36 16.6**	**+0.8**
ROSC				S	**Sn**	**06 36 32.9**	**-0.1**
CVER	**Cruz Verde, Cu**	**0.81**	**203**	P	**Pn**	**06 36 17.0**	**+0.3**
CVER				S	**Sn**	**06 36 35.0**	**+0.5**
RUSC	**La Rusia**	**0.91**	**47**	P	**Pn**	**06 36 17.2**	**-0.2**
RUSC				S	**Sn**	**06 36 35.4**	**-0.4**
NORC	**Norcasia**	**1.15**	**285**	P	**Pn**	**06 36 18.8**	**-0.2**
NORC				S	**Sn**	**06 36 38.1**	**-0.6**
VILC	**Villavicencio,**	**1.15**	**177**	P	**Pn**	**06 36 18.3**	**-0.9**
VILC				S	**Sn**	**06 36 37.8**	**-1.2**
BARC	**Barichara**	**1.43**	**23**	P	**Pn**	**06 36 21.2**	**-0.8**
BARC				S	**Sn**	**06 36 44.3**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.44**	**331**	P	**Pn**	**06 36 20.5**	**-1.4**
PTBC				S	**Sn**	**06 36 43.0**	**-0.9**
GUY2C	**Guyana, Caldas**	**1.61**	**268**	P	**Pn**	**06 36 24.9**	**+0.8**
GUY2C				S	**Sn**	**06 36 47.3**	**-0.4**
PRAC	**Prado**	**1.92**	**216**	P	**Pn**	**06 36 26.7**	**-0.5**
PRAC				S	**Sn**	**06 36 52.7**	**-0.6**
HELC	**Santa Helena**	**1.99**	**297**	P	**Pn**	**06 36 28.2**	**-0.2**
HELC				S	**Sn**	**06 36 55.1**	**-0.2**
ORTC	**Ortega, Tolima**	**2.01**	**228**	P	**Pn**	**06 36 27.7**	**-0.6**
ORTC				S	**Sn**	**06 36 54.4**	**-0.8**
PAMC	**Pamplona, Colo**	**2.31**	**27**	P	**Pn**	**06 36 32.3**	**0.0**
PAMC				S	**Sn**	**06 37 01.3**	**-0.9**
CBOC	**Ciudad Bolivar**	**2.33**	**285**	P	**Pn**	**06 36 31.8**	**-0.4**
CBOC				S	**Sn**	**06 37 02.3**	**+0.1**
ZARC	**Zaragoza, Cauc**	**2.47**	**334**	P	**Pn**	**06 36 31.7**	**-2.1**
ZARC				S	**Sn**	**06 37 02.6**	**-2.4**
OCAC	**Ocana**	**2.98**	**8**	P	**Pn**	**06 36 39.6**	**-0.7**
OCAC				S	**Sn**	**06 37 16.3**	**-0.5**
DBBC	**Dabeiba**	**3.00**	**305**	P	**Pn**	**06 36 40.1**	**-0.4**
UREC	**San Jos de Ur**	**3.04**	**324**	P	**Pn**	**06 36 38.2**	**-2.7**
UREC				S	**Sn**	**06 37 14.3**	**-3.5**
SJCC	**San Jacinto, C**	**4.81**	**343**	P	**Pn**	**06 37 00.6**	**-3.5**
SJCC				S	**Sn**	**06 37 54.5**	**-4.9**
CRJC	**Cerrejon, Guaj**	**5.78**	**8**	P	**Pn**	**06 37 15.2**	**-1.8**

*IDC **03** 06:36:55.8±1.6, 56.44N×163.69E, h0km, mb3.8/4, mbtmp3.8/5, ML3.1/1, MS2.9/3, Error ellipse: s-maj=141.6km s-min=20.2km az=141.0*
*KRSC **03** 06:36:57.1±1.1, 55.93N×164.06E, h9km±18km, Ml4.1*

ISC 03 06:36:56.0±1.4, 56°10N±0°07×164°18E±0°04, h0km±10km, n48, σ1§24/49, mb3.8/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.77**	**279**	*eP*	**Pg**	**06 37 11.0**	**+0.2**
KBTR				*eS*	**Sg**	**06 37 21.0**	**+0.3**
KBG	**Krutoberegovo**	**0.84**	**281**	*eP*	**Pg**	**06 37 12.8**	**+0.7**
KBG				*eS*	**Sg**	**06 37 23.8**	**+0.8**
BKI	**Bering**	**1.35**	**131**	*eP*	**Pg**	**06 37 21.9**	**-0.1**
BKI				*eS*	**Sg**	**06 37 39.7**	**+0.2**
SMKR	**Semkarok**	**1.59**	**289**	*eP*	**Pn**	**06 37 25.1**	**-0.3**
SMKR				*eS*	**Sn**	**06 37 45.7**	**-1.0**
BDR	**Baidarnaya**	**1.72**	**287**	*eS*	**Sb**	**06 37 50.1**	**-0.6**
ZLN	**Zelenaya**	**1.90**	**269**	*eP*	**Pb**	**06 37 30.8**	**-0.7**
ZLN				*eS*	**Sb**	**06 37 55.5**	**-0.2**
CIRR	**Tsirk**	**1.92**	**272**	*eP*	**Pb**	**06 37 31.0**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**1.96**	**267**	*eP*	**Pb**	**06 37 31.4**	**-1.2**
BZWR	**Bezymyannyi-We**	**2.07**	**268**	*eP*	**Pb**	**06 37 33.2**	**-1.4**
BZMR	**Bezymyannaya**	**2.08**	**267**	*eP*	**Pb**	**06 37 33.1**	**-1.6**
MKZ	**Mys Kozlova**	**2.08**	**223**	*eP*	**Pn**	**06 37 31.8**	**-0.4**
MKZ				*eS*	**Sn**	**06 37 56.8**	**-2.0**
KIRR	**Kirishev**	**2.16**	**268**	*eP*	**Pb**	**06 37 34.5**	**-1.6**
KIRR				*eS*	**Sb**	**06 38 01.8**	**-1.6**
KPT	**Kopyto**	**2.23**	**268**	*eP*	**Pn**	**06 37 34.3**	**+0.1**
KMNR	**Kamenistaya**	**2.25**	**263**	*eP*	**Pb**	**06 37 35.7**	**-1.8**
TUMD	**Tumrok D**	**2.32**	**249**	*eP*	**Pn**	**06 37 36.1**	**+0.7**
TUMD				*eS*	**Sn**	**06 38 05.0**	**+0.3**
KOZ	**Kozyrevsk**	**2.41**	**271**	*eP*	**Pb**	**06 37 38.7**	**-1.6**
SRDR	**Sredinnyy**	**2.50**	**277**	*eP*	**Pn**	**06 37 39.4**	**+1.4**
SRDR				*eS*	**Sn**	**06 38 10.1**	**+0.9**
ESO	**Esso**	**3.08**	**269**	*eP*	**Pn**	**06 37 47.0**	**+1.1**
KII	**Karymskiy**	**3.42**	**235**	*eP*	**Pn**	**06 37 51.4**	**+0.9**
SPN	**Mys Shipunski**	**3.86**	**221**	*eP*	**Pn**	**06 37 56.3**	**-0.2**
NLC	**Nalytchevo**	**4.06**	**226**	*eP*	**Pn**	**06 38 00.6**	**+1.3**
SDLR	**Sedlovina**	**4.17**	**230**	*eP*	**Pn**	**06 38 01.9**	**+1.0**
KRER	**Koryakskii**	**4.21**	**231**	*eP*	**Pn**	**06 38 03.2**	**+1.6**
KRX	**Arik**	**4.22**	**232**	*eP*	**Pn**	**06 38 03.8**	**+2.2**
SMAR	**Somma**	**4.22**	**230**	*eP*	**Pn**	**06 38 02.7**	**+1.0**
AVH	**Avacha**	**4.25**	**230**	*eP*	**Pn**	**06 38 03.5**	**+1.5**
UGLR	**Uglovaya**	**4.25**	**229**	*eP*	**Pn**	**06 38 03.4**	**+1.4**
KOK	**Koryaka**	**4.27**	**231**	*eP*	**Pn**	**06 38 03.5**	**+1.2**
GNL	**Ganaly**	**4.33**	**239**	*eP*	**Pn**	**06 38 05.0**	**+1.9**
DALK	**Dalny**	**4.41**	**228**	*eP*	**Pn**	**06 38 04.9**	**+0.9**
PETK	**Petropavlovsk-**	**4.81**	**234**	Pn	**Pn**	**06 38 10.8**	**+1.1**
	4.2nm,0.3s,baz=66,slow=17,SNR=13						
PETK				Sn	**Sn**	**06 39 06.8**	**+0.7**
	baz=67,slow=22						
	5.2nm,0.5s						
GRL	**Gorelyy**	**5.04**	**228**	*eP*	**Pn**	**06 38 15.4**	**+2.6**
MTVR	**Mutnovka**	**5.04**	**227**	*eP*	**Pn**	**06 38 14.9**	**+2.0**
ASAK	**Asacha**	**5.23**	**227**	*eP*	**Pn**	**06 38 17.7**	**+2.1**
MA2	**Magadan**	**7.96**	**302**	LR	LR	06 42 01.3	
	comp=Z,34nm,21.2s,baz=83,slow=40						
TIXI	**Tiksi**	**21.50**	**330**	LR	LR	06 51 19.5	
	comp=Z,33nm,18.5s,baz=148,slow=41						
USRK	**Ussuriysk Ar.**	**23.58**	**253**	LR	LR	06 52 45.2	
	comp=Z,60nm,19.6s,baz=176,slow=40						
ILAR	**Eielson Array**	**25.03**	**50**	P	**P**	**06 42 21.0**	**-0.3**
	0.6nm,0.8s,baz=276,slow=10,SNR=6.8						
	0.6nm,0.8s						
MJAR	**Matsushiro Arr**	**26.27**	**233**	P	**P**	**06 42 32.5**	**-0.4**
	2.6nm,0.2s,baz=28,slow=8.3,SNR=6.3						
	2.6nm,0.2s						
H11N2	**WAKE ISLAND Hy**	**36.37**	**176**	T	T	07 22 53.4	
	baz=357,slow=76,SNR=428						
H11N3	**WAKE ISLAND Hy**	**36.38**	**176**	T	T	07 22 41.1	
	baz=357,slow=76,SNR=224						
H11N1	**WAKE ISLAND Hy**	**36.38**	**176**	T	T	07 22 37.9	
	baz=357,slow=76,SNR=294						
H11S1	**WAKE ISLAND Hy**	**37.57**	**176**	T	T	07 24 29.5	
	baz=359,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**37.59**	**176**	T	T	07 24 27.6	
	baz=359,slow=75,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**37.59**	**176**	T	T	07 24 31.9	
	baz=359,slow=75,SNR=6.2						
TXAR	**Lajitas Array**	**67.34**	**71**	P	**P**	**06 47 53.7**	**+0.9**
	0.2nm,0.4s,baz=301,slow=3.8,SNR=2.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**83.50**	**208**	P	**P**	**06 49 25.8**	**+0.4**
	0.7nm,0.8s,baz=11,slow=4.6,SNR=5.1						
	0.7nm,0.8s						
QSPA	**South Pole Qui**	**145.85**	**180**	PKPbc	**PKPab**	**06 56 35.6**	**-0.5**
	0.8nm,0.9s,baz=356,slow=2.0,SNR=6.7						

*IDC **03** 06:40:44.1±1.5, 0.15N×123.19E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=77.2km s-min=24.7km az=70.0*
*DJA **03** 06:41:02.3±0.4, 0°S±4″×12°3E±″, h146km±5km, M3.8/10, MLv3.8/10*

ISC 03 06:41:01.5±0.9, 0.14S±0.08×123.33E±0.06, h157km, n11, σ1§36/14, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.96**	**43**	P	**Pn**	**06 41 27.7**	**+1.1**
KMSI				S	**Sn**	**06 41 46.2**	**+0.4**
LUWI	**Luwuk**	**1.06**	**212**	P	**Pn**	**06 41 27.8**	**+0.4**
LUWI				S	**Sn**	**06 41 46.5**	**-0.8**
MRSI	**Marisa**	**1.52**	**294**	P	**Pn**	**06 41 31.5**	**-0.2**
MRSI				S	**Sn**	**06 41 52.6**	**-2.4**
APSI	**Ampana**	**1.85**	**245**	P	**Pn**	**06 41 36.2**	**+0.9**
SANI	**Sanana**	**3.27**	**126**	P	**Pn**	**06 41 51.0**	**-1.5**
MPSI	**Mapaga**	**3.46**	**278**	P	**Pn**	**06 41 57.0**	**+2.0**
NLAI	**Namlea**	**4.87**	**129**	P	**Pn**	**06 42 14.5**	**+1.2**
WRA	**Warramunga Arr**	**22.44**	**152**	P	**P**	**06 45 48.6**	**+1.0**
	1.0nm,0.5s,baz=331,slow=10,SNR=9.3						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**25.54**	**157**	P	**P**	**06 46 17.1**	**+1.3**
	0.1nm,0.3s,baz=336,slow=11,SNR=1.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**06 50 42.8**	**-1.2**
	0.3nm,0.5s,baz=123,slow=8.8,SNR=3.8						
	0.3nm,0.5s						
PETK	**Petropavlovsk-**	**60.28**	**23**	P	**P**	**06 50 53.2**	**-0.1**
	0.3nm,0.5s,baz=220,slow=6.6,SNR=1.8						
	0.3nm,0.5s						

IDC 03 06:52:32.4±2.4, 6.98S×128.55E, h0km, mb3.6/1, mbtmp3.7/3, ML3.8/2, MS3.2/2, Error ellipse: s-maj=201.9km s-min=32.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.06

MRKS					Lg	Lg	07 11 40.3	
	21nm,0.4s							
MRKS	**Merke**	**1.82**	**15**	*eP*	**Pb**		**07 11 13.2**	**+0.4**
	3.7nm,0.3s							
MRKS				*eS*	**Sg**		**07 11 39.2**	**+1.4**
	21nm,0.4s							
EKS2	**Erkin-Say**	**1.89**	**28**	⇑*iP*	**Pb**		**07 11 12.9**	**-1.1**
EKS2				⇑*iS*	**Sn**		**07 11 36.8**	**+1.0**
UCH	**Uchtor**	**1.90**	**49**	⇓*iP*	**Pb**		**07 11 14.1**	**-0.3**
UCH				⇓*iS*	**Sb**		**07 11 39.0**	**+0.6**
AAK	**Ala-Archa**	**2.18**	**40**	⇑Pn	**Pg**		**07 11 20.6**	**-0.5**
	1.5nm,0.4s							
AAK				⇓Sn	**Sg**		**07 11 48.8**	**-0.6**
	2.6nm,0.5s							
AAK	**Ala-Archa**	**2.18**	**40**	⇓*iP*	**Pb**		**07 11 18.1**	**-0.8**
AAK				⇓*iS*	**Sb**		**07 11 46.0**	**-0.1**
IUG	**Iuzhnay**	**2.24**	**302**	Pg	**Pg**		**07 11 20.4**	**-1.9**
	21nm,0.3s							
IUG				Lg	Lg		07 11 51.9	
	65nm,0.4s							
JNKS	**Jany-Kuch**	**2.32**	**87**	⇑*iP*	**Pg**		**07 11 22.3**	**-1.5**
JNKS				⇑*iS*	**Sg**		**07 11 53.1**	**-0.8**
CHMS	**Chumysh**	**2.58**	**38**	⇓*iP*	**Pb**		**07 11 23.4**	**-2.2**
CHMS				⇓*iS*	**Sn**		**07 11 55.1**	**+2.6**
KK31	**Karatay Array**	**2.62**	**325**	⇑Pg	**Pb**		**07 11 26.6**	**+0.2**
	1.2nm,0.3s,baz=125,slow=16,SNR=27							
KK31				⇑Lg	Lg		07 12 01.2	
	1.7nm,0.3s,baz=128,slow=25,SNR=7.6							
GAR	**Garm**	**2.64**	**222**	⇑*iP*	**Pg**		**07 11 27.5**	**-2.4**
GAR				⇑*iS*	**Sg**		**07 12 02.4**	**-1.8**
USP	**Ospenovka**	**2.69**	**31**	⇑*iP*	**Pb**		**07 11 24.7**	**-2.8**
USP				⇑*iS*	**Sn**		**07 11 57.4**	**+2.2**
BRLS	**Boroldaу**	**2.89**	**316**	Pg	**Pb**		**07 11 29.9**	**-1.0**
	3.2nm,0.3s							
BRLS				Lg	Lg		07 12 08.6	
	8.2nm,0.4s							
BRLS	**Boroldaу**	**2.89**	**316**	*eP*	**Pb**		**07 11 29.9**	**-1.0**
	3.2nm,0.3s							
BRLS				*eS*	**Sb**		**07 12 08.6**	**+2.1**
	8.2nm,0.4s							
BOOM	**Boomskoye usch**	**2.92**	**58**	⇓*eP*	**Pb**		**07 11 29.2**	**-2.4**
BOOM				⇓*iS*	**Sb**		**07 12 05.2**	**-2.3**
ULHL	**Ulahol**	**3.01**	**64**	⇑*iP*	**Pb**		**07 11 30.7**	**-2.5**
ULHL				⇑*iS*	**Sb**		**07 12 07.7**	**-2.4**
KST	**Kastek**	**3.25**	**50**	Pg	**Pb**		**07 11 38.6**	**+1.5**
	1.9nm,0.4s							
KST				Lg	Lg		07 12 23.2	
	9.3nm,0.6s							
KST	**Kastek**	**3.25**	**50**	*eP*	**Pb**		**07 11 38.6**	**+1.5**
	1.9nm,0.4s							
KST				*eS*	**Sg**		**07 12 23.1**	**-0.4**
	9.3nm,0.6s							
DGS	**Degeres**	**3.27**	**45**	Pg	**Pb**		**07 11 38.7**	**+1.2**
	1.3nm,0.4s							
DGS				Lg	Lg		07 12 23.5	
	5.8nm,0.5s							
KTBS	**Karatobe**	**4.08**	**47**	Pg	**Pb**		**07 11 52.7**	**+1.5**
	0.5nm,0.3s							
KTBS				Lg	Lg		07 12 47.1	
	3.0nm,0.6s							

IDC ***03*** *07:19:35.8±2.2, 1″.40N×127″.55E, h176km±22km, mb3.7/10, mbtmp4.2/13, Error ellipse: s-maj=21.4km s-min=11.0km az=82.0*
NEIC ***03*** *07:19:35.8±1.0, 1″.4N±0″.1×127″.42E±0″.08, h170km±7km, mb4.4/15, Error ellipse: s-maj=18.9km s-min=10.7km az=194.0*
DJA ***03*** *07:19:36.4±0.4, 1″N±3″×12″7E±″, h146km±6km, M4.7/15, mB5.5/3, mb4.4/10, MLv4.8/15, Mw(mB)4.9/3*
ISC 03 07:19:35.2±0.5, 1°.44N±0°.06×127°.45E±0°.07, h170km, n50, σ1ᵍ12/55, mb4.3/19, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.67**	**187**		**Pn**	**07 19 59.4**	**-0.4**
TNTI	**Ternate**	**0.67**	**187**	P	**Pn**	**07 19 59.3**	**-0.4**
SGSI	**Sangihe**	**2.95**	**319**	P	**Pn**	**07 20 22.6**	**-0.2**
SGSI				S	**Sn**	**07 20 58.3**	**-1.5**
KMSI	**Cibinong**	**3.57**	**256**	P	**Pn**	**07 20 30.8**	**+0.2**
SANI	**Sanana**	**3.76**	**203**	P	**Pn**	**07 20 31.2**	**-1.8**
NLAI	**Namlea**	**4.66**	**184**	P	**Pn**	**07 20 44.7**	**+0.1**
AAI	**Ambon**	**5.14**	**172**	P	**Pn**	**07 20 51.1**	**+0.2**
	0.5nm97nm,0.8s						
LUWI	**Luwuk**	**5.29**	**242**	P	**Pn**	**07 20 53.0**	**+0.2**
	2.3nm3µm108nm,0.6s						
APSI	**Ampana**	**6.25**	**248**	P	**Pn**	**07 21 04.8**	**-0.7**
	0.7nm2µm71nm,1.0s						
BNDI	**Bandanaira**	**6.41**	**158**	P	**Pn**	**07 21 07.4**	**-0.1**
FAKI	**Fak Fak**	**6.46**	**132**	Pn	**Pn**	**07 21 08.3**	**+0.1**
FAKI	**Fak Fak**	**6.46**	**132**	P	**Pn**	**07 21 08.9**	**+0.7**
	0.2nm42nm,1.1s						
TOLI2	**Tolitoli**	**6.68**	**267**	Pn	**Pn**	**07 21 10.6**	**-0.5**
MPSI	**Mapaga**	**7.63**	**262**	P	**Pn**	**07 21 25.0**	**+1.3**
BNSI	**Bone**	**9.35**	**232**	P	**Pn**	**07 21 48.5**	**+2.0**
	27nm,0.7s						
SPSI	**Sidrap Palu**	**9.37**	**235**	P	**Pn**	**07 21 48.2**	**+1.5**
	18nm,0.5s						
BKSI	**Bulukumba**	**9.93**	**227**	P	**Pn**	**07 21 57.1**	**+3.0**
	17nm,1.4s						
KAPI	**Kappang**	**10.01**	**230**	P	**Pn**	**07 21 58.1**	**+3.0**
	11nm,0.4s,baz=344,slow=5.7,SNR=7.8						
KAPI				S	**Sn**	**07 23 45.0**	**-1.5**
	11nm,0.6s,baz=37,slow=20,SNR=4.7						
JAY	**Jayapura**	**13.82**	**106**	P	**Pn**	**07 22 44.3**	**0.0**
	3.1nm,0.6s,baz=316,slow=7.0,SNR=4.2						
KNRA	**Kununurra**	**17.05**	**176**	P	**P**	**07 23 22.7**	**-0.1**
KNRA				IAmb	IAmb	07 23 25.3	
	comp=Z,35nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.49**	**185**	P	**P**	**07 23 49.6**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=352,slow=7.1,SNR=1.6						
WB0	**Warramunga Arr**	**22.14**	**162**	P	**P**	**07 24 16.2**	**-1.2**
WB0				IAmb	IAmb	07 24 27.0	
	comp=Z,8.6nm,1.2s						
WRA	**Warramunga Arr**	**22.30**	**163**	P	**P**	**07 24 16.9**	**-2.0**
WRA	**Warramunga Arr**	**22.30**	**163**	P	**P**	**07 24 17.8**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=346,slow=9.7,SNR=14						
WRA				PcP	**PcP**	**07 28 07.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.7,SNR=0.7						
	comp=Z,1.0nm,0.4s						
AS31	**Alice Springs**	**25.73**	**166**	P	**P**	**07 24 49.1**	**-1.0**
ASAR	**Alice Springs**	**25.73**	**166**	P	**P**	**07 24 49.5**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=344,slow=7.8,SNR=17						
ASAR				PcP	**PcP**	**07 28 14.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=347,slow=2.2,SNR=4.4						
ASAR				ScP	**ScP**	**07 31 38.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=337,slow=2.7,SNR=1.1						
	comp=Z,0.6nm,0.3s						
STKA	**Stephens Creek**	**35.74**	**159**	P	**P**	**07 26 17.5**	**-0.3**
	comp=Z,3.1nm,0.5s,baz=333,slow=9.3,SNR=10						
	comp=Z,3.1nm,0.5s						
KSRS	**Korea Array**	**35.84**	**1**	P	**P**	**07 26 19.7**	**+1.1**
	comp=Z,2.2nm,0.6s,baz=179,slow=9.6,SNR=13						
	comp=Z,2.2nm,0.6s						
MJAR	**Matsushiro Arr**	**36.32**	**15**	P	**P**	**07 26 21.6**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=183,slow=9.8,SNR=6.2						
	comp=Z,1.6nm,0.4s						
JMM	**Marumori**	**38.27**	**17**	P	**P**	**07 26 39.9**	**+0.8**
JMM				IAmb	IAmb	07 26 44.9	
	comp=Z,7.6nm,0.8s						
XLT	**XiLinHaoTe**	**43.48**	**348**	*eP*	**P**	**07 27 20.1**	**-1.5**
XLT				sP	pwP	07 28 04.8	+3.4
XLT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
EVN	**Everest**	**46.94**	**308**	P	**P**	**07 27 50.8**	**+0.9**
PEA0B	**Petropavlovsk-**	**57.28**	**21**	P	**P**	**07 29 06.3**	**+1.4**
PETK	**Petropavlovsk-**	**57.28**	**21**	P	**P**	**07 29 06.0**	**+1.0**
PETK	**Petropavlovsk-**	**57.28**	**21**	P	**P**	**07 29 05.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=219,slow=1.9,SNR=4.5						
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**59.84**	**326**	P	**P**	**07 29 23.4**	**+0.5**
MKAR	**Makanchi Array**	**59.84**	**326**	P	**P**	**07 29 23.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=116,slow=7.8,SNR=8.9						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Array**	**64.05**	**328**	P	**P**	**07 29 51.2**	**+0.4**
	comp=Z,4.7nm,0.2s,baz=135,slow=6.7,SNR=4.3						
	comp=Z,4.7nm,0.2s						
SEY	**Seymchan**	**64.10**	**12**	P	**P**	**07 29 50.5**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=222,slow=5.6,SNR=5.9						
	comp=Z,1.7nm,0.4s						
BVAR	**Borovoye Array**	**69.62**	**327**	P	**P**	**07 30 26.3**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=76,slow=7.7,SNR=2.3						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**74.37**	**321**	P	**P**	**07 30 53.8**	**-0.5**
C19K	**Lookout Ridge**	**82.63**	**20**	P	**P**	**07 31 41.2**	**+2.0**
D19K	**Kuna River**	**82.99**	**21**	P	**P**	**07 31 42.1**	**+1.1**
D19K				IAmb	IAmb	07 32 10.5	
	comp=Z,14nm,1.4s						
E19K	**Redstone River**	**83.07**	**22**	P	**P**	**07 31 42.1**	**+0.7**
E19K				IAmb	IAmb	07 31 53.0	
	comp=Z,10nm,1.4s						
F20K	**Avaraart Lake**	**83.55**	**23**	P	**P**	**07 31 45.3**	**+1.4**
F20K				IAmb	IAmb	07 32 03.3	
	comp=Z,8.6nm,1.4s						
E22K	**Anaktuvuk Pass**	**85.22**	**22**	P	**P**	**07 31 53.0**	**+0.6**
E22K				IAmb	IAmb	07 32 10.6	
	comp=Z,10nm,1.4s						
D23K	**Nanushuk River**	**85.74**	**21**	P	**P**	**07 31 55.8**	**+1.0**
D23K				IAmb	IAmb	07 32 04.4	
	comp=Z,4.9nm,1.1s						
C23K	**Itkillik River**	**85.87**	**20**	P	**P**	**07 31 55.6**	**+0.2**
BMAR	**Burnt Mountain**	**87.90**	**23**	P	**P**	**07 32 05.5**	**+0.2**
QSPA	**South Pole Qui**	**91.36**	**180**	P	**P**	**07 32 21.8**	**+0.2**
QSPA				IAmb	IAmb	07 32 24.7	
	comp=Z,6.6nm,1.5s						

IDC ***03*** *07:25:21.9±2.7, 4″.76S×80″.25W, h133km±25km, mb3.3/4, mbtmp3.6/7, MS2.6/2, Error ellipse: s-maj=46.0km s-min=22.2km az=55.0*
ISC 03 07:25:22.9±0.9, 4°.9S±0°.2×80°.4W±0°.2, h150km, n11, σ1ᵍ76/12, mb3.4/4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.97**	**139**	P	**Pn**	**07 26 07.8**	**-2.4**
	15nm,0.3s,baz=339,slow=10,SNR=47						
ATAH				S	**Sn**	**07 26 48.5**	**+1.6**
	82nm,0.5s,baz=28,slow=7.2,SNR=6.1						
ATAH				LR	LR	07 26 50.5	
	comp=Z,42nm,21.8s,baz=5.1,slow=30						
NNA	**Nana**	**7.87**	**154**	P	**Pn**	**07 27 14.6**	**-0.1**
	5.2nm,0.4s,baz=304,slow=18,SNR=1.7						
NNA				S	**Sn**	**07 28 41.1**	**-1.4**
	3.9nm,0.4s,baz=46,slow=20,SNR=1.3						
LPAZ	**La Paz**	**16.50**	**134**	P	**Pn**	**07 29 07.8**	**+1.3**
	0.4nm,0.6s,baz=334,slow=7.7,SNR=4.7						
PCRV	**Puerto La Cruz**	**21.66**	**46**	LR	LR	07 38 54.0	
	comp=Z,46nm,19.1s,slow=38						
SIV	**San Ignacio**	**21.92**	**122**	P	**P**	**07 30 06.3**	**+1.8**
	1.0nm,0.7s,baz=287,slow=11,SNR=4.3						
	1.0nm,0.7s						
PDAR	**Pinedale Array**	**54.32**	**334**	P	**P**	**07 34 34.6**	**+0.5**
	0.3nm,0.7s,baz=142,slow=9.5,SNR=3.7						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**55.61**	**324**	P	**P**	**07 34 44.5**	**+1.0**
	0.5nm,0.7s,baz=136,slow=8.2,SNR=4.5						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**83.39**	**76**	P	**P**	**07 37 32.8**	**-1.2**
	1.2nm,0.3s,baz=267,slow=5.0,SNR=1.6						
QSPA	**South Pole Qui**	**85.20**	**180**	P	**P**	**07 37 44.2**	**+1.8**
	2.5nm,1.0s,baz=126,slow=8.7,SNR=11						
	2.5nm,1.0s						
ASAR	**Alice Springs**	**136.17**	**228**	PKP	**PKPdf**	**07 44 25.9**	**-1.5**
	0.3nm,0.7s,baz=116,slow=1.5,SNR=4.5						
WRA	**Warramunga Arr**	**137.91**	**233**	PKP	**PKiKP**	**07 44 30.7**	**-2.0**
	0.5nm,0.5s,baz=114,slow=2.1,SNR=5.8						

DJA ***03*** *07:39:04.3±0.3, 7″.5S±3″×10″.5E±″, h10km, M4.7/20, mB6.0/4, mb4.8/8, MLv4.4/20, Mw(mB)5.6/4*
ISC 03 07:39:04.7±1.5, 7°.52S±0°.08×104°.73E±0°.07, h27km, n25, σ1ᵍ42/29, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.32**	**47**	P	**Pn**	**07 39 26.8**	**-0.5**
SKJI	**Sukabumi**	**1.89**	**74**	P	**Pn**	**07 39 35.6**	**+0.4**
SKJI				S	**Sn**	**07 39 56.2**	**-1.9**
SBJI	**Serang**	**1.97**	**45**	P	**Pn**	**07 39 37.9**	**+1.6**
KASI	**Kota Agung**	**2.00**	**353**	P	**Pn**	**07 39 36.7**	**0.0**
KASI				S	**Sn**	**07 39 58.6**	**-2.2**
BLSI	**Bandar Lampung**	**2.20**	**14**	P	**Pn**	**07 39 39.8**	**+0.3**
DBJI	**Dramaga**	**2.23**	**65**	P	**Pn**	**07 39 41.3**	**+1.4**
DBJI				S	**Sn**	**07 40 06.5**	**0.0**
CNJI	**Cibinong**	**2.39**	**85**	P	**Pn**	**07 39 41.9**	**-0.2**
CNJI				S	**Sn**	**07 40 06.8**	**-3.8**
LWLI	**Liwa**	**2.57**	**345**	P	**Pn**	**07 39 45.8**	**+1.0**
BBJI	**Bungbulang**	**2.90**	**89**	P	**Pn**	**07 39 49.8**	**+0.6**
LEM	**Lembang**	**2.95**	**77**	P	**Pn**	**07 39 50.3**	**+0.3**
XMI	**Christmas Isla**	**3.06**	**162**	P	**Pn**	**07 39 51.2**	**-0.2**
MDSI	**Maura Dua**	**3.06**	**350**	P	**Pn**	**07 39 51.8**	**+0.4**
MNAI	**Manna**	**3.60**	**331**	P	**Pn**	**07 39 59.3**	**+0.5**
CMJI	**Cimerak**	**3.70**	**94**	P	**Pn**	**07 40 00.9**	**+0.8**
LHSI	**Lahat**	**3.86**	**342**	P	**Pn**	**07 40 03.1**	**+0.7**
KSI	**Kapahiang**	**4.39**	**331**	P	**Pn**	**07 40 10.3**	**+0.6**
UGM	**Wanagama**	**5.76**	**94**	P	**Pn**	**07 40 30.3**	**+1.8**
UGM	**Wanagama**	**5.76**	**94**	P	**Pn**	**07 40 30.3**	**+1.8**
	0.6nm109nm,0.7s						
WOJI	**Wonogiri, Jawa**	**6.15**	**93**	P	**Pn**	**07 40 34.6**	**+0.8**
	0.5nm42nm,0.8s						
PCJI	**Pacitan**	**6.42**	**96**	P	**Pn**	**07 40 39.0**	**+1.4**
	0.5nm121nm,1.2s						
PPSI	**Pulau Pagai**	**6.66**	**315**	P	**Pn**	**07 40 40.8**	**-0.1**
GMJI	**Gumukmas**	**8.67**	**96**	P	**Pn**	**07 41 10.0**	**+1.6**
JAGI	**Jajag, Banyuwa**	**9.38**	**96**	P	**Pn**	**07 41 20.7**	**+2.4**
JAGI	**Jajag, Banyuwa**	**9.38**	**96**	P	**Pn**	**07 41 19.7**	**+1.4**
PLAI	**Plampang**	**12.98**	**97**	P	**Pn**	**07 42 08.7**	**+1.1**

JMA ***03*** *07:55:53.4±0.1, 23°.7N±0°.4×12°2E±″, h0km, MV3.1/10, TAIWAN REGION*
TAP ***03*** *07:55:54.2, 23°.71N×121°.52E, h5km, ML3.5, B*
ISC 03 07:55:54.5±0.8, 23°.70N±0°.01×121°.57E±0°.02, h9km±4km, n115, σ0ᵍ71/173, 11C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03**	**297**	⇑*iP*	**Pg**	**07 55 55.8**	**-0.4**
TEGC				*i* S	**Sg**	**07 55 57.0**	**-0.3**
SHUL	**Shoufeng**	**0.09**	**356**	⇑P	**Pg**	**07 55 57.1**	**+0.3**
SHUL				S	**Sg**	**07 55 59.5**	**+1.0**
EGFH	**Guangfu**	**0.13**	**258**	*i* P	**Pg**	**07 55 56.7**	**-0.8**
EGFH				*eS*	**Sg**	**07 55 58.6**	**-0.9**
WARBT	**Fenglin Townsh**	**0.17**	**278**	⇑*iP*	**Pg**	**07 55 57.2**	**-0.9**
WARBT				S	**Sg**	**07 55 58.9**	**-1.7**
ESL	**Shilin**	**0.17**	**313**	⇓*iP*	**Pg**	**07 55 57.4**	**-0.7**
ESL				*eS*	**Sg**	**07 55 59.1**	**-1.5**
TEYL	**Yanliau Villag**	**0.17**	**9**	⇑*iP*	**Pg**	**07 55 59.6**	**+1.5**
TEYL				*eS*	**Sg**	**07 56 03.0**	**+2.3**
HGSD	**Ruisui**	**0.24**	**213**	⇓*iP*	**Pg**	**07 56 00.1**	**+0.7**
HGSD				*i* S	**Sg**	**07 56 04.4**	**+1.7**
ETM	**Tongmen**	**0.28**	**345**	P	**Pg**	**07 55 59.9**	**-0.2**
ETM				*eS*	**Sg**	**07 56 03.1**	**-0.7**
HWA	**Hwalien**	**0.28**	**7**	*eP*	**Pb**	**07 56 00.9**	**-0.9**
EHYH	**Wanrong**	**0.29**	**226**	*eP*	**Pg**	**07 55 60.0**	**-0.3**
EHYH				*eS*	**Sg**	**07 56 04.6**	**+0.5**
EHY	**Hungye**	**0.29**	**230**	⇑*iP*	**Pg**	**07 55 59.9**	**-0.5**
EHY				S	**Sg**	**07 56 03.4**	**-0.9**
LXIB	**Xiulin Townshi**	**0.35**	**336**	⇓*iP*	**Pg**	**07 56 01.2**	**-0.4**
LXIB				*i* S	**Sg**	**07 56 05.1**	**-1.1**
TWD	**Chiawan**	**0.38**	**4**	⇓*iP*	**Pg**	**07 56 02.1**	**+0.1**
TWD				*eS*	**Sb**	**07 56 08.8**	**-0.7**
YULB	**Yu-li**	**0.39**	**220**	P	**Pg**	**07 56 01.8**	**-0.4**
YULB	**Yu-li**	**0.39**	**220**	⇑*iP*	**Pg**	**07 56 02.0**	**-0.2**
YULB				*eS*	**Sb**	**07 56 09.4**	**-0.3**
ECBN	**Changbin**	**0.39**	**196**	*eP*	**Pb**	**07 56 03.2**	**-0.4**
ECBN				*eS*	**Sb**	**07 56 10.5**	**+0.7**
VWDT	**VWDT**	**0.40**	**278**	⇑*iP*	**Pg**	**07 56 01.9**	**-0.3**
VWDT				*eS*	**Sg**	**07 56 08.0**	**+0.5**
TWF1	**Yuli**	**0.42**	**216**	⇑*iP*	**Pg**	**07 56 02.7**	**0.0**
OWD	**Renai**	**0.44**	**306**	⇓*iP*	**Pg**	**07 56 02.7**	**-0.5**
OWD				*eS*	**Sg**	**07 56 08.3**	**-0.7**
ETL	**Fush Village**	**0.46**	**6**	*eP*	**Pg**	**07 56 03.6**	**0.0**
ETL				*eS*	**Sb**	**07 56 11.2**	**-0.8**
NACB	**Ninganchiao**	**0.48**	**3**	P	**Pg**	**07 56 03.4**	**-0.4**
NACB	**Ninganchiao**	**0.48**	**3**	⇓*iP*	**Pg**	**07 56 03.6**	**-0.2**
WUSB	**Renai**	**0.51**	**306**	P	**Pg**	**07 56 04.2**	**-0.2**
WUSB				*eS*	**Sg**	**07 56 10.7**	**-0.4**
ETLH	**Xiulin Townshi**	**0.52**	**351**	*eP*	**Pg**	**07 56 04.3**	**-0.2**
ETLH				*eS*	**Sb**	**07 56 12.7**	**-0.7**
CHKH	**Chenggong**	**0.53**	**198**	*eP*	**Pb**	**07 56 05.3**	**-0.6**
CHKH				*eS*	**Sb**	**07 56 14.7**	**+1.1**
WHF	**Hehuan Shan**	**0.53**	**328**	⇓*iP*	**Pg**	**07 56 04.3**	**-0.5**
WHF				*eS*	**Sg**	**07 56 11.2**	**-0.7**
FULB	**Fuli**	**0.56**	**207**	*eP*	**Pb**	**07 56 06.7**	**+0.3**
SSLB	**Suanglung**	**0.57**	**279**	P	**Pg**	**07 56 04.9**	**-0.6**
SSLB	**Suanglung**	**0.57**	**279**	⇑*iP*	**Pg**	**07 56 05.0**	**-0.6**
CHKT	**Chengkung**	**0.62**	**198**	*eP*	**Pb**	**07 56 07.1**	**-0.5**
CHKT				*i* S	**Sb**	**07 56 17.4**	**+1.0**
FUSS	**Fushou**	**0.62**	**332**	⇓*iP*	**Pg**	**07 56 06.4**	**-0.2**
FUSS				*i* S	**Sg**	**07 56 14.6**	**-0.3**
EHD	**Haiduan**	**0.64**	**212**	*i* P	**Pb**	**07 56 07.0**	**-0.9**
EHD				*eS*	**Sb**	**07 56 15.9**	**-1.0**
SMLT	**Sun Moon Lake**	**0.64**	**287**	⇓*iP*	**Pg**	**07 56 06.6**	**-0.3**
SMLT				*eS*	**Sg**	**07 56 14.8**	**-0.5**
EAHA	**Aohua**	**0.65**	**14**	*eP*	**Pg**	**07 56 06.7**	**-0.4**
WHYT	**Xinyi Township**	**0.66**	**270**	*eP*	**Pg**	**07 56 06.9**	**-0.3**
WHYT				*eS*	**Sg**	**07 56 15.8**	**0.0**
TWT	**Tachien**	**0.66**	**327**	⇓P	**Pg**	**07 56 07.3**	**0.0**
TWT				*eS*	**Sg**	**07 56 15.7**	**-0.3**
TDCB	**Techi**	**0.67**	**326**	P	**Pg**	**07 56 07.3**	**-0.1**
TDCB				*eS*	**Sg**	**07 56 15.6**	**-0.6**
ECS	**Chishang**	**0.68**	**208**	*eP*	**Pb**	**07 56 08.0**	**-0.5**
WCS	**Beigang Elemen**	**0.70**	**301**	*eP*	**Pg**	**07 56 08.1**	**+0.1**
WCS				S	**Sg**	**07 56 16.8**	**-0.4**
ELDTW	**Lidau**	**0.71**	**225**	*eP*	**Pg**	**07 56 07.5**	**-0.8**
ALS	**Alishan**	**0.72**	**255**	⇑*iP*	**Pg**	**07 56 08.5**	**0.0**
ALS				*eS*	**Sg**	**07 56 18.0**	**0.0**
ENA	**Nanau**	**0.75**	**12**	⇑*iP*	**Pg**	**07 56 08.8**	**0.0**
NNSB	**Datong**	**0.75**	**347**	⇓*iP*	**Pg**	**07 56 08.8**	**-0.2**
NNSB				*eS*	**Sg**	**07 56 18.8**	**0.0**
EDH	**Donghe**	**0.76**	**199**	*eP*	**Pb**	**07 56 09.2**	**-0.7**
NNS	**Nan Shan**	**0.76**	**346**	⇓*iP*	**Pg**	**07 56 09.0**	**-0.2**
NNS				*eS*	**Sb**	**07 56 20.4**	**-0.2**
EWUT	**Wuta**	**0.77**	**14**	*eP*	**Pb**	**07 56 09.5**	**-0.6**
WJS	**Zhushan**	**0.78**	**279**	*eP*	**Pb**	**07 56 10.5**	**+0.2**
EOS4	**EOS4**	**0.81**	**58**	*eP*	**Pb**	**07 56 10.7**	**+0.2**
EOS4				*i* S	**Sn**	**07 56 23.1**	**-0.6**
WHP	**Taichung City**	**0.81**	**316**	*eP*	**Pb**	**07 56 10.2**	**-0.7**
WHP				*eS*	**Sg**	**07 56 20.2**	**-0.6**
WNT	**Mingjian**	**0.83**	**283**	*eP*	**Pb**	**07 56 11.1**	**0.0**
LATG	**Datong**	**0.84**	**357**	*eP*	**Pg**	**07 56 10.4**	**-0.3**
LONT	**Longtian**	**0.88**	**207**	*eP*	**Pb**	**07 56 11.4**	**-0.7**
STYH	**Taoyuan**	**0.90**	**234**	*eP*	**Pg**	**07 56 11.4**	**-0.4**
STYH				*eS*	**Sb**	**07 56 23.8**	**-0.5**
ESAO	**Su ao**	**0.91**	**16**	*eP*	**Pn**	**07 56 13.1**	**-0.4**
WCKO	**Fanlu**	**0.92**	**254**	*eP*	**Pb**	**07 56 12.9**	**+0.2**
WGK	**Gukeng**	**0.92**	**270**	*eP*	**Pn**	**07 56 13.2**	**-0.4**
ENTT	**Nioudou**	**0.94**	**360**	*eP*	**Pb**	**07 56 12.6**	**-0.4**
ENTT				*eS*	**Sb**	**07 56 25.9**	**+0.3**
NDS	**Dongshan**	**0.94**	**8**	*eP*	**Pg**	**07 56 10.9**	**-1.8**
NDS				*eS*	**Sg**	**07 56 24.9**	**-0.1**
TWC	**Suao**	**0.94**	**16**	*eP*	**Pb**	**07 56 12.9**	**-0.1**
WDLH	**Douliu**	**0.94**	**270**	P	**Pn**	**07 56 13.8**	**-0.2**
WDLH				*eS*	**Sb**	**07 56 25.9**	**+0.2**
TPUB	**Ta-pu**	**0.95**	**246**	P	**Pg**	**07 56 13.2**	**+0.1**
TPUB	**Ta-pu**	**0.95**	**246**	P	**Pb**	**07 56 13.3**	**+0.1**
TPUB				*eS*	**Sg**	**07 56 25.1**	**0.0**
TWQ1	**Liyutan**	**0.97**	**312**	*eP*	**Pn**	**07 56 14.6**	**+0.2**
TWQ1				*eS*	**Sb**	**07 56 26.3**	**-0.3**
TWG	**Pinlang**	**0.98**	**208**	*eP*	**Pb**	**07 56 13.1**	**-0.6**
TWGBT	**Beinan**	**0.98**	**207**	P	**P

ACON	**Acoyapa**	**1.86**	**78**	S	Sn	08 00 00.9	+0.9
ACON	**Acoyapa**	**1.86**	**78**	P	Pn	07 59 36.4	-0.7
RCPN	**Sur Rio San Ju**	**2.13**	**26**	P	Pn	07 59 40.9	0.0
RCVN	**Varillal2**	**2.14**	**23**	S	Sn	08 00 08.6	+1.5
RCVN	**Varillal2**	**2.14**	**23**	P	Pn	07 59 40.7	-0.5

*NEIC **03** 08:08:05.6, 45.87N×111.37W, h3km*
*BUT **03** 08:08:06.1±1.0, 45.86N±0.02×111.37W±0.02, h1km±1km, Error ellipse: s-maj=2.4km s-min=2.0km az=50.0*
NEIC 03 08:08:05.4±1.0, **45.89N**±0.02×**111.36W**±0.02, **h3**km±3km, **ML3.5**/52, **Mwr3.4**/18, **ML3.7**/27(BUT), **Error ellipse: s-maj=2.6km s-min=2.0km az=47.0, Moment Tensor Solution. Moment tensor: Scale** 10^{14}**Nm;** M_{rr}-0.16; $M_{\theta\theta}$-1.09; $M_{\phi\phi}$1.25; $M_{r\theta}$-0.67; $M_{r\phi}$-0.86; $M_{\theta\phi}$0.17; **Fault plane solution:** M_{o}1.61000×10^{14} **NP1:**ϕ_s25.19000°, δ64.92000°, λ-7.44000°. **NP2:**ϕ_s118.36000°, δ83.27000°, λ-154.73000°. **Principal axes:** T 1.6122, Plg13.0000°, Azm249.0000°; N 0.0037, Plg64.0000°, Azm132.0000°; P -1.6159, Plg22.0000°, Azm345.0000°; **Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin River**	**0.03**	**44**		Pg	08 08 07.2	+0.9
NQMA					Sg	08 08 08.3	+1.4
SXM	**Sixmile**	**0.28**	**22**		Pb	08 08 12.4	-1.0
BOZ	**Bozeman (W)**	**0.35**	**213**		Pg	08 08 12.6	+0.5
BOZ				Sg	Sg	08 08 16.9	+0.3
BOZ				IAML		08 08 17.2	
	4μm,0.3s						
BOZ				IAML		08 08 17.4	
	9μm,0.2s						
BZMT	**Bozeman Pass**	**0.46**	**121**		Pg	08 08 15.2	+1.0
MSMT	**Mission Creek**	**0.75**	**110**		Pb	08 08 20.5	-0.7
LRM	**Limekiln Ridge**	**0.77**	**266**		Pg	08 08 20.6	+0.4
BGMT	**Barton Gulch**	**0.81**	**217**		Pg	08 08 21.3	+0.3
BUT	**Butte**	**0.85**	**279**		Pb	08 08 22.4	-0.6
HBMT	**Mount Humbug**	**0.88**	**264**		Pg	08 08 22.7	+0.4
HRY	**Holter Researc**	**0.89**	**339**	Pg	Pb	08 08 23.2	-0.4
DLMT	**Dillon**	**1.01**	**239**		Pg	08 08 24.9	+0.1
DLMT				Sg	Sg	08 08 37.8	-0.2
DLMT				IAML		08 08 42.3	
	1μm,0.6s						
DLMT				IAML		08 08 42.4	
	1μm,0.4s						
YMV	**Mammoth Vault**	**1.03**	**152**		Pg	08 08 25.2	+0.1
YHL	**Hebgen Lake**	**1.04**	**173**		Pg	08 08 25.3	-0.1
YHL				IAML		08 08 43.2	
	comp=E,2μm,0.7s						
YHL				IAML		08 08 43.5	
	comp=N,2μm,0.5s						
QLMT	**Earthquake Lak**	**1.06**	**183**		Pg	08 08 25.3	-0.4
BEMT	**Mount Belmont**	**1.09**	**322**		Pb	08 08 27.2	0.0
GCR	**Grayling Creek**	**1.10**	**171**		Pg	08 08 26.6	0.0
YHB	**Horse Butte**	**1.14**	**174**		Pg	08 08 27.0	-0.3
YHB	**Horse Butte**	**1.14**	**174**	IAML		08 08 45.3	
	comp=E,2μm,0.6s						
YHH	**Holmes Hill**	**1.15**	**162**		Pg	08 08 27.3	-0.3
YMC	**Maple Creek**	**1.15**	**167**		Pg	08 08 27.2	-0.3
TPMT	**Tepee Creek**	**1.18**	**191**		Pg	08 08 28.0	0.0
YPDC	**Denny Creek**	**1.18**	**176**		Pg	08 08 27.8	-0.2
YNM	**Yellowstone No**	**1.25**	**158**		Pg	08 08 28.2	-1.2
YNM				Sg	Sg	08 08 44.9	-0.6
YNM				IAML		08 08 50.8	
	comp=E,684nm,0.3s						
YNM				IAML		08 08 55.9	
	comp=N,453nm,0.5s						
LYMT	**Lyon Mountain**	**1.26**	**330**	Pg	Pn	08 08 30.2	0.0
YNR	**Norris Junctio**	**1.27**	**157**		Pg	08 08 29.5	-0.2
YNR	**Norris Junctio**	**1.27**	**157**	IAML		08 08 50.6	
	comp=N,495nm,0.4s						
YNR				IAML		08 08 57.1	
	comp=E,546nm,0.4s						
YPM	**Purple Mountai**	**1.28**	**164**		Pg	08 08 29.9	0.0
YNE	**Yellowstone No**	**1.29**	**132**		Pg	08 08 30.0	-0.2
YNE	**Yellowstone No**	**1.29**	**132**	IAML		08 08 50.3	
	comp=E,1μm,0.5s						
YPSB	**Soda Butte**	**1.31**	**139**		Pg	08 08 30.4	-0.2
YUF	**Upper Falls**	**1.32**	**153**		Pg	08 08 30.7	0.0
CMI	**Centennial Mou**	**1.37**	**188**		Pg	08 08 31.4	-0.4
YMP	**Mirror Lake Pl**	**1.43**	**143**		Pn	08 08 31.6	-0.9
YFT	**Old Faithful**	**1.48**	**165**		Pn	08 08 33.0	-0.2
MOMT	**Monida**	**1.48**	**210**		Pb	08 08 33.8	0.0
YPPC	**Pelican Cone**	**1.49**	**146**		Pg	08 08 35.1	+1.2
MCMT	**McKenzie Canyo**	**1.49**	**225**		Pn	08 08 33.6	+0.2
YLT	**Little Thumb C**	**1.55**	**159**		Pg	08 08 36.2	+1.2
BPMT	**Black Pine Rid**	**1.55**	**292**		Pn	08 08 34.3	0.0
OVMT	**Ovando**	**1.64**	**317**		Pb	08 08 35.8	-0.5
RLMT	**Red Lodge**	**1.66**	**117**		Pn	08 08 36.0	+0.3
CHMT	**Chamberlain Mo**	**1.67**	**309**		Pn	08 08 36.0	+0.2
YTP	**The Promontory**	**1.68**	**153**		Pb	08 08 37.1	0.0
MCID	**Moose Creek**	**1.70**	**176**		Pb	08 08 37.4	-0.1
SLMT	**Seeley Lake**	**2.00**	**313**		Pn	08 08 40.2	-0.1
MSO	**Missoula**	**2.02**	**299**		Pn	08 08 40.9	+0.4
MSO				IAML		08 09 13.5	
	comp=E,513nm,0.7s						
MSO				IAML		08 09 14.5	
	comp=E,597nm,0.9s						
VCMT	**Victor**	**2.04**	**287**		Pn	08 08 41.0	+0.1
PCMT	**Pistol Creek**	**2.27**	**307**		Pg	08 08 48.6	-0.3
LOHW	**Long Hollow**	**2.34**	**166**		Pn	08 08 45.3	+0.4
EGMT	**Eagleton**	**2.41**	**27**		Pn	08 08 46.8	+1.0
ALMT	**Alberton, Mont**	**2.42**	**299**		Pg	08 08 51.8	0.0
SWMT	**Swartz Lake**	**2.44**	**313**		Pn	08 08 46.5	+0.2
FBMT	**Ferry Basin**	**2.60**	**307**		Pn	08 08 49.3	+0.7
YBMT	**Yellow Bay**	**2.69**	**318**		Pn	08 08 51.0	+1.2
JTMT	**Jette**	**2.74**	**314**		Pn	08 08 51.0	+0.5
NDMT	**Ninemile Divid**	**2.75**	**301**		Pn	08 08 51.8	+1.2
MKMT	**Mink Peak**	**2.87**	**296**		Pn	08 08 53.5	+1.3
BHMT	**Big Hole Peak**	**3.05**	**305**		Pn	08 08 56.5	+1.8
BSMT	**Bassoo Peak**	**3.07**	**311**		Pn	08 08 55.8	+0.8
HLID	**Hailey**	**3.18**	**224**	Pn	Pn	08 08 56.8	+0.2
HLID				IAML		08 09 45.1	
	comp=E,225nm,0.4s						
HLID				IAML		08 09 50.1	
	comp=E,180nm,0.7s						
PLID	**Pearl Lake**	**3.36**	**258**		Pn	08 08 59.1	0.0
PLID	**Pearl Lake**	**3.36**	**258**	IAML		08 09 54.7	
	comp=E,79nm,0.8s						
PLID				IAML		08 09 58.3	
	comp=E,66nm,0.7s						
BW06	**Boulder Array**	**3.38**	**157**		Pn	08 09 00.3	+1.0
PD31	**Pinedale Array**	**3.38**	**157**		Pn	08 09 00.4	+1.1
LAO	**LASA Array**	**3.65**	**75**		Pn	08 09 04.0	+1.1
LDM	**Libby Dam**	**3.73**	**315**		Pb	08 09 11.5	-0.5
MFID	**Camas Ranch**	**4.03**	**234**		Pn	08 09 09.3	+1.1
HWUT	**Hardware Ranch**	**4.28**	**182**	Pn	Pn	08 09 13.1	+1.4
BMO	**Blue Mountains**	**4.32**	**258**		Pn	08 09 12.6	+0.5
BMO				IAML		08 10 26.6	
	comp=E,25nm,0.8s						
LNOR	**Lincton Mounta**	**4.84**	**272**		Pn	08 09 19.1	-0.1
LNOR				IAML		08 10 41.8	
	comp=N,47nm,1.2s						
LNOR				IAML		08 10 52.7	
	comp=E,33nm,0.7s						
BGU	**Big Grassy Mou**	**5.11**	**194**	Pn	Pn	08 09 21.5	-1.5
YPT	**Yellepit**	**5.30**	**274**	Pn	Pn	08 09 25.2	-0.3
YPT				IAML		08 11 05.7	
	comp=E,24nm,0.9s						
YPT				IAML		08 11 09.0	
	comp=N,27nm,0.8s						
D08A	**Wollman Farm,**	**5.35**	**285**	Pn	Pn	08 09 26.1	-0.1
D08A				IAML		08 11 05.7	
	comp=E,31nm,1.0s						
G08A	**Pilot Rock**	**5.37**	**266**		Pn	08 09 27.3	+0.7
G08A				IAML		08 11 16.5	
	comp=N,13nm,0.9s						
G08A				IAML		08 11 30.0	
	comp=E,12nm,0.7s						
RSSD	**Black Hills**	**5.48**	**106**		Pn	08 09 29.8	+1.6
DGMT	**Dagmar**	**5.53**	**60**		Pn	08 09 29.4	+0.8
J08A	**Circle Bar Ran**	**5.67**	**246**		Pn	08 09 31.5	+0.7
HAWA	**Hanford**	**5.70**	**278**		Pn	08 09 30.7	-0.3
ELK	**Elko**	**5.87**	**210**		Pn	08 09 32.8	-0.7
B08A	**Colville Reser**	**5.98**	**297**	Pn	Pn	08 09 35.4	+0.5
MXC	**Moxie City**	**6.24**	**280**		Pn	08 09 37.9	-0.5
WVOR	**Wild Horse Val**	**6.27**	**239**		Pn	08 09 39.5	+0.6
PINE	**Pine Mountain**	**7.13**	**256**	Pn	Pn	08 09 51.2	+0.4
ISCO	**Idaho Springs**	**7.40**	**143**	Pn	Pn	08 09 55.9	+1.3
J05D	**Fort Rock, OR**	**7.51**	**253**	Pn	Pn	08 09 56.6	+0.6

*NNC **03** 08:09:09.0±3.8, 38.24N×69.75E, h0km, mb4.7, mpv4.0*
Error ellipse: s-maj=30.3km s-min=20.5km az=176.0
*IDC **03** 08:09:12.6±0.8, 38.56N×70.05E, h0km, mb3.8/15, mbtmp3.9/23, ML3.6/7, MS3.0/4, Error ellipse: s-maj=12.5km s-min=9.8km az=153.0*
*MOS **03** 08:09:14.6±1.5, 38.85N×70.01E, h13km, mb4.2/6, Error ellipse: s-maj=8.3km s-min=5.4km az=95.4*
*NEIC **03** 08:09:15.2±1.3, 38.79N±0.05×70.12E±0.04, h10km±1km, mb4.5/7, Error ellipse: s-maj=8.9km s-min=5.9km az=355.0*
ISC 03 08:09:16.6±1.1, **38.87N**±0.04×**70.22E**±0.04, **h16**km±7km, **n102**, σ**2**.918/117, **mb4.1**/27, **MS3.1**/6, **10C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.15**	**29**		Pg	08 09 20.4	-0.4
GAR				Sg	Sb	08 09 25.0	+0.8
KK31	**Karatay Array**	**4.24**	**3**		Pn	08 10 23.2	+2.7
KK31	**Karatay Array**	**4.24**	**3**	P	Pn	08 10 23.8	+3.3
	14nm,0.4s,baz=198,slow=19,SNR=172						
KK31				⇑S	Sb	08 11 23.1	+1.4
	115nm,0.6s,baz=181,slow=28,SNR=5.3						
KK31	**Karatay Array**	**4.24**	**3**	PN	Pn	08 10 23.8	+3.3
KK31				S	Sb	08 11 23.6	+1.9
KKAR	**Karatay Array**	**4.24**	**3**		Pn	08 10 23.2	+2.7
KKAR	**Karatay Array**	**4.24**	**3**	PN	Pn	08 10 23.2	+2.7
KBL	**Kabul**	**4.42**	**193**		Pn	08 10 24.5	+1.3
KBL	**Kabul**	**4.42**	**193**	PN	Pn	08 10 24.5	+1.3
KSH	**Kashi**	**4.51**	**80**	Pn	Pn	08 10 22.2	-2.2
KSH				Sn	Sb	08 11 32.1	+2.4
KSH				smax	smax		
	comp=N,250nm,0.6s						
KSH				smax	smax		
	comp=E,190nm,1.0s						
EKS2	**Erkin-Say**	**4.65**	**34**	P	Pb	08 10 32.4	-5.5
	SNR=15						
AAK	**Ala-Archa**	**4.97**	**39**		Pn	08 10 31.8	+1.1
AAK	**Ala-Archa**	**4.97**	**39**	Pn	Pn	08 10 35.7	+5.0
	comp=E,8.0nm,0.3s,baz=175,slow=4.4,SNR=16						
AAK				Sn	Sb	08 11 37.5	-5.4
	comp=E,6.9nm,0.3s,baz=184,slow=14,SNR=3.7						
AAK				Lg	Lg	08 12 00.1	
	comp=E,5.9nm,0.3s,baz=219,slow=14,SNR=4.6						
	comp=E,18nm,0.3s						
AAK	**Ala-Archa**	**4.97**	**39**	P	Pn	08 10 36.7	+6.0
	SNR=15						
AAK	**Ala-Archa**	**4.97**	**39**	⇑P	Pn	08 10 36.3	+5.6
	comp=E,4.4nm,0.4s						
AAK				⇓S	Sb	08 11 40.8	-2.0
	comp=E,54nm,0.8s						
FRU1	**Bishkek**	**5.17**	**39**	Pn	Pn	08 10 36.9	+3.6
FRU1	**Bishkek**	**5.17**	**39**	PN	Pn	08 10 36.9	+3.6
KBK	**Karagaybulak**	**5.21**	**42**	P	Pb	08 10 42.1	-5.4
	SNR=10						
CHMS	**Chumysh**	**5.37**	**38**	P	Pn	08 10 42.1	+6.1
	SNR=13						
USP	**Ospenovka**	**5.46**	**35**	P	Pn	08 10 40.8	+3.6
	SNR=20						
BOOM	**Boomskoye usch**	**5.66**	**48**		Pn	08 10 43.0	+2.9
BOOM	**Boomskoye usch**	**5.66**	**48**	PN	Pn	08 10 43.0	+2.9
ULHL	**Ulahol**	**5.69**	**52**	P	Pn	08 10 46.9	+6.3
	SNR=16						
TKM2	**Tokmak 2**	**5.74**	**43**	P	Pn	08 10 47.2	+5.8
	SNR=8.4						
NIL	**Nilore**	**5.75**	**154**		Pn	08 10 43.9	+2.5
NIL	**Nilore**	**5.75**	**154**	PN	Pn	08 10 43.9	+2.5
SRNI	**Srinagar**	**6.04**	**141**	*e*P	Pb	08 11 05.2	+3.7
SRNI				*e*S	Sb	08 12 11.4	-2.1
SRNI				IAML		08 12 11.6	
	comp=N,410nm,0.2s						
SRNI				IAML		08 12 11.8	
	comp=E,505nm,0.3s						
KDJ	**Kajisay**	**6.22**	**56**		Pn	08 10 51.6	+3.7
KDJ	**Kajisay**	**6.22**	**56**	PN	Pn	08 10 51.6	+3.7
DHRM	**DHARAMSHALA**	**8.25**	**141**	*e*P	Pb	08 11 35.2	-4.0
DHRM				IAML		08 12 56.8	
	comp=N,60nm,0.6s						
DHRM				IAML		08 12 58.1	
	comp=E,72nm,0.6s						
DHRM				*e*S	Sn	08 13 02.6	+14
TLWR	**Talawar**	**8.33**	**144**	*e*P	Pb	08 11 36.1	-4.4
TLWR				*e*S	Sn	08 13 04.1	+14
MAKZ	**Makanchi**	**11.71**	**44**	Pn	Pn	08 12 05.1	+2.1
MAKZ	**Makanchi**	**11.71**	**44**	P	Pn	08 12 05.1	+2.1
MK31	**Makanchi Array**	**11.87**	**44**	Pn	Pn	08 12 05.2	0.0
MK31	**Makanchi Array**	**11.87**	**44**	*i* P	Pn	08 12 07.3	+2.1
MKAR	**Makanchi Array**	**11.87**	**44**	Pn	Pn	08 12 04.7	-0.5
MKAR	**Makanchi Array**	**11.87**	**44**	Pn	Pn	08 12 07.7	+2.5
	comp=E,0.1nm,0.3s,baz=232,slow=16,SNR=4.6						
MKAR				Lg	Lg	08 15 38.6	
	comp=E,0.2nm,0.3s,baz=240,slow=28,SNR=3.3						
	comp=E,0.5nm,0.7s						
AB31	**Akbulak array**	**12.73**	**328**		Pn	08 12 15.2	-1.7
AB31	**Akbulak array**	**12.73**	**328**	⇓P	Pn	08 12 14.5	-2.4
	comp=E,6.9nm,0.4s						
AB31				⇑S	Sn	08 14 42.1	+3.8
	comp=E,19nm,0.8s						
AB31	**Akbulak array**	**12.73**	**328**	P	Pn	08 12 14.5	-2.4
AB31				S	Sn	08 14 42.5	+4.3
ABKAR	**Akbulak array**	**12.73**	**328**		Pn	08 12 15.0	-1.9
KURBB	**Kurchatov Arra**	**13.14**	**24**	Pn	Pn	08 12 21.9	-0.5
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=6.7						
KURBB				Sn	Sn	08 14 47.7	-0.4
	baz=297,slow=36,SNR=1.6						
KURBB				Lg	Lg	08 16 18.8	
	comp=E,0.1nm,0.3s,baz=214,slow=32,SNR=5.8						
	comp=E,0.9nm,0.6s						
KURK	**Kurchatov**	**13.25**	**24**	Pn	Pn	08 12 24.9	+0.9
KURK	**Kurchatov**	**13.25**	**24**	P	Pn	08 12 21.9	-2.0
KURK						08 14 47.7	
WMQ	**Urumqi**	**14.02**	**64**	*e*P	Pn	08 12 38.0	+3.4
WMQ				LR	LR		
	comp=Z,320nm,24.1s						
BVAR	**Borovoye Array**	**14.16**	**0**	Pn	Pn	08 12 36.1	-0.2
	comp=Z,0.1nm,0.3s,baz=163,slow=11,SNR=13						
BVAR				Sn	Sn	08 15 08.9	-4.2
	baz=162,slow=30,SNR=1.7						
BVAR				Lg	Lg	08 16 53.4	
	baz=185,slow=25,SNR=1.4						
BVAR				LR	LR	08 18 28.5	
	comp=Z,67nm,18.3s,baz=209,slow=38						
	comp=Z,3.8nm,0.6s						
BRVK	**Borovoye**	**14.19**	**0**		Pn	08 12 36.2	-0.6
BRVK	**Borovoye**	**14.19**	**0**	*ce*P	Pn	08 12 36.7	-0.1
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
AKTO	**Aktyubinsk**	**14.44**	**327**	Pn	Pn	08 12 38.6	-1.6
	comp=Z,1.1nm,0.3s,baz=138,slow=12,SNR=15						
AKTO				Sn	Sn	08 15 14.4	-5.5
	comp=Z,0.3nm,0.3s,baz=207,slow=20,SNR=4.8						
AKTO				Lg	Lg	08 16 55.7	
	comp=Z,0.1nm,0.3s,baz=216,slow=15,SNR=3.8						
AKTO				LR	LR	08 18 34.1	
	comp=Z,37nm,20.2s,baz=27,slow=38						
	comp=Z,6.2nm,0.6s						
AKTO	**Aktyubinsk**	**14.44**	**327**	⇓P	Pn	08 12 38.2	-2.0
	comp=Z,28nm,0.8s						
AKTO				⇑S	Sn	08 15 25.2	+5.3
	comp=Z,9.8nm,1.1s						
ZAA0	**Zalesovo Array**	**18.08**	**29**		P	08 13 27.8	+0.7
ZALV	**Zalesovo Beam**	**18.08**	**29**	P	P	08 13 27.3	+0.2
ZALV	**Zalesovo Beam**	**18.08**	**29**	P	P	08 13 27.7	+0.5
	comp=Z,0.5nm,0.3s,baz=222,slow=11,SNR=11						
	comp=Z,2.7nm,0.5s						
ARTI	**Arti**	**19.21**	**340**	P	P	08 13 39.1	-0.6
ARTI				IAmb	IAmb	08 13 52.2	
	comp=Z,9.2nm,0.6s						
ARTI	**Arti**	**19.21**	**340**	P	P	08 13 38.7	-0.9
	comp=Z,0.7nm,0.3s,baz=174,slow=7.0,SNR=7.1						
ARTI				Lg	Lg	08 19 29.3	
	comp=Z,0.1nm,0.3s,baz=203,slow=16,SNR=1.5						
	comp=Z,3.8nm,0.5s						
ARTI	**Arti**	**19.21**	**340**	*d i* P	P	08 13 39.0	-0.6
ARTI				S	S	08 17 17.3	+0.7
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARTI				MLR	MLR		
	comp=Z,119nm,13.0s						
GNI	**Garni**	**19.69**	**282**	P	P	08 13 44.4	-0.8
	comp=Z,3.6nm,0.4s,baz=170,slow=2.8,SNR=3.4						
GNI	**Garni**	**19.69**	**282**	*i* P	Pn	08 13 46.2	-0.4
GNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BELG	**Belogornoye**	**20.69**	**318**	P	P	08 13 54.2	-1.5
	comp=Z,35nm,0.8s,baz=6.3,slow=18,SNR=15						
	comp=Z,35nm,0.8s						
BELG	**Belogornoye**	**20.69**	**318**	*i* P	P	08 13 54.7	-1.0
BELG				pmax	pmax		
	comp=Z,12nm,1.1s						
KBZ	**Khabaz**	**21.05**	**292**	P	P	08 13 57.0	-2.8
	comp=Z,1.2nm,0.7s,baz=118,slow=6.8,SNR=7.4						
	comp=Z,1.2nm,0.7s						
KBZ	**Khabaz**	**21.05**	**292**	*ce*P	P	08 13 56.9	-2.8
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**21.22**	**293**	*e*P	P	08 14 02.7	+1.0
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,19nm,14.0s						
SHA1	**Shidzhatmaz**	**21.23**	**292**	*i* P	P	08 14 02.5	+0.6
GTA	**Gaotai**	**22.92**	**79**	*e*P	P	08 14 20.8	+0.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SOC	**Sochi**	**23.35**	**291**	*e*P	P	08 14 20.2	-3.9
SOC				*e*PPP	PPP	08 14 59.0	
SOC				*e*S	S	08 18 32.7	-3.5
SOC				*e*SS	SnSn	08 19 15.0	+3.9
SOC				*e*SSS	SSS	08 19 30.2	
SOC				MLR	MLR		
	comp=Z,134nm,19.0s						
VRH	**Novokhopyorsk**	**23.45**	**311**	*e*P	P	08 14 24.6	-0.4
KIRV	**Kirov**	**23.85**	**333**	*ce*P	P	08 14 26.6	-2.2
VORD	**Divnogorie**	**24.83**	**309**	*e*P	P	08 14 37.1	-0.7
VORD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VSR	**Storozhevoye**	**24.98**	**310**	*e*P	P	08 14 36.5	-2.7
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LPSR	**Galich'ya Gora**	**25.56**	**313**	*e*P	P	08 14 44.8	+0.3
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
OBN	**Obninsk**	**27.77**	**317**	*ce*P	P	08 15 05.0	+0.7
OBN				*e*		08 15 48.7	
OBN				pmax	pmax		
	comp=Z,11nm,0.5s						
OBN				MLR	MLR		
	comp=Z,23nm,16.0s						
BRTR	**Keskin Array B**	**28.20**	**283**	P	P	08 15 08.3	-0.4
BRTR	**Keskin Array B**	**28.20**	**283**	P	P	08 15 08.0	-0.7
	comp=Z,0.7nm,0.8s,baz=64,slow=5.6,SNR=5.0						
	comp=Z,0.7nm,0.8s						
BRTR	**Keskin Array B**	**28.20**	**283**	*ce*P	P	08 15 10.1	+1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**29.11**	**106**	P	P	08 15 18.4	+1.7
KLMR	**Klimovskoe**	**29.13**	**329**	*e*P	P	08 15 18.5	+2.1
KLMR				pmax	pmax		
	comp=Z,15nm,1.6s						
AKASG	**Malin Array Be**	**31.02**	**306**	P	P	08 15 31.7	-1.5
	comp=Z,0.7nm,0.6s,baz=83,slow=6.8,SNR=5.0						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**31.02**	**306**	*ce*P	P	08 15 33.5	+0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HHC	**Hu-ho-hao-te**	**31.59**	**73**	*e*P	P	08 15 38.9	+0.3
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,88nm,4.0s						
MNK	**Minsk**	**32.41**	**313**	*i* P	P	08 15 44.0	-1.4
	comp=E,42nm,0.7s						
MNK				*i* P	P	08 15 44.0	-1.4
	comp=N,28nm,0.8s						
MNK				*i* P	P	08 15 44.0	-1.4
	comp=Z,16nm,0.7s,baz=101						
MNK				*i* PP	PnPn	08 16 50.8	-1.5
MNK				*i* PPP	PPP	08 17 00.5	
MNK				*i* S	S	08 20 59.2	+0.1
MNK				*i* SS	SnSn	08 22 52.8	+1.0
MNK				*i* SSS	SSS	08 23 08.2	
MNK				*i* LR	LR	08 28 51.0	
MNK				*i* LRM	MLR	08 31 44.4	
	comp=Z,43nm,15.6s						
MNK	**Minsk**	**32.41**	**313**	*i* P	P	08 15 44.0	-1.4
MNK				*i*		08 16 50.7	
MNK				*i* S	S	08 20 59.1	+0.1
MNK				*i* SS	SnSn	08 22 52.8	+1.0
MNK				*i* SSS	SSS	08 23 08.1	
MNK				pmax	pmax		
	comp=Z,16nm,0.7s						
FINES	**FINESS Array B**	**35.19**	**324**	P	P	08 16 09.4	0.0
	comp=Z,1.1nm,0.6s,baz=118,slow=7.8,SNR=8.1						
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**38.73**	**337**	P	P	08 16 39.4	-0.1
	comp=Z,1.6nm,0.8s,baz=108,slow=7.8,SNR=5.8						
ARCES				LR	LR	08 33 45.8	
	comp=Z,36nm,21.5s,baz=114,slow=38						
	comp=Z,1.6nm,0.8s						
HFS	**Hagfors**	**40.84**	**320**	P	P	08 16 56.9	-0.3
	comp=Z,2.8nm,0.5s,baz=96,slow=11,SNR=22						
	comp=Z,2.8nm,0.5s						
NB2	**NORSAR Subarra**	**42.13**	**322**	P	P	08 17 06.9	-0.9
	comp=Z,1.2nm,0.6s,baz=94,slow=8.6						
NOA	**NORSAR Array B**	**42.13**	**322**	P	P	08 17 07.0	-0.9
	comp=Z,1.2nm,0.7s,baz=95,slow=8.2,SNR=8.3						
NOA				LR	LR	08 37 59.4	

comp=N,1µm,0.3s
IKRK AML AML 08 18 25.4
comp=E,1µm,0.2s
ILBA Ilam Banvizeh 1.39 166 Pg Pg 08 18 03.0 +0.2
SNQR Sonqor, Kerman 1.52 94 Pg Pn 08 18 03.2 +0.6
IBZA Bozab 1.78 106 Pg Pb 08 18 08.6 +0.3
MAHB Mahabad 1.79 358 Pg Pn 08 18 07.0 +0.8
IBDR Badra 1.87 176 *e*Pn **Pb 08 18 11.0 +1.4**
IBDR *e*Sn **Sg 08 18 36.0 -0.1**
BHD Baghdad 2.07 215 *e*Pn **Pb 08 18 13.0 0.0**
BHD *e*Sn **Sg 08 18 41.0 -1.5**
IDOB Doab 2.31 120 Pn **Pb 08 18 16.0 -1.2**
HGHA Hamedan- Ghaye 2.56 78 Pn **Pn 08 18 19.0 +2.0**
IHSH Hashtrud 2.61 27 Pn **Pn 08 18 18.8 +1.1**
IAZR Azarshahr 2.70 3 Pn **Pn 08 18 19.6 +0.7**
BDRS Dareh Seyedi 2.75 111 Pn **Pn 08 18 22.1 +2.5**
HAGD Aghdareh 2.76 92 Pn **Pn 08 18 21.7 +2.1**
QABG Abgarm-Qazvin 3.19 76 Pn **Pn 08 18 26.8 +1.3**
RAFI Al-Rafai 3.26 175 *e*Pn **Pn 08 18 29.0 +2.7**
RAFI *e*Sn **Sn 08 19 09.0 +4.3**
IHRS Heris 3.48 16 Pn **Pn 08 18 30.7 +1.1**
GRMI Germi 4.18 23 Pn **Pn 08 18 40.4 +1.3**
QAMS Qamsar 4.80 103 Pn **Pn 08 18 50.0 +2.2**
IPIR Pirpir 4.82 117 Pn **Pn 08 18 49.5 +1.4**
IKLH Kolahrood 5.08 107 Pn **Pn 08 18 53.6 +2.0**
GNI Garni 5.23 351 Pg **Pb 08 19 09.5 +2.5**
comp=E,2.6nm,0.3s,baz=173,slow=5.9,SNR=4.9
GNI Lg Lg 08 20 22.3
comp=E,0.4nm,0.3s,baz=252,slow=20,SNR=1.2
GNI LR LR 08 21 35.5
comp=E,13nm,21.7s,baz=122,slow=45
KRSH Karshahi 5.34 99 Pn **Pn 08 18 56.7 +1.6**
ISFB Sefidab 5.35 95 Pn **Pn 08 18 56.0 +0.9**
IZEF Zefreh 5.82 109 Pn **Pn 08 19 03.8 +2.0**
MMAI Mount Meron Ar 8.84 260 Pn Pn 08 19 37.1 -6.0
comp=E,1.9nm,0.3s,baz=155,slow=18,SNR=4.1
MMAI LR LR 08 24 07.2
comp=E,32nm,18.8s,baz=90,slow=46
comp=E,0.3nm,0.3s
WSAR Wadi Sarin 16.19 133 Pn **Pn 08 21 19.3 -3.5**
baz=301,slow=24,SNR=7.8
BVAR Borovoye Array 25.07 36 P **P 08 23 00.2 +0.8**
comp=E,0.8nm,0.4s,baz=245,slow=10,SNR=3.8
comp=E,0.8nm,0.4s
FINES FINESS Array B 29.32 341 P **P 08 23 36.8 -0.5**
comp=E,2.4nm,1.1s,baz=138,slow=8.2,SNR=1.2
comp=E,2.4nm,1.1s
MKAR Makanchi Array 29.75 55 P **P 08 23 42.1 +0.7**
comp=E,0.6nm,0.5s,baz=250,slow=9.8,SNR=6.6
comp=E,0.6nm,0.5s
HFS Hagfors 32.62 330 P **P 08 24 04.7 -1.8**
comp=E,0.8nm,0.5s,baz=138,slow=7.5,SNR=9.4
comp=E,0.8nm,0.5s
EKA Eskdalemuir Ar 39.06 317 P **P 08 25 00.4 -1.3**
comp=E,0.4nm,0.3s,baz=102,slow=8.7,SNR=8.9
comp=E,0.4nm,0.3s
ESDC Sonseca Array 39.43 292 P **P 08 25 03.7 -1.5**
comp=E,0.7nm,0.7s,baz=64,slow=8.3,SNR=8.9
comp=E,0.7nm,0.7s
SPITS Spitsbergen Ar 45.10 352 P **P 08 25 50.0 -0.8**
comp=E,0.3nm,0.3s,baz=132,slow=9.9,SNR=5.0
comp=E,0.3nm,0.3s

PRU 03 08:34:08.5, 50.29N×18.77E, 0 km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.66**	**96**	*e*Pg	Pg	08 34 20.2	-1.0
OJC				*e*Sg	Sg	08 34 28.9	-0.9
STEB	**Steborice**	**0.73**	**241**	*e*PG	Pg	08 34 22.5	0.0
STEB				*e*SG	Sg	08 34 32.8	+0.8
MORC	**Moravsky Berou**	**0.94**	**237**	*e*PG	Pg	08 34 26.4	-0.2
MORC				*e*SG	Sg	08 34 37.6	-1.2
LANS	**Liptovska Anna**	**1.23**	**158**	*e*PG	Pg	08 34 31.1	-0.9
LANS				*e*SG	Sg	08 34 47.0	-0.9
LANS				*e*LG	Lg	08 34 47.8	
KRLC	**Kraliky**	**1.30**	**261**	*e*PG	Pg	08 34 32.2	-1.1
KRLC				*e*SG	Sg	08 34 48.8	-1.3
	10nm,0.4s						
NIE	**Niedzica**	**1.32**	**131**	*e*Pg	Pg	08 34 33.3	-0.5
NIE				*e*Sg	Sg	08 34 51.2	+0.4
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG	Pn	08 34 37.4	-0.3
DPC				*e*SG	Sn	08 34 58.2	-0.5
	5.5nm,0.4s						
OSTC	**Ostas**	**1.66**	**280**	*e*SG	Sn	08 35 00.4	-0.4
VRAC	**Vranov**	**1.72**	**236**	*e*PN	Pn	08 34 39.6	-0.1
VRAC				*e*SG	Sn	08 35 02.3	0.0
VYHS	**Vyhne**	**1.80**	**179**	*e*PN	Pn	08 34 39.2	-1.6
VYHS				*e*SN	Sn	08 35 01.5	-2.8
STHS	**Stebnicka Huta**	**1.82**	**118**	*e*PN	Pn	08 34 40.8	-0.3
KRUC	**Moravsky**	**1.97**	**232**	*e*PN	Pn	08 34 42.1	-1.1
KRUC				*e*SG	Sb	08 35 10.5	+0.1
CKRC	**Cesky Krumlov**	**3.26**	**245**	*e*SG	Sg	08 35 50.4	-2.6
KHC	**Kasperske Hory**	**3.56**	**253**	*e*SG	Sg	08 36 00.9	-2.0

*IDC **03** 08:38:43.5±2.9, 18°.03S×65°.50W, h0km, mb5.5/1, mbtmp4.9/3, ML4.3/2, MS3.3/9, Error ellipse: s-maj=82.8km s-min=29.3km az=2.0*
*SCB **03** 08:38:44.8±1.4, 16°.96S×65°.52W, h6km±6km, ML3.8/2, MW3.5, Error ellipse: s-maj=4.1km s-min=3.8km az=0.0*
*VAO **03** 08:38:49.6±0.4, 16°.96S×65°.48W, h10km, mb4.3*
ISC 03 08:38:48.0±0.8, 16°.96S±0°.06×65°.63W±0°.04, h14km, n37, σ1s76/35, MS3.3/8, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOET	**ToroToro**	**1.16**	**189**	Pg	Pn	08 39 06.5	-3.7
SOET				Sg	**Sb**	**08 39 23.1**	**-2.1**
AOEA	**Aiquile**	**1.27**	**163**	Pg	Pn	08 39 07.9	-3.7
AOEA	**Aiquile**	**1.27**	**163**	Pg	Pn	08 39 08.0	-3.7
AOEA				Sg	Sn	08 39 24.5	-4.2
AOEA				IAML		08 39 33.1	
	2µm,0.9s						
BBOE	**La Paz, Chanca**	**2.26**	**273**	Pn	**Pb**	**08 39 30.2**	**+1.3**
BBOJ	**La Paz, Jacaqu**	**2.45**	**269**	Pn	**Pb**	**08 39 33.0**	**+0.8**
SOEJ	**Jacaque**	**2.45**	**269**	Pg	**Pb**	**08 39 33.1**	**+0.9**
SOEJ	**Jacaque**	**2.45**	**269**	Pn	**Pb**	**08 39 33.6**	**+1.4**
LPAZ	**La Paz**	**2.49**	**285**	Pn	**Pb**	**08 39 33.8**	**+0.9**
	32nm,0.3s,baz=119,slow=11,SNR=216						
LPAZ				Sn	**Sg**	**08 40 07.5**	**-0.7**
	67nm,0.3s,baz=13,slow=19,SNR=14						
LPAZ				LR	LR	08 40 45.4	
	comp=Z,134nm,18.7s,baz=96,slow=40						
	141nm,0.4s						
LPAZ	**La Paz**	**2.49**	**285**	Pn	**Pb**	**08 39 32.9**	**0.0**
LPAZ				Sn	**Sg**	**08 40 08.6**	**+0.4**
LPAZ				IAML		08 40 11.9	
	404nm,1.6s						
LPAZ	**La Paz**	**2.49**	**285**	*e*P	**Pb**	**08 39 32.3**	**-0.6**
LPAZ				*e*S	**Sg**	**08 40 05.8**	**-2.4**
BBOB	**La Paz, Bander**	**2.54**	**288**	Pn	**Pb**	**08 39 33.0**	**-0.6**
BBOB	**La Paz, Bander**	**2.54**	**288**	Pg	**Pb**	**08 39 33.8**	**+0.2**
SOEO	**Opoqueri**	**2.68**	**233**	Pg	**Pn**	**08 39 35.7**	**+4.6**
SOEO	**Opoqueri**	**2.68**	**233**	Pn	**Pb**	**08 39 36.0**	**0.0**
BBOD	**La Paz, Gloria**	**2.86**	**276**	Pn	**Pb**	**08 39 38.8**	**-0.4**
MOCB	**Mochara**	**4.27**	**180**	Pn	**Pn**	**08 39 56.4**	**+3.4**
SIV	**San Ignacio**	**4.48**	**78**	Pn	**Pn**	**08 39 57.4**	**+1.9**
	1.2nm,0.3s,baz=265,slow=10.0,SNR=264						
SIV				Sn	**Sn**	**08 40 50.3**	**+2.9**
	0.7nm,0.3s,baz=343,slow=17,SNR=3.8						
SIV				Lg	Lg	08 41 04.5	
	2.2nm,0.3s,baz=156,slow=18,SNR=9.6						
	46nm,0.5s						
SIV	**San Ignacio**	**4.48**	**78**	Pn	**Pn**	**08 39 57.6**	**+2.1**
BBSD	**Serra de San D**	**4.81**	**93**	Pn	**Pn**	**08 40 01.2**	**+1.2**
BBSD	**Serra de San D**	**4.81**	**93**	*e*P	**Pn**	**08 39 59.5**	**-0.5**
BBSD				*e*S	**Sn**	**08 40 55.2**	**-0.4**
YJA	**Yavi**	**5.19**	**179**	Pn	**Pn**	**08 40 09.2**	**+3.5**
PTLB	**Pontes e Lacer**	**6.42**	**77**	*e*P	**Pn**	**08 40 23.3**	**+1.2**
PTLB				*e*S	**Sn**	**08 41 34.6**	**-0.6**
BDQN	**Bodoquena, MS**	**9.10**	**114**	*e*P	**Pn**	**08 40 58.1**	**-0.9**
SALV	**Santo Antonio**	**9.59**	**85**	*e*P	**Pn**	**08 41 05.6**	**-0.2**
SALV				*e*S	**Sn**	**08 42 54.7**	**+1.2**
PDRB	**Porto dos Gac**	**10.13**	**60**	*e*P	**Pn**	**08 41 13.2**	**0.0**
PDRB				*e*S	**Sn**	**08 43 08.2**	**+1.4**
CLDB	**Colider**	**11.30**	**59**	*e*P	**Pn**	**08 41 29.6**	**+0.5**
ROSC	**El Rosal**	**23.30**	**338**	LR	LR	08 53 43.5	
	comp=Z,114nm,19.3s,baz=38,slow=37						
MDP	**Montagnes des**	**25.40**	**31**	LR	LR	08 54 36.2	
	comp=Z,118nm,19.0s,baz=160,slow=36						
PCRV	**Puerto La Cruz**	**26.98**	**2**	LR	LR	08 55 51.4	
	comp=Z,108nm,19.0s,slow=37						

JTS	**Las Juntas de**	**33.14**	**323**	LR	LR	08 58 37.9	
	comp=Z,48nm,18.5s,baz=78,slow=35						
SJG	**San Juan**	**34.86**	**359**	LR	LR	09 02 43.6	
	comp=Z,22nm,18.1s,baz=166,slow=40						
CMIG	**Matias Romero**	**44.45**	**318**	LR	LR	09 04 36.1	
	comp=Z,42nm,18.5s,baz=182,slow=34						
TKL	**Tuckaleechee C**	**55.09**	**342**	LR	LR	09 14 20.2	
	comp=Z,25nm,18.1s,baz=126,slow=38						
TXAR	**Lajitas Array**	**58.88**	**321**	LR	LR	09 17 11.6	
	comp=Z,13nm,19.1s,baz=340,slow=39						
TORD	**Torodi Ar. Bea**	**72.91**	**70**	P	**P**	**08 50 16.4**	**-0.9**
	28nm,0.6s,baz=251,slow=6.7,SNR=1.4						
	28nm,0.6s						
ZALV	**Zalesovo Beam**	**136.55**	**25**	PKP	**PKPdf**	**08 58 09.3**	**-0.2**
	1.1nm,0.5s,baz=299,slow=2.7,SNR=4.2						
MKAR	**Makanchi Array**	**140.16**	**35**	PKP	**PKPdf**	**08 58 12.9**	**-3.5**
	0.2nm,0.4s,baz=325,slow=2.3,SNR=2.6						

*IDC **03** 08:40:45.9±3.3, 17°.98S×178°.35W, h533km±38km, mb3.3/15, mbtmp4.2/15, Error ellipse: s-maj=16.7km s-min=14.5km az=157.0*
*NEIC **03** 08:40:50.9±1.1, 18°.0S±0°.1×178°.3W±0°.1, h592km±9km, mb4.3/19, Error ellipse: s-maj=20.7km s-min=15.0km az=160.0*
ISC 03 08:40:49.8±0.5, 18°.0S±0°.1×178°.39W±0°.08, h579km, n44, σ0s97/46, mb4.1/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.40**	**274**	P	**P**	**08 42 13.5**	**+3.7**
AFI	**Afiamalu**	**7.55**	**58**	P	**P**	**08 42 43.4**	**-0.9**
NIUE	**Niue**	**8.10**	**99**	P	**P**	**08 42 50.7**	**+1.4**
URZ	**Urewera**	**20.57**	**190**	P	**P**	**08 44 46.9**	**-2.6**
	10nm,0.9s,baz=123,slow=11,SNR=2.2						
	10nm,0.9s						
FOZ	**Fox Glacier**	**27.34**	**199**	P	**P**	**08 45 48.1**	**-1.2**
PPT	**Papeete**	**27.43**	**94**	P	**P**	**08 45 49.1**	**-1.4**
	12nm,0.6s,baz=259,slow=12,SNR=1.7						
	12nm,0.6s						
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**08 46 06.3**	**+0.1**
EIDS				IAmb	IAmb	08 46 06.9	
	comp=Z,10nm,1.1s						
ARMA	**Armidale**	**29.91**	**240**	P	**P**	**08 46 12.3**	**+0.3**
ARMA				IAmb	IAmb	08 46 15.2	
	comp=Z,4.8nm,1.1s						
CTAO	**Charters Tower**	**33.45**	**261**	P	**P**	**08 46 42.0**	**-0.1**
CTAO				IAmb	IAmb	08 47 00.1	
	comp=Z,11nm,1.1s						
CAN	**Canberra**	**33.67**	**233**	P	**P**	**08 46 44.2**	**+0.4**
CAN				IAmb	IAmb	08 46 56.8	
	comp=Z,11nm,1.1s						
COEN	**Coen**	**37.12**	**271**	P	**P**	**08 47 13.3**	**+0.8**
COEN				IAmb	IAmb	08 47 14.4	
	comp=Z,7.7nm,0.9s						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**08 47 24.9**	**+0.6**
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**08 47 23.8**	**-0.6**
	comp=Z,5.3nm,0.5s,baz=94,slow=10.0,SNR=13						
	comp=Z,5.3nm,0.5s						
BBOO	**Buckleboo**	**43.38**	**241**	P	**P**	**08 48 02.2**	**0.0**
WR8	**Warramunga Arr**	**44.48**	**260**	P	**P**	**08 48 09.7**	**-1.1**
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**08 48 11.2**	**-0.8**
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**08 48 11.1**	**-0.9**
	comp=Z,4.0nm,0.7s,baz=96,slow=7.0,SNR=43						
WRA				PcP	**PcP**	**08 49 41.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=94,slow=3.1,SNR=0.9						
	comp=Z,4.0nm,0.7s						
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**08 48 13.0**	**-0.2**
AS31				IAmb	IAmb	08 48 14.2	
	comp=Z,5.5nm,0.6s						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**08 48 12.5**	**-0.6**
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**08 48 13.1**	**0.0**
	comp=Z,19nm,0.6s,baz=88,slow=8.6,SNR=318						
ASAR				PcP	**PcP**	**08 49 42.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=102,slow=4.0,SNR=8.9						
ASAR				S	**S**	**08 54 07.5**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=79,slow=13,SNR=4.9						
	comp=Z,19nm,0.6s						
MTN	**Manton Dam**	**48.81**	**269**	P	**P**	**08 48 42.9**	**-0.6**
MTN				IAmb	IAmb	08 48 43.7	
	comp=Z,13nm,0.9s						
KNRA	**Kununurra**	**50.49**	**264**	P	**P**	**08 48 55.6**	**-0.2**
KNRA				IAmb	IAmb	08 48 56.3	
	comp=Z,12nm,0.8s						
PSA00	**Pilbara Seismi**	**57.90**	**255**	P	**P**	**08 49 47.3**	**-0.4**
PSA00				IAmb	IAmb	08 50 01.3	
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**08 50 03.9**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=24,slow=6.7,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**08 50 51.9**	**-0.1**
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**08 50 52.0**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=149,slow=6.6,SNR=7.1						
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**08 51 16.7**	**+0.9**
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**08 51 16.3**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=21,slow=1.2,SNR=11						
	comp=Z,2.8nm,0.8s						
SSLB	**Suanglung**	**72.29**	**303**	P	**P**	**08 51 17.0**	**-0.7**
TPUB	**Ta-pu**	**72.32**	**302**	P	**P**	**08 51 17.2**	**-0.7**
TPUB				IAmb	IAmb	08 51 18.1	
	comp=Z,7.3nm,0.7s						
PETK	**Petropavlovsk-**	**73.76**	**345**	P	**P**	**08 51 25.2**	**-0.3**
PETK	**Petropavlovsk-**	**73.76**	**345**	P	**P**	**08 51 25.6**	**+0.1**
	comp=Z,12nm,0.6s,baz=95,slow=6.4,SNR=6.2						
	comp=Z,1.2nm,0.6s						
KSRS	**Korea Array**	**74.77**	**318**	P	**P**	**08 51 31.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=123,slow=6.5,SNR=4.2						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**08 51 58.2**	**+0.9**
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**08 51 57.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=219,slow=8.6,SNR=6.8						
	comp=Z,0.7nm,0.8s						
O18K	**Koktuh Hills**	**79.83**	**12**	P	**P**	**08 51 58.3**	**-0.1**
O18K				IAmb	IAmb	08 51 59.0	
	comp=Z,10nm,1.1s						
MAW	**Mawson**	**83.79**	**200**	P	**P**	**08 52 18.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=113,slow=7.7,SNR=2.8						
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**08 52 28.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=214,slow=4.7,SNR=2.2						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**08 52 30.5**	**+0.4**
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**08 52 30.3**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=218,slow=6.4,SNR=11						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**87.40**	**43**	P	**P**	**08 52 35.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=220,slow=2.3,SNR=4.0						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**144.85**	**315**	PKP	PKPbc	08 59 22.6	0.0
	comp=Z,1.7nm,0.8s,baz=41,slow=0.9,SNR=8.8						
MMAI	**Mount Meron Ar**	**146.20**	**303**	PKPbc	**PKPbc**	**08 59 26.9**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=58,slow=3.4,SNR=4.6						
GERES	**GERESS Array B**	**147.69**	**345**	PKPbc	**PKPbc**	**08 59 30.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=8.1,slow=2.8,SNR=10						

AUST 03 08:57:02.1±0.7, 18°S±5°×12°0E±°, h10km, mb4.2/6, ML3.0/6, ML3.5/5, Error ellipse: s-maj=15.2km s-min=5.2km az=137.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.88**	**78**	P	Pn	08 57 35.2	+0.8
AUBRM				S	Sb	08 57 59.5	-0.7
MBWA	**Marble Bar**	**2.83**	**191**	P	Pn	08 57 48.5	+1.1
MBWA				S	Sn	08 58 23.5	+2.0
PSA00	**Pilbara Seismi**	**3.22**	**188**	P	Pn	08 57 53.6	+0.8
PSA00				S	Sn	08 58 31.2	0.0
PSAA1	**Pilbara Seismi**	**3.22**	**188**	P	Pn	08 57 53.5	+0.7
GIRL	**Giralia**	**7.10**	**232**	P	Pn	08 58 46.4	+0.3
	comp=Z,183µmcomp=Z,72nm,1.9s,comp=Z,0.2nm						
GIRL				S	Sn	09 00 03.4	-3.5
MEEK	**Meekatharra**	**8.38**	**190**	P	Pn	08 59 03.7	0.0
	comp=Z,0.1nmcomp=Z,17nm,1.6s						
KNRA	**Kununurra**	**8.53**	**73**	P	Pn	08 59 04.6	-1.2
	comp=Z,15nm,1.7s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.96**	**133**	P	Pn	08 59 24.3	-1.2
WRKA				S	Sn	09 01 10.9	-6.5
MORW	**Morawa**	**11.34**	**199**	P	Pn	08 59 43.0	-1.3
	comp=Z,12nm,2.0s						
MORW	**Morawa**	**11.34**	**199**	S	Sn	09 01 41.4	-10
BLDU	**Balladu**	**12.62**	**194**	P	Pn	09 00 01.1	-0.7
	comp=Z,25nm,2.3s						
KLBR	**Kellerberrin**	**13.37**	**189**	P	Pn	09 00 11.2	-0.8
	comp=Z,27nm,1.4s						

*IDC **03** 09:13:18.7±7.8, 36°.55N×70°.56E, h195km±66km, mb3.1/3, mbtmp3.7/5, Error ellipse: s-maj=69.1km s-min=36.8km az=49.0*
ISC 03 09:13:20.3±1.7, 36°.6N±0°.1×70°.6E±0°.2, h204km, n7, σ1s27/10, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.46**	**359**	Pn	**Pn**	**09 14 55.2**	**+1.8**
	2.7nm,0.2s,baz=23,slow=19,SNR=42						
KK31				⇓Sn	**S**	**09 16 05.0**	**-2.2**
	4.7nm,0.3s,baz=187,slow=26,SNR=11						
AAK	**Ala-Archa**	**6.69**	**25**	P	**Pn**	**09 14 56.9**	**+0.2**
	8.4nm,0.3s,baz=211,slow=12,SNR=11						
AAK				S	**S**	**09 16 12.8**	**-0.2**
	2.5nm,0.3s,baz=179,slow=23,SNR=4.2						
AAK	**Ala-Archa**	**6.69**	**25**	⇓Pn	**Pn**	**09 14 56.7**	**0.0**
	0.8nm,0.3s						
AAK				⇑Sn	**S**	**09 16 12.2**	**-0.7**
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**13.36**	**37**	P	**Pn**	**09 16 22.3**	**+0.2**
	0.5nm,0.7s,baz=218,slow=11,SNR=4.9						
MKAR				S	S	09 18 37.6	-13
	1.5nm,1.0s,baz=164,slow=25,SNR=6.3						
ZALV	**Zalesovo Beam**	**19.92**	**25**	P	**P**	**09 17 37.2**	**+1.0**
	1.3nm,0.6s,baz=209,slow=11,SNR=5.1						
	1.3nm,0.6s						
ARTI	**Arti**	**21.41**	**341**	P	**P**	**09 17 50.9**	**-1.1**
	1.8nm,0.6s,baz=138,slow=1.3,SNR=3.1						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**84.59**	**125**	P	**P**	**09 25 30.1**	**-0.8**
	0.3nm,0.6s,baz=316,slow=5.7,SNR=7.3						
	0.3nm,0.6s						

*AEIC **03** 09:21:31.6±1.5, 53°.66N±0°.06×164°.08W±0°.03, h26km±7km, Error ellipse: s-maj=8.7km s-min=1.6km az=166.0*
NEIC 03 09:21:32.0±1.9, 53°.61N±0°.06×164°.10W±0°.08, h35km±2km, mb3.4/20, ML3.6/22, ML3.4(AEIC), Error ellipse: s-maj=10.5km s-min=6.5km az=332.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.92**	**342**		Pn	09 21 47.4	-1.0
WECS	**Westdahl Cape**	**1.01**	**337**		Pn	09 21 48.8	-0.9
WEBT	**Westdahl Beart**	**1.06**	**339**		Pn	09 21 49.6	-0.8
WEBT					Sn	09 22 04.2	+0.2
AKUT	**Akutan**	**1.12**	**299**		Pn	09 21 50.8	-0.4
AKUT					Sn	09 22 04.8	-0.6
AKUT				IAML		09 22 07.3	
	comp=E,931nm,0.3s						
AKUT				IAML		09 22 09.4	
	comp=N,893nm,0.4s						
AHB	**Akutan Harbor**	**1.14**	**297**		Pn	09 21 51.4	-0.1
AHB					Sn	09 22 06.6	+0.7
ISLZ	**Isanotski Laza**	**1.15**	**11**		Pn	09 21 50.2	-1.4
AKBBA	**Akutan Broad B**	**1.20**	**295**		Pn	09 21 52.1	-0.1
AKBBA					Sn	09 22 07.9	+0.7
AKMO	**Akutan Morgan**	**1.23**	**294**		Pn	09 21 52.8	0.0
ISNN	**Isanotski Nort**	**1.24**	**8**		Pn	09 21 52.4	-0.5
LVA	**Lava Point**	**1.27**	**297**		Pn	09 21 53.3	0.0
LVA				IAML		09 22 18.2	
	comp=N,1µm,0.6s						
LVA				IAML		09 22 25.1	
	comp=E,753nm,0.6s						
FALS	**False Pass**	**1.31**	**17**		Pn	09 21 52.8	-1.0
FALS				IAML		09 22 13.9	
	comp=E,5µm,0.6s						
UNV	**Unalaska Valle**	**1.45**	**280**		Pn	09 21 55.9	+0.2
UNV					Sn	09 22 13.7	+0.2
MTBL	**Makushin Table**	**1.57**	**284**		Pn	09 21 58.0	+0.5
MREP	**Makushin Rep't**	**1.59**	**278**		Pn	09 21 58.0	+0.4
MGOD	**Makushin Gods**	**1.66**	**278**		Pn	09 21 59.1	+0.4
MAPS	**Pakushin South**	**1.70**	**278**		Pn	09 21 59.6	+0.4
PN7A	**Pavlof North-7**	**2.20**	**33**		Pn	09 22 06.4	+0.3
OKTU	**Okmok Mt. Tuli**	**2.37**	**266**		Pn	09 22 09.9	+1.6
OKNC	**Okmok New Cone**	**2.41**	**268**		Pn	09 22 10.9	+2.0
S12K	**Black Hills**	**2.41**	**29**		Pn	09 22 09.2	+0.3
S12K				IAML		09 22 44.6	
	comp=N,304nm,0.5s						
S12K				IAML		09 22 45.2	
	comp=E,436nm,0.5s						
OKSP	**Okmok Steeple**	**2.54**	**264**		Pn	09 22 11.6	+1.0
SDPT	**Sand Point**	**2.74**	**49**		Pn	09 22 14.0	+0.6
SDPT				IAML		09 23 03.7	
	comp=E,161nm,1.2s						
SDPT				IAML		09 23 05.4	
	comp=N,212nm,0.6s						
CNBA	**Chernabura Isl**	**2.91**	**64**	Pn	Pn	09 22 15.8	0.0
NIKH	**Nikolski High**	**2.93**	**259**	Pn	Pn	09 22 16.4	+0.4
NIKH					IAML	09 23 04.2	
	comp=E,219nm,0.7s						
NIKH				IAML		09 23 07.0	
	comp=N,260nm,0.6s						
CHGN	**Chignik**	**4.25**	**48**		Pn	09 22 34

s-min=13.3km az=72.0
*SOME **03** 09:21:41.7, 42.00N×81.80E, h15km*
*NNC **03** 09:21:43.9±1.9, 42.00N×81.71E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=14.6km s-min=7.8km az=157.0*
ISC 03 09:21:42.5±0.9, 41.73N±0.07×81.72E±0.04, h17km, n41, σ2§26/59, mb3.8/8, 8C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.19**	**311**	*eP*	**Pn**	**09 22 16.4**	**-1.9**
	193nm,0.2s						
SHLS				*eS*	**Sn**	**09 22 42.0**	**-3.1**
	1µm,0.3s						
PDGK	**Podgornoye**	**2.29**	**315**	⇑Pn	**Pn**	**09 22 21.4**	**+1.8**
	90nm,0.5s						
PDGK				⇑Sn	**Sb**	**09 22 50.4**	**-1.1**
	213nm,0.3s						
UZB	**Uzynbulak**	**2.44**	**306**	Pg	**Pb**	**09 22 26.2**	**+0.2**
	170nm,0.5s						
UZB				Lg	Lg	09 22 58.1	
	300nm,0.4s						
UZB	**Uzynbulak**	**2.44**	**306**	*eP*	**Pb**	**09 22 26.2**	**+0.2**
	170nm,0.5s						
UZB				*eS*	**Sb**	**09 22 58.1**	**+2.2**
	300nm,0.4s						
SATY	**Saty**	**2.79**	**299**	Pg	**Pb**	**09 22 31.0**	**-0.9**
	32nm,0.4s						
SATY				Lg	Lg	09 23 06.4	
	417nm,0.5s						
KPKS	**Kokpek**	**2.83**	**309**	Pg	**Pb**	**09 22 30.5**	**-2.0**
	0.6nm,0.2s						
KPKS				Lg	Lg	09 23 05.7	
	697nm,0.5s						
KURS	**Kuram**	**3.15**	**305**	Pg	**Pb**	**09 22 37.1**	**-1.0**
	31nm,0.6s						
KURS				Lg	Lg	09 23 17.3	
	182nm,1.0s						
TNSS	**Tian-Shan**	**3.77**	**292**	Pg	**Pb**	**09 22 50.0**	**+1.3**
	8.5nm,0.5s						
TNSS				Lg	Lg	09 23 38.8	
	14nm,0.5s						
TNSS	**Tian-Shan**	**3.77**	**292**	*eP*	**Pb**	**09 22 50.0**	**+1.3**
	8.5nm,0.5s						
TNSS				*eS*	**Sb**	**09 23 38.8**	**+4.7**
	14nm,0.5s						
ARXS	**Arharly**	**3.78**	**312**	Pg	**Pb**	**09 22 49.9**	**+1.2**
	21nm,0.4s						
ARXS				Lg	Lg	09 23 39.4	
	82nm,0.5s						
TDK	**Taldyqorghan**	**4.06**	**325**	Pg	**Pb**	**09 22 54.9**	**+1.4**
	143nm,0.3s						
TDK				Lg	Lg	09 23 47.5	
	198nm,0.7s						
TDK	**Taldyqorghan**	**4.06**	**325**	*eP*	**Pb**	**09 22 54.9**	**+1.4**
	143nm,0.3s						
TDK				*eS*	**Sb**	**09 23 47.5**	**+5.1**
	198nm,0.7s						
CHKK	**Chushkaly**	**4.07**	**303**	Pg	**Pb**	**09 22 53.8**	**0.0**
	10.0nm,0.3s						
CHKK				Lg	Lg	09 23 46.1	
	71nm,0.5s						
CHKK	**Chushkaly**	**4.07**	**303**	*eP*	**Pb**	**09 22 53.8**	**0.0**
	10.0nm,0.3s						
CHKK				*eS*	**Sb**	**09 23 46.1**	**+3.4**
	71nm,0.5s						
KTBS	**Karatobe**	**4.20**	**300**	Pg	**Pb**	**09 22 57.6**	**+1.6**
	37nm,0.5s						
KTBS				Lg	Lg	09 23 52.0	
	220nm,0.5s						
KST	**Kastek**	**4.46**	**289**	Pg	**Pb**	**09 23 01.0**	**+0.7**
	18nm,0.6s						
KST				Lg	Lg	09 23 58.1	
	36nm,0.5s						
KST	**Kastek**	**4.46**	**289**	*eP*	**Pb**	**09 23 01.0**	**+0.7**
	18nm,0.6s						
KST				*eS*	**Sb**	**09 23 58.1**	**+4.2**
	36nm,0.5s						
DGS	**Degeres**	**4.65**	**291**	Pg	**Pb**	**09 23 04.2**	**+0.7**
	8.5nm,0.4s						
DGS				Lg	Lg	09 24 03.6	
	84nm,0.7s						
MK31	**Makanchi Array**	**5.08**	**4**	⇑Pn	**Pn**	**09 22 57.8**	**0.0**
	2.4nm,0.3s,baz=187,slow=13,SNR=152						
MK31				⇑Pg	**Pb**	**09 23 10.3**	**-0.5**
	4.5nm,0.3s,baz=182,slow=15,SNR=11						
MK31				⇓Sn	**Sn**	**09 23 54.7**	**-1.3**
	14nm,0.6s,baz=212,slow=34,SNR=4.9						
MK31				⇓Lg	Lg	09 24 13.2	
	21nm,0.5s						
MKAR	**Makanchi Array**	**5.08**	**4**	Pn	**Pn**	**09 22 57.4**	**-0.4**
	3.2nm,0.3s,baz=180,slow=14,SNR=64						
MKAR				Pg	**Pb**	**09 23 09.1**	**-1.7**
	6.0nm,0.3s,baz=199,slow=14,SNR=17						
MKAR				Sn	**Sn**	**09 23 54.6**	**-1.4**
	6.3nm,0.3s,baz=186,slow=27,SNR=6.4						
MKAR				Lg	Lg	09 24 12.2	
	7.4nm,0.3s,baz=187,slow=32,SNR=5.8						
	5.2nm,0.3s						
MAKZ	**Makanchi**	**5.08**	**2**	Pn	**Pn**	**09 22 57.6**	**-0.2**
	21nm,0.5s						
MAKZ				Pg	**Pb**	**09 23 11.1**	**+0.2**
	14nm,0.6s						
MAKZ				⇓Sn	**Sn**	**09 23 55.5**	**-0.5**
	19nm,0.6s						
MAKZ				Lg	Lg	09 24 14.5	
	50nm,0.8s						
AAK	**Ala-Archa**	**5.44**	**282**	Pn	Pn	09 23 09.9	+7.0
	1.0nm,0.3s,baz=90,slow=12,SNR=4.0						
AAK				Pg	**Pg**	**09 23 25.6**	**-1.0**
	2.7nm,0.3s,baz=98,slow=7.5,SNR=9.9						
AAK				Lg	Lg	09 24 34.2	
	2.5nm,0.3s,baz=150,slow=20,SNR=5.4						
	1.8nm,0.3s						
AAK	**Ala-Archa**	**5.44**	**282**	⇓Pg	**Pg**	**09 23 24.6**	**-2.0**
	6.4nm,0.7s						
AAK				⇑Lg	Lg	09 24 39.1	
	28nm,0.8s						
ZSN	**Zaisan**	**6.14**	**20**	*eP*	**Pb**	**09 23 30.8**	**+1.9**
	8.4nm,0.4s						
ZSN				*eS*	**Sb**	**09 24 48.8**	**+6.7**
	38nm,0.6s						
KK31	**Karatay Array**	**8.40**	**283**	Pg	Pb	09 24 21.7	+14
	2.6nm,0.7s,baz=94,slow=16,SNR=8.8						
KK31				⇑Lg	Lg	09 26 10.2	
	11nm,0.9s,baz=88,slow=26,SNR=5.2						
KURBB	**Kurchatov Arra**	**9.16**	**347**	Pn	**Pn**	**09 23 54.6**	**+0.9**
	0.1nm,0.3s,baz=171,slow=12,SNR=7.6						
KURBB				Sn	**Sn**	**09 25 32.1**	**-4.3**
	0.3nm,0.3s,baz=160,slow=23,SNR=5.2						
KURBB				Lg	Lg	09 26 27.4	
	0.2nm,0.3s,baz=61,slow=29,SNR=4.5						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**9.16**	**347**	⇓Pn	**Pn**	**09 23 55.1**	**+1.3**
	9.1nm,0.7s						
KURBB				⇑Sn	**Sn**	**09 25 33.3**	**-3.1**
	17nm,0.6s						
KURBB				⇓Lg	Lg	09 26 27.9	
	35nm,0.7s						
KURK	**Kurchatov**	**9.24**	**348**	⇓Pn	**Pn**	**09 23 57.2**	**+2.5**
	9.8nm,0.6s						
KURK				⇑Sn	**Sn**	**09 25 35.7**	**-2.5**
	24nm,0.7s						
KURK				⇓Lg	Lg	09 26 27.2	
	46nm,1.0s						
ZALV	**Zalesovo Beam**	**12.40**	**9**	Pn	**Pn**	**09 24 36.8**	**-1.2**
	0.5nm,0.3s,baz=189,slow=16,SNR=7.7						
ZALV				Sn	**Sn**	**09 26 54.6**	**-1.0**
	0.2nm,0.3s,baz=209,slow=26,SNR=3.5						
ZALV				Lg	Lg	09 27 52.7	
	baz=200,slow=37						
	2.0nm,0.5s						
BVAR	**Borovoye Array**	**13.63**	**330**	Pn	**Pn**	**09 24 54.1**	**-0.8**
	baz=158,slow=12,SNR=1.7						
BVAR				Sn	**Sn**	**09 27 21.2**	**-4.7**
	baz=122,slow=27,SNR=1.4						
BVAR				Lg	Lg	09 28 39.5	
	baz=150,slow=30,SNR=2.1						
	0.5nm,0.4s						
SONM	**Songino Array**	**18.51**	**62**	P	**P**	**09 25 55.0**	**-2.8**
	0.3nm,0.3s,baz=269,slow=10,SNR=4.1						
	0.7nm,0.4s						
AKTO	**Aktyubinsk**	**18.54**	**306**	P	**Pn**	**09 26 01.4**	**+3.1**
	0.2nm,0.3s,baz=93,slow=11,SNR=5.2						
	1.8nm,0.6s						
ARTI	**Arti**	**21.03**	**322**	P	**P**	**09 26 27.6**	**+2.4**
	7.3nm,0.6s,baz=134,slow=7.5,SNR=9.1						
	7.3nm,0.6s						
ARCES	**ARCESS Array B**	**39.90**	**333**	P	**P**	**09 29 16.8**	**+1.8**
	1.0nm,0.8s,baz=91,slow=10,SNR=7.1						
	1.0nm,0.8s						
HFS	**Hagfors**	**44.41**	**318**	P	**P**	**09 29 52.0**	**+0.1**
	1.2nm,0.5s,baz=96,slow=7.6,SNR=7.8						
	1.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.50**	**344**	P	**P**	**09 29 50.8**	**-1.6**
	2.3nm,0.6s,baz=147,slow=8.1,SNR=9.1						
	2.3nm,0.6s						
NB2	**NORSAR Subarra**	**45.50**	**320**	P	**P**	**09 30 00.1**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=82,slow=7.9						
NOA	**NORSAR Array B**	**45.50**	**320**	P	**P**	**09 30 00.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=81,slow=7.8,SNR=6.6						
	comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**67.23**	**20**	P	**P**	**09 32 32.7**	**-2.7**
	comp=Z,0.2nm,0.6s,baz=314,slow=7.3,SNR=2.7						
	comp=Z,0.2nm,0.6s						
WRA	**Warramunga Arr**	**78.31**	**130**	P	**P**	**09 33 42.7**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=328,slow=5.5,SNR=2.2						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**81.02**	**133**	P	**P**	**09 33 57.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=321,slow=5.9,SNR=1.9						
	comp=Z,0.3nm,0.7s						

*IDC **03** 09:24:09.8±1.8, 6.43S×105.81E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=58.0km s-min=17.3km az=42.0*
*DJA **03** 09:24:13.4±2.1, 7.3S±6×107.5E±°, h25km±22km, M4.6/8, mb4.9/2, MLv4.4/8*
*NEIC **03** 09:24:17.9±3.2, 6.8S±0.2×105.0E±0.1, h71km±9km, mb4.2/13, Error ellipse: s-maj=29.5km s-min=4.6km az=210.0*
ISC 03 09:24:10.8±0.8, 7.31S±0.09×104.72E±0.07, h27km, n51, σ1§93/40, mb4.1/14, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.19**	**55**	P	**Pb**	**09 24 33.6**	**+0.9**
CGJI				S	**Sn**	**09 24 47.9**	**+1.0**
KASI	**Kota Agung**	**1.79**	**353**	P	**Pb**	**09 24 43.1**	**+0.2**
KASI				S	**Sn**	**09 25 04.8**	**+3.1**
SBJI	**Serang**	**1.83**	**50**	P	**Pb**	**09 24 43.5**	**-0.2**
DBJI	**Dramaga**	**2.15**	**70**	P	**Pn**	**09 24 46.7**	**+1.8**
DBJI	**Dramaga**	**2.15**	**70**	P	**Pn**	**09 24 47.4**	**+2.5**
LEM	**Lembang**	**2.92**	**81**	Pg	Pn	09 24 42.7	-13
	35nm,0.3s,baz=279,slow=22,SNR=5.7						
LEM				Lg	Lg	09 24 57.9	
	75nm,0.3s,baz=202,slow=11,SNR=9.4						
LEM				LR	LR	09 25 48.1	
	comp=Z,220nm,18.5s,baz=174,slow=54						
LEM	**Lembang**	**2.92**	**81**	P	Pn	09 24 42.5	-13
MNAI	**Manna**	**3.41**	**329**	Pn	**Pn**	**09 25 05.0**	**+2.7**
MNAI				Sn	**Sn**	**09 25 44.7**	**+2.8**
MNAI	**Manna**	**3.41**	**329**	P	**Pn**	**09 25 04.0**	**+1.7**
SMRI	**Semarang**	**5.68**	**88**	Pn	**Pn**	**09 25 37.1**	**+3.6**
UGM	**Wanagama**	**5.78**	**96**	Pn	**Pn**	**09 25 37.0**	**+2.0**
UGM	**Wanagama**	**5.78**	**96**	P	**Pn**	**09 25 36.8**	**+1.8**
	0.6nm110nm,1.1s						
PCJI	**Pacitan**	**6.46**	**98**	P	**Pn**	**09 25 46.2**	**+2.0**
TOLI2	**Tolitoli**	**18.07**	**63**	P	**Pn**	**09 28 14.7**	**-5.5**
TOLI2				IAmb	IAmb	09 28 28.1	
	comp=Z,13nm,0.9s						
MBWA	**Marble Bar**	**20.01**	**135**	P	**Pn**	**09 28 46.2**	**+2.8**
PSA00	**Pilbara Seismi**	**20.36**	**136**	P	Pn	09 28 50.5	+2.9
PSA00	**Pilbara Seismi**	**20.36**	**136**	P	Pn	09 28 50.3	+2.7
PSA00				IAmb	IAmb	09 29 01.4	
	comp=Z,39nm,1.5s						
KNRA	**Kununurra**	**24.96**	**112**	P	**P**	**09 29 32.9**	**+0.6**
KNRA				IAmb	IAmb	09 29 38.2	
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**26.23**	**348**	P	**P**	**09 29 40.5**	**-3.3**
CMAR	**Chiang Mai Arr**	**26.23**	**348**	P	**P**	**09 29 42.2**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=167,slow=7.4,SNR=5.9						
	comp=Z,0.7nm,0.3s						
H01W3	**Cape Leeuwin H**	**28.78**	**164**	T	T	10 00 46.0	
	baz=340						
H01W1	**Cape Leeuwin H**	**28.80**	**164**	T	T	10 00 48.6	
	baz=340						
H01W2	**Cape Leeuwin H**	**28.80**	**164**	T	T	10 00 54.6	
	baz=340						
WRA	**Warramunga Arr**	**31.34**	**117**	P	**P**	**09 30 27.8**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=287,slow=12,SNR=2.3						
	comp=Z,0.7nm,0.9s						
WB2	**Warramunga Arr**	**31.35**	**117**	P	**P**	**09 30 29.1**	**-0.3**
WR8	**Warramunga Arr**	**31.48**	**117**	P	**P**	**09 30 30.4**	**-0.3**
H08S2	**Diego Garcia H**	**31.95**	**267**	T	T	10 05 08.9	
	baz=90,slow=75,SNR=2.3						
H08S3	**Diego Garcia H**	**31.96**	**267**	T	T	10 05 06.4	
	baz=90,slow=75,SNR=2.2						
H08S1	**Diego Garcia H**	**31.97**	**267**	T	T	10 05 08.6	
	baz=90,slow=75,SNR=2.7						
ASAR	**Alice Springs**	**32.38**	**123**	P	**P**	**09 30 38.2**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=300,slow=7.7,SNR=4.8						
	comp=Z,0.6nm,0.9s						
KSRS	**Korea Array**	**49.53**	**24**	P	P	09 32 52.9	-6.3
	comp=Z,0.2nm,0.4s,baz=210,slow=8.0,SNR=6.0						
	comp=Z,0.2nm,0.4s						
NIL	**Nilore**	**50.50**	**326**	P	**P**	**09 33 07.2**	**+0.4**
SONM	**Songino Array**	**54.92**	**1**	P	**P**	**09 33 39.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=172,slow=7.7,SNR=4.0						
USRK	**Ussuriysk Ar.**	**56.88**	**23**	P	**P**	**09 33 52.8**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=260,slow=0.7,SNR=4.8						
MKAR	**Makanchi Array**	**57.44**	**342**	P	**P**	**09 33 56.3**	**-0.9**
MKAR	**Makanchi Array**	**57.44**	**342**	P	**P**	**09 33 57.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=159,slow=9.3,SNR=8.2						
	comp=Z,0.7nm,0.5s						
MAKZ	**Makanchi**	**57.55**	**342**	P	**P**	**09 33 57.2**	**-0.8**
MAKZ				IAmb	IAmb	09 34 20.6	
	comp=Z,1.0nm,0.5s						
H04N2	**CROZET ISLANDS**	**59.57**	**220**	T	T	10 39 02.5	
	baz=66						
H04N1	**CROZET ISLANDS**	**59.58**	**220**	T	T	10 38 56.4	
	baz=66						
H04N3	**CROZET ISLANDS**	**59.58**	**220**	T	T	10 38 53.5	
	baz=66						
KURBB	**Kurchatov Arra**	**61.99**	**341**	P	**P**	**09 34 27.1**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=160,slow=6.0,SNR=6.3						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**62.04**	**342**	P	**P**	**09 34 27.4**	**-1.4**
KURK				IAmb	IAmb	09 34 29.3	
	comp=Z,1.3nm,0.8s						
ZAA0	**Zalesovo Array**	**63.29**	**347**	P	**P**	**09 34 35.5**	**-1.5**
ZAA0				IAmb	IAmb	09 34 37.7	
	comp=Z,5.1nm,1.1s						
ZALV	**Zalesovo Beam**	**63.29**	**347**	P	**P**	**09 34 35.1**	**-1.9**
ZALV	**Zalesovo Beam**	**63.29**	**347**	P	**P**	**09 34 36.1**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=153,slow=5.8,SNR=9.6						
	comp=Z,1.7nm,0.4s						
AB31	**Akbulak array**	**68.53**	**330**	P	**P**	**09 35 09.1**	**-1.8**
AB31				IAmb	IAmb	09 35 15.8	
	comp=Z,1.3nm,0.8s						
ABKAR	**Akbulak array**	**68.53**	**330**	P	**P**	**09 35 09.3**	**-1.7**
BURAR	**Bucovina Array**	**88.32**	**318**	P	**P**	**09 37 01.8**	**+1.6**
TXAR	**Lajitas Array**	**145.45**	**47**	PKP	**PKPab**	**09 43 47.8**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=228,slow=3.2,SNR=6.5						
WVT	**Waverly**	**149.10**	**20**	PKPbc	**PKPbc**	**09 43 56.7**	**-0.5**
TZTN	**Tazewell**	**149.93**	**13**	PKPbc	**PKPbc**	**09 43 59.0**	**-0.2**

DJA 03 09:24:20.5±1.2, 8°S±7°×107°E±°, h10km, M3.2/5, MLv3.2/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.57**	**360**	P	Pb	09 24 32.3	-0.2
CNJI				S	Sb	09 24 40.7	0.0
SKJI	**Sukabumi**	**1.04**	**327**	P	Pg	09 24 38.8	-1.7

*NOU **03** 09:26:59.6, 35.05S×178.09E, h530km, mb4.0/5, Off E. Coast of N. Island, N.Z.*
*WEL **03** 09:27:42.1±1.0, 37°S±7°×177°E±°, h226km±9km, M2.9/23, ML3.0/7, MLv2.9/23, Error ellipse: s-maj=10.9km s-min=7.1km az=38.4, confirmed*
ISC 03 09:27:37.6±2.4, 37.21S±0.07×176.69E±0.08, h263km±15km, n79, σ1§51/84, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGRZ	**Tauranga**	**0.62**	**213**	P	**Pn**	**09 28 13.0**	**+0.7**
MARZ	**Manawahe**	**0.77**	**181**	P	**Pn**	**09 28 14.8**	**+1.9**
KMRZ	**Kaimai**	**0.86**	**223**	P	**Pn**	**09 28 14.7**	**+1.4**
KARZ	**Kaharoa**	**0.88**	**203**	P	**Pn**	**09 28 15.0**	**+1.6**
KUZ	**Kuaotunu**	**0.90**	**301**	P	**Pn**	**09 28 14.2**	**+0.6**
OMRZ	**Omania**	**0.93**	**195**	P	**Pn**	**09 28 15.0**	**+1.4**
HAZ	**Te Kaha**	**1.03**	**122**	P	**Pn**	**09 28 14.7**	**+0.6**
HAZ				S	**S**	**09 28 41.1**	**-1.8**
TOZ	**Tahuroa Road**	**1.07**	**241**	P	**Pn**	**09 28 15.9**	**+1.5**
URZ	**Urewera**	**1.10**	**162**	P	**Pn**	**09 28 15.1**	**+0.6**
URZ	**Urewera**	**1.10**	**162**	P	**Pn**	**09 28 15.0**	**+0.6**
URZ				S	**S**	**09 28 41.8**	**-1.9**
RRRZ	**Republican Roa**	**1.13**	**187**	P	**Pn**	**09 28 16.0**	**+1.3**
MKAZ	**Moumakai**	**1.22**	**275**	P	**Pn**	**09 28 16.5**	**+1.2**
MUGZ	**Murupara**	**1.26**	**177**	P	**Pn**	**09 28 16.5**	**+1.0**
MUGZ				S	**S**	**09 28 44.2**	**-1.3**
PKGZ	**Pakihiroa**	**1.29**	**121**	P	**Pn**	**09 28 17.1**	**+1.5**
MWZ	**Matawai**	**1.30**	**149**	P	**Pn**	**09 28 16.8**	**+1.1**
MWZ				S	**S**	**09 28 44.1**	**-1.9**
PRRZ	**Plateau Road**	**1.30**	**190**	P	**Pn**	**09 28 17.2**	**+1.5**
MKZ	**Matakaoa Point**	**1.34**	**106**	P	**Pn**	**09 28 17.1**	**+1.1**
MXZ				S	**S**	**09 28 45.3**	**-1.0**
ALRZ	**Allen Road**	**1.37**	**191**	P	**Pn**	**09 28 17.6**	**+1.4**
GRZ	**Great Barrier**	**1.38**	**314**	P	**Pn**	**09 28 16.8**	**+0.5**
RAGZ	**Rawiri**	**1.41**	**156**	P	**Pn**	**09 28 18.0**	**+1.4**
RTZ	**Ruatahuna**	**1.42**	**171**	P	**Pn**	**09 28 17.7**	**+1.1**
MBAZ	**Motutapu North**	**1.50**	**287**	P	**Pn**	**09 28 18.3**	**+1.2**
WMGZ	**Waiomatatini S**	**1.50**	**114**	P	**Pn**	**09 28 18.9**	**+1.8**
PUZ	**Puketiti**	**1.51**	**125**	P	**Pn**	**09 28 18.5**	**+1.2**
TKGZ	**Te Karaka**	**1.53**	**143**	P	**Pn**	**09 28 18.7**	**+1.4**
TKGZ				S	**S**	**09 28 47.4**	**-1.4**
MRHZ	**Matea Rd**	**1.63**	**187**	P	**Pn**	**09 28 19.3**	**+1.1**
MTHZ	**Maungataniwha**	**1.64**	**176**	P	**Pn**	**09 28 19.3**	**+1.2**
SNGZ	**Shannon Statio**	**1.65**	**162**	P	**Pn**	**09 28 19.8**	**+1.6**
WATZ	**Wairara**	**1.67**	**206**	P	**Pn**	**09 28 20.3**	**+1.9**
RIGZ	**Rimuhau**	**1.72**	**151**	P	**Pn**	**09 28 20.6**	**+1.8**
RAHZ	**Arahi**	**1.73**	**170**	P	**Pn**	**09 28 20.6**	**+1.7**
CNGZ	**Carnagh Statio**	**1.75**	**137**	P	**Pn**	**09 28 21.3**	**+2.3**
RATZ	**Rangitukua**	**1.80**	**203**	P	**Pn**	**09 28 21.2**	**+1.7**
RITZ	**Rihia Road**	**1.88**	**200**	P	**Pn**	**09 28 22.2**	**+2.1**
NMHZ	**Naumai**	**1.88**	**177**	P	**Pn**	**09 28 22.2**	**+2.0**
WHHZ	**Waihua**	**1.91**	**167**	P	**Pn**	**09 28 22.3**	**+2.0**
HIZ	**Hauiti**	**1.94**	**228**	P	**Pn**	**09 28 23.0**	**+2.4**
HIZ	**Hauiti**	**1.94**	**228**	P	**Pn**	**09 28 22.7**	**+2.1**
PRGZ	**Paritu Road**	**1.95**	**151**	P	**Pn**	**09 28 22.8**	**+2.1**
BKZ	**Black Stump Fm**	**1.96**	**184**	P	**Pn**	**09 28 21.6**	**+0.8**
BKZ	**Black Stump Fm**	**1.96**	**184**	P	**Pn**	**09 28 21.9**	**+1.2**
KNZ	**Kokohu**	**1.97**	**157**	P	**Pn**	**09 28 22.4**	**+1.6**
TMVZ	**Te Maari**	**2.05**	**202**	P	**Pn**	**09 28 23.7**	**+2.0**
ARHZ	**Aropaoanui**	**2.06**	**173**	P	**Pn**	**09 28 23.4**	**+1.8**
WTVZ	**West Tongariro**	**2.09**	**204**	P	**Pn**	**09 28 24.0**	**+2.0**
NNVZ	**North Ngauruho**	**2.09**	**203**	P	**Pn**	**09 28 24.3**	**+2.2**
OTVZ	**Oturere**	**2.11**	**202**	P	**Pn**	**09 28 23.6**	**+1.4**
NGZ	**Ngauruhoe**	**2.14**	**203**	P	**Pn**	**09 28 25.0**	**+2.5**
MHGZ	**Mahia Peninsul**	**2.16**	**154**	P	**Pn**	**09 28 24.3**	**+1.7**
COVZ	**Chateau Observ**	**2.18**	**204**	P	**Pn**	**09 28 24.2**	**+1.4**
TUVZ	**Tukino**	**2.21**	**201**	P	**Pn**	**09 28 24.6**	**+1.5**
KWHZ	**Kaweka Forest**	**2.22**	**185**	P	**Pn**	**09 28 24.7**	**+1.6**
FWVZ	**Far West T-bar**	**2.23**	**203**	P	**Pn**	**09 28 25.0**	**+1.6**
MCHZ	**McNeill Hill**	**2.23**	**180**	P	**Pn**	**09 28 25.0**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.24**	**202**	P	**Pn**	**09 28 25.2**	**+1.7**
TRVZ	**Turoa**	**2.27**	**203**	P	**Pn**	**09 28 25.6**	**+1.9**
WCZ	**Waipu Caves**	**2.27**	**303**	P	**Pn**	**09 28 24.6**	**+1.0**
WNVZ	**Wahianoa**	**2.28**	**202**	P	**Pn**	**09 28 25.1**	**+1.3**
MOVZ	**Moawhango**	**2.31**	**198**	P	**Pn**	**09 28 25.1**	**+1.2**
PKVZ	**Pokaka**	**2.33**	**207**	P	**Pn**	**09 28 25.8**	**+1.7**
MTVZ	**Mangateitei**	**2.37**	**203**	P	**Pn**	**09 28 25.5**	**+1.0**
KRHZ	**Kereru**	**2.44**	**186**	P	**Pn**	**09 28 26.4**	**+1.2**
VRZ	**Vera Road**	**2.44**	**218**	P	**Pn**	**09 28 27.3**	**+2.2**
CKHZ	**Cape Kidnapper**	**2.46**	**173**	P	**Pn**	**09 28 27.1**	**+1.8**
KAHZ	**Kahuranaki**	**2.58**	**177**	P	**Pn**	**09 28 28.0**	**+1.5**
PNHZ	**Pukenui**	**2.72**	**188**	P	**Pn**	**09 28 28.9**	**+0.9**
PXZ	**Pawanui**	**2.82**	**177**	P	**Pn**	**09 28 29.9**	**+1.0**
WPHZ	**Waipukurau**	**2.85**	**184**	P	**Pn**	**09 28 30.3**	**+1.0**
TSZ	**Takapari Road**	**2.90**	**191**	P	**Pn**	**09 28 30.5**	**+0.8**
PRHZ	**Porangahau**	**3.05**	**181**	P	**Pn**	**09 28 31.8**	**+0.5**
OUZ	**Omahuta**	**3.19**	**308**	P	**Pn**	**09 28 33.8**	**+0.9**
ANWZ	**Angora Road**	**3.25**	**183**	P	**Pn**	**09 28 34.3**	**+0.9**
POWZ	**Post Office Ro**	**3.25**	**192**	P	**Pn**	**09 28 34.1**	**+0.6**
PRWZ	**Pori Road**	**3.38**	**189**	P	**Pn**	**09 28 35.7**	**+0.8**
BFZ	**Birch Farm**	**3.48**	**186**	P	**Pn**	**09 28 36.5**	**+0.6**
MRZ	**Mangatainoka R**	**3.55**	**194**	P	**Pn**	**09 28 36.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**3.79**	**194**	P	**Pn**	**09 28 39.4**	**-0.1**
SNZO	**South Karori**	**4.37**	**200**	P	**Pn**	**09 28 45.4**	**-0.7**
QRZ	**Quartz Range**	**4.85**	**221**	P	Pn

0.8nm,0.6s,baz=85,slow=8.0,SNR=7.2
0.8nm,0.6s

ASAR Alice Springs 33.08 250 P **P 09 53 31.4 +0.1**
3.6nm,0.8s,baz=81,slow=9.0,SNR=38
3.6nm,0.8s

MJAR Matsushiro Arr 58.54 332 P **P 09 56 50.2 -1.5**
1.0nm,0.8s,baz=170,slow=7.6,SNR=4.9
1.0nm,0.8s

SONM Songino Array 83.17 323 P **P 09 59 20.6 -0.6**
0.3nm,0.4s,baz=130,slow=4.5,SNR=1.8
0.3nm,0.4s

ILAR Eielson Array 86.74 18 P **P 09 59 37.0 -1.6**
0.6nm,0.7s,baz=240,slow=6.1,SNR=7.6
0.6nm,0.7s

IDC ***03*** *09:51:06.7±0.9, 4°.89S×151°.31E, h0km, mb4.1/15, mbtmp4.2/16, ML2.2/1, Error ellipse: s-maj=32.0km s-min=15.1km az=106.0*

NEIC ***03*** *09:51:12.3±1.0, 5°.10S±0°.04×151°.7E±0°.1, h63km±15km, mb4.3/10, Error ellipse: s-maj=16.6km s-min=5.7km az=100.0*

ISC 03 09:51:12.0±0.6, 5°.11S±0°.07×151°.59E±0°.09, h50km, n32, σ1°68/33, mb4.2/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.08**	**32**		**Pn**	**09 51 30.6**	**-0.3**
MANU	**Manus Island**	**5.20**	**306**		**Pn**	**09 52 27.8**	**+0.5**
PMG	**Port Moresby**	**6.12**	**226**		**Pn**	**09 52 40.7**	**+0.7**
PMG	**Port Moresby**	**6.12**	**226**	Pn	**Pn**	**09 52 39.8**	**-0.2**
	3.8nm,0.3s,baz=55,slow=6.1,SNR=19						
PMG				Sn	**Sn**	**09 53 51.5**	**+2.8**
	baz=38,slow=18						
	84nm,0.7s						
SANVU	**Saraoutou**	**18.46**	**125**	P	**P**	**09 55 20.6**	**-3.2**
WB0	**Warramunga Arr**	**22.19**	**227**	P	**P**	**09 56 03.5**	**-0.7**
WB0				IAmb	IAmb	09 56 18.8	
	comp=Z,5.6nm,0.8s						
WR8	**Warramunga Arr**	**22.23**	**227**	P	**P**	**09 56 04.0**	**-0.7**
WR8				IAmb	IAmb	09 56 09.2	
	comp=Z,7.3nm,0.8s						
WRA	**Warramunga Arr**	**22.34**	**227**	P	**P**	**09 56 04.5**	**-1.4**
WRA	**Warramunga Arr**	**22.34**	**227**	P	**P**	**09 56 05.0**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=51,slow=10.0,SNR=17						
	comp=Z,3.8nm,0.6s						
KNRA	**Kununurra**	**24.75**	**243**	P	**P**	**09 56 25.9**	**-3.2**
KNRA				IAmb	IAmb	09 56 30.8	
	comp=Z,6.5nm,1.1s						
AS31	**Alice Springs**	**25.11**	**221**		**P**	**09 56 32.3**	**-0.1**
ASAR	**Alice Springs**	**25.11**	**221**		**P**	**09 56 31.1**	**-1.3**
ASAR	**Alice Springs**	**25.11**	**221**	P	**P**	**09 56 33.1**	**+0.7**
	comp=Z,7.6nm,0.7s,baz=58,slow=8.0,SNR=69						
	comp=Z,7.6nm,0.7s						
STKA	**Stephens Creek**	**28.23**	**198**	P	**P**	**09 56 57.4**	**-2.9**
STKA				IAmb	IAmb	09 57 02.2	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**28.23**	**198**	P	**P**	**09 57 02.6**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=19,slow=6.1,SNR=4.9						
	comp=Z,1.1nm,0.6s						
BBOO	**Buckleboo**	**31.14**	**206**	P	**P**	**09 57 24.8**	**-1.3**
BBOO				IAmb	IAmb	09 57 29.1	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**33.79**	**218**	P	**P**	**09 57 49.1**	**-0.3**
FORT				IAmb	IAmb	09 57 50.3	
	comp=Z,6.0nm,0.8s						
MBWA	**Marble Bar**	**34.77**	**240**	P	**P**	**09 57 55.3**	**-2.6**
MJAR	**Matsushiro Arr**	**43.29**	**344**	P	**P**	**09 59 07.7**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=168,slow=10,SNR=5.0						
	comp=Z,1.1nm,0.7s						
KSRS	**Korea Array**	**47.75**	**334**	P	**P**	**09 59 42.5**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=151,slow=9.2,SNR=7.5						
	comp=Z,0.6nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.16**	**342**	P	**P**	**10 00 17.7**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=142,slow=6.5,SNR=4.6						
	comp=Z,2.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**56.92**	**296**	P	**P**	**10 00 52.1**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=107,slow=6.0,SNR=1.9						
	comp=Z,0.9nm,0.3s						
PETK	**Petropavlovsk-**	**58.23**	**4**	P	**P**	**10 01 02.3**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=168,slow=5.5,SNR=3.8						
	comp=Z,2.3nm,1.0s						
MKAR	**Makanchi Array**	**79.77**	**319**	P	**P**	**10 03 14.2**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=117,slow=5.0,SNR=2.0						
	comp=Z,1.7nm,1.0s						
ZALV	**Zalesovo Beam**	**80.74**	**327**	P	**P**	**10 03 20.4**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=151,slow=3.3,SNR=2.0						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**83.30**	**322**	P	**P**	**10 03 33.4**	**0.0**
	comp=Z,1.2nm,1.0s,baz=96,slow=3.8,SNR=4.0						
	comp=Z,1.2nm,1.0s						
QSPA	**South Pole Qui**	**84.85**	**180**	P	**P**	**10 03 44.6**	**+3.3**
	comp=Z,3.4nm,0.7s,baz=14,slow=2.7,SNR=24						
	comp=Z,3.4nm,0.7s						
BBB	**Bella Bella**	**88.08**	**37**	P	**P**	**10 03 58.2**	**+1.1**
	comp=Z,7.9nm,1.1s,baz=287,slow=8.1,SNR=3.0						
	comp=Z,7.9nm,1.1s						
BVAR	**Borovoye Array**	**88.77**	**323**	P	**P**	**10 04 00.5**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=71,slow=6.2,SNR=2.8						
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**93.23**	**52**	P	**P**	**10 04 24.4**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=247,slow=4.6,SNR=5.1						
	comp=Z,0.7nm,0.8s						
GERES	**GERESS Array B**	**123.68**	**328**	PKP	**PKiKP**	**10 10 05.5**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=35,slow=2.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.25**	**287**	PKPbc	**PKiKP**	**10 10 57.4**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=66,slow=1.9,SNR=1.3						

NAO ***03*** *09:51:21.7, 35°.12N×27°.79E, h10km, mb4.8*

PDG ***03*** *09:51:22.2±0.2, 35°.04N×27°.84E, h11km±2km, ML5.0/9, Error ellipse: s-maj=1.1km s-min=1.9km az=0.0*

BJI ***03*** *09:51:22.1, 35°.02N×27°.37E, h31km, mB5.3/31, mb5.0/67, Ms4.7/33, Ms7.4/36*

MOS ***03*** *09:51:22.5±1.1, 35°.21N×27°.89E, h13km, mb5.1/50, MS4.2/26, Error ellipse: s-maj=4.7km s-min=2.7km az=91.3*

NIC ***03*** *09:51:22.6, 35°.06N×27°.81E, h6km±1km, Ml4.7/13*

IDC ***03*** *09:51:22.6±0.5, 35°.40N×27°.77E, h0km, mb4.6/27, mbtmp4.6/37, ML4.1/9, MS4.3/54, Error ellipse: s-maj=10.7km s-min=9.6km az=159.0*

ISK ***03*** *09:51:23.1, 35°.10N×27°.80E, h9km, ML5.0/34*

MCSM ***03*** *09:51:23.9±0.8, 35°.N±3°×2°.8E±°, h10km±5km, mb4.9, mB5.2, MLv5.1, Mw(mB)4.5*

AFAD ***03*** *09:51:23.0, 34°.89N×27°.66E, h68km±45km, MW5.0*

MED_RC ***03*** *09:51:24.0±0.2, 35°.25N×27°.82E, h14km, MW5.1/50, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s50,c70; Duration: 1ˢ4 Moment tensor: Scale 10¹⁶Nm; Mrr=4.58±.24; Mθθ-0.13±.16; Mϕϕ4.71±.15; Mrθ3.11±.45; Mθϕ0.81±.13; Mϕr-1.92±.26; Best double couple: M₀5.83000×10¹⁶ NP1:ϕs211.00000°,δ42.00000°, λ-48.00000°. NP2:ϕs341.00000°,δ61.00000°, λ-121.00000°. Principal axes: T 5.1000, Plg10.0000°, Azm93.0000°; N 1.4600, Plg27.0000°, Azm357.0000°; P -6.5600, Plg61.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s.*

NEIC ***03*** *09:51:24.2±1.7, 35°.22N±0°.05×27°.85E±0°.07, h10km±1km, mb5.0/288, Mww5.1/37 Error ellipse: s-maj=10.0km s-min=8.3km az=238.0*

HLW ***03*** *09:51:24.9, 35°.15N×27°.96E, h10km±3km, Ml4.9*

NEIC ***03*** *09:51:24.2, 35°.23N×27°.85E, h14km*

NEIC ***03*** *09:51:24.2, 35°.23N×27°.60E, h14km, Moment Tensor Solution. Duration: 1ˢ9 Moment tensor: Scale 10¹⁶Nm; Mrr-4.54; Mθθ0.88; Mϕϕ3.67; Mrθ1.18; Mθϕ0.23; Mϕr2.07; Fault plane solution: M₀4.81000×10¹⁶ NP1: ϕs358.09000°,δ31.47000°,λ-105.07000°. NP2: ϕs195.61000°,δ59.73000°,λ-80.96000°. Principal axes: T 4.2361, Plg14.0000°, Azm279.0000°; N 0.9947, Plg8.0000°, Azm11.0000°; P -5.2308, Plg74.0000°, Azm129.0000°;*

ATH ***03*** *09:51:24.8, 35°.18N×27°.92E, h5km, Mw5.0, Moment Tensor Solution. s7 Moment tensor: Mrr-4.09; Mθθ-0.31; Mϕϕ4.41; Mrθ-1.52; Mθϕ-0.20; Mϕr0.34; Fault plane solution: NP1:ϕs16.00000°,δ45.00000°, λ-63.00000°. NP2:ϕs159.00000°,δ51.00000°, λ-115.00000°.*

GII ***03*** *09:51:25.0±0.0, 35°.061N±0°.003×27°.854E±0°.001, h16km, Mws4.9, confirmed*

GCMT ***03*** *09:51:25.2±0.2, 35°.23N±0°.02×27°.72E±0°.01, h12km, MW5.1/135, Moment Tensor Solution. s82,c105; s135,c227; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-4.88±.09; Mθθ0.35±.08; Mϕϕ4.53±.07; Mrθ2.28±.30; Mθϕ0.66±.08; Mϕr-0.17±.23; Best double couple: M₀5.19300×1016 NP1:ϕs349.00000°,δ47.00000°, λ-119.00000°. NP2:ϕs209.00000°,δ50.00000°, λ-62.00000°. Principal axes: T 4.6350, Plg1.0000°, Azm279.0000°; N 1.1120, Plg21.0000°, Azm10.0000°; P -5.7500, Plg69.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

THE ***03*** *09:51:27.3, 35°.N±9°×2°.8E±1°.0, h9km±18km, M4.6/25, MLh4.6/25*

BEO ***03*** *09:51:54.8±0.7, 36°.86N×26°.71E, h20km, ML3.9/5*

ISC 03 09:51:24.7±0.7, 35°.22N±0°.02×27°.81E±0°.02, h15km±3km, n1034, σ1°70/989, mb5.0/237, MS4.3/68, 53C-35D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.62**	**302**		**Pg**	**09 51 36.7**	**-0.3**
KARP	**Karpathos**	**0.62**	**302**	Pg	**Pg**	**09 51 36.7**	**-0.3**
KARP				Sg	**Sb**	**09 51 46.6**	**+0.7**
KARP	**Karpathos**	**0.62**	**302**	P	**Pg**	**09 51 36.7**	**-0.3**
KARP				S	**Sn**	**09 51 48.1**	**-0.7**
KARP	**Karpathos**	**0.62**	**302**	P	**Pg**	**09 51 36.6**	**-0.4**
KARP				S	**Sn**	**09 51 48.1**	**-0.7**
KARP				AML	AML	09 51 56.4	
	131nm,0.8s						
KARP				AML	AML	09 51 56.6	
	119nm,0.9s						
KARP	**Karpathos**	**0.62**	**302**	P	**Pg**	**09 51 36.8**	**-0.3**
KARP	**Karpathos**	**0.62**	**302**	P	**Pn**	**09 51 38.6**	**-0.4**
KARP				S	**Sn**	**09 51 48.0**	**-0.7**
RGE1	**Gennadi, Rhode**	**0.81**	**7**	P	**Pn**	**09 51 41.2**	**-0.4**
RGE1				S	**Sb**	**09 51 51.9**	**+0.6**
ARG	**Arkhangelos**	**1.03**	**14**		**Pb**	**09 51 44.2**	**0.0**
ARG	**Arkhangelos**	**1.03**	**14**	Pn	**Pn**	**09 51 44.7**	**+0.1**
ARG				Sn	**Sn**	**09 52 02.2**	**+3.5**
ARG	**Arkhangelos**	**1.03**	**14**	P	**Pg**	**09 51 44.3**	**-0.3**
ARG				S	**Sb**	**09 51 56.5**	**-1.1**
ARG	**Arkhangelos**	**1.03**	**14**	P	**Pb**	**09 51 44.2**	**0.0**
ARG				S	**Sg**	**09 51 58.0**	**-0.1**
ARG	**Arkhangelos**	**1.03**	**14**	P	**Pn**	**09 51 44.6**	**0.0**
ARG				S	**Sn**	**09 52 02.9**	**+4.2**
ARG				AML	AML	09 52 10.4	
	101nm,1.4s						
ARG				AML	AML	09 52 10.9	
	96nm,1.3s						
ARG	**Arkhangelos**	**1.03**	**14**	P	**Pn**	**09 51 45.1**	**+0.5**
ARG				S	**Sn**	**09 51 58.5**	**-0.2**
RDI1	**Rhodes Town Ha**	**1.28**	**15**	P	**Pg**	**09 51 50.2**	**+0.9**
RDI1				S	**Sg**	**09 52 06.6**	**+0.6**
ZKR	**Zakros**	**1.31**	**266**	Pn	**Pn**	**09 51 48.0**	**-0.4**
ZKR	**Zakros**	**1.31**	**266**	P	**Pg**	**09 51 50.9**	**+0.9**
ZKR	**Zakros**	**1.31**	**266**	P	**Pg**	**09 51 51.0**	**+1.1**
ZKR				S	**Sg**	**09 52 09.8**	**+2.8**
SIT2	**Siteia**	**1.39**	**270**	P	**Pg**	**09 51 52.1**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.49**	**349**	P	**Pb**	**09 51 52.4**	**+0.3**
YAZI				S	**Sg**	**09 52 15.2**	**+2.5**
YAZI				*i* IAML		09 52 18.0	
	comp=E,7μm,1.9s						
YAZI				*i* IAML		09 52 21.0	
	comp=N,5μm,0.5s						
NISR	**Nisiros**	**1.50**	**339**	P	**Pb**	**09 51 51.9**	**-0.3**
NISR	**Nisiros**	**1.50**	**339**	P	**Pb**	**09 51 52.5**	**+0.3**
DAT	**Datca**	**1.52**	**353**	Pn	**Pg**	**09 51 53.4**	**-0.6**
DATC	**Datca-Mugla**	**1.54**	**356**	Pn	**Pg**	**09 51 53.8**	**-0.6**
TURN	**Turunc**	**1.59**	**13**	Pn	**Pb**	**09 51 53.9**	**+0.1**
TURN	**Turunc**	**1.59**	**13**	P	**Pg**	**09 51 55.6**	**+0.2**
TURN				S	**Sg**	**09 52 18.2**	**+2.1**
TURN				*i* IAML		09 52 26.0	
	comp=E,6μm,0.6s						
TURN				*i* IAML		09 52 28.0	
	comp=N,8μm,0.7s						
IZZE	**Mula-Seydike**	**1.67**	**43**	P	**Pb**	**09 51 54.3**	**-1.0**
IZZE				*i* IAML		09 52 32.0	
	comp=N,6μm,0.7s						
IZZE				*i* IAML		09 52 47.0	
	comp=E,5μm,0.6s						
KSL	**Kastellorizon**	**1.72**	**57**	P	**Pb**	**09 51 54.9**	**-1.1**
KSL	**Kastellorizon**	**1.72**	**57**	P	**Pn**	**09 51 54.1**	**0.0**
KSL				S	**Sb**	**09 52 18.3**	**+0.9**
KSL				AML	AML	09 52 46.8	
	31nm,2.0s						
KSL				AML	AML	09 52 47.5	
	22nm,1.6s						
KSL	**Kastellorizon**	**1.72**	**57**	P	**Pb**	**09 51 55.0**	**-0.9**
KSL				S	**Sb**	**09 52 16.7**	**-0.7**
NPS	**Neapolis**	**1.80**	**272**	P	**Pg**	**09 51 58.7**	**-0.6**
NPS	**Neapolis**	**1.80**	**272**	P	**Pb**	**09 51 58.0**	**+0.6**
NPS				S	**Sb**	**09 52 20.9**	**+1.2**
NPS	**Neapolis**	**1.80**	**272**	P	**Pg**	**09 51 58.8**	**-0.5**
NPS				S	**Sg**	**09 52 22.2**	**-0.5**
SABU	**Mula-Dalaman**	**1.86**	**30**	P	**Pb**	**09 51 57.6**	**-0.8**
SABU				S	**Sg**	**09 52 25.8**	**+1.3**
SABU				*i* IAML		09 52 37.0	
	comp=N,5μm,0.7s						
SABU				*i* IAML		09 52 40.0	
	comp=E,5μm,1.1s						
BDRM	**Kayabasi**	**1.87**	**351**	P	**Pb**	**09 51 57.4**	**-1.2**
BDRM				S	**Sg**	**09 52 23.7**	**-1.1**
BDRM				*i* IAML		09 52 37.0	
	comp=E,5μm,1.0s						
YKAV	**Yalikavak-Bodr**	**1.95**	**347**	Pn	**Pb**	**09 51 59.1**	**-0.8**
DEMR	**Demre-Antalya**	**1.98**	**59**	Pn	**Pn**	**09 51 58.9**	**+1.2**
MULA	**Mugla, Merkez-**	**2.08**	**11**	P	**Pb**	**09 52 02.6**	**+0.5**
MULA				S	**Sb**	**09 52 28.9**	**+1.2**
CAME	**Cameli-Denizli**	**2.10**	**35**	Pn	**Pn**	**09 52 00.9**	**+1.4**
KNIK	**Mula-Seydike**	**2.16**	**41**	P	**Pb**	**09 52 02.5**	**-1.2**
KNIK				*i* IAML		09 52 48.0	
	comp=N,2μm,1.5s						
KNIK				*i* IAML		09 53 04.0	
	comp=E,2μm,1.5s						
DIDI	**Didim-Aydin**	**2.20**	**348**	Pn	**Pb**	**09 52 02.5**	**-1.7**
THERA	**Ancient Thera,**	**2.22**	**302**	P	**Pn**	**09 52 02.6**	**+1.7**
THERA	**Ancient Thera,**	**2.22**	**302**	P	**Pb**	**09 52 03.3**	**-1.2**
THERA				S	**Sb**	**09 52 32.7**	**+1.0**
CAEL	**Denizli, Camel**	**2.26**	**32**	P	**Pb**	**09 52 03.6**	**-1.7**
CAEL				*i* IAML		09 53 00.0	
	comp=E,1μm,1.5s						
CAEL				*i* IAML		09 53 01.0	
	comp=N,1μm,2.2s						
THR6	**Thira Island,**	**2.27**	**301**	P	**Pn**	**09 52 03.2**	**+1.6**
DNZT	**Denizli-Tavas-**	**2.28**	**25**	P	**Pb**	**09 52 04.0**	**-1.6**
DNZT				S	**Sb**	**09 52 35.5**	**+1.9**
DNZT				*i* IAML		09 52 52.0	
	comp=N,3μm,1.1s						
DNZT				*i* IAML		09 53 03.0	
	comp=E,2μm,1.1s						
DDIM	**Aydin, Didim**	**2.28**	**349**	P	**Pb**	**09 52 03.7**	**-1.8**
DDIM				*i* IAML		09 52 51.0	
	comp=N,6μm,1.3s						
DDIM				*i* IAML		09 52 59.0	
	comp=E,5μm,1.2s						
THR2	**Thira island,**	**2.29**	**303**	P	**Pb**	**09 52 05.7**	**0.0**
THR3	**Thira Island,**	**2.29**	**302**	P	**Pb**	**09 52 04.8**	**-0.9**
SNT5	**Nea Kammeni, S**	**2.29**	**302**	P	**Pb**	**09 52 04.1**	**-1.7**
THR5	**Thira Island,**	**2.33**	**302**	P	**Pb**	**09 52 05.8**	**-0.6**
AKUM	**Antalya-Kumluc**	**2.34**	**61**	P	**Pn**	**09 52 03.4**	**+0.8**
AKUM				S	**Sn**	**09 52 32.4**	**+1.4**
AKUM				*i* IAML		09 53 19.0	
	comp=N,1μm,2.3s						
AKUM				*i* IAML		09 53 22.0	
	comp=E,2μm,1.3s						
SAP3	**Santorini-Thir**	**2.34**	**302**	P	**Pb**	**09 52 05.0**	**-1.6**
SAP3	**Santorini-Thir**	**2.34**	**302**	P	**Pb**	**09 52 05.0**	**-1.6**
IDI	**Anoyia**	**2.39**	**273**	P	**Pb**	**09 52 06.0**	**-1.5**
IDI				S	**Sn**	**09 52 26.5**	**-5.9**
IDI	**Anoyia**	**2.39**	**273**		**Pb**	**09 52 06.1**	**-1.3**
IDI	**Anoyia**	**2.39**	**273**	Pn	**Pn**	**09 52 03.9**	**+0.5**
IDI	**Anoyia**	**2.39**	**273**	P	**Pb**	**09 52 07.0**	**-0.5**
IDI	**Anoyia**	**2.39**	**273**	Pn	**Pb**	**09 52 06.6**	**-0.9**
	39nm,0.3s,baz=112,slow=15,SNR=83						
IDI				LR	LR	09 52 34.5	
	comp=Z,5μm,18.4s,baz=100,slow=30						
IDI				Sn	**Sb**	**09 52 36.8**	**0.0**
	99nm,0.3s,baz=55,slow=23,SNR=6.2						
IDI	**Anoyia**	**2.39**	**273**	P	**Pb**	**09 52 06.2**	**-1.3**
TAVA	**DENIZLI_Tavas**	**2.41**	**21**	P	**Pb**	**09 52 06.0**	**-1.9**
TAVA				S	**Sg**	**09 52 39.8**	**-2.6**
TAVA				*i* IAML		09 52 50.0	
	comp=E,3μm,0.9s						
TAVA				*i* IAML		09 52 51.0	
	comp=N,3μm,1.1s						
AYDN	**Tasoluk**	**2.44**	**1**	P	**Pn**	**09 52 06.0**	**+2.0**
AYDN				S	**Sb**	**09 52 36.3**	**-1.9**
AYDN				*i* IAML		09 52 50.0	
	comp=E,3μm,1.0s						
AYDN				*i* IAML		09 52 53.0	
	comp=N,4μm,1.1s						
GOLH	**Golhisar**	**2.46**	**35**	P	**Pb**	**09 52 07.0**	**-1.8**
GOLH				S	**Sb**	**09 52 39.8**	**+0.9**
GOLH				*i* IAML		09 52 56.0	
	comp=N,6μm,1.0s						
GOLH				*i* IAML		09 53 18.0	
	comp=E,4μm,1.1s						
GCAM	**G?zelcami?**	**2.52**	**350**	Pn	**Pn**	**09 52 07.2**	**+2.1**
GCAM	**G?zelcami?**	**2.52**	**350**	P	**Pn**	**09 52 07.0**	**+2.0**
GCAM				*i* IAML		09 53 02.0	
	comp=N,2μm,0.7s						
GCAM				*i* IAML		09 53 06.0	
	comp=E,2μm,1.0s						
APMY	**Acipayam-Deniz**	**2.55**	**28**	Pn	**Pb**	**09 52 07.8**	**-2.4**
DNIZ	**Denizli-Tavas-**	**2.60**	**22**	P	**Pn**	**09 52 08.2**	**+1.9**
DNIZ				S	**Sb**	**09 52 43.1**	**+0.3**
DNIZ				*i* IAML		09 52 53.0	
	comp=N,5μm,0.6s						
DNIZ				*i* IAML		09 53 06.0	
	comp=E,6μm,0.5s						
SMG	**Samos**	**2.61**	**343**	P	**Pn**	**09 52 07.8**	**+1.5**
SMG	**Samos**	**2.61**	**343**	P	**Pn**	**09 52 07.8**	**+1.5**
APE	**Apeiranthos**	**2.61**	**316**	Pn	**Pn**	**09 52 07.8**	**+1.4**
APE	**Apeiranthos**	**2.61**	**316**	||P	**Pn**	**09 52 07.8**	**+1.4**
APE				||S	**Sb**	**09 52 42.1**	**-1.0**
APE	**Apeiranthos**	**2.61**	**316**	*i* P	**Pn**	**09 52 07.2**	**+0.8**
APE				S	**Sb**	**09 52 42.1**	**-1.0**
APE	**Apeiranthos**	**2.61**	**316**	P	**Pn**	**09 52 08.3**	**+2.0**
ESEN	**Aydn-Nazilli**	**2.61**	**9**	P	**Pn**	**09 52 08.1**	**+1.7**
ESEN				*i* IAML		09 53 07.0	
	comp=N,2μm,0.9s						
ESEN				*i* IAML		09 53 07.0	
	comp=E,2μm,1.7s						
KEMT	**Kemer-ANTALYA**	**2.62**	**57**	Pn	**Pn**	**09 52 07.9**	**+1.4**
KRL1	**Karlovasi Samo**	**2.72**	**341**	P	**Pn**	**09 52 10.0**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**2.72**	**1**	Pn	**Pn**	**09 52 09.8**	**+1.8**
NAZL	**Nazilli-Aydin**	**2.77**	**8**	Pn	**Pn**	**09 52 10.5**	**+2.0**
ANTB	**Antalya**	**2.85**	**53**	Pn	**Pn**	**09 52 11.5**	**+1.9**
INCE	**Denizli-Bozkur**	**2.87**	**29**	P	**Pn**	**09 52 11.7**	**+1.8**
INCE				*i* IAML		09 53 06.0	
	comp=E,3μm,1.3s						
INCE				*i* IAML		09 53 08.0	
	comp=N,3μm,1.0s						
IZMR	**zmir-demi**	**2.92**	**2**	P	**Pn**	**09 52 11.5**	**+1.0**
IZMR				*i* IAML		09 53 11.0	
	comp=N,2μm,1.5s						
IZMR				*i* IAML		09 53 20.0	
	comp=E,2μm,1.5s						
DGB	**zmir**	**2.92**	**346**	P	**Pn**	**09 52 11.9**	**+1.3**
DGB				*i* IAML		09 53 05.0	
	comp=E,792nm,1.5s						
DGB				*i* IAML		09 53 17.0	
	comp=N,695nm,0.8s						
GMLD	**Gumuldur**	**2.94**	**346**	Pn	**Pn**	**09 52 13.0**	**+2.1**
KIRA	**zmir-Kiraz**	**3.01**	**9**	P	**Pn**	**09 52 13.1**	**+1.2**
KIRA				*i* IAML		09 53 15.0	
	comp=E,1μm,1.5s						
KIRA				*i* IAML		09 53 16.0	
	comp=N,2μm,1.1s						
ODEM	**Odemis-Izmir**	**3.06**	**4**	Pn	**Pn**	**09 52 14.7**	**+2.1**
BUCA	**Burdur, Bucak-**	**3.06**	**46**	P	**Pn**	**09 52 15.2**	**+2.6**
BUCA				S	**Sb**	**09 52 54.5**	**-1.6**
BUCA				*i* IAML		09 53 25.0	
	comp=N,1μm,1.1s						
BUCA				*i* IAML		09 53 52.0	
	comp=E,2μm,1.2s						
BRDR	**BURDUR-Merkez**	**3.07**	**36**	P	**Pn**	**09 52 14.9**	**+2.2**
BRDR				*i* IAML		09 53 20.0	
	comp=N,2μm,1.3s						
BRDR				*i* IAML		09 53 28.0	
	comp=E,2μm,0.9s						
GVD	**Gavdhos**	**3.08**	**264**	Pn	**Pn**	**09 52 13.2**	**+0.5**
GVD	**Gavdhos**	**3.08**	**264**	P	**Pn**	**09 52 15.4**	**+2.7**
GVD	**Gavdhos**	**3.08**	**264**	P	**Pn**	**09 52 15.8**	**+3.0**
CHAN	**Chania**	**3.09**	**277**	P	**Pb**	**09 52 16.7**	**-2.7**
MHLO	**Agia Marina, M**	**3.13**	**299**	P	**Pb**	**09 52 17.2**	**-2.9**
MHLO	**Agia Marina, M**	**3.13**	**299**	P	**Pn**	**09 52 16.6**	**+3.1**
ZEYE	**Izmir, Urla-Ze**	**3.19**	**341**	P	**Pn**	**09 52 16.0**	**+1.6**
ZEYE				*i* IAML		09 53 07.0	
	comp=E,706nm,1.0s						
ZEYE				*i* IAML		09 53 27.0	
	comp=N,1μm,1.5s						
BLCB	**Balcova**	**3.22**	**349**	Pn	**Pn**	**09 52 16.4**	**+1.7**
BLCB	**Balcova**	**3.22**	**349**	P	**Pn**	**09 52 16.2**	**+1.5**
URLA	**Izmir**	**3.28**	**343**	Pn	**Pn**	**09 52 17.3**	**+1.7**
URLA	**Izmir**	**3.28**	**343**	P	**Pn**	**09 52 17.0**	**+1.4**
URLA				*i* IAML		09 53 31.0	
	comp=N,2μm,1.1s						
URLA				*i* IAML		09 53 35.0	
	comp=E,2μm,1.1s						
MANT	**Manisa**	**3.32**	**10**		**Pn**	**09 52 16.7**	**+0.4**
MANT	**Manisa**	**3.32**	**10**	P	**Pn**	**09 52 17.3**	**+1.0**
MANT				*i* IAML		09 53 29.0	
	comp=E,1μm,1.8s						
MANT				*i* IAML		09 53 31.0	
	comp=N,988nm,1.7s						
KULA	**Kula-Manisa**	**3.36**	**11**	Pn	**Pn**	**09 52 19.0**	**+2.3**
KNDR	**Palaiochora Ch**	**3.38**	**271**	Pn	**Pn**	**09 52 17.9**	**+1.1**
KHL	**Karahalli**	**3.39**	**23**	P

comp=Z,12nm,0.5s
NATA Nata 3.93 95 P **Pn** 09 52 24.3 -0.2
KTHA Kythira Island 4.00 286 Pn **Pn** 09 52 26.9 +1.5
KTHA Kythira Island 4.00 286 P **Pn** 09 52 27.4 +2.0
TROD Troodos 4.16 92 P **Pn** 09 52 26.6 -1.1
TROD S **Sn** 09 53 17.4 +1.2
TROD AML AML 09 53 26.3
comp=Z,3.9nm,0.6s
TROD AML AML 09 53 27.3
comp=Z,3.1nm,0.7s
DION Dionisos Attik 4.23 314 P **Pn** 09 52 30.9 +2.4
VLI Veliai 4.23 292 P **Pn** 09 52 30.3 +1.8
ATHU Athens Univers 4.24 311 P **Pn** 09 52 31.6 +2.8
PTL Penteli 4.25 313 P **Pn** 09 52 31.4 +2.5
SIGR SIGRI 4.28 339 P **Pn** 09 52 31.1 +1.8
XYLS Xyliatos 4.30 91 P **Pn** 09 52 29.2 -0.4
XYLS S **Sn** 09 53 20.3 +0.8
XYLS AML AML 09 53 22.5
comp=Z,3.0nm,0.6s
XYLS AML AML 09 53 24.1
comp=Z,3.1nm,0.6s
SLUM Salum 4.30 211 P **Pn** 09 52 30.7 +1.0
SLUM S **Sn** 09 53 19.4 -0.2
PARN1 Fyli,Attica,Gr 4.40 312 P **Pn** 09 52 33.1 +2.2
FILI Fyli 4.40 312 P **Pn** 09 52 33.8 +2.8
ASGA Asgata 4.49 94 P **Pn** 09 52 31.5 -0.6
ASGA S **Sn** 09 53 25.7 +1.7
ASGA AML AML 09 53 29.5
comp=Z,4.5nm,0.6s
ASGA AML AML 09 53 31.7
comp=Z,10nm,0.6s
ASGA Asgata 4.49 94 P **Pn** 09 52 31.9 -0.2
KYMI Kymi, Euboea I 4.52 320 P **Pn** 09 52 35.4 +2.8
STFN Stefani 4.52 312 P **Pn** 09 52 35.7 +3.0
CSS Mathiatis 4.54 92 P **Pn** 09 52 31.6 -1.3
CSS Mathiatis 4.54 92 P **Pn** 09 52 32.2 -0.6
CSS S **Sn** 09 53 26.1 +0.9
CSS AML AML 09 53 34.2
comp=Z,3.2nm,0.6s
CSS AML AML 09 53 35.8
comp=Z,3.7nm,0.8s
CSS Mathiatis 4.54 92 P **Pn** 09 52 31.5 -1.3
CSS Mathiatis 4.54 92 P **Pn** 09 52 33.0 +0.2
ATHAL Athalassa 4.58 89 P **Pn** 09 52 33.0 -0.3
ATHAL S **Sn** 09 53 28.0 +1.7
ATHAL AML AML 09 53 41.9
comp=Z,6.1nm,0.7s
ATHAL AML AML 09 53 53.8
comp=Z,6.4nm,1.2s
EZN Ezine 4.75 346 P **Pn** 09 52 37.7 +2.0
EZN Ezine 4.75 346 ⇑P **Pn** 09 52 37.4 +1.7
EZN Ezine 4.75 346 P **Pn** 09 52 37.4 +1.7
EZN Ezine 4.75 346 P **Pn** 09 52 35.4 -0.3
MVOU Mavrovouni 4.78 91 P **Pn** 09 52 35.6 -0.5
MVOU S **Sn** 09 53 32.5 +1.3
MVOU AML AML 09 53 38.4
comp=Z,2.0nm,0.7s
MVOU AML AML 09 53 39.3
comp=Z,2.8nm,0.6s
PARAL Paralimni 5.11 91 P **Pn** 09 52 40.7 0.0
PARAL S **Sn** 09 53 41.4 +1.9
PARAL AML AML 09 53 50.8
comp=Z,2.8nm,0.8s
PARAL AML AML 09 54 01.8
comp=Z,2.8nm,0.8s
ITM Ithomi 5.14 294 **Pn** 09 52 43.8 +2.6
ITM Ithomi 5.14 294 P **Pn** 09 52 44.1 +2.9
KLV Kalavryta, Ach 5.35 303 P **Pn** 09 52 47.2 +3.1
YLV Yalova 5.48 13 P **Pn** 09 52 45.2 -0.6
comp=Z,1.8nmcomp=Z,3µmcomp=Z,231nm,1.0s
CAVK Edirne/Enez-Ca 5.62 347 ⇑P **Pn** 09 52 49.9 +2.3
AGG Agios Georgios 5.79 313 P **Pn** 09 52 53.8 +3.7
ALN Alexandroupoli 5.84 347 **Pn** 09 52 52.1 +1.6
ALN Alexandroupoli 5.84 347 P **Pn** 09 52 52.3 +1.6
HNAT Natroun 6.05 156 P **Pn** 09 52 53.0 -0.7
SILT Sile 6.10 13 ⇓P **Pn** 09 52 57.1 +2.9
ANTO Ankara 6.10 39 **Pn** 09 52 56.2 +1.8
ANTO Ankara 6.10 39 ⇓P **Pn** 09 52 57.5 +3.2
ANTO Ankara 6.10 39 P **Pn** 09 52 56.2 +1.8
ANTO Ankara 6.10 39 P **Pn** 09 52 54.0 -0.4
comp=Z,0.7nmcomp=Z,1µmcomp=Z,56nm,0.8s
KLYT Kilyos 6.10 9 ⇑P **Pn** 09 52 56.2 +1.9
KLYT Kilyos 6.10 9 P **Pn** 09 52 54.1 -0.2
comp=Z,1.6nmcomp=Z,2µmcomp=Z,146nm,1.2s
SAHE Sakarya_HENDEK 6.12 22 ⇓P **Pn** 09 52 56.6 +2.1
RDO Rodhopi 6.18 344 **Pn** 09 52 57.6 +2.2
KIRS Kirsehir-Merke 6.25 49 ⇑P **Pn** 09 52 58.5 +2.1
KOT Kottamia 6.27 146 P **Pn** 09 52 55.9 -0.8
SWA2 6.28 199 P **Pn** 09 52 57.2 +0.4
HHAG Hagoal 6.38 144 P **Pn** 09 52 57.4 -0.8
BR131 Keskin Array S 6.46 44 **Pn** 09 53 00.7 +1.3
BR131 Keskin Array S 6.46 44 *i* P **Pn** 09 52 59.4 0.0
BRTR Keskin Array B 6.46 44 **Pn** 09 53 00.5 +1.2
BRTR Keskin Array B 6.46 44 Pn **Pn** 09 53 00.4 +1.0
comp=Z,3.3nm,0.3s,baz=219,slow=13,SNR=77
BRTR Sn **Sn** 09 54 12.7 -0.1
comp=Z,4.3nm,0.3s,baz=210,slow=25,SNR=6.7
comp=Z,36nm,0.8s
HNTI Hanita 6.47 107 P **Pn** 09 52 59.0 -0.3
HNTI Hanita 6.47 107 S **Sn** 09 54 11.1 -1.8
OFRI `Ofer 6.50 111 P **Pn** 09 52 58.2 -1.7
DQRL Deir Qamar 6.59 101 *eP* **Pn** 09 53 01.9 +0.8
BHL Bhannes 6.60 99 *eP* **Pn** 09 53 00.8 -0.6
SOH Sokhos 6.61 329 P **Pn** 09 53 04.8 +3.5
BLGI Bet Lehem HaGe 6.61 110 P **Pn** 09 53 00.8 -0.6
THE Thessaloniki 6.62 326 P **Pn** 09 53 05.4 +4.0
MMA0B Mount Meron ar 6.67 107 P **Pn** 09 53 01.8 -0.4
MMA0B Mount Meron ar 6.67 107 S **Sn** 09 54 16.8 -1.2
MMAI Mount Meron Ar 6.67 107 Pn **Pn** 09 53 00.7 -1.5
comp=Z,21nm,0.3s,baz=306,slow=12,SNR=54
MMAI Sn **Sn** 09 54 17.5 -0.5
comp=Z,67nm,0.3s,baz=282,slow=37,SNR=2.9
KDZ Kurdzhali 6.69 344 *eP* **Pn** 09 53 05.5 +3.1
SLTI Sal'it 6.72 114 P **Pn** 09 53 02.2 -0.6
QRWL Qaraoun 6.72 102 *eP* **Pn** 09 53 01.6 -1.3
SRS Serrai 6.76 332 *eP* **Pn** 09 53 06.1 +2.7
SRS *eS* Sn 09 54 00.6 -19
HWQ Hawqa 6.76 96 *eP* **Pn** 09 53 02.2 -1.4
GEM Giv'at Ha'Em 6.81 105 P **Pn** 09 53 03.9 -0.1
GEM Giv'at Ha'Em 6.81 105 S **Sn** 09 54 19.1 -2.1
SHBL Chebaa 6.83 104 *eP* **Pn** 09 53 02.7 -1.7
NATI Neve Ativ 6.85 104 P **Pn** 09 53 02.9 -1.7
NATI Neve Ativ 6.85 104 S **Sn** 09 54 21.1 -1.1
RCY Rachaya 6.86 102 *eP* **Pn** 09 53 03.5 -1.3
RZN Rozhen 6.90 340 *eP* **Pn** 09 53 08.6 +3.2
BEIL Beino 6.92 93 *eP* **Pn** 09 53 03.8 -1.7
AMAZ Amatzia 6.99 120 P **Pn** 09 53 05.7 -0.9
AMAZ Amatzia 6.99 120 S **Sn** 09 54 23.8 -1.9
KZIT Kziot 7.00 126 P **Pn** 09 53 05.4 -1.3
KZIT Kziot 7.00 126 S **Sn** 09 54 23.4 -2.6
DIM Dimitrovgrad 7.04 346 *eP* **Pn** 09 53 09.5 +2.4
HMDT Nahal Hemdat 7.08 113 P **Pn** 09 53 06.0 -1.6
HMDT Nahal Hemdat 7.08 113 S **Sn** 09 54 26.4 -1.4
MMB Musomishta 7.08 334 *eP* **Pn** 09 53 11.3 +3.6
FKH Fakeheh 7.15 95 *eP* **Pn** 09 53 08.3 -0.5
ZAF Zafarana 7.15 145 P **Pn** 09 53 05.6 -3.1
UJAP Al Uja 7.17 115 P **Pn** 09 53 09.2 +0.2
YTIR Yattir 7.22 120 P **Pn** 09 53 08.4 -1.4
YTIR Yattir 7.22 120 S **Sn** 09 54 29.1 -2.5
DSI Dead Sea 7.30 118 P **Pn** 09 53 09.4 -1.4
DSI Dead Sea 7.30 118 S **Sn** 09 54 32.5 -0.9
PLD Plovdiv 7.32 342 *eP* **Pn** 09 53 14.1 +3.1
PLD Plovdiv 7.32 342 *ePn* **Pn** 09 53 14.5 +3.5
PLD *eSn* Sn 09 54 13.8 -20
JMB Yambol 7.33 353 *eP* **Pn** 09 53 12.8 +1.6
IGT Igoumenitsa 7.35 308 *ePn* **Pn** 09 53 15.3 +3.9
IGT *eSn* Sn 09 54 20.3 -14
VAY Valandovo 7.35 327 *i* P **Pn** 09 53 15.5 +4.0
MDBI Mazsada 7.42 120 P **Pn** 09 53 12.6 +0.1
MSBI Mazada 7.42 120 P **Pn** 09 53 11.3 -1.2
FNA Florina 7.53 319 *ePn* **Pn** 09 53 18.4 +4.5
FNA *eSn* Sn 09 54 21.8 -17
KKB Krupnik 7.56 332 *eP* **Pn** 09 53 18.3 +3.9
GHAJ Ghor Haditha 7.58 119 **Pn** 09 53 14.0 -0.6
KRMI Paran Flat 7.74 129 P **Pn** 09 53 15.5 -1.3
ZFRI Zfri 7.75 125 P **Pn** 09 53 15.7 -1.2
ZFRI Zfri 7.75 125 S **Sn** 09 54 41.1 -3.2
PRNI Paran 7.76 127 P **Pn** 09 53 17.1 -0.1
CIDE Kastamonu/Cide 7.78 30 ⇑P **Pn** 09 53 19.8 +2.6
KEK Kerkira 7.79 308 Pn **Pn** 09 53 18.0 +0.5
PGB Panagyurishte 7.82 340 *eP* **Pn** 09 53 22.5 +4.6
ELND Elena 7.84 350 ⇑P **Pn** 09 53 20.0 +1.8

GAZ Gaziantep 7.85 73 **Pn** 09 53 15.5 -2.8
TAMRE El Minia 7.97 160 P **Pn** 09 53 19.6 -0.3
HRDS Abu Rudays 7.99 143 P **Pn** 09 53 19.8 -0.4
HRFI Mount Harif 7.99 128 P **Pn** 09 53 19.4 -0.9
HRFI Mount Harif 7.99 128 S **Sn** 09 54 48.1 -2.2
PLNA Plana 8.01 336 *eP* **Pn** 09 53 25.1 +4.5
HFRF Wahat Farafira 8.06 177 P **Pn** 09 53 20.8 -0.4
HFRF S **Sn** 09 54 47.7 -4.3
OHR Ohrid 8.07 319 *i* P Pn 09 53 27.1 +5.8
MBRI Mt Berech 8.08 130 P **Pn** 09 53 20.6 -0.9
GRB Gharib 8.12 147 P **Pn** 09 53 21.4 -0.7
ASF Jabal al Asfar 8.16 109 Pn **Pn** 09 53 22.1 -0.5
comp=Z,4.3nm,0.3s,baz=303,slow=8.2,SNR=23
ASF Sn **Sn** 09 54 54.0 -0.7
comp=Z,3.8nm,0.3s,baz=322,slow=23,SNR=3.2
ASF LR LR 09 57 39.3
comp=Z,716nm,20.2s,baz=308,slow=46
comp=Z,22nm,0.5s
SZH Strazhitsa 8.16 351 *eP* **Pn** 09 53 24.3 +1.7
EIL Elat 8.19 131 Pn **Pn** 09 53 21.9 -1.0
comp=Z,6.2nm,0.3s,baz=339,slow=12,SNR=56
EIL Sn **Sn** 09 54 50.3 -4.9
comp=Z,12nm,0.3s,baz=183,slow=22,SNR=4.3
EIL Elat 8.19 131 P **Pn** 09 53 22.0 -1.0
EIL Elat 8.19 131 S **Sn** 09 54 51.8 -3.4
LOZB Loznitsa 8.20 354 ⇑P **Pn** 09 53 25.2 +2.2
VTS Vitosha 8.20 336 *eP* **Pn** 09 53 27.3 +4.0
VTS Vitosha 8.20 336 *ePn* **Pn** 09 53 26.9 +3.6
VTS *eSn* Sn 09 54 36.2 -20
BZK Bozkurt 8.29 34 ⇓P **Pn** 09 53 27.0 +2.6
BZK Bozkurt 8.29 34 P **Pn** 09 53 23.9 -0.5
BOSS Bosilegrad 8.37 332 *ePn* **Pn** 09 53 29.4 +4.0
HBST Basata 8.38 134 P **Pn** 09 53 25.2 -0.4
SKO Skopje 8.38 325 *i* P **Pn** 09 53 30.1 +4.5
RAZG Razgrad 8.40 354 ⇑P **Pn** 09 53 27.5 +1.7
NUB Nuweibaa 8.47 135 P **Pn** 09 53 27.2 +0.4
HKAT Jabal Katrina 8.49 140 P **Pn** 09 53 26.7 -0.7
PLVB Pleven 8.52 344 ⇑P **Pn** 09 53 30.2 +2.7
TOKA Tokat 8.55 51 Pn **Pn** 09 53 30.2 +2.4
MPEP Malo Peshtene 8.72 340 *eP* **Pn** 09 53 33.2 +3.0
SCTE Santa Cesarea 8.85 306 **Pn** 09 53 32.1 +0.1
ZAPS Zavoj 8.99 335 *ePn* **Pn** 09 53 37.8 +3.9
VLAD Vladila 9.15 344 ⇑P **Pn** 09 53 38.5 +2.4
BLKB Belogradchik 9.28 336 *ePn* **Pn** 09 53 40.8 +2.8
ULC Ulcinj 9.50 318 ⇓*i* Pn **Pn** 09 53 37.5 -3.4
ULC *i* Sn **Sn** 09 55 28.9 +1.5
ZAGS Zajecar 9.60 335 *ePn* **Pn** 09 53 45.8 +3.5
BOVS Bovan 9.64 333 ⇓P **Pn** 09 53 45.5 +2.7
BOVS Bovan 9.64 333 *ePn* **Pn** 09 53 46.6 +3.8
TIP Timpagrande 9.66 297 **Pn** 09 53 42.5 -0.7
TIP Timpagrande 9.66 297 P **Pn** 09 53 43.0 -0.2
comp=Z,1µmcomp=Z,121nm,1.1s
DRME Dracevica, Mon 9.68 318 *ePn* **Pn** 09 53 46.9 +3.5
DRME *eSn* Sn 09 55 13.3 -19
DRME Dracevica, Mon 9.68 318 ⇓*i* Pn **Pn** 09 53 46.9 +3.5
DRME *i* Sn **Sn** 09 55 33.4 +1.5
BEY Berane 9.81 324 *ePn* Pn 09 53 50.2 +5.0
IVA Berane 9.81 324 ⇓*i* Pn **Pn** 09 53 48.2 +3.0
IVA *i* Sn **Sn** 09 55 36.2 +1.1
PDG Podgorica 9.81 320 **Pn** 09 53 46.3 +1.1
PDG Podgorica 9.81 320 ⇑P **Pn** 09 53 47.7 +2.5
PDG Podgorica 9.81 320 *ePn* **Pn** 09 53 48.3 +3.1
PDG *eSn* Sn 09 55 14.6 -20
PDG Podgorica 9.81 320 ⇑*i* Pn **Pn** 09 53 48.3 +3.1
PDG *i* Sn **Sn** 09 55 35.8 +0.8
GOCS Kraljevo Serbi 9.91 329 *ePn* **Pn** 09 53 48.9 +2.3
BUM Brajici-Budva 9.92 318 ⇑*i* Pn **Pn** 09 53 46.9 +0.2
BUM *i* Sn **Sn** 09 55 38.7 +0.9
ISR Istrita 9.94 355 ⇓P **Pn** 09 53 49.9 +3.0
ISR Istrita 9.94 355 P **Pn** 09 53 49.9 +3.0
ISR Istrita 9.94 355 P **Pn** 09 53 46.9 0.0
comp=Z,1µmcomp=Z,92nm,1.1s
CFR Carcaliu 9.95 1 ⇑P **Pn** 09 53 49.8 +2.7
CFR Carcaliu 9.95 1 P **Pn** 09 53 49.7 +2.7
KOME Kolasin 9.98 322 *ePn* **Pn** 09 53 51.5 +3.9
KOME Kolasin 9.98 322 ⇓*i* Pn **Pn** 09 53 51.5 +3.9
KOME *i* Sn **Sn** 09 55 40.5 +1.2
TLCR 9.99 4 ⇑P **Pn** 09 53 49.8 +2.2
TLCR 9.99 4 P **Pn** 09 53 49.7 +2.2
CEL Celeste 10.03 291 **Pn** 09 53 48.6 +0.4
CEL Celeste 10.03 291 P **Pn** 09 53 48.9 +0.6
comp=Z,1µmcomp=Z,106nm,0.9s
SJES Sjenica 10.07 325 *ePn* **Pn** 09 53 53.1 +4.3
CEME Cevo 10.07 319 ⇓*i* Pn **Pn** 09 53 50.3 +1.5
CEME *i* Sn **Sn** 09 55 43.3 +1.7
IVAS Ivanjica 10.23 327 *ePn* **Pn** 09 53 54.5 +3.6
GRUS Gruza 10.24 330 *ePn* **Pn** 09 53 53.9 +2.8
KUBS Kucevo 10.32 335 *ePn* **Pn** 09 53 54.9 +2.7
BISRR Bisoca 10.35 356 ⇑P **Pn** 09 53 55.3 +2.6
MLR Muntele Rosu 10.36 353 **Pn** 09 53 53.6 +0.8
MLR Muntele Rosu 10.36 353 Pn **Pn** 09 53 51.5 -1.3
comp=Z,0.3nm,0.3s,baz=142,slow=18,SNR=28
MLR LR LR 09 57 53.0
comp=Z,793nm,18.0s,baz=169,slow=38
comp=Z,57nm,1.2s
MLR Muntele Rosu 10.36 353 ⇑P **Pn** 09 53 55.3 +2.5
PLE Pljevlja 10.40 324 ⇑*i* Pn **Pn** 09 53 57.5 +4.2
ARR Arges 10.42 348 ⇑P **Pn** 09 53 54.4 +2.8
SCTR Scanteiesti 10.45 1 ⇓P **Pn** 09 53 57.2 +3.3
HERR Herculane 10.50 338 ⇑P **Pn** 09 53 57.6 +3.0
TREB Trebinje 10.50 318 *ePn* **Pn** 09 53 55.3 +0.7
BRY Bratogost 10.52 320 ⇑*i* Pn **Pn** 09 53 57.0 +2.0
BRY *i* Sn **Sn** 09 55 53.6 +1.0
UPM Unac-Piva 10.54 322 ⇑*i* Pn **Pn** 09 53 57.0 +1.6
UPM *i* Sn **Sn** 09 55 54.6 +1.3
RUDO Rudo 10.62 325 *ePn* **Pn** 09 53 59.5 +3.2
MDVR Moldovita 10.63 336 ⇑P **Pn** 09 53 59.4 +2.9
CUC Castrocucco 10.64 300 **Pn** 09 53 56.5 -0.1
TRUS Trudelj 10.64 330 *ePn* **Pn** 09 53 59.4 +2.8
PLOR Plostina 10.66 356 ⇑P **Pn** 09 53 60.0 +3.2
PLOR Plostina 10.66 356 P **Pn** 09 54 00.1 +3.3
VRI Vrincioaia 10.67 356 ⇑P **Pn** 09 53 59.4 +2.4
VRI Vrincioaia 10.67 356 P **Pn** 09 53 59.3 +2.4
VRI Vrincioaia 10.67 356 P **Pn** 09 53 57.4 +0.5
comp=Z,1µmcomp=Z,77nm,1.4s
VARL Varlezi 10.67 0 ⇑P **Pn** 09 53 59.5 +2.6
LOT Lotru 10.67 344 ⇑P **Pn** 09 53 58.9 +1.8
MARD Mardin 10.68 75 **Pn** 09 53 57.6 +0.4
KLINJ Klinje 10.68 321 *ePn* **Pn** 09 54 00.1 +2.9
BBLS Lazi&#263i 10.80 326 *ePn* **Pn** 09 54 01.9 +3.2
WDD Wied Dalam 10.85 277 **Pn** 09 54 00.1 +0.7
SIM Simferopol' 10.85 24 *eP* **Pn** 09 54 01.0 +1.6
SIM *eS* Sn 09 55 57.3 -3.1
SIM pmax pmax
comp=Z,76nm,1.3s
GZR Gura Zlata 10.86 341 ⇑P **Pn** 09 54 01.8 +2.2
GZR Gura Zlata 10.86 341 P **Pn** 09 54 01.8 +2.2
ACER Acerenza 10.88 304 **Pn** 09 53 59.3 -0.6
DOPR Dupca 10.89 351 ⇑P **Pn** 09 54 02.4 +2.3
TURR Turia 10.91 353 ⇓P **Pn** 09 54 03.3 +3.0
STON Ston 10.96 317 *ePn* **Pn** 09 54 00.8 0.0
OZUR 10.97 353 ⇑P **Pn** 09 54 04.4 +3.2
VAE Valguarnera 11.04 286 Pn **Pn** 09 54 02.8 +0.8
comp=Z,18nm,0.5s,baz=173,slow=8.7,SNR=7.4
VAE Sn **Sn** 09 56 05.2 -0.1
comp=Z,4.2nm,0.3s,baz=203,slow=20,SNR=2.6
RAFF Raffo Rosso 11.05 284 **Pn** 09 54 02.3 +0.2
VRSS Vrsac 11.06 335 *ePn* **Pn** 09 54 05.5 +3.2
ONER Baraj Valea Uz 11.16 355 ⇑P **Pn** 09 54 06.7 +3.1
TEKS Tekeris 11.28 328 *ePn* **Pn** 09 54 08.2 +2.9
TESR Tescani 11.32 356 ⇑P **Pn** 09 54 08.3 +2.5
TESR Tescani 11.32 356 P **Pn** 09 54 06.4 +0.6
comp=Z,561nmcomp=Z,29nm,0.8s
BZS Buzias 11.40 337 ⇓P **Pn** 09 54 10.0 +3.0
BZS Buzias 11.40 337 P **Pn** 09 54 09.9 +3.0
MILM Milestii Mici 11.71 3 *i* P **Pn** 09 54 11.6 +0.4
comp=Z,150nm,1.4s
MILM *eL* L 09 57 32.0
MILM LRM MLR 09 59 17.0
comp=Z,3µm,10.4s
MILM Milestii Mici 11.71 3 *i* P **Pn** 09 54 11.6 +0.4
MILM pmax pmax
comp=Z,150nm,1.4s
MILM MLR MLR
comp=Z,3µm,10.5s
KIS Kishinev 11.79 3 *eP* **Pn** 09 54 12.0 -0.3
KIS *eL* L 09 58 56.0
KIS LRM MLR 09 59 22.0
comp=Z,1µm,12.0s
KIS Kishinev 11.79 3 *eP* **Pn** 09 54 12.0 -0.3
KIS MLR MLR
comp=Z,1µm,10.6s

CJR Cluj-Napoca 11.91 346 ⇑P **Pn** 09 54 16.7 +2.6
CJR Cluj-Napoca 11.91 346 P **Pn** 09 54 16.6 +2.6
SIRR Siria 11.98 339 ⇑P **Pn** 09 54 17.7 +2.8
MARR Marisel-Cluj 11.98 344 ⇑P **Pn** 09 54 17.3 +2.3
ANN Anapa 12.07 35 *eP* **Pn** 09 54 15.1 -1.0
ANN *eS* **Sn** 09 56 27.9 -2.5
ANN pmax pmax
comp=Z,58nm,1.5s
ANN MLR MLR
comp=Z,783nm,15.0s
DRGR 12.18 343 P **Pn** 09 54 20.6 +2.9
KIJV Kijevo 12.41 318 *ePn* **Pn** 09 54 20.7 -0.1
SOC Sochi 12.42 44 *eP* **Pn** 09 54 19.7 -1.2
SOC *e* 09 56 39.6
SOC MLR MLR
comp=Z,584nm,14.0s
BLY Banja Luka 12.52 323 *ePn* **Pn** 09 54 22.1 -0.1
VSLR Vesyoloye 12.53 45 *i* P **Pn** 09 54 22.6 +0.2
BURAR Bucovina Array 12.54 352 **Pn** 09 54 24.3 +1.8
BURAR Bucovina Array 12.54 352 ⇑P **Pn** 09 54 26.1 +3.5
BURAR Bucovina Array 12.54 352 P **Pn** 09 54 26.0 +3.5
A050A Klekovaca 12.66 320 *ePn* **Pn** 09 54 24.4 +0.1
A051A Mrakovica 12.85 323 *ePn* **Pn** 09 54 26.7 0.0
SORM Soroca 12.91 2 ⇓P **Pn** 09 54 29.7 +2.1
SORM Soroca 12.91 2 P **Pn** 09 54 29.6 +2.1
SORM Soroca 12.91 2 P **Pn** 09 54 27.0 -0.6
comp=Z,26nm,1.5s
MORH Mrgy, Hungar 12.99 331 *ePn* **Pn** 09 54 28.3 -0.3
MORH Mrgy, Hungar 12.99 331 ⇓P **Pn** 09 54 30.5 +1.9
MORH Mrgy, Hungar 12.99 331 P **Pn** 09 54 28.6 0.0
comp=Z,573nmcomp=Z,18nm,1.4s
KSV Kosov 13.24 352 P **Pn** 09 54 32.0 -0.1
AQU L'Aquila 13.30 307 P **Pn** 09 54 34.7 +1.8
AQU L'Aquila 13.30 307 P **Pn** 09 54 33.6 +0.7
comp=Z,500nmcomp=Z,36nm,1.3s
MOSL Moslavina 13.36 324 *ePn* **Pn** 09 54 33.9 +0.3
NDNU Novodnistrovsk 13.37 359 P **Pn** 09 54 33.4 -0.4
BERU Beregovo 13.56 345 P **Pn** 09 54 36.2 -0.2
MEZ Mezhgor'ye 13.66 348 P **Pn** 09 54 36.5 -1.3
STNU Starunia 13.70 351 P **Pn** 09 54 37.7 -0.7
MUKU Mukachevo 13.76 346 P **Pn** 09 54 38.6 -0.5
BEHE Becsehely 13.99 327 **Pn** 09 54 42.2 0.0
BEHE Becsehely 13.99 327 *ePn* **Pn** 09 54 40.4 -1.8
OZLJ Ozalj 13.99 322 *ePn* **Pn** 09 54 41.6 -0.7
PSZ Piszkesteto 13.99 337 **Pn** 09 54 43.0 +0.6
PSZ Piszkesteto 13.99 337 ⇑P **Pn** 09 54 45.1 +2.7
PSZ Piszkesteto 13.99 337 P **Pn** 09 54 43.0 +0.6
HORU Horodok 14.02 356 P **Pn** 09 54 42.0 -0.7
BOJS Bojanci 14.03 321 *ePn* **Pn** 09 54 44.5 +1.8
BOJS *e* 09 57 40.0
BOJS *e* 09 58 05.6
MORS Morshin 14.20 349 P **Pn** 09 54 44.5 -0.7
ERBR Yeremizino-Bor 14.23 39 *eP* **Pn** 09 54 43.9 -1.7
ERBR *eS* **Sn** 09 57 24.1 +1.1
ERBR pmax pmax
comp=Z,249nm,1.2s
ERBR MLR MLR
comp=Z,921nm,14.0s
GNI Garni 14.28 65 **Pn** 09 54 44.7 -1.8
GNI Garni 14.28 65 Pn **Pn** 09 54 49.5 +3.1
comp=Z,1.2nm,0.3s,baz=234,slow=19,SNR=8.0
comp=Z,5.0nm,0.4s
GNI Garni 14.28 65 *ceP* **Pn** 09 54 46.7 +0.2
GNI pmax pmax
comp=Z,59nm,1.7s
KOLS Kolonicke sedl 14.30 345 *eP* **P** 09 54 50.4 -3.3
KOLS Kolonicke sedl 14.30 345 *ePN* **P** 09 54 50.4 -3.3
KIV Kislovodsk 14.39 48 **Pn** 09 54 47.8 -0.2
KIV Kislovodsk 14.39 48 *eP* **Pn** 09 54 47.1 -0.9
KIV *eS* **Sn** 09 57 27.6 +0.3
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,317nm,13.0s
KIV Kislovodsk 14.39 48 *i* P **P** 09 54 56.4 +1.5
SNR=22
KBZ Khabaz 14.41 49 **Pn** 09 54 49.0 +1.0
comp=Z,2.7nm,0.9s,baz=230,slow=11,SNR=8.1
KBZ LR LR 10 00 47.9
comp=Z,751nm,19.4s,baz=242,slow=40
KBZ Khabaz 14.41 49 *ceP* **Pn** 09 54 49.5 +1.5
BRJN Brijuni 14.46 316 *ePn* **Pn** 09 54 48.3 -0.3
LUBAR Lubar, Ukraine 14.69 360 P **Pn** 09 54 51.6 -0.3
LJU Ljubljana 14.76 321 *i* Pn **Pn** 09 54 53.8 +0.9
VYHS Vyhne 14.84 336 *eP* **Pn** 09 54 54.3 +0.4
VYHS Vyhne 14.84 336 *ePN* **Pn** 09 54 54.3 +0.4
KWP Kalwaria Pacla 14.88 347 *eP* **Pn** 09 54 56.9 +2.4
KWP *eS* **Sn** 09 57 41.2 +2.2
KWP *eL* L 10 01 36.2
comp=Z,3µm,14.8s
TRI Trieste 14.95 319 **Pn** 09 54 55.4 +0.1
TRI Trieste 14.95 319 P **Pn** 09 54 55.4 +0.1
SOKA Soboth 14.95 324 *i* Pn **Pn** 09 54 56.2 +0.7
comp=Z,83nm,1.5s,SNR=39
SOKA *eS* **S** 09 57 58.7 +0.1
comp=Z,14nm,1.3s
STHS Stebnicka Huta 14.99 343 *eP* **P** 09 55 02.3 +1.0
STHS Stebnicka Huta 14.99 343 *eP* **P** 09 55 02.3 +1.0
KEST Kesra 15.06 277 **Pn** 09 54 57.5 +0.5
KEST IAmb IAmb 09 55 20.3
comp=Z,58nm,0.8s
KEST Kesra 15.06 277 Pn **Pn** 09 54 57.6 +0.7
comp=Z,0.4nm,0.3s,baz=82,slow=7.1,SNR=7.0
KEST Sn **Sn** 09 57 38.7 -4.7
comp=Z,0.2nm,0.3s,baz=89,slow=22,SNR=1.9
comp=Z,9.7nm,1.0s
OBKA Obir 15.07 322 *i* Pn **Pn** 09 54 57.4 +0.3
comp=Z,70nm,1.5s,SNR=17
ARSA Arzberg 15.14 326 **Pn** 09 54 58.0 +0.1
ARSA Arzberg 15.14 326 *ePn* **Pn** 09 54 58.4 +0.5
comp=Z,48nm,1.6s,SNR=17
RONA Rosalia, Austr 15.14 329 *i* Pn **Pn** 09 54 58.1 +0.1
comp=Z,44nm,1.5s,SNR=15
LANS Liptovska Anna 15.22 339 *eP* **P** 09 55 07.6 +3.6
LANS Liptovska Anna 15.22 339 *eP* **P** 09 55 07.5 +3.6
GOF Gofitskoye 15.22 45 *ceP* **P** 09 55 04.0 +0.1
NIE Niedzica 15.23 341 *eP* **P** 09 55 02.1 -1.9
NIE *eS* **S** 09 58 00.4 -3.7
NIE *eL* L 10 00 29.9
comp=Z,646nm,21.2s
NIE Niedzica 15.23 341 P **Pn** 09 54 59.0 -0.1
comp=Z,546nmcomp=Z,40nm,1.5s
OSSC Osservatorio P 15.24 308 **Pn** 09 54 59.4 +0.1
OSSC IAmb IAmb 09 55 28.7
comp=Z,57nm,1.1s
VSL Villasalto 15.26 292 **Pn** 09 54 60.0 +0.4
SMOL Smolenice 15.35 333 *eP* **P** 09 55 10.1 +4.8
AK07 Malin Array Si 15.36 3 P **Pn** 09 55 00.4 -0.3
AK06 Malin Array Si 15.39 3 P **Pn** 09 55 00.3 -0.9
AK10 Malin Array Si 15.41 3 P **Pn** 09 55 00.4 -1.0
AK05 Malin Array Si 15.43 3 P **Pn** 09 55 00.6 -1.1
AK09 Malin Array Si 15.43 4 P **Pn** 09 55 00.6 -1.0
AK14 Malin Array Si 15.43 3 P **Pn** 09 55 00.6 -1.1
KIEV Kiev 15.50 3 **Pn** 09 55 01.7 -0.9
KIEV Kiev 15.50 3 P **Pn** 09 55 01.7 -0.9
KIEV pmax pmax
comp=Z,46nm,1.0s
KIEV Kiev 15.50 3 *i* P **Pn** 09 55 04.5 +1.9
SNR=11
KIEV Kiev 15.50 3 P **Pn** 09 55 01.6 -1.0
comp=Z,3µmcomp=Z,245nm,0.9s
CONA Conrad Observa 15.51 329 *ePn* **Pn** 09 55 02.3 -0.5
comp=Z,38nm,1.6s,SNR=12
AKASG Malin Array Be 15.51 3 **Pn** 09 55 01.8 -0.9
AKASG Malin Array Be 15.51 3 Pn **Pn** 09 54 59.7 -3.0
comp=Z,2.7nm,0.3s,baz=194,slow=10,SNR=26
AKASG LR LR 10 01 53.9
comp=Z,795nm,19.6s,baz=186,slow=41
AKASG Malin Array Be 15.51 3 P **Pn** 09 55 01.8 -0.9
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 15.51 3 **Pn** 09 55 01.6 -1.1
AKBB Malin Array Si 15.51 3 P **Pn** 09 55 01.6 -1.1
AKBB pmax pmax
comp=Z,48nm,0.9s
AK18 Malin Array Si 15.52 3 P **Pn** 09 55 02.0 -0.9
AK20 Malin Array Si 15.54 3 P **Pn** 09 55 02.6 -0.5
JAVC Velka Javorina 15.55 334 *eP* **P** 09 55 07.1 +0.5
GANJ Ganja 15.57 64 P **P** 09 55 09.0 +1.1
MYKA Terra Mystica 15.61 321 *ePn* **Pn** 09 55 04.1 0.0
comp=Z,93nm,1.6s,SNR=13
ZCCA Zocca 15.81 310 **Pn** 09 55 05.8 -0.9
MAUC Maruska 15.93 336 *eP* **P** 09 55 11.1 -0.7

KBA **Koelnbreinsper** 16.06 322 *i* Pn **Pn** 09 55 09.8 -0.3
comp=Z,173nm,1.1s
RNPP5 **Staryi Chortor** 16.06 356 P **Pn** 09 55 09.3 -0.6
OJC **Ojcow** 16.09 341 *e*P **P** 09 55 13.6 +0.1
OJC *e*S **S** 09 58 21.5 -0.2
OJC *e*L L 10 01 00.9
comp=Z,992nm,21.7s
OJC **Ojcow** 16.09 341 P **P** 09 55 13.2 -0.3
MOA **Molln** 16.16 325 *i* Pn **Pn** 09 55 11.8 +0.7
comp=Z,94nm,1.5s,SNR=23
MNGR **Mingechevir, A** 16.17 64 P **P** 09 55 16.4 +2.0
KRUC **Moravsky** 16.19 332 *e*P **Pn** 09 55 11.2 -0.3
OKC **Ostrava-Krasne** 16.23 337 *e*P **P** 09 55 16.6 +1.5
OKC MLR MLR
comp=Z,2µm,12.0s
OKC **Ostrava-Krasne** 16.23 337 *e*P **P** 09 55 16.6 +1.5
OKC AMS AMS 10 02 40.0
comp=Z,2µm,12.0s
RNPP9 **Sopachiv** 16.25 356 P **Pn** 09 55 11.2 -1.0
ABTA **Abfaltersbach** 16.28 320 *e*Pn **Pn** 09 55 12.3 -0.5
comp=Z,36nm,0.8s,SNR=23
VRAC **Vranov** 16.32 333 Pn **Pn** 09 55 11.8 -1.4
comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=21
VRAC LR LR 10 01 31.3
comp=Z,576nm,18.4s,baz=256,slow=38
comp=Z,7.8nm,0.7s
VRAC **Vranov** 16.32 333 *e*P **Pn** 09 55 11.7 -1.4
VRAC **Vranov** 16.32 333 ⇑P **P** 09 55 15.1 -0.9
BIOA **Bad Ischl, Aus** 16.34 324 *e*Pn **Pn** 09 55 13.4 -0.1
comp=Z,77nm,1.7s,SNR=22
BIOA *e*S **S** 09 58 29.4 +2.5
comp=Z,9.8nm,1.4s
MORC **Moravsky Berou** 16.38 336 **Pn** 09 55 14.1 +0.1
MORC **Moravsky Berou** 16.38 336 *e*P **Pn** 09 55 12.7 -1.3
MORC **Moravsky Berou** 16.38 336 ⇓P **P** 09 55 15.4 -1.3
MORC **Moravsky Berou** 16.38 336 P **Pn** 09 55 14.1 +0.1
MORC pmax pmax
comp=Z,41nm,1.1s
STEB **Steborice** 16.44 337 *e*P **Pn** 09 55 14.7 0.0
CMAH **Djebel Manchou** 16.58 281 P **P** 09 55 18.1 -1.0
LESA **Schwarzleotal** 16.63 322 *e*Pn **Pn** 09 55 17.5 +0.2
comp=Z,47nm,0.7s,SNR=37
TREC **Trest** 16.73 331 *e*P **P** 09 55 20.6 -0.1
TREC MLR MLR
comp=Z,2µm,11.5s
TREC **Trest** 16.73 331 *e*P **P** 09 55 20.6 -0.1
TREC AMS AMS 10 02 30.0
comp=Z,2µm,11.5s
CKRC **Cesky Krumlov** 16.86 328 *e*P **Pn** 09 55 20.7 +0.7
CKRC *e*S **S** 09 58 36.0 -1.4
CKRC MLR MLR
comp=Z,2µm,10.5s
CKRC **Cesky Krumlov** 16.86 328 *e*P **Pn** 09 55 20.7 +0.7
CKRC *e*S **S** 09 58 36.0 -1.4
CKRC AMS AMS 10 02 50.0
comp=Z,2µm,10.5s
WTTA **Wattenberg** 17.07 320 *e*Pn **Pn** 09 55 22.9 0.0
comp=Z,81nm,1.2s,SNR=44
MAK **Makhachkala** 17.11 57*c* *i*P **P** 09 55 25.4 +0.6
MAK *e*S **S** 09 58 40.3 -2.2
MAK pmax pmax
comp=Z,510nm,1.3s
MAK MLR MLR
comp=Z,633nm,10.0s
LKRN **Lenkeran, Azer** 17.11 72 P **P** 09 55 27.4 +2.5
GEC2 **GERESS Array S** 17.14 327 **Pn** 09 55 24.2 +0.5
GEC2 IAmb IAmb 09 55 34.5
comp=Z,122nm,1.2s
GERES **GERESS Array B** 17.14 327 Pn **Pn** 09 55 23.9 +0.2
comp=Z,0.2nm,0.3s,baz=142,slow=12,SNR=131
GERES LR LR 10 02 13.6
comp=Z,1µm,19.6s,baz=140,slow=38
GERES ScP **ScP** 10 03 45.5 +3.6
comp=Z,0.1nm,0.3s,baz=151,slow=2.2,SNR=3.9
comp=Z,23nm,0.9s
WATA **Walderalm** 17.15 320 *i* Pn **Pn** 09 55 24.0 +0.2
comp=Z,152nm,1.2s,SNR=46
WATA *i* S S 09 59 05.1 +22
comp=Z,11nm,1.3s
CKFL **Kef-Lekhel** 17.15 280 P **P** 09 55 31.2 +5.7
SQTA **Sankt Quirin** 17.27 319 *i* Pn **Pn** 09 55 25.5 +0.1
comp=Z,97nm,1.3s,SNR=42
DPC **Dobruska-Polom** 17.28 335 *e*P **P** 09 55 26.1 -0.7
DPC MLR MLR
comp=Z,1µm,11.4s
DPC **Dobruska-Polom** 17.28 335 *e*P **P** 09 55 26.1 -0.7
DPC AMS AMS 10 02 50.0
comp=Z,1µm,11.4s
DPC **Dobruska-Polom** 17.28 335 P **Pn** 09 55 25.4 0.0
comp=Z,826nmcomp=Z,44nm,1.3s
BEL **Belsk** 17.36 345 *e*P **P** 09 55 28.8 +1.2
BEL *e*S **S** 09 58 50.6 +3.1
BEL *e*L L 10 03 43.3
comp=Z,93µm,12.5s
ZVC **Zvikov** 17.38 329 AMS AMS 10 02 50.0
comp=Z,2µm,11.3s
MOTA **Moosalm** 17.40 319 *e*Pn **Pn** 09 55 27.2 +0.2
comp=Z,68nm,1.1s,SNR=42
MOTA *e*S **S** 09 58 53.6 +4.8
comp=Z,12nm,1.1s
KHC **Kasperske Hory** 17.41 327 *e*P **Pn** 09 55 27.5 +0.6
KHC MLR MLR
comp=Z,2µm,9.4s
KHC **Kasperske Hory** 17.41 327 *e*P **Pn** 09 55 27.5 +0.6
KHC AMS AMS 10 03 30.0
comp=Z,2µm,9.4s
KHC **Kasperske Hory** 17.41 327 P **Pn** 09 55 27.1 +0.2
comp=Z,988nmcomp=Z,92nm,1.3s
FETA **Feichten** 17.41 318 *i* Pn **P** 09 55 27.8 -0.5
comp=Z,172nm,1.2s,SNR=68
FETA *e*S **S** 09 58 52.4 +3.5
comp=Z,22nm,1.5s
FUORN **Ofenpass-Fuorn** 17.44 316 **Pn** 09 55 27.3 -0.2
OSTC **Ostas** 17.49 335 AMS AMS 10 03 30.0
comp=Z,1µm,10.7s
GOPC **GO Pecny, Ondr** 17.50 331 *e*S **S** 09 58 49.6 -0.9
GOPC AMS AMS 10 03 20.0
comp=Z,2µm,9.7s
UPC **Upice** 17.52 334 *e*P **P** 09 55 29.1 -0.3
UPC **Upice** 17.52 334 *e*P **P** 09 55 29.1 -0.3
CHVC **Chvalec** 17.57 335 *e*P **P** 09 55 30.4 +0.4
CHVC MLR MLR
comp=Z,1µm,14.3s
CHVC **Chvalec** 17.57 335 *e*P **P** 09 55 30.4 +0.4
CHVC AMS AMS 10 03 10.0
comp=Z,1µm,14.3s
R9F13 **Warsaw-Wawer** 17.65 346 *e*P **P** 09 55 30.3 -0.5
R9F13 *e*S **S** 09 58 50.6 -2.8
PRU **Pruhonice** 17.66 331 *e*P **Pn** 09 55 30.4 +0.4
PRU MLR MLR
comp=Z,2µm,13.8s
PRU **Pruhonice** 17.66 331 *e*P **Pn** 09 55 30.4 +0.4
PRU AMS AMS 10 03 10.0
comp=Z,2µm,13.8s
RETA **Reutte** 17.67 319 *e*Pn **Pn** 09 55 30.1 -0.1
comp=Z,83nm,1.6s,SNR=43
RETA *e*S **S** 09 59 01.3 +7.2
comp=Z,8.9nm,1.0s
KSP **Ksiaz** 17.71 335 *e*P **P** 09 55 31.0 -0.4
KSP *e*S **S** 09 58 55.7 +1.1
KSP *e*L L 10 05 19.0
comp=Z,953nm,18.4s
KSP **Ksiaz** 17.71 335 P **P** 09 55 31.1 -0.3
KSP **Ksiaz** 17.71 335 P **Pn** 09 55 30.6 0.0
comp=Z,2µmcomp=Z,122nm,1.4s
DAVOX **Davos/Dischmat** 17.75 316 P **Pn** 09 55 29.9 -1.4
comp=Z,0.8nm,0.3s,baz=114,slow=8.4,SNR=18
DAVOX S **Sn** 09 58 46.3 -2.5
comp=Z,2.7nm,0.6s,baz=161,slow=16,SNR=1.7
DAVOX LR LR 10 02 46.6
comp=Z,1µm,19.9s,baz=118,slow=39
comp=Z,8.4nm,1.0s
VORD **Divnogorie** 17.80 24 *e*P **Pn** 09 55 31.6 -0.1
VORD pmax pmax
comp=Z,140nm,1.3s
DFRA **Djebel Bou Aff** 17.82 281 P **Pn** 09 55 32.3 +0.1
TUE **Stuetta** 17.88 315 P **P** 09 55 33.3 -0.3
TUE **Stuetta** 17.88 315 P **Pn** 09 55 33.2 +0.2
comp=Z,3µmcomp=Z,162nm,1.3s
VSR **Storozhevoye** 17.97 24 *e*P **Pn** 09 55 33.3 -0.5
VSR pmax pmax
comp=Z,80nm,0.9s
DAVA **Damuels** 18.04 317 *i* Pn **Pn** 09 55 34.6 -0.3
comp=Z,157nm,1.7s,SNR=40
PVCC **Panska Ves** 18.07 332 *e*P **Pn** 09 55 35.1 0.0
PVCC MLR MLR
comp=Z,1µm,10.7s
PVCC **Panska Ves** 18.07 332 *e*P **Pn** 09 55 35.1 0.0
PVCC AMS AMS 10 05 00.0
comp=Z,1µm,10.7s
RICC **Richard** 18.27 331 AMS AMS 10 03 30.0
comp=Z,1µm,11.5s
ISO **Isola** 18.27 306 P **P** 09 55 37.8 0.0
BRG **Berggiesshubel** 18.59 332 *e*P **Pn** 09 55 41.7 +0.2
BRG Amp 09 55 42.9
comp=Z,15nm,1.0s
BRG **Berggiesshubel** 18.59 332 P **Pn** 09 55 48.0 +6.6
BRG Amp 09 55 50.1
comp=Z,21nm,0.9s
BRG **Berggiesshubel** 18.59 332 S **Sn** 09 59 08.0 -0.8
BRG **Berggiesshubel** 18.59 332 SS **S** 09 59 23.0 +10
BNI **Bardonecchia** 18.86 308 **Pn** 09 55 45.2 +0.3
BNI **Bardonecchia** 18.86 308 P **Pn** 09 55 45.2 +0.3
BNI pmax pmax
comp=Z,25nm,1.0s
VRH **Novokhopyorsk** 18.87 28 *e*P **Pn** 09 55 44.4 -0.4
VRH pmax pmax
comp=Z,120nm,0.8s
GRA1 **Grafenberg Arr** 18.89 325 P **P** 09 55 44.3 -0.1
GRA1 IAmb IAmb 09 55 52.9
comp=Z,170nm,1.5s
GRF **Grafenberg Arr** 18.89 325 P **P** 09 55 44.3 -0.1
GRF pmax pmax
comp=Z,170nm,1.5s
GRF **Grafenberg Arr** 18.89 325 *e*P **P** 09 55 44.1 -0.3
comp=Z,52nm,0.9s,baz=134,slow=12
GRFO **Grafenberg** 18.89 325 P **P** 09 55 43.9 -0.5
GRFO **Grafenberg** 18.89 325 P **P** 09 55 43.9 -0.5
GRFO pmax pmax
comp=Z,52nm,0.9s
SENIN **Lac Senin/Sane** 19.05 312 P **P** 09 55 45.8 -0.7
SENIN IAmb IAmb 09 55 57.3
comp=Z,66nm,0.7s
SUW **Suwalki** 19.07 352 *e*P **P** 09 55 44.9 -1.4
SUW *e*S S 09 59 38.7 +17
SUW *e*L L 10 03 48.0
comp=Z,1µm,14.7s
SUW **Suwalki** 19.07 352 P **P** 09 55 45.1 -1.2
SUW **Suwalki** 19.07 352 P **P** 09 55 45.9 -0.4
SUW **Suwalki** 19.07 352 *e*P **P** 09 55 45.9 -0.4
LPSR **Galich'ya Gora** 19.09 21 *e*P **P** 09 55 45.7 -0.9
LPSR pmax pmax
comp=Z,90nm,0.6s
MNK **Minsk** 19.28 0 *i* P **P** 09 55 46.0 -2.7
comp=E,99nm,1.2s
MNK *i* P **P** 09 55 46.0 -2.7
comp=N,19nm,0.7s
MNK *i* P **P** 09 55 46.0 -2.7
comp=Z,66nm,1.0s,baz=180
MNK *i* PP **PnPn** 09 55 59.6 -3.1
MNK *i* PPP PPP 09 56 07.4
MNK *i* S **Sn** 09 59 22.7 -2.8
MNK *i* SS **SnSn** 09 59 38.2 -1.4
MNK *i* SSS SSS 09 59 51.2
MNK *i* LQ LQ 10 01 31.5
MNK *i* LR LR 10 02 58.9
MNK *i* LRM MLR 10 04 03.0
comp=E,585nm,17.7s
MNK *i* LRM MLR 10 04 06.8
comp=Z,698nm,16.1s
MNK *i* LRM MLR 10 04 11.6
comp=N,447nm,15.4s
MNK **Minsk** 19.28 0 *i* P **P** 09 55 46.0 -2.7
MNK *i* S **Sn** 09 59 22.6 -2.8
MNK pmax pmax
comp=N,19nm,0.7s
MNK pmax pmax
comp=E,99nm,1.2s
MNK pmax pmax
comp=Z,66nm,1.0s
MNK MLR MLR
comp=E,585nm,18.0s
MNK MLR MLR
comp=Z,698nm,16.0s
MNK MLR MLR
comp=N,447nm,15.0s
STU **Stuttgart** 19.29 320 P **P** 09 55 48.1 -0.7
STU **Stuttgart** 19.29 320 P **P** 09 55 48.1 -0.7
STU pmax pmax
comp=Z,45nm,0.9s
STU **Stuttgart** 19.29 320 *e*P **P** 09 55 49.2 +0.4
RAYN **Ar Rayn** 19.30 122 P **Pn** 09 55 49.9 -0.3
RAYN **Ar Rayn** 19.30 122 P **Pn** 09 55 51.5 +1.3
RAYN **Ar Rayn** 19.30 122 *i* P **Pn** 09 55 50.0 -0.2
SNR=18
CLL **Collm** 19.30 331 P **P** 09 55 48.3 -0.7
CLL **Collm** 19.30 331 *e*P **P** 09 55 48.0 -0.9
CLL *e*S **Sn** 09 59 24.0 -2.0
CLL **Collm** 19.30 331 P **P** 09 55 48.6 -0.3
comp=Z,633nmcomp=Z,55nm,1.3s
CLL **Collm** 19.30 331 *e*P **P** 09 55 48.0 -0.9
CLL *i* pP **Pn** 09 55 50.0 0.0
comp=Z,60nm,1.1s
CLL *e*Pmax 09 55 51.0
CLL *i* sP **sP** 09 55 54.6 -0.2
CLL *i* x x 09 55 58.0
CLL *e*PP **PnPn** 09 55 06.0 +3.0
CLL *ex* x 09 57 24.0
CLL *e*S **Sn** 09 59 24.0 -2.0
CLL LmH 10 02 00.0
comp=N,1µm,18.3s
CLL LmH 10 02 00.0
comp=E,2µm,18.8s
CLL Lmax 10 04 00.0
MOX **Moxa** 19.38 328 P **P** 09 55 50.3 +0.5
BFO **Black Forest** 19.49 318 P **P** 09 55 49.6 -1.5
BFO **Black Forest** 19.49 318 P **P** 09 55 49.6 -1.5
BFO pmax pmax
comp=Z,54nm,1.1s
GKP **Gorka Klasztor** 19.53 341 *e*P **P** 09 55 50.8 -0.7
GKP *e*S **S** 09 59 29.2 -2.2
GKP *e*L L 10 04 55.3
comp=Z,2µm,17.6s
GKP **Gorka Klasztor** 19.53 341 *e*P **P** 09 55 51.5 +0.1
NACGM **Naroch** 19.70 358 *e*P **P** 09 55 53.0 -0.2
comp=N,50nm,1.2s
RUE **Ruedersdorf** 19.94 334 *e*P **Pn** 09 55 57.4 -0.2
ECH **Echery** 20.08 317 P **P** 09 55 57.3 -0.2
ECH pmax pmax
comp=Z,229nm,1.3s
IDID **Didziasalis** 20.11 358 *e*P Pn 09 55 58.8 -0.8
SSB **Saint Sauveur** 20.34 307 P **P** 09 55 58.9 -1.5
SSB **Saint Sauveur** 20.34 307 P **P** 09 55 58.9 -1.5
SSB pmax pmax
comp=Z,13nm,0.9s
ISAL **Salakas** 20.39 357 *e*P Pn 09 56 01.9 -0.9
EJON **La Jonquera** 20.67 298 P **P** 09 56 04.3 +0.3
OBN **Obninsk** 20.80 14 P **P** 09 56 04.3 -0.9
OBN **Obninsk** 20.80 14 P **P** 09 56 03.2 -1.9
comp=Z,30nm,0.4s,baz=325,slow=14,SNR=20
OBN S **S** 09 59 55.5 -1.0
comp=Z,11nm,0.4s,baz=334,slow=23,SNR=1.3
comp=Z,30nm,0.4s
OBN **Obninsk** 20.80 14*d* *i*P **P** 09 56 04.0 -1.2
OBN *e* 09 56 26.0
OBN *i* S Sn 10 00 02.4 +0.4
OBN pmax pmax
comp=Z,140nm,1.3s
OBN MLR MLR
comp=Z,547nm,18.0s
OBN **Obninsk** 20.80 14 P **P** 09 56 04.4 -0.8
comp=Z,1µmcomp=Z,136nm,1.8s
VSVD **Vaisvydziai** 20.93 354 *e*P **P** 09 56 06.0 -0.6
PBUR **Paburge** 21.20 351 *e*P **P** 09 56 09.9 +0.5
WLF **Walferdange** 21.43 319 P **P** 09 56 14.1 +2.1
WLF **Walferdange** 21.43 319 P **P** 09 56 10.4 -1.7
WLF IAmb IAmb 09 56 16.4
comp=Z,79nm,1.1s
WLF **Walferdange** 21.43 319 P **P** 09 56 10.4 -1.7
WLF pmax pmax
comp=Z,79nm,1.1s
WLF **Walferdange** 21.43 319 *d*P **P** 09 56 10.4 -1.7
comp=Z,39nm,1.1s
CFF **Clermont-Ferra** 21.45 307 P **P** 09 56 15.6 +3.3
CFF pmax pmax
comp=Z,88nm,1.4s
MOS **Moscow** 21.60 15 *e*P **P** 09 56 10.8 -3.0
MOS *e*PPP PPP 09 56 40.0
MOS *e*S **S** 10 00 09.7 -2.8
MOS pmax pmax
comp=Z,400nm,1.7s
MOS pmax pmax
comp=Z,210nm,1.4s
MOS smax smax
comp=E,300nm,2.4s
BSD **Bornholm Skovb** 21.81 340 *e*P **P** 09 56 17.4 +1.5
BSD **Bornholm Skovb** 21.81 340 *i* P **P** 09 56 14.2 -1.7
CEST **Esterri de Car** 21.88 298 IAmb IAmb 09 56 42.7
comp=Z,66nm,1.3s
BHOU **Houvegnez** 21.90 320 *d*P **P** 09 56 16.8 -0.3
comp=Z,22nm,0.0s
BTNL **Ternell** 21.97 321 *d*P **P** 09 56 17.3 -0.6
comp=Z,31nm,1.0s
MEM **Membach** 22.05 321 *d*P **P** 09 56 18.3 -0.3
comp=Z,53nm,0.8s
RCHB **Rochefort** 22.20 319 *d*P **P** 09 56 17.9 -2.4
comp=Z,21nm,0.9s
BELG **Belogornoye** 22.22 33*d* *i*P **P** 09 56 19.6 -0.9
BELG pmax pmax
comp=Z,43nm,1.3s
BSTI **Sart Tilman** 22.26 320 *d*P **P** 09 56 20.0 -1.0
comp=Z,9.5nm,1.0s
BEBN **Eben Emael** 22.33 321 *d*P **P** 09 56 25.3 +3.6
BGES **Gesves** 22.40 320 *d*P **P** 09 56 23.2 +0.7
comp=Z,32nm,1.1s
DOU **Dourbes** 22.51 318 *d*P **P** 09 56 21.9 -1.7
comp=Z,24nm,0.9s
BMRD **Maredsous** 22.53 319 *d*P **P** 09 56 22.8 -1.0
comp=Z,18nm,1.1s
BLEU **Blekinge** 22.62 342 *i* P **P** 09 56 21.8 -2.9
LUNU **Lund** 22.68 339 *i* P **P** 09 56 22.6 -2.8
CLF **Chambon-Foret** 22.87 312 P **P** 09 56 26.4 -1.0
UCC **Uccle** 23.02 320 P **P** 09 56 27.5 -1.4
UCC IAmb IAmb 09 56 31.1
comp=Z,53nm,1.3s
UCC **Uccle** 23.02 320 P **P** 09 56 27.5 -1.4
UCC pmax pmax
comp=Z,53nm,1.3s
UCC **Uccle** 23.02 320 *d*P **P** 09 56 27.7 -1.3
comp=Z,19nm,1.1s
TAM **Tamanrasset** 23.03 243 P **P** 09 56 30.0 +0.5
TAM IAmb IAmb 09 56 39.5
comp=Z,51nm,0.8s
TAM **Tamanrasset** 23.03 243 P **P** 09 56 30.0 +0.5
TAM pmax pmax
comp=Z,51nm,0.8s
BJUU **Bjuv** 23.18 339 *i* P **P** 09 56 30.1 -0.4
ECHE **Chera** 23.23 289 P **P** 09 56 31.6 +0.3
VSU **Vasula** 23.26 359*ce*P **P** 09 56 30.5 -0.8
VSU pmax pmax
comp=Z,46nm,1.3s
VSU **Vasula** 23.26 359 *e*P **P** 09 56 31.9 +0.6
DEL **Delary** 23.28 340 *i* P **P** 09 56 28.6 -2.9
FABU **Falkenberg** 24.06 340 *i* P **P** 09 56 38.1 -1.0
ARBE **Arbavere** 24.26 358 *e*P **P** 09 56 41.5 +0.6
BORU **Boraas** 24.59 340 *i* P **P** 09 56 44.0 +0.1
PUL **Pulkovo** 24.62 3*ce*P **P** 09 56 44.7 +0.5
PUL pmax pmax
comp=Z,91nm,0.4s
ONAU **Onsala** 24.63 339 *i* P **P** 09 56 44.2 -0.1
MEF **Metsahovi** 25.11 356 *e*P **P** 09 56 47.8 -0.8
EQTA **Presa de Quent** 25.24 284 P **P** 09 56 51.0 +0.9
ELGU **Los Guajares,** 25.42 283 P **P** 09 56 51.8 +0.1
MZR **Muzera** 25.44 112 *i* P **P** 09 56 52.7 +0.8
SNR=6.4
UPP **Uppsala** 25.53 348 *e*P **P** 09 56 51.4 -1.0
ESDC **Sonseca Array** 25.54 290 **P** 09 56 52.1 -0.7
ESDC **Sonseca Array** 25.54 290 P **P** 09 56 52.6 -0.2
comp=Z,11nm,0.6s,baz=83,slow=9.6,SNR=66
comp=Z,11nm,0.6s
EGOR **Sierra Gorda,** 25.78 284 P **P** 09 56 55.2 +0.1
PAB **San Pablo** 25.84 289 P **P** 09 56 55.4 -0.1
PAB IAmb IAmb 09 57 19.8
comp=Z,30nm,0.9s
PAB **San Pablo** 25.84 289 P **P** 09 56 55.4 -0.1
PAB pmax pmax
comp=Z,30nm,1.0s
ASUD **Al Ashush, Dub** 26.00 106 P **P** 09 56 57.3 +0.2
EADA **Adamuz** 26.07 286 P **P** 09 56 57.8 +0.2
EMAL **Malaga-Limoner** 26.07 283 P **P** 09 56 57.6 0.0
RAF **Rauma** 26.11 353 *e*P **P** 09 56 58.4 +0.7
BANOM **Banah** 26.15 103 P **P** 09 56 58.4 0.0
FINES **FINESS Array B** 26.27 358 P **P** 09 56 57.6 -1.4
comp=Z,14nm,0.7s,baz=159,slow=11,SNR=40
FINES PcP **PcP** 10 00 23.9 -1.2
comp=Z,2.3nm,0.6s,baz=144,slow=0.9,SNR=4.0
comp=Z,14nm,0.7s
FIA1 **FINESS Array S** 26.27 358 **P** 09 56 57.5 -1.6
MSFE **Esma-Masafi** 26.30 104 P **P** 09 57 00.2 +0.3
UOSS **Minazif** 26.54 105 P **P** 09 57 02.4 +0.5
HATD **Hatta, Dubai** 26.54 105 *i* P **P** 09 57 03.0 +1.1
SNR=5.7
ASHO **Ashiyiah** 26.55 106 *i* P **P** 09 57 02.4 +0.4
SNR=7.1
HFS **Hagfors** 26.56 344 P **P** 09 56 59.9 -1.9
comp=Z,13nm,0.6s,baz=151,slow=13,SNR=32
HFS LR LR 10 08 01.3
comp=Z,799nm,19.0s,baz=168,slow=38
comp=Z,13nm,0.6s
ALNE **Al Ain** 26.62 107 *i* P **P** 09 57 03.5 +0.8
SNR=6.1
AKTO **Aktyubinsk** 26.64 46 LR LR 10 11 49.2
comp=Z,380nm,18.2s,baz=190,slow=46
ECAB **El Cabril** 26.73 286 P **P** 09 57 03.9 +0.3
KLMR **Klimovskoe** 26.74 13 *e*P **P** 09 57 01.4 -1.9
KLMR pmax pmax
comp=Z,133nm,1.3s
KLMR MLR MLR
comp=Z,698nm,10.0s
MDT **Midelt** 26.91 274 P **P** 09 57 04.7 -0.7
comp=Z,2.0nm,0.4s,baz=75,slow=12,SNR=5.3
comp=Z,2.0nm,0.4s
MD01 **Midelt array s** 27.02 274 P **P** 09 57 06.3 -0.1
KEF **Keuruu** 27.04 357 *e*P **P** 09 57 05.1 -0.9
KONO **Kongsberg** 27.18 340 **P** 09 57 04.9 -2.5
KONO **Kongsberg** 27.18 340*ce*P **P** 09 57 06.4 -1.0
KONO pmax pmax
comp=Z,30nm,1.7s
KONO **Kongsberg** 27.18 340 *e*P **P** 09 57 06.2 -1.2
SOHO **SOHO** 27.20 106 *i* P **P** 09 57 07.7 -0.2
SNR=12
ATD **Arta Tunnel** 27.25 146 LR LR 10 08 35.8
comp=Z,15nm,19.3s,baz=337,slow=38
AB31 **Akbulak array** 27.38 49 **P** 09 57 09.2 0.0
AB31 IAmb IAmb 09 57 33.8
comp=Z,64nm,1.4s
ABKAR **Akbulak array** 27.38 49 **P** 09 57 09.1 -0.2
KIRV **Kirov** 27.40 25 *i* P **P** 09 57 10.9 +1.6
NC602 **NORSAR Array S** 27.60 343 *e*P **P** 09 57 09.6 -1.5
PBRG **Braganca** 27.69 294 *e*P **P** 09 57 11.4 -0.9
PBRG *i* IAmb IAmb 09 57 31.9
comp=Z,35nm,1.5s
ECAL **Calabor** 27.70 294 P **P** 09 57 12.6 +0.3
EMIN **Mina Concepcio** 27.75 285 P **P** 09 57 13.1 +0.5
JOF **Joensuu** 27.81 3 *e*P **P** 09 57 13.3 +0.4
NAO01 **NORSAR Array S** 27.85 342 IAmb IAmb 09 57 19.7
comp=Z,41nm,1.1s
MVO **Moncorvo** 27.89 293 *e*P **P** 09 57 13.9 -0.1
MVO *i* IAmb IAmb 09 57 33.1
comp=Z,50nm,1.6s
MVO *e*S **S** 10 02 01.5 +4.5
NB201 **NORSAR Array S** 27.93 343 P **P** 09 57 11.8 -2.3
EBAD **Badajoz** 27.94 288 P **P** 09 57 14.1 -0.3
NB2 **NORSAR Subarra** 27.94 343 P **P** 09 57 11.4 -2.8
comp=Z,12nm,1.0s,baz=150,slow=9.3
NB2 **NORSAR Subarra** 27.94 343 P **P** 09 57 11.4 -2.8
baz=150,slow=9.3
NOA **NORSAR Array B** 27.94 343 P **P** 09 57 12.1 -2.2
comp=Z,3.5nm,0.7s,baz=145,slow=9.3,SNR=22
NOA LR LR 10 09 04.1
comp=Z,484nm,19.7s,baz=140,slow=38
comp=Z,3.5nm,0.7s
PBAR **Barrancos** 28.00 286 P **P** 09 57 15.1 +0.2
PBAR **Barrancos** 28.00 286 *e*P **P** 09 57 14.8 -0.1
PBAR *i* IAmb IAmb 09 57 26.4
comp=Z,59nm,1.4s
NBO00 **NORSAR Array S** 28.04 342 IAmb IAmb 09 57 31.7
comp=Z,27nm,1.1s
PMRV **Marv??o** 28.20 289 *e*P **P** 09 57 16.1 -0.5
PMRV *i* IAmb IAmb 09 57 39.9
comp=Z,40nm,1.3s
PMRV *e*S **S** 10 02 05.2 +3.5
PCBR **Castelo Branco** 28.25 290 *e*P **P** 09 57 16.9 -0.2
PCBR *i* IAmb IAmb 09 57 28.4
comp=Z,28nm,1.2s

NC204	**NORSAR Array S**	**28.26**	**343**		IAmb	IAmb	09 57 41.7		
	comp=Z,31nm,1.4s								
ODD1	**Odda**	**28.29**	**337**	*eP*	**P**		**09 57 15.7**	**-1.6**	
PESTR	**Estremoz**	**28.38**	**288**	P	**P**		**09 57 17.9**	**-0.4**	
PESTR	**Estremoz**	**28.38**	**288**	IAmb	IAmb		09 57 41.7		
	comp=Z,17nm,0.9s								
PESTR	**Estremoz**	**28.38**	**288**	*eP*	**P**		**09 57 17.2**	**-1.1**	
PESTR				*i* IAmb	IAmb		09 57 41.8		
	comp=Z,33nm,1.3s								
EGRO	**El Granado**	**28.41**	**285**	P	**P**		**09 57 18.7**	**+0.1**	
POLO	**Lamas de Olo**	**28.47**	**293**	*eP*	**P**		**09 57 19.0**	**-0.2**	
POLO				*i* IAmb	IAmb		09 57 38.4		
	comp=Z,22nm,1.6s								
PVIS	**Viseu**	**28.55**	**292**	*eP*	**P**		**09 57 19.7**	**-0.2**	
PVAQ	**Vaqueiros**	**28.61**	**285**	P	**P**		**09 57 20.9**	**+0.6**	
PVAQ	**Vaqueiros**	**28.61**	**285**	*eP*	**P**		**09 57 21.1**	**+0.7**	
PVAQ				*i* IAmb	IAmb		09 57 32.4		
	comp=Z,59nm,1.4s								
PVAQ				*eS*	**S**		**10 02 08.6**	**+0.3**	
PCAB	**Cabril**	**28.65**	**294**	*eP*	**P**		**09 57 20.8**	**+0.1**	
PCAB				*i* IAmb	IAmb		09 57 23.0		
	comp=Z,48nm,1.4s								
PBEJ	**Beja**	**28.66**	**286**	*eP*	**P**		**09 57 21.6**	**+0.8**	
PBEJ				*i* IAmb	IAmb		09 57 32.7		
	comp=Z,37nm,1.3s								
EVO	**Evora**	**28.73**	**287**	P	**P**		**09 57 21.9**	**+0.5**	
EVO	**Evora**	**28.73**	**287**	*eP*	**P**		**09 57 21.2**	**-0.2**	
EVO				*i* IAmb	IAmb		09 57 24.0		
	comp=Z,32nm,1.5s								
PSARD	**Sardoal**	**28.78**	**290**	*eP*	**P**		**09 57 21.8**	**-0.1**	
PSARD				*i* IAmb	IAmb		09 57 42.3		
	comp=Z,31nm,1.3s								
PBDV	**Barranco-do-Ve**	**28.80**	**285**	*eP*	**P**		**09 57 22.3**	**+0.2**	
PBDV				*i* IAmb	IAmb		09 57 34.5		
	comp=Z,80nm,1.4s								
PCVE	**Castro Verde**	**28.84**	**285**	*eP*	**P**		**09 57 23.7**	**+1.3**	
PCVE				*i* IAmb	IAmb		09 58 08.5		
	comp=Z,29nm,1.9s								
PGAV	**Gavieira, Arco**	**28.84**	**294**	*eS*	**S**		**10 02 15.0**	**+3.1**	
PMTG	**Montargil**	**28.86**	**288**	*eP*	**P**		**09 57 22.2**	**-0.3**	
PMTG				*i* IAmb	IAmb		09 57 45.1		
	comp=Z,28nm,1.7s								
COI	**Coimbra**	**28.95**	**291**	IAmb	IAmb		09 57 28.0		
	comp=Z,24nm,0.8s								
MESJ	**Messejana**	**28.96**	**286**	*eP*	**P**		**09 57 23.4**	**-0.1**	
MESJ				IAmb	IAmb		09 57 25.1		
	comp=Z,11nm,0.4s								
MESJ				*eS*	**S**		**10 02 15.4**	**+1.7**	
MESJ	**Messejana**	**28.96**	**286**	IAmb	IAmb		09 57 36.3		
	comp=Z,58nm,1.5s								
MESJ	**Messejana**	**28.96**	**286**	*eP*	**P**		**09 57 24.8**	**+1.3**	
MESJ				*i* IAmb	IAmb		09 57 36.4		
	comp=Z,35nm,1.2s								
MESJ	**Messejana**	**28.96**	**286**	*eP*	**P**		**09 57 23.4**	**-0.1**	
MESJ				*eS*	**S**		**10 02 15.4**	**+1.7**	
PCAS	**Casmilo, Conde**	**29.02**	**290**	*eP*	**P**		**09 57 27.0**	**+3.0**	
PCAS				*i* IAmb	IAmb		09 57 36.1		
	comp=Z,44nm,1.5s								
EKA	**Eskdalemuir Ar**	**29.27**	**323**	P	**P**		**09 57 24.3**	**-1.8**	
	comp=Z,1.6nm,0.5s,baz=127,slow=11,SNR=16								
EKA				PcP	**PcP**		**10 00 33.6**	**+1.2**	
	comp=Z,0.9nm,0.5s,baz=129,slow=2.7,SNR=4.1								
	comp=Z,1.6nm,0.5s								
MORF	**Marmelete**	**29.36**	**285**	*eS*	**S**		**10 02 21.8**	**+1.6**	
PARRA	**Arraiolos**	**29.51**	**288**	*eP*	P		09 57 21.7	-6.7	
PARRA				*i* IAmb	IAmb		09 57 55.8		
	comp=Z,21nm,1.9s								
ARTI	**Arti**	**29.64**	**35**		**P**		**09 57 28.8**	**-0.5**	
ARTI				IAmb	IAmb		09 57 36.5		
	comp=Z,18nm,0.7s								
ARTI	**Arti**	**29.64**	**35**	LR	LR		10 13 06.0		
	comp=Z,382nm,18.7s,baz=226,slow=44								
ARTI	**Arti**	**29.64**	**35***d*	*iP*	**P**		**09 57 29.0**	**-0.3**	
ARTI							09 58 23.2		
ARTI				PPP	PPP		09 58 34.2		
ARTI							10 00 28.1		
ARTI				S	**S**		**10 02 26.0**	**+2.0**	
ARTI				SS	**SnSn**		**10 03 54.9**	**+2.2**	
ARTI				pmax	pmax				
	comp=Z,31nm,1.3s								
ARTI				MLR	MLR				
	comp=Z,393nm,17.0s								
MOL	**Molde**	**30.17**	**341**	*eP*	**P**		**09 57 31.8**	**-2.0**	
SJUU	**Sjulsmark**	**30.55**	**355**	*eP*	**P**		**09 57 36.5**	**-0.7**	
NSS	**Namsos**	**30.88**	**347**	*eP*	**P**		**09 57 38.8**	**-1.3**	
SVE	**Sverdlovsk**	**30.93**	**35**	*eP*	**P**		**09 57 40.9**	**+0.2**	
SVE				pmax	pmax				
	comp=Z,30nm,1.3s								
MOR8	**Moi Rana**	**31.98**	**350**	*eP*	**P**		**09 57 50.7**	**+0.8**	
LEIR	**Leirfjorden**	**32.13**	**349**	*eP*	**P**		**09 57 50.2**	**-0.9**	
TORD	**Torodi Ar. Bea**	**32.23**	**234**	P	**P**		**09 57 53.2**	**+0.7**	
	comp=Z,2µm,0.4s,baz=48,slow=10,SNR=4.5								
TORD				LR	LR		10 13 03.5		
	comp=Z,1µm,19.2s,baz=44,slow=40								
STOK	**Stokkvaagen**	**32.35**	**349**	*eP*	**P**		**09 57 51.5**	**-1.4**	
KONS	**Konsvik**	**32.48**	**349**	*eP*	**P**		**09 57 53.8**	**-0.4**	
APA	**Apatity**	**32.56**	**4**	*eP*	**P**		**09 57 53.6**	**-1.2**	
APA				MLR	MLR				
	comp=Z,653nm,10.7s								
VAGH	**Vaagaholmen**	**32.68**	**349**	*eP*	**P**		**09 57 54.4**	**-1.5**	
LVZ	**Lovozero**	**32.96**	**5**	P	**P**		**09 57 58.2**	**-0.2**	
LVZ				IAmb	IAmb		09 58 20.4		
	comp=Z,24nm,1.0s								
LVZ	**Lovozero**	**32.96**	**5**	P	**P**		**09 57 58.2**	**-0.2**	
LVZ				pmax	pmax				
	comp=Z,24nm,1.0s								
FAUS	**Fauske**	**33.01**	**351**	*eP*	**P**		**09 57 59.1**	**+0.4**	
CHM	**Chimkent**	**33.09**	**65**	*eP*	**P**		**09 57 59.2**	**-0.6**	
CHM	**Chimkent**	**33.09**	**65**	*eP*	**P**		**09 57 59.3**	**-0.6**	
BRLS	**Boroldaу**	**33.24**	**64**	*i* P	**P**		**09 57 59.5**	**-1.7**	
BRLS	**Boroldaу**	**33.24**	**64**	*eP*	**P**		**09 57 59.7**	**-1.6**	
IUG	**luzhnay**	**33.41**	**65**	*eP*	**P**		**09 58 02.4**	**-0.4**	
IUG				pmax	pmax				
	comp=Z,13nm,0.9s								
IUG	**luzhnay**	**33.41**	**65**	*eP*	**P**		**09 58 02.4**	**-0.4**	
	comp=Z,13nm,0.9s								
STEI	**Steigen**	**33.53**	**351**	*eP*	**P**		**09 58 02.3**	**-1.1**	
KK31	**Karatay Array**	**33.74**	**63**	IAmb	IAmb		09 58 12.8		
	comp=Z,13nm,0.8s								
KKAR	**Karatay Array**	**33.74**	**63**		**P**		**09 58 05.2**	**-0.3**	
KKAR	**Karatay Array**	**33.74**	**63**	P	**P**		**09 58 05.2**	**-0.3**	
KTK1	**Kautokeino**	**33.94**	**357**	*eP*	**P**		**09 58 05.9**	**-1.1**	
DZA	**Taraz**	**34.34**	**64**	*eP*	**P**		**09 58 10.4**	**-0.4**	
DZA				pmax	pmax				
	comp=Z,5.0nm,0.4s								
DZA	**Taraz**	**34.34**	**64**	*eP*	**P**		**09 58 10.4**	**-0.4**	
	comp=Z,5.1nm,0.4s								
ARA0	**ARCESS Array S**	**34.40**	**359**	*eP*	**P**		**09 58 09.6**	**-1.3**	
ARCES	**ARCESS Array B**	**34.40**	**359**		**P**		**09 58 09.7**	**-1.2**	
ARCES				IAmb	IAmb		09 58 10.4		
	comp=Z,29nm,1.2s								
ARCES	**ARCESS Array B**	**34.40**	**359**	P	**P**		**09 58 09.6**	**-1.3**	
	comp=Z,9.6nm,0.6s,baz=169,slow=7.0,SNR=33								
	comp=Z,9.6nm,0.6s								
ARCES	**ARCESS Array B**	**34.40**	**359**	P	**P**		**09 58 09.7**	**-1.2**	
ARCES				pmax	pmax				
	comp=Z,29nm,1.2s								
JETT	**Jettan, Norway**	**34.63**	**355**	*eP*	**P**		**09 58 12.4**	**-0.5**	
BRVK	**Borovoye**	**34.69**	**46**	P	**P**		**09 58 13.4**	**-0.2**	
BRVK	**Borovoye**	**34.69**	**46**	*ceP*	**P**		**09 58 12.7**	**-0.9**	
BRVK				pmax	pmax				
	comp=Z,38nm,2.5s								
BRVK				MLR	MLR				
	comp=Z,678nm,24.0s								
BVAR	**Borovoye Array**	**34.74**	**46**	P	**P**		**09 58 13.1**	**-1.0**	
	comp=Z,3.3nm,0.9s,baz=256,slow=6.0,SNR=12								
BVAR				LR	LR		10 15 22.9		
	comp=Z,425nm,21.9s,baz=263,slow=42								
	comp=Z,3.3nm,0.9s								
TRO	**Tromso**	**34.82**	**355**	*eP*	**P**		**09 58 12.9**	**-1.5**	
VADS	**Vadso**	**34.97**	**1**	*eP*	**P**		**09 58 14.6**	**-1.2**	
BRZS	**Berezniki**	**35.60**	**51**	*eP*	**P**		**09 58 21.2**	**-0.3**	
BRZS	**Berezniki**	**35.60**	**51**	*eP*	**P**		**09 58 21.2**	**-0.3**	
ARSB	**Arslanbob**	**35.67**	**66**	IAmb	IAmb		09 58 34.1		
	comp=Z,26nm,0.9s								
BTLS	**Baital**	**36.26**	**60**	*i* P	**P**		**09 58 27.2**	**0.0**	
BTLS				pmax	pmax				
	comp=Z,12nm,2.3s								
BTLS	**Baital**	**36.26**	**60**	*eP*	**P**		**09 58 26.7**	**-0.5**	
AAK	**Ala-Archa**	**36.68**	**64**		**P**		**09 58 31.6**	**+0.5**	
AAK	**Ala-Archa**	**36.68**	**64**	*ceP*	**P**		**09 58 30.1**	**-1.0**	
AAK				pmax	pmax				
	comp=Z,18nm,1.0s								
AAK				MLR	MLR				
	comp=Z,341nm,16.0s								
SGDS	**Sogindy**	**36.73**	**63**	*eP*	**P**		**09 58 30.7**	**-0.6**	
NIL	**Nilore**	**37.27**	**79**		**P**		**09 58 36.3**	**+0.4**	
NIL				IAmb	IAmb		09 58 42.4		
	comp=Z,36nm,0.9s								
NIL	**Nilore**	**37.27**	**79**	P	**P**		**09 58 36.3**	**+0.4**	
NIL				pmax	pmax				
	comp=Z,36nm,0.9s								
KSH	**Kashi**	**38.16**	**69**	P	**P**		**09 58 42.8**	**-0.8**	
KSH				pmax	pmax				
	comp=Z,8.0nm,1.1s								
AAA	**Alma-Ata**	**38.41**	**63**	*eP*	**P**		**09 58 44.9**	**-0.6**	
AAA	**Alma-Ata**	**38.41**	**63**	*eP*	**P**		**09 58 45.0**	**-0.6**	
TNSS	**Tian-Shan**	**38.45**	**63**	*eP*	**P**		**09 58 45.1**	**-1.2**	
TNSS	**Tian-Shan**	**38.45**	**63**	*eP*	**P**		**09 58 45.1**	**-1.2**	
ARXS	**Arharly**	**38.99**	**61**	*i* P	**P**		**09 58 50.2**	**-0.2**	
KURBB	**Kurchatov Arra**	**39.40**	**51**	P	**P**		**09 58 53.6**	**0.0**	
	comp=Z,7.7nm,0.8s,baz=275,slow=8.8,SNR=68								
KURBB				PP	**PP**		**10 00 23.2**	**-0.7**	
	comp=Z,11nm,1.0s,baz=274,slow=11,SNR=11								
KURBB				LR	LR		10 18 02.4		
	comp=Z,401nm,18.0s,baz=174,slow=41								
	comp=Z,7.7nm,0.8s								
KURK	**Kurchatov**	**39.46**	**51**		**P**		**09 58 54.1**	**-0.1**	
KURK	**Kurchatov**	**39.46**	**51**	*ceP*	**P**		**09 58 53.9**	**-0.2**	
KURK				pmax	pmax				
	comp=Z,42nm,2.5s								
KURK				MLR	MLR				
	comp=Z,347nm,18.0s								
SATY	**Saty**	**39.51**	**63**	*eP*	**P**		**09 58 54.2**	**-0.6**	
SATY	**Saty**	**39.51**	**63**	*eP*	**P**		**09 58 54.2**	**-0.6**	
UZB	**Uzynbulak**	**39.95**	**63**	*eP*	**P**		**09 58 57.9**	**-0.6**	
UZB	**Uzynbulak**	**39.95**	**63**	*eP*	**P**		**09 58 57.1**	**-1.4**	
SHLS	**Shalkode**	**40.27**	**63**	*eP*	**P**		**09 59 03.1**	**+1.9**	
SHLS	**Shalkode**	**40.27**	**63**	*eP*	**P**		**09 59 03.1**	**+1.9**	
JMIC	**Jan Mayen**	**40.66**	**343**	LR	LR		10 16 28.9		
	comp=Z,212nm,18.4s,baz=82,slow=37								
DBIC	**Dimbokro**	**41.33**	**234**		**P**		**09 59 09.4**	**-0.6**	
DBIC				IAmb	IAmb		09 59 17.3		
	comp=Z,22nm,0.8s								
DBIC	**Dimbokro**	**41.33**	**234**	P	**P**		**09 59 09.8**	**-0.2**	
	comp=Z,10nm,0.5s,baz=63,slow=6.8,SNR=14								
DBIC				LR	LR		10 18 28.2		
	comp=Z,1µm,19.1s,baz=51,slow=39								
	comp=Z,10nm,0.5s								
DBIC	**Dimbokro**	**41.33**	**234**	P	**P**		**09 59 09.4**	**-0.6**	
DBIC				pmax	pmax				
	comp=Z,22nm,0.8s								
BORG	**Borgarnes**	**41.55**	**331**	LR	LR		10 17 04.1		
	comp=Z,373nm,20.5s,baz=113,slow=37								
MAKZ	**Makanchi**	**41.71**	**57**	P	**P**		**09 59 12.7**	**-0.2**	
MAKZ	**Makanchi**	**41.71**	**57**	P	**P**		**09 59 12.7**	**-0.2**	
MAKZ				pmax	pmax				
	comp=Z,20nm,1.5s								
MK31	**Makanchi Array**	**41.93**	**57**	*ceP*	**P**		**09 59 15.0**	**+0.4**	
MKAR	**Makanchi Array**	**41.93**	**57**		**P**		**09 59 14.8**	**+0.2**	
MKAR	**Makanchi Array**	**41.93**	**57**	P	**P**		**09 59 14.7**	**0.0**	
	comp=Z,6.4nm,0.7s,baz=276,slow=6.8,SNR=36								
MKAR				ScP	**ScP**		**10 05 01.5**	**+1.8**	
	comp=Z,0.9nm,0.8s,baz=270,slow=2.4,SNR=3.5								
MKAR				LR	LR		10 18 49.1		
	comp=Z,279nm,20.8s,baz=270,slow=39								
	comp=Z,6.4nm,0.7s								
MKAR	**Makanchi Array**	**41.93**	**57**	*i* P	**P**		**09 59 15.1**	**+0.5**	
MKAR				pmax	pmax				
	comp=Z,6.0nm,0.7s								
PSMN	**Pico do Norte,**	**42.30**	**288**	*eT*	T		10 45 27.1		
PSMA	**Santa Maria**	**42.35**	**288**	*eT*	T		10 45 23.1		
SPB2	**Spitsbergen Ar**	**43.34**	**357**	P	**P**		**09 59 25.0**	**-0.7**	
SPB2				IAmb	IAmb		09 59 35.4		
	comp=Z,23nm,0.8s								
SPA0	**Spitsbergen Ar**	**43.34**	**357**	*eP*	**P**		**09 59 25.4**	**-0.3**	
SPITS	**Spitsbergen Ar**	**43.34**	**357**	P	**P**		**09 59 25.1**	**-0.6**	
	comp=Z,3.9nm,0.4s,baz=148,slow=11,SNR=17								
SPITS				LR	LR		10 18 29.2		
	comp=Z,393nm,20.6s,baz=174,slow=38								
	comp=Z,3.9nm,0.4s								
ZAA0	**Zalesovo Array**	**43.40**	**46**	P	**P**		**09 59 26.2**	**-0.2**	
ZALV	**Zalesovo Beam**	**43.40**	**46**	P	**P**		**09 59 25.9**	**-0.5**	
ZALV	**Zalesovo Beam**	**43.40**	**46**	P	**P**		**09 59 26.4**	**0.0**	
	comp=Z,4.9nm,0.6s,baz=269,slow=8.6,SNR=13								
ZALV				LR	LR		10 21 33.7		
	comp=Z,180nm,18.3s,baz=260,slow=42								
	comp=Z,4.9nm,0.6s								
ZSN	**Zaisan**	**43.63**	**56**	*eP*	**P**		**09 59 27.7**	**-0.7**	
ZSN	**Zaisan**	**43.63**	**56**	*eP*	**P**		**09 59 27.8**	**-0.7**	
KBS	**Kingsbay**	**44.31**	**356**	P	**P**		**09 59 33.1**	**-0.4**	
KBS	**Kingsbay**	**44.31**	**356**	*ceP*	**P**		**09 59 33.5**	**+0.1**	
KBS				pmax	pmax				
	comp=Z,34nm,1.0s								
KBS	**Kingsbay**	**44.31**	**356**	*eP*	**P**		**09 59 33.0**	**-0.4**	
KBS	**Kingsbay**	**44.31**	**356**	*i* P	**P**		**09 59 33.3**	**-0.2**	
WMQ	**Urumqi**	**46.09**	**60**	*eP*	**P**		**09 59 49.3**	**+1.1**	
WMQ				pmax	pmax				
	comp=Z,31nm,0.9s								
WMQ				LR	LR				
	comp=Z,370nm,24.1s								
HYB	**Hyderabad**	**48.28**	**98**	*eP*	**P**		**10 00 05.7**	**+0.2**	
NOR	**Nord**	**49.17**	**352**	*i* P	**P**		**10 00 10.4**	**-1.1**	
NOR				IAmb	IAmb		10 00 11.6		
	comp=Z,32nm,1.2s								
SUMG	**Summit**	**49.70**	**339**		**P**		**10 00 15.7**	**-0.4**	
SUMG	**Summit**	**49.70**	**339**	P	**P**		**10 00 15.7**	**-0.4**	
SUMG				pmax	pmax				
	comp=Z,8.0nm,0.8s								
SUMG	**Summit**	**49.70**	**339**	*i* P	**P**		**10 00 16.3**	**+0.2**	
EGRIP	**EGRIP Drilling**	**49.74**	**343**	*i* P	**P**		**10 00 15.7**	**-0.6**	
EGRIP				IAmb	IAmb		10 00 20.2		
	comp=Z,23nm,1.2s								
EVN	**Everest**	**50.16**	**81**	P	**P**		**10 00 19.9**	**-0.6**	
KSANE	**Kasane**	**52.78**	**183**		**P**		**10 00 39.4**	**0.0**	
KSANE				IAmb	IAmb		10 00 51.4		
	comp=Z,21nm,1.1s								
LSA	**Lhasa**	**52.94**	**77**	IAmb	IAmb		10 00 46.8		
	comp=Z,15nm,0.9s								
LSA	**Lhasa**	**52.94**	**77**	P	**P**		**10 00 41.0**	**-0.1**	
LSA				pmax	pmax				
	comp=Z,15nm,1.1s								
MOY	**Mondy**	**53.37**	**48**	*eP*	**P**		**10 00 44.7**	**+1.2**	
MOY				pmax	pmax				
	comp=Z,42nm,1.6s								
GOMU	**GeErMu**	**53.40**	**68**	P	**P**		**10 00 43.8**	**-0.4**	
GOMU				S	**S**		**10 08 15.5**	**-0.6**	
GOMU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
GOMU				LR	LR				
	comp=Z,140nm,15.6s								
GOMU				LR	LR				
	comp=Z,100nm,15.4s								
GOMU				LR	LR				
	comp=Z,170nm,15.2s								
NEEM	**North Greenlan**	**53.50**	**345**	*i* P	**P**		**10 00 42.3**	**-2.0**	
SFJD	**Kangerlussuaq**	**53.67**	**331**	LR	LR		10 24 45.3		
	comp=Z,230nm,21.0s,baz=91,slow=37								
TSUM	**Tsumeb**	**54.98**	**192**	P	**P**		**10 00 55.5**	**0.0**	
ZAK	**Zakamensk**	**55.07**	**49**	*eP*	**P**		**10 00 56.9**	**+1.0**	
ZAK				pmax	pmax				
	comp=Z,20nm,1.4s								
IRK	**Irkutsk**	**55.21**	**47**	*eP*	**P**		**10 00 56.3**	**-0.4**	
IRK				pmax	pmax				
	comp=Z,63nm,1.7s								
SHL	**Shillong**	**55.27**	**81**	P	**P**		**10 00 57.0**	**-0.7**	
SHL				IAmb	IAmb		10 01 06.1		
	comp=Z,23nm,1.1s								
SHL	**Shillong**	**55.27**	**81**	P	**P**		**10 00 57.0**	**-0.7**	
SHL				pmax	pmax				
	comp=Z,23nm,1.1s								
MATP	**Matopo**	**55.34**	**179**	LR	LR		10 26 00.4		
	comp=Z,436nm,18.5s,baz=11,slow=37								
PALK	**Pallekele**	**55.79**	**107**	LR	LR		10 29 18.6		
	comp=Z,301nm,18.2s,baz=316,slow=41								
GTA	**Gaotai**	**56.02**	**63**	*eP*	**P**		**10 01 02.7**	**-0.2**	
GTA				pmax	pmax				
	comp=Z,21nm,1.2s								
GTA				LR	LR				
	comp=Z,360nm,17.4s								
GTA				LR	LR				
	comp=Z,300nm,17.5s								
GTA				LR	LR				
	comp=Z,260nm,18.5s								
OPO	**Ambohidratompo**	**56.57**	**158**	LR	LR		10 27 26.9		
	comp=Z,299nm,18.2s,baz=178,slow=38								
GRTLG	**Ghanzi**	**56.62**	**187**	P	**P**		**10 01 08.4**	**+1.3**	
SONM	**Songino Array**	**57.76**	**51**	P	**P**		**10 01 15.2**	**0.0**	
SONM				IAmb	IAmb		10 01 21.8		
	comp=Z,19nm,1.1s								
SONM	**Songino Array**	**57.76**	**51**	P	**P**		**10 01 16.2**	**+1.1**	
	comp=Z,4.8nm,0.5s,baz=282,slow=9.2,SNR=43								
	comp=Z,4.8nm,0.5s								
SONM	**Songino Array**	**57.76**	**51**	P	**P**		**10 01 15.2**	**0.0**	
SONM				pmax	pmax				
	comp=Z,19nm,1.1s								
ULN	**Ulaanbaatar**	**58.17**	**51**	P	**P**		**10 01 18.0**	**-0.1**	
ULN				IAmb	IAmb		10 01 24.7		
	comp=Z,22nm,1.2s								
ULN	**Ulaanbaatar**	**58.17**	**51**	P	**P**		**10 01 18.0**	**-0.1**	
ULN				pmax	pmax				
	comp=Z,22nm,1.2s								
LPHEP	**Lephephe**	**58.29**	**182**		**P**		**10 01 19.4**	**+0.5**	
BOD	**Bodaibo**	**59.07**	**39**	*eP*	**P**		**10 01 23.5**	**-0.4**	
BOD				pmax	pmax				
	comp=Z,9.0nm,0.9s								
LBTB	**Lobatse**	**59.94**	**182**		**P**		**10 01 30.1**	**-0.3**	
LBTB	**Lobatse**	**59.94**	**182**	P	**P**		**10 01 30.1**	**-0.3**	
LBTB				pmax	pmax				
	comp=Z,22nm,1.2s								
LZH	**Lanzhou**	**60.22**	**65**	*eP*	**P**		**10 01 33.5**	**+1.1**	
LZH				sP	sP		10 01 42.1	+3.4	
LZH				pmax	pmax				
	comp=Z,34nm,1.2s								
LZH				LR	LR				
	comp=Z,370nm,14.4s								
LZH				LR	LR				
	comp=Z,330nm,14.4s								
LZH				LR	LR				
	comp=Z,360nm,13.7s								
TIXI	**Tiksi**	**60.34**	**21**	LR	LR		10 31 35.0		
	comp=Z,410nm,18.8s,baz=321,slow=40								
DRLN	**Deer Lake**	**61.48**	**312**		**P**		**10 01 39.9**	**-0.6**	
FRB	**Frobisher Bay**	**61.71**	**330**	LR	LR		10 29 54.8		
	comp=Z,150nm,18.1s,baz=74,slow=38								
CD2	**Chengdu**	**62.33**	**70**	P	**P**		**10 01 47.7**	**+1.0**	
CD2				pmax	pmax				
	comp=Z,50nm,0.6s								
PZH	**PanZhiHua**	**62.75**	**76**	P	**P**		**10 01 49.6**	**0.0**	
PZH				pmax	pmax				
	comp=Z,30nm,1.0s								
BTO	**Baotou**	**62.83**	**58**	*eP*	**P**		**10 01 49.5**	**-0.4**	
BTO				PP	**PP**		**10 04 14.3**	**+6.5**	
BTO				S	**S**		**10 10 19.2**	**+0.5**	
BTO				pmax	pmax				
	comp=Z,31nm,1.0s								
BTO				pmax	pmax				
	comp=Z,290nm,5.8s								
BTO				LR	LR				
	comp=Z,810nm,18.2s								
BTO				LR	LR				
	comp=Z,500nm,17.9s								
BTO				LR	LR				
	comp=Z,380nm,22.6s								
BOSA	**Boshof**	**63.53**	**183**	P	**P**		**10 01 56.4**	**+1.9**	
	comp=Z,3.5nm,0.6s,baz=355,slow=6.6,SNR=7.6								
	comp=Z,3.5nm,0.6s								
HHC	**Hu-ho-hao-te**	**63.79**	**57**	*eP*	**P**		**10 01 57.2**	**+0.9**	
HHC				pP	sP		10 02 02.4	-0.3	
HHC				sP	pP		10 02 05.2	+4.3	
HHC				S	**S**		**10 10 26.4**	**-4.4**	
HHC				pmax	pmax				
	comp=Z,26nm,0.6s								
HHC				pmax	pmax				
	comp=Z,130nm,4.0s								
HHC				LR	LR				
	comp=Z,260nm,19.4s								
HHC				LR	LR				
	comp=Z,290nm,19.4s								
HHC				LR	LR				
	comp=Z,230nm,18.2s								
ILON	**Igloolik, Nuna**	**63.94**	**338**		**P**		**10 01 55.3**	**-1.3**	
ILON				IAmb	IAmb		10 01 56.1		
	comp=Z,16nm,1.3s								
RES	**Resolute Bay**	**64.16**	**346**	LR	LR		10 31 30.9		
	comp=Z,200nm,18.4s,baz=1.0,slow=38								
KMI	**Kunming**	**64.19**	**76**	P	**P**		**10 01 59.7**	**+0.4**	
KMI				pmax	pmax				
	comp=Z,12nm,1.0s								
KMI				LR	LR				
	comp=Z,230nm,25.0s								
CHTO	**Chiang Mai**	**64.23**	**84**		**P**		**10 01 58.9**	**-0.4**	
CHTO				IAmb	IAmb		10 02 00.3		
	comp=Z,15nm,1.2s								
CHTO	**Chiang Mai**	**64.23**	**84**	P	**P**		**10 01 59.9**	**+0.6**	
CHTO	**Chiang Mai**	**64.23**	**84**	P	**P**		**10 01 58.9**	**-0.4**	
CHTO				pmax	pmax				
	comp=Z,15nm,1.2s								
CMAR	**Chiang Mai Arr**	**64.41**	**85**		**P**		**10 02 00.1**	**-0.4**	
CMAR	**Chiang Mai Arr**	**64.41**	**85**	P	**P**		**10 02 00.7**	**+0.1**	
	comp=Z,7.2nm,1.0s,baz=302,slow=7.9,SNR=21								
	comp=Z,7.2nm,1.0s								
SCHQ	**Schefferville**	**64.54**

comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,15.0s
BNX BinXian 71.69 47 ‖P **P 10 02 45.6 -0.2**
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,180nm,5.2s
H62A Milan 71.92 312 IAmb IAmb 10 02 52.5
comp=Z,11nm,0.9s
RCBR Riachuelo 72.37 249 LR LR 10 35 53.6
comp=Z,194nm,18.3s,baz=58,slow=37
I62A Tamworth 72.40 311 IAmb IAmb 10 02 51.8
comp=Z,23nm,1.4s
BILL Bilibino 72.46 15 *i*P **P 10 02 50.0 -0.1**
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL MLR MLR
comp=Z,86nm,16.0s
LBNH Lisbon 72.56 312 IAmb IAmb 10 02 55.8
comp=Z,10nm,0.9s
SEY Seymchan 72.67 23 LR LR 10 38 01.9
comp=Z,163nm,19.8s,baz=328,slow=39
SEY Seymchan 72.67 23 *i*P **P 10 02 52.1 +0.7**
SEY pmax pmax
comp=Z,9.0nm,1.2s
SEY MLR MLR
comp=Z,146nm,19.0s
KULM Kulim 72.95 96 P **P 10 02 55.0 +1.1**
PSI Prapat 72.99 99 LR LR 10 40 06.6
comp=Z,226nm,19.7s,baz=269,slow=40
PSI Prapat 72.99 99 P **P 10 02 54.7 +0.5**
PSI Prapat 72.99 99 P **P 10 02 54.2 0.0**
PSI pmax pmax
comp=Z,22nm,0.9s
VT1 Waterbury 73.02 312 IAmb IAmb 10 02 60.0
comp=Z,12nm,1.2s
RPSI Rantau Prapat 73.05 99 **P 10 02 54.2 -0.2**
TRQ Mont Tremblant 73.06 315 P **P 10 02 54.0 -0.1**
HNH Hanover 73.07 312 IAmb IAmb 10 03 00.5
comp=Z,12nm,0.8s
NJ2 Nanjing 73.11 63 *e*P **P 10 02 54.2 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.6s
WES Weston 73.18 310 IAmb IAmb 10 03 02.4
comp=Z,14nm,0.9s
K62A Royalston 73.60 311 IAmb IAmb 10 03 05.5
comp=Z,21nm,1.3s
VLDQ Val d'Or 73.64 318 IAmb IAmb 10 03 03.4
comp=Z,10nm,0.8s
L61B Northampton 73.99 311 IAmb IAmb 10 03 05.4
comp=Z,12nm,1.1s
UCCT U. Connecticut 74.07 310 IAmb IAmb 10 03 07.3
comp=Z,16nm,1.1s
ACCN Adirondack Com 74.09 312 IAmb IAmb 10 03 08.1
comp=Z,12nm,0.9s
M63A Gales Ferry 74.17 310 IAmb IAmb 10 03 08.4
comp=Z,15nm,0.9s
MA2 Magadan 74.48 26 **P 10 03 02.3 +0.2**
MA2 IAmb IAmb 10 03 08.5
comp=Z,12nm,0.8s
MA2 Magadan 74.48 26 LR LR 10 40 04.2
comp=Z,312nm,19.1s,baz=310,slow=39
MA2 Magadan 74.48 26 P **P 10 03 03.1 +1.0**
MA2 Magadan 74.48 26 *i*P **P 10 03 02.9 +0.8**
MA2 pmax pmax
comp=Z,14nm,1.2s
MA2 MLR MLR
comp=Z,145nm,23.0s
MA2 Magadan 74.48 26 P **P 10 03 02.4 +0.2**
comp=Z,19nm,1.4s
USA0B Ussuriysk Arra 75.25 46 *i*P **P 10 03 07.2 +0.4**
USRK Ussuriysk Ar. 75.25 46 P **P 10 03 07.1 +0.3**
comp=Z,4.0nm,0.5s,baz=283,slow=4.4,SNR=9.6
USRK LR LR 10 42 12.6
comp=Z,137nm,18.2s,baz=296,slow=41
comp=Z,4.0nm,0.5s
B21K Ikpikpuk River 75.45 1 IAmb IAmb 10 03 16.6
comp=Z,16nm,0.8s
L59A Walton 75.59 312 IAmb IAmb 10 03 16.8
comp=Z,16nm,0.9s
MSHR Mys Shultsa 75.67 48 *i*P **P 10 03 09.6 +0.3**
MSHR pmax pmax
comp=Z,4.0nm,1.1s
MSHR MLR MLR
comp=Z,88nm,21.0s
PECO Prince Edward 75.77 314 IAmb IAmb 10 03 15.2
comp=Z,10nm,1.0s
INK Inuvik 75.84 353 P **P 10 03 08.8 -1.0**
comp=Z,2.9nm,1.1s,baz=46,slow=10,SNR=4.4
INK LR LR 10 39 37.6
comp=Z,78nm,19.5s,baz=55,slow=38
comp=Z,2.9nm,1.1s
D23K Nanushuk River 76.12 359 IAmb IAmb 10 03 20.2
comp=Z,17nm,1.1s
BINY Binghamton 76.16 312 IAmb IAmb 10 03 18.1
comp=Z,11nm,0.9s
K57A Scipio Center 76.18 313 IAmb IAmb 10 03 19.9
comp=Z,22nm,1.2s
D20K Etivluk River 76.33 2 IAmb IAmb 10 03 21.0
comp=Z,8.6nm,0.8s
KSPA Keystone Colle 76.40 311 IAmb IAmb 10 03 18.9
comp=Z,12nm,1.0s
KS19 Wonju Array Si 76.45 54 P **P 10 03 13.0 -0.8**
KS19 IAmb IAmb 10 03 22.9
comp=Z,8.2nm,0.8s
KSAR Wonju Array Be 76.49 54 **P 10 03 13.7 -0.4**
KSAR Wonju Array Be 76.49 54 P **P 10 03 13.7 -0.4**
KSRS Korea Array 76.51 54 P **P 10 03 13.6 -0.6**
comp=Z,7.1nm,0.9s,baz=303,slow=5.1,SNR=30
comp=Z,7.1nm,0.9s
SADO Sadowa 76.53 316 IAmb IAmb 10 03 36.9
comp=Z,11nm,1.0s
SADO Sadowa 76.53 316 LR LR 10 36 51.6
comp=Z,158nm,20.7s,baz=64,slow=36
E21K Killik River 76.64 1 IAmb IAmb 10 03 22.4
comp=Z,11nm,0.7s
F30M Barrier River 76.74 354 IAmb IAmb 10 03 34.0
comp=Z,16nm,1.0s
TJN Taejon 76.74 55 P **P 10 03 15.9 +0.4**
TYV Tymovskoe 76.93 36 *e*P **P 10 03 17.2 +0.9**
TYV pmax pmax
comp=Z,7.0nm,1.3s
TYV pmax pmax
comp=Z,100nm,5.4s
E22K Anaktuvuk Pass 76.96 360 IAmb IAmb 10 03 24.4
comp=Z,10nm,0.7s
MMNY Mt. Morris Dam 77.01 313 IAmb IAmb 10 03 22.5
comp=Z,15nm,1.0s
E23K Chandalar 77.02 359 IAmb IAmb 10 03 32.0
comp=Z,10nm,0.9s
L56A Greenwood 77.15 313 IAmb IAmb 10 03 25.2
comp=Z,14nm,1.0s
SDSI Sungai Dareh 77.20 100 P **P 10 03 15.9 -2.4**
comp=Z,12nm,0.5s
F26K Sheenjek River 77.22 357 IAmb IAmb 10 03 26.9
comp=Z,12nm,1.1s
M57A Sunshine Farm, 77.36 312 IAmb IAmb 10 03 30.6
comp=Z,12nm,1.0s
G30M tAoh Zraii Nji 77.39 354 IAmb IAmb 10 03 30.3
comp=Z,17nm,1.4s
N58A Sunbury 77.40 311 IAmb IAmb 10 03 34.6
comp=Z,14nm,1.1s
E18K Tukpahlearik C 77.48 3 IAmb IAmb 10 03 27.6
comp=Z,12nm,0.8s
BMAR Burnt Mountain 77.51 357 P **P 10 03 19.5 +0.2**
F24K Squaw Lake 77.53 358 IAmb IAmb 10 03 28.3
comp=Z,10nm,0.8s
G29M Pine Creek 77.61 354 IAmb IAmb 10 03 47.1
comp=Z,10.0nm,0.9s
WVNY West Valley, N 77.62 313 IAmb IAmb 10 03 21.0
comp=Z,18nm,1.2s
MVL Millersville 77.66 310 IAmb IAmb 10 03 28.2
comp=Z,15nm,1.1s
COLD Coldfoot 77.86 359 IAmb IAmb 10 03 29.5
comp=Z,12nm,1.1s
F21K Alatna River 77.87 1 IAmb IAmb 10 03 30.4
comp=Z,23nm,1.1s
G26K Porcupine Rive 77.95 357 IAmb IAmb 10 03 40.2
comp=Z,16nm,1.1s
EPYK Eagle Plains 78.03 354 IAmb IAmb 10 03 34.7
comp=Z,22nm,1.5s
YKA Yellowknife Ar 78.04 343 P **P 10 03 22.1 -0.2**
comp=Z,1.3nm,0.7s,baz=34,slow=6.2,SNR=5.9
YKA LR LR 10 39 04.2
comp=Z,171nm,20.6s,baz=18,slow=37
comp=Z,1.3nm,0.7s
SSPA Standing Stone 78.24 312 P **P 10 03 24.0 +0.2**
SSPA IAmb IAmb 10 03 27.0
comp=Z,20nm,1.4s
H29M Whitestone 78.32 354 IAmb IAmb 10 03 31.3
comp=Z,7.2nm,0.8s
G24K Hadweenzic Riv 78.34 358 IAmb IAmb 10 03 25.5
comp=Z,19nm,1.5s
H31M Peel River 78.35 353 P **P 10 03 24.2 +0.2**
G23K Bananza Creek 78.38 359 IAmb IAmb 10 03 32.6
comp=Z,14nm,1.1s
E46A Sault Ste Mari 78.42 319 IAmb IAmb 10 03 27.9
comp=Z,17nm,1.0s
G21K Allakaket 78.58 1 IAmb IAmb 10 03 34.1
comp=Z,16nm,1.0s
IMAR Indian Mountai 79.12 1 P **P 10 03 28.1 0.0**
I30M Mount Dempster 79.13 353 IAmb IAmb 10 03 45.6
comp=Z,14nm,0.9s
I29M Ogilvie Camp, 79.16 354 P **P 10 03 28.4 -0.1**
I29M IAmb IAmb 10 03 45.6
comp=Z,12nm,0.8s
WRGLY Wrigley 79.24 347 IAmb IAmb 10 03 47.4
comp=Z,21nm,1.3s
H23K Yukon River 79.26 359 IAmb IAmb 10 03 30.9
comp=Z,22nm,1.3s
MDP Montagnes des 79.28 269 LR LR 10 39 36.7
comp=Z,104nm,18.4s,baz=78,slow=36
YSS Yuzhno-Sakhali 79.53 39 **P 10 03 30.3 -0.4**
YSS IAmb IAmb 10 03 37.4
comp=Z,21nm,0.9s
YSS Yuzhno-Sakhali 79.53 39 *e*P **P 10 03 31.6 +0.9**
YSS *e*S **S 10 13 28.4 -3.3**
YSS pmax pmax
comp=Z,20nm,1.1s
YULB Yu-li 79.58 69 P **P 10 03 33.3 +1.8**
J30M Hart River 79.75 353 IAmb IAmb 10 03 49.6
comp=Z,13nm,0.8s
Q56A Snyder Ridge, 79.99 311 IAmb IAmb 10 03 42.5
comp=Z,16nm,1.0s
MCWV Mont Chateau 80.02 312 IAmb IAmb 10 03 50.5
comp=Z,11nm,0.8s
COLA College 80.18 358 P **P 10 03 34.2 +0.3**
ILAR Eielson Array 80.25 358 P **P 10 03 33.7 -0.7**
ILAR Eielson Array 80.25 358 P **P 10 03 32.4 -2.0**
comp=Z,0.6nm,0.6s,baz=8.4,slow=7.1,SNR=10
ILAR LR LR 10 39 51.6
comp=Z,61nm,21.6s,baz=354,slow=36
comp=Z,0.6nm,0.6s
ILAR Eielson Array 80.25 358 P **P 10 03 33.7 -0.7**
FFC Flin Flon 80.58 333 **P 10 03 35.2 -1.1**
FFC IAmb IAmb 10 03 44.3
comp=Z,17nm,1.3s
FFC Flin Flon 80.58 333 P **P 10 03 35.2 -1.1**
FFC pmax pmax
comp=Z,17nm,1.3s
WRH Wood River Hil 80.59 358 IAmb IAmb 10 03 44.3
comp=Z,12nm,0.8s
HDA Harding Lake 80.62 358 IAmb IAmb 10 03 53.4
comp=Z,11nm,0.8s
K27K Chicken 80.76 356 IAmb IAmb 10 03 55.8
comp=Z,26nm,1.4s
SCRK Sand Creek 80.92 356 IAmb IAmb 10 03 56.1
comp=Z,13nm,1.1s
J20K Nowinta River 80.92 1 IAmb IAmb 10 03 46.5
comp=Z,13nm,0.8s
O52A Adamsville 80.95 313 IAmb IAmb 10 03 55.0
comp=Z,9.8nm,0.9s
JNU Nakatsue 80.98 56 LR LR 10 42 04.2
comp=Z,164nm,20.6s,baz=314,slow=38
P53A Whipple 81.07 312 IAmb IAmb 10 03 48.3
comp=Z,17nm,0.9s
J19K Poorman 81.08 2 IAmb IAmb 10 03 47.4
comp=Z,21nm,1.1s
COWI Conover 81.13 321 IAmb IAmb 10 03 45.5
comp=Z,16nm,1.1s
RIDG Independent Ri 81.20 357 IAmb IAmb 10 03 40.6
comp=Z,18nm,1.3s
DOT Dot Lake 81.25 356 IAmb IAmb 10 03 57.7
comp=Z,12nm,1.1s
ASAJ Asahikawa 81.31 41 LR LR 10 44 26.1
comp=Z,185nm,18.6s,baz=324,slow=39
MCK McKinley 81.35 359 IAmb IAmb 10 03 47.8
comp=Z,15nm,1.1s
L29M L29M 81.36 354 IAmb IAmb 10 03 46.0
comp=Z,15nm,1.4s
MDSI Maura Dua 81.50 102 P **P 10 03 40.3 -1.5**
comp=Z,34nm,1.0s
TRF Thorofare Moun 81.66 359 IAmb IAmb 10 03 50.2
comp=Z,8.6nm,0.8s
BCAR Beaver Creek A 81.70 355 **P 10 03 42.2 0.0**
N49A Columbus Grove 81.82 315 IAmb IAmb 10 03 50.0
comp=Z,9.4nm,0.8s
L26K Log Cabin Wild 81.84 356 IAmb IAmb 10 03 44.3
comp=Z,13nm,1.4s
PETK Petropavlovsk- 81.87 28 P **P 10 03 41.3 -1.9**
comp=Z,5.3nm,1.1s,baz=79,slow=3.2,SNR=6.8
comp=Z,5.3nm,1.1s
MENT Mentasta 81.94 356 P P 10 03 48.6 +5.2
M29M Somme Creek 82.05 354 IAmb IAmb 10 04 05.0
comp=Z,9.7nm,0.7s
GUA01 Guaratinga, BA 82.17 244 *e*P **P 10 03 45.5 +0.3**
G40A Rib Lake 82.24 321 IAmb IAmb 10 03 53.7
comp=Z,18nm,1.3s
O49A Covington 82.38 314 IAmb IAmb 10 03 52.8
comp=Z,13nm,1.1s
M27K Edge Creek, AK 82.41 355 IAmb IAmb 10 04 04.3
comp=Z,14nm,1.1s
M26K Nabesna, AK 82.44 356 IAmb IAmb 10 04 05.8
comp=Z,11nm,1.2s
Q51A Peebles 82.54 313 IAmb IAmb 10 03 57.9
comp=Z,11nm,0.8s
N47A Urbana 82.72 315 IAmb IAmb 10 03 54.4
comp=Z,12nm,0.9s
L19K White Mountain 82.92 1 IAmb IAmb 10 03 56.9
comp=Z,16nm,1.2s
WTLY Watson Lake, Y 83.07 348 IAmb IAmb 10 04 07.5
comp=Z,11nm,1.1s
PMR Palmer 83.50 359 P **P 10 03 52.3 +0.8**
HYT Haines Junctio 83.55 353 IAmb IAmb 10 03 53.2
comp=Z,18nm,1.5s
SPMN Mane'n Sk. 83.60 322 IAmb IAmb 10 03 58.9
comp=Z,10nm,1.0s
STLK Strandline Lak 83.62 360 IAmb IAmb 10 03 59.7
comp=Z,5.5nm,0.6s
MJB9 Matsu-Tunnel 83.65 49 IAmb IAmb 10 04 02.1
comp=Z,10.0nm,1.0s
MAJO Matsushiro 83.65 49 **P 10 03 52.2 -0.6**
MAJO IAmb IAmb 10 04 02.1
comp=Z,9.8nm,1.0s
MAJO Matsushiro 83.65 49 P **P 10 03 52.2 -0.6**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 83.66 49 **P 10 03 52.7 -0.1**
MJAR IAmb IAmb 10 03 59.1
comp=Z,14nm,1.3s
MJAR Matsushiro Arr 83.66 49 P **P 10 03 52.0 -0.8**
comp=Z,7.3nm,1.1s,baz=313,slow=4.6,SNR=16
MJAR LR LR 10 44 39.9
comp=Z,137nm,19.0s,baz=318,slow=38
comp=Z,7.3nm,1.1s
MJAR Matsushiro Arr 83.66 49 P **P 10 03 52.7 -0.1**
MJAR pmax pmax
comp=Z,14nm,1.3s
JFWS Jewell Farm 83.88 319 IAmb IAmb 10 04 00.2
comp=Z,9.6nm,1.0s
SBUM Sibu 84.03 91 IAmb IAmb 10 04 01.8
comp=Z,14nm,1.4s
SBUM Sibu 84.03 91 P **P 10 03 57.0 +2.0**
R33M Jennings River 84.10 349 IAmb IAmb 10 04 13.5
comp=Z,12nm,1.1s
T50A Nancy 84.73 312 IAmb IAmb 10 04 05.8
comp=Z,10nm,0.7s
F33A 5 Mile Ranch, 84.86 324 IAmb IAmb 10 04 04.4
comp=Z,16nm,1.4s
DLBC Dease Lake 84.87 349 LR LR 10 43 58.5
comp=Z,13nm,20.6s,baz=360,slow=37
TKL Tuckaleechee C 84.96 311 IAmb IAmb 10 04 18.8
comp=Z,13nm,1.0s
TKL Tuckaleechee C 84.96 311 LR LR 10 42 51.7
comp=Z,119nm,19.3s,baz=56,slow=36
LEM Lembang 85.64 101 LR LR 10 48 46.9
comp=Z,130nm,18.1s,baz=334,slow=40
T47A Sharon Grove 86.11 313 IAmb IAmb 10 04 12.0
comp=Z,18nm,1.1s
CLTN Cedars of Leba 86.25 312 IAmb IAmb 10 04 12.2
comp=Z,12nm,1.3s
E28A Huff 86.33 327 IAmb IAmb 10 04 15.2
comp=Z,16nm,1.0s
DGMT Dagmar 86.34 330 IAmb IAmb 10 04 14.9
comp=Z,8.3nm,0.8s
ECSD EROS Data Cent 86.56 323 IAmb IAmb 10 04 14.0
comp=Z,13nm,1.3s
WVT Waverly 87.12 313 P **P 10 04 09.3 -0.8**
WVT Waverly 87.12 313 P **P 10 04 09.3 -0.8**
WVT pmax pmax
comp=Z,6.0nm,1.0s
SHEM Shemya Is, Ala 87.62 20 LR LR 10 46 09.5
comp=Z,86nm,21.7s,baz=349,slow=38
BDFB Brasilia 87.74 249 P **P 10 04 14.2 +0.8**
comp=Z,8.3nm,0.8s,baz=95,slow=5.0,SNR=11
BDFB LR LR 10 45 13.2
comp=Z,274nm,18.4s,baz=79,slow=37
comp=Z,8.3nm,0.8s
CCM Cathedral Cave 87.79 316 P **P 10 04 11.9 -1.3**
CCM Cathedral Cave 87.79 316 P **P 10 04 12.0 -1.3**
CCM pmax pmax
comp=Z,29nm,1.5s
P38A Dawn 87.95 319 P **P 10 04 13.5 -0.5**
P38A IAmb IAmb 10 04 21.2
comp=Z,13nm,1.5s
MGMO Mountain Grove 89.00 316 IAmb IAmb 10 04 26.5
comp=Z,9.0nm,1.1s
RSSD Black Hills 89.72 328 **P 10 04 21.9 -0.7**
RSSD IAmb IAmb 10 04 29.6
comp=Z,12nm,1.3s
RSSD Black Hills 89.72 328 P **P 10 04 21.9 -0.7**
RSSD pmax pmax
comp=Z,12nm,1.3s
BBB Bella Bella 90.45 345 LR LR 10 45 10.4
comp=Z,113nm,20.9s,baz=37,slow=36
HHAR Hobbs 90.57 317 **P 10 04 25.6 -0.8**
NEW Newport 91.18 337 IAmb IAmb 10 04 37.9
comp=Z,12nm,1.5s
NEW Newport 91.18 337 LR LR 10 47 20.7
comp=Z,121nm,19.1s,baz=34,slow=37
MSO Missoula 91.38 335 IAmb IAmb 10 04 36.8
comp=Z,8.2nm,1.2s
YNE Yellowstone No 91.48 332 IAmb IAmb 10 04 42.8
comp=Z,6.6nm,0.9s
BOZ Bozeman (W) 91.60 333 IAmb IAmb 10 04 42.7
comp=Z,4.1nm,0.8s
MIAR Mount Ida 91.60 315 IAmb IAmb 10 04 46.0
comp=Z,7.4nm,1.1s
SDV Santo Domingo 91.76 282 LR LR 10 43 32.4
comp=Z,53nm,20.1s,baz=72,slow=34
K22A Casper 91.98 328 IAmb IAmb 10 04 38.2
comp=Z,9.0nm,1.1s
DLMT Dillon 92.16 333 IAmb IAmb 10 04 40.9
comp=Z,5.2nm,1.1s
JCJ Chichijima 92.36 54 LR LR 10 48 56.7
comp=Z,153nm,21.5s,baz=105,slow=37
PDAR Pinedale Array 93.16 330 P **P 10 04 39.5 +0.9**
comp=Z,0.4nm,0.7s,baz=45,slow=2.7,SNR=5.0
PDAR LR LR 10 47 48.3
comp=Z,56nm,21.3s,baz=28,slow=36
comp=Z,0.4nm,0.7s
SIV San Ignacio 98.15 256 LR LR 10 52 30.2
comp=Z,236nm,18.5s,baz=114,slow=37
ANMO Albuquerque 98.17 324 LR LR 10 49 17.0
comp=Z,197nm,20.1s,baz=138,slow=36
YBH Yreka Blue Hor 98.79 338 LR LR 10 52 16.2
comp=Z,10nm,18.9s,baz=42,slow=37
TXAR Lajitas Array 101.17 318 P **Pdif 10 05 15.5 +0.7**
comp=Z,0.3nm,0.3s,baz=40,slow=6.3,SNR=4.6
SYO Syowa Base 104.28 176‖*e*Pdiff **Pdif 10 05 29.0 +1.7**
WRA Warramunga Arr 114.44 98 PKP PKPdf 10 10 04.1 -0.3
comp=Z,1.4nm,1.1s,baz=322,slow=1.9,SNR=2.6
ASAR Alice Springs 115.93 102 PKP **PKPdf 10 10 06.8 -0.4**
comp=Z,0.5nm,0.7s,baz=297,slow=1.7,SNR=6.5
QSPA South Pole Qui 125.07 180 **PKiKP 10 10 24.4 +0.6**
QSPA South Pole Qui 125.07 180 PKP **PKiKP 10 10 24.5 +0.7**
comp=Z,8.3nm,1.1s,baz=239,slow=1.5,SNR=12
STKA Stephens Creek 125.64 107 PKP **PKiKP 10 10 26.9 +1.0**
comp=Z,1.3nm,0.6s,baz=173,slow=1.5,SNR=3.5
TAOE Nuku Hiva Isla 151.54 334 *e*LR LR 11 01 27.2
comp=Z,121nm,26.9s
PPT2 Papeete2 162.29 352 *e*LR LR 11 06 26.3
comp=Z,147nm,29.8s
PPT2 *e*LR LR 11 06 27.6
comp=Z,114nm,24.8s
TBI Tubuai 167.94 348 *e*LR LR 11 09 08.3
comp=Z,705nm,28.2s

---

*HEL **03** 10:23:17.7±0.3, 67°.63N×34°.22E, h0km, ML1.9, Suspected explosion*
*KOLA **03** 10:23:18.5, 67°.68N×34°.21E, h0km, ML2.2, Error ellipse: s-maj=3.2km s-min=1.4km az=120.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **03** 10:23:21.5±2.6, 67°.65N×33°.57E, h0km, mbtmp2.8/2, ML2.0/2, Error ellipse: s-maj=28.9km s-min=10.0km az=77.0*

ISC 03 10:23:16.7±0.9, 67°.61N±0°.03×34°.29E±0°.04, h0km, n29, σ1.38/50, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.33**	**25**	P	**Pg**	**10 23 23.4**	**+0.4**
LVZ				S	**Sg**	**10 23 27.1**	**0.0**
LVZ	**Lovozero**	**0.33**	**25**	PG	**Pg**	**10 23 23.5**	**+0.5**
LVZ				SG	**Sg**	**10 23 27.4**	**+0.2**
APA	**Apatity**	**0.34**	**264**	P	**Pg**	**10 23 24.1**	**+0.8**
APA				S	**Sg**	**10 23 28.8**	**+1.1**
APA0	**Apatity Array**	**0.50**	**271**	P	**Pg**	**10 23 26.3**	**+0.1**
APA0				S	**Sg**	**10 23 33.0**	**+0.4**
KVDA	**Kovda**	**1.07**	**212**	P	**Pb**	**10 23 38.5**	**+0.5**
KVDA				S	**Sb**	**10 23 53.5**	**+1.0**
TERR	**Teriberka**	**1.63**	**10**	P	**Pn**	**10 23 46.1**	**-0.5**
TERR				S	**Sn**	**10 24 06.6**	**-1.7**
VRF	**Varrio**	**1.79**	**277**	PG	**Pn**	**10 23 49.2**	**+0.3**
VRF				MSG		10 24 10.3	
	comp=Z,14nm,0.2s						
VRF				SN	**Sn**	**10 24 11.7**	**-0.6**
OLKF	**Oulanka, Finla**	**2.32**	**238**	PG	**Pb**	**10 23 58.6**	**-0.7**
OLKF				MSG		10 24 25.9	
	comp=Z,4.5nm,0.2s						
KU6	**Riekki**	**2.35**	**230**	PG	**Pb**	**10 23 58.8**	**-1.2**
	baz=48						
KU6				MSG		10 24 27.1	
	comp=Z,4.4nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.41**	**294**	PB	**Pn**	**10 23 58.0**	**+0.6**
RAJF				SB	**Sn**	**10 24 28.3**	**+0.8**
MSF	**Maaselka**	**2.69**	**233**	PG	**Pb**	**10 24 03.9**	**-1.8**
	baz=52						
MSF				SG	**Sb**	**10 24 40.1**	**+1.0**
KU1	**Kurvinen**	**2.79**	**225**	PB	**Pb**	**10 24 05.5**	**-1.9**
KU2	**Taivalkoski**	**3.07**	**235**	PG	**Pb**	**10 24 11.9**	**-0.3**
	baz=51						
VADS	**Vadso**	**3.09**	**327**	P	**Pn**	**10 24 06.9**	**+0.2**
VADS				S	**Sn**	**10 24 43.3**	**-1.0**
RANF	**Ranua**	**3.37**	**245**	PG	**Pb**	**10 24 17.0**	**-0.3**
RANF				SG	**Sb**	**10 25 00.2**	**+1.5**
RNF	**Rovaniemi**	**3.39**	**257**	PN	**Pn**	**10 24 11.5**	**+0.7**
	baz=73						
KEV	**Kevo**	**3.43**	**312**	PN	**Pn**	**10 24 12.0**	**+0.7**
KEV				SN	**Sn**	**10 24 52.8**	**+0.3**
ARA0	**ARCESS Array S**	**3.76**	**305**	PN	**Pn**	**10 24 15.8**	**-0.1**
ARA0				SN	**Sn**	**10 24 59.1**	**-1.8**
ARCES	**ARCESS Array B**	**3.76**	**305**	Pn	**Pn**	**10 24 16.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=42						
ARCES				Pg	**Pb**	**10 24 24.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=12						
ARCES				Sn	**Sn**	**10 24 58.3**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=119,slow=24,SNR=11						
ARCES				Lg	Lg	10 25 11.5	
	comp=Z,0.5nm,0.3s,baz=120,slow=29,SNR=4.2						
	comp=Z,0.4nm,0.3s						
ARCES	**ARCESS Array B**	**3.76**	**305**	P	**Pn**	**10 24 15.8**	**-0.1**
ARCES				S	**Sn**	**10 24 58.9**	**-1.9**
RMF	**Romuvaara**	**3.84**	**210**	PN	**Pn**	**10 24 18.5**	**+1.5**
	baz=21						
KLF	**Kolari**	**4.00**	**269**	PG	**Pb**	**10 24 29.2**	**+1.2**
KLF				SG	**Sg**	**10 25 20.8**	**-4.3**
HEF	**Hetta**	**4.08**	**286**	PN	**Pn**	**10 24 20.5**	**+0.2**
HEF				SN	**Sn**	**10 25 07.8**	**-0.9**
KTK1	**Kautokeino**	**4.34**	**294**	PG	**Pb**	**10 24 33.7**	**-0.1**
KTK1				SN	**Sn**	**10 25 14.4**	**-0.6**
PAJU	**Pajala**	**4.37**	**268**	PN	**Pn**	**10 24 25.2**	**+0.9**

PAJU				SN	Sn	10 25 15.6	-0.2	
LANU	**Lannavaara**	**4.68**	**281**	PN	Pn	10 24 27.9	-0.6	
LANU				SG	Sb	10 25 39.2	+2.8	
I37NO	**I37NO**	**5.99**	**291**	I	I	10 57 20.0		
	baz=96,slow=319,SNR=7.7							
FINES	**FINESS Array B**	**7.12**	**214**	Pn	Pn	10 25 03.5	+1.6	
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=5.2							
FINES				Sn	Sn	10 26 20.9	-2.5	
	comp=Z,0.1nm,0.3s,baz=24,slow=24,SNR=1.7							
FINES				Lg	Lg	10 27 01.0		
	comp=Z,0.2nm,0.3s,baz=27,slow=25,SNR=3.3							
	comp=Z,1.7nm,0.9s							
FAUS	**Fauske**	**7.29**	**277**	S	Sn	10 26 24.1	-3.5	

*GII **03** 10:30:10.4±0.0,35°.119N×0°.002×27°.780E±0°.001,h1km, Mws3.5,confirmed*
*IDC **03** 10:30:13.1±1.0,35°.24N×27°.86E,h0km,mb3.7/10, mbtmp3.7/18,ML3.6/8,Error ellipse: s-maj=19.9km s-min=15.1km az=19.0*
*ATH **03** 10:30:14.7,35°.16N×27°.92E,h4km±2km,ML3.5/10, Manual Solution by S.Koutrakis First location: 2019/08/03 10:32:01, This location: 2019/08/03 10:41:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NIC **03** 10:30:14.2,35°.00N×27°.71E,h27km±2km,Ml3.4/11*
*AFAD **03** 10:30:15.0,35°.13N×27°.60E,h110km±22km,ML3.4*
*ISK **03** 10:30:16.4,35°.30N×27°.85E,h9km,ML3.4/19*
*THE **03** 10:30:19.6,35°.N±19°×2°.8E±3°.4,h16km±29km,M3.3/8, mb4.1/1,MLh3.3/8*

ISC 03 10:30:14.7±1.3,35°.14N±0°.03×27°.92E±0°.02,h9km±8km, n140,σ1§28/178,mb3.7/10,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.74**	**303**	Pg	**Pg**	**10 30 28.4**	**-0.6**
KARP				Sg	**Sg**	**10 30 37.8**	**-0.8**
KARP	**Karpathos**	**0.74**	**303**	P	**Pg**	**10 30 27.6**	**-1.3**
KARP				S	**Sg**	**10 30 39.0**	**+0.3**
KARP	**Karpathos**	**0.74**	**303**	P	**Pg**	**10 30 28.1**	**-0.9**
KARP				S	**Sg**	**10 30 39.4**	**+0.7**
KARP				AML	AML	10 30 45.1	
	9.0nm,0.7s						
KARP				AML	AML	10 30 45.7	
	7.8nm,0.4s						
KARP	**Karpathos**	**0.74**	**303**	P	**Pg**	**10 30 28.3**	**-0.6**
KARP				S	**Sg**	**10 30 39.2**	**+0.6**
RGE1	**Gennadi, Rhode**	**0.88**	**1**	P	**Pg**	**10 30 31.5**	**-0.2**
RGE1				S	**Sg**	**10 30 43.3**	**+0.1**
ARG	**Arkhangelos**	**1.08**	**9**	Pg	**Pb**	**10 30 34.9**	**-0.7**
ARG				Sg	**Sb**	**10 30 48.2**	**-1.7**
ARG	**Arkhangelos**	**1.08**	**9**	P	**Pb**	**10 30 35.6**	**0.0**
ARG				S	**Sg**	**10 30 49.7**	**+0.1**
ARG	**Arkhangelos**	**1.08**	**9**	P	**Pb**	**10 30 35.3**	**-0.3**
ARG				S	**Sn**	**10 30 52.9**	**+1.6**
ARG				AML	AML	10 31 01.5	
	2.4nm,0.7s						
ARG				AML	AML	10 31 05.5	
	3.0nm,0.5s						
ARG	**Arkhangelos**	**1.08**	**9**	P	**Pb**	**10 30 34.6**	**-1.0**
ARG				S	**Sb**	**10 30 49.3**	**-0.6**
ZKR	**Zakros**	**1.40**	**269**	Pn	**Pn**	**10 30 42.0**	**+1.6**
ZKR	**Zakros**	**1.40**	**269**	P	**Pn**	**10 30 42.1**	**+1.8**
ZKR	**Zakros**	**1.40**	**269**	P	**Pn**	**10 30 40.8**	**+0.4**
ZKR				S	**Sn**	**10 30 59.7**	**+0.8**
YAZI	**Mula-Dat§a-**	**1.58**	**346**	P	**Pn**	**10 30 42.2**	**-0.7**
YAZI				S	**Sb**	**10 31 04.5**	**+0.3**
YAZI				*i* IAML		10 31 07.0	
	comp=E,365nm,1.0s						
YAZI				*i* IAML		10 31 12.0	
	comp=N,400nm,0.5s						
NISR	**Nisiros**	**1.60**	**337**	P	**Pn**	**10 30 43.4**	**+0.3**
NISR				S	**Sn**	**10 31 04.3**	**+0.4**
DAT	**Datca**	**1.61**	**350**	Pn	**Pn**	**10 30 43.5**	**+0.1**
TURN	**Turunc**	**1.65**	**9**	Pn	**Pn**	**10 30 44.6**	**+0.8**
TURN	**Turunc**	**1.65**	**9**	P	**Pb**	**10 30 45.0**	**-0.2**
TURN				S	**Sg**	**10 31 08.4**	**+0.7**
TURN				*i* IAML		10 31 17.0	
	comp=N,424nm,0.5s						
TURN				*i* IAML		10 31 19.0	
	comp=E,285nm,0.6s						
IZZE	**Mula-Seydike**	**1.67**	**39**	P	**Pn**	**10 30 44.0**	**-0.1**
KSL	**Kastellorizon**	**1.69**	**53**	P	**Pb**	**10 30 45.3**	**-0.6**
KSL				S	**Sg**	**10 31 09.2**	**+0.2**
KSL				AML	AML	10 31 32.1	
	0.6nm,0.6s						
KSL				AML	AML	10 31 43.8	
	0.3nm,0.5s						
KSL	**Kastellorizon**	**1.69**	**53**	P	**Pb**	**10 30 45.4**	**-0.5**
KSL				S	**Sb**	**10 31 07.1**	**-0.2**
SABU	**Mula-Dalaman**	**1.88**	**27**	P	**Pn**	**10 30 48.2**	**+1.1**
SABU				S	**Sg**	**10 31 20.8**	**+5.7**
SABU				*i* IAML		10 31 31.0	
	comp=E,196nm,0.8s						
SABU				*i* IAML		10 31 35.0	
	comp=N,238nm,0.8s						
NPS	**Neapolis**	**1.89**	**274**	P	**Pb**	**10 30 50.1**	**+0.7**
NPS				S	**Sn**	**10 31 12.3**	**+1.1**
NPS	**Neapolis**	**1.89**	**274**	P	**Pn**	**10 30 48.2**	**+1.0**
NPS				S	**Sn**	**10 31 11.3**	**+0.1**
BDRM	**Kayabasi**	**1.96**	**349**	P	**Pn**	**10 30 47.6**	**-0.5**
BDRM				*i* IAML		10 31 23.0	
	comp=E,244nm,0.5s						
YKAV	**Yalikavak-Bodr**	**2.04**	**346**	Pn	**Pn**	**10 30 49.5**	**+0.2**
CAME	**Cameli-Denizli**	**2.12**	**32**	Pn	**Pn**	**10 30 51.5**	**+1.1**
MULA	**Mugla, Merkez-**	**2.13**	**9**	P	**Pb**	**10 30 54.2**	**+0.6**
MULA				S	**Sg**	**10 31 21.7**	**-1.5**
DNZT	**Denizli-Tavas-**	**2.31**	**22**	P	**Pn**	**10 30 54.6**	**+1.5**
DNZT				S	**Sg**	**10 31 32.7**	**+3.7**
THERA	**Ancient Thera,**	**2.33**	**302**	P	**Pn**	**10 30 54.6**	**+1.4**
THERA				S	**Sn**	**10 31 20.4**	**-1.6**
THERA	**Ancient Thera,**	**2.33**	**302**	P	**Pn**	**10 30 53.8**	**+0.6**
THERA				S	**Sn**	**10 31 23.6**	**+1.6**
THR6	**Thira Island,**	**2.38**	**301**	P	**Pn**	**10 30 55.1**	**+1.2**
THR3	**Thira Island,**	**2.41**	**302**	P	**Pn**	**10 30 55.1**	**+0.9**
SNT5	**Nea Kammeni, S**	**2.41**	**302**	P	**Pn**	**10 30 54.4**	**+0.1**
THR5	**Thira Island,**	**2.45**	**302**	P	**Pn**	**10 30 55.9**	**+1.1**
TAVA	**DENIZLI_Tavas**	**2.45**	**19**	P	**Pn**	**10 30 55.7**	**+0.7**
TAVA				S	**Sg**	**10 31 33.4**	**-0.1**
TAVA				*i* IAML		10 31 46.0	
	comp=N,122nm,0.6s						
TAVA				*i* IAML		10 31 48.0	
	comp=E,142nm,0.8s						
IDI	**Anoyia**	**2.48**	**274**	Pn	**Pn**	**10 30 57.1**	**+1.7**
IDI	**Anoyia**	**2.48**	**274**	P	**Pn**	**10 30 58.3**	**+2.9**
IDI	**Anoyia**	**2.48**	**274**	Pn	**Pn**	**10 30 56.5**	**+1.1**
	7.5nm,0.3s,baz=84,slow=16,SNR=20						
IDI	**Anoyia**	**2.48**	**274**	P	**Pn**	**10 30 57.1**	**+1.7**
AYDN	**Tasoluk**	**2.51**	**359**	P	**Pn**	**10 30 56.0**	**+0.2**
AYDN				S	**Sn**	**10 31 26.5**	**0.0**
AYDN				*i* IAML		10 31 38.0	
	comp=E,166nm,0.5s						
AYDN				*i* IAML		10 31 46.0	
	comp=N,241nm,0.6s						
APMY	**Acipayam-Deniz**	**2.58**	**25**	Pn	**Pn**	**10 30 58.1**	**+1.4**
GCAM	**G?zelcaml?**	**2.61**	**348**	Pn	**Pn**	**10 30 57.6**	**+0.6**
ESEN	**Aydn-Nazilli**	**2.67**	**7**	P	**Pn**	**10 30 58.9**	**+1.0**
SMG	**Samos**	**2.71**	**341**	P	**Pn**	**10 30 58.6**	**+0.3**
SMG	**Samos**	**2.71**	**341**	P	**Pn**	**10 30 58.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.80**	**360**	Pn	**Pn**	**10 31 00.2**	**+0.4**
NAZL	**Nazilli-Aydin**	**2.83**	**6**	Pn	**Pn**	**10 31 00.8**	**+0.7**
IZMR	**zmir-demi**	**2.99**	**0**	P	**Pn**	**10 31 02.6**	**+0.3**
IZMR				S	**Sn**	**10 31 37.1**	**-1.1**
DGB	**zmir**	**3.02**	**344**	P	**Pn**	**10 31 01.4**	**-1.3**
ODEM	**Odemis-Izmir**	**3.13**	**2**	Pn	**Pn**	**10 31 05.1**	**+0.8**
URLA	**Izmir**	**3.38**	**342**	Pn	**Pn**	**10 31 08.1**	**+0.4**
KULA	**Kula-Manisa**	**3.42**	**10**	Pn	**Pn**	**10 31 09.3**	**+1.1**
CHOS	**Chios island**	**3.57**	**336**	Pn	**Pn**	**10 31 11.4**	**+1.1**
AKMS	**Akamas**	**3.62**	**91**	P	**Pn**	**10 31 11.5**	**+0.5**
AKMS				S	**Sn**	**10 31 55.9**	**+2.0**
AKMS				AML	AML	10 31 59.2	
	0.3nm,0.5s						
AKMS				AML	AML	10 31 59.4	
	0.3nm,0.7s						
AKMS	**Akamas**	**3.62**	**91**	P	**Pn**	**10 31 11.6**	**+0.5**
GORD	**Gordes-Manisa**	**3.76**	**3**	Pn	**Pn**	**10 31 14.2**	**+1.2**
ALFC	**Alefka**	**3.83**	**88**	P	**Pn**	**10 31 14.3**	**+0.4**
ALFC				S	**Sn**	**10 32 01.1**	**+2.0**
ALFC				AML	AML	10 32 05.7	
	0.3nm,0.6s						
ALFC				AML	AML	10 32 06.8	
	0.3nm,0.8s						
ALFC	**Alefka**	**3.83**	**88**	P	**Pn**	**10 31 14.3**	**+0.4**
ALFC				S	**Sn**	**10 31 59.0**	**-0.2**
NATA	**Nata**	**3.84**	**94**	P	**Pn**	**10 31 14.9**	**+1.0**
NATA				S	**Sn**	**10 32 01.8**	**+2.6**
NATA				AML	AML	10 32 12.9	
	0.7nm,0.7s						
NATA				AML	AML	10 32 18.7	
	0.5nm,0.6s						
NATA	**Nata**	**3.84**	**94**	P	**Pn**	**10 31 15.3**	**+1.4**
SEYD	**Seydisehir-KON**	**3.89**	**53**	Pn	**Pn**	**10 31 17.5**	**+2.8**
TROD	**Troodos**	**4.06**	**91**	P	**Pn**	**10 31 17.3**	**+0.1**
TROD				S	**Sn**	**10 32 06.5**	**+1.5**
TROD				AML	AML	10 32 15.9	
	0.2nm,0.5s						
TROD				AML	AML	10 32 16.2	
	0.2nm,0.7s						
XYLS	**Xyliatos**	**4.21**	**90**	P	**Pn**	**10 31 19.9**	**+0.8**
XYLS				S	**Sn**	**10 32 10.5**	**+2.1**
XYLS				AML	AML	10 32 17.4	
	0.1nm,0.4s						
XYLS				AML	AML	10 32 21.5	
	0.2nm,0.6s						
ASGA	**Asgata**	**4.39**	**93**	P	**Pn**	**10 31 21.8**	**+0.3**
ASGA				S	**Sn**	**10 32 15.5**	**+2.7**
ASGA				AML	AML	10 32 18.7	
	0.2nm,0.6s						
ASGA				AML	AML	10 32 21.5	
	0.4nm,0.6s						
CSS	**Mathiatis**	**4.44**	**91**	P	**Pn**	**10 31 23.4**	**+1.2**
CSS				S	**Sn**	**10 32 16.1**	**+2.0**
CSS				AML	AML	10 32 18.4	
	0.1nm,0.6s						
CSS				AML	AML	10 32 19.9	
	0.1nm,0.8s						
CSS	**Mathiatis**	**4.44**	**91**	P	**Pn**	**10 31 20.9**	**-1.4**
CSS	**Mathiatis**	**4.44**	**91**	S	**Sn**	**10 32 15.1**	**+1.0**
TVSB	**Tavsanli**	**4.47**	**16**	Pn	**Pn**	**10 31 22.9**	**+0.2**
MVOU	**Mavrovouni**	**4.69**	**90**	P	**Pn**	**10 31 26.3**	**+0.7**
MVOU				S	**Sn**	**10 32 23.0**	**+2.9**
MVOU				AML	AML	10 32 28.9	
	0.1nm,0.6s						
MVOU				AML	AML	10 32 34.9	
	0.1nm,0.6s						
HNTI	**Hanita**	**6.36**	**107**	P	**Pn**	**10 31 47.0**	**-1.6**
HNTI	**Hanita**	**6.36**	**107**	S	**Sn**	**10 33 02.0**	**+0.7**
OFRI	**`Ofer**	**6.39**	**111**	P	**Pn**	**10 31 47.6**	**-1.5**
OFRI	**`Ofer**	**6.39**	**111**	S	**Sn**	**10 33 02.7**	**+0.5**
THL	**Klokotos Trika**	**6.45**	**315**	P	**Pn**	**10 31 52.1**	**+2.3**
BRTR	**Keskin Array B**	**6.45**	**43**	Pn	**Pn**	**10 31 50.9**	**+1.0**
	0.2nm,0.3s,baz=228,slow=15,SNR=6.3						
BRTR				Sn	**Sn**	**10 33 02.9**	**-0.8**
	0.1nm,0.3s,baz=215,slow=12,SNR=1.5						
	1.0nm,0.5s						
MMC7	**Mount Meron ar**	**6.55**	**107**	P	**Pn**	**10 31 49.9**	**-1.4**
MMA0B	**Mount Meron ar**	**6.56**	**107**	P	**Pn**	**10 31 50.0**	**-1.5**
MMA0B	**Mount Meron ar**	**6.56**	**107**	S	**Sn**	**10 33 07.3**	**+0.8**
MMAI	**Mount Meron Ar**	**6.56**	**107**	Pn	**Pn**	**10 31 51.2**	**-0.2**
	3.8nm,0.3s,baz=297,slow=13,SNR=12						
MMAI				Sn	**Sn**	**10 33 04.2**	**-2.3**
	3.4nm,0.3s,baz=291,slow=28,SNR=4.2						
	1.8nm,0.3s						
GEM	**Giv'at Ha'Em**	**6.70**	**105**	P	**Pn**	**10 31 51.8**	**-1.5**
GEM	**Giv'at Ha'Em**	**6.70**	**105**	S	**Sn**	**10 33 10.6**	**+0.8**
NATI	**Neve Ativ**	**6.74**	**104**	P	**Pn**	**10 31 50.9**	**-2.9**
NATI	**Neve Ativ**	**6.74**	**104**	S	**Sn**	**10 33 12.0**	**+1.3**
MMLI	**Mount Malkishu**	**6.80**	**111**	P	**Pn**	**10 31 53.2**	**-1.5**
MMLI	**Mount Malkishu**	**6.80**	**111**	S	**Sn**	**10 33 12.9**	**+0.6**
AMAZ	**Amatzia**	**6.87**	**120**	P	**Pn**	**10 31 54.3**	**-1.4**
AMAZ	**Amatzia**	**6.87**	**120**	S	**Sn**	**10 33 14.1**	**+0.1**
KZIT	**Kziot**	**6.89**	**126**	P	**Pn**	**10 31 54.3**	**-1.6**
KZIT	**Kziot**	**6.89**	**126**	S	**Sn**	**10 33 14.3**	**0.0**
HMDT	**Nahal Hemdat**	**6.96**	**112**	P	**Pn**	**10 31 55.1**	**-1.8**
HMDT	**Nahal Hemdat**	**6.96**	**112**	S	**Sn**	**10 33 16.6**	**+0.4**
YTIR	**Yattir**	**7.11**	**120**	P	**Pn**	**10 31 57.6**	**-1.4**
YTIR	**Yattir**	**7.11**	**120**	S	**Sn**	**10 33 20.6**	**+0.7**
DSI	**Dead Sea**	**7.19**	**118**	P	**Pn**	**10 31 58.2**	**-1.7**
DSI	**Dead Sea**	**7.19**	**118**	S	**Sn**	**10 33 21.8**	**+0.1**
MSBI	**Mazada**	**7.31**	**119**	P	**Pn**	**10 31 59.9**	**-1.6**
MSBI	**Mazada**	**7.31**	**119**	S	**Sn**	**10 33 24.8**	**+0.1**
GHAJ	**Ghor Haditha**	**7.46**	**119**	P	**Pn**	**10 32 02.2**	**-1.5**
GHAJ	**Ghor Haditha**	**7.46**	**119**	S	**Sn**	**10 33 28.5**	**0.0**
KRMI	**Paran Flat**	**7.62**	**129**	P	**Pn**	**10 32 04.3**	**-1.6**
KRMI	**Paran Flat**	**7.62**	**129**	S	**Sn**	**10 33 32.3**	**-0.1**
ZFRI	**Zfri**	**7.63**	**125**	P	**Pn**	**10 32 04.3**	**-1.7**
ZFRI	**Zfri**	**7.63**	**125**	S	**Sn**	**10 33 32.3**	**-0.3**
PRNI	**Paran**	**7.64**	**127**	P	**Pn**	**10 32 04.5**	**-1.8**
PRNI	**Paran**	**7.64**	**127**	S	**Sn**	**10 33 33.3**	**+0.3**
HRFI	**Mount Harif**	**7.87**	**128**	P	**Pn**	**10 32 07.8**	**-1.6**
HRFI	**Mount Harif**	**7.87**	**128**	S	**Sn**	**10 33 38.3**	**-0.3**
MBRI	**Mt Berech**	**7.96**	**130**	P	**Pn**	**10 32 08.9**	**-1.8**
MBRI	**Mt Berech**	**7.96**	**130**	S	**Sn**	**10 33 41.0**	**+0.2**
ASF	**Jabal al Asfar**	**8.05**	**109**	Pn	**Pn**	**10 32 12.5**	**+0.6**
	0.9nm,0.3s,baz=294,slow=12,SNR=4.8						
ASF				Sn	**Sn**	**10 33 41.4**	**-1.7**
	0.3nm,0.3s,baz=311,slow=20,SNR=1.6						
	2.3nm,0.5s						
EIL	**Elat**	**8.07**	**131**	Pn	**Pn**	**10 32 12.4**	**+0.4**
	1.4nm,0.3s,baz=324,slow=4.4,SNR=16						
EIL				Sn	**Sn**	**10 33 41.3**	**-2.1**
	1.8nm,0.3s,baz=6.2,slow=16,SNR=6.1						
	6.7nm,0.4s						
EIL	**Elat**	**8.07**	**131**	P	**Pn**	**10 32 10.1**	**-1.9**
EIL	**Elat**	**8.07**	**131**	S	**Sn**	**10 33 43.3**	**-0.1**
MLR	**Muntele Rosu**	**10.45**	**352**	Pn	**Pn**	**10 32 44.8**	**+0.1**
	0.2nm,0.3s,baz=177,slow=17,SNR=3.4						
	2.5nm,1.8s						
KBZ	**Khabaz**	**14.39**	**49**	Pn	**P**	**10 33 47.6**	**+2.2**
	0.1nm,0.3s,baz=226,slow=12,SNR=6.0						
SOKA	**Soboth**	**15.07**	**324**	*e*P	**P**	**10 33 53.8**	**+0.6**
	5.7nm,1.3s						
AKASG	**Malin Array Be**	**15.58**	**3**	Pn	**Pn**	**10 33 53.8**	**-0.6**
	1.1nm,0.3s,baz=190,slow=9.4,SNR=2.2						
	0.2nm,0.3s						
CONA	**Conrad Observa**	**15.62**	**329**	*e*pP	**P**	**10 34 00.9**	**+1.7**
	2.4nm,1.3s						
MYKA	**Terra Mystica**	**15.73**	**321**	*e*P	**P**	**10 34 00.2**	**-0.3**
	1.1nm,0.3s						
KBA	**Koelnbreinsper**	**16.18**	**322**	*e*Pn	**Pn**	**10 34 03.6**	**+1.2**
	14nm,1.3s						
ABTA	**Abfaltersbach**	**16.39**	**320**	*e*Pn	**Pn**	**10 34 05.5**	**+0.5**
	4.0nm,1.1s						
LESA	**Schwarzleotal**	**16.75**	**322**	*i* Pn	**Pn**	**10 34 09.6**	**+0.1**
	2.3nm,0.5s						
WTTA	**Wattenberg**	**17.18**	**320**	*e*Pn	**Pn**	**10 34 15.4**	**+0.3**
	6.4nm,1.5s						
GERES	**GERESS Array B**	**17.25**	**327**	P	**Pn**	**10 34 15.1**	**-0.8**
	baz=133,slow=12,SNR=6.0						
	0.8nm,0.7s						
WATA	**Walderalm**	**17.26**	**320**	*e*Pn	**Pn**	**10 34 16.1**	**+0.1**
	6.4nm,1.1s						
SQTA	**Sankt Quirin**	**17.39**	**319**	*e*Pn	**Pn**	**10 34 17.6**	**0.0**
	1.3nm,0.4s						
FETA	**Feichten**	**17.53**	**318**	*e*Pn	**Pn**	**10 34 19.7**	**+0.3**
	7.2nm,1.0s						
DAVOX	**Davos/Dischmat**	**17.86**	**316**	P	**Pn**	**10 34 23.1**	**-0.4**
	0.1nm,0.3s,baz=102,slow=19,SNR=1.6						
	0.7nm,0.5s						
DAVA	**Damuels**	**18.15**	**317**	*e*Pn	**Pn**	**10 34 27.5**	**+0.4**
	1.5nm,0.5s						
ESDC	**Sonseca Array**	**25.65**	**290**	P	**P**	**10 35 43.5**	**-1.2**
	0.9nm,0.6s,baz=90,slow=8.9,SNR=13						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**26.35**	**358**	P	**P**	**10 35 49.3**	**-1.4**
	0.6nm,0.5s,baz=189,slow=10.0,SNR=6.2						
	0.6nm,0.5s						
AKTO	**Aktyubinsk**	**26.62**	**46**	P	**P**	**10 35 52.8**	**-0.6**
	1.5nm,0.7s,baz=247,slow=10,SNR=6.1						
	1.5nm,0.7s						
HFS	**Hafors**	**26.66**	**344**	P	**P**	**10 35 51.1**	**-2.4**
	1.2nm,0.6s,baz=162,slow=10,SNR=8.0						
	1.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**29.39**	**323**	P	**P**	**10 36 17.0**	**-0.9**
	0.6nm,0.7s,baz=127,slow=10,SNR=1.5						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**32.26**	**234**	P	**P**	**10 36 44.2**	**+0.5**
	2.3nm,0.6s,baz=43,slow=8.7,SNR=1.4						
ARCES	**ARCESS Array B**	**34.47**	**358**	P	**P**	**10 37 00.7**	**-1.8**
	0.7nm,0.6s,baz=177,slow=9.4,SNR=3.8						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**39.38**	**51**	P	**P**	**10 37 44.0**	**-0.3**
	0.7nm,0.6s,baz=275,slow=9.0,SNR=4.8						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**41.90**	**57**	P	**P**	**10 38 05.9**	**+0.6**
	0.4nm,0.5s,baz=274,slow=7.5,SNR=5.7						
	0.4nm,0.5s						
SONM	**Songino Array**	**57.74**	**51**	P	**P**	**10 40 06.2**	**+0.2**
	0.5nm,0.5s,baz=278,slow=9.8,SNR=3.5						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**64.32**	**85**	P	**P**	**10 40 51.0**	**+0.1**
	0.5nm,0.3s,baz=318,slow=7.8,SNR=2.4						
	0.5nm,0.3s						

*IDC **03** 10:38:49.9±0.9,15°.19S×173°.54W,h0km,mb3.7/8, mbtmp3.7/8,Error ellipse: s-maj=53.5km s-min=21.4km az=147.0*

ISC 03 10:38:54.7±0.9,15°.2S±0°.3×173°.6W±0°.2,h30km,n8, σ0§15/8,mb3.7/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.98**	**240**	P	**P**	**10 46 59.4**	**-0.1**
	1.7nm,0.8s,baz=77,slow=14,SNR=2.3						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**49.71**	**257**	P	**P**	**10 47 44.4**	**-0.1**
	0.4nm,0.5s,baz=92,slow=7.1,SNR=9.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**50.00**	**252**	P	**P**	**10 47 46.8**	**+0.1**
	2.8nm,0.6s,baz=91,slow=7.8,SNR=46						
	2.8nm,0.6s						
QSPA	**South Pole Qui**	**74.86**	**180**	P	**P**	**10 50 32.4**	**+0.1**
	1.0nm,0.8s,baz=43,slow=2.0,SNR=2.7						
	1.0nm,0.8s						
TXAR	**Lajitas Array**	**80.65**	**56**	P	**P**	**10 51 05.1**	**-0.1**
	0.4nm,0.9s,baz=239,slow=3.9,SNR=3.7						
	0.4nm,0.9s						
ANMO	**Albuquerque**	**80.81**	**50**	P	**P**	**10 51 05.8**	**-0.2**
	0.7nm,0.8s,baz=236,slow=3.6,SNR=3.9						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**82.23**	**42**	P	**P**	**10 51 13.3**	**-0.1**
	0.2nm,0.7s,baz=222,slow=4.9,SNR=3.7						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**82.27**	**11**	P	**P**	**10 51 13.0**	**+0.2**
	0.2nm,0.8s,baz=208,slow=4.9,SNR=2.2						
	0.2nm,0.8s						

*FUNV **03** 10:59:14.4,7°.79N×72°.30W,h12km,MW3.1*
*RSNC **03** 10:59:16.4±0.0,8°.N±3°×7°.2W±°,h0km±3km,M1.9,ML1.9*

ISC 03 10:59:12.7±0.9,7°.77N±0°.04×72°.29W±0°.04,h16km±6km, n12,σ1§55/23,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.10**	**343**	*e*P	**Pg**	**10 59 16.2**	**-0.1**
CAPV				*e*S	**Sg**	**10 59 19.1**	**+0.5**
PAMC	**Pamplona, Colo**	**0.59**	**224**	P	**Pg**	**10 59 23.7**	**-0.9**
PAMC				S	**Sg**	**10 59 31.5**	**-1.1**
OCAC	**Ocana**	**1.13**	**295**	P	**Pg**	**10 59 34.4**	**-0.1**
OCAC				S	**Sn**	**10 59 50.1**	**+0.8**
BARC	**Barichara**	**1.47**	**217**	P	**Pg**	**10 59 40.3**	**-0.8**
BARC				S	**Sb**	**10 59 58.3**	**-0.2**
BRJC	**Barrancabermej**	**1.65**	**241**	P	**Pg**	**10 59 43.3**	**-1.2**
BRJC				S	**Sb**	**11 00 02.7**	**-0.7**
RUSC	**La Rusia**	**2.03**	**203**	P	**Pb**	**10 59 49.7**	**+0.2**
RUSC				S	**Sb**	**11 00 13.8**	**-0.9**
PTBC	**PUERTO BERRIO,**	**2.48**	**241**	P	**Pn**	**10 59 53.7**	**+1.2**
PTBC				S	**Sn**	**11 00 23.3**	**+0.8**
ZARC	**Zaragoza, Cauc**	**2.57**	**264**	P	**Pb**	**10 59 58.2**	**-0.3**
ZARC				S	**Sb**	**11 00 27.1**	**-2.7**
CRJC	**Cerrejon, Guaj**	**3.28**	**350**	P	**Pb**	**11 00 08.1**	**-2.6**
CRJC				S	**Sb**	**11 00 51.3**	**+0.7**
GUY2C	**Guyana, Caldas**	**3.97**	**231**	P	**Pn**	**11 00 16.5**	**+3.0**
GUY2C				S	**Sn**	**11 00 58.7**	**-1.3**
BAUV	**El Baul**	**4.36**	**74**	*e*P	**Pn**	**11 00 19.8**	**+1.4**
BAUV				*e*S	**Sn**	**11 01 06.2**	**-2.7**
BENV	**Beln**	**5.12**	**64**	*e*P	**Pn**	**11 00 30.3**	**+1.4**

*NDI **03** 10:59:38.9±2.5,22°.65N×88°.05E,h15km±8km,ML3.9, MW3.8*
*DMN **03** 10:59:39.9±0.0,22°.67N×88°.21E,h177km,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 03 10:59:39.9±1.2,22°.63N±0°.04×88°.12E±0°.04,h35km,n20, σ1§73/39,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAL	**Calcutta**	**0.22**	**115**	*e*P	**Pn**

GKN				Sn		**Sn**	**11 02 17.3**	**-1.7**
	comp=E,52nm,0.3s,baz=329,slow=0.0							
KOLN	**Koldanda**	**6.55**	**322**	Pn		**Pn**	**11 01 14.3**	**+0.3**
	baz=322,slow=0.0							
KOLN				Sn		**Sn**	**11 02 25.3**	**-2.3**
	comp=E,53nm,0.4s,baz=322,slow=0.0							
DANN	**Dangsing**	**6.92**	**326**	Pn		**Pn**	**11 01 19.1**	**0.0**
	baz=326,slow=0.0							
DANN				Sn		**Sn**	**11 02 33.6**	**-3.3**
	comp=E,41nm,0.3s,baz=326,slow=0.0							
PYUN	**Piuthan**	**7.15**	**321**	Pn		**Pn**	**11 01 21.8**	**-0.4**
	baz=320,slow=0.0							
PYUN				Sn		**Sn**	**11 02 39.7**	**-2.7**
	comp=E,40nm,0.4s,baz=320,slow=0.0							

*HEL **03** 11:05:47.1±0.2, 67°55N×30°21E, h0km, ML1.6, Explosion*
*IDC **03** 11:05:47.3±2.5, 67°70N×30°29E, h0km, mbtmp3.0/3, ML1.8/3, Error ellipse: s-maj=32.6km s-min=9.2km az=79.0*

KOLA 03 11:05:51.2, 67°63N×30°64E, h0km, ML2.3, Error ellipse: s-maj=3.7km s-min=2.4km az=40.0, Murmansk region, Kovdor district, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VRF	**Varrio**	**0.41**	**287**	*eP*		Pg		11 05 52.4	-6.7
APA0	**Apatity Array**	**0.90**	**91**	P		Pg		11 06 06.8	-1.7
APA0				S		Sg		11 06 19.5	-0.6
KVDA	**Kovda**	**1.28**	**136**	P		Pg		11 06 13.3	-2.4
KVDA				S		Sg		11 06 32.0	-0.4
OLKF	**Oulanka, Finla**	**1.40**	**201**	*eP*		Pn		11 06 09.6	-8.5
OLKF				MSG				11 06 16.9	
	comp=Z,7.5nm,0.2s								
LVZ	**Lovozero**	**1.55**	**78**	P		Pn		11 06 19.1	-1.0
LVZ				S		Sn		11 06 38.2	-2.6
LVZ	**Lovozero**	**1.55**	**78**	*eS*		Sn		11 06 40.0	-0.8
SGF	**Sodankyl**	**1.59**	**265**	*eP*		Pn		11 06 12.9	-7.7
KU6	**Riekki**	**1.64**	**191**	MSG				11 06 24.4	
	comp=Z,3.9nm,0.2s								
TERR	**Teriberka**	**2.28**	**44**	S		Sn		11 06 58.5	-0.3
KEV	**Kevo**	**2.51**	**330**	*eP*		Pn		11 06 28.8	-4.5
VADS	**Vadso**	**2.54**	**350**	P		Pn		11 06 32.5	-1.2
VADS				S		Sn		11 07 05.2	-0.1
VADS	**Vadso**	**2.54**	**350**	*eP*		Pn		11 06 31.0	-2.7
ARA0	**ARCESS Array S**	**2.69**	**318**	*eP*		Pn		11 06 31.4	-4.2
ARCES	**ARCESS Array B**	**2.69**	**318**	Pn		Pn		11 06 30.5	-5.1
	comp=Z,0.1nm,0.3s,baz=132,slow=17,SNR=15								
ARCES				Lg		Lg		11 07 06.0	
	comp=Z,0.5nm,0.3s,baz=132,slow=24,SNR=2.8								
	comp=Z,2.3nm,0.9s								
ARCES	**ARCESS Array B**	**2.69**	**318**	P		Pn		11 06 33.9	-1.7
ARCES				S		Sn		11 07 08.2	-0.6
TOF	**Tornio**	**2.94**	**241**	MSG				11 07 09.2	
	comp=Z,1.9nm,0.2s								
RMF	**Romuvaara**	**3.44**	**185**	MSG				11 07 16.7	
	comp=Z,1.5nm,0.2s								
I37NO	**I37NO**	**4.69**	**294**	I		I		11 34 20.0	
	baz=105,slow=321,SNR=12								
JOF	**Joensuu**	**4.74**	**176**	*eP*		Pn		11 06 59.5	-4.3
FAUS	**Fauske**	**5.90**	**275**	P		Pn		11 07 16.9	-2.7
FAUS				S		Sn		11 08 25.1	-2.8
FINES	**FINESS Array B**	**6.51**	**200**	Pn		Pn		11 07 22.1	-6.1
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=1.7								
FINES				Sn		Sn		11 08 38.9	-4.1
	comp=Z,0.1nm,0.3s,baz=16,slow=22,SNR=1.6								
FINES				Lg		Lg		11 09 08.3	
	comp=Z,0.1nm,0.3s,baz=15,slow=30,SNR=4.0								
	comp=Z,0.9nm,0.8s								
HFS	**Hagfors**	**10.56**	**233**	Pn		Pn		11 08 16.3	-7.3
	baz=36,slow=12,SNR=2.7								
	comp=Z,1.9nm,0.9s								

*IDC **03** 11:06:16.4±0.6, 6°75N×72°98W, h160km±7km, mb3.3/7, mbtmp3.9/11, Error ellipse: s-maj=18.9km s-min=7.0km az=131.0*
*NEIC **03** 11:06:16.6±1.6, 6°75N±0°05×72°96W±0°07, h159km±8km, mb4.1/20, Error ellipse: s-maj=11.0km s-min=5.6km az=59.0*
*RSNC **03** 11:06:17.3±0.0, 7°N±1°×7°3W±°, h152km±1km, M4.0, mB4.9, mb4.5, ML3.7, Mw(mB)4.2*
*CATAC **03** 11:06:17.8±0.8, 7°N±3°×7°3W±°, h147km±7km, M4.2/7, MLv4.2/7, Error ellipse: s-maj=11.7km s-min=5.5km az=93.3, confirmed*

ISC 03 11:06:16.1±0.6, 6°83N±0°03×73°08W±0°04, h156km±5km, n91, σ1§26/132, mb4.0/14, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BARC	**Barichara**	**0.26**	**204**	P		**Pn**		**11 06 37.9**	**+0.4**
BARC				S		**Sn**		**11 06 53.3**	**-0.6**
PAMC	**Pamplona, Colo**	**0.63**	**37**	P		**Pn**		**11 06 47.7**	**+1.3**
PAMC				S		**Sn**		**11 06 57.8**	**+0.6**
BRJC	**Barrancabermej**	**0.68**	**282**	P		**Pn**		**11 06 39.6**	**+0.6**
BRJC				S		**Sn**		**11 06 56.9**	**+0.3**
RUSC	**La Rusia**	**0.93**	**180**	P		**Pn**		**11 06 41.6**	**+0.1**
RUSC	**La Rusia**	**0.93**	**180**	P		**Pn**		**11 06 41.9**	**+0.5**
RUSC				S		**Sn**		**11 07 00.8**	**-0.1**
RUSC	**La Rusia**	**0.93**	**180**	P		**Pn**		**11 06 41.8**	**+0.3**
RUSC				S		**Sn**		**11 07 00.1**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	P		**Pn**		**11 06 44.4**	**-0.7**
PTBC				S		**Sn**		**11 07 05.5**	**-1.8**
OCAC	**Ocana**	**1.42**	**350**	P		**Pn**		**11 06 45.9**	**+0.4**
OCAC				S		**Sn**		**11 07 08.8**	**+0.7**
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	P		**Pn**		**11 06 49.9**	**-0.4**
ZARC				S		**Sn**		**11 07 16.2**	**-0.3**
NORC	**Norcasia**	**2.18**	**235**	P		**Pn**		**11 06 53.7**	**0.0**
NORC				S		**Sn**		**11 07 22.2**	**-0.5**
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**		**11 06 57.6**	**+1.7**
ROSC				Sn		**Sn**		**11 07 24.2**	**-2.3**
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**		**11 06 57.7**	**+1.9**
	423nm,0.4s,baz=60,slow=16,SNR=280								
ROSC				S		**Sn**		**11 07 27.1**	**+0.6**
	1µm,0.5s,baz=30,slow=20,SNR=17								
ROSC	**El Rosal**	**2.33**	**212**	P		**Pn**		**11 06 57.5**	**+1.7**
ROSC				S		**Sn**		**11 07 26.5**	**0.0**
CVER	**Cruz Verde, Cu**	**2.50**	**203**	P		**Pn**		**11 06 59.0**	**+1.0**
CVER				S		**Sn**		**11 07 30.4**	**+0.2**
HELC	**Santa Helena**	**2.52**	**256**	P		**Pn**		**11 06 59.2**	**+1.2**
HELC				S		**Sn**		**11 07 27.0**	**-3.4**
HELC	**Santa Helena**	**2.52**	**256**	P		**Pn**		**11 06 57.7**	**-0.3**
HELC				S		**Sn**		**11 07 29.0**	**-1.4**
UREC	**San Jos de Ur**	**2.60**	**291**	P		**Pn**		**11 06 57.6**	**-1.1**
UREC				S		**Sn**		**11 07 28.9**	**-2.8**
VILC	**Villavicencio,**	**2.77**	**193**	P		**Pn**		**11 07 01.0**	**+0.1**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P		**Pn**		**11 07 01.8**	**+0.4**
GUY2C				S		**Sn**		**11 07 36.3**	**0.0**
NIZA	**Niza - Manizal**	**2.96**	**234**	P		**Pn**		**11 07 04.4**	**+0.9**
NIZA				S		**Sn**		**11 07 40.7**	**+0.6**
CBOC	**Ciudad Bolivar**	**3.07**	**252**	P		**Pn**		**11 07 05.1**	**+0.4**
CBOC				S		**Sn**		**11 07 42.6**	**+0.2**
DBBC	**Dabeiba**	**3.11**	**274**	P		**Pn**		**11 07 05.7**	**+0.5**
DBBC				S		**Sn**		**11 07 41.4**	**-1.8**
SDV	**Santo Domingo**	**3.17**	**50**			**Pn**		**11 07 07.3**	**+1.3**
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**		**11 07 07.1**	**+1.2**
	172nm,0.3s,baz=238,slow=14,SNR=82								
SDV				S		**Sn**		**11 07 45.2**	**+0.4**
	89nm,0.4s,baz=252,slow=20,SNR=14								
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**		**11 07 07.2**	**+1.2**
SDV				S		**Sn**		**11 07 44.8**	**+0.1**
ARGC	**Ariguani, Magd**	**3.22**	**339**	P		**Pn**		**11 07 07.9**	**+1.4**
ARGC				S		**Sn**		**11 07 48.1**	**+2.4**
ANIL	**Santa Ana**	**3.28**	**225**	P		**Pn**		**11 07 08.2**	**+0.7**
ANIL				S		**Sn**		**11 07 48.1**	**+0.8**
PRAC	**Prado**	**3.58**	**210**	P		**Pn**		**11 07 11.4**	**+0.3**
PRAC				S		**Sn**		**11 07 53.5**	**-0.4**
PRAC	**Prado**	**3.58**	**210**	P		**Pn**		**11 07 10.8**	**-0.3**
PRAC				S		**Sn**		**11 07 53.5**	**-0.4**
ORTC	**Ortega, Tolima**	**3.62**	**217**	P		**Pn**		**11 07 12.0**	**+0.4**
ORTC				S		**Sn**		**11 07 55.1**	**+0.4**
APAC	**Apartado, Choc**	**3.63**	**287**	P		**Pn**		**11 07 11.7**	**0.0**
APAC				S		**Sn**		**11 07 53.2**	**-1.8**
SJCC	**San Jacinto, C**	**3.69**	**326**	P		**Pn**		**11 07 11.9**	**-0.6**
SJCC				S		**Sn**		**11 07 53.3**	**-3.1**
SJCC	**San Jacinto, C**	**3.69**	**326**	P		**Pn**		**11 07 11.5**	**-1.0**
PLMC	**San Jos del P**	**3.72**	**239**	P		**Pn**		**11 07 13.5**	**+0.6**
PLMC				S		**Sn**		**11 07 56.3**	**-0.8**
URMC	**La Uribe, Meta**	**3.79**	**200**	P		**Pn**		**11 07 14.5**	**+0.7**
URMC				S		**Sn**		**11 07 58.1**	**-0.7**
LCBC	**Los crdobas,**	**3.83**	**302**	P		**Pn**		**11 07 15.7**	**+1.4**
LCBC				S		**Sn**		**11 08 00.3**	**+0.7**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P		**Pn**		**11 07 18.0**	**-0.8**
CRJC				S		**Sn**		**11 08 05.7**	**-2.0**
GUVC	**San Jose del G**	**4.28**	**174**	P		**Pn**		**11 07 20.1**	**-0.1**
GUVC				S		**Sn**		**11 08 09.1**	**-1.1**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P		**Pn**		**11 07 20.1**	**-0.6**
YOTC				S		**Sn**		**11 08 11.6**	**+0.6**
SMRC	**Santa Marta, M**	**4.45**	**345**			**Pn**		**11 07 23.2**	**+0.8**
SMRC	**Santa Marta, M**	**4.45**	**345**	P		**Pn**		**11 07 22.6**	**+0.2**
SMRC				S		**Sn**		**11 08 11.1**	**-3.1**
PIZC	**Pizarro, Choco**	**4.64**	**247**	P		**Pn**		**11 07 25.9**	**+1.0**
PIZC				S		**Sn**		**11 08 18.7**	**+0.1**
MACC	**Macarena, Meta**	**4.72**	**189**	P		**Pn**		**11 07 24.5**	**-1.4**
MACC				S		**Sn**		**11 08 14.9**	**-5.5**
BETC	**Betania**	**4.75**	**210**	P		**Pn**		**11 07 25.4**	**-0.9**
URI	**Uribia**	**4.96**	**12**	P		**Pn**		**11 07 28.3**	**-0.8**
URIC	**Uribia, Colomb**	**4.96**	**12**	P		**Pn**		**11 07 28.2**	**-0.9**
URIC				S		**Sn**		**11 08 23.7**	**-2.4**
JAMC	**Jamundi, Valle**	**5.07**	**225**	P		**Pn**		**11 07 30.6**	**-0.2**
	31nm,0.6s								
JAMC				S		**Sn**		**11 08 28.9**	**-0.2**
	31nm,0.6s								
GARC	**Garzon, Huila**	**5.20**	**208**	P		**Pn**		**11 07 31.9**	**-0.6**
BAUV	**El Baul**	**5.41**	**67**			**Pn**		**11 07 33.9**	**-1.2**
POPC	**Popayan, Colom**	**5.57**	**220**	P		**Pn**		**11 07 37.2**	**-0.2**
	27nm,0.6s								
FLOC	**Florencia**	**5.81**	**206**			**Pn**		**11 07 40.3**	**-0.2**
FLOC	**Florencia**	**5.81**	**206**	P		**Pn**		**11 07 40.2**	**-0.2**
	945nm40nm,0.7s								
BBAC	**Balboa, Cauca**	**6.33**	**221**	P		**Pn**		**11 07 48.5**	**+1.0**
	1µm49nm,0.8s								
GR1C	**Gorgona, Isla**	**6.33**	**233**	P		**Pn**		**11 07 46.0**	**-1.3**
CRUC	**La Cruz**	**6.50**	**217**	P		**Pn**		**11 07 52.9**	**+3.1**
OTAV	**Otavalo**	**8.46**	**220**			**Pn**		**11 08 15.5**	**-0.6**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P		**Pn**		**11 08 23.0**	**+0.3**
	5.4nm,0.4s,baz=217,slow=20,SNR=15								
PCRV				S		**Sn**		**11 09 59.9**	**-2.8**
	4.8nm,0.6s,baz=257,slow=18,SNR=1.6								
SGC2	**Sao Gabriel da**	**9.23**	**138**	P		**Pn**		**11 08 23.5**	**-2.3**
COHC	**Cochancay**	**11.10**	**214**	Pn		**Pn**		**11 08 50.1**	**-0.4**
TBTG	**Tabatinga, AM**	**11.39**	**164**	Pn		**Pn**		**11 08 53.2**	**-1.1**
MTDJ	**Mount Denham**	**12.13**	**339**			**Pn**		**11 09 05.8**	**+1.8**
PDPR	**Patillas Dam,**	**13.08**	**31**	Pn		**Pn**		**11 09 15.7**	**-0.4**
BOAV	**Boa Vista**	**13.27**	**109**	Pn		**Pn**		**11 09 17.2**	**-1.4**
ATAH	**Atahualpa**	**14.85**	**201**	P		**P**		**11 09 40.0**	**-0.7**
	3.2nm,0.7s,baz=29,slow=10,SNR=4.2								
TEIG	**Tepich**	**19.86**	**314**	P		**P**		**11 10 36.4**	**+1.2**
LPAZ	**La Paz**	**23.48**	**168**	P		**P**		**11 11 12.0**	**-0.6**
	1.0nm,0.6s,baz=342,slow=9.6,SNR=5.5								
	1.0nm,0.6s								
WVT	**Waverly**	**32.14**	**337**	P		**P**		**11 12 29.6**	**+0.7**
WVT				IAmb		IAmb		11 12 30.9	
	comp=Z,6.0nm,1.1s								
PBMO	**Poplar Bluff**	**33.76**	**334**	P		**P**		**11 12 44.0**	**+1.1**
PBMO				IAmb		IAmb		11 12 45.1	
	comp=Z,5.1nm,0.7s								
FCAR	**Ozark Folk Cen**	**33.78**	**332**	P		**P**		**11 12 43.8**	**+0.7**
FCAR				IAmb		IAmb		11 12 44.6	
	comp=Z,4.9nm,1.0s								
CCM	**Cathedral Cave**	**35.18**	**335**	P		**P**		**11 12 56.3**	**+1.2**
TX31	**Lajitas Ar. Si**	**36.49**	**312**	P		**P**		**11 13 05.6**	**-0.9**
TXAR	**Lajitas Array**	**36.49**	**312**	P		**P**		**11 13 07.6**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=123,slow=6.1,SNR=9.4								
TXAR				PcP		**PcP**		**11 15 27.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=112,slow=3.5,SNR=2.1								
	comp=Z,0.9nm,0.6s								
WMOK	**Wichita Mounta**	**36.50**	**323**	P		**P**		**11 13 06.9**	**+0.5**
MNTX	**Cornudas Mount**	**38.99**	**314**	P		**P**		**11 13 28.4**	**+0.9**
MNTX				IAmb		IAmb		11 13 29.6	
	comp=Z,5.7nm,1.4s								
JFWS	**Jewell Farm**	**39.00**	**340**	P		**P**		**11 13 27.8**	**+0.5**
SDCO	**Great Sand Dun**	**42.57**	**321**	P		**P**		**11 13 58.5**	**+1.5**
K30B	**Basset**	**42.70**	**331**	P		**P**		**11 13 57.7**	**+0.1**
EYMN	**Ely**	**43.88**	**342**	P		**P**		**11 14 07.0**	**+0.1**
HMU	**Henry Mountain**	**46.06**	**318**	P		**P**		**11 14 26.1**	**+1.3**
HMU				IAmb		IAmb		11 14 27.8	
	comp=Z,5.0nm,1.1s								
P17A	**Butcher Ranch,**	**46.90**	**320**	IAmb		IAmb		11 14 34.0	
	comp=Z,4.6nm,1.4s								
LCMT	**Little Creek M**	**47.30**	**315**	P		**P**		**11 14 35.4**	**+1.2**
MSU	**Marysvale**	**47.33**	**318**	P		**P**		**11 14 36.0**	**+1.5**
PDAR	**Pinedale Array**	**48.10**	**324**	P		**P**		**11 14 40.9**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=133,slow=6.7,SNR=6.5								
	comp=Z,0.5nm,0.5s								
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**		**11 14 41.0**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=189,slow=13,SNR=1.8								
	comp=Z,1.0nm,0.3s								
NVAR	**Mina Array Bea**	**51.51**	**315**	P		**P**		**11 15 07.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=123,slow=7.3,SNR=4.2								
	comp=Z,0.3nm,0.6s								
MFID	**Camas Ranch**	**52.25**	**321**	P		**P**		**11 15 12.0**	**+0.5**
G08A	**Pilot Rock**	**55.13**	**322**	IAmb		IAmb		11 15 34.1	
	comp=Z,2.2nm,0.7s								
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**		**11 16 28.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=135,slow=6.2,SNR=5.6								
	comp=Z,1.3nm,0.6s								
ILAR	**Eielson Array**	**76.97**	**335**	P		**P**		**11 17 51.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=100,slow=5.3,SNR=4.1								
	comp=Z,0.3nm,0.7s								
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**		**11 25 45.6**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=110,slow=3.2,SNR=15								
WRA	**Warramunga Arr**	**150.38**	**241**	PKP		**PKPdf**		**11 25 44.7**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=107,slow=2.4,SNR=12								
WRA				PKPbc		**PKPbc**		**11 25 49.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=108,slow=2.4,SNR=12								

*IDC **03** 11:09:41.1±1.3, 2°35S×139°85E, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=27.0km s-min=11.5km az=9.0*
*DJA **03** 11:09:45.0±0.5, 2°S±5°×14°0E±°, h10km, M3.7/4, MLv3.7/4*

ISC 03 11:09:45.3±0.9, 2°30S±0°09×140°02E±0°06, h25km, n9, σ1§51/11, mb3.5/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GENI	**Genyem**	**0.33**	**153**	P		**Pb**		**11 09 53.3**	**+0.5**
GENI				S		**Sb**		**11 09 59.1**	**+1.2**
JAY	**Jayapura**	**0.72**	**107**	Pg		**Pb**		**11 09 59.1**	**-0.2**
	94nm,0.3s,baz=278,slow=9.5,SNR=426								
JAY				Lg		Lg		11 10 08.9	
	245nm,0.3s,baz=133,slow=19,SNR=24								
JAY				LR		LR		11 10 38.5	
	comp=Z,264nm,20.0s,baz=266,slow=66								
JAY	**Jayapura**	**0.72**	**107**	P		**Pb**		**11 09 59.1**	**-0.2**
JAY				S		**Sb**		**11 10 09.1**	**+0.3**
SMPI	**Sarmi**	**1.34**	**283**	P		**Pb**		**11 10 09.5**	**-0.3**
BAKI	**Biak**	**4.06**	**286**	P		**Pn**		**11 10 47.7**	**+1.8**
WRA	**Warramunga Arr**	**18.39**	**197**	P		**P**		**11 13 57.3**	**-1.4**
	0.2nm,0.3s,baz=19,slow=12,SNR=9.6								
	1.2nm,0.8s								
ASAR	**Alice Springs**	**22.05**	**195**	P		**P**		**11 14 35.4**	**-3.0**
	0.8nm,0.8s,baz=16,slow=11,SNR=10.0								
	0.8nm,0.8s								
MKAR	**Makanchi Array**	**70.27**	**322**	P		**P**		**11 20 55.5**	**-1.1**
	0.6nm,0.8s,baz=116,slow=5.3,SNR=3.4								
	0.6nm,0.8s								
ILAR	**Eielson Array**	**84.92**	**24**	P		**P**		**11 22 18.9**	**+0.9**
	0.2nm,0.7s,baz=259,slow=5.3,SNR=4.2								
	0.2nm,0.7s								

*IDC **03** 11:16:12.0±2.4, 1°86N×99°10E, h155km±7km, mb3.4/5, mbtmp3.9/6, Error ellipse: s-maj=108.4km s-min=15.4km az=57.0*
*DJA **03** 11:16:13.7±0.5, 2°N±3°×9°9E±°, h149km±6km, M3.7/12, MLv3.7/12*
*NEIC **03** 11:16:14.0±1.0, 2°08N±0°06×99°25E±0°08, h155km±4km, mb4.0/5, Error ellipse: s-maj=12.2km s-min=8.1km az=92.0*

ISC 03 11:16:13.6±0.8, 2°06N±0°05×99°25E±0°08, h158km±7km, n26, σ1§01/32, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SBSI	**Sibolga**	**0.62**	**215**	P		**Pn**		**11 16 37.1**	**+0.6**
SBSI				S		**Sn**		**11 16 55.2**	**+1.1**
RPSI	**Rantau Prapat**	**0.71**	**333**			**Pn**		**11 16 37.0**	**+0.1**
RPSI	**Rantau Prapat**	**0.71**	**333**			**Pn**		**11 16 37.1**	**+0.1**
RPSI						**Sn**		**11 16 54.9**	**-0.1**
PSI	**Prapat**	**0.80**	**336**	P		**Pn**		**11 16 37.1**	**-0.7**
	101nm,0.3s,baz=170,slow=6.1,SNR=87								
PSI				S		**Sn**		**11 16 54.9**	**-1.5**
	8.8nm,0.5s,baz=114,slow=20,SNR=1.2								
MNSI	**Mandailing Nat**	**1.30**	**165**	P		**Pn**		**11 16 42.2**	**+0.4**
GSI	**Gunungsitoli**	**1.83**	**246**			**Pn**		**11 16 48.1**	**+0.7**
GSI				Sn		**Sn**		**11 17 13.0**	**-0.3**
GSI	**Gunungsitoli**	**1.83**	**246**	P		**Pn**		**11 16 47.8**	**+0.4**
GSI				S		**Sn**		**11 17 12.7**	**-0.7**
PBSI	**Pulau Batu**	**2.31**	**205**	P		**Pn**		**11 16 52.9**	**0.0**
PBSI				S		**Sn**		**11 17 23.1**	**-0.2**
IPM	**Ipoh**	**2.98**	**36**	Pn		**Pn**		**11 17 02.0**	**+0.8**
PDSI	**Padang**	**3.19**	**158**	P		**Pn**		**11 17 03.3**	**-0.4**
SISI	**Saibi**	**3.37**	**183**	P		**Pn**		**11 17 03.5**	**-2.5**
KULM	**Kulim**	**3.50**	**23**	Pn		**Pn**		**11 17 07.1**	**-0.5**
SDSI	**Sungai Dareh**	**3.69**	**144**	P		**Pn**		**11 17 10.1**	**+0.1**
PPSI	**Pulau Pagai**	**4.85**	**171**	P		**Pn**		**11 17 27.1**	**+1.9**
CMAR	**Chiang Mai Arr**	**16.30**	**359**	P		**P**		**11 19 55.3**	**+1.7**
	1.2nm,0.3s,baz=177,slow=12,SNR=4.5								
WB0	**Warramunga Arr**	**40.74**	**124**	P		**P**		**11 23 38.7**	**-0.6**
WRA	**Warramunga Arr**	**40.78**	**124**	P		**P**		**11 23 38.8**	**-0.8**
WRA	**Warramunga Arr**	**40.78**	**124**	P		**P**		**11 23 38.8**	**-0.8**
	0.8nm,0.3s,baz=298,slow=8.1,SNR=16								
	0.8nm,0.3s								
WR8	**Warramunga Arr**	**40.92**	**124**	P		**P**		**11 23 40.3**	**-0.5**
WR8				IAmb		IAmb		11 23 40.9	
	comp=Z,3.8nm,0.9s								
ASAR	**Alice Springs**	**42.31**	**129**	P		**P**		**11 23 50.0**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=304,slow=8.1,SNR=7.9								
	comp=Z,0.3nm,0.5s								
AS31	**Alice Springs**	**42.31**	**129**	P		**P**		**11 23 53.6**	**+1.5**
MKAR	**Makanchi Array**	**46.94**	**344**	P		**P**		**11 24 28.3**	**0.0**
	comp=Z,0.8nm,0.5s,baz=151,slow=8.6,SNR=9.3								
	comp=Z,0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**51.47**	**343**	P		**P**		**11 25 02.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=156,slow=7.3,SNR=5.1								
	comp=Z,0.6nm,0.4s								
ZAA0	**Zalesovo Array**	**53.06**	**349**	P		**P**		**11 25 14.3**	**0.0**
ZAA0				IAmb		IAmb		11 25 14.9	
	comp=Z,1.6nm,0.8s								
ZALV	**Zalesovo Beam**	**53.06**	**349**	P		**P**		**11 25 14.6**	**+0.3**
ZALV	**Zalesovo Beam**	**53.06**	**349**	P		**P**		**11 25 14.1**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=158,slow=7.7,SNR=5.7								
	comp=Z,1.4nm,0.5s								

*IDC **03** 11:16:18.7±1.3, 27°15N×101°14E, h0km, mb3.5/6, mbtmp3.6/6, MS2.1/1, Error ellipse: s-maj=44.3km s-min=20.8km az=61.0*

ISC 03 11:16:23.9±1.5, 27°2N±0°2×101°2E±0°3, h35km, n7, σ0§52/6, mb3.6/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CMAR	**Chiang Mai Arr**	**8.96**	**194**	LR		LR		11 21 14.8	
	comp=Z,14nm,21.7s,baz=210,slow=33								
SONM	**Songino Array**	**20.99**	**10**	P		**P**		**11 21 04.4**	**+0.1**
	1.1nm,0.7s,baz=192,slow=13,SNR=6.0								
	1.1nm,0.7s								
MKAR	**Makanchi Array**	**24.59**	**328**	P		**P**		**11 21 40.8**	**+0.1**
	1.6nm,0.7s,baz=135,slow=9.5,SNR=12								
	1.6nm,0.7s								
KSRS	**Korea Array**	**24.70**	**59**	P		**P**		**11 21 41.8**	**0.0**
	0.4nm,0.5s,

FORC	**Fortuna**	**0.74**	**11**	*eP*	**Pg**	**11 55 57.8**	**+0.2**
CENT	**San Jose**	**0.74**	**75**	*eP*	**Pg**	**11 55 57.7**	**0.0**
CENT				*eS*	**Sb**	**11 56 08.2**	**0.0**
VACR	**Volcan Arenal**	**0.74**	**10**	*eP*	**Pg**	**11 55 57.7**	**0.0**
CNAS	**Canas**	**0.74**	**338**	*eP*	**Pb**	**11 55 58.5**	**+0.4**
TILA	**Tilaran**	**0.74**	**347**	*eP*	**Pg**	**11 55 57.4**	**-0.4**
LLNJ	**Naranjito**	**0.74**	**111**	*eP*	**Pg**	**11 55 57.7**	**0.0**
NICO	**Nicoya**	**0.74**	**302**	*eP*	**Pg**	**11 55 57.7**	**0.0**
DOMI	**Santo Domingo**	**0.74**	**71**	*eP*	**Pg**	**11 55 58.0**	**+0.2**
LUJA	**Lujan**	**0.75**	**76**	*eP*	**Pg**	**11 55 57.0**	**-0.8**
LUJA				*eS*	**Sg**	**11 56 07.7**	**0.0**
CEDE	**Laguna Cedeo**	**0.75**	**8**	*eP*	**Pb**	**11 55 58.1**	**-0.1**
TABAC	**Tabacon**	**0.76**	**3**	*eP*	**Pg**	**11 55 58.2**	**+0.2**
SJS	**Escuela Geolog**	**0.77**	**75**	*eP*	**Pg**	**11 55 58.1**	**-0.1**
SJS				*eS*	**Sb**	**11 56 09.1**	**+0.1**
ECI	**Escuela Centro**	**0.77**	**75**	*eP*	**Pg**	**11 55 57.8**	**-0.5**
ECI				*eS*	**Sb**	**11 56 09.1**	**+0.1**
LUPE	**Guadalupe**	**0.77**	**74**	*eP*	**Pg**	**11 55 58.2**	**0.0**
SJS3	**Mercedes San J**	**0.77**	**75**	*eP*	**Pg**	**11 55 58.2**	**0.0**
SJS3				*eS*	**Sb**	**11 56 09.3**	**+0.3**
INVE	**Universidad In**	**0.78**	**341**	*eP*	**Pg**	**11 55 58.0**	**-0.4**
RAZU	**San Marcos de**	**0.78**	**96**	*eP*	**Pg**	**11 55 58.5**	**+0.1**
LCR2	**La Lucha 2**	**0.79**	**90**	*eP*	**Pg**	**11 55 58.1**	**-0.5**
LCR2				*eS*	**Sb**	**11 56 09.6**	**-0.1**
LCR2	**La Lucha 2**	**0.79**	**90**	P	**Pg**	**11 55 58.2**	**-0.5**
CORON	**Coronado**	**0.82**	**74**	*eP*	**Pg**	**11 55 59.3**	**0.0**
CORON				*eS*	**Sb**	**11 56 11.3**	**+0.6**
JUD3	**Juan Diaz 3**	**0.84**	**301**	*eP*	**Pg**	**11 55 59.0**	**-0.5**
PIEC	**Cerro El Cedra**	**0.84**	**98**	*eP*	**Pg**	**11 55 59.2**	**-0.4**
TIMP	**Tierras Morena**	**0.86**	**346**	*eP*	**Pg**	**11 55 59.3**	**-0.7**
ITAL	**Pital**	**0.88**	**37**	*eP*	**Pg**	**11 56 00.1**	**-0.3**
QUEB	**Quebradon, Cot**	**0.88**	**354**	*eP*	**Pg**	**11 56 00.3**	**-0.3**
CVIMO	**Finca Echandi**	**0.90**	**71**	*eP*	**Pg**	**11 56 00.4**	**-1.3**
SACU	**Santa Cruz**	**0.93**	**304**	*eP*	**Pb**	**11 56 00.6**	**-0.6**
REPA	**Paraso**	**0.93**	**84**	*eP*	**Pg**	**11 56 00.7**	**-0.6**
TENO	**El Achiote**	**0.97**	**350**	*eP*	**Pb**	**11 56 00.7**	**-1.3**
MOTZ	**Rio Naranjo**	**0.98**	**344**	*eP*	**Pb**	**11 56 01.6**	**-0.4**
CUI	**Cuipilapa**	**0.98**	**339**	*eP*	**Pb**	**11 56 01.3**	**-0.8**
VICA	**Volcano Irazu**	**0.98**	**75**	*eP*	**Pg**	**11 56 01.6**	**-0.7**
PCAYA	**Pacayas**	**1.00**	**80**	*eP*	**Pb**	**11 56 01.9**	**-0.6**
COLC	**Colonia**	**1.00**	**337**	*eP*	**Pb**	**11 56 01.4**	**-1.1**
HORNC	**Hornillas**	**1.03**	**339**	*eP*	**Pb**	**11 56 02.0**	**-1.0**
COVE	**Coope Vega, Sa**	**1.05**	**22**	P	**Pb**	**11 56 02.4**	**-0.9**
VINA	**Juan Vinas**	**1.06**	**81**	*eP*	**Pb**	**11 56 03.0**	**-0.5**
CVTQ	**Turrialba Volc**	**1.06**	**75**	*eP*	**Pb**	**11 56 03.4**	**-0.2**
MESS	**Mesas**	**1.07**	**339**	*eP*	**Pb**	**11 56 02.6**	**-1.0**
VTR0	**Volcan Turrial**	**1.07**	**75**	*eP*	**Pb**	**11 56 03.2**	**-0.7**
CVTR	**Volcan Turrial**	**1.07**	**75**	*eP*	**Pb**	**11 56 03.5**	**-0.4**
CVTV	**Tajo**	**1.07**	**76**	*eP*	**Pb**	**11 56 03.7**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.09**	**77**	*eP*	**Pb**	**11 56 03.9**	**-0.3**
ABRB	**Las Abras (San**	**1.11**	**76**	*eP*	**Pb**	**11 56 03.9**	**-0.5**
ALIBA	**Liberia Airpor**	**1.12**	**319**	*eP*	**Pb**	**11 56 03.5**	**-1.0**
GPS2	**Hotel Rincn d**	**1.14**	**332**	*eP*	**Pb**	**11 56 03.7**	**-1.2**
GPS3	**Bodega del ICE**	**1.15**	**331**	*eP*	**Pn**	**11 56 05.2**	**+0.1**
ELI1	**Hacienda Flor**	**1.16**	**321**	*eP*	**Pb**	**11 56 04.4**	**-0.9**
ELI1	**Hacienda Flor**	**1.16**	**321**	S	**Sn**	**11 56 21.6**	**+0.6**
ELI1	**Hacienda Flor**	**1.16**	**321**	P	**Pb**	**11 56 04.7**	**-0.5**
RVSTA	**Santa Teresita**	**1.17**	**78**	*eP*	**Pb**	**11 56 05.2**	**-0.1**
UPAL	**Upala**	**1.17**	**350**	*eP*	**Pn**	**11 56 04.6**	**-0.7**
UPAL	**Upala**	**1.17**	**350**	P	**Pn**	**11 56 04.6**	**-0.7**
VRLE	**La Escondida,**	**1.18**	**332**	*eP*	**Pn**	**11 56 04.2**	**-1.3**
RESJ	**San Isidro (Tu**	**1.18**	**76**	*eP*	**Pn**	**11 56 05.5**	**-0.1**
LAPC	**Finca la Perla**	**1.19**	**329**	*eP*	**Pn**	**11 56 04.4**	**-1.3**
VORI	**VORI**	**1.20**	**334**	*eP*	**Pn**	**11 56 04.6**	**-1.3**
PEJA	**Penjamo Buenos**	**1.25**	**337**	*eP*	**Pn**	**11 56 05.5**	**-1.0**
RVLA	**Villa Bonita**	**1.25**	**73**	*eP*	**Pn**	**11 56 06.6**	**+0.1**
LCOCO	**El Coco**	**1.28**	**74**	*eP*	**Pn**	**11 56 05.8**	**-0.1**
OCHAL	**Ojochal**	**1.31**	**119**	P	**Pn**	**11 56 06.0**	**-1.3**
SAJE	**San Jernim**	**1.34**	**107**	*eP*	**Pn**	**11 56 07.1**	**-0.6**
EDPE	**Pejibaye, P**	**1.35**	**115**	*eP*	**Pn**	**11 56 06.8**	**-1.1**
LCRUZ	**La Cruz**	**1.56**	**329**	*eP*	**Pn**	**11 56 10.4**	**-0.3**
CARN	**Rivas**	**1.60**	**334**	*eP*	**Pn**	**11 56 11.7**	**+0.4**
CARN	**Rivas**	**1.60**	**334**	P	**Pn**	**11 56 12.0**	**+0.7**
VERH	**Veragua Rainfo**	**1.60**	**83**	*eP*	**Pn**	**11 56 11.4**	**0.0**
DRK0	**Durika**	**1.61**	**107**	*eP*	**Pn**	**11 56 10.9**	**-0.7**
DRK0	**Durika**	**1.61**	**107**	P	**Pn**	**11 56 11.1**	**-0.5**
FIMO	**Fila Mora**	**1.61**	**117**	*eP*	**Pn**	**11 56 11.1**	**-0.5**
LAES	**El Progreso Va**	**1.73**	**89**	*eP*	**Pb**	**11 56 14.4**	**-0.6**
CEUA	**Cerro Uatsi, L**	**1.84**	**93**	*eP*	**Pb**	**11 56 16.8**	**-0.1**
JAPN	**Al SSO del Vol**	**1.97**	**334**	P	**Pb**	**11 56 18.1**	**-1.0**
MORN	**Al O del Volca**	**1.98**	**335**	P	**Pb**	**11 56 17.9**	**-1.3**
ACON	**Acoyapa**	**2.25**	**351**	*eP*	**Pn**	**11 56 19.8**	**-0.3**
ACON	**Acoyapa**	**2.25**	**351**	P	**Pn**	**11 56 20.1**	**-0.1**
ESPN	**Las Esperanzas**	**2.49**	**11**	*eP*	**Pn**	**11 56 24.0**	**+0.5**
ESPN	**Las Esperanzas**	**2.49**	**11**	P	**Pn**	**11 56 24.5**	**+1.0**
NANN	**Nandasmo**	**2.54**	**330**	P	**Pb**	**11 56 27.5**	**-1.2**
RBALA	**Bur**	**2.75**	**108**	*eP*	**Pn**	**11 56 27.8**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.82**	**343**	P	**Pn**	**11 56 28.5**	**+0.5**
COPN	**Copaltepe**	**2.99**	**324**	*eP*	**Pn**	**11 56 32.0**	**+1.6**
CNGA	**Al SSO del Vol**	**3.31**	**326**	P	**Pn**	**11 56 37.0**	**+2.2**
MATN	**Matagalpa**	**3.36**	**341**	P	**Pn**	**11 56 35.2**	**-0.3**

*TAP **03** 12:00:26.7, 23°.81N×122°.95E, h57km, ML3.1, D*
*JMA **03** 12:00:26.3±0.2, 23°.8N±0°.7×122°.9E±0°.6, h48km, MV2.3/12, NEAR ISHIGAKIJIMA ISLAND*

ISC 03 12:00:22.7±1.1, 23°.71N±0°.02×122°.93E±0°.02, h13km±9km, n104, σ1s07/189, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.70**	**306**	*eP*	**Pn**	**12 00 40.8**	**+2.8**
EOS4				*i* S	**Sn**	**12 00 53.1**	**+1.8**
JYNG	**Yonagunijimaku**	**0.74**	**1**	P	**Pn**	**12 00 39.8**	**+0.8**
JYNG				S	**Sn**	**12 00 49.4**	**-0.7**
YOJ	**Yonaguni jima**	**0.76**	**5**	P	**Pn**	**12 00 40.3**	**+1.1**
YOJ	**Yonaguni jima**	**0.76**	**5**	S	**Sn**	**12 00 52.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.76**	**5**	*i* P	**Pn**	**12 00 40.5**	**+1.3**
YOJ				*eS*	**Sn**	**12 00 50.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.76**	**5**	*eP*	**Pn**	**12 00 40.3**	**+1.1**
YOJ				*eS*	**Sn**	**12 00 49.6**	**-0.9**
EOS3	**EOS3**	**0.81**	**316**	P	**Pn**	**12 00 41.8**	**+2.1**
EOS3				*eS*	**Sn**	**12 00 53.4**	**+1.9**
HATJ	**Hateruma jima**	**0.87**	**66**	*eP*	**Pn**	**12 00 42.4**	**+1.6**
HATJ				*eS*	**Sn**	**12 00 55.0**	**+1.7**
EOS2	**EOS2**	**0.96**	**318**	P	**Pn**	**12 00 44.7**	**+2.9**
EOS2				*eS*	**Sn**	**12 00 58.6**	**+3.3**
IRIF	**Iriomote-Funau**	**0.96**	**49**	P	**Pn**	**12 00 43.4**	**+1.5**
IRIF				*eS*	**Sn**	**12 00 56.5**	**+0.9**
JKRS	**Kuro-shima**	**1.12**	**62**	*eP*	**Pn**	**12 00 46.1**	**+2.0**
JKRS				*eS*	**Sn**	**12 01 00.8**	**+1.4**
TEYL	**Yanliau Villag**	**1.23**	**278**	P	**Pg**	**12 00 47.0**	**+0.5**
TEYL				*eS*	**Sn**	**12 01 01.8**	**-0.5**
EAHA	**Aohua**	**1.26**	**300**	P	**Pg**	**12 00 47.7**	**+0.9**
SHUL	**Shoufeng**	**1.26**	**274**	*eP*	**Pg**	**12 00 49.3**	**+2.4**
SHUL				*eS*	**Sg**	**12 01 03.9**	**+0.6**
TWD	**Chiawan**	**1.28**	**287**	*eP*	**Pg**	**12 00 48.9**	**+1.6**
TWD				*eS*	**Sn**	**12 01 03.2**	**-0.2**
ETL	**Fush Village**	**1.28**	**291**	P	**Pg**	**12 00 48.8**	**+1.4**
ETL				S	**Sg**	**12 01 03.8**	**-0.2**
JIJ	**Ishigaki jima**	**1.29**	**59**	*eP*	**Pg**	**12 00 47.8**	**+0.4**
EWUT	**Wuta**	**1.29**	**305**	P	**Pg**	**12 00 48.1**	**+0.6**
EWUT				*eS*	**Sg**	**12 01 05.8**	**+1.5**
ENA	**Nanau**	**1.30**	**304**	*eP*	**Pg**	**12 00 48.8**	**+0.9**
ENA				*i* S	**Sg**	**12 01 04.5**	**-0.4**
NACB	**Ninganchiao**	**1.31**	**291**	P	**Pg**	**12 00 48.4**	**+0.5**
NACB	**Ninganchiao**	**1.31**	**291**	S	**Sn**	**12 01 03.8**	**-0.4**
NACB	**Ninganchiao**	**1.31**	**291**	*eP*	**Pg**	**12 00 48.0**	**+0.1**
NACB				*eS*	**Sb**	**12 01 03.5**	**-0.5**
ESAO	**Su ao**	**1.32**	**311**	*eP*	**Pg**	**12 00 48.2**	**+0.1**
TWC	**Suao**	**1.34**	**312**	*eP*	**Pg**	**12 00 49.7**	**+1.3**
TWC				S	**Sg**	**12 01 04.8**	**-1.0**
ETM	**Tongmen**	**1.34**	**281**	*eP*	**Pg**	**12 00 48.1**	**-0.4**
ETM				*eS*	**Sn**	**12 01 02.5**	**-2.5**
ESL	**Shilin**	**1.38**	**275**	*eP*	**Pg**	**12 00 48.6**	**-0.6**
ESL				*eS*	**Sn**	**12 01 05.4**	**-0.5**
EGFH	**Guangfu**	**1.38**	**269**	*eP*	**Pg**	**12 00 51.2**	**+1.9**
EGFH				*eS*	**Sg**	**12 01 06.6**	**-0.6**
HGSD	**Ruisui**	**1.40**	**262**	*eP*	**Pg**	**12 00 49.3**	**-0.3**
HGSD				*eS*	**Sn**	**12 01 05.5**	**-0.9**
ECBN	**Changbin**	**1.41**	**254**	*eP*	**Pg**	**12 00 52.2**	**+2.3**
ECBN				*eS*	**Sn**	**12 01 06.5**	**-0.2**
ETLH	**Xiulin Townshi**	**1.42**	**291**	P	**Pg**	**12 00 49.8**	**-0.2**
ETLH				*eS*	**Sb**	**12 01 06.9**	**-0.3**
WARBT	**Fenglin Townsh**	**1.42**	**271**	*eP*	**Pg**	**12 00 49.4**	**-0.6**
WARBT				*i* S	**Sn**	**12 01 06.5**	**-0.4**
LXIB	**Xiulin Townshi**	**1.43**	**283**	*eP*	**Pg**	**12 00 50.0**	**-0.1**
LXIB				S	**Sb**	**12 01 07.3**	**-0.2**
NDS	**Dongshan**	**1.45**	**310**	*eP*	**Pn**	**12 00 48.2**	**-0.4**
NDS				*eS*	**Sn**	**12 01 05.9**	**-1.7**
EGS		**1.46**	**321**	P	**Pg**	**12 00 50.9**	**+0.2**
EGS				S	**Sb**	**12 01 07.3**	**-0.9**
EHYH	**Wanrong**	**1.47**	**262**	P	**Pg**	**12 00 51.2**	**+0.2**
EHYH				*eS*	**Sb**	**12 01 08.7**	**+0.1**
EHY	**Hungye**	**1.49**	**263**	P	**Pg**	**12 00 51.1**	**-0.3**
EHY				*eS*	**Sb**	**12 01 08.8**	**-0.4**
LATG	**Datong**	**1.53**	**303**	*eP*	**Pg**	**12 00 52.6**	**+0.5**
LATG				S	**Sg**	**12 01 10.7**	**-1.2**
YULB	**Yu-li**	**1.53**	**259**	P	**Pg**	**12 00 51.7**	**-0.4**
YULB	**Yu-li**	**1.53**	**259**	S	**Sb**	**12 01 10.7**	**+0.3**
YULB	**Yu-li**	**1.53**	**259**	*eP*	**Pg**	**12 00 51.8**	**-0.4**
YULB				S	**Sb**	**12 01 10.0**	**-0.5**
JISG	**Ishigakijimahi**	**1.53**	**55**	*eP*	**Pg**	**12 00 51.0**	**-1.2**
JISG				*eS*	**Sg**	**12 01 10.2**	**-2.0**
TWE	**Neicheng**	**1.54**	**311**	*eP*	**Pg**	**12 00 52.4**	**+0.2**
TWE				S	**Sn**	**12 01 09.1**	**-0.7**
TWF1	**Yuli**	**1.54**	**257**	*eP*	**Pg**	**12 00 51.6**	**-0.7**
TWF1				*eS*	**Sb**	**12 01 10.5**	**-0.2**
ENTT	**Nioudou**	**1.56**	**307**	*eP*	**Pg**	**12 00 52.7**	**+0.1**
ENTT				S	**Sb**	**12 01 10.6**	**-0.5**
TWB1	**Santiao Chiao**	**1.56**	**327**	*eP*	**Pg**	**12 00 52.3**	**-0.4**
CHKT	**Chengkung**	**1.56**	**248**	*eS*	**Sn**	**12 01 09.5**	**-0.9**
FULB	**Fuli**	**1.59**	**252**	P	**Pg**	**12 00 52.1**	**-1.1**
FULB				*eS*	**Sn**	**12 01 10.2**	**-0.8**
WHF	**Hehuan Shan**	**1.59**	**286**	P	**Pg**	**12 00 52.6**	**-0.7**
WHF				*eS*	**Sn**	**12 01 11.4**	**-0.2**
NNSB	**Datong**	**1.59**	**297**	*eP*	**Pg**	**12 00 52.9**	**-0.4**
NNSB				*eS*	**Sb**	**12 01 12.0**	**-0.1**
NNS	**Nan Shan**	**1.60**	**297**	*eP*	**Pg**	**12 00 53.1**	**-0.4**
NNS				*eS*	**Sb**	**12 01 12.1**	**-0.4**
TIPB	**Shuangxi**	**1.61**	**322**	*eP*	**Pg**	**12 00 53.4**	**-0.3**
TIPB				*eS*	**Sn**	**12 01 10.3**	**-1.4**
FUSB	**Fushanzhiwuyua**	**1.62**	**311**	*eP*	**Pg**	**12 00 53.8**	**0.0**
FUSB				*eS*	**Sn**	**12 01 11.0**	**-0.9**
OWD	**Renai**	**1.63**	**279**	*eP*	**Pg**	**12 00 53.0**	**-1.0**
OWD				*i* S	**Sn**	**12 01 12.3**	**+0.1**
FUSS	**Fushou**	**1.64**	**290**	P	**Pg**	**12 00 53.7**	**-0.4**
FUSS				*eS*	**Sb**	**12 01 13.0**	**-0.7**
VWDT	**VWDT**	**1.64**	**272**	*i* P	**Pg**	**12 00 53.5**	**-0.8**
VWDT				S	**Sb**	**12 01 12.9**	**-0.6**
EDH	**Donghe**	**1.67**	**244**	*eP*	**Pg**	**12 00 54.4**	**-0.3**
EDH				*eS*	**Sn**	**12 01 11.2**	**-1.7**
EHD	**Haiduan**	**1.68**	**251**	*eP*	**Pg**	**12 00 54.1**	**-0.9**
EHD				*eS*	**Sn**	**12 01 13.2**	**-0.1**
NWLT	**Wulai**	**1.69**	**310**	*eP*	**Pg**	**12 00 54.9**	**-0.2**
SXI1	**Grass Mountain**	**1.69**	**325**	*eP*	**Pg**	**12 00 54.4**	**-0.7**
SXI1				*eS*	**Sn**	**12 01 12.1**	**-1.4**
WUSB	**Renai**	**1.69**	**280**	*eP*	**Pg**	**12 00 54.3**	**-0.9**
WUSB				*eS*	**Sb**	**12 01 14.8**	**-0.2**
ECS	**Chishang**	**1.69**	**249**	*eP*	**Pg**	**12 00 55.9**	**+0.8**
ECS				S	**Sb**	**12 01 14.8**	**0.0**
TWT	**Tachien**	**1.70**	**289**	P	**Pg**	**12 00 54.9**	**-0.4**
TWT				S	**Sb**	**12 01 15.4**	**+0.1**
YHNB	**Yeheng**	**1.72**	**304**	P	**Pg**	**12 00 55.0**	**-0.7**
YHNB	**Yeheng**	**1.72**	**304**	*eP*	**Pg**	**12 00 55.0**	**-0.7**
YHNB				S	**Sn**	**12 01 14.0**	**-0.3**
NWF	**Wu-fen Shan**	**1.72**	**323**	*eP*	**Pg**	**12 00 54.7**	**-1.0**
NSK	**Sanguang**	**1.73**	**304**	*eP*	**Pg**	**12 00 55.1**	**-0.9**
NSK				S	**Sn**	**12 01 14.8**	**+0.1**
SSLB	**Suanglung**	**1.81**	**273**	P	**Pg**	**12 00 56.8**	**-0.8**
SSLB	**Suanglung**	**1.81**	**273**	*eP*	**Pg**	**12 00 56.7**	**-0.9**
SSLB				*eS*	**Sb**	**12 01 19.3**	**+0.7**
TATO	**Taipei**	**1.83**	**314**	*eP*	**Pg**	**12 00 56.7**	**-1.1**
TATO				*eS*	**Sb**	**12 01 18.8**	**-0.1**
YUS	**Yu-Shan**	**1.83**	**264**	P	**Pg**	**12 00 56.9**	**-1.0**
YUS				*eS*	**Sb**	**12 01 19.3**	**-0.1**
ELDTW	**Lidau**	**1.83**	**254**	P	**Pb**	**12 00 55.8**	**-0.4**
LONT	**Longtian**	**1.84**	**245**	*eP*	**Pg**	**12 00 58.7**	**+0.7**
LONT				S	**Sn**	**12 01 17.7**	**+0.5**
SMLT	**Sun Moon Lake**	**1.87**	**276**	P	**Pb**	**12 00 56.9**	**+0.1**
SMLT				*eS*	**Sb**	**12 01 19.6**	**-0.6**
WCS	**Beigang Elemen**	**1.88**	**281**	P	**Pb**	**12 00 57.1**	**+0.1**
WCS				*eS*	**Sb**	**12 01 19.9**	**-0.6**
NFF	**Wufeng Townshi**	**1.90**	**299**	*eS*	**Sb**	**12 01 20.9**	**0.0**
YM01	**YM01**	**1.90**	**319**	P	**Pb**	**12 00 55.9**	**-1.4**
YM01				S	**Sn**	**12 01 17.4**	**-1.4**
WHP	**Taichung City**	**1.91**	**288**	*eP*	**Pg**	**12 00 59.6**	**+0.3**
WHP				*eS*	**Sb**	**12 01 20.7**	**-0.5**
WHYT	**Xinyi Township**	**1.91**	**270**	*eP*	**Pg**	**12 00 58.7**	**-0.6**
WHYT				*eS*	**Sb**	**12 01 21.6**	**+0.4**
TWGBT	**Beinan**	**1.92**	**243**	*eP*	**Pg**	**12 00 58.5**	**-1.1**
TWGBT				S	**Sn**	**12 01 19.3**	**0.0**
TWG	**Pinlang**	**1.93**	**243**	*eP*	**Pb**	**12 00 56.0**	**-1.7**
TWG				S	**Sn**	**12 01 19.4**	**-0.2**
KSHI	**Guanxi Townshi**	**1.93**	**304**	*eP*	**Pg**	**12 00 58.8**	**-0.4**
KSHI				*eS*	**Sn**	**12 01 18.9**	**-0.5**
STYH	**Taoyuan**	**2.05**	**255**	*eP*	**Pb**	**12 00 60.0**	**+0.1**
STYH				*i* S	**Sn**	**12 01 23.2**	**+0.8**
STYT	**Tauyuan**	**2.07**	**255**	P	**Pb**	**12 01 00.1**	**-0.1**
STYT				S	**Sb**	**12 01 24.8**	**-1.2**
LAY	**Lan-yu**	**2.09**	**218**	*eP*	**Pg**	**12 01 02.5**	**-0.3**
LAY				*eS*	**Sn**	**12 01 22.8**	**-0.7**
TCU	**Taichung**	**2.11**	**282**	P	**Pg**	**12 01 01.8**	**-1.4**
TCU				*eS*	**Sb**	**12 01 27.6**	**+0.5**
ECL	**Taimali**	**2.13**	**239**	*eP*	**Pg**	**12 01 02.2**	**-1.4**
ECL				*eS*	**Sn**	**12 01 24.4**	**0.0**
TPUB	**Ta-pu**	**2.15**	**260**	P	**Pb**	**12 01 02.1**	**+0.5**
TPUB	**Ta-pu**	**2.15**	**260**	S	**Sb**	**12 01 27.7**	**-0.6**
TPUB	**Ta-pu**	**2.15**	**260**	*eP*	**Pg**	**12 01 02.5**	**-1.5**
TPUB				*eS*	**Sb**	**12 01 27.4**	**-0.9**
WCKO	**Fanlu**	**2.15**	**263**	P	**Pb**	**12 01 02.0**	**+0.4**
WCKO				S	**Sb**	**12 01 28.5**	**+0.2**
WTP	**Ta-pu**	**2.18**	**258**	P	**Pg**	**12 01 02.8**	**-1.7**
WTP				S	**Sb**	**12 01 27.9**	**-1.1**
WDLH	**Douliu**	**2.19**	**270**	*eP*	**Pg**	**12 01 04.5**	**-0.4**
WDLH				*eS*	**Sb**	**12 01 31.0**	**+1.6**
SGST	**Jiashian**	**2.25**	**254**	*eP*	**Pb**	**12 01 03.7**	**+0.5**
SGST				*eS*	**Sb**	**12 01 30.6**	**-0.3**
CHN1	**Nanshi**	**2.27**	**257**	*eP*	**Pb**	**12 01 04.3**	**+0.7**
CHN1				*eS*	**Sb**	**12 01 29.9**	**-1.7**
TWK	**Hsinying**	**2.29**	**259**	P	**Pb**	**12 01 04.1**	**+0.2**
TWK				*eS*	**Sb**	**12 01 31.3**	**-0.9**
SNST	**Tainan City**	**2.29**	**258**	P	**Pb**	**12 01 04.3**	**+0.4**
SNST				S	**Sb**	**12 01 32.8**	**+0.7**
WTK	**Tuku**	**2.33**	**270**	P	**Pb**	**12 01 04.5**	**-0.2**
WTK				S	**Sb**	**12 01 32.3**	**-1.1**
RLNB	**Erlin**	**2.36**	**275**	P	**Pb**	**12 01 04.5**	**-0.7**
RLNB				*eS*	**Sn**	**12 01 31.1**	**+1.0**
MASBT	**Mashibuluo**	**2.38**	**243**	P	**Pb**	**12 01 04.2**	**-1.3**
MASBT				*eS*	**Sb**	**12 01 34.0**	**-0.7**
VWUC	**VWUC**	**3.42**	**293**	*eP*	**Pn**	**12 01 17.9**	**+2.1**
VWUC				*eS*	**Sn**	**12 01 55.3**	**-1.1**
PTMZ	**Houxiangcun**	**3.72**	**292**	*eP*	**Pn**	**12 01 22.2**	**+2.3**
PTMZ				*eS*	**Sn**	**12 02 02.4**	**-1.3**
KNMB	**Chin-men Tao**	**4.22**	**281**	P	**Pn**	**12 01 28.9**	**+2.0**
KNMB				S	**Sn**	**12 02 14.7**	**-1.3**
AXDP	**Jialang**	**4.68**	**286**	P	**Pn**	**12 01 35.7**	**+2.6**
AXDP				*eS*	**Sn**	**12 02 24.8**	**-2.6**
DSXP	**Dongshan**	**5.05**	**271**	*eP*	**Pn**	**12 01 40.1**	**+1.9**
DSXP				*eS*	**Sn**	**12 02 34.6**	**-1.8**

*NOU **03** 12:03:16.7, 24°.64S×179°.90W, h546km, mb4.4/43, South of Fiji Islands*
*IDC **03** 12:03:16.2±1.0, 24°.66S×179°.67E, h507km±11km, mb3.6/17, mbtmp4.5/18, Error ellipse: s-maj=12.6km s-min=11.3km az=156.0*
*NEIC **03** 12:03:17.6±2.0, 24°.7S±0°.1×179°.7E±0°.1, h513km±7km, mb4.4/46, Error ellipse: s-maj=18.8km s-min=17.1km az=72.0*

ISC 03 12:03:16.9±0.4, 24°.72S±0°.05×179°.80E±0°.07, h517km, n152, σ1s33/163, mb4.3/44, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.94**	**156**	P	**P**	**12 04 45.1**	**+0.9**
RAO	**Raoul Island**	**4.95**	**156**	P	**P**	**12 04 45.2**	**+0.9**
RAO	**Raoul Island**	**4.95**	**156**	P	**P**	**12 04 45.0**	**+0.7**
	576nm,0.2s,baz=63,slow=16,SNR=8.8						
RAO				S	**S**	**12 05 54.0**	**-1.8**
	310nm,0.2s,baz=43,slow=18,SNR=2.1						
RAO	**Raoul Island**	**4.95**	**156**	P	**P**	**12 04 45.2**	**+0.9**
GLKZ	**Green Lake**	**4.96**	**156**	P	**P**	**12 04 44.7**	**+0.3**
GLKZ				S	**S**	**12 05 54.7**	**-1.2**
LKBA	**Tubou, Lakemba**	**6.58**	**12**	P	**P**	**12 04 59.6**	**-0.2**
MSVF	**Nonsavu**	**7.14**	**346**	P	**P**	**12 05 04.5**	**-0.8**
MSVF	**Nonsavu**	**7.14**	**346**	P	**P**	**12 05 05.0**	**-0.4**
TAVE	**Taveuni**	**7.98**	**2**	P	**P**	**12 05 14.0**	**+0.3**

DGTI	**Dogotuki**	**8.38**	**360**	P	**P**	**12 05 17.7**	**-0.1**
PINNC	**Pines Island,**	**11.51**	**278**	P	**P**	**12 05 52.7**	**+2.3**
PINNC	**Pines Island,**	**11.51**	**278**	P	**P**	**12 05 53.0**	**+2.6**
OUZ	**Omahuta**	**11.76**	**206**	P	**P**	**12 05 54.7**	**+2.0**
OUZ	**Omahuta**	**11.76**	**206**	P	**P**	**12 05 54.9**	**+2.2**
OUENC	**Ouen Island, N**	**12.10**	**278**	P	**P**	**12 05 59.2**	**+2.6**
WCZ	**Waipu Caves**	**12.13**	**202**	P	**P**	**12 05 58.8**	**+2.1**
YATNC	**Mamie plateau,**	**12.14**	**280**	P	**P**	**12 05 59.5**	**+2.4**
KUZ	**Kuaotunu**	**12.48**	**195**	P	**P**	**12 06 01.7**	**+1.3**
KUZ	**Kuaotunu**	**12.48**	**195**	P	**P**	**12 06 00.9**	**+0.6**
DZM	**Mont Dzumac**	**12.54**	**279**	P	**P**	**12 06 03.0**	**+1.7**
	13nm,0.6s,baz=102,slow=17,SNR=11						
DZM	**Mont Dzumac**	**12.54**	**279**	P	**P**	**12 06 03.5**	**+2.2**
MXZ	**Matakaoa Point**	**12.86**	**185**	P	**P**	**12 06 05.7**	**+1.4**
MXZ	**Matakaoa Point**	**12.86**	**185**	P	**P**	**12 06 05.4**	**+1.1**
MXZ				S	**S**	**12 08 24.2**	**+1.9**
HAZ	**Te Kaha**	**13.11**	**187**	P	**P**	**12 06 06.2**	**-0.7**
HAZ				S	**S**	**12 08 23.2**	**-3.7**
PKGZ	**Pakihiroa**	**13.19**	**186**	P	**P**	**12 06 08.1**	**+0.3**
PKGZ				S	**S**	**12 08 29.8**	**+1.2**
RUGZ	**Raukumara Rang**	**13.32**	**187**	P

JTM	**Tenmabayashi**	**74.45**	**330**	P	**P**	**12 14 02.0**	**0.0**
JTM				IAmb	IAmb	12 14 06.0	
	comp=Z,29nm,1.2s						
MNAI	**Manna**	**76.24**	**272**	P	**P**	**12 14 11.2**	**-1.5**
MAW	**Mawson**	**76.92**	**201**	P	**P**	**12 14 16.2**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=151,slow=10.0,SNR=1.6						
	comp=Z,0.7nm,0.5s						
KSRS	**Korea Array**	**78.76**	**320**	P	**P**	**12 14 25.6**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=134,slow=5.6,SNR=20						
	comp=Z,2.5nm,0.6s						
PETK	**Petropavlovsk-**	**79.85**	**347**	P	**P**	**12 14 30.3**	**-0.9**
	comp=Z,5.9nm,0.8s,baz=161,slow=5.3,SNR=30						
	comp=Z,5.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**81.35**	**327**	P	**P**	**12 14 39.4**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=138,slow=3.5,SNR=5.5						
	comp=Z,3nm,0.6s						
TROLL	**Troll, Antarti**	**83.51**	**181**	⇑P	**P**	**12 14 49.4**	**-0.5**
	comp=Z,641nm,0.6s						
O02D	**Mt. Diablo Mer**	**83.80**	**40**	P	**P**	**12 14 53.2**	**+1.4**
O02D				IAmb	IAmb	12 14 53.9	
	comp=Z,7.7nm,1.1s						
SNAA	**Sanae**	**83.85**	**179**	P	**P**	**12 14 50.9**	**-0.6**
VNA3	**Neumayer Olymp**	**84.07**	**177**	⇑P	**P**	**12 14 51.9**	**-0.6**
	comp=Z,2.9nm,0.4s						
VNA2	**Neumayer--Watz**	**84.48**	**178**	⇑P	**P**	**12 14 54.1**	**-0.4**
	comp=Z,6.4nm,0.6s,baz=176,slow=5.1						
TIA	**Tai'an**	**84.66**	**314**	P	**P**	**12 14 56.8**	**+0.8**
TIA				pmax	pmax		
	comp=Z,14nm,0.7s						
VNA1	**Neumayer--Stat**	**84.72**	**177**	⇑P	**P**	**12 14 55.1**	**-0.6**
	comp=Z,2.0nm,0.6s						
NVAR	**Mina Array Bea**	**85.47**	**44**	P	**P**	**12 15 00.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=241,slow=6.9,SNR=8.7						
	comp=Z,0.8nm,0.7s						
PINE	**Pine Mountain**	**87.15**	**39**		**P**	**12 15 09.0**	**+1.1**
PINE				IAmb	IAmb	12 15 09.8	
	comp=Z,9.8nm,1.3s						
TUC	**Tucson**	**87.16**	**53**	P	**P**	**12 15 09.4**	**+1.2**
PLCA	**Paso Flores**	**87.83**	**134**	P	**P**	**12 15 12.4**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=230,slow=7.9,SNR=3.3						
	comp=Z,1.4nm,0.7s						
MTPU	**Mount Pierson**	**89.22**	**47**	IAmb	IAmb	12 15 20.1	
	comp=Z,2.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.64**	**290**		**P**	**12 15 21.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**89.64**	**290**	P	**P**	**12 15 20.7**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=118,slow=5.0,SNR=13						
	comp=Z,2.6nm,0.8s						
HVU	**Hansel Valley**	**90.86**	**44**	IAmb	IAmb	12 15 26.3	
	comp=Z,1.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**90.87**	**315**	*e*P	**P**	**12 15 26.2**	**+1.0**
HHC				pmax	pmax		
	comp=Z,26nm,0.6s						
HHC				pmax	pmax		
	comp=Z,67nm,4.5s						
SRU	**San Rafael Swe**	**90.89**	**47**	IAmb	IAmb	12 15 26.5	
	comp=Z,3.1nm,0.8s						
PZH	**PanZhiHua**	**90.91**	**299**	P	**P**	**12 15 26.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**91.02**	**58**		**P**	**12 15 26.8**	**+0.6**
TX31				IAmb	IAmb	12 15 27.8	
	comp=Z,2.2nm,0.8s						
TXAR	**Lajitas Array**	**91.02**	**58**	P	**P**	**12 15 26.9**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=243,slow=4.4,SNR=16						
	comp=Z,1.7nm,0.8s						
BSUT	**Blindstream Ca**	**91.48**	**46**	IAmb	IAmb	12 15 29.2	
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**93.41**	**44**	P	**P**	**12 15 36.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=246,slow=5.0,SNR=1.8						
	comp=Z,0.2nm,0.3s						
MKAR	**Makanchi Array**	**112.57**	**312**	PKiKP	**PKiKP**	**12 20 52.7**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=92,slow=4.3,SNR=1.7						
KURBB	**Kurchatov Arra**	**115.71**	**316**	PKP	**PKPdf**	**12 20 58.7**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=112,slow=1.9,SNR=2.3						
BVAR	**Borovoye Array**	**120.93**	**318**	PKP	**PKPdf**	**12 21 09.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=101,slow=1.5,SNR=4.4						
ARTI	**Arti**	**127.54**	**323**	PKP	**PKPdf**	**12 21 22.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=121,slow=5.9,SNR=3.1						
ARCES	**ARCESS Array B**	**132.65**	**348**	PKP	**PKPdf**	**12 21 31.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=34,slow=2.2,SNR=6.1						
FINES	**FINESS Array B**	**139.16**	**341**	PKhKP	PKPpre	12 21 35.4	
	comp=Z,0.9nm,0.7s,baz=45,slow=4.1,SNR=5.3						
FINES				PKP	**PKPdf**	**12 21 44.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=37,slow=0.7,SNR=6.5						
FINES				SKPbc	**SKPbc**	**12 24 30.7**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=48,slow=2.1,SNR=7.0						
NB2	**NORSAR Subarra**	**142.86**	**351**	PKP	PKPpre	12 21 47.1	
	comp=Z,0.6nm,0.7s,baz=9.5,slow=3.5						
NOA	**NORSAR Array B**	**142.86**	**351**	PKhKP	PKPpre	12 21 46.6	
	comp=Z,0.7nm,0.5s,baz=16,slow=3.3,SNR=5.0						
HFS	**Hagfors**	**143.31**	**348**	PKP	PKPab	12 21 48.8	-0.8
	comp=Z,5.4nm,0.4s,baz=48,slow=2.1,SNR=69						
AKASG	**Malin Array Be**	**145.56**	**326**	PKPbc	**PKPdf**	**12 21 56.1**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=48,slow=4.5,SNR=16						
AKASG				SKPbc	**SKPbc**	**12 24 47.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=48,slow=2.9,SNR=5.2						
KIEV	**Kiev**	**145.57**	**326**		**PKPdf**	**12 21 56.0**	**+0.2**
BNN	**Bunyan**	**146.51**	**304**		**PKPdf**	**12 21 59.1**	**+1.2**
MMAI	**Mount Meron Ar**	**147.86**	**293**	PKPbc	**PKPbc**	**12 22 04.1**	**0.0**
	comp=Z,4.2nm,0.5s,baz=108,slow=3.8,SNR=11						
BR131	**Keskin Array S**	**147.92**	**306**		**PKPbc**	**12 22 03.5**	**-0.6**
BR131				PKPab	**PKPab**	**12 22 08.2**	**-0.4**
BRTR	**Keskin Array B**	**147.92**	**306**		**PKPbc**	**12 22 03.6**	**-0.5**
BRTR	**Keskin Array B**	**147.92**	**306**	PKPbc	**PKPbc**	**12 22 03.5**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=129,slow=0.8,SNR=7.1						
EKA	**Eskdalemuir Ar**	**149.35**	**3**	PKPbc	**PKPbc**	**12 22 05.9**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=358,slow=5.4,SNR=6.0						
BURAR	**Bucovina Array**	**149.54**	**325**		**PKiKP**	**12 22 09.0**	**+0.4**
BURAR				PKPab	**PKPab**	**12 22 15.6**	**+0.6**
OJC	**Ojcow**	**150.19**	**334**		**PKPbc**	**12 22 08.9**	**-0.2**

*SOME **03** 12:03:46.0,41.97N×81.92E,h10km*
*NNC **03** 12:03:48.9±2.8,41.96N×81.80E,h0km,mb3.5,mpv3.0,*
Error ellipse: s-maj=21.0km s-min=11.3km az=163.0
ISC 03 12:03:49.0±3.1,41.9N±0.2×81.55E±0.1,h10km,n9,
σ1§15/13,4C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.02**	**311**			Pg	**Pn**	**12 04 21.8**	**-1.4**
	19nm,0.3s								
SHLS						Lg	Lg	12 04 47.6	
	92nm,0.3s								
SHLS	**Shalkode**	**2.02**	**311**	*e*P			**Pn**	**12 04 21.8**	**-1.4**
	19nm,0.3s								
SHLS				*e*S			**Sn**	**12 04 47.6**	**-0.9**
	92nm,0.3s								
PDGK	**Podgornoye**	**2.11**	**315**	⇑Pn			**Pb**	**12 04 27.5**	**0.0**
	3.9nm,0.3s								
PDGK				⇑Sn			**Sg**	**12 04 56.9**	**0.0**
	22nm,0.8s								
UZB	**Uzunbulak**	**2.27**	**305**			Pg	**Pb**	**12 04 30.9**	**+0.8**
	6.4nm,0.4s								
UZB						Lg	Lg	12 05 03.4	
	28nm,0.4s								
UZB	**Uzunbulak**	**2.27**	**305**	*e*P			**Pb**	**12 04 30.9**	**+0.8**
	6.4nm,0.4s								
UZB				*e*S			**Sg**	**12 05 03.5**	**+1.6**
	28nm,0.4s								
SATY	**Saty**	**2.62**	**298**			Pg	**Pb**	**12 04 38.2**	**+2.1**
	3.9nm,0.2s								
SATY						Lg	Lg	12 05 15.7	
	44nm,0.5s								
KPKS	**Kokpek**	**2.65**	**308**			Pg	**Pb**	**12 04 36.0**	**-0.6**
	0.2nm,0.1s								
KPKS						Lg	Lg	12 05 11.9	
	44nm,0.4s								
MAKZ	**Makanchi**	**4.95**	**3**			Pn	**Pn**	**12 05 03.6**	**+0.1**
	2.1nm,0.6s								
MAKZ						Sn	**Sn**	**12 06 00.7**	**-0.1**
	1.0nm,0.5s								
MAKZ						Lg	Lg	12 06 21.1	
	5.3nm,1.0s								
MK31	**Makanchi Array**	**4.96**	**6**	⇑Pn			Pn	12 05 04.1	+0.5
	0.2nm,0.3s,baz=193,slow=12,SNR=3.8								
MK31				⇑Pg			Pg	12 05 15.7	-8.2
	0.7nm,0.4s,baz=182,slow=14,SNR=3.1								
MK31				⇓Sn			**Sn**	**12 06 00.9**	**0.0**
	1.2nm,0.5s								
MK31				⇓Lg			Lg	12 06 20.1	
	1.6nm,0.5s								

*NEIC **03** 12:19:16.7±1.6,25.29N±0.08×96.89E±0.06,h10km±1km,*
mb4.8/52,Error ellipse: s-maj=13.0km s-min=8.7km
az=173.0
*MOS **03** 12:19:16.3±1.1,25.46N×96.74E,h10km,mb4.5/24,Error*
ellipse: s-maj=11.7km s-min=5.6km az=124.2
*IDC **03** 12:19:16.3±0.6,25.44N×96.61E,h0km,mb4.1/20,*
mbtmp4.1/21,ML3.9/1,MS3.3/15,Error ellipse:
s-maj=25.2km s-min=12.9km az=53.0
ISC 03 12:19:19.9±0.4,25.45N±0.05×96.68E±0.03,h25km,n169,
σ1§64/156,mb4.5/74,MS3.3/17,10C,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**1.71**	**104**			Pn	**Pb**	**12 19 48.4**	**-2.5**
TNCH						Pg	Pn	12 19 51.4	+3.0
TNCH						Sg	**Sb**	**12 20 13.2**	**+1.1**
TNCH						smax	smax		
	comp=N,2μm,0.9s								
TNCH						smax	smax		
	comp=E,3μm,1.2s								
LKP	**Lekhapani**	**2.02**	**338**	*e*P		Pn		12 19 45.5	-6.9
LKP				*e*S		**Sn**		**12 20 09.9**	**-7.0**
LKP						IAML		12 20 13.1	
	comp=E,5μm,0.3s								
LKP						IAML		12 20 13.1	
	comp=N,4μm,0.5s								
KOHI	**KOHIMA**	**2.34**	**277**	*e*P		**Pb**		**12 19 59.9**	**-1.6**
KOHI				*e*S		**Sb**		**12 20 31.6**	**+1.5**
KOHI						IAML		12 20 33.5	
	comp=N,15μm,0.8s								
IMP	**Imphal**	**2.56**	**257**	*e*P		**Pb**		**12 20 03.1**	**-2.0**
IMP				*e*S		**Sb**		**12 20 38.1**	**+2.0**
IMP						IAML		12 20 43.3	
	comp=N,5μm,0.6s								
IMP						IAML		12 20 43.3	
	comp=E,6μm,0.6s								
DIBR	**DIBRUGARH**	**2.56**	**322**	*e*P		**Pn**		**12 19 55.7**	**-4.2**
DIBR				*e*S		**Sn**		**12 20 25.7**	**-4.6**
DIBR						IAML		12 20 27.6	
	comp=N,14μm,0.6s								
DIBR						IAML		12 20 27.8	
	comp=E,16μm,0.8s								
ITAN	**ITANAGAR**	**3.15**	**303**	*e*P		**Pn**		**12 20 06.7**	**-1.3**
ITAN				*e*S		**Sn**		**12 20 44.6**	**-0.1**
ITAN						IAML		12 20 46.7	
	comp=E,7μm,0.5s								
TEZP	**TEZPUR**	**3.68**	**289**	*e*P		**Pn**		**12 20 16.6**	**+1.3**
TEZP				*e*S		**Sn**		**12 20 59.6**	**+1.7**
TEZP						IAML		12 21 00.2	
	comp=E,1μm,0.2s								
TEZP						IAML		12 21 00.3	
	comp=N,2μm,0.2s								
AZL	**Aizawl**	**4.01**	**246**	*e*P		**Pn**		**12 20 22.5**	**+2.5**
AZL				*e*S		**Sb**		**12 21 11.7**	**-6.5**
AZL						IAML		12 21 13.5	
	comp=N,1μm,0.5s								
SHL	**Shillong**	**4.34**	**273**				**Pn**	**12 20 25.2**	**+0.7**
SHL	**Shillong**	**4.34**	**273**	*e*P			**Pn**	**12 20 24.9**	**+0.4**
SHL				*e*S			**Sn**	**12 21 14.5**	**+0.1**
SHL						IAML		12 21 16.2	
	comp=N,620nm,0.4s								
SHL						IAML		12 21 16.2	
	comp=E,512nm,0.4s								
SHL	**Shillong**	**4.34**	**273**	P			**Pn**	**12 20 25.2**	**+0.7**
GUWA	**GUWAHATI**	**4.56**	**280**	*e*P			**Pn**	**12 20 28.3**	**+0.9**
GUWA				*e*S			**Sn**	**12 21 21.4**	**+1.8**
GUWA						IAML		12 21 23.1	
	comp=N,4μm,0.3s								
GUWA						IAML		12 21 23.2	
	comp=E,5μm,0.4s								
PZH	**PanZhiHua**	**4.67**	**76**	Pg			**Pb**	**12 20 40.6**	**-0.7**
PZH				smax			smax		
	comp=E,20nm,1.0s								
PZH				smax			smax		
	comp=E,50nm,0.9s								
KMI	**Kunming**	**5.49**	**92**	Pn			Pn	12 20 43.5	+3.1
KMI				smax			smax		
	comp=E,43nm,1.2s								
KMI				smax			smax		
	comp=E,37nm,1.0s								
KMI				LR			LR		
	comp=E,1μm,5.2s								
KMI				LR			LR		
	comp=E,790nm,10.7s								
KMI				LR			LR		
	comp=E,830nm,11.8s								
LSA	**Lhasa**	**6.49**	**312**				**Pn**	**12 20 56.0**	**+1.8**
LSA	**Lhasa**	**6.49**	**312**	Pn			**Pn**	**12 20 54.3**	**+0.1**
LSA				Sn			**Sn**	**12 22 10.7**	**+3.0**
LSA				smax			smax		
	comp=E,29nm,1.3s								
LSA	**Lhasa**	**6.49**	**312**	P			**Pn**	**12 20 56.0**	**+1.8**
CM31	**Chiang Mai Arr**	**7.26**	**163**	Pn			Pn	12 20 58.8	-5.8
CMAR	**Chiang Mai Arr**	**7.26**	**163**	Pn			**Pn**	**12 21 00.3**	**-4.3**
CMAR	**Chiang Mai Arr**	**7.26**	**163**	Pn			**Pn**	**12 21 06.1**	**+1.5**
	comp=E,0.5nm,0.3s,baz=344,slow=13,SNR=12								
CMAR				Lg			Lg	12 23 05.6	
	comp=E,0.1nm,0.3s,baz=340,slow=24,SNR=2.1								
	comp=E,1.0nm,0.4s								
GTK	**Tadong**	**7.48**	**286**	*e*P			**Pn**	**12 21 06.9**	**-0.8**
GTK				*e*S			**Sn**	**12 22 28.2**	**-3.7**
GTK						IAML		12 22 30.4	
	comp=E,327nm,0.2s								
GTK						IAML		12 22 30.4	
	comp=N,314nm,0.3s								
EVN	**Everest**	**9.17**	**288**				**Pn**	**12 21 31.6**	**+0.4**
LZH	**Lanzhou**	**12.26**	**28**	*e*P			Pn	12 22 15.7	+2.6
LZH				pP			P	12 22 19.0	-6.2
LZH				pmax			pmax		
	comp=N,16nm,1.2s								
LZH				LR			LR		
	comp=N,410nm,10.0s								
LZH				LR			LR		
	comp=N,610nm,10.7s								
LZH				LR			LR		
	comp=N,190nm,10.3s								
XAN	**Xi'an**	**13.64**	**48**	P			**Pn**	**12 22 31.9**	**0.0**
XAN				pmax			pmax		
	comp=N,9.0nm,0.7s								
XAN				LR			LR		
	comp=N,590nm,9.3s								
XAN				LR			LR		
	comp=N,490nm,10.0s								
XAN				LR			LR		
	comp=N,520nm,12.2s								
GTA	**Gaotai**	**14.17**	**10**	*e*P			**P**	**12 22 48.5**	**+2.1**
GTA				pmax			pmax		
	comp=E,4.0nm,0.8s								
GTA				LR			LR		
	comp=N,250nm,11.6s								
GTA				LR			LR		
	comp=E,200nm,11.6s								
GTA				LR			LR		
	comp=Z,310nm,10.5s								
HYB	**Hyderabad**	**18.66**	**248**	*e*P			**Pn**	**12 23 38.1**	**+1.5**
BTO	**Baotou**	**18.77**	**33**	*e*P			**Pn**	**12 23 38.1**	**+0.2**
BTO				PP			**PnPn**	**12 23 53.1**	**+2.9**
BTO				pmax			pmax		
	comp=Z,28nm,0.9s								
BTO				pmax			pmax		
	comp=Z,190nm,9.3s								
BTO				LR			LR		
	comp=Z,650nm,10.6s								
BTO				LR			LR		
	comp=Z,920nm,13.0s								
BTO				LR			LR		
	comp=Z,240nm,5.2s								
HHC	**Hu-ho-hao-te**	**19.73**	**35**	*e*P			**Pn**	**12 23 48.3**	**-1.1**
HHC				pmax			pmax		
	comp=Z,12nm,0.7s								
HHC				pmax			pmax		
	comp=Z,160nm,3.8s								
HHC				LR			LR		
	comp=Z,210nm,10.2s								
HHC				LR			LR		
	comp=Z,330nm,11.2s								
HHC				LR			LR		
	comp=Z,180nm,11.6s								
WMQ	**Urumqi**	**19.74**	**340**	*e*P			Pn	12 23 54.9	+5.4
NJ2	**Nanjing**	**20.50**	**66**	*e*P			Pn	12 23 54.9	-3.6
NJ2				pmax			pmax		
	comp=Z,7.0nm,0.5s								
TIA	**Tai'an**	**20.53**	**54**	P			Pn	12 23 58.7	-0.1
TIA				pmax			pmax		
	comp=Z,7.0nm,0.6s								
NIL	**Nilore**	**21.93**	**297**				**P**	**12 24 11.5**	**-0.1**
NIL				IAmb			IAmb	12 24 15.3	
	comp=Z,19nm,0.7s								
NIL	**Nilore**	**21.93**	**297**	P			**P**	**12 24 11.5**	**-0.1**
NIL				pmax			pmax		
	comp=Z,19nm,0.7s								
KSH	**Kashi**	**22.34**	**314**	P			**P**	**12 24 17.3**	**+1.3**
KSH				pmax			pmax		
	comp=Z,20nm,0.9s								
SHLS	**Shalkode**	**22.61**	**326**	*i* P			**P**	**12 24 16.7**	**-2.2**
SHLS				pmax			pmax		
	comp=Z,26nm,1.1s								
UZB	**Uzunbulak**	**22.82**	**325**	*i* P			**P**	**12 24 21.7**	**+0.5**
UZB				pmax			pmax		
	comp=Z,10.0nm,1.4s								
KDJ	**Kajisay**	**23.14**	**321**				**P**	**12 24 25.4**	**+0.9**
KDJ				IAmb			IAmb	12 24 28.4	
	comp=Z,16nm,0.7s								
KDJ	**Kajisay**	**23.14**	**321**	P			**P**	**12 24 25.4**	**+0.9**
KDJ				pmax			pmax		
	comp=Z,16nm,0.7s								
SONM	**Songino Array**	**23.63**	**16**	P			**P**	**12 24 28.2**	**-0.9**
SONM	**Songino Array**	**23.63**	**16**	P			**P**	**12 24 29.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=203,slow=11,SNR=8.8								
	comp=Z,1.9nm,0.6s								
SONM	**Songino Array**	**23.63**	**16**	P			**P**	**12 24 28.3**	**-0.9**
SONM				pmax			pmax		
	comp=Z,2.0nm,0.8s								
PALK	**Pallekele**	**23.65**	**223**	LR			LR	12 35 31.8	
	comp=Z,48nm,18.4s,baz=32,slow=41								
ULN	**Ulaanbaatar**	**23.83**	**17**	P			**P**	**12 24 30.8**	**-0.4**
ULN	**Ulaanbaatar**	**23.83**	**17**	*ce*P			**P**	**12 24 31.2**	**+0.1**
ULN				pmax			pmax		
	comp=Z,5.0nm,0.8s								
YOJ	**Yonaguni jima**	**23.88**	**87**	P			**P**	**12 24 27.9**	**-3.7**
YOJ	**Yonaguni jima**	**23.88**	**87**	P			**P**	**12 24 27.9**	**-3.7**
YOJ				pmax			pmax		
	comp=Z,171nm,1.8s								
ARXS	**Arharly**	**24.19**	**325**	*i* P			**P**	**12 24 35.5**	**+1.0**
MK31	**Makanchi Array**	**24.19**	**335**	*ce*P			**P**	**12 24 35.7**	**+1.3**
MKAR	**Makanchi Array**	**24.19**	**335**	P			**P**	**12 24 35.4**	**+1.0**
	comp=Z,23nm,0.8s,baz=148,slow=9.6,SNR=9.1								
	comp=Z,23nm,0.8s								
MKAR	**Makanchi Array**	**24.19**	**335**	*ce*P			**P**	**12 24 36.0**	**+1.6**
MKAR				pmax			pmax		
	comp=Z,23nm,0.8s								
XLT	**XiLinHaoTe**	**24.25**	**36**	*e*P			**P**	**12 24 35.2**	**+0.1**
XLT				pP			pP	12 24 39.1	-3.5
XLT				pmax			pmax		
	comp=Z,7.0nm,1.0s								
AAK	**Ala-Archa**	**25.02**	**319**				**P**	**12 24 43.9**	**+1.7**
AAK	**Ala-Archa**	**25.02**	**319**	P			**P**	**12 24 43.4**	**+1.3**
	comp=Z,3.2nm,0.4s,baz=114,slow=2.2,SNR=6.3								
	comp=Z,3.2nm,0.4s								
AAK	**Ala-Archa**	**25.02**	**319**	P			**P**	**12 24 43.9**	**+1.7**
AAK				pmax			pmax		
	comp=Z,7.0nm,0.9s								
KBL	**Kabul**	**25.53**	**297**				**P**	**12 24 47.3**	**+0.4**
KBL				IAmb			IAmb	12 24 51.0	
	comp=Z,23nm,0.8s								
KBL	**Kabul**	**25.53**	**297**	P			**P**	**12 24 47.3**	**+0.4**
KBL				pmax			pmax		
	comp=Z,23nm,0.8s								
GAR	**Garm**	**25.97**	**308**				**P**	**12 24 51.4**	**+0.6**
TRKS	**Terek-Say**	**26.53**	**314**	P			**P**	**12 24 56.6**	**+0.8**
TRKS				pmax			pmax		
	comp=Z,5.0nm,0.8s								
BTLS	**Baital**	**26.75**	**323**	*i* P			**P**	**12 24 57.7**	**+0.1**
BTLS				pmax			pmax		
	comp=Z,12nm,2.2s								
IUG	**Iuzhnay**	**27.55**	**314**	*i* P			**P**	**12 25 05.3**	**+0.4**
JOW	**Kunigami**	**28.36**	**80**	LR			LR	12 37 28.0	
	comp=Z,102nm,20.6s,baz=115,slow=38								
KURK	**Kurchatov**	**28.80**	**336**				**P**	**12 25 14.9**	**-0.9**
KURK	**Kurchatov**	**28.80**	**336**	*ce*P			**P**	**12 25 15.4**	**-0.4**
KURK				pmax			pmax		
	comp=Z,38nm,1.0s								
JNU	**Nakatsue**	**30.69**	**68**	LR			LR	12 39 19.7	
	comp=Z,61nm,18.7s,baz=218,slow=39								
BVAR	**Borovoye Array**	**33.88**	**331**	P			**P**	**12 26 01.2**	**+0.7**
	comp=Z,6.4nm,0.7s,baz=131,slow=10,SNR=25								
	comp=Z,6.4nm,0.7s								
BRVK	**Borovoye**	**33.95**	**331**	P			**P**	**12 26 01.8**	**+0.7**
BRVK				IAmb			IAmb	12 26 03.5	
	comp=Z,7.3nm,0.8s								
BRVK	**Borovoye**	**33.95**	**331**	P			**P**	**12 26 01.8**	**+0.7**
BRVK				pmax			pmax		
	comp=Z,7.0nm,0.8s								
HEH	**HeiHe**	**34.26**	**36**	*e*P			**P**	**12 26 05.2**	**+1.4**
HEH				pmax			pmax		
	comp=Z,6.0nm,1.0s								
ZEA	**Zeya**	**36.27**	**31**	*i* P			**P**	**12 26 22.2**	**+1.1**
MJAR	**Matsushiro Arr**	**37.02**	**62**	P			**P**	**12 26 29.3**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=273,slow=9.4,SNR=5.7								
MJAR				LR			LR	12 43 19.6	
	comp=Z,54nm,18.2s,baz=254,slow=39								
	comp=Z,1.2nm,0.9s								
AB31	**Akbulak array**	**37.11**	**319**	P			**P**	**12 26 29.4**	**+1.1**
AB31				IAmb			IAmb	12 26 30.7	
	comp=Z,14nm,0.8s								
ABKAR	**Akbulak array**	**37.11**	**319**	P			**P**	**12 26 29.5**	**+1.3**
JHJ	**Hachijo jima 2**	**38.15**	**68**	LR			LR	12 41 51.5	
	comp=Z,31nm,18.0s,baz=247,slow=35								
AKTO	**Aktyubinsk**	**38.74**	**320**	P			**P**	**12 26 42.4**	**+0.3**
	comp=Z,7.7nm,0.9s,baz=116,slow=5.0,SNR=14								
	comp=Z,7.7nm,0.9s								
JCJ	**Chichijima**	**40.67**	**77**	LR			LR	12 43 26.9	
	comp=Z,38nm,20.1s,baz=122,slow=36								
ARTI	**Arti**	**41.43**	**329**	P			**P**	**12 27 05.2**	**+1.0**
ARTI				IAmb			IAmb	12 27 11.1	

comp=Z,1.0nm,0.6s
EIL Elat 54.33 289 LR LR 12 57 44.8
comp=Z,31nm,18.4s,baz=71,slow=42
AKASG Malin Array Be 56.62 315 P **P** **12 29 00.2 -0.5**
comp=Z,0.8nm,0.6s,baz=83,slow=6.4,SNR=6.2
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 56.62 315 *i* P **P** **12 28 59.5 -1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
MNK Minsk 57.47 320 *i* P **P** **12 29 04.2 -2.4**
MNK *i* 12 29 57.6
MNK *i* S **S** **12 37 02.2 -0.1**
MNK *i* 12 38 53.7
MNK *i* SS **SS** **12 40 53.4 +1.6**
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=E,8.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.6s
MNK MLR MLR
comp=Z,35nm,17.0s
MNK MLR MLR
comp=E,263nm,18.0s
MNK MLR MLR
comp=N,238nm,20.0s
WRAB Tennant Creek 58.10 137 *i* P **P** **12 29 12.9 +1.4**
WRAB pmax pmax
comp=Z,4.0nm,1.1s
WRA Warramunga Arr 58.10 137 P **P** **12 29 12.1 +0.6**
comp=Z,1.5nm,0.8s,baz=320,slow=7.2,SNR=6.1
comp=Z,1.5nm,0.8s
WRA Warramunga Arr 58.10 137 *i* P P 12 29 14.8 +3.3
WRA pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 58.73 328 P **P** **12 29 15.5 +0.1**
FINES FINESS Array B 58.73 328 P **P** **12 29 15.2 -0.2**
comp=Z,2.6nm,0.8s,baz=89,slow=11,SNR=7.0
comp=Z,2.6nm,0.8s
FINES FINESS Array B 58.73 328 *ce* P **P** **12 29 16.2 +0.8**
FINES pmax pmax
comp=Z,3.0nm,0.8s
BILL Bilibino 59.03 24 *i* P **P** **12 29 18.0 +0.6**
BILL pmax pmax
comp=Z,6.0nm,1.2s
MLR Muntele Rosu 59.10 309 LR LR 12 57 22.7
comp=Z,33nm,18.3s,baz=64,slow=39
ASAR Alice Springs 60.69 141 P **P** **12 29 30.0 +0.7**
comp=Z,2.3nm,0.8s,baz=320,slow=6.6,SNR=21
comp=Z,2.3nm,0.8s
IDI Anoyia 61.52 298 P **P** **12 29 34.8 -0.3**
SHEM Shemya Is, Ala 62.68 42 LR LR 12 58 28.7
comp=Z,19nm,18.1s,baz=318,slow=38
SPB2 Spitsbergen Ar 63.28 347 P **P** **12 29 46.8 +0.7**
SPB2 IAmb IAmb 12 30 23.9
comp=Z,12nm,1.3s
SPITS Spitsbergen Ar 63.29 347 P **P** **12 29 44.7 -1.4**
comp=Z,0.8nm,0.5s,baz=104,slow=6.1,SNR=4.8
comp=Z,0.8nm,0.5s
ITM Ithomi 63.45 301 P **P** **12 29 47.4 -0.5**
VYHS Vyhne 63.53 313 *eP* **P** **12 29 48.9 +0.7**
VYHS Vyhne 63.53 313 *eP* **P** **12 29 48.9 +0.7**
SRO Srobarova 63.99 313 *eP* **P** **12 29 53.6 +2.4**
SRO Srobarova 63.99 313 *eP* **P** **12 29 53.6 +2.4**
MODS Modra-Piesok 64.58 313 *eP* **P** **12 29 56.8 +1.7**
MODS Modra-Piesok 64.58 313 *eP* **P** **12 29 56.8 +1.7**
HFS Hagfors 64.84 327 P **P** **12 29 56.8 +0.3**
comp=Z,3.2nm,0.9s,baz=99,slow=7.6,SNR=6.2
comp=Z,3.2nm,0.8s
ABPO Ambohimpanom 65.32 232 P **P** **12 29 58.2 -2.2**
ABPO Ambohimpanom 65.32 232 P **P** **12 29 58.2 -2.2**
RONA Rosalia, Austr 65.35 313 *eP* **P** **12 29 59.8 -0.3**
comp=Z,3.5nm,0.9s
CONA Conrad Observa 65.59 313 *eP* **P** **12 30 01.2 -0.6**
comp=Z,3.5nm,0.9s
NB2 NORSAR Subarra 65.92 328 P **P** **12 30 02.9 -0.6**
comp=Z,1.2nm,0.7s,baz=81,slow=6.5
NOA NORSAR Array B 65.92 328 P **P** **12 30 03.0 -0.6**
comp=Z,1.8nm,0.7s,baz=82,slow=6.4,SNR=9.5
comp=Z,1.8nm,0.7s
NOA NORSAR Array B 65.92 328 P **P** **12 30 03.0 -0.6**
NC204 NORSAR Array S 66.09 328 P **P** **12 30 04.6 -0.1**
NC204 IAmb IAmb 12 30 05.9
comp=Z,5.1nm,0.8s
MOA Molin 66.66 313 *i* P **P** **12 30 08.3 -0.2**
comp=Z,2.8nm,0.6s
GEC2 GERESS Array S 66.81 314 IAmb IAmb 12 30 10.7
comp=Z,4.0nm,0.8s
GERES GERESS Array B 66.81 314 P **P** **12 30 09.8 +0.2**
GERES GERESS Array B 66.81 314 P **P** **12 30 08.7 -0.9**
comp=Z,2.5nm,0.8s,baz=79,slow=5.9,SNR=22
comp=Z,2.5nm,0.8s
GERES GERESS Array B 66.81 314 P **P** **12 30 09.8 +0.2**
KHC Kasperske Hory 66.83 315 *ce* P **P** **12 30 09.9 +0.3**
KHC pmax pmax
comp=Z,1.0nm,0.8s
LESA Schwarzleotal 67.80 313 *i* P **P** **12 30 14.8 -1.0**
comp=Z,3.5nm,0.7s
ABTA Abfaltersbach 68.08 312 *i* P **P** **12 30 15.7 -1.9**
comp=Z,3.2nm,0.9s
WTTA Wattenberg 68.53 313 *i* P **P** **12 30 19.0 -1.5**
comp=Z,4.8nm,1.1s
WATA Walderalm 68.55 313 *i* P **P** **12 30 20.2 -0.4**
comp=Z,3.5nm,0.9s
SQTA Sankt Quirin 68.82 313 *i* P **P** **12 30 21.4 -0.9**
comp=Z,4.9nm,0.9s
MOTA Moosalm 68.86 313 *i* P **P** **12 30 21.6 -1.0**
comp=Z,7.0nm,0.9s
RETA Reutte 69.05 314 *i* P **P** **12 30 22.7 -0.9**
comp=Z,5.1nm,0.9s
FETA Feichten 69.19 313 *i* P **P** **12 30 23.7 -0.9**
comp=Z,3.2nm,0.8s
FUORN Ofenpass-Fuorn 69.60 313 P **P** **12 30 26.9 -0.4**
DAVA Damuels 69.68 314 *i* P **P** **12 30 26.8 -0.9**
comp=Z,3.1nm,0.7s
OSSC Osservatorio P 69.78 309 IAmb IAmb 12 30 30.1
comp=Z,6.2nm,0.7s
DAVOX Davos/Dischmat 69.81 313 LR LR 13 04 56.7
comp=Z,43nm,18.4s,baz=89,slow=39
WLF Walferdange 71.38 317 **P** **12 30 37.3 -0.5**
WLF IAmb IAmb 12 30 39.6
comp=Z,12nm,0.9s
WLF Walferdange 71.38 317 P **P** **12 30 37.3 -0.5**
WLF pmax pmax
comp=Z,13nm,0.9s
SENIN Lac Senin/Sane 71.64 313 **P** **12 30 39.7 0.0**
SENIN IAmb IAmb 12 30 41.4
comp=Z,4.8nm,0.9s
F20K Avaraart Lake 73.39 23 P **P** **12 30 47.4 -2.0**
F20K IAmb IAmb 12 31 57.9
comp=Z,22nm,1.7s
C23K Itkillik River 73.75 19 P **P** **12 30 52.1 +0.5**
F21K Alatna River 74.09 22 P **P** **12 30 53.6 0.0**
F21K IAmb IAmb 12 32 04.6
comp=Z,24nm,1.8s
EKA Eskdalemuir Ar 74.79 324 P **P** **12 30 58.0 +0.2**
comp=Z,2.4nm,0.9s,baz=70,slow=5.7,SNR=6.3
comp=Z,2.4nm,0.9s
ILAR Eielson Arra 77.67 23 P **P** **12 31 13.8 -0.2**
comp=Z,0.6nm,0.9s,baz=301,slow=6.4,SNR=5.4
comp=Z,0.6nm,0.9s
G27K Doyon Strip 78.20 20 pP 12 31 20.5 -4.6
G30M tAoh Zrail Ñji 79.72 19 **P** **12 31 25.7 +0.4**
G30M IAmb IAmb 12 31 26.3
comp=Z,7.6nm,0.8s
MATP Matopo 80.39 242 LR LR 13 05 15.3
comp=Z,14nm,19.9s,baz=38,slow=34
I30M Mount Dempster 80.88 20 IAmb IAmb 12 31 32.8
comp=Z,6.5nm,0.9s
H31M Peel River 81.08 19 **P** **12 31 33.1 +0.5**
H31M IAmb IAmb 12 31 33.8
comp=Z,9.9nm,0.9s
L29M L29M 81.74 22 IAmb IAmb 12 31 38.1
comp=Z,5.9nm,0.9s
ESDC Sonseca Array 81.79 310 **P** **12 31 36.6 -0.4**
ESDC Sonseca Array 81.79 310 P **P** **12 31 36.9 0.0**
comp=Z,1.3nm,1.1s,baz=63,slow=6.3,SNR=7.8
comp=Z,1.3nm,1.1s
N30M Aishikik Lake 83.21 23 IAmb IAmb 12 31 46.1
comp=Z,6.0nm,1.0s
O30N Mendenhall 84.04 23 IAmb IAmb 12 31 50.3
comp=Z,8.6nm,0.8s
MMPY Sheldon Lake, 84.32 20 IAmb IAmb 12 31 51.7
comp=Z,4.6nm,0.8s
R33M Jennings River 86.82 22 IAmb IAmb 12 32 04.4
comp=Z,4.1nm,1.0s
TORD Torodi Ar. Bea 88.85 284 P **P** **12 32 13.5 +0.9**
TORD Torodi Ar. Bea 88.85 284 P **P** **12 32 12.1 -0.4**
comp=Z,1µm,0.3s,baz=66,slow=4.0,SNR=4.3

*ASRS **03** 12:21:06.7±0.3,51°N±1°×9°1E±°, h5km, MLh4.0/20, Error ellipse: s-maj=3.3km s-min=1.9km az=145.9, confirmed*
*NNC **03** 12:21:11.1±4.2, 50°43N×90°71E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=40.0km s-min=20.4km az=89.0*
ISC 03 12:21:08.9±1.0, 50°52N±0°04×90°90E±0°03, h10km, n36, σ1§72/62, 5C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEL	**Teeli**	**0.67**	**319**	⇓Pg	**Pg**	**12 21 21.5**	**-0.3**
TEL				Sg	**Sb**	**12 21 32.2**	**+0.1**
CUR	**Chagan-Uzun**	**1.69**	**257**	Pg	**Pb**	**12 21 40.0**	**-0.2**
CUR				Sg	**Sg**	**12 22 03.0**	**-0.2**
ULGR	**Ulagan, Altay**	**1.88**	**274**	Pg	**Pg**	**12 21 45.9**	**+1.0**
ULGR				Sg	**Sg**	**12 22 10.7**	**+1.5**
AKAR	**Aktash**	**2.11**	**266**	Pg	**Pg**	**12 21 48.4**	**-0.9**
AKAR				Sg	**Sg**	**12 22 16.5**	**-0.1**
CHBI	**Chibit, Altay**	**2.18**	**266**	Pg	**Pg**	**12 21 49.5**	**-1.2**
CHBI				Sg	**Sg**	**12 22 18.7**	**-0.3**
DJO	**Djoy, Khakassi**	**2.27**	**5**	Pg	**Pg**	**12 21 51.1**	**-1.4**
DJO				Sg	**Sg**	**12 22 22.9**	**+1.1**
CERR	**Cheremushki**	**2.36**	**8**	Pg	**Pb**	**12 21 52.4**	**+1.0**
CERR				Sg	**Sg**	**12 22 24.2**	**-0.4**
DGZ	**Jazzator, Alta**	**2.38**	**251**	Pg	**Pg**	**12 21 53.0**	**-1.5**
DGZ				Sg	**Sg**	**12 22 24.6**	**-0.7**
KZLR	**Kyzyl**	**2.53**	**61**	Pg	**Pg**	**12 21 55.8**	**-1.7**
KZLR				Sg	**Sb**	**12 22 26.4**	**+0.7**
ARDR	**Aradan**	**2.60**	**36**	Pg	**Pb**	**12 21 55.8**	**+0.2**
ARDR				Sg	**Sg**	**12 22 30.5**	**-1.8**
ARTR	**Artybash**	**2.61**	**301**	Pg	**Pg**	**12 21 59.4**	**+0.5**
ARTR				Sg	**Sg**	**12 22 33.5**	**+0.7**
VEH	**Verkhnyaya Baz**	**2.76**	**353**	Pg	**Pg**	**12 22 00.2**	**-1.5**
VEH				Sg	**Sg**	**12 22 37.0**	**-0.5**
TASR	**Tashtagol**	**2.93**	**321**	Pg	**Pg**	**12 22 05.2**	**+0.2**
TASR				Sg	**Sg**	**12 22 43.5**	**+0.7**
ELDR	**Elanda**	**3.13**	**285**	Pg	**Pg**	**12 22 07.7**	**-1.1**
ELDR				Sg	**Sg**	**12 22 49.5**	**+0.3**
LUZB	**Luzhba, Kemero**	**3.38**	**339**	Pg	**Pg**	**12 22 11.1**	**-2.5**
LUZB				Sg	**Sg**	**12 22 56.6**	**-0.7**
GALT	**Gorno-Altaysk,**	**3.43**	**297**	Pg	**Pg**	**12 22 13.0**	**-1.6**
GALT				Sg	**Sg**	**12 22 58.9**	**-0.1**
KALT1	**Kaltan 1**	**3.61**	**325**	Pg	**Pg**	**12 22 15.6**	**-2.4**
KALT1				Sg	**Sg**	**12 23 04.6**	**-0.2**
KALT2	**Kaltan 2**	**3.63**	**324**	Sg	**Sg**	**12 23 05.5**	**0.0**
MALIN	**Malinovka, Kuz**	**3.67**	**324**	Sg	**Sg**	**12 23 07.0**	**+0.4**
KALT3	**Kaltan 3**	**3.68**	**326**	Sg	**Sg**	**12 23 10.0**	**+3.0**
UKR	**Ust'-Kan**	**3.92**	**278**	Pg	**Pg**	**12 22 21.3**	**-2.6**
UKR				Sg	**Sg**	**12 23 14.1**	**-0.4**
ELT	**Eltsovka**	**3.98**	**315**	Pg	**Pg**	**12 22 22.0**	**-3.1**
ELT				Sg	**Sg**	**12 23 15.1**	**-1.7**
ERU	**Erunakovo, Kuz**	**4.22**	**331**	Sg	**Sg**	**12 23 24.0**	**-0.2**
KOTO	**Kotino, Kuzbas**	**4.41**	**328**	Sg	**Sg**	**12 23 30.7**	**+0.4**
BJR1	**Bachatsky 1, K**	**4.77**	**323**	Sg	**Sg**	**12 23 41.5**	**-0.3**
MINR	**Mina**	**4.82**	**23**	Pg	**Pb**	**12 22 35.3**	**+1.9**
MINR				Sg	**Sg**	**12 23 42.0**	**-1.6**
SALR	**Pechorkino, Sa**	**5.03**	**323**	Pg	**Pg**	**12 22 43.1**	**-2.1**
SALR				Sg	**Sg**	**12 23 47.3**	**-3.0**
ZAA0	**Zalesovo Array**	**5.07**	**315**	⇑Pg	**Pg**	**12 22 45.8**	**-0.2**
	0.3nm,0.3s						
ZAA0				⇓Lg	Lg	12 23 48.9	
	6.2nm,0.8s						
BRCR	**Berchikul'**	**5.36**	**344**	Pg	**Pb**	**12 22 44.7**	**+2.2**
BRCR				Sg	**Sg**	**12 23 58.5**	**-2.3**
KEM	**Kemerovo**	**5.64**	**331**	Sg	**Sg**	**12 24 10.1**	**+0.4**
SHTK	**Zheleznogorsk-**	**6.04**	**14**	Pg	**Pb**	**12 22 58.5**	**+4.3**
SHTK				Sg	**Sg**	**12 24 21.2**	**-1.5**
GZLN	**Zheleznogorsk**	**6.11**	**15**	Pg	**Pg**	**12 23 01.2**	**-4.7**
GZLN				Sg	**Sg**	**12 24 25.5**	**+0.5**
MK31	**Makanchi Array**	**6.81**	**240**	⇑Pn	**Pn**	**12 22 49.8**	**+0.9**
	0.8nm,0.3s,baz=51,slow=15,SNR=26						
MK31				⇑Pg	**Pg**	**12 23 15.8**	**-3.5**
	4.6nm,0.5s,baz=64,slow=15,SNR=7.7						
MK31				⇑Lg	Lg	12 24 42.6	
	20nm,0.7s,baz=147,slow=10,SNR=17						
MAKZ	**Makanchi**	**6.98**	**241**	Pn	**Pn**	**12 22 51.4**	**+0.3**
	2.2nm,0.5s						
MAKZ				Pg	**Pg**	**12 23 18.2**	**-4.3**
	5.9nm,0.9s						
MAKZ				Lg	Lg	12 24 46.3	
	34nm,1.1s						
KURK	**Kurchatov**	**7.82**	**276**	⇓Pn	**Pn**	**12 23 03.7**	**+1.2**
	2.5nm,0.5s						
KURBB	**Kurchatov Arra**	**7.88**	**276**	⇓Pn	**Pn**	**12 23 03.7**	**+0.3**
	9.2nm,1.1s						
KURBB				⇑Lg	Lg	12 25 19.6	
	58nm,0.7s						

JMA 03 12:22:23.7±0.3, 37°N±1°×14°5E±°, h44km, MV3.6/22, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**2.66**	**294**	P	Pn	12 23 05.5	+1.6
JIKH				*eS*	Sn	12 23 36.6	+1.7
JIO	**Ouri**	**2.80**	**296**	*eS*	Sn	12 23 40.0	+1.6
JKMT	**Kesennumamotoy**	**2.88**	**303**	*eP*	Pn	12 23 08.3	+1.3
JKMT				*eS*	Sn	12 23 41.7	+1.4
OFUJ	**Ofunato**	**2.90**	**310**	*eP*	Pn	12 23 08.6	+1.2
OFUJ				*eS*	Sn	12 23 42.8	+1.8
JYK	**Kaneyama**	**3.69**	**298**	*eP*	Pn	12 23 20.7	+2.5
JRG	**Rokugo**	**3.74**	**306**	*eP*	Pn	12 23 21.6	+2.7
JRG				*eS*	Sn	12 24 04.3	+2.7
BSO1	**Boso 1**	**3.89**	**229**	*eS*	Sn	12 24 06.2	+1.7
JTM	**Tenmabayashi**	**4.44**	**324**	*eS*	Sn	12 24 18.3	-0.6
JCH	**Churui**	**5.42**	**351**	*eP*	Pn	12 23 40.9	-1.0
JCH				*eS*	Sn	12 24 39.8	-3.2
NEM2	**Nemuro 2**	**6.17**	**8**	*eP*	Pn	12 23 48.4	-3.7

IDC 03 12:38:13.2±2.1, 33°46S×179°32W, h0km, mb3.6/3, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=50.6km s-min=34.8km az=62.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.59**	**210**	Pn	Pn	12 39 36.8	-0.9
	3.7nm,0.3s,baz=34,slow=3.6,SNR=40						
URZ				Sn	Sn	12 40 38.5	-4.1
	3.8nm,0.3s,baz=348,slow=17,SNR=11						
	9.3nm,0.3s						
ASAR	**Alice Springs**	**41.93**	**271**	P	P	12 46 05.6	-0.2
	0.2nm,0.4s,baz=114,slow=7.9,SNR=7.0						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.20**	**276**	P	P	12 46 16.3	+0.2
	0.4nm,0.3s,baz=118,slow=7.7,SNR=6.6						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**56.66**	**180**	P	P	12 47 58.3	+0.3
	1.5nm,1.1s,baz=15,slow=1.3,SNR=5.2						
	1.5nm,1.1s						
H03S2	**Juan Fernandez**	**79.71**	**124**	T	T	14 18 35.9	
	baz=234						
H03S1	**Juan Fernandez**	**79.72**	**124**	T	T	14 18 35.2	
	baz=234,slow=74						
H03S3	**Juan Fernandez**	**79.73**	**124**	T	T	14 18 34.2	
	baz=234,slow=74						
H03N3	**Juan Fernandez**	**79.92**	**123**	T	T	14 18 54.5	
	baz=239,slow=72,SNR=6.5						
H03N2	**Juan Fernandez**	**79.92**	**123**	T	T	14 18 46.2	
	baz=239,slow=72,SNR=5.0						
H03N1	**Juan Fernandez**	**79.94**	**123**	T	T	14 18 47.3	
	baz=239,slow=72,SNR=7.6						
FINES	**FINESS Array B**	**147.58**	**337**	PKPbc	PKPbc	12 57 57.3	-1.3
	1.0nm,0.8s,baz=46,slow=4.0,SNR=4.0						

*IDC **03** 12:43:44.9±0.9, 25°29S×176°91W, h0km, mb4.1/7, mbtmp4.1/9, ML4.8/2, Error ellipse: s-maj=26.6km s-min=20.1km az=86.0*
ISC 03 12:44:01.6±0.9, 25°7S±0°1×177°2W±0°2, h126km, n25, σ1§33/20, mb4.0/9, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.63**	**190**	Pn	Pn	12 44 48.5	-7.9
	155nm,0.3s,baz=73,slow=20,SNR=2.5						
RAO				Sn	**Sn**	**12 45 35.5**	**-3.3**
	261nm,0.3s,baz=90,slow=20,SNR=6.4						
URZ	**Urewera**	**13.45**	**200**	Pn	Pn	12 47 04.0	-3.3
	1.4nm,0.3s,baz=33,slow=13,SNR=8.7						
URZ				Sn	Sn	12 49 22.8	-13
	1.6nm,0.3s,baz=108,slow=20,SNR=10.0						
	9.7nm,0.9s						
RAR	**Rarotonga**	**16.59**	**78**	Pn	Pn	12 47 35.0	-12
	2.4nm,0.3s,baz=255,slow=8.6,SNR=7.7						
RAR				Sn	Sn	12 50 15.2	-36
	1.3nm,0.3s,baz=221,slow=19,SNR=2.4						
STKA	**Stephens Creek**	**36.48**	**250**	P	**P**	**12 50 55.7**	**+1.0**
	1.2nm,0.4s,baz=79,slow=12,SNR=5.0						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**44.28**	**262**	P	**P**	**12 51 59.1**	**+0.1**
	1.5nm,0.4s,baz=99,slow=7.9,SNR=28						
ASAR				PcP	**PcP**	**12 53 41.4**	**+0.2**
	0.5nm,0.6s,baz=111,slow=3.0,SNR=3.6						
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**44.84**	**267**	P	**P**	**12 52 03.0**	**-0.4**
	1.0nm,0.5s,baz=105,slow=8.0,SNR=8.6						
WRA				PcP	**PcP**	**12 53 43.1**	**-0.1**
	0.8nm,0.7s,baz=102,slow=3.2,SNR=3.1						
	1.0nm,0.5s						
VNDA	**Vanda**	**52.87**	**186**	P	**P**	**12 53 06.7**	**+2.9**
	1.0nm,0.9s,baz=359,slow=6.5,SNR=5.0						
	1.0nm,0.9s						
QSPA	**South Pole Qui**	**64.43**	**180**	P	**P**	**12 54 25.4**	**+1.2**
	3.2nm,0.8s,baz=356,slow=1.1,SNR=21						
	3.2nm,0.8s						
MAW	**Mawson**	**76.98**	**200**	P	**P**	**12 55 40.8**	**+0.9**
	2.0nm,0.7s,baz=153,slow=6.9,SNR=7.3						
	2.0nm,0.7s						
PETK	**Petropavlovsk-**	**81.42**	**345**	P	**P**	**12 56 03.1**	**-1.0**
	0.5nm,0.5s,baz=157,slow=5.5,SNR=7.9						
	0.5nm,0.5s						
H03S2	**Juan Fernandez**	**82.50**	**124**	T	T	14 27 07.6	
	baz=243,slow=74,SNR=133						
H03S1	**Juan Fernandez**	**82.51**	**124**	T	T	14 27 02.8	
	baz=243,slow=74,SNR=139						
H03S3	**Juan Fernandez**	**82.52**	**124**	T	T	14 27 01.7	
	baz=243,slow=74,SNR=156						
TROLL	**Troll, Antarti**	**82.60**	**180**	⇑P	**P**	**12 56 09.8**	**-0.5**
	comp=Z,120nm,0.6s						
H03N2	**Juan Fernandez**	**82.67**	**123**	T	T	14 27 25.8	
	baz=238,slow=74,SNR=21						
H03N3	**Juan Fernandez**	**82.67**	**123**	T	T	14 27 05.8	
	baz=238,slow=74,SNR=22						
H03N1	**Juan Fernandez**	**82.68**	**123**	T	T	14 27 06.8	
	baz=238,slow=74,SNR=20						
VNA3	**Neumayer Olymp**	**82.97**	**176**	⇑P	**P**	**12 56 11.1**	**-1.1**
	comp=Z,3.9nm,0.8s						
VNA2	**Neumayer--Watz**	**83.42**	**177**	⇑P	**P**	**12 56 13.8**	**-0.6**
	comp=Z,4.3nm,0.6s,baz=176,slow=4.0						
NB2	**NORSAR Subarra**	**144.17**	**353**	PKP	**PKPab**	**13 03 18.7**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=7.4,slow=3.5						
NOA	**NORSAR Array B**	**144.17**	**353**	PKP	**PKPab**	**13 03 19.2**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=1.4,slow=2.3,SNR=3.8						
HFS	**Hagfors**	**144.73**	**351**	PKP	**PKPab**	**13 03 20.5**	**-1.4**
	comp=Z,1.9nm,0.4s,baz=27,slow=3.5,SNR=26						
BRTR	**Keskin Array B**	**150.66**	**306**	PKPbc	**PKPbc**	**13 03 38.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=95,slow=5.4,SNR=4.3						
BRTR				PKPab	**PKPab**	**13 03 45.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=90,slow=1.4,SNR=4.0						
MMAI	**Mount Meron Ar**	**150.73**	**292**	PKPbc	**PKiKP**	**13 03 39.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=98,slow=2.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**167.51**	**175**	PKPab	**PKPab**	**13 04 59.3**	**-0.1**
	comp=Z,2µm,0.4s,baz=194,slow=3.0,SNR=5.5						

AUST 03 12:45:51.2±0.5, 19°S±4°×12°0E±°, h10km, mb4.2/8, ML2.9/6, ML3.4/6, Error ellipse: s-maj=10.0km s-min=5.3km az=137.4, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.87**	**64**	P	Pn	12 46 23.1	-0.1
AUBRM				S	Sn	12 46 46.8	-0.1
MBWA	**Marble Bar**	**2.45**	**196**	P	Pb	12 46 33.4	-2.0
MBWA				S	Sg	12 47 08.2	-1.9
PSAC1	**Pilbara Seismi**	**2.79**	**193**	P	Pn	12 46 37.8	+1.7
PSA00	**Pilbara Seismi**	**2.83**	**192**	P	Pn	12 46 38.5	+2.0
PSA00				S	Sb	12 47 15.6	-0.9
GIRL	**Giralia**	**6.98**	**236**	P	Pn	12 47 31.5	-2.0
	comp=Z,147µmcomp=Z,0.1nmcomp=Z,56nm,1.7s						
GIRL				S	Sn	12 48 45.8	-7.2
MEEK	**Meekatharra**	**7.99**	**192**	P	Pn	12 47 48.3	+0.8
MEEK	**Meekatharra**	**7.99**	**192**	S	Sn	12 49 18.7	+0.6
KNRA	**Kununurra**	**8.51**	**70**	P	Pn	12 47 50.1	-4.4
KNRA				S	Sn	12 49 19.4	-11
WRKA	**Warakurna**	**9.56**	**132**	P	Pn	12 48 11.4	+2.4
	comp=Z,0.0nmcomp=Z,4.3nm,2.2s						
WRKA				S	Sn	12 49 56.6	+0.1
MORW	**Morawa**	**11.00**	**201**	P	Pn	12 48 27.3	-1.4
	comp=Z,0.1nmcomp=Z,14nm,2.1s						
MORW	**Morawa**	**11.00**	**201**	S	Sn	12 50 23.7	-8.2
BLDU	**Ballidu**	**12.25**	**195**	P	Pn	12 48 45.1	-0.8
	comp=Z,18nm,2.5s						
BLDU	**Ballidu**	**12.25**	**195**	S	Sn	12 50 55.1	-7.4
KMBL	**Kambalda**	**12.58**	**174**	P	Pn	12 48 51.0	+0.6
	comp=Z,6.6nm,2.2s						
KMBL				S	Sn	12 51 10.3	-0.4
KLBR	**Kellerberrin**	**12.98**	**190**	P	Pn	12 48 55.3	-0.5
	comp=Z,25nm,1.8s						
MUN	**Mundaring**	**13.68**	**195**	P	Pn	12 49 04.4	-0.9
	comp=Z,37nm,1.8s						
MUN	**Mundaring**	**13.68**	**195**	S	Sn	12 51 29.0	-8.4
DNDOZ	**Balladonia**	**13.95**	**168**	P	Pn	12 49 08.2	-0.8
	comp=Z,72nm,2.4s						
DNDOZ				S	Sn	12 51 45.0	+1.0
RKGY	**Rocky Gully**	**16.06**	**190**	P	Pn	12 49 36.3	-0.9
RKGY				S	Sn	12 52 22.2	-13

IDC 03 12:52:41.7±1.9, 32°78S×178°96W, h0km, mb3.7/3, mbtmp3.7/4, ML3.7/1, MS3.5/1, Error ellipse: s-maj=47.9km s-min=34.2km az=63.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.63**	**15**	LR	LR	12 54 58.3	
	comp=Z,736nm,21.4s,baz=258,slow=38						
URZ	**Urewera**	**6.33**	**209**	Pn	Pn	12 54 14.2	-2.1
	1.6nm,0.3s,baz=27,slow=14,SNR=16						
URZ				Sn	Sn	12 55 20.9	-8.5
	1.2nm,0.3s,baz=305,slow=10.0,SNR=1.8						
	3.7nm,0.3s						
ASAR	**Alice Springs**	**42.22**	**270**	P	P	13 00 37.1	+0.4
	0.7nm,0.7s,baz=114,slow=8.0,SNR=11						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**43.43**	**275**	P	P	13 00 46.5	-0.1
	0.7nm,0.6s,baz=117,slow=8.0,SNR=5.9						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**57.34**	**180**	P	P	13 02 32.0	+0.7
	0.8nm,0.8s,baz=56,slow=1.4,SNR=6.2						
	0.8nm,0.8s						
H03S2	**Juan Fernandez**	**79.84**	**124**	T	T	14 33 28.0	
	baz=237						
H03S1	**Juan F

1.3nm,0.3s,baz=240,slow=3.2,SNR=6.9
PSI Sn **Sn** **12 59 12.1 +1.0**
1.3nm,0.3s,baz=270,slow=13,SNR=5.4
8.3nm,0.5s
PBSI Pulau Batu 3.57 136 P **Pn** **12 58 41.1 +0.4**
PBSI S **Sn** **12 59 19.6 -2.5**
MNSI Mandailing Nat 4.14 115 P **Pn** **12 58 50.2 +1.6**
SISI Saibi 5.05 140 P **Pn** **12 59 02.5 +1.4**
0.3nm34nm,1.0s
SISI S **Sn** **13 00 00.7 +2.1**
0.3nm34nm,1.0s
PPI Padang Panjang 5.46 123 P **Pn** **12 59 07.7 +0.9**
0.1nm18nm,0.7s
PDSI Padang 5.77 126 P **Pn** **12 59 11.9 +0.8**
0.1nm3µm11nm,1.2s
SDSI Sungai Dareh 6.59 122 P **Pn** **12 59 23.1 +0.8**
CMAR Chiang Mai Arr 16.11 11 Pn **Pn** **13 01 32.1 +0.1**
0.2nm,0.3s,baz=190,slow=11,SNR=8.3
CMAR LR LR 13 07 21.3
comp=E,36nm,21.7s,baz=210,slow=36
2.1nm,0.9s
H08S2 Diego Garcia H 25.37 246 T T 13 29 27.0
baz=67,slow=76,SNR=383
H08S3 Diego Garcia H 25.37 246 T T 13 29 27.2
baz=67,slow=76,SNR=355
H08S1 Diego Garcia H 25.39 246 T T 13 29 30.2
baz=67,slow=76,SNR=316
GTA Gaotai 36.88 5 *eP* **P** **13 04 53.9 +0.3**
GTA sP pP 13 05 00.2 -0.9
GTA pmax pmax
comp=Z,6.0nm,0.9s
H01W3 Cape Leeuwin H 41.01 157 T T 13 49 02.7
baz=332,slow=76,SNR=73
H01W2 Cape Leeuwin H 41.02 157 T T 13 49 03.7
baz=332,slow=76,SNR=79
H01W1 Cape Leeuwin H 41.02 157 T T 13 48 59.5
baz=332,slow=76,SNR=76
WRA Warramunga Arr 43.92 122 P **P** **13 05 51.4 -0.7**
comp=Z,1.5nm,1.0s,baz=296,slow=8.2,SNR=4.9
comp=Z,1.5nm,1.0s
AAK Ala-Archa 44.24 337 LR LR 13 28 01.8
comp=Z,38nm,18.6s,baz=214,slow=41
ASAR Alice Springs 45.30 127 P **P** **13 06 00.3 -2.8**
comp=Z,0.4nm,0.7s,baz=299,slow=8.5,SNR=5.1
comp=Z,0.4nm,0.7s
KSRS Korea Array 45.57 36 P **P** **13 06 04.2 -0.7**
comp=Z,0.7nm,0.8s,baz=231,slow=7.7,SNR=5.9
comp=Z,0.7nm,0.8s
MKAR Makanchi Array 45.62 347 P **P** **13 06 05.3 0.0**
comp=Z,2.8nm,0.8s,baz=166,slow=7.8,SNR=25
MKAR PcP **PcP** **13 07 42.5 -0.8**
comp=Z,0.2nm,0.4s,baz=145,slow=3.5,SNR=1.5
comp=Z,2.8nm,0.8s
SONM Songino Array 46.04 10 P **P** **13 06 08.3 -0.3**
comp=Z,2.2nm,0.7s,baz=192,slow=9.5,SNR=12
comp=Z,2.2nm,0.7s
KURBB Kurchatov Arra 50.09 346 P **P** **13 06 40.1 +0.4**
comp=Z,1.5nm,0.6s,baz=163,slow=7.1,SNR=19
comp=Z,1.5nm,0.6s
ZALV Zalesovo Beam 52.03 352 P **P** **13 06 54.4 +0.1**
comp=Z,3.4nm,0.7s,baz=176,slow=7.3,SNR=18
comp=Z,3.4nm,0.7s
BVAR Borovoye Array 54.54 341 P **P** **13 07 12.7 -0.2**
comp=Z,1.5nm,0.6s,baz=142,slow=7.3,SNR=11
comp=Z,1.5nm,0.6s
H04N2 CROZET ISLANDS 62.12 213 T T 14 15 30.2
baz=52,slow=75,SNR=487
H04N1 CROZET ISLANDS 62.12 213 T T 14 15 30.7
baz=52,slow=75,SNR=502
H04N3 CROZET ISLANDS 62.13 213 T T 14 15 35.5
baz=52,slow=75,SNR=424
H04S1 CROZET ISLANDS 62.48 212 T T 14 15 55.5
baz=51,slow=75,SNR=166
H04S3 CROZET ISLANDS 62.49 212 T T 14 15 55.3
baz=51,slow=75,SNR=225
H04S2 CROZET ISLANDS 62.49 212 T T 14 15 57.6
baz=51,slow=75,SNR=168
OBN Obninsk 70.76 328 LR LR 13 41 30.3
comp=Z,78nm,21.4s,baz=172,slow=37
FINES FINESS Array B 78.18 333 P **P** **13 09 43.6 -0.4**
comp=Z,0.8nm,0.7s,baz=101,slow=7.2,SNR=3.7
comp=Z,0.8nm,0.7s
GERES GERESS Array B 82.90 319 P **P** **13 10 11.1 +1.4**
comp=Z,0.6nm,0.8s,baz=96,slow=4.6,SNR=4.7
comp=Z,0.6nm,0.8s
HFS Hagfors 83.88 330 P **P** **13 10 15.4 +1.0**
comp=Z,2.4nm,0.9s,baz=97,slow=7.4,SNR=3.7
comp=Z,2.4nm,0.9s
ILAR Eielson Array 99.01 23 LR LR 14 01 49.4
comp=Z,29nm,18.9s,baz=218,slow=39

*ISK **03** 13:09:14.3,38.62N×39.57E, h5km, ML3.1/7*
*AFAD **03** 13:09:15.0,38.55N×39.55E, h7km±2km, ML3.3*
ISC 03 13:09:15.4±1.0,**38.58N**±0.04×**39.56E**±0.03,**h13**km±8km,
n12,σ1**9**05/21,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.23**	**58**	P	**Pg**	**13 09 20.4**	**-0.1**
KOVA				S	**Sg**	**13 09 24.5**	**+0.5**
ELZG	**Elazig**	**0.46**	**260**	P	**Pg**	**13 09 23.6**	**-0.9**
ELZG				S	**Sg**	**13 09 30.9**	**+0.2**
ELZG				*i* IAML		13 09 35.0	
	comp=E,3µm,0.8s						
ELZG				*i* IAML		13 09 36.0	
	comp=N,2µm,0.8s						
TNCL	**Tunceli-Merkez**	**0.53**	**359**	P	**Pg**	**13 09 26.1**	**+0.1**
TNCL				S	**Sg**	**13 09 34.0**	**+1.0**
TNCL				*i* IAML		13 09 35.0	
	comp=E,2µm,0.6s						
TNCL				*i* IAML		13 09 37.0	
	comp=N,2µm,0.4s						
NARI	**Adyaman-Kaht**	**0.94**	**222**	P	**Pb**	**13 09 33.9**	**+0.4**
ARPR	**Arapgir-MALATY**	**1.08**	**299**	Pg	**Pb**	**13 09 35.2**	**-0.9**
ARPR				Sg	**Sn**	**13 09 52.1**	**+0.8**
HANM	**anlurfa/Hi**	**1.13**	**208**	P	**Pb**	**13 09 37.1**	**+0.2**
HANM				S	**Sn**	**13 09 52.5**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.15**	**42**	Pn	**Pn**	**13 09 37.2**	**-0.1**
YEDI				Sn	**Sn**	**13 09 52.9**	**-0.1**
ILIC	**ilic-Erzincan**	**1.16**	**319**	Pn	**Pn**	**13 09 37.4**	**-0.1**
ILIC				Sn	**Sg**	**13 09 54.1**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.36**	**108**	Pn	**Pg**	**13 09 40.9**	**-0.6**
SVAN				Sn	**Sg**	**13 10 01.0**	**+1.8**
GURO	**Guroymak-BITLI**	**1.94**	**90**	Pn	**Pb**	**13 09 49.6**	**-1.1**
GURO				Sn	**Sg**	**13 10 15.8**	**-2.0**
GAZ	**Gaziantep**	**2.33**	**234**	Pn	**Pb**	**13 09 55.9**	**-1.4**
AKDM	**Akdamar-Van**	**2.70**	**94**	Pn	**Pn**	**13 10 00.4**	**+1.8**

*HLW **03** 13:18:10.0,33.95N×24.86E, h26km±8km, Ml3.6*
*IDC **03** 13:18:11.4±2.5,34.18N×25.05E, h35km±16km, mb3.5/8, mbtmp3.7/13, ML3.6/5, MS2.7/1, Error ellipse: s-maj=21.0km s-min=17.9km az=32.0*
*GII **03** 13:18:15.9±0.0,34.248N±0.003×26.023E±0.001, h1km, Mws3.5, confirmed*
*AFAD **03** 13:18:16.5,34.37N×26.02E, h7km±4km, ML2.9*
ISC 03 13:18:09.1±0.7,**34.11N**±0.04×**25.31E**±0.06,**h17**km,**n68,**
σ2**9**22/**78**,**mb3.8/8**,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDI	**Anoyia**	**1.22**	**344**	Pg	**Pb**	**13 18 32.5**	**+0.6**
	22nm,0.3s,baz=184,slow=17,SNR=25						
IDI				Lg	Lg	13 18 49.1	
	42nm,0.3s,baz=316,slow=19,SNR=6.9						
IDI				LR	LR	13 19 16.8	
	comp=Z,282nm,18.1s,baz=127,slow=59						
SLUM	**Salum**	**2.62**	**182**	P	**Pn**	**13 18 52.0**	**+1.4**
SLUM				S	**Sn**	**13 19 21.9**	**-0.1**
IZZE	**Mula-Seydike**	**3.96**	**53**	P	**Pn**	**13 19 12.6**	**+3.6**
IZZE				S	**Sn**	**13 19 55.6**	**+0.6**
IZZE				*i* IAML		13 19 58.0	
	comp=N,71nm,0.4s						
IZZE				*i* IAML		13 20 07.0	
	comp=E,31nm,0.4s						
SABU	**Mula-Dalaman**	**4.03**	**47**	P	**Pn**	**13 19 12.5**	**+2.4**
SABU				S	**Sn**	**13 19 55.5**	**-1.4**
DNZT	**Denizli-Tavas-**	**4.37**	**43**	P	**Pn**	**13 19 17.5**	**+2.6**
DNZT				S	**Sn**	**13 20 04.3**	**-1.2**
KNIK	**Mula-Seydike**	**4.42**	**51**	P	**Pn**	**13 19 18.6**	**+3.1**
KNIK				*i* IAML		13 21 24.0	
	comp=N,48nm,0.1s						
KNIK				*i* IAML		13 21 24.0	
	comp=E,33nm,0.3s						
TAVA	**DENIZLI_Tavas**	**4.45**	**40**	P	**Pn**	**13 19 19.6**	**+3.7**
TAVA				S	**Sn**	**13 20 07.8**	**+0.5**
GOLH	**Golhisar**	**4.66**	**47**	P	**Pn**	**13 19 22.3**	**+3.5**
GOLH				S	**Sn**	**13 20 11.9**	**-0.6**
GOLH				*i* IAML		13 20 51.0	
	comp=N,19nm,1.5s						
AKUM	**Antalya-Kumluc**	**4.67**	**60**	P	**Pn**	**13 19 23.0**	**+4.2**
AKUM				*i* IAML		13 20 18.0	
	comp=E,15nm,0.8s						
SWA2		**4.86**	**178**	P	**Pn**	**13 19 22.6**	**+1.2**
GAZI	**Gazipasa**	**6.12**	**68**	P	**Pn**	**13 19 41.4**	**+2.6**
GAZI				S	**Sn**	**13 20 45.1**	**-3.3**
GAZI				*i* IAML		13 20 55.0	
	comp=E,13nm,0.7s						
GAZI				*i* IAML		13 21 15.0	
	comp=N,17nm,0.6s						
RYAN	**Fayoum**	**6.56**	**138**	P	**Pn**	**13 19 47.0**	**+2.1**
RYAN				S	**Sn**	**13 20 59.1**	**-0.3**
CSS	**Mathiatis**	**6.67**	**80**	P	**Pn**	**13 19 47.2**	**+0.8**
CSS	**Mathiatis**	**6.67**	**80**	S	**Sn**	**13 20 57.9**	**-4.2**
KKBE	**Karaman, Kazim**	**6.94**	**61**	P	**Pn**	**13 19 54.4**	**+4.2**
KKBE				S	**Sn**	**13 21 06.7**	**-2.1**
KKBE				*i* IAML		13 21 27.0	
	comp=N,4.9nm,1.2s						
HFRF	**Wahat Farafira**	**7.41**	**159**	P	**Pn**	**13 19 57.9**	**+1.5**
TAMRE	**El Minia**	**8.02**	**142**	P	**Pn**	**13 20 06.7**	**+1.9**
OFRI	**`Ofer**	**8.23**	**98**	P	**Pn**	**13 20 09.3**	**+1.5**
OFRI	**`Ofer**	**8.23**	**98**	S	**Sn**	**13 21 37.3**	**-3.1**
KZIT	**Kziot**	**8.31**	**110**	P	**Pn**	**13 20 11.4**	**+2.5**
KZIT	**Kziot**	**8.31**	**110**	S	**Sn**	**13 21 41.0**	**-1.4**
AMAZ	**Amatzia**	**8.48**	**105**	P	**Pn**	**13 20 13.7**	**+2.4**
AMAZ	**Amatzia**	**8.48**	**105**	S	**Sn**	**13 21 44.4**	**-2.3**
MMC7	**Mount Meron ar**	**8.48**	**95**	P	**Pn**	**13 20 12.6**	**+1.3**
MMA0B	**Mount Meron ar**	**8.49**	**95**	P	**Pn**	**13 20 13.0**	**+1.6**
MMA0B	**Mount Meron ar**	**8.49**	**95**	S	**Sn**	**13 21 43.5**	**-3.4**
MMAI	**Mount Meron Ar**	**8.49**	**95**	Pn	**Pn**	**13 20 14.3**	**+2.9**
	0.7nm,0.3s,baz=267,slow=12,SNR=2.2						
MMAI				Sn	**Sn**	**13 21 47.6**	**+0.6**
	1.9nm,0.3s,baz=290,slow=26,SNR=4.4						
	0.4nm,0.3s						
GEM	**Giv'at Ha'Em**	**8.68**	**93**	P	**Pn**	**13 20 15.1**	**+1.2**
GEM	**Giv'at Ha'Em**	**8.68**	**93**	S	**Sn**	**13 21 47.5**	**-3.9**
YTIR	**Yattir**	**8.70**	**106**	P	**Pn**	**13 20 16.4**	**+2.0**
YTIR	**Yattir**	**8.70**	**106**	S	**Sn**	**13 21 49.8**	**-2.3**
HMDT	**Nahal Hemdat**	**8.76**	**99**	P	**Pn**	**13 20 16.8**	**+1.7**
HMDT	**Nahal Hemdat**	**8.76**	**99**	S	**Sn**	**13 21 50.2**	**-3.2**
DSI	**Dead Sea**	**8.84**	**104**	P	**Pn**	**13 20 18.2**	**+2.1**
DSI	**Dead Sea**	**8.84**	**104**	S	**Sn**	**13 21 53.1**	**-2.3**
MSBI	**Mazada**	**8.91**	**105**	P	**Pn**	**13 20 19.3**	**+2.2**
MSBI	**Mazada**	**8.91**	**105**	S	**Sn**	**13 21 54.6**	**-2.5**
KRMI	**Paran Flat**	**8.92**	**114**	P	**Pn**	**13 20 20.1**	**+2.8**
KRMI	**Paran Flat**	**8.92**	**114**	S	**Sn**	**13 21 54.8**	**-2.6**
PRNI	**Paran**	**9.03**	**112**	P	**Pn**	**13 20 21.2**	**+2.5**
PRNI	**Paran**	**9.03**	**112**	S	**Sn**	**13 21 59.4**	**-0.6**
ZFRI	**Zfri**	**9.07**	**110**	P	**Pn**	**13 20 20.7**	**+1.5**
ZFRI	**Zfri**	**9.07**	**110**	S	**Sn**	**13 21 59.6**	**-1.4**
GHAJ	**Ghor Haditha**	**9.09**	**105**	P	**Pn**	**13 20 21.4**	**+1.9**
GHAJ	**Ghor Haditha**	**9.09**	**105**	S	**Sn**	**13 21 59.6**	**-1.7**
HRFI	**Mount Harif**	**9.20**	**114**	P	**Pn**	**13 20 23.2**	**+2.2**
HRFI	**Mount Harif**	**9.20**	**114**	S	**Sn**	**13 22 03.6**	**-0.7**
MBRI	**Mt Berech**	**9.22**	**115**	P	**Pn**	**13 20 24.5**	**+3.0**
MBRI	**Mt Berech**	**9.22**	**115**	S	**Sn**	**13 22 05.0**	**+0.1**
HDK1	**Dakhla**	**9.25**	**156**	P	**Pn**	**13 20 22.9**	**+1.1**
HKAT	**Jabal Katrina**	**9.28**	**125**	P	**Pn**	**13 20 23.7**	**+1.3**
EIL	**Elat**	**9.31**	**116**	Pn	**Pn**	**13 20 24.8**	**+2.2**
	0.8nm,0.3s,baz=333,slow=4.7,SNR=29						
EIL				Sn	**Sn**	**13 22 04.5**	**-2.5**
	1.1nm,0.3s,baz=224,slow=10.0,SNR=5.3						
	2.4nm,0.2s						
EIL	**Elat**	**9.31**	**116**	P	**Pn**	**13 20 24.7**	**+2.1**
EIL	**Elat**	**9.31**	**116**	S	**Sn**	**13 22 07.1**	**+0.1**
HBST	**Basata**	**9.39**	**119**	P	**Pn**	**13 20 24.0**	**+0.3**
MLR	**Muntele Rosu**	**11.38**	**2**	LR	LR	13 25 02.5	
	comp=Z,42nm,21.5s,baz=176,slow=36						
KBZ	**Khabaz**	**16.69**	**50**	Pn	**P**	**13 22 07.8**	**+3.5**
	0.2nm,0.3s,baz=246,slow=7.9,SNR=4.2						
	2.1nm,0.8s						
AKASG	**Malin Array Be**	**16.82**	**9**	Pn	**Pn**	**13 22 04.1**	**+0.4**
	0.9nm,0.3s,baz=191,slow=13,SNR=2.3						
	0.2nm,0.3s						
GERES	**GERESS Array B**	**17.07**	**333**	Pn	**Pn**	**13 22 07.1**	**+0.1**
	baz=142,slow=12,SNR=14						
	1.9nm,0.6s						
ESDC	**Sonseca Array**	**24.00**	**292**	P	**P**	**13 23 20.6**	**-2.4**
	0.3nm,0.8s,baz=100,slow=9.8,SNR=3.2						
	0.9nm,0.8s						
HFS	**Hagfors**	**27.12**	**347**	P	**P**	**13 23 49.7**	**-1.2**
	2.7nm,0.9s,baz=152,slow=7.8,SNR=7.4						
	2.7nm,0.9s						
FINES	**FINESS Array B**	**27.35**	**1**	P	**P**	**13 23 51.4**	**-1.6**
	0.7nm,0.4s,baz=160,slow=10,SNR=8.2						
	0.7nm,0.4s						
NOA	**NORSAR Array B**	**28.44**	**346**	P	**P**	**13 24 01.3**	**-1.5**
	0.1nm,0.3s,baz=156,slow=8.9,SNR=2.3						
	0.1nm,0.3s						
EKA	**Eskdalemuir Ar**	**28.97**	**326**	P	**P**	**13 24 05.6**	**-1.9**
	0.7nm,0.6s,baz=124,slow=10,SNR=3.4						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.92**	**231**	P	**P**	**13 24 15.8**	**-0.5**
	0.8nm,0.5s,baz=32,slow=9.0,SNR=5.9						
ARCES	**ARCESS Array B**	**35.48**	**0**	P	**P**	**13 25 02.3**	**-2.1**
	1.1nm,0.6s,baz=179,slow=8.0,SNR=5.7						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**44.26**	**56**	P	**P**	**13 26 19.4**	**+1.7**
	0.8nm,0.5s,baz=274,slow=7.0,SNR=14						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**45.64**	**45**	P	**P**	**13 26 29.2**	**+0.7**
	0.9nm,0.5s,baz=268,slow=7.4,SNR=4.1						
	0.9nm,0.5s						

*NEIC **03** 13:37:56, 45.87N×111.35W, h5km*
*BUT **03** 13:37:56.6±0.8, 45.86N±0.02×111.36W±0.02, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.9km az=207.0*
NEIC 03 13:37:56.0±0.9,**45.866N**±0.009×**111.35W**±0.02,
h5km±1**km**,**ML3.3**/40,**Mwr3.3**/18,**ML3.5**/27(BUT),**Error ellipse: s-maj=2.9km s-min=2.2km az=192.0,Moment Tensor Solution. Moment tensor: Scale** 10^{14}**Nm;** M_{rr}0.25; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$0.58; $M_{r\theta}$-0.50; $M_{\theta\phi}$-0.81; $M_{\phi r}$-0.24;
Fault plane solution: $M_0$1.23000×10^{14} **NP1:** ϕ_S112.21000°,δ75.94000°,λ-167.47000°. **NP2:** ϕ_S19.12000°,δ77.85000°,λ-14.39000°. **Principal axes:** T 0.9490, Plg1.0000°, Azm66.0000°; N 0.4381, Plg71.0000°, Azm160.0000°; P -1.3872, Plg19.0000°, Azm335.0000°; **Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SXM	**Sixmile**	**0.30**	**19**		Pg	13 38 02.6	+0.7
BOZ	**Bozeman (W)**	**0.33**	**216**		Pg	13 38 02.6	+0.1
BOZ				Sg	Sg	13 38 07.3	+0.4
BOZ				IAML		13 38 07.5	
	3µm,0.3s						
BOZ				IAML		13 38 07.7	
	5µm,0.3s						
BZMT	**Bozeman Pass**	**0.45**	**119**		Pg	13 38 05.5	+0.9
MSMT	**Mission Creek**	**0.74**	**108**		Pb	13 38 10.8	-0.6
LRM	**Limekiln Ridge**	**0.77**	**267**		Pg	13 38 10.8	0.0
BGMT	**Barton Gulch**	**0.80**	**218**		Pg	13 38 11.6	+0.3
BUT	**Butte**	**0.86**	**280**		Pg	13 38 12.7	+0.2
HBMT	**Mount Humbug**	**0.88**	**266**		Pg	13 38 12.9	0.0
HRY	**Holter Researc**	**0.91**	**339**		Pg	13 38 13.5	+0.1
CRMT	**Chrome Mountai**	**0.94**	**115**		Pg	13 38 14.0	-0.1
YMV	**Mammoth Vault**	**1.01**	**152**		Pg	13 38 15.4	+0.1
DLMT	**Dillon**	**1.01**	**240**		Pg	13 38 15.2	-0.1
DLMT					Sn	13 38 31.6	0.0
DLMT				IAML		13 38 32.6	
	658nm,0.6s						
DLMT				IAML		13 38 32.7	
	643nm,0.5s						
YHL	**Hebgen Lake**	**1.02**	**173**		Pg	13 38 15.4	-0.2
YHL				IAML		13 38 33.4	
	comp=E,1µm,0.7s						
YHL				IAML		13 38 33.7	
	comp=N,927nm,0.5s						
QLMT	**Earthquake Lak**	**1.04**	**183**		Pg	13 38 15.5	-0.4
BEMT	**Mount Belmont**	**1.11**	**323**		Pg	13 38 17.4	+0.1
YHB	**Horse Butte**	**1.12**	**174**		Pg	13 38 17.2	-0.3
YHB				IAML		13 38 35.6	
	comp=E,1µm,0.6s						
YHB				IAML		13 38 35.6	
	comp=N,1µm,0.4s						
YMC	**Maple Creek**	**1.13**	**167**		Pg	13 38 17.5	-0.2
YHH	**Holmes Hill**	**1.13**	**162**		Pg	13 38 17.5	-0.3
TPMT	**Tepee Creek**	**1.16**	**191**		Pg	13 38 18.2	0.0
YPDC	**Denny Creek**	**1.16**	**176**		Pg	13 38 18.1	-0.1
YNR	**Norris Junctio**	**1.25**	**157**		Pg	13 38 19.7	-0.1
YNR				IAML		13 38 46.2	
	comp=N,360nm,0.4s						
YNR				IAML		13 38 47.2	
	comp=E,366nm,0.4s						
YPM	**Purple Mountai**	**1.26**	**164**		Pg	13 38 20.2	+0.1
YPWB	**West Boundary**	**1.27**	**172**		Pb	13 38 20.6	0.0
YNE	**Yellowstone No**	**1.28**	**132**		Pg	13 38 20.2	-0.3
YNE				IAML		13 38 40.6	
	comp=E,915nm,0.5s						
LYMT	**Lyon Mountain**	**1.28**	**330**		Pn	13 38 20.9	+0.1
YPSB	**Soda Butte**	**1.30**	**139**		Pg	13 38 20.6	-0.2
YUF	**Upper Falls**	**1.30**	**152**		Pg	13 38 20.5	-0.4
CMI	**Centennial Mou**	**1.35**	**188**		Pn	13 38 21.6	-0.2
YMP	**Mirror Lake Pl**	**1.41**	**143**		Pb	13 38 22.8	-0.1
YFT	**Old Faithful**	**1.46**	**165**		Pg	13 38 25.2	+1.2
YPPC	**Pelican Cone**	**1.47**	**146**		Pg	13 38 26.0	+1.9
MOMT	**Monida**	**1.47**	**210**		Pb	13 38 23.9	0.0
MCMT	**McKenzie Canyo**	**1.48**	**226**		Pb	13 38 23.9	-0.2
YLT	**Little Thumb C**	**1.53**	**159**		Pg	13 38 27.9	+2.7
BPMT	**Black Pine Rid**	**1.56**	**292**		Pg	13 38 25.9	-0.1
RLMT	**Red Lodge**	**1.64**	**116**		Pb	13 38 26.5	-0.4
QVMT	**Ovando**	**1.65**	**317**		Pn	13 38 25.9	+0.1
YTP	**The Promontory**	**1.66**	**152**		Pb	13 38 27.4	+0.3
MCID	**Moose Creek**	**1.68**	**176**		Pb	13 38 27.6	+0.1
CHMT	**Chamberlain Mo**	**1.68**	**309**		Pn	13 38 26.4	+0.1
SLMT	**Seeley Lake**	**2.02**	**314**		Pn	13 38 30.7	-0.1
MSO	**Missoula**	**2.04**	**299**		Pn	13 38 31.1	0.0
MSO				IAML		13 39 03.5	
	comp=E,300nm,0.7s						
MSO				IAML		13 39 04.8	
	comp=E,338nm,0.9s						
VCMT	**Victor**	**2.05**	**287**		Pn	13 38 31.9	+0.6
FXWY	**Fox Creek**	**2.24**	**174**		Pb	13 38 36.6	-0.5
PCMT	**Pistol Creek**	**2.29**	**307**		Pn	13 38 35.2	+0.6
LOHW	**Long Hollow**	**2.32**	**166**		Pn	13 38 36.0	+1.0
TPAW	**Teton Pass**	**2.39**	**173**		Pb	13 38 39.3	-0.4
TPAW	**Teton Pass**	**2.39**	**173**	IAML		13 39 13.2	
	comp=E,144nm,0.7s						
TPAW				IAML		13 39 15.7	
	comp=E,125nm,0.6s						
EGMT	**Eagleton**	**2.42**	**26**	Pn	Pn	13 38 36.4	+0.1
EGMT				IAML		13 39 17.4	
	comp=E,308nm,0.8s						
ALMT	**Alberton, Mont**	**2.43**	**300**		Pg	13 38 41.8	-0.8
SNOW	**Snow King Moun**	**2.44**	**170**		Pb	13 38 40.4	-0.1
SWMT	**Swartz Lake**	**2.45**	**313**		Pn	13 38 36.7	-0.1
FBMT	**Ferry Basin**	**2.62**	**307**		Pn	13 38 39.6	+0.5
YBMT	**Yellow Bay**	**2.71**	**319**		Pn	13 38 41.5	+1.2
JTMT	**Jette**	**2.75**	**314**		Pn	13 38 41.9	+0.9
NDMT	**Ninemile Divid**	**2.76**	**302**		Pn	13 38 42.5	+1.4
MKMT	**Mink Peak**	**2.88**	**297**		Pn	13 38 43.9	+1.1
BHMT	**Big Hole Peak**	**3.06**	**305**		Pg	13 38 53.5	-1.2
BSMT	**Bassoo Peak**	**3.08**	**311**		Pn	13 38 46.2	+0.7
HLID	**Hailey**	**3.17**	**225**		Pn	13 38 48.3	+1.6
HLID				IAML		13 39 35.4	
	comp=E,131nm,0.4s						
HLID				IAML		13 39 40.4	
	comp=E,96nm,0.6s						
BW06	**Boulder Array**	**3.35**	**157**		Pb	13 38 54.2	-1.9
PLID	**Pearl Lake**	**3.36**	**258**		Pn	13 38 49.6	+0.3
PLID				IAML		13 39 45.0	
	comp=E,46nm,0.8s						
PLID				IAML		13 39 49.5	
	comp=E,39nm,0.8s						
LAO	**LASA Array**	**3.65**	**75**		Pn	13 38 56.6	+3.4
MFID	**Camas Ranch**	**4.03**	**234**		Pn	13 38 59.9	+1.5
J08A	**Circle Bar Ran**	**5.67**	**246**		Pn	13 39 22.1	+1.2

*NNC **03** 13:51:35.9±2.3,47.27N×90.62E, h0km, mb4.2, mpv3.8*
Error ellipse: s-maj=16.9km s-min=15.9km az=134.0
*ASRS **03** 13:51:36.6±0.5,47.76N±2.2°×9.1E±°, h4km, MLh4.3/12, Error ellipse: s-maj=4.9km s-min=3.7km az=126.1, confirmed*
ISC 03 13:51:35.0±1.3,**47.18N**±0.06×**90.92E**±0.05,**h10**km,**n35,**
σ2**8**10/61,**11C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**3.38**	**331**	Pg	**Pg**	**13 52 39.4**	**-0.4**
CUR				Sg	**Sg**	**13 53 25.7**	**+2.0**
DGZ	**Jazzator, Alta**	**3.43**	**319**	Pg	**Pg**	**13 52 39.6**	**-1.1**
DGZ				Sg	**Sg**	**13 53 23.1**	**-2.0**
AKAR	**Aktash**	**3.83**	**326**	Pg	**Pg**	**13 52 48.2**	**-0.1**
AKAR				Sg	**Sg**	**13 53 37.9**	**+0.1**
CHBI	**Chibit, Altay**	**3.87**	**325**	Pg	**Pg**	**13 52 47.7**	**-1.3**
CHBI				Sg	**Sg**	**13 53 40.6**	**+1.5**
TEL	**Teeli**	**3.87**	**353**	Pg	**Pg**	**13 52 46.0**	**-3.2**
TEL				Sg	**Sg**	**13 53 41.7**	**+2.3**
ULGR	**Ulagan, Altay**	**3.96**	**332**	Pg	**Pg**	**13 52 51.6**	**+0.7**
ULGR				Sg	**Sg**	**13 53 44.8**	**+2.6**
KZLR	**Kyzyl**	**5.08**	**26**	Sg	**Sg**	**13 54 16.7**	**-1.4**
ELDR	**Elanda**	**5.13**	**324**	Pg	**Pg**	**13 53 10.5**	**-2.7**
ELDR				Sg	**Sg**	**13 54 21.2**	**+1.5**
ARTR	**Artybash**	**5.20**	**334**	Pg	**Pg**	**13 53 13.4**	**-1.0**
ARTR				Sg	**Sg**	**13 54 24.6**	**+2.9**
UKR	**Ust'-Kan**	**5.52**	**315**	Pn	**Pn**	**13 53 01.6**	**+4.3**
UKR				Pg	**Pg**	**13 53 18.3**	**-2.3**
UKR				Sg	**Sg**	**13 54 30.6**	**-1.6**
DJO	**Djoy, Khakassi**	**5.61**	**

	2.7nm,0.5s							
PDGK				⇑Sn		**Sn**	**13 55 23.7**	**-1.2**
	14nm,0.8s							
PDGK				⇑Lg		Lg	13 56 15.9	
	18nm,0.8s							
NVS	**Novosibirsk**	**9.07 331**		Sg			13 56 26.2	
NVSII	**Novosibirsk**	**9.07 331**		Sg			13 56 26.9	

*SJA **03** 13:55:32.5±0.7, 23°.19S×66°.60W, h250km±5km, ML3.5, MW3.4*
*GUC **03** 13:55:36.8±0.4, 23°.15S×66°.78W, h205km±5km, ML3.7*
ISC 03 13:55:35.1±2.1, 23°.19S±0°.04×66°.73W±0°.05, h221km±17km, n30, σ1°23/52, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALTA		**1.09**	**161**⇓	*eP*	**Pn**	**13 56 08.7**	**+0.5**
SALTA		**1.09**	**161**	*eP*	**Pn**	**13 56 08.7**	**+0.5**
AF01	**San Pedro de A**	**1.36**	**280**	*eP*	Pn	13 56 22.8	+13
YJA	**Yavi**	**1.50**	**48**	*eP*	**Pn**	**13 56 11.4**	**+0.1**
YJA				*eS*	**S**	**13 56 37.5**	**-1.8**
YJA	**Yavi**	**1.50**	**48**	*eP*	**Pn**	**13 56 11.5**	**+0.3**
YJA				*eS*	**S**	**13 56 37.5**	**-1.8**
AZAP	**Zapla**	**1.84**	**125**	*eP*	**Pn**	**13 56 13.8**	**-0.2**
AZAP				*eS*	**S**	**13 56 43.7**	**-0.4**
SLA	**San Lorenzo**	**1.89**	**144**⇓	*eP*	**Pn**	**13 56 15.3**	**+0.9**
SLA	**San Lorenzo**	**1.89**	**144**	*eP*	**Pn**	**13 56 15.5**	**+1.1**
SLA				*eS*	**S**	**13 56 45.6**	**+0.7**
PB06	**IPOC Station P**	**2.67**	**280**⇑	*eP*	**Pn**	**13 56 22.9**	**+0.6**
PB06				*eS*	**S**	**13 56 57.2**	**-1.7**
PB06				IAML		13 57 02.8	
	comp=N,207nm,0.1s						
PB06	**IPOC Station P**	**2.67**	**280**	*eP*	**Pn**	**13 56 23.1**	**+0.8**
PB06				*eS*	**S**	**13 57 00.4**	**+1.4**
PB06				IAML		13 57 00.5	
	comp=Z,52nm,0.1s						
PB09	**IPOC Station P**	**2.71**	**300**⇑	*eP*	**Pn**	**13 56 23.9**	**+1.2**
PB09				*eS*	**S**	**13 57 00.7**	**+0.9**
PB09	**IPOC Station P**	**2.71**	**300**	*eP*	**Pn**	**13 56 24.1**	**+1.3**
PB09				*eS*	**S**	**13 57 02.2**	**+2.4**
FSA	**Cafayete**	**2.99**	**167**	*eP*	**Pn**	**13 56 26.9**	**+1.0**
PB03	**IPOC Station P**	**3.02**	**291**⇑	*eP*	**Pn**	**13 56 26.6**	**+0.4**
PB03				*eS*	**S**	**13 57 04.5**	**-1.5**
PB03				IAML		13 57 08.8	
	comp=E,92nm,0.1s						
PB03	**IPOC Station P**	**3.02**	**291**	*eP*	**Pn**	**13 56 26.7**	**+0.5**
PB03				*eS*	**S**	**13 57 05.0**	**-1.0**
PB03				IAML		13 57 08.3	
	comp=Z,92nm,0.1s						
PB05	**IPOC Station P**	**3.22**	**275**⇑	*eP*	**Pn**	**13 56 28.9**	**+0.4**
PB05				*eS*	**S**	**13 57 08.7**	**-1.4**
PB05	**IPOC Station P**	**3.22**	**275**	*eP*	**Pn**	**13 56 28.9**	**+0.4**
PB05				*eS*	**S**	**13 57 11.1**	**+1.0**
GO02	**Mina Guanaco**	**3.27**	**232**⇑	*eP*	**Pn**	**13 56 30.1**	**+0.8**
GO02				*eS*	**S**	**13 57 11.6**	**-0.1**
GO02	**Mina Guanaco**	**3.27**	**232**	*eP*	**Pn**	**13 56 30.5**	**+1.2**
PB01	**IPOC Station P**	**3.33**	**309**⇑	*eP*	**Pn**	**13 56 30.1**	**+0.3**
PB01				*eS*	**S**	**13 57 10.6**	**-1.9**
PB01	**IPOC Station P**	**3.33**	**309**	*eP*	**Pn**	**13 56 30.2**	**+0.3**
PB01				*eS*	**S**	**13 57 13.0**	**+0.5**
PB01				IAML		13 57 15.3	
	comp=Z,66nm,0.3s						
PB02	**IPOC Station P**	**3.47**	**302**⇑	*eP*	**Pn**	**13 56 31.6**	**+0.1**
PB02				*eS*	**S**	**13 57 13.6**	**-2.0**
PB02	**IPOC Station P**	**3.47**	**302**	*eP*	**Pn**	**13 56 31.8**	**+0.3**
PB02				IAML		13 57 21.6	
	comp=Z,106nm,0.3s						
PB10	**IPOC Station P**	**3.53**	**264**⇑	*eP*	**Pn**	**13 56 32.7**	**+0.6**
PB10				*eS*	**S**	**13 57 14.4**	**-2.2**
PB10	**IPOC Station P**	**3.53**	**264**	*eP*	**Pn**	**13 56 32.9**	**+0.8**
PB10				*eS*	**S**	**13 57 15.8**	**-0.8**
PB10				IAML		13 57 20.2	
	comp=Z,38nm,1.3s						
PB08	**IPOC Station P**	**3.78**	**323**	*eP*	**Pn**	**13 56 36.8**	**+1.4**
PB08				*eS*	**S**	**13 57 23.1**	**+0.5**
PB08				IAML		13 57 27.0	
	comp=Z,28nm,0.5s						
HMBC	**Humberstone**	**4.12**	**314**	*eP*	**Pn**	**13 56 39.0**	**-0.4**
HMBC				*eS*	**S**	**13 57 27.6**	**-2.2**
HMBC				IAML		13 57 30.0	
	comp=Z,71nm,0.3s						
GO01	**Chusmiza**	**4.19**	**326**	*eP*	**Pn**	**13 56 42.1**	**+1.7**
GO01				*eS*	**S**	**13 57 34.1**	**+2.4**
PB11	**IPOC Station P**	**4.37**	**321**	*eP*	**Pn**	**13 56 42.0**	**-0.4**
PB11				*eS*	**S**	**13 57 33.9**	**-1.3**
PB11				IAML		13 57 35.4	
	comp=Z,44nm,0.1s						
AC01	**Pan de Azucar**	**4.59**	**229**	*eP*	**Pn**	**13 56 44.9**	**-0.1**
AC01				*eS*	**S**	**13 57 37.7**	**-2.3**
AC01				IAML		13 57 39.4	
	comp=Z,22nm,0.9s						

*NEIC **03** 13:58:48.1±1.5, 7°.30S±0°.08×156°.17E±0°.07, h45km±6km, mb4.7/27, Error ellipse: s-maj=11.6km s-min=9.8km az=197.0*
*IDC **03** 13:58:51.2±2.3, 7°.26S×156°.09E, h72km±23km, mb3.6/12, mbtmp4.0/15, MS3.4/15, Error ellipse: s-maj=17.5km s-min=16.0km az=30.0*
ISC 03 13:58:47.8±0.5, 7°.26S±0°.08×156°.09E±0°.06, h44km, n65, σ1°39/50, mb4.5/25, MS3.5/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.38**	**120**		**Pn**	**13 59 50.7**	**-1.2**
HNR	**Honiara**	**4.38**	**120**	P	**Pn**	**13 59 54.3**	**+2.4**
	175nm,0.7s,baz=165,slow=1.2,SNR=9.0						
HNR				S	**Sn**	**14 00 46.1**	**+4.3**
	660nm,0.9s,baz=314,slow=13,SNR=3.6						
HNR				LR	LR	14 01 24.1	
	comp=Z,126nm,18.4s,baz=318,slow=35						
RABL	**Rabaul**	**4.95**	**308**	Pn	**Pn**	**14 00 00.3**	**+0.6**
PMG	**Port Moresby**	**9.09**	**256**	Pn	**Pn**	**14 00 57.0**	**+0.5**
PMG	**Port Moresby**	**9.09**	**256**	P	**Pn**	**14 01 00.6**	**+4.1**
	10nm,0.8s,baz=55,slow=10.0,SNR=4.7						
PMG				S	Sn	14 02 48.7	+11
	20nm,0.8s,baz=129,slow=12,SNR=2.6						
PMG				LR	LR	14 03 52.6	
	comp=Z,182nm,19.4s,baz=64,slow=33						
SANVU	**Saraoutou**	**13.59**	**128**	Pn	**Pn**	**14 01 57.4**	**-0.7**
COEN	**Coen**	**14.33**	**241**	P	**P**	**14 02 15.1**	**+0.8**
CTAO	**Charters Tower**	**15.92**	**216**	P	**P**	**14 02 34.1**	**+2.1**
CTAO				IAmb	IAmb	14 02 58.1	
	comp=Z,61nm,1.4s						
JAY	**Jayapura**	**16.03**	**286**	P	**P**	**14 02 32.5**	**-0.8**
	comp=Z,3.6nm,0.4s,baz=147,slow=11,SNR=2.0						
ONTNC	**Ouen Toro**	**17.99**	**147**	P	**Pn**	**14 02 51.9**	**-2.9**
EIDS	**Eidsvold**	**18.63**	**194**	P	**P**	**14 03 00.1**	**-1.8**
ARMA	**Armidale**	**23.42**	**190**	P	**P**	**14 03 51.7**	**-1.5**
GUMO	**Guam**	**23.52**	**332**	P	**P**	**14 03 53.5**	**-0.6**
FAKI	**Fak Fak**	**24.13**	**279**	P	**P**	**14 03 59.8**	**-0.1**
WR8	**Warramunga Arr**	**24.44**	**237**		**P**	**14 04 03.1**	**+0.4**
WR8				IAmb	IAmb	14 04 05.7	
	comp=Z,30nm,0.8s						
WB0	**Warramunga Arr**	**24.45**	**237**		**P**	**14 04 03.5**	**+0.8**
WB0				IAmb	IAmb	14 04 05.6	
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**24.56**	**237**	P	**P**	**14 04 04.5**	**+0.7**
WRAB				IAmb	IAmb	14 04 06.7	
	comp=Z,31nm,0.8s						
WRA	**Warramunga Arr**	**24.57**	**237**	P	**P**	**14 04 02.5**	**-1.4**
WRA	**Warramunga Arr**	**24.57**	**237**	P	**P**	**14 04 05.1**	**+1.2**
	comp=Z,30nm,0.7s,baz=61,slow=9.6,SNR=109						
WRA				LR	LR	14 12 52.1	
	comp=Z,98nm,18.5s,baz=354,slow=34						
SAUI	**Saumlaki**	**24.58**	**267**	P	**P**	**14 04 03.7**	**-0.3**
INKA	**Innaminka**	**25.03**	**214**	P	**P**	**14 04 06.9**	**-1.0**
MTN	**Manton Dam**	**25.18**	**255**	P	**P**	**14 04 09.0**	**-0.4**
MTN				IAmb	IAmb	14 04 11.8	
	comp=Z,27nm,1.2s						
AS31	**Alice Springs**	**26.82**	**230**	P	**P**	**14 04 21.9**	**-2.3**
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**14 04 23.8**	**-0.5**
ASAR	**Alice Springs**	**26.82**	**230**	P	**P**	**14 04 24.6**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=61,slow=9.2,SNR=48						
ASAR				LR	LR	14 14 01.1	
	comp=Z,85nm,18.7s,baz=34,slow=34						
	comp=Z,2.6nm,0.7s						
H11S3	**WAKE ISLAND Hy 27.64**	**22**		T	T	14 32 52.4	
	baz=202,slow=75,SNR=123						
H11S2	**WAKE ISLAND Hy 27.65**	**22**		T	T	14 32 56.4	
	baz=202,slow=75,SNR=126						
H11S1	**WAKE ISLAND Hy 27.66**	**22**		T	T	14 32 58.3	
	baz=202,slow=75,SNR=106						
STKA	**Stephens Creek**	**27.98**	**207**	P	**P**	**14 04 33.2**	**-1.2**
STKA				IAmb	IAmb	14 04 39.0	
	comp=Z,29nm,1.2s						
STKA	**Stephens Creek**	**27.98**	**207**	P	**P**	**14 04 34.9**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=17,slow=8.9,SNR=5.0						
	comp=Z,2.9nm,0.8s						
KNRA	**Kununurra**	**28.03**	**250**	P	**P**	**14 04 34.9**	**-0.2**
KNRA				IAmb	IAmb	14 05 03.3	
	comp=Z,38nm,1.5s						
H11N1	**WAKE ISLAND Hy 28.84**	**21**		T	T	14 34 20.3	
	baz=203,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy 28.85**	**22**		T	T	14 34 29.8	
	baz=203,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy 28.86**	**21**		T	T	14 34 29.0	
	baz=203,slow=76,SNR=9.2						
BBOO	**Buckleboo**	**31.50**	**214**	P	**P**	**14 05 05.0**	**-0.7**
BBOO				IAmb	IAmb	14 05 17.8	
	comp=Z,16nm,1.3s						
TOO	**Toolangi**	**31.67**	**196**	P	**P**	**14 05 05.0**	**-2.2**
TOO				IAmb	IAmb	14 05 19.0	
	comp=Z,12nm,1.4s						
BATI	**Baumata**	**32.17**	**262**	LR	LR	14 19 29.9	
	comp=Z,272nm,18.0s,baz=196,slow=38						
DAV	**Davao City (W)**	**33.60**	**294**	LR	LR	14 18 40.0	
	comp=Z,49nm,18.1s,baz=108,slow=35						
NIUE	**Niue**	**35.04**	**113**	P	**P**	**14 05 35.3**	**-1.4**
FORT	**Forrest**	**35.15**	**225**	P	**P**	**14 05 37.5**	**0.0**
FORT				IAmb	IAmb	14 05 38.7	
	comp=Z,7.6nm,0.8s						
TOLI2	**Tolitoli**	**36.19**	**282**	P	**P**	**14 05 47.9**	**+1.2**
TOLI2				IAmb	IAmb	14 05 59.1	
	comp=Z,21nm,1.3s						
MBWA	**Marble Bar**	**37.74**	**245**	P	**P**	**14 05 59.6**	**-0.1**
MBWA				IAmb	IAmb	14 06 00.7	
	comp=Z,16nm,1.1s						
PSA00	**Pilbara Seismi**	**37.75**	**244**	P	**P**	**14 05 59.3**	**-0.6**
PSA00				IAmb	IAmb	14 06 16.5	
	comp=Z,15nm,1.1s						
BFZ	**Birch Farm**	**37.83**	**155**	P	**P**	**14 05 59.4**	**-0.8**
MORW	**Morawa**	**43.49**	**235**	P	**P**	**14 06 47.3**	**+0.2**
MORW				IAmb	IAmb	14 06 50.4	
	comp=Z,16nm,1.2s						
MJAR	**Matsushiro Arr**	**46.69**	**340**	P	**P**	**14 07 13.4**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=154,slow=8.8,SNR=4.1						
	comp=Z,0.6nm,0.7s						
KSRS	**Korea Array**	**51.68**	**331**	P	**P**	**14 07 51.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=145,slow=6.5,SNR=5.7						
	comp=Z,0.7nm,0.7s						
ASAJ	**Asahikawa**	**52.57**	**348**	LR	LR	14 29 19.3	
	comp=Z,28nm,19.7s,baz=163,slow=35						
PSI	**Prapat**	**57.91**	**278**	LR	LR	14 36 15.8	
	comp=Z,116nm,18.5s,baz=184,slow=39						
PETK	**Petropavlovsk-**	**60.15**	**1**	LR	LR	14 30 33.3	
	comp=Z,24nm,21.9s,baz=130,slow=32						
CMAR	**Chiang Mai Arr**	**61.88**	**295**	P	**P**	**14 09 03.1**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=114,slow=5.4,SNR=7.6						
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**70.15**	**327**	P	**P**	**14 09 56.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=130,slow=4.6,SNR=5.0						
	comp=Z,0.4nm,0.4s						
G21K	**Allakaket**	**82.05**	**18**	P	**P**	**14 11 02.8**	**-0.3**
QSPA	**South Pole Qui**	**82.72**	**180**	P	**P**	**14 11 07.0**	**+0.1**
QSPA				IAmb	IAmb	14 11 14.9	
	comp=Z,6.1nm,1.3s						
QSPA	**South Pole Qui**	**82.72**	**180**	P	**P**	**14 11 07.7**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=274,slow=1.6,SNR=14						
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**83.22**	**21**	P	**P**	**14 11 09.3**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=229,slow=5.0,SNR=1.9						
ILAR				LR	LR	14 43 10.4	
	comp=Z,24nm,20.4s,baz=290,slow=32						
	comp=Z,0.2nm,0.8s						
MKAR	**Makanchi Array**	**84.32**	**318**	P	**P**	**14 11 15.5**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=101,slow=6.5,SNR=10						
	comp=Z,1.2nm,0.7s						
MAW	**Mawson**	**84.57**	**203**	P	**P**	**14 11 16.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=79,slow=17,SNR=2.3						
	comp=Z,1.5nm,0.7s						
ZALV	**Zalesovo Beam**	**85.01**	**326**	P	**P**	**14 11 18.0**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=111,slow=6.4,SNR=4.3						
	comp=Z,0.8nm,0.4s						
BBB	**Bella Bella**	**87.08**	**37**	LR	LR	14 41 43.4	
	comp=Z,34nm,22.0s,baz=228,slow=30						
KURBB	**Kurchatov Arra**	**87.74**	**322**	P	**P**	**14 11 31.0**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=106,slow=3.3,SNR=2.7						
	comp=Z,0.3nm,0.6s						
INK	**Inuvik**	**89.58**	**21**	LR	LR	14 49 36.3	
	comp=Z,18nm,18.7s,baz=82,slow=34						
NEW	**Newport**	**93.22**	**42**	LR	LR	14 47 22.9	
	comp=Z,19nm,19.4s,baz=254,slow=31						
LPIG	**La Paz**	**96.20**	**67**	LR	LR	14 47 37.1	
	comp=Z,18nm,19.9s,baz=7.0,slow=30						
PDAR	**Pinedale Array**	**98.07**	**48**	LR	LR	14 52 42.4	
	comp=Z,10nm,18.1s,baz=162,slow=33						

*THE **03** 14:05:55.4, 37°.N3°×2°.2E±°, h5km±4km, M2.5/10, MLh2.5/10*
*ATH **03** 14:05:56.9, 36°.84N×21°.73E, h13km, ML2.5/7, Manual Solution by F.Xalaris First location: 2019/08/03 14:07:14, This location: 2021/06/30 06:43:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 03 14:05:55.0±1.5, 36°.74N±0°.05×21°.66E±0°.04, h9km±8km, n24, σ0°85/41, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL1	**Pylos**	**0.17**	**10**	P	**Pg**	**14 05 59.8**	**+1.1**
PYL1				S	**Sg**	**14 06 01.5**	**+0.3**
ITM	**Ithomi**	**0.49**	**26**	P	**Pg**	**14 06 04.6**	**+0.1**
ITM				S	**Sg**	**14 06 11.1**	**+0.2**
ITM	**Ithomi**	**0.49**	**26**	P	**Pg**	**14 06 04.5**	**+0.1**
ITM				S	**Sg**	**14 06 09.7**	**-1.2**
ZARO	**Zacharo**	**0.74**	**359**	P	**Pg**	**14 06 09.7**	**+0.4**
ZARO				S	**Sg**	**14 06 17.9**	**-1.1**
AMT	**Artemida-Makis**	**0.79**	**3**	P	**Pg**	**14 06 10.4**	**+0.2**
AMT				S	**Sg**	**14 06 20.1**	**-0.3**
VLX	**Vlachokerasia**	**0.85**	**42**	P	**Pg**	**14 06 11.2**	**-0.2**
VLX				S	**Sb**	**14 06 22.7**	**-0.8**
VLX	**Vlachokerasia**	**0.85**	**42**	P	**Pg**	**14 06 11.2**	**-0.2**
VLX				S	**Sg**	**14 06 21.7**	**-0.8**
VLI	**Veliai**	**1.03**	**91**	P	**Pg**	**14 06 14.6**	**-0.1**
VLI				S	**Sn**	**14 06 30.3**	**+0.3**
VLI	**Veliai**	**1.03**	**91**	P	**Pg**	**14 06 15.1**	**+0.4**
VLI				S	**Sb**	**14 06 28.8**	**+0.3**
KRI1	**kERI**	**1.14**	**324**	P	**Pg**	**14 06 16.3**	**-0.5**
KRI1				S	**Sn**	**14 06 34.5**	**+1.8**
LTHK	**Lithakia**	**1.17**	**326**	P	**Pb**	**14 06 17.1**	**-0.2**
LTHK				S	**Sn**	**14 06 34.6**	**+1.2**
DRO	**Drossia**	**1.21**	**2**	P	**Pb**	**14 06 18.0**	**0.0**
DRO				S	**Sn**	**14 06 36.4**	**+1.9**
DRO	**Drossia**	**1.21**	**2**	P	**Pb**	**14 06 17.8**	**-0.2**
DRO				S	**Sg**	**14 06 32.7**	**-1.2**
KTHA	**Kythira Island**	**1.23**	**113**	P	**Pn**	**14 06 17.8**	**-0.5**
GUR	**Goura**	**1.31**	**24**	P	**Pn**	**14 06 19.2**	**-0.3**
GUR				S	**Sn**	**14 06 38.3**	**+1.2**
GUR	**Goura**	**1.31**	**24**	P	**Pn**	**14 06 19.2**	**-0.3**
GUR				S	**Sb**	**14 06 35.1**	**-1.6**
ORTH	**Orthonies,Zaky**	**1.34**	**326**	P	**Pn**	**14 06 19.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.36**	**17**	P	**Pn**	**14 06 20.1**	**0.0**
KLV				S	**Sn**	**14 06 40.0**	**+1.7**
KLV	**Kalavryta, Ach**	**1.36**	**17**	P	**Pn**	**14 06 20.3**	**+0.2**
KLV				S	**Sb**	**14 06 36.6**	**-1.4**
AXS	**Araxos**	**1.47**	**351**	P	**Pb**	**14 06 22.6**	**+0.2**
MET2	**Kameni Chora,**	**1.59**	**56**	P	**Pn**	**14 06 24.1**	**+0.8**
ATHU	**Athens Univers**	**2.09**	**54**	P	**Pn**	**14 06 30.5**	**+0.4**
PARN1	**Fyli,Attica,Gr**	**2.10**	**49**	P	**Pn**	**14 06 29.9**	**-0.4**
DION	**Dionisos Attik**	**2.25**	**53**	P	**Pn**	**14 06 32.8**	**+0.4**

*GCG **03** 14:16:05.5±3.4, 15°.40N×94°.70W, h42km±538km, MD4.3, ML4.3*
*MEX **03** 14:16:07.1±1.3, 15°.36N×94°.62W, h20km±90km, MD4.3*
ISC 03 14:15:59.1±1.5, 15°.33N±0°.06×94°.68W±0°.03, h9km±12km, n22, σ2°33/39, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.44**	**288**	*i* P	**Pg**	**14 16 28.9**	**+2.2**
HUIG				*i* S	**Sn**	**14 16 44.8**	**+0.4**
HUIG				IAML		14 16 46.9	
	comp=E,3μm,0.4s						
PCIG		**1.46**	**75**	*e*P	**Pg**	**14 16 28.0**	**+0.8**
PCIG				*e*S	**Sn**	**14 16 44.5**	**-0.4**
TGIG		**2.08**	**46**	*e*P	**Pb**	**14 16 37.1**	**+0.1**
TGIG				*e*S	**Sb**	**14 17 02.7**	**-0.4**
TGIG		**2.08**	**46**	*e*P	**Pb**	**14 16 36.9**	**-0.2**
TGIG				*i* S	**Sb**	**14 17 02.2**	**-0.9**
TGIG				IAML		14 17 05.3	
	comp=N,1μm,0.9s						
PATR	**El Naranjo**	**2.37**	**95**	*e*P	**Pb**	**14 16 41.9**	**-0.3**
PATR				*e*S	**Sn**	**14 17 07.8**	**0.0**
PAVE	**Pavencul**	**2.42**	**93**	*e*P	**Pb**	**14 16 42.9**	**-0.1**
PAVE				*e*S	**Sn**	**14 17 10.0**	**+1.0**
SMCA	**Catarina**	**2.56**	**100**	*i* P	**Pb**	**14 16 45.8**	**+0.5**
SMCA				*i* S	**Sn**	**14 17 13.3**	**+1.1**
SMCA				IAML		14 17 14.5	
	comp=N,641nm,0.7s						
CCIG	**Comitan**	**2.63**	**69**	*e*P	**Pb**	**14 16 46.1**	**-0.3**
CCIG				*e*S	**Sn**	**14 17 13.9**	**-0.1**
CCIG	**Comitan**	**2.63**	**69**	*i* P	**Pb**	**14 16 46.2**	**-0.3**
CCIG				*i* S	**Sb**	**14 17 18.6**	**-0.3**
CCIG				IAML		14 17 20.8	
	comp=N,1μm,0.7s						
RTAL	**Retalhuleu**	**3.00**	**105**	*e*P	**Pb**	**14 16 52.9**	**+0.2**
RTAL				*e*S	**Sn**	**14 17 24.6**	**+1.7**
HUEH	**Huehuetenango**	**3.07**	**90**	*e*P	**Pb**	**14 16 54.8**	**+0.7**
HUEH				*e*S	**Sn**	**14 17 28.8**	**+3.8**
HUEH	**Huehuetenango**	**3.07**	**90**	*i* S	**Sb**	**14 17 30.0**	**-1.7**
HUEH				IAML		14 17 42.2	
	comp=N,3μm,1.4s						
STG2	**El Palmar, Qui**	**3.32**	**105**	*e*P	**Pn**	**14 16 51.2**	**-0.2**
STG2				*i* S	**Sn**	**14 17 24.7**	**-6.4**
QUIS	**Sacapulas**	**3.47**	**90**	*i* P	**Pb**	**14 17 00.1**	**-0.7**
QUIS				IAML		14 17 42.3	
	comp=N,739nm,0.7s						
PNIG	**Pinotepa**	**3.48**	**288**	*e*P	**Pb**	**14 16 58.0**	**-2.9**
PNIG				*e*S	**Sn**	**14 17 34.0**	**-0.8**
HLIG	**Huajuapan de L**	**3.89**	**310**	*e*P	**Pb**	**14 17 06.2**	**-1.8**
HLIG				*e*S	**Sn**	**14 17 48.5**	**+3.3**
TPIG	**Tehuac#an**	**4.00**	**321**	*e*P	**Pb**	**14 17 09.1**	**-0.8**
TPIG				*e*S	**Sg**	**14 18 03.9**	**-3.8**
FG8	**Yepocapa, Chim**	**4.13**	**104**	*e*P	**Pn**	**14 17 02.7**	**+0.2**
FG8				*i* S	Sn	14 17 43.0	-7.9
LVIG	**Laguna Verde**	**4.67**	**340**	*e*P	**Pn**	**14 17 13.3**	**+3.5**
LVIG				*e*S	**Sn**	**14 17 58.3**	**-5.9**
PETF	**Flores**	**4.89**	**71**	*e*P	**Pn**	**14 17 13.8**	**+0.9**
PETF				*e*S	**Sn**	**14 18 06.2**	**-3.4**
SCIG	**Sabancuy**	**4.92**	**42**	*i* P	**Pn**	**14 17 15.9**	**+2.6**
PPM	**Popocatepetl**	**5.29**	**315**	*e*P	Pb	14 17 26.1	-6.0
PPM				*e*S	**Sn**	**14 18 24.0**	**+3.8**

IDC 03 14:46:04.9±16.0, 6°.76N×59°.22E, h0km, mb3.7/5, mbtmp3.7/5, MS3.4/3, Error ellipse: s-maj=414.9km s-min=44.0km az=157.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**21.33**	**87**	LR	LR	14 57 31.6	
	comp=Z,51nm,19.0s,baz=336,slow=32						
AAK	**Ala-Archa**	**38.20**	**18**	LR	LR	15 11 34.4	
	comp=Z,27nm,18.6s,baz=140,slow=40						
MKAR	**Makanchi Array**	**44.54**	**23**	P	P	14 54 18.6	+0.1
	0.3nm,0.5s,baz=212,slow=8.8,SNR=4.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**46.59**	**17**	P	P	14 54 34.6	+0.1
	0.6nm,0.7s,baz=213,slow=8.4,SNR=4.7						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**47.02**	**9**	P	P	14 54 37.8	-0.1
	0.7nm,0.6s,baz=192,slow=8.1,SNR=4.6						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**51.41**	**19**	P	P	14 55 10.9	-0.5
	1.8nm,0.7s,baz=231,slow=7.8,SNR=7.9						
	1.8nm,0.7s						
ESDC	**Sonseca Array**	**65.15**	**311**	P	P	14 56 48.0	0.0
	0.6nm,0.7s,baz=95,slow=6.1,SNR=7.0						
	0.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**67.72**	**130**	LR	LR	15 21 03.8	
	comp=Z,76nm,22.0s,baz=248,slow=31						

*NEIC **03** 15:31:05.1±1.9, 6°.29N±0°.09×117°.2E±0°.1, h667km±7km, mb4.5/73, Error ellipse: s-maj=15.5km s-min=12.8km az=65.0*
*DJA **03** 15:31:05.0±0.2, 6°.N±3°×117°.7E±°, h670km±3km, M4.3/44, mb4.6/44, mB4.8/16, MLv4.7/6, Mw(mB)4.1/16*
*IDC **03** 15:31:06.1±0.8, 6°.28N×117°.22E, h683km±10km, mb3.6/26, mbtmp4.7/28, Error ellipse: s-maj=14.5km s-min=6.5km az=67.0*
ISC 03 15:31:05.1±0.5, 6°.24N±0°.05×117°.23E±0°.06, h672km±7km, n219, σ0°95/239, mb4.5/76, 1C-2D, Borneo

| Code | Station Name | Δ° |

	comp=Z,44nm,1.1s							
GSI	**Gunungsitoli**	**20.21**	**257**	P		**P**	15 34 58.3	**+0.2**
	comp=Z,17nm,0.5s							
CMAR	**Chiang Mai Arr**	**21.57**	**306**	P		**P**	**15 35 10.5**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=124,slow=6.6,SNR=15							
CMAR				PcP		**PcP**	**15 38 44.5**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=189,slow=1.8,SNR=9.2							
CMAR				ScP		**ScP**	**15 41 17.4**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=130,slow=2.6,SNR=7.8							
	comp=Z,2.7nm,0.7s							
CHTO	**Chiang Mai**	**21.76**	**307**	P		**P**	**15 35 10.7**	**-1.1**
CHTO				IAmb		IAmb	15 35 13.0	
	comp=Z,16nm,0.8s							
GYA	**Guiyang**	**22.49**	**335**	⇓P		**P**	**15 35 18.9**	**+0.6**
GYA				pmax		pmax		
	comp=Z,35nm,0.5s							
JOW	**Kunigami**	**23.02**	**26**	P		**P**	**15 35 22.8**	**0.0**
KMI	**Kunming**	**23.35**	**325**	⇓P		**P**	**15 35 27.4**	**+1.4**
KMI				pmax		pmax		
	comp=Z,21nm,0.7s							
MTN	**Manton Dam**	**23.46**	**144**	P		**P**	**15 35 26.9**	**+0.1**
MTN				IAmb		IAmb	15 35 46.2	
	comp=Z,40nm,1.4s							
KNRA	**Kununurra**	**24.59**	**152**	P		**P**	**15 35 37.1**	**+0.4**
KNRA				IAmb		IAmb	15 36 07.2	
	comp=Z,14nm,1.1s							
PZH	**PanZhiHua**	**24.98**	**325**	P		**P**	**15 35 40.3**	**+0.1**
PZH				pmax		pmax		
	comp=Z,30nm,0.6s							
NJ2	**Nanjing**	**25.73**	**3**	*eP*		**P**	**15 35 47.2**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
TNCH	**TengChong**	**25.89**	**318**	P		**P**	**15 35 48.6**	**+0.4**
TNCH				pmax		pmax		
	comp=Z,18nm,1.2s							
TNCH				pmax		pmax		
	comp=Z,91nm,2.4s							
MBWA	**Marble Bar**	**27.34**	**175**	P		P	15 35 51.1	-10
GUMO	**Guam**	**28.16**	**73**	P		**P**	**15 36 06.6**	**-1.3**
XAN	**Xi'an**	**28.71**	**346**	P		**P**	**15 36 12.6**	**+0.2**
XAN				pmax		pmax		
	comp=Z,13nm,0.6s							
JNU	**Nakatsue**	**29.61**	**24**			**P**	**15 36 19.6**	**-0.4**
JNU				IAmb		IAmb	15 36 21.3	
	comp=Z,15nm,0.9s							
TIA	**Tai'an**	**29.83**	**360**	P		**P**	**15 36 22.2**	**+0.4**
TIA				pmax		pmax		
	comp=Z,8.0nm,0.4s							
WB0	**Warramunga Arr**	**30.87**	**147**			**P**	**15 36 30.8**	**-0.1**
WB0				IAmb		IAmb	15 36 31.6	
	comp=Z,19nm,1.4s							
WRA	**Warramunga Arr**	**30.99**	**147**	P		**P**	**15 36 30.7**	**-1.1**
WRA	**Warramunga Arr**	**30.99**	**147**	P		**P**	**15 36 31.9**	**0.0**
	comp=Z,3.5nm,0.6s,baz=328,slow=7.2,SNR=48							
WRA				PcP		**PcP**	**15 39 05.5**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=322,slow=3.4,SNR=8.0							
WRA				S		**S**	**15 40 52.4**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=326,slow=13,SNR=3.3							
WRA				ScP		**ScP**	**15 41 45.5**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=334,slow=3.1,SNR=8.1							
	comp=Z,3.5nm,0.6s							
WB2	**Warramunga Arr**	**30.99**	**147**	P		**P**	**15 36 32.2**	**+0.2**
WR8	**Warramunga Arr**	**31.08**	**147**	P		**P**	**15 36 32.8**	**+0.1**
WR0	**Warramunga Arr**	**31.11**	**147**	P		**P**	**15 36 32.2**	**-0.7**
WR0				IAmb		IAmb	15 36 33.8	
	comp=Z,9.9nm,1.1s							
JMN	**Monobe**	**31.41**	**27**	P		**P**	**15 36 35.9**	**+0.6**
LZH	**Lanzhou**	**32.15**	**339**	*eP*		**P**	**15 36 42.6**	**+1.0**
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
KSAR	**Wonju Array Be**	**32.54**	**16**			**P**	**15 36 44.5**	**-0.1**
KSRS	**Korea Array**	**32.56**	**16**	P		**P**	**15 36 46.0**	**+1.3**
	comp=Z,9.1nm,0.8s,baz=198,slow=9.7,SNR=66							
KSRS				ScP		**ScP**	**15 41 51.1**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=187,slow=2.5,SNR=2.9							
	comp=Z,9.1nm,0.8s							
KS19	**Wonju Array Si**	**32.59**	**16**	P		**P**	**15 36 43.9**	**-1.2**
KS19				IAmb		IAmb	15 36 47.0	
	comp=Z,19nm,1.1s							
ASAR	**Alice Springs**	**33.89**	**152**	P		**P**	**15 36 56.5**	**+0.4**
ASAR	**Alice Springs**	**33.89**	**152**	P		**P**	**15 36 56.8**	**+0.7**
	comp=Z,2.3nm,0.5s,baz=327,slow=7.2,SNR=34							
ASAR				PcP		**PcP**	**15 39 13.8**	**0.0**
	comp=Z,1.6nm,0.4s,baz=339,slow=3.2,SNR=10							
ASAR				S		**S**	**15 41 36.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=323,slow=14,SNR=4.1							
ASAR				ScP		**ScP**	**15 41 56.0**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=333,slow=2.9,SNR=14							
	comp=Z,2.3nm,0.5s							
LSA	**Lhasa**	**33.89**	**317**	P		**P**	**15 36 56.6**	**0.0**
LSA				pmax		pmax		
	comp=Z,28nm,0.6s							
INU	**Inuyama**	**34.22**	**29**			**P**	**15 36 58.7**	**+0.1**
JSG	**Sagara**	**34.28**	**32**	P		**P**	**15 36 59.8**	**+0.7**
JGF	**Kuroda**	**34.58**	**30**			**P**	**15 37 01.8**	**+0.1**
HHC	**Hu-ho-hao-te**	**34.83**	**352**	*eP*		**P**	**15 37 04.8**	**+1.1**
HHC				pmax		pmax		
	comp=Z,14nm,0.5s							
HHC				pmax		pmax		
	comp=Z,68nm,4.5s							
MAJO	**Matsushiro**	**35.75**	**30**	P		**P**	**15 37 09.4**	**-1.8**
MJAR	**Matsushiro Arr**	**35.75**	**30**			**P**	**15 37 09.6**	**-1.7**
MJAR				IAmb		IAmb	15 37 11.9	
	comp=Z,12nm,1.2s							
MJAR	**Matsushiro Arr**	**35.75**	**30**	P		**P**	**15 37 11.0**	**-0.2**
	comp=Z,14nm,0.6s,baz=208,slow=8.5,SNR=104							
	comp=Z,14nm,0.6s							
MJB9	**Matsu-Tunnel**	**35.75**	**30**	P		**P**	**15 37 10.6**	**-0.6**
MJB9				IAmb		IAmb	15 37 11.8	
	comp=Z,16nm,0.5s							
EVN	**Everest**	**36.03**	**310**			**P**	**15 37 14.6**	**+0.2**
RABL	**Rabaul**	**36.38**	**106**	P		**P**	**15 37 16.7**	**0.0**
RABL				IAmb		IAmb	15 37 19.9	
	comp=Z,15nm,0.6s							
GTA	**Gaotai**	**36.57**	**337**	*eP*		**P**	**15 37 19.7**	**+1.7**
GTA				PcP		**PcP**	**15 39 23.1**	**+1.3**
GTA				ScP		**ScP**	**15 42 08.4**	**+2.0**
GTA				S		**S**	**15 42 18.3**	**+2.4**
GTA				pmax		pmax		
	comp=Z,26nm,0.7s							
XLT	**XiLinHaoTe**	**37.52**	**359**	*eP*		**P**	**15 37 26.3**	**+0.8**
XLT				pmax		pmax		
	comp=Z,15nm,0.7s							
FORT	**Forrest**	**38.24**	**165**	P		**P**	**15 37 32.0**	**+0.6**
FORT				IAmb		IAmb	15 37 33.0	
	comp=Z,19nm,1.4s							
NWAO	**Narrogin (SRO)**	**38.95**	**180**	P		**P**	**15 37 36.8**	**-0.2**
NWAO				IAmb		IAmb	15 37 47.2	
	comp=Z,22nm,1.1s							
NWAO	**Narrogin (SRO)**	**38.95**	**180**	P		**P**	**15 37 37.5**	**+0.4**
MDJ	**Mudanjiang**	**39.72**	**14**	P		**P**	**15 37 43.3**	**+0.3**
MDJ				pmax		pmax		
	comp=Z,76nm,0.6s							
USA0B	**Ussuriysk Arra**	**39.96**	**17**			**P**	**15 37 43.8**	**-1.0**
USA0B				IAmb		IAmb	15 37 46.4	
	comp=Z,11nm,0.7s							
USRK	**Ussuriysk Ar.**	**39.96**	**17**			**P**	**15 37 43.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**39.96**	**17**	P		**P**	**15 37 45.5**	**+0.6**
	comp=Z,9.1nm,0.5s,baz=198,slow=6.4,SNR=31							
	comp=Z,9.1nm,0.5s							
BNX	**BinXian**	**40.33**	**11**	⇑P		**P**	**15 37 47.9**	**+0.2**
BNX				pmax		pmax		
	comp=Z,20nm,0.5s							
ULN	**Ulaanbaatar**	**42.38**	**350**			**P**	**15 38 03.5**	**-0.4**
ULN	**Ulaanbaatar**	**42.38**	**350**	P		**P**	**15 38 04.3**	**+0.4**
ERM	**Erimo**	**42.41**	**29**	P		**P**	**15 38 04.7**	**+0.7**
SONM	**Songino Array**	**42.47**	**349**	P		**P**	**15 38 02.8**	**-1.7**
SONM	**Songino Array**	**42.47**	**349**	P		**P**	**15 38 05.1**	**+0.5**
	comp=Z,5.4nm,0.3s,baz=171,slow=8.8,SNR=38							
SONM				PcP		**PcP**	**15 39 40.7**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=158,slow=4.2,SNR=3.7							
	comp=Z,5.4nm,0.3s							
BBOO	**Buckleboo**	**42.76**	**156**	P		**P**	**15 38 06.9**	**0.0**
BBOO				IAmb		IAmb	15 38 07.4	
	comp=Z,27nm,1.2s							
JKA	**Kamikawa-asahi**	**43.79**	**26**			**P**	**15 38 13.9**	**-0.7**
STKA	**Stephens Creek**	**44.46**	**150**	P		**P**	**15 38 20.6**	**+0.6**
	comp=Z,4.4nm,0.4s,baz=324,slow=7.9,SNR=10							
	comp=Z,4.4nm,0.4s							
HEH	**HeiHe**	**44.69**	**9**	*eP*		**P**	**15 38 21.9**	**+0.6**
HEH				ScP		**ScP**	**15 42 37.5**	**-0.8**
HEH				pmax		pmax		
	comp=Z,33nm,0.7s							
YSS	**Yuzhno-Sakhali**	**46.11**	**24**			**P**	**15 38 31.3**	**-0.8**
YSS				IAmb		IAmb	15 38 33.6	
	comp=Z,13nm,0.5s							
NIL	**Nilore**	**48.98**	**310**	P		**P**	**15 38 53.1**	**-0.6**
NIL				IAmb		IAmb	15 38 54.8	
	comp=Z,51nm,1.2s							
NIL	**Nilore**	**48.98**	**310**	P		**P**	**15 38 53.6**	**-0.1**
KSH	**Kashi**	**49.72**	**318**	P		**P**	**15 39 00.6**	**+1.5**
KSH				PcP		**PcP**	**15 40 08.9**	**+1.8**
KSH				pmax		pmax		
	comp=Z,17nm,0.8s							
MKAR	**Makanchi Array**	**50.33**	**329**			**P**	**15 39 03.5**	**+0.2**
MKAR				PcP		**PcP**	**15 40 09.5**	**+0.4**
MKAR	**Makanchi Array**	**50.33**	**329**	P		**P**	**15 39 03.9**	**+0.7**
	comp=Z,12nm,0.3s,baz=126,slow=8.4,SNR=208							
MKAR				PcP		**PcP**	**15 40 09.4**	**+0.3**
	comp=Z,5.3nm,0.5s,baz=151,slow=3.5,SNR=15							
MKAR				ScP		**ScP**	**15 43 03.2**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=130,slow=5.2,SNR=8.7							
	comp=Z,12nm,0.3s							
KDJ	**Kajisay**	**50.34**	**322**	P		**P**	**15 39 03.7**	**+0.1**
MAKZ	**Makanchi**	**50.50**	**329**			**P**	**15 39 03.1**	**-1.4**
CAN	**Canberra**	**51.02**	**146**	P		**P**	**15 39 08.7**	**+0.3**
CAN				IAmb		IAmb	15 39 10.5	
	comp=Z,43nm,1.4s							
TKM2	**Tokmak 2**	**51.75**	**322**	P		**P**	**15 39 14.7**	**+1.0**
	SNR=17							
KBK	**Karagaybulak**	**52.02**	**321**	P		**P**	**15 39 17.3**	**+1.7**
	SNR=10							
AAK	**Ala-Archa**	**52.29**	**321**	P		**P**	**15 39 18.7**	**+1.3**
AAK	**Ala-Archa**	**52.29**	**321**	P		**P**	**15 39 18.9**	**+1.4**
	SNR=6.1							
KBL	**Kabul**	**52.55**	**309**			**P**	**15 39 19.6**	**0.0**
KBL	**Kabul**	**52.55**	**309**	P		**P**	**15 39 19.7**	**+0.2**
ARSB	**Arslanbob**	**52.60**	**319**	IAmb		IAmb	15 39 21.3	
	comp=Z,30nm,1.2s							
USP	**Ospenovka**	**52.62**	**321**	P		**P**	**15 39 20.4**	**+0.8**
	SNR=12							
EKS2	**Erkin-Say**	**52.76**	**320**	P		**P**	**15 39 22.0**	**+1.3**
	SNR=6.9							
GAR	**Garm**	**53.36**	**315**			**P**	**15 39 25.3**	**+0.3**
GAR				IAmb		IAmb	15 39 26.2	
	comp=Z,49nm,1.0s							
ZAA0	**Zalesovo Array**	**54.33**	**337**			**P**	**15 39 30.8**	**-0.5**
ZAA0				IAmb		IAmb	15 39 31.7	
	comp=Z,12nm,0.6s							
ZALV	**Zalesovo Beam**	**54.33**	**337**			**P**	**15 39 30.2**	**-1.1**
ZALV	**Zalesovo Beam**	**54.33**	**337**	P		**P**	**15 39 30.9**	**-0.4**
	comp=Z,12nm,0.6s,baz=129,slow=7.6,SNR=57							
ZALV				PcP		**PcP**	**15 40 23.2**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=141,slow=4.4,SNR=1.9							
ZALV				ScP		**ScP**	**15 43 18.5**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=141,slow=5.5,SNR=2.7							
	comp=Z,12nm,0.6s							
KURBB	**Kurchatov Arra**	**54.73**	**331**	P		**P**	**15 39 34.4**	**+0.2**
	comp=Z,11nm,0.6s,baz=128,slow=6.1,SNR=67							
KURBB				PcP		**PcP**	**15 40 25.8**	**0.0**
	comp=Z,2.2nm,0.6s,baz=134,slow=3.2,SNR=6.6							
KURBB				ScP		**ScP**	**15 43 21.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=130,slow=3.4,SNR=5.5							
	comp=Z,11nm,0.6s							
KURK	**Kurchatov**	**54.75**	**331**			**P**	**15 39 34.3**	**0.0**
KURK				IAmb		IAmb	15 39 36.0	
	comp=Z,31nm,0.9s							
KURK	**Kurchatov**	**54.75**	**331**	P		**P**	**15 39 34.7**	**+0.4**
KKAR	**Karatay Array**	**55.06**	**319**	P		**P**	**15 39 37.0**	**+0.3**
PEA0B	**Petropavlovsk-**	**57.17**	**28**			**P**	**15 39 50.1**	**-0.7**
PEA0B				IAmb		IAmb	15 39 52.7	
	comp=Z,20nm,0.6s							
PETK	**Petropavlovsk-**	**57.17**	**28**	P		**P**	**15 39 51.0**	**+0.2**
PETK	**Petropavlovsk-**	**57.17**	**28**	P		**P**	**15 39 51.1**	**+0.3**
	comp=Z,13nm,0.6s,baz=202,slow=2.8,SNR=71							
	comp=Z,13nm,0.6s							
PET	**Petropavlovsk**	**57.56**	**28**	P		**P**	**15 39 52.9**	**-0.5**
MA2	**Magadan**	**59.02**	**19**	P		**P**	**15 40 03.7**	**+0.7**
	comp=Z,5.3nm,0.8s							
MHTO	**MHTO**	**59.12**	**291**	P		**P**	**15 40 03.5**	**-1.0**
JMDO	**Jabal Madar**	**59.13**	**292**	P		**P**	**15 40 03.5**	**-1.0**
BIDO	**Bidbid**	**59.24**	**294**	P		**P**	**15 40 04.0**	**-1.2**
SMDO	**Samad**	**59.26**	**293**	P		**P**	**15 40 04.2**	**-1.2**
HOQ	**Hoqain**	**59.99**	**294**	P		**P**	**15 40 09.3**	**-0.9**
BVAR	**Borovoye Array**	**60.21**	**329**	P		**P**	**15 40 11.1**	**+0.1**
	comp=Z,9.0nm,0.5s,baz=123,slow=7.8,SNR=40							
BVAR				PcP		**PcP**	**15 40 47.8**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=121,slow=5.0,SNR=5.8							
	comp=Z,9.0nm,0.5s							
BRVK	**Borovoye**	**60.28**	**329**			**P**	**15 40 10.8**	**-0.6**
BRVK	**Borovoye**	**60.28**	**329**	P		**P**	**15 40 11.5**	**0.0**
ARQ	**Araqi**	**60.69**	**293**	P		**P**	**15 40 14.0**	**-0.7**
	SNR=5.8							
SOHO	**SOHO**	**60.77**	**294**	P		**P**	**15 40 14.0**	**-1.2**
MDH	**Madha**	**61.11**	**295**	P		**P**	**15 40 15.5**	**-1.9**
SHAO	**Shalim**	**61.12**	**287**	P		**P**	**15 40 16.8**	**-0.8**
UOSS	**Minazif**	**61.16**	**295**	P		**P**	**15 40 15.8**	**-1.9**
UOSS				IAmb		IAmb	15 40 33.9	
	comp=Z,32nm,1.5s							
UOSS	**Minazif**	**61.16**	**295**	P		**P**	**15 40 16.9**	**-0.8**
HATD	**Hatta, Dubai**	**61.21**	**295**	P		**P**	**15 40 17.9**	**-0.2**
MASF	**Masafi**	**61.25**	**295**	P		**P**	**15 40 17.7**	**-0.6**
ASHO	**Ashiyiah**	**61.26**	**295**	P		**P**	**15 40 17.4**	**-1.0**
SHME	**Shamm**	**61.35**	**296**	P		**P**	**15 40 18.5**	**-0.5**
ALNE	**Al Ain**	**61.47**	**294**	P		**P**	**15 40 18.9**	**-0.9**
UMZA	**Um Al Zommool**	**61.88**	**292**	P		**P**	**15 40 21.3**	**-1.1**
DOK	**Doka**	**62.56**	**288**	P		**P**	**15 40 26.0**	**-0.9**
WHFO	**Wadi Hawf**	**62.88**	**287**	P		**P**	**15 40 27.7**	**-1.2**
MZWR	**Madinat Zayed**	**63.14**	**293**	P		**P**	**15 40 29.8**	**-0.7**
ABTO	**Aybut**	**63.31**	**286**	P		**P**	**15 40 30.5**	**-1.2**
MZR	**Muzera**	**63.45**	**292**	P		**P**	**15 40 31.7**	**-0.8**
JRN	**Qarnain Island**	**64.19**	**295**	P		**P**	**15 40 36.5**	**-0.6**
AB31	**Akbulak array**	**64.31**	**322**	P		**P**	**15 40 37.5**	**+0.3**
AB31				IAmb		IAmb	15 40 38.4	
	comp=Z,14nm,0.7s							
ABKAR	**Akbulak array**	**64.31**	**322**			**P**	**15 40 37.0**	**-0.2**
TRNA	**Turayna**	**65.65**	**294**	P		**P**	**15 40 46.3**	**+0.2**
	SNR=30							
SHMA	**Al-Shehemyia**	**65.96**	**295**	P		**P**	**15 40 48.3**	**+0.2**
	SNR=9.0							
ARTI	**Arti**	**67.93**	**329**			**P**	**15 40 58.3**	**-1.1**
ARTI				IAmb		IAmb	15 40 59.8	
	comp=Z,22nm,0.7s							
KBD	**Kabd**	**69.13**	**299**	P		**P**	**15 41 06.4**	**-0.7**
RAYN	**Ar Rayn**	**70.80**	**293**			**P**	**15 41 16.6**	**-0.6**
RAYN				IAmb		IAmb	15 41 17.8	
	comp=Z,12nm,1.0s							
RAYN	**Ar Rayn**	**70.80**	**293**	P		**P**	**15 41 17.0**	**-0.1**
BKZ	**Black Stump Fm**	**70.91**	**135**	P		**P**	**15 41 17.2**	**-0.2**
BKZ				IAmb		IAmb	15 41 28.6	
	comp=Z,53nm,1.5s							
CASY	**Casey**	**72.50**	**183**	P		**P**	**15 41 24.5**	**-1.4**
VOI	**Vohitsoka**	**74.39**	**245**	P		**P**	**15 41 35.8**	**-1.9**
KBZ	**Khabaz**	**74.40**	**314**	P		**P**	**15 41 37.8**	**+0.6**
	comp=Z,7.8nm,0.8s,baz=108,slow=4.2,SNR=18							
	comp=Z,7.8nm,0.8s							
KIBK	**Kibwezi**	**79.52**	**266**	P		**P**	**15 42 05.8**	**+0.3**
MMAI	**Mount Meron Ar**	**79.79**	**302**	P		**P**	**15 42 08.0**	**+1.4**
	comp=Z,9.9nm,0.5s,baz=82,slow=6.0,SNR=13							
	comp=Z,4.9nm,0.5s							
BR104	**Keskin Array S**	**81.12**	**309**	P		**P**	**15 42 13.0**	**-0.3**
	comp=Z,76nmcomp=Z,10nm,0.8s							
BR131	**Keskin Array S**	**81.12**	**309**			**P**	**15 42 12.3**	**-1.1**
BR131				IAmb		IAmb	15 42 14.1	
	comp=Z,8.7nm,0.8s							
BRTR	**Keskin Array B**	**81.12**	**309**			**P**	**15 42 12.9**	**-0.5**
BRTR	**Keskin Array B**	**81.12**	**309**	P		**P**	**15 42 13.3**	**-0.1**
	comp=Z,5.8nm,0.7s,baz=93,slow=5.1,SNR=42							
	comp=Z,5.8nm,0.7s							
BR106	**Keskin Array S**	**81.14**	**309**	P		**P**	**15 42 12.8**	**-0.6**
	comp=Z,62nmcomp=Z,8.3nm,0.8s							
BR105	**Keskin Array S**	**81.14**	**309**	P		**P**	**15 42 12.8**	**-0.7**
	comp=Z,67nmcomp=Z,11nm,0.8s							
MAW	**Mawson**	**82.98**	**198**	P		**P**	**15 42 21.6**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=54,slow=3.8,SNR=8.7							
	comp=Z,1.8nm,0.6s							
NE56	**Odesa**	**82.99**	**316**	P		**P**	**15 42 21.1**	**-1.2**
VADS	**Vadso**	**83.45**	**340**	*eP*		**P**	**15 42 24.1**	**0.0**
AK09	**Malin Array Si**	**83.92**	**320**	P		**P**	**15 42 26.1**	**-0.7**
AKASG	**Malin Array Be**	**83.96**	**320**	P		**P**	**15 42 26.2**	**-0.8**
AKASG	**Malin Array Be**	**83.96**	**320**	P		**P**	**15 42 26.5**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=72,slow=4.7,SNR=20							
	comp=Z,2.4nm,0.5s							
KIEV	**Kiev**	**83.97**	**320**	P		**P**	**15 42 26.0**	**-1.1**
	comp=Z,48nm,1.0s							
AK02	**Malin Array Si**	**83.97**	**320**	P		**P**	**15 42 26.4**	**-0.7**
AK11	**Malin Array Si**	**83.99**	**320**	P		**P**	**15 42 26.3**	**-0.9**
AK17	**Malin Array Si**	**84.06**	**320**	P		**P**	**15 42 26.6**	**-0.9**
AK20	**Malin Array Si**	**84.09**	**320**	P		**P**	**15 42 26.7**	**-1.0**
KEV	**Kevo**	**84.27**	**340**	P		**P**	**15 42 27.5**	**-0.6**
KEV				IAmb		IAmb	15 42 28.6	
	comp=Z,9.6nm,0.8s							
ARA0	**ARCESS Array S**	**84.81**	**339**	*eP*		**P**	**15 42 30.6**	**-0.2**
ARCES	**ARCESS Array B**	**84.81**	**339**	P		**P**	**15 42 29.0**	**-1.8**
ARCES				IAmb		IAmb	15 42 31.7	
	comp=Z,10.0nm,0.8s							
ARCES	**ARCESS Array B**	**84.81**	**339**	P		**P**	**15 42 30.4**	**-0.3**
	comp=Z,8.6nm,0.5s,baz=87,slow=6.4,SNR=78							
	comp=Z,8.6nm,0.5s							
LUBAR	**Lubar, Ukraine**	**84.94**	**320**	P		**P**	**15 42 30.7**	**-1.1**
FINES	**FINESS Array B**	**85.12**	**331**	P		**P**	**15 42 30.1**	**-2.2**
FINES	**FINESS Array B**	**85.12**	**331**	P		**P**	**15 42 31.4**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=74,slow=5.0,SNR=30							
	comp=Z,4.0nm,0.6s							
NDNU	**Novodnistrovsk**	**85.28**	**318**	P		**P**	**15 42 32.5**	**-1.0**
KTK1	**Kautokeino**	**85.66**	**339**	*eP*		**P**	**15 42 34.3**	**-0.5**
SPITS	**Spitsbergen Ar**	**86.16**	**348**	P		**P**	**15 42 36.4**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=112,slow=7.6,SNR=14							
	comp=Z,2.2nm,0.4s							
SEW	**Seward**	**86.29**	**30**	P		**P**	**15 42 39.3**	**+1.3**
SEW				IAmb		IAmb	15 42 43.3	
	comp=Z,11nm,0.6s							
JETT	**Jettan, Norway**	**86.58**	**340**	*eP*		**P**	**15 42 39.0**	**-0.3**
BURAR	**Bucovina Array**	**86.80**	**317**	P		**P**	**15 42 40.8**	**+0.1**
BUR08	**Bucovina Ar. S**	**86.81**	**317**	P		**P**	**15 42 38.9**	**-1.9**
VNDA	**Vanda**	**87.22**	**171**	P		**P**	**15 42 41.0**	**-1.0**
VNDA	**Vanda**	**87.22**	**171**	P		**P**	**15 42 42.4**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=318,slow=6.0,SNR=9.2							
	comp=Z,1.2nm,0.6s							
BMAR	**Burnt Mountain**	**87.42**	**22**	P		**P**	**15 42 43.0**	**-0.2**
IDI	**Anoyia**	**88.35**	**305**	P		**P**	**15 42 47.8**	**-0.4**
FAUS	**Fauske**	**88.86**	**338**	*eP*		**P**	**15 42 48.6**	**-1.2**
BCAR	**Beaver Creek A**	**89.43**	**27**			**P**	**15 42 53.7**	**+1.0**
H29M	**Whitestone**	**90.09**	**23**	P		**P**	**15 42 56.5**	**+1.0**
H29M				IAmb		IAmb	15 43 17.5	
	comp=Z,7.0nm,1.4s							
M29M	**Somme Creek**	**91.07**	**27**			**P**	**15 43 01.7**	**+1.4**
HFS	**Hagfors**	**91.32**	**331**	P		**P**	**15 42 59.9**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=82,slow=6.0,SNR=13							
	comp=Z,0.9nm,0.5s							
NB2	**NORSAR Subarra**	**92.25**	**332**	P		**P**	**15 43 03.6**	**-2.0**
	comp=Z,1.5nm,0.9s,baz=74,slow=4.4							
NB2	**NORSAR Subarra**	**92.25**	**332**	P		**P**	**15 43 03.6**	**-2.0**
	baz=74,slow=4.4							
NOA	**NORSAR Array B**	**92.25**	**332**	P		**P**	**15 43 04.2**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=72,slow=4.4,SNR=3.7							
	comp=Z,0.7nm,0.7s							
BRG	**Berggiesshubel**	**93.51**	**322**	*eP*		**P**	**15 43 12.0**	**+0.4**
BRG				Amp			15 43 12.6	
	comp=Z,2.8nm,0.7s							
GERES	**GERESS Array B**	**94.16**	**320**	P		**P**	**15 43 14.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=60,slow=7.9,SNR=4.7							
	comp=Z,0.5nm,0.5s							
QSPA	**South Pole Qui**	**96.14**	**180**	P		**P**	**15 43 23.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=319,slow=1.6,SNR=7.7							
	comp=Z,0.8nm,0.7s							
PLCA	**Paso Flores**	**144.96**	**170**	PKPbc		**PKPbc**	**15 49 29.9**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=199,slow=1.9,SNR=17							

VIE ***03*** *15:31:25.8±0.7, 51°.35N×16°.00E, h0km, mb2.1/3, ml2.5/2

JANB				*e*S	**Sn**	**15 59 31.4**	**+2.0**
IPMB	**Ipameri, GO**	**5.17**	**291**	*e*P	**Pn**	**15 58 34.9**	**-0.6**
CMC01	**Camacan, BA**	**5.67**	**38**	*e*P	**Pn**	**15 58 41.9**	**-0.5**
CMC01				*e*S	**Sn**	**15 59 49.2**	**+1.8**
SDBA	**SAO DESIDERIO**	**7.63**	**347**	*e*P	**Pn**	**15 59 08.7**	**-0.7**
SDBA				*e*S	**Sn**	**16 00 38.3**	**+2.4**

AUST 03 16:03:28.4±0.8,**18°S**±7″×**12°0E**±°,**h10**km,**mb4.1**/3, **ML3.0**/6,**ML3.1**/5,**Error ellipse: s-maj=18.4km s-min=6.2km az=141.4,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.92**	**78**	P	Pn	16 04 01.2	+0.2
AUBRM				S	Sn	16 04 25.7	+0.5
MBWA	**Marble Bar**	**2.83**	**190**	P	Pn	16 04 14.0	+0.5
PSAA2	**Pilbara Seismi**	**3.21**	**187**	P	Pn	16 04 19.7	+0.9
PSAA2				S	Sn	16 04 57.8	+0.7
PSA00	**Pilbara Seismi**	**3.22**	**187**	S	Pn	16 04 19.6	+0.6
GIRL	**Giralia**	**7.08**	**232**	P	Pn	16 05 11.9	-0.1
	comp=Z,0.1nmcomp=Z,194µmcomp=Z,42nm,1.8s						
GIRL				S	Sn	16 06 28.6	-3.9
MEEK	**Meekatharra**	**8.37**	**190**	P	Pn	16 05 29.8	-0.1
	comp=Z,0.1nmcomp=Z,16nm,2.0s						
MEEK	**Meekatharra**	**8.37**	**190**	S	Sn	16 07 00.2	-4.3
BLDU	**Ballidu**	**12.62**	**194**	P	Pn	16 06 26.2	-1.8
	comp=Z,19nm,2.2s						

*ATH **03** 16:18:07.9,40°.18N×19°.91E,h16km±3km, ML2.8/9, Manual Solution by F.Xalaris First location: 2019/08/03 16:19:47, This location: 2020/10/16 07:36:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **03** 16:18:08.4±1.0,40°.12N×19°.81E,h15km±3km, ML2.4/3*
*THE **03** 16:18:08.5,40°N±2″×2°0E±°,h0km±2km,M2.6/13, MLh2.6/13*

ISC 03 16:18:09.0±1.1,**40°.12N**±0°.03×**19°.95E**±0°.04,**h16**km±9km, **n36**,σ1s**02**/48,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.42**	**195**	P	**Pg**	**16 18 17.5**	**-0.1**
KEK				S	**Sb**	**16 18 24.2**	**+0.1**
KEK	**Kerkira**	**0.42**	**195**	P	**Pg**	**16 18 17.4**	**-0.1**
KEK				S	**Sb**	**16 18 24.6**	**+0.4**
IGT	**Igoumenitsa**	**0.66**	**153**	P	**Pg**	**16 18 19.8**	**-2.2**
IGT				S	**Sg**	**16 18 31.0**	**+0.3**
IGT	**Igoumenitsa**	**0.66**	**153**	*e*Pg	**Pg**	**16 18 19.7**	**-2.2**
IGT				*e*Sg	**Sn**	**16 18 33.8**	**+0.2**
JAN	**Janina**	**0.84**	**123**	P	**Pb**	**16 18 24.4**	**-0.7**
JAN				S	**Sg**	**16 18 37.8**	**+1.5**
JAN	**Janina**	**0.84**	**123**	P	**Pb**	**16 18 24.5**	**-0.7**
JAN				S	**Sg**	**16 18 37.2**	**+0.8**
NEST	**Nestorio**	**0.89**	**70**	P	**Pb**	**16 18 25.3**	**-0.8**
NEST	**Nestorio**	**0.89**	**70**	P	**Pb**	**16 18 25.4**	**-0.8**
NEST				S	**Sb**	**16 18 37.8**	**-0.1**
PENT	**Pentalofos**	**0.92**	**85**	P	**Pb**	**16 18 25.3**	**-1.2**
PENT	**Pentalofos**	**0.92**	**85**	P	**Pb**	**16 18 25.3**	**-1.2**
PRMD	**Pramanda**	**1.06**	**123**	P	**Pb**	**16 18 29.0**	**-0.1**
PRMD				S	**Sn**	**16 18 45.3**	**+1.6**
PRMD	**Pramanda**	**1.06**	**123**	P	**Pb**	**16 18 28.8**	**-0.2**
PRMD				S	**Sg**	**16 18 44.0**	**+0.5**
SCTE	**Santa Cesarea**	**1.13**	**268**	P	**Pb**	**16 18 28.8**	**-1.3**
LMS2	**Laimos Florina**	**1.16**	**52**	P	**Pn**	**16 18 29.7**	**-0.8**
OHR	**Ohrid**	**1.18**	**33**	*i* Pn	**Pg**	**16 18 31.1**	**-0.7**
OHR				*i* Sn	**Sg**	**16 18 50.7**	**+3.4**
FNA	**Florina**	**1.28**	**58**	P	**Pn**	**16 18 32.0**	**-0.2**
FNA				S	**Sg**	**16 18 50.4**	**+0.1**
FNA	**Florina**	**1.28**	**58**	*e*Pg	**Pn**	**16 18 32.0**	**-0.2**
FNA				*e*Sg	**Sg**	**16 18 52.7**	**+2.4**
FNA	**Florina**	**1.28**	**58**	P	**Pn**	**16 18 32.0**	**-0.2**
TETR	**Tetrakomo, Epi**	**1.29**	**127**	P	**Pb**	**16 18 32.8**	**0.0**
TETR	**Tetrakomo, Epi**	**1.29**	**127**	P	**Pn**	**16 18 32.2**	**-0.1**
TSLK	**Tsoukalades, L**	**1.41**	**157**	P	**Pb**	**16 18 35.2**	**+0.4**
TSLK	**Tsoukalades, L**	**1.41**	**157**	P	**Pn**	**16 18 33.9**	**+0.1**
LKD2	**Lefkada island**	**1.44**	**157**	P	**Pb**	**16 18 35.3**	**-0.1**
LKD2	**Lefkada island**	**1.44**	**157**	P	**Pn**	**16 18 34.1**	**-0.3**
AMPL	**Ampelaki**	**1.55**	**140**	P	**Pn**	**16 18 36.5**	**+0.7**
EVGI	**Lefkada island**	**1.60**	**160**	P	**Pb**	**16 18 37.7**	**-0.4**
THL	**Klokotos Trika**	**1.69**	**109**	P	**Pb**	**16 18 39.3**	**-0.2**
FSK	**Fiskardo**	**1.73**	**164**	P	**Pb**	**16 18 38.7**	**+0.4**
EVR	**Evrytania**	**1.88**	**129**	P	**Pb**	**16 18 42.0**	**-0.9**
DRME	**Dracevica, Mon**	**2.14**	**345**	*e*Pn	**Pn**	**16 18 43.4**	**-0.6**
KOME	**Kolasin**	**2.75**	**353**	*e*Pn	**Pn**	**16 18 53.8**	**+1.4**
BARS	**Barje**	**3.04**	**27**	*e*Pn	**Pn**	**16 18 56.6**	**+0.3**
BOSS	**Bosilegrad**	**3.05**	**38**	*e*Pn	**Pn**	**16 18 56.6**	**+0.2**
SJES	**Sjenica**	**3.14**	**0**	*e*Pn	**Pn**	**16 18 57.0**	**-0.8**
IVAS	**Ivanjica**	**3.46**	**3**	*e*Pn	**Pn**	**16 19 01.6**	**-0.5**
ZAGS	**Zajecar**	**4.06**	**24**	*e*Pn	**Pn**	**16 19 10.4**	**0.0**

*IDC **03** 16:22:28.8±1.4,71°.82N×5°.47E,h0km,mbtmp3.5/6, ML3.0/6,Error ellipse: s-maj=20.3km s-min=17.6km az=64.0*
*NAO **03** 16:22:31.0±1.0,72°.03N×5°.45E,h10km±10km, ML3.2*
*BER **03** 16:22:32.5±3.8,71°.96N×5°.61E,h10km, Mw4.0, ML3.2(NAO),Confirmed Earthquake*
*KOLA **03** 16:22:33.1,71°.77N×6°.37E,h0km,ML2.3,Norwegian sea*

ISC 03 16:22:28.7±1.0,**71°.95N**±0°.06×**5°.82E**±0°.07,**h10**km,**n51**, σ2s**74**/75,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**4.61**	**265**	*e*P	**Pn**	**16 23 38.8**	**+0.6**
JNW	**Jan Mayen West**	**4.63**	**265**	*e*P	**Pn**	**16 23 38.7**	**+0.1**
LOF	**Lofoten**	**4.66**	**142**	*e*P	**Pn**	**16 23 42.3**	**+3.4**
LOF				*e*S	**Sn**	**16 24 33.7**	**+0.7**
LOF				IAML		16 24 37.3	
	comp=Z,4.8nm,0.5s						
JMIC	**Jan Mayen**	**4.67**	**265**	Pn	**Pn**	**16 23 38.7**	**-0.4**
JMIC	**Jan Mayen**	**4.67**	**265**	Pn	**Pn**	**16 23 38.5**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=84,slow=2.7,SNR=8.2 comp=Z,12nm,0.5s						
JMIC	**Jan Mayen**	**4.67**	**265**	*e*P	**Pn**	**16 23 38.7**	**-0.4**
JMI	**Jan Mayen**	**4.76**	**264**	*e*P	**Pn**	**16 23 41.5**	**+1.1**
TRO	**Tromso**	**4.91**	**112**	Pn	**Pn**	**16 23 44.8**	**+2.5**
TRO				Sn	**Sn**	**16 24 35.5**	**-3.6**
TRO	**Tromso**	**4.91**	**112**	*e*P	**Pn**	**16 23 44.9**	**+2.5**
TRO				*e*S	**Sn**	**16 24 36.5**	**-2.7**
TRO				IAML		16 24 37.7	
	comp=Z,4.2nm,0.3s						
STEI	**Steigen**	**5.18**	**137**	*e*P	**Pn**	**16 23 49.7**	**+3.7**
STEI				*e*S	**Sn**	**16 24 45.3**	**-0.4**
STEI				IAML		16 24 47.0	
	comp=Z,2.8nm,0.6s						
JETT	**Jettan, Norway**	**5.39**	**109**	Pn	**Pn**	**16 23 52.7**	**+3.7**
JETT				Sn	**Sn**	**16 24 48.9**	**-2.1**
JETT	**Jettan, Norway**	**5.39**	**109**	*e*P	**Pn**	**16 23 52.7**	**+3.7**
JETT				Sn	**Sn**	**16 24 48.9**	**-2.1**
FAUS	**Fauske**	**5.65**	**140**	*e*P	**Pn**	**16 23 56.0**	**+3.5**
FAUS				*e*S	**Sn**	**16 24 53.9**	**-3.4**
FAUS				IAML		16 25 00.8	
	comp=Z,4.1nm,0.3s						
HSPB	**Hornsund (broa**	**5.69**	**23**	Pn	**Pn**	**16 23 54.1**	**+1.0**
KIF	**Kilpisjarvi**	**5.82**	**113**	Pn	**Pn**	**16 23 57.6**	**+2.8**
KIF				Sn	**Sn**	**16 24 59.2**	**-2.3**
KIF	**Kilpisjarvi**	**5.82**	**113**	*e*P	**Pn**	**16 23 57.7**	**+2.8**
KIF				*e*S	**Sn**	**16 24 59.2**	**-2.3**
VAGH	**Vaagaholmen**	**5.87**	**150**	*e*P	**Pn**	**16 23 58.0**	**+2.5**
VAGH				*e*S	**Sn**	**16 24 58.4**	**-4.3**
VAGH				IAML		16 25 04.3	
	comp=Z,2.9nm,0.3s						
KONS	**Konsvik**	**6.06**	**151**	*e*P	**Pn**	**16 24 00.7**	**+2.5**
KONS				*e*S	**Sn**	**16 25 03.8**	**-3.6**
KONS				IAML		16 25 08.6	
	comp=Z,4.4nm,0.3s						
STOK	**Stokkvaagen**	**6.20**	**152**	*e*P	**Pn**	**16 24 02.2**	**+2.2**
SALU	**Saltoluokta**	**6.36**	**130**	*e*P	**Pn**	**16 24 06.3**	**+3.9**
LEIR	**Leirfjorden**	**6.42**	**152**	*e*P	**Pn**	**16 24 05.6**	**+2.5**
KTK1	**Kautokeino**	**6.53**	**108**	Pn	**Pn**	**16 24 08.2**	**+3.6**
KTK1				Sn	**Sn**	**16 25 18.5**	**-0.4**
KTK1	**Kautokeino**	**6.53**	**108**	*e*P	**Pn**	**16 24 08.6**	**+4.0**
KTK1				*e*S	**Sn**	**16 25 18.5**	**-0.4**
MOR8	**Moi Rana**	**6.57**	**148**	*e*P	**Pn**	**16 24 08.7**	**+3.4**
SPA0	**Spitsbergen Ar**	**6.81**	**19**	Pn	**Pn**	**16 24 10.7**	**+2.3**
	baz=178,slow=14						
SPA0	**Spitsbergen Ar**	**6.81**	**19**	Pn	**Pn**	**16 24 10.7**	**+2.3**
	baz=178,slow=14						
SPITS	**Spitsbergen Ar**	**6.81**	**19**	Pn	**Pn**	**16 24 10.8**	**+2.4**
	baz=206,slow=14						
SPITS				Sn	**Sn**	**16 25 28.9**	**+3.1**
	baz=219,slow=24 comp=Z,0.9nm,0.3s						
HOPEN	**Hopen**	**6.91**	**40**	Pn	**Pn**	**16 24 10.0**	**+0.2**
HOPEN				Sn	**Sn**	**16 25 24.1**	**-4.1**
HOPEN	**Hopen**	**6.91**	**40**	Pn	**Pn**	**16 24 10.0**	**+0.2**
HOPEN				Sn	**Sn**	**16 25 24.1**	**-4.1**
ARA0	**ARCESS Array S**	**6.93**	**101**	Pn	**Pn**	**16 24 12.7**	**+2.6**
	baz=295,slow=14						
ARA0				Sn	**Sn**	**16 25 28.6**	**-0.2**
	baz=302,slow=22						
ARA0	**ARCESS Array S**	**6.93**	**101**	Pn	**Pn**	**16 24 12.7**	**+2.6**
	baz=295,slow=14						
ARA0				Sn	**Sn**	**16 25 28.6**	**-0.2**
	baz=302,slow=22						
ARA0				IAML		16 25 33.6	
	comp=Z,1.7nm,0.3s						
ARCES	**ARCESS Array B**	**6.93**	**101**	Pn	**Pn**	**16 24 12.6**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=298,slow=13,SNR=23						
ARCES				Sn	**Sn**	**16 25 29.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=300,slow=20,SNR=6.6 comp=Z,1.2nm,0.6s						
ARCES	**ARCESS Array B**	**6.93**	**101**	P	**Pn**	**16 24 11.2**	**+1.1**
ARCES				S	**Sn**	**16 25 25.9**	**-3.0**
HEF	**Hetta**	**7.01**	**112**	Pn	**Pn**	**16 24 14.1**	**+2.9**
HEF				Sn	**Sn**	**16 25 28.7**	**-2.2**
HEF	**Hetta**	**7.01**	**112**	*e*P	**Pn**	**16 24 14.1**	**+2.9**
KEV	**Kevo**	**7.29**	**97**	*e*P	**Pn**	**16 24 16.4**	**+1.4**
NSS	**Namsos**	**7.79**	**160**	*e*P	**Pn**	**16 24 24.8**	**+2.8**
VADS	**Vadso**	**7.86**	**92**	P	**Pn**	**16 24 23.7**	**+0.9**
VADS				S	**Sn**	**16 25 46.0**	**-5.6**
VADS	**Vadso**	**7.86**	**92**	*e*P	**Pn**	**16 24 25.7**	**+2.9**
VADS				*e*S	**Sn**	**16 25 49.0**	**-2.6**
VADS				IAML		16 25 55.8	
	comp=Z,4.5nm,0.5s						
NB2	**NORSAR Subarra**	**11.16**	**166**	Pn	**Pn**	**16 25 10.9**	**+2.7**
	baz=345,slow=14						
NB2	**NORSAR Subarra**	**11.16**	**166**	Pn	**Pn**	**16 25 10.9**	**+2.7**
	baz=345,slow=14						
NOA	**NORSAR Array B**	**11.16**	**166**	Pn	**Pn**	**16 25 09.6**	**+1.4**
	baz=354,slow=13,SNR=4.6 comp=Z,0.1nm,0.3s						
NRA0	**NORESS Array S**	**11.49**	**166**	Pn	**Pn**	**16 25 14.3**	**+1.8**
	baz=349,slow=18						
NRA0	**NORESS Array S**	**11.49**	**166**	Pn	**Pn**	**16 25 14.3**	**+1.8**
	baz=349,slow=18						
HFS	**Hagfors**	**12.28**	**161**	Pn	**Pn**	**16 25 24.0**	**+0.8**
	baz=346,slow=14						
HFS				Sn	Sn	16 27 32.3	-7.6
	baz=354,slow=28						
HFS	**Hagfors**	**12.28**	**161**	Pn	**Pn**	**16 25 25.1**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=353,slow=14,SNR=29						
HFS				Sn	**Sn**	**16 27 34.0**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=5.5 comp=Z,1.1nm,0.3s						
HFS	**Hagfors**	**12.28**	**161**	Pn	**Pn**	**16 25 24.0**	**+0.8**
	baz=346,slow=14						
HFS				Sn	Sn	16 27 32.3	-7.6
	baz=354,slow=28						
FIA0	**FINESS Array S**	**13.14**	**133**	Pn	**Pn**	**16 25 39.0**	**+4.0**
	baz=340,slow=14						
FIA0	**FINESS Array S**	**13.14**	**133**	Pn	**Pn**	**16 25 39.0**	**+4.0**
	baz=340,slow=14						
FINES	**FINESS Array B**	**13.14**	**133**	Pn	**Pn**	**16 25 38.9**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=333,slow=12,SNR=5.0 comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	**123.75**	**60**	PKP	**PKPdf**	**16 41 27.6**	**+1.6**
	comp=Z,0.3nm,0.9s,baz=343,slow=1.6,SNR=5.0						

*TAP **03** 16:39:24.4,24°.94N×122°.46E,h26km,ML2.7,C*
*JMA **03** 16:39:24.8±0.1,24°.9N±1°.0×122°.5E±0°.5,h21km±2km, MV2.1/12,NW OFF ISHIGAKIJIMA IS*

ISC 03 16:39:24.5±1.1,**24°.90N**±0°.03×**122°.46E**±0°.02,**h24**km±12km, **n57**,σ0s**43**/82,**1C-3D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.44**	**284**	*i* P	**Pb**	**16 39 33.6**	**-0.1**
TWB1				*i* S	**Sb**	**16 39 39.4**	**-0.6**
EGS		**0.48**	**263**	P	**Pb**	**16 39 34.6**	**+0.2**
EOS2	**EOS2**	**0.52**	**204**	P	**Pb**	**16 39 35.7**	**+0.7**
EOS2				S	**Sn**	**16 39 43.9**	**-0.6**
SXI1	**Grass Mountain**	**0.56**	**290**	⇓P	**Pb**	**16 39 36.2**	**+0.3**
SXI1				S	**Sb**	**16 39 43.6**	**0.0**
TIPB	**Shuangxi**	**0.58**	**277**	P	**Pb**	**16 39 36.4**	**+0.3**
TIPB				S	**Sb**	**16 39 44.3**	**+0.3**
EOS3	**EOS3**	**0.63**	**192**	P	**Pn**	**16 39 37.4**	**-0.4**
EOS3				S	**Sn**	**16 39 47.1**	**+0.1**
JYNG	**Yonagunijimaku**	**0.63**	**135**	*e*P	**Pb**	**16 39 36.5**	**-0.4**
JYNG				*e*S	**Sb**	**16 39 44.9**	**-0.4**
TWC	**Suao**	**0.63**	**243**	*e*P	**Pb**	**16 39 36.5**	**-0.4**
NWF	**Wu-fen Shan**	**0.64**	**285**	*e*P	**Pb**	**16 39 37.5**	**+0.3**
NWF				*e*S	**Sb**	**16 39 45.8**	**+0.1**
WFSB	**Wu-fen Shan**	**0.64**	**285**	*e*P	**Pb**	**16 39 37.6**	**+0.5**
WFSB				*e*S	**Sb**	**16 39 45.0**	**-0.6**
ESAO	**Su ao**	**0.65**	**240**	*e*P	**Pb**	**16 39 37.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.66**	**131**	⇑*i*P	**Pb**	**16 39 37.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.66**	**131**	*e*P	**Pb**	**16 39 37.2**	**-0.3**
YOJ				*e*S	**Sb**	**16 39 46.3**	**0.0**
TNOU	**National Taiwa**	**0.67**	**292**	*e*P	**Pb**	**16 39 37.6**	**0.0**
TNOU				*e*S	**Sb**	**16 39 46.5**	**0.0**
NDS	**Dongshan**	**0.73**	**249**	*e*P	**Pb**	**16 39 36.4**	**-2.2**
TWE	**Neicheng**	**0.74**	**256**	*e*P	**Pb**	**16 39 38.8**	**0.0**
EWUT	**Wuta**	**0.77**	**234**	⇓P	**Pb**	**16 39 39.1**	**-0.2**
EWUT				*e*S	**Sn**	**16 39 50.3**	**-0.5**
EOS4	**EOS4**	**0.79**	**190**	*e*P	**Pn**	**16 39 40.3**	**+0.4**
EOS4				*e*S	**Sn**	**16 39 51.4**	**+0.7**
TWA	**Mucha**	**0.80**	**276**	*e*P	**Pb**	**16 39 39.9**	**+0.1**
TWA				*e*S	**Sn**	**16 39 51.1**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.81**	**260**	⇓P	**Pb**	**16 39 39.7**	**-0.2**
FUSB				*e*S	**Sb**	**16 39 50.9**	**+0.5**
PCYT	**Pengchaiyu**	**0.81**	**334**	*e*P	**Pb**	**16 39 39.4**	**-0.6**
ENA	**Nanau**	**0.81**	**234**	*e*P	**Pb**	**16 39 39.8**	**-0.2**
ENA				*e*S	**Sn**	**16 39 51.4**	**-0.3**
YM08	**YM08**	**0.84**	**290**	*e*P	**Pb**	**16 39 40.3**	**-0.2**
YM01	**YM01**	**0.84**	**287**	*e*P	**Pb**	**16 39 40.6**	**0.0**
NHDH	**Xindian Distri**	**0.85**	**274**	*e*P	**Pn**	**16 39 41.0**	**0.0**
NHDH				*e*S	**Sn**	**16 39 52.4**	**-0.4**
ENTT	**Nioudou**	**0.85**	**252**	*e*P	**Pb**	**16 39 40.7**	**0.0**
ENTT				*e*S	**Sn**	**16 39 53.0**	**+0.1**
TWY	**Chenhua**	**0.87**	**296**	*e*P	**Pb**	**16 39 40.9**	**0.0**
TWY				*e*S	**Sb**	**16 39 52.2**	**+0.1**
EAHA	**Aohua**	**0.87**	**229**	*e*P	**Pb**	**16 39 40.7**	**-0.2**
EAHA				*e*S	**Sb**	**16 39 52.6**	**+0.4**
ZUZH	**Zhuzihu**	**0.87**	**288**	*e*P	**Pb**	**16 39 41.0**	**0.0**
NWLT	**Wulai**	**0.88**	**262**	*e*P	**Pb**	**16 39 41.3**	**+0.1**
NWLT				*e*S	**Sb**	**16 39 52.9**	**+0.4**
ANP	**Anpu**	**0.90**	**289**	*e*P	**Pb**	**16 39 41.8**	**0.0**
LATG	**Datong**	**0.93**	**247**	*e*P	**Pb**	**16 39 41.9**	**-0.1**
LATG				*e*S	**Sb**	**16 39 53.3**	**-0.6**
YHNB	**Yeheng**	**1.01**	**257**	*e*P	**Pn**	**16 39 43.2**	**-0.1**
NSK	**Sanguang**	**1.03**	**258**	*e*P	**Pb**	**16 39 43.6**	**-0.1**
ETL	**Fush Village**	**1.06**	**226**	*e*P	**Pb**	**16 39 44.4**	**+0.1**
NACB	**Ninganchiao**	**1.07**	**228**	*e*P	**Pn**	**16 39 43.7**	**-0.3**
NACB				*e*S	**Sb**	**16 39 58.0**	**0.0**
NNSB	**Datong**	**1.09**	**245**	*e*P	**Pn**	**16 39 44.5**	**0.0**
NNSB				*e*S	**Sn**	**16 39 59.6**	**+0.8**
NNS	**Nan Shan**	**1.09**	**245**	*e*P	**Pb**	**16 39 44.8**	**-0.1**
NNS				*e*S	**Sn**	**16 39 59.0**	**+0.1**
ETLH	**Xiulin Townshi**	**1.13**	**232**	*e*P	**Pn**	**16 39 45.2**	**+0.2**
ETLH				*e*S	**Sn**	**16 40 00.3**	**+0.5**
TWD	**Chiawan**	**1.14**	**224**	*e*P	**Pn**	**16 39 45.2**	**+0.2**
NFF	**Wufeng Townshi**	**1.25**	**258**	*e*P	**Pb**	**16 39 47.3**	**-0.2**
ETM	**Tongmen**	**1.28**	**224**	*e*P	**Pb**	**16 39 47.6**	**-0.5**
IRIF	**Iriomote-Funau**	**1.28**	**116**	*e*P	**Pn**	**16 39 47.1**	**0.0**
LXIB	**Xiulin Townshi**	**1.30**	**228**	*e*P	**Pb**	**16 39 47.9**	**-0.4**
WHF	**Hehuan Shan**	**1.32**	**236**	*e*P	**Pb**	**16 39 49.0**	**0.0**
TWT	**Tachien**	**1.34**	**241**	*e*P	**Pb**	**16 39 49.1**	**0.0**
TDCB	**Techi**	**1.35**	**242**	*e*P	**Pb**	**16 39 49.2**	**-0.1**
HATJ	**Hateruma jima**	**1.48**	**124**	*e*P	**Pb**	**16 39 50.9**	**-0.6**
OWD	**Renai**	**1.50**	**231**	*e*P	**Pb**	**16 39 51.3**	**-0.6**
WUSB	**Renai**	**1.52**	**234**	*e*P	**Pb**	**16 39 52.0**	**-0.2**
WARBT	**Fenglin Townsh**	**1.53**	**220**	*e*P	**Pn**	**16 39 50.7**	**+0.3**
JKRS	**Kuro-shima**	**1.56**	**115**	*e*P	**Pn**	**16 39 51.4**	**+0.7**
JIJ	**Ishigaki jima**	**1.62**	**109**	*e*P	**Pb**	**16 39 53.6**	**-0.2**
VWDT	**VWDT**	**1.66**	**227**	*e*P	**Pn**	**16 39 52.7**	**+0.5**
JISG	**Ishigakijimahi**	**1.71**	**100**	*e*P	**Pn**	**16 39 53.8**	**+0.9**
SMLT	**Sun Moon Lake**	**1.75**	**235**	*e*P	**Pb**	**16 39 55.6**	**-0.4**
YULB	**Yu-li**	**1.84**	**216**	*e*P	**Pn**	**16 39 54.8**	**+0.1**

JMA 03 17:09:54.4±0.1,**24°.2N**±0°.5×**123°.4E**±0°.3,**h19**km±2km, **MV1.6/8,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.32**	**59**	*i* P	Pg	17 10 01.2	-0.2
IRIF				*e*S	Sg	17 10 05.8	-0.2
HATJ	**Hateruma jima**	**0.36**	**109**	*e*P	Pg	17 10 01.8	-0.3
HATJ				*e*S	Sg	17 10 07.2	0.0
JYNG	**Yonagunijimaku**	**0.52**	**302**	*e*P	Pg	17 10 04.6	-0.3
JKRS	**Kuro-shima**	**0.53**	**83**	P	Pg	17 10 05.0	-0.1
JKRS				*e*S	Sb	17 10 12.8	+0.3
JIJ	**Ishigaki jima**	**0.68**	**74**	P	Pb	17 10 07.1	-0.5
JIJ				*e*S	Sb	17 10 16.7	+0.1
JISG	**Ishigakijimahi**	**0.90**	**63**	*e*P	Pb	17 10 10.8	-0.7
JTJ	**Tarama**	**1.25**	**68**	*e*P	Pn	17 10 16.9	0.0

TAP 03 17:10:30.4,23°.69N×121°.52E,h2km,ML0.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03**	**39**	*i* P	Pg	17 10 31.8	+0.7
TEGC				S	Sg	17 10 33.0	+1.3
SHUL	**Shoufeng**	**0.11**	**21**	*i* P	Pg	17 10 33.6	+1.0
SHUL				S	Sg	17 10 36.4	+2.4
WARBT	**Fenglin Townsh**	**0.13**	**285**	*i* P	Pg	17 10 33.7	+0.8
WARBT				*i* S	Sg	17 10 36.0	+1.4
ESL	**Shilin**	**0.15**	**328**	*i* P	Pg	17 10 33.8	+0.5
ESL				*i* S	Sg	17 10 36.6	+1.2

*AFAD **03** 17:16:51.2,38°.10N×20°.93E,h7km±3km,MW3.9*
*IDC **03** 17:17:07.7±1.2,38°.27N×22°.79E,h0km,mb3.8/14, mbtmp3.8/18,ML2.5/3,MS2.5/4,Error ellipse: s-maj=23.4km s-min=16.4km az=20.0*
*ATH **03** 17:17:09.6,38°.14N×22°.70E,h15km,ML3.6/26,Manual Solution by F.Xalaris First location: 2019/08/03 17:18:04, This location: 2019/08/03 17:27:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*NEIC **03** 17:17:09.0±2.0,38°.18N±0°.02×22°.88E±0°.07,h10km±1km, mb4.1/14,Error ellipse: s-maj=9.6km s-min=3.6km az=82.0*
*THE **03** 17:17:10.1,38°.1N±0°.7×22°.7E±0°.4,h9km±1km,M3.6/34, MLh3.6/34*
*NAO **03** 17:17:22.7,39°.19N×20°.78E,h10km,mb3.3*

ISC 03 17:17:09.6±0.8,**38°.13N**±0°.02×**22°.72E**±0°.01,**h17**km±5km, **n207**,σ1s**38**/235,**mb4.1**/19,**13C-12D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIAA	**Kiato**	**0.12**	**168**	P	**Pg**	**17 17 13.5**	**+0.2**
KIAA				S	**Sg**	**17 17 16.3**	**+0.4**
LOUT	**Loutraki**	**0.25**	**125**	P	**Pg**	**17 17 15.3**	**+0.1**
LOUT				S	**Sb**	**17 17 19.2**	**-0.4**
GUR	**Goura**	**0.35**	**237**	P	**Pg**	**17 17 17.0**	**0.0**
GUR				S	**Sg**	**17 17 22.4**	**+0.2**
GUR	**Goura**	**0.35**	**237**	P	**Pg**	**17 17 17.1**	**0.0**
GUR				S	**Sg**	**17 17 21.8**	**-0.4**
DLFA	**Delphi**	**0.39**	**333**	P	**Pg**	**17 17 17.5**	**-0.2**
DLFA				S	**Sg**	**17 17 22.8**	**-0.4**
VIL2	**Platees**	**0.44**	**79**	P	**Pb**	**17 17 19.1**	**+0.2**
VIL2				S	**Sb**	**17 17 26.0**	**+0.8**
KLV	**Kalavryta, Ach**	**0.46**	**259**	P	**Pg**	**17 17 18.8**	**-0.1**
KLV				S	**Sg**	**17 17 25.0**	**-0.1**
KLV	**Kalavryta, Ach**	**0.

VLI	**Veliai**	**1.42**	**173**	P		**Pb**	17 17 35.5	**-0.1**
THL	**Klokotos Trika**	**1.53**	**339**	P		**Pb**	17 17 37.6	**+0.1**
KEK	**Kerkira**	**2.77**	**306**			**Pn**	17 17 55.9	**+2.7**
FNA	**Florina**	**2.84**	**339**			**Pn**	17 17 54.5	**+0.3**
FNA					Sn	**Sn**	17 18 29.6	**+1.5**
KARB	**zmir-Karabur**	**2.95**	**78**	P		**Pn**	17 17 57.2	**+1.6**
KARB				S		**Sg**	17 18 41.9	**-2.6**
ZEYE	**Izmir, Urla-Ze**	**2.98**	**87**	P		**Pn**	17 17 59.1	**+3.0**
ZEYE				S		**Sg**	17 18 44.9	**-0.6**
URLA	**Izmir**	**3.06**	**85**	P		**Pn**	17 17 59.6	**+2.4**
URLA				S		**Sg**	17 18 51.6	**+3.6**
BOZC	**Bozcaada**	**3.11**	**56**	P		**Pn**	17 17 58.7	**+0.9**
BOZC				S		**Sg**	17 18 47.6	**-1.9**
VAY	**Valandovo**	**3.19**	**358**	*i* Pn		**Pn**	17 18 01.4	**+2.5**
EZN	**Ezine**	**3.28**	**58**	⇑P		**Pg**	17 18 14.1	**+1.6**
DGB	**zmir**	**3.29**	**90**	P		**Pn**	17 18 02.0	**+1.7**
DGB				S		**Sb**	17 18 50.3	**+3.2**
OHR	**Ohrid**	**3.32**	**334**	*i* Pn		**Pn**	17 18 04.5	**+3.7**
IDI	**Anoyia**	**3.33**	**148**			**Pn**	17 18 00.8	**-0.2**
IDI	**Anoyia**	**3.33**	**148**	Pn		**Pn**	17 18 02.0	**+1.1**
	3.5nm,0.3s,baz=314,slow=14,SNR=21							
IDI					Sn	**Sn**	17 18 41.2	**+1.1**
	7.7nm,0.3s,baz=249,slow=19,SNR=4.0							
	7.3nm,0.4s							
BAYC	**CANAKKALE_Bayr**	**3.39**	**61**	P		**Pn**	17 18 02.0	**+0.3**
BAYC				S		**Sg**	17 18 55.7	**-2.9**
MMB	**Musomishta**	**3.50**	**13**	*i* P		**Pn**	17 18 04.6	**+1.3**
CAVK	**Edirne/Enez-Ca**	**3.70**	**45**	⇑P		**Pg**	17 18 21.4	**+0.9**
RDO	**Rodhopi**	**3.71**	**35**	Pn		**Pn**	17 18 05.9	**-0.2**
KKB	**Krupnik**	**3.72**	**5**	*i* P		**Pn**	17 18 07.8	**+1.6**
ALN	**Alexandroupoli**	**3.77**	**42**			**Pn**	17 18 06.6	**-0.4**
SCTE	**Santa Cesarea**	**3.83**	**302**	Pn		**Pn**	17 18 09.8	**+2.0**
SCTE					Sn	**Sn**	17 18 53.9	**+1.6**
RZN	**Rozhen**	**3.88**	**23**	*i* P		**Pn**	17 18 09.4	**+0.8**
KDZ	**Kurdzhali**	**4.04**	**29**	*i* P		**Pn**	17 18 11.0	**+0.5**
AYDN	**Tasoluk**	**4.11**	**95**	P		**Pn**	17 18 14.7	**+3.1**
AYDN				S		**Sg**	17 19 19.3	**-2.2**
PLNA	**Plana**	**4.37**	**7**	*e*P		**Pn**	17 18 16.9	**+1.6**
KARP	**Karpathos**	**4.40**	**125**	Pn		**Pn**	17 18 12.1	**-3.5**
VTS	**Vitosha**	**4.50**	**5**	*i* P		**Pn**	17 18 18.3	**+1.2**
PGB	**Panagyurishte**	**4.52**	**14**	*e*P		**Pn**	17 18 20.4	**+3.2**
MANT	**Manisa**	**4.61**	**84**	Pn		**Pn**	17 18 16.5	**-2.1**
ARG	**Arkhangelos**	**4.72**	**112**	Pn		**Pn**	17 18 17.8	**-2.2**
BAND	**Balkesir-Ban**	**4.73**	**60**	⇑P		**Pn**	17 18 24.5	**+4.4**
TIP	**Timpagrande**	**4.78**	**284**			**Pn**	17 18 23.5	**+2.6**
TIP	**Timpagrande**	**4.78**	**284**	⇓P		**Pn**	17 18 23.3	**+2.5**
PDG	**Podgorica**	**5.04**	**329**	Pn		**Pn**	17 18 25.3	**+0.9**
PDG	**Podgorica**	**5.04**	**329**	⇑P		**Pn**	17 18 27.7	**+3.3**
ELND	**Elena**	**5.36**	**26**	⇓P		**Pn**	17 18 29.5	**+0.7**
CEL	**Celeste**	**5.38**	**273**	Pn		**Pn**	17 18 30.9	**+1.9**
PLVB	**Pleven**	**5.45**	**15**	⇓P		**Pn**	17 18 31.1	**+1.2**
BOVS	**Bovan**	**5.55**	**352**	⇑P		**Pn**	17 18 32.9	**+1.5**
TREB	**Trebinje**	**5.66**	**325**	*e*Pn		**Pn**	17 18 33.5	**+0.6**
CUC	**Castrocucco**	**5.68**	**291**			**Pn**	17 18 36.0	**+2.7**
ACER	**Acerenza**	**5.88**	**299**			**Pn**	17 18 37.7	**+1.8**
KLINJ	**Klinje**	**5.93**	**329**	*e*Pn		**Pn**	17 18 38.5	**+1.8**
LOZB	**Loznitsa**	**6.00**	**28**	⇓P		**Pn**	17 18 37.1	**-0.4**
STON	**Ston**	**6.08**	**323**	*e*Pn		**Pn**	17 18 38.3	**-0.4**
SGRT	**San Giovanni R**	**6.46**	**306**			**Pn**	17 18 45.1	**+1.1**
MDVR	**Moldovita**	**6.69**	**354**	⇑P		**Pn**	17 18 48.3	**+1.3**
RAFF	**Raffo Rosso**	**6.69**	**265**	Pn		**Pn**	17 18 49.6	**+2.5**
HERR	**Herculiane**	**6.75**	**358**	⇓P		**Pn**	17 18 50.7	**+3.0**
PAOL	**Paolisi**	**6.93**	**297**	Pn		**Pn**	17 18 52.9	**+2.6**
GZR	**Gura Zlata**	**7.26**	**0**	⇓P		**Pn**	17 18 56.3	**+1.5**
LOT	**Lotru**	**7.35**	**6**	⇑P		Pn	17 18 49.2	-7.0
ARR	**Arges**	**7.37**	**11**	⇓P		**Pn**	17 18 57.9	**+1.5**
BZS	**Buzias**	**7.52**	**354**	⇓P		**Pn**	17 18 59.9	**+1.5**
KIJV	**Kijevo**	**7.56**	**323**	*e*Pn		**Pn**	17 18 59.2	**+0.3**
HARR	**Harsova**	**7.63**	**29**	⇓P		**Pn**	17 19 02.2	**+2.3**
TIRR	**Tirgusor**	**7.64**	**32**	Pn		**Pn**	17 19 00.8	**+0.8**
MLR	**Muntele Rosu**	**7.74**	**17**			**Pn**	17 19 01.0	**-0.5**
MLR	**Muntele Rosu**	**7.74**	**17**	Pn		**Pn**	17 18 59.7	**-1.8**
	1.9nm,0.4s,baz=158,slow=15,SNR=14							
MLR					LR	LR	17 22 14.2	
	comp=Z,37nm,18.3s,baz=208,slow=40							
MLR	**Muntele Rosu**	**7.74**	**17**	⇑P		**Pn**	17 19 03.4	**+1.9**
NEHR	**Nehoiu**	**7.76**	**19**	⇑P		**Pn**	17 19 05.2	**+3.4**
INTR	**Introdacqua**	**7.79**	**303**			**Pn**	17 19 04.7	**+2.5**
BLY	**Banja Luka**	**7.81**	**330**	*e*Pn		**Pn**	17 19 02.1	**-0.2**
A050A	**Klekovaca**	**7.87**	**326**	*e*Pn		**Pn**	17 19 03.8	**+0.6**
DOPR	**Dopca**	**8.08**	**13**	⇓P		**Pn**	17 19 07.7	**+1.7**
A051A	**Mrakovica**	**8.14**	**330**	*e*Pn		**Pn**	17 19 06.1	**-0.8**
PLOR	**Plostina**	**8.25**	**20**	⇓P		**Pn**	17 19 11.4	**+2.9**
OZUR		**8.28**	**15**	⇓P		**Pn**	17 19 11.2	**+2.4**
VRI	**Vrincioaia**	**8.28**	**20**	⇑P		**Pn**	17 19 12.9	**+4.0**
TURR	**Turia**	**8.29**	**16**	⇑P		**Pn**	17 19 11.3	**+2.4**
CAMP	**Campotosto**	**8.36**	**305**	Pn		**Pn**	17 19 11.5	**+1.5**
MORH	**Mrgy, Hungar**	**8.62**	**341**	*e*Pn		**Pn**	17 19 13.9	**+0.4**
ONER	**Baraj Valea Uz**	**8.64**	**17**	⇑P		Pn	17 19 18.7	+5.0
BRTR	**Keskin Array B**	**8.66**	**76**	Pn		**Pn**	17 19 13.5	**-0.7**
	0.2nm,0.3s,baz=255,slow=15,SNR=5.3							
	0.3nm,0.4s							
GUMA	**Gualdo di Mace**	**8.67**	**308**	Pn		**Pn**	17 19 17.0	**+2.8**
NRCA	**Norcia**	**8.69**	**306**			**Pn**	17 19 16.1	**+1.5**
MOSL	**Moslavina**	**8.70**	**331**	*e*Pn		**Pn**	17 19 14.5	**0.0**
FDMO	**Fiordimonte**	**8.81**	**307**			**Pn**	17 19 17.6	**+1.5**
TESR	**Tescani**	**8.87**	**18**	⇑P		**Pn**	17 19 19.8	**+3.0**
OZLJ	**Ozalj**	**9.22**	**326**	*e*Pn		**Pn**	17 19 20.5	**-1.2**
BURAR	**Bucovina Array**	**9.65**	**10**	Pn		**Pn**	17 19 28.9	**+1.1**
BUR08	**Bucovina Ar. S**	**9.68**	**10**	Pn		**Pn**	17 19 29.7	**+1.6**
PSZ	**Piszkesteto**	**10.00**	**349**	Pn		**Pn**	17 19 33.6	**+1.2**
SABO	**M.te Sabotino**	**10.36**	**322**	Pn		**Pn**	17 19 36.6	**-0.7**
KOLS	**Kolonicke sedl**	**10.80**	**358**	*e*PN		**Pn**	17 19 47.6	**+4.2**
VRAC	**Vranov**	**12.01**	**340**	LR		LR	17 25 55.4	
	comp=Z,7.3nm,19.2s,baz=210,slow=44							
OJC	**Ojcow**	**12.26**	**351**	Pn		**Pn**	17 20 01.9	**-1.4**
FUORN	**Ofenpass-Fuorn**	**12.51**	**317**	Pn		**Pn**	17 20 07.0	**+0.1**
GERES	**GERESS Array B**	**12.54**	**332**	Pn		**Pn**	17 20 06.5	**-0.7**
GERES	**GERESS Array B**	**12.54**	**332**	Pn		**Pn**	17 20 08.2	**+1.0**
	baz=159,slow=13,SNR=5.5							
	0.5nm,0.6s							
TUE	**Stuetta**	**12.93**	**314**	Pn		**Pn**	17 20 10.2	**-2.4**
SENIN	**Lac Senin/Sane**	**14.06**	**311**	Pn		**Pn**	17 20 28.8	**+0.7**
ESBB	**Sonseca Array**	**20.80**	**283**	P		**P**	17 21 50.7	**+0.7**
ESBB					IAmb	IAmb	17 21 52.8	
	comp=Z,5.1nm,0.8s							
ESDC	**Sonseca Array**	**20.80**	**283**			**P**	17 21 51.0	**+1.1**
ESDC	**Sonseca Array**	**20.80**	**283**	P		**P**	17 21 51.1	**+1.1**
	comp=Z,4.5nm,0.8s,baz=74,slow=11,SNR=56							
	comp=Z,4.5nm,0.8s							
PAB	**San Pablo**	**21.11**	**282**	P		**P**	17 21 54.5	**+1.2**
HFS	**Hagfors**	**22.76**	**348**	P		**P**	17 22 09.8	**-0.9**
	comp=Z,1.2nm,0.4s,baz=165,slow=10,SNR=14							
	comp=Z,1.2nm,0.4s							
FINES	**FINESS Array B**	**23.43**	**4**	P		**P**	17 22 15.1	**-2.5**
FINES	**FINESS Array B**	**23.43**	**4**	P		**P**	17 22 16.1	**-1.5**
	comp=Z,0.6nm,0.5s,baz=187,slow=14,SNR=6.6							
FINES					LR	LR	17 32 34.4	
	comp=Z,23nm,18.4s,baz=213,slow=40							
	comp=Z,0.6nm,0.5s							
FIA1	**FINESS Array S**	**23.43**	**4**	P		**P**	17 22 15.3	**-2.2**
NC602	**NORSAR Array S**	**23.70**	**346**	P		**P**	17 22 17.6	**-2.5**
NC602					IAmb	IAmb	17 22 19.9	
	comp=Z,6.1nm,0.9s							
NC405	**NORSAR Array S**	**24.02**	**347**	P		**P**	17 22 22.0	**-1.3**
NB201	**NORSAR Array S**	**24.03**	**346**	P		**P**	17 22 23.1	**-0.3**
NB201					IAmb	IAmb	17 22 47.3	
	comp=Z,5.4nm,0.9s							
NB2	**NORSAR Subarra**	**24.04**	**346**	P		**P**	17 22 23.1	**-0.4**
	comp=Z,0.6nm,0.5s,baz=160,slow=10							
NOA	**NORSAR Array B**	**24.04**	**346**	P		**P**	17 22 22.5	**-1.0**
	comp=Z,0.5nm,0.7s,baz=152,slow=9.4,SNR=6.3							
	comp=Z,0.5nm,0.7s							
NBO00	**NORSAR Array S**	**24.11**	**346**	P		**P**	17 22 23.5	**-0.7**
NBO00					IAmb	IAmb	17 22 55.8	
	comp=Z,6.8nm,1.1s							
NC303	**NORSAR Array S**	**24.18**	**347**	P		**P**	17 22 24.5	**-0.3**
NC303					IAmb	IAmb	17 22 27.5	
	comp=Z,4.8nm,0.8s							
NC204	**NORSAR Array S**	**24.34**	**346**	P		**P**	17 22 26.1	**-0.3**
NC204					IAmb	IAmb	17 23 09.2	
	comp=Z,6.5nm,1.1s							
EKA	**Eskdalemuir Ar**	**24.49**	**323**	P		**P**	17 22 27.9	**+0.3**
	comp=Z,3.8nm,0.8s,baz=119,slow=8.8,SNR=14							
	comp=Z,3.8nm,0.8s							
ESK	**Eskdalemuir**	**24.50**	**323**	P		**P**	17 22 27.7	**0.0**
AKTO	**Aktyubinsk**	**27.83**	**52**	LR		LR	17 38 43.5	
	comp=Z,16nm,18.4s,baz=76,slow=47							
ARCES	**ARCESS Array B**	**31.50**	**2**	P		**P**	17 23 29.9	**-0.3**
	comp=Z,2.7nm,1.1s,baz=187,slow=8.9,SNR=5.0							
	comp=Z,2.7nm,1.1s							
DBIC	**Dimbokro**	**40.06**	**226**	P		**P**	17 24 42.8	**-1.3**
KURBB	**Kurchatov Arra**	**40.86**	**54**	P		**P**	17 24 50.7	**+0.4**
	comp=Z,1.2nm,0.6s,baz=279,slow=8.6,SNR=7.9							
	comp=Z,1.2nm,0.6s							
MK31	**Makanchi Array**	**43.85**	**59**	P		**P**	17 25 13.5	**-1.3**
MKAR	**Makanchi Array**	**43.85**	**59**	P		**P**	17 25 13.3	**-1.4**
MKAR	**Makanchi Array**	**43.85**	**59**	P		**P**	17 25 14.8	**+0.1**
	comp=Z,0.6nm,0.4s,baz=271,slow=7.5,SNR=10							
	comp=Z,0.6nm,0.4s							
ZAA0	**Zalesovo Array**	**44.43**	**48**	P		**P**	17 25 18.7	**-0.5**
ZAA0					IAmb	IAmb	17 25 20.5	
	comp=Z,3.6nm,0.7s							
ZALV	**Zalesovo Beam**	**44.43**	**48**			**P**	17 25 18.5	**-0.7**
ZALV	**Zalesovo Beam**	**44.43**	**48**	P		**P**	17 25 19.5	**+0.3**
	comp=Z,3.5nm,0.5s,baz=272,slow=8.7,SNR=15							
	comp=Z,3.5nm,0.5s							
SONM	**Songino Array**	**59.14**	**51**	P		**P**	17 27 09.6	**+0.3**
	comp=Z,0.5nm,0.5s,baz=291,slow=9.4,SNR=2.2							
	comp=Z,0.5nm,0.5s							
SCHQ	**Schefferville**	**59.66**	**318**	P		**P**	17 27 13.1	**+0.5**
	comp=Z,2.7nm,0.5s,baz=58,slow=7.9,SNR=6.3							
	comp=Z,2.7nm,0.5s							
ILAR	**Eielson Array**	**77.11**	**355**	P		**P**	17 29 02.4	**+0.8**
	comp=Z,0.5nm,0.7s,baz=347,slow=2.6,SNR=7.7							
	comp=Z,0.5nm,0.7s							
PDAR	**Pinedale Array**	**88.55**	**327**	P		**P**	17 30 00.7	**-0.9**
	comp=Z,0.2nm,0.6s,baz=29,slow=6.8,SNR=1.4							
	comp=Z,0.2nm,0.6s							
TXAR	**Lajitas Array**	**96.24**	**315**	P		**P**	17 30 36.9	**-0.3**
	comp=Z,0.3nm,1.0s,baz=44,slow=6.5,SNR=2.6							
	comp=Z,0.3nm,1.0s							

*IDC **03** 17:17:37.4±1.9, 6°.51S×129°.55E, h0km, mb3.5/2, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=137.5km s-min=29.6km az=69.0, Banda Sea*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.14**	**161**	Pn		Pn	17 20 59.0	-0.1
	0.5nm,0.3s,baz=340,slow=13,SNR=24							
WRA						Sn	Sn	17 23 21.7	-15
	0.1nm,0.3s,baz=331,slow=21,SNR=2.2							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**17.56**	**167**	P		Pn	17 21 43.8	0.0
	0.2nm,0.3s,baz=345,slow=11,SNR=29							
ASAR						S	Sn	17 24 44.6	-16
	0.3nm,0.4s,baz=320,slow=20,SNR=4.9							
	0.7nm,0.5s							
MKAR	**Makanchi Array**	**67.58**	**327**	P		P	17 28 36.2	+0.4
	0.3nm,0.4s,baz=134,slow=6.2,SNR=4.9							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**71.86**	**329**	P		P	17 29 01.7	-0.4
	0.2nm,0.4s,baz=118,slow=5.2,SNR=4.1							
	0.2nm,0.4s							

*IDC **03** 17:19:54.2±7.0, 36°.57N×69°.91E, h270km±67km, mb3.2/8, mbtmp3.9/12, Error ellipse: s-maj=41.8km s-min=16.2km az=32.0*

ISC 03 17:19:46.8±1.1, 36°.3N±0°.2×69°.7E±0°.2, h200km, n12, σ0s99/12, mb3.5/7, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**14.04**	**38**	P		**P**	17 22 59.0	**+0.2**
	0.8nm,0.4s,baz=229,slow=11,SNR=21							
KURBB	**Kurchatov Arra**	**15.62**	**21**	P		**Pn**	17 23 16.9	**+0.6**
	1.1nm,0.4s,baz=210,slow=12,SNR=12							
AKTO	**Aktyubinsk**	**16.42**	**333**	P		**Pn**	17 23 26.6	**+0.6**
	4.5nm,0.3s,baz=154,slow=8.3,SNR=14							
BVAR	**Borovoye Array**	**16.68**	**1**	P		**Pn**	17 23 29.4	**+0.3**
	4.2nm,0.4s							
ZALV	**Zalesovo Beam**	**20.50**	**26**	P		**P**	17 24 08.3	**-0.9**
	2.1nm,0.4s,baz=220,slow=9.6,SNR=15							
	2.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**31.30**	**117**	P		**P**	17 25 49.5	**+1.3**
	1.0nm,0.8s,baz=313,slow=8.6,SNR=5.3							
	1.0nm,0.8s							
ARCES	**ARCESS Array B**	**40.90**	**338**	P		**P**	17 27 08.7	**-0.3**
	2.6nm,1.1s,baz=107,slow=7.6,SNR=1.2							
	2.6nm,1.1s							
NOA	**NORSAR Array B**	**43.88**	**323**	P		**P**	17 27 31.9	**-1.3**
	0.4nm,0.7s,baz=97,slow=8.0,SNR=1.9							
	0.4nm,0.7s							
KSRS	**Korea Array**	**45.91**	**70**	P		**P**	17 27 48.8	**-0.5**
	0.9nm,0.4s,baz=276,slow=6.7,SNR=15							
	0.9nm,0.4s							
EKA	**Eskdalemuir Ar**	**51.68**	**316**	P		**P**	17 28 34.4	**+1.4**
	1.1nm,0.9s,baz=85,slow=8.2,SNR=3.7							
	1.1nm,0.9s							
WRA	**Warramunga Arr**	**82.79**	**121**	P		**P**	17 31 47.7	**-1.0**
	0.5nm,0.6s,baz=328,slow=3.4,SNR=6.5							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**85.02**	**124**	P		**P**	17 31 59.2	**-0.7**
	0.5nm,0.6s,baz=311,slow=5.1,SNR=8.0							
	0.5nm,0.6s							

*IDC **03** 17:25:20.1±1.2, 3°.04S×139°.87E, h0km, mb3.5/4, mbtmp3.4/5, ML3.3/1, MS3.0/1, Error ellipse: s-maj=30.9km s-min=12.0km az=147.0*

ISC 03 17:25:25.4±1.1, 3°.2S±0°.2×140°.3E±0°.3, h50km, n7, σ1s72/6, mb3.5/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.77**	**31**	Pg		**Pn**	17 25 39.4	**-0.8**
	3.3nm,0.3s,baz=233,slow=6.1,SNR=22							
JAY						Lg	Lg	17 25 52.6	
	11nm,0.3s,baz=127,slow=21,SNR=6.1							
WRA	**Warramunga Arr**	**17.65**	**199**	P		**Pn**	17 29 25.9	**-2.0**
	0.1nm,0.3s,baz=16,slow=13,SNR=5.9							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**21.29**	**196**	P		**P**	17 30 09.6	**+1.6**
	0.5nm,0.6s,baz=26,slow=11,SNR=9.1							
	0.5nm,0.6s							
JNU	**Nakatsue**	**37.20**	**347**	LR		LR	17 48 18.6	
	comp=Z,21nm,18.5s,baz=222,slow=37							
MKAR	**Makanchi Array**	**71.14**	**322**	P		**P**	17 36 38.7	**-0.2**
	0.4nm,0.7s,baz=101,slow=7.5,SNR=4.2							
	0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**73.15**	**329**	P		**P**	17 36 50.6	**-0.1**
	0.4nm,0.5s,baz=134,slow=4.2,SNR=2.3							
	0.4nm,0.5s							
ILAR	**Eielson Array**	**85.60**	**24**	P		**P**	17 37 59.5	**+1.3**
	0.2nm,0.5s,baz=265,slow=5.1,SNR=1.9							
	0.2nm,0.5s							

*MOS **03** 18:04:16.5±1.0, 39°.73N×141°.59E, h77km, mb4.5/25, Error ellipse: s-maj=7.0km s-min=4.8km az=91.1*
*NEIC **03** 18:04:18.2±2.7, 39°.69N±0°.05×141°.59E±0°.10, h73km±6km, mb4.6/131, Error ellipse: s-maj=11.1km s-min=6.2km az=105.0*
*JMA **03** 18:04:18.5±0.1, 39°.7N±0°.3×141°.5E±0°.4, h73km, MD4.4/34, MW4.3/34, NORTHERN IWATE PREF*
JMA Felt III J1 at NORTHERN IWATE PREF .
*NIED **03** 18:04:18.5, 39°.66N×141°.51E, h73km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr0.74; Mθθ-0.44; Mφφ-0.30; Mrθ-0.15; Mθφ-1.98; Mφr-1.71; Fault plane solution: M0 2.69000×10^15 NP1: φs88.00000°, δ46.00000°, λ166.00000°. NP2: φs188.00000°, δ80.00000°, λ45.00000°.*
*IDC **03** 18:04:18.0±1.2, 39°.65N×141°.47E, h77km±10km, mb4.0/28, mbtmp4.3/33 Error ellipse: s-maj=11.9km s-min=7.6km az=107.0*

ISC 03 18:04:18.0±0.4, 39°.67N±0°.03×141°.63E±0°.04, h81km±3km, h81km:pP-P, n550, σ1s23/546, mb4.5/114, 12C-13D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.18**	**121**	⇓*i* P		**Pn**	18 04 29.9	**+0.1**
MIYJ					⇓*e*S	**Sn**	18 04 37.9	**-0.7**
MIYJ	**Miyakonagasawa**	**0.18**	**121**	A		A	18 04 29.9	
	comp=N,40nm,0.7s,comp=E,33nm,1.0s							
JOM	**Ohasama**	**0.32**	**233**	*i* P		**Pn**	18 04 29.6	**-0.9**
JOM					S	**Sn**	18 04 37.8	**-2.0**
JOM	**Ohasama**	**0.32**	**233**	A		A	18 04 29.6	
	comp=N,100nm,0.2s,comp=E,122nm,0.3s							
JTH	**Tanohata**	**0.33**	**34**	⇓*i* P		**Pn**	18 04 30.6	**0.0**
JTH					⇓S	**Sn**	18 04 39.4	**-0.5**
JTH	**Tanohata**	**0.33**	**34**	A		A	18 04 30.6	
	comp=N,17nm,1.9s,comp=E,22nm,1.1s							
JKZ	**Kuzumaki**	**0.39**	**324**	*i* P		**Pn**	18 04 30.4	**-0.7**
JKZ					S	**Sn**	18 04 39.0	**-1.7**
JKZ	**Kuzumaki**	**0.39**	**324**	A		A	18 04 30.4	
	comp=N,19nm,0.2s,comp=E,21nm,0.2s							
JSZI	**Iwateshizukuis**	**0.52**	**278**	A		A	18 04 31.1	
	comp=N,28nm,1.8s,comp=E,37nm,1.3s							
JKEN	**Kujiedanarisaw**	**0.54**	**7**	A		A	18 04 32.2	
	comp=N,35nm,0.2s,comp=E,27nm,0.3s							
OFUJ	**Ofunato**	**0.59**	**177**	A		A	18 04 32.5	
	comp=N,46nm,0.3s,comp=E,58nm,1.8s							
JANG	**Nango**	**0.71**	**353**	⇓*i* P		**Pn**	18 04 33.4	**-0.5**
JANG					⇓S	**Sn**	18 04 44.3	**-1.3**
JANG	**Nango**	**0.71**	**353**	A		A	18 04 33.4	
	comp=N,5.0nm,0.7s,comp=E,9.0nm,0.3s							
JMK	**Ichinoseki**	**0.78**	**204**	*i* P		**Pn**	18 04 34.1	**-0.5**
JMK					S	**Sn**	18 04 45.5	**-1.5**
JMK	**Ichinoseki**	**0.78**	**204**	A		A	18 04 34.1	
	comp=N,18nm,0.2s,comp=E,36nm,1.6s							
JRG	**Rokugo**	**0.81**	**251**	*i* P		**Pn**	18 04 34.1	**-0.8**
JRG					S	**Sn**	18 04 46.2	**-1.4**
JRG	**Rokugo**	**0.81**	**251**	A		A	18 04 34.1	
	comp=N,23nm,1.0s,comp=E,24nm,0.3s							
JKMT	**Kesennumamotoy**	**0.86**	**188**	A		A	18 04 35.5	
	comp=N,40nm,0.9s,comp=E,58nm,0.6s							
JAH	**Hinai**	**0.92**	**305**	*i* P		**Pn**	18 04 35.6	**-0.6**
JAH					S	**Sn**	18 04 48.5	**-1.3**
JAH	**Hinai**	**0.92**	**305**	A		A	18 04 35.6	
	comp=N,20nm,2.2s,comp=E,15nm,0.5s							
JYW	**Yuwa**	**1.10**	**264**	A		A	18 04 37.5	
	comp=N,25nm,1.2s,comp=E,41nm,0.8s							
JTM	**Tenmabayashi**	**1.20**	**339**			**Pn**	18 04 39.4	**0.0**
JTM					Sn	**Sn**	18 04 53.9	**-1.6**
JTM	**Tenmabayashi**	**1.20**	**339**	P		**Pn**	18 04 39.6	**+0.2**
JTM	**Tenmabayashi**	**1.20**	**339**	S		**Sn**	18 04 55.5	**-0.1**
JTM	**Tenmabayashi**	**1.20**	**339**	⇓*i* P		**Pn**	18 04 39.5	**0.0**
JTM					⇓*e*S	**Sn**	18 04 55.3	**-0.3**
JTM	**Tenmabayashi**	**1.20**	**339**	A		A	18 04 39.5	
	comp=N,10.0nm,1.5s,comp=E,8.0nm,0.9s							
JOFO	**Osakifurukawao**	**1.20**	**208**	A		A	18 04 39.4	
	comp=N,32nm,1.2s,comp=E,39nm,3.5s							
JIO	**Ouri**	**1.23**	**190**	*i* P		**Pn**	18 04 39.7	**-0.2**
JIO					*e*S	**Sn**	18 04 54.7	**-1.7**
JIO	**Ouri**	**1.23**	**190**	A		A	18 04 39.7	
	comp=N,11nm,0.9s,comp=E,17nm,0.5s							
JYK	**Kaneyama**	**1.24**	**233**	*i* P		**Pn**	18 04 39.4	**-0.5**
JYK	**Kaneyama**	**1.24**	**233**	A		A	18 04 39.4	
	comp=N,5.0nm,2.3s,comp=E,5.0

KUR Kuril'sk 7.22 38 *d* iP **Pn** 18 05 59.6 -1.2
YSS Yuzhno-Sakhali 7.33 6 **Pn** 18 06 01.3 -0.9
YSS Yuzhno-Sakhali 7.33 6 *e*P **Pn** 18 06 01.4 -0.8
YSS *e*S **Sn** 18 07 20.3 -3.4
YSS pmax pmax
comp=Z,30nm,0.7s
YSS smax smax
comp=N,30nm,0.8s
YSS smax smax
comp=E,20nm,0.7s
YSS MLR MLR
comp=Z,100nm,10.0s
VLA Vladivostok 8.09 298 *c* iP **Pn** 18 06 14.0 +1.4
MSHR Mys Shultsa 8.42 294 *ce*P **Pn** 18 06 17.4 +0.3
MSHR pmax pmax
comp=Z,20nm,0.7s
USRK Ussuriysk Ar. 8.49 305 **Pn** 18 06 18.2 +0.2
USRK Ussuriysk Ar. 8.49 305 P **Pn** 18 06 18.4 +0.3
comp=Z,80nm,0.7s,baz=118,slow=12,SNR=310
USRK S **Sn** 18 07 51.1 -1.0
comp=Z,3.3nm,0.6s,baz=124,slow=25,SNR=1.8
USA0B Ussuriysk Arra 8.49 305 **Pn** 18 06 17.9 -0.1
USA0B Ussuriysk Arra 8.49 305 *d* iP **Pn** 18 06 19.8 +1.8
JMN Monobe 8.59 229 **Pn** 18 06 20.4 +0.8
JMN Monobe 8.59 229 P **Pn** 18 06 22.1 +2.6
PSTR Posyet 8.69 294 *i* P **Pn** 18 06 21.4 +0.6
MDJ Mudanjiang 10.21 303 P **Pn** 18 06 43.4 +1.9
MDJ pmax pmax
comp=Z,120nm,0.9s
JNU Nakatsue 10.84 236 Pn **Pn** 18 06 51.3 +1.0
KSRS Korea Array 10.96 263 P **Pn** 18 06 54.3 +2.6
comp=Z,21nm,0.5s,baz=76,slow=14,SNR=95
KSRS S **Sn** 18 08 51.8 -0.6
comp=Z,4.6nm,0.5s,baz=71,slow=23,SNR=9.3
KS19 Wonju Array Si 10.99 263 **Pn** 18 06 53.5 +1.4
KSAR Wonju Array Be 10.99 263 **Pn** 18 06 53.2 +1.1
KSAR Wonju Array Be 10.99 263 P **Pn** 18 06 53.2 +1.1
TYV Tymovskoe 11.22 3 *e*P **Pn** 18 06 56.0 +0.8
TYV *e*S **Sn** 18 09 01.3 +2.7
TYV pmax pmax
comp=Z,6.0nm,0.7s
TYV pmax pmax
comp=Z,100nm,3.0s
TYV smax smax
comp=N,200nm,6.9s
TYV smax smax
comp=E,200nm,6.9s
TJN Taejon 11.72 258 **Pn** 18 07 03.4 +1.4
TJN Taejon 11.72 258 P **Pn** 18 07 05.6 +3.6
TJN Taejon 11.72 258 *i* P **Pn** 18 07 06.5 +4.5
BNX BinXian 12.09 305 ⇓P **Pn** 18 07 07.5 +0.5
BNX pmax pmax
comp=Z,22nm,0.9s
HEH HeiHe 14.57 321 *e*P **Pn** 18 07 37.6 -2.2
HEH pmax pmax
comp=Z,4.0nm,0.8s
DL2 Dalian 15.51 274 P **P** 18 07 55.1 +0.6
DL2 pmax pmax
comp=Z,27nm,1.2s
PETK Petropavlovsk- 17.37 34 **Pn** 18 08 14.5 -0.4
PETK Petropavlovsk- 17.37 34 P **P** 18 08 15.2 +0.2
comp=Z,2.7nm,0.6s,baz=219,slow=8.3,SNR=4.5
XLT XiLinHaoTe 19.48 291 *e*P **P** 18 08 37.1 -1.3
XLT PP **pP** 18 08 54.5 -0.2
XLT PcP **PcP** 18 12 57.6 +1.7
XLT pmax pmax
comp=Z,10.0nm,0.9s
TIA Tai'an 19.61 268 P **P** 18 08 40.0 +0.2
TIA pmax pmax
comp=Z,30nm,0.6s
NJ2 Nanjing 19.93 255 *e*P **P** 18 08 44.0 +0.8
NJ2 pmax pmax
comp=Z,18nm,0.7s
MA2 Magadan 20.75 13 **P** 18 08 51.6 -0.2
MA2 Magadan 20.75 13 P **P** 18 08 52.3 +0.5
comp=Z,4.9nm,0.6s,baz=196,slow=7.1,SNR=12
comp=Z,4.9nm,0.6s
MA2 Magadan 20.75 13 *ce*P **P** 18 08 52.1 +0.3
MA2 pmax pmax
comp=Z,7.0nm,0.8s
YOJ Yonaguni jima 21.82 232 P **P** 18 09 03.0 -0.5
YOJ IAmb IAmb 18 09 12.8
comp=Z,53nm,1.3s
YOJ Yonaguni jima 21.82 232 P **P** 18 09 03.0 -0.5
YOJ pmax pmax
comp=Z,53nm,1.3s
YHNB Yeheng 22.67 235 P **P** 18 09 11.9 -0.9
YHNB IAmb IAmb 18 09 19.5
comp=Z,52nm,1.5s
NACB Ninganchiao 22.89 234 P **P** 18 09 11.3 -3.6
NACB IAmb IAmb 18 09 46.0
comp=Z,16nm,1.1s
HHC Hu-ho-hao-te 22.92 283 *e*P **P** 18 09 13.8 -1.4
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,77nm,5.7s
YAK Yakutsk 23.55 346 **P** 18 09 18.0 -2.7
YAK IAmb IAmb 18 09 23.6
comp=Z,18nm,0.6s
YAK Yakutsk 23.55 346 *e*P **P** 18 09 18.8 -1.9
YAK *e**PP **pP** 18 09 33.9 -4.4
YAK *e* 18 13 03.5
YAK *e*S **S** 18 13 25.2 -3.0
YAK *e**SS Sn 18 13 54.0 -1.4
YAK pmax pmax
comp=Z,11nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK smax smax
comp=E,99nm,3.7s
YAK smax smax
comp=N,126nm,5.3s
SSLB Suanglung 23.57 234 P **P** 18 09 18.3 -3.1
SSLB IAmb IAmb 18 09 52.8
comp=Z,21nm,1.1s
YULB Yu-li 23.65 233 P **P** 18 09 18.8 -3.2
YULB IAmb IAmb 18 09 19.6
comp=Z,23nm,1.3s
TPUB Ta-pu 24.13 234 P **P** 18 09 24.6 -1.7
SEY Seymchan 24.18 12 *e*P **P** 18 09 28.7 +2.4
SEY pmax pmax
comp=Z,6.0nm,0.9s
TWG Pinlang 24.22 232 P **P** 18 09 24.7 -2.3
TWG IAmb IAmb 18 09 55.5
comp=Z,21nm,1.1s
BOD Bodaibo 25.43 325 *e*P **P** 18 09 36.9 -0.9
BOD pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 26.10 300 P **P** 18 09 42.2 -2.0
ULN Ulaanbaatar 26.10 300 *ce*P **P** 18 09 43.4 -0.8
ULN pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 26.54 300 P **P** 18 09 46.8 -1.3
SONM Songino Array 26.54 300 P **P** 18 09 47.6 -0.5
comp=Z,1.4nm,0.4s,baz=100,slow=8.5,SNR=9.4
comp=Z,1.4nm,0.4s
SONM Songino Array 26.54 300 P **P** 18 09 46.8 -1.3
SONM pmax pmax
comp=Z,2.0nm,0.8s
XAN Xi'an 26.67 268 P **P** 18 09 49.5 +0.2
XAN pP pP 18 10 04.7 -3.4
XAN pmax pmax
comp=Z,9.0nm,1.0s
H11N2 WAKE ISLAND Hy 29.44 125 T T 18 41 02.8
baz=318,slow=75,SNR=758
H11N1 WAKE ISLAND Hy 29.45 125 T T 18 41 01.8
baz=318,slow=75,SNR=3711
H11N3 WAKE ISLAND Hy 29.46 125 T T 18 40 58.6
baz=318,slow=75,SNR=2915
LZH Lanzhou 29.89 275 *e*P **P** 18 10 13.5 -4.5
LZH pP pP 18 10 31.7 -5.3
LZH sP sP 18 10 40.0 -6.5
LZH pmax pmax
comp=Z,15nm,1.2s
H11S1 WAKE ISLAND Hy 30.23 127 T T 18 41 58.7
baz=319,slow=76,SNR=196
H11S3 WAKE ISLAND Hy 30.23 127 T T 18 41 58.8
baz=319,slow=76,SNR=1090
H11S2 WAKE ISLAND Hy 30.25 127 T T 18 42 00.3
baz=319,slow=76,SNR=162
BILL Bilibino 31.46 17 *i* P **P** 18 10 32.6 +1.3
BILL pmax pmax
comp=Z,3.0nm,1.0s
SPIA Saint Paul Isl 35.53 44 P **P** 18 11 05.8 -1.0
baz=262
PZH PanZhiHua 35.62 261 P **P** 18 11 07.2 -0.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
P08K Saint George I 35.83 45 P **P** 18 11 07.8 -1.5
baz=263
GAMB Gambell 36.40 33 P **P** 18 11 12.7 -1.3
baz=251
SLVN Son La 36.95 252 P **P** 18 11 18.6 -0.8
SLVN IAmb IAmb 18 11 24.3
comp=Z,7.8nm,1.2s
M11K Mekoryuk 38.10 39 P **P** 18 11 27.1 -1.3
baz=261
TNA Tin City 38.50 31 P **P** 18 11 30.3 -1.4
baz=253
K13K Kusilvak Mount 39.09 37 P **P** 18 11 37.9 +1.2
K13K Kusilvak Mount 39.09 37 P **P** 18 11 36.2 -0.6
baz=261
F14K Arctic Creek 39.11 31 P **P** 18 11 36.7 -0.2
baz=255
ANM Nome 39.28 33 P **P** 18 11 37.2 -1.2
baz=257
M13K Dall Lake 39.51 40 P **P** 18 11 39.9 -0.3
baz=264
J14K Nanvaranak Lak 39.72 36 P **P** 18 11 41.7 -0.3
baz=261
F15K North Star Dit 39.85 31 P **P** 18 11 42.6 -0.4
baz=256
WMQ Urumqi 39.86 294 *e*P **P** 18 11 45.3 +1.8
G15K Niukluk 39.93 33 P **P** 18 11 43.9 +0.2
baz=258
L14K Kuka Creek 39.94 38 P **P** 18 11 43.8 +0.1
baz=263
S12K Black Hills 39.96 47 P **P** 18 11 43.7 -0.5
baz=271
M14K Bethel 40.22 39 P **P** 18 11 47.9 +1.8
M14K Bethel 40.22 39 P **P** 18 11 46.0 -0.1
baz=265
C16K Lisburne Hills 40.28 27 P **P** 18 11 46.1 -0.5
baz=253
N14K Kuskokwak Cree 40.29 41 P **P** 18 11 45.7 -1.0
baz=266
ZAA0 Zalesovo Array 40.30 310 **P** 18 11 46.4 -0.6
ZALV Zalesovo Beam 40.30 310 **P** 18 11 46.7 -0.2
ZALV Zalesovo Beam 40.30 310 P **P** 18 11 46.9 -0.1
comp=Z,18nm,0.4s,baz=92,slow=8.1,SNR=102
ZALV PcP **PcP** 18 13 48.8 -0.1
comp=Z,1.0nm,0.4s,baz=93,slow=4.2,SNR=2.9
ZALV ScP **ScP** 18 17 29.9 -0.9
comp=Z,0.5nm,0.5s,baz=106,slow=4.7,SNR=3.8
comp=Z,18nm,0.4s
O14K Tigyukauivet M 40.46 42 P **P** 18 11 47.3 -0.8
baz=267
L15K Ungalaq Mounta 40.54 38 P **P** 18 11 47.3 -1.5
baz=264
K15K Wolf Creek Mou 40.59 37 P **P** 18 11 50.0 +0.8
K15K Wolf Creek Mou 40.59 37 P **P** 18 11 47.8 -1.4
baz=263
H16K Elim 40.62 33 P **P** 18 11 49.0 -0.4
baz=260
G16K Koyuk River 40.71 32 P **P** 18 11 50.1 0.0
baz=259
M15K Kasigluk River 40.84 39 P **P** 18 11 51.0 -0.3
baz=266
D17K Noatak River 40.94 29 P **P** 18 11 51.6 -0.4
baz=256
RDOG Red Dog Mine 41.09 28 P **P** 18 11 51.4 -1.9
baz=255
N15K Kwethluk River 41.10 40 P **P** 18 11 53.2 -0.3
baz=267
C17K DeLong Mountai 41.10 27 P **P** 18 11 52.3 -1.1
baz=255
J16K Anvik River 41.13 36 P **P** 18 11 53.4 -0.3
baz=263
I17K Unalakleet 41.17 35 P **P** 18 11 53.1 -0.8
baz=262
E17K Hotham Inlet 41.27 30 P **P** 18 11 52.8 -1.9
baz=258
S14K Fog Glacier 41.36 46 P **P** 18 11 54.7 -1.0
baz=272
F17K Baldwin Pennin 41.36 31 P **P** 18 11 53.7 -1.7
baz=259
G17K Kiwalik Mounta 41.43 32 P **P** 18 11 54.7 -1.4
baz=260
H17K Granite Mounta 41.65 33 P **P** 18 11 56.2 -1.7
baz=262
M16K Timber Creek 41.71 39 P **P** 18 12 00.6 +2.3
M16K Timber Creek 41.71 39 P **P** 18 11 58.8 +0.5
baz=267
N16K Nishlik Lake 41.77 40 P **P** 18 11 57.7 -1.3
baz=268
E18K Tukpahlearik C 41.80 29 P **P** 18 12 01.4 +2.4
E18K IAmb IAmb 18 12 06.9
comp=Z,18nm,1.3s
E18K Tukpahlearik C 41.80 29 P **P** 18 11 58.6 -0.5
baz=258
B18K Kokolik River 41.82 26 P **P** 18 11 58.4 -0.8
baz=255
J17K VABM Dome 41.83 35 P **P** 18 12 01.3 +2.0
J17K VABM Dome 41.83 35 P **P** 18 11 57.9 -1.5
baz=264
C18K Utukok River 41.85 27 P **P** 18 11 57.7 -1.8
baz=256
F18K Selawik 42.02 31 P **P** 18 11 58.9 -1.8
baz=260
L17K Donlin 42.09 37 P **P** 18 11 60.0 -1.5
baz=266
O16K Kokwok River B 42.09 41 P **P** 18 12 00.7 -0.8
baz=270
K17K Iditarod 42.12 37 P **P** 18 12 01.4 -0.3
baz=266
P16K Nushagak River 42.15 42 P **P** 18 12 01.3 -0.7
baz=270
CHTO Chiang Mai 42.16 253 P **P** 18 12 03.2 +0.6
CHTO Chiang Mai 42.16 253 P **P** 18 12 03.2 +0.6
CHTO pmax pmax
comp=Z,3.0nm,0.8s
G18K Tagagawik 42.31 32 P **P** 18 12 05.3 +2.1
G18K IAmb IAmb 18 12 06.5
comp=Z,12nm,0.8s
G18K Tagagawik 42.31 32 P **P** 18 12 02.2 -1.0
baz=262
H18K Honhosa River 42.33 33 P **P** 18 12 05.4 +1.9
H18K Honhosa River 42.33 33 P **P** 18 12 03.1 -0.3
baz=263
CMAR Chiang Mai Arr 42.38 253 P **P** 18 12 04.4 0.0
comp=Z,0.7nm,0.6s,baz=48,slow=7.9,SNR=5.6
comp=Z,0.7nm,0.6s
R16K Pilot Point 42.40 44 P **P** 18 12 03.9 -0.1
baz=272
M17K Holitna River 42.46 39 P **P** 18 12 04.0 -0.5
baz=268
C19K Lookout Ridge 42.52 27 P **P** 18 12 04.7 -0.2
baz=258
N17K Nushagak Hills 42.56 40 P **P** 18 12 05.0 -0.4
baz=269
O17K Koliganek Bris 42.60 41 P **P** 18 12 05.5 -0.1
baz=270
F19K Shaleruckik Mo 42.79 30 P **P** 18 12 06.7 -0.4
baz=262
L18K Granite Mounta 42.84 37 P **P** 18 12 07.5 -0.1
baz=268
J18K Innoko River 42.89 36 P **P** 18 12 08.4 +0.4
baz=266
MK31 Makanchi Array 42.91 300 P **P** 18 12 07.9 -0.5
MK31 IAmb IAmb 18 12 10.3
comp=Z,4.3nm,0.8s
MK31 Makanchi Array 42.91 300 P **P** 18 12 07.9 -0.5
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 42.91 300 P **P** 18 12 07.8 -0.6
comp=Z,5.5nm,0.8s,baz=84,slow=8.9,SNR=45
MKAR ScP **ScP** 18 17 41.1 -0.3
comp=Z,0.4nm,0.8s,baz=90,slow=4.3,SNR=3.1
comp=Z,5.5nm,0.8s
GCSA Galena City Sc 42.92 34 P **P** 18 12 08.6 +0.5
baz=265
D19K Kuna River 42.93 28 P **P** 18 12 08.0 -0.3
baz=260
P17K Kvichak River 42.94 42 P **P** 18 12 09.3 +0.9
baz=271
G19K Purcell Mounta 42.98 32 P **P** 18 12 09.7 +1.1
baz=263
R17L Mt. Peulik Vol 43.05 44 P **P** 18 12 10.0 +0.7
baz=273
E19K Redstone River 43.09 30 P **P** 18 12 09.4 -0.1
baz=262
MAKZ Makanchi 43.12 300 **P** 18 12 09.4 -0.7
MAKZ IAmb IAmb 18 12 11.7
comp=Z,5.9nm,0.8s
MAKZ Makanchi 43.12 300 P **P** 18 12 09.4 -0.7
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
H19K Roundabout Mou 43.17 32 **P** 18 12 11.9 +1.8
H19K Roundabout Mou 43.17 32 P **P** 18 12 10.9 +0.7
baz=265
N18K Kilae Creek 43.20 40 P **P** 18 12 11.1 +0.6
baz=270
M18K Stony River 43.23 38 P **P** 18 12 11.6 +0.9
baz=269
Q17K Contact Creek 43.27 43 P **P** 18 12 11.4 +0.3
baz=273
J19K Poorman 43.41 35 P **P** 18 12 14.1 +2.0
J19K IAmb IAmb 18 12 17.0
comp=Z,7.2nm,0.9s
J19K Poorman 43.41 35 P **P** 18 12 12.9 +0.8
baz=267
D20K Etivluk River 43.51 28 P **P** 18 12 13.9 +1.0
baz=261
B20K Meade River 43.54 26 P **P** 18 12 14.2 +1.1
B20K Meade River 43.54 26 P **P** 18 12 13.4 +0.3
baz=259
O18K Koktuh Hills 43.55 41 P **P** 18 12 13.2 -0.2
baz=272
P18K Big Mountain, 43.56 41 P **P** 18 12 14.0 +0.6
baz=272
CHIR Chirikof Islan 43.59 47 P **P** 18 12 13.1 -0.5
baz=276
E20K Nigu River 43.60 29 P **P** 18 12 14.3 +0.6
baz=262
F20K Avaraart Lake 43.62 30 P **P** 18 12 14.8 +1.1
baz=264
L19K White Mountain 43.70 37 P **P** 18 12 15.1 +0.6
baz=270
Q18K Katmai Hardscr 43.71 43 P **P** 18 12 15.4 +0.7
baz=273
H20K Anotleneega Mo 43.82 33 P **P** 18 12 16.1 +0.6
baz=266
N19K Bonanza Creek 43.89 39 P **P** 18 12 16.8 +0.6
baz=271
M19K Big River Lodg 43.92 38 P **P** 18 12 16.2 -0.1
baz=270
I20K Naaghedeneel 43.95 34 P **P** 18 12 16.5 +0.1
baz=267
J20K Nowinta River 44.06 35 P **P** 18 12 19.3 +2.0
J20K IAmb IAmb 18 12 20.5
comp=Z,6.1nm,0.8s
J20K Nowinta River 44.06 35 P **P** 18 12 17.1 -0.3
baz=268
R18K Karluk 44.08 44 P **P** 18 12 17.9 +0.4
baz=275
K20K Telida 44.08 36 P **P** 18 12 17.8 +0.3
baz=269
L20K Farewell, AK 44.16 37 P **P** 18 12 18.5 +0.4
baz=270
C21K Knifeblade Rid 44.23 27 P **P** 18 12 19.4 +0.8
baz=262
IMAR Indian Mountai 44.32 32 P **P** 18 12 21.3 +2.0
B21K Ikpikpuk River 44.35 27 P **P** 18 12 21.4 +1.9
B21K IAmb IAmb 18 12 22.7
comp=Z,11nm,0.8s
B21K Ikpikpuk River 44.35 27 P **P** 18 12 20.0 +0.4
baz=262
Q19K Cape Douglas, 44.40 42 P **P** 18 12 20.5 +0.3
baz=274
E21K Killik River 44.44 28 P **P** 18 12 20.3 -0.1
baz=264
A22K Sinclair Lake 44.45 25 P **P** 18 12 20.0 -0.3
baz=260
G21K Allakaket 44.45 31 P **P** 18 12 22.3 +1.9
G21K IAmb IAmb 18 12 23.9
comp=Z,8.4nm,0.9s
G21K Allakaket 44.45 31 P **P** 18 12 21.1 +0.6
baz=266
KURK Kurchatov 44.48 306 **P** 18 12 20.5 -0.4
KURK Kurchatov 44.48 306 *ce*P **P** 18 12 20.7 -0.1
KURK pmax pmax
comp=Z,21nm,1.0s
F21K Alatna River 44.51 30 P **P** 18 12 21.4 +0.5
baz=266
M20K Styx River 44.52 38 P **P** 18 12 21.2 +0.1
baz=271
KURBB Kurchatov Arra 44.55 306 P **P** 18 12 20.8 -0.6
comp=Z,10.0nm,0.4s,baz=82,slow=8.5,SNR=31
comp=Z,10.0nm,0.4s
P19K Oil Pt 44.56 41 P **P** 18 12 21.8 +0.3
baz=274
H21K Melozitna Rive 44.69 32 P **P** 18 12 22.6 +0.3
baz=268
OHAK Old Harbor 44.73 45 P **P** 18 12 23.6 +0.9
baz=276
O20K Slope Mountain 44.84 40 P **P** 18 12 24.0 +0.3
baz=274
B22K Teshekpuk Lake 44.86 26 P **P** 18 12 23.8 +0.3
baz=262
CHUM Lake Minchumin 44.87 35 P **P** 18 12 23.7 0.0
baz=270
D22K Ayikyak River 44.95 28 **P** 18 12 26.8 +2.4
D22K IAmb IAmb 18 12 27.4
comp=Z,8.6nm,0.8s
D22K PcP **PcP** 18 14 01.5 -2.8
D22K Ayikyak River 44.95 28 P **P** 18 12 24.7 +0.3
baz=265
CAST Castle Rocks 44.97 36 IAmb IAmb 18 12 28.4
comp=Z,6.5nm,0.8s
CAST Castle Rocks 44.97 36 P **P** 18 12 25.2 +0.6
baz=271
SPCR Spurr Chakacha 44.98 39 P **P** 18 12 25.0 +0.2
baz=273
N20K Mount Spurr 44.98 39 P **P** 18 12 25.2 +0.4
baz=273
I21K Tanana 45.02 33 P **P** 18 12 25.0 +0.1
baz=269
F22K John River 45.03 30 P **P** 18 12 25.0 -0.1
baz=267
KDAK Kodiak Island 45.05 44 P **P** 18 12 25.9 +0.6
comp=Z,4.8nm,0.5s,baz=291,slow=2.0,SNR=12
comp=Z,4.8nm,0.5s
KDAK Kodiak Island 45.05 44 P **P** 18 12 25.7 +0.4
baz=276
Q20K Shuyak Island 45.07 42 P **P** 18 12 25.3 -0.2
baz=275
E22K Anaktuvuk Pass 45.21 29 P **P** 18 12 28.6 +2.1
E22K Anaktuvuk Pass 45.21 29 P **P** 18 12 24.5 -2.0
baz=266,SNR=7.1
G22K Bettles 45.26 31 P **P** 18 12 26.6 -0.2
baz=268
SKT Skwentna 45.27 38 P **P** 18 12 26.0 -1.0
baz=273
H22K Ishtalitna Cre 45.28 32 P **P** 18 12 25.9 -1.2
baz=269
HOM Homer 45.37 41 P **P** 18 12 25.4 -2.4
baz=275
SUA Susitna One 45.67 38 P **P** 18 12 29.4 -0.9
baz=274
D23K Nanushuk River 45.68 28 P **P** 18 12 28.9 -1.2
baz=266
C23K Itkillik River 45.76 27 P **P** 18 12 29.5 -1.3
baz=266
TRF Thorofare Moun 45.78 36 P **P** 18 12 30.4 -0.7
baz=272
G23K Bananza Creek 45.84 31 P **P** 18 12 33.1 +1.6
G23K IAmb IAmb 18 12 34.7
comp=Z,4.9nm,0.9s
G23K Bananza Creek 45.84 31 P **P** 18 12 31.6 +0.1
baz=269
E23K Chandalar 46.03 29 **P** 18 12 35.2 +2.2
E23K IAmb IAmb 18 12 36.5
comp=Z,8.3nm,0.8s
E23K Chandalar 46.03 29 P **P** 18 12 32.0 -1.0
baz=268,SNR=5.7
H23K Yukon River 46.04 32 P **P** 18 12 32.6 -0.5
baz=271
TOLK Toolik Lake Re 46.06 28 P **P** 18 12 35.7 +2.5
TOLK IAmb IAmb 18 12 59.6
comp=Z,11nm,1.3s
TOLK Toolik Lake Re 46.06 28 P **P** 18 12 32.0 -1.3
baz=268
I23K Minto, Yukon-K 46.13 33 P **P** 18 12 32.5 -1.2
baz=272
D24K Happy Valley 46.35 28 **P** 18 12 36.7 +1.2
D24K Happy Valley 46.35 28 P **P** 18 12 34.7 -0.7
baz=268,SNR=6.3
MCK McKinley 46.37 35 P **P** 18 12 34.7 -0.9

baz=273
EVN Everest 46.37 273 P P 18 12 37.4 +0.5
C24K Franklin Bluff 46.42 27 P P 18 12 35.6 -0.2
baz=268
SEW Seward 46.42 40 P P 18 12 34.9 -1.1
baz=276
PMR Palmer 46.43 38 P P 18 12 35.2 -0.9
baz=275
E24K Your Creek 46.45 29 P P 18 12 38.5 +2.2
E24K Your Creek 46.45 29 P P 18 12 36.1 -0.1
baz=270,SNR=5.3
F24K Squaw Lake 46.68 30 P P 18 12 38.5 +0.4
baz=271
H24K Noodor Dome 46.72 32 P P 18 12 40.7 +2.3
H24K IAmb IAmb 18 12 41.8
comp=Z,3.6nm,0.8s
H24K Noodor Dome 46.72 32 P P 18 12 37.8 -0.6
baz=272
KNK Knik Glacier 46.77 38 P P 18 12 37.9 -0.9
baz=276
COLA College 46.78 34 P P 18 12 37.6 -1.1
baz=273
G24K Hadweenzic Riv 46.86 31 P P 18 12 37.9 -1.5
baz=272
PWL Port Wells 46.89 39 P P 18 12 38.3 -1.4
baz=276
POKR Poker Plat Res 46.94 33 P P 18 12 38.7 -1.4
baz=273
M23K Glacier View 47.08 38 P P 18 12 42.1 +0.9
baz=276
IL31 47.20 34 IAmb IAmb 18 12 44.5
comp=Z,6.0nm,0.7s
ILAR Eielson Array 47.20 34 P P 18 12 43.5 +1.5
comp=Z,3.8nm,0.7s,baz=267,slow=6.2,SNR=46
comp=Z,3.8nm,0.7s
D25K Kavik River 47.23 27 P P 18 12 44.1 +1.8
D25K IAmb IAmb 18 12 45.3
comp=Z,8.4nm,0.8s
D25K Kavik River 47.23 27 P P 18 12 41.9 -0.4
baz=270
SCM Sheep Creek Mo 47.26 38 P P 18 12 43.5 +0.8
baz=276
G25K Bearman Lake 47.40 31 P P 18 12 44.6 +1.1
baz=273
P23K Montague Islan 47.46 40 P P 18 12 44.0 -0.1
baz=278
GLI Glacier Island 47.49 39 P P 18 12 45.0 +0.7
baz=277
F25K Christian Rive 47.54 30 P P 18 12 44.9 +0.1
baz=272
H25L Birch Creek 47.54 32 P P 18 12 45.8 +1.1
baz=274
KDJ Kajisay 47.73 295 P 18 12 46.9 +0.1
KDJ IAmb IAmb 18 12 48.5
comp=Z,2.9nm,0.6s
KDJ Kajisay 47.73 295 P P 18 12 46.9 +0.1
KDJ pmax pmax
comp=Z,3.0nm,0.6s
K24K Donnelly Dome 47.76 35 P P 18 12 46.1 -0.4
baz=276
M24K Tolsona, Glenn 47.77 37 P P 18 12 47.1 +0.5
baz=277
J25K Salcha River, 47.86 34 P P 18 12 47.1 -0.2
baz=276
BMAR Burnt Mountain 47.96 30 P P 18 12 51.2 +3.2
PAX Paxson 47.99 36 P P 18 12 48.4 +0.1
baz=277
F26K Sheenjek River 48.11 30 P P 18 12 52.1 +3.0
F26K Sheenjek River 48.11 30 P P 18 12 48.7 -0.4
baz=274,SNR=14
C27K Jago River 48.16 27 P P 18 12 48.4 -1.0
baz=272
RIDG Independent Ri 48.18 35 P P 18 12 49.4 -0.3
baz=277
EYAK Cordova Ski Ar 48.19 39 P P 18 12 48.8 -0.9
baz=279
HARP HAARP 48.21 37 P P 18 12 49.8 -0.2
baz=278
G26K Porcupine Rive 48.30 31 P P 18 12 50.6 0.0
baz=275
SCRK Sand Creek 48.53 35 IAmb IAmb 18 12 54.9
comp=Z,6.7nm,0.7s
SCRK Sand Creek 48.53 35 P P 18 12 53.3 +0.8
baz=277
N25K Chitina, Valde 48.58 38 P P 18 12 52.0 -0.9
baz=279
J26L Joseph Creek 48.65 34 P P 18 12 53.9 +0.5
baz=277
I26K Coal Creek Min 48.72 33 P P 18 12 53.8 0.0
baz=277
L26K Log Cabin Wild 48.95 36 P P 18 12 55.3 -0.3
baz=279
KAIM Kayak Island 48.95 40 P P 18 12 55.7 +0.1
baz=280
BVAR Borovoye Array 48.95 311 P P 18 12 55.8 0.0
comp=Z,3.7nm,0.3s,baz=80,slow=9.8,SNR=27
BVAR PcP **PcP 18 14 20.5 +1.8**
comp=Z,1.6nm,0.7s,baz=86,slow=5.9,SNR=1.7
comp=Z,3.7nm,0.3s
BRVK Borovoye 49.01 311 P 18 12 55.8 -0.3
BRVK Borovoye 49.01 311 P P 18 12 55.8 -0.3
BRVK pmax pmax
comp=Z,3.0nm,1.0s
E27K Coleen River 49.03 29 P P 18 12 56.3 +0.2
baz=276
G27K Doyon Strip 49.15 31 P P 18 12 57.4 +0.3
baz=277
D27M Malcolm River 49.16 27 P P 18 12 57.1 -0.1
baz=275
M26K Nabesna, AK 49.20 37 P P 18 12 57.5 -0.1
baz=280
H27K Steamboat Moun 49.28 31 P P 18 12 58.2 +0.1
baz=277
I27K Kandik River 49.32 32 P P 18 12 58.7 +0.2
baz=278
K27K Chicken 49.36 34 IAmb IAmb 18 13 02.0
comp=Z,4.3nm,0.9s
K27K Chicken 49.36 34 P P 18 12 59.3 +0.6
baz=279
MCARA McCarthy VSAT 49.36 38 P P 18 12 57.9 -0.9
baz=280
CRQE Cirque 49.45 39 P P 18 12 59.8 +0.2
baz=281
L27K Beaver Creek, 49.62 36 P 18 13 02.3 +1.5
L27K IAmb IAmb 18 13 04.5
comp=Z,5.5nm,0.8s
L27K Beaver Creek, 49.62 36 P P 18 13 00.1 -0.7
baz=280,SNR=8.5
BCAR Beaver Creek A 49.64 36 P 18 13 03.0 +2.1
M27K Edge Creek, AK 49.72 36 P P 18 13 03.5 +1.9
M27K IAmb IAmb 18 13 05.2
comp=Z,6.0nm,0.9s
M27K Edge Creek, AK 49.72 36 P P 18 13 00.6 -1.0
baz=280
E28M Babbage River 49.74 28 P P 18 13 01.0 -0.5
baz=277
F28M Old Crow 49.74 29 P P 18 13 01.3 -0.3
baz=278
D28M Stokes Point 49.93 27 P P 18 13 02.4 -0.5
baz=277
I28M Miner Creek 50.04 32 IAmb IAmb 18 13 07.5
comp=Z,6.5nm,1.2s
I28M Miner Creek 50.04 32 P P 18 13 03.0 -1.0
baz=279,SNR=5.6
MESA MESA 50.12 39 P P 18 13 03.2 -1.6
baz=282
BVCY Beaver Creek 50.18 36 P P 18 13 03.9 -1.0
baz=281
CTG Chitna Glacier 50.25 38 P P 18 13 05.0 -0.6
baz=282
E29M Blow River 50.37 28 P P 18 13 08.2 +2.0
E29M IAmb IAmb 18 13 18.0
comp=Z,5.6nm,0.9s
E29M Blow River 50.37 28 P P 18 13 06.3 +0.1
baz=279
DAWY Dawson 50.51 34 P P 18 13 06.8 -0.7
baz=281
H29M Whitestone 50.54 31 P P 18 13 08.1 +0.5
baz=280
G29M Pine Creek 50.56 30 IAmb IAmb 18 13 39.7
comp=Z,7.6nm,1.3s
G29M Pine Creek 50.56 30 P P 18 13 07.6 -0.2
baz=280
I29M Ogilvie Camp, 50.73 32 P P 18 13 08.8 -0.2
baz=281,SNR=5.3
YUK8 Steele Glacier 50.92 38 P P 18 13 10.2 -0.6
baz=283
ARSB Arslanbob 50.95 295 P 18 13 11.3 +0.1
ARSB Arslanbob 50.95 295 P P 18 13 11.4 +0.1
ARSB pmax pmax
comp=Z,7.0nm,0.6s
PINM Pinnacle 50.96 39 P P 18 13 09.5 -1.4
baz=284
EPYK Eagle Plains 51.17 31 P P 18 13 14.5 +2.2
EPYK Eagle Plains 51.17 31 P P 18 13 12.4 0.0
baz=281
G30M tAoh Zraii Nji 51.24 30 P P 18 13 13.0 +0.1
baz=281
L29M L29M 51.26 35 P 18 13 15.8 +2.7
L29M IAmb IAmb 18 13 17.4
comp=Z,7.5nm,0.8s
L29M L29M 51.26 35 P P 18 13 12.8 -0.4
baz=283,SNR=7.3
M29M Somme Creek 51.26 36 P P 18 13 12.8 -0.4
baz=283
F30M Barrier River 51.28 29 IAmb IAmb 18 13 52.6
comp=Z,7.4nm,1.1s
F30M Barrier River 51.28 29 P P 18 13 14.0 +0.8
baz=281
K29M Barlow Dome 51.37 34 P 18 13 15.8 +1.8
K29M IAmb IAmb 18 13 17.6
comp=Z,4.6nm,0.8s
K29M Barlow Dome 51.37 34 P P 18 13 14.9 +0.9
baz=283,SNR=6.3
YUK4 Talbot Arm 51.44 37 P P 18 13 15.5 +0.9
baz=284
PNL Peninsula 51.48 40 P P 18 13 15.3 +0.6
baz=284
I30M Mount Dempster 51.55 32 P P 18 13 16.0 +0.7
baz=283,SNR=20
YUK6 Outpost Mounta 51.67 38 P P 18 13 16.7 +0.3
baz=284
J30M Hart River 51.71 33 P P 18 13 17.2 +0.7
baz=283
O29M Mount Kennedy 51.72 39 P P 18 13 16.2 -0.5
baz=285
INK Inuvik 51.98 28 P P 18 13 18.6 +0.3
baz=283
KK31 Karatay Array 51.98 298 P 18 13 18.0 -0.7
KK31 IAmb IAmb 18 13 23.1
comp=Z,3.6nm,0.8s
KK31 Karatay Array 51.98 298 P P 18 13 18.0 -0.7
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 51.98 298 P 18 13 18.3 -0.5
KKAR Karatay Array 51.98 298 P P 18 13 18.3 -0.5
M30M Minto, Yukon 51.98 36 P P 18 13 19.1 +0.6
baz=284
G31M Satah River 52.01 30 P P 18 13 19.8 +1.3
G31M IAmb IAmb 18 13 59.2
comp=Z,5.6nm,1.1s
G31M Satah River 52.01 30 P P 18 13 18.4 -0.1
baz=283
F31M Tsiigehtchic 52.09 29 P P 18 13 19.5 +0.4
baz=283
HYT Haines Junctio 52.10 38 P 18 13 21.2 +1.7
HYT IAmb IAmb 18 13 24.3
comp=Z,8.8nm,1.0s
HYT Haines Junctio 52.10 38 P P 18 13 19.7 +0.2
baz=285,SNR=7.7
N30M Aishikik Lake 52.13 37 P P 18 13 18.4 -1.2
baz=285
H31M Peel River 52.24 31 P P 18 13 18.8 -1.5
baz=284,SNR=7.0
P29M Windy Craggy 52.31 39 IAmb IAmb 18 13 25.2
comp=Z,3.0nm,1.0s
P29M Windy Craggy 52.31 39 P P 18 13 20.1 -0.8
baz=286
P30M Million Dollar 52.55 39 P P 18 13 22.2 -0.5
baz=286
N31M Braeburn, Yuko 52.73 37 P P 18 13 22.7 -1.3
baz=286
O30N Mendenhall 52.78 38 P P 18 13 23.4 -1.1
baz=286
MTN Manton Dam 53.15 193 P P 18 13 28.4 +1.0
M31M Drury Creek, Y 53.16 36 P P 18 13 25.6 -1.6
baz=286,SNR=5.2
SVE Sverdlovsk 53.30 317 *e*P **P 18 13 29.2 +1.0**
COEN Coen 53.37 178 P P 18 13 29.0 -0.1
WHY Whitehorse 53.39 38 P P 18 13 28.1 -0.8
baz=287
S31K Pelican 53.55 41 P P 18 13 29.9 -0.1
baz=288
NIL Nilore 53.99 287 P P 18 13 34.0 +0.4
NIL Nilore 53.99 287 P P 18 13 34.0 +0.4
NIL pmax pmax
comp=Z,8.0nm,0.6s
N32M Quiet Lake 54.07 37 P P 18 13 33.5 -0.4
baz=288
KIP Kipapa 54.09 91 P P 18 13 35.8 +1.4
KIP Kipapa 54.09 91 P P 18 13 35.8 +1.4
P32M Atlin 54.27 39 P P 18 13 33.8 -1.6
baz=289
SIT Sitka 54.30 42 P P 18 13 35.0 -0.4
baz=289
R32K Eaglecrest 54.31 40 P P 18 13 35.3 -0.2
baz=288
MMPY Sheldon Lake, 54.43 35 P P 18 13 37.0 +0.6
baz=289
P33M Teslin, Yukon 54.50 38 P 18 13 39.6 +2.6
P33M Teslin, Yukon 54.50 38 P P 18 13 36.9 -0.1
baz=289
S32K Killisnoo 54.55 41 P P 18 13 36.3 -0.9
baz=290
ARTI Arti 54.62 317 P 18 13 38.1 +0.2
ARTI Arti 54.62 317 *d i*P **P 18 13 37.9 0.0**
ARTI *PP **pP 18 13 58.4 0.0**
ARTI 18 14 37.9
ARTI 18 15 37.5
ARTI S **S 18 21 11.5 +0.3**
ARTI SS **SS 18 24 54.9 +0.5**
ARTI pmax pmax
comp=Z,7.0nm,0.5s
Q32M Nakina River 55.18 39 P P 18 13 41.5 -0.6
baz=290
R33M Jennings River 55.66 38 P P 18 13 46.7 +1.3
baz=291
U33K Whale Pass 55.77 42 P P 18 13 46.8 +0.7
baz=292
CRAG Craig 56.01 43 P P 18 13 47.6 -0.2
baz=292
S34M Telegraph Cree 56.12 40 P P 18 13 49.2 +0.7
baz=292
KNRA Kununurra 56.35 195 P P 18 13 51.0 +0.4
AB31 Akbulak array 56.39 309 P 18 13 50.2 -0.4
AB31 IAmb IAmb 18 13 51.2
comp=Z,4.3nm,0.6s
ABKAR Akbulak array 56.39 309 P 18 13 50.3 -0.4
DLBC Dease Lake 56.46 39 P P 18 13 51.7 +0.5
baz=292
V35K Ketchikan 56.86 43 P P 18 13 54.6 +0.8
baz=293
T35M Bob Quinn 56.91 41 P P 18 13 54.1 -0.2
baz=293
WRGLY Wrigley 57.53 32 P P 18 13 58.4 0.0
baz=294
SPITS Spitsbergen Ar 57.98 349 P P 18 14 02.3 +0.9
comp=Z,2.8nm,0.7s,baz=36,slow=13,SNR=3.5
comp=Z,2.8nm,0.7s
FITZ Fitzroy Crossi 59.37 198 P P 18 14 11.7 -0.1
comp=Z,4.2nm,1.0s,baz=5.7,slow=10,SNR=2.5
comp=Z,4.2nm,1.0s
WB0 Warramunga Arr 59.51 188 P P 18 14 12.1 -0.6
CTAO Charters Tower 59.60 175 P P 18 14 13.3 +0.1
CTAO Charters Tower 59.60 175 P P 18 14 13.4 +0.1
CTAO pmax pmax
comp=Z,41nm,1.5s
WR0 Warramunga Arr 59.69 188 P P 18 14 13.7 -0.1
WR8 Warramunga Arr 59.69 188 P P 18 14 13.5 -0.4
WB2 Warramunga Arr 59.69 188 P P 18 14 14.0 +0.1
WRA Warramunga Arr 59.69 188 P 18 14 13.0 -0.9
WRA Warramunga Arr 59.69 188 P P 18 14 13.7 -0.2
comp=Z,4.2nm,0.6s,baz=6.1,slow=7.0,SNR=57
comp=Z,4.2nm,0.6s
WRA Warramunga Arr 59.69 188 P P 18 14 13.0 -0.9
WRA pmax pmax
comp=Z,1.0nm,1.5s
KEV Kevo 61.05 339 P P 18 14 23.0 +0.5
KEV Kevo 61.05 339 P P 18 14 23.0 +0.5
KEV pmax pmax
comp=Z,24nm,1.3s
YKA Yellowknife Ar 61.46 31 P P 18 14 26.0 +0.6
comp=Z,1.2nm,0.9s,baz=315,slow=7.6,SNR=3.7
comp=Z,1.2nm,0.9s
ARCES ARCESS Array B 61.60 339 P P 18 14 26.6 +0.3
ARCES ARCESS Array B 61.60 339 P P 18 14 26.5 +0.1
comp=Z,3.9nm,1.0s,baz=56,slow=7.4,SNR=9.6
comp=Z,3.9nm,1.0s
ARCES ARCESS Array B 61.60 339 P P 18 14 26.6 +0.3
ARCES pmax pmax
comp=Z,12nm,1.3s
AS31 Alice Springs 63.41 188 P P 18 14 39.2 +0.3
ASAR Alice Springs 63.42 188 P P 18 14 39.0 0.0
ASAR Alice Springs 63.42 188 P P 18 14 39.4 +0.5
comp=Z,3.1nm,0.7s,baz=3.1,slow=7.6,SNR=78
comp=Z,3.1nm,0.7s
CLRS Cowichan Lake 63.94 47 P P 18 14 43.2 +1.0
CLRS IAmb IAmb 18 15 22.4
comp=Z,11nm,1.3s
OBN Obninsk 66.10 323 *eP* **P 18 14 55.1 -0.9**
OBN *e* 18 15 25.4
OBN *e* 18 17 22.3
OBN *e*PPP PPP 18 18 57.4
OBN *e*S **S 18 23 35.0 -2.7**
OBN *e*SS **SS 18 27 59.8 +6.1**
OBN pmax pmax
comp=Z,3.0nm,0.9s
FIA1 FINESS Array S 66.57 332 P P 18 14 58.9 -0.1
FINES FINESS Array B 66.57 332 P P 18 14 58.9 0.0
comp=Z,1.8nm,0.5s,baz=32,slow=8.3,SNR=20
comp=Z,1.8nm,0.5s
BBOR Butler Butte 67.98 52 P P 18 15 07.7 -0.7
BBOR IAmb IAmb 18 15 38.8
comp=Z,9.4nm,1.5s
SUMG Summit 68.05 0 P P 18 15 07.2 -1.5
SUMG Summit 68.05 0 P P 18 15 07.2 -1.5
SUMG pmax pmax
comp=Z,3.0nm,0.8s
PINE Pine Mountain 68.52 51 P 18 15 10.5 -1.4
PINE IAmb IAmb 18 15 15.7
comp=Z,6.9nm,0.8s
L04D Klamath Falls 68.59 53 P P 18 15 11.4 -0.8
L04D IAmb IAmb 18 15 15.8
comp=Z,6.8nm,0.9s
KIV Kislovodsk 69.32 310 *eP* **P 18 15 16.8 +0.2**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 69.33 310 *ce*P **P 18 15 17.5 +1.0**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
SHA1 Shidzhatmaz 69.46 310 *i*P **P 18 15 18.4 +0.7**
BMO Blue Mountains 70.03 48 P P 18 15 20.2 -0.8
BMO Blue Mountains 70.03 48 P P 18 15 20.2 -0.8
BMO pmax pmax
comp=Z,2.0nm,0.9s
MNK Minsk 70.42 325 *i*P **P 18 15 23.0 0.0**
MNK *i* *PP **pP 18 15 46.1 +1.7**
MNK *i* 18 17 59.6
MNK *i*PPP PPP 18 19 42.8
MNK *i*S **S 18 24 28.8 -0.3**
MNK *i* *SS **sS 18 25 08.9 +3.4**
MNK *i*SS **SS 18 29 02.0 +1.7**
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=N,14nm,0.7s
MNK MLR MLR
comp=N,233nm,23.0s
MNK MLR MLR
comp=Z,177nm,25.0s
MNK MLR MLR
comp=E,209nm,21.0s
OVMT Ovando 71.09 44 P P 18 15 28.0 +0.6
BEKR Beckworth 71.15 54 P P 18 15 28.6 +0.6
STKA Stephens Creek 71.18 180 P P 18 15 28.3 +0.5
comp=E,1.3nm,0.7s,baz=356,slow=13,SNR=1.8
comp=E,1.3nm,0.7s
BPMT Black Pine Rid 71.23 45 P P 18 15 27.8 -0.7
NC405 NORSAR Array S 71.62 337 P P 18 15 30.2 0.0
NC303 NORSAR Array S 71.63 337 P P 18 15 30.6 +0.2
NC303 IAmb IAmb 18 16 07.2
comp=Z,13nm,1.4s
HFS Hagfors 71.76 335 P P 18 15 31.3 +0.2
comp=Z,2.2nm,0.4s,baz=44,slow=6.6,SNR=40
comp=Z,2.2nm,0.4s
NC204 NORSAR Array S 71.78 337 P P 18 15 30.9 -0.3
NC204 IAmb IAmb 18 15 44.8
comp=Z,9.8nm,1.1s
NB201 NORSAR Array S 71.80 337 P P 18 15 30.7 -0.6
NB201 IAmb IAmb 18 15 43.3
comp=Z,14nm,1.3s
NB2 NORSAR Subarra 71.83 337 P P 18 15 31.8 +0.3
comp=Z,1.3nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 71.83 337 P P 18 15 31.6 +0.1
comp=Z,1.5nm,0.7s,baz=41,slow=5.9,SNR=9.1
comp=Z,1.5nm,0.7s
NBO00 NORSAR Array S 71.97 337 P P 18 15 31.9 -0.4
NBO00 IAmb IAmb 18 15 36.1
comp=Z,5.6nm,0.9s
NC602 NORSAR Array S 71.97 337 P P 18 15 33.1 +0.9
NC602 IAmb IAmb 18 15 47.5
comp=Z,6.6nm,1.1s
LRM Limekiln Ridge 72.16 45 P P 18 15 34.7 +0.6
CMB Columbia Colle 72.22 55 P P 18 15 33.4 -0.9
CMB Columbia Colle 72.22 55 P P 18 15 33.4 -0.9
CMB pmax pmax
comp=Z,5.0nm,1.5s
AKASG Malin Array Be 72.32 322 P P 18 15 34.5 0.0
comp=Z,1.3nm,0.3s,baz=46,slow=6.6,SNR=22
comp=Z,1.3nm,0.3s
AKBB Malin Array Si 72.32 322 P P 18 15 33.6 -1.0
AKBB IAmb IAmb 18 15 34.9
comp=Z,3.6nm,0.6s
AKBB Malin Array Si 72.32 322 *ce*P **P 18 15 34.2 -0.4**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 72.34 322 P P 18 15 33.7 -0.9
KIEV IAmb IAmb 18 15 34.9
comp=Z,3.2nm,0.6s
KIEV Kiev 72.34 322 P P 18 15 33.7 -0.9
KIEV pmax pmax
comp=Z,3.0nm,0.6s
DLMT Dillon 72.36 45 P P 18 15 34.7 -0.5
DLMT IAmb IAmb 18 15 38.2
comp=Z,5.5nm,0.8s
NVAR Mina Array Bea 73.29 54 P P 18 15 42.5 +1.7
comp=Z,1.7nm,0.8s,baz=289,slow=5.5,SNR=12
comp=Z,1.7nm,0.8s
DSP Deep Springs 74.14 55 P 18 15 45.7 +0.2
DSP IAmb IAmb 18 15 49.4
comp=Z,4.9nm,1.1s
FXWY Fox Creek 74.33 46 P P 18 15 47.7 +0.9
HVU Hansel Valley 74.53 48 P P 18 15 48.5 +0.6
HVU Hansel Valley 74.53 48 P P 18 15 48.5 +0.6
HVU pmax pmax
comp=Z,3.0nm,0.9s
R11B Troy Canyon, C 75.02 53 P 18 15 51.6 +0.7
FURC Furnace Creek, 75.40 55 IAmb IAmb 18 15 56.7
comp=Z,7.7nm,0.9s
TPNV Topopah Spring 75.48 54 P P 18 15 54.8 +1.3
TPNV IAmb IAmb 18 15 56.8
comp=Z,3.8nm,0.8s
TPNV Topopah Spring 75.48 54 P P 18 15 54.8 +1.3
TPNV pmax pmax
comp=Z,4.0nm,0.9s
QSM Queen of Sheba 75.71 55 P P 18 15 55.7 +1.0
QSM IAmb IAmb 18 15 57.8
comp=Z,6.5nm,0.8s
PD31 Pinedale Array 75.71 46 P P 18 15 55.8 +1.0
PDAR Pinedale Array 75.71 46 P P 18 15 55.6 +0.8
PDAR Pinedale Array 75.71 46 P P 18 15 56.1 +1.3
comp=Z,1.6nm,0.7s,baz=269,slow=2.8,SNR=15
comp=Z,1.6nm,0.7s
SHPR Sheep Range 76.44 54 P P 18 16 01.0 +2.0
BR131 Keskin Array S 77.24 311 *i*P **P 18 16 03.5 +0.1**
BRTR Keskin Array B 77.24 311 P P 18 16 03.0 -0.4
comp=Z,0.4nm,0.6s,baz=354,slow=12,SNR=2.1
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 77.24 311 P P 18 16 03.0 -0.4
SRU San Rafael Swe 77.56 49 P P 18 16 06.1 +0.9
SRU San Rafael Swe 77.56 49 P P 18 16 06.1 +0.9
SRU pmax pmax
comp=Z,3.0nm,0.7s
VYHS Vyhne 78.66 325 *eP* **P 18 16 13.1 +2.2**
VYHS *e* 18 19 10.2
VYHS Vyhne 78.66 325 *eP* **P 18 16 13.1 +2.2**
VYHS *e*PP **PP 18 19 10.2 +1.1**

PV23	**Carpenter Ridg**	**78.88**	**49**	IAmb	IAmb	18 16 15.4	
	comp=Z,5.5nm,0.7s						
CLL	**Collm**	**78.90**	**330**	*i* P	**P**	**18 16 14.3**	**+2.2**
CLL				*e**PP	**pP**	**18 16 33.0**	**-0.9**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLL	**Collm**	**78.90**	**330**	*i* P	**P**	**18 16 14.3**	**+2.2**
	comp=Z,3.0nm,0.8s						
CLL				*ep*P	**pP**	**18 16 33.0**	**-0.9**
CLL				e(sP)	**sP**	**18 16 44.0**	**+1.1**
PV16	**Nyswonger Mesa**	**79.03**	**49**	P	**P**	**18 16 14.1**	**+0.7**
PV18	**Skein Mesa, Pa**	**79.08**	**49**		**P**	**18 16 14.7**	**+1.1**
PV18				IAmb	IAmb	18 16 17.6	
	comp=Z,4.3nm,0.7s						
PV05	**Paradox Valley**	**79.08**	**49**	IAmb	IAmb	18 16 17.7	
	comp=Z,4.2nm,0.7s						
PV03	**Paradox Valley**	**79.11**	**49**	P	**P**	**18 16 15.2**	**+1.4**
PV02	**Paradox Valley**	**79.21**	**49**	IAmb	IAmb	18 16 17.8	
	comp=Z,3.8nm,0.7s						
X16A	**Lo Mia Camp, P**	**80.10**	**53**	IAmb	IAmb	18 16 38.7	
	comp=Z,7.7nm,0.7s						
GERES	**GERESS Array B**	**80.56**	**328**	P	**P**	**18 16 21.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=35,slow=5.6,SNR=5.5						
	comp=Z,0.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**80.71**	**340**	P	**P**	**18 16 22.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=30,slow=5.1,SNR=6.3						
	comp=Z,0.8nm,0.7s						
ANMO	**Albuquerque**	**82.77**	**50**	*ce*P	**P**	**18 16 35.1**	**+1.8**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SBM	**South Baldy**	**83.00**	**51**	P	**P**	**18 16 34.7**	**-0.1**
Y22A	**Socorro**	**83.16**	**51**	P	**P**	**18 16 35.0**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**83.74**	**329**		**P**	**18 16 38.2**	**0.0**
FUORN				IAmb	IAmb	18 16 41.4	
	comp=Z,2.9nm,0.8s						
DAVOX	**Davos/Dischmat**	**83.76**	**329**	P	**P**	**18 16 39.3**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=60,slow=13,SNR=3.5						
	comp=Z,0.9nm,0.5s						
TXAR	**Lajitas Array**	**88.39**	**53**	P	**P**	**18 17 02.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=299,slow=3.2,SNR=11						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**95.00**	**334**	P	**P**	**18 17 32.3**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=7.0,slow=4.5,SNR=2.6						
	comp=Z,0.4nm,0.8s						
LPAZ	**La Paz**	**145.16**	**57**	PKPbc	**PKPdf**	**18 23 47.4**	**+0.2**
	comp=Z,2.9nm,0.4s,baz=306,slow=2.9,SNR=4.8						
SIV	**San Ignacio**	**149.20**	**46**	PKPbc	**PKPbc**	**18 23 57.7**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=317,slow=5.8,SNR=6.7						

BJI ***03*** *18:11:23.3, 52˚.01N× 165˚.91W, h13km, mB5.5/54, mb5.6/90, Ms4.8/73, Ms7 4.6/70*

IDC ***03*** *18:11:23.4± 0.4, 52˚.10N× 165˚.69W, h0km, mb5.3/39, mbtmp5.2/40, ML5.1/1, MS4.3/72, Error ellipse: s-maj=13.8km s-min=10.4km az=2.0*

MOS ***03*** *18:11:25.7± 1.0, 52˚.11N× 165˚.77W, h24km, mb5.7/81, Error ellipse: s-maj=8.4km s-min=4.4km az=105.7*

NEIC ***03*** *18:11:27.3± 1.6, 52˚.25N± 0˚.06× 165˚.69W± 0˚.07, h23km± 3km, mb5.2/589, ML5.2/18, Mww5.2/38, Error ellipse: s-maj=8.5km s-min=6.5km az=175.0*

NEIC ***03*** *18:11:28.3, 52˚.32N× 165˚.74W, h24km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^16 Nm; Mrr=6.74; Mθθ 6.10; Mrθ=2.59; Mθφ 2.35; Mφr=2.60; Fault plane solution: M0 7.78000×10^16 NP1: φs 260.90000°, δ 33.07000°, λ=70.77000°. NP2: φs 58.30000°, δ 58.99000°, λ=102.10000°. Principal axes: T 7.7518, Plg 13.0000°, Azm 157.0000°; N 0.0537, Plg 10.0000°, Azm 65.0000°; P -7.8055, Plg 73.0000°, Azm 298.0000°;*

GCMT ***03*** *18:11:28.7± 0.1, 52˚.22N± 0˚.01× 165˚.79W± 0˚.02, h18km, MW5.2/120, Moment Tensor Solution. s94,c146; s120,c230; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr=5.78± .14; Mθθ 5.54± .11; Mφφ 0.23± .12; Mrθ=1.82± .25; Mθφ 4.13± .09; Mφr=2.36± .28; Best double couple: M0 7.47000×10^16 NP1: φs 257.00000°, δ 36.00000°, λ=66.00000°. NP2: φs 48.00000°, δ 57.00000°, λ=107.00000°. Principal axes: T 8.3300, Plg 11.0000°, Azm 150.0000°; N -1.7210, Plg 14.0000°, Azm 57.0000°; P -6.6100, Plg 72.0000°, Azm 277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *18:11:28.3, 52˚.32N× 165˚.74W, h23km*

AEIC ***03*** *18:11:30.0± 1.9, 52˚.3N± 0˚.1× 165˚.7W± 0˚.2, h5km± 4km, Error ellipse: s-maj=18.0km s-min=15.8km az=220.0*

ISC 03 18:11:27.1±0.4, 52˚.17N±0˚.04×165˚.59W±0˚.03, h24km±2km, h24km:pP-P,n1197,σ1s39/1062, mb5.3/451, MS4.4/117, 48C-110D, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.77**	**342**		**Pn**	**18 11 54.5**	**-1.7**
UNV					**Sn**	**18 12 14.2**	**-3.6**
UNV	**Unalaska Valle**	**1.77**	**342**	P	**Pn**	**18 11 54.2**	**-1.9**
UNV	**Unalaska Valle**	**1.77**	**342**	S	**Sn**	**18 12 13.9**	**-3.9**
MREP	**Makushin Rep't**	**1.79**	**337**		**Pn**	**18 11 55.1**	**-1.3**
MGOD	**Makushin Gods**	**1.81**	**335**		**Pn**	**18 11 55.3**	**-1.4**
MGOD					**Sn**	**18 12 16.4**	**-2.5**
MAPS	**Pakushin South**	**1.83**	**334**		**Pn**	**18 11 55.8**	**-1.3**
MAPS					**Sn**	**18 12 16.8**	**-2.7**
MTBL	**Makushin Table**	**1.92**	**340**		**Pn**	**18 11 57.2**	**-1.1**
MTBL					**Sn**	**18 12 19.3**	**-2.4**
OKTU	**Okmok Mt. Tuli**	**1.92**	**310**		**Pn**	**18 11 57.5**	**-0.8**
ZRO	**Akutan Zero**	**1.94**	**353**		**Pn**	**18 11 57.6**	**-1.0**
ZRO					**Sn**	**18 12 19.3**	**-2.8**
AKMO	**Akutan Morgan**	**1.94**	**353**		**Pn**	**18 11 57.4**	**-1.1**
AKBBA	**Akutan Broad B**	**1.94**	**354**		**Pn**	**18 11 57.5**	**-1.1**
OKSP	**Okmok Steeple**	**1.97**	**305**		**Pn**	**18 11 57.6**	**-1.3**
AKUT	**Akutan**	**1.97**	**357**		**Sn**	**18 12 20.7**	**-2.1**
AKUT	**Akutan**	**1.97**	**357**		**Pn**	**18 11 57.1**	**-1.8**
AKUT				IAML		18 12 27.3	
	comp=N,12μm,0.9s						
AKUT	**Akutan**	**1.97**	**357**	P	**Pn**	**18 11 57.6**	**-1.3**
AKUT	**Akutan**	**1.97**	**357**	S	**Sn**	**18 12 21.6**	**-1.3**
OKNC	**Okmok New Cone**	**2.01**	**311**		**Sn**	**18 12 21.4**	**-2.4**
LVA	**Lava Point**	**2.01**	**353**		**Pn**	**18 11 57.8**	**-1.8**
LVA				IAML		18 12 25.2	
	comp=N,46μm,0.7s						
LVA				IAML		18 12 30.2	
	comp=E,21μm,0.7s						
AKGG	**Akutan Green G**	**2.05**	**353**		**Sn**	**18 12 22.8**	**-1.9**
OKWE	**Okmok W'ng Wal**	**2.07**	**310**		**Pn**	**18 11 59.4**	**-1.0**
NIKH	**Nikolski High**	**2.15**	**293**		**Pn**	**18 12 00.2**	**-1.2**
NIKH					**Sn**	**18 12 23.9**	**-3.4**
NIKH	**Nikolski High**	**2.15**	**293**	IAML		18 12 24.5	
	comp=E,29μm,0.8s						
NIKH				IAML		18 12 26.4	
	comp=N,32μm,0.7s						
NIKH	**Nikolski High**	**2.15**	**293**	P	**Pn**	**18 11 59.9**	**-1.5**
NIKH	**Nikolski High**	**2.15**	**293**	S	**Sn**	**18 12 23.9**	**-3.4**
WECS	**Westdahl Cape**	**2.42**	**11**		**Pn**	**18 12 04.8**	**-0.3**
SSBA	**Shishaldin**	**2.75**	**18**		**Pn**	**18 12 09.4**	**-0.3**
FALS	**False Pass**	**2.99**	**25**		**Pn**	**18 12 12.6**	**-0.3**
FALS					**Sn**	**18 12 46.0**	**-1.9**
FALS	**False Pass**	**2.99**	**25**	P	**Pn**	**18 12 12.5**	**-0.3**
FALS	**False Pass**	**2.99**	**25**	S	**Sn**	**18 12 47.2**	**-0.7**
PN7A	**Pavlof North-7**	**3.90**	**32**		**Pn**	**18 12 26.1**	**+0.6**
S12K	**Black Hills**	**4.11**	**29**		**Pn**	**18 12 27.8**	**-0.5**
S12K				IAML		18 13 15.7	
	comp=E,2μm,0.6s						
S12K				IAML		18 13 15.9	
	comp=N,2μm,0.5s						
SDPT	**Sand Point**	**4.40**	**42**		**Sn**	**18 13 18.7**	**-4.0**
SDPT	**Sand Point**	**4.40**	**42**		**Pn**	**18 12 32.2**	**-0.1**
SDPT				IAML		18 13 21.5	
	comp=E,2μm,0.8s						
SDPT				IAML		18 13 21.7	
	comp=N,3μm,0.5s						
SDPT	**Sand Point**	**4.40**	**42**	P	**Pn**	**18 12 32.5**	**+0.3**
P08K	**Saint George I**	**5.01**	**334**		**Pn**	**18 12 39.6**	**-1.0**
P08K				IAML		18 13 39.8	
	comp=N,1μm,0.6s						
ATKA	**Atka Island**	**5.30**	**274**		**Pn**	**18 12 44.8**	**+0.3**
ATKA	**Atka Island**	**5.30**	**274**	P	**Pn**	**18 12 45.2**	**+0.6**
VNFG	**Fog Glacier, M**	**5.43**	**38**		**Pn**	**18 12 47.6**	**+1.1**
SPIA	**Saint Paul Isl**	**5.70**	**334**		**Pn**	**18 12 49.7**	**-0.4**
SPIA	**Saint Paul Isl**	**5.70**	**334**	P	**Pn**	**18 12 50.1**	**0.0**
SPIA	**Saint Paul Isl**	**5.70**	**334**	S	**Sn**	**18 13 53.6**	**-1.1**
CHGN	**Chignik**	**5.90**	**43**		**Pn**	**18 12 53.0**	**+0.2**
GSTR	**Great Sitkin T**	**6.45**	**273**		**Pn**	**18 13 00.7**	**+0.2**
ADK	**Adak**	**6.86**	**272**		**Pn**	**18 13 05.7**	**-0.3**
ADK	**Adak**	**6.86**	**272**	P	**Pn**	**18 13 05.7**	**-0.3**
CHIR	**Chirikof Islan**	**6.92**	**54**		**Pn**	**18 13 06.6**	**-0.3**
CHIR	**Chirikof Islan**	**6.92**	**54**	P	**Pn**	**18 13 07.1**	**+0.2**
R16K	**Pilot Point**	**7.11**	**37**		**Pn**	**18 13 09.4**	**-0.1**
KIWB	**Kanaga Island**	**7.15**	**272**		**Pn**	**18 13 10.2**	**+0.2**
O14K	**Tigyukauivet M**	**7.51**	**17**		**Pn**	**18 13 15.3**	**+0.4**
PLK4	**Peulik 4**	**7.63**	**41**		**Pn**	**18 13 16.7**	**0.0**
SII	**Sitkinak Islan**	**7.98**	**52**		**Pn**	**18 13 21.2**	**-0.2**
SII	**Sitkinak Islan**	**7.98**	**52**	P	**Pn**	**18 13 21.0**	**-0.4**
N14K	**Kuskokwak Cree**	**8.07**	**14**		**Pn**	**18 13 22.9**	**+0.2**
P16K	**Nushagak River**	**8.11**	**29**		**Pn**	**18 13 23.5**	**+0.4**
M11K	**Mekoryuk**	**8.24**	**358**		**Pn**	**18 13 25.4**	**+0.4**
CNTC	**Contact Creek**	**8.25**	**38**		**Pn**	**18 13 25.2**	**+0.1**
M13K	**Dall Lake**	**8.36**	**8**		**Pn**	**18 13 26.5**	**0.0**
R18K	**Karluk**	**8.39**	**46**		**Pn**	**18 13 27.0**	**+0.1**
ACHA	**Angle Creek He**	**8.43**	**40**		**Pn**	**18 13 27.8**	**+0.2**
O16K	**Kokwok River B**	**8.55**	**27**		**Pn**	**18 13 29.4**	**+0.3**
N15K	**Kwethluk River**	**8.58**	**19**		**Pn**	**18 13 29.8**	**+0.1**
OHAK	**Old Harbor**	**8.73**	**50**		**Pn**	**18 13 30.5**	**-1.2**
OHAK	**Old Harbor**	**8.73**	**50**	P	**Pn**	**18 13 30.7**	**-1.0**
M14K	**Bethel**	**8.83**	**12**		**Pn**	**18 13 32.9**	**-0.2**
O17K	**Koliganek Bris**	**8.98**	**29**		**Pn**	**18 13 35.0**	**-0.1**
P18K	**Big Mountain,**	**9.29**	**35**		**Pn**	**18 13 39.4**	**0.0**
L14K	**Kuka Creek**	**9.33**	**9**		**Pn**	**18 13 39.7**	**-0.2**
KDAK	**Kodiak Island**	**9.35**	**48**	Pn	**Pn**	**18 13 38.9**	**-1.2**
	comp=N,9.9nm,0.3s,baz=165,slow=0.7,SNR=118						
KDAK				Sn	**Sn**	**18 15 17.0**	**-7.3**
	comp=N,15nm,0.3s,baz=3.6,slow=16,SNR=8.6						
KDAK	**Kodiak Island**	**9.35**	**48**	*i* P	**Pn**	**18 13 39.2**	**-0.9**
KDAK				MLR	MLR		
	comp=Z,3μm,15.0s						
AMKA	**Amchitka**	**9.40**	**271**		**Pn**	**18 13 40.2**	**-0.7**
Q19K	**Cape Douglas,**	**9.56**	**40**		**Pn**	**18 13 42.8**	**-0.3**
N17K	**Nushagak Hills**	**9.58**	**26**		**Pn**	**18 13 43.4**	**+0.1**
M16K	**Timber Creek**	**9.59**	**20**		**Pn**	**18 13 43.0**	**-0.4**
O18K	**Koktuh Hills**	**9.64**	**33**		**Pn**	**18 13 44.8**	**+0.7**
LSSE	**Little Sitkin**	**9.77**	**275**		**Pn**	**18 13 45.8**	**-0.1**
LSNW	**Little Sitkin**	**9.79**	**275**		**Pn**	**18 13 46.3**	**0.0**
K13K	**Kusilvak Mount**	**9.80**	**3**		**Pn**	**18 13 46.3**	**0.0**
SYI	**Shuyak Island**	**9.89**	**44**		**Pn**	**18 13 46.5**	**-1.0**
N18K	**Kilae Creek**	**10.07**	**28**		**Pn**	**18 13 49.5**	**-0.5**
O19K	**Port Alsworth**	**10.19**	**33**		**Pn**	**18 13 52.2**	**+0.6**
P19K	**Oil Pt**	**10.20**	**38**		**Pn**	**18 13 51.8**	**0.0**
M17K	**Holitna River**	**10.27**	**22**		**Pn**	**18 13 52.6**	**-0.1**
K15K	**Wolf Creek Mou**	**10.38**	**11**		**Pn**	**18 13 54.2**	**-0.1**
N19K	**Bonanza Creek**	**10.60**	**31**		**Pn**	**18 13 57.8**	**+0.4**
J14K	**Nanvaranak Lak**	**10.67**	**5**		**Pn**	**18 13 57.6**	**-0.5**
RED	**Redoubt Volcan**	**10.89**	**36**		**Pn**	**18 14 01.6**	**+0.3**
CNPM	**China Poot**	**10.91**	**42**		**Pn**	**18 14 00.8**	**-0.7**
K17K	**Iditarod**	**11.27**	**17**		**Pn**	**18 14 06.0**	**-0.4**
M20K	**Styx River**	**11.84**	**30**		**Pn**	**18 14 14.9**	**+0.5**
GAMB	**Gambell**	**12.07**	**347**		**Pn**	**18 14 16.5**	**-0.9**
J18K	**Innoko River**	**12.26**	**19**		**Pn**	**18 14 18.9**	**-1.0**
SHEM	**Shemya Is, Ala**	**12.40**	**281**	Pn	**Pn**	**18 14 21.1**	**-0.8**
	comp=Z,11nm,0.3s,baz=23,slow=5.4,SNR=7.5						
SHEM				Sn	**Sn**	**18 16 40.5**	**+1.4**
	comp=Z,4.0nm,0.3s,baz=292,slow=20,SNR=2.3						
	comp=Z,47nm,0.6s						
SMY	**Shemya**	**12.40**	**281**	Pn	**Pn**	**18 14 20.4**	**-1.5**
SMY	**Shemya**	**12.40**	**281**	P	**Pn**	**18 14 20.4**	**-1.5**
PMR	**Palmer**	**13.00**	**37**	P	**Pn**	**18 14 30.7**	**+0.7**
H17K	**Granite Mounta**	**13.13**	**11**		**Pn**	**18 14 30.8**	**-1.1**
FID	**Port Fidalgo**	**13.57**	**43**		**Pn**	**18 14 34.8**	**-3.1**
EYAK	**Cordova Ski Ar**	**13.78**	**45**	P	**Pn**	**18 14 38.8**	**-1.9**
H19K	**Roundabout Mou**	**14.18**	**16**		**Pn**	**18 14 45.3**	**-0.8**
G18K	**Tagagawik**	**14.21**	**12**		**Pn**	**18 14 45.4**	**-1.1**
BERG	**Berg Lake**	**14.62**	**47**		**Pn**	**18 14 50.4**	**-1.8**
WAX	**Waxell Ridge**	**15.03**	**48**	IAmb	IAmb	18 14 57.4	
	comp=Z,61nm,0.5s						
GLB	**Gilahina Butte**	**15.04**	**43**		**Pn**	**18 14 55.7**	**-2.1**
IMAR	**Indian Mountai**	**15.09**	**19**		**Pn**	**18 14 57.1**	**-1.3**
IMAR					**PcP**	**18 20 04.1**	**-0.5**
MCARA	**McCarthy VSAT**	**15.35**	**44**		**Pn**	**18 14 59.7**	**-2.2**
G21K	**Allakaket**	**15.60**	**18**		**Pn**	**18 15 03.2**	**-1.9**
G21K				IAmb	IAmb	18 15 12.4	
	comp=Z,170nm,1.4s						
COLA	**College**	**15.66**	**29**	P	**Pn**	**18 15 05.1**	**-0.8**
COLA	**College**	**15.66**	**29**	*i* P	**Pn**	**18 15 02.5**	**-3.4**
COLA				pmax	pmax		
	comp=Z,19nm,0.6s						
MENT	**Mentasta**	**15.84**	**39**	P	**Pn**	**18 15 06.2**	**-2.1**
M26K	**Nabesna, AK**	**15.85**	**41**	IAmb	IAmb	18 15 16.3	
	comp=Z,266nm,1.6s						
ILAR	**Eielson Array**	**15.88**	**30**		**Pn**	**18 15 04.1**	**-4.7**
ILAR					**PcP**	**18 20 05.7**	**-0.2**
ILAR	**Eielson Array**	**15.88**	**30**	Pn	**Pn**	**18 15 04.5**	**-4.2**
	comp=Z,1.1nm,0.3s,baz=226,slow=12,SNR=42						
ILAR				Sn	**Sn**	**18 17 56.6**	**-7.2**
	comp=Z,0.8nm,0.3s,baz=189,slow=6.9,SNR=4.5						
ILAR				PcP	**PcP**	**18 20 06.2**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=304,slow=3.6,SNR=4.2						
ILAR				LR	LR	18 22 04.0	
	comp=Z,2μm,18.2s,baz=226,slow=40						
ILAR	**Eielson Array**	**15.88**	**30**	P	**Pn**	**18 15 04.1**	**-4.7**
RIDG	**Independent Ri**	**15.89**	**35**	IAmb	IAmb	18 15 15.6	
	comp=Z,64nm,0.5s						
H23K	**Yukon River**	**15.91**	**25**	IAmb	IAmb	18 15 10.7	
	comp=Z,197nm,1.2s						
L26K	**Log Cabin Wild**	**16.03**	**39**	IAmb	IAmb	18 15 17.7	
	comp=Z,182nm,1.1s						
H24K	**Noodor Dome**	**16.36**	**26**		**Pn**	**18 15 10.6**	**-4.3**
PNL	**Peninsula**	**16.40**	**52**	P	**Pn**	**18 15 16.9**	**+1.5**
G23K	**Bananza Creek**	**16.51**	**22**	IAmb	IAmb	18 15 21.0	
	comp=Z,253nm,0.7s						
BCAR	**Beaver Creek A**	**16.66**	**40**		**Pn**	**18 15 16.1**	**-2.7**
BCAR					**PcP**	**18 20 04.8**	**-2.3**
COLD	**Coldfoot**	**16.89**	**21**	IAmb	IAmb	18 15 30.1	
	comp=Z,115nm,0.8s						
D20K	**Etivluk River**	**17.14**	**11**	IAmb	IAmb	18 15 31.8	
	comp=Z,124nm,0.9s						
C19K	**Lookout Ridge**	**17.23**	**7**	IAmb	IAmb	18 15 34.0	
	comp=Z,237nm,1.6s						
I26K	**Coal Creek Min**	**17.43**	**32**	IAmb	IAmb	18 15 32.5	
	comp=Z,190nm,1.5s						
F24K	**Squaw Lake**	**17.66**	**23**		**Pn**	**18 15 29.3**	**-1.9**
E23K	**Chandalar**	**17.71**	**20**		**PcP**	**18 20 09.4**	**+0.6**
M29M	**Somme Creek**	**17.75**	**44**	IAmb	IAmb	18 15 43.5	
	comp=Z,265nm,0.8s						
SIT	**Sitka**	**18.11**	**62**		**P**	**18 15 37.6**	**+0.8**
SIT	**Sitka**	**18.11**	**62**	P	**P**	**18 15 38.0**	**+1.2**
SIT	**Sitka**	**18.11**	**62**	P	**P**	**18 15 37.6**	**+0.8**
SIT				pmax	pmax		
	comp=Z,112nm,1.5s						
L29M	**L29M**	**18.16**	**42**	IAmb	IAmb	18 15 48.2	
	comp=Z,358nm,1.4s						
TOLK	**Toolik Lake Re**	**18.21**	**19**	P	**Pn**	**18 15 36.8**	**-1.1**
B21K	**Ikpikpuk River**	**18.25**	**12**	IAmb	IAmb	18 15 44.1	
	comp=Z,155nm,0.7s						
D23K	**Nanushuk River**	**18.27**	**17**	IAmb	IAmb	18 15 46.0	
	comp=Z,269nm,1.5s						
O30N	**Mendenhall**	**18.29**	**50**	IAmb	IAmb	18 15 44.8	
	comp=Z,143nm,0.9s						
SKAG	**Skagway**	**18.37**	**55**	P	**Pn**	**18 15 42.7**	**+2.8**
BMAR	**Burnt Mountain**	**18.43**	**26**		**P**	**18 15 36.5**	**-3.9**
I28M	**Miner Creek**	**18.61**	**35**	IAmb	IAmb	18 15 47.5	
	comp=Z,109nm,0.8s						
N31M	**Braeburn, Yuko**	**18.62**	**48**		**P**	**18 15 41.9**	**-0.7**
N31M				IAmb	IAmb	18 15 47.5	
	comp=Z,218nm,1.0s						
JIS	**Juneau Island**	**18.70**	**59**	P	**Pn**	**18 15 45.7**	**+1.9**
K29M	**Barlow Dome**	**18.72**	**41**		**P**	**18 15 43.5**	**-0.3**
J29N	**Klondike Camp**	**18.73**	**38**	IAmb	IAmb	18 15 49.4	
	comp=Z,171nm,0.7s						
D24K	**Happy Valley**	**18.79**	**19**	IAmb	IAmb	18 15 47.0	
	comp=Z,175nm,0.9s						
WHY	**Whitehorse**	**18.84**	**51**		**P**	**18 15 44.7**	**-0.3**
C23K	**Itkillik River**	**19.05**	**16**	IAmb	IAmb	18 15 48.8	
	comp=Z,220nm,1.1s						
B22K	**Teshekpuk Lake**	**19.07**	**13**	IAmb	IAmb	18 15 48.5	
	comp=Z,156nm,1.3s						
P32M	**Atlin**	**19.21**	**55**	IAmb	IAmb	18 15 53.3	
	comp=Z,108nm,1.1s						
C24K	**Franklin Bluff**	**19.29**	**18**	IAmb	IAmb	18 15 59.0	
	comp=Z,104nm,0.8s						
U33K	**Whale Pass**	**19.32**	**65**		**P**	**18 15 50.0**	**-0.1**
CRAG	**Craig**	**19.35**	**67**	P	**Pn**	**18 15 52.8**	**+1.1**
CRAG	**Craig**	**19.35**	**67**	P	**Pn**	**18 15 53.4**	**+1.7**
J30M	**Hart River**	**19.51**	**39**	IAmb	IAmb	18 15 56.6	
	comp=Z,240nm,0.9s						
H29M	**Whitestone**	**19.57**	**34**	IAmb	IAmb	18 15 57.5	
	comp=Z,170nm,0.8s						
WRAK	**Wrangell Islan**	**19.74**	**64**	IAmb	IAmb	18 15 59.8	
	comp=Z,90nm,0.9s						
P33M	**Teslin, Yukon**	**19.75**	**53**	IAmb	IAmb	18 16 05.7	
	comp=Z,91nm,0.8s						
I30M	**Mount Dempster**	**19.78**	**37**	IAmb	IAmb	18 15 59.0	
	comp=Z,204nm,1.1s						
Q32M	**Nakina River**	**19.87**	**57**	P	**P**	**18 15 56.8**	**+0.4**
G29M	**Pine Creek**	**20.07**	**32**		**P**	**18 15 57.4**	**-0.9**
V35K	**Ketchikan**	**20.22**	**68**	IAmb	IAmb	18 16 04.9	
	comp=Z,164nm,1.1s						
C27K	**Jago River**	**20.27**	**22**	P	**P**	**18 16 00.0**	**-0.4**
C27K				IAmb	IAmb	18 16 08.8	
	comp=Z,171nm,0.9s						
MOBC	**Moresby Island**	**20.32**	**74**	IAmb	IAmb	18 16 10.7	
	comp=Z,102nm,1.3s						
S34M	**Telegraph Cree**	**20.40**	**60**		Pn	18 16 03.5	-0.6
S34M				IAmb	IAmb	18 16 18.4	
	comp=Z,70nm,0.8s						
H31M	**Peel River**	**20.80**	**37**	IAmb	IAmb	18 16 09.8	
	comp=Z,114nm,0.8s						
T35M	**Bob Quinn**	**20.88**	**63**		Pn	18 16 09.2	-0.6
T35M				IAmb	IAmb	18 16 24.1	
	comp=Z,78nm,1.0s						
BILL	**Bilibino**	**20.89**	**330**	P	**P**	**18 16 05.6**	**-1.6**
BILL				IAmb	IAmb	18 16 14.7	
	comp=Z,88nm,0.8s						
BILL	**Bilibino**	**20.89**	**330**	*ce*P	**P**	**18 16 06.0**	**-1.2**
BILL				pmax	pmax		
	comp=Z,59nm,0.9s						
BILL				MLR	MLR		
	comp=Z,2μm,18.0s						
HG4B	**Hotspring**	**20.95**	**76**		**P**	**18 16 09.2**	**+1.2**
HG4B				IAmb	IAmb	18 16 19.4	
	comp=Z,201nm,1.2s						
E29M	**Blow River**	**20.96**	**29**	IAmb	IAmb	18 16 14.3	
	comp=Z,103nm,0.8s						
DLBC	**Dease Lake**	**21.00**	**59**	P	**P**	**18 16 09.4**	**+0.9**
	comp=Z,6.5nm,0.9s,baz=252,slow=10,SNR=39						
DLBC				LR	LR	18 23 08.5	
	comp=Z,63nm,20.2s,baz=274,slow=33						
F30M	**Barrier River**	**21.18**	**32**	IAmb	IAmb	18 16 12.7	
	comp=Z,126nm,0.8s						
G31M	**Satah River**	**21.34**	**34**	IAmb	IAmb	18 16 18.4	
	comp=Z,112nm,0.6s						
PET	**Petropavlovsk**	**21.60**	**287**	P	**P**	**18 16 13.9**	**-1.1**
PET				IAmb	IAmb	18 16 20.7	
	comp=Z,235nm,1.3s						
PET	**Petropavlovsk**	**21.60**	**287**	P	**P**	**18 16 14.5**	**-0.4**
PET	**Petropavlovsk**	**21.60**	**287**	*ce*P	**P**	**18 16 14.0**	**-0.9**
PET				pmax	pmax		
	comp=Z,94nm,1.1s						
PET				MLR	MLR		
	comp=Z,881nm,21.0s						
F31M	**Tsiigehtchic**	**21.77**	**33**		**P**	**18 16 15.4**	**-1.2**
F31M				IAmb	IAmb	18 16 17.6	
	comp=Z,70nm,0.8s						
PEA0B	**Petropavlovsk-**	**22.15**	**287**		**P**	**18 16 18.7**	**-2.1**
PEA0B	**Petropavlovsk-**	**22.15**	**287**	P	**P**	**18 16 18.7**	**-2.1**
PEA0B				pmax	pmax		
	comp=Z,270nm,0.8s						
PETK	**Petropavlovsk-**	**22.15**	**287**		**P**	**18 16 18.9**	**-1.9**
PETK	**Petropavlovsk-**	**22.15**	**287**	P	**P**	**18 16 19.4**	**-1.4**
	comp=Z,123nm,0.5s,baz=84,slow=14,SNR=120						
PETK				PcP	**PcP**	**18 20 17.3**	**+0.3**
	comp=Z,10nm,1.0s,baz=90,slow=3.0,SNR=5.8						
PETK				LR	LR	18 24 28.9	
	comp=Z,844nm,21.9s,baz=85,slow=36						
	comp=Z,123nm,0.5s						
INK	**Inuvik**	**22.27**	**31**		**P**	**18 16 20.8**	**-1.

E09A Wood Farm, Sta 30.97 81 IAmb IAmb 18 17 57.4
comp=Z,49nm,0.8s
G08A Pilot Rock 31.06 84 IAmb IAmb 18 17 50.5
comp=Z,30nm,1.3s
G08A **PcP 18 20 38.9 +0.7**
LNOR Lincton Mounta 31.19 83 P **P 18 17 45.3 +1.2**
LNOR IAmb IAmb 18 17 59.8
comp=Z,26nm,0.9s
K05A Summer Lake 31.22 90 IAmb IAmb 18 17 53.0
comp=Z,68nm,1.2s
O02D Mt. Diablo Mer 31.51 95 P **P 18 17 47.0 0.0**
O02D IAmb IAmb 18 17 55.3
comp=Z,26nm,1.1s
O02D **PcP 18 20 39.4 0.0**
TYV Tymovskoe 31.68 289 *e*P **P 18 17 48.3 +0.1**
TYV *e*S **S 18 22 59.4 +3.4**
TYV pmax pmax
comp=Z,31nm,1.1s
TYV pmax pmax
comp=Z,200nm,5.6s
TYV smax smax
comp=N,100nm,7.7s
TYV smax smax
comp=E,800nm,7.7s
HATC Hat Creek Radi 31.95 93 IAmb IAmb 18 17 59.0
comp=Z,56nm,1.2s
BMO Blue Mountains 32.30 84 IAmb IAmb 18 18 01.6
comp=Z,34nm,1.2s
J08A Circle Bar Ran 32.36 87 IAmb IAmb 18 18 02.4
comp=Z,46nm,1.2s
ORV Oroville 32.68 95 **PcP 18 20 41.3 -1.2**
WVOR Wild Horse Val 32.77 88 IAmb IAmb 18 18 21.4
comp=Z,39nm,1.1s
YUK Yuzh-Kuril'sk 32.88 275 *i* P **P 18 17 57.6 -1.3**
BEKR Beckworth 33.19 94 **PcP 18 20 44.4 +0.3**
YSS Yuzhno-Sakhali 33.31 282 P **P 18 18 02.1 -0.6**
YSS Yuzhno-Sakhali 33.31 282 P **P 18 18 02.9 +0.3**
YSS Yuzhno-Sakhali 33.31 282 *ke*P **P 18 18 02.9 +0.3**
YSS *e* 18 20 44.4
YSS *e*S **S 18 23 20.4 -1.1**
YSS pmax pmax
comp=N,20nm,1.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=E,50nm,1.2s
YSS pmax pmax
comp=Z,400nm,5.7s
YSS pmax pmax
comp=N,200nm,4.0s
YSS smax smax
comp=N,200nm,5.0s
YSS smax smax
comp=E,200nm,5.4s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=N,200nm,13.0s
MSO Missoula 33.37 78 IAmb IAmb 18 18 10.9
comp=Z,32nm,1.1s
AFDM Forest Hills D 33.38 95 P **P 18 18 04.6 +1.3**
AFDM **PcP 18 20 44.7 +0.2**
MLH Mauna Loa 33.57 162 P **P 18 18 06.8 +1.4**
PAHR Pah Rah Range 33.89 93 IAmb IAmb 18 18 15.6
comp=Z,59nm,1.4s
MFID Camas Ranch 33.96 85 IAmb IAmb 18 18 15.7
comp=Z,46nm,1.2s
TIXI Tiksi 34.10 329 P **P 18 18 08.5 -0.7**
TIXI IAmb IAmb 18 18 23.6
comp=Z,50nm,1.1s
TIXI Tiksi 34.10 329 LR LR 18 33 58.6
comp=Z,1μm,18.2s,baz=108,slow=40
TIXI Tiksi 34.10 329 *c i*P **P 18 18 12.4 +3.2**
TIXI pmax pmax
comp=Z,23nm,0.9s
TIXI MLR MLR
comp=Z,1μm,18.0s
CMB Columbia Colle 34.30 96 **PcP 18 20 47.0 -0.1**
WAKR Walker 34.59 95 IAmb IAmb 18 18 22.1
comp=Z,26nm,1.2s
HLID Hailey 34.74 84 IAmb IAmb 18 18 30.7
comp=Z,22nm,0.8s
JKA Kamikawa-asahi 34.84 278 P **P 18 18 15.4 -0.5**
ASAJ Asahikawa 34.84 278 LR LR 18 31 17.8
comp=Z,453nm,20.8s,baz=70,slow=34
ASAJ Asahikawa 34.84 278 P **P 18 18 15.4 -0.5**
ASAJ pmax pmax
comp=Z,151nm,1.0s
DLMT Dillon 34.91 80 IAmb IAmb 18 18 32.1
comp=Z,27nm,0.9s
YAK Yakutsk 35.04 312 P **P 18 18 15.8 -1.7**
YAK Yakutsk 35.04 312 LR LR 18 34 09.1
comp=Z,363nm,18.3s,baz=82,slow=39
YAK Yakutsk 35.04 312 *d i*P **P 18 18 15.5 -1.9**
YAK *e**PP **pP 18 18 20.2 -2.6**
YAK *e* 18 19 31.8
YAK *e* 18 20 48.9
YAK *e*S **S 18 23 46.2 -1.7**
YAK *e**SS **sS 18 24 00.5 +3.8**
YAK *e*SS **SnSn 18 26 00.7 -3.5**
YAK *e* 18 28 42.8
YAK pmax pmax
comp=Z,33nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,22nm,1.3s
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,38nm,2.5s
YAK pmax pmax
comp=E,9.0nm,0.7s
YAK smax smax
comp=E,68nm,3.5s
YAK smax smax
comp=N,72nm,3.9s
YAK MLR MLR
comp=Z,536nm,23.0s
YAK MLR MLR
comp=N,277nm,14.0s
YAK MLR MLR
comp=E,330nm,15.0s
RYN Ryan 35.08 94 IAmb IAmb 18 18 25.9
comp=Z,29nm,1.2s
LHV Little Huntoon 35.32 94 IAmb IAmb 18 18 28.4
comp=Z,39nm,1.4s
GRNR Gornyy 35.32 291 ⇓ *i*P **P 18 18 19.5 -0.5**
GRNR pmax pmax
comp=E,30nm,1.1s
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,80nm,1.0s
GRNR MLR MLR
comp=E,340nm,16.0s
GRNR MLR MLR
comp=N,320nm,17.0s
NVAR Mina Array Bea 35.33 94 P **P 18 18 21.6 +1.1**
NVAR Mina Array Bea 35.33 94 P **P 18 18 21.9 +1.4**
comp=N,3.4nm,0.8s,baz=314,slow=9.9,SNR=22
NVAR PcP **PcP 18 20 51.0 +0.6**
comp=N,12nm,0.8s,baz=288,slow=2.5,SNR=13
NVAR ScP **ScP 18 24 35.9 +1.6**
comp=N,2.3nm,1.0s,baz=285,slow=5.1,SNR=5.0
comp=N,3.4nm,0.8s
BOZ Bozeman (W) 35.37 79 IAmb IAmb 18 18 27.5
comp=Z,46nm,1.4s
NV11 Mina Array Sit 35.42 94 IAmb IAmb 18 18 29.0
comp=Z,39nm,1.6s
RES Resolute Bay 35.55 26 LR LR 18 35 02.3
comp=Z,807nm,20.0s,baz=249,slow=40
ERM Erimo 35.65 274 P **P 18 18 22.3 -0.6**
ERM Erimo 35.65 274 P **P 18 18 23.5 +0.6**
ERM Erimo 35.65 274 *ce*P **P 18 18 22.7 -0.2**
ERM pmax pmax
comp=Z,148nm,1.3s
ELK Elko 35.82 88 IAmb IAmb 18 18 32.2
comp=Z,25nm,1.2s
ELK Elko 35.82 88 LR LR 18 30 23.6
comp=Z,1μm,20.9s,baz=311,slow=32
QLMT Earthquake Lak 35.89 80 **PcP 18 20 52.6 +0.7**
YHL Hebgen Lake 36.03 80 IAmb IAmb 18 18 41.4
comp=Z,28nm,1.0s
YHB Horse Butte 36.07 80 IAmb IAmb 18 18 41.7
comp=Z,21nm,0.9s

DSP Deep Springs 36.20 95 IAmb IAmb 18 18 36.1
comp=Z,31nm,1.3s
YNR Norris Junctio 36.40 79 IAmb IAmb 18 18 45.8
comp=Z,56nm,1.1s
BLKN Baker Lake 36.61 43 P **P 18 18 31.1 +0.3**
YMP Mirror Lake Pl 36.71 79 IAmb IAmb 18 18 47.6
comp=Z,30nm,1.0s
CWC Cottonwood Cre 36.74 96 IAmb IAmb 18 18 40.3
comp=Z,55nm,2.0s
HVU Hansel Valley 36.74 85 IAmb IAmb 18 18 47.8
comp=Z,27nm,0.8s
FFC Flin Flon 36.82 60 P **P 18 18 33.0 +0.2**
FFC IAmb IAmb 18 18 47.2
comp=Z,31nm,0.9s
FFC Flin Flon 36.82 60 P **P 18 18 33.0 +0.2**
FFC pmax pmax
comp=Z,31nm,1.0s
RLMT Red Lodge 37.04 78 IAmb IAmb 18 18 50.4
comp=Z,56nm,1.0s
R11B Troy Canyon, C 37.06 92 IAmb IAmb 18 18 42.5
comp=Z,33nm,1.2s
BGU Big Grassy Mou 37.08 86 IAmb IAmb 18 18 42.8
comp=Z,44nm,1.4s
SPR3 Spring Creek 3 37.43 90 IAmb IAmb 18 18 46.7
comp=Z,86nm,1.9s
FURC Furnace Creek, 37.46 95 IAmb IAmb 18 18 46.1
comp=Z,54nm,1.3s
TPNV Topopah Spring 37.53 94 IAmb IAmb 18 18 46.8
comp=Z,29nm,1.0s
JTM Tenmabayashi 37.64 274 P **P 18 18 38.8 -1.1**
JTM IAmb IAmb 18 18 46.7
comp=Z,66nm,1.1s
JTM Tenmabayashi 37.64 274 P **P 18 18 39.6 -0.3**
PRN Pahroc Range 37.98 92 IAmb IAmb 18 18 50.5
comp=Z,47nm,1.1s
TEY Ternei 37.98 283 ⇑ *e*P **P 18 18 42.8 +0.1**
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=E,40nm,1.1s
TEY pmax pmax
comp=Z,80nm,1.1s
PSUT Pine Spring 38.01 90 IAmb IAmb 18 18 50.5
comp=Z,30nm,1.1s
LAO LASA Array 38.05 74 IAmb IAmb 18 18 58.4
comp=Z,26nm,0.7s
BW06 Boulder Array 38.15 81 P **P 18 18 45.0 +0.6**
BW06 IAmb IAmb 18 18 51.4
comp=Z,53nm,1.4s
PD31 Pinedale Array 38.15 81 IAmb IAmb 18 18 51.4
comp=Z,48nm,1.3s
PDAR Pinedale Array 38.15 81 P **P 18 18 45.1 +0.7**
PDAR Pinedale Array 38.15 81 P **P 18 18 45.4 +1.0**
comp=Z,7.1nm,0.8s,baz=300,slow=8.9,SNR=20
PDAR LR LR 18 32 24.4
comp=Z,415nm,19.6s,baz=298,slow=33
comp=Z,7.1nm,0.8s
BSUT Blindstream Ca 38.70 85 P **P 18 18 50.3 +1.1**
H11N2 WAKE ISLAND Hy 38.84 224 T T 19 00 40.0
baz=24,slow=76,SNR=141
H11N3 WAKE ISLAND Hy 38.84 224 T T 19 00 42.3
baz=24,slow=76,SNR=146
H11N1 WAKE ISLAND Hy 38.85 224 T T 19 01 01.5
baz=24,slow=76,SNR=113
ELS Elsinore Mount 39.00 99 P **P 18 18 52.0 +0.5**
ELS IAmb IAmb 18 18 58.7
comp=Z,77nm,1.9s
TMUT Trail Mountain 39.17 87 IAmb IAmb 18 19 00.6
comp=Z,35nm,1.1s
LCMT Little Creek M 39.34 91 IAmb IAmb 18 19 02.1
comp=Z,45nm,1.4s
Q16A Castle Valley 39.42 87 IAmb IAmb 18 19 02.7
comp=Z,51nm,1.1s
P18A Preston Nutter 39.56 86 IAmb IAmb 18 19 11.8
comp=Z,42nm,0.9s
JMM Marumori 39.59 271 IAmb IAmb 18 18 57.0
comp=Z,79nm,0.9s
JMM Marumori 39.59 271 P **P 18 18 55.9 -0.3**
PFO Pinyon Flats O 39.61 98 P **P 18 18 57.4 +0.8**
PFO Pinyon Flats O 39.61 98 LR LR 18 31 34.7
comp=Z,653nm,21.3s,baz=301,slow=30
PFO Pinyon Flats O 39.61 98 P **P 18 18 57.4 +0.8**
PFO pmax pmax
comp=Z,23nm,1.6s
H11S1 WAKE ISLAND Hy 40.01 223 T T 19 01 48.0
baz=24,slow=76,SNR=150
H11S2 WAKE ISLAND Hy 40.02 223 T T 19 01 49.2
baz=24,slow=76,SNR=139
H11S3 WAKE ISLAND Hy 40.02 223 T T 19 02 07.1
baz=24,slow=76,SNR=147
K22A Casper 40.06 80 P **P 18 19 00.3 0.0**
HMU Henry Mountain 40.30 88 IAmb IAmb 18 19 09.7
comp=Z,52nm,1.0s
U15A North Rim 40.30 91 IAmb IAmb 18 19 10.1
comp=Z,50nm,1.2s
O20A White River Ci 40.48 84 IAmb IAmb 18 19 18.6
comp=Z,62nm,0.8s
ILON Igloolik, Nuna 40.50 33 P **P 18 19 03.4 0.0**
ILON IAmb IAmb 18 19 09.8
comp=Z,29nm,0.6s
HEH HeiHe 40.66 295 *e*P **P 18 19 03.6 -1.4**
HEH PcP **PcP 18 21 06.1 -0.2**
HEH S **S 18 25 07.2 -6.1**
HEH pmax pmax
comp=Z,52nm,0.9s
HEH pmax pmax
comp=Z,340nm,9.1s
HEH LR LR
comp=Z,450nm,22.9s
HEH LR LR
comp=Z,340nm,23.4s
HEH LR LR
comp=Z,730nm,23.3s
BLYC Blythe 40.70 96 P **P 18 19 06.2 +0.8**
RSSD Black Hills 40.72 76 P **P 18 19 05.6 -0.3**
RSSD Black Hills 40.72 76 P **P 18 19 05.6 -0.3**
RSSD pmax pmax
comp=Z,39nm,1.3s
JSD Sado 41.04 273 P **P 18 19 08.2 0.0**
PV23 Carpenter Ridg 41.04 86 IAmb IAmb 18 19 31.7
comp=Z,44nm,0.9s
PV10 Paradox Valley 41.07 87 IAmb IAmb 18 19 24.3
comp=Z,58nm,0.9s
PV22 Blue Mesa, Par 41.12 86 P **P 18 19 10.0 +0.8**
PV22 IAmb IAmb 18 19 24.6
comp=Z,36nm,1.1s
PV04 Paradox Valley 41.14 86 IAmb IAmb 18 19 23.9
comp=Z,30nm,0.8s
PV19 Moving Glory 41.15 87 IAmb IAmb 18 19 24.4
comp=Z,60nm,1.0s
USA0B Ussuriysk Arra 41.20 285 *d i*P **P 18 19 08.8 -0.7**
USRK Ussuriysk Ar. 41.20 285 P **P 18 19 08.0 -1.5**
USRK Ussuriysk Ar. 41.20 285 P **P 18 19 08.6 -0.9**
comp=Z,18nm,0.8s,baz=56,slow=9.6,SNR=22
USRK PcP **PcP 18 21 08.7 +0.6**
comp=Z,15nm,0.9s,baz=73,slow=2.9,SNR=11
USRK LR LR 18 38 03.0
comp=Z,207nm,18.1s,baz=61,slow=39
comp=Z,18nm,0.8s
PV11 David Mesa, Pa 41.22 87 IAmb IAmb 18 19 24.5
comp=Z,38nm,0.8s
PV18 Skein Mesa, Pa 41.23 87 IAmb IAmb 18 19 25.1
comp=Z,69nm,0.9s
PV12 Saucer Basin, 41.25 86 IAmb IAmb 18 19 24.8
comp=Z,45nm,0.8s
MDND Maddock 41.31 69 P **P 18 19 11.2 +0.8**
PV13 Radium Mtn., P 41.34 87 IAmb IAmb 18 19 26.1
comp=Z,66nm,0.9s
E28A Huff 41.36 71 P **P 18 19 10.9 +0.1**
PV02 Paradox Valley 41.36 87 IAmb IAmb 18 19 26.2
comp=Z,89nm,1.0s
PV15 Paradox Valley 41.43 86 IAmb IAmb 18 19 26.2
comp=Z,37nm,1.0s
PV15 PcP **PcP 18 21 09.8 +0.5**
WUAZ Wupatki 41.46 92 P **P 18 19 12.8 +0.8**
WUAZ IAmb IAmb 18 19 19.4
comp=Z,49nm,1.3s
WUAZ PcP **PcP 18 21 09.2 -0.2**
TULEG Thule 41.51 21 *i* P **P 18 19 14.1 +2.5**
PV01 Paradox Valley 41.51 86 IAmb IAmb 18 19 26.9
comp=Z,43nm,0.8s
VLA Vladivostok 41.87 283 *c i*P **P 18 19 15.4 +0.4**
VLA pmax pmax
comp=Z,109nm,1.2s
MJAR Matsushiro Arr 42.02 271 P **P 18 19 15.5 -0.8**
MJAR IAmb IAmb 18 19 17.6
comp=Z,83nm,1.6s

MJAR Matsushiro Arr 42.02 271 P **P 18 19 15.9 -0.4**
comp=Z,34nm,1.0s,baz=46,slow=7.3,SNR=157
MJAR PcP **PcP 18 21 11.1 0.0**
comp=Z,16nm,0.9s,baz=40,slow=2.1,SNR=8.6
MJAR LR LR 18 35 02.1
comp=Z,388nm,21.6s,baz=60,slow=34
comp=Z,34nm,1.0s
MJAR Matsushiro Arr 42.02 271 P **P 18 19 15.5 -0.8**
MJAR pmax pmax
comp=Z,83nm,1.6s
MAJO Matsushiro 42.02 271 P **P 18 19 15.5 -0.8**
MAJO IAmb IAmb 18 19 17.6
comp=Z,98nm,1.1s
MAJO PcP **PcP 18 21 10.9 -0.1**
MAJO Matsushiro 42.02 271 P **P 18 19 16.6 +0.3**
MAJO Matsushiro 42.02 271 *d i*P **P 18 19 16.4 +0.1**
MAJO pmax pmax
comp=Z,79nm,1.1s
MJB9 Matsu-Tunnel 42.02 271 IAmb IAmb 18 19 17.6
comp=Z,101nm,1.1s
MDJ Mudanjiang 42.39 287 P **P 18 19 18.2 -1.0**
MDJ S **S 18 25 35.8 -3.2**
MDJ sS pS 18 25 44.6 -0.4
MDJ pmax pmax
comp=Z,24nm,0.8s
MDJ LR LR
comp=Z,470nm,20.3s
MDJ LR LR
comp=Z,350nm,21.6s
MDJ LR LR
comp=Z,530nm,24.0s
MSHR Mys Shultsa 42.62 283 *ce*P **P 18 19 21.6 +0.5**
MSHR pmax pmax
comp=Z,102nm,1.0s
PSTR Posyet 42.79 283 *d i*P **P 18 19 23.0 +0.5**
BNX BinXian 43.04 289 ⇓ P **P 18 19 23.6 -0.9**
BNX PcP **PcP 18 21 14.7 +0.5**
BNX pmax pmax
comp=Z,47nm,0.9s
BNX pmax pmax
comp=Z,240nm,6.8s
JGF Kuroka 43.15 271 IAmb IAmb 18 19 27.1
comp=Z,48nm,0.8s
JGF Kuroka 43.15 271 P **P 18 19 26.1 +0.5**
AGMN Agassiz Nation 43.20 66 IAmb IAmb 18 19 39.4
comp=Z,44nm,0.9s
JHJ Hachijo jima 2 43.31 266 LR LR 18 35 16.3
comp=Z,177nm,20.8s,baz=60,slow=33
INU Inuyama 43.53 271 P **P 18 19 27.1 -1.4**
INU IAmb IAmb 18 19 29.1
comp=Z,31nm,1.0s
INU PcP **PcP 18 21 15.3 -0.8**
INU Inuyama 43.53 271 P **P 18 19 28.5 0.0**
BOD Bodaibo 43.91 310 *e*P **P 18 19 30.1 -1.2**
BOD pmax pmax
comp=Z,67nm,1.0s
TUC Tucson 43.97 95 P **P 18 19 32.5 +0.2**
TUC PcP **PcP 18 21 17.1 -0.6**
TUC Tucson 43.97 95 P **P 18 19 32.5 +0.2**
TUC PCP **PcP 18 21 17.1 -0.6**
TUC pmax pmax
comp=Z,29nm,1.5s
NEEM North Greenlan 44.54 16 *i* P **P 18 19 37.6 +1.1**
NEEM IAmb IAmb 18 19 38.8
comp=Z,126nm,0.9s
T25A Trinidad 44.69 85 IAmb IAmb 18 19 46.1
comp=Z,56nm,1.4s
ANMO Albuquerque 44.86 88 P **P 18 19 40.5 +1.0**
ANMO **PcP 18 21 21.1 +0.2**
ANMO IAmb IAmb 18 21 23.1
comp=Z,27nm,1.0s
ANMO Albuquerque 44.86 88 LR LR 18 36 07.7
comp=Z,961nm,20.6s,baz=36,slow=33
ANMO Albuquerque 44.86 88 P **P 18 19 40.5 +1.0**
ANMO pmax pmax
comp=Z,27nm,1.0s
Y22A Socorro 45.22 90 IAmb IAmb 18 19 57.8
comp=Z,29nm,0.9s
CN2 Changchun 45.29 288 ⇓ P **P 18 19 42.4 -0.2**
CN2 *ep*P sP 18 19 49.0 -1.1
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,500nm,18.0s
ECSD EROS Data Cent 45.34 72 IAmb IAmb 18 19 56.1
comp=Z,50nm,1.6s
NOR Nord 45.44 6 *i* P **P 18 19 42.5 -0.7**
NOR IAmb IAmb 18 19 45.2
comp=Z,47nm,1.1s
121A Cookes Peak, D 45.66 92 IAmb IAmb 18 19 53.0
comp=Z,26nm,1.1s
EYMN Ely 45.84 64 IAmb IAmb 18 20 00.4
comp=Z,57nm,1.1s
JCJ Chichijima 46.11 258 LR LR 18 35 36.9
comp=Z,208nm,21.0s,baz=130,slow=32
RTBA Rita Blanca 46.17 84 IAmb IAmb 18 19 56.1
comp=Z,35nm,1.3s
UPNV Upernavik 46.29 23 *i* P **P 18 19 50.3 +0.2**
JMN Monobe 46.53 271 P **P 18 19 51.5 -1.0**
JMN Monobe 46.53 271 P **P 18 19 52.9 +0.4**
E38A The Farm, Brul 46.57 66 IAmb IAmb 18 20 05.8
comp=Z,38nm,0.8s
TBO Thunder Bay 46.59 62 IAmb IAmb 18 20 06.4
comp=Z,45nm,1.1s
SPMN Marine on St. 46.67 68 IAmb IAmb 18 20 07.0
comp=Z,26nm,1.2s
I37A Lemond, Waseca 47.04 70 IAmb IAmb 18 20 09.9
comp=Z,37nm,0.8s
SNY Shenyang 47.58 287 ⇓ P **P 18 20 00.9 +0.4**
SNY S **S 18 26 54.2 +0.1**
SNY pmax pmax
comp=Z,89nm,1.3s
SNY pmax pmax
comp=Z,390nm,6.1s
SNY LR LR
comp=Z,240nm,12.6s
SNY LR LR
comp=Z,290nm,14.1s
SNY LR LR
comp=Z,300nm,18.5s
KSRS Korea Array 47.73 280 P **P 18 20 02.2 +0.5**
comp=Z,36nm,0.9s,baz=54,slow=7.3,SNR=178
KSRS PcP **PcP 18 21 31.4 +0.8**
comp=Z,8.7nm,0.9s,baz=58,slow=4.2,SNR=6.2
KSRS LR LR 18 38 31.3
comp=Z,103μm,21.6s,baz=55,slow=34
comp=Z,36nm,0.9s
KSAR Wonju Array Be 47.76 280 P **P 18 20 01.7 -0.3**
KSAR PcP **PcP 18 21 30.5 -0.2**
KSAR Wonju Array Be 47.76 280 P **P 18 20 01.7 -0.3**
FRB Frobisher Bay 47.77 37 LR LR 18 42 08.4
comp=Z,628nm,18.3s,baz=300,slow=38
NUUG Nuugaatsiaq 47.78 23 *i* P **P 18 20 04.7 +3.1**
NUUG IAmb IAmb 18 20 07.9
comp=Z,61nm,1.0s
G40A Rib Lake 48.12 67 IAmb IAmb 18 20 17.9
comp=Z,25nm,0.9s
COWI Conover 48.22 65 IAmb IAmb 18 20 18.6
comp=Z,34nm,1.1s
EGRIP EGRIP Drilling 48.34 15 *i* P **P 18 20 07.4 +1.1**
EGRIP IAmb IAmb 18 20 08.8
comp=Z,82nm,0.7s
INCN Inchon 48.50 280 P **P 18 20 07.1 -0.6**
INCN Inchon 48.50 280 P **P 18 20 08.1 +0.5**
INCN P **P 18 20 08.1 +0.5**
INCN Inchon 48.50 280 P **P 18 20 08.0 +0.3**
INCN Inchon 48.50 280 P **P 18 20 07.1 -0.6**
INCN pmax pmax
comp=Z,186nm,1.1s
SMWD Samnorwood 48.57 84 IAmb IAmb 18 20 22.7
comp=Z,15nm,0.8s
VHRN Van Horn 48.59 91 IAmb IAmb 18 20 15.9
comp=Z,54nm,1.6s
I40A Norwalk 48.72 68 IAmb IAmb 18 20 22.4
comp=Z,21nm,0.7s
TJN Taejon 48.77 279 P **P 18 20 09.9 +0.1**
TJN Taejon 48.77 279 *d i*P **P 18 20 09.8 0.0**
JNU Nakatsue 48.79 273 LR LR 18 39 41.3
comp=Z,357nm,21.6s,baz=50,slow=35
JNU Nakatsue 48.79 273 P **P 18 20 10.3 +0.3**

CROK Carrier 49.03 81 IAmb IAmb 18 20 25.3
comp=Z,25nm,1.1s
DKNS Dickens 49.12 86 IAmb IAmb 18 21 37.5
comp=Z,24nm,1.0s
N38A Joes South For 49.12 73 IAmb IAmb 18 20 17.5
comp=Z,49nm,1.2s
KBS Kingsbay 49.16 1 P P **18 20 12.5 +0.3**
KBS PcP **PcP** **18 21 35.9 +0.8**
KBS Kingsbay 49.16 1 *deP* **P** **18 20 13.1 +0.9**
KBS pmax pmax
comp=Z,58nm,1.0s
KBS Kingsbay 49.16 1 *eP* **P** **18 20 14.1 +1.9**
KBS Kingsbay 49.16 1 *i* P **P** **18 20 13.1 +0.9**
POST Post 49.17 87 IAmb IAmb 18 20 19.2
comp=Z,31nm,1.1s
L40A Anamosa 49.50 71 IAmb IAmb 18 20 20.1
comp=Z,36nm,1.1s
SN07 Snyder 07 49.53 86 IAmb IAmb 18 20 22.0
comp=Z,38nm,1.5s
JFWS Jewell Farm 49.53 69 IAmb IAmb 18 20 28.0
comp=Z,19nm,0.8s
DAG Danmarks Havn 49.63 9 *i* P **P** **18 20 16.4 +0.6**
DAG IAmb IAmb 18 20 17.8
comp=Z,75nm,0.8s
T35A Sooner Cattle 49.65 79 IAmb IAmb 18 20 29.7
comp=Z,17nm,0.9s
P38A Dawn 49.69 74 IAmb IAmb 18 20 41.6
comp=Z,31nm,1.0s
I42A Draeger Farm, 49.69 67 IAmb IAmb 18 20 29.8
comp=Z,34nm,1.2s
APMT Aspermont 49.84 85 IAmb IAmb 18 21 39.8
comp=Z,16nm,0.9s
SPA0 Spitsbergen Ar 49.91 359 *eP* **P** **18 20 17.8 -0.2**
SPITS Spitsbergen Ar 49.91 359 P **P** **18 20 18.0 0.0**
comp=Z,21nm,0.7s,baz=48,slow=12,SNR=20
comp=Z,21nm,0.7s
SPITS Spitsbergen Ar 49.91 359 P **P** **18 20 17.4 -0.6**
SPITS pmax pmax
comp=Z,95nm,1.2s
OK052 Battle Ridge R 50.08 80 IAmb IAmb 18 20 26.0
comp=Z,52nm,1.2s
LPIG La Paz 50.17 102 LR LR 18 36 07.2
comp=Z,287nm,21.9s,baz=290,slow=30
SGCY Sterling City 50.19 87 IAmb IAmb 18 20 26.7
comp=Z,33nm,1.3s
SUMG Summit 50.27 18 IAmb IAmb 18 20 28.6
comp=Z,112nm,1.0s
SUMG Summit 50.27 18 *i* P **P** **18 20 23.1 +1.9**
SUMG IAmb IAmb 18 20 28.0
comp=Z,79nm,0.7s
TX31 Lajitas Ar. Si 50.42 92 IAmb IAmb 18 20 37.0
comp=Z,16nm,0.8s
TXAR Lajitas Array 50.42 92 P **P** **18 20 22.9 +0.4**
TXAR PcP **PcP** **18 21 40.1 -0.5**
TXAR Lajitas Array 50.42 92 P **P** **18 20 23.3 +0.7**
comp=Z,3.9nm,0.5s,baz=301,slow=5.5,SNR=34
TXAR PcP **PcP** **18 21 40.7 0.0**
comp=Z,6.7nm,0.9s,baz=289,slow=3.8,SNR=4.2
TXAR ScP **ScP** **18 25 34.8 0.0**
comp=Z,1.8nm,0.9s,baz=270,slow=2.5,SNR=5.4
TXAR LR LR 18 39 57.4
comp=Z,326nm,18.1s,baz=289,slow=34
comp=Z,3.9nm,0.5s
L42A Oliver, Polo 50.44 70 IAmb IAmb 18 20 35.4
comp=Z,34nm,1.2s
DL2 Dalian 50.58 285 P **P** **18 20 23.4 -0.1**
DL2 sP **pwP** **18 20 36.1 -1.4**
DL2 PcP **PcP** **18 21 40.8 -0.1**
DL2 S **S** **18 27 36.8 +0.5**
DL2 pmax pmax
comp=Z,170nm,0.9s
DL2 pmax pmax
comp=Z,120nm,4.2s
DL2 LR LR
comp=Z,710nm,17.0s
DL2 LR LR
comp=Z,320nm,20.6s
DL2 LR LR
comp=Z,360nm,17.7s
XLT XiLinHaoTe 50.62 294 *eP* **P** **18 20 24.8 +0.9**
XLT sP sP 18 20 32.3 +0.8
XLT PcP **PcP** **18 21 42.0 +0.8**
XLT PP **PP** **18 22 24.3 +4.7**
XLT S **S** **18 27 37.7 +0.7**
XLT sS sS 18 27 45.3 -0.6
XLT ScS **ScS** **18 30 13.9 +0.9**
XLT pmax pmax
comp=Z,130nm,0.9s
XLT pmax pmax
comp=Z,300nm,3.6s
XLT LR LR
comp=Z,36nm,20.0s
XLT LR LR
comp=Z,300nm,20.8s
XLT LR LR
comp=Z,550nm,20.0s
P40A Paris 50.62 74 IAmb IAmb 18 20 37.2
comp=Z,40nm,0.7s
K43A Burlington 50.76 68 IAmb IAmb 18 20 37.5
comp=Z,37nm,0.9s
HSPB Hornsund (broa 51.10 360 *eP* **P** **18 20 27.3 +0.4**
PLPT Palo Pinto 51.30 84 IAmb IAmb 18 20 43.0
comp=Z,28nm,0.9s
HOPEN Hopen 51.41 357 *eP* **P** **18 20 30.1 +0.8**
SFJD Kangerlussuaq 51.52 27 P **P** **18 20 29.6 -0.5**
SFJD IAmb IAmb 18 20 53.6
comp=Z,70nm,1.2s
SFJD Kangerlussuaq 51.52 27 LR LR 18 43 22.0
comp=Z,409nm,21.2s,baz=322,slow=37
SFJD Kangerlussuaq 51.52 27 P **P** **18 20 29.7 -0.5**
SFJD pmax pmax
comp=Z,70nm,1.2s
SFJD Kangerlussuaq 51.52 27 *i* P **P** **18 20 31.4 +1.2**
IRK Irkutsk 51.66 308 *eP* **P** **18 20 30.7 -0.8**
IRK pmax pmax
comp=Z,173nm,1.4s
DBG Daneborg 51.67 11 *i* P **P** **18 20 32.4 +1.2**
DBG IAmb IAmb 18 20 36.6
comp=Z,122nm,1.1s
M44A Midewin, Midew 51.77 69 IAmb IAmb 18 20 37.1
comp=Z,35nm,1.2s
JCT Junction City 52.00 88 IAmb IAmb 18 20 40.0
comp=Z,39nm,1.4s
P43A Skaggs, Pawnee 52.04 72 IAmb IAmb 18 20 39.3
comp=Z,100nm,1.7s
CCM Cathedral Cave 52.06 75 P **P** **18 20 32.6 -2.0**
CCM PcP **PcP** **18 21 45.5 -1.0**
CCM Cathedral Cave 52.06 75 P **P** **18 20 32.6 -2.0**
CCM pmax pmax
comp=Z,11nm,0.9s
DRIO Del Rio 52.24 89 IAmb IAmb 18 20 49.1
comp=Z,33nm,1.5s
WHTX Lake Whitney, 52.39 85 IAmb IAmb 18 20 51.5
comp=Z,34nm,1.0s
FCAR Ozark Folk Cen 52.98 77 IAmb IAmb 18 20 54.1
comp=Z,16nm,0.8s
MIAR Mount Ida 53.01 79 IAmb IAmb 18 20 47.3
comp=Z,28nm,1.2s
ULN Ulaanbaatar 53.02 303 P **P** **18 20 41.3 -0.5**
ULN Ulaanbaatar 53.02 303 P **P** **18 20 42.1 +0.3**
ULN P **P** **18 20 42.1 +0.3**
ULN Ulaanbaatar 53.02 303 *ceP* **P** **18 20 42.0 +0.2**
ULN pmax pmax
comp=Z,43nm,0.6s
BJI Beijing 53.04 290 P **P** **18 20 42.5 +0.6**
BJI PcP **PcP** **18 21 50.4 +0.3**
BJI PP **PP** **18 22 42.7 +1.3**
BJI S **S** **18 28 11.4 +1.3**
BJI pmax pmax
comp=Z,43nm,0.8s
BJI pmax pmax
comp=Z,190nm,4.3s
BJI LR LR
comp=Z,190nm,18.4s
BJI LR LR
comp=Z,160nm,18.8s
BJI LR LR
comp=Z,320nm,18.6s
NUUK Nuuk 53.19 30 *i* P P 18 20 48.9 +6.3
WHAR Wooly Hollow 53.28 78 IAmb IAmb 18 20 48.2
comp=Z,37nm,1.7s
ZAK Zakamensk 53.31 307 *eP* **P** **18 20 43.7 -0.2**
ZAK pmax pmax
comp=Z,36nm,1.4s
SONM Songino Array 53.38 303 P **P** **18 20 44.2 -0.2**
SONM PcP **PcP** **18 21 51.9 +0.4**
comp=Z,30nm,0.8s,baz=56,slow=6.5,SNR=108
SONM PcP **PcP** **18 21 52.0 +0.5**
comp=Z,21nm,0.9s,baz=76,slow=2.8,SNR=7.7
SONM LR LR 18 45 39.9
comp=Z,373nm,18.2s,baz=52,slow=38
comp=Z,30nm,0.8s
PBMO Poar Bluff 53.39 75 IAmb IAmb 18 21 52.4
comp=Z,26nm,1.2s
N47A Urbana 53.45 68 IAmb IAmb 18 20 57.1
comp=Z,36nm,1.0s
OLIL Olney 53.47 72 IAmb IAmb 18 20 58.0
comp=Z,46nm,1.1s
MOY Mondy 53.59 309 *eP* **P** **18 20 46.6 +0.7**
MOY pmax pmax
comp=Z,86nm,1.5s
833A Chaparral WMA, 53.77 89 IAmb IAmb 18 20 53.7
comp=Z,81nm,1.8s
SCHQ Schefferville 53.96 45 IAmb IAmb 18 21 18.2
comp=Z,18nm,0.8s
SCHQ Schefferville 53.96 45 P **P** **18 20 48.0 -0.4**
comp=Z,9.6nm,0.9s,baz=299,slow=5.0,SNR=9.3
SCHQ LR LR 18 45 38.0
comp=Z,442nm,18.4s,baz=318,slow=38
comp=Z,9.6nm,0.9s
BUKO Buck Lake 53.96 60 P **P** **18 20 47.7 -0.9**
BUKO IAmb IAmb 18 21 01.9
comp=Z,36nm,1.0s
O48B Farmland 54.16 69 IAmb IAmb 18 21 02.0
comp=Z,32nm,1.0s
HNVL Huntsville, TX 54.47 84 IAmb IAmb 18 21 07.6
comp=Z,41nm,0.9s
P48A Milroy 54.54 69 IAmb IAmb 18 21 13.7
comp=Z,20nm,0.4s
SADO Sadowa 54.54 61 IAmb IAmb 18 21 05.7
comp=Z,20nm,0.8s
SADO Sadowa 54.54 61 LR LR 18 44 11.6
comp=Z,228nm,18.1s,baz=324,slow=36
JOW Kunigami 54.81 269 LR LR 18 45 48.8
comp=Z,66nm,19.0s,baz=86,slow=38
HKT Hockley 54.81 85 P **P** **18 20 54.9 +0.1**
HKT IAmb IAmb 18 21 01.5
comp=Z,47nm,1.7s
HKT Hockley 54.81 85 P **P** **18 20 54.9 +0.1**
HKT pmax pmax
comp=Z,47nm,1.7s
WCI Wyandotte Cave 54.86 71 P **P** **18 20 53.7 -1.5**
WCI IAmb IAmb 18 20 59.8
comp=Z,22nm,1.2s
WCI Wyandotte Cave 54.86 71 P **P** **18 20 53.7 -1.5**
WCI pmax pmax
comp=Z,22nm,1.3s
SCO Scoresbysund 54.88 14 IAmb IAmb 18 21 01.3
comp=Z,31nm,0.8s
SCO Scoresbysund 54.88 14 *i* P **P** **18 20 56.4 +1.5**
SCO Scoresbysund 54.88 14 *i* P P 18 21 00.0 +5.2
TIA Tai'an 55.04 286 P **P** **18 20 56.7 +0.2**
TIA pmax pmax
comp=Z,190nm,0.8s
GUMO Guam 55.07 244 P **P** **18 20 54.5 -2.4**
GUMO Guam 55.07 244 LR LR 18 43 30.2
comp=Z,79nm,18.6s,baz=66,slow=35
GUMO Guam 55.07 244 P **P** **18 20 55.2 -1.7**
GUMO Guam 55.07 244 P **P** **18 20 54.5 -2.4**
GUMO pmax pmax
comp=Z,261nm,0.8s
HHC Hu-ho-hao-te 55.15 293 *eP* **P** **18 20 58.2 +0.8**
HHC sP sP 18 21 05.9 +0.9
HHC PP **PP** **18 23 04.1 +3.6**
HHC S **S** **18 28 36.2 -2.6**
HHC ScS **ScS** **18 30 43.1 -1.8**
HHC pmax pmax
comp=Z,90nm,0.9s
HHC pmax pmax
comp=Z,210nm,3.6s
HHC LR LR
comp=Z,390nm,18.4s
HHC LR LR
comp=Z,340nm,18.2s
HHC LR LR
comp=Z,660nm,19.4s
T47A Sharon Grove 55.22 73 IAmb IAmb 18 21 16.3
comp=Z,24nm,1.1s
SOEG Soedalen 55.22 19 *i* P **P** **18 20 59.1 +1.8**
WVT Waverly 55.38 74 P **P** **18 20 57.4 -1.5**
WVT IAmb IAmb 18 21 17.7
comp=Z,14nm,0.8s
WVT Waverly 55.38 74 P **P** **18 20 57.4 -1.5**
WVT pmax pmax
comp=Z,14nm,0.8s
DELO Deloro Mine 55.52 60 IAmb IAmb 18 21 13.4
comp=Z,28nm,1.2s
HNS HongShan 55.66 288 ⇓P **P** **18 21 02.2 +1.3**
HNS S **S** **18 28 48.2 +2.8**
HNS pmax pmax
comp=Z,250nm,1.1s
HNS pmax pmax
comp=Z,400nm,4.7s
HNS LR LR
comp=Z,410nm,20.7s
HNS LR LR
comp=Z,450nm,21.4s
R50A Paris 55.97 70 IAmb IAmb 18 21 25.8
comp=Z,17nm,1.0s
TRQ Mont Tremblant 55.99 57 IAmb IAmb 18 21 03.4
comp=Z,24nm,1.1s
PLAL Pickwick Lake 56.01 75 IAmb IAmb 18 21 16.4
comp=Z,38nm,1.6s
Q51A Peebles 56.03 69 IAmb IAmb 18 21 16.6
comp=Z,42nm,1.1s
O52A Adamsville 56.15 67 P **P** **18 21 03.0 -1.4**
O52A IAmb IAmb 18 21 17.0
comp=Z,23nm,1.0s
BTO Baotou 56.18 294 *eP* **P** **18 21 05.3 +0.5**
BTO pP **pP** **18 21 09.0 -1.3**
BTO sP **sP** **18 21 15.1 +2.7**
BTO S **S** **18 28 52.9 +0.3**
BTO pmax pmax
comp=Z,270nm,0.9s
BTO pmax pmax
comp=Z,350nm,5.3s
BTO LR LR
comp=Z,710nm,16.9s
BTO LR LR
comp=Z,620nm,13.4s
BTO LR LR
comp=Z,1μm,20.8s
N53A Lisbon 56.24 65 IAmb IAmb 18 21 17.7
comp=Z,27nm,1.1s
J55A Hilton 56.25 61 IAmb IAmb 18 21 18.3
comp=Z,29nm,0.8s
U49A Red Boiling Sp 56.32 72 P **P** **18 21 04.3 -1.4**
WVNY West Valley, N 56.40 63 IAmb IAmb 18 21 19.5
comp=Z,32nm,0.9s
O53A New Philadelph 56.41 66 IAmb IAmb 18 21 18.8
comp=Z,26nm,1.2s
WBO Williamsburg 56.44 58 IAmb IAmb 18 21 19.4
comp=Z,20nm,0.7s
IVI Ivigtut 56.49 31 *i* P **P** **18 21 06.4 -0.1**
LDAQ Lac Daran 56.49 53 IAmb IAmb 18 21 19.2
comp=Z,50nm,1.8s
T50A Nancy 56.53 71 IAmb IAmb 18 21 11.9
comp=Z,27nm,1.4s
MMNY Mt. Morris Dam 56.56 62 IAmb IAmb 18 21 20.4
comp=Z,46nm,1.2s
TIY Taiyuan 56.77 290 P **P** **18 21 10.0 +1.0**
TIY pP **sP** **18 21 14.8 -1.8**
TIY S **S** **18 29 02.4 +2.0**
TIY pmax pmax
comp=Z,56nm,1.6s
TIY pmax pmax
comp=Z,310nm,7.0s
TIY LR LR
comp=Z,400nm,17.2s
TIY LR LR
comp=Z,260nm,17.9s
TIY LR LR
comp=Z,380nm,21.3s
NJ2 Nanjing 56.87 281 ⇓P **P** **18 21 09.3 -0.4**
NJ2 pmax pmax
comp=Z,54nm,0.9s
O54A Avella 56.93 66 P **P** **18 21 08.3 -1.7**
O54A IAmb IAmb 18 21 22.6
comp=Z,46nm,1.2s
MNTQ Montreal, Queb 56.96 57 IAmb IAmb 18 21 09.8
comp=Z,19nm,1.0s
LONY Lake Ozonia 57.06 58 IAmb IAmb 18 21 23.6
comp=Z,15nm,0.7s
J57A Williamstown 57.13 60 IAmb IAmb 18 21 24.7
comp=Z,22nm,0.9s
HAMF Hammerfest 57.31 356 *eP* **P** **18 21 11.2 -1.0**
FRNY Flat Rock 57.43 58 IAmb IAmb 18 21 25.8
comp=Z,23nm,1.1s
Q54A Coxs Mills 57.49 67 IAmb IAmb 18 22 08.6
comp=Z,20nm,1.2s
VADS Vadso 57.54 354 *eP* **P** **18 21 14.3 +0.5**
MCWV Mont Chateau 57.58 66 P **P** **18 21 13.0 -1.6**
MCWV IAmb IAmb 18 21 27.6
comp=Z,52nm,1.2s
NCB Newcomb 57.69 59 IAmb IAmb 18 21 28.6
comp=Z,28nm,0.8s
FPAL Fort Paine 57.78 74 IAmb IAmb 18 21 34.3
comp=Z,13nm,0.8s
J59A Piesco 57.89 59 IAmb IAmb 18 21 29.8
comp=Z,19nm,0.7s
M57A Sunshine Farm, 57.94 63 IAmb IAmb 18 21 29.9
comp=Z,19nm,0.7s
BINY Binghamton 57.97 61 IAmb IAmb 18 21 30.8
comp=Z,37nm,1.1s
SSPA Standing Stone 58.00 64 P **P** **18 21 16.1 -1.5**
SSPA IAmb IAmb 18 21 30.5
comp=Z,47nm,1.1s
KEV Kevo 58.04 355 P **P** **18 21 16.8 -0.5**
KEV Kevo 58.04 355 P **P** **18 21 16.8 -0.5**
KEV pmax pmax
comp=Z,48nm,0.8s
TKL Tuckaleechee C 58.09 72 LR LR 18 45 57.5
comp=Z,455nm,18.3s,baz=326,slow=36
D62A Allapoint, All 58.18 53 IAmb IAmb 18 21 35.9
comp=Z,15nm,0.9s
VT1 Waterbury 58.21 57 IAmb IAmb 18 21 32.1
comp=Z,22nm,1.0s
ARA0 ARCESS Array S 58.34 355 *eP* **P** **18 21 19.8 +0.3**
ARCES ARCESS Array B 58.34 355 P **P** **18 21 19.0 -0.5**
ARCES IAmb IAmb 18 21 20.8
comp=Z,34nm,0.9s
ARCES PcP **PcP** **18 22 10.0 -0.2**
ARCES ARCESS Array B 58.34 355 P **P** **18 21 19.3 -0.2**
comp=Z,23nm,0.8s,baz=10,slow=7.4,SNR=44
ARCES PcP **PcP** **18 22 10.2 0.0**
comp=Z,23nm,1.0s,baz=27,slow=5.7,SNR=5.1
ARCES LR LR 18 46 52.5
comp=Z,250nm,20.6s,baz=356,slow=36
comp=Z,23nm,0.8s
ARCES ARCESS Array B 58.34 355 P **P** **18 21 19.0 -0.5**
ARCES 18 22 10.0
ARCES pmax pmax
comp=Z,34nm,0.9s
ACCN Adirondack Com 58.39 59 IAmb IAmb 18 21 33.7
comp=Z,30nm,0.9s
TRO Tromso 58.47 358 *eP* **P** **18 21 20.9 +0.6**
L59A Walton 58.48 61 IAmb IAmb 18 22 11.8
comp=Z,20nm,1.0s
N58A Sunbury 58.51 63 IAmb IAmb 18 21 34.3
comp=Z,21nm,1.0s
JETT Jettan, Norway 58.51 358 *eP* **P** **18 21 21.5 +0.8**
KSPA Keystone Colle 58.53 62 IAmb IAmb 18 21 34.4
comp=Z,18nm,0.8s
V53A Saluda 58.64 71 IAmb IAmb 18 21 46.6
comp=Z,28nm,1.6s
P57A Homestead Farm 58.73 65 IAmb IAmb 18 21 35.6
comp=Z,35nm,1.0s
G62A West of Eustis 58.74 55 IAmb IAmb 18 21 35.7
comp=Z,24nm,1.0s
TRY Troy 58.84 59 P **P** **18 21 22.4 -0.9**
TRY IAmb IAmb 18 21 36.8
comp=Z,23nm,0.9s
H62A Milan 58.87 56 IAmb IAmb 18 21 23.9
comp=Z,20nm,1.0s
LYN LuoYang 58.94 287 ⇓*i* P **P** **18 21 24.7 +0.6**
LYN pP pP 18 21 29.1 -0.5
LYN sP sP 18 21 32.4 +0.7
LYN S **S** **18 29 31.0 +2.3**
LYN sS pS 18 29 34.4 -0.8
LYN pmax pmax
comp=Z,210nm,0.9s
LYN pmax pmax
comp=Z,630nm,4.5s
LYN LR LR
comp=Z,390nm,17.9s
LYN LR LR
comp=Z,280nm,15.8s
LYN LR LR
comp=Z,440nm,20.6s
KTK1 Kautokeino 58.96 356 *eP* **P** **18 21 23.8 +0.1**
J61A Chester 59.00 58 IAmb IAmb 18 21 38.0
comp=Z,28nm,1.0s
ZALV Zalesovo Beam 59.11 320 P **P** **18 21 24.6 -0.4**
ZALV Zalesovo Beam 59.11 320 P **P** **18 21 25.2 +0.2**
comp=Z,34nm,0.6s,baz=39,slow=6.8,SNR=144
ZALV LR LR 18 48 13.8
comp=Z,315nm,20.4s,baz=47,slow=37
comp=Z,34nm,0.6s
LVZ Lovozero 59.30 351 P **P** **18 21 25.2 -1.0**
LVZ Lovozero 59.30 351 *ceP* **P** **18 21 26.4 +0.2**
LVZ pmax pmax
comp=Z,116nm,0.9s
PKME Peaks-Kenny Pk 59.33 55 IAmb IAmb 18 21 39.6
comp=Z,13nm,0.9s
F64A Sherman 59.38 54 IAmb IAmb 18 21 39.7
comp=Z,41nm,1.4s
S57A Dark Hollow, R 59.40 67 IAmb IAmb 18 21 40.6
comp=Z,23nm,1.3s
L61B Northampton 59.56 59 IAmb IAmb 18 21 41.7
comp=Z,14nm,1.0s
KSCT Kent School, K 59.64 60 P **P** **18 21 28.1 -0.8**
APA Apatity 59.73 352 *eP* **P** **18 21 26.9 -2.2**
APA *eS* **S** **18 29 31.5 -6.6**
APA MLR MLR
comp=Z,618nm,20.2s
YOJ Yonaguni jima 59.77 272 P **P** **18 21 30.5 +0.5**
YOJ Yonaguni jima 59.77 272 P **P** **18 21 28.5 -1.5**
BRNJ Basking Ridge 59.79 62 IAmb IAmb 18 21 42.9
comp=Z,21nm,0.7s
R58B Mineral 59.86 66 IAmb IAmb 18 21 35.8
comp=Z,25nm,1.2s
LOF Lofoten 60.02 0 *eP* **P** **18 21 31.2 +0.2**
BORG Borgarnes 60.19 17 *i* P **P** **18 21 35.0 +2.8**
STEI Steigen 60.22 360 *eP* **P** **18 21 32.5 +0.1**
WES Weston 60.32 58 IAmb IAmb 18 21 46.9
comp=Z,36nm,0.9s
WHN Wuhan 60.66 283 ⇓P **P** **18 21 36.2 +0.2**
WHN pP **pP** **18 21 41.7 +0.2**
WHN pmax pmax
comp=Z,320nm,0.8s
V58A Windy Hill, Pi 60.69 69 IAmb IAmb 18 21 36.7
comp=Z,29nm,1.4s
T59A Double "B" Far 60.74 67 P **P** **18 21 35.6 -0.8**
T59A IAmb IAmb 18 21 49.9
comp=Z,36nm,1.1s
FAUS Fauske 60.77 360 *eP* **P** **18 21 36.5 +0.2**
NACB Ninganchiao 60.86 273 P **P** **18 21 38.3 +0.9**
XAN Xi'an 61.37 289 ⇓P **P** **18 21 41.1 +0.2**
XAN pP pP 18 21 45.9 -0.5
XAN S **S** **18 30 00.0 0.0**
XAN pmax pmax
comp=Z,130nm,0.9s
XAN pmax pmax
comp=Z,520nm,3.8s
XAN LR LR
comp=Z,440nm,22.5s
XAN LR LR
comp=Z,520nm,22.5s
XAN LR LR
comp=Z,610nm,23.4s
VAGH Vaagaholmen 61.42 1 *eP* **P** **18 21 41.0 +0.4**
SSLB Suanglung 61.53 273 P **P** **18 21 40.7 -1.4**
SSLB Suanglung 61.53 273 P **P** **18 21 42.0 -0.1**
YULB Yu-li 61.62 272 P **P** **18 21 43.3 +0.7**
KONS Konsvik 61.66 1 *eP* **P** **18 21 42.9 +0.7**
STOK Stokkvaagen 61.82 1 *eP* **P** **18 21 43.7 +0.4**
MOR8 Moi Rana 61.99 360 *eP* **P** **18 21 43.8 -0.7**
LEIR Leirfjorden 62.05 1 *eP* **P** **18 21 45.2 +0.3**
SJUU Sjulsmark 62.52 357 *eP* **P** **18 21 47.8 -0.3**
GTA Gaotai 62.62 300 P **P** **18 21 49.1 -0.2**
GTA sP pwP 18 22 02.6 -0.8
GTA S **S** **18 30 15.7 -0.1**
GTA pmax pmax
comp=Z,130nm,1.0s
GTA pmax pmax
comp=Z,370nm,4.4s
GTA LR LR
comp=Z,250nm,15.3s

GTA LR LR
comp=Z,420nm,15.6s
GTA LR LR
comp=Z,390nm,17.8s
LZH Lanzhou 62.80 294 ⇓P **P** **18 21 51.7 +1.1**
LZH pP pP 18 21 56.2 0.0
LZH PcP **PcP** **18 22 29.6 +0.7**
LZH S **S** **18 30 17.4 -0.9**
LZH pmax pmax
comp=Z,170nm,1.2s
LZH pmax pmax
comp=Z,270nm,4.8s
LZH LR LR
comp=Z,460nm,16.1s
LZH LR LR
comp=Z,430nm,15.8s
LZH LR LR
comp=Z,670nm,15.5s
NSS Namsos 63.62 1 *e*P **P** **18 21 55.6 +0.2**
ZSN Zaisan 63.98 315 *e*P **P** **18 21 58.6 +0.6**
ZSN *e*S **S** **18 30 34.6 +2.3**
ZSN pmax pmax
comp=Z,19nm,0.7s
ZSN Zaisan 63.98 315 *e*P **P** **18 21 58.6 +0.6**
comp=Z,19nm,0.7s
ZSN *e*S **S** **18 30 34.6 +2.3**
KURK Kurchatov 64.04 320 P **P** **18 21 58.2 -0.1**
KURK Kurchatov 64.04 320 P **P** **18 21 58.9 +0.6**
KURK P **P** **18 21 58.9 +0.6**
KURK Kurchatov 64.04 320 *de*P **P** **18 21 58.9 +0.6**
KURK pmax pmax
comp=Z,90nm,1.0s
KURBB Kurchatov Arra 64.15 320 P **P** **18 21 59.6 +0.6**
comp=Z,77nm,0.9s,baz=46,slow=7.2,SNR=264
KURBB PKP2bc 18 50 54.6
comp=Z,0.2nm,0.3s,baz=234,slow=4.2,SNR=4.4
KURBB LR LR 18 51 16.8
comp=Z,650nm,21.2s,baz=338,slow=37
comp=Z,77nm,0.9s
JOF Joensuu 64.49 352 *e*P **P** **18 22 01.4 +0.4**
TAOE Nuku Hiva Isla 64.58 152 *e*S **S** **18 30 39.3 -1.2**
comp=Z,158nm,29.0s
TAOE *e*SS **SS** **18 34 46.9 -4.8**
comp=Z,177nm,30.7s
TAOE *e*LQ LQ 18 38 29.8
comp=Z,1μm,30.3s
TAOE *e*LR LR 18 41 20.8
comp=Z,711nm,27.8s
CMIG Matias Romero 64.86 94 LR LR 18 45 55.2
comp=Z,338nm,21.9s,baz=328,slow=32
SVE Sverdlovsk 64.92 334 *c* P **P** **18 22 05.4 +1.4**
SVE *e*S **S** **18 30 47.0 +3.4**
SVE pmax pmax
comp=Z,218nm,1.0s
BVAR Borovoye Array 65.19 327 P **P** **18 22 06.9 +1.1**
comp=Z,162nm,0.7s,baz=48,slow=7.3,SNR=862
BVAR PKPPKP **P'P'df** **18 50 48.4 -6.2**
comp=Z,3.5nm,1.1s,baz=223,slow=3.5,SNR=7.4
BVAR LR LR 18 54 31.2
comp=Z,345nm,18.0s,baz=41,slow=40
comp=Z,162nm,0.7s
BRVK Borovoye 65.19 327 P **P** **18 22 06.0 +0.1**
BRVK Borovoye 65.19 327 P **P** **18 22 06.7 +0.9**
BRVK P **P** **18 22 06.7 +0.9**
BRVK Borovoye 65.19 327 *de*P **P** **18 22 06.8 +1.0**
BRVK pmax pmax
comp=Z,130nm,0.9s
WMQ Urumqi 65.46 310 *e*P **P** **18 22 09.1 +1.3**
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ LR LR
comp=Z,450nm,17.3s
WMQ LR LR
comp=Z,290nm,17.3s
MOL Molde 65.48 3 *e*P **P** **18 22 08.2 +0.7**
KLMR Klimovskoe 65.55 347 *e*P **P** **18 22 06.0 -2.0**
KLMR *e* 18 22 39.3
KLMR pmax pmax
comp=Z,98nm,1.3s
MK31 Makanchi Array 65.60 316 *ce*P **P** **18 22 08.3 -0.3**
MKAR Makanchi Array 65.60 316 P **P** **18 22 08.0 -0.6**
MKAR Makanchi Array 65.60 316 P **P** **18 22 08.7 +0.1**
comp=Z,22nm,0.8s,baz=49,slow=6.6,SNR=218
MKAR PKPPKP P'P'df 18 50 45.9 -7.6
comp=Z,0.6nm,0.8s,baz=189,slow=6.8,SNR=3.7
MKAR LR LR 18 52 42.4
comp=Z,330nm,18.3s,baz=26,slow=38
comp=Z,22nm,0.8s
MKAR Makanchi Array 65.60 316 *i* P **P** **18 22 08.3 -0.3**
MKAR pmax pmax
comp=Z,23nm,0.8s
KEF Keuruu 65.71 355 *e*P **P** **18 22 08.8 -0.2**
ARTI Arti 65.91 335 P **P** **18 22 10.7 +0.3**
ARTI Arti 65.91 335 LR LR 18 53 30.1
comp=Z,372nm,21.3s,baz=18,slow=38
ARTI Arti 65.91 335 *d* i P **P** **18 22 11.3 +0.9**
ARTI 18 22 41.1
ARTI 18 24 33.6
ARTI PPP PPP 18 26 10.8
ARTI S **S** **18 30 58.0 +2.3**
ARTI 18 32 07.1
ARTI SS **SS** **18 35 05.6 -4.1**
ARTI pmax pmax
comp=Z,225nm,1.0s
ARTI MLR MLR
comp=Z,379nm,21.0s
KIRV Kirov 65.99 341 LR LR 18 56 04.8
comp=Z,306nm,18.6s,baz=23,slow=41
KIRV Kirov 65.99 341 *de*P **P** **18 22 11.5 +0.7**
FOO Floro 66.34 5 *e*P **P** **18 22 13.8 +0.8**
FINES FINESS Array B 66.36 354 P **P** **18 22 12.6 -0.5**
FINES FINESS Array B 66.36 354 P **P** **18 22 13.2 0.0**
comp=Z,35nm,1.0s,baz=21,slow=7.6,SNR=93
FINES PKPPKP P'P'df 18 50 45.5 -7.7
comp=Z,6.5nm,1.0s,baz=222,slow=2.6,SNR=6.6
FINES LR LR 18 55 06.6
comp=Z,222nm,18.1s,baz=12,slow=40
comp=Z,35nm,1.0s
FINES FINESS Array B 66.36 354 *i* P **P** **18 22 13.5 +0.4**
FINES pmax pmax
comp=Z,35nm,1.0s
RABL Rabaul 66.58 227 P **P** **18 22 14.1 -1.1**
RABL IAmb IAmb 18 22 27.5
comp=Z,25nm,0.8s
CD2 Chengdu 66.63 291 P **P** **18 22 16.3 +0.8**
CD2 S **S** **18 31 04.3 -1.1**
CD2 pmax pmax
comp=Z,200nm,0.7s
CD2 pmax pmax
comp=Z,410nm,5.3s
CD2 LR LR
comp=Z,380nm,12.0s
CD2 LR LR
comp=Z,410nm,13.1s
NC204 NORSAR Array S 66.87 2 IAmb IAmb 18 22 22.6
comp=Z,35nm,1.0s
GULI GuiLin 66.89 282 P **P** **18 22 15.3 -1.8**
GULI pmax pmax
comp=Z,110nm,0.9s
BRZS Berezniki 66.89 323 *d* i P **P** **18 22 17.3 +0.5**
BRZS *e*S **S** **18 31 10.2 +2.4**
BRZS Berezniki 66.89 323 ⇓ *i* P **P** **18 22 17.3 +0.5**
BRZS *e*S **S** **18 31 10.2 +2.4**
RAF Rauma 67.00 356 *e*P **P** **18 22 16.7 -0.5**
NC405 NORSAR Array S 67.05 1 IAmb IAmb 18 22 18.8
comp=Z,21nm,0.8s
NB201 NORSAR Array S 67.10 2 IAmb IAmb 18 22 24.6
comp=Z,37nm,1.1s
NB2 NORSAR Subarra 67.11 2 P **P** **18 22 18.2 +0.1**
comp=Z,37nm,1.1s,baz=0.7,slow=6.9
NB2 NORSAR Subarra 67.11 2 P **P** **18 22 18.2 +0.1**
baz=0.7,slow=6.9
NBO00 NORSAR Array S 67.11 2 IAmb IAmb 18 22 23.9
comp=Z,24nm,1.1s
NOA NORSAR Array B 67.11 2 P **P** **18 22 18.4 +0.3**
comp=Z,13nm,0.8s,baz=360,slow=6.3,SNR=44
comp=Z,13nm,0.8s
LRW Lerwick 67.35 8 *e*P **P** **18 22 20.2 +0.8**
LRW IAmb IAmb 18 22 21.2
comp=Z,68nm,1.0s
SKAR Skarslia 67.39 3 *e*P **P** **18 22 20.7 +0.8**
NC602 NORSAR Array S 67.42 2 IAmb IAmb 18 22 48.6
comp=Z,13nm,0.9s
NC602 NORSAR Array S 67.42 2 *e*P **P** **18 22 20.2 +0.2**
GOMU GeErMu 67.66 300 P **P** **18 22 21.7 -0.6**
GOMU pP pP 18 22 25.6 -2.3
GOMU sP sP 18 22 29.0 -1.0
GOMU S **S** **18 31 14.8 -3.4**
GOMU pmax pmax
comp=Z,24nm,0.9s
GOMU LR LR
comp=Z,340nm,17.0s
GOMU LR LR
comp=Z,140nm,16.6s
GOMU LR LR
comp=Z,340nm,16.2s
MEF Metsahovi 67.68 355 *e*P **P** **18 22 21.6 +0.1**
HFS Hagfors 68.05 0 P **P** **18 22 24.1 +0.2**
comp=Z,21nm,0.5s,baz=29,slow=3.4,SNR=92
HFS LR LR 18 54 23.4
comp=Z,111nm,18.7s,baz=3.5,slow=38
comp=Z,21nm,0.5s
ODD1 Odda 68.10 4 *e*P **P** **18 22 25.3 +1.0**
HNR Honiara 68.11 217 LR LR 18 48 51.3
comp=Z,122nm,19.0s,baz=5.5,slow=33
GYA Guiyang 68.23 285 ⇓P **P** **18 22 26.1 +0.3**
GYA S **S** **18 31 23.7 -1.2**
GYA SS **SS** **18 35 48.0 +0.6**
GYA pmax pmax
comp=Z,130nm,1.1s
GYA pmax pmax
comp=Z,260nm,3.1s
GYA LR LR
comp=Z,120nm,5.7s
GYA LR LR
comp=Z,170nm,8.0s
GYA LR LR
comp=Z,150nm,5.8s
UPP Uppsala 68.30 358 *e*P **P** **18 22 25.2 -0.2**
ARBE Arbavere 68.36 354 *e*P **P** **18 22 26.3 +0.5**
KONO Kongsberg 68.47 3 P **P** **18 22 26.0 -0.5**
KONO IAmb IAmb 18 22 28.6
comp=Z,28nm,1.0s
KONO Kongsberg 68.47 3 *ce*P **P** **18 22 27.2 +0.6**
KONO pmax pmax
comp=Z,35nm,1.3s
KONO Kongsberg 68.47 3 *e*P **P** **18 22 27.6 +1.0**
BLS5 Blasjo 68.58 4 *e*P **P** **18 22 27.7 +0.5**
TDK Taldyqorghan 68.68 317 *d* i P **P** **18 22 28.7 +0.6**
TDK Taldyqorghan 68.68 317 ⇓ *i* P **P** **18 22 28.8 +0.6**
BIGH Upper Bighouse 68.69 10 *e*P **P** **18 22 28.5 +0.6**
BIGH IAmb IAmb 18 22 29.9
comp=Z,61nm,1.0s
VSU Vasula 69.27 353 *ce*P **P** **18 22 31.4 -0.1**
VSU pmax pmax
comp=Z,119nm,1.3s
VSU Vasula 69.27 353 *e*P **P** **18 22 31.2 -0.3**
ARXS Arharly 69.56 317 *i* P **P** **18 22 33.0 -0.7**
MCD Coleburn Disti 69.66 10 *e*P **P** **18 22 35.0 +1.0**
MCD IAmb IAmb 18 22 35.9
comp=Z,57nm,0.9s
SHLS Shalkode 69.71 315 *e*P **P** **18 22 34.2 -0.5**
SHLS *e*S **S** **18 31 41.8 -0.1**
SHLS Shalkode 69.71 315 *e*P **P** **18 22 34.3 -0.5**
SHLS *e*S **S** **18 31 41.8 -0.1**
KPKS Kokpek 69.80 316 *e*P **P** **18 22 35.9 +0.7**
KPKS Kokpek 69.80 316 *e*P **P** **18 22 35.9 +0.7**
UZB Uzunbulak 69.91 315 *d* i P **P** **18 22 36.4 +0.5**
UZB *e*S **S** **18 31 46.4 +2.2**
UZB pmax pmax
comp=Z,15nm,0.9s
UZB Uzunbulak 69.91 315 ⇓ *i* P **P** **18 22 36.5 +0.5**
comp=Z,16nm,0.9s
UZB *e*S **S** **18 31 46.5 +2.2**
SATY Saty 70.24 316 *d* i P **P** **18 22 38.6 +0.6**
SATY *e*S **S** **18 31 50.5 +2.3**
SATY pmax pmax
comp=Z,55nm,1.7s
SATY Saty 70.24 316 ⇓ *i* P **P** **18 22 38.7 +0.6**
comp=Z,55nm,1.7s
SATY *e*S **S** **18 31 50.5 +2.3**
MTO3 Montecristo 70.32 92 P **P** **18 22 38.5 -0.4**
SLIT Slitere, Latvi 70.37 356 *e*P **P** **18 22 38.6 +0.3**
DRUM Mains of Drumt 70.40 10 *e*P **P** **18 22 39.1 +0.6**
DRUM IAmb IAmb 18 22 40.1
comp=Z,109nm,0.9s
BTLS Baital 70.44 320 *d* i P **P** **18 22 39.6 +0.6**
BTLS *e*S **S** **18 31 52.5 +2.4**
BTLS pmax pmax
comp=Z,27nm,1.0s
BTLS Baital 70.44 320 ⇓ *i* P **P** **18 22 39.6 +0.6**
comp=Z,27nm,1.0s
BTLS *e*S **S** **18 31 52.5 +2.4**
LAWE Loch Awe, Argy 70.71 12 *e*P **P** **18 22 41.3 +0.9**
LAWE IAmb IAmb 18 22 41.7
comp=Z,38nm,0.9s
JAY Jayapura 70.74 239 LR LR 18 49 06.2
comp=Z,110nm,20.9s,baz=350,slow=32
JAY Jayapura 70.74 239 P **P** **18 22 41.0 -0.2**
comp=Z,39nm,1.2s
MOS Moscow 70.76 346 *e*P **P** **18 22 38.0 -2.7**
MOS *e* 18 22 55.7
MOS pmax pmax
comp=Z,200nm,1.6s
MOS pmax pmax
comp=Z,112nm,1.3s
AAA Alma-Ata 70.76 317 *e*P **P** **18 22 41.8 +0.7**
AAA Alma-Ata 70.76 317 *e*P **P** **18 22 41.8 +0.7**
PPT2 Papeete2 70.85 164 *e*S **S** **18 31 55.3 0.0**
comp=Z,260nm,31.2s
PPT2 *e*SS **SS** **18 36 28.4 -0.2**
comp=Z,203nm,30.8s
PPT2 *e*LQ LQ 18 40 50.2
comp=Z,423nm,26.5s
PPT2 *e*LR LR 18 44 10.9
comp=Z,536nm,21.5s
PPT2 *e*LR LR 18 44 19.6
comp=Z,711nm,30.2s
TNSS Tian-Shan 70.89 316 *e*P **P** **18 22 42.5 +0.3**
TNSS Tian-Shan 70.89 316 *e*P **P** **18 22 42.6 +0.3**
GENI Genyem 71.09 239 P **P** **18 22 44.5 +1.2**
GENI Genyem 71.09 239 P **P** **18 22 43.5 +0.2**
comp=Z,1μmcomp=Z,144nm,1.0s
PZH PanZhiHua 71.10 289 P **P** **18 22 43.8 +0.4**
PZH S **S** **18 31 56.6 -1.9**
PZH sS **sS** **18 32 08.9 +1.0**
PZH pmax pmax
comp=Z,180nm,1.1s
PZH pmax pmax
comp=Z,210nm,5.0s
PZH LR LR
comp=Z,160nm,15.9s
PZH LR LR
comp=Z,160nm,15.9s
PZH LR LR
comp=Z,210nm,22.6s
AKTO Aktyubinsk 71.31 332 LR LR 18 58 30.4
comp=Z,201nm,18.0s,baz=52,slow=40
SGDS Sogindy 71.51 318 *e*P **P** **18 22 46.4 +0.7**
comp=Z,24nm,1.2s
OBN Obninsk 71.51 347 P **P** **18 22 44.4 -0.9**
OBN Obninsk 71.51 347 P **P** **18 22 45.3 0.0**
comp=Z,41nm,0.6s,baz=12,slow=2.1,SNR=28
OBN LR LR 18 56 39.0
comp=Z,336nm,20.9s,baz=226,slow=38
comp=Z,41nm,0.6s
OBN Obninsk 71.51 347 ⇓P **P** **18 22 45.7 +0.4**
OBN Obninsk 71.51 347 *de*P **P** **18 22 45.4 +0.1**
OBN *e* 18 25 21.8
OBN *e*PPP PPP 18 27 07.1
OBN pmax pmax
comp=Z,78nm,1.0s
OBN MLR MLR
comp=Z,343nm,21.0s
DAV Davao City (W) 71.52 257 LR LR 18 48 04.6
comp=Z,130nm,21.6s,baz=84,slow=31
TKM2 Tokmak 2 71.55 317 P **P** **18 22 47.1 +1.1**
SNR=32
KMI Kunming 71.56 287 ⇓P **P** **18 22 46.4 0.0**
KMI S **S** **18 32 05.2 +1.1**
KMI pmax pmax
comp=Z,71nm,1.0s
KMI LR LR
comp=Z,250nm,20.4s
KMI LR LR
comp=Z,270nm,19.9s
KMI LR LR
comp=Z,260nm,26.3s
IDGL Inch Island, C 71.59 13 *e*P **P** **18 22 46.2 +0.5**
USP Ospenovka 71.72 318 P **P** **18 22 48.0 +1.1**
SNR=56
ABKAR Akbulak array 71.79 331 P **P** **18 22 46.8 -0.3**
ULHL Ulahol 71.83 316 P **P** **18 22 48.9 +1.1**
SNR=9.4
CHMS Chumysh 71.84 318 P **P** **18 22 48.8 +1.3**
SNR=20
EKA Eskdalemuir Ar 71.88 10 P **P** **18 22 48.5 +1.0**
comp=Z,28nm,0.8s,baz=341,slow=4.5,SNR=105
comp=Z,28nm,0.8s
ESK Eskdalemuir 71.89 10 P **P** **18 22 47.7 +0.1**
ESK IAmb IAmb 18 22 49.7
comp=Z,42nm,1.1s
ESK Eskdalemuir 71.89 10 *e*P **P** **18 22 48.2 +0.6**
ESK IAmb IAmb 18 22 49.0
comp=Z,30nm,0.8s
ESK Eskdalemuir 71.89 10 P **P** **18 22 47.7 +0.1**
ESK pmax pmax
comp=Z,43nm,1.1s
QIZ Qiongzhong 71.91 278 P **P** **18 22 46.3 -2.0**
QIZ S **S** **18 32 12.3 +4.5**
QIZ pmax pmax
comp=Z,140nm,1.0s
QIZ LR LR
comp=Z,350nm,16.2s
QIZ LR LR
comp=Z,560nm,12.8s
VSVD Vaisvydziai 71.93 354 *e*P **P** **18 22 47.9 +0.1**
NEWG New Galloway 71.97 11 *e*P **P** **18 22 48.6 +0.6**
NEWG IAmb IAmb 18 22 49.6
comp=Z,58nm,1.4s
PBUR Paburge 71.99 356 *e*P **P** **18 22 48.1 0.0**
KBK Karagaybulak 72.04 318 P **P** **18 22 50.2 +1.3**
SNR=18
BAKI Biak 72.11 243 P **P** **18 22 49.4 0.0**
comp=Z,1μmcomp=Z,53nm,0.9s
BELG Belogornoye 72.14 339 LR LR 18 58 43.6
comp=Z,148nm,18.3s,baz=21,slow=39
BELG Belogornoye 72.14 339 *d* i P **P** **18 22 49.8 +0.7**
BELG pmax pmax
comp=Z,42nm,1.0s
ISAL Salakas 72.19 353 *e*P **P** **18 22 51.7 +2.3**
AAK Ala-Archa 72.24 318 P **P** **18 22 50.2 0.0**
AAK Ala-Archa 72.24 318 LR LR 18 58 06.9
comp=Z,321nm,18.3s,baz=32,slow=39
AAK Ala-Archa 72.24 318 P **P** **18 22 51.5 +1.4**
AAK P **P** **18 22 51.5 +1.4**
AAK Ala-Archa 72.24 318 P **P** **18 22 51.5 +1.4**
SNR=11
AAK Ala-Archa 72.24 318 *ce*P **P** **18 22 51.2 +1.1**
AAK pmax pmax
comp=Z,31nm,1.1s
AAK Ala-Archa 72.24 318 *i* P **P** **18 22 51.4 +1.3**
SNR=19
IDID Didziasalis 72.40 353 *e*P **P** **18 22 50.1 -0.5**
PABE Paberze 72.40 354 *e*P **P** **18 22 51.4 +0.8**
EDMD Edmundbyers 72.50 10 *e*P **P** **18 22 52.1 +0.9**
EDMD IAmb IAmb 18 22 53.1
comp=Z,64nm,1.1s
EKS2 Erkin-Say 72.52 318 P **P** **18 22 52.9 +1.2**
SNR=34
SRPI Serui, Papua 72.60 243 P **P** **18 22 52.6 +0.3**
comp=Z,1μmcomp=Z,77nm,1.1s
KESW Keswick, Cumbr 72.62 11 *e*P **P** **18 22 52.7 +0.8**
ILTH Belurgan, Co L 72.77 13 *e*P **P** **18 22 53.2 +0.4**
ILTH IAmb IAmb 18 22 53.9
comp=Z,26nm,1.0s
IOMK Kirk Michael 72.77 12 *e*P **P** **18 22 53.5 +0.7**
IGLA Glengowla, Co 72.92 15 *e*P **P** **18 22 54.5 +0.8**
IGLA IAmb IAmb 18 22 55.4
comp=Z,85nm,1.1s
GDLE Glaisdale, N Y 73.02 9 *e*P **P** **18 22 55.2 +0.8**
BSD Bornholm Skovb 73.08 360 *i* P **P** **18 22 54.4 -0.3**
MNK Minsk 73.11 352 *i* P **P** **18 22 55.8 +1.0**
MNK *i* **18 25 38.2**
MNK *i* PPP PPP 18 27 22.8
MNK *i* S **SKiKP** **18 32 24.0 -0.9**
MNK *i* 18 33 03.8
MNK *i* SS **SS** **18 37 05.9 +5.6**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=Z,106nm,0.9s
MNK pmax pmax
comp=E,60nm,1.0s
RAR Rarotonga 73.24 174 P **P** **18 22 56.6 +0.7**
comp=E,14nm,0.8s,baz=240,slow=8.3,SNR=4.9
RAR LR LR 18 48 34.0
comp=E,185nm,19.2s,baz=346,slow=30
comp=E,14nm,0.8s
DZA Taraz 73.31 320 *e*P **P** **18 22 57.0 +0.7**
DZA pmax pmax
comp=Z,18nm,1.0s
DZA Taraz 73.31 320 *e*P **P** **18 22 57.0 +0.7**
comp=Z,18nm,1.0s
RKPI Ransiki, Papua 73.44 245 P **P** **18 22 57.3 0.0**
comp=Z,1μmcomp=Z,70nm,1.0s
PMG Port Moresby 73.47 229 *ce*P **P** **18 22 57.2 -0.2**
PMG pmax pmax
comp=Z,57nm,1.1s
LPSR Galich'ya Gora 73.59 345 *e*P **P** **18 22 56.0 -1.7**
LPSR pmax pmax
comp=Z,40nm,1.0s
WPS Cemaes, Angles 73.62 12 *e*P **P** **18 22 58.3 +0.4**
WPS IAmb IAmb 18 22 58.9
comp=Z,22nm,1.1s
SLVN Son La 73.75 284 P **P** **18 23 00.2 +1.0**
BRLS Borolday 73.78 321 *d* i P **P** **18 23 01.0 +2.0**
BRLS pmax pmax
comp=Z,15nm,1.0s
BRLS Borolday 73.78 321 ⇓ *i* P **P** **18 23 01.1 +2.0**
comp=Z,15nm,1.0s
SUW Suwalki 73.94 355 *e*P **P** **18 22 60.0 +0.3**
SUW Suwalki 73.94 355 *e*P **P** **18 23 00.2 +0.5**
LBWR Ladybower, Pea 73.94 10 *e*P **P** **18 23 00.1 +0.4**
LBWR IAmb IAmb 18 23 01.6
comp=Z,71nm,1.0s
TNCH TengChong 74.09 290 ⇓P **P** **18 23 01.9 +0.6**
TNCH pP pP 18 23 04.9 -2.1
TNCH sP sP 18 23 07.7 -1.3
TNCH PP **PP** **18 25 50.5 +4.0**
TNCH S **S** **18 32 30.4 -2.5**
TNCH sS pS 18 32 39.0 -0.9
TNCH pmax pmax
comp=Z,82nm,1.1s
TNCH LR LR
comp=Z,250nm,4.6s
TNCH LR LR
comp=Z,160nm,4.9s
TNCH LR LR
comp=Z,310nm,14.6s
STNC Stoke 74.19 10 *e*P **P** **18 23 02.9 +1.6**
STNC IAmb IAmb 18 23 03.5
comp=Z,103nm,0.9s
KSH Kashi 74.19 315 P **P** **18 23 05.9 +4.2**
KSH pP sP 18 23 10.7 +1.2
KSH pmax pmax
comp=Z,72nm,0.9s
KSH pmax pmax
comp=Z,250nm,6.0s
KSH LR LR
comp=Z,290nm,15.1s
KSH LR LR
comp=Z,340nm,16.5s
KSH LR LR
comp=Z,380nm,18.6s
LLW Llanuwchllyn 74.26 11 *e*P **P** **18 23 02.4 +0.8**
LLW IAmb IAmb 18 23 03.5
comp=Z,41nm,1.1s
FOEL Foel Wylfa 74.28 11 *e*P **P** **18 23 02.9 +1.2**
FOEL IAmb IAmb 18 23 03.8
comp=Z,113nm,1.0s
NMDO Nuevo Mundo 74.40 77 IAmb IAmb 18 23 03.9
comp=Z,34nm,1.0s
VRH Novokhopyorsk 74.45 343 *e*P **P** **18 23 01.2 -1.5**
VRH pmax pmax
comp=Z,30nm,1.0s
IUG luzhnay 74.45 320 *e*P **P** **18 23 03.8 +0.7**
IUG luzhnay 74.45 320 *e*P **P** **18 23 03.8 +0.7**
CHM Chimkent 74.47 321 *e*P **P** **18 23 03.9 +0.8**
CHM Chimkent 74.47 321 *e*P **P** **18 23 03.9 +0.8**
SWI Sorong 74.55 248 P **P** **18 23 03.8 0.0**
comp=Z,1μmcomp=Z,100nm,1.0s
LSA Lhasa 74.61 299 P **P** **18 23 05.2 +0.6**
LSA pmax pmax
comp=Z,110nm,0.8s
LSA LR LR

comp=Z,710nm,75.5s
CWF Charnwood Fore 74.64 10 *e*P **P 18 23 04.2 +0.4**
CWF IAmb IAmb 18 23 05.8
comp=Z,56nm,1.1s
VSR Storozhevoye 74.89 344 *e*P **P 18 23 02.3 -3.0**
VSR pmax pmax
comp=Z,30nm,0.9s
RSBS Rosebush, Pemb 75.00 12 *e*P **P 18 23 06.8 +0.9**
RSBS IAmb IAmb 18 23 07.8
comp=Z,67nm,1.0s
VORD Divnogorie 75.11 344 *e*P **P 18 23 04.6 -1.9**
VORD pmax pmax
comp=Z,30nm,0.9s
MCH1 Michaelchurch 75.18 11 *e*P **P 18 23 07.5 +0.6**
MCH1 IAmb IAmb 18 23 08.8
comp=Z,48nm,1.0s
MONM Monmouth 75.35 11 *e*P **P 18 23 08.9 +0.9**
MONM IAmb IAmb 18 23 09.9
comp=Z,73nm,1.1s
RUE Ruedersdorf 75.72 0 *e*P **P 18 23 10.8 +0.8**
R9F13 Warsaw-Wawer 75.83 356 *e*P **P 18 23 12.1 +1.4**
JTS Las Juntas de 76.20 91 LR LR 18 57 17.5
comp=Z,122nm,18.1s,baz=304,slow=36
BEL Belsk 76.23 356 *e*P **P 18 23 14.5 +1.5**
TBI Tubuai 76.51 165 *e*P P 18 23 21.0 +6.3
comp=Z,410nm,32.8s
TBI *e*S **S 18 32 57.0 -1.8**
comp=Z,633nm,32.5s
TBI *e*SS **SS 18 37 55.0 +0.3**
comp=Z,389nm,25.5s
TBI *e*LQ LQ 18 43 21.0
comp=Z,760nm,38.2s
TBI *e*LR LR 18 46 54.3
comp=Z,2µm,27.8s
TBI *e*LR LR 18 46 59.3
comp=Z,1µm,27.2s
AKASG Malin Array Be 76.74 350 P **P 18 23 15.2 -0.7**
AKASG IAmb IAmb 18 23 17.3
comp=Z,42nm,1.4s
AKASG Malin Array Be 76.74 350 P **P 18 23 15.9 0.0**
comp=Z,42nm,0.6s,baz=13,slow=5.6,SNR=169
AKASG LR LR 19 00 10.7
comp=Z,278nm,20.2s,baz=3.0,slow=38
comp=Z,42nm,0.6s
AKASG Malin Array Be 76.74 350 *i* P **P 18 23 15.8 0.0**
AKASG pmax pmax
comp=Z,43nm,0.6s
AKBB Malin Array Si 76.74 350 *ce*P **P 18 23 15.7 -0.2**
AKBB pmax pmax
comp=Z,61nm,0.6s
KIEV Kiev 76.75 350 P **P 18 23 15.7 -0.2**
KIEV Kiev 76.75 350 ⇓P **P 18 23 15.9 -0.1**
KIEV Kiev 76.75 350 P **P 18 23 15.7 -0.2**
KIEV pmax pmax
comp=Z,109nm,1.2s
KIEV Kiev 76.75 350 *i* P **P 18 23 15.9 -0.1**
SNR=7.4
CLL Collm 76.89 1 IAmb IAmb 18 23 18.7
comp=Z,42nm,1.1s
CLL Collm 76.89 1 ⇓*i*P **P 18 23 17.6 +0.9**
CLL *i* *PP **pP 18 23 22.0 -0.5**
CLL *e*S **S 18 33 05.0 +2.3**
CLL pmax pmax
comp=Z,34nm,0.9s
UCC Uccle 77.06 7 IAmb IAmb 18 23 19.6
comp=Z,60nm,1.6s
UCC Uccle 77.06 7 *d*P **P 18 23 18.2 +0.6**
comp=Z,15nm,1.3s
BEBN Eben Emael 77.14 6 *d*P **P 18 23 19.4 +1.2**
comp=Z,36nm,1.0s
BRG Berggiesshubel 77.33 0 ⇓*i*P **P 18 23 20.7 +1.5**
BRG Amp 18 23 21.9
comp=Z,25nm,0.9s
BRG Berggiesshubel 77.33 0 P P 18 23 26.1 +6.9
BRG Amp 18 23 27.0
comp=Z,8.9nm,0.9s
BRG Berggiesshubel 77.33 0 S **S 18 33 13.0 +5.5**
BSTI Sart Tilman 77.35 6 *d*P **P 18 23 20.5 +1.2**
comp=Z,14nm,0.8s
KSP Ksiaz 77.35 359 *e*P **P 18 23 19.8 +0.4**
MEM Membach 77.35 5 *d*P **P 18 23 20.2 +0.9**
comp=Z,34nm,1.1s
BTNL Ternell 77.38 5 *d*P **P 18 23 20.6 +1.0**
comp=Z,25nm,1.2s
SHL Shillong 77.44 295 P **P 18 23 19.9 -0.6**
SHL Shillong 77.44 295 P **P 18 23 19.9 -0.6**
BGES Gesves 77.52 6 *d*P **P 18 23 21.0 +0.8**
comp=Z,21nm,0.9s
MOX Moxa 77.53 2 *e*L L 18 59 26.7
comp=Z,124nm,21.9s
BMRD Maredsous 77.58 6 *d*P **P 18 23 21.7 +1.1**
comp=Z,42nm,0.9s
BHOU Houvegnez 77.61 6 *d*P **P 18 23 22.0 +1.2**
comp=Z,11nm,1.0s
CHVC Chvalec 77.61 359 *e*P **P 18 23 22.1 +1.3**
CHVC Chvalec 77.61 359 *e*P **P 18 23 22.1 +1.3**
OSTC Ostas 77.64 359 *e*P **P 18 23 22.2 +1.2**
OSTC *e*S **S 18 33 14.0 +3.1**
OSTC MLR MLR
comp=Z,200nm,20.0s
OSTC Ostas 77.64 359 *e*P **P 18 23 22.2 +1.2**
OSTC *e*S **S 18 33 14.0 +3.1**
OSTC AMS AMS 19 03 20.0
comp=Z,200nm,20.0s
RICC Richard 77.66 0 *e*P **P 18 23 22.6 +1.5**
PVCC Panska Ves 77.68 360 *e*P **P 18 23 22.8 +1.6**
PVCC MLR MLR
comp=Z,100nm,19.0s
PVCC Panska Ves 77.68 360 *e*P **P 18 23 22.8 +1.6**
PVCC AMS AMS 19 03 30.0
comp=Z,100nm,19.0s
UPC Upice 77.69 359 *e*P **P 18 23 22.5 +1.2**
UPC MLR MLR
comp=Z,200nm,20.7s
UPC Upice 77.69 359 *e*P **P 18 23 22.5 +1.2**
UPC AMS AMS 19 03 20.0
comp=Z,200nm,20.7s
RCHB Rochefort 77.75 6 *d*P **P 18 23 21.2 -0.4**
comp=Z,32nm,1.0s
DOU Dourbes 77.77 6 *d*P **P 18 23 22.7 +1.0**
comp=Z,21nm,1.0s
SDDR Presa de Saban 77.82 75 IAmb IAmb 18 23 35.9
comp=Z,17nm,0.8s
DPC Dobruska-Polom 77.84 359 *e*P **P 18 23 23.7 +1.5**
DPC *e*S **S 18 33 15.5 +2.3**
DPC MLR MLR
comp=Z,200nm,18.4s
DPC Dobruska-Polom 77.84 359 *e*P **P 18 23 23.7 +1.5**
DPC *e*S **S 18 33 15.5 +2.3**
DPC AMS AMS 19 03 50.0
comp=Z,200nm,18.4s
DZM Mont Dzumac 77.86 206 *e*LR LR 18 47 38.6
comp=Z,317nm,21.4s
OJC Ojcow 77.89 356 *e*P **P 18 23 23.1 +0.8**
KKM Kota Kinabalu 78.01 264 IAmb IAmb 18 23 25.2
comp=Z,38nm,1.0s
KRLC Kraliky 78.11 358 *e*P **P 18 23 25.0 +1.3**
KRLC MLR MLR
comp=Z,200nm,19.9s
KRLC Kraliky 78.11 358 *e*P **P 18 23 25.0 +1.3**
KRLC AMS AMS 19 04 10.0
comp=Z,200nm,19.9s
PRU Pruhonice 78.22 360 *e*P **P 18 23 25.3 +1.1**
PRU *e*S **S 18 33 15.6 -1.5**
PRU MLR MLR
comp=N,100nm,19.6s
PRU Pruhonice 78.22 360 *e*P **P 18 23 25.3 +1.1**
PRU *e*S **S 18 33 15.6 -1.5**
PRU AMS AMS 19 03 50.0
STEB Steborice 78.23 358 *e*P **P 18 23 25.6 +1.3**
GOPC GO Pecny, Ondr 78.29 360 *e*P **P 18 23 25.8 +1.2**
GOPC MLR MLR
comp=Z,200nm,18.7s
GOPC GO Pecny, Ondr 78.29 360 *e*P **P 18 23 25.8 +1.2**
GOPC AMS AMS 19 06 10.0
comp=Z,200nm,18.7s
WLF Walferdange 78.30 5 *d*P **P 18 23 25.9 +1.3**
comp=Z,23nm,1.1s
OKC Ostrava-Krasne 78.32 358 *e*P **P 18 23 26.3 +1.6**
OKC MLR MLR
comp=Z,200nm,15.9s
OKC Ostrava-Krasne 78.32 358 *e*P **P 18 23 26.3 +1.6**
OKC AMS AMS 19 07 40.0
comp=Z,200nm,15.9s
KWP Kalwaria Pacla 78.33 355 *e*P **P 18 23 26.2 +1.4**

MORC Moravsky Berou 78.40 358 P **P 18 23 26.0 +0.8**
MORC IAmb IAmb 18 23 27.8
comp=Z,41nm,1.0s
MORC Moravsky Berou 78.40 358 *e*P **P 18 23 26.3 +1.1**
MORC Moravsky Berou 78.40 358 ⇑P **P 18 23 26.0 +0.8**
MORC Moravsky Berou 78.40 358 P **P 18 23 26.0 +0.8**
MORC pmax pmax
comp=Z,41nm,1.0s
GRF Grafenberg Arr 78.48 2 *e*P **P 18 23 27.2 +1.5**
comp=Z,84nm,1.1s,baz=358,slow=4.9
GRF *e*L L 19 00 06.0
comp=Z,136nm,21.6s
GRFO Grafenberg 78.48 2 P **P 18 23 25.0 -0.6**
GRFO Grafenberg 78.48 2 P **P 18 23 25.0 -0.6**
GRFO pmax pmax
comp=Z,76nm,1.2s
STHS Stebnicka Huta 78.62 355 *e*P **P 18 23 27.5 +1.0**
STHS pmax pmax
comp=Z,104nm,1.1s
STHS Stebnicka Huta 78.62 355 *e*P **P 18 23 27.5 +1.0**
CHTO Chiang Mai 78.64 286 P **P 18 23 25.9 -1.1**
CHTO Chiang Mai 78.64 286 P **P 18 23 26.8 -0.2**
CHTO P **P 18 23 26.8 -0.2**
CHTO Chiang Mai 78.64 286 P **P 18 23 26.5 -0.5**
CHTO Chiang Mai 78.64 286 P **P 18 23 25.9 -1.1**
CHTO pmax pmax
comp=Z,122nm,1.7s
NIE Niedzica 78.67 356 *e*P **P 18 23 28.1 +1.4**
ZVC Zvikov 78.77 0 *e*P **P 18 23 28.7 +1.5**
ZVC AMS AMS 19 07 00.0
comp=Z,200nm,15.1s
MAUC Maruska 78.80 358 *e*P **P 18 23 29.1 +1.6**
VRAC Vranov 78.88 359 P **P 18 23 29.1 +1.2**
comp=Z,47nm,0.9s,baz=5.2,slow=5.6,SNR=70
VRAC LR LR 18 58 13.7
comp=Z,107nm,20.9s,baz=3.5,slow=36
comp=Z,47nm,0.9s
VRAC Vranov 78.88 359 *e*P **P 18 23 29.3 +1.5**
VRAC Vranov 78.88 359 ⇓P **P 18 23 29.4 +1.5**
TREC Trest 78.91 359 *e*P **P 18 23 29.1 +1.1**
TREC MLR MLR
comp=Z,300nm,16.4s
TREC Trest 78.91 359 *e*P **P 18 23 29.1 +1.1**
TREC AMS AMS 19 08 20.0
comp=Z,300nm,16.4s
CMAR Chiang Mai Arr 78.92 286 P **P 18 23 28.6 +0.1**
CMAR Chiang Mai Arr 78.92 286 P **P 18 23 28.9 +0.3**
comp=Z,44nm,0.8s,baz=25,slow=5.6,SNR=187
CMAR LR LR 19 01 35.7
comp=Z,77nm,18.9s,baz=35,slow=38
comp=Z,44nm,0.8s
CMAR Chiang Mai Arr 78.92 286 *i* P **P 18 23 28.8 +0.3**
CMAR pmax pmax
comp=Z,45nm,0.8s
LANS Liptovska Anna 78.97 357 *e*P **P 18 23 30.6 +2.2**
LANS pmax pmax
comp=Z,55nm,0.8s
LANS Liptovska Anna 78.97 357 *e*P **P 18 23 30.6 +2.2**
KOLS Kolonicke sedl 79.05 355 *e*P **P 18 23 30.1 +1.3**
KOLS pmax pmax
comp=Z,54nm,1.2s
KOLS Kolonicke sedl 79.05 355 *e*P **P 18 23 30.1 +1.3**
KHC Kasperske Hory 79.08 1 *e*P **P 18 23 30.4 +1.4**
KHC *e* 18 23 44.0
KHC *e*S **S 18 33 27.1 +0.7**
KHC MLR MLR
comp=Z,300nm,18.3s
KHC Kasperske Hory 79.08 1 *e*P **P 18 23 30.4 +1.4**
KHC *ex* x 18 23 44.0
KHC *e*S **S 18 33 27.1 +0.7**
KHC AMS AMS 19 05 30.0
comp=Z,300nm,18.3s
KRUC Moravsky 79.13 359 *e*P **P 18 23 30.4 +1.2**
JAVC Velka Javorina 79.31 358 *e*P **P 18 23 32.8 +2.5**
STU Stuttgart 79.34 4 IAmb IAmb 18 23 32.7
comp=Z,53nm,1.3s
STU Stuttgart 79.34 4 *e*P **P 18 23 31.6 +1.2**
GEC2 GERESS Array S 79.36 0 IAmb IAmb 18 23 33.0
comp=Z,36nm,1.1s
GERES GERESS Array B 79.36 0 P **P 18 23 31.4 +0.8**
GERES GERESS Array B 79.36 0 P **P 18 23 31.7 +1.1**
comp=Z,18nm,0.8s,baz=353,slow=4.2,SNR=124
GERES PKKPbc **PKKPbc 18 42 17.4 -0.6**
comp=Z,0.2nm,0.7s,baz=127,slow=3.5,SNR=4.9
comp=Z,18nm,0.8s
GERES GERESS Array B 79.36 0 P **P 18 23 31.4 +0.8**
SORM Soroca 79.37 351 ⇓P **P 18 23 30.4 -0.1**
SORM Soroca 79.37 351 P **P 18 23 30.4 -0.1**
CKRC Cesky Krumlov 79.39 0 *e*P **P 18 23 31.8 +1.1**
CKRC MLR MLR
comp=Z,200nm,18.2s
CKRC Cesky Krumlov 79.39 0 *e*P **P 18 23 31.8 +1.1**
CKRC AMS AMS 19 03 10.0
comp=Z,200nm,18.2s
KECS Kecovo 79.59 356 *e*P **P 18 23 33.4 +1.7**
KECS pmax pmax
comp=Z,76nm,0.9s
KECS Kecovo 79.59 356 *e*P **P 18 23 33.4 +1.7**
VYHS Vyhne 79.64 357 *e*P **P 18 23 33.6 +1.6**
VYHS pmax pmax
comp=Z,99nm,1.2s
VYHS Vyhne 79.64 357 *e*P **P 18 23 33.6 +1.6**
LUWI Luwuk 79.64 255 P **P 18 23 31.2 -1.3**
comp=Z,5µmcomp=Z,163nm,1.1s
SMOL Smolenice 79.66 358 *e*P **P 18 23 34.3 +2.2**
SMOL pmax pmax
comp=Z,43nm,1.2s
BFO Black Forest 79.74 4 P **P 18 23 33.0 +0.4**
BFO IAmb IAmb 18 23 34.2
comp=Z,17nm,0.8s
BFO Black Forest 79.74 4 P **P 18 23 33.0 +0.4**
BFO pmax pmax
comp=Z,17nm,0.8s
ECH Echery 79.80 5 IAmb IAmb 18 23 35.1
comp=Z,41nm,0.9s
MODS Modra-Piesok 79.81 358 *e*P **P 18 23 32.3 -0.6**
MODS pmax pmax
comp=Z,220nm,1.2s
MODS Modra-Piesok 79.81 358 *e*P **P 18 23 32.3 -0.6**
BRDH Bariadhala 79.85 294 LR LR 19 03 30.1
comp=Z,318nm,18.2s,baz=84,slow=39
ERBR Yeremizino-Bor 79.95 342 *e*P **P 18 23 33.9 +0.2**
ERBR *e*S **S 18 33 38.0 +2.3**
ERBR *e* 18 33 51.4
ERBR pmax pmax
comp=Z,241nm,1.1s
ERBR MLR MLR
comp=Z,212nm,17.0s
GOF Gofitskoye 80.06 340 *d* iP **P 18 23 36.1 +1.8**
BUR08 Bucovina Ar. S 80.14 353 IAmb IAmb 18 23 36.9
comp=Z,30nm,0.9s
BURAR Bucovina Array 80.17 353 P **P 18 23 35.7 +0.7**
BURAR IAmb IAmb 18 23 37.2
comp=Z,39nm,1.1s
BURAR Bucovina Array 80.17 353 ⇓P **P 18 23 35.9 +0.9**
BURAR Bucovina Array 80.17 353 P **P 18 23 35.8 +0.7**
PSZ Piszkesteto 80.18 356 ⇑P **P 18 23 36.8 +1.8**
PSZ Piszkesteto 80.18 356 P **P 18 23 36.8 +1.8**
PSZ Piszkesteto 80.18 356 *e*P **P 18 23 36.8 +1.8**
BMR Baia Mare 80.23 354 ⇓P **P 18 23 36.5 +1.2**
BMR Baia Mare 80.23 354 P **P 18 23 36.4 +1.2**
MPSI Mapaga 80.27 258 P **P 18 23 35.2 -0.6**
comp=Z,33nm,0.9s
CONA Conrad Observa 80.27 359 *i* P **P 18 23 37.4 +1.8**
comp=Z,68nm,1.0s,SNR=51
NIL Nilore 80.29 314 P **P 18 23 36.5 +0.7**
NIL Nilore 80.29 314 P **P 18 23 36.5 +0.7**
NIL pmax pmax
comp=Z,97nm,0.9s
PRAR RASCA 80.33 352 ⇓P **P 18 23 36.0 +0.2**
SRO Srobarova 80.34 357 *e*P **P 18 23 38.9 +3.1**
SRO pmax pmax
comp=Z,82nm,1.4s
SRO Srobarova 80.34 357 *e*P **P 18 23 38.9 +3.1**
MOA Molln 80.36 0 *i* P **P 18 23 37.3 +1.3**
comp=Z,30nm,1.4s,SNR=15
IASR Iasi 80.39 351 ⇓P **P 18 23 36.7 +0.6**
KIS Kishinev 80.44 350 ⇓*i*P **P 18 23 36.4 +0.1**
comp=Z,80nm,1.5s
KIS Kishinev 80.44 350 *d* iP **P 18 23 36.0 -0.3**
KIS pmax pmax
comp=Z,80nm,1.5s
RONA Rosalia, Austr 80.50 359 *i* P **P 18 23 38.5 +1.8**
comp=Z,43nm,1.2s,SNR=18
BIOA Bad Ischl, Aus 80.52 1 *i* P **P 18 23 38.2 +1.4**

comp=Z,35nm,1.2s,SNR=23
MILM Milestii Mici 80.52 350 ⇓*i*P **P 18 23 36.0 -0.8**
comp=Z,200nm,1.4s
MILM Milestii Mici 80.52 350 ⇓P **P 18 23 36.2 -0.6**
MILM Milestii Mici 80.52 350 *d* iP **P 18 23 36.0 -0.8**
MILM pmax pmax
comp=Z,200nm,1.4s
RETA Reutte 80.67 3 *i* P **P 18 23 38.9 +1.2**
comp=Z,24nm,0.8s,SNR=20
ARCR ARCALIA 80.76 353 ⇑P **P 18 23 39.4 +1.3**
LESA Schwarzleotal 80.77 1 *i* P **P 18 23 39.7 +1.4**
comp=Z,41nm,1.2s,SNR=23
BSZH Besenyszg 80.78 356 ⇓P **P 18 23 39.4 +1.2**
MESR Meseseni 80.79 354 ⇓P **P 18 23 39.9 +1.6**
MOTA Moosalm 80.83 2 *i* P **P 18 23 39.9 +1.3**
comp=Z,68nm,1.0s,SNR=33
WATA Walderalm 80.84 2 *i* P **P 18 23 40.1 +1.4**
comp=Z,68nm,1.1s,SNR=32
DAVA Damuels 80.85 3 *i* P **P 18 23 39.7 +1.0**
comp=Z,21nm,1.0s,SNR=8.5
BORR Bors 80.92 355 ⇑P **P 18 23 41.2 +2.3**
WTTA Wattenberg 80.92 2 *i* PcP **P 18 23 40.7 +1.6**
comp=Z,53nm,0.7s,SNR=33
SQTA Sankt Quirin 80.95 2 *i* P **P 18 23 40.8 +1.6**
comp=Z,72nm,0.8s,SNR=51
ARSA Arzberg 80.95 359 *i* PcP **P 18 23 41.0 +1.8**
comp=Z,57nm,1.1s,SNR=36
MAK Makhachkala 81.02 336 *e*P **P 18 23 37.7 -1.8**
MAK *e* 18 26 40.0
MAK *e*S **S 18 33 47.1 +0.2**
MAK pmax pmax
comp=Z,184nm,1.0s
KBA Koelnbreinsper 81.13 1 *i* PcP **P 18 23 42.3 +2.0**
comp=Z,117nm,1.0s
FETA Feichten 81.14 3 *i* PcP **P 18 23 41.9 +1.6**
comp=Z,49nm,0.9s,SNR=37
TESR Tescani 81.14 351 ⇓P **P 18 23 40.7 +0.6**
DRGR 81.16 354 ⇓P **P 18 23 41.1 +0.7**
DRGR 81.16 354 P **P 18 23 41.0 +0.7**
CJR Cluj-Napoca 81.18 354 ⇑P **P 18 23 41.9 +1.5**
CJR Cluj-Napoca 81.18 354 P **P 18 23 41.8 +1.5**
KVAR Kislovodsk Arr 81.19 340 LR LR 19 02 12.7
comp=Z,260nm,21.7s,baz=272,slow=38
KIV Kislovodsk 81.19 340 P **P 18 23 41.9 +1.4**
KIV Kislovodsk 81.19 340 P **P 18 23 42.3 +1.7**
KIV P **P 18 23 42.3 +1.7**
KIV Kislovodsk 81.19 340 ⇓P **P 18 23 42.4 +1.9**
KIV Kislovodsk 81.19 340 *e*P **P 18 23 41.9 +1.4**
KIV *e* 18 26 46.8
KIV *e*S **S 18 33 52.0 +3.1**
KIV pmax pmax
comp=Z,133nm,1.1s
KIV pmax pmax
comp=Z,54nm,3.0s
KIV MLR MLR
comp=Z,171nm,19.0s
KIV Kislovodsk 81.19 340 *i* P **P 18 23 42.2 +1.7**
SNR=36
MARR Marisel-Cluj 81.25 354 ⇓P **P 18 23 41.6 +0.7**
PCI Palu 81.29 257 P **P 18 23 39.9 -1.4**
comp=Z,2µmcomp=Z,56nm,1.0s
ONER Baraj Valea Uz 81.34 352 ⇓P **P 18 23 42.4 +1.2**
DAVOX Davos/Dischmat 81.35 3 P **P 18 23 42.9 +1.4**
comp=Z,22nm,0.6s,baz=342,slow=4.2,SNR=70
DAVOX LR LR 19 01 22.4
comp=Z,78nm,19.9s,baz=339,slow=37
comp=Z,22nm,0.6s
KBL Kabul 81.35 317 P **P 18 23 40.9 -0.8**
KBL Kabul 81.35 317 P **P 18 23 41.4 -0.3**
KBL P **P 18 23 41.4 -0.3**
KBL Kabul 81.35 317 P **P 18 23 40.9 -0.8**
KBL pmax pmax
comp=Z,66nm,0.9s
KBZ Khabaz 81.36 340 P **P 18 23 42.9 +1.6**
comp=Z,57nm,0.9s,baz=19,slow=1.8,SNR=85
KBZ LR LR 19 03 10.6
comp=Z,244nm,21.4s,baz=4.0,slow=38
comp=Z,57nm,0.9s
KBZ Khabaz 81.36 340 *ce*P **P 18 23 43.1 +1.8**
KBZ pmax pmax
comp=Z,65nm,0.9s
ANN Anapa 81.39 344 *d* iP **P 18 23 41.9 +0.5**
ANN *e*S **S 18 33 48.9 -1.8**
ANN *e*SS **SS 18 39 08.4 +2.9**
ANN pmax pmax
comp=Z,57nm,0.9s
SHA1 Shidzhatmaz 81.40 340 *d* iP **P 18 23 43.5 +1.6**
GCPR Guaynabo City 81.41 71 IAmb IAmb 18 23 43.4
comp=Z,21nm,0.8s
NCK Nalchik 81.43 339 *d* iP **P 18 23 43.2 +1.5**
NCK pmax pmax
comp=Z,266nm,1.1s
ABTA Abfaltersbach 81.45 1 *i* P **P 18 23 43.0 +1.2**
comp=Z,71nm,1.2s,SNR=34
GHRR 81.51 351 ⇓P **P 18 23 43.1 +1.0**
SOKA Soboth 81.53 360 *i* PcP **P 18 23 43.9 +1.6**
comp=Z,120nm,1.1s,SNR=117
MYKA Terra Mystica 81.58 1 *i* P **P 18 23 43.5 +0.9**
comp=Z,51nm,1.6s,SNR=18
OZUR 81.63 352 ⇑P **P 18 23 43.8 +1.0**
TUE Stuetta 81.64 4 IAmb IAmb 18 23 46.0
comp=Z,44nm,1.1s
TURR Turia 81.65 352 ⇓P **P 18 23 44.1 +1.2**
VLDR Vladesti 81.66 350 ⇓P **P 18 23 43.9 +1.1**
MDB Medias 81.69 353 ⇓P **P 18 23 44.1 +1.1**
MDB Medias 81.69 353 P **P 18 23 44.1 +1.1**
OBKA Obir 81.70 360 *i* PcP **P 18 23 44.6 +1.4**
comp=Z,69nm,0.7s,SNR=43
BEHE Becsehely 81.72 358 P **P 18 23 42.5 -0.7**
BEHE IAmb IAmb 18 23 46.3
comp=Z,58nm,1.4s
BEHE Becsehely 81.72 358 *e*P **P 18 23 44.2 +1.0**
SIRR Siria 81.75 355 ⇓P **P 18 23 44.6 +1.3**
KOGS Kog 81.75 359 *i* P **P 18 23 44.7 +1.4**
KOGS *i* 18 23 57.7
VRI Vrincioaia 81.77 351 ⇓P **P 18 23 44.3 +0.8**
VRI Vrincioaia 81.77 351 P **P 18 23 44.2 +0.8**
SIM Simferopol' 81.78 346 *e*P **P 18 23 44.3 +0.8**
SIM *e*S **S 18 33 57.1 +2.3**
SIM smax smax
comp=N,13nm,12.8s
DOPR Dopca 81.79 352 ⇓P **P 18 23 45.1 +1.5**
PLOR Plostina 81.79 351 ⇑P **P 18 23 43.8 +0.1**
PLOR Plostina 81.79 351 P **P 18 23 43.7 +0.1**
MORH Mrgy, Hungar 81.93 357 *e*P **P 18 23 44.7 +0.5**
MORH Mrgy, Hungar 81.93 357 ⇓P **P 18 23 45.3 +1.0**
DEV Deva 82.05 354 ⇓P **P 18 23 46.3 +1.4**
DEV Deva 82.05 354 P **P 18 23 46.3 +1.4**
SCHLR Schela 82.06 351 ⇑P **P 18 23 46.1 +1.2**
SOC Sochi 82.15 342 *e*P **P 18 23 44.2 -1.3**
SOC *e* 18 26 53.2
SOC *e*S **S 18 33 57.7 -0.9**
SOC *e*SS **SS 18 39 16.2 -0.6**
SOC pmax pmax
comp=Z,133nm,1.0s
SOC MLR MLR
comp=Z,188nm,21.0s
LJU Ljubljana 82.17 360 *i* P **P 18 23 46.4 +0.9**
VSLR Vesyoloye 82.21 341 *d* iP **P 18 23 47.3 +1.5**
VSLR pmax pmax
comp=Z,141nm,1.1s
MLR Muntele Rosu 82.21 352 IAmb IAmb 18 23 48.9
comp=Z,24nm,1.0s
MLR Muntele Rosu 82.21 352 P **P 18 23 46.5 +0.6**
comp=Z,17nm,0.9s,baz=336,slow=4.2,SNR=15
MLR LR LR 19 05 22.1
comp=Z,328nm,18.4s,baz=19,slow=39
comp=Z,17nm,0.9s
MLR Muntele Rosu 82.21 352 ⇓P **P 18 23 47.1 +1.2**
SABO M.te Sabotino 82.23 1 IAmb IAmb 18 23 47.1
comp=Z,25nm,0.9s
TLCR 82.23 350 ⇑P **P 18 23 46.8 +0.9**
TLCR 82.23 350 P **P 18 23 46.7 +0.9**
CFR Carcaliu 82.31 350 ⇓P **P 18 23 47.0 +0.7**
CFR Carcaliu 82.31 350 P **P 18 23 46.9 +0.7**
BZS Buzias 82.40 355 ⇓P **P 18 23 47.6 +0.8**
BZS Buzias 82.40 355 P **P 18 23 47.5 +0.8**
MTSU Mount Surprise 82.41 227 P **P 18 23 47.7 +0.7**
MTSU Mount Surprise 82.41 227 P **P 18 23 48.7 +1.6**
LOT Lotru 82.43 353 ⇑P **P 18 23 47.4 +0.3**
ARR Arges 82.44 353 ⇑P **P 18 23 48.1 +1.1**
GZR Gura Zlata 82.55 354 ⇓P **P 18 23 48.5 +0.8**
GZR Gura Zlata 82.55 354 P **P 18 23 48.4 +0.8**
SSB Saint Sauveur 82.56 7 IAmb IAmb 18 23 50.1

MOSL Moslavina 82.58 358 eP P 18 23 48.6 +0.9
OZLJ Ozalj 82.59 359 eP P 18 23 48.3 +0.6
TPGR Topolog 82.60 350 ⇓P P 18 23 48.1 +0.3
BOJS Bojanci 82.70 359 iP P 18 23 49.5 +1.2
HARR Harsova 82.82 350 ⇓P P 18 23 49.5 +0.6
HARR Harsova 82.82 350 P P 18 23 49.5 +0.6
TLBR Topalu 82.95 350 ⇓P P 18 23 50.7 +1.0
SULR 82.99 352 ⇓P P 18 23 49.8 0.0
TIRR Tirgusor 83.00 350 ⇓P P 18 23 50.5 +0.7
TIRR Tirgusor 83.00 350 P P 18 23 50.5 +0.7
HERR Herculane 83.08 354 ⇓P P 18 23 50.7 +0.4
LEHL Lehliu 83.14 351 ⇑P P 18 23 51.2 +0.6
CVDA Cernavoda 83.16 350 ⇓P P 18 23 51.7 +1.0
A051A Mrakovica 83.17 358 eP P 18 23 51.5 +0.6
TRLG Trialeti 83.18 338 P P 18 23 52.7 +1.6
MDVR Moldovita 83.22 355 ⇓P P 18 23 51.5 +0.4
HUMR Humele 83.25 352 ⇑P P 18 23 51.3 +0.1
SBUM Sibu 83.28 265 IAmb IAmb 18 23 53.4
comp=Z,13nm,1.0s
SBUM Sibu 83.28 265 P P 18 23 52.5 +0.8
BRJN Brijuni 83.30 0 eP P 18 23 48.9 -2.5
ICOR Ion Corvin 83.40 350 ⇓P P 18 23 52.8 +0.9
BLY Banja Luka 83.43 358 eP P 18 23 52.6 +0.5
BLY Banja Luka 83.43 358 ⇓P P 18 23 53.4 +1.2
SGRR Singureni 83.47 352 ⇓P P 18 23 52.5 +0.2
KDU Kakadu 83.64 240 P P 18 23 54.8 +1.4
A050A Klekovaca 83.71 355 eP P 18 23 53.9 +0.2
RAZG Razgrad 84.07 351 ⇑P P 18 23 55.8 +0.4
KIJV Kijevo 84.19 359 eP P 18 23 54.2 -1.8
PGAV Gavieira, Arco 84.20 17 eP P 18 23 57.1 +0.9
PGAV i IAmb IAmb 18 23 58.7
comp=Z,44nm,1.4s
PGAV ePP PP 18 27 19.0 +9.2
PGAV eS S 18 34 32.0 +12
PGAV eLR LR 18 57 01.3
PGAV i IAMs_20 IAMs_20 19 01 43.3
comp=Z,165nm,20.0s
VALD Valchedram 84.20 353 iP P 18 23 56.6 +0.6
LOZB Loznitsa 84.26 351 ⇓P P 18 23 56.8 +0.4
NEF NEVSHA 84.30 351 iP P 18 23 57.7 +1.1
GNI Garni 84.35 337 P P 18 23 56.7 -0.4
GNI Garni 84.35 337 P P 18 23 58.5 +1.4
comp=Z,31nm,0.9s,baz=90,slow=1.5,SNR=12
GNI LR LR 19 07 51.7
comp=Z,246nm,19.1s,baz=22,slow=40
comp=Z,31nm,0.9s
GNI Garni 84.35 337 P P 18 23 59.1 +2.0
GNI P P 18 23 59.1 +2.0
GNI Garni 84.35 337 ceP P 18 23 59.0 +1.9
GNI pmax pmax
comp=Z,30nm,0.9s
GNI Garni 84.35 337 P P 18 23 59.3 +2.2
BOVS Bovan 84.37 355 ⇓P P 18 23 57.1 +0.2
PLVB Pleven 84.41 353 ⇑P P 18 23 58.1 +1.0
MTN Manton Dam 84.49 241 P P 18 23 58.0 +0.2
PCAB Cabril 84.49 17 eP P 18 23 58.9 +1.3
PCAB i IAmb IAmb 18 23 59.9
comp=Z,28nm,1.5s
RUDO Rudo 84.50 356 eP P 18 23 57.1 -0.5
MPEP Malo Peshtene 84.51 353 iP P 18 23 55.2 -2.5
KAPI Kappang 84.61 255 P P 18 23 57.8 -0.7
PBRG Braganca 84.62 16 eP P 18 23 59.0 +0.7
PBRG i IAmb IAmb 18 24 12.6
comp=Z,23nm,1.4s
ELND Elena 84.76 352 ⇓P P 18 23 59.1 +0.2
POLO Lamas de Olo 84.86 17 eP P 18 23 59.9 +0.3
POLO i IAmb IAmb 18 24 01.9
comp=Z,14nm,1.5s
PVRL Vila Real 84.97 17 eP P 18 24 01.1 +1.1
PVRL i IAmb IAmb 18 24 03.2
comp=Z,27nm,1.7s
JMB Yambol 85.14 351 iP P 18 24 01.3 +0.5
MVO Moncorvo 85.20 16 eP P 18 24 01.5 +0.2
MVO i IAmb IAmb 18 24 03.3
comp=Z,22nm,1.4s
MVO ePP PP 18 27 19.6 +1.8
MVO eS S 18 34 42.6 +13
MVO eLR LR 18 56 49.9
MVO i IAMs_20 IAMs_20 19 02 29.8
comp=Z,198nm,20.0s
VTS Vitosha 85.28 353 iP P 18 24 03.3 +1.6
STON Ston 85.30 358 eP P 18 23 55.6 -6.0
PGB Panagyurishte 85.32 353 iP P 18 24 01.4 -0.4
PLNA Plana 85.41 353 iP P 18 24 03.2 +0.9
TREB Trebinje 85.43 357 eP P 18 24 02.5 +0.2
PVIS Viseu 85.48 17 eP P 18 24 03.4 +0.7
CESX Cesi 85.59 1 P P 18 24 01.9 -1.1
PLD Plovdiv 85.64 352 iP P 18 24 04.3 +1.0
PDG Podgorica 85.69 356 ⇑P P 18 24 03.7 +0.2
COI Coimbra 85.88 17 IAmb IAmb 18 24 05.8
comp=Z,16nm,0.8s
PHSR Pinarhisar 85.89 350 ⇑P P 18 24 05.4 +0.8
PCAS Casmilo, Conde 86.02 17 eP P 18 24 05.6 +0.3
PCAS i IAmb IAmb 18 24 09.9
comp=Z,25nm,1.7s
SKO Skopje 86.04 355 iP P 18 24 06.4 +1.1
KKB Krupnik 86.06 353 iP P 18 24 11.1 +5.6
SDV Santo Domingo 86.08 81 LR LR 19 02 18.2
comp=Z,115nm,21.4s,baz=283,slow=36
RZN Rozhen 86.09 352 iP P 18 24 06.8 +1.0
KDZ Kurdzhali 86.10 352 iP P 18 24 06.6 +1.0
SRIT Nakonsritamara 86.22 279 P P 18 24 07.6 +1.0
SAHE Sakarya_HENDEK 86.26 348 ⇓P P 18 24 07.4 +1.0
MMB Musomishta 86.31 353 iP P 18 24 11.1 +4.4
PCBR Castelo Branco 86.41 17 eP P 18 24 07.4 +0.3
PCBR i IAmb IAmb 18 24 24.8
comp=Z,14nm,1.9s
PSARD Sardoal 86.52 17 eP P 18 24 07.8 +0.1
PSARD i IAmb IAmb 18 24 09.1
comp=Z,27nm,1.0s
VAY Valandovo 86.62 354 iP P 18 24 09.4 +1.2
QIS Mount Isa 86.70 230 P P 18 24 07.9 -0.8
PMRV Marv??o 86.82 17 eP P 18 24 08.9 -0.3
PMRV i IAmb IAmb 18 24 10.7
comp=Z,20nm,1.1s
PMRV eS S 18 34 55.7 +10
PMRV eLR LR 18 56 58.9
PMRV i IAMs_20 IAMs_20 19 01 25.1
comp=Z,127nm,20.0s
RUSC La Rusia 86.93 84 IAmb IAmb 18 24 11.6
comp=Z,31nm,1.2s
PMAFR Mafra 86.93 18 eP P 18 24 09.9 +0.2
PMAFR i IAmb IAmb 18 24 11.4
comp=Z,100nm,1.1s
OHR Ohrid 86.93 355 iP P 18 24 11.1 +1.4
ANTO Ankara 86.95 346 P P 18 24 10.4 +0.5
ANTO Ankara 86.95 346 P P 18 24 11.2 +1.3
ANTO Ankara 86.95 346 ⇓P P 18 24 11.0 +1.0
ANTO Ankara 86.95 346 P P 18 24 10.5 +0.5
ANTO pmax pmax
comp=Z,96nm,1.1s
BR131 Keskin Array S 86.96 345 diP P 18 24 11.1 +1.0
BRTR Keskin Array B 86.96 345 P P 18 24 10.5 +0.4
BRTR Keskin Array B 86.96 345 P P 18 24 11.2 +1.1
comp=Z,33nm,0.9s,baz=54,slow=2.1,SNR=122
BRTR LR LR 19 09 59.7
comp=Z,100nm,18.0s,baz=322,slow=40
comp=Z,33nm,0.9s
BRTR Keskin Array B 86.96 345 iP P 18 24 11.1 +1.0
BRTR pmax pmax
comp=Z,33nm,0.9s
PMTG Montargil 87.02 17 eP P 18 24 09.8 -0.3
BAND Balkesir-Ban 87.09 350 ⇑P P 18 24 11.1 +0.7
PARRA Arraiolos 87.11 18 eP P 18 24 11.5 +0.9
ESBB Sonseca Array 87.14 14 IAmb IAmb 18 24 12.3
comp=Z,18nm,1.1s
ESDC Sonseca Array 87.14 14 P P 18 24 10.8 0.0
ESDC IAmb IAmb 18 24 12.3
comp=Z,16nm,1.1s
ESDC Sonseca Array 87.14 14 P P 18 24 11.0 +0.2
comp=Z,10nm,1.0s,baz=343,slow=4.7,SNR=71
ESDC PP PP 18 27 35.5 +1.9
comp=Z,3.2nm,1.1s,baz=351,slow=8.7,SNR=6.9
ESDC PKKPbc PKKPbc 18 41 59.1 -1.0
comp=Z,0.8nm,1.0s,baz=270,slow=1.3,SNR=6.4
ESDC PKPPKP P'P'df 18 50 07.7 -7.8
comp=Z,0.4nm,0.9s,baz=154,slow=2.9,SNR=4.3
comp=Z,10nm,1.0s
PAB San Pablo 87.21 14 P P 18 24 10.7 -0.5
PAB San Pablo 87.21 14 P P 18 24 10.7 -0.5
PAB pmax pmax
comp=Z,12nm,1.2s

PESTR Estremoz 87.33 17 eP P 18 24 11.4 -0.3
PESTR i IAmb IAmb 18 24 12.9
comp=Z,23nm,1.1s
KIRS Kirsehir-Merke 87.50 345 ⇓P P 18 24 13.8 +1.2
EVO Evora 87.58 17 eP P 18 24 13.0 +0.1
EVO i IAmb IAmb 18 24 14.2
comp=Z,18nm,1.2s
EZN Ezine 87.80 351 ⇑P P 18 24 14.5 +0.6
EZN Ezine 87.80 351 P P 18 24 14.5 +0.6
OTAV Otavalo 88.05 92 P P 18 24 16.5 +0.5
OTAV Otavalo 88.05 92 P P 18 24 16.5 +0.5
OTAV pmax pmax
comp=Z,5.0nm,0.9s
OTAV Otavalo 88.05 92 eP P 18 24 17.2 +1.2
PBEJ Beja 88.10 17 eP P 18 24 15.8 +0.4
PBAR Barrancos 88.10 17 eP P 18 24 15.2 -0.2
PBAR i IAmb IAmb 18 24 16.8
comp=Z,33nm,1.2s
KULM Kulim 88.17 276 P P 18 24 16.7 +0.7
MESJ Messejana 88.21 18 eP P 18 24 15.7 -0.2
MESJ IAMs_20 IAMs_20 19 09 37.3
comp=Z,193nm,15.9s
MESJ Messejana 88.21 18 eP P 18 24 15.7 -0.2
PTEO Sao Teotonio 88.40 18 eP P 18 24 17.1 +0.3
PCVE Castro Verde 88.45 18 eP P 18 24 17.3 +0.2
MORF Marmelete 88.65 18 eP P 18 24 18.4 +0.3
WR8 Warramunga Arr 88.67 235 IAmb IAmb 18 24 18.3
comp=Z,22nm,1.1s
PCRV Puerto La Cruz 88.68 75 LR LR 19 03 02.0
comp=Z,167nm,20.8s,slow=35
FLOC Florencia 88.72 89 IAmb IAmb 18 24 20.0
comp=Z,15nm,0.9s
WRAB Tennant Creek 88.73 235 P P 18 24 17.4 -1.0
WRAB Tennant Creek 88.73 235 P P 18 24 17.4 -1.0
WRAB pmax pmax
comp=Z,27nm,1.1s
PVAQ Vaqueiros 88.73 17 eP P 18 24 18.6 +0.3
PVAQ i IAmb IAmb 18 24 20.1
comp=Z,25nm,1.7s
PVAQ ePP PP 18 27 54.1 +7.8
PVAQ eS S 18 35 11.8 +8.1
PVAQ eLR LR 18 55 09.1
PVAQ i IAMs_20 IAMs_20 19 09 48.7
comp=Z,123nm,16.0s
WRA Warramunga Arr 88.74 235 P P 18 24 17.2 -1.3
WRA Warramunga Arr 88.74 235 P P 18 24 17.6 -0.9
comp=Z,13nm,0.9s,baz=40,slow=5.2,SNR=57
WRA PP PP 18 27 52.8 +4.9
comp=Z,1.5nm,0.8s,baz=39,slow=8.7,SNR=4.7
comp=Z,13nm,0.9s
WRA Warramunga Arr 88.74 235 iP P 18 24 17.6 -0.9
WRA pmax pmax
comp=Z,15nm,1.0s
MYKOM Kota Tinggi 88.94 272 P P 18 24 20.5 +0.8
TIP Timpagrande 89.00 358 ⇓P P 18 24 20.4 +0.7
QLP Quilpie 89.85 223 P P 18 24 24.6 +1.1
VAE Valguarrera 90.72 0 LR LR 19 09 49.8
comp=Z,158nm,18.5s,baz=251,slow=39
PMOZ Porto Moniz, M 90.95 26 eLR LR 19 04 49.7
PMOZ i IAMs_20 IAMs_20 19 06 09.9
comp=Z,125nm,18.0s
TOZ Tahuroa Road 91.04 195 P P 18 24 28.9 +0.2
PMAR Madeira 91.12 26 eP P 18 24 31.6 +1.7
PMAR i IAmb IAmb 18 24 35.5
comp=Z,55nm,1.6s
PSI Prapat 91.18 276 P P 18 24 31.1 +0.8
URZ Urewera 91.31 194 LR LR 18 59 19.1
comp=Z,161nm,19.0s,baz=16,slow=32
ASAR Alice Springs 92.09 233 P P 18 24 33.4 -0.6
ASAR Alice Springs 92.09 233 P P 18 24 32.9 -1.1
comp=Z,16nm,0.8s,baz=38,slow=5.2,SNR=112
ASAR PKKP PKKPbc 18 41 49.9 +1.2
comp=Z,0.6nm,0.9s,baz=211,slow=1.7,SNR=7.3
ASAR LR LR 19 02 25.9
comp=Z,147nm,21.7s,baz=35,slow=33
comp=Z,16nm,0.8s
ASAR Alice Springs 92.09 233 P P 18 24 33.4 -0.6
KEST Kesra 92.36 4 IAmb IAmb 18 24 44.2
comp=Z,12nm,1.0s
KEST Kesra 92.36 4 P P 18 24 35.0 -0.4
comp=Z,4.2nm,0.9s,baz=18,slow=7.7,SNR=4.4
comp=Z,4.2nm,0.9s
KEST Kesra 92.36 4 P P 18 24 34.5 -0.9
IDI Anoyia 92.43 351 LR LR 19 09 32.5
comp=Z,105nm,19.9s,baz=323,slow=38
SDSI Sungai Dareh 92.57 272 P P 18 24 35.7 -0.8
comp=Z,30nm,1.1s
GSI Gunungsitoli 93.18 276 IAmb IAmb 18 24 40.2
comp=Z,18nm,1.0s
MMAI Mount Meron Ar 93.20 342 P P 18 24 40.1 +0.8
comp=Z,19nm,0.9s,baz=336,slow=3.0,SNR=18
MMAI LR LR 19 15 44.8
comp=Z,69nm,18.1s,baz=12,slow=41
comp=Z,19nm,0.9s
JASK Jask - Hormozg 93.50 322 P P 18 24 39.9 -0.8
CMSA Cobar Meteorol 93.62 220 P P 18 24 42.7 +1.9
ASF Jabal al Asfar 93.73 341 P P 18 24 42.6 +0.8
comp=Z,16nm,0.9s,baz=79,slow=0.6,SNR=20
ASF LR LR 19 13 02.9
comp=Z,68nm,19.5s,baz=36,slow=39
comp=Z,16nm,0.9s
MDT Midelt 93.75 16 LR LR 19 08 03.4
comp=Z,60nm,21.0s,baz=42,slow=36
SHME Shamm 93.98 323 P P 18 24 42.2 -0.7
MSFE Esma-Masafi 94.60 323 P P 18 24 44.6 -1.2
UOSS Minazif 94.96 323 P P 18 24 45.8 -1.6
UOSS Minazif 94.96 323 P P 18 24 46.0 -1.5
HATD Hatta, Dubai 95.09 323 P P 18 24 47.3 -0.8
HATD P P 18 24 47.3 -0.8
HATD Hatta, Dubai 95.09 323 P P 18 24 47.2 -0.8
NAZ Nazwa, Dubai 95.12 323 P P 18 24 47.5 -0.6
NAZ P P 18 24 47.5 -0.6
NAZ Nazwa, Dubai 95.12 323 P P 18 24 47.8 -0.4
ASHO Ashiyiah 95.25 323 P P 18 24 46.4 -2.4
ASHO P P 18 24 46.4 -2.4
ASHO Ashiyiah 95.25 323 P P 18 24 48.4 -0.4
FAQ Al Faqa, Dubai 95.37 323 P P 18 24 48.6 -0.7
SOHO SOHO 95.57 322 P P 18 24 48.4 -1.8
SOHO P P 18 24 48.4 -1.8
ASUD Al Ashush, Dub 95.57 323 P P 18 24 49.5 -0.7
ASUD P P 18 24 49.5 -0.7
ASUD Al Ashush, Dub 95.57 323 iP P 18 24 50.2 0.0
SNR=6.6
STKA Stephens Creek 95.59 223 P P 18 24 49.5 -0.4
comp=Z,2.7nm,0.7s,baz=337,slow=12,SNR=4.2
STKA LR LR 19 03 35.2
comp=Z,173nm,19.1s,baz=23,slow=33
comp=Z,2.7nm,0.7s
HOQ Hoqain 95.77 321 P P 18 24 50.4 -0.8
ALNE Al Ain 95.94 323 P P 18 24 51.4 -0.5
SNR=5.5
ALNE Al Ain 95.94 323 P P 18 24 51.2 -0.7
SMDO Samad 95.95 320 P P 18 24 51.6 -0.6
SMDO P P 18 24 51.6 -0.6
JLN Jalan Bani Buh 96.22 319 P P 18 24 53.5 +0.3
ARQ Araqi 96.30 322 P P 18 24 53.1 -0.5
SNR=10
ARQ P P 18 24 53.1 -0.5
SNR=10
SMRA Abu-Samra 97.05 327 P P 18 24 55.8 -1.1
MZR Muzera 97.73 324 P Pdif 18 24 59.9 -0.2
MZR P Pdif 18 24 59.9 -0.2
MZR Muzera 97.73 324 iP Pdif 18 24 60.0 -0.1
SNR=10
MHTO MHTO 97.85 319 P P 18 25 00.1 -0.5
PALK Pallekele 98.43 293 LR LR 19 12 29.6
comp=Z,116nm,21.6s,baz=20,slow=37
PALK Pallekele 98.43 293 P P 18 25 03.2 -0.1
MDP Montagnes des 99.77 69 LR LR 19 07 23.4
comp=Z,137nm,21.6s,baz=358,slow=34
RAYN Ar Rayn 99.87 331 P Pdif 18 25 09.8 +0.1
RAYN Ar Rayn 99.87 331 iP Pdif 18 25 10.1 +0.5
SNR=9.5
TORD Torodi Ar. Bea 114.03 14 PKP PKiKP 18 30 03.4 -0.8
comp=Z,1.6nm,0.3s,baz=335,slow=6.6,SNR=3.9
BDFB Brasilia 119.06 78 PKP PKPdf 18 30 12.7 -1.1
comp=Z,1.7nm,0.4s,baz=227,slow=2.4,SNR=3.8
DBIC Dimbokro 119.12 22 PKP PKPdf 18 30 13.2 -0.8
comp=Z,7.3nm,0.8s,baz=23,slow=3.0,SNR=5.3
LODK Lodwar 121.83 335 PKPdf 18 30 17.6 -1.7
PLCA Paso Flores 123.59 115 PKPdf 18 30 21.7 -0.1
PLCA Paso Flores 123.59 115 PKP PKPdf 18 30 21.4 -0.4
comp=Z,9.1nm,1.0s,baz=314,slow=2.8,SNR=14
PLCA Paso Flores 123.59 115 PKIKP PKPdf 18 30 21.7 -0.1
EDA Edea 124.15 5 PKPdf 18 30 22.0 -1.7

TRQA Tornquist 126.73 107 PKPdf 18 30 27.2 -0.6
TRQA Tornquist 126.73 107 PKIKP PKPdf 18 30 27.2 -0.6
PLTB Pedras Altas 127.52 95 eP PKiKP 18 30 30.9 +0.8
SBA Scott Base 130.87 187 PKPdf 18 30 34.6 +0.1
SBA Scott Base 130.87 187 PKIKP PKPdf 18 30 34.6 +0.1
VNDA Vanda 131.00 189 PKP PKPdf 18 30 34.8 +0.1
comp=Z,3.2nm,1.2s,baz=308,slow=5.0,SNR=5.5
VNDA SKPbc SKPbc 18 33 57.4 +0.1
comp=Z,6.3nm,1.2s,baz=1.7,slow=4.0,SNR=8.8
LSZ Lusaka 141.59 338 PKPpre 18 30 49.2
LSZ Lusaka 141.59 338 PKHKP PKPpre 18 30 49.2
QSPA South Pole Qui 141.94 180 PKhKP PKPpre 18 30 49.4
comp=Z,12nm,0.8s,baz=229,slow=0.8,SNR=29
QSPA SKPbc SKPbc 18 34 29.5 -1.4
comp=Z,6.1nm,1.0s,baz=10,slow=3.8,SNR=3.0
ESPZ Base Esperanza 142.36 136 PKPdf 18 30 55.7 -0.4
KSANE Kasane 144.67 342 PKPab 18 31 00.1 -0.3
TSUM Tsumeb 147.01 354 PKPdf 18 31 04.3 -1.4
MREMI Moremi 148.79 336 iP PKPbc 18 31 13.1 +0.7
GRTLG Ghanzi 148.80 348 iP PKiKP 18 31 13.6 -0.3
LPHEP Lephephe 149.93 339 iP PKiKP 18 31 15.8 -0.3
HOPE Hope Point 149.99 115 PKPbc 18 31 13.3 -0.9
HOPE Hope Point 149.99 115 PKIKP PKPbc 18 31 13.3 -0.9
KGCAE Kacgae 150.12 345 iP PKiKP 18 31 16.9 +0.3
KDWAN Kaudwane 150.20 341 iP PKiKP 18 31 16.9 +0.2
KOOLE Kule 150.53 349 iP PKiKP 18 31 17.6 +0.2
SKOMA Sekoma 151.45 342 iP PKiKP 18 31 19.4 +0.2
MAW Mawson 152.15 218 PKPbc PKPbc 18 31 18.8 0.0
comp=Z,52nm,0.9s,baz=77,slow=0.8,SNR=52
BOSA Boshof 155.12 337 PKP PKPdf 18 31 16.8 -1.0
comp=Z,7.5nm,0.9s,baz=67,slow=1.1,SNR=8.9
BOSA PKPab PKPab 18 31 39.3 -3.2
comp=Z,6.7nm,0.9s,baz=1.8,slow=2.4,SNR=8.9
VNA3 Neumayer Olymp 158.03 159 ⇑P PKPdf 18 31 17.9 -2.2
comp=Z,10nm,0.8s
VNA1 Neumayer-Stat 158.78 159 ⇑P PKPdf 18 31 18.8 -2.2
comp=Z,8.8nm,1.0s
VNA1 ⇑PKPab PKPab 18 31 57.2 +0.2
comp=Z,13nm,1.0s
SNAA Sanae 158.98 165 ⇑P PKPdf 18 31 20.4 -1.0
comp=Z,91nm,0.9s
SNAA Sanae 158.98 165 PKPdf 18 31 19.5 -1.8
SNAA Sanae 158.98 165 PKP PKPdf 18 31 19.7 -1.6
comp=Z,4.1nm,0.9s,baz=286,slow=5.5,SNR=4.2
SNAA Sanae 158.98 165 PKIKP PKPdf 18 31 19.5 -1.8
GRHM Grahamstown, E 159.22 331 PKPab 18 31 59.8 -0.2
SYO Syowa Base 159.35 206 ⇑iPKPdf PKPdf 18 31 20.7 -1.0
SYO Syowa Base 159.35 206 ⇑ePKPab PKPab 18 32 02.6 +3.1
SYO Syowa Base 159.35 206 ⇑ipPKPab pPKPab 18 32 09.1 +3.6
TROLL Troll, Antarti 159.41 170 ⇑PKPab PKPab 18 32 00.2 +0.3
TROLL Troll, Antarti 159.41 170 ⇑P PKPdf 18 31 20.7 -1.2
comp=Z,306nm,1.0s

DJA 03 18:13:32.8±0.9, 9°S±5°×10°9E±°, h12km±7km, M3.6/11, mB5.6/1, MLv3.6/11, Mw(mB)5.2/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	Wanagama	2.01	53	P	Pn	18 14 05.4	-1.3
UGM				S	Sn	18 14 32.3	+0.5
PCJI	Pacitan	2.43	67	P	Pn	18 14 12.2	-0.2
PCJI				S	Sn	18 14 42.7	+0.6
CNJI	Cibinong	2.54	316	P	Pn	18 14 12.5	-1.4
CNJI				S	Sn	18 14 45.2	+0.5
SMRI	Semarang	2.58	36	P	Pn	18 14 14.9	+0.5
SMRI				S	Sn	18 14 46.3	+0.5
LEM	Lembang	2.64	331	P	Pn	18 14 16.9	+1.5
NGJI	Ngawi	3.08	55	P	Pn	18 14 22.4	+1.0
NGJI				S	Sn	18 14 59.0	+0.8
GMJI	Gumukmas	4.57	79	P	Pn	18 14 42.5	+0.8
JAGI	Jajag, Banyuwa	5.22	83	P	Pn	18 14 50.7	-0.1

*AFAD **03** 18:14:55.0, 34°.69N×27°.66E, h34km, MW3.9*
*THE **03** 18:14:57.4, 35°N±10°×2°8E±1°, h15km, M3.4/7, MLh3.4/7*
*NIC **03** 18:14:57.7, 34°.96N×27°.66E, h32km±32km, Ml3.5/11*
*ISK **03** 18:14:58.4, 35°.20N×27°.89E, h8km, ML3.5/29*
*HLW **03** 18:14:58.7, 35°.12N×27°.97E, h7km±5km, Ml3.5*
*ATH **03** 18:14:58.9, 35°.18N×27°.86E, h6km±2km, ML3.4/7, Manual Solution by F.Xalaris First location: 2019/08/03 18:16:24, This location: 2021/06/28 11:11:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*GII **03** 18:14:59.1±0.0, 34°.919N±0°.002×27°.956E±0°.001, h10km, Mws3.8, confirmed*
*IDC **03** 18:15:02.4±1.1, 35°.09N×28°.05E, h70km±15km, mb3.5/6, mbtmp3.7/14, MS2.7/2, Error ellipse: s-maj=16.0km s-min=8.4km az=11.0*

ISC 03 18:14:57.3±1.3, 35°.08N±0°.03×27°.89E±0°.02, h7km±9km, n151, σ1°33/185, mb3.7/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.76	309	Pg	Pg	18 15 11.6	-0.3
KARP				Sg	Sg	18 15 21.9	+0.1
KARP	Karpathos	0.76	309	P	Pg	18 15 11.3	-0.6
KARP				S	Sg	18 15 21.5	-0.3
KARP				AML	AML	18 15 25.0	
	5.6nm,0.4s						
KARP				AML	AML	18 15 36.9	
	7.8nm,0.7s						
KARP	Karpathos	0.76	309	P	Pg	18 15 11.2	-0.7
KARP				S	Sg	18 15 20.8	-0.9
RGE1	Gennadi, Rhode	0.95	2	P	Pg	18 15 15.1	-0.4
ARG	Arkhangelos	1.16	10	Pg	Pg	18 15 18.9	-0.6
ARG				Sg	Sg	18 15 33.7	-0.8
ARG	Arkhangelos	1.16	10	P	Pg	18 15 18.8	-0.6
ARG				S	Sn	18 15 36.7	+0.8
ARG	Arkhangelos	1.16	10	P	Pg	18 15 19.0	-0.6
ARG				S	Sn	18 15 36.6	+0.7
ARG				AML	AML	18 15 46.7	
	3.7nm,1.0s						
ARG				AML	AML	18 15 47.2	
	2.6nm,0.5s						
ARG	Arkhangelos	1.16	10	P	Pg	18 15 19.2	-0.2
ARG				S	Sg	18 15 32.8	-1.7
ZKR	Zakros	1.37	272	Pn	Pn	18 15 24.8	+2.0
ZKR				Sn	Sn	18 15 43.5	+2.3
ZKR	Zakros	1.37	272	P	Pn	18 15 24.4	+1.5
ZKR	Zakros	1.37	272	P	Pn	18 15 23.7	+0.9
ZKR				S	Sn	18 15 41.9	+0.7
YAZI	Mula-Dat§a-	1.64	348	P	Pn	18 15 26.6	+0.1
YAZI				S	Sn	18 15 48.3	+0.4
YAZI				*i* IAML		18 15 55.0	
	comp=E,282nm,1.2s						
YAZI				*i* IAML		18 16 01.0	
	comp=N,226nm,0.8s						
NISR	Nisiros	1.65	338	S	Sg	18 15 50.9	+0.5
NISR	Nisiros	1.65	338	P	Pn	18 15 26.6	-0.1
NISR				S	Sn	18 15 47.2	-0.9
DAT	Datca	1.67	351	Pn	Pn	18 15 27.2	+0.2
DAT				Sn	Sn	18 15 47.9	-0.9
DAT	Datca	1.67	351	P	Pn	18 15 27.3	+0.2
TURN	Turunc	1.72	10	Pn	Pn	18 15 27.8	+0.2
TURN				Sn	Sn	18 15 49.1	-0.7
TURN	Turunc	1.72	10	P	Pb	18 15 29.1	-0.1
TURN				S	Sg	18 15 53.7	+1.1
TURN				*i* IAML		18 16 00.0	
	comp=N,299nm,0.9s						
TURN				*i* IAML		18 16 10.0	
	comp=E,300nm,0.8s						
IZZE	Mula-Seydike	1.74	38	P	Pn	18 15 28.4	+0.5
IZZE				S	Sg	18 15 52.6	-0.6
IZZE				*i* IAML		18 15 58.0	
	comp=N,283nm,0.4s						
IZZE				*i* IAML		18 16 09.0	
	comp=E,267nm,0.5s						
KSL	Kastellorizon	1.75	52	P	Pb	18 15 29.3	-0.4
KSL				S	Sg	18 15 53.3	-0.2
KSL				AML	AML	18 16 20.8	
	1.0nm,1.2s						
KSL				AML	AML	18 16 34.0	
	0.5nm,1.3s						
KSL	Kastellorizon	1.75	52	P	Pb	18 15 29.3	-0.4
NPS	Neapolis	1.88	276	P	Pn	18 15 32.3	+2.5
NPS	Neapolis	1.88	276	P	Pn	18 15 31.8	+2.0
SABU	Mula-Dalaman	1.95	26	P	Pn	18 15 30.5	-0.3
SABU				*i* IAML		18 16 24.0	
	comp=E,223nm,1.1s						

SABU *i* IAML 18 16 25.0
comp=N,205nm,0.9s
BDRM Kayabasi 2.02 350 P **Pn** **18 15 32.0 +0.3**
BDRM S **Sb** **18 15 59.5 -0.1**
BDRM *i* IAML 18 16 09.0
comp=E,244nm,0.9s
YKAV Yalıkavak-Bodr 2.10 347 Pn **Pn** **18 15 33.3 +0.4**
CAME Cameli-Denizli 2.19 31 Pn **Pn** **18 15 34.6 +0.4**
MULA Mugla, Merkez- 2.21 9 P **Pb** **18 15 36.7 -0.9**
MULA *i* IAML 18 16 24.0
comp=N,120nm,0.8s
MULA *i* IAML 18 16 34.0
comp=E,148nm,1.5s
KNIK Mula-Seydike 2.23 37 P **Pn** **18 15 35.4 +0.6**
KNIK S **Sg** **18 16 10.9 +1.9**
KNIK *i* IAML 18 16 37.0
comp=E,77nm,1.0s
KNIK *i* IAML 18 16 47.0
comp=N,84nm,1.2s
THERA Ancient Thera, 2.35 304 P **Pn** **18 15 37.2 +0.9**
DNZT Denizli-Tavas- 2.38 22 P **Pn** **18 15 38.0 +1.2**
DNZT *i* IAML 18 16 37.0
comp=E,128nm,1.7s
DNZT *i* IAML 18 16 45.0
comp=N,105nm,1.1s
THR6 Thira Island, 2.40 303 P **Pn** **18 15 38.3 +1.4**
THR6 Thira Island, 2.40 303 P **Pn** **18 15 37.6 +0.7**
THR3 Thira Island, 2.42 304 P **Pn** **18 15 38.2 +1.0**
SNT5 Nea Kammeni, S 2.42 304 P **Pn** **18 15 37.8 +0.5**
IDI Anoyia 2.47 276 Pn **Pn** **18 15 40.1 +2.2**
IDI Anoyia 2.47 276 P **Pn** **18 15 40.0 +2.0**
IDI Anoyia 2.47 276 P **Pn** **18 15 41.3 +3.3**
30nm,0.4s,baz=96,slow=14,SNR=43
IDI S **Sb** **18 16 13.6 +1.0**
62nm,0.6s,baz=65,slow=22,SNR=4.2
IDI Anoyia 2.47 276 P **Pn** **18 15 39.6 +1.6**
TAVA DENİZLİ_Tavas 2.52 19 P **Pn** **18 15 39.9 +1.1**
TAVA S **Sb** **18 16 15.7 +1.4**
TAVA *i* IAML 18 16 32.0
comp=N,164nm,0.8s
TAVA *i* IAML 18 16 46.0
comp=E,139nm,1.3s
AYDN Tasoluk 2.58 360 P **Pn** **18 15 39.6 +0.1**
AYDN *i* IAML 18 16 34.0
comp=E,171nm,0.6s
AYDN *i* IAML 18 16 35.0
comp=N,124nm,1.1s
APMY Acipayam-Deniz 2.65 25 Pn **Pn** **18 15 41.2 +0.7**
GCAM G?zelcaml? 2.67 349 Pn **Pn** **18 15 41.3 +0.6**
DNIZ Denizli-Tavas- 2.71 20 P **Pn** **18 15 41.8 +0.5**
DNIZ S **Sb** **18 16 21.2 +1.6**
DNIZ *i* IAML 18 16 34.0
comp=E,235nm,0.9s
DNIZ *i* IAML 18 16 42.0
comp=N,224nm,0.8s
ESEN Aydn-Nazilli 2.74 8 P **Pn** **18 15 42.6 +0.9**
ESEN *i* IAML 18 16 27.0
comp=E,99nm,0.7s
ESEN *i* IAML 18 16 40.0
comp=N,78nm,0.8s
SMG Samos 2.76 342 P **Pn** **18 15 42.4 +0.4**
SMG Samos 2.76 342 P **Pn** **18 15 42.0 +0.1**
AYDB Zeytinkoy-Aydi 2.87 0 Pn **Pn** **18 15 44.0 +0.5**
NAZL Nazilli-Aydin 2.90 6 Pn **Pn** **18 15 44.7 +0.8**
KIRA zmir-Kiraz 3.14 7 P **Pn** **18 15 47.8 +0.5**
KIRA *i* IAML 18 16 52.0
comp=E,59nm,1.5s
KIRA *i* IAML 18 16 56.0
comp=N,74nm,1.2s
ODEM Odemis-Izmir 3.20 3 Pn **Pn** **18 15 48.7 +0.7**
BASM Basmaki-Afyon 3.33 31 Pn **Pn** **18 15 50.8 +1.0**
URLA Izmir 3.44 343 Pn **Pn** **18 15 52.4 +1.1**
KNDR Palaiochora Ch 3.45 274 Pn **Pn** **18 15 54.6 +3.2**
KULA Kula-Manisa 3.49 10 Pn **Pn** **18 15 52.7 +0.7**
CHOS Chios island 3.62 337 Pn **Pn** **18 15 55.0 +1.2**
CHOS Chios island 3.62 337 P **Pn** **18 15 54.0 +0.2**
AKMS Akamas 3.65 90 P **Pn** **18 15 55.0 +0.9**
AKMS S **Sn** **18 16 39.2 +1.8**
AKMS AML AML 18 16 43.2
0.3nm,0.6s
AKMS AML AML 18 16 44.0
0.3nm,0.8s
AKMS Akamas 3.65 90 P **Pn** **18 15 55.1 +1.0**
GORD Gordes-Manisa 3.83 3 Pn **Pn** **18 15 57.8 +1.1**
NATA Nata 3.86 93 P **Pn** **18 15 58.3 +1.3**
NATA S **Sn** **18 16 44.2 +1.7**
NATA AML AML 18 16 48.8
0.7nm,0.4s
NATA AML AML 18 16 51.5
0.7nm,0.7s
ALFC Alefka 3.86 87 P **Pn** **18 15 57.6 +0.5**
ALFC S **Sn** **18 16 43.9 +1.2**
ALFC AML AML 18 16 47.3
0.3nm,0.8s
ALFC AML AML 18 16 50.7
0.2nm,0.7s
SEYD Seydisehir-KON 3.95 53 Pn **Pn** **18 16 00.1 +1.7**
TROD Troodos 4.09 90 P **Pn** **18 16 01.3 +0.9**
TROD S **Sn** **18 16 50.1 +1.6**
TROD AML AML 18 17 01.0
0.2nm,1.2s
TROD AML AML 18 17 06.1
0.2nm,0.8s
SIMA Simav-Kutahya 4.09 12 Pn **Pn** **18 16 01.6 +1.2**
KTHA Kythira Island 4.10 288 Pn **Pn** **18 16 03.0 +2.6**
HDMB Hadim 4.17 62 Pn **Pn** **18 16 03.8 +2.2**
SLUM Salum 4.22 213 P **Pn** **18 16 03.2 +1.2**
XYLS Xyliatos 4.23 89 P **Pn** **18 16 03.2 +1.0**
XYLS S **Sn** **18 16 54.7 +2.7**
XYLS AML AML 18 16 57.4
0.2nm,0.7s
XYLS AML AML 18 16 57.9
0.2nm,0.9s
TEKE Tekeli-Mersin 4.39 74 Pn **Pn** **18 16 05.8 +1.5**
ASGA Asgata 4.41 92 P **Pn** **18 16 05.4 +0.8**
ASGA S **Sn** **18 16 57.8 +1.6**
ASGA AML AML 18 17 04.0
0.4nm,0.6s
ASGA AML AML 18 17 08.1
0.3nm,0.8s
SIGR SIGRI 4.44 339 Pn **Pn** **18 16 06.5 +1.6**
CSS Mathiatis 4.47 90 P **Pn** **18 16 07.0 +1.6**
CSS S **Sn** **18 17 00.1 +2.4**
CSS AML AML 18 17 03.4
0.2nm,0.9s
CSS AML AML 18 17 03.7
0.2nm,0.8s
CSS Mathiatis 4.47 90 P **Pn** **18 16 06.1 +0.7**
CSS Mathiatis 4.47 90 S **Sn** **18 16 57.6 0.0**
BERE Bereket-Mersin 4.52 72 Pn **Pn** **18 16 08.8 +2.5**
TVSB Tavsanli 4.54 16 Pn **Pn** **18 16 07.9 +1.4**
YAYO Edremit-Balk 4.58 352 Pn **Pn** **18 16 08.6 +1.8**
MVOU Mavrovouni 4.71 89 P **Pn** **18 16 09.8 +1.1**
MVOU S **Sn** **18 17 06.5 +2.9**
MVOU AML AML 18 17 13.5
0.1nm,0.9s
MVOU AML AML 18 17 23.9
0.1nm,1.0s
LADK Ladik-KONYA 4.76 48 Pn **Pn** **18 16 11.5 +2.0**
SWA2 6.17 200 P **Pn** **18 16 31.4 +2.6**
SWA2 S **Sn** **18 17 38.8 -0.7**
RYAN Fayoum 6.31 161 P **Pn** **18 16 33.6 +2.9**
HNTI Hanita 6.36 106 P **Pn** **18 16 31.5 +0.1**
HNTI Hanita 6.36 106 S **Sn** **18 17 43.9 -0.5**
OFRI `Ofer 6.39 111 P **Pn** **18 16 31.9 +0.1**
OFRI `Ofer 6.39 111 S **Sn** **18 17 44.1 -1.0**
BRTR Keskin Array B 6.52 43 P **Pn** **18 16 34.2 +0.5**
0.9nm,0.4s,baz=215,slow=15,SNR=5.9
BRTR S **Sn** **18 17 48.4 +0.1**
1.0nm,0.6s,baz=212,slow=24,SNR=1.8
MMC7 Mount Meron ar 6.56 106 P **Pn** **18 16 34.5 +0.3**
MMA0B Mount Meron ar 6.57 106 P **Pn** **18 16 34.6 +0.3**
MMA0B Mount Meron ar 6.57 106 S **Sn** **18 17 49.1 -0.4**
MMAI Mount Meron Ar 6.57 106 P **Pn** **18 16 34.0 -0.4**
1.9nm,0.3s,baz=310,slow=12,SNR=22
MMAI S **Sn** **18 17 47.8 -1.6**
2.3nm,0.3s,baz=312,slow=22,SNR=8.4
GEM Giv'at Ha'Em 6.71 104 S **Pn** **18 16 36.7 +0.6**
GEM Giv'at Ha'Em 6.71 104 S **Sn** **18 17 52.2 -0.6**
NATI Neve Ativ 6.75 103 P **Pn** **18 16 37.2 +0.5**
NATI Neve Ativ 6.75 103 S **Sn** **18 17 53.9 0.0**
MMLI Mount Malkishu 6.80 111 P **Pn** **18 16 38.0 +0.5**
MMLI Mount Malkishu 6.80 111 S **Sn** **18 17 54.1 -1.1**
KZIT Kziot 6.87 125 P **Pn** **18 16 38.4 0.0**
KZIT Kziot 6.87 125 S **Sn** **18 17 54.9 -1.8**
HMDT Nahal Hemdat 6.96 112 P **Pn** **18 16 39.7 +0.1**
HMDT Nahal Hemdat 6.96 112 S **Sn** **18 17 58.3 -0.8**
YTIR Yattir 7.10 119 P **Pn** **18 16 41.8 +0.2**
YTIR Yattir 7.10 119 S **Sn** **18 18 01.4 -1.1**
DSI Dead Sea 7.18 117 P **Pn** **18 16 42.7 0.0**
DSI Dead Sea 7.18 117 S **Sn** **18 18 03.1 -1.3**
MSBI Mazada 7.30 119 P **Pn** **18 16 44.3 0.0**
MSBI Mazada 7.30 119 S **Sn** **18 18 05.8 -1.5**
GHAJ Ghor Haditha 7.45 118 P **Pn** **18 16 46.4 0.0**
GHAJ Ghor Haditha 7.45 118 S **Sn** **18 18 10.0 -1.2**
KRMI Paran Flat 7.59 129 P **Pn** **18 16 48.3 0.0**
KRMI Paran Flat 7.59 129 S **Sn** **18 18 12.0 -2.7**
ZFRI Zfri 7.61 124 P **Pn** **18 16 48.1 -0.4**
ZFRI Zfri 7.61 124 S **Sn** **18 18 13.3 -1.8**
PRNI Paran 7.62 126 P **Pn** **18 16 48.6 -0.1**
PRNI Paran 7.62 126 S **Sn** **18 18 13.7 -1.7**
HRFI Mount Harif 7.85 128 P **Pn** **18 16 51.8 -0.1**
HRFI Mount Harif 7.85 128 S **Sn** **18 18 19.8 -1.2**
HFRF Wahat Farafira 7.91 177 P **Pn** **18 16 54.6 +1.9**
MBRI Mt Berech 7.93 130 P **Pn** **18 16 54.1 +1.0**
MBRI Mt Berech 7.93 130 S **Sn** **18 18 21.2 -1.9**
EIL2 Elat 8.04 130 P **Pn** **18 16 54.4 -0.1**
EIL2 Elat 8.04 130 S **Sn** **18 18 23.7 -2.0**
EIL Elat 8.04 130 P **Pn** **18 16 55.2 +0.7**
9.1nm,0.7s,baz=37,slow=2.0,SNR=8.6
EIL S **Sn** **18 18 24.2 -1.5**
11nm,0.6s,baz=121,slow=1.8,SNR=6.0
ASF Jabal al Asfar 8.05 109 P **Pn** **18 16 55.7 +1.0**
2.1nm,0.4s,baz=291,slow=7.1,SNR=5.2
ASF S **Sn** **18 18 23.0 -3.0**
1.0nm,0.3s,baz=307,slow=20,SNR=1.1
ASF LR LR 18 21 32.4
comp=Z,45nm,18.0s,baz=336,slow=49
HBST Basata 8.23 133 P **Pn** **18 16 59.1 +2.0**
HBST S **Sn** **18 18 30.1 -0.2**
HKAT Jabal Katrina 8.34 140 P **Pn** **18 17 00.6 +1.8**
HDHB Dhahab 8.53 136 P **Pn** **18 17 03.4 +2.2**
HHRG Al Ghardaqah 9.22 147 P **Pn** **18 17 14.9 +4.3**
MLR Muntele Rosu 10.51 152 P **Pn** **18 17 31.7 +3.3**
2.1nm,0.6s,baz=179,slow=14,SNR=1.9
GNI Garni 14.28 64 LR LR 18 25 14.2
comp=Z,28nm,21.1s,baz=300,slow=43
KBZ Khabaz 14.45 49 P **P** **18 18 30.6 +1.6**
3.7nm,0.9s,baz=207,slow=6.2,SNR=7.3
KEST Kesra 15.14 278 P **P** **18 18 37.5 +0.6**
4.2nm,0.9s,baz=86,slow=15,SNR=3.0
AKASG Malin Array Be 15.65 3 P **P** **18 18 40.9 -1.4**
0.4nm,0.5s,baz=197,slow=11,SNR=5.1
CONA Conrad Observa 15.66 329 *e*Pn **Pn** **18 18 38.2 -0.2**
2.0nm,1.1s
KBA Koelnbreinsper 16.22 322 *e*P **P** **18 18 49.0 +0.1**
6.2nm,0.6s
MOA Molln 16.31 326 *e*Pn **Pn** **18 18 47.0 +0.2**
3.1nm,1.0s
LESA Schwarzleotal 16.79 322 *e*Pn **Pn** **18 18 53.4 +0.6**
4.5nm,1.1s
WTTA Wattenberg 17.22 320 *e*Pn **Pn** **18 18 58.6 +0.2**
5.7nm,1.5s
GERES GERESS Array B 17.30 327 P **Pn** **18 18 59.3 +0.1**
1.2nm,0.7s,baz=140,slow=12,SNR=9.6
WATA Walderalm 17.30 320 *e*Pn **Pn** **18 18 59.1 -0.2**
3.4nm,0.9s
SQTA Sankt Quirin 17.42 319 *e*Pn **Pn** **18 19 01.2 +0.4**
2.3nm,0.6s
MOTA Moosalm 17.55 319 *e*Pn **Pn** **18 19 02.8 +0.3**
6.5nm,1.1s
FETA Feichten 17.56 318 *e*Pn **Pn** **18 19 03.1 +0.5**
6.1nm,1.3s
RETA Reutte 17.82 319 *e*Pn **Pn** **18 19 05.1 -0.6**
3.3nm,1.5s
DAVOX Davos/Dischmat 17.89 316 P **Pn** **18 19 06.6 -0.2**
0.4nm,0.3s,baz=148,slow=19,SNR=3.6
ESDC Sonseca Array 25.65 290 P **P** **18 20 26.2 -1.4**
0.9nm,0.5s,baz=82,slow=9.4,SNR=11
0.9nm,0.5s
FINES FINESS Array B 26.41 358 P **P** **18 20 32.6 -1.6**
1.3nm,0.8s,baz=156,slow=15,SNR=6.9
1.3nm,0.8s
HFS Hagfors 26.72 344 P **P** **18 20 34.4 -2.6**
1.7nm,0.7s,baz=144,slow=11,SNR=6.4
1.7nm,0.7s
NOA NORSAR Array B 28.10 343 P **P** **18 20 46.3 -3.1**
0.2nm,0.6s,baz=153,slow=8.3,SNR=1.3
0.2nm,0.6s
EKA Eskdalemuir Ar 29.43 323 P **P** **18 21 00.6 -0.6**
0.4nm,0.7s,baz=118,slow=9.1,SNR=2.1
0.4nm,0.7s
TORD Torodi Ar. Bea 32.20 234 P **P** **18 21 26.3 +0.3**
1.7nm,0.3s,baz=39,slow=12,SNR=1.7
1.7nm,0.3s

AUST 03 18:18:53.1±0.6,**18°S**±4°×**12°0E**±°,**h10**km,**mb3.8**/5,
ML2.7/3,**ML3.2**/4,**Error ellipse: s-maj=13.4km**
s-min=4.8km az=130.6,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.95**	**78**	P	Pn	18 19 25.5	-0.7
AUBRM				S	Sb	18 19 52.0	-1.1
MBWA	**Marble Bar**	**2.80**	**190**	P	Pn	18 19 39.7	+1.7
MBWA				S	Sn	18 20 12.4	+0.5
PSAC1	**Pilbara Seismi**	**3.16**	**187**	S	Sn	18 20 21.2	+0.5
PSAB1	**Pilbara Seismi**	**3.20**	**187**	S	Sn	18 20 21.5	-0.1
PSA00	**Pilbara Seismi**	**3.20**	**186**	P	Pn	18 19 44.6	+1.2
PSA00				S	Sn	18 20 21.7	+0.1
PSAA1	**Pilbara Seismi**	**3.20**	**187**	S	Sn	18 20 22.3	+0.6
GIRL	**Giralia**	**7.04**	**232**	P	Pn	18 20 36.3	+0.1
	comp=Z,148μmcomp=Z,0.1nmcomp=Z,51nm,1.2s						
GIRL				S	Sn	18 21 52.2	-4.1
MEEK	**Meekatharra**	**8.35**	**190**	P	Pn	18 20 55.4	+1.1
	comp=Z,0.1nmcomp=Z,13nm,2.2s						
MEEK	**Meekatharra**	**8.35**	**190**	S	Sn	18 22 23.9	-4.9
KNRA	**Kununurra**	**8.60**	**73**	P	Pn	18 20 55.6	-2.0
	comp=Z,0.1nmcomp=Z,14nm,2.7s						
WRKA	**Warakurna**	**10.00**	**133**	P	Pn	18 21 19.2	+2.2
	comp=Z,0.0nmcomp=Z,2.3nm,1.7s						
WRKA				S	Sn	18 23 02.9	-6.5
BLDU	**Ballidu**	**12.59**	**194**	P	Pn	18 21 50.9	-1.4
	comp=Z,15nm,2.1s						

*IDC **03** 18:21:44.2±2.9,20°90N×122°43E,h0km,mb3.7/5,*
mbtmp3.7/5,Error ellipse: s-maj=249.9km s-min=21.2km
az=63.0
*JMA **03** 18:21:48.5±0.6,21°N±3°×12°2E±°,h24km,MV3.5/12,*
PHILIPPINE ISL REGION
ISC 03 18:21:49.9±1.2,**20°77N**±0°.1×**122°1E**±0°.2,**h35**km,**n18**,
σ0**86**/15,**mb3.5**/5,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**3.65**	**26**	*e*S	**Sn**	**18 23 25.7**	**+0.1**
JYNG	**Yonagunijimaku**	**3.76**	**12**	*e*P	**Pn**	**18 22 45.9**	**+0.6**
JYNG				*e*S	**Sn**	**18 23 28.2**	**-0.2**
IRIF	**Iriomote-Funau**	**3.87**	**23**	P	**Pn**	**18 22 47.0**	**+0.1**
IRIF				*e*S	**Sn**	**18 23 30.4**	**-0.7**
JKRS	**Kuro-shima**	**3.89**	**27**	*e*P	**Pn**	**18 22 47.3**	**0.0**
JIJ	**Ishigaki jima**	**4.06**	**28**	*e*S	**Sn**	**18 23 34.5**	**-1.4**
JISG	**Ishigakijimahi**	**4.33**	**28**	*e*P	**Pn**	**18 22 53.5**	**+0.3**
JISG				*e*S	**Sn**	**18 23 41.8**	**-0.7**
JIRB	**Irabujima**	**4.95**	**35**	*e*P	**Pn**	**18 23 03.9**	**+2.0**
MKAR	**Makanchi Array**	**41.39**	**318**	P	**P**	**18 29 32.9**	**+0.1**
	0.6nm,0.6s,baz=111,slow=9.0,SNR=6.0						
	0.6nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**41.96**	**83**	T	T	19 14 38.0	
	baz=281,slow=76,SNR=28						
H11N2	**WAKE ISLAND Hy**	**41.96**	**83**	T	T	19 14 38.3	
	baz=281,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**41.98**	**83**	T	T	19 14 36.2	
	baz=281,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**41.98**	**85**	T	T	19 14 36.0	
	baz=281,slow=74,SNR=34						
H11S1	**WAKE ISLAND Hy**	**41.99**	**85**	T	T	19 14 33.2	
	baz=281,slow=74,SNR=61						
H11S2	**WAKE ISLAND Hy**	**42.00**	**85**	T	T	19 14 36.0	
	baz=281,slow=74,SNR=38						
WRA	**Warramunga Arr**	**42.20**	**163**	P	**P**	**18 29 38.6**	**-1.0**
	0.6nm,1.0s,baz=344,slow=8.3,SNR=1.7						
	0.6nm,1.0s						
ZALV	**Zalesovo Beam**	**43.57**	**329**	P	**P**	**18 29 50.3**	**0.0**
	1.2nm,0.5s,baz=121,slow=7.3,SNR=4.1						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.27**	**322**	P	**P**	**18 30 04.2**	**+0.2**
	1.6nm,0.8s,baz=118,slow=7.7,SNR=6.0						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**45.64**	**165**	P	**P**	**18 30 07.5**	**+0.3**
	0.2nm,0.4s,baz=348,slow=7.3,SNR=7.0						
	0.2nm,0.4s						

*IDC **03** 18:28:53.5±3.9,22°.71N×94°.42E,h162km±35km,mb3.1/10,*
mbtmp3.1/11,Error ellipse: s-maj=87.2km s-min=12.9km
az=56.0
ISC 03 18:28:52.3±1.2,**22°.7N**±0°.4×**94°.3E**±0°.5,**h150**km,**n11**,
σ0**46**/11,**mb3.5**/10,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.05**	**133**	P	**Pn**	**18 30 20.3**	**+0.5**
	0.5nm,0.4s,baz=306,slow=16,SNR=6.6						
MKAR	**Makanchi Array**	**25.95**	**341**	P	**P**	**18 34 10.7**	**+0.1**
	0.3nm,0.5s,baz=150,slow=8.5,SNR=5.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**30.50**	**340**	P	**P**	**18 34 51.1**	**+0.2**
	0.1nm,0.3s,baz=160,slow=7.2,SNR=2.2						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**32.04**	**349**	P	**P**	**18 35 04.4**	**0.0**
	0.5nm,0.4s,baz=172,slow=8.1,SNR=3.2						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**57.64**	**134**	P	**P**	**18 38 26.1**	**-1.0**
	0.3nm,0.4s,baz=317,slow=8.1,SNR=9.6						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**59.94**	**329**	P	**P**	**18 38 42.3**	**0.0**
	0.7nm,0.7s,baz=103,slow=8.1,SNR=4.0						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**60.04**	**138**	P	**P**	**18 38 43.5**	**-0.1**
	0.2nm,0.5s,baz=321,slow=6.9,SNR=14						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**61.55**	**338**	P	**P**	**18 38 53.2**	**0.0**
	1.3nm,0.8s,baz=106,slow=6.4,SNR=7.4						
	1.3nm,0.8s						
HFS	**Hagfors**	**65.96**	**327**	P	**P**	**18 39 22.6**	**+0.4**
	0.5nm,0.3s,baz=98,slow=7.6,SNR=7.0						
	0.5nm,0.3s						
NOA	**NORSAR Array B**	**67.11**	**328**	P	**P**	**18 39 29.1**	**-0.4**
	0.4nm,0.6s,baz=83,slow=5.9,SNR=1.9						
	0.4nm,0.6s						
GERES	**GERESS Array B**	**67.20**	**315**	P	**P**	**18 39 30.5**	**+0.1**
	0.3nm,0.6s,baz=66,slow=4.5,SNR=3.6						
	0.3nm,0.6s						

*IDC **03** 18:50:00.0±1.1,35°.34N×27°.86E,h0km,mb3.7/9,*
mbtmp3.6/16,ML3.4/6,MS3.4/1,Error ellipse:
s-maj=22.0km s-min=13.7km az=15.0
*AFAD **03** 18:50:01.6,35°.12N×27°.48E,h9km±3km,MW3.7*
*ATH **03** 18:50:02.4,35°.22N×27°.93E,h7km±2km,ML3.3/10,*
Manual Solution by F.Xalaris First location: 2019/08/03
18:55:49, This location: 2019/08/03 19:03:33 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 2 km;
Longitude uncertainty: 1 km
*NIC **03** 18:50:02.4,35°.17N×27°.76E,h30km±3km,MI3.2/11*
*GII **03** 18:50:03.5±0.0,34°.939N±0°.001×27°.945E±0°.001,h10km,*
Mws3.4,confirmed
*THE **03** 18:50:04.8,35°N±8°×2°8E±1°2,h0km±18km,M3.1/9,*
ML3.1/9
*ISK **03** 18:50:04.8,35°.38N×27°.77E,h12km,ML3.3/12*
ISC 03 18:50:01.7±1.1,**35°.20N**±0°.03×**27°.92E**±0°.02,**h12**km±8km,
n126,σ1**45**/165,**mb3.4**/9,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.71**	**299**	P	**Pg**	**18 50 14.8**	**-0.7**
KARP				S	**Sg**	**18 50 24.2**	**-0.7**
KARP	**Karpathos**	**0.71**	**299**	P	**Pg**	**18 50 14.7**	**-0.7**
KARP				S	**Sg**	**18 50 25.1**	**+0.3**
KARP				AML	AML	18 50 26.4	
	4.6nm,0.5s						
KARP				AML	AML	18 50 33.9	
	8.3nm,0.7s						
KARP	**Karpathos**	**0.71**	**299**	P	**Pg**	**18 50 14.9**	**-0.6**
KARP				S	**Sg**	**18 50 25.3**	**+0.4**
ARG	**Arkhangelos**	**1.03**	**9**	Pg	**Pn**	**18 50 22.3**	**+0.4**
ARG				Sg	**Sb**	**18 50 35.0**	**+0.1**
ARG	**Arkhangelos**	**1.03**	**9**	P	**Pb**	**18 50 21.3**	**0.0**
ARG				S	**Sg**	**18 50 33.6**	**-1.3**
ARG	**Arkhangelos**	**1.03**	**9**	P	**Pb**	**18 50 21.2**	**-0.2**
ARG				S	**Sb**	**18 50 35.8**	**+0.9**
ARG				AML	AML	18 50 39.8	
	2.3nm,0.6s						
ARG				AML	AML	18 50 46.9	
	2.2nm,0.6s						
ARG	**Arkhangelos**	**1.03**	**9**	P	**Pn**	**18 50 21.9**	**0.0**
ARG				S	**Sb**	**18 50 35.0**	**+0.1**
ZKR	**Zakros**	**1.40**	**267**	Pn	**Pg**	**18 50 29.2**	**+0.7**
ZKR				Sn	**Sg**	**18 50 47.1**	**+0.4**
ZKR	**Zakros**	**1.40**	**267**	P	**Pg**	**18 50 29.7**	**+1.2**
ZKR	**Zakros**	**1.40**	**267**	P	**Pg**	**18 50 28.9**	**+0.3**
ZKR				S	**Sg**	**18 50 47.2**	**+0.4**
YAZI	**Mula-Dat§a-**	**1.53**	**346**	P	**Pn**	**18 50 28.5**	**-0.2**
YAZI				S	**Sn**	**18 50 48.9**	**+0.3**
NISR	**Nisiros**	**1.55**	**336**	P	**Pb**	**18 50 30.1**	**-0.1**
DAT	**Datca**	**1.55**	**350**	Pn	**Pb**	**18 50 30.3**	**-0.1**
DAT				Sn	**Sn**	**18 50 48.6**	**-0.7**
TURN	**Turunc**	**1.59**	**9**	Pn	**Pg**	**18 50 31.5**	**-0.8**
TURN				Sn	**Sn**	**18 50 50.9**	**+0.7**
TURN	**Turunc**	**1.59**	**9**	P	**Pg**	**18 50 32.0**	**-0.3**
TURN				S	**Sg**	**18 50 55.4**	**+2.4**
KSL	**Kastellorizon**	**1.65**	**54**	P	**Pb**	**18 50 31.3**	**-0.7**
KSL				S	**Sg**	**18 50 53.1**	**-1.7**
KSL				AML	AML	18 51 21.5	
	0.3nm,0.8s						
KSL				AML	AML	18 51 38.6	
	0.4nm,1.0s						
KSL	**Kastellorizon**	**1.65**	**54**	P	**Pb**	**18 50 31.6**	**-0.4**
KSL				S	**Sg**	**18 50 53.3**	**-1.6**
SABU	**Mula-Dalaman**	**1.83**	**27**	P	**Pn**	**18 50 33.4**	**+0.4**
SABU				S	**Sg**	**18 51 06.1**	**+5.5**
NPS	**Neapolis**	**1.89**	**273**	P	**Pb**	**18 50 36.4**	**+0.3**
NPS				S	**Sb**	**18 51 01.2**	**+1.5**
NPS	**Neapolis**	**1.89**	**273**	P	**Pn**	**18 50 35.3**	**+1.5**
NPS				S	**Sn**	**18 51 00.1**	**+2.6**
BDRM	**Kayabasi**	**1.90**	**348**	P	**Pn**	**18 50 35.1**	**+1.2**
BDRM				S	**Sb**	**18 51 00.4**	**+0.4**
CAME	**Cameli-Denizli**	**2.07**	**32**	Pn	**Pb**	**18 50 39.4**	**+0.2**
MULA	**Mugla, Merkez-**	**2.08**	**9**	P	**Pb**	**18 50 39.5**	**+0.2**
MULA				S	**Sg**	**18 51 11.1**	**+2.6**
CAEL	**Denizli, Camel**	**2.23**	**30**	P	**Pn**	**18 50 40.0**	**+1.4**
CAEL				S	Sg	18 51 23.3	+10
DNZT	**Denizli-Tavas-**	**2.26**	**23**	P	**Pn**	**18 50 40.2**	**+1.3**
DNZT				S	**Sg**	**18 51 13.0**	**-1.3**
THERA	**Ancient Thera,**	**2.31**	**301**	P	**Pn**	**18 50 40.7**	**+1.3**
THERA				S	**Sn**	**18 51 10.2**	**+2.4**
THERA	**Ancient Thera,**	**2.31**	**301**	P	**Pn**	**18 50 40.7**	**+1.3**
DDIM	**Aydin, Didim**	**2.32**	**347**	P	**Pn**	**18 50 41.3**	**+1.7**
THR3	**Thira Island,**	**2.38**	**301**	P	**Pn**	**18 50 41.4**	**+1.0**
THR3	**Thira Island,**	**2.38**	**301**	P	**Pn**	**18 50 41.8**	**+1.3**
SNT5	**Nea Kammeni, S**	**2.38**	**301**	P	**Pn**	**18 50 41.2**	**+0.8**
SNT5	**Nea Kammeni, S**	**2.38**	**301**	P	**Pn**	**18 50 41.3**	**+0.9**
TAVA	**DENİZLİ_Tavas**	**2.40**	**19**	P	**Pb**	**18 50 43.1**	**-1.7**
TAVA				S	**Sb**	**18 51 15.3**	**+0.9**
THR5	**Thira Island,**	**2.42**	**301**	P	**Pn**	**18 50 42.6**	**+1.6**
AYDN	**Tasoluk**	**2.46**	**359**	P	**Pn**	**18 50 42.5**	**+0.9**
AYDN				S	**Sn**	**18 51 12.9**	**+1.3**
IDI	**Anoyia**	**2.48**	**273**	Pn	**Pn**	**18 50 44.3**	**+2.4**
IDI	**Anoyia**	**2.48**	**273**	P	**Pb**	**18 50 45.0**	**-1.2**
IDI	**Anoyia**	**2.48**	**273**	Pn	**Pn**	**18 50 43.1**	**+1.1**
	21nm,0.6s,baz=107,slow=14,SNR=15						
IDI				Sn	**Sn**	**18 51 13.5**	**+1.3**
	9.1nm,0.3s,baz=204,slow=18,SNR=3.8						
IDI	**Anoyia**	**2.48**	**273**	P	**Pn**	**18 50 43.6**	**+1.7**
APMY	**Acipayam-Deniz**	**2.53**

CHOS Chios island 3.52 335 P Pn 18 50 57.2 +1.1
CHOS Chios island 3.52 335 P Pn 18 50 57.3 +1.1
AKMS Akamas 3.62 92 P Pn 18 50 58.1 +0.5
AKMS S Sn 18 51 42.2 +1.9
AKMS AML AML 18 51 48.9
0.2nm,0.4s
AKMS AML AML 18 52 06.2
0.2nm,0.8s
AKMS Akamas 3.62 92 P Pn 18 50 58.6 +1.0
ALFC Alefka 3.83 89 P Pn 18 51 01.4 +0.9
ALFC S Sn 18 51 47.9 +2.5
ALFC AML AML 18 51 48.3
0.2nm,0.7s
ALFC AML AML 18 51 52.5
0.2nm,0.7s
ALFC Alefka 3.83 89 P Pn 18 51 01.4 +0.9
NATA Nata 3.84 95 P Pn 18 51 02.1 +1.6
NATA S Sn 18 51 47.1 +1.4
NATA AML AML 18 51 51.6
0.6nm,0.5s
NATA AML AML 18 51 53.8
0.4nm,0.6s
NATA Nata 3.84 95 P Pn 18 51 02.2 +1.6
TROD Troodos 4.06 92 P Pn 18 51 04.1 +0.3
TROD S Sn 18 51 54.6 +3.2
TROD AML AML 18 52 02.7
0.2nm,0.6s
TROD AML AML 18 52 03.0
0.1nm,0.8s
XYLS Xyliatos 4.21 91 P Pn 18 51 06.9 +1.2
XYLS S Sn 18 51 57.8 +3.1
XYLS AML AML 18 52 01.2
0.1nm,0.4s
XYLS AML AML 18 52 03.3
0.1nm,0.4s
PTL Penteli 4.33 312 P Pn 18 51 09.2 +1.9
ASGA Asgata 4.39 94 P Pn 18 51 09.6 +1.4
ASGA S Sn 18 52 01.6 +2.4
ASGA AML AML 18 52 07.5
0.2nm,0.5s
ASGA AML AML 18 52 08.4
0.2nm,0.6s
CSS Mathiatis 4.44 91 P Pn 18 51 10.5 +1.6
CSS S Sn 18 52 03.1 +2.6
CSS AML AML 18 52 06.5
0.1nm,0.7s
CSS AML AML 18 52 08.7
0.1nm,0.6s
CSS Mathiatis 4.44 91 P Pn 18 51 10.6 +1.7
CSS Mathiatis 4.44 91 S Sn 18 52 02.4 +1.9
MVOU Mavrovouni 4.69 91 P Pn 18 51 13.6 +1.5
MVOU S Sn 18 52 09.4 +3.0
MVOU AML AML 18 52 15.1
0.1nm,1.0s
MVOU AML AML 18 52 19.8
0.1nm,0.6s
BRTR Keskin Array B 6.41 43 Pn Pn 18 51 36.8 +0.8
0.2nm,0.3s,baz=226,slow=15,SNR=4.5
BRTR Sn Sn 18 52 49.3 +0.2
0.2nm,0.3s,baz=212,slow=25,SNR=5.1
0.5nm,0.4s
MMC7 Mount Meron ar 6.57 107 P Pn 18 51 39.3 +1.2
MMA0B Mount Meron ar 6.58 107 P Pn 18 51 39.4 +1.2
MMA0B Mount Meron ar 6.58 107 S Sn 18 52 53.3 +0.1
MMAI Mount Meron Ar 6.58 107 Pn Pn 18 51 38.2 0.0
2.6nm,0.3s,baz=292,slow=12,SNR=12
MMAI Sn Sn 18 52 54.0 +0.9
2.5nm,0.3s,baz=286,slow=22,SNR=3.1
1.1nm,0.3s
GEM Giv'at Ha'Em 6.71 105 P Pn 18 51 41.2 +1.1
GEM Giv'at Ha'Em 6.71 105 S Sn 18 52 57.2 +0.8
NATI Neve Ativ 6.75 104 P Pn 18 51 41.3 +0.8
NATI Neve Ativ 6.75 104 S Sn 18 52 58.9 +1.5
MMLI Mount Malkishu 6.82 112 P Pn 18 51 42.4 +0.8
MMLI Mount Malkishu 6.82 112 S Sn 18 52 58.9 -0.3
KZIT Kziot 6.92 126 P Pn 18 51 42.8 -0.1
KZIT Kziot 6.92 126 S Sn 18 52 59.7 -1.8
HMDT Nahal Hemdat 6.98 113 P Pn 18 51 44.6 +0.9
HMDT Nahal Hemdat 6.98 113 S Sn 18 53 03.3 +0.2
YTIR Yattir 7.13 120 P Pn 18 51 46.4 +0.5
YTIR Yattir 7.13 120 S Sn 18 53 06.0 -1.0
DSI Dead Sea 7.21 118 P Pn 18 51 47.6 +0.8
DSI Dead Sea 7.21 118 S Sn 18 53 08.1 -0.6
MSBI Mazada 7.33 120 P Pn 18 51 48.8 +0.3
MSBI Mazada 7.33 120 S Sn 18 53 10.4 -1.3
GHAJ Ghor Haditha 7.49 119 P Pn 18 51 51.2 +0.5
GHAJ Ghor Haditha 7.49 119 S Sn 18 53 14.3 -1.1
KRMI Paran Flat 7.65 130 P Pn 18 51 53.0 0.0
KRMI Paran Flat 7.65 130 S Sn 18 53 17.9 -1.7
ZFRI Zfri 7.66 125 P Pn 18 51 53.2 +0.2
ZFRI Zfri 7.66 125 S Sn 18 53 18.3 -1.4
PRNI Paran 7.67 127 P Pn 18 51 53.3 0.0
PRNI Paran 7.67 127 S Sn 18 53 18.7 -1.4
HRFI Mount Harif 7.91 129 P Pn 18 51 56.6 +0.1
HRFI Mount Harif 7.91 129 S Sn 18 53 24.1 -1.7
MBRI Mt Berech 7.99 130 P Pn 18 51 58.0 +0.3
MBRI Mt Berech 7.99 130 S Sn 18 53 26.4 -1.6
ASF Jabal al Asfar 8.07 109 Pn Pn 18 51 58.7 0.0
0.4nm,0.3s,baz=324,slow=14,SNR=3.1
ASF Sn Sn 18 53 35.2 +5.4
0.4nm,0.3s,baz=133,slow=19,SNR=5.8
0.9nm,0.5s
EIL Elat 8.10 131 Pn Pn 18 52 00.1 +1.0
1.1nm,0.3s,baz=333,slow=14,SNR=6.7
EIL Sn Sn 18 53 33.5 +2.9
1.2nm,0.3s,baz=354,slow=19,SNR=6.0
4.4nm,0.5s
EIL Elat 8.10 131 P Pn 18 51 59.0 -0.1
EIL Elat 8.10 131 S Sn 18 53 28.7 -1.9
MLR Muntele Rosu 10.39 352 Pn Pn 18 52 30.2 -0.3
0.2nm,0.3s,baz=150,slow=8.2,SNR=3.3
2.5nm,1.1s
KBZ Khabaz 14.35 49 Pn P 18 53 32.3 +0.7
0.1nm,0.3s,baz=245,slow=2.9,SNR=7.3
MYKA Terra Mystica 15.68 321 *e*P P 18 53 46.6 +0.1
1.8nm,0.8s
KBA Koelnbreinsper 16.14 322 *e*Pn Pn 18 53 49.5 +1.2
9.7nm,0.8s
ABTA Abfaltersbach 16.35 320 *i* Pn Pn 18 53 50.7 -0.3
2.1nm,0.6s
LESA Schwarzleotal 16.70 322 *i* Pn Pn 18 53 56.4 +0.9
3.7nm,0.6s
WTTA Wattenberg 17.14 320 *i* Pn Pn 18 54 02.5 +1.4
4.1nm,0.9s
GERES GERESS Array B 17.21 327 P Pn 18 54 01.7 -0.2
baz=133,slow=12,SNR=15
1.4nm,0.7s
WATA Walderalm 17.22 320 *i* Pn Pn 18 54 02.9 +0.9
3.4nm,0.9s
SQTA Sankt Quirin 17.34 319 *e*Pn Pn 18 54 04.0 +0.4
3.3nm,0.8s
MOTA Moosalm 17.48 319 *e*Pn Pn 18 54 06.1 +0.8
2.7nm,1.0s
FETA Feichten 17.49 318 *i* Pn Pn 18 54 06.6 +1.3
6.4nm,0.8s
RETA Reutte 17.75 319 *i* Pn Pn 18 54 08.1 -0.4
2.3nm,0.8s
DAVA Damuels 18.11 317 *e*Pn Pn 18 54 13.3 +0.2
3.1nm,0.7s
ESDC Sonseca Array 25.63 290 P P 18 55 30.3 -0.8
0.8nm,0.6s,baz=77,slow=8.9,SNR=13
0.8nm,0.6s
FINES FINESS Array B 26.29 358 P P 18 55 35.2 -1.5
1.2nm,0.6s,baz=186,slow=6.7,SNR=7.6
1.2nm,0.6s
HFS Hagfors 26.61 344 P P 18 55 37.6 -1.9
1.8nm,0.7s,baz=163,slow=10,SNR=5.7
1.8nm,0.7s
NOA NORSAR Array B 27.99 343 P P 18 55 49.3 -2.7
0.5nm,0.6s,baz=145,slow=9.8,SNR=4.4
0.5nm,0.6s
EKA Eskdalemuir Ar 29.34 323 P P 18 56 01.9 -2.2
0.5nm,0.8s,baz=118,slow=9.8,SNR=2.0
0.5nm,0.8s
ARCES ARCESS Array B 34.42 358 P P 18 56 47.3 -1.2
1.5nm,0.8s,baz=180,slow=5.4,SNR=3.7
ARCES LR LR 19 11 34.8
comp=Z,64nm,19.1s,baz=24,slow=38
1.5nm,0.8s
KURBB Kurchatov Arra 39.34 51 P P 18 57 31.1 +0.6
0.5nm,0.5s,baz=274,slow=8.8,SNR=6.4
0.5nm,0.5s
MKAR Makanchi Array 41.86 57 P P 18 57 52.7 +1.2
0.4nm,0.7s,baz=287,slow=4.7,SNR=4.9
0.4nm,0.7s
ZALV Zalesovo Beam 43.34 46 P P 18 58 03.8 +0.4
0.4nm,0.5s,baz=268,slow=6.9,SNR=1.9
0.4nm,0.5s

*IDC **03** 18:52:18.8$_{\pm}$1.0,24.03N$_{\pm}$122.33E, h0^{km}, mb3.7/9, mbtmp3.7/11, ML3.6/2, MS3.7/1, Error ellipse: s-maj=29.7km s-min=19.6km az=61.0*
*JMA **03** 18:52:23.2$_{\pm}$0.2,24.07N$_{\pm}$0.9$\times$122.4E$_{\pm}$0.3, h23$^{km}_{\pm}$3^{km}, MD4.2/14, MV4.0/14, TAIWAN REGION*
*TAP **03** 18:52:24.0,24.07N$\times$122.32E, h24^{km}, ML4.1, C*
ISC 03 18:52:23.1$_{\pm}$1.0.8,**24.01N**$_{\pm}$0.02$\times$**122.34E**$_{\pm}$0.02,**h28**$^{km}_{\pm}$5^{km}, **n194,**$_{\sigma}$**s87/328,mb3.7/9,1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.11**	**350**	⇓*iP*		**Pb**		**18 52 27.8**	**0.0**
EOS4				*i*	S	**Sb**		**18 52 30.9**	**-0.1**
EOS3	**EOS3**	**0.28**	**356**	*i*	P	**Pb**		**18 52 30.2**	**+0.2**
EOS3				*i*	S	**Sb**		**18 52 35.0**	**+0.4**
EOS2	**EOS2**	**0.42**	**347**	*i*	P	**Pn**		**18 52 32.7**	**-0.6**
EOS2				*i*	S	**Sn**		**18 52 39.3**	**-0.8**
EAHA	**Aohua**	**0.63**	**300**	*e*	P	**Pb**		**18 52 35.8**	**+0.1**
ETL	**Fush Village**	**0.67**	**283**		P	**Pn**		**18 52 36.7**	**-0.2**
ETL					S	**Sn**		**18 52 46.7**	**+0.2**
EWUT	**Wuta**	**0.67**	**311**	*i*	P	**Pb**		**18 52 36.0**	**-0.4**
EWUT					S	**Sb**		**18 52 45.6**	**+0.3**
HWA	**Hwalien**	**0.67**	**268**		P	**Pn**		**18 52 37.1**	**+0.2**
HWA					S	**Sn**		**18 52 46.2**	**-0.2**
TWD	**Chiawan**	**0.68**	**276**		P	**Pb**		**18 52 36.6**	**+0.1**
TWD					S	**Sn**		**18 52 46.4**	**-0.3**
ENA	**Nanau**	**0.69**	**308**	*i*	P	**Pb**		**18 52 36.3**	**-0.3**
ENA					S	**Sb**		**18 52 45.6**	**-0.2**
TEYL	**Yanliau Villag**	**0.69**	**259**	*e*	P	**Pn**		**18 52 37.1**	**0.0**
NACB	**Ninganchiao**	**0.70**	**284**		P	**Pb**		**18 52 36.8**	**0.0**
NACB	**Ninganchiao**	**0.70**	**284**		S	**Sn**		**18 52 47.0**	**-0.2**
NACB	**Ninganchiao**	**0.70**	**284**		P	**Pb**		**18 52 36.9**	**0.0**
NACB					S	**Sn**		**18 52 46.9**	**-0.3**
JYNG	**Yonagunijimaku**	**0.71**	**51**		P	**Pb**		**18 52 36.9**	**0.0**
JYNG					*e*S	**Sb**		**18 52 46.3**	**-0.1**
JYNG	**Yonagunijimaku**	**0.71**	**51**		A	A		18 52 36.9	
comp=N,23nm,0.5s,comp=E,21nm,0.8s									
ESAO	**Su ao**	**0.72**	**322**	*e*	P	**Pb**		**18 52 36.6**	**-0.6**
ESAO					S	**Sb**		**18 52 45.3**	**-1.5**
SHUL	**Shoufeng**	**0.74**	**253**	*i*	P	**Pn**		**18 52 37.9**	**+0.1**
SHUL					S	**Sn**		**18 52 48.4**	**+0.2**
TWC	**Suao**	**0.75**	**323**	*i*	P	**Pb**		**18 52 36.7**	**-0.7**
TWC					S	**Sb**		**18 52 45.7**	**-1.7**
YOJ	**Yonaguni jima**	**0.76**	**53**		P	**Pb**		**18 52 38.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.76**	**53**		S	**Sn**		**18 52 49.5**	**+0.8**
YOJ	**Yonaguni jima**	**0.76**	**53**	*e*	P	**Pb**		**18 52 38.0**	**+0.1**
YOJ					S	**Sn**		**18 52 49.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.76**	**53**		P	**Pb**		**18 52 37.9**	**+0.1**
YOJ					*e*S	**Sn**		**18 52 48.7**	**0.0**
YOJ	**Yonaguni jima**	**0.76**	**53**		A	A		18 52 37.9	
comp=N,12nm,0.6s,comp=E,14nm,1.8s									
ETM	**Tongmen**	**0.78**	**267**		P	**Pb**		**18 52 37.8**	**-0.3**
ETM					S	**Sb**		**18 52 48.4**	**+0.1**
TEGC	**Jichi Village**	**0.79**	**248**		P	**Pb**		**18 52 38.5**	**+0.2**
TEGC					S	**Sn**		**18 52 49.9**	**+0.6**
ETLH	**Xiulin Townshi**	**0.81**	**284**	*i*	P	**Pb**		**18 52 38.7**	**+0.1**
ETLH				*i*	S	**Sn**		**18 52 50.1**	**+0.2**
NDS	**Dongshan**	**0.84**	**318**	*e*	P	**Pb**		**18 52 36.8**	**-2.5**
NDS					*e*S	**Sb**		**18 52 47.2**	**-3.0**
LXIB	**Xiulin Townshi**	**0.85**	**271**		P	**Pb**		**18 52 39.3**	**-0.1**
LXIB					S	**Sb**		**18 52 50.5**	**+0.1**
ESL	**Shilin**	**0.85**	**257**	*e*	P	**Pb**		**18 52 38.8**	**-0.5**
EGFH	**Guangfu**	**0.90**	**248**	*e*	P	**Pb**		**18 52 40.0**	**-0.2**
EGFH					S	**Sb**		**18 52 52.2**	**+0.4**
LATG	**Datong**	**0.91**	**306**	*i*	P	**Pn**		**18 52 40.5**	**+0.3**
LATG					*e*S	**Sb**		**18 52 51.9**	**-0.3**
EGS		**0.91**	**336**	*e*	P	**Pb**		**18 52 40.1**	**-0.3**
EGS					S	**Sb**		**18 52 52.0**	**-0.2**
WARBT	**Fenglin Townsh**	**0.92**	**252**	*i*	P	**Pb**		**18 52 39.8**	**-0.7**
WARBT					*e*S	**Sb**		**18 52 52.5**	**+0.1**
ILA	**Ilan**	**0.93**	**325**	*e*	P	**Pn**		**18 52 40.7**	**+0.4**
ILA					*e*S	**Sn**		**18 52 53.9**	**+1.1**
TWE	**Neicheng**	**0.94**	**319**	*e*	P	**Pn**		**18 52 40.6**	**+0.1**
TWE					*e*S	**Sn**		**18 52 53.2**	**+0.2**
ENTT	**Nioudou**	**0.94**	**312**		P	**Pn**		**18 52 41.1**	**+0.5**
ENTT					*e*S	**Sn**		**18 52 53.1**	**-0.2**
NTC	**Toucheng**	**0.96**	**331**	*e*	P	**Pb**		**18 52 40.7**	**-0.5**
NTC					*e*S	**Sn**		**18 52 54.1**	**+0.5**
NNSB	**Datong**	**0.97**	**296**	*i*	P	**Pn**		**18 52 41.4**	**+0.4**
NNSB					S	**Sn**		**18 52 54.5**	**+0.5**
NNS	**Nan Shan**	**0.98**	**296**	*i*	P	**Pn**		**18 52 41.5**	**+0.3**
NNS					S	**Sn**		**18 52 54.8**	**+0.5**
HGSD	**Ruisui**	**0.98**	**239**		P	**Pb**		**18 52 40.9**	**-0.7**
HGSD					S	**Sb**		**18 52 53.9**	**-0.2**
WHF	**Hehuan Shan**	**0.99**	**278**	*e*	P	**Pb**		**18 52 41.6**	**-0.3**
WHF					S	**Sb**		**18 52 54.5**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.01**	**318**	*i*	P	**Pn**		**18 52 42.4**	**+0.7**
FUSB					S	**Sn**		**18 52 55.8**	**+0.8**
FUSS	**Fushou**	**1.03**	**284**		P	**Pn**		**18 52 42.6**	**+0.6**
FUSS					S	**Sn**		**18 52 56.6**	**+1.0**
EHYH	**Wanrong**	**1.04**	**241**		P	**Pb**		**18 52 42.6**	**0.0**
EHYH					*e*S	**Sn**		**18 52 56.2**	**+0.6**
TWB1	**Santiao Chiao**	**1.05**	**342**		P	**Pb**		**18 52 43.2**	**-0.2**
TWB1					S	**Sb**		**18 52 55.5**	**-0.4**
EHY	**Hungye**	**1.06**	**242**		P	**Pn**		**18 52 42.2**	**+0.1**
EHY					S	**Sb**		**18 52 56.0**	**-0.3**
OWD	**Renai**	**1.06**	**267**		P	**Pn**		**18 52 42.8**	**+0.4**
OWD					S	**Sb**		**18 52 56.0**	**-0.6**
ECBN	**Changbin**	**1.07**	**230**		P	**Pn**		**18 52 42.3**	**+0.1**
ECBN					S	**Sb**		**18 52 56.0**	**-0.5**
TIPB	**Shuangxi**	**1.07**	**334**	*i*	P	**Pb**		**18 52 43.1**	**0.0**
TIPB					S	**Sb**		**18 52 56.0**	**-0.6**
NWLT	**Wulai**	**1.08**	**315**	*i*	P	**Pb**		**18 52 43.2**	**0.0**
NWLT					*e*S	**Sn**		**18 52 57.3**	**+0.7**
TWT	**Tachien**	**1.09**	**283**		P	**Pb**		**18 52 43.9**	**+0.4**
TWT					S	**Sn**		**18 52 57.7**	**+0.7**
YHNB	**Yeheng**	**1.10**	**307**		P	**Pb**		**18 52 43.5**	**-0.1**
YHNB	**Yeheng**	**1.10**	**307**		S	**Sn**		**18 52 57.9**	**+0.8**
YHNB	**Yeheng**	**1.10**	**307**	*e*	P	**Pb**		**18 52 43.5**	**-0.1**
TDCB	**Techi**	**1.11**	**283**	*i*	P	**Pb**		**18 52 43.6**	**-0.1**
TDCB					*e*S	**Sn**		**18 52 57.7**	**+0.3**
NSK	**Sanguang**	**1.11**	**307**		P	**Pb**		**18 52 43.7**	**-0.1**
NSK					S	**Sn**		**18 52 57.9**	**+0.4**
WUSB	**Renai**	**1.12**	**269**		P	**Pn**		**18 52 43.6**	**+0.5**
WUSB					S	**Sb**		**18 52 57.4**	**-0.8**
VWDT	**VWDT**	**1.12**	**257**	*i*	P	**Pb**		**18 52 43.9**	**-0.1**
VWDT					*e*S	**Sn**		**18 52 58.1**	**+0.5**
YULB	**Yu-li**	**1.13**	**238**		P	**Pn**		**18 52 43.3**	**+0.1**
YULB	**Yu-li**	**1.13**	**238**		S	**Sb**		**18 52 58.0**	**-0.5**
YULB	**Yu-li**	**1.13**	**238**	*i*	P	**Pn**		**18 52 43.4**	**+0.1**
YULB					S	**Sb**		**18 52 58.1**	**-0.3**
EYUL	**Yuli**	**1.14**	**235**	*i*	P	**Pn**		**18 52 43.8**	**+0.4**
EYUL					S	**Sb**		**18 52 58.7**	**0.0**
TWF1	**Yuli**	**1.16**	**236**	*e*	P	**Pn**		**18 52 43.8**	**+0.3**
TWF1					S	**Sb**		**18 52 59.0**	**-0.2**
SXI1	**Grass Mountain**	**1.16**	**339**	*i*	P	**Pb**		**18 52 44.2**	**-0.4**
SXI1					S	**Sn**		**18 52 59.2**	**+0.5**
NWF	**Wu-fen Shan**	**1.17**	**334**		P	**Pb**		**18 52 44.8**	**-0.1**
NWF					S	**Sn**		**18 52 59.9**	**+0.9**
WFSB	**Wu-fen Shan**	**1.17**	**334**	*i*	P	**Pb**		**18 52 44.6**	**-0.2**
WFSB					S	**Sn**		**18 53 00.0**	**+1.2**
CHKH	**Chenggong**	**1.19**	**227**	*e*	P	**Pn**		**18 52 43.0**	**-0.9**
CHKH					*e*S	**Sn**		**18 52 58.5**	**-0.6**
TWA	**Mucha**	**1.19**	**325**		P	**Pb**		**18 52 45.9**	**+0.9**
TWA					S	**Sn**		**18 52 59.9**	**+0.7**
NHDH	**Xindian Distri**	**1.21**	**322**		P	**Pb**		**18 52 45.9**	**+0.6**
NHDH					S	**Sb**		**18 53 01.6**	**+1.1**
TATO	**Taipei**	**1.24**	**321**		P	**Pb**		**18 52 46.1**	**+0.2**
TNOU	**National Taiwa**	**1.25**	**336**		P	**Pb**		**18 52 45.9**	**-0.2**
TNOU					*e*S	**Sn**		**18 53 00.4**	**-0.3**
FULB	**Fuli**	**1.25**	**230**		P	**Pn**		**18 52 44.8**	**0.0**
FULB					*e*S	**Sn**		**18 53 00.9**	**+0.1**
CHKT	**Chengkung**	**1.27**	**225**	*i*	P	**Pn**		**18 52 44.7**	**-0.4**
CHKT					S	**Sn**		**18 53 00.1**	**-1.2**
NFF	**Wufeng Townshi**	**1.28**	**299**		P	**Pb**		**18 52 46.5**	**-0.1**
NFF					*e*S	**Sb**		**18 53 02.7**	**+0.1**
TAP	**Taipei**	**1.28**	**324**	*e*	P	**Pb**		**18 52 47.2**	**+0.7**
TAP					*e*S	**Sb**		**18 53 03.8**	**+1.2**
SSLB	**Suanglung**	**1.29**	**260**		P	**Pn**		**18 52 46.2**	**+0.9**
SSLB	**Suanglung**	**1.29**	**260**	*e*	P	**Pb**		**18 52 46.3**	**-0.4**
WHP	**Taichung City**	**1.30**	**282**	*i*	P	**Pb**		**18 52 47.0**	**0.0**
WHP					*e*S	**Sb**		**18 53 04.3**	**+1.0**
WCS	**Beigang Elemen**	**1.31**	**272**	*e*	P	**Pb**		**18 52 46.6**	**-0.4**
KSHI	**Guanxi Townshi**	**1.31**	**306**		P	**Pb**		**18 52 47.6**	**+0.5**
KSHI					*e*S	**Sb**		**18 53 04.9**	**+1.4**
IRIF	**Iriomote-Funau**	**1.31**	**75**		P	**Pb**		**18 52 46.9**	**-0.2**
IRIF					*e*S	**Sb**		**18 53 03.5**	**-0.1**
IRIF	**Iriomote-Funau**	**1.31**	**75**		A	A		18 52 46.9	
comp=N,10.0nm,1.1s,comp=E,6.0nm,0.9s									
SMLT	**Sun Moon Lake**	**1.32**	**265**	*e*	P	**Pb**		**18 52 47.0**	**-0.4**
SMLT					S	**Sb**		**18 53 03.5**	**-0.5**
YM01	**YM01**	**1.33**	**328**		P	**Pb**		**18 52 47.3**	**-0.2**
YM01					S	**Sb**		**18 53 04.1**	**-0.1**
HATJ	**Hateruma jima**	**1.34**	**88**	*e*	P	**Pb**		**18 52 47.4**	**-0.3**
EHD	**Haiduan**	**1.34**	**231**	*e*	P	**Pn**		**18 52 46.1**	**0.0**
EHD					*e*S	**Sn**		**18 53 03.0**	**-0.1**
ZUZH	**Zhuzihu**	**1.36**	**328**		P	**Pb**		**18 52 47.1**	**0.0**
ZUZH					S	**Sb**		**18 53 05.2**	**+0.3**
TYC	**Yuchr**	**1.36**	**266**	*e*	P	**Pb**		**18 52 47.5**	**-0.4**
TYC					S	**Sb**		**18 53 04.4**	**-0.6**
YM08	**YM08**	**1.36**	**330**		P	**Pb**		**18 52 47.6**	**-0.4**
NSTT	**Nanjuang**	**1.37**	**297**		P	**Pb**		**18 52 48.3**	**+0.2**
NSTT					S	**Sb**		**18 53 05.3**	**+0.1**
ECS	**Chishang**	**1.37**	**229**		P	**Pn**		**18 52 47.1**	**+0.6**
ECS					S	**Sb**		**18 53 05.1**	**-0.2**
TWS1	**Kuangyinshan**	**1.37**	**323**	*i*	P	**Pb**		**18 52 48.1**	**-0.1**
TWS1					S	**Sb**		**18 53 06.4**	**+1.1**
ANP	**Anpu**	**1.39**	**328**	*i*	P	**Pb**		**18 52 48.0**	**-0.5**
WHYT	**Xinyi Township**	**1.40**	**257**	*e*	P	**Pb**		**18 52 48.5**	**-0.1**
WHYT					*e*S	**Sb**		**18 53 05.8**	**-0.2**
EDH	**Donghe**	**1.40**	**223**		P	**Pn**		**18 52 46.9**	**+0.1**
EDH					S	**Sn**		**18 53 03.7**	**-0.7**
NTST	**Danshui**	**1.41**	**325**		P	**Pb**		**18 52 48.5**	**-0.2**
NTST					*e*S	**Sb**		**18 53 07.3**	**+1.0**
NCUH	**Zhongli**	**1.42**	**313**	*e*	P	**Pb**		**18 52 48.8**	**-0.2**
NCUH					*e*S	**Sb**		**18 53 08.5**	**+1.7**
TWY	**Chenhua**	**1.43**	**332**	*e*	P	**Pb**		**18 52 49.5**	**+0.4**
TWY					*e*S	**Sb**		**18 53 07.2**	**+0.2**
ELDTW	**Lidau**	**1.46**	**236**		P	**Pn**		**18 52 47.9**	**+0.1**
ELDTW					S	**Sn**		**18 53 05.6**	**-0.5**
SBCB	**Hsinchu**	**1.46**	**303**		P	**Pb**		**18 52 49.6**	**0.0**
SBCB					S	**Sb**		**18 53 09.2**	**+1.3**
TWQ1	**Liyutan**	**1.47**	**284**	*e*	P	**Pb**		**18 52 50.1**	**+0.3**
TWQ1					S	**Sb**		**18 53 08.8**	**+0.7**
HSN	**Hsinchu**	**1.48**	**303**		P	**Pb**		**18 52 49.3**	**-0.6**
HSN					S	**Sb**		**18 53 09.1**	**+0.7**
WJS	**Zhushan**	**1.49**	**263**	*e*	P	**Pb**		**18 52 50.9**	**+0.8**
WJS					*e*S	**Sb**		**18 53 10.6**	**+2.0**
ALS	**Alishan**	**1.49**	**251**	*e*	P	**Pb**		**18 52 49.8**	**-0.6**
ALS					S	**Sn**		**18 53 07.9**	**+0.9**
NSY	**Sanyi**	**1.50**	**286**	*e*	P	**Pb**		**18 52 50.6**	**+0.3**
NSY					S	**Sb**		**18 53 10.8**	**+1.9**
NMLH	**Miaoli**	**1.51**	**291**	*i*	P	**Pb**		**18 52 50.8**	**+0.3**
NMLH					S	**Sb**		**18 53 10.4**	**+1.2**
WNT	**Mingjian**	**1.52**	**265**		P	**Pb**		**18 52 51.1**	**+0.4**
WNT					S	**Sb**		**18 53 10.5**	**+1.0**
TCU	**Taichung**	**1.53**	**276**		P	**Pb**		**18 52 51.0**	**+0.2**
TCU					S	**Sb**		**18 53 11.3**	**+1.6**
JKRS	**Kuro-shima**	**1.54**	**81**	*e*	P	**Pb**		**18 52 50.7**	**-0.4**
JKRS					*e*S	**Sb**		**18 53 09.9**	**-0.3**
LDUT	**Ludao**	**1.55**	**211**	*e*	P	**Pn**		**18 52 48.5**	**-0.4**
LONT	**Longtian**	**1.56**	**226**	*e*	P	**Pn**		**18 52 49.3**	**+0.2**
LONT					S	**Sn**		**18 53 09.0**	**+0.6**
WDJ	**Dajia District**	**1.59**	**283**		P	**Pb**		**18 52 51.4**	**-0.4**
WDJ					S	**Sb**		**18 53 12.4**	**+0.9**
WCHH	**Zhanghua**	**1.63**	**273**		P	**Pb**		**18 52 52.5**	**0.0**
WCHH					S	**Sb**		**18 53 13.8**	**+1.1**
PCYT	**Pengchaiyu**	**1.63**	**351**		P	**Pn**		**18 52 51.0**	**+0.9**
PCYT					*e*S	**Sn**		**18 53 10.3**	**+0.1**
WCH1	**Changhua City**	**1.64**	**273**		P	**Pb**		**18 52 52.9**	**-0.2**
WCH1					*e*S	**Sb**		**18 53 14.9**	**+1.9**
TWGBT	**Beinan**	**1.66**	**225**		P	**Pn**		**18 52 50.4**	**0.0**
TWGBT	**Beinan**	**1.66**	**225**		P	**Pn**		**18 52 50.2**	**-0.2**
TWGBT					S	**Sn**		**18 53 10.5**	**-0.3**
STYH	**Taoyuan**	**1.66**	**240**	*i*	P	**Pn**		**18 52 51.9**	**+1.4**
STYH					*e*S	**Sn**		**18 53 12.1**	**+1.3**
TWG	**Pinlang**	**1.66**	**225**		P	**Pn**		**18 52 50.1**	**-0.3**
TWG					S	**Sn**		**18 53 10.7**	**-0.1**
WGK	**Gukeng**	**1.66**	**259**	*e*	P	**Pb**		**18 52 53.1**	**+0.1**
WGK					S	**Sb**		**18 53 14.3**	**+0.8**
TTN	**Taitung**	**1.66**	**222**		P	**Pn**		**18 52 51.3**	**+0.8**
TTN					S	**Sn**		**18 53 11.7**	**+0.9**
WDL	**Douliou City**	**1.67**	**260**	*e*	P	**Pb**		**18 52 53.5**	**+0.3**
WDL					*e*S	**Sb**		**18 53 14.8**	**+0.9**
WDLH	**Douliu**	**1.68**	**259**	*e*	P	**Pb**		**18 52 53.2**	**-0.1**
WDLH					*e*S	**Sb**		**18 53 14.9**	**+0.8**
JIJ	**Ishigaki jima**	**1.69**	**77**		P	**Pn**		**18 52 51.8**	**+1.0**
JIJ					*e*S	**Sn**		**18 53 12.7**	**+1.3**
WCKO	**Fanlu**	**1.69**	**251**		P	**Pb**		**18 52 53.7**	**+0.1**
WCKO					S	**Sb**		**18 53 15.1**	**+0.8**
TPUB	**Ta-pu**	**1.72**	**246**		P	**Pn**		**18 52 52.8**	**+1.5**
TPUB	**Ta-pu**	**1.72**	**246**		P	**Pb**		**18 52 53.4**	**-0.6**
TPUB					*e*S	**Sb**		**18 53 15.4**	**+0.1**
CHN4	**Tsaushan**	**1.73**

WDGT				S	Sn	18 53 35.6	+2.4
PHUB	P'eng-hu	2.58	260	P	Pn	18 53 04.5	+1.4
PHUB				S	Sn	18 53 35.1	+1.5
PNG	Penghu	2.59	261	P	Pn	18 53 04.6	+1.4
PNG				*e*S	Sn	18 53 34.8	+1.1
VCHM	Qimei	2.78	254	P	Pn	18 53 08.1	+2.2
VCHM				S	Sn	18 53 40.2	+1.5
VWUC	VWUC	2.81	291	*e*P	Pn	18 53 06.6	+0.4
JMJ	Miyako jima 2	2.81	73	P	Pn	18 53 09.4	+3.1
MATB	Ma-tsu	3.04	315	*e*P	Pn	18 53 09.1	-0.4
PTMZ	Houxiangcun	3.11	290	*e*P	Pn	18 53 10.8	+0.5
XPSS	Dashiqiu	3.50	327	*e*P	Pn	18 53 15.7	0.0
KNM	Kinmen	3.59	277	*e*P	Pn	18 53 19.2	+2.2
KNMB	Chin-men Tao	3.63	278	*e*P	Pn	18 53 17.9	+0.3
MHZQ	Yeshan	3.65	305	*e*P	Pn	18 53 18.0	+0.2
AXDP	Jialang	4.08	283	*e*P	Pn	18 53 24.5	+0.8
ZPLA	Ao Xicun	4.20	270	*e*P	Pn	18 53 25.9	+0.6
DSXP	Dongshan	4.51	267	*e*P	Pn	18 53 30.3	+0.7
SXFK	Yanhouchang	4.87	300	*e*P	Pn	18 53 34.7	0.0
JOW	Kunigami	6.06	61	Pn	Pn	18 53 50.1	-0.8
	comp=E,4.2nm,0.3s,baz=207,slow=11,SNR=7.0						
JOW				Sn	Sn	18 54 58.7	-0.7
	comp=E,1.4nm,0.3s,baz=132,slow=21,SNR=1.6						
	comp=E,8.8nm,0.3s						
KSRS	Korea Array	14.23	18	Pn	Pn	18 55 42.9	+0.1
	comp=E,0.1nm,0.3s,baz=202,slow=14,SNR=5.5						
	comp=E,0.5nm,0.5s						
SONM	Songino Array	26.95	336	P	P	18 58 01.8	-0.6
	comp=E,2.1nm,0.7s,baz=152,slow=9.8,SNR=9.3						
	comp=E,2.1nm,0.7s						
MKAR	Makanchi Array	39.20	316	P	P	18 59 49.0	+0.2
	comp=E,0.3nm,0.4s,baz=102,slow=9.3,SNR=9.9						
	comp=E,0.3nm,0.4s						
ZALV	Zalesovo Beam	40.97	327	P	P	19 00 02.2	-1.2
	comp=E,1.7nm,0.7s,baz=108,slow=9.1,SNR=7.1						
	comp=E,1.7nm,0.7s						
KURBB	Kurchatov Arra	42.92	320	P	P	19 00 18.9	-0.5
	comp=E,0.3nm,0.6s,baz=116,slow=8.4,SNR=3.0						
	comp=E,0.3nm,0.6s						
SEY	Seymchan	43.79	19	LR	LR	19 19 55.9	
	comp=E,87nm,20.7s,baz=325,slow=38						
WRA	Warramunga Arr	45.22	164	P	P	19 00 36.8	-1.4
	comp=E,1.0nm,1.1s,baz=347,slow=8.4,SNR=3.2						
	comp=E,1.0nm,1.1s						
BVAR	Borovoye Array	48.48	321	P	P	19 01 02.6	-0.7
	comp=E,0.5nm,0.5s,baz=113,slow=8.0,SNR=4.6						
	comp=E,0.5nm,0.5s						
ASAR	Alice Springs	48.70	166	P	P	19 01 06.4	+1.1
	comp=E,0.5nm,1.1s,baz=348,slow=6.9,SNR=4.0						
	comp=E,0.5nm,1.1s						
FINES	FINESS Array B	72.13	330	P	P	19 03 44.5	-0.4
	comp=E,1.1nm,0.8s,baz=65,slow=4.7,SNR=3.5						
	comp=E,1.1nm,0.8s						
BRTR	Keskin Array B	74.12	307	P	P	19 03 57.0	-0.4
	comp=E,0.7nm,0.9s,baz=76,slow=6.1,SNR=3.6						
	comp=E,0.7nm,0.9s						

IDC ***03*** *19:03:03.9±0.9, 2°.92S×130°.34E, h0km, mb3.9/9, mbtmp4.0/12, ML4.2/3, Error ellipse: s-maj=47.6km s-min=15.8km az=80.0*
NEIC ***03*** *19:03:06.9±1.4, 3°.08S±0°.04×130°.04E±0°.08, h10km±1km, mb4.2/7, Error ellipse: s-maj=14.0km s-min=5.0km az=251.0*

ISC 03 19:03:08.0±0.7, 2°.96S±0°.07×130°.22E±0°.06, h25km, n32, σ1s55/32, mb4.0/11, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.58	192	P		P	Pb	19 03 38.5	+1.9
FAKI	Fak Fak	2.02	89	P		P	Pb	19 03 44.2	+0.1
FAKI				S		n	Sb	19 04 10.2	+1.3
FAKI	Fak Fak	2.02	89	P		P	Pb	19 03 44.6	+0.5
DRS	Darwin Rock St	9.43	176	P		P	Pn	19 05 24.2	+1.8
BATI	Baumata	9.71	222	Pn		P	Pn	19 05 28.4	+2.1
	1.4nm,0.3s,baz=189,slow=22,SNR=2.1								
	28nm,0.9s								
MTN	Manton Dam	9.86	175	Pn		P	Pn	19 05 29.3	+1.1
MTN	Manton Dam	9.86	175	P		P	Pn	19 05 29.1	+0.8
KDU	Kakadu	9.91	167	P		P	Pn	19 05 29.9	+0.9
TABU	Tabubil	11.21	102	P		P	Pn	19 05 41.3	-5.5
KNRA	Kununurra	12.72	186	Pn		P	Pn	19 06 05.7	-1.7
PLAI	Plampang	13.68	244	P		P	Pn	19 06 10.1	-10
FITZ	Fitzroy Crossi	15.70	196	Pn		P	Pn	19 06 45.6	-2.1
	0.9nm,0.3s,baz=40,slow=8.8,SNR=22								
	4.3nm,0.5s								
COEN	Coen	16.82	131	Pn		P	Pn	19 07 03.4	+1.3
COEN				IAmb		IAmb	IAmb	19 07 20.9	
	comp=Z,15nm,1.0s								
WB0	Warramunga Arr	17.19	167				Pn	19 07 04.8	-1.9
WRA	Warramunga Arr	17.35	167	Pn		P	Pn	19 07 05.9	-2.7
WRA	Warramunga Arr	17.35	167	P		P	Pn	19 07 06.5	-2.2
	comp=Z,0.9nm,0.3s,baz=349,slow=13,SNR=22								
WRA				S		Sn	Sn	19 10 08.9	-12
	comp=Z,0.8nm,1.0s,baz=334,slow=22,SNR=2.3								
	comp=Z,1.8nm,0.5s								
AS31	Alice Springs	20.89	170				P	19 07 48.8	+0.2
AS31				IAmb			IAmb	19 07 52.8	
	comp=Z,5.5nm,0.6s								
ASAR	Alice Springs	20.89	170	P		P	P	19 07 48.5	-0.1
	comp=Z,11nm,0.6s,baz=349,slow=10,SNR=161								
ASAR				S		S	S	19 11 36.3	-4.2
	comp=Z,0.9nm,0.6s,baz=347,slow=16,SNR=4.8								
	comp=Z,11nm,0.6s								
PSA00	Pilbara Seismi	21.07	208	P		P	P	19 07 47.8	-2.7
PSA00				IAmb		IAmb	IAmb	19 08 02.4	
	comp=Z,26nm,1.4s								
STKA	Stephens Creek	30.69	161	P		P	P	19 09 21.1	+0.2
	comp=Z,1.2nm,0.4s,baz=337,slow=9.8,SNR=5.3								
	comp=Z,1.2nm,0.4s								
MJAR	Matsushiro Arr	40.00	10	P		P	P	19 10 39.8	-1.1
	comp=Z,0.5nm,0.7s,baz=199,slow=9.6,SNR=2.6								
	comp=Z,0.5nm,0.7s								
SONM	Songino Array	54.72	341	P		P	P	19 12 36.3	+0.9
	comp=Z,0.6nm,0.9s,baz=180,slow=4.3,SNR=2.1								
	comp=Z,0.6nm,0.9s								
MKAR	Makanchi Array	65.01	326	P		P	P	19 13 46.9	+0.8
MKAR	Makanchi Array	65.01	326	P		P	P	19 13 45.5	-0.6
	comp=Z,0.3nm,0.4s,baz=112,slow=8.3,SNR=6.9								
	comp=Z,0.3nm,0.4s								
KURBB	Kurchatov Arra	69.22	328	P		P	P	19 14 12.4	-0.3
	comp=Z,0.9nm,0.5s,baz=128,slow=5.8,SNR=19								
	comp=Z,0.9nm,0.5s								
KURK	Kurchatov	69.22	328	P		P	P	19 14 13.0	+0.3
KURK				IAmb		IAmb	IAmb	19 14 20.1	
	comp=Z,1.9nm,0.9s								
BVAR	Borovoye Array	74.80	327	P		P	P	19 14 46.7	+0.6
	comp=Z,0.5nm,0.7s,baz=118,slow=8.3,SNR=2.7								
	comp=Z,0.5nm,0.7s								
MAW	Mawson	78.77	201	P		P	P	19 15 08.3	+0.1
	comp=Z,0.9nm,0.5s,baz=243,slow=12,SNR=2.2								
	comp=Z,0.9nm,0.5s								
AB31	Akbulak array	79.51	321	P		P	P	19 15 12.5	-0.1
AB31				IAmb		IAmb	IAmb	19 15 22.3	
	comp=Z,1.6nm,1.1s								
ABKAR	Akbulak array	79.51	321	P		P	P	19 15 13.3	+0.6
QSPA	South Pole Qui	86.99	180	P		P	P	19 15 51.6	+0.6
QSPA	South Pole Qui	86.99	180	P		P	P	19 15 51.2	+0.2
	comp=Z,0.5nm,0.4s,baz=340,slow=9.7,SNR=12								
	comp=Z,0.5nm,0.4s								

IDC ***03*** *19:07:22.2±0.9, 1°.57N×121°.23E, h0km, mb3.7/7, mbtmp3.7/7, MS3.2/1, Error ellipse: s-maj=130.3km s-min=17.8km az=65.0*

ISC 03 19:07:27.2±0.9, 1°.3N±0°.3×120°.7E±0°.7, h35km, n8, σ0s63/9, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	6.34	188	LR		LR	LR	19 11 51.8	
	comp=Z,184nm,18.1s,baz=36,slow=40								
FITZ	Fitzroy Crossi	19.89	166	P		P	P	19 11 55.0	-0.6
	3.0nm,0.9s,baz=5.0,slow=11,SNR=1.9								
	3.0nm,0.9s								
WRA	Warramunga Arr	25.00	148	P		P	P	19 12 48.1	0.0
	1.8nm,0.4s,baz=336,slow=9.4,SNR=16								
WRA				PcP		PcP	PcP	19 16 21.9	-0.8
	0.4nm,1.0s,baz=326,slow=2.2,SNR=1.4								
	1.8nm,0.4s								
ASAR	Alice Springs	27.95	153	P		P	P	19 13 14.7	0.0
	0.9nm,0.4s,baz=336,slow=10,SNR=15								
ASAR				PcP		PcP	PcP	19 16 29.9	+0.3
	0.3nm,0.6s,baz=332,slow=2.2,SNR=4.5								
	0.9nm,0.4s								
STKA	Stephens Creek	38.50	151	P		P	P	19 14 46.8	+0.6
	1.4nm,0.6s,baz=309,slow=10,SNR=3.0								
	1.4nm,0.6s								
SONM	Songino Array	47.98	347	P		P	P	19 16 02.1	-0.6
	0.2nm,0.3s,baz=155,slow=8.1,SNR=2.1								
	0.2nm,0.3s								
MKAR	Makanchi Array	56.30	329	P		P	P	19 17 05.2	+0.7
	0.3nm,0.5s,baz=124,slow=8.7,SNR=4.7								
	0.3nm,0.5s								
KURBB	Kurchatov Arra	60.69	331	P		P	P	19 17 35.3	+0.3
	0.2nm,0.5s,baz=120,slow=5.5,SNR=2.3								
	0.2nm,0.5s								

IDC 03 19:12:27.4±7.9, 32°.04S×179°.55W, h78km±63km, mb3.2/3, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=57.8km s-min=32.6km az=55.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.78	203	P		P	Pn	19 14 05.8	+1.5
	0.3nm,0.3s,baz=266,slow=3.7,SNR=7.5								
URZ				S		S	Sn	19 15 18.6	-1.3
	3.6nm,0.4s,baz=77,slow=21,SNR=9.0								
	3.7nm,0.9s								
ASAR	Alice Springs	41.73	269	P		P	P	19 20 09.3	+0.3
	0.4nm,0.7s,baz=110,slow=7.3,SNR=5.8								
	0.4nm,0.7s								
WRA	Warramunga Arr	42.87	275	P		P	P	19 20 18.2	-0.1
	0.3nm,0.3s,baz=112,slow=8.0,SNR=8.0								
	0.3nm,0.3s								
VNDA	Vanda	46.34	186	P		P	P	19 20 45.3	+0.2
	0.6nm,0.8s,baz=21,slow=6.5,SNR=6.8								
	0.6nm,0.8s								
FINES	FINESS Array B	146.19	338	PKPbc		PKPdf	PKPdf	19 31 56.5	-0.4
	1.0nm,0.8s,baz=48,slow=2.3,SNR=8.3								

IDC 03 19:23:14.0±2.2, 7°.28S×118°.95E, h0km, mb3.4/3, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=151.1km s-min=15.3km az=48.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.53	132	P		P	Pn	19 27 44.8	+0.3
	0.1nm,0.3s,baz=304,slow=13,SNR=5.4								
WRA				S		S	Sn	19 31 24.1	-0.3
	0.3nm,0.7s,baz=306,slow=22,SNR=1.4								
	0.1nm,0.3s								
ASAR	Alice Springs	21.72	140	P		P	P	19 28 07.8	+0.8
	0.4nm,0.8s,baz=310,slow=9.3,SNR=4.4								
	0.4nm,0.9s								
MKAR	Makanchi Array	62.91	333	P		P	P	19 33 42.6	+0.5
	0.4nm,0.7s,baz=145,slow=5.4,SNR=4.3								
	0.4nm,0.7s								
ZALV	Zalesovo Beam	67.42	339	P		P	P	19 34 10.3	-1.0
	0.3nm,0.3s,baz=143,slow=7.0,SNR=2.3								
	0.3nm,0.3s								

OSPL ***03*** *19:51:02.4±1.7, 18°.32N×71°.88W, h28km±11km, ML2.5*
SDD ***03*** *19:51:02.3±4.3, 18°.35N×71°.90W, h29km±23km, MD3.2, ML2.7, MW3.0*

ISC 03 19:51:01.4±1.1, 18°.34N±0°.04×71°.85W±0°.04, h30km±8km, n12, σ1s22/23, 3C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIDR	Jimani	0.15	1	*e*Pg		P	Pb	19 51 06.9	-0.3
JIDR				⇑*e*Sg		S	Sb	19 51 11.0	-0.1
JIDR				IAML				19 51 11.3	
	comp=N,1μm,0.3s								
LODU1	El Espartillar	0.36	87	*i* P		P	Pb	19 51 09.5	-0.2
LODU1				*e*S		S	Sb	19 51 16.1	+0.7
LODU1				IAML				19 51 17.7	
	comp=Z,2μm,0.3s								
NEDR	Neiba UASD	0.44	70	⇓*e*Pg		P	Pb	19 51 11.1	+0.2
NEDR				⇓*e*Sg		S	Sb	19 51 19.1	+0.4
NEDR				IAML				19 51 19.3	
	comp=N,1μm,0.2s								
PAPH	Port-au-Prince	0.46	294	*i* P		P	Pb	19 51 11.5	+0.2
PAPH				*e*S		S	Sb	19 51 11.4	+0.3
LOBH	Bahia de las A	0.51	157	*i* P		P	Pb	19 51 11.4	-0.7
LOBH				*e*S		S	Sb	19 51 19.3	-0.1
LOBH				IAML				19 51 20.8	
	comp=Z,341nm,0.2s								
PODR	Polo	0.57	107	*i* P		P	Pb	19 51 12.7	-0.4
PODR				*e*S		S	Sb	19 51 21.9	+0.8
PODR	Polo	0.57	107	⇑*e*Pg		P	Pb	19 51 12.8	-0.4
PODR				⇑*e*Sg		S	Sb	19 51 21.9	+0.8
PODR				IAML				19 51 28.5	
	comp=N,435nm,0.3s								
LOVI	El Cajuil, Ovi	0.71	139	*i* P		P	Pb	19 51 14.9	-0.4
LOVI				*e*S		S	Sn	19 51 25.4	+0.1
LOVI				IAML				19 51 32.9	
	comp=Z,202nm,0.6s								
SDDR	Presa de Saban	0.84	40	*i* P		P	Pn	19 51 17.3	-0.1
SDDR				IAML				19 51 38.7	
	comp=Z,36nm,0.5s								
SDDR	Presa de Saban	0.84	40	⇓*e*Pg		P	Pn	19 51 17.2	-0.1
SDDR				⇓*e*Sg		S	Sb	19 51 24.2	-4.3
SDDR				IAML				19 51 36.9	
	comp=N,41nm,0.5s								
REDR	Restauracion	0.93	28	⇓*e*Pg		P	Pb	19 51 19.4	+0.3
REDR				⇓*e*Sg		S	Sb	19 51 32.9	+1.7
REDR				IAML				19 51 33.2	
	comp=N,1μm,0.2s								
BANI	BANI	1.42	87	*e*Pg		P	Pb	19 51 26.7	-0.7
BANI				*e*Sg		S	Sb	19 51 46.9	+1.7
BANI				IAML				19 51 56.2	
	comp=N,77nm,0.3s								

IDC ***03*** *20:07:20.7±1.2, 32°.98N×138°.71E, h0km, mb3.6/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=23.7km s-min=17.7km az=5.0*
JMA ***03*** *20:07:20.3±0.2, 33°.7N±0°.5×14°.1E±°, h45km, MV2.9/43, E OFF HACHIJOJIMA ISLAND*

ISC 03 20:07:19.7±1.4, 33°.66N±0°.05×141°.1E±0°.1, h48km, n17, σ0s93/22, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.00	352	P		P	Pn	20 07 37.3	+0.4
JHJ2	Mitsune	1.23	244	P		P	Pn	20 07 41.3	+0.8
JHJ2				*e*S		S	Sn	20 07 56.6	+0.6
BSO3	Boso 3	1.25	336	P		P	Pn	20 07 41.0	+0.4
JHJ	Hachijo jima 2	1.26	245	Pn		P	Pn	20 07 41.0	+0.2
	101nm,0.3s,baz=64,slow=22,SNR=121								
JHJ				Sn		S	Sn	20 07 56.7	+0.1
	89nm,0.3s,baz=107,slow=22,SNR=13								
JHCJ	Hachijojimakas	1.27	243	P		P	Pn	20 07 41.5	+0.6
JHCJ				*e*S		S	Sn	20 07 56.8	-0.1
JMKN	Mikurajimanish	1.31	281	P		P	Pn	20 07 41.9	+0.3
JMYK	Miyake Tsubota	1.38	287	*e*P		P	Pn	20 07 42.4	-0.2
JAOM	Aogashimamukai	1.66	224	*e*P		P	Pn	20 07 47.0	+0.6
JKO	Kozu shima	1.75	288	P		P	Pn	20 07 47.9	+0.3
JIM2	Oshima 3	1.77	307	*e*P		P	Pn	20 07 47.6	-0.2
JOD2	Odawara 2	2.33	314	*e*P		P	Pn	20 07 55.7	+0.2
JOD2				*e*S		S	Sn	20 08 22.3	-0.7
SHZ3	Shizuoka 3	2.80	301	*e*P		P	Pn	20 08 03.7	+1.7
JYN	Shimob	2.82	311	*e*P		P	Pn	20 08 03.2	+0.9
MJAR	Matsushiro Arr	3.75	321	Pn		P	Pn	20 08 16.2	+1.2
	0.3nm,0.3s,baz=156,slow=13,SNR=26								
MJAR				Sn		S	Sn	20 08 59.3	+1.4
	0.1nm,0.3s,baz=234,slow=33,SNR=5.7								
	1.5nm,0.3s								
MKAR	Makanchi Array	45.79	305	P		P	P	20 15 34.1	-2.5
	0.4nm,0.9s,baz=92,slow=8.7,SNR=2.9								
	0.4nm,0.9s								
KURBB	Kurchatov Arra	47.96	310	P		P	P	20 15 53.1	-0.2
	0.2nm,0.3s,baz=79,slow=4.8,SNR=1.9								
	0.2nm,0.3s								
WRA	Warramunga Arr	53.70	188	P		P	P	20 16 37.3	+0.5
	0.8nm,0.4s,baz=3.0,slow=7.6,SNR=15								
	0.8nm,0.4s								

IDC ***03*** *20:23:25.3±1.0, 22°.83S×171°.24E, h0km, mb3.9/7, mbtmp4.0/8, ML3.9/1, MS3.5/9, Error ellipse: s-maj=29.3km s-min=24.5km az=7.0*

ISC 03 20:23:30.2±0.9, 22°.9S±0°.2×171°.2E±0°.1, h31km, n24, σ0s93/18, mb3.9/7, MS3.6/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.49	279	Pn		P	Pn	20 24 36.2	0.0
	6.6nm,0.3s,baz=94,slow=19,SNR=71								
DZM				Sn		Sn	Sn	20 25 27.9	+0.4
	5.2nm,0.3s,baz=256,slow=18,SNR=4.2								
	36nm,0.4s								
URZ	Urewera	16.16	163	LR		LR	LR	20 31 59.4	
	comp=Z,188nm,19.6s,baz=334,slow=32								
HNR	Honiara	17.17	319	LR		LR	LR	20 33 35.3	
	comp=Z,65nm,18.6s,baz=171,slow=36								
RAR	Rarotonga	26.92	92	LR		LR	LR	20 38 01.7	
	comp=Z,29nm,19.9s,baz=290,slow=33								
STKA	Stephens Creek	27.74	245	LR		LR	LR	20 38 35.5	
	comp=Z,126nm,19.5s,baz=49,slow=33								
ASAR	Alice Springs	34.24	261	P		P	P	20 30 13.4	-0.1
	2.3nm,0.8s,baz=88,slow=9.6,SNR=20								
ASAR				LR		LR	LR	20 45 07.2	
	comp=Z,104nm,18.4s,baz=99,slow=38								
	2.3nm,0.8s								
WRA	Warramunga Arr	34.41	268	P		P	P	20 30 13.8	-1.2
	1.1nm,0.7s,baz=99,slow=8.0,SNR=11								
	1.1nm,0.7s								
PPT	Papeete	37.08	89	LR		LR	LR	20 41 44.3	
	comp=Z,63nm,19.7s,baz=260,slow=30								
BATI	Baumata	47.10	277	LR		LR	LR	20 51 45.5	
	comp=Z,253nm,18.2s,baz=226,slow=36								
NWAO	Narrogin (SRO)	48.32	246	LR		LR	LR	20 51 33.7	
	comp=Z,86nm,18.1s,baz=120,slow=35								
MJAR	Matsushiro Arr	66.80	331	P		P	P	20 34 17.5	-1.3
	0.4nm,0.6s,baz=154,slow=8.8,SNR=1.5								
	0.4nm,0.6s								
QSPA	South Pole Qui	67.22	180	P		P	P	20 34 21.4	+0.1
	3.0nm,0.9s,baz=23,slow=5.6,SNR=12								
QSPA				LR		LR	LR	21 00 16.1	
	comp=Z,38nm,20.1s,baz=328,slow=33								
	3.0nm,0.9s								
KSRS	Korea Array	72.52	325	P		P	P	20 34 54.8	+0.8
	0.7nm,0.7s,baz=141,slow=8.1,SNR=4.7								
	0.7nm,0.7s								
CMAR	Chiang Mai Arr	81.67	294	P		P	P	20 35 47.1	+1.2
	0.5nm,0.3s,baz=145,slow=4.1,SNR=4.5								
	0.5nm,0.3s								
NVAR	Mina Array Bea	89.82	48	P		P	P	20 36 27.0	+0.8
	0.2nm,0.5s,baz=218,slow=7.1,SNR=5.0								
	0.2nm,0.5s								
EKA	Eskdalemuir Ar	147.29	354	PKPbc		PKPdf	PKPdf	20 43 07.3	-0.6
	0.4nm,0.6s,baz=32,slow=1.9,SNR=2.6								
RONA	Rosalia, Austr	148.12	327	*e*PKP		PKPbc	PKPbc	20 43 13.5	+0.7
	3.6nm,0.9s								
CONA	Conrad Observa	148.18	328	*e*PKP		PKPbc	PKPbc	20 43 13.6	+0.6
	2.1nm,1.0s								
GERES	GERESS Array B	148.54	331	PKPbc		PKPbc	PKPbc	20 43 13.5	-0.4
	1.0nm,0.8s,baz=33,slow=2.7,SNR=4.9								
LESA	Schwarzleotal	150.05	330	*e*PKP		PKPbc	PKPbc	20 43 17.3	-0.4
	2.5nm,0.8s								
WATA	Walderalm	150.61	331	*e*PKP		PKPbc	PKPbc	20 43 18.7	-0.4
	2.9nm,0.9s								
ABTA	Abfaltersbach	150.62	329	*e*PKP		PKPbc	PKPbc	20 43 17.7	-1.4
	2.6nm,1.1s								
SQTA	Sankt Quirin	150.86	331	PKP		PKPbc	PKPbc	20 43 19.1	-0.7
	3.2nm,0.9s								
FETA	Feichten	151.23	332	*e*PKP		PKPbc	PKPbc	20 43 18.9	-1.7
	2.7nm,0.8s								

SOME ***03*** *20:29:30.9, 42°.65N×82°.18E, h15km*
NNC ***03*** *20:29:34.0±1.8, 42°.14N×81°.73E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.2km s-min=7.0km az=155.0*

ISC 03 20:29:31.9±2.4, 42°.7N±0°.1×82°.11E±0°.08, h10km, n17, σ2s10/25, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	2.00	284	*e*P		P	Pn	20 30 05.4	-0.4
	42nm,0.3s								
SHLS				*e*S		S	Sn	20 30 30.4	-0.6
	101nm,0.3s								
PDGK	Podgornoye	2.02	289	⇓Pn		P	Pg	20 30 10.1	-0.6
	11nm,0.3s								
PDGK				⇑Lg		Lg	Lg	20 30 40.3	
	72nm,0.9s								
UZB	Uzynbulak	2.31	282	Pg		P	Pb	20 30 14.4	+0.6
	15nm,0.4s								
UZB				Lg		Lg	Lg	20 30 46.1	
	21nm,0.4s								
UZB	Uzynbulak	2.31	282	*e*P		P	Pb	20 30 14.4	+0.6
	15nm,0.4s								
UZB				*e*S		Sg	Sg	20 30 46.1	-0.1
	21nm,0.4s								
KPKS	Kokpek	2.62	288	Pg		P	Pb	20 30 19.7	+0.6
	0.4nm,0.4s								
KPKS				Lg		Lg	Lg	20 30 54.9	
	19nm,0.5s								
SATY	Saty	2.75	279	Pg		P	Pb	20 30 21.8	+0.6
	9.3nm,0.3s								
SATY				Lg		Lg	Lg	20 30 58.7	
	87nm,0.5s								
ARXS	Arharly	3.47	297	Pg		Pg	Pg	20 30 37.7	-0.6
	1.7nm,0.3s								
ARXS				Lg		Lg	Lg	20 31 25.6	
	9.6nm,0.5s				

SOEI	**Soe**	**17.11**	**97**	Pn	**Pn**	**20 35 15.1**	**-1.4**
SOEI				IAmb	IAmb	20 35 35.2	
	comp=Z,55nm,1.2s						
MBWA	**Marble Bar**	**17.95**	**138**		**Pn**	**20 35 24.9**	**-1.8**
MBWA				IAmb	IAmb	20 35 44.0	
	comp=Z,31nm,1.4s						
PSA00	**Pilbara Seismi**	**18.31**	**139**	P	**P**	**20 35 30.9**	**+0.1**
WRA	**Warramunga Arr**	**28.99**	**117**	P	**P**	**20 37 15.4**	**-0.6**
	comp=Z,1.1nm,1.0s,baz=293,slow=8.8,SNR=3.3						
	comp=Z,1.1nm,1.0s						
WR8	**Warramunga Arr**	**29.13**	**117**	P	**P**	**20 37 17.0**	**-0.3**
WR8				IAmb	IAmb	20 37 31.4	
	comp=Z,7.4nm,1.2s						
ASAR	**Alice Springs**	**30.10**	**124**	P	**P**	**20 37 25.5**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=298,slow=10.0,SNR=1.8						
	comp=Z,0.2nm,0.6s						
STKA	**Stephens Creek**	**39.97**	**131**	P	**P**	**20 38 51.5**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=309,slow=11,SNR=5.8						
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**58.81**	**340**	P	**P**	**20 41 14.0**	**-0.1**
MKAR	**Makanchi Array**	**58.81**	**340**	P	**P**	**20 41 12.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=160,slow=7.9,SNR=3.3						
	comp=Z,0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.56**	**221**	T	T	21 48 26.5	
	baz=70,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**60.58**	**221**	T	T	21 48 26.0	
	baz=70,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**60.58**	**221**	T	T	21 48 24.4	
	baz=70,slow=75,SNR=10						
KURBB	**Kurchatov Arra**	**63.37**	**340**	P	**P**	**20 41 46.1**	**+1.2**
	comp=Z,1.0nm,0.2s,baz=110,slow=35,SNR=4.5						
	comp=Z,1.0nm,0.2s						
ZALV	**Zalesovo Beam**	**64.48**	**346**	P	**P**	**20 41 51.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=148,slow=5.0,SNR=2.4						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**68.27**	**337**	P	**P**	**20 42 16.6**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=142,slow=7.6,SNR=11						
	comp=Z,1.2nm,0.5s						
AB31	**Akbulak array**	**70.26**	**329**		**P**	**20 42 29.4**	**+0.6**
ABKAR	**Akbulak array**	**70.26**	**329**		**P**	**20 42 29.4**	**+0.6**
QSPA	**South Pole Qui**	**82.03**	**180**	P	**P**	**20 43 36.1**	**+0.5**
QSPA				IAmb	IAmb	20 43 52.5	
	comp=Z,4.8nm,1.4s						
BRTR	**Keskin Array B**	**82.50**	**312**	P	**P**	**20 43 39.8**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=114,slow=5.4,SNR=3.8						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**144.16**	**50**	PKP	**PKPdf**	**20 50 51.7**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=339,slow=3.3,SNR=4.5						

IDC 03 20:39:37.1±1.9, 8°42'S×127°39'E, h0km, mb3.6/1, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=178.3km s-min=28.1km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.29**	**150**	Pn	Pn	20 42 46.5	-0.6
	0.5nm,0.3s,baz=324,slow=14,SNR=16						
WRA				Sn	Sn	20 45 10.9	-4.8
	0.3nm,0.3s,baz=226,slow=18,SNR=6.1						
	1.4nm,0.4s						
ASAR	**Alice Springs**	**16.40**	**158**	Pn	Pn	20 43 29.2	+0.4
	0.3nm,0.3s,baz=337,slow=12,SNR=23						
ASAR				Sn	Sn	20 46 33.3	+1.7
	0.1nm,0.3s,baz=337,slow=22,SNR=4.1						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**68.03**	**328**	P	P	20 50 38.4	0.0
	0.4nm,0.5s,baz=129,slow=7.9,SNR=6.5						
	0.4nm,0.5s						

*JMA **03** 20:40:10.6±0.3, 44°N±1°×14°8E±°, h92km, MV3.5/26, E OFF HOKKAIDO*
*SKHL **03** 20:40:11.0±0.1, 44°40'N×147°40'E, h115km±2km, mb4.6/3, msha5.4/3*
ISC 03 20:40:08.3±2.8, 44°1'N±0°1'×147°8'E±0°1', h115km±16km, n17, σ1°§25/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.74**	**251**	*i* P	**Pn**	**20 40 29.5**	**+2.0**
SHO				AMB	AMB	20 40 30.2	
	410nm,0.3s						
SHO				*e*S	**Sn**	**20 40 42.5**	**+0.6**
SHO				A	A	20 40 46.4	
	430nm,0.2s						
SHO				A	A	20 40 46.4	
	260nm,0.2s						
KUR	**Kuril'sk**	**1.12**	**2**	*i* P	**Pn**	**20 40 31.5**	**+0.4**
KUR				AMB	AMB	20 40 31.7	
	30nm,0.2s						
KUR				*e*S	**Sn**	**20 40 47.0**	**-1.4**
KUR				A	A	20 40 47.8	
	280nm,0.2s						
KUR				A	A	20 40 47.8	
	330nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.40**	**268**	*i* P	**Pn**	**20 40 34.4**	**+0.2**
YUK				AMB	AMB	20 40 35.3	
	470nm,0.4s						
YUK				*e*S	**Sn**	**20 40 51.9**	**-2.0**
YUK				A	A	20 40 53.4	
	620nm,0.2s						
YUK				A	A	20 40 53.4	
	350nm,0.2s						
NEM2	**Nemuro 2**	**1.67**	**244**	P	**Pn**	**20 40 37.5**	**+0.1**
NEM2				*e*S	**Sn**	**20 40 57.3**	**-2.3**
NMR	**Nemuro--Hokkai**	**1.68**	**244**	*i* P	**Pn**	**20 40 37.7**	**+0.2**
NMR				*e*S	**Sn**	**20 40 58.5**	**-1.2**
JRA	**Rausu**	**1.94**	**266**	*e*P	**Pn**	**20 40 41.5**	**+0.8**
JNSB	**Nemuroshibetsu**	**2.05**	**262**	*e*P	**Pn**	**20 40 43.5**	**+1.4**
JNSB				*e*S	**Sn**	**20 41 08.0**	**0.0**
JKHN	**Kushirohamanak**	**2.18**	**243**	*i* P	**Pn**	**20 40 44.4**	**+0.7**
JKHN				*e*S	**Sn**	**20 41 10.4**	**-0.5**
JNK	**Nakash**	**2.29**	**258**	P	**Pn**	**20 40 45.9**	**+0.7**
JNK				*e*S	**Sn**	**20 41 12.5**	**-1.0**
AKK	**Akkeshi**	**2.42**	**244**	*e*P	**Pn**	**20 40 47.4**	**+0.6**
JAK	**Akkeshi**	**2.52**	**245**	P	**Pn**	**20 40 48.6**	**+0.5**
JAK				S	**Sn**	**20 41 17.2**	**-1.5**
JTKR	**Abashiri--Toko**	**2.81**	**268**	P	**Pn**	**20 40 53.2**	**+1.2**
JAR	**Ashorobuto**	**3.04**	**256**	P	**Pn**	**20 40 56.6**	**+1.6**
JAR				S	**Sn**	**20 41 31.4**	**+0.5**
JOB	**Onbets**	**3.13**	**249**	P	**Pn**	**20 40 57.5**	**+1.4**
JOB				*e*S	**Sn**	**20 41 32.1**	**-1.0**
JMP	**Maruseppu**	**3.21**	**270**	P	**Pn**	**20 40 58.5**	**+1.3**
JCH	**Churui**	**3.57**	**247**	P	**Pn**	**20 41 02.6**	**+0.6**
JCH				*e*S	**Sn**	**20 41 41.4**	**-2.0**
JNBK	**Urakawa-nobuka**	**4.12**	**245**	*e*P	**Pn**	**20 41 09.9**	**+0.5**

*IDC **03** 20:52:07.0±5.1, 24°.79N×123°.67E, h85km±52km, mb3.5/10, mbtmp3.7/13, ML3.5/3, MS2.5/1, Error ellipse: s-maj=39.4km s-min=13.0km az=61.0*
*JMA **03** 20:52:07.5±0.2, 25°N±1°×123°.6E±0°.3, h79km±2km, MD3.7/15, MV3.8/15, NW OFF ISHIGAKIJIMA IS*
ISC 03 20:52:07.0±0.7, 24°.71N±0°.06×123°.63E±0°.03, h86km±6km, n41, σ0§73/49, mb3.8/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.38**	**167**	*i* P	**Pn**	**20 52 20.2**	**-0.2**
IRIF				*e*S	**Sn**	**20 52 30.1**	**-0.2**
IRIF	**Iriomote-Funau**	**0.38**	**167**	A	A	20 52 20.2	
	comp=N,14nm,0.6s,comp=E,10.0nm,0.3s						
JIJ	**Ishigaki jima**	**0.58**	**126**	*i* P	**Pn**	**20 52 21.9**	**-0.1**
JIJ				S	**Sn**	**20 52 32.6**	**-0.5**
JIJ	**Ishigaki jima**	**0.58**	**126**	A	A	20 52 21.9	
	comp=N,5.0nm,0.8s,comp=E,6.0nm,0.5s						
JKRS	**Kuro-shima**	**0.58**	**144**	*i* P	**Pn**	**20 52 22.4**	**+0.4**
JKRS				S	**Sn**	**20 52 33.5**	**+0.4**
JKRS	**Kuro-shima**	**0.58**	**144**	A	A	20 52 22.4	
	comp=N,8.0nm,0.6s,comp=E,15nm,0.4s						
YOJ	**Yonaguni jima**	**0.62**	**247**	P	**Pn**	**20 52 22.4**	**+0.2**
YOJ	**Yonaguni jima**	**0.62**	**247**	S	**Sn**	**20 52 33.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.62**	**247**	*i* P	**Pn**	**20 52 22.5**	**+0.2**
YOJ				*e*S	**Sn**	**20 52 33.0**	**-0.6**
JISG	**Ishigakijimahi**	**0.63**	**101**	*i* P	**Pn**	**20 52 22.4**	**0.0**
JISG				*e*S	**Sn**	**20 52 33.5**	**-0.3**
JISG	**Ishigakijimahi**	**0.63**	**101**	A	A	20 52 22.4	
	comp=N,23nm,0.4s,comp=E,23nm,0.5s						
HATJ	**Hateruma jima**	**0.67**	**166**	P	**Pn**	**20 52 22.7**	**-0.1**
HATJ				S	**Sn**	**20 52 34.9**	**+0.4**
JYNG	**Yonagunijimaku**	**0.68**	**248**	*i* P	**Pn**	**20 52 23.0**	**+0.2**
JYNG				S	**Sn**	**20 52 34.1**	**-0.6**
JTJ	**Tarama**	**0.98**	**94**	*i* P	**Pn**	**20 52 26.5**	**+0.4**
JTJ				S	**Sn**	**20 52 40.4**	**+0.1**
JIRB	**Irabujima**	**1.41**	**85**	*i* P	**Pn**	**20 52 31.5**	**+0.2**
JIKM	**Ikemajima**	**1.48**	**81**	P	**Pn**	**20 52 32.8**	**+0.5**
JIKM				*e*S	**Sn**	**20 52 52.0**	**+0.5**
JMJ	**Miyako jima 2**	**1.51**	**86**	P	**Pn**	**20 52 33.8**	**+1.1**
JMJ2	**Miyako jima3**	**1.54**	**88**	*i* P	**Pn**	**20 52 33.7**	**+0.7**
JOGS	**Gusukube**	**1.61**	**88**	P	**Pn**	**20 52 34.7**	**+0.7**
JOGS				*e*S	**Sn**	**20 52 55.1**	**+0.7**
NACB	**Ninganchiao**	**1.93**	**254**	P	**Pn**	**20 52 38.0**	**-0.1**
TATO	**Taipei**	**1.97**	**278**	P	**Pn**	**20 52 40.3**	**+1.7**
YHNB	**Yeheng**	**2.05**	**269**	P	**Pn**	**20 52 41.2**	**+1.4**
YULB	**Yu-li**	**2.50**	**239**	P	**Pn**	**20 52 44.8**	**-1.0**
SSLB	**Suanglung**	**2.61**	**250**	P	**Pn**	**20 52 47.4**	**+0.2**
TWGBT	**Beinan**	**3.00**	**232**	P	**Pn**	**20 52 51.4**	**-1.1**
TPUB	**Ta-pu**	**3.08**	**244**	P	**Pn**	**20 52 54.9**	**+1.3**
JOW	**Kunigami**	**4.69**	**62**	P	**Pn**	**20 53 14.6**	**-0.8**
	comp=E,17nm,0.3s,baz=151,slow=14,SNR=46						
JOW				S	**Sn**	**20 54 06.5**	**-2.0**
	comp=E,19nm,0.3s,baz=131,slow=24,SNR=2.3						
	comp=E,31nm,0.3s						
JOW	**Kunigami**	**4.69**	**62**	P	**Pn**	**20 53 14.7**	**-0.6**
JNU	**Nakatsue**	**10.51**	**35**	LR	LR	20 59 27.8	
	comp=E,24nm,19.1s,baz=230,slow=42						
KSRS	**Korea Array**	**13.22**	**15**	P	**Pn**	**20 55 11.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=190,slow=11,SNR=4.2						
	comp=E,0.5nm,0.8s						
MJAR	**Matsushiro Arr**	**17.19**	**43**	P	**P**	**20 56 02.2**	**+0.2**
	baz=221,slow=9.1,SNR=4.5						
	comp=E,0.4nm,0.5s						
SONM	**Songino Array**	**26.82**	**334**	P	**P**	**20 57 39.2**	**0.0**
	comp=E,0.5nm,0.5s,baz=134,slow=8.3,SNR=2.6						
	comp=E,0.5nm,0.5s						
MKAR	**Makanchi Array**	**39.54**	**315**	P	**P**	**20 59 28.5**	**-1.0**
	comp=E,0.4nm,0.3s,baz=98,slow=8.3,SNR=25						
	comp=E,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**41.05**	**326**	P	**P**	**20 59 41.7**	**0.0**
	comp=E,0.5nm,0.4s,baz=137,slow=7.4,SNR=2.6						
	comp=E,0.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**42.59**	**177**	P	**P**	**20 59 54.4**	**-0.3**
	comp=E,3.9nm,1.0s,baz=5.2,slow=11,SNR=1.9						
	comp=E,3.9nm,1.0s						
KURBB	**Kurchatov Arra**	**43.17**	**319**	P	**P**	**20 59 58.5**	**-0.6**
	comp=E,0.1nm,0.3s,baz=126,slow=3.3,SNR=1.7						
	comp=E,0.1nm,0.3s						
WRA	**Warramunga Arr**	**45.59**	**166**	P	**P**	**21 00 19.1**	**+0.4**
	comp=E,1.6nm,0.7s,baz=347,slow=8.8,SNR=16						
WRA				PcP	**PcP**	**21 01 55.9**	**0.0**
	comp=E,0.2nm,0.5s,baz=338,slow=1.8,SNR=1.3						
	comp=E,1.6nm,0.7s						
BVAR	**Borovoye Array**	**48.70**	**320**	P	**P**	**21 00 42.8**	**+0.3**
	comp=E,0.3nm,0.4s,baz=89,slow=7.4,SNR=2.6						
	comp=E,0.3nm,0.4s						
ASAR	**Alice Springs**	**49.11**	**168**	P	**P**	**21 00 47.0**	**+1.1**
	comp=E,0.8nm,0.5s,baz=350,slow=7.4,SNR=28						
ASAR				PcP	**PcP**	**21 02 08.5**	**+0.1**
	comp=E,0.2nm,0.4s,baz=339,slow=3.8,SNR=6.1						
	comp=E,0.8nm,0.5s						
STKA	**Stephens Creek**	**58.83**	**162**	P	**P**	**21 01 57.2**	**+0.7**
	comp=E,1.3nm,0.5s,baz=329,slow=4.3,SNR=5.6						
	comp=E,1.3nm,0.5s						
FINES	**FINESS Array B**	**72.12**	**330**	P	**P**	**21 03 20.9**	**-1.0**
	comp=E,0.9nm,0.8s,baz=58,slow=5.6,SNR=1.2						
	comp=E,0.9nm,0.8s						

IDC 03 20:54:20.6±2.6, 52°.62N×87°.41E, h0km, mbtmp2.9/2, ML1.4/2, Error ellipse: s-maj=34.6km s-min=17.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**2.04**	**312**	Pn	Pb	20 54 58.1	-0.5
	0.1nm,0.3s,baz=128,slow=12,SNR=3.8						
ZALV				Lg	Lg	20 55 24.4	
	0.4nm,0.3s,baz=130,slow=28,SNR=5.7						
MKAR	**Makanchi Array**	**6.71**	**212**	Pn	Pn	20 56 01.7	+1.3
	baz=24,slow=14,SNR=2.6						
	0.1nm,0.5s						
SONM	**Songino Array**	**13.05**	**104**	Pn	Pn	20 57 26.0	-1.3
	0.3nm,0.3s,baz=303,slow=19,SNR=1.8						

*TAP **03** 20:58:16.9, 24°.55N×122°.81E, h97km, ML3.2, C*
*JMA **03** 20:58:17.4±0.1, 24°48'N±0°.05×122°.79E±0°.03, h98km±8km, n55, σ0§59/87, 1D, Taiwan region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.14**	**103**	*i* P	**Pn**	**20 58 30.8**	**-0.1**
JYNG				*e*S	**Sn**	**20 58 40.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.20**	**96**	||P	**Pn**	**20 58 30.8**	**-0.2**
YOJ				S	**Sn**	**20 58 41.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.20**	**96**	P	**Pn**	**20 58 30.9**	**-0.1**
YOJ				S	**Sn**	**20 58 41.1**	**-0.3**
EOS3	**EOS3**	**0.48**	**246**	P	**Pn**	**20 58 32.7**	**+0.4**
EOS3				S	**Sn**	**20 58 45.1**	**+1.5**
EOS2	**EOS2**	**0.52**	**263**	P	**Pn**	**20 58 32.9**	**+0.3**
EOS2				S	**Sn**	**20 58 45.0**	**+0.8**
EOS4	**EOS4**	**0.56**	**230**	*i* P	**Pn**	**20 58 33.2**	**+0.5**
EOS4				S	**Sn**	**20 58 45.1**	**+0.8**
IRIF	**Iriomote-Funau**	**0.87**	**100**	*i* P	**Pn**	**20 58 36.2**	**+0.2**
IRIF				*e*S	**Sn**	**20 58 49.9**	**-0.2**
ESAO	**Su ao**	**0.87**	**276**	*i* P	**Pn**	**20 58 36.0**	**0.0**
ESAO				*e*S	**Sn**	**20 58 49.1**	**-1.1**
TWC	**Suao**	**0.87**	**279**	P	**Pn**	**20 58 35.8**	**-0.2**
TWC				S	**Sn**	**20 58 49.3**	**-0.8**
TWB1	**Santiao Chiao**	**0.90**	**306**	P	**Pn**	**20 58 36.4**	**+0.1**
TWB1				*e*S	**Sn**	**20 58 49.7**	**-1.0**
ENA	**Nanau**	**0.96**	**267**	P	**Pn**	**20 58 37.2**	**+0.3**
ENA				S	**Sn**	**20 58 51.9**	**0.0**
TIPB	**Shuangxi**	**1.01**	**299**	P	**Pn**	**20 58 37.3**	**-0.1**
TIPB				S	**Sn**	**20 58 52.0**	**-0.7**
HATJ	**Hateruma jima**	**1.02**	**114**	*e*S	**Sn**	**20 58 53.1**	**+0.2**
SXI1	**Grass Mountain**	**1.03**	**306**	*i* P	**Pn**	**20 58 37.8**	**0.0**
SXI1				S	**Sn**	**20 58 53.3**	**-0.1**
TWE	**Neicheng**	**1.05**	**283**	P	**Pn**	**20 58 38.2**	**+0.3**
TWE				S	**Sn**	**20 58 52.7**	**-0.9**
ENTT	**Nioudou**	**1.13**	**278**	P	**Pn**	**20 58 38.9**	**+0.1**
ENTT				S	**Sn**	**20 58 55.4**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.13**	**284**	*e*P	**Pn**	**20 58 39.6**	**+0.7**
FUSB				S	**Sn**	**20 58 54.8**	**-0.6**
JKRS	**Kuro-shima**	**1.14**	**102**	*e*P	**Pn**	**20 58 39.5**	**+0.7**
JKRS				*e*S	**Sn**	**20 58 55.4**	**+0.2**
LATG	**Datong**	**1.16**	**273**	P	**Pn**	**20 58 39.7**	**+0.5**
NWLT	**Wulai**	**1.21**	**284**	P	**Pn**	**20 58 40.0**	**+0.3**
NWLT				*e*S	**Sn**	**20 58 55.7**	**-1.2**
JIJ	**Ishigaki jima**	**1.24**	**95**	P	**Pn**	**20 58 40.3**	**+0.3**
JIJ				*e*S	**Sn**	**20 58 56.5**	**-0.8**
NNSB	**Datong**	**1.29**	**268**	*i* P	**Pn**	**20 58 40.9**	**+0.1**
YM01	**YM01**	**1.29**	**301**	P	**Pn**	**20 58 41.1**	**+0.3**
YM01				S	**Sn**	**20 58 56.8**	**-0.1**
ETM	**Tongmen**	**1.29**	**247**	P	**Pn**	**20 58 40.5**	**-0.3**
NNS	**Nan Shan**	**1.29**	**268**	P	**Pn**	**20 58 41.0**	**+0.1**
YM08	**YM08**	**1.30**	**303**	*i* P	**Pn**	**20 58 40.9**	**+0.1**
YM08				S	**Sn**	**20 58 58.2**	**-0.5**
YHNB	**Yeheng**	**1.30**	**278**	P	**Pn**	**20 58 41.4**	**+0.5**
YHNB				S	**Sn**	**20 58 58.9**	**-0.1**
SHUL	**Shoufeng**	**1.32**	**239**	P	**Pn**	**20 58 41.1**	**+0.1**
NSK	**Sanguang**	**1.32**	**279**	*e*P	**Pn**	**20 58 41.8**	**+0.7**
NSK				S	**Sn**	**20 58 59.3**	**0.0**
ZUZH	**Zhuzihu**	**1.32**	**301**	P	**Pn**	**20 58 41.3**	**+0.2**
ZUZH				*e*S	**Sn**	**20 58 58.4**	**-0.8**
JISG	**Ishigakijimahi**	**1.39**	**85**	P	**Pn**	**20 58 42.1**	**+0.2**
JISG				S	**Sn**	**20 58 59.8**	**-0.8**
WARBT	**Fenglin Townsh**	**1.49**	**240**	*e*P	**Pn**	**20 58 42.8**	**-0.5**
KSHI	**Guanxi Townshi**	**1.50**	**282**	*e*P	**Pn**	**20 58 44.4**	**+1.1**
KSHI				S	**Sn**	**20 59 02.8**	**-0.3**
TDCB	**Techi**	**1.51**	**262**	P	**Pn**	**20 58 44.3**	**+0.8**
NFF	**Wufeng Townshi**	**1.53**	**276**	P	**Pn**	**20 58 44.1**	**+0.4**
HGSD	**Ruisui**	**1.59**	**232**	P	**Pn**	**20 58 44.3**	**+0.1**
WUSB	**Renai**	**1.61**	**253**	P	**Pn**	**20 58 45.1**	**+0.4**
EHY	**Hungye**	**1.66**	**234**	P	**Pn**	**20 58 45.1**	**-0.2**
VWDT	**VWDT**	**1.68**	**245**	P	**Pn**	**20 58 46.1**	**+0.7**
ECBN	**Changbin**	**1.69**	**227**	P	**Pn**	**20 58 45.6**	**0.0**
JTJ	**Tarama**	**1.75**	**84**	S	**Sn**	**20 59 07.8**	**-0.7**
YULB	**Yu-li**	**1.75**	**232**	P	**Pn**	**20 58 46.4**	**0.0**
TWF1	**Yuli**	**1.77**	**231**	P	**Pn**	**20 58 46.8**	**+0.1**
FULB	**Fuli**	**1.88**	**227**	P	**Pn**	**20 58 48.1**	**+0.1**
EHD	**Haiduan**	**1.97**	**228**	*e*P	**Pn**	**20 58 48.4**	**-0.9**
EDH	**Donghe**	**2.03**	**223**	*e*P	**Pn**	**20 58 49.7**	**-0.3**
EDH				S	**Sn**	**20 59 14.2**	**-0.9**
ELDTW	**Lidau**	**2.07**	**232**	P	**Pn**	**20 58 50.6**	**-0.1**
LDUT	**Ludao**	**2.17**	**214**	*e*P	**Pn**	**20 58 51.0**	**-0.8**
LDUT				*e*S	**Sn**	**20 59 17.0**	**-1.4**
LONT	**Longtian**	**2.19**	**225**	P	**Pn**	**20 58 52.2**	**+0.1**
LONT				S	**Sn**	**20 59 18.9**	**+0.1**
JIRB	**Irabujima**	**2.19**	**80**	*e*S	**Sn**	**20 59 18.6**	**-0.2**
WCKO	**Fanlu**	**2.26**	**243**	P	**Pn**	**20 58 53.6**	**+0.6**
WCKO				*e*S	**Sn**	**20 59 21.3**	**+0.9**
STYH	**Taoyuan**	**2.26**	**235**	P	**Pn**	**20 58 53.9**	**+0.9**
STYH				S	**Sn**	**20 59 20.2**	**-0.3**
TWGBT	**Beinan**	**2.28**	**224**	P	**Pn**	**20 58 53.3**	**0.0**
JMJ	**Miyako jima 2**	**2.30**	**81**	P	**Pn**	**20 58 54.5**	**+1.0**
JMJ				S	**Sn**	**20 59 20.9**	**-0.5**
TPUB	**Ta-pu**	**2.30**	**240**	P	**Pn**	**20 58 55.0**	**+1.4**

TAP 03 20:58:45.2, 23°.91N×121°.69E, h26km, ML2.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEYL	**Yanliau Villag**	**0.09**	**246**	*i* P	Pb	20 58 50.0	+0.2
TEYL				S	Sb	20 58 53.9	+0.9
HWA	**Hwalien**	**0.10**	**313**	*i* P	Pb	20 58 50.1	+0.2
HWA				S	Sb	20 58 54.2	+1.0
SHUL	**Shoufeng**	**0.16**	**224**	*i* P	Pb	20 58 50.8	+0.2
SHUL				*i* S	Sb	20 58 55.0	+0.9
ETM	**Tongmen**	**0.19**	**289**	P	Pb	20 58 50.7	-0.1
ETM				S	Sb	20 58 54.7	+0.1
TWD	**Chiawan**	**0.19**	**334**	P	Pb	20 58 50.8	-0.1
TWD				*i* S	Sb	20 58 54.9	+0.2
TEGC	**Jichi Village**	**0.24**	**215**	*e*P	Pb	20 58 51.7	+0.3
TEGC				*e*S	Sb	20 58 57.5	+1.9
ESL	**Shilin**	**0.25**	**249**	P	Pb	20 58 51.2	-0.4
ESL				*i* S	Sb	20 58 56.2	+0.3
ETL	**Fush Village**	**0.26**	**347**	*i* P	Pb	20 58 51.7	0.0
ETL				S	Sb	20 58 56.5	+0.3
LXIB	**Xiulin Townshi**	**0.28**	**295**	P	Pb	20 58 52.1	0.0
LXIB				*e*S	Sb	20 58 57.2	+0.4
NACB	**Ninganchiao**	**0.28**	**342**	*i* P	Pb	20 58 51.9	-0.1
NACB				*i* S	Sb	20 58 56.9	+0.2
WARBT	**Fenglin Townsh**	**0.33**	**236**	*i* P	Pb	20 58 52.2	-0.2
WARBT				*i* S	Sb	20 58 58.2	+0.3
EGFH	**Guangfu**	**0.34**	**225**	*i* P	Pb	20 58 52.6	-0.1
EGFH				S	Sb	20 58 58.9	+0.9
ETLH	**Xiulin Townshi**	**0.35**	**328**	*i* P	Pb	20 58 53.2	0.0
ETLH				*e*S	Sb	20 58 59.1	+0.5
EAHA	**Aohua**	**0.42**	**6**	*e*P	Pb	20 58 54.5	+0.3
EAHA				*e*S	Sb	20 59 01.1	+0.8
WHF	**Hehuan Shan**	**0.46**	**302**	P	Pb	20 58 55.1	+0.2
WHF				S	Sb	20 59 01.7	+0.1
OWD	**Renai**	**0.47**	**276**	*e*P	Pb	20 58 55.0	-0.1
OWD				*i* S	Sb	20 59 01.9	+0.1
HGSD	**Ruisui**	**0.48**	**211**	*e*P	Pn	20 58 55.8	-0.6
HGSD				*e*S	Sn	20 59 04.1	+0.2
EHYH	**Wanrong**	**0.52**	**218**	*i* P	Pb	20 58 55.3	-0.4
EHYH				S	Sn	20 59 04.5	-0.5
EHY	**Hungye**	**0.52**	**220**	*e*P	Pb	20 58 55.1	-0.7
EHY				*e*S	Sn	20 59 04.5	-0.4
ENA	**Nanau**	**0.52**	**5**	*e*P	Pb	20 58 56.0	+0.2
ENA				S	Sb	20 59 03.9	+0.8
VWDT	**VWDT**	**0.52**	**253**	*e*P	Pb	20 58 56.1	+0.3
VWDT				*e*S	Sb	20 59 03.8	+0.8
WUSB	**Renai**	**0.53**	**280**	*e*P	Pb	20 58 56.3	+0.2
WUSB				*i* S	Sb	20 59 03.8	+0.5
FUSS	**Fushou**	**0.53**	**310**	P	Pb	20 58 56.3	+0.2
FUSS				*i* S	Sb	20 59 04.1	+0.6
EWUT	**Wuta**	**0.54**	**9**	*e*P	Pn	20 58 56.9	-0.4
EWUT				*e*S	Sb	20 59 04.3	+0.6
TWT	**Tachien**	**0.58**	**307**	*e*P	Pn	20 58 58.2	+0.1
TWT				S	Sn	20 59 06.0	-0.8
NNSB	**Datong**	**0.59**	**332**	*e*P	Pb	20 58 57.4	+0.4
NNSB				*e*S	Sb	20 59 05.7	+0

WCKO				*e*S		Sb	20 59 22.3	+2.9
STYH	**Taoyuan**	**1.11**	**229**	*i* P		Pb	20 59 05.7	-0.1
STYH				*e*S		Sb	20 59 21.7	+1.9
LONT	**Longtian**	**1.12**	**207**	*e*P		Pb	20 59 05.7	-0.2
LONT				S		Sb	20 59 20.0	0.0
STYT	**Tauyuan**	**1.13**	**229**	P		Pb	20 59 06.4	+0.3
STYT				S		Sb	20 59 20.3	-0.1
TPUB	**Ta-pu**	**1.14**	**238**	P		Pb	20 59 06.7	+0.4
CHN4	**Tsaushan**	**1.15**	**241**	P		Pb	20 59 07.5	+1.2
CHN4				*e*S		Sb	20 59 25.2	+4.4
WTP	**Ta-pu**	**1.18**	**237**	P		Pb	20 59 07.5	+0.5
WTP				*e*S		Sb	20 59 24.5	+2.5
SXI1	**Grass Mountain**	**1.20**	**8**	*e*P		Pn	20 59 06.6	+0.2
SXI1				*e*S		Sb	20 59 22.2	-0.2
WTK	**Tuku**	**1.21**	**260**	*e*P		Pb	20 59 08.5	+1.1
WTK				*e*S		Sb	20 59 27.2	+4.6
RLNB	**Erlin**	**1.22**	**270**	P		Pb	20 59 08.3	+0.8
RLNB				*e*S		Sb	20 59 26.8	+3.9
TWGBT	**Beinan**	**1.22**	**207**	*e*P		Pb	20 59 07.3	-0.3
TWGBT				*e*S		Sn	20 59 21.6	-0.7
TWG	**Pinlang**	**1.22**	**208**	P		Pn	20 59 07.1	+0.5
TWG				S		Sn	20 59 21.5	-0.8
CHY	**Chiayi**	**1.23**	**251**	*e*P		Pb	20 59 08.5	+0.8
CHY				*e*S		Sb	20 59 27.0	+3.8
YM01	**YM01**	**1.24**	**355**	P		Pn	20 59 07.4	+0.5
YM01				S		Sb	20 59 23.4	-0.2
TWK	**Hsinying**	**1.27**	**240**	P		Pb	20 59 08.8	+0.3
TWK				S		Sb	20 59 27.0	+2.5
CHN1	**Nanshi**	**1.28**	**236**	P		Pb	20 59 09.4	+0.7
CHN1				*e*S		Sb	20 59 27.6	+2.8
SNST	**Tainan City**	**1.29**	**238**	P		Pb	20 59 09.0	+0.2
SNST				S		Sb	20 59 27.2	+2.3
SGST	**Jiashian**	**1.30**	**231**	P		Pb	20 59 08.5	-0.6
SGST				S		Sb	20 59 28.0	+2.7
WSL	**Shuilin Townsh**	**1.39**	**254**	*e*P		Pb	20 59 10.6	0.0
WSL				*i* S		Sb	20 59 30.0	+2.1
SSD	**Sandimen**	**1.51**	**220**	P		Pb	20 59 12.4	-0.1
SSD				S		Sb	20 59 32.1	+0.9
TSMG	**Majia**	**1.53**	**219**	P		Pb	20 59 12.6	-0.4
TSMG				S		Sb	20 59 32.5	+0.6
MASBT	**Mashibuluo**	**1.61**	**217**	P		Pb	20 59 13.6	-0.7
MASBT				*e*S		Sb	20 59 33.2	-1.0
TSCK	**Chigu Township**	**1.65**	**243**	*e*P		Pb	20 59 14.4	-0.6
TSCK				*e*S		Sb	20 59 36.2	+0.8
VWUC	**VWUC**	**2.31**	**298**	*e*P		Pn	20 59 21.9	+0.3
VWUC				*e*S		Sn	20 59 48.5	-0.6
PTMZ	**Houxiangcun**	**2.60**	**296**	P		Pn	20 59 26.8	+1.2
PTMZ				*e*S		Sn	20 59 56.5	+0.1

IDC ***03*** *21:05:30.4±0.5, 15°.12S×173°.71W, h0km, mb4.4/12, mbtmp4.4/12, MS3.8/25, Error ellipse: s-maj=27.5km s-min=15.1km az=130.0*

NEIC ***03*** *21:05:32.2±1.7, 15°.15S±0°.08×173°.4W±0°.1, h10km±1km, mb4.6/50, Error ellipse: s-maj=19.6km s-min=11.0km az=303.0*

GCMT ***03*** *21:05:39.2±0.4, 14°.92S±0°.03×173°.37W±0°.04, h12km, MW5.1/85, Moment Tensor Solution. s9,c9; s85,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.90±.09; $M_{\theta\theta}$0.91±.11; $M_{\phi\phi}$-0.01±.09; $M_{r\theta}$-4.81±.26; $M_{\theta\phi}$-0.03±.08; $M_{\phi r}$2.41±.22; Best double couple: M_o5.45400×10^{16} NP1:ϕ_s256.00000°, δ6.00000°, λ-130.00000°. NP2: ϕ_s116.00000°, δ86.00000°, λ-86.00000°. Principal axes: T 5.3830, Plg41.0000°, Azm203.0000°; N 0.1420, Plg4.0000°, Azm296.0000°; P -5.5260, Plg49.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 21:05:34.4±0.4, 15°.23S±0°.07×173°.27W±0°.07, h30km, n128, σ1§44/104, mb4.6/38, MS3.9/23, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AFI	**Afiamalu**	**1.95**	**48**		**Pn**	**21 06 05.5**		**0.0**
AFI				Sn	**Sn**	**21 06 26.3**		**-2.7**
NIUE	**Niue**	**4.98**	**141**		**Pn**	**21 06 49.0**		**+1.8**
MSVF	**Nonsavu**	**8.70**	**252**	Pn	**Pn**	**21 07 39.2**		**+0.9**
RAR	**Rarotonga**	**14.13**	**117**	LR	LR	21 13 13.0		
	comp=Z,55nm,20.3s,baz=312,slow=32							
RAO	**Raoul Island**	**14.60**	**196**	LR	LR	21 13 52.4		
	comp=Z,409nm,19.6s,baz=321,slow=34							
PINNC	**Pines Island,**	**19.66**	**245**	P	**Pn**	**21 10 01.6**		**-0.9**
DZM	**Mont Dzumac**	**20.38**	**247**	P	**P**	**21 10 08.6**		**-0.4**
DZM				IAmb	IAmb	21 10 15.8		
	comp=Z,61nm,1.4s							
DZM	**Mont Dzumac**	**20.38**	**247**	*e*P	Pn	21 10 13.1		+1.9
	comp=Z,89nm,1.4s							
DZM				*e*LR	LR	21 15 01.0		
	comp=Z,943nm,27.2s							
DZM	**Mont Dzumac**	**20.38**	**247**	P	**P**	**21 10 07.6**		**-1.4**
	comp=Z,9.3nm,0.9s,baz=71,slow=18,SNR=4.3							
PPT	**Papeete**	**22.84**	**99**	LR	LR	21 17 35.3		
	comp=Z,49nm,18.5s,baz=315,slow=31							
PPT2	**Papeete2**	**22.84**	**99**	*e*S	**S**	**21 14 39.0**		**-4.1**
	comp=Z,537nm,37.2s							
PPT2				*e*LR	LR	21 15 59.7		
	comp=Z,91nm,38.2s							
PPT2				*e*LR	LR	21 16 04.8		
	comp=Z,158nm,25.8s							
TBI	**Tubuai**	**23.85**	**113**	*e*S	**S**	**21 14 55.5**		**-4.0**
	comp=Z,1μm,30.0s							
TBI				*e*LR	LR	21 16 29.3		
	comp=Z,424nm,25.8s							
URZ	**Urewera**	**24.47**	**199**	LR	LR	21 19 37.6		
	comp=Z,288nm,19.4s,baz=28,slow=35							
BKZ	**Black Stump Fm**	**25.49**	**199**	P	**P**	**21 10 59.2**		**-0.9**
TAOE	**Nuku Hiva Isla**	**32.97**	**83**	*e*LR	LR	21 20 37.8		
	comp=Z,246nm,25.2s							
WHZ	**Wether Hill Ro**	**34.40**	**203**	P	**P**	**21 12 19.1**		**+0.2**
ARMA	**Armidale**	**35.54**	**239**	P	**P**	**21 12 26.8**		**-2.4**
ARMA				IAmb	IAmb	21 12 52.9		
	comp=Z,15nm,1.4s							
CAN	**Canberra**	**39.24**	**232**	P	**P**	**21 12 57.4**		**-2.9**
H11N3	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	21 55 30.9		
	baz=149,slow=76,SNR=6.9							
H11N1	**WAKE ISLAND Hy**	**39.83**	**330**	T	T	21 55 09.4		
	baz=149,slow=76,SNR=9.5							
H11N2	**WAKE ISLAND Hy**	**39.84**	**330**	T	T	21 55 06.2		
	baz=149,slow=76,SNR=6.8							
TOO	**Toolangi**	**42.68**	**231**	P	**P**	**21 13 26.0**		**-2.6**
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**21 13 39.1**		**-2.1**
STKA	**Stephens Creek**	**44.24**	**240**	P	**P**	**21 13 39.0**		**-2.1**
	comp=Z,4.3nm,0.9s,baz=105,slow=9.7,SNR=6.7							
	comp=Z,4.3nm,0.9s							
BBOO	**Buckleboo**	**49.01**	**240**	P	**P**	**21 14 15.7**		**-3.0**
WB0	**Warramunga Arr**	**49.97**	**257**	P	**P**	**21 14 24.1**		**-2.1**
WB0				IAmb	IAmb	21 14 26.0		
	comp=Z,7.4nm,1.0s							
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**21 14 23.8**		**-2.7**
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**21 14 23.5**		**-2.9**
	comp=Z,1.4nm,0.5s,baz=97,slow=7.8,SNR=34							
WRA				PcP	**PcP**	**21 15 44.8**		**-1.5**
	comp=Z,0.8nm,0.8s,baz=86,slow=3.6,SNR=3.1							
	comp=Z,1.4nm,0.5s							
AS31	**Alice Springs**	**50.29**	**252**	P	**P**	**21 14 26.0**		**-2.6**
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**21 14 25.2**		**-3.3**
ASAR	**Alice Springs**	**50.29**	**252**	P	**P**	**21 14 25.6**		**-3.0**
	comp=Z,12nm,0.7s,baz=87,slow=7.7,SNR=117							
ASAR				PcP	**PcP**	**21 15 46.6**		**-0.7**
	comp=Z,0.6nm,0.8s,baz=89,slow=4.0,SNR=1.1							
	comp=Z,12nm,0.7s							
SBA	**Scott Base**	**63.43**	**185**	P	**P**	**21 16 03.2**		**+2.4**
VNDA	**Vanda**	**63.56**	**186**	P	**P**	**21 16 03.0**		**+1.3**
VNDA				IAmb	IAmb	21 16 04.6		
	comp=Z,6.0nm,0.9s							
VNDA	**Vanda**	**63.56**	**186**	P	**P**	**21 16 03.1**		**+1.4**
	comp=Z,4.3nm,0.8s,baz=40,slow=6.0,SNR=10							
	comp=Z,4.3nm,0.8s							
MJAR	**Matsushiro Arr**	**68.89**	**320**	LR	LR	21 40 10.2		
	comp=Z,104nm,21.9s,baz=180,slow=30							
PETK	**Petropavlovsk-**	**72.51**	**342**	P	**P**	**21 16 58.0**		**-0.1**
PETK	**Petropavlovsk-**	**72.51**	**342**	P	**P**	**21 16 58.4**		**+0.3**
	comp=Z,2.6nm,0.8s,baz=142,slow=7.5,SNR=6.2							
	comp=Z,2.6nm,0.8s							
CMB	**Columbia Colle**	**72.55**	**41**	P	**P**	**21 16 59.2**		**+0.4**
CMB				IAmb	IAmb	21 17 01.6		
	comp=Z,4.0nm,0.9s							
PFO	**Pinyon Flats O**	**72.71**	**47**	LR	LR	21 41 23.1		
	comp=Z,138nm,20.9s,baz=220,slow=30							
AFDM	**Forest Hills D**	**72.72**	**40**		**P**	**21 16 59.8**		**0.0**
AFDM				IAmb	IAmb	21 17 02.5		
	comp=Z,6.6nm,1.0s							
LPIG	**La Paz**	**72.84**	**58**	LR	LR	21 41 02.7		
	comp=Z,69nm,19.7s,baz=234,slow=29							
YBH	**Yreka Blue Hor**	**73.38**	**37**	P	**P**	**21 17 05.8**		**+2.1**
	comp=Z,0.3nm,0.8s,baz=207,slow=1.4,SNR=8.1							
YBH				LR	LR	21 41 38.2		
	comp=Z,7.8nm,22.0s,baz=274,slow=30							
WAKR	**Walker**	**73.43**	**41**		**P**	**21 17 04.7**		**+0.5**
WAKR				IAmb	IAmb	21 17 07.3		
	comp=Z,15nm,1.4s							
PIX	**Pinacate**	**73.83**	**50**	P	**P**	**21 17 07.5**		**+1.1**
PIX				IAmb	IAmb	21 17 09.1		
	comp=Z,9.0nm,1.2s							
IRM	**Iron Mountain**	**73.92**	**47**		**P**	**21 17 07.7**		**+0.7**
IRM				IAmb	IAmb	21 17 10.1		
	comp=Z,9.1nm,1.3s							
NVAR	**Mina Array Bea**	**74.11**	**42**		**P**	**21 17 09.4**		**+1.2**
NVAR	**Mina Array Bea**	**74.11**	**42**	P	**P**	**21 17 10.1**		**+1.8**
	comp=Z,3.8nm,0.9s,baz=227,slow=10.0,SNR=16							
NVAR				LR	LR	21 42 15.6		
	comp=Z,112nm,21.5s,baz=273,slow=30							
	comp=Z,3.8nm,0.9s							
113A	**Mohawk Valley,**	**74.20**	**49**	P	**P**	**21 17 08.8**		**+0.2**
113A				IAmb	IAmb	21 17 11.7		
	comp=Z,5.7nm,1.2s							
NV11	**Mina Array Sit**	**74.21**	**42**		**P**	**21 17 09.3**		**+0.6**
NV11				IAmb	IAmb	21 17 11.7		
	comp=Z,8.6nm,1.1s							
TPH	**Tonopah**	**74.62**	**43**	P	**P**	**21 17 12.5**		**+1.3**
KDAK	**Kodiak Island**	**74.73**	**11**	LR	LR	21 44 07.1		
	comp=Z,81nm,20.3s,baz=226,slow=31							
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**	**21 17 13.1**		**+1.4**
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**	**21 17 13.6**		**+1.8**
	comp=Z,16nm,0.9s,baz=28,slow=1.5,SNR=40							
	comp=Z,16nm,0.9s							
J05D	**Fort Rock, OR**	**75.20**	**37**	P	**P**	**21 17 14.7**		**+0.4**
J05D				IAmb	IAmb	21 17 17.6		
	comp=Z,12nm,1.2s							
TUC	**Tucson**	**76.18**	**51**		**P**	**21 17 21.1**		**+1.0**
TUC				IAmb	IAmb	21 17 23.6		
	comp=Z,4.7nm,1.1s							
WVOR	**Wild Horse Val**	**76.22**	**38**	P	**P**	**21 17 20.1**		**0.0**
WVOR				IAmb	IAmb	21 17 23.0		
	comp=Z,11nm,1.2s							
CCUT	**Cedar City**	**76.92**	**45**	P	**P**	**21 17 24.9**		**+0.6**
CCUT				IAmb	IAmb	21 17 27.9		
	comp=Z,6.9nm,1.3s							
USA0B	**Ussuriysk Arra**	**77.33**	**323**	P	**P**	**21 17 27.9**		**+1.7**
USRK	**Ussuriysk Ar.**	**77.33**	**323**	P	**P**	**21 17 27.8**		**+1.7**
ELK	**Elko**	**77.37**	**41**	P	**P**	**21 17 28.1**		**+1.3**
ELK	**Elko**	**77.37**	**41**	P	**P**	**21 17 28.4**		**+1.6**
	comp=Z,1.7nm,0.9s,baz=188,slow=18,SNR=4.6							
	comp=Z,1.7nm,0.9s							
BBB	**Bella Bella**	**77.67**	**27**	LR	LR	21 43 44.6		
	comp=Z,75nm,21.1s,baz=176,slow=30							
BMO	**Blue Mountains**	**78.41**	**37**	P	**P**	**21 17 32.8**		**+0.5**
MFID	**Camas Ranch**	**78.47**	**39**		**P**	**21 17 33.0**		**+0.3**
HLID	**Hailey**	**79.41**	**39**		**P**	**21 17 38.3**		**+0.3**
VHRN	**Van Horn**	**79.95**	**54**		**P**	**21 17 42.1**		**+1.0**
NJ2	**Nanjing**	**80.17**	**307**	*e*P	P	21 17 47.6		+5.6
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.6s							
TX31	**Lajitas Ar. Si**	**80.41**	**56**	P	**P**	**21 17 44.2**		**+0.6**
TXAR	**Lajitas Array**	**80.41**	**56**		**P**	**21 17 44.4**		**+0.2**
TXAR	**Lajitas Array**	**80.41**	**56**	P	**P**	**21 17 46.1**		**+2.5**
	comp=Z,0.8nm,0.9s,baz=212,slow=4.4,SNR=8.0							
	comp=Z,0.8nm,0.9s							
NEW	**Newport**	**80.49**	**34**	LR	LR	21 45 23.5		
	comp=Z,52nm,21.7s,baz=214,slow=30							
ANMO	**Albuquerque**	**80.59**	**50**	P	**P**	**21 17 45.4**		**+0.8**
ANMO	**Albuquerque**	**80.59**	**50**	LR	LR	21 45 32.2		
	comp=Z,118nm,21.3s,baz=4.0,slow=30							
MCMT	**McKenzie Canyo**	**81.04**	**39**	P	**P**	**21 17 47.5**		**+0.7**
AHID	**Auburn Hatcher**	**81.06**	**41**	P	**P**	**21 17 47.6**		**+0.7**
AHID				IAmb	IAmb	21 17 49.6		
	comp=Z,9.3nm,1.5s							
DLBC	**Dease Lake**	**81.49**	**21**	LR	LR	21 46 12.2		
	comp=Z,5.9nm,20.3s,baz=223,slow=30							
FXWY	**Fox Creek**	**81.55**	**41**	P	**P**	**21 17 50.0**		**+0.5**
S22A	**4UR Ranch, Cre**	**81.56**	**47**		**P**	**21 17 50.4**		**+0.6**
S22A				IAmb	IAmb	21 17 53.5		
	comp=Z,6.8nm,1.4s							
WRH	**Wood River Hil**	**81.76**	**11**	P	**P**	**21 17 50.1**		**+0.3**
WRH				IAmb	IAmb	21 17 53.0		
	comp=Z,12nm,1.1s							
CCB	**Clear Creek Bu**	**81.97**	**11**	P	**P**	**21 17 50.9**		**0.0**
CCB				IAmb	IAmb	21 17 52.7		
	comp=Z,7.4nm,0.9s							
PD31	**Pinedale Array**	**82.05**	**42**	P	**P**	**21 17 51.8**		**-0.3**
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**21 17 51.1**		**-1.0**
PDAR	**Pinedale Array**	**82.05**	**42**	P	**P**	**21 17 53.3**		**+1.1**
	comp=Z,1.0nm,0.9s,baz=216,slow=1.3,SNR=6.3							
PDAR				LR	LR	21 49 16.1		
	comp=Z,52nm,18.2s,baz=253,slow=32							
	comp=Z,1.0nm,0.9s							
YHL	**Hebgen Lake**	**82.06**	**39**	P	**P**	**21 17 52.0**		**-0.3**
YHL				IAmb	IAmb	21 17 57.3		
	comp=Z,9.5nm,1.2s							
SCRK	**Sand Creek**	**82.11**	**13**		**P**	**21 17 52.0**		**+0.1**
SCRK				IAmb	IAmb	21 17 54.1		
	comp=Z,3.7nm,0.8s							
COLA	**College**	**82.17**	**11**	P	**P**	**21 17 52.1**		**+0.2**
ILAR	**Eielson Array**	**82.25**	**11**	P	**P**	**21 17 52.1**		**-0.3**
ILAR	**Eielson Array**	**82.25**	**11**	P	**P**	**21 17 52.4**		**-0.1**
	comp=Z,1.0nm,0.8s,baz=212,slow=5.7,SNR=10							
ILAR				LR	LR	21 47 47.7		
	comp=Z,62nm,21.0s,baz=259,slow=31							
	comp=Z,1.0nm,0.8s							
L29M	**L29M**	**82.73**	**15**	P	**P**	**21 17 54.6**		**-0.4**
L29M				IAmb	IAmb	21 17 57.9		
	comp=Z,2.9nm,0.9s							
MSTX	**Muleshoe**	**82.95**	**52**	P	**P**	**21 17 56.5**		**-0.4**
MSTX				IAmb	IAmb	21 18 00.8		
	comp=Z,7.7nm,1.0s							
K29M	**Barlow Dome**	**83.50**	**15**		**P**	**21 17 59.3**		**+0.2**
K29M				IAmb	IAmb	21 18 01.8		
	comp=Z,5.8nm,1.1s							
CMIG	**Matias Romero**	**83.70**	**70**	LR	LR	21 46 52.5		
	comp=Z,48nm,21.2s,baz=178,slow=30							
I28M	**Miner Creek**	**84.27**	**13**	P	**P**	**21 18 03.5**		**+0.5**
I28M				IAmb	IAmb	21 18 07.2		
	comp=Z,3.1nm,1.1s							
PMSA	**Palmer Station**	**84.28**	**156**	LR	LR	21 46 03.4		
	comp=Z,68nm,21.9s,baz=242,slow=29							
G26K	**Porcupine Rive**	**84.78**	**11**	P	**P**	**21 18 05.9**		**+0.6**
BMAR	**Burnt Mountain**	**85.06**	**11**	P	**P**	**21 18 07.5**		**+0.7**
MAW	**Mawson**	**88.00**	**199**	P	**P**	**21 18 21.4**		**+0.1**
	comp=Z,6.1nm,0.7s,baz=143,slow=4.8,SNR=16							
MAW				LR	LR	21 55 13.8		
	comp=Z,89nm,19.8s,baz=102,slow=34							
	comp=Z,6.1nm,0.7s							
INK	**Inuvik**	**88.07**	**14**	LR	LR	21 50 24.7		
	comp=Z,53nm,21.2s,baz=221,slow=31							
HHC	**Hu-ho-hao-te**	**89.00**	**313**	*e*P	**P**	**21 18 30.5**		**+3.8**
HHC				pmax	pmax			
	comp=Z,11nm,0.6s							
HHC				pmax	pmax			
	comp=Z,94nm,4.4s							
PLCA	**Paso Flores**	**89.53**	**132**	LR	LR	21 48 51.8		
	comp=Z,45nm,19.1s,baz=240,slow=29							
YKA	**Yellowknife Ar**	**89.89**	**23**	LR	LR	21 51 36.1		
	comp=Z,76nm,20.4s,baz=273,slow=31							
JTS	**Las Juntas de**	**91.05**	**80**	LR	LR	21 50 05.0		
	comp=Z,44nm,20.8s,baz=252,slow=29							
PZH	**PanZhiHua**	**92.31**	**297**	P	P	21 18 47.1	+4.7	
SONM	**Songo Array**	**94.80**	**318**	LR	LR	21 55 48.9		
	comp=Z,48nm,21.4s,baz=177,slow=32							
TKL	**Tuckaleechee C**	**98.31**	**55**	LR	LR	21 59 40.2		
	comp=Z,42nm,18.3s,baz=314,slow=33							
BNN	**Bunyan**	**145.25**	**318**	PKPbc	**PKPbc**	**21 25 09.2**		**-0.2**
GRF	**Grafenberg Arr**	**145.43**	**355**	*e*PKPdf	**PKPdf**	**21 25 10.5**		**+1.0**
	baz=7.1,slow=2.7							
GERES	**GERESS Array B**	**145.99**	**352**	PKPbc	**PKPdf**	**21 25 10.9**		**+0.3**
	comp=Z,0.4nm,0.3s,baz=35,slow=3.6,SNR=6.6							
BR131	**Keskin Array S**	**146.10**	**321**	PKPbc	**PKPdf**	**21 25 11.6**		**+0.4**
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	**PKPbc**	**21 25 11.8**		**-0.2**
BRTR	**Keskin Array B**	**146.10**	**321**	PKPbc	**PKPbc**	**21 25 12.2**		**+0.1**
	comp=Z,5.7nm,0.7s,baz=104,slow=2.3,SNR=21							
CONA	**Conrad Observa**	**146.53**	**349**	*e*PKP	**PKPab**	**21 25 13.7**		**-0.2**
	comp=Z,6.1nm,1.0s							
RONA	**Rosalia, Austr**	**146.66**	**348**	*e*PKP	**PKPbc**	**21 25 13.8**		**+0.5**
	comp=Z,6.2nm,1.1s							
MOA	**Molln**	**146.88**	**351**	*e*PKP	**PKPbc**	**21 25 14.4**		**+0.5**
	comp=Z,4.1nm,0.9s							
ARSA	**Arzberg**	**147.24**	**349**	*i* PKP	**PKPbc**	**21 25 15.1**		**+0.1**
	comp=Z,4.6nm,1.1s							
RETA	**Reutte**	**147.66**	**355**	*e*PKP	**PKPbc**	**21 25 15.4**		**-0.7**
	comp=Z,5.4nm,1.2s							
WATA	**Walderalm**	**147.73**	**354**	*i* PKP	**PKPbc**	**21 25 15.7**		**-0.8**
	comp=Z,5.3nm,1.1s							
BEHE	**Becsehely**	**147.74**	**347**	PKPbc	**PKPbc**	**21 25 16.4**		**+0.1**
MOTA	**Moosalm**	**147.77**	**354**	*i* PKP	**PKPbc**	**21 25 16.7**		**+0.2**
	comp=Z,5.8nm,1.1s							
WTTA	**Wattenberg**	**147.80**	**354**	*i* PKP	**PKPbc**	**21 25 16.9**		**+0.3**
	comp=Z,3.2nm,0.6s							
SQTA	**Sankt Quirin**	**147.88**	**354**	*i* PKP	**PKPbc**	**21 25 17.1**		**+0.3**
	comp=Z,3.8nm,1.0s							
SOKA	**Soboth**	**147.89**	**349**	*i* PKP	**PKPbc**	**21 25 17.3**		**+0.6**
	comp=Z,5.7nm,1.0s							
DAVA	**Damuels**	**147.93**	**356**	*i* PKP	**PKPbc**	**21 25 17.4**		**+0.4**
	comp=Z,9.3nm,1.2s							
FETA	**Feichten**	**148.13**	**355**	*i* PKP	**PKPbc**	**21 25 17.8**		**+0.3**
	comp=Z,3.7nm,1.1s							
OBKA	**Obir**	**148.13**	**350**	*i* PKP	**PKPbc**	**21 25 17.8**		**+0.3**
	comp=Z,5.5nm,1.6s							
ABTA	**Abfaltersbach**	**148.21**	**352**	*i* PKP	**PKPbc**	**21 25 18.1**		**+0.5**
	comp=Z,7.6nm,1.0s							
MMAI	**Mount Meron Ar**	**148.56**	**309**	PKPbc	**PKPbc**	**21 25 18.7**		**-0.3**
	comp=Z,2.1nm,0.7s,baz=50,slow=2.3,SNR=3.6							
FUORN	**Ofenpass-Fuorn**	**148.56**	**355**	PKPbc	**PKPbc**	**21 25 19.1**		**+0.3**

MOS ***03*** *21:10:53.7±1.1, 12°.74N×124°.90E, h38km, mb5.1/45, Error ellipse: s-maj=9.5km s-min=4.9km az=109.4*

BJI ***03*** *21:10:53.8, 12°.62N×125°.14E, h52km, mB4.9/28, mb4.7/75, Ms4.5/67, Ms7 4.3/70*

IDC ***03*** *21:10:55.7±0.5, 12°.70N×124°.85E, h35km±3km, mb4.3/32, mbtmp4.6/36, ML4.9/4, MS4.2/48, Error ellipse: s-maj=11.3km s-min=6.7km az=79.0*

GCMT ***03*** *21:10:56.5±0.2, 12°.87N±0°.01×124°.95E±0°.02, h24km±1km, MW5.0/111, Moment Tensor Solution. s37,c47; s111,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.77±.15; $M_{\theta\theta}$3.24±.12; $M_{\phi\phi}$-2.47±.10; $M_{r\theta}$1.44±.15; $M_{\theta\phi}$0.10±.07; $M_{\phi r}$2.13±.20; Best double couple: M_o3.89700×10^{16} NP1:ϕ_s129.00000°, δ49.00000°, λ-12.00000°. NP2:ϕ_s228.00000°, δ81.00000°, λ-138.00000°. Principal axes: T 3.8050, Plg21.0000°, Azm352.0000°; N 0.1860, Plg47.0000°, Azm238.0000°; P -3.9900, Plg36.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***03*** *21:10:56.5±1.9, 12°.81N±0°.07×125°.06E±0°.08, h42km±6km, mb5.0/122 Error ellipse: s-maj=11.8km s-min=9.4km az=71.0*

DJA ***03*** *21:11:03.0±0.4, 13°.N±2°×12°.5E±°, h157km±9km, M5.1/21, mb5.0/21, mB5.3/12, MLv5.8/1, Mw(mB)4.7/12*

ISC 03 21:10:56.2±0.3, 12°.73N±0°.03×125°.00E±0°.05, h43km±2km, h43km:pP-P, n407, σ1§62/444, mb4.9/154, MS4.3/69, 18C-6D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
TGY	**Tagaytay City**	**4.19**	**290**	Pn	**Pn**	**21 11 56.4**		**-1.3**
	112nm,0.3s,baz=192,slow=5.1,SNR=12							
TGY				Sn	**Sn**	**21 12 40.1**		**-5.3**
	48nm,0.3s,baz=129,slow=5.1,SNR=3.3							
TGY				Lg	Lg	21 13 02.7		
	42nm,0.3s,baz=119,slow=19,SNR=3.4							
TGY				LR	LR	21 13 47.1		
	comp=Z,7μm,19.2s,baz=104,slow=42							
	151nm,0.4s							
DAV	**Davao City (W)**	**5.65**	**174**	Pn	**Pn**	**21 12 16.6**		**-1.1**
DAV	**Davao City (W)**	**5.65**	**174**	Pn	**Pn**	**21 12 17.0**		**-0.7**
	47nm,0.3s,baz=55,slow=18,SNR=2.0							
DAV				Sn	**

comp=Z,220nm,1.6s
WHN LR LR
comp=Z,3μm,20.4s
JNU Nakatsue 21.00 14 P 21 15 35.2 -0.9
JNU Nakatsue 21.00 14 P P 21 15 36.4 +0.3
comp=Z,19nm,0.9s,baz=210,slow=2.1,SNR=7.1
JNU pP **pwP 21 15 48.0 -2.3**
comp=Z,31nm,0.9s,baz=110,slow=1.0,SNR=8.1
JNU S **S 21 19 31.4 +3.6**
comp=Z,13nm,1.4s,baz=95,slow=13,SNR=1.4
JNU LR LR 21 23 02.0
comp=Z,365nm,21.8s,baz=197,slow=34
comp=Z,19nm,0.9s
MMRI Maumere 21.40 188 P P 21 15 41.8 +1.3
MMRI IAmb IAmb 21 15 59.1
comp=Z,80nm,0.8s
SAUI Saumlaki 21.50 163 P P 21 15 42.7 +1.1
JAY Jayapura 21.73 133 P P 21 15 44.9 +0.8
comp=Z,28nm,1.1s,baz=276,slow=4.8,SNR=10
JAY S **S 21 19 47.5 +5.0**
comp=Z,2.7nm,0.8s,baz=163,slow=20,SNR=1.4
JAY LR LR 21 22 16.1
comp=Z,802nm,21.3s,baz=326,slow=31
comp=Z,28nm,1.1s
SLVN Son La 21.89 296 P P 21 15 46.7 +0.9
SOEI Soe 22.35 182 P P 21 15 53.2 +2.5
SOEI IAmb IAmb 21 16 07.8
comp=Z,45nm,0.7s
JMN Monobe 22.42 20 P 21 15 51.3 0.0
JMN IAmb IAmb 21 16 05.0
comp=Z,109nm,1.2s
BATI Baumata 22.82 183 LR LR 21 26 08.8
comp=Z,429nm,19.4s,baz=5.5,slow=40
MYKOM **Kota Tinggi 23.60 244** P **P 21 16 05.9 +2.5**
MYKOM IAmb IAmb 21 16 14.6
comp=Z,97nm,1.5s
TJN Taejon 23.65 5 P P 21 16 02.7 -0.9
TJN Taejon 23.65 5 P P 21 16 02.7 -0.9
TJN pmax pmax
comp=Z,363nm,0.9s
JAGI Jajag, Banyuwa 23.66 208 P P 21 16 06.0 +2.1
KMI Kunming 24.36 304 P P 21 16 12.4 +1.8
KMI PP **PnPn 21 16 47.6 +5.3**
KMI S **S 21 20 30.0 +2.5**
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI pmax pmax
comp=Z,230nm,7.2s
KMI LR LR
comp=Z,960nm,19.2s
TIA Tai'an 24.44 344 P P 21 16 10.7 -0.3
TIA S **S 21 20 27.4 -0.7**
TIA pmax pmax
comp=Z,30nm,0.9s
TIA LR LR
comp=Z,400nm,13.7s
TIA LR LR
comp=Z,560nm,14.4s
TIA LR LR
comp=Z,430nm,19.2s
LYN LuoYang 24.53 334 ⇓*i*P **P 21 16 12.6 +0.8**
LYN pP pP 21 16 22.8 +0.5
LYN sP sP 21 16 27.8 +0.8
LYN PP **PnPn 21 16 50.2 +5.8**
LYN S **S 21 20 33.2 +3.6**
LYN sS sS 21 20 43.5 -5.1
LYN pmax pmax
comp=Z,160nm,1.2s
LYN pmax pmax
comp=Z,520nm,3.8s
LYN LR LR
comp=Z,430nm,18.5s
LYN LR LR
comp=Z,770nm,22.0s
LYN LR LR
comp=Z,1μm,19.9s
INCN Inchon 24.70 3 P 21 16 12.7 -0.6
INCN IAmb IAmb 21 16 14.7
comp=Z,79nm,1.4s
INCN Inchon 24.70 3 P P 21 16 12.7 -0.6
INCN pmax pmax
comp=Z,79nm,1.5s
KSAR Wonju Array Be 24.75 5 P P 21 16 14.3 +0.6
KSAR Wonju Array Be 24.75 5 P P 21 16 14.3 +0.6
KSRS Korea Array 24.76 6 P P 21 16 13.8 -0.1
comp=Z,35nm,1.1s,baz=184,slow=10,SNR=102
KSRS pP **pP 21 16 25.9 +1.6**
comp=Z,21nm,1.0s,baz=182,slow=9.4,SNR=12
comp=Z,35nm,1.1s
KS19 Wonju Array Si 24.81 5 P P 21 16 14.4 +0.2
KS19 IAmb IAmb 21 16 16.0
comp=Z,62nm,1.1s
INU Inuyama 25.01 24 P 21 16 15.4 -0.7
INU IAmb IAmb 21 16 18.4
comp=Z,44nm,1.3s
JGF Kuroka 25.36 24 P P 21 16 18.5 -0.9
CMAR Chiang Mai Arr 25.73 286 P P 21 16 21.6 -1.2
comp=Z,1.1nm,0.6s,baz=100,slow=7.7,SNR=8.3
CMAR pP **pP 21 16 33.6 -0.3**
comp=Z,2.9nm,0.8s,baz=98,slow=7.6,SNR=8.2
CMAR LR LR 21 27 47.8
comp=Z,452nm,18.1s,baz=100,slow=40
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 25.73 286*ce*P **P 21 16 21.2 -1.6**
XAN Xi'an 25.78 328 P **P 21 16 22.4 -0.8**
XAN pP pP 21 16 32.6 -1.0
XAN S **S 21 20 49.0 -0.6**
XAN sS sS 21 21 05.5 -3.2
XAN pmax pmax
comp=Z,55nm,1.1s
XAN pmax pmax
comp=Z,350nm,5.3s
XAN LR LR
comp=Z,790nm,14.6s
XAN LR LR
comp=Z,670nm,13.6s
XAN LR LR
comp=Z,1μm,16.5s
PZH PanZhiHua 25.78 306 P P 21 16 22.1 -1.3
PZH S **S 21 20 46.7 -3.3**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH LR LR
comp=Z,630nm,17.5s
PZH LR LR
comp=Z,650nm,18.6s
PZH LR LR
comp=Z,1μm,22.1s
LEM Lembang 26.00 223 LR LR 21 29 13.9
comp=Z,185nm,18.1s,baz=59,slow=42
MTN Manton Dam 26.12 166 P 21 16 25.8 -0.5
MTN IAmb IAmb 21 16 49.6
comp=Z,73nm,1.2s
MTN Manton Dam 26.12 166 P **P 21 16 25.6 -0.7**
comp=Z,51nm,0.5s
HNS HongShan 26.24 341 ⇑P **P 21 16 27.4 +0.1**
HNS S **S 21 20 57.7 +1.0**
HNS pmax pmax
comp=Z,50nm,1.2s
HNS LR LR
comp=Z,390nm,15.9s
HNS LR LR
comp=Z,470nm,16.7s
DL2 Dalian 26.25 354 P **P 21 16 28.0 +0.7**
DL2 S **S 21 20 56.6 -0.1**
DL2 sS **sS 21 21 17.4 +1.5**
DL2 pmax pmax
comp=Z,23nm,1.0s
DL2 LR LR
comp=Z,1μm,19.7s
DL2 LR LR
comp=Z,470nm,15.0s
DL2 LR LR
comp=Z,910nm,15.4s
KDU Kakadu 26.31 163 P P 21 16 26.9 -1.2
MAJO Matsushiro 26.52 24 P P 21 16 28.2 -1.7
MAJO Matsushiro 26.52 24 P P 21 16 28.2 -1.7
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 26.52 24 P P 21 16 27.6 -2.3
comp=Z,2.2nm,0.9s,baz=199,slow=8.3,SNR=8.2
MJAR LR LR 21 26 35.0
comp=Z,375nm,18.7s,baz=208,slow=35
MJB9 Matsu-Tunnel 26.52 24 P P 21 16 28.3 -1.6
CD2 Chengdu 26.68 316 P P 21 16 31.2 -0.2
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,2μm,20.8s
CD2 LR LR
comp=Z,2μm,17.3s
CD2 LR LR
comp=Z,2μm,16.7s
TIY Taiyuan 27.30 338 P P 21 16 37.6 +0.7
TIY pP **pP 21 16 49.0 +1.6**
TIY S **S 21 21 20.8 +7.2**
TIY pmax pmax
comp=Z,22nm,0.9s
TIY LR LR
comp=Z,290nm,13.7s
TIY LR LR
comp=Z,360nm,13.1s
TIY LR LR
comp=Z,370nm,16.5s
PSI Prapat 27.63 251 LR LR 21 28 04.4
comp=Z,480nm,18.6s,baz=68,slow=37
PSI Prapat 27.63 251 P **P 21 16 38.7 -1.4**
PSI pmax pmax
comp=Z,13nm,0.9s
RPSI Rantau Prapat 27.67 251 P **P 21 16 38.7 -1.7**
MNAI Manna 27.71 234 P **P 21 16 39.8 -1.0**
TNCH TengChong 27.82 300 P **P 21 16 45.0 +3.1**
TNCH sP sP 21 17 01.7 +4.1
TNCH PP **PnPn 21 17 33.3 +3.7**
TNCH S **S 21 21 24.5 +2.1**
TNCH sS sS 21 21 41.3 -0.3
TNCH pmax pmax
comp=Z,14nm,0.8s
TNCH pmax pmax
comp=Z,96nm,5.0s
TNCH LR LR
comp=Z,510nm,13.4s
TNCH LR LR
comp=Z,380nm,14.3s
TNCH LR LR
comp=Z,680nm,16.7s
KNRA Kununurra 28.46 172 P **P 21 16 46.3 -1.1**
KNRA IAmb IAmb 21 16 57.7
comp=Z,29nm,0.8s
KNRA Kununurra 28.46 172 P **P 21 16 47.7 +0.4**
comp=Z,48nm,0.9s
JMM Marumori 28.73 27 P **P 21 16 49.2 -0.3**
LZH Lanzhou 30.07 324 *e*P **P 21 17 02.4 +0.7**
LZH sP pwP 21 17 17.6 +0.6
LZH S **S 21 22 00.6 +3.2**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH LR LR
comp=Z,800nm,15.5s
LZH LR LR
comp=Z,640nm,14.8s
LZH LR LR
comp=Z,830nm,14.8s
HHC Hu-ho-hao-te 30.40 340 *e*P **P 21 17 04.7 +0.3**
HHC pP pP 21 17 14.4 -0.5
HHC S **S 21 22 01.6 -0.7**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.2s
HHC LR LR
comp=Z,190nm,13.3s
HHC LR LR
comp=Z,270nm,12.8s
HHC LR LR
comp=Z,380nm,13.9s
BTO Baotou 30.73 337 *e*P **P 21 17 08.8 +1.4**
BTO pP **pwP 21 17 20.2 -2.2**
BTO PP **PP 21 18 14.9 -2.5**
BTO S **S 21 22 10.6 +3.0**
BTO pmax pmax
comp=Z,22nm,0.9s
BTO pmax pmax
comp=Z,280nm,4.6s
BTO LR LR
comp=Z,740nm,19.7s
BTO LR LR
comp=Z,460nm,11.9s
BTO LR LR
comp=Z,720nm,20.6s
CN2 Changchun 30.97 1 *e*P **P 21 17 11.3 +2.0**
CN2 *e*pP sP 21 17 23.2 -1.2
CN2 *e*S **S 21 22 11.7 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,200nm,15.0s
PMG Port Moresby 31.11 134 P **P 21 17 11.2 +0.4**
PMG IAmb IAmb 21 18 12.2
comp=Z,50nm,1.2s
PMG Port Moresby 31.11 134 LR LR 21 31 37.0
comp=Z,103nm,19.5s,baz=322,slow=40
PMG Port Moresby 31.11 134 P **P 21 17 11.2 +0.4**
PMG pmax pmax
comp=Z,50nm,1.2s
USA0B Ussuriysk Arra 31.93 10 P **P 21 17 16.6 -1.2**
USA0B IAmb IAmb 21 17 29.8
comp=Z,14nm,0.7s
USA0B Ussuriysk Arra 31.93 10 P **P 21 17 16.6 -1.2**
USA0B pmax pmax
comp=Z,14nm,0.7s
USRK Ussuriysk Ar. 31.93 10 P 21 17 17.5 -0.3
USRK Ussuriysk Ar. 31.93 10 P **P 21 17 17.6 -0.1**
comp=Z,10.0nm,0.8s,baz=201,slow=7.7,SNR=21
USRK pP **pP 21 17 28.9 +0.6**
comp=Z,14nm,0.7s,baz=197,slow=8.0,SNR=18
USRK LR LR 21 29 53.0
comp=Z,213nm,20.7s,baz=191,slow=36
comp=Z,10.0nm,0.8s
XLT XiLinHaoTe 32.00 348 *e*P **P 21 17 18.4 -0.1**
XLT pP pP 21 17 28.9 -0.1
XLT sP sP 21 17 40.8 +7.0
XLT PP **PnPn 21 18 26.6 +1.8**
XLT S **S 21 22 26.1 -1.2**
XLT pmax pmax
comp=Z,15nm,1.5s
XLT LR LR
comp=Z,22nm,17.4s
XLT LR LR
comp=Z,180nm,17.0s
XLT LR LR
comp=Z,270nm,20.0s
MDJ Mudanjiang 32.02 6 P **P 21 17 18.4 -0.2**
MDJ pmax pmax
comp=Z,21nm,1.4s
MDJ LR LR
comp=Z,320nm,13.7s
MDJ LR LR
comp=Z,410nm,13.7s
MDJ LR LR
comp=Z,370nm,17.9s
COEN Coen 32.05 145 P **P 21 17 18.0 -1.1**
COEN IAmb IAmb 21 18 06.9
comp=Z,34nm,1.2s
COEN Coen 32.05 145 P **P 21 17 19.0 -0.1**
comp=Z,22nm,1.2s
BNX BinXian 32.97 3 ⇓P **P 21 17 27.0 +0.2**
BNX pP **pP 21 17 38.0 +0.7**
BNX S **S 21 22 41.4 -0.7**
BNX pmax pmax
comp=Z,22nm,1.2s
BNX LR LR
comp=Z,250nm,21.7s
BNX LR LR
comp=Z,160nm,16.8s
BNX LR LR
comp=Z,320nm,16.8s
ERM Erimo 33.19 25 P **P 21 17 29.3 +0.5**
ERM IAmb IAmb 21 17 46.8
comp=Z,29nm,1.1s
ERM Erimo 33.19 25 P **P 21 17 29.3 +0.5**
ERM pmax pmax
comp=Z,29nm,1.1s
WB0 Warramunga Arr 33.59 164 P **P 21 17 31.7 -0.8**
SHL Shillong 33.69 297 P 21 17 31.9 -1.7
SHL IAmb IAmb 21 17 36.1
comp=Z,10nm,0.7s
SHL Shillong 33.69 297 P **P 21 17 31.9 -1.7**
SHL pmax pmax
comp=Z,10.0nm,0.7s
WRAB Tennant Creek 33.73 164 P **P 21 17 32.9 -0.9**
WRAB IAmb IAmb 21 17 34.1
comp=Z,17nm,0.7s
WRAB Tennant Creek 33.73 164 P **P 21 17 32.9 -0.9**
WRAB pmax pmax
comp=Z,17nm,0.7s
WRA Warramunga Arr 33.74 164 P 21 17 32.2 -1.6
WRA Warramunga Arr 33.74 164 P **P 21 17 33.2 -0.6**
comp=Z,14nm,0.6s,baz=343,slow=9.4,SNR=71
WRA S **S 21 22 50.6 -3.9**
comp=Z,3.5nm,0.8s,baz=341,slow=15,SNR=5.1
comp=Z,14nm,0.6s
WRA Warramunga Arr 33.74 164*ce*P **P 21 17 33.5 -0.3**
WRA pmax pmax
comp=Z,17nm,0.6s
WB2 Warramunga Arr 33.74 164 P **P 21 17 32.8 -1.0**
WB2 IAmb IAmb 21 17 34.2
comp=Z,21nm,0.7s
WR8 Warramunga Arr 33.79 164 P **P 21 17 33.5 -0.8**
MBWA Marble Bar 34.07 189 P **P 21 17 34.5 -2.1**
MBWA IAmb IAmb 21 17 55.3
comp=Z,44nm,1.4s
PSA00 Pilbara Seismi 34.46 189 P **P 21 17 38.5 -1.5**
GTA Gaotai 34.67 325 P **P 21 17 42.7 +0.8**
GTA S **S 21 23 07.2 -1.7**
GTA SS **SS 21 25 27.8 -13**
GTA pmax pmax
comp=Z,13nm,1.4s
GTA LR LR
comp=Z,260nm,16.4s
GTA LR LR
comp=Z,430nm,17.8s
GTA LR LR
comp=Z,550nm,17.4s
ASAJ Asahikawa 34.74 22 LR LR 21 31 48.9
comp=Z,219nm,19.7s,baz=195,slow=36
ASAJ Asahikawa 34.74 22 P **P 21 17 44.0 +1.8**
ASAJ pmax pmax
comp=Z,31nm,1.7s
JKA Kamikawa-asahi 34.74 22 P **P 21 17 44.0 +1.8**
JKA IAmb IAmb 21 18 06.5
comp=Z,32nm,1.7s
LSA Lhasa 35.62 304 P **P 21 17 50.0 -0.6**
LSA pmax pmax
comp=Z,14nm,1.1s
QIS Mount Isa 36.06 156 P **P 21 17 53.9 +0.1**
comp=Z,36nm,0.6s
MTSU Mount Surprise 36.10 148 P **P 21 17 54.9 +0.7**
comp=Z,21nm,0.7s
GIRL Giralia 36.70 197 P **P 21 17 58.7 -0.6**
AS31 Alice Springs 37.20 166 P **P 21 18 03.8 +0.2**
ASAR Alice Springs 37.20 166 P **P 21 18 03.8 +0.2**
ASAR Alice Springs 37.20 166 P **P 21 18 04.0 +0.4**
comp=Z,14nm,0.5s,baz=342,slow=6.5,SNR=167
ASAR pP **pP 21 18 14.8 -0.5**
comp=Z,8.1nm,0.5s,baz=346,slow=7.5,SNR=5.9
ASAR PcP **PcP 21 20 24.4 +1.4**
comp=Z,1.2nm,0.6s,baz=340,slow=3.8,SNR=1.1
ASAR S **S 21 23 48.4 +0.7**
comp=Z,6.3nm,0.9s,baz=353,slow=20,SNR=12
comp=Z,14nm,0.5s
HEH HeiHe 37.47 3 *e*P **P 21 18 05.3 -0.2**
HEH pP **pP 21 18 16.6 +0.5**
HEH PP **PnPn 21 19 38.9 +6.2**
HEH S **S 21 23 54.1 +2.9**
HEH pmax pmax
comp=Z,20nm,1.0s
HEH LR LR
comp=Z,280nm,13.5s
HEH LR LR
comp=Z,320nm,12.9s
HEH LR LR
comp=Z,350nm,14.0s
WRKA Warakurna 37.67 175 P **P 21 18 07.8 +0.3**
comp=Z,31nm,1.2s
ULN Ulaanbaatar 38.11 340 P 21 18 11.2 0.0
ULN IAmb IAmb 21 18 12.9
comp=Z,13nm,0.8s
ULN Ulaanbaatar 38.11 340*ce*P **P 21 18 11.9 +0.8**
ULN pmax pmax
comp=Z,30nm,1.7s
ULN Ulaanbaatar 38.11 340 P **P 21 18 11.6 +0.4**
ULN sP **pwP 21 18 26.6 +0.1**
SONM Songino Array 38.30 340 P 21 18 12.9 +0.2
SONM IAmb IAmb 21 18 14.4
comp=Z,20nm,1.2s
SONM Songino Array 38.30 340 P **P 21 18 12.6 -0.1**
comp=Z,14nm,1.1s,baz=160,slow=9.4,SNR=45
SONM pP **pP 21 18 23.6 +0.2**
comp=Z,4.0nm,0.9s,baz=151,slow=9.6,SNR=5.4
comp=Z,14nm,1.1s
SONM Songino Array 38.30 340 P **P 21 18 12.9 +0.2**
SONM pmax pmax
comp=Z,20nm,1.2s
EVN Everest 38.69 299 P **P 21 18 16.5 -0.4**
EVN IAmb IAmb 21 18 26.5
comp=Z,24nm,1.5s
CTAO Charters Tower 38.74 147 P **P 21 18 17.6 +1.0**
CTAO Charters Tower 38.74 147 P **P 21 18 17.6 +1.0**
CTAO pmax pmax
comp=Z,102nm,1.9s
MEEK Meekatharra 39.62 189 P **P 21 18 22.9 -0.9**
comp=Z,24nm,0.7s
H11S3 WAKE ISLAND Hy 40.49 76 T T 22 01 38.4
baz=272,slow=73
H11S1 WAKE ISLAND Hy 40.50 76 T T 22 01 35.2
baz=272,slow=73
H11S2 WAKE ISLAND Hy 40.50 76 T T 22 01 39.9
baz=272,slow=73
H11N1 WAKE ISLAND Hy 40.73 75 T T 22 02 02.3
baz=266,slow=74,SNR=1127
H11N2 WAKE ISLAND Hy 40.74 75 T T 22 01 58.2
baz=266,slow=74,SNR=864
H11N3 WAKE ISLAND Hy 40.75 75 T T 22 01 58.6
baz=266,slow=74,SNR=1380
HNR Honiara 41.10 121 LR LR 21 32 49.8
comp=Z,587nm,21.2s,baz=290,slow=32
ZAK Zakamensk 41.54 339 *e*P **P 21 18 38.3 -1.3**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
MORW Morawa 42.44 192 P **P 21 18 46.7 -0.3**
MORW IAmb IAmb 21 20 19.0
comp=Z,51nm,1.7s
MORW Morawa 42.44 192 P **P 21 18 46.2 -0.8**
comp=Z,20nm,2.7s
IRK Irkutsk 42.80 341 *e*P **P 21 18 48.0 -1.7**
IRK pmax pmax
comp=Z,28nm,2.0s
QLP Quilpie 43.31 155 P **P 21 18 54.4 +0.3**
comp=Z,45nm,0.7s
FORT Forrest 43.35 176 P 21 18 54.6 +0.3
FORT IAmb IAmb 21 18 56.2
comp=Z,24nm,0.7s
FORT Forrest 43.35 176 P **P 21 18 54.8 +0.5**
comp=Z,37nm,0.8s
MOY Mondy 43.42 338 *e*P **P 21 18 55.2 +0.4**
MOY pmax pmax
comp=Z,25nm,2.0s
KMBL Kambalda 43.94 184 P **P 21 18 59.3 +0.2**
comp=Z,23nm,0.7s
WMQ Urumqi 44.54 321 *e*P **P 21 19 06.0 +2.1**
WMQ PcP **PcP 21 20 45.4 -1.1**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ LR LR
comp=Z,740nm,13.1s
WMQ LR LR
comp=Z,480nm,14.7s
WMQ LR LR
comp=Z,440nm,17.1s
KLBR Kellerberrin 44.61 189 P **P 21 19 03.6 -0.8**
comp=Z,31nm,0.6s
EIDS Eidsvold 45.60 146 P **P 21 19 12.9 +0.5**
EIDS IAmb IAmb 21 19 56.3
comp=Z,18nm,1.1s
EIDS Eidsvold 45.60 146 P **P 21 19 13.2 +0.7**
comp=Z,11nm,1.0s
NWAO Narrogin (SRO) 46.00 189 P **P 21 19 15.3 -0.1**
NWAO Narrogin (SRO) 46.00 189 P **P 21 19 15.3 -0.1**
NWAO pmax pmax
comp=Z,48nm,1.3s
BBOO Buckleboo 46.49 167 P **P 21 19 19.9 +0.5**

BBOO Buckleboo 46.49 167 P **P** **21 19 20.3 +1.0**
comp=Z,138nm,0.7s
STKA Stephens Creek 47.11 161 P **P** **21 19 24.9 +0.7**
STKA Stephens Creek 47.11 161 P **P** **21 19 25.4 +1.2**
comp=Z,26nm,0.7s,baz=336,slow=7.6,SNR=52
STKA PP **PP** **21 21 17.2 +1.7**
comp=Z,13nm,0.9s,baz=348,slow=11,SNR=3.5
STKA S **S** **21 26 13.1 -0.5**
comp=Z,2.6nm,0.9s,baz=25,slow=23,SNR=3.0
STKA LR LR 21 42 03.6
comp=Z,172nm,19.5s,baz=10,slow=40
comp=Z,26nm,0.7s
STKA Stephens Creek 47.11 161 P **P** **21 19 24.9 +0.7**
STKA pmax pmax
comp=Z,122nm,0.8s
HTT Hallett 47.78 164 P **P** **21 19 30.7 +1.3**
comp=Z,10nm,0.8s
PEA0B Petropavlovsk- 47.96 26 P **P** **21 19 31.4 +0.9**
PEA0B lAmb lAmb 21 20 12.7
comp=Z,21nm,1.1s
PEA0B Petropavlovsk- 47.96 26 P **P** **21 19 31.4 +0.9**
PEA0B pmax pmax
comp=Z,21nm,1.1s
PETK Petropavlovsk- 47.96 26 P **P** **21 19 30.4 -0.1**
PETK Petropavlovsk- 47.96 26 P **P** **21 19 31.6 +1.1**
comp=Z,6.9nm,1.0s,baz=202,slow=2.4,SNR=10
PETK pP **pP** **21 19 41.8 +0.2**
comp=Z,8.5nm,0.9s,baz=188,slow=3.0,SNR=8.3
comp=Z,6.9nm,1.0s
CMSA Cobar Meteorol 48.28 156 P **P** **21 19 35.0 +1.8**
comp=Z,74nm,0.7s
PET Petropavlovsk 48.31 27 P **P** **21 19 33.4 +0.2**
MK31 Makanchi Array 49.34 322 P **P** **21 19 42.3 +1.0**
MK31 lAmb lAmb 21 20 00.8
comp=Z,9.1nm,1.0s
MK31 Makanchi Array 49.34 322 P **P** **21 19 42.3 +1.0**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 49.34 322 P **P** **21 19 41.4 +0.1**
MKAR Makanchi Array 49.34 322 P **P** **21 19 41.7 +0.4**
comp=Z,5.2nm,1.0s,baz=113,slow=9.3,SNR=19
MKAR pP **pP** **21 19 52.8 +0.1**
comp=Z,4.8nm,0.8s,baz=115,slow=8.2,SNR=7.0
MKAR LR LR 21 42 55.9
comp=Z,207nm,18.2s,baz=117,slow=39
comp=Z,5.2nm,1.0s
YAK Yakutsk 49.34 3 P **P** **21 19 40.5 -0.4**
YAK Yakutsk 49.34 3 P **P** **21 19 41.1 +0.1**
comp=Z,32nm,1.0s,baz=3.1,slow=11,SNR=22
YAK LR LR 21 42 25.4
comp=Z,200nm,19.3s,baz=180,slow=38
comp=Z,32nm,1.0s
YAK Yakutsk 49.34 3 *e*P **P** **21 19 40.6 -0.4**
YAK *e**PP **pP** **21 19 50.6 -1.3**
YAK *e* 21 21 02.7
YAK *e* 21 21 34.8
YAK *e*S **S** **21 26 44.0 -0.4**
YAK *e**SS **sS** **21 27 05.0 +0.7**
YAK *e* 21 29 28.9
YAK *e*SS **SS** **21 30 17.6 +1.3**
YAK *e*SSS SSS 21 31 37.3
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.7s
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,57nm,4.2s
YAK pmax pmax
comp=E,46nm,5.2s
YAK smax smax
comp=N,34nm,2.8s
YAK smax smax
comp=E,24nm,3.3s
YAK Yakutsk 49.34 3 P **P** **21 19 41.0 0.0**
YAK pP **pP** **21 19 51.2 -0.7**
MAKZ Makanchi 49.53 322 P **P** **21 19 41.9 -0.8**
MAKZ lAmb lAmb 21 19 46.6
comp=Z,23nm,1.4s
MAKZ Makanchi 49.53 322 P **P** **21 19 41.9 -0.8**
MAKZ pmax pmax
comp=Z,23nm,1.4s
ARMA Armidale 49.97 150 P **P** **21 19 47.0 +0.7**
ARMA lAmb lAmb 21 19 50.7
comp=Z,18nm,0.8s
ARMA Armidale 49.97 150 P **P** **21 19 48.3 +2.0**
comp=Z,25nm,0.7s
PRZ Przheval'sk 49.97 315 P **P** **21 19 45.6 -0.7**
PRZ lAmb lAmb 21 20 02.7
comp=Z,21nm,1.0s
PRZ Przheval'sk 49.97 315 P **P** **21 19 45.6 -0.7**
PRZ pmax pmax
comp=Z,21nm,1.0s
MA2 Magadan 50.53 17 P **P** **21 19 49.4 -0.7**
MA2 Magadan 50.53 17*ce*P **P** **21 19 50.7 +0.6**
MA2 pmax pmax
comp=Z,9.0nm,1.3s
MA2 Magadan 50.53 17 P **P** **21 19 49.4 -0.7**
comp=Z,7.4nm,1.0s
KDJ Kajisay 50.68 315 P **P** **21 19 50.9 -0.9**
KDJ Kajisay 50.68 315 P **P** **21 19 50.9 -0.9**
KDJ pmax pmax
comp=Z,11nm,1.2s
YNG Young 51.78 155 P **P** **21 20 01.7 +1.9**
comp=Z,26nm,0.7s
ZAA0 Zalesovo Array 51.89 331 **P** **21 20 00.1 -0.3**
ZAA0 lAmb lAmb 21 20 01.5
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 51.89 331 **P** **21 19 59.9 -0.4**
ZALV Zalesovo Beam 51.89 331 P **P** **21 20 00.2 -0.1**
comp=Z,8.9nm,0.7s,baz=117,slow=7.4,SNR=27
ZALV pP **pP** **21 20 11.4 -0.4**
comp=Z,20nm,1.1s,baz=120,slow=8.8,SNR=4.9
ZALV LR LR 21 43 26.3
comp=Z,103nm,18.4s,baz=126,slow=38
comp=Z,8.9nm,0.7s
AAK Ala-Archa 52.73 314 LR LR 21 45 02.5
comp=Z,537nm,18.5s,baz=90,slow=39
AAK Ala-Archa 52.73 314 *i* P **P** **21 20 05.4 -1.6**
AAK pmax pmax
comp=Z,5.0nm,1.3s
CAN Canberra 52.91 155 **P** **21 20 09.0 +0.8**
CAN Canberra 52.91 155 P **P** **21 20 10.2 +2.0**
comp=Z,42nm,0.8s
CAN Canberra 52.91 155 P **P** **21 20 09.0 +0.8**
CAN pmax pmax
comp=Z,24nm,0.8s
CAN Canberra 52.91 155 P **P** **21 20 10.9 +2.7**
CNB Canberra Magne 53.06 155 P **P** **21 20 11.1 +1.8**
comp=Z,47nm,0.8s
KURK Kurchatov 53.35 325 P **P** **21 20 11.3 +0.1**
KURK Kurchatov 53.35 325 P **P** **21 20 11.3 +0.1**
KURK pmax pmax
comp=Z,31nm,0.9s
KURK Kurchatov 53.35 325 ⇑P **P** **21 20 11.6 +0.4**
KURK sP **sP** **21 20 27.8 +0.3**
KURBB Kurchatov Arra 53.36 325 P **P** **21 20 11.7 +0.4**
comp=Z,13nm,0.7s,baz=123,slow=7.6,SNR=72
KURBB LR LR 21 45 38.3
comp=Z,334nm,18.1s,baz=178,slow=39
comp=Z,13nm,0.7s
DZM Mont Dzumac 53.36 130 P **P** **21 20 12.5 +0.7**
DZM Mont Dzumac 53.36 130 *e*LR LR 21 35 34.7
comp=Z,353nm,23.9s
TOO Toolangi 53.60 160 P **P** **21 20 14.4 +1.2**
TOO lAmb lAmb 21 20 16.2
comp=Z,11nm,0.9s
TOO Toolangi 53.60 160 P **P** **21 20 14.8 +1.6**
TOO Toolangi 53.60 160 P **P** **21 20 14.4 +1.2**
TOO pmax pmax
comp=Z,11nm,0.9s
SEY Seymchan 53.77 15 P **P** **21 20 15.5 +1.4**
comp=Z,1.1nm,0.5s,baz=230,slow=14,SNR=4.9
comp=Z,1.1nm,0.5s
SEY Seymchan 53.77 15*ce*P **P** **21 20 13.8 -0.3**
SEY pmax pmax
comp=Z,3.0nm,1.0s
GAR Garm 54.78 309 P **P** **21 20 21.6 -0.4**
GAR lAmb lAmb 21 20 50.7
comp=Z,18nm,0.8s
KBL Kabul 54.94 303 P **P** **21 20 21.8 -1.6**
KBL lAmb lAmb 21 20 53.4
comp=Z,6.7nm,0.7s

KBL Kabul 54.94 303 P **P** **21 20 21.8 -1.6**
KBL pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 55.66 314 P **P** **21 20 26.2 -2.0**
KK31 lAmb lAmb 21 20 43.9
comp=Z,28nm,1.8s
KK31 Karatay Array 55.66 314 P **P** **21 20 26.2 -2.0**
KK31 pmax pmax
comp=Z,28nm,1.8s
KKAR Karatay Array 55.66 314 P **P** **21 20 26.6 -1.5**
KKAR Karatay Array 55.66 314 P **P** **21 20 26.6 -1.5**
TIXI Tiksi 58.94 1 P **P** **21 20 49.5 -1.2**
TIXI Tiksi 58.94 1 P **P** **21 20 49.2 -1.5**
comp=Z,11nm,0.9s,baz=199,slow=3.4,SNR=9.9
comp=Z,11nm,0.9s
TIXI Tiksi 58.94 1*ce*P **P** **21 20 51.1 +0.4**
TIXI pmax pmax
comp=Z,27nm,1.7s
BVAR Borovoye Array 58.95 325 P **P** **21 20 51.7 +0.5**
comp=Z,7.4nm,0.6s,baz=118,slow=6.2,SNR=28
BVAR LR LR 21 48 39.6
comp=Z,299nm,18.1s,baz=117,slow=38
comp=Z,7.4nm,0.6s
BRVK Borovoye 59.02 325 P **P** **21 20 50.7 -1.0**
BRVK Borovoye 59.02 325*ce*P **P** **21 20 51.3 -0.4**
BRVK pmax pmax
comp=Z,19nm,0.7s
BRVK Borovoye 59.02 325 ⇑P **P** **21 20 52.0 +0.3**
BRVK pP **pP** **21 21 03.5 +0.3**
BILL Bilibino 61.40 16 P **P** **21 21 08.0 +0.4**
BILL lAmb lAmb 21 21 09.6
comp=Z,14nm,0.9s
BILL Bilibino 61.40 16*ce*P **P** **21 21 09.0 +1.3**
BILL pmax pmax
comp=Z,9.0nm,1.0s
AB31 Akbulak array 64.22 319 P **P** **21 21 25.9 -0.9**
ABKAR Akbulak array 64.22 319 P **P** **21 21 26.2 -0.6**
SVE Sverdlovsk 65.49 327*de*P **P** **21 21 34.9 +0.1**
SVE pmax pmax
comp=Z,29nm,1.1s
AKTO Aktyubinsk 65.66 320 P **P** **21 21 35.9 -0.2**
comp=Z,2.4nm,0.7s,baz=107,slow=3.4,SNR=5.1
AKTO LR LR 21 52 23.3
comp=Z,301nm,18.5s,baz=93,slow=38
comp=Z,2.4nm,0.7s
ARTI Arti 66.59 326 P **P** **21 21 40.2 -1.7**
ARTI Arti 66.59 326 P **P** **21 21 41.4 -0.6**
comp=Z,7.0nm,0.5s,baz=112,slow=3.1,SNR=12
ARTI LR LR 21 53 23.4
comp=Z,202nm,18.2s,baz=88,slow=38
comp=Z,7.0nm,0.5s
ARTI Arti 66.59 326*c i*P **P** **21 21 41.2 -0.8**
ARTI 21 22 08.1
ARTI 21 24 06.1
ARTI S **S** **21 30 32.1 +2.1**
ARTI SS **SS** **21 34 42.8 -4.8**
ARTI pmax pmax
comp=Z,12nm,0.8s
URZ Urewera 70.32 139 LR LR 21 56 48.9
comp=Z,134nm,18.0s,baz=314,slow=39
BKZ Black Stump Fm 70.45 140 P **P** **21 22 05.4 -0.9**
KIRV Kirov 71.72 328 LR LR 21 53 59.8
comp=Z,157nm,19.2s,baz=103,slow=36
KIRV Kirov 71.72 328*ce*P **P** **21 22 13.4 -0.2**
BELG Belogornoye 72.33 321 P **P** **21 22 16.6 -0.8**
comp=Z,18nm,0.9s,baz=116,slow=4.3,SNR=7.1
BELG LR LR 21 57 13.4
comp=Z,126nm,18.8s,baz=86,slow=38
comp=Z,18nm,0.9s
BELG Belogornoye 72.33 321 *i* P **P** **21 22 17.3 -0.1**
BELG pmax pmax
comp=Z,5.0nm,1.0s
GNI Garni 74.51 308 LR LR 21 58 34.2
comp=Z,185nm,21.8s,baz=90,slow=38
RAYN Ar Rayn 75.52 291 P **P** **21 22 36.2 -0.5**
RAYN Ar Rayn 75.52 291 P **P** **21 22 36.2 -0.5**
RAYN pmax pmax
comp=Z,66nm,1.6s
KBZ Khabaz 75.65 312 P **P** **21 22 36.0 -1.0**
comp=Z,2.7nm,0.9s,baz=100,slow=7.6,SNR=6.2
KBZ LR LR 22 00 08.4
comp=Z,259nm,18.1s,baz=82,slow=39
comp=Z,2.7nm,0.9s
KBZ Khabaz 75.65 312*ce*P **P** **21 22 37.5 +0.5**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 75.78 312 **P** **21 22 37.5 -0.4**
KIV lAmb lAmb 21 22 47.9
comp=Z,10nm,0.7s
KIV Kislovodsk 75.78 312 *e*P **P** **21 22 38.0 +0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,231nm,18.0s
KIV Kislovodsk 75.78 312 P **P** **21 22 38.1 +0.1**
comp=Z,11nm,0.9s
VRH Novokhopyorsk 76.00 320 *e*P **P** **21 22 36.9 -2.0**
VRH pmax pmax
comp=Z,9.0nm,0.9s
GURO Guroymak-BITLI 76.73 307 P **P** **21 22 43.9 +0.4**
GURO lAmb lAmb 21 22 57.0
comp=Z,16nm,1.0s
KLMR Klimovskoe 76.79 330 *e*P **P** **21 22 40.3 -2.9**
KLMR *e* 21 22 51.9
KLMR pmax pmax
comp=Z,24nm,1.0s
PMR Palmer 76.95 29 **P** **21 22 43.2 -0.8**
PMR Palmer 76.95 29 P **P** **21 22 43.2 -0.8**
PMR pmax pmax
comp=Z,9.0nm,1.1s
MCK McKinley 76.95 27 **P** **21 22 42.5 -1.6**
MCK lAmb lAmb 21 22 55.5
comp=Z,12nm,0.9s
MCK McKinley 76.95 27 P **P** **21 22 42.5 -1.6**
MCK pmax pmax
comp=Z,12nm,0.9s
E24K Your Creek 76.99 23 P **P** **21 22 44.5 +0.2**
E24K lAmb lAmb 21 23 23.8
comp=Z,18nm,1.6s
VORD Divnogorie 77.54 320 *e*P **P** **21 22 45.2 -2.4**
VORD pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 77.60 320 *e*P **P** **21 22 44.8 -3.1**
VSR pmax pmax
comp=Z,6.0nm,1.0s
D25K Kavik River 77.70 21 P **P** **21 22 47.5 -0.7**
D25K lAmb lAmb 21 23 01.3
comp=Z,12nm,0.9s
KOPT Kop Dagi 77.77 309 P **P** **21 22 49.4 0.0**
KOPT lAmb lAmb 21 23 03.5
comp=Z,9.1nm,1.0s
ILAR Eielson Array 77.79 26 P **P** **21 22 47.8 -0.9**
ILAR Eielson Array 77.79 26 P **P** **21 22 49.2 +0.5**
comp=Z,0.6nm,0.7s,baz=249,slow=5.8,SNR=5.5
ILAR pP **PcP** **21 22 59.0 +0.5**
comp=Z,1.2nm,0.8s,baz=244,slow=6.3,SNR=8.3
comp=Z,0.6nm,0.7s
MARD Mardin 77.86 306 P **P** **21 22 49.7 -0.1**
MARD lAmb lAmb 21 23 02.0
comp=Z,8.8nm,0.9s
MOS Moscow 78.13 325 *e*P **P** **21 22 47.4 -3.3**
BMAR Burnt Mountain 78.51 23 P **P** **21 22 53.4 +0.7**
PAX Paxson 78.56 28 P **P** **21 22 51.2 -1.9**
PAX lAmb lAmb 21 22 58.4
comp=Z,18nm,1.8s
PAX Paxson 78.56 28 P **P** **21 22 51.2 -1.9**
PAX pmax pmax
comp=Z,18nm,1.8s
C27K Jago River 78.62 21 P **P** **21 22 54.4 +1.2**
C27K lAmb lAmb 21 23 04.1
comp=Z,48nm,1.9s
RIDG Independent Ri 78.76 27 P **P** **21 22 54.0 -0.2**
RIDG lAmb lAmb 21 23 14.0
comp=Z,12nm,1.1s
OBN Obninsk 78.79 324 P **P** **21 22 53.9 -0.5**
OBN Obninsk 78.79 324*d i*P **P** **21 22 54.2 -0.2**
OBN *e* 21 23 04.2
OBN *e* 21 25 54.0
OBN *e*S **S** **21 32 46.4 -2.5**
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,143nm,17.0s
SCRK Sand Creek 79.11 27 P **P** **21 22 56.0 -0.2**
M26K Nabesna, AK 79.76 28 P **P** **21 22 59.0 -0.7**

CRQM Cirque 79.91 30 P **P** **21 23 00.7 0.0**
CRQM lAmb lAmb 21 25 12.3
comp=Z,11nm,0.4s
K27K Chicken 79.94 27 P **P** **21 23 00.8 +0.3**
I28M Miner Creek 80.62 25 **P** **21 23 04.5 +0.2**
GAZ Gaziantep 80.69 306 P **P** **21 23 05.5 +0.3**
GAZ lAmb lAmb 21 23 19.4
comp=Z,12nm,0.8s
CTGM Chitina Glacie 80.75 30 P **P** **21 23 05.0 -0.2**
CTGM lAmb lAmb 21 23 23.5
comp=Z,29nm,1.6s
TOKA Tokat 80.78 309 P **P** **21 23 05.8 +0.2**
TABL Table Mountain 80.94 30 P **P** **21 23 04.8 -1.4**
TABL lAmb lAmb 21 23 18.8
comp=Z,16nm,1.0s
RAR Rarotonga 81.17 114 LR LR 21 53 28.7
comp=Z,83nm,19.7s,baz=290,slow=31
SPITS Spitsbergen Ar 81.38 349 P **P** **21 23 08.9 +0.9**
comp=Z,5.5nm,0.9s,baz=108,slow=5.5,SNR=3.9
SPITS LR LR 22 05 39.9
comp=Z,127nm,18.3s,baz=60,slow=40
comp=Z,5.5nm,0.9s
SPITS Spitsbergen Ar 81.38 349 P **P** **21 23 07.8 -0.2**
SPITS pmax pmax
comp=Z,17nm,1.1s
ARCES ARCESS Array B 81.47 339 P **P** **21 23 09.3 +0.7**
comp=Z,5.3nm,0.9s,baz=74,slow=5.9,SNR=7.2
ARCES pP **pP** **21 23 18.1 -2.5**
comp=Z,2.8nm,0.9s,baz=333,slow=29,SNR=2.3
ARCES LR LR 22 03 24.3
comp=Z,110nm,18.8s,baz=74,slow=39
comp=Z,5.3nm,0.9s
BNN Bunyan 81.49 308 **P** **21 23 09.7 +0.2**
BNN lAmb lAmb 21 25 10.6
comp=Z,15nm,1.0s
EPYK Eagle Plains 81.74 24 P **P** **21 23 09.6 -0.5**
EPYK lAmb lAmb 21 23 19.4
comp=Z,14nm,0.9s
ASF Jabal al Asfar 81.76 301 LR LR 22 03 56.2
comp=Z,92nm,21.8s,baz=112,slow=39
G30M tAoh Zraii Nji 81.80 23 P **P** **21 23 10.2 -0.2**
M29M Somme Creek 81.83 28 P **P** **21 23 11.3 +0.5**
L29M L29M 81.84 27 **P** **21 23 10.9 +0.2**
L29M lAmb lAmb 21 23 24.6
comp=Z,15nm,1.2s
K29M Barlow Dome 81.96 26 P **P** **21 23 10.8 -0.7**
I30M Mount Dempster 82.13 25 P **P** **21 23 11.3 -1.1**
I30M lAmb lAmb 21 23 33.1
comp=Z,12nm,1.3s
J30M Hart River 82.30 26 P **P** **21 23 12.9 -0.4**
M30M Minto, Yukon 82.56 28 P **P** **21 23 14.0 -0.5**
HYT Haines Junctio 82.62 29 P **P** **21 23 13.5 -1.5**
N30M Aishikik Lake 82.67 29 P **P** **21 23 14.2 -1.0**
MMAI Mount Meron Ar 82.85 302 P **P** **21 23 18.2 +1.5**
comp=Z,6.1nm,1.0s,baz=134,slow=4.7,SNR=6.1
MMAI LR LR 22 05 01.5
comp=Z,78nm,18.8s,baz=60,slow=39
comp=Z,6.1nm,1.0s
BR131 Keskin Array S 83.03 309 **P** **21 23 17.2 -0.3**
BR131 lAmb lAmb 21 25 12.9
comp=Z,7.3nm,0.8s
BR131 Keskin Array S 83.03 309 P **P** **21 23 17.2 -0.3**
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 83.03 309 P **P** **21 23 17.2 -0.3**
comp=Z,1.7nm,0.8s,baz=101,slow=3.6,SNR=11
BRTR pP **pP** **21 23 28.6 -1.5**
comp=Z,2.2nm,0.8s,baz=98,slow=3.5,SNR=7.6
comp=Z,1.7nm,0.8s
BR104 Keskin Array S 83.03 309 P **P** **21 23 17.4 -0.1**
GHAJ Ghor Haditha 83.03 300 P **P** **21 23 17.6 +0.1**
GHAJ lAmb lAmb 21 23 37.1
comp=Z,16nm,0.9s
BR106 Keskin Array S 83.04 309 P **P** **21 23 17.8 +0.2**
BR105 Keskin Array S 83.05 309 P **P** **21 23 17.5 -0.1**
comp=Z,4.8nm,0.8s
FINES FINESS Array B 83.15 331 P **P** **21 23 17.9 +0.4**
comp=Z,1.3nm,0.6s,baz=83,slow=5.6,SNR=11
FINES pP **pP** **21 23 29.8 +0.4**
comp=Z,2.1nm,0.6s,baz=63,slow=4.4,SNR=2.8
FINES LR LR 22 01 39.3
comp=Z,107nm,20.6s,baz=78,slow=37
comp=Z,1.3nm,0.6s
FINES FINESS Array B 83.15 331*ce*P **P** **21 23 18.1 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.6s
VSU Vasula 83.54 328*ce*P **P** **21 23 19.7 +0.1**
VSU pmax pmax
comp=Z,14nm,0.8s
ANTO Ankara 83.64 309 P **P** **21 23 20.7 +0.1**
comp=Z,3.2nm,1.1s
M31M Drury Creek, Y 83.73 28 P **P** **21 23 19.7 -0.9**
MNK Minsk 83.84 324 *i* P **P** **21 23 19.3 -1.9**
MNK *i* 21 26 32.9
MNK *i* PPP PPP 21 28 25.2
MNK *i* S **SKSac** **21 33 38.9 -1.9**
MNK *i* SS **SS** **21 39 10.9 +1.9**
MNK *i* SSS SSS 21 42 40.9
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=Z,33nm,0.9s
MNK MLR MLR
comp=N,85nm,18.0s
MNK MLR MLR
comp=E,80nm,16.0s
MNK MLR MLR
comp=Z,150nm,19.0s
EIL Elat 83.86 299 LR LR 22 07 02.0
comp=Z,165nm,18.3s,baz=70,slow=40
AK09 Malin Array Si 83.87 320 P **P** **21 23 21.4 0.0**
AK08 Malin Array Si 83.89 320 P **P** **21 23 21.9 +0.4**
AK03 Malin Array Si 83.89 321 P **P** **21 23 21.3 -0.2**
AKASG Malin Array Be 83.89 320 P **P** **21 23 21.5 -0.1**
comp=Z,2.1nm,0.8s,baz=68,slow=4.1,SNR=10
AKASG LR LR 22 04 32.0
comp=Z,125nm,18.2s,baz=72,slow=38
comp=Z,2.1nm,0.8s
AKASG Malin Array Be 83.89 320*ce*P **P** **21 23 22.2 +0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 83.89 320*ce*P **P** **21 23 21.2 -0.3**
AKBB pmax pmax
comp=Z,16nm,1.4s
AKBB Malin Array Si 83.89 320 P **P** **21 23 20.9 -0.6**
AK10 Malin Array Si 83.90 320 P **P** **21 23 21.8 +0.2**
WHY Whitehorse 83.91 29 P **P** **21 23 20.9 -0.7**
AK02 Malin Array Si 83.91 320 P **P** **21 23 21.6 0.0**
AK05 Malin Array Si 83.92 320 P **P** **21 23 21.6 -0.1**
AK16 Malin Array Si 83.97 320 P **P** **21 23 21.9 0.0**
AK22 Malin Array Si 83.97 321 P **P** **21 23 21.9 0.0**
AK14 Malin Array Si 83.98 320 P **P** **21 23 21.9 -0.1**
AK18 Malin Array Si 83.98 321 P **P** **21 23 22.0 0.0**
AK19 Malin Array Si 84.02 321 P **P** **21 23 22.1 -0.1**
CSS Mathiatis 84.18 304 **P** **21 23 23.1 -0.2**
CSS Mathiatis 84.18 304 P **P** **21 23 23.6 +0.2**
comp=Z,48nm,1.0s
BESE Bessie Mountai 84.47 31 P **P** **21 23 24.4 0.0**
N32M Quiet Lake 84.62 28 P **P** **21 23 25.8 +0.7**
MI28 Mi28,Pidlybu 84.80 321 P **P** **21 23 26.1 0.0**
LUBAR Lubar, Ukraine 84.98 320 P **P** **21 23 26.8 -0.3**
SORM Soroca 85.02 318 P **P** **21 23 27.0 -0.3**
comp=Z,20nm,1.4s
RNPP9 Sopachiv 85.77 322 P **P** **21 23 31.0 +0.1**
RNPP8 Varash 85.81 322 P **P** **21 23 31.3 +0.1**
RNPP5 Staryi Chortor 85.82 322 P **P** **21 23 31.1 -0.1**
HORU Horodok 86.00 319 P **P** **21 23 32.5 +0.3**
KMPD K-Podol'skiy 86.14 319 P **PcP** **21 23 32.9 -2.5**
KMPD P **P** **21 23 32.5 -0.4**
TESR Tescani 86.54 317 P **P** **21 23 35.0 +0.1**
comp=Z,35nm,0.9s
SUW Suwalki 86.64 325 *e*P **P** **21 23 35.3 +0.1**
BURAR Bucovina Array 87.19 318 P **P** **21 23 38.6 +0.4**
BURAR lAmb lAmb 21 23 40.1
comp=Z,12nm,0.9s
BURAR Bucovina Array 87.19 318 P **P** **21 23 38.6 +0.4**
BURAR pmax pmax
comp=Z,12nm,0.9s
BUR08 Bucovina Ar. S 87.20 318 P **P** **21 23 39.0 +0.8**
BUR08 lAmb lAmb 21 23 39.8
comp=Z,13nm,0.9s
MLR Muntele Rosu 87.28 316 LR LR 22 07 40.0
comp=Z,172nm,20.9s,baz=76,slow=39

LVV	L'vov	87.34	320	P	P	21 23 39.4	+0.7
STNU	Starunia	87.35	319	P	P	21 23 38.5	-0.3
MEZ	Mezhgor'ye	88.04	319	P	P	21 23 43.1	+1.0
KWP	Kalwaria Pacla	88.21	321	*e*P	P	21 23 43.9	+1.0
KWP	Kalwaria Pacla	88.21	321	P	P	21 23 43.4	+0.5
	comp=Z,16nm,1.9s						
BRIU	Brid	88.40	319	P	P	21 23 44.3	+0.5
MUKU	Mukachevo	88.58	319	P	P	21 23 45.2	+0.6
BERU	Beregovo	88.67	319	P	P	21 23 45.6	+0.5
KOLS	Kolonicke sedl	88.70	320	*e*P	P	21 23 48.1	+2.8
KOLS	Kolonicke sedl	88.70	320	*e*P	P	21 23 48.0	+2.8
HOLU	Holmets	88.75	320	P	P	21 23 46.0	+0.6
HFS	Hagfors	89.31	332	P	P	21 23 47.3	-0.5
	comp=Z,1.2nm,0.7s,baz=99,slow=8.9,SNR=5.1						
HFS				LR	LR	22 05 20.0	
	comp=Z,160nm,20.7s,baz=66,slow=37						
	comp=Z,1.2nm,0.7s						
PPT	Papeete	89.50	108	LR	LR	21 55 49.0	
	comp=Z,75nm,21.8s,baz=294,slow=30						
PPT2	Papeete2	89.51	108	*e*S	S	21 34 30.5	-7.2
	comp=Z,90nm,28.5s						
PPT2	Papeete2	89.51	108	*e*LR	LR	21 52 17.7	
	comp=Z,157nm,25.8s						
PPT2				*e*LR	LR	21 52 20.7	
	comp=Z,218nm,25.0s						
NIE	Niedzica	89.77	321	*e*P	P	21 23 51.6	+1.3
NIE	Niedzica	89.77	321	P	P	21 23 51.3	+1.0
OJC	Ojcow	89.81	322	*e*P	P	21 23 50.9	+0.5
NB2	NORSAR Subarra	90.02	334	P	P	21 23 49.9	-1.3
	comp=Z,2.1nm,1.0s,baz=70,slow=4.6						
NOA	NORSAR Array B	90.02	334	P	P	21 23 49.6	-1.6
	comp=Z,0.8nm,0.8s,baz=70,slow=4.5,SNR=4.8						
NOA				pP	pP	21 24 03.0	-0.9
	comp=Z,0.7nm,0.8s,baz=66,slow=4.3,SNR=2.9						
NOA				LR	LR	22 07 38.5	
	comp=Z,163nm,18.8s,baz=60,slow=38						
	comp=Z,0.8nm,0.8s						
JMIC	Jan Mayen	90.77	346	LR	LR	22 07 43.3	
	comp=Z,53nm,21.1s,baz=85,slow=38						
TBI	Tubuai	90.94	114	*e*S	S	21 34 50.7	+0.1
	comp=Z,597nm,26.0s						
TBI	Tubuai	90.94	114	*e*LR	LR	21 52 56.2	
	comp=Z,1μm,26.0s						
TBI				*e*LR	LR	21 53 08.4	
	comp=Z,828nm,31.5s						
VYHS	Vyhne	90.99	320	*e*P	P	21 23 56.0	0.0
VYHS	Vyhne	90.99	320	*e*P	P	21 23 56.0	0.0
VYHS				*e*		21 25 09.9	
KSP	Ksiaz	91.67	323	*e*P	P	21 23 59.5	+0.4
VRAC	Vranov	92.08	322	LR	LR	22 09 26.5	
	comp=Z,72nm,19.8s,baz=74,slow=38						
VNDA	Vanda	92.51	172	P	P	21 24 02.2	0.0
VNDA				IAmb	IAmb	21 24 23.5	
	comp=Z,10nm,1.6s						
VNDA	Vanda	92.51	172	P	P	21 24 02.1	-0.1
	comp=Z,0.5nm,0.6s,baz=305,slow=6.3,SNR=6.2						
VNDA				pP	pP	21 24 12.9	-2.3
	comp=Z,1.7nm,0.9s,baz=332,slow=5.1,SNR=5.1						
VNDA				LR	LR	22 07 39.9	
	comp=Z,69nm,18.4s,baz=338,slow=37						
	comp=Z,0.5nm,0.6s						
VNDA	Vanda	92.51	172	P	P	21 24 02.2	0.0
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.6s						
RONA	Rosalia, Austr	92.87	320	*i* PcP	PcP	21 24 05.9	+0.6
	comp=Z,4.1nm,1.4s						
CONA	Conrad Observa	93.05	320	*e*PcP	PcP	21 24 06.9	+0.7
	comp=Z,3.7nm,1.3s						
CLL	Collm	93.39	324	*e*SP	SP	21 36 26.0	+2.2
CLL				*e*SS	SS	21 41 30.0	+2.3
CLL				*e*SSS	SSS	21 45 12.0	
CLL				*e*SSSS		21 48 54.0	
CLL				Lm	MLR	22 09 00.0	
	comp=N,100nm,21.5s						
CLL				Lm	MLR	22 09 00.0	
	comp=E,100nm,21.9s						
CLL				Lm	MLR	22 09 00.0	
	comp=Z,100nm,19.7s						
ARSA	Arzberg	93.52	320	*i* PcP	PcP	21 24 08.7	+0.4
	comp=Z,3.2nm,1.6s						
GERES	GERESS Array B	94.01	322	P	P	21 24 09.5	-0.4
	comp=Z,0.6nm,1.0s,baz=89,slow=9.3,SNR=2.6						
	comp=Z,0.6nm,1.0s						
SOKA	Soboth	94.06	320	*e*PcP	P	21 24 10.0	-0.3
	comp=Z,4.1nm,1.5s						
MOA	Molln	94.07	321	*e*PcP	PcP	21 24 11.5	+0.8
	comp=Z,4.8nm,1.3s						
LESA	Schwarzleotal	95.22	321	*e*P	P	21 24 15.0	-0.5
	comp=Z,3.2nm,1.1s						
ABTA	Abfaltersbach	95.61	320	*e*PcP	P	21 24 17.2	-0.1
	comp=Z,4.6nm,1.2s						
WTTA	Wattenberg	95.93	321	*e*PcP	PcP	21 24 19.4	+0.3
	comp=Z,6.0nm,1.3s						
WATA	Walderalm	95.94	321	*e*PcP	PcP	21 24 19.1	0.0
	comp=Z,2.2nm,0.9s						
SQTA	Sankt Quirin	96.21	321	*e*PcP	PcP	21 24 20.7	+0.4
	comp=Z,4.1nm,1.3s						
MOTA	Moosalm	96.22	321	*e*PcP	PcP	21 24 20.5	+0.1
	comp=Z,4.3nm,1.4s						
TAOE	Nuku Hiva Isla	96.60	98	*e*LR	LR	21 55 34.7	
	comp=Z,166nm,28.4s						
DAVOX	Davos/Dischmat	97.22	321	LR	LR	22 13 43.4	
	comp=Z,128nm,18.6s,baz=69,slow=39						
BORG	Borgarnes	98.66	346	LR	LR	22 14 47.5	
	comp=Z,157nm,18.5s,baz=359,slow=39						
LSZ	Lusaka	99.73	256	LR	LR	22 08 40.5	
	comp=Z,80nm,18.3s,baz=144,slow=35						
SYO	Syowa Base	100.14	201	*e*Pdiff	Pdif	21 24 39.2	+2.3
TXAR	Lajitas Array	117.13	47	PKP	PKiKP	21 29 38.8	+1.3
	comp=Z,0.9nm,1.2s,baz=209,slow=2.7,SNR=2.8						
PLCA	Paso Flores	148.94	157	PKPbc	PKPbc	21 30 40.1	+0.3
	comp=Z,2.3nm,0.8s,baz=149,slow=5.5,SNR=8.3						
LPAZ	La Paz	166.80	107	PKP	PKPdf	21 31 00.0	+1.1
	comp=Z,0.4nm,0.3s,baz=233,slow=5.1,SNR=1.8						

*NNC **03** 21:14:53.0±4.2, 36°.61N×70°.54E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=33.4km s-min=25.5km az=166.0*
*NEIC **03** 21:15:00.2±3.0, 36°.87N±0°.06×70°.75E±0°.06, h54km±19km, mb4.0/4, Error ellipse: s-maj=8.4km s-min=6.9km az=154.0*
*IDC **03** 21:15:03.3±8.4, 36°.90N×71°.00E, h98km±60km, mb3.4/4, mbtmp4.0/9, ML3.7/5, MS3.4/2, Error ellipse: s-maj=81.8km s-min=44.1km az=170.0*

ISC 03 21:14:59.8±0.7, 36°.67N±0°.05×70°.76E±0°.07, h100km, n54, σ2s35/62, mb3.8/7, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	Garm	2.35	352		Pn	21 15 35.0	-2.1
KBL	Kabul	2.54	214		Pn	21 15 41.1	+1.4
NIL	Nilore	3.64	145		Pn	21 15 56.0	+1.9
SRNI	Srinagar	4.21	126	*e*P	Pn	21 16 04.6	+2.7
SRNI				*e*S	Sn	21 16 57.3	+7.3
SRNI				IAML		21 16 58.5	
	comp=E,91nm,0.3s						
SRNI				IAML		21 16 58.5	
	comp=N,80nm,0.3s						
ARSB	Arslanbob	4.96	20		Pn	21 16 10.9	-1.1
KSH	Kashi	5.00	54	Pn	Pn	21 16 09.1	-3.5
KSH				Sn	Sn	21 17 03.4	-5.8
KSH				smax	smax		
	comp=N,310nm,0.8s						
KSH				smax	smax		
	comp=E,160nm,0.9s						
JMU	Jammu	5.21	138	*e*P	Pn	21 16 15.5	+0.1
JMU				*e*S	Sn	21 17 15.1	+0.8
JMU				IAML		21 17 18.7	
	comp=E,68nm,0.3s						
JMU				IAML		21 17 19.2	
	comp=N,59nm,0.4s						
DHRM	DHARAMSHALA	6.36	132	*e*P	Pn	21 16 31.4	+0.2
DHRM				*e*S	Sn	21 17 45.5	+3.1
EKS2	Erkin-Say	6.42	20	P	Pn	21 16 31.7	-0.2
	SNR=17						
KK31	Karatay Array	6.43	358		Pn	21 16 30.4	-1.5
KK31	Karatay Array	6.43	358	⇓P	Pn	21 16 30.0	-1.9
	comp=N,12nm,0.5s,baz=188,slow=13,SNR=182						
KK31				⇑S	Sn	21 17 46.7	+3.0
	comp=N,39nm,1.0s,baz=181,slow=27,SNR=5.5						
KKAR	Karatay Array	6.43	358		Pn	21 16 30.0	-1.9
AAK	Ala-Archa	6.62	25		Pn	21 16 33.9	-0.7
AAK	Ala-Archa	6.62	25	P	Pn	21 16 34.6	0.0
	comp=N,3.3nm,0.3s,baz=210,slow=10,SNR=11						
AAK				S	Sn	21 17 51.5	+2.9
	comp=N,11nm,0.7s,baz=148,slow=23,SNR=1.9						
	comp=N,13nm,0.5s						
AAK	Ala-Archa	6.62	25	⇑P	Pn	21 16 35.0	+0.5
	SNR=8.3						
AAK	Ala-Archa	6.62	25	⇑P	Pn	21 16 34.3	-0.3
	comp=N,6.7nm,0.6s						
AAK				⇑S	Sn	21 17 50.8	+2.2
	comp=N,6.7nm,0.7s						
FRU1	Bishkek	6.82	25	Pn	Pn	21 16 36.8	-0.4
ULHL	Ulahol	7.00	36	P	Pn	21 16 40.2	+0.4
	SNR=5.5						
CHMS	Chumysh	7.03	25	P	Pn	21 16 39.9	-0.1
	SNR=30						
USP	Ospenovka	7.19	22	P	Pn	21 16 41.9	-0.3
	SNR=43						
TKM2	Tokmak 2	7.27	29	P	Pn	21 16 43.6	+0.2
	SNR=58						
KDJ	Kajisay	7.38	40		Pn	21 16 44.3	-0.6
SMLA	Simla	7.68	134	*e*P	Pn	21 16 48.9	+0.1
SMLA				*e*S	Sn	21 18 15.0	+0.8
PRZ	Przheval'sk	8.27	43		Pn	21 16 57.7	+0.6
KUDL	Kundal	9.78	149	*e*P	Pn	21 17 15.3	-2.2
KUDL				*e*S	Sn	21 18 59.7	-5.8
KUDL				IAML		21 19 04.3	
	comp=N,92nm,0.3s						
KUDL				IAML		21 19 04.7	
	comp=E,70nm,0.4s						
PTH	Pithoragarh	10.64	129	*e*P	Pn	21 17 30.3	+0.9
PTH				*e*S	Sn	21 19 24.7	-2.0
PTH				IAML		21 19 27.6	
	comp=N,44nm,0.3s						
LGTI	Lohaghat	10.73	129	*e*P	Pn	21 17 32.4	+2.0
LGTI				*e*S	Sn	21 19 24.7	-3.8
LGTI				IAML		21 19 25.4	
	comp=N,75nm,0.4s						
LGTI				IAML		21 19 25.5	
	comp=E,56nm,0.6s						
MAKZ	Makanchi	13.13	36		Pn	21 18 01.6	-0.7
MKAR	Makanchi Array	13.27	37		Pn	21 18 03.0	-1.1
MKAR	Makanchi Array	13.27	37	P	Pn	21 18 03.1	-0.9
	comp=E,0.2nm,0.3s,baz=222,slow=14,SNR=36						
	comp=E,3.7nm,0.8s						
WMQ	Urumqi	14.76	56	*e*P	P	21 18 25.0	-1.8
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
WMQ				LR	LR		
	comp=N,760nm,13.9s						
WMQ				LR	LR		
	comp=E,450nm,13.9s						
WMQ				LR	LR		
	comp=Z,460nm,20.7s						
AB31	Akbulak array	14.84	331		Pn	21 18 20.9	-3.4
AB31	Akbulak array	14.84	331	⇑P	Pn	21 18 20.4	-3.9
	comp=Z,1.3nm,0.5s						
AB31				⇑S	Sn	21 21 09.8	+1.9
	comp=Z,1.7nm,0.6s						
ABKAR	Akbulak array	14.84	331	Pn	Pn	21 18 20.9	-3.4
KURBB	Kurchatov Arra	15.02	19	P	Pn	21 18 23.9	-2.7
	comp=Z,0.6nm,0.5s,baz=212,slow=12,SNR=5.2						
KURK	Kurchatov	15.13	19	Pn	P	21 18 28.7	-2.1
EVN	Everest	16.10	118	Pn	P	21 18 41.6	-0.8
EVN				IAmb	IAmb	21 18 42.5	
	comp=Z,6.5nm,0.6s						
BVAR	Borovoye Array	16.36	359	P	Pn	21 18 42.0	-1.2
	comp=Z,0.1nm,0.3s,baz=164,slow=13,SNR=18						
BVAR				LR	LR	21 25 17.2	
	comp=Z,33nm,21.5s,baz=197,slow=38						
	comp=Z,2.5nm,0.7s						
BRVK	Borovoye	16.39	359		Pn	21 18 42.7	-1.0
AKTO	Aktyubinsk	16.54	330	P	P	21 18 48.6	+2.3
	comp=Z,1.0nm,0.3s,baz=138,slow=10,SNR=13						
	comp=Z,5.0nm,0.5s						
AKTO	Aktyubinsk	16.54	330	⇑P	P	21 18 46.9	+0.5
	comp=Z,7.5nm,1.0s						
AKTO				⇑S	Sn	21 21 49.6	+0.8
	comp=Z,3.7nm,1.0s						
ZAA0	Zalesovo Array	19.84	25		Pn	21 19 23.7	-1.3
ZALV	Zalesovo Beam	19.84	25		Pn	21 19 23.7	-1.2
ZALV	Zalesovo Beam	19.84	25	P	Pn	21 19 23.4	-1.6
	comp=Z,1.8nm,0.3s,baz=216,slow=11,SNR=44						
	comp=Z,7.1nm,0.5s						
ARTI	Arti	21.42	341	P	P	21 19 40.6	+1.2
ARTI				IAmb	IAmb	21 19 53.7	
	comp=Z,5.3nm,0.6s						
ARTI	Arti	21.42	341	P	P	21 19 41.2	+1.8
	comp=Z,2.6nm,0.5s,baz=165,slow=4.5,SNR=7.8						
	comp=Z,2.6nm,0.5s						
KBZ	Khabaz	22.35	297	P	P	21 20 00.0	+11
	comp=Z,2.5nm,0.9s,baz=110,slow=11,SNR=4.8						
PZH	PanZhiHua	28.17	102	P	P	21 20 47.3	+4.4
HHC	Hu-ho-hao-te	31.89	70	*e*P	P	21 21 18.2	+2.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,3.7s						
ARCES	ARCESS Array B	40.91	338	P	P	21 22 34.1	+2.3
	comp=Z,1.6nm,0.8s,baz=116,slow=8.3,SNR=6.5						
	comp=Z,1.6nm,0.8s						
HFS	Hagfors	42.81	322	P	P	21 22 50.7	+3.4
	comp=Z,0.6nm,0.4s,baz=103,slow=12,SNR=6.4						
	comp=Z,0.6nm,0.4s						
NOA	NORSAR Array B	44.13	323	P	P	21 23 05.1	+7.2
	comp=Z,0.3nm,0.6s,baz=100,slow=7.9,SNR=2.5						
ESDC	Sonseca Array	57.20	298	P	P	21 24 40.5	+3.9
	comp=Z,0.3nm,0.7s,baz=66,slow=7.7,SNR=4.9						
	comp=Z,0.3nm,0.7s						
RES	Resolute Bay	68.52	356	LR	LR	21 59 17.0	
	comp=Z,112nm,20.7s,baz=290,slow=39						

*GCG **03** 21:34:57.3±1.1, 15°.73N×94°.51W, h36km±22km, MD4.4, ML3.9*
*MEX **03** 21:34:58.9±1.1, 15°.84N×94°.51W, h66km±20km, MD4.1*

ISC 03 21:34:57.6±1.2, 15°.80N±0°.04×94°.47W±0°.03, h64km±17km, n47, σ2s30/76, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	Santiago Nilte	0.78	349	*e*P	Pn	21 35 13.2	+0.2
NILT				*e*S	Sn	21 35 24.3	0.0
PCIG		1.21	94	*i* P	Pn	21 35 18.6	+0.1
PCIG				*e*S	Sn	21 35 34.0	-0.1
CMIG	Matias Romero	1.35	343	*e*P	Pn	21 35 20.9	+0.5
CMIG				*e*S	Sn	21 35 37.9	+0.5
HUIG	Huatulco	1.58	269	*e*P	Pn	21 35 23.3	-0.2
HUIG				*e*S	Sn	21 35 41.3	-1.8
HUIG	Huatulco	1.58	269	*e*P	Pn	21 35 23.1	-0.5
HUIG				*i* S	Sn	21 35 41.1	-2.0
HUIG				IAML		21 35 45.5	
	comp=E,561nm,0.2s						
TGIG		1.62	53	*e*P	Pn	21 35 24.5	+0.4
TGIG				*e*S	Sn	21 35 43.1	-0.9
TGIG		1.62	53	*i* P	Pn	21 35 24.4	+0.4
TGBT	Tuxtla Gutierr	1.64	53	*e*S	Sn	21 35 42.6	-1.9
TUIG	Tuzandepetl	2.22	1	*e*S	Sn	21 36 00.2	+1.6
PATR	El Naranjo	2.26	107	*e*P	Pn	21 35 33.1	+0.2
PATR				*e*S	Sn	21 36 01.1	+1.3
PAVE	Pavencul	2.29	105	*e*P	Pn	21 35 34.2	+0.9
PAVE				*e*S	Sn	21 36 01.8	+1.3
CCIG	Comitan	2.29	78	*e*P	Pn	21 35 33.1	-0.2
CCIG				*e*S	Sn	21 35 57.7	-2.8
CCIG	Comitan	2.29	78	*i* P	Pn	21 35 34.3	+1.0
CCIG				IAML		21 36 13.5	
	comp=N,991nm,0.6s						
THIG		2.30	112	*e*P	Pn	21 35 33.6	+0.3
THIG				*e*S	Sn	21 36 00.6	+0.1
THIG		2.30	112	*i* S	Sn	21 36 00.6	+0.1
THIG				IAML		21 36 09.9	
	comp=N,961nm,0.6s						
OXLC	Oaxaca	2.49	301	*e*P	Pn	21 35 36.9	+0.8
OXLC				*e*S	Sn	21 36 07.8	+2.4
OXBJ	Oaxaca	2.51	301	*e*P	Pn	21 35 35.1	-1.2
OXBJ				*e*S	Sn	21 36 07.4	+1.5
VHO	Vista Hermosa	2.52	301	*e*P	Pn	21 35 39.0	+2.6
VHO				*e*S	Sn	21 36 08.4	+2.3
PEIG	Puerto Escondi	2.59	275	*e*P	Pn	21 35 37.2	0.0
PEIG				*e*S	Sn	21 36 04.6	-3.0
PMUV	Sontecomapan	2.80	347	*e*S	Sn	21 36 11.0	-1.8
HUEH	Huehuetenango	2.90	99	*e*P	Pn	21 35 46.7	+5.1
HUEH				*e*S	Sn	21 36 19.7	+4.3
RTAL	Retalhuleu	2.96	115	*e*P	Pn	21 35 41.9	-0.4
RTAL				*e*S	Sn	21 36 16.7	0.0
YOIG	Yosondua	3.14	290	*e*P	Pn	21 35 46.5	+1.6
YOIG				*e*S	Sn	21 36 22.6	+1.2
STG2	El Palmar, Qui	3.28	114	*i* P	Pn	21 35 42.2	-4.5
TOIG	Toxpalan	3.38	313	*e*P	Pn	21 35 50.4	+2.4
TOIG				*e*S	Sn	21 36 28.5	+1.5
TXIG	Tlaxiaco	3.48	295	*e*P	Pn	21 35 52.1	+2.5
TXIG				*e*S	Sn	21 36 31.4	+1.6
PNIG	Pinotepa	3.57	280	*e*P	Pn	21 35 51.0	+0.4
PNIG				*e*S	Sn	21 36 28.1	-3.5
HLIG	Huajuapan de L	3.78	303	*e*P	Pn	21 35 56.1	+2.4
HLIG				*e*S	Sn	21 36 35.9	-1.2
TPIG	Tehuac#an	3.80	314	*e*P	Pn	21 35 57.1	+3.2
TPIG				*e*S	Sn	21 36 34.0	-3.6
JAUV	Jalcomulco	4.19	328	*e*P	Pn	21 35 58.1	-1.0
JAUV				*e*S	Sn	21 36 43.9	-3.0
MGIG	Malinaltepec	4.25	290	*e*P	Pn	21 36 01.8	+1.8
MGIG				*e*S	Sn	21 36 46.6	-1.8
TLIG	Tlapa	4.30	295	*e*P	Pn	21 36 03.4	+2.7
TLIG				*e*S	Sn	21 36 49.9	+0.1
LVIG	Laguna Verde	4.32	335	*e*S	Sn	21 36 44.1	-6.0
SCIG	Sabancuy	4.44	44	*e*P	Pn	21 36 03.5	+0.9
SCIG				*e*S	Sn	21 36 47.8	-5.2
CRIG	Cruz Grande	4.58	282	*e*P	Pn	21 36 05.0	+0.7
CRIG				*e*S	Sn	21 36 50.7	-5.6
DAIG	Los Arroyos	5.12	284	*e*P	Pn	21 36 12.8	+0.9
DAIG				*e*S	Sn	21 37 09.8	+0.1
PPM	Popocatepetl	5.13	310	*e*P	Pn	21 36 16.4	+3.9
PPM				*e*S	Sn	21 37 09.9	-0.7
CXUV	Coxquihui	5.27	326	*e*P	Pn	21 36 13.3	-0.5
CXUV				*e*S	Sn	21 37 14.0	+0.7
YAIG	Yautepec	5.35	305	*e*P	Pn	21 36 18.9	+3.9
YAIG				*e*S	Sn	21 37 15.0	-0.4
MEIG	Mezcala	5.37	294	*e*P	Pn	21 36 18.4	+3.0
MEIG				*e*S	Sn	21 37 16.8	+0.9
CAIG	El Cayaco	5.70	283	*e*P	Pn	21 36 21.3	+1.5
CAIG				*e*S	Sn	21 37 18.1	-5.8
ARIG	Puente Sto Nin	6.14	295	*e*P	Pn	21 36 29.1	+3.2
ARIG				*e*S	Sn	21 37 34.6	-0.2
MMIG	Aquila	8.85	288	*e*P	Pn	21 37 05.5	+2.6
MNGA	Volcan de Coli	9.46	294	*e*P	Pn	21 37 16.3	+4.9
INCO	Volcan de Coli	9.46	294	*e*P	Pn	21 37 16.4	+4.7
SOMAC	Volcano de Col	9.49	294	*e*P	Pn	21 37 17.9	+5.9
CEGR	Campo Tres	9.64	293	*e*P	Pn	21 37 18.9	+5.0

*IDC **03** 21:37:04.3±15.0, 37°.66N×72°.37E, h290km±125km, mb3.3/3, mbtmp3.6/7, Error ellipse: s-maj=172.2km s-min=80.3km az=168.0*

ISC 03 21:36:47.0±7.1, 37°.0N±0°.8×72°.3E±0°.3, h152km, n7, σ1s21/7, mb3.8/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	12.34	34	P	P	21 39 44.0	+0.6
	0.2nm,0.6s,baz=222,slow=13,SNR=2.3						
KURBB	Kurchatov Arra	14.38	16	P	P	21 40 06.8	+0.8
	0.5nm,0.5s,baz=200,slow=9.9,SNR=1.8						
BVAR	Borovoye Array	16.12	356	P	P	21 40 25.8	+0.6
	0.3nm,0.4s,baz=164,slow=9.0,SNR=2.2						
ZALV	Zalesovo Beam	19.09	23	P	Pn	21 40 58.2	-2.0
	2.0nm,0.6s,baz=218,slow=10,SNR=11						
FINES	FINESS Array B	37.67	325	P	P	21 43 47.6	+0.5
	2.1nm,0.9s,baz=105,slow=8.4,SNR=1.9						
	2.1nm,0.9s						
ARCES	ARCESS Array B	41.11	337	P	P	21 44 15.6	+0.1
	1.6nm,0.9s,baz=117,slow=8.6,SNR=4.3						
	1.6nm,0.9s						
HFS	Hagfors	43.33	322	P	P	21 44 33.3	-0.3
	2.8nm,1.1s,baz=107,slow=12,SNR=4.6						
	2.8nm,1.1s						

MDD 03 21:46:13.5±1.6, 27°.86N×16°.28W, h3km±6km, mb_Lg2.1/8, Error ellipse: s-maj=12.0km s-min=4.6km az=26.0, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTFS	San Miguel de	0.39	306	P	Pb	21 46 23.9	+0.9
CTFS				S	Sb	21 46 30.0	+0.6
CVIL	Vilaflor	0.44	313	S	Sb	21 46 31.1	+0.1
MACI	Morro de la Ar	0.44	332	P	Pg	21 46 22.7	+0.7
MACI				S	Sg	21 46 29.4	+1.6
MACI				*i* lVmb_Lg		21 46 33.3	
MACI	Morro de la Ar	0.44	332	P	Pg	21 46 22.7	+0.7
MACI				S	Sb	21 46 29.4	-1.6
MACI				*i* lVmb_Lg		21 46 30.8	
CLAJ	Vilaflor (Tene	0.46	310	P	Pg	21 46 23.1	+0.7
CLAJ				S	Sb	21 46 30.7	-0.9
CLAJ				*i* lVmb_Lg		21 46 33.7	
CGUI	Guimar, Teneri	0.48	342	P	Pg	21 46 22.6	-0.2
CGUI				S	Sg	21 46 28.5	-0.6
CGUI				*i* lVmb_Lg		21 46 34.7	
CDIE	La Orotava (Te	0.49	330	P	Pb	21 46 24.6	-0.3
CDIE				S	Sg	21 46 29.7	+0.3
CRAJ	Montana Rajada	0.49	325	S	Sg	21 46 30.4	+1.0
CRAJ				*i* lVmb_Lg		21 46 34.1	
CCHO	La Orotava (Te	0.51	316	P	Pb	21 46 25.0	-0.1
CCHO				S	Sb	21 46 31.9	-1.1
CCHO				*i* lVmb_Lg		21 46 33.9	
CADE	Adeje, Tenerif	0.51	306	S	Sb	21 46 32.8	-0.2
CPVI	La Orotava (Te	0.53	320	P	Pg	21 46 24.4	+0.8
CPVI				S	Sg	21 46 31.5	+1.0
CFOR	Fortaleza, Los	0.53	328	P	Pg	21 46 23.0	-0.7
CFOR				S	Sg	21 46 30.3	-0.4
CFOR				*i* lVmb_Lg		21 46 36.5	
CFOR	Fortaleza, Los	0.53	328	P	Pg	21 46 23.5	-0.2
CFOR				S	Sg	21 46 30.7	0.0
GUIA	Guia de Isora,	0.55	315

ISC 03 21:50:36.5±1.3, 20.64N±0.06×121.83E±0.07, h17km±8km, n117, σ1.9/43/108, mb4.2/44, MS3.4/16, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.27**	**342**	P	**Pn**	**21 51 09.7**	**-3.7**
TWG	**Pinlang**	**2.28**	**342**		**Pn**	**21 51 09.7**	**-3.8**
YULB	**Yu-li**	**2.78**	**350**		**Pn**	**21 51 18.1**	**-2.3**
YULB	**Yu-li**	**2.78**	**350**	P	**Pn**	**21 51 17.8**	**-2.6**
TPUB	**Ta-pu**	**2.87**	**337**		**Pn**	**21 51 20.2**	**-1.4**
TPUB	**Ta-pu**	**2.87**	**337**	P	**Pn**	**21 51 21.6**	**0.0**
SSLB	**Suanglung**	**3.23**	**346**		**Pn**	**21 51 25.1**	**-1.5**
SSLB	**Suanglung**	**3.23**	**346**	P	**Pn**	**21 51 26.2**	**-0.4**
NACB	**Ninganchiao**	**3.52**	**357**		**Pn**	**21 51 27.2**	**-3.4**
NACB	**Ninganchiao**	**3.52**	**357**	P	**Pn**	**21 51 27.0**	**-3.6**
YOJ	**Yonaguni jima**	**3.96**	**16**		**Pn**	**21 51 34.4**	**-2.1**
YOJ	**Yonaguni jima**	**3.96**	**16**	P	**Pn**	**21 51 37.3**	**+0.8**
YHNB	**Yeheng**	**4.03**	**354**		**Pn**	**21 51 36.0**	**-1.6**
YHNB	**Yeheng**	**4.03**	**354**	P	**Pn**	**21 51 36.3**	**-1.3**
TATO	**Taipei**	**4.33**	**356**		**Pn**	**21 51 38.5**	**-3.1**
KNMB	**Chin-men Tao**	**4.96**	**321**	Pn	**Pn**	**21 51 48.2**	**-2.1**
JOW	**Kunigami**	**8.53**	**43**	Pn	**Pn**	**21 52 37.0**	**-2.4**
JOW	**Kunigami**	**8.53**	**43**	P	**Pn**	**21 52 41.6**	**+2.2**
	3.0nm,0.3s,baz=222,slow=14,SNR=7.8						
JOW				LR	LR	21 55 32.2	
	comp=Z,186nm,21.9s,baz=150,slow=34						
	22nm,0.8s						
JNU	**Nakatsue**	**14.81**	**31**	Pn	**Pn**	**21 54 04.0**	**-1.4**
JNU	**Nakatsue**	**14.81**	**31**	P	**P**	**21 54 11.9**	**+0.8**
	12nm,0.9s,baz=166,slow=7.7,SNR=6.3						
JNU				LR	LR	21 59 39.4	
	comp=Z,156nm,19.4s,baz=211,slow=36						
KKM	**Kota Kinabalu**	**15.50**	**201**	Pn	**Pn**	**21 54 15.6**	**+1.0**
TIA	**Tai'an**	**16.05**	**346**	P	Pn	21 54 10.2	-11
KSAR	**Wonju Array Be**	**17.55**	**16**		**Pn**	**21 54 39.9**	**-0.5**
XAN	**Xi'an**	**17.57**	**322**	P	**P**	**21 54 43.1**	**+1.3**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**17.57**	**16**	P	**Pn**	**21 54 42.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=196,slow=11,SNR=16						
	comp=Z,2.1nm,0.6s						
KS19	**Wonju Array Si**	**17.60**	**16**		**Pn**	**21 54 40.4**	**-0.7**
PZH	**PanZhiHua**	**19.30**	**291**	P	**P**	**21 55 02.3**	**+1.3**
JHJ	**Hachijo jima 2**	**20.23**	**48**	LR	LR	22 00 52.0	
	comp=Z,31nm,19.6s,baz=281,slow=30						
SBUM	**Sibu**	**20.36**	**209**	P	**P**	**21 55 09.1**	**-3.4**
MJAR	**Matsushiro Arr**	**21.35**	**39**	P	**P**	**21 55 23.3**	**+0.3**
MJAR	**Matsushiro Arr**	**21.35**	**39**	P	**P**	**21 55 24.7**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=239,slow=9.0,SNR=6.7						
	comp=Z,1.1nm,0.8s						
MJB9	**Matsu-Tunnel**	**21.35**	**39**	P	**P**	**21 55 22.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**21.67**	**268**	P	**P**	**21 55 29.5**	**+2.9**
	comp=Z,2.7nm,0.8s,baz=72,slow=9.1,SNR=10.0						
CMAR				LR	LR	22 03 41.5	
	comp=Z,46nm,18.9s,baz=90,slow=36						
	comp=Z,2.7nm,0.8s						
HHC	**Hu-ho-hao-te**	**21.96**	**339**	*e*P	**P**	**21 55 29.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
HHC				LR	LR		
	comp=N,150nm,13.1s						
HHC				LR	LR		
	comp=E,240nm,13.7s						
HHC				LR	LR		
	comp=Z,160nm,12.6s						
LZH	**Lanzhou**	**22.02**	**318**	*e*P	**P**	**21 55 33.2**	**+2.9**
LZH				sP	sP	21 55 41.8	+4.7
LZH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LZH				LR	LR		
	comp=E,230nm,12.7s						
LZH				LR	LR		
	comp=Z,260nm,12.7s						
XLT	**XiLinHaoTe**	**23.68**	**350**	*e*P	**P**	**21 55 44.5**	**-3.0**
XLT				pP	pP	21 55 51.2	-1.0
XLT				PP	**PnPn**	**21 56 18.8**	**+3.8**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**24.97**	**17**		**P**	**21 55 57.3**	**-1.9**
USRK	**Ussuriysk Ar.**	**24.97**	**17**	P	**P**	**21 55 59.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=201,slow=11,SNR=4.3						
USRK				LR	LR	22 06 02.3	
	comp=Z,80nm,18.8s,baz=193,slow=37						
	comp=Z,1.1nm,0.6s						
KAPI	**Kappang**	**25.58**	**185**	LR	LR	22 08 45.7	
	comp=Z,51nm,18.3s,baz=78,slow=42						
KULM	**Kulim**	**25.61**	**236**	P	**P**	**21 56 04.7**	**-0.6**
KULM				IAmb	IAmb	21 56 14.4	
	comp=Z,8.3nm,0.9s						
GTA	**Gaotai**	**26.59**	**320**	*e*P	**P**	**21 56 15.4**	**+1.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				LR	LR		
	comp=N,120nm,13.1s						
GTA				LR	LR		
	comp=E,170nm,12.7s						
GTA				LR	LR		
	comp=Z,190nm,14.5s						
ASAJ	**Asahikawa**	**29.09**	**32**	LR	LR	22 09 20.1	
	comp=Z,88nm,18.5s,baz=176,slow=38						
JKA	**Kamikawa-asahi**	**29.09**	**32**	P	**P**	**21 56 36.7**	**+0.5**
JKA				IAmb	IAmb	21 56 52.1	
	comp=Z,5.9nm,1.0s						
ULN	**Ulaanbaatar**	**29.67**	**340**		**P**	**21 56 40.1**	**-1.5**
ULN				IAmb	IAmb	21 56 41.7	
	comp=Z,4.5nm,0.8s						
SONM	**Songino Array**	**29.86**	**339**	P	**P**	**21 56 42.0**	**-1.2**
SONM	**Songino Array**	**29.86**	**339**	P	**P**	**21 56 42.2**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=160,slow=9.2,SNR=14						
	comp=Z,3.0nm,0.8s						
GSI	**Gunungsitoli**	**30.50**	**234**		**P**	**21 56 48.7**	**-0.3**
GSI				IAmb	IAmb	21 56 53.7	
	comp=Z,7.5nm,1.0s						
WMQ	**Urumqi**	**36.59**	**317**	*e*P	**P**	**21 57 42.4**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ				LR	LR		
	comp=Z,89nm,23.8s						
KNRA	**Kununurra**	**36.73**	**169**	P	**P**	**21 57 44.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**38.68**	**174**	LR	LR	22 16 08.1	
	comp=Z,38nm,18.5s,baz=194,slow=40						
MKAR	**Makanchi Array**	**41.33**	**319**		**P**	**21 58 21.8**	**+0.3**
MKAR	**Makanchi Array**	**41.33**	**319**	P	**P**	**21 58 22.6**	**+1.1**
	comp=Z,3.7nm,0.6s,baz=114,slow=9.6,SNR=45						
MKAR				PcP	**PcP**	**22 00 21.3**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=96,slow=4.3,SNR=1.5						
	comp=Z,3.7nm,0.6s						
MAKZ	**Makanchi**	**41.53**	**318**	P	**P**	**21 58 23.1**	**0.0**
MBWA	**Marble Bar**	**41.59**	**183**	P	**P**	**21 58 23.8**	**+0.1**
YAK	**Yakutsk**	**41.72**	**6**	LR	LR	22 17 15.5	
	comp=Z,37nm,18.2s,baz=211,slow=38						
PSA00	**Pilbara Seismi**	**42.00**	**183**	P	**P**	**21 58 27.0**	**0.0**
PSA00				IAmb	IAmb	21 58 42.6	
	comp=Z,26nm,1.4s						
PSA00	**Pilbara Seismi**	**42.00**	**183**	P	**P**	**21 58 27.3**	**+0.2**
PSA00				IAmb	IAmb	21 58 42.5	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**42.00**	**162**	P	**P**	**21 58 26.4**	**-0.7**
WB0				IAmb	IAmb	21 58 32.6	
	comp=Z,7.3nm,1.1s						
WRA	**Warramunga Arr**	**42.15**	**162**	P	**P**	**21 58 27.3**	**-1.1**
WRA	**Warramunga Arr**	**42.15**	**162**	P	**P**	**21 58 27.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=344,slow=9.0,SNR=13						
WRA				PcP	**PcP**	**22 00 22.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=341,slow=3.5,SNR=1.2						
	comp=Z,1.4nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**42.21**	**83**	T	T	22 43 26.3	
	baz=278,slow=74,SNR=52						
H11N2	**WAKE ISLAND Hy**	**42.21**	**83**	T	T	22 43 28.0	
	baz=278,slow=74,SNR=54						
WR8	**Warramunga Arr**	**42.21**	**162**	P	**P**	**21 58 27.9**	**-1.0**
WR8				IAmb	IAmb	21 58 37.6	
	comp=Z,16nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**42.22**	**83**	T	T	22 43 25.5	
	baz=278,slow=74,SNR=58						
H11S3	**WAKE ISLAND Hy**	**42.23**	**85**	T	T	22 43 22.1	
	baz=281,slow=74,SNR=113						
H11S1	**WAKE ISLAND Hy**	**42.23**	**85**	T	T	22 43 23.6	
	baz=281,slow=74,SNR=112						
H11S2	**WAKE ISLAND Hy**	**42.24**	**85**	T	T	22 43 23.6	
	baz=281,slow=74,SNR=66						
PETK	**Petropavlovsk-**	**42.51**	**32**	P	**P**	**21 58 31.3**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=235,slow=6.7,SNR=1.9						
PETK				LR	LR	22 17 41.1	
	comp=Z,40nm,19.1s,baz=270,slow=38						
	comp=Z,1.4nm,0.9s						
ZAA0	**Zalesovo Array**	**43.55**	**329**		**P**	**21 58 38.5**	**-0.8**
ZAA0				IAmb	IAmb	21 58 40.1	
	comp=Z,8.1nm,0.7s						
ZALV	**Zalesovo Beam**	**43.55**	**329**		**P**	**21 58 38.7**	**-0.6**
ZALV	**Zalesovo Beam**	**43.55**	**329**	P	**P**	**21 58 39.4**	**0.0**
	comp=Z,7.8nm,0.6s,baz=118,slow=8.1,SNR=42						
	comp=Z,7.8nm,0.6s						
MA2	**Magadan**	**44.04**	**21**	LR	LR	22 18 08.6	
	comp=Z,52nm,18.1s,baz=154,slow=37						
AAK	**Ala-Archa**	**45.18**	**310**	LR	LR	22 21 16.0	
	comp=Z,86nm,18.3s,baz=119,slow=40						
KURK	**Kurchatov**	**45.21**	**322**		**P**	**21 58 52.5**	**-0.2**
KURK				IAmb	IAmb	21 58 54.2	
	comp=Z,7.4nm,0.8s						
KURBB	**Kurchatov Arra**	**45.22**	**322**	P	**P**	**21 58 53.6**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=118,slow=7.7,SNR=34						
	comp=Z,6.7nm,0.8s						
AS31	**Alice Springs**	**45.58**	**164**	P	**P**	**21 58 55.8**	**-0.2**
ASAR	**Alice Springs**	**45.59**	**164**	P	**P**	**21 58 56.2**	**+0.2**
ASAR	**Alice Springs**	**45.59**	**164**	P	**P**	**21 58 56.6**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=349,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	**22 00 33.1**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=339,slow=4.0,SNR=1.5						
	comp=Z,1.0nm,0.6s						
KK31	**Karatay Array**	**48.14**	**310**	P	**P**	**21 59 15.3**	**-0.5**
KK31				IAmb	IAmb	21 59 18.3	
	comp=Z,2.9nm,1.1s						
KKAR	**Karatay Array**	**48.14**	**310**	P	**P**	**21 59 15.3**	**-0.5**
KBL	**Kabul**	**48.29**	**298**	P	**P**	**21 59 17.3**	**0.0**
KBL				IAmb	IAmb	21 59 20.1	
	comp=Z,2.7nm,0.8s						
MORW	**Morawa**	**49.73**	**187**	P	**P**	**21 59 28.1**	**+0.1**
BVAR	**Borovoye Array**	**50.81**	**322**	P	**P**	**21 59 36.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=101,slow=9.1,SNR=13						
BVAR				PcP	**PcP**	**22 00 51.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=80,slow=7.9,SNR=4.0						
	comp=Z,2.4nm,0.7s						
BRVK	**Borovoye**	**50.88**	**322**		**P**	**21 59 35.1**	**-1.4**
BRVK				IAmb	IAmb	21 59 38.2	
	comp=Z,5.2nm,0.8s						
TIXI	**Tiksi**	**51.18**	**3**	LR	LR	22 22 47.7	
	comp=Z,66nm,19.0s,baz=187,slow=38						
STKA	**Stephens Creek**	**55.55**	**160**	P	**P**	**22 00 10.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=343,slow=7.8,SNR=3.7						
	comp=Z,2.1nm,0.8s						
AB31	**Akbulak array**	**56.36**	**316**	P	**P**	**22 00 16.6**	**-0.2**
ABKAR	**Akbulak array**	**56.36**	**316**	P	**P**	**22 00 16.3**	**-0.5**
ARTI	**Arti**	**58.39**	**324**		**P**	**22 00 30.2**	**-0.8**
L14K	**Kuka Creek**	**65.16**	**31**	P	**P**	**22 01 17.3**	**+0.8**
KBZ	**Khabaz**	**68.18**	**310**	P	**P**	**22 01 37.3**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=145,slow=3.9,SNR=5.1						
	comp=Z,2.3nm,0.8s						
RAYN	**Ar Rayn**	**69.98**	**288**		**P**	**22 01 48.0**	**+0.3**
RAYN				IAmb	IAmb	22 01 52.2	
	comp=Z,3.5nm,0.9s						
CAST	**Castle Rocks**	**70.02**	**29**		**P**	**22 01 47.2**	**0.0**
CAST				IAmb	IAmb	22 01 55.3	
	comp=Z,3.7nm,0.8s						
E24K	**Your Creek**	**70.93**	**23**	P	**P**	**22 01 52.5**	**-0.2**
E24K				IAmb	IAmb	22 01 57.3	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**72.08**	**27**	P	**P**	**22 01 58.5**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=280,slow=6.4,SNR=6.1						
	comp=Z,0.3nm,0.6s						
BMAR	**Burnt Mountain**	**72.50**	**24**	P	**P**	**22 02 02.3**	**+0.1**
BCAR	**Beaver Creek A**	**74.66**	**28**	P	**P**	**22 02 13.9**	**-1.1**
I28M	**Miner Creek**	**74.79**	**25**	P	**P**	**22 02 16.0**	**+0.3**
I28M				IAmb	IAmb	22 02 34.6	
	comp=Z,4.7nm,1.2s						
FINES	**FINESS Array B**	**74.80**	**330**	P	**P**	**22 02 15.4**	**-0.3**
FINES	**FINESS Array B**	**74.80**	**330**	P	**P**	**22 02 15.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=51,slow=6.4,SNR=7.2						
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**75.76**	**307**	P	**P**	**22 02 22.8**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=116,slow=5.6,SNR=3.9						
	comp=Z,0.6nm,0.7s						
AKASG	**Malin Array Be**	**75.91**	**319**	P	**P**	**22 02 21.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=62,slow=6.1,SNR=4.6						
	comp=Z,0.2nm,0.3s						
M29M	**Somme Creek**	**76.30**	**28**	P	**P**	**22 02 24.8**	**+0.3**
M29M				IAmb	IAmb	22 02 34.0	
	comp=Z,10.0nm,1.5s						
CSS	**Mathiatis**	**77.28**	**303**	P	**P**	**22 02 30.7**	**+0.3**
URZ	**Urewera**	**78.24**	**139**	LR	LR	22 36 55.9	
	comp=Z,42nm,18.6s,baz=282,slow=36						
HFS	**Hagfors**	**80.94**	**331**	P	**P**	**22 02 50.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=76,slow=6.1,SNR=5.3						
	comp=Z,1.2nm,0.7s						
NB2	**NORSAR Subarra**	**81.62**	**333**	P	**P**	**22 02 55.5**	**+1.9**
	comp=Z,1.2nm,0.9s,baz=62,slow=5.6						
NOA	**NORSAR Array B**	**81.62**	**333**	P	**P**	**22 02 52.8**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=63,slow=4.8,SNR=3.3						
	comp=Z,0.6nm,0.8s						
OJC	**Ojcow**	**81.77**	**321**		**P**	**22 02 54.2**	**-0.3**
VYHS	**Vyhne**	**83.02**	**319**	*e*P	**P**	**22 03 01.8**	**+0.7**
RUBB	**Prince Rupert**	**83.38**	**34**	P	**P**	**22 03 04.3**	**+1.5**
FNA	**Florina**	**84.32**	**311**	P	**P**	**22 03 07.5**	**-0.4**
VOI	**Vohitsoka**	**84.57**	**244**	P	**P**	**22 03 10.4**	**+0.8**
CLL	**Collm**	**85.23**	**323**	*e*P	**P**	**22 03 12.0**	**-0.3**
CLL				*ep*P	**PcP**	**22 03 16.0**	**+0.6**
CLL				*es*P	**pP**	**22 03 18.0**	**+0.3**
GERES	**GERESS Array B**	**85.95**	**321**	P	**P**	**22 03 16.6**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=61,slow=6.0,SNR=3.7						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**85.99**	**23**	P	**P**	**22 03 15.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=317,slow=5.3,SNR=4.6						
	comp=Z,1.2nm,0.7s						
EKA	**Eskdalemuir Ar**	**91.10**	**332**	P	**P**	**22 03 39.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=41,slow=3.8,SNR=1.8						
	comp=Z,0.4nm,0.6s						

*NEIC **03** 22:02:02.7±1.5, 47.600N±0.010×121.81W±0.03, h20km±4km, Error ellipse: s-maj=2.9km s-min=1.2km az=72.0*

SEA 03 22:02:03.1±1.7, 47.60N±0.01×121.78W±0.03, h18km±2km, ML2.8/21, ML2.7/70(NEIC), Error ellipse: s-maj=2.9km s-min=1.7km az=78.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTW	**Tolt Reservoir**	**0.11**	**31**		Pb	22 02 06.6	+0.2
TTW					Sg	22 02 09.3	-0.2
CDMR	**Cedar Moraine**	**0.18**	**176**		Pb	22 02 07.3	-0.3
CDMR					Sb	22 02 10.7	0.0
HTW	**Haystack Looko**	**0.20**	**1**		Pg	22 02 07.5	-0.6
EARN	**East Ridge Ele**	**0.23**	**308**		Sb	22 02 12.5	+0.2
WISC	**Wilburton Inst**	**0.27**	**272**		Sb	22 02 14.6	+0.9
LEOT	**Leota Junior H**	**0.29**	**306**		Pg	22 02 09.1	-0.2
LEOT					Sg	22 02 14.2	0.0
BLH	**Bald Hill**	**0.29**	**324**		Pg	22 02 08.7	-0.8
BLH					Sg	22 02 13.1	-0.8
MPL	**Maple valley S**	**0.31**	**245**		Pg	22 02 09.2	-0.5
MPL					Sg	22 02 14.2	0.0
SP2	**Seward Park 2**	**0.32**	**263**		Pg	22 02 09.7	-0.3
FINN	**Finn Hill Juni**	**0.33**	**291**		Sb	22 02 16.4	+0.9
NIHS	**Ingelmoor High**	**0.34**	**295**		Pg	22 02 10.1	0.0
NIHS					Sb	22 02 16.4	+0.8
NOWS	**NOAA--Sand Poi**	**0.34**	**285**		Sb	22 02 16.7	+1.1
EVGW	**Everett Gatewa**	**0.36**	**315**		Pg	22 02 10.1	-0.5
BRKS	**Brookside Elem**	**0.38**	**294**		Sb	22 02 17.4	+0.5
HICC	**Highline Commu**	**0.41**	**240**		Pg	22 02 11.1	-0.4
HICC					Sb	22 02 17.9	+0.1
LYNC	**Lynnwood City**	**0.42**	**303**		Pg	22 02 11.1	-0.5
LYNC					Sb	22 02 17.8	-0.1
D05A	**Enumclaw**	**0.44**	**200**		Pg	22 02 11.6	-0.4
D05A				Sg	Sg	22 02 18.0	+0.1
D05A				IAML		22 02 19.1	
	comp=E,476nm,0.9s						
VVHS	**Vashon High Sc**	**0.49**	**249**		Pg	22 02 12.0	-1.0
EVCC	**Everett Colleg**	**0.50**	**325**		Pg	22 02 12.8	-0.3
EVCC					Sb	22 02 20.8	+0.4
PAYL	**Puyallup Schoo**	**0.55**	**222**		Sb	22 02 21.8	+0.2
SWID	**South Whidbey**	**0.59**	**314**		Pg	22 02 14.1	-0.7
SWID					Sb	22 02 23.3	+0.3
JCW	**Jim Creek**	**0.60**	**350**		Pg	22 02 13.9	-1.2
JCW					Sg	22 02 22.1	-1.1
KINR	**Kitsap County**	**0.61**	**285**		Sb	22 02 23.3	0.0
GHW	**Garrison Hill**	**0.65**	**211**		Pb	22 02 14.8	-1.1
WRW	**Wenatchee Rida**	**0.66**	**66**		Pg	22 02 15.4	-0.6
RVC	**Mount Rainier-**	**0.67**	**192**		Pb	22 02 15.1	-1.2
FMW	**Mount Fremont**	**0.67**	**174**		Pg	22 02 15.1	-1.2
FMW					Sg	22 02 24.2	-1.1
GPW	**Glacier Peak**	**0.67**	**39**		Pg	22 02 15.8	-0.6
KIMR	**Kitsap County**	**0.68**	**262**		Sb	22 02 24.7	-0.8
B941	**Kapowsin**	**0.68**	**206**		Pb	22 02 14.8	-1.6
B941					Sb	22 02 23.9	-1.6
GMW	**Gold Mountain**	**0.69**	**266**		Pb	22 02 14.7	-1.8
GMW					Pg	22 02 15.0	-1.6
GMW					Sb	22 02 24.6	-1.1
B05A	**Bryant**	**0.70**	**342**		Pb	22 02 15.4	-1.4
B05A					Sb	22 02 24.7	-1.3
OBSR	**Observation Ro**	**0.70**	**182**		Pg	22 02 15.9	-1.0
OBSR					Sg	22 02 25.5	-0.7
GNW	**Green Mountain**	**0.71**	**268**		Pb	22 02 15.0	-1.9
GNW				Sg	Sb	22 02 24.7	-1.7
RCS	**Mount Rainier-**	**0.73**	**178**		Pg	22 02 16.4	-1.0
PANH	**Panhandle Gap,**	**0.75**	**173**		Pb	22 02 16.4	-1.2
PANH					Sb	22 02 26.8	-0.8
RCM	**Mount Rainier-**	**0.76**	**178**		Pb	22 02 16.9	-1.1
RCM					Sb	22 02 27.1	-1.1
REMR	**Mount Rainier-**	**0.78**	**183**		Pb	22 02 17.0	-1.3
REMR					Sb	22 02 27.4	-1.2
B013	**Quilcene**	**0.80**	**286**		Pb	22 02 16.3	-2.1
B013	**Quilcene**	**0.80**	**286**		Pb	22 02 16.3	-2.1
D04E	**Lakebay**	**0.80**	**239**		Pb	22 02 17.3	-1.1
D04E					Sg	22 02 29.3	+0.1
C04A	**Brinnon**	**0.82**	**279**		Pb	22 02 16.5	-2.3
LTY	**Liberty**	**0.82**	**114**		Pb	22 02 18.7	-0.2
LTY				Sg	Sg	22 02 30.1	0.0
LTY				IAML		22 02 30.4	
	comp=E,344nm,0.4s						
LTY				IAML		22 02 30.6	
	comp=N,289nm,0.2s						
LON	**Longmire**	**0.85**	**182**		Pb	22 02 18.0	-1.4
LON	**Longmire**	**0.85**	**182**		Pb	22 02 17.9	-1.4
LON				Sg	Sb	22 02 28.9	-1.5
LON				IAML		22 02 30.0	
	comp=E,210nm,0.1s						
LON				IAML		22 02 31.5	
	comp=N,294nm,0.2s						
SLFW	**Sugar Loaf**	**0.86**	**79**		Pb	22 02 19.2	-0.4
HDW	**Hoodsport**	**0.87**	**274**		Pb	22 02 17.4	-2.2
RPW	**Rockport**	**0.87**	**12**		Pb	22 02 18.7	-1.0
SVOH	**Skagit Valley**	**0.90**	**320**		Pb	22 02 18.9	-1.3
TBM	**Table Mountain**	**0.91**	**118**		Pb	22 02 20.4	+0.1
ETW	**Entiat**	**0.98**	**89**		Pb	22 02 21.4	-0.2
SQM	**Sequim**	**0.98**	**299**		Pb	22 02 19.8	-1.7
NLW	**Nelson Butte**	**1.08**	**63**		Pb	22 02 22.9	-0.4
B04A	**Port Angeles**	**1.25**	**292**	Pn	Pn	22 02 23.7	-2.0
SHUK	**Shuksan-Mt. Ba**	**1.26**	**3**		Pn	22 02 25.0	-0.9
A04D	**Lummi Island**	**1.28**	**331**		Pn	22 02 25.2	-0.9
A04D				IAML		22 02 45.3	
	comp=N,136nm,0.2s						
A04D				IAML		22 02 45.7	
	comp=E,112nm,0.3s						
B017	**Montesano**	**1.35**	**244**		Pn	22 02 26.3	-0.7
JRO	**Jston Ridge Ob**	**1.36**	**193**		Pn	22 02 26.3	-1.0
JRO					Sn	22 02 44.4	-0.6
OLQ	**Olympics--Lake**	**1.38**	**267**		Pn	22 02 26.8	-0.6
NLWA	**Neilton Lookou**	**1.44**	**262**		Pn	22 02 27.1	-1.2
NLWA				IAML		22 02 49.8	
	comp=E,98nm,0.3s						
MXC	**Moxie City**	**1.44**	**135**		Pn	22 02 28.3	0.0
MXC				IAML		22 02 50.8	
	comp=E,117nm,0.3s						
MXC				IAML		22 02 51.6	
	comp=N,80nm,0.3s						
WISH	**Wishkah**	**1.44**	**251**		Pn	22 02 27.8	-0.5
SNIB	**Saturna Island**	**1.50**	**322**		Pn	22 02 28.7	-0.5
BVW	**Beverly**	**1.51**	**121**		Pb	22 02 30.8	+0.1
PGC	**Sidney**	**1.54**	**314**		Pn	22 02 28.2	-1.4
PGC				IAML		22 02 48.0	
	comp=E,159nm,0.2s						
PGC				IAML		22 02 49.4	
	comp=N,96nm,0.3s						
E03A	**Lebam**	**1.61**	**230**		Pn	22 02 29.8	-0.9
E03A				IAML		22 02 57.0	
	comp=E,93nm,0.4s						
E07A	**Sunnyside**	**1.68**	**128**		Pn	22 02 32.3	+0.8
FHE	**Frenchman Hill**	**1.68**	**112**		Pb	22 02 34.0	+0.5
WAH2	**Wahluke Slope**	**1.73**	**118**		Pn	22 02 32.9	+0.7
F04D	**Rainier, OR**	**1.74**	**210**		Pn	22 02 32.2	-0.1
B08A	**Colville Reser**	**1.81**	**64**		Pn	22 02 33.4	0.0
B08A				IAML		22 03 00.5	
	comp=N,48nm,0.3s						
RADR	**Rader Ridge**	**1.82**	**230**	Pn	Pn	22 02 33.4	-0.1
RADR				IAML		22 03 06.6	
	comp=E,63nm,1.0s						
RADR				IAML		22 03 07.1	
	comp=N,52nm,0.9s						
LOCW	**Locke Island**	**1.83**	**118**		Pb	22 02 36.7	+0.8
HAWA	**Hanford**	**1.95**	**127**		Pn	22 02 35.8	+0.5
HAWA	

KRNET ***03*** *22:23:22.9±0.1, 40.11N×72.14E, h17km, mb2.9*
SOME ***03*** *22:23:24.9, 40.30N×72.03E, h5km*
NNC ***03*** *22:23:26.9±2.4, 40.32N×72.09E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=19.3km s-min=8.8km az=0.0*

ISC 03 22:23:23.2±0.9, 40.14N±0.04×72.11E±0.03, h10km, n27, σ1§71/45, 16C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.34**	**313**	P	**Pg**	**22 23 28.9**	**-1.2**
FRG				S	**Sg**	**22 23 34.3**	**-0.3**
CHMI	**Chimion**	**0.47**	**286**	P	**Pg**	**22 23 30.9**	**-1.5**
CHMI				S	**Sg**	**22 23 38.1**	**-0.5**
ANR	**Andizhan**	**0.64**	**17**	S	**Sn**	**22 23 47.1**	**-1.6**
OHH	**Osh**	**0.64**	**53**	⇓*e*P	**Pg**	**22 23 35.3**	**-0.4**
OHH				⇓*e*S	**Sg**	**22 23 44.1**	**0.0**
MINT	**Mingtut**	**0.93**	**291**	S	**Sg**	**22 23 52.4**	**-0.8**
ARSB	**Arslanbob**	**1.35**	**29**	⇓*e*P	**Pb**	**22 23 48.4**	**-0.4**
ARSB				⇓*e*S	**Sg**	**22 24 06.7**	**-0.1**
SALK	**Salom-Alik**	**1.50**	**60**	⇑*e*P	**Pn**	**22 23 50.5**	**+0.1**
SALK				⇑*e*S	**Sb**	**22 24 10.6**	**+0.2**
TRKS	**Terek-Say**	**1.57**	**332**	⇑*e*P	**Pn**	**22 23 51.3**	**0.0**
TRKS				⇑*e*S	**Sb**	**22 24 12.0**	**-0.5**
GAR	**Garm**	**1.80**	**231**	⇑*e*P	**Pb**	**22 23 55.7**	**-0.6**
GAR				⇑*e*S	**Sb**	**22 24 19.5**	**+0.6**
CHMG	**Chimgan**	**2.12**	**312**	P	**Pb**	**22 24 00.6**	**-1.3**
CHMG				S	**Sg**	**22 24 30.5**	**-1.1**
IUG	**Iuzhnay** 4.3nm,0.1s	**2.54**	**323**	Pg	**Pg**	**22 24 10.5**	**-1.5**
IUG	13nm,0.3s			Lg	Lg	22 24 42.0	
MRKS	**Merke** 1.8nm,0.2s	**2.73**	**18**	Pg	**Pg**	**22 24 14.5**	**-1.1**
MRKS	9.5nm,0.4s			Lg	Lg	22 24 49.4	
MRKS	**Merke** 1.8nm,0.2s	**2.73**	**18**	*e*P	**Pg**	**22 24 14.8**	**-0.8**
MRKS	9.5nm,0.4s			*e*S	**Sg**	**22 24 49.4**	**-1.6**
UCH	**Uchtor**	**2.76**	**40**	⇑*i*P	**Pn**	**22 24 09.8**	**+1.8**
UCH				⇑*e*S	**Sn**	**22 24 43.8**	**+2.2**
EKS2	**Erkin-Say**	**2.81**	**26**	⇓*e*P	**Pn**	**22 24 10.4**	**+2.0**
EKS2				⇓*e*S	**Sn**	**22 24 44.9**	**+2.5**
JNKS	**Jany-Kuch**	**2.85**	**70**	⇑*e*P	**Pn**	**22 24 10.5**	**+1.5**
JNKS				⇑*e*S	**Sn**	**22 24 45.1**	**+1.6**
AAK	**Ala-Archa**	**3.07**	**35**	⇑*e*P	**Pn**	**22 24 13.9**	**+1.9**
AAK				⇑*e*S	**Sn**	**22 24 51.0**	**+2.2**
KK31	**Karatay Array** 0.4nm,0.2s,baz=162,slow=15,SNR=9.2	**3.19**	**338**	⇓Pn	**Pn**	**22 24 16.2**	**+2.6**
KK31	2.7nm,0.3s,baz=168,slow=32,SNR=7.9			⇓Lg	Lg	22 25 03.5	
KBK	**Karagaybulak**	**3.30**	**39**	⇓*e*P	**Pn**	**22 24 17.0**	**+1.9**
KBK				⇓*e*S	**Sn**	**22 24 56.3**	**+1.9**
BRLS	**Boroldaу** 1.6nm,0.3s	**3.35**	**330**	Pg	**Pb**	**22 24 23.4**	**+0.6**
BRLS	0.3nm,0.2s			Lg	Lg	22 25 03.8	
BRLS	**Boroldaу** 1.6nm,0.3s	**3.35**	**330**	*e*P	**Pb**	**22 24 23.6**	**+0.8**
BRLS	0.3nm,0.2s			*e*S	**Sb**	**22 25 04.0**	**+0.4**
CHMS	**Chumysh**	**3.47**	**34**	⇑*e*P	**Pn**	**22 24 19.4**	**+2.0**
CHMS				⇑*e*S	**Sn**	**22 25 00.5**	**+1.9**
USP	**Ospenovka**	**3.60**	**29**	⇑*e*P	**Pn**	**22 24 21.2**	**+2.1**
USP				⇑*e*S	**Sn**	**22 25 03.5**	**+1.8**
KST	**Kastek** 0.6nm,0.3s	**4.09**	**44**	Pg	**Pg**	**22 24 39.2**	**-2.4**
KST	2.2nm,0.4s			Lg	Lg	22 25 30.4	
KST	**Kastek** 0.6nm,0.3s	**4.09**	**44**	*e*P	**Pg**	**22 24 39.2**	**-2.4**
KST	2.2nm,0.4s			*e*S	**Sg**	**22 25 30.4**	**-4.2**
DGS	**Degeres** 2.5nm,0.3s	**4.14**	**40**	Pg	**Pg**	**22 24 39.7**	**-2.7**
DGS	3.2nm,0.3s			Lg	Lg	22 25 31.4	
KTBS	**Karatobe** 0.3nm,0.2s	**4.93**	**42**	Pg	**Pg**	**22 24 55.3**	**-2.4**
KTBS	3.7nm,0.5s			Lg	Lg	22 25 58.2	

IDC 03 22:35:16.4±3.9, 9.81S×114.37E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=100.8km s-min=37.9km az=27.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=312,slow=12,SNR=13	**13.69**	**128**	Pn	Pn	22 38 36.0	+4.0
FITZ	0.3nm,0.3s,baz=22,slow=22,SNR=7.8			Sn	Sn	22 41 03.4	-1.5
WRA	**Warramunga Arr** 1.5nm,0.5s,baz=294,slow=12,SNR=14	**21.75**	**120**	P	P	22 40 09.1	-0.7
WRA	0.5nm,0.9s,baz=292,slow=23,SNR=1.7			S	S	22 44 11.2	-0.3
ASAR	**Alice Springs** 2.2nm,0.5s,baz=304,slow=9.3,SNR=44	**23.19**	**129**	P	P	22 40 25.7	+0.6
ASAR	0.2nm,0.5s,baz=286,slow=17,SNR=4.2			S	S	22 44 40.6	+2.3
STKA	**Stephens Creek** 0.9nm,0.3s,baz=312,slow=12,SNR=5.2	**33.43**	**135**	P	P	22 41 57.3	+0.1
	0.9nm,0.3s						

SDD ***03*** *23:14:17.7±2.2, 18.63N×71.69W, h15km±20km, MD2.8, ML2.4, MW2.8*
OSPL ***03*** *23:14:18.3±2.1, 18.63N×71.66W, h0km±28km, ML2.8*

ISC 03 23:14:17.0±1.0, 18.63N±0.03×71.62W±0.03, h9km±10km, n12, σ0§66/22, 2C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.26**	**238**	⇑*e*Pg	**Pg**	**23 14 21.9**	**-0.3**
JIDR				⇓*e*Sg	**Sg**	**23 14 25.9**	**+0.2**
JIDR	comp=N,1μm,0.5s			IAML		23 14 26.9	
LODU1	**El Espartillar**	**0.31**	**153**	*i* P	**Pg**	**23 14 23.0**	**-0.2**
LODU1				*e*S	**Sg**	**23 14 28.6**	**+1.3**
LODU1	comp=Z,3μm,0.2s			IAML		23 14 34.1	
SDDR	**Presa de Saban**	**0.47**	**42**	*e*S	**Sg**	**23 14 33.6**	**+1.0**
SDDR	**Presa de Saban**	**0.47**	**42**	*e*Pg	**Pg**	**23 14 25.5**	**-0.8**
SDDR				⇑*e*Sg	**Sb**	**23 14 34.6**	**-0.1**
SDDR	comp=N,85nm,0.3s			IAML		23 14 41.9	
PODR	**Polo**	**0.56**	**145**	*i* P	**Pg**	**23 14 28.1**	**0.0**
PODR				*e*S	**Sb**	**23 14 37.6**	**+0.2**
PODR	**Polo**	**0.56**	**145**	⇓*e*Pg	**Pg**	**23 14 28.0**	**0.0**
PODR				⇓*e*Sg	**Sb**	**23 14 37.8**	**+0.4**
PODR	comp=N,401nm,0.1s			IAML		23 14 38.2	
REDR	**Restauracion**	**0.58**	**22**	⇓*e*Pg	**Pb**	**23 14 29.1**	**-0.2**
REDR				⇓*e*Sg	**Sb**	**23 14 38.8**	**+1.2**
REDR	comp=N,139nm,0.2s			IAML		23 14 39.3	
PAPH	**Port-au-Prince**	**0.65**	**261**	*i* P	**Pg**	**23 14 29.5**	**-0.1**
PAPH				*e*S	**Sg**	**23 14 38.4**	**+0.2**
LOBH	**Bahia de las A**	**0.76**	**181**	*i* P	**Pg**	**23 14 31.3**	**-0.4**
LOVI	**El Cajuil, Ovi**	**0.86**	**164**	*i* P	**Pg**	**23 14 33.6**	**0.0**
LOVI				*e*S	**Sb**	**23 14 46.1**	**+0.4**
BANI	**BANI**	**1.22**	**101**	*e*Pg	**Pb**	**23 14 39.1**	**-1.3**
BANI				*e*Sg	**Sn**	**23 14 57.1**	**0.0**
BANI	comp=N,81nm,0.6s			IAML		23 14 59.7	
LOPP1	**Punta Rusia, P**	**1.28**	**18**	*i* P	**Pn**	**23 14 40.9**	**-0.2**
LOPP1				*e*S	**Sn**	**23 14 59.2**	**+0.8**
LOPP1	comp=Z,61nm,0.4s			IAML		23 15 00.2	

OSPL ***03*** *23:15:23.5±1.6, 18.65N×71.76W, h5km±833km, ML2.6*
SDD ***03*** *23:15:23.2±1.9, 18.55N×71.63W, h30km±21km, MD2.5, ML2.1, MW2.5*

ISC 03 23:15:22.6±1.1, 18.60N±0.04×71.55W±0.08, h16km±11km, n7, σ1§09/12, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LODU1	**El Espartillar**	**0.25**	**164**	*i* P	**Pn**	**23 15 30.6**	**-1.1**
LODU1				*e*S	**Sn**	**23 15 35.9**	**-1.3**
LODU1	comp=Z,680nm,0.1s			AMP		23 15 38.5	
JIDR	**Jimani**	**0.31**	**250**	⇑*e*Pg	**Pg**	**23 15 29.3**	**+0.2**
JIDR				*e*Sg	**Sg**	**23 15 33.2**	**-0.3**
JIDR	comp=N,307nm,0.5s			IAML		23 15 34.4	
SDDR	**Presa de Saban**	**0.46**	**32**	*e*S	**Sn**	**23 15 41.2**	**-1.1**
SDDR	comp=Z,19nm,0.5s			IAML		23 15 47.1	
SDDR	**Presa de Saban**	**0.46**	**32**	*e*Pg	**Pg**	**23 15 31.7**	**-0.1**
SDDR				*e*Sg	**Sn**	**23 15 41.5**	**-0.9**
PODR	**Polo**	**0.50**	**149**	*i* P	**Pn**	**23 15 35.5**	**+0.3**
PODR				*e*S	**Sn**	**23 15 45.3**	**+1.7**
PODR	**Polo**	**0.50**	**149**	⇑*e*Pg	**Pb**	**23 15 33.5**	**+0.4**
PODR	comp=N,126nm,0.1s			IAML		23 15 45.5	
REDR	**Restauracion**	**0.58**	**14**	*e*Pg	**Pn**	**23 15 36.5**	**+0.3**
REDR				*e*Sg	**Sn**	**23 15 46.5**	**+1.0**
REDR	comp=N,37nm,0.2s			IAML		23 15 46.7	

IDC ***03*** *23:17:27.8±0.5, 12.68N×124.90E, h0km, mb4.3/28, mbtmp4.4/30, ML4.8/2, MS3.9/49, Error ellipse: s-maj=18.5km s-min=9.5km az=72.0*
BJI ***03*** *23:17:31.1, 12.51N×125.19E, h49km, mB4.9/22, mb4.6/64, Ms4.4/58, Ms7 4.2/57*
MOS ***03*** *23:17:31.0±0.9, 12.75N×124.89E, h35km, mb4.9/33, MS4.1/4, Error ellipse: s-maj=9.6km s-min=5.2km az=109.4*
GCMT ***03*** *23:17:33.7±0.3, 12.90N±0.02×125.05E±0.03, h21km±2km, MW5.0/79, Moment Tensor Solution. s26,c29; s79,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.37±.16; Mθθ2.55±.12; Mϕϕ-2.18±.12; Mrθ 1.74±.27; Mrϕ-0.05±.09; Mθϕ2.44±.36; Best double couple: Mo3.80900×10¹⁶ NP1:ϕs130.00000°, δ39.00000°, λ-6.00000°. NP2: ϕs225.00000°, δ86.00000°, λ-129.00000°. Principal axes: T 3.5680, Plg30.0000°, Azm346.0000°; N 0.4770, Plg39.0000°, Azm229.0000°; P -4.0500, Plg37.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***03*** *23:17:33.7±1.3, 12.80N±0.07×124.93E±0.09, h35km±1km, mb4.9/83 Error ellipse: s-maj=14.8km s-min=10.7km az=246.0*
DJA ***03*** *23:17:36.0±0.5, 13°N±3°×12°5E±°, h51km±6km, M4.8/16, mb4.9/16, mB5.1/3, Mw(mB)4.5/3*

ISC 03 23:17:32.9±0.6, 12.76N±0.04×124.99E±0.06, h33km±2km, h31km:pP-P, n287, σ1§39/275, mb4.8/120, MS4.0/64, 8C-6D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City** 74nm,0.3s,baz=135,slow=9.5,SNR=11	**4.16**	**289**	Pn	**Pn**	**23 18 31.9**	**-2.2**
TGY	comp=Z,4μm,19.8s,baz=100,slow=43 118nm,0.5s			LR	LR	23 20 24.3	
TGY	**Tagaytay City**	**4.16**	**289**	P	**Pn**	**23 18 32.0**	**-2.2**
DAV	**Davao City (W)**	**5.68**	**174**	Pn	**Pn**	**23 18 54.8**	**-0.3**
DAV	**Davao City (W)** comp=Z,2μm,19.5s,baz=60,slow=45	**5.68**	**174**	LR	LR	23 21 40.0	
TWGBT	**Beinan**	**10.68**	**340**	P	**Pn**	**23 20 05.2**	**+1.7**
TWG	**Pinlang**	**10.68**	**340**		**Pn**	**23 20 01.2**	**-2.4**
YULB	**Yu-li**	**11.14**	**342**		**Pn**	**23 20 08.6**	**-1.4**
YULB	**Yu-li**	**11.14**	**342**	P	**Pn**	**23 20 09.0**	**-1.0**
TPUB	**Ta-pu**	**11.28**	**339**		**Pn**	**23 20 11.5**	**-0.3**
TPUB	**Ta-pu**	**11.28**	**339**	P	**Pn**	**23 20 15.1**	**+3.3**
SSLB	**Suanglung**	**11.62**	**341**		**Pn**	**23 20 16.3**	**-0.2**
SSLB	**Suanglung**	**11.62**	**341**	P	**Pn**	**23 20 17.5**	**+1.0**
YOJ	**Yonaguni jima**	**11.79**	**351**		**Pn**	**23 20 18.6**	**-0.2**
YOJ	**Yonaguni jima**	**11.79**	**351**	P	**Pn**	**23 20 18.6**	**-0.2**
NACB	**Ninganchiao**	**11.80**	**345**		**Pn**	**23 20 18.6**	**-2.1**
NACB	**Ninganchiao**	**11.80**	**345**	P	**Pn**	**23 20 18.9**	**-0.1**
TNTI	**Ternate** 36nm,1.1s	**12.14**	**169**	P	Pn	23 20 29.2	+5.6
KMSI	**Cibinong** 297nm,1.4s	**12.14**	**185**	P	P	23 20 30.8	-5.1
TOLI2	**Tolitoli**	**12.30**	**200**	Pn	**Pn**	**23 20 26.5**	**+0.7**
YHNB	**Yeheng**	**12.33**	**344**		**Pn**	**23 20 25.2**	**-1.1**
YHNB	**Yeheng**	**12.33**	**344**	P	**Pn**	**23 20 26.4**	**+0.1**
TATO	**Taipei**	**12.60**	**345**		**Pn**	**23 20 29.7**	**-0.1**
TATO	**Taipei**	**12.60**	**345**	P	**Pn**	**23 20 31.2**	**+1.4**
JOW	**Kunigami**	**14.34**	**12**		**Pn**	**23 20 53.4**	**-0.2**
JOW	**Kunigami** 8.8nm,0.3s,baz=188,slow=12,SNR=10.0	**14.34**	**12**	Pn	**Pn**	**23 20 53.6**	**0.0**
JOW	comp=Z,340nm,19.9s,baz=168,slow=36 50nm,0.5s			LR	LR	23 26 00.6	
PCI	**Palu**	**14.51**	**201**	P	P	23 21 18.2	+16
QIZ	**Qiongzhong**	**15.84**	**295**	P	**P**	**23 21 16.2**	**-0.8**
QIZ				S	**Sn**	**23 24 11.6**	**+3.4**
QIZ	comp=E,680nm,13.6s			LR	LR		
QIZ	comp=Z,2μm,15.5s			LR	LR		
SBUM	**Sibu**	**16.27**	**232**		**Pn**	**23 21 19.2**	**+0.2**
FAKI	**Fak Fak**	**17.16**	**155**	Pn	**Pn**	**23 21 30.1**	**-0.2**
BAKI	**Biak** 85nm,1.4s	**17.71**	**141**	P	**P**	**23 21 42.0**	**+4.2**
KSM	**Kuching**	**18.36**	**234**	P	**P**	**23 21 44.5**	**-0.4**
KAPI	**Kappang**	**18.41**	**197**	P	**P**	**23 21 44.9**	**-0.5**
KAPI	**Kappang** comp=Z,221nm,18.8s,baz=26,slow=43	**18.41**	**197**	LR	LR	23 30 30.2	
KAPI	**Kappang**	**18.41**	**197**	P	**P**	**23 21 44.9**	**-0.5**
KAPI	comp=Z,47nm,1.2s			pmax	pmax		
GUMO	**Guam** comp=Z,145nm,18.1s,baz=262,slow=38	**19.38**	**85**	LR	LR	23 29 36.8	
NJ2	**Nanjing**	**20.02**	**345**	⇓P	Pn	23 22 08.6	+3.8
NJ2	comp=Z,19nm,0.8s			pmax	pmax		
NJ2	comp=Z,280nm,9.0s			LR	LR		
NJ2	comp=Z,530nm,11.4s			LR	LR		
NJ2	comp=Z,260nm,11.4s			LR	LR		
JNU	**Nakatsue**	**20.97**	**14**		**P**	**23 22 11.4**	**-1.9**
JNU	comp=Z,25nm,0.8s			IAmb	IAmb	23 22 26.6	
JNU	**Nakatsue** comp=Z,12nm,1.0s,baz=207,slow=10,SNR=5.5	**20.97**	**14**	P	**P**	**23 22 14.3**	**+1.0**
JNU	comp=Z,218nm,21.1s,baz=200,slow=35 comp=Z,12nm,1.0s			LR	LR	23 29 40.3	
GENI	**Genyem** comp=Z,41nm,0.8s	**21.44**	**134**	P	**P**	**23 22 21.1**	**+2.7**
EDFI	**Ende, Flores** comp=Z,38nm,1.1s	**21.62**	**189**	P	**P**	**23 22 25.2**	**+4.8**
JAY	**Jayapura** comp=Z,5.9nm,0.8s,baz=0.0,slow=9.1,SNR=2.2	**21.77**	**133**	P	**P**	**23 22 21.7**	**-0.2**
JAY	comp=Z,432nm,20.2s,baz=334,slow=32 comp=Z,5.9nm,0.8s			LR	LR	23 28 52.6	
JAY	**Jayapura** comp=Z,25nm,1.3s	**21.77**	**133**	P	**P**	**23 22 22.1**	**+0.1**
SOEI	**Soe**	**22.38**	**182**	P	**P**	**23 22 28.6**	**0.0**
SOEI	comp=Z,82nm,1.5s			IAmb	IAmb	23 22 41.6	
JMN	**Monobe**	**22.39**	**20**	P	**P**	**23 22 28.2**	**-0.4**
JMN	comp=Z,57nm,1.1s			IAmb	IAmb	23 22 42.2	
BATI	**Baumata** comp=Z,316nm,18.4s,baz=6.0,slow=44	**22.85**	**183**	LR	LR	23 34 06.7	
MYKOM	**Kota Tinggi**	**23.60**	**244**		**P**	**23 22 40.8**	**-0.3**
MYKOM	comp=Z,78nm,1.4s			IAmb	IAmb	23 22 51.8	
TJN	**Taejon**	**23.62**	**5**	P	**P**	**23 22 40.0**	**-0.9**
TJN	**Taejon**	**23.62**	**5**	P	**P**	**23 22 40.0**	**-0.9**
JAGI	**Jajag, Banyuwa**	**23.68**	**208**	P	**P**	**23 22 42.4**	**+0.6**
NGJI	**Ngawi** comp=Z,96nm,1.8s	**24.09**	**215**	P	**P**	**23 22 50.9**	**+5.3**
TIA	**Tai'an**	**24.41**	**344**	P	**P**	**23 22 48.5**	**+0.2**
TIA	comp=Z,48nm,0.7s			pmax	pmax		
TIA	comp=Z,270nm,10.7s			LR	LR		
TIA	comp=Z,290nm,11.0s			LR	LR		
TIA	comp=Z,260nm,14.4s			LR	LR		
LYN	**LuoYang**	**24.50**	**334**	⇓*i*P	**P**	**23 22 50.0**	**+0.9**
LYN				pP	pwP	23 23 02.5	+1.2
LYN				sP	sP	23 23 04.8	+2.0
LYN				S	**S**	**23 27 12.7**	**+5.3**
LYN	comp=Z,140nm,0.9s			pmax	pmax		
LYN	comp=Z,340nm,3.6s			LR	LR		
LYN	comp=Z,490nm,13.7s			LR	LR		
LYN	comp=Z,440nm,17.2s			LR	LR		
LYN	comp=Z,520nm,19.2s			LR	LR		
INCN	**Inchon**	**24.67**	**3**	P	**P**	**23 22 49.7**	**-1.0**
INCN				IAmb	IAmb	23 22 52.6	
INCN	**Inchon** comp=Z,38nm,1.2s	**24.67**	**3**	P	**P**	**23 22 49.7**	**-1.0**
INCN	comp=Z,38nm,1.2s			pmax	pmax		
KSAR	**Wonju Array Be**	**24.72**	**6**	P	**P**	**23 22 51.5**	**+0.4**
KSAR	**Wonju Array Be**	**24.72**	**6**	P	**P**	**23 22 51.5**	**+0.4**
CRAI	**Chiangrai**	**24.72**	**291**	P	**P**	**23 22 50.7**	**-0.7**
KSRS	**Korea Array** comp=Z,25nm,1.0s,baz=185,slow=11,SNR=83 comp=Z,25nm,1.0s	**24.73**	**6**	P	**P**	**23 22 51.0**	**-0.3**
KSRS	**Korea Array**	**24.73**	**6**	P	**P**	**23 22 51.0**	**-0.3**
KS19	**Wonju Array Si**	**24.78**	**5**	P	**P**	**23 22 51.8**	**+0.2**
KS19	comp=Z,33nm,1.0s			IAmb	IAmb	23 22 53.4	
INU	**Inuyama**	**24.98**	**24**	P	**P**	**23 22 53.8**	**+0.2**
INU	comp=Z,27nm,1.0s			IAmb	IAmb	23 23 09.5	
KULM	**Kulim**	**25.14**	**255**	P	**P**	**23 22 55.4**	**+0.2**
KULM	comp=Z,59nm,1.8s			IAmb	IAmb	23 23 24.1	
JGF	**Kuroka**	**25.34**	**24**	P	**P**	**23 22 56.3**	**-0.5**
CM31	**Chiang Mai Arr**	**25.70**	**286**	P	**P**	**23 22 58.5**	**-1.8**
CMAR	**Chiang Mai Arr**	**25.70**	**286**	P	**P**	**23 22 58.0**	**-2.3**
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.6s,baz=101,slow=7.6,SNR=9.9	**25.70**	**286**	P	**P**	**23 22 59.0**	**-1.3**
CMAR	comp=Z,226nm,18.1s,baz=100,slow=40 comp=Z,1.4nm,0.6s			LR	LR	23 34 25.3	
CMAR	**Chiang Mai Arr**	**25.70**	**286**	P	**P**	**23 22 59.0**	**-1.3**
XAN	**Xi'an**	**25.74**	**328**	P	**P**	**23 23 00.4**	**-0.1**
XAN				S	**S**	**23 27 26.7**	**-0.8**
XAN	comp=Z,44nm,0.8s			pmax	pmax		
XAN	comp=Z,210nm,4.6s			pmax	pmax		
XAN	comp=Z,420nm,11.9s			LR	LR		
XAN	comp=Z,470nm,11.7s			LR	LR		
XAN	comp=Z,680nm,16.3s			LR	LR		
PZH	**PanZhiHua**	**25.75**	**306**	P	**P**	**23 23 01.2**	**+0.4**
PZH				S	**S**	**23 27 28.2**	**+0.2**
PZH	comp=Z,10.0nm,0.8s			pmax	pmax		
PZH	comp=Z,340nm,17.6s			LR	LR		
PZH	comp=Z,430nm,18.1s			LR	LR		
PZH	comp=Z,490nm,21.8s			LR	LR		
LEM	**Lembang** comp=Z,154nm,19.5s,baz=144,slow=39	**26.01**	**223**	LR	LR	23 34 07.3	
MTN	**Manton Dam**	**26.15**	**166**	P	**P**	**23 23 03.8**	**-0.6**
MTN	**Manton Dam** comp=Z,43nm,1.9s	**26.15**	**166**	P	**P**	**23 23 04.0**	**-0.3**
HNS	**HongShan**	**26.21**	**341**	⇓P	**P**	**23 23 05.2**	**+0.6**
HNS				S	**S**	**23 27 33.0**	**-1.6**
HNS	comp=Z,56nm,0.9s			pmax	pmax		
HNS	comp=Z,320nm,15.9s			LR	LR		
HNS	comp=Z,300nm,16.7s			LR	LR		
HNS	comp=Z,360nm,15.9s			LR	LR		
DL2	**Dalian**	**26.21**	**354**	P	**P**	**23 23 05.4**	**+0.8**
DL2				*e*S	**S**	**23 27 36.2**	**+1.6**
DL2	comp=Z,38nm,1.2s			pmax	pmax		
DL2	comp=Z,820nm,16.5s			LR	LR		
DL2	comp=Z,360nm,13.9s			LR	LR		
DL2	comp=Z,390nm,19.9s			LR	LR		
KDU	**Kakadu** comp=Z,37nm,0.9s	**26.35**	**163**	P	**P**	**23 23 05.6**	**-0.5**
MAJO	**Matsushiro**	**26.50**	**24**	P	**P**	**23 23 07.1**	**-0.2**
MAJO	**Matsushiro**	**26.50**	**24**	P	**P**	**23 23 07.1**	**-0.2**
MAJO	comp=Z,5.0nm,1.0s			pmax	pmax		
MJAR	**Matsushiro Arr**	**26.50**	**24**	P	**P**	**23 23 06.2**	**-1.1**
MJAR	**Matsushiro Arr** comp=Z,1.7nm,0.8s,baz=192,slow=7.7,SNR=6.8 comp=Z,1.7nm,0.8s	**26.50**	**24**	P	**P**	**23 23 06.0**	**-1.3**
MJAR	**Matsushiro Arr**	**26.50**	**24**	P	**P**	**23 23 06.2**	**-1.1**
MJAR	comp=Z,3.0nm,1.1s			pmax	pmax		
MJB9	**Matsu-Tunnel**	**26.50**	**24**	P	**P**	**23 23 07.0**	**-0.4**
CD2	**Chengdu**	**26.65**	**316**	P	**P**	**23 23 08.9**	**+0.1**
CD2				S	**S**	**23 27 45.7**	**+3.8**
CD2	comp=Z,30nm,0.4s			pmax	pmax		
CD2	comp=Z,2μm,17.4s			LR	LR		
CD2	comp=Z,1μm,16.5s			LR	LR		
BKNI	**Bangkinang**	**26.77**	**244**	P	**P**	**23 23 14.3**	**+4.4**
TIY	**Taiyuan**	**27.27**	**338**	P	**P**	**23 23 09.5**	**-4.8**
TIY				S	**S**	**23 27 49.2**	**-2.3**
TIY				sS	**sS**	**23 28 06.4**	**-0.1**
TIY	comp=N,300nm,13.1s			LR	LR		
TIY	comp=E,260nm,13.7s			LR	LR		
TIY	comp=Z,250nm,15.8s			LR	LR		
PSI	**Prapat** comp=Z,315nm,18.7s,baz=70,slow=37	**27.62**	**251**	LR	LR	23 34 30.0	
PSI	**Prapat** comp=Z,11nm,1.1s	**27.62**	**251**	P	**P**	**23 23 17.8**	**0.0**
PSI				pmax	pmax		
RPSI	**Rantau Prapat**	**27.66**	**251**	P	**P**	**23 23 17.8**	**-0.2**
KNRA	**Kununurra**	**28.50**	**172**	P	**P**	**23 23 25.5**	**+0.2**
KNRA	comp=Z,41nm,1.4s			IAmb	IAmb	23 24 18.5	
GSI	**Gunungsitoli**	**29.45**	**249**	P	**P**	**23 23 34.0**	**+0.1**
GSI	comp=Z,28nm,1.3s			IAmb	IAmb	23 24 05.1	
LZH	**Lanzhou**	**30.04**	**324**	*e*P	**P**	**23 23 40.1**	**+1.0**
LZH				pP	pwP	23 23 50.4	-0.6
LZH	comp=Z,13nm,1.2s			pmax	pmax		
LZH	comp=Z,640nm,14.1s			LR	LR		
LZH	comp=Z,460nm,14.8s			LR	LR		
LZH	comp=Z,650nm,13.4s			LR	LR		
HHC	**Hu-ho-hao-te**	**30.36**	**340**	*e*P	**P**	**23 23 42.6**	**+0.8**
HHC				S	**S**	**23 28 39.3**	**-0.9**
HHC	comp=Z,16nm,0.6s			pmax	pmax		
HHC	comp=Z,91nm,3.8s			LR	LR		
HHC	comp=Z,210nm,15.3s			LR	LR		
HHC	comp=Z,150nm,15.5s			LR	LR		
HHC	comp=Z,240nm,15.9s			LR	LR		
USA0B	**Ussuriysk Arra**	**31.91**	**10**	P	**P**	**23 23 54.2**	**-0.9**
USA0B	comp=Z,12nm,0.8s			IAmb	IAmb	23 24 07.8	
USA0B	**Ussuriysk Arra**	**31.91**	**10**	P	**P**	**23 23 54.3**	**-0.9**
USA0B	comp=Z,12nm,0.9s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,4.5nm,0.7s,baz=198,slow=8.7,SNR=18	**31.91**	**10**	P	**P**	**23 23 55.4**	**+0.2**

USRK LR LR 23 36 41.2
comp=Z,134nm,20.1s,baz=188,slow=36
comp=Z,4.5nm,0.7s
XLT XiLinHaoTe 31.97 348 *e*P **P 23 23 55.8 -0.1**
XLT pP pwP 23 24 06.0 -1.7
XLT PP **PnPn 23 25 03.0 +1.4**
XLT S **S 23 29 07.6 +2.4**
XLT pmax pmax
comp=Z,7.0nm,1.2s
XLT LR LR
comp=Z,170nm,19.1s
XLT LR LR
comp=Z,190nm,16.6s
MDJ Mudanjiang 31.99 6 P **P 23 23 57.5 +1.5**
MDJ pmax pmax
comp=Z,16nm,1.0s
COEN Coen 32.08 145 P **P 23 23 57.9 +0.8**
BNX BinXian 32.94 3 ⇓P **P 23 24 04.3 +0.1**
BNX pmax pmax
comp=Z,31nm,0.9s
BRDH Bariadhala 33.19 292 LR LR 23 38 22.5
comp=Z,423nm,19.0s,baz=128,slow=38
WB0 Warramunga Arr 33.62 164 P **P 23 24 10.1 -0.4**
WB0 IAmb IAmb 23 24 21.1
comp=Z,19nm,1.1s
SHL Shillong 33.66 297 P **P 23 24 09.6 -1.5**
SHL IAmb IAmb 23 24 16.2
comp=Z,10nm,0.9s
SHL Shillong 33.66 297 P **P 23 24 09.6 -1.5**
SHL pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 33.77 164 P **P 23 24 10.9 -0.9**
WRA Warramunga Arr 33.77 164 P **P 23 24 10.9 -0.9**
comp=Z,2.4nm,0.6s,baz=342,slow=9.4,SNR=23
WRA PcP **PcP 23 26 50.0 -0.8**
comp=Z,0.5nm,0.5s,baz=336,slow=2.8,SNR=2.1
WRA LR LR 23 40 56.2
comp=Z,156nm,18.2s,baz=348,slow=42
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 33.77 164 *ce*P **P 23 24 11.0 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WR8 Warramunga Arr 33.83 164 **P 23 24 11.8 -0.5**
WR8 IAmb IAmb 23 24 19.5
comp=Z,21nm,1.2s
GTA Gaotai 34.64 325 *e*P **P 23 24 20.7 +1.4**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA LR LR
comp=Z,230nm,15.3s
GTA LR LR
comp=Z,310nm,17.8s
GTA LR LR
comp=Z,340nm,16.4s
ASAJ Asahikawa 34.72 22 P **P 23 24 20.5 +0.8**
comp=Z,1.3nm,0.5s,baz=234,slow=8.7,SNR=1.8
ASAJ LR LR 23 38 37.0
comp=Z,133nm,19.6s,baz=165,slow=36
comp=Z,1.3nm,0.5s
LSA Lhasa 35.59 304 P **P 23 24 28.0 0.0**
LSA pmax pmax
comp=Z,11nm,0.9s
QIS Mount Isa 36.09 156 P **P 23 24 32.2 +0.4**
comp=Z,29nm,1.6s
MTSU Mount Surprise 36.14 148 P **P 23 24 32.5 +0.2**
comp=Z,8.5nm,1.1s
AS31 Alice Springs 37.23 166 **P 23 24 41.2 -0.4**
ASAR Alice Springs 37.23 166 **P 23 24 41.6 +0.1**
ASAR Alice Springs 37.23 166 P **P 23 24 41.5 -0.1**
comp=Z,3.9nm,0.5s,baz=342,slow=6.4,SNR=56
ASAR PcP **PcP 23 27 00.7 -0.3**
comp=Z,0.4nm,0.5s,baz=340,slow=3.1,SNR=1.0
ASAR S **S 23 30 27.7 +1.1**
comp=Z,2.5nm,0.9s,baz=358,slow=22,SNR=8.4
ASAR LR LR 23 41 26.2
comp=Z,90nm,19.3s,baz=316,slow=39
comp=Z,3.9nm,0.5s
HEH HeiHe 37.44 3 *e*P **P 23 24 43.4 +0.4**
HEH pP **pwP 23 24 54.0 -0.6**
HEH pmax pmax
comp=Z,13nm,0.9s
HEH LR LR
comp=Z,91nm,15.9s
HEH LR LR
comp=Z,270nm,14.7s
HEH LR LR
comp=Z,310nm,15.1s
WRKA Warakurna 37.70 175 P **P 23 24 45.6 +0.1**
ULN Ulaanbaatar 38.07 340 P **P 23 24 48.1 -0.4**
ULN IAmb IAmb 23 25 08.3
comp=Z,16nm,1.1s
ULN Ulaanbaatar 38.07 340 *ce*P **P 23 24 48.7 +0.2**
ULN pmax pmax
comp=Z,14nm,1.0s
SONM Songino Array 38.27 340 P **P 23 24 50.2 +0.1**
SONM IAmb IAmb 23 24 51.7
comp=Z,14nm,1.3s
SONM Songino Array 38.27 340 P **P 23 24 50.3 +0.2**
comp=Z,5.6nm,0.9s,baz=160,slow=9.0,SNR=26
SONM LR LR 23 41 26.0
comp=Z,130nm,20.9s,baz=155,slow=38
comp=Z,5.6nm,0.9s
SONM Songino Array 38.27 340 P **P 23 24 50.2 +0.1**
SONM pmax pmax
comp=Z,14nm,1.3s
CTAO Charters Tower 38.77 147 P **P 23 24 54.0 -0.5**
CTAO IAmb IAmb 23 25 58.0
comp=Z,55nm,1.6s
CTAO Charters Tower 38.77 147 P **P 23 24 54.0 -0.5**
CTAO pmax pmax
comp=Z,55nm,1.6s
MEEK Meekatharra 39.65 189 P **P 23 25 00.6 -1.2**
comp=Z,16nm,2.4s
H11S3 WAKE ISLAND Hy 40.49 76 T T 00 08 15.4
baz=268,slow=76
H11S1 WAKE ISLAND Hy 40.51 76 T T 00 08 13.1
baz=268,slow=76
H11S2 WAKE ISLAND Hy 40.51 76 T T 00 08 15.7
baz=268,slow=76
H11N1 WAKE ISLAND Hy 40.74 75 T T 00 08 29.2
baz=268,slow=75
H11N2 WAKE ISLAND Hy 40.74 75 T T 00 08 29.6
baz=268,slow=75
H11N3 WAKE ISLAND Hy 40.76 75 T T 00 08 30.5
baz=268,slow=75
HNR Honiara 41.13 121 LR LR 23 39 15.4
comp=Z,334nm,21.9s,baz=302,slow=32
ZAK Zakamensk 41.51 339 *e*P **P 23 25 16.3 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
MORW Morawa 42.47 192 P **P 23 25 23.6 -1.3**
comp=Z,16nm,1.0s
MOY Mondy 43.38 338 *e*P **P 23 25 32.8 +0.5**
MOY pmax pmax
comp=Z,15nm,1.3s
FORT Forrest 43.38 176 P **P 23 25 32.1 -0.2**
FORT IAmb IAmb 23 25 41.4
comp=Z,13nm,0.7s
FORT Forrest 43.38 176 P **P 23 25 32.6 +0.3**
comp=Z,20nm,0.8s
PALK Pallekele 43.91 267 LR LR 23 42 58.5
comp=Z,70nm,20.9s,baz=88,slow=35
KMBL Kambalda 43.97 184 P **P 23 25 36.9 -0.1**
comp=Z,8.7nm,1.7s
WMQ Urumqi 44.51 321 *e*P **P 23 25 43.2 +1.9**
WMQ PP **PP 23 27 28.4 +2.9**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ LR LR
comp=Z,440nm,19.5s
WMQ LR LR
comp=Z,270nm,14.5s
WMQ LR LR
comp=Z,380nm,21.9s
NWAO Narrogin (SRO) 46.03 189 P **P 23 25 51.5 -1.9**
NWAO Narrogin (SRO) 46.03 189 LR LR 23 48 02.6
comp=Z,104nm,18.1s,baz=46,slow=40
NWAO Narrogin (SRO) 46.03 189 P **P 23 25 51.5 -1.9**
NWAO pmax pmax
comp=Z,56nm,1.4s
BBOO Buckleboo 46.53 167 P **P 23 25 57.3 0.0**
BBOO Buckleboo 46.53 167 P **P 23 25 57.4 0.0**
comp=Z,34nm,0.6s
STKA Stephens Creek 47.15 161 P **P 23 26 02.5 +0.3**
STKA Stephens Creek 47.15 161 P **P 23 26 02.8 +0.6**
comp=Z,6.2nm,0.7s,baz=343,slow=7.8,SNR=11
STKA LR LR 23 50 24.4
comp=Z,61nm,18.1s,baz=355,slow=42
comp=Z,6.2nm,0.7s
STKA Stephens Creek 47.15 161 P **P 23 26 02.5 +0.3**
STKA pmax pmax
comp=Z,74nm,1.0s
HTT Hallett 47.81 164 P **P 23 26 08.2 +0.9**
comp=Z,2.9nm,1.0s
PEA0B Petropavlovsk- 47.94 26 *i*P **P 23 26 07.7 -0.4**
PETK Petropavlovsk- 47.94 26 P **P 23 26 07.8 -0.3**
PETK Petropavlovsk- 47.94 26 P **P 23 26 08.9 +0.8**
comp=Z,2.5nm,0.8s,baz=166,slow=1.2,SNR=6.0
PETK LR LR 23 46 13.7
comp=Z,79nm,18.7s,baz=222,slow=36
comp=Z,2.5nm,0.8s
PET Petropavlovsk 48.29 27 *e*P **P 23 26 12.4 +1.6**
PET *e*S **S 23 33 09.9 +1.6**
PET pmax pmax
comp=Z,19nm,1.1s
PET MLR MLR
comp=Z,100nm,18.0s
PET MLR MLR
comp=Z,100nm,18.0s
CMSA Cobar Meteorol 48.31 156 P **P 23 26 12.3 +1.1**
comp=Z,42nm,1.0s
MK31 Makanchi Array 49.30 322 *ce*P **P 23 26 18.8 +0.1**
MKAR Makanchi Array 49.30 322 P **P 23 26 18.7 0.0**
MKAR Makanchi Array 49.30 322 P **P 23 26 19.6 +0.9**
comp=Z,2.7nm,0.8s,baz=113,slow=8.6,SNR=19
MKAR LR LR 23 47 12.3
comp=Z,179nm,19.3s,baz=130,slow=36
comp=Z,2.7nm,0.8s
YAK Yakutsk 49.31 3 P **P 23 26 18.4 0.0**
YAK Yakutsk 49.31 3 LR LR 23 48 53.6
comp=Z,128nm,19.1s,baz=196,slow=38
YAK Yakutsk 49.31 3 *ce*P **P 23 26 19.0 +0.5**
YAK pmax pmax
comp=Z,27nm,0.7s
MAKZ Makanchi 49.50 322 P **P 23 26 20.3 +0.1**
MAKZ IAmb IAmb 23 26 33.5
comp=Z,11nm,1.1s
MAKZ Makanchi 49.50 322 P **P 23 26 20.3 +0.1**
MAKZ pmax pmax
comp=Z,11nm,1.1s
PRZ Przheval'sk 49.94 315 P **P 23 26 23.8 -0.1**
PRZ IAmb IAmb 23 26 40.0
comp=Z,35nm,1.5s
PRZ Przheval'sk 49.94 315 P **P 23 26 23.8 -0.1**
PRZ pmax pmax
comp=Z,35nm,1.5s
KDJ Kajisay 50.65 315 P **P 23 26 28.0 -1.3**
KDJ Kajisay 50.65 315 P **P 23 26 28.0 -1.3**
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 50.65 311 P **P 23 26 32.4 +3.1**
KSH pmax pmax
comp=Z,4.0nm,1.0s
KSH LR LR
comp=Z,150nm,17.9s
KSH LR LR
comp=Z,420nm,19.2s
KSH LR LR
comp=Z,460nm,22.7s
NIL Nilore 51.32 303 P **P 23 26 33.0 -1.2**
NIL IAmb IAmb 23 26 51.2
comp=Z,22nm,1.4s
NIL Nilore 51.32 303 P **P 23 26 33.0 -1.2**
NIL pmax pmax
comp=Z,22nm,1.4s
ZAA0 Zalesovo Array 51.86 331 P **P 23 26 37.7 -0.2**
ZAA0 IAmb IAmb 23 26 50.1
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 51.86 331 P **P 23 26 37.5 -0.4**
ZALV Zalesovo Beam 51.86 331 P **P 23 26 38.1 +0.2**
comp=Z,9.4nm,0.6s,baz=117,slow=8.6,SNR=48
ZALV LR LR 23 48 36.3
comp=Z,51nm,19.9s,baz=122,slow=36
comp=Z,9.4nm,0.6s
ZALV Zalesovo Beam 51.86 331 *i*P **P 23 26 38.0 +0.2**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 52.70 314 P **P 23 26 44.0 -0.5**
AAK Ala-Archa 52.70 314 LR LR 23 49 31.5
comp=Z,367nm,21.2s,baz=90,slow=36
AAK Ala-Archa 52.70 314 P **P 23 26 44.0 -0.5**
AAK pmax pmax
comp=Z,6.0nm,1.1s
CAN Canberra 52.95 155 P **P 23 26 47.6 +1.4**
CAN Canberra 52.95 155 P **P 23 26 47.6 +1.4**
CAN pmax pmax
comp=Z,53nm,1.5s
CAN Canberra 52.95 155 P **P 23 26 48.8 +2.6**
CNB Canberra Magne 53.09 155 P **P 23 26 48.3 +1.0**
comp=Z,20nm,2.1s
KURK Kurchatov 53.32 325 P **P 23 26 49.0 +0.3**
KURK Kurchatov 53.32 325 P **P 23 26 49.0 +0.3**
KURK pmax pmax
comp=Z,43nm,1.3s
KURK Kurchatov 53.32 325 P **P 23 26 49.4 +0.7**
KURK pP **sP 23 26 59.5 -3.3**
KURK sP **pwP 23 27 04.5 +3.3**
KURBB Kurchatov Arra 53.33 325 P **P 23 26 49.4 +0.6**
comp=Z,8.5nm,0.6s,baz=122,slow=7.7,SNR=58
KURBB LR LR 23 52 06.7
comp=Z,144nm,18.6s,baz=170,slow=39
comp=Z,8.5nm,0.6s
ARSB Arslanbob 53.37 312 P **P 23 26 48.8 -0.7**
ARSB Arslanbob 53.37 312 P **P 23 26 48.8 -0.7**
ARSB pmax pmax
comp=Z,7.0nm,1.2s
DZM Mont Dzumac 53.39 130 P **P 23 26 50.4 +0.6**
DZM Mont Dzumac 53.39 130 *e*LR LR 23 42 03.9
comp=Z,217nm,27.1s
DZM Mont Dzumac 53.39 130 P **P 23 26 50.9 +1.2**
comp=Z,20nm,1.1s,baz=259,slow=5.9,SNR=6.6
comp=Z,20nm,1.1s
TOO Toolangi 53.64 160 P **P 23 26 52.7 +1.5**
comp=Z,11nm,0.9s
SEY Seymchan 53.74 15 P **P 23 26 52.9 +1.3**
comp=Z,1.9nm,0.6s,baz=86,slow=21,SNR=5.4
comp=Z,1.9nm,0.6s
SEY Seymchan 53.74 15 *i*P **P 23 26 50.5 -1.1**
SEY pmax pmax
comp=Z,2.0nm,1.1s
GAR Garm 54.75 309 P **P 23 26 59.3 -0.3**
GAR IAmb IAmb 23 27 11.2
comp=Z,16nm,0.8s
KBL Kabul 54.91 303 P **P 23 27 00.1 -0.8**
KBL IAmb IAmb 23 27 14.7
comp=Z,7.2nm,0.8s
KBL Kabul 54.91 303 P **P 23 27 00.1 -0.8**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KK31 Karatay Array 55.63 314 P **P 23 27 05.1 -0.6**
KK31 IAmb IAmb 23 27 21.2
comp=Z,9.3nm,1.1s
KK31 Karatay Array 55.63 314 P **P 23 27 05.1 -0.6**
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 55.63 314 P **P 23 27 05.6 -0.1**
KKAR Karatay Array 55.63 314 P **P 23 27 05.6 -0.1**
TIXI Tiksi 58.91 1 P **P 23 27 27.7 -0.6**
TIXI IAmb IAmb 23 27 28.9
comp=Z,7.1nm,0.8s
TIXI Tiksi 58.91 1 LR LR 23 54 11.2
comp=Z,122nm,21.6s,baz=196,slow=37
TIXI Tiksi 58.91 1 *ce*P **P 23 27 29.1 +0.8**
TIXI pmax pmax
comp=Z,12nm,1.7s
BVAR Borovoye Array 58.92 325 P **P 23 27 29.3 +0.5**
comp=Z,12nm,0.7s,baz=123,slow=8.3,SNR=32
BVAR LR LR 23 52 19.4
comp=Z,176nm,20.1s,baz=117,slow=36
comp=Z,12nm,0.7s
BRVK Borovoye 58.99 325 P **P 23 27 29.5 +0.3**
BRVK Borovoye 58.99 325 P **P 23 27 29.5 +0.3**
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 58.99 325 P **P 23 27 29.9 +0.7**
BRVK sP **sP 23 27 44.3 +1.2**
BILL Bilibino 61.38 16 *i*P **P 23 27 45.7 +0.4**
BILL pmax pmax
comp=Z,9.0nm,1.7s
AB31 Akbulak array 64.19 319 P **P 23 28 03.6 -0.7**
AB31 IAmb IAmb 23 28 28.9
comp=Z,7.3nm,1.1s
ABKAR Akbulak array 64.19 319 P **P 23 28 03.6 -0.7**
SVE Sverdlovsk 65.45 327 *e*P **P 23 28 12.7 +0.3**
SVE pmax pmax
comp=Z,16nm,0.9s
AKTO Aktyubinsk 65.62 320 LR LR 23 56 55.1
comp=Z,185nm,19.5s,baz=74,slow=36
ARTI Arti 66.56 326 P **P 23 28 18.6 -0.9**
ARTI Arti 66.56 326 LR LR 23 59 51.8
comp=Z,123nm,18.4s,baz=102,slow=38
ARTI Arti 66.56 326 *d*P **P 23 28 19.1 -0.4**
ARTI 23 28 47.8
ARTI 23 30 40.6
ARTI S **S 23 37 09.2 +1.0**
ARTI SS **SS 23 41 29.0 +3.5**
ARTI pmax pmax
comp=Z,9.0nm,0.9s
ARTI Arti 66.56 326 P **P 23 28 19.2 -0.4**
ARTI pP **pP 23 28 28.8 -0.1**
NNZ Nelson 69.83 143 P **P 23 28 41.0 +0.8**
KIRV Kirov 71.69 328 *ce*P **P 23 28 50.5 -0.8**
BELG Belogornoye 72.29 321 LR LR 00 02 33.3
comp=Z,54nm,19.4s,baz=80,slow=37
O18K Koktuh Hills 73.94 31 P **P 23 29 04.9 +0.2**
O18K IAmb IAmb 23 29 38.1
comp=Z,17nm,1.2s
GNI Garni 74.48 308 LR LR 00 05 11.0
comp=Z,109nm,21.7s,baz=90,slow=38
OHAK Old Harbor 74.90 34 P **P 23 29 09.9 -0.4**
RAYN Ar Rayn 75.50 291 P **P 23 29 14.0 -0.4**
RAYN IAmb IAmb 23 29 28.4
comp=Z,12nm,0.8s
RAYN Ar Rayn 75.50 291 P **P 23 29 14.0 -0.4**
RAYN pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 75.61 312 P **P 23 29 14.8 +0.1**
comp=Z,2.3nm,1.0s,baz=180,slow=1.0,SNR=3.0
KBZ LR LR 00 04 55.7
comp=Z,149nm,19.6s,baz=76,slow=38
comp=Z,2.3nm,1.0s
KBZ Khabaz 75.61 312 *ce*P **P 23 29 14.3 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
KIV Kislovodsk 75.75 312 P **P 23 29 15.7 +0.1**
KIV IAmb IAmb 23 29 34.4
comp=Z,10nm,0.9s
KIV Kislovodsk 75.75 312 *e*P **P 23 29 14.9 -0.7**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,133nm,18.0s
VRH Novokhopyorsk 75.97 320 *e*P **P 23 29 14.4 -2.1**
VRH pmax pmax
comp=Z,5.0nm,0.9s
GURO Guroymak-BITLI 76.70 307 P **P 23 29 21.5 +0.3**
GURO IAmb IAmb 23 29 34.1
comp=Z,7.7nm,0.8s
KLMR Klimovskoe 76.76 330 *e*P **P 23 29 18.1 -2.7**
KLMR pmax pmax
comp=Z,18nm,1.0s
VORD Divnogorie 77.51 320 *e*P **P 23 29 23.0 -2.2**
VORD pmax pmax
comp=Z,6.0nm,1.0s
VSR Storozhevoye 77.57 320 *e*P **P 23 29 23.4 -2.2**
VSR pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 77.77 26 P **P 23 29 27.1 +0.6**
comp=Z,0.4nm,0.9s,baz=261,slow=6.7,SNR=4.4
comp=Z,0.4nm,0.9s
MARD Mardin 77.83 306 P **P 23 29 27.1 -0.3**
MARD IAmb IAmb 23 29 39.2
comp=Z,6.2nm,0.6s
MOS Moscow 78.09 325 *e*P **P 23 29 25.7 -2.7**
BMAR Burnt Mountain 78.49 23 P **P 23 29 31.7 +1.2**
OBN Obninsk 78.75 324 LR LR 00 04 18.8
comp=Z,101nm,20.0s,baz=96,slow=36
OBN Obninsk 78.75 324 ⇓*e*P **P 23 29 31.7 -0.3**
OBN *e* 23 29 42.6
OBN *e* 23 32 29.3
OBN *e*S **SKSac 23 39 44.8 0.0**
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,115nm,21.0s
D27M Malcolm River 79.60 21 P **P 23 29 36.8 +0.3**
D27M IAmb IAmb 23 29 43.2
comp=Z,26nm,1.6s
K27K Chicken 79.92 27 P **P 23 29 38.5 +0.2**
BCAR Beaver Creek A 80.19 27 P **P 23 29 40.0 +0.2**
E28M Babbage River 80.22 22 P **P 23 29 39.8 0.0**
F28M Old Crow 80.26 23 P **P 23 29 41.1 +1.0**
F28M IAmb IAmb 23 29 54.6
comp=Z,12nm,1.1s
YAH Yahtse 80.63 30 P **P 23 29 43.0 +0.6**
YAH IAmb IAmb 23 29 55.8
comp=Z,23nm,1.0s
GAZ Gaziantep 80.67 306 P **P 23 29 41.5 -1.5**
GAZ IAmb IAmb 23 29 55.2
comp=Z,12nm,1.1s
TABL Table Mountain 80.92 30 P **P 23 29 44.1 +0.2**
SPITS Spitsbergen Ar 81.35 349 P **P 23 29 46.1 +0.4**
comp=Z,3.0nm,0.7s,baz=96,slow=14,SNR=3.6
SPITS LR LR 00 12 08.6
comp=Z,67nm,18.0s,baz=76,slow=40
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 81.44 339 P **P 23 29 46.2 -0.1**
ARCES IAmb IAmb 23 32 08.9
comp=Z,33nm,1.6s
ARCES ARCESS Array B 81.44 339 P **P 23 29 46.6 +0.3**
comp=Z,5.1nm,0.8s,baz=76,slow=4.9,SNR=7.9
ARCES LR LR 00 11 37.4
comp=Z,60nm,18.3s,baz=88,slow=40
comp=Z,5.1nm,0.8s
ARCES ARCESS Array B 81.44 339 P **P 23 29 46.2 -0.1**
ARCES pmax pmax
comp=Z,33nm,1.7s
ASF Jabal al Asfar 81.73 301 LR LR 00 10 19.4
comp=Z,51nm,21.6s,baz=110,slow=39
M29M Somme Creek 81.81 28 P **P 23 29 48.9 +0.3**
L29M L29M 81.82 27 P **P 23 29 48.6 +0.1**
L29M IAmb IAmb 23 30 01.8
comp=Z,12nm,1.1s
INK Inuvik 82.45 22 P **P 23 29 51.4 -0.1**
INK IAmb IAmb 23 30 06.0
comp=Z,5.8nm,1.0s
INK Inuvik 82.45 22 P **P 23 29 51.4 -0.1**
INK pmax pmax
comp=Z,6.0nm,1.0s
MMAI Mount Meron Ar 82.83 302 P **P 23 29 54.8 +0.4**
comp=Z,2.4nm,0.8s,baz=54,slow=7.3,SNR=4.6
MMAI LR LR 00 10 28.3
comp=Z,52nm,21.0s,baz=62,slow=38
comp=Z,2.4nm,0.8s
BR131 Keskin Array S 83.00 309 P **P 23 29 54.2 -1.1**
BR131 IAmb IAmb 23 30 07.1
comp=Z,15nm,1.9s
BR131 Keskin Array S 83.00 309 P **P 23 29 54.2 -1.1**
BR131 pmax pmax
comp=Z,15nm,1.9s
BRTR Keskin Array B 83.00 309 P **P 23 29 54.8 -0.4**
comp=Z,1.1nm,0.7s,baz=99,slow=3.5,SNR=7.9
comp=Z,1.1nm,0.7s
GHAJ Ghor Haditha 83.00 300 P **P 23 29 55.2 0.0**
GHAJ IAmb IAmb 23 30 08.0
comp=Z,19nm,0.9s
FINES FINESS Array B 83.12 331 P **P 23 29 55.0 -0.2**
FINES FINESS Array B 83.12 331 P **P 23 29 54.8 -0.4**
comp=Z,1.1nm,0.4s,baz=72,slow=4.3,SNR=15
FINES LR LR 00 09 54.2
comp=Z,57nm,18.2s,baz=80,slow=38
comp=Z,1.1nm,0.4s
FINES FINESS Array B 83.12 331 P **P 23 29 55.0 -0.2**
MNK Minsk 83.81 324 *i*P **P 23 29 57.3 -1.6**
MNK *i* 23 33 10.7
MNK *i* PPP PPP 23 35 03.0
MNK *i* S **SKSac 23 40 16.8 -2.6**
MNK *i* SS **SS 23 45 48.2 +1.2**
MNK *i* SSS SSS 23 49 18.2
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=N,11nm,0.9s
MNK MLR MLR
comp=N,62nm,18.0s
MNK MLR MLR
comp=E,59nm,17.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNK				MLR	MLR		
	comp=Z,86nm,19.0s						
AKASG	**Malin Array Be**	**83.86**	**320**	P	**P**	**23 29 58.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=72,slow=3.9,SNR=4.8						
AKASG				LR	LR	00 07 14.7	
	comp=Z,73nm,21.3s,baz=76,slow=36						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**83.86**	**320**	*ce*P	**P**	**23 29 59.7**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	**Malin Array Si**	**83.86**	**320**	P	**P**	**23 29 59.6**	**+0.4**
AKBB	**Malin Array Si**	**83.86**	**320**	P	**P**	**23 29 59.6**	**+0.4**
AKBB				pmax	pmax		
	comp=Z,38nm,2.0s						
CSS	**Mathiatis**	**84.15**	**304**	P	**P**	**23 30 00.8**	**-0.3**
BURAR	**Bucovina Array**	**87.16**	**318**	P	**P**	**23 30 15.9**	**-0.1**
BURAR				IAmb	IAmb	23 30 29.8	
	comp=Z,8.1nm,0.8s						
BUR08	**Bucovina Ar. S**	**87.17**	**318**	P	**P**	**23 30 16.1**	**+0.2**
MLR	**Muntele Rosu**	**87.25**	**316**	LR	LR	00 13 55.6	
	comp=Z,128nm,21.8s,baz=172,slow=39						
HFS	**Hagfors**	**89.28**	**332**	P	**P**	**23 30 25.7**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=157,slow=4.1,SNR=7.9						
HFS				LR	LR	00 11 57.3	
	comp=Z,92nm,19.7s,baz=72,slow=37						
	comp=Z,2.1nm,1.0s						
RES	**Resolute Bay**	**89.28**	**10**	LR	LR	00 12 49.2	
	comp=Z,31nm,20.6s,baz=346,slow=37						
PPT2	**Papeete2**	**89.53**	**108**	*e*S	**S**	**23 41 09.4**	**-7.3**
	comp=Z,49nm,25.2s						
PPT2	**Papeete2**	**89.53**	**108**	*e*LR	LR	23 58 56.1	
	comp=Z,169nm,29.5s						
NB2	**NORSAR Subarra**	**89.99**	**334**	P	**P**	**23 30 28.9**	**0.0**
	comp=Z,2.0nm,1.0s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**89.99**	**334**	P	**P**	**23 30 29.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=67,slow=4.8,SNR=4.9						
NOA				LR	LR	00 14 15.2	
	comp=Z,68nm,18.7s,baz=65,slow=38						
	comp=Z,0.6nm,0.8s						
TBI	**Tubuai**	**90.97**	**114**	*e*S	S	23 41 19.4	-10
	comp=Z,272nm,30.0s						
TBI	**Tubuai**	**90.97**	**114**	*e*LR	LR	23 59 43.8	
	comp=Z,401nm,25.0s						
VRAC	**Vranov**	**92.04**	**322**	LR	LR	00 12 54.0	
	comp=Z,46nm,18.1s,baz=78,slow=36						
CLL	**Collm**	**93.35**	**324**	*e*SKSac	**SKSac**	**23 41 12.0**	**-4.5**
CLL				*e*x	x	23 42 24.0	
CLL				*e*SS	SS	23 48 18.0	+12
CLL				Lm	MLR	00 13 00.0	
	comp=N,100nm,20.1s						
CLL				Lm	MLR	00 13 00.0	
	comp=E,100nm,20.4s						
CLL				Lm	MLR	00 13 00.0	
	comp=Z,100nm,20.9s						
FUORN	**Ofenpass-Fuorn**	**97.03**	**321**	P	**P**	**23 31 01.6**	**-0.3**
FUORN				IAmb	IAmb	23 31 16.2	
	comp=Z,6.2nm,1.1s						
DAVOX	**Davos/Dischmat**	**97.19**	**321**	LR	LR	00 16 11.0	
	comp=Z,89nm,18.5s,baz=76,slow=36						
BORG	**Borgarnes**	**98.63**	**346**	LR	LR	00 21 08.2	
	comp=Z,42nm,18.2s,baz=30,slow=39						
LSZ	**Lusaka**	**99.73**	**256**	LR	LR	00 12 06.6	
	comp=Z,47nm,18.6s,baz=159,slow=33						
PLCA	**Paso Flores**	**148.97**	**157**	PKPbc	**PKPbc**	**23 37 17.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=288,slow=6.3,SNR=4.2						
LPAZ	**La Paz**	**166.82**	**107**	PKP	**PKPdf**	**23 37 36.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=217,slow=5.1,SNR=1.5						

---

*RHSSO **03** 23:28:03.5±0.3, 43°.27N×18°.78E, h6km±2km, ML2.5/9*
*PDG **03** 23:28:04.2±0.1, 43°.30N×18°.67E, h6km, MD2.8/3, ML2.7/12, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **03** 23:28:04.4±0.4, 43°.29N×18°.75E, h3km±2km, ML2.4/5*
*PRU **03** 23:28:06.2, 43°.56N×19°.13E, h10km*
*VIE **03** 23:28:08.4±0.8, 43°.68N×18°.78E, h8km, mb2.4/7, ml2.2/6, ms3.3/2, Error ellipse: s-maj=12.6km s-min=5.8km az=59.0 34 km ESE of Sarajevo*

ISC 03 23:28:03.8±0.8, 43°.29N±0°.02×18°.74E±0°.01, h12km±6km, n80, σ1.15/137, 24C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.15**	**125**	⇑*i*Pg	**Pg**	**23 28 07.7**	**+0.2**
UPM				*i* Sg	**Sg**	**23 28 10.8**	**+0.7**
KLINJ	**Klinje**	**0.16**	**223**	⇓*i*Pg	**Pg**	**23 28 07.4**	**-0.2**
KLINJ				*e*Sg	**Sg**	**23 28 10.5**	**+0.2**
BRY	**Bratogost**	**0.41**	**201**	⇑*i*Pg	**Pg**	**23 28 11.3**	**-0.8**
BRY				*i* Sg	**Sg**	**23 28 17.6**	**0.0**
PLE	**Pljevlja**	**0.48**	**85**	⇑*i*Pg	**Pg**	**23 28 13.5**	**+0.3**
PLE				*i* Sg	**Sg**	**23 28 20.0**	**+0.4**
NKME	**Niksic**	**0.55**	**163**	⇑*i*Pg	**Pg**	**23 28 13.9**	**-0.6**
NKME				*i* Sg	**Sb**	**23 28 22.5**	**-0.7**
RUDO	**Rudo**	**0.56**	**54**	⇑*i*Pg	**Pg**	**23 28 14.0**	**-0.9**
RUDO				*e*Sg	**Sg**	**23 28 21.5**	**-0.8**
TREB	**Trebinje**	**0.64**	**207**	⇑*i*Pg	**Pg**	**23 28 15.0**	**-1.2**
TREB				*e*Sg	**Sg**	**23 28 24.7**	**0.0**
KOME	**Kolasin**	**0.72**	**127**	*e*Pg	**Pb**	**23 28 18.0**	**-0.3**
KOME	**Kolasin**	**0.72**	**127**	⇑*i*Pg	**Pg**	**23 28 17.6**	**-0.1**
KOME				*i* Sg	**Sb**	**23 28 29.0**	**+0.8**
BBLS	**Lazi&#263i**	**0.75**	**40**	*e*Pg	**Pg**	**23 28 18.3**	**-0.1**
CEME	**Cevo**	**0.75**	**170**	⇓*i*Pg	**Pg**	**23 28 17.6**	**-0.8**
CEME				*i* Sg	**Sb**	**23 28 28.7**	**-0.5**
DBRK	**Dubrovnik**	**0.76**	**215**	Pg	**Pb**	**23 28 18.8**	**-0.1**
DBRK				Sg	**Sb**	**23 28 29.2**	**0.0**
HCY	**Herceg Novi**	**0.86**	**192**	⇓*i*Pg	**Pg**	**23 28 19.4**	**-1.0**
HCY				*i* Sg	**Sb**	**23 28 32.7**	**+0.5**
STON	**Ston**	**0.87**	**242**	⇑*i*Pg	**Pg**	**23 28 18.8**	**-1.8**
STON				*e*Sg	**Sb**	**23 28 32.2**	**-0.2**
STON	**Ston**	**0.87**	**242**	Pg	**Pn**	**23 28 21.3**	**-0.5**
STON				Sg	**Sn**	**23 28 33.3**	**-1.1**
SJES	**Sjenica**	**0.90**	**91**	*e*Pg	**Pg**	**23 28 21.1**	**-0.1**
SJES				*e*Sg	**Sg**	**23 28 33.1**	**+0.1**
PDG	**Podgorica**	**0.94**	**156**	⇑P	**Pg**	**23 28 21.3**	**-0.6**
PDG				⇑S	**Sb**	**23 28 34.8**	**+0.4**
PDG	**Podgorica**	**0.94**	**156**	*e*Pg	**Pg**	**23 28 20.3**	**-1.6**
PDG				*e*Sg	**Sb**	**23 28 34.3**	**-0.1**
PDG	**Podgorica**	**0.94**	**156**	⇓*i*Pg	**Pg**	**23 28 20.1**	**-1.8**
PDG				*i* Sg	**Sb**	**23 28 34.8**	**+0.4**
IVA	**Berane**	**0.94**	**116**	⇑*i*Pg	**Pg**	**23 28 21.8**	**-0.2**
IVA				*i* Sg	**Sn**	**23 28 36.5**	**+0.1**
BUM	**Brajici-Budva**	**0.99**	**173**	⇓*i*Pg	**Pg**	**23 28 21.8**	**-1.2**
BUM				*i* Sg	**Sn**	**23 28 37.3**	**-0.4**
IVAS	**Ivanjica**	**1.07**	**74**	*e*Pg	**Pg**	**23 28 23.6**	**-0.8**
IVAS				*e*Sg	**Sg**	**23 28 36.3**	**-2.0**
DRME	**Dracevica, Mon**	**1.15**	**163**	*e*Pg	**Pn**	**23 28 25.8**	**+0.1**
DRME	**Dracevica, Mon**	**1.15**	**163**	⇓*i*Pg	**Pb**	**23 28 24.9**	**-0.7**
DRME				*i* Sg	**Sn**	**23 28 42.6**	**+1.2**
RICI	**Ricice**	**1.19**	**280**	Pg	**Pg**	**23 28 29.1**	**+2.4**
RICI				Sg	**Sn**	**23 28 44.3**	**+1.9**
MAKA	**Makarska**	**1.26**	**271**	Sg	**Sn**	**23 28 46.3**	**+2.3**
ULC	**Ulcinj**	**1.38**	**164**	⇑*i*Pg	**Pn**	**23 28 28.9**	**0.0**
ULC				*i* Sg	**Sg**	**23 28 50.0**	**+1.9**
TEKS	**Tekeris**	**1.38**	**24**	*e*Pg	**Pn**	**23 28 28.7**	**-0.3**
TEKS				*e*Sg	**Sg**	**23 28 49.8**	**+1.4**
LSTV	**Lastovo**	**1.45**	**250**	Pg	**Pg**	**23 28 33.2**	**+1.5**
LSTV				Sg	**Sg**	**23 28 51.8**	**+1.2**
DOB	**Doboj**	**1.52**	**342**	*e*Pn	**Pn**	**23 28 31.0**	**+0.2**
DOB				*e*Sn	**Sb**	**23 28 51.6**	**+0.6**
TRUS	**Trudelj**	**1.53**	**52**	*e*Pg	**Pn**	**23 28 31.3**	**+0.4**
GRUS	**Gruza**	**1.56**	**67**	*e*Pg	**Pn**	**23 28 32.0**	**+0.7**
GOCS	**Kraljevo Serbi**	**1.58**	**79**	*e*Pg	**Pg**	**23 28 34.0**	**-0.1**
GOCS				*e*Sg	**Sg**	**23 28 54.0**	**-0.6**
KIJV	**Kijevo**	**1.84**	**294**	*e*Pn	**Pn**	**23 28 35.6**	**+0.4**
KIJV				*e*Sn	**Sb**	**23 28 59.7**	**-0.7**
KIJV	**Kijevo**	**1.84**	**294**	Pn	**Pg**	**23 28 38.8**	**-0.3**
KIJV				Sn	**Sg**	**23 29 04.8**	**+1.8**
BLY	**Banja Luka**	**1.84**	**323**	⇑*i*Pn	**Pn**	**23 28 36.2**	**+0.9**
BLY				*e*Sn	**Sb**	**23 29 00.3**	**-0.1**
BLY	**Banja Luka**	**1.84**	**323**	⇑P	**Pb**	**23 28 36.6**	**-0.8**
BLY				⇑S	**Sb**	**23 29 00.6**	**+0.2**
BLY	**Banja Luka**	**1.84**	**323**	*e*Pn	**Pb**	**23 28 36.4**	**-1.0**
BLY				*e*Sn	**Sg**	**23 29 03.1**	**+0.1**
A050A	**Klekovaca**	**1.99**	**308**	*e*Pn	**Pn**	**23 28 38.3**	**+0.9**
A050A				*e*Sn	**Sb**	**23 29 03.8**	**-1.1**
FRGS	**Fruska Gora**	**2.02**	**22**	*e*Pn	**Pn**	**23 28 37.4**	**-0.4**
FRGS				*e*Sn	**Sb**	**23 29 06.2**	**+0.6**
A051A	**Mrakovica**	**2.17**	**323**	⇑*i*Pn	**Pn**	**23 28 40.6**	**+0.8**
A051A				*e*Sn	**Sn**	**23 29 07.7**	**+1.0**
BOVS	**Bovan**	**2.19**	**80**	⇑P	**Pn**	**23 28 40.2**	**+0.2**
BOVS				⇑S	**Sn**	**23 29 08.3**	**+1.3**
MORI	**Morici**	**2.28**	**286**	Pn	**Pb**	**23 28 45.1**	**+0.2**
MORI				Sn	**Sg**	**23 29 14.8**	**-2.2**
ZIRJ	**Zirje**	**2.28**	**280**	Pn	**Pb**	**23 28 44.9**	**0.0**
ZIRJ				Sn	**Sb**	**23 29 14.7**	**+1.6**
BARS	**Barje**	**2.30**	**101**	*e*Pn	**Pn**	**23 28 43.2**	**+1.6**
UDBI	**Udbina**	**2.48**	**301**	Pn	**Pb**	**23 28 48.2**	**-0.1**
UDBI				Sn	**Sb**	**23 29 19.9**	**+1.0**
VRSS	**Vrsac**	**2.61**	**45**	*e*Pn	**Pn**	**23 28 47.7**	**+1.9**
MDVR	**Moldovita**	**2.61**	**54**	⇑P	**Pn**	**23 28 46.6**	**+0.7**
MDVR	**Moldovita**	**2.61**	**54**	*e*Pn	**Pn**	**23 28 46.2**	**+0.3**
MOSL	**Moslavina**	**2.72**	**329**	*e*Pn	**Pn**	**23 28 48.0**	**+0.6**
MOSL				*e*Sn	**Sn**	**23 29 21.9**	**+1.6**
PLIT	**Plitvice**	**2.75**	**306**	Pn	**Pb**	**23 28 51.5**	**-1.4**
PLIT				Sn	**Sb**	**23 29 26.4**	**-0.2**
DUGI	**Dugi Otok**	**2.76**	**286**	Pn	**Pb**	**23 28 51.4**	**-1.8**
DUGI				Sn	**Sb**	**23 29 27.0**	**+0.1**
VIRC	**Vir**	**2.85**	**292**	Pn	**Pb**	**23 28 52.4**	**-2.2**
VIRC				Sn	**Sb**	**23 29 28.7**	**-0.7**
BOSS	**Bosilegrad**	**2.86**	**105**	*e*Pn	**Pn**	**23 28 49.9**	**+0.6**
BOSS				*e*Sn	**Sn**	**23 29 25.6**	**+1.9**
MORH	**Mrgy, Hungar**	**2.93**	**359**	*e*Pn	**Pn**	**23 28 50.2**	**+0.1**
MORH				*e*Sn	**Sn**	**23 29 26.2**	**+1.0**
MORH	**Mrgy, Hungar**	**2.93**	**359**	⇑P	**Pn**	**23 28 50.4**	**+0.3**
MORH				⇑S	**Sn**	**23 29 25.7**	**+0.5**
MORH	**Mrgy, Hungar**	**2.93**	**359**	*e*Pn	**Pn**	**23 28 50.3**	**+0.1**
NVLJ	**Novalja**	**3.07**	**296**	Pn	**Pb**	**23 28 55.7**	**-2.7**
NVLJ				Sn	**Sb**	**23 29 33.6**	**-2.2**
HERR	**Herculane**	**3.09**	**58**	⇓P	**Pn**	**23 28 53.2**	**+0.8**
BZS	**Buzias**	**3.11**	**41**	⇑P	**Pn**	**23 28 53.7**	**+1.0**
BZS	**Buzias**	**3.11**	**41**	*e*Pn	**Pn**	**23 28 52.5**	**-0.2**
FNA	**Florina**	**3.18**	**141**	*e*Pn	**Pn**	**23 28 56.6**	**+2.9**
OZLJ	**Ozalj**	**3.30**	**316**	*e*Pn	**Pn**	**23 28 55.6**	**+0.3**
VTS	**Vitosha**	**3.37**	**100**	*e*Pn	**Pn**	**23 28 57.6**	**+1.2**
VTS				*e*Sn	**Sn**	**23 29 37.4**	**+1.0**
SURR	**Surduc**	**3.45**	**43**	⇓P	**Pn**	**23 28 57.6**	**+0.2**
BEHE	**Becsehely**	**3.47**	**337**	*e*Pn	**Pn**	**23 28 58.4**	**+0.7**
BEHE				*e*Sn	**Sn**	**23 29 40.2**	**+1.5**
GZR	**Gura Zlata**	**3.58**	**53**	⇑P	**Pn**	**23 29 00.1**	**+0.9**
SIRR	**Siria**	**3.63**	**34**	⇑P	**Pn**	**23 29 00.2**	**+0.3**
CEY	**Cerknica**	**3.94**	**310**	*e*Pn	**Pn**	**23 29 05.2**	**+1.1**
BRJN	**Brijuni**	**3.94**	**296**	*e*Sn	**Sn**	**23 29 50.8**	**+0.6**
SOKA	**Soboth**	**4.29**	**323**	*i* Pn	**Pn**	**23 29 09.9**	**+0.9**
	0.9nm,0.3s,SNR=5.2						
SOKA				*e*Sn	**Sn**	**23 29 58.0**	**-0.9**
	1.2nm,0.5s						
OBKA	**Obir**	**4.38**	**319**	*e*Pn	**Pn**	**23 29 11.8**	**+1.5**
	0.8nm,0.2s						
OBKA				*i* Pg	**Pg**	**23 29 26.7**	**-1.1**
	3.7nm,0.5s						
OBKA				*i* Sn	**Sn**	**23 30 01.4**	**0.0**
	2.3nm,0.4s						
OBKA				Sg	**Sg**	**23 30 26.3**	**+1.8**
	1.6nm,0.4s						
ARSA	**Arzberg**	**4.56**	**331**	*i* Pn	**Pn**	**23 29 13.9**	**+1.1**
	1.9nm,0.4s,SNR=5.1						
ARSA				*e*Sn	**Sn**	**23 30 03.2**	**-2.5**
	1.8nm,0.5s						
ARSA	**Arzberg**	**4.56**	**331**	*e*Pn	**Pn**	**23 29 13.8**	**+1.1**
RONA	**Rosalia, Austr**	**4.73**	**340**	*i* Pn	**Pn**	**23 29 13.7**	**-1.3**
	0.6nm,0.5s						
RONA				*i* Sn	**Sn**	**23 30 08.1**	**-1.7**
	1.8nm,0.4s						
CONA	**Conrad Observa**	**5.06**	**337**	*i* Sn	**Sn**	**23 30 15.6**	**-2.4**
	1.5nm,0.5s						
MOA	**Molln**	**5.54**	**327**	*i* Pn	**Pn**	**23 29 27.2**	**+1.2**
	0.7nm,0.4s						
MOA				*i* Sn	**Sn**	**23 30 29.3**	**-0.3**
	2.8nm,0.6s						
LESA	**Schwarzleotal**	**5.94**	**316**	*i* Pn	**Pn**	**23 29 34.6**	**+2.9**
	0.4nm,0.2s						
LESA				*i* Sn	**Sn**	**23 30 39.6**	**-0.1**
	0.5nm,0.3s						
WTTA	**Wattenberg**	**6.39**	**311**	*i* Pn	**Pn**	**23 29 40.3**	**+2.3**
	0.5nm,0.3s						
KHC	**Kasperske Hory**	**6.85**	**330**	*e*SN	**Sn**	**23 30 59.9**	**-2.1**

---

*DJA **03** 23:28:44.8±0.8, 3°S±2°×10°1E±°, h36km±16km, M4.0/13, mb4.0/1, MLv4.1/13*
*IDC **03** 23:28:47.0±4.0, 3°.00S×101°.20E, h96km±34km, mb3.7/10, mbtmp4.0/11, Error ellipse: s-maj=51.5km s-min=14.0km az=53.0*

ISC 03 23:28:44.5±1.0, 2°.93S±0°.06×101°.21E±0°.05, h70km±10km, n33, σ0.87/33, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.21**	**278**	P	**Pn**	**23 29 05.3**	**-0.5**
PPSI				S	**Sn**	**23 29 22.0**	**+0.3**
KSI	**Kapahiang**	**1.55**	**118**	P	**Pn**	**23 29 11.1**	**+0.8**
KSI				S	**Sn**	**23 29 30.1**	**+0.4**
SDSI	**Sungai Dareh**	**2.00**	**6**	P	**Pn**	**23 29 16.0**	**-0.2**
PDSI	**Padang**	**2.14**	**339**	P	**Pn**	**23 29 17.2**	**-0.9**
PDSI				S	**Sn**	**23 29 43.4**	**-0.4**
MNAI	**Manna**	**2.25**	**129**	P	**Pn**	**23 29 20.4**	**+0.9**
MNAI				S	**Sn**	**23 29 44.2**	**-2.1**
PPI	**Padang Panjang**	**2.59**	**342**	P	**Pn**	**23 29 24.7**	**+0.5**
PPI				S	**Sn**	**23 29 55.0**	**+0.4**
SISI	**Saibi**	**2.65**	**307**	P	**Pn**	**23 29 24.7**	**-0.3**
SISI				S	**Sn**	**23 29 56.8**	**+0.6**
BKNI	**Bangkinang**	**3.24**	**357**	P	**Pn**	**23 29 32.4**	**-0.6**
MDSI	**Maura Dua**	**3.34**	**118**	P	**Pn**	**23 29 35.7**	**+1.3**
MDSI				S	**Sn**	**23 30 12.8**	**-0.1**
PBSI	**Pulau Batu**	**4.09**	**314**	P	**Pn**	**23 29 44.6**	**-0.1**
DSRI	**Dabo**	**4.15**	**54**	P	**Pn**	**23 29 44.7**	**-0.8**
GSI	**Gunungsitoli**	**5.56**	**319**	P	**Pn**	**23 30 04.3**	**-0.5**
GSI				S	**Sn**	**23 31 07.8**	**+0.5**
PSI	**Prapat**	**6.13**	**338**	P	**Pn**	**23 30 15.4**	**+2.7**
	3.2nm,0.2s,baz=166,slow=16,SNR=4.6						
FITZ	**Fitzroy Crossi**	**28.29**	**124**	P	**P**	**23 34 30.9**	**-0.7**
	2.5nm,0.8s,baz=326,slow=11,SNR=1.5						
	2.5nm,0.8s						
H08S2	**Diego Garcia H**	**28.97**	**260**	T	T	00 03 58.2	
	baz=83,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**28.98**	**260**	T	T	00 03 57.3	
	baz=83,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**28.99**	**260**	T	T	00 04 06.6	
	baz=83,slow=75,SNR=10.0						
WRA	**Warramunga Arr**	**36.48**	**120**	P	**P**	**23 35 42.5**	**-0.7**
	0.4nm,0.4s,baz=304,slow=9.1,SNR=5.1						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**37.73**	**126**	P	**P**	**23 35 53.5**	**-0.2**
	0.6nm,0.4s,baz=301,slow=7.8,SNR=15						
ASAR				PcP	**PcP**	**23 38 09.7**	**-0.1**
	0.3nm,0.6s,baz=288,slow=2.9,SNR=2.5						
	0.6nm,0.4s						
SONM	**Songino Array**	**50.76**	**5**	P	**P**	**23 37 38.7**	**+1.2**
	1.4nm,0.6s,baz=187,slow=8.9,SNR=8.9						
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**52.25**	**344**	P	**P**	**23 37 49.0**	**+0.4**
	2.2nm,0.7s,baz=149,slow=8.0,SNR=23						
	2.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.42**	**27**	P	**P**	**23 38 04.3**	**-0.1**
	1.3nm,0.6s,baz=224,slow=5.4,SNR=5.6						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.78**	**343**	P	**P**	**23 38 21.4**	**+0.1**
	0.8nm,0.3s,baz=154,slow=7.3,SNR=4.1						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**58.30**	**349**	P	**P**	**23 38 31.7**	**-0.2**
	2.7nm,0.4s,baz=172,slow=5.2,SNR=19						
	2.7nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.78**	**217**	T	T	00 44 00.5	
	baz=61,slow=76,SNR=64						
H04N1	**CROZET ISLANDS**	**60.80**	**217**	T	T	00 44 00.8	
	baz=61,slow=76,SNR=61						
H04N3	**CROZET ISLANDS**	**60.80**	**217**	T	T	00 43 58.8	
	baz=61,slow=76,SNR=53						
H04S1	**CROZET ISLANDS**	**61.05**	**216**	T	T	00 44 17.8	
	baz=59,slow=75,SNR=4.6						
H04S3	**CROZET ISLANDS**	**61.07**	**217**	T	T	00 44 19.0	
	baz=59,slow=75,SNR=8.5						
H04S2	**CROZET ISLANDS**	**61.07**	**216**	T	T	00 44 21.1	
	baz=59,slow=75,SNR=6.1						
BVAR	**Borovoye Array**	**61.47**	**339**	P	**P**	**23 38 53.1**	**-0.6**
	0.9nm,0.6s,baz=144,slow=9.2,SNR=6.4						
	0.9nm,0.6s						
BRTR	**Keskin Array B**	**74.84**	**312**	P	**P**	**23 40 17.7**	**-0.2**
	0.4nm,0.6s,baz=146,slow=6.4,SNR=2.6						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**144.67**	**39**	PKP	**PKPdf**	**23 48 13.8**	**-0.2**
	0.5nm,0.5s,baz=291,slow=0.7,SNR=14						

---

*IDC **03** 23:57:12.4±1.6, 9°.48N×85°.89W, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/3, Error ellipse: s-maj=36.1km s-min=14.1km az=157.0*
*UCR **03** 23:57:14.3±1.3, 9°.65N×85°.93W, h2km±7km, MW4.5*
*CATAC **03** 23:57:14.5±0.6, 10°N±3°×8°6W±°, h13km±2km, M4.2/18, MLv4.2/18, Error ellipse: s-maj=7.2km s-min=5.0km az=20.2, confirmed*

ISC 03 23:57:15.3±0.9, 9°.58N±0°.05×85°.94W±0°.05, h16km, n110, σ0.97/110, mb3.6/4, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.51**	**57**	S	**Sb**	**23 57 34.8**	**+1.6**
INDI	**Punta indio, G**	**0.51**	**57**	P	**Pg**	**23 57 25.8**	**+0.2**
CMARA	**Lajas Hojancha**	**0.67**	**49**	P	**Pg**	**23 57 27.8**	**-0.7**
CMARA	**Lajas Hojancha**	**0.67**	**49**	S	**Sg**	**23 57 38.6**	**+1.2**
ALIBA	**Liberia Airpor**	**1.08**	**21**	*e*P	**Pb**	**23 57 34.7**	**-0.9**
ALIBA				*e*S	**Sb**	**23 57 49.7**	**+0.3**
ELI1	**Hacienda Flor**	**1.12**	**20**	*e*P	**Pn**	**23 57 35.5**	**-0.9**
ELI1	**Hacienda Flor**	**1.12**	**20**	P	**Pn**	**23 57 35.5**	**-0.9**
ELI1	**Hacienda Flor**	**1.12**	**20**	S	**Sb**	**23 57 51.7**	**+0.9**
JTS	**Las Juntas de**	**1.20**	**54**	Pg	**Pn**	**23 57 35.9**	**-1.5**
	32nm,0.3s,baz=284,slow=21,SNR=76						
JTS				Lg	Lg	23 57 52.2	
	106nm,0.3s,baz=289,slow=17,SNR=14						
JTS	**Las Juntas de**	**1.20**	**54**	*e*P	**Pn**	**23 57 36.0**	**-1.5**
INVE	**Universidad In**	**1.24**	**44**	*e*P	**Pn**	**23 57 36.7**	**-1.4**
LAPC	**Finca la Perla**	**1.28**	**23**	*e*P	**Pn**	**23 57 37.1**	**-1.5**
GPS3	**Bodega del ICE**	**1.29**	**26**	*e*P	**Pn**	**23 57 37.9**	**-1.0**
COLC	**Colonia**	**1.30**	**34**	*e*P	**Pn**	**23 57 37.6**	**-1.3**
COLC				*e*S	**Sn**	**23 57 55.0**	**-0.9**
GPS2	**Hotel Rincn d**	**1.30**	**26**	*e*P	**Pn**	**23 57 37.8**	**-1.2**
CUI	**Cuipilapa**	**1.31**	**35**	*e*P	**Pn**	**23 57 37.7**	**-1.4**
ARZA	**Esparza**	**1.32**	**72**	*e*P	**Pn**	**23 57 38.7**	**-0.4**
MTEVE	**Monteverde**	**1.32**	**56**	*e*P	**Pn**	**23 57 38.1**	**-1.2**
VRLE	**La Escondida,**	**1.32**	**25**	*e*P	**Pn**	**23 57 38.0**	**-1.3**
TIMP	**Tierras Morena**	**1.34**	**42**	*e*P	**Pn**	**23 57 38.2**	**-1.3**
HORNC	**Hornillas**	**1.35**	**34**	*e*P	**Pn**	**23 57 38.4**	**-1.3**
PG27	**Guanacaste Pro**	**1.36**	**23**	*e*P	**Pn**	**23 57 38.6**	**-1.2**
VORI	**VORI**	**1.36**	**25**	*e*P	**Pn**	**23 57 38.5**	**-1.4**
MESS	**Mesas**	**1.36**	**32**	*e*P	**Pn**	**23 57 38.6**	**-1.2**
MOTZ	**Rio Naranjo**	**1.39**	**38**	*e*P	**Pn**	**23 57 39.2**	**-1.0**
BUAI	**Buenos Aires**	**1.42**	**25**	*e*P	**Pn**	**23 57 39.5**	**-1.0**
PEJA	**Penjamo Buenos**	**1.44**	**25**	*e*P	**Pn**	**23 57 40.2**	**-0.6**
CASO	**Castillo**	**1.46**	**54**	*e*P	**Pn**	**23 57 40.3**	**-0.8**
QUEB	**Quebradon, Cot**	**1.46**	**45**	*e*P	**Pn**	**23 57 40.1**	**-1.0**
TENO	**El Achiote**	**1.46**	**40**	*e*P	**Pn**	**23 57 39.1**	**-2.1**
TABAC	**Tabacon**	**1.47**	**52**	*e*P	**Pn**	**23 57 40.8**	**-0.5**
VARE2	**V. Arenal**	**1.48**	**54**	*e*P	**Pn**	**23 57 41.1**	**-0.4**
CEDE	**Laguna Cedeo**	**1.51**	**53**	*e*P	**Pn**	**23 57 41.2**	**-0.6**
SOCE	**Pocosol**	**1.52**	**58**	*e*P	**Pn**	**23 57 41.5**	**-0.5**
SOCE	**Pocosol**	**1.52**	**58**	P	**Pn**	**23 57 41.5**	**-0.5**
SOCE	**Pocosol**	**1.52**	**58**	S	**Sn**	**23 58 01.9**	**+0.3**
VACR	**Volcan Arenal**	**1.52**	**54**	*e*P	**Pn**	**23 57 41.4**	**-0.6**
FORC	**Fortuna**	**1.53**	**55**	*e*P	**Pn**	**23 57 41.5**	**-0.5**
ATEO	**Atenas**	**1.58**	**76**	*e*P	**Pn**	**23 57 42.9**	**0.0**
UPAL	**Upala**	**1.59**	**35**	P	**Pn**	**23 57 42.5**	**-0.4**
UPAL	**Upala**	**1.59**	**35**	S	**Sn**	**23 58 04.4**	**+1.2**
CARN	**Rivas**	**1.65**	**14**	*e*P	**Pn**	**23 57 43.6**	**-0.1**
CARN	**Rivas**	**1.65**	**14**	P	**Pn**	**23 57 44.0**	**+0.3**
CARN				S	**Sn**	**23 58 05.5**	**+1.0**
TCS1	**Tacares**	**1.68**	**74**	P	**Pn**	**23 57 44.7**	**+0.5**
VPL2	**V. Platanar**	**1.69**	**65**	*e*P	**Pn**	**23 57 44.6**	**+0.2**
PICV	**PH. Pirrs**	**1.72**	**88**	*e*P	**Pn**	**23 57 43.9**	**-0.8**
BELE	**Belen**	**1.77**	**77**	*e*P	**Pn**	**23 57 45.3**	**-0.2**
VPS8	**V Poas**	**1.77**	**70**	*e*P	**Pn**	**23 57 45.6**	**-0.1**
PISJ	**San Jernim**	**1.79**	**88**	*e*P	**Pn**	**23 57 44.8**	**-0.9**
HEME	**Heredia, Merce**	**1.82**	**77**	*e*P	**Pn**	**23 57 46.6**	**+0.4**
HDC	**Heredia**	**1.85**	**77**	*e*P	**Pn**	**23 57 46.9**	**+0.4**
LCHIL	**Los Chiles**	**1.88**	**40**	*e*P	**Pn**	**23 57 45.7**	**-1.1**
COVE	**Coope Vega, Sa**	**1.89**	**53**	P	**Pn**	**23 57 46.8**	**-0.1**
COVE	**Coope Vega, Sa**	**1.89**	**53**	S	**Sn**	**23 58 12.2**	**+1.7**
LCR2	**La Lucha 2**	**1.91**	**85**	*e*P	**Pn**	**23 57 46.3**	**-1.2**
LCR2	**La Lucha 2**	**1.91**	**85**	P	**Pn**	**23 57 46.3**	**-1.2**
LCR2	**La Lucha 2**	**1.91**	**85**	S	**Sn**	**23 58 11.0**	**-0.4**
JAPN	**Al SSO del Vol**	**1.95**	**8**	P	**Pn**	**23 57 48.3**	**+0.4**
PIEC	**Cerro El Cedra**	**1.95**	**89**	*e*P	**Pn**	**23 57 47.2**	**-0.9**
MORN	**Al O del Volca**	**1.97**	**8**	P	**Pn**	**23 57 47.8**	**-0.4**
CVIMO	**Finca Echandi**	**2.02**	**77**	*e*P	**Pn**	**23 57 49.7**	**+0.8**
NADN	**Granada**	**2.15**	**358**	*e*P	**Pn**	**23 57 51.1**	**+0.4**
CVTQ	**Turrialba Volc**	**2.18**	**79**	*e*P	**Pn**	**23 57 53.0**	**+1.6**
VTR0	**Volcan Turrial**	**2.19**	**78**	*e*P	**Pn**	**23 57 52.3**	**+0.8**
CVTR	**Volcan Turrial**	**2.19**	**78**	*e*P	**Pn**	**23 57 52.8**	**+1.3**
CVTV	**Tajo**	**2.20**	**79**	*e*P	**Pn**	**23 57 52.7**	**+1.2**
VTCV	**VTCV, Calle Va**	**2.22**	**79**	*e*P	**Pn**	**23 57 52.8**	**+1.1**
ABRB	**Las Abras (San**	**2.23**	**79**	*e*P	**Pn**	**23 57 52.7**	**+0.8**
RVSTA	**Santa Teresita**	**2.29**	**80**	*e*P	**Pn**	**23 57 53.5**	**+0.9**
RESJ	**San Isidro (Tu**	**2.31**	**79**	*e*P	**Pn**	**23 57 53.7**	**+0.9**
OCHAL	**Ojochal**	**2.31**	**102**	P	**Pn**	**23 57 52.0**	**-0.9**
NANN	**Nandasmo**	**2.35**	**356**	P	**Pn**	**23 57 55.2**	**+1.9**
EDPE	**Pejibaye, P**	**2.37**	**100**	*e*P	**Pn**	**23 57 52.5**	**-1.2**
SAJE	**San Jernim**	**2.41**	**95**	*e*P	**Pn**	**23 57 53.8**	**-0.5**
ACON	**Acoyapa**	**2.49**	**18**	*e*P	**Pn**	**23 57 54.0**	**-1.2**
ACON				*e*S	**Sn**	**23 58 24.3**	**-0.9**
ACON	**Acoyapa**	**2.49**	**18**	P	**Pn**	**23 57 54.0**	**-1.2**
UNAN	**Cigeo UNAN**	**2.53**	**353**	P	**Pn**	**23 57 56.4**	**+0.5**
SAPS	**Ciudad Sandino**	**2.61**	**350**	P	**Pn**	**23 57 57.3**	**+0.4**
COPN	**Copaltepe**	**2.66**	**346**	*e*P	**Pn**	**23 57 57.4**	**-0.2**
COPN	**Copaltepe**	**2.66**	**346**	P	**Pn**	**23 57 57.4**	**-0.2**
DRK0	**Durika**	**2.68**	**97**	*e*P	**Pn**	**23 57 57.5**	**-0.5**
DRK0	**Durika**	**2.68**	**97**	P	**Pn**	**23 57 57.3**	**-0.7**
VERH	**Veragua Rainfo**	**2.73**	**83**	*e*P	**Pn**	**23 57 58.7**	**+0.1**
EDP2	**Potrero Grande**	**2.78**	**101**	*e*P	**Pn**	**23 57 59.4**	**+0.1**
LAES	**El Progreso Va**	**2.85**	**86**	*e*P	**Pn**	**23 58 01.0**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.86**	**5**	P	**Pn**	**23 58 00.0**	**-0.3**
MOMN	**Momotombo**	**2.87**	**348**	P	**Pn**	**23 58 00.5**	**0.0**
EDAD	**Golfito**	**2.89**	**108**	*e*P	**Pn**	**23 57 59.9**	**-0.9**
CEUA	**Cerro Uatsi, L**	**2.96**	**89**	*e*P	**Pn**	**23 58 03.9**	**+2.1**
CNGA	**Al SSO del Vol**	**2.99**	**346**	P	**Pn**	**23 58 02.5**	**+0.4**
CNGN	**Cerro Negro**	**2.99**	**346**	P	**Pn**	**23 58 02.7**	**+0.4**
ALCO	**Alturas Coton,**	**3.13**	**101**	*e*P	**Pn**	**23 58 03.5**	**-0.8**
MATN	**Matagalpa**	**3.33**	**0**	P	**Pn**	**23 58 06.2**	**-0.7**
BANCO	**falda S V. Bar**	**3.48**	**104**	*e*P	**Pn**	**23 58 09.5**	**+0.5**
CSGN	**Cosiguina Volc**	**3.73**	**335**	*e*P	**Pn**	**23 58 12.6**	**+0.2**
PBNVO	**Pueblo Nuevo,**	**3.76**	**100**	*e*P	**Pn**	**23 58 12.9**	**+0.2**
RBALA	**Bur**	**3.80**	**100**	*e*P	**Pn**	**23 58 14.1**	**+0.8**
KKNTU	**Kakintº**	**4.15**	**100**	*e*P	**Pn**	**23 58 18.6**	**+0.6**
ATAH	**Atahualpa**	**18.23**	**155**	LR	LR	00 07 22.0	
	comp=Z,47nm,21.4s,baz=288,slow=34						
PCRV	**Puerto La Cruz**	**21.00**	**87**	P	**P**	**00 01 59.3**	**+1.0**
	5.0nm,0.5s,baz=246,slow=8.5,SNR=1.7						
	5.0nm,0.5s						
TXAR	**Lajitas Array**	**25.73**	**322**	P	**P**	**00 02 45.6**	**+0.3**
	1.1nm,0.8s,baz=137,slow=10,SNR=15						
TXAR				PcP	**PcP**	**00 06 15.6**	**+0.2**
	0.4nm,0.8s,baz=126,slow=3.9,SNR=4.0						
	1.1nm,0.8s						
TKL	**Tuckaleechee C**	**26.03**	**4**	LR	LR	00 13 32.0	
	comp=Z,40nm,18.1s,baz=62,slow=38						
NVAR	**Mina Array Bea**	**40.83**	**320**	P	**P**	**00 04 58.2**	**+1.5**
	0.9nm,0.7s,baz=134,slow=7.0,SNR=5.9						
NVAR				PcP	**PcP**	**00 06 58.0**	**+0.4**
	0.1nm,0.3s,baz=177,slow=2.9,SNR=3.6						
	0.9nm,0.7s						
H03N2	**Juan Fernandez**	**43.30**	**171**	T	T	00 51 30.4	
	baz=350						
H03N1	**Juan Fernandez**	**43.30**	**171**	T	T	00 51 30.3	
	baz=350						
H03N3	**Juan Fernandez**	**43.32**	**171**	T	T	00 51 34.7	
	baz=350						
SFJD	**Kangerlussuaq**	**62.07**	**15**	LR	LR	00 34 58.6	
	comp=Z,42nm,18.4s,baz=104,slow=36						
ILAR	**Eielson Array**	**69.23**	**336**	P	**P**	**00 08 20.9**	**-0.3**
	0.7nm,0.9s,baz=104,slow=6.4,SNR=6.1						
	0.7nm,0.9s						
ESDC	**Sonseca Array**	**77.79**	**51**	P	**P**	**00 09 10.3**	**-1.9**
	0.3nm,0.8s,baz=274,slow=6.6,SNR=2.7						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**139.49**	**245**	PKP	**PKPdf**	**00 16 41.2**	**-1.8**
	0.3nm,0.7s,baz=79,slow=2.0,SNR=2.0						

KRSC 04 00:00:06.7±0.9, 55°.97N×164°.15E, h16km±14km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.78**	**288**	*e*P	Pb	00 00 21.2	-0.6
KBTR				*e*S	Sb	00 00 32.0	-0.2
KBG	**Krutoberegovo**	**0.85**	**290**	*e*P	Pb	00 00 22.3	-0.8
KBG				*e*S	Sg	00 00 34.5	-0.1
BKI	**Bering**	**1.29**	**126**	*i* P	Pn	00 00 29.9	-0.1
BKI				*e*S	Sb	00 00 46.7	-0.1
ZLN	**Zelenaya**	**1.88**	**273**	*e*P	Pb	00 00 40.1	-0.6
CIRR	**Tsirk**	**1.91**	**276**	*e*P	Pb	00 00 40.1	-1.1

BZGR	**Bezymyannyi-Gr**	**1.94**	**270**	*eP*		Pn	00 00 39.9	+0.8
MKZ	**Mys Kozlova**	**1.98**	**225**	*eP*		Pb	00 00 41.8	-0.5
MKZ				*eS*		Sb	00 01 07.3	+0.6
KLY	**Klyuchi**	**1.98**	**281**	*eP*		Pn	00 00 39.1	-0.4
KLY				*eS*		Sn	00 01 03.2	-0.8
BZWR	**Bezymyannyi-We**	**2.05**	**271**	*eP*		Pb	00 00 42.5	-1.1
BZMR	**Bezymyannaya**	**2.06**	**270**	*eP*		Pb	00 00 42.2	-1.5
KIRR	**Kirishev**	**2.14**	**271**	*eP*		Pn	00 00 43.1	+1.3
KPT	**Kopyto**	**2.21**	**271**	*eP*		Pb	00 00 45.2	-1.0
KMNR	**Kamenistaya**	**2.21**	**266**	*eP*		Pb	00 00 46.3	-0.1
TUMD	**Tumrok D**	**2.26**	**252**	*eP*		Pb	00 00 46.2	-0.9
KOZ	**Kozyrevsk**	**2.40**	**274**	*eP*		Pn	00 00 47.1	+1.8
SRDR	**Sredinnyy**	**2.50**	**280**	*eP*		Pn	00 00 48.6	+1.9
SRDR				*eS*		Sn	00 01 19.3	+2.4
SPN	**Mys Shipunski**	**3.75**	**222**	*eS*		Sn	00 01 49.2	+1.7
SDLR	**Sedlovina**	**4.08**	**231**	*eP*		Pn	00 01 12.2	+3.8
KRER	**Koryakskii**	**4.12**	**232**	*eP*		Pn	00 01 12.7	+3.6
KRX	**Arik**	**4.13**	**233**	*eP*		Pn	00 01 12.9	+3.7
AVH	**Avacha**	**4.15**	**231**	*eP*		Pn	00 01 13.0	+3.6
UGLR	**Uglovaya**	**4.15**	**230**	*eP*		Pn	00 01 13.1	+3.7
KOK	**Koryaka**	**4.18**	**232**	*eP*		Pn	00 01 14.2	+4.4
GNL	**Ganaly**	**4.25**	**240**	*eP*		Pn	00 01 14.7	+3.9
GRL	**Gorelyy**	**4.94**	**229**	*eP*		Pn	00 01 25.1	+4.8
MTVR	**Mutnovka**	**4.95**	**227**	*eP*		Pn	00 01 24.9	+4.5
ASAK	**Asacha**	**5.14**	**228**	*eP*		Pn	00 01 27.5	+4.6

CATAC 04 00:07:50.3±0.9, 13°N±7°×8°7W±°, h157km±6km, M2.4/8, MLv2.4/8, Error ellipse: s-maj=17.7km s-min=10.3km az=41.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.05**	**328**	P	Pn	00 08 11.5	+0.3
CSGN	**Cosiguina Volc**	**0.08**	**282**	P	Pn	00 08 11.8	+0.5
CRIN	**San Cristobal**	**0.49**	**122**	P	Pn	00 08 12.5	0.0
CHOHN	**Orocuina**	**0.60**	**31**	P	Pn	00 08 13.7	+0.6
CHOHN	**Orocuina**	**0.60**	**31**	S	Sn	00 08 31.3	+0.7
AESN	**El Sauce Leon**	**0.92**	**94**	S	Sn	00 08 34.6	+0.6
MOMN	**Momotombo**	**1.07**	**121**	P	Pn	00 08 16.8	+0.5
MOMN				S	Sn	00 08 37.6	+1.4
YUSH	**Yuscaran**	**1.17**	**32**	P	Pn	00 08 18.5	+1.2
OCON	**Estacion meteo**	**1.18**	**56**	P	Pn	00 08 17.7	+0.3
MATN	**Matagalpa**	**1.52**	**91**	P	Pn	00 08 20.0	-0.6
BOAB	**BOACO BROADBAN**	**.84**	**106**	P	Pn	00 08 24.0	-0.1

*BKK **04** 00:10:31.4±1.2, 25°N±8°×9°4E±°, h28km±10km, M4.2/18, mB4.5/7, mb4.3/14, Mjma3.9/18, ML4.7/14, MLv4.4/15, Mw(mB)3.6/7*
*NDI **04** 00:10:32.9±2.5, 24°.74N×94°.31E, h58km±14km, ML4.0, MW4.0, mb4.0(NEIC)*
*NEIC **04** 00:10:32.3±1.4, 24°.80N±0°.09×94°.3E±0°.1, h49km±10km, mb4.0/4, Error ellipse: s-maj=16.6km s-min=8.6km az=48.0*
*IDC **04** 00:10:35.6±4.0, 24°.47N×94°.31E, h93km±38km, mb3.3/10, mbtmp3.7/11, MS2.5/1, Error ellipse: s-maj=57.9km s-min=17.1km az=60.0*
ISC 04 00:10:32.6±0.8, 24°.70N±0°.04×94°.22E±0°.05, h59km±8km, n45, σ1$52/56, mb3.6/11, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.28**	**297**	*eP*	**Pn**	**00 10 42.9**	**+0.4**
IMP				*eS*	**Sn**	**00 10 50.3**	**+0.6**
IMP				IAML		00 10 53.6	
	comp=N,5μm,0.2s						
IMP				IAML		00 10 53.7	
	comp=E,3μm,0.2s						
KOHI	**KOHIMA**	**1.02**	**354**	*eP*	**Pn**	**00 10 52.4**	**+1.4**
KOHI				*eS*	**Sn**	**00 11 05.7**	**+1.1**
KOHI				IAML		00 11 07.4	
	comp=N,5μm,0.3s						
AZL	**Aizawl**	**1.69**	**236**	*eP*	**Pn**	**00 11 01.2**	**+1.2**
AZL				*eS*	**Sn**	**00 11 22.8**	**+2.1**
AZL				IAML		00 11 24.6	
	comp=N,3μm,0.2s						
JORH	**JORHAT**	**2.03**	**1**	*eP*	**Pn**	**00 11 03.7**	**-0.8**
SHL	**Shillong**	**2.29**	**293**		**Pn**	**00 11 08.4**	**+0.3**
SHL				Sn	**Sn**	**00 11 33.8**	**-1.4**
SHL	**Shillong**	**2.29**	**293**	*eP*	**Pn**	**00 11 08.5**	**+0.5**
SHL				*eS*	**Sn**	**00 11 34.7**	**-0.5**
SHL				IAML		00 11 35.3	
	comp=E,2μm,0.2s						
SHL				IAML		00 11 35.4	
	comp=N,2μm,0.2s						
TEZP	**TEZPUR**	**2.30**	**326**	*eP*	**Pn**	**00 11 07.7**	**-0.4**
TEZP				*eS*	**Sn**	**00 11 33.8**	**-1.4**
TEZP				IAML		00 11 34.6	
	comp=E,928nm,0.2s						
TEZP				IAML		00 11 34.6	
	comp=N,716nm,0.2s						
GUWA	**GUWAHATI**	**2.73**	**304**	*eP*	**Pn**	**00 11 14.1**	**+0.1**
GUWA				*eS*	**Sn**	**00 11 44.1**	**-1.6**
GUWA				IAML		00 11 44.5	
	comp=N,579nm,0.2s						
GUWA				IAML		00 11 44.6	
	comp=E,661nm,0.2s						
AGT	**Agartala**	**2.83**	**254**	*eP*	**Pn**	**00 11 16.8**	**+1.5**
AGT				*eS*	**Sn**	**00 11 49.3**	**+1.0**
AGT				IAML		00 11 52.0	
	comp=E,1μm,0.2s						
AGT				IAML		00 11 52.3	
	comp=N,976nm,0.3s						
LKP	**Lekhapani**	**3.00**	**29**	*eP*	**Pn**	**00 11 17.9**	**+0.2**
LKP				*eS*	**Sn**	**00 11 48.5**	**-4.0**
LKP				IAML		00 11 49.7	
	comp=E,925nm,0.3s						
LKP				IAML		00 11 49.8	
	comp=N,595nm,0.2s						
BRDH	**Bariadhala**	**3.11**	**230**	S	**Sn**	**00 11 56.5**	**+1.5**
	comp=N,190nm,0.3s,baz=38,slow=19,SNR=7.4						
LSA	**Lhasa**	**5.68**	**332**	Pn	Pn	00 11 44.6	-10
LSA				Sn	Sn	00 12 14.6	-44
LSA				smax	smax		
	comp=N,41nm,0.5s						
GTK	**Tadong**	**5.69**	**298**	*eP*	**Pn**	**00 11 54.1**	**-0.6**
GTK				*eS*	**Sn**	**00 12 56.7**	**-2.0**
GTK				IAML		00 13 00.9	
	comp=N,512nm,0.2s						
GTK				IAML		00 13 01.0	
	comp=E,461nm,0.2s						
SHBG	**Sahibganj**	**5.97**	**276**	*eP*	**Pn**	**00 11 58.8**	**+0.5**
SHBG				*eS*	**Sn**	**00 13 02.5**	**-2.8**
SHBG				IAML		00 13 03.5	
	comp=N,507nm,0.2s						
SHBG				IAML		00 13 03.6	
	comp=E,533nm,0.2s						
CMAI	**Chiengmai2**	**6.52**	**136**	P	**Pn**	**00 12 05.3**	**-0.8**
	comp=E,0.6nmcomp=E,0.7nmcomp=E,36nm,0.6s						
PZH	**PanZhiHua**	**7.02**	**74**	Pg	**Pn**	**00 12 16.6**	**+3.7**
PZH				Sg	Sn	00 12 42.2	-49
PZH				smax	smax		
	comp=N,10.0nm,0.8s						
PZH				smax	smax		
	comp=E,10.0nm,0.9s						
CHTO	**Chiang Mai**	**7.32**	**142**		**Pn**	**00 12 16.2**	**-0.7**
CHTO	**Chiang Mai**	**7.32**	**142**	P	**Pn**	**00 12 16.4**	**-0.5**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,0.5nmcomp=E,37nm,0.7s						
EVN	**Everest**	**7.39**	**298**		**Pn**	**00 12 18.4**	**0.0**
CMAR	**Chiang Mai Arr**	**7.61**	**144**		**Pn**	**00 12 19.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**7.61**	**144**	P	**Pn**	**00 12 20.6**	**-0.3**
	comp=E,3.7nm,0.6s,baz=326,slow=14,SNR=19						
CMAR				LR	LR	00 15 20.1	
	comp=E,36nm,18.6s,baz=230,slow=39						
CM13	**Chiang Mai Arr**	**7.62**	**144**	P	**Pn**	**00 12 20.9**	**-0.1**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,117nmcomp=E,12nm,0.7s						
CM02	**Chiang Mai Arr**	**7.63**	**144**	P	**Pn**	**00 12 19.8**	**-1.4**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,130nmcomp=E,11nm,0.9s						
CM09	**Chiang Mai Arr**	**7.65**	**144**	P	**Pn**	**00 12 19.6**	**-1.8**
CM01	**Chiang Mai Arr**	**7.65**	**144**	P	**Pn**	**00 12 21.3**	**-0.1**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,200nmcomp=E,12nm,0.6s						
CM05	**Chiang Mai Arr**	**7.66**	**144**	P	**Pn**	**00 12 21.5**	**0.0**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,9.1nm,0.7s						
BOK	**Bokaro**	**7.66**	**265**	*eP*	**Pn**	**00 12 22.9**	**+1.3**
BOK				*eS*	**Sn**	**00 13 43.0**	**-3.9**
BOK				IAML		00 13 44.4	
	comp=N,123nm,0.3s						
BOK				IAML		00 13 44.5	
	comp=E,153nm,0.3s						
CM04	**Chiang Mai Arr**	**7.68**	**144**	P	**Pn**	**00 12 21.7**	**-0.1**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,184nmcomp=E,14nm,0.6s						
LAMP	**Lampang**	**7.95**	**140**	P	**Pn**	**00 12 25.2**	**-0.3**

SLVN	**Son La**	**9.53**	**109**	Pn	**Pn**	**00 12 46.1**	**-1.1**
NIL	**Nilore**	**20.34**	**301**	P	**P**	**00 15 04.1**	**+0.1**
NIL				IAmb	IAmb	00 15 31.2	
	comp=Z,12nm,1.1s						
KDJ	**Kajisay**	**22.39**	**325**	P	**P**	**00 15 27.0**	**+0.8**
MKAR	**Makanchi Array**	**24.02**	**340**	P	**P**	**00 15 42.2**	**+0.2**
MKAR	**Makanchi Array**	**24.02**	**340**	P	**P**	**00 15 43.9**	**+2.0**
	comp=Z,0.5nm,0.4s,baz=151,slow=10,SNR=6.2 comp=Z,0.5nm,0.4s						
MAKZ	**Makanchi**	**24.14**	**339**	P	**P**	**00 15 43.6**	**+0.7**
SONM	**Songino Array**	**25.02**	**20**	P	**P**	**00 15 52.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=207,slow=9.3,SNR=2.6 comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**30.05**	**349**	P	**P**	**00 16 37.9**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=182,slow=8.5,SNR=2.2 comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**33.51**	**334**	P	**P**	**00 17 08.3**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=162,slow=10,SNR=2.3 comp=Z,0.2nm,0.5s						
AB31	**Akbulak array**	**36.26**	**321**	P	**P**	**00 17 29.5**	**-0.5**
AB31				IAmb	IAmb	00 17 46.9	
	comp=Z,1.9nm,1.2s						
FINES	**FINESS Array B**	**58.19**	**328**	P	**P**	**00 20 21.3**	**+1.1**
	comp=Z,2.3nm,1.0s,baz=96,slow=5.6,SNR=5.1 comp=Z,2.3nm,1.0s						
WRA	**Warramunga Arr**	**59.11**	**135**	P	**P**	**00 20 24.9**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=318,slow=7.0,SNR=1.2 comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**59.66**	**338**	P	**P**	**00 20 31.1**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=96,slow=9.2,SNR=1.7 comp=Z,1.7nm,0.9s						
ASAR	**Alice Springs**	**61.58**	**138**	P	**P**	**00 20 42.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=315,slow=6.4,SNR=4.2 comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**64.23**	**327**	P	**P**	**00 21 01.7**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=73,slow=5.0,SNR=4.5 comp=Z,0.7nm,0.6s						
NOA	**NORSAR Array B**	**65.36**	**328**	P	**P**	**00 21 09.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=97,slow=5.7,SNR=1.7 comp=Z,0.4nm,0.6s						

*IDC **04** 00:11:00.1±3.8, 24°.57N×94°.44E, h88km±37km, mb3.5/10, mbtmp3.9/11, Error ellipse: s-maj=49.1km s-min=16.7km az=60.0*
ISC 04 00:10:59.4±0.8, 24°.55N±0°.10×94°.4E±0°.1, h82km, n12, σ0$42/12, mb3.8/10, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.12**	**234**	S	**Sn**	**00 12 22.4**	**-0.2**
	238nm,0.3s,baz=209,slow=20,SNR=7.6						
CMAR	**Chiang Mai Arr**	**7.41**	**144**	P	**Pn**	**00 12 45.1**	**+0.2**
	4.5nm,0.6s,baz=319,slow=15,SNR=8.1						
MKAR	**Makanchi Array**	**24.21**	**339**	P	**P**	**00 16 08.0**	**-0.3**
	1.9nm,0.5s,baz=152,slow=9.5,SNR=11 1.9nm,0.5s						
SONM	**Songino Array**	**25.12**	**19**	P	**P**	**00 16 17.0**	**+0.3**
	2.6nm,0.6s,baz=209,slow=11,SNR=10 2.6nm,0.6s						
KURBB	**Kurchatov Array**	**28.77**	**339**	P	**P**	**00 16 49.6**	**+0.3**
	0.4nm,0.6s,baz=149,slow=9.5,SNR=4.7 0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**30.22**	**349**	P	**P**	**00 17 02.0**	**0.0**
	1.5nm,0.5s,baz=174,slow=8.0,SNR=7.0 1.5nm,0.5s						
BVAR	**Borovoye Array**	**33.71**	**334**	P	**P**	**00 17 33.2**	**+0.6**
	0.7nm,0.5s,baz=135,slow=11,SNR=5.2 0.7nm,0.5s						
FINES	**FINESS Array B**	**58.39**	**328**	P	**P**	**00 20 46.4**	**+0.4**
	2.7nm,0.9s,baz=101,slow=7.2,SNR=4.8 2.7nm,0.9s						
WRA	**Warramunga Arr**	**58.90**	**135**	P	**P**	**00 20 49.9**	**-0.3**
	0.6nm,0.6s,baz=318,slow=7.9,SNR=2.3 0.6nm,0.6s						
ARCES	**ARCESS Array B**	**59.85**	**338**	P	**P**	**00 20 55.8**	**-0.2**
	1.6nm,0.7s,baz=107,slow=6.0,SNR=4.2 1.6nm,0.7s						
ASAR	**Alice Springs**	**61.38**	**138**	P	**P**	**00 21 07.3**	**+0.2**
	0.4nm,0.6s,baz=319,slow=7.2,SNR=1.9 0.4nm,0.6s						
ILAR	**Eielson Array**	**79.30**	**22**	P	**P**	**00 22 55.0**	**-0.7**
	0.2nm,0.5s,baz=301,slow=6.4,SNR=4.5 0.2nm,0.5s						

*NOU **04** 00:11:02.3, 48°.26S×165°.83E, h0km, mb5.1/33, Off W. Coast of S. Island, N.Z.*
*IDC **04** 00:11:03.6±0.5, 47°.99S×165°.83E, h0km, mb4.7/16, mbtmp4.7/18, ML5.1/2, MS4.4/33, Error ellipse: s-maj=19.3km s-min=14.6km az=75.0*
*MOS **04** 00:11:04.8±1.2, 47°.95S×165°.43E, h10km, mb5.2/15, Error ellipse: s-maj=19.7km s-min=9.4km az=119.3*
*NEIC **04** 00:11:06.8, 47°.90S×165°.58E, h20km*
*NEIC **04** 00:11:06.8, 48°.10S×166°.03E, h20km, Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10¹⁶Nm; Mrr1.06; Mθθ3.77; Mϕϕ-4.83; Mrθ2.50; Mrϕ1.57; Mθϕ3.92; Fault plane solution: M0 6.59000×10¹⁶ NP1: ϕs127.00000°, δ43.76000°, λ8.53000°. NP2: ϕs30.82000°, δ84.12000°, λ133.44000°. Principal axes: T 6.3591, Plg36.0000°, Azm338.0000°; N 0.4370, Plg43.0000°, Azm205.0000°; P -6.7961, Plg26.0000°, Azm88.0000°;*
*NEIC **04** 00:11:07.5, 47°.90S×165°.58E, h18km*
*NEIC **04** 00:11:07.2±1.6, 47°.90S±0°.07×165°.58E±0°.09, h17km±2km, mb5.2/50, Mwr5.0/34, Mww5.1/12, Error ellipse: s-maj=10.5km s-min=9.0km az=166.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.54; Mθθ2.31; Mϕϕ-4.85; Mrθ1.73; Mϕϕ0.15; Mϕr-0.16; Fault plane solution: M0 4.55000×10¹⁶ NP1: ϕs33.28000°, δ57.56000°, λ143.91000°. NP2: ϕs144.63000°, δ60.19000°, λ38.18000°. Principal axes: T 4.1534, Plg47.0000°, Azm0.0000°; N 0.7017, Plg43.0000°, Azm177.0000°; P -4.8551, Plg2.0000°, Azm268.0000°;*
*GCMT **04** 00:11:10.2±0.1, 48°.17S±0°.01×165°.50E±0°.01, h15km±1km, MW5.1/123, Moment Tensor Solution. s73, c101; s123, c187; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.16±.11; Mθθ5.63±.14; Mϕϕ-5.79±.13; Mrθ1.48±.36; Mθϕ0.94±.10; Mϕr-1.72±.40; Best double couple: M0 6.20900×10¹⁶ NP1: ϕs41.00000°, δ69.00000°, λ-178.00000°. NP2: ϕs310.00000°, δ88.00000°, λ-21.00000°. Principal axes: T 6.0260, Plg13.0000°, Azm357.0000°; N 0.3660, Plg69.0000°, Azm126.0000°; P -6.3910, Plg16.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 00:11:04.4±2.1, 47°.92S±0°.05×165°.78E±0°.05, h5km±12km, n343, σ1$45/318, mb5.1/45, MS4.4/32, 5C-3D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.86**	**55**	P	**Pn**	**00 11 38.2**	**+1.3**
APZ				S	**Sn**	**00 12 01.2**	**+0.4**
PYZ	**Puysegur Point**	**1.86**	**20**	Pn	**Pn**	**00 11 37.1**	**+0.1**
PYZ				Sn	**Sn**	**00 12 00.3**	**-0.6**
PYZ	**Puysegur Point**	**1.86**	**20**	P	**Pn**	**00 11 37.3**	**+0.3**
PYZ	**Puysegur Point**	**1.86**	**20**	P	**Pn**	**00 11 37.2**	**+0.3**
PYZ				S	**Sn**	**00 12 00.3**	**-0.6**
PYZ				T	T	00 13 38.3	
RRKS	**Rarakau**	**2.12**	**34**	P	**Pn**	**00 11 42.2**	**+1.7**
RRKS				S	**Sn**	**00 12 08.9**	**+1.7**
ORPS	**Orepuki**	**2.12**	**40**	P	**Pn**	**00 11 42.0**	**+1.4**
ORPS				S	**Sn**	**00 12 08.3**	**+1.0**
WHZ	**Wether Hill Ro**	**2.52**	**37**	Pn	**Pn**	**00 11 47.8**	**+1.7**
WHZ				Sn	**Sn**	**00 12 18.1**	**+1.1**
WHZ	**Wether Hill Ro**	**2.52**	**37**	P	**Pn**	**00 11 47.7**	**+1.7**
WHZ				S	**Sn**	**00 12 17.3**	**+0.2**
DCZ	**Deep Cove**	**2.63**	**22**	P	**Pn**	**00 11 48.0**	**+0.4**
SYZ	**Scrubby Hill**	**2.68**	**60**	P	**Pn**	**00 11 49.8**	**+1.6**
SYZ	**Scrubby Hill**	**2.68**	**60**	P	**Pn**	**00 11 49.8**	**+1.6**
SYZ				S	**Sn**	**00 12 21.3**	**+0.3**
MOSS	**Mossburn Schoo**	**2.82**	**38**	P	**Pn**	**00 11 52.6**	**+2.5**
MLZ	**Mavora Lakes**	**3.02**	**33**	P	**Pn**	**00 11 55.2**	**+2.2**
MLZ				S	**Sn**	**00 12 31.5**	**+1.9**
BDCS	**Balclutha Dist**	**3.17**	**60**	P	**Pn**	**00 11 57.1**	**+2.2**
TUZ	**Tuapeka**	**3.29**	**55**	P	**Pn**	**00 11 58.2**	**+1.6**
TUZ				S	**Sn**	**00 12 36.8**	**+0.6**
MSZ	**Milford Sound**	**3.57**	**25**	P	**Pn**	**00 12 03.0**	**+2.5**
EAZ	**Earnscleugh**	**3.63**	**43**	P	**Pn**	**00 12 02.5**	**+1.2**
EAZ				S	**Sn**	**00 12 45.6**	**+1.1**

WKZ	**Wanaka**	**3.82**	**37**	P	**Pn**	**00 12 06.2**	**+2.2**
WKZ				S	**Sn**	**00 12 50.7**	**+1.5**
HHSZ	**Highcliff Hill**	**3.88**	**60**	P	**Pn**	**00 12 06.8**	**+2.1**
JCZ	**Jackson Bay**	**4.38**	**30**	P	**Pn**	**00 12 15.2**	**+3.5**
JCZ	**Jackson Bay**	**4.38**	**30**	P	**Pn**	**00 12 14.8**	**+3.1**
ODZ	**Otahua Downs**	**4.42**	**51**	Pn	**Pn**	**00 12 12.4**	**+0.2**
ODZ	**Otahua Downs**	**4.42**	**51**	P	**Pn**	**00 12 12.5**	**+0.2**
ODZ	**Otahua Downs**	**4.42**	**51**	P	**Pn**	**00 12 12.4**	**+0.2**
ODZ				S	**Sn**	**00 13 03.2**	**-0.9**
LBZ	**Lake Benmore**	**4.68**	**43**	P	**Pn**	**00 12 15.3**	**-0.4**
TMZ	**Timaru**	**5.07**	**48**	P	**Pn**	**00 12 20.6**	**-0.5**
FOZ	**Fox Glacier**	**5.22**	**34**	P	**Pn**	**00 12 24.9**	**+1.7**
ARCZ	**Arundel**	**5.47**	**45**	P	**Pn**	**00 12 25.7**	**-0.9**
RPZ	**Rata Peaks**	**5.59**	**43**	Pn	**Pn**	**00 12 27.2**	**-1.1**
	86nm,0.3s,baz=203,slow=5.5,SNR=71						
RPZ				Sn	**Sn**	**00 13 29.2**	**-3.8**
	47nm,0.3s,baz=353,slow=23,SNR=3.9 148nm,0.3s						
RPZ	**Rata Peaks**	**5.59**	**43**	P	**Pn**	**00 12 27.0**	**-1.3**
RPZ	**Rata Peaks**	**5.59**	**43**	P	**Pn**	**00 12 27.3**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**5.60**	**36**	P	**Pn**	**00 12 29.4**	**+1.0**
WACZ	**Wakanui South**	**5.80**	**49**	P	**Pn**	**00 12 30.9**	**-0.2**
WVZ	**Waitaha Valley**	**5.97**	**38**	P	**Pn**	**00 12 33.6**	**+0.2**
MHCZ	**Mount Hutt**	**5.97**	**45**	P	**Pn**	**00 12 32.7**	**-0.8**
RACZ	**Rakaia**	**6.11**	**49**	P	**Pn**	**00 12 35.4**	**0.0**
OXZ	**Oxford**	**6.35**	**46**	P	**Pn**	**00 12 37.8**	**-0.9**
MQZ	**McQueen's Vall**	**6.39**	**51**	P	**Pn**	**00 12 39.1**	**-0.1**
AKCZ	**Akaroa Harbour**	**6.42**	**53**	P	**Pn**	**00 12 40.4**	**+0.8**
INZ	**Inchbonnie**	**6.55**	**40**	P	**Pn**	**00 12 41.3**	**-0.2**
OKCZ	**Okains Bay**	**6.59**	**53**	P	**Pn**	**00 12 45.0**	**+3.0**
AMCZ	**Amberley**	**6.77**	**48**	P	**Pn**	**00 12 44.4**	**+0.1**
LTZ	**Lake Taylor**	**6.88**	**44**	P	**Pn**	**00 12 44.6**	**-1.3**
GVZ	**Greta Valley S**	**7.11**	**49**	P	**Pn**	**00 12 49.0**	**-0.2**
DSZ	**Denniston Nort**	**7.51**	**37**	P	**Pn**	**00 12 54.0**	**-0.7**
KHZ	**Kahutara**	**7.77**	**48**	P	**Pn**	**00 12 57.7**	**-0.4**
KHZ	**Kahutara**	**7.77**	**48**	P	**Pn**	**00 12 58.1**	**0.0**
THZ	**Tophouse**	**7.97**	**42**	P	**Pn**	**00 13 00.9**	**0.0**
MRNZ	**Matariki Terra**	**8.20**	**40**	P	**Pn**	**00 13 04.0**	**0.0**
BSWZ	**Blackbirch Sta**	**8.46**	**46**	P	**Pn**	**00 13 07.1**	**-0.5**
QRZ	**Quartz Range**	**8.58**	**37**	P	**Pn**	**00 13 09.0**	**-0.3**
QRZ	**Quartz Range**	**8.58**	**37**	P	**Pn**	**00 13 10.0**	**+0.8**
TKNZ	**Takaka Hill**	**8.59**	**39**	P	**Pn**	**00 13 09.7**	**+0.3**
CMWZ	**Cape Campbell**	**8.60**	**47**	P	Pn	00 13 15.3	±5.8
NNZ	**Nelson**	**8.62**	**42**	P	**Pn**	**00 13 09.8**	**+0.1**
TUWZ	**Tuamarina**	**8.71**	**45**	P	**Pn**	**00 13 12.1**	**+1.0**
TCW	**Tory Channel**	**9.04**	**45**	P	**Pn**	**00 13 17.2**	**+1.7**
SNZO	**South Karori**	**9.17**	**47**		**Pn**	**00 13 17.7**	**+0.4**
SNZO	**South Karori**	**9.17**	**47**	P	**Pn**	**00 13 18.4**	**+1.1**
BHW	**Baring Head**	**9.18**	**48**	P	**Pn**	**00 13 21.0**	**+3.5**
DUWZ	**D'Urville Isla**	**9.20**	**42**	P	**Pn**	**00 13 20.7**	**+2.9**
PLWZ	**Palliser**	**9.26**	**50**	P	**Pn**	**00 13 19.4**	**+0.8**
MSWZ	**Moikau Station**	**9.37**	**50**	P	**Pn**	**00 13 19.8**	**-0.2**
PAWZ	**Paruwai Farm**	**9.48**	**50**	P	**Pn**	**00 13 21.3**	**-0.4**
CAWZ	**Cannon Point**	**9.50**	**48**	P	**Pn**	**00 13 22.7**	**+0.7**
TRWZ	**Traveller**	**9.61**	**51**	P	**Pn**	**00 13 25.8**	**+2.5**
KIW	**Kapiti Island**	**9.62**	**46**	P	**Pn**	**00 13 24.2**	**+0.8**
MTW	**Mount Morrison**	**9.69**	**49**	P	**Pn**	**00 13 26.6**	**+2.1**
OGWZ	**Otaki Gorge**	**9.78**	**47**	P	**Pn**	**00 13 25.7**	**+0.1**
MRZ	**Mangatainoka R**	**10.10**	**48**	P	**Pn**	**00 13 29.0**	**-1.0**
BFZ	**Birch Farm**	**10.42**	**50**	P	**Pn**	**00 13 35.1**	**+0.7**
KHEZ	**Kahui Hut**	**10.48**	**38**	P	**Pn**	**00 13 37.1**	**+1.7**
HIZ	**Hauiti**	**11.49**	**38**	Pn	**Pn**	**00 13 49.3**	**+0.1**
HIZ	**Hauiti**	**11.49**	**38**	P	**Pn**	**00 13 50.3**	**+1.2**
BKZ	**Black Stump Fm**	**11.70**	**45**	P	**Pn**	**00 13 54.9**	**+2.9**
URZ	**Urewera**	**12.71**	**45**	Pn	**Pn**	**00 14 04.3**	**-1.4**
	5.7nm,0.3s,baz=237,slow=7.9,SNR=26						
URZ				Sn	**Sn**	**00 16 18.9**	**-8.7**
	2.3nm,0.3s,baz=82,slow=18,SNR=3.9						
URZ				LR	LR	00 19 36.8	
	comp=Z,5μm,20.6s,baz=228,slow=40 8.2nm,0.3s						
URZ	**Urewera**	**12.71**	**45**	P	**Pn**	**00 14 06.9**	**+1.2**
CTZ	**Chatham Island**	**12.97**	**78**	Pn	**Pn**	**00 14 09.8**	**+0.5**
CTZ	**Chatham Island**	**12.97**	**78**	P	**Pn**	**00 14 09.4**	**+0.1**
KUZ	**Kuaotunu**	**13.36**	**37**	P	**Pn**	**00 14 17.4**	**+2.8**
TAU	**Tasm

comp=Z,111nm,0.6s
WR0 Warramunga Arr 37.62 307 P **P** **00 18 19.0 -1.2**
WR0 IAmb IAmb 00 18 20.8
comp=Z,52nm,1.6s
WRA Warramunga Arr 37.74 307 **P** **00 18 20.1 -1.1**
WRA Warramunga Arr 37.74 307 P **P** **00 18 20.5 -0.7**
comp=Z,8.5nm,0.7s,baz=140,slow=8.0,SNR=55
WRA PcP **PcP** **00 20 37.6 -0.6**
comp=Z,4.6nm,1.0s,baz=148,slow=2.9,SNR=6.6
comp=Z,8.5nm,0.7s
WRA Warramunga Arr 37.74 307 *e*P **P** **00 18 20.8 -0.4**
WRA pmax pmax
comp=Z,9.0nm,0.6s
WRAB Tennant Creek 37.74 307 *i* P **P** **00 18 20.3 -0.9**
WRAB pmax pmax
comp=Z,14nm,1.0s
WB0 Warramunga Arr 37.85 307 P **P** **00 18 21.4 -0.8**
RAR Rarotonga 38.40 58 LR LR 00 34 00.9
comp=Z,428nm,18.0s,baz=226,slow=36
HNR Honiara 38.68 351 LR LR 00 32 15.8
comp=Z,1μm,20.6s,baz=168,slow=33
COEN Coen 38.72 323 P **P** **00 18 29.6 +0.1**
NWAO Narrogin (SRO) 39.21 274 P **P** **00 18 32.5 -1.0**
NWAO IAmb IAmb 00 18 43.6
comp=Z,170nm,1.9s
NWAO Narrogin (SRO) 39.21 274 LR LR 00 31 27.7
comp=Z,130nm,20.3s,baz=100,slow=31
NWAO Narrogin (SRO) 39.21 274 P **P** **00 18 32.5 -1.0**
NWAO pmax pmax
comp=Z,171nm,2.0s
H01W1 Cape Leeuwin H 40.12 270 T T 01 01 01.7
baz=124,slow=75,SNR=193
H01W2 Cape Leeuwin H 40.13 269 T T 01 01 18.7
baz=124,slow=75,SNR=148
H01W3 Cape Leeuwin H 40.14 270 T T 01 01 02.9
baz=124,slow=75,SNR=161
PMG Port Moresby 41.49 332 P **P** **00 18 55.6 +3.2**
comp=Z,28nm,0.8s,baz=187,slow=8.5,SNR=4.6
PMG LR LR 00 34 33.6
comp=Z,590nm,18.3s,baz=153,slow=34
PMG Port Moresby 41.49 332 *i* P **P** **00 18 51.6 -0.8**
PMG pmax pmax
comp=Z,27nm,0.8s
QSPA South Pole Qui 42.20 180 P **P** **00 18 58.2 +0.2**
QSPA IAmb IAmb 00 19 08.0
comp=Z,63nm,0.9s
QSPA South Pole Qui 42.20 180 P **P** **00 18 58.0 0.0**
comp=Z,6.5nm,0.9s,baz=350,slow=1.2,SNR=9.7
QSPA LR LR 00 33 42.4
comp=Z,493nm,18.6s,baz=29,slow=32
comp=Z,6.5nm,0.9s
MORW Morawa 42.42 278 P **P** **00 18 59.3 -0.6**
MORW Morawa 42.42 278 P **P** **00 18 58.9 -1.1**
TBI Tubuai 43.07 71 *e*P **P** **00 19 01.3 -4.0**
comp=Z,420nm,31.2s
TBI *e*S **S** **00 25 32.8 +1.2**
comp=Z,1μm,28.5s
TBI *e*SS **SS** **00 28 40.7 -2.9**
comp=Z,4μm,31.2s
TBI *e*LR LR 00 30 59.0
comp=Z,2μm,23.5s
TBI *e*LR LR 00 30 59.7
comp=Z,1μm,26.8s
FITZ Fitzroy Crossi 44.15 298 P **P** **00 19 14.2 +0.2**
comp=Z,6.8nm,0.6s,baz=159,slow=7.8,SNR=23
FITZ LR LR 00 37 36.0
comp=Z,772nm,18.0s,baz=146,slow=36
comp=Z,6.8nm,0.6s
KNRA Kununurra 44.27 304 P **P** **00 19 14.3 -0.7**
KNRA IAmb IAmb 00 20 06.2
comp=Z,39nm,1.4s
PSA00 Pilbara Seismi 45.09 289 P **P** **00 19 20.5 -1.1**
PSA00 IAmb IAmb 00 19 36.4
comp=Z,38nm,1.1s
PSA00 Pilbara Seismi 45.09 289 P **P** **00 19 20.8 -0.8**
PSA00 IAmb IAmb 00 19 36.4
comp=Z,20nm,1.1s
MTN Manton Dam 45.32 309 P **P** **00 19 22.8 -0.6**
MTN IAmb IAmb 00 19 24.1
comp=Z,29nm,0.8s
MBWA Marble Bar 45.47 290 P **P** **00 19 23.6 -1.0**
MBWA IAmb IAmb 00 19 39.4
comp=Z,27nm,1.0s
PPT2 Papeete2 47.26 66 *e*P **P** **00 19 35.9 -2.8**
comp=Z,64nm,23.5s
PPT2 Papeete2 47.26 66 *e*PP PP 00 21 20.8 -8.8
comp=Z,45nm,23.2s
PPT2 *e*S **S** **00 26 31.5 -1.0**
comp=Z,319nm,28.2s
PPT2 *e*SS **SS** **00 29 59.9 +0.2**
comp=Z,242nm,25.5s
PPT2 *e*LR LR 00 32 55.8
comp=Z,792nm,23.0s
PPT2 *e*LR LR 00 32 57.6
comp=Z,650nm,23.8s
PPT Papeete 47.27 66 P **P** **00 19 39.3 +0.6**
comp=Z,18nm,0.6s,baz=254,slow=18,SNR=2.5
PPT LR LR 00 37 08.1
comp=Z,544nm,18.8s,baz=226,slow=33
comp=Z,18nm,0.6s
GIRL Giralia 47.95 283 P **P** **00 19 43.9 -0.1**
JAY Jayapura 50.14 327 P **P** **00 20 01.8 +1.0**
comp=Z,17nm,1.0s,baz=154,slow=2.3,SNR=6.9
JAY LR LR 00 41 14.9
comp=Z,608nm,18.5s,baz=200,slow=36
comp=Z,17nm,1.0s
JAY Jayapura 50.14 327 P **P** **00 20 01.9 +1.1**
MAW Mawson 51.25 209 P **P** **00 20 06.7 -1.8**
comp=Z,5.3nm,0.9s,baz=93,slow=10,SNR=6.6
MAW LR LR 00 39 54.1
comp=Z,850nm,19.6s,baz=114,slow=34
comp=Z,5.3nm,0.9s
BATI Baumata 51.58 303 LR LR 00 40 21.8
comp=Z,439nm,21.1s,baz=176,slow=34
FAKI Fak Fak 53.31 317 P **P** **00 20 23.8 -0.7**
SYO Syowa Base 56.83 200 ‖ *i*P **P** **00 20 47.6 -1.6**
SYO Syowa Base 56.83 200 ‖ *e*pP pP 00 20 51.8 +2.0
SYO Syowa Base 56.83 200 ‖ *e*sP sP 00 20 54.9 +4.8
KAPI Kappang 58.03 302 P **P** **00 20 59.3 +0.9**
comp=Z,14nm,0.9s,baz=135,slow=1.4,SNR=2.5
KAPI LR LR 00 46 20.0
comp=Z,261nm,18.6s,baz=136,slow=36
comp=Z,14nm,0.9s
TROLL Troll, Antarti 59.79 186 ⇑P **P** **00 21 13.7 +3.7**
comp=Z,492nm,0.7s
TAOE Nuku Hiva Isla 59.79 68 *e*S **S** **00 29 27.7 +5.0**
comp=Z,196nm,29.9s
TAOE *e*SS **SS** **00 33 16.4 -2.3**
comp=Z,246nm,27.3s
TAOE *e*LR LR 00 38 45.8
comp=Z,664nm,22.8s
SNAA Sanae 60.44 184 ⇑P **P** **00 21 13.1 -1.4**
comp=Z,358nm,0.8s
SNAA Sanae 60.44 184 P **P** **00 21 15.6 +1.1**
SNAA IAmb IAmb 00 21 22.9
comp=Z,34nm,1.1s
SNAA Sanae 60.44 184 P **P** **00 21 13.0 -1.4**
comp=Z,2.7nm,0.7s,baz=166,slow=12,SNR=4.3
SNAA LR LR 00 46 57.6
comp=Z,455nm,18.0s,baz=104,slow=36
comp=Z,2.7nm,0.7s
SNAA Sanae 60.44 184 *i* P **P** **00 21 17.2 +2.7**
SNAA pmax pmax
comp=Z,39nm,1.2s
VNA3 Neumayer Olymp 61.10 182 ⇑P **P** **00 21 17.9 -1.0**
comp=Z,5.2nm,0.8s
PMSA Palmer Station 61.14 158 LR LR 00 42 25.9
comp=Z,309nm,21.8s,baz=248,slow=31
VNA1 Neumayer--Stat 61.66 182 ⇑P **P** **00 21 21.5 -1.1**
comp=Z,34nm,1.0s
TOLI2 Tolitoli 62.53 307 P **P** **00 21 28.1 -1.0**
TOLI2 IAmb IAmb 00 21 30.6
comp=Z,14nm,0.7s
LEM Lembang 63.91 290 LR LR 00 50 25.9
comp=Z,85nm,18.2s,baz=210,slow=37
DAV Davao City (W) 65.20 315 LR LR 00 51 17.6
comp=Z,171nm,18.5s,baz=177,slow=37
SBUM Sibu 68.42 300 P **P** **00 22 06.2 -1.1**
H04S1 CROZET ISLANDS 69.43 222 T T 01 38 38.1
baz=139,slow=75,SNR=92
H04S2 CROZET ISLANDS 69.43 222 T T 01 38 36.9
baz=139,slow=75,SNR=62
H04S3 CROZET ISLANDS 69.45 222 T T 01 38 36.7
baz=139,slow=75,SNR=82
LL02 Futaleuf 76.04 140 P **P** **00 22 54.4 +1.8**
LL02 IAmb IAmb 00 23 03.1
comp=Z,33nm,1.1s
GSI Gunungsitoli 76.53 287 P **00 22 56.0 +0.3**
GSI IAmb IAmb 00 23 10.5
comp=Z,29nm,1.1s
PSI Prapat 76.81 289 LR LR 00 57 40.1
comp=Z,145nm,18.1s,baz=120,slow=36
LR05 Currie 78.38 139 **P** **00 23 07.2 +1.5**
LR05 IAmb IAmb 00 23 16.1
comp=Z,36nm,1.1s
PLCA Paso Flores 78.60 140 P **P** **00 23 08.6 +1.5**
PLCA IAmb IAmb 00 23 17.5
comp=Z,20nm,1.1s
PLCA Paso Flores 78.60 140 LR LR 00 49 10.4
comp=Z,155nm,19.7s,baz=214,slow=29
PLCA Paso Flores 78.60 140 P **P** **00 23 08.6 +1.5**
PLCA pmax pmax
comp=Z,19nm,1.1s
H03S2 Juan Fernandez 80.16 130 T T 01 50 58.1
baz=217,slow=74,SNR=24
H03S1 Juan Fernandez 80.17 130 T T 01 50 59.0
baz=217,slow=74,SNR=21
H03S3 Juan Fernandez 80.18 130 T T 01 50 56.0
baz=217,slow=74,SNR=23
H03N3 Juan Fernandez 80.46 130 T T 01 51 15.1
baz=220,slow=72,SNR=44
H03N2 Juan Fernandez 80.47 130 T T 01 51 15.1
baz=220,slow=72,SNR=40
H03N1 Juan Fernandez 80.48 130 T T 01 51 14.0
baz=220,slow=72,SNR=41
JOW Kunigami 81.69 327 LR LR 00 57 11.3
comp=Z,141nm,21.4s,baz=162,slow=34
BO02 Sierra Bellavi 83.38 136 P **P** **00 23 33.0 +0.3**
MT01 Popeta 83.92 135 P **P** **00 23 37.7 +2.2**
TRQA Tornquist 84.42 144 P **P** **00 23 39.4 +1.5**
TRQA IAmb IAmb 00 23 47.1
comp=Z,41nm,1.4s
TRQA Tornquist 84.42 144 P **P** **00 23 39.4 +1.5**
TRQA pmax pmax
comp=Z,41nm,1.4s
JMN Monobe 86.16 334 **P** **00 23 46.5 +0.2**
JNU Nakatsue 86.53 331 **P** **00 23 48.7 +0.6**
JNU IAmb IAmb 00 23 50.4
comp=Z,24nm,1.1s
JNU Nakatsue 86.53 331 P **P** **00 23 49.3 +1.2**
comp=Z,13nm,0.9s,baz=87,slow=3.9,SNR=6.5
JNU LR LR 00 59 58.9
comp=Z,67nm,19.1s,baz=186,slow=34
comp=Z,13nm,0.9s
H08S2 Diego Garcia H 86.58 262 T T 01 58 44.2
baz=138,slow=76,SNR=1609
H08S1 Diego Garcia H 86.59 262 T T 01 58 45.1
baz=138,slow=76,SNR=1052
H08S3 Diego Garcia H 86.60 262 T T 01 58 45.7
baz=138,slow=76,SNR=1647
INU Inuyama 86.80 337 **P** **00 23 50.1 +0.7**
INU IAmb IAmb 00 23 52.2
comp=Z,24nm,1.2s
JGF Kuroka 86.95 337 P **P** **00 23 50.8 +0.6**
JGF IAmb IAmb 00 23 52.6
comp=Z,16nm,1.3s
MJA0 Matsu Arr-Jizo 87.61 338 *e*P **P** **00 23 54.7 +1.4**
MJA0 pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 87.62 338 P **P** **00 23 53.9 +0.5**
MJAR IAmb IAmb 00 23 55.7
comp=Z,17nm,1.6s
MJAR Matsushiro Arr 87.62 338 P **P** **00 23 53.8 +0.5**
comp=Z,2.6nm,0.9s,baz=168,slow=6.1,SNR=11
comp=Z,2.6nm,0.9s
MJAR Matsushiro Arr 87.62 338 P **P** **00 23 53.9 +0.5**
MJAR pmax pmax
comp=Z,17nm,1.7s
MAJO Matsushiro 87.62 338 P **P** **00 23 53.8 +0.5**
MAJO IAmb IAmb 00 23 55.9
comp=Z,37nm,1.8s
MAJO Matsushiro 87.62 338 *i* P **P** **00 23 54.7 +1.3**
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MJB9 Matsu-Tunnel 87.63 338 P **P** **00 23 53.4 0.0**
MJB9 IAmb IAmb 00 23 55.8
comp=Z,38nm,1.8s
CMAR Chiang Mai Arr 88.95 299 **P** **00 23 59.9 -0.2**
CMAR Chiang Mai Arr 88.95 299 P **P** **00 24 00.8 +0.8**
comp=Z,2.7nm,0.8s,baz=162,slow=3.5,SNR=15
comp=Z,2.7nm,0.8s
CMAR Chiang Mai Arr 88.95 299 *e*P **P** **00 24 01.3 +1.2**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
NJ2 Nanjing 90.04 322 *e*P **P** **00 24 06.9 +2.1**
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 90.71 318 P **P** **00 24 10.0 +2.0**
WHN pmax pmax
comp=Z,44nm,0.8s
JTM Tenmabayashi 91.01 341 **P** **00 24 09.2 +0.1**
KSRS Korea Array 91.46 331 P **P** **00 24 12.6 +1.3**
comp=Z,5.5nm,0.9s,baz=144,slow=5.7,SNR=28
comp=Z,5.5nm,0.9s
KSRS Korea Array 91.46 331 *e*P **P** **00 24 13.6 +2.3**
KSRS pmax pmax
comp=Z,6.0nm,0.9s
KSAR Wonju Array Be 91.46 331 **P** **00 24 12.5 +1.2**
KSAR Wonju Array Be 91.46 331 P **P** **00 24 12.5 +1.2**
KS19 Wonju Array Si 91.52 331 P **P** **00 24 12.5 +0.9**
KS19 IAmb IAmb 00 24 13.8
comp=Z,11nm,1.1s
INCN Inchon 91.92 330 P **P** **00 24 14.5 +1.0**
INCN Inchon 91.92 330 P **P** **00 24 14.5 +1.0**
INCN pmax pmax
comp=Z,15nm,0.6s
PALK Pallekele 92.05 278 LR LR 01 03 37.3
comp=Z,108nm,18.3s,baz=86,slow=34
ASAJ Asahikawa 93.90 343 LR LR 01 01 42.9
comp=Z,225nm,21.6s,baz=162,slow=32
OPO Ambohidratompo 94.08 237 LR LR 00 59 03.2
comp=Z,145nm,18.1s,baz=8.0,slow=31
MSHR Mys Shultsa 95.17 335 *i* P **P** **00 24 27.6 -0.6**
MSHR pmax pmax
comp=Z,8.0nm,0.9s
BOSA Boshof 95.97 214 P **P** **00 24 32.9 +0.2**
comp=Z,1.0nm,0.7s,baz=135,slow=4.3,SNR=1.3
BOSA LR LR 01 01 08.2
comp=Z,242nm,20.3s,baz=166,slow=31
comp=Z,1.0nm,0.7s
XAN Xi'an 96.14 316 P **P** **00 24 33.4 +0.4**
XAN pmax pmax
comp=Z,12nm,0.9s
CPUP Villa Florida 96.56 142 LR LR 00 58 49.7
comp=Z,32nm,20.8s,baz=64,slow=30
NNA Nana 98.62 119 LR LR 00 59 38.0
comp=Z,115nm,20.2s,baz=204,slow=30
LBTB Lobatse 99.06 216 LR LR 01 03 07.2
comp=Z,153nm,20.3s,baz=159,slow=32
LPAZ La Paz 100.04 128 LR LR 01 01 09.3
comp=Z,90nm,19.0s,baz=210,slow=30
LZH Lanzhou 100.23 313 *e*P **Pdif** **00 24 49.1 -2.4**
LZH pP pP 00 24 55.7 +3.5
LZH pmax pmax
comp=Z,21nm,1.3s
HHC Hu-ho-hao-te 100.59 321 *e*P **Pdif** **00 24 55.7 +2.8**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.1s
WMQ Urumqi 114.21 309 *e*PKP **PKiKP** **00 29 47.0 +2.6**
BILL Bilibino 115.64 0 *i* PKIKP **PKiKP** **00 29 48.3 +2.0**
BILL pmax pmax
comp=Z,2.0nm,1.0s
PDAR Pinedale Array 117.04 55 PKP **PKPdf** **00 29 49.9 -0.1**
comp=Z,0.3nm,0.6s,baz=219,slow=5.1,SNR=1.4
ILAR Eielson Array 118.24 21 PKP **PKPdf** **00 29 51.0 -0.3**
comp=Z,1.5nm,0.9s,baz=262,slow=3.8,SNR=11
ILAR PKKPab **PKKPbc** **00 40 11.6 +1.2**
comp=Z,0.4nm,0.8s,baz=18,slow=3.1,SNR=4.5
MKAR Makanchi Array 119.03 309 **PKPdf** **00 29 52.3 -1.2**
MKAR Makanchi Array 119.03 309 PKP **PKPdf** **00 29 52.6 -0.9**
comp=Z,0.5nm,0.6s,baz=106,slow=3.9,SNR=6.2
L29M L29M 119.24 26 **PKiKP** **00 29 53.7 +0.2**
MMPY Sheldon Lake, 120.98 29 **PKPdf** **00 29 56.6 -0.1**
ZALV Zalesovo Beam 122.30 316 PKP **PKPdf** **00 29 57.8 -1.7**
comp=Z,0.8nm,0.5s,baz=154,slow=2.5,SNR=4.8
ZALV Zalesovo Beam 122.30 316 *e*PKIKP **PKPdf** **00 29 58.3 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 123.30 299 **PKPdf** **00 30 00.8 -1.0**
KKAR Karatay Array 123.30 299 PKIKP **PKPdf** **00 30 00.8 -1.0**
KURBB Kurchatov Arra 123.36 310 PKP **PKPdf** **00 30 01.0 -0.6**
comp=Z,1.8nm,0.7s,baz=117,slow=1.7,SNR=22
KURK Kurchatov 123.37 311 **PKPdf** **00 30 00.9 -0.7**
KURK Kurchatov 123.37 311 *i* PKIKP **PKPdf** **00 30 01.1 -0.5**
ECSD EROS Data Cent 125.05 61 **PKPdf** **00 30 04.7 -0.4**
WCI Wyandotte Cave 128.25 73 PKPdf **PKPdf** **00 30 11.2 -0.2**
WCI Wyandotte Cave 128.25 73 PKIKP **PKPdf** **00 30 11.2 -0.2**
BVAR Borovoye Array 128.89 309 PKP **PKPdf** **00 30 12.0 -0.1**
comp=Z,1.2nm,0.7s,baz=116,slow=3.4,SNR=7.8
BRVK Borovoye 128.97 309 **PKPdf** **00 30 12.4 +0.1**
BRVK Borovoye 128.97 309 PKIKP **PKPdf** **00 30 12.4 +0.1**
O48B Farmland 130.13 71 **PKPdf** **00 30 15.0 0.0**
Q51A Peebles 130.60 73 **PKPdf** **00 30 15.9 +0.1**
ARTI Arti 136.62 309 *i* PKIKP **PKPdf** **00 30 22.6 -4.0**
KBZ Khabaz 140.75 286 PKP **PKPdf** **00 30 33.4 -1.2**
comp=Z,2.5nm,1.1s,baz=45,slow=4.3,SNR=3.0
KBZ Khabaz 140.75 286 *i* PKIKP **PKPdf** **00 30 33.7 -0.8**
KIV Kislovodsk 140.99 286 *i* PKIKP **PKiKP** **00 30 36.9 -0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
BELG Belogornoye 141.19 300 *i* PKIKP **PKPdf** **00 30 36.3 +1.3**
TORD Torodi Ar. Bea 142.88 206 PKhKP PKPpre 00 30 33.4
comp=Z,1.4nm,0.4s,baz=139,slow=1.6,SNR=1.5
TULEG Thule 144.16 19 *i* P **PKPab** **00 30 37.2 -0.3**
VRH Novokhopyorsk 144.31 297 *e*PKIKP **PKPab** **00 30 37.4 -1.2**
VRH pmax pmax
comp=Z,10.0nm,1.1s
BR131 Keskin Array S 144.99 275 PKPbc 00 30 41.2 -0.6
BR131 Keskin Array S 144.99 275 PKIKP PKPbc 00 30 41.2 -0.6
BRTR Keskin Array B 144.99 275 PKPbc 00 30 40.7 -1.1
BRTR Keskin Array B 144.99 275 PKPbc PKPbc 00 30 41.1 -0.7
comp=Z,11nm,0.9s,baz=139,slow=4.3,SNR=27
BRTR Keskin Array B 144.99 275 *e*PKIKP PKPbc 00 30 41.4 -0.4
BRTR pmax pmax
comp=Z,11nm,0.9s
ICQ Pointe Anglais 145.56 67 **PKPbc** **00 30 43.0 -0.1**
ANTO Ankara 145.63 274 PKPdf **PKPbc** **00 30 43.8 +0.1**
ANTO Ankara 145.63 274 PKIKP **PKPbc** **00 30 43.8 +0.1**
VORD Divnogorie 145.71 296 *e*PKIKP **PKPdf** **00 30 42.3 -0.7**
VORD pmax pmax
comp=Z,40nm,1.0s
VSR Storozhevoye 145.85 296 *e*PKP2 **PKPdf** **00 30 42.4 -0.9**
VSR pmax pmax
comp=Z,40nm,1.0s
LMN Caledonia Moun 145.87 74 **PKPbc** **00 30 44.1 -0.1**
NOR Nord 146.18 1 *i* P **PKPbc** **00 30 44.3 +0.1**
NOR IAmb IAmb 00 30 45.2
comp=Z,21nm,1.2s
LPSR Galich'ya Gora 146.35 298 *e*PKIKP **PKPdf** **00 30 43.1 -1.0**
LPSR pmax pmax
comp=Z,30nm,1.0s
NEEM North Greenlan 147.12 14 *i* P **PKPdf** **00 30 45.9 +0.8**
NEEM IAmb IAmb 00 30 48.2
comp=Z,39nm,0.9s
SCHQ Schefferville 147.13 58 **PKPbc** **00 30 47.8 +0.2**
SCHQ Schefferville 147.13 58 PKPbc **PKPbc** **00 30 46.8 -0.8**
comp=Z,11nm,1.0s,baz=309,slow=1.7,SNR=6.2
KLMR Klimovskoe 147.14 313 *e*PKIKP **PKPdf** **00 30 45.2 0.0**
KLMR pmax pmax
comp=Z,90nm,1.2s
SPITS Spitsbergen Ar 147.51 349 PKPbc **PKPbc** **00 30 48.0 -0.1**
comp=Z,16nm,0.6s,baz=84,slow=8.5,SNR=18
SPITS Spitsbergen Ar 147.51 349 PKP2 **PKPbc** **00 30 48.4 +0.4**
SPB2 Spitsbergen Ar 147.51 349 **PKPbc** **00 30 48.4 +0.4**
MOS Moscow 147.70 304 *e*PKP2 **PKPbc** **00 30 48.1 -1.0**
OBN Obninsk 148.21 302 **PKPbc** **00 30 50.8 +0.4**
OBN Obninsk 148.21 302 *de*PKP2 **PKPbc** **00 30 49.5 -0.9**
OBN *e*SKS **SKSdf** **00 37 55.9 +0.3**
OBN pmax pmax
comp=Z,53nm,1.5s
UPNV Upernavik 148.81 23 *i* P **PKPbc** **00 30 51.4 -0.1**
UPNV IAmb IAmb 00 30 52.5
comp=Z,30nm,1.0s
KEV Kevo 150.43 332 PKPbc **PKPbc** **00 30 55.3 -0.2**
KEV Kevo 150.43 332 PKIKP **PKPbc** **00 30 55.3 -0.2**
ARCES ARCESS Array B 151.00 332 PKPbc **PKiKP** **00 30 57.4 -0.1**
comp=Z,15nm,0.7s,baz=93,slow=2.3,SNR=43
RDO Rodhopi 151.11 271 **PKPbc** **00 30 57.6 -0.5**
AKASG Malin Array Be 151.84 292 **PKPbc** **00 30 59.2 -0.2**
AKASG Malin Array Be 151.84 292 PKPbc **PKPbc** **00 30 58.7 -0.7**
comp=Z,5.3nm,0.8s,baz=80,slow=2.4,SNR=13
AKASG Malin Array Be 151.84 292 PKIKP **PKPbc** **00 30 59.2 -0.2**
SUMG Summit 152.92 16 *i* P **PKPab** **00 31 13.6 +0.6**
MNK Minsk 153.14 300 *i* PKIKP **PKiKP** **00 31 02.6 +0.3**
MNK *i* 00 34 47.2
MNK *i* 00 38 01.1
MNK *i* SS SS 00 54 21.7 -0.4
MNK *i* SSS SSS 01 00 10.5
MNK pmax pmax
comp=N,2.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,1.0s
FIA1 FINESS Array S 153.57 316 **PKPbc** **00 31 02.9 0.0**
FINES FINESS Array B 153.57 316 **PKiKP** **00 31 03.0 0.0**
FINES FINESS Array B 153.57 316 PKPbc **PKPbc** **00 31 02.6 -0.3**
comp=E,4.2nm,0.6s,baz=92,slow=3.7,SNR=32
KOLS Kolonicke sedl 155.90 286 *e*PKP2 **PKPab** **00 31 27.6 +1.7**
KOLS Kolonicke sedl 155.90 286 *e*PKP **PKPab** **00 31 27.6 +1.7**
LANS Liptovska Anna 157.76 286 *e*PKP2 **PKPab** **00 31 35.6 +1.6**
LANS Liptovska Anna 157.76 286 *e*PKP **PKPab** **00 31 35.6 +1.6**
KEST Kesra 158.72 244 PKPab **PKPab** **00 31 38.8 +0.3**
comp=E,3.5nm,0.9s,baz=181,slow=5.2,SNR=5.7
RONA Rosalia, Austr 159.56 281 *e*PKP **PKPab** **00 31 43.0 +1.2**
comp=E,4.1nm,1.2s
HFS Hagfors 159.74 317 PKPab **PKPab** **00 31 42.1 -0.1**
comp=E,13nm,0.8s,baz=66,slow=3.7,SNR=25
CONA Conrad Observa 159.89 281 *e*PKP **PKPab** **00 31 44.9 +1.5**
comp=E,3.3nm,1.7s
DPC Dobruska-Polom 159.94 288 AMS AMS 01 44 50.0
comp=E,100nm,20.3s
ARSA Arzberg 159.98 279 *e*PKP **PKPab** **00 31 44.4 +0.8**
comp=E,5.2nm,1.2s
UPC Upice 160.15 289 AMS AMS 01 51 20.0
comp=E,200nm,21.2s
SOKA Soboth 160.17 277 *e*PKP **PKPab** **00 31 45.8 +1.3**
comp=E,4.0nm,0.8s
NB2 NORSAR Subarra 160.40 321 P **PKPab** **00 31 44.2 -0.9**
comp=Z,1.6nm,0.6s,baz=64,slow=5.1
NOA NORSAR Array B 160.40 321 PKPab **PKPab** **00 31 44.0 -1.0**
comp=Z,2.6nm,0.7s,baz=59,slow=4.4,SNR=12
OBKA Obir 160.45 277 *e*PKP **PKPab** **00 31 46.0 +0.2**
comp=Z,3.9nm,1.2s
MOA Moln 160.93 280 *e*PKP **PKPab** **00 31 49.8 +2.0**
comp=Z,5.6nm,1.7s
PRU Pruhonice 161.04 287 AMS AMS 01 59 30.0
comp=Z,100nm,15.6s
CKRC Cesky Krumlov 161.06 283 AMS AMS 01 55 20.0
comp=Z,200nm,17.7s
PVCC Panska Ves 161.07 289 AMS AMS 01 49 10.0
comp=Z,200nm,22.0s
GERES GERESS Array B 161.47 283 PKPab **PKPab** **00 31 49.8 -0.4**
comp=Z,1.2nm,0.9s,baz=123,slow=4.9,SNR=6.1
BRG Berggiesshubel 161.48 290 *e*PKP **PKPab** **00 31 51.0 +1.0**
BRG Amp 00 31 54.2
comp=Z,4.4nm,1.2s
KHC Kasperske Hory 161.58 284 AMS AMS 01 54 10.0
comp=Z,200nm,18.6s
CLL Collm 162.08 291 *e*PKP2 **PKPab** **00 31 53.0 +0.3**
CLL Collm 162.08 291 *e*PKPab **PKPab** **00 31 53.0 +0.3**
CLL *i* x x 00 32 04.6
comp=Z,8.0nm,1.2s
CLL LmV 01 51 00.0
comp=Z,200nm,21.0s
WTTA Wattenberg 162.57 277 *e*PKP **PKPab** **00 31 54.5 -0.7**
comp=Z,9.1nm,1.4s
WATA Walderalm 162.62 278 *e*PKP **PKPab** **00 31 56.3 +0.9**
comp=Z,5.5nm,1.7s
SQTA Sankt Quirin 162.84 277 *e*PKP **PKPab** **00 31 55.9 -0.4**
comp=Z,3.6nm,1.2s
MOTA Moosalm 162.94 278 PKP **PKPab** **00 31 58.1 +1.3**
comp=Z,3.1nm,1.0s
FETA Feichten 163.12 276 PKP **PKPab** **00 31 58.3 +0.7**
comp=Z,4.8nm,1.0s
RETA Reutte 163.19 278 *e*PKP **PKPab** **00 31 59.6 +1.8**
comp=Z,8.7nm,1.4s
DAVA Damuels 163.74 277 *e*PKP **PKPab** **00 32 02.0 +1.7**
comp=Z,8.2nm,1.6s
ESDC Sonseca Array 168.92 226 PKPab **PKPab** **00 32 24.6 +1.4**
comp=Z,0.2nm,0.8s,baz=121,slow=0.6,SNR=2.7
EKA Eskdalemuir Ar 169.89 321 PKPab **PKPab** **00 32 26.9 0.0**
comp=Z,2.8nm,0.9s,baz=43,slow=2.7,SNR=5.9

*JMA **04** 00:24:34.6±0.3, 23°.7N±0°.6×12°2E±°, h1km±3km, MV3.3/13,*

TAIWAN REGION
*TAP **04** 00:24:35.4,23˚.71N×121˚.50E,h4km,ML3.7,C*
ISC 04 00:24:35.8±0.8,**23˚.70N**±0˚.01×**121˚.55E**±0˚.02,**h10**km±4km, **n145**,σ0s84/246,**4C-25D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.01**	**336**⇑	*iP*	**Pg**	**00 24 37.3**	**-0.3**
TEGC				*eS*	**Sg**	**00 24 38.9**	**+0.1**
SHUL	**Shoufeng**	**0.09**	**10**⇑	*iP*	**Pg**	**00 24 38.4**	**+0.1**
SHUL				S	**Sg**	**00 24 40.3**	**+0.2**
EGFH	**Guangfu**	**0.11**	**255**	⇑P	**Pg**	**00 24 37.5**	**-1.1**
EGFH				*i* S	**Sg**	**00 24 39.0**	**-1.6**
WARBT	**Fenglin Townsh**	**0.15**	**278**⇓	*iP*	**Pg**	**00 24 38.0**	**-1.2**
WARBT				S	**Sg**	**00 24 39.5**	**-2.0**
ESL	**Shilin**	**0.15**	**318**⇓	*iP*	**Pg**	**00 24 38.4**	**-0.9**
ESL				*eS*	**Sg**	**00 24 40.2**	**-1.4**
TEYL	**Yanliau Villag**	**0.18**	**16**	P	**Pg**	**00 24 40.7**	**+1.1**
TEYL				S	**Sg**	**00 24 45.7**	**+3.5**
HGSD	**Ruisui**	**0.23**	**209**⇓	*iP*	**Pg**	**00 24 41.0**	**+0.3**
HGSD				S	**Sg**	**00 24 46.4**	**+2.5**
ETM	**Tongmen**	**0.27**	**350**⇓	*iP*	**Pg**	**00 24 40.9**	**-0.4**
ETM				*eS*	**Sg**	**00 24 44.5**	**-0.5**
EHYH	**Wanrong**	**0.27**	**222**⇑	*iP*	**Pg**	**00 24 41.0**	**-0.4**
EHYH				*eS*	**Sg**	**00 24 44.2**	**-0.9**
EHY	**Hungye**	**0.28**	**227**⇓	*iP*	**Pg**	**00 24 40.8**	**-0.7**
EHY				*eS*	**Sg**	**00 24 45.1**	**-0.1**
HWA	**Hwalien**	**0.28**	**11**	*eP*	**Pb**	**00 24 42.2**	**-0.8**
HWA				*eS*	**Sb**	**00 24 47.0**	**-0.9**
LXIB	**Xiulin Townshi**	**0.34**	**339**⇓	*iP*	**Pg**	**00 24 42.1**	**-0.6**
LXIB				*eS*	**Sg**	**00 24 45.7**	**-1.7**
VWDT	**VWDT**	**0.38**	**279**⇓	*iP*	**Pg**	**00 24 42.8**	**-0.5**
VWDT				*eS*	**Sg**	**00 24 48.0**	**-0.2**
YULB	**Yu-li**	**0.38**	**217**⇓	*iP*	**Pg**	**00 24 42.8**	**-0.5**
YULB				*eS*	**Sb**	**00 24 50.3**	**-0.3**
TWD	**Chiawan**	**0.38**	**7**⇓	*iP*	**Pg**	**00 24 43.3**	**-0.1**
TWD				*eS*	**Sg**	**00 24 48.9**	**+0.4**
ECBN	**Changbin**	**0.39**	**193**	*eP*	**Pb**	**00 24 44.7**	**-0.1**
ECBN				*eS*	**Sb**	**00 24 51.4**	**+0.5**
EYUL	**Yuli**	**0.41**	**211**	*eP*	**Pb**	**00 24 44.7**	**-0.4**
EYUL				*eS*	**Sb**	**00 24 51.7**	**+0.4**
TWF1	**Yuli**	**0.41**	**214**⇓	*iP*	**Pg**	**00 24 43.6**	**-0.4**
TWF1				*eS*	**Sb**	**00 24 51.5**	**-0.1**
OWD	**Renai**	**0.42**	**307**⇓	*iP*	**Pg**	**00 24 43.5**	**-0.7**
OWD				*i* S	**Sg**	**00 24 49.3**	**-0.5**
ETL	**Fush Village**	**0.47**	**9**	*eP*	**Pg**	**00 24 44.8**	**-0.1**
ETL				*eS*	**Sb**	**00 24 52.8**	**-0.3**
NACB	**Ninganchiao**	**0.48**	**5**⇓	*iP*	**Pg**	**00 24 44.6**	**-0.5**
NACB				*eS*	**Sb**	**00 24 53.2**	**-0.2**
WUSB	**Renai**	**0.49**	**307**⇓	*iP*	**Pg**	**00 24 45.0**	**-0.4**
WUSB				*eS*	**Sg**	**00 24 52.2**	**+0.3**
ETLH	**Xiulin Townshi**	**0.51**	**353**	⇓P	**Pg**	**00 24 45.2**	**-0.6**
ETLH				*eS*	**Sb**	**00 24 53.2**	**-1.2**
WHF	**Hehuan Shan**	**0.51**	**330**⇓	*iP*	**Pg**	**00 24 45.2**	**-0.8**
WHF				*eS*	**Sb**	**00 24 53.5**	**-1.4**
CHKH	**Chenggong**	**0.52**	**195**	*eP*	**Pb**	**00 24 46.9**	**-0.2**
CHKH				*eS*	**Sb**	**00 24 55.7**	**+1.0**
FULB	**Fuli**	**0.55**	**205**	*eP*	**Pb**	**00 24 47.8**	**+0.2**
FULB				*eS*	**Sb**	**00 24 56.4**	**+1.0**
SSLB	**Suanglung**	**0.55**	**279**⇓	*iP*	**Pg**	**00 24 45.8**	**-0.7**
SSLB				*eS*	**Sg**	**00 24 53.1**	**-0.7**
FUSS	**Fushou**	**0.61**	**333**⇓	*iP*	**Pg**	**00 24 47.4**	**-0.4**
FUSS				*i* S	**Sg**	**00 24 55.7**	**-0.2**
CHKT	**Chengkung**	**0.62**	**196**	*eP*	**Pb**	**00 24 48.4**	**-0.3**
CHKT				*eS*	**Sb**	**00 24 58.2**	**+0.8**
SMLT	**Sun Moon Lake**	**0.62**	**287**⇓	*iP*	**Pg**	**00 24 47.3**	**-0.6**
SMLT				*eS*	**Sb**	**00 24 57.2**	**-0.4**
EHD	**Haiduan**	**0.63**	**210**	*eP*	**Pg**	**00 24 47.8**	**-0.3**
EHD				*eS*	**Sb**	**00 24 57.2**	**-0.5**
WHYT	**Xinyi Township**	**0.64**	**270**	*eP*	**Pg**	**00 24 47.7**	**-0.4**
WHYT				*eS*	**Sg**	**00 24 56.1**	**-0.3**
TWT	**Tachien**	**0.65**	**329**⇓	*iP*	**Pg**	**00 24 48.1**	**-0.3**
TWT				*eS*	**Sg**	**00 24 56.4**	**-0.6**
EAHA	**Aohua**	**0.65**	**16**	*eP*	**Pg**	**00 24 48.1**	**-0.4**
EAHA				*eS*	**Sb**	**00 24 59.0**	**+0.5**
TDCB	**Techi**	**0.66**	**327**⇓	*iP*	**Pg**	**00 24 48.2**	**-0.4**
TDCB				*eS*	**Sg**	**00 24 55.4**	**-1.9**
TYC	**Yuchr**	**0.66**	**288**⇓	*eP*	**Pg**	**00 24 48.0**	**-0.7**
TYC				*eS*	**Sg**	**00 24 57.4**	**0.0**
ECS	**Chishang**	**0.67**	**207**	*eP*	**Pb**	**00 24 49.6**	**0.0**
WCS	**Beigang Elemen**	**0.68**	**302**	*i* P	**Pg**	**00 24 48.7**	**-0.3**
WCS				*eS*	**Sg**	**00 24 57.7**	**-0.3**
ELDTW	**Lidau**	**0.70**	**224**	*eP*	**Pg**	**00 24 48.4**	**-1.1**
ELDTW				*eS*	**Sg**	**00 24 58.9**	**+0.2**
ALS	**Alishan**	**0.70**	**255**	*eP*	**Pg**	**00 24 49.1**	**-0.4**
ALS				*eS*	**Sg**	**00 24 58.5**	**-0.3**
NNSB	**Datong**	**0.74**	**348**⇓	*iP*	**Pg**	**00 24 49.7**	**-0.5**
NNSB				*eS*	**Sg**	**00 24 59.6**	**-0.4**
ENA	**Nanau**	**0.75**	**14**	*eP*	**Pg**	**00 24 50.0**	**-0.3**
ENA				*eS*	**Sb**	**00 25 00.7**	**-0.6**
EDH	**Donghe**	**0.76**	**197**	*eP*	**Pb**	**00 24 50.9**	**-0.2**
EDH				*eS*	**Sn**	**00 25 03.1**	**-0.9**
NNS	**Nan Shan**	**0.76**	**348**	*eP*	**Pg**	**00 24 50.1**	**-0.4**
NNS				*eS*	**Sg**	**00 24 59.8**	**-0.6**
WJS	**Zhushan**	**0.76**	**280**	*eP*	**Pb**	**00 24 51.5**	**+0.4**
WHP	**Taichung City**	**0.80**	**317**	⇓P	**Pg**	**00 24 51.0**	**-0.3**
WHP				*eS*	**Sb**	**00 25 02.0**	**-0.7**
WNT	**Mingjian**	**0.81**	**283**	*eP*	**Pb**	**00 24 52.0**	**0.0**
WNT				*eS*	**Sb**	**00 25 02.9**	**-0.1**
EOS4	**EOS4**	**0.82**	**59**	*eP*	**Pb**	**00 24 52.2**	**+0.2**
EOS4				*i* S	**Sn**	**00 25 05.3**	**+0.1**
LATG	**Datong**	**0.83**	**359**	P	**Pg**	**00 24 51.4**	**-0.5**
LATG				*eS*	**Sg**	**00 25 02.9**	**+0.1**
LONT	**Longtian**	**0.88**	**206**	*eP*	**Pb**	**00 24 52.6**	**-0.6**
LONT				*eS*	**Sg**	**00 25 04.0**	**-0.1**
STYH	**Taoyuan**	**0.88**	**234**	*eP*	**Pg**	**00 24 52.2**	**-0.6**
STYH				*eS*	**Sb**	**00 25 04.5**	**-0.5**
WCKO	**Fanlu**	**0.90**	**254**	*eP*	**Pb**	**00 24 53.8**	**+0.3**
WCKO				*eS*	**Sb**	**00 25 05.1**	**-0.6**
WGK	**Gukeng**	**0.90**	**269**	*eP*	**Pb**	**00 24 53.5**	**0.0**
WGK				*eS*	**Sn**	**00 25 07.4**	**-0.2**
TCU	**Taichung**	**0.91**	**300**	*eP*	**Pb**	**00 24 53.8**	**+0.1**
TCU				*eS*	**Sb**	**00 25 05.6**	**-0.4**
ESAO	**Su ao**	**0.92**	**17**	*eP*	**Pb**	**00 24 53.8**	**0.0**
ESAO				*eS*	**Sn**	**00 25 07.6**	**-0.4**
EOS3	**EOS3**	**0.92**	**50**	*eP*	**Pn**	**00 24 54.5**	**-0.2**
WDLH	**Douliu**	**0.92**	**270**	P	**Pn**	**00 24 54.4**	**-0.4**
WDLH				*eS*	**Sn**	**00 25 08.3**	**+0.1**
TPUB	**Ta-pu**	**0.93**	**245**	*eP*	**Pb**	**00 24 54.1**	**0.0**
TPUB				*eS*	**Sb**	**00 25 07.4**	**+1.0**
ENTT	**Nioudou**	**0.94**	**1**	*eP*	**Pg**	**00 24 53.5**	**-0.4**
ENTT				*eS*	**Sb**	**00 25 08.0**	**+1.3**
CHN4	**Tsaushan**	**0.94**	**249**⇓	*eP*	**Pb**	**00 24 54.2**	**-0.1**
CHN4				*eS*	**Sb**	**00 25 07.7**	**+0.9**
NDS	**Dongshan**	**0.94**	**9**	*eP*	**Pg**	**00 24 51.9**	**-2.1**
TWC	**Suao**	**0.95**	**17**	*eP*	**Pb**	**00 24 53.8**	**-0.5**
TWC				*eS*	**Sb**	**00 25 07.0**	**0.0**
EOS2	**EOS2**	**0.95**	**41**	*eP*	**Pn**	**00 24 55.6**	**+0.4**
TWQ1	**Liyutan**	**0.96**	**313**	*eP*	**Pn**	**00 24 55.1**	**-0.2**
TWQ1				*eS*	**Sb**	**00 25 07.3**	**0.0**
WTP	**Ta-pu**	**0.97**	**242**	*eP*	**Pb**	**00 24 54.9**	**+0.2**
WTP				*eS*	**Sb**	**00 25 08.6**	**+1.0**
TWGBT	**Beinan**	**0.97**	**206**	*eP*	**Pg**	**00 24 52.5**	**-2.1**
TWG	**Pinlang**	**0.98**	**207**	*eP*	**Pg**	**00 24 52.6**	**-2.0**
WCHH	**Zhanghua**	**0.98**	**293**	*eP*	**Pb**	**00 24 54.9**	**0.0**
WCHH				*eS*	**Sn**	**00 25 09.5**	**-0.1**
YHNB	**Yeheng**	**0.98**	**351**	⇓P	**Pb**	**00 24 54.5**	**-0.5**
YHNB				*eS*	**Sb**	**00 25 08.6**	**+0.6**
NSK	**Sanguang**	**0.99**	**350**	*i* P	**Pb**	**00 24 54.6**	**-0.5**
NSK				S	**Sg**	**00 25 07.2**	**-0.6**
CHN2	**Minshiung**	**1.00**	**261**	*eP*	**Pb**	**00 24 55.4**	**+0.3**
CHN2				*eS*	**Sb**	**00 25 09.4**	**+1.1**
TTN	**Taitung**	**1.01**	**201**	*eP*	**Pn**	**00 24 55.7**	**-0.3**
TTN				*eS*	**Sb**	**00 25 09.3**	**+0.6**
NFF	**Wufeng Townshi**	**1.01**	**337**	*eP*	**Pb**	**00 24 55.5**	**+0.1**
NFF				*eS*	**Sb**	**00 25 09.4**	**+0.6**
NSY	**Sanyi**	**1.01**	**315**	*eP*	**Pn**	**00 24 56.1**	**0.0**
LDUT	**Ludao**	**1.02**	**184**	*eP*	**Pg**	**00 24 54.6**	**-0.9**
LDUT				*eS*	**Sn**	**00 25 11.3**	**+0.7**
TWE	**Neicheng**	**1.02**	**6**	P	**Pb**	**00 24 55.3**	**-0.4**
TWE				*eS*	**Sb**	**00 25 10.0**	**+0.8**
CHY	**Chiayi**	**1.05**	**259**	*eP*	**Pn**	**00 24 56.9**	**+0.3**
CHY				*eS*	**Sb**	**00 25 10.3**	**+0.5**
WDJ	**Dajia District**	**1.05**	**308**	*eP*	**Pn**	**00 24 57.5**	**+0.9**
NSTT	**Nanjuang**	**1.05**	**332**	*eP*	**Pb**	**00 24 56.1**	**-0.1**
NSTT				*eS*	**Sg**	**00 25 08.6**	**-1.2**
FUSB	**Fushanzhiwuyua**	**1.06**	**2**	*eP*	**Pb**	**00 24 56.0**	**-0.2**
FUSB				*eS*	**Sb**	**00 25 10.2**	**0.0**
WTK	**Tuku**	**1.06**	**270**	*i* P	**Pn**	**00 24 56.9**	**+0.1**
WTK				*eS*	**Sb**	**00 25 10.9**	**+0.7**
TWK	**Hsinying**	**1.06**	**246**	*eP*	**Pb**	**00 24 56.3**	**0.0**
TWK				*eS*	**Sn**	**00 25 12.4**	**+0.8**
CHN1	**Nanshi**	**1.06**	**242**	*eP*	**Pn**	**00 24 56.7**	**-0.1**
CHN1				*eS*	**Sb**	**00 25 11.3**	**+1.0**
NWLT	**Wulai**	**1.07**	**358**	*eP*	**Pb**	**00 24 56.4**	**-0.2**
NMLH	**Miaoli**	**1.08**	**321**	*eP*	**Pn**	**00 24 57.9**	**+0.9**
NMLH				*eS*	**Sb**	**00 25 11.7**	**+0.8**
KSHI	**Guanxi Townshi**	**1.13**	**343**	*eP*	**Pn**	**00 24 58.3**	**+0.7**
KSHI				*eS*	**Sb**	**00 25 12.6**	**+0.5**
EGS		**1.20**	**17**	*eP*	**Pn**	**00 24 58.9**	**+0.3**
SBCB	**Hsinchu**	**1.20**	**335**	*eP*	**Pg**	**00 24 58.1**	**-0.9**
ICHU	**Yijhu**	**1.21**	**254**	*eP*	**Pn**	**00 24 59.6**	**+0.8**
ICHU				*eS*	**Sn**	**00 25 17.3**	**+2.1**
WSF	**Szhu**	**1.22**	**267**	*eP*	**Pg**	**00 24 57.9**	**-1.3**
WSF				*eS*	**Sg**	**00 25 14.0**	**-1.0**
HSN	**Hsinchu**	**1.22**	**335**	*eP*	**Pb**	**00 24 58.9**	**0.0**
HSN				*eS*	**Sn**	**00 25 16.2**	**+0.7**
WSL	**Shuilin Townsh**	**1.22**	**262**	*eP*	**Pn**	**00 24 59.1**	**+0.2**
WSL				*eS*	**Sn**	**00 25 17.0**	**+1.4**
ECL	**Taimali**	**1.22**	**207**	*eP*	**Pg**	**00 24 58.3**	**-1.0**
ECL				*eS*	**Sg**	**00 25 13.8**	**-1.4**
CHN3	**Shinhua**	**1.25**	**241**	*eP*	**Pg**	**00 24 58.4**	**-1.5**
NHDH	**Xindian Distri**	**1.26**	**359**	*eP*	**Pn**	**00 25 00.2**	**+0.7**
SCST	**Cishan**	**1.26**	**230**	P	**Pn**	**00 25 00.9**	**+1.4**
SCST				*eS*	**Sn**	**00 25 18.2**	**+1.7**
SSD	**Sandimen**	**1.27**	**222**	P	**Pn**	**00 24 59.7**	**+0.1**
SSD				*eS*	**Sb**	**00 25 16.7**	**+0.6**
CHN8	**Yiju**	**1.27**	**254**	*eP*	**Pn**	**00 25 00.2**	**+0.5**
CHN8				*eS*	**Sn**	**00 25 18.4**	**+1.6**
TWA	**Mucha**	**1.28**	**2**	*eP*	**Pn**	**00 24 60.0**	**+0.2**
TWA				*eS*	**Sn**	**00 25 18.0**	**+1.1**
TSMG	**Majia**	**1.29**	**220**	*eP*	**Pn**	**00 25 00.3**	**+0.4**
TSMG				*eS*	**Sb**	**00 25 17.3**	**+0.5**
SHHT	**Tainan City**	**1.29**	**239**	P	**Pn**	**00 25 01.6**	**+1.7**
SHHT				*eS*	**Sn**	**00 25 21.3**	**+4.0**
TIPB	**Shuangxi**	**1.29**	**11**	*eP*	**Pn**	**00 25 00.3**	**+0.3**
TIPB				*eS*	**Sb**	**00 25 17.4**	**+0.4**
NCUH	**Zhongli**	**1.31**	**345**	P	**Pb**	**00 25 01.5**	**+1.0**
TWM1	**Shoushan**	**1.35**	**230**	*eP*	**Pb**	**00 25 02.9**	**+1.7**
TWB1	**Santiao Chiao**	**1.37**	**17**	*eP*	**Pb**	**00 25 01.4**	**0.0**
MASBT	**Mashibuluo**	**1.37**	**218**	*eP*	**Pn**	**00 25 00.3**	**-0.6**
MASBT				*eS*	**Sn**	**00 25 20.0**	**+0.8**
NWF	**Wu-fen Shan**	**1.38**	**9**	*eP*	**Pb**	**00 25 02.0**	**+0.2**
WFSB	**Wu-fen Shan**	**1.38**	**9**	*eP*	**Pn**	**00 25 01.3**	**+0.1**
TWS1	**Kuangyinshan**	**1.40**	**355**	*eP*	**Pg**	**00 25 02.6**	**-0.1**
TWS1				*eS*	**Sn**	**00 25 21.6**	**+1.6**
SXI1	**Grass Mountain**	**1.42**	**12**	*eP*	**Pb**	**00 25 02.4**	**-0.1**
SXI1				*eS*	**Sn**	**00 25 21.5**	**+0.9**
YM01	**YM01**	**1.44**	**1**	*eP*	**Pn**	**00 25 02.4**	**+0.3**
TSCK	**Chigu Township**	**1.45**	**248**	*eP*	**Pg**	**00 25 03.1**	**-0.5**
EAST	**Anshuo**	**1.46**	**206**	*eP*	**Pn**	**00 25 01.9**	**-0.4**
EAST				*eS*	**Sn**	**00 25 22.9**	**+1.5**
ZUZH	**Zhuzihu**	**1.46**	**360**	*eP*	**Pg**	**00 25 03.2**	**-0.7**
ZUZH				*eS*	**Sg**	**00 25 22.0**	**-0.7**
TAW	**Tawu**	**1.46**	**204**	*eP*	**Pb**	**00 25 03.0**	**-0.2**
NTST	**Danshui**	**1.46**	**357**	*eP*	**Pn**	**00 25 02.5**	**+0.2**
TAWH	**Dawu Township**	**1.48**	**204**	*eP*	**Pg**	**00 25 03.9**	**-0.4**
JYNG	**Yonagunjimaku**	**1.48**	**59**	*eS*	**Sb**	**00 25 22.4**	**0.0**
YM08	**YM08**	**1.48**	**2**	*eP*	**Pb**	**00 25 03.2**	**-0.3**
YOJ	**Yonaguni jima**	**1.54**	**60**	*eP*	**Pn**	**00 25 03.5**	**+0.2**
YOJ				*eS*	**Sg**	**00 25 24.6**	**-0.8**
YOJ	**Yonaguni jima**	**1.54**	**60**	*eP*	**Pn**	**00 25 03.8**	**+0.4**
YOJ				*eS*	**Sn**	**00 25 23.9**	**+0.5**
SCZT	**Fangliau**	**1.57**	**213**	P	**Pg**	**00 25 05.7**	**-0.3**
SCZT				*eS*	**Sb**	**00 25 25.0**	**+0.1**
TWY	**Chenhua**	**1.57**	**2**	*eP*	**Pn**	**00 25 04.1**	**+0.3**
SLIU	**Shizi**	**1.63**	**205**	*eP*	**Pb**	**00 25 05.8**	**-0.1**
LAY	**Lan-yu**	**1.65**	**180**	*eP*	**Pn**	**00 25 02.5**	**-2.5**
WDGT	**Dungji**	**1.79**	**256**	*eP*	**Pn**	**00 25 07.2**	**+0.5**
WDGT				*eS*	**Sn**	**00 25 29.4**	**0.0**
PHUB	**P'eng-hu**	**1.82**	**265**	*eP*	**Pn**	**00 25 07.2**	**0.0**
PHUB				*eS*	**Sn**	**00 25 30.9**	**+0.7**
PNG	**Penghu**	**1.83**	**266**	*eP*	**Pb**	**00 25 08.6**	**-0.8**
PNG				*eS*	**Sb**	**00 25 32.9**	**+0.5**
PCYT	**Pengchaiyu**	**1.98**	**14**	*eP*	**Pn**	**00 25 10.5**	**+1.1**
VCHM	**Qimei**	**2.00**	**256**	*eP*	**Pn**	**00 25 09.2**	**-0.5**
IRIF	**Iriomote-Funau**	**2.10**	**72**	*eS*	**Sn**	**00 25 38.2**	**+1.1**
HATJ	**Hateruma jima**	**2.10**	**80**	*eS*	**Sn**	**00 25 36.6**	**-0.6**
VWUC	**VWUC**	**2.31**	**304**	*eP*	**Pn**	**00 25 13.9**	**+0.1**
JKRS	**Kuro-shima**	**2.32**	**76**	*eS*	**Sn**	**00 25 42.7**	**+0.1**
JIJ	**Ishigaki jima**	**2.47**	**74**	*eP*	**Pn**	**00 25 16.1**	**0.0**
JIJ				*eS*	**Sn**	**00 25 47.2**	**+0.9**
PTMZ	**Houxiangcun**	**2.58**	**302**	*eP*	**Pn**	**00 25 18.4**	**+0.7**
PTMZ				*i* S	**Sn**	**00 25 50.4**	**+1.2**
JISG	**Ishigakijimahi**	**2.68**	**70**	*eS*	**Sn**	**00 25 51.4**	**0.0**
MATB	**Ma-tsu**	**2.84**	**330**	*eP*	**Pn**	**00 25 21.7**	**+0.4**
KNM	**Kinmen**	**2.93**	**285**	*eP*	**Pn**	**00 25 24.3**	**+1.8**
KNMB	**Chin-men Tao**	**2.98**	**285**	*eP*	**Pn**	**00 25 23.1**	**-0.1**
MHZQ	**Yeshan**	**3.31**	**317**	*eP*	**Pn**	**00 25 28.3**	**+0.7**
XPSS	**Dashiqiu**	**3.44**	**339**	*eP*	**Pn**	**00 25 29.4**	**-0.2**
AXDP	**Jialang**	**3.48**	**291**	*eP*	**Pn**	**00 25 30.4**	**+0.4**
ZPLA	**Ao Xicun**	**3.48**	**275**	*eP*	**Pn**	**00 25 30.1**	**0.0**
SXFK	**Yanhouchang**	**4.44**	**308**	*eP*	**Pn**	**00 25 43.5**	**+0.1**

*SJA **04** 00:25:33.9±0.7,23˚.57S×66˚.64W,h238km±6km,ML3.3, MW3.6*
*GUC **04** 00:25:35.9±0.6,23˚.58S×66˚.72W,h218km±5km,ML3.7*
*IDC **04** 00:25:42.6±10.0,22˚.88S×66˚.03W,h246km±77km,mb3.7/1, mbtmp3.9/2,Error ellipse: s-maj=143.0km s-min=83.8km az=50.0*
ISC 04 00:25:35.3±1.0,**23˚.58S**±0˚.04×**66˚.68W**±0˚.04,**h225**km±8km, **n37**,σ1s57/63,**6C-2D**,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.72**	**154**⇓	*eP*	**Pn**	**00 26 06.3**	**-0.4**
SALTA				*eS*	**S**	**00 26 30.0**	**-1.3**
SALTA		**0.72**	**154**	*eP*	**Pn**	**00 26 06.3**	**-0.4**
AF01	**San Pedro de A**	**1.51**	**294**	*eS*	**S**	**00 26 46.6**	**+6.7**
AF01				IAML		00 27 01.3	
	comp=Z,88nm,0.8s						
SLA	**San Lorenzo**	**1.57**	**137**⇓	*eP*	**Pn**	**00 26 12.0**	**+0.1**
SLA				*eS*	**S**	**00 26 39.4**	**-1.2**
SLA	**San Lorenzo**	**1.57**	**137**	*eP*	**Pn**	**00 26 12.2**	**+0.3**
SLA				*eS*	**S**	**00 26 40.4**	**-0.2**
AZAP	**Zapla**	**1.61**	**114**	*eP*	**Pn**	**00 26 11.6**	**-0.8**
AZAP				IAML		00 26 41.3	
	comp=Z,61nm,0.6s						
YJA	**Yavi**	**1.76**	**38**	*eP*	**Pn**	**00 26 14.0**	**0.0**
YJA				*eS*	**S**	**00 26 42.9**	**-1.1**
YJA	**Yavi**	**1.76**	**38**	*eP*	**Pn**	**00 26 14.2**	**+0.2**
ALOL	**LOMAS DE OLMED**	**2.48**	**96**	*eP*	**Pn**	**00 26 20.7**	**+0.1**
FSA	**Cafayete**	**2.60**	**166**	*eP*	**Pn**	**00 26 21.6**	**-0.4**
FSA				*eS*	**S**	**00 26 57.7**	**-0.9**
PB06	**IPOC Station P**	**2.80**	**287**⇑	*eP*	**Pn**	**00 26 24.4**	**+0.2**
PB06				*eS*	**S**	**00 27 00.9**	**-1.4**
PB06				IAML		00 27 01.5	
	comp=N,168nm,0.2s						
PB06	**IPOC Station P**	**2.80**	**287**	*eP*	**Pn**	**00 26 24.7**	**+0.5**
PB06				*eS*	**S**	**00 27 01.7**	**-0.6**
PB06				IAML		00 27 05.5	
	comp=Z,85nm,0.2s						
PB09	**IPOC Station P**	**2.96**	**306**⇑	*eP*	**Pn**	**00 26 27.0**	**+1.0**
PB09				*eS*	**S**	**00 27 04.6**	**-1.0**
PB09				IAML		00 27 08.2	
	comp=N,77nm,0.3s						
PB09	**IPOC Station P**	**2.96**	**306**	*eP*	**Pn**	**00 26 26.9**	**+1.0**
PB09				*eS*	**S**	**00 27 06.2**	**+0.7**
PB09				IAML		00 27 12.0	
	comp=Z,57nm,0.2s						
GO02	**Mina Guanaco**	**3.09**	**239**⇑	*eP*	**Pn**	**00 26 27.8**	**+0.3**
GO02				*eS*	**S**	**00 27 07.2**	**-1.2**
GO02	**Mina Guanaco**	**3.09**	**239**	*eP*	**Pn**	**00 26 27.2**	**-0.4**
GO02				*eS*	**S**	**00 27 07.9**	**-0.5**
PB03	**IPOC Station P**	**3.22**	**298**⇑	*eP*	**Pn**	**00 26 28.2**	**+0.3**
PB03				*eS*	**S**	**00 27 08.2**	**-2.2**
PB05	**IPOC Station P**	**3.32**	**282**⇑	*eP*	**Pn**	**00 26 30.1**	**0.0**
PB05				*eS*	**S**	**00 27 11.0**	**-1.9**
PB05	**IPOC Station P**	**3.32**	**282**	*eP*	**Pn**	**00 26 30.2**	**+0.2**
PB05				*eS*	**S**	**00 27 12.7**	**-0.2**
PB05				IAML		00 27 19.3	
	comp=Z,39nm,0.4s						
AHML	**Horco Molle**	**3.42**	**159**	*eP*	Pn	00 26 16.2	-15
PB10	**IPOC Station P**	**3.56**	**270**⇑	*eP*	**Pn**	**00 26 32.9**	**+0.2**
PB10				*eS*	**S**	**00 27 14.9**	**-2.8**
PB10	**IPOC Station P**	**3.56**	**270**	*eP*	**Pn**	**00 26 33.1**	**+0.5**
PB10				IAML		00 27 17.4	
	comp=Z,32nm,1.2s						
PB10				*eS*	**S**	**00 27 17.6**	**-0.1**
PB01	**IPOC Station P**	**3.62**	**314**	*eP*	**Pn**	**00 26 33.9**	**+0.3**
PB01				*eS*	**S**	**00 27 17.6**	**-1.7**
PB01	**IPOC Station P**	**3.62**	**314**	*eP*	**Pn**	**00 26 33.9**	**+0.3**
PB01				*eS*	**S**	**00 27 18.4**	**-0.9**
PB01				IAML		00 27 21.1	
	comp=Z,50nm,0.2s						
PB02	**IPOC Station P**	**3.73**	**306**	*eP*	**Pn**	**00 26 35.1**	**+0.2**
PB02				*eS*	**S**	**00 27 19.8**	**-1.8**
AC02	**Maricunga**	**3.93**	**214**	*eP*	**Pn**	**00 26 37.9**	**+0.2**
AC02				*eS*	**S**	**00 27 27.7**	**+1.1**
AC02				IAML		00 27 58.8	
	comp=Z,35nm,0.8s						
PB08	**IPOC Station P**	**4.12**	**326**	*eP*	**Pn**	**00 26 40.8**	**+0.9**
PB08				*eS*	**S**	**00 27 31.7**	**+1.1**
PB08				IAML		00 27 34.8	
	comp=Z,25nm,0.3s						
PATCX	**Punta Patache**	**4.23**	**310**	*eP*	**Pn**	**00 26 41.0**	**+0.1**
PATCX				*eS*	**S**	**00 27 34.6**	**+2.1**
PATCX				IAML		00 27 43.7	
	comp=Z,23nm,0.5s						
AC01	**Pan de Azucar**	**4.38**	**233**	*eP*	**Pn**	**00 26 41.8**	**-0.9**
AC01				*eS*	**S**	**00 27 33.0**	**-2.9**
AC01				IAML		00 27 45.2	
	comp=Z,28nm,1.4s						
TA01	**Diego Aracena**	**4.42**	**312**	*eP*	**Pn**	**00 26 43.9**	**+0.7**
TA01				*eS*	S	00 27 46.0	+9.4
HMBC	**Humberstone**	**4.43**	**317**	*eP*	**Pn**	**00 26 43.2**	**-0.3**
HMBC				*eS*	**S**	**00 27 34.3**	**-2.9**
GO01	**Chusmiza**	**4.54**	**328**	*eP*	**Pn**	**00 26 45.9**	**+0.8**
GO01				*eS*	**S**	**00 27 36.9**	**-3.2**
PB11	**IPOC Station P**	**4.70**	**323**	*eP*	**Pn**	**00 26 46.4**	**-0.4**
PB11				*eS*	**S**	**00 27 40.4**	**-2.8**
PB11				IAML		00 27 44.4	
	comp=Z,26nm,0.3s						
GO03	**Copiapo**	**5.13**	**218**	*eP*	**Pn**	**00 26 51.0**	**-1.0**

comp=E,44nm,0.8s
BMO Blue Mountains 4.30 259 Pn 00 43 06.5 +0.4
K22A Casper 4.73 131 Pn 00 43 12.6 +0.7
LNOR Lincton Mounta 4.83 273 Pn 00 43 14.0 +0.6
RSSD Black Hills 5.48 106 Pn 00 43 22.9 +0.6

*KOLA **04** 00:50:54.3, 78.80N×10.33E, h0km, ML3.3, Error ellipse: s-maj=14.0km s-min=8.7km az=100.0, Spitsbergen,Greenland sea*
*NAO **04** 00:50:58.4±0.5, 78.87N×10.75E, h16km±4km, ML3.3*
*IDC **04** 00:50:58.1±1.2, 78.82N×11.66E, h0km, mb3.3/5, mbtmp3.4/8, ML2.8/3, MS3.5/1, Error ellipse: s-maj=37.8km s-min=17.0km az=63.0*
*BER **04** 00:50:59.2±3.5, 78.77N×10.80E, h2km±13km, ML3.0, ML3.3(NAO), Confirmed Earthquake*
*FCIAR **04** 00:50:59.0, 78.67N×11.48E, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.30*

ISC 04 00:50:57.9±1.1, 78.73N±0.04×10.93E±0.05, h15km±7km, n80, σ2s53/110, mb3.2/5, 1C-2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**0.28**	**45**	Pg	**Pg**	**00 51 03.2**	**-0.6**
KBS				Sg	**Sg**	**00 51 06.9**	**-1.0**
KBS	**Kingsbay**	**0.28**	**45**	P	**Pg**	**00 51 02.9**	**-0.9**
KBS				S	**Sg**	**00 51 06.8**	**-1.0**
KBS	**Kingsbay**	**0.28**	**45**	∥ *i* P	**Pg**	**00 51 03.4**	**-0.4**
KBS				*e*S	**Sg**	**00 51 07.3**	**-0.6**
KBS				IAML		00 51 07.5	
	comp=Z,10μm,0.2s						
KBS	**Kingsbay**	**0.28**	**45**	*i* P	**Pg**	**00 51 03.4**	**-0.4**
KBS				*i* S	**Sg**	**00 51 07.0**	**-1.0**
BRBA	**Barentsburg A**	**0.95**	**134**	Pb	**Pn**	**00 51 17.1**	**+0.5**
BRBA				Sb	**Sn**	**00 51 30.7**	**+1.0**
BRBA	**Barentsburg A**	**0.95**	**134**	*e*P	**Pn**	**00 51 16.9**	**+0.4**
BRBA				*e*S	**Sn**	**00 51 30.7**	**+1.0**
SPA0	**Spitsbergen Ar**	**1.23**	**114**	Pn	**Pg**	**00 51 21.6**	**+0.1**
	baz=299,slow=16						
SPA0				Pg	**Pb**	**00 51 22.6**	**+1.9**
	baz=299,slow=16						
SPA0				Sg	**Sg**	**00 51 39.8**	**+2.3**
	baz=303,slow=28						
SPA0	**Spitsbergen Ar**	**1.23**	**114**	∥ *i* P	**Pg**	**00 51 21.6**	**+0.1**
SPA0				*e*S	**Sg**	**00 51 38.0**	**+0.5**
SPA0	**Spitsbergen Ar**	**1.23**	**114**	Pn	**Pg**	**00 51 21.6**	**+0.1**
	baz=299,slow=16						
SPA0				Pg	**Pb**	**00 51 22.6**	**+1.9**
	baz=299,slow=16						
SPA0				*e*S	**Sg**	**00 51 39.3**	**+1.8**
SPA0				IAML		00 51 43.8	
	comp=Z,482nm,0.5s						
SPITS	**Spitsbergen Ar**	**1.23**	**114**	P	**Pb**	**00 51 21.1**	**+0.4**
SPITS				S	**Sg**	**00 51 39.4**	**+1.8**
HSPB	**Hornsund (broa**	**1.99**	**148**	Pn	**Pn**	**00 51 30.7**	**-0.2**
HSPB				Sn	**Sn**	**00 51 56.1**	**+0.6**
HSPB	**Hornsund (broa**	**1.99**	**148**	P	**Pn**	**00 51 30.5**	**-0.3**
HSPB				S	**Sn**	**00 51 55.8**	**+0.4**
HSPB	**Hornsund (broa**	**1.99**	**148**	∥ *i* P	**Pn**	**00 51 30.5**	**-0.3**
HSPB				*i* S	**Sn**	**00 51 54.3**	**-1.1**
HSPB	**Hornsund (broa**	**1.99**	**148**	*e*P	**Pn**	**00 51 30.7**	**-0.2**
HSPB				*e*S	**Sn**	**00 51 55.8**	**+0.4**
HOPEN	**Hopen**	**3.76**	**119**	Pn	**Pn**	**00 51 55.7**	**+0.6**
HOPEN				Sn	**Sn**	**00 52 39.2**	**+0.4**
HOPEN				Sg	**Sg**	**00 52 57.0**	**-1.3**
HOPEN	**Hopen**	**3.76**	**119**	*e*P	**Pn**	**00 51 55.6**	**+0.6**
HOPEN				*e*S	**Sn**	**00 52 37.4**	**-1.5**
HOPEN	**Hopen**	**3.76**	**119**	*e*P	**Pn**	**00 51 55.7**	**+0.6**
HOPEN				*e*S	**Sn**	**00 52 39.4**	**+0.6**
HOPEN				*e*		00 52 57.4	
BJO1	**Bjornoya**	**4.64**	**152**	*e*P	**Pn**	**00 52 07.0**	**-0.2**
BJO1				S	**Sn**	**00 52 58.2**	**-2.4**
BJO1	**Bjornoya**	**4.64**	**152**	*e*P	**Pn**	**00 52 07.3**	**+0.1**
BJO1				IAML		00 53 45.2	
	comp=Z,20nm,0.5s						
NOR	**Nord**	**5.48**	**314**	Pn	**Pn**	**00 52 17.2**	**-1.4**
NOR	**Nord**	**5.48**	**314**	*e*P	**Pn**	**00 52 19.9**	**+1.3**
NOR	**Nord**	**5.48**	**314**	*e*P	**Pn**	**00 52 18.3**	**-0.4**
DAG	**Danmarks Havn**	**6.53**	**268**	*e*P	**Pn**	**00 52 31.9**	**-1.3**
DAG	**Danmarks Havn**	**6.53**	**268**	*e*P	**Pn**	**00 52 31.6**	**-1.6**
DAG				*i* S	**Sn**	**00 53 40.7**	**-6.6**
DAG				IAML		00 53 53.1	
	comp=Z,5.6nm,1.0s						
ZFI2	**Zemlya Franca-**	**6.76**	**55**	*e*P	**Pn**	**00 52 36.0**	**-0.2**
ZFI2				*e*S	**Sn**	**00 53 47.1**	**-5.6**
	comp=Z,11nm,0.3s						
ZFI2				*i* tx	tx	00 57 33.4	
OMEGA	**Omega**	**6.77**	**55**	*e*P	**Pn**	**00 52 36.1**	**-0.3**
OMEGA				*e*S	**Sn**	**00 53 47.2**	**-5.8**
	comp=Z,9.1nm,0.6s						
OMEGA				*i* tx	tx	00 57 35.2	
DBG	**Daneborg**	**8.40**	**254**	Pn	**Pn**	**00 52 56.1**	**-2.6**
DBG				Sn	Sn	00 54 21.7	-11
DBG	**Daneborg**	**8.40**	**254**	Pn	**Pn**	**00 52 56.1**	**-2.6**
DBG				Sn	Sn	00 54 21.7	-11
DBG	**Daneborg**	**8.40**	**254**	*e*P	**Pn**	**00 52 55.5**	**-3.3**
DBG				*i* S	Sn	00 54 21.9	-11
DBG				IAML		00 54 56.5	
	comp=Z,3.5nm,0.8s						
HAMF	**Hammerfest**	**8.77**	**151**	Pn	**Pn**	**00 53 02.7**	**-1.0**
HAMF				Sn	**Sn**	**00 54 34.5**	**-7.5**
HAMF	**Hammerfest**	**8.77**	**151**	*e*P	**Pn**	**00 53 03.6**	**-0.1**
HAMF				*e*S	**Sn**	**00 54 35.1**	**-7.0**
HAMF				IAML		00 54 52.7	
	comp=Z,4.9nm,0.6s						
JNW	**Jan Mayen West**	**9.16**	**223**	*e*P	**Pn**	**00 53 09.1**	**-0.1**
JNE	**Jan Mayen East**	**9.18**	**223**	*e*P	**Pn**	**00 53 09.6**	**+0.1**
JMIC	**Jan Mayen**	**9.21**	**223**	Pn	**Pn**	**00 53 09.7**	**-0.2**
JMIC	**Jan Mayen**	**9.21**	**223**	Pn	**Pn**	**00 53 09.7**	**-0.2**
VADS	**Vadso**	**9.89**	**141**	Pn	**Pn**	**00 53 19.8**	**+0.7**
VADS				Sn	**Sn**	**00 55 02.6**	**-6.9**
VADS	**Vadso**	**9.89**	**141**	P	**Pn**	**00 53 19.8**	**+0.7**
VADS				S	**Sn**	**00 55 03.7**	**-5.8**
VADS	**Vadso**	**9.89**	**141**	Pn	**Pn**	**00 53 19.8**	**+0.7**
VADS				*e*S	**Sn**	**00 55 02.8**	**-6.7**
VADS				IAML		00 55 04.8	
	comp=Z,7.6nm,0.6s						
KEV	**Kevo**	**9.96**	**146**	*e*P	**Pn**	**00 53 21.2**	**+1.2**
KEV				*e*S	**Sn**	**00 55 05.6**	**-5.6**
ARA0	**ARCESS Array S**	**10.01**	**149**	Pn	**Pn**	**00 53 20.9**	**0.0**
	baz=341,slow=11						
ARA0				Sn	**Sn**	**00 55 05.9**	**-6.7**
	baz=354,slow=18						
ARA0	**ARCESS Array S**	**10.01**	**149**	Pn	**Pn**	**00 53 20.9**	**0.0**
	baz=341,slow=11						
ARA0				Sn	**Sn**	**00 55 05.9**	**-6.7**
	baz=354,slow=18						
ARCES	**ARCESS Array B**	**10.01**	**149**	Pn	**Pn**	**00 53 20.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=338,slow=9.1,SNR=16						
ARCES				Sn	Sn	00 55 02.8	-10
	comp=Z,0.1nm,0.3s,baz=354,slow=20,SNR=1.3 comp=Z,3.2nm,0.9s						
ARCES	**ARCESS Array B**	**10.01**	**149**	S	**Sn**	**00 55 07.2**	**-5.5**
KIF	**Kilpisjarvi**	**10.13**	**159**	Pn	**Pn**	**00 53 23.2**	**+0.8**
KIF	**Kilpisjarvi**	**10.13**	**159**	*e*P	**Pn**	**00 53 24.2**	**+1.8**
KTK1	**Kautokeino**	**10.31**	**155**	Pn	**Pn**	**00 53 26.1**	**+1.2**
KTK1	**Kautokeino**	**10.31**	**155**	Pn	**Pn**	**00 53 26.1**	**+1.2**
LOF	**Lofoten**	**10.68**	**175**	Pn	**Pn**	**00 53 30.1**	**+0.2**
LOF	**Lofoten**	**10.68**	**175**	*e*P	**Pn**	**00 53 30.2**	**+0.2**
STEI	**Steigen**	**10.92**	**171**	Pn	**Pn**	**00 53 34.8**	**+1.5**
STEI	**Steigen**	**10.92**	**171**	*e*P	**Pn**	**00 53 35.3**	**+2.1**
HEF	**Hetta**	**10.94**	**155**	*e*P	**Pn**	**00 53 34.6**	**+1.1**
FAUS	**Fauske**	**11.47**	**171**	Pn	**Pn**	**00 53 43.2**	**+2.4**
FAUS	**Fauske**	**11.47**	**171**	P	**Pn**	**00 53 43.1**	**+2.4**
FAUS	**Fauske**	**11.47**	**171**	*e*P	**Pn**	**00 53 43.5**	**+2.7**
TERR	**Teriberka**	**11.51**	**133**	P	**Pn**	**00 53 40.0**	**-1.3**
TERR				S	Sn	00 55 38.8	-11
SALU	**Saltoluokta**	**11.60**	**165**	*e*P	**Pn**	**00 53 45.4**	**+2.8**
VAGH	**Vaagaholmen**	**12.08**	**176**	Pn	**Pn**	**00 53 48.6**	**-0.5**
VAGH	**Vaagaholmen**	**12.08**	**176**	*e*P	**Pn**	**00 53 49.0**	**-0.1**
KONS	**Konsvik**	**12.31**	**176**	Pn	**Pn**	**00 53 52.4**	**+0.2**
KONS	**Konsvik**	**12.31**	**176**	Pn	**Pn**	**00 53 52.4**	**+0.2**
STOK	**Stokkvaagen**	**12.48**	**176**	Pn	**Pn**	**00 53 55.0**	**+0.5**
STOK	**Stokkvaagen**	**12.48**	**176**	*e*P	**Pn**	**00 53 55.3**	**+0.8**
LVZ	**Lovozero**	**12.66**	**136**	S	Sn	00 56 08.2	-9.3
MOR8	**Moi Rana**	**12.67**	**173**	Pn	**Pn**	**00 53 57.8**	**+0.7**
MOR8	**Moi Rana**	**12.67**	**173**	*e*P	**Pn**	**00 53 58.0**	**+0.9**
LEIR	**Leirfjorden**	**12.70**	**176**	Pn	**Pn**	**00 53 59.2**	**+1.6**
LEIR	**Leirfjorden**	**12.70**	**176**	*e*P	**Pn**	**00 53 58.7**	**+1.1**
APA0	**Apatity Array**	**12.71**	**139**	S	**Sn**	**00 56 13.6**	**-5.1**
APA	**Apatity**	**12.80**	**139**	S	**Sn**	**00 56 23.4**	**+2.6**
FIA0	**FINESS Array S**	**17.99**	**156**	P	**P**	**00 55 07.3**	**0.0**
	baz=355,slow=12						
FIA0	**FINESS Array S**	**17.99**	**156**	P	**P**	**00 55 07.3**	**0.0**
	baz=355,slow=12						
FINES	**FINESS Array B**	**17.99**	**156**	Pn	**Pn**	**00 55 06.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=359,slow=12,SNR=5.4 comp=Z,1.1nm,0.7s						
HFS	**Hagfors**	**18.71**	**176**	P	**Pn**	**00 55 17.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=8.8,slow=10,SNR=2.0 comp=Z,1.7nm,0.9s						
AKASG	**Malin Array Be**	**28.90**	**156**	P	**P**	**00 56 56.8**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=356,slow=9.5,SNR=2.6 comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**36.12**	**344**	P	**P**	**00 58 01.1**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=0.5,slow=10,SNR=2.7 comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**36.53**	**98**	P	**P**	**00 58 02.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=336,slow=8.2,SNR=2.8 comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**40.92**	**96**	P	**P**	**00 58 40.7**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=351,slow=8.0,SNR=1.7 comp=Z,0.1nm,0.4s						
ASF	**Jabal al Asfar**	**47.97**	**150**	LR	LR	01 21 56.6	
	comp=Z,52nm,20.3s,baz=158,slow=39						
TXAR	**Lajitas Array**	**66.02**	**300**	P	**P**	**01 01 46.6**	**+3.2**
	comp=Z,0.2nm,0.7s,baz=341,slow=4.1,SNR=2.1 comp=Z,0.2nm,0.7s						

*IDC **04** 00:53:50.1±3.5, 22.95S×178.28W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=168.5km s-min=41.5km az=148.0*
*NEIC **04** 00:54:48.2±0.8, 24.30S±0.08×180.0W±0.2, h465km±14km, mb3.9/12, Error ellipse: s-maj=30.2km s-min=10.4km az=99.0*

ISC 04 00:54:50.2±1.1, 24.0S±0.1×179.9W±0.2, h518km, n26, σ1s14/26, mb3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.53**	**343**		**P**	**00 56 31.0**	**-1.7**
TKNZ	**Takaka Hill**	**17.99**	**198**	P	**P**	**00 58 26.1**	**-3.4**
EIDS	**Eidsvold**	**26.37**	**261**	P	**P**	**00 59 44.5**	**-0.5**
EIDS				IAmb	IAmb	00 59 53.3	
	comp=Z,6.6nm,1.1s						
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**01 00 31.1**	**+1.0**
CTAO				IAmb	IAmb	01 00 47.2	
	comp=Z,3.2nm,1.0s						
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**01 00 56.6**	**-0.4**
STKA	**Stephens Creek**	**34.76**	**248**	P	**P**	**01 00 57.2**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=105,slow=12,SNR=1.6 comp=Z,1.0nm,0.4s						
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**01 01 35.3**	**-0.4**
BBOO				IAmb	IAmb	01 01 41.8	
	comp=Z,7.6nm,1.1s						
AS31	**Alice Springs**	**42.10**	**261**	P	**P**	**01 01 57.5**	**+0.7**
ASAR	**Alice Springs**	**42.10**	**261**	P	**P**	**01 01 56.8**	**0.0**
ASAR	**Alice Springs**	**42.10**	**261**	P	**P**	**01 01 57.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=96,slow=7.2,SNR=24 comp=Z,1.3nm,0.7s						
WR0	**Warramunga Arr**	**42.30**	**266**	P	**P**	**01 01 58.5**	**+0.1**
WR8	**Warramunga Arr**	**42.33**	**266**	P	**P**	**01 01 58.8**	**+0.2**
WR8				IAmb	IAmb	01 02 08.8	
	comp=Z,4.6nm,1.1s						
WB2	**Warramunga Arr**	**42.47**	**266**	P	**P**	**01 01 59.9**	**+0.1**
WB2				IAmb	IAmb	01 02 18.6	
	comp=Z,5.9nm,1.1s						
WB0	**Warramunga Arr**	**42.48**	**266**	P	**P**	**01 01 60.0**	**+0.2**
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**01 02 00.1**	**+0.3**
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**01 01 59.8**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=98,slow=8.3,SNR=33 comp=Z,2.8nm,0.5s						
KNRA	**Kununurra**	**48.77**	**270**	P	**P**	**01 02 48.5**	**+0.5**
MORW	**Morawa**	**56.91**	**250**	P	**P**	**01 03 46.1**	**+0.1**
MORW				IAmb	IAmb	01 04 00.8	
	comp=Z,6.5nm,1.1s						
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**01 04 46.8**	**+1.4**
HFS	**Hagfors**	**142.67**	**349**	PKP	**PKPdf**	**01 13 21.7**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=75,slow=2.2,SNR=12						
AKASG	**Malin Array Be**	**145.11**	**327**	PKPbc	**PKPbc**	**01 13 29.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=45,slow=4.3,SNR=2.5						
BRTR	**Keskin Array B**	**147.71**	**307**	PKPbc	**PKPbc**	**01 13 38.0**	**+1.3**
BRTR	**Keskin Array B**	**147.71**	**307**	PKPbc	**PKPbc**	**01 13 37.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=116,slow=3.4,SNR=1.6						
MMAI	**Mount Meron Ar**	**147.82**	**294**	PKPbc	**PKiKP**	**01 13 39.5**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=85,slow=4.9,SNR=7.6						
BURAR	**Bucovina Array**	**149.11**	**326**	PKPbc	**PKiKP**	**01 13 42.5**	**+1.6**
CSS	**Mathiatis**	**149.21**	**298**	PKPbc	**PKPbc**	**01 13 41.5**	**+1.0**

IDC 04 01:20:44.2±7.4, 22.68S×148.17E, h0km, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=79.0km s-min=44.1km az=38.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**10.87**	**211**	Pn	Pn	01 23 22.2	+1.1
	0.2nm,0.3s,baz=30,slow=14,SNR=6.7						
STKA				Sn	Sn	01 25 18.0	-5.5
	0.1nm,0.3s,baz=214,slow=20,SNR=0.8 0.2nm,0.3s						
ASAR	**Alice Springs**	**13.16**	**263**	Pn	Pn	01 23 51.6	-1.0
	0.1nm,0.3s,baz=94,slow=14,SNR=2.6						
ASAR				Lg	Lg	01 27 44.6	
	0.1nm,0.3s,baz=86,slow=27,SNR=4.4 0.2nm,0.3s						
WRA	**Warramunga Arr**	**13.18**	**279**	Pn	Pn	01 23 51.4	-1.3
	baz=98,slow=12,SNR=1.7						
WRA				Sn	Sn	01 26 15.0	-5.2
	baz=112,slow=23,SNR=1.8						
WRA				Lg	Lg	01 27 43.3	
	baz=110,slow=30,SNR=2.3 0.3nm,0.7s						

*BJI **04** 01:26:10.0, 11.60N×94.86E, h10km, mB5.0/21, mb4.6/50, Ms4.5/42, Ms7 4.2/45*
*MOS **04** 01:26:12.8±0.8, 11.89N×94.94E, h15km, mb4.9/45, Error ellipse: s-maj=10.4km s-min=4.7km az=115.2*
*IDC **04** 01:26:12.2±0.5, 11.88N×94.87E, h0km, mb4.4/27, mbtmp4.4/29, ML4.0/2, MS3.7/36, Error ellipse: s-maj=16.0km s-min=11.5km az=65.0*
*DJA **04** 01:26:13.6±0.3, 12°N×9°5E±°, h10km, M5.2/12, mb4.7/12, mB5.9/3, MLv5.5/2, Mw(mB)5.5/3*
*NEIC **04** 01:26:14.6±2.1, 11.91N±0.04×95.01E±0.07, h10km±1km, mb5.0/50, Error ellipse: s-maj=12.3km s-min=5.9km az=293.0*
*NDI **04** 01:26:14.7±2.2, 11.94N×95.09E, h13km±12km, ML4.8, MW4.6, mb5.0(NEIC)*
*BKK **04** 01:26:16.5±0.7, 12°N±3°×9°5E±°, h10km, M4.3/24, mB4.5/6, mb4.4/18, Mjma4.3/24, ML4.8/14, MLv4.6/19, Mw(mB)3.7/8*

ISC 04 01:26:14.7±0.6, 11.82N±0.04×94.93E±0.04, h16km±3km, h16km:pP-P, n357, σ1s39/349, mb4.7/130, MS3.8/46, 14C-10D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**2.37**	**305**	*e*P	**Pn**	**01 26 53.4**	**+0.4**
DGPR				*e*S	**Sb**	**01 27 24.8**	**-1.4**
DGPR				IAML		01 27 29.0	
	comp=N,7μm,0.5s						
DGPR				IAML		01 27 29.5	
	comp=E,6μm,0.4s						
RNTT	**Ranong**	**4.24**	**124**	P	**Pn**	**01 27 18.3**	**-0.4**
KHLT	**Khaolaem Dam**	**4.64**	**50**	P	**Pn**	**01 27 22.6**	**-1.6**
CMBY	**CAMPBELL BAY**	**4.88**	**192**	*e*P	**Pn**	**01 27 29.3**	**+1.9**
CMBY				*e*S	**Sn**	**01 28 19.6**	**-4.0**
CMBY				IAML		01 28 22.2	
	comp=N,856nm,0.2s						
CMBY				IAML		01 28 22.4	
	comp=E,942nm,0.3s						
SRIT	**Nakonsritamara**	**5.61**	**124**		**Pn**	**01 27 37.1**	**-0.4**
SRIT	**Nakonsritamara**	**5.61**	**124**	P	Pn	01 27 27.5	-10
UTHA	**Uthaitani**	**5.76**	**49**	P	**Pn**	**01 27 38.5**	**-1.0**
	comp=E,2.2nmcomp=E,318nmcomp=E,33nm,0.8s						
CM13	**Chiang Mai Arr**	**7.61**	**30**	P	**Pn**	**01 28 05.3**	**+0.3**
	comp=E,0.1nmcomp=E,15nm,0.8s						
CM05	**Chiang Mai Arr**	**7.61**	**30**	P	**Pn**	**01 28 03.6**	**-1.4**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,15nm,0.8s						
CM04	**Chiang Mai Arr**	**7.63**	**30**	P	**Pn**	**01 28 05.1**	**-0.2**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,15nm,0.7s						
CM01	**Chiang Mai Arr**	**7.63**	**30**	P	**Pn**	**01 28 05.0**	**-0.4**
	comp=E,0.1nmcomp=E,0.1nmcomp=E,180nmcomp=E,21nm,0.8s						
CM02	**Chiang Mai Arr**	**7.64**	**30**	P	**Pn**	**01 28 05.9**	**+0.5**
	comp=E,0.1nmcomp=E,0.2nmcomp=E,16nm,0.8s						
CM31	**Chiang Mai Arr**	**7.66**	**30**	Pn	**Pn**	**01 28 05.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**7.66**	**30**	Pn	**Pn**	**01 28 05.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.66**	**30**	Pn	**Pn**	**01 28 06.2**	**+0.4**
	comp=E,1.1nm,0.3s,baz=220,slow=15,SNR=27						
CMAR				Lg	Lg	01 30 15.5	
	comp=E,1.4nm,0.3s,baz=199,slow=31,SNR=1.1						
CMAR				LR	LR	01 31 22.1	
	comp=E,514nm,18.3s,baz=215,slow=41 comp=E,6.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.66**	**30**	*i* P	**Pn**	**01 28 06.1**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**7.96**	**29**		**Pn**	**01 28 10.5**	**+0.6**
CHTO	**Chiang Mai**	**7.96**	**29**	P	**Pn**	**01 28 10.5**	**+0.6**
CHTO	**Chiang Mai**	**7.96**	**29**	P	**Pn**	**01 28 09.9**	**0.0**
	comp=Z,0.0nmcomp=Z,0.1nmcomp=Z,1.0nmcomp=Z,13nm,0.7s						
KULM	**Kulim**	**8.61**	**138**	Pn	**Pn**	**01 28 18.1**	**-0.6**
KHON	**Khomkaen**	**8.88**	**59**	P	**Pn**	**01 28 20.4**	**-2.1**
	comp=Z,0.1nmcomp=Z,11nm,0.7s						
PSI	**Prapat**	**9.79**	**156**	Pn	**Pn**	**01 28 36.4**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=313,slow=16,SNR=4.8						
PSI				Sn	**Sn**	**01 30 24.2**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=171,slow=19,SNR=2.3						
PSI				LR	LR	01 32 11.1	
	comp=Z,481nm,20.5s,baz=320,slow=36 comp=Z,1.4nm,0.3s						
PSI	**Prapat**	**9.79**	**156**	P	**Pn**	**01 28 39.2**	**+4.1**
RPSI	**Rantau Prapat**	**9.89**	**156**		**Pn**	**01 28 39.2**	**+2.9**
RPSI	**Rantau Prapat**	**9.89**	**156**		**Pn**	**01 28 36.4**	**+0.1**
RPSI					**Sn**	**01 30 24.2**	**-2.9**
BRDH	**Bariadhala**	**11.25**	**344**	Pn	**Pn**	**01 28 52.7**	**-2.1**
	comp=Z,28nm,0.3s,baz=68,slow=11,SNR=4.2						
BRDH				LR	LR	01 34 33.4	
	comp=Z,531nm,19.5s,baz=158,slow=45						
AZL	**Aizawl**	**12.05**	**350**	*e*P	**Pn**	**01 29 03.7**	**-2.2**
AZL				*e*S	Sn	01 31 08.1	-12
AZL				IAML		01 31 10.4	
	comp=N,84nm,0.3s						
BWNR	**Bhubaneshwar**	**12.16**	**315**	*e*P	**Pn**	**01 29 06.7**	**-0.7**
BWNR				*e*S	Sn	01 31 12.0	-11
BWNR				IAML		01 31 17.8	
	comp=E,698nm,0.6s						
BWNR				IAML		01 31 28.9	
	comp=E,422nm,0.5s						
IMP	**Imphal**	**12.98**	**356**	*e*P	**Pn**	**01 29 16.2**	**-2.4**
IMP				*e*S	Sn	01 31 29.9	-13
IMP				IAML		01 31 31.5	
	comp=N,226nm,0.3s						
IMP				IAML		01 31 31.7	
	comp=E,156nm,0.2s						
TNCH	**TengChong**	**13.58**	**14**	P	**Pn**	**01 29 26.3**	**-0.6**
TNCH				PP	**P**	**01 29 38.5**	**+2.6**
TNCH				S	**Sn**	**01 32 00.9**	**+3.3**
TNCH				SS	**S**	**01 32 14.9**	**-5.9**
TNCH				pmax	pmax		
	comp=E,290nm,5.0s						
TNCH				LR	LR		
	comp=E,810nm,9.0s						
TNCH				LR	LR		
	comp=E,920nm,8.9s						
TNCH				LR	LR		
	comp=E,1μm,15.3s						
KOHI	**KOHIMA**	**13.85**	**357**	*e*P	**Pn**	**01 29 27.2**	**-3.5**
KOHI				*e*S	Sn	01 31 49.7	-15
KOHI				IAML		01 31 52.4	
	comp=N,74nm,0.2s						
SHL	**Shillong**	**13.98**	**349**		Pn	01 29 26.7	-5.7
SHL	**Shillong**	**13.98**	**349**	P	Pn	01 29 26.7	-5.7
BOK	**Bokaro**	**14.69**	**325**	*e*P	**Pn**	**01 29 41.8**	**-0.2**
BOK				*e*S	Sn	01 32 10.1	-14
BOK				IAML		01 32 11.1	
	comp=N,58nm,0.3s						
BOK				IAML		01 32 11.2	
	comp=E,50nm,0.3s						
PALK	**Pallekele**	**14.73**	**253**	Sn	Sn	01 32 13.3	-12
	comp=E,1.2nm,0.3s,baz=328,slow=19,SNR=4.3						
PALK				LR	LR	01 35 20.8	
	comp=E,208nm,19.4s,baz=72,slow=37						
TEZP	**TEZPUR**	**14.86**	**353**	*e*P	**Pn**	**01 29 41.1**	**-3.1**
TEZP				*e*S	Sn	01 32 12.7	-16
TEZP				IAML		01 32 16.7	
	comp=E,196nm,0.1s						
TEZP				IAML		01 32 25.7	
	comp=E,290nm,0.1s						
SHBG	**Sahibganj**	**14.99**	**334**	*e*P	**Pn**	**01 29 45.6**	**-0.5**
SHBG				*e*S	Sn	01 32 18.7	-13
SHBG				IAML		01 32 22.0	
	comp=E,196nm,0.3s						
SHBG				IAML		01 32 22.1	
	comp=N,241nm,0.2s	

LZH LR LR
comp=Z,380nm,13.3s
LZH LR LR
comp=Z,460nm,11.4s
XAN Xi'an 25.55 28 P **P** **01 31 41.3 -1.6**
XAN pP pwP 01 31 49.3 -1.1
XAN S **S** **01 36 04.6 -5.4**
XAN pmax pmax
comp=Z,29nm,0.9s
XAN pmax pmax
comp=Z,180nm,4.0s
XAN LR LR
comp=Z,720nm,11.7s
XAN LR LR
comp=Z,960nm,12.4s
XAN LR LR
comp=Z,1μm,13.9s
GTA Gaotai 27.82 8 *e*P **P** **01 32 04.7 +1.2**
GTA sP pwP 01 32 13.9 +2.7
GTA pmax pmax
comp=Z,17nm,1.2s
GTA LR LR
comp=Z,200nm,14.5s
GTA LR LR
comp=Z,100nm,13.1s
GTA LR LR
comp=Z,200nm,12.7s
NIL Nilore 29.40 321 P **P** **01 32 17.4 -0.1**
NIL pmax pmax
comp=Z,25nm,0.9s
KAPI Kappang 29.82 123 LR LR 01 46 23.1
comp=Z,181nm,18.3s,baz=289,slow=40
NJ2 Nanjing 29.84 44 *e*P **P** **01 32 21.7 +0.4**
NJ2 pmax pmax
comp=Z,13nm,0.7s
NJ2 LR LR
comp=Z,430nm,12.8s
NJ2 LR LR
comp=Z,570nm,10.4s
NJ2 LR LR
comp=Z,560nm,11.8s
HNS HongShan 31.05 32 ⇓P **P** **01 32 35.9 +4.0**
HNS *e*S S 01 37 45.8 +9.4
HNS LR LR
comp=Z,450nm,14.3s
HNS LR LR
comp=Z,500nm,14.3s
HNS LR LR
comp=Z,380nm,11.9s
BTO Baotou 31.61 22 *e*P **P** **01 32 36.9 -0.1**
BTO pP **sP** **01 32 41.8 -1.1**
BTO sP **pwP** **01 32 45.6 +1.0**
BTO PP **PP** **01 33 42.9 -5.6**
BTO S **S** **01 37 46.2 +0.7**
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,310nm,4.5s
BTO LR LR
comp=Z,490nm,10.4s
BTO LR LR
comp=Z,450nm,8.4s
BTO LR LR
comp=Z,360nm,12.9s
KSH Kashi 32.30 332 P **P** **01 32 41.9 -1.2**
KSH sP pwP 01 32 50.1 +0.3
KSH pmax pmax
comp=Z,20nm,0.7s
HHC Hu-ho-hao-te 32.41 24 *e*P **P** **01 32 45.6 +1.5**
HHC sP pwP 01 32 52.3 +0.6
HHC S **S** **01 37 58.7 +0.7**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,96nm,5.9s
HHC LR LR
comp=Z,330nm,11.2s
HHC LR LR
comp=Z,300nm,10.0s
HHC LR LR
comp=Z,330nm,13.9s
WMQ Urumqi 32.50 350 *e*P **P** **01 32 47.1 +2.4**
KBL Kabul 32.65 318 P **P** **01 32 46.0 -0.3**
KBL Kabul 32.65 318 P **P** **01 32 46.0 -0.3**
KBL pmax pmax
comp=Z,10.0nm,1.1s
PRZ Przheval'sk 33.77 338 P **P** **01 32 57.9 +1.9**
PRZ Przheval'sk 33.77 338 P **P** **01 32 57.9 +1.9**
PRZ pmax pmax
comp=Z,57nm,1.0s
KDJ Kajisay 33.94 336 P **P** **01 32 57.9 +0.4**
KDJ IAmb IAmb 01 32 59.5
comp=Z,25nm,1.0s
KDJ Kajisay 33.94 336 P **P** **01 32 57.9 +0.4**
KDJ pmax pmax
comp=Z,25nm,1.0s
SHLS Shalkode 33.98 340 *e*P **P** **01 32 56.2 -1.5**
SHLS pmax pmax
comp=Z,10.0nm,0.6s
SHLS Shalkode 33.98 340 *e*P **P** **01 32 56.3 -1.5**
comp=Z,10nm,0.6s
UZB Uzynbulak 34.13 339 *e*P **P** **01 32 58.6 -0.4**
UZB pmax pmax
comp=Z,14nm,1.1s
UZB Uzynbulak 34.13 339 *e*P **P** **01 32 58.7 -0.4**
comp=Z,14nm,1.1s
SATY Saty 34.27 338 *e*P **P** **01 32 59.9 -0.3**
SATY pmax pmax
comp=Z,17nm,0.8s
SATY Saty 34.27 338 *e*P **P** **01 32 59.9 -0.3**
comp=Z,17nm,0.8s
TNSS Tian-Shan 34.80 337 *e*P **P** **01 33 04.5 -0.6**
TNSS Tian-Shan 34.80 337 *e*P **P** **01 33 04.6 -0.6**
GAR Garm 34.80 325 **P** **01 33 04.3 -0.6**
GAR IAmb IAmb 01 33 05.6
comp=Z,27nm,1.0s
AAA Alma-Ata 34.96 337 *e*P **P** **01 33 05.9 -0.2**
AAA pmax pmax
comp=Z,25nm,1.2s
AAA Alma-Ata 34.96 337 *e*P **P** **01 33 05.9 -0.2**
comp=Z,25nm,1.2s
TKM2 Tokmak 2 35.24 335 P **P** **01 33 09.2 +0.5**
SNR=15
KBK Karagaybulak 35.30 334 P **P** **01 33 10.8 +1.6**
SNR=6.5
AAK Ala-Archa 35.48 334 **P** **01 33 11.7 +1.0**
AAK IAmb IAmb 01 33 12.8
comp=Z,12nm,0.9s
AAK Ala-Archa 35.48 334 LR LR 01 49 23.0
comp=Z,152nm,22.0s,baz=147,slow=39
AAK Ala-Archa 35.48 334 P **P** **01 33 11.7 +1.0**
AAK pmax pmax
comp=Z,13nm,1.0s
CHKK Chushkaly 35.48 337 *e*P **P** **01 33 10.3 -0.2**
CHKK Chushkaly 35.48 337 *e*P **P** **01 33 10.3 -0.2**
CHMS Chumysh 35.66 334 P **P** **01 33 12.9 +0.8**
SNR=6.7
EKS2 Erkin-Say 35.81 333 P **P** **01 33 14.7 +1.1**
SNR=11
TDK Taldyqorghan 35.97 340 *e*P **P** **01 33 14.4 -0.3**
TDK pmax pmax
comp=Z,14nm,1.6s
TDK Taldyqorghan 35.97 340 *e*P **P** **01 33 14.5 -0.3**
comp=Z,14nm,1.6s
USP Ospenovka 35.98 334 P **P** **01 33 15.5 +0.5**
SNR=26
SGDS Sogindy 36.08 335 *e*P **P** **01 33 15.5 -0.3**
MK31 Makanchi Array 36.46 345*ce*P **P** **01 33 18.9 0.0**
MKAR Makanchi Array 36.46 345 **P** **01 33 18.5 -0.4**
MKAR Makanchi Array 36.46 345 P **P** **01 33 18.8 -0.1**
comp=Z,8.7nm,1.0s,baz=160,slow=8.9,SNR=32
MKAR LR LR 01 52 54.5
comp=Z,126nm,18.0s,baz=188,slow=44
comp=Z,8.7nm,1.0s
MKAR Makanchi Array 36.46 345 *i* P **P** **01 33 19.1 +0.2**
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MAKZ Makanchi 36.55 345 **P** **01 33 19.4 -0.3**
MAKZ Makanchi 36.55 345 P **P** **01 33 19.4 -0.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
DZA Taraz 37.12 331 *e*P **P** **01 33 24.3 -0.3**
DZA Taraz 37.12 331 *e*P **P** **01 33 24.4 -0.2**
SONM Songino Array 37.17 13 **P** **01 33 25.4 +0.3**
SONM Songino Array 37.17 13 P **P** **01 33 25.1 0.0**
comp=Z,13nm,1.1s,baz=199,slow=9.3,SNR=32

SONM LR LR 01 50 13.4
comp=Z,236nm,20.9s,baz=194,slow=39
comp=Z,13nm,1.1s
SONM Songino Array 37.17 13 P **P** **01 33 25.4 +0.3**
SONM pmax pmax
comp=Z,14nm,1.1s
IUG Iuzhnay 37.20 329 *e*P **P** **01 33 25.1 -0.3**
IUG pmax pmax
comp=Z,12nm,0.8s
IUG Iuzhnay 37.20 329 *e*P **P** **01 33 25.2 -0.3**
comp=Z,12nm,0.8s
ULN Ulaanbaatar 37.35 13*ce*P **P** **01 33 26.3 -0.3**
ULN pmax pmax
comp=Z,9.0nm,1.3s
CHM Chimkent 37.55 329 *e*P **P** **01 33 28.1 -0.1**
CHM pmax pmax
comp=Z,17nm,1.5s
CHM Chimkent 37.55 329 *e*P **P** **01 33 28.1 -0.1**
comp=Z,17nm,1.5s
BTLS Baital 37.62 336 *e*P **P** **01 33 28.6 -0.2**
BTLS Baital 37.62 336 *e*P **P** **01 33 28.6 -0.2**
KKAR Karatay Array 37.67 330 **P** **01 33 28.5 -0.8**
KKAR Karatay Array 37.67 330 P **P** **01 33 28.5 -0.8**
BRLS Boroldoy 37.95 330 *e*P **P** **01 33 30.4 -1.2**
BRLS Boroldoy 37.95 330 *e*P **P** **01 33 30.4 -1.2**
KSRS Korea Array 39.04 43 P **P** **01 33 40.4 -0.4**
comp=Z,2.1nm,0.9s,baz=246,slow=9.3,SNR=10
comp=Z,2.1nm,0.9s
ZAK Zakamensk 39.06 8 *e*P **P** **01 33 40.9 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KURBB Kurchatov Arra 40.96 344 P **P** **01 33 56.5 -0.1**
comp=Z,9.3nm,0.9s,baz=162,slow=7.7,SNR=53
KURBB LR LR 01 54 36.9
comp=Z,136nm,18.8s,baz=170,slow=42
comp=Z,9.3nm,0.9s
KURK Kurchatov 41.02 344 **P** **01 33 57.0 -0.1**
KURK Kurchatov 41.02 344*ce*P **P** **01 33 57.1 0.0**
KURK pmax pmax
comp=Z,13nm,1.0s
CN2 Changchun 41.32 34 P **P** **01 34 00.2 +0.5**
CN2 sP pwP 01 34 06.9 -0.4
CN2 S **S** **01 40 13.2 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
FITZ Fitzroy Crossi 42.46 134 LR LR 01 52 16.1
comp=Z,150nm,21.1s,baz=318,slow=37
MSEY Mahe Island 42.51 250 *i* P **P** **01 34 10.5 +0.6**
ZAA0 Zalesovo Array 42.79 351 IAmb IAmb 01 34 23.7
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 42.79 351 **P** **01 34 11.4 0.0**
ZALV Zalesovo Beam 42.79 351 P **P** **01 34 10.9 -0.6**
comp=Z,4.2nm,0.6s,baz=176,slow=9.2,SNR=20
ZALV LR LR 01 54 46.9
comp=Z,93nm,20.2s,baz=171,slow=40
comp=Z,4.2nm,0.6s
ZALV Zalesovo Beam 42.79 351 *i* P **P** **01 34 11.3 -0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
BNX BinXian 43.64 33 ⇓P **P** **01 34 18.1 -0.4**
BNX pmax pmax
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 45.31 38 P **P** **01 34 31.6 -0.3**
comp=Z,1.2nm,0.6s,baz=238,slow=5.8,SNR=4.4
USRK LR LR 01 55 08.0
comp=Z,104nm,19.1s,baz=229,slow=38
comp=Z,1.2nm,0.6s
BVAR Borovoye Array 45.56 339 P **P** **01 34 33.6 -0.2**
comp=Z,3.8nm,0.5s,baz=136,slow=7.4,SNR=25
BVAR LR LR 01 58 05.2
comp=Z,45nm,18.4s,baz=144,slow=42
comp=Z,3.8nm,0.5s
BRVK Borovoye 45.62 339 **P** **01 34 34.0 -0.2**
BRVK IAmb IAmb 01 34 35.3
comp=Z,23nm,1.4s
BRVK Borovoye 45.62 339 P **P** **01 34 34.0 -0.2**
BRVK pmax pmax
comp=Z,23nm,1.4s
MJAR Matsushiro Arr 46.01 50 P **P** **01 34 38.2 +0.7**
comp=Z,0.4nm,0.4s,baz=260,slow=10,SNR=5.8
MJAR LR LR 01 54 28.3
comp=Z,49nm,21.1s,baz=250,slow=37
comp=Z,0.4nm,0.4s
GENI Genyem 47.19 105 P P 01 34 58.9 +12
AB31 Akbulak array 47.21 329 **P** **01 34 46.8 0.0**
AB31 IAmb IAmb 01 34 47.9
comp=Z,20nm,1.4s
ABKAR Akbulak array 47.21 329 **P** **01 34 46.7 -0.1**
RAYN Ar Rayn 48.29 291 **P** **01 34 55.8 +0.2**
RAYN IAmb IAmb 01 35 09.7
comp=Z,11nm,1.1s
RAYN Ar Rayn 48.29 291 P **P** **01 34 55.8 +0.2**
RAYN pmax pmax
comp=Z,11nm,1.1s
LKRN Lenkeran, Azer 48.90 312 P **P** **01 35 01.3 +1.3**
AKTO Aktyubinsk 48.92 329 LR LR 01 59 23.4
comp=Z,57nm,18.9s,baz=240,slow=41
WB0 Warramunga Arr 49.95 129 P **P** **01 35 08.7 +0.4**
WB0 IAmb IAmb 01 35 28.8
comp=Z,13nm,0.9s
WRA Warramunga Arr 50.01 129 P **P** **01 35 08.8 0.0**
comp=Z,7.4nm,0.9s,baz=307,slow=8.4,SNR=19
WRA PcP **PcP** **01 36 29.1 +0.4**
comp=Z,1.2nm,0.7s,baz=308,slow=3.1,SNR=5.8
WRA LR LR 02 01 37.4
comp=Z,105nm,18.2s,baz=67,slow=42
comp=Z,7.4nm,0.9s
WRA Warramunga Arr 50.01 129 *i* P **P** **01 35 09.1 +0.4**
WRA pmax pmax
comp=Z,8.0nm,0.9s
WR8 Warramunga Arr 50.14 129 **P** **01 35 09.6 -0.1**
WR8 IAmb IAmb 01 35 30.8
comp=Z,15nm,0.8s
MNGR Mingechevir, A 50.84 313 P **P** **01 35 15.8 +1.1**
SEKA Sheki 50.92 314 P **P** **01 35 15.7 +0.3**
GANJ Ganja 51.34 313 P **P** **01 35 19.6 +1.0**
NAX Nakhchivan 51.47 311 P **P** **01 35 20.8 +1.2**
ASAR Alice Springs 51.93 133 P **P** **01 35 23.6 +0.5**
ASAR Alice Springs 51.93 133 P **P** **01 35 23.6 +0.4**
comp=Z,6.7nm,0.7s,baz=312,slow=6.7,SNR=73
ASAR LR LR 01 58 44.5
comp=Z,57nm,18.9s,baz=288,slow=38
comp=Z,6.7nm,0.7s
ASAR Alice Springs 51.93 133 P **P** **01 35 23.7 +0.5**
ASAJ Asahikawa 51.98 43 LR LR 01 58 01.1
comp=Z,65nm,19.2s,baz=182,slow=37
SVE Sverdlovsk 52.07 337*de*P **P** **01 35 24.2 +0.5**
SVE pmax pmax
comp=Z,34nm,1.3s
GNI Garni 52.32 312 **P** **01 35 27.2 +1.1**
GNI Garni 52.32 312 LR LR 02 00 41.6
comp=Z,63nm,19.0s,baz=120,slow=40
GNI Garni 52.32 312 P **P** **01 35 27.2 +1.1**
GNI pmax pmax
comp=Z,55nm,1.0s
GNI Garni 52.32 312 P **P** **01 35 26.0 -0.1**
comp=Z,542nmcomp=Z,63nm,1.0s
ARTI Arti 52.66 335 **P** **01 35 27.6 -0.4**
ARTI IAmb IAmb 01 35 28.8
comp=Z,21nm,0.9s
ARTI Arti 52.66 335 LR LR 01 59 59.6
comp=Z,80nm,20.4s,baz=168,slow=39
ARTI Arti 52.66 335*c* *i* P **P** **01 35 27.7 -0.4**
ARTI 01 36 38.2
ARTI S **S** **01 42 56.7 +1.9**
ARTI SS **SS** **01 46 33.7 +0.4**
ARTI pmax pmax
comp=Z,20nm,0.9s
YSS Yuzhno-Sakhali 53.24 39 *e*P **P** **01 35 31.5 -1.0**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,200nm,17.0s
MARD Mardin 54.55 308 IAmb IAmb 01 35 55.8
comp=Z,17nm,0.7s
KBZ Khabaz 54.77 316 P **P** **01 35 43.6 -0.1**
comp=Z,2.2nm,0.9s,baz=89,slow=4.7,SNR=4.3
comp=Z,2.2nm,0.9s
KBZ Khabaz 54.77 316*ce*P **P** **01 35 44.2 +0.5**
KBZ pmax pmax

comp=Z,4.0nm,1.4s
SHA1 Shidzhatmaz 54.94 316 *i* P **P** **01 35 45.6 +0.3**
KIV Kislovodsk 54.99 316 **P** **01 35 45.6 +0.2**
KIV Kislovodsk 54.99 316 *e*P **P** **01 35 45.7 +0.2**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,53nm,17.0s
KIV Kislovodsk 54.99 316 P **P** **01 35 45.6 +0.2**
comp=Z,291nmcomp=Z,23nm,1.1s
GOF Gofitskoye 55.12 317*ce*P P 01 35 58.8 +13
BELG Belogornoye 55.41 327 LR LR 02 02 57.0
comp=Z,72nm,20.9s,baz=26,slow=40
BELG Belogornoye 55.41 327 *i* P **P** **01 35 47.3 -0.9**
BELG pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 56.04 19 *e*P **P** **01 35 52.3 -0.2**
YAK *e**PP **pP** **01 35 55.6 -1.3**
YAK *e* 01 36 51.9
YAK *e* 01 37 57.4
YAK *e*PPP PPP 01 39 11.2
YAK *e*S **S** **01 43 41.0 +0.8**
YAK *e**SS **sS** **01 43 46.5 -1.1**
YAK *e* 01 45 42.0
YAK *e*SS **SS** **01 47 30.1 +3.8**
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,61nm,2.8s
YAK pmax pmax
comp=E,29nm,2.9s
YAK pmax pmax
comp=N,45nm,3.7s
YAK smax smax
comp=N,34nm,3.3s
YAK smax smax
comp=E,22nm,3.3s
YAK MLR MLR
comp=Z,176nm,20.0s
YAK MLR MLR
comp=N,105nm,21.0s
YAK MLR MLR
comp=E,100nm,18.0s
ASF Jabal al Asfar 56.81 301 LR LR 02 01 52.3
comp=E,40nm,20.7s,baz=108,slow=38
SOC Sochi 56.92 315 *e*P **P** **01 35 56.5 -2.7**
SOC *e* 01 38 00.6
SOC *e*S **S** **01 43 50.0 -2.6**
SOC *e*SS **SS** **01 47 35.9 -5.1**
SOC *e*SSS SSS 01 49 58.3
SOC MLR MLR
comp=Z,55nm,16.0s
KIRV Kirov 57.81 334 LR LR 02 04 35.8
comp=Z,43nm,18.9s,baz=168,slow=40
KIRV Kirov 57.81 334*ce*P **P** **01 36 04.8 -0.3**
MMAI Mount Meron Ar 58.16 302 LR LR 02 05 44.6
comp=Z,67nm,18.0s,baz=30,slow=41
VRH Novokhopyorsk 58.19 324 *e*P **P** **01 36 04.8 -3.1**
VRH pmax pmax
comp=Z,6.0nm,0.9s
BNN Bunyan 58.67 308 IAmb IAmb 01 36 25.1
comp=Z,11nm,1.1s
VSR Storozhevoye 59.69 323 *e*P P 01 36 12.4 -6.0
VSR pmax pmax
comp=Z,6.0nm,1.0s
LPSR Galich'ya Gora 60.32 324 *e*P **P** **01 36 21.1 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BR104 Keskin Array S 60.50 309 P **P** **01 36 23.4 -1.0**
comp=Z,80nmcomp=Z,10nm,0.8s
BR131 Keskin Array S 60.51 309 IAmb IAmb 01 36 24.1
comp=Z,9.9nm,0.7s
BR131 Keskin Array S 60.51 309 *i* P **P** **01 36 23.2 -1.2**
BRTR Keskin Array B 60.51 309 P **P** **01 36 23.5 -0.9**
BRTR Keskin Array B 60.51 309 P **P** **01 36 23.2 -1.2**
comp=Z,6.7nm,0.7s,baz=124,slow=7.7,SNR=59
comp=Z,6.7nm,0.7s
BRTR Keskin Array B 60.51 309 P **P** **01 36 23.5 -0.9**
BR105 Keskin Array S 60.52 309 P **P** **01 36 23.4 -1.1**
comp=Z,82nmcomp=Z,12nm,0.8s
BR106 Keskin Array S 60.53 309 P **P** **01 36 23.4 -1.1**
comp=Z,76nmcomp=Z,10nm,0.8s
ANTO Ankara 61.17 309 P **P** **01 36 27.8 -1.1**
ANTO IAmb IAmb 01 36 28.9
comp=Z,7.4nm,0.7s
ANTO Ankara 61.17 309 P **P** **01 36 27.8 -1.1**
ANTO pmax pmax
comp=Z,7.0nm,0.7s
ANTO Ankara 61.17 309 P **P** **01 36 27.9 -1.0**
comp=Z,7.1nm,1.4s
MOS Moscow 62.16 327 *e*P **P** **01 36 33.5 -1.6**
MOS pmax pmax
comp=Z,32nm,1.1s
STKA Stephens Creek 62.31 136 **P** **01 36 37.4 +0.9**
STKA Stephens Creek 62.31 136 P **P** **01 36 37.4 +0.9**
comp=Z,6.8nm,0.7s,baz=327,slow=7.4,SNR=12
STKA LR LR 02 04 54.2
comp=Z,38nm,18.6s,baz=359,slow=37
comp=Z,6.8nm,0.7s
STKA Stephens Creek 62.31 136 P **P** **01 36 37.4 +0.9**
STKA pmax pmax
comp=Z,66nm,1.1s
OBN Obninsk 62.51 327*d* *i* P **P** **01 36 37.3 -0.1**
OBN *e**PP **pP** **01 36 40.9 -1.3**
OBN *e**SP **pwP** **01 36 46.6 +4.4**
OBN *i* 01 37 14.9
OBN S **S** **01 45 03.0 -1.1**
OBN pmax pmax
comp=Z,31nm,1.7s
OBN MLR MLR
comp=Z,51nm,18.0s
OBN Obninsk 62.51 327 P **P** **01 36 37.6 +0.2**
comp=Z,12nm,0.5s
MA2 Magadan 62.94 28 **P** **01 36 39.3 -0.9**
MA2 IAmb IAmb 01 36 41.3
comp=Z,16nm,1.0s
MA2 Magadan 62.94 28 LR LR 02 05 55.0
comp=Z,60nm,18.0s,baz=254,slow=38
MA2 Magadan 62.94 28*ce*P **P** **01 36 40.2 0.0**
MA2 pmax pmax
comp=Z,9.0nm,0.8s
MA2 Magadan 62.94 28 P **P** **01 36 40.0 -0.2**
comp=Z,19nm,1.0s
TIXI Tiksi 63.24 11 P **P** **01 36 40.8 -1.2**
TIXI IAmb IAmb 01 36 42.3
comp=Z,15nm,1.2s
TIXI Tiksi 63.24 11 LR LR 02 04 59.2
comp=Z,61nm,21.7s,baz=292,slow=37
TIXI Tiksi 63.24 11*ce*P **P** **01 36 41.4 -0.6**
TIXI pmax pmax
comp=Z,21nm,1.7s
KLMR Klimovskoe 63.29 333 *e*P **P** **01 36 39.5 -3.0**
KLMR pmax pmax
comp=Z,23nm,1.4s
PETK Petropavlovsk- 64.38 36 P **P** **01 36 49.0 -0.9**
comp=Z,2.3nm,0.9s,baz=256,slow=6.0,SNR=3.6
PETK LR LR 02 07 34.0
comp=Z,64nm,18.4s,baz=259,slow=39
comp=Z,2.3nm,0.9s
SEY Seymchan 65.05 25*ce*P **P** **01 36 55.5 +1.5**
SEY pmax pmax
comp=Z,8.0nm,2.5s
AK09 Malin Array Si 65.54 320 P **P** **01 36 57.3 -0.1**
AK10 Malin Array Si 65.56 320 P **P** **01 36 57.1 -0.4**
AK07 Malin Array Si 65.58 320 P **P** **01 36 57.5 -0.2**
AKASG Malin Array Be 65.59 320 P **P** **01 36 56.3 -1.5**
comp=Z,4.9nm,1.2s,baz=87,slow=4.7,SNR=8.5
comp=Z,4.9nm,1.2s
AKASG Malin Array Be 65.59 320 *i* P **P** **01 36 56.9 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 65.59 320*ce*P **P** **01 36 57.5 -0.3**
AKBB pmax pmax
comp=Z,16nm,1.5s
SORM Soroca 65.68 318 P **P** **01 36 57.8 -0.6**
AK18 Malin Array Si 65.69 320 P **P** **01 36 57.5 -0.9**
AK20 Malin Array Si 65.73 320 P **P** **01 36 57.7 -1.0**
LUBAR Lubar, Ukraine 66.37 319 P **P** **01 37 01.9 -0.9**
NDNU Novodnistrovsk 66.40 318 P **P** **01 37 02.1 -1.0**
MNK Minsk 67.17 324 *i* P **P** **01 37 07.9 +0.1**
MNK *i* 01 37 41.5
MNK *i* S **S** **01 46 03.1 +1.5**

MNK				*i* PS	PnS	01 46 54.3	+31	
MNK				pmax	pmax			
	comp=E,3.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,9.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,14nm,0.7s							
JOF	**Joensuu**	**67.66**	**334**	*eP*	**P**	**01 37 11.0**	**+0.3**	
BURAR	**Bucovina Array**	**67.69**	**317**	P	**P**	**01 37 11.4**	**0.0**	
BURAR	**Bucovina Array**	**67.69**	**317**	P	**P**	**01 37 11.4**	**0.0**	
BURAR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BUR08	**Bucovina Ar. S**	**67.71**	**317**	IAmb	IAmb	01 37 56.4		
	comp=Z,18nm,1.6s							
RNPP9	**Sopachiv**	**67.79**	**321**	P	**P**	**01 37 10.9**	**-0.9**	
VSU	**Vasula**	**68.64**	**328**	*ceP*	**P**	**01 37 17.6**	**+0.7**	
VSU				pmax	pmax			
	comp=Z,24nm,1.7s							
MEZ	**Mezhgor'ye**	**68.93**	**318**	P	**P**	**01 37 19.0**	**0.0**	
ARBE	**Arbavere**	**69.23**	**329**	*eP*	**P**	**01 37 20.8**	**+0.2**	
BRIU	**Brid**	**69.24**	**317**	P	**P**	**01 37 21.0**	**+0.1**	
PABE	**Paberze**	**69.57**	**325**	P	**P**	**01 37 22.7**	**-0.1**	
PABE	**Paberze**	**69.57**	**325**	*eP*	**P**	**01 37 22.9**	**+0.1**	
KWP	**Kalwaria Pacla**	**69.57**	**319**	*eP*	**P**	**01 37 23.1**	**0.0**	
KWP	**Kalwaria Pacla**	**69.57**	**319**	P	**P**	**01 37 23.2**	**+0.2**	
KWP				pmax	pmax			
	comp=Z,19nm,0.5s							
KWP	**Kalwaria Pacla**	**69.57**	**319**	P	**P**	**01 37 23.0**	**0.0**	
	comp=Z,19nm,1.5s							
FIA1	**FINESS Array S**	**69.62**	**331**	P	**P**	**01 37 22.7**	**-0.3**	
FINES	**FINESS Array B**	**69.62**	**331**	P	**P**	**01 37 23.1**	**+0.1**	
FINES	**FINESS Array B**	**69.62**	**331**	P	**P**	**01 37 22.8**	**-0.3**	
	comp=Z,7.3nm,0.8s,baz=96,slow=5.5,SNR=36							
	comp=Z,7.3nm,0.8s							
FINES	**FINESS Array B**	**69.62**	**331**	*i* P	**P**	**01 37 23.1**	**+0.1**	
FINES				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KOLS	**Kolonicke sedl**	**69.79**	**318**	*eP*	**P**	**01 37 25.6**	**+1.2**	
KOLS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KOLS	**Kolonicke sedl**	**69.79**	**318**	*eP*	**P**	**01 37 25.6**	**+1.2**	
SUW	**Suwalki**	**69.80**	**323**	*eP*	**P**	**01 37 23.4**	**-1.0**	
SUW	**Suwalki**	**69.80**	**323**	P	**P**	**01 37 23.3**	**-1.0**	
SUW	**Suwalki**	**69.80**	**323**	P	**P**	**01 37 23.3**	**-1.0**	
MEF	**Metsahovi**	**70.17**	**330**	*eP*	**P**	**01 37 26.4**	**0.0**	
KEF	**Keuruu**	**70.34**	**332**	*eP*	**P**	**01 37 27.6**	**+0.2**	
STHS	**Stebnicka Huta**	**70.50**	**318**	*eP*	**P**	**01 37 28.2**	**-0.5**	
STHS	**Stebnicka Huta**	**70.50**	**318**	*eP*	**P**	**01 37 28.2**	**-0.5**	
PBUR	**Paburge**	**70.78**	**325**	*eP*	**P**	**01 37 30.3**	**+0.1**	
NIE	**Niedzica**	**71.12**	**318**	*eP*	**P**	**01 37 33.0**	**+0.5**	
NIE	**Niedzica**	**71.12**	**318**	P	**P**	**01 37 32.6**	**+0.1**	
	comp=Z,4.3nm,1.2s							
PSZ	**Piszkesteto**	**71.30**	**317**	*eP*	**P**	**01 37 33.7**	**0.0**	
OJC	**Ojcow**	**71.50**	**319**	*eP*	**P**	**01 37 34.5**	**-0.2**	
OJC	**Ojcow**	**71.50**	**319**	P	**P**	**01 37 34.5**	**-0.2**	
	comp=Z,12nm,1.0s							
RAF	**Rauma**	**71.59**	**331**	*eP*	**P**	**01 37 34.6**	**-0.4**	
LANS	**Liptovska Anna**	**71.65**	**318**	*eP*	P	01 37 48.8	+13	
ARCES	**ARCESS Array B**	**71.85**	**340**	P	**P**	**01 37 36.0**	**-0.5**	
	comp=Z,2.6nm,0.8s,baz=100,slow=4.4,SNR=6.0							
ARCES				LR	LR	02 14 02.2		
	comp=Z,102nm,18.2s,baz=182,slow=40							
	comp=Z,2.6nm,0.8s							
VYHS	**Vyhne**	**72.03**	**317**	*eP*	**P**	**01 37 37.3**	**-0.7**	
VYHS	**Vyhne**	**72.03**	**317**	*eP*	**P**	**01 37 37.3**	**-0.7**	
BILL	**Bilibino**	**72.16**	**22**	*i* P	**P**	**01 37 38.0**	**-0.4**	
BILL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SRO	**Srobarova**	**72.36**	**317**	*eP*	**P**	**01 37 41.5**	**+1.6**	
SRO				*e*		01 37 54.6		
SRO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SRO	**Srobarova**	**72.36**	**317**	*eP*	**P**	**01 37 41.5**	**+1.6**	
SRO				*e*		01 37 54.6		
SJUU	**Sjulsmark**	**72.42**	**335**	*eP*	**P**	**01 37 40.5**	**+0.6**	
STEB	**Steborice**	**72.78**	**319**	*eP*	**P**	**01 37 42.5**	**+0.1**	
JAVC	**Velka Javorina**	**72.82**	**318**	*eP*	**P**	**01 37 43.0**	**+0.3**	
MORC	**Moravsky Berou**	**72.93**	**319**	IAmb	IAmb	01 37 44.6		
	comp=Z,12nm,1.1s							
MORC	**Moravsky Berou**	**72.93**	**319**	*eP*	**P**	**01 37 43.2**	**-0.2**	
MODS	**Modra-Piesok**	**73.06**	**317**	*eP*	**P**	**01 37 41.3**	**-2.9**	
MODS				pmax	pmax			
	comp=Z,13nm,1.1s							
MODS	**Modra-Piesok**	**73.06**	**317**	*eP*	**P**	**01 37 41.3**	**-2.9**	
GKP	**Gorka Klasztor**	**73.26**	**322**	*eP*	**P**	**01 37 45.1**	**0.0**	
KRLC	**Kraliky**	**73.43**	**319**	*eP*	**P**	**01 37 46.8**	**+0.5**	
KRLC	**Kraliky**	**73.43**	**319**	*eP*	**P**	**01 37 46.8**	**+0.5**	
UPP	**Uppsala**	**73.48**	**329**	*eP*	**P**	**01 37 46.2**	**-0.2**	
VRAC	**Vranov**	**73.53**	**318**	*eP*	**P**	**01 37 46.8**	**-0.1**	
KRUC	**Moravsky**	**73.66**	**318**	*eP*	**P**	**01 37 47.1**	**-0.5**	
RONA	**Rosalia, Austr**	**73.71**	**316**	*eP*	**P**	**01 37 47.8**	**-0.2**	
	comp=Z,2.0nm,0.7s							
DPC	**Dobruska-Polom**	**73.73**	**319**	*eP*	**P**	**01 37 48.8**	**+0.7**	
DPC	**Dobruska-Polom**	**73.73**	**319**	*eP*	**P**	**01 37 48.8**	**+0.7**	
DPC	**Dobruska-Polom**	**73.73**	**319**	P	**P**	**01 37 48.2**	**+0.1**	
	comp=Z,5.9nm,1.1s							
KOGS	**Kog**	**73.74**	**315**	*i* P	**P**	**01 37 48.0**	**-0.2**	
KSP	**Ksiaz**	**73.76**	**320**	*eP*	**P**	**01 37 48.0**	**-0.1**	
KSP	**Ksiaz**	**73.76**	**320**	P	**P**	**01 37 48.4**	**+0.2**	
	comp=Z,11nm,1.0s							
CHVC	**Chvalec**	**73.91**	**319**	*eP*	**P**	**01 37 49.6**	**+0.5**	
CHVC	**Chvalec**	**73.91**	**319**	*eP*	**P**	**01 37 49.6**	**+0.5**	
CONA	**Conrad Observa**	**74.01**	**317**	*eP*	**P**	**01 37 49.3**	**-0.5**	
	comp=Z,1.3nm,0.8s							
ARSA	**Arzberg**	**74.24**	**316**	*eP*	**P**	**01 37 50.9**	**-0.2**	
	comp=Z,2.0nm,0.9s							
PERS	**Pernice**	**74.53**	**315**	*i* P	**P**	**01 37 52.5**	**-0.3**	
SOKA	**Soboth**	**74.58**	**315**	*eP*	**P**	**01 37 52.8**	**-0.4**	
	comp=Z,5.7nm,1.1s							
PVCC	**Panska Ves**	**74.85**	**319**	*eP*	**P**	**01 37 55.0**	**+0.5**	
PVCC	**Panska Ves**	**74.85**	**319**	*eP*	**P**	**01 37 55.0**	**+0.5**	
OBKA	**Obir**	**74.92**	**315**	*eP*	**P**	**01 37 54.1**	**-1.0**	
	comp=Z,4.0nm,0.9s							
CKRC	**Cesky Krumlov**	**75.04**	**318**	*eP*	**P**	**01 37 55.9**	**+0.2**	
CKRC	**Cesky Krumlov**	**75.04**	**318**	*eP*	**P**	**01 37 55.9**	**+0.2**	
MOA	**Molln**	**75.08**	**317**	*eP*	**P**	**01 37 55.3**	**-0.7**	
	comp=Z,3.2nm,0.9s							
ZVC	**Zvikov**	**75.10**	**318**	*eP*	**P**	**01 37 56.4**	**+0.4**	
BRG	**Berggiesshubel**	**75.25**	**320**	*i* P	**P**	**01 37 57.5**	**+0.7**	
BRG				Amp		01 37 58.5		
	comp=Z,8.1nm,0.9s							
VOJS	**Vojsko**	**75.39**	**315**	*i* P	**P**	**01 37 57.1**	**-0.7**	
VOJS				*i*		01 38 10.5		
GEC2	**GERESS Array S**	**75.44**	**318**	IAmb	IAmb	01 37 59.0		
	comp=Z,8.6nm,0.8s							
GERES	**GERESS Array B**	**75.44**	**318**	P	**P**	**01 37 58.0**	**-0.1**	
	comp=Z,5.1nm,0.7s,baz=86,slow=5.5,SNR=56							
	comp=Z,5.1nm,0.7s							
HFS	**Hagfors**	**75.47**	**329**	P	**P**	**01 37 57.6**	**-0.3**	
	comp=Z,6.8nm,0.8s,baz=114,slow=6.6,SNR=12							
	comp=Z,6.8nm,0.8s							
BIOA	**Bad Ischl, Aus**	**75.51**	**316**	*eP*	**P**	**01 37 57.4**	**-1.0**	
	comp=Z,2.7nm,0.7s							
KHC	**Kasperske Hory**	**75.51**	**318**	*ceP*	**P**	**01 37 58.5**	**+0.1**	
KHC				pmax	pmax			
	comp=Z,3.0nm,1.3s							
KHC	**Kasperske Hory**	**75.51**	**318**	*eP*	**P**	**01 37 58.3**	**-0.2**	
KHC	**Kasperske Hory**	**75.51**	**318**	P	**P**	**01 37 58.2**	**-0.2**	
	comp=Z,4.5nm,1.4s							
CLL	**Collm**	**75.83**	**320**	P	**P**	**01 37 59.4**	**-0.8**	
CLL				IAmb	IAmb	01 38 02.3		
	comp=Z,11nm,1.4s							
CLL	**Collm**	**75.83**	**320**	*i* P	**P**	**01 37 59.4**	**-0.8**	
CLL				pmax	pmax			
	comp=Z,6.0nm,1.0s							
CLL	**Collm**	**75.83**	**320**	P	**P**	**01 37 59.6**	**-0.6**	
	comp=Z,5.3nm,1.4s							
CLL	**Collm**	**75.83**	**320**	*i* P	**P**	**01 37 59.4**	**-0.8**	
	comp=Z,6.0nm,1.0s							
CLL				*ePcP*	**PcP**	**01 38 14.0**	**+1.3**	
CLL				*i* x	x	01 38 26.5		
SPITS	**Spitsbergen Ar**	**76.16**	**348**	P	**P**	**01 38 01.3**	**-0.3**	
	comp=Z,2.2nm,0.5s,baz=100,slow=9.4,SNR=12							
SPITS				LR	LR	02 19 19.4		
	comp=Z,92nm,18.0s,baz=172,slow=42							
	comp=Z,2.2nm,0.5s							
LESA	**Schwarzleotal**	**76.17**	**316**	*eP*	**P**	**01 38 01.3**	**-1.0**	
	comp=Z,3.0nm,0.8s,SNR=4.6							
ABTA	**Abfaltersbach**	**76.31**	**315**	*eP*	**P**	**01 38 02.0**	**-1.1**	
	comp=Z,2.5nm,1.1s							
NB2	**NORSAR Subarra**	**76.71**	**330**	P	**P**	**01 38 04.4**	**-0.6**	
	comp=Z,1.4nm,0.8s,baz=88,slow=5.9							
NOA	**NORSAR Array B**	**76.71**	**330**	P	**P**	**01 38 04.4**	**-0.6**	
	comp=Z,2.7nm,0.9s,baz=89,slow=5.8,SNR=9.3							
NOA				LR	LR	02 15 30.9		
	comp=Z,22nm,18.8s,baz=95,slow=39							
	comp=Z,2.7nm,0.9s							
WTTA	**Wattenberg**	**76.89**	**316**	*eP*	**P**	**01 38 05.3**	**-1.1**	
	comp=Z,3.0nm,0.6s,SNR=4.8							
WATA	**Walderalm**	**76.92**	**316**	*eP*	**P**	**01 38 05.3**	**-1.3**	
	comp=Z,5.4nm,1.2s							
GRF	**Grafenberg Arr**	**77.03**	**319**	*eP*	**P**	**01 38 07.1**	**+0.1**	
	comp=Z,7.3nm,1.1s,baz=87,slow=4.7							
SQTA	**Sankt Quirin**	**77.18**	**316**	*eP*	**P**	**01 38 07.0**	**-1.1**	
	comp=Z,2.2nm,0.6s,SNR=4.3							
MOTA	**Moosalm**	**77.24**	**316**	*eP*	**P**	**01 38 07.3**	**-1.1**	
	comp=Z,5.1nm,1.0s,SNR=7.1							
RETA	**Reutte**	**77.46**	**316**	*eP*	**P**	**01 38 08.7**	**-0.9**	
	comp=Z,7.6nm,0.9s,SNR=8.8							
FETA	**Feichten**	**77.52**	**316**	*eP*	**P**	**01 38 09.1**	**-0.9**	
	comp=Z,3.8nm,1.0s,SNR=5.9							
ZCCA	**Zocca**	**77.54**	**313**	IAmb	IAmb	01 38 12.2		
	comp=Z,9.3nm,0.8s							
DZM	**Mont Dzumac**	**77.77**	**116**	*eLR*	LR	02 02 07.0		
	comp=Z,156nm,23.4s							
DAVA	**Damuels**	**78.08**	**316**	*eP*	**P**	**01 38 11.2**	**-1.9**	
	comp=Z,6.4nm,0.8s							
BOSA	**Boshof**	**78.34**	**237**	P	**P**	**01 38 15.1**	**+0.3**	
	comp=Z,2.5nm,0.8s,baz=71,slow=3.5,SNR=3.8							
BOSA				LR	LR	02 08 18.1		
	comp=Z,75nm,18.5s,baz=22,slow=32							
	comp=Z,2.5nm,0.8s							
TUE	**Stuetta**	**78.51**	**315**	P	**P**	**01 38 15.2**	**-0.4**	
	comp=Z,23nm,0.8s							
KEST	**Kesra**	**79.65**	**304**	IAmb	IAmb	01 38 36.3		
	comp=Z,13nm,0.9s							
KEST	**Kesra**	**79.65**	**304**	P	**P**	**01 38 21.6**	**-0.3**	
	comp=Z,5.8nm,1.0s,baz=64,slow=5.2,SNR=5.1							
	comp=Z,5.8nm,1.0s							
WLF	**Walferdange**	**80.31**	**319**	*dP*	**P**	**01 38 24.5**	**-0.5**	
	comp=Z,4.4nm,1.3s							
RCHB	**Rochefort**	**80.84**	**319**	*dP*	**P**	**01 38 27.5**	**-0.4**	
BGES	**Gesves**	**80.91**	**320**	*dP*	**P**	**01 38 28.3**	**0.0**	
	comp=Z,4.2nm,1.0s							
BMRD	**Maredsous**	**81.12**	**320**	*dP*	**P**	**01 38 29.0**	**-0.3**	
	comp=Z,4.1nm,1.0s							
MAW	**Mawson**	**82.53**	**192**	P	**P**	**01 38 37.9**	**+1.7**	
	comp=Z,4.4nm,0.9s,baz=27,slow=7.3,SNR=7.9							
	comp=Z,4.4nm,0.9s							
EKA	**Eskdalemuir Ar**	**84.93**	**325**	P	**P**	**01 38 49.0**	**0.0**	
	comp=Z,2.1nm,0.8s,baz=82,slow=6.4,SNR=6.9							
	comp=Z,2.1nm,0.8s							
EKA	**Eskdalemuir Ar**	**84.93**	**325**	P	**P**	**01 38 49.5**	**+0.5**	
F20K	**Avaraart Lake**	**86.56**	**22**	IAmb	IAmb	01 38 58.1		
	comp=Z,13nm,1.1s							
G21K	**Allakaket**	**87.58**	**22**	P	**P**	**01 39 02.3**	**+0.4**	
G21K				IAmb	IAmb	01 39 14.7		
	comp=Z,13nm,1.2s							
IMAR	**Indian Mountai**	**87.71**	**22**	P	**P**	**01 39 01.6**	**-0.8**	
ESDC	**Sonseca Array**	**89.28**	**310**	P	**P**	**01 39 10.8**	**+0.2**	
ESDC	**Sonseca Array**	**89.28**	**310**	P	**P**	**01 39 10.4**	**-0.1**	
	comp=Z,1.2nm,0.9s,baz=60,slow=4.5,SNR=11							
	comp=Z,1.2nm,0.9s							
SYO	**Syowa Base**	**89.38**	**197**	*ieP*	**P**	**01 39 12.4**	**+2.3**	
SYO	**Syowa Base**	**89.38**	**197**	*ieS*	sP	01 39 18.6	+2.5	
CAST	**Castle Rocks**	**89.45**	**24**	IAmb	IAmb	01 39 12.4		
	comp=Z,9.6nm,0.9s							
BORG	**Borgarnes**	**90.11**	**337**	LR	LR	02 21 35.2		
	comp=Z,22nm,19.5s,baz=91,slow=37							
BORG	**Borgarnes**	**90.11**	**337**	*i* P	**P**	**01 39 13.2**	**-0.6**	
PBRG	**Braganca**	**90.74**	**313**	*eP*	**P**	**01 39 14.2**	**-3.1**	
PBRG				*i* IAmb	IAmb	01 39 15.4		
	comp=Z,14nm,1.8s							
ILAR	**Eielson Array**	**90.83**	**22**	P	**P**	**01 39 15.6**	**-1.6**	
	comp=Z,0.6nm,0.9s,baz=296,slow=4.9,SNR=5.8							
ILAR				LR	LR	02 23 04.1		
	comp=Z,61nm,18.1s,baz=4.0,slow=38							
	comp=Z,0.6nm,0.9s							
MVO	**Moncorvo**	**91.13**	**312**	*eP*	**P**	**01 39 19.2**	**0.0**	
PCAB	**Cabril**	**91.69**	**313**	*eP*	**P**	**01 39 22.6**	**+0.9**	
PGAV	**Gavieira, Arco**	**91.78**	**313**	*eLR*	LR	01 43 02.7		
PGAV				*i* IAMs_20	IAMs_20	01 49 14.8		
	comp=Z,200nm,22.0s							
PCBR	**Castelo Branco**	**91.84**	**311**	*eP*	**P**	**01 39 23.3**	**+0.9**	
PCBR				*i* IAmb	IAmb	01 39 29.5		
	comp=Z,10nm,1.9s							
PMRV	**Marv??o**	**91.89**	**311**	*eP*	**P**	**01 39 23.1**	**+0.4**	
PMRV				*i* IAmb	IAmb	01 39 24.4		
	comp=Z,8.3nm,1.4s							
PMRV				*eLR*	LR	01 41 54.0		
PMRV				*i* IAMs_20	IAMs_20	01 52 50.4		
	comp=Z,169nm,20.0s							
PBAR	**Barrancos**	**91.99**	**310**	*eP*	**P**	**01 39 23.8**	**+0.7**	
PBAR				*i* IAmb	IAmb	01 39 24.5		
	comp=Z,11nm,1.1s							
PSARD	**Sardoal**	**92.41**	**311**	*eP*	**P**	**01 39 26.3**	**+1.2**	
PSARD				*i* IAmb	IAmb	01 39 27.2		
	comp=Z,18nm,1.2s							
PMTG	**Montargil**	**92.62**	**311**	*eP*	**P**	**01 39 26.9**	**+0.9**	
PMTG				*i* IAmb	IAmb	01 39 28.0		
	comp=Z,5.4nm,2.2s							
PVAQ	**Vaqueiros**	**92.73**	**309**	*eLR*	LR	01 41 10.3		
PVAQ				*i* IAMs_20	IAMs_20	01 52 03.9		
	comp=Z,152nm,18.0s							
SFJD	**Kangerlussuaq**	**97.48**	**347**	LR	LR	02 32 22.1		
	comp=Z,28nm,19.0s,baz=47,slow=41							
PPT2	**Papeete2**	**117.59**	**104**	*eLR*	LR	02 20 32.2		
	comp=Z,44nm,25.0s							
PDAR	**Pinedale Array**	**121.23**	**21**	PKhKP	PKPpre	01 45 04.4		
	comp=Z,0.2nm,0.3s,baz=295,slow=2.9,SNR=2.1							
TXAR	**Lajitas Array**	**135.33**	**23**	PKP	**PKiKP**	**01 45 36.0**	**-0.1**	
	comp=Z,0.1nm,0.5s,baz=163,slow=1.6,SNR=2.2							
PLCA	**Paso Flores**	**148.49**	**201**	PKPbc	**PKPbc**	**01 46 00.1**	**-1.0**	
	comp=Z,3.7nm,1.0s,baz=147,slow=5.8,SNR=4.5							
SIV	**San Ignacio**	**156.34**	**257**	PKPab	**PKPab**	**01 46 38.8**	**+0.8**	
	comp=Z,0.8nm,0.7s,baz=150,slow=4.9,SNR=4.8							

*NEIC **04** 01:34:09.5±1.3, 16°.67S±0°.09×69°.9W±0°.2, h188km±9km, mb4.2/8, Error ellipse: s-maj=22.6km s-min=10.4km az=112.0*
*IDC **04** 01:34:11.4±1.5, 16°.58S×69°.50W, h191km±12km, mb3.3/5, mbtmp3.8/5, Error ellipse: s-maj=30.8km s-min=23.6km az=95.0*

ISC 04 01:34:09.8±0.7, 16°.67S±0°.08×69°.7W±0°.1, h189km, n29, σ1°.23/30, mb4.0/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PB18	**Visviri**	**0.94**	**166**			**Pn**	**01 34 40.0**	**+1.4**
LPAZ	**La Paz**	**1.57**	**76**			**Pn**	**01 34 44.4**	**+0.5**
LPAZ	**La Paz**	**1.57**	**76**	P		**Pn**	**01 34 43.9**	**0.0**
	53nm,0.4s,baz=271,slow=7.5,SNR=561							
LPAZ				S		**Sn**	**01 35 08.8**	**-1.4**
	149nm,0.5s,baz=151,slow=19,SNR=36							
PB16	**IPOC Station P**	**1.67**	**173**			**Pn**	**01 34 45.7**	**+1.0**
GO01	**Chusmiza**	**3.02**	**171**			**Pn**	**01 35 00.0**	**+0.5**
PB11	**IPOC Station P**	**3.07**	**179**			**Pn**	**01 34 59.5**	**-0.3**
PB08	**IPOC Station P**	**3.49**	**171**			**Pn**	**01 35 03.3**	**+0.1**
HMBC	**Humberstone**	**3.59**	**183**			**Pn**	**01 35 05.2**	**-0.9**
TA01	**Diego Aracena**	**3.90**	**186**	Pn		**Pn**	**01 35 08.8**	**-1.0**
PATCX	**Punta Patache**	**4.15**	**186**	Pn		**Pn**	**01 35 12.4**	**-0.7**
PB01	**IPOC Station P**	**4.35**	**177**			**Pn**	**01 35 14.9**	**-0.8**
PB02	**IPOC Station P**	**4.62**	**182**			**Pn**	**01 35 18.7**	**-0.5**
PB09	**IPOC Station P**	**5.12**	**175**			**Pn**	**01 35 25.0**	**-0.5**
PB03	**IPOC Station P**	**5.35**	**180**			**Pn**	**01 35 27.5**	**-1.0**
PB05	**IPOC Station P**	**6.16**	**184**	Pn		**Pn**	**01 35 37.3**	**-1.8**
GO02	**Mina Guanaco**	**8.45**	**179**	Pn		**Pn**	**01 36 07.6**	**-1.5**
VA03	**San Esteban**	**16.04**	**183**			**P**	**01 37 46.0**	**+1.1**
VA03				IAmb		IAmb	01 38 15.1	
	comp=Z,11nm,1.1s							
MT02	**Curacav**	**16.56**	**184**			**P**	**01 37 51.1**	**+0.6**
BDFB	**Brasilia**	**20.87**	**90**	P		**P**	**01 38 36.7**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=243,slow=6.8,SNR=3.2							
	comp=Z,1.4nm,0.3s							
TRQA	**Tornquist**	**22.36**	**164**	P		**P**	**01 38 51.5**	**-0.8**
TRQA				IAmb		IAmb	01 39 04.3	
	comp=Z,15nm,1.5s							
RUSC	**La Rusia**	**22.67**	**351**	P		**P**	**01 38 53.8**	**-1.9**
RUSC				IAmb		IAmb	01 39 37.5	
	comp=Z,5.7nm,1.1s							
PLCA	**Paso Flores**	**23.99**	**182**	P		**P**	**01 39 08.8**	**+1.8**
	comp=Z,3.3nm,0.8s,baz=359,slow=10,SNR=6.1							
	comp=Z,3.3nm,0.8s							
EMPR	**Esperanza - Ma**	**35.07**	**5**	P		**P**	**01 40 44.3**	**-0.6**
TXAR	**Lajitas Array**	**56.27**	**324**	P		**P**	**01 43 32.0**	**+1.1**
	comp=Z,0.1nm,0.6s,baz=133,slow=7.8,SNR=1.7							
	comp=Z,0.1nm,0.6s							
X16A	**Lo Mia Camp, P**	**64.47**	**322**	P		**P**	**01 44 25.3**	**-1.1**
QSPA	**South Pole Qui**	**73.49**	**180**	P		**P**	**01 45 24.0**	**+2.5**
QSPA				IAmb		IAmb	01 46 02.5	
	comp=Z,5.2nm,1.4s							
QSPA	**South Pole Qui**	**73.49**	**180**	P		**P**	**01 45 24.0**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=184,slow=1.3,SNR=5.1							
	comp=Z,0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.52**	**72**	P		**P**	**01 45 39.2**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=259,slow=4.6,SNR=2.2							
	comp=Z,1.5nm,0.4s							
SONM	**Songino Array**	**148.76**	**5**	PKPbc	**PKiKP**	**01 53 36.7**	**+0.4**	
	comp=Z,0.7nm,0.5s,baz=22,slow=2.2,SNR=2.5							

IDC 04 01:50:15.8±7.7, 7°.54N×58°.48E, h0km, mb3.6/5, mbtmp3.6/5, MS3.3/2, Error ellipse: s-maj=189.3km s-min=44.3km az=163.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PALK	**Pallekele**	**22.04**	**89**		LR	LR	02 01 15.2	
	comp=Z,47nm,18.7s,baz=52,slow=30							
MKAR	**Makanchi Array**	**44.11**	**23**	P		P	01 58 25.7	-0.3
	0.2nm,0.4s,baz=218,slow=9.8,SNR=3.0							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**46.38**	**10**	P		P	01 58 44.2	+0.4
	0.6nm,0.8s,baz=182,slow=7.9,SNR=3.0							
	0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**50.92**	**20**	P		P	01 59 18.1	-0.6
	1.3nm,0.7s,baz=224,slow=6.0,SNR=5.0							
	1.3nm,0.7s							
SONM	**Songino Array**	**57.04**	**37**	P		P	02 00 04.0	+0.2
	0.6nm,0.5s,baz=232,slow=7.1,SNR=2.1							
	0.6nm,0.5s							
ESDC	**Sonseca Array**	**64.09**	**310**	P		P	02 00 52.0	0.0
	0.4nm,0.8s,baz=100,slow=6.6,SNR=5.4							
	0.4nm,0.8s							
MJAR	**Matsushiro Arr**	**77.31**	**54**	LR		LR	02 35 58.5	
	comp=Z,34nm,21.9s,baz=273,slow=36							

*OSPL **04** 01:51:53.0±1.9, 19°.01N×68°.67W, h31km±999km, ML2.5*
*SDD **04** 01:51:54.7±1.3, 18°.87N×68°.06W, h23km±60km, MD3.2, ML2.4, MW2.8*
*RSPR **04** 01:51:54.6, 18°.54N×68°.46W, h126km±4km, MD3.1/15*
*NEIC **04** 01:51:58.6±1.9, 18°.6N±0°.1×68°.32W±0°.04, h45km±28km, ML2.6/24, Md3.1/15(RSPR), Error ellipse: s-maj=20.9km s-min=2.8km az=191.0*

ISC 04 01:51:56.6±1.4, 18°.92N±0°.07×68°.24W±0°.04, h3km±12km, n63, σ1°.14/55, 11C-11D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
HIDR	**Higuey Centre**	**0.56**	**235**	*ePg*		**Pg**	**01 52 07.6**	**+0.3**
HIDR				*⇓eSg*		**Sg**	**01 52 15.8**	**+1.2**
HIDR				pmax		IAML	01 52 16.9	
	comp=N,612nm,0.2s							
MIDR	**Miches**	**0.77**	**275**	*⇑ePg*		**Pg**	**01 52 10.6**	**-0.8**
MIDR				pmax		IAML	01 52 23.9	
	comp=N,32nm,0.2s							
IDE	**Isla Desecheo**	**0.90**	**126**			Pg	01 52 12.2	-1.6
IDE						**Sg**	**01 52 24.8**	**-0.6**
SMDR	**

*JMA **04** 01:52:56.1±0.7,21°N±3°×12°2E±°, h0km, MV4.2/13, TAIWAN REGION*
*NEIC **04** 01:52:58.0±2.3,21°.0N±0°.1×121°.7E±0°.1, h10km±2km, mb4.5/9, Error ellipse: s-maj=22.3km s-min=17.8km az=241.0*
*IDC **04** 01:52:59.9±3.6,20°.73N×122°.08E, h48km±37km, mb3.6/13, mbtmp3.9/15, ML3.7/2, MS3.4/3, Error ellipse: s-maj=28.9km s-min=17.3km az=67.0*
ISC 04 01:52:59.5±0.8,**20°.85N**±0°.08×**121°.94E**±0°.08,**h35**km,**n54,** σ1§**43**/47,**mb4.0**/19,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWG	**Pinlang**	**2.12**	**338**			**Pn**	**01 53 29.8**	**-2.6**
YULB	**Yu-li**	**2.60**	**347**			**Pn**	**01 53 37.4**	**-1.6**
TPUB	**Ta-pu**	**2.72**	**334**			**Pn**	**01 53 40.0**	**-0.7**
SSLB	**Suanglung**	**3.06**	**343**			**Pn**	**01 53 44.9**	**-0.5**
NACB	**Ningnanchiao**	**3.32**	**355**			**Pn**	**01 53 46.3**	**-2.6**
HATJ	**Hateruma jima**	**3.63**	**28**	*e*S		**Sn**	**01 54 33.5**	**-1.3**
JYNG	**Yonagunijimaku**	**3.70**	**14**	S		**Sn**	**01 54 35.5**	**-1.0**
YOJ	**Yonaguni jima**	**3.73**	**15**			**Pn**	**01 53 55.8**	**+1.3**
YOJ	**Yonaguni jima**	**3.73**	**15**	*e*P		**Pn**	**01 53 53.6**	**-0.9**
YOJ				*e*S		**Sn**	**01 54 37.6**	**+0.4**
YHNB	**Yeheng**	**3.83**	**352**			**Pn**	**01 53 55.9**	**-0.2**
IRIF	**Iriomote-Funau**	**3.84**	**25**	*e*P		**Pn**	**01 53 55.3**	**-0.8**
IRIF				*e*S		**Sn**	**01 54 38.5**	**-1.6**
JKRS	**Kuro-shima**	**3.88**	**29**	S		**Sn**	**01 54 39.9**	**-1.0**
JIJ	**Ishigaki jima**	**4.05**	**30**	*e*P		**Pn**	**01 53 57.8**	**-1.2**
JIJ				S		**Sn**	**01 54 42.9**	**-2.2**
JISG	**Ishigakijimahi**	**4.32**	**30**	*e*S		**Sn**	**01 54 49.5**	**-2.3**
JTJ	**Tarama**	**4.55**	**34**	*e*S		**Sn**	**01 54 55.8**	**-1.8**
JOW	**Kunigami**	**8.31**	**43**	P		**Pn**	**01 54 57.1**	**-0.4**
	2.9nm,0.3s,baz=300,slow=18,SNR=1.6 8.4nm,0.4s							
JNU	**Nakatsue**	**14.58**	**31**	LR		LR	02 01 47.0	
	comp=Z,99nm,20.9s,baz=207,slow=36							
KSRS	**Korea Array**	**17.34**	**16**	P		**P**	**01 57 00.8**	**+1.0**
	0.2nm,0.3s,baz=196,slow=12,SNR=12 2.4nm,0.8s							
MJAR	**Matsushiro Arr**	**21.12**	**39**	P		**P**	**01 57 45.2**	**+4.0**
	1.5nm,0.8s,baz=224,slow=11,SNR=6.7							
CMAR	**Chiang Mai Arr**	**21.78**	**268**	P		**P**	**01 57 49.9**	**+1.4**
	1.1nm,0.3s,baz=73,slow=11,SNR=4.5 1.1nm,0.3s							
ASAJ	**Asahikawa**	**28.86**	**32**	LR		LR	02 11 41.7	
	comp=Z,65nm,18.3s,baz=320,slow=39							
SONM	**Songino Array**	**29.70**	**339**	P		**P**	**01 59 01.7**	**-0.6**
	0.9nm,0.8s,baz=165,slow=9.9,SNR=4.6 0.9nm,0.8s							
MKAR	**Makanchi Array**	**41.24**	**318**	P		**P**	**02 00 42.0**	**+0.9**
MKAR	**Makanchi Array**	**41.24**	**318**	P		**P**	**02 00 41.8**	**+0.7**
	1.3nm,0.5s,baz=113,slow=9.1,SNR=14 1.3nm,0.5s							
MAKZ	**Makanchi**	**41.44**	**318**	P		**P**	**02 00 42.7**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**42.08**	**83**	T		T	02 45 46.1	
	baz=274,slow=75,SNR=49							
H11N2	**WAKE ISLAND Hy**	**42.08**	**83**	T		T	02 45 47.0	
	baz=274,slow=75,SNR=52							
H11N3	**WAKE ISLAND Hy**	**42.10**	**83**	T		T	02 45 48.7	
	baz=274,slow=75,SNR=54							
H11S3	**WAKE ISLAND Hy**	**42.10**	**85**	T		T	02 45 46.0	
	baz=281,slow=75,SNR=148							
H11S1	**WAKE ISLAND Hy**	**42.12**	**85**	T		T	02 45 41.9	
	baz=281,slow=75,SNR=169							
H11S2	**WAKE ISLAND Hy**	**42.12**	**85**	T		T	02 45 43.4	
	baz=281,slow=75,SNR=131							
WRA	**Warramunga Arr**	**42.32**	**163**	P		**P**	**02 00 47.6**	**-2.5**
	2.5nm,0.9s,baz=342,slow=8.0,SNR=6.1 2.5nm,0.9s							
ZALV	**Zalesovo Beam**	**43.42**	**329**	P		**P**	**02 00 59.4**	**+0.7**
ZALV	**Zalesovo Beam**	**43.42**	**329**	P		**P**	**02 00 58.7**	**0.0**
	3.1nm,0.6s,baz=118,slow=8.3,SNR=11 3.1nm,0.6s							
KURBB	**Kurchatov Arra**	**45.12**	**322**	P		**P**	**02 01 12.7**	**+0.4**
	1.6nm,0.3s,baz=120,slow=7.5,SNR=8.8 1.6nm,0.3s							
AAK	**Ala-Archa**	**45.12**	**310**	LR		LR	02 20 23.2	
	comp=Z,67nm,20.0s,baz=191,slow=36							
ASAR	**Alice Springs**	**45.76**	**165**	P		**P**	**02 01 15.6**	**-2.1**
	0.3nm,0.4s,baz=346,slow=6.8,SNR=4.2 0.3nm,0.4s							
BVAR	**Borovoye Array**	**50.70**	**322**	P		**P**	**02 01 56.3**	**+0.8**
	1.2nm,0.6s,baz=104,slow=7.6,SNR=8.4 1.2nm,0.6s							
BRVK	**Borovoye**	**50.77**	**322**	P		**P**	**02 01 57.2**	**+1.1**
BRVK				IAmb		IAmb	02 01 57.7	
	comp=Z,2.9nm,0.8s							
AB31	**Akbulak array**	**56.28**	**316**	P		**P**	**02 02 37.1**	**+0.6**
AB31				IAmb		IAmb	02 03 16.6	
	comp=Z,3.8nm,1.4s							
ABKAR	**Akbulak array**	**56.28**	**316**	P		**P**	**02 02 37.3**	**+0.7**
ARTI	**Arti**	**58.28**	**324**	P		**P**	**02 02 50.5**	**-0.1**
J18K	**Innoko River**	**67.70**	**29**	P		**P**	**02 03 54.1**	**+1.1**
J18K				IAmb		IAmb	02 04 12.2	
	comp=Z,4.7nm,0.7s							
L18K	**Granite Mounta**	**67.77**	**30**	P		**P**	**02 03 55.4**	**+2.0**
E24K	**Your Creek**	**70.70**	**23**	P		**P**	**02 04 13.1**	**+1.5**
E24K				IAmb		IAmb	02 04 45.6	
	comp=Z,6.2nm,1.4s							
ILAR	**Eielson Array**	**71.85**	**27**	P		**P**	**02 04 18.7**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=307,slow=8.1,SNR=2.8 comp=Z,0.3nm,0.8s							
BMAR	**Burnt Mountain**	**72.27**	**24**	P		**P**	**02 04 22.7**	**+1.6**
FINES	**FINESS Array B**	**74.66**	**330**	P		**P**	**02 04 34.9**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=60,slow=4.9,SNR=1.9 comp=Z,1.3nm,0.8s							
BRTR	**Keskin Array B**	**75.72**	**307**	P		**P**	**02 04 42.5**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=26,slow=6.9,SNR=1.7 comp=Z,0.4nm,0.9s							
AKASG	**Malin Array Be**	**75.82**	**319**	P		**P**	**02 04 40.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=68,slow=4.8,SNR=2.4 comp=Z,0.3nm,0.4s							
I30M	**Mount Dempster**	**76.05**	**25**	IAmb		IAmb	02 04 45.5	
	comp=Z,4.5nm,1.1s							
BURAR	**Bucovina Array**	**79.25**	**317**	P		**P**	**02 05 00.8**	**-0.5**
HFS	**Hagfors**	**80.80**	**331**	P		**P**	**02 05 09.5**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=132,slow=2.1,SNR=2.8 comp=Z,1.5nm,0.8s							
OJC	**Ojcow**	**81.67**	**321**	P		**P**	**02 05 14.6**	**+0.4**

*NIC **04** 01:57:55.9, 34°.98N×33°.85E, h53km±1km, Ml1.8/9*
*AFAD **04** 01:57:56.2, 35°.15N×33°.90E, h37km±1km, ML1.8*
*GII **04** 01:57:56.1±0.0, 34°.74N±0°.03×33°.903E±0°.008, h20km, Mws2.5, confirmed*
*GRAL **04** 01:57:59.8±0.5, 34°.74N×34°.31E, h15km±4km, MD3.0*
ISC 04 01:57:54.9±1.2,**34°.93N**±0°.03×**33°.92E**±0°.03,**h59**km±6km, **n85,** σ1§**32**/105,**1C-2D,Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAR1C	**Paralimni Civi**	**0.11**	**24**	P		**Pn**	**01 58 04.1**	**+0.2**
PAR1C				S		**Sn**	**01 58 11.1**	**+0.7**
PARAL	**Paralimni**	**0.11**	**58**	P		**Pn**	**01 58 04.3**	**+0.4**
PARAL				S		**Sn**	**01 58 11.1**	**+0.6**
PARAL				AML		AML	01 58 13.4	
	0.2nm,0.6s							
PARAL				AML		AML	01 58 16.5	
	0.2nm,0.6s							
LAR1C	**Larnaka City C**	**0.25**	**268**	P		**Pn**	**01 58 04.5**	**-0.1**
LAR1C				S		**Sn**	**01 58 11.4**	**-0.1**
MVOU	**Mavrovouni**	**0.25**	**289**	⇑*i*P		**Pn**	**01 58 04.3**	**-0.4**
MVOU				S		**Sn**	**01 58 10.9**	**-0.8**
MVOU				AML		AML	01 58 11.5	
	0.4nm,0.3s							
MVOU				AML		AML	01 58 12.2	
	0.3nm,0.2s							
ATHAL	**Athalassa**	**0.48**	**296**	P		**Pn**	**01 58 06.5**	**-0.1**
ATHAL				S		**Sn**	**01 58 15.5**	**+0.4**
ATHAL				AML		AML	01 58 22.2	
	0.2nm,0.3s							
ATHAL				AML		AML	01 58 22.2	
	0.3nm,0.6s							
CSS	**Mathiatis**	**0.49**	**274**	P		**Pn**	**01 58 06.3**	**-0.4**
CSS	**Mathiatis**	**0.49**	**274**	P		**Pn**	**01 58 06.3**	**-0.4**
CSS				S		**Sn**	**01 58 14.3**	**-1.0**
CSS				AML		AML	01 58 15.6	
	0.2nm,0.3s							
CSS				AML		AML	01 58 15.6	
	0.5nm,0.4s							
CSS	**Mathiatis**	**0.49**	**274**	P		**Pn**	**01 58 06.4**	**-0.4**
CSS				S		**Sn**	**01 58 14.1**	**-1.3**
ASGA	**Asgata**	**0.57**	**255**	P		**Pn**	**01 58 07.8**	**+0.2**
ASGA				S		**Sn**	**01 58 17.2**	**+0.2**
ASGA				AML		AML	01 58 17.6	
	0.3nm,0.3s							
ASGA				AML		AML	01 58 17.7	
	0.4nm,0.4s							
XYLS	**Xyliatos**	**0.72**	**277**	⇓*i*P		**Pn**	**01 58 09.3**	**-0.2**
XYLS				S		**Sn**	**01 58 20.0**	**-0.1**
XYLS				AML		AML	01 58 21.6	
	0.3nm,0.3s							
XYLS				AML		AML	01 58 21.7	
	0.3nm,0.3s							
TROD	**Troodos**	**0.87**	**271**	⇓*i*P		**Pn**	**01 58 11.6**	**+0.2**
TROD				S		**Sn**	**01 58 24.0**	**+0.4**
TROD				AML		AML	01 58 25.4	
	0.1nm,0.5s							
TROD				AML		AML	01 58 27.8	
	0.1nm,0.4s							
ALFC	**Alefka**	**1.11**	**282**	P		**Pn**	**01 58 14.1**	**-0.3**
ALFC				S		**Sn**	**01 58 28.8**	**-0.1**
ALFC				AML		AML	01 58 34.3	
	0.1nm,0.3s							
ALFC				AML		AML	01 58 34.8	
	0.1nm,0.2s							
NATA	**Nata**	**1.12**	**263**	P		**Pn**	**01 58 15.2**	**+0.7**
GULN	**MERSIN_Gulnar**	**1.29**	**346**	P		**Pn**	**01 58 16.5**	**-0.2**
GULN				S		**Sn**	**01 58 32.3**	**-0.8**
GULN				*i* IAML			01 58 33.0	
	comp=E,20nm,0.3s							
GULN				*i* IAML			01 58 34.0	
	comp=N,22nm,0.4s							
AKMS	**Akamas**	**1.31**	**274**	P		**Pn**	**01 58 17.7**	**+0.7**
AKMS				S		**Sn**	**01 58 33.8**	**+0.2**
AKMS				AML		AML	01 58 39.2	
AKMS				AML		AML	01 58 40.2	
	0.1nm,0.4s							
KIZK	**Mersin**	**1.56**	**7**	P		**Pn**	**01 58 20.7**	**+0.3**
KIZK				S		**Sn**	**01 58 38.9**	**-0.6**
BHL	**Bhannes**	**1.76**	**125**	*e*P		**Pn**	**01 58 23.4**	**+0.1**
HWQ	**Hawqa**	**1.79**	**111**	*e*P		**Pn**	**01 58 24.2**	**+0.6**
DQRL	**Deir Qamar**	**1.83**	**131**	*e*P		**Pn**	**01 58 24.4**	**+0.2**
DQRL				*e*S		**Sn**	**01 58 42.9**	**-3.4**
GAZI	**Gazipasa**	**1.84**	**315**	P		**Pn**	**01 58 23.9**	**-0.4**
GAZI				S		**Sn**	**01 58 43.3**	**-3.3**
GAZI				*i* IAML			01 58 46.0	
	comp=N,12nm,0.4s							
GAZI				*i* IAML			01 58 51.0	
	comp=E,10.0nm,0.7s							
ERMK	**Ermenek**	**1.89**	**335**	P		**Pn**	**01 58 26.3**	**+1.2**
ERMK				S		**Sn**	**01 58 47.7**	**-0.3**
ERMK				*i* IAML			01 58 50.0	
	comp=E,20nm,0.6s							
ERMK				*i* IAML			01 58 56.0	
	comp=N,11nm,0.6s							
BEIL	**Beino**	**1.90**	**101**	*e*P		**Pn**	**01 58 25.8**	**+0.7**
ZAHL	**Zahle**	**1.94**	**123**	*e*P		**Pn**	**01 58 26.3**	**+0.5**
QRWL	**Qaraoun**	**2.01**	**133**	*e*P		**Pn**	**01 58 27.1**	**+0.5**
HNTI	**Hanita**	**2.12**	**150**	P		**Pn**	**01 58 30.0**	**+2.0**
HNTI	**Hanita**	**2.12**	**150**	P		**Pn**	**01 58 28.2**	**+0.2**
HNTI	**Hanita**	**2.12**	**150**	S		**Sn**	**01 58 51.8**	**-1.4**
RCY	**Rachaya**	**2.14**	**132**	*e*P		**Pn**	**01 58 29.0**	**+0.6**
DED	**Mersin**	**2.15**	**19**	P		**Pn**	**01 58 29.1**	**+0.7**
DED				S		**Sn**	**01 58 52.7**	**-1.2**
DED				*i* IAML			01 59 02.0	
	comp=N,7.7nm,1.3s							
DED				*i* IAML			01 59 15.0	
	comp=E,10.0nm,1.8s							
FKH	**Fakeheh**	**2.16**	**108**	*e*P		**Pn**	**01 58 29.3**	**+0.6**
SHBL	**Chebaa**	**2.19**	**136**	*e*P		**Pn**	**01 58 30.0**	**+0.9**
SHBL				*e*S		**Sn**	**01 58 52.1**	**-3.0**
GEM	**Giv'at Ha'Em**	**2.25**	**139**	P		**Pn**	**01 58 30.6**	**+0.9**
GEM	**Giv'at Ha'Em**	**2.25**	**139**	P		**Pn**	**01 58 30.3**	**+0.6**
GEM	**Giv'at Ha'Em**	**2.25**	**139**	S		**Sn**	**01 58 52.8**	**-0.4**
NATI	**Neve Ativ**	**2.25**	**137**	P		**Pn**	**01 58 31.0**	**+1.3**
NATI	**Neve Ativ**	**2.25**	**137**	P		**Pn**	**01 58 30.4**	**+0.7**
NATI	**Neve Ativ**	**2.25**	**137**	S		**Sn**	**01 58 55.8**	**-0.4**
MMA0B	**Mount Meron ar**	**2.27**	**147**	P		**Pn**	**01 58 30.3**	**+0.1**
MMA0B	**Mount Meron ar**	**2.27**	**147**	S		**Sn**	**01 58 56.3**	**-0.8**
BLGI	**Bet Lehem HaGe**	**2.44**	**154**	P		**Pn**	**01 58 34.2**	**+1.9**
OFRI	**`Ofer**	**2.47**	**159**	P		**Pn**	**01 58 35.1**	**+2.3**
OFRI	**`Ofer**	**2.47**	**159**	P		**Pn**	**01 58 32.6**	**-0.3**
OFRI	**`Ofer**	**2.47**	**159**	S		**Sn**	**01 59 00.6**	**-1.3**
KERG	**Konya-Eregli**	**2.48**	**4**	P		**Pn**	**01 58 34.4**	**+1.3**
KERG				S		**Sn**	**01 59 03.2**	**+0.9**
KERG				*i* IAML			01 59 08.0	
	comp=N,7.9nm,0.2s							
MMLI	**Mount Malkishu**	**2.79**	**153**	P		**Pn**	**01 58 39.1**	**+2.0**
MMLI	**Mount Malkishu**	**2.79**	**153**	P		**Pn**	**01 58 37.5**	**+0.4**
MMLI	**Mount Malkishu**	**2.79**	**153**	S		**Sn**	**01 59 08.9**	**-0.7**
SLTI	**Sal'it**	**2.84**	**161**	P		**Pn**	**01 58 40.7**	**+2.8**
QRNJ	**Al-Qirein**	**2.94**	**152**	P		**Pn**	**01 58 41.6**	**+2.5**
HMDT	**Nahal Hemdat**	**2.99**	**153**	P		**Pn**	**01 58 42.3**	**+2.4**
HMDT	**Nahal Hemdat**	**2.99**	**153**	P		**Pn**	**01 58 40.1**	**+0.2**
HMDT	**Nahal Hemdat**	**2.99**	**153**	S		**Sn**	**01 59 13.4**	**-1.1**
SALP	**Salfit**	**3.05**	**159**	P		**Pn**	**01 58 42.7**	**+2.0**
DSI	**Dead Sea**	**3.57**	**160**	P		**Pn**	**01 58 50.1**	**+2.3**
DSI	**Dead Sea**	**3.57**	**160**	P		**Pn**	**01 58 48.0**	**+0.2**
DSI	**Dead Sea**	**3.57**	**160**	S		**Sn**	**01 59 27.4**	**-1.4**
YTIR	**Yattir**	**3.70**	**164**	P		**Pn**	**01 58 52.0**	**+2.3**
YTIR	**Yattir**	**3.70**	**164**	P		**Pn**	**01 58 50.1**	**+0.4**
YTIR	**Yattir**	**3.70**	**164**	S		**Sn**	**01 59 30.9**	**-1.2**
MSBI	**Mazada**	**3.81**	**161**	P		**Pn**	**01 58 53.6**	**+2.6**
MSBI	**Mazada**	**3.81**	**161**	P		**Pn**	**01 58 51.9**	**+0.9**
MSBI	**Mazada**	**3.81**	**161**	S		**Sn**	**01 59 33.4**	**-1.1**
GHAJ	**Ghor Haditha**	**3.87**	**159**	P		**Pn**	**01 58 54.3**	**+2.3**
GHAJ	**Ghor Haditha**	**3.87**	**159**	P		**Pn**	**01 58 52.2**	**+0.3**
GHAJ	**Ghor Haditha**	**3.87**	**159**	S		**Sn**	**01 59 35.6**	**-0.6**
LISJ	**El Lisan**	**3.91**	**160**	P		**Pn**	**01 58 55.0**	**+2.6**
KZIT	**Kziot**	**4.04**	**174**	P		**Pn**	**01 58 55.5**	**+1.3**
KZIT	**Kziot**	**4.04**	**174**	P		**Pn**	**01 58 54.7**	**+0.5**
KZIT	**Kziot**	**4.04**	**174**	S		**Sn**	**01 59 38.6**	**-1.6**
SWQJ	**Swaqa**	**4.09**	**153**	P		**Pn**	**01 58 55.2**	**+0.1**
ZFRI	**Zfri**	**4.49**	**166**	P		**Pn**	**01 59 02.9**	**+2.4**
PRNI	**Paran**	**4.66**	**168**	P		**Pn**	**01 59 04.6**	**+1.8**
	14nm,1.0s							
PRNI	**Paran**	**4.66**	**168**	P		**Pn**	**01 59 03.2**	**+0.5**
PRNI	**Paran**	**4.66**	**168**	S		**Sn**	**01 59 54.1**	**-1.4**
KRMI	**Paran Flat**	**4.85**	**172**	P		**Pn**	**01 59 07.9**	**+2.5**
	4.5nm,1.7s,4.5nm,1.7s							
KRMI	**Paran Flat**	**4.85**	**172**	P		**Pn**	**01 59 06.2**	**+0.8**
KRMI	**Paran Flat**	**4.85**	**172**	S		**Sn**	**01 59 58.9**	**-1.4**
HRFI	**Mount Harif**	**4.97**	**169**	P		**Pn**	**01 59 09.4**	**+2.3**
	6.3nm,1.9s,6.3nm,1.9s							
HRFI	**Mount Harif**	**4.97**	**169**	P		**Pn**	**01 59 07.4**	**+0.3**
HRFI	**Mount Harif**	**4.97**	**169**	S		**Sn**	**02 00 02.2**	**-1.1**
MBRI	**Mt Berech**	**5.19**	**170**	P		**Pn**	**01 59 12.8**	**+2.7**
	114nm,0.8s							
MBRI	**Mt Berech**	**5.19**	**170**	P		**Pn**	**01 59 11.0**	**+0.9**
MBRI	**Mt Berech**	**5.19**	**170**	S		**Sn**	**02 00 07.9**	**-0.8**
EIL	**Elat**	**5.32**	**170**	P		**Pn**	**01 59 11.7**	**-0.1**
EIL	**Elat**	**5.32**	**170**	S		**Sn**	**02 00 10.2**	**-1.6**

*OSPL **04** 01:58:59.8±1.7, 18°.65N×71°.70W, h0km±507km, ML2.3*
*SDD **04** 01:58:59.9±1.9, 18°.60N×71°.67W, h23km±16km, MD2.9, ML2.0, MW3.0*
ISC 04 01:58:58.4±1.2,**18°.66N**±0°.05×**71°.64W**±0°.06,**h25**km±8km, **n9,** σ0§**68**/16,**2C-4D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LONE3	**El Aguacate, B**	**0.18**	**109**	*i* P		**Pb**	**01 59 05.0**	**+1.0**
LONE3				*e*S		**Sb**	**01 59 06.7**	**-1.0**
LONE3				IAML			01 59 08.5	
	comp=Z,613nm,0.1s							
JIDR	**Jimani**	**0.27**	**230**	⇑*e*Pg		**Pb**	**01 59 04.8**	**-0.2**
JIDR				⇓*e*Sg		**Sb**	**01 59 09.3**	**-0.1**
JIDR				IAML			01 59 09.6	
	comp=N,209nm,0.3s							
JIDR				IAML			01 59 09.9	
	comp=N,249nm,0.4s							
NEDR	**Neiba UASD**	**0.27**	**131**	⇓*e*Pg		**Pb**	**01 59 04.4**	**-0.6**
NEDR				*e*Sg		**Sb**	**01 59 10.1**	**+0.5**
LODU1	**El Espartillar**	**0.35**	**154**	*i* P		**Pb**	**01 59 05.8**	**-0.3**
LODU1				*e*S		**Sb**	**01 59 11.4**	**0.0**
LODU1				IAML			01 59 13.8	
	comp=Z,48nm,0.3s							
SDDR	**Presa de Saban**	**0.46**	**46**	*e*S		**Sn**	**01 59 15.9**	**-1.0**
SDDR				IAML			01 59 17.3	
	comp=Z,922nm,1.8s							
SDDR	**Presa de Saban**	**0.46**	**46**	⇑*e*Pg		**Pn**	**01 59 09.5**	**0.0**
SDDR				*e*Sg		**Sn**	**01 59 17.6**	**+0.7**
PODR	**Polo**	**0.60**	**146**	*i* P		**Pn**	**01 59 11.6**	**0.0**
PODR				*e*S		**Sn**	**01 59 20.5**	**-0.1**
PODR	**Polo**	**0.60**	**146**	⇓*e*Pg		**Pb**	**01 59 09.8**	**-0.6**
PODR				⇓*e*Sg		**Sb**	**01 59 19.4**	**+0.8**
PODR				IAML			01 59 20.6	
	comp=N,90nm,0.1s							
LOBH	**Bahia de las A**	**0.80**	**180**	*i* P		**Pb**	**01 59 14.2**	**+0.5**

*IPEC **04** 02:06:37.9±0.3,51°.56N×16°.19E, h1km, ML2.1/5, Error ellipse: s-maj=3.1km s-min=1.5km az=68.0*
*VIE **04** 02:06:37.1±0.5,51°.58N×16°.25E, h0km, mb2.2/3, ml2.4/3, Error ellipse: s-maj=6.4km s-min=4.4km az=85.0 76 km NW of Wroclaw Suspected Mining induced.*
*IDC **04** 02:06:39.1±1.3,51°.55N×15°.98E, h0km, mbtmp2.9/3, ML1.8/3, Error ellipse: s-maj=31.0km s-min=10.2km az=109.0*
*PRU **04** 02:06:40.2,51°.49N×16°.14E, h0km*
ISC 04 02:06:36.3±0.8,**51°.61N**±0°.04×**16°.15E**±0°.03,**h0**km,**n33,** σ1§**02**/64,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**173**	*e*Pg		**Pb**	**02 06 52.0**	**-0.6**
KSP				*e*Sg		**Sg**	**02 07 01.8**	**+0.6**
CHVC	**Chvalec**	**1.03**	**183**	*e*PG		**Pb**	**02 06 57.0**	**0.0**
CHVC				*e*SG		**Sg**	**02 07 10.0**	**+0.7**
	18nm,0.4s							
OSTC	**Ostas**	**1.06**	**178**	*e*PG		**Pb**	**02 06 57.6**	**+0.1**
OSTC				*e*SG		**Sg**	**02 07 09.9**	**-0.4**
	12nm,0.4s							
UPC	**Upice**	**1.11**	**185**	*e*PG		**Pb**	**02 06 58.1**	**-0.2**
UPC				*e*SG		**Sg**	**02 07 11.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.27**	**175**	*e*PG		**Pg**	**02 07 00.8**	**+0.2**
DPC				*e*SG		**Sg**	**02 07 16.8**	**-0.2**
	9.5nm,0.4s							
PIVO	**Bartosovice**	**1.45**	**170**	*e*Pg		**Pg**	**02 07 04.1**	**+0.1**
	baz=351							
PIVO				*e*Sg		**Sg**	**02 07 21.4**	**-1.4**
	30nm,0.5s,baz=351							
PVCC	**Panska Ves**	**1.48**	**223**	*e*PG		**Pb**	**02 07 05.0**	**+0.4**
PVCC				*e*SG		**Sn**	**02 07 24.6**	**+0.5**
	44nm,0.2s							
BRG	**Berggiesshubel**	**1.57**	**243**	Pg		**Pg**	**02 07 07.3**	**+0.8**
BRG				Sg		**Sg**	**02 07 28.0**	**+1.2**
BRG				Amp			02 07 31.2	
	comp=Z,20nm,0.4s							
KRLC	**Kraliky**	**1.59**	**165**	*e*PG		**Pn**	**02 07 06.1**	**+0.4**
KRLC				*e*SG		**Sn**	**02 07 27.1**	**+0.1**
	comp=Z,13nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.91**	**208**	*e*PN		**Pn**	**02 07 10.3**	**+0.2**
PRU	**Pruhonice**	**1.92**	**213**	*e*PN		**Pn**	**02 07 10.4**	**+0.2**
PRU				*e*PG		**Pb**	**02 07 12.3**	**+0.1**
PRU				*e*SG		**Sb**	**02 07 37.1**	**+0.4**
	comp=Z,8.2nm,0.5s							
STEB	**Steborice**	**1.97**	**148**	*e*PN		**Pn**	**02 07 11.1**	**+0.2**
STEB				*e*PG		**Pg**	**02 07 13.9**	**-0.1**
STEB				*e*SG		**Sb**	**02 07 38.7**	**+0.6**
CLL	**Collm**	**2.00**	**262**	*i* Pn		**Pn**	**02 07 11.4**	**+0.2**
CLL				*i* Pg		**Pg**	**02 07 15.0**	**+0.5**
CLL				*i* x		x	02 07 18.0	
CLL				*e*Sg		**Sg**	**02 07 41.0**	**+0.7**
	comp=Z,11nm,0.4s							
MORC	**Moravsky Berou**	**2.04**	**154**	*e*Pn		**Pn**	**02 07 12.1**	**+0.2**
	baz=335							
MORC				*e*Sg		**Sb**	**02 07 40.1**	**0.0**
	comp=Z,11nm,0.7s,baz=335							
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*SG		**Sb**	**02 07 45.2**	**+1.0**
VRAC	**Vranov**	**2.33**	**173**	*e*Pn		**Pn**	**02 07 16.4**	**+0.6**
	baz=354							
VRAC				*e*Sg		**Sb**	**02 07 48.6**	**+0.3**
	comp=Z,9.3nm,0.5s,baz=354							
TREC	**Trest**	**2.36**	**191**	*e*PG		**Pg**	**02 07 20.8**	**-0.7**
TREC				*e*SG		**Sg**	**02 07 51.3**	**-0.8**
MAUC	**Maruska**	**2.49**	**154**	*e*PG		**Pg**	**02 07 23.8**	**-0.2**
ZVC	**Zvikov**	**2.51**	**211**	*e*PN		**Pn**	**02 07 18.9**

148nm,0.2s
SHLS Shalkode 1.28 7 *e*P **Pg 03 26 24.0 +0.3**
37nm,0.1s
SHLS *e*S **Sn 03 26 42.2 +0.2**
148nm,0.2s
SATY Saty 1.33 332 P **Pb 03 26 24.3 -0.6**
13nm,0.1s
SATY S **Sg 03 26 42.4 +0.5**
77nm,0.2s
KDJ Kajisay 1.56 280 ⇓*i*P **Pg 03 26 29.3 +0.2**
KDJ ⇓*i*S **Sg 03 26 50.9 +1.6**
KPKS Kokpek 1.64 345 P **Pg 03 26 31.4 +0.9**
KPKS S **Sg 03 26 54.6 +2.9**
KURS Kuram 1.79 334 P **Pb 03 26 32.7 0.0**
7.7nm,0.2s
KURS S **Sg 03 26 56.9 +0.2**
14nm,0.2s
TNSS Tian-Shan 2.06 305 Pg **Pb 03 26 37.7 +0.2**
3.7nm,0.6s
TNSS Lg Lg 03 27 05.7
9.1nm,0.2s
TNSS Tian-Shan 2.06 305 *e*P **Pb 03 26 37.7 +0.2**
3.7nm,0.6s
TNSS *e*S **Sg 03 27 05.7 +0.5**
9.1nm,0.2s
ULHL Ulahol 2.27 280 ⇑*i*P **Pb 03 26 40.7 -0.2**
ULHL ⇑*i*S **Sg 03 27 10.8 -1.2**
ARXS Arharly 2.55 336 Pg **Pb 03 26 45.7 0.0**
3.8nm,0.3s
ARXS Lg Lg 03 27 19.1
26nm,0.4s
ARXS Arharly 2.55 336 *e*P **Pb 03 26 45.7 0.0**
ARXS *e*S **Sg 03 27 19.1 -2.0**
KST Kastek 2.69 297 Pg **Pb 03 26 48.7 +0.6**
6.7nm,0.4s
KST Lg Lg 03 27 24.4
58nm,0.7s
KST Kastek 2.69 297 *e*P **Pb 03 26 48.7 +0.6**
6.7nm,0.4s
KST *e*S **Sg 03 27 24.4 -1.2**
58nm,0.7s
JNKS Jany-Kuch 2.82 254 ⇓*i*P **Pb 03 26 48.6 -1.8**
JNKS ⇓*i*S **Sb 03 27 24.2 -1.3**
TKM2 Tokmak 2 2.90 292 ⇓*i*P **Pb 03 26 49.4 -2.2**
TKM2 ⇓*i*S **Sb 03 27 25.9 -1.6**
CHMS Chumysh 3.51 290 ⇓*i*P **Pb 03 26 57.7 -4.3**
CHMS ⇓*i*S **Sb 03 27 40.3 -4.7**
USP Ospenovka 3.77 293 ⇑*i*P **Pn 03 27 01.4 +3.1**
USP ⇑*i*S **Sn 03 27 46.5 +3.3**
EKS2 Erkin-Say 4.13 283 ⇑*i*P **Pn 03 27 06.5 +3.1**
EKS2 ⇑*i*S **Sn 03 27 55.4 +3.1**
MAKZ Makanchi 5.30 21 ⇓Pn **Pn 03 27 19.7 +0.4**
0.8nm,0.6s
MAKZ ⇓Sn **Sn 03 28 21.4 +0.6**
0.7nm,0.5s
MAKZ Lg Lg 03 28 40.8
1.9nm,0.9s
MK31 Makanchi Array 5.37 23 ⇑Pn **Pn 03 27 21.5 +1.2**
0.1nm,0.3s,baz=198,slow=16,SNR=7.7
MK31 ⇓Sn **Sn 03 28 22.9 +0.3**
0.9nm,0.5s,baz=200,slow=21,SNR=4.2
MK31 ⇑Lg Lg 03 28 43.8
1.8nm,0.6s,baz=203,slow=25,SNR=4.1

*IDC **04** 03:51:18.4±0.8,20°.24S×67°.73E,h0km,mb3.9/13, mbtmp3.9/13,MS3.5/12,Error ellipse: s-maj=24.1km s-min=23.4km az=81.0*
ISC 04 03:51:21.1±0.8,**20°.2S**±0°.2×**67°.7E**±0°.2,**h16**km,**n28, σ0.59/13,mb4.0/12,MS3.5/12,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**13.33**	**21**	T	T	04 08 07.3	
	baz=200,slow=75,SNR=141						
H08S2	**Diego Garcia H**	**13.34**	**21**	T	T	04 08 04.7	
	baz=200,slow=75,SNR=233						
H08S3	**Diego Garcia H**	**13.35**	**21**	T	T	04 08 09.3	
	baz=200,slow=75,SNR=110						
H04N2	**CROZET ISLANDS**	**28.98**	**203**	T	T	04 27 48.7	
	baz=34,slow=75,SNR=1175						
H04N1	**CROZET ISLANDS**	**28.98**	**203**	T	T	04 27 50.3	
	baz=34,slow=75,SNR=958						
H04N3	**CROZET ISLANDS**	**29.00**	**203**	T	T	04 27 44.4	
	baz=34,slow=75,SNR=874						
PALK	**Pallekele**	**30.17**	**26**	LR	LR	04 06 33.1	
	comp=Z,68nm,19.2s,baz=184,slow=30						
BOSA	**Boshof**	**39.40**	**249**	P	**P**	**03 58 51.0**	**+0.5**
	0.8nm,0.7s,baz=83,slow=8.1,SNR=1.3						
	0.8nm,0.7s						
H01W2	**Cape Leeuwin H**	**43.27**	**120**	T	T	04 45 20.2	
	baz=279,slow=74,SNR=8.8						
H01W3	**Cape Leeuwin H**	**43.27**	**120**	T	T	04 45 14.6	
	baz=279,slow=74,SNR=9.6						
H01W1	**Cape Leeuwin H**	**43.29**	**120**	T	T	04 45 17.1	
	baz=279,slow=74,SNR=9.8						
MAW	**Mawson**	**47.46**	**183**	LR	LR	04 15 40.5	
	comp=Z,86nm,19.3s,baz=332,slow=31						
BRDH	**Bariadhala**	**48.62**	**30**	LR	LR	04 20 30.9	
	comp=Z,76nm,18.6s,baz=166,slow=36						
CMAR	**Chiang Mai Arr**	**49.15**	**41**	P	**P**	**04 00 09.1**	**+0.6**
	3.8nm,0.9s,baz=240,slow=8.6,SNR=10						
CMAR				LR	LR	04 18 48.3	
	comp=Z,34nm,18.9s,baz=200,slow=34						
	3.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**54.50**	**98**	LR	LR	04 23 46.9	
	comp=Z,42nm,18.1s,baz=348,slow=36						
ASAR	**Alice Springs**	**60.98**	**106**	P	**P**	**04 01 33.1**	**-1.0**
	0.7nm,0.7s,baz=269,slow=6.5,SNR=7.4						
ASAR				LR	LR	04 24 08.5	
	comp=Z,45nm,20.1s,baz=298,slow=32						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**62.14**	**102**	P	**P**	**04 01 42.6**	**+0.6**
	0.7nm,0.7s,baz=261,slow=5.8,SNR=4.7						
	0.7nm,0.7s						
AAK	**Ala-Archa**	**62.87**	**6**	LR	LR	04 24 51.7	
	comp=Z,31nm,20.4s,baz=207,slow=32						
MKAR	**Makanchi Array**	**68.00**	**11**	P	**P**	**04 02 18.8**	**-0.6**
	1.1nm,0.7s,baz=203,slow=4.6,SNR=8.5						
MKAR				LR	LR	04 29 46.6	
	comp=Z,25nm,19.4s,baz=245,slow=34						
	1.1nm,0.7s						
QSPA	**South Pole Qui**	**69.87**	**180**	P	**P**	**04 02 30.9**	**-0.1**
	1.0nm,0.8s,baz=343,slow=2.5,SNR=2.7						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**71.19**	**7**	P	**P**	**04 02 39.0**	**+0.1**
	1.5nm,0.8s,baz=203,slow=6.8,SNR=7.6						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.91**	**291**	P	**P**	**04 02 50.1**	**0.0**
	0.5nm,1.0s,baz=109,slow=6.2,SNR=1.9						
	0.5nm,1.0s						
BVAR	**Borovoye Array**	**72.99**	**2**	P	**P**	**04 02 49.9**	**+0.2**
	0.5nm,0.3s,baz=154,slow=7.6,SNR=5.1						
BVAR				LR	LR	04 33 22.3	
	comp=Z,33nm,20.4s,baz=201,slow=35						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**75.33**	**10**	P	**P**	**04 03 03.6**	**+0.3**
	1.4nm,0.4s,baz=190,slow=7.5,SNR=6.9						
ZALV				LR	LR	04 35 07.2	
	comp=Z,17nm,19.1s,baz=128,slow=35						
	1.4nm,0.4s						
SONM	**Songino Array**	**76.12**	**26**	P	**P**	**04 03 08.4**	**+0.2**
	1.4nm,0.9s,baz=210,slow=5.7,SNR=5.3						
	1.4nm,0.9s						
ARTI	**Arti**	**76.73**	**355**	LR	LR	04 35 11.3	
	comp=Z,32nm,18.0s,baz=344,slow=34						
AKASG	**Malin Array Be**	**78.35**	**336**	P	**P**	**04 03 19.4**	**-1.0**
	0.2nm,0.3s,baz=137,slow=4.6,SNR=4.6						
	0.2nm,0.3s						
MJAR	**Matsushiro Arr**	**87.20**	**49**	P	**P**	**04 04 06.9**	**+0.1**
	1.0nm,0.8s,baz=238,slow=4.2,SNR=3.0						
MJAR				LR	LR	04 40 58.9	
	comp=Z,12nm,21.1s,baz=228,slow=34						
	1.0nm,0.8s						

*SDD **04** 04:19:30.4±1.1,19°.89N×71°.36W,h28km±14km,MD3.1, ML2.2,MW3.4*
*OSPL **04** 04:19:35.7±2.8,19°.77N×71°.21W,h5km±23km,ML2.6*
ISC 04 04:19:33.0±1.7,**19°.84N**±0°.09×**71°.11W**±0°.08,**h23**km±10km, **n10,σ1.76/17,2C-7D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.09**	**277**	*i* P	**Pb**	**04 19 37.1**	**-0.1**
LOPP1				*e*S	**Sb**	**04 19 39.8**	**-0.3**
LOPP1				IAML		04 19 41.1	
	comp=Z,3μm,0.1s						
LUDR	**Luperon**	**0.15**	**71**	⇓*e*P	**Pb**	**04 19 37.6**	**-0.3**
MADR	**Mao Valverde**	**0.28**	**179**	⇓*e*P	**Pb**	**04 19 39.0**	**-0.5**
MADR				⇓*e*Sg	**Sb**	**04 19 44.8**	**+0.9**
MADR				IAML		04 19 45.3	
	comp=N,449nm,0.3s						
SC01	**Santiago de Io**	**0.55**	**139**	*e*S	**Sn**	**04 19 53.4**	**-0.5**
SC01	**Santiago de Io**	**0.55**	**139**	⇑*e*P	**Pb**	**04 19 43.8**	**-0.2**
SC01				⇓*e*Sg	**Sn**	**04 19 53.6**	**-0.3**
SC01				IAML		04 19 54.5	
	comp=N,58nm,0.2s						
SDDR	**Presa de Saban**	**0.87**	**191**	*i* P	**Pb**	**04 19 48.6**	**-0.9**
SDDR				*e*S	**Sb**	**04 20 00.7**	**-0.1**
SDDR				IAML		04 20 01.2	
	comp=Z,1μm,0.5s						
SDDR	**Presa de Saban**	**0.87**	**191**	⇑*e*P	**Pb**	**04 19 46.5**	**-3.0**
SDDR				⇓*e*Sg	**Sb**	**04 19 57.3**	**-3.5**
SDDR				IAML		04 20 00.9	
	comp=N,45nm,0.3s						
LONE3	**El Aguacate, B**	**1.27**	**195**	*i* P	**Pb**	**04 19 58.0**	**+1.6**
LONE3				*e*S	**Sb**	**04 20 16.0**	**+3.5**
LONE3				IAML		04 20 16.4	
	comp=Z,126nm,0.2s						
LODU1	**El Espartillar**	**1.52**	**193**	*i* P	**Pb**	**04 20 00.7**	**+0.1**
LODU1				IAML		04 20 22.1	
	comp=Z,70nm,0.4s						
BANI	**BANI**	**1.61**	**154**	⇓*e*Pg	**Pn**	**04 20 00.1**	**0.0**
BANI				⇓*e*Sg	**Sn**	**04 20 21.5**	**+1.3**
BANI				*e*		04 21 29.5	

*SDD **04** 04:26:35.8±1.4,19°.90N×71°.14W,h23km±12km,MD3.2, ML2.2,MW2.8*
*OSPL **04** 04:26:38.1±2.1,19°.81N×71°.14W,h13km±12km,ML2.8*
ISC 04 04:26:35.3±1.6,**19°.86N**±0°.09×**71°.06W**±0°.06,**h24**km±10km, **n11,σ0.52/20,2C-8D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUDR	**Luperon**	**0.11**	**72**	⇑*e*Pg	**Pb**	**04 26 40.2**	**+0.3**
LOPP1	**Punta Rusia, P**	**0.13**	**267**	*i* P	**Pb**	**04 26 39.9**	**-0.2**
LOPP1				*e*S	**Sb**	**04 26 43.5**	**+0.1**
LOPP1				IAML		04 26 45.8	
	comp=Z,3μm,0.1s						
MADR	**Mao Valverde**	**0.29**	**187**	⇓*e*Pg	**Pb**	**04 26 41.8**	**-0.4**
MADR				*e*Sg	**Sb**	**04 26 47.2**	**+0.3**
MADR				IAML		04 26 48.1	
	comp=N,506nm,0.2s						
SC01	**Santiago de Io**	**0.53**	**144**	*i* P	**Pn**	**04 26 46.8**	**-0.5**
SC01				*e*S	**Sn**	**04 26 56.1**	**+0.5**
SC01				AMP		04 26 57.4	
	comp=Z,935nm,0.3s						
SC01	**Santiago de Io**	**0.53**	**144**	⇑*e*Pg	**Pn**	**04 26 46.6**	**-0.8**
SC01				⇓*e*Sg	**Sn**	**04 26 55.8**	**+0.2**
SC01				IAML		04 26 57.3	
	comp=N,56nm,0.2s						
SDDR	**Presa de Saban**	**0.90**	**194**	*i* P	**Pn**	**04 26 52.4**	**-0.1**
SDDR				*e*S	**Sb**	**04 27 03.5**	**-0.4**
SDDR				IAML		04 27 03.9	
	comp=Z,34nm,0.4s						
SDDR	**Presa de Saban**	**0.90**	**194**	⇓*e*Pg	**Pb**	**04 26 51.5**	**-0.7**
SDDR				IAML		04 27 03.7	
	comp=N,49nm,0.4s						
SDDR				⇓*e*Sg	**Sb**	**04 27 03.7**	**-0.1**
LONE3	**El Aguacate, B**	**1.30**	**197**	*i* P	**Pb**	**04 26 60.0**	**+0.8**
LONE3				*e*S	**Sb**	**04 27 16.4**	**+0.9**
LONE3				AMP		04 27 16.9	
	comp=Z,201nm,0.1s						
NEDR	**Neiba UASD**	**1.41**	**194**	⇓*e*Pg	**Pb**	**04 27 00.6**	**-0.3**
NEDR				⇓*e*Sg	**Sn**	**04 27 17.9**	**+0.7**
NEDR				IAML		04 27 22.8	
	comp=N,40nm,0.4s						
LODU1	**El Espartillar**	**1.55**	**195**	*i* P	**Pb**	**04 27 03.4**	**+0.1**
HATOM	**Hato Mayor del**	**1.91**	**124**	⇓*e*Pg	**Pb**	**04 27 09.5**	**0.0**
HATOM				⇓*e*Sg	**Sb**	**04 27 33.1**	**+0.1**
HATOM				IAML		04 27 39.2	
	comp=N,26nm,2.0s						

*IDC **04** 04:36:13.0±3.6,25°.70N×128°.15E,h0km,mb3.6/5, mbtmp3.6/5,Error ellipse: s-maj=229.7km s-min=23.2km az=67.0*
*JMA **04** 04:36:14.9±0.4,26°.N±1°×12°.9E±°,h41km,MV3.2/15, NEAR OKINAWAJIMA ISLAND*
ISC 04 04:36:12.7±1.6,**25°.97N**±0°.06×**128°.75E**±0°.04,**h13**km±10km, **n17,σ1.44/25,mb3.6/5,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.85**	**310**	P	**Pg**	**04 36 29.1**	**0.0**
JJT3	**Tamagusuku3**	**0.89**	**281**	P	**Pb**	**04 36 30.1**	**+0.2**
JJT3				*e*S	**Sb**	**04 36 41.8**	**+0.1**
JOW	**Kunigami**	**0.96**	**334**	P	**Pg**	**04 36 31.3**	**+0.1**
JOW				*e*S	**Sg**	**04 36 42.9**	**-0.8**
JYRO	**Yoronjima**	**1.08**	**346**	P	**Pb**	**04 36 33.5**	**+0.1**
JYRO				S	**Sb**	**04 36 46.1**	**-1.3**
JIH	**Iheya**	**1.27**	**327**	P	**Pn**	**04 36 36.2**	**0.0**
JIH				S	**Sb**	**04 36 51.5**	**-1.3**
JOKE	**Okinoerabujima**	**1.39**	**353**	*e*S	**Sn**	**04 36 54.8**	**-1.4**
JAGN	**Aguni-jima**	**1.49**	**295**	P	**Pn**	**04 36 38.9**	**-0.3**
JAGN				*e*S	**Sn**	**04 36 56.8**	**-1.6**
JKE	**Kume jima 2**	**1.80**	**282**	P	**Pn**	**04 36 42.4**	**-1.0**
JKE				*e*S	**Sn**	**04 37 03.2**	**-3.0**
JTK	**Tokunoshima**	**1.82**	**6**	P	**Pn**	**04 36 44.0**	**+0.3**
JMZ	**Minamidaito 2**	**2.23**	**93**	P	**Pn**	**04 36 49.1**	**-0.4**
JMZ				*e*S	**Sn**	**04 37 13.8**	**-3.1**
JKDJ	**Kitadaitoujima**	**2.29**	**90**	P	**Pn**	**04 36 50.1**	**-0.2**
JKDJ				S	**Sn**	**04 37 16.1**	**-2.3**
JAMN	**Amaminishikomi**	**2.29**	**9**	P	**Pn**	**04 36 51.0**	**+0.8**
SONM	**Songino Array**	**28.02**	**327**	P	**P**	**04 42 06.3**	**+2.7**
	0.8nm,0.6s,baz=134,slow=11,SNR=4.5						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**42.05**	**312**	P	**P**	**04 44 04.2**	**+0.1**
	0.4nm,0.6s,baz=94,slow=9.3,SNR=2.5						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**42.73**	**323**	P	**P**	**04 44 10.1**	**+0.6**
	0.6nm,0.3s,baz=126,slow=7.4,SNR=4.0						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**45.96**	**173**	P	**P**	**04 44 35.9**	**+0.2**
	0.7nm,0.9s,baz=353,slow=7.8,SNR=2.4						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**49.60**	**174**	P	**P**	**04 45 05.0**	**+1.2**
	0.2nm,0.8s,baz=350,slow=7.4,SNR=1.3						
	0.2nm,0.8s						

*CUPWA **04** 04:49:44.0±2.2,30°.26S×116°.48E,h1km±71km,ML2.6, Region: WESTERN AUSTRALIA*
*AUST **04** 04:49:43.5±0.3,30°.S±2°×11°.7E±°,h10km,mb4.0/1, ML2.6/6,Error ellipse: s-maj=8.7km s-min=4.0km az=79.6*
ISC 04 04:49:43.0±1.3,**30°.24S**±0°.03×**116°.49E**±0°.05,**h4**km±11km, **n16,σ0.50/25,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLDU	**Ballidu**	**0.42**	**153**	P	**Pg**	**04 49 51.2**	**+0.2**
BLDU				S	**Sg**	**04 49 56.3**	**-0.2**
BLDU	**Ballidu**	**0.42**	**153**	P	**Pg**	**04 49 51.2**	**+0.2**
BLDU				S	**Sg**	**04 49 56.3**	**-0.2**
CADX	**Cadoux**	**0.77**	**134**	*i* P	**Pg**	**04 49 57.8**	**0.0**
CADX	**Cadoux**	**0.77**	**134**	S	**Sg**	**04 50 08.6**	**+0.9**
KOO6	**Koorda**	**1.04**	**125**	P	**Pg**	**04 50 02.8**	**-0.1**
KOO6				S	**Sg**	**04 50 15.8**	**-0.5**
MORW	**Morawa**	**1.23**	**341**	P	**Pg**	**04 50 06.5**	**-0.1**
MORW	**Morawa**	**1.23**	**341**	P	**Pg**	**04 50 06.5**	**-0.1**
MORW				S	**Sg**	**04 50 22.3**	**-0.3**
BR4	**Bonnie Rock 4**	**1.64**	**105**	P	**Pn**	**04 50 13.1**	**+0.5**
BR4				S	**Sb**	**04 50 34.7**	**-0.1**
KLBR	**Kellerberrin**	**1.73**	**141**	P	**Pn**	**04 50 14.3**	**+0.4**
KLBR	**Kellerberrin**	**1.73**	**141**	P	**Pn**	**04 50 14.3**	**+0.4**
KLBR				S	**Sn**	**04 50 36.3**	**-0.1**
MUN	**Mundaring**	**1.75**	**188**	P	**Pn**	**04 50 14.2**	**+0.1**
MUN	**Mundaring**	**1.75**	**188**	P	**Pn**	**04 50 14.2**	**+0.1**
MUN				SG	**Sn**	**04 50 36.7**	**-0.2**
MUN				S	**Sn**	**04 50 36.7**	**-0.2**
AUMAZ	**Mazenod Senior**	**1.81**	**192**	P	**Pn**	**04 50 15.1**	**+0.2**
AUMAZ				S	**Sn**	**04 50 38.4**	**+0.1**
MEEK	**Meekatharra**	**4.05**	**28**	P	**Pn**	**04 50 46.4**	**+0.6**
MEEK	**Meekatharra**	**4.05**	**28**	P	**Pn**	**04 50 46.4**	**+0.6**
FORT	**Forrest**	**9.99**	**96**	P	**Pn**	**04 52 05.8**	**-1.5**
	comp=Z,14nm,1.8s,comp=Z,0.0nm						

*SJA **04** 05:05:48.9±0.8,34°.36S×72°.91W,h12km±4km,ML3.5, MW3.5*
*GUC **04** 05:05:59.8±0.8,34°.17S×72°.34W,h28km±7km,ML3.1*
ISC 04 05:05:55.6±1.6,**34°.21S**±0°.04×**72°.55W**±0°.06,**h14**km±11km, **n31,σ1.83/56,1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**0.56**	**120**	*e*P	**Pb**	**05 06 08.9**	**+1.6**
BO03				*i* S	**Sb**	**05 06 15.1**	**-0.1**
BO03				IAML		05 06 17.8	
	comp=N,1μm,0.4s						
MT01	**Popeta**	**1.14**	**72**	⇓*i*P	**Pb**	**05 06 16.2**	**-0.8**
MT01				*i* S	**Sb**	**05 06 28.5**	**-3.2**
MT01				IAML		05 06 32.0	
	comp=N,775nm,0.5s						
MT01	**Popeta**	**1.14**	**72**	*e*P	**Pb**	**05 06 16.2**	**-0.8**
MT01				*e*S	**Sb**	**05 06 31.3**	**-0.4**
MT01				IAML		05 06 31.4	
	comp=Z,902nm,0.6s						
BO01	**Tunca**	**1.23**	**99**	*e*P	**Pb**	**05 06 17.6**	**-1.0**
BO01				*i* S	**Sb**	**05 06 33.1**	**-1.2**
BO01				IAML		05 06 41.6	
	comp=E,542nm,0.8s						
BO01	**Tunca**	**1.23**	**99**	*e*P	**Pb**	**05 06 17.1**	**-1.5**
BO01				IAML		05 06 40.9	
	comp=Z,340nm,0.6s						
MT09	**Talagante**	**1.37**	**72**	*e*P	**Pn**	**05 06 20.1**	**-0.4**
MT09				*i* S	**Sb**	**05 06 36.1**	**-2.5**
MT09				IAML		05 06 40.2	
	comp=N,681nm,0.2s						
MT02	**Curacav**	**1.52**	**51**	*e*P	**Pn**	**05 06 22.1**	**-0.2**
MT02				*e*S	**Sn**	**05 06 40.7**	**-1.2**
MT02				IAML		05 06 51.5	
	comp=Z,209nm,0.5s						
BO02	**Sierra Bellavi**	**1.57**	**112**	*e*P	**Pn**	**05 06 24.3**	**+1.1**
BO02				*i* S	**Sn**	**05 06 42.0**	**-1.4**
BO02				IAML		05 06 53.7	
	comp=E,1μm,0.1s						
BO02	**Sierra Bellavi**	**1.57**	**112**	*e*P	**Pn**	**05 06 23.7**	**+0.5**
BO02				*e*S	**Sg**	**05 06 46.2**	**-0.1**
BO02				IAML		05 06 49.4	
	comp=Z,762nm,0.2s						
BO04	**La Punta**	**1.63**	**83**	*e*P	**Pn**	**05 06 24.2**	**+0.2**
BO04				*i* S	**Sn**	**05 06 43.5**	**-1.2**
BO04				IAML		05 06 53.7	
	comp=E,399nm,0.5s						
MT05	**Renca**	**1.72**	**62**	*e*P	**Pn**	**05 06 26.0**	**+0.8**
MT05				*i* S	**Sn**	**05 06 45.8**	**-1.2**
MT05				IAML		05 06 52.0	
	comp=N,447nm,0.4s						
MT05	**Renca**	**1.72**	**62**	*e*P	**Pn**	**05 06 25.7**	**+0.5**
MT05				*e*S	**Sg**	**05 06 53.1**	**+2.1**
MT05				IAML		05 06 57.3	
	comp=Z,224nm,0.7s						
ROCH	**El Roble**	**1.79**	**47**	*e*P	**Pn**	**05 06 26.8**	**+0.5**
ROCH				*i* S	**Sn**	**05 06 46.3**	**-2.5**
ROCH				IAML		05 06 59.1	
	comp=E,370nm,0.4s						
ML02	**Panimavida**	**1.81**	**149**	*e*P	**Pg**	**05 06 30.5**	**+0.2**
ML02				IAML		05 07 07.7	
	comp=Z,484nm,0.5s						
MT10	**Hacienda Santa**	**1.92**	**61**	*e*P	**Pn**	**05 06 28.9**	**+0.8**
MT10				*i* S	**Sn**	**05 06 50.6**	**-1.6**
LMEL	**Las Melosas**	**1.99**	**80**	*e*P	**Pn**	**05 06 30.1**	**+1.2**
LMEL				*i* S	**Sn**	**05 06 53.7**	**0.0**
LMEL				IAML		05 06 58.8	
	comp=N,501nm,0.6s						
LMEL	**Las Melosas**	**1.99**	**80**	*e*P	**Pn**	**05 06 29.6**	**+0.6**
LMEL				*e*S	**Sb**	**05 06 56.9**	**+0.6**
LMEL				IAML		05 06 58.0	
	comp=Z,385nm,1.1s						
FCH	**Farellones**	**2.08**	**66**	*e*P	**Pn**	**05 06 31.0**	**+0.5**
FCH				*i* S	**Sn**	**05 06 55.6**	**-0.7**
FCH				IAML		05 07 03.0	
	comp=N,282nm,0.3s						
MT04	**Ro Olivares**	**2.17**	**69**	*e*P	**Pn**	**05 06 31.7**	**+0.1**
MT04				*e*S	**Sn**	**05 06 59.3**	**+1.0**
MT04				IAML		05 07 04.5	
	comp=Z,154nm,0.6s						
VA03	**San Esteban**	**2.21**	**50**	*e*P	**Pn**	**05 06 32.4**	**+0.4**
VA03				*e*S	**Sn**	**05 06 59.0**	**-0.2**
VA03				IAML		05 07 09.5	
	comp=Z,332nm,0.6s						
MT08	**Bocatoma Ro**	**2.25**	**71**	*e*P	**Pn**	**05 06 34.8**	**+2.2**
MT08				*e*S	**Sb**	**05 07 02.5**	**-1.3**
MT08				IAML		05 07 06.2	
	comp=Z,97nm,1.1s						
BI05	**Punta Hualpn**	**2.58**	**191**	*e*P	**Pb**	**05 06 40.8**	**-0.9**
CO02	**Combarbal**	**3.27**	**24**	*e*P	**Pn**	**05 06 46.6**	**0.0**
CO02				*e*S	**Sn**	**05 07 23.8**	**-1.6**
CO02				IAML		05 07 43.7	
	comp=Z,76nm,1.1s						
RTLS	**Leoncito**	**3.65**	**50**	*e*P	**Pn**	**05 06 56.1**	**+4.2**
RTLS				*e*S	**Sb**	**05 07 44.0**	**-0.2**
RTLS				IAML		05 07 54.2	
	comp=Z,148nm,0.8s						
CO03	**El Pedregal**	**3.71**	**26**	*e*P	**Pn**	**05 06 53.0**	**+0.3**
CO03				IAML		05 08 00.4	
	comp=Z,40nm,0.8s						
GO04	**Tololo Observa**	**4.29**	**21**	*e*P	**Pn**	**05 07 00.8**	**0.0**
GO04				IAML		05 08 18.0	
	comp=Z,45nm,1.7s						
ACCO	**Cerro Coronel**	**4.67**	**40**	*e*P	**Pn**	**05 07 09.2**	**+3.2**
ACCO				*e*S	**Sn**	**05 08 05.5**	**+5.4**
CO01	**Juntas del Tor**	**4.71**	**27**	*e*P	**Pn**	**05 07 07.6**	**+1.1**
CO01				*e*S	**Sn**	**05 08 01.1**	**0.0**
CO01				IAML		05 08 29.1	
	comp=Z,20nm,0.7s						
AROD	**Rodeo**	**4.81**	**34**	*e*P	**Pn**	**05 07 11.2**	**+3.3**
AROD				*e*S	**Sg**	**05 08 27.6**	**-2.3**
ACDV	**Cuesta del Vie**	**4.97**	**37**	*e*P	**Pn**	**05 07 13.2**	**+3.1**
ACDV				*e*S	**Sn**	**05 08 12.6**	**+5.2**
ACDV				IAML		05 08 51.8	
	comp=Z,18nm,0.9s						
LCO	**Las Campanas**	**5.42**	**17**	*e*P	**Pn**	**05 07 15.8**	**-0.5**
LCO				IAML		05 08 45.2	
	comp=Z,43nm,1.8s						

*NEIC **04** 05:12:20.9±1.6,20°.9N±0°.1×143°.3E±0°.2,h246km±9km, mb4.2/30,Error ellipse: s-maj=25.7km s-min=16.7km az=89.0*
*IDC **04** 05:12:29.3±1.7,21°.65N×143°.21E,h297km±16km, mb3.5/20,mbtmp4.1/22,Error ellipse: s-maj=16.7km s-min=10.2km az=81.0*
ISC 04 05:12:24.1±0.6,**21°.37N**±0°.08×**143°.3E**±0°.1,**h250**km,**n64, σ1.68/65,mb4.0/32,2C,Mariana Islands region**

| Code

	comp=Z,2.7nm,0.7s,baz=99,slow=6.8,SNR=11									
ZALV					PcP		**pwP**		**05 22 24.5**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=131,slow=4.0,SNR=2.5									
	comp=Z,2.7nm,0.7s									
MKAR	**Makanchi Array**	**55.02**	**313**		P		**P**		**05 21 29.5**	**-0.4**
MKAR	**Makanchi Array**	**55.02**	**313**		P		**P**		**05 21 29.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=91,slow=8.9,SNR=9.9									
MKAR					PcP		**pP**		**05 22 27.0**	**+3.3**
	comp=Z,0.4nm,0.4s,baz=96,slow=3.7,SNR=4.8									
	comp=Z,0.8nm,0.5s									
N15K	**Kwethluk River**	**55.23**	**31**		P		**P**		**05 21 31.7**	**+0.6**
N15K					IAmb		IAmb		05 21 32.2	
	comp=Z,6.8nm,0.7s									
MAKZ	**Makanchi**	**55.23**	**313**		P		**P**		**05 21 31.0**	**-0.4**
K15K	**Wolf Creek Mou**	**55.31**	**28**		P		**P**		**05 21 32.6**	**+0.9**
N17K	**Nushagak Hills**	**56.71**	**31**		P		**P**		**05 21 42.6**	**+1.0**
N17K					IAmb		IAmb		05 21 43.3	
	comp=Z,7.7nm,1.1s									
J17K	**VABM Dome**	**56.75**	**27**		P		**P**		**05 21 43.1**	**+1.3**
J17K					IAmb		IAmb		05 21 59.0	
	comp=Z,4.9nm,1.1s									
M17K	**Holitna River**	**56.85**	**30**		P		**P**		**05 21 43.6**	**+1.0**
M17K					IAmb		IAmb		05 21 58.3	
	comp=Z,8.0nm,1.1s									
K17K	**Iditarod**	**56.86**	**28**		P		**P**		**05 21 43.7**	**+1.1**
K17K					IAmb		IAmb		05 22 09.3	
	comp=Z,7.1nm,1.1s									
N18K	**Kilae Creek**	**57.37**	**31**		P		**P**		**05 21 46.8**	**+0.5**
O18K	**Koktuh Hills**	**57.49**	**32**		P		**P**		**05 21 48.0**	**+0.9**
O18K					IAmb		IAmb		05 22 00.7	
	comp=Z,6.8nm,1.1s									
KURK	**Kurchatov**	**57.80**	**317**		P		**P**		**05 21 48.4**	**-1.0**
KURK					IAmb		IAmb		05 21 48.7	
	comp=Z,2.7nm,0.7s									
KURBB	**Kurchatov Arra**	**57.85**	**317**		P		**P**		**05 21 48.2**	**-1.5**
	comp=Z,3.3nm,0.7s,baz=94,slow=7.5,SNR=33									
	comp=Z,3.3nm,0.7s									
KDAK	**Kodiak Island**	**58.40**	**34**		P		**P**		**05 21 53.2**	**-0.1**
J19K	**Poorman**	**58.40**	**27**		P		**P**		**05 21 53.9**	**+0.6**
SKT	**Skwentna**	**59.72**	**30**		P		**P**		**05 22 01.6**	**-0.7**
SKT					IAmb		IAmb		05 22 02.3	
	comp=Z,2.6nm,0.7s									
PWL	**Port Wells**	**61.04**	**31**		P		**P**		**05 22 11.0**	**-0.3**
IL31		**62.27**	**27**		P		**P**		**05 22 18.0**	**-1.4**
IL31					IAmb		IAmb		05 22 18.6	
	comp=Z,4.0nm,0.8s									
ILAR	**Eielson Array**	**62.27**	**27**		P		**P**		**05 22 18.1**	**-1.3**
ILAR	**Eielson Array**	**62.27**	**27**		P		**P**		**05 22 17.8**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=260,slow=5.4,SNR=19									
	comp=Z,1.6nm,0.7s									
PAX	**Paxson**	**62.65**	**29**		P		**P**		**05 22 21.9**	**-0.2**
BVAR	**Borovoye Array**	**63.01**	**320**		P		**P**		**05 22 23.1**	**-1.3**
	comp=Z,4.9nm,0.5s,baz=88,slow=8.1,SNR=20									
	comp=Z,4.9nm,0.5s									
BRVK	**Borovoye**	**63.07**	**320**		P		**P**		**05 22 24.2**	**-0.6**
BRVK					IAmb		IAmb		05 22 24.5	
	comp=Z,3.8nm,0.7s									
KKAR	**Karatay Array**	**63.36**	**308**		P		**P**		**05 22 26.5**	**-0.5**
I28M	**Miner Creek**	**65.27**	**27**		P		**P**		**05 22 39.0**	**-0.1**
I28M					IAmb		IAmb		05 22 40.0	
	comp=Z,3.0nm,0.9s									
DAWY	**Dawson**	**65.45**	**28**		P		**P**		**05 22 40.4**	**+0.2**
G31M	**Satah River**	**67.58**	**25**		P		**P**		**05 22 53.1**	**-0.3**
INK	**Inuvik**	**67.82**	**23**		P		**P**		**05 22 54.3**	**-0.6**
AB31	**Akbulak array**	**69.88**	**316**				**P**		**05 23 06.8**	**-1.1**
AB31					IAmb		IAmb		05 23 07.2	
	comp=Z,4.3nm,0.7s									
ABKAR	**Akbulak array**	**69.88**	**316**				**P**		**05 23 06.8**	**-1.1**
A36M	**Sachs Harbour**	**70.31**	**19**		P		**P**		**05 23 09.8**	**-0.3**
SPITS	**Spitsbergen Ar**	**76.18**	**350**		P		**P**		**05 23 42.8**	**-1.5**
	comp=Z,3.6nm,0.9s,baz=87,slow=14,SNR=1.7									
	comp=Z,3.6nm,0.9s									
YKA	**Yellowknife Ar**	**76.69**	**28**		P		**P**		**05 23 46.6**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=301,slow=12,SNR=12									
	comp=Z,1.6nm,0.6s									
KEV	**Kevo**	**78.71**	**341**		P		**P**		**05 23 57.3**	**-1.1**
ARCES	**ARCESS Array B**	**79.28**	**342**		P		**P**		**05 24 00.4**	**-1.0**
ARCES					IAmb		IAmb		05 24 10.6	
	comp=Z,9.1nm,1.1s									
ARCES	**ARCESS Array B**	**79.28**	**342**		P		**P**		**05 24 00.2**	**-1.2**
	comp=Z,4.9nm,0.7s,baz=71,slow=8.3,SNR=23									
	comp=Z,4.9nm,0.7s									
KBZ	**Khabaz**	**82.69**	**314**		P		**P**		**05 24 18.6**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=122,slow=2.4,SNR=7.4									
	comp=Z,3.3nm,0.9s									
NVAR	**Mina Array Bea**	**83.25**	**51**		P		**P**		**05 24 23.6**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=272,slow=5.3,SNR=14									
	comp=Z,1.1nm,0.6s									
FIA1	**FINESS Array S**	**83.53**	**335**		P		**P**		**05 24 21.7**	**-2.1**
FINES	**FINESS Array B**	**83.53**	**335**		P		**P**		**05 24 21.8**	**-2.1**
FINES	**FINESS Array B**	**83.53**	**335**		P		**P**		**05 24 21.4**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=68,slow=4.9,SNR=24									
	comp=Z,1.2nm,0.4s									
PDAR	**Pinedale Array**	**87.54**	**45**		P		**P**		**05 24 44.3**	**0.0**
	comp=Z,0.1nm,0.5s,baz=317,slow=1.7,SNR=1.9									
	comp=Z,0.1nm,0.5s									
AKASG	**Malin Array Be**	**87.85**	**324**		P		**P**		**05 24 42.2**	**-3.0**
	comp=Z,0.2nm,0.2s,baz=54,slow=5.0,SNR=1.9									
	comp=Z,0.2nm,0.2s									
HFS	**Hagfors**	**89.08**	**337**		P		**P**		**05 24 47.7**	**-3.1**
	comp=Z,2.0nm,1.0s,baz=85,slow=6.4,SNR=1.9									
	comp=Z,2.0nm,1.0s									
NOA	**NORSAR Array B**	**89.30**	**339**		P		**P**		**05 24 49.0**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=49,slow=4.8,SNR=3.3									
	comp=Z,0.5nm,0.7s									
VNA3	**Neumayer Olymp**	**127.69**	**191**		⇑P		**Pdif**		**05 27 40.9**	**-2.4**
	comp=Z,1.5nm,0.4s									
VNA1	**Neumayer–Stat**	**127.93**	**192**		⇑P		**Pdif**		**05 27 38.8**	**-5.6**
	comp=Z,1.1nm,0.3s									
TORD	**Torodi Ar. Bea**	**129.05**	**309**		PKP		**PKPdf**		**05 31 02.4**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=21,slow=2.0,SNR=2.0									
PLCA	**Paso Flores**	**145.44**	**132**		PKPbc		**PKPdf**		**05 31 34.1**	**+1.6**
	comp=Z,1.7nm,1.0s,baz=228,slow=5.6,SNR=4.6									
LPAZ	**La Paz**	**149.84**	**86**		PKPbc		**PKPbc**		**05 31 46.5**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=319,slow=0.9,SNR=12									

*NEIC **04** 05:29:40.7±1.4,36°.056N±0°.006×117°.36W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=358.0*

PAS 04 05:29:41.0±1.2,36°.053N±0°.007×117°.37W±0°.01, h2km±2km, ML3.2/97, ML3.0/80(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=88.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.10**	**273**		Pg	05 29 43.2	+0.3
MPMC				IAML		05 29 45.0	
	comp=N,7µm,0.2s						
JRC2	**Joshua Ridge**	**0.36**	**259**		Pg	05 29 48.2	+0.2
JRC2					Sg	05 29 53.5	+0.8
WVPM	**Volcano Peak E**	**0.38**	**254**		Pg	05 29 48.5	+0.2
MFS	**McCloud Flat S**	**0.40**	**279**		Pg	05 29 48.8	+0.1
MFS					Sg	05 29 54.7	+0.8
TOW	**Tower One**	**0.40**	**233**		Sb	05 29 56.0	-1.5
QSM	**Queen of Sheba**	**0.41**	**102**		Pg	05 29 48.9	0.0
QSM				IAML		05 29 56.2	
	comp=E,2µm,0.2s						
WRVM	**Rose V. Centra**	**0.43**	**264**		Pg	05 29 49.2	+0.1
WRVM					Sg	05 29 55.4	+0.7
WSHM	**Spangler Hills**	**0.46**	**193**		Pg	05 29 49.7	-0.1
SRTC	**Snort**	**0.47**	**221**		Pg	05 29 50.5	+0.4
SRTC					Sb	05 29 58.1	-1.5
WNMM	**Nine Mile Cany**	**0.48**	**244**		Pg	05 29 50.4	+0.2
CCCA	**Chr Cany lake**	**0.53**	**180**		Pg	05 29 51.5	+0.4
CCCA					Sg	05 29 59.4	+1.5
CCCA				IAML		05 30 03.0	
	comp=E,2µm,0.6s						
FURC	**Furnace Creek,**	**0.58**	**44**		Pg	05 29 52.6	+0.5
GWY	**Greenwater Val**	**0.58**	**77**		Pg	05 29 52.2	+0.1
GWY				IAML		05 30 00.6	
	comp=E,1µm,0.5s						
GWY				IAML		05 30 04.4	
	comp=N,860nm,0.3s						
CGO	**Cerro Gordo**	**0.61**	**325**		Pg	05 29 52.3	-0.3
CGO					Sg	05 30 00.9	+0.3
LRMC	**Laurel Mtn Rad**	**0.63**	**204**		Pg	05 29 52.9	-0.1
LRMC					Sg	05 30 01.4	+0.3
CWC	**Cottonwood Cre**	**0.69**	**304**		Pg	05 29 54.3	0.0
CWC				IAML		05 30 06.0	
	comp=N,609nm,0.2s						
CWC				IAML		05 30 06.3	
	comp=E,593nm,0.2s						
CWC	**Cottonwood Cre**	**0.69**	**304**		Sg	05 30 03.6	+0.3

WORM	**Onyx Ranch**	**0.80**	**244**		Pg	05 29 56.0	-0.2
WORM					Sg	05 30 06.6	+0.1
WBSM	**Bird Springs**	**0.81**	**231**		Pg	05 29 56.3	-0.2
WBSM					Sg	05 30 07.3	+0.3
DTP	**Desert Tortois**	**0.88**	**207**		Pg	05 29 57.2	-0.5
GSC	**Goldstone, Bar**	**0.88**	**148**		Sg	05 30 09.6	+0.5
GSC	**Goldstone, Bar**	**0.88**	**148**		Pg	05 29 57.7	-0.1
GSC				IAML		05 30 14.6	
	comp=N,344nm,0.5s						
SHOC	**Shoshone, Teco**	**0.90**	**99**		Pg	05 29 58.1	-0.1
GRAC	**Grapevine Rang**	**0.94**	**0**		Pg	05 29 59.0	-0.1
GRAC				IAML		05 30 15.9	
	comp=N,416nm,0.8s						
GRAC				IAML		05 30 17.0	
	comp=E,483nm,0.4s						
WCT	**Wildcat Mounta**	**0.95**	**39**		Pg	05 29 59.1	-0.1
WCT					Sg	05 30 11.4	-0.1
WCT				IAML		05 30 12.6	
	comp=E,414nm,0.2s						
WCT				IAML		05 30 13.9	
	comp=N,217nm,0.2s						
AMDNV	**Amargosa**	**0.96**	**65**		Pg	05 29 58.9	-0.5
AMDNV					Sg	05 30 11.7	-0.3
SGV	**South Grapevin**	**0.96**	**16**		Pg	05 29 59.2	-0.3
SGV					Sg	05 30 12.2	+0.2
ISA	**Isabella, Lake**	**0.98**	**247**		Pg	05 29 59.5	-0.2
ISA				IAML		05 30 16.1	
	comp=E,248nm,0.4s						
ISA				IAML		05 30 16.5	
	comp=N,227nm,0.4s						
ISA	**Isabella, Lake**	**0.98**	**247**		Sg	05 30 12.5	+0.1
WASM	**Alta Sierra Ca**	**1.02**	**252**		Pg	05 30 00.2	-0.3
WASM					Sg	05 30 13.8	+0.2
CCAC	**Calif City Air**	**1.04**	**211**		Pg	05 30 00.6	-0.3
CCAC					Sg	05 30 14.6	+0.2
SPG2	**Springville 2**	**1.14**	**278**		Pg	05 30 02.2	-0.7
SPG2					Sg	05 30 17.3	-0.4
HYS	**Haystack Butte**	**1.20**	**188**		Pg	05 30 03.1	-0.8
HYS					Sg	05 30 19.2	-0.3
LCH	**Last Change Ra**	**1.20**	**349**		Pg	05 30 02.8	-1.2
RRX	**Edison Barstow**	**1.21**	**165**		Pb	05 30 04.6	0.0
TIN	**Tinemaha, Big**	**1.22**	**325**		Pg	05 30 03.9	-0.4
TIN				IAML		05 30 25.0	
	comp=E,329nm,0.6s						
TIN				IAML		05 30 26.7	
	comp=N,465nm,0.7s						
GMN	**Gold Mountain**	**1.25**	**4**		Pg	05 30 04.6	-0.4
TPNV	**Topopah Spring**	**1.27**	**45**		Pg	05 30 05.0	-0.3
TPNV				IAML		05 30 22.8	
	comp=N,469nm,0.4s						
EDW2	**Edwards Air Fo**	**1.28**	**204**		Pg	05 30 05.2	-0.2
EDW2					Sg	05 30 21.6	-0.3
TUQ	**Turquoise Moun**	**1.33**	**117**		Pg	05 30 05.2	-1.2
TUQ					Sn	05 30 24.9	-0.1
TEJ	**El Tejon**	**1.35**	**233**		Pg	05 30 05.9	-1.0
TPO	**Tropico Hills**	**1.37**	**211**		Pn	05 30 06.2	-0.9
TPO				IAML		05 30 29.5	
	comp=N,246nm,0.7s						
DSP	**Deep Springs**	**1.40**	**340**		Pn	05 30 07.0	-0.5
VES	**Vestal, Richgr**	**1.41**	**262**		Pn	05 30 07.2	-0.4
VES				IAML		05 30 14.4	
	comp=E,145nm,0.9s						
VES				IAML		05 30 30.3	
	comp=N,172nm,0.6s						
SBB	**Saddle Back Bu**	**1.41**	**195**		Pn	05 30 07.2	-0.6
SBB					Sb	05 30 26.6	0.0
HEC	**Hector,Ludlow**	**1.48**	**145**		Sn	05 30 29.4	+0.6
MTPC	**Mountain Pass**	**1.58**	**110**		Pn	05 30 08.9	-1.3
MTPC				IAML		05 30 34.8	
	comp=E,172nm,0.5s						
MTPC				IAML		05 30 36.0	
	comp=N,168nm,0.7s						
MTUM	**Tungsten Hills**	**1.61**	**324**		Pb	05 30 11.5	-0.1
HOLC	**Holcomb Ridge**	**1.64**	**194**		Pb	05 30 12.0	+0.1
MZP	**Montezuma Peak**	**1.65**	**360**		Pn	05 30 10.6	-0.6
VOG	**Valley Oaks Go**	**1.65**	**280**		Pb	05 30 12.0	-0.1
CHFC	**Chilao Flat St**	**1.80**	**198**		Pg	05 30 15.5	+0.1
SHPR	**Sheep Range**	**1.84**	**75**		Pn	05 30 13.6	-0.1
SSK	**Sunset Peak**	**1.86**	**188**		Pb	05 30 16.1	+0.4
MLAC	**Mammoth, Mammo**	**1.97**	**324**		Pb	05 30 18.1	+0.4
MCSM	**Casa Diablo Ho**	**2.02**	**323**		Pg	05 30 19.2	-0.5
TPH	**Tonopah**	**2.02**	**3**		Pn	05 30 15.9	-0.4
TPH				IAML		05 30 50.4	
	comp=E,194nm,0.5s						
CRGC	**Crocker Grade**	**2.08**	**248**		Pb	05 30 19.4	-0.1
BLAC	**Blackrock camp**	**2.13**	**158**		Pb	05 30 20.9	+0.5
TPC	**Twentynine Pal**	**2.22**	**151**		Pn	05 30 18.2	-0.7
SMMC	**Simmler**	**2.26**	**252**		Pb	05 30 22.0	-0.6
BELC	**Belle Mtn. Jos**	**2.33**	**151**	Pn	Pn	05 30 19.9	-0.6
BELC				IAML		05 30 59.7	
	comp=E,46nm,0.5s						
BELC				IAML		05 31 03.5	
	comp=N,39nm,0.7s						
LHV	**Little Huntoon**	**2.38**	**338**		Pn	05 30 21.4	+0.5
LHV				IAML		05 31 02.8	
	comp=E,57nm,0.6s						
POB	**Polly Butte**	**2.39**	**171**		Pn	05 30 21.0	-0.2
ELS	**Elsinore Mount**	**2.40**	**181**	Pn	Pn	05 30 21.4	+0.1
NV11	**Mina Array Sit**	**2.46**	**345**		Pn	05 30 22.0	-0.2
NVAR	**Mina Array Bea**	**2.49**	**343**		Pn	05 30 22.3	-0.4
PMD	**Palm Desert**	**2.53**	**161**	Pn	Pn	05 30 22.2	-0.9
PFO	**Pinyon Flats O**	**2.55**	**163**		Pn	05 30 22.7	-0.7
IRM	**Iron Mountain**	**2.63**	**135**	Pn	Pn	05 30 24.2	-0.2
RYN	**Ryan**	**2.73**	**341**		Pn	05 30 26.4	+0.5
Q09A	**Carvers**	**2.78**	**3**		Pn	05 30 26.6	-0.1
Q09A				IAML		05 31 13.9	
	comp=E,63nm,0.5s						
Q09A				IAML		05 31 26.1	
	comp=N,55nm,0.9s						
CMB	**Columbia Colle**	**3.12**	**310**	Pn	Pb	05 30 37.0	-0.2
CMB				IAML		05 31 22.9	
	comp=N,40nm,0.6s						
CMB				IAML		05 31 24.8	
	comp=E,28nm,0.7s						
SAO	**San Andreas Ge**	**3.37**	**283**	Pn	Pn	05 30 34.4	-0.1
U15A	**North Rim**	**4.12**	**83**	Pn	Pn	05 30 43.8	-1.4

*TAP **04** 06:25:52.5,23°.68N×121°.53E,h3km,ML4.1,C*
*JMA **04** 06:25:52.8±0.3,23°.7N±0°.9×12°.2E±°,h16km±4km, MV3.7/14,TAIWAN REGION*
*IDC **04** 06:25:53.3±0.9,23°.37N×121°.84E,h0km,mb3.6/10, mbtmp3.7/11,ML3.5/1,MS3.2/3,Error ellipse: s-maj=33.8km s-min=16.9km az=66.0*

ISC 04 06:25:52.6±0.9,23°.66N±0°.01×121°.57E±0°.02,h5km±5km, n178,σ1ꝉ37/276,mb3.6/10,19C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.05**	**330**	⇑*i*P	**Pg**	**06 25 53.8**	**-0.1**
TEGC				*i* S	**Sg**	**06 25 55.0**	**+0.1**
SHUL	**Shoufeng**	**0.12**	**358**	⇑*i*P	**Pg**	**06 25 55.8**	**+0.5**
SHUL				*eS*	**Sg**	**06 25 58.5**	**+1.7**
EGFH	**Guangfu**	**0.13**	**273**	*i* P	**Pg**	**06 25 55.1**	**-0.2**
EGFH				*eS*	**Sg**	**06 25 58.5**	**+1.5**
WARBT	**Fenglin Townsh**	**0.18**	**288**	P	**Pg**	**06 25 55.8**	**-0.3**
WARBT				S	**Sg**	**06 25 58.2**	**-0.3**
ESL	**Shilin**	**0.20**	**320**	⇓*i*P	**Pg**	**06 25 56.4**	**-0.1**
ESL				S	**Sg**	**06 25 59.5**	**+0.5**
TEYL	**Yanliau Villag**	**0.21**	**8**	⇑P	**Pg**	**06 25 58.5**	**+1.8**
TEYL				*eS*	**Sg**	**06 26 03.6**	**+4.2**
HGSD	**Ruisui**	**0.22**	**218**	⇑*i*P	**Pg**	**06 25 57.7**	**+0.9**
HGSD				*i* S	**Sg**	**06 26 02.1**	**+2.4**
EHYH	**Wanrong**	**0.27**	**231**	⇑*i*P	**Pg**	**06 25 58.0**	**+0.2**
EHYH				*eS*	**Sb**	**06 26 03.2**	**-1.6**
EHY	**Hungye**	**0.28**	**235**	⇑*i*P	**Pg**	**06 25 58.0**	**0.0**
EHY				*eS*	**Sb**	**06 26 02.8**	**-2.2**
ETM	**Tongmen**	**0.31**	**347**	P	**Pg**	**06 25 58.9**	**+0.2**
ETM				*eS*	**Sg**	**06 26 03.0**	**+0.3**
HWA	**Hwalien**	**0.31**	**6**	P	**Pb**	**06 25 58.0**	**-0.8**
HWA				*eS*	**Sb**	**06 26 06.2**	**0.0**
ECBN	**Changbin**	**0.36**	**197**	*eP*	**Pb**	**06 26 00.8**	**-0.7**
ECBN				S	**Sb**	**06 26 07.4**	**-0.1**
YULB	**Yu-li**	**0.37**	**223**	P	**Pb**	**06 26 00.7**	**-0.9**
YULB	**Yu-li**	**0.37**	**223**	⇑*i*P	**Pg**	**06 25 60.0**	**+0.3**
YULB				*eS*	**Sb**	**06 26 06.8**	**-0.9**
EYUL	**Yuli**	**0.39**	**216**	P	**Pb**	**06 26 01.4**	**-0.7**
TWF1	**Yuli**	**0.40**	**219**	⇑*i*P	**Pg**	**06 26 00.8**	**+0.4**
TWF1				*eS*	**Sb**	**06 26 08.0**	**-0.5**
VWDT	**VWDT**	**0.40**	**283**	⇑*i*P	**Pb**	**06 26 00.7**	**-1.5**
VWDT				*i* S	**Sb**	**06 26 06.8**	**-1.9**
TWD	**Chiawan**	**0.42**	**3**	⇓*i*P	**Pb**	**06 26 01.2**	**-1.3**

TWD					*eS*	**Sb**	**06 26 07.1**	**-2.0**
OWD	**Renai**	**0.46**	**309**	⇑P	**Pb**	**06 26 01.6**	**-1.8**
OWD					*i* S	**Sb**	**06 26 08.1**	**-2.4**
CHKH	**Chenggong**	**0.49**	**199**	*i* P	**Pb**	**06 26 03.2**	**-0.6**
CHKH					*eS*	**Sb**	**06 26 11.9**	**+0.5**
ETL	**Fush Village**	**0.50**	**6**	*eP*	**Pg**	**06 26 02.5**	**+0.4**
ETL					*eS*	**Sb**	**06 26 10.7**	**-0.8**
NACB	**Ninganchiao**	**0.51**	**3**	P	**Pb**	**06 26 02.9**	**-1.2**
NACB	**Ninganchiao**	**0.51**	**3**	⇓*eP*	**Pg**	**06 26 02.6**	**+0.2**
NACB					*eS*	**Sb**	**06 26 12.1**	**+0.3**
FULB	**Fuli**	**0.53**	**209**	*eP*	**Pb**	**06 26 04.2**	**-0.2**
FULB					*eS*	**Sn**	**06 26 13.7**	**-2.5**
WUSB	**Renai**	**0.53**	**308**	⇑*i*P	**Pb**	**06 26 03.1**	**-1.4**
WUSB					S	**Sb**	**06 26 10.3**	**-2.1**
ETLH	**Xiulin Townshi**	**0.55**	**352**	⇓*eP*	**Pg**	**06 26 03.2**	**0.0**
WHF	**Hehuan Shan**	**0.55**	**330**	⇓*i*P	**Pg**	**06 26 03.3**	**-0.1**
WHF				*i* S	**Sg**	**06 26 10.9**	**+0.2**
SSLB	**Suanglung**	**0.58**	**283**	P	**Pb**	**06 26 04.1**	**-1.1**
SSLB	**Suanglung**	**0.58**	**283**	⇑*i*P	**Pb**	**06 26 03.8**	**-1.4**
SSLB					*eS*	**Sb**	**06 26 11.9**	**-1.9**
CHKT	**Chengkung**	**0.59**	**198**	*eP*	**Pb**	**06 26 04.8**	**-0.7**
CHKT					*i* S	**Sn**	**06 26 15.1**	**-2.6**
EHD	**Haiduan**	**0.61**	**213**	*eP*	**Pb**	**06 26 04.9**	**-0.9**
EHD					*eS*	**Sb**	**06 26 14.6**	**-0.1**
ECS	**Chishang**	**0.65**	**210**	*eP*	**Pb**	**06 26 06.4**	**-0.1**
ECS					*eS*	**Sn**	**06 26 16.9**	**-2.3**
SMLT	**Sun Moon Lake**	**0.65**	**290**	⇑*i*P	**Pb**	**06 26 05.3**	**-1.2**
SMLT					*eS*	**Sb**	**06 26 14.7**	**-1.3**
FUSS	**Fushou**	**0.65**	**333**	⇑*i*P	**Pb**	**06 26 05.6**	**-1.0**
FUSS					*eS*	**Sb**	**06 26 14.3**	**-1.9**
WHYT	**Xinyi Township**	**0.66**	**273**	*eP*	**Pb**	**06 26 05.5**	**-1.1**
WHYT					*eS*	**Sb**	**06 26 14.8**	**-1.3**
EAHA	**Aohua**	**0.68**	**13**	*eP*	**Pb**	**06 26 06.8**	**-0.2**
EAHA					*eS*	**Sn**	**06 26 17.4**	**-2.6**
TWT	**Tachien**	**0.69**	**329**	*eP*	**Pb**	**06 26 06.4**	**-0.9**
TWT					*eS*	**Sb**	**06 26 15.3**	**-1.8**
ELDTW	**Lidau**	**0.69**	**227**	⇓P	**Pg**	**06 26 05.8**	**-0.2**
ELDTW					*eS*	**Sb**	**06 26 16.1**	**-1.1**
TDCB	**Techi**	**0.70**	**328**	⇓*i*P	**Pb**	**06 26 06.4**	**-1.0**
ALS	**Alishan**	**0.72**	**258**	*i* P	**Pb**	**06 26 07.0**	**-0.8**
ALS					*eS*	**Sb**	**06 26 17.0**	**-1.0**
WCS	**Beigang Elemen**	**0.72**	**303**	*eP*	**Pb**	**06 26 07.0**	**-0.7**
WCS					*eS*	**Sb**	**06 26 16.8**	**-1.0**
EDH	**Donghe**	**0.73**	**200**	P	**Pb**	**06 26 07.1**	**-0.7**
EDH					S	**Sn**	**06 26 18.8**	**-2.3**
ENA	**Nanau**	**0.78**	**12**	*eP*	**Pb**	**06 26 07.8**	**-0.8**
ENA					*eS*	**Sn**	**06 26 21.0**	**-1.3**
NNSB	**Datong**	**0.78**	**347**	⇓*i*P	**Pb**	**06 26 07.8**	**-1.0**
NNSB					*eS*	**Sb**	**06 26 18.5**	**-1.3**
WJS	**Zhushan**	**0.79**	**282**	*eP*	**Pn**	**06 26 08.2**	**-1.7**
WJS					*eS*	**Sn**	**06 26 20.5**	**-2.1**
EWUT	**Wuta**	**0.80**	**14**	*eP*	**Pb**	**06 26 08.6**	**-0.5**
EWUT					*eS*	**Sn**	**06 26 21.2**	**-1.7**
EOS4	**EOS4**	**0.82**	**56**	*eP*	**Pb**	**06 26 09.1**	**-0.1**
EOS4					S	**Sn**	**06 26 22.3**	**-0.7**
WHP	**Taichung City**	**0.84**	**317**	⇓P	**Pb**	**06 26 09.1**	**-0.6**
WHP					*eS*	**Sb**	**06 26 20.4**	**-0.9**
WNT	**Mingjian**	**0.84**	**285**	*eP*	**Pn**	**06 26 10.6**	**-0.5**
WNT					*eS*	**Sn**	**06 26 22.4**	**-1.4**
LONT	**Longtian**

SHHT				eS		Sn	06 26 39.0	+4.0
NHDH	**Xindian Distri**	**1.29**	**358**	eP		Pg	06 26 17.2	-0.2
NHDH				eS		Sg	06 26 36.1	+1.8
TATO	**Taipei**	**1.31**	**357**	P		Pg	06 26 18.3	+0.6
TWA	**Mucha**	**1.31**	**1**	eP		Pg	06 26 18.0	+0.2
TWA				eS		Sg	06 26 36.5	+1.7
TIPB	**Shuangxi**	**1.32**	**10**	eP		Pg	06 26 18.5	+0.5
TIPB				eS		Sg	06 26 35.9	+0.7
NCUH	**Zhongli**	**1.34**	**345**	eP		Pg	06 26 18.4	0.0
NCUH				eS		Sg	06 26 38.8	+2.9
TWM1	**Shoushan**	**1.34**	**232**	eP		Pg	06 26 20.4	+1.9
TWM1				eS		Sg	06 26 40.7	+4.8
SCLT	**Jiali**	**1.35**	**249**	eP		Pg	06 26 19.0	+0.5
SCLT				eS		Sg	06 26 39.2	+3.1
MASBT	**Mashibuluo**	**1.35**	**220**	eP		Pg	06 26 17.4	-0.8
MASBT				eS		Sg	06 26 35.6	-0.6
SGLT	**Jiouru**	**1.36**	**227**	eP		Pg	06 26 20.4	+1.7
SGLT				eS		Sg	06 26 39.6	+3.2
TWB1	**Santiao Chiao**	**1.39**	**16**	eP		Pg	06 26 20.2	+0.9
TWB1				eS		Sg	06 26 39.4	+2.0
WFSB	**Wu-fen Shan**	**1.42**	**8**	eP		Pg	06 26 20.6	+0.9
EAST	**Anshuo**	**1.44**	**208**	eP		Pn	06 26 17.8	-1.6
SXI1	**Grass Mountain**	**1.45**	**11**	eP		Pg	06 26 20.3	-0.2
TSCK	**Chigu Township**	**1.46**	**250**	eP		Pg	06 26 20.5	0.0
TSCK				eS		Sg	06 26 42.2	+2.7
TAWH	**Dawu Township**	**1.46**	**206**	eP		Pg	06 26 20.5	-0.1
YM01	**YM01**	**1.48**	**0**	eP		Pg	06 26 21.3	+0.3
JYNG	**Yonagunijimaku**	**1.48**	**58**	eP		Pn	06 26 19.4	-0.6
JYNG				eS		Sn	06 26 38.5	-1.2
TNOU	**National Taiwa**	**1.49**	**7**	eP		Pg	06 26 22.2	+0.9
ZUZH	**Zhuzihu**	**1.49**	**359**	eP		Pg	06 26 21.1	-0.2
ZUZH				eS		Sg	06 26 41.1	+0.5
NTST	**Danshui**	**1.50**	**356**	eP		Pg	06 26 22.9	+1.5
ANP	**Anpu**	**1.52**	**358**	eP		Pg	06 26 22.4	+0.6
ANP				eS		Sg	06 26 41.9	+0.5
YM08	**YM08**	**1.52**	**1**	eP		Pb	06 26 20.9	-0.4
YOJ	**Yonaguni jima**	**1.54**	**59**	P		Pb	06 26 20.9	-0.7
YOJ	**Yonaguni jima**	**1.54**	**59**	eP		Pn	06 26 20.7	0.0
YOJ	**Yonaguni jima**	**1.54**	**59**	eP		Pn	06 26 20.7	0.0
YOJ				eS		Sn	06 26 39.8	-1.3
SCZT	**Fangliau**	**1.55**	**214**	⇓iP		Pg	06 26 22.6	+0.2
SCZT				eS		Sg	06 26 44.2	+1.7
TWY	**Chenhua**	**1.61**	**1**	eP		Pg	06 26 23.0	-0.5
LAY	**Lan-yu**	**1.62**	**181**	eP		Pn	06 26 19.0	-2.9
LYUB	**Lan-yu**	**1.65**	**180**	eP		Pn	06 26 18.6	-3.7
SMST	**Manzhou Townsh**	**1.77**	**203**	eP		Pb	06 26 24.9	-0.7
WDGT	**Dungji**	**1.80**	**257**	eP		Pb	06 26 24.6	-1.4
WDGT				eS		Sb	06 26 47.5	-1.4
HEN	**Hengchun**	**1.82**	**205**	eP		Pb	06 26 24.8	-1.6
HEN				eS		Sb	06 26 48.3	-1.2
PHUB	**P'eng-hu**	**1.84**	**266**	P		Pb	06 26 25.7	-1.1
PHUB				eS		Sb	06 26 49.4	-0.6
PNG	**Penghu**	**1.85**	**267**	eP		Pb	06 26 25.9	-1.0
PNG				S		Sg	06 26 50.8	-1.3
TWK1	**Hengchun**	**1.85**	**203**	eP		Pb	06 26 25.7	-1.2
TWKBT	**Hengchun**	**1.85**	**202**	eP		Pb	06 26 25.4	-1.5
PCYT	**Pengchaiyu**	**2.01**	**13**	eP		Pb	06 26 28.2	-1.5
VCHM	**Qimei**	**2.02**	**257**	eP		Pn	06 26 26.9	-0.4
HATJ	**Hateruma jima**	**2.08**	**79**	eS		Sn	06 26 53.1	-1.5
IRIF	**Iriomote-Funau**	**2.09**	**71**	eS		Sn	06 26 54.4	-0.2
JKRS	**Kuro-shima**	**2.31**	**75**	eP		Pn	06 26 31.2	0.0
JKRS				eS		Sn	06 26 59.9	-0.1
VWUC	**VWUC**	**2.34**	**305**	eP		Pn	06 26 32.2	+0.4
VWUC				eS		Sb	06 27 02.1	-2.4
JIJ	**Ishigaki jima**	**2.46**	**73**	eS		Sn	06 27 03.0	-0.8
PTMZ	**Houxiangcun**	**2.62**	**302**	eP		Pn	06 26 35.3	-0.3
JISG	**Ishigakijimahi**	**2.67**	**69**	eP		Pn	06 26 35.4	-0.9
KNM	**Kinmen**	**2.96**	**285**	eP		Pn	06 26 42.3	-3.6
KNMB	**Chin-men Tao**	**3.01**	**286**	eP		Pn	06 26 41.2	+0.2
JTJ	**Tarama**	**3.02**	**71**	eP		Pn	06 26 40.7	-0.4
MHZQ	**Yeshan**	**3.35**	**317**	eP		Pn	06 26 44.3	-1.3
XPSS	**Dashiqiu**	**3.48**	**339**	eP		Pn	06 26 43.0	-4.5
AXDP	**Jialang**	**3.51**	**291**	eP		Pn	06 26 48.2	+0.4
ZPLA	**Ao Xicun**	**3.51**	**275**	eP		Pn	06 26 47.5	-0.3
JMJ2	**Miyako jima3**	**3.60**	**72**	eS		Sn	06 27 32.5	+0.6
SXFK	**Yanhouchang**	**4.48**	**308**	eP		Pn	06 27 01.1	-0.1
KSRS	**Korea Array**	**14.79**	**20**	Pn		**P**	06 29 26.5	-2.0
	0.2nm,0.3s,baz=196,slow=12,SNR=7.3 0.9nm,0.5s							
MJAR	**Matsushiro Arr**	**19.25**	**44**	LR		LR	06 38 03.7	
	comp=Z,27nm,19.0s,baz=185,slow=38							
CMAR	**Chiang Mai Arr**	**21.73**	**260**	P		**P**	**06 30 47.3**	**+2.3**
	0.6nm,0.3s,baz=56,slow=9.9,SNR=5.5 0.6nm,0.3s							
SONM	**Songino Array**	**26.98**	**337**	P		**P**	**06 31 41.1**	**+5.7**
	0.7nm,0.4s,baz=158,slow=8.7,SNR=3.4							
SONM				LR		LR	06 43 29.9	
	comp=Z,62nm,19.4s,baz=82,slow=39 0.7nm,0.4s							
MKAR	**Makanchi Array**	**38.95**	**316**	P		P	06 33 23.9	+4.3
	0.8nm,0.7s,baz=116,slow=9.8,SNR=2.9 0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**40.87**	**327**	P		P	06 33 40.2	+4.8
	0.8nm,0.5s,baz=111,slow=7.9,SNR=2.6 0.8nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**42.17**	**86**	T		T	07 18 40.9	
	baz=283,slow=74,SNR=183							
H11N2	**WAKE ISLAND Hy**	**42.17**	**86**	T		T	07 18 41.1	
	baz=283,slow=74,SNR=248							
H11N3	**WAKE ISLAND Hy**	**42.18**	**86**	T		T	07 18 42.2	
	baz=283,slow=74,SNR=248							
H11S3	**WAKE ISLAND Hy**	**42.28**	**88**	T		T	07 18 50.0	
	baz=284,slow=74,SNR=879							
H11S1	**WAKE ISLAND Hy**	**42.29**	**88**	T		T	07 18 49.4	
	baz=284,slow=74,SNR=314							
H11S2	**WAKE ISLAND Hy**	**42.30**	**88**	T		T	07 18 51.7	
	baz=284,slow=74,SNR=303							
KURBB	**Kurchatov Arra**	**42.73**	**320**	P		P	06 33 55.4	+4.7
	0.3nm,0.4s,baz=112,slow=9.9,SNR=5.4 0.3nm,0.4s							
WRA	**Warramunga Arr**	**45.09**	**163**	P		**P**	**06 34 08.2**	**-1.8**
	0.6nm,0.7s,baz=344,slow=8.7,SNR=7.4 0.6nm,0.7s							
BVAR	**Borovoye Array**	**48.30**	**321**	P		P	06 34 39.1	+4.4
	0.5nm,0.4s,baz=98,slow=11,SNR=4.2 0.5nm,0.4s							
ASAR	**Alice Springs**	**48.55**	**165**	P		**P**	**06 34 35.8**	**-1.2**
	0.4nm,0.8s,baz=344,slow=7.7,SNR=6.6 0.4nm,0.8s							
STKA	**Stephens Creek**	**58.45**	**160**	P		**P**	**06 35 49.5**	**-0.1**
	1.4nm,0.6s,baz=308,slow=12,SNR=1.8 1.4nm,0.6s							
ILAR	**Eielson Array**	**69.51**	**27**	P		**P**	**06 37 02.7**	**+0.7**
	0.2nm,0.4s,baz=283,slow=6.4,SNR=2.3 0.2nm,0.4s							
YKA	**Yellowknife Ar**	**83.31**	**23**	LR		LR	07 18 30.3	
	comp=Z,28nm,18.4s,baz=352,slow=38							
LPAZ	**La Paz**	**168.30**	**53**	PKP		**PKPdf**	**06 46 03.5**	**+1.5**
	0.4nm,0.3s,baz=315,slow=1.4,SNR=4.8							

NNC 04 06:26:46.5±14.0, 38.89N×90.26E, h30km±897km, mb3.8, 2C-2D, Error ellipse: s-maj=635.4km s-min=22.7km az=134.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**9.26**	**302**	⇑Pn	Pn	06 28 57.9	-0.1
	3.5nm,0.8s						
PDGK				⇓Sn	Sn	06 30 41.9	+0.8
	8.7nm,0.7s						
MK31	**Makanchi Array**	**9.82**	**326**	⇑Pn	Pn	06 29 05.0	-0.7
	0.3nm,0.3s,baz=140,slow=14,SNR=32						
MK31				⇓Sn	Sn	06 30 55.3	+0.4
	0.6nm,0.4s,baz=142,slow=22,SNR=4.3						
MAKZ	**Makanchi**	**9.97**	**325**	Pn	Pn	06 29 08.2	+0.5
	2.4nm,0.8s						
MAKZ				Sn	Sn	06 30 59.5	+1.0
	1.0nm,0.6s						

*NEIC **04** 06:39:45.2±0.7, 35.296N±0.008×97.66W±0.01, h5km±1km, mb_Lg1.9/8, ML1.9/5, ML1.8/38, Error ellipse: s-maj=1.3km s-min=1.1km az=54.0*

NEIC 04 06:39:45.4±0.8, 35.290N±0.005×97.67W±0.01, h6km±1km, Error ellipse: s-maj=1.4km s-min=0.8km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.22**	**98**		Pg	06 39 50.2	+0.5
FNO				IAML		06 39 56.8	
	comp=E,191nm,0.5s						
OKCSW	**OKLAHOMA CITY**	**0.22**	**58**		Pg	06 39 49.6	-0.1

BCOK	**Bluff Creek, N**	**0.37**	**7**		Pg	06 39 53.4	+0.8
OK052	**Battle Ridge R**	**0.99**	**45**		Pg	06 40 03.6	-0.8
WMOK	**Wichita Mounta**	**1.07**	**239**		Pg	06 40 04.5	-1.4
WMOK	**Wichita Mounta**	**1.07**	**239**		Pg	06 40 04.7	-1.2
WMOK				IAML		06 40 26.6	
	comp=E,5.9nm,0.3s						
WMOK				IAML		06 40 31.2	
	comp=E,5.7nm,0.1s						
DEOK	**Depew**	**1.10**	**60**		Pg	06 40 05.3	-1.2
DEOK				IAML		06 40 26.7	
	comp=E,19nm,0.9s						
DEOK				IAML		06 40 32.6	
	comp=N,19nm,0.1s						
QUOK	**Quay**	**1.18**	**41**	Pg	Pg	06 40 07.2	-0.7
CROK	**Carrier**	**1.24**	**348**		Pg	06 40 08.2	-1.0
LOOK	**Love County**	**1.35**	**163**		Pn	06 40 10.2	-0.7
OK038	**West end E0370**	**1.47**	**324**		Pn	06 40 11.4	-1.1
BLOK	**Blackwell**	**1.51**	**14**		Pn	06 40 12.6	-0.5
GC02	**Grant County #**	**1.57**	**354**		Pn	06 40 13.9	+0.1
TUL3	**Leonard**	**1.65**	**67**		Pn	06 40 14.7	-0.2
T35A	**Sooner Cattle**	**1.87**	**30**		Pn	06 40 18.2	+0.2
Z35A	**Perchaven, San**	**1.98**	**170**		Pn	06 40 18.7	-0.8
Z35A				IAmb_Lg		06 40 47.4	
	comp=Z,5.1nm,0.9s						
SMWD	**Samnorwood**	**2.12**	**266**		Pn	06 40 20.7	-0.8
RLO	**Rose Lookout**	**2.32**	**67**	Pn	Pn	06 40 21.7	-2.5
R32A	**Long Quarter,**	**3.24**	**345**	IAmb_Lg		06 41 32.3	
	comp=Z,3.5nm,0.8s						
X40A	**Basin Creek Fa**	**4.05**	**100**	IAmb_Lg		06 42 04.2	
	comp=Z,2.3nm,0.7s						
BRDY	**Brady**	**4.15**	**196**	IAmb_Lg		06 41 55.5	
	comp=Z,2.6nm,1.0s						

VAO 04 06:43:25.0±0.3, 6.37S×72.47W, h0km, mbR3.5, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.38**	**190**	eP	Pg	06 43 49.6	-1.9
CZSB				eS	Sg	06 44 08.7	-0.6
TBTG	**Tabatinga, AM**	**3.34**	**50**	eP	Pn	06 44 18.5	-0.1
TBTG				eS	Sn	06 44 59.9	+0.9
TEFE	**Tefe**	**8.30**	**70**	eP	Pn	06 45 27.2	+0.5
TEFE				eS	Sn	06 47 02.5	+1.1
OTAV	**Otavalo**	**8.87**	**317**	eP	Pn	06 45 34.6	-0.4
OTAV				eS	Sn	06 47 16.8	+0.8

*IDC **04** 07:06:03.0±0.9, 9.46S×159.28E, h0km, mb3.7/6, mbtmp3.7/6, MS3.7/2, Error ellipse: s-maj=41.6km s-min=13.0km az=171.0*

ISC 04 07:06:06.8±0.9, 9.6S±0.3×159.3E±0.1, h26km, n9, σ1§23/8, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.69**	**79**	LR	LR	07 06 05.6	
	comp=Z,51nm,21.3s,baz=260,slow=4.0						
HNR				Pn	**Pb**	**07 06 19.4**	**-0.8**
	895nm,0.3s,baz=245,slow=4.3,SNR=127						
HNR				Sn	**Sn**	**07 06 30.8**	**+0.2**
	1µm,0.3s,baz=288,slow=23,SNR=20						
WRA	**Warramunga Arr**	**26.18**	**244**	P	**P**	**07 11 40.8**	**+1.3**
	1.2nm,0.8s,baz=70,slow=9.3,SNR=9.9 1.2nm,0.8s						
ASAR	**Alice Springs**	**27.99**	**237**	P	**P**	**07 11 56.5**	**+0.7**
	0.4nm,0.6s,baz=65,slow=11,SNR=5.0 0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**33.69**	**252**	P	**P**	**07 12 44.7**	**-1.3**
	3.7nm,1.0s,baz=54,slow=8.7,SNR=2.3 3.7nm,1.0s						
KDAK	**Kodiak Island**	**77.69**	**24**	LR	LR	07 48 46.6	
	comp=Z,17nm,21.1s,baz=130,slow=33						
ILAR	**Eielson Array**	**84.25**	**20**	P	**P**	**07 18 35.4**	**-0.3**
	0.1nm,0.5s,baz=238,slow=5.2,SNR=5.4 0.1nm,0.5s						
MKAR	**Makanchi Array**	**88.12**	**318**	P	**P**	**07 18 55.0**	**-0.2**
	0.4nm,0.6s,baz=95,slow=6.1,SNR=4.2 0.4nm,0.6s						
NVAR	**Mina Array Bea**	**90.01**	**51**	P	**P**	**07 19 06.4**	**+1.7**
	0.3nm,0.7s,baz=251,slow=3.8,SNR=3.2 0.3nm,0.7s						
ELK	**Elko**	**92.78**	**49**	LR	LR	07 53 57.8	
	comp=Z,110nm,20.4s,baz=154,slow=31						

*FUNV **04** 07:13:12.9, 6.69N×72.88W, h143km, MW2.9*
*RSNC **04** 07:13:12.9±0.0, 7.N±1.×7.3W±., h142km±2km, M2.1, ML1.9, MLv2.5*

ISC 04 07:13:11.7±1.6, 6.85N±0.04×73.10W±0.05, h146km±10km, n20, σ1§23/38, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**198**	P	**Pn**	**07 13 31.9**	**-0.1**
BARC				S	**Sn**	**07 13 46.9**	**-0.5**
PAMC	**Pamplona, Colo**	**0.63**	**39**	P	**Pn**	**07 13 35.0**	**+1.1**
PAMC				S	**Sn**	**07 13 51.6**	**+0.9**
BRJC	**Barrancabermej**	**0.65**	**281**	P	**Pn**	**07 13 33.7**	**+0.2**
BRJC				S	**Sn**	**07 13 50.9**	**+0.9**
RUSC	**La Rusia**	**0.95**	**179**	P	**Pn**	**07 13 35.9**	**-0.4**
RUSC				S	**Sn**	**07 13 54.3**	**-0.6**
CAPV	**Capacho**	**1.27**	**38**	eP	**Pn**	**07 13 39.7**	**+0.8**
CAPV				eS	**Sn**	**07 13 58.7**	**-1.0**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**07 13 38.6**	**-1.2**
PTBC				S	**Sn**	**07 13 59.6**	**-1.6**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**07 13 40.6**	**+0.5**
OCAC				S	**Sn**	**07 14 01.9**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**07 13 45.1**	**+0.1**
ZARC				S	**Sn**	**07 14 10.8**	**+0.3**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**07 13 48.5**	**-0.3**
NORC				S	**Sn**	**07 14 15.9**	**-1.3**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**07 13 53.4**	**+2.3**
ROSC				S	**Sn**	**07 14 23.2**	**+1.9**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**07 13 51.9**	**-1.1**
HELC				S	**Sn**	**07 14 24.1**	**-0.7**
GUY2C	**Guyana, Caldas**	**2.77**	**235**	P	**Pn**	**07 13 58.7**	**+2.2**
GUY2C				S	**Sn**	**07 14 33.0**	**+2.0**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**07 14 00.3**	**+0.5**
CBOC				S	**Sn**	**07 14 36.4**	**-0.6**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**07 14 03.3**	**+1.8**
ARGC				S	**Sn**	**07 14 41.2**	**+1.2**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**07 14 06.9**	**+0.3**
PRAC				S	**Sn**	**07 14 48.2**	**-0.9**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**07 14 07.0**	**+0.2**
APAC				S	**Sn**	**07 14 49.6**	**+0.2**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**07 14 07.0**	**-0.5**
SJCC				S	**Sn**	**07 14 49.9**	**-0.9**
PLMC	**San Jos del P**	**3.71**	**239**	P	**Pn**	**07 14 08.1**	**-0.1**
PLMC				S	**Sn**	**07 14 52.7**	**+0.8**
BAUV	**El Baul**	**5.42**	**67**	eP	**Pn**	**07 14 28.2**	**-2.6**
BENV	**Beln**	**6.26**	**60**	eP	**Pn**	**07 14 39.5**	**-2.4**

*IDC **04** 07:33:19.5±0.7, 3.52N×83.08W, h0km, mb3.9/10, mbtmp4.0/17, ML3.4/7, MS3.9/43, Error ellipse: s-maj=23.5km s-min=13.6km az=56.0*
*CATAC **04** 07:33:21.2±0.8, 4.N±5.×8.3W±., h21km±7km, M4.4/20, mb4.8/20, mB4.8/14, MLv4.7/20, Mw(mB)4.1/14, MwMwp4.7/1, Mwp5.0/1, Error ellipse: s-maj=12.0km s-min=3.5km az=37.6, confirmed*
*NEIC **04** 07:33:21.2±1.2, 3.63N±0.08×82.6W±0.1, h10km±2km, mb4.4/53, Error ellipse: s-maj=19.4km s-min=11.4km az=240.0*
*GCMT **04** 07:33:25.2±0.3, 3.55N±0.01×82.82W±0.02, h12km, MW4.8/92, Moment Tensor Solution. s23,c23; s92,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.09±.06; Mθθ 0.31±.05; Mφφ -0.22±.07; Mrθ -0.10±.18; Mφθ 1.83±.04; Mφr-0.10±.15; Best double couple: Mo1.85500×10^16 NP1:φs274.00000°, δ87.00000°, λ3.00000°. NP2: φs184.00000°, δ87.00000°, λ177.00000°. Principal axes: T 1.9050, Plg4.0000°, Azm139.0000°; N -0.1020, Plg86.0000°, Azm323.0000°; P -1.8040, Plg0.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 07:33:23.1±0.4, 3.62N±0.04×82.89W±0.05, h24km, n214, σ1§86/158, mb4.4/33, MS3.9/39, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.33**	**73**	P	Pn	07 33 41.9	-4.4
TUMC	**Tumaco**	**4.52**	**113**	P	**Pn**	**07 34 29.1**	**-1.0**
	213nm,0.7s						
PTPA	**Petro Terminal**	**4.55**	**0**	eP	**Pn**	**07 34 29.3**	**-1.3**
GR1C	**Gorgona, Isla**	**4.75**	**97**	P	**Pn**	**07 34 30.4**	**-2.9**
AZU	**Azuero**	**4.90**	**32**	eP	**Pn**	**07 34 34.9**	**-0.3**
CDITO	**Canoas**	**4.93**	**0**	P	**Pn**	**07 34 33.0**	**-2.7**
NELY	**Ciudad Neily**	**5.00**	**359**	eP	**Pn**	**07 34 33.2**	**-3.6**
DMCAL	**E. de Neily**	**5.02**	**1**	eP	**Pn**	**07 34 34.2**	**-2.9**
PRISO	**Paraso**	**5.02**	**3**	eP	**Pn**	**07 34 34.1**	**-3.1**
JEFFS	**S de V. Baru**	**5.03**	**4**	eP	**Pn**	**07 34 34.9**	**-2.3**
BANCO	**falda S V. Bar**	**5.08**	**4**	eP	**Pn**	**07 34 35.6**	**-2.4**
CLLRA	**Cordillera,**	**5.10**	**3**	eP	**Pn**	**07 34 34.2**	**-4.0**
BQTLY	**Boquete Panama**	**5.13**	**5**	eP	**Pn**	**07 34 36.2**	**-2.4**
BRU2	**Volcan**	**5.15**	**2**		**Pn**	**07 34 36.8**	**-2.1**
BRU2	**Volcan**	**5.15**	**2**	eP	**Pn**	**07 34 34.9**	**-4.0**
BRU2	**Volcan**	**5.15**	**2**	P	**Pn**	**07 34 36.9**	**-2.0**
DAP26	**falda E V. Bar**	**5.16**	**5**	eP	Pn	07 34 31.1	-8.0
RSRNO	**Rio Sereno**	**5.17**	**0**	eP	**Pn**	**07 34 37.0**	**-2.1**
RBALA	**Bur**	**5.28**	**8**	eP	**Pn**	**07 34 38.1**	**-2.5**
PBNVO	**Pueblo Nuevo,**	**5.29**	**7**	eP	**Pn**	**07 34 37.4**	**-3.3**
ALCO	**Alturas Coton,**	**5.30**	**1**	eP	**Pn**	**07 34 37.4**	**-3.6**
FIMO	**Fila Mora**	**5.36**	**355**	eP	**Pn**	**07 34 39.2**	**-2.6**
EDP2	**Potrero Grande**	**5.37**	**357**	eP	**Pn**	**07 34 40.4**	**-1.4**
OCHAL	**Ojochal**	**5.50**	**352**	P	**Pn**	**07 34 40.8**	**-2.8**
BURE	**Buenos Aires**	**5.54**	**355**	eP	**Pn**	**07 34 42.5**	**-1.7**
EDPE	**Pejibaye, P**	**5.55**	**353**	eP	**Pn**	**07 34 41.3**	**-3.0**
EDPE				eS	**Sn**	**07 35 47.3**	**+0.1**
OTAV	**Otavalo**	**5.56**	**127**		**Pn**	**07 34 41.6**	**-3.2**
OTAV	**Otavalo**	**5.56**	**127**	P	**Pn**	**07 34 42.4**	**-2.4**
OTAV	**Otavalo**	**5.56**	**127**	P	**Pn**	**07 34 41.2**	**-3.6**
	461nm26nm,0.8s						
DRK0	**Durika**	**5.62**	**356**	eP	**Pn**	**07 34 42.9**	**-2.6**
DRK0	**Durika**	**5.62**	**356**	P	**Pn**	**07 34 43.4**	**-2.1**
SAJE	**San Jernim**	**5.73**	**354**	eP	**Pn**	**07 34 44.5**	**-2.4**
BBAC	**Balboa, Cauca**	**5.85**	**106**	P	**Pn**	**07 34 47.8**	**-0.8**
	3µm575nm56nm,0.9s						
LLNJ	**Naranjito**	**5.95**	**348**	eP	**Pn**	**07 34 47.1**	**-2.6**
CEUA	**Cerro Uatsi, L**	**5.97**	**359**	eP	**Pn**	**07 34 50.4**	**+0.3**
PIEC	**Cerro El Cedra**	**6.06**	**350**	eP	**Pn**	**07 34 49.0**	**-2.5**
PAR1A	**Puntarenas Pro**	**6.09**	**347**	eP	**Pn**	**07 34 49.7**	**-2.0**
PISJ	**San Jernim**	**6.10**	**348**	eP	**Pn**	**07 34 49.2**	**-2.8**
LAES	**El Progreso Va**	**6.11**	**358**	eP	**Pn**	**07 34 51.8**	**-0.2**
PICV	**PH. Pirrs**	**6.11**	**348**	eP	**Pn**	**07 34 49.4**	**-2.7**
LCR2	**La Lucha 2**	**6.19**	**350**		**Pn**	**07 34 51.3**	**-2.0**
LCR2	**La Lucha 2**	**6.19**	**350**	eP	Pn	07 34 47.1	-6.1
LCR2	**La Lucha 2**	**6.19**	**350**	P	**Pn**	**07 34 51.3**	**-2.0**
JAMC	**Jamundi, Valle**	**6.21**	**93**	P	**Pn**	**07 34 51.8**	**-1.8**
CRUC	**La Cruz**	**6.27**	**109**	P	**Pn**	**07 34 55.9**	**+1.4**
ACOS	**Acosta**	**6.27**	**348**	eP	**Pn**	**07 34 50.4**	**-3.9**
VERH	**Veragua Rainfo**	**6.28**	**357**	eP	**Pn**	**07 34 52.0**	**-2.3**
BCIP	**Isla Barro Col**	**6.29**	**29**		**Pn**	**07 34 52.1**	**-2.4**
BCIP	**Isla Barro Col**	**6.29**	**29**	eP	**Pn**	**07 34 55.0**	**+0.5**
BCIP	**Isla Barro Col**	**6.29**	**29**	P	**Pn**	**07 34 55.9**	**+1.4**
POPC	**Popayan, Colom**	**6.29**	**100**	P	**Pn**	**07 34 53.7**	**-1.0**
VINA	**Juan Vinas**	**6.30**	**352**	eP	**Pn**	**07 34 53.1**	**-1.6**
PCAYA	**Pacayas**	**6.33**	**352**	eP	**Pn**	**07 34 52.7**	**-2.5**
RVSTA	**Santa Teresita**	**6.37**	**353**	eP	**Pn**	**07 34 54.0**	**-1.6**
VTCV	**VTCV, Calle Va**	**6.38**	**353**	eP	**Pn**	**07 34 51.9**	**-4.0**
LUPE	**Guadalupe**	**6.40**	**350**	eP	**Pn**	**07 34 54.5**	**-1.6**
VICA	**Volcano Irazu**	**6.40**	**352**	eP	**Pn**	**07 34 52.2**	**-4.1**
ABRB	**Las Abras (San**	**6.40**	**353**	eP	**Pn**	**07 34 54.8**	**-1.4**
CVTV	**Tajo**	**6.41**	**352**	eP	**Pn**	**07 34 55.6**	**-0.7**
SANTA	**Santa Ana**	**6.41**	**348**	eP	**Pn**	**07 34 54.0**	**-2.2**
VTLA	**Turrialba Volc**	**6.41**	**352**	eP	Pn	07 34 51.5	-4.9
CVIMO	**Finca Echandi**	**6.45**	**351**	eP	Pn	07 34 52.4	-4.5
HDC	**Heredia**	**6.46**	**349**		**Pn**	**07 34 55.7**	**-1.3**
HDC	**Heredia**	**6.46**	**349**	eP	**Pn**	**07 34 52.9**	**-4.0**
LCOCO	**El Coco**	**6.46**	**354**	eP	**Pn**	**07 34 55.6**	**-1.2**
IRES	**Siquirres**	**6.47**	**355**	eP	**Pn**	**07 34 54.8**	**-2.1**
TCS1	**T

CMIG			LR	LR	07 43 04.8		
	comp=Z,693nm,21.2s,baz=140,slow=33 comp=Z,1.7nm,0.9s						
PCRV	**Puerto La Cruz**	**19.25 69**	P	**Pn**	**07 37 48.6**	**+1.5**	
	comp=Z,0.2nm,0.3s,baz=292,slow=7.5,SNR=6.5						
PCRV			LR	LR	07 45 46.4		
	comp=Z,272nm,20.7s,slow=38 comp=Z,3.3nm,0.7s						
TLIG	**Tlapa**	**20.70 313**	P	Pn	07 38 04.1	-0.3	
SJG	**San Juan**	**21.82 47**	LR	LR	07 46 39.3		
	comp=Z,236nm,21.9s,baz=265,slow=36						
LPAZ	**La Paz**	**24.57 144**		**P**	**07 38 39.9**	**-2.3**	
LPAZ	**La Paz**	**24.57 144**	P	**P**	**07 38 42.4**	**+0.3**	
	comp=Z,4.5nm,1.0s,baz=344,slow=8.0,SNR=14						
LPAZ			LR	LR	07 49 07.7		
	comp=Z,406nm,21.0s,baz=304,slow=38 comp=Z,4.5nm,1.0s						
PB18	**Visviri**	**24.88 148**	P	**P**	**07 38 42.4**	**-2.4**	
PB16	**IPOC Station P**	**25.49 149**	P	**P**	**07 38 48.1**	**-2.2**	
PB16			IAmb	IAmb	07 39 07.2		
	comp=Z,7.1nm,0.8s						
SIV	**San Ignacio**	**29.07 133**	LR	LR	07 52 00.4		
	comp=Z,870nm,18.8s,baz=288,slow=38						
MDP	**Montagnes des**	**30.19 86**	LR	LR	07 51 58.1		
	comp=Z,318nm,19.4s,baz=278,slow=37						
DRIO	**Del Rio**	**30.69 329**	P	**P**	**07 39 37.2**	**+1.0**	
JCT	**Junction City**	**31.14 331**	P	**P**	**07 39 40.9**	**+0.8**	
JCT			IAmb	IAmb	07 40 11.8		
	comp=Z,8.7nm,1.2s						
TKL	**Tuckaleechee C**	**31.90 359**	LR	LR	07 51 34.1		
	comp=Z,122nm,20.0s,baz=184,slow=34						
OZNA	**Ozona**	**32.15 330**		**P**	**07 39 49.9**	**+0.8**	
TXAR	**Lajitas Array**	**32.30 325**	P	**P**	**07 39 51.9**	**+1.4**	
TXAR	**Lajitas Array**	**32.30 325**	P	**P**	**07 39 48.3**	**-2.2**	
	comp=Z,0.2nm,0.4s,baz=139,slow=9.0,SNR=1.7						
TXAR			LR	LR	07 52 35.5		
	comp=Z,79nm,20.3s,baz=131,slow=36 comp=Z,0.2nm,0.4s						
SGCY	**Sterling City**	**32.96 331**		**P**	**07 39 56.8**	**+0.6**	
SGCY			IAmb	IAmb	07 40 06.9		
	comp=Z,6.1nm,0.9s						
ALPN	**Alpine**	**33.06 326**	P	**P**	**07 39 58.1**	**+0.9**	
LCAR	**Lake Charles**	**33.19 348**	P	**P**	**07 39 57.6**	**-0.4**	
LCAR			IAmb	IAmb	07 40 01.4		
	comp=Z,7.4nm,1.0s						
HHAR	**Hobbs**	**34.07 344**		**P**	**07 40 05.8**	**0.0**	
POST	**Post**	**34.08 331**	P	**P**	**07 40 06.5**	**+0.6**	
VHRN	**Van Horn**	**34.14 325**	IAmb	IAmb	07 40 33.6		
	comp=Z,5.7nm,1.1s						
DKNS	**Dickens**	**34.31 333**		**P**	**07 40 08.7**	**+0.8**	
DKNS			IAmb	IAmb	07 40 27.5		
	comp=Z,4.6nm,0.9s						
MGMO	**Mountain Grove**	**34.47 347**		**P**	**07 40 08.9**	**-0.3**	
MGMO			IAmb	IAmb	07 40 28.7		
	comp=Z,7.7nm,1.0s						
MNTX	**Cornudas Mount**	**35.04 325**	P	**P**	**07 40 14.4**	**+0.2**	
CCM	**Cathedral Cave**	**35.12 348**	P	**P**	**07 40 15.0**	**+0.2**	
CCM			IAmb	IAmb	07 40 33.2		
	comp=Z,4.8nm,0.9s						
MSTX	**Muleshoe**	**35.43 331**		**P**	**07 40 18.4**	**+0.7**	
MSTX			IAmb	IAmb	07 40 38.5		
	comp=Z,5.3nm,0.8s						
BLOK	**Blackwell**	**35.52 340**	P	**P**	**07 40 17.6**	**-0.7**	
O48B	**Farmland**	**36.53 357**	IAmb	IAmb	07 40 44.9		
	comp=Z,8.1nm,1.0s						
H03N2	**Juan Fernandez**	**37.04 175**	T	T	08 19 41.9		
	baz=354,slow=76,SNR=11						
H03N1	**Juan Fernandez**	**37.05 174**	T	T	08 19 41.5		
	baz=354,slow=76,SNR=16						
H03N3	**Juan Fernandez**	**37.06 174**	T	T	08 19 40.7		
	baz=354,slow=76,SNR=14						
RTBA	**Rita Blanca**	**37.44 333**	IAmb	IAmb	07 40 38.7		
	comp=Z,6.3nm,0.9s						
ANMO	**Albuquerque**	**38.08 328**		**P**	**07 40 41.3**	**+1.1**	
CPUP	**Villa Florida**	**38.70 142**	LR	LR	07 58 14.3		
	comp=Z,83nm,18.7s,baz=186,slow=39						
T25A	**Trinidad**	**38.78 332**	IAmb	IAmb	07 41 08.7		
	comp=Z,9.9nm,1.2s						
BDFB	**Brasilia**	**39.46 120**	LR	LR	07 59 12.7		
	comp=Z,267nm,18.8s,baz=318,slow=39						
SADO	**Sadowa**	**41.12 4**	LR	LR	07 57 11.6		
	comp=Z,125nm,21.1s,baz=194,slow=35						
PV02	**Paradox Valley**	**41.74 329**	IAmb	IAmb	07 41 30.6		
	comp=Z,9.9nm,1.0s						
PV13	**Radium Mtn., P**	**41.75 329**	IAmb	IAmb	07 41 16.0		
	comp=Z,6.7nm,1.0s						
PV03	**Paradox Valley**	**41.84 329**	IAmb	IAmb	07 41 30.5		
	comp=Z,12nm,1.4s						
PV18	**Skein Mesa, Pa**	**41.86 329**	IAmb	IAmb	07 41 31.3		
	comp=Z,9.0nm,0.9s						
U15A	**North Rim**	**42.42 324**		**P**	**07 41 16.9**	**+0.5**	
U15A			IAmb	IAmb	07 41 57.4		
	comp=Z,9.0nm,1.4s						
PFO	**Pinyon Flats O**	**43.24 318**	LR	LR	07 58 19.4		
	comp=Z,264nm,19.1s,baz=130,slow=35						
SPR3	**Spring Creek 3**	**45.35 325**		**P**	**07 41 40.7**	**+0.7**	
SPR3			IAmb	IAmb	07 41 52.3		
	comp=Z,6.8nm,1.4s						
PLCA	**Paso Flores**	**45.56 167**	P	**P**	**07 41 40.6**	**-0.6**	
	comp=Z,0.9nm,0.7s,baz=326,slow=7.0,SNR=3.8 comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**45.64 332**	P	**P**	**07 41 42.2**	**+0.1**	
	comp=Z,0.7nm,0.9s,baz=126,slow=7.5,SNR=6.1						
PDAR			PcP	**PcP**	**07 43 20.8**	**+0.7**	
	comp=Z,0.2nm,0.7s,baz=173,slow=3.7,SNR=2.1						
PDAR			LR	LR	08 02 21.9		
	comp=Z,156nm,18.8s,baz=146,slow=38 comp=Z,0.7nm,0.9s						
NV11	**Mina Array Sit**	**47.26 322**		**P**	**07 41 55.7**	**+1.0**	
NV11			IAmb	IAmb	07 42 14.6		
	comp=Z,6.0nm,1.2s						
NVAR	**Mina Array Bea**	**47.35 322**	P	**P**	**07 41 56.3**	**+0.8**	
	comp=Z,1.3nm,0.8s,baz=131,slow=7.1,SNR=8.9						
NVAR			PcP	**PcP**	**07 43 25.9**	**-0.3**	
	comp=Z,0.4nm,0.8s,baz=97,slow=2.7,SNR=1.4						
NVAR			LR	LR	08 01 31.4		
	comp=Z,215nm,19.1s,baz=140,slow=36 comp=Z,1.3nm,0.8s						
RCBR	**Riachuelo**	**47.85 101**	LR	LR	08 03 28.6		
	comp=Z,118nm,18.1s,baz=267,slow=38						
YHL	**Hebgen Lake**	**48.00 333**	IAmb	IAmb	07 42 26.0		
	comp=Z,6.1nm,1.2s						
BOZ	**Bozeman (W)**	**48.78 333**	IAmb	IAmb	07 42 28.1		
	comp=Z,5.0nm,1.4s						
YBH	**Yreka Blue Hor**	**52.03 323**	LR	LR	08 04 39.1		
	comp=Z,11nm,19.9s,baz=134,slow=36						
E09A	**Wood Farm, Sta**	**52.55 330**	IAmb	IAmb	07 43 01.2		
	comp=Z,7.5nm,1.1s						
NEW	**Newport**	**53.28 332**	LR	LR	08 05 38.5		
	comp=Z,180nm,21.9s,baz=136,slow=36						
FRB	**Frobisher Bay**	**60.91 7**	LR	LR	08 08 59.3		
	comp=Z,98nm,20.9s,baz=184,slow=35						
BBB	**Bella Bella**	**61.18 330**	LR	LR	08 11 31.7		
	comp=Z,50nm,18.0s,baz=172,slow=38						
YKA	**Yellowknife Ar**	**63.28 344**	P	**P**	**07 43 50.2**	**+0.6**	
	comp=Z,1.7nm,0.9s,baz=135,slow=6.9,SNR=6.4						
YKA			LR	LR	08 13 14.8		
	comp=Z,62nm,20.8s,baz=338,slow=38 comp=Z,1.7nm,0.9s						
DLBC	**Dease Lake**	**65.77 335**	LR	LR	08 14 53.2		
	comp=Z,12nm,19.9s,baz=82,slow=38						
BBTS	**Babate**	**66.22 76**	LR	LR	08 10 58.0		
	comp=Z,58nm,20.6s,baz=273,slow=34						
SFJD	**Kangerlussuaq**	**67.09 13**	LR	LR	08 15 00.6		
	comp=Z,48nm,18.5s,baz=218,slow=37						
PPT	**Papeete**	**69.03 250**	LR	LR	08 06 34.2		
	comp=Z,354nm,18.4s,baz=99,slow=29						
P29M	**Windy Craggy**	**69.77 334**	P	**P**	**07 44 31.3**	**+0.1**	
RES	**Resolute Bay**	**71.35 357**	LR	LR	08 17 31.2		
	comp=Z,120nm,18.8s,baz=32,slow=37						
M29M	**Somme Creek**	**71.47 336**	P	**P**	**07 44 42.8**	**+1.2**	
K29M	**Barlow Dome**	**71.81 338**	P	**P**	**07 44 43.0**	**-0.7**	
INK	**Inuvik**	**72.94 343**	LR	LR	08 19 40.7		
	comp=Z,142nm,20.1s,baz=90,slow=38						
SUMG	**Summit**	**74.07 13**	*i* P	**P**	**07 44 58.0**	**+0.7**	
BORG	**Borgarnes**	**74.90 23**	LR	LR	08 13 19.9		
	comp=Z,79nm,21.1s,baz=234,slow=32						
ILAR	**Eielson Array**	**75.87 337**	P	**P**	**07 45 07.5**	**+0.2**	
	comp=Z,0.7nm,1.0s,baz=118,slow=3.3,SNR=4.5						
ILAR			LR	LR	08 20 54.2		
	comp=Z,114nm,18.8s,baz=117,slow=38 comp=Z,0.7nm,1.0s						
DBIC	**Dimbokro**	**77.71 84**	LR	LR	08 18 38.8		
	comp=Z,63nm,18.1s,baz=226,slow=35						
MDT	**Midelt**	**78.20 57**	LR	LR	08 18 50.8		
	comp=Z,44nm,18.2s,baz=238,slow=35						
RAR	**Rarotonga**	**79.12 248**	LR	LR	08 11 15.9		
	comp=Z,114nm,22.0s,baz=100,slow=29						
ESDC	**Sonseca Array**	**79.17 50**	P	**P**	**07 45 28.1**	**+1.7**	
	comp=Z,1.0nm,0.9s,baz=272,slow=5.8,SNR=9.3						
ESDC			LR	LR	08 14 30.9		
	comp=Z,35nm,21.9s,baz=272,slow=31 comp=Z,1.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.92 77**	P	**P**	**07 45 54.7**	**+2.8**	
	comp=Z,0.5nm,0.3s,baz=288,slow=5.3,SNR=4.5 comp=Z,0.5nm,0.3s						
VNA3	**Neumayer Olymp**	**88.05 162**	⇑P	**P**	**07 46 10.0**	**-1.1**	
	comp=Z,2.7nm,0.8s						
VNA1	**Neumayer--Stat**	**88.33 161**	⇑P	P	07 46 17.5	+5.1	
	comp=Z,3.1nm,1.0s						
SPITS	**Spitsbergen Ar**	**88.39 12**	LR	LR	08 25 13.7		
	comp=Z,34nm,21.8s,baz=288,slow=35						
NOA	**NORSAR Array B**	**88.86 29**	LR	LR	08 22 29.3		
	comp=Z,41nm,20.4s,baz=275,slow=33						
DAVOX	**Davos/Dischmat**	**89.29 43**	LR	LR	08 21 20.3		
	comp=Z,37nm,20.0s,baz=264,slow=32						
HFS	**Hagfors**	**90.17 30**	LR	LR	08 24 00.1		
	comp=Z,29nm,18.2s,baz=280,slow=34						
ARCES	**ARCESS Array B**	**92.99 20**	LR	LR	08 25 48.4		
	comp=Z,35nm,18.8s,baz=286,slow=34						
VRAC	**Vranov**	**93.45 40**	LR	LR	08 25 57.8		
	comp=Z,47nm,18.1s,baz=294,slow=34						
VAE	**Valguarnera**	**93.61 52**	LR	LR	08 29 27.6		
	comp=Z,64nm,18.1s,baz=322,slow=36						
QSPA	**South Pole Qui**	**93.64 180**	P	**P**	**07 46 36.3**	**-1.0**	
	comp=Z,1.7nm,1.0s,baz=157,slow=7.7,SNR=4.1 comp=Z,1.7nm,1.0s						
SHEM	**Shemya Is, Ala**	**94.99 324**	LR	LR	08 26 48.4		
	comp=Z,38nm,20.3s,baz=292,slow=34						
FINES	**FINESS Array B**	**95.79 27**	LR	LR	08 25 26.3		
	comp=Z,64nm,21.5s,baz=248,slow=33						
MKAR	**Makanchi Array**	**128.13 13**	PKP	**PKiKP**	**07 52 28.1**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=24,slow=3.9,SNR=1.9						
ASAR	**Alice Springs**	**139.27 237**	PKP	**PKPdf**	**07 52 48.4**	**-0.8**	
	comp=Z,0.4nm,0.9s,baz=45,slow=2.6,SNR=2.7						
WRA	**Warramunga Arr**	**140.25 243**	PKP	**PKPdf**	**07 52 51.0**	**0.0**	
	comp=Z,0.8nm,0.7s,baz=105,slow=1.9,SNR=6.3						
H01W1	**Cape Leeuwin H**	**145.09 205**	T	T	10 35 38.9		
	baz=148,slow=76,SNR=5.6						
H01W2	**Cape Leeuwin H**	**145.09 205**	T	T	10 35 31.5		
	baz=148,slow=76,SNR=4.0						
H01W3	**Cape Leeuwin H**	**145.11 205**	T	T	10 35 41.1		
	baz=148,slow=76,SNR=4.0						

WEL 04 08:00:56.9±1.1, 33°S±23″×18°0E±4°8, h412km±24km, mB4.4/7, MLv4.3/7, Mw(mB)3.6/7, Error ellipse: s-maj=68.0km s-min=10.4km az=114.4, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.13**	**195**	P	P	08 02 19.2	-1.4
MXZ				S	S	08 03 27.9	-1.1
WMGZ	**Waiomatatini S**	**5.36**	**193**	P	P	08 02 20.7	-2.2
WMGZ				S	S	08 03 33.2	-0.1
HAZ	**Te Kaha**	**5.45**	**198**	P	P	08 02 23.2	-0.5
HAZ				S	S	08 03 33.6	-1.3
PKGZ	**Pakihiroa**	**5.48**	**196**	P	P	08 02 24.6	+0.5
PKGZ				S	S	08 03 37.2	+1.6
RUGZ	**Raukumara Rang**	**5.67**	**198**	P	P	08 02 26.8	+0.6
RUGZ				S	S	08 03 38.5	-1.0
TWGZ	**Tauwhareparae**	**5.80**	**195**	S	S	08 03 43.1	+1.3
TKGZ	**Te Karaka**	**6.08**	**196**	P	S	08 02 30.4	0.0
TKGZ				S	S	08 03 47.5	+0.3
RAGZ	**Rawiri**	**6.24**	**199**	P	P	08 02 34.0	+1.7
RIGZ	**Rimuhau**	**6.35**	**196**	P	P	08 02 33.8	+0.4
RIGZ				S	S	08 03 52.8	+0.2
MUGZ	**Murupara**	**6.41**	**203**	P	P	08 02 34.0	-0.1
MUGZ				S	S	08 03 55.4	+1.5
SNGZ	**Shannon Statio**	**6.53**	**198**	P	P	08 02 36.6	+0.7
SNGZ				S	S	08 03 57.6	+1.4
PRGZ	**Paritu Road**	**6.53**	**194**	P	P	08 02 35.9	-0.1
PRGZ				S	S	08 03 58.5	+2.2
NMHZ	**Naumai**	**6.97**	**201**	P	P	08 02 41.1	+0.2
NMHZ				P	S	08 04 08.5	+3.3
MCHZ	**McNeill Hill**	**7.32**	**200**	P	P	08 02 45.1	+0.4
MCHZ				S	S	08 04 14.0	+1.8
KRHZ	**Kereru**	**7.60**	**201**	P	P	08 02 47.6	-0.1
KRHZ				S	S	08 04 18.9	+0.9
PNHZ	**Pukenui**	**7.90**	**201**	P	P	08 02 50.4	-0.7
PNHZ				S	S	08 04 21.2	-3.0
WPHZ	**Waipukurau**	**7.97**	**200**	P	P	08 02 50.4	-1.4
WPHZ				S	S	08 04 23.8	-1.8
TSZ	**Takapari Road**	**8.11**	**202**	P	P	08 02 52.6	-0.7
TSZ				S	S	08 04 27.3	-1.2
ANWZ	**Angora Road**	**8.33**	**199**	P	S	08 04 32.8	-0.2
BFZ	**Birch Farm**	**8.60**	**199**	P	P	08 02 58.0	-0.6
BFZ				P	S	08 04 36.5	-2.1

KRSC 04 08:10:52.3±0.9, 56.02N×164.18E, h15km±11km, Ml3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.79**	**285**	*e*P	Pg	08 11 07.0	-0.6
KBTR				*e*S	Sb	08 11 18.1	-0.1
KBG	**Krutoberegovo**	**0.86**	**287**	*e*P	Pb	08 11 07.9	-1.0
KBG				*e*S	Sb	08 11 19.2	-1.0
BKI	**Bering**	**1.30**	**128**	*e*P	Pb	08 11 16.3	-0.1
BKI				*e*S	Sb	08 11 32.7	-0.3
SMKR	**Semkarok**	**1.61**	**292**	*e*P	Pn	08 11 20.4	0.0
ZLN	**Zelenaya**	**1.90**	**271**	*e*P	Pb	08 11 26.2	-0.4
BZGR	**Bezymyannyi-Gr**	**1.96**	**269**	*e*P	Pn	08 11 26.0	+0.9
MKZ	**Mys Kozlova**	**2.02**	**225**	*e*P	Pb	08 11 28.0	-0.8
MKZ				*e*S	Sb	08 11 52.9	-0.9
BZWR	**Bezymyannyi-We**	**2.07**	**270**	*e*P	Pb	08 11 28.7	-1.0
BZMR	**Bezymyannaya**	**2.08**	**269**	*e*P	Pb	08 11 28.8	-1.4
KIRR	**Kirishev**	**2.16**	**270**	*e*P	Pb	08 11 29.7	-1.4
KPT	**Kopyto**	**2.22**	**270**	*e*P	Pb	08 11 31.5	-0.7
TUMD	**Tumrok D**	**2.29**	**251**	*e*P	Pb	08 11 32.0	-1.4
KOZ	**Kozyrevsk**	**2.42**	**273**	*e*P	Pb	08 11 33.6	-1.9
SRDR	**Sredinnyy**	**2.51**	**279**	*e*P	Pn	08 11 34.6	+1.9
SPN	**Mys Shipunski**	**3.79**	**221**	*e*P	Pn	08 11 52.3	+2.1
SDLR	**Sedlovina**	**4.12**	**230**	*e*P	Pn	08 11 58.4	+3.6
SMAR	**Somma**	**4.17**	**231**	*e*P	Pn	08 11 59.5	+3.9
KRX	**Arik**	**4.17**	**233**	*e*P	Pn	08 11 59.2	+3.7
AVH	**Avacha**	**4.19**	**231**	*e*P	Pb	08 12 01.3	-4.5
UGLR	**Uglovaya**	**4.20**	**230**	*e*P	Pn	08 11 59.5	+3.7
KOK	**Koryaka**	**4.22**	**232**	*e*P	Pn	08 11 59.9	+3.8
GNL	**Ganaly**	**4.29**	**240**	*e*P	Pn	08 12 00.9	+3.8
GRL	**Gorelyy**	**4.98**	**228**	*e*P	Pn	08 12 10.8	+4.2
MTVR	**Mutnovka**	**4.99**	**227**	*e*P	Pn	08 12 11.1	+4.4
ASAK	**Asacha**	**5.18**	**228**	*e*P	Pn	08 12 13.6	+4.3

*IDC **04** 08:14:03.1±0.8, 3.64S×140.37E, h0km, mb3.9/7, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=47.5km s-min=10.4km az=106.0*
*NEIC **04** 08:14:05.1±1.2, 3.44S±0.07×140.0E±0.1, h10km±1km, mb4.3/15, Error ellipse: s-maj=20.2km s-min=6.7km az=121.0*
ISC 04 08:14:04.1±0.6, 3.58S±0.07×140.1E±0.1, h10km, n29, σ1°79/29, mb4.1/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.23**	**30**	Pg	**Pg**	**08 14 27.0**	**-0.8**
	39nm,0.3s,baz=179,slow=7.5,SNR=121						
JAY				Lg	Lg	08 14 41.1	
	74nm,0.3s,baz=322,slow=9.4,SNR=22						
SAUI	**Saumlaki**	**9.77**	**243**	Pn	**Pn**	**08 16 24.5**	**-0.4**
MTN	**Manton Dam**	**12.77**	**223**	Pn	**Pn**	**08 17 06.8**	**+0.9**
KNRA	**Kununurra**	**16.39**	**222**	Pn	**Pn**	**08 17 55.7**	**+1.2**
KNRA				IAmb	IAmb	08 18 17.1	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**17.02**	**199**	P	**Pn**	**08 18 02.1**	**-0.4**
WR8	**Warramunga Arr**	**17.16**	**198**		**Pn**	**08 18 04.2**	**-0.1**
WRA	**Warramunga Arr**	**17.20**	**199**	P	**Pn**	**08 18 04.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=24,slow=12,SNR=14						
WRA				S	**Sn**	**08 21 09.6**	**-6.6**
	comp=Z,1.1nm,0.7s,baz=19,slow=22,SNR=4.6 comp=Z,2.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.21**	**223**	P	Pn	08 18 42.0	+0.8
	comp=Z,3.6nm,0.7s,baz=41,slow=12,SNR=7.4						
FITZ				S	S	08 22 15.5	-11
	comp=Z,2.9nm,0.8s,baz=139,slow=21,SNR=2.2 comp=Z,3.6nm,0.7s						
AS31	**Alice Springs**	**20.84**	**196**	P	**P**	**08 18 48.7**	**+2.4**
AS31				IAmb	IAmb	08 18 51.5	
	comp=Z,4.7nm,0.7s						
ASAR	**Alice Springs**	**20.84**	**196**	P	**P**	**08 18 48.7**	**+2.4**
ASAR	**Alice Springs**	**20.84**	**196**	P	**P**	**08 18 48.5**	**+2.3**
	comp=Z,11nm,0.6s,baz=27,slow=8.7,SNR=103 comp=Z,11nm,0.6s						
INKA	**Innaminka**	**24.03**	**179**	P	**P**	**08 19 20.3**	**+0.8**
EIDS	**Eidsvold**	**24.11**	**155**	P	**P**	**08 19 21.4**	**+1.2**
EIDS				IAmb	IAmb	08 19 46.4	
	comp=Z,5.2nm,1.1s						
STKA	**Stephens Creek**	**28.18**	**177**	P	**P**	**08 19 55.0**	**-2.0**
	comp=Z,2.4nm,1.0s,baz=349,slow=10,SNR=2.9 comp=Z,2.4nm,1.0s						
MORW	**Morawa**	**34.12**	**219**	P	**P**	**08 20 50.2**	**+0.9**
MORW				IAmb	IAmb	08 21 00.2	
	comp=Z,1.8nm,0.8s						
INU	**Inuyama**	**38.83**	**356**	P	**P**	**08 21 28.7**	**-0.7**
INU				IAmb	IAmb	08 21 29.9	
	comp=Z,9.3nm,0.8s						
RPSI	**Rantau Prapat**	**41.61**	**278**	P	**P**	**08 21 53.0**	**+0.1**
RPSI				IAmb	IAmb	08 21 55.0	
	comp=Z,12nm,0.9s						
GSI	**Gunungsitoli**	**42.76**	**276**	P	**P**	**08 22 01.6**	**-0.6**
GSI				IAmb	IAmb	08 22 21.0	
	comp=Z,7.7nm,0.8s						
WHZ	**Wether Hill Ro**	**48.65**	**154**	P	**P**	**08 22 49.4**	**+1.0**
NIUE	**Niue**	**51.17**	**112**	P	**P**	**08 23 07.5**	**-0.4**
MKAR	**Makanchi Array**	**71.31**	**322**	P	**P**	**08 25 24.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=99,slow=8.9,SNR=2.3 comp=Z,0.1nm,0.3s						
LVA	**Lava Point**	**72.79**	**30**	P	**P**	**08 25 32.9**	**+0.1**
ZALV	**Zalesovo Beam**	**73.38**	**330**	P	**P**	**08 25 35.2**	**-1.0**
VNDA	**Vanda**	**74.80**	**175**	P	**P**	**08 25 43.5**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=322,slow=3.7,SNR=4.0 comp=Z,0.6nm,0.9s						
CNBA	**Chernabura Isl**	**76.39**	**31**	P	**P**	**08 25 53.5**	**-0.1**
CNBA				IAmb	IAmb	08 26 07.7	
	comp=Z,32nm,1.0s						
ILAR	**Eielson Array**	**86.06**	**24**	P	**P**	**08 26 44.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=254,slow=4.7,SNR=4.1 comp=Z,0.3nm,0.6s						
QSPA	**South Pole Qui**	**86.37**	**180**	P	**P**	**08 26 48.3**	**+1.8**
QSPA				IAmb	IAmb	08 26 49.8	
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**86.37**	**180**	P	**P**	**08 26 48.3**	**+1.8**
	comp=Z,2.5nm,1.0s,baz=276,slow=1.0,SNR=13 comp=Z,2.5nm,1.0s						
DBIC	**Dimbokro**	**144.95**	**276**	PKPbc	**PKPdf**	**08 33 43.9**	**+1.1**
	comp=Z,7.0nm,1.0s,baz=76,slow=4.2,SNR=2.5						

IDC 04 08:14:43.2±34.0, 21°39S×179°40W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=630.6km s-min=148.2km az=88.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.22**	**245**	P	P	08 21 46.2	-1.9
	2.0nm,0.7s,baz=80,slow=11,SNR=4.4 2.0nm,0.7s						
ASAR	**Alice Springs**	**43.04**	**258**	P	P	08 22 45.0	-0.1
	1.4nm,0.5s,baz=95,slow=7.3,SNR=20 1.4nm,0.5s						
WRA	**Warramunga Arr**	**43.19**	**263**	P	P	08 22 47.2	+0.9
	2.2nm,0.6s,baz=92,slow=8.4,SNR=25 2.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.62**	**263**	P	P	08 23 51.9	0.0
	2.5nm,0.7s,baz=90,slow=8.1,SNR=1.5 2.5nm,0.7s						

*IDC **04** 08:35:51.3±0.9, 11.54N×140.91E, h0km, mb3.8/8, mbtmp3.7/8, MS3.1/3, Error ellipse: s-maj=43.8km s-min=20.4km az=84.0*
ISC 04 08:35:57.4±1.1, 11.5N±0.2×140.9E±0.4, h45km, n12, σ1°14/9, mb3.9/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.39**	**61**	LR	LR	08 38 51.7	
	comp=Z,175nm,19.1s,baz=232,slow=41						
DAV	**Davao City (W)**	**15.75**	**255**	LR	LR	08 45 53.2	
	comp=Z,87nm,18.8s,baz=178,slow=38						
WRA	**Warramunga Arr**	**31.91**	**192**	P	**P**	**08 42 18.1**	**-0.8**
	1.5nm,0.9s,baz=12,slow=9.8,SNR=6.7 1.5nm,0.9s						
ASAR	**Alice Springs**	**35.62**	**191**	P	**P**	**08 42 51.4**	**+0.3**
	0.5nm,0.7s,baz=20,slow=12,SNR=16 0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.04**	**285**	LR	LR	08 58 35.2	
	comp=Z,19nm,21.2s,baz=285,slow=33						
MKAR	**Makanchi Array**	**60.34**	**318**	P	**P**	**08 46 03.2**	**+1.3**
	0.2nm,0.5s,baz=92,slow=7.2,SNR=2.0 0.2nm,0

WRA				LR	LR	09 29 15.3	
	comp=Z,93nm,18.2s,baz=354,slow=38 comp=Z,20nm,0.9s						
GUMO	**Guam**	**20.78**	**344**	LR	LR	09 27 02.2	
	comp=Z,60nm,21.4s,baz=268,slow=32						
KNRA	**Kununurra**	**23.27**	**245**	P	**P**	**09 21 17.4**	**-1.1**
KNRA				IAmb	IAmb	09 21 30.5	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**23.42**	**222**	P	**P**	**09 21 19.2**	**-0.8**
ASAR	**Alice Springs**	**23.42**	**222**	P	**P**	**09 21 20.0**	**0.0**
ASAR	**Alice Springs**	**23.42**	**222**	P	**P**	**09 21 19.8**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=53,slow=8.7,SNR=18						
ASAR				LR	LR	09 30 58.4	
	comp=Z,90nm,18.0s,baz=64,slow=38 comp=Z,3.5nm,0.9s						
ARMA	**Armidale**	**23.79**	**178**	P	**P**	**09 21 24.6**	**+1.1**
ARMA				IAmb	IAmb	09 21 28.5	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**26.59**	**197**	P	**P**	**09 21 49.5**	**+0.6**
STKA	**Stephens Creek**	**26.59**	**197**	P	**P**	**09 21 48.9**	**0.0**
	comp=Z,7.6nm,1.1s,baz=19,slow=10,SNR=8.0 comp=Z,7.6nm,1.1s						
INU	**Inuyama**	**43.57**	**344**	P	**P**	**09 24 13.4**	**-1.2**
INU				IAmb	IAmb	09 24 27.8	
	comp=Z,6.5nm,0.9s						
JGF	**Kuroka**	**43.72**	**344**	P	**P**	**09 24 15.4**	**-0.3**
CASY	**Casey**	**65.75**	**197**	P	**P**	**09 26 56.7**	**+1.9**
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**09 28 37.8**	**+0.1**
QSPA				IAmb	IAmb	09 28 53.5	
	comp=Z,3.6nm,1.1s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**09 28 38.7**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=267,slow=0.9,SNR=6.9 comp=Z,1.2nm,1.0s						
ILAR	**Eielson Array**	**84.57**	**22**	P	**P**	**09 28 40.7**	**-2.4**
	comp=Z,0.8nm,1.0s,baz=244,slow=5.6,SNR=6.3 comp=Z,0.8nm,1.0s						
NVAR	**Mina Array Bea**	**94.85**	**52**	P	**P**	**09 29 33.9**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=259,slow=7.0,SNR=5.8 comp=Z,0.6nm,0.8s						
GERES	**GERESS Array B**	**124.34**	**327**	PKP	**PKPdf**	**09 35 09.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=52,slow=2.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**148.70**	**285**	PKPbc	**PKPbc**	**09 35 58.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=42,slow=3.9,SNR=9.3						

*IDC **04** 09:20:12.1±1.3,31.90N×67.60E,h0km,mb3.7/7, mbtmp3.8/9,ML3.8/2,MS3.3/22,Error ellipse: s-maj=37.5km s-min=21.6km az=121.0*

ISC 04 09:20:17.1±1.0,31.9N±0.2×67.6E±0.2,h35km,n26, σ1§12/10,mb3.9/5,MS3.2/19,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**11.72**	**225**	Pn	**Pn**	**09 23 01.3**	**-0.6**
WSAR				Sn	Sn	09 25 02.6	-8.8
	baz=274,slow=24,SNR=6.0 baz=117,slow=24,SNR=1.6						
AAK	**Ala-Archa**	**12.04**	**25**	Pn	**Pn**	**09 23 05.7**	**-0.5**
AAK	1.1nm,0.3s,baz=209,slow=14,SNR=4.8			LR	LR	09 27 37.2	
	comp=Z,50nm,18.4s,baz=220,slow=37 4.9nm,0.4s						
MKAR	**Makanchi Array**	**18.68**	**33**	P	**P**	**09 24 30.3**	**-1.9**
MKAR	0.1nm,0.3s,baz=220,slow=9.2,SNR=12			LR	LR	09 31 48.2	
	comp=Z,48nm,18.7s,baz=212,slow=37 2.3nm,1.0s						
AKTO	**Aktyubinsk**	**19.82**	**342**	LR	LR	09 33 05.4	
	comp=Z,118nm,18.3s,baz=51,slow=39						
KURBB	**Kurchatov Arra**	**20.39**	**20**	P	**P**	**09 24 50.0**	**-0.8**
KURBB	1.6nm,0.8s,baz=208,slow=11,SNR=12			LR	LR	09 34 29.9	
	comp=Z,29nm,21.6s,baz=158,slow=42 1.6nm,0.8s						
BVAR	**Borovoye Array**	**21.20**	**5**	P	**P**	**09 24 59.8**	**+0.3**
BVAR	4.6nm,0.6s,baz=176,slow=11,SNR=13			LR	LR	09 34 12.2	
	comp=Z,183nm,18.9s,baz=192,slow=40 4.6nm,0.6s						
KBZ	**Khabaz**	**22.68**	**308**	LR	LR	09 35 36.1	
	comp=Z,46nm,18.6s,baz=131,slow=41						
BELG	**Belogornoye**	**25.09**	**330**	LR	LR	09 37 57.2	
	comp=Z,111nm,18.4s,baz=83,slow=42						
ZALV	**Zalesovo Beam**	**25.26**	**24**	P	**P**	**09 25 39.9**	**+0.1**
ZALV	2.0nm,0.7s,baz=233,slow=9.1,SNR=8.6			LR	LR	09 36 24.4	
	comp=Z,48nm,21.2s,baz=226,slow=38 2.0nm,0.7s						
ARTI	**Arti**	**25.29**	**348**	LR	LR	09 36 17.0	
	comp=Z,77nm,19.6s,baz=244,slow=38						
ASF	**Jabal al Asfar**	**25.95**	**279**	LR	LR	09 36 31.8	
	comp=Z,60nm,20.0s,baz=102,slow=38						
PALK	**Pallekele**	**27.41**	**151**	LR	LR	09 38 23.7	
	comp=Z,120nm,18.3s,baz=5.0,slow=40						
EIL	**Elat**	**28.05**	**274**	LR	LR	09 39 07.2	
	comp=Z,39nm,20.3s,baz=47,slow=40						
KIRV	**Kirov**	**29.38**	**341**	LR	LR	09 40 45.1	
	comp=Z,27nm,21.1s,baz=161,slow=42						
CMAR	**Chiang Mai Arr**	**31.27**	**108**	LR	LR	09 42 00.7	
	comp=Z,51nm,18.6s,baz=285,slow=42						
SONM	**Songino Array**	**33.38**	**50**	LR	LR	09 42 29.3	
	comp=Z,89nm,18.5s,baz=247,slow=40						
FINES	**FINESS Array B**	**39.87**	**330**	LR	LR	09 46 11.0	
	comp=Z,66nm,18.7s,baz=65,slow=39						
VRAC	**Vranov**	**41.56**	**310**	LR	LR	09 47 19.3	
	comp=Z,28nm,20.1s,baz=80,slow=39						
ARCES	**ARCESS Array B**	**44.39**	**340**	P	**P**	**09 28 25.4**	**+1.6**
ARCES	1.7nm,0.7s,baz=122,slow=9.0,SNR=5.4			LR	LR	09 47 40.7	
	comp=Z,30nm,20.3s,baz=83,slow=37 1.7nm,0.7s						
HFS	**Hagfors**	**45.05**	**325**	LR	LR	09 50 29.2	
	comp=Z,31nm,18.5s,baz=92,slow=40						
NOA	**NORSAR Array B**	**46.45**	**326**	LR	LR	09 51 50.2	
	comp=Z,19nm,18.6s,baz=100,slow=41						
YAK	**Yakutsk**	**49.35**	**33**	LR	LR	09 51 23.5	
	comp=Z,60nm,19.6s,baz=256,slow=38						
BORG	**Borgarnes**	**61.16**	**331**	LR	LR	09 59 24.7	
	comp=Z,27nm,18.1s,baz=60,slow=38						
TORD	**Torodi Ar. Bea**	**62.77**	**269**	P	**P**	**09 30 38.5**	**-0.7**
	0.4nm,0.5s,baz=52,slow=7.0,SNR=2.8 0.4nm,0.5s						
ILAR	**Eielson Array**	**79.94**	**14**	P	**P**	**09 32 22.4**	**+0.2**
	0.3nm,0.8s,baz=336,slow=4.0,SNR=2.8 0.3nm,0.8s						
ASAR	**Alice Springs**	**84.09**	**122**	P	**P**	**09 32 45.5**	**+1.0**
	0.4nm,0.9s,baz=309,slow=5.0,SNR=4.7 0.4nm,0.9s						

NEIC 04 09:20:54.2±0.9,36.99N±0.01×104.89W±0.02,h6km±3km, ML1.9/10,Error ellipse: s-maj=2.5km s-min=1.6km az=118.0,New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.41**	**69**	Pg	Pg	09 21 02.7	+0.4
T25A				Sg	Sg	09 21 08.3	+0.6
T25A				IAML		09 21 08.7	
	comp=N,72nm,0.2s						
SDCO	**Great Sand Dun**	**0.90**	**327**		Pg	09 21 11.1	-0.4
SDCO				Sg	Sg	09 21 22.6	-0.6
SDCO				IAML		09 21 23.1	
	comp=N,28nm,0.1s						
SDCO				IAML		09 21 26.8	
	comp=N,27nm,0.1s						
S22A	**4UR Ranch, Cre**	**1.72**	**297**	Pn	Pb	09 21 26.5	+0.1
RTBA	**Rita Blanca**	**1.81**	**107**	Pn	Pb	09 21 28.0	+0.1
Q24A	**Divide**	**1.98**	**354**	Pn	Pb	09 21 30.8	0.0
ANMO	**Albuquerque**	**2.40**	**212**	Pn	Pb	09 21 36.4	-1.6
KSCO	**Kaye Shedlock'**	**2.70**	**41**	Pn	Pn	09 21 39.0	+0.8
PV01	**Paradox Valley**	**3.14**	**292**	Pn	Pn	09 21 47.1	+2.7

*UPP **04** 09:54:52.6±0.0,67.63N×21.02E,h0km,ML1.8,Unknown Suspected explosion*

*IDC **04** 09:54:53.2±1.3,67.60N×21.35E,h0km,mbtmp2.6/3, ML1.6/3,Error ellipse: s-maj=22.4km s-min=10.2km az=110.0*

ISC 04 09:54:52.5±0.9,67.62N±0.03×21.02E±0.03,h0km,n17, σ0§71/21,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.41**	**113**	P	**Pg**	**09 55 00.6**	**+0.3**
MASU				S	**Sg**	**09 55 06.5**	**+1.0**
KUA	**Kurravaara**	**0.43**	**322**	P	**Pg**	**09 55 00.6**	**0.0**
KUA				S	**Sg**	**09 55 06.6**	**+0.5**
DUNU	**Dundret**	**0.53**	**200**	P	**Pg**	**09 55 02.9**	**+0.3**
DUNU				S	**Sg**	**09 55 10.5**	**+1.0**
LANU	**Lannavaara**	**0.57**	**40**	P	**Pg**	**09 55 03.1**	**-0.2**
RATU	**Laukkuluspa**	**0.58**	**291**	P	**Pg**	**09 55 03.5**	**-0.1**
KOVU	**Salmi**	**0.69**	**332**	P	**Pg**	**09 55 05.6**	**0.0**
NIKU	**Nikkaluokta**	**0.80**	**289**	P	**Pg**	**09 55 07.4**	**-0.3**
SALU	**Saltoluokta**	**1.00**	**257**	P	**Pg**	**09 55 11.2**	**-0.4**
SALU	**Saltoluokta**	**1.00**	**257**	*eP*	**Pg**	**09 55 11.1**	**-0.4**
PAJU	**Pajala**	**1.01**	**125**	P	**Pg**	**09 55 11.5**	**-0.2**
ERTU	**Ertsjaerv**	**1.16**	**156**	P	**Pg**	**09 55 14.2**	**-0.5**
HEF	**Hetta**	**1.27**	**50**	*eP*	**Pg**	**09 55 15.8**	**-1.0**
HARU	**Harads**	**1.46**	**181**	P	**Pn**	**09 55 19.6**	**-0.5**
I37NO	**I37NO**	**1.71**	**330**	I	I	10 05 40.0	
	baz=148,slow=322,SNR=9.3						
ARCES	**ARCESS Array B**	**2.53**	**38**	Pn	**Pn**	**09 55 35.0**	**+0.2**
	0.2nm,0.3s,baz=218,slow=14,SNR=11						
ARCES				Sn	**Sn**	**09 56 06.5**	**+0.3**
	0.5nm,0.3s,baz=220,slow=22,SNR=12 0.5nm,0.3s						
FINES	**FINESS Array B**	**6.57**	**158**	Pn	**Pn**	**09 56 31.0**	**+0.9**
	baz=349,slow=12,SNR=1.4						
FINES				Sn	**Sn**	**09 57 43.7**	**-2.0**
	0.1nm,0.3s,baz=349,slow=21,SNR=1.2 3.4nm,1.2s						
NOA	**NORSAR Array B**	**7.85**	**217**	Pn	**Pn**	**09 56 47.8**	**0.0**
	baz=31,slow=19,SNR=1.1						
NOA				Lg	Lg	09 58 56.1	
	baz=55,slow=20,SNR=1.5 0.1nm,0.6s						

*IDC **04** 09:58:09.5±0.9,6.25S×151.03E,h0km,mb4.1/8, mbtmp4.1/9,ML2.2/1,MS2.7/1,Error ellipse: s-maj=38.1km s-min=19.5km az=114.0*

ISC 04 09:58:15.2±0.8,6.3S±0.2×150.9E±0.2,h36km,n12, σ1§03/13,mb4.1/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.86**	**230**	Pn	**Pn**	**09 59 26.4**	**+0.6**
	7.1nm,0.3s,baz=355,slow=4.8,SNR=15						
PMG				Sn	**Sn**	**10 00 19.9**	**-0.9**
	6.6nm,0.3s,baz=83,slow=22,SNR=6.4						
PMG				LR	LR	10 00 33.3	
	comp=Z,85nm,20.2s,baz=248,slow=29 26nm,0.4s						
WRA	**Warramunga Arr**	**21.08**	**228**	P	**P**	**10 02 56.1**	**-0.4**
	8.3nm,0.5s,baz=51,slow=10,SNR=110 8.3nm,0.5s						
ASAR	**Alice Springs**	**23.81**	**222**	P	**P**	**10 03 24.9**	**-0.1**
	8.3nm,0.6s,baz=55,slow=9.1,SNR=260 8.3nm,0.6s						
STKA	**Stephens Creek**	**26.91**	**198**	P	**P**	**10 03 52.6**	**-0.4**
	7.5nm,0.7s,baz=18,slow=10,SNR=17 7.5nm,0.7s						
KSRS	**Korea Array**	**48.53**	**335**	P	**P**	**10 06 55.2**	**+0.4**
	0.3nm,0.4s,baz=156,slow=9.4,SNR=2.5 0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**10 10 41.6**	**+1.6**
	3.1nm,0.7s,baz=351,slow=2.7,SNR=23 3.1nm,0.7s						
KURBB	**Kurchatov Arra**	**83.83**	**322**	P	**P**	**10 10 42.1**	**+1.2**
	0.2nm,0.2s,baz=96,slow=5.7,SNR=2.0 0.2nm,0.2s						
ILAR	**Eielson Array**	**84.23**	**22**	P	**P**	**10 10 41.8**	**-0.9**
	0.3nm,0.6s,baz=249,slow=5.7,SNR=4.7 0.3nm,0.6s						
NVAR	**Mina Array Bea**	**94.45**	**52**	P	**P**	**10 11 31.9**	**-0.2**
	0.1nm,0.5s,baz=269,slow=3.5,SNR=1.6 0.1nm,0.5s						
GERES	**GERESS Array B**	**124.32**	**327**	PKP	**PKPdf**	**10 17 08.5**	**-2.0**
	0.4nm,0.6s,baz=33,slow=2.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.95**	**285**	PKPbc	**PKPbc**	**10 18 00.1**	**-0.3**
	1.1nm,0.7s,baz=64,slow=2.2,SNR=10						
BDFB	**Brasilia**	**151.24**	**139**	PKPbc	**PKPbc**	**10 18 05.8**	**-0.2**
	2.4nm,0.7s,baz=252,slow=6.4,SNR=3.7						

*IDC **04** 10:01:59.8±10.0,23.23S×179.69E,h418km±96km, mb3.4/4,mbtmp4.3/5,Error ellipse: s-maj=90.7km s-min=28.5km az=35.0*

ISC 04 10:02:10.2±1.8,24.0S±0.1×179.6E±0.3,h537km,n7, σ1§07/9,mb4.0/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.34**	**188**	P	**P**	**10 05 13.2**	**+0.3**
	11nm,0.6s,baz=268,slow=2.9,SNR=9.8						
URZ				S	**S**	**10 07 43.0**	**-0.5**
	9.4nm,0.9s,baz=14,slow=19,SNR=1.9						
STKA	**Stephens Creek**	**34.32**	**248**	P	**P**	**10 08 12.6**	**+0.4**
	2.6nm,0.5s,baz=96,slow=11,SNR=14 2.6nm,0.5s						
ASAR	**Alice Springs**	**41.63**	**261**	P	**P**	**10 09 11.5**	**-0.4**
	3.4nm,0.8s,baz=93,slow=7.7,SNR=24						
ASAR				PcP	**PcP**	**10 10 57.7**	**+1.5**
	0.4nm,0.6s,baz=91,slow=3.7,SNR=3.0 3.4nm,0.8s						
WRA	**Warramunga Arr**	**42.01**	**266**	P	**P**	**10 09 13.9**	**-1.0**
	3.7nm,0.5s,baz=97,slow=8.4,SNR=27						
WRA				PcP	**PcP**	**10 10 58.4**	**+0.9**
	0.4nm,0.8s,baz=101,slow=3.2,SNR=1.8 3.7nm,0.5s						
QSPA	**South Pole Qui**	**66.06**	**180**	P	P	10 12 07.9	+4.2
	0.6nm,0.5s,baz=2.6,slow=3.9,SNR=2.4 0.6nm,0.5s						
HFS	**Hagfors**	**142.59**	**348**	PKP	**PKPdf**	**10 20 40.2**	**-1.4**
	0.8nm,0.4s,baz=29,slow=3.3,SNR=14						
AKASG	**Malin Array Be**	**144.87**	**327**	PKP	**PKPab**	**10 20 47.5**	**+0.3**
	0.1nm,0.3s,baz=44,slow=3.3,SNR=5.0						

*BJI **04** 10:22:59.8,37.75N×141.75E,h40km,mB6.2/76,mb6.4/77, Ms6.4/99,Ms7 6.2/99*

*MOS **04** 10:23:01.5±0.9,37.79N×141.59E,h36km,mb6.4/90, MS6.3/56,Error ellipse: s-maj=5.1km s-min=3.2km az=109.4*

*NIED **04** 10:23:03.6,37.71N×141.63E,h45km,MW6.3,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr1.97; Mθθ0.05; Mφφ-2.03; Mrθ0.89; Mθφ-0.87; Mφr2.30; Fault plane solution: M₀3.28000×10¹⁸ NP1: φs199.00000°,δ21.00000°,λ88.00000°. NP2:φs21.00000°, δ69.00000°,λ91.00000°.*

*JMA **04** 10:23:03.6±0.1,37.7N±0.3×141.6E±0.5,h45km±1km, MD6.4/38,MW6.3/38,E OFF FUKUSHIMA PREF*

JMA Felt V J1 at E OFF FUKUSHIMA PREF .

*IDC **04** 10:23:03.3±1.4,37.70N×141.58E,h40km±11km,mb5.7/29, mbtmp5.9/38,ML5.1/8,MS6.0/86,Error ellipse: s-maj=10.5km s-min=8.6km az=92.0*

*IPGP **04** 10:23:03.0,37.73N×141.54E,h46km,Mw6.4,Fault plane solution: NP1:φs221.00000°,δ23.00000°,λ104.00000°. NP2:φs26.00000°,δ68.00000°,λ84.00000°.*

*NEIC **04** 10:23:03.7±1.6,37.76N±0.06×141.60E±0.09,h38km±1km, mb6.2/188,Ms_20 6.0/724,Mwb6.4/115,Mww6.3/19,Error ellipse: s-maj=12.9km s-min=9.5km az=114.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr3.14; Mθθ-0.75; Mφφ-2.40; Mrθ1.34; Mθφ-0.91; Mφr2.94; Fault plane solution: M₀4.40000×10¹⁸ NP1:φs24.38000°, δ68.69000°,λ90.27000°. NP2:φs203.62000°,δ21.31000°, λ89.30000°. Principal axes: T 4.5626, Plg66.0000°, Azm295.0000°; N -0.3416, Plg0.0000°, Azm204.0000°; P -4.2211, Plg24.0000°, Azm114.0000°;*

*NEIC **04** 10:23:04,37.64N×141.91E,h40km,Moment Tensor Solution. Duration: 6s6 Moment tensor: Scale 10¹⁸Nm; Mrr2.34; Mθθ-0.03; Mφφ-2.31; Mrθ1.24; Mθφ-0.53; Mφr1.96; Fault plane solution: M₀3.32000×10¹⁸ NP1: φs179.41000°,δ24.94000°,λ65.61000°. NP2:φs25.98000°, δ67.42000°,λ100.87000°. Principal axes: T 3.3470, Plg66.0000°, Azm315.0000°; N -0.0522, Plg10.0000°, Azm202.0000°; P -3.2948, Plg22.0000°, Azm108.0000°;*

*NEIC **04** 10:23:04,37.74N×141.53E,h39km*

*NEIC **04** 10:23:04,37.74N×141.53E,h40km*

*GCMT **04** 10:23:08.7±0.0,37.62N×141.66E,h43km,MW6.4/167, Moment Tensor Solution. s163,c422; s167,c643; Duration: 3s7 Moment tensor: Scale 10¹⁸Nm; Mrr2.85±.02; Mθθ-0.40±.01; Mφφ-2.45±.02; Mrθ1.20±.02; Mθφ-1.17±.01; Mφr3.10±.03; Best double couple: M₀4.42200×10¹⁸ NP1:φs207.00000°,δ21.00000°, λ95.00000°. NP2:φs22.00000°,δ69.00000°,λ88.00000°. Principal axes: T 4.3590, Plg66.0000°, Azm289.0000°; N 0.1210, Plg2.0000°, Azm23.0000°; P -4.4840, Plg24.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 04 10:23:03.3±0.2,37.68N±0.02×141.60E±0.02,h40km±1km, h40km:pP-P,n2480,σ1§93/2609,mb6.2/452,MS6.0/545, 319C-67D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.56**	**274**	*iP*	**Pn**	**10 23 15.8**	**+0.9**
JMST				*iS*	**Sn**	**10 23 24.3**	**+1.3**
JMST	**Minamisoumatoc**	**0.56**	**274**	A	A	10 23 15.8	
	comp=N,2μm,1.7s,comp=E,2μm,1.4s						
JIKH	**Ishinomakikobu**	**0.63**	**351**	*iP*	**Pn**	**10 23 16.1**	**+0.3**
JIKH				*eS*	**Sn**	**10 23 24.4**	**-0.4**
JIKH	**Ishinomakikobu**	**0.63**	**351**	A	A	10 23 16.1	
	comp=N,610nm,1.9s,comp=E,2μm,3.3s						
JFK	**Kawauchi**	**0.65**	**241**	*iP*	**Pn**	**10 23 17.0**	**+0.9**
JFK				*eS*	**Sn**	**10 23 26.2**	**+0.9**
JFK	**Kawauchi**	**0.65**	**241**	A	A	10 23 17.0	
	comp=N,3μm,2.8s,comp=E,3μm,0.8s						
JMM	**Marumori**	**0.66**	**286**		**Pn**	**10 23 17.1**	**+0.9**
JMM	**Marumori**	**0.66**	**286**	*iP*	**Pn**	**10 23 17.1**	**+0.9**
JMM				*eS*	**Sn**	**10 23 26.6**	**+1.2**
JMM	**Marumori**	**0.66**	**286**	A	A	10 23 17.1	
	comp=N,1μm,1.3s,comp=E,2μm,0.5s						
JIO	**Ouri**	**0.79**	**346**	*iP*	**Pn**	**10 23 18.4**	**+0.4**
JIO				*eS*	**Sn**	**10 23 28.4**	**-0.3**
JIO	**Ouri**	**0.79**	**346**	A	A	10 23 18.4	
	comp=N,878nm,2.7s,comp=E,1μm,4.3s						
ONAJ	**Iwakimizuishiy**	**0.86**	**228**	*iP*	**Pn**	**10 23 19.7**	**+0.7**
ONAJ				*eS*	**Sn**	**10 23 31.1**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.86**	**228**	A	A	10 23 19.7	
	comp=N,2μm,3.8s,comp=E,2μm,0.5s						
JOU	**Okura**	**1.00**	**313**	*iP*	**Pn**	**10 23 21.6**	**+0.7**
JOU				*eS*	**Sn**	**10 23 34.6**	**+0.8**
JOU	**Okura**	**1.00**	**313**	A	A	10 23 21.6	
	comp=N,2μm,2.9s,comp=E,1μm,2.2s						
JOTO	**OTAMA OYAMA**	**1.01**	**263**	*i P*	**Pn**	**10 23 22.6**	**+1.6**
JOTO				*eS*	**Sn**	**10 23 36.1**	**+2.1**
JOTO	**OTAMA OYAMA**	**1.01**	**263**	A	A	10 23 22.6	
	comp=N,5μm,1.1s,comp=E,3μm,1.0s						
JFFD	**Fukushimafurud**	**1.01**	**235**	A	A	10 23 22.2	
	comp=N,2μm,2.9s,comp=E,764nm,2.7s						
JOFO	**Osakifurukawao**	**1.06**	**330**	A	A	10 23 22.3	
	comp=N,4μm,2.9s,comp=E,4μm,1.9s						
JKMT	**Kesennumamotoy**	**1.13**	**355**	*iP*	**Pn**	**10 23 22.8**	**+0.2**
JKMT				*eS*	**Sn**	**10 23 36.0**	**-0.9**
JKMT	**Kesennumamotoy**	**1.13**	**355**	A	A	10 23 22.8	
	comp=N,303nm,3.1s,comp=E,738nm,4.7s						
JYAR	**Yonezawaarcadi**	**1.17**	**282**	A	A	10 23 24.3	
	comp=N,2μm,1.3s,comp=E,2μm,2.9s						
JMK	**Ichinoseki**	**1.30**	**347**	*iP*	**Pn**	**10 23 25.6**	**+0.6**
JMK				*eS*	**Sn**	**10 23 41.2**	**+0.1**
JMK	**Ichinoseki**	**1.30**	**347**	A	A	10 23 25.6	
	comp=N,388nm,2.5s,comp=E,976nm,4.2s						
JYS	**Shirataka**	**1.32**	**294**	*iP*	**Pn**	**10 23 26.2**	**+1.0**
JYS	**Shirataka**	**1.32**	**294**	A	A	10 23 26.2	
	comp=N,1μm,2.1s,comp=E,1μm,2.2s						
JHO	**Hitachi**	**1.35**	**218**	A	A	10 23 27.0	
	comp=N,734nm,4.2s,comp=E,438nm,5.2s						
OFUJ	**Ofunato**	**1.40**	**2**	A	A	10 23 26.9	
	comp=N,328nm,4.6s,comp=E,479nm,5.5s						
JSB	**Shiboa**	**1.51**	**242**	A	A	10 23 29.4	
	comp=N,2μm,2.4s,comp=E,2μm,2.9s						
JFY	**Yanaizu**	**1.53**	**260**	*iP*	**Pn**	**10 23 29.5**	**+1.5**
JFY	**Yanaizu**	**1.53**	**260**	A	A	10 23 29.5	
	comp=N,640nm,3.6s,comp=E,753nm,4.8s						
JHYU	**Hitachinakayam**	**1.56**	**211**	A	A	10 23 30.1	
	comp=N,521nm,5.0s,comp=E,713nm,4.7s						
JYK	**Kaneyama**	**1.57**	**322**	*i P*	**Pn**	**10 23 29.6**	**+1.0**
JYK				*eS*	**Sn**	**10 23 47.8**	**0.0**
JYK	**Kaneyama**	**1.57**	**322**	A	A	10 23 29.6	
	comp=N,398nm,4.4s,comp=E,545nm,6.4s						
JYA	**Atsumi**	**1.74**	**302**	A	A	10 23 32.4	
	comp=N,466nm,1.0s,comp=E,498nm,3.7s						
JYA	**Atsumi**	**1.74**	**302**	‖P	**Pn**	**10 23 32.0**	**+1.1**
JOM	**Ohasama**	**1.80**	**353**	A	A	10 23 32.8	
	comp=N,256nm,3.0s,comp=E,486nm,2.0s						
JOM	**Ohasama**	**1.80**	**353**	‖P	**Pn**	**10 23 32.4**	**+0.6**
JNS	**Sasagawa**	**1.81**	**275**	A	A	10 23 33.6	
	comp=N,434nm,3.6s,comp=E,413nm,3.5s						
JNS	**Sasagawa**	**1.81**	**275**	‖P	**Pn**	**10 23 33.5**	**+1.5**
JYT	**Yasato**	**1.84**	**218**	A	A	10 23 34.0	
	comp=N,706nm,0.4s,comp=E,503nm,0.4s						
JYYZ	**Yamagatayuza**	**1.87**	**316**	A	A	10 23 34.0	
	comp=N,2μm,7.0s,comp=E,1μm,2.8s						
JRG	**Rokugo**	**1.87**	**337**	A	A	10 23 33.9	
	comp=N,678nm,2.8s,comp=E,548nm,4.0s						
JRG	**Rokugo**	**1.87**	**337**	‖P	**Pn**	**10 23 34.0**	**+1.2**
MIYJ	**Miyakonagasawa**	**1.90**	**5**	A	A	10 23 34.0	
	comp=N,181nm,4.3s,comp=E,357nm,3.7s						
JIHU	**Itakohorinouch**	**1.92**	**207**	A	A	10 23 35.2	
	comp=N,3μm,2.5s,comp=E,3μm,3.9s						
JAW	**Awa shima**	**2.01**	**293**	A	A	10 23 36.3	
	comp=N,326nm,6.9s,comp=E,399nm,6.1s						
JAW	**Awa shima**	**2.01**	**293**	‖P	**Pn**	**10 23 35.7**	**+1.1**
JUON	**Uonuma**	**2.08**	**258**	A	A	10 23 37.4	
	comp=N,224nm,6.8s,comp=E,260nm,3.4s						
JUON	**Uonuma**	**2.08**	**258**	‖P	**Pn**	**10 23 37.2**	**+1.6**
JKT	**Katashina**	**2.08**	**245**	A	A	10 23 37.6	
	comp=N,500nm,6.6s,comp=E,310nm,4.9s						
JKT	**Katashina**	**2.08**	**245**	‖P	**Pn**	**10 23 38.0**	**+2.3**
JSZI	**Iwateshizukuis**	**2.12**	**346**	A	A	10 23 37.3	
	comp=N,844nm,2.7s,comp=E,837nm,4.9s						
JAG	**Ashikaga**	**2.12**	**234**	A	A	10 23 38.2	
	comp=N,433nm,4.2s,comp=E,427nm,4.1s						
JAG	**Ashikaga**	**2.12**	**234**	‖P	**Pn**	**10 23 37.6**	**+1.3**
JYW	**Yuwa**	**2.15**	**330**	A	A	10 23 38.0	
	comp=N,

MAJO Matsushiro 2.94 248 Pn 10 23 50.0 +2.5
MAJO Matsushiro 2.94 248 *d* iP **Pn 10 23 50.0 +2.5**
MAJO Matsushiro 2.94 248 P **Pn 10 23 50.0 +2.5**
MAJO S **Sn 10 24 27.7 +6.2**
MAT Matsushiro 2.94 248 P **Pn 10 23 49.9 +2.5**
MJB9 Matsu-Tunnel 2.94 248 Pn 10 23 50.1 +2.6
JOG3 Oga3 2.97 319 A A 10 23 44.8
comp=N,412nm,6.1s,comp=E,483nm,4.9s
TATJ Tateyama 2 2.98 208 A A 10 23 50.3
comp=N,2µm,2.4s,comp=E,2µm,4.8s
JNG Nsakai 3.07 247 A A 10 23 51.7
comp=N,540nm,3.0s,comp=E,283nm,4.7s
JHHS Hirosakihyakuz 3.12 342 A A 10 23 51.5
comp=N,1µm,6.5s,comp=E,1µm,5.3s
JTM Tenmabayashi 3.12 353 Pn 10 23 51.2 +1.2
JTM Tenmabayashi 3.12 353 P **Pn 10 23 51.5 +1.5**
JTM Tenmabayashi 3.12 353 ⇓P **Pn 10 23 51.1 +1.1**
JTM Tenmabayashi 3.12 353 A A 10 23 51.6
comp=N,264nm,4.3s,comp=E,339nm,4.2s
JTM Tenmabayashi 3.12 353 ⇓P **Pn 10 23 51.2 +1.2**
JOD2 Odawara 2 3.15 221 A A 10 23 52.7
comp=N,718nm,2.2s,comp=E,371nm,3.5s
JIW Iwasaki 3.16 337 A A 10 23 52.2
comp=N,212nm,3.3s,comp=E,370nm,4.6s
JYN Shimob 3.28 229 A A 10 23 54.6
comp=N,740nm,1.5s,comp=E,666nm,4.1s
JYN Shimob 3.28 229 ⇓P **Pn 10 23 54.3 +2.0**
JNT Takato 3.31 238 A A 10 23 55.1
comp=N,235nm,1.3s,comp=E,326nm,4.5s
JARK Aomorirokkasho 3.32 357 A A 10 23 54.4
comp=N,210nm,3.5s,comp=E,217nm,4.1s
JSZ Suzu 3.37 267 A A 10 23 55.8
comp=N,242nm,4.1s,comp=E,217nm,4.6s
JSZ Suzu 3.37 267 ⇓P **Pn 10 23 54.6 +1.3**
JFNN Fujinakano 3.42 224 A A 10 23 56.5
comp=N,526nm,2.6s,comp=E,694nm,1.9s
JHTM Izuhatsuma 3.43 218 A A 10 23 56.7
comp=N,699nm,0.9s,comp=E,912nm,1.3s
JIM2 Oshima 3 3.44 211 A A 10 23 56.8
comp=N,434nm,6.6s,comp=E,521nm,3.5s
JSI2 Shiura 2 3.49 345 A A 10 23 56.9
comp=N,221nm,4.1s,comp=E,243nm,4.1s
JTT Ttatey 3.57 254 A A 10 23 58.7
comp=N,494nm,6.7s,comp=E,362nm,3.4s
JAHD Aomorihigashid 3.58 357 A A 10 23 58.0
comp=N,321nm,1.3s,comp=E,397nm,2.4s
JTHY Toshimahigashi 3.67 211 A A 10 23 60.0
comp=N,376nm,3.7s,comp=E,662nm,3.9s
JIZS Izushimoda 3.69 217 A A 10 24 00.3
comp=N,236nm,2.5s,comp=E,188nm,2.8s
JHG Hegura jima 3.71 274 A A 10 24 00.5
comp=N,160nm,3.7s,comp=E,110nm,5.2s
JHG Hegura jima 3.71 274 ⇓P **Pn 10 23 59.2 +1.2**
JOT Ohata 3.72 354 A A 10 23 60.0
comp=N,163nm,5.6s,comp=E,233nm,4.8s
JGN Niukaw 3.73 248 A A 10 24 00.9
comp=N,222nm,7.8s,comp=E,152nm,5.1s
SHZ3 Shizuoka 3 3.78 227 A A 10 24 01.6
comp=N,356nm,2.5s,comp=E,312nm,2.7s
SHZ3 Shizuoka 3 3.78 227 P **Pn 10 24 01.6 +2.6**
JNY Yasuok 3.80 233 A A 10 24 01.9
comp=N,403nm,1.5s,comp=E,427nm,1.9s
JNIO Niijimaoohara 3.82 210 A A 10 24 02.1
comp=N,401nm,3.0s,comp=E,468nm,1.7s
JSKK Shikinejimakit 3.86 211 A A 10 24 02.7
comp=N,217nm,3.1s,comp=E,271nm,2.2s
JJH Hakui 3.91 260 A A 10 24 03.4
comp=N,241nm,8.7s,comp=E,158nm,5.4s
JSR Shiriuchi 3.95 347 A A 10 24 03.3
comp=N,298nm,8.1s,comp=E,213nm,6.3s
JMYK Miyake Tsubota 3.98 205 A A 10 24 04.4
comp=N,314nm,2.8s,comp=E,345nm,3.2s
JGF Kuroka 3.99 240 Pn 10 24 04.9 +2.9
JGF Kuroka 3.99 240 P **Pn 10 24 04.2 +2.2**
JGF Kuroka 3.99 240 ⇓P **Pn 10 24 04.8 +2.9**
JGF Kuroka 3.99 240 A A 10 24 04.6
comp=N,222nm,5.2s,comp=E,188nm,3.2s
JKO Kozu shima 4.02 210 A A 10 24 04.9
comp=N,340nm,2.8s,comp=E,406nm,3.1s
JOMM Oshimamatsumae 4.03 343 A A 10 24 04.4
comp=N,110nm,5.6s,comp=E,198nm,4.0s
JSG Sagara 4.08 224 Pn 10 24 05.8 +2.7
JSG Sagara 4.08 224 P **Pn 10 24 06.6 +3.5**
JSG Sagara 4.08 224 ⇓P **Pn 10 24 05.2 +2.2**
JSG Sagara 4.08 224 A A 10 24 05.8
comp=N,561nm,3.3s,comp=E,390nm,3.7s
JMKN Mikurajimanish 4.12 204 A A 10 24 06.3
comp=N,225nm,9.6s,comp=E,192nm,5.2s
JKKS Kakegawashinom 4.13 226 A A 10 24 06.6
comp=N,416nm,1.9s,comp=E,514nm,2.3s
HMMJ Hamamatsu 2 4.21 229 A A 10 24 07.7
comp=N,177nm,2.3s,comp=E,142nm,8.7s
JKB Kayabe 4.22 354 A A 10 24 07.1
comp=N,114nm,3.6s,comp=E,231nm,5.5s
JAO Obara 4.25 237 A A 10 24 08.2
comp=N,253nm,2.1s,comp=E,237nm,3.8s
JSSY Shinshiroyabe 4.30 231 A A 10 24 09.0
comp=N,159nm,5.6s,comp=E,130nm,5.0s
INU Inuyama 4.36 239 Pn 10 24 09.3 +2.3
INU Inuyama 4.36 239 P **Pn 10 24 09.6 +2.6**
INU Inuyama 4.36 239 ⇓P **Pn 10 24 09.5 +2.5**
JYTA Yamagatataniai 4.43 243 A A 10 24 10.8
comp=N,203nm,4.5s,comp=E,149nm,3.6s
JYTA Yamagatataniai 4.43 243 ⇓P **Pn 10 24 11.1 +3.2**
JKG Kaga 4.44 253 A A 10 24 10.9
comp=N,176nm,4.0s,comp=E,103nm,4.6s
ERM Erimo 4.49 15 Pn 10 24 08.3 -0.5
ERM Erimo 4.49 15 P **Pn 10 24 08.6 -0.1**
ERM Erimo 4.49 15 ⇑P **Pn 10 24 08.1 -0.6**
ERM Erimo 4.49 15 P **Pn 10 24 08.1 -0.6**
ERM S **Sn 10 25 01.5 +1.8**
JEM Erimo 4.49 15 A A 10 24 10.7
comp=N,85nm,3.6s,comp=E,89nm,4.5s
JICN Ichinomiyachia 4.51 240 A A 10 24 11.8
comp=N,304nm,2.2s,comp=E,232nm,4.0s
JYM2 Yakumo 2 4.53 348 A A 10 24 11.4
comp=N,147nm,3.4s,comp=E,133nm,6.5s
TTO5 TONANKAI O.B.S 4.65 224 A A 10 24 13.8
comp=N,628nm,3.3s,comp=E,568nm,4.4s
JNBK Urakawa-nobuka 4.68 11 A A 10 24 13.3
comp=N,204nm,4.7s,comp=E,180nm,4.4s
JOSM Okushiri--Mats 4.69 340 A A 10 24 13.7
comp=N,100nm,4.3s,comp=E,139nm,4.6s
JOSM Okushiri--Mats 4.69 340 ⇓P **Pn 10 24 12.4 +1.0**
JAA Atsumi 4.72 231 A A 10 24 14.8
comp=N,192nm,3.2s,comp=E,150nm,4.7s
JSHD Hidakashinhida 4.77 8 A A 10 24 14.6
comp=N,239nm,6.0s,comp=E,247nm,5.2s
JTHR Tokachihiroo 4.78 15 A A 10 24 14.8
comp=N,75nm,3.1s,comp=E,110nm,3.8s
JHJ2 Mitsune 4.79 198 Pn 10 24 13.9 +1.1
JHJ2 Mitsune 4.79 198 ⇑P **Pn 10 24 13.9 +1.1**
JHJ2 Mitsune 4.79 198 A A 10 24 15.7
comp=N,144nm,11.0s,comp=E,184nm,2.6s
JHJ Hachijo jima 2 4.79 199 Pn **Pn 10 24 13.9 +1.1**
comp=E,598nm,0.3s,baz=324,slow=14,SNR=85
JHJ Sn **Sn 10 25 07.8 +0.7**
comp=E,3µm,0.3s,baz=128,slow=18,SNR=4.5
JHJ LR LR 10 25 54.2
comp=E,54µm,19.2s,baz=20,slow=36
comp=E,3µm,0.3s
JNB Noboribetsu 4.80 355 A A 10 24 15.2
comp=N,48nm,6.5s,comp=E,82nm,8.2s
JHCJ Hachijojimakas 4.83 198 A A 10 24 16.3
comp=N,114nm,5.1s,comp=E,117nm,4.9s
TK02 Tokai 2 4.86 221 P **Pn 10 24 16.8 +3.2**
JEG Eigenji 4.91 240 A A 10 24 17.5
comp=N,130nm,5.7s,comp=E,93nm,5.4s
JHST Hiyamasetana 4.91 345 A A 10 24 16.8
comp=N,110nm,3.9s,comp=E,185nm,2.9s
TTO4 TONANKAI O.B.S 4.93 223 A A 10 24 17.8
comp=N,428nm,4.0s,comp=E,505nm,4.7s
JIAM Iburiatsuma 4.94 3 A A 10 24 17.0
comp=N,214nm,5.8s,comp=E,200nm,1.2s
JFM Mihama 5.00 246 A A 10 24 18.8
comp=N,177nm,7.5s,comp=E,109nm,2.2s
JSH Shimam 5.09 347 A A 10 24 19.4
comp=N,71nm,6.3s,comp=E,89nm,9.1s
JCH Churui 5.11 15 A A 10 24 19.3
comp=N,145nm,3.5s,comp=E,129nm,3.8s
TTO3 TONANKAI O.B.S 5.12 223 A A 10 24 20.4
comp=N,520nm,4.6s,comp=E,523nm,3.1s
JBT2 Biratori 2 5.12 6 A A 10 24 19.6
comp=N,85nm,8.7s,comp=E,84nm,5.2s
TSUJ Tsu 2 5.13 236 A A 10 24 20.6
comp=N,135nm,4.2s,comp=E,121nm,3.8s
JIE Ise 5.14 232 A A 10 24 20.8
comp=N,175nm,3.4s,comp=E,120nm,4.8s
JEW Eniwo 5.15 359 A A 10 24 20.1
comp=N,110nm,2.8s,comp=E,140nm,4.1s
TTO2 TONANKAI O.B.S 5.42 225 A A 10 24 24.6
comp=N,454nm,5.1s,comp=E,536nm,6.6s
JAOM Aogashimamukai 5.42 197 A A 10 24 24.5
comp=N,157nm,4.9s,comp=E,188nm,4.5s
JOB Onbets 5.49 17 A A 10 24 24.6
comp=N,260nm,2.9s,comp=E,126nm,5.9s
JKN2 Miekihoku 5.52 233 A A 10 24 26.0
comp=N,93nm,6.1s,comp=E,64nm,4.6s
JFR Furan 5.53 8 A A 10 24 25.2
comp=N,90nm,3.0s,comp=E,53nm,3.3s
JWT Wachi 5.54 246 A A 10 24 26.2
comp=N,126nm,6.8s,comp=E,63nm,4.8s
JISS Ishikarishitsu 5.59 359 A A 10 24 26.1
comp=N,172nm,5.3s,comp=E,159nm,4.8s
JKY Yasaka 5.61 250 A A 10 24 27.2
comp=N,148nm,3.8s,comp=E,98nm,3.8s
TTO1 TONANKAI O.B.S 5.63 225 A A 10 24 27.6
comp=N,622nm,5.1s,comp=E,379nm,4.2s
JHE Heguri 5.66 239 A A 10 24 27.9
comp=N,238nm,5.8s,comp=E,77nm,4.3s
JSK Shakotan 5.73 352 A A 10 24 28.2
comp=N,50nm,5.8s,comp=E,85nm,5.6s
JNTK Naratenkawa 5.75 235 A A 10 24 29.2
comp=N,117nm,5.0s,comp=E,74nm,4.8s
JAK Akkeshi 5.81 23 A A 10 24 29.1
comp=N,114nm,2.6s,comp=E,107nm,2.2s
JAB Ashibetsu 5.83 5 A A 10 24 29.6
comp=N,142nm,2.8s,comp=E,142nm,3.7s
JAR Ashorobuto 5.85 16 A A 10 24 29.7
comp=N,85nm,3.1s,comp=E,72nm,1.2s
JAR Ashorobuto 5.85 16 P **Pn 10 24 25.9 -1.5**
JMMH Miemihama 5.95 231 A A 10 24 32.0
comp=N,49nm,4.4s,comp=E,60nm,5.2s
JKSM Kasumi 5.95 252 A A 10 24 32.1
comp=N,69nm,5.9s,comp=E,71nm,7.7s
JWY Kouya 5.97 236 A A 10 24 32.3
comp=N,113nm,4.7s,comp=E,71nm,4.7s
JMIK Miki 6.01 243 A A 10 24 32.9
comp=N,122nm,6.5s,comp=E,91nm,5.6s
JKHN Kushirohamanak 6.04 26 A A 10 24 32.3
comp=N,108nm,1.1s,comp=E,77nm,4.7s
JHR Hokuryu 6.05 1 A A 10 24 32.7
comp=N,107nm,6.2s,comp=E,112nm,6.0s
JKS Kasai 6.08 246 A A 10 24 33.8
comp=N,95nm,4.7s,comp=E,68nm,7.1s
JTNC Tanabenakahech 6.21 233 A A 10 24 35.6
comp=N,70nm,4.9s,comp=E,90nm,4.8s
JKK2 Kamakawa 2 6.24 8 A A 10 24 35.3
comp=N,49nm,5.3s,comp=E,58nm,3.7s
JNK Nakash 6.36 21 A A 10 24 36.7
comp=N,33nm,6.3s,comp=E,47nm,6.1s
JNK Nakash 6.36 21 P **Pn 10 24 32.0 -2.3**
ASAJ Asahikawa 6.47 6 Pn **Pn 10 24 35.4 -0.5**
comp=E,60nm,0.3s,baz=220,slow=10,SNR=354
ASAJ Sn **Sn 10 25 49.1 +0.7**
comp=E,96nm,0.3s,baz=342,slow=32,SNR=5.2
comp=E,169nm,0.3s
JKA Kamikawa-asahi 6.47 6 Pn 10 24 35.3 -0.6
NMR Nemuro--Hokkai 6.49 28 ⇓*i* P **Pn 10 24 34.0 -2.2**
NMR *i* S **Sn 10 25 42.0 -6.9**
GLVR Golovnino 6.74 25 *e*P **Pn 10 24 37.9 -1.7**
GLVR *i* S **Sn 10 25 50.0 -5.1**
GLVR pmax pmax
comp=E,486nm,0.6s
GLVR pmax pmax
comp=Z,3µm,0.6s
GLVR pmax pmax
comp=N,764nm,0.2s
RUSJ Misakicho 6.98 22 ⇓*i* P **Pn 10 24 41.9 -1.0**
RUSJ *i* S **Sn 10 25 58.3 -2.7**
YUK Yuzh-Kuril'sk 7.12 26 *d i* P **Pn 10 24 42.8 -2.0**
SHO Shikotan 7.34 31 *e*P **Pn 10 24 47.6 -0.3**
SHO *i* S **Sn 10 26 04.4 -5.5**
SHO pmax pmax
comp=Z,534nm,0.6s
SHO pmax pmax
comp=N,239nm,0.3s
SHO pmax pmax
comp=E,215nm,0.3s
JMN Monobe 7.41 240 Pn 10 24 50.8 +1.9
JMN Monobe 7.41 240 P **Pn 10 24 51.6 +2.7**
JMN Monobe 7.41 240 ⇑P **Pn 10 24 50.9 +1.9**
TEY Ternei 8.25 335 ⇑*e*P **Pn 10 25 03.7 +3.5**
TEY pmax pmax
comp=N,100nm,1.1s
TEY pmax pmax
comp=E,60nm,1.1s
TEY pmax pmax
comp=Z,110nm,1.1s
TEY MLR MLR
comp=N,67µm,18.0s
TEY MLR MLR
comp=E,48µm,18.0s
TEY MLR MLR
comp=Z,78µm,17.0s
KUR Kuril'sk 8.89 30 *e*P **Pn 10 25 07.4 -1.6**
KUR *i* S **Sn 10 26 41.3 -6.5**
VLA Vladivostok 9.18 309 *ce*P **Pn 10 25 14.6 +1.6**
YSS Yuzhno-Sakhali 9.30 5 Pn 10 25 13.8 -0.9
YSS Yuzhno-Sakhali 9.30 5 P **Pn 10 25 15.1 +0.4**
YSS Yuzhno-Sakhali 9.30 5 *ce*P **Pn 10 25 13.8 -0.9**
YSS *e*S **Sn 10 26 56.7 -1.3**
YSS pmax pmax
comp=Z,3µm,5.6s
YSS pmax pmax
comp=N,2µm,5.2s
YSS pmax pmax
comp=E,800nm,4.1s
YSS pmax pmax
comp=Z,820nm,1.0s
YSS pmax pmax
comp=N,930nm,0.9s
YSS pmax pmax
comp=E,420nm,0.8s
YSS smax smax
comp=N,1µm,1.1s
YSS smax smax
comp=E,860nm,1.1s
YSS smax smax
comp=N,6µm,9.8s
YSS smax smax
comp=E,9µm,7.9s
YSS MLR MLR
comp=Z,41µm,16.0s
YSS MLR MLR
comp=N,38µm,17.0s
YSS MLR MLR
comp=E,45µm,17.0s
YSS Yuzhno-Sakhali 9.30 5 ⇑P **Pn 10 25 13.8 -0.9**
MSHR Mys Shultsa 9.37 305 *c i* P **Pn 10 25 16.5 +0.9**
MSHR pmax pmax
comp=Z,1µm,1.3s
PSTR Posyet 9.63 304 *ce*P **Pn 10 25 20.1 +0.9**
USA0B Ussuriysk Arra 9.75 315 Pn 10 25 22.4 +1.5
USA0B Ussuriysk Arra 9.75 315 P **Pn 10 25 22.4 +1.5**
USRK Ussuriysk Ar. 9.75 315 Pn **Pn 10 25 21.9 +1.0**
comp=Z,35nm,0.3s,baz=123,slow=14,SNR=195
USRK LR LR 10 29 00.6
comp=Z,204µm,18.9s,baz=128,slow=37
comp=Z,562nm,0.6s
I45RU USSURIYSK INFR 9.76 315 I I 11 07 40.2
baz=131,slow=315,SNR=0.9
JNU Nakatsue 9.86 246 Pn 10 25 24.8 +2.4
JNU Nakatsue 9.86 246 Pn **Pn 10 25 24.0 +1.6**
comp=Z,19nm,0.3s,baz=72,slow=5.0,SNR=135
JNU LR LR 10 29 40.5
comp=Z,235µm,20.1s,baz=59,slow=40
comp=Z,272nm,0.7s
JNU Nakatsue 9.86 246 P **Pn 10 25 24.6 +2.1**
JNU Nakatsue 9.86 246 ⇑P **Pn 10 25 24.9 +2.4**
JTU Tsushima 10.36 256 P **Pn 10 25 30.8 +1.6**
JTU Tsushima 10.36 256 ⇑P **Pn 10 25 32.0 +2.8**
JCJ Chichijima 10.57 177 Pn 10 25 30.7 -1.4
JCJ Chichijima 10.57 177 Pn **Pn 10 25 30.6 -1.6**
comp=Z,91nm,0.3s,baz=290,slow=22,SNR=51
JCJ Sn **Sn 10 27 22.1 -7.2**
comp=Z,597nm,0.3s,baz=112,slow=22,SNR=7.4
comp=Z,244nm,0.3s
JCJ Chichijima 10.57 177 ⇓P **Pn 10 25 30.8 -1.4**
KSRS Korea Array 10.86 273 Pn **Pn 10 25 37.9 +1.8**
comp=Z,15nm,0.3s,baz=84,slow=15,SNR=270
KSRS LR LR 10 29 45.8
comp=Z,91358µm,18.9s,baz=85,slow=37
comp=Z,108nm,0.8s
KSAR Wonju Array Be 10.89 273 Pn 10 25 39.1 +2.6
KSAR Wonju Array Be 10.89 273 P **Pn 10 25 39.1 +2.6**
KS19 Wonju Array Si 10.90 273 Pn 10 25 38.2 +1.6
MDJ Mudanjiang 11.39 311 P **Pn 10 25 45.2 +1.9**
MDJ sP 10 25 56.5
MDJ S Sn 10 27 59.5 +10
MDJ pmax pmax
comp=Z,2µm,1.0s
MDJ pmax pmax
comp=Z,5µm,3.5s
MDJ LR LR
comp=Z,92µm,19.2s
MDJ LR LR
comp=Z,115µm,20.0s
MDJ LR LR
comp=Z,231µm,22.1s
UGL Uglegorsk 11.39 2 ⇓*e*P **Pn 10 25 43.3 0.0**
UGL *e*S **Sn 10 27 52.3 +3.1**
UGL pmax pmax
comp=Z,113nm,0.8s
UGL pmax pmax
comp=Z,2µm,9.1s
UGL smax smax
comp=E,4µm,5.2s
UGL smax smax
comp=N,10µm,9.1s
UGL MLR MLR
comp=Z,32µm,14.0s
UGL MLR MLR
comp=N,32µm,13.0s
UGL MLR MLR
comp=E,44µm,18.0s
TJN Taejon 11.45 268 P **Pn 10 25 44.8 +0.6**
TJN Taejon 11.45 268 *i* P **Pn 10 25 46.1 +1.9**
INCN Inchon 11.88 274 Pn 10 25 52.2 +2.2
INCN Inchon 11.88 274 P **Pn 10 25 53.8 +3.8**
INCN P **Pn 10 25 53.8 +3.8**
INCN Inchon 11.88 274 P **Pn 10 25 50.3 +0.3**
INCN Inchon 11.88 274 P **Pn 10 25 52.2 +2.2**
INCN Inchon 11.88 274 ⇑P **Pn 10 25 54.1 +4.1**
TYV Tymovskoe 13.20 3 *e*P **Pn 10 26 07.4 -0.5**
TYV *e*S **Sn 10 28 33.0 -0.2**
TYV pmax pmax
comp=Z,1µm,3.8s
TYV pmax pmax
comp=Z,191nm,0.9s
TYV smax smax
comp=N,3µm,4.7s
TYV smax smax
comp=E,5µm,4.7s
BNX BinXian 13.30 312 ⇑P **Pn 10 26 08.9 -0.4**
BNX S **Sn 10 28 34.0 -1.7**
BNX pmax pmax
comp=E,500nm,1.5s
BNX pmax pmax
comp=E,19µm,11.1s
BNX LR LR
comp=E,48µm,21.7s
BNX LR LR
comp=E,95µm,18.4s
BNX LR LR
comp=E,142µm,18.6s
KLR Kul'dur 13.56 331 LR LR 10 31 23.3
comp=E,82µm,19.9s,baz=142,slow=37
GRNR Gornyy 13.59 346 ⇓*i* P **Pn 10 26 11.6 -1.7**
GRNR *e*S **Sn 10 28 41.4 -1.5**
GRNR pmax pmax
comp=N,5.0nm,0.5s
GRNR pmax pmax
comp=E,8.0nm,0.5s
GRNR pmax pmax
comp=Z,20nm,0.5s
GRNR smax smax
comp=E,40nm,0.9s
GRNR MLR MLR
comp=E,28µm,16.0s
GRNR MLR MLR
comp=Z,64µm,16.0s
CN2 Changchun 13.67 302 P **Pn 10 26 14.6 +0.1**
CN2 pP P 10 26 22.0 -0.4
CN2 S **Sn 10 28 44.9 0.0**
CN2 pmax pmax
comp=Z,13µm,9.0s
CN2 LR LR
comp=Z,35µm,18.0s
CN2 LR LR
comp=Z,77µm,18.0s
CN2 LR LR
comp=Z,49µm,18.0s
SNY Shenyang 14.46 292 ⇑P **Pn 10 26 25.6 +0.5**
SNY S **Sn 10 29 08.3 +4.2**
SNY pmax pmax
comp=Z,4µm,5.6s
SNY LR LR
comp=Z,39µm,15.5s
SNY LR LR
comp=Z,129µm,16.9s
SNY LR LR
comp=Z,170µm,18.0s
JMZ Minamidaito 2 14.74 220 P **Pn 10 26 30.9 +1.9**
NKL Nikolayevsk 15.48 358 *e*P **Pn 10 26 35.8 -2.7**
NKL *e*S **Sn 10 29 27.3 -1.4**
NKL smax smax
comp=E,1µm,2.9s
NKL smax smax
comp=N,2µm,5.7s
NKL MLR MLR
comp=E,120µm,16.0s
NKL MLR MLR
comp=N,86µm,15.0s
NKL MLR MLR
comp=Z,115µm,17.0s
JOW Kunigami 15.60 230 Pn 10 26 39.1 -1.3
JOW Kunigami 15.60 230 Pn **Pn 10 26 39.3 -1.0**
comp=Z,3.5nm,0.3s,baz=31,slow=11,SNR=23
JOW Sn **Sn 10 29 32.1 0.0**
baz=61,slow=8.6
JOW LR LR 10 32 22.3
comp=Z,27µm,21.8s,baz=63,slow=36
comp=Z,489nm,0.9s
JOW Kunigami 15.60 230 P **Pn 10 26 38.9 -1.4**
DL2 Dalian 15.73 281 P **Pn 10 26 42.7 +0.9**
DL2 S **Sn 10 29 36.3 +1.4**
DL2 pmax pmax
comp=Z,3µm,0.8s
DL2 pmax pmax
comp=Z,30µm,8.8s
DL2 LR LR
comp=Z,20µm,16.5s
DL2 LR LR
comp=Z,92µm,19.8s
DL2 LR LR
comp=Z,118µm,20.4s
OKH Okha 15.89 3 *c i* P **Pn 10 26 37.7 -6.1**
OKH *i* S **Sn 10 29 28.4 -10**
OKH pmax pmax
comp=Z,4µm,18.8s
OKH MLR MLR
comp=Z,23µm,16.0s
OKH MLR MLR
comp=N,28µm,15.0s
OKH MLR MLR
comp=E,39µm,14.0s
HEH HeiHe 16.15 326 *e*P **Pn 10 26 43.2 -4.0**
HEH sP **pP 10 27 01.2 +1.4**
HEH S **Sn 10 29 44.8 -0.3**
HEH sS **S 10 29 54.4 -2.6**
HEH ScS **ScS 10 38 49.0 -1.4**
HEH LR LR
comp=E,79µm,19.4s
HEH LR LR
comp=E,58µm,18.4s
HEH LR LR
comp=E,104µm,20.4s
SKR Severo-Kuril's 16.61 34 *e*P **P 10 26 54.6 -0.4**
SKR *e*S **Sn 10 29 55.4 -0.8**
SKR pmax pmax
comp=Z,315nm,1.1s
SKR pmax pmax
comp=Z,200nm,3.0s
SKR MLR MLR
comp=Z,16µm,13.0s
SSE Sheshan 18.06 255 P **Pn 10 27 09.8 -1.3**
SSE S **Sn 10 30 32.1 +0.5**
SSE pmax pmax
comp=Z,6µm,8.6s

JMJ Miyako jima 2 18.91 232 P **Pn** **10 27 21.6 +0.2**
JMJ Miyako jima 2 18.91 232 S **Sn** **10 30 51.8 -0.2**
PEA0B Petropavlovsk- 19.05 31 P **Pn** **10 27 22.6 -0.4**
PEA0B Petropavlovsk- 19.05 31 *ce*P **Pn** **10 27 22.7 -0.3**
PETK Petropavlovsk- 19.05 31 P **P** **10 27 22.1 +0.2**
PETK Petropavlovsk- 19.05 31 P **P** **10 27 22.3 +0.4**
comp=Z,66nm,0.8s,baz=208,slow=8.5,SNR=73
PETK LR LR 10 34 39.2
comp=Z,24µm,20.6s,baz=221,slow=36
PETK PKiKP **PKiKP** **10 39 34.2 -1.0**
comp=Z,4.2nm,0.9s,baz=169,slow=1.5,SNR=4.8
PET Petropavlovsk 19.39 32 P **Pn** **10 27 26.8 -0.1**
PET Petropavlovsk 19.39 32 P **Pn** **10 27 26.9 0.0**
PET Petropavlovsk 19.39 32 *ce*P **Pn** **10 27 26.5 -0.4**
PET *e*S S 10 30 51.0 -12
PET pmax pmax
comp=Z,506nm,1.7s
PET pmax pmax
comp=Z,4µm,8.3s
PET MLR MLR
comp=Z,13µm,15.0s
PET MLR MLR
comp=Z,15µm,15.0s
PET Petropavlovsk 19.39 32 ⇑P **Pn** **10 27 26.2 -0.7**
PET Petropavlovsk 19.39 32 P **Pn** **10 27 27.0 0.0**
comp=Z,13µmcomp=Z,444nm,1.4s
PET pP **sP** **10 27 39.3 -1.2**
comp=Z,13µmcomp=Z,444nm,1.4s
NJ2 Nanjing 19.47 260 ⇑P **P** **10 27 25.0 -1.6**
NJ2 S **S** **10 30 58.8 -5.6**
NJ2 pmax pmax
comp=Z,550nm,0.8s
NJ2 pmax pmax
comp=Z,13µm,10.4s
NJ2 LR LR
comp=Z,45µm,20.8s
NJ2 LR LR
comp=Z,38µm,22.6s
NJ2 LR LR
comp=Z,58µm,19.9s
TIA Tai'an 19.60 273 P **P** **10 27 26.3 -1.8**
TIA S **S** **10 31 04.5 -2.6**
TIA SS **SnSn** **10 31 34.0 +11**
TIA pmax pmax
comp=Z,5µm,3.9s
TIA LR LR
comp=Z,47µm,15.7s
TIA LR LR
comp=Z,51µm,15.1s
TIA LR LR
comp=Z,72µm,14.1s
BJI Beijing 19.92 285 P **P** **10 27 28.6 -2.8**
BJI S **S** **10 31 11.8 -1.5**
BJI pmax pmax
comp=Z,530nm,0.6s
BJI pmax pmax
comp=Z,9µm,12.0s
BJI LR LR
comp=Z,15µm,16.5s
BJI LR LR
comp=Z,14µm,22.1s
BJI LR LR
comp=Z,23µm,22.5s
XLT XiLinHaoTe 20.25 296 *e*P **P** **10 27 32.9 -2.2**
XLT PP **PnPn** **10 27 53.7 +1.1**
XLT S **S** **10 31 16.1 -3.9**
XLT SS **SnSn** **10 31 41.4 +2.4**
XLT PcP **PcP** **10 31 42.8 -4.9**
XLT pmax pmax
comp=Z,560nm,0.7s
XLT pmax pmax
comp=Z,9µm,6.2s
XLT LR LR
comp=Z,56µm,22.0s
XLT LR LR
comp=Z,77µm,21.2s
YOJ Yonaguni jima 20.62 236 P **P** **10 27 36.7 -2.4**
YOJ Yonaguni jima 20.62 236 P **P** **10 27 38.7 -0.4**
YOJ Yonaguni jima 20.62 236 S **S** **10 31 25.7 -1.6**
YOJ Yonaguni jima 20.62 236 P **P** **10 27 36.7 -2.4**
YOJ pmax pmax
comp=Z,214nm,0.8s
YOJ MLR MLR
comp=Z,26µm,20.0s
YOJ Yonaguni jima 20.62 236 ⇑P **P** **10 27 36.4 -2.7**
TATO Taipei 21.29 239 P **P** **10 27 45.7 -0.7**
TATO IAmb IAmb 10 27 50.7
comp=Z,2µm,1.7s
TATO Taipei 21.29 239 P **P** **10 27 45.2 -1.1**
TATO P **P** **10 27 45.2 -1.1**
TATO S **S** **10 31 39.0 -1.7**
TATO S **S** **10 31 39.0 -1.7**
TATO Taipei 21.29 239 P **P** **10 27 47.1 +0.8**
HNS HongShan 21.30 278 ⇑P **P** **10 27 43.5 -2.9**
HNS S **S** **10 31 31.7 -9.1**
HNS pmax pmax
comp=Z,1µm,0.7s
HNS LR LR
comp=Z,32µm,17.2s
HNS LR LR
comp=Z,60µm,19.1s
HNS LR LR
comp=Z,62µm,18.3s
YHNB Yeheng 21.57 239 P **P** **10 27 48.3 -1.2**
YHNB Yeheng 21.57 239 P **P** **10 27 48.5 -0.9**
NACB Ninganchiao 21.75 237 P **P** **10 27 48.5 -2.8**
NACB Ninganchiao 21.75 237 P **P** **10 27 48.9 -2.4**
SSLB Suanglung 22.44 238 P **P** **10 27 55.3 -3.5**
SSLB IAmb IAmb 10 28 07.2
comp=Z,567nm,0.8s
SSLB Suanglung 22.44 238 P **P** **10 27 55.8 -3.0**
YULB Yu-li 22.48 236 P **P** **10 27 55.6 -3.6**
MA2 Magadan 22.69 12 P **P** **10 28 00.5 -0.6**
MA2 Magadan 22.69 12 LR LR 10 36 38.5
comp=Z,21µm,22.0s,baz=199,slow=36
MA2 Magadan 22.69 12 P **P** **10 28 00.7 -0.4**
MA2 Magadan 22.69 12 *ce*P **P** **10 28 00.3 -0.7**
MA2 pmax pmax
comp=Z,401nm,0.9s
MA2 MLR MLR
comp=Z,31µm,24.0s
MA2 Magadan 22.69 12 ⇑P **P** **10 28 00.4 -0.7**
MA2 Magadan 22.69 12 P **P** **10 28 00.5 -0.6**
comp=Z,13µmcomp=Z,809nm,1.1s
TPUB Ta-pu 22.99 237 IAMs_20 IAMs_20 10 38 09.6
comp=Z,42µm,20.0s
TPUB Ta-pu 22.99 237 P **P** **10 28 01.5 -3.0**
TWGBT Beinan 23.03 236 P **P** **10 28 04.3 -0.6**
TIY Taiyuan 23.04 279 P **P** **10 28 01.7 -3.3**
TIY sP **sP** **10 28 22.1 +1.9**
TIY S **S** **10 32 07.6 -5.3**
TIY pmax pmax
comp=Z,5µm,10.0s
TIY LR LR
comp=Z,34µm,16.5s
TIY LR LR
comp=Z,42µm,19.2s
TIY LR LR
comp=Z,63µm,20.6s
QZH Quanzhou 23.33 244 ⇑*i*P **P** **10 28 04.9 -2.9**
QZH S **S** **10 32 13.8 -3.8**
QZH pmax pmax
comp=Z,350nm,0.9s
QZH pmax pmax
comp=Z,8µm,9.9s
QZH LR LR
comp=Z,34µm,22.0s
QZH LR LR
comp=Z,38µm,19.6s
QZH LR LR
comp=Z,63µm,22.0s
HHC Hu-ho-hao-te 23.41 287 ⇑*i*P **P** **10 28 04.7 -4.0**
HHC S **S** **10 32 09.5 -10**
HHC pmax pmax
comp=Z,5µm,9.3s
HHC LR LR
comp=Z,31µm,15.9s
HHC LR LR
comp=Z,39µm,17.6s
HHC LR LR
comp=Z,52µm,21.8s
WHN Wuhan 23.60 261 ⇑*i*P **P** **10 28 09.6 -0.8**
WHN S **S** **10 32 19.0 -3.0**
WHN pmax pmax
comp=Z,2µm,0.7s
WHN pmax pmax
comp=Z,20µm,8.4s
WHN LR LR
comp=Z,57µm,15.0s
WHN LR LR
comp=Z,162µm,15.4s
WHN LR LR
comp=Z,179µm,15.4s
LYN LuoYang 23.69 271 P **P** **10 28 08.2 -3.1**
LYN pP pP 10 28 20.6 -1.4
LYN S **S** **10 32 19.9 -3.6**
LYN pmax pmax
comp=Z,4µm,0.8s
LYN pmax pmax
comp=Z,10µm,7.2s
LYN LR LR
comp=Z,72µm,16.8s
LYN LR LR
comp=Z,81µm,18.2s
LYN LR LR
comp=Z,112µm,17.9s
KNMB Chin-men Tao 23.77 243 IAMs_20 IAMs_20 10 37 22.5
comp=Z,55µm,21.0s
GUMO Guam 24.17 172 LR LR 10 37 49.1
comp=Z,15µm,21.6s,baz=26,slow=37
GUMO Guam 24.17 172 P **P** **10 28 19.6 +3.8**
BTO Baotou 24.59 287 *e*P **P** **10 28 17.9 -1.7**
BTO pP **pP** **10 28 29.5 -1.1**
BTO sP **sP** **10 28 37.1 +1.6**
BTO PP **PnPn** **10 28 53.8 +1.7**
BTO S **S** **10 32 35.6 -2.4**
BTO SS **SnSn** **10 33 32.6 +7.1**
BTO pmax pmax
comp=Z,160nm,0.8s
BTO pmax pmax
comp=Z,9µm,5.2s
BTO LR LR
comp=Z,76µm,14.3s
BTO LR LR
comp=Z,79µm,19.6s
BTO LR LR
comp=Z,101µm,16.9s
YAK Yakutsk 25.47 347 P **P** **10 28 26.3 -0.8**
YAK Yakutsk 25.47 347 LR LR 10 38 55.1
comp=Z,62µm,18.7s,baz=160,slow=37
YAK Yakutsk 25.47 347 *i*P **P** **10 28 26.2 -1.0**
YAK *e* 10 28 37.0
YAK *e*S **S** **10 32 51.0 -0.3**
YAK *e* 10 33 09.0
YAK *e* 10 39 22.0
YAK pmax pmax
comp=Z,2µm,0.9s
YAK Yakutsk 25.47 347 ⇑P **P** **10 28 26.2 -1.0**
CNSH ChangSha 25.77 257 P **P** **10 28 30.1 -0.2**
CNSH S **S** **10 32 56.5 -0.3**
CNSH pmax pmax
comp=Z,340nm,1.0s
CNSH LR LR
comp=Z,32µm,22.9s
CNSH LR LR
comp=Z,30µm,23.5s
CNSH LR LR
comp=Z,39µm,27.9s
SEY Seymchan 26.13 11 LR LR 10 41 00.3
comp=Z,16µm,18.1s,baz=191,slow=41
SEY Seymchan 26.13 11 *c i*P **P** **10 28 33.8 +0.7**
SEY pmax pmax
comp=Z,536nm,1.2s
SEY MLR MLR
comp=Z,30µm,24.0s
XAN Xi'an 26.65 272 P **P** **10 28 36.5 -1.8**
XAN sP sP 10 28 53.9 -0.2
XAN S **S** **10 33 08.2 -2.5**
XAN sS sS 10 33 29.6 +0.6
XAN pmax pmax
comp=Z,1µm,0.6s
XAN pmax pmax
comp=Z,12µm,4.5s
XAN LR LR
comp=Z,37µm,20.8s
XAN LR LR
comp=Z,30µm,20.6s
XAN LR LR
comp=Z,59µm,18.9s
BOD Bodaibo 27.06 327 *e*P **P** **10 28 40.9 -0.7**
BOD pmax pmax
comp=Z,952nm,0.9s
SHEM Shemya Is, Ala 27.11 46 LR LR 10 37 35.7
comp=Z,18µm,21.6s,baz=250,slow=32
SMY Shemya 27.11 46 P **P** **10 28 42.8 +0.7**
SMY IAmb IAmb 10 28 59.7
comp=Z,851nm,1.2s
SMY Shemya 27.11 46 P **P** **10 28 42.8 +0.7**
SMY pmax pmax
comp=Z,851nm,1.2s
SMY Shemya 27.11 46 ⇑P **P** **10 28 46.9 +4.8**
ULN Ulaanbaatar 27.11 303 P **P** **10 28 41.3 -1.1**
ULN Ulaanbaatar 27.11 303 IAMs_20 IAMs_20 10 39 38.6
comp=Z,41µm,19.0s
ULN Ulaanbaatar 27.11 303 P **P** **10 28 41.6 -0.9**
ULN P **P** **10 28 41.6 -0.9**
ULN S **S** **10 33 20.4 +2.4**
ULN S **S** **10 33 20.4 +2.4**
ULN Ulaanbaatar 27.11 303 P **P** **10 28 41.3 -1.1**
ULN pmax pmax
comp=Z,236nm,0.7s
ULN MLR MLR
comp=Z,41µm,19.0s
ULN Ulaanbaatar 27.11 303 ⇑P **P** **10 28 41.1 -1.4**
ENH Enshi 27.54 264 IAMs_20 IAMs_20 10 39 44.0
comp=Z,38µm,22.0s
SONM Songino Array 27.55 303 P **P** **10 28 45.2 -1.1**
SONM Songino Array 27.55 303 P **P** **10 28 45.1 -1.1**
comp=Z,201nm,0.7s,baz=98,slow=8.8,SNR=196
SONM LR LR 10 40 04.1
comp=Z,36µm,19.2s,baz=112,slow=37
SONM SKKS 11 01 34.5
comp=Z,2.3nm,1.0s,baz=238,slow=1.3,SNR=8.7
comp=Z,201nm,0.7s
SONM Songino Array 27.55 303 P **P** **10 28 45.2 -1.1**
SONM pmax pmax
comp=Z,164nm,0.7s
GZH Guangzhou 28.25 247 P **P** **10 28 48.1 -4.5**
GZH pP **pP** **10 29 00.2 -3.4**
GZH S **S** **10 33 30.0 -5.8**
GZH pmax pmax
comp=Z,400nm,0.8s
GZH pmax pmax
comp=Z,12µm,6.8s
GZH LR LR
comp=Z,54µm,16.7s
GZH LR LR
comp=Z,61µm,16.6s
GZH LR LR
comp=Z,114µm,16.5s
H11N2 WAKE ISLAND Hy 28.36 122 T T 10 59 14.4
baz=315,slow=75
H11N1 WAKE ISLAND Hy 28.37 122 T T 10 59 14.9
baz=315,slow=75
H11N3 WAKE ISLAND Hy 28.38 122 T T 10 59 15.6
baz=315,slow=75
WAKE Wake Island 28.51 123 P **P** **10 28 56.4 +1.4**
WAKE IAmb IAmb 10 29 18.7
comp=Z,1µm,1.5s
WAKE Wake Island 28.51 123 IAMs_20 IAMs_20 10 37 45.0
comp=Z,51µm,21.0s
WAKE Wake Island 28.51 123 ⇑P **P** **10 28 56.4 +1.4**
H11S1 WAKE ISLAND Hy 29.10 124 T T 10 59 23.4
baz=317,slow=76,SNR=960
H11S3 WAKE ISLAND Hy 29.10 124 T T 10 59 23.3
baz=317,slow=76,SNR=1562
H11S2 WAKE ISLAND Hy 29.11 124 T T 10 59 24.2
baz=317,slow=76,SNR=1283
GULI GuiLin 29.22 254 P **P** **10 28 58.8 -2.4**
GULI S **S** **10 33 49.3 -1.8**
GULI pmax pmax
comp=Z,800nm,1.2s
GULI LR LR
comp=Z,13µm,19.2s
GULI LR LR
comp=Z,17µm,20.6s
GULI LR LR
comp=Z,14µm,23.5s
IRK Irkutsk 29.77 311 *e*P **P** **10 29 04.6 -1.3**
IRK pmax pmax
comp=Z,377nm,2.1s
AMKA Amchitka 29.80 50 P **P** **10 29 07.6 +1.5**
ZAK Zakamensk 29.98 307 *e*P **P** **10 29 06.7 -1.2**
ZAK pmax pmax
comp=Z,234nm,1.1s
LZH Lanzhou 30.11 279 *e*P **P** **10 29 08.0 -1.2**
LZH pP pP 10 29 18.8 -1.4
LZH PP **PnPn** **10 30 09.6 +2.4**
LZH S **S** **10 33 58.2 -7.0**
LZH SS **ScP** **10 35 47.8 -1.2**
LZH pmax pmax
comp=Z,5µm,4.0s
LZH LR LR
comp=Z,30µm,17.5s
LZH LR LR
comp=Z,56µm,18.1s
LZH LR LR
comp=Z,76µm,16.5s
GYA Guiyang 31.48 259 ⇑P **P** **10 29 20.8 -0.5**
GYA S **S** **10 34 25.6 -1.2**
GYA pmax pmax
comp=Z,2µm,1.0s
GYA pmax pmax
comp=Z,3µm,3.1s
GYA LR LR
comp=Z,22µm,17.2s
GYA LR LR
comp=Z,33µm,24.6s
GYA LR LR
comp=Z,62µm,26.2s
MOY Mondy 31.63 309 *e*P **P** **10 29 21.6 -0.8**
MOY pmax pmax
comp=Z,326nm,2.2s
CD2 Chengdu 31.82 269 ⇑P **P** **10 29 22.9 -1.3**
CD2 sP sP 10 29 39.2 -0.9
CD2 S **S** **10 34 28.3 -3.6**
CD2 pmax pmax
comp=Z,660nm,0.8s
CD2 pmax pmax
comp=Z,7µm,8.2s
CD2 LR LR
comp=Z,52µm,16.3s
CD2 LR LR
comp=Z,56µm,19.0s
CD2 LR LR
comp=Z,63µm,18.0s
KIWB Kanaga Island 32.07 50 P **P** **10 29 25.9 -0.1**
KIWB IAmb IAmb 10 29 42.3
comp=Z,394nm,1.1s
ADK Adak 32.36 50 P **P** **10 29 28.9 +0.3**
ADK IAmb IAmb 10 29 44.7
comp=Z,514nm,1.2s
ADK Adak 32.36 50 IAMs_20 IAMs_20 10 40 10.1
comp=Z,29µm,21.0s
ADK Adak 32.36 50 P **P** **10 29 29.8 +1.2**
ADK Adak 32.36 50 P **P** **10 29 28.9 +0.3**
ADK pmax pmax
comp=Z,514nm,1.3s
ADK Adak 32.36 50 ⇑P **P** **10 29 29.6 +1.1**
ADK Adak 32.36 50 P **P** **10 29 29.1 +0.5**
ADK sP **sP** **10 29 43.6 -0.7**
GTA Gaotai 32.52 286 P **P** **10 29 29.6 -0.7**
GTA sP pP 10 29 41.3 -0.1
GTA PcP **PcP** **10 32 17.3 +0.9**
GTA S **S** **10 34 47.5 +4.7**
GTA PcS **PcS** **10 36 02.2 +0.6**
GTA pmax pmax
comp=Z,180nm,0.8s
GTA pmax pmax
comp=Z,5µm,9.8s
GTA LR LR
comp=Z,20µm,24.0s
GTA LR LR
comp=Z,46µm,24.4s
GTA LR LR
comp=Z,72µm,23.6s
GSTR Great Sitkin T 32.77 50 P **P** **10 29 32.1 -0.2**
GSTR IAmb IAmb 10 29 60.0
comp=Z,523nm,1.4s
QIZ Qiongzhong 33.33 245 IAMs_20 IAMs_20 10 44 23.4
comp=Z,32µm,19.0s
QIZ Qiongzhong 33.33 245 P **P** **10 29 38.1 +0.7**
QIZ sP **sP** **10 29 51.4 -1.9**
QIZ PP **PP** **10 30 54.0 +0.7**
QIZ PcP **PcP** **10 32 18.3 -0.4**
QIZ S **S** **10 34 57.6 +2.1**
QIZ sS **sS** **10 35 13.1 -0.8**
QIZ pmax pmax
comp=Z,200nm,0.8s
QIZ pmax pmax
comp=Z,8µm,4.7s
QIZ LR LR
comp=Z,21µm,18.8s
QIZ LR LR
comp=Z,59µm,14.9s
BILL Bilibino 33.36 17 P **P** **10 29 37.0 -0.2**
BILL Bilibino 33.36 17 *ce*P **P** **10 29 36.5 -0.7**
BILL pmax pmax
comp=Z,73nm,1.1s
BILL MLR MLR
comp=Z,20µm,24.0s
BILL Bilibino 33.36 17 P **P** **10 29 36.7 -0.6**
BILL sP **sP** **10 29 53.7 +0.7**
DAV Davao City (W) 33.77 210 IAMs_20 IAMs_20 10 41 36.3
comp=Z,26µm,21.0s
DAV Davao City (W) 33.77 210 LR LR 10 41 36.6
comp=Z,23µm,21.7s,baz=68,slow=33
DAV Davao City (W) 33.77 210 P **P** **10 29 44.3 +3.1**
DAV Davao City (W) 33.77 210 P **P** **10 29 43.0 +1.8**
ATKA Atka Island 33.92 50 P **P** **10 29 42.1 -0.1**
ATKA IAmb IAmb 10 29 58.1
comp=Z,610nm,1.1s
ATKA IAMs_20 IAMs_20 10 40 45.5
comp=Z,40µm,22.0s
ATKA Atka Island 33.92 50 P **P** **10 29 44.3 +2.1**
ATKA Atka Island 33.92 50 ⇓P **P** **10 29 42.7 +0.4**
TIXI Tiksi 34.66 353 P **P** **10 29 47.6 -0.8**
TIXI IAmb IAmb 10 29 48.6
comp=Z,655nm,1.7s
TIXI IAMs_20 IAMs_20 10 44 53.2
comp=Z,32µm,20.0s
TIXI Tiksi 34.66 353 LR LR 10 45 13.4
comp=Z,34µm,18.5s,baz=168,slow=38
TIXI Tiksi 34.66 353 *c i*P **P** **10 29 47.3 -1.1**
TIXI pmax pmax
comp=Z,106nm,0.8s
TIXI MLR MLR
comp=Z,30µm,18.0s
TIXI Tiksi 34.66 353 ⇓P **P** **10 29 47.5 -0.8**
TIXI Tiksi 34.66 353 P **P** **10 29 47.6 -0.8**
TIXI sP **sP** **10 30 02.5 -1.8**
KMI Kunming 35.21 261 ⇑P **P** **10 29 53.4 -0.5**
KMI sP sP 10 30 10.8 +1.0
KMI PP **PP** **10 31 15.5 +1.3**
KMI S **S** **10 35 17.3 -7.5**
KMI SS **SnSn** **10 37 41.6 -2.7**
KMI pmax pmax
comp=Z,1µm,0.8s
KMI pmax pmax
comp=Z,6µm,7.6s
KMI LR LR
comp=Z,31µm,23.4s
KMI LR LR
comp=Z,29µm,25.3s
KMI LR LR
comp=Z,50µm,26.7s
PZH PanZhiHua 35.32 263 P **P** **10 29 54.1 -0.6**
PZH sP **sP** **10 30 12.3 +1.6**
PZH S **S** **10 35 27.6 +1.3**
PZH pmax pmax
comp=Z,760nm,0.7s
PZH pmax pmax
comp=Z,5µm,9.3s
PZH LR LR
comp=Z,25µm,15.4s
PZH LR LR
comp=Z,44µm,16.7s
PZH LR LR
comp=Z,62µm,16.2s
SLVN Son La 36.34 254 P **P** **10 30 03.4 -0.1**
SLVN IAmb IAmb 10 30 22.0
comp=Z,290nm,1.1s
SLVN IAMs_20 IAMs_20 10 45 18.0
comp=Z,23µm,20.0s
SLVN Son La 36.34 254 P **P** **10 30 03.9 +0.4**
SGSI Sangihe 36.90 207 P **P** **10 30 09.0 +0.9**

SPIA Saint Paul Isl 36.99 42 P **P** **10 30 07.9 -0.6**
baz=259
GOMU GeErMu 37.12 282 P **P** **10 30 09.9 -0.4**
GOMU S **S** **10 35 54.5 +0.3**
GOMU SS **SnSn** **10 38 21.6 -8.9**
GOMU pmax pmax
comp=Z,630nm,0.8s
GOMU LR LR
comp=Z,21µm,19.7s
GOMU LR LR
comp=Z,22µm,19.5s
GOMU LR LR
comp=Z,35µm,19.4s
NIKH Nikolski High 37.24 50 P **P** **10 30 11.2 +0.5**
NIKH IAmb IAmb 10 30 26.5
comp=Z,347nm,1.0s
NIKH IAMs_20 IAMs_20 10 43 00.3
comp=Z,34µm,21.0s
NIKH Nikolski High 37.24 50 P **P** **10 30 12.0 +1.3**
NIKH Nikolski High 37.24 50 P **P** **10 30 09.3 -1.4**
baz=266
P08K Saint George I 37.26 43 P **P** **10 30 10.1 -0.7**
baz=261
GAMB Gambell 38.09 32 P **P** **10 30 16.7 -0.9**
baz=250
GAMB S **S** **10 36 11.0 +3.6**
baz=250
TNCH TengChong 38.57 264 ⇑*i*P **P** **10 30 22.7 +0.2**
TNCH pP pP 10 30 32.9 -0.8
TNCH sP sP 10 30 38.5 0.0
TNCH PP **PnPn** **10 31 57.2 +3.8**
TNCH S **S** **10 36 12.2 -3.8**
TNCH sS sS 10 36 33.2 -1.3
TNCH pmax pmax
comp=Z,1µm,1.3s
TNCH LR LR
comp=Z,16µm,15.4s
TNCH LR LR
comp=Z,28µm,15.1s
TNCH LR LR
comp=Z,51µm,15.3s
MYLDM Lahad Datu 38.61 219 P **P** **10 30 23.5 +0.9**
MYLDM IAMs_20 IAMs_20 10 45 45.2
comp=Z,25µm,21.0s
MYLDM Lahad Datu 38.61 219 P **P** **10 30 25.1 +2.5**
MYLDM Lahad Datu 38.61 219 ⇑P **P** **10 30 24.6 +2.0**
UNV Unalaska Valle 38.70 48 P **P** **10 30 22.7 -0.3**
baz=267
TNTI Ternate 39.00 203 **P** **10 30 27.6 +1.8**
TNTI Ternate 39.00 203 P **P** **10 30 27.4 +1.5**
comp=Z,7µmcomp=Z,463nm,1.3s
KKM Kota Kinabalu 39.05 223 P **P** **10 30 26.8 +0.3**
KKM IAmb IAmb 10 30 47.4
comp=Z,1µm,1.7s
KKM Kota Kinabalu 39.05 223 ⇑P **P** **10 30 27.8 +1.3**
AKUT Akutan 39.15 48 IAMs_20 IAMs_20 10 46 17.6
comp=Z,17µm,19.0s
DLV Lat 39.15 238 P **P** **10 30 27.9 +0.5**
DLV IAMs_20 IAMs_20 10 46 12.1
comp=Z,21µm,22.0s
DLV Lat 39.15 238 P **P** **10 30 28.6 +1.2**
DLV Lat 39.15 238 ⇑P **P** **10 30 28.3 +0.9**
SWI Sorong 39.53 196 P **P** **10 30 30.1 -0.2**
comp=Z,5µmcomp=Z,246nm,1.1s
SMPI Sarmi 39.56 185 P **P** **10 30 32.2 +1.6**
comp=Z,11µmcomp=Z,474nm,2.2s
RKPI Ransiki, Papua 39.60 192 P **P** **10 30 32.8 +1.9**
comp=Z,421nm,0.5s
M11K Mekoryuk 39.66 38 P **P** **10 30 29.7 -1.2**
baz=259
M11K S **S** **10 36 34.1 +2.9**
baz=259
SRPI Serui, Papua 39.67 188 P **P** **10 30 31.8 +0.4**
comp=Z,6µmcomp=Z,341nm,1.2s
MANU Manus Island 39.89 171 P **P** **10 30 34.4 +1.1**
JAY Jayapura 40.01 181 LR LR 10 46 49.0
comp=Z,10µm,20.1s,baz=360,slow=36
JAY Jayapura 40.01 181 P **P** **10 30 35.3 +1.0**
TNA Tin City 40.22 30 P **P** **10 30 37.4 +1.9**
TNA Tin City 40.22 30 ⇑P **P** **10 30 37.4 +1.9**
TNA Tin City 40.22 30 P **P** **10 30 34.6 -0.9**
baz=252,SNR=6.9
TNA S **S** **10 36 42.9 +3.5**
baz=252
KMSI Cibinong 40.34 208 P **P** **10 30 39.5 +2.5**
FALS False Pass 40.55 47 IAMs_20 IAMs_20 10 46 54.6
comp=Z,17µm,20.0s
FALS False Pass 40.55 47 P **P** **10 30 37.3 -1.0**
baz=268
WMQ Urumqi 40.68 296 ⇑P **P** **10 30 40.5 +0.8**
WMQ S **S** **10 36 50.6 +3.6**
WMQ SS **SS** **10 39 41.5 -6.6**
WMQ pmax pmax
comp=Z,350nm,0.9s
WMQ pmax pmax
comp=Z,9µm,4.7s
WMQ LR LR
comp=Z,16µm,16.7s
WMQ LR LR
comp=Z,24µm,24.0s
WMQ LR LR
comp=Z,43µm,24.3s
K13K Kusilvak Mount 40.69 36 P **P** **10 30 40.2 +0.8**
K13K Kusilvak Mount 40.69 36 P **P** **10 30 40.2 +0.8**
baz=259,SNR=10
K13K S **S** **10 36 48.9 +2.4**
baz=259
F14K Arctic Creek 40.83 30 P **P** **10 30 40.9 +0.4**
baz=253,SNR=7.6
F14K S **S** **10 36 52.1 +3.6**
baz=253
ANM Nome 40.97 32 P **P** **10 30 43.2 +1.5**
ANM Nome 40.97 32 P **P** **10 30 43.2 +1.5**
ANM pmax pmax
comp=Z,388nm,1.2s
ANM Nome 40.97 32 P **P** **10 30 41.6 0.0**
baz=255
ANM S **S** **10 36 53.3 +2.7**
baz=255
M13K Dall Lake 41.06 38 P **P** **10 30 41.8 -0.7**
baz=262
ZIRO ZIRO 41.09 270 *e*P **P** **10 30 44.2 +0.7**
ZIRO IAmb IAmb 10 30 51.1
comp=Z,998nm,2.0s
JORH JORHAT 41.13 269 *e*P **P** **10 30 47.6 +4.1**
JORH IAmb IAmb 10 30 55.0
comp=Z,407nm,2.0s
TOLI2 Tolitoli 41.13 213 P **P** **10 30 43.3 -0.3**
MRSI Marisa 41.22 211 P **P** **10 30 44.2 -0.1**
comp=Z,16µmcomp=Z,9µmcomp=Z,614nm,1.4s
FAKI Fak Fak 41.32 194 P **P** **10 30 45.6 +0.5**
FAKI Fak Fak 41.32 194 P **P** **10 30 44.7 -0.4**
comp=Z,11µmcomp=Z,725nm,1.7s
S12K Black Hills 41.35 45 P **P** **10 30 43.7 -1.2**
baz=269
J14K Nanvaranak Lak 41.35 35 P **P** **10 30 44.4 -0.5**
baz=259,SNR=6.8
J14K S **S** **10 36 58.6 +2.3**
baz=259
L14K Kuka Creek 41.52 37 P **P** **10 30 45.9 -0.4**
baz=262
L14K S **S** **10 37 02.8 +4.0**
baz=262
F15K North Star Dit 41.56 30 P **P** **10 30 46.5 -0.1**
baz=255,SNR=11
F15K S **S** **10 37 05.2 +5.8**
baz=255
ZAA0 Zalesovo Array 41.59 312 P **P** **10 30 46.5 -0.5**
ZAA0 IAmb IAmb 10 30 47.8
comp=Z,500nm,0.8s
ZALV Zalesovo Beam 41.59 312 P **P** **10 30 46.4 -0.5**
comp=Z,469nm,0.7s,baz=90,slow=7.6,SNR=1178
PcP **PcP** **10 32 43.3 -0.1**
ZALV comp=Z,69nm,0.8s,baz=118,slow=2.6,SNR=2.5
LR LR 10 48 50.8
comp=Z,53µm,18.2s,baz=86,slow=37
ZALV PKPPKP P'P'df 11 02 51.3 -10
comp=Z,0.7nm,0.3s,baz=321,slow=2.0,SNR=4.1
comp=Z,469nm,0.7s
ZALV Zalesovo Beam 41.59 312 *i* P **P** **10 30 46.4 -0.5**
ZALV pmax pmax
comp=Z,471nm,0.7s
CHTO Chiang Mai 41.59 255 P **P** **10 30 47.2 -0.1**
CHTO IAMs_20 IAMs_20 10 48 59.1
comp=Z,18µm,20.0s
CHTO Chiang Mai 41.59 255 P **P** **10 30 47.2 -0.1**
CHTO P **P** **10 30 47.2 -0.1**
CHTO S **S** **10 36 58.7 -2.2**
CHTO S **S** **10 36 58.7 -2.2**
CHTO Chiang Mai 41.59 255 P **P** **10 30 47.3 -0.1**
CHTO Chiang Mai 41.59 255 P **P** **10 30 47.2 -0.1**
CHTO pmax pmax
comp=Z,159nm,1.0s
CHTO MLR MLR
comp=Z,18µm,20.0s
CHTO Chiang Mai 41.59 255 ⇑P **P** **10 30 47.3 -0.1**
CHTO Chiang Mai 41.59 255 P **P** **10 30 47.3 -0.1**
CHTO S **S** **10 37 03.3 +2.4**
CHTO Chiang Mai 41.59 255 ⇑P **P** **10 30 47.4 0.0**
CHTO PcP **PcP** **10 32 43.6 -0.4**
G15K Niukluk 41.63 31 P **P** **10 30 46.9 -0.2**
baz=256,SNR=6.2
G15K S **S** **10 37 04.4 +4.0**
baz=256
KOHI KOHiMA 41.72 268 *e*P **P** **10 30 48.3 -0.3**
KOHI IAmb IAmb 10 30 51.0
comp=Z,384nm,1.6s
KOHI *e*S **S** **10 37 02.9 -0.1**
M14K Bethel 41.79 38 P **P** **10 30 48.5 +0.1**
baz=263,SNR=9.3
M14K S **S** **10 37 04.3 +1.5**
baz=263
CM31 Chiang Mai Arr 41.80 255 P **P** **10 30 48.5 -0.6**
CMAR Chiang Mai Arr 41.80 255 P **P** **10 30 48.5 -0.6**
CMAR Chiang Mai Arr 41.80 255 P **P** **10 30 49.2 +0.1**
comp=Z,59nm,0.7s,baz=45,slow=8.0,SNR=138
CMAR LR LR 10 49 16.7
comp=Z,18µm,20.8s,baz=50,slow=38
comp=Z,59nm,0.7s
CMAR Chiang Mai Arr 41.80 255 *i* P **P** **10 30 49.2 +0.1**
CMAR pmax pmax
comp=Z,60nm,0.7s
N14K Kuskokwak Cree 41.83 39 P **P** **10 30 49.2 +0.4**
baz=264
N14K S **S** **10 37 06.1 +2.7**
baz=264
O14K Tigyukauivet M 41.98 40 P **P** **10 30 50.5 +0.5**
O14K Tigyukauivet M 41.98 40 P **P** **10 30 49.5 -0.5**
baz=265
O14K S **S** **10 37 07.3 +1.6**
baz=265
C16K Lisburne Hills 42.06 26 P **P** **10 30 50.5 0.0**
baz=251,SNR=13
C16K S **S** **10 37 07.1 +0.5**
baz=251
ZSN Zaisan 42.06 302 *e*P **P** **10 30 51.0 +0.1**
ZSN *e*S **S** **10 37 07.3 +0.1**
ZSN pmax pmax
comp=Z,273nm,0.8s
ZSN Zaisan 42.06 302 *e*P **P** **10 30 51.0 +0.1**
comp=Z,273nm,0.8s
ZSN *e*S **S** **10 37 07.4 +0.1**
SANI Sanana 42.10 204 P **P** **10 30 53.1 +1.7**
SANI Sanana 42.10 204 P **P** **10 30 51.1 -0.3**
SANI Sanana 42.10 204 P **P** **10 30 51.8 +0.4**
comp=Z,12µmcomp=Z,8µmcomp=Z,709nm,0.8s
L15K Ungalak Mounta 42.13 37 P **P** **10 30 51.7 +0.4**
baz=262
L15K S **S** **10 37 09.2 +1.3**
baz=262
K15K Wolf Creek Mou 42.20 36 P **P** **10 30 53.4 +1.6**
K15K Wolf Creek Mou 42.20 36 P **P** **10 30 52.1 +0.2**
baz=262,SNR=15
K15K S **S** **10 37 09.8 +0.8**
baz=262
MPSI Mapaga 42.21 213 P **P** **10 30 53.3 +1.0**
comp=Z,19µmcomp=Z,5µmcomp=Z,159nm,0.7s
SDPT Sand Point 42.24 46 P **P** **10 30 52.7 +0.5**
SDPT Sand Point 42.24 46 P **P** **10 30 53.9 +1.7**
SDPT Sand Point 42.24 46 P **P** **10 30 52.3 +0.1**
baz=270
IMP Imphal 42.28 266 *e*P **P** **10 30 51.7 -1.3**
IMP IAmb IAmb 10 30 58.6
comp=Z,725nm,1.5s
IMP *e*S **S** **10 37 13.0 +1.9**
LUWI Luwuk 42.28 209 P **P** **10 30 53.9 +0.9**
comp=Z,14µmcomp=Z,6µmcomp=Z,439nm,0.8s
LSA Lhasa 42.30 275 IAMs_20 IAMs_20 10 49 01.0
comp=Z,23µm,22.0s
LSA Lhasa 42.30 275 P **P** **10 30 53.9 +0.3**
LSA S **S** **10 37 15.2 +3.1**
LSA pmax pmax
comp=Z,160nm,0.8s
LSA LR LR
comp=Z,13µm,19.4s
LSA LR LR
comp=Z,27µm,27.7s
H16K Elim 42.30 32 P **P** **10 30 52.5 -0.1**
baz=258
H16K S **S** **10 37 13.4 +3.1**
baz=258
TEZP TEZPUR 42.34 270 *e*P **P** **10 30 53.2 -0.2**
TEZP IAmb IAmb 10 30 59.5
comp=Z,501nm,2.7s
TEZP *e*S **S** **10 37 13.0 +1.2**
M15K Kasigluk River 42.40 38 P **P** **10 30 52.8 -0.6**
baz=264,SNR=17
M15K S **S** **10 37 12.8 +0.9**
baz=264
G16K Koyuk River 42.41 31 P **P** **10 30 52.5 -1.0**
baz=257
G16K S **S** **10 37 14.3 +2.4**
baz=257
MSAI Masohi 42.48 199 P **P** **10 30 57.2 +2.6**
comp=Z,15µmcomp=Z,15µmcomp=Z,864nm,1.8s
APSI Ampana 42.60 210 P **P** **10 30 56.1 +0.6**
comp=Z,10µmcomp=Z,1µm,1.3s
N15K Kwethluk River 42.65 39 P **P** **10 30 55.4 -0.1**
baz=265,SNR=6.2
N15K S **S** **10 37 17.7 +2.1**
baz=265
D17K Noatak River 42.70 28 P **P** **10 30 56.3 +0.5**
baz=254,SNR=55
D17K S **S** **10 37 18.7 +2.6**
baz=254
CHNA Chernabura Isl 42.76 47 P **P** **10 30 58.0 +1.6**
CHNA Chernabura Isl 42.76 47 P **P** **10 30 56.1 -0.3**
baz=272,SNR=7.1
CHNA S **S** **10 37 15.1 -2.2**
baz=272
CNBA Chernabura Isl 42.76 47 IAMs_20 IAMs_20 10 46 36.1
comp=Z,26µm,22.0s
S14K Fog Glacier 42.77 45 P **P** **10 30 56.2 -0.4**
baz=270
J16K Anvik River 42.77 34 P **P** **10 30 56.3 -0.1**
baz=261,SNR=6.4
J16K S **S** **10 37 19.3 +2.0**
baz=261
I17K Unalakleet 42.83 33 P **P** **10 30 56.9 0.0**
baz=261
I17K S **S** **10 37 21.9 +3.9**
baz=261
RDOG Red Dog Mine 42.86 27 P **P** **10 30 58.1 +1.0**
baz=254,SNR=21
RDOG S **S** **10 37 20.7 +2.2**
baz=254
C17K DeLong Mountai 42.88 26 P **P** **10 30 58.1 +0.8**
baz=253,SNR=19
C17K S **S** **10 37 20.2 +1.3**
baz=253
NLAI Namlea 42.88 202 P **P** **10 30 58.5 +0.7**
comp=Z,15µmcomp=Z,5µmcomp=Z,319nm,1.5s
AAI Ambon 43.00 200 P **P** **10 31 00.9 +2.1**
comp=Z,18µmcomp=Z,10µmcomp=Z,851nm,0.9s
E17K Hotham Inlet 43.01 29 P **P** **10 30 59.8 +1.5**
baz=256,SNR=27
E17K S **S** **10 37 22.6 +2.0**
baz=256
F17K Baldwin Pennin 43.08 30 P **P** **10 31 00.4 +1.5**
baz=257,SNR=9.4
F17K S **S** **10 37 24.7 +2.9**
baz=257
G17K Kiwalik Mounta 43.13 31 P **P** **10 31 00.6 +1.3**
baz=259,SNR=21
G17K S **S** **10 37 25.8 +3.3**
baz=259
M16K Timber Creek 43.27 38 P **P** **10 31 01.8 +1.2**
baz=265,SNR=15
M16K S **S** **10 37 27.0 +2.2**
baz=265
N16K Nishlik Lake 43.33 39 P **P** **10 31 02.0 +1.0**
baz=266,SNR=24
N16K S **S** **10 37 28.1 +2.5**
baz=266
H17K Granite Mounta 43.34 32 P **P** **10 31 01.7 +0.7**
baz=260,SNR=26
H17K S **S** **10 37 28.8 +3.3**
baz=260
BNDI Bandanaira 43.38 197 P **P** **10 31 01.9 +0.1**
CHGN Chignik 43.40 45 P **P** **10 31 01.2 -0.3**
CHGN IAMs_20 IAMs_20 10 47 44.9
comp=Z,17µm,21.0s
CHGN Chignik 43.40 45 P **P** **10 31 02.1 +0.5**
baz=271
GUWA GUWAHATI 43.42 270 *e*P **P** **10 31 02.0 -0.1**
GUWA IAmb IAmb 10 31 07.6
comp=Z,594nm,2.8s
GUWA *e*S **S** **10 37 27.3 -0.3**
J17K VABM Dome 43.47 34 P **P** **10 31 03.1 +1.0**
baz=263,SNR=38
J17K S **S** **10 37 30.6 +3.1**
baz=263
E18K Tukpahlearik C 43.55 28 P **P** **10 31 03.8 +1.1**
E18K IAmb IAmb 10 31 21.8
comp=Z,986nm,2.0s
E18K Tukpahlearik C 43.55 28 P **P** **10 31 04.0 +1.4**
baz=257,SNR=34
E18K S **S** **10 37 29.8 +1.2**
baz=257
SHL Shillong 43.56 269 P **P** **10 31 02.0 -1.5**
SHL Shillong 43.56 269 P **P** **10 31 02.8 -0.7**
SNR=66
SHL Shillong 43.56 269 *e*P **P** **10 31 02.6 -0.9**
SHL IAmb IAmb 10 31 23.4
comp=Z,797nm,2.5s
SHL *e*S **S** **10 37 30.6 +0.5**
SHL Shillong 43.56 269 P **P** **10 31 02.0 -1.5**
SHL pmax pmax
comp=Z,588nm,0.6s
B18K Kokolik River 43.61 25 P **P** **10 31 03.4 +0.2**
baz=254
B18K S **S** **10 37 31.0 +1.6**
baz=254
O16K Kokwok River B 43.62 40 P **P** **10 31 03.5 +0.1**
O16K Kokwok River B 43.62 40 P **P** **10 31 03.4 +0.1**
baz=268,SNR=14
O16K S **S** **10 37 32.6 +2.9**
baz=268
C18K Utukok River 43.63 26 P **P** **10 31 03.8 +0.4**
C18K IAmb IAmb 10 31 20.9
comp=Z,428nm,1.0s
C18K Utukok River 43.63 26 P **P** **10 31 03.9 +0.4**
baz=255,SNR=60
C18K S **S** **10 37 31.9 +2.0**
baz=255
P16K Nushagak River 43.65 41 P **P** **10 31 05.0 +1.5**
baz=268,SNR=14
P16K S **S** **10 37 32.9 +2.7**
baz=268
L17K Donlin 43.69 36 P **P** **10 31 05.4 +1.6**
baz=265,SNR=18
L17K S **S** **10 37 33.1 +2.4**
baz=265
K17K Iditarod 43.74 35 P **P** **10 31 05.1 +0.8**
K17K IAmb IAmb 10 31 22.5
comp=Z,346nm,1.0s
K17K Iditarod 43.74 35 P **P** **10 31 05.8 +1.6**
baz=264,SNR=35
K17K S **S** **10 37 34.3 +2.7**
baz=264
F18K Selawik 43.74 30 P **P** **10 31 05.4 +1.2**
baz=259,SNR=26
F18K S **S** **10 37 34.2 +2.9**
baz=259
AZL Aizawl 43.82 266 *e*P **P** **10 31 05.3 -0.2**
AZL IAmb IAmb 10 31 13.3
comp=Z,859nm,2.6s
AZL *e*S **S** **10 37 35.1 +1.4**
R16K Pilot Point 43.85 43 P **P** **10 31 05.9 +0.7**
baz=270
MK31 Makanchi Array 43.90 302 *ce*P **P** **10 31 05.5 -0.3**
MK31 pmax pmax
comp=Z,693nm,0.8s
MKAR Makanchi Array 43.90 302 P **P** **10 31 05.6 -0.2**
MKAR Makanchi Array 43.90 302 P **P** **10 31 05.7 -0.1**
comp=Z,478nm,0.8s,baz=86,slow=9.8,SNR=1230
MKAR PcP **PcP** **10 32 50.9 -0.4**
comp=Z,36nm,0.8s,baz=87,slow=3.0,SNR=1.2
MKAR LR LR 10 49 53.9
comp=Z,21µm,21.5s,baz=75,slow=37
MKAR PKPPKP P'P'df 11 02 49.4 -9.0
comp=Z,0.9nm,0.9s,baz=251,slow=3.7,SNR=3.6
MKAR P4KPbc 11 08 58.6
comp=Z,0.9nm,0.8s,baz=72,slow=4.0,SNR=4.8
comp=Z,478nm,0.8s
MKAR Makanchi Array 43.90 302 *i* P **P** **10 31 05.6 -0.2**
MKAR pmax pmax
comp=Z,482nm,0.8s
G18K Tagagawik 44.01 31 P **P** **10 31 07.2 +0.8**
baz=261,SNR=33
G18K S **S** **10 37 37.8 +2.4**
baz=261
H18K Honhosa River 44.02 32 P **P** **10 31 07.3 +0.9**
baz=262
H18K S **S** **10 37 38.6 +3.0**
baz=262
M17K Holitna River 44.04 37 P **P** **10 31 08.0 +1.3**
baz=266,SNR=22
M17K S **S** **10 37 38.8 +2.9**
baz=266
A19K Wainwright 44.09 24 P **P** **10 31 07.8 +0.8**
baz=254
A19K S **S** **10 37 36.3 -0.1**
baz=254
MAKZ Makanchi 44.11 302 IAMs_20 IAMs_20 10 49 49.5
comp=Z,23µm,21.0s
MAKZ Makanchi 44.11 302 P **P** **10 31 04.8 -2.7**
MAKZ Makanchi 44.11 302 P **P** **10 31 07.6 +0.1**
N17K Nushagak Hills 44.11 39 P **P** **10 31 08.4 +1.1**
N17K Nushagak Hills 44.11 39 P **P** **10 31 08.5 +1.2**
baz=268,SNR=14
N17K S **S** **10 37 38.7 +1.7**
baz=268
SMKI Samarinda 44.12 216 P **P** **10 31 08.5 +0.7**
comp=Z,23µmcomp=Z,780nm,1.3s
O17K Koliganek Bris 44.13 40 P **P** **10 31 08.6 +1.2**
baz=268,SNR=16
O17K S **S** **10 37 40.9 +3.8**
baz=268
SBUM Sibu 44.23 225 P **P** **10 31 08.4 -0.3**
SBUM Sibu 44.23 225 P **P** **10 31 09.4 +0.7**
SBUM Sibu 44.23 225 ⇑P **P** **10 31 08.7 0.0**
C19K Lookout Ridge 44.31 26 P **P** **10 31 09.1 +0.3**
C19K IAmb IAmb 10 31 16.9
comp=Z,338nm,0.9s
C19K Lookout Ridge 44.31 26 P **P** **10 31 10.0 +1.2**
baz=256,SNR=46
C19K S **S** **10 37 41.6 +1.8**
baz=256
Q16K King Salmon 44.34 41 P **P** **10 31 10.2 +1.1**
baz=270,SNR=13
Q16K S **S** **10 37 41.9 +1.7**
baz=270
L18K Granite Mounta 44.45 36 P **P** **10 31 11.7 +1.8**
baz=266,SNR=18
L18K S **S** **10 37 44.1 +2.4**
baz=266
P17K Kvichak River 44.45 40 P **P** **10 31 10.7 +0.7**
baz=270,SNR=10
P17K S **S** **10 37 44.2 +2.4**
baz=270
F19K Shaleruckik Mo 44.52 29 P **P** **10 31 10.8 +0.4**
F19K Shaleruckik Mo 44.52 29 P **P** **10 31 11.2 +0.8**
baz=260,SNR=39
F19K S **S** **10 37 45.4 +2.7**
baz=260
J18K Innoko River 44.53 34 P **P** **10 31 11.2 +0.6**
J18K Innoko River 44.53 34 P **P** **10 31 11.5 +0.8**
baz=265,SNR=16
J18K S **S** **10 37 46.9 +3.9**
baz=265
GCSA Galena City Sc 44.59 32 P **P** **10 31 11.1 +0.1**
baz=264
GCSA S **S** **10 37 46.7 +2.9**
baz=264
G19K Purcell Mounta 44.69 30 P **P** **10 31 12.8 +1.0**
baz=262,SNR=32
G19K S **S** **10 37 46.0 +0.8**
baz=262
D19K Kuna River 44.70 27 P **P** **10 31 13.1 +1.2**

baz=258
D19K S **S** **10 37 46.8 +1.4**
baz=258
Q17K **Contact Creek** **44.74 42** P **P** **10 31 12.4 -0.1**
baz=271,SNR=15
Q17K S **S** **10 37 48.7 +2.3**
baz=271
N18K **Kilae Creek** **44.76 38** P **P** **10 31 12.8 +0.4**
baz=268,SNR=26
N18K S **S** **10 37 50.2 +3.8**
baz=268
M18K **Stony River** **44.81 37** P **P** **10 31 13.9 +1.0**
baz=268,SNR=17
M18K S **S** **10 37 50.6 +3.5**
baz=268
E19K **Redstone River** **44.83 29** P **P** **10 31 13.9 +1.0**
baz=260
E19K S **S** **10 37 47.9 +0.6**
baz=260
H19K **Roundabout Mou** **44.86 31** P **P** **10 31 14.0 +0.8**
baz=263,SNR=88
H19K S **S** **10 37 49.6 +1.9**
baz=263
AGT **Agartala** **44.88 267** *e*P **P** **10 31 15.6 +1.7**
AGT IAmb IAmb 10 31 17.1
comp=Z,381nm,1.2s
AGT *e*S **S** **10 37 55.7 +6.7**
BKB **Balikpapan** **44.98 216** P **P** **10 31 13.2 -1.5**
comp=Z,21µmcomp=Z,14µmcomp=Z,908nm,1.0s
CHIR **Chirikof Islan** **44.98 45** IAMs_20 IAMs_20 10 48 02.2
comp=Z,28µm,22.0s
CHIR **Chirikof Islan** **44.98 45** P **P** **10 31 15.6 +1.3**
baz=274
CHIR S **S** **10 37 50.6 +0.9**
baz=274
J19K **Poorman** **45.06 34** P **P** **10 31 15.7 +0.9**
baz=265,SNR=68
J19K S **S** **10 37 51.9 +1.2**
baz=265
P18K **Big Mountain,** **45.07 40** P **P** **10 31 15.7 +0.7**
baz=270,SNR=21
P18K S **S** **10 37 52.7 +1.7**
baz=270
O18K **Koktuh Hills** **45.08 40** P **P** **10 31 16.3 +1.3**
baz=270,SNR=6.8
O18K S **S** **10 37 54.9 +3.8**
baz=270
COBR **COOCHBEHAR** **45.14 271** *e*P **P** **10 31 15.8 -0.1**
COBR IAmb IAmb 10 31 21.2
comp=Z,430nm,1.5s
BRDH **Bariadhala** **45.18 265** LR LR 10 52 41.4
comp=Z,16µm,18.2s,baz=77,slow=39
D20K **Etivluk River** **45.28 27** P **P** **10 31 17.7 +1.2**
baz=260
D20K S **S** **10 37 54.2 +0.5**
baz=260
L19K **White Mountain** **45.30 36** P **P** **10 31 17.7 +0.9**
baz=268,SNR=34
L19K S **S** **10 37 56.6 +2.4**
baz=268
B20K **Meade River** **45.34 25** P **P** **10 31 18.2 +1.2**
baz=258
B20K S **S** **10 37 53.3 -1.2**
baz=258
F20K **Avaraart Lake** **45.35 29** P **P** **10 31 18.0 +1.0**
baz=262,SNR=20
F20K S **S** **10 37 56.9 +2.2**
baz=262
GTK **Tadong** **45.35 273** *e*P **P** **10 31 18.3 +0.5**
GTK IAmb IAmb 10 31 23.1
comp=Z,316nm,2.1s
E20K **Nigu River** **45.36 28** P **P** **10 31 18.3 +1.1**
baz=261
E20K S **S** **10 37 55.6 +0.6**
baz=261
N19K **Bonanza Creek** **45.45 38** P **P** **10 31 19.0 +0.9**
baz=270,SNR=10
N19K S **S** **10 37 59.9 +3.4**
baz=270
H20K **Anotleneega Mo** **45.51 32** P **P** **10 31 19.2 +0.8**
baz=265,SNR=40
H20K S **S** **10 37 59.6 +2.5**
baz=265
M19K **Big River Lodg** **45.51 37** P **P** **10 31 19.6 +1.2**
baz=269,SNR=9.8
M19K S **S** **10 38 00.4 +3.2**
baz=269
O19K **Port Alsworth** **45.53 39** P **P** **10 31 19.4 +0.9**
baz=270,SNR=11
O19K S **S** **10 37 59.9 +2.4**
baz=270
R18K **Karluk** **45.53 43** P **P** **10 31 19.2 +0.7**
baz=273
R18K S **S** **10 37 56.4 -1.2**
baz=273
I20K **Naaghedeneel** **45.62 33** P **P** **10 31 20.7 +1.6**
baz=266,SNR=17
I20K S **S** **10 38 02.6 +4.0**
baz=266
KURK **Kurchatov** **45.65 308** P **P** **10 31 18.2 -1.4**
KURK **Kurchatov** **45.65 308** P **P** **10 31 18.9 -0.7**
KURK P **P** **10 31 18.9 -0.7**
KURK S **S** **10 37 58.5 -0.9**
KURK S **S** **10 37 58.5 -0.9**
KURK **Kurchatov** **45.65 308** *c i*P **P** **10 31 19.1 -0.5**
KURK pmax pmax
comp=Z,919nm,0.9s
KURK MLR MLR
comp=Z,52µm,19.0s
KURK **Kurchatov** **45.65 308** ⇑P **P** **10 31 19.3 -0.3**
KURK **Kurchatov** **45.65 308** P **P** **10 31 19.3 -0.3**
KURK pP **pP** **10 31 29.4 -1.7**
K20K **Telida** **45.71 35** P **P** **10 31 21.0 +1.0**
baz=268,SNR=47
K20K S **S** **10 38 02.7 +2.6**
baz=268
KURBB **Kurchatov Arra** **45.72 308** P **P** **10 31 19.8 -0.4**
comp=Z,693nm,0.6s,baz=82,slow=8.2,SNR=1082
KURBB S **S** **10 38 01.8 +1.4**
comp=Z,23nm,1.2s,baz=83,slow=15,SNR=5.0
KURBB LR LR 10 51 14.3
comp=Z,57µm,20.0s,baz=80,slow=37
KURBB PKPPKP **P'P'df** **11 02 49.8 -6.5**
comp=Z,1.3nm,0.2s,baz=209,slow=1.7,SNR=4.2
comp=Z,693nm,0.6s
KURBB **Kurchatov Arra** **45.72 308** P **P** **10 31 19.6 -0.6**
J20K **Nowinta River** **45.72 33** P **P** **10 31 20.9 +0.8**
baz=267,SNR=66
J20K S **S** **10 38 03.4 +3.3**
baz=267
SII **Sitkinak Islan** **45.74 44** P **P** **10 31 20.8 +0.5**
SII IAmb IAmb 10 31 36.9
comp=Z,286nm,1.0s
SII IAMs_20 IAMs_20 10 50 59.1
comp=Z,19µm,20.0s
SII **Sitkinak Islan** **45.74 44** P **P** **10 31 20.9 +0.5**
baz=274
SII S **S** **10 38 00.8 +0.2**
baz=274
L20K **Farewell, AK** **45.77 36** P **P** **10 31 20.6 +0.1**
baz=268,SNR=27
L20K S **S** **10 38 02.4 +1.5**
baz=268
A21K **Barrow** **45.80 23** P **P** **10 31 20.4 -0.1**
baz=257
A21K S **S** **10 38 00.5 -0.6**
baz=257
Q19K **Cape Douglas,** **45.90 41** P **P** **10 31 22.2 +0.7**
baz=272
Q19K S **S** **10 38 02.8 -0.1**
baz=272
C21K **Knifeblade Rid** **46.01 26** P **P** **10 31 23.7 +1.5**
baz=261,SNR=56
C21K S **S** **10 38 05.6 +1.5**
baz=261
IMAR **Indian Mountai** **46.02 31** P **P** **10 31 23.3 +1.0**
P19K **Oil Pt** **46.09 40** P **P** **10 31 23.7 +0.7**
baz=272
P19K S **S** **10 38 05.7 +0.1**
baz=272
M20K **Styx River** **46.11 37** P **P** **10 31 23.9 +0.7**
baz=270,SNR=19
M20K S **S** **10 38 09.4 +3.4**
baz=270
SPSI **Sidrap Palu** **46.13 211** P **P** **10 31 23.3 -0.5**
comp=Z,13µmcomp=Z,4µmcomp=Z,396nm,1.2s
B21K **Ikpikpuk River** **46.14 26** P **P** **10 31 23.9 +0.6**
baz=261,SNR=96
B21K S **S** **10 38 06.7 +0.7**
baz=261
G21K **Allakaket** **46.16 30** P **P** **10 31 24.7 +1.2**
baz=265
G21K S **S** **10 38 09.0 +2.5**
baz=265
OHAK **Old Harbor** **46.18 43** P **P** **10 31 25.2 +1.5**
OHAK **Old Harbor** **46.18 43** P **P** **10 31 23.7 0.0**
baz=274,SNR=9.5
OHAK S **S** **10 38 08.6 +1.7**
baz=274
E21K **Killik River** **46.20 28** P **P** **10 31 24.4 +0.7**
baz=263
E21K S **S** **10 38 07.1 +0.1**
baz=263
F21K **Alatna River** **46.24 29** P **P** **10 31 25.1 +1.0**
baz=264,SNR=74
F21K S **S** **10 38 09.6 +2.0**
baz=264
A22K **Sinclair Lake** **46.26 24** P **P** **10 31 25.0 +0.9**
baz=259
A22K S **S** **10 38 07.6 -0.1**
baz=259
O20K **Slope Mountain** **46.38 39** P **P** **10 31 27.2 +1.9**
baz=272
O20K S **S** **10 38 11.5 +1.6**
baz=272
H21K **Melozitna Rive** **46.38 31** P **P** **10 31 26.3 +1.0**
baz=266,SNR=24
H21K S **S** **10 38 14.3 +4.6**
baz=266
BNSI **Bone** **46.40 210** P **P** **10 31 26.2 +0.4**
comp=Z,15µmcomp=Z,7µmcomp=Z,855nm,1.3s
BBSI **Bau Bau** **46.46 207** P **P** **10 31 31.1 +4.7**
comp=Z,16µmcomp=Z,7µmcomp=Z,498nm,1.3s
EVN **Everest** **46.48 275** ⇑P **P** **10 31 27.8 +0.6**
CHUM **Lake Minchumin** **46.51 34** P **P** **10 31 28.0 +1.8**
baz=269,SNR=44
CHUM S **S** **10 38 13.9 +2.4**
baz=269
KDAK **Kodiak Island** **46.52 42** IAMs_20 IAMs_20 10 50 08.0
comp=Z,26µm,21.0s
KDAK **Kodiak Island** **46.52 42** P **P** **10 31 26.9 +0.5**
baz=274
KDAK S **S** **10 38 09.8 -1.9**
baz=274
PPLA **Purkeypile** **46.55 35** P **P** **10 31 28.0 +1.2**
baz=270,SNR=19
PPLA S **S** **10 38 15.7 +3.2**
baz=270
N20K **Mount Spurr** **46.55 38** P **P** **10 31 27.9 +1.2**
baz=271
N20K S **S** **10 38 14.3 +1.9**
baz=271
SPCR **Spurr Chakacha** **46.55 38** P **P** **10 31 27.8 +1.1**
baz=271,SNR=13
SPCR S **S** **10 38 15.0 +2.6**
baz=271
Q20K **Shuyak Island** **46.57 41** P **P** **10 31 26.2 -0.5**
baz=274,SNR=9.0
Q20K S **S** **10 38 10.1 -2.2**
baz=274
SYI **Shuyak Island** **46.57 41** IAMs_20 IAMs_20 10 49 03.5
comp=Z,17µm,22.0s
PDGK **Podgornoye** **46.60 297** *i* P **P** **10 31 26.9 -0.5**
PDGK pmax pmax
comp=Z,805nm,1.0s
CAST **Castle Rocks** **46.61 35** P **P** **10 31 28.3 +1.2**
baz=269,SNR=46
CAST S **S** **10 38 13.9 +1.0**
baz=269
STKI **Sintang** **46.61 224** P **P** **10 31 28.2 +0.6**
comp=Z,20µmcomp=Z,12µmcomp=Z,304nm,1.0s
B22K **Teshekpuk Lake** **46.66 25** P **P** **10 31 27.5 +0.2**
baz=261
B22K S **S** **10 38 12.8 -0.5**
baz=261
SHLS **Shalkode** **46.67 297** *c i*P **P** **10 31 25.4 -2.5**
SHLS *e*S **S** **10 38 10.0 -4.5**
SHLS pmax pmax
comp=Z,140nm,0.6s
SHLS **Shalkode** **46.67 297** ⇑ *i*P **P** **10 31 25.5 -2.5**
comp=Z,140nm,0.6s
SHLS *e*S **S** **10 38 10.1 -4.5**
I21K **Tanana** **46.70 32** P **P** **10 31 29.0 +1.3**
baz=268,SNR=12
I21K S **S** **10 38 17.5 +3.3**
baz=268
D22K **Ayikyak River** **46.72 27** P **P** **10 31 29.2 +1.4**
baz=264,SNR=73
D22K S **S** **10 38 15.5 +1.1**
baz=264
F22K **John River** **46.77 29** P **P** **10 31 29.4 +1.1**
baz=265
F22K S **S** **10 38 15.9 +0.7**
baz=265
SKT **Skwentna** **46.86 37** P **P** **10 31 29.8 +0.8**
baz=271,SNR=15
SKT S **S** **10 38 17.4 +0.7**
baz=271
HOM **Homer** **46.89 40** P **P** **10 31 29.8 +0.6**
baz=273
TDK **Taldyqorghan** **46.93 300** *e*P **P** **10 31 29.8 0.0**
TDK *e*S **S** **10 38 17.8 -0.2**
TDK pmax pmax
comp=Z,227nm,0.8s
TDK MLR MLR
comp=Z,17µm,16.0s
TDK **Taldyqorghan** **46.93 300** *e*P **P** **10 31 29.8 0.0**
comp=Z,227nm,0.8s
TDK *e*S **S** **10 38 17.8 -0.2**
TDK LR LR 10 52 14.6
comp=Z,17µm,16.3s
UZB **Uzynbulak** **46.98 297** *c i*P **P** **10 31 30.1 -0.3**
UZB *e*S **S** **10 38 18.7 -0.3**
UZB pmax pmax
comp=Z,192nm,1.2s
UZB **Uzynbulak** **46.98 297** ⇑ *i*P **P** **10 31 30.1 -0.3**
comp=Z,192nm,1.2s
UZB *e*S **S** **10 38 18.7 -0.3**
H22K **Ishtalitna Cre** **46.98 31** P **P** **10 31 31.1 +1.1**
baz=268,SNR=47
H22K S **S** **10 38 22.5 +4.3**
baz=268
G22K **Bettles** **46.99 30** P **P** **10 31 30.5 +0.6**
baz=266
G22K S **S** **10 38 20.4 +2.2**
baz=266
SHBG **Sahibganj** **47.07 271** *e*P **P** **10 31 31.2 +0.1**
SHBG IAmb IAmb 10 31 38.3
comp=Z,719nm,2.7s
SHBG *e*S **S** **10 38 26.4 +6.0**
CAPN **Captain Cook N** **47.08 38** P **P** **10 31 31.4 +0.7**
baz=273
KAPI **Kappang** **47.09 210** P **P** **10 31 32.2 +0.8**
KAPI **Kappang** **47.09 210** S **S** **10 38 22.9 +2.2**
comp=Z,2.5nm,0.3s,baz=233,slow=21,SNR=6.4
KAPI LR LR 10 51 41.8
comp=Z,7µm,20.3s,baz=4.5,slow=36
KAPI **Kappang** **47.09 210** P **P** **10 31 31.4 +0.1**
KAPI S **S** **10 38 20.3 -0.5**
KAPI **Kappang** **47.09 210** *c i*P **P** **10 31 32.1 +0.8**
KAPI pmax pmax
comp=Z,255nm,0.9s
KAPI MLR MLR
comp=Z,7µm,20.0s
KAPI **Kappang** **47.09 210** P **P** **10 31 32.0 +0.7**
KAPI S **S** **10 38 20.1 -0.6**
KAPI **Kappang** **47.09 210** P **P** **10 31 32.9 +1.5**
KAPI sP **sP** **10 31 49.5 +2.0**
CNPM **China Poot** **47.11 40** IAMs_20 IAMs_20 10 52 00.7
comp=Z,14µm,22.0s
KPKS **Kokpek** **47.13 298** *e*P **P** **10 31 31.4 -0.1**
KPKS **Kokpek** **47.13 298** *e*P **P** **10 31 31.5 -0.1**
PMG **Port Moresby** **47.13 172** P **P** **10 31 33.2 +1.7**
PMG IAmb IAmb 10 32 42.2
comp=Z,255nm,1.2s
PMG **Port Moresby** **47.13 172** LR LR 10 50 41.7
comp=Z,9µm,22.0s,baz=331,slow=35
PMG **Port Moresby** **47.13 172** P **P** **10 31 34.8 +3.3**
PMG **Port Moresby** **47.13 172** ⇓ *e*P **P** **10 31 31.4 -0.1**
PMG pmax pmax
comp=Z,34nm,0.8s
PMG **Port Moresby** **47.13 172** ⇑P P 10 31 37.8 +6.2
BKSI **Bulukumba** **47.23 210** P **P** **10 31 32.4 +0.1**
comp=Z,14µmcomp=Z,4µmcomp=Z,345nm,1.3s
SUA **Susitna One** **47.25 37** P **P** **10 31 32.2 0.0**
baz=272,SNR=30
SUA S **S** **10 38 22.5 +0.2**
baz=272
TRF **Thorofare Moun** **47.41 34** P **P** **10 31 33.9 +0.4**
baz=271,SNR=28
TRF S **S** **10 38 27.3 +2.6**
baz=271
SATY **Saty** **47.44 297** *c i*P **P** **10 31 33.8 -0.1**
SATY *e*S **S** **10 38 25.2 -0.3**
SATY pmax pmax
comp=Z,104nm,0.9s
SATY **Saty** **47.44 297** ⇑ *i*P **P** **10 31 33.9 -0.1**
comp=Z,104nm,0.9s
SATY *e*S **S** **10 38 25.3 -0.3**
CUT **Chulitna** **47.45 36** P **P** **10 31 33.8 +0.3**
baz=272,SNR=10.0
CUT S **S** **10 38 26.2 +1.4**
baz=272
D23K **Nanushuk River** **47.45 27** P **P** **10 31 34.6 +1.1**
baz=265,SNR=32
D23K S **S** **10 38 25.4 +0.6**
baz=265
COLD **Coldfoot** **47.52 29** P **P** **10 31 35.0 +1.0**
baz=267,SNR=12
COLD S **S** **10 38 28.8 +3.0**
baz=267
ARXS **Arharly** **47.53 299** *e*P **P** **10 31 34.6 0.0**
M22K **Willow** **47.54 37** P **P** **10 31 34.9 +0.6**
baz=272,SNR=10
M22K S **S** **10 38 26.9 +0.8**
baz=272
C23K **Itkillik River** **47.55 26** P **P** **10 31 34.7 +0.5**
baz=265,SNR=68
C23K S **S** **10 38 28.3 +2.2**
baz=265
G23K **Bananza Creek** **47.56 30** P **P** **10 31 35.4 +1.0**
baz=268,SNR=43
G23K S **S** **10 38 29.9 +3.3**
baz=268
H23K **Yukon River** **47.74 31** P **P** **10 31 37.2 +1.4**
baz=269,SNR=111
H23K S **S** **10 38 31.9 +2.9**
baz=269
E23K **Chandalar** **47.78 28** P **P** **10 31 37.4 +1.2**
baz=267,SNR=169
E23K S **S** **10 38 28.7 -1.0**
baz=267
O22K **Cooper Landing** **47.80 39** IAMs_20 IAMs_20 10 52 18.0
comp=Z,16µm,20.0s
O22K **Cooper Landing** **47.80 39** P **P** **10 31 36.8 +0.5**
baz=274,SNR=8.5
O22K S **S** **10 38 26.8 -3.1**
baz=274
I23K **Minto, Yukon-K** **47.81 32** P **P** **10 31 37.0 +0.7**
baz=270,SNR=48
I23K S **S** **10 38 33.2 +3.3**
baz=270
TOLK **Toolik Lake Re** **47.83 27** P **P** **10 31 37.2 +0.7**
baz=267,SNR=42
TOLK S **S** **10 38 31.2 +0.9**
baz=267
BSSI **Bau Bau, Buton** **47.84 209** P **P** **10 31 37.2 +0.1**
comp=Z,14µmcomp=Z,6µmcomp=Z,296nm,1.1s
CAL **Calcutta** **47.88 267** *e*P **P** **10 31 38.2 +0.8**
CAL IAmb IAmb 10 31 43.8
comp=Z,108nm,1.9s
SEW **Seward** **47.97 39** IAMs_20 IAMs_20 10 53 37.4
comp=Z,21µm,20.0s
SEW **Seward** **47.97 39** P **P** **10 31 37.5 -0.1**
baz=275,SNR=17
SEW S **S** **10 38 30.2 -2.0**
baz=275
MCK **McKinley** **48.01 34** P **P** **10 31 38.5 +0.5**
baz=272,SNR=24
MCK S **S** **10 38 31.2 -1.7**
baz=272
PMR **Palmer** **48.02 37** P **P** **10 31 39.3 +1.3**
PMR **Palmer** **48.02 37** P **P** **10 31 38.0 0.0**
baz=274,SNR=48
PMR S **S** **10 38 31.3 -1.6**
baz=274
GHO **Glory Hole Cre** **48.11 37** IAMs_20 IAMs_20 10 50 36.0
comp=Z,14µm,21.0s
D24K **Happy Valley** **48.13 27** P **P** **10 31 40.0 +1.3**
baz=267,SNR=77
D24K S **S** **10 38 34.9 +0.5**
baz=267
C24K **Franklin Bluff** **48.20 26** P **P** **10 31 40.3 +1.1**
baz=267
C24K S **S** **10 38 36.2 +0.8**
baz=267
E24K **Your Creek** **48.20 28** P **P** **10 31 40.9 +1.5**
baz=268,SNR=118
E24K S **S** **10 38 36.9 +1.3**
baz=268
CHKK **Chushkaly** **48.21 299** *e*P **P** **10 31 39.7 -0.1**
CHKK **Chushkaly** **48.21 299** *e*P **P** **10 31 39.8 -0.1**
STMR **SITAMARHI** **48.24 274** *e*P **P** **10 31 41.0 +0.8**
STMR IAmb IAmb 10 31 42.3
comp=Z,934nm,1.2s
KNK **Knik Glacier** **48.35 37** P **P** **10 31 40.7 +0.1**
baz=274,SNR=16
KNK S **S** **10 38 38.1 +0.3**
baz=274
KNDC **Almaty** **48.40 298** P **P** **10 31 41.6 +0.3**
F24K **Squaw Lake** **48.42 29** P **P** **10 31 41.9 +0.8**
baz=269,SNR=30
F24K S **S** **10 38 40.0 +1.4**
baz=269
H24K **Noodor Dome** **48.42 31** P **P** **10 31 42.3 +1.2**
baz=271,SNR=38
H24K S **S** **10 38 42.2 +3.4**
baz=271
AAA **Alma-Ata** **48.44 298** *e*P **P** **10 31 41.6 0.0**
AAA pmax pmax
comp=Z,155nm,0.7s
AAA MLR MLR
comp=Z,17µm,15.0s
AAA **Alma-Ata** **48.44 298** *e*P **P** **10 31 41.6 0.0**
comp=Z,155nm,0.7s
AAA LR LR 10 52 42.8
comp=Z,17µm,14.7s
COLA **College** **48.45 33** P **P** **10 31 42.1 +0.8**
COLA IAmb IAmb 10 32 05.4
comp=Z,206nm,0.9s
COLA **College** **48.45 33** P **P** **10 31 42.5 +1.2**
COLA **College** **48.45 33** *c i*P **P** **10 31 41.6 +0.3**
COLA pmax pmax
comp=Z,42nm,1.5s
COLA **College** **48.45 33** ⇑P **P** **10 31 41.9 +0.6**
COLA **College** **48.45 33** P **P** **10 31 42.0 +0.8**
baz=272
COLA S **S** **10 38 38.8 -0.2**
baz=272
COLA **College** **48.45 33** P **P** **10 31 42.3 +1.0**
COLA S **S** **10 38 36.2 -2.7**
COLA **College** **48.45 33** P **P** **10 31 41.8 +0.6**
PWL **Port Wells** **48.46 38** IAMs_20 IAMs_20 10 54 27.3
comp=Z,16µm,20.0s
PWL **Port Wells** **48.46 38** P **P** **10 31 41.2 -0.2**
baz=275,SNR=29
PWL S **S** **10 38 39.7 +0.4**
baz=275
TNSS **Tian-Shan** **48.47 298** *e*P **P** **10 31 41.8 -0.4**
TNSS **Tian-Shan** **48.47 298** *e*P **P** **10 31 41.9 -0.4**
G24K **Hadweenzic Riv** **48.58 30** P **P** **10 31 44.0 +1.7**
baz=270,SNR=66
G24K S **S** **10 38 43.4 +2.5**
baz=270
POKR **Poker Plat Res** **48.62 32** P **P** **10 31 44.1 +1.5**
baz=272,SNR=59
POKR S **S** **10 38 42.3 +0.8**
baz=272
KUU **Kurty** **48.65 299** *e*P **P** **10 31 42.9 -0.2**
KUU MLR MLR
comp=Z,10µm,13.0s
KUU **Kurty** **48.65 299** *e*P **P** **10 31 43.0 -0.2**
comp=Z,10µm,13.7s
KUU LR LR 10 53 00.3
comp=Z,10µm,13.3s
M23K **Glacier View** **48.67 37** P **P** **10 31 43.9 +0.9**
baz=275,SNR=35
M23K S **S** **10 38 42.7 +0.4**
baz=275
SCM **Sheep Creek Mo** **48.86 37** P **P** **10 31 45.1 +0.5**
baz=275,SNR=46
SCM S **S** **10 38 46.3 +1.3**

baz=275
ILAR Eielson Array 48.87 33 P **P 10 31 44.3 -0.2**
ILAR Eielson Array 48.87 33 P **P 10 31 44.5 0.0**
comp=Z,28nm,0.7s,baz=267,slow=5.4,SNR=170
ILAR LR LR 10 53 30.9
comp=Z,10µm,21.4s,baz=257,slow=37
ILAR PKPPKP P'P'df 11 02 35.6 -17
comp=Z,0.8nm,0.9s,baz=158,slow=1.0,SNR=4.6
comp=Z,28nm,0.7s
TATA Tatamba Isabel 48.89 156 P **P 10 31 47.8 +2.6**
P23K Montague Islan 49.00 39 IAMs_20 IAMs_20 10 51 55.7
comp=Z,16µm,22.0s
P23K Montague Islan 49.00 39 P **P 10 31 46.1 +0.5**
baz=276,SNR=20
P23K S **S 10 38 48.1 +1.2**
baz=276
D25K Kavik River 49.01 27 P **P 10 31 46.3 +0.7**
baz=269,SNR=94
D25K S **S 10 38 46.6 -0.3**
baz=269
GLI Glacier Island 49.06 38 P **P 10 31 46.2 +0.2**
baz=276,SNR=9.8
GLI S **S 10 38 47.8 +0.1**
baz=276
G25K Bearman Lake 49.12 30 P **P 10 31 47.7 +1.4**
baz=272,SNR=17
G25K S **S 10 38 54.6 +6.2**
baz=272
BOK Bokaro 49.18 270 *e*P **P 10 31 47.8 +0.3**
BOK IAmb IAmb 10 31 55.4
comp=Z,447nm,1.5s
BOK *e*S **S 10 38 49.5 -0.8**
ULHL Ulahol 49.20 297 P **P 10 31 48.1 +0.4**
SNR=9.7
GAYA Gaya 49.20 272 *e*P **P 10 31 47.5 -0.1**
GAYA IAmb IAmb 10 31 53.8
comp=Z,781nm,2.5s
GAYA *e*S **S 10 38 54.9 +4.3**
H25L Birch Creek 49.25 31 P **P 10 31 48.3 +0.9**
baz=272,SNR=27
H25L S **S 10 38 55.6 +5.4**
baz=272
KULM Kulim 49.27 239 IAMs_20 IAMs_20 10 53 09.3
comp=Z,21µm,21.0s
KULM Kulim 49.27 239 P **P 10 31 48.8 +0.6**
KULM Kulim 49.27 239 ⇑P **P 10 31 48.6 +0.5**
F25K Christian Rive 49.28 29 P **P 10 31 48.8 +1.1**
baz=271,SNR=84
F25K S **S 10 38 54.4 +3.6**
baz=271
FID Port Fidalgo 49.37 38 IAMs_20 IAMs_20 10 54 21.0
comp=Z,14µm,20.0s
M24K Tolsona, Glenn 49.38 36 P **P 10 31 48.8 +0.3**
baz=276,SNR=32
M24K S **S 10 38 54.5 +2.2**
baz=276
HIN Hinchinbrook I 49.40 38 IAMs_20 IAMs_20 10 52 15.3
comp=Z,16µm,22.0s
PRP Porcupine Dome 49.41 32 P **P 10 31 48.9 +0.2**
baz=273,SNR=18
PRP S **S 10 38 54.7 +1.9**
baz=273
K24K Donnelly Dome 49.41 34 IAMs_20 IAMs_20 10 54 51.3
comp=Z,13µm,21.0s
K24K Donnelly Dome 49.41 34 P **P 10 31 48.9 +0.2**
baz=274,SNR=41
K24K S **S 10 38 51.2 -1.5**
baz=274
TKM2 Tokmak 2 49.45 298 P **P 10 31 50.3 +0.8**
SNR=532
MMRI Maumere 49.51 206 P **P 10 31 49.5 -0.4**
comp=Z,15µmcomp=Z,9µmcomp=Z,537nm,1.6s
BRZS Berezniki 49.52 308 *e*P **P 10 31 48.8 -0.9**
BRZS Berezniki 49.52 308 ⇑*i*P **P 10 31 49.4 -0.3**
C26K Camden Bay 49.52 26 P **P 10 31 50.3 +0.9**
baz=270,SNR=8.3
C26K S **S 10 38 55.5 +1.6**
baz=270
J25K Salcha River, 49.53 33 P **P 10 31 48.9 -0.7**
baz=274,SNR=17
J25K S **S 10 38 53.5 -0.9**
baz=274
ALEG Aligegeo Malai 49.53 155 P **P 10 31 53.2 +3.1**
DGPR DIGLIPUR 49.59 254 *e*P **P 10 31 51.3 +0.7**
DGPR IAmb IAmb 10 31 58.0
comp=Z,878nm,2.9s
Q23K Middleton Isla 49.60 40 IAMs_20 IAMs_20 10 51 20.7
comp=Z,13µm,20.0s
Q23K Middleton Isla 49.60 40 P **P 10 31 50.8 +0.7**
baz=278
Q23K S **S 10 38 58.4 +3.2**
baz=278
Q23K S **S 10 38 58.4 +3.2**
baz=278
PAX Paxson 49.62 35 P **P 10 31 50.8 +0.4**
baz=275,SNR=36
PAX S **S 10 38 56.3 +0.6**
baz=275
DIV Divide 49.67 37 IAMs_20 IAMs_20 10 54 28.0
comp=Z,13µm,19.0s
BMAR Burnt Mountain 49.69 29 P **P 10 31 50.7 -0.1**
GKPR Gorakhpur 49.70 275 *e*P **P 10 31 51.7 +0.3**
GKPR IAmb IAmb 10 31 57.1
comp=Z,188nm,1.5s
GKPR *e*S **S 10 39 02.1 +4.5**
EYAK Cordova Ski Ar 49.75 38 IAMs_20 IAMs_20 10 52 26.6
comp=Z,24µm,22.0s
EYAK Cordova Ski Ar 49.75 38 P **P 10 31 52.6 +1.3**
EYAK Cordova Ski Ar 49.75 38 P **P 10 31 51.8 +0.6**
baz=277,SNR=32
EYAK S **S 10 38 59.5 +2.2**
baz=277
MYKOM Kota Tinggi 49.76 233 IAMs_20 IAMs_20 10 53 33.8
comp=Z,15µm,20.0s
MYKOM Kota Tinggi 49.76 233 P **P 10 31 53.0 +1.1**
EDFI Ende, Flores 49.80 206 P **P 10 31 51.8 -0.5**
comp=Z,13µmcomp=Z,6µmcomp=Z,203nm,1.4s
HARP HAARP 49.82 36 P **P 10 31 52.7 +0.8**
baz=276,SNR=31
HARP S **S 10 39 00.7 +2.3**
baz=276
RIDG Independent Ri 49.83 34 IAMs_20 IAMs_20 10 56 23.4
comp=Z,13µm,20.0s
RIDG Independent Ri 49.83 34 P **P 10 31 51.9 0.0**
baz=275,SNR=29
RIDG S **S 10 38 57.9 -0.6**
baz=275
F26K Sheenjek River 49.85 29 P **P 10 31 53.9 +1.9**
baz=273,SNR=172
F26K S **S 10 39 03.0 +4.3**
baz=273
BTLS Baital 49.90 301 *c i*P **P 10 31 52.4 -0.2**
BTLS *e*S **S 10 38 59.6 -0.3**
BTLS pmax pmax
comp=Z,173nm,1.0s
BTLS Baital 49.90 301 ⇑*i*P **P 10 31 52.4 -0.2**
comp=Z,173nm,1.0s
BTLS *e*S **S 10 38 59.6 -0.3**
SOEI Soe 49.90 203 P **P 10 31 55.1 +2.0**
SOEI Soe 49.90 203 P **P 10 31 54.7 +1.7**
SOEI Soe 49.90 203 P **P 10 31 52.8 -0.2**
comp=Z,18µmcomp=Z,11µmcomp=Z,774nm,1.1s
HNR Honiara 49.92 156 LR LR 10 52 06.7
comp=Z,26µm,20.3s,baz=322,slow=35
C27K Jago River 49.95 26 P **P 10 31 53.5 +0.9**
C27K IAMs_20 IAMs_20 10 54 37.8
comp=Z,12µm,20.0s
C27K Jago River 49.95 26 P **P 10 31 53.8 +1.2**
baz=271,SNR=35
C27K S **S 10 39 00.1 +0.2**
baz=271
SGDS Sogindy 49.97 299 ⇑*i*P **P 10 31 53.2 -0.1**
comp=Z,108nm,1.1s
KBK Karagaybulak 49.99 298 P **P 10 31 54.1 +0.5**
SNR=209
TPRI Tanjung Pinang 50.01 232 P **P 10 31 53.4 -0.4**
comp=Z,21µmcomp=Z,7µmcomp=Z,304nm,1.4s
CHMS Chumysh 50.02 298 P **P 10 31 53.9 +0.2**
SNR=5.8
G26K Porcupine Rive 50.03 30 P **P 10 31 54.6 +1.3**
baz=274,SNR=57
G26K S **S 10 39 03.6 +2.6**
baz=274
KNTI KHUNTI 50.03 270 *e*P **P 10 31 53.8 -0.1**
KNTI IAmb IAmb 10 31 59.4
comp=Z,111nm,1.5s
KNTI *e*S **S 10 38 55.0 -7.3**

USP Ospenovka 50.11 299 P **P 10 31 54.5 +0.2**
SNR=28
N25K Chitina, Valde 50.17 37 P **P 10 31 55.2 +0.6**
baz=277,SNR=36
N25K S **S 10 39 04.8 +1.4**
baz=277
SCRK Sand Creek 50.19 34 IAMs_20 IAMs_20 10 56 24.7
comp=Z,11µm,20.0s
SCRK Sand Creek 50.19 34 P **P 10 31 55.0 +0.3**
baz=276,SNR=50
SCRK S **S 10 39 04.1 +0.5**
baz=276
BVA0 Borovoye Array 50.24 312 *i* P **P 10 31 54.6 -0.6**
BVAR Borovoye Array 50.24 312 P **P 10 31 54.9 -0.3**
comp=Z,156nm,0.5s,baz=78,slow=7.7,SNR=385
BVAR PcP **PcP 10 33 13.8 +0.1**
comp=Z,105nm,0.8s,baz=90,slow=4.3,SNR=4.4
BVAR LR LR 10 54 19.8
comp=Z,41µm,18.7s,baz=78,slow=37
BVAR P4KPbc 11 09 27.0
comp=Z,2.2nm,0.7s,baz=101,slow=4.6,SNR=7.9
comp=Z,156nm,0.5s
KSH Kashi 50.27 294 P **P 10 31 59.8 +4.1**
KSH S **S 10 39 11.7 +6.2**
KSH pmax pmax
comp=Z,310nm,0.9s
KSH pmax pmax
comp=Z,6µm,8.4s
KSH LR LR
comp=Z,35µm,17.2s
KSH LR LR
comp=Z,43µm,16.2s
KSH LR LR
comp=Z,66µm,16.3s
BRVK Borovoye 50.30 312 P **P 10 31 55.3 -0.3**
BRVK IAmb IAmb 10 31 59.5
comp=Z,306nm,1.0s
BRVK Borovoye 50.30 312 P **P 10 31 54.6 -0.9**
BRVK P **P 10 31 54.6 -0.9**
BRVK S **S 10 39 03.2 -2.0**
BRVK S **S 10 39 03.2 -2.0**
BRVK Borovoye 50.30 312 P **P 10 31 55.3 -0.3**
BRVK pmax pmax
comp=Z,306nm,1.0s
BRVK MLR MLR
comp=Z,42µm,19.0s
BRVK Borovoye 50.30 312 ⇑P **P 10 31 55.3 -0.3**
BRVK sP **pP 10 32 09.4 +2.3**
RAGM Ragged Mountai 50.30 38 IAMs_20 IAMs_20 10 52 13.1
comp=Z,19µm,22.0s
AAK Ala-Archa 50.31 298 P **P 10 31 56.1 +0.1**
AAK IAmb IAmb 10 31 58.7
comp=Z,226nm,0.7s
AAK Ala-Archa 50.31 298 LR LR 10 54 46.7
comp=Z,51µm,18.7s,baz=75,slow=38
AAK Ala-Archa 50.31 298 P **P 10 31 55.3 -0.7**
AAK P **P 10 31 55.3 -0.7**
AAK S **S 10 39 02.0 -4.0**
AAK S **S 10 39 02.0 -4.0**
AAK Ala-Archa 50.31 298 P **P 10 31 56.1 +0.1**
SNR=93
AAK Ala-Archa 50.31 298 P **P 10 31 56.1 +0.1**
AAK pmax pmax
comp=Z,226nm,0.7s
AAK MLR MLR
comp=Z,50µm,20.0s
AAK Ala-Archa 50.31 298 *i* P **P 10 31 56.1 +0.1**
SNR=94
AAK Ala-Archa 50.31 298 P **P 10 31 56.1 +0.1**
AAK S **S 10 39 03.2 -2.8**
AAK Ala-Archa 50.31 298 ⇑P **P 10 31 56.1 +0.1**
AAK pP **pP 10 32 07.2 -0.4**
J26L Joseph Creek 50.32 33 P **P 10 31 55.5 -0.2**
baz=276,SNR=38
J26L S **S 10 39 03.7 -1.7**
baz=276
I26K Coal Creek Min 50.41 32 P **P 10 31 55.4 -0.8**
I26K Coal Creek Min 50.41 32 P **P 10 31 55.8 -0.4**
baz=276,SNR=27
I26K S **S 10 39 06.5 +0.1**
baz=276
MENT Mentasta 50.42 35 IAMs_20 IAMs_20 10 55 32.0
comp=Z,13µm,20.0s
MENT Mentasta 50.42 35 P **P 10 31 58.4 +2.0**
KAIM Kayak Island 50.50 39 IAMs_20 IAMs_20 10 52 04.3
comp=Z,14µm,22.0s
KAIM Kayak Island 50.50 39 P **P 10 31 57.7 +0.7**
baz=279,SNR=11
KAIM S **S 10 39 10.8 +3.0**
baz=279
HMT Hamilton 50.51 38 IAMs_20 IAMs_20 10 52 15.7
comp=Z,12µm,22.0s
BATI Bamata 50.52 203 S **S 10 39 10.2 +1.3**
comp=Z,32nm,0.7s,baz=131,slow=22,SNR=7.6
BATI LR LR 10 52 05.2
comp=Z,5µm,21.2s,baz=14,slow=34
BATI Baumata 50.52 203 P **P 10 32 01.4 +3.8**
HNLY HANLEY 50.55 284 *e*P **P 10 31 59.2 +0.7**
HNLY IAmb IAmb 10 32 06.4
comp=Z,992nm,1.8s
HNLY *e*S **S 10 39 14.3 +4.0**
GLB Gilahina Butte 50.57 37 IAMs_20 IAMs_20 10 53 08.1
comp=Z,16µm,22.0s
L26K Log Cabin Wild 50.58 35 IAMs_20 IAMs_20 10 55 37.2
comp=Z,13µm,20.0s
L26K Log Cabin Wild 50.58 35 P **P 10 31 58.9 +1.4**
baz=277,SNR=130
L26K S **S 10 39 10.7 +1.8**
baz=277
VRDI Verde Repeater 50.77 37 IAMs_20 IAMs_20 10 53 18.5
comp=Z,15µm,22.0s
E27K Coleen River 50.78 28 P **P 10 32 00.5 +1.5**
baz=274,SNR=48
E27K S **S 10 39 14.3 +2.7**
baz=274
BRCI Bahraich 50.78 277 *e*P **P 10 31 59.9 +0.3**
BRCI IAmb IAmb 10 32 05.3
comp=Z,464nm,2.1s
BRCI *e*S **S 10 39 14.3 +1.8**
SUCK Suckling Hills 50.79 39 IAMs_20 IAMs_20 10 52 14.1
comp=Z,13µm,21.0s
EKS2 Erkin-Say 50.80 298 P **P 10 31 59.8 +0.1**
SNR=16
M26K Nabesna, AK 50.82 36 IAMs_20 IAMs_20 10 55 39.6
comp=Z,18µm,20.0s
M26K Nabesna, AK 50.82 36 P **P 10 32 00.4 +1.0**
baz=278,SNR=53
M26K S **S 10 39 14.6 +2.3**
baz=278
KDU Kakadu 50.83 192 P **P 10 31 59.8 0.0**
comp=Z,0.0nmcomp=Z,464nm,0.9s
KDU Kakadu 50.83 192 P **P 10 31 59.9 0.0**
DRS Darwin Rock St 50.85 194 P **P 10 32 01.7 +1.7**
G27K Doyon Strip 50.88 30 P **P 10 32 01.4 +1.6**
baz=276,SNR=20
G27K S **S 10 39 17.1 +4.2**
baz=276
D27M Malcolm River 50.93 27 P **P 10 32 01.5 +1.3**
baz=274,SNR=30
D27M S **S 10 39 13.9 +0.2**
baz=274
MCARA McCarthy VSAT 50.95 37 IAMs_20 IAMs_20 10 53 38.3
comp=Z,13µm,21.0s
MCARA McCarthy VSAT 50.95 37 P **P 10 32 01.5 +1.2**
baz=279,SNR=40
MCARA S **S 10 39 16.3 +2.3**
baz=279
PTH Pithoragarh 50.96 280 *e*P **P 10 32 00.5 -0.6**
PTH IAmb IAmb 10 32 06.3
comp=Z,649nm,1.5s
PTH *e*S **S 10 39 19.6 +4.2**
LGTI Lohaghat 50.98 280 *e*P **P 10 32 01.1 +0.1**
LGTI IAmb IAmb 10 32 07.6
comp=Z,46nm,1.1s
LGTI *e*S **S 10 39 18.7 +3.4**
H27K Steamboat Moun 50.99 31 IAMs_20 IAMs_20 10 54 14.7
comp=Z,12µm,21.0s
H27K Steamboat Moun 50.99 31 P **P 10 32 02.2 +1.6**
baz=276,SNR=32
H27K S **S 10 39 18.0 +3.4**
baz=276
K27K Chicken 51.02 33 P **P 10 32 02.0 +1.2**
baz=278
K27K S **S 10 39 16.8 +1.9**
baz=278
CRQE Cirque 51.02 38 P **P 10 32 01.9 +0.9**
baz=279,SNR=46
CRQE S **S 10 39 16.1 +0.9**
baz=279
I27K Kandik River 51.02 31 P **P 10 32 01.7 +0.8**
baz=277,SNR=26
I27K S **S 10 39 17.5 +2.5**
baz=277
BGLC Bering Glacier 51.03 38 P **P 10 32 01.4 +0.6**
baz=280
BGLC S **S 10 39 18.3 +3.3**
baz=280
BWNR Bhubaneshwar 51.05 266 *e*P **P 10 32 02.2 +0.6**
BWNR IAmb IAmb 10 32 07.9
comp=Z,674nm,2.4s
DSRI Dabo 51.07 231 P **P 10 32 06.2 +4.4**
comp=Z,21µmcomp=Z,6µmcomp=Z,217nm,1.4s
WAX Waxell Ridge 51.19 38 IAMs_20 IAMs_20 10 55 34.5
comp=Z,11µm,20.0s
MTN Manton Dam 51.21 193 P **P 10 32 02.9 +0.1**
comp=Z,0.0nmcomp=Z,430nm,1.2s
MTN Manton Dam 51.21 193 P **P 10 32 02.8 +0.1**
L27K Beaver Creek, 51.26 35 IAMs_20 IAMs_20 10 55 55.2
comp=Z,15µm,21.0s
L27K Beaver Creek, 51.26 35 P **P 10 32 04.1 +1.4**
baz=278,SNR=136
L27K S **S 10 39 20.7 +2.4**
baz=278
BCAR Beaver Creek A 51.28 35 P **P 10 32 04.3 +1.4**
M27K Edge Creek, AK 51.34 36 IAMs_20 IAMs_20 10 54 13.4
comp=Z,16µm,22.0s
M27K Edge Creek, AK 51.34 36 P **P 10 32 04.8 +1.4**
baz=279,SNR=84
M27K S **S 10 39 22.8 +3.1**
baz=279
PLAI Plampang 51.35 211 P **P 10 32 02.4 -1.4**
PLAI Plampang 51.35 211 P **P 10 32 03.1 -0.7**
comp=Z,14µmcomp=Z,5µmcomp=Z,260nm,0.9s
COEN Coen 51.39 178 P **P 10 32 04.4 +0.4**
comp=Z,0.0nmcomp=Z,169nm,0.9s
COEN Coen 51.39 178 P **P 10 32 05.3 +1.3**
ISLE Juniper Island 51.41 38 IAMs_20 IAMs_20 10 55 42.3
comp=Z,12µm,20.0s
KMMI Kalianget 51.43 216 P **P 10 32 04.6 +0.2**
comp=Z,16µmcomp=Z,10µmcomp=Z,768nm,1.2s
WBSI Waikabubak, Su 51.46 208 P **P 10 32 05.7 +1.0**
comp=Z,12µmcomp=Z,147nm,0.8s
PPBI Pangkal Pinang 51.47 228 P **P 10 32 06.0 +1.3**
F28M Old Crow 51.48 29 P **P 10 32 06.0 +1.7**
baz=276,SNR=37
F28M S **S 10 39 25.2 +3.9**
baz=276
E28M Babbage River 51.50 27 IAMs_20 IAMs_20 10 55 37.1
comp=Z,14µm,21.0s
E28M Babbage River 51.50 27 P **P 10 32 06.1 +1.7**
baz=276,SNR=52
E28M S **S 10 39 23.9 +2.4**
baz=276
KLP Kalpa 51.63 283 *e*P **P 10 32 06.0 -0.2**
KLP IAmb IAmb 10 32 09.8
comp=Z,354nm,1.5s
KLP *e*S **S 10 39 22.8 -2.1**
TWSI Taliwang, Sumb 51.64 212 P **P 10 32 04.9 -1.1**
comp=Z,14µmcomp=Z,6µmcomp=Z,375nm,1.1s
ALBI Allahabad 51.67 274 *e*P **P 10 32 05.1 -1.1**
ALBI IAmb IAmb 10 32 10.3
comp=Z,280nm,3.0s
MESA MESA 51.67 38 P **P 10 32 07.1 +1.0**
baz=281,SNR=15
MESA S **S 10 39 26.7 +2.3**
baz=281
D28M Stokes Point 51.71 26 P **P 10 32 06.9 +1.0**
baz=276
D28M S **S 10 39 26.2 +1.9**
baz=276
I28M Miner Creek 51.73 31 P **P 10 32 07.6 +1.3**
baz=278,SNR=94
I28M S **S 10 39 27.8 +2.9**
baz=278
SRBI Singaraja 51.78 214 P **P 10 32 07.7 +0.7**
comp=Z,18µmcomp=Z,13µmcomp=Z,646nm,0.9s
BVCY Beaver Creek 51.80 35 P **P 10 32 08.0 +1.2**
baz=280,SNR=118
BVCY S **S 10 39 29.0 +3.2**
baz=280
CTG Chitna Glacier 51.83 37 P **P 10 32 08.0 +0.9**
baz=280,SNR=35
CTG S **S 10 39 27.1 +0.7**
baz=280
LHMI Lhok Sumawe 51.89 243 P **P 10 32 10.9 +3.0**
comp=Z,14µmcomp=Z,471nm,1.5s
TSI Tuntungan 51.99 240 P **P 10 32 09.7 +1.0**
comp=Z,22µmcomp=Z,8µmcomp=Z,389nm,0.9s
GRJI Gresik 52.02 218 P **P 10 32 08.9 +0.1**
YUK3 Moose Creek 52.10 36 P **P 10 32 09.9 +0.8**
baz=281,SNR=50
YUK3 S **S 10 39 30.6 +0.3**
baz=281
E29M Blow River 52.13 28 P **P 10 32 10.8 +1.8**
baz=278,SNR=78
E29M S **S 10 39 34.2 +4.2**
baz=278
DAWY Dawson 52.18 33 IAMs_20 IAMs_20 10 55 12.4
comp=Z,14µm,22.0s
DAWY Dawson 52.18 33 P **P 10 32 10.4 +0.8**
baz=280,SNR=60
DAWY S **S 10 39 33.9 +3.0**
baz=280
TKRD Thakurdwara 52.20 280 *e*P **P 10 32 10.0 -0.1**
TKRD IAmb IAmb 10 32 11.9
comp=Z,152nm,1.4s
TKRD *e*S **S 10 39 38.0 +5.9**
TBJI Tambak Boyo 52.25 219 P **P 10 32 11.5 +1.0**
comp=Z,16µmcomp=Z,11µmcomp=Z,673nm,1.2s
PSI Prapat 52.25 239 LR LR 10 54 36.0
comp=Z,16µm,21.5s,baz=26,slow=36
PSI Prapat 52.25 239 P **P 10 32 10.7 0.0**
PSI Prapat 52.25 239 P **P 10 32 10.8 0.0**
PSI pmax pmax
comp=Z,205nm,0.9s
PSI MLR MLR
comp=Z,17µm,22.0s
H29M Whitestone 52.26 30 P **P 10 32 11.6 +1.6**
baz=279,SNR=47
H29M S **S 10 39 35.9 +4.0**
baz=279
G29M Pine Creek 52.29 29 P **P 10 32 12.0 +1.7**
baz=279,SNR=88
G29M S **S 10 39 37.6 +5.2**
baz=279
DDI Dehra Dun 52.30 282 *e*P **P 10 32 11.7 +0.7**
DDI IAmb IAmb 10 32 19.0
comp=Z,333nm,2.7s
DDI *e*S **S 10 39 34.0 +0.4**
RPSI Rantau Prapat 52.33 239 P **P 10 32 10.8 -0.3**
RPSI IAmb IAmb 10 32 27.6
comp=Z,205nm,0.9s
RPSI IAMs_20 IAMs_20 10 54 02.5
comp=Z,17µm,22.0s
O28M Mount Upton 52.42 37 IAMs_20 IAMs_20 10 55 54.1
comp=Z,11µm,20.0s
O28M Mount Upton 52.42 37 P **P 10 32 12.2 +0.6**
baz=282,SNR=22
O28M S **S 10 39 37.2 +2.4**
baz=282
I29M Ogilvie Camp, 52.42 31 P **P 10 32 12.5 +1.2**
baz=280,SNR=220
I29M S **S 10 39 37.2 +2.9**
baz=280
DZA Taraz 52.43 299 *e*P **P 10 32 11.7 0.0**
DZA pmax pmax
comp=Z,199nm,0.8s
DZA Taraz 52.43 299 *e*P **P 10 32 11.7 0.0**
comp=Z,198nm,0.8s
YUK8 Steele Glacier 52.52 37 P **P 10 32 13.4 +1.0**
baz=282,SNR=9.5
YUK8 S **S 10 39 37.9 +1.8**
baz=282
PCA Pinnacle 52.52 38 IAMs_20 IAMs_20 10 52 11.0
comp=Z,13µm,22.0s
PINM Pinnacle 52.52 38 P **P 10 32 13.0 +0.8**
baz=282
PINM S **S 10 39 37.3 +1.4**
baz=282
JAGI Jajag, Banyuwa 52.59 215 P **P 10 32 13.6 +0.5**
comp=Z,13µmcomp=Z,5µmcomp=Z,374nm,1.4s
J29N Klondike Camp 52.62 33 IAMs_20 IAMs_20 10 57 22.9
comp=Z,10µm,20.0s
J29N Klondike Camp 52.62 33 P **P 10 32 13.9 +1.0**

baz=280
J29N S S 10 39 39.3 +2.3
baz=280
SMLA Simla 52.64 283 *e*P **P** **10 32 13.1 -0.3**
SMLA IAmb IAmb 10 32 19.0
comp=Z,346nm,1.5s
GMJI Gumukmas 52.75 216 P **P** **10 32 15.1 +0.9**
comp=Z,12µmcomp=Z,4µmcomp=Z,237nm,1.1s
BNDA BANDA 52.76 275 *e*P **P** **10 32 13.2 -1.1**
BNDA IAmb IAmb 10 32 17.9
comp=Z,809nm,1.4s
BNDA *e*S **S** **10 39 38.9 -0.8**
DHRM DHARAMSHALA 52.83 285 *e*P **P** **10 32 14.3 -0.7**
DHRM IAmb IAmb 10 32 21.3
comp=Z,463nm,1.2s
DHRM *e*S **S** **10 39 40.1 -1.0**
CMBY CAMPBELL BAY 52.83 247 *e*P **P** **10 32 15.0 +0.1**
CMBY IAmb IAmb 10 32 20.2
comp=Z,148nm,2.3s
BCPM Bancas Point 52.86 38 IAMs_20 IAMs_20 10 52 17.8
comp=Z,13µm,22.0s
EPYK Eagle Plains 52.89 30 P **P** **10 32 16.2 +1.5**
baz=280,SNR=271
EPYK S **S** **10 39 44.2 +3.5**
baz=280
M29M Somme Creek 52.89 35 P **P** **10 32 15.8 +0.8**
M29M IAmb IAmb 10 32 33.5
comp=Z,186nm,0.9s
M29M Somme Creek 52.89 35 P **P** **10 32 16.7 +1.8**
baz=282,SNR=159
M29M S **S** **10 39 45.6 +4.8**
baz=282
L29M L29M 52.91 34 P **P** **10 32 16.3 +1.3**
L29M L29M 52.91 34 P **P** **10 32 17.1 +2.1**
baz=282,SNR=278
L29M S **S** **10 39 45.0 +4.1**
baz=282
NGJI Ngawi 52.91 219 P **P** **10 32 16.8 +1.4**
comp=Z,9µmcomp=Z,292nm,1.2s
KK31 Karatay Array 52.93 300 *i* P **P** **10 32 14.7 -0.7**
KKAR Karatay Array 52.93 300 P **P** **10 32 15.2 -0.2**
KKAR Karatay Array 52.93 300 P **P** **10 32 15.2 -0.2**
MLSI Meulaboh, Aceh 52.94 242 P **P** **10 32 14.8 -1.0**
comp=Z,21µmcomp=Z,9µmcomp=Z,610nm,0.8s
G30M tAoh Zraii Nji 52.98 29 P **P** **10 32 16.6 +1.2**
baz=280,SNR=99
G30M S **S** **10 39 44.1 +2.3**
baz=280
BLSP Bilaspur 53.00 271 *e*P **P** **10 32 15.8 -0.4**
BLSP IAmb IAmb 10 32 17.4
comp=Z,337nm,1.8s
BLSP *e*S **S** **10 39 43.0 -0.2**
K29M Barlow Dome 53.03 33 P **P** **10 32 17.4 +1.4**
baz=281,SNR=108
K29M S **S** **10 39 46.6 +3.9**
baz=281
F30M Barrier River 53.03 28 P **P** **10 32 17.5 +1.7**
baz=280,SNR=78
F30M S **S** **10 39 45.2 +2.7**
baz=280
YUK4 Talbot Arm 53.03 36 P **P** **10 32 17.5 +1.4**
baz=282,SNR=26
YUK4 S **S** **10 39 46.2 +3.2**
baz=282
PNL Peninsula 53.04 39 P **P** **10 32 17.2 +1.3**
PNL Peninsula 53.04 39 P **P** **10 32 16.8 +0.9**
baz=283,SNR=9.5
PNL S **S** **10 39 45.3 +2.6**
baz=283
CGRH CHANDIGARH 53.11 283 *e*P **P** **10 32 16.2 -0.7**
CGRH IAmb IAmb 10 32 18.4
comp=Z,689nm,2.0s
SMRI Semarang 53.15 220 P **P** **10 32 17.7 +0.5**
comp=Z,21µmcomp=Z,12µmcomp=Z,559nm,0.9s
TLWR Talawar 53.22 285 *e*P **P** **10 32 17.4 -0.3**
TLWR IAmb IAmb 10 32 22.2
comp=Z,970nm,1.2s
TLWR *e*S **S** **10 39 46.1 +0.2**
ASOR Ausora 53.23 280 *e*P **P** **10 32 17.6 -0.1**
ASOR IAmb IAmb 10 32 22.6
comp=Z,540nm,2.8s
ASOR *e*S **S** **10 39 47.1 +1.1**
I30M Mount Dempster 53.24 31 IAMs_20 IAMs_20 10 55 07.4
comp=Z,14µm,22.0s
I30M Mount Dempster 53.24 31 P **P** **10 32 18.9 +1.5**
baz=281,SNR=245
I30M S **S** **10 39 48.9 +3.3**
baz=281
YUK6 Outpost Mounta 53.26 37 P **P** **10 32 19.1 +1.3**
baz=283,SNR=34
YUK6 S **S** **10 39 49.0 +2.9**
baz=283
MNSI Mandailing Nat 53.29 237 P **P** **10 32 18.1 -0.2**
comp=Z,229nm,0.7s
O29M Mount Kennedy 53.30 38 IAMs_20 IAMs_20 10 52 59.4
comp=Z,11µm,22.0s
O29M Mount Kennedy 53.30 38 P **P** **10 32 19.5 +1.5**
baz=283,SNR=35
O29M S **S** **10 39 50.1 +3.6**
baz=283
UGON Onchagaon 53.32 280 *e*P **P** **10 32 15.8 -2.7**
UGON IAmb IAmb 10 32 18.3
comp=Z,434nm,1.5s
SDSI Sungai Dareh 53.39 233 P **P** **10 32 19.2 +0.2**
comp=Z,22µmcomp=Z,10µmcomp=Z,836nm,1.2s
J30M Hart River 53.39 32 IAMs_20 IAMs_20 10 57 24.4
comp=Z,12µm,21.0s
J30M Hart River 53.39 32 P **P** **10 32 20.0 +1.4**
baz=282,SNR=58
J30M S **S** **10 39 50.0 +2.3**
baz=282
BRLS Borolday 53.42 300*c i*P **P** **10 32 20.3 +1.3**
BRLS pmax pmax
comp=Z,106nm,1.0s
BRLS Borolday 53.42 300⇑*i*P **P** **10 32 20.3 +1.3**
comp=Z,106nm,1.0s
WOJI Wonogiri, Jawa 53.58 219 P **P** **10 32 18.7 -1.7**
comp=Z,15µmcomp=Z,7µmcomp=Z,241nm,1.1s
IUG Iuzhnay 53.59 299 *e*P **P** **10 32 22.8 +2.4**
M30M Minto, Yukon 53.62 35 P **P** **10 32 22.0 +1.8**
baz=283,SNR=158
M30M S **S** **10 39 55.9 +5.3**
baz=283
GNR GANAUR 53.64 281 *e*P **P** **10 32 20.1 -0.7**
GNR IAmb IAmb 10 32 22.4
comp=Z,183nm,2.8s
GNR *e*S **S** **10 40 00.5 +8.8**
HYT Haines Junctio 53.69 37 IAMs_20 IAMs_20 10 53 59.7
comp=Z,13µm,21.0s
HYT Haines Junctio 53.69 37 P **P** **10 32 22.7 +1.9**
baz=284,SNR=192
HYT S **S** **10 39 55.1 +3.3**
baz=284
NDI New Delhi 53.69 281 *e*P **P** **10 32 19.8 -1.3**
NDI IAmb IAmb 10 32 25.9
comp=Z,520nm,1.2s
NDI *e*S **S** **10 39 49.8 -2.6**
LDR Lodi Road 53.74 280 *e*P **P** **10 32 19.8 -1.6**
LDR IAmb IAmb 10 32 25.9
comp=Z,170nm,1.2s
LDR *e*S **S** **10 40 00.5 +7.5**
N30M Aishikik Lake 53.74 36 P **P** **10 32 22.3 +1.2**
baz=284,SNR=25
N30M S **S** **10 39 56.1 +3.8**
baz=284
INK Inuvik 53.74 27 LR LR 10 57 28.0
comp=Z,8µm,20.1s,baz=276,slow=38
INK Inuvik 53.74 27 P **P** **10 32 21.9 +1.0**
baz=282,SNR=63
INK S **S** **10 39 53.2 +1.2**
baz=282
NRLA Narela 53.74 281 *e*P **P** **10 32 20.9 -0.6**
NRLA IAmb IAmb 10 32 26.6
comp=Z,926nm,1.9s
NRLA *e*S **S** **10 39 56.4 +3.3**
G31M Satah River 53.74 29 P **P** **10 32 21.9 +1.0**
baz=282,SNR=56
G31M S **S** **10 39 55.4 +3.4**
baz=282
NPLP NPLP New Delhi 53.75 281 *e*P **P** **10 32 20.9 -0.7**
NPLP IAmb IAmb 10 32 23.2
comp=Z,976nm,1.5s
NPLP *e*S **S** **10 39 54.4 +1.1**
PCJI Pacitan 53.77 218 P **P** **10 32 25.4 +3.7**
comp=Z,5µmcomp=Z,187nm,1.0s
MAYO Mayo, Yukon 53.79 33 P **P** **10 32 22.8 +1.4**
baz=283,SNR=41
MAYO S **S** **10 39 55.8 +2.9**
baz=283
AGRA Agra 53.80 279 *e*P **P** **10 32 21.8 -0.1**
AGRA IAmb IAmb 10 32 26.3
comp=Z,601nm,1.1s
AGRA *e*S **S** **10 39 57.4 +3.5**
CHM Chimkent 53.83 299 *e*P **P** **10 32 21.9 0.0**
CHM pmax pmax
comp=Z,113nm,0.7s
CHM Chimkent 53.83 299 *e*P **P** **10 32 22.0 0.0**
comp=Z,113nm,0.7s
CHM LR LR 10 56 06.1
F31M Tsiigehtchic 53.84 28 P **P** **10 32 22.1 +0.5**
baz=282,SNR=16
F31M S **S** **10 39 55.3 +2.1**
baz=282
UGM Wanagama 53.85 219 P **P** **10 32 21.7 -0.7**
UGM Wanagama 53.85 219 P **P** **10 32 22.7 +0.3**
comp=Z,10µmcomp=Z,565nm,1.1s
AYAN Aya Nagar 53.86 280 *e*P **P** **10 32 21.5 -0.8**
AYAN IAmb IAmb 10 32 22.9
comp=Z,166nm,2.6s
AYAN *e*S **S** **10 39 51.2 -3.4**
P29M Windy Craggy 53.87 38 P **P** **10 32 23.7 +1.6**
baz=284,SNR=45
P29M S **S** **10 39 58.5 +4.5**
baz=284
BHGR Bahadurgarh 53.91 281 *e*P **P** **10 32 22.6 -0.1**
BHGR IAmb IAmb 10 32 24.6
comp=Z,477nm,3.0s
BHGR *e*S **S** **10 39 55.3 0.0**
H31M Peel River 53.95 30 P **P** **10 32 23.9 +1.3**
baz=283,SNR=436
H31M S **S** **10 39 58.3 +3.3**
baz=283
PDSI Padang 53.99 234 P **P** **10 32 21.1 -2.4**
comp=Z,21µmcomp=Z,8µmcomp=Z,200nm,1.2s
KIP Kipapa 54.11 89⇑*e*P **P** **10 32 25.1 +0.9**
KIP pmax pmax
comp=Z,181nm,2.0s
P30M Million Dollar 54.12 38 P **P** **10 32 25.5 +1.6**
baz=285
P30M S **S** **10 40 03.9 +6.4**
baz=285
RTK Rohtak 54.16 281 *e*P **P** **10 32 23.8 -0.7**
RTK IAmb IAmb 10 32 25.1
comp=Z,280nm,1.1s
RTK *e*S **S** **10 40 02.5 +3.9**
JHJR Jhajjar 54.17 281 *e*P **P** **10 32 24.0 -0.7**
JHJR IAmb IAmb 10 32 29.3
comp=Z,261nm,1.1s
JHJR *e*S **S** **10 40 03.5 +4.6**
JHNI Jhansi 54.18 276 *e*P **P** **10 32 23.4 -1.3**
JHNI IAmb IAmb 10 32 27.8
comp=Z,503nm,2.0s
JHNI *e*S **S** **10 39 55.3 -3.7**
GSI Gunungsitoli 54.26 239 IAMs_20 IAMs_20 10 56 30.1
comp=Z,18µm,20.0s
GSI Gunungsitoli 54.26 239 P **P** **10 32 25.8 +0.4**
GSI Gunungsitoli 54.26 239 P **P** **10 32 25.9 +0.5**
SNSI Sinabang, Aceh 54.32 241 P **P** **10 32 26.1 +0.3**
comp=Z,20µmcomp=Z,10µmcomp=Z,730nm,1.2s
LHSI Lahat 54.35 229 P **P** **10 32 25.5 -0.5**
comp=Z,20µmcomp=Z,824nm,1.1s
O30N Mendenhall 54.38 37 P **P** **10 32 27.2 +1.5**
baz=285,SNR=34
O30N S **S** **10 40 05.7 +4.8**
baz=285
KLI Kotabumi 54.39 227 P **P** **10 32 25.6 -0.7**
VIS Vishakhapatnam 54.41 265 *e*P **P** **10 32 27.1 +0.6**
VIS IAmb IAmb 10 32 34.7
comp=Z,298nm,1.1s
KNRA Kununurra 54.43 195 P **P** **10 32 26.9 +0.5**
comp=Z,0.0nmcomp=Z,347nm,1.1s
LEM Lembang 54.45 223 LR LR 10 56 28.2
comp=Z,3µm,19.0s,baz=7.5,slow=37
MDSI Maura Dua 54.48 228 P **P** **10 32 26.3 -0.7**
comp=Z,21µmcomp=Z,9µmcomp=Z,514nm,1.1s
KUDL Kundal 54.51 280 *e*P **P** **10 32 25.5 -1.6**
KUDL IAmb IAmb 10 32 32.3
comp=Z,888nm,2.6s
NIL Nilore 54.55 288 P **P** **10 32 27.9 +0.5**
NIL pmax pmax
comp=Z,504nm,0.6s
BLSI Bandar Lampung 54.57 226 P **P** **10 32 27.2 -0.4**
comp=Z,11µmcomp=Z,4µmcomp=Z,317nm,0.7s
SBJI Serang 54.68 225 P **P** **10 32 27.9 -0.5**
comp=Z,19µmcomp=Z,408nm,1.1s
DBJI Dramaga 54.70 224 P **P** **10 32 29.3 +0.8**
comp=Z,18µmcomp=Z,246nm,1.1s
SVE Sverdlovsk 54.76 318*d i*P **P** **10 32 28.7 +0.2**
SVE *e* 10 34 32.4
SVE *e*S **S** **10 40 09.0 +3.0**
SVE pmax pmax
comp=Z,899nm,0.9s
SVE pmax pmax
comp=Z,4µm,15.4s
SVE MLR MLR
comp=N,8µm,16.0s
SVE MLR MLR
comp=E,46µm,17.0s
SVE MLR MLR
comp=Z,60µm,17.0s
PBSI Pulau Batu 54.78 237 P **P** **10 32 28.9 -0.3**
comp=Z,22µmcomp=Z,9µmcomp=Z,729nm,1.3s
M31M Drury Creek, Y 54.80 35 IAMs_20 IAMs_20 10 56 54.7
comp=Z,10µm,20.0s
M31M Drury Creek, Y 54.80 35 P **P** **10 32 30.1 +1.4**
baz=285,SNR=116
M31M S **S** **10 40 10.9 +4.4**
baz=285
BBJI Bungbulang 54.96 223 P **P** **10 32 29.1 -1.4**
LWLI Liwa 54.98 228 P **P** **10 32 29.0 -1.7**
comp=Z,19µmcomp=Z,629nm,0.8s
WHY Whitehorse 54.98 37 IAMs_20 IAMs_20 10 53 57.7
comp=Z,20µm,22.0s
WHY Whitehorse 54.98 37 P **P** **10 32 31.6 +1.4**
baz=286,SNR=51
WHY S **S** **10 40 15.1 +5.9**
baz=286
S31K Pelican 55.07 40 P **P** **10 32 32.3 +1.6**
baz=287,SNR=6.2
S31K S **S** **10 40 14.3 +4.3**
baz=287
SKAG Skagway 55.09 38 P **P** **10 32 32.6 +1.7**
SKAG Skagway 55.09 38 P **P** **10 32 32.3 +1.5**
baz=286,SNR=21
SKAG S **S** **10 40 15.9 +5.5**
baz=286
KASI Kota Agung 55.13 227 P **P** **10 32 29.9 -1.8**
comp=Z,10µmcomp=Z,186nm,0.9s
R31K City Hall, Gus 55.19 39 P **P** **10 32 33.1 +1.6**
baz=287
R31K S **S** **10 40 15.2 +3.5**
baz=287
SISI Saibi 55.20 235 P **P** **10 32 32.4 +0.2**
comp=Z,21µmcomp=Z,6µmcomp=Z,343nm,0.9s
MTSU Mount Surprise 55.58 177 P **P** **10 32 35.0 +0.3**
comp=Z,63nm,1.1s
MTSU Mount Surprise 55.58 177 P **P** **10 32 36.3 +1.5**
A36M Sachs Harbour 55.60 22 P **P** **10 32 35.2 +0.9**
baz=286,SNR=26
A36M S **S** **10 40 19.4 +2.5**
baz=286
SIMJ Simiganj 55.63 295 P **P** **10 32 35.2 0.0**
KHLH Kahului Airpor 55.64 89 IAMs_20 IAMs_20 10 52 03.3
comp=Z,9µm,20.0s
N32M Quiet Lake 55.69 36 IAMs_20 IAMs_20 10 55 08.9
comp=Z,10µm,21.0s
N32M Quiet Lake 55.69 36 P **P** **10 32 36.2 +1.0**
baz=287
N32M S **S** **10 40 23.0 +4.5**
baz=287
PPSI Pulau Pagai 55.70 233 P **P** **10 32 39.4 +3.7**
comp=Z,9µmcomp=Z,780nm,1.3s
SIT Sitka 55.80 41 P **P** **10 32 36.5 +0.5**
SIT IAmb IAmb 10 33 00.1
comp=Z,222nm,1.2s
SIT Sitka 55.80 41 P **P** **10 32 37.3 +1.3**
SIT Sitka 55.80 41 P **P** **10 32 36.5 +0.5**
SIT pmax pmax
comp=Z,222nm,1.2s
SIT Sitka 55.80 41 P **P** **10 32 37.6 +1.6**
baz=288
SIT S **S** **10 40 24.6 +4.7**
baz=288
R32K Eaglecrest 55.84 39 P **P** **10 32 38.0 +1.7**
baz=288,SNR=25
R32K S **S** **10 40 26.3 +5.8**
baz=288
P32M Atlin 55.85 38 P **P** **10 32 37.6 +1.3**
baz=287,SNR=34
P32M S **S** **10 40 24.9 +4.3**
baz=287
HLK Haleakala 55.86 89 IAMs_20 IAMs_20 10 52 19.0
comp=Z,10µm,20.0s
JIS Juneau Island 55.91 39 P **P** **10 32 38.9 +2.2**
NGP Nagpur 55.96 272 *e*P **P** **10 32 37.3 -0.3**
NGP IAML 10 32 38.5
comp=Z,100nm,2.4s
S32K Killisnoo 56.06 40 P **P** **10 32 39.4 +1.6**
baz=288,SNR=11
S32K S **S** **10 40 29.3 +6.0**
baz=288
ARTI Arti 56.08 318 P **P** **10 32 37.8 -0.2**
ARTI Arti 56.08 318 LR LR 10 58 53.1
comp=Z,42µm,18.9s,baz=74,slow=38
ARTI Arti 56.08 318*c i*P **P** **10 32 37.7 -0.2**
ARTI *PP **pP** **10 32 50.9 +1.2**
ARTI 10 33 36.4
ARTI 10 34 42.6
ARTI PPP PPP 10 35 55.1
ARTI S **S** **10 40 23.8 +0.2**
ARTI *SS **sS** **10 40 42.8 -0.2**
ARTI 10 42 22.7
ARTI SS **SS** **10 44 14.5 +4.9**
ARTI pmax pmax
comp=Z,964nm,0.8s
ARTI pmax pmax
comp=Z,3µm,8.5s
ARTI MLR MLR
comp=Z,51µm,17.0s
ARTI Arti 56.08 318 ⇑P **P** **10 32 37.8 -0.2**
ARTI sP **sP** **10 32 53.8 -0.6**
MMPY Sheldon Lake, 56.08 34 P **P** **10 32 39.7 +1.7**
baz=287,SNR=77
MMPY S **S** **10 40 27.2 +3.5**
baz=287
P33M Teslin, Yukon 56.09 37 IAMs_20 IAMs_20 10 55 35.1
comp=Z,12µm,21.0s
P33M Teslin, Yukon 56.09 37 P **P** **10 32 39.7 +1.6**
baz=288,SNR=115
P33M S **S** **10 40 28.0 +4.1**
baz=288
NRDN NARMADA NAGAR 56.64 274 *e*P P 10 32 47.3 +4.8
NRDN IAmb IAmb 10 32 52.1
comp=Z,458nm,1.2s
Q32M Nakina River 56.75 38 P **P** **10 32 44.9 +1.9**
baz=289,SNR=41
Q32M S **S** **10 40 39.8 +6.9**
baz=289
POHA Pohakuloa 56.96 90 P **P** **10 32 46.1 +1.1**
POHA IAmb IAmb 10 33 02.5
comp=Z,314nm,1.0s
POHA Pohakuloa 56.96 90 IAMs_20 IAMs_20 10 51 16.7
comp=Z,12µm,22.0s
POHA Pohakuloa 56.96 90 P **P** **10 32 47.3 +2.3**
BKNR BIKANER 57.07 282 *e*P **P** **10 32 44.7 -0.7**
BKNR IAmb IAmb 10 32 46.1
comp=Z,418nm,1.4s
BKNR *e*S **S** **10 40 38.3 +0.7**
T33K Petersburg 57.11 41 P **P** **10 32 46.8 +1.5**
baz=290
T33K S **S** **10 40 43.1 +5.9**
baz=290
VJD Vijayawada 57.21 266 *e*P **P** **10 32 48.0 +1.5**
VJD IAmb IAmb 10 32 54.6
comp=Z,283nm,2.4s
MLH Mauna Loa 57.22 90 P **P** **10 32 47.5 +0.6**
MLH IAmb IAmb 10 33 04.4
comp=Z,439nm,1.2s
AIN Ainahou 57.22 90 P **P** **10 32 48.2 +1.3**
R33M Jennings River 57.24 37 P **P** **10 32 48.3 +1.9**
baz=290,SNR=57
R33M S **S** **10 40 44.0 +4.8**
baz=290
U33K Whale Pass 57.26 42 P **P** **10 32 48.1 +1.7**
baz=290,SNR=19
U33K S **S** **10 40 44.2 +5.0**
baz=290
KBL Kabul 57.32 291 P **P** **10 32 46.9 -0.5**
KBL Kabul 57.32 291 P **P** **10 32 47.0 -0.4**
SNR=253
KBL S **S** **10 40 40.5 -0.6**
KBL Kabul 57.32 291 P **P** **10 32 46.9 -0.5**
KBL pmax pmax
comp=Z,583nm,1.0s
FITZ Fitzroy Crossi 57.48 198 LR LR 10 55 19.9
comp=Z,4µm,21.9s,baz=20,slow=34
CRAG Craig 57.48 42 P **P** **10 32 49.6 +1.7**
CRAG Craig 57.48 42 P **P** **10 32 49.6 +1.7**
baz=290
CRAG S **S** **10 40 47.2 +5.0**
baz=290
WRAK Wrangell Islan 57.56 41 P **P** **10 32 50.2 +1.8**
baz=290,SNR=29
WRAK S **S** **10 40 48.4 +5.3**
baz=290
CTAO Charters Tower 57.63 175 P **P** **10 32 50.8 +1.5**
CTAO IAmb IAmb 10 33 08.0
comp=Z,294nm,1.4s
CTAO Charters Tower 57.63 175 P **P** **10 32 51.0 +1.7**
CTAO Charters Tower 57.63 175 P **P** **10 32 50.8 +1.5**
CTAO pmax pmax
comp=Z,294nm,1.4s
AB31 Akbulak array 57.63 310 P **P** **10 32 48.2 -0.9**
AB31 Akbulak array 57.63 310 P **P** **10 32 48.0 -1.1**
ABKAR Akbulak array 57.63 310 P **P** **10 32 48.6 -0.5**
S34M Telegraph Cree 57.66 39 P **P** **10 32 51.0 +1.8**
baz=290,SNR=51
S34M S **S** **10 40 49.8 +5.3**
baz=290
WRAB Tennant Creek 57.71 188 P **P** **10 32 49.6 -0.3**
WRAB IAmb IAmb 10 33 07.9
comp=Z,231nm,0.9s
WRAB Tennant Creek 57.71 188 P **P** **10 32 49.6 -0.3**
WRAB pmax pmax
comp=Z,231nm,0.9s
WRA Warramunga Arr 57.72 188 P **P** **10 32 48.7 -1.3**
WRA Warramunga Arr 57.72 188 P **P** **10 32 49.6 -0.3**
comp=Z,135nm,0.7s,baz=5.9,slow=7.0,SNR=238
WRA S **S** **10 40 46.2 +0.2**
comp=Z,7.9nm,1.2s,baz=6.3,slow=14,SNR=6.0
WRA LR LR 10 57 07.8
comp=Z,7µm,20.9s,baz=16,slow=35
WRA PKPPKP **P'P'df** **11 02 34.5 +6.1**
comp=Z,2.8nm,0.9s,baz=158,slow=1.0,SNR=4.8
comp=Z,135nm,0.7s
TGTN Hyland Airport 57.77 35 P **P** **10 32 51.8 +1.9**
baz=290,SNR=49
TGTN S **S** **10 40 49.0 +3.2**
baz=290
QIS Mount Isa 57.96 182 P **P** **10 32 51.5 -0.2**
comp=Z,0.0nmcomp=Z,180nm,2.2s
QIS Mount Isa 57.96 182 P **P** **10 32 52.2 +0.6**
WTLY Watson Lake, Y 58.02 36 P **P** **10 32 53.1 +1.4**
baz=291,SNR=59
WTLY S **S** **10 40 53.0 +3.8**
baz=291
DLBC Dease Lake 58.03 38 LR LR 10 56 39.7
comp=Z,696nm,21.7s,baz=288,slow=35
DLBC Dease Lake 58.03 38 P **P** **10 32 54.0 +2.1**
baz=291,SNR=61
DLBC S **S** **10 40 57.3 +7.9**
baz=291
SANVU Saraoutou 58.08 151 IAMs_20 IAMs_20 10 52 38.7
comp=Z,11µm,20.0s
SANVU Saraoutou 58.08 151 P **P** **10 32 55.2 +2.7**
V35K Ketchikan 58.34 42 P **P** **10 32 53.9 0.0**
V35K IAmb IAmb 10 33 21.1
comp=Z,309nm,1.9s
V35K IAMs_20 IAMs_20 10 53 12.2
comp=Z,13µm,22.0s
V35K Ketchikan 58.34 42 P **P** **10 32 54.8 +0.9**
baz=292,SNR=6.1
V35K S **S** **10 40 58.1 +4.8**
baz=292
AKTO Aktyubinsk 58.35 312 LR LR 10 59 17.9
comp=Z,33µm,18.7s,baz=65,slow=37
AKTO Aktyubinsk 58.35 312 P **P** **10 32 53.1 -1.0**
HYB Hyderabad 58.37 268 *e*P **P** **10 32 54.4 -0.3**
HYB IVmB_BB 10 32 58.7
comp=Z,5µm,2.5s

HYB *epP* **pP** **10 33 06.4 -0.1**
HYB *eS* **S** **10 40 55.9 +1.1**
HYB IVMs_BB IVMs_BB 11 00 06.8
comp=Z,4µm,16.0s
T35M Bob Quinn 58.44 40 P **P** **10 32 57.1 +2.4**
baz=292,SNR=54
T35M S **S** **10 41 00.2 +5.5**
baz=292
U35K Hyder 58.95 41 IAMs_20 IAMs_20 10 55 46.5
comp=Z,9µm,20.0s
U35K Hyder 58.95 41 P **P** **10 32 59.5 +1.4**
baz=292
U35K S **S** **10 41 06.0 +4.7**
baz=292
MOBC Moresby Island 58.96 45 IAMs_20 IAMs_20 10 55 28.5
comp=Z,10µm,20.0s
WRGLY Wrigley 59.22 32 P **P** **10 33 00.3 +0.4**
WRGLY Wrigley 59.22 32 P **P** **10 33 01.4 +1.4**
baz=293,SNR=48
WRGLY S **S** **10 41 06.2 +1.7**
baz=293
JASL Jaisalmer 59.44 282 *eP* **P** **10 33 01.7 -0.4**
JASL IAmb IAmb 10 33 03.4
comp=Z,956nm,1.2s
HOPEN Hopen 59.45 346⇑ *iP* **P** **10 33 01.8 +0.5**
HOPEN IVmB_BB 10 33 06.2
comp=Z,3µm,2.8s
HOPEN *ePP* **PP** **10 35 14.4 +2.0**
HOPEN *i* 10 35 31.1
HOPEN *eS* **S** **10 41 08.3 +1.1**
HOPEN *eScS* **ScS** **10 42 50.8 +3.2**
HOPEN IVMs_BB IVMs_BB 11 01 48.0
comp=Z,8µm,15.6s
RUBB Prince Rupert 59.45 43 P **P** **10 33 02.4 +0.8**
ALE Alert 59.45 4 P **P** **10 33 01.6 +0.3**
ALE pP **pP** **10 33 11.8 -1.2**
ALE sP **sP** **10 33 18.6 +0.9**
MDRS Chennai 59.51 263 *eP* **P** **10 33 03.8 +1.2**
MDRS IAmb IAmb 10 33 09.4
comp=Z,563nm,2.3s
LIRD Liard River Hi 59.55 36 P **P** **10 33 03.7 +1.4**
baz=293,SNR=89
LIRD S **S** **10 41 13.6 +4.5**
baz=293
KIRV Kirov 59.82 323 LR LR 11 02 11.5
comp=Z,15µm,18.4s,baz=66,slow=39
KIRV Kirov 59.82 323*c iP* **P** **10 33 03.8 -0.3**
SPA0 Spitsbergen Ar 59.91 349 *iP* **P** **10 33 04.5 -0.1**
SPA0 IVmB_BB 10 33 09.2
comp=Z,2µm,2.7s
SPA0 *eS* **S** **10 41 14.4 +1.2**
SPA0 *eScS* **ScS** **10 42 50.0 -1.1**
SPA0 IVMs_BB IVMs_BB 11 00 18.4
comp=Z,6µm,19.6s
SPB2 Spitsbergen Ar 59.91 349 P **P** **10 33 04.3 -0.2**
SPB2 IAmb IAmb 10 34 09.3
comp=Z,146nm,1.0s
SPITS Spitsbergen Ar 59.91 349 P **P** **10 33 04.7 +0.1**
comp=Z,29nm,0.6s,baz=100,slow=11,SNR=28
SPITS LR LR 11 00 40.7
comp=Z,19µm,20.9s,baz=40,slow=38
comp=Z,29nm,0.6s
SPITS Spitsbergen Ar 59.91 349 P **P** **10 33 04.7 +0.1**
SPITS pmax pmax
comp=Z,377nm,1.6s
KBS Kingsbay 60.04 350 IAMs_20 IAMs_20 11 02 16.7
comp=Z,10µm,18.0s
KBS Kingsbay 60.04 350*c iP* **P** **10 33 05.5 +0.1**
KBS pmax pmax
comp=Z,235nm,1.0s
KBS MLR MLR
comp=Z,8µm,17.0s
KBS Kingsbay 60.04 350⇑ *iP* **P** **10 33 05.8 +0.4**
KBS IVmB_BB 10 33 10.3
comp=Z,2µm,3.0s
KBS *eS* **S** **10 41 18.1 +3.3**
KBS IVMs_BB IVMs_BB 11 02 06.8
comp=Z,3µm,18.1s
KBS Kingsbay 60.04 350 *i* P **P** **10 33 04.4 -1.0**
KBS Kingsbay 60.04 350 P **P** **10 33 05.9 +0.5**
KBS sP **sP** **10 33 21.9 0.0**
TOAD Toad River Com 60.19 37 P **P** **10 33 07.8 +1.1**
baz=294,SNR=53
TOAD S **S** **10 41 21.5 +4.2**
baz=294
KOTAN Kotaneelee Air 60.21 35 P **P** **10 33 08.0 +1.1**
baz=294
KOTAN S **S** **10 41 20.9 +3.4**
baz=294
NOR Nord 60.41 356 *i* P **P** **10 33 07.7 -0.2**
NOR IAmb IAmb 10 33 10.9
comp=Z,178nm,1.0s
HSPB Hornsund (broa 60.84 348 *eP* **P** **10 33 11.2 +0.3**
HSPB *eS* **S** **10 41 25.0 0.0**
HSPB *eL* L 11 01 07.5
comp=Z,20µm,21.9s
ASAR Alice Springs 61.45 188 P **P** **10 33 15.5 -0.1**
ASAR Alice Springs 61.45 188 P **P** **10 33 15.7 0.0**
comp=Z,69nm,0.7s,baz=9.7,slow=6.1,SNR=208
ASAR S **S** **10 41 36.0 +2.0**
comp=Z,1.9nm,0.9s,baz=13,slow=16,SNR=2.8
ASAR LR LR 10 59 23.7
comp=Z,9µm,21.4s,baz=356,slow=36
ASAR PKPPKP **P'P'df** **11 02 28.2 +5.5**
comp=Z,1.5nm,0.9s,baz=107,slow=24,SNR=4.9
ASAR PKP2bc 11 02 34.8
comp=Z,4.3nm,0.8s,baz=174,slow=2.9,SNR=11
ASAR PKP2ab 11 02 47.8
comp=Z,6.7nm,0.9s,baz=58,slow=0.4,SNR=4.8
comp=Z,69nm,0.7s
POO Poona 61.49 272 *eP* **P** **10 33 15.9 -0.3**
POO IAmb IAmb 10 33 21.3
comp=Z,265nm,1.8s
BBB Bella Bella 61.50 44 LR LR 10 57 25.5
comp=Z,7µm,21.3s,baz=292,slow=34
LVZ Lovozero 61.58 336*de*P **P** **10 33 15.7 -0.3**
LVZ pmax pmax
comp=Z,266nm,0.8s
LVZ MLR MLR
comp=Z,31µm,18.0s
LVZ Lovozero 61.58 336 P **P** **10 33 15.1 -0.9**
LVZ pP **pP** **10 33 27.1 -0.7**
BJO1 Bjornoya 61.88 345⇑ *iP* **P** **10 33 17.4 -0.4**
BJO1 IVmB_BB 10 33 21.8
comp=Z,2µm,2.5s
BJO1 *ePP* **PP** **10 35 33.4 -0.4**
BJO1 *eS* **S** **10 41 39.1 +0.9**
BJO1 IVMs_BB IVMs_BB 11 03 44.4
comp=Z,11µm,16.4s
KAD Karad 61.89 271 *eP* **P** **10 33 18.1 -0.8**
KAD IAmb IAmb 10 33 19.8
comp=Z,387nm,1.8s
RES Resolute Bay 61.94 15 LR LR 11 03 41.0
comp=Z,3µm,19.3s,baz=317,slow=39
RES Resolute Bay 61.94 15 P **P** **10 33 18.2 -0.1**
RES pmax pmax
comp=Z,221nm,0.9s
VADS Vadso 62.01 339⇑ *iP* **P** **10 33 18.8 0.0**
VADS IVmB_BB 10 33 23.4
comp=Z,3µm,1.2s
VADS *ePP* **PP** **10 35 34.6 -0.5**
VADS *eS* **S** **10 41 40.9 +0.8**
VADS *eScS* **ScS** **10 43 09.3 +2.4**
VADS IVMs_BB IVMs_BB 11 00 56.2
comp=Z,9µm,23.4s
MBWA Marble Bar 62.04 203 P **P** **10 33 19.6 +0.1**
comp=Z,0.0nmcomp=Z,336nm,1.0s
MBWA Marble Bar 62.04 203 P **P** **10 33 19.9 +0.3**
MBWA P **P** **10 33 19.9 +0.3**
MBWA S **S** **10 41 38.8 -2.6**
MBWA S **S** **10 41 38.8 -2.6**
MBWA Marble Bar 62.04 203 P **P** **10 33 19.7 +0.1**
MBWA Marble Bar 62.04 203 P **P** **10 33 19.6 +0.1**
MBWA S **S** **10 41 38.5 -3.0**
MBWA Marble Bar 62.04 203 P **P** **10 33 19.8 +0.2**
APA Apatity 62.16 336 *eP* **P** **10 33 18.0 -1.8**
APA *eS* **S** **10 41 37.9 -4.0**
APA *e* 10 43 05.7
APA MLR MLR
comp=Z,34µm,19.7s
BHUJ Bhuj 62.28 279 *eP* **P** **10 33 21.4 0.0**
BHUJ IAmb IAmb 10 33 29.5
comp=Z,531nm,2.7s
PSAC2 Pilbara Seismi 62.37 203 P **P** **10 33 21.6 -0.2**
comp=Z,258nm,1.1s
PSA00 Pilbara Seismi 62.40 203 P **P** **10 33 21.8 -0.2**
PSA00 IAmb IAmb 10 33 25.7
comp=Z,198nm,1.1s
PSA00 Pilbara Seismi 62.40 203 P **P** **10 33 22.9 +0.9**
PALK Pallekele 62.65 257 P **P** **10 33 24.2 +0.2**
PALK IAmb IAmb 10 33 43.5
comp=Z,135nm,0.9s
PALK Pallekele 62.65 257 IAMs_20 IAMs_20 11 02 10.8
comp=Z,10µm,22.0s
PALK Pallekele 62.65 257 LR LR 11 02 33.4
comp=Z,10µm,21.3s,baz=47,slow=38
PALK Pallekele 62.65 257 P **P** **10 33 24.0 0.0**
PALK S **S** **10 41 46.6 -3.1**
PALK Pallekele 62.65 257 P **P** **10 33 24.2 +0.2**
PALK pmax pmax
comp=Z,135nm,0.9s
PALK MLR MLR
comp=Z,10µm,22.0s
PALK Pallekele 62.65 257 P **P** **10 33 24.1 0.0**
PALK S **S** **10 41 52.9 +3.2**
PALK Pallekele 62.65 257 P **P** **10 33 23.9 0.0**
PALK pP **pP** **10 33 35.3 -0.5**
KEV Kevo 62.89 339 P **P** **10 33 24.8 +0.1**
KEV IAmb IAmb 10 33 25.8
comp=Z,204nm,0.8s
KEV Kevo 62.89 339 P **P** **10 33 24.8 +0.1**
KEV pmax pmax
comp=Z,204nm,0.8s
KEV MLR MLR
comp=Z,29µm,18.0s
KEV Kevo 62.89 339 P **P** **10 33 24.5 -0.2**
KEV S **S** **10 41 51.3 +0.3**
KEV Kevo 62.89 339⇑ P **P** **10 33 24.7 0.0**
YKA Yellowknife Ar 63.17 30 P **P** **10 33 26.8 0.0**
comp=Z,25nm,0.8s,baz=308,slow=7.0,SNR=60
YKA LR LR 11 00 49.7
comp=Z,5µm,21.6s,baz=285,slow=36
YKA PKPPKP **P'P'df** **11 02 25.9 -5.2**
comp=Z,1.3nm,0.8s,baz=111,slow=2.8,SNR=6.4
comp=Z,25nm,0.8s
GOA Goa 63.19 269 *eP* **P** **10 33 27.4 -0.1**
GOA IAmb IAmb 10 33 33.3
comp=Z,465nm,1.8s
GOA *eS* **S** **10 41 53.6 -2.7**
HAMF Hammerfest 63.25 341⇑ *iP* **P** **10 33 26.3 -0.8**
HAMF IVmB_BB 10 33 31.1
comp=Z,3µm,2.8s
HAMF *es*P **sP** **10 33 43.8 +0.2**
HAMF *eS* **S** **10 41 57.2 +1.6**
HAMF *eSS* **SS** **10 46 02.3 +0.9**
HAMF IVMs_BB IVMs_BB 11 06 20.0
comp=Z,8µm,16.6s
KLMR Klimovskoe 63.28 328*d iP* **P** **10 33 25.2 -2.3**
KLMR *e**PP **pP** **10 33 37.2 -2.1**
KLMR *e* 10 35 44.5
KLMR S **S** **10 41 54.5 -1.8**
KLMR SS **SS** **10 46 01.8 -0.5**
KLMR pmax pmax
comp=Z,813nm,1.6s
KLMR MLR MLR
comp=Z,27µm,18.0s
EIDS Eidsvold 63.35 170 P **P** **10 33 29.0 +0.8**
comp=Z,0.0nmcomp=Z,172nm,2.0s
EIDS Eidsvold 63.35 170 P **P** **10 33 30.7 +2.5**
BELG Belogornoye 63.42 317 LR LR 11 03 00.5
comp=Z,28µm,18.2s,baz=56,slow=38
BELG Belogornoye 63.42 317*c iP* **P** **10 33 28.1 -0.4**
BELG pmax pmax
comp=Z,162nm,0.9s
BELG MLR MLR
comp=Z,5µm,16.0s
ARA0 ARCESS Array S 63.44 339 *eP* **P** **10 33 28.4 0.0**
ARA0 IVmB_BB 10 33 32.9
comp=Z,3µm,2.3s
ARA0 *ePP* **PP** **10 35 49.3 +1.6**
ARCES ARCESS Array B 63.44 339 P **P** **10 33 28.2 -0.2**
comp=Z,174nm,0.9s,baz=52,slow=7.8,SNR=224
ARCES LR LR 11 05 16.8
comp=Z,14µm,18.6s,baz=48,slow=40
comp=Z,174nm,0.9s
WRKA Warakurna 63.63 193 P **P** **10 33 30.3 +0.1**
comp=Z,0.0nmcomp=Z,96nm,1.6s
MNGI Mangalore 63.86 266 *eP* **P** **10 33 29.5 -2.5**
MNGI IAmb IAmb 10 33 33.2
comp=Z,535nm,1.8s
DZM Mont Dzumac 63.87 154 P **P** **10 33 34.0 +2.1**
DZM Mont Dzumac 63.87 154 *eP* **P** **10 33 33.9 +2.1**
comp=Z,889nm,1.6s
DZM Mont Dzumac 63.87 154 *eP* **P** **10 35 56.7 +3.7**
comp=Z,1µm,24.9s
DZM *eS* **S** **10 41 59.3 -5.2**
comp=Z,10µm,27.8s
DZM *eSS* **SS** **10 46 12.1 -1.8**
comp=Z,8µm,24.4s
DZM *eLQ* LQ 10 49 31.8
comp=Z,31µm,35.5s
DZM *eLR* LR 10 52 32.5
comp=Z,52µm,21.6s
DZM Mont Dzumac 63.87 154 LR LR 10 58 60.0
comp=Z,32µm,20.9s,baz=326,slow=34
DZM Mont Dzumac 63.87 154 P **P** **10 33 34.6 +2.7**
QLP Quilpie 63.98 177 P **P** **10 33 32.4 +0.1**
comp=Z,0.0nmcomp=Z,584nm,2.0s
QLP Quilpie 63.98 177 P **P** **10 33 33.2 +0.9**
YATNC Mamie plateau, 64.02 154 P **P** **10 33 35.3 +2.6**
OUENC Ouen Island, N 64.33 154 P **P** **10 33 37.9 +3.2**
KTK1 Kautokeino 64.40 339⇑ *iP* **P** **10 33 34.6 -0.1**
KTK1 IVmB_BB 10 33 38.9
comp=Z,3µm,2.8s
KTK1 *eS* **S** **10 42 11.2 +1.3**
KTK1 *eSS* **SS** **10 46 19.9 +0.5**
KTK1 IVMs_BB IVMs_BB 11 05 48.4
comp=Z,7µm,17.0s
TULEG Thule 64.44 8 IAMs_20 IAMs_20 11 03 21.0
comp=Z,10µm,20.0s
TULEG Thule 64.44 8 *i* P **P** **10 33 33.2 -1.6**
TULEG IAmb IAmb 10 33 35.1
comp=Z,197nm,0.9s
TRD Trivandrum 64.81 261 *eP* **P** **10 33 38.2 0.0**
TRD IAmb IAmb 10 33 43.8
comp=Z,776nm,2.5s
JETT Jettan, Norway 64.81 341⇑ *iP* **P** **10 33 37.4 -0.1**
JETT *ePP* **PP** **10 36 00.5 +0.7**
JETT *eS* **S** **10 42 15.2 +0.2**
JETT IVMs_BB IVMs_BB 11 05 45.1
comp=Z,10µm,17.4s
NEEM North Greenlan 64.87 3 *i* P **P** **10 33 37.6 -0.4**
NEEM IAmb IAmb 10 33 41.5
comp=Z,357nm,1.0s
MSVF Nonsavu 64.92 141 P **P** **10 33 42.5 +3.7**
COCO West Island 64.97 229 P **P** **10 33 41.3 +2.2**
DAG Danmarks Havn 65.14 355 P **P** **10 33 40.8 +1.4**
DAG Danmarks Havn 65.14 355 P **P** **10 33 39.0 -0.4**
DAG pmax pmax
comp=Z,292nm,1.0s
DAG Danmarks Havn 65.14 355 *i* P **P** **10 33 38.0 -1.4**
DAG IAmb IAmb 10 33 39.9
comp=Z,201nm,0.9s
TRO Tromso 65.15 341⇑ *iP* **P** **10 33 39.2 -0.3**
TRO IVmB_BB 10 33 43.6
comp=Z,3µm,2.5s
TRO *eS* **S** **10 42 20.7 +1.6**
TRO *eSS* **SS** **10 46 29.6 -1.3**
TRO IVMs_BB IVMs_BB 11 06 59.5
comp=Z,8µm,16.3s
GIRL Giralia 65.30 208 P **P** **10 33 41.8 +0.8**
comp=Z,0.0nmcomp=Z,156nm,1.1s
JOF Joensuu 65.46 332 *eP* **P** **10 33 40.4 -1.2**
POIN Pond Inlet 66.56 12 IAMs_20 IAMs_20 11 03 29.1
comp=Z,8µm,21.0s
MOS Moscow 66.81 323 *eP* **P** **10 33 47.7 -2.8**
MOS *e* 10 36 16.6
MOS *ePPP* PPP 10 37 53.9
MOS *eS* **S** **10 42 37.1 -2.6**
MOS *e* 10 43 39.0
MOS *eSS* **SS** **10 46 58.2 +0.8**
MOS pmax pmax
comp=Z,1µm,1.5s
MOS pmax pmax
comp=Z,794nm,1.2s
MOS pmax pmax
comp=N,400nm,1.2s
MOS pmax pmax
comp=E,300nm,1.2s
MOS pmax pmax
comp=N,324nm,1.0s
MOS pmax pmax
comp=E,282nm,1.1s
MOS smax smax
comp=N,3µm,5.0s
MOS MLR MLR
comp=E,13µm,18.0s
MOS MLR MLR
comp=Z,15µm,18.0s
SJUU Sjulsmark 67.17 337 *eP* **P** **10 33 51.9 -0.6**
VRH Novokhopyorsk 67.20 318 *eP* **P** **10 33 51.9 -1.1**
VRH *e* 10 36 16.2
VRH *eS* **S** **10 42 38.1 -6.4**
VRH pmax pmax
comp=Z,800nm,0.6s
VRH smax smax
comp=N,2µm,11.0s
VRH MLR MLR
comp=Z,49µm,17.0s
STEI Steigen 67.30 341⇑ *iP* **P** **10 33 52.9 -0.4**
STEI IVmB_BB 10 33 57.5
comp=Z,3µm,3.0s
STEI *eS* **S** **10 42 46.1 +0.9**
STEI IVMs_BB IVMs_BB 11 05 48.5
comp=Z,6µm,22.4s
AFI Afiamalu 67.44 130 IAMs_20 IAMs_20 10 56 14.8
comp=Z,14µm,22.0s
MEEK Meekatharra 67.52 202 P **P** **10 33 54.6 -0.6**
comp=Z,0.0nmcomp=Z,151nm,0.8s
MEEK Meekatharra 67.52 202 P **P** **10 33 54.7 -0.6**
LOF Lofoten 67.59 341 *eP* **P** **10 33 54.2 -1.0**
LOF IVmB_BB 10 33 59.1
comp=Z,3µm,3.1s
LOF *e* 10 36 08.8
LOF *eS* **S** **10 42 50.4 +1.7**
LOF *eSS* **SS** **10 47 07.4 -1.5**
LOF IVMs_BB IVMs_BB 11 07 14.9
comp=Z,5µm,19.4s
DBG Daneborg 67.63 355 *i* P **P** **10 33 54.4 -1.0**
DBG IAmb IAmb 10 33 59.5
comp=Z,98nm,1.2s
OBN Obninsk 67.66 323 P **P** **10 33 54.7 -1.2**
OBN Obninsk 67.66 323 LR LR 11 06 01.0
comp=Z,17µm,18.4s,baz=358,slow=38
OBN Obninsk 67.66 323*c iP* **P** **10 33 55.2 -0.6**
OBN *e**PP **pP** **10 34 06.2 -1.5**
OBN *i* *SP **sP** **10 34 09.3 -3.1**
OBN *i* 10 34 24.3
OBN *i* 10 36 29.9
OBN PPP PPP 10 38 07.0
OBN *i* S **S** **10 42 49.9 0.0**
OBN *i* 10 43 20.3
OBN SSS SSS 10 50 10.0
OBN pmax pmax
comp=Z,531nm,1.1s
OBN MLR MLR
comp=Z,17µm,17.0s
OBN Obninsk 67.66 323 P **P** **10 33 55.3 -0.6**
FAUS Fauske 67.69 340⇑ *iP* **P** **10 33 55.5 -0.2**
FAUS IVmB_BB 10 33 59.9
comp=Z,4µm,1.3s
FAUS IVMs_BB IVMs_BB 11 07 25.8
comp=Z,13µm,17.8s
PUL Pulkovo 67.70 329 P **P** **10 33 56.1 +0.1**
PUL pmax pmax
comp=Z,1µm,0.8s
NGCH Negor - Chabah 67.77 285 P **P** **10 33 57.9 +0.9**
LPSR Galich'ya Gora 67.90 320 *eP* **P** **10 33 56.7 -0.7**
LPSR *e* 10 36 26.7
LPSR *eS* **S** **10 42 47.6 -5.2**
LPSR pmax pmax
comp=Z,1µm,0.8s
LPSR pmax pmax
comp=Z,1µm,0.8s
LPSR smax smax
comp=N,2µm,10.5s
LPSR MLR MLR
comp=Z,59µm,17.0s
MAK Makhachkala 68.17 308*c iP* **P** **10 33 59.1 -0.2**
MAK *e* 10 36 26.6
MAK *ePPP* PPP 10 38 05.1
MAK *eS* **S** **10 42 55.4 -1.0**
MAK pmax pmax
comp=Z,573nm,1.5s
MAK MLR MLR
comp=Z,22µm,16.0s
KEF Keuruu 68.28 333 *eP* **P** **10 33 58.3 -1.3**
FINES FINESS Array B 68.31 332 P **P** **10 33 59.4 -0.4**
comp=Z,570nm,0.7s,baz=53,slow=7.4,SNR=998
FINES LR LR 11 06 09.6
comp=Z,17µm,18.4s,baz=49,slow=38
comp=Z,570nm,0.7s
FINES FINESS Array B 68.31 332 *i* P **P** **10 33 59.4 -0.4**
FINES pmax pmax
comp=Z,571nm,0.7s
ARMA Armidale 68.40 171 IAMs_20 IAMs_20 11 01 33.8
comp=Z,11µm,22.0s
ARMA Armidale 68.40 171 P **P** **10 34 01.0 +0.2**
comp=Z,0.0nmcomp=Z,216nm,1.6s
ARMA Armidale 68.40 171 P **P** **10 34 02.9 +2.2**
VSR Storozhevoye 68.54 319 *eP* **P** **10 34 00.9 -0.5**
VSR *e* 10 36 28.6
VSR *eS* **S** **10 42 53.3 -7.2**
VSR pmax pmax
comp=Z,770nm,0.7s
VSR smax smax
comp=N,2µm,11.6s
VSR MLR MLR
comp=Z,44µm,15.0s
ILON Igloolik, Nuna 68.59 15 IAMs_20 IAMs_20 11 08 19.1
comp=Z,9µm,20.0s
VORD Divnogorie 68.61 318 *eP* **P** **10 34 01.1 -0.8**
VORD *e* 10 36 34.3
VORD *eS* **S** **10 42 57.1 -4.3**
VORD pmax pmax
comp=Z,580nm,0.7s
VORD smax smax
comp=N,90nm,4.0s
VORD MLR MLR
comp=Z,23µm,16.0s
VAGH Vaagaholmen 68.70 340⇑ *iP* **P** **10 34 01.7 -0.5**
VAGH IVmB_BB 10 34 06.0
comp=Z,3µm,2.8s
VAGH *eS* **S** **10 43 02.5 +0.5**
VAGH IVMs_BB IVMs_BB 11 07 57.3
comp=Z,7µm,17.4s
BLKN Baker Lake 68.74 23 IAMs_20 IAMs_20 11 04 56.3
comp=Z,9µm,22.0s
MOR8 Moi Rana 68.80 340⇑ *eP* **P** **10 34 01.3 -1.6**
MOR8 IVmB_BB 10 34 05.5
comp=Z,4µm,3.1s
MOR8 *eS* **S** **10 43 01.9 -1.3**
MOR8 IVMs_BB IVMs_BB 11 07 22.3
comp=Z,7µm,17.4s
HMDM Hanimaadhoo 68.83 262 IAMs_20 IAMs_20 11 08 55.3
comp=Z,6µm,19.0s
HMDM Hanimaadhoo 68.83 262 P **P** **10 34 03.9 +0.1**
KONS Konsvik 68.92 340 *eP* **P** **10 34 02.8 -0.7**
KONS IVmB_BB 10 34 07.5
comp=Z,2µm,2.8s
E07A Sunnyside 68.95 47 P **P** **10 34 05.1 +1.0**
E07A IAmb IAmb 10 34 22.7
comp=Z,362nm,1.5s
CMSA Cobar Meteorol 68.97 176 P **P** **10 34 05.0 +0.8**
comp=Z,0.0nmcomp=Z,311nm,2.0s
CMSA Cobar Meteorol 68.97 176 P **P** **10 34 05.3 +1.1**
WAH2 Wahluke Slope 69.01 47 P **P** **10 34 04.8 +0.4**
WAH2 IAmb IAmb 10 34 24.9
comp=Z,502nm,2.0s
KSXB Camp Six Broad 69.04 53 P **P** **10 34 05.7 +0.8**
KSXB IAmb IAmb 10 34 23.8
comp=Z,592nm,1.7s
STOK Stokkvaagen 69.07 340⇑ *iP* **P** **10 34 03.8 -0.6**
STOK IVmB_BB 10 34 08.3
comp=Z,2µm,2.4s
STOK *eS* **S** **10 43 08.8 +2.5**
STOK IVMs_BB IVMs_BB 11 07 57.9
comp=Z,10µm,16.8s
L02F Cave Junction 69.08 53 P **P** **10 34 06.1 +1.1**
L02F IAmb IAmb 10 34 27.8
comp=Z,587nm,1.9s
UPNV Upernavik 69.14 6 *i* P **P** **10 34 03.8 -1.0**
UPNV IAmb IAmb 10 34 08.3
comp=Z,199nm,1.3s
STKA Stephens Creek 69.20 180 P **P** **10 34 05.5 0.0**

STKA Stephens Creek 69.20 180 P P 10 34 05.0 -0.5
comp=Z,24nm,0.7s,baz=9.9,slow=9.0,SNR=5.7
STKA PKP2ab 11 02 15.8
comp=Z,3.9nm,0.9s,baz=145,slow=7.8,SNR=4.5
STKA LR LR 11 03 14.2
comp=Z,7µm,21.5s,baz=5.7,slow=35
comp=Z,24nm,0.7s
STKA Stephens Creek 69.20 180 P P 10 34 05.6 0.0
STKA pmax pmax
comp=Z,3µm,2.0s
LEIR Leirfjorden 69.21 340⇑ *i* P P **10 34 04.8 -0.5**
LEIR IVmB_BB 10 34 09.1
comp=Z,3µm,2.6s
LEIR IVMs_BB IVMs_BB 11 07 51.0
comp=Z,10µm,19.0s
SEKA Sheki 69.29 306 P P 10 34 05.8 -0.6
JNW Jan Mayen West 69.48 350⇑ *i* P P **10 34 07.8 +0.9**
JNW IVmB_BB 10 34 12.3
comp=Z,3µm,2.1s
JNW *e*S S **10 43 11.7 +0.6**
JNW IVMs_BB IVMs_BB 11 07 50.3
comp=Z,2µm,17.7s
JNE Jan Mayen East 69.50 350 *e*P P **10 34 07.0 0.0**
JNE IVmB_BB 10 34 12.2
comp=Z,3µm,3.1s
JNE *e*S S **10 43 13.5 +2.2**
JNE *e*SS SS **10 47 43.8 +5.7**
JNE IVMs_BB IVMs_BB 11 07 50.9
comp=Z,2µm,17.6s
JMIC Jan Mayen 69.53 350 LR LR 11 08 13.4
comp=Z,5µm,18.0s,baz=25,slow=39
JMIC Jan Mayen 69.53 350 *e*P P **10 34 07.9 +0.7**
JMIC IVmB_BB 10 34 12.4
comp=Z,3µm,2.2s
JMIC *e*S S **10 43 15.9 +4.2**
JMIC IVMs_BB IVMs_BB 11 07 52.3
comp=Z,2µm,17.7s
NEW Newport 69.56 44 LR LR 11 01 10.8
comp=Z,4µm,21.9s,baz=298,slow=33
LKRN Lenkeran, Azer 69.60 304 P P **10 34 08.0 -0.2**
MNGR Mingechevir, A 69.60 306 P P **10 34 08.0 -0.2**
JMI Jan Mayen 69.62 350 *e*P P **10 34 08.8 +1.1**
JMI IVmB_BB 10 34 13.2
comp=Z,3µm,2.7s
JMI IVMs_BB IVMs_BB 11 07 55.8
comp=Z,2µm,14.3s
ARBE Arbavere 69.64 331 *e*P P **10 34 07.4 -0.7**
MEF Metsahovi 69.73 332 *e*P P **10 34 08.3 -0.3**
GOF Gofitskoye 69.77 312 *c i*P P **10 34 09.2 0.0**
YBH Yreka Blue Hor 69.83 53 LR LR 10 59 13.8
comp=Z,340nm,21.7s,baz=286,slow=31
VSU Vasula 69.97 329 *c i*P P **10 34 08.7 -1.4**
VSU pmax pmax
comp=Z,537nm,0.9s
VSU MLR MLR
comp=Z,18µm,18.0s
VSU Vasula 69.97 329 *e*P P **10 34 08.8 -1.3**
SUMG Summit 70.04 0 IAMs_20 IAMs_20 11 06 33.7
comp=Z,8µm,20.0s
SUMG Summit 70.04 0 *i* P P **10 34 10.0 -0.8**
SUMG IAmb IAmb 10 34 12.8
comp=Z,193nm,0.9s
GANJ Ganja 70.15 306 P P **10 34 11.3 -0.4**
RAF Rauma 70.15 333 *e*P P **10 34 10.6 -0.6**
BBOO Buckleboo 70.32 185 IAMs_20 IAMs_20 11 03 06.6
comp=Z,10µm,22.0s
BBOO Buckleboo 70.32 185 P P **10 34 12.7 +0.2**
comp=Z,0.0nmcomp=Z,271nm,2.2s
BBOO Buckleboo 70.32 185 P P **10 34 12.2 -0.3**
NUUG Nuugaatsiaq 70.57 5 *i* P P **10 34 13.0 -0.6**
NUUG IAmb IAmb 10 34 14.2
comp=Z,31nm,0.8s
KVAR Kislovodsk Arr 70.58 311 LR LR 11 07 46.6
comp=Z,8µm,18.4s,slow=38
MORW Morawa 70.59 204 P P **10 34 14.3 +0.1**
comp=Z,0.0nmcomp=Z,280nm,1.6s
MORW Morawa 70.59 204 P P **10 34 14.0 -0.2**
KBZ Khabaz 70.59 311 P P **10 34 14.3 +0.2**
comp=Z,398nm,0.9s,baz=63,slow=5.2,SNR=432
KBZ PKP2ab 11 02 09.4
comp=Z,4.1nm,1.1s,baz=252,slow=7.6,SNR=6.8
KBZ LR LR 11 10 09.1
comp=Z,16µm,18.1s,baz=45,slow=40
comp=Z,398nm,0.9s
KBZ Khabaz 70.59 311 *c i*P P **10 34 14.1 -0.1**
KBZ pmax pmax
comp=Z,437nm,0.9s
KBZ MLR MLR
comp=Z,17µm,18.0s
KIV Kislovodsk 70.59 311 P P **10 34 14.5 +0.2**
KIV Kislovodsk 70.59 311 *e*P P **10 34 14.4 +0.1**
KIV *e* 10 36 48.8
KIV *e*S S **10 43 25.0 -0.2**
KIV *e*SS SS **10 47 57.4 +1.0**
KIV pmax pmax
comp=Z,1µm,1.1s
KIV pmax pmax
comp=Z,796nm,4.7s
KIV MLR MLR
comp=Z,12µm,18.0s
KIV Kislovodsk 70.59 311 *i* P P **10 34 14.6 +0.2**
SNR=160
KIV Kislovodsk 70.59 311 P P **10 34 14.5 +0.2**
KIV S S **10 43 20.3 -4.9**
KIV Kislovodsk 70.59 311 P P **10 34 14.3 -0.1**
O02D Mt. Diablo Mer 70.63 54 IAMs_20 IAMs_20 11 00 34.4
comp=Z,10µm,22.0s
NSS Namsos 70.73 339⇑ *e*P P **10 34 14.2 -0.5**
NSS *e*S S **10 43 27.4 +1.6**
NSS IVMs_BB IVMs_BB 11 08 27.7
comp=Z,6µm,19.2s
SHA1 Shidzhatmaz 70.73 311 *c i*P P **10 34 15.2 -0.2**
KHAM Kharkiv 70.76 319 P P **10 34 14.6 -0.6**
HTT Hallett 70.80 182 P P **10 34 15.9 +0.5**
comp=Z,43nm,1.1s
HTT Hallett 70.80 182 P P **10 34 17.6 +2.2**
JLN Jalan Bani Buh 70.84 284 P P **10 34 16.1 0.0**
SNR=15
WSAR Wadi Sarin 70.84 285 LR LR 11 11 08.2
comp=Z,40nm,18.4s,baz=80,slow=41
ERBR Yeremizino-Bor 70.90 313 *e*P P **10 34 16.5 +0.4**
ERBR *e**PP **pP** **10 34 28.7 +0.6**
ERBR *e* 10 34 34.5
ERBR *e* 10 36 56.9
ERBR *e*PPP PPP 10 38 39.8
ERBR *e*S S **10 43 29.1 +0.6**
ERBR pmax pmax
comp=Z,1µm,0.8s
ERBR pmax pmax
comp=N,42nm,0.8s
ERBR pmax pmax
comp=E,49nm,0.8s
ERBR MLR MLR
comp=Z,22µm,18.0s
ERBR MLR MLR
comp=N,33µm,19.0s
ERBR MLR MLR
comp=E,22µm,15.0s
WBK Wadi Bani Khal 70.92 284 P P **10 34 17.1 +0.5**
SNR=12
WBK S S **10 43 29.3 -0.2**
TRLG Trialeti 71.07 308 P P **10 34 17.4 0.0**
BIDO Bidbid 71.07 285 P P **10 34 17.7 +0.2**
SNR=24
BIDO S S **10 43 29.1 -2.0**
HOPS Hopland Field 71.09 55 IAMs_20 IAMs_20 10 58 25.8
comp=Z,9µm,22.0s
KMBL Kambalda 71.12 198 P P **10 34 17.7 +0.3**
comp=Z,0.0nmcomp=Z,71nm,2.2s
BANOM Banah 71.14 288 P P **10 34 17.5 -0.4**
BANOM Banah 71.14 288 *i* P P **10 34 18.0 +0.1**
SNR=24
SHME Shamm 71.19 289 P P **10 34 18.1 0.0**
SNR=11
SHME S S **10 43 31.7 -0.7**
SHME Shamm 71.19 289 *i* P P **10 34 18.0 -0.1**
SNR=59
SMDO Samad 71.38 285 P P **10 34 19.5 +0.1**
SNR=32
GNI Garni 71.43 307 LR LR 11 08 27.0
comp=Z,16µm,18.6s,baz=60,slow=38
GNI Garni 71.43 307 P P **10 34 20.2 +0.6**
GNI S S **10 43 35.3 +0.1**
GNI Garni 71.43 307 *c i*P P **10 34 20.0 +0.4**
GNI pmax pmax
comp=Z,270nm,1.2s
GNI MLR MLR
comp=Z,17µm,19.0s
GNI Garni 71.43 307 P P **10 34 20.3 +0.7**
MDH Madha 71.48 288 P P **10 34 19.0 -0.9**
MDH S S **10 43 36.4 +0.5**
MDH Madha 71.48 288 *i* P P **10 34 18.9 -1.0**
SNR=7.5
SCO Scoresbysund 71.48 354 *i* P P **10 34 19.9 +0.8**
SCO IAmb IAmb 10 34 20.6
comp=Z,202nm,1.2s
UMMG Uummannaq 71.49 5 *i* P P **10 34 18.2 -1.0**
UMMG IAmb IAmb 10 34 19.9
comp=Z,50nm,0.8s
NAX Nakhchivan 71.49 305 P P **10 34 19.2 -0.7**
MASF Masafi 71.55 288 P P **10 34 20.4 0.0**
SNR=11
MASF S S **10 43 37.8 +1.1**
MSFE Esma-Masafi 71.55 288 *i* P P **10 34 20.4 0.0**
SNR=32
MNRC McLaughlin Min 71.57 55 IAMs_20 IAMs_20 10 58 53.0
comp=Z,10µm,22.0s
HOQ Hoqain 71.66 286 P P **10 34 20.9 -0.2**
SNR=27
HOQ S S **10 43 41.2 +3.3**
MCCM Marconi Confer 71.69 56 IAMs_20 IAMs_20 10 59 01.5
comp=Z,9µm,22.0s
JMDO Jabal Madar 71.72 284 P P **10 34 21.1 -0.3**
SNR=21
JMDO S S **10 43 38.4 -0.3**
UOSS Minazif 71.75 288 P P **10 34 21.3 -0.3**
UOSS IAmb IAmb 10 34 22.2
comp=Z,223nm,0.7s
UOSS Minazif 71.75 288 IAMs_20 IAMs_20 11 09 47.7
comp=Z,9µm,21.0s
UOSS Minazif 71.75 288 P P **10 34 21.0 -0.6**
UOSS S S **10 43 36.4 -2.6**
UOSS Minazif 71.75 288 *i* P P **10 34 20.8 -0.7**
SNR=40
UOSS Minazif 71.75 288 P P **10 34 20.9 -0.6**
UOSS S S **10 43 37.4 -1.5**
UOSS Minazif 71.75 288⇑ P P **10 34 21.2 -0.3**
UOSS PcP PcP **10 34 40.5 +0.1**
ORV Oroville 71.80 54 P P **10 34 21.9 +0.3**
ORV IAmb IAmb 10 34 40.2
comp=Z,369nm,1.6s
ORV Oroville 71.80 54 P P **10 34 21.9 +0.3**
ORV pmax pmax
comp=Z,369nm,1.6s
BLDU Ballidu 71.82 202 P P **10 34 21.7 +0.1**
comp=Z,0.0nmcomp=Z,197nm,1.8s
BLDU Ballidu 71.82 202 P P **10 34 21.3 -0.3**
UMQ Umm Al-Quwin 71.84 288 P P **10 34 22.9 +0.8**
SNR=8.5
UMQ S S **10 43 36.9 -3.0**
UMQ Umm Al-Quwin 71.84 288 *i* P P **10 34 22.7 +0.7**
SNR=7.2
CVS Carmenet Viney 71.85 55 IAMs_20 IAMs_20 10 58 56.6
comp=Z,11µm,22.0s
FARB Farallon Islan 71.86 56 IAMs_20 IAMs_20 10 59 15.8
comp=Z,6µm,21.0s
HATD Hatta, Dubai 71.87 288 P P **10 34 22.3 0.0**
SNR=25
HATD S S **10 43 38.2 -2.2**
HATD Hatta, Dubai 71.87 288 *i* P P **10 34 22.3 0.0**
SNR=73
YNG Young 71.90 174 P P **10 34 22.6 +0.7**
comp=Z,136nm,2.0s
SOHO SOHO 71.95 287 P P **10 34 22.0 -0.7**
SOHO S S **10 43 38.3 -2.9**
SOHO SOHO 71.95 287 *i* P P **10 34 22.5 -0.3**
SNR=58
WVOR Wild Horse Val 71.97 50 P P **10 34 23.0 +0.3**
WVOR IAmb IAmb 10 34 43.4
comp=Z,644nm,1.8s
WVOR Wild Horse Val 71.97 50 P P **10 34 23.0 +0.3**
WVOR pmax pmax
comp=Z,644nm,1.8s
ASHO Ashiyiah 72.00 288 P P **10 34 23.0 -0.1**
SNR=24
ASHO S S **10 43 37.9 -4.0**
ASHO Ashiyiah 72.00 288 *i* P P **10 34 23.0 -0.1**
SNR=18
PLID Pearl Lake 72.01 47 P P **10 34 22.7 -0.4**
PLID IAmb IAmb 10 34 43.1
comp=Z,396nm,1.6s
PLID IAMs_20 IAMs_20 11 00 29.9
comp=Z,9µm,22.0s
IDID Didziasalis 72.01 327 *e*P P **10 34 20.8 -1.7**
MNK Minsk 72.04 326 *i* P P **10 34 23.3 +0.6**
MNK *i* 10 34 41.2
MNK *i* 10 37 07.9
MNK *i* PPP PPP 10 38 53.3
MNK *i* S S **10 43 41.3 0.0**
MNK *i* SS SS **10 48 20.4 +2.6**
MNK pmax pmax
comp=N,239nm,1.0s
MNK pmax pmax
comp=Z,791nm,0.9s
MNK pmax pmax
comp=E,363nm,1.0s
MNK MLR MLR
comp=N,11µm,16.0s
MNK MLR MLR
comp=Z,13µm,16.0s
MNK MLR MLR
comp=E,16µm,17.0s
ISAL Salakas 72.11 327 *e*P P **10 34 22.8 -0.3**
RUSS Russell Ranch 72.13 55 IAMs_20 IAMs_20 10 58 45.9
comp=Z,7µm,22.0s
NAZ Nazwa, Dubai 72.13 288 P P **10 34 23.5 -0.3**
SNR=14
NAZ S S **10 43 41.4 -2.0**
NAZ Nazwa, Dubai 72.13 288 *i* P P **10 34 23.5 -0.3**
SNR=10
MSO Missoula 72.15 44 P P **10 34 23.3 -0.5**
SLIT Slitere, Latvi 72.29 330 *e*P P **10 34 23.0 -1.1**
FAQ Al Faqa, Dubai 72.32 288 P P **10 34 24.5 -0.4**
SNR=19
FAQ S S **10 43 43.5 -1.9**
FAQ Al Faqa, Dubai 72.32 288 *i* P P **10 34 24.5 -0.4**
SNR=9.1
ARQ Araqi 72.40 286 P P **10 34 25.5 0.0**
SNR=38
ARQ S S **10 43 40.5 -5.9**
KLBR Kellerberrin 72.43 201 P P **10 34 25.4 +0.2**
UPP Uppsala 72.44 334 *e*P P **10 34 24.0 -1.0**
VSLR Vesyoloye 72.45 312 *c i*P P **10 34 25.3 -0.2**
VSLR pmax pmax
comp=Z,599nm,1.1s
VSLR MLR MLR
comp=Z,14µm,19.0s
AFDM Forest Hills D 72.48 54 P P **10 34 25.6 -0.1**
AFDM IAmb IAmb 10 34 46.0
comp=Z,422nm,1.8s
NIUE Niue 72.56 132 P P **10 34 28.2 +1.9**
SOC Sochi 72.57 312 *e*P P **10 34 24.0 -2.1**
SOC *e*PPP PPP 10 38 48.1
SOC *e*S S **10 43 44.7 -3.1**
SOC *e*SSS SSS 10 51 41.1
SOC pmax pmax
comp=Z,235nm,0.7s
SOC MLR MLR
comp=Z,12µm,20.0s
ALNE Al Ain 72.58 287 P P **10 34 26.6 0.0**
SNR=41
ALNE S S **10 43 47.2 -1.3**
ALNE Al Ain 72.58 287 *i* P P **10 34 26.3 -0.3**
SNR=18
ASUD Al Ashush, Dub 72.59 288 P P **10 34 26.4 -0.2**
SNR=30
ASUD S S **10 43 45.1 -3.4**
ASUD Al Ashush, Dub 72.59 288 *i* P P **10 34 26.2 -0.3**
SNR=80
MHTO MHTO 72.60 283 P P **10 34 26.5 -0.2**
SNR=57
MHTO S S **10 43 47.5 -1.3**
VSVD Vaisvydziai 72.76 329 *e*P P **10 34 26.2 -0.8**
KAAM Kaadhehdhoo 72.86 257 P P **10 34 27.4 -0.8**
KAAM IAmb IAmb 10 34 33.4
comp=Z,400nm,1.1s
KAAM IAMs_20 IAMs_20 11 06 23.5
comp=Z,9µm,22.0s
KAAM Kaadhehdhoo 72.86 257 P P **10 34 28.7 +0.4**
AJN Ajban 72.88 288 P P **10 34 27.5 -0.7**
SNR=27
AJN S S **10 43 47.4 -4.5**
AJN Ajban 72.88 288 *i* P P **10 34 27.5 -0.7**
SNR=16
WELL Weller Preserv 72.93 55 IAMs_20 IAMs_20 10 59 49.0
comp=Z,8µm,21.0s
CAN Canberra 72.96 174 P P **10 34 28.6 +0.2**
CAN IAmb IAmb 10 34 48.4
comp=Z,488nm,1.6s
CAN IAMs_20 IAMs_20 11 06 43.6
comp=Z,7µm,21.0s
CAN Canberra 72.96 174 P P **10 34 29.0 +0.6**
comp=Z,0.0nmcomp=Z,180nm,2.6s
CAN Canberra 72.96 174 P P **10 34 30.5 +2.1**
CAN Canberra 72.96 174 P P **10 34 28.6 +0.2**
CAN pmax pmax
comp=Z,488nm,1.6s
CAN MLR MLR
comp=Z,7µm,21.0s
LYMT Lyon Mountain 72.98 43 P P **10 34 28.7 -0.1**
CNB Canberra Magne 72.99 173 P P **10 34 30.6 +2.1**
ILULI Ilulissat 73.00 5 P P **10 34 27.5 -0.7**
ILULI IAMs_20 IAMs_20 11 09 21.2
comp=Z,8µm,20.0s
ILULI Ilulissat 73.00 5 P P **10 34 27.5 -0.7**
ILULI pmax pmax
comp=Z,150nm,1.0s
ILULI MLR MLR
comp=Z,8µm,20.0s
ILULI Ilulissat 73.00 5 *i* P P **10 34 27.3 -1.0**
ILULI IAmb IAmb 10 34 28.5
comp=Z,64nm,0.9s
PAHR Pah Rah Range 73.06 53 P P **10 34 29.6 +0.3**
PABE Paberze 73.06 328 P P **10 34 28.5 -0.3**
PABE Paberze 73.06 328 *e*P P **10 34 28.9 +0.1**
MTOS Mt Oso, Westle 73.06 56 IAMs_20 IAMs_20 10 59 54.7
comp=Z,8µm,22.0s
FFC Flin Flon 73.08 33 P P **10 34 28.6 -0.3**
FFC IAmb IAmb 10 34 46.5
comp=Z,256nm,1.1s
FFC Flin Flon 73.08 33 P P **10 34 28.7 -0.3**
FFC pmax pmax
comp=Z,256nm,1.1s
MFID Camas Ranch 73.08 48 P P **10 34 29.8 +0.4**
MFID IAmb IAmb 10 34 50.0
comp=Z,744nm,1.9s
ANN Anapa 73.18 314 *e*P P **10 34 28.8 -0.9**
ANN *e**PP **pP** **10 34 40.7 -1.1**
ANN *e* 10 34 45.7
ANN *e*PPP PPP 10 39 04.5
ANN *e*S S **10 43 54.2 -0.5**
ANN pmax pmax
comp=N,67nm,1.1s
ANN pmax pmax
comp=E,149nm,1.0s
ANN pmax pmax
comp=Z,290nm,0.7s
ANN MLR MLR
comp=N,22µm,19.0s
ANN MLR MLR
comp=Z,15µm,18.0s
ANN MLR MLR
comp=E,12µm,17.0s
MUN Mundaring 73.24 202 P P **10 34 30.0 0.0**
comp=Z,0.0nmcomp=Z,155nm,1.3s
MUN Mundaring 73.24 202 P P **10 34 30.5 +0.5**
CMB Columbia Colle 73.38 55 IAMs_20 IAMs_20 10 59 59.1
comp=Z,11µm,22.0s
MOL Molde 73.50 340⇑ *i* P P **10 34 31.4 +0.2**
MOL IVmB_BB 10 34 36.0
comp=Z,4µm,2.9s
MOL *i* 10 39 03.6
MOL *e*S **SKiKP** **10 43 58.7 +0.6**
MOL IVMs_BB IVMs_BB 11 10 04.6
comp=Z,6µm,17.3s
DQM DQM 73.53 283 P P **10 34 31.5 -0.7**
SNR=8.3
PBUR Paburge 73.54 329 *e*P P **10 34 31.1 -0.5**
HFS Hagfors 73.56 336 P P **10 34 31.2 -0.5**
comp=Z,398nm,0.9s,baz=56,slow=5.6,SNR=426
HFS LR LR 11 09 39.5
comp=Z,46µm,19.7s,baz=37,slow=38
comp=Z,398nm,0.9s
NB2 NORSAR Subarra 73.64 337 P P **10 34 31.8 -0.4**
comp=Z,454nm,0.9s,baz=38,slow=5.9
NB2 NORSAR Subarra 73.64 337 P P **10 34 31.8 -0.4**
baz=38,slow=5.9
NOA NORSAR Array B 73.64 337 P P **10 34 31.9 -0.3**
comp=Z,303nm,0.8s,baz=39,slow=5.8,SNR=1026
NOA PP PP **10 37 17.9 +1.8**
comp=Z,17nm,0.9s,baz=48,slow=8.5,SNR=3.4
NOA LR LR 11 09 32.2
comp=Z,29µm,21.3s,baz=35,slow=38
comp=Z,303nm,0.8s
NOA NORSAR Array B 73.64 337 P P **10 34 32.0 -0.3**
BUCR Buckhorn Ranch 73.73 55 IAMs_20 IAMs_20 10 59 44.4
comp=Z,8µm,22.0s
NC602 NORSAR Array S 73.78 337⇑ *i* P P **10 34 32.4 -0.6**
NC602 IVmB_BB 10 34 36.6
comp=Z,4µm,3.2s
NC602 IVMs_BB IVMs_BB 11 10 05.1
comp=Z,11µm,18.7s
UMZA Um Al Zommool 73.78 286 P P **10 34 32.9 -0.7**
UMZA S **SKiKP** **10 43 59.7 +0.1**
NWAO Narrogin (SRO) 73.83 201 LR LR 11 07 19.5
comp=Z,3µm,20.1s,baz=18,slow=36
NWAO Narrogin (SRO) 73.83 201 P P **10 34 33.6 +0.1**
NWAO S S **10 44 01.6 -0.3**
NWAO Narrogin (SRO) 73.83 201 P P **10 34 33.6 +0.1**
AK03 Malin Array Si 73.86 322 P P **10 34 33.0 -0.6**
AKASG Malin Array Be 73.87 322 P P **10 34 33.1 -0.5**
comp=Z,240nm,0.6s,baz=47,slow=6.1,SNR=1393
AKASG PKPPKP **P'P'df** **11 02 05.1 -7.4**
comp=Z,0.4nm,0.4s,baz=255,slow=1.8,SNR=5.4
AKASG LR LR 11 11 10.8
comp=Z,15µm,18.4s,baz=50,slow=39
comp=Z,240nm,0.6s
AKASG Malin Array Be 73.87 322 *i* P P **10 34 33.2 -0.5**
AKASG pmax pmax
comp=Z,245nm,0.6s
AKBB Malin Array Si 73.87 322 *c i*P P **10 34 33.0 -0.7**
AK23 Malin Array Si 73.88 322 P P **10 34 33.5 -0.2**
KIEV Kiev 73.88 322 *i* P P **10 34 33.2 -0.5**
SNR=28
AK21 Malin Array Si 73.91 322 P P **10 34 33.7 -0.2**
AK10 Malin Array Si 73.92 322 P P **10 34 33.7 -0.3**
MZWR Madinat Zayed 74.16 288 P P **10 34 34.8 -1.1**
MZWR S S **10 44 05.1 -1.3**
KOPT Kop Dagi 74.18 308 IAMs_20 IAMs_20 11 09 49.6
comp=Z,12µm,20.0s
JRN Qarnain Island 74.27 289 P P **10 34 35.2 -1.2**
SNR=15
JRN S S **10 44 04.7 -2.9**
SOEG Soedalen 74.30 357 *i* P P **10 34 35.3 -0.5**
SOEG IAmb IAmb 10 34 36.9
comp=Z,90nm,0.9s
SUW Suwalki 74.42 327 *e*P P **10 34 36.0 -0.8**
SUW *e*S S **10 44 07.2 -1.0**
SUW *e*L L 11 10 17.3
comp=Z,28µm,18.9s
SUW Suwalki 74.42 327 *e*P P **10 34 36.0 -0.8**
RAMR Ramage Ranch 74.43 57 IAMs_20 IAMs_20 10 59 14.1
comp=Z,10µm,22.0s
MI28 Mi28,Pidlybu 74.47 323 P P **10 34 36.9 -0.3**
NVAR Mina Array Bea 74.48 53 P P **10 34 38.8 +1.0**
comp=Z,21nm,0.8s,baz=288,slow=6.0,SNR=156
NVAR LR LR 11 02 24.8
comp=Z,4µm,20.8s,baz=288,slow=32
comp=Z,21nm,0.8s
OSL Oslo 74.66 337 *e*P P **10 34 38.2 +0.1**
OSL IVmB_BB 10 34 38.6
comp=Z,5µm,1.3s
OSL *e*S S **10 44 12.4 +1.7**
OSL IVMs_BB IVMs_BB 11 10 31.9
comp=Z,12µm,17.2s
QLMT Earthquake Lak 74.76 45 P P **10 34 39.4 +0.2**
SKAR Skarslia 74.80 338⇑ *i* P P **10 34 39.3 +0.3**
SKAR IVmB_BB 10 34 44.0
comp=Z,4µm,1.8s
SKAR *e*S S **10 44 13.5 +1.0**
SKAR IVMs_BB IVMs_BB 11 10 08.0
comp=Z,15µm,21.0s
GHWR Ruwais 74.81 289 P P **10 34 38.3 -1.2**
GHWR S S **10 44 11.5 -2.0**
MZR Muzera 74.90 287 P P **10 34 39.5 -0.6**
SNR=41
MZR S S **10 44 10.5 -4.2**

MZR Muzera 74.90 287 *i* P **P** 10 34 39.5 -0.6
SNR=78
SIM Simferopol' 74.97 315 *e*P **P** 10 34 39.9 -0.3
SIM *e*S **S** 10 44 15.0 +0.3
SIM pmax pmax
comp=Z,716nm,0.9s
SIM MLR MLR
comp=Z,16µm,18.5s
TOO Toolangi 74.97 177 P **P** 10 34 40.9 +0.9
TOO Toolangi 74.97 177 P **P** 10 34 41.1 +1.1
comp=Z,0.0nmcomp=Z,56nm,2.2s
TOO Toolangi 74.97 177 P **P** 10 34 40.9 +0.9
TOO pmax pmax
comp=Z,174nm,1.8s
FOO Floro 74.97 340⇑ *i*P **P** 10 34 39.8 0.0
FOO IVmB_BB 10 34 44.6
comp=Z,3µm,1.9s
FOO *e*S **S** 10 44 15.7 +1.6
FOO IVMs_BB IVMs_BB 11 11 01.6
comp=Z,5µm,16.6s
RNPP9 Sopachiv 74.98 324 P **P** 10 34 40.0 -0.1
HYA Hoyanger 75.02 339⇑ *i*P **P** 10 34 40.2 +0.1
HYA IVmB_BB 10 34 44.8
comp=Z,3µm,2.0s
HYA *e*S **S** 10 44 14.4 -0.2
HYA *e*SKSac **SKSac** 10 44 45.4 -0.1
HYA IVMs_BB IVMs_BB 11 10 59.4
comp=Z,7µm,16.5s
ELK Elko 75.02 50 LR LR 11 01 52.9
comp=Z,5µm,21.7s,baz=308,slow=31
RNPP2 Kostyukhnivka 75.04 324 P **P** 10 34 40.4 -0.1
RNPP8 Varash 75.05 324 P **P** 10 34 40.4 -0.1
LUBAR Lubar, Ukraine 75.09 322 P **P** 10 34 40.4 -0.4
YHH Holmes Hill 75.11 45 P **P** 10 34 41.7 +0.3
RNPP5 Staryi Chortor 75.11 324 P **P** 10 34 40.7 -0.2
SHMA Al-Shehemyia 75.16 291 P **P** 10 34 40.7 -0.9
SNR=19
SHMA S **S** 10 44 13.0 -4.4
SFJD Kangerlussuaq 75.23 5 P **P** 10 34 40.8 -0.4
SFJD Kangerlussuaq 75.23 5 IAMs_20 IAMs_20 11 08 12.0
comp=Z,8µm,22.0s
SFJD Kangerlussuaq 75.23 5 LR LR 11 08 22.8
comp=Z,7µm,21.9s,baz=353,slow=36
SFJD Kangerlussuaq 75.23 5 P **P** 10 34 40.8 -0.4
SFJD pmax pmax
comp=Z,105nm,0.9s
SFJD MLR MLR
comp=Z,8µm,22.0s
SFJD Kangerlussuaq 75.23 5 *i* P **P** 10 34 40.0 -1.2
SFJD IAmb IAmb 10 34 41.6
comp=Z,79nm,0.8s
SFJD Kangerlussuaq 75.23 5 P **P** 10 34 41.0 -0.3
SFJD S **S** 10 44 17.4 +0.6
YNM Yellowstone No 75.23 45 P **P** 10 34 42.8 +0.8
KONO Kongsberg 75.24 337 P **P** 10 34 40.8 -0.6
KONO IAmb IAmb 10 34 42.4
comp=Z,182nm,0.8s
KONO Kongsberg 75.24 337 *c* *i*P **P** 10 34 41.0 -0.4
KONO pmax pmax
comp=Z,173nm,0.9s
KONO MLR MLR
comp=Z,23µm,18.0s
KONO Kongsberg 75.24 337⇑ *i*P **P** 10 34 41.4 -0.1
KONO IVmB_BB 10 34 45.8
comp=Z,3µm,3.3s
KONO *e*S **S** 10 44 19.2 +2.0
KONO *e*SKSac **SKKSac** 10 44 47.6 0.0
KONO IVMs_BB IVMs_BB 11 10 58.6
comp=Z,9µm,18.0s
SAKB Bahrain 75.40 292 P **P** 10 34 42.0 -1.0
SAKB S **S** 10 44 19.2 -0.9
YNE Yellowstone No 75.44 44 P **P** 10 34 43.3 +0.1
BAL3X Bal3x, Balta 75.48 320 P **P** 10 34 42.5 -0.5
SUE Sulen 75.50 340⇑ *i*P **P** 10 34 43.1 +0.2
SUE IVmB_BB 10 34 47.7
comp=Z,4µm,2.5s
SUE *e*S **S** 10 44 20.1 +0.1
SUE IVMs_BB IVMs_BB 11 11 15.6
comp=Z,5µm,17.9s
TRNA Turayna 75.61 290 P **P** 10 34 42.9 -1.3
SNR=20
TRNA S **S** 10 44 19.3 -3.1
KBD Kabd 75.64 296 P **P** 10 34 43.2 -1.1
KBD S **S** 10 44 19.4 -3.3
ASK Askoy 75.86 339⇑ *i*P **P** 10 34 45.2 +0.3
ASK IVmB_BB 10 34 49.8
comp=Z,4µm,2.1s
ASK *e*S **S** 10 44 24.8 +0.8
ASK IVMs_BB IVMs_BB 11 11 23.9
comp=Z,10µm,18.8s
TPAW Teton Pass 75.86 46 IAMs_20 IAMs_20 11 02 57.8
comp=Z,6µm,22.0s
SMRA Abu-Samra 75.89 290 P **P** 10 34 44.6 -1.2
SNR=28
SMRA S **S** 10 44 21.0 -4.6
BER Bergen 75.90 339⇑ *i*P **P** 10 34 45.5 +0.4
BER IVmB_BB 10 34 49.9
comp=Z,3µm,2.3s
BER *e*S **S** 10 44 24.6 +0.1
BER IVMs_BB IVMs_BB 11 11 15.7
comp=Z,9µm,19.2s
ODD1 Odda 75.92 338⇑ *e*P **P** 10 34 45.7 +0.3
ODD1 IVmB_BB 10 34 50.1
comp=Z,3µm,1.9s
ODD1 *e*S **S** 10 44 25.2 +0.4
ODD1 IVMs_BB IVMs_BB 11 10 52.9
comp=Z,15µm,20.8s
SORM Soroca 75.98 321 P **P** 10 34 45.3 -0.6
SNOW Snow King Moun 75.99 46 IAMs_20 IAMs_20 11 03 15.4
comp=Z,6µm,22.0s
SHAO Shalim 76.10 282 *i* P **P** 10 34 47.1 0.0
SNR=8.0
AHID Auburn Hatcher 76.23 46 IAMs_20 IAMs_20 11 02 10.7
comp=Z,6µm,21.0s
DGMT Dagmar 76.24 39 IAMs_20 IAMs_20 11 05 29.1
comp=Z,6µm,21.0s
PURM Purcari 76.25 319⇑ P **P** 10 34 47.1 -0.4
PURM Purcari 76.25 319 P **P** 10 34 46.9 -0.6
comp=Z,8µmcomp=Z,904nm,0.9s
BLS5 Blasjo 76.37 338⇑ *i*P **P** 10 34 48.3 +0.4
BLS5 IVmB_BB 10 34 52.5
comp=Z,3µm,2.4s
BLS5 *e*S **S** 10 44 32.0 +2.2
BLS5 IVMs_BB IVMs_BB 11 11 05.4
comp=Z,18µm,21.7s
LAO LASA Array 76.39 41 IAMs_20 IAMs_20 11 06 57.1
comp=Z,6µm,21.0s
TOKA Tokat 76.46 311 P **P** 10 34 49.0 +0.2
TOKA IAmb IAmb 10 34 50.6
comp=Z,488nm,1.4s
TOKA IAMs_20 IAMs_20 11 13 22.7
comp=Z,9µm,20.0s
OSI Osito Audit: C 76.46 57 P **P** 10 34 49.2 +0.2
OSI IAmb IAmb 10 35 07.5
comp=Z,200nm,1.0s
KIS Kishinev 76.49 320⇑ *i*P **P** 10 34 48.0 -0.8
comp=Z,370nm,1.0s
KIS *i* S **S** 10 44 31.0 -0.5
KIS Kishinev 76.49 320⇑ P **P** 10 34 48.5 -0.3
KIS Kishinev 76.49 320 *c* *i*P **P** 10 34 48.0 -0.8
KIS *e*S **S** 10 44 31.0 -0.5
KIS *e*PS **PnS** 10 45 25.0 +12
KIS pmax pmax
comp=Z,400nm,1.0s
KIS MLR MLR
comp=Z,14µm,16.0s
MILM Milestii Mici 76.55 319⇑ *i*P **P** 10 34 47.9 -1.2
comp=Z,670nm,1.1s
MILM *i* S **S** 10 44 32.0 -0.1
MILM Milestii Mici 76.55 319 *c* *i*P **P** 10 34 48.0 -1.2
MILM *i* S **S** 10 44 32.0 -0.1
MILM *e*PS **PnS** 10 45 24.0 +10
MILM pmax pmax
comp=Z,670nm,1.1s
MILM MLR MLR
comp=Z,46µm,17.0s
R9F13 Warsaw-Wawer 76.55 327 *i* P **P** 10 34 49.1 0.0
comp=Z,5.4nm,1.5s
R9F13 *e*PP **PP** 10 37 44.4 +3.6
R9F13 *e*SS **sS** 10 44 57.1 +5.0
S11A Rachel 76.57 53 P **P** 10 34 49.9 +0.3
RAO Raoul Island 76.62 144 LR LR 11 01 35.0
comp=Z,8µm,21.6s,baz=3.0,slow=30
TPO Tropico Hills 76.63 56 P **P** 10 34 50.8 +0.9
SPR3 Spring Creek 3 76.63 51 P **P** 10 34 50.7 +0.5
SPR3 IAmb IAmb 10 35 09.4
comp=Z,298nm,1.4s
TPNV Topopah Spring 76.67 54 P **P** 10 34 51.6 +1.3
TPNV IAmb IAmb 10 35 10.7
comp=Z,392nm,1.1s
TPNV IAMs_20 IAMs_20 11 02 13.3
comp=Z,10µm,22.0s
TPNV Topopah Spring 76.67 54 P **P** 10 34 51.6 +1.3
TPNV pmax pmax
comp=Z,392nm,1.1s
HOMB Homborsund 76.68 337⇑ *i*P **P** 10 34 49.5 -0.1
HOMB IVmB_BB 10 34 53.6
comp=Z,3µm,2.9s
HOMB *e*PP **PP** 10 37 36.2 -5.5
HOMB *e*S **S** 10 44 32.9 -0.2
HOMB IVMs_BB IVMs_BB 11 11 33.2
comp=Z,13µm,18.2s
HWUT Hardware Ranch 76.68 48 P **P** 10 34 50.8 +0.5
HWUT IAmb IAmb 10 35 09.9
comp=Z,672nm,1.5s
DMTO DMTO 76.80 282 P **P** 10 34 50.0 -1.0
GWY Greenwater Val 76.86 54 P **P** 10 34 50.2 -1.1
OVD Ostervraa, Den 76.89 335 *i* P **P** 10 34 50.8 -0.1
OVD IAmb IAmb 10 34 52.1
comp=Z,396nm,0.9s
KMY Karmoy 76.89 339⇑ *i*P **P** 10 34 51.2 +0.4
KMY IVmB_BB 10 34 55.9
comp=Z,3µm,3.1s
KMY *i* 10 39 35.6
KMY *e*S **S** 10 44 37.9 +2.5
KMY IVMs_BB IVMs_BB 11 11 33.2
comp=Z,11µm,20.8s
BZK Bozkurt 76.90 313 P **P** 10 34 50.7 -0.5
BZK IAMs_20 IAMs_20 11 12 22.3
comp=Z,8µm,22.0s
BZK Bozkurt 76.90 313⇑ P **P** 10 34 51.6 +0.4
DOK Doka 76.91 283 P **P** 10 34 50.1 -1.5
SNR=7.3
LVV L'vov 76.94 324 P **P** 10 34 51.5 +0.2
BSD Bornholm Skovb 76.94 332 *e*P **P** 10 34 50.5 -0.7
BSD Bornholm Skovb 76.94 332 *i* P **P** 10 34 50.4 -0.7
BSD IAmb IAmb 10 34 51.7
comp=Z,472nm,1.0s
BEL Belsk 76.98 327 *e*P **P** 10 34 51.7 +0.3
BEL *e*S **S** 10 44 39.7 +3.1
BEL *e*L L 11 11 38.6
comp=Z,497µm,17.1s
IASR Iasi 77.01 320⇑ P **P** 10 34 51.7 -0.1
BORG Borgarnes 77.02 353 P **P** 10 34 52.8 +1.4
BORG Borgarnes 77.02 353 LR LR 11 09 57.2
comp=Z,4µm,20.7s,baz=16,slow=36
BORG Borgarnes 77.02 353 P **P** 10 34 52.8 +1.4
BORG pmax pmax
comp=Z,140nm,0.8s
BORG MLR MLR
comp=Z,5µm,21.0s
ANGG Ammassalik, Gr 77.03 360 P **P** 10 34 51.1 -0.4
ANGG IAMs_20 IAMs_20 11 10 35.5
comp=Z,9µm,21.0s
ANGG Ammassalik, Gr 77.03 360 *i* P **P** 10 34 50.4 -1.1
ANGG IAmb IAmb 10 34 52.3
comp=Z,92nm,0.9s
SNART Snartemo 77.03 337⇑ *i*P **P** 10 34 51.8 +0.2
SNART IVmB_BB 10 34 56.0
comp=Z,7µm,3.5s
SNART *e*PP **PP** 10 37 45.8 +1.2
SNART *e*S **S** 10 44 39.6 +2.7
SNART IVMs_BB IVMs_BB 11 12 04.5
comp=Z,18µm,17.7s
PASC Pasadena Art C 77.08 57 P **P** 10 34 52.5 +0.1
PASC IAmb IAmb 10 35 10.5
comp=Z,285nm,1.4s
ISOG Isortoq, Green 77.10 0 *i* P **P** 10 34 50.8 -1.1
ISOG IAmb IAmb 10 34 52.5
comp=Z,162nm,1.1s
BW06 Boulder Array 77.11 46 IAMs_20 IAMs_20 11 07 32.3
comp=Z,7µm,21.0s
PD31 Pinedale Array 77.11 46 P **P** 10 34 52.7 0.0
PDAR Pinedale Array 77.11 46 P **P** 10 34 53.0 +0.3
comp=Z,24nm,0.8s,baz=278,slow=2.4,SNR=187
PDAR PKKPbc **PKKPbc** 10 53 58.1 -0.4
comp=Z,1.3nm,0.8s,baz=120,slow=3.2,SNR=9.5
PDAR PKPPKP **P'P'df** 11 01 59.5 -7.3
comp=Z,0.3nm,0.7s,baz=116,slow=3.4,SNR=4.9
PDAR LR LR 11 05 15.6
comp=Z,4µm,21.9s,baz=312,slow=33
comp=Z,24nm,0.8s
VASR Vaslui 77.26 320⇑ P **P** 10 34 53.5 +0.3
SOFL Sornfelli, Far 77.39 345⇑ *e*P **P** 10 34 54.1 +0.4
SOFL IAmb IAmb 10 34 55.4
comp=Z,398nm,1.1s
SOFL IAMs_20 IAMs_20 11 12 04.5
comp=Z,12µm,20.5s
COP Copenhagen 77.41 333 *i* P **P** 10 34 53.4 -0.4
COP IAmb IAmb 10 34 54.8
comp=Z,1µm,0.9s
GKP Gorka Klasztor 77.42 329 *e*P **P** 10 34 53.7 -0.2
GKP *e*S **S** 10 44 45.9 +4.5
GKP *e*L L 11 11 11.3
comp=Z,25µm,21.5s
GKP Gorka Klasztor 77.42 329 *e*P **P** 10 34 53.4 -0.5
MORS Morshin 77.48 323 P **P** 10 34 55.1 +0.8
RBK Rabkut 77.50 282 P **P** 10 34 53.8 -1.2
PRAR RASCA 77.56 321⇑ P **P** 10 34 55.3 +0.4
BIR Birlad 77.59 320⇑ P **P** 10 34 55.8 +0.8
BIR Birlad 77.59 320 P **P** 10 34 56.4 +1.4
WHFO Wadi Hawf 77.59 283 P **P** 10 34 53.6 -1.9
VLDR Vladesti 77.64 319⇑ P **P** 10 34 55.8 +0.5
KWP Kalwaria Pacla 77.69 324 *e*P **P** 10 34 55.9 +0.4
KWP *e*S **S** 10 44 44.0 -0.4
KWP *e*L L 11 11 48.7
comp=Z,19µm,19.3s
TLCR 77.69 318⇑ P **P** 10 34 56.1 +0.5
TLCR 77.69 318 P **P** 10 34 56.0 +0.5
VARL Varlezi 77.72 319⇑ P **P** 10 34 56.3 +0.5
SCTR Scanteiesti 77.80 319⇑ P **P** 10 34 57.4 +1.2
GIUM Giurgiulesti 77.81 319⇑ P **P** 10 34 57.1 +0.9
TATR Tatarca 77.82 319⇑ P **P** 10 34 56.5 +0.2
LRW Lerwick 77.83 342 *e*P **P** 10 34 56.2 +0.2
LRW IAmb IAmb 10 34 57.4
comp=Z,79nm,0.8s
LRW IAMs_20 IAMs_20 11 12 52.0
comp=Z,12µm,20.9s
GHRR 77.84 319⇑ P **P** 10 34 57.3 +0.8
BUR08 Bucovina Ar. S 77.88 322 P **P** 10 34 56.6 -0.2
BUR08 IAmb IAmb 10 34 58.2
comp=Z,266nm,0.9s
BURAR Bucovina Array 77.89 322 P **P** 10 34 56.4 -0.4
BURAR IAmb IAmb 10 34 58.4
comp=Z,250nm,0.9s
BURAR Bucovina Array 77.89 322⇑ P **P** 10 34 57.1 +0.3
BURAR Bucovina Array 77.89 322 P **P** 10 34 57.1 +0.3
ELS Elsinore Mount 77.90 57 P **P** 10 34 57.0 -0.1
ELS IAmb IAmb 10 35 15.2
comp=Z,336nm,1.4s
MUD Monsted U'grnd 77.93 335 *i* P **P** 10 34 56.5 -0.2
MUD IAmb IAmb 10 34 57.8
comp=Z,285nm,1.0s
NUUK Nuuk 77.93 6 *i* P **P** 10 34 56.1 -0.4
NUUK IAmb IAmb 10 35 00.4
comp=Z,278nm,0.9s
TESR Tescani 77.93 320⇑ P **P** 10 34 57.0 +0.1
NEGRR Negrea 77.95 319⇑ P **P** 10 34 57.2 +0.2
RGN Rugen 77.97 332 P **P** 10 34 57.3 +0.4
SCHL Schela 78.00 319⇑ P **P** 10 34 57.8 +0.5
IZVR Izvoarele 78.00 319⇑ P **P** 10 34 57.8 +0.5
SCHLR Schela 78.02 319⇓ P **P** 10 34 57.7 +0.3
TUDR 78.02 319⇑ P **P** 10 34 57.7 +0.3
COSR Cosmesti PH 78.03 319⇑ P **P** 10 34 58.4 +1.0
CFR Carcaliu 78.06 318⇑ P **P** 10 34 57.5 -0.1
CFR Carcaliu 78.06 318 P **P** 10 34 57.5 -0.1
PANC Panciu 78.11 319⇑ P **P** 10 34 59.0 +1.1
TPGR Topolog 78.12 318⇑ P **P** 10 34 58.3 +0.3
ONER Baraj Valea Uz 78.18 320⇑ P **P** 10 34 59.0 +0.6
ODBI Odobesti 78.23 319⇑ P **P** 10 35 00.1 +1.6
ABTO Aybut 78.29 283 P **P** 10 34 58.3 -1.1
SNR=9.7
VRI Vrincioaia 78.33 320⇑ P **P** 10 34 59.6 +0.5
VRI Vrincioaia 78.33 320 P **P** 10 34 59.6 +0.5
DGAR Diego Garcia 78.34 251 IAMs_20 IAMs_20 11 07 33.9
comp=Z,8µm,21.0s
PLOR Plostina 78.38 320⇑ P **P** 10 34 59.8 +0.3
PLOR Plostina 78.38 320 P **P** 10 34 59.8 +0.3
KOLS Kolonicke sedl 78.38 324 *e*P **P** 10 34 59.5 +0.1
KOLS pmax pmax
comp=Z,196nm,0.9s
KOLS Kolonicke sedl 78.38 324 *e*P **P** 10 34 59.5 +0.1
OUZ Omahuta 78.38 154 P **P** 10 35 02.2 +2.9
TIRR Tirgusor 78.39 318⇑ P **P** 10 34 59.5 +0.1
TIRR Tirgusor 78.39 318 P **P** 10 34 59.5 +0.1
TSCT Constanta Port 78.46 317⇑ P **P** 10 35 00.2 +0.4
HARR Harsova 78.49 318⇑ P **P** 10 35 00.3 +0.2
HARR Harsova 78.49 318 P **P** 10 35 00.2 +0.2
STHS Stebnicka Huta 78.51 325 *e*P **P** 10 34 59.7 -0.4
STHS pmax pmax
comp=Z,187nm,1.1s
STHS Stebnicka Huta 78.51 325 *e*P **P** 10 34 59.7 -0.4
GLAD Gladstone 78.51 175 P **P** 10 35 02.2 +2.3
EFOR EFORIE 78.53 317⇑ P **P** 10 35 00.5 +0.3
GRER 78.53 319⇑ P **P** 10 35 01.6 +1.4
TLBR Topalu 78.53 318⇑ P **P** 10 35 00.4 +0.2
BR131 Keskin Array S 78.53 312 *c* *i*P **P** 10 35 00.2 -0.3
BRTR Keskin Array B 78.53 312 P **P** 10 35 00.4 -0.2
comp=Z,143nm,1.1s,baz=88,slow=4.0,SNR=208
BRTR LR LR 11 14 19.7
comp=Z,8µm,18.0s,baz=54,slow=39
comp=Z,143nm,1.1s
BRTR Keskin Array B 78.53 312 *i* P **P** 10 35 00.4 -0.2
BRTR pmax pmax
comp=Z,146nm,1.1s
BISRR Bisoca 78.55 319⇑ P **P** 10 35 01.6 +1.1
SSRD Sdr. Stenderup 78.55 334 *i* P **P** 10 34 59.8 -0.3
SSRD IAmb IAmb 10 35 01.5
comp=Z,798nm,0.9s
PFO Pinyon Flats O 78.56 56 P **P** 10 35 01.7 +0.9
PFO IAmb IAmb 10 35 19.0
comp=Z,429nm,1.5s
PFO Pinyon Flats O 78.56 56 LR LR 11 03 00.1
comp=Z,13µm,21.8s,baz=293,slow=30
PFO Pinyon Flats O 78.56 56 P **P** 10 35 01.7 +0.9
PFO pmax pmax
comp=Z,429nm,1.5s
TURR Turia 78.56 320⇑ P **P** 10 35 01.6 +1.2
CPE Camp Elliot 78.57 57 IAMs_20 IAMs_20 11 02 17.6
comp=Z,9µm,21.0s
MFTR Murfatlar 78.57 318⇑ P **P** 10 35 00.7 +0.2
OJC Ojcow 78.58 326 *e*P **P** 10 35 00.6 +0.1
OJC *e*S **S** 10 44 52.2 -1.8
OJC *e*L L 11 12 31.1
comp=Z,26µm,19.2s
OJC Ojcow 78.58 326 P **P** 10 35 00.8 +0.3
OJC pmax pmax
comp=Z,555nm,1.1s
OZUR 78.65 320⇑ P **P** 10 35 02.0 +1.1
TRSU Trosnyk 78.65 323 P **P** 10 35 01.6 +0.8
CVDA Cernavoda 78.67 318⇑ P **P** 10 35 01.5 +0.4
ARCR ARCALIA 78.68 322⇑ P **P** 10 35 02.3 +1.3
BMR Baia Mare 78.69 323⇑ P **P** 10 35 01.8 +0.7
BMR Baia Mare 78.69 323 P **P** 10 35 01.8 +0.7
KIRS Kirsehir-Merke 78.74 311⇑ P **P** 10 35 01.8 +0.2
PGOR Pogoanele 78.84 319⇑ P **P** 10 35 03.1 +1.2
NEHR Nehoiu 78.85 320⇑ P **P** 10 35 02.5 +0.5
AMRR Amara 78.86 318⇑ P **P** 10 35 02.7 +0.7
AMRR Amara 78.86 318 P **P** 10 35 02.7 +0.7
ULM Lac du Bonnet 78.88 33 *c* *i*P **P** 10 35 01.4 -0.7
MDND Maddock 78.90 37 IAMs_20 IAMs_20 11 08 04.4
comp=Z,8µm,21.0s
ISR Istrita 78.93 319⇑ P **P** 10 35 03.4 +0.8
ISR Istrita 78.93 319 P **P** 10 35 03.3 +0.8
ANTO Ankara 78.94 312 P **P** 10 35 03.1 +0.4
ANTO IAmb IAmb 10 35 04.1
comp=Z,301nm,0.8s
ANTO Ankara 78.94 312 P **P** 10 35 02.7 0.0
ANTO S **S** 10 44 57.5 -0.9
ANTO Ankara 78.94 312⇑ P **P** 10 35 03.2 +0.5
ANTO Ankara 78.94 312 P **P** 10 35 03.1 +0.4
ANTO pmax pmax
comp=Z,301nm,0.9s
ANTO Ankara 78.94 312 P **P** 10 35 02.9 +0.2
NIE Niedzica 78.94 325 *e*P **P** 10 35 02.9 +0.5
NIE *e*S **S** 10 45 01.4 +3.5
NIE *e*L L 11 13 39.6
comp=Z,13µm,17.0s
DOPR Dopca 78.94 320⇑ P **P** 10 35 03.7 +1.1
ICOR Ion Corvin 78.94 318⇑ P **P** 10 35 03.3 +0.8
MLR Muntele Rosu 78.98 320 LR LR 11 13 27.9
comp=Z,35µm,18.3s,baz=46,slow=38
MLR Muntele Rosu 78.98 320⇑ P **P** 10 35 03.1 +0.1
MLR Muntele Rosu 78.98 320 P **P** 10 35 03.0 +0.1
TGMR Targu Mures 78.98 321⇑ P **P** 10 35 04.0 +1.3
PSN Preselentsi 79.09 317 *i* P **P** 10 35 03.7 +0.2
LEHL Lehliu 79.22 319⇑ P **P** 10 34 59.7 +0.7
E28A Huff 79.27 38 IAMs_20 IAMs_20 11 07 13.2
comp=Z,5µm,20.0s
CBBR Cluj-Babes-Bol 79.30 322⇑ P **P** 10 35 05.8 +1.4
CJR Cluj-Napoca 79.31 322⇑ P **P** 10 35 05.7 +1.1
CJR Cluj-Napoca 79.31 322 P **P** 10 35 05.7 +1.1
MESR Meseseni 79.32 322⇑ P **P** 10 35 05.6 +1.1
PLAR PLOIESTI 79.33 319⇑ P **P** 10 35 05.5 +0.9
SULR 79.38 319⇑ P **P** 10 35 05.2 +0.4
RUE Ruedersdorf 79.39 331 *e*P **P** 10 35 05.2 +0.4
SAHE Sakarya_HENDEK 79.42 314⇑ P **P** 10 35 04.6 -0.7
MDUB Mudurnu 79.48 313 P **P** 10 35 05.7 +0.1
CCX Cicese 79.49 58 P **P** 10 35 06.4 +0.7
CCX IAMs_20 IAMs_20 11 03 03.6
comp=Z,11µm,22.0s
U15A North Rim 79.50 52 P **P** 10 35 07.1 +1.0
U15A IAmb IAmb 10 35 27.1
comp=Z,638nm,1.5s
YUH Yuha Desert 79.50 57 P **P** 10 35 06.0 +0.1
YUH IAmb IAmb 10 35 24.1
comp=Z,340nm,1.3s
YUH IAMs_20 IAMs_20 11 02 49.0
comp=Z,10µm,22.0s
LANS Liptovska Anna 79.51 326 *e*P **P** 10 35 06.5 +0.9
LANS pmax pmax
comp=Z,121nm,0.8s
LANS Liptovska Anna 79.51 326 *e*P **P** 10 35 06.5 +0.9
LANS *e*PP **PP** 10 38 06.9 +1.3
KECS Kecovo 79.53 325 *e*P **P** 10 35 06.3 +0.6
KECS pmax pmax
comp=Z,108nm,1.0s
KECS Kecovo 79.53 325 *e*P **P** 10 35 06.3 +0.6
O20A White River Ci 79.56 47 P **P** 10 35 06.1 -0.2
O20A IAmb IAmb 10 35 27.1
comp=Z,257nm,1.2s
O20A IAMs_20 IAMs_20 11 07 33.2
comp=Z,6µm,22.0s
MARR Marisel-Cluj 79.57 322⇑ P **P** 10 35 06.4 +0.3
OKC Ostrava-Krasne 79.59 327 *e*P **P** 10 35 06.1 +0.2
OKC *e*S **S** 10 45 07.0 +2.3
OKC MLR MLR
comp=Z,27µm,17.1s
OKC Ostrava-Krasne 79.59 327⇑ *e*P **P** 10 35 06.1 +0.2
OKC *e*S **S** 10 45 07.0 +2.3
OKC AMS AMS 11 13 30.0
comp=Z,27µm,17.1s
MTUR Matau 79.62 320⇑ P **P** 10 35 06.8 +0.4
MTUR Matau 79.62 320 P **P** 10 35 06.7 +0.4
KSP Ksiaz 79.62 328 *e*P **P** 10 35 06.3 +0.1
KSP *e*S **S** 10 45 06.7 +1.6
KSP *e*L L 11 13 15.3
comp=Z,20µm,19.7s
STEB Steborice 79.68 327⇑ *i*P **P** 10 35 06.9 +0.5
DRGR 79.69 322⇑ P **P** 10 35 07.0 +0.3
DRGR 79.69 322 P **P** 10 35 06.9 +0.3
TNR Turnu Rosu 79.72 321⇑ P **P** 10 35 07.9 +1.0
TNR Turnu Rosu 79.72 321 P **P** 10 35 07.8 +1.0
ARR Arges 79.74 320⇑ P **P** 10 35 08.1 +1.1
PRD Provadia 79.80 317 *i* P **P** 10 35 07.6 +0.4
NEF NEVSHA 79.80 317 *i* P **P** 10 35 07.6 +0.3
SGRR Singureni 79.84 319⇑ P **P** 10 35 07.2 -0.2
OSTC Ostas 79.87 328 *e*P **P** 10 35 08.0 +0.5
OSTC MLR MLR
comp=Z,24µm,19.9s
OSTC Ostas 79.87 328⇑ *e*P **P** 10 35 08.0 +0.5
OSTC AMS AMS 11 14 00.0
comp=Z,24µm,19.9s
MORC Moravsky Berou 79.89 327⇑ *i*P **P** 10 35 08.0 +0.3
MORC *e* 10 35 11.8
MORC *e*S **S** 10 45 07.9 -0.2
MORC Moravsky Berou 79.89 327⇑ P **P** 10 35 08.1 +0.3
MORC Moravsky Berou 79.89 327 P **P** 10 35 08.0 +0.3
MOO Moorlands 79.91 176 P **P** 10 35 08.9 +1.4
CHVC Chvalec 79.92 328⇑ *i*P **P** 10 35 08.3 +0.5
CHVC *e*S **S** 10 45 11.5 +3.3
CHVC MLR MLR

comp=Z,21µm,19.3s
CHVC Chvalec 79.92 328 ⇑ *i*P P **10 35 08.3 +0.5**
CHVC *e*S S **10 45 11.5 +3.3**
CHVC AMS AMS 11 14 00.0
comp=Z,21µm,19.3s
BORR Bors 79.92 323 ⇑ P P **10 35 09.0 +1.2**
BIGH Upper Bighouse 79.94 342 ⇑ *e*P P **10 35 07.8 +0.1**
BIGH IAmb IAmb 10 35 08.9
comp=Z,144nm,0.8s
BIGH IAMs_20 IAMs_20 11 13 19.0
comp=Z,9µm,19.8s
DPC Dobruska-Polom 79.98 328 ⇑ *i*P P **10 35 08.6 +0.4**
DPC *e*S S **10 45 11.2 +2.2**
DPC MLR MLR
comp=Z,22µm,19.4s
DPC Dobruska-Polom 79.98 328 ⇑ *i*P P **10 35 08.6 +0.4**
DPC *e*S S **10 45 11.2 +2.2**
DPC AMS AMS 11 14 00.0
comp=Z,22µm,19.4s
UPC Upice 80.00 328 ⇑ *i*P P **10 35 08.6 +0.4**
UPC MLR MLR
comp=Z,24µm,20.8s
UPC Upice 80.00 328 ⇑ *i*P P **10 35 08.6 +0.4**
UPC AMS AMS 11 14 10.0
comp=Z,24µm,20.8s
KRLC Kraliky 80.00 328 *e*P P **10 35 08.5 +0.3**
KRLC *e*S S **10 45 12.5 +3.4**
KRLC MLR MLR
comp=Z,21µm,16.9s
KRLC Kraliky 80.00 328 ⇑ *e*P P **10 35 08.5 +0.3**
KRLC *e*S S **10 45 12.5 +3.4**
KRLC AMS AMS 11 13 50.0
comp=Z,21µm,16.9s
RAZG Razgrad 80.01 318 ⇑ P P **10 35 08.5 +0.2**
CPBX Cerro Prieto 80.06 57 IAMs_20 IAMs_20 11 02 55.6
comp=Z,8µm,22.0s
MAUC Maruska 80.08 327 ⇑ *i*P P **10 35 09.1 +0.4**
MAUC *e*S S **10 45 12.9 +2.9**
LOZB Loznitsa 80.09 318 ⇑ P P **10 35 08.9 +0.1**
LOT Lotru 80.11 321 ⇑ P P **10 35 09.2 +0.1**
HUMR Humele 80.14 320 ⇑ P P **10 35 08.9 -0.2**
PSZ Piszkesteto 80.21 324 ⇑ P P **10 35 10.0 +0.5**
PSZ Piszkesteto 80.21 324 P P **10 35 10.0 +0.5**
PSZ Piszkesteto 80.21 324 *e*P P **10 35 09.1 -0.4**
BEIL Beino 80.24 306 *e*P P **10 35 10.0 +0.2**
DEV Deva 80.24 322 ⇑ P P **10 35 09.9 +0.3**
DEV Deva 80.24 322 P P **10 35 09.8 +0.3**
VYHS Vyhne 80.27 325 *e*P P **10 35 10.2 +0.5**
VYHS *e* 10 53 52.2
VYHS pmax pmax
comp=Z,202nm,1.1s
VYHS Vyhne 80.27 325 *e*P P **10 35 10.2 +0.5**
VYHS *e*PP PP **10 38 16.3 +4.3**
VYHS *e*S S **10 45 13.4 +1.4**
VYHS *e*SS SS 10 51 17.5 +55
VYHS *e* 10 53 52.2
VYHS *e* 10 54 08.7
FKH Fakeheh 80.28 306 *e*P P **10 35 10.5 +0.3**
COPA Copaceanca 80.29 319 ⇑ P P **10 35 09.5 -0.3**
AGMN Agassiz Nation 80.32 35 IAMs_20 IAMs_20 11 09 17.9
comp=Z,10µm,21.0s
TAU Tasmania Unive 80.39 176 IAMs_20 IAMs_20 11 08 38.0
comp=Z,8µm,21.0s
TAU Tasmania Unive 80.39 176 P P **10 35 12.6 +2.6**
RAR Rarotonga 80.42 126 LR LR 11 03 38.3
comp=Z,17µm,21.8s,baz=312,slow=30
CTYL Yalikoy Yolu 80.46 316 ⇑ P P **10 35 10.9 +0.1**
BSZH Besenyszg 80.49 324 ⇑ P P **10 35 11.4 +0.6**
SZH Strazhitsa 80.49 318 *i*P P **10 35 10.9 -0.1**
SZH Strazhitsa 80.49 318 P P **10 35 10.3 -0.7**
KUZ Kuaotunu 80.51 153 P P **10 35 12.6 +1.8**
JAVC Velka Javorina 80.52 326 ⇑ *i*P P **10 35 12.5 +1.4**
JAVC Velka Javorina 80.52 326 *e*S S **10 45 17.3 +2.6**
RAYN Ar Rayn 80.54 292 P P **10 35 11.3 -0.3**
RAYN S S **10 45 11.3 -4.4**
RAYN Ar Rayn 80.54 292 P P **10 35 11.3 -0.3**
RAYN Ar Rayn 80.54 292 *i*P P **10 35 11.2 -0.4**
SNR=117
HWQ Hawqa 80.56 306 *e*P P **10 35 11.3 -0.4**
BRG Berggiesshubel 80.57 329 ⇑ *i*P P **10 35 11.6 +0.3**
BRG Amp 10 35 12.9
comp=Z,203nm,0.9s
BRG Berggiesshubel 80.57 329 Amp 10 35 27.0
comp=Z,42nm,0.8s
BRG Berggiesshubel 80.57 329 Amp 10 35 33.7
comp=Z,197nm,1.4s
BRG Berggiesshubel 80.57 329 SS SS 10 50 33.0 +6.4
BRG PKKP 10 53 43.7
BRG Amp 10 53 45.4
comp=Z,1.9nm,1.0s
BRG Berggiesshubel 80.57 329 P P 10 35 25.8 +15
BRG Berggiesshubel 80.57 329 P P 10 35 32.2 +21
SIRR Siria 80.57 322 ⇑ P P **10 35 11.7 +0.4**
PVCC Panska Ves 80.58 329 ⇑ *i*P P **10 35 11.7 +0.4**
PVCC *e*S S **10 45 15.6 +0.5**
PVCC MLR MLR
comp=Z,20µm,19.3s
PVCC Panska Ves 80.58 329 ⇑ *i*P P **10 35 11.7 +0.4**
PVCC *e*S S **10 45 15.6 +0.5**
PVCC AMS AMS 11 13 30.0
comp=Z,20µm,19.3s
MCD Coleburn Disti 80.59 342 ⇑ *e*P P **10 35 11.2 0.0**
MCD IAmb IAmb 10 35 11.7
comp=Z,96nm,0.8s
MCD IAMs_20 IAMs_20 11 14 22.4
comp=Z,17µm,20.0s
CLL Collm 80.61 330 ⇑ *i*P P **10 35 11.2 -0.2**
CLL *e*S S **10 45 16.0 +0.7**
CLL pmax pmax
comp=Z,443nm,1.0s
CLL MLR MLR
comp=Z,23µm,18.4s
GZR Gura Zlata 80.65 321 ⇑ P P **10 35 12.0 +0.1**
GZR Gura Zlata 80.65 321 P P **10 35 12.0 +0.1**
VRAC Vranov 80.65 327 LR LR 11 14 47.8
comp=Z,24µm,18.2s,baz=31,slow=38
VRAC Vranov 80.65 327 ⇑ *i*P P **10 35 12.3 +0.6**
VRAC *e* 10 35 16.0
VRAC *e*S S **10 45 16.6 +0.6**
VRAC Vranov 80.65 327 ⇑ P P **10 35 12.4 +0.7**
VRAC Vranov 80.65 327 P P **10 35 12.4 +0.7**
JMB Yambol 80.73 317 *i*P P **10 35 12.5 +0.3**
JMB Yambol 80.73 317 P P **10 35 11.6 -0.7**
RICC Richard 80.76 329 ⇑ *e*P P **10 35 12.9 +0.7**
RICC AMS AMS 11 13 30.0
comp=Z,27µm,19.6s
PHSR Pinarhisar 80.78 316 ⇑ P P **10 35 12.9 +0.4**
ELND Elena 80.78 318 ⇑ P P **10 35 12.7 +0.2**
VLAD Vladila 80.81 319 ⇑ P P **10 35 12.8 +0.1**
ZAHL Zahle 80.86 306 *e*P P **10 35 13.5 +0.2**
SMOL Smolenice 80.89 326 *e*P P **10 35 13.9 +0.9**
SMOL pmax pmax
comp=Z,150nm,1.0s
KRUC Moravsky 80.93 327 ⇑ *i*P P **10 35 13.4 +0.2**
KRUC *e* 10 35 17.2
KRUC Moravsky 80.93 327 *e*S S **10 45 20.5 +1.7**
LEWI Lewis, Hebride 80.94 344 *e*P P **10 35 13.2 +0.2**
LEWI IAMs_20 IAMs_20 11 11 47.1
comp=Z,8µm,20.0s
SRE Strehaia 80.95 321 ⇑ P P **10 35 14.7 +1.3**
SRE Strehaia 80.95 321 P P **10 35 14.7 +1.3**
GOPC GO Pecny, Ondr 80.96 328 ⇑ *i*P P **10 35 13.8 +0.4**
GOPC MLR MLR
comp=Z,21µm,17.6s
GOPC GO Pecny, Ondr 80.96 328 ⇑ *i*P P **10 35 13.8 +0.4**
GOPC AMS AMS 11 14 10.0
comp=Z,21µm,17.6s
BHL Bhannes 80.98 306 *e*P P **10 35 13.6 -0.3**
DRUM Mains of Drumt 80.99 341 ⇑ *e*P P **10 35 12.6 -0.8**
DRUM IAmb IAmb 10 35 15.4
comp=Z,158nm,1.1s
DRUM IAMs_20 IAMs_20 11 14 10.0
comp=Z,12µm,20.8s
PRU Pruhonice 81.00 329 ⇑ *i*P P **10 35 14.0 +0.4**
PRU *e*S S **10 45 22.3 +2.7**
PRU MLR MLR
comp=Z,20µm,16.7s
PRU Pruhonice 81.00 329 ⇑ *i*P P **10 35 14.0 +0.4**
PRU *e*S S **10 45 22.3 +2.7**
PRU AMS AMS 11 14 10.0
comp=Z,20µm,16.7s
SRO Srobarova 81.01 325 *e*P P **10 35 15.5 +1.9**
SRO pmax pmax
comp=Z,361nm,1.1s
SRO Srobarova 81.01 325 *e*P P **10 35 15.5 +1.9**
MODS Modra-Piesok 81.06 326 *e*P P **10 35 12.2 -1.7**
MODS pmax pmax
comp=Z,521nm,1.1s
MODS Modra-Piesok 81.06 326 *e*P P **10 35 12.1 -1.8**
MODS *e*PP PP **10 38 21.1 +2.6**
MODS *e*S S **10 45 18.3 -1.9**
MODS *e*SS SS 10 51 19.3 +45
BZS Buzias 81.06 322 ⇑ P P **10 35 13.8 -0.1**
BZS Buzias 81.06 322 P P **10 35 13.8 -0.1**
RCY Rachaya 81.12 306 *e*P P **10 35 14.8 +0.1**
PLVB Pleven 81.12 319 ⇑ P P **10 35 14.3 0.0**
IVI Ivigtut 81.14 5 IAMs_20 IAMs_20 11 11 29.9
comp=Z,7µm,22.0s
IVI Ivigtut 81.14 5 *i*P P **10 35 13.6 -0.4**
IVI IAmb IAmb 10 35 15.1
comp=Z,93nm,0.7s
TREC Trest 81.14 328 ⇑ *i*P P **10 35 14.6 +0.3**
TREC MLR MLR
comp=Z,18µm,17.0s
TREC Trest 81.14 328 ⇑ *i*P P **10 35 14.6 +0.3**
TREC AMS AMS 11 14 30.0
comp=Z,18µm,17.0s
DQRL Deir Qamar 81.16 306 *e*P P **10 35 14.9 +0.1**
QRWL Qaraoun 81.19 306 *e*P P **10 35 15.0 0.0**
HERR Herculane 81.19 321 ⇑ P P **10 35 14.4 -0.3**
ASF Jabal al Asfar 81.27 304 LR LR 11 15 07.4
comp=Z,13µm,19.8s,baz=81,slow=38
SHBL Chebaa 81.28 305 *e*P P **10 35 15.6 0.0**
DJES Djerdap 81.30 321 ⇑ P P **10 35 14.8 -0.4**
ISCO Idaho Springs 81.30 46 IAMs_20 IAMs_20 11 09 12.1
comp=Z,6µm,20.0s
TOZ Tahuroa Road 81.31 153 P P **10 35 18.1 +3.1**
BAND Balkesir-Ban 81.32 315 ⇑ P P **10 35 16.3 +0.9**
NRS Narsarsuaq 81.34 3 IAMs_20 IAMs_20 11 13 33.2
comp=Z,8µm,21.0s
PUNG Punghina 81.36 320 ⇑ P P **10 35 16.3 +0.7**
KPL Plockton 81.39 343 ⇑ *e*P P **10 35 15.9 +0.4**
KPL IAmb IAmb 10 35 16.9
comp=Z,353nm,0.8s
KPL IAMs_20 IAMs_20 11 08 31.9
comp=Z,8µm,22.8s
BANR Banloc 81.46 322 ⇑ P P **10 35 16.6 +0.6**
VALD Valchedram 81.52 320 *i*P P **10 35 17.1 +0.7**
DIM Dimitrovgrad 81.55 317 P P **10 35 16.5 -0.1**
ZVC Zvikov 81.57 328 ⇑ *e*P P **10 35 17.1 +0.5**
ZVC AMS AMS 11 14 40.0
comp=Z,19µm,16.8s
MPEP Malo Peshtene 81.60 319 *i*P P **10 35 17.4 +0.5**
MDVR Moldovita 81.61 321 ⇑ P P **10 35 16.9 -0.1**
ISP Isparta 81.61 312 IAMs_20 IAMs_20 11 15 47.8
comp=Z,8µm,21.0s
ISP Isparta 81.61 312 *c*iP P **10 35 16.2 -1.0**
ISP pmax pmax
comp=Z,151nm,1.1s
ISP MLR MLR
comp=Z,9µm,23.0s
ISP Isparta 81.61 312 *e*P P **10 35 16.2 -1.0**
SUSD Miller 81.64 39 IAMs_20 IAMs_20 11 10 41.0
comp=Z,6µm,20.0s
MOX Moxa 81.67 330 P P **10 35 17.1 0.0**
MOX pmax pmax
comp=Z,185nm,1.2s
MOX Moxa 81.67 330 *e*L L 11 14 48.3
comp=Z,20µm,18.6s
MMAI Mount Meron Ar 81.71 305 P P **10 35 18.1 +0.4**
comp=Z,192nm,0.9s,baz=40,slow=6.6,SNR=124
MMAI LR LR 11 15 37.8
comp=Z,11µm,18.4s,baz=34,slow=39
comp=Z,192nm,0.9s
CSS Mathiatis 81.78 308 IAMs_20 IAMs_20 11 14 48.9
comp=Z,8µm,22.0s
INVG Invergeldie, C 81.82 342 ⇑ *e*P P **10 35 17.5 -0.3**
INVG IAmb IAmb 10 35 18.2
comp=Z,68nm,0.8s
INVG IAMs_20 IAMs_20 11 14 58.3
comp=Z,17µm,20.5s
ESY Stoneypath 81.91 341 ⇑ *e*P P **10 35 18.2 0.0**
PLD Plovdiv 81.92 318 *i*P P **10 35 19.2 +0.6**
PLD Plovdiv 81.92 318 P P **10 35 18.2 -0.3**
F33A 5 Mile Ranch, 81.93 37 IAMs_20 IAMs_20 11 09 13.4
comp=Z,8µm,21.0s
S22A 4UR Ranch, Cre 81.96 48 IAMs_20 IAMs_20 11 06 42.9
comp=Z,6µm,22.0s
KDZ Kurdzhali 81.97 317 *i*P P **10 35 19.3 +0.5**
KDZ Kurdzhali 81.97 317 P P **10 35 18.6 -0.3**
PGB Panagyurishte 81.97 318 *i*P P **10 35 19.3 +0.4**
RONA Rosalia, Austr 82.00 326 *i*P P **10 35 19.5 +0.6**
comp=Z,256nm,0.8s,SNR=178
RONA *e*P'P' PKPPKPdf1 01 45.8
comp=Z,1.2nm,0.6s
CKRC Cesky Krumlov 82.00 328 ⇑ *i*P P **10 35 19.0 +0.1**
CKRC MLR MLR
comp=Z,19µm,17.9s
CKRC Cesky Krumlov 82.00 328 ⇑ *i*P P **10 35 19.0 +0.1**
CKRC AMS AMS 11 16 10.0
comp=Z,19µm,17.9s
CONA Conrad Observa 82.02 327 *i*P P **10 35 19.6 +0.5**
comp=Z,103nm,0.8s,SNR=182
CONA *e*PKKP **PKKPbc 10 53 47.6 0.0**
comp=Z,2.2nm,1.0s
CONA *e*P'P' PKPPKPdf1 01 46.9
comp=Z,3.2nm,1.4s
MORH Mrgy, Hungar 82.04 324 ⇑ *i*P P **10 35 18.5 -0.6**
MORH Mrgy, Hungar 82.04 324 ⇑ P P **10 35 18.7 -0.4**
KHC Kasperske Hory 82.06 329 ⇑ *i*P P **10 35 19.5 +0.2**
KHC *e* 10 35 36.0
KHC *e*S S **10 45 33.9 +3.2**
KHC MLR MLR
comp=Z,22µm,17.6s
KHC Kasperske Hory 82.06 329 ⇑ *i*P P **10 35 19.5 +0.2**
KHC *ex* x 10 35 36.0
KHC *e*S S **10 45 33.9 +3.2**
KHC AMS AMS 11 16 00.0
comp=Z,22µm,17.6s
ALN Alexandroupoli 82.09 316 P P **10 35 18.6 -0.8**
MXZ Matakaoa Point 82.19 151 IAMs_20 IAMs_20 11 06 10.3
comp=Z,9µm,22.0s
RDO Rodhopi 82.19 317 P P **10 35 19.3 -0.7**
GEC2 GERESS Array S 82.24 328 P P **10 35 19.9 -0.3**
GERES GERESS Array B 82.24 328 P P **10 35 19.3 -1.0**
GERES GERESS Array B 82.24 328 P P **10 35 19.9 -0.3**
comp=Z,87nm,0.7s,baz=35,slow=4.9,SNR=684
GERES PKKPbc **PKKPbc 10 53 47.6 +0.5**
comp=Z,2.3nm,0.8s,baz=204,slow=2.9,SNR=15
GERES PKPPKP **P'P'df 11 01 49.9 -7.6**
comp=Z,0.6nm,0.8s,baz=240,slow=10,SNR=5.3
GERES LR LR 11 15 19.6
comp=Z,15µm,18.0s,baz=38,slow=38
comp=Z,87nm,0.7s
RZN Rozhen 82.24 318 *i*P P 10 35 31.3 +11
RZN Rozhen 82.24 318 P P **10 35 20.6 +0.1**
VRZ Vera Road 82.30 155 P P **10 35 20.5 +0.3**
LAWE Loch Awe, Argy 82.31 342 ⇑ *e*P P **10 35 20.4 +0.1**
LAWE IAmb IAmb 10 35 22.0
comp=Z,138nm,1.2s
LAWE IAMs_20 IAMs_20 11 15 55.5
comp=Z,11µm,20.1s
MANT Manisa 82.32 313 P P **10 35 20.4 -0.7**
MANT IAmb IAmb 10 35 21.9
comp=Z,161nm,0.9s
MANT IAMs_20 IAMs_20 11 18 39.4
comp=Z,8µm,18.0s
URZ Urewera 82.36 153 LR LR 11 07 12.1
comp=Z,18µm,21.9s,baz=340,slow=32
URZ Urewera 82.36 153 P P **10 35 23.3 +2.7**
URZ Urewera 82.36 153 P P **10 35 21.6 +1.1**
VTS Vitosha 82.39 319 *i*P P **10 35 21.0 -0.2**
VTS Vitosha 82.39 319 P P **10 35 20.8 -0.4**
PLNA Plana 82.39 319 *i*P P **10 35 22.0 +0.8**
PGBU Glenifferbraes 82.48 341 ⇑ *e*P P **10 35 21.3 +0.1**
PGBU IAmb IAmb 10 35 23.0
comp=Z,597nm,1.0s
PGBU IAMs_20 IAMs_20 11 15 16.5
comp=Z,24µm,20.0s
OGNE Ogallala 82.50 43 P P **10 35 21.8 0.0**
EYMN Ely 82.51 33 P P **10 35 20.9 -0.7**
EYMN IAmb IAmb 10 35 38.9
comp=Z,422nm,1.6s
EYMN Ely 82.51 33 IAMs_20 IAMs_20 11 13 16.7
comp=Z,6µm,21.0s
EKA Eskdalemuir Ar 82.57 341 P P **10 35 21.6 -0.1**
comp=Z,33nm,0.6s,baz=26,slow=4.7,SNR=180
comp=Z,33nm,0.6s
K30B Basset 82.57 41 P P **10 35 21.2 -0.8**
K30B IAMs_20 IAMs_20 11 10 09.2
comp=Z,6µm,22.0s
MWZ Matawai 82.58 152 P P **10 35 24.0 +2.2**
GRA1 Grafenberg Arr 82.58 330 P P **10 35 20.8 -1.1**
GRF Grafenberg Arr 82.58 330 P P **10 35 20.8 -1.1**
GRF pmax pmax
comp=Z,456nm,1.0s
GRF MLR MLR
comp=Z,16µm,18.0s
GRF Grafenberg Arr 82.58 330 *e*P P **10 35 22.6 +0.7**
comp=Z,337nm,0.9s,baz=38,slow=4.5
GRF *e*L L 11 15 26.9
comp=Z,16µm,18.8s
GRFO Grafenberg 82.58 330 P P **10 35 22.3 +0.4**
GRFO Grafenberg 82.58 330 P P **10 35 22.3 +0.4**
GRFO pmax pmax
comp=Z,422nm,1.0s
GRFO MLR MLR
comp=Z,16µm,18.0s
ESK Eskdalemuir 82.59 341 P P **10 35 22.1 +0.3**
ESK Eskdalemuir 82.59 341 ⇑ *e*P P **10 35 21.8 0.0**
ESK IAmb IAmb 10 35 22.8
comp=Z,201nm,1.4s
ESK IAMs_20 IAMs_20 11 14 48.4
comp=Z,13µm,21.6s
ESK Eskdalemuir 82.59 341 P P **10 35 22.1 +0.3**
ESK pmax pmax
comp=Z,197nm,1.5s
ESK MLR MLR
comp=Z,12µm,20.0s
RTZ Ruatahuna 82.62 153 P P **10 35 21.7 -0.4**
RTZ IAmb IAmb 10 35 43.3
comp=Z,412nm,1.4s
EZN Ezine 82.67 315 P P **10 35 22.2 -0.3**
EZN Ezine 82.67 315 ⇑ P P **10 35 22.5 0.0**
EZN Ezine 82.67 315 P P **10 35 22.5 0.0**
ARSA Arzberg 82.68 326 P P **10 35 22.1 -0.4**
ARSA IAmb IAmb 10 35 27.1
comp=Z,166nm,1.0s
ARSA Arzberg 82.68 326 *i*P P **10 35 22.5 0.0**
comp=Z,118nm,1.0s,SNR=142
ARSA *e*PKKP **PKKPbc 10 53 46.9 +0.9**
comp=Z,2.6nm,0.8s
ARSA *e*P'P' 11 01 47.3
comp=Z,1.1nm,0.6s
EDMD Edmundbyers 82.69 340 ⇑ *e*P P **10 35 22.1 -0.2**
EDMD IAMs_20 IAMs_20 11 15 31.4
comp=Z,21µm,20.5s
GHAJ Ghor Haditha 82.69 304 P P **10 35 22.6 -0.1**
BEHE Becsehely 82.71 325 P P **10 35 22.0 -0.6**
BEHE IAMs_20 IAMs_20 11 15 46.0
comp=Z,6µm,18.0s
BEHE Becsehely 82.71 325 ⇑ *i*P P **10 35 22.3 -0.3**
GDLE Glaisdale, N Y 82.73 339 *e*P P **10 35 22.4 -0.2**
GDLE IAmb IAmb 10 35 26.0
comp=Z,195nm,1.0s
GDLE IAMs_20 IAMs_20 11 14 56.4
comp=Z,26µm,21.8s
SDCO Great Sand Dun 82.74 47 P P **10 35 23.4 0.0**
SDCO IAMs_20 IAMs_20 11 09 28.5
comp=Z,5µm,21.0s
MOA Molln 82.77 327 *i*P P **10 35 22.9 0.0**
comp=Z,160nm,1.1s,SNR=121
MOA *e*PKKP **PKKPbc 10 53 46.2 +0.3**
comp=Z,3.9nm,1.1s
MOA *e*P'P' 11 01 46.0
comp=Z,5.4nm,1.4s
TBO Thunder Bay 82.85 31 P P **10 35 22.5 -0.8**
TBO IAmb IAmb 10 35 40.5
comp=Z,379nm,1.7s
TBO IAMs_20 IAMs_20 11 13 26.3
comp=Z,5µm,22.0s
KAVA Kavala 82.85 317 P P **10 35 23.3 -0.1**
MMB Musomishta 82.87 318 *i*P P **10 35 24.0 +0.4**
MMB Musomishta 82.87 318 P P **10 35 23.1 -0.5**
BKZ Black Stump Fm 82.94 153 P P **10 35 27.3 +3.6**
BKZ Black Stump Fm 82.94 153 P P **10 35 25.6 +1.9**
WAZ Wanganui 82.94 155 P P **10 35 26.7 +3.1**
KOGS Kog 82.97 325 *i*P P **10 35 23.3 -0.6**
KOGS *i*PcP **PcP 10 35 27.2 -1.4**
KOGS *i*pP **sP 10 35 39.9 -0.8**
KOGS *i*PP **PP 10 38 40.1 +5.9**
KOGS *e* 10 38 51.8
KOGS *e* 10 40 31.9
KOGS *i* 10 40 58.5
KOGS *e* 10 42 13.3
KOGS *e*P'P'df **P'P'df 11 01 49.6 -6.4**
KOGS *e* 11 02 05.0
KKB Krupnik 82.99 319 *i*P P **10 35 24.7 +0.5**
KKB Krupnik 82.99 319 P P **10 35 24.2 0.0**
THAS Thassos island 83.02 317 P P **10 35 23.4 -0.9**
NEWG New Galloway 83.04 341 ⇑ *e*P P **10 35 23.9 -0.2**
NEWG IAmb IAmb 10 35 25.9
comp=Z,119nm,1.0s
NEWG IAMs_20 IAMs_20 11 15 55.3
comp=Z,12µm,20.7s
TUC Tucson 83.08 54 P P **10 35 25.5 +0.6**
TUC IAmb IAmb 10 35 45.5
comp=Z,703nm,1.9s
TUC Tucson 83.08 54 IAMs_20 IAMs_20 11 08 38.1
comp=Z,6µm,21.0s
TUC Tucson 83.08 54 P P **10 35 25.5 +0.6**
TUC pmax pmax
comp=Z,703nm,2.0s
QRZ Quartz Range 83.11 157 IAMs_20 IAMs_20 11 07 07.4
comp=Z,10µm,21.0s
QRZ Quartz Range 83.11 157 P P **10 35 26.2 +1.8**
BIOA Bad Ischl, Aus 83.16 328 *i*P P **10 35 25.0 +0.1**
comp=Z,211nm,0.7s,SNR=147
BIOA *e*PKKP **PKKPbc 10 53 44.1 -0.9**
comp=Z,6.2nm,1.2s
KESW Keswick, Cumbr 83.22 340 ⇑ *e*P P **10 35 25.1 0.0**
KESW IAmb IAmb 10 35 26.3
comp=Z,189nm,0.8s
KESW IAMs_20 IAMs_20 11 15 49.0
comp=Z,22µm,19.7s
KNZ Kokohu 83.24 152 P P **10 35 27.2 +2.1**
LIA Limnos Island 83.26 316 P P **10 35 24.6 -1.0**
BLCB Balcova 83.26 314 P P **10 35 24.8 -0.8**
SRS Serrai 83.26 318 P P **10 35 25.0 -0.6**
KSL Kastellorizon 83.29 311 P P **10 35 24.4 -1.4**
ECSD EROS Data Cent 83.32 38 IAMs_20 IAMs_20 11 07 44.3
comp=Z,7µm,22.0s
SOKA Soboth 83.34 326 *e*P P **10 35 25.7 -0.2**
comp=Z,283nm,0.8s,SNR=167
SIGR SIGRI 83.36 315 P P **10 35 25.3 -0.8**
MOSL Moslavina 83.37 325 ⇑ *i*P P **10 35 25.4 -0.7**
GAL1 Galloway 83.39 341 ⇑ *e*P P **10 35 25.7 -0.2**
GAL1 IAmb IAmb 10 35 26.9
comp=Z,196nm,0.7s
GAL1 IAMs_20 IAMs_20 11 16 16.2
comp=Z,14µm,20.0s
E38A The Farm, Brul 83.52 34 IAMs_20 IAMs_20 11 11 50.4
comp=Z,6µm,22.0s
CLGH Cloghs, Cushen 83.54 342 ⇑ *e*P P **10 35 26.6 -0.1**
KNT Kendrikon 83.60 318 P P **10 35 26.5 -0.8**
SOH Sokhos 83.60 318 P P **10 35 26.0 -1.4**
OUR Ouranopolis 83.61 317 P P **10 35 26.9 -0.4**
RUDO Rudo 83.62 322 ⇑ *i*P P **10 35 26.8 -0.6**
VAY Valandovo 83.66 318 *i*P P **10 35 27.7 +0.1**
OBKA Obir 83.68 326 *i*P P **10 35 27.1 -0.6**
comp=Z,87nm,0.8s,SNR=47
OBKA *e*PKKP **PKKPbc 10 53 45.0 +1.2**
comp=Z,8.1nm,1.1s
OBKA *e*P'P' 11 01 51.6
comp=Z,4.2nm,1.4s
DSZ Denniston Nort 83.73 158 P P **10 35 30.0 +2.4**
NNZ Nelson 83.73 156 IAMs_20 IAMs_20 11 08 45.0
comp=Z,9µm,20.0s
NNZ Nelson 83.73 156 P P **10 35 29.6 +2.0**
A051A Mrakovica 83.75 324 ⇑ *i*P P **10 35 27.5 -0.6**
BEBN Eben Emael 83.76 334 *d*P P **10 35 27.6 -0.3**
comp=Z,283nm,0.8s
KBA Koelnbreinsper 83.76 327 *e*P P **10 35 27.8 -0.4**
comp=Z,194nm,0.8s
BTNL Ternell 83.77 333 *d*P P **10 35 27.5 -0.6**
comp=Z,123nm,1.0s
LESA Schwarzleotal 83.77 328 *e*P P **10 35 28.0 -0.2**
comp=Z,190nm,0.7s,SNR=227
LESA *e*PKKP **PKKPbc 10 53 43.9 +0.2**
comp=Z,2.4nm,1.2s
LESA *e*P'P' 11 01 53.6
comp=Z,5.0nm,1.4s
SKO Skopje 83.78 320 *i*P P **10 35 28.8 +0.6**

MEM Membach 83.79 333 *d*P **P 10 35 27.6 -0.5**
comp=Z,160nm,0.9s
CHOS Chios island 83.82 315 P **P 10 35 27.7 -0.9**
BLY Banja Luka 83.82 324⇑ *i*P **P 10 35 27.8 -0.6**
BLY Banja Luka 83.82 324⇑ P **P 10 35 28.9 +0.6**
SMG Samos 83.84 314 P **P 10 35 27.5 -1.1**
LBWR Ladybower, Pea 83.88 339⇑ *e*P **P 10 35 28.8 +0.3**
IDGL Inch Island, C 83.89 343 P **P 10 35 28.9 +0.4**
IDGL Inch Island, C 83.89 343⇑ *e*P **P 10 35 28.8 +0.3**
IDGL IAmb IAmb 10 35 30.0
comp=Z,274nm,1.0s
HORT Hortiatis 83.89 318 P **P 10 35 27.3 -1.6**
IOMK Kirk Michael 83.89 341⇑ *e*P **P 10 35 28.1 -0.4**
IOMK IAmb IAmb 10 35 29.5
comp=Z,44nm,0.9s
IOMK IAMs_20 IAMs_20 11 16 22.5
comp=Z,7μm,19.4s
THE Thessaloniki 83.94 318 P **P 10 35 27.8 -1.3**
MRZ Mangatainoka R 83.95 155 P **P 10 35 28.8 0.0**
MRZ IAmb IAmb 10 35 45.5
comp=Z,226nm,1.0s
MRZ Mangatainoka R 83.95 155 P **P 10 35 30.5 +1.7**
OZLJ Ozalj 83.96 325⇑ *i*P **P 10 35 28.4 -0.6**
BSTI Sart Tilman 83.97 334 *d*P **P 10 35 28.8 -0.3**
comp=Z,27nm,0.7s
MYKA Terra Mystica 83.98 327 *i* P **P 10 35 28.4 -0.9**
comp=Z,110nm,0.6s,SNR=75
MYKA *e*PKKP **PKKPbc 10 53 43.3 +0.2**
comp=Z,4.9nm,1.1s
BHOU Houvegnez 84.01 333 *d*P **P 10 35 29.1 -0.1**
comp=Z,81nm,1.0s
DUN6 Lazy B Ranch 84.01 53 P **P 10 35 29.8 0.0**
SPMN Marine on St. 84.01 35 IAMs_20 IAMs_20 11 11 18.5
comp=Z,9μm,22.0s
WIM Isle of Man 84.03 341⇑ *e*P **P 10 35 29.3 0.0**
LJU Ljubljana 84.05 326 *i* P **P 10 35 28.7 -0.8**
LJU *i* PcP **PcP 10 35 32.5 -0.9**
LJU *e*pP **sP 10 35 45.3 -1.0**
LJU *i* 10 35 59.1
LJU *i* PP **PP 10 38 48.2 +5.2**
LJU *e*SKSac **S 10 45 50.3 -0.5**
LJU *e* 10 46 12.6
LJU *e* 10 46 16.0
LJU *e* 10 51 36.6
LJU *e* 10 55 45.7
ANMO Albuquerque 84.06 50 P **P 10 35 30.9 +0.9**
ANMO IAmb IAmb 10 35 49.8
comp=Z,312nm,1.4s
ANMO Albuquerque 84.06 50 IAMs_20 IAMs_20 11 12 21.5
comp=Z,5μm,20.0s
ANMO Albuquerque 84.06 50 PKKPbc PKKPbc 10 53 43.2 +0.4
comp=Z,2.1nm,0.9s,baz=262,slow=4.9,SNR=5.6
ANMO LR LR 11 08 56.4
comp=Z,6μm,20.3s,baz=44,slow=33
ANMO Albuquerque 84.06 50 P **P 10 35 30.9 +0.9**
ANMO pmax pmax
comp=Z,313nm,1.4s
ANMO MLR MLR
comp=Z,5μm,20.0s
THZ Tophouse 84.08 157 P **P 10 35 32.7 +3.2**
ARG Arkhangelos 84.11 312 P **P 10 35 29.3 -0.7**
STU Stuttgart 84.11 331 *e*P **P 10 35 29.6 -0.1**
EIL Elat 84.14 303 LR LR 11 18 19.8
comp=Z,8μm,18.8s,baz=62,slow=39
BCI Bajram Curri 84.19 321 P **P 10 35 29.3 -1.0**
BFZ Birch Farm 84.20 154 IAMs_20 IAMs_20 11 06 51.3
comp=Z,10μm,21.0s
BFZ Birch Farm 84.20 154 P **P 10 35 32.7 +2.7**
UCC Uccle 84.21 334 *d*P **P 10 35 29.6 -0.7**
comp=Z,59nm,1.1s
BGNE Belgrade 84.24 41 IAMs_20 IAMs_20 11 09 04.3
comp=Z,7μm,22.0s
SNZO South Karori 84.24 156 S **SKSac 10 45 48.2 -1.9**
STNC Stoke 84.29 339⇑ *e*P **P 10 35 30.8 +0.2**
STNC IAMs_20 IAMs_20 11 16 15.8
comp=Z,22μm,20.6s
WATA Walderalm 84.30 328 *e*P **P 10 35 30.5 -0.5**
comp=Z,54nm,0.8s,SNR=66
WATA *e*PKKP **PKKPbc 10 53 41.4 -1.1**
comp=Z,2.8nm,0.6s
WATA *e*P'P' 11 01 43.1
comp=Z,3.3nm,1.2s
PMOR Pomariorio Ree 84.31 114 *e*P **P 10 35 33.2 +2.1**
comp=Z,489nm,1.4s
PMOR Pomariorio Ree 84.31 114 *e*S **SKSac 10 45 52.9 +1.2**
comp=Z,3μm,25.8s
PMOR *e*SS **SS 10 51 23.5 -1.3**
comp=Z,4μm,25.1s
PMOR Pomariorio Ree 84.31 114 *e*LR LR 11 02 07.8
comp=Z,45μm,21.9s
BGES Gesves 84.31 334 *d*P **P 10 35 30.1 -0.7**
comp=Z,113nm,1.0s
SKY Skiros Island 84.32 316 P **P 10 35 30.1 -0.9**
CEY Cerknica 84.33 326 *i* P **P 10 35 29.9 -1.1**
CEY *i* PP **PP 10 38 51.0 +5.7**
A050A Klekovaca 84.33 324⇑ *i*P **P 10 35 30.7 -0.4**
KLINJ Klinje 84.33 322⇑ *i*P **P 10 35 30.3 -0.8**
WTTA Wattenberg 84.34 328 *i* P **P 10 35 30.7 -0.5**
comp=Z,63nm,0.8s,SNR=73
WTTA *e*PKKP **PKKPbc 10 53 42.4 0.0**
comp=Z,2.2nm,0.7s
WTTA *e*P'P' 11 01 42.5
comp=Z,6.9nm,1.5s
CWF Charnwood Fore 84.35 338⇑ *e*P **P 10 35 30.6 -0.3**
CWF IAmb IAmb 10 35 31.1
comp=Z,115nm,0.9s
CWF IAMs_20 IAMs_20 11 15 20.4
comp=Z,30μm,23.2s
Y22D IRIS PASSCAL I 84.36 51 IAMs_20 IAMs_20 11 07 02.6
comp=Z,9μm,22.0s
Y22D IRIS PASSCAL I 84.36 51 P **P 10 35 32.5 +1.0**
baz=312
ABTA Abfaltersbach 84.38 328 *i* P **P 10 35 29.8 -1.5**
comp=Z,99nm,0.9s,SNR=73
ABTA *e*PKKP **PKKPbc 10 53 42.4 +0.2**
comp=Z,2.5nm,1.0s
ABTA *e*P'P' 11 01 54.6
comp=Z,4.1nm,1.6s
RCHB Rochefort 84.45 334 *d*P **P 10 35 30.9 -0.5**
comp=Z,142nm,1.1s
BMRD Maredsous 84.49 334 *d*P **P 10 35 31.2 -0.4**
comp=Z,260nm,0.9s
MOTA Moosalm 84.49 329 *i* P **P 10 35 31.5 -0.5**
comp=Z,200nm,0.9s,SNR=124
MOTA *e*PKKP **PKKPbc 10 53 44.1 +2.0**
comp=Z,7.3nm,1.6s
MOTA *e*P'P' PKPPKPdf1 01 44.5
comp=Z,6.2nm,1.6s
PHP Peshkopia 84.50 320 P **P 10 35 30.7 -1.3**
PUK Puka 84.51 320 P **P 10 35 31.6 -0.5**
INZ Inchbonnie 84.52 158 P **P 10 35 34.7 +3.1**
RETA Reutte 84.52 329 *e*P **P 10 35 31.9 -0.1**
comp=Z,505nm,1.3s,SNR=112
RETA *e*PKKP **PKKPbc 10 53 42.1 +0.2**
comp=Z,1.8nm,0.8s
RETA *e*P'P' PKPPKPdf1 01 48.2
comp=Z,8.5nm,1.8s
WLF Walferdange 84.53 333 P **P 10 35 31.8 -0.1**
WLF Walferdange 84.53 333 *d*P **P 10 35 31.7 -0.2**
SQTA Sankt Quirin 84.55 329 *e*P **P 10 35 31.8 -0.4**
comp=Z,108nm,0.7s,SNR=99
SQTA *e*PKKP **PKKPbc 10 53 42.7 +0.8**
comp=Z,3.7nm,1.2s
SQTA P'P' PKPPKPdf1 01 49.4
comp=Z,7.7nm,1.3s
PDG Podgorica 84.55 321⇑ P **P 10 35 32.1 0.0**
ILTH Belurgan, Co L 84.56 342 P **P 10 35 31.6 -0.3**
ILTH Belurgan, Co L 84.56 342⇑ *e*P **P 10 35 31.5 -0.3**
ILTH IAmb IAmb 10 35 32.8
comp=Z,140nm,1.1s
WME Myndd Eilian 84.60 340⇑ *e*P **P 10 35 32.1 0.0**
WVZ Waitaha Valley 84.63 159 P **P 10 35 34.6 +2.5**
WPS Cemaes, Angles 84.65 340⇑ *e*P **P 10 35 32.1 -0.2**
WPS IAMs_20 IAMs_20 11 16 09.5
comp=Z,17μm,21.7s
VAH Vaihoa 84.66 114 *e*P **P 10 35 34.2 +1.3**
comp=Z,91nm,1.3s
VAH Vaihoa 84.66 114 *e*SS SS 10 51 31.6 +1.6
comp=Z,8μm,30.9s
VAH Vaihoa 84.66 114 *e*LR LR 11 02 17.9
comp=Z,24μm,21.9s
I37A Lemond, Waseca 84.66 36 IAMs_20 IAMs_20 11 11 50.6
comp=Z,7μm,21.0s
FNA Florina 84.67 319 P **P 10 35 31.2 -1.6**
SCHQ Schefferville 84.67 16 P **P 10 35 32.4 -0.1**
comp=Z,100nm,0.8s,baz=355,slow=5.4,SNR=69
SCHQ LR LR 11 15 17.9
comp=Z,8μm,21.3s,baz=342,slow=37
comp=Z,100nm,0.8s
DOU Dourbes 84.72 334 *d*P **P 10 35 32.3 -0.6**
comp=Z,80nm,1.1s
WLF1 Llynfaes 84.72 340⇑ *e*P **P 10 35 32.5 -0.2**
WLF1 IAmb IAmb 10 35 33.3
comp=Z,272nm,0.9s
WLF1 IAMs_20 IAMs_20 11 16 11.3
comp=Z,38μm,21.5s
OHR Ohrid 84.73 319 *i* P **P 10 35 33.2 0.0**
KIJV Kijevo 84.75 324⇑ *i*P **P 10 35 32.6 -0.5**
FOEL Foel Wylfa 84.75 339⇑ *e*P **P 10 35 33.1 +0.1**
FOEL IAmb IAmb 10 35 34.2
comp=Z,337nm,1.0s
FOEL IAMs_20 IAMs_20 11 16 32.4
comp=Z,18μm,21.2s
TREB Trebinje 84.78 322⇑ *i*P **P 10 35 32.0 -1.3**
YLL Llanberis 84.80 340⇑ *e*P **P 10 35 33.3 +0.2**
PPT Papeete 84.80 117 P **P 10 35 34.4 +0.8**
comp=Z,13nm,0.7s,baz=3.0,slow=3.9,SNR=3.7
PPT LR LR 11 08 00.4
comp=Z,14μm,20.2s,baz=294,slow=32
comp=Z,13nm,0.7s
FOZ Fox Glacier 84.80 160 P **P 10 35 34.2 +1.3**
KZN Kozani 84.81 318 P **P 10 35 32.3 -1.2**
PPT2 Papeete2 84.81 117 *e*P P 10 35 39.0 +5.3
comp=Z,180nm,1.4s
PPT2 Papeete2 84.81 117 *e*S **SKSac 10 45 54.4 -0.7**
comp=Z,4μm,25.0s
PPT2 *e*SS **SS 10 51 24.6 -7.8**
comp=Z,4μm,25.2s
PPT2 *e*LQ LQ 10 58 36.7
comp=Z,3μm,23.5s
PPT2 *e*LR LR 11 02 02.5
comp=Z,50μm,29.5s
PPT2 *e*LR LR 11 02 11.0
comp=Z,31μm,30.2s
LTZ Lake Taylor 84.81 158 P **P 10 35 36.1 +3.0**
PAE Paea 84.86 117 *e*P P 10 35 39.8 +5.9
comp=Z,58nm,1.4s
PAE Paea 84.86 117 *e*S **S 10 46 02.0 +2.6**
comp=Z,803nm,24.8s
PAE *e*SS **SS 10 51 33.3 +0.4**
comp=Z,538nm,22.8s
PAE *e*LQ LQ 10 58 43.1
comp=Z,754nm,25.2s
PAE *e*LR LR 11 02 20.7
comp=Z,4μm,21.0s
KHZ Kahutara 84.87 157 P **P 10 35 35.4 +2.0**
FETA Feichten 84.91 329 *i* P **P 10 35 33.6 -0.5**
comp=Z,152nm,0.8s,SNR=162
FETA *e*PKKP **PKKPbc 10 53 44.2 +3.0**
comp=Z,4.5nm,1.1s
FETA *e*P'P' PKPPKPdf1 01 43.7
comp=Z,4.2nm,1.2s
LLW Llanuwychllyn 84.92 340⇑ *e*P **P 10 35 33.8 +0.1**
DOV Dover Castle, 84.94 336 *e*P **P 10 35 33.6 -0.2**
ELSH Elham, Standar 84.98 336⇑ *e*P **P 10 35 33.9 -0.2**
ELSH IAmb IAmb 10 35 35.3
comp=Z,546nm,0.9s
ELSH IAMs_20 IAMs_20 11 17 29.1
comp=Z,34μm,18.6s
STON Ston 84.99 322⇑ *i*P **P 10 35 32.9 -1.4**
TYRN Tyrnavos 84.99 318 P **P 10 35 33.8 -0.6**
JCZ Jackson Bay 85.03 161 P **P 10 35 36.4 +2.2**
DAVA Damuels 85.04 329 *e*P **P 10 35 34.3 -0.5**
comp=Z,315nm,0.8s,SNR=201
DAVA PKKP **PKKPbc 10 53 44.8 +3.9**
comp=Z,3.7nm,0.7s
DAVA *e*P'P' PKPPKPdf1 01 48.2
comp=Z,7.5nm,1.3s
KBN Korca 85.09 319 P **P 10 35 34.1 -0.9**
NEST Nestorio 85.11 319 P **P 10 35 33.7 -1.4**
KARP Karpathos 85.14 312 P **P 10 35 33.9 -1.4**
KARP Karpathos 85.14 312 *e*P **P 10 35 34.3 -1.0**
G40A Rib Lake 85.15 34 IAMs_20 IAMs_20 11 12 39.6
comp=Z,6μm,20.0s
TVO Taravao 85.17 117 *e*P **P 10 35 39.5 +4.0**
comp=Z,74nm,1.2s
TVO Taravao 85.17 117 *e*S **S 10 46 02.8 +0.1**
comp=Z,1μm,24.2s
TVO *e*SS **SS 10 51 38.1 +0.4**
comp=Z,945nm,25.7s
TVO Taravao 85.17 117 *e*LR LR 11 02 30.8
comp=Z,4μm,21.2s
GVZ Greta Valley S 85.21 157 P **P 10 35 37.3 +2.2**
THL Klokotos Trika 85.21 318 P **P 10 35 33.0 -2.5**
PENT Pentalofos 85.22 319 P **P 10 35 34.8 -0.9**
DION Dionisos Attik 85.23 315 P **P 10 35 33.2 -2.5**
OXZ Oxford 85.24 158 P **P 10 35 38.2 +3.0**
BRJN Brijuni 85.28 326⇑ *i*P **P 10 35 34.1 -1.6**
DSB Dublin 85.28 341 IAMs_20 IAMs_20 11 17 08.2
comp=Z,8μm,20.0s
DSB Dublin 85.28 341 P **P 10 35 35.6 0.0**
DSB Dublin 85.28 341⇑ *e*P **P 10 35 35.5 0.0**
DSB IAmb IAmb 10 35 36.6
comp=Z,159nm,0.8s
PTL Penteli 85.29 315 P **P 10 35 33.7 -2.3**
RPZ Rata Peaks 85.31 159 LR LR 11 12 28.3
comp=Z,8μm,19.3s,baz=340,slow=35
RPZ Rata Peaks 85.31 159 P **P 10 35 37.3 +1.7**
RPZ Rata Peaks 85.31 159 P **P 10 35 37.9 +2.3**
LKR Lokris 85.34 316 P **P 10 35 33.8 -2.3**
PARN1 Fyli,Attica,Gr 85.36 316 P **P 10 35 33.8 -2.5**
MSZ Milford Sound 85.36 161 P **P 10 35 37.3 +1.6**
STFN Stefani 85.37 316 P **P 10 35 34.8 -1.6**
ATHU Athens Univers 85.39 315 P **P 10 35 34.3 -2.2**
ATH Athens Observa 85.42 316 P **P 10 35 34.1 -2.4**
AGG Agios Georgios 85.43 317 P **P 10 35 34.2 -2.5**
AXAR Agios Charalam 85.44 317 P **P 10 35 34.8 -1.9**
STRD Stroud 85.44 338⇑ *e*P **P 10 35 36.4 0.0**
STRD IAmb IAmb 10 35 37.5
comp=Z,639nm,0.9s
STRD IAMs_20 IAMs_20 11 16 03.8
comp=Z,26μm,23.1s
DAVOX Davos/Dischmat 85.45 329 LR LR 11 17 32.0
comp=Z,27μm,18.4s,baz=26,slow=38
MAGU Magoula 85.46 316 P **P 10 35 34.3 -2.4**
HMNX Herstmonceux 85.48 337⇑ *e*P **P 10 35 37.1 +0.5**
HMNX IAmb IAmb 10 35 37.9
comp=Z,851nm,0.7s
HMNX IAMs_20 IAMs_20 11 17 46.5
comp=Z,27μm,18.5s
BUW Bucklebury Wes 85.49 338⇑ *e*P **P 10 35 36.3 -0.3**
MCH1 Michaelchurch 85.49 339⇑ *e*P **P 10 35 36.5 -0.1**
MCH1 IAmb IAmb 10 35 37.6
comp=Z,225nm,0.8s
MCH1 IAMs_20 IAMs_20 11 17 02.2
comp=Z,19μm,21.4s
VILL Villia 85.51 316 P **P 10 35 34.8 -2.3**
MAKR Makrakomi, Fth 85.55 317 P **P 10 35 35.0 -2.2**
THERA Ancient Thera, 85.56 313 P **P 10 35 34.1 -3.2**
SWN1 Swindon 85.57 338⇑ *e*P **P 10 35 37.0 0.0**
SWN1 IAMs_20 IAMs_20 11 15 45.4
comp=Z,31μm,22.7s
THR3 Thira Island, 85.57 313 P **P 10 35 35.2 -2.1**
WOL Wolverton 85.57 338⇑ *e*P **P 10 35 36.7 -0.4**
WOL IAmb IAmb 10 35 37.7
comp=Z,321nm,0.9s
MONM Monmouth 85.57 339⇑ *e*P **P 10 35 36.9 -0.1**
MONM IAmb IAmb 10 35 38.0
comp=Z,335nm,0.9s
MONM IAMs_20 IAMs_20 11 13 24.7
comp=Z,21μm,25.2s
SNT5 Nea Kammeni, S 85.58 313 P **P 10 35 35.1 -2.3**
OLDB Oldbury-Upon-S 85.66 339⇑ *e*P **P 10 35 36.7 -0.8**
OLDB IAmb IAmb 10 35 38.1
comp=Z,119nm,0.9s
OLDB IAMs_20 IAMs_20 11 17 08.5
comp=Z,22μm,20.4s
LBZ Lake Benmore 85.69 160 P **P 10 35 38.7 +1.3**
LBZ IAmb IAmb 10 36 08.9
comp=Z,138nm,1.1s
LBZ Lake Benmore 85.69 160 P **P 10 35 39.3 +1.9**
PRMD Pramanda 85.73 318 P **P 10 35 37.3 -0.9**
JAN Janina 85.77 318 P **P 10 35 37.7 -0.6**
TETR Tetrakomo, Epi 85.77 318 P **P 10 35 37.6 -0.8**
EVR Evrytania 85.79 317 P **P 10 35 37.1 -1.5**
IGLA Glengowla, Co 85.84 343 P **P 10 35 38.5 +0.2**
IGLA Glengowla, Co 85.84 343 *e*P **P 10 35 37.1 -1.2**
TMZ Timaru 85.92 159 P **P 10 35 40.0 +1.5**
ANX Ano Chora 85.96 317 P **P 10 35 37.5 -1.9**
KALE Kalithea 85.99 317 P **P 10 35 37.1 -2.3**
SERG Sergoula 86.02 317 P **P 10 35 37.8 -1.8**
I40A Norwalk 86.04 35 IAMs_20 IAMs_20 11 12 43.0
comp=Z,9μm,22.0s
SRN Sarande 86.05 319 P **P 10 35 38.2 -1.4**
EFP Efpalio 86.09 317 P **P 10 35 38.7 -1.2**
R32A Long Quarter, 86.10 43 IAMs_20 IAMs_20 11 13 49.7
comp=Z,5μm,20.0s
AMPL Ampelaki 86.11 318 P **P 10 35 38.8 -1.1**
IGT Igoumenitsa 86.13 319 P **P 10 35 38.9 -1.2**
PVO Paravola 86.16 317 P **P 10 35 39.2 -1.0**
IWEX Carrickbyrne, 86.17 341 P **P 10 35 40.7 +0.7**
TAOE Nuku Hiva Isla 86.19 104 *e*PKIKP P 10 35 33.9 -6.9
comp=Z,1μm,25.8s
TAOE Nuku Hiva Isla 86.19 104 *e*PP **PP 10 38 57.5 -4.4**
comp=Z,618nm,25.0s
TAOE *e*S **SKSac 10 46 08.9 +4.9**
comp=Z,5μm,27.7s
TAOE *e*SS **SS 10 51 45.8 -6.9**
comp=Z,3μm,27.3s
TAOE *e*LQ LQ 10 59 14.1
comp=Z,4μm,32.1s
TAOE *e*LR LR 11 02 48.8
comp=Z,43μm,26.0s
GUR Goura 86.21 316 P **P 10 35 38.4 -2.2**
KLV Kalavryta, Ach 86.24 316 P **P 10 35 38.3 -2.4**
EAZ Earnscleugh 86.24 161 P **P 10 35 42.8 +2.7**
NPS Neapolis 86.25 313 P **P 10 35 39.2 -1.6**
KEK Kerkira 86.28 319 IAMs_20 IAMs_20 11 17 32.8
comp=Z,7μm,19.0s
KEK Kerkira 86.28 319 P **P 10 35 40.7 -0.1**
SCIA State Center 86.34 38 IAMs_20 IAMs_20 11 11 13.3
comp=Z,8μm,22.0s
ODZ Otahua Downs 86.42 160 P **P 10 35 43.4 +2.4**
ODZ Otahua Downs 86.42 160 P **P 10 35 44.7 +3.7**
TSLK Tsoukalades, L 86.48 318 P **P 10 35 39.6 -2.1**
LKD2 Lefkada island 86.50 318 P **P 10 35 40.3 -1.7**
NYDR Nydri-Lefkada 86.53 318 P **P 10 35 40.5 -1.5**
DRO Drossia 86.54 317 P **P 10 35 41.1 -1.1**
AXS Araxos 86.55 317 P **P 10 35 40.3 -1.8**
VLX Vlachokerasia 86.59 316 P **P 10 35 40.1 -2.4**
RLS Riolos of Patr 86.60 317 P **P 10 35 41.1 -1.3**
IDI Anoyia 86.65 313 P **P 10 35 41.6 -1.2**
IDI Anoyia 86.65 313 P **P 10 35 40.8 -2.0**
IDI Anoyia 86.65 313 LR LR 11 19 31.4
comp=Z,5μm,18.8s,baz=29,slow=39
KSU1 Kansas State U 86.73 41 IAMs_20 IAMs_20 11 17 56.5
comp=Z,9μm,20.0s
E46A Sault Ste Mari 86.74 30 IAMs_20 IAMs_20 11 16 32.2
comp=Z,5μm,22.0s
VLI Veliai 86.75 315 P **P 10 35 40.4 -2.8**
FSK Fiskardo 86.79 318 P **P 10 35 41.5 -1.8**
I42A Draeger Farm, 86.80 34 IAMs_20 IAMs_20 11 13 30.3
comp=Z,6μm,20.0s
HTL Hartland 86.81 339⇑ *e*P **P 10 35 43.1 0.0**
HTL IAmb IAmb 10 35 44.2
comp=Z,137nm,0.9s
HTL IAMs_20 IAMs_20 11 18 05.6
comp=Z,20μm,20.1s
AMTX Amarillo 86.95 47 IAMs_20 IAMs_20 11 11 39.8
comp=Z,5μm,21.0s
JFWS Jewell Farm 86.97 35 IAMs_20 IAMs_20 11 13 19.7
comp=Z,10μm,22.0s
ITM Ithomi 86.98 316 P **P 10 35 42.3 -2.0**
VLS Valsamata 86.98 317 P **P 10 35 43.0 -1.3**
KTHA Kythira Island 87.01 315 P **P 10 35 42.3 -2.2**
PSDA Pessada-Kefalo 87.03 317 P **P 10 35 43.0 -1.5**
DYA Yadsworthy 87.15 339⇑ *e*P **P 10 35 44.4 -0.4**
DYA IAmb IAmb 10 35 45.4
comp=Z,360nm,1.4s
DYA IAMs_20 IAMs_20 11 17 08.9
comp=Z,20μm,22.1s
MATE Matera 87.15 321⇑ P **P 10 35 45.2 +0.2**
MATE Matera 87.15 321 *e*P **P 10 35 44.6 -0.4**
ANKY Antikythira Is 87.15 314 P **P 10 35 43.8 -1.3**
L40A Anamosa 87.18 36 IAMs_20 IAMs_20 11 12 26.3
comp=Z,8μm,22.0s
N38A Joes South For 87.18 38 IAMs_20 IAMs_20 11 10 26.5
comp=Z,7μm,22.0s
SBD Saint Breward 87.25 339⇑ *e*P **P 10 35 44.8 -0.5**
VLC Villacollemand 87.34 327 P **P 10 35 44.8 -1.2**
CLN7 Carlsbad 7 87.40 50 P **P 10 35 46.5 -0.1**
ELIS Ellis County 87.41 45 P **P 10 35 46.2 -0.2**
VAL Valentia 87.42 343 P **P 10 35 45.6 -0.5**
VAL Valentia 87.42 343 P **P 10 35 46.0 0.0**
ACER Acerenza 87.42 322 P **P 10 35 45.3 -1.1**
AQU L'Aquila 87.42 324 P **P 10 35 46.1 -0.3**
INTR Introdacqua 87.45 324 P **P 10 35 45.8 -0.8**
INTR IAmb IAmb 10 35 47.4
comp=Z,166nm,0.9s
CLNB Carlsbad 87.46 50 P **P 10 35 46.6 -0.2**
HTMS Hat Mesa 87.46 50 P **P 10 35 46.7 -0.1**
OSSC Osservatorio P 87.47 326 P **P 10 35 45.2 -1.4**
OK038 West end E0370 87.49 45 P **P 10 35 46.4 -0.3**
KAN14 Manchester OK 87.57 44 P **P 10 35 46.5 -0.6**
CESX Cesi 87.60 325 P **P 10 35 45.4 -1.8**
SMWD Samnorwood 87.62 46 P **P 10 35 47.6 +0.1**
JLP Les Platons 87.67 337 *e*P **P 10 35 47.1 -0.2**
JSA Saint Aubin 87.73 337⇑ *e*P **P 10 35 47.4 -0.2**
JSA IAmb IAmb 10 35 48.4
comp=Z,324nm,0.9s
JSA IAMs_20 IAMs_20 11 19 44.3
comp=Z,27μm,17.8s
CCA1 Carnmenellis 87.74 339⇑ *e*P **P 10 35 47.3 -0.4**
CCA1 IAmb IAmb 10 35 49.0
comp=Z,107nm,0.9s
CCA1 IAMs_20 IAMs_20 11 18 32.8
comp=Z,16μm,19.6s
VLDQ Val d'Or 87.77 25 P **P 10 35 46.2 -1.6**
VLDQ IAmb IAmb 10 36 07.3
comp=Z,210nm,1.2s
VLDQ IAMs_20 IAMs_20 11 16 19.4
comp=Z,7μm,21.0s
VHRN Van Horn 87.78 52 P **P 10 35 48.6 +0.1**
VHRN IAmb IAmb 10 36 07.7
comp=Z,265nm,1.5s
I45A Fountain 87.85 32 P **P 10 35 48.4 +0.1**
I45A IAmb IAmb 10 36 05.8
comp=Z,219nm,0.8s
GLMI Grayling 87.88 31 P **P 10 35 48.4 -0.1**
GLMI IAMs_20 IAMs_20 11 21 26.5
comp=Z,5μm,20.0s
CROK Carrier 87.89 44 P **P 10 35 48.4 -0.3**
PAOL Paolisi 87.90 323 P **P 10 35 47.0 -1.7**
P38A Dawn 87.92 39 P **P 10 35 48.2 -0.5**
P38A IAMs_20 IAMs_20 11 14 24.1
comp=Z,5μm,20.0s
L42A Oliver, Polo 87.95 36 P **P 10 35 47.9 -0.9**
L42A IAmb IAmb 10 36 08.7
comp=Z,122nm,0.9s
L42A IAMs_20 IAMs_20 11 13 14.6
comp=Z,7μm,22.0s
K43A Burlington 88.00 34 P **P 10 35 48.0 -1.0**
K43A IAmb IAmb 10 36 05.7
comp=Z,107nm,1.0s
K43A IAMs_20 IAMs_20 11 13 44.1
comp=Z,8μm,22.0s
PECS Pecos 88.08 51 P **P 10 35 49.6 -0.2**
PECS IAmb IAmb 10 36 08.9
comp=Z,140nm,1.3s
CUC Castrocucco 88.09 321 P **P 10 35 47.4 -2.3**
BNI Bardonecchia 88.15 330 P **P 10 35 48.9 -1.0**
BNI Bardonecchia 88.15 330 P **P 10 35 49.4 -0.5**
BNI pmax pmax
comp=Z,67nm,0.8s
TIP Timpagrande 88.24 320⇑ P **P 10 35 50.1 -0.3**
POST Post 88.33 49 P **P 10 35 50.4 -0.5**
POST IAmb IAmb 10 36 09.2
comp=Z,226nm,1.4s
ODSA Odessa 88.37 50 P **P 10 35 50.9 -0.3**
ODSA IAmb IAmb 10 36 09.3
comp=Z,200nm,1.4s
N41A Harden Midland 88.40 37 IAMs_20 IAMs_20 11 12 36.7
comp=Z,9μm,22.0s
P40A Paris 88.73 39 IAMs_20 IAMs_20 11 11 12.6
comp=Z,7μm,22.0s
TBI Tubuai 88.73 121 *e*P **P 10 35 55.1 +2.5**
comp=Z,163nm,1.1s
TBI Tubuai 88.73 121 *e*PP PP 10 39 13.7 -8.5
comp=Z,2μm,33.0s
TBI *e*S **S 10 46 33.0 -3.8**
comp=Z,23μm,28.2s
TBI *e*SS **SS 10 52 25.1 -4.6**
comp=Z,13μm,29.8s
TBI *e*LQ LQ 10 59 51.6

comp=Z,18µm,28.0s
TBI *e*LR LR 11 03 57.9
comp=Z,165µm,31.5s
TBI *e*LR LR 11 04 01.7
comp=Z,31µm,30.2s
LPIG La Paz 88.74 60 LR LR 11 10 43.0
comp=Z,4µm,19.4s,baz=314,slow=32
ALPN Alpine 88.91 52 P **P 10 35 53.7 -0.1**
ALPN IAmb IAmb 10 36 11.9
comp=Z,202nm,1.6s
OK052 Battle Ridge R 88.91 44 P **P 10 35 53.1 -0.4**
OK052 IAMs_20 IAMs_20 11 14 01.2
comp=Z,5µm,22.0s
HQIL Hanson Quary C 88.94 35 IAMs_20 IAMs_20 11 14 42.8
comp=Z,9µm,20.0s
M44A Midewin, Midew 89.18 35 IAMs_20 IAMs_20 11 13 55.2
comp=Z,8µm,21.0s
HDIL Hopedale 89.26 36 IAMs_20 IAMs_20 11 18 05.4
comp=Z,6µm,22.0s
SLBS Sierra La Lagu 89.26 60 IAMs_20 IAMs_20 11 08 54.8
comp=Z,8µm,21.0s
I49A Point Hope 89.34 30 IAMs_20 IAMs_20 11 18 00.9
comp=Z,6µm,20.0s
L46A Eue Claire 89.46 34 IAMs_20 IAMs_20 11 13 48.5
comp=Z,6µm,21.0s
CTZ Chatham Island 89.46 151 IAMs_20 IAMs_20 11 10 05.7
comp=Z,8µm,22.0s
ICQ Pointe Anglais 89.49 18 IAMs_20 IAMs_20 11 17 10.7
comp=Z,8µm,22.0s
R40A Maddies Statio 89.57 39 IAMs_20 IAMs_20 11 16 13.9
comp=Z,5µm,22.0s
TX31 Lajitas Ar. Si 89.61 52 P **P 10 35 57.1 +0.1**
TX31 IAmb IAmb 10 36 15.4
comp=Z,112nm,1.1s
TXAR Lajitas Array 89.61 52 P **P 10 35 56.8 -0.2**
TXAR Lajitas Array 89.61 52 P **P 10 35 57.3 +0.3**
comp=Z,21nm,0.8s,baz=297,slow=3.3,SNR=169
TXAR PKKPbc **PKKPbc 10 53 30.8 +1.4**
comp=Z,1.3nm,0.7s,baz=147,slow=6.8,SNR=9.1
TXAR LR LR 11 10 17.5
comp=Z,3µm,21.4s,baz=312,slow=32
comp=Z,21nm,0.8s
MSEY Mahe Island 89.75 264 IAMs_20 IAMs_20 11 17 12.3
comp=Z,5µm,20.0s
MSEY Mahe Island 89.75 264 P **P 10 35 59.4 +1.6**
LDAQ Lac Daran 89.84 21 P **P 10 35 57.2 -0.6**
LDAQ IAmb IAmb 10 36 01.2
comp=Z,90nm,0.9s
LDAQ IAMs_20 IAMs_20 11 17 20.4
comp=Z,7µm,22.0s
ATD Arta Tunnel 89.85 284 P **P 10 35 57.2 -1.1**
ATD IAmb IAmb 10 36 20.4
comp=Z,194nm,1.4s
ATD IAMs_20 IAMs_20 11 21 03.9
comp=Z,9µm,22.0s
ATD Arta Tunnel 89.85 284 P **P 10 35 58.7 +0.4**
comp=Z,3.2nm,1.1s,baz=26,slow=4.1,SNR=14
ATD LR LR 11 21 05.4
comp=Z,218nm,19.4s,baz=47,slow=39
P43A Skaggs, Pawnee 89.87 37 P **P 10 35 58.0 0.0**
P43A IAmb IAmb 10 36 15.0
comp=Z,152nm,1.0s
P43A IAMs_20 IAMs_20 11 13 31.6
comp=Z,8µm,22.0s
U38A Gravette 89.88 42 IAMs_20 IAMs_20 11 16 56.8
comp=Z,5µm,22.0s
HPIG 89.97 55 P **P 10 35 58.9 0.0**
HPIG IAmb IAmb 10 36 17.4
comp=Z,159nm,1.2s
SADO Sadowa 90.06 28 LR LR 11 17 20.0
comp=Z,3µm,21.4s,baz=343,slow=36
AAM Ann Arbor 90.35 32 IAMs_20 IAMs_20 11 23 18.0
comp=Z,4µm,19.0s
TRQ Mont Tremblant 90.38 24 IAMs_20 IAMs_20 11 22 38.1
comp=Z,6µm,19.0s
K50A Casco 90.39 31 IAMs_20 IAMs_20 11 16 48.8
comp=Z,6µm,22.0s
SFIN Lafayette 90.42 35 IAMs_20 IAMs_20 11 14 42.9
comp=Z,8µm,22.0s
LMQ La Malbaie 90.48 21 IAMs_20 IAMs_20 11 17 49.2
comp=Z,6µm,22.0s
Z35A Perchaven, San 90.61 46 IAMs_20 IAMs_20 11 11 53.7
comp=Z,6µm,21.0s
N47A Urbana 90.64 34 IAMs_20 IAMs_20 11 15 56.8
comp=Z,8µm,21.0s
Q44A Meyer Farm, Va 90.69 37 IAMs_20 IAMs_20 11 13 57.4
comp=Z,6µm,22.0s
VAE Valguarnera 90.72 321 LR LR 11 21 12.2
comp=Z,20µm,18.4s,baz=50,slow=38
DELO Deloro Mine 90.83 27 IAMs_20 IAMs_20 11 23 53.9
comp=Z,4µm,18.0s
P46A Rosedale 90.97 36 IAMs_20 IAMs_20 11 13 32.8
comp=Z,8µm,22.0s
JCT Junction City 91.18 49 IAMs_20 IAMs_20 11 11 51.2
comp=Z,5µm,21.0s
WBO Williamsburg 91.22 25 IAMs_20 IAMs_20 11 24 56.2
comp=Z,4µm,18.0s
D62A Allapoint, All 91.27 20 IAMs_20 IAMs_20 11 21 02.9
comp=Z,8µm,20.0s
N49A Columbus Grove 91.27 33 IAMs_20 IAMs_20 11 15 41.3
comp=Z,5µm,21.0s
MNTQ Montreal, Queb 91.32 24 IAMs_20 IAMs_20 11 22 22.8
comp=Z,6µm,20.0s
M50A Fremont 91.35 32 IAMs_20 IAMs_20 11 23 26.5
comp=Z,5µm,21.0s
O48B Farmland 91.39 34 IAMs_20 IAMs_20 11 16 09.6
comp=Z,8µm,21.0s
S44A Carbondale 91.53 38 IAMs_20 IAMs_20 11 12 38.6
comp=Z,7µm,22.0s
E62A Clayton Lake 91.56 21 IAMs_20 IAMs_20 11 20 24.6
comp=Z,5µm,20.0s
PECO Prince Edward 91.56 27 IAMs_20 IAMs_20 11 23 41.2
comp=Z,5µm,19.0s
MIAR Mount Ida 91.74 43 IAMs_20 IAMs_20 11 16 25.1
comp=Z,5µm,21.0s
LONY Lake Ozonia 91.79 25 IAMs_20 IAMs_20 11 18 43.2
comp=Z,6µm,22.0s
O49A Covington 91.80 33 IAMs_20 IAMs_20 11 15 31.5
comp=Z,7µm,22.0s
EJON La Jonquera 91.82 331 P **P 10 36 06.3 -0.7**
J55A Hilton 91.84 28 IAMs_20 IAMs_20 11 23 04.7
comp=Z,5µm,20.0s
BATG Bathurst New B 91.87 18 IAMs_20 IAMs_20 11 18 24.8
comp=Z,5µm,20.0s
P48A Milroy 91.91 35 IAMs_20 IAMs_20 11 16 22.6
comp=Z,9µm,21.0s
FRNY Flat Rock 91.93 24 IAMs_20 IAMs_20 11 23 48.8
comp=Z,5µm,19.0s
M52A Chesterland 91.94 31 IAMs_20 IAMs_20 11 16 25.7
comp=Z,5µm,21.0s
N51A Ashland 92.04 32 IAMs_20 IAMs_20 11 24 44.5
comp=Z,5µm,20.0s
MMNY Mt. Morris Dam 92.26 28 IAMs_20 IAMs_20 11 23 38.1
comp=Z,5µm,20.0s
ACSO Alum Creek Sta 92.35 33 IAMs_20 IAMs_20 11 17 35.9
comp=Z,5µm,22.0s
T45A Paducah 92.36 38 IAMs_20 IAMs_20 11 13 02.7
comp=Z,6µm,22.0s
J57A Williamstown 92.37 26 IAMs_20 IAMs_20 11 18 36.7
comp=Z,5µm,22.0s
NCB Newcomb 92.48 25 IAMs_20 IAMs_20 11 24 23.5
comp=Z,6µm,18.0s
WCI Wyandotte Cave 92.51 36 IAMs_20 IAMs_20 11 15 20.5
comp=Z,6µm,22.0s
G62A West of Eustis 92.54 22 IAMs_20 IAMs_20 11 21 50.7
comp=Z,4µm,20.0s
F64A Sherman 92.58 20 IAMs_20 IAMs_20 11 21 39.6
comp=Z,6µm,21.0s
VT1 Waterbury 92.64 24 IAMs_20 IAMs_20 11 19 16.1
comp=Z,5µm,22.0s
N53A Lisbon 92.76 31 IAMs_20 IAMs_20 11 17 00.7
comp=Z,5µm,20.0s
K57A Scipio Center 92.77 27 IAMs_20 IAMs_20 11 24 18.5
comp=Z,6µm,20.0s
J59A Piesco 92.84 25 IAMs_20 IAMs_20 11 25 12.0
comp=Z,5µm,18.0s
PKME Peaks-Kenny Pk 92.86 21 IAMs_20 IAMs_20 11 21 59.1
comp=Z,6µm,19.0s
L56A Greenwood 92.91 28 IAMs_20 IAMs_20 11 23 48.1
comp=Z,4µm,20.0s
H62A Milan 92.93 23 IAMs_20 IAMs_20 11 24 09.2
comp=Z,6µm,20.0s
O52A Adamsville 92.93 32 IAMs_20 IAMs_20 11 26 07.4
comp=Z,5µm,20.0s
P51A Williamsport 92.94 33 IAMs_20 IAMs_20 11 17 42.6
comp=Z,6µm,22.0s
ROCAM Rodrigues Isla 92.98 247 IAMs_20 IAMs_20 11 15 39.2
comp=Z,6µm,22.0s

LBNH Lisbon 92.99 23 IAMs_20 IAMs_20 11 22 21.9
comp=Z,7µm,19.0s
T47A Sharon Grove 93.13 37 IAMs_20 IAMs_20 11 15 11.9
comp=Z,6µm,22.0s
Q51A Peebles 93.19 33 IAMs_20 IAMs_20 11 16 13.3
comp=Z,8µm,22.0s
P52A Corning 93.21 32 IAMs_20 IAMs_20 11 23 44.7
comp=Z,5µm,20.0s
HNH Hanover 93.36 24 IAMs_20 IAMs_20 11 19 47.6
comp=Z,6µm,21.0s
R50A Paris 93.37 34 IAMs_20 IAMs_20 11 17 30.1
comp=Z,8µm,21.0s
WVL Waterville 93.39 22 IAMs_20 IAMs_20 11 19 16.2
comp=Z,6µm,21.0s
BINY Binghamton 93.43 27 IAMs_20 IAMs_20 11 24 46.8
comp=Z,4µm,19.0s
MAHO Mahon 93.43 329 P **P 10 36 13.6 -0.7**
O54A Avella 93.48 31 IAMs_20 IAMs_20 11 20 39.6
comp=Z,5µm,20.0s
I62A Tamworth 93.51 23 IAMs_20 IAMs_20 11 22 45.5
comp=Z,7µm,20.0s
LMN Caledonia Moun 93.52 18 IAMs_20 IAMs_20 11 19 25.2
comp=Z,6µm,21.0s
I63A Otisfield 93.58 23 IAMs_20 IAMs_20 11 20 04.4
comp=Z,6µm,21.0s
J61A Chester 93.59 24 IAMs_20 IAMs_20 11 23 14.8
comp=Z,5µm,20.0s
P53A Whipple 93.65 32 IAMs_20 IAMs_20 11 23 53.2
comp=Z,5µm,20.0s
GGN Saint George 93.67 20 IAMs_20 IAMs_20 11 23 28.6
comp=Z,8µm,20.0s
Q52A Bidwell 93.71 33 IAMs_20 IAMs_20 11 18 17.0
comp=Z,7µm,21.0s
M57A Sunshine Farm, 93.76 28 IAMs_20 IAMs_20 11 24 23.7
comp=Z,6µm,20.0s
TRY Troy 93.77 25 IAMs_20 IAMs_20 11 25 19.7
comp=Z,5µm,18.0s
EMMW East Machias 93.89 20 IAMs_20 IAMs_20 11 24 26.2
comp=Z,5µm,20.0s
HKT Hockley 93.92 47 IAMs_20 IAMs_20 11 22 56.0
comp=Z,5µm,20.0s
HKT Hockley 93.92 47 P **P 10 36 17.7 +1.0**
HKT pmax pmax
comp=Z,336nm,1.8s
OXF Oxford 93.95 40 IAMs_20 IAMs_20 11 18 01.9
comp=Z,4µm,22.0s
KSPA Keystone Colle 94.07 27 IAMs_20 IAMs_20 11 25 34.8
comp=Z,5µm,20.0s
ETOS Mallorca 94.14 329 P **P 10 36 17.2 -0.5**
MCWV Mont Chateau 94.14 31 IAMs_20 IAMs_20 11 20 59.1
comp=Z,5µm,21.0s
U49A Red Boiling Sp 94.14 36 IAMs_20 IAMs_20 11 16 17.2
comp=Z,6µm,22.0s
T50A Nancy 94.17 36 IAMs_20 IAMs_20 11 16 46.3
comp=Z,6µm,22.0s
S51A Beattyville 94.23 34 IAMs_20 IAMs_20 11 18 06.8
comp=Z,7µm,20.0s
PLAL Pickwick Lake 94.25 39 IAMs_20 IAMs_20 11 18 14.8
comp=Z,4µm,20.0s
Q54A Coxs Mills 94.30 32 IAMs_20 IAMs_20 11 26 23.5
comp=Z,4µm,20.0s
K62A Royalston 94.31 24 IAMs_20 IAMs_20 11 23 07.7
comp=Z,4µm,18.0s
143A Socs Landing, 94.32 42 IAMs_20 IAMs_20 11 19 47.2
comp=Z,5µm,20.0s
N58A Sunbury 94.35 28 IAMs_20 IAMs_20 11 24 39.2
comp=Z,4µm,20.0s
L61B Northampton 94.35 25 IAMs_20 IAMs_20 11 23 21.0
comp=Z,4µm,20.0s
Y45A Yeager Farm, C 94.39 41 IAMs_20 IAMs_20 11 17 57.1
comp=Z,5µm,20.0s
KEST Kesra 94.59 323 P **P 10 36 19.2 -0.7**
comp=Z,61nm,0.9s,baz=359,slow=2.4,SNR=44
KEST LR LR 11 24 11.6
comp=Z,19µm,19.1s,baz=25,slow=39
comp=Z,61nm,0.9s
KEST Kesra 94.59 323 P **P 10 36 19.4 -0.5**
SNR=19
HRV Adam Dziewonsk 94.67 24 IAMs_20 IAMs_20 11 23 33.3
comp=Z,7µm,20.0s
FURI Furi 94.69 285 IAMs_20 IAMs_20 11 24 04.3
comp=Z,6µm,22.0s
CMAH Dijebel Manchou 94.77 325 P **P 10 36 17.3 -3.4**
441A DeRidder 94.83 45 IAMs_20 IAMs_20 11 15 07.3
comp=Z,7µm,22.0s
WES Weston 94.85 24 IAMs_20 IAMs_20 11 23 28.2
comp=Z,7µm,19.0s
Q56A Snyder Ridge, 94.93 31 IAMs_20 IAMs_20 11 27 32.0
comp=Z,4µm,19.0s
BCX Boston College 94.95 24 IAMs_20 IAMs_20 11 23 21.6
comp=Z,6µm,20.0s
UCCT U Connecticut 95.09 25 IAMs_20 IAMs_20 11 19 26.5
comp=Z,5µm,22.0s
S54A Dingess, Beckl 95.09 33 IAMs_20 IAMs_20 11 17 58.6
comp=Z,8µm,22.0s
X48A Hartselle 95.19 39 IAMs_20 IAMs_20 11 18 15.5
comp=Z,4µm,22.0s
R55A Marlinton 95.19 32 IAMs_20 IAMs_20 11 26 56.1
comp=Z,5µm,20.0s
MVL Millersville 95.21 28 IAMs_20 IAMs_20 11 26 21.2
comp=Z,6µm,19.0s
PAL Palisades 95.22 26 IAMs_20 IAMs_20 11 27 12.1
comp=Z,5µm,18.0s
BRNJ Basking Ridge 95.27 27 IAMs_20 IAMs_20 11 26 37.5
comp=Z,4µm,18.0s
CKFL Kef-Lekhel 95.28 325 P **P 10 36 20.1 -3.0**
EIBI Ibiza 95.36 330 P **P 10 36 22.9 -0.4**
CPNY Central Park 95.39 26 IAMs_20 IAMs_20 11 27 17.6
comp=Z,6µm,18.0s
L64A Middleborough 95.41 24 IAMs_20 IAMs_20 11 23 43.0
comp=Z,6µm,19.0s
W50A Signal Mountai 95.43 37 IAMs_20 IAMs_20 11 16 42.7
comp=Z,6µm,21.0s
N62A Caumsett State 95.44 26 IAMs_20 IAMs_20 11 24 40.9
comp=Z,4µm,20.0s
M63A Gales Ferry 95.50 25 IAMs_20 IAMs_20 11 19 50.3
comp=Z,6µm,22.0s
DFRA Djebel Bou Aff 95.54 326 P **P 10 36 21.5 -2.8**
WUPA West Chester U 95.55 28 IAMs_20 IAMs_20 11 25 57.1
comp=Z,4µm,19.0s
146A Union 95.61 41 IAMs_20 IAMs_20 11 24 00.3
comp=Z,6µm,22.0s
ECAL Calabor 95.65 337 P **P 10 36 23.9 -0.7**
Z47A Carrollton 95.67 40 IAMs_20 IAMs_20 11 19 13.4
comp=Z,5µm,21.0s
ECHE Chera 95.76 332 P **P 10 36 24.8 -0.4**
PBRG Braganca 95.77 337 *e*P **P 10 36 24.6 -0.6**
PBRG *i* IAmb IAmb 10 36 30.8
comp=Z,71nm,1.5s
PBRG *e*PP **PP 10 40 21.9 +5.7**
TKL Tuckaleechee C 95.78 36 LR LR 11 24 14.5
comp=Z,3µm,18.9s,baz=331,slow=38
M65A Busby, Falmout 95.81 24 IAMs_20 IAMs_20 11 24 12.5
comp=Z,5µm,19.0s
M65A Busby, Falmout 95.81 24 P **P 10 36 26.2 +1.0**
baz=335
U54A Nelsons Funny 95.94 34 IAMs_20 IAMs_20 11 19 01.2
comp=Z,8µm,21.0s
UCM Universidad Co 95.96 334 P **P 10 36 25.6 -0.4**
BLA Blacksburg 95.97 32 IAMs_20 IAMs_20 11 18 36.8
comp=Z,7µm,22.0s
Y49A Blount Mountai 95.98 38 IAMs_20 IAMs_20 11 17 39.4
comp=Z,5µm,21.0s
P61A Hammonton 96.08 27 IAMs_20 IAMs_20 11 28 18.0
comp=Z,4µm,20.0s
PGAV Gavieira, Arco 96.09 338 *e*P **P 10 36 25.7 -1.0**
PGAV *i* IAmb IAmb 10 36 32.5
comp=Z,55nm,1.4s
PGAV *e*PP **PP 10 40 22.1 +3.4**
PGAV *e*S **S 10 47 50.3 +7.5**
PGAV *e*LQ LQ 11 06 49.2
PGAV *e*LR LR 11 08 42.0
PGAV *i* IAMs_20 IAMs_20 11 23 00.3
comp=Z,11µm,22.0s
S57A Dark Hollow, R 96.12 31 IAMs_20 IAMs_20 11 26 43.5
comp=Z,4µm,20.0s
X51A Calhoun 96.16 37 IAMs_20 IAMs_20 11 17 06.1
comp=Z,5µm,21.0s
W52A Murphy 96.17 36 IAMs_20 IAMs_20 11 19 02.2
comp=Z,5µm,20.0s
V53A Saluda 96.21 35 IAMs_20 IAMs_20 11 18 13.2
comp=Z,7µm,21.0s
PCAB Cabril 96.25 338 *e*P **P 10 36 27.2 -0.1**
PCAB *i* IAmb IAmb 10 36 50.9
comp=Z,80nm,1.9s
PCAB *e*tx tx 10 40 29.2
R58B Mineral 96.38 30 IAMs_20 IAMs_20 11 25 01.4

comp=Z,4µm,20.0s
MVO Moncorvo 96.44 337 *e*P **P 10 36 27.9 -0.4**
MVO *i* IAmb IAmb 10 37 01.4
comp=Z,64nm,2.3s
MVO *e*PP **PP 10 40 28.2 +6.8**
MVO *e*S **S 10 47 41.0 -4.7**
MVO *e*LQ LQ 11 05 07.3
MVO *e*LR LR 11 09 58.7
MVO *i* IAMs_20 IAMs_20 11 22 49.5
comp=Z,18µm,22.0s
POLO Lamas de Olo 96.49 337 *e*P **P 10 36 27.9 -0.6**
POLO *i* IAmb IAmb 10 36 36.4
comp=Z,31nm,1.2s
POLO *e*PP **PP 10 40 27.6 +5.8**
PVRL Vila Real 96.56 337 *e*P **P 10 36 28.4 -0.4**
PVRL *i* IAmb IAmb 10 36 52.5
comp=Z,55nm,1.7s
PVRL *e*PP **PP 10 40 29.9 +7.7**
T57A Hurt 96.64 32 IAMs_20 IAMs_20 11 17 36.5
comp=Z,6µm,22.0s
U56A King 96.72 33 IAMs_20 IAMs_20 11 19 09.6
comp=Z,5µm,21.0s
ESDC Sonseca Array 96.77 334 P **P 10 36 29.0 -0.8**
comp=Z,22nm,0.8s,baz=17,slow=4.2,SNR=167
ESDC PKKP **PKKPbc 10 53 12.6 +1.4**
comp=Z,1.1nm,1.0s,baz=222,slow=1.7,SNR=5.8
ESDC PKPPKP **P'P'df 11 01 24.5 -5.6**
comp=Z,0.9nm,1.1s,baz=193,slow=3.1,SNR=4.1
ESDC LR LR 11 24 50.4
comp=Z,27µm,20.9s,baz=18,slow=38
comp=Z,22nm,0.8s
PAB San Pablo 97.02 334 P **P 10 36 30.2 -0.7**
R61A Willards 97.05 28 IAMs_20 IAMs_20 11 26 46.9
comp=Z,5µm,20.0s
Y52A Lilburn 97.11 37 IAMs_20 IAMs_20 11 17 35.3
comp=Z,7µm,22.0s
PVIS Viseu 97.12 337 *e*P **P 10 36 29.1 -2.2**
PVIS *e*PP **PP 10 40 32.4 +5.8**
T59A Double "B" Far 97.37 31 IAMs_20 IAMs_20 11 18 41.5
comp=Z,5µm,22.0s
S61A Accomac 97.49 29 IAMs_20 IAMs_20 11 22 53.7
comp=Z,5µm,20.0s
CART Cartagena 97.52 331 P **P 10 36 32.0 -1.1**
250A Grady 97.56 39 IAMs_20 IAMs_20 11 20 54.4
comp=Z,6µm,21.0s
TLOR Lorca, Murcia 97.73 331 P **P 10 36 33.5 -0.5**
V58A Windy Hill, Pi 97.73 32 IAMs_20 IAMs_20 11 19 52.3
comp=Z,7µm,22.0s
COI Coimbra 97.75 337 *e*P **P 10 36 33.4 -0.6**
COI *e*PP **PP 10 40 36.7 +5.4**
GOGA Godfrey 97.77 37 IAMs_20 IAMs_20 11 18 16.6
comp=Z,5µm,21.0s
152A Waverly Hall 97.77 38 IAMs_20 IAMs_20 11 19 27.8
comp=Z,6µm,20.0s
PCBR Castelo Branco 97.79 336 *e*P **P 10 36 33.5 -0.7**
PCBR *i* IAmb IAmb 10 37 07.6
comp=Z,29nm,2.1s
PCBR *e*PP PP 10 40 40.3 +8.6
W57A Gilead 97.89 33 IAMs_20 IAMs_20 11 18 59.8
comp=Z,7µm,21.0s
PCAS Casmilo, Conde 97.92 337 *e*P **P 10 36 34.1 -0.7**
PCAS *i* IAmb IAmb 10 36 44.8
comp=Z,35nm,1.5s
PCAS *e*PP **PP 10 40 37.8 +5.2**
MOIG Morelia 97.94 58 IAMs_20 IAMs_20 11 15 32.3
comp=Z,6µm,21.0s
PMRV Marv??o 98.14 336 *e*P **P 10 36 35.1 -0.7**
PMRV *i* IAmb IAmb 10 36 54.4
comp=Z,29nm,1.4s
PMRV *e*PP **PP 10 40 39.1 +4.8**
PMRV *e*S S 10 47 39.1 -21
PMRV *e*LQ LQ 11 06 15.1
PMRV *e*LR LR 11 10 14.1
PMRV *i* IAMs_20 IAMs_20 11 24 06.5
comp=Z,17µm,22.0s
PSARD Sardoal 98.22 337 *e*P **P 10 36 35.8 -0.4**
PSARD *i* IAmb IAmb 10 36 55.6
comp=Z,23nm,2.0s
PSARD *e*PP PP 10 40 43.5 +8.5
EADA Adamuz 98.33 334 P **P 10 36 36.2 -0.6**
ENIJ Nijar 98.52 331 P **P 10 36 36.1 -1.6**
W59A Clinton 98.55 32 IAMs_20 IAMs_20 11 20 26.9
comp=Z,7µm,22.0s
154A Montrose 98.59 37 IAMs_20 IAMs_20 11 18 17.5
comp=Z,6µm,22.0s
EBAD Badajoz 98.63 336 P **P 10 36 37.6 -0.4**
352A Blakely 98.63 39 IAMs_20 IAMs_20 11 19 39.0
comp=Z,6µm,22.0s
X58A Rowland 98.69 33 IAMs_20 IAMs_20 11 21 18.7
comp=Z,8µm,21.0s
ECAB El Cabril 98.71 334 P **P 10 36 37.8 -0.6**
PESTR Estremoz 98.71 336 P **P 10 36 37.5 -1.0**
PESTR Estremoz 98.71 336 *e*P **P 10 36 37.1 -1.3**
PESTR *i* IAmb IAmb 10 36 38.8
comp=Z,31nm,1.0s
PESTR *e*PP **PP 10 40 43.1 +4.3**
PMTG Montargil 98.73 337 *e*P **P 10 36 38.0 -0.5**
PMTG *i* IAmb IAmb 10 36 42.9
comp=Z,26nm,2.1s
PMTG *e*PP **PP 10 40 44.5 +5.7**
EQTA Presa de Quent 98.78 332 P **P 10 36 37.5 -1.3**
V61A Roper 98.78 31 IAMs_20 IAMs_20 11 20 45.9
comp=Z,4µm,20.0s
EGOR Sierra Gorda, 99.11 333 P **Pdif 10 36 39.1 -1.3**
ELGU Los Guajares, 99.14 332 P **Pdif 10 36 39.0 -1.5**
EVO Evora 99.15 336 P **Pdif 10 36 39.6 -0.8**
EVO Evora 99.15 336 *e*P **Pdif 10 36 39.5 -0.8**
EVO *i* IAmb IAmb 10 37 17.8
comp=Z,26nm,1.6s
EVO *e*PP **PP 10 40 46.8 +4.7**
PBAR Barrancos 99.16 335 P **Pdif 10 36 39.7 -0.7**
PBAR Barrancos 99.16 335 *e*Pdif **Pdif 10 36 39.8 -0.7**
PBAR *i* IAmb IAmb 10 36 59.0
comp=Z,27nm,1.4s
PBAR *e*PP **PP 10 40 48.3 +6.2**
PMAFR Mafra 99.16 337 *e*Pdif **Pdif 10 36 42.8 +2.3**
PMAFR *e*PP **PP 10 40 47.5 +5.4**
PARRA Arraiolos 99.22 337 *e*P **Pdif 10 36 38.5 -2.2**
PARRA *i* IAmb IAmb 10 36 39.6
comp=Z,26nm,1.0s
PARRA *e*PP **PP 10 40 46.4 +3.8**
LIS Lisbon 99.34 337 *e*Pdif **Pdif 10 36 40.8 -0.4**
LIS *e*PP **PP 10 40 43.9 +0.4**
LIS IAMs_20 IAMs_20 11 23 25.1
comp=N,19µm,17.5s
LIS Lisbon 99.34 337 *e*PP **PP 10 40 49.1 +5.7**
SBV Sambava 99.40 260 P **Pdif 10 36 43.6 +1.9**
EMIN Mina Concepcio 99.41 335 P **Pdif 10 36 41.0 -0.6**
EMAL Malaga-Limoner 99.53 333 P **Pdif 10 36 40.6 -1.5**
NHSC New Hope 99.54 35 IAMs_20 IAMs_20 11 19 21.5
comp=Z,8µm,22.0s
PBEJ Beja 99.57 336 *e*Pdif **Pdif 10 36 41.9 -0.4**
PBEJ *i* IAmb IAmb 10 37 22.9
comp=Z,26nm,1.8s
PBEJ *e*PP **PP 10 40 45.9 +0.7**
Y60A Bolivia 99.64 33 IAMs_20 IAMs_20 11 21 08.8
comp=Z,6µm,21.0s
CSU Charleston Sou 99.69 35 IAMs_20 IAMs_20 11 20 40.4
comp=Z,8µm,22.0s
MESJ Messejana 99.85 336 *e*Pdif **Pdif 10 36 43.0 -0.5**
MESJ *e*PP **PP 10 40 47.5 +0.1**
MESJ *e*SS SS 10 55 07.7 +2.3
MESJ IAMs_20 IAMs_20 11 23 49.6
comp=Z,30µm,31.6s
MESJ Messejana 99.85 336 *e*Pdif **Pdif 10 36 44.8 +1.3**
MESJ *e*PP **PP 10 40 52.2 +4.8**
EGRO El Granado 99.89 336 P **Pdif 10 36 43.6 -0.1**
553A Crawfordville 99.93 39 IAMs_20 IAMs_20 11 22 27.0
comp=Z,6µm,21.0s
ESPR Espera 99.94 334 P **Pdif 10 36 43.7 -0.3**
PCVE Castro Verde 99.98 336 P **Pdif 10 36 43.8 -0.3**
PCVE Castro Verde 99.98 336 *e*P **Pdif 10 36 43.6 -0.5**
PCVE *e*PP **PP 10 40 52.9 +4.5**
PVAQ Vaqueiros 100.09 336 P **Pdif 10 36 43.6 -0.9**
PVAQ Vaqueiros 100.09 336 *e*Pdif **Pdif 10 36 44.0 -0.5**
PVAQ *i* IAmb IAmb 10 36 48.9
comp=Z,27nm,2.1s
PVAQ *e*PP **PP 10 40 53.3 +4.1**
PVAQ *e*LQ LQ 11 07 33.0
PVAQ *e*LR LR 11 11 38.4
PVAQ *i* IAMs_20 IAMs_20 11 24 42.6
comp=Z,21µm,24.0s
257A Skidaway Islan 100.10 36 IAMs_20 IAMs_20 11 24 15.3
comp=Z,7µm,22.0s

WMELI	**Melilla**	100.26	331	P		Pdif	10 36 44.4	-1.0	
EMLI	**Melilla**	100.28	331	P		Pdif	10 36 45.2	-0.2	
PTEO	**Sao Teotonio**	100.28	336	*e*Pdif		Pdif	10 36 45.8	+0.4	
PTEO				*e*PP		PP	10 40 54.6	+4.0	
PBDV	**Barranco-do-Ve**	100.30	336	P		Pdif	10 36 45.7	+0.1	
PBDV	**Barranco-do-Ve**	100.30	336	*e*Pdif		Pdif	10 36 45.2	-0.3	
PBDV				*e*PP		PP	10 40 55.0	+4.1	
MORF	**Marmelete**	100.48	336	*e*Pdif		Pdif	10 36 46.0	-0.4	
MORF				*e*PP		PP	10 40 52.5	+0.3	
MORF				IAMs_20	IAMs_20		11 22 40.7		
	comp=Z,22μm,25.3s								
MORF	**Marmelete**	100.48	336	*e*Pdif		Pdif	10 36 48.8	+2.4	
MORF				*e*PP		PP	10 40 57.6	+5.4	
456A	**Hilliard**	100.67	37	IAMs_20	IAMs_20		11 22 26.5		
	comp=Z,6μm,20.0s								
LODK	**Lodwar**	100.68	283	P		Pdif	10 36 46.9	-0.8	
PFVI	**Vila Bisbo**	100.69	336	*e*Pdif		Pdif	10 36 50.6	+3.3	
PFVI				*e*PP		PP	10 41 00.4	+6.6	
656A	**Willston**	101.54	38	IAMs_20	IAMs_20		11 24 10.7		
	comp=Z,6μm,22.0s								
KIBK	**Kibwezi**	102.15	276	IAMs_20	IAMs_20		11 24 09.5		
	comp=Z,6μm,22.0s								
DWPF	**Disney Wildern**	103.12	38	IAMs_20	IAMs_20		11 25 29.1		
	comp=Z,7μm,22.0s								
CMLA	**Cha da Macela**	103.99	350	IAMs_20	IAMs_20		11 28 18.7		
	comp=Z,4μm,20.0s								
OPO	**Ambohidratompo**	104.51	258	Pdiff		Pdif	10 37 02.3	-2.3	
	comp=Z,1.3nm,0.3s,baz=45,slow=4.3,SNR=2.1								
060A	**Indiantown**	104.54	38	IAMs_20	IAMs_20		11 31 20.7		
	comp=Z,4μm,20.0s								
ABPO	**Ambohimpanom**	104.73	257	IAMs_20	IAMs_20		11 24 26.1		
	comp=Z,5μm,20.0s								
061Z	**Ochoppi**	105.24	39	IAMs_20	IAMs_20		11 33 56.3		
	comp=Z,4μm,20.0s								
PMPST	**Porto Santo, M**	106.66	341	*e*PP	PP		10 41 46.3	+8.0	
VOI	**Vohitsoka**	106.71	255	IAMs_20	IAMs_20		11 29 13.5		
	comp=Z,4μm,19.0s								
PMOZ	**Porto Moniz, M**	107.12	341	*e*PP		PP	10 41 48.7	+7.0	
PMOZ				*e*LR	LR		11 14 27.2		
PMOZ				*i* IAMs_20	IAMs_20		11 28 43.4		
	comp=Z,7μm,20.0s								
PMAR	**Madeira**	107.14	341	*e*PP		PP	10 41 48.3	+6.3	
FUL	**Funchal**	107.21	341	*e*PP		PP	10 41 51.8	+10	
TGUH	**Tegucigalpa,Un**	111.07	52	IAMs_20	IAMs_20		11 24 10.2		
	comp=Z,4μm,21.0s								
MACI	**Morro de la Ar**	111.27	339	IAMs_20	IAMs_20		11 34 09.8		
	comp=Z,5μm,20.0s								
GRTK	**Grand Turk**	113.55	33	IAMs_20	IAMs_20		11 36 09.4		
	comp=Z,5μm,20.0s								
VNDA	**Vanda**	115.61	175	PKP		PKPdf	10 41 39.6	0.0	
	comp=Z,3.1nm,0.8s,baz=312,slow=3.8,SNR=19								
VNDA				PKKPab		PKKPab	10 52 14.9	0.0	
	comp=Z,4.4nm,1.1s,baz=179,slow=6.2,SNR=4.7								
TORD	**Torodi Ar. Bea**	116.97	315	PKP		PKPdf	10 41 42.9	-1.3	
	comp=Z,7.7nm,0.9s,baz=11,slow=3.8,SNR=17								
TORD				PKKPab		PKKPab	10 52 12.8	-2.7	
	comp=Z,2.8nm,0.7s,baz=264,slow=2.4,SNR=7.0								
LSZ	**Lusaka**	117.62	272	PKP		PKPdf	10 41 45.1	-0.4	
	comp=Z,14nm,0.8s,baz=35,slow=3.1,SNR=21								
SJG	**San Juan**	118.67	30	IAMs_20	IAMs_20		11 33 31.7		
	comp=Z,4μm,22.0s								
EDA	**Edea**	118.95	301	IAMs_20	IAMs_20		11 39 45.5		
	comp=Z,4μm,20.0s								
MAW	**Mawson**	120.19	206	PKP		PKPdf	10 41 48.3	-0.3	
	comp=Z,19nm,0.8s,baz=46,slow=0.9,SNR=36								
MAW				PKKPbc		PKKPbc	10 51 57.0	-0.5	
	comp=Z,8.0nm,1.1s,baz=299,slow=8.6,SNR=6.7								
MATP	**Matopo**	120.20	267	PKP		PKiKP	10 41 50.5	+0.1	
	comp=Z,12nm,0.6s,baz=41,slow=0.7,SNR=49								
SABA	**Saba**	120.23	28	IAMs_20	IAMs_20		11 35 19.9		
	comp=Z,3μm,22.0s								
SEUS	**St. Eustatius**	120.44	27	IAMs_20	IAMs_20		11 32 48.5		
	comp=Z,3μm,21.0s								
ANWB	**Willy Bob**	120.71	26	IAMs_20	IAMs_20		11 34 49.5		
	comp=Z,4μm,22.0s								
BROLN	**Tlhalogang**	121.48	267	*i* P		PKPdf	10 41 52.3	-0.4	
ABD	**La Joyeuse, An**	121.92	26	IAMs_20	IAMs_20		11 33 22.5		
	comp=Z,3μm,22.0s								
GDHS	**Morne Mazeau,**	122.01	27	IAMs_20	IAMs_20		11 36 22.5		
	comp=Z,5μm,20.0s								
MREMI	**Moremi**	122.16	265	IAMs_20	IAMs_20		11 35 21.3		
	comp=Z,4μm,20.0s								
GDSD	**La Dsirade Is**	122.22	26	IAMs_20	IAMs_20		11 34 00.4		
	comp=Z,4μm,22.0s								
APAC	**Apartado, Choc**	122.33	46	P		PKiKP	10 41 55.1	+0.4	
MAGL	**Barre de l'ile**	122.48	26	IAMs_20	IAMs_20		11 36 24.3		
	comp=Z,4μm,21.0s								
UREC	**San Jos de Ur**	123.04	46	P		PKPdf	10 41 55.4	-0.5	
SVN	**Savane Anatole**	123.54	27	IAMs_20	IAMs_20		11 34 53.6		
	comp=Z,4μm,22.0s								
ZARC	**Zaragoza, Cauc**	123.64	45	P		PKPdf	10 41 56.3	-0.7	
FDF	**Fort de France**	123.65	27	IAMs_20	IAMs_20		11 35 08.4		
	comp=Z,4μm,22.0s								
ILAM	**Ilet Lapin Mar**	123.71	26	IAMs_20	IAMs_20		11 34 55.9		
	comp=Z,4μm,21.0s								
LPHEP	**Lephephe**	123.82	265	*i* P		PKPdf	10 41 57.1	-0.1	
OCAC	**Ocana**	123.87	43	P		PKPdf	10 41 57.3	-0.4	
MPOM	**Morne Pois Mar**	124.02	27	IAMs_20	IAMs_20		11 34 50.1		
	comp=Z,4μm,20.0s								
CBOC	**Ciudad Bolivar**	124.30	47	P		PKPdf	10 41 57.8	-0.7	
HELC	**Santa Helena**	124.31	47	P		PKPdf	10 41 58.4	-0.4	
PTBC	**PUERTO BERRIO**	124.64	45	P		PKPdf	10 41 57.8	-1.2	
BRJC	**Barrancabermej**	124.68	44	P		PKPdf	10 41 58.8	-0.2	
SDV	**Santo Domingo**	124.73	40	IAMs_20	IAMs_20		11 43 51.0		
	comp=Z,4μm,20.0s								
SDV	**Santo Domingo**	124.73	40	PKP		PKPdf	10 41 59.1	-0.3	
SDV	**Santo Domingo**	124.73	40	*e*P		PKPdf	10 41 59.1	-0.3	
KDWAN	**Kaudwane**	124.78	266	IAMs_20	IAMs_20		11 45 13.3		
	comp=Z,5μm,20.0s								
KDWAN	**Kaudwane**	124.78	266	*i* P		PKPdf	10 41 59.1	+0.1	
PLMC	**San Jos del P**	124.91	48	P		PKPdf	10 41 59.6	0.0	
PAMC	**Pamplona, Colo**	124.95	43	P		PKPdf	10 42 00.1	-0.1	
GUY2C	**Guyana, Caldas**	125.19	47	P		PKPdf	10 41 59.8	-0.8	
NORC	**Norcasia**	125.20	46	P		PKPdf	10 41 59.3	-0.8	
BARC	**Barichara**	125.31	44	P		PKPdf	10 42 00.2	-0.3	
BBGH	**Gun Hill**	125.68	26	IAMs_20	IAMs_20		11 37 16.7		
	comp=Z,4μm,20.0s								
ANIL	**Santa Ana**	125.76	48	P		PKPdf	10 42 01.1	-0.4	
GRGR	**Grenville**	125.86	28	IAMs_20	IAMs_20		11 34 42.8		
	comp=Z,4μm,22.0s								
DBIC	**Dimbokro**	125.91	317	PKP		PKPdf	10 42 00.4	-1.0	
	comp=Z,24nm,0.8s,baz=47,slow=1.4,SNR=15								
DBIC	**Dimbokro**	125.91	317	PKP		PKPdf	10 41 57.8	-3.6	
SKOMA	**Sekoma**	125.92	265	*i* P		PKPdf	10 42 01.4	+0.2	
RUSC	**La Rusia**	125.94	44	P		PKPdf	10 42 01.3	-0.8	
ROSC	**El Rosal**	126.11	46	PKP		PKPdf	10 42 02.4	+0.1	
	comp=Z,58nm,0.9s,baz=84,slow=11,SNR=24								
ROSC	**El Rosal**	126.11	46	P		PKiKP	10 42 02.7	0.0	
KGCAE	**Kacgae**	126.45	268	IAMs_20	IAMs_20		11 44 55.5		
	comp=Z,5μm,21.0s								
KGCAE	**Kacgae**	126.45	268	*i* P		PKPdf	10 42 02.4	+0.2	
GRTLG	**Ghanzi**	126.47	270	*i* P		PKiKP	10 42 03.0	+0.2	
BOSA	**Boshof**	126.83	260	PKP		PKPdf	10 42 02.5	-0.3	
	comp=Z,32nm,0.8s,baz=78,slow=1.4,SNR=38								
BOSA	**Boshof**	126.83	260	PKP		PKPdf	10 42 02.1	-0.7	
VILC	**Villavicencio,**	127.06	46	P		PKPdf	10 42 03.4	-0.3	
OTAV	**Otavalo**	127.22	54	IAMs_20	IAMs_20		11 30 07.4		
	comp=Z,4μm,22.0s								
OTAV	**Otavalo**	127.22	54	PKP		PKPdf	10 42 04.4	0.0	
OTAV	**Otavalo**	127.22	54	*e*P		PKPdf	10 42 03.5	-0.9	
QSPA	**South Pole Qui**	127.43	180	IAMs_20	IAMs_20		11 38 14.4		
	comp=Z,3μm,20.0s								
QSPA	**South Pole Qui**	127.43	180	PKP		PKPdf	10 42 02.4	-0.3	
	comp=Z,49nm,0.9s,baz=316,slow=1.2,SNR=61								
SYO	**Syowa Base**	128.85	207	*i* PKPdf		PKiKP	10 42 05.6	-0.3	
SYO	**Syowa Base**	128.85	207	*i* PKiKP		PKiKP	10 42 08.2	+2.3	
SYO	**Syowa Base**	128.85	207	*i* pPKPdf		pPKPdf	10 42 19.1	+1.2	
SGC2	**Sao Gabriel da**	134.29	42	PKP		PKPdf	10 42 17.1	-0.2	
BOAV	**Boa Vista**	135.16	32	PKP		PKPdf	10 42 18.3	-0.6	
BOAV	**Boa Vista**	135.16	32	*e*P		PKPdf	10 42 17.7	-1.2	
TBTG	**Tabatinga, AM**	135.96	49	*e*P		PKPdf	10 42 20.0	-0.4	
CZSB	**Cruzeiro do Su**	136.96	55	PKP		PKPdf	10 42 22.6	+0.4	
CZSB	**Cruzeiro do Su**	136.96	55	*e*P		PKPdf	10 42 21.1	-1.1	
TEFE	**Tefe**	138.36	42	PKP		PKPdf	10 42 24.1	-0.8	
TEFE	**Tefe**	138.36	42	*e*P		PKPdf	10 42 23.3	-1.5	
TROLL	**Troll, Antarti**	139.89	198	PKPdf		PKPdf	10 42 19.0	-7.0	
	comp=Z,2μm,0.8s								
TROLL				PP		PP	10 45 25.2	+2.2	
	comp=Z,246nm,0.2s								
SNAA	**Sanae**	141.41	197	PKPdf		PKPdf	10 42 22.1	-6.6	
	comp=Z,713nm,0.7s								
SNAA				PP		PP	10 45 31.3	-0.9	
	comp=Z,14μm,2.7s								
SNAA	**Sanae**	141.41	197	PKhKP		PKPpre	10 42 22.2		
	comp=Z,29nm,0.8s,baz=121,slow=2.0,SNR=23								
MAL2	**Monte Alegre,**	141.66	26	PKP		PKPdf	10 42 28.6	-2.3	
VNA3	**Neumayer Olymp**	143.23	195	PKPdf		PKPab	10 42 28.1	+0.4	
VNA3	comp=Z,114nm,0.8s			PP		PP	10 45 45.8	+2.7	
	comp=Z,178nm,2.5s								
ITTB	**Itaituba**	143.25	30	PKP		PKPbc	10 42 30.1	-0.5	
ITTB	**Itaituba**	143.25	30	*e*P		PKPbc	10 42 32.1	+1.4	
VNA1	**Neumayer--Stat**	143.38	196	PKPdf		PKPbc	10 42 28.9	-0.4	
	comp=Z,95nm,0.9s								
ATM1	**UHE Belo Monte**	143.50	24	PKP		PKPbc	10 42 31.1	-0.3	
BMO2	**UHE Belo Monte**	143.63	23	PKP		PKPbc	10 42 31.8	0.0	
TMAB	**Tom-Au,PA,Br**	143.75	17	PKP		PKPbc	10 42 32.8	+0.7	
TMAB	**Tom-Au,PA,Br**	143.75	17	*e*P		PKPbc	10 42 32.7	+0.7	
TUC4	**UHE Tucurui**	145.20	20	PKP		PKPdf	10 42 37.4	+0.3	
NPGB	**Novo Progresso**	145.83	31	PKP		PKPdf	10 42 38.0	0.0	
NPGB	**Novo Progresso**	145.83	31	*e*P		PKPdf	10 42 38.1	0.0	
LPAZ	**La Paz**	146.24	59	PKPbc		PKPdf	10 42 40.0	+0.6	
	comp=Z,105nm,0.9s,baz=350,slow=4.5,SNR=144								
LPAZ	**La Paz**	146.24	59	PKP2		PKPdf	10 42 40.0	+0.6	
LPAZ	**La Paz**	146.24	59	PKP		PKPbc	10 42 40.1	-0.4	
LPAZ	**La Paz**	146.24	59	*e*P		PKPdf	10 42 36.7	-2.8	
NBCL	**Cascavel-CE**	146.70	360	PKP		PKPbc	10 42 40.4	-0.8	
NBCL	**Cascavel-CE**	146.70	360	*e*P		PKPdf	10 42 40.2	+0.6	
H03N2	**Juan Fernandez**	146.94	95	T		T	13 27 40.5		
	baz=292,slow=76,SNR=121								
H03N3	**Juan Fernandez**	146.95	95	T		T	13 27 44.5		
	baz=292,slow=76,SNR=163								
PRPB	**Parauapebas**	146.96	21	PKP		PKPdf	10 42 40.2	+0.2	
PRPB	**Parauapebas**	146.96	21	*e*P		PKPdf	10 42 40.4	+0.4	
H03N1	**Juan Fernandez**	146.96	95	T		T	13 27 43.6		
	baz=292,slow=76,SNR=206								
NBPB	**Pedra_Branca-C**	147.99	2	PKP		PKPdf	10 42 42.0	+0.2	
NBPB	**Pedra_Branca-C**	147.99	2	*e*P		PKPdf	10 42 42.5	+0.8	
PAL01	**Palmeiras do T**	148.00	17	PKP		PKPdf	10 42 42.6	+0.9	
PAL2	**UHE Estreito -**	148.15	17	PKP		PKPdf	10 42 42.9	+0.9	
RCBR	**Riachuelo**	148.21	355	IAMs_20	IAMs_20		11 59 49.2		
	comp=Z,3μm,20.0s								
RCBR	**Riachuelo**	148.21	355	PKP		PKPbc	10 42 45.0	-0.5	
RCBR	**Riachuelo**	148.21	355	*e*P		PKPdf	10 42 42.7	+0.6	
PMSA	**Palmer Station**	148.93	159	*e*P		PKPdf	10 42 42.9	+1.3	
CLDB	**Colider**	149.07	35	PKP		PKPdf	10 42 43.6	+0.2	
CLDB	**Colider**	149.07	35	*e*P		PKPdf	10 42 44.4	+0.9	
PDRB	**Porto dos Gac**	149.28	37	PKP		PKPdf	10 42 41.4	-2.4	
PDRB	**Porto dos Gac**	149.28	37	*e*P		PKPdf	10 42 44.0	+0.2	
SMTB	**Santa Maria do**	150.13	18	PKP		PKPdf	10 42 45.6	+0.4	
SMTB	**Santa Maria do**	150.13	18	*e*P		PKPdf	10 42 45.8	+0.7	
SIV	**San Ignacio**	150.55	49	PKP		PKPdf	10 42 46.1	+0.3	
	comp=Z,11nm,0.8s,baz=343,slow=2.2,SNR=26								
SIV				PKPbc		PKPbc	10 42 50.8	-0.3	
	comp=Z,11nm,0.8s,baz=350,slow=1.4,SNR=34								
LAJE	**UHE Lajeado**	151.01	20	PKP		PKPdf	10 42 46.1	-0.4	
LAJE				PKP		PKPbc	10 42 46.9	-5.4	
PTLB	**Pontes e Lacer**	151.24	45	PKP		PKPdf	10 42 47.0	+0.3	
PTLB	**Pontes e Lacer**	151.24	45	*e*P		PKPdf	10 42 47.3	+0.6	
BBSD	**Serra de San D**	151.75	50	*e*P		PKPdf	10 42 47.5	0.0	
SNDB	**Serra Nova Dou**	151.92	28	PKP		PKPdf	10 42 48.2	+0.4	
SNDB	**Serra Nova Dou**	151.92	28	*e*P		PKPdf	10 42 47.7	-0.1	
NBAN	**Anadia - AL**	152.04	356	PKP		PKPdf	10 42 48.1	0.0	
NBAN	**Anadia - AL**	152.04	356	*e*P		PKPdf	10 42 49.0	+0.9	
SALV	**Santo Antonio**	153.46	40	PKP		PKPdf	10 42 50.7	+0.7	
SALV	**Santo Antonio**	153.46	40	*e*P		PKPdf	10 42 50.0	0.0	
SDBA	**SAO DESIDERIO**	154.17	15	PKP		PKPdf	10 42 51.4	+0.2	
SDBA	**SAO DESIDERIO**	154.17	15	*e*P		PKPdf	10 42 51.7	+0.5	
CFA	**Coronel Fontan**	154.78	85	PKP		PKPdf	10 42 51.3	-0.3	
	comp=Z,5.4nm,0.9s,baz=303,slow=3.0,SNR=11								
CFA				PKPab		PKPab	10 43 15.8	+0.4	
	comp=Z,15nm,0.7s,baz=81,slow=6.7,SNR=9.1								
PLCA	**Paso Flores**	154.98	107	PKP		PKPdf	10 42 51.8	+0.2	
	comp=Z,7.5nm,0.8s,baz=232,slow=3.5,SNR=15								
PLCA				PKPab		pPKPbc	10 43 13.8	+0.7	
	comp=Z,17nm,1.0s,baz=288,slow=4.6,SNR=8.0								
PLCA	**Paso Flores**	154.98	107	PKP		PKPdf	10 42 52.4	+0.8	
PLCA	**Paso Flores**	154.98	107	*e*P		PKPdf	10 42 52.5	+0.9	
ARAG	**Araguaiana, MT**	155.10	32	*e*P		PKPdf	10 42 53.6	+1.2	
BDFB	**Brasilia**	156.46	24	PKP		PKPdf	10 42 55.0	+0.7	
	comp=Z,12nm,1.0s,baz=7.2,slow=8.1,SNR=5.9								
BDFB				PKPab		PKPab	10 43 21.6	-1.2	
	comp=Z,27nm,0.9s,baz=26,slow=22,SNR=3.3								
BDFB	**Brasilia**	156.46	24	PKIKP		PKPdf	10 42 55.0	+0.7	
BDQN	**Bodoquena, MS**	156.58	48	*e*P		PKPdf	10 42 54.8	+0.6	
JANB	**Januaria**	156.86	15	PKP		PKPdf	10 42 54.6	-0.2	
JANB	**Januaria**	156.86	15	*e*P		PKPdf	10 42 53.0	-1.7	
MURT	**Porto Murtinho**	156.97	51	*e*P		PKPdf	10 42 54.7	0.0	
AQDB	**Aquidauana**	157.21	46	PKP		PKPdf	10 42 54.5	-0.5	
AQDB	**Aquidauana**	157.21	46	*e*P		PKPdf	10 42 55.1	+0.1	
C2SB	**Chapadao do Su**	157.32	38	PKP		PKPdf	10 42 55.2	0.0	
C2SB	**Chapadao do Su**	157.32	38	*e*P		PKPdf	10 42 55.6	+0.5	
CMC01	**Camacan, BA**	157.74	3	PKP		PKPdf	10 42 54.8	-1.0	
CMC01	**Camacan, BA**	157.74	3	*e*P		PKPdf	10 42 56.5	+0.7	
RPDO	**Ribas do Rio P**	158.31	42	*e*P		PKPdf	10 42 57.3	+0.9	
ITU3	**Itarumbazu**	158.55	28	PKP		PKPdf	10 42 57.1	+0.4	
IPMB	**Ipameri, GO**	158.57	26	PKP		PKPdf	10 42 56.8	0.0	
IPMB	**Ipameri, GO**	158.57	26	*e*P		PKPdf	10 42 57.1	+0.3	
GUA01	**Guaratinga, BA**	158.94	4	*e*P		PKPdf	10 42 57.7	+0.5	
ITRB	**Iturama**	159.28	33	PKP		PKPdf	10 42 58.0	+0.4	
ITRB	**Iturama**	159.28	33	*e*P		PKPdf	10 42 58.4	+0.8	
AMBA	**Amambai (Brazi**	159.52	49	*e*P		PKPdf	10 42 58.0	+0.2	
PMNB	**Patos De Minas**	159.67	22	*e*P		PKPdf	10 42 59.2	+1.1	
DIAM	**Diamantina, MG**	160.14	15	*e*P		PKPdf	10 42 59.4	+0.7	
SJPY	**San Joaquin**	160.33	55	*e*P		PKPdf	10 42 59.2	+0.6	
CPUP	**Villa Florida**	160.40	60	PKP		PKPdf	10 42 58.8	+0.1	
	comp=Z,1.7nm,0.9s,baz=196,slow=0.8,SNR=7.2								
CPUP				PKPab		PKPab	10 43 40.0	+0.3	
	comp=Z,3.5nm,1.0s,baz=178,slow=4.1,SNR=4.0								
CPUP	**Villa Florida**	160.40	60	PKP		PKPdf	10 42 58.5	-0.1	
CPUP	**Villa Florida**	160.40	60	*e*P		PKPdf	10 42 58.6	-0.1	
PCMB	**Pacaembu**	160.50	38	PKP		PKPdf	10 42 58.6	-0.3	
PCMB	**Pacaembu**	160.50	38	*e*P		PKPdf	10 42 59.4	+0.5	
TRCB	**Terra Rica**	160.77	44	PKP		PKPdf	10 42 59.5	+0.3	
TRCB	**Terra Rica**	160.77	44	*e*P		PKPdf	10 42 59.7	+0.5	
SJMB	**Sao Joao De Ma**	160.93	8	PKP		PKPdf	10 42 59.7	+0.3	
SJMB	**Sao Joao De Ma**	160.93	8	*e*P		PKPdf	10 42 59.9	+0.5	
BB19B	**Bebedouro**	161.26	31	PKP		PKPdf	10 43 00.9	+1.1	
BB19B	**Bebedouro**	161.26	31	*e*P		PKPdf	10 43 00.6	+0.8	
TRQA	**Tornquist**	161.39	98	PKP		PKPdf	10 42 57.1	-2.3	
RIB01	**Linhares ES**	161.61	6	PKP		PKPdf	10 43 01.0	+0.9	
RIB01	**Linhares ES**	161.61	6	*e*P		PKPdf	10 43 01.0	+0.9	
LDASE	**Londrina, Braz**	162.06	41	*e*P		PKPdf	10 42 59.7	-0.8	
BSCB	**Bom Sucesso**	162.48	20	PKP		PKPdf	10 43 01.3	+0.2	
BSCB	**Bom Sucesso**	162.48	20	*e*P		PKPdf	10 43 02.6	+1.6	
PTGB	**Pitanga**	162.60	46	PKP		PKPdf	10 43 01.1	0.0	
PTGB	**Pitanga**	162.60	46	*e*P		PKPdf	10 43 02.2	+1.1	
FRTB	**Fartura**	162.80	37	PKP		PKPdf	10 43 02.0	+0.8	
FRTB	**Fartura**	162.80	37	*e*P		PKPdf	10 43 01.8	+0.5	
RCLB	**Rio Claro- Sao**	162.87	30	*e*P		PKPdf	10 43 02.6	+1.2	
SPB	**Sao Paulo**	163.96	31	*e*P		PKPdf	10 43 02.6	+0.3	
DUB01	**Friburgo-RJ**	164.08	14	*e*P		PKPdf	10 43 03.0	+0.4	
ITAB	**Concordia**	164.44	52	PKP		PKPdf	10 43 02.6	0.0	
ITAB	**Concordia**	164.44	52	*e*P		PKPdf	10 43 02.8	+0.1	
MAN01	**Angra dos Reis**	164.47	20	*e*P		PKPdf	10 43 03.8	+0.9	
PET01	**Itanhaem-SP**	164.65	32	PKP		PKPdf	10 43 03.6	+0.7	
PET01	**Itanhaem-SP**	164.65	32	*e*P		PKPdf	10 43 03.8	+0.9	
CPSB	**Cacapava Do Su**	165.59	64	PKP		PKPdf	10 43 06.0	+2.5	
CPSB	**Cacapava Do Su**	165.59	64	*e*P		PKPdf	10 43 04.0	+0.4	
PLTB	**Pedras Altas**	166.18	69	PKP		PKPdf	10 43 03.2	-0.8	
PLTB	**Pedras Altas**	166.18	69	*e*P		PKPdf	10 43 04.3	+0.3	
MAJ01	**Sao Joao Batis**	166.40	44	*e*P		PKPdf	10 43 05.2	+0.9	

GEN 04 10:33:06.6,44.41N×10.66E,h7km△2km,Ml0.6,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSCL	**Gusciola**	0.08	220	P	Pg	10 33 09.3	+0.8
GSCL				S	Sg	10 33 11.0	+1.2
ZCCA	**Zocca**	0.24	104	P	Pg	10 33 13.3	+2.0
ZCCA				S	Sg	10 33 17.8	+3.4
SARO	**Sassorosso**	0.29	219	P	Pg	10 33 12.9	+0.5
SARO				S	Sb	10 33 18.2	-1.1
VLC	**Villacollemand**	0.32	218	P	Pg	10 33 13.4	+0.6
VLC				S	Sg	10 33 18.4	+1.4
BDI	**Bagni Di Lucca**	0.35	187	P	Pg	10 33 13.9	+0.4
BDI				S	Sb	10 33 19.6	-1.4
POPM	**Popiglio**	0.37	169	P	Pg	10 33 14.6	+0.8
POPM				S	Sb	10 33 20.7	-0.9

ROM 04 10:33:11.8±0.1,42.894N±0.007×12.99E±0.01,h10km, ML1.0/8,3C-2D,Error ellipse: s-maj=0.8km s-min=0.8km az=121.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	0.11	123	P	Pg	10 33 15.0	+0.4
NRCA				S	Sg	10 33 17.1	+0.6
NRCA				AML	AML		
	comp=E,148μm,0.1s						
NRCA				AML	AML		
	comp=N,200μm,0.1s						
NRCA				AML	AML		
	comp=E,149μm,0.1s						
NRCA				AML	AML		
	comp=N,200μm,0.1s						
NRCA				AML	AML		
	comp=E,121μm,0.1s						
NRCA				AML	AML		
	comp=N,185μm,0.1s						
MC2	**Monte Cornacci**	0.15	83	⇓P	Pg	10 33 15.9	+0.6
MC2				S	Sg	10 33 18.7	+1.0
FDMO	**Fiordimonte**	0.16	27	⇑P	Pg	10

PV20	**West Nyswonger**	**3.18**	**73**			Pn		10 49 47.2	+1.4
PV18	**Skein Mesa, Pa**	**3.20**	**74**	Pn		Pn		10 49 47.2	+1.1
PV16	**Nyswonger Mesa**	**3.21**	**73**			Pn		10 49 47.3	+1.1
PV16					IAML			10 50 41.4	
	comp=E,34nm,0.8s								
X16A	**Lo Mia Camp, P**	**3.23**	**159**	Pn		Pn		10 49 47.2	+0.7
X16A					IAML			10 50 36.3	
	comp=N,10.0nm,0.5s								
X16A					IAML			10 50 39.7	
	comp=E,10.0nm,0.7s								
PV04	**Paradox Valley**	**3.24**	**72**			Pn		10 49 46.5	-0.1
PV04					IAML			10 50 44.7	
	comp=E,28nm,0.7s								
PV11	**David Mesa, Pa**	**3.24**	**74**			Pn		10 49 47.3	+0.7
PV03	**Paradox Valley**	**3.25**	**75**			Pn		10 49 46.9	+0.1
PV03					IAML			10 50 36.5	
	comp=E,28nm,0.3s								
PV03					IAML			10 50 46.5	
	comp=N,27nm,0.7s								
PV13	**Radium Mtn., P**	**3.25**	**76**			Pn		10 49 46.2	-0.6
PV13					IAML			10 50 35.9	
	comp=E,28nm,1.1s								
PV13					IAML			10 50 37.6	
	comp=N,27nm,0.3s								
PV12	**Saucer Basin,**	**3.30**	**74**			Pn		10 49 47.6	+0.1
GWY	**Greenwater Val**	**3.33**	**249**	Pn		Pn		10 49 47.4	-0.5
GWY					IAML			10 50 39.7	
	comp=E,10nm,0.8s								
PV22	**Blue Mesa, Par**	**3.37**	**70**	Pn		Pn		10 49 48.0	-0.4
PV22					IAML			10 50 41.4	
	comp=E,22nm,0.8s								
PV22					IAML			10 50 49.0	
	comp=N,19nm,0.6s								
PV01	**Paradox Valley**	**3.44**	**77**			Pn		10 49 48.6	-0.8
PV01					IAML			10 50 48.5	
	comp=E,21nm,1.0s								
PV01					IAML			10 50 53.0	
	comp=N,15nm,0.7s								
MVCO	**Mesa Verde**	**3.46**	**93**	Pn		Pn		10 49 50.5	+0.9
MVCO					IAML			10 50 49.1	
	comp=N,26nm,0.7s								
MVCO					IAML			10 50 50.8	
	comp=N,28nm,0.7s								
PV15	**Paradox Valley**	**3.55**	**74**			Pn		10 49 50.2	-0.7
PV15					IAML			10 50 49.8	
	comp=E,22nm,0.8s								
PV15					IAML			10 50 54.0	
	comp=N,20nm,0.5s								
QSM	**Queen of Sheba**	**3.57**	**247**	Pn		Pn		10 49 50.5	-0.5
GRAC	**Grapevine Rang**	**3.65**	**264**	Pn		Pn		10 49 52.5	+0.3
GRAC					IAML			10 50 29.6	
	comp=N,13nm,3.9s								
GRAC					IAML			10 50 42.2	
	comp=E,11nm,4.9s								
X18A	**Snowflake**	**3.73**	**141**			Pn		10 49 54.8	+1.4
X18A					IAML			10 50 50.8	
	comp=N,12nm,0.4s								
X18A					IAML			10 50 57.8	
	comp=E,15nm,0.9s								
BELC	**Belle Mtn. Jos**	**4.30**	**218**	Pn		Pn		10 50 00.5	-0.8
BELC					IAML			10 50 37.1	
	comp=N,5.4nm,4.7s								
BELC					IAML			10 52 22.0	
	comp=E,5.5nm,4.7s								
RYN	**Ryan**	**4.65**	**286**	Pn		Pn		10 50 04.9	-1.0
RYN					IAML			10 51 23.1	
	comp=N,3.8nm,1.9s								
RYN					IAML			10 51 24.8	
	comp=E,4.5nm,2.1s								
S22A	**4UR Ranch, Cre**	**4.77**	**85**	Pn		Pn		10 50 08.8	+1.0
S22A					IAML			10 51 03.3	
	comp=E,6.0nm,4.0s								

*IDC **04** 10:55:05.3±1.3, 6°.52S×129°.78E, h0km, mb4.1/4, mbtmp4.0/8, ML3.9/4, Error ellipse: s-maj=50.4km s-min=20.9km az=69.0*
*DJA **04** 10:55:07.9±0.4, 6°.5S±4°×13°.0E±°, h10km, M4.6/10, mB5.4/2, mb4.6/4, MLv4.6/10, Mw(mB)4.9/2*
ISC 04 10:55:06.5±0.8, **6°.69S**±0°.07×**129°.75E**±0°.08, **h10km, n17, σ2s38/20, mb4.1/4, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**130**	P	**Pg**	**10 55 46.0**	**+1.0**
BNDI	**Bandanaira**	**2.15**	**4**	P	**Pn**	**10 55 39.4**	**-3.1**
AAI	**Ambon**	**3.36**	**332**	P	**Pn**	**10 55 57.4**	**-1.7**
FAKI	**Fak Fak**	**4.50**	**34**	P	**Pn**	**10 56 12.7**	**-2.0**
KMPI	**Kaimana, Papua**	**4.95**	**53**	P	**Pn**	**10 56 20.5**	**-0.5**
SANI	**Sanana**	**5.94**	**321**	P	**Pn**	**10 56 35.2**	**+0.6**
SWI	**Sorong**	**5.98**	**15**	P	**Pn**	**10 56 33.8**	**-1.3**
RKPI	**Ransiki, Papua**	**6.78**	**41**	P	**Pn**	**10 56 46.5**	**+0.4**
	6µm58nm,0.7s						
BKSI	**Bulukumba**	**9.67**	**278**	P	**Pn**	**10 57 29.1**	**+3.3**
KAPI	**Kappang**	**10.08**	**279**	Pn	**Pn**	**10 57 32.9**	**+1.4**
	1.5nm,0.3s,baz=183,slow=22,SNR=3.8						
	2.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.03**	**199**	Pn		**Pn**	**10 58 00.8**	**+2.7**
	0.4nm,0.3s,baz=38,slow=10.0,SNR=6.1						
FITZ				Sn		**Sn**	**11 00 07.7**	**-4.8**
	0.4nm,0.3s,baz=177,slow=9.5,SNR=4.9						
	3.1nm,0.6s						
WRA	**Warramunga Arr**	**13.91**	**162**	Pn		**Pn**	**10 58 24.5**	**+0.6**
	0.5nm,0.3s,baz=341,slow=13,SNR=20						
WRA				Sn		**Sn**	**11 00 54.7**	**-3.8**
	0.2nm,0.3s,baz=353,slow=20,SNR=4.9						
	3.2nm,0.7s						
ASAR	**Alice Springs**	**17.35**	**167**	P		**Pn**	**10 59 10.0**	**+1.1**
	0.4nm,0.3s,baz=351,slow=12,SNR=29						
ASAR				S		**Sn**	**11 02 19.0**	**-3.1**
	3.7nm,1.0s,baz=352,slow=26,SNR=6.4						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**27.40**	**158**	P		**P**	**11 00 54.7**	**+2.4**
	0.6nm,0.3s,baz=338,slow=11,SNR=2.8						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**67.83**	**327**	P		**P**	**11 06 05.0**	**0.0**
	1.1nm,0.7s,baz=125,slow=7.7,SNR=5.1						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**71.19**	**334**	P		**P**	**11 06 24.4**	**-1.1**
	0.9nm,0.6s,baz=133,slow=6.1,SNR=1.9						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**72.11**	**329**	P		**P**	**11 06 30.6**	**-0.5**
	1.2nm,0.2s,baz=129,slow=5.1,SNR=5.5						
	1.2nm,0.2s						

*SOME **04** 10:58:27.8, 41°.67N×81°.33E, h0km*
NNC 04 10:58:36.6±7.4, **43°.73N×82°.04E, h0km, mb2.8, mpv2.5, 1C-2D, Error ellipse: s-maj=77.4km s-min=22.5km az=135.0, Suspected Mining explosion., Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**1.90**	**259**	⇑P	Pg	10 59 13.0	-0.1
	7.2nm,0.4s						
PDGK				⇓S	Sn	10 59 35.0	-0.1
	21nm,0.6s						
SHLS	**Shalkode**	**1.97**	**254**	*e*P	Pn	10 59 02.9	-8.4
	20nm,0.2s						
SHLS				*e*S	Sn	10 59 28.6	-8.2
	92nm,0.3s						
UZB	**Uzynbulak**	**2.28**	**256**	*e*P	Pn	10 59 11.0	-4.6
	1.1nm,0.1s						
UZB				*e*S	Sn	10 59 42.0	-2.5
	2.3nm,0.1s						
SATY	**Saty**	**2.74**	**257**	*e*P	Pg	10 59 34.7	+5.6
	0.7nm,0.1s						
SATY				*e*S	Sg	11 00 22.5	+18
	4.0nm,0.2s						
MK31	**Makanchi Array**	**3.06**	**3**	Pg	Pb	10 59 30.7	-1.4
	0.2nm,0.2s,baz=177,slow=15,SNR=15						
MK31				⇓Lg	Lg	11 00 15.8	
	2.8nm,0.5s,baz=178,slow=24,SNR=7.0						
MAKZ	**Makanchi**	**3.07**	**359**	Pg	Pb	10 59 33.2	+1.0
	0.5nm,0.5s						
MAKZ				Lg	Lg	11 00 14.0	
	1.1nm,0.5s						
KTBS	**Karatobe**	**3.89**	**272**	*e*P	Pn	10 59 17.1	-21
	2.7nm,0.1s						
KTBS				*e*S	Sn	10 59 52.6	-31
	16nm,0.2s						

*IDC **04** 11:25:37.9±1.9, 8°.05S×120°.50E, h197km±18km, mb3.2/2, mbtmp3.6/6, Error ellipse: s-maj=66.0km s-min=15.8km az=48.0*
ISC 04 11:25:35.3±1.4, **8°.4S**±0°.1×**120°.1E**±0°.2, **h172km, n6, σ2s03/9, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.35**	**354**	P	**Pn**	**11 26 27.5**	**-0.5**
	6.4nm,0.3s,baz=172,slow=14,SNR=4.1						
BATI	**Baumata**	**3.98**	**118**	P	**Pn**	**11 26 37.3**	**+1.4**
	15nm,0.3s,baz=291,slow=6.8,SNR=2.6						
BATI				S	**Sn**	**11 27 24.1**	**+0.8**
	19nm,0.3s,baz=206,slow=22,SNR=6.4						
FITZ	**Fitzroy Crossi**	**11.07**	**151**	P	**Pn**	**11 28 10.6**	**+1.6**
	2.2nm,0.7s,baz=342,slow=10,SNR=8.1						
FITZ				S	**Sn**	**11 30 09.8**	**-2.2**
	2.0nm,0.6s,baz=180,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**17.96**	**131**	P	**Pn**	**11 29 33.5**	**-1.1**
	0.2nm,0.3s,baz=308,slow=11,SNR=7.3						
WRA				S	**S**	**11 32 46.8**	**-3.3**
	0.2nm,0.3s,baz=244,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**20.16**	**141**	P	Pn	11 29 57.9	-2.7
	1.2nm,0.8s,baz=316,slow=9.6,SNR=22						
ASAR				S	**S**	**11 33 33.2**	**-0.4**
	0.2nm,0.6s,baz=316,slow=20,SNR=1.3						
	1.2nm,0.8s						
STKA	**Stephens Creek**	**30.77**	**142**	P	**P**	**11 31 36.0**	**+1.4**
	1.4nm,0.6s,baz=319,slow=9.3,SNR=3.8						
	1.4nm,0.6s						

*IDC **04** 11:33:55.1±14.0, 15°.37S×167°.30E, h0km, mb3.9/3, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=245.3km s-min=39.8km az=67.0*
*NOU **04** 11:33:56.0, 14°.92S×166°.99E, h81km, MLv4.7/18, Vanuatu Islands*
ISC 04 11:33:53.3±1.5, **14°.85S**±0°.08×**167°.5E**±0°.2, **h10km, n15, σ2s38/14, mb3.8/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.64**	**202**	P	**Pn**	**11 34 12.5**	**+4.0**
VLAKA	**Lakatoro**	**1.25**	**181**	P	**Pn**	**11 34 19.1**	**+2.2**
DVP	**Devils Point**	**2.95**	**166**	P	**Pn**	**11 34 42.0**	**+1.8**
DVP	**Devils Point**	**2.95**	**166**	S	**Sn**	**11 35 17.9**	**+2.3**
LUES	**Luesalemba Tem**	**4.42**	**340**	P	**Pn**	**11 35 00.6**	**0.0**
LUES	**Luesalemba Tem**	**4.42**	**340**	S	**Sn**	**11 35 49.9**	**-2.3**
YATNC	**Mamie plateau,**	**7.19**	**184**	P	**Pn**	**11 35 36.2**	**-2.4**
YATNC	**Mamie plateau,**	**7.19**	**184**	S	**Sn**	**11 36 56.6**	**-3.8**
DZM	**Mont Dzumac**	**7.25**	**187**	Pn	Pn	11 35 35.4	-4.0
	2.0nm,0.3s,baz=329,slow=18,SNR=22						
DZM				Sn	Sn	11 36 52.6	-9.3
	3.3nm,0.3s,baz=135,slow=19,SNR=10						
	3.4nm,0.3s						
DZM	**Mont Dzumac**	**7.25**	**187**	P	**Pn**	**11 35 37.2**	**-2.2**
ONTNC	**Ouen Toro**	**7.48**	**187**	P	**Pn**	**11 35 41.4**	**-1.1**
OUENC	**Ouen Island, N**	**7.55**	**184**	P	**Pn**	**11 35 42.6**	**-0.9**
STKA	**Stephens Creek**	**29.05**	**230**	P	**P**	**11 39 53.9**	**0.0**
	0.9nm,0.3s,baz=70,slow=12,SNR=6.3						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**31.97**	**256**	P	**P**	**11 40 20.6**	**+0.8**
	0.5nm,0.4s,baz=85,slow=8.7,SNR=7.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**32.80**	**249**	P	**P**	**11 40 27.4**	**+0.3**
	0.5nm,0.4s,baz=94,slow=7.5,SNR=15						
	0.5nm,0.4s						

*IDC **04** 11:44:16.0±0.6, 49°.19S×163°.96E, h0km, mb4.1/12, mbtmp4.2/14, ML4.6/2, MS5.1/25, Error ellipse: s-maj=24.6km s-min=16.2km az=69.0*
*NEIC **04** 11:44:21.4, 48°.82S×163°.79E, h22km*
*NEIC **04** 11:44:21.4, 49°.52S×164°.10E, h22km, Moment Tensor Solution. Duration: 7±9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.98; $M_{\theta\theta}$2.41; $M_{\phi\phi}$-3.39; $M_{r\theta}$1.17; $M_{\theta\phi}$0.39; $M_{\phi r}$0.58; Fault plane solution: M_o3.32000×10^{17} NP1: ϕ_s134.76000°, δ64.17000°, λ17.29000°. NP2:ϕ_s37.04000°, δ74.48000°, λ153.12000°. Principal axes: T 3.1295, Plg30.0000°, Azm354.0000°; N 0.3500, Plg59.0000°, Azm189.0000°; P -3.4794, Plg7.0000°, Azm88.0000°;*
*NEIC **04** 11:44:21.3±2.4, 48°.82S±0°.08×163°.8E±0°.1, h10km±1km, mb5.0/19, Ms_20 5.4/222, Mww5.6/15 Error ellipse: s-maj=16.6km s-min=7.3km az=37.0*
*GCMT **04** 11:44:22.3±0.1, 49°.61S±0°.01×163°.88E±0°.01, h23km, MW5.7/143, Moment Tensor Solution. s83,c118; s143,c263; Duration: 1±7 Moment tensor: Scale 10^{17} Nm; M_{rr}0.99±.08; $M_{\theta\theta}$3.22±.06; $M_{\phi\phi}$-4.21±.07; $M_{r\theta}$1.10±.12; $M_{\theta\phi}$0.77±.05; $M_{\phi r}$-0.30±.11; Best double couple: M_o4.01900×10^{17} NP1:ϕ_s37.00000°, δ72.00000°, λ168.00000°. NP2:ϕ_s131.00000°, δ78.00000°, λ19.00000°. Principal axes: T 3.7170, Plg21.0000°, Azm355.0000°; N 0.6070, Plg68.0000°, Azm162.0000°; P -4.3210, Plg5.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 11:44:20.3±0.4, **48°.93S**±0°.06×**163°.90E**±0°.06, **h10km, n331, σ2s13/192, mb4.7/23, MS5.4/134, 5C, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**3.35**	**35**		**Pn**	**11 45 12.8**	**+0.1**
PYZ	**Puysegur Point**	**3.35**	**35**	P	**Pn**	**11 45 13.8**	**+1.2**
PYZ				S	**Sn**	**11 45 55.1**	**+2.6**
APZ	**The Paps**	**3.46**	**54**	P	**Pn**	**11 45 13.2**	**-1.1**
APZ				S	**Sn**	**11 45 55.0**	**-0.3**
RRKS	**Rarakau**	**3.69**	**42**	P	**Pn**	**11 45 19.0**	**+1.6**
RRKS				S	**Sn**	**11 46 03.0**	**+2.1**
ORPS	**Orepuki**	**3.72**	**46**	S	**Sn**	**11 46 02.3**	**+0.7**
WHZ	**Wether Hill Ro**	**4.10**	**44**	Pn	**Pn**	**11 45 23.4**	**+0.4**
WHZ	**Wether Hill Ro**	**4.10**	**44**	P	**Pn**	**11 45 23.0**	**0.0**
WHZ				S	**Sn**	**11 46 11.9**	**+0.9**
DCZ	**Deep Cove**	**4.12**	**34**		**Pn**	**11 45 23.5**	**+0.3**
DCZ	**Deep Cove**	**4.12**	**34**	P	**Pn**	**11 45 23.9**	**+0.7**
DCZ				S	**Sb**	**11 46 17.1**	**-5.5**
SYZ	**Scrubby Hill**	**4.27**	**58**	P	**Pn**	**11 45 24.0**	**-1.3**
SYZ				S	**Sn**	**11 46 13.0**	**-2.2**
MOSS	**Mossburn Schoo**	**4.40**	**44**	P	**Pn**	**11 45 29.1**	**+1.9**
MOSS				S	**Sn**	**11 46 21.0**	**+2.6**
MLZ	**Mavora Lakes**	**4.58**	**41**		**Pn**	**11 45 30.5**	**+0.8**
MLZ	**Mavora Lakes**	**4.58**	**41**	P	**Pn**	**11 45 31.0**	**+1.3**
MLZ				S	**Sn**	**11 46 25.3**	**+2.3**
BDCS	**Balclutha Dist**	**4.77**	**58**	P	**Pn**	**11 45 31.1**	**-1.1**
BDCS				S	**Sn**	**11 46 26.2**	**-1.2**
TUZ	**Tuapeka**	**4.90**	**55**	P	**Pn**	**11 45 33.0**	**-1.0**
TUZ				S	**Sn**	**11 46 30.6**	**0.0**
MSZ	**Milford Sound**	**5.08**	**35**	P	**Pn**	**11 45 38.5**	**+2.1**
MSZ				S	**Sn**	**11 46 41.0**	**+5.9**
QTPS	**Queenstown Pol**	**5.08**	**42**	P	**Pn**	**11 45 39.0**	**+2.5**
QTPS				S	**Sn**	**11 46 38.3**	**+3.0**
EAZ	**Earnscleugh**	**5.23**	**47**	P	**Pn**	**11 45 37.7**	**-0.9**
EAZ				S	**Sn**	**11 46 40.8**	**+1.9**
WKZ	**Wanaka**	**5.40**	**42**		**Pn**	**11 45 41.8**	**+0.9**
WKZ	**Wanaka**	**5.40**	**42**	P	**Pn**	**11 45 42.3**	**+1.4**
WKZ				S	**Sn**	**11 46 46.4**	**+3.3**
HHSZ	**Highcliff Hill**	**5.47**	**59**	P	**Pn**	**11 45 41.3**	**-0.6**
HHSZ				S	**Sn**	**11 46 42.8**	**-2.1**
JCZ	**Jackson Bay**	**5.92**	**37**	P	**Pn**	**11 45 50.4**	**+2.4**
JCZ				S	**Sn**	**11 47 04.1**	**+8.3**
ODZ	**Otahua Downs**	**6.04**	**52**		**Pn**	**11 45 48.5**	**-1.1**
ODZ	**Otahua Downs**	**6.04**	**52**	P	**Pn**	**11 45 47.6**	**-2.0**
ODZ				S	**Sn**	**11 46 57.5**	**-1.2**
LBZ	**Lake Benmore**	**6.28**	**46**		**Pn**	**11 45 52.3**	**-0.6**
LBZ	**Lake Benmore**	**6.28**	**46**	P	**Pn**	**11 45 50.7**	**-2.2**
LBZ				S	**Sn**	**11 47 05.7**	**+1.1**
TMZ	**Timaru**	**6.68**	**50**	P	**Pn**	**11 45 57.2**	**-1.3**
TMZ				S	**Sn**	**11 47 14.4**	**-0.2**
FOZ	**Fox Glacier**	**6.78**	**39**	P	**Pn**	**11 46 01.8**	**+2.0**
FOZ				S	**Sn**	**11 47 18.1**	**+1.0**
ARCZ	**Arundel**	**7.08**	**48**	P	**Pn**	**11 46 02.2**	**-1.7**
ARCZ				S	**Sn**	**11 47 25.6**	**+1.1**
GCSZ	**Gaunt Creek Bo**	**7.17**	**41**	P	**Pn**	**11 46 06.3**	**+1.1**
RPZ	**Rata Peaks**	**7.19**	**46**		**Pn**	**11 46 03.0**	**-2.5**
RPZ	**Rata Peaks**	**7.19**	**46**	Pn	**Pn**	**11 46 03.4**	**-2.1**
	9.6nm,0.3s,baz=209,slow=3.9,SNR=36						
RPZ				Sn	**Sn**	**11 47 25.1**	**-2.1**
	479nm,0.3s,baz=55,slow=22,SNR=34						
RPZ				LR	LR	11 49 07.2	
	comp=Z,34µm,20.5s,baz=216,slow=40						
	22nm,0.3s						
RPZ	**Rata Peaks**	**7.19**	**46**	P	**Pn**	**11 46 02.9**	**-2.6**

WACZ	**Wakanui South**	**7.41**	**51**	P	**Pn**	**11 46 06.8**	**-1.7**
WVZ	**Waitaha Valley**	**7.55**	**42**	P	**Pn**	**11 46 10.6**	**+0.3**
MHCZ	**Mount Hutt**	**7.58**	**47**	P	**Pn**	**11 46 11.3**	**+0.5**
RACZ	**Rakaia**	**7.72**	**51**	P	**Pn**	**11 46 12.5**	**-0.2**
OXZ	**Oxford**	**7.96**	**48**		**Pn**	**11 46 14.2**	**-1.8**
OXZ	**Oxford**	**7.96**	**48**	P	**Pn**	**11 46 14.5**	**-1.5**
MQZ	**McQueen's Vall**	**8.00**	**52**		**Pn**	**11 46 15.8**	**-0.7**
MQZ	**McQueen's Vall**	**8.00**	**52**	P	**Pn**	**11 46 14.5**	**-2.0**
AKCZ	**Akaroa Harbour**	**8.02**	**54**	P	**Pn**	**11 46 17.2**	**+0.3**
INZ	**Inchbonnie**	**8.14**	**43**		**Pn**	**11 46 17.8**	**-0.7**
INZ	**Inchbonnie**	**8.14**	**43**	P	**Pn**	**11 46 18.2**	**-0.2**
OKCZ	**Okains Bay**	**8.20**	**54**	P	**Pn**	**11 46 18.5**	**-0.8**
AMCZ	**Amberley**	**8.38**	**50**	P	**Pn**	**11 46 21.7**	**+0.1**
LTZ	**Lake Taylor**	**8.48**	**47**		**Pn**	**11 46 21.0**	**-2.2**
LTZ	**Lake Taylor**	**8.48**	**47**	P	**Pn**	**11 46 20.7**	**-2.5**
GVZ	**Greta Valley S**	**8.72**	**50**	P	**Pn**	**11 46 28.3**	**+1.9**
DSZ	**Denniston Nort**	**9.09**	**41**		**Pn**	**11 46 30.2**	**-1.3**
DSZ	**Denniston Nort**	**9.09**	**41**	P	**Pn**	**11 46 31.0**	**-0.5**
KHZ	**Kahutara**	**9.38**	**50**		**Pn**	**11 46 35.4**	**0.0**
KHZ	**Kahutara**	**9.38**	**50**	P	**Pn**	**11 46 34.7**	**-0.6**
THZ	**Tophouse**	**9.56**	**45**		**Pn**	**11 46 37.3**	**-0.7**
THZ	**Tophouse**	**9.56**	**45**	P	**Pn**	**11 46 37.9**	**-0.2**
MRNZ	**Matariki Terra**	**9.79**	**43**		**Pn**	**11 46 40.7**	**-0.3**
MRNZ	**Matariki Terra**	**9.79**	**43**	P	**Pn**	**11 46 41.3**	**+0.2**
BSWZ	**Blackbirch Sta**	**10.07**	**48**	P	Pn	11 46 49.2	+4.4
QRZ	**Quartz Range**	**10.15**	**40**		**Pn**	**11 46 45.1**	**-1.0**
QRZ	**Quartz Range**	**10.15**	**40**	P	**Pn**	**11 46 45.8**	**-0.2**
TKNZ	**Takaka Hill**	**10.17**	**42**	P	**Pn**	**11 46 49.0**	**+2.7**
NNZ	**Nelson**	**10.21**	**45**	P	**Pn**	**11 46 48.8**	**+1.9**
TUWZ	**Tuamarina**	**10.31**	**47**		**Pn**	**11 46 49.3**	**+1.0**
TUWZ	**Tuamarina**	**10.31**	**47**	P	**Pn**	**11 46 51.2**	**+2.9**
TCW	**Tory Channel**	**10.64**	**47**	P	**Pn**	**11 46 56.4**	**+3.6**
DUWZ	**D'Urville Isla**	**10.79**	**45**	P	**Pn**	**11 46 57.8**	**+2.9**
PLWZ	**Palliser**	**10.87**	**52**	P	**Pn**	**11 46 58.3**	**+2.5**
MSWZ	**Moikau Station**	**10.98**	**51**	P	**Pn**	**11 46 59.5**	**+2.1**
PAWZ	**Paruwai Farm**	**11.09**	**51**	P	**Pn**	**11 47 00.8**	**+1.9**
CAW	**Cannon Point**	**11.11**	**49**	P	**Pn**	**11 47 00.9**	**+1.7**
TRWZ	**Traveller**	**11.22**	**52**	P	**Pn**	**11 47 01.1**	**+0.5**
KIW	**Kapiti Island**	**11.22**	**48**	P	**Pn**	**11 47 03.2**	**+2.6**
MTW	**Mount Morrison**	**11.29**	**51**	P	**Pn**	**11 47 03.9**	**+2.2**
OGWZ	**Otaki Gorge**	**11.38**	**49**	P	**Pn**	**11 47 05.1**	**+2.2**
HOWZ	**Holdsworth Sta**	**11.49**	**50**	P	**Pn**	**11 47 07.3**	**+2.8**
TMWZ	**Te Maipa**	**11.53**	**52**	P	**Pn**	**11 47 08.4**	**+3.5**
MRZ	**Mangatainoka R**	**11.70**	**49**		**Pn**	**11 47 06.4**	**-0.9**
MRZ	**Mangatainoka R**	**11.70**	**49**	P	**Pn**	**11 47 08.7**	**+1.5**
PRWZ	**Pori Road**	**11.98**	**50**	P	**Pn**	**11 47 15.0**	**+4.0**
BFZ	**Birch Farm**	**12.03**	**51**		**Pn**	**11 47 08.7**	**-3.0**
BFZ	**Birch Farm**	**12.03**	**51**	P	**Pn**	**11 47 08.5**	**-3.2**
KHEZ	**Kahui Hut**	**12.06**	**41**	P	**Pn**	**11 47 14.4**	**+2.2**
LREZ	**Lake Rotokare**	**12.09**	**42**	P	Pn	11 47 17.6	+5.0
NEZ	**North Egmont**	**12.11**	**41**	P	Pn	11 47 18.6	+5.6
ANWZ	**Angora Road**	**12.31**	**51**	P	**Pn**	**11 47 17.9**	**+2.3**
VRZ	**Vera Road**	**12.52**	**43**	P	**Pn**	**11 47 21.0**	**+2.5**
WPHZ	**Waipukurau**	**12.59**	**50**	P	**Pn**	**11 47 22.9**	**+3.5**
PKVZ	**Pokaka**	**12.66**	**45**	P	Pn	11 47 24.7	+4.3
MOVZ	**Moawhango**	**12.76**	**46**	P	**Pn**	**11 47 24.4**	**+2.7**
OTVZ	**Oturere**	**12.91**	**45**	P	Pn	11 47 29.4	+5.5
TMVZ	**Te Maari**	**12.96**	**45**	P	Pn	11 47 29.8	+5.2
TAU	**Tasmania Unive**	**13.01**	**291**		**Pn**	**11 47 21.8**	**-3.3**
KWHZ	**Kaweka Forest**	**13.06**	**48**	P	**Pn**	**11 47 28.6**	**+2.7**
HIZ	**Hauiti**	**13.07**	**41**	P	**Pn**	**11 47 26.5**	**+0.5**
BKZ	**Black Stump Fm**	**13.30**	**47**		**Pn**	**11 47 29.0**	**-0.2**
MOO	**Moorlands**	**13.35**	**293**	P	**Pn**	**11 47 30.4**	**+0.7**
TOZ	**Tahuroa Road**	**14.00**	**41**	P	**Pn**	**11 47 41.0**	**+2.4**
PRGZ	**Paritu Road**	**14.18**	**50**	P	**Pn**	**11 47 42.0**	**+0.8**
AWAZ	**Awhitu Peninsu**	**14.21**	**37**	P	**P**	**11 47 48.2**	**-0.8**
URZ	**Urewera**	**14.31**	**47**	Pn	**Pn**	**11 47 42.2**	**-0.7**
	2.3nm,0.3s,baz=229,slow=11,SNR=13						
URZ				Sn	Sn	11 50 12.8	-8.7
	7.4nm,0.3s,baz=343,slow=23,SNR=12						
	34nm,1.1s						
URZ	**Urewera**	**14.31**	**47**	P	**Pn**	**11 47 45.1**	**+2.3**
MKAZ	**Moumakai**	**14.39**	**39**	P	**Pn**	**11 47 47.1**	**+3.1**
CTZ	**Chatham Island**	**14.42**	**76**		Pn	11 47 40.4	-3.9
CTZ	**Chatham Island**	**14.42**	**76**	P	Pn	11 47 39.8	-4.5
CTZ	

comp=Z,2µm,18.4s,baz=214,slow=33
comp=Z,1.3nm,0.9s
PMG Port Moresby 41.82 335 IAMs_20 IAMs_20 12 06 23.8
comp=Z,5µm,20.0s
PMG Port Moresby 41.82 335 LR LR 12 06 35.4
comp=Z,5µm,21.1s,baz=152,slow=32
FITZ Fitzroy Crossi 43.56 301 P **P** **11 52 22.6 -1.7**
comp=Z,1.0nm,0.6s,baz=152,slow=6.9,SNR=4.0
FITZ LR LR 12 09 59.5
comp=Z,4µm,19.4s,baz=147,slow=35
comp=Z,1.0nm,0.6s
PSA00 Pilbara Seismi 44.28 292 P **P** **11 52 30.1 0.0**
PSA00 IAmb IAmb 11 53 02.2
comp=Z,17nm,1.2s
PPT Papeete 48.83 67 LR LR 12 10 34.6
comp=Z,2µm,19.7s,baz=236,slow=32
MAW Mawson 49.76 210 P **P** **11 53 09.5 -2.8**
comp=Z,1.4nm,0.7s,baz=114,slow=10.0,SNR=1.2
comp=Z,1.4nm,0.7s
JAY Jayapura 50.33 329 LR LR 12 13 24.9
comp=Z,2µm,19.7s,baz=144,slow=35
BATI Baumata 51.10 305 LR LR 12 14 37.3
comp=Z,5µm,19.8s,baz=184,slow=36
SOEI Soe 51.15 306 IAMs_20 IAMs_20 12 14 16.9
comp=Z,5µm,20.0s
SYO Syowa Base 55.44 201⇑*eP* **P** **11 53 56.5 +2.2**
KAPI Kappang 57.54 305 P **P** **11 54 10.3 +0.4**
KAPI Kappang 57.54 305 LR LR 12 19 16.2
comp=Z,2µm,20.2s,baz=144,slow=36
SNAA Sanae 59.33 185⇑P **P** **11 54 25.1 +3.2**
comp=Z,180nm,0.9s
SNAA Sanae 59.33 185 **P** **11 54 24.4 +2.5**
SNAA IAmb IAmb 11 54 31.5
comp=Z,17nm,1.2s
SNAA IAMs_20 IAMs_20 12 20 46.5
comp=Z,4µm,19.0s
SNAA Sanae 59.33 185 P P 11 54 17.5 -4.4
comp=Z,2.2nm,0.7s,baz=185,slow=8.9,SNR=3.0
comp=Z,2.2nm,0.7s
VNA3 Neumayer Olymp 60.05 182⇑P **P** **11 54 28.3 +1.6**
comp=Z,5.3nm,0.9s
VNA2 Neumayer--Watz 60.29 183⇑P **P** **11 54 29.8 +1.4**
comp=Z,2.3nm,0.7s,baz=164,slow=8.9
AIS Amsterdam Isla 60.51 245 P **P** **11 54 32.2 +1.8**
VNA1 Neumayer--Stat 60.59 183⇑P **P** **11 54 31.6 +1.2**
comp=Z,21nm,1.0s
PMSA Palmer Station 60.67 159 LR LR 12 16 50.9
comp=Z,2µm,20.6s,baz=70,slow=32
LEM Lembang 63.11 292 LR LR 12 20 43.4
comp=Z,450nm,21.1s,baz=150,slow=35
GUMO Guam 64.49 339 LR LR 12 18 37.7
comp=Z,385nm,21.5s,baz=206,slow=32
DAV Davao City (W) 65.06 317 LR LR 12 25 02.0
comp=Z,1µm,18.6s,baz=171,slow=38
H04S2 CROZET ISLANDS 67.84 223 T T 13 10 07.0
baz=138
H04S1 CROZET ISLANDS 67.84 223 T T 13 10 06.4
baz=138
H04S3 CROZET ISLANDS 67.86 223 T T 13 09 59.9
baz=138
GO09 Cerro Castillo 69.23 146 P **P** **11 55 31.1 +4.1**
PLCA Paso Flores 78.62 141 P P 11 56 17.9 -4.4
comp=Z,1.0nm,0.9s,baz=252,slow=9.6,SNR=2.0
comp=Z,1.0nm,0.9s
JOW Kunigami 81.86 328 LR LR 12 32 10.1
comp=Z,1µm,20.0s,baz=170,slow=35
H08S2 Diego Garcia H 85.22 264 T T 13 30 53.9
baz=140,slow=76,SNR=3549
H08S1 Diego Carcia H 85.23 264 T T 13 30 46.5
baz=140,slow=76,SNR=1223
H08S3 Diego Garcia H 85.24 264 T T 13 30 55.5
baz=140,slow=76,SNR=885
JNU Nakatsue 86.83 333 LR LR 12 34 02.0
comp=Z,428nm,19.7s,baz=168,slow=34
MJAR Matsushiro Arr 88.11 340 P **P** **11 57 10.0 -0.6**
comp=Z,1.7nm,0.8s,baz=179,slow=6.2,SNR=6.7
comp=Z,1.7nm,0.8s
CMAR Chiang Mai Arr 88.37 301 P **P** **11 57 12.9 +0.5**
CMAR Chiang Mai Arr 88.37 301 P **P** **11 57 11.1 -1.3**
comp=Z,3.8nm,0.9s,baz=164,slow=4.0,SNR=16
comp=Z,3.8nm,0.9s
NJ2 Nanjing 90.08 323 *eP* **P** **11 57 23.3 +3.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KSRS Korea Array 91.75 332 P **P** **11 57 27.1 -0.5**
comp=Z,1.5nm,0.8s,baz=148,slow=4.5,SNR=9.2
comp=Z,1.5nm,0.8s
KSAR Wonju Array Be 91.75 332 P **P** **11 57 29.4 +1.8**
PZH PanZhiHua 93.30 307 P **P** **11 57 37.8 +2.5**
ASAJ Asahikawa 94.53 345 LR LR 12 36 08.7
comp=Z,699nm,18.8s,baz=158,slow=33
CPUP Villa Florida 96.52 143 LR LR 12 33 49.8
comp=Z,318nm,21.2s,baz=26,slow=31
USRK Ussuriysk Ar. 96.87 337 LR LR 12 34 52.4
comp=Z,256nm,20.5s,baz=246,slow=31
MSEY Mahe Island 98.44 253 IAMs_20 IAMs_20 12 43 26.6
comp=Z,1µm,20.0s
CNBA Chernabura Isl 107.84 21 IAMs_20 IAMs_20 12 47 49.5
comp=Z,1µm,19.0s
SAO San Andreas Ge 107.93 54 IAMs_20 IAMs_20 12 45 21.1
comp=Z,1µm,19.0s
HOPS Hopland Field 108.73 52 IAMs_20 IAMs_20 12 50 06.1
comp=Z,1µm,18.0s
O02D Mt. Diablo Mer 109.75 51 IAMs_20 IAMs_20 12 41 58.2
comp=Z,1µm,20.0s
TUC Tucson 110.75 64 IAMs_20 IAMs_20 12 51 30.4
comp=Z,1µm,18.0s
HATC Hat Creek Radi 110.91 52 IAMs_20 IAMs_20 12 42 25.8
comp=Z,922nm,20.0s
WVOR Wild Horse Val 113.54 52 IAMs_20 IAMs_20 12 52 01.4
comp=Z,875nm,20.0s
ELK Elko 114.16 55 IAMs_20 IAMs_20 12 47 17.9
comp=Z,1µm,19.0s
NLWA Neilton Lookou 114.51 45 IAMs_20 IAMs_20 12 51 07.5
comp=Z,1µm,18.0s
L18K Granite Mounta 115.17 19 IAMs_20 IAMs_20 12 46 06.2
comp=Z,1µm,20.0s
SLKM Skilak Lake 115.22 23 IAMs_20 IAMs_20 12 46 56.7
comp=Z,1µm,20.0s
K17K Iditarod 115.28 18 IAMs_20 IAMs_20 12 44 07.9
comp=Z,831nm,20.0s
MVCO Mesa Verde 115.51 62 IAMs_20 IAMs_20 12 53 51.1
comp=Z,931nm,18.0s
J17K VABM Dome 115.73 18 IAMs_20 IAMs_20 12 46 48.9
comp=Z,1µm,20.0s
HAWA Hanford 115.89 48 IAMs_20 IAMs_20 12 50 30.2
comp=Z,1µm,19.0s
BMO Blue Mountains 115.93 51 IAMs_20 IAMs_20 12 49 43.5
comp=Z,1µm,20.0s
HIN Hinchinbrook I 116.12 25 IAMs_20 IAMs_20 12 50 43.6
comp=Z,966nm,20.0s
SKT Skwentna 116.15 22 IAMs_20 IAMs_20 12 47 38.2
comp=Z,1µm,22.0s
JCT Junction City 116.22 73 IAMs_20 IAMs_20 12 44 20.8
comp=Z,1µm,20.0s
M22K Willow 116.31 22 IAMs_20 IAMs_20 12 48 41.4
comp=Z,1µm,20.0s
GLI Glacier Island 116.36 24 IAMs_20 IAMs_20 12 51 24.9
comp=Z,957nm,19.0s
EYAK Cordova Ski Ar 116.46 25 IAMs_20 IAMs_20 12 42 55.6
comp=Z,1µm,22.0s
HLID Hailey 116.55 54 IAMs_20 IAMs_20 12 53 26.1
comp=Z,1µm,20.0s
G16K Koyuk River 116.94 15 IAMs_20 IAMs_20 12 50 47.6
comp=Z,809nm,20.0s
J19K Poorman 116.97 19 IAMs_20 IAMs_20 12 50 22.7
comp=Z,888nm,19.0s
V35K Ketchikan 117.04 35 IAMs_20 IAMs_20 12 48 48.6
comp=Z,880nm,20.0s
MESA MESA 117.26 27 IAMs_20 IAMs_20 12 43 45.9
comp=Z,912nm,20.0s
S31K Pelican 117.36 31 IAMs_20 IAMs_20 12 48 42.8
comp=Z,1µm,20.0s
CRQM Cirque 117.38 26 IAMs_20 IAMs_20 12 51 14.1
comp=Z,850nm,20.0s
H18K Honhosa River 117.45 17 IAMs_20 IAMs_20 12 49 37.2
comp=Z,956nm,21.0s
YAH Yahtse 117.47 27 IAMs_20 IAMs_20 12 42 54.3
comp=Z,1µm,22.0s
ISLE Juniper Island 117.49 27 IAMs_20 IAMs_20 13 00 27.8
comp=Z,899nm,20.0s
S32K Killisnoo 117.56 32 IAMs_20 IAMs_20 12 48 12.2
comp=Z,1µm,20.0s
VRDI Verde Repeater 117.67 26 IAMs_20 IAMs_20 12 51 54.5
comp=Z,820nm,19.0s
TABL Table Mountain 117.72 27 IAMs_20 IAMs_20 12 45 47.9
comp=Z,1µm,21.0s
GLB Gilahina Butte 117.74 25 IAMs_20 IAMs_20 12 51 30.3
comp=Z,795nm,19.0s
GRNC Granite Creek 117.76 27 IAMs_20 IAMs_20 12 43 28.1
comp=Z,946nm,22.0s
AHID Auburn Hatcher 117.79 56 IAMs_20 IAMs_20 12 49 54.2
comp=Z,1µm,18.0s
I20K Naaghedeneel 117.92 19 IAMs_20 IAMs_20 12 51 48.7
comp=Z,910nm,20.0s
LOGN Logan Glacier 118.06 27 IAMs_20 IAMs_20 12 46 21.0
comp=Z,1µm,21.0s
CTGM Chitina Glacie 118.08 27 IAMs_20 IAMs_20 12 46 33.3
comp=Z,888nm,22.0s
U35K Hyder 118.08 36 IAMs_20 IAMs_20 12 49 40.2
comp=Z,1µm,20.0s
R32K Eaglecrest 118.19 32 IAMs_20 IAMs_20 12 49 18.8
comp=Z,1µm,20.0s
O28M Mount Upton 118.27 27 IAMs_20 IAMs_20 12 46 05.5
comp=Z,1µm,22.0s
BESE Bessie Mountai 118.30 31 IAMs_20 IAMs_20 12 49 11.8
comp=Z,1µm,19.0s
TPAW Teton Pass 118.36 55 IAMs_20 IAMs_20 12 55 18.0
comp=Z,900nm,18.0s
O29M Mount Kennedy 118.40 29 IAMs_20 IAMs_20 12 47 01.1
comp=Z,866nm,21.0s
FXWY Fox Creek 118.42 55 IAMs_20 IAMs_20 12 54 08.6
comp=Z,1µm,19.0s
PDAR Pinedale Array 118.64 57 PKP **PKPdf** **12 03 04.1 -4.1**
comp=Z,0.1nm,0.3s,baz=282,slow=2.8,SNR=2.0
MKAR Makanchi Array 118.69 309 PKP **PKPdf** **12 03 04.8 -3.0**
comp=Z,0.9nm,0.9s,baz=110,slow=1.7,SNR=4.9
DLMT Dillon 118.72 53 IAMs_20 IAMs_20 12 51 06.6
comp=Z,1µm,19.0s
T35M Bob Quinn 118.77 35 IAMs_20 IAMs_20 12 48 32.5
comp=Z,939nm,21.0s
I21K Tanana 118.79 20 IAMs_20 IAMs_20 12 49 07.9
comp=Z,916nm,19.0s
WRH Wood River Hil 119.10 22 IAMs_20 IAMs_20 12 49 59.1
comp=Z,1µm,20.0s
L26K Log Cabin Wild 119.14 25 IAMs_20 IAMs_20 12 44 34.5
comp=Z,914nm,22.0s
CCB Clear Creek Bu 119.31 22 IAMs_20 IAMs_20 12 50 16.7
comp=Z,1µm,20.0s
I23K Minto, Yukon-K 119.36 21 IAMs_20 IAMs_20 12 50 26.9
comp=Z,1µm,21.0s
BOZ Bozeman (W) 119.39 53 IAMs_20 IAMs_20 12 49 45.2
comp=Z,944nm,20.0s
P32M Atlin 119.45 31 IAMs_20 IAMs_20 12 55 33.1
comp=Z,858nm,19.0s
Q32M Nakina River 119.49 32 IAMs_20 IAMs_20 12 46 25.2
comp=Z,1µm,21.0s
O30N Mendenhall 119.55 29 IAMs_20 IAMs_20 12 51 05.5
comp=Z,850nm,19.0s
G21K Allakaket 119.61 18 IAMs_20 IAMs_20 12 52 45.5
comp=Z,804nm,19.0s
ILAR Eielson Array 119.64 22 PKP **PKPdf** **12 03 06.8 -2.2**
comp=Z,0.8nm,1.0s,baz=270,slow=2.8,SNR=4.5
POKR Poker Plat Res 119.79 21 IAMs_20 IAMs_20 12 50 11.4
comp=Z,1µm,20.0s
UOSS Minazif 119.82 275 IAMs_20 IAMs_20 12 53 15.9
comp=Z,1µm,22.0s
H23K Yukon River 119.89 20 IAMs_20 IAMs_20 12 50 24.8
comp=Z,1µm,21.0s
M29M Somme Creek 120.09 27 IAMs_20 IAMs_20 12 45 04.6
comp=Z,1µm,22.0s
C18K Utukok River 120.10 14 IAMs_20 IAMs_20 12 48 25.9
comp=Z,901nm,22.0s
P33M Teslin, Yukon 120.22 31 IAMs_20 IAMs_20 12 49 44.3
comp=Z,905nm,20.0s
F21K Alatna River 120.23 18 IAMs_20 IAMs_20 12 49 57.7
comp=Z,1µm,20.0s
H24K Noodor Dome 120.28 21 IAMs_20 IAMs_20 12 50 41.3
comp=Z,1µm,21.0s
K27K Chicken 120.29 24 IAMs_20 IAMs_20 12 53 27.8
comp=Z,783nm,20.0s
D19K Kuna River 120.47 15 IAMs_20 IAMs_20 12 53 19.9
comp=Z,1µm,21.0s
G23K Bananza Creek 120.52 19 IAMs_20 IAMs_20 12 51 45.5
comp=Z,896nm,21.0s
M30M Minto, Yukon 120.69 28 IAMs_20 IAMs_20 12 47 53.7
comp=Z,1µm,21.0s
N32M Quiet Lake 120.82 30 IAMs_20 IAMs_20 12 50 26.1
comp=Z,1µm,20.0s
OK038 West end E0370 120.87 69 IAMs_20 IAMs_20 12 54 41.5
comp=Z,1µm,18.0s
COLD Coldfoot 120.92 19 IAMs_20 IAMs_20 12 51 49.9
comp=Z,779nm,20.0s
G24K Hadweenzic Riv 121.08 20 IAMs_20 IAMs_20 12 51 10.5
comp=Z,1µm,20.0s
M31M Drury Creek, Y 121.16 29 IAMs_20 IAMs_20 12 55 45.2
comp=Z,966nm,20.0s
E21K Killik River 121.18 17 IAMs_20 IAMs_20 12 52 32.8
comp=Z,1µm,20.0s
F24K Squaw Lake 121.66 20 IAMs_20 IAMs_20 12 50 58.7
comp=Z,1µm,21.0s
OGNE Ogallala 121.75 63 IAMs_20 IAMs_20 12 49 53.4
comp=Z,1µm,20.0s
D22K Ayikyak River 121.80 17 IAMs_20 IAMs_20 12 54 11.3
comp=Z,844nm,20.0s
EGMT Eagleton 121.94 52 IAMs_20 IAMs_20 12 57 35.6
comp=Z,898nm,20.0s
E24K York Creek 121.99 19 IAMs_20 IAMs_20 12 52 41.3
comp=Z,1µm,21.0s
B21K Ikpikpuk River 122.08 16 IAMs_20 IAMs_20 12 53 49.4
comp=Z,862nm,21.0s
ZALV Zalesovo Beam 122.17 317 PKP **PKPdf** **12 03 10.2 -4.0**
comp=Z,0.3nm,0.4s,baz=114,slow=3.5,SNR=1.6
F25K Christian Rive 122.23 20 IAMs_20 IAMs_20 12 51 31.8
comp=Z,1µm,20.0s
J30M Hart River 122.33 26 IAMs_20 IAMs_20 12 50 57.7
comp=Z,849nm,21.0s
G27K Doyon Strip 122.58 22 IAMs_20 IAMs_20 12 51 21.0
comp=Z,851nm,22.0s
F26K Sheenjek River 122.66 21 IAMs_20 IAMs_20 12 54 48.2
comp=Z,1µm,20.0s
D24K Happy Valley 122.80 18 IAMs_20 IAMs_20 12 49 19.8
comp=Z,936nm,20.0s
C23K Itkillik River 123.01 17 IAMs_20 IAMs_20 12 55 00.1
comp=Z,1µm,21.0s
KURBB Kurchatov Arra 123.06 311 PKP **PKPdf** **12 03 13.4 -2.7**
comp=Z,0.8nm,0.8s,baz=128,slow=1.6,SNR=5.2
C24K Franklin Bluff 123.29 18 IAMs_20 IAMs_20 12 53 33.7
comp=Z,875nm,20.0s
D25K Kavik River 123.45 19 IAMs_20 IAMs_20 12 51 38.0
comp=Z,1µm,22.0s
C27K Jago River 124.28 20 IAMs_20 IAMs_20 12 53 12.8
comp=Z,1µm,20.0s
E29M Blow River 124.72 23 IAMs_20 IAMs_20 12 56 15.6
comp=Z,766nm,20.0s
P38A Dawn 126.04 69 IAMs_20 IAMs_20 12 53 09.5
comp=Z,1µm,20.0s
ECSD EROS Data Cent 126.63 63 IAMs_20 IAMs_20 12 58 49.7
comp=Z,1µm,19.0s
N41A Harden Midland 128.33 69 IAMs_20 IAMs_20 12 52 51.2
comp=Z,1µm,22.0s
BVAR Borovoye Array 128.57 310 PKP **PKPdf** **12 03 24.3 -2.2**
comp=Z,0.6nm,0.6s,baz=113,slow=3.3,SNR=4.3
U54A Nelsons Funny 131.60 79 IAMs_20 IAMs_20 12 56 10.2
comp=Z,827nm,20.0s
W57A Gilead 131.97 82 IAMs_20 IAMs_20 12 52 34.1
comp=Z,725nm,19.0s
BLA Blacksburg 132.91 79 IAMs_20 IAMs_20 12 57 18.9
comp=Z,774nm,20.0s
ACSO Alum Creek Sta 132.99 74 IAMs_20 IAMs_20 12 56 21.8
comp=Z,1µm,20.0s
J47A Sunmer 133.48 70 IAMs_20 IAMs_20 12 56 56.3
comp=Z,818nm,19.0s
M52A Chesterland 134.74 74 IAMs_20 IAMs_20 12 56 42.0
comp=Z,1µm,20.0s
I49A Point Hope 135.08 70 IAMs_20 IAMs_20 12 59 55.7
comp=Z,859nm,18.0s
BRTR Keskin Array B 143.82 274 PKP PKPab 12 03 51.3 -1.1
comp=Z,1.6nm,0.8s,baz=135,slow=5.3,SNR=7.3
TULEG Thule 145.53 19 IAMs_20 IAMs_20 13 07 20.2
comp=Z,715nm,21.0s
SPITS Spitsbergen Ar 148.24 348 PKPbc **PKPdf** **12 04 03.6 +2.1**
comp=Z,9.0nm,0.8s,baz=74,slow=6.2,SNR=8.1
AKASG Malin Array Be 151.04 291 PKPbc **PKPdf** **12 04 08.9 +2.2**
comp=Z,4.5nm,0.7s,baz=82,slow=2.5,SNR=12
ARCES ARCESS Array B 151.30 331 PKPbc **PKPbc** **12 04 11.4 -1.2**
comp=Z,7.4nm,0.8s,baz=54,slow=3.1,SNR=10
ARCES PKPab **PKPab** **12 04 20.2 -0.6**
comp=Z,10nm,0.7s,baz=74,slow=5.2,SNR=5.7
FINES FINESS Array B 153.39 314 PKPbc **PKPdf** **12 04 13.6 +3.7**
comp=Z,1.8nm,0.9s,baz=58,slow=5.2,SNR=4.8
FINES PKPab **PKPab** **12 04 27.7 -2.1**
comp=Z,1.6nm,0.6s,baz=67,slow=3.6,SNR=8.7
KEST Kesra 157.15 244 PKPab **PKPab** **12 04 44.5 -2.2**
comp=Z,4.0nm,0.9s,baz=259,slow=2.2,SNR=4.0
RONA Rosalia, Austr 158.50 279 *e*PP sPKPab 12 05 08.6 +14
comp=Z,3.8nm,1.1s
KRLC Kraliky 158.70 286 AMS AMS 12 44 00.0
comp=Z,900nm,24.4s
CONA Conrad Observa 158.84 279 *e*PP sPKPab 12 05 06.0 +10
comp=Z,2.5nm,1.7s
ARSA Arzberg 158.88 277 *e*PP sPKPab 12 05 02.8 +6.7
comp=Z,1.9nm,0.9s
SOKA Soboth 159.04 276 *e*PcP sPKPab 12 05 08.2 +11
comp=Z,3.9nm,0.7s
DPC Dobruska-Polom 159.04 286 AMS AMS 12 43 00.0
comp=Z,2µm,21.3s
OSTC Ostas 159.14 287 AMS AMS 12 43 10.0
comp=Z,2µm,25.0s
UPC Upice 159.26 287 AMS AMS 12 43 00.0
comp=Z,2µm,24.4s
OBKA Obir 159.30 275 *e*PcP sPKPab 12 05 06.9 +8.9
comp=Z,4.5nm,1.1s
HFS Hagfors 159.59 315 PKPab **PKPab** **12 04 55.9 -0.6**
comp=Z,1.6nm,0.8s,baz=70,slow=5.1,SNR=3.1
GOPC GO Pecny, Ondr 159.95 285 AMS AMS 12 46 40.0
comp=Z,1µm,19.4s
CKRC Cesky Krumlov 160.06 281 AMS AMS 12 44 40.0
comp=Z,1µm,21.1s
PRU Pruhonice 160.12 285 AMS AMS 12 46 10.0
comp=Z,1µm,20.9s
PVCC Panska Ves 160.17 286 AMS AMS 12 43 50.0
comp=Z,2µm,22.9s
NB2 NORSAR Subarra 160.37 318 PKP **PKPab** **12 04 59.2 -0.7**
comp=Z,10nm,1.4s,baz=62,slow=4.4
NB2 NORSAR Subarra 160.37 318 PKP **PKPab** **12 04 59.2 -0.7**
baz=62,slow=4.4
NOA NORSAR Array B 160.37 318 PKPab **PKPab** **12 04 59.3 -0.7**
comp=Z,0.3nm,0.6s,baz=268,slow=2.8,SNR=3.4
GERES GERESS Array B 160.45 281 PKPab **PKPab** **12 04 57.6 -3.1**
comp=Z,1.3nm,1.0s,baz=126,slow=2.3,SNR=5.2
RICC Richard 160.47 286 AMS AMS 12 44 00.0
comp=Z,2µm,24.7s
KHC Kasperske Hory 160.59 282 AMS AMS 12 44 30.0
comp=Z,1µm,21.0s
LESA Schwarzleotal 160.79 276 *e*PP **PKPab** **12 05 04.4 +2.1**
comp=Z,2.9nm,1.1s
CLL Collm 161.24 288 *e*PKPab **PKPab** **12 05 05.0 +1.0**
CLL *ex* x 12 05 19.0
CLL LmV 13 24 00.0
comp=Z,700nm,20.6s
WTTA Wattenberg 161.43 275 *e*PcP **PKPab** **12 05 03.2 -2.0**
comp=Z,3.2nm,1.0s
SQTA Sankt Quirin 161.70 275 *e*PcP **PKPab** **12 05 02.6 -3.7**
comp=Z,6.5nm,1.1s
MOTA Moosalm 161.80 275 *e*PP **PKPab** **12 05 01.2 -5.6**
comp=Z,3.3nm,1.2s
FETA Feichten 161.96 274 *e*PcP **PKPab** **12 05 04.4 -3.1**
comp=Z,4.1nm,1.3s
RETA Reutte 162.06 276 *e*PcP **PKPab** **12 05 06.0 -1.9**
comp=Z,10.0nm,1.4s
DAVA Damuels 162.59 274 *e*PcP **PKPab** **12 05 08.3 -2.0**
comp=Z,3.4nm,0.9s

KRSC 04 11:48:02.6±2.4, 49.65N×157.25E, h48km±41km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.27**	**325**	*eP*		Pn	11 48 23.2	-0.7
SKR				*eS*		Sn	11 48 37.5	-2.2
PAU	**Pauzhetka**	**1.84**	**351**	*eP*		Pn	11 48 33.9	+2.2
PAU				*eS*		Sn	11 48 55.9	+2.1
MIPR	**Malaya Ipel'ka**	**2.65**	**353**	*eP*		Pn	11 48 44.4	+1.6
ASAK	**Asacha**	**2.77**	**8**	*eP*		Pn	11 48 48.2	+3.7
MTVR	**Mutnovka**	**2.90**	**11**	*eP*		Pn	11 48 50.2	+3.8
MTVR				*eS*		Sn	11 49 24.6	+4.6
RUS	**Russkaya**	**2.90**	**15**	*eP*		Pn	11 48 49.7	+3.5
RUS				*eS*		Sn	11 49 24.1	+4.3
GRL	**Gorelyy**	**2.95**	**10**	*eP*		Pn	11 48 51.2	+4.1
GRL				*eS*		Sn	11 49 26.7	+5.4
KRMR	**Karymshinskiy**	**3.23**	**9**	*eP*		Pn	11 48 54.8	+4.0
KRMR				*eS*		Sn	11 49 32.7	+4.8
APC	**Apacha**	**3.28**	**359**	*eP*		Pn	11 48 55.0	+3.6
PET	**Petropavlovsk**	**3.49**	**14**	*eS*		Sn	11 49 39.8	+5.4
DALK	**Dalny**	**3.52**	**15**	*eP*		Pn	11 48 58.6	+4.0
DALK				*eS*		Sn	11 49 39.8	+4.8
INSR	**Institute**	**3.52**	**13**	*eS*		Sn	11 49 40.5	+5.3
UGLR	**Uglovaya**	**3.70**	**15**	*eP*		Pn	11 49 02.0	+4.7
AVH	**Avacha**	**3.74**	**14**	*eP*		Pn	11 49 02.7	+4.9
SMAR	**Somma**	**3.75**	**14**	*eP*		Pn	11 49 02.3	+4.3
KOK	**Koryaka**	**3.75**	**13**	*eP*		Pn	11 49 03.0	+5.0
NLC	**Nalytchevo**	**3.76**	**20**	*eS*		Sn	11 49 44.2	+3.2
SDLR	**Sedlovina**	**3.77**	**15**	*eP*		Pn	11 49 02.2	+3.8
KRER	**Koryakskii**	**3.78**	**14**	*eS*		Sn	11 49 46.9	+5.2
KRX	**Arik**	**3.82**	**13**	*eP*		Pn	11 49 03.2	+4.2
SPN	**Mys Shipunski**	**3.87**	**26**	*eP*		Pn	11 49 03.8	+4.3
SPN				*eS*		Sn	11 49 47.8	+4.2
GNL	**Ganaly**	**4.08**	**6**	*eP*		Pn	11 49 06.0	+3.6
MKZ	**Mys Kozlova**	**5.63**	**28**	*eP*		Pn	11 49 26.9	+3.2
BKI	**Bering**	**7.70**	**40**	*eS*		Sn	11 51 18.4	+0.7

*NEIC **04** 11:54:37.8±0.9, 18.1N±0.1×68.03W±0.06, h96km±10km, ML2.3/20, Md3.1/11(RSPR), Error ellipse: s-maj=21.5km s-min=6.8km az=192.0*
*SDD **04** 11:54:38.4±2.1, 17.98N×68.15W, h17km±16km, MD2.9, ML1.9, MW2.8*
*RSPR **04** 11:54:39.0, 18.13N×68.00W, h93km±1km, MD3.1/11*
ISC 04 11:54:37.4±1.7, 18.1N±0.1×68.06W±0.05, h94km±14km, n43, σ0.94/50, 5C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.64**	**61**			**Pn**	**11 54 54.2**	**+0.5**
IDE						**Sn**	**11 55 05.7**	**-0.3**
IDE	**Isla Desecheo**	**0.64**	**61**	⇑*eP*		**Pn**	**11 54 54.2**	**+0.5**
IDE	**Isla Desecheo**	**0.64**	**61**	*eS*		**Sn**	**11 55 05.7**	**-0.3**
PRSN	**Puerto Rico Se**	**0.88**	**81**	Pn		**Pn**	**11 54 56.3**	**+0.1**
PRSN				IAML			11 55 05.2	
	comp=E,41nm,0.6s							
PRSN				IAML			11 55 14.9	
	comp=N,55nm,0.2s							
CRPR	**Cabo Rojo, PR**	**0.91**	**94**			**Pn**	**11 54 56.7**	**+0.3**
CRPR						**Sn**	**11 55 10.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.91**	**94**	IAML			11 55 12.9	
	comp=N,35nm,2.5s							
CRPR	**Cabo Rojo, PR**	**0.91**	**94**	⇓*eP*		**Pn**	**11 54 56.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.91**	**94**	*eS*		**Sn**	**11 55 10.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.91**	**94**	*i P*		**Pn**	**11 54 56.5**	**+0.1**
CRPR				⇓*eSg*		**Sn**	**11 55 07.9**	**-2.8**
CRPR				IAML			11 55 12.5	
	comp=N,42nm,2.9s							
MLPR	**Magueyes Islan**	**0.97**	**96**	⇓*eP*		**Pn**	**11 54 57.6**	**+0.5**
MLPR	**Magueyes Islan**	**0.97**	**96**	*eS*		**Sn**	**11 55 12.2**	**+0.3**
AGPR	**Aguadilla, PR**	**0.98**	**67**			**Pn**	**11 54 57.7**	**+0.4**
AGPR						**Sn**	**11 55 12.3**	**+0.2**
AGPR	**Aguadilla, PR**	**0.98**	**67**	IAML			11 55 14.3	
	comp=N,56nm,1.7s							
AGPR				IAML			11 55 39.7	
	comp=E,87nm,2.6s							
AGPR	**Aguadilla, PR**	**0.98**	**67**	⇑*iP*		**Pn**	**11 54 57.7**	**+0.4**
AGPR	**Aguadilla, PR**	**0.98**	**67**	*eS*		**Sn**	**11 55 12.3**	**+0.2**
AGPR	**Aguadilla, PR**	**0.98**	**67**	*i P*		**Pn**	**11 54 57.7**	**+0.4**
AGPR				⇓*eSg*		**Sn**	**11 55 10.8**	**-1.3**
AGPR				IAML			11 55 22.1	
	comp=N,74nm,1.4s							
AOPR	**Arecibo Observ**	**1.27**	**78**			**Pn**	**11 55 00.7**	**+0.1**
AOPR						**Sn**	**11 55 17.7**	**-0.5**
AOPR	**Arecibo Observ**	**1.27**	**78**	IAML			11 55 20.9	
	comp=N,46nm,0.5s							
AOPR				IAML			11 55 23.0	
	comp=E,62nm,0.4s							
AOPR	**Arecibo Observ**	**1.27**	**78**	⇑*eP*		**Pn**	**11 55 00.7**	**+0.1**
AOPR	**Arecibo Observ**	**1.27**	**78**	*eS*		**Sn**	**11 55 17.7**	**-0.5**
AOPR	**Arecibo Observ**	**1.27**	**78**	*i P*		**Pn**	**11 55 00.6**	**0.0**
AOPR				IAML			11 55 20.3	
	comp=N,37nm,0.1s							
AOPR				*eSg*		**Sn**	**11 55 21.7**	**+3.5**
UUPR	**Utuado, UPR, P**	**1.29**	**82**			**Sn**	**11 55 17.7**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.29**	**82**			**Pn**	**11 54 59.9**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.29**	**82**	⇑*eP*		**Pn**	**11 55 01.9**	**+1.1**
UUPR	**Utuado, UPR, P**	**1.29**	**82**	*eS*		**Sn**	**11 55 17.7**	**-0.7**
OBIP	**Obispado Ponce**	**1.39**	**91**	Pn		**Pn**	**11 55 01.0**	**-0.9**
CELP	**Cerrillos**	**1.41**	**90**			**Pn**	**11 55 02.7**	**+0.4**
CELP						**Sn**	**11 55 21.0**	**-0.1**
CELP	**Cerrillos**	**1.41**	**90**	⇑*eP*		**Pn**	**11 55 02.7**	**+0.4**
CELP	**Cerrillos**	**1.41**	**90**	*eS*		**Sn**	**11 55 21.0**	**-0.1**
CELP	**Cerrillos**	**1.41**	**90**	*i P*		**Pn**	**11 55 02.7**	**+0.4**
CELP				*eSg*		**Sn**	**11 55 23.8**	**+2.7**

CELP IAML 11 55 26.7
comp=N,8.2nm,0.2s
DR12 Loma Pena Alta 1.44 300 Pn Pn 11 55 03.3 +0.6
HATOM Hato Mayor del 1.44 300 *i* P **Pn 11 55 02.1 -0.6**
HATOM ⇓*e*Sg **Sn 11 55 21.2 -0.6**
HATOM IAML 11 55 26.9
comp=N,5.9nm,0.3s
EMPR Esperanza - Ma 1.51 74 Sn 11 55 22.7 -0.6
EMPR Esperanza - Ma 1.51 74 Pn 11 55 03.2 -0.3
EMPR Esperanza - Ma 1.51 74⇑*e*P Pn 11 55 03.9 +0.4
EMPR Esperanza - Ma 1.51 74 *e*S **Sn 11 55 22.7 -0.6**
ECPR Experimental S 1.63 81⇓*e*P Pn 11 55 04.8 -0.2
ECPR Experimental S 1.63 81 *e*S **Sn 11 55 25.6 -0.5**
HUMP Col San Antoni 2.10 88 Pn 11 55 11.4 +0.3
HUMP **Sn 11 55 36.0 -1.0**
HUMP Col San Antoni 2.10 88 IAML 11 55 47.0
comp=E,15nm,1.9s
HUMP IAML 11 56 34.3
comp=N,15nm,1.8s
HUMP Col San Antoni 2.10 88⇓*e*P Pn 11 55 11.4 +0.3
HUMP Col San Antoni 2.10 88 *e*S **Sn 11 55 36.0 -1.0**
SDDR Presa de Saban 3.19 287 Pn **Pn 11 55 26.3 +0.6**
SDDR IAML 11 55 53.6
comp=N,17nm,2.4s

*IDC **04** 12:31:50.0±0.6,44˚.73N×79˚.47E, h0km, mb3.8/15, mbtmp3.9/23, ML3.9/8, MS3.5/1, Error ellipse: s-maj=10.0km s-min=7.9km az=145.0*
*NNC **04** 12:31:50.8±0.6,44˚.76N×79˚.38E, h0km±6km, mb4.9, mpv4.7, Error ellipse: s-maj=4.4km s-min=3.0km az=104.0*
*MOS **04** 12:31:51.0±1.5,44˚.89N×79˚.39E, h14km, mb4.2/7, Error ellipse: s-maj=7.0km s-min=4.8km az=83.3*
*NEIC **04** 12:31:52.3±1.5,44˚.89N±0˚.06×79˚.31E±0˚.09, h10km±1km, mb4.3/15, Error ellipse: s-maj=13.4km s-min=5.5km az=129.0*
*SOME **04** 12:31:52.0,44˚.70N×79˚.28E, h10km, MS3.6*
ISC 04 12:31:50.6±0.9, 44.74N±0˚.02×79.35E±0˚.02, h4km±6km, n152,σ1§84/188, mb4.1/27, 27C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.72**	**292**	P	**Pg**	**12 32 05.4**	**+0.9**
	7μm,0.4s						
TDK				S	**Sg**	**12 32 15.1**	**+1.4**
	7μm,0.3s						
TDK	**Taldyqorghan**	**0.72**	**292**	*e*P	**Pg**	**12 32 05.4**	**+0.9**
	7μm,0.4s						
TDK				*e*S	**Sg**	**12 32 15.1**	**+1.4**
	7μm,0.3s						
ARXS	**Arharly**	**1.21**	**245**	P	**Pn**	**12 32 14.6**	**+0.1**
	342nm,0.2s						
ARXS				S	**Sn**	**12 32 30.8**	**-0.5**
	2μm,0.3s						
ARXS	**Arharly**	**1.21**	**245**	*e*PG	**Pn**	**12 32 14.7**	**+0.3**
KPKS	**Kokpek**	**1.36**	**201**	P	**Pg**	**12 32 17.2**	**+0.5**
	675nm,0.3s						
KPKS				S	**Sg**	**12 32 35.4**	**+1.1**
	1μm,0.2s						
KPKS	**Kokpek**	**1.36**	**201**	*e*PG	**Pg**	**12 32 17.1**	**+0.5**
PDGK	**Podgornoye**	**1.41**	**176**	⇑P	**Pn**	**12 32 17.5**	**+0.1**
	643nm,0.5s						
PDGK				⇑S	**Sg**	**12 32 36.6**	**+0.5**
	1μm,0.3s						
PDGK	**Podgornoye**	**1.41**	**176**	PN	**Pn**	**12 32 17.4**	**+0.1**
PDGK				S	**Sg**	**12 32 36.5**	**+0.5**
KURS	**Kuram**	**1.51**	**215**	P	**Pg**	**12 32 20.2**	**+0.6**
	347nm,0.4s						
KURS				S	**Sg**	**12 32 41.9**	**+2.7**
	1μm,0.3s						
SHLS	**Shalkode**	**1.58**	**177**	P	**Pb**	**12 32 20.9**	**+0.3**
	1μm,0.3s						
SHLS				S	**Sg**	**12 32 41.2**	**-0.3**
	4μm,0.4s						
SHLS	**Shalkode**	**1.58**	**177**	*e*PN	**Pb**	**12 32 21.0**	**+0.4**
SHLS	**Shalkode**	**1.58**	**177**	*e*P	**Pb**	**12 32 20.9**	**+0.3**
	1μm,0.3s						
SHLS				*e*S	**Sg**	**12 32 41.2**	**-0.3**
	4μm,0.4s						
UZB	**Uzynbulak**	**1.61**	**188**	P	**Pb**	**12 32 21.2**	**+0.1**
	1μm,0.2s						
UZB				S	**Sg**	**12 32 42.7**	**+0.4**
	3μm,0.3s						
UZB	**Uzynbulak**	**1.61**	**188**	*e*PN	**Pb**	**12 32 21.1**	**+0.1**
UZB	**Uzynbulak**	**1.61**	**188**	*e*P	**Pb**	**12 32 21.2**	**+0.1**
	1μm,0.2s						
UZB				*e*S	**Sg**	**12 32 42.7**	**+0.4**
	3μm,0.3s						
SATY	**Saty**	**1.81**	**202**	P	**Pg**	**12 32 25.3**	**-0.1**
	257nm,0.1s						
SATY				S	**Sg**	**12 32 49.1**	**+0.3**
	4μm,0.1s						
KTBS	**Karatobe**	**2.17**	**243**	Pg	**Pg**	**12 32 32.1**	**-0.1**
	382nm,0.4s						
KTBS				Lg	Lg	12 33 00.8	
	5μm,0.5s						
KNDC	**Almaty**	**2.29**	**229**	⇑Pg	**Pb**	**12 32 33.6**	**+0.9**
	281nm,0.3s						
KNDC				⇑Lg	Lg	12 33 05.3	
	2μm,0.5s						
KNDC	**Almaty**	**2.29**	**229**	PN	**Pb**	**12 32 33.6**	**+0.9**
KNDC				LG	Lg	12 33 05.3	
KUU	**Kurty**	**2.32**	**250**	Pg	**Pg**	**12 32 34.7**	**-0.4**
	303nm,0.4s						
KUU				Lg	Lg	12 33 04.2	
	2μm,0.6s						
KUU	**Kurty**	**2.32**	**250**	*e*P	**Pg**	**12 32 34.7**	**-0.4**
	303nm,0.4s						
KUU				*e*S	**Sg**	**12 33 04.2**	**-0.8**
	2μm,0.6s						
AAA	**Alma-Ata**	**2.33**	**230**	Pg	**Pg**	**12 32 34.3**	**-0.9**
	470nm,0.3s						
AAA				Lg	Lg	12 33 05.5	
	390nm,0.3s						
AAA	**Alma-Ata**	**2.33**	**230**	*e*PN	**Pb**	**12 32 34.2**	**+1.0**
AAA	**Alma-Ata**	**2.33**	**230**	*e*P	**Pg**	**12 32 34.4**	**-0.9**
	470nm,0.3s						
AAA				*e*S	**Sg**	**12 33 05.5**	**+0.1**
	390nm,0.3s						
PRZ	**Przheval'sk**	**2.36**	**197**		**Pb**	**12 32 34.1**	**+0.3**
PRZ	**Przheval'sk**	**2.36**	**197**	PN	**Pb**	**12 32 34.1**	**+0.3**
TNSS	**Tian-Shan**	**2.43**	**226**	Pg	**Pg**	**12 32 36.5**	**-0.7**
	56nm,0.5s						
TNSS				Lg	Lg	12 33 08.4	
	646nm,0.6s						
TNSS	**Tian-Shan**	**2.43**	**226**	*e*P	**Pg**	**12 32 36.5**	**-0.7**
	56nm,0.5s						
TNSS				*e*S	**Sg**	**12 33 08.4**	**-0.2**
	646nm,0.6s						
MAKZ	**Makanchi**	**2.77**	**41**	Pn	**Pn**	**12 32 36.5**	**+0.7**
MAKZ	**Makanchi**	**2.77**	**41**	⇓Pn	**Pn**	**12 32 36.8**	**+0.9**
	67nm,0.5s						
MAKZ				⇑Lg	Lg	12 33 12.6	
	947nm,0.5s						
MAKZ	**Makanchi**	**2.77**	**41**	PN	**Pn**	**12 32 34.1**	**-1.8**
MAKZ						12 33 07.5	
MK31	**Makanchi Array**	**2.91**	**44**	⇑Pn	**Pn**	**12 32 38.1**	**+0.3**
	47nm,0.3s,baz=216,slow=15,SNR=1332						
MK31				Lg	Lg	12 33 18.0	
	284nm,0.3s,baz=218,slow=25,SNR=20						
MK31	**Makanchi Array**	**2.91**	**44**	PN	**Pn**	**12 32 38.0**	**+0.3**
MK31						12 33 13.6	
MKAR	**Makanchi Array**	**2.91**	**44**		**Pn**	**12 32 38.0**	**+0.2**
MKAR	**Makanchi Array**	**2.91**	**44**	Pn	**Pn**	**12 32 38.4**	**+0.6**
	34nm,0.3s,baz=216,slow=14,SNR=509						
MKAR				Sn	**Sn**	**12 33 13.6**	**+0.3**
	58nm,0.3s,baz=212,slow=20,SNR=7.4						
	78nm,0.4s						
MKAR	**Makanchi Array**	**2.91**	**44**	PN	**Pn**	**12 32 38.0**	**+0.2**
KST	**Kastek**	**2.98**	**236**	Pg	**Pb**	**12 32 46.0**	**+1.7**
	233nm,0.8s						
KST				Lg	Lg	12 33 24.4	
	899nm,0.5s						
KST	**Kastek**	**2.98**	**236**	*e*P	**Pb**	**12 32 46.0**	**+1.7**
	233nm,0.8s						
KST				*e*S	**Sg**	**12 33 24.4**	**-1.9**
	899nm,0.5s						
DGS	**Degeres**	**2.98**	**241**	Pg	**Pb**	**12 32 45.2**	**+0.8**
	62nm,0.2s						
DGS				Lg	Lg	12 33 23.2	
	2μm,0.5s						
KDJ	**Kajisay**	**3.05**	**212**		**Pb**	**12 32 43.5**	**-2.1**
KDJ	**Kajisay**	**3.05**	**212**	PN	**Pb**	**12 32 43.5**	**-2.1**
TKM2	**Tokmak 2**	**3.27**	**237**	P	**Pn**	**12 32 45.5**	**+2.6**
	SNR=19						
ULHL	**Ulahol**	**3.36**	**223**	P	**Pb**	**12 32 50.3**	**-0.7**
	SNR=19						
SGDS	**Sogindy**	**3.63**	**251**	Pg	**Pb**	**12 32 56.9**	**+1.5**
	46nm,0.4s						
SGDS				Lg	Lg	12 33 43.1	
	236nm,0.8s						
CHMS	**Chumysh**	**3.75**	**244**	P	**Pn**	**12 32 51.4**	**+2.0**
	SNR=8.5						
BTLS	**Baital**	**3.78**	**276**	Pg	**Pg**	**12 33 01.3**	**-1.8**
	114nm,0.3s						
BTLS				Lg	Lg	12 33 50.7	
	196nm,0.3s						
BTLS	**Baital**	**3.78**	**276**	*e*PN	**Pn**	**12 32 51.5**	**+1.8**
BTLS	**Baital**	**3.78**	**276**	*e*P	**Pg**	**12 33 01.3**	**-1.8**
	114nm,0.3s						
BTLS				*e*S	**Sg**	**12 33 50.8**	**-1.2**
	196nm,0.3s						
USP	**Ospenovka**	**3.79**	**249**	P	**Pn**	**12 32 52.2**	**+2.3**
	SNR=32						
KBK	**Karagaybulak**	**3.81**	**238**	P	**Pn**	**12 32 53.5**	**+3.2**
	SNR=18						
FRU1	**Bishkek**	**3.92**	**242**	Pn	**Pn**	**12 32 52.7**	**+1.0**
FRU1	**Bishkek**	**3.92**	**242**	PN	**Pn**	**12 32 52.7**	**+1.0**
AAK	**Ala-Archa**	**4.10**	**241**		**Pn**	**12 32 56.4**	**+2.2**
AAK	**Ala-Archa**	**4.10**	**241**	Pn	**Pn**	**12 32 57.9**	**+3.7**
	6.6nm,0.3s,baz=120,slow=7.9,SNR=14						
AAK				Pg	**Pg**	**12 33 06.7**	**-2.5**
	26nm,0.3s,baz=90,slow=7.2,SNR=18						
AAK				Sn	**Sn**	**12 33 42.5**	**-0.2**
	13nm,0.3s,baz=152,slow=9.4,SNR=5.8						
AAK				Lg	Lg	12 33 57.6	
	23nm,0.3s,baz=229,slow=22,SNR=13						
	24nm,0.4s						
AAK	**Ala-Archa**	**4.10**	**241**	P	**Pb**	**12 32 59.7**	**-3.7**
	SNR=16						
AAK	**Ala-Archa**	**4.10**	**241**	⇓Pn	**Pn**	**12 32 57.9**	**+3.7**
	190nm,0.4s						
AAK				⇑Lg	Lg	12 34 02.6	
	1μm,0.6s						
AAK	**Ala-Archa**	**4.10**	**241**	PN	**Pn**	**12 32 57.8**	**+3.6**
AAK						12 33 57.5	
EKS2	**Erkin-Say**	**4.54**	**245**	P	**Pn**	**12 33 03.4**	**+3.1**
	SNR=11						
ZSN	**Zaisan**	**4.70**	**53**	Pg	**Pb**	**12 33 15.3**	**+1.7**
	35nm,0.5s						
ZSN				Lg	Lg	12 34 14.8	
	197nm,0.4s						
ZSN	**Zaisan**	**4.70**	**53**	*e*P	**Pg**	**12 33 19.5**	**-1.1**
	34nm,0.4s						
ZSN				*e*S	**Sg**	**12 34 21.8**	**+0.2**
	385nm,0.6s						
MRKS	**Merke**	**4.86**	**248**	Pg	**Pg**	**12 33 20.6**	**-3.2**
	20nm,0.2s						
MRKS				Lg	Lg	12 34 23.7	
	157nm,0.7s						
MRKS	**Merke**	**4.86**	**248**	*e*P	**Pg**	**12 33 20.6**	**-3.2**
	20nm,0.2s						
MRKS				*e*S	**Sg**	**12 34 23.7**	**-3.1**
	157nm,0.7s						
SEM	**Semipalatinsk**	**5.71**	**6**	Pg	Pb	12 33 35.9	+5.0
	24nm,0.3s						
SEM				Lg	Lg	12 34 49.9	
	156nm,0.7s						
SEM	**Semipalatinsk**	**5.71**	**6**	*e*P	**Pg**	**12 33 38.5**	**-1.4**
	34nm,0.3s						
SEM				*e*S	**Sg**	**12 34 54.3**	**+0.5**
	201nm,0.4s						
KSH	**Kashi**	**5.79**	**207**	Pn	**Pb**	**12 33 30.8**	**-1.5**
KSH				Sn	Sg	12 35 08.2	+12
KSH				smax	smax		
	comp=N,78nm,1.1s						
KSH				smax	smax		
	comp=E,96nm,0.8s						
KURBB	**Kurchatov Arra**	**5.91**	**355**	Pn	**Pn**	**12 33 19.2**	**+0.2**
	comp=E,1.0nm,0.3s,baz=183,slow=12,SNR=66						
KURBB				Pg	**Pb**	**12 33 33.6**	**-0.6**
	comp=E,2.0nm,0.3s,baz=172,slow=18,SNR=12						
KURBB				Lg	Lg	12 34 55.3	
	comp=E,5.4nm,0.3s,baz=174,slow=33,SNR=6.0						
	comp=E,2.3nm,0.5s						
KURBB	**Kurchatov Arra**	**5.91**	**355**	⇓Pn	**Pn**	**12 33 20.2**	**+1.2**
	comp=E,1.9nm,0.3s						
KURBB				⇑Pg	**Pb**	**12 33 38.9**	**+4.7**
	comp=E,75nm,0.8s						
KURBB				⇑Lg	Lg	12 34 53.9	
	comp=E,839nm,0.8s						
KURBB	**Kurchatov Arra**	**5.91**	**355**	PN	**Pn**	**12 33 20.2**	**+1.2**
KURBB				PG	**Pb**	**12 33 38.9**	**+4.7**
KURK	**Kurchatov**	**6.00**	**356**		**Pn**	**12 33 19.6**	**-0.6**
KURK	**Kurchatov**	**6.00**	**356**	⇑Pn	**Pn**	**12 33 20.4**	**+0.2**
	comp=E,7.8nm,0.5s						
KURK				⇑Pg	**Pb**	**12 33 39.3**	**+3.6**
	comp=E,60nm,0.6s						
KURK				⇑Lg	Lg	12 34 58.8	
	comp=E,314nm,0.5s						
KURK	**Kurchatov**	**6.00**	**356**	PN	**Pn**	**12 33 19.2**	**-1.0**
WMQ	**Urumqi**	**6.06**	**96**	Pn	**Pn**	**12 33 23.1**	**+1.9**
WMQ				Sn	**Sn**	**12 34 32.0**	**+1.0**
WMQ				smax	smax		
	comp=N,280nm,0.9s						
WMQ				smax	smax		
	comp=E,220nm,0.9s						
DZA	**Taraz**	**6.09**	**255**	Pg	**Pg**	**12 33 43.4**	**-3.8**
	comp=E,75nm,0.1s						
DZA				Lg	Lg	12 35 03.0	
	comp=E,397nm,0.4s						
DZA	**Taraz**	**6.09**	**255**	*e*P	**Pg**	**12 33 43.4**	**-3.8**
	comp=E,75nm,0.1s						
DZA				*e*S	**Sg**	**12 35 03.0**	**-3.0**
	comp=E,397nm,0.4s						
KK31	**Karatay Array**	**6.59**	**259**		**Pn**	**12 33 30.2**	**+1.9**
KK31	**Karatay Array**	**6.59**	**259**	Pn	**Pn**	**12 33 29.9**	**+1.6**
	comp=E,3.1nm,0.3s,baz=74,slow=14,SNR=78						
KK31				⇓Pg	**Pg**	**12 33 53.1**	**-3.7**
	comp=E,10nm,0.4s,baz=71,slow=15,SNR=9.9						
KK31				⇓Lg	Lg	12 35 20.7	
	comp=E,75nm,0.5s,baz=74,slow=27,SNR=9.4						
KK31	**Karatay Array**	**6.59**	**259**	PN	**Pn**	**12 33 29.9**	**+1.6**
KK31				*e*		12 33 53.4	
KK31						12 35 15.4	
KKAR	**Karatay Array**	**6.59**	**259**		**Pn**	**12 33 30.1**	**+1.8**
KKAR	**Karatay Array**	**6.59**	**259**	PN	**Pn**	**12 33 30.1**	**+1.8**
BRZS	**Berezniki**	**6.93**	**322**	Pg	Pb	12 33 57.0	+5.5
	comp=E,1.9nm,0.2s						
BRZS				Lg	Lg	12 35 26.3	
	comp=E,377nm,0.6s						
BRZS	**Berezniki**	**6.93**	**322**	*e*P	**Pg**	**12 34 00.5**	**-2.8**
	comp=E,1.6nm,0.3s						
BRZS				*e*S	**Sg**	**12 35 31.9**	**-1.1**
	comp=E,354nm,0.5s						
BRLS	**Boroldaу**	**7.08**	**259**	Pg	**Pg**	**12 34 04.9**	**-1.3**
	comp=E,7.1nm,0.7s						
BRLS				Lg	Lg	12 35 39.9	
	comp=E,51nm,0.7s						
BRLS	**Boroldaу**	**7.08**	**259**	*e*PN	Pn	12 33 41.1	+6.0
BRLS	**Boroldaу**	**7.08**	**259**	*e*P	**Pg**	**12 34 04.9**	**-1.3**
	comp=E,7.1nm,0.7s						
BRLS				*e*S	**Sg**	**12 35 39.9**	**+2.0**
	comp=E,51nm,0.7s						
IUG	**Iuzhnay**	**7.26**	**252**	Pg	**Pg**	**12 34 06.7**	**-2.9**
	comp=E,45nm,0.6s						
IUG				Lg	Lg	12 35 43.0	
	comp=E,239nm,0.6s						
ZAA0	**Zalesovo Array**	**9.88**	**19**		**Pn**	**12 34 12.3**	**-1.1**
ZAA0	**Zalesovo Array**	**9.88**	**19**	⇓Pn	**Pn**	**12 34 12.2**	**-1.2**
	comp=E,3.2nm,0.6s						
ZAA0				⇑Sn	**Sn**	**12 36 01.9**	**-2.8**
	comp=E,4.2nm,0.5s						
ZAA0				⇑Lg	Lg	12 37 04.4	
	comp=E,8.2nm,0.6s						
ZALV	**Zalesovo Beam**	**9.88**	**19**	Pn	**Pn**	**12 34 12.1**	**-1.3**
	comp=E,6.4nm,0.3s,baz=209,slow=14,SNR=69						
ZALV				Sn	**Sn**	**12 35 57.5**	**-7.2**
	comp=E,5.8nm,0.3s,baz=204,slow=25,SNR=6.5						
ZALV				Lg	Lg	12 37 02.3	
	comp=E,5.1nm,0.3s,baz=202,slow=22,SNR=7.5						
ZALV				LR	LR	12 37 42.7	
	comp=E,262nm,19.0s,baz=266,slow=36						
	comp=E,13nm,0.3s						
BVA0	**Borovoye Array**	**10.17**	**328**	⇑Pn	**Pn**	**12 34 16.6**	**-0.7**
	comp=E,5.1nm,0.5s,baz=131,slow=13,SNR=44						
BVA0				⇑Lg	Lg	12 37 15.1	
	comp=E,173nm,1.0s,baz=136,slow=28,SNR=7.6						
BVA0	**Borovoye Array**	**10.17**	**328**	*i* P	**Pn**	**12 34 16.6**	**-0.7**
BVAR	**Borovoye Array**	**10.17**	**328**	Pn	**Pn**	**12 34 16.9**	**-0.4**
	comp=E,0.6nm,0.3s,baz=128,slow=11,SNR=53						
BVAR				Sn	**Sn**	**12 36 08.2**	**-3.6**
	comp=E,0.7nm,0.3s,baz=124,slow=20,SNR=5.6						
BVAR				Lg	Lg	12 37 07.5	
	comp=E,1.7nm,0.3s,baz=134,slow=29,SNR=12						
	comp=E,9.6nm,0.5s						
BRVK	**Borovoye**	**10.23**	**328**		**Pn**	**12 34 16.3**	**-1.9**
BRVK	**Borovoye**	**10.23**	**328**	⇑Pn	**Pn**	**12 34 17.8**	**-0.5**
	comp=E,11nm,0.5s						
BRVK				⇑Lg	Lg	12 37 15.6	
	comp=E,363nm,1.1s						
BRVK	**Borovoye**	**10.23**	**328**	*e*P	**Pn**	**12 34 17.7**	**-0.5**
BRVK				pmax	pmax		
	comp=E,16nm,0.7s						
AB31	**Akbulak array**	**13.98**	**296**		**Pn**	**12 35 06.5**	**-3.0**
AB31	**Akbulak array**	**13.98**	**296**	⇑Pn	**Pn**	**12 35 08.0**	**-1.5**
	comp=E,6.5nm,0.6s						
AB31				⇓Sn	**Sn**	**12 37 48.6**	**+3.6**
	comp=E,2.7nm,0.6s						
AB31				⇓Lg	Lg	12 39 17.7	
	comp=E,39nm,0.8s						
AB31	**Akbulak array**	**13.98**	**296**	P	**Pn**	**12 35 07.9**	**-1.5**
AB31				SN	**Sn**	**12 37 48.7**	**+3.6**
ABKAR	**Akbulak array**	**13.98**	**296**		**Pn**	**12 35 06.5**	**-3.0**
AKTO	**Aktyubinsk**	**15.46**	**299**	Pn	**Pn**	**12 35 27.2**	**-2.2**
	comp=E,0.6nm,0.3s,baz=100,slow=10,SNR=10						
AKTO				Sn	**Sn**	**12 38 11.9**	**-9.1**
	comp=E,0.4nm,0.3s,baz=15,slow=13,SNR=2.2						
AKTO				Lg	Lg	12 39 55.8	
	comp=E,0.3nm,0.3s,baz=11,slow=8.4,SNR=6.0						
	comp=E,4.5nm,0.5s						
AKTO	**Aktyubinsk**	**15.46**	**299**	⇑Pn	**Pn**	**12 35 27.7**	**-1.6**
	comp=E,4.9nm,0.8s						
AKTO				⇓Sn	**Sn**	**12 38 22.0**	**+1.1**
	comp=E,6.7nm,0.9s						
AKTO				⇓Lg	Lg	12 40 05.1	
	comp=E,36nm,1.4s						
SVE	**Sverdlovsk**	**16.85**	**323**	*e*P	**Pn**	**12 35 45.8**	**-1.4**
SVE				pmax	pmax		
	comp=E,16nm,1.2s						
ZAK	**Zakamensk**	**17.08**	**62**	*e*P	**Pn**	**12 35 51.6**	**+1.4**
ZAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
ARTI	**Arti**	**17.61**	**319**	Pn	**Pn**	**12 35 55.4**	**-1.3**
ARTI				IAmb	IAmb	12 35 60.0	
	comp=E,15nm,0.7s						
ARTI	**Arti**	**17.61**	**319**	P	**Pn**	**12 35 57.1**	**+0.3**
	comp=E,1.1nm,0.3s,baz=121,slow=4.4,SNR=13						
ARTI				Sn	Sn	12 39 02.3	-11
	comp=E,0.7nm,0.3s,baz=141,slow=23,SNR=2.0						
ARTI				Lg	Lg	12 41 07.1	
	comp=E,0.3nm,0.3s,baz=309,slow=21,SNR=7.1						
	comp=E,9.9nm,0.6s						
ARTI	**Arti**	**17.61**	**319**	P	**Pn**	**12 35 57.1**	**+0.3**
ARTI				S	**Sn**	**12 39 15.3**	**+2.1**
EVN	**Everest**	**17.78**	**158**		**P**	**12 36 01.9**	**+1.4**
SONM	**Songino Array**	**18.91**	**71**	P	**P**	**12 36 12.4**	**+0.1**
SONM	**Songino Array**	**18.91**	**71**	P	**P**	**12 36 11.8**	**-0.6**
	comp=E,0.4nm,0.3s,baz=276,slow=11,SNR=8.4						
SONM				Lg	Lg	12 41 46.8	
	comp=E,0.1nm,0.3s,baz=263,slow=12,SNR=2.2						
	comp=E,1.0nm,0.4s						
SONM	**Songino Array**	**18.91**	**71**	P	**P**	**12 36 12.4**	**+0.1**
SONM				pmax	pmax		
	comp=E,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**19.35**	**71⇑*e*P**		**P**	**12 36 17.1**	**-0.1**
ULN				pmax	pmax		
	comp=E,4.0nm,1.1s						
BELG	**Belogornoye**	**22.21**	**302⇑*e*P**		**P**	**12 36 50.2**	**+2.4**
BELG				pmax	pmax		
	comp=E,3.0nm,0.9s						
KIRV	**Kirov**	**22.92**	**318⇑*e*P**		**P**	**12 36 56.7**	**+1.4**
XAN	**Xi'an**	**25.10**	**105**	P	P	12 37 00.9	-16
XAN				pmax	pmax		
	comp=E,7.0nm,0.8s						
GNI	**Garni**	**25.82**	**272⇑*e*P**		**P**	**12 37 25.1**	**+2.0**
GNI				pmax	pmax		
	comp=E,5.0nm,1.0s						
KIV	**Kislovodsk**	**26.09**	**281**	*e*P	**P**	**12 37 25.7**	**+0.3**
KIV				pmax	pmax		
	comp=E,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.90**	**142**	P	**P**	**12 38 08.6**	**+0.1**
	comp=E,1.3nm,0.7s,baz=320,slow=8.8,SNR=8.8						
	comp=E,1.3nm,0.7s						
YAK	**Yakutsk**	**33.58**	**41⇑*e*P**		**P**	**12 38 33.0**	**+1.5**
YAK				pmax	pmax		
	comp=E,9.0nm,0.6s						
AKASG	**Malin Array Be**	**33.70**	**298**	P	**P**	**12 38 33.0**	**+0.4**
	comp=E,1.2nm,0.8s,baz=71,slow=8.4,SNR=4.9						
	comp=E,1.2nm,0.8s						
BRTR	**Keskin Array B**	**33.86**	**278**	P	**P**	**12 38 33.5**	**-0.9**
	comp=E,1.0nm,0.7s,baz=75,slow=7.6,SNR=2.6						
	comp=E,1.0nm,0.7s						
FINES	**FINESS Array B**	**34.91**	**318**	P	**P**	**12 38 42.1**	**-1.0**
FINES	**FINESS Array B**	**34.91**	**318**	P	**P**	**12 38 41.8**	**-1.3**
	comp=E,1.0nm,0.8s,baz=96,slow=9.8,SNR=6.0						
	comp=E,1.0nm,0.8s						
FINES	**FINESS Array B**	**34.91**	**318**	P	**P**	**12 38 42.1**	**-1.0**
TIXI	**Tiksi**	**35.72**	**24**	P	**P**	**12 38 48.7**	**-1.1**
TIXI				IAmb	IAmb	12 38 52.5	
	comp=E,2.9nm,0.6s						
TIXI	**Tiksi**	**35.72**	**24⇑*e*P**		**P**	**12 38 50.1**	**+0.3**
TIXI				pmax	pmax		
	comp=E,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**36.43**	**331**	P	**P**	**12 38 55.1**	**-0.9**
ARCES	**ARCESS Array B**	**36.43**	**331**	P	**P**	**12 38 55.1**	**-0.9**
ARCES				pmax	pmax		
	comp=E,1.0nm,0.7s						
KSRS	**Korea Array**	**36.87**	**84**	P	**P**	**12 38 58.8**	**-1.3**
	comp=E,2.8nm,0.9s,baz=297,slow=8.3,SNR=4.8						
	comp=E,2.8nm,0.9s						
HFS	**Hagfors**	**41.03**	**316**	P	**P**	**12 39 34.9**	**+0.3**
	comp=E,1.2nm,0.9s,baz=88,slow=9.1,SNR=4.9						
	comp=E,1.2nm,0.9s						
NC405	**NORSAR Array S**	**41.85**	**318**	P	**P**	**12 39 40.7**	**-0.7**
NC405				IAmb	IAmb	12 39 55.5	
	comp=E,5.6nm,1.1s						
IDI	**Anoyia**	**42.07**	**277**	P	**P**	**12 39 43.3**	**-0.3**
NB2	**NORSAR Subarra**	**42.10**	**318**	P	**P**	**12 39 45.3**	**+1.8**
	comp=E,2.0nm,0.4s,baz=80,

WRA	**Warramunga Arr**	**81.56**	**129**	P	**P**	**12 44 09.0**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=330,slow=5.5,SNR=5.0						
	comp=Z,1.5nm,0.8s						
ASAR	**Alice Springs**	**84.32**	**131**	P	**P**	**12 44 23.0**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=327,slow=5.7,SNR=7.7						
	comp=Z,1.2nm,0.8s						

*IDC **04** 12:34:26.2±6.0, 17°.94S×177°.62W, h523km±62km, mb3.4/7, mbtmp4.3/8, Error ellipse: s-maj=39.8km s-min=20.1km az=49.0*
*NEIC **04** 12:34:34.3±0.8, 17°.9S±0°.2×177°.8W±0°.1, h629km±9km, mb4.4/20, Error ellipse: s-maj=27.3km s-min=14.7km az=142.0*
*NOU **04** 12:34:59.5, 19°.03S×179°.27E, h326km, mb4.3/8, South of Fiji Islands*
ISC 04 12:34:32.4±0.7, **18°.2S**±0°.1×**177°.7W**±0°.1, **h600**km, **n40,** σ1°**79**/42, **mb4.3**/15, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**1.08**	**268**	P	**P**	**12 35 47.6**	**+3.8**
TAVE	**Taveuni**	**2.59**	**305**	P	**P**	**12 35 53.2**	**+3.7**
DGTI	**Dogotuki**	**3.11**	**307**	P	**P**	**12 35 55.1**	**+2.8**
MSVF	**Nonsavu**	**4.09**	**276**	P	**P**	**12 36 01.7**	**+3.0**
AFI	**Afiamalu**	**7.10**	**54**	P	**P**	**12 36 25.1**	**+1.6**
VLAKA	**Lakatoro**	**14.39**	**276**	P	**P**	**12 37 36.4**	**+1.3**
PINNC	**Pines Island,**	**14.61**	**250**	P	**P**	**12 37 36.9**	**-0.2**
PINNC	**Pines Island,**	**14.61**	**250**	P	**P**	**12 37 37.5**	**+0.4**
YATNC	**Mamie plateau,**	**14.99**	**253**	P	**P**	**12 37 41.1**	**+0.6**
DZM	**Mont Dzumac**	**15.39**	**253**	P	**P**	**12 37 45.3**	**+0.9**
DZM				IAmb	IAmb	12 38 16.8	
	comp=Z,26nm,1.2s						
DZM	**Mont Dzumac**	**15.39**	**253**	P	**P**	**12 37 41.7**	**-2.7**
	comp=Z,4.6nm,0.5s,baz=255,slow=21,SNR=12						
DZM	**Mont Dzumac**	**15.39**	**253**	P	**P**	**12 37 45.8**	**+1.4**
URZ	**Urewera**	**20.50**	**192**	P	**P**	**12 38 29.4**	**-1.0**
	comp=Z,3.2nm,0.3s,baz=286,slow=2.9,SNR=10						
URZ				S	**S**	**12 41 38.1**	**-4.4**
	comp=Z,20nm,1.2s,baz=24,slow=16,SNR=1.8						
	comp=Z,3.2nm,0.3s						
EIDS	**Eidsvold**	**29.82**	**251**	P	**P**	**12 39 51.8**	**-0.9**
EIDS				IAmb	IAmb	12 39 53.6	
	comp=Z,6.7nm,0.6s						
ARMA	**Armidale**	**30.39**	**241**	P	**P**	**12 39 57.8**	**+0.1**
ARMA				IAmb	IAmb	12 39 59.3	
	comp=Z,4.9nm,0.7s						
CAN	**Canberra**	**34.08**	**233**	P	**P**	**12 40 29.1**	**+0.4**
CTAO	**Charters Tower**	**34.08**	**261**	P	**P**	**12 40 28.2**	**-0.7**
TOO	**Toolangi**	**37.52**	**231**	P	**P**	**12 40 58.1**	**+1.1**
TOO				IAmb	IAmb	12 40 58.6	
	comp=Z,4.4nm,0.8s						
COEN	**Coen**	**37.80**	**271**	P	**P**	**12 40 60.0**	**+0.5**
STKA	**Stephens Creek**	**39.10**	**242**	P	**P**	**12 41 09.8**	**0.0**
STKA	**Stephens Creek**	**39.10**	**242**	P	**P**	**12 41 10.5**	**+0.8**
	comp=Z,8.2nm,0.7s,baz=85,slow=8.2,SNR=17						
	comp=Z,8.2nm,0.7s						
WB0	**Warramunga Arr**	**45.23**	**260**	P	**P**	**12 41 56.9**	**-0.9**
WB0				IAmb	IAmb	12 41 57.9	
	comp=Z,9.6nm,0.5s						
WRA	**Warramunga Arr**	**45.26**	**260**	P	**P**	**12 41 57.1**	**-1.0**
WRA	**Warramunga Arr**	**45.26**	**260**	P	**P**	**12 41 57.3**	**-0.8**
	comp=Z,5.3nm,0.4s,baz=97,slow=7.0,SNR=275						
	comp=Z,5.3nm,0.4s						
AS31	**Alice Springs**	**45.38**	**254**	P	**P**	**12 41 58.4**	**-0.6**
AS31				IAmb	IAmb	12 41 59.0	
	comp=Z,4.1nm,0.4s						
ASAR	**Alice Springs**	**45.38**	**254**	P	**P**	**12 41 57.5**	**-1.4**
ASAR	**Alice Springs**	**45.38**	**254**	P	**P**	**12 41 58.6**	**-0.3**
	comp=Z,11nm,0.5s,baz=93,slow=7.8,SNR=355						
ASAR				PcP	**PcP**	**12 43 24.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=95,slow=3.0,SNR=2.8						
	comp=Z,11nm,0.5s						
KNRA	**Kununurra**	**51.15**	**264**	P	**P**	**12 42 40.3**	**-1.4**
KNRA				IAmb	IAmb	12 43 07.8	
	comp=Z,26nm,1.5s						
SBA	**Scott Base**	**60.17**	**184**	P	**P**	**12 43 45.1**	**+2.2**
VNDA	**Vanda**	**60.21**	**185**	P	**P**	**12 43 45.0**	**+1.8**
VNDA	**Vanda**	**60.21**	**185**	P	**P**	**12 43 45.0**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=14,slow=4.9,SNR=6.0						
	comp=Z,0.6nm,0.7s						
MORW	**Morawa**	**61.00**	**246**	P	**P**	**12 43 47.5**	**-1.7**
MORW				IAmb	IAmb	12 43 52.2	
	comp=Z,17nm,1.4s						
UGM	**Wanagama**	**70.33**	**268**	P	**P**	**12 44 46.7**	**-0.8**
QSPA	**South Pole Qui**	**71.85**	**180**	P	**P**	**12 44 57.4**	**+1.8**
QSPA	**South Pole Qui**	**71.85**	**180**	P	**P**	**12 44 57.7**	**+2.1**
	comp=Z,2.4nm,0.6s,baz=334,slow=0.4,SNR=24						
	comp=Z,2.4nm,0.6s						
O02D	**Mt. Diablo Mer**	**77.33**	**40**	P	**P**	**12 45 25.1**	**-1.4**
N15K	**Kwethluk River**	**79.39**	**9**	P	**P**	**12 45 34.8**	**-2.1**
N15K				IAmb	IAmb	12 45 55.7	
	comp=Z,29nm,1.4s						
M14K	**Bethel**	**79.69**	**8**	P	**P**	**12 45 36.5**	**-1.9**
M14K				IAmb	IAmb	12 45 51.9	
	comp=Z,30nm,1.3s						
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**12 46 09.7**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=204,slow=5.8,SNR=1.3						
	comp=Z,0.2nm,0.7s						
GERES	**GERESS Array B**	**148.07**	**346**	PKPbc	**PKiKP**	**12 53 11.7**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=36,slow=1.8,SNR=2.1						

*IDC **04** 12:34:48.8±4.6, 18°.13S×177°.65W, h567km±55km, mb3.2/10, mbtmp4.1/10, Error ellipse: s-maj=24.0km s-min=22.8km az=107.0*
ISC 04 12:34:51.2±0.8, **18°.2S**±0°.2×**177°.7W**±0°.2, **h600**km, **n13,** σ0°**57**/15, **mb3.7**/9, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.54**	**192**	P	**P**	**12 38 48.7**	**-0.8**
	11nm,0.9s,baz=273,slow=1.2,SNR=6.2						
	11nm,0.9s						
STKA	**Stephens Creek**	**39.10**	**242**	P	**P**	**12 41 28.9**	**+0.4**
	1.9nm,0.5s,baz=100,slow=10,SNR=3.3						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**45.24**	**260**	P	**P**	**12 42 16.8**	**0.0**
	2.3nm,0.6s,baz=98,slow=6.6,SNR=8.1						
WRA				PcP	**PcP**	**12 43 43.4**	**-0.3**
	0.9nm,0.8s,baz=101,slow=3.0,SNR=2.8						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**45.37**	**254**	P	**P**	**12 42 18.1**	**+0.4**
	4.5nm,0.7s,baz=91,slow=7.9,SNR=8.0						
ASAR				PcP	**PcP**	**12 43 44.1**	**0.0**
	0.6nm,0.5s,baz=105,slow=4.0,SNR=2.1						
	4.5nm,0.7s						
MJAR	**Matsushiro Arr**	**68.50**	**323**	P	**P**	**12 44 54.5**	**-0.4**
	1.6nm,0.6s,baz=152,slow=5.5,SNR=8.3						
	1.6nm,0.6s						
QSPA	**South Pole Qui**	**71.90**	**180**	P	**P**	**12 45 14.9**	**+0.3**
	1.6nm,1.1s,baz=93,slow=20,SNR=1.5						
	1.6nm,1.1s						
PETK	**Petropavlovsk-**	**74.09**	**345**	P	**P**	**12 45 27.1**	**0.0**
	1.9nm,0.8s,baz=140,slow=9.2,SNR=5.2						
	1.9nm,0.8s						
NVAR	**Mina Array Bea**	**79.14**	**44**	P	**P**	**12 45 55.0**	**-0.2**
	0.4nm,0.7s,baz=243,slow=4.9,SNR=5.0						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**	**12 46 29.1**	**+0.5**
	0.4nm,0.4s,baz=219,slow=4.7,SNR=7.4						
	0.4nm,0.4s						
PDAR	**Pinedale Array**	**87.08**	**43**	P	**P**	**12 46 35.4**	**+0.8**
	0.3nm,0.6s,baz=243,slow=4.2,SNR=1.9						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**145.43**	**315**	PKPbc	**PKPbc**	**12 53 23.9**	**+0.2**
	0.8nm,0.7s,baz=84,slow=2.6,SNR=3.5						
CLL	**Collm**	**145.85**	**348**	*i* PKPbc	**PKPab**	**12 53 25.2**	**-1.0**
	comp=Z,6.0nm,0.8s						
GERES	**GERESS Array B**	**148.02**	**346**	PKPbc	**PKiKP**	**12 53 30.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=25,slow=3.5,SNR=10						

*SJA **04** 12:35:48.3±0.7, 21°.61S×68°.63W, h131km±4km, ML3.6, MW3.6*
*GUC **04** 12:35:51.1±0.4, 21°.59S×68°.69W, h123km±2km, ML3.7*
ISC 04 12:35:49.7±1.3, **21°.60S**±0°.03×**68°.67W**±0°.04, **h129**km±9km, **n34,** σ1°**52**/62, **8C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.56**	**250**	⇑*i*P	**Pn**	**12 36 09.6**	**+0.4**
PB09				*e*S	**Sn**	**12 36 24.1**	**+0.2**
PB09				IAML		12 36 24.7	
	comp=N,3μm,0.2s						
PB09	**IPOC Station P**	**0.56**	**250**	*e*P	**Pn**	**12 36 09.5**	**+0.3**
PB09				*e*S	**Sn**	**12 36 24.2**	**+0.3**
PB09				IAML		12 36 25.6	
	comp=Z,2μm,0.2s						
PB01	**IPOC Station P**	**0.94**	**306**	⇓*i*P	**Pn**	**12 36 12.0**	**0.0**
PB01				*i* S	**Sn**	**12 36 28.4**	**-0.6**
PB01				IAML		12 36 30.1	
	comp=E,3μm,0.3s						
PB01	**IPOC Station P**	**0.94**	**306**	*e*P	**Pn**	**12 36 12.1**	**0.0**
PB01				*e*S	**Sn**	**12 36 29.0**	**0.0**
PB01				IAML		12 36 30.1	
	comp=Z,1μm,0.4s						
PB03	**IPOC Station P**	**1.10**	**246**	⇑*i*P	**Pn**	**12 36 13.9**	**+0.3**
PB03				*e*S	**Sn**	**12 36 31.6**	**-0.1**
PB03				IAML		12 36 32.9	
	comp=E,3μm,0.1s						
PB03	**IPOC Station P**	**1.10**	**246**	*e*P	**Pn**	**12 36 13.2**	**-0.4**
PB03				*e*S	**Sn**	**12 36 31.9**	**+0.2**
PB03				IAML		12 36 33.3	
	comp=Z,2μm,0.1s						
PB02	**IPOC Station P**	**1.18**	**284**	⇑*e*P	**Pn**	**12 36 14.5**	**+0.2**
PB02				*i* S	**Sn**	**12 36 32.4**	**-0.6**
PB02	**IPOC Station P**	**1.18**	**284**	*e*P	**Pn**	**12 36 14.4**	**+0.1**
PB02				*e*S	**Sn**	**12 36 31.7**	**-1.2**
PB06	**IPOC Station P**	**1.38**	**217**	⇑*i*P	**Pn**	**12 36 17.0**	**+0.5**
PB06				*e*S	**Sn**	**12 36 37.3**	**+0.4**
PB06				IAML		12 36 38.5	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.38**	**217**	*e*P	**Pn**	**12 36 17.1**	**+0.5**
PB06				*e*S	**Sn**	**12 36 38.0**	**+1.1**
PB06				IAML		12 36 39.4	
	comp=Z,621nm,0.3s						
AF01	**San Pedro de A**	**1.42**	**161**	⇑*e*P	**Pn**	**12 36 17.9**	**+0.9**
AF01				IAML		12 36 57.8	
	comp=E,659nm,0.5s						
AF01	**San Pedro de A**	**1.42**	**161**	*e*P	**Pn**	**12 36 15.3**	**-1.8**
AF01				*e*S	**Sn**	**12 36 37.5**	**-0.5**
AF01				IAML		12 36 55.4	
	comp=Z,415nm,1.1s						
PX03	**IPOC Station P**	**1.49**	**323**	*e*P	**Pn**	**12 36 17.1**	**-0.6**
PX03				*e*S	**Sn**	**12 36 38.7**	**-0.3**
PX03				IAML		12 36 39.6	
	comp=N,1μm,0.2s						
PB08	**IPOC Station P**	**1.52**	**343**	⇓*e*P	**Pn**	**12 36 19.1**	**+0.7**
PB08				*e*S	**Sn**	**12 36 40.4**	**+0.2**
PB08				IAML		12 36 42.5	
	comp=E,565nm,0.3s						
TA01	**Diego Aracena**	**1.75**	**306**	*e*P	**Pn**	**12 36 20.4**	**-0.1**
TA01				*i* S	**Sn**	**12 36 42.9**	**-1.2**
TA01				IAML		12 36 46.8	
	comp=N,749nm,0.3s						
TA01	**Diego Aracena**	**1.75**	**306**	*e*P	**Pn**	**12 36 20.0**	**-0.6**
TA01				*e*S	**Sn**	**12 36 44.8**	**+0.7**
TA01				IAML		12 36 45.0	
	comp=Z,269nm,0.8s						
PB05	**IPOC Station P**	**1.89**	**228**	⇑*i*P	**Pn**	**12 36 22.5**	**+0.2**
PB05				*i* S	**Sn**	**12 36 46.9**	**-0.4**
PB05	**IPOC Station P**	**1.89**	**228**	*e*P	**Pn**	**12 36 22.6**	**+0.2**
PB05				*e*S	**Sn**	**12 36 49.9**	**+2.6**
PB05				IAML		12 36 53.4	
	comp=Z,167nm,0.4s						
TA02	**Huaiquique**	**1.90**	**314**	*e*P	**Pn**	**12 36 22.1**	**-0.3**
TA02				*e*S	**Sn**	**12 36 47.3**	**-0.1**
TA02	**Huaiquique**	**1.90**	**314**	*e*P	**Pn**	**12 36 23.1**	**+0.7**
TA02				*e*S	**Sn**	**12 36 48.2**	**+0.8**
TA02				IAML		12 36 57.1	
	comp=Z,293nm,0.3s						
GO01	**Chusmiza**	**1.99**	**346**	⇓*e*P	**Pn**	**12 36 24.1**	**+0.2**
GO01				*i* S	**Sn**	**12 36 50.0**	**-0.1**
GO01				IAML		12 36 52.5	
	comp=N,813nm,0.2s						
GO01	**Chusmiza**	**1.99**	**346**	*e*P	**Pn**	**12 36 24.9**	**+1.0**
GO01				*e*S	**Sn**	**12 36 50.6**	**+0.6**
PB11	**IPOC Station P**	**2.05**	**333**	⇓*i*P	**Pn**	**12 36 24.3**	**-0.1**
PB11				*i* S	**Sn**	**12 36 50.3**	**-0.7**
PB11				IAML		12 36 51.9	
	comp=N,1μm,0.3s						
PB11	**IPOC Station P**	**2.05**	**333**	*e*P	**Pn**	**12 36 23.7**	**-0.7**
PB11				*e*S	**Sn**	**12 36 50.7**	**-0.2**
PB11				IAML		12 36 51.9	
	comp=Z,350nm,0.4s						
PB10	**IPOC Station P**	**2.58**	**222**	⇑*e*P	**Pn**	**12 36 30.5**	**-0.3**
PB10	**IPOC Station P**	**2.58**	**222**	*e*P	**Pn**	**12 36 30.7**	**-0.1**
PB10				*e*S	**Sn**	**12 37 02.4**	**-0.1**
YJA	**Yavi**	**2.99**	**102**	*e*P	**Pn**	**12 36 33.7**	**-2.8**
YJA				*e*S	**Sn**	**12 37 09.2**	**-3.3**
PB16	**IPOC Station P**	**3.34**	**346**	⇑*e*P	**Pn**	**12 36 42.5**	**+1.2**
PB16				*e*S	**Sn**	**12 37 21.2**	**+0.1**
PB16				IAML		12 37 23.3	
	comp=N,73nm,0.3s						
PB16	**IPOC Station P**	**3.34**	**346**	*e*P	**Pn**	**12 36 42.5**	**+1.2**
PB16				*e*S	**Sn**	**12 37 21.6**	**+0.4**
PB16				IAML		12 37 28.8	
	comp=Z,41nm,0.5s						
SALTA		**3.38**	**141**	*e*P	Pn	12 36 32.6	-9.1
SALTA				*e*P		12 36 35.6	
GO02	**Mina Guanaco**	**3.64**	**193**	*e*P	**Pn**	**12 36 44.8**	**-0.1**
AZAP	**Zapla**	**4.22**	**129**	*e*P	Pn	12 36 40.5	-12
AZAP				*e*S	**Sn**	**12 37 50.1**	**+8.7**
AC01	**Pan de Azucar**	**4.86**	**201**	*e*P	**Pn**	**12 36 59.1**	**-1.7**
AC01				*e*S	**Sn**	**12 37 53.2**	**-3.0**
AC01				IAML		12 38 11.8	
	comp=Z,34nm,0.5s						
AC02	**Maricunga**	**5.23**	**185**	*e*P	**Pn**	**12 37 05.8**	**-0.4**
AC02				*e*S	**Sn**	**12 38 06.8**	**+1.1**
AC02				IAML		12 38 10.8	
	comp=Z,23nm,0.2s						

*NNC **04** 12:41:49.7±0.4, 44°.76N×79°.37E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=3.5km s-min=2.8km az=75.0*
*SOME **04** 12:41:50.4, 44°.73N×79°.42E, h20km*
ISC 04 12:41:49.8±0.9, **44°.77N**±0°.03×**79°.40E**±0°.03, **h10**km, **n40,** σ1°**75**/59, **11C-5D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDK	**Taldyqorghan**	**0.74**	**288**	P	**Pg**	**12 42 04.3**	**+0.3**
	392nm,0.4s						
TDK				S	**Sg**	**12 42 14.1**	**+0.4**
	904nm,0.2s						
TDK	**Taldyqorghan**	**0.74**	**288**	*e*P	**Pg**	**12 42 04.3**	**+0.3**
	392nm,0.4s						
TDK				*e*S	**Sg**	**12 42 14.1**	**+0.4**
	904nm,0.2s						
ARXS	**Arharly**	**1.25**	**244**	P	**Pg**	**12 42 13.6**	**-0.2**
	51nm,0.2s						
ARXS				S	**Sn**	**12 42 30.2**	**-0.2**
	139nm,0.2s						
KPKS	**Kokpek**	**1.40**	**202**	P	**Pg**	**12 42 16.4**	**-0.3**
	60nm,0.1s						
KPKS				S	**Sg**	**12 42 34.6**	**-0.3**
	309nm,0.2s						
PDGK	**Podgornoye**	**1.45**	**177**	⇑P	**Pg**	**12 42 16.5**	**-0.9**
	49nm,0.3s						
PDGK				⇓S	**Sg**	**12 42 35.5**	**-0.7**
	125nm,0.5s						
KURS	**Kuram**	**1.56**	**215**	P	**Pg**	**12 42 19.3**	**-0.4**
	89nm,0.5s						
KURS				S	**Sg**	**12 42 39.7**	**-0.1**
	92nm,0.4s						
SHLS	**Shalkode**	**1.62**	**178**	P	**Pg**	**12 42 20.0**	**-0.8**
	201nm,0.2s						
SHLS				S	**Sg**	**12 42 40.9**	**-0.8**
	362nm,0.3s						
SHLS	**Shalkode**	**1.62**	**178**	*e*P	**Pg**	**12 42 20.0**	**-0.8**
	201nm,0.2s						
SHLS				*e*S	**Sg**	**12 42 40.9**	**-0.8**
	362nm,0.3s						
UZB	**Uzynbulak**	**1.65**	**190**	P	**Pg**	**12 42 20.3**	**-1.1**
	241nm,0.3s						
UZB				S	**Sg**	**12 42 41.7**	**-1.0**
	452nm,0.2s						
UZB	**Uzynbulak**	**1.65**	**190**	*e*P	**Pg**	**12 42 20.3**	**-1.1**
	241nm,0.3s						
UZB				*e*S	**Sg**	**12 42 41.7**	**-1.0**
	452nm,0.2s						
SATY	**Saty**	**1.86**	**203**	P	**Pg**	**12 42 24.3**	**-1.1**
	110nm,0.2s						
SATY				S	**Sg**	**12 42 48.3**	**-1.1**
	650nm,0.2s						
KTBS	**Karatobe**	**2.22**	**242**	Pg	**Pb**	**12 42 29.9**	**-0.1**
	31nm,0.3s						
KTBS				Lg	Lg	12 42 58.7	
	228nm,0.4s						
KNDC	**Almaty**	**2.34**	**229**	⇑Pg	**Pb**	**12 42 32.3**	**+0.2**
	40nm,0.3s						
KNDC				⇑Lg	Lg	12 43 04.4	
	130nm,0.3s						
KUU	**Kurty**	**2.36**	**249**	Pg	**Pb**	**12 42 32.0**	**-0.4**
	13nm,0.4s						
KUU				Lg	Lg	12 43 02.0	
	146nm,0.3s						
KUU	**Kurty**	**2.36**	**249**	*e*P	**Pb**	**12 42 32.0**	**-0.4**
	13nm,0.4s						
KUU				*e*S	**Sb**	**12 43 01.9**	**+0.3**
	146nm,0.3s						
AAA	**Alma-Ata**	**2.38**	**230**	Pg	**Pb**	**12 42 33.0**	**+0.3**
	74nm,0.5s						
AAA				Lg	Lg	12 43 04.5	
	21nm,0.2s						
AAA	**Alma-Ata**	**2.38**	**230**	*e*P	**Pb**	**12 42 33.0**	**+0.3**
	74nm,0.5s						
AAA				*e*S	**Sg**	**12 43 04.5**	**-1.6**
	21nm,0.2s						
TNSS	**Tian-Shan**	**2.48**	**226**	Pg	**Pb**	**12 42 34.3**	**-0.3**
	6.8nm,0.3s						
TNSS				Lg	Lg	12 43 07.1	
	24nm,0.4s						
TNSS	**Tian-Shan**	**2.48**	**226**	*e*P	**Pb**	**12 42 34.3**	**-0.3**
	6.8nm,0.3s						
TNSS				*e*S	**Sg**	**12 43 07.1**	**-2.3**
	24nm,0.4s						
MAKZ	**Makanchi**	**2.72**	**41**	Pn	**Pn**	**12 42 34.5**	**+0.9**
	2.3nm,0.5s						
MAKZ				⇑Lg	Lg	12 43 12.0	
	90nm,0.5s						
MK31	**Makanchi Array**	**2.86**	**44**	Pn	**Pn**	**12 42 37.4**	**+1.9**
	2.0nm,0.2s,baz=217,slow=15,SNR=143						
MK31				⇑Lg	Lg	12 43 17.1	
	15nm,0.3s,baz=218,slow=26,SNR=20						
KST	**Kastek**	**3.02**	**236**	Pg	**Pb**	**12 42 44.4**	**+0.6**
	6.4nm,0.4s						
KST				Lg	Lg	12 43 22.7	
	73nm,0.3s						
KST	**Kastek**	**3.02**	**236**	*e*P	**Pb**	**12 42 44.4**	**+0.6**
	6.4nm,0.4s						
KST				*e*S	**Sb**	**12 43 22.7**	**+1.9**
	73nm,0.3s						
DGS	**Degeres**	**3.03**	**241**	Pg	**Pg**	**12 42 45.2**	**-2.5**
	11nm,0.4s						
DGS				Lg	Lg	12 43 24.0	
	86nm,0.4s						
SGDS	**Sogindy**	**3.68**	**251**	Pg	**Pb**	**12 42 55.8**	**+0.9**
	6.6nm,0.4s						
SGDS				Lg	Lg	12 43 42.2	
	17nm,0.3s						
BTLS	**Baital**	**3.81**	**276**	Pg	**Pg**	**12 43 00.1**	**-2.6**
	11nm,0.3s						
BTLS				Lg	Lg	12 43 49.8	
	18nm,0.3s						
BTLS	**Baital**	**3.81**	**276**	*e*P	**Pg**	**12 43 00.1**	**-2.6**
	11nm,0.3s						
BTLS				*e*S	**Sg**	**12 43 49.8**	**-2.3**
	18nm,0.3s						
AAK	**Ala-Archa**	**4.14**	**241**	⇑Pg	**Pb**	**12 43 03.1**	**+0.2**
	1.5nm,0.4s						
AAK				⇑Lg	Lg	12 43 58.8	
	14nm,0.8s						
ZSN	**Zaisan**	**4.65**	**53**	Pg	**Pb**	**12 43 12.9**	**+1.5**
	4.0nm,0.5s						
ZSN				Lg	Lg	12 44 12.3	
	19nm,0.6s						
ZSN	**Zaisan**	**4.65**	**53**	*e*P	**Pb**	**12 43 14.9**	**+3.5**
	2.1nm,0.2s						
ZSN				*e*S	**Sg**	**12 44 15.0**	**-4.0**
	18nm,0.5s						
MRKS	**Merke**	**4.91**	**248**	Pg	**Pb**	**12 43 18.9**	**+3.1**
	2.8nm,0.5s						
MRKS				Lg	Lg	12 44 21.9	
	13nm,0.4s						
MRKS	**Merke**	**4.91**	**248**	*e*P	**Pb**	**12 43 18.9**	**+3.1**
	2.8nm,0.5s						
MRKS				*e*S	**Sg**	**12 44 21.9**	**-5.3**
	13nm,0.4s						
KURBB	**Kurchatov Arra**	**5.88**	**355**	⇑Pn	**Pn**	**12 43 18.8**	**+1.9**
	4.0nm,0.8s						
KURBB				⇑Pg	**Pg**	**12 43 39.1**	**-3.3**
	2.5nm,0.4s						
KURBB				⇓Lg	Lg	12 44 55.2	
	60nm,0.6s						
KURK	**Kurchatov**	**5.97**	**355**	⇑Pn	**Pn**	**12 43 19.3**	**+1.2**
	2.4nm,0.7s						
KURK				⇑Pg	Pb	12 43 39.3	+5.5
	3.4nm,0.6s						
KURK				⇓Lg	Lg	12 44 56.3	
	38nm,0.6s						
KK31	**Karatay Array**	**6.63**	**259**	⇓Pg	Pg	12 43 51.0	-5.7
	0.8nm,0.4s,baz=67,slow=13,SNR=4.1						
KK31				⇓Lg	Lg	12 45 19.4	
	7.2nm,0.6s,baz=64,slow=27,SNR=4.5						
BRZS	**Berezniki**	**6.92**	**321**	Pg	Pg	12 43 57.3	-5.0
	1.0nm,0.5s						
BRZS				Lg	Lg	12 45 27.5	
	26nm,0.5s						
BRZS	**Berezniki**	**6.92**	**321**	*e*P	**Pg**	**12 43 59.8**	**-2.5**
	0.5nm,0.2s						
BRZS				*e*S	**Sg**	**12 45 31.9**	**+0.1**
	22nm,0.4s						
BRLS	**Borolday**	**7.12**	**259**	Pg	**Pg**	**12 44 05.3**	**-0.8**
	1.3nm,0.4s						
BRLS				Lg	Lg	12 45 41.3	
	7.1nm,0.5s						
BRLS	**Borolday**	**7.12**	**259**	*e*P	**Pg**	**12 44 05.3**	**-0.8**
	1.3nm,0.4s						
BRLS				*e*S	**Sg**	**12 45 41.3**	**+3.1**
	7.1nm,0.5s						
IUG	**Iuzhnay**	**7.30**	**252**	Pg	**Pg**	**12 44 07.3**	**-2.2**
	9.3nm,0.6s						
IUG				Lg	Lg	12 45 45.4	
	31nm,1.2s						

*IDC **04** 12:45:47.5±6.0, 37°.74N×72°.16E, h125km±45km, mb3.5/9, mbtmp3.9/15, Error ellipse: s-maj=64.9km s-min=38.6km az=154.0*
*

TKM2	**Tokmak 2**	**5.86**	**26**	P		**Pn**	**12 47 12.0**	**+3.7**
	SNR=6.7							
USP	**Ospenovka**	**5.86**	**17**	P		**Pn**	**12 47 10.4**	**+2.2**
	SNR=6.8							
KDJ	**Kajisay**	**5.89**	**39**	Pn		**Pn**	**12 47 11.1**	**+2.4**
DHRM	**DHARAMSHALA**	**6.40**	**147**	*e*P		**Pn**	**12 47 18.7**	**+3.0**
DHRM				*e*S		**Sn**	**12 48 25.7**	**-1.7**
DHRM				IAML			12 48 26.6	
	comp=N,175nm,0.4s							
DHRM				IAML			12 48 27.4	
	comp=E,239nm,0.9s							
SMLA	**Simla**	**7.74**	**146**	*e*P		**Pn**	**12 47 35.3**	**+1.6**
SMLA				*e*S		**Sn**	**12 48 55.0**	**-4.7**
SMLA				IAML			12 48 57.8	
	comp=N,395nm,0.4s							
SMLA				IAML			12 48 57.9	
	comp=E,314nm,0.3s							
KLP	**Kalpa**	**7.93**	**139**	*e*P		**Pn**	**12 47 38.7**	**+2.1**
KLP				*e*S		**Sn**	**12 49 00.4**	**-4.4**
KLP				IAML			12 49 03.5	
	comp=E,352nm,0.2s							
KLP				IAML			12 49 03.7	
	comp=N,215nm,0.5s							
DDI	**Dehra Dun**	**8.82**	**145**	*e*P		**Pn**	**12 47 49.2**	**+0.7**
DDI				*e*S		**Sn**	**12 49 21.6**	**-4.6**
DDI				IAML			12 49 22.5	
	comp=E,175nm,0.3s							
DDI				IAML			12 49 22.6	
	comp=N,205nm,0.4s							
JOSI	**Joshimath**	**9.39**	**137**	*e*P		**Pn**	**12 47 55.2**	**-1.2**
JOSI				*e*S		**Sn**	**12 49 34.9**	**-5.4**
JOSI				IAML			12 49 38.7	
	comp=E,181nm,0.3s							
JOSI				IAML			12 49 39.4	
	comp=N,144nm,0.5s							
KUDL	**Kundal**	**10.18**	**158**	*e*P		**Pn**	**12 48 06.5**	**-0.5**
KUDL				*e*S		**Sn**	**12 49 53.0**	**-6.2**
KUDL				IAML			12 49 55.7	
	comp=E,192nm,0.3s							
KUDL				IAML			12 49 55.8	
	comp=N,262nm,0.2s							
PTH	**Pithoragarh**	**10.53**	**138**	*e*P		**Pn**	**12 48 12.3**	**+0.4**
PTH				*e*S		Sn	12 49 59.0	-8.9
PTH				IAML			12 50 01.5	
	comp=N,161nm,0.5s							
LGTI	**Lohaghat**	**10.62**	**138**	*e*P		**Pn**	**12 48 11.4**	**-1.6**
LGTI				*e*S		Sn	12 49 59.8	-10
LGTI				IAML			12 50 02.8	
	comp=E,194nm,0.3s							
LGTI				IAML			12 50 03.2	
	comp=N,191nm,0.6s							
MKAR	**Makanchi Array**	**11.79**	**36**	P		**Pn**	**12 48 30.6**	**+1.9**
	comp=N,0.9nm,0.7s,baz=211,slow=14,SNR=3.8							
KURBB	**Kurchatov Arra**	**13.71**	**17**	P		**P**	**12 48 57.2**	**-1.9**
	comp=N,0.4nm,0.2s,baz=195,slow=13,SNR=3.7							
AB31	**Akbulak array**	**14.55**	**327**			**Pn**	**12 49 03.5**	**-1.1**
AB31	**Akbulak array**	**14.55**	**327**	⇓P		**Pn**	**12 49 03.6**	**-1.1**
	comp=N,1.5nm,0.4s							
AB31				⇓S		**Sn**	**12 51 37.2**	**-7.8**
	comp=N,5.1nm,0.4s							
ABKAR	**Akbulak array**	**14.55**	**327**	Pn		**Pn**	**12 49 04.2**	**-0.5**
BVAR	**Borovoye Array**	**15.39**	**356**	P		**Pn**	**12 49 15.8**	**+0.5**
	comp=N,2.6nm,0.3s,baz=174,slow=14,SNR=15							
BRVK	**Borovoye**	**15.43**	**356**	Pn		**Pn**	**12 49 15.8**	**0.0**
EVN	**Everest**	**15.66**	**124**	Pn		**Pn**	**12 49 18.8**	**-0.7**
AKTO	**Aktyubinsk**	**16.27**	**326**	P		**P**	**12 49 28.3**	**+0.9**
	comp=N,5.3nm,0.4s,baz=117,slow=9.3,SNR=11							
AKTO	**Aktyubinsk**	**16.27**	**326**	⇑P		**Pn**	**12 49 25.7**	**-0.5**
	comp=N,2.5nm,0.5s							
AKTO				⇓S		**Sn**	**12 52 18.7**	**-7.6**
	comp=N,6.1nm,0.8s							
ZAA0	**Zalesovo Array**	**18.46**	**24**	P		**P**	**12 49 52.0**	**+0.5**
ZALV	**Zalesovo Beam**	**18.46**	**24**	P		**P**	**12 49 51.8**	**+0.3**
ZALV	**Zalesovo Beam**	**18.46**	**24**	P		**Pn**	**12 49 53.0**	**+0.3**
	comp=N,9nm,0.3s,baz=212,slow=10,SNR=5.5							
SHL	**Shillong**	**20.64**	**120**	P		**P**	**12 50 15.7**	**+0.1**
SHL				IAmb		IAmb	12 50 22.6	
	comp=Z,12nm,1.1s							
ARTI	**Arti**	**20.86**	**338**	P		**P**	**12 50 19.2**	**+1.7**
	comp=Z,1.7nm,0.3s,baz=166,slow=6.1,SNR=4.6							
	comp=Z,1.7nm,0.3s							
BNN	**Bunyan**	**28.42**	**284**	P		**P**	**12 51 29.4**	**+0.3**
BNN				IAmb		IAmb	12 51 46.3	
	comp=Z,5.1nm,0.8s							
AKASG	**Malin Array Be**	**32.95**	**307**	P		**P**	**12 52 09.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=79,slow=8.1,SNR=5.2							
	comp=Z,0.3nm,0.3s							
AKBB	**Malin Array Si**	**32.95**	**307**	P		**P**	**12 52 09.4**	**+0.8**
AKBB				IAmb		IAmb	12 52 45.4	
	comp=Z,8.8nm,1.4s							
KIEV	**Kiev**	**32.96**	**307**	P		**P**	**12 52 09.2**	**+0.6**
KIEV				IAmb		IAmb	12 52 45.4	
	comp=Z,7.9nm,1.4s							
BURAR	**Bucovina Array**	**35.44**	**302**	P		**P**	**12 52 30.9**	**+0.6**
FIA1	**FINESS Array S**	**37.03**	**325**	P		**P**	**12 52 44.0**	**+0.4**
FINES	**FINESS Array B**	**37.03**	**325**	P		**P**	**12 52 44.3**	**+0.7**
FINES	**FINESS Array B**	**37.03**	**325**	P		**P**	**12 52 44.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=113,slow=9.9,SNR=13							
	comp=Z,0.9nm,0.3s							
OJC	**Ojcow**	**38.94**	**306**	P		**P**	**12 53 01.2**	**+1.4**
ARCES	**ARCESS Array B**	**40.42**	**337**	P		**P**	**12 53 12.6**	**+0.9**
ARCES				IAmb		IAmb	12 53 18.9	
	comp=Z,11nm,1.4s							
ARCES	**ARCESS Array B**	**40.42**	**337**	P		**P**	**12 53 12.7**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=116,slow=8.2,SNR=12							
	comp=Z,0.8nm,0.4s							
HFS	**Hagfors**	**42.72**	**321**	P		**P**	**12 53 31.1**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=98,slow=8.0,SNR=32							
	comp=Z,3.1nm,0.4s							
GSI	**Gunungsitoli**	**43.10**	**141**	P		**P**	**12 53 35.9**	**+1.7**
CUC	**Castrocucco**	**43.32**	**291**	P		**P**	**12 53 36.4**	**+0.5**
CUC				IAmb		IAmb	12 53 38.7	
	comp=Z,5.8nm,0.8s							
NC405	**NORSAR Array S**	**43.77**	**322**	P		**P**	**12 53 38.9**	**-0.1**
NC405				IAmb		IAmb	12 53 58.6	
	comp=Z,13nm,1.4s							
NB2	**NORSAR Subarra**	**44.00**	**322**	P		**P**	**12 53 41.3**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.00**	**322**	P		**P**	**12 53 41.2**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=101,slow=7.3,SNR=8.8							
	comp=Z,0.9nm,0.4s							
KEST	**Kesra**	**49.54**	**288**	P		**P**	**12 54 26.5**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=51,slow=6.5,SNR=4.7							
	comp=Z,1.4nm,0.5s							
EKA	**Eskdalemuir Ar**	**52.09**	**316**	P		**P**	**12 54 43.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=78,slow=7.9,SNR=4.6							
	comp=Z,0.1nm,0.3s							
ESDC	**Sonseca Array**	**57.73**	**298**	P		**P**	**12 55 24.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=68,slow=6.9,SNR=6.4							
	comp=Z,0.4nm,0.6s							

*NEIC **04** 12:46:27.3±2.5, 6.38S±0.09×130.1E±0.1, h135km±12km, mb4.0/6, Error ellipse: s-maj=19.5km s-min=13.0km az=105.0*
*IDC **04** 12:46:28.0±5.8, 6.55S×130.01E, h136km±61km, mb3.3/4, mbtmp3.9/8, Error ellipse: s-maj=47.9km s-min=26.0km az=42.0*

ISC 04 12:46:27.8±0.7, **6.49S**±0.07×**130.08E**±0.08, **h146**km, **n24, σ1§73/26, mb3.8/6, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**141**	Pn		**Pn**	**12 47 03.1**	**+1.5**
FAKI	**Fak Fak**	**4.15**	**31**	Pn		**Pn**	**12 47 27.1**	**-2.9**
MTN	**Manton Dam**	**6.40**	**171**	Pn		**Pn**	**12 48 00.2**	**+0.4**
SOEI	**Soe**	**6.61**	**240**	Pn		**Pn**	**12 48 02.7**	**0.0**
BATI	**Baumata**	**7.35**	**239**	P		**Pn**	**12 48 12.8**	**+0.3**
	60nm,0.5s,baz=6.9,slow=3.1,SNR=10							
BATI				S		**Sn**	**12 49 32.7**	**-2.0**
	14nm,0.3s,baz=18,slow=16,SNR=1.8							
KNRA	**Kununurra**	**9.22**	**188**			**Pn**	**12 48 36.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.32**	**200**	P		**Pn**	**12 49 16.7**	**-1.7**
	2.2nm,0.3s,baz=27,slow=9.8,SNR=57							
FITZ				S		Sn	12 51 23.6	-11
	9.7nm,0.5s,baz=292,slow=19,SNR=12							
WB0	**Warramunga Arr**	**13.85**	**163**	Pn		**Pn**	**12 49 36.7**	**-1.3**
WRA	**Warramunga Arr**	**14.00**	**163**	Pn		**Pn**	**12 49 37.4**	**-2.5**
WRA	**Warramunga Ar**	**14.00**	**163**	P		**Pn**	**12 49 38.2**	**-1.7**
	0.8nm,0.3s,baz=345,slow=12,SNR=39							
WRA				S		Sn	12 52 06.3	-8.7
	2.8nm,0.6s,baz=334,slow=22,SNR=11							
COEN	**Coen**	**14.86**	**121**			**Pn**	**12 49 52.0**	**+1.2**
AS31	**Alice Springs**	**17.47**	**168**	P		**Pn**	**12 50 23.8**	**+1.2**
ASAR	**Alice Springs**	**17.47**	**168**	P		**Pn**	**12 50 23.8**	**+1.2**
	0.8nm,0.4s,baz=346,slow=10,SNR=31							
ASAR				S		**S**	**12 53 31.5**	**-4.6**
	0.9nm,0.4s,baz=349,slow=24,SNR=9.2							
MBWA	**Marble Bar**	**17.70**	**213**	P		**Pn**	**12 50 25.9**	**+0.6**
MBWA				IAmb		IAmb	12 50 29.0	
	comp=Z,6.4nm,1.1s							
PSA00	**Pilbara Seismi**	**17.97**	**212**	P		**P**	**12 50 27.9**	**+0.9**
PSA00				IAmb		IAmb	12 50 34.9	
	comp=Z,11nm,1.1s							
CMAR	**Chiang Mai Arr**	**39.47**	**309**	P		**P**	**12 53 44.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=122,slow=8.7,SNR=1.7							
	comp=Z,0.6nm,0.6s							
KSRS	**Korea Array**	**43.76**	**358**	P		**P**	**12 54 20.2**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=172,slow=8.9,SNR=1.9							
	comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**67.85**	**327**	P		**P**	**12 57 11.1**	**+0.9**
MKAR	**Makanchi Array**	**67.85**	**327**	P		**P**	**12 57 11.9**	**+1.6**
	comp=Z,1.5nm,0.5s,baz=128,slow=6.9,SNR=18							
	comp=Z,1.5nm,0.5s							
MAKZ	**Makanchi**	**68.03**	**327**	P		**P**	**12 57 12.0**	**+0.6**
MAKZ				IAmb		IAmb	12 57 13.4	
	comp=Z,1.5nm,0.6s							
KURBB	**Kurchatov Arra**	**72.12**	**328**	P		**P**	**12 57 37.5**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=125,slow=5.0,SNR=6.5							
	comp=Z,0.4nm,0.5s							
N18K	**Kilae Creek**	**87.89**	**28**	P		**P**	**12 59 00.2**	**-0.4**
J18K	**Innoko River**	**88.36**	**25**	P		**P**	**12 59 01.6**	**-1.1**
J18K				IAmb		IAmb	12 59 22.2	
	comp=Z,1.4nm,0.9s							

*IDC **04** 13:05:03.8±2.2, 2.50.39N×174.30W, h0km, mb3.7/8, mbtmp3.8/10, ML3.3/2, MS3.8/1, Error ellipse: s-maj=63.1km s-min=21.8km az=9.0*
*NEIC **04** 13:05:05.8±0.9, 2.50.49N±0.07×174.47W±0.07, h10km±1km, mb3.9/19, ML3.6/10, ML3.1(AEIC), Error ellipse: s-maj=12.4km s-min=7.9km az=173.0*
*AEIC **04** 13:05:08.3±1.0, 2.50.49N±0.08×174.48W±0.07, h16km±5km, Error ellipse: s-maj=12.0km s-min=6.1km az=184.0*

ISC 04 13:05:08.8±0.8, **2.50.46N**±0.08×**174.46W**±0.06, **h35**km, **n61, σ1§05/66, mb3.9/11, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.75**	**5**			**Pn**	**13 05 35.6**	**-1.0**
ATKA	**Atka Island**	**1.75**	**5**			**Sn**	**13 05 57.7**	**+0.1**
GSIG	**Igitkin Island**	**1.78**	**329**			**Pn**	**13 05 36.0**	**-1.0**
GSIG						**Sn**	**13 05 58.2**	**-0.3**
ETKA	**Kagalaska Isla**	**1.86**	**320**			**Pn**	**13 05 37.2**	**-0.9**
ETKA						**Sn**	**13 05 59.6**	**-0.8**
GSMY	**Great Sitkin M**	**1.87**	**328**			**Pn**	**13 05 37.5**	**-0.8**
GSMY						**Sn**	**13 06 00.6**	**-0.1**
GSCK	**Great Sitkin C**	**1.89**	**326**			**Pn**	**13 05 37.6**	**-0.9**
GSCK						**Sn**	**13 06 01.0**	**0.0**
GSTD	**Great Sitkin T**	**1.92**	**327**			**Pn**	**13 05 38.3**	**-0.6**
GSTD						**Sn**	**13 06 01.9**	**+0.1**
GSTR	**Great Sitkin T**	**1.92**	**329**			**Pn**	**13 05 38.5**	**-0.5**
GSTR						**Sn**	**13 06 02.4**	**+0.6**
GSTR	**Great Sitkin T**	**1.92**	**329**	IAML			13 06 08.7	
	comp=E,652nm,0.3s							
GSSP	**Great Sitkin S**	**1.96**	**327**			**Pn**	**13 05 39.5**	**0.0**
ADK	**Adak**	**2.00**	**316**			**Pn**	**13 05 38.8**	**-1.1**
ADK						**Sn**	**13 06 01.4**	**-2.3**
ADK				IAML			13 06 03.3	
	comp=E,598nm,0.2s							
ADK				IAML			13 06 03.6	
	comp=E,569nm,0.2s							
ADAG	**Mount Adagdak**	**2.03**	**319**			**Pn**	**13 05 40.3**	**-0.2**
KIMD	**Kanaga Island**	**2.18**	**308**			**Sn**	**13 06 07.8**	**-0.4**
KIWB	**Kanaga Island**	**2.19**	**310**			**Pn**	**13 05 41.8**	**-0.9**
KIWB				IAML			13 06 09.5	
	comp=N,261nm,0.3s							
KIWB				IAML			13 06 11.8	
	comp=E,254nm,0.6s							
KIKV	**Kanaga Island**	**2.22**	**311**			**Pn**	**13 05 42.8**	**-0.3**
KINC	**Kanaga Island**	**2.23**	**312**			**Pn**	**13 05 42.7**	**-0.5**
TAPA	**Tanaga Point A**	**2.51**	**304**			**Pn**	**13 05 46.7**	**-0.4**
TAFL	**Tanaga Flats**	**2.52**	**302**			**Pn**	**13 05 46.7**	**-0.5**
TAFP	**Tanaga Falls P**	**2.64**	**304**			**Pn**	**13 05 48.6**	**-0.2**
GAKI	**Gareloi-Kavalg**	**2.96**	**293**			**Pn**	**13 05 52.2**	**-1.0**
GALAA	**Gareloi Lava P**	**3.01**	**297**			**Pn**	**13 05 53.6**	**-0.3**
GANE	**Gareloi Northe**	**3.04**	**298**			**Pn**	**13 05 54.0**	**-0.3**
GANO	**Gareloi North**	**3.06**	**298**			**Pn**	**13 05 53.7**	**-0.8**
AMKA	**Amchitka**	**4.05**	**285**	Pn		**Pn**	**13 06 06.5**	**-1.7**
NIKH	**Nikolski High**	**4.30**	**52**	Pn		**Pn**	**13 06 10.8**	**-0.7**
NIKH				IAML			13 07 01.0	
	comp=E,91nm,1.2s							
MAPS	**Pakushin South**	**5.71**	**51**			**Pn**	**13 06 30.7**	**-0.4**
UNV	**Umnaska Valle**	**5.95**	**52**	Pn		**Pn**	**13 06 33.6**	**-0.6**
SHEM	**Shemya Is, Ala**	**7.48**	**292**	Pn		**Pn**	**13 06 56.1**	**+0.9**
	comp=E,1.1nm,0.3s,baz=262,slow=15,SNR=1.5							
	comp=E,4.6nm,0.3s							
SMY	**Shemya**	**7.48**	**292**	Pn		**Pn**	**13 06 56.4**	**+1.1**
SDPT	**Sand Point**	**9.76**	**55**	Pn		**Pn**	**13 07 25.6**	**-0.8**
CNBA	**Chernabura Isl**	**10.03**	**58**	Pn		**Pn**	**13 07 29.9**	**-0.3**
CHGN	**Chignik**	**11.21**	**52**	Pn		**Pn**	**13 07 45.4**	**-0.9**
OHAK	**Old Harbor**	**14.17**	**53**	Pn		**Pn**	**13 08 23.5**	**-3.3**
KDAK	**Kodiak Island**	**14.72**	**52**	Pn		**Pn**	**13 08 30.2**	**-3.9**
ILSW	**Iliamna Southw**	**15.38**	**44**			**Pn**	**13 08 40.1**	**-3.0**
J18K	**Innoko River**	**16.14**	**29**	P		**P**	**13 08 55.6**	**0.0**
H18K	**Honhosa River**	**16.95**	**24**	P		**P**	**13 09 04.6**	**0.0**
H18K				IAmb		IAmb	13 09 46.3	
	comp=Z,15nm,1.4s							
PETK	**Petropavlovsk-**	**17.38**	**290**	P		**P**	**13 09 09.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=5.5							
	comp=Z,2.5nm,0.7s							
J20K	**Nowinta River**	**17.46**	**30**	Pn		**Pn**	**13 09 08.3**	**-0.9**
J20K				IAmb		IAmb	13 09 22.3	
	comp=Z,8.6nm,1.4s							
G19K	**Purcell Mounta**	**18.07**	**23**	P		**P**	**13 09 17.3**	**+0.5**
G19K				IAmb		IAmb	13 10 01.1	
	comp=Z,13nm,1.4s							
SCM	**Sheep Creek Mo**	**18.75**	**42**			**Pn**	**13 09 25.3**	**+0.2**
I23K	**Minto, Yukon-K**	**19.67**	**32**	P		**Pn**	**13 09 34.7**	**-1.2**
I23K				IAmb		IAmb	13 09 37.6	
	comp=Z,8.2nm,1.4s							
CCB	**Clear Creek Bu**	**19.93**	**35**	Pn		**Pn**	**13 09 39.5**	**+0.5**
IL31		**20.33**	**35**	Pn		Pn	13 09 43.2	-0.5
ILAR	**Eielson Array**	**20.33**	**35**	P		**P**	**13 09 41.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=228,slow=9.0,SNR=11							
	comp=Z,0.6nm,0.5s							
E21K	**Killik River**	**20.62**	**22**	P		**P**	**13 09 44.6**	**-0.1**
J25K	**Salcha River,**	**20.82**	**36**	P		**P**	**13 09 47.1**	**+0.3**
J25K				IAmb		IAmb	13 09 50.2	
	comp=Z,3.1nm,0.8s							
J26L	**Joseph Creek**	**21.45**	**37**	P		**P**	**13 09 53.3**	**-0.4**
J26L				IAmb		IAmb	13 09 58.2	
	comp=Z,3.2nm,0.6s							
I26K	**Coal Creek Min**	**21.98**	**36**	P		**P**	**13 09 59.5**	**+0.2**
I26K				IAmb		IAmb	13 10 02.7	
	comp=Z,6.4nm,1.4s							
N30M	**Aishikik Lake**	**23.29**	**48**	P		**P**	**13 10 13.9**	**+0.8**
N30M				IAmb		IAmb	13 10 15.2	
	comp=Z,5.0nm,1.2s							
BYL	**Byron's Ledge**	**34.53**	**147**	P		**P**	**13 11 53.5**	**-0.4**
TPNV	**Topopah Spring**	**43.11**	**85**	P		**P**	**13 13 05.8**	**+0.2**
PRN	**Pahroc Range**	**43.59**	**84**	P		**P**	**13 13 09.7**	**+0.1**
PRN				IAmb		IAmb	13 13 10.8	
	comp=Z,2.8nm,1.1s							
PDAR	**Pinedale Array**	**43.95**	**74**	P		**P**	**13 13 12.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.2,SNR=4.1							
PDAR				LR		LR	13 29 48.2	
	comp=Z,134nm,20.9s,baz=30,slow=34							
	comp=Z,0.3nm,0.6s							
PV13	**Radium Mtn., P**	**47.08**	**79**	P		**P**	**13 13 37.0**	**-0.2**
TXAR	**Lajitas Array**	**56.05**	**84**	P		**P**	**13 14 43.6**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=297,slow=5.5,SNR=4.2							
	comp=Z,0.9nm,0.9s							
KURBB	**Kurchatov Arra**	**61.72**	**316**	P		**P**	**13 15 24.1**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=43,slow=6.5,SNR=11							
	comp=Z,0.6nm,0.6s							
BVAR	**Borovoye Array**	**63.33**	**322**	P		**P**	**13 15 35.3**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=56,slow=6.1,SNR=8.4							
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**67.24**	**349**	P		**P**	**13 15 59.4**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=25,slow=6.0,SNR=3.4							
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**68.76**	**357**	P		**P**	**13 16 09.9**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=6.3,slow=6.3,SNR=2.4							
	comp=Z,0.4nm,0.7s							
HFS	**Hagfors**	**69.56**	**356**	P		**P**	**13 16 14.4**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=27,slow=3.5,SNR=2.0							
	comp=Z,1.6nm,0.8s							

*SOME **04** 13:15:29.3, 44.73N×79.45E, h25km*
*NNC **04** 13:15:29.1±0.6, 44.78N×79.33E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=4.3km s-min=3.5km az=72.0*

ISC 04 13:15:26.3±1.2, **44.86N**±0.03×**79.40E**±0.03, **h3**km±12km, **n37, σ1§34/57, 12C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.72**	**282**	P		**Pn**	**13 15 43.3**	**-0.2**
	238nm,0.3s							
TDK				S		**Sn**	**13 15 53.0**	**-2.1**
	484nm,0.2s							
TDK	**Taldyqorghan**	**0.72**	**282**	*e*P		**Pn**	**13 15 43.3**	**-0.2**
	238nm,0.3s							
TDK				*e*S		**Sn**	**13 15 53.0**	**-2.1**
	484nm,0.2s							
ARXS	**Arharly**	**1.30**	**241**	P		**Pg**	**13 15 52.4**	**+1.2**
	18nm,0.1s							
ARXS				S		**Sg**	**13 16 08.5**	**+0.5**
	97nm,0.2s							
KPKS	**Kokpek**	**1.49**	**201**	P		**Pg**	**13 15 54.9**	**+0.1**
	27nm,0.1s							
KPKS				S		**Sb**	**13 16 13.4**	**-0.6**
	102nm,0.2s							
PDGK	**Podgornoye**	**1.53**	**178**	⇓P		**Pb**	**13 15 55.4**	**-0.1**
	30nm,0.6s							
PDGK				⇑S		**Sg**	**13 16 17.1**	**+1.6**
	63nm,0.5s							
KURS	**Kuram**	**1.64**	**213**	P		**Pg**	**13 15 57.9**	**+0.3**
	14nm,0.4s							
KURS				S		**Sg**	**13 16 18.6**	**-0.3**
	45nm,0.4s							
SHLS	**Shalkode**	**1.71**	**179**	P		**Pg**	**13 15 59.0**	**0.0**
	46nm,0.2s							
SHLS				S		**Sb**	**13 16 20.3**	**0.0**
	297nm,0.3s							
SHLS	**Shalkode**	**1.71**	**179**	*e*P		**Pg**	**13 15 59.0**	**0.0**
	46nm,0.2s							
SHLS				*e*S		**Sb**	**13 16 20.3**	**0.0**
	297nm,0.3s							
UZB	**Uzunbulak**	**1.74**	**189**	P		**Pb**	**13 15 59.0**	**+0.1**
	59nm,0.3s							
UZB				S		**Sb**	**13 16 20.4**	**-0.8**
	50nm,0.3s							
UZB	**Uzunbulak**	**1.74**	**189**	*e*P		**Pb**	**13 15 59.0**	**+0.1**
	59nm,0.3s							
UZB				*e*S		**Sb**	**13 16 20.4**	**-0.8**
	50nm,0.3s							
SATY	**Saty**	**1.94**	**202**	P		**Pg**	**13 16 03.3**	**-0.2**
	23nm,0.1s							
SATY				S		**Sb**	**13 16 27.6**	**+0.6**
	210nm,0.2s							
CHKK	**Chushkaly**	**2.00**	**241**	P		**Pg**	**13 16 04.7**	**0.0**
	30nm,0.2s							
CHKK				S		**Sg**	**13 16 29.9**	**-0.7**
	101nm,0.2s							
CHKK	**Chushkaly**	**2.00**	**241**	*e*P		**Pg**	**13 16 04.7**	**0.0**
	30nm,0.2s							
CHKK				*e*S		**Sg**	**13 16 29.9**	**-0.7**
	101nm,0.2s							
KTBS	**Karatobe**	**2.27**	**240**	Pg		**Pg**	**13 16 09.7**	**0.0**
	13nm,0.3s							
KTBS				Lg		Lg	13 16 38.6	
	110nm,0.3s							
KUU	**Kurty**	**2.40**	**247**	Pg		**Pg**	**13 16 11.4**	**-0.9**
	6.0nm,0.3s							
KUU				Lg		Lg	13 16 41.5	
	73nm,0.2s							
KUU	**Kurty**	**2.40**	**247**	*e*P		**Pg**	**13 16 11.4**	**-0.9**
	6.0nm,0.3s							
KUU				*e*S		**Sg**	**13 16 41.5**	**-1.9**
	73nm,0.2s							
KNDC	**Almaty**	**2.41**	**228**	⇑Pg		**Pg**	**13 16 11.3**	**-1.1**
	32nm,0.7s							
KNDC				⇑Lg		Lg	13 16 43.6	
	100nm,0.4s							
TNSS	**Tian-Shan**	**2.54**	**225**	Pg		**Pg**	**13 16 14.0**	**-1.1**
	2.0nm,0.3s							
TNSS				Lg		Lg	13 16 46.3	
	15nm,0.3s							
TNSS	**Tian-Shan**	**2.54**	**225**	*e*P		**Pg**	**13 16 13.9**	**-1.1**
	2.0nm,0.3s							
TNSS				*e*S		**Sg**	**13 16 46.3**	**-1.8**
	15nm,0.3s					

mb4.3/33,Error ellipse: s-maj=17.5km s-min=11.3km az=195.0
*YARS **04** 13:22:57.7,71˚18N×137˚79E,h21km,mb3.8/7,ML3.1/5*
ISC 04 13:22:56.1±0.4,**71˚33N**±0˙04×**138˚14E**±0˙04,**h10km,n121,**
σ1§90/153,**mb4.3**/45,**8C,Near north coast of eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEPR	**Deputatskiy**	**2.04**	**162**	P	**Pn**	**13 23 29.6**	**-0.9**
DEPR				SN	**Sn**	**13 23 54.7**	**-1.3**
DEPR	**Deputatskiy**	**2.04**	**162**	*e*Pn	**Pn**	**13 23 29.6**	**-0.9**
	64nm,0.5s						
DEPR				*e*Sn	**Sn**	**13 23 54.7**	**-1.3**
	142nm,0.3s						
DEPR				*e*Sn	**Sn**	**13 23 54.7**	**-1.3**
	73nm,0.4s						
TIXI	**Tiksi**	**2.98**	**280**		**Pn**	**13 23 44.4**	**+1.1**
TIXI	**Tiksi**	**2.98**	**280**	Pn	**Pn**	**13 23 44.7**	**+1.4**
	18nm,0.3s,baz=109,slow=13,SNR=166						
TIXI				Sn	**Sn**	**13 24 19.6**	**+0.6**
	51nm,0.3s,baz=24,slow=6.1,SNR=14						
TIXI				Lg	Lg	13 24 36.4	
	84nm,0.3s,baz=239,slow=11,SNR=6.7						
	108nm,0.5s						
TIXI	**Tiksi**	**2.98**	**280**	*e*Pn	**Pn**	**13 23 44.2**	**+0.9**
	2µm,0.7s						
TIXI				*i* Sn	**Sn**	**13 24 18.0**	**-0.9**
	2µm,0.5s						
TIXI				*i* Sn	**Sn**	**13 24 18.0**	**-0.9**
	4µm,0.6s						
YBGR	**Belaya Gora**	**3.95**	**132**	P	**Pn**	**13 23 56.5**	**-0.2**
YBGR				SN	**Sn**	**13 24 42.9**	**-0.1**
YBGR	**Belaya Gora**	**3.95**	**132**	*i* Pn	**Pn**	**13 23 56.5**	**-0.2**
	13nm,0.5s						
YBGR				*i* Sn	**Sn**	**13 24 43.0**	**-0.1**
	24nm,0.4s						
MOMR	**Moma**	**5.22**	**157**	P	**Pn**	**13 24 13.5**	**-0.6**
MOMR				SN	**Sn**	**13 25 13.1**	**-1.2**
MOMR	**Moma**	**5.22**	**157**	*e*Pn	**Pn**	**13 24 13.6**	**-0.6**
	3.2nm,0.4s						
MOMR				*i* Sn	**Sn**	**13 25 13.1**	**-1.2**
	11nm,0.5s						
MOMR				*i* Sn	**Sn**	**13 25 13.1**	**-1.2**
	7.2nm,0.4s						
UNR	**Ust'-Nera**	**7.06**	**162**	P	**Pn**	**13 24 38.7**	**-0.7**
UNR				SN	**Sn**	**13 25 57.8**	**-1.7**
UNR	**Ust'-Nera**	**7.06**	**162**	*i* Pn	**Pn**	**13 24 38.7**	**-0.7**
	2.4nm,1.0s						
UNR				*i* Sn	**Sn**	**13 25 57.8**	**-1.7**
	3.4nm,0.7s						
UNR				*i* Sn	**Sn**	**13 25 57.8**	**-1.7**
	2µm,0.8s						
YAK	**Yakutsk**	**9.91**	**204**	Sn	**Sn**	**13 27 06.8**	**-2.6**
	2.3nm,0.3s,baz=218,slow=23,SNR=6.4						
YAK				Lg	Lg	13 28 11.7	
	4.2nm,0.3s,baz=299,slow=20,SNR=6.4						
YAK	**Yakutsk**	**9.91**	**204**	*e*P	**Pn**	**13 25 22.2**	**+3.8**
YAK				*e*S	**Sn**	**13 27 17.3**	**+7.8**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YAK				smax	smax		
	comp=N,13nm,1.3s						
YAK				smax	smax		
	comp=E,10.0nm,1.3s						
YAK	**Yakutsk**	**9.91**	**204**	*i* Sn	**Sn**	**13 27 06.9**	**-2.6**
	comp=E,41nm,0.9s						
YAK				*i* Sn	**Sn**	**13 27 06.9**	**-2.6**
	comp=E,10.0nm,0.6s						
SEY	**Seymchan**	**10.06**	**140**	Pn	**Pn**	**13 25 20.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=51,slow=20,SNR=1.8						
SEY				Sn	Sn	13 27 03.5	-10
	comp=E,0.5nm,0.3s,baz=347,slow=16,SNR=3.8						
SEY				Lg	Lg	13 28 07.6	
	comp=E,1.1nm,0.3s,baz=168,slow=13,SNR=4.3						
	comp=E,1.5nm,0.8s						
SEY	**Seymchan**	**10.06**	**140**	*e*P	**Pn**	**13 25 20.7**	**+0.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TBGR	**Tabaga**	**10.12**	**204**	P	**Pn**	**13 25 19.3**	**-1.9**
TBGR				SN	**Sn**	**13 27 12.0**	**-2.6**
TBGR	**Tabaga**	**10.12**	**204**	*i* Pn	**Pn**	**13 25 19.3**	**-1.9**
	comp=Z,1.1nm,0.5s						
TBGR				*i* Sn	**Sn**	**13 27 12.0**	**-2.6**
	comp=Z,3.3nm,0.6s						
TBGR				*i* Sn	**Sn**	**13 27 12.0**	**-2.6**
	comp=Z,6.2nm,0.6s						
BILL	**Bilibino**	**10.26**	**95**	Pn	**Pn**	**13 25 22.9**	**-0.2**
BILL	**Bilibino**	**10.26**	**95**	P	**Pn**	**13 25 23.3**	**+0.2**
BILL				SN	**Sn**	**13 27 21.7**	**+3.8**
BILL	**Bilibino**	**10.26**	**95**	*e*Pn	**Pn**	**13 25 23.3**	**+0.2**
	comp=Z,69nm,1.4s						
BILL				*i* Sn	**Sn**	**13 27 21.7**	**+3.8**
BILL				*i* Sn	**Sn**	**13 27 21.7**	**+3.8**
BLSR	**Buluus**	**10.64**	**204**	*i* Sn	**Sn**	**13 27 24.4**	**-3.0**
	comp=Z,1.8nm,0.7s						
BLSR				*i* Sn	**Sn**	**13 27 24.4**	**-3.0**
	comp=Z,1.5nm,0.7s						
USMR	**Ust'-Maya**	**11.06**	**189**	P	**Pn**	**13 25 33.4**	**-0.7**
USMR				SN	**Sn**	**13 27 35.4**	**-2.2**
MGD	**Magadan 1**	**12.42**	**149**	*e*E		13 29 35.6	
YCRN	**Chernyshevskiy**	**12.86**	**243**	P	**Pn**	**13 25 56.9**	**-1.7**
YCRN				SN	Sn	13 28 15.5	-6.1
YCRN	**Chernyshevskiy**	**12.86**	**243**	*i* Pn	**Pn**	**13 25 57.0**	**-1.7**
	comp=Z,2.3nm,0.7s						
YCRN				*e*Sn	Sn	13 28 15.5	-6.1
	comp=Z,5.3nm,0.8s						
YCRN				*e*Sn	Sn	13 28 15.5	-6.1
	comp=Z,5.3nm,0.8s						
GADL	**Gadlja**	**12.88**	**149**	*e*E		13 29 57.3	
CGD	**Chagda**	**13.01**	**198**	P	**Pn**	**13 25 58.9**	**-1.9**
CGD				SN	**Sn**	**13 28 22.3**	**-3.1**
CGD	**Chagda**	**13.01**	**198**	*i* Pn	**Pn**	**13 25 58.9**	**-1.9**
	comp=Z,0.7nm,0.6s						
CGD				*i* Sn	**Sn**	**13 28 22.3**	**-3.1**
	comp=Z,3.3nm,0.6s						
CGD				*i* Sn	**Sn**	**13 28 22.3**	**-3.1**
	comp=Z,3.2nm,0.5s						
OLMR	**Olekminsk**	**13.08**	**222**	P	**Pn**	**13 25 59.7**	**-2.0**
OLMR				SN	**Sn**	**13 28 23.7**	**-3.3**
OLMR	**Olekminsk**	**13.08**	**222**	*i* Pn	**Pn**	**13 25 59.7**	**-2.0**
	comp=Z,0.9nm,4.7s						
OLMR				*i* Sn	**Sn**	**13 28 23.7**	**-3.3**
	comp=Z,2.6nm,0.7s						
OLMR				*i* Sn	**Sn**	**13 28 23.7**	**-3.3**
	comp=Z,2.5nm,0.7s						
CLNS	**Chul'man**	**15.59**	**208**	P	**Pn**	**13 26 33.8**	**-1.9**
CLNS				SN	**Sn**	**13 29 24.9**	**-3.4**
CLNS	**Chul'man**	**15.59**	**208**	*i* Pn	**Pn**	**13 26 33.8**	**-1.9**
	comp=Z,2.0nm,0.3s						
CLNS				*i* Sn	**Sn**	**13 29 24.9**	**-3.4**
	comp=Z,1.3nm,0.8s						
CLNS				*i* Sn	**Sn**	**13 29 24.9**	**-3.4**
	comp=Z,1.6nm,0.7s						
VTMR	**Vitim**	**15.80**	**234**	*i* Pn	**Pn**	**13 26 36.5**	**-1.8**
	comp=Z,7.7nm,0.3s						
VTMR				*i* Sn	**Sn**	**13 29 29.9**	**-3.3**
	comp=Z,13nm,0.3s						
VTMR				*i* Sn	**Sn**	**13 29 29.9**	**-3.3**
	comp=Z,17nm,0.5s						
ZEA	**Zeya**	**18.30**	**201**	*e*P	**Pn**	**13 27 11.8**	**+2.0**
C16K	**Lisburne Hills**	**19.12**	**71**	P	**Pn**	**13 27 18.9**	**-0.7**
C16K				IAmb	IAmb	13 27 32.2	
	comp=Z,50nm,1.4s						
PEA0B	**Petropavlovsk-**	**20.24**	**144**	P	**P**	**13 27 31.4**	**+0.3**
PEA0B	**Petropavlovsk-**	**20.24**	**144**	P	**P**	**13 27 31.4**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,9.0nm,1.0s						
PETK	**Petropavlovsk-**	**20.24**	**144**		**P**	**13 27 31.1**	**0.0**
PETK	**Petropavlovsk-**	**20.24**	**144**	P	Pn	13 27 32.2	-0.8
	comp=Z,1.4nm,0.6s,baz=15,slow=6.3,SNR=8.9						
	comp=Z,1.4nm,0.6s						
HEH	**HeiHe**	**21.72**	**199**	*e*P	**P**	**13 27 48.0**	**+1.0**
F19K	**Shaleruckik Mo**	**22.31**	**70**	P	**P**	**13 27 49.3**	**-3.9**
F19K				IAmb	IAmb	13 28 13.4	
	comp=Z,13nm,1.2s						
D22K	**Ayikyak River**	**22.50**	**62**	P	**P**	**13 27 51.9**	**-3.4**
D22K				IAmb	IAmb	13 28 21.5	
	comp=Z,21nm,1.3s						
F21K	**Alatna River**	**23.33**	**66**		**P**	**13 28 01.4**	**-2.6**
F21K				IAmb	IAmb	13 28 06.3	
	comp=Z,7.8nm,0.9s						
IMAR	**Indian Mountai**	**24.09**	**69**	P	**P**	**13 28 08.8**	**-2.4**
E24K	**Your Creek**	**24.21**	**61**	P	**P**	**13 28 09.8**	**-2.7**
E24K				IAmb	IAmb	13 28 37.5	
	comp=Z,9.9nm,1.2s						
YSS	**Yuzhno-Sakhali**	**24.55**	**172**	*e*P	**P**	**13 28 17.9**	**+2.3**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
J18K	**Innoko River**	**24.95**	**75**	P	**P**	**13 28 17.7**	**-1.5**
J18K				IAmb	IAmb	13 28 37.5	
	comp=Z,8.0nm,1.4s						
F25K	**Christian Rive**	**25.34**	**60**	P	**P**	**13 28 21.1**	**-1.5**
F25K				IAmb	IAmb	13 28 30.5	
	comp=Z,8.4nm,1.0s						
MOY	**Mondy**	**25.77**	**240**	*e*P	P	13 28 40.9	+14
MOY				pmax	pmax		
	comp=Z,12nm,1.5s						
H24K	**Noodor Dome**	**25.92**	**65**	P	**P**	**13 28 27.0**	**-0.9**
ILAR	**Eielson Array**	**26.98**	**66**	P	**P**	**13 28 36.2**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=314,slow=8.9,SNR=11						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**26.98**	**66**	*e*P	**P**	**13 28 36.9**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**27.64**	**168**	*e*P	**P**	**13 28 44.5**	**+1.0**
SONM	**Songino Array**	**27.86**	**229**	P	**P**	**13 28 47.7**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=19,slow=9.6,SNR=4.1						
	comp=Z,0.9nm,0.7s						
GSTR	**Great Sitkin T**	**27.92**	**109**	P	**P**	**13 28 46.2**	**+0.2**
H29M	**Whitestone**	**28.33**	**58**	P	**P**	**13 28 48.5**	**-1.1**
H29M				IAmb	IAmb	13 28 52.5	
	comp=Z,8.2nm,0.8s						
I28M	**Miner Creek**	**28.47**	**60**	P	**P**	**13 28 49.7**	**-1.2**
MSHR	**Mys Shultsa**	**29.04**	**191**	*e*P	**P**	**13 28 59.1**	**+3.1**
MSHR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
I30M	**Mount Dempster**	**29.63**	**58**	P	**P**	**13 28 59.1**	**-2.0**
I30M				IAmb	IAmb	13 29 02.6	
	comp=Z,4.6nm,0.9s						
ARCES	**ARCESS Array B**	**32.58**	**323**	P	**P**	**13 29 27.3**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=27,slow=10,SNR=4.2						
	comp=Z,3.4nm,0.9s						
ARCES	**ARCESS Array B**	**32.58**	**323**	*e*P	**P**	**13 29 27.6**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**33.35**	**218**	*e*P	**P**	**13 29 36.1**	**+2.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
KURK	**Kurchatov**	**33.42**	**264**	*ce*P	**P**	**13 29 35.2**	**+0.7**
KURK				pmax	pmax		
	comp=Z,11nm,2.5s						
KURBB	**Kurchatov Arra**	**33.53**	**264**	P	**P**	**13 29 36.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=32,slow=8.6,SNR=14						
	comp=Z,1.5nm,0.7s						
BVAR	**Borovoye Array**	**34.09**	**274**	P	**P**	**13 29 41.0**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=37,slow=8.5,SNR=5.0						
	comp=Z,1.6nm,0.9s						
BRVK	**Borovoye**	**34.10**	**274**	*e*P	**P**	**13 29 40.3**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,2.2s						
MKAR	**Makanchi Array**	**35.70**	**257**	P	**P**	**13 29 54.7**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=28,slow=8.4,SNR=5.1						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**35.70**	**257**	*e*P	**P**	**13 29 57.7**	**+3.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**36.71**	**249**	*e*P	**P**	**13 30 03.1**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,68nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,3.6s						
JHJ2	**Mitsune**	**38.29**	**178**	P	**P**	**13 30 19.8**	**+3.5**
FIA1	**FINESS Array S**	**39.45**	**316**	P	**P**	**13 30 25.8**	**+0.1**
FINES	**FINESS Array B**	**39.45**	**316**	P	**P**	**13 30 26.2**	**+0.4**
FINES	**FINESS Array B**	**39.45**	**316**	P	**P**	**13 30 26.3**	**+0.5**
	comp=Z,4.4nm,0.6s,baz=28,slow=9.8,SNR=28						
FINES				PcP	**PcP**	**13 32 32.4**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=35,slow=5.1,SNR=3.8						
	comp=Z,4.4nm,0.6s						
AB31	**Akbulak array**	**40.68**	**280**		**P**	**13 30 36.9**	**+0.8**
ABKAR	**Akbulak array**	**40.68**	**280**	P	**P**	**13 30 36.8**	**+0.7**
AAK	**Ala-Archa**	**41.89**	**262**	*ce*P	**P**	**13 30 48.5**	**+2.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
OBN	**Obninsk**	**42.46**	**304**	*e*P	**P**	**13 30 51.4**	**+0.8**
OBN				*e*		13 30 56.6	
OBN						13 32 42.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,110nm,17.0s						
NC405	**NORSAR Array S**	**42.71**	**325**	P	**P**	**13 30 52.5**	**-0.2**
NC405				IAmb	IAmb	13 30 53.8	
	comp=Z,5.2nm,0.9s						
NC204	**NORSAR Array S**	**42.73**	**326**	P	**P**	**13 30 52.8**	**-0.1**
NC204				IAmb	IAmb	13 30 54.0	
	comp=Z,5.5nm,0.8s						
KKAR	**Karatay Array**	**42.74**	**266**	P	**P**	**13 30 53.8**	**+0.7**
KKAR	**Karatay Array**	**42.74**	**266**	P	**P**	**13 30 53.8**	**+0.7**
NB201	**NORSAR Array S**	**42.84**	**325**	P	**P**	**13 30 53.6**	**-0.1**
NB201				IAmb	IAmb	13 31 35.5	
	comp=Z,10nm,1.3s						
NB2	**NORSAR Subarra**	**42.87**	**325**	P	**P**	**13 30 53.8**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=23,slow=8.6						
NOA	**NORSAR Array B**	**42.87**	**325**	P	**P**	**13 30 53.9**	**0.0**
	comp=Z,2.9nm,0.8s,baz=23,slow=8.0,SNR=7.5						
	comp=Z,2.9nm,0.8s						
HFS	**Hagfors**	**43.24**	**323**	P	**P**	**13 30 56.7**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=38,slow=7.5,SNR=8.7						
	comp=Z,2.3nm,0.6s						
FFC	**Flin Flon**	**47.30**	**43**	P	**P**	**13 31 27.8**	**-1.4**
FFC	**Flin Flon**	**47.30**	**43**	P	**P**	**13 31 27.8**	**-1.4**
FFC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
IVI	**Ivigtut**	**47.67**	**4**	P	**P**	**13 31 30.9**	**-1.0**
AKASG	**Malin Array Be**	**48.37**	**306**	P	**P**	**13 31 37.7**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=29,slow=8.0,SNR=2.6						
	comp=Z,0.7nm,0.5s						
PZH	**PanZhiHua**	**49.27**	**225**	P	**P**	**13 31 46.1**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
EKA	**Eskdalemuir Ar**	**50.70**	**333**	P	**P**	**13 31 55.5**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=18,slow=8.3,SNR=7.7						
	comp=Z,2.0nm,0.7s						
JTMT	**Jette**	**50.73**	**56**	P	**P**	**13 31 54.3**	**-1.4**
KIV	**Kislovodsk**	**50.75**	**292**	*e*P	**P**	**13 31 56.2**	**+0.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BPMT	**Black Pine Rid**	**52.16**	**56**		**P**	**13 32 05.1**	**-1.5**
BURAR	**Bucovina Array**	**52.24**	**308**	P	**P**	**13 32 07.6**	**+0.6**
LRM	**Limekiln Ridge**	**52.99**	**56**	P	**P**	**13 32 11.4**	**-1.3**
BOZ	**Bozeman (W)**	**53.42**	**55**	P	**P**	**13 32 14.8**	**-1.0**
BOZ	**Bozeman (W)**	**53.42**	**55**	P	**P**	**13 32 14.8**	**-1.0**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MCMT	**McKenzie Canyo**	**53.80**	**56**		**P**	**13 32 17.9**	**-0.8**
GERES	**GERESS Array B**	**53.81**	**318**	*e*P	**P**	**13 32 20.0**	**+1.5**
YHL	**Hebgen Lake**	**54.23**	**55**	P	**P**	**13 32 20.9**	**-1.0**
YHL				IAmb	IAmb	13 32 25.1	
	comp=Z,3.1nm,0.9s						
YNE	**Yellowstone No**	**54.39**	**54**	P	**P**	**13 32 21.9**	**-1.1**
BFO	**Black Forest**	**55.42**	**321**	P	**P**	**13 32 30.2**	**+0.1**
BFO				IAmb	IAmb	13 32 31.1	
	comp=Z,2.2nm,0.6s						
BFO	**Black Forest**	**55.42**	**321**	P	**P**	**13 32 30.2**	**+0.1**
BFO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PD31	**Pinedale Array**	**56.60**	**55**	P	**P**	**13 32 36.8**	**-2.1**
PDAR	**Pinedale Array**	**56.60**	**55**	P	**P**	**13 32 36.8**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=344,slow=7.1,SNR=7.3						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**58.22**	**64**	P	**P**	**13 32 49.6**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=336,slow=5.2,SNR=6.3						
	comp=Z,0.7nm,0.7s						
R11B	**Troy Canyon, C**	**59.07**	**62**		**P**	**13 32 55.2**	**-1.0**
R11B				IAmb	IAmb	13 32 58.7	
	comp=Z,1.9nm,0.8s						
LDAQ	**Lac Daran**	**59.17**	**23**	P	**P**	**13 32 55.1**	**-1.5**
LDAQ				IAmb	IAmb	13 33 11.6	
	comp=Z,4.3nm,0.9s						
F64A	**Sherman**	**61.58**	**21**	P	**P**	**13 33 11.5**	**-1.5**
LMN	**Caledonia Moun**	**61.97**	**18**	P	**P**	**13 33 14.4**	**-1.3**
PKME	**Peaks-Kenny Pk**	**62.06**	**22**	P	**P**	**13 33 15.1**	**-1.2**
ESDC	**Sonseca Array**	**66.05**	**329**	P	**P**	**13 33 42.7**	**+0.1**
ESDC				IAmb	IAmb	13 33 43.6	
	comp=Z,2.1nm,1.1s						
ESDC	**Sonseca Array**	**66.05**	**329**	P	**P**	**13 33 42.6**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=8.4,slow=6.3,SNR=18						
	comp=Z,1.8nm,0.9s						
TXAR	**Lajitas Array**	**70.82**	**55**	P	**P**	**13 34 10.8**	**-1.8**
	comp=Z,1.4nm,0.9s,baz=347,slow=5.8,SNR=6.9						
	comp=Z,1.4nm,0.9s						
WRA	**Warramunga Arr**	**91.08**	**184**	P	**P**	**13 35 59.4**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=1.4,slow=5.7,SNR=2.0						
	comp=Z,0.6nm,1.0s						
WRA	**Warramunga Arr**	**91.08**	**184**	*i* P	**P**	**13 36 03.0**	**+2.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**94.79**	**184**	P	**P**	**13 36 16.6**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=6.1,slow=5.7,SNR=4.1						
	comp=Z,0.2nm,0.6s						
PLCA	**Paso Flores**	**146.10**	**41**	PKPbc	**PKPdf**	**13 42 33.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=307,slow=5.0,SNR=6.7						
PLCA	**Paso Flores**	**146.10**	**41**	*e*PKP2	**PKPdf**	**13 42 33.9**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NEIC **04** 13:31:12.6±2.5,0˚.4N±0˙.1×122˚.2E±0˙.2,h164km±9km, mb4.4/11,Error ellipse: s-maj=24.9km s-min=13.2km az=72.0*
*IDC **04** 13:31:12.5±6.8,0˚.32N×122˚.52E,h162km±68km,mb3.2/6, mbtmp3.8/8,Error ellipse: s-maj=91.5km s-min=14.9km az=61.0*
*DJA **04** 13:31:14.2±0.6,0˚N±4˚×12˚2E±˚,h138km±6km,M3.7/6, MLv3.7/6*
ISC 04 13:31:11.7±0.6,**0˚.30N**±0˙.07×**122˚.30E**±0˙.08,**h150km,n27,**
σ1§44/29,mb3.9/10,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.40**	**296**	P	**Pn**	**13 31 34.0**	**+1.4**
MRSI				S	**Sn**	**13 31 50.3**	**+1.8**
APSI	**Ampana**	**1.37**	**208**	P	**Pn**	**13 31 42.3**	**+2.3**
LUWI	**Luwuk**	**1.42**	**161**	P	**Pn**	**13 31 42.0**	**+1.6**
LUWI				S	**Sn**	**13 32 03.5**	**+1.1**
KMSI	**Cibinong**	**1.70**	**81**	P	Pn	13 31 46.0	+2.5
KMSI				S	**Sn**	**13 32 11.0**	**+3.2**
TOLI2	**Tolitoli**	**1.72**	**298**		**Pn**	**13 31 45.1**	**+1.4**
MPSI	**Mapaga**	**2.40**	**271**	P	**Pn**	**13 31 53.9**	**+2.2**
KAPI	**Kappang**	**5.86**	**206**	P	**Pn**	**13 32 38.5**	**+1.9**
	15nm,0.5s,baz=8.1,slow=7.1,SNR=9.9						
KAPI				S	Sn	13 33 34.8	-8.3
	13nm,0.3s,baz=193,slow=16,SNR=7.0						
MYLDM	**Lahad Datu**	**6.16**	**322**	Pn	Pn	13 32 46.6	+6.1
MTN	**Manton Dam**	**15.73**	**146**	P	**P**	**13 34 45.9**	**-0.1**
KNRA	**Kununurra**	**17.11**	**158**		**Pn**	**13 35 02.5**	**+0.4**
KNRA				IAmb	IAmb	13 35 44.3	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.58**	**170**	P	**P**	**13 35 17.4**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=4.1,slow=9.7,SNR=13						
YULB	**Yu-li**	**22.97**	**358**	P	**P**	**13 36 02.9**	**-0.5**
YULB				IAmb	IAmb	13 36 28.4	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**23.20**	**150**	P	**P**	**13 36 04.2**	**-1.3**
WRA	**Warramunga Arr**	**23.32**	**150**	P	**P**	**13 36 05.2**	**-1.4**
WRA	**Warramunga Arr**	**23.32**	**150**	P	**P**	**13 36 05.4**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=334,slow=8.8,SNR=21						
	comp=Z,0.8nm,0.4s						
WR8	**Warramunga Arr**	**23.41**	**150**	P	**P**	**13 36 06.1**	**-1.3**
WR8				IAmb	IAmb	13 36 26.7	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**26.36**	**155**	P	**P**	**13 36 33.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=339,slow=7.6,SNR=11						
ASAR				PcP	**PcP**	**13 39 54.2**	**-2.0**
	comp=Z,0.3nm,0.9s,baz=333,slow=2.3,SNR=1.8						
	comp=Z,0.3nm,0.5s						
BBOO	**Buckleboo**	**35.40**	**160**	P	**P**	**13 37 52.4**	**-0.9**
BBOO				IAmb	IAmb	13 38 31.2	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**36.85**	**152**	P	**P**	**13 38 05.1**	**-0.5**
STKA				IAmb	IAmb	13 38 08.0	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**36.85**	**152**	P	**P**	**13 38 05.0**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=346,slow=8.0,SNR=4.0						
	comp=Z,1.3nm,0.4s						
CAN	**Canberra**	**43.32**	**148**	P	**P**	**13 38 59.5**	**+0.5**
SONM	**Songino Array**	**49.32**	**346**	P	**P**	**13 39 46.4**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=154,slow=6.6,SNR=4.3						
	comp=Z,0.9nm,0.6s						
AIS	**Amsterdam Isla**	**55.97**	**222**	P	**P**	**13 40 32.8**	**-1.8**
MKAR	**Makanchi Array**	**57.99**	**329**	P	**P**	**13 40 48.7**	**0.0**
MKAR	**Makanchi Array**	**57.99**	**329**	P	**P**	**13 40 48.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=121,slow=8.5,SNR=7.9						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**62.35**	**330**	P	**P**	**13 41 18.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=134,slow=5.5,SNR=4.1						
	comp=Z,0.2nm,0.5s						
J18K	**Innoko River**	**85.69**	**26**	P	**P**	**13 43 32.5**	**-1.0**
J18K				IAmb

322nm,0.4s,baz=3.1,slow=24,SNR=1.6
MSVF Nonsavu 8.48 325 Pn Pn 13 50 13.1 +9.2
NIUE Niue 8.64 50 Pn **Pn** **13 50 06.3 +0.2**
AFI Afiamalu 11.89 25 Pn **Pn** **13 50 48.9 -1.7**
URZ Urewera 14.32 199 P **Pn** **13 51 20.9 -2.8**
5.6nm,0.4s,baz=292,slow=2.6,SNR=12
URZ S Sn 13 53 47.8 -13
3.9nm,0.3s,baz=36,slow=23,SNR=8.2
PINNC Pines Island, 14.50 276 P P 13 51 37.3 +5.0
BKZ Black Stump Fm 15.35 200 Pn **Pn** **13 51 38.1 +0.6**
BKZ IAmb IAmb 13 51 39.0
comp=Z,35nm,1.3s
RAR Rarotonga 16.18 81 **Pn** **13 51 48.7 +0.5**
RAR IAmb IAmb 13 51 53.1
comp=Z,37nm,1.1s
RAR Rarotonga 16.18 81 P **Pn** **13 51 48.3 +0.1**
comp=Z,4.7nm,0.3s,baz=249,slow=3.7,SNR=5.2
RAR S Sn 13 54 31.8 -15
comp=Z,7.2nm,0.4s,baz=100,slow=15,SNR=1.6
comp=Z,11nm,0.4s
BFZ Birch Farm 16.82 198 **Pn** **13 51 55.2 -1.0**
BFZ IAmb IAmb 13 52 23.0
comp=Z,87nm,1.4s
CTAO Charters Tower 34.30 270 P **P** **13 54 48.3 +1.5**
BBOO Buckleboo 41.69 248 P **P** **13 55 49.0 0.0**
BBOO IAmb IAmb 13 56 25.7
comp=Z,12nm,1.2s
AS31 Alice Springs 44.67 261 P **P** **13 56 12.6 -0.6**
ASAR Alice Springs 44.67 261 P **P** **13 56 12.3 -0.9**
ASAR Alice Springs 44.67 261 P **P** **13 56 13.7 +0.5**
comp=Z,0.5nm,0.5s,baz=94,slow=7.4,SNR=20
comp=Z,0.5nm,0.5s
WR8 Warramunga Arr 45.01 266 P **P** **13 56 15.8 -0.1**
WB0 Warramunga Arr 45.15 266 P **P** **13 56 16.6 -0.4**
WB0 IAmb IAmb 13 56 34.3
comp=Z,12nm,1.4s
WRA Warramunga Arr 45.16 266 P **P** **13 56 16.7 -0.3**
WRA Warramunga Arr 45.16 266 P **P** **13 56 17.0 -0.1**
comp=Z,2.1nm,0.6s,baz=105,slow=7.8,SNR=24
comp=Z,2.1nm,0.6s
KNRA Kununurra 51.50 269 P **P** **13 57 06.5 +0.5**
CASY Casey 60.52 206 P **P** **13 58 08.8 -1.0**
QSPA South Pole Qui 65.26 180 P **P** **13 58 40.9 -0.6**
QSPA IAmb IAmb 13 59 07.1
comp=Z,8.3nm,1.5s
QSPA South Pole Qui 65.26 180 P **P** **13 58 41.5 0.0**
comp=Z,1.5nm,0.8s,baz=6.7,slow=5.2,SNR=4.4
comp=Z,1.5nm,0.8s
MAW Mawson 77.85 200 P **P** **13 59 56.4 -0.6**
comp=Z,2.4nm,0.5s,baz=141,slow=6.3,SNR=13
comp=Z,2.4nm,0.5s
PEA0B Petropavlovsk- 80.69 345 P **P** **14 00 13.8 +1.2**
PEA0B IAmb IAmb 14 00 55.9
comp=Z,8.9nm,1.2s
PETK Petropavlovsk- 80.69 345 P **P** **14 00 13.4 +0.9**
PETK Petropavlovsk- 80.69 345 P **P** **14 00 13.2 +0.6**
comp=Z,1.9nm,0.8s,baz=126,slow=7.7,SNR=6.1
comp=Z,1.9nm,0.8s
H03S2 Juan Fernandez 82.74 124 T T 15 31 20.8
baz=243,slow=74,SNR=99
H03S1 Juan Fernandez 82.75 124 T T 15 31 16.0
baz=243,slow=74,SNR=93
H03S3 Juan Fernandez 82.76 124 T T 15 31 14.5
baz=243,slow=74,SNR=93
H03N3 Juan Fernandez 82.90 123 T T 15 31 36.9
baz=250,slow=73,SNR=23
H03N2 Juan Fernandez 82.90 123 T T 15 31 25.2
baz=250,slow=73,SNR=24
H03N1 Juan Fernandez 82.92 123 T T 15 31 35.2
baz=250,slow=73,SNR=18
NVAR Mina Array Bea 83.50 42 P **P** **14 00 28.8 +0.9**
comp=Z,0.4nm,0.5s,baz=222,slow=7.5,SNR=3.8
comp=Z,0.4nm,0.5s
HFS Hagfors 143.95 351 PKP PKPab 14 07 31.5 -0.5
comp=Z,1.1nm,0.6s,baz=29,slow=3.4,SNR=8.4
AKASG Malin Array Be 147.25 329 PKPbc **PKPdf** **14 07 41.5 +0.9**
comp=Z,1.1nm,0.5s,baz=43,slow=4.0,SNR=5.7
EKA Eskdalemuir Ar 149.18 7 PKPbc **PKPbc** **14 07 46.7 -1.1**
comp=Z,0.2nm,0.5s,baz=352,slow=3.3,SNR=1.4

*NOU **04** 13:54:44.0, 10°.20S×160°.37E, h0km, MLv4.6/12, Solomon Islands*
*NEIC **04** 13:54:48.8±1.0, 9°.93S±0°.08×160°.3E±0°.1, h43km±7km, mb4.7/29, Error ellipse: s-maj=16.8km s-min=10.7km az=78.0*
*IDC **04** 13:54:48.1±2.5, 10°.01S×160°.31E, h40km±20km, mb4.0/20, mbtmp4.3/20, MS3.8/4, Error ellipse: s-maj=22.2km s-min=12.9km az=102.0*

ISC 04 13:54:47.9±0.4, 10°.13S±0°.04×160°.31E±0°.06, h37km, n79, σ1§45/79, mb4.6/39, MS3.6/3, 2C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**0.78**	**333**	Pn		**Pn**	**13 55 00.8**	**-1.6**
	520nm,0.3s,baz=155,slow=7.5,SNR=103							
HNR				Sn		**Sn**	**13 55 11.5**	**-1.5**
	3μm,0.3s,baz=74,slow=19,SNR=19							
HNR				LR		LR	13 55 23.5	
	comp=Z,755nm,18.6s,baz=174,slow=52							
HNR	**Honiara**	**0.78**	**333**	P		**Pn**	**13 55 00.8**	**-1.6**
HNR	**Honiara**	**0.78**	**333**	S		**Sn**	**13 55 11.6**	**-1.4**
SAVO	**Savo Central**	**1.09**	**333**	P		**Pn**	**13 55 06.0**	**-0.7**
SAVO	**Savo Central**	**1.09**	**333**	S		**Sn**	**13 55 20.9**	**+0.3**
ALEG	**Aligegeo Malai**	**1.42**	**16**	P		**Pn**	**13 55 11.0**	**-0.2**
ALEG	**Aligegeo Malai**	**1.42**	**16**	S		**Sn**	**13 55 30.2**	**+1.5**
NGOA	**Tingoa Renbel**	**1.43**	**190**	P		**Pn**	**13 55 09.8**	**-1.6**
NGOA	**Tingoa Renbel**	**1.43**	**190**	S		**Sn**	**13 55 27.4**	**-1.6**
HURO	**Huro Makira**	**1.60**	**102**	P		**Pn**	**13 55 12.4**	**-1.3**
HURO	**Huro Makira**	**1.60**	**102**	S		**Sn**	**13 55 31.5**	**-1.6**
TATA	**Tatamba Isabel**	**1.81**	**344**	P		**Pn**	**13 55 18.3**	**+1.8**
TATA	**Tatamba Isabel**	**1.81**	**344**	S		**Sn**	**13 55 43.5**	**+5.4**
PMG	**Port Moresby**	**12.98**	**272**	LR		LR	14 03 04.8	
	comp=Z,482nm,18.2s,baz=114,slow=38							
PINNC	**Pines Island,**	**14.17**	**152**			**P**	**13 58 17.7**	**+4.7**
CTAO	**Charters Tower**	**16.78**	**232**			**Pn**	**13 58 41.8**	**+1.5**
JAY	**Jayapura**	**20.89**	**290**	P		Pn	13 59 28.2	-1.7
	5.8nm,0.6s,baz=88,slow=0.5,SNR=5.5							
	5.8nm,0.6s							
WR8	**Warramunga Arr**	**26.73**	**246**			**P**	**14 00 24.2**	**0.0**
WB0	**Warramunga Arr**	**26.77**	**246**			**P**	**14 00 24.4**	**-0.2**
WRAB	**Tennant Creek**	**26.86**	**246**	P		**P**	**14 00 25.9**	**+0.6**
WRA	**Warramunga Arr**	**26.87**	**246**	P		**P**	**14 00 25.5**	**0.0**
	4.3nm,0.9s,baz=72,slow=9.6,SNR=9.8							
WRA				PcP		**PcP**	**14 03 46.4**	**-1.1**
	2.5nm,1.0s,baz=72,slow=3.1,SNR=7.1							
	4.3nm,0.9s							
STKA	**Stephens Creek**	**27.72**	**216**			**P**	**14 00 36.7**	**+3.8**
STKA	**Stephens Creek**	**27.72**	**216**	P		**P**	**14 00 34.3**	**+1.4**
	1.9nm,0.6s,baz=39,slow=15,SNR=4.5							
	1.9nm,0.6s							
AS31	**Alice Springs**	**28.55**	**239**			**P**	**14 00 40.7**	**+0.2**
ASAR	**Alice Springs**	**28.56**	**239**	P		**P**	**14 00 40.3**	**-0.2**
ASAR	**Alice Springs**	**28.56**	**239**	P		**P**	**14 00 39.7**	**-0.8**
	0.4nm,0.5s,baz=61,slow=10,SNR=12							
ASAR				PcP		**PcP**	**14 03 51.2**	**-0.3**
	1.2nm,0.8s,baz=53,slow=2.4,SNR=6.5							
ASAR				LR		LR	14 11 43.3	
	comp=Z,155nm,19.0s,baz=18,slow=36							
	0.4nm,0.5s							
KNRA	**Kununurra**	**31.22**	**257**	P		**P**	**14 01 03.4**	**-0.7**
KNRA				IAmb		IAmb	14 01 15.8	
	comp=Z,15nm,1.1s							
BBOO	**Buckleboo**	**31.76**	**221**	P		**P**	**14 01 08.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**34.49**	**253**	P		**P**	**14 01 32.1**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=65,slow=10,SNR=11							
	comp=Z,2.9nm,0.6s							
MJAR	**Matsushiro Arr**	**50.87**	**337**	P		**P**	**14 03 43.3**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=171,slow=7.8,SNR=6.8							
	comp=Z,1.9nm,0.8s							
KSRS	**Korea Array**	**56.23**	**329**	P		**P**	**14 04 23.6**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=150,slow=8.2,SNR=10							
	comp=Z,1.8nm,0.9s							
NJ2	**Nanjing**	**57.70**	**318**	*e*P		**P**	**14 04 34.2**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**59.87**	**337**	P		**P**	**14 04 49.6**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=147,slow=7.2,SNR=7.9							
	comp=Z,4.7nm,0.8s							
CN2	**Changchun**	**62.33**	**332**	P		**P**	**14 05 05.7**	**-0.8**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
BNX	**BinXian**	**62.99**	**335**	⇑P		**P**	**14 05 09.6**	**-1.3**
BNX				pmax		pmax		
	comp=Z,9.0nm,0.7s							
PETK	**Petropavlovsk-**	**63.03**	**358**	P		**P**	**14 05 10.2**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=165,slow=6.2,SNR=5.9							
	comp=Z,2.2nm,0.8s							
HEH	**HeiHe**	**66.63**	**338**	*e*P		**P**	**14 05 33.4**	**-1.1**
HEH				pmax		pmax		
	comp=Z,8.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**66.87**	**295**	P		**P**	**14 05 37.0**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=131,slow=4.6,SNR=7.3							
	comp=Z,1.6nm,0.7s							
XLT	**XiLinHaoTe**	**67.09**	**327**	*e*P		**P**	**14 05 37.8**	**0.0**
XLT				PcP		**PcP**	**14 06 06.2**	**+0.4**
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,120nm,3.7s							
VNDA	**Vanda**	**67.37**	**180**			**P**	**14 05 39.5**	**+0.6**
VNDA				IAmb		IAmb	14 05 40.8	
	comp=Z,4.6nm,0.8s							
VNDA	**Vanda**	**67.37**	**180**	P		**P**	**14 05 39.8**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=337,slow=6.7,SNR=26							
	comp=Z,4.2nm,0.8s							
PZH	**PanZhiHua**	**67.51**	**304**	P		**P**	**14 05 40.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**67.75**	**322**	*e*P		**P**	**14 05 41.0**	**-1.0**
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
LZH	**Lanzhou**	**70.24**	**314**	*e*P		**P**	**14 05 55.2**	**-2.5**
LZH				pP		pP	14 06 04.9	-3.0
LZH				pmax		pmax		
	comp=Z,13nm,1.0s							
SONM	**Songino Array**	**74.84**	**326**	P		**P**	**14 06 24.9**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=142,slow=5.6,SNR=11							
	comp=Z,2.4nm,0.6s							
YAK	**Yakutsk**	**75.80**	**346**	LR		LR	14 38 04.3	
	comp=Z,36nm,21.8s,baz=216,slow=34							
M16K	**Timber Creek**	**77.84**	**19**	P		**P**	**14 06 40.8**	**-0.5**
K15K	**Wolf Creek Mou**	**78.03**	**17**	P		**P**	**14 06 40.6**	**-1.7**
L18K	**Granite Mounta**	**79.46**	**19**	P		**P**	**14 06 50.0**	**-0.2**
L18K				IAmb		IAmb	14 06 51.4	
	comp=Z,8.5nm,0.8s							
QSPA	**South Pole Qui**	**79.86**	**180**	P		**P**	**14 06 53.7**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=329,slow=0.8,SNR=32							
	comp=Z,6.2nm,0.8s							
L19K	**White Mountain**	**80.03**	**20**			**P**	**14 06 52.4**	**-0.9**
L19K				IAmb		IAmb	14 06 54.2	
	comp=Z,7.3nm,0.8s							
J20K	**Nowinta River**	**81.67**	**18**	P		**P**	**14 07 01.2**	**-0.8**
CAST	**Castle Rocks**	**81.81**	**20**			**P**	**14 07 01.6**	**-1.2**
CAST				IAmb		IAmb	14 07 02.2	
	comp=Z,9.0nm,0.8s							
TRF	**Thorofare Moun**	**82.43**	**20**			**P**	**14 07 04.6**	**-1.6**
TRF				IAmb		IAmb	14 07 07.0	
	comp=Z,6.0nm,0.8s							
IMAR	**Indian Mountai**	**83.06**	**17**	P		**P**	**14 07 08.6**	**-0.6**
MCK	**McKinley**	**83.07**	**20**	P		**P**	**14 07 08.4**	**-1.0**
MAW	**Mawson**	**83.53**	**202**	P		**P**	**14 07 12.7**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=98,slow=6.4,SNR=8.3							
	comp=Z,3.9nm,0.8s							
WRH	**Wood River Hil**	**83.83**	**20**			**P**	**14 07 11.7**	**-1.5**
WRH				IAmb		IAmb	14 07 12.5	
	comp=Z,4.9nm,0.9s							
F21K	**Alatna River**	**84.01**	**16**	P		**P**	**14 07 13.1**	**-1.0**
CTGM	**Chitina Glacie**	**84.30**	**25**	P		**P**	**14 07 15.1**	**-0.8**
CTGM				IAmb		IAmb	14 07 16.9	
	comp=Z,6.4nm,0.7s							
ILAR	**Eielson Array**	**84.42**	**20**	P		**P**	**14 07 14.3**	**-1.9**
	comp=Z,2.0nm,0.6s,baz=224,slow=5.4,SNR=45							
	comp=Z,2.0nm,0.6s							
E21K	**Killik River**	**84.74**	**15**	P		**P**	**14 07 16.8**	**-1.0**
M27K	**Edge Creek, AK**	**84.84**	**23**	P		**P**	**14 07 18.2**	**-0.3**
HYT	**Haines Junctio**	**85.83**	**26**			**P**	**14 07 23.1**	**-0.4**
HYT				IAmb		IAmb	14 07 24.6	
	comp=Z,9.1nm,1.3s							
O30N	**Mendenhall**	**86.41**	**26**	P		**P**	**14 07 25.9**	**-0.4**
O30N				IAmb		IAmb	14 07 27.0	
	comp=Z,3.0nm,0.7s							
L29M	**L29M**	**86.70**	**24**			**P**	**14 07 27.7**	**0.0**
L29M				IAmb		IAmb	14 07 28.8	
	comp=Z,6.1nm,0.8s							
M30M	**Minto, Yukon**	**86.97**	**24**	P		**P**	**14 07 28.5**	**-0.5**
M30M				IAmb		IAmb	14 07 29.9	
	comp=Z,2.6nm,0.8s							
I28M	**Miner Creek**	**87.22**	**21**	P		**P**	**14 07 29.8**	**-0.5**
I28M				IAmb		IAmb	14 07 39.6	
	comp=Z,7.4nm,1.5s							
E27K	**Coleen River**	**88.14**	**19**	P		**P**	**14 07 34.3**	**-0.2**
I30M	**Mount Dempster**	**88.41**	**22**	P		**P**	**14 07 35.6**	**-0.2**
I30M				IAmb		IAmb	14 07 36.6	
	comp=Z,5.3nm,0.8s							
MKAR	**Makanchi Array**	**89.23**	**318**	P		**P**	**14 07 38.8**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=114,slow=4.4,SNR=7.9							
	comp=Z,1.2nm,0.8s							
NVAR	**Mina Array Bea**	**89.56**	**51**	P		**P**	**14 07 42.3**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=250,slow=7.7,SNR=6.4							
	comp=Z,1.2nm,0.9s							
KURBB	**Kurchatov Arra**	**92.58**	**321**	P		**P**	**14 07 53.8**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=107,slow=5.1,SNR=1.7							
	comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**96.64**	**28**	P		**P**	**14 08 12.5**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=256,slow=4.2,SNR=5.5							
	comp=Z,1.6nm,0.8s							
TROLL	**Troll, Antarti**	**96.73**	**187**	⇑P		**P**	**14 08 18.1**	**+3.8**
	comp=Z,223nm,0.6s							
PDAR	**Pinedale Array**	**96.89**	**48**	P		**P**	**14 08 15.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=266,slow=4.5,SNR=5.4							
	comp=Z,0.2nm,0.3s							
ANMO	**Albuquerque**	**98.35**	**56**	LR		LR	14 45 16.0	
	comp=Z,66nm,20.0s,baz=62,slow=31							
LPAZ	**La Paz**	**125.35**	**118**	PKP		**PKPdf**	**14 13 45.3**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=261,slow=4.9,SNR=3.7							
ESDC	**Sonseca Array**	**147.42**	**337**	PKPbc		**PKPdf**	**14 14 26.5**	**+0.7**
	comp=Z,1.3nm,1.2s,baz=43,slow=2.8,SNR=5.5							

MEX 04 13:59:18.4±0.7, 16°.50N×94°.53W, h13km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NILT	**Santiago Nilte**	**0.11**	**305**	*e*		Pg	13 59 12.0	-10
NILT				*e*			13 59 14.1	
CMIG	**Matias Romero**	**0.68**	**330**	*e*P		Pg	13 59 25.9	-5.7
CMIG				*e*S		Sg	13 59 34.4	-6.2
TGIG		**1.37**	**78**	*e*P		Pn	13 59 39.7	-3.6
TGIG				*e*S		Sn	13 59 56.4	-5.0
PCIG		**1.49**	**122**	*e*P		Pn	13 59 40.0	-4.8
PCIG				*e*S		Sn	14 00 01.6	-2.5
HUIG	**Huatulco**	**1.69**	**245**	*e*P		Pn	13 59 44.0	-3.6
HUIG				*e*S		Sn	14 00 02.0	-7.2
CCIG	**Comitan**	**2.30**	**95**	*e*P		Pn	13 59 54.3	-2.0
CCIG				*e*S		Sn	14 00 20.2	-4.4
PEIG	**Puerto Escondi**	**2.57**	**259**	*e*P		Pn	13 59 56.9	-2.8
PATR	**El Naranjo**	**2.60**	**122**	*e*P		Pn	13 59 59.0	-1.4
PATR				*e*S		Sn	14 00 32.0	0.0
PAVE	**Pavencul**	**2.61**	**120**	*e*P		Pn	14 00 01.0	+0.5
PAVE				*e*S		Sn	14 00 34.2	+2.0
TOIG	**Toxpalan**	**2.90**	**303**	*e*P		Pn	14 00 01.3	-3.1
TOIG				*e*S		Sn	14 00 26.6	-13
YOIG	**Yosondua**	**2.92**	**277**	*e*P		Pn	14 00 03.1	-1.7
TXIG	**Tlaxiaco**	**3.19**	**284**	*e*P		Pn	14 00 06.5	-2.1

*SOF **04** 14:11:44.8, 42°.69N±0°.01×23°.43E±0°.01, h20km±3km, MD2.5/7*
*BEO **04** 14:11:46.3±0.3, 42°.64N×23°.40E, h5km±2km, ML2.2/8*
*THE **04** 14:11:47.9, 43°.4″×2°.3E±°, h0km±4km, M2.4/10, MLh2.4/10*

ISC 04 14:11:46.0±1.0, 42°.71N±0°.02×23°.43E±0°.02, h6km±8km, n44, σ0§68/71, 14C-7D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VTS	**Vitosha**	**0.17**	**239**	*i* Pg		**Pg**	**14 11 49.2**	**-0.3**
VTS				Sg		**Sg**	**14 11 52.2**	**+0.4**
VTS	**Vitosha**	**0.17**	**239**	P		**Pg**	**14 11 49.3**	**-0.3**
VTS				*S*		**Sg**	**14 11 52.0**	**+0.2**
VTS	**Vitosha**	**0.17**	**239**	*e*Pg		**Pg**	**14 11 49.2**	**-0.3**
VTS				*e*Sg		**Sg**	**14 11 51.7**	**-0.1**
PLNA	**Plana**	**0.23**	**181**	*i* Pg		**Pg**	**14 11 50.7**	**+0.1**
PLNA				Sg		**Sg**	**14 11 54.6**	**+1.0**
PGB	**Panagyurishte**	**0.58**	**109**	*i* Pg		**Pg**	**14 11 57.3**	**+0.1**
PGB				Sg		**Sg**	**14 12 05.0**	**+0.2**
MPEP	**Malo Peshtene**	**0.69**	**19**	Sg		**Sg**	**14 12 09.1**	**+0.8**
MPEP				*i* Pg		**Pg**	**14 11 59.4**	**+0.1**
BOSS	**Bosilegrad**	**0.73**	**254**	*e*Pg		**Pg**	**14 11 59.6**	**-0.5**
BOSS				*e*Sg		**Sg**	**14 12 09.4**	**-0.2**
KKB	**Krupnik**	**0.89**	**195**	*i* Pg		**Pg**	**14 12 02.9**	**-0.2**
KKB				Sg		**Sg**	**14 12 14.8**	**+0.1**
KKB	**Krupnik**	**0.89**	**195**	P		**Pg**	**14 12 02.9**	**-0.2**
KKB				*S*		**Sb**	**14 12 15.4**	**-0.6**
BLKB	**Belogradchik**	**1.07**	**329**	⇑S		**Sg**	**14 12 20.3**	**-0.2**
BLKB	**Belogradchik**	**1.07**	**329**	*e*Pg		**Pg**	**14 12 05.9**	**-0.7**
BLKB				*e*Sg		**Sb**	**14 12 21.7**	**+0.5**
PLVB	**Pleven**	**1.11**	**52**	⇑P		**Pn**	**14 12 08.3**	**+0.3**
PLVB				⇓S		**Sn**	**14 12 23.3**	**-0.3**
PLD	**Plovdiv**	**1.12**	**119**	*i* Pg		**Pg**	**14 12 06.6**	**-0.9**
PLD				Sg		**Sg**	**14 12 21.4**	**-0.7**
PLD	**Plovdiv**	**1.12**	**119**	*e*Pg		**Pg**	**14 12 06.7**	**-0.8**
PLD				*e*Sg		**Sg**	**14 12 21.4**	**-0.7**
MMB	**Musomishta**	**1.18**	**168**	P		**Pb**	**14 12 08.7**	**-0.1**
MMB				S		**Sn**	**14 12 25.3**	**-0.1**
BARS	**Barje**	**1.20**	**276**	*e*Pg		**Pg**	**14 12 08.1**	**-0.8**
BARS				*e*Sg		**Sg**	**14 12 24.3**	**-0.1**
RZN	**Rozhen**	**1.40**	**136**	*i* Pg		**Pn**	**14 12 12.0**	**-0.2**
RZN				Sg		**Sn**	**14 12 31.3**	**+0.2**
ZAGS	**Zajecar**	**1.41**	**322**	*e*Pg		**Pn**	**14 12 11.9**	**-0.3**
ZAGS				*e*Sg		**Sg**	**14 12 33.0**	**+1.6**
VLAD	**Vladila**	**1.48**	**28**	⇓P		**Pb**	**14 12 13.8**	**0.0**
VLAD				⇑S		**Sn**	**14 12 32.1**	**-0.6**
VAY	**Valandovo**	**1.52**	**205**	*i* Pn		**Pb**	**14 12 14.7**	**0.0**
VAY				*i* Sn		**Sg**	**14 12 36.1**	**+1.2**
SRS	**Serrai**	**1.59**	**176**	P		**Pb**	**14 12 15.4**	**-0.4**
SRS				S		**Sg**	**14 12 37.6**	**+0.4**
KNT	**Kendrikon**	**1.59**	**195**	P		**Pb**	**14 12 15.3**	**-0.5**
KNT				S		**Sg**	**14 12 36.8**	**-0.4**
PUNG	**Punghina**	**1.61**	**347**	⇓P		**Pn**	**14 12 14.9**	**-0.1**
KDZ	**Kurdzhali**	**1.78**	**126**	*e*Pg		**Pg**	**14 12 20.1**	**+0.3**
KDZ				Sg		**Sg**	**14 12 43.6**	**+0.4**
KDZ	**Kurdzhali**	**1.78**	**126**	S		**Sg**	**14 12 42.8**	**-0.3**
ELND	**Elena**	**1.81**	**82**	⇑P		**Pb**	**14 12 18.8**	**-0.7**
ELND				⇑S		**Sg**	**14 12 43.3**	**-1.0**
SOH	**Sokhos**	**1.88**	**182**	P		**Pb**	**14 12 20.2**	**-0.6**
KAVA	**Kavala**	**1.89**	**154**	P		**Pb**	**14 12 20.9**	**0.0**
HORT	**Hortiatis**	**2.12**	**187**	P		**Pn**	**14 12 23.1**	**+1.0**
KUBS	**Kucevo**	**2.13**	**324**	*e*Pn		**Pn**	**14 12 23.3**	**+1.2**
KUBS				*e*Sn		**Sn**	**14 12 50.6**	**+1.7**
RDO	**Rodhopi**	**2.21**	**134**	P		**Pb**	**14 12 25.6**	**-0.8**
HERR	**Herculane**	**2.30**	**342**	⇑P		**Pn**	**14 12 23.5**	**-0.9**
RAZG	**Razgrad**	**2.41**	**68**	⇓P		**Pn**	**14 12 27.3**	**+1.4**
RAZG				⇑S		**Sn**	**14 12 57.2**	**+1.4**
MDVR	**Moldovita**	**2.42**	**330**	⇑P		**Pn**	**14 12 25.8**	**-0.3**
MDVR				⇑S		**Sn**	**14 12 55.3**	**-0.8**
IVAS	**Ivanjica**	**2.55**	**291**	*e*Pn		**Pn**	**14 12 29.2**	**+1.2**
IVAS				*e*Sn		**Sn**	**14 12 58.9**	**-0.5**
GZR	**Gura Zlata**	**2.73**	**350**	⇑P		**Pn**	**14 12 30.5**	**+0.1**
ARR	**Arges**	**2.80**	**18**	⇓P		**Pn**	**14 12 32.1**	**+0.7**
VRSS	**Vrsac**	**2.86**	**329**	*e*Pn		**Pn**	**14 12 31.4**	**-0.7**
SURR	**Surduc**	**3.19**	**343**	⇑P		**Pn**	**14 12 36.7**	**+0.1**
BZS	**Buzias**	**3.19**	**336**	⇓P		**Pn**	**14 12 36.0**	**-0.7**
MLR	**Muntele Rosu**	**3.32**	**32**	⇑P		**Pn**	**14 12 38.8**	**+0.2**
SIRR	**Siria**	**3.78**	**341**	⇓P		**Pn**	**14 12 45.1**	**+0.3**
VRI	**Vrincioaia**	**3.95**	**36**	⇑P		**Pn**	**14 12 48.1**	**+1.0**
DRGR		**4.12**	**353**	⇑P		**Pn**	**14 12 50.0**	**+0.5**

*SJA **04** 14:54:30.7±0.6, 28°.15S×69°.49W, h128km±5km, ML3.7, MW3.6*
*GUC **04** 14:54:31.6±0.7, 28°.17S×69°.62W, h120km±4km, ML3.9*
*IDC **04** 14:54:32.9±3.9, 28°.32S×69°.71W, h107km±30km, mbtmp3.8/2, Error ellipse: s-maj=89.0km s-min=21.6km az=85.0*

ISC 04 14:54:32.0±0.9, 28°.17S±0°.03×69°.59W±0°.03, h118km±7km, n50, σ1§92/79, 9C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO03	**Copiapo**	**0.81**	**315**	⇑*e*P		**Pn**	**14 54 51.3**	**-1.0**
GO03				*e*S		**Sn**	**14 55 06.1**	**-1.4**
GO03				IAML			14 55 06.5	
	comp=N,3μm,0.1s							
GO03	**Copiapo**	**0.81**	**315**	*e*P		**Pn**	**14 54 51.4**	**-0.9**
GO03				IAML			14 55 08.2	
	comp=Z,1μm,0.2s							
LCO	**Las Campanas**	**1.29**	**229**	⇓*e*P		**Pn**	**14 54 56.9**	**-0.4**
LCO				*e*S		**Sn**	**14 55 15.8**	**-0.6**
LCO	**Las Campanas**	**1.29**	**229**	*e*P		**Pn**	**14 54 56.2**	**-1.1**
LCO				IAML			14 55 20.8	
	comp=Z,1μm,0.2s							
AC04	**Llanos de Chal**	**1.31**	**268**	⇑*e*P		**Pn**	**14 54 56.7**	**-0.5

CO02				*e*S		**Sn**	14 55 59.0	-1.4
CO02	**Combarbal**	**3.27**	**202**	*e*P		**Pn**	14 55 20.8	-1.1
CO02				IAML			14 56 33.8	
	comp=Z,170nm,0.4s							
RTLL	**Cerro Villicun**	**3.29**	**163**	*e*P		**Pn**	14 55 22.6	+0.4
RTLL				*e*S		**Sn**	14 55 54.4	-6.6
RTLL				IAML			14 56 01.4	
	comp=Z,202nm,0.3s							
CYA	**Choya**	**3.35**	**96**⇑	*e*P		**Pn**	14 55 22.0	-0.9
CYA				*e*S		**Sn**	14 55 56.9	-5.2
CYA				IAML			14 56 00.1	
	comp=N,107nm,0.6s							
CYA	**Choya**	**3.35**	**96**	*e*P		**Pn**	14 55 22.0	-0.9
CYA				*e*S		Sn	14 55 52.9	-9.3
CYA				IAML			14 56 00.1	
	comp=Z,74nm,0.5s							
ZON	**Zonda**	**3.46**	**167**	*e*P		**Pn**	14 55 24.8	+0.4
SJA	**San Juan**	**3.46**	**165**	*e*P		**Pn**	14 55 25.8	+1.3
SJA				*e*S		**Sn**	14 56 04.8	-0.2
SJA				IAML			14 56 52.3	
	comp=Z,70nm,0.1s							
APLL	**PUNTA DE LOS L**	**3.47**	**130**	*e*P		**Pn**	14 55 23.9	-0.7
APLL				*e*S		**Sn**	14 56 02.1	-3.1
CFA	**Coronel Fontan**	**3.62**	**161**	P		**Pn**	14 55 26.4	-0.1
	comp=Z,12nm,0.3s,baz=341,slow=15,SNR=344							
CFA				S		**Sn**	14 56 06.8	-1.9
	comp=Z,39nm,0.3s,baz=150,slow=21,SNR=19							
CFA	**Coronel Fontan**	**3.62**	**161**	*e*P		Pn	14 55 11.5	-15
CFA				*e*S		**Sn**	14 56 01.3	-7.3
CFA				IAML			14 56 11.0	
	comp=Z,73nm,0.5s							
RTLS	**Leoncito**	**3.63**	**176**	*e*P		**Pn**	14 55 27.5	+0.6
RTLS				*e*S		**Sn**	14 56 03.4	-5.9
RTLS				IAML			14 56 09.0	
	comp=Z,302nm,0.4s							
FSA	**Cafayete**	**3.81**	**58**	*e*P		**Pn**	14 55 30.0	+0.8
FSA				*e*S		Sn	14 55 51.8	-22
ACHE	**Chepes**	**3.92**	**140**	*e*P		**Pn**	14 55 30.6	0.0
ASAL	**Salagasta**	**4.46**	**172**	*e*P		**Pn**	14 55 38.2	+0.5
ASAL				*e*S		**Sn**	14 56 30.5	+1.8
VA03	**San Esteban**	**4.66**	**190**	*e*P		**Pn**	14 55 39.9	-0.5
VA03				*e*S		**Sn**	14 56 33.9	+0.4
VA03				IAML			14 56 45.8	
	comp=Z,51nm,0.6s							
PB10	**IPOC Station P**	**4.72**	**349**	*e*P		**Pn**	14 55 39.1	-2.1
PB10				IAML			14 56 47.8	
	comp=Z,38nm,1.1s							
MT04	**Ro Olivares**	**5.24**	**185**	*e*P		**Pn**	14 55 48.7	+0.3
MT04				IAML			14 56 51.1	
	comp=Z,19nm,0.7s							
LPAZ	**La Paz**	**11.90**	**7**	P		**Pn**	14 57 21.4	+2.9
	comp=Z,1.0nm,0.4s,baz=180,slow=9.1,SNR=6.8							
ASAR	**Alice Springs**	**123.71**	**206**	PKP		**PKiKP**	15 13 17.8	+1.0
	comp=Z,0.1nm,0.3s,baz=153,slow=2.1,SNR=6.2							
WRA	**Warramunga Arr**	**126.87**	**208**	PKP		**PKiKP**	15 13 24.3	+1.3
	comp=Z,0.5nm,1.0s,baz=158,slow=1.8,SNR=7.5							
KURBB	**Kurchatov Arra**	**147.09**	**38**	PKPbc		**PKiKP**	15 14 03.1	0.0
	comp=Z,0.9nm,0.6s,baz=304,slow=3.1,SNR=10.0							
ZALV	**Zalesovo Beam**	**148.15**	**29**	PKPbc		**PKPab**	15 14 06.0	-0.7
	comp=Z,1.4nm,0.5s,baz=321,slow=3.2,SNR=8.1							
MKAR	**Makanchi Array**	**151.19**	**42**	PKPbc		**PKiKP**	15 14 13.3	+1.6
	comp=Z,0.6nm,0.4s,baz=311,slow=1.6,SNR=10							

*NOU **04** 14:55:44.5, 36.°17S×179.°31E, h143km, MLv4.8/13, Off E. Coast of N. Island, N.Z.*
*NEIC **04** 14:55:48.2±1.2, 36.°0S±0.°1×178.°8E±0.°2, h47km±9km, mb4.7/16, Error ellipse: s-maj=19.2km s-min=14.2km az=71.0*
*IDC **04** 14:55:51.3±5.5, 36.°15S×178.°43E, h64km±44km, mb3.9/7, mbtmp4.2/8, ML4.0/1, Error ellipse: s-maj=42.6km s-min=21.6km az=51.0*
*WEL **04** 14:55:52.4±0.7, 36.°S±3.°×17.°9E±.°, h33km, M4.3/41, ML4.5/42, MLv4.3/41, Error ellipse: s-maj=7.2km s-min=4.0km az=73.0, confirmed*

ISC 04 14:55:42.5±1.8, 36.°00S±0.°05×178.°85E±0.°06, h8km±10km, n142, σ2.°24/155, mb4.6/18, 2C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.62**	**196**		**Pg**	**14 56 14.7**	**+1.1**
MXZ	**Matakaoa Point**	**1.62**	**196**	P	**Pg**	**14 56 14.9**	**+1.3**
MXZ	**Matakaoa Point**	**1.62**	**196**	P	**Pg**	**14 56 15.2**	**+1.6**
MXZ				S	**Sn**	**14 56 33.8**	**+1.4**
WMGZ	**Waiomatatini S**	**1.85**	**191**	P	**Pg**	**14 56 19.8**	**+1.8**
WMGZ				S	**Sn**	**14 56 40.1**	**+2.0**
HAZ	**Te Kaha**	**1.96**	**206**	P	**Pb**	**14 56 18.5**	**+0.2**
HAZ				S	**Sn**	**14 56 41.9**	**+1.3**
PKGZ	**Pakihiroa**	**1.97**	**198**	P	**Pg**	**14 56 20.9**	**+0.7**
WIZ	**White Island**	**2.03**	**221**	P	**Pb**	**14 56 20.0**	**+0.4**
PUZ	**Puketiti**	**2.12**	**193**	P	**Pg**	**14 56 22.6**	**-0.6**
PUZ				S	**Sn**	**14 56 45.8**	**+0.9**
RUGZ	**Raukumara Rang**	**2.18**	**205**	P	**Pb**	**14 56 22.5**	**+0.2**
TWGZ	**Tauwhareparae**	**2.29**	**198**	P	**Pb**	**14 56 25.0**	**+1.0**
TWGZ				S	**Sn**	**14 56 50.4**	**+1.5**
WHRZ	**Whale Island**	**2.39**	**218**	P	**Pg**	**14 56 27.6**	**-0.7**
WHRZ				S	**Sn**	**14 56 51.4**	**0.0**
MYRZ	**Mayor Island**	**2.46**	**238**	P	**Pb**	**14 56 27.0**	**0.0**
CNGZ	**Carnagh Statio**	**2.54**	**192**	P	**Pb**	**14 56 28.1**	**-0.1**
MWZ	**Matawai**	**2.56**	**204**	P	**Pb**	**14 56 27.9**	**-0.8**
MWZ				S	**Sn**	**14 56 54.9**	**-0.7**
TKGZ	**Te Karaka**	**2.57**	**198**	P	**Pb**	**14 56 28.1**	**-0.6**
TKGZ				S	**Sn**	**14 56 55.4**	**-0.3**
OPRZ	**Ohinepanea**	**2.61**	**224**	P	**Pb**	**14 56 27.8**	**-1.6**
OPRZ				S	**Sn**	**14 56 58.2**	**+1.5**
KUZ	**Kuaotunu**	**2.63**	**253**	P	**Pb**	**14 56 29.3**	**-0.6**
KUZ	**Kuaotunu**	**2.63**	**253**	P	**Pb**	**14 56 29.3**	**-0.6**
MARZ	**Manawahe**	**2.64**	**221**	P	**Pb**	**14 56 29.8**	**-0.2**
URZ	**Urewera**	**2.65**	**211**	P	**Pb**	**14 56 28.5**	**-1.7**
	40nm,0.3s,baz=266,slow=4.7,SNR=210						
URZ				S	**Sn**	**14 56 55.9**	**-2.0**
	436nm,0.4s,baz=16,slow=21,SNR=20 148nm,0.4s						
URZ	**Urewera**	**2.65**	**211**	P	**Pb**	**14 56 29.2**	**-1.0**
URZ	**Urewera**	**2.65**	**211**	P	**Pb**	**14 56 28.5**	**-1.7**
URZ				S	**Sn**	**14 56 55.5**	**-2.3**
EDRZ	**Edgecumbe**	**2.70**	**218**	P	**Pb**	**14 56 30.7**	**-0.4**
TGRZ	**Tauranga**	**2.70**	**229**	P	**Pb**	**14 56 29.7**	**-1.4**
RAGZ	**Rawiri**	**2.75**	**204**	P	**Pb**	**14 56 30.8**	**-1.0**
GRZ	**Great Barrier**	**2.76**	**264**	P	**Pb**	**14 56 32.0**	**0.0**
RIGZ	**Rimuhau**	**2.84**	**197**	P	**Pb**	**14 56 31.3**	**-2.1**
OMRZ	**Omania**	**2.89**	**223**	P	**Pb**	**14 56 32.4**	**-2.0**
KARZ	**Kaharoa**	**2.91**	**225**	P	**Pb**	**14 56 32.9**	**-1.6**
TARZ	**Mount Tarawera**	**2.92**	**219**	P	**Pb**	**14 56 34.0**	**-0.8**
KMRZ	**Kaimai**	**2.97**	**231**	P	**Pb**	**14 56 33.5**	**-2.3**
MUGZ	**Murupara**	**2.98**	**213**	P	**Pn**	**14 56 32.7**	**+2.7**
RRRZ	**Republican Roa**	**2.99**	**218**	P	**Pb**	**14 56 35.2**	**-0.9**
RRRZ				S	**Sn**	**14 57 07.4**	**+1.1**
RTZ	**Ruatahuna**	**3.01**	**209**		**Pb**	**14 56 33.4**	**+2.9**
RTZ	**Ruatahuna**	**3.01**	**209**	P	**Pn**	**14 56 33.6**	**+3.1**
PRGZ	**Paritu Road**	**3.02**	**194**	P	**Pn**	**14 56 32.9**	**+2.3**
PRGZ				S	**Sn**	**14 57 05.2**	**-1.8**
SNGZ	**Shannon Statio**	**3.03**	**203**	P	**Pb**	**14 56 34.2**	**-2.4**
SNGZ				S	**Sn**	**14 57 07.1**	**-0.1**
WIAZ	**Waiheke Island**	**3.10**	**254**	P	**Pb**	**14 56 36.3**	**-1.6**
HSRZ	**Hossack Road**	**3.11**	**221**	P	**Pb**	**14 56 38.4**	**+0.3**
KNZ	**Kokohu**	**3.16**	**197**	P	**Pn**	**14 56 34.7**	**+2.2**
KNZ				S	**Sn**	**14 57 07.8**	**-2.5**
MKAZ	**Moumakai**	**3.17**	**249**	P	**Pb**	**14 56 36.8**	**-2.2**
PRRZ	**Plateau Road**	**3.18**	**217**	P	**Pn**	**14 56 36.1**	**+3.4**
TOZ	**Tahuroa Road**	**3.20**	**236**		**Pb**	**14 56 36.7**	**-2.7**
TOZ	**Tahuroa Road**	**3.20**	**236**	P	**Pb**	**14 56 36.7**	**-2.7**
RAHZ	**Arahi**	**3.24**	**205**	P	**Pn**	**14 56 36.9**	**+3.3**
RAHZ				S	**Sn**	**14 57 08.8**	**-3.5**
MHGZ	**Mahia Peninsul**	**3.24**	**193**	P	**Pn**	**14 56 36.3**	**+2.7**
ALRZ	**Allen Road**	**3.25**	**217**	P	**Pn**	**14 56 37.3**	**+3.6**
ALRZ				S	**Sn**	**14 57 10.7**	**-1.9**
MTHZ	**Maungataniwha**	**3.27**	**209**	P	**Pn**	**14 56 37.5**	**+3.4**
MBAZ	**Motutapu North**	**3.28**	**255**	P	**Pb**	**14 56 39.0**	**-1.9**
ETAZ	**East Tamaki Re**	**3.30**	**252**	P	**Pb**	**14 56 39.2**	**-2.1**
WPRZ	**Whakapapatarin**	**3.31**	**220**	P	**Pb**	**14 56 40.2**	**-1.2**
WHHZ	**Waihua**	**3.33**	**202**	P	**Pn**	**14 56 38.0**	**+3.1**
WHHZ				S	**Sn**	**14 57 13.1**	**-1.5**
EPAZ	**Eden Park BICE**	**3.43**	**254**	P	**Pb**	**14 56 41.5**	**-1.9**
HBAZ	**Herne Bay Bore**	**3.43**	**254**	P	**Pn**	**14 56 40.0**	**+3.8**
MRHZ	**Matea Rd**	**3.43**	**214**	P	**Pn**	**14 56 39.2**	**+2.9**
KUTZ	**Kaahu Road**	**3.47**	**223**	P	**Pb**	**14 56 41.7**	**-2.5**
NMHZ	**Naumai**	**3.50**	**207**	P	**Pn**	**14 56 40.0**	**+2.8**
TLZ	**Tolley Road**	**3.53**	**228**	P	**Pb**	**14 56 41.8**	**-3.3**
RVAZ	**Riverhead Bore**	**3.53**	**256**	P	**Pb**	**14 56 42.3**	**-2.9**
WTAZ	**Waiatarua**	**3.57**	**254**	P	**Pn**	**14 56 41.8**	**+3.6**
ARHZ	**Aropaoanui**	**3.58**	**204**	P	**Pn**	**14 56 41.1**	**+2.8**
ARHZ				S	**Sn**	**14 57 18.9**	**-1.8**
HATZ	**Hinemaiaia**	**3.63**	**216**	P	**Pb**	**14 56 44.6**	**-2.3**
WCZ	**Waipu Caves**	**3.66**	**270**	P	**Pb**	**14 56 45.0**	**-2.4**
WATZ	**Wairara**	**3.67**	**222**	P	**Pb**	**14 56 45.6**	**-2.1**
BKZ	**Black Stump Fm**	**3.68**	**210**		**Pn**	**14 56 41.6**	**+2.0**
BKZ	**Black Stump Fm**	**3.68**	**210**	P	**Pn**	**14 56 41.7**	**+2.0**
BKZ	**Black Stump Fm**	**3.68**	**210**	P	**Pn**	**14 56 40.1**	**+0.4**
RATZ	**Rangitukua**	**3.77**	**220**	P	**Pb**	**14 56 46.0**	**-3.3**
RITZ	**Rihia Road**	**3.81**	**218**	P	**Pn**	**14 56 44.7**	**+3.3**
MCHZ	**McNeill Hill**	**3.84**	**206**	P	**Pn**	**14 56 44.0**	**+2.1**
CKHZ	**Cape Kidnapper**	**3.92**	**200**	P	**Pn**	**14 56 44.5**	**+1.7**
KWHZ	**Kaweka Forest**	**3.93**	**209**	P	**Pn**	**14 56 45.2**	**+2.1**
TMVZ	**Te Maari**	**3.99**	**218**	P	**Pn**	**14 56 46.4**	**+2.4**
ETVZ	**East Tongariro**	**4.01**	**218**	P	**Pn**	**14 56 46.0**	**+1.8**
KRVZ	**Karewarewa**	**4.01**	**219**	P	**Pn**	**14 56 48.7**	**+4.4**
OTVZ	**Oturere**	**4.05**	**218**	P	**Pn**	**14 56 46.0**	**+1.1**
NNVZ	**North Ngauruho**	**4.05**	**218**	P	**Pb**	**14 56 50.5**	**-3.6**
WTVZ	**West Tongariro**	**4.05**	**219**	P	**Pb**	**14 56 50.3**	**-3.8**
HIZ	**Hauiti**	**4.06**	**231**		**Pn**	**14 56 48.5**	**+3.6**
HIZ	**Hauiti**	**4.06**	**231**	P	**Pn**	**14 56 49.4**	**+4.5**
HIZ	**Hauiti**	**4.06**	**231**	P	**Pb**	**14 56 50.3**	**-3.9**
SNVZ	**South Ngauruho**	**4.08**	**218**	P	**Pn**	**14 56 49.4**	**+4.1**
NGZ	**Ngauruhoe**	**4.09**	**218**	P	**Pn**	**14 56 49.0**	**+3.6**
TWVZ	**Taurewa**	**4.10**	**220**	P	**Pn**	**14 56 49.0**	**+3.6**
KAHZ	**Kahuranaki**	**4.10**	**202**	P	**Pn**	**14 56 47.1**	**+1.6**
KRHZ	**Kereru**	**4.14**	**208**	P	**Pn**	**14 56 46.8**	**+0.9**
COVZ	**Chateau Observ**	**4.14**	**218**	P	**Pn**	**14 56 49.8**	**+3.7**
FWVZ	**Far West T-bar**	**4.18**	**218**	P	**Pn**	**14 56 50.5**	**+3.8**
MAVZ	**Matarangi**	**4.18**	**218**	P	**Pb**	**14 56 52.2**	**-4.2**
TRVZ	**Turoa**	**4.21**	**218**	P	**Pb**	**14 56 53.4**	**-3.5**
OUZ	**Omahuta**	**4.35**	**279**	P	**Pb**	**14 56 54.8**	**-4.4**
OUZ	**Omahuta**	**4.35**	**279**	P	**Pb**	**14 56 55.0**	**-4.2**
WPHZ	**Waipukurau**	**4.49**	**204**	P	**Pn**	**14 56 51.7**	**+0.9**
BFZ	**Birch Farm**	**5.11**	**203**		**Pn**	**14 56 58.8**	**-0.5**
BFZ	**Birch Farm**	**5.11**	**203**	P	**Pn**	**14 56 58.9**	**-0.3**
MRZ	**Mangatainoka R**	**5.32**	**208**		**Pn**	**14 57 00.7**	**-1.5**
SNZO	**South Karori**	**6.22**	**210**	P	**Pn**	**14 57 13.0**	**-1.5**
QRZ	**Quartz Range**	**6.92**	**224**	Pn	**Pn**	**14 57 23.3**	**-0.8**
QRZ	**Quartz Range**	**6.92**	**224**	P	**Pn**	**14 57 24.3**	**+0.2**
THZ	**Tophouse**	**7.39**	**217**	Pn	**Pn**	**14 57 29.1**	**-1.6**
KHZ	**Kahutara**	**7.62**	**211**	P	**Pn**	**14 57 32.0**	**-1.7**
CTZ	**Chatham Island**	**8.48**	**157**	P	**Pn**	**14 57 49.4**	**+3.9**
CTZ				S	**Sn**	**14 59 13.1**	**-8.2**
RPZ	**Rata Peaks**	**9.76**	**215**	P	**Pn**	**14 58 01.7**	**-1.5**
	17nm,0.7s,baz=78,slow=3.0,SNR=7.0						
RPZ				S	Sn	14 59 36.8	-16
	9.2nm,0.4s,baz=150,slow=19,SNR=6.7						
RPZ	**Rata Peaks**	**9.76**	**215**	P	**Pn**	**14 58 03.0**	**-0.1**
ODZ	**Otahua Downs**	**10.98**	**212**	Pn	**Pn**	**14 58 16.8**	**-3.0**
ODZ	**Otahua Downs**	**10.98**	**212**	P	**Pn**	**14 58 18.4**	**-1.4**
JCZ	**Jackson Bay**	**11.16**	**221**	P	**Pn**	**14 58 22.2**	**-0.1**
DZM	**Mont Dzumac**	**17.59**	**319**	P	**P**	**14 59 50.5**	**+1.3**
MSVF	**Nonsavu**	**18.21**	**358**	P	**P**	**14 59 56.3**	**+0.4**
BBOO	**Buckleboo**	**35.25**	**262**	P	**P**	**15 02 37.9**	**+0.4**
BBOO				IAmb	IAmb	15 03 17.3	
	comp=Z,17nm,1.4s						
PMG	**Port Moresby**	**39.12**	**305**	P	**P**	**15 03 10.0**	**-0.5**
RABL	**Rabaul**	**40.09**	**316**	P	**P**	**15 03 18.4**	**-0.2**
AS31	**Alice Springs**	**40.55**	**275**		**P**	**15 03 21.6**	**-0.9**
ASAR	**Alice Springs**	**40.55**	**275**	P	**P**	**15 03 21.6**	**-0.9**
	comp=Z,6.9nm,0.6s,baz=117,slow=7.7,SNR=128 comp=Z,6.9nm,0.6s						
WRAB	**Tennant Creek**	**42.06**	**280**	P	**P**	**15 03 34.4**	**-0.4**
WRAB				IAmb	IAmb	15 03 36.7	
	comp=Z,9.5nm,0.6s						
WRA	**Warramunga Arr**	**42.06**	**280**	P	**P**	**15 03 34.5**	**-0.3**
WRA	**Warramunga Arr**	**42.06**	**280**	P	**P**	**15 03 34.8**	**-0.1**
	comp=Z,7.0nm,0.4s,baz=120,slow=7.7,SNR=92 comp=Z,7.0nm,0.4s						
WB0	**Warramunga Arr**	**42.11**	**280**		**P**	**15 03 34.5**	**-0.7**
WB0				IAmb	IAmb	15 03 37.2	
	comp=Z,10nm,0.5s						
FORT	**Forrest**	**42.34**	**262**	P	**P**	**15 03 37.1**	**+0.1**
FORT				IAmb	IAmb	15 03 38.4	
	comp=Z,4.9nm,0.7s						
MTN	**Manton Dam**	**48.60**	**286**	P	**P**	**15 04 26.0**	**-0.7**
KNRA	**Kununurra**	**48.83**	**281**	P	**P**	**15 04 28.8**	**+0.2**
KNRA				IAmb	IAmb	15 04 39.5	
	comp=Z,20nm,1.3s						
MORW	**Morawa**	**52.61**	**259**	P	**P**	**15 04 55.4**	**-1.6**
MORW				IAmb	IAmb	15 05 23.8	
	comp=Z,8.6nm,1.2s						
QSPA	**South Pole Qui**	**54.13**	**180**	P	**P**	**15 05 09.1**	**+1.4**
QSPA				IAmb	IAmb	15 05 16.0	
	comp=Z,5.0nm,0.7s						
QSPA	**South Pole Qui**	**54.13**	**180**	P	**P**	**15 05 08.8**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=319,slow=2.3,SNR=12 comp=Z,2.0nm,0.9s						
MAW	**Mawson**	**66.15**	**202**	P	**P**	**15 06 29.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=126,slow=14,SNR=2.7 comp=Z,1.3nm,0.7s						
VNA3	**Neumayer Olymp**	**72.89**	**177**	⇑P	**P**	**15 07 10.3**	**-1.3**
	comp=Z,3.6nm,0.6s						
VNA1	**Neumayer--Stat**	**73.53**	**178**	⇑P	**P**	**15 07 14.9**	**-0.4**
	comp=Z,2.3nm,0.5s						
H03S2	**Juan Fernandez**	**79.55**	**124**	T	T	16 36 11.8	
	baz=232,slow=74,SNR=4.2						
H03S1	**Juan Fernandez**	**79.56**	**124**	T	T	16 36 00.5	
	baz=232,slow=74,SNR=4.1						
H03S3	**Juan Fernandez**	**79.56**	**124**	T	T	16 36 05.6	
	baz=232,slow=74,SNR=4.6						
H03N3	**Juan Fernandez**	**79.77**	**124**	T	T	16 36 16.5	
	baz=236,slow=72,SNR=10.0						
H03N2	**Juan Fernandez**	**79.78**	**124**	T	T	16 36 15.5	
	baz=236,slow=72,SNR=5.4						
H03N1	**Juan Fernandez**	**79.79**	**124**	T	T	16 36 23.9	
	baz=236,slow=72,SNR=5.3						
YULB	**Yu-li**	**80.29**	**308**	P	**P**	**15 07 53.5**	**-0.5**
YULB				IAmb	IAmb	15 08 00.2	
	comp=Z,19nm,1.3s						
PLCA	**Paso Flores**	**80.59**	**134**	P	**P**	**15 07 58.3**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=249,slow=7.5,SNR=4.0 comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**87.00**	**322**	P	**P**	**15 08 30.1**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=153,slow=5.1,SNR=3.8 comp=Z,0.5nm,0.7s						
NJ2	**Nanjing**	**87.98**	**313**	*e*P	**P**	**15 08 34.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.83**	**291**	P	**P**	**15 08 56.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=122,slow=4.4,SNR=2.2 comp=Z,0.6nm,0.6s						
PZH	**PanZhiHua**	**95.60**	**299**	P	**P**	**15 09 09.1**	**+0.5**
HHC	**Hu-ho-hao-te**	**98.27**	**315**	*e*P	Pdif	15 09 22.4	+2.0
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
ARCES	**ARCESS Array B**	**143.38**	**345**	PKP	**PKPdf**	**15 15 15.1**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=28,slow=3.0,SNR=4.6						
FINES	**FINESS Array B**	**149.28**	**335**	PKPbc	**PKPbc**	**15 15 29.4**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=29,slow=4.4,SNR=12						

TRN 04 15:15:00.9, 10.°16N×61.°65W, h20km, MD3.9, South-west peninsula of Trinidad. Felt widely in southern Trinidad, MMI IV, V, VI., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGH	**Port of Spain**	**0.52**	**15**	*e*P	Pb	15 15 11.3	-0.1
PSGH				*e*S	Sg	15 15 19.7	+1.2
TRN	**Trinidad (W)**	**0.54**	**26**	*e*P	Pb	15 15 11.1	-0.6
TRN				*e*S	Sg	15 15 19.4	+0.2
TBH	**Brigand Hill**	**0.66**	**60**	*e*P	Pg	15 15 13.9	-0.1
TBH				*e*S	Sn	15 15 24.1	-0.8
TPR	**Prospect**	**1.33**	**40**	*e*P	Pn	15 15 24.6	+0.1
TPR				*e*S	Sn	15 15 41.6	-0.1
GRFF	**Grenada Fort F**	**1.88**	**357**	*e*P	Pn	15 15 32.5	+0.4
GRFF				*e*S	Sn	15 15 54.9	-0.4
GRGR	**Grenville**	**1.96**	**360**	*e*P	Pn	15 15 33.8	+0.6
GRGR				*e*S	Sn	15 15 56.4	-0.9
PCRV	**Puerto La Cruz**	**2.94**	**271**	*e*P	Pn	15 15 47.6	+0.9
SVT	**Saint Vincent**	**3.02**	**7**	*e*P	Pn	15 15 48.3	+0.6
SVT				*e*S	Sn	15 16 24.3	+1.0
SVB	**Belmont**	**3.12**	**7**	*e*P	Pn	15 15 50.3	+1.2
SVB				*e*S	Sn	15 16 25.6	-0.3
SLBI	**Saint Lucia, B**	**3.90**	**10**	*e*P	Pn	15 16 00.5	+0.7
SLBI				*e*S	Sn	15 16 44.7	-0.3
BIM	**Bigot**	**4.37**	**7**	*e*P	Pn	15 16 07.1	+0.8
BIM				*e*S	Sn	15 16 56.1	-0.7
BAUV	**El Baul**	**6.42**	**260**	*e*P	Pn	15 16 35.6	+1.1

*BEO **04** 15:23:47.5±0.7, 41.°14N×19.°66E, h4km±4km, ML2.7/7*
*SKO **04** 15:23:49.9, 41.°43N×19.°87E, h10km, ML2.7*
*TIR **04** 15:23:49.2, 41.°46N×19.°87E, h6km±1km, Ml2.8/6*
*PDG **04** 15:23:49.9±0.1, 41.°37N×19.°89E, h2km, ML3.0/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*

ISC 04 15:23:50.7±0.9, 41.°43N±0.°02×19.°92E±0.°02, h7km±7km, n57, σ1.°56/94, 9C-11B, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.09**	**208**	Sg	**Sg**	**15 23 54.4**	**+0.1**
TIR				AML	AML	15 23 55.0	
	34μm,0.1s						
TIR	**Tirane**	**0.09**	**208**	*i* Pg	**Pg**	**15 23 52.9**	**+0.1**
TIR				*i* Sg	**Sg**	**15 23 55.0**	**+0.7**
PHP	**Peshkopia**	**0.46**	**57**	⇓Pg	**Pg**	**15 23 58.8**	**-0.9**
PHP				Sg	**Sg**	**15 24 05.3**	**-0.4**
PHP				AML	AML	15 24 06.9	
	14nm,0.6s						
PUK	**Puka**	**0.61**	**358**	Pg	**Pg**	**15 24 02.3**	**-0.2**
PUK				Sg	**Sb**	**15 24 12.6**	**-0.1**
PUK				AML	AML	15 24 19.5	
	2.1nm,0.3s						
OHR	**Ohrid**	**0.73**	**115**	*i* Pg	**Pg**	**15 24 03.6**	**-1.2**
OHR				*i* Sg	**Sb**	**15 24 15.8**	**-0.3**
OHR				*e*Lg	Lg	15 24 16.1	
	comp=N,284nm,0.7s						
OHR				*e*Lg	Lg	15 24 19.6	
	comp=E,487nm,0.8s						
ULC	**Ulcinj**	**0.74**	**317**	*e*Pg	**Pg**	**15 24 03.6**	**-1.3**
ULC				*i* Sg	**Sb**	**15 24 15.4**	**-0.8**
DRME	**Dracevica, Mon**	**0.94**	**324**	*e*Pg	**Pg**	**15 24 07.9**	**-0.8**
DRME				*e*Sg	**Sn**	**15 24 22.7**	**-1.3**
DRME	**Dracevica, Mon**	**0.94**	**324**	*e*Pg	**Pg**	**15 24 07.4**	**-1.3**
DRME				*i* Sg	**Sn**	**15 24 22.5**	**-1.5**
BCI	**Bajram Curri**	**0.94**	**6**	⇑Pn	**Pg**	**15 24 07.8**	**-1.0**
BCI				Sn	**Sn**	**15 24 23.1**	**-1.1**
BCI				AML	AML	15 24 27.6	
	comp=E,1.0nm,0.5s						
KBN	**Korca**	**1.04**	**141**	⇓Pg	**Pg**	**15 24 10.1**	**-0.4**
KBN				Sg	**Sn**	**15 24 25.8**	**-0.7**
PDG	**Podgorica**	**1.12**	**334**	⇑P	**Pb**	**15 24 11.4**	**-0.9**
PDG				⇓S	**Sg**	**15 24 25.0**	**-1.6**
PDG	**Podgorica**	**1.12**	**334**	*e*Pg	**Pb**	**15 24 10.8**	**-1.5**
PDG				*e*Sg	**Sn**	**15 24 28.6**	**+0.2**
PDG	**Podgorica**	**1.12**	**334**	*e*Pg	**Pb**	**15 24 11.1**	**-1.2**
PDG				*i* Sg	**Sn**	**15 24 28.7**	**+0.3**
BUM	**Brajici-Budva**	**1.16**	**319**	*e*Pg	**Pb**	**15 24 11.4**	**-1.8**
BUM				*i* Sg	**Sn**	**15 24 29.9**	**+0.2**
SKO	**Skopje**	**1.26**	**64**	*i* Pg	**Pn**	**15 24 13.7**	**-1.0**
SKO				*i* Sg	**Sb**	**15 24 30.6**	**-0.6**
FNA	**Florina**	**1.27**	**120**

SALTA				IAML		15 35 12.7	
	comp=Z,37nm,1.4s						
PB03	**IPOC Station P**	**2.89**	**259**		**Pn**	**15 34 30.1**	**+2.5**
PB03	**IPOC Station P**	**2.89**	**259**	Pg	**Pn**	**15 34 30.4**	**+2.8**
PB06	**IPOC Station P**	**2.91**	**245**		**Pn**	**15 34 30.4**	**+2.4**
PB06	**IPOC Station P**	**2.91**	**245**	Pg	**Pn**	**15 34 30.3**	**+2.4**
GO01	**Chusmiza**	**2.97**	**308**		**Pn**	**15 34 31.5**	**+2.6**
GO01	**Chusmiza**	**2.97**	**308**	Pg	**Pn**	**15 34 31.9**	**+2.9**
PB02	**IPOC Station P**	**2.98**	**273**		**Pn**	**15 34 31.0**	**+2.3**
PB02	**IPOC Station P**	**2.98**	**273**	Pg	**Pn**	**15 34 31.0**	**+2.3**
PB02				Sg	**S**	**15 35 09.0**	**+1.0**
PB02				IAML		15 35 11.0	
	comp=Z,587nm,0.3s						
AZAP	**Zapla**	**3.09**	**151**	*eP*	**Pn**	**15 34 32.3**	**+2.3**
AZAP				*eS*	**S**	**15 35 11.0**	**+0.5**
AZAP				IAML		15 35 18.1	
	comp=Z,79nm,0.5s						
SOEO	**Opoqueri**	**3.14**	**339**	Pg	**Pn**	**15 34 34.9**	**+4.0**
PB11	**IPOC Station P**	**3.27**	**302**		**Pn**	**15 34 34.1**	**+2.0**
PB11	**IPOC Station P**	**3.27**	**302**	Pg	**Pn**	**15 34 34.3**	**+2.2**
PB11				Sg	**S**	**15 35 15.2**	**+1.0**
SLA	**San Lorenzo**	**3.38**	**161**	*eP*	**Pn**	**15 34 36.8**	**+3.6**
SLA				*eS*	**S**	**15 35 18.0**	**+1.6**
SLA				IAML		15 35 28.9	
	comp=Z,36nm,0.9s						
TA01	**Diego Aracena**	**3.38**	**286**		**Pn**	**15 34 34.5**	**+1.2**
ALOL	**LOMAS DE OLMED**	**3.40**	**133**	*eP*	**Pn**	**15 34 35.3**	**+1.9**
ALOL				*eS*	**S**	**15 35 22.0**	**+5.4**
TA02	**Huaiquique**	**3.44**	**291**		**Pn**	**15 34 34.9**	**+1.0**
SOET	**ToroToro**	**3.48**	**14**	Pg	**Pn**	**15 34 38.0**	**+3.2**
PB05	**IPOC Station P**	**3.51**	**247**		**Pn**	**15 34 36.1**	**+1.3**
PB05	**IPOC Station P**	**3.51**	**247**	Pg	**Pn**	**15 34 36.9**	**+2.1**
PB10	**IPOC Station P**	**4.08**	**240**		**Pn**	**15 34 42.7**	**+1.1**
PB10	**IPOC Station P**	**4.08**	**240**	Pg	**Pn**	**15 34 43.1**	**+1.6**
PB16	**IPOC Station P**	**4.12**	**320**		**Pn**	**15 34 45.2**	**+2.6**
PB16	**IPOC Station P**	**4.12**	**320**	Pg	**Pn**	**15 34 45.9**	**+3.2**
GO02	**Mina Guanaco**	**4.50**	**216**		**Pn**	**15 34 48.6**	**+1.7**
FSA	**Cafayete**	**4.62**	**172**	*eP*	**Pn**	**15 34 51.5**	**+3.1**
FSA				*eS*	**S**	**15 35 49.8**	**+5.9**
AP01	**Chacalluta**	**4.64**	**312**	Pn	**Pn**	**15 34 50.5**	**+2.0**
BBOJ	**La Paz, Jacaqu**	**4.73**	**342**	Pg	**Pn**	**15 34 54.0**	**+3.8**
SOEJ	**Jacaque**	**4.73**	**342**	Pg	**Pn**	**15 34 54.3**	**+4.1**
BBOE	**La Paz, Chanca**	**4.83**	**345**	Pg	**Pn**	**15 34 55.4**	**+3.9**
BBOD	**La Paz, Gloria**	**5.17**	**339**	Pg	**Pn**	**15 34 59.3**	**+3.6**
LPAZ	**La Paz**	**5.37**	**345**		**Pn**	**15 35 00.4**	**+2.0**
LPAZ	**La Paz**	**5.37**	**345**	P	**Pn**	**15 35 01.2**	**+2.8**
	comp=Z,19nm,0.3s,baz=146,slow=11,SNR=193						
LPAZ				S	**S**	**15 36 03.5**	**+1.8**
	comp=Z,31nm,1.0s,baz=180,slow=20,SNR=7.3						
LPAZ	**La Paz**	**5.37**	**345**	Pg	**Pn**	**15 35 01.2**	**+2.8**
LPAZ	**La Paz**	**5.37**	**345**	*eP*	**Pn**	**15 35 01.3**	**+3.0**
LPAZ				*eS*	**S**	**15 36 03.4**	**+1.8**
AHML	**Horco Molle**	**5.39**	**167**	*eP*	**Pn**	**15 35 01.0**	**+3.1**
AHML				IAML		15 36 07.8	
	comp=Z,6.9nm,2.4s						
BBOB	**La Paz, Bander**	**5.51**	**346**	Pg	**Pn**	**15 35 02.6**	**+2.6**
AC02	**Maricunga**	**5.74**	**202**		**Pn**	**15 35 03.8**	**+1.0**
AC02	**Maricunga**	**5.74**	**202**	*eP*	**Pn**	**15 35 04.7**	**+1.9**
AC02				*eS*	**S**	**15 36 13.5**	**+3.7**
AC02				IAML		15 36 15.4	
	comp=Z,14nm,0.7s						
AC01	**Pan de Azucar**	**5.83**	**217**		**Pn**	**15 35 03.7**	**+0.2**
GO03	**Copiapo**	**6.85**	**207**		**Pn**	**15 35 15.8**	**-0.8**
GO03	**Copiapo**	**6.85**	**207**	*eP*	**Pn**	**15 35 17.2**	**+0.6**
GO03				*eS*	**S**	**15 36 33.4**	**-1.6**
CYA	**Choya**	**6.94**	**173**	*eP*	**Pn**	**15 35 19.9**	**+2.2**
CYA				IAML		15 37 21.1	
	comp=Z,5.9nm,2.2s						
BBSD	**Serra de San D**	**7.18**	**54**	*eP*	**Pn**	**15 35 21.4**	**+0.5**
BBSD				*eS*	**S**	**15 36 38.8**	**-4.0**
VCA	**Vinchina**	**7.32**	**190**	*eP*	**Pn**	**15 35 25.2**	**+2.5**
VCA				*eS*	**S**	**15 36 49.6**	**+3.5**
VCA				IAML		15 37 07.7	
	comp=Z,16nm,1.7s						
SIV	**San Ignacio**	**7.66**	**45**	P	**Pn**	**15 35 27.7**	**+0.7**
	comp=Z,34nm,0.5s,baz=254,slow=7.5,SNR=208						
SIV				S	**S**	**15 36 50.4**	**-3.6**
	comp=Z,3.1nm,0.4s,baz=298,slow=18,SNR=3.7						
ACLC	**CERRO LA CRUZ**	**7.88**	**182**	*eP*	**Pn**	**15 35 30.4**	**+0.5**
ACLC				*eS*	**S**	**15 36 56.6**	**-2.7**
LCO	**Las Campanas**	**8.29**	**205**		**Pn**	**15 35 34.3**	**-1.0**
APLL	**PUNTA DE LOS L**	**8.84**	**179**	*eP*	**Pn**	**15 35 42.8**	**+0.6**
APLL				*eS*	**S**	**15 37 16.8**	**-5.1**
ACDV	**Cuesta del Vie**	**8.89**	**194**	*eP*	**Pn**	**15 35 38.5**	**-4.4**
AVFE	**Valle Fertil**	**9.13**	**184**	*eP*	**Pn**	**15 35 45.9**	**0.0**
AVFE				*eS*	**S**	**15 37 24.2**	**-4.5**
PTLB	**Pontes e Lacer**	**9.37**	**51**		**Pn**	**15 35 50.6**	**+1.5**
PTLB	**Pontes e Lacer**	**9.37**	**51**	*eP*	**Pn**	**15 35 49.2**	**+0.1**
PTLB				*eS*	**S**	**15 37 32.2**	**-2.3**
CPUP	**Villa Florida**	**9.82**	**121**	P	**P**	**15 35 60.0**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=306,slow=17,SNR=5.0						
CFA	**Coronel Fontan**	**10.14**	**187**	P	**Pn**	**15 35 58.8**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=331,slow=11,SNR=19						
CFA				S	**S**	**15 37 44.9**	**-7.8**
	comp=Z,1.7nm,0.3s,baz=66,slow=19,SNR=7.4						
VA03	**San Esteban**	**11.71**	**196**	P	**Pn**	**15 36 21.1**	**+2.2**
MT02	**Curacav**	**12.34**	**198**	Pn	**Pn**	**15 36 26.3**	**-0.4**
MT09	**Talagante**	**12.79**	**196**	Pn	**Pn**	**15 36 31.4**	**-1.0**
BO04	**La Punta**	**12.90**	**195**	P	**Pn**	**15 36 34.9**	**+1.3**
NNA	**Nana**	**13.56**	**313**	P	**P**	**15 36 44.6**	**+0.6**
	comp=Z,4.0nm,0.4s,baz=194,slow=18,SNR=1.9						
PDRB	**Porto dos Gac**	**13.72**	**46**	*eP*	**Pn**	**15 36 43.4**	**-0.6**
CLDB	**Colider**	**14.88**	**46**	*eP*	**P**	**15 36 59.2**	**+0.6**
CLDB				*eS*	**S**	**15 39 40.1**	**-2.8**
PLTB	**Pedras Altas**	**15.52**	**134**	P	**Pn**	**15 37 05.4**	**-0.4**
PLTB				IAmb	IAmb	15 37 40.0	
	comp=Z,15nm,1.3s						
NPGB	**Novo Progresso**	**18.09**	**39**	*eP*	**P**	**15 37 33.8**	**+0.1**
BDFB	**Brasilia**	**18.65**	**75**	P	**Pn**	**15 37 41.3**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=246,slow=20,SNR=3.3						
PLCA	**Paso Flores**	**19.43**	**189**	P	**P**	**15 37 46.8**	**-1.3**
PLCA	**Paso Flores**	**19.43**	**189**	P	**P**	**15 37 49.6**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=349,slow=10,SNR=8.7						
ITTB	**Itaituba**	**20.10**	**34**	*eP*	**P**	**15 37 55.2**	**-0.2**
BOAV	**Boa Vista**	**24.52**	**15**	P	**P**	**15 38 37.7**	**-0.1**
BOAV				IAmb	IAmb	15 38 40.7	
	comp=Z,9.6nm,1.4s						
HUMP	**Col San Antoni**	**39.42**	**1**	P	**P**	**15 40 44.4**	**-2.6**
SOR	**Soroa**	**46.82**	**339**	P	**P**	**15 41 44.0**	**-2.1**
SOR				IAmb	IAmb	15 41 49.8	
	comp=Z,12nm,1.3s						
TXAR	**Lajitas Array**	**61.84**	**323**	P	**P**	**15 43 35.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=145,slow=8.2,SNR=4.2						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**68.68**	**180**	P	**P**	**15 44 20.7**	**+3.0**
	comp=Z,0.5nm,0.5s,baz=108,slow=2.4,SNR=6.9						
	comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**75.17**	**329**	P	**P**	**15 44 58.4**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=126,slow=6.0,SNR=3.8						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.43**	**69**	P	**P**	**15 44 58.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=263,slow=5.6,SNR=1.6						
	comp=Z,0.6nm,0.3s						
NVAR	**Mina Array Bea**	**76.79**	**321**	P	**P**	**15 45 07.4**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=149,slow=4.8,SNR=2.7						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**130.81**	**205**	PKP	**PKiKP**	**15 52 24.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=133,slow=1.7,SNR=16						
WRA	**Warramunga Arr**	**133.94**	**208**	PKP	**PKiKP**	**15 52 30.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=156,slow=1.8,SNR=10.0						
BVAR	**Borovoye Array**	**134.63**	**35**	PKP	**PKiKP**	**15 52 31.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=291,slow=4.5,SNR=1.6						
MKAR	**Makanchi Array**	**144.42**	**37**	PKP	**PKPdf**	**15 52 48.7**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=324,slow=2.8,SNR=10						

*DJA **04** 16:19:34.1±0.9, 1˚S±6˚×13˚9E±˚, h10km±4km, M4.5/7, mb5.2/4, MLv4.2/7*
*IDC **04** 16:19:39.3±1.0, 2˚75S×138˚88E, h0km, mb3.6/6, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=19.0km s-min=13.0km az=146.0*
ISC 04 16:19:39.6±0.7, 2˚33S±0˚06×138˚59E±0˚06, h10km, n16, σ3§23/19, mb3.5/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.36**	**20**	P	**Pg**	**16 19 46.3**	**-0.5**
SMPI				S	**Sb**	**16 19 55.8**	**+1.9**
JAY	**Jayapura**	**2.12**	**95**	Pg	**Pn**	**16 20 11.7**	**-3.5**
	14nm,0.3s,baz=234,slow=11,SNR=102						
JAY				Lg	Lg	16 20 37.8	
	8.8nm,0.3s,baz=180,slow=20,SNR=8.5						
JAY	**Jayapura**	**2.12**	**95**	P	Pn	16 20 10.9	-4.3
JAY				S	**Sn**	**16 20 38.0**	**-3.7**
SRPI	**Serui, Papua**	**2.39**	**281**	P	**Pn**	**16 20 17.8**	**-1.0**
SRPI				S	**Sb**	**16 20 50.7**	**-1.6**
RKPI	**Ransiki, Papua**	**4.48**	**280**	P	**Pn**	**16 20 43.6**	**-4.0**
KMPI	**Kaimana, Papua**	**5.05**	**255**	P	**Pn**	**16 20 58.7**	**+3.2**
	227nm,0.8s						
SWI	**Sorong**	**7.47**	**281**	P	**Pn**	**16 21 24.6**	**-4.1**
	0.1nm21nm,0.9s						
BNDI	**Bandanaira**	**8.94**	**256**	P	**Pn**	**16 21 49.6**	**+0.8**
	179nm,1.6s						
SAUI	**Saumlaki**	**9.17**	**232**	P	**Pn**	**16 21 56.5**	**+4.4**
WRA	**Warramunga Arr**	**17.99**	**193**	P	**Pn**	**16 23 47.9**	**-2.1**
	0.2nm,0.3s,baz=10,slow=12,SNR=13						
WRA				S	Sn	16 26 56.0	-15
	0.8nm,0.8s,baz=23,slow=23,SNR=4.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**21.69**	**192**	P	**P**	**16 24 29.1**	**-1.7**
	0.5nm,0.5s,baz=17,slow=10.0,SNR=25						
ASAR				S	**S**	**16 28 26.2**	**-4.8**
	0.6nm,1.0s,baz=13,slow=26,SNR=1.6						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**73.35**	**325**	P	**P**	**16 31 15.5**	**+3.9**
	0.4nm,1.0s,baz=123,slow=4.5,SNR=2.2						
	0.4nm,1.0s						
VNDA	**Vanda**	**76.16**	**175**	P	**P**	**16 31 27.0**	**-0.4**
	0.5nm,0.6s,baz=315,slow=4.3,SNR=2.5						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**78.94**	**325**	P	**P**	**16 31 46.8**	**+3.4**
	0.4nm,0.6s,baz=128,slow=4.4,SNR=2.3						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**85.54**	**24**	P	**P**	**16 32 21.3**	**+3.6**
	0.2nm,0.6s,baz=267,slow=5.3,SNR=1.6						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**87.61**	**180**	P	**P**	**16 32 27.9**	**-0.2**
	0.8nm,0.7s,baz=342,slow=7.7,SNR=1.9						
	0.8nm,0.7s						

*NEIC **04** 16:46:49.0±1.6, 6˚80N±0˚07×72˚94W±0˚09, h150km±6km, mb4.5/56, Error ellipse: s-maj=13.2km s-min=9.4km az=109.0*
*IDC **04** 16:46:49.0±0.6, 6˚75N×72˚99W, h150km±7km, mb3.6/6, mbtmp4.3/11, Error ellipse: s-maj=16.1km s-min=6.6km az=129.0*
*VAO **04** 16:46:50.9±0.5, 6˚58N×72˚78W, h123km, mb4.4*
*RSNC **04** 16:46:50.1±0.0, 7˚N±1˚×7˚3W±˚, h147km±1km, M4.4, mB5.2, mb4.6, ML4.0, Mw(mB)4.6*
ISC 04 16:46:48.8±0.5, 6˚82N±0˚03×73˚07W±0˚03, h151km±5km, n145, σ1§20/168, mb4.5/31, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**207**	P	**Pn**	**16 47 10.2**	**+0.5**
BARC				S	**Sn**	**16 47 25.6**	**+0.1**
PAMC	**Pamplona, Colo**	**0.63**	**35**	P	**Pn**	**16 47 13.0**	**+1.4**
PAMC				S	**Sn**	**16 47 29.8**	**+0.9**
BRJC	**Barrancabermej**	**0.69**	**283**	P	**Pn**	**16 47 11.9**	**+0.6**
BRJC				S	**Sn**	**16 47 29.0**	**+0.5**
RUSC	**La Rusia**	**0.93**	**181**		**Pn**	**16 47 14.1**	**+0.4**
RUSC				Sn	**Sn**	**16 47 31.5**	**-1.1**
RUSC	**La Rusia**	**0.93**	**181**	P	**Pn**	**16 47 14.1**	**+0.4**
RUSC				S	**Sn**	**16 47 31.7**	**-0.9**
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	P	**Pn**	**16 47 16.8**	**-0.7**
PTBC				S	**Sn**	**16 47 37.3**	**-2.2**
OCAC	**Ocana**	**1.43**	**350**	P	**Pn**	**16 47 18.5**	**+0.6**
OCAC				S	**Sn**	**16 47 40.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	P	**Pn**	**16 47 22.9**	**0.0**
ZARC				S	**Sn**	**16 47 48.8**	**-0.2**
NORC	**Norcasia**	**2.19**	**235**	P	**Pn**	**16 47 26.0**	**-0.3**
NORC				S	**Sn**	**16 47 53.7**	**-1.4**
ROSC	**El Rosal**	**2.33**	**212**		**Pn**	**16 47 30.0**	**+1.6**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**16 47 30.1**	**+1.8**
	812nm,0.4s,baz=73,slow=11,SNR=277						
ROSC				S	**Sn**	**16 47 58.4**	**-0.3**
	843nm,0.3s,baz=36,slow=19,SNR=17						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**16 47 30.0**	**+1.6**
ROSC				S	**Sn**	**16 47 59.4**	**+0.6**
CVER	**Cruz Verde, Cu**	**2.50**	**204**	P	**Pn**	**16 47 31.7**	**+1.2**
CVER				S	**Sn**	**16 48 02.9**	**+0.4**
HELC	**Santa Helena**	**2.53**	**256**	P	**Pn**	**16 47 30.7**	**0.0**
HELC				S	**Sn**	**16 48 00.3**	**-2.6**
UREC	**San Jos de Ur**	**2.62**	**291**	P	**Pn**	**16 47 31.0**	**-0.4**
UREC				S	**Sn**	**16 48 02.2**	**-2.1**
VILC	**Villavicencio,**	**2.77**	**193**	P	**Pn**	**16 47 33.6**	**+0.1**
VILC				S	**Sn**	**16 48 07.5**	**-0.4**
PTGC	**Puerto Gaitan,**	**2.77**	**160**	P	**Pn**	**16 47 33.4**	**0.0**
PTGC				S	**Sn**	**16 48 06.9**	**-0.9**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	**Pn**	**16 47 34.6**	**+0.6**
GUY2C				S	**Sn**	**16 48 09.0**	**+0.2**
RECRC	**Villamaria, Ca**	**2.93**	**231**	P	**Pn**	**16 47 36.9**	**+1.0**
RECRC				S	**Sn**	**16 48 12.5**	**+0.3**
NIZA	**Niza - Manizal**	**2.97**	**234**	P	**Pn**	**16 47 37.0**	**+0.9**
NIZA				S	**Sn**	**16 48 14.6**	**+2.0**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P	**Pn**	**16 47 38.0**	**+0.6**
CBOC				S	**Sn**	**16 48 14.2**	**-0.8**
DBBC	**Dabeiba**	**3.13**	**274**	P	**Pn**	**16 47 38.2**	**+0.3**
DBBC				S	**Sn**	**16 48 14.2**	**-1.7**
SDV	**Santo Domingo**	**3.16**	**49**		**Pn**	**16 47 37.1**	**-1.4**
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**16 47 39.9**	**+1.4**
	351nm,0.4s,baz=230,slow=12,SNR=121						
SDV				S	**Sn**	**16 48 17.4**	**+0.5**
	1µm,0.7s,baz=220,slow=22,SNR=30						
SDV	**Santo Domingo**	**3.16**	**49**	*eP*	**Pn**	**16 47 39.7**	**+1.2**
SDV				*eS*	**Sn**	**16 48 16.4**	**-0.6**
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**16 47 39.8**	**+1.2**
SDV				S	**Sn**	**16 48 16.3**	**-0.6**
ARGC	**Ariguani, Magd**	**3.23**	**339**	P	**Pn**	**16 47 40.0**	**+0.8**
ARGC				S	**Sn**	**16 48 19.3**	**+1.0**
ANIL	**Santa Ana**	**3.28**	**225**	P	**Pn**	**16 47 41.1**	**+0.9**
ANIL				S	**Sn**	**16 48 20.4**	**+0.6**
PRAC	**Prado**	**3.58**	**210**	P	**Pn**	**16 47 43.3**	**-0.5**
PRAC				S	**Sn**	**16 48 26.3**	**-0.1**
ORTC	**Ortega, Tolima**	**3.62**	**217**	P	**Pn**	**16 47 44.2**	**0.0**
ORTC				S	**Sn**	**16 48 26.9**	**-0.3**
APAC	**Apartado, Choc**	**3.65**	**287**	P	**Pn**	**16 47 44.3**	**-0.2**
APAC				S	**Sn**	**16 48 26.1**	**-1.6**
SJCC	**San Jacinto, C**	**3.70**	**326**	P	**Pn**	**16 47 44.4**	**-0.9**
SJCC				S	**Sn**	**16 48 26.3**	**-2.9**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**16 47 45.9**	**+0.3**
URMC	**La Uribe, Meta**	**3.79**	**200**	P	**Pn**	**16 47 46.8**	**+0.3**
URMC				S	**Sn**	**16 48 31.0**	**-0.2**
LCBC	**Los crdobas,**	**3.84**	**302**	P	Pn	16 47 39.4	-7.7
LCBC				S	**Sn**	**16 48 33.3**	**+0.9**
CRJC	**Cerrejon, Guaj**	**4.17**	**2**	P	**Pn**	**16 47 50.6**	**-0.9**
GUVC	**San Jose del G**	**4.27**	**174**	P	**Pn**	**16 47 52.0**	**-0.8**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**16 47 52.9**	**-0.5**
SMRC	**Santa Marta, M**	**4.46**	**345**		**Pn**	**16 47 54.8**	**-0.4**
SMRC	**Santa Marta, M**	**4.46**	**345**	P	**Pn**	**16 47 55.3**	**+0.1**
PIZC	**Pizarro, Choco**	**4.65**	**247**	P	**Pn**	**16 47 59.2**	**+1.5**
MACC	**Macarena, Meta**	**4.71**	**190**	P	**Pn**	**16 47 56.9**	**-1.6**
PTAC	**Punta Ardita,**	**4.72**	**274**	P	**Pn**	**16 47 57.6**	**-1.0**
BETC	**Betania**	**4.75**	**210**	P	**Pn**	**16 47 58.6**	**-0.4**
URIC	**Uribia, Colomb**	**4.96**	**12**	P	**Pn**	**16 48 00.8**	**-1.0**
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**16 48 03.4**	**-0.1**
	3µm78nm,0.8s						
GARC	**Garzon, Huila**	**5.20**	**208**	P	**Pn**	**16 48 04.5**	**-0.7**
BAUV	**El Baul**	**5.41**	**67**	P	**Pn**	**16 48 06.3**	**-1.3**
POPC	**Popayan, Colom**	**5.57**	**220**	P	**Pn**	**16 48 10.2**	**+0.1**
	723nm52nm,0.8s						
FLOC	**Florencia**	**5.81**	**206**		**Pn**	**16 48 12.5**	**-0.7**
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**16 48 12.4**	**-0.7**
	2µm173nm,1.1s						
BBAC	**Balboa, Cauca**	**6.33**	**221**	P	**Pn**	**16 48 20.3**	**0.0**
GR1C	**Gorgona, Isla**	**6.34**	**233**	P	**Pn**	**16 48 18.9**	**-1.3**
PTLC	**Puerto Leguiza**	**6.83**	**195**	P	**Pn**	**16 48 28.9**	**+2.2**
	1µm81nm,0.7s						
AZU	**Azuero**	**7.21**	**278**	P	**Pn**	**16 48 31.8**	**0.0**
	29nm,1.5s						
OTAV	**Otavalo**	**8.46**	**220**		**Pn**	**16 48 47.8**	**-1.1**
OTAV	**Otavalo**	**8.46**	**220**	*eP*	**Pn**	**16 48 51.4**	**+2.5**
OTAV	**Otavalo**	**8.46**	**220**	P	**Pn**	**16 48 49.0**	**+0.1**
	17nm,0.8s						
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**16 48 54.8**	**-0.6**
	20nm,0.5s,baz=273,slow=2.7,SNR=42						
PCRV				S	**Sn**	**16 50 34.9**	**-0.3**
	20nm,0.6s,baz=243,slow=3.0,SNR=3.7						
SGC2	**Sao Gabriel da**	**9.21**	**139**	P	**Pn**	**16 48 56.2**	**-2.3**
COHC	**Cochancay**	**11.10**	**214**		**Pn**	**16 49 24.4**	**+0.9**
LCR2	**La Lucha 2**	**11.21**	**286**		**Pn**	**16 49 26.1**	**+1.0**
HOJ	**Hope**	**11.68**	**342**	*i* P	**Pn**	**16 49 34.3**	**+3.3**
STH	**Stony Hill**	**11.77**	**342**	*i* P	**P**	**16 49 35.9**	**-3.3**
MTDJ	**Mount Denham**	**12.14**	**339**		**Pn**	**16 49 37.3**	**+0.2**
MTDJ	**Mount Denham**	**12.14**	**339**	*eP*	**Pn**	**16 49 40.0**	**+2.9**
MTDJ	**Mount Denham**	**12.14**	**339**	*i* P	**Pn**	**16 49 40.4**	**+3.2**
JTS	**Las Juntas de**	**12.25**	**287**	P	**P**	**16 49 43.3**	**-1.3**
	22nm,0.8s,baz=82,slow=2.9,SNR=14						
DR12	**Loma Pena Alta**	**12.42**	**16**	Pn	**Pn**	**16 49 38.9**	**-1.8**
CELP	**Cerrillos**	**12.85**	**29**	Pn	**Pn**	**16 49 45.4**	**-0.7**
SJG	**San Juan**	**13.09**	**30**	P	**Pn**	**16 49 48.7**	**-0.5**
	13nm,0.4s,baz=211,slow=11,SNR=8.4						
SJG				S	**Sn**	**16 52 11.3**	**-2.8**
	4.3nm,0.4s,baz=198,slow=20,SNR=2.0						
GTBY	**Guantanamo Bay**	**13.18**	**352**		**P**	**16 49 54.7**	**-0.1**
GTBY	**Guantanamo Bay**	**13.18**	**352**	*eP*	**P**	**16 49 54.4**	**-0.4**
BOAV	**Boa Vista**	**13.25**	**109**	*eP*	**Pn**	**16 49 49.9**	**-1.5**
TEFE	**Tefe**	**13.27**	**140**	*eP*	**Pn**	**16 49 51.5**	**-0.1**
MASC	**Masc**	**13.32**	**355**	*eP*	**P**	**16 49 56.7**	**+0.3**
RCC	**Rio Carpintero**	**13.34**	**349**	*eP*	**P**	**16 49 56.1**	**-0.5**
MARVS	**Santiago de Cu**	**13.38**	**348**	*eP*	**P**	**16 49 55.8**	**-1.3**
QMBU	**Quimbuelo**	**13.40**	**353**	*eP*	**P**	**16 49 56.1**	**-1.2**
PILO	**Pilon**	**13.67**	**342**	*eP*	**P**	**16 49 59.2**	**-1.2**
LMGC	**Las Mercedes**	**13.71**	**344**	*eP*	**P**	**16 50 00.5**	**-0.2**
NMDO	**Nuevo Mundo**	**13.78**	**352**	*eP*	**P**	**16 50 02.5**	**+1.0**
PINC	**Pinares de May**	**13.84**	**349**	*eP*	**P**	**16 50 02.4**	**+0.3**
YAR	**Yar**	**13.84**	**347**	*eP*	**P**	**16 50 02.2**	**0.0**
HLGC	**Holguin**	**14.28**	**349**	*eP*	**P**	**16 50 11.8**	**+4.6**
CZSB	**Cruzeiro do Su**	**14.46**	**179**		**P**	**16 50 08.1**	**-1.1**
CZSB	**Cruzeiro do Su**	**14.46**	**179**	*eP*	**Pn**	**16 50 06.9**	**+0.3**
ATAH	**Atahualpa**	**14.85**	**201**	P	**P**	**16 50 13.3**	**-0.6**
	2.6nm,0.5s,baz=106,slow=7.1,SNR=4.4						
ATAH				S	**Sn**	**16 52 58.2**	**+1.1**
	2.0nm,0.5s,baz=43,slow=20,SNR=1.7						
CAMR	**Camarioca**	**18.01**	**335**	Pn	**Pn**	**16 50 50.1**	**+0.2**
CAMR				IAmb	IAmb	16 51 19.7	
	comp=Z,37nm,0.9s						
SOR	**Soroa**	**18.54**	**330**	Pn	**Pn**	**16 50 56.3**	**+0.3**
PAYG	**Puerto Ayora**	**18.73**	**247**	P	**P**	**16 50 56.7**	**+0.5**
061Z	**Ochoppi**	**20.36**	**339**	P	**P**	**16 51 14.5**	**+0.9**
ITTB	**Itaituba**	**20.56**	**122**	*eP*	Pn	16 51 17.5	-2.5
NPGB	**Novo Progresso**	**22.40**	**128**	*eP*	**P**	**16 51 35.6**	**+0.4**
VILB	**Vilhena**	**23.44**	**147**	P	**P**	**16 51 44.5**	**-0.2**
VILB				IAmb	IAmb	16 52 16.9	
	comp=Z,22nm,1.0s						
VILB	**Vilhena**	**

JGF	Kuroka	15.05	337	Pn	P	16 57 57.4	-1.9
MJAR	Matsushiro Arr	15.62	341		P	16 58 03.0	-2.5
MJAR	Matsushiro Arr	15.62	341	P	P	16 58 03.1	-2.5
	2.1nm,0.6s,baz=163,slow=10,SNR=11						
MAJO	Matsushiro	15.62	341	P	P	16 58 07.8	+2.2
MAJO				IAmb	IAmb	16 58 11.9	
	comp=Z,6.0nm,0.6s						
MJB9	Matsu-Tunnel	15.63	341	P	P	16 58 07.8	+2.2
MJB9				IAmb	IAmb	16 58 11.9	
	comp=Z,6.1nm,0.5s						
JMM	Marumori	16.26	349		P	16 58 12.8	+0.2
JMM				IAmb	IAmb	16 58 17.7	
	comp=Z,26nm,1.0s						
JNU	Nakatsue	16.51	316	P	P	16 58 17.6	+2.1
	comp=Z,4.5nm,0.7s,baz=141,slow=2.5,SNR=5.5						
H11N1	WAKE ISLAND Hy	20.96	92	T	T	17 21 28.7	
	baz=277						
H11N2	WAKE ISLAND Hy	20.96	92	T	T	17 21 16.5	
	baz=277						
H11N3	WAKE ISLAND Hy	20.97	92	T	T	17 21 07.8	
	baz=277						
H11S3	WAKE ISLAND Hy	21.01	95	T	T	17 22 02.1	
	baz=283,slow=75						
H11S1	WAKE ISLAND Hy	21.02	95	T	T	17 22 05.8	
	baz=283						
H11S2	WAKE ISLAND Hy	21.02	95	T	T	17 22 10.0	
	baz=283,slow=75						
KSRS	Korea Array	21.17	321	P	P	16 59 09.7	+3.5
	comp=Z,7.3nm,0.6s,baz=148,slow=8.6,SNR=73						
KSAR	Wonju Array Be	21.18	321	P	P	16 59 10.2	+3.8
KS19	Wonju Array Si	21.23	321	P	P	16 59 09.2	+2.3
KS19				IAmb	IAmb	16 59 10.8	
	comp=Z,7.0nm,0.6s						
SSLB	Suanglung	21.86	279	P	P	16 59 15.1	+1.3
USRK	Ussuriysk Ar.	24.57	338	P	P	16 59 41.6	+2.1
USRK	Ussuriysk Ar.	24.57	338	P	P	16 59 39.7	+0.2
	comp=Z,2.4nm,0.6s,baz=133,slow=9.5,SNR=7.1						
	comp=Z,2.4nm,0.6s						
SONM	Songino Array	40.03	320	P	P	17 01 53.4	-0.9
	comp=Z,0.6nm,0.4s,baz=126,slow=7.3,SNR=2.7						
	comp=Z,0.6nm,0.4s						
WRA	Warramunga Arr	42.77	194	P	P	17 02 16.6	-0.2
	comp=Z,0.3nm,0.3s,baz=13,slow=8.7,SNR=5.5						
	comp=Z,0.3nm,0.3s						
ASAR	Alice Springs	46.46	194	P	P	17 02 46.0	-0.1
	comp=Z,0.2nm,0.7s,baz=13,slow=6.4,SNR=6.0						
	comp=Z,0.2nm,0.7s						
MNAI	Manna	48.38	242	P	P	17 02 57.8	-3.4
ZALV	Zalesovo Beam	54.88	321	P	P	17 03 48.9	0.0
	comp=Z,2.0nm,0.4s,baz=107,slow=7.8,SNR=11						
	comp=Z,2.0nm,0.4s						
MKAR	Makanchi Array	55.53	312	P	P	17 03 54.1	+0.2
MKAR	Makanchi Array	55.53	312	P	P	17 03 54.4	+0.5
	comp=Z,1.2nm,0.6s,baz=84,slow=9.8,SNR=7.2						
	comp=Z,1.2nm,0.6s						
MAKZ	Makanchi	55.75	312	P	P	17 03 55.7	+0.3
KURBB	Kurchatov Arra	58.28	317	P	P	17 04 13.3	+0.2
	comp=Z,2.9nm,0.6s,baz=92,slow=7.6,SNR=18						
	comp=Z,2.9nm,0.6s						
ILAR	Eielson Array	61.27	27	P	P	17 04 34.5	+1.1
	comp=Z,0.5nm,0.8s,baz=260,slow=5.9,SNR=4.4						
	comp=Z,0.5nm,0.8s						
BVAR	Borovoye Array	63.38	319	P	P	17 04 48.0	+0.3
	comp=Z,2.3nm,0.4s,baz=92,slow=7.6,SNR=21						
	comp=Z,2.3nm,0.4s						
KK31	Karatay Array	63.96	308	P	P	17 04 52.1	+0.4
KK31				IAmb	IAmb	17 04 52.9	
	comp=Z,1.2nm,0.8s						
KKAR	Karatay Array	63.96	308	P	P	17 04 52.3	+0.6
AB31	Akbulak array	70.32	316	P	P	17 05 32.1	+0.4
AB31				IAmb	IAmb	17 06 06.1	
	comp=Z,1.2nm,0.9s						
ABKAR	Akbulak array	70.32	316	P	P	17 05 31.7	0.0
BBB	Bella Bella	71.39	40	P	P	17 05 37.3	-0.8
	comp=Z,6.1nm,1.1s,baz=258,slow=9.3,SNR=1.8						
	comp=Z,6.1nm,1.1s						
FIA1	FINESS Array S	83.57	335	P	P	17 06 45.5	-0.3
FINES	FINESS Array B	83.57	335	P	P	17 06 45.3	-0.4
FINES	FINESS Array B	83.57	335	P	P	17 06 45.5	-0.3
	comp=Z,1.2nm,0.5s,baz=72,slow=4.5,SNR=12						
	comp=Z,1.2nm,0.5s						
PDAR	Pinedale Array	86.33	45	P	P	17 07 01.8	+1.4
	comp=Z,0.1nm,0.3s,baz=348,slow=6.1,SNR=1.6						
	comp=Z,0.1nm,0.3s						
NOA	NORSAR Array B	89.23	339	P	P	17 07 13.7	+0.1
	comp=Z,0.3nm,0.7s,baz=67,slow=4.8,SNR=3.5						
	comp=Z,0.3nm,0.7s						
TXAR	Lajitas Array	96.88	55	P	P	17 07 50.1	+0.7
	comp=Z,0.1nm,0.5s,baz=293,slow=5.5,SNR=2.5						
	comp=Z,0.1nm,0.5s						

SOME ***04*** *16:55:57.9,42.13N×76.95E,h10km*
NNC ***04*** *16:55:58.6±0.8,42.18N×76.96E,h0km,mb3.6,mpv2.8, Error ellipse: s-maj=5.9km s-min=2.6km az=10.0*

ISC 04 16:56:00.5±2.0,42°26N±0.09×76°91E±0.04,h14km±13km, n11,σ1§63/20,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	0.78	2	P	Pg	16 56 15.3	-0.5
TNSS	0.9nm,0.2s			S	Sb	16 56 27.7	+0.9
	3.2nm,0.2s						
TNSS	Tian-Shan	0.78	2	eP	Pg	16 56 15.3	-0.5
TNSS	0.9nm,0.2s			eS	Sb	16 56 27.7	+0.9
	3.2nm,0.2s						
KST	Kastek	1.05	319	P	Pg	16 56 20.2	-0.6
KST	1.0nm,0.2s			S	Sb	16 56 36.2	+1.9
	7.4nm,0.3s						
KST	Kastek	1.05	319	eP	Pg	16 56 20.2	-0.6
KST	1.0nm,0.2s			eS	Sb	16 56 36.2	+1.9
	7.4nm,0.3s						
SATY	Saty	1.36	54	P	Pn	16 56 24.4	-0.9
SATY	2.8nm,0.1s			S	Sg	16 56 43.4	-1.2
	33nm,0.1s						
UZB	Uzynbulak	1.79	60	P	Pb	16 56 31.7	-1.6
UZB	5.7nm,0.4s			S	Sb	16 56 55.7	+0.1
	15nm,0.2s						
UZB	Uzynbulak	1.79	60	eP	Pb	16 56 31.7	-1.6
UZB	5.7nm,0.4s			eS	Sb	16 56 55.7	+0.1
	15nm,0.2s						
SGDS	Sogindy	2.06	306	Pg	Pb	16 56 37.6	-0.2
SGDS	1.0nm,0.2s			Lg	Lg	16 57 06.8	
	4.1nm,0.1s						
ARXS	Arharly	2.07	19	eP	Pb	16 56 37.9	0.0
ARXS				eS	Sg	16 57 06.4	-0.6
SHLS	Shalkode	2.08	64	Pg	Pg	16 56 41.2	+0.7
SHLS	5.9nm,0.2s			Lg	Lg	16 57 12.5	
	17nm,0.4s						
SHLS	Shalkode	2.08	64	eP	Pg	16 56 41.2	+0.7
SHLS	5.9nm,0.2s			eS	Sg	16 57 12.5	+4.9
	17nm,0.4s						

JMA 04 17:10:48.4±0.1,43.6N±0.4×144.5E±0.5,h4km±1km, TESHIKAGA REGION,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	Nakash	0.13	88	P	Pg	17 10 51.0	+0.1
JNK				S	Sg	17 10 52.8	+0.2

NIED ***04*** *17:11:54.5,39.64N×142.11E,h49km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.94; Mθθ3.25; Mφφ-1.31; Mrθ-0.31; Mθφ2.75; Mφr7.85; Fault plane solution: M₀8.46000×10¹⁴ NP1:φ91.00000°, δ25.00000°,λ-11.00000°. NP2:φ191.00000°,δ85.00000°, λ-115.00000°.*
JMA ***04*** *17:11:54.5±0.1,39.6N±0.2×142.1E±0.5,h49km,MV3.8/40, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
NEIC ***04*** *17:11:55.5±2.2,39.69N±0.06×142.2E±0.1,h59km±10km, mb4.4/7,Error ellipse: s-maj=14.2km s-min=8.8km az=105.0*

IDC ***04*** *17:11:58.3±2.6,39.58N×142.00E,h84km±23km,mb3.5/15, mbtmp3.9/19,MS2.9/5,Error ellipse: s-maj=19.3km s-min=14.1km az=83.0*

ISC 04 17:11:54.1±0.9,39.65N±0.03×142.19E±0.07,h48km±8km, n71,σ1§46/75,mb3.9/20,15D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.30	255	↓iP	Pn	17 12 03.0	0.0
MIYJ				↓S	Sn	17 12 08.8	-0.5
JTH	Tanohata	0.38	319	↓iP	Pn	17 12 04.1	+0.2
JTH				↓S	Sn	17 12 10.7	-0.1
JKEN	Kujiedanarisaw	0.66	326	i P	Pn	17 12 07.3	0.0
JKEN				S	Sn	17 12 16.6	-0.3
OFUJ	Ofunato	0.70	215	↓iP	Pn	17 12 07.4	-0.3
OFUJ				↓S	Sn	17 12 16.6	-1.1
JOM	Ohasama	0.72	256	↓iP	Pn	17 12 07.8	-0.2
JOM				↓S	Sn	17 12 17.5	-0.5
JKZ	Kuzumaki	0.74	297	↓iP	Pn	17 12 08.3	0.0
JKZ				↓S	Sn	17 12 17.9	-0.8
JANG	Nango	0.89	324	i P	Pn	17 12 10.2	-0.1
JANG				S	Sn	17 12 21.0	-1.1
JKMT	Kesennumamotoy	1.01	214	↓iP	Pn	17 12 11.6	-0.2
JKMT				↓S	Sn	17 12 24.1	-0.8
JMK	Ichinoseki	1.03	227	↓iP	Pn	17 12 11.8	-0.3
JMK				↓S	Sn	17 12 24.4	-1.1
JRG	Rokugo	1.23	258	↓iP	Pn	17 12 14.6	-0.3
JAH	Hinai	1.31	295	i P	Pn	17 12 16.1	+0.1
JIO	Ouri	1.36	209	i P	Pn	17 12 16.4	-0.3
JTM	Tenmabayashi	1.42	323		Pn	17 12 17.7	+0.2
JTM	Tenmabayashi	1.42	323	P	Pn	17 12 17.8	+0.3
JTM	Tenmabayashi	1.42	323	S	Sn	17 12 35.6	+2.8
JTM	Tenmabayashi	1.42	323	i P	Pn	17 12 17.7	+0.2
JTM				S	Sn	17 12 35.2	+0.2
JMM	Marumori	2.09	212		Pn	17 12 26.5	-0.2
JMM	Marumori	2.09	212	P	Pn	17 12 28.1	+1.4
ERM	Erimo	2.47	17		Pn	17 12 33.2	+1.3
JSD	Sado	3.47	243	P	Pn	17 12 46.1	+0.6
MAJO	Matsushiro	4.42	227		Pn	17 13 00.8	+2.2
MAJO	Matsushiro	4.42	227	P	Pn	17 13 01.6	+3.0
MJAR	Matsushiro Arr	4.42	227		Pn	17 13 00.7	+2.1
MJAR	Matsushiro Arr	4.42	227	P	Pn	17 13 01.4	+2.8
	17nm,0.7s,baz=33,slow=13,SNR=112						
MJAR				S	Sn	17 13 49.9	+1.1
	4.0nm,0.5s,baz=57,slow=18,SNR=4.4						
MJAR				LR	LR	17 15 04.6	
	comp=Z,109nm,21.6s,baz=126,slow=44						
MJB9	Matsu-Tunnel	4.42	227		Pn	17 13 01.1	+2.5
ASAJ	Asahikawa	4.47	4	P	Pn	17 13 00.6	+1.3
	8.2nm,0.3s,baz=220,slow=12,SNR=32						
ASAJ				S	Sn	17 13 47.6	-2.3
	15nm,0.4s,baz=205,slow=3.6,SNR=4.2						
JKA	Kamikawa-asahi	4.47	4		Pn	17 13 01.0	+1.7
JGF	Kuroka	5.57	225		Pn	17 13 17.2	+2.7
JGF	Kuroka	5.57	225	P	Pn	17 13 17.3	+2.8
INU	Inuyama	5.95	225		Pn	17 13 18.6	-1.0
INU	Inuyama	5.95	225	P	Pn	17 13 22.4	+2.8
USA0B	Ussuriysk Arra	8.86	304	Pn	Pn	17 13 58.7	-0.7
USRK	Ussuriysk Ar.	8.86	304		Pn	17 13 58.4	-1.0
USRK	Ussuriysk Ar.	8.86	304	P	Pn	17 14 00.5	+1.1
	7.8nm,0.7s,baz=101,slow=13,SNR=10						
USRK				LR	LR	17 17 22.9	
	comp=Z,94nm,20.1s,baz=106,slow=37						
JNU	Nakatsue	11.20	238	P	Pn	17 14 33.4	+1.8
	4.7nm,1.0s,baz=350,slow=6.1,SNR=2.1						
JNU				LR	LR	17 19 03.7	
	comp=Z,39nm,18.5s,baz=40,slow=38						
KSRS	Korea Array	11.39	263	P	Pn	17 14 37.4	+3.3
	0.8nm,0.3s,baz=72,slow=14,SNR=7.5						
KS19	Wonju Array Si	11.42	264	Pn	Pn	17 14 38.0	+3.5
KSAR	Wonju Array Be	11.42	263	Pn	Pn	17 14 37.9	+3.4
PETK	Petropavlovsk-	17.14	33	LR	LR	17 21 48.9	
	comp=Z,41nm,20.4s,baz=277,slow=34						
YAK	Yakutsk	23.67	345	P	P	17 17 00.8	-0.2
YAK				IAmb	IAmb	17 17 02.3	
	comp=Z,7.3nm,0.6s						
SONM	Songino Array	26.93	300	P	P	17 17 30.9	0.0
	comp=Z,0.6nm,0.7s,baz=114,slow=6.5,SNR=2.0						
	comp=Z,0.6nm,0.7s						
H11N2	WAKE ISLAND Hy	29.08	126	T	T	17 48 20.1	
	baz=319,slow=76,SNR=428						
H11N1	WAKE ISLAND Hy	29.09	126	T	T	17 48 24.2	
	baz=319,slow=76,SNR=423						
H11N3	WAKE ISLAND Hy	29.09	126	T	T	17 48 24.9	
	baz=319,slow=76,SNR=466						
H11S1	WAKE ISLAND Hy	29.88	128	T	T	17 49 27.2	
	baz=320,slow=76,SNR=45						
H11S3	WAKE ISLAND Hy	29.88	128	T	T	17 49 45.3	
	baz=320,slow=76,SNR=34						
H11S2	WAKE ISLAND Hy	29.89	128	T	T	17 49 24.1	
	baz=320,slow=76,SNR=38						
N14K	Kuskokwak Cree	40.02	41	P	P	17 19 21.3	-2.7
ZAA0	Zalesovo Array	40.65	310	P	P	17 19 28.4	-0.9
ZALV	Zalesovo Beam	40.65	310	P	P	17 19 28.5	-0.8
ZALV	Zalesovo Beam	40.65	310	P	P	17 19 29.3	0.0
	comp=Z,1.6nm,0.4s,baz=87,slow=8.8,SNR=9.0						
ZALV				PcP	PcP	17 21 30.3	+0.1
	comp=Z,0.5nm,0.3s,baz=134,slow=3.3,SNR=2.6						
	comp=Z,1.6nm,0.4s						
N15K	Kwethluk River	40.83	40	P	P	17 19 28.5	-2.2
N15K				IAmb	IAmb	17 19 34.2	
	comp=Z,31nm,1.4s						
G18K	Tagagawik	42.09	32	P	P	17 19 39.1	-1.9
G18K				IAmb	IAmb	17 19 46.1	
	comp=Z,11nm,1.2s						
F19K	Shaleruckik Mo	42.58	30	P	P	17 19 42.8	-2.2
F19K				IAmb	IAmb	17 19 57.1	
	comp=Z,7.3nm,1.4s						
MKAR	Makanchi Array	43.29	300	P	P	17 19 49.3	-1.7
MKAR	Makanchi Array	43.29	300	P	P	17 19 50.7	-0.3
	comp=Z,1.4nm,0.7s,baz=85,slow=11,SNR=6.5						
	comp=Z,1.4nm,0.7s						
KURK	Kurchatov	44.84	306	P	P	17 20 03.2	0.0
KURK				IAmb	IAmb	17 20 15.6	
	comp=Z,3.1nm,0.8s						
KURBB	Kurchatov Arra	44.91	306	P	P	17 20 03.5	-0.3
	comp=Z,1.5nm,0.5s,baz=80,slow=8.4,SNR=13						
	comp=Z,1.5nm,0.5s						
ILAR	Eielson Array	46.97	34	P	P	17 20 21.4	+1.5
	comp=Z,1.0nm,0.7s,baz=270,slow=6.3,SNR=13						
	comp=Z,1.0nm,0.7s						
BVAR	Borovoye Array	49.29	311	P	P	17 20 37.6	-0.4
	comp=Z,0.6nm,0.6s,baz=67,slow=8.2,SNR=4.7						
	comp=Z,0.6nm,0.6s						
ARTI	Arti	54.93	318	LR	LR	17 47 45.6	
	comp=Z,28nm,18.6s,baz=50,slow=39						
ABKAR	Akbulak array	56.74	309	P	P	17 21 32.7	-0.1
WRA	Warramunga Arr	59.74	189	P	P	17 21 53.1	-0.9
	comp=Z,0.7nm,0.5s,baz=7.2,slow=7.0,SNR=14						
	comp=Z,0.7nm,0.5s						
ASAR	Alice Springs	63.46	188	P	P	17 22 18.6	-0.5
	comp=Z,0.4nm,0.7s,baz=360,slow=4.5,SNR=10						
	comp=Z,0.4nm,0.7s						
FINES	FINESS Array B	66.79	332	P	P	17 22 40.0	-0.2
	comp=Z,1.4nm,0.7s,baz=26,slow=9.3,SNR=4.8						
	comp=Z,1.4nm,0.7s						
HFS	Hagfors	71.96	336	P	P	17 23 12.5	+0.3
	comp=Z,0.6nm,0.4s,baz=44,slow=4.7,SNR=6.9						
	comp=Z,0.6nm,0.4s						
NOA	NORSAR Array B	72.01	337	P	P	17 23 12.8	+0.2
	comp=Z,0.4nm,0.7s,baz=44,slow=4.9,SNR=1.8						
	comp=Z,0.4nm,0.7s						
AKASG	Malin Array Be	72.60	322	P	P	17 23 15.8	-0.3
	comp=Z,0.6nm,0.4s,baz=45,slow=6.6,SNR=8.3						
	comp=Z,0.6nm,0.4s						
NVAR	Mina Array Bea	72.94	54	P	P	17 23 19.4	+0.7
	comp=Z,0.9nm,0.8s,baz=282,slow=7.0,SNR=4.5						
	comp=Z,0.9nm,0.8s						
PDAR	Pinedale Array	75.41	46	P	P	17 23 34.1	+1.1
	comp=Z,0.6nm,0.6s,baz=279,slow=2.0,SNR=9.0						
	comp=Z,0.6nm,0.6s						
TXAR	Lajitas Array	88.05	53	P	P	17 24 40.9	+1.3
	comp=Z,0.2nm,0.5s,baz=298,slow=3.6,SNR=4.2						
	comp=Z,0.2nm,0.5s						

IDC ***04*** *18:06:46.0±1.0,56.22N×164.38E,h0km,mb3.4/6, mbtmp3.5/8,ML3.2/2,MS3.2/16,Error ellipse: s-maj=49.4km s-min=16.9km az=151.0*
KRSC ***04*** *18:06:46.6±1.0,56.20N×164.38E,h49km±16km,Ml4.1*

ISC 04 18:06:45.8±1.6,56.20N±0.05×164.41E±0.04,h0km±10km, n63,σ0§98/54,mb3.6/6,MS3.3/12,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.89	271	eP	Pg	18 07 02.8	0.0
KBTR				eS	Sg	18 07 14.4	0.0
KBG	Krutoberegovo	0.95	274	eP	Pg	18 07 03.7	-0.4
KBG				eS	Sg	18 07 16.6	+0.1
BKI	Bering	1.33	138	i P	Pn	18 07 11.3	-0.3
BKI				eS	Sg	18 07 28.1	-0.4
SMKR	Semkarok	1.68	284	eP	Pn	18 07 15.8	-0.7
SMKR				eS	Sn	18 07 36.6	-2.1
ZLN	Zelenaya	2.03	266	eP	Pn	18 07 21.7	+0.4
CIRR	Tsirk	2.05	269	eP	Pn	18 07 21.5	-0.1
BZGR	Bezymyannyi-Gr	2.10	264	eP	Pn	18 07 22.4	+0.1
KLY	Klyuchi	2.10	275	eP	Pn	18 07 20.6	-1.6
BZWR	Bezymyannyi-We	2.21	265	eP	Pn	18 07 23.7	-0.1
BZMR	Bezymyannaya	2.21	265	eP	Pn	18 07 24.1	+0.3
MKZ	Mys Kozlova	2.25	224	eP	Pn	18 07 23.2	-0.9
MKZ				eS	Sn	18 07 48.9	-3.7
KIRR	Kirishev	2.29	265	eP	Pn	18 07 25.1	+0.2
KPT	Kopyto	2.36	266	eP	Pn	18 07 26.1	+0.3
KMNR	Kamenistaya	2.39	261	eP	Pn	18 07 26.7	+0.5
TUMD	Tumrok D	2.48	248	eP	Pn	18 07 27.5	0.0
KOZ	Kozyrevsk	2.54	269	eP	Pn	18 07 29.3	+1.1
SRDR	Sredinnyy	2.62	274	eP	Pn	18 07 30.1	+0.8
OSSR	Ossora	3.14	347	eP	Pn	18 07 35.7	-0.8
ESO	Esso	3.21	267	eP	Pn	18 07 37.9	+0.4
KII	Karymskiy	3.58	235	eP	Pn	18 07 43.5	+1.0
PALN	Palana	3.75	322	eP	Pn	18 07 44.2	-0.6
SPN	Mys Shipunski	4.02	221	eP	Pn	18 07 47.4	-1.1
NLC	Nalytchevo	4.23	226	eP	Pn	18 07 51.8	+0.5
SDLR	Sedlovina	4.34	230	eP	Pn	18 07 53.6	+0.6
KRER	Koryakskii	4.38	231	eP	Pn	18 07 54.4	+0.7
KRX	Krik	4.39	232	eP	Pn	18 07 54.5	+0.8
SMAR	Somma	4.39	230	eP	Pn	18 07 54.2	+0.5
AVH	Avacha	4.41	231	eP	Pn	18 07 54.4	+0.4
UGLR	Uglovaya	4.41	230	eP	Pn	18 07 54.6	+0.6
KOK	Koryaka	4.44	231	eP	Pn	18 07 55.4	+1.1
GNL	Ganaly	4.50	239	eP	Pn	18 07 56.4	+1.2
DALK	Dalny	4.57	228	eP	Pn	18 07 56.1	0.0
PET	Petropavlovsk	4.62	229	eP	Pn	18 07 56.7	0.0
KRMR	Karymshinskiy	4.98	230	eP	Pn	18 08 02.5	+0.8
KRMR				eS	Sn	18 08 58.8	-1.1
PETK	Petropavlovsk-	4.98	234	Pn	Pn	18 08 01.9	+0.2
	1.1nm,0.3s,baz=64,slow=17,SNR=26						
PETK				Sn	Sn	18 09 01.9	+2.0
	0.6nm,0.3s,baz=74,slow=22,SNR=1.2						
	1.6nm,0.3s						
GRL	Gorelyy	5.20	228	eP	Pn	18 08 06.5	+1.6
MTVR	Mutnovka	5.21	227	eP	Pn	18 08 06.1	+1.1
ASAK	Asacha	5.40	228	eP	Pn	18 08 09.2	+1.6
KMSK	Kamenskaya	6.35	8	eP	Pn	18 08 21.4	+0.9
SHEM	Shemya Is, Ala	6.63	118	LR	LR	18 10 15.2	
	comp=Z,122nm,18.3s,baz=284,slow=31						
SKR	Severo-Kuril's	7.42	225	eP	Pn	18 08 35.5	+0.4
MA2	Magadan	8.02	301	LR	LR	18 11 49.3	
	comp=Z,157nm,18.6s,baz=108,slow=38						
ASAJ	Asahikawa	18.38	238	P	Pn	18 11 02.3	+0.4
	0.2nm,0.3s,baz=45,slow=10.0,SNR=2.1						
ASAJ				LR	LR	18 18 53.1	
	comp=Z,118nm,19.4s,baz=53,slow=40						
	4.0nm,0.8s						
YAK	Yakutsk	18.59	303	LR	LR	18 18 06.7	
	comp=Z,58nm,18.6s,baz=86,slow=37						
TIXI	Tiksi	21.47	330	LR	LR	18 19 33.2	
	comp=Z,77nm,20.9s,baz=146,slow=36						
USRK	Ussuriysk Ar.	23.74	253	LR	LR	18 22 02.8	
	comp=Z,82nm,18.3s,baz=45,slow=39						
ILAR	Eielson Array	24.86	50	P	P	18 12 09.8	+0.2
	0.3nm,0.8s,baz=253,slow=7.8,SNR=4.7						
	0.3nm,0.8s						
MJAR	Matsushiro Arr	26.44	233	P	P	18 12 24.1	0.0
	0.6nm,0.6s,baz=40,slow=8.0,SNR=5.5						
	0.6nm,0.6s						
DLBC	Dease Lake	34.22	58	P	P	18 13 33.7	+1.0
	0.1nm,0.4s,baz=294,slow=8.5,SNR=2.2						
DLBC				LR	LR	18 27 36.3	
	comp=Z,5.2nm,20.4s,baz=269,slow=36						
	0.1nm,0.4s						
H11N2	WAKE ISLAND Hy	36.46	176	T	T	18 52 45.2	
	baz=357,slow=76,SNR=252						
H11N3	WAKE ISLAND Hy	36.48	176	T	T	18 52 48.5	
	baz=357,slow=76,SNR=151						
H11N1	WAKE ISLAND Hy	36.48	176	T	T	18 52 46.5	
	baz=357,slow=76,SNR=156						
BBB	Bella Bella	38.26	67	LR	LR	18 28 48.8	
	comp=Z,36nm,19.3s,baz=253,slow=35						
RES	Resolute Bay	39.48	24	LR	LR	18 33 36.0	
	comp=Z,34nm,18.4s,baz=87,slow=41						
NEW	Newport	46.24	65	LR	LR	18 33 08.5	
	comp=Z,32nm,18.6s,baz=322,slow=34						
BVAR	Borovoye Array	50.42	309	P	P	18 15 44.4	-0.1
	0.8nm,0.7s,baz=54,slow=9.8,SNR=4.7						
BVAR				LR	LR	18 38 55.7	
	comp=Z,38nm,18.3s,baz=69,slow=38						
	0.8nm,0.7s						
ARCES	ARCESS Array B	51.09	343	LR	LR	18 41 39.0	
	comp=Z,25nm,18.3s,baz=11,slow=41						
ARTI	Arti	52.89	318	LR	LR	18 41 40.0	
	comp=Z,40nm,18.5s,baz=41,slow=40						
PDAR	Pinedale Array	53.88	65	P	P	18 16 10.2	-0.5
	0.4nm,0.6s,baz=316,slow=4.1,SNR=4.2						
	0.4nm,0.6s						
SFJD	Kangerlussuaq	54.36	16	LR	LR	18 41 11.9	
	comp=Z,33nm,18.9s,baz=30,slow=38						
FINES	FINESS Array B	58.22	338	LR	LR	18 45 04.4	
	comp=Z,26nm,18.1s,baz=47,slow=40						
SADO

DAV	**Davao City (W)**	**7.75**	**19**	LR	LR	18 13 37.1	
	comp=Z,126nm,18.2s,baz=112,slow=40						
BNDI	**Bandanaira**	**8.04**	**122**	P	**Pn**	**18 10 19.9**	**+2.2**
BNDI	**Bandanaira**	**8.04**	**122**	P	**Pn**	**18 10 17.8**	**+0.1**
SWI	**Sorong**	**8.24**	**94**	P	**Pn**	**18 10 21.8**	**+1.3**
	4µm389nm,1.1s						
MMRI	**Maumere**	**8.31**	**185**		**Pn**	**18 10 22.5**	**+1.0**
MMRI	**Maumere**	**8.31**	**185**	P	**Pn**	**18 10 23.5**	**+2.0**
MMRI	**Maumere**	**8.31**	**185**	P	**Pn**	**18 10 21.5**	**0.0**
	2µm157nm,0.8s						
EDFI	**Ende, Flores**	**8.49**	**189**	P	**Pn**	**18 10 24.5**	**+0.5**
	1µm82nm,0.6s						
KKM	**Kota Kinabalu**	**9.28**	**313**		**Pn**	**18 10 37.6**	**+2.8**
KKM	**Kota Kinabalu**	**9.28**	**313**	P	**Pn**	**18 10 38.0**	**+3.2**
SOEI	**Soe**	**9.47**	**173**		Pn	18 10 43.1	+5.8
SOEI	**Soe**	**9.47**	**173**	P	**Pn**	**18 10 37.9**	**+0.6**
	2µm97nm,0.8s						
FAKI	**Fak Fak**	**9.57**	**106**		**Pn**	**18 10 38.0**	**-0.6**
FAKI	**Fak Fak**	**9.57**	**106**	P	**Pn**	**18 10 37.4**	**-1.2**
	190nm,0.8s						
BATI	**Baumata**	**9.86**	**176**	P	Pn	18 10 48.4	+5.9
	11nm,0.6s,baz=304,slow=16,SNR=1.4						
BATI				LR	LR	18 14 44.9	
	comp=Z,142nm,20.8s,baz=339,slow=39						
BATI	**Baumata**	**9.86**	**176**	P	**Pn**	**18 10 43.1**	**+0.6**
	31nm,0.7s						
PLAI	**Plampang**	**9.96**	**212**	P	**Pn**	**18 10 44.7**	**+0.8**
	29nm,0.9s						
WBSI	**Waikabubak, Su**	**9.96**	**201**	P	**Pn**	**18 10 44.8**	**+0.8**
	52nm,0.9s						
SBUM	**Sibu**	**11.15**	**284**		**Pn**	**18 11 01.0**	**+0.8**
KMPI	**Kaimana, Papua**	**11.17**	**107**	P	**Pn**	**18 11 00.0**	**-0.4**
	244nm,0.7s						
TGY	**Tagaytay City**	**14.47**	**352**	P	**P**	**18 11 50.3**	**+1.2**
	184nm,0.6s,baz=180,slow=15,SNR=7.4						
MTN	**Manton Dam**	**14.82**	**148**		**P**	**18 11 52.5**	**-0.6**
MTN	**Manton Dam**	**14.82**	**148**	P	**Pn**	**18 11 49.3**	**+0.2**
	comp=Z,35nm,0.9s						
KDU	**Kakadu**	**15.46**	**143**	P	**Pn**	**18 11 57.6**	**+0.4**
	comp=Z,38nm,1.4s						
SMPI	**Sarmi**	**15.76**	**96**	P	**Pn**	**18 12 02.8**	**+1.7**
	comp=Z,68nm,1.3s						
KNRA	**Kununurra**	**16.29**	**160**		**P**	**18 12 10.0**	**+0.7**
KNRA	**Kununurra**	**16.29**	**160**	P	**Pn**	**18 12 09.3**	**+1.7**
	comp=Z,30nm,1.1s						
LEM	**Lembang**	**16.69**	**247**	LR	LR	18 19 26.1	
	comp=Z,173nm,18.0s,baz=36,slow=40						
CNJI	**Cibinong**	**17.32**	**246**	P	**P**	**18 12 22.4**	**+1.6**
	comp=Z,46nm,1.2s						
JAY	**Jayapura**	**17.80**	**97**	P	**P**	**18 12 27.5**	**+1.4**
	comp=Z,12nm,0.9s,baz=271,slow=16,SNR=4.1						
JAY				LR	LR	18 21 10.1	
	comp=Z,77nm,18.0s,baz=290,slow=43						
JAY	**Jayapura**	**17.80**	**97**	P	**Pn**	**18 12 28.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**17.86**	**172**	P	**P**	**18 12 27.0**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=7.9,slow=7.8,SNR=8.7						
KASI	**Kota Agung**	**19.22**	**254**	P	**Pn**	**18 12 44.3**	**+0.9**
MDSI	**Maura Dua**	**19.29**	**257**	P	**Pn**	**18 12 43.4**	**-0.8**
	comp=Z,37nm,0.8s						
MNAI	**Manna**	**20.46**	**258**	P	**P**	**18 12 54.8**	**-0.3**
MBWA	**Marble Bar**	**20.98**	**189**	P	**P**	**18 13 01.7**	**+1.1**
MBWA				IAmb	IAmb	18 13 19.9	
	comp=Z,26nm,1.1s						
PSAA2	**Pilbara Seismi**	**21.36**	**188**	P	**P**	**18 13 06.5**	**+1.8**
	comp=Z,22nm,1.2s						
PSA00	**Pilbara Seismi**	**21.36**	**188**	P	**P**	**18 13 04.6**	**-0.2**
SDSI	**Sungai Dareh**	**21.61**	**268**	P	**P**	**18 13 09.6**	**+2.1**
	comp=Z,30nm,1.1s						
WB0	**Warramunga Arr**	**22.31**	**151**		**P**	**18 13 14.2**	**-0.7**
WB0				IAmb	IAmb	18 13 35.2	
	comp=Z,30nm,0.9s						
WRA	**Warramunga Arr**	**22.44**	**151**	P	**P**	**18 13 13.7**	**-2.6**
WRA	**Warramunga Arr**	**22.44**	**151**	P	**P**	**18 13 15.7**	**-0.6**
	comp=Z,7.9nm,0.9s,baz=340,slow=11,SNR=38						
WRA				pP	**pP**	**18 13 33.4**	**+1.1**
	comp=Z,14nm,0.8s,baz=329,slow=10,SNR=11						
WRA				PcP	**PcP**	**18 17 07.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=320,slow=2.6,SNR=1.8						
WRA				ScP	**ScP**	**18 20 36.8**	**-2.4**
	comp=Z,2.7nm,1.0s,baz=334,slow=2.8,SNR=8.9						
	comp=Z,7.9nm,0.9s						
WR8	**Warramunga Arr**	**22.53**	**151**		**P**	**18 13 16.3**	**-0.9**
WR8				IAmb	IAmb	18 13 47.0	
	comp=Z,32nm,1.0s						
KULM	**Kulim**	**23.04**	**284**	P	**P**	**18 13 20.1**	**-2.4**
KULM				IAmb	IAmb	18 13 53.1	
	comp=Z,31nm,1.4s						
TPUB	**Ta-pu**	**23.58**	**354**		**P**	**18 13 28.0**	**+0.5**
YULB	**Yu-li**	**23.62**	**356**	P	**P**	**18 13 25.5**	**-2.3**
YULB				IAmb	IAmb	18 13 31.7	
	comp=Z,17nm,0.7s						
SSLB	**Suanglung**	**24.04**	**355**		**P**	**18 13 29.6**	**-2.0**
SSLB				IAmb	IAmb	18 14 13.1	
	comp=Z,52nm,1.1s						
COEN	**Coen**	**24.11**	**125**	P	**P**	**18 13 31.9**	**-0.4**
COEN				IAmb	IAmb	18 14 09.5	
	comp=Z,26nm,1.0s						
COEN	**Coen**	**24.11**	**125**	P	**P**	**18 13 33.2**	**+0.9**
	comp=Z,27nm,1.2s						
PSI	**Prapat**	**24.30**	**277**	LR	LR	18 24 51.3	
	comp=Z,130nm,19.0s,baz=62,slow=41						
NACB	**Ningamchiao**	**24.38**	**357**	P	**P**	**18 13 32.4**	**-2.1**
PBSI	**Pulau Batu**	**24.76**	**271**	P	**P**	**18 13 40.0**	**+1.8**
	comp=Z,87nm,1.4s						
YHNB	**Yeheng**	**24.88**	**356**	P	**P**	**18 13 38.9**	**-0.4**
YHNB				IAmb	IAmb	18 13 43.1	
	comp=Z,19nm,0.8s						
WRKA	**Warakurna**	**25.11**	**169**	P	**P**	**18 13 41.6**	**+0.3**
	comp=Z,7.0nm,1.0s						
AS31	**Alice Springs**	**25.50**	**156**		**P**	**18 13 45.1**	**+0.2**
ASAR	**Alice Springs**	**25.50**	**156**		**P**	**18 13 45.5**	**+0.6**
ASAR	**Alice Springs**	**25.50**	**156**	P	**P**	**18 13 45.2**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=342,slow=14,SNR=54						
ASAR				pP	**pP**	**18 14 04.0**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=349,slow=16,SNR=9.3						
ASAR				PcP	**PcP**	**18 17 14.5**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=338,slow=2.2,SNR=6.0						
ASAR				ScP	**ScP**	**18 20 45.5**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=338,slow=2.8,SNR=8.2						
ASAR				LR	LR	18 23 33.2	
	comp=Z,54nm,21.9s,baz=326,slow=36						
	comp=Z,4.2nm,0.8s						
GSI	**Gunungsitoli**	**25.51**	**274**	P	**P**	**18 13 43.3**	**-1.7**
GSI				IAmb	IAmb	18 14 16.6	
	comp=Z,23nm,0.7s						
GSI	**Gunungsitoli**	**25.51**	**274**	P	**P**	**18 13 46.0**	**+0.9**
	comp=Z,32nm,1.1s						
QIS	**Mount Isa**	**25.84**	**142**	P	**P**	**18 13 48.6**	**+0.6**
	comp=Z,14nm,0.7s						
MORW	**Morawa**	**29.37**	**193**	P	**P**	**18 14 19.3**	**-0.2**
MORW				IAmb	IAmb	18 14 38.8	
	comp=Z,22nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.14**	**309**	P	**P**	**18 14 25.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=140,slow=7.4,SNR=5.0						
CMAR				sP	**sP**	**18 14 54.9**	**+1.9**
	comp=Z,4.4nm,1.0s,baz=136,slow=7.0,SNR=5.0						
CMAR				LR	LR	18 27 33.0	
	comp=Z,32nm,19.6s,baz=115,slow=38						
	comp=Z,0.6nm,0.6s						
FORT	**Forrest**	**30.68**	**172**	P	**P**	**18 14 31.4**	**+0.4**
INKA	**Innaminka**	**32.14**	**150**	P	**P**	**18 14 44.1**	**+0.3**
NJ2	**Nanjing**	**32.42**	**353**	*eP*	**P**	**18 14 48.1**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.9s						
ENH	**Enshi**	**33.03**	**338**	P	**P**	**18 14 49.5**	**-2.2**
PZH	**PanZhiHua**	**33.64**	**324**	P	**P**	**18 14 57.9**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BBOO	**Buckleboo**	**34.58**	**160**	P	**P**	**18 15 04.1**	**-1.0**
STKA	**Stephens Creek**	**35.97**	**153**	P	**P**	**18 15 16.4**	**-0.6**
STKA	**Stephens Creek**	**35.97**	**153**	P	**P**	**18 15 16.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=341,slow=8.1,SNR=5.0						
STKA				pP	**pP**	**18 15 36.4**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=344,slow=7.2,SNR=3.9						
	comp=Z,2.0nm,0.7s						
HTT	**Hallett**	**36.18**	**157**	P	**P**	**18 15 19.6**	**+0.9**
	comp=Z,3.8nm,1.3s						
XAN	**Xi'an**	**36.65**	**340**	P	**P**	**18 15 22.7**	**0.0**
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
XAN				LR	LR		
	comp=N,340nm,18.0s						
XAN				LR	LR		
	comp=E,350nm,16.3s						
XAN				LR	LR		
	comp=Z,290nm,14.9s						
CMSA	**Cobar Meteorol**	**37.75**	**148**	P	**P**	**18 15 33.4**	**+1.3**
	comp=Z,9.8nm,2.5s						
KSRS	**Korea Array**	**37.84**	**6**	P	**P**	**18 15 31.4**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=185,slow=9.6,SNR=4.2						
KSRS				pP	**pP**	**18 15 51.9**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=183,slow=8.7,SNR=1.8						
KSRS				sP	**sP**	**18 16 02.0**	**+2.4**
	comp=Z,1.0nm,0.8s,baz=181,slow=8.4,SNR=3.9						
	comp=Z,0.4nm,0.4s						
JGF	**Kuroka**	**38.14**	**19**	P	**P**	**18 15 34.5**	**-0.9**
JGF				IAmb	IAmb	18 15 39.9	
	comp=Z,16nm,1.4s						
MAJO	**Matsushiro**	**39.28**	**19**	P	**P**	**18 15 43.1**	**-1.7**
MAJO				IAmb	IAmb	18 15 44.6	
	comp=Z,7.5nm,1.1s						
MJAR	**Matsushiro Arr**	**39.28**	**19**	P	**P**	**18 15 42.6**	**-2.2**
MJAR	**Matsushiro Arr**	**39.28**	**19**	P	**P**	**18 15 43.3**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=193,slow=9.3,SNR=9.6						
MJAR				pP	**pP**	**18 16 04.1**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=184,slow=9.0,SNR=4.6						
	comp=Z,3.3nm,0.9s						
MJB9	**Matsu-Tunnel**	**39.28**	**19**	P	**P**	**18 15 43.0**	**-1.8**
ARMA	**Armidale**	**40.44**	**140**	P	**P**	**18 15 55.6**	**+1.0**
ARMA				IAmb	IAmb	18 16 22.4	
	comp=Z,9.4nm,0.9s						
JMM	**Marumori**	**41.37**	**21**	P	**P**	**18 16 01.2**	**-0.8**
JMM				IAmb	IAmb	18 16 26.9	
	comp=Z,10.0nm,0.8s						
CAN	**Canberra**	**42.42**	**148**	P	**P**	**18 16 10.7**	**-0.1**
CAN				IAmb	IAmb	18 16 51.4	
	comp=Z,23nm,1.2s						
LSA	**Lhasa**	**42.60**	**317**	P	**P**	**18 16 10.7**	**-2.1**
PALK	**Pallekele**	**42.89**	**281**	LR	LR	18 33 53.0	
	comp=Z,65nm,21.8s,baz=103,slow=36						
JTM	**Tenmabayashi**	**44.06**	**20**	P	**P**	**18 16 23.1**	**-0.7**
EVN	**Everest**	**44.67**	**312**	P	**P**	**18 16 27.5**	**-2.1**
EVN				IAmb	IAmb	18 16 55.7	
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**44.88**	**334**	*eP*	**P**	**18 16 32.6**	**+2.0**
GTA				pP	pwP	18 16 53.6	+1.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				LR	LR		
	comp=N,210nm,19.3s						
GTA				LR	LR		
	comp=E,180nm,18.9s						
GTA				LR	LR		
	comp=Z,130nm,18.2s						
USRK	**Ussuriysk Ar.**	**45.03**	**9**	P	**P**	**18 16 30.7**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=201,slow=7.9,SNR=2.1						
USRK				LR	LR	18 34 33.3	
	comp=Z,25nm,21.0s,baz=152,slow=35						
	comp=Z,1.7nm,0.5s						
MDJ	**Mudanjiang**	**45.11**	**7**	P	**P**	**18 16 31.4**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ERM	**Erimo**	**45.88**	**21**	P	**P**	**18 16 38.1**	**-0.1**
ERM				IAmb	IAmb	18 17 09.5	
	comp=Z,11nm,1.1s						
ASAJ	**Asahikawa**	**47.55**	**19**	P	**P**	**18 16 51.2**	**0.0**
	comp=Z,2.4nm,0.4s,baz=198,slow=16,SNR=5.6						
ASAJ				pP	**pP**	**18 17 11.1**	**+1.3**
	comp=Z,6.0nm,0.7s,baz=198,slow=6.4,SNR=2.8						
ASAJ				LR	LR	18 38 25.5	
	comp=Z,20nm,20.0s,baz=176,slow=38						
	comp=Z,2.4nm,0.4s						
JKA	**Kamikawa-asahi**	**47.55**	**19**	P	**P**	**18 16 50.4**	**-0.8**
JKA				IAmb	IAmb	18 16 53.8	
	comp=Z,20nm,1.2s						
SONM	**Songino Array**	**50.09**	**345**	P	**P**	**18 17 09.6**	**-1.2**
SONM	**Songino Array**	**50.09**	**345**	P	**P**	**18 17 10.0**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=163,slow=8.3,SNR=16						
SONM				pP	**pwP**	**18 17 31.5**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=162,slow=8.6,SNR=4.4						
SONM				sP	**sP**	**18 17 40.7**	**+2.5**
	comp=Z,3.4nm,1.0s,baz=160,slow=9.4,SNR=3.7						
	comp=Z,2.9nm,0.8s						
HEH	**HeiHe**	**50.51**	**4**	*eP*	**P**	**18 17 13.3**	**-0.4**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ	**Urumqi**	**54.07**	**329**	*eP*	**P**	**18 17 42.5**	**+2.1**
WMQ				LR	LR		
	comp=Z,150nm,23.9s						
MKAR	**Makanchi Array**	**58.89**	**328**	P	**P**	**18 18 13.7**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=122,slow=8.8,SNR=19						
MKAR				pP	**pP**	**18 18 35.1**	**+1.4**
	comp=Z,2.1nm,0.6s,baz=124,slow=8.6,SNR=4.7						
MKAR				LR	LR	18 44 58.2	
	comp=Z,28nm,20.6s,baz=81,slow=37						
	comp=Z,1.2nm,0.3s						
PEA0B	**Petropavlovsk-**	**60.55**	**23**	P	**P**	**18 18 25.9**	**+0.2**
PEA0B				IAmb	IAmb	18 18 53.4	
	comp=Z,11nm,1.2s						
PETK	**Petropavlovsk-**	**60.55**	**23**	P	**P**	**18 18 25.6**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=223,slow=2.8,SNR=33						
	comp=Z,1.8nm,0.5s						
AAK	**Arcba**	**60.99**	**321**	pP	**pP**	**18 18 49.8**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=170,slow=6.1,SNR=2.0						
AAK				LR	LR	18 47 12.6	
	comp=Z,35nm,18.3s,baz=118,slow=38						
ARSB	**Arslanbob**	**61.31**	**319**	P	**P**	**18 18 30.8**	**-0.5**
ARSB				IAmb	IAmb	18 18 55.0	
	comp=Z,7.2nm,1.0s						
BKZ	**Black Stump Fm**	**62.21**	**135**	P	**P**	**18 18 38.0**	**+0.7**
YAK	**Yakutsk**	**62.38**	**4**	P	**P**	**18 18 35.8**	**-2.0**
	comp=Z,5.1nm,0.3s,baz=210,slow=16,SNR=1.8						
YAK				pP	**pwP**	**18 18 59.1**	**-1.0**
	comp=Z,4.8nm,0.5s,baz=105,slow=4.0,SNR=1.2						
YAK				LR	LR	18 48 06.9	
	comp=Z,18nm,18.4s,baz=194,slow=38						
	comp=Z,5.1nm,0.3s						
ZALV	**Zalesovo Beam**	**62.60**	**336**	P	**P**	**18 18 38.3**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=140,slow=6.9,SNR=3.3						
ZALV				pP	**pP**	**18 18 59.7**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=120,slow=5.8,SNR=2.1						
ZALV				sP	**sP**	**18 19 09.0**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=132,slow=4.4,SNR=3.8						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.24**	**330**	P	**P**	**18 18 42.6**	**-1.2**
	comp=Z,0.8nm,0.2s,baz=130,slow=6.8,SNR=4.6						
KURBB				pP	**pP**	**18 19 04.3**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=131,slow=6.1,SNR=2.2						
	comp=Z,0.8nm,0.2s						
KURK	**Kurchatov**	**63.26**	**330**	P	**P**	**18 18 42.1**	**-1.8**
KURK				IAmb	IAmb	18 19 16.1	
	comp=Z,8.8nm,0.9s						
MA2	**Magadan**	**63.52**	**15**	P	**P**	**18 18 45.1**	**-0.3**
MA2	**Magadan**	**63.52**	**15**	LR	LR	18 49 36.1	
	comp=Z,12nm,18.4s,baz=248,slow=39						
KKAR	**Karatay Array**	**63.77**	**320**	P	**P**	**18 18 45.8**	**-1.7**
SHEM	**Shemya Is, Ala**	**67.79**	**31**	LR	LR	18 45 45.8	
	comp=Z,13nm,19.9s,baz=112,slow=33						
BVAR	**Borovoye Array**	**68.76**	**329**	P	**P**	**18 19 17.5**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=146,slow=7.9,SNR=2.0						
BVAR				pP	**pP**	**18 19 40.0**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=147,slow=8.9,SNR=4.4						
	comp=Z,0.2nm,0.4s						
TIXI	**Tiksi**	**71.94**	**2**	P	**P**	**18 19 36.2**	**-2.0**
TIXI				IAmb	IAmb	18 20 04.2	
	comp=Z,12nm,1.4s						
TIXI	**Tiksi**	**71.94**	**2**	LR	LR	18 51 30.5	
	comp=Z,18nm,21.8s,baz=188,slow=36						
ATKA	**Atka Island**	**73.89**	**35**	P	**P**	**18 19 48.5**	**-1.5**
VNDA	**Vanda**	**79.94**	**172**	P	**P**	**18 20 22.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=325,slow=2.3,SNR=3.9						
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**89.63**	**180**	P	**P**	**18 21 13.1**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=50,slow=0.4,SNR=8.2						
QSPA				pP	**pP**	**18 21 34.6**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=296,slow=3.6,SNR=3.4						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**90.31**	**25**	P	**P**	**18 21 13.6**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=243,slow=5.2,SNR=8.4						
	comp=Z,0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**93.69**	**349**	P	**P**	**18 21 28.4**	**-2.6**
	comp=Z,0.8nm,0.4s,baz=81,slow=8.9,SNR=7.1						
	comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**99.81**	**331**	P	**Pdif**	**18 21 55.7**	**-3.4**
	comp=Z,1.3nm,0.9s,baz=90,slow=3.5,SNR=4.1						
	comp=Z,1.3nm,0.9s						

*IDC **04** 18:11:56.2±2.8,51°.73N×176°.22W,h0km, mb3.4/3, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=73.2km s-min=42.4km az=6.0*
*AEIC **04** 18:12:20.0±0.6,51°.9N±0°.1×173°.32W±0°.07,h52km±9km, Error ellipse: s-maj=21.4km s-min=6.3km az=177.0*

*NEIC **04** 18:12:20.4±0.8,51°.76N±0°.09×173°.29W±0°.02,h35km±2km, ML2.8(AEIC), Error ellipse: s-maj=15.4km s-min=3.1km az=4.0*

ISC 04 18:12:18.9±1.1,51°.9N±0°.2×173°.24W±0°.05,h59km,n21, σt1.330/25,mb3.5/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.66**	**297**			**Pn**	**18 12 33.1**	**+0.6**
ATKA						**Sn**	**18 12 43.7**	**+1.1**
GSMY	**Great Sitkin M**	**1.75**	**276**			**Pn**	**18 12 47.6**	**+0.7**
GSMY						**Sn**	**18 13 08.7**	**+0.5**
GSTR	**Great Sitkin T**	**1.76**	**277**			**Sn**	**18 13 09.8**	**+1.5**
GSTR	**Great Sitkin T**	**1.76**	**277**			**Pn**	**18 12 48.2**	**+1.2**
GSTD	**Great Sitkin T**	**1.81**	**276**			**Pn**	**18 12 48.4**	**+0.7**
GSTD						**Sn**	**18 13 09.9**	**+0.3**
GSSP	**Great Sitkin S**	**1.83**	**277**			**Pn**	**18 12 49.0**	**+1.1**
ETKA	**Kagalaska Isla**	**1.97**	**270**			**Pn**	**18 12 50.8**	**+1.0**
ETKA						**Sn**	**18 13 14.2**	**+0.8**
ADAG	**Mount Adagdak**	**2.08**	**273**			**Pn**	**18 12 52.7**	**+1.3**
ADK	**Adak**	**2.14**	**271**			**Sn**	**18 13 18.6**	**+1.1**
ADK	**Adak**	**2.14**	**271**			**Pn**	**18 12 53.5**	**+1.3**
KIWB	**Kanaga Island**	**2.43**	**270**			**Pn**	**18 12 57.4**	**+1.3**
KIKV	**Kanaga Island**	**2.44**	**271**			**Pn**	**18 12 57.3**	**+1.1**
NIKH	**Nikolski High**	**2.88**	**67**			**Pn**	**18 13 05.1**	**+2.8**
TAFL	**Tanaga Flats**	**2.90**	**269**			**Pn**	**18 13 03.7**	**+1.2**
TASE	**Tanaga Southea**	**2.98**	**270**			**Pn**	**18 13 04.8**	**+1.1**
GAKI	**Gareloi-Kavalg**	**3.49**	**266**			**Pn**	**18 13 11.2**	**+0.7**
AMKA	**Amchitka**	**4.68**	**266**		Pn	**Pn**	**18 13 28.2**	**+1.3**
ILAR	**Eielson Array**	**18.71**	**36**	P		**P**	**18 16 29.8**	**-2.4**
	0.3nm,0.3s,baz=234,slow=8.4,SNR=16							
	0.5nm,0.4s							
ELK	**Elko**	**40.55**	**82**	P		**P**	**18 19 51.6**	**-0.9**
	0.4nm,0.5s,baz=309,slow=8.6,SNR=3.8							
	0.4nm,0.5s							
PDAR	**Pinedale Array**	**42.83**	**76**	P		**P**	**18 20 10.4**	**-0.6**
	0.6nm,0.7s,baz=308,slow=7.6,SNR=5.1							
	0.6nm,0.7s							
TXAR	**Lajitas Array**	**55.15**	**86**	P		**P**	**18 21 44.4**	**-0.9**
	0.1nm,0.5s,baz=325,slow=7.0,SNR=2.1							
	0.1nm,0.5s							

*IDC **04** 18:36:14.3±0.5,13°.63N×120°.79E,h158km±3km,mb3.8/25, mbtmp4.2/25,MS4.0/3,Error ellipse: s-maj=17.2km s-min=8.7km az=70.0*
*NEIC **04** 18:36:14.9±1.3,13°.62N±0°.08×120°.8E±0°.1,h163km±7km, mb4.5/64,Error ellipse: s-maj=18.6km s-min=12.3km az=84.0*

ISC 04 18:36:14.8±0.6,13°.62N±0°.05×120°.82E±0°.09,h163km±5km, n115,σt0.890/114,mb4.4/68,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.49**	**13**	P		**Pn**	**18 36 37.5**	**-0.2**
	15µm,0.5s,baz=249,slow=2.0,SNR=417							
TGY				S		**Sn**	**18 36 54.6**	**-0.7**
	4µm,0.5s,baz=129,slow=22,SNR=6.8							
MYLDM	**Lahad Datu**	**8.69**	**195**			**Pn**	**18 38 16.8**	**-0.6**
YULB	**Yu-li**	**9.73**	**3**	Pn		**Pn**	**18 38 31.0**	**-0.2**
SBUM	**Sibu**	**13.98**	**218**	P		**P**	**18 39 32.0**	**+3.1**
JOW	**Kunigami**	**14.88**	**27**	LR		LR	18 45 43.9	
	comp=Z,77nm,19.4s,baz=110,slow=38							
NJ2	**Nanjing**	**18.44**	**355**	*eP*		**Pn**	**18 40 19.2**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KAPI	**Kappang**	**18.54**	**183**	P		**Pn**	**18 40 22.3**	**+1.0**
	comp=Z,25nm,0.5s,baz=329,slow=5.3,SNR=13							
JNU	**Nakatsue**	**21.47**	**24**	P		**P**	**18 40 51.1**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=212,slow=16,SNR=2.2							
	comp=Z,3.9nm,0.8s							
CMAR	**Chiang Mai Arr**	**21.57**	**286**	P		**P**	**18 40 52.2**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=98,slow=7.7,SNR=31							
CMAR				PcP		**PcP**	**18 44 48.6**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=68,slow=0.4,SNR=8.6							
	comp=Z,6.4nm,0.7s							
CHTO	**Chiang Mai**	**21.63**	**287**			**P**	**18 40 51.1**	**-1.2**
PZH	**PanZhiHua**	**22.00**	**309**	P		**P**	**18 40 56.2**	**0.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.2s							
LYN	**LuoYang**	**22.17**	**341**	P

comp=Z,8.6nm,0.7s
MKAR Makanchi Array 46.17 324 P P 18 44 22.4 -0.7
MKAR Makanchi Array 46.17 324 P P 18 44 23.1 -0.1
comp=Z,5.8nm,0.7s,baz=127,slow=8.9,SNR=39
MKAR PcP **PcP 18 45 56.3 0.0**
comp=Z,1.1nm,0.7s,baz=139,slow=4.3,SNR=2.5
comp=Z,5.8nm,0.7s
MAKZ Makanchi 46.36 323 P P 18 44 24.9 +0.3
MAKZ IAmb IAmb 18 44 25.9
comp=Z,7.4nm,0.6s
NWAO Narrogin (SRO) 46.41 184 P P 18 44 24.8 -0.3
KSH Kashi 47.04 312 P P 18 44 32.4 +2.2
KSH pmax pmax
comp=Z,4.0nm,1.0s
KDJ Kajisay 47.18 316 P P 18 44 31.4 +0.1
KDJ IAmb IAmb 18 44 32.7
comp=Z,19nm,1.2s
BBOO Buckleboo 48.41 163 P P 18 44 40.1 -0.4
YAK Yakutsk 48.76 6 P P 18 44 42.5 -0.2
PEA0B Petropavlovsk- 49.04 29 P P 18 44 45.8 +0.7
PETK Petropavlovsk- 49.04 29 P P 18 44 45.8 +0.7
PETK Petropavlovsk- 49.04 29 P P 18 44 45.9 +0.8
comp=Z,2.4nm,0.8s,baz=204,slow=3.3,SNR=6.1
PETK PcP **PcP 18 46 05.7 -0.7**
comp=Z,1.0nm,0.6s,baz=227,slow=5.6,SNR=2.2
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 49.19 333 P 18 44 44.3 -1.9
ZALV Zalesovo Beam 49.19 333 P P 18 44 45.6 -0.6
comp=Z,4.6nm,0.4s,baz=129,slow=6.7,SNR=18
comp=Z,4.6nm,0.4s
AAK Ala-Archa 49.21 315 LR LR 19 08 51.6
comp=Z,788nm,18.3s,baz=207,slow=40
STKA Stephens Creek 49.42 157 P P 18 44 47.1 -1.2
STKA Stephens Creek 49.42 157 P P 18 44 48.1 -0.2
comp=Z,1.3nm,0.4s,baz=330,slow=10,SNR=9.5
comp=Z,1.3nm,0.4s
ARSB Arslanbob 49.80 313 P P 18 44 49.3 -2.0
ARSB IAmb IAmb 18 44 52.7
comp=Z,6.7nm,0.7s
KURBB Kurchatov Arra 50.32 326 P P 18 44 54.8 0.0
comp=Z,7.2nm,0.6s,baz=132,slow=7.4,SNR=112
comp=Z,7.2nm,0.6s
KURK Kurchatov 50.32 326 P 18 44 54.6 -0.2
GAR Garm 51.06 309 P 18 44 59.7 -1.1
KK31 Karatay Array 52.12 314 P 18 45 06.7 -1.7
KK31 IAmb IAmb 18 45 09.4
comp=Z,6.1nm,0.8s
KKAR Karatay Array 52.12 314 P 18 45 07.9 -0.5
BVAR Borovoye Array 55.91 326 P P 18 45 35.5 -0.1
comp=Z,2.9nm,0.8s,baz=114,slow=8.5,SNR=16
comp=Z,2.9nm,0.6s
TOO Toolangi 55.95 156 P P 18 45 34.0 -2.0
BRVK Borovoye 55.98 326 P 18 45 35.6 -0.5
BRVK IAmb IAmb 18 45 37.3
comp=Z,12nm,1.2s
TIXI Tiksi 58.21 3 P 18 45 51.2 -0.2
AB31 Akbulak array 60.87 319 P 18 46 09.5 -0.6
AB31 IAmb IAmb 18 46 10.8
comp=Z,6.5nm,0.8s
ABKAR Akbulak array 60.87 319 P 18 46 09.6 -0.5
RAYN Ar Rayn 71.40 290 P 18 47 16.4 -1.4
RAYN IAmb IAmb 18 47 18.7
comp=Z,14nm,0.9s
C16K Lisburne Hills 71.46 22 P P 18 47 17.4 +0.3
C18K Utukok River 73.03 22 P P 18 47 25.9 -0.8
C18K IAmb IAmb 18 47 28.4
comp=Z,12nm,1.1s
C19K Lookout Ridge 73.66 22 P P 18 47 29.4 -0.9
BKZ Black Stump Fm 73.79 138 P P 18 47 31.6 +0.1
H18K Honhosa River 73.88 26 P P 18 47 30.3 -1.2
H18K IAmb IAmb 18 48 03.2
comp=Z,15nm,1.4s
D19K Kuna River 74.15 22 P P 18 47 32.5 -0.6
D19K IAmb IAmb 18 47 35.4
comp=Z,9.4nm,0.9s
E19K Redstone River 74.43 23 P P 18 47 34.0 -0.7
H19K Roundabout Mou 74.70 25 IAmb IAmb 18 47 38.7
comp=Z,8.9nm,0.8s
J20K Nowinta River 75.69 27 P 18 47 42.5 +0.6
J20K IAmb IAmb 18 47 44.4
comp=Z,9.3nm,1.0s
IMAR Indian Mountai 75.81 25 P P 18 47 42.6 0.0
G21K Allakaket 75.89 24 IAmb IAmb 18 47 45.3
comp=Z,9.1nm,0.9s
D22K Ayikyak River 76.14 22 P P 18 47 44.6 +0.1
D22K IAmb IAmb 18 48 13.0
comp=Z,21nm,1.5s
CAST Castle Rocks 76.64 28 P 18 47 48.5 +1.1
CAST IAmb IAmb 18 47 49.4
comp=Z,13nm,0.8s
E23K Chandalar 77.32 23 IAmb IAmb 18 47 53.3
comp=Z,5.2nm,0.7s
MCK McKinley 78.02 27 IAmb IAmb 18 47 56.2
comp=Z,9.0nm,0.7s
F24K Squaw Lake 78.02 23 IAmb IAmb 18 47 57.5
comp=Z,6.3nm,0.8s
H24K Noodor Dome 78.22 25 P 18 47 56.3 +0.1
H24K IAmb IAmb 18 47 58.1
comp=Z,15nm,1.5s
PWL Port Wells 78.64 30 IAmb IAmb 18 47 59.7
comp=Z,10nm,0.8s
ILAR Eielson Array 78.77 26 P P 18 47 58.5 -0.7
comp=Z,0.9nm,0.7s,baz=291,slow=3.9,SNR=9.4
comp=Z,0.9nm,0.7s
MMAI Mount Meron Ar 78.92 301 P P 18 48 01.0 +0.3
comp=Z,0.6nm,0.4s,baz=63,slow=5.2,SNR=2.3
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 79.20 339 P P 18 48 01.0 -0.4
comp=Z,3.8nm,0.8s,baz=82,slow=7.1,SNR=9.0
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 79.29 308 P P 18 48 02.5 -0.2
comp=Z,1.3nm,0.9s,baz=106,slow=5.9,SNR=4.0
comp=Z,1.3nm,0.9s
SPITS Spitsbergen Ar 79.70 348 P P 18 48 03.9 0.0
comp=Z,2.3nm,0.4s,baz=91,slow=7.6,SNR=18
comp=Z,2.3nm,0.4s
RIDG Independent Ri 79.81 27 P P 18 48 03.7 -1.1
RIDG IAmb IAmb 18 48 06.0
comp=Z,7.6nm,0.8s
I26K Coal Creek Min 80.25 25 IAmb IAmb 18 48 08.9
comp=Z,6.5nm,0.8s
FINES FINESS Array B 80.42 331 P P 18 48 07.9 -0.1
comp=Z,1.0nm,0.5s,baz=55,slow=4.9,SNR=17
FINES LR LR 19 24 53.5
comp=Z,90nm,18.9s,baz=99,slow=36
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 80.60 320 P P 18 48 08.0 -1.2
comp=Z,0.3nm,0.4s,baz=61,slow=7.8,SNR=4.3
comp=Z,0.3nm,0.4s
I28M Miner Creek 81.53 25 IAmb IAmb 18 48 16.3
comp=Z,5.7nm,0.7s
CTGM Chitina Glacie 81.98 29 IAmb IAmb 18 48 19.6
comp=Z,12nm,1.1s
I30M Mount Dempster 83.03 24 IAmb IAmb 18 48 23.6
comp=Z,5.0nm,0.7s
M30M Minto, Yukon 83.64 27 P P 18 48 25.0 +0.1
BURAR Bucovina Array 83.80 317 P 18 48 26.0 -0.1
KOLS Kolonicke sedl 85.38 319 eP P 18 48 35.9 +2.0
HFS Hagfors 86.61 331 P P 18 48 38.5 -1.1
comp=Z,0.9nm,0.4s,baz=92,slow=4.5,SNR=9.8
comp=Z,0.9nm,0.4s
NC405 NORSAR Array S 87.14 333 P 18 48 41.3 -0.9
NC405 IAmb IAmb 18 48 41.9
comp=Z,8.1nm,0.8s
NB2 NORSAR Subarra 87.39 333 P P 18 48 41.9 -1.5
comp=Z,3.0nm,0.8s,baz=65,slow=4.6
NB2 NORSAR Subarra 87.39 333 P P 18 48 41.9 -1.5
baz=65,slow=4.6
NOA NORSAR Array B 87.39 333 P P 18 48 42.2 -1.2
comp=Z,1.9nm,0.8s,baz=67,slow=4.5,SNR=11
comp=Z,1.9nm,0.8s
VYHS Vyhne 87.69 319 eP P 18 48 47.7 +2.6
GERES GERESS Array B 90.77 321 P P 18 48 59.1 -0.6
comp=Z,0.8nm,0.8s,baz=64,slow=3.1,SNR=6.2
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 92.81 23 P P 18 49 09.1 +0.5
comp=Z,1.4nm,0.7s,baz=310,slow=5.2,SNR=5.8
comp=Z,1.4nm,0.7s
VNDA Vanda 93.94 172 P P 18 49 13.4 +0.1
comp=Z,1.2nm,1.0s,baz=294,slow=4.3,SNR=3.6
comp=Z,1.2nm,1.0s
TORD Torodi Ar. Bea 114.09 291 PKP PKPdf 18 54 34.7 -0.9
comp=Z,1.1nm,0.5s,baz=57,slow=2.8,SNR=2.9
TXAR Lajitas Array 119.45 45 PKP PKiKP 18 54 46.5 +0.7
comp=Z,1.4nm,0.7s,baz=326,slow=0.3,SNR=18
PLCA Paso Flores 151.21 162 PKPbc PKiKP 18 55 50.4 +0.7
comp=Z,2.8nm,0.8s,baz=243,slow=1.7,SNR=10

*FUNV **04** 18:37:01.8, 8.°14N×71.°25W, h9km, MW3.2*
*RSNC **04** 18:37:02.7±0.6, 8.°N±2.°×71.°W×.°, h67km±11km, M2.8, ML2.6*
ISC 04 18:37:02.1±1.1, **8.°11N**±0.°07×**71.°20W**±0.°04, **h24**km±12km, **n15**, σ1§**01**/27, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.39**	**63**	*eP*	**Pb**	**18 37 09.9**	**-0.4**
SOCV				*eS*	**Sb**	**18 37 15.7**	**-0.3**
SDV	**Santo Domingo**	**0.95**	**36**	P	**Pn**	**18 37 19.7**	**-0.5**
SDV				S	**Sn**	**18 37 32.1**	**-1.0**
CAPV	**Capacho**	**1.13**	**258**	*eP*	**Pn**	**18 37 21.7**	**-0.8**
CAPV				*eS*	**Sn**	**18 37 36.6**	**-0.8**
PAMC	**Pamplona, Colo**	**1.67**	**243**	P	**Pn**	**18 37 30.2**	**0.0**
PAMC				S	**Sn**	**18 37 51.5**	**+0.4**
OCAC	**Ocana**	**2.10**	**274**	P	**Pn**	**18 37 36.6**	**+0.7**
OCAC				S	**Sn**	**18 38 01.8**	**+0.5**
BARC	**Barichara**	**2.48**	**233**	P	**Pb**	**18 37 45.9**	**-0.1**
BARC				S	**Sb**	**18 38 16.6**	**+0.4**
BRJC	**Barrancabermej**	**2.76**	**246**	P	**Pb**	**18 37 51.0**	**+0.2**
BRJC				S	**Sb**	**18 38 26.1**	**+1.9**
RUSC	**La Rusia**	**2.89**	**220**	P	**Pn**	**18 37 47.4**	**+0.4**
MAPV	**Macapo**	**3.21**	**58**	*eP*	**Pn**	**18 37 52.5**	**+1.5**
MAPV				*eS*	**Sn**	**18 38 29.2**	**+0.7**
BAUV	**El Baul**	**3.23**	**75**	*eP*	**Pn**	**18 37 51.4**	**+0.1**
BAUV				*eS*	**Sn**	**18 38 29.8**	**+0.6**
PTBC	**PUERTO BERRIO,**	**3.58**	**244**	P	**Pn**	**18 37 55.5**	**-0.7**
PTBC				S	**Sn**	**18 38 35.5**	**-2.3**
ZARC	**Zaragoza, Cauc**	**3.67**	**261**	P	**Pn**	**18 37 57.5**	**+0.1**
ZARC				S	**Sn**	**18 38 38.5**	**-1.5**
PTGC	**Puerto Gaitan,**	**3.99**	**193**	P	**Pn**	**18 38 01.5**	**-0.3**
BENV	**Beln**	**4.01**	**62**	*eP*	**Pn**	**18 38 02.9**	**+0.8**
BENV				*eS*	**Sn**	**18 38 46.7**	**-1.6**
NORC	**Norcasia**	**4.43**	**235**	P	**Pn**	**18 38 08.8**	**+0.9**

*IDC **04** 18:39:21.2±1.3, 26.°06S×175.°57W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=46.1km s-min=41.2km az=164.0*
ISC 04 18:39:24.1±1.4, **26.°0S**±0.°3×**175.°5W**±0.°3, **h21**km, **n7**, σ1§**32**/7, **mb3.8**/3, **South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.73**	**261**	P	**P**	**18 47 45.2**	**+1.0**
	0.3nm,0.4s,baz=102,slow=6.9,SNR=6.5						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**46.33**	**267**	P	**P**	**18 47 47.8**	**-1.2**
	0.9nm,0.8s,baz=108,slow=8.2,SNR=17						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**64.14**	**180**	P	**P**	**18 49 56.6**	**-0.3**
	0.7nm,0.8s,baz=45,slow=4.3,SNR=1.8						
	0.7nm,0.8s						
HFS	**Hagfors**	**145.24**	**352**	PKPbc	**PKPdf**	**18 58 59.8**	**+0.2**
	1.1nm,0.8s,baz=29,slow=3.3,SNR=6.8						
AKASG	**Malin Array Be**	**148.85**	**329**	PKPbc	**PKPbc**	**18 59 09.6**	**-0.3**
	1.2nm,0.6s,baz=46,slow=3.8,SNR=7.1						
BRTR	**Keskin Array B**	**152.05**	**307**	PKPbc	**PKPbc**	**18 59 17.1**	**-1.1**
	1.3nm,1.0s,baz=75,slow=2.1,SNR=2.2						
MMAI	**Mount Meron Ar**	**152.24**	**292**	PKPbc	**PKiKP**	**18 59 20.8**	**+1.8**
	0.6nm,0.4s,baz=64,slow=3.4,SNR=4.9						

*SDD **04** 18:52:20.6±3.9, 19.°41N×68.°65W, h15km±19km, MD3.2, ML3.0, MW3.1*
*NEIC **04** 18:52:22.0±2.1, 19.°32N±0.°06×68.°68W±0.°02, h24km±6km, ML2.9/24, Md2.9/19(RSPR), Error ellipse: s-maj=8.6km s-min=2.7km az=181.0*
*OSPL **04** 18:52:21.1±0.7, 19.°62N×68.°67W, h27km±16km, ML2.8*
*RSPR **04** 18:52:21.5, 19.°50N×68.°74W, h20km±39km, MD2.9/19*
ISC 04 18:52:15.2±1.4, **19.°56N**±0.°05×**68.°61W**±0.°02, **h2**km±10km, **n82**, σ0§**87**/102, **11C-20D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMDR	**Samana, DR**	**0.61**	**243**	⇓*iP*	**Pn**	**18 52 29.7**	**-1.1**
SMDR	**Samana, DR**	**0.61**	**243**	*eS*	**Sb**	**18 52 37.5**	**0.0**
SMDR	**Samana, DR**	**0.61**	**243**	*i* P	**Pn**	**18 52 29.8**	**-1.1**
SMDR				⇓*e*Sg	**Sb**	**18 52 37.9**	**+0.4**
SMDR				IAML		18 52 38.1	
	comp=N,503nm,0.4s						
MIDR	**Miches**	**0.71**	**216**	⇓*e*Pg	**Pn**	**18 52 31.3**	**-0.9**
MIDR				*e*Sg	**Sg**	**18 52 38.6**	**+0.7**
MIDR				IAML		18 52 40.4	
	comp=N,742nm,0.3s						
HIDR	**Higuey Centro**	**0.97**	**186**	⇑*iP*	**Pn**	**18 52 35.6**	**-0.2**
HIDR	**Higuey Centro**	**0.97**	**186**	*eS*	**Sb**	**18 52 47.7**	**-0.3**
HIDR	**Higuey Centro**	**0.97**	**186**	*i* P	**Pb**	**18 52 35.1**	**+0.4**
HIDR				*e*Sg	**Sg**	**18 52 46.0**	**-0.5**
HIDR				IAML		18 52 50.4	
	comp=N,831nm,0.2s						
DR12	**Loma Pena Alta**	**1.06**	**223**		**Pn**	**18 52 36.9**	**-0.2**
HATOM	**Hato Mayor del**	**1.06**	**223**	*i* P	**Pb**	**18 52 36.6**	**+0.4**
HATOM				⇓*e*Sg	**Sg**	**18 52 49.3**	**+0.1**
HATOM				IAML		18 52 50.1	
	comp=N,203nm,0.3s						
PCDR	**Punta Cana, DR**	**1.07**	**168**	*i* P	**Pn**	**18 52 37.8**	**+0.7**
PCDR				*e*Sg	**Sg**	**18 52 49.2**	**-0.3**
NADR	**Nagua**	**1.19**	**260**	*i* P	**Pn**	**18 52 40.8**	**+1.9**
NADR				⇓*e*Sg	**Sn**	**18 52 55.4**	**-0.2**
NADR				IAML		18 52 56.1	
	comp=N,1μm,0.2s						
SADR	**Isla Saona**	**1.37**	**187**	*i* P	**Pg**	**18 52 42.3**	**+0.7**
SADR				⇑*e*Sg	**Sn**	**18 53 00.2**	**+0.1**
SADR				IAML		18 53 02.2	
	comp=N,221nm,0.5s						
DR08	**Loma La Naviza**	**1.46**	**246**	*i* P	**Pb**	**18 52 43.0**	**-0.1**
DR08				⇓*e*Sg	**Sb**	**18 53 00.8**	**-1.3**
DR08				IAML		18 53 02.1	
	comp=N,6μm,0.1s						
IDE	**Isla Desecheo**	**1.59**	**137**		**Pg**	**18 52 46.1**	**+0.4**
IDE					**Sg**	**18 53 06.2**	**-0.2**
IDE	**Isla Desecheo**	**1.59**	**137**	⇓*eP*	**Pg**	**18 52 46.1**	**+0.4**
IDE	**Isla Desecheo**	**1.59**	**137**	*eS*	**Sg**	**18 53 06.2**	**-0.2**
SDD	**Santo Domingo**	**1.65**	**228**		**Pg**	**18 52 46.9**	**0.0**
SDD					**Sn**	**18 53 05.9**	**-1.0**
SDD	**Santo Domingo**	**1.65**	**228**	IAML		18 53 07.3	
	comp=N,188nm,0.5s						
SDD				IAML		18 53 07.3	
	comp=E,133nm,0.6s						
SDD	**Santo Domingo**	**1.65**	**228**	⇓*eP*	**Pg**	**18 52 46.9**	**0.0**
SDD	**Santo Domingo**	**1.65**	**228**	*i* P	**Pg**	**18 52 46.8**	**0.0**
SDD				*eS*	**Sn**	**18 53 05.9**	**-1.0**
SDD	**Santo Domingo**	**1.65**	**228**	⇓*eSg*	**Sn**	**18 53 05.8**	**-1.1**
SDD				IAML		18 53 07.4	
	comp=N,73nm,0.5s						
AGPR	**Aguadilla, PR**	**1.79**	**127**		**Pg**	**18 52 49.8**	**+0.2**
AGPR				IAML		18 53 17.7	
	comp=E,80nm,0.3s						
AGPR	**Aguadilla, PR**	**1.79**	**127**		**Sb**	**18 53 11.2**	**-0.5**
AGPR	**Aguadilla, PR**	**1.79**	**127**	⇓*iP*	**Pg**	**18 52 50.3**	**+0.7**
AGPR	**Aguadilla, PR**	**1.79**	**127**	*i* P	**Pg**	**18 52 49.3**	**-0.3**
AGPR				*eS*	**Sb**	**18 53 11.2**	**-0.5**
AGPR				IAML		18 53 21.6	
	comp=Z,63nm,0.9s						
AGPR	**Aguadilla, PR**	**1.79**	**127**	⇑*iP*	**Pb**	**18 52 49.0**	**+0.3**
AGPR				⇓*e*Sg	**Sb**	**18 53 11.2**	**-0.5**
AGPR				IAML		18 53 23.5	
	comp=N,108nm,1.6s						
PRSN	**Puerto Rico Se**	**1.93**	**134**		**Pg**	**18 52 53.8**	**+1.5**
PRSN					**Sb**	**18 53 15.8**	**+0.2**
PRSN	**Puerto Rico Se**	**1.93**	**134**	⇑*eP*	**Pg**	**18 52 53.8**	**+1.5**
PRSN	**Puerto Rico Se**	**1.93**	**134**	*eS*	**Sb**	**18 53 15.8**	**+0.2**
PRSN	**Puerto Rico Se**	**1.93**	**134**	*i* P	**Pg**	**18 52 52.4**	**+0.1**
PRSN				⇓*e*Sg	**Sb**	**18 53 15.8**	**+0.2**
PRSN				IAML		18 53 28.1	
	comp=N,225nm,0.2s						
LSP	**Las Mesas**	**2.00**	**133**		**Pg**	**18 52 54.1**	**+0.5**
LSP					**Sb**	**18 53 18.2**	**+0.5**
LSP	**Las Mesas**	**2.00**	**133**	⇓*eP*	**Pg**	**18 52 54.1**	**+0.5**
LSP	**Las Mesas**	**2.00**	**133**	*eS*	**Sb**	**18 53 18.2**	**+0.5**
BANI	**BANI**	**2.02**	**235**	*i* P	**Pb**	**18 52 52.6**	**-0.1**
BANI				*e*Sg	**Sn**	**18 53 17.1**	**+0.9**
BANI				IAML		18 53 23.8	
	comp=N,222nm,0.6s						
ABDR	**Alto Bandera**	**2.04**	**249**	*i* P	**Pb**	**18 52 53.6**	**+0.4**
ABDR				⇑*e*Sg	**Sn**	**18 53 16.6**	**-0.6**
ABDR				IAML		18 53 21.4	
	comp=N,117nm,0.2s						
CRPR	**Cabo Rojo, PR**	**2.10**	**137**		**Pb**	**18 52 54.6**	**+0.5**
CRPR					**Sg**	**18 53 22.1**	**-0.7**
CRPR	**Cabo Rojo, PR**	**2.10**	**137**	IAML		18 53 28.1	
	comp=E,70nm,2.1s						
CRPR				IAML		18 53 31.4	
	comp=N,64nm,0.8s						
CRPR	**Cabo Rojo, PR**	**2.10**	**137**	⇑*eP*	**Pb**	**18 52 54.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.10**	**137**	*eS*	**Sg**	**18 53 22.1**	**-0.7**
CRPR	**Cabo Rojo, PR**	**2.10**	**137**	*i* P	**Pb**	**18 52 54.6**	**+0.5**
CRPR				IAML		18 53 21.7	
	comp=Z,88nm,0.5s						
MLPR	**Magueyes Islan**	**2.17**	**137**	⇑*eP*	**Pg**	**18 52 56.2**	**-0.7**
MLPR	**Magueyes Islan**	**2.17**	**137**	*eS*	**Sb**	**18 52 22.4**	**-0.2**
MLPR	**Magueyes Islan**	**2.17**	**137**	*i* P	**Pb**	**18 52 54.5**	**-0.8**
MLPR				⇓*e*Sg	**Sb**	**18 52 22.5**	**-0.2**
MLPR				IAML		18 52 22.7	
	comp=N,18nm,0.4s						
UUPR	**Utuado, UPR, P**	**2.22**	**126**		**Pb**	**18 52 55.3**	**-0.7**
UUPR	**Utuado, UPR, P**	**2.22**	**126**		**Sn**	**18 53 21.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**2.22**	**126**	⇑*eP*	**Pg**	**18 52 57.7**	**0.0**
UUPR	**Utuado, UPR, P**	**2.22**	**126**	*eS*	**Sn**	**18 53 21.0**	**+0.1**
EMPR	**Esperanza - Ma**	**2.25**	**118**		**Pg**	**18 52 58.2**	**-0.1**
EMPR	**Esperanza - Ma**	**2.25**	**118**		**Sn**	**18 53 22.3**	**+0.6**
EMPR	**Esperanza - Ma**	**2.25**	**118**	IAML		18 53 13.4	
	comp=N,189nm,1.6s						
EMPR	**Esperanza - Ma**	**2.25**	**118**	⇓*eP*	**Pg**	**18 52 58.2**	**-0.1**
EMPR	**Esperanza - Ma**	**2.25**	**118**	*eS*	**Sn**	**18 53 22.3**	**+0.6**
CELP	**Cerrillos**	**2.43**	**127**		**Pb**	**18 52 59.4**	**-0.2**
CELP					**Sn**	**18 53 26.3**	**0.0**
CELP	**Cerrillos**	**2.43**	**127**	IAML		18 53 28.2	
	comp=N,54nm,0.2s						
CELP	**Cerrillos**	**2.43**	**127**	⇓*eP*	**Pb**	**18 52 59.4**	**-0.2**
CELP	**Cerrillos**	**2.43**	**127**	*eS*	**Sn**	**18 53 26.3**	**0.0**
CELP	**Cerrillos**	**2.43**	**127**	*i* P	**Pb**	**18 52 58.5**	**-1.2**
CELP				⇓*e*Sg	**Sn**	**18 53 26.4**	**+0.2**
CELP				IAML		18 53 38.9	
	comp=N,49nm,0.6s						
OBIP	**Obispado Ponce**	**2.43**	**128**	Pn	**Pb**	**18 52 59.6**	**0.0**
OBIP				IAML		18 53 30.7	
	comp=E,52nm,0.4s						
OBIP				IAML		18 53 36.3	
	comp=N,48nm,0.2s						
ECPR	**Experimental S**	**2.46**	**120**	⇑*eP*	**Pb**	**18 52 59.0**	**-1.3**
ECPR	**Experimental S**	**2.46**	**120**	*eS*	**Sn**	**18 53 26.4**	**-0.7**
SDDR	**Presa de Saban**	**2.59**	**258**		**Pb**	**18 53 00.8**	**-1.6**
SDDR	**Presa de Saban**	**2.59**	**258**	⇑*eP*	**Pb**	**18 53 00.8**	**-1.6**
SDDR	**Presa de Saban**	**2.59**	**258**	*eS*	**Sn**	**18 53 31.0**	**+0.8**
SDDR	**Presa de Saban**	**2.59**	**258**	*i* P	**Pn**	**18 52 59.7**	**+1.5**
SDDR				*e*Sg	**Sb**	**18 53 35.9**	**+1.2**
SDDR				IAML		18 53 49.1	
	comp=N,32nm,0.3s						
GCPR	**Guaynabo City**	**2.70**	**117**		**Pn**	**18 53 01.8**	**+2.2**
GCPR					**Sn**	**18 53 32.8**	**-0.1**
GCPR	**Guaynabo City**	**2.70**	**117**	⇓*eP*	**Pn**	**18 53 01.8**	**+2.2**
GCPR	**Guaynabo City**	**2.70**	**117**	*eS*	**Sn**	**18 53 32.8**	**-0.1**
SJG	**San Juan**	**2.74**	**121**		**Pb**	**18 53 03.6**	**-1.4**
SJG	**San Juan**	**2.74**	**121**	IAML		18 53 34.9	
	comp=N,53nm,0.2s						
SJG				IAML		18 53 36.6	
	comp=N,55nm,0.2s						
SJG	**San Juan**	**2.74**	**121**	⇑*eP*	**Pb**	**18 53 03.6**	**-1.4**
SJG	**San Juan**	**2.74**	**121**	*eS*	**Sn**	**18 53 32.9**	**-1.0**
SJG	**San Juan**	**2.74**	**121**	*i* P	**Pb**	**18 53 03.1**	**-1.9**
SJG				IAML		18 53 36.4	
	comp=Z,15nm,0.2s						
IGPR	**InterUniversit**	**2.86**	**123**		**Pb**	**18 53 06.7**	**-0.2**
IGPR					**Sn**	**18 53 36.0**	**-0.8**
IGPR	**InterUniversit**	**2.86**	**123**	⇓*eP*	**Pb**	**18 53 06.7**	**-0.2**
IGPR	**InterUniversit**	**2.86**	**123**	*eS*	**Sn**	**18 53 36.0**	**-0.8**
PDPR	**Patillas Dam,**	**2.90**	**122**	⇑*eP*	**Pb**	**18 53 06.3**	**-1.3**
PDPR	**Patillas Dam,**	**2.90**	**122**	*eS*	**Sn**	**18 53 36.5**	**-1.2**
HUMP	**Col San Antoni**	**2.98**	**118**		**Pb**	**18 53 06.5**	**-2.4**
HUMP					**Sn**	**18 53 39.3**	**-0.4**
HUMP	**Col San Antoni**	**2.98**	**118**	IAML		18 53 40.4	
	comp=N,48nm,0.3s						
HUMP				IAML		18 53 43.7	
	comp=E,67nm,0.2s						
HUMP	**Col San Antoni**	**2.98**	**118**	⇓*eP*	**Pb**	**18 53 06.5**	**-2.4**
HUMP	**Col San Antoni**	**2.98**	**118**	*eS*	**Sn**	**18 53 39.3**	**-0.4**
GRTK	**Grand Turk**	**3.05**	**310**	*i* P	**Pn**	**18 53 05.3**	**+0.8**
GRTK				IAML		18 53 39.8	
	comp=Z,91nm,1.6s						

*ISN **04** 19:02:56.4±1.0, 34.°71N×45.°32E, h17km±6km, ML2.8*
*TEH **04** 19:02:56.7, 34.°66N×45.°30E, h14km±30km*
ISC 04 19:02:57.2±1.2, **34.°70N**±0.°05×**45.°30E**±0.°05, **h18**km, **n15**, σ1§**23**/19, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.31**	**129**	Pg	**Pg**	**19 03 02.3**	**-1.6**
GLG1	**Gilan-e-Gharb**	**0.77**	**139**	Pg	**Pb**	**19 03 10.9**	**-1.3**
GLG1				Sg	**Sg**	**19 03 22.5**	**-0.1**
IDHR	**Dehrash**	**0.90**	**90**	Pg	**Pb**	**19 03 13.7**	**-0.7**
IGHG	**Ghaleghazi**	**1.11**	**109**	Pg	**Pb**	**19 03 17.8**	**-0.2**
ILBA	**Ilam Banvizeh**	**1.31**	**145**	Pg	**Pn**	**19 03 20.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.50**	**106**	Pg	**Pb**	**19 03 24.7**	**0.0**
BHD	**Baghdad**	**1.62**	**208**	*eP*g	**Pb**	**19 03 26.0**	**-0.5**
BHD				*eS*g	**Sg**	**19 03 48.0**	**-1.4**
IBDR	**Badra**	**1.67**	**161**	*eP*g	**Pb**	**19 03 27.0**	**-0.4**
IBDR				*eS*g	**Sb**	**19 03 49.0**	**+0.9**
IBDR				AML	AML	19 03 52.3	
	comp=N,83nm,0.4s						
IBDR				AML	AML	19 03 52.4	
	comp=E,166nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.92**	**85**	Pn	**Pb**	**19 03 31.2**	**-0.7**
MAHB	**Mahabad**	**2.09**	**9**	Pn	**Pb**	**19 03 34.3**	**-0.5**
IBZA	**Bozab**	**2.13**	**95**	Pn	**Pb**	**19 03 33.9**	**-1.5**
IDOB	**Doab**	**2.55**	**110**	Pn	**Pn**	**19 03 39.1**	**+1.1**
RAFI	**Al-Rafai**	**3.04**	**167**	*eP*n	**Pn**	**19 03 46.0**	**+1.5**
RAFI				*eS*n	**Sn**	**19 04 23.0**	**+2.5**
BDRS	**Dareh Seyedi**	**3.06**	**103**	Pn	**Pn**	**19 03 45.7**	**+0.7**
HAGD	**

KBL SN S 19 06 18.8 -2.4
NIL Nilore 3.39 151 Pn 19 05 50.2 +0.5
NIL Nilore 3.39 151 P Pn 19 05 50.3 +0.6
NIL Nilore 3.39 151 PN Pn 19 05 50.2 +0.5
NIL S S 19 06 32.5 -1.1
KSH Kashi 4.70 51 P Pn 19 06 00.2 -5.2
KSH S S 19 06 49.9 -12
KSH smax smax
comp=N,17µm,1.0s
KSH smax smax
comp=E,19µm,0.7s
ARSB Arslanbob 4.87 15 Pn Pn 19 06 08.8 +1.3
ARSB Arslanbob 4.87 15 PN Pn 19 06 08.8 +1.3
JMU Jammu 4.92 141 eP Pn 19 06 06.0 -2.1
JMU eS S 19 06 58.9 -8.0
JMU IAML 19 07 04.8
comp=E,2µm,0.5s
JMU IAML 19 07 06.2
comp=N,2µm,0.6s
IUG Iuzhnay 5.59 351 Pg Pn 19 06 15.5 -1.0
comp=N,1µm,0.3s
IUG Lg Lg 19 07 11.9
comp=N,8µm,0.7s
IUG Iuzhnay 5.59 351 ePN Pn 19 06 15.4 -1.0
IUG Iuzhnay 5.59 351 eP Pn 19 06 15.5 -1.0
CHM Chimkent 5.82 348 ePN Pn 19 06 18.7 -0.6
CHM Chimkent 5.82 348 eP Pn 19 06 18.8 -0.6
TLWR Talawar 6.07 139 eP Pn 19 06 22.4 -0.1
TLWR eS S 19 07 26.7 -6.4
TLWR IAML 19 07 32.2
comp=N,3µm,0.7s
TLWR IAML 19 07 32.8
comp=E,3µm,0.8s
UCH Uchtor 6.13 23 P Pn 19 06 23.1 -0.4
SNR=365
DZA Taraz 6.25 0 Pg Pn 19 06 24.0 -0.8
comp=E,924nm,0.2s
DZA Lg Lg 19 07 26.2
comp=E,10µm,0.6s
DZA Taraz 6.25 0 ePN Pn 19 06 23.9 -0.8
DZA Taraz 6.25 0 eP Pn 19 06 24.0 -0.8
MRKS Merke 6.29 13 Pg Pn 19 06 24.4 -0.9
comp=E,2µm,0.5s
MRKS Lg Lg 19 07 26.8
comp=E,8µm,0.7s
EKS2 Erkin-Say 6.33 17 P Pn 19 06 25.0 -0.7
SNR=770
BRLS Boroldaу 6.49 351 Pg Pn 19 06 23.2 -4.5
comp=E,186nm,0.2s
BRLS Lg Lg 19 07 24.7
comp=E,2µm,0.6s
BRLS Boroldaу 6.49 351 ePN Pn 19 06 23.2 -4.5
BRLS Boroldaу 6.49 351 eP Pn 19 06 23.2 -4.5
KK31 Karatay Array 6.49 355 Pn 19 06 26.4 -1.3
KK31 Karatay Array 6.49 355 ⇑P Pn 19 06 26.4 -1.3
comp=E,240nm,0.6s,baz=180,slow=12,SNR=3065
KK31 ⇓S S 19 07 38.7 -4.0
comp=E,2µm,0.6s,baz=181,slow=25,SNR=6.8
KK31 Karatay Array 6.49 355 PN Pn 19 06 26.4 -1.3
KK31 SN S 19 07 38.7 -4.0
KKAR Karatay Array 6.49 355 Pn 19 06 26.3 -1.5
KKAR Karatay Array 6.49 355 PN Pn 19 06 26.3 -1.5
AAK Ala-Archa 6.49 22 Pn 19 06 27.1 -0.8
AAK Ala-Archa 6.49 22 P Pn 19 06 27.4 -0.6
comp=E,368nm,0.4s,baz=200,slow=8.1,SNR=235
AAK S S 19 07 40.3 -2.7
comp=E,543nm,0.5s,baz=217,slow=14,SNR=8.1
AAK Ala-Archa 6.49 22 P Pn 19 06 27.6 -0.3
SNR=76
AAK Ala-Archa 6.49 22 ⇑P Pn 19 06 27.3 -0.6
comp=E,85nm,0.4s
AAK ⇑S S 19 07 39.8 -3.2
comp=E,3µm,1.1s
AAK Ala-Archa 6.49 22 P Pn 19 06 27.3 -0.7
KBK Karagaybulak 6.65 24 P Pn 19 06 29.9 -0.1
SNR=156
FRU1 Bishkek 6.69 22 Pn 19 06 29.8 -0.6
FRU1 Bishkek 6.69 22 PN Pn 19 06 29.8 -0.6
ULHL Ulahol 6.80 33 P Pn 19 06 31.0 -0.9
SNR=291
CHMS Chumysh 6.90 22 P Pn 19 06 32.1 -0.9
SNR=145
USP Ospenovka 7.08 20 P Pn 19 06 33.8 -1.4
SNR=169
TKM2 Tokmak 2 7.11 27 P Pn 19 06 35.2 -0.6
SNR=2535
KDJ Kajisay 7.15 38 Pn Pn 19 06 34.9 -1.4
KDJ Kajisay 7.15 38 PN Pn 19 06 34.9 -1.4
SGDS Sogindy 7.28 20 Pg Pn 19 06 36.2 -1.6
comp=E,138nm,0.5s
SGDS Lg Lg 19 07 47.4
comp=E,586nm,0.9s
SGDS Sogindy 7.28 20 eP Pn 19 06 36.3 -1.6
KST Kastek 7.35 28 Pg Pn 19 06 38.4 -0.5
comp=E,1µm,0.7s
KST Lg Lg 19 07 51.1
comp=E,2µm,1.1s
SMLA Simla 7.36 137 eP Pn 19 06 38.6 -0.3
SMLA eS S 19 07 59.2 -3.8
SMLA IAML 19 08 01.0
comp=E,1µm,0.5s
SMLA IAML 19 08 01.2
comp=N,891nm,0.6s
DGS Degeres 7.45 26 P Pn 19 06 39.2 -0.9
CGRH CHANDIGARH 7.46 140 eP Pn 19 06 40.0 -0.3
CGRH eS S 19 08 00.8 -4.7
CGRH IAML 19 08 02.5
comp=E,705nm,0.7s
CGRH IAML 19 08 02.7
comp=N,604nm,0.8s
KLP Kalpa 7.71 129 eP Pn 19 06 43.8 +0.1
KLP eS S 19 08 05.6 -6.0
KLP IAML 19 08 07.2
comp=E,1µm,0.7s
KLP IAML 19 08 09.1
comp=N,761nm,0.4s
TNSS Tian-Shan 7.75 33 Pg Pn 19 06 43.4 -0.7
comp=N,303nm,0.4s
TNSS Lg Lg 19 07 59.9
comp=N,332nm,1.1s
TNSS Tian-Shan 7.75 33 ePN Pn 19 06 43.2 -0.9
TNSS Tian-Shan 7.75 33 eP Pn 19 06 43.3 -0.9
AAA Alma-Ata 7.87 32 ePN Pn 19 06 45.3 -0.1
AAA Alma-Ata 7.87 32 eP Pn 19 06 45.3 -0.1
KNDC Almaty 7.90 32 ⇑P Pn 19 06 45.3 -0.5
comp=N,3µm,0.7s
KNDC Almaty 7.90 32 PN Pn 19 06 45.3 -0.5
PRZ Przheval'sk 8.03 41 Pn 19 06 47.3 -0.3
PRZ Przheval'sk 8.03 41 PN Pn 19 06 47.3 -0.3
KUU Kurty 8.22 27 ePN Pn 19 06 48.1 -1.7
KUU eS S 19 08 20.9 -2.1
KUU Kurty 8.22 27 eP Pn 19 06 48.2 -1.7
KUU eS S 19 08 20.9 -2.1
CHKK Chushkaly 8.44 29 P Pn 19 06 50.9 -1.7
CHKK Chushkaly 8.44 29 ePN Pn 19 06 50.9 -1.7
CHKK Chushkaly 8.44 29 eP Pn 19 06 50.9 -1.7
SATY Saty 8.45 38 P Pn 19 06 51.3 -1.5
SATY Saty 8.45 38 ePN Pn 19 06 51.3 -1.5
SATY eS S 19 08 26.5 -1.9
SATY Saty 8.45 38 eP Pn 19 06 51.4 -1.5
SATY eS S 19 08 26.5 -1.9
DDI Dehra Dun 8.47 136 eP Pn 19 06 52.8 -0.4
DDI eS S 19 08 23.9 -5.2
DDI IAML 19 08 26.7
comp=E,1µm,0.7s
DDI IAML 19 08 28.2
comp=N,1µm,0.4s
KURS Kuram 8.65 36 P Pn 19 06 54.4 -1.0
BTLS Baital 8.66 13 P Pn 19 06 54.0 -1.4
BTLS Baital 8.66 13 ePN Pn 19 06 54.1 -1.3
BTLS Baital 8.66 13 eP Pn 19 06 54.1 -1.3
BKNR BIKANER 8.75 168 eP Pn 19 06 56.0 -0.8
BKNR eS S 19 08 30.0 -5.8
BKNR IAML 19 08 33.4
comp=N,2µm,0.4s
BKNR IAML 19 08 33.6
comp=E,2µm,0.5s
UZB Uzynbulak 8.82 40 P Pn 19 06 56.1 -1.5
UZB Uzynbulak 8.82 40 ePN Pn 19 06 56.2 -1.5
UZB Uzynbulak 8.82 40 eP Pn 19 06 56.2 -1.4
KPKS Kokpek 8.88 38 P Pn 19 06 57.3 -1.0
KPKS Kokpek 8.88 38 ePN Pn 19 06 57.0 -1.3
KPKS Kokpek 8.88 38 eP Pn 19 06 57.1 -1.3
SHLS Shalkode 9.06 41 eP Pn 19 07 02.3 +1.6
SHLS Shalkode 9.06 41 eP Pn 19 07 02.3 +1.6
ARXS Arharly 9.07 31 P Pn 19 06 58.7 -2.1
JOSI Joshimath 9.19 129 eP Pn 19 07 02.7 +0.1
JOSI eS S 19 08 40.2 -6.1
JOSI IAML 19 08 43.3
comp=N,534nm,0.9s
JOSI IAML 19 08 44.2
comp=E,886nm,1.2s
JHJR Jhajjar 9.19 149 eP Pn 19 07 03.2 +0.8
JHJR eS S 19 08 43.1 -2.9
JHJR IAML 19 08 45.4
comp=N,573nm,0.7s
JHJR IAML 19 08 45.5
comp=E,369nm,0.9s
PDGK Podgornoye 9.19 41 ⇓P Pn 19 07 00.7 -1.7
comp=E,261nm,0.8s
PDGK Podgornoye 9.19 41 P Pn 19 07 00.7 -1.7
NRLA Narela 9.23 146 eP Pn 19 07 02.9 -0.1
NRLA eS S 19 08 41.1 -5.9
NRLA IAML 19 08 42.5
comp=N,799nm,0.4s
NRLA IAML 19 08 42.8
comp=E,848nm,0.6s
BHGR Bahadurgarh 9.25 147 eP Pn 19 07 04.5 +1.4
BHGR eS S 19 08 44.0 -3.3
BHGR IAML 19 08 46.3
comp=N,523nm,0.3s
NDI New Delhi 9.38 146 eP Pn 19 07 07.3 +2.6
NDI eS S 19 08 44.7 -5.7
NDI IAML 19 08 46.3
comp=N,801nm,0.4s
NDI IAML 19 08 46.5
comp=E,1µm,0.4s
NPLP NPLP New Delhi 9.39 146 eP Pn 19 07 06.5 +1.5
NPLP eS S 19 08 46.2 -4.6
NPLP IAML 19 08 47.2
comp=E,652nm,0.3s
NPLP IAML 19 08 47.3
comp=N,818nm,0.2s
LDR Lodi Road 9.46 146 eP Pn 19 07 06.8 +1.0
LDR eS S 19 08 48.6 -3.8
LDR IAML 19 08 50.4
comp=E,231nm,0.7s
LDR IAML 19 08 50.5
comp=N,710nm,0.4s
JMIU JAMIA UNIVERSI 9.51 146 eP Pn 19 07 07.2 +0.8
JMIU eS S 19 08 48.6 -4.8
JMIU IAML 19 08 50.9
comp=E,352nm,0.6s
JMIU IAML 19 08 51.3
comp=N,351nm,0.6s
AYAN Aya Nagar 9.51 147 eP Pn 19 07 09.2 +2.8
AYAN eS S 19 08 50.2 -3.3
AYAN IAML 19 08 52.8
comp=N,577nm,1.0s
AYAN IAML 19 08 53.0
comp=E,454nm,0.5s
KUDL Kundal 9.54 151 eP Pn 19 07 10.3 +3.5
KUDL eS S 19 08 50.9 -3.4
KUDL IAML 19 08 53.4
comp=N,315nm,0.8s
KUDL IAML 19 08 53.7
comp=E,153nm,0.6s
JASL Jaisalmer 9.68 182 eP Pn 19 07 09.5 +0.8
JASL eS S 19 08 52.4 -5.2
JASL IAML 19 08 54.5
comp=N,627nm,0.3s
JASL IAML 19 08 54.5
comp=E,154nm,0.4s
TKRD Thakurdwara 9.81 137 eP Pn 19 07 10.5 +0.2
TKRD eS S 19 08 55.0 -5.7
TKRD IAML 19 08 58.5
comp=N,524nm,0.8s
TKRD IAML 19 08 58.5
comp=E,432nm,0.7s
TDK Taldyqorghan 9.96 31 eP Pn 19 07 10.3 -1.6
TDK Taldyqorghan 9.96 31 eP Pn 19 07 10.3 -1.6
PTH Pithoragarh 10.30 131 eP Pn 19 07 14.7 -2.0
PTH eS S 19 09 04.5 -7.9
PTH IAML 19 09 07.8
comp=N,227nm,0.4s
LGTI Lohaghat 10.39 131 eP Pn 19 07 18.1 +0.5
LGTI eS S 19 09 07.4 -6.8
LGTI IAML 19 09 10.2
comp=N,376nm,0.8s
LGTI IAML 19 09 10.5
comp=E,214nm,0.5s
AGRA Agra 10.95 147 eP P 19 07 27.6 -2.2
AGRA eS S 19 09 24.2 -3.2
AGRA IAML 19 09 27.2
comp=E,71nm,0.4s
AGRA IAML 19 09 27.6
comp=N,974nm,1.1s
JHNI Jhansi 12.75 149 eP P 19 07 50.1 +0.2
JHNI eS S 19 10 05.0 -3.6
JHNI IAML 19 10 07.2
comp=E,270nm,0.5s
JHNI IAML 19 10 07.2
comp=N,611nm,0.5s
MAKZ Makanchi 12.92 35 Pn 19 07 47.9 -1.3
MAKZ Makanchi 12.92 35 P Pn 19 07 47.5 -1.8
comp=N,1µm,1.1s
MAKZ Makanchi 12.92 35 P Pn 19 07 47.9 -1.3
MK31 Makanchi Array 13.06 36 ⇓P Pn 19 07 49.5 -1.4
comp=N,388nm,0.8s,baz=219,slow=12,SNR=1008
MK31 Makanchi Array 13.06 36 *d* iP Pn 19 07 49.3 -1.6
MKAR Makanchi Array 13.06 36 Pn 19 07 49.3 -1.7
MKAR Makanchi Array 13.06 36 P Pn 19 07 49.4 -1.5
comp=N,254nm,0.7s,baz=220,slow=14,SNR=302
MKAR S S 19 10 13.4 -2.0
comp=N,19nm,0.8s,baz=223,slow=12,SNR=1.5
MKAR Makanchi Array 13.06 36 *i* P Pn 19 07 49.4 -1.5
MKAR pmax pmax
comp=Z,245nm,0.7s
BRZS Berezniki 13.38 4 eP Pn 19 07 53.3 -1.6
BRZS Berezniki 13.38 4 eP Pn 19 07 53.4 -1.5
BHUJ Bhuj 13.40 186 eP P 19 07 57.8 +0.6
BHUJ eS S 19 10 18.9 -4.9
WMQ Urumqi 14.45 55 ⇓P Pn 19 08 07.7 -0.3
WMQ S S 19 10 44.0 -3.8
WMQ pmax pmax
comp=Z,300nm,1.5s
WMQ pmax pmax
comp=Z,1µm,3.7s
ZSN Zaisan 14.77 39 eP Pn 19 08 10.3 -1.6
ZSN Zaisan 14.77 39 eP Pn 19 08 10.3 -1.6
NRDN NARMADA NAGAR 14.78 158 eP P 19 08 19.3 +6.9
NRDN eS S 19 10 51.9 -3.7
NRDN IAML 19 10 53.0
comp=E,255nm,0.5s
NRDN IAML 19 10 53.4
comp=N,302nm,0.8s
KURBB Kurchatov Arra 14.93 18 P Pn 19 08 11.8 -1.9
comp=N,81nm,0.7s,baz=208,slow=11,SNR=355
KURBB S S 19 10 57.7 -0.9
comp=N,56nm,1.2s,baz=213,slow=20,SNR=6.2
KURBB Kurchatov Arra 14.93 18 ⇑P Pn 19 08 11.3 -2.4
comp=N,145nm,0.7s
KURBB Kurchatov Arra 14.93 18 P Pn 19 08 11.3 -2.4
KURK Kurchatov 15.04 18 P 19 08 12.8 -2.1
KURK Kurchatov 15.04 18 ⇑P P 19 08 12.3 -2.6
comp=N,171nm,1.2s
KURK Kurchatov 15.04 18 *d* iP P 19 08 13.1 -1.9
KURK pmax pmax
comp=Z,254nm,1.7s
AB31 Akbulak array 15.07 330 P 19 08 13.5 -1.9
AB31 Akbulak array 15.07 330 ⇓P P 19 08 14.4 -1.0
comp=Z,129nm,0.5s
AB31 ⇓S S 19 10 59.5 -2.3
comp=Z,111nm,0.6s
AB31 Akbulak array 15.07 330 P P 19 08 14.4 -1.0
AB31 S S 19 10 59.5 -2.3
ABKAR Akbulak array 15.07 330 P P 19 08 13.7 -1.7
EVN Everest 15.72 119 P Pn 19 08 24.0 -0.1
BVA0 Borovoye Array 16.40 358 ⇑P Pn 19 08 31.0 -0.3
comp=Z,44nm,0.6s,baz=169,slow=8.7,SNR=247
BVA0 Borovoye Array 16.40 358 P Pn 19 08 31.0 -0.3
BVAR Borovoye Array 16.40 358 P Pn 19 08 30.9 -0.5
comp=Z,58nm,0.6s,baz=164,slow=12,SNR=269
BVAR S S 19 11 29.0 -0.7
comp=Z,43nm,0.7s,baz=172,slow=22,SNR=4.1
BRVK Borovoye 16.44 358 P P 19 08 31.0 +0.7
BRVK Borovoye 16.44 358 ⇓P Pn 19 08 31.5 -0.3
comp=Z,44nm,0.6s
BRVK Borovoye 16.44 358 *d* iP P 19 08 31.1 +0.7
BRVK pmax pmax
comp=Z,88nm,1.0s
SHME Shamm 16.66 235 P P 19 08 33.0 -0.1
SHME S S 19 11 28.8 -6.5
AKTO Aktyubinsk 16.77 329 P P 19 08 34.9 +0.8
comp=Z,476nm,0.8s,baz=144,slow=8.6,SNR=428
AKTO S S 19 11 33.8 -3.4
comp=Z,72nm,1.0s,baz=128,slow=19,SNR=7.5
AKTO Aktyubinsk 16.77 329 ⇑P P 19 08 34.5 +0.4
comp=Z,263nm,0.7s
AKTO ⇓S S 19 11 37.3 +0.1
comp=Z,219nm,1.3s
MDH Madha 17.08 233 P P 19 08 38.1 +0.5
MDH Madha 17.08 233 *i* P P 19 08 38.4 +0.7
SNR=7.9
MASF Masafi 17.11 233 P Pn 19 08 39.1 -0.8
SNR=7.1
MSFE Esma-Masafi 17.12 233 *i* P Pn 19 08 39.2 -0.9
SNR=21
WSAR Wadi Sarin 17.24 223 P P 19 08 40.2 +0.7
comp=Z,0.2nm,0.5s,baz=52,slow=20,SNR=29
WSAR S S 19 11 45.3 -1.7
comp=Z,0.2nm,1.2s,baz=90,slow=20,SNR=1.3
BIDO Bidbid 17.30 225 P Pn 19 08 41.5 -0.6
UOSS Minazif 17.39 232 P P 19 08 40.0 -1.1
UOSS Minazif 17.39 232 *i* P P 19 08 41.7 +0.6
SNR=5.6
HATD Hatta, Dubai 17.52 232 P P 19 08 42.9 +0.4
SNR=5.8
HATD S S 19 11 49.1 -3.3
HATD Hatta, Dubai 17.52 232 *i* P P 19 08 43.0 +0.6
SNR=18
ASHO Ashiyiah 17.66 232 P P 19 08 44.5 +0.4
SNR=19
ASHO S S 19 11 51.5 -3.9
ASHO Ashiyiah 17.66 232 *i* P P 19 08 44.7 +0.6
SNR=76
NAZ Nazwa, Dubai 17.70 233 P P 19 08 45.1 +0.6
SNR=8.6
NAZ S S 19 11 52.4 -3.7
NAZ Nazwa, Dubai 17.70 233 *i* P P 19 08 44.4 0.0
SNR=16
SMDO Samad 17.70 224 P Pn 19 08 45.9 -1.1
HOQ Hoqain 17.72 227 P P 19 08 45.1 +0.5
JLN Jalan Bani Buh 17.72 219 P Pn 19 08 46.3 -0.8
SNR=6.1
SOHO SOHO 17.77 230 P P 19 08 46.0 +0.8
SOHO S S 19 11 54.4 -3.0
FAQ Al Faqa, Dubai 17.92 233 P P 19 08 46.9 +0.1
FAQ Al Faqa, Dubai 17.92 233 P P 19 08 46.6 -0.2
LKRN Lenkeran, Azer 17.92 283 P Pn 19 08 48.5 -0.8
BOK Bokaro 17.95 131 eP Pn 19 09 00.3 +11
BOK eS S 19 12 03.7 +2.6
LSA Lhasa 18.01 107 P Pn 19 08 50.3 -0.6
LSA S S 19 12 01.2 -1.7
LSA pmax pmax
comp=Z,420nm,0.9s
LSA LR LR
comp=Z,360nm,9.3s
LSA LR LR
comp=Z,340nm,10.8s
ASUD Al Ashush, Dub 18.17 233 P P 19 08 50.2 +0.7
SNR=6.9
ASUD S S 19 12 02.5 -2.9
ASUD Al Ashush, Dub 18.17 233 *i* P P 19 08 50.1 +0.6
SNR=11
JMDO Jabal Madar 18.23 222 P Pn 19 08 52.0 -1.1
ALNE Al Ain 18.31 231 P P 19 08 51.7 +0.6
SNR=16
ALNE Al Ain 18.31 231 *i* P P 19 08 51.5 +0.4
SNR=51
ARQ Araqi 18.37 228 P P 19 08 52.7 +0.9
AJN Ajban 18.44 234 P P 19 08 52.6 +0.2
SNR=9.7
AJN S S 19 12 03.5 -7.1
AJN Ajban 18.44 234 *i* P P 19 08 52.5 +0.1
SNR=6.9
GOMU GeErMu 18.95 84 P P 19 08 59.6 +1.3
GOMU pP Pn 19 09 02.9 +1.1
GOMU pmax pmax
comp=Z,110nm,1.5s
GOMU LR LR
comp=Z,260nm,10.2s
GOMU LR LR
comp=Z,210nm,10.2s
GOMU LR LR
comp=Z,290nm,10.5s
SEKA Sheki 19.26 291 P P 19 09 01.7 +0.6
MAK Makhachkala 19.29 296 eP P 19 08 58.4 -3.0
MAK eS S 19 12 22.8 -4.3
MAK pmax pmax
comp=Z,197nm,1.1s
MAK MLR MLR
comp=Z,384nm,14.0s
MNGR Mingechevir, A 19.30 290 P P 19 09 03.1 +1.6
MHTO MHTO 19.43 220 P P 19 09 04.9 +1.9
SNR=12
JRN Qarnain Island 19.61 239 P P 19 09 04.4 -0.6
SNR=5.2
UMZA Um Al Zommool 19.66 230 P P 19 09 05.5 0.0
ZAA0 Zalesovo Array 19.71 24 ⇓P P 19 09 05.6 0.0
comp=Z,31nm,0.8s
ZALV Zalesovo Beam 19.71 24 P P 19 09 03.9 -1.7
ZALV Zalesovo Beam 19.71 24 P P 19 09 05.4 -0.3
comp=Z,229nm,0.7s,baz=214,slow=9.7,SNR=538
ZALV S S 19 12 33.1 -1.9
comp=Z,31nm,0.8s,baz=215,slow=13,SNR=5.0
ZALV Zalesovo Beam 19.71 24 *i* P P 19 09 05.4 -0.3
ZALV pmax pmax
comp=Z,232nm,0.7s
MZWR Madinat Zayed 19.72 234 P P 19 09 06.1 0.0
GANJ Ganja 19.87 289 P P 19 09 09.0 +1.3
HYB Hyderabad 20.20 159 eP P 19 09 12.3 +1.0
NAX Nakhchivan 20.48 285 P P 19 09 15.2 +1.0
MZR Muzera 20.51 233 P P 19 09 14.4 -0.3
MZR Muzera 20.51 233 *i* P P 19 09 13.0 -1.7
SNR=24
DQM DQM 20.53 220 P P 19 09 16.7 +1.9
SHL Shillong 20.77 116 P P 19 09 17.4 -0.2
SHL Shillong 20.77 116 P P 19 09 16.8 -0.8
SNR=127
SHL Shillong 20.77 116 P P 19 09 17.4 -0.2
TRNA Turayna 20.88 241 S S 19 12 51.0 -6.1
SLWR Sila 20.98 239 P P 19 09 19.5 -0.1
SLWR S S 19 12 53.5 -5.2
GNI Garni 21.06 288 P P 19 09 22.4 +2.0
GNI Garni 21.06 288 P P 19 09 22.1 +1.7
comp=Z,109nm,0.9s,baz=77,slow=3.7,SNR=34
GNI pP pP 19 10 01.4 +3.1
comp=Z,49nm,0.7s,baz=85,slow=12,SNR=1.9
comp=Z,109nm,0.9s
GNI Garni 21.06 288 P P 19 09 22.1 +1.7
SMRA Abu-Samra 21.15 242 P P 19 09 20.4 -0.9
SNR=6.3
SMRA S S 19 12 57.4 -4.1
SVE Sverdlovsk 21.43 344 *de* P P 19 09 23.9 +0.2
SVE eS S 19 13 09.4 +3.9
SVE pmax pmax
comp=Z,232nm,1.4s
ARTI Arti 21.59 340 P P 19 09 25.2 0.0
ARTI Arti 21.59 340 P P 19 09 25.8 +0.5
comp=Z,87nm,0.5s,baz=152,slow=7.4,SNR=84
ARTI S S 19 13 12.7 +4.5
comp=Z,25nm,0.9s,baz=69,slow=17,SNR=1.9
comp=Z,87nm,0.5s
ARTI Arti 21.59 340 *c* iP P 19 09 25.3 0.0
ARTI S S 19 13 10.6 +2.5
ARTI pmax pmax
comp=Z,351nm,1.3s
TRLG Trialeti 21.61 291 P P 19 09 26.7 +0.9
GEVA Gevas 22.42 283 P P 19 09 35.5 +2.1
GTA Gaotai 22.62 74 P P 19 09 36.5 +1.3
GTA pP pP 19 10 19.1 +2.6
GTA S S 19 13 27.8 +2.4
GTA SS SS 19 14 40.5 -28
GTA ScS ScS 19 20 18.2 -3.0
GTA pmax pmax
comp=Z,71nm,1.3s
GTA pmax pmax
comp=Z,870nm,3.6s
KBZ Khabaz 22.73 297 P P 19 09 36.1 +0.2
comp=Z,45nm,0.7s,baz=98,slow=10,SNR=82
KBZ pP pP 19 10 17.8 +1.2
comp=Z,55nm,0.7s,baz=106,slow=15,SNR=4.4
KBZ S S 19 13 36.4 +10

comp=Z,26nm,1.1s,baz=163,slow=19,SNR=2.0
comp=Z,45nm,0.7s
GOF Gofitskoye 22.86 300 *d* iP **P 19 09 38.8 +1.7**
KVAR Kislovodsk Arr 22.91 297 P **P 19 09 39.0 +1.3**
comp=Z,16nm,0.8s,baz=99,slow=19,SNR=9.0
KVAR S **S 19 13 38.5 +8.6**
comp=Z,14nm,0.8s,baz=163,slow=19,SNR=1.2
comp=Z,16nm,0.8s
KIV Kislovodsk 22.92 297 P **P 19 09 38.4 +0.6**
KIV Kislovodsk 22.92 297 *e*P **P 19 09 38.2 +0.5**
KIV *e*S **S 19 13 31.1 +1.1**
KIV pmax pmax
comp=Z,85nm,1.0s
KIV MLR MLR
comp=Z,168nm,14.0s
KIV Kislovodsk 22.92 297 *i* P **P 19 09 38.6 +0.8**
SNR=24
BELG Belogornoye 22.92 321 P **P 19 09 38.0 +0.5**
comp=Z,1µm,0.8s,baz=128,slow=3.5,SNR=395
BELG S **S 19 13 35.9 +6.3**
comp=Z,53nm,1.0s,baz=108,slow=13,SNR=1.6
BELG Belogornoye 22.92 321 *c* iP **P 19 09 37.8 +0.3**
BELG pmax pmax
comp=Z,190nm,0.9s
DOK Doka 23.44 225 P **P 19 09 43.8 +1.2**
DMTO DMTO 23.72 222 P **P 19 09 46.3 +1.1**
WHFO Wadi Hawf 24.20 224 P **P 19 09 50.2 +0.7**
RBK Rabkut 24.30 223 P **P 19 09 51.3 +0.9**
KOPT Kop Dagi 24.32 287 IAmb IAmb 19 10 03.1
comp=Z,57nm,1.0s
MARD Mardin 24.32 281 P **P 19 09 51.8 +1.2**
MARD IAmb IAmb 19 09 53.5
comp=Z,60nm,1.2s
ERBR Yeremizino-Bor 24.76 301 *e*P **P 19 09 55.1 +0.8**
ERBR *e**PP **pP 19 10 37.9 -0.5**
ERBR *e*S **S 19 14 03.8 +4.8**
ERBR pmax pmax
comp=Z,224nm,0.9s
ABTO Aybut 24.92 224 P **P 19 09 56.7 +0.6**
SOC Sochi 25.01 296 *e*P **P 19 09 56.3 -0.3**
SOC *e*PP **pP 19 10 40.4 -0.6**
SOC *e*SP **sP 19 11 08.7 -0.7**
SOC *e*S **S 19 14 03.6 +0.6**
SOC *e**SS **sS 19 15 21.3 -4.9**
SOC pmax pmax
comp=Z,63nm,0.8s
VRH Novokhopyorsk 25.57 314 *e*P **P 19 09 59.2 -2.3**
VRH pmax pmax
comp=Z,130nm,0.9s
RAYN Ar Rayn 25.75 247 P **P 19 10 03.3 -0.2**
RAYN Ar Rayn 25.75 247 P **P 19 10 03.3 -0.2**
RAYN pmax pmax
comp=Z,119nm,0.9s
RAYN Ar Rayn 25.75 247 *i* P **P 19 10 03.5 0.0**
SNR=90
MOY Mondy 25.86 45 *e*P **P 19 10 05.6 +1.3**
MOY pmax pmax
comp=Z,77nm,1.8s
TNCH TengChong 26.01 109 ⇓P **P 19 10 07.6 +1.6**
TNCH pP pP 19 10 52.2 -0.7
TNCH sP sP 19 11 17.0 -3.3
TNCH S **S 19 14 22.2 +2.6**
TNCH sS sS 19 15 36.0 -7.6
TNCH pmax pmax
comp=Z,82nm,1.2s
LZH Lanzhou 26.18 81 ⇓P **P 19 10 09.2 +1.8**
LZH pP pP 19 10 55.4 +1.1
LZH sP PP 19 11 15.4 +4.0
LZH S **S 19 14 25.2 +3.3**
LZH sS sS 19 15 37.7 -8.3
LZH ScP **ScP 19 16 44.8 -0.6**
LZH pmax pmax
comp=Z,87nm,1.7s
LZH pmax pmax
comp=Z,250nm,4.1s
KIRV Kirov 26.22 334 P **P 19 10 08.3 +1.1**
comp=Z,266nm,0.7s,baz=138,slow=4.7,SNR=116
KIRV pP **pP 19 10 56.4 +2.8**
comp=Z,82nm,0.9s,baz=127,slow=3.1,SNR=3.5
KIRV S **S 19 14 23.9 +2.3**
comp=Z,13nm,0.8s,baz=63,slow=9.0,SNR=1.4
comp=Z,266nm,0.7s
ZAK Zakamensk 26.74 49 *e*P **P 19 10 12.9 +0.7**
ZAK *e* 19 11 00.6
ZAK pmax pmax
comp=Z,49nm,1.0s
ANN Anapa 26.76 298 *e*P **P 19 10 12.5 +0.3**
ANN *e**PP **pP 19 10 57.6 -0.5**
ANN *e*S **S 19 14 34.5 +4.0**
ANN pmax pmax
comp=Z,130nm,1.2s
VORD Divnogorie 26.91 312 *e*P **P 19 10 12.3 -1.2**
VORD pmax pmax
comp=Z,80nm,1.0s
VSR Storozhevoye 27.07 313 *e*P **P 19 10 13.0 -1.9**
VSR pmax pmax
comp=Z,110nm,1.0s
GAZ Gaziantep 27.16 281 P **P 19 10 17.7 +1.8**
GAZ IAmb IAmb 19 10 19.0
comp=Z,66nm,1.0s
VORR Voronezh 27.21 314 *e*P **P 19 10 14.5 -1.6**
VORR pmax pmax
comp=Z,150nm,1.0s
CD2 Chengdu 27.52 92 P **P 19 10 21.2 +1.9**
CD2 S **S 19 14 45.6 +2.6**
CD2 pmax pmax
comp=Z,150nm,0.9s
LPSR Galich'ya Gora 27.71 315 *e*P **P 19 10 19.8 -0.8**
LPSR pmax pmax
comp=Z,220nm,0.8s
PZH PanZhiHua 27.76 103 P **P 19 10 22.6 +1.1**
PZH pP **pP 19 11 10.4 +2.1**
PZH PcP **PcP 19 13 31.8 0.0**
PZH S **S 19 14 48.8 +1.9**
PZH ScP **ScP 19 16 49.0 -1.2**
PZH ScS **ScS 19 20 39.5 -3.5**
PZH pmax pmax
comp=Z,30nm,1.0s
IRK Irkutsk 27.96 46 *e*P **P 19 10 22.3 -0.5**
IRK *e* 19 11 10.9
IRK pmax pmax
comp=Z,83nm,1.5s
BNN Bunyan 27.99 285 P **P 19 10 25.2 +1.8**
BNN IAmb IAmb 19 10 26.5
comp=Z,34nm,1.0s
SONM Songino Array 28.08 55 P **P 19 10 25.6 +1.5**
SONM IAmb IAmb 19 10 26.8
comp=Z,51nm,0.9s
SONM Songino Array 28.08 55 P **P 19 10 25.6 +1.5**
comp=Z,64nm,0.8s,baz=259,slow=9.7,SNR=343
SONM pP **pP 19 11 13.2 +1.8**
comp=Z,19nm,0.9s,baz=259,slow=10,SNR=3.1
SONM sP **sP 19 11 38.7 0.0**
comp=Z,55nm,0.8s,baz=256,slow=8.8,SNR=8.1
comp=Z,64nm,0.8s
SONM Songino Array 28.08 55 P **P 19 10 25.6 +1.5**
SONM pmax pmax
comp=Z,51nm,0.9s
ULN Ulaanbaatar 28.52 56 P **P 19 10 29.2 +1.2**
ULN IAmb IAmb 19 10 30.5
comp=Z,54nm,0.8s
ULN Ulaanbaatar 28.52 56 *d* iP **P 19 10 29.3 +1.2**
ULN pmax pmax
comp=Z,50nm,0.9s
ASF Jabal al Asfar 28.61 271 P **P 19 10 30.3 +1.4**
comp=Z,22nm,0.9s,baz=104,slow=14,SNR=34
ASF pP **pP 19 11 18.3 +3.2**
comp=Z,27nm,1.0s,baz=79,slow=10,SNR=5.9
comp=Z,22nm,0.9s
SIM Simferopol' 29.12 298 *e*P **P 19 10 34.4 +1.2**
SIM *e*S **S 19 15 12.4 +4.7**
SIM pmax pmax
comp=Z,56nm,1.2s
KMI Kunming 29.22 104 ⇓P **P 19 10 35.6 +1.1**
KMI S **S 19 15 11.1 +1.1**
KMI sS sS 19 16 33.7 -0.9
KMI ScP **ScP 19 16 53.9 -1.1**
KMI pmax pmax
comp=Z,25nm,0.7s
KIRS Kirsehir-Merke 29.45 286 ⇓P **P 19 10 38.0 +1.7**
MMAI Mount Meron Ar 29.55 274 P **P 19 10 38.8 +1.5**
comp=Z,19nm,0.7s,baz=72,slow=9.3,SNR=34
MMAI PcP **PcP 19 13 37.0 +0.9**
comp=Z,4.9nm,0.7s,baz=83,slow=4.6,SNR=5.2
comp=Z,19nm,0.7s

BR131 Keskin Array S 29.60 288 P **P 19 10 38.2 +0.6**
BR131 Keskin Array S 29.60 288 P **P 19 10 38.2 +0.6**
BR131 pmax pmax
comp=Z,79nm,0.8s
BRTR Keskin Array B 29.60 288 P **P 19 10 38.4 +0.8**
comp=Z,54nm,0.7s,baz=101,slow=8.6,SNR=191
BRTR PcP **PcP 19 13 36.4 +0.2**
comp=Z,3.3nm,0.7s,baz=97,slow=4.9,SNR=1.5
comp=Z,54nm,0.7s
BRTR Keskin Array B 29.60 288 *i* P **P 19 10 38.9 +1.3**
BRTR pmax pmax
comp=Z,56nm,0.7s
MOS Moscow 29.69 321 *e*P **P 19 10 37.5 -0.5**
MOS *e**PP **pP 19 11 22.9 -1.6**
MOS *e*S **S 19 15 12.6 -3.7**
MOS *e**SS **sS 19 16 36.0 -4.9**
MOS pmax pmax
comp=Z,500nm,1.2s
MOS pmax pmax
comp=Z,354nm,0.9s
MOS pmax pmax
comp=N,100nm,0.9s
MOS pmax pmax
comp=N,106nm,0.9s
MOS pmax pmax
comp=E,249nm,0.9s
MOS pmax pmax
comp=E,300nm,1.0s
OBN Obninsk 29.98 319 P **P 19 10 41.2 +0.7**
OBN Obninsk 29.98 319 P **P 19 10 41.3 +0.8**
comp=E,404nm,0.6s,baz=204,slow=1.8,SNR=112
OBN S **S 19 15 20.1 -0.6**
comp=E,15nm,0.5s,baz=112,slow=5.4,SNR=1.8
OBN Obninsk 29.98 319 *c* iP **P 19 10 41.1 +0.6**
OBN *e**PP **pP 19 11 26.4 -0.6**
OBN *i* *SP **sP 19 11 53.9 0.0**
OBN *i* S **S 19 15 20.9 +0.2**
OBN *SS **sS 19 16 46.0 +0.6**
OBN pmax pmax
comp=Z,268nm,0.9s
OBN MLR MLR
comp=Z,102nm,18.0s
CHTO Chiang Mai 30.09 119 P **P 19 10 43.1 +1.1**
CHTO Chiang Mai 30.09 119 P **P 19 10 43.1 +1.1**
CHTO pmax pmax
comp=Z,25nm,1.0s
CHTO Chiang Mai 30.09 119 P **P 19 10 43.6 +1.6**
ANTO Ankara 30.23 288 P **P 19 10 44.8 +1.7**
ANTO IAmb IAmb 19 10 45.9
comp=Z,57nm,0.8s
ANTO Ankara 30.23 288 ⇑P **P 19 10 44.8 +1.7**
ANTO Ankara 30.23 288 P **P 19 10 44.8 +1.7**
ANTO pmax pmax
comp=Z,57nm,0.9s
ANTO Ankara 30.23 288 P **P 19 10 45.1 +2.0**
CM31 Chiang Mai Arr 30.33 119 P **P 19 10 45.1 +1.0**
CM31 IAmb IAmb 19 10 47.3
comp=Z,78nm,1.3s
CMAR Chiang Mai Arr 30.33 119 P **P 19 10 44.9 +0.9**
CMAR Chiang Mai Arr 30.33 119 P **P 19 10 44.7 +0.6**
comp=Z,27nm,0.9s,baz=307,slow=7.7,SNR=87
CMAR PcP **PcP 19 13 38.3 +0.1**
comp=Z,5.4nm,0.8s,baz=324,slow=1.1,SNR=5.2
CMAR ScP **ScP 19 16 56.8 -1.6**
comp=Z,2.4nm,0.9s,baz=309,slow=3.1,SNR=5.4
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 30.33 119 *i* P **P 19 10 45.0 +0.9**
CMAR pmax pmax
comp=Z,29nm,0.9s
BTO Baotou 30.37 70 *e*P **P 19 10 45.0 +0.6**
BTO pP **pP 19 11 31.9 -0.2**
BTO sP **PP 19 11 55.4 -2.4**
BTO PP **PP 19 11 56.4 -1.4**
BTO S **S 19 15 30.3 +2.8**
BTO pmax pmax
comp=Z,210nm,1.0s
BTO pmax pmax
comp=Z,310nm,3.6s
BTO LR LR
comp=Z,260nm,4.3s
BTO LR LR
comp=Z,360nm,4.8s
BTO LR LR
comp=Z,720nm,12.7s
PALK Pallekele 30.46 161 P **P 19 10 47.3 +2.0**
PALK IAmb IAmb 19 10 47.3
comp=Z,45nm,1.2s
PALK Pallekele 30.46 161 P **P 19 10 47.3 +2.0**
PALK pmax pmax
comp=Z,45nm,1.3s
CSS Mathiatis 30.69 278 P **P 19 10 47.4 +0.3**
XAN Xi'an 30.70 84 ⇓P **P 19 10 48.2 +0.9**
XAN pP pP 19 11 35.2 +0.3
XAN S **S 19 15 35.0 +2.3**
XAN ScP **ScP 19 16 58.2 -1.3**
XAN pmax pmax
comp=Z,160nm,0.8s
XAN pmax pmax
comp=Z,330nm,4.5s
XAN LR LR
comp=Z,440nm,9.1s
XAN LR LR
comp=Z,260nm,9.8s
XAN LR LR
comp=Z,360nm,11.5s
EIL Elat 31.05 268 P **P 19 10 51.6 +1.2**
comp=Z,69nm,1.0s,baz=69,slow=5.5,SNR=40
comp=Z,69nm,1.0s
KLMR Klimovskoe 31.47 330 *e*P **P 19 10 52.2 -1.4**
KLMR *e**PP **pP 19 11 39.2 -1.3**
KLMR pmax pmax
comp=Z,262nm,1.0s
HHC Hu-ho-hao-te 31.52 70 ⇑*i*P **P 19 10 56.5 +2.1**
HHC pP pP 19 11 44.2 +1.9
HHC S **S 19 15 48.1 +2.8**
HHC pmax pmax
comp=Z,37nm,1.2s
HHC pmax pmax
comp=Z,100nm,6.7s
GYA Guiyang 31.67 99 ⇓P **P 19 10 57.1 +1.2**
GYA pP pP 19 11 44.8 +1.3
GYA PcP **PcP 19 13 42.4 +0.5**
GYA S **S 19 15 49.2 +1.2**
GYA ScP **ScP 19 17 02.1 -0.8**
GYA pmax pmax
comp=Z,74nm,0.9s
GYA pmax pmax
comp=Z,300nm,3.1s
PURM Purcari 32.18 301 ⇑P **P 19 11 01.3 +1.4**
ISP Isparta 32.29 285 ⇓*e*P **P 19 11 02.2 +1.0**
ISP pmax pmax
comp=Z,33nm,0.8s
ISP Isparta 32.29 285 *e*P **P 19 11 02.2 +1.0**
TIY Taiyuan 32.63 75 P **P 19 11 05.6 +1.5**
TIY pP **pP 19 11 53.7 +1.8**
TIY S **S 19 16 04.0 +1.3**
TIY sS sS 19 17 19.5 -8.3
TIY pmax pmax
comp=Z,71nm,0.8s
TLCR 32.88 298 ⇓P **P 19 11 07.7 +1.6**
TLCR 32.88 298 P **P 19 11 07.6 +1.6**
MILM Milestii Mici 32.92 302 ⇑*i*P **P 19 11 05.9 -0.5**
comp=Z,260nm,1.7s
MILM Milestii Mici 32.92 302 ⇑P **P 19 11 07.2 +0.8**
MILM Milestii Mici 32.92 302 *c* iP **P 19 11 05.9 -0.5**
MILM *i* 19 11 53.0
MILM *i* 19 12 17.0
MILM pmax pmax
comp=Z,260nm,1.7s
KIS Kishinev 32.93 302 ⇑*i*P **P 19 11 06.6 +0.2**
comp=Z,600nm,1.2s
KIS Kishinev 32.93 302 *ce*P **P 19 11 06.6 +0.2**
KIS *i* 19 12 20.0
KIS pmax pmax
comp=Z,600nm,1.3s
AKASG Malin Array Be 33.03 309 P **P 19 11 07.3 0.0**
AKASG IAmb IAmb 19 11 08.7
comp=Z,54nm,0.9s
AKASG Malin Array Be 33.03 309 P **P 19 11 07.3 0.0**
comp=Z,41nm,0.6s,baz=90,slow=8.3,SNR=316
AKASG pP **pP 19 11 54.3 +0.3**
comp=Z,21nm,0.9s,baz=86,slow=7.2,SNR=2.8
comp=Z,41nm,0.6s
AKASG Malin Array Be 33.03 309 *i* P **P 19 11 07.4 +0.1**
AKASG pmax pmax
comp=Z,96nm,0.7s
AKBB Malin Array Si 33.03 309 P **P 19 11 07.8 +0.5**
AKBB Malin Array Si 33.03 309 P **P 19 11 07.8 +0.5**
AKBB pmax pmax
comp=Z,100nm,0.7s
KIEV Kiev 33.04 309 P **P 19 11 07.3 0.0**
KIEV Kiev 33.04 309 P **P 19 11 07.3 0.0**
KIEV pmax pmax
comp=Z,90nm,0.7s
KIEV Kiev 33.04 309 *i* P **P 19 11 07.6 +0.2**
SNR=11
KIEV Kiev 33.04 309 P **P 19 11 07.7 +0.3**
MFTR Murfatlar 33.18 297 ⇑P **P 19 11 10.6 +1.9**
SORM Soroca 33.31 304 ⇓P **P 19 11 10.2 +0.6**
CFR Carcaliu 33.37 298 ⇓P **P 19 11 11.2 +1.0**
LYN LuoYang 33.39 81 ⇓P **P 19 11 13.0 +2.4**
LYN pP pP 19 12 01.4 +2.9
LYN PP **PP 19 12 36.4 +5.2**
LYN S **S 19 16 16.2 +2.0**
LYN SS **SS 19 18 38.6 -6.1**
LYN pmax pmax
comp=Z,160nm,1.3s
VLDR Vladesti 33.40 300 ⇓P **P 19 11 11.8 +1.2**
TATR Tatarca 33.42 299 ⇑P **P 19 11 12.4 +1.7**
TLBR Topalu 33.44 297 ⇓P **P 19 11 12.9 +2.0**
SCTR Scanteiesti 33.46 299 ⇓P **P 19 11 13.0 +1.9**
CTYL Yalikoy Yolu 33.47 292 ⇓P **P 19 11 13.3 +2.2**
HARR Harsova 33.52 298 ⇓P **P 19 11 13.6 +2.1**
VARL Varlezi 33.57 300 ⇓P **P 19 11 13.7 +1.8**
VASR Vaslui 33.62 301 ⇓P **P 19 11 14.5 +2.1**
ICOR Ion Corvin 33.63 297 ⇓P **P 19 11 14.4 +1.9**
MANT Manisa 33.69 286 P **P 19 11 13.8 +0.5**
TUDR 33.69 299 ⇓P **P 19 11 15.3 +2.3**
BIR Birlad 33.72 300 ⇑P **P 19 11 15.1 +1.8**
BAND Balkesir-Ban 33.74 290 ⇑P **P 19 11 15.3 +1.7**
GHRR 33.87 300 ⇑P **P 19 11 16.5 +1.9**
PANC Panciu 34.05 300 ⇑P **P 19 11 18.3 +2.1**
NEF NEVSHA 34.06 295 P **P 19 11 17.0 +0.7**
ODBI Odobesti 34.12 300 ⇑P **P 19 11 18.4 +1.7**
GRER 34.18 299 ⇓P **P 19 11 19.6 +2.3**
PGOR Pogoanele 34.19 298 ⇑P **P 19 11 19.5 +2.2**
VRI Vrincioaia 34.35 300 ⇑P **P 19 11 20.1 +1.4**
VRI Vrincioaia 34.35 300 P **P 19 11 20.1 +1.4**
TESR Tescani 34.40 301 ⇑P **P 19 11 20.4 +1.3**
PLOR Plostina 34.40 300 ⇑P **P 19 11 20.9 +1.6**
PLOR Plostina 34.40 300 P **P 19 11 20.8 +1.6**
HNS HongShan 34.47 75 ⇓P **P 19 11 21.8 +2.0**
HNS pmax pmax
comp=Z,51nm,1.1s
ISR Istrita 34.49 298 ⇑P **P 19 11 22.4 +2.4**
ISR Istrita 34.49 298 P **P 19 11 22.4 +2.4**
ARG Arkhangelos 34.50 283 P **P 19 11 20.8 +0.7**
ARG Arkhangelos 34.50 283 P **P 19 11 20.8 +0.7**
ARG pmax pmax
comp=Z,216nm,0.9s
LOZB Loznitsa 34.55 295 ⇑P **P 19 11 21.5 +1.0**
MNK Minsk 34.56 315 *i* P **P 19 11 21.1 +0.7**
comp=E,12nm,0.8s
MNK *i* P **P 19 11 21.1 +0.7**
comp=N,109nm,0.8s
MNK *i* P **P 19 11 21.1 +0.7**
comp=Z,156nm,0.8s,baz=103
MNK *i* pP **pP 19 12 06.0 -1.4**
MNK *i* sP **sP 19 12 31.6 -2.6**
MNK *i* PP **PP 19 12 43.7 0.0**
MNK *i* S **S 19 16 34.4 +2.8**
MNK *i* sS **sS 19 17 58.8 +1.6**
MNK *i* SS **SS 19 19 14.1 +2.9**
MNK *i* LR LR 19 26 18.6
MNK *i* LRM MLR 19 27 47.2
comp=Z,118nm,15.2s
MNK *i* LRM MLR 19 28 42.2
comp=N,116nm,16.2s
MNK *i* LRM MLR 19 28 46.1
comp=E,74nm,15.3s
MNK Minsk 34.56 315 *i* P **P 19 11 21.0 +0.7**
MNK *i* AP **pP 19 12 06.0 -1.4**
MNK *i* S **S 19 16 34.4 +2.8**
MNK pmax pmax
comp=Z,156nm,0.8s
ONER Baraj Valea Uz 34.58 301 ⇓P **P 19 11 22.8 +2.1**
RAZG Razgrad 34.60 296 ⇑P **P 19 11 22.5 +1.6**
XLT XiLinHaoTe 34.61 64 *e*P **P 19 11 22.8 +1.7**
XLT S **S 19 16 38.4 +5.4**
XLT SS **SS 19 19 00.0 -13**
XLT pmax pmax
comp=Z,29nm,1.1s
NEHR Nehoiu 34.66 299 ⇑P **P 19 11 23.8 +2.4**
PRAR RASCA 34.70 302 ⇓P **P 19 11 22.8 +1.1**
TURR Turia 34.84 300 ⇓P **P 19 11 24.4 +1.4**
MLR Muntele Rosu 34.90 299 P **P 19 11 26.0 +2.4**
comp=Z,89nm,0.8s,baz=85,slow=12,SNR=66
MLR pP **pP 19 12 13.1 +2.4**
comp=Z,67nm,1.0s,baz=58,slow=4.5,SNR=4.4
MLR sP **sP 19 12 40.5 +3.2**
comp=Z,65nm,0.9s,baz=117,slow=9.0,SNR=3.8
comp=Z,89nm,0.8s
MLR Muntele Rosu 34.90 299 ⇑P **P 19 11 25.7 +2.1**
PUL Pulkovo 34.93 325 *c* iP **P 19 11 24.1 +0.7**
PUL pmax pmax
comp=Z,330nm,0.9s
OZUR 35.00 300 ⇑P **P 19 11 25.9 +1.6**
ELND Elena 35.11 295 ⇓P **P 19 11 27.0 +1.8**
BJI Beijing 35.11 70 P **P 19 11 27.0 +1.8**
BJI S **S 19 16 44.2 +3.8**
BJI pmax pmax
comp=Z,19nm,0.8s
BOD Bodaibo 35.11 39 *e*P **P 19 11 25.4 +0.4**
BOD pmax pmax
comp=Z,65nm,1.1s
CAVK Edirne/Enez-Ca 35.16 291 ⇓P **P 19 11 27.7 +2.1**
EZN Ezine 35.17 289 ⇓P **P 19 11 27.5 +1.7**
EZN Ezine 35.17 289 P **P 19 11 27.4 +1.7**
ALN Alexandroupoli 35.22 291 P **P 19 11 26.1 0.0**
ALN IAmb IAmb 19 11 28.5
comp=Z,46nm,1.0s
ALN Alexandroupoli 35.22 291 P **P 19 11 26.1 0.0**
ALN pmax pmax
comp=Z,46nm,1.0s
NACGM Naroch 35.27 316 *i* P **P 19 11 27.1 +0.7**
comp=E,136nm,1.1s
DOPR Dopca 35.28 300 ⇓P **P 19 11 28.6 +1.9**
IDID Didziasalis 35.39 316 *e*P **P 19 11 26.4 -1.0**
BURAR Bucovina Array 35.40 303 P **P 19 11 28.5 +0.8**
BURAR Bucovina Array 35.40 303 ⇑P **P 19 11 28.9 +1.1**
BURAR Bucovina Array 35.40 303 P **P 19 11 28.8 +1.1**
BUR08 Bucovina Ar. S 35.41 303 P **P 19 11 29.1 +1.2**
ZIMR 35.42 296 ⇑P **P 19 11 29.6 +1.8**
ZIMR 35.42 296 P **P 19 11 29.6 +1.8**
KARP Karpathos 35.42 282 P **P 19 11 28.8 +0.7**
KARP Karpathos 35.42 282 *e*P **P 19 11 29.0 +0.9**
MTUR Matau 35.54 299 ⇑P **P 19 11 31.1 +2.1**
MTUR Matau 35.54 299 P **P 19 11 31.0 +2.1**
RDO Rodhopi 35.56 292 P **P 19 11 29.1 0.0**
HUMR Humele 35.63 297 ⇑P **P 19 11 31.5 +1.8**
ATD Arta Tunnel 35.77 233 P **P 19 11 33.7 +2.5**
ISAL Salakas 35.78 316 *e*P **P 19 11 31.8 +1.0**
ARR Arges 35.83 299 ⇑P **P 19 11 32.8 +1.3**
JOF Joensuu 35.86 330 *e*P **P 19 11 31.8 +0.4**
TGMR Targu Mures 35.87 301 ⇑P **P 19 11 34.0 +2.4**
CNSH ChangSha 35.94 91 P **P 19 11 33.3 +0.8**
CNSH pmax pmax
comp=E,83nm,1.0s
ARCR ARCALIA 35.98 302 ⇓P **P 19 11 34.5 +1.9**
PLVB Pleven 35.98 296 ⇓P **P 19 11 34.4 +1.8**
TNR Turnu Rosu 36.07 299 ⇑P **P 19 11 35.4 +2.0**
TNR Turnu Rosu 36.07 299 P **P 19 11 35.4 +2.0**
WHN Wuhan 36.17 87 ⇓*i*P **P 19 11 35.9 +1.5**
WHN pP **pP 19 12 26.0 +3.1**
WHN S **S 19 16 59.6 +2.8**
WHN pmax pmax
comp=E,240nm,0.9s
VSU Vasula 36.22 321 *c* iP **P 19 11 33.7 -0.7**
VSU pmax pmax
comp=Z,249nm,0.9s
VSU Vasula 36.22 321 *e*P **P 19 11 33.6 -0.7**
PGB Panagyurishte 36.40 294 P **P 19 11 37.0 +0.8**
LOT Lotru 36.44 299 ⇑P **P 19 11 38.5 +1.9**
CJR Cluj-Napoca 36.50 301 ⇓P **P 19 11 39.1 +2.1**
CJR Cluj-Napoca 36.50 301 P **P 19 11 39.1 +2.1**
MPEP Malo Peshtene 36.62 296 P **P 19 11 38.0 -0.1**
TIA Tai'an 36.63 77 P **P 19 11 39.9 +1.7**

TIA pmax pmax
comp=Z,71nm,0.9s
MARR Marisel-Cluj 36.84 301 ⇑P P 19 11 41.2 +1.3
MMB Musomishta 36.84 293 P P 19 11 39.0 -1.0
ARBE Arbavere 36.88 323 *eP* **P 19 11 40.5 +0.5**
MESR Meseseni 36.94 302 ⇓P P 19 11 42.4 +1.8
PABE Paberze 36.97 316 P P 19 11 41.6 +0.8
PABE Paberze 36.97 316 *eP* **P 19 11 42.0 +1.2**
DEV Deva 37.02 300 ⇓P P 19 11 43.3 +2.0
DEV Deva 37.02 300 P P 19 11 43.3 +2.0
VTS Vitosha 37.07 294 P P 19 11 43.0 +0.9
VSVD Vaisvydziai 37.08 317 *eP* **P 19 11 42.5 +0.8**
KWP Kalwaria Pacla 37.11 306 ⇓P P 19 11 42.6 +0.5
DRGR 37.11 301 ⇑P P 19 11 43.6 +1.4
DRGR 37.11 301 P P 19 11 43.6 +1.4
GZR Gura Zlata 37.14 299 ⇑P P 19 11 43.8 +1.4
GZR Gura Zlata 37.14 299 P P 19 11 43.8 +1.4
SUW Suwalki 37.18 313 *eP* **P 19 11 42.6 +0.1**
SUW Suwalki 37.18 313 *eP* **P 19 11 42.7 +0.1**
KKB Krupnik 37.26 293 P P 19 11 42.5 -0.9
IDI Anoyia 37.28 282 P P 19 11 43.6 -0.2
IDI IAmb IAmb 19 11 45.5
comp=Z,74nm,0.8s
IDI Anoyia 37.28 282 P P 19 11 43.8 0.0
comp=Z,62nm,0.6s,baz=76,slow=12,SNR=62
comp=Z,62nm,0.6s
KOLS Kolonicke sedl 37.38 305 *eP* **P 19 11 45.5 +1.2**
KOLS pmax pmax
comp=Z,48nm,0.8s
KOLS Kolonicke sedl 37.38 305 *eP* **P 19 11 45.5 +1.2**
LVZ Lovozero 37.42 338 P P 19 11 45.1 +0.7
LVZ Lovozero 37.42 338 *ceP* **P 19 11 45.0 +0.6**
LVZ pmax pmax
comp=Z,115nm,0.8s
LVZ Lovozero 37.42 338 P P 19 11 45.2 +0.7
LVZ sP **sP 19 12 57.7 -2.0**
HERR Herculane 37.43 298 ⇓P P 19 11 45.8 +1.0
FIA1 FINESS Array S 37.49 326 P P 19 11 45.7 +0.7
FINES FINESS Array B 37.49 326 P P 19 11 45.7 +0.6
comp=Z,157nm,0.7s,baz=110,slow=8.7,SNR=938
FINES S **S 19 17 14.5 -1.5**
comp=Z,5.6nm,0.7s,baz=91,slow=15,SNR=2.7
comp=Z,157nm,0.7s
APA Apatity 37.60 337 *eP* **P 19 11 44.1 -1.8**
APA *e**PP **pP 19 12 30.8 -3.4**
APA MLR MLR
comp=Z,1μm,19.2s
SIRR Siria 37.86 301 ⇓P P 19 11 50.0 +1.6
MEF Metsahovi 37.88 324 *eP* **P 19 11 48.7 +0.4**
BZS Buzias 37.94 300 ⇓P P 19 11 50.5 +1.5
BZS Buzias 37.94 300 P P 19 11 50.5 +1.5
MDVR Moldovita 37.94 298 ⇑P P 19 11 49.9 +0.8
QIZ Qiongzhong 38.05 107 P P 19 11 51.7 +1.4
QIZ pP **pP 19 12 37.0 -2.1**
QIZ sP **sP 19 13 02.4 -3.6**
QIZ S **S 19 17 28.5 +3.1**
QIZ sS **sS 19 18 50.2 -1.7**
QIZ pmax pmax
comp=Z,91nm,1.6s
QIZ pmax pmax
comp=Z,610nm,2.9s
STHS Stebnicka Huta 38.06 306 *eP* **P 19 11 49.8 -0.2**
STHS pmax pmax
comp=Z,23nm,0.8s
STHS Stebnicka Huta 38.06 306 *eP* **P 19 11 49.8 -0.2**
PBUR Paburge 38.20 316 *eP* **P 19 11 51.5 +0.5**
R9F13 Warsaw-Wawer 38.22 310 *eP* **P 19 11 52.1 +0.8**
comp=Z,5.0nm,0.5s
R9F13 *eS* S 19 16 18.8 -68
KEF Keuruu 38.28 327 *eP* **P 19 11 52.4 +0.7**
SLIT Slitere, Latvi 38.30 319 *eP* **P 19 11 51.5 -0.3**
BEL Belsk 38.42 310 *eP* **P 19 11 53.5 +0.5**
SKO Skopje 38.48 294 *iP* **P 19 11 54.9 +1.3**
NIE Niedzica 38.67 306 *eP* **P 19 11 56.6 +1.5**
FNA Florina 38.73 292 P P 19 11 56.7 +0.9
FNA IAmb IAmb 19 11 57.3
comp=Z,43nm,0.7s
FNA Florina 38.73 292 P P 19 11 56.7 +0.9
FNA pmax pmax
comp=Z,43nm,0.7s
BSZH Besenyszg 38.76 302 ⇑P P 19 11 57.8 +2.0
PSZ Piszkesteto 38.98 303 ⇑P P 19 11 58.9 +1.1
PSZ Piszkesteto 38.98 303 P P 19 11 58.9 +1.1
PSZ Piszkesteto 38.98 303 *eP* **P 19 11 59.7 +1.9**
OJC Ojcow 39.00 307 *eP* **P 19 11 58.1 +0.3**
OJC Ojcow 39.00 307 P P 19 11 58.6 +0.8
OJC Ojcow 39.00 307 P P 19 11 58.6 +0.8
ITM Ithomi 39.10 286 IAmb IAmb 19 11 58.8
comp=Z,41nm,0.7s
OHR Ohrid 39.10 292 *iP* **P 19 11 59.1 +0.3**
LANS Liptovska Anna 39.22 305 *eP* **P 19 12 01.3 +1.6**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 39.22 305 *eP* **P 19 12 01.3 +1.6**
NJ2 Nanjing 39.24 82 ⇓*iP* **P 19 12 01.8 +1.8**
NJ2 pP **pP 19 12 51.0 +1.6**
NJ2 S **S 19 17 46.4 +3.4**
NJ2 pmax pmax
comp=Z,110nm,0.6s
RAF Rauma 39.35 324 *eP* **P 19 12 00.4 -0.1**
DL2 Dalian 39.47 71 P P 19 12 03.3 +1.5
DL2 pP **pP 19 12 50.7 -0.6**
DL2 PcP **PcP 19 14 09.6 +4.9**
DL2 S **S 19 17 47.6 +1.5**
DL2 pmax pmax
comp=Z,130nm,0.8s
DL2 pmax pmax
comp=Z,200nm,4.8s
VYHS Vyhne 39.66 304 *eP* **P 19 12 04.2 +0.9**
VYHS pmax pmax
comp=Z,62nm,1.4s
VYHS Vyhne 39.66 304 *eP* **P 19 12 04.2 +0.9**
VYHS *e*PP **PP 19 13 42.5 +3.1**
RUDO Rudo 39.75 297 *eP* **P 19 12 05.0 +0.9**
MORH Mrgy, Hungar 39.95 301 ⇑P P 19 12 05.8 +0.1
MORH Mrgy, Hungar 39.95 301 ⇑P P 19 12 06.3 +0.6
PDG Podgorica 40.01 295 ⇑P P 19 12 06.8 +0.6
SRO Srobarova 40.05 303 *eP* **P 19 12 09.5 +3.1**
SRO *e* 19 13 24.1
SRO pmax pmax
comp=Z,109nm,1.0s
SRO Srobarova 40.05 303 *eP* **P 19 12 09.5 +3.1**
SRO *e* 19 13 24.1
VADS Vadso 40.27 339 *eP* **P 19 12 09.3 +1.4**
MAUC Maruska 40.29 306 *eP* **P 19 12 10.2 +1.7**
MAUC *ex* x 19 14 48.9
STEB Steborice 40.30 307 *eP* **P 19 12 09.6 +1.1**
SNY Shenyang 40.34 66 ⇓P P 19 12 09.6 +0.7
SNY pmax pmax
comp=Z,41nm,0.7s
KLINJ Klinje 40.38 296 *eP* **P 19 12 08.5 -0.9**
JAVC Velka Javorina 40.41 305 *eP* **P 19 12 11.2 +1.7**
MORC Moravsky Berou 40.46 306 *eP* **P 19 12 10.5 +0.6**
MORC Moravsky Berou 40.46 306 ⇑P P 19 12 10.8 +1.0
MORC Moravsky Berou 40.46 306 P P 19 12 10.8 +1.0
SMOL Smolenice 40.59 304 *eP* **P 19 12 12.2 +1.3**
SMOL *e* 19 13 26.6
SMOL pmax pmax
comp=Z,36nm,1.7s
TREB Trebinje 40.62 295 ⇑*iP* **P 19 12 12.0 +0.8**
GKP Gorka Klasztor 40.65 312 *eP* **P 19 12 11.6 +0.4**
GKP Gorka Klasztor 40.65 312 *eP* **P 19 12 11.6 +0.4**
MODS Modra-Piesok 40.70 304 *eP* **P 19 12 10.3 -1.6**
MODS *e* 19 13 24.9
MODS *e* 19 13 57.8
MODS pmax pmax
comp=Z,135nm,1.5s
MODS Modra-Piesok 40.70 304 *eP* **P 19 12 10.2 -1.6**
MODS *e* 19 13 24.9
MODS *eP*P **PnPn 19 13 57.8 +0.6**
KEV Kevo 40.76 338 P P 19 12 12.9 +1.0
KEV Kevo 40.76 338 P P 19 12 12.9 +1.0
KEV pmax pmax
comp=Z,116nm,0.8s
KEV Kevo 40.76 338 P P 19 12 12.6 +0.7
KEV sP **sP 19 13 26.4 -1.2**
SJUU Sjulsmark 40.79 331 *eP* **P 19 12 13.4 +1.2**
KRLC Kraliky 40.94 307 *eP* **P 19 12 15.0 +1.2**
KRLC Kraliky 40.94 307 *eP* **P 19 12 15.0 +1.2**
KRLC *ex* x 19 14 53.4
STON Ston 41.07 296 ⇑*iP* **P 19 12 14.5 -0.3**
VRAC Vranov 41.10 306 P P 19 12 16.5 +1.5
comp=Z,26nm,0.7s,baz=90,slow=9.8,SNR=71
VRAC pP **pP 19 13 05.7 +2.2**
comp=Z,15nm,0.8s,baz=85,slow=11,SNR=4.0
VRAC sP **sP 19 13 31.6 +1.9**
comp=Z,19nm,0.9s,baz=86,slow=11,SNR=3.8
comp=Z,26nm,0.7s
VRAC Vranov 41.10 306 *eP* **P 19 12 16.0 +1.0**
VRAC Vranov 41.10 306 ⇓P P 19 12 16.1 +1.0
UPP Uppsala 41.10 322 *eP* **P 19 12 14.9 +0.1**
ARA0 ARCESS Array S 41.11 337 *eP* **P 19 12 15.9 +1.1**
ARCES ARCESS Array B 41.11 337 P P 19 12 15.9 +1.1
ARCES ARCESS Array B 41.11 337 P P 19 12 15.8 +1.0
comp=Z,171nm,0.6s,baz=116,slow=8.5,SNR=794
ARCES sP **sP 19 13 29.4 -1.1**
comp=Z,48nm,0.8s,baz=124,slow=8.1,SNR=4.9
ARCES S **S 19 18 10.3 +0.7**
comp=Z,2.1nm,0.8s,baz=128,slow=28,SNR=1.0
comp=Z,171nm,0.6s
BLY Banja Luka 41.15 299 ⇑*iP* **P 19 12 16.2 +0.7**
BLY Banja Luka 41.15 299 ⇑P P 19 12 16.5 +1.0
BEHE Becsehely 41.21 301 ⇑*iP* **P 19 12 16.8 +0.8**
DPC Dobruska-Polom 41.22 307 *eP* **P 19 12 17.5 +1.4**
DPC Dobruska-Polom 41.22 307 *eP* **P 19 12 17.5 +1.4**
KSP Ksiaz 41.23 308 *eP* **P 19 12 16.7 +0.7**
KRUC Moravsky 41.24 305 *eP* **P 19 12 17.0 +0.8**
OSTC Ostas 41.28 308 *eP* **P 19 12 17.8 +1.3**
OSTC Ostas 41.28 308 *eP* **P 19 12 17.8 +1.3**
OSTC *ex* x 19 21 34.2
A051A Mrakovica 41.30 299 ⇑*iP* **P 19 12 16.7 -0.1**
MOSL Moslavina 41.33 300 ⇑*iP* **P 19 12 17.2 +0.2**
CN2 Changchun 41.36 63 P P 19 12 18.2 +1.0
CN2 S **S 19 18 14.8 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CHVC Chvalec 41.38 308 *eP* **P 19 12 18.8 +1.4**
CHVC Chvalec 41.38 308 *eP* **P 19 12 18.8 +1.4**
RONA Rosalia, Austr 41.41 303 *iP* **P 19 12 18.1 +0.5**
comp=Z,33nm,0.8s,SNR=35
UPC Upice 41.41 308 *eP* **P 19 12 19.1 +1.5**
UPC Upice 41.41 308 *eP* **P 19 12 19.1 +1.5**
KOGS Kog 41.58 301 *iP* **P 19 12 19.6 +0.6**
KOGS *eP* **pP 19 13 14.1 +6.6**
KOGS *eS* **sP 19 13 34.5 +0.8**
KTK1 Kautokeino 41.58 336 *eP* **P 19 12 19.3 +0.6**
BLEU Blekinge 41.63 316 *iP* **P 19 12 18.5 -0.6**
BLEU IAmb IAmb 19 12 20.0
comp=Z,46nm,0.5s
A050A Klekovaca 41.65 298 ⇑*iP* **P 19 12 19.5 -0.1**
CONA Conrad Observa 41.69 304 *eP* **P 19 12 20.3 +0.4**
comp=Z,138nm,1.5s,SNR=107
KIJV Kijevo 41.81 298 ⇑*iP* **P 19 12 20.7 -0.2**
TREC Trest 41.82 306 *eP* **P 19 12 22.3 +1.4**
TREC Trest 41.82 306 *eP* **P 19 12 22.3 +1.4**
ARSA Arzberg 41.98 303 P P 19 12 22.1 -0.1
ARSA Arzberg 41.98 303 *eP* **P 19 12 22.8 +0.6**
comp=Z,24nm,1.4s,SNR=24
HEH HeiHe 42.00 53 *eP* **P 19 12 23.5 +1.2**
HEH pP **pP 19 13 13.6 +1.6**
HEH ScP **ScP 19 17 40.1 -0.7**
HEH S **S 19 18 24.5 +1.3**
HEH ScS **ScS 19 21 55.8 -3.0**
HEH pmax pmax
comp=Z,260nm,0.8s
BSD Bornholm Skovb 42.07 314 *eP* **P 19 12 22.0 -0.8**
BSD Bornholm Skovb 42.07 314 *iP* **P 19 12 21.5 -1.2**
BSD *iP* **P 19 12 22.4 -0.3**
BSD IAmb IAmb 19 12 23.0
comp=Z,92nm,0.8s
BSD IAmb IAmb 19 12 23.0
comp=Z,92nm,0.8s
HAMF Hammerfest 42.18 338 ⇑*iP* **P 19 12 24.8 +1.3**
OZLJ Ozalj 42.23 300 ⇑*iP* **P 19 12 24.7 +0.6**
GOPC GO Pecny, Ondr 42.23 307 *eP* **P 19 12 25.5 +1.3**
GOPC GO Pecny, Ondr 42.23 307 *eP* **P 19 12 25.5 +1.3**
MATE Matera 42.24 293 ⇑*iP* **P 19 12 25.2 +0.9**
MATE Matera 42.24 293 *eP* **P 19 12 21.4 -2.9**
PVCC Panska Ves 42.33 308 *eP* **P 19 12 26.4 +1.4**
PVCC Panska Ves 42.33 308 *eP* **P 19 12 26.4 +1.4**
SOKA Soboth 42.38 302 *eP* **P 19 12 26.1 +0.6**
comp=Z,62nm,0.7s,SNR=85
PRU Pruhonice 42.39 307 *eP* **P 19 12 26.7 +1.3**
PRU Pruhonice 42.39 307 *eP* **P 19 12 26.7 +1.3**
BNX BinXian 42.44 60 ⇑*iP* **P 19 12 27.4 +1.5**
BNX pP **pP 19 13 16.9 +1.1**
BNX S **S 19 18 29.4 -0.4**
BNX pmax pmax
comp=Z,33nm,1.0s
BNX pmax pmax
comp=Z,160nm,7.6s
TIP Timpagrande 42.54 291 P P 19 12 27.4 +0.5
TIP IAmb IAmb 19 12 28.9
comp=Z,133nm,1.3s
TIP Timpagrande 42.54 291 ⇓*iP* **P 19 12 27.5 +0.6**
CKRC Cesky Krumlov 42.63 305 *eP* **P 19 12 27.3 -0.1**
CKRC Cesky Krumlov 42.63 305 *eP* **P 19 12 27.3 -0.1**
CKRC *ex* x 19 15 21.2
RICC Richard 42.63 308 *eP* **P 19 12 29.1 +1.7**
ZVC Zvikov 42.65 306 *eP* **P 19 12 29.2 +1.6**
SGRT San Giovanni R 42.71 295 P P 19 12 28.8 +0.6
BRG Berggiesshubel 42.71 308 *iP* **P 19 12 29.5 +1.5**
BRG Amp 19 12 30.7
comp=Z,56nm,0.9s
BRG pP **pP 19 13 17.3 +0.4**
BRG Amp 19 13 22.2
comp=Z,19nm,1.1s
BRG sP **sP 19 13 44.5 +1.5**
BRG Amp 19 13 49.1
comp=Z,19nm,1.0s
BRG PP **PP 19 14 14.3 +2.3**
BRG Amp 19 14 16.1
comp=Z,21nm,1.0s
BRG Berggiesshubel 42.71 308 S S 19 18 44.0 +10
BRG Berggiesshubel 42.71 308 sS sS 19 20 00.0 -1.5
DEL Delary 42.72 316 *iP* **P 19 12 28.0 +0.1**
JETT Jettan, Norway 42.73 336 ⇑*iP* **P 19 12 28.8 +0.9**
OBKA Obir 42.73 302 *iP* **P 19 12 29.4 +1.0**
comp=Z,79nm,1.6s,SNR=28
RUE Ruedersdorf 42.74 311 *eP* **P 19 12 28.1 0.0**
GSI Gunungsitoli 42.75 139 P P 19 12 30.6 +1.9
GSI IAmb IAmb 19 12 31.4
comp=Z,49nm,0.6s
MOA Molln 42.76 304 *eP* **P 19 12 28.7 +0.2**
comp=Z,98nm,1.5s,SNR=58
ACER Acerenza 42.77 293 IAmb IAmb 19 12 30.5
comp=Z,54nm,0.7s
LJU Ljubljana 42.81 301 *iP* **P 19 12 29.9 +1.0**
LJU *eP* **pP 19 13 18.2 +0.5**
LJU *iS* **sP 19 13 44.5 +0.5**
LJU *iP*cP **PcP 19 14 14.9 -0.7**
LUNU Lund 42.92 315 *iP* **P 19 12 30.1 +0.5**
GERES GERESS Array B 43.03 305 P P 19 12 31.7 +0.9
GERES GERESS Array B 43.03 305 P P 19 12 31.6 +0.8
comp=Z,7.5nm,0.8s,baz=89,slow=6.5,SNR=60
GERES pP **pP 19 13 21.9 +2.3**
comp=Z,7.4nm,0.8s,baz=88,slow=7.0,SNR=6.5
GERES PP **PP 19 14 14.5 -1.0**
comp=Z,11nm,0.9s,baz=83,slow=9.0,SNR=5.8
comp=Z,7.5nm,0.8s
KHC Kasperske Hory 43.08 306 *ceP* **P 19 12 31.8 +0.7**
KHC pmax pmax
comp=Z,20nm,1.0s
KHC Kasperske Hory 43.08 306 *eP* **P 19 12 32.0 +0.9**
KHC *ex* x 19 15 33.2
KHC *eXS* **sS 19 20 09.4 +2.2**
KHC AMS AMS 19 23 10.0
comp=Z,100nm,13.4s
HFS Hagfors 43.10 322 P P 19 12 31.3 +0.3
comp=Z,301nm,0.6s,baz=96,slow=10,SNR=1560
HFS pP **pP 19 13 22.4 +2.2**
comp=Z,17nm,0.5s,baz=97,slow=12,SNR=1.8
HFS S **S 19 18 39.1 +0.2**
comp=Z,5.6nm,1.0s,baz=90,slow=27,SNR=2.4
comp=Z,301nm,0.6s
BJUU Bjuv 43.17 316 *iP* **P 19 12 31.9 +0.4**
BIOA Bad Ischl, Aus 43.20 304 *eP* **P 19 12 32.4 +0.4**
comp=Z,54nm,1.2s,SNR=31
TRO Tromso 43.23 336 ⇑*iP* **P 19 12 32.5 +0.6**
CLL Collm 43.28 309 ⇑*iP* **P 19 12 32.9 +0.4**
CLL *e**PP **pP 19 13 20.0 -1.4**
CLL *e**SP **sP 19 13 46.0 -1.8**
CLL *eS* **S 19 18 43.0 +1.2**
CLL pmax pmax
comp=Z,38nm,1.0s
CLL Collm 43.28 309 ⇑*iP* **P 19 12 32.9 +0.4**
CLL *e*pP **pP 19 13 20.0 -1.4**
CLL *i* x x 19 13 39.5
CLL *es*P **sP 19 13 46.0 -1.8**
CLL *i* sPmax 19 13 49.1
comp=Z,28nm,1.0s
CLL *e*PP **PcP 19 14 17.0 0.0**
CLL *i* PPmax 19 14 22.2
CLL *e*PP 19 14 56.0
CLL *e*PPP PPP 19 15 04.0
CLL *es*PP 19 15 26.0
CLL *ex* x 19 15 33.0
CLL *ex* x 19 15 46.0
CLL *eS* **S 19 18 43.0 +1.2**
CLL *es*S **sS 19 20 03.0 -6.9**
CLL *eSS* **SS 19 22 00.0 -4.0**
CLL *es*SS 19 23 00.0
CLL *e*SSS SSS 19 23 54.0
CADS Cadrg 43.33 301 *iP* **P 19 12 33.5 +0.3**
MYKA Terra Mystica 43.34 302 *eP* **P 19 12 33.7 +0.5**
comp=Z,26nm,0.8s,SNR=9.8
BORU Boraas 43.37 318 *iP* **P 19 12 33.4 +0.2**
FABU Falkenberg 43.37 317 *iP* **P 19 12 33.3 +0.2**
TRI Trieste 43.39 301 IAmb IAmb 19 12 35.1
comp=Z,80nm,1.2s
CEL Celeste 43.43 290 IAmb IAmb 19 12 36.4
comp=Z,56nm,0.8s
KBA Koelnbreinsper 43.48 303 *eP* **P 19 12 34.4 0.0**
comp=Z,24nm,0.7s
COP Copenhagen 43.50 315 *iP* **P 19 12 34.2 0.0**
COP *iP* **P 19 12 34.9 +0.7**
COP IAmb IAmb 19 12 36.1
comp=Z,263nm,0.9s
BRJN Brijuni 43.53 300 ⇑*iP* **P 19 12 34.1 -0.5**
PAOL Paolisi 43.73 294 IAmb IAmb 19 12 38.0
comp=Z,64nm,0.8s
YAK Yakutsk 43.73 36 P P 19 12 35.8 -0.2
YAK Yakutsk 43.73 36 P P 19 12 35.9 -0.1
comp=Z,132nm,0.7s,baz=270,slow=1.2,SNR=75
YAK pP **pP 19 13 27.7 +1.4**
comp=Z,42nm,0.7s,baz=266,slow=17,SNR=4.2
YAK S **S 19 18 45.0 -3.1**
comp=Z,16nm,0.8s,baz=246,slow=20,SNR=16
comp=Z,132nm,0.7s
YAK Yakutsk 43.73 36 *dP* **P 19 12 35.9 -0.1**
YAK *eA*P **pP 19 13 26.1 -0.2**
YAK *eP*P **PP 19 14 22.2 -0.4**
YAK *eS* **S 19 18 49.4 +1.3**
YAK pmax pmax
comp=Z,103nm,0.9s
FAUS Fauske 43.79 332 ⇑*iP* **P 19 12 37.0 +0.7**
MOR8 Moi Rana 43.81 331 ⇑*iP* **P 19 12 36.5 -0.1**
ONAU Onsala 43.82 318 *iP* **P 19 12 36.3 -0.4**
LESA Schwarzleotal 43.88 303 *eP* **P 19 12 37.5 0.0**
comp=Z,50nm,0.6s,SNR=72
STEI Steigen 43.95 333 *eP* **P 19 12 38.4 +0.8**
INTR Introdacqua 43.99 295 IAmb IAmb 19 12 39.9
comp=Z,43nm,0.7s
ABTA Abfaltersbach 44.09 302 *iP* **P 19 12 38.6 -0.6**
comp=Z,23nm,1.2s,SNR=23
MDJ Mudanjiang 44.15 61 P P 19 12 40.0 +0.4
MDJ pP pP 19 13 32.1 +2.2
MDJ S **S 19 18 55.9 +1.3**
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,130nm,3.5s
NC405 NORSAR Array S 44.17 323 P P 19 12 39.8 +0.3
GUMA Gualdo di Mace 44.18 297 IAmb IAmb 19 12 41.9
comp=Z,81nm,0.9s
NC602 NORSAR Array S 44.22 323 P P 19 12 39.7 -0.2
NC602 IAmb IAmb 19 12 40.8
comp=Z,111nm,1.0s
NC602 NORSAR Array S 44.22 323 *eP* **P 19 12 39.5 -0.3**
STRU Stroemstad 44.28 320 *eP* **P 19 12 40.4 +0.1**
STRU Stroemstad 44.28 320 *iP* **P 19 12 39.9 -0.4**
LEIR Leirfjorden 44.32 330 ⇑*iP* **P 19 12 41.1 +0.5**
NC303 NORSAR Array S 44.35 323 P P 19 12 41.5 +0.6
NRCA Norcia 44.38 297 P P 19 12 42.8 +1.2
VAGH Vaagaholmen 44.39 331 *eP* **P 19 12 41.6 +0.5**
KONS Konsvik 44.40 331 *eP* **P 19 12 41.9 +0.8**
NB2 NORSAR Subarra 44.41 323 P P 19 12 41.2 -0.2
comp=Z,114nm,0.6s,baz=95,slow=8.6
NB2 NORSAR Subarra 44.41 323 P P 19 12 41.2 -0.2
baz=95,slow=8.6
NOA NORSAR Array B 44.41 323 P P 19 12 41.1 -0.2
comp=Z,153nm,0.7s,baz=95,slow=7.9,SNR=884
NOA S **S 19 18 57.5 -0.4**
comp=Z,2.7nm,0.9s,baz=102,slow=13,SNR=4.6
comp=Z,153nm,0.7s
STOK Stokkvaagen 44.41 331 *eP* **P 19 12 41.7 +0.5**
NSS Namsos 44.50 328 *eP* **P 19 12 41.9 -0.1**
TJN Tjeiron 44.53 73 ⇑*eP* **P 19 12 43.0 +0.4**
GRF Grafenberg Arr 44.55 307 *eP* **P 19 12 44.0 +1.2**
comp=Z,61nm,0.9s,baz=83,slow=7.0
GRFO Grafenberg 44.55 307 P P 19 12 42.1 -0.6
GRFO Grafenberg 44.55 307 P P 19 12 42.1 -0.6
GRFO pmax pmax
comp=Z,242nm,1.6s
OSL Oslo 44.57 321 *eP* **P 19 12 42.9 +0.4**
WTTA Wattenberg 44.60 303 *eP* **P 19 12 43.0 -0.3**
comp=Z,59nm,0.8s,SNR=56
KSAR Wonju Array Be 44.61 71 P P 19 12 44.5 +1.2
KSAR Wonju Array Be 44.61 71 P P 19 12 44.5 +1.2
NBO00 NORSAR Array S 44.62 323 P P 19 12 43.1 +0.1
LOF Lofoten 44.62 333 ⇑*iP* **P 19 12 42.8 -0.1**
KSRS Korea Array 44.63 71 P P 19 12 43.3 -0.1
comp=Z,23nm,1.0s,baz=278,slow=7.0,SNR=101
KSRS pP **pP 19 13 34.5 +0.6**
comp=Z,9.9nm,0.9s,baz=284,slow=7.8,SNR=4.8
KSRS ScP **ScP 19 17 50.0 -1.7**
comp=Z,2.7nm,0.9s,baz=293,slow=4.0,SNR=5.3
comp=Z,23nm,1.0s
WATA Walderalm 44.63 303 *eP* **P 19 12 43.0 -0.6**
comp=Z,66nm,1.1s,SNR=40
OVD Ostervraa, Den 44.75 318 *iP* **P 19 12 43.8 -0.3**
OVD *iP* **P 19 12 44.5 +0.4**
OVD IAmb IAmb 19 12 45.4
comp=Z,378nm,0.6s
OVD IAmb IAmb 19 12 45.4
comp=Z,378nm,0.6s
VAE Valguarnera 44.78 289 P P 19 12 46.9 +2.2
comp=Z,41nm,0.9s,baz=48,slow=17,SNR=13
comp=Z,41nm,0.9s
CESX Cesi 44.82 297 IAmb IAmb 19 12 46.6
comp=Z,93nm,1.0s
SQTA Sankt Quirin 44.90 303 *iP* **P 19 12 45.2 -0.4**
comp=Z,39nm,0.6s,SNR=38
HOPEN Hopen 44.92 346 *eP* **P 19 12 47.4 +2.2**
MOTA Moosalm 44.95 303 *eP* **P 19 12 45.3 -0.7**
comp=Z,36nm,1.3s,SNR=40
SSRD Sdr. Stenderup 45.09 315 *iP* **P 19 12 47.7 +0.9**
SSRD *iP* **P 19 12 47.8 +1.0**
SSRD IAmb IAmb 19 12 49.0
comp=Z,116nm,0.7s
SSRD IAmb IAmb 19 12 49.0
comp=Z,116nm,0.7s
KONO Kongsberg 45.12 321 P P 19 12 47.1 +0.1
KONO IAmb IAmb 19 12 48.0
comp=Z,106nm,0.8s
KONO Kongsberg 45.12 321 P P 19 12 47.1 +0.1
KONO pmax pmax
comp=Z,106nm,0.8s
KONO Kongsberg 45.12 321 *eP* **P 19 12 47.0 +0.1**
KONO Kongsberg 45.12 321 P P 19 12 47.1 +0.1
RETA Reutte 45.16 304 *eP* **P 19 12 47.1 -0.4**
comp=Z,31nm,1.3s,SNR=22
BJO1 Bjornoya 45.21 343 ⇑*iP* **P 19 12 48.3 +0.9**
FETA Feichten 45.25 303 *eP* **P 19 12 48.1 -0.4**
comp=Z,33nm,0.7s,SNR=38
MUD Monsted U'grnd 45.32 316 *iP* **P 19 12 48.2 -0.4**
MUD *iP* **P 19 12 49.0 +0.4**
MUD IAmb IAmb 19 12 50.4
comp=Z,63nm,1.0s
MUD IAmb IAmb 19 12 50.5
comp=Z,63nm,1.0s
PSTR Posyet 45.42 63 *ceP* **P 19 12 51.2 +1.7**
OSSC Osservatorio P 45.57 298 IAmb IAmb 19 12 53.0
comp=Z,176nm,1.4s
TIXI Tiksi 45.57 22 P P 19 12 51.0 +0.7
TIXI Tiksi 45.57 22 P P 19 12 50.7 +0.4
comp=Z,30nm,0.3s,baz=278,slow=4.5,SNR=126
TIXI pP **pP 19 13 41.8 +1.2**
comp=Z,40nm,0.7s,baz=274,slow=5.7,SNR=6.1
TIXI sP **sP 19 14 07.2 +0.1**

comp=Z,35nm,0.7s,baz=276,slow=7.0,SNR=4.0
TIXI ScP **ScP** **19 17 54.4 -0.6**
comp=Z,5.4nm,0.9s,baz=227,slow=4.2,SNR=3.2
TIXI S **S** **19 19 09.2 -5.0**
comp=Z,30nm,0.9s,baz=346,slow=8.3,SNR=26
comp=Z,30nm,0.3s
TIXI Tiksi 45.57 22*d iP* **P** **19 12 50.7 +0.4**
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 45.57 22 P **P** **19 12 50.8 +0.5**
TIXI pP **pP** **19 13 41.2 +0.5**
TIXI sP **sP** **19 14 06.8 -0.3**
TIXI ScP **ScP** **19 17 54.1 -0.9**
ZCCA Zocca 45.58 299 IAmb IAmb 19 13 04.4
comp=Z,78nm,1.0s
FUORN Ofenpass-Fuorn 45.64 303 P **P** **19 12 52.4 +0.8**
HOMB Homborsund 45.66 319⇑*i iP* **P** **19 12 51.5 +0.3**
HOMB Homborsund 45.66 319 *i* P **P** **19 12 51.5 +0.3**
HOMB IAmb IAmb 19 12 52.2
comp=Z,78nm,0.8s
MSHR Mys Shultsa 45.69 63⇑*eP* **P** **19 12 53.6 +1.9**
MSHR pmax pmax
comp=Z,29nm,1.3s
DAVA Damuels 45.78 303 *i* P **P** **19 12 52.6 0.0**
comp=Z,112nm,0.6s,SNR=101
SKAR Skarslia 45.80 322 *eP* **P** **19 12 53.2 +0.9**
DAVOX Davos/Dischmat 45.87 303 P **P** **19 12 53.6 +0.3**
comp=Z,56nm,0.9s,baz=88,slow=7.8,SNR=95
DAVOX pP **pP** **19 13 42.7 -0.1**
comp=Z,8.8nm,0.6s,baz=90,slow=6.1,SNR=2.6
DAVOX sP **sP** **19 14 11.0 +2.1**
comp=Z,11nm,0.6s,baz=76,slow=8.6,SNR=2.4
DAVOX ScP **ScP** **19 17 55.7 -1.3**
comp=Z,3.9nm,1.1s,baz=90,slow=1.0,SNR=3.2
comp=Z,56nm,0.9s
USA0B Ussuriysk Arra 45.92 61*deP* **P** **19 12 53.4 0.0**
USRK Ussuriysk Ar. 45.92 61 P **P** **19 12 53.5 +0.1**
comp=Z,12nm,0.8s,baz=281,slow=7.1,SNR=16
USRK PP **PP** **19 14 45.2 +0.5**
comp=Z,7.0nm,1.1s,baz=280,slow=8.6,SNR=5.4
comp=Z,12nm,0.8s
PRMA PARMA 45.96 300 IAmb IAmb 19 12 56.5
comp=Z,150nm,1.2s
STU Stuttgart 45.99 306 *eP* **P** **19 12 55.3 +1.3**
CASP Castiglione de 46.01 297 P **P** **19 12 54.3 +0.1**
VLA Vladivostok 46.09 62*c iP* **P** **19 12 55.6 +0.9**
VLA pmax pmax
comp=Z,80nm,0.9s
MOL Molde 46.25 325⇑*iP* **P** **19 12 56.4 +0.6**
TUE Stuetta 46.29 302 P **P** **19 12 56.9 +0.3**
TUE IAmb IAmb 19 12 58.6
comp=Z,134nm,1.9s
SNART Snartemo 46.34 319 *eP* **P** **19 12 57.4 +0.9**
SNART Snartemo 46.34 319 *i* P **P** **19 12 57.2 +0.6**
SNART IAmb IAmb 19 12 58.1
comp=Z,255nm,1.1s
MSSA Maissana 46.61 300 P **P** **19 12 58.9 -0.1**
MSSA IAmb IAmb 19 13 00.8
comp=Z,84nm,0.8s
ODD1 Odda 46.63 321⇑*iP* **P** **19 12 59.6 +0.8**
BFO Black Forest 46.63 305 P **P** **19 12 59.5 +0.5**
LODK Lodwar 46.72 234 P **P** **19 13 00.2 +0.2**
SNR=20
BLS5 Blasjo 46.72 321⇑*iP* **P** **19 13 00.5 +1.0**
HYA Hoyanger 46.85 323 *eP* **P** **19 13 01.0 +0.6**
HSPB Hornsund (broa 47.06 345 *eP* **P** **19 13 03.1 +1.3**
BER Bergen 47.27 322 *eP* **P** **19 13 04.3 +0.7**
ASK Askoy 47.34 322 *eP* **P** **19 13 04.7 +0.6**
KMY Karmoy 47.34 320 *eP* **P** **19 13 04.8 +0.6**
FOO Floro 47.40 324 *eP* **P** **19 13 05.2 +0.5**
SPA0 Spitsbergen Ar 47.41 347 *eP* **P** **19 13 06.2 +1.6**
SPITS Spitsbergen Ar 47.41 347 P **P** **19 13 05.8 +1.2**
comp=Z,90nm,0.6s,baz=116,slow=12,SNR=160
comp=Z,90nm,0.6s
SPITS Spitsbergen Ar 47.41 347 P **P** **19 13 06.1 +1.6**
SPITS pmax pmax
comp=Z,98nm,0.8s
ECH Echery 47.42 305 P **P** **19 13 05.4 +0.3**
ECH pP **pP** **19 13 56.7 +1.7**
SUE Sulen 47.54 323 *eP* **P** **19 13 06.3 +0.6**
GRNR Gornyy 47.66 51⇓*iP* **P** **19 13 08.2 +1.4**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,40nm,0.8s
GRNR MLR MLR
comp=E,140nm,12.0s
GRNR MLR MLR
comp=Z,130nm,14.0s
BTNL Ternell 47.68 309 *dP* **P** **19 13 08.0 +1.0**
comp=Z,22nm,0.8s
BTNL *dp*P **pP** **19 13 58.2 +1.4**
BTNL *ds*P **sP** **19 14 23.3 +0.4**
SENIN Lac Senin/Sane 47.70 303 IAmb IAmb 19 13 09.3
comp=Z,63nm,0.8s
MEM Membach 47.75 309 *dP* **P** **19 13 08.2 +0.7**
comp=Z,24nm,1.0s
BHOU Houvegnez 47.79 308 *dP* **P** **19 13 09.0 +1.1**
comp=Z,11nm,1.5s
WLF Walferdange 47.81 307 *dP* **P** **19 13 08.8 +0.8**
comp=Z,78nm,1.5s
BEBN Eben Emael 47.93 309 *dP* **P** **19 13 09.3 +0.5**
BSTI Sart Tilman 48.03 309 *dP* **P** **19 13 10.9 +1.3**
RCHB Rochefort 48.32 308 *dP* **P** **19 13 12.8 +0.9**
comp=Z,19nm,0.8s
JNU Nakatsue 48.35 76 P **P** **19 13 13.6 +1.2**
comp=Z,30nm,1.0s,baz=293,slow=2.9,SNR=14
JNU pP **pP** **19 14 04.8 +1.2**
comp=Z,38nm,1.0s,baz=312,slow=5.6,SNR=6.0
comp=Z,30nm,1.0s
BGES Gesves 48.37 308 *dP* **P** **19 13 13.2 +1.0**
BNI Bardonecchia 48.41 301 IAmb IAmb 19 13 15.0
comp=Z,103nm,1.1s
KBS Kingsbay 48.53 347 P **P** **19 13 14.7 +1.5**
KBS Kingsbay 48.53 347*c iP* **P** **19 13 14.3 +1.2**
KBS pmax pmax
comp=Z,111nm,0.9s
KBS Kingsbay 48.53 347 *eP* **P** **19 13 14.6 +1.5**
KBS Kingsbay 48.53 347 *i* P **P** **19 13 13.2 +0.2**
KBS Kingsbay 48.53 347 P **P** **19 13 14.2 +1.1**
KBS pP **pP** **19 14 06.2 +2.2**
KBS sP **sP** **19 14 29.6 -0.8**
BMRD Maredsous 48.58 308 *dP* **P** **19 13 14.7 +0.8**
comp=Z,29nm,1.1s
BMRD *dp*P **pP** **19 14 06.3 +2.3**
DOU Dourbes 48.73 308 *dP* **P** **19 13 15.5 +0.6**
comp=Z,23nm,1.3s
DOU *dp*P **pP** **19 14 03.2 -1.9**
UCC Uccle 48.75 309 IAmb IAmb 19 13 16.6
comp=Z,114nm,1.9s
UCC Uccle 48.75 309 *dP* **P** **19 13 15.3 +0.2**
TEY Ternei 48.93 59 *eP* **P** **19 13 14.5 -2.1**
KMBO Kilima Mbogo 49.08 228*c iP* **P** **19 13 19.6 +1.3**
KEST Kesra 49.20 288 P **P** **19 13 20.1 +1.3**
KEST IAmb IAmb 19 13 21.0
comp=Z,84nm,0.8s
KEST Kesra 49.20 288 P **P** **19 13 19.7 +0.9**
comp=Z,66nm,0.7s,baz=68,slow=2.6,SNR=99
KEST pP **pP** **19 14 09.7 +0.6**
comp=Z,28nm,1.1s,baz=11,slow=5.2,SNR=2.1
KEST sP **PcP** **19 14 36.8 -1.5**
comp=Z,25nm,1.0s,baz=67,slow=5.7,SNR=2.4
comp=Z,66nm,0.7s
KIBK Kibwezi 49.59 226 P **P** **19 13 23.6 +1.6**
SNR=21
SSB Saint Sauveur 49.83 302 IAmb IAmb 19 13 25.7
comp=Z,70nm,0.8s
SSB Saint Sauveur 49.83 302 P **P** **19 13 24.3 +0.9**
LRW Lerwick 50.52 322 *eP* **P** **19 13 28.6 +0.3**
LRW IAmb IAmb 19 13 29.3
comp=Z,98nm,0.8s
CLF Chambon-Foret 50.67 306 IAmb IAmb 19 13 31.8
comp=Z,85nm,1.0s
CLF Chambon-Foret 50.67 306 P **P** **19 13 30.3 +0.7**
ELSH Elham, Standar 50.68 310 *eP* **P** **19 13 30.1 +0.5**
ELSH IAmb IAmb 19 13 31.4
comp=Z,144nm,0.7s
KKM Kota Kinabalu 51.07 115 P **P** **19 13 32.3 -0.8**
KKM IAmb IAmb 19 13 36.6
comp=Z,102nm,1.5s
HMNX Herstmonceux 51.24 310 *eP* **P** **19 13 34.5 +0.8**
HMNX IAmb IAmb 19 13 36.0
comp=Z,78nm,0.8s
TYV Tymovskoe 51.52 50 *eP* **P** **19 13 37.3 +1.5**
TYV pmax pmax
comp=Z,15nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.9s
UGL Uglegorsk 51.57 52 *eP* **P** **19 13 36.6 +0.4**
UGL *e* 19 14 28.6
UGL pmax pmax
comp=Z,100nm,0.9s
MAHO Mahon 51.59 295 IAmb IAmb 19 13 38.2
comp=Z,44nm,0.9s
DRUM Mains of Drumt 51.67 318 *eP* **P** **19 13 37.0 +0.2**
DRUM IAmb IAmb 19 13 37.8
comp=Z,54nm,0.8s
EDMD Edmundbyers 51.77 315 *eP* **P** **19 13 37.8 +0.2**
EDMD IAmb IAmb 19 13 38.6
comp=Z,109nm,0.9s
ESY Stoneypath 51.92 317 *eP* **P** **19 13 38.5 -0.2**
MCD Coleburn Disti 51.96 319 *eP* **P** **19 13 39.4 +0.4**
MCD IAmb IAmb 19 13 40.1
comp=Z,160nm,0.7s
BUW Bucklebury Wes 52.07 311 *eP* **P** **19 13 40.0 +0.2**
BIGH Upper Bighouse 52.15 320 *eP* **P** **19 13 40.0 -0.3**
BIGH IAmb IAmb 19 13 41.5
comp=Z,83nm,0.9s
EKA Eskdalemuir Ar 52.34 316 P **P** **19 13 41.5 -0.3**
comp=Z,43nm,0.8s,baz=78,slow=7.2,SNR=114
EKA pP **pP** **19 14 32.9 0.0**
comp=Z,13nm,0.8s,baz=79,slow=7.6,SNR=4.0
comp=Z,43nm,0.8s
EKB Eskdalemuir 52.36 316 P **P** **19 13 41.3 -0.7**
EKB IAmb IAmb 19 13 43.0
comp=Z,57nm,0.9s
ESK Eskdalemuir 52.37 316 P **P** **19 13 42.0 -0.1**
ESK IAmb IAmb 19 13 43.1
comp=Z,45nm,0.9s
ESK Eskdalemuir 52.37 316 *eP* **P** **19 13 41.9 -0.1**
ESK IAmb IAmb 19 13 42.9
comp=Z,46nm,0.9s
ESK Eskdalemuir 52.37 316 P **P** **19 13 42.0 -0.1**
ESK pmax pmax
comp=Z,45nm,0.9s
ESK Eskdalemuir 52.37 316 P **P** **19 13 42.1 +0.1**
ESK pP **pP** **19 14 33.4 +0.3**
SWN1 Swindon 52.40 311 *eP* **P** **19 13 42.8 +0.6**
SWN1 IAmb IAmb 19 13 43.4
comp=Z,198nm,1.1s
KESW Keswick, Cumbr 52.47 315 *eP* **P** **19 13 43.0 +0.2**
KESW IAmb IAmb 19 13 43.9
comp=Z,61nm,0.8s
JNE Jan Mayen East 52.48 336 *eP* **P** **19 13 44.6 +2.0**
JNW Jan Mayen West 52.52 336 *eP* **P** **19 13 45.1 +2.2**
JMIC Jan Mayen 52.55 336 *eP* **P** **19 13 45.0 +1.9**
YSS Yuzhno-Sakhali 52.57 55 P **P** **19 13 44.0 +0.4**
YSS IAmb IAmb 19 13 45.9
comp=Z,64nm,1.0s
YSS Yuzhno-Sakhali 52.57 55*deP* **P** **19 13 44.4 +0.8**
YSS *e**PP **pP** **19 14 36.1 +0.3**
YSS *e**SP **sP** **19 15 02.7 +0.9**
YSS *e* 19 15 45.9
YSS *eS* **S** **19 20 51.6 -0.6**
YSS *e**SS **sS** **19 22 25.1 +1.9**
YSS *eSS* **SKiKP** **19 24 36.2 -2.5**
YSS *eSSS* SSS 19 26 30.9
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=Z,100nm,3.5s
YSS smax smax
comp=N,100nm,3.1s
YSS smax smax
comp=E,100nm,4.6s
YSS Yuzhno-Sakhali 52.57 55 P **P** **19 13 44.5 +0.9**
YSS pP **pP** **19 14 36.2 +0.5**
INVG Invergeldie, C 52.61 317 *eP* **P** **19 13 43.4 -0.4**
INVG IAmb IAmb 19 13 44.5
comp=Z,45nm,0.9s
MAJO Matsushiro 52.70 69 P **P** **19 13 43.2 -1.6**
MAJO Matsushiro 52.70 69*ceP* **P** **19 13 44.9 +0.1**
MAJO pmax pmax
comp=Z,18nm,1.1s
MJAR Matsushiro Arr 52.71 69 P **P** **19 13 43.9 -0.9**
MJAR Matsushiro Arr 52.71 69 P **P** **19 13 45.0 +0.1**
comp=Z,15nm,1.1s,baz=292,slow=8.6,SNR=30
MJAR pP **pP** **19 14 37.6 +0.6**
comp=Z,12nm,0.8s,baz=292,slow=9.3,SNR=8.2
MJAR ScP **ScP** **19 18 24.7 -1.5**
comp=Z,4.4nm,1.1s,baz=286,slow=6.3,SNR=5.1
comp=Z,15nm,1.1s
MJAR Matsushiro Arr 52.71 69 P **P** **19 13 43.9 -0.9**
MJAR pmax pmax
comp=Z,15nm,1.3s
FOEL Foel Wylfa 52.91 313 *eP* **P** **19 13 46.3 +0.3**
FOEL IAmb IAmb 19 13 47.2
comp=Z,46nm,1.0s
MONM Monmouth 52.92 312 *eP* **P** **19 13 46.0 -0.1**
MONM IAmb IAmb 19 13 46.8
comp=Z,160nm,1.4s
PGBU Glenifferbraes 52.98 317 *eP* **P** **19 13 46.8 +0.3**
PGBU IAmb IAmb 19 13 47.5
comp=Z,197nm,0.9s
NEWG New Galloway 52.99 316 *eP* **P** **19 13 46.8 +0.3**
NEWG IAmb IAmb 19 13 47.7
comp=Z,103nm,0.8s
MCH1 Michaelchurch 53.00 312 *eP* **P** **19 13 46.7 0.0**
MCH1 IAmb IAmb 19 13 47.5
comp=Z,107nm,0.8s
LLW Llanuwchllyn 53.19 313 *eP* **P** **19 13 48.3 +0.2**
JSA Saint Aubin 53.22 308 *eP* **P** **19 13 48.1 -0.2**
JSA IAmb IAmb 19 13 50.1
comp=Z,34nm,0.9s
KPL Plockton 53.28 319 *eP* **P** **19 13 48.7 +0.1**
KPL IAmb IAmb 19 13 49.5
comp=Z,80nm,0.9s
GAL1 Galloway 53.31 316 *eP* **P** **19 13 48.6 -0.3**
GAL1 IAmb IAmb 19 13 49.9
comp=Z,43nm,0.9s
IOMK Kirk Michael 53.37 315 *eP* **P** **19 13 49.4 +0.1**
IOMK IAmb IAmb 19 13 50.6
comp=Z,39nm,0.7s
LAWE Loch Awe, Argy 53.38 317 *eP* **P** **19 13 49.5 +0.2**
LAWE IAmb IAmb 19 13 50.5
comp=Z,69nm,0.8s
NOR Nord 53.71 349 *i* P **P** **19 13 50.8 -0.6**
NOR IAmb IAmb 19 13 53.2
comp=Z,24nm,0.6s
LEWI Lewis, Hebride 53.75 320 *eP* **P** **19 13 52.3 +0.3**
LEWI IAmb IAmb 19 13 53.3
comp=Z,65nm,0.9s
RSBS Rosebush, Pemb 54.06 312 *eP* **P** **19 13 54.2 -0.1**
MA2 Magadan 54.13 38 P **P** **19 13 55.5 +0.7**
comp=Z,16nm,0.9s,baz=288,slow=9.6,SNR=5.1
comp=Z,16nm,0.9s
JMM Marumori 54.14 66 P **P** **19 13 53.8 -1.4**
JMM IAmb IAmb 19 14 50.6
comp=Z,46nm,0.9s
SEY Seymchan 54.19 34 P **P** **19 13 56.3 +1.2**
comp=Z,13nm,0.9s,baz=289,slow=11,SNR=13
SEY pP **pP** **19 14 48.8 +1.3**
comp=Z,10nm,1.1s,baz=282,slow=9.3,SNR=4.1
comp=Z,13nm,0.9s
SEY Seymchan 54.19 34⇓*eP* **P** **19 13 55.9 +0.8**
SEY pmax pmax
comp=Z,14nm,0.9s
ERM Erimo 54.37 61 P **P** **19 13 57.9 +1.1**
ERM Erimo 54.37 61 P **P** **19 13 57.9 +1.1**
ERM pmax pmax
comp=Z,14nm,0.9s
SBD Saint Breward 54.40 310 *eP* **P** **19 13 56.6 -0.3**
ILTH Belurgan, Co L 54.44 315 P **P** **19 13 57.1 +0.1**
ILTH Belurgan, Co L 54.44 315 *eP* **P** **19 13 57.0 -0.1**
DAG Danmarks Havn 54.66 344 P **P** **19 13 59.0 +0.7**
DAG Danmarks Havn 54.66 344 *i* P **P** **19 13 58.0 -0.3**
DAG IAmb IAmb 19 14 00.0
comp=Z,129nm,0.9s
DSB Dublin 54.67 314 P **P** **19 13 59.0 +0.3**
IDGL Inch Island, C 54.83 316 P **P** **19 14 00.5 +0.7**
IDGL Inch Island, C 54.83 316 *eP* **P** **19 14 00.0 +0.2**
IWEX Carrickbyrne, 55.14 313 P **P** **19 14 02.4 +0.3**
DBG Daneborg 55.53 341 *i* P **P** **19 14 05.0 +0.4**
DBG IAmb IAmb 19 14 06.7
comp=Z,31nm,0.6s
CART Cartagena 56.26 295 P **P** **19 14 10.2 0.0**
IGLA Glengowla, Co 56.34 315 P **P** **19 14 10.8 +0.2**
SCO Scoresbysund 57.02 336 P **P** **19 14 13.9 -1.2**
SCO Scoresbysund 57.02 336 P **P** **19 14 13.9 -1.2**
SCO pmax pmax
comp=Z,20nm,0.9s
VAL Valentia 57.31 313 P **P** **19 14 18.0 +0.6**
ESBB Sonseca Array 57.58 298 P **P** **19 14 20.0 +0.4**
ESDC Sonseca Array 57.59 298 P **P** **19 14 19.6 -0.1**
ESDC IAmb IAmb 19 14 20.9
comp=Z,59nm,1.0s
ESDC Sonseca Array 57.59 298 P **P** **19 14 19.4 -0.3**
comp=Z,78nm,0.8s,baz=69,slow=6.9,SNR=690
ESDC pP **pP** **19 15 12.5 +0.7**
comp=Z,11nm,0.9s,baz=74,slow=7.0,SNR=3.6
comp=Z,78nm,0.8s
TAM Tamanrasset 57.74 276 P **P** **19 14 21.1 0.0**
TAM Tamanrasset 57.74 276 P **P** **19 14 21.1 0.0**
TAM pmax pmax
comp=Z,73nm,0.7s
TAM Tamanrasset 57.74 276 P **P** **19 14 21.1 0.0**
PAB San Pablo 57.91 298 P **P** **19 14 22.5 +0.6**
PAB San Pablo 57.91 298 P **P** **19 14 22.5 +0.6**
PAB pmax pmax
comp=Z,74nm,1.0s
PAB San Pablo 57.91 298 P **P** **19 14 22.5 +0.6**
PAB sP **sP** **19 15 36.9 -2.7**
BILL Bilibino 58.40 26*ceP* **P** **19 14 25.9 +1.2**
BILL pmax pmax
comp=Z,19nm,1.0s
BORG Borgarnes 58.60 330 P **P** **19 14 28.8 +2.7**
BORG IAmb IAmb 19 14 29.6
comp=Z,39nm,0.7s
BORG Borgarnes 58.60 330 P **P** **19 14 28.8 +2.7**
BORG pmax pmax
comp=Z,39nm,0.7s
BORG Borgarnes 58.60 330 P **P** **19 14 28.8 +2.7**
PBRG Braganca 58.70 301 *eP* **P** **19 14 26.7 -0.6**
PBRG *i* IAmb IAmb 19 14 29.6
comp=Z,61nm,1.6s
PBRG *es*P **sP** **19 15 44.5 -0.8**
ALE Alert 58.93 354 P **P** **19 14 29.6 +1.4**
MVO Moncorvo 59.15 301 *eP* **P** **19 14 30.9 +0.4**
MVO *i* IAmb IAmb 19 14 32.3
comp=Z,119nm,1.0s
MVO *es*P **sP** **19 15 47.4 -1.1**
PVRL Vila Real 59.58 301 *eP* **P** **19 14 34.0 +0.7**
PVRL *i* IAmb IAmb 19 14 35.7
comp=Z,81nm,1.2s
PVRL *es*P **sP** **19 15 51.2 -0.2**
POLO Lamas de Olo 59.60 301 *eP* **P** **19 14 34.0 +0.5**
POLO *i* IAmb IAmb 19 14 35.1
comp=Z,25nm,1.3s
POLO *es*P **sP** **19 15 50.8 -0.8**
PCAB Cabril 59.62 301 *eP* **P** **19 14 34.6 +1.0**
PCAB *i* IAmb IAmb 19 14 36.2
comp=Z,170nm,1.2s
PCAB *es*P **sP** **19 15 50.9 -0.8**
PGAV Gavieira, Arco 59.69 302 *eP* **P** **19 14 34.6 +0.5**
PGAV *i* IAmb IAmb 19 14 36.1
comp=Z,137nm,1.1s
PGAV *es*P **sP** **19 15 51.2 -1.0**
PEA0B Petropavlovsk- 59.73 44 P **P** **19 14 32.8 -1.3**
PEA0B Petropavlovsk- 59.73 44 P **P** **19 14 32.8 -1.3**
PEA0B pmax pmax
comp=Z,37nm,1.6s
PETK Petropavlovsk- 59.73 44 P **P** **19 14 33.3 -0.8**
PETK Petropavlovsk- 59.73 44 P **P** **19 14 33.5 -0.6**
comp=Z,2.4nm,0.6s,baz=301,slow=3.9,SNR=13
PETK pP **pP** **19 15 27.3 -0.2**
comp=Z,8.7nm,1.1s,baz=292,slow=4.2,SNR=5.3
ABPO Ambohimpanom 59.83 206 P **P** **19 14 36.2 +0.9**
ABPO IAmb IAmb 19 14 37.2
comp=Z,50nm,0.9s
ABPO Ambohimpanom 59.83 206 P **P** **19 14 36.2 +0.9**
ABPO pmax pmax
comp=Z,50nm,0.9s
ABPO Ambohimpanom 59.83 206⇑P **P** **19 14 35.9 +0.6**
ABPO sP **sP** **19 15 58.0 +3.5**
PVIS Viseu 59.93 300 *eP* **P** **19 14 36.3 +0.5**
PVIS *es*P **sP** **19 15 53.2 -0.7**
PCBR Castelo Branco 60.00 299 *eP* **P** **19 14 36.6 +0.5**
PCBR *i* IAmb IAmb 19 14 38.1
comp=Z,63nm,1.2s
PCBR *es*P **sP** **19 15 53.5 -0.8**
PMRV Marv??o 60.11 299 *eP* **P** **19 14 37.3 +0.3**
PMRV *i* IAmb IAmb 19 14 39.3
comp=Z,98nm,1.5s
PMRV *es*P **sP** **19 15 55.0 -0.1**
PTO Porto 60.25 301 *eP* **P** **19 14 38.5 +0.7**
PTO *i* IAmb IAmb 19 14 39.5
comp=Z,71nm,1.2s
PET Petropavlovsk 60.29 44⇑*eP* **P** **19 14 36.7 -1.1**
PET pmax pmax
comp=Z,17nm,1.3s
PBAR Barrancos 60.39 297 *eP* **P** **19 14 39.1 +0.4**
PBAR *i* IAmb IAmb 19 14 40.5
comp=Z,159nm,1.2s
PBAR *es*P **sP** **19 15 56.0 -1.0**
PESTR Estremoz 60.49 298 P **P** **19 14 39.7 +0.2**
PESTR Estremoz 60.49 298 *eP* **P** **19 14 39.8 +0.2**
PESTR *i* IAmb IAmb 19 14 41.0
comp=Z,96nm,1.1s
PESTR *es*P **sP** **19 15 56.8 -0.9**
COI Coimbra 60.50 300 *eP* **P** **19 14 40.4 +0.9**
COI *i* IAmb IAmb 19 14 41.1
comp=Z,222nm,0.9s
PSARD Sardoal 60.58 299 *eP* **P** **19 14 40.7 +0.6**
PSARD *i* IAmb IAmb 19 14 42.1
comp=Z,122nm,1.0s
PSARD *es*P **sP** **19 15 57.7 -0.6**
PCAS Casmilo, Conde 60.63 300 *eP* **P** **19 14 41.0 +0.6**
PCAS *i* IAmb IAmb 19 14 42.3
comp=Z,72nm,1.3s
PCAS *es*P **sP** **19 15 57.8 -0.8**
PMTG Montargil 60.85 299 *eP* **P** **19 14 42.0 +0.1**
PMTG *i* IAmb IAmb 19 14 44.1
comp=Z,63nm,1.3s
PMTG *es*P **sP** **19 15 59.5 -0.7**
EVO Evora 60.93 298 *eP* **P** **19 14 43.0 +0.6**
EVO *i* IAmb IAmb 19 14 44.8
comp=Z,116nm,1.4s
EVO *es*P **sP** **19 15 59.9 -0.9**
NEEM North Greenlan 60.95 348 *i* P **P** **19 14 42.5 +0.2**
NEEM IAmb IAmb 19 14 44.1
comp=Z,118nm,0.9s
SOEG Soedalen 60.97 335 *i* P **P** **19 14 42.5 +0.4**
SOEG IAmb IAmb 19 14 44.9
comp=Z,29nm,0.6s
SUMG Summit 61.01 341 IAmb IAmb 19 14 45.4
comp=Z,142nm,0.8s
SUMG Summit 61.01 341 *i* P **P** **19 14 43.0 +0.1**
SUMG IAmb IAmb 19 14 45.2
comp=Z,140nm,0.8s
PBEJ Beja 61.04 298 *eP* **P** **19 14 43.5 +0.3**
PBEJ *i* IAmb IAmb 19 14 45.0
comp=Z,104nm,1.3s
PBEJ *es*P **sP** **19 16 00.7 -0.8**
PVAQ Vaqueiros 61.20 297 *eP* **P** **19 14 44.7 +0.4**
PVAQ *i* IAmb IAmb 19 14 46.5
comp=Z,118nm,1.3s
PVAQ *es*P **sP** **19 16 01.8 -0.7**
PCVE Castro Verde 61.33 297 *eP* **P** **19 14 45.4 +0.3**
PCVE *i* IAmb IAmb 19 14 47.4
comp=Z,69nm,1.8s
PCVE *es*P **sP** **19 16 02.7 -0.8**
MESJ Messejana 61.37 298 *eP* **P** **19 14 45.8 +0.4**
MESJ IAmb IAmb 19 14 47.4
comp=Z,104nm,1.0s
MESJ Messejana 61.37 298 *eP* **P** **19 14 46.1 +0.6**
MESJ *i* IAmb IAmb 19 14 47.3
comp=Z,124nm,1.0s
MESJ *es*P **sP** **19 16 03.2 -0.6**
PBDV Barranco-do-Ve 61.42 297 *eP* **P** **19 14 46.4 +0.6**
PBDV *i* IAmb IAmb 19 14 47.8
comp=Z,148nm,1.0s
PBDV *es*P **sP** **19 16 03.7 -0.4**
PARRA Arraiolos 61.53 299 *eP* **P** **19 14 41.8 -4.7**
PARRA *i* IAmb IAmb 19 14 43.3
comp=Z,47nm,1.1s
PARRA *es*P **sP** **19 15 59.4 -5.4**
PMAFR Mafra 61.64 299 *eP* **P** **19 14 47.8 +0.6**
PMAFR *i* IAmb IAmb 19 14 49.0
comp=Z,171nm,1.0s
PMAFR *es*P **sP** **19 16 04.7 -0.8**
PTEO Sao Teotonio 61.86 297 *eP* **P** **19 14 49.5 +0.8**
PTEO *i* IAmb IAmb 19 14 50.5
comp=Z,150nm,1.3s
PTEO *es*P **sP** **19 16 06.5 -0.6**

MORF Marmelete 61.91 297 *e*P P 19 14 49.6 +0.5
MORF IAmb IAmb 19 14 50.4
comp=Z,90nm,1.7s
PFVI Vila Bisbo 62.12 297 *e*P P 19 14 51.0 +0.7
PFVI *i* IAmb IAmb 19 14 55.9
comp=Z,106nm,1.3s
VOI Vohitsoka 62.64 206 P P 19 14 54.7 +0.7
KULLO Kulliorsuaq 63.99 347 *i* P P 19 15 01.9 -0.1
KULLO IAmb IAmb 19 15 03.6
comp=Z,76nm,0.8s
TULEG Thule 64.34 350 P P 19 15 04.8 +0.4
TULEG Thule 64.34 350 *i* P P 19 15 05.1 +0.8
TULEG IAmb IAmb 19 15 05.6
comp=Z,42nm,0.7s
ANGG Ammassalik, Gr 64.39 334 IAmb IAmb 19 15 06.7
comp=Z,95nm,0.7s
ANGG Ammassalik, Gr 64.39 334 *i* P P 19 15 05.5 +0.8
ANGG IAmb IAmb 19 15 06.5
comp=Z,91nm,0.7s
ISOG Isortoq, Green 64.89 334 *i* P P 19 15 07.6 -0.4
ISOG IAmb IAmb 19 15 08.9
comp=Z,51nm,1.0s
UPNV Upernavik 65.06 345 *i* P P 19 15 09.6 +0.6
UPNV IAmb IAmb 19 15 10.7
comp=Z,81nm,0.8s
NUUG Nuugaatsiaq 65.29 343 *i* P P 19 15 10.4 0.0
NUUG IAmb IAmb 19 15 12.0
comp=Z,34nm,1.0s
UMMG Uummannaq 65.62 342 *i* P P 19 15 12.4 -0.1
UMMG IAmb IAmb 19 15 14.3
comp=Z,103nm,1.3s
LSZ Lusaka 65.70 226 P P 19 15 14.6 +0.6
LSZ Lusaka 65.70 226 P P 19 15 14.4 +0.4
LSZ Lusaka 65.70 226 P P 19 15 14.6 +0.6
LSZ pmax pmax
comp=Z,57nm,0.8s
LSZ Lusaka 65.70 226 P P 19 15 14.3 +0.3
LSZ sP sP 19 16 33.1 -0.8
TORD Torodi Ar. Bea 65.94 269 P P 19 15 13.6 -1.9
TORD Torodi Ar. Bea 65.94 269 P P 19 15 14.2 -1.3
comp=Z,112nm,0.9s,baz=51,slow=5.8,SNR=199
TORD pP pP 19 16 09.7 +0.5
comp=Z,11nm,0.8s,baz=54,slow=6.6,SNR=2.6
comp=Z,112nm,0.9s
ILULI Ilulissat 66.35 341 *i* P P 19 15 17.7 +0.5
ILULI IAmb IAmb 19 15 18.9
comp=Z,139nm,0.7s
A21K Barrow 67.13 15 P P 19 15 23.2 +1.0
baz=320
C16K Lisburne Hills 67.26 20 P P 19 15 22.7 -0.3
C16K IAmb IAmb 19 16 20.0
comp=Z,38nm,0.9s
C16K Lisburne Hills 67.26 20 P P 19 15 23.7 +0.7
baz=313
B18K Kokolik River 67.41 18 P P 19 15 25.5 +1.6
baz=316
C17K DeLong Mountai 67.70 19 P P 19 15 26.8 +1.1
baz=315,SNR=6.4
SFJD Kangerlussuaq 67.71 339 P P 19 15 24.6 -1.2
SFJD Kangerlussuaq 67.71 339 P P 19 15 24.6 -1.2
SFJD pmax pmax
comp=Z,75nm,1.0s
SFJD Kangerlussuaq 67.71 339 *i* P P 19 15 26.1 +0.3
SFJD IAmb IAmb 19 15 27.0
comp=Z,74nm,1.0s
A22K Sinclair Lake 67.72 15 P P 19 15 27.0 +1.2
baz=321
B20K Meade River 68.02 16 P P 19 15 28.9 +1.2
B20K IAmb IAmb 19 16 25.1
comp=Z,59nm,1.0s
B20K Meade River 68.02 16 P P 19 15 28.8 +1.2
baz=320
C18K Utukok River 68.08 18 IAmb IAmb 19 16 51.2
comp=Z,34nm,0.9s
C18K Utukok River 68.08 18 P P 19 15 29.1 +0.9
baz=317,SNR=6.7
C19K Lookout Ridge 68.14 17 P P 19 15 29.8 +1.3
baz=318,SNR=9.8
D17K Noatak River 68.27 20 P P 19 15 30.3 +0.9
baz=315,SNR=10
GAMB Gambell 68.30 25 P P 19 15 30.7 +1.2
baz=310
TNA Tin City 68.36 23 P P 19 15 31.0 +1.2
baz=312
B22K Teshekpuk Lake 68.56 15 P P 19 15 32.3 +1.3
baz=323
B21K Ikpikpuk River 68.88 16 IAmb IAmb 19 15 35.1
comp=Z,41nm,0.8s
B21K Ikpikpuk River 68.88 16 P P 19 15 34.3 +1.3
baz=322,SNR=7.2
POIN Pond Inlet 68.89 351 P P 19 15 34.0 +0.9
POIN IAmb IAmb 19 15 35.1
comp=Z,35nm,0.7s
F14K Arctic Creek 68.91 22 P P 19 15 34.6 +1.3
baz=313
D19K Kuna River 68.95 17 P P 19 15 34.5 +0.9
baz=319,SNR=25
E17K Hotham Inlet 69.06 20 P P 19 15 34.9 +0.8
baz=317,SNR=5.5
E18K Tukpahlearik C 69.13 19 IAmb IAmb 19 15 36.3
comp=Z,27nm,0.9s
E18K Tukpahlearik C 69.13 19 P P 19 15 35.6 +1.0
baz=318,SNR=12
D20K Etivluk River 69.14 17 IAmb IAmb 19 16 32.0
comp=Z,31nm,0.9s
D20K Etivluk River 69.14 17 P P 19 15 35.6 +0.9
baz=320,SNR=8.8
C21K Knifeblade Rid 69.21 16 P P 19 15 36.5 +1.4
baz=322,SNR=6.6
F15K North Star Dit 69.25 21 P P 19 15 36.6 +1.3
F15K IAmb IAmb 19 15 37.5
comp=Z,28nm,0.7s
F15K North Star Dit 69.25 21 P P 19 15 36.8 +1.4
baz=315,SNR=5.9
PMPST Porto Santo, M 69.45 296 *e*P P 19 15 37.4 +0.2
PMPST *es*P sP 19 16 55.6 -0.8
KSANE Kasane 69.46 227 IAmb IAmb 19 15 39.1
comp=Z,42nm,0.8s
PMPS Porto Santo 69.46 296 *e*P P 19 15 37.6 +0.4
PMPS *i* IAmb IAmb 19 15 38.7
comp=Z,48nm,1.4s
PMPS *es*P sP 19 16 55.8 -0.7
C23K Itkillik River 69.54 14 P P 19 15 38.5 +1.4
baz=325,SNR=6.0
E20K Nigu River 69.59 17 P P 19 15 38.4 +0.8
baz=321
F17K Baldwin Pennin 69.68 20 IAmb IAmb 19 16 35.6
comp=Z,34nm,0.8s
F17K Baldwin Pennin 69.68 20 P P 19 15 39.2 +1.3
baz=317
ANM Nome 69.83 23 P P 19 15 40.2 +1.3
baz=314
NRS Narsarsuaq 69.85 333 *i* P P 19 15 40.3 +1.2
NRS IAmb IAmb 19 15 40.6
comp=Z,59nm,0.7s
D22K Ayikyak River 69.89 16 P P 19 15 39.9 +0.6
D22K IAmb IAmb 19 15 41.3
comp=Z,38nm,1.2s
D22K Ayikyak River 69.89 16 P P 19 15 40.2 +1.0
baz=324,SNR=7.7
G15K Niukluk 69.93 22 P P 19 15 40.5 +1.0
baz=315
E21K Killik River 69.96 16 IAmb IAmb 19 15 41.2
comp=Z,34nm,0.8s
E21K Killik River 69.96 16 P P 19 15 40.3 +0.6
baz=323,SNR=18
E19K Redstone River 69.96 18 IAmb IAmb 19 16 37.0
comp=Z,93nm,1.9s
E19K Redstone River 69.96 18 P P 19 15 40.2 +0.5
baz=320,SNR=11
NUUK Nuuk 69.99 337 *i* P P 19 15 39.9 +0.1
NUUK IAmb IAmb 19 15 41.2
comp=Z,34nm,0.8s
F18K Selawik 70.00 19 P P 19 15 40.5 +0.7
baz=318,SNR=11
C24K Franklin Bluff 70.01 14 IAmb IAmb 19 15 41.8
comp=Z,37nm,0.7s
C24K Franklin Bluff 70.01 14 P P 19 15 41.2 +1.2
baz=327
PMAR Madeira 70.05 296 *e*P P 19 15 41.3 +0.2
PMAR *i* IAmb IAmb 19 15 43.4
comp=Z,175nm,1.3s
PMAR *es*P sP 19 16 59.5 -0.6
FUL Funchal 70.08 296 *e*P P 19 15 41.5 +0.5
FUL *i* IAmb IAmb 19 15 53.5
comp=Z,67nm,2.1s
FUL *es*P sP 19 17 00.7 +0.6
G16K Koyuk River 70.14 21 P P 19 15 41.9 +1.1
baz=317
PMOZ Porto Moniz, M 70.21 297 *e*P P 19 15 42.2 +0.3
PMOZ *es*P sP 19 17 01.0 0.0
D23K Nanushuk River 70.24 15 P P 19 15 42.3 +0.9
D23K Nanushuk River 70.24 15 P P 19 15 42.3 +0.9
baz=325,SNR=5.0
F19K Shaleruckik Mo 70.31 19 P P 19 15 41.8 0.0
baz=320
D24K Happy Valley 70.46 14 P P 19 15 43.7 +1.0
baz=327
C26K Camden Bay 70.53 12 P P 19 15 43.8 +0.7
baz=330
G17K Kiwalik Mounta 70.54 20 P P 19 15 44.0 +0.7
baz=318,SNR=5.4
F20K Avaraart Lake 70.65 18 P P 19 15 44.1 +0.2
F20K Avaraart Lake 70.65 18 P P 19 15 44.2 +0.4
baz=322,SNR=7.3
H16K Elim 70.72 22 P P 19 15 45.5 +1.1
baz=317
TOLK Toolik Lake Re 70.74 15 P P 19 15 45.6 +1.1
baz=326,SNR=23
D25K Kavik River 70.79 13 IAmb IAmb 19 15 47.1
comp=Z,31nm,0.8s
D25K Kavik River 70.79 13 P P 19 15 46.2 +1.5
baz=329,SNR=11
G18K Tagagawik 70.79 19 P P 19 15 45.2 +0.5
baz=319
BROLN Tlhalogang 70.83 223 *i* P P 19 15 45.5 -0.2
C27K Jago River 71.00 12 IAmb IAmb 19 15 48.5
comp=Z,34nm,0.7s
C27K Jago River 71.00 12 P P 19 15 47.6 +1.6
baz=331,SNR=5.7
G19K Purcell Mounta 71.02 19 IAmb IAmb 19 15 47.6
comp=Z,29nm,0.7s
G19K Purcell Mounta 71.02 19 P P 19 15 46.9 +0.8
baz=321,SNR=18
F21K Alatna River 71.05 17 IAmb IAmb 19 15 49.0
comp=Z,24nm,0.7s
F21K Alatna River 71.05 17 P P 19 15 47.0 +0.7
baz=323,SNR=22
A36M Sachs Harbour 71.06 5 P P 19 15 47.3 +1.1
baz=346,SNR=22
F22K John River 71.12 16 P P 19 15 47.7 +1.1
baz=324,SNR=23
H17K Granite Mounta 71.17 21 P P 19 15 48.0 +0.9
baz=315
E23K Chandalar 71.22 15 IAmb IAmb 19 15 49.3
comp=Z,54nm,1.4s
E23K Chandalar 71.22 15 P P 19 15 48.3 +1.0
baz=326,SNR=13
E24K Your Creek 71.44 15 IAmb IAmb 19 15 50.6
comp=Z,20nm,0.7s
E24K Your Creek 71.44 15 P P 19 15 49.7 +1.1
baz=327,SNR=15
H18K Honhosa River 71.44 20 P P 19 15 49.4 +0.7
baz=320
G21K Allakaket 71.61 17 P P 19 15 49.8 +0.2
baz=323,SNR=14
H19K Roundabout Mou 71.66 19 IAmb IAmb 19 15 51.7
comp=Z,20nm,0.7s
H19K Roundabout Mou 71.66 19 P P 19 15 50.9 +1.0
baz=321,SNR=15
J14K Nanvaranak Lak 71.70 23 P P 19 15 51.4 +1.3
baz=316
I17K Unalakleet 71.74 22 P P 19 15 51.1 +0.7
I17K IAmb IAmb 19 18 19.0
comp=Z,61nm,1.3s
I17K Unalakleet 71.74 22 P P 19 15 51.2 +0.8
baz=318
G22K Bettles 71.75 16 P P 19 15 51.1 +0.7
baz=325
COLD Coldfoot 71.79 16 P P 19 15 51.7 +1.0
COLD IAmb IAmb 19 15 52.5
comp=Z,32nm,0.9s
COLD Coldfoot 71.79 16 P P 19 15 51.7 +1.0
baz=326,SNR=21
K13K Kusilvak Mount 71.92 24 P P 19 15 52.9 +1.4
K13K IAmb IAmb 19 17 23.6
comp=Z,61nm,1.6s
K13K Kusilvak Mount 71.92 24 P P 19 15 52.6 +1.1
baz=316
MREMI Moremi 71.95 222 IAmb IAmb 19 15 52.8
comp=Z,31nm,0.7s
MREMI Moremi 71.95 222 *i* P P 19 15 52.5 +0.1
F24K Squaw Lake 72.03 15 P P 19 15 53.2 +1.0
baz=328,SNR=7.1
H20K Anotleneega Mo 72.09 18 P P 19 15 53.3 +0.7
baz=322,SNR=22
GCSA Galena City Sc 72.16 20 P P 19 15 53.8 +0.9
baz=321
J16K Anvik River 72.22 22 IAmb IAmb 19 15 55.5
comp=Z,26nm,0.7s
J16K Anvik River 72.22 22 P P 19 15 54.6 +1.3
baz=318,SNR=8.9
G23K Bananza Creek 72.25 16 P P 19 15 54.4 +0.9
baz=326,SNR=17
F25K Christian Rive 72.42 14 IAmb IAmb 19 15 57.0
comp=Z,28nm,1.0s
F25K Christian Rive 72.42 14 P P 19 15 55.9 +1.4
baz=330,SNR=10
ILON Igloolik, Nuna 72.46 350 IAmb IAmb 19 15 55.8
comp=Z,42nm,0.9s
H21K Melozitna Rive 72.48 18 P P 19 15 55.6 +0.8
baz=324,SNR=17
GMARE Gumare 72.48 228 IAmb IAmb 19 15 56.5
comp=Z,24nm,0.8s
J17K VABM Dome 72.58 21 P P 19 15 56.4 +1.0
baz=320
E28M Babbage River 72.60 11 P P 19 15 56.9 +1.5
baz=334,SNR=8.2
F26K Sheenjek River 72.61 13 P P 19 15 56.6 +1.1
baz=331,SNR=6.9
H22K Ishtalitna Cre 72.62 17 P P 19 15 56.5 +0.8
baz=325,SNR=8.1
E27K Coleen River 72.63 12 IAmb IAmb 19 15 58.0
comp=Z,31nm,1.0s
E27K Coleen River 72.63 12 P P 19 15 57.1 +1.4
baz=333,SNR=8.7
K15K Wolf Creek Mou 72.67 23 P P 19 15 57.4 +1.4
baz=318
I20K Naaghedeneel 72.75 19 IAmb IAmb 19 15 58.4
comp=Z,34nm,0.8s
I20K Naaghedeneel 72.75 19 P P 19 15 57.7 +1.3
baz=323,SNR=8.0
BMAR Burnt Mountain 72.76 14 P P 19 15 58.0 +1.5
G24K Hadweenzic Riv 72.81 15 IAmb IAmb 19 15 59.0
comp=Z,25nm,0.8s
G24K Hadweenzic Riv 72.81 15 P P 19 15 58.1 +1.3
baz=328,SNR=19
L14K Kuka Creek 73.00 24 IAmb IAmb 19 16 00.4
comp=Z,24nm,0.8s
L14K Kuka Creek 73.00 24 P P 19 15 59.3 +1.4
baz=317
G25K Bearman Lake 73.04 15 P P 19 15 59.8 +1.8
baz=329,SNR=11
E29M Blow River 73.05 11 IAmb IAmb 19 16 00.5
comp=Z,36nm,1.0s
E29M Blow River 73.05 11 P P 19 15 59.5 +1.5
baz=336,SNR=8.1
I21K Tanana 73.07 18 P P 19 15 59.2 +1.0
baz=325,SNR=10
J19K Poorman 73.09 20 IAmb IAmb 19 16 00.5
comp=Z,28nm,0.8s
J19K Poorman 73.09 20 P P 19 15 59.5 +1.2
baz=322,SNR=26
H23K Yukon River 73.10 16 IAmb IAmb 19 16 00.8
comp=Z,25nm,0.7s
H23K Yukon River 73.10 16 P P 19 16 00.0 +1.5
baz=327,SNR=18
L15K Ungalak Mounta 73.14 23 P P 19 16 00.0 +1.3
baz=318
J18K Innoko River 73.20 20 IAmb IAmb 19 16 00.9
comp=Z,23nm,0.7s
J18K Innoko River 73.20 20 P P 19 16 00.0 +0.9
baz=322,SNR=18
K17K Iditarod 73.33 21 IAmb IAmb 19 16 02.0
comp=Z,31nm,0.7s
K17K Iditarod 73.33 21 P P 19 16 01.1 +1.3
baz=320,SNR=8.4
G26K Porcupine Rive 73.33 14 P P 19 16 01.1 +1.3
baz=331,SNR=8.2
J20K Nowinta River 73.34 19 IAmb IAmb 19 16 01.8
comp=Z,33nm,0.7s
J20K Nowinta River 73.34 19 P P 19 16 00.9 +1.1
baz=323,SNR=25
FYU Fort Yukon 73.39 14 IAmb IAmb 19 16 02.7
comp=Z,79nm,1.4s
F28M Old Crow 73.44 12 P P 19 16 01.6 +1.2
baz=334,SNR=9.0
LPHEP Lephephe 73.46 223 *i* P P 19 16 01.1 -0.1
MBWA Marble Bar 73.46 133 P P 19 16 00.7 -0.4
MBWA IAmb IAmb 19 16 02.3
comp=Z,23nm,0.8s
MBWA Marble Bar 73.46 133 P P 19 16 01.5 +0.4
comp=Z,32nm,0.9s
M13K Dall Lake 73.46 25 P P 19 16 01.5 +0.9
baz=317
H24K Noodor Dome 73.46 16 IAmb IAmb 19 16 02.8
comp=Z,20nm,0.7s
H24K Noodor Dome 73.46 16 P P 19 16 02.0 +1.3
baz=328,SNR=19
H25L Birch Creek 73.53 15 P P 19 16 02.3 +1.5
baz=330
M14K Bethel 73.68 24 IAmb IAmb 19 16 59.5
comp=Z,58nm,0.9s
M14K Bethel 73.68 24 P P 19 16 03.4 +1.6
baz=318
I23K Minto, Yukon-K 73.72 17 P P 19 16 03.0 +1.0
I23K Minto, Yukon-K 73.72 17 P P 19 16 03.1 +1.1
baz=327,SNR=16
INK Inuvik 73.74 9 P P 19 16 03.3 +1.2
baz=340,SNR=32
L17K Donlin 73.78 22 P P 19 16 04.1 +1.6
baz=320
PSAC1 Pilbara Seismi 73.80 133 P P 19 16 03.2 +0.2
comp=Z,40nm,0.8s
PSAA2 Pilbara Seismi 73.84 133 P P 19 16 03.3 0.0
comp=Z,49nm,0.8s
PSA00 Pilbara Seismi 73.85 133 P P 19 16 02.2 -1.1
PSA00 Pilbara Seismi 73.85 133 IAmb IAmb 19 16 04.4
comp=Z,25nm,0.8s
PSA00 Pilbara Seismi 73.85 133 P P 19 16 03.5 +0.2
comp=Z,42nm,0.7s
G27K Doyon Strip 73.85 13 IAmb IAmb 19 16 05.3
comp=Z,30nm,0.7s
G27K Doyon Strip 73.85 13 P P 19 16 04.4 +1.6
baz=333,SNR=28
K20K Telida 74.02 19 IAmb IAmb 19 16 05.8
comp=Z,35nm,0.7s
K20K Telida 74.02 19 P P 19 16 05.1 +1.3
baz=324,SNR=27
CHUM Lake Minchumin 74.05 19 P P 19 16 05.0 +1.0
baz=325,SNR=32
F30M Barrier River 74.08 10 P P 19 16 05.4 +1.3
baz=338,SNR=21
KDWAN Kaudwane 74.14 224 *i* P P 19 16 05.3 +0.2
M15K Kasigluk River 74.14 24 P P 19 16 06.0 +1.5
baz=319,SNR=5.0
POKR Poker Plat Res 74.18 16 IAmb IAmb 19 16 06.8
comp=Z,54nm,1.1s
POKR Poker Plat Res 74.18 16 P P 19 16 05.9 +1.2
baz=329,SNR=18
L18K Granite Mounta 74.19 21 IAmb IAmb 19 16 07.5
comp=Z,49nm,1.6s
L18K Granite Mounta 74.19 21 P P 19 16 05.9 +1.1
baz=322,SNR=6.4
PRP Porcupine Dome 74.24 15 P P 19 16 06.4 +1.2
baz=330
COLA College 74.29 16 P P 19 16 06.8 +1.5
COLA College 74.29 16 *ce*P P 19 16 06.0 +0.7
COLA pmax pmax
comp=Z,46nm,0.9s
COLA College 74.29 16 P P 19 16 06.1 +0.7
baz=328
G29M Pine Creek 74.38 12 P P 19 16 07.0 +1.2
baz=336,SNR=8.5
N14K Kuskokwak Cree 74.39 25 P P 19 16 07.3 +1.4
baz=318
H27K Steamboat Moun 74.39 13 P P 19 16 07.4 +1.4
baz=333,SNR=28
M16K Timber Creek 74.44 23 P P 19 16 08.1 +1.8
baz=320
CAST Castle Rocks 74.49 19 IAmb IAmb 19 16 08.4
comp=Z,54nm,0.9s
CAST Castle Rocks 74.49 19 P P 19 16 07.5 +0.9
baz=325,SNR=53
BWN Browne 74.51 17 IAmb IAmb 19 17 04.9
comp=Z,62nm,1.0s
F31M Tsiigehtchic 74.53 10 P P 19 16 07.6 +1.0
baz=339,SNR=15
GRTLG Ghanzi 74.56 228 IAmb IAmb 19 16 09.3
comp=Z,26nm,0.8s
GRTLG Ghanzi 74.56 228 *i* P P 19 16 08.4 +0.8
ILAR Eielson Array 74.59 16 P P 19 16 06.8 -0.2
comp=Z,15nm,0.9s,baz=327,slow=5.6,SNR=106
ILAR pP pP 19 17 02.2 -0.6
comp=Z,14nm,1.1s,baz=328,slow=5.0,SNR=6.6
ILAR sP sP 19 17 28.5 +0.9
comp=Z,3.6nm,0.8s,baz=316,slow=3.9,SNR=2.6
ILAR S S 19 25 22.4 -0.5
comp=Z,0.3nm,0.9s,baz=321,slow=8.3,SNR=4.1
comp=Z,15nm,0.9s
G30M tAoh Zraii Nji 74.60 11 IAmb IAmb 19 16 08.9
comp=Z,39nm,0.8s
G30M tAoh Zraii Nji 74.60 11 P P 19 16 07.8 +0.7
baz=337,SNR=22
M17K Holitna River 74.61 22 IAmb IAmb 19 16 10.0
comp=Z,27nm,0.8s
M17K Holitna River 74.61 22 P P 19 16 08.9 +1.6
baz=321,SNR=7.4
KTH Kantishna Hill 74.67 18 IAmb IAmb 19 16 09.1
comp=Z,38nm,0.6s
N15K Kwethluk River 74.73 24 P P 19 16 09.8 +1.9
baz=320
L19K White Mountain 74.75 21 IAmb IAmb 19 17 05.4
comp=Z,42nm,1.2s
L19K White Mountain 74.75 21 P P 19 16 09.4 +1.4
baz=329,SNR=6.4
MTN Manton Dam 74.77 119 P P 19 16 08.2 -0.7
MTN IAmb IAmb 19 18 57.2
comp=Z,41nm,1.5s
MTN Manton Dam 74.77 119 P P 19 16 08.7 -0.2
comp=Z,13nm,1.1s
L20K Farewell, AK 74.78 20 P P 19 16 09.2 +1.0
baz=324,SNR=12
FITZ Fitzroy Crossi 74.80 127 P P 19 16 09.1 +0.2
comp=Z,12nm,1.1s,baz=314,slow=5.5,SNR=19
FITZ pP pP 19 17 04.3 -0.3
comp=Z,15nm,1.1s,baz=329,slow=7.2,SNR=4.6
FITZ S S 19 25 25.9 -0.4
comp=Z,5.4nm,1.0s,baz=319,slow=19,SNR=3.9
comp=Z,12nm,1.1s
PPLA Purkeypile 74.89 19 P P 19 16 09.4 +0.4
PPLA IAmb IAmb 19 17 06.5
comp=Z,82nm,1.5s
PPLA Purkeypile 74.89 19 P P 19 16 09.3 +0.3
baz=325,SNR=8.5
I26K Coal Creek Min 74.91 14 IAmb IAmb 19 16 10.8
comp=Z,26nm,0.7s
I26K Coal Creek Min 74.91 14 P P 19 16 10.0 +1.1
baz=332
TRF Thorofare Moun 74.92 18 P P 19 16 10.8 +1.7
baz=326,SNR=5.6
DBIC Dimbokro 74.92 267 P P 19 16 08.6 -1.1
comp=Z,51nm,0.8s,baz=63,slow=8.1,SNR=44
comp=Z,51nm,0.8s
LBTB Lobatse 74.92 222 P P 19 16 10.1 +0.5
LBTB Lobatse 74.92 222 P P 19 16 10.1 +0.5
LBTB pmax pmax
comp=Z,55nm,0.6s
N16K Nishlik Lake 74.92 23 P P 19 16 11.0 +1.9
baz=320,SNR=6.1
G31M Satah River 74.94 10 P P 19 16 09.8 +0.8
baz=339,SNR=29
I27K Kandik River 74.94 14 P P 19 16 10.2 +1.0
baz=333,SNR=21
H29M Whitestone 74.96 12 P P 19 16 10.3 +1.1
baz=336,SNR=34
MCK McKinley 75.01 17 IAmb IAmb 19 16 10.8
comp=Z,22nm,0.5s
MCK McKinley 75.01 17 P P 19 16 10.0 +0.4
baz=328,SNR=9.2
M18K Stony River 75.02 21 P P 19 16 10.5 +1.0
baz=322
J25K Salcha River, 75.06 15 P P 19 16 09.8 -0.1
baz=330,SNR=34
EPYK Eagle Plains 75.09 11 IAmb IAmb 19 16 11.3
comp=Z,55nm,1.3s
EPYK Eagle Plains 75.09 11 P P 19 16 10.4 +0.5
baz=337,SNR=6.3
M19K Big River Lodg 75.10 21 P P 19 16 11.2 +1.1
baz=324
KNRA Kununurra 75.12 123 P P 19 16 11.3 +0.6
KNRA IAmb IAmb 19 17 08.0

comp=Z,52nm,1.2s
KNRA **Kununurra** 75.12 123 P P 19 16 11.1 +0.3
comp=Z,29nm,0.7s
KGCAE **Kacgae** 75.12 226 *i* P P 19 16 11.2 +0.4
TSUM **Tsumeb** 75.17 232 P P 19 16 11.1 0.0
TSUM IAmb IAmb 19 16 13.1
comp=Z,31nm,0.8s
N17K **Nushagak Hills** 75.37 22 IAmb IAmb 19 17 09.8
comp=Z,38nm,1.2s
N17K **Nushagak Hills** 75.37 22 P P 19 16 13.2 +1.6
baz=322,SNR=5.0
I28M **Miner Creek** 75.39 13 IAmb IAmb 19 16 13.2
comp=Z,38nm,0.7s
I28M **Miner Creek** 75.39 13 P P 19 16 12.4 +0.7
baz=335,SNR=42
SKOMA **Sekoma** 75.44 224 *i* P P 19 16 12.7 +0.2
M20K **Styx River** 75.47 20 P P 19 16 12.9 +0.6
baz=325
J26L **Joseph Creek** 75.54 15 IAmb IAmb 19 16 14.1
comp=Z,34nm,0.7s
J26L **Joseph Creek** 75.54 15 P P 19 16 13.3 +0.7
baz=332,SNR=41
KDU **Kakadu** 75.61 118 P P 19 16 13.6 0.0
comp=Z,16nm,1.5s
N18K **Kilae Creek** 75.65 22 P P 19 16 14.6 +1.4
baz=323
K24K **Donnelly Dome** 75.68 16 P P 19 16 13.5 +0.2
baz=330,SNR=32
I29M **Ogilvie Camp,** 75.75 12 IAmb IAmb 19 16 15.1
comp=Z,27nm,0.7s
I29M **Ogilvie Camp,** 75.75 12 P P 19 16 14.2 +0.5
baz=336,SNR=11
CUT **Chulitna** 75.80 19 P P 19 16 13.7 -0.2
baz=327,SNR=5.6
O16K **Kokwok River B** 75.82 23 IAmb IAmb 19 17 12.3
comp=Z,70nm,1.1s
O16K **Kokwok River B** 75.82 23 P P 19 16 15.8 +1.7
baz=321,SNR=6.8
SKT **Skwentna** 75.82 19 IAmb IAmb 19 17 10.3
comp=Z,60nm,1.0s
SKT **Skwentna** 75.82 19 P P 19 16 14.1 -0.1
baz=326,SNR=19
SCRK **Sand Creek** 75.91 15 IAmb IAmb 19 16 16.4
comp=Z,26nm,0.6s
SCRK **Sand Creek** 75.91 15 P P 19 16 15.6 +0.8
baz=332,SNR=44
RIDG **Independent Ri** 75.94 16 IAmb IAmb 19 17 12.1
comp=Z,47nm,1.3s
RIDG **Independent Ri** 75.94 16 P P 19 16 14.9 +0.1
baz=331,SNR=17
N19K **Bonanza Creek** 75.95 21 P P 19 16 16.0 +1.0
baz=324
H31M **Peel River** 75.98 11 P P 19 16 15.7 +0.8
baz=339,SNR=44
O17K **Koliganek Bris** 75.99 23 P P 19 16 16.4 +1.3
baz=322
I30M **Mount Dempster** 76.20 12 IAmb IAmb 19 16 17.9
comp=Z,38nm,0.8s
I30M **Mount Dempster** 76.20 12 P P 19 16 17.0 +0.6
baz=338,SNR=49
K27K **Chicken** 76.26 14 IAmb IAmb 19 16 18.7
comp=Z,30nm,0.8s
K27K **Chicken** 76.26 14 P P 19 16 17.7 +1.2
baz=333
M22K **Willow** 76.38 19 IAmb IAmb 19 17 15.8
comp=Z,61nm,1.1s
M22K **Willow** 76.38 19 P P 19 16 17.1 -0.1
baz=327
KOOLE **Kule** 76.41 228 IAmb IAmb 19 16 19.5
comp=Z,39nm,0.8s
KOOLE **Kule** 76.41 228 *i* P P 19 16 18.3 +0.2
SUA **Susitna One** 76.46 19 IAmb IAmb 19 17 14.3
comp=Z,43nm,1.1s
SUA **Susitna One** 76.46 19 P P 19 16 17.9 +0.1
baz=326
PAX **Paxson** 76.47 16 IAmb IAmb 19 16 19.1
comp=Z,31nm,0.6s
PAX **Paxson** 76.47 16 P P 19 16 18.2 +0.3
baz=330,SNR=43
O19K **Port Alsworth** 76.50 22 P P 19 16 18.9 +1.0
baz=324
O18K **Koktuh Hills** 76.51 22 IAmb IAmb 19 17 15.9
comp=Z,51nm,0.9s
O18K **Koktuh Hills** 76.51 22 P P 19 16 19.6 +1.5
baz=323,SNR=6.3
J29N **Klondike Camp** 76.60 13 IAmb IAmb 19 16 20.6
comp=Z,31nm,0.9s
J29N **Klondike Camp** 76.60 13 P P 19 16 19.6 +1.1
baz=336
P17K **Kvichak River** 76.66 23 P P 19 16 20.4 +1.6
baz=322,SNR=8.8
DAWY **Dawson** 76.75 13 IAmb IAmb 19 16 20.9
comp=Z,28nm,0.8s
DAWY **Dawson** 76.75 13 P P 19 16 20.1 +0.7
baz=335,SNR=35
PMR **Palmer** 76.77 19 P P 19 16 19.7 +0.3
baz=328
PHPEN **Phepeng** 76.79 224 IAmb IAmb 19 16 21.1
comp=Z,43nm,0.9s
PHPEN **Phepeng** 76.79 224 *i* P P 19 16 20.4 +0.2
J30M **Hart River** 76.81 12 IAmb IAmb 19 16 21.7
comp=Z,22nm,0.7s
J30M **Hart River** 76.81 12 P P 19 16 20.9 +1.1
baz=338,SNR=31
P18K **Big Mountain,** 76.88 22 IAmb IAmb 19 17 17.6
comp=Z,44nm,0.9s
P18K **Big Mountain,** 76.88 22 P P 19 16 21.1 +1.0
baz=323
L26K **Log Cabin Wild** 76.89 15 IAmb IAmb 19 17 17.5
comp=Z,50nm,1.6s
L26K **Log Cabin Wild** 76.89 15 P P 19 16 21.2 +1.0
baz=332,SNR=15
M23K **Glacier View** 76.96 18 P P 19 16 20.9 +0.4
baz=329,SNR=29
Q16K **King Salmon** 77.00 23 P P 19 16 22.1 +1.3
baz=322
SCM **Sheep Creek Mo** 77.02 18 IAmb IAmb 19 16 22.2
comp=Z,37nm,0.6s
SCM **Sheep Creek Mo** 77.02 18 P P 19 16 21.5 +0.6
baz=329,SNR=19
HARP **HAARP** 77.04 16 P P 19 16 22.4 +1.5
baz=331,SNR=30
M24K **Tolsona, Glenn** 77.06 17 P P 19 16 22.6 +1.4
baz=330,SNR=16
KNK **Knik Glacier** 77.10 18 IAmb IAmb 19 17 18.4
comp=Z,48nm,1.0s
KNK **Knik Glacier** 77.10 18 P P 19 16 22.0 +0.7
baz=328,SNR=7.2
MEEK **Meekatharra** 77.12 138 P P 19 16 21.8 -0.1
comp=Z,51nm,0.8s
L27K **Beaver Creek,** 77.18 15 IAmb IAmb 19 16 23.9
comp=Z,24nm,0.7s
L27K **Beaver Creek,** 77.18 15 P P 19 16 23.1 +1.3
baz=333,SNR=47
BCAR **Beaver Creek A** 77.18 15 P P 19 16 23.1 +1.3
P19K **Oil Pt** 77.26 21 P P 19 16 23.1 +0.8
baz=325
K29M **Barlow Dome** 77.29 13 IAmb IAmb 19 16 24.4
comp=Z,28nm,0.7s
K29M **Barlow Dome** 77.29 13 P P 19 16 23.3 +0.8
baz=337,SNR=30
SLKM **Skilak Lake** 77.40 20 IAmb IAmb 19 17 19.2
comp=Z,34nm,1.0s
S12K **Black Hills** 77.42 28 P P 19 16 24.0 +0.8
baz=319
M26K **Nabesna, AK** 77.52 16 P P 19 16 24.5 +0.8
baz=332,SNR=9.9
FALS **False Pass** 77.54 29 P P 19 16 24.4 +0.7
baz=318
O22K **Cooper Landing** 77.56 19 P P 19 16 24.4 +0.6
baz=327
Q17K **Contact Creek** 77.58 23 P P 19 16 24.5 +0.4
baz=323
PWL **Port Wells** 77.60 19 P P 19 16 24.3 +0.2
baz=328,SNR=7.4
MORW **Morawa** 77.72 141 IAmb IAmb 19 16 25.8
comp=Z,68nm,1.2s
MORW **Morawa** 77.72 141 P P 19 16 25.0 -0.1
comp=Z,58nm,1.2s
M27K **Edge Creek, AK** 77.80 15 IAmb IAmb 19 16 27.6
comp=Z,46nm,0.9s
M27K **Edge Creek, AK** 77.80 15 P P 19 16 26.7 +1.4
baz=333,SNR=41
L29M **L29M** 77.85 13 IAmb IAmb 19 17 24.8
comp=Z,48nm,1.2s
L29M **L29M** 77.85 13 P P 19 16 26.7 +1.2
baz=336,SNR=30
N25K **Chitina, Valde** 77.86 17 IAmb IAmb 19 17 23.4
comp=Z,93nm,1.8s
N25K **Chitina, Valde** 77.86 17 P P 19 16 26.4 +0.8
baz=331,SNR=12
GLI **Glacier Island** 77.90 18 IAmb IAmb 19 17 22.6
comp=Z,36nm,0.9s
GLI **Glacier Island** 77.90 18 P P 19 16 26.0 +0.3
baz=329,SNR=7.7
SEW **Seward** 77.95 20 P P 19 16 26.2 +0.2
baz=328
BVCY **Beaver Creek** 77.96 15 P P 19 16 27.4 +1.3
baz=334,SNR=20
BOSA **Boshof** 77.98 220 IAmb IAmb 19 16 27.4
comp=Z,45nm,0.9s
BOSA **Boshof** 77.98 220 P P 19 16 26.3 -0.4
comp=Z,37nm,0.8s,baz=38,slow=7.1,SNR=78
BOSA pP pP 19 17 24.0 +1.0
comp=Z,8.6nm,0.7s,baz=30,slow=8.1,SNR=2.7
comp=Z,37nm,0.8s
DIV **Divide** 78.01 17 IAmb IAmb 19 16 28.0
comp=Z,21nm,0.7s
FID **Port Fidalgo** 78.16 18 IAmb IAmb 19 17 25.3
comp=Z,44nm,1.0s
CHGN **Chignik** 78.28 26 P P 19 16 28.3 +0.5
baz=321
Q20K **Shuyak Island** 78.37 22 P P 19 16 28.6 +0.3
baz=326
M29M **Somme Creek** 78.40 14 IAmb IAmb 19 16 30.9
comp=Z,23nm,0.8s
M29M **Somme Creek** 78.40 14 P P 19 16 29.7 +1.1
baz=336,SNR=27
MCARA **McCarthy VSAT** 78.42 16 IAmb IAmb 19 17 30.9
comp=Z,46nm,1.5s
MCARA **McCarthy VSAT** 78.42 16 P P 19 16 29.5 +0.9
baz=332,SNR=5.4
EYAK **Cordova Ski Ar** 78.52 18 IAmb IAmb 19 16 31.1
comp=Z,31nm,0.7s
EYAK **Cordova Ski Ar** 78.52 18 P P 19 16 30.2 +1.1
baz=330,SNR=13
P23K **Montague Islan** 78.58 19 P P 19 16 30.4 +0.9
baz=329,SNR=5.1
M30M **Minto, Yukon** 78.59 13 P P 19 16 30.3 +0.8
baz=337,SNR=13
YUK3 **Moose Creek** 78.62 15 P P 19 16 31.0 +1.1
baz=334,SNR=27
CRQE **Cirque** 78.97 16 P P 19 16 32.4 +0.7
baz=332,SNR=6.6
KDAK **Kodiak Island** 79.00 22 P P 19 16 32.5 +0.8
KDAK **Kodiak Island** 79.00 22 P P 19 16 32.5 +0.8
KDAK pmax pmax
comp=Z,81nm,1.1s
KDAK **Kodiak Island** 79.00 22 P P 19 16 32.5 +0.8
baz=326
CHNA **Chernabura Isl** 79.00 27 P P 19 16 32.2 +0.4
baz=321
BARN **Barnard Glacie** 79.01 16 IAmb IAmb 19 17 30.5
comp=Z,56nm,1.3s
CTG **Chitna Glacier** 79.16 16 P P 19 16 33.9 +1.1
baz=334,SNR=14
CTGM **Chitina Glacie** 79.16 16 IAmb IAmb 19 16 34.8
comp=Z,28nm,0.6s
YUK8 **Steele Glacier** 79.20 15 P P 19 16 34.0 +0.9
baz=335
OHAK **Had Harbor** 79.24 23 P P 19 16 33.9 +0.8
baz=325
ISLE **Juniper Island** 79.27 16 IAmb IAmb 19 17 31.5
comp=Z,74nm,1.6s
BLDU **Ballidu** 79.31 141 P P 19 16 32.9 -0.8
comp=Z,63nm,0.8s
M31M **Drury Creek, Y** 79.35 12 P P 19 16 34.5 +0.8
baz=339,SNR=19
YUK4 **Talbot Arm** 79.37 14 P P 19 16 34.7 +0.7
baz=336,SNR=24
MMPY **Sheldon Lake,** 79.44 10 IAmb IAmb 19 17 32.2
comp=Z,62nm,1.9s
MMPY **Sheldon Lake,** 79.44 10 P P 19 16 35.4 +1.3
baz=342,SNR=6.5
BGLC **Bering Glacier** 79.48 17 P P 19 16 35.9 +1.6
baz=332
N30M **Aishikik Lake** 79.57 13 IAmb IAmb 19 17 33.8
comp=Z,39nm,1.4s
N30M **Aishikik Lake** 79.57 13 P P 19 16 36.0 +1.1
baz=337,SNR=15
O28M **Mount Upton** 79.58 15 P P 19 16 36.2 +0.9
baz=335,SNR=7.3
YAH **Yahtse** 79.61 16 IAmb IAmb 19 16 37.4
comp=Z,32nm,0.6s
MESA **MESA** 79.73 16 P P 19 16 37.1 +1.2
baz=334,SNR=5.0
WRGLY **Wrigley** 79.78 7 P P 19 16 37.4 +1.5
baz=348
YUK6 **Outpost Mounta** 79.80 14 P P 19 16 37.4 +1.0
baz=336,SNR=15
HYT **Haines Junctio** 80.07 14 IAmb IAmb 19 16 39.9
comp=Z,26nm,0.7s
HYT **Haines Junctio** 80.07 14 P P 19 16 38.9 +1.2
baz=337,SNR=34
PCA **Pinnacle** 80.18 15 IAmb IAmb 19 17 38.1
comp=Z,48nm,1.0s
PINM **Pinnacle** 80.18 15 P P 19 16 39.3 +1.1
baz=335,SNR=7.5
O29M **Mount Kennedy** 80.34 15 P P 19 16 39.7 +0.6
baz=336
O30N **Mendenhall** 80.39 13 P P 19 16 40.1 +0.9
baz=338,SNR=21
N32M **Quiet Lake** 80.56 12 P P 19 16 40.1 0.0
baz=340
KLBR **Kellerberrin** 80.62 141 P P 19 16 39.7 -1.0
comp=Z,114nm,0.8s
WHY **Whitehorse** 80.71 13 IAmb IAmb 19 16 42.1
comp=Z,23nm,0.7s
WHY **Whitehorse** 80.71 13 P P 19 16 41.2 +0.2
baz=339,SNR=13
PNL **Peninsula** 80.75 15 P P 19 16 42.5 +1.4
baz=336,SNR=5.7
P30M **Million Dollar** 80.83 14 P P 19 16 42.9 +1.3
baz=337
TGTN **Hyland Airport** 80.90 9 P P 19 16 43.6 +1.6
baz=344,SNR=9.0
YKAW3 **Yellowknife Wh** 81.03 3 IAmb IAmb 19 16 44.2
comp=Z,58nm,1.0s
YKA **Yellowknife Ar** 81.10 3 P P 19 16 43.3 +0.4
comp=Z,33nm,0.8s,baz=354,slow=5.6,SNR=107
YKA pP pP 19 17 39.4 0.0
comp=Z,16nm,0.8s,baz=353,slow=5.6,SNR=8.7
YKA sP sP 19 18 04.5 +0.1
comp=Z,11nm,0.8s,baz=357,slow=5.8,SNR=3.6
comp=Z,33nm,0.8s
YKA **Yellowknife Ar** 81.10 3 *i* P P 19 16 43.4 +0.5
YKA pmax pmax
comp=Z,31nm,0.8s
YKAW1 **Yellowknife Wh** 81.12 3 IAmb IAmb 19 16 44.7
comp=Z,60nm,0.8s
P29M **Windy Craggy** 81.13 14 P P 19 16 43.8 +0.7
baz=337,SNR=5.8
NWAO **Narrogin (SRO)** 81.44 142 P P 19 16 44.2 -0.8
NWAO IAmb IAmb 19 16 45.0
comp=Z,31nm,0.6s
NWAO **Narrogin (SRO)** 81.44 142 P P 19 16 44.1 -0.8
comp=Z,32nm,0.7s,baz=328,slow=3.9,SNR=30
comp=Z,32nm,0.7s
NWAO **Narrogin (SRO)** 81.44 142 P P 19 16 44.2 -0.8
NWAO pmax pmax
comp=Z,31nm,0.6s
P33M **Teslin, Yukon** 81.49 12 IAmb IAmb 19 16 46.5
comp=Z,40nm,0.8s
P33M **Teslin, Yukon** 81.49 12 P P 19 16 45.6 +0.5
baz=341,SNR=34
WRKA **Warakurna** 81.54 130 P P 19 16 45.6 -0.2
comp=Z,6.0nm,1.8s
SKAG **Skagway** 81.75 13 P P 19 16 47.4 +1.0
baz=339,SNR=6.2
WB0 **Warramunga Arr** 81.79 122 P P 19 16 46.5 -0.7
WRA **Warramunga Arr** 81.88 122 P P 19 16 46.6 -1.0
WRA **Warramunga Arr** 81.88 122 P P 19 16 46.6 -1.0
comp=Z,9.2nm,0.7s,baz=315,slow=5.3,SNR=82
WRA pP pP 19 17 45.1 +0.7
comp=Z,10nm,1.1s,baz=315,slow=5.4,SNR=3.8
WRA sP sP 19 18 11.8 +2.5
comp=Z,5.9nm,0.8s,baz=314,slow=5.3,SNR=2.7
WRA PKiKP PKiKP 19 22 08.0 -1.0
comp=Z,0.3nm,0.4s,baz=320,slow=1.5,SNR=2.0
WRA S S 19 26 38.0 -3.6
comp=Z,1.0nm,1.1s,baz=326,slow=11,SNR=3.1
WRA PKKPbc PKKPbc 19 35 16.0 0.0
comp=Z,1.1nm,0.6s,baz=134,slow=2.2,SNR=14
comp=Z,9.2nm,0.7s
WRAB **Tennant Creek** 81.88 122 *de* P P 19 16 46.8 -0.8
WRAB pmax pmax
comp=Z,16nm,0.9s
P32M **Atlin** 81.92 13 IAmb IAmb 19 17 45.9
comp=Z,48nm,1.4s
P32M **Atlin** 81.92 13 P P 19 16 48.0 +0.7
baz=340,SNR=9.6
SCHQ **Schefferville** 82.06 337 P P 19 16 48.4 +0.3
comp=Z,14nm,0.7s,baz=39,slow=6.8,SNR=22
SCHQ pP pP 19 17 45.1 +0.6
comp=Z,12nm,0.8s,baz=39,slow=8.5,SNR=4.5
SCHQ sP sP 19 18 08.8 -0.4
comp=Z,10nm,0.8s,baz=64,slow=10,SNR=3.0
comp=Z,14nm,0.7s
WTLY **Watson Lake, Y** 82.19 10 P P 19 16 49.5 +0.8
baz=344
R33M **Jennings River** 82.56 11 P P 19 16 51.6 +0.8
baz=342,SNR=26
KMBL **Kambalda** 82.59 138 P P 19 16 51.5 +0.4
comp=Z,14nm,0.9s
KOTAN **Kotaneelee Air** 82.76 8 P P 19 16 52.7 +1.1
baz=348
Q32M **Nakina River** 82.76 12 IAmb IAmb 19 16 53.7
comp=Z,20nm,0.7s
Q32M **Nakina River** 82.76 12 P P 19 16 52.6 +0.7
baz=341,SNR=19
S31K **Pelican** 82.97 14 P P 19 16 53.9 +1.2
baz=338
R32K **Eaglecrest** 83.01 13 P P 19 16 54.0 +1.0
baz=339
DRLN **Deer Lake** 83.18 329 IAmb IAmb 19 16 55.9
comp=Z,36nm,1.0s
LIRD **Liard River Hi** 83.23 9 P P 19 16 55.3 +1.3
baz=346
DLBC **Dease Lake** 83.62 11 P P 19 16 57.3 +1.2
baz=343,SNR=14
S32K **Killisnoo** 83.76 14 IAmb IAmb 19 17 55.1
comp=Z,27nm,1.1s
S32K **Killisnoo** 83.76 14 P P 19 16 57.8 +1.1
baz=339,SNR=5.5
TOAD **Toad River Com** 83.88 9 P P 19 16 58.1 +0.7
baz=347,SNR=27
S34M **Telegraph Cree** 83.95 12 IAmb IAmb 19 17 56.4
comp=Z,53nm,1.0s
S34M **Telegraph Cree** 83.95 12 P P 19 16 59.2 +1.5
baz=342,SNR=26
SIT **Sitka** 84.00 14 P P 19 16 59.3 +1.5
baz=339
AS31 **Alice Springs** 84.15 125 P P 19 16 58.7 -0.5
ASAR **Alice Springs** 84.15 125 P P 19 16 58.5 -0.7
ASAR **Alice Springs** 84.15 125 P P 19 16 58.3 -0.9
comp=Z,13nm,0.8s,baz=316,slow=5.2,SNR=141
ASAR pP pP 19 17 55.9 -0.1
comp=Z,3.1nm,0.6s,baz=314,slow=5.2,SNR=2.7
ASAR sP sP 19 18 20.5 -0.1
comp=Z,2.3nm,0.7s,baz=311,slow=5.1,SNR=1.8
ASAR PKiKP PKiKP 19 22 10.5 -2.0
comp=Z,0.6nm,0.6s,baz=314,slow=2.3,SNR=5.3
ASAR S SKSac 19 26 55.3 -5.1
comp=Z,0.7nm,0.9s,baz=317,slow=4.1,SNR=4.5
ASAR PKKPbc PKKPbc 19 35 11.7 +0.7
comp=Z,0.8nm,0.6s,baz=126,slow=2.6,SNR=14
comp=Z,13nm,0.8s
WRAK **Wrangell Islan** 85.16 13 P P 19 17 04.8 +1.1
baz=341
U33K **Whale Pass** 85.31 13 P P 19 17 05.6 +1.2
baz=341
FORT **Forrest** 85.60 134 IAmb IAmb 19 17 07.3
comp=Z,31nm,0.7s
CRAG **Craig** 85.92 14 P P 19 17 08.6 +1.1
baz=341
GBN **Guysborough** 87.89 329 IAmb IAmb 19 17 20.3
comp=Z,30nm,0.9s
FFC **Flin Flon** 88.82 356 P P 19 17 20.6 -0.7
FFC IAmb IAmb 19 17 23.1
comp=Z,38nm,1.1s
FFC **Flin Flon** 88.82 356 P P 19 17 20.6 -0.7
FFC pmax pmax
comp=Z,38nm,1.2s
VLDQ **Val d'Or** 91.13 340 IAmb IAmb 19 17 34.3
comp=Z,41nm,1.1s
LLLB **Lillooet** 92.36 8 IAmb IAmb 19 18 37.0
comp=Z,24nm,1.1s
ULM **Lac du Bonnet** 92.75 352 *ce* P P 19 17 38.8 -0.8
LONY **Lake Ozonia** 93.41 336 IAmb IAmb 19 17 44.6
comp=Z,16nm,0.9s
J61A **Chester** 93.86 334 IAmb IAmb 19 17 47.0
comp=Z,18nm,1.0s
BUKO **Buck Lake** 94.12 340 IAmb IAmb 19 17 47.5
comp=Z,26nm,1.1s
EYMN **Ely** 94.40 348 IAmb IAmb 19 17 48.7
comp=Z,21nm,1.1s
DELO **Deloro Mine** 94.45 338 IAmb IAmb 19 17 49.1
comp=Z,20nm,1.0s
STKA **Stephens Creek** 94.69 127 P P 19 17 47.8 -0.9
comp=Z,2.4nm,0.7s,baz=323,slow=5.1,SNR=4.0
STKA pP pP 19 18 47.0 +0.7
comp=Z,2.1nm,0.7s,baz=333,slow=11,SNR=2.8
comp=Z,2.4nm,0.7s
EGMT **Eagleton** 95.72 1 IAmb IAmb 19 17 55.0
comp=Z,13nm,1.1s
COWI **Conover** 95.78 346 IAmb IAmb 19 17 55.2
comp=Z,8.6nm,0.9s
L56A **Greenwood** 96.59 337 IAmb IAmb 19 17 58.5
comp=Z,9.5nm,0.9s
WVNY **West Valley, N** 96.67 338 IAmb IAmb 19 17 59.0
comp=Z,16nm,1.0s
G40A **Rib Lake** 96.77 347 IAmb IAmb 19 17 59.4
comp=Z,17nm,1.3s
LAO **LASA Array** 97.03 358 IAmb IAmb 19 21 09.3
comp=Z,10nm,0.7s
RLMT **Red Lodge** 98.62 0 IAmb IAmb 19 19 06.7
comp=Z,20nm,1.6s
YNE **Yellowstone No** 98.73 1 IAmb IAmb 19 19 07.7
comp=Z,11nm,1.3s
PDAR **Pinedale Array** 100.97 1 P Pdif 19 18 17.4 +0.2
comp=Z,0.4nm,0.5s,baz=356,slow=5.1,SNR=4.9
PDAR PKKPbc PKKPbc 19 34 26.1 -1.7
comp=Z,0.4nm,0.7s,baz=223,slow=3.6,SNR=4.1
NVAR **Mina Array Bea** 104.79 8 PKiKP PKiKP 19 22 47.8 -0.5
comp=Z,1.1nm,0.8s,baz=350,slow=4.4,SNR=4.7
NVAR PKKPbc PKKPbc 19 34 15.6 -1.0
comp=Z,0.8nm,0.7s,baz=194,slow=3.8,SNR=5.1
SYO **Syowa Base** 107.91 191 *ie* PP PP 19 23 22.4 +3.3
TXAR **Lajitas Array** 114.21 355 PKP PKPdf 19 23 06.1 0.0
comp=Z,0.7nm,0.6s,baz=5.8,slow=2.4,SNR=9.7
TXAR PP PP 19 24 02.1 -1.3
comp=Z,1.4nm,0.9s,baz=6.4,slow=4.9,SNR=5.9
TXAR PKKPbc PKKPbc 19 33 44.4 -2.0
comp=Z,1.2nm,0.8s,baz=202,slow=3.6,SNR=9.0
TROLL **Troll, Antarti** 118.30 199 ||P PKiKP 19 23 12.6 +0.1
comp=Z,688nm,0.6s
SNAA **Sanae** 119.59 200 ||P PKPdf 19 23 13.6 -1.3
comp=Z,119nm,0.8s
SNAA **Sanae** 119.59 200 PKP PKPdf 19 23 14.1 -0.9
comp=Z,5.3nm,0.8s,baz=90,slow=2.8,SNR=11
VNA1 **Neumayer--Stat** 120.76 202 ||P PKPdf 19 23 16.8 -0.3
comp=Z,13nm,0.9s
VNA3 **Neumayer Olymp** 121.41 202 ||P PKPdf 19 23 17.7 -0.7
comp=Z,18nm,0.7s
CMIG **Matias Romero** 124.99 344 PKP PKPdf 19 23 26.5 -0.4
comp=Z,3.9nm,0.6s,baz=12,slow=5.0,SNR=8.8
VNDA **Vanda** 125.57 164 PKP PKPdf 19 23 25.4 -0.7
comp=Z,3.7nm,0.8s,baz=275,slow=4.0,SNR=20
RUSC **La Rusia** 126.13 314 PKPdf 19 23 29.5 -0.4
QSPA **South Pole Qui** 126.43 180 PKiKP 19 23 28.6 -0.1
QSPA **South Pole Qui** 126.43 180 PKP PKPdf 19 23 28.1 -0.1
comp=Z,17nm,0.9s,baz=276,slow=1.2,SNR=41
QSPA PP PP 19 25 25.5 -1.9
comp=Z,6.1nm,1.0s,baz=278,slow=7.1,SNR=3.0
ROSC **El Rosal** 127.70 315 PKP PKiKP 19 23 33.6 +0.3
comp=Z,24nm,0.7s,baz=43,slow=19,SNR=12
SALV **Santo Antonio** 128.84 279 *e* P PKPdf 19 23 33.8 -0.5
BDQN **Bodoquena, MS** 132.14 275 *e* P PKPdf 19 23 39.6 -0.8
OTAV **Otavalo** 133.80 316 *e* P PKPdf 19 23 43.8 -0.5
CPUP **Villa Florida** 135.43 268 PKP PKPdf 19 23 45.6 -0.7
comp=Z,2.0nm,0.9s,baz=311,slow=1.8,SNR=12
CPUP pPKP pPKPdf 19 24 49.2 +2.7
comp=Z,0.6nm,0.8s,baz=50,slow=2.5,SNR=2.2
CPUP PP PP 19 26 23.2 -3.1
comp=Z,2.4nm,0.9s,baz=112,slow=17,SNR=6.0
LPAZ **La Paz** 138.78 288 PKP PKPdf 19 23 52.3 -1.3
comp=Z,2.5nm,0.8s,baz=356,slow=6.0,SNR=7.1
LPAZ pPKP pPKPdf 19 24 56.2 +2.4
comp=Z,1.1nm,0.7s,baz=321,slow=2.2,SNR=1.9
LPAZ PP PP 19 26 43.8 -3.9
comp=Z,2.8nm,0.9s,baz=55,slow=3.7,SNR=6.2
LPAZ **La Paz** 138.78 288 *e* P PKPdf 19 23 52.5 -1.1
PMSA **Palmer Station** 141.43 209 *e* P PKPdf 19 23 57.2 +1.1
TRQA **Tornquist** 143.11 253 PKPbc 19 23 57.7 0.0

TRQA	**Tornquist**	**143.11**	**253**	PKIKP	PKPbc	19 23 57.7	0.0	
PB10	**IPOC Station P**	**144.70**	**281**		**PKPab**	**19 24 02.9**	**+0.2**	
LCO	**Las Campanas**	**147.31**	**272**		**PKPbc**	**19 24 11.5**	**+0.9**	
LCO	**Las Campanas**	**147.31**	**272**	PKP2	**PKPbc**	**19 24 11.5**	**+0.9**	
MG03	**Isla Dawson**	**148.51**	**225**		**PKPbc**	**19 24 13.0**	**+0.5**	
BO04	**La Punta**	**148.91**	**263**		**PKPbc**	**19 24 14.3**	**0.0**	
PLCA	**Paso Flores**	**150.07**	**250**		**PKPbc**	**19 24 17.3**	**+0.3**	
PLCA	**Paso Flores**	**150.07**	**250**	PKP	**PKPdf**	**19 24 10.6**	**-1.1**	
	comp=Z,5.4nm,1.1s,baz=183,slow=2.8,SNR=5.9							
PLCA				PKPbc	**PKPbc**	**19 24 16.7**	**-0.2**	
	comp=Z,48nm,1.0s,baz=99,slow=4.7,SNR=70							
PLCA				pPKPbc	**pPKPbc**	**19 25 16.9**	**+0.1**	
	comp=Z,13nm,1.0s,baz=76,slow=4.7,SNR=3.2							
PLCA	**Paso Flores**	**150.07**	**250**	*eP*	**PKPdf**	**19 24 11.3**	**-0.4**	

*SNET **04** 19:08:05.8±1.1, 13°.09N×89°.52W, h38km, ML3.5*
*CATAC **04** 19:08:05.4±0.4, 13°.N±3°×.9°0W±°, h28km±2km, M3.6/23, MLv3.6/23, Error ellipse: s-maj=5.8km s-min=3.6km az=27.6, confirmed*
*GCG **04** 19:08:06.8±0.3, 13°.18N×89°.57W, h44km±4km, MD3.6, ML2.9*

ISC 04 19:08:05.8±1.9, **13°.08N**±0°.09×**89°.54W**±0°.06, **h42**km±17km, **n70**, σ0**.42**/85, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**27**	*eP*		**Pn**	**19 08 16.1**	**0.0**
LALI				eS		Sn	19 08 24.4	**+1.0**
LALI	**Alcalda de L**	**0.46**	**27**	*eP*		**Pn**	**19 08 16.1**	**0.0**
LALI				IAML			19 08 24.5	
	comp=N,281nm,0.4s							
LALI	**Alcalda de L**	**0.46**	**27**	P		**Pn**	**19 08 16.1**	**0.0**
LALI	**Alcalda de L**	**0.46**	**27**	S		**Sn**	**19 08 23.7**	**+0.3**
JAYA	**Jayaque - finc**	**0.58**	**9**	*eP*		**Pn**	**19 08 17.5**	**-0.4**
JAYA				*eS*		**Sn**	**19 08 25.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.58**	**9**	*i* P		**Pn**	**19 08 17.5**	**-0.4**
JAYA				*i* S		**Sn**	**19 08 25.6**	**-0.8**
JAYA	**Jayaque - finc**	**0.58**	**9**	P		**Pn**	**19 08 17.4**	**-0.5**
JAYA	**Jayaque - finc**	**0.58**	**9**	S		**Sn**	**19 08 26.6**	**+0.1**
PANCS	**Alcalda de**	**0.64**	**33**	P		**Pn**	**19 08 17.9**	**-0.6**
PANCS	**Alcalda de**	**0.64**	**33**	S		**Sn**	**19 08 27.2**	**-0.3**
LOMA	**Loma Larga**	**0.67**	**32**	*eP*		**Pn**	**19 08 18.6**	**-0.4**
LOMA				*eS*		**Sn**	**19 08 28.9**	**+0.5**
LOMA	**Loma Larga**	**0.67**	**32**	P		**Pn**	**19 08 18.5**	**-0.4**
PMON	**Piamonte**	**0.67**	**19**	*eP*		**Pn**	**19 08 18.6**	**-0.5**
PMON				*eS*		**Sn**	**19 08 28.9**	**+0.5**
PMON	**Piamonte**	**0.67**	**19**	P		**Pn**	**19 08 18.5**	**-0.5**
UEES	**Universidad Ev**	**0.70**	**25**	P		**Pn**	**19 08 19.0**	**-0.4**
UEES	**Universidad Ev**	**0.70**	**25**	S		**Sn**	**19 08 29.2**	**+0.1**
BOQS	**Boqueron**	**0.70**	**21**	*eP*		**Pn**	**19 08 19.3**	**-0.3**
BOQS				*eS*		**Sn**	**19 08 29.7**	**+0.4**
UTEC	**Universidad Te**	**0.70**	**28**	P		**Pn**	**19 08 19.0**	**-0.4**
UTEC	**Universidad Te**	**0.70**	**28**	S		**Sn**	**19 08 29.4**	**+0.2**
LFRS	**El Faro**	**0.71**	**40**	*eP*		**Pn**	**19 08 19.6**	**0.0**
LFRS				*eS*		**Sn**	**19 08 29.4**	**-0.1**
IGN	**Direccin Gen**	**0.73**	**30**	*eP*		**Pn**	**19 08 19.5**	**-0.2**
IGN				*eS*		**Sn**	**19 08 30.1**	**+0.4**
IGN	**Direccin Gen**	**0.73**	**30**	P		**Pn**	**19 08 19.4**	**-0.3**
CEDA	**San Andres**	**0.73**	**11**	P		**Pn**	**19 08 19.6**	**-0.3**
CEDA	**San Andres**	**0.73**	**11**	S		**Sn**	**19 08 30.3**	**+0.4**
UDBS	**Universidad Do**	**0.74**	**30**	P		**Pn**	**19 08 19.6**	**-0.3**
UDBS	**Universidad Do**	**0.74**	**30**	S		**Sn**	**19 08 30.4**	**+0.4**
CEVE	**Cerro Verde**	**0.75**	**354**	*eP*		**Pn**	**19 08 20.2**	**-0.1**
CEVE				*eS*		**Sn**	**19 08 31.3**	**+0.7**
CEVE	**Cerro Verde**	**0.75**	**354**	P		**Pn**	**19 08 20.0**	**-0.2**
LFU	**La Fuente**	**0.79**	**32**	*eP*		**Pn**	**19 08 20.6**	**+0.1**
LFU				*eS*		**Sn**	**19 08 31.8**	**+0.6**
SNJE	**San Jose**	**0.79**	**355**	*eP*		**Pn**	**19 08 20.5**	**-0.2**
SNJE				*eS*		**Sn**	**19 08 32.1**	**+0.6**
LBRS	**Las Brisas**	**0.82**	**36**	*eP*		**Pn**	**19 08 21.0**	**+0.1**
RTR	**El Retiro**	**0.82**	**353**	*eP*		**Pn**	**19 08 21.2**	**0.0**
NUBE	**Las Nubes**	**0.85**	**344**	*eP*		**Pn**	**19 08 21.1**	**-0.4**
NUBE				*eS*		**Sn**	**19 08 32.8**	**-0.2**
NUBE	**Las Nubes**	**0.85**	**344**	P		**Pn**	**19 08 21.2**	**-0.3**
PAVA	**Las Pavas**	**0.86**	**43**	*eP*		**Pn**	**19 08 21.8**	**+0.2**
PAVA				*eS*		**Sn**	**19 08 34.0**	**+0.8**
PAVA	**Las Pavas**	**0.86**	**43**	P		**Pn**	**19 08 21.7**	**+0.1**
TECO	**Alcaldia de Te**	**0.87**	**58**	*eP*		**Pn**	**19 08 21.1**	**-0.6**
TECO				*eS*		**Sn**	**19 08 32.7**	**-0.5**
TECO	**Alcaldia de Te**	**0.87**	**58**	P		**Pn**	**19 08 21.0**	**-0.6**
FAME	**Alcaldia de Sa**	**0.89**	**329**	P		**Pn**	**19 08 21.7**	**-0.2**
UESV	**Universidad de**	**0.92**	**53**	P		**Pn**	**19 08 21.6**	**-0.7**
UESV	**Universidad de**	**0.92**	**53**	S		**Sn**	**19 08 34.2**	**-0.2**
LOAL	**Lomas de Alarc**	**0.95**	**346**	P		**Pn**	**19 08 23.0**	**+0.2**
LOAL	**Lomas de Alarc**	**0.95**	**346**	S		**Sn**	**19 08 34.4**	**-0.7**
SLOZ	**Alcaldia de Sa**	**0.97**	**346**	*eP*		**Pn**	**19 08 23.3**	**+0.2**
SLOZ				*eS*		**Sn**	**19 08 36.5**	**+0.8**
SLOZ	**Alcaldia de Sa**	**0.97**	**346**	P		**Pn**	**19 08 23.1**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.97**	**346**	S		**Sn**	**19 08 35.7**	**0.0**
SCLA	**Alcaldia de Sa**	**1.00**	**52**	P		**Pn**	**19 08 23.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.00**	**52**	S		**Sn**	**19 08 35.9**	**-0.6**
PQSS	**Presa 15 de Se**	**1.10**	**60**	P		**Pn**	**19 08 24.4**	**-0.3**
PQSS	**Presa 15 de Se**	**1.10**	**60**	S		**Sn**	**19 08 38.3**	**-0.4**
LLGN	**La Laguna**	**1.23**	**28**	P		**Pn**	**19 08 26.0**	**-0.6**
LLGN	**La Laguna**	**1.23**	**28**	S		**Sn**	**19 08 42.3**	**+0.3**
PACA	**Pacayal**	**1.25**	**72**	P		**Pn**	**19 08 27.3**	**+0.4**
PACA	**Pacayal**	**1.25**	**72**	S		**Sn**	**19 08 43.4**	**+0.8**
BLLM	**Bellamira**	**1.32**	**74**	*eP*		**Pn**	**19 08 28.2**	**+0.4**
MTO3	**Montecristo**	**1.33**	**7**	P		**Pn**	**19 08 27.7**	**-0.4**
ESQI	**Esquipulas**	**1.49**	**7**	P		**Pn**	**19 08 29.9**	**-0.2**
ESQI	**Esquipulas**	**1.49**	**7**	S		**Sn**	**19 08 48.9**	**+0.5**
FG16	**Alotenango, Sa**	**1.52**	**322**	*eP*		Pn	19 08 35.8	+5.1
LCND	**La Caada**	**1.62**	**82**	*eP*		**Pn**	**19 08 32.1**	**+0.2**
LCND	**La Caada**	**1.62**	**82**	P		**Pn**	**19 08 32.1**	**+0.2**
CNCH	**Conchagua**	**1.67**	**83**	P		**Pn**	**19 08 33.2**	**+0.4**
CNCH	**Conchagua**	**1.67**	**83**	S		**Sn**	**19 08 53.1**	**+0.1**
SARH	**Santa Rosa de**	**1.85**	**24**	*i* P		**Pn**	**19 08 35.3**	**+0.1**
SARH	**Santa Rosa de**	**1.85**	**24**	P		**Pn**	**19 08 35.3**	**+0.1**
SARH	**Santa Rosa de**	**1.85**	**24**	S		**Sn**	**19 08 58.0**	**+0.6**
CSGN	**Cosiguina Volc**	**1.93**	**93**	P		**Pn**	**19 08 36.4**	**+0.1**
CSGN				S		**Sn**	**19 08 59.0**	**-0.4**
CHOHN	**Orocuina**	**2.35**	**80**	P		**Pn**	**19 08 41.6**	**-0.4**
YUSH	**Yuscaran**	**2.76**	**71**	P		**Pn**	**19 08 47.3**	**-0.4**
RCVN	**Varillal2**	**3.29**	**81**	P		**Pn**	**19 08 54.8**	**-0.2**

*IDC **04** 19:23:43.9±0.9, 17°.50N×83°.82W, h0km, mb3.8/8, mbtmp3.8/11, ML3.6/3, MS3.0/3, Error ellipse: s-maj=23.7km s-min=19.0km az=68.0*
*NEIC **04** 19:23:45.5±2.4, 17°.44N±0°.07×83°.58W±0°.10, h10km±2km, mb4.1/21, Error ellipse: s-maj=15.9km s-min=11.0km az=76.0*
*CATAC **04** 19:23:46.5±0.3, 18°.N±2°×.8°4W±°, h57km±42km, M4.6/12, mb4.5/8, mbS-4/2, MLv4.6/12, Mw(mB)4.8/2, Error ellipse: s-maj=4.5km s-min=3.5km az=138.7, confirmed*
*SSNC **04** 19:23:47.1±1.1, 17°.33N×83°.60W, h120km±749km*

ISC 04 19:23:45.9±0.5, **17°.50N**±0°.04×**83°.71W**±0°.05, **h18**km, **n72**, σ1**.95**/75, **mb4.0**/12, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FSCY	**Frank Sound, G**	**3.00**	**53**	P		**Pn**	**19 24 30.7**	**-1.9**
BILN	**Bilwi Airport**	**3.44**	**175**	Pn		**Pn**	**19 24 37.6**	**-1.0**
BILN	**Bilwi Airport**	**3.44**	**175**	P		**Pn**	**19 24 37.2**	**-1.4**
BILN				S		**Sn**	**19 25 19.5**	**+0.5**
SIUN	**Universidad Ur**	**3.90**	**195**	S		**Sn**	**19 25 28.9**	**-1.3**
RCPN	**Sur Rio San Ju**	**4.57**	**211**	P		**Pn**	**19 24 53.6**	**-0.7**
RCPN	**Sur Rio San Ju**	**4.57**	**211**	S		**Sn**	**19 25 44.4**	**-2.6**
RCVN	**Varillal2**	**4.57**	**212**	P		**Pn**	**19 24 55.1**	**+0.8**
RCVN	**Varillal2**	**4.57**	**212**	S		**Sn**	**19 25 45.7**	**-1.3**
YUSH	**Yuscaran**	**4.64**	**221**	P		**Pn**	**19 24 55.3**	**+0.1**
YUSH	**Yuscaran**	**4.64**	**221**	S		**Sn**	**19 25 47.0**	**-1.6**
PRVC	**Isla de Provid**	**4.68**	**151**	P		**Pn**	**19 24 55.8**	**+0.1**
PRVC				S		**Sn**	**19 25 48.5**	**-1.0**
TGUH	**Tegucigalpa,Un**	**4.84**	**226**	P		**Pn**	**19 24 57.0**	**-1.1**
TGUH				S		**Sn**	**19 25 52.9**	**-0.9**
MATN	**Matagalpa**	**5.02**	**206**	S		**Sn**	**19 25 59.2**	**+1.2**
TEIG	**Tepich**	**5.11**	**303**			**Pn**	**19 25 00.7**	**-0.8**
TEIG	**Tepich**	**5.11**	**303**	Pn		**Pn**	**19 25 01.2**	**-0.3**
	baz=128,slow=20,SNR=36							
TEIG						Sn	**Sn**	**19 25 55.2**	**-4.9**
	baz=129,slow=20,SNR=11							
CHOHN	**Orocuina**	**5.20**	**220**	P		**Pn**	**19 25 02.5**	**-0.4**
ESPN	**Las Esperanzas**	**5.30**	**186**			**Pn**	**19 25 04.6**	**+0.4**
ESPN	**Las Esperanzas**	**5.30**	**186**	P		**Pn**	**19 25 05.6**	**+1.4**
ESPN	**Las Esperanzas**	**5.30**	**186**	S		**Sn**	**19 26 04.6**	**-0.3**
SOR	**Soroa**	**5.31**	**7**			**Pn**	**19 25 05.8**	**+1.4**
SOR	**Soroa**	**5.31**	**7**	*eP*		**Pn**	**19 25 06.2**	**+1.8**
BOAB	**BOACO BROADBAN**	**5.36**	**201**			**Pn**	**19 25 06.8**	**+1.7**
BOAB	**BOACO BROADBAN**	**5.36**	**201**	P		**Pn**	**19 25 06.2**	**+1.1**
BOAB	**BOACO BROADBAN**	**5.36**	**201**	S		**Sn**	**19 26 06.5**	**0.0**
SARH	**Santa Rosa de**	**5.56**	**242**	S		**Sn**	**19 26 10.8**	**-0.6**
SARH	**Santa Rosa de**	**5.56**	**242**	P		**Pn**	**19 25 07.9**	**+0.1**
ACON	**Acoyapa**	**5.67**	**195**			**Pn**	**19 25 10.3**	**+0.9**
ACON	**Acoyapa**	**5.67**	**195**	P		**Pn**	**19 25 10.4**	**+1.0**
ACON	**Acoyapa**	**5.67**	**195**	S		**Sn**	**19 26 13.7**	**-0.5**
CNGN	**Cerro Negro**	**5.75**	**211**	P		**Pn**	**19 25 09.1**	**-1.3**
PETF	**Flores**	**5.91**	**265**			**Pn**	**19 25 11.7**	**-1.0**
PETF	**Flores**	**5.91**	**265**	P		**Pn**	**19 25 11.3**	**-1.3**
CAIB	**Caibarien**	**6.37**	**38**	*eP*		**Pn**	**19 25 19.9**	**+1.0**
CAIB				*eS*		**Sn**	**19 26 28.2**	**-2.9**
CAIB	**Caibarien**	**6.37**	**38**	P		**Pn**	**19 25 18.0**	**-0.9**
CAIB				S		**Sn**	**19 26 28.9**	**-2.3**
JTS	**Las Juntas de**	**7.26**	**190**	Pn		**Pn**	**19 25 32.2**	**+1.0**
	0.6nm,0.3s,baz=34,slow=18,SNR=2.0							
JTS						Sn	**Sn**	**19 26 52.9**	**-0.4**
	0.4nm,0.3s,baz=330,slow=20,SNR=3.8							
	2.1nm,0.3s							
PINC	**Pinares de May**	**8.06**	**67**	*eP*		**Pn**	**19 25 42.7**	**+0.6**
QMBU	**Quimbuelo**	**8.84**	**71**	*eP*		**Pn**	**19 25 52.4**	**-0.5**
MASC	**Masc**	**9.36**	**72**	*eP*		**Pn**	**19 25 59.0**	**-1.0**
CMIG	**Matias Romero**	**10.68**	**270**	Pn		**Pn**	**19 26 16.6**	**-1.5**
	0.7nm,0.3s,baz=70,slow=9.3,SNR=6.2							
CMIG						Sn	Sn	19 28 06.8	-11
	0.2nm,0.3s,baz=90,slow=19,SNR=1.6							
CMIG					LR	LR	19 30 18.0	
	comp=Z,82nm,20.3s,baz=9.0,slow=37							
	1.4nm,0.3s							
SJCC	**San Jacinto, C**	**11.21**	**131**	P		**Pn**	**19 26 23.4**	**-2.0**
RUSC	**La Rusia**	**15.52**	**137**	Pn		**Pn**	**19 27 21.9**	**-2.5**
CRPR	**Cabo Rojo, PR**	**15.82**	**86**	Pn		**Pn**	**19 27 27.7**	**-0.2**
SJG	**San Juan**	**16.73**	**85**	LR		LR	19 33 36.0	
	comp=Z,50nm,21.3s,baz=161,slow=35							
MLDN	**Muldoon**	**17.28**	**317**			**P**	**19 27 48.1**	**+0.4**
BAUV	**El Baul**	**17.45**	**117**	Pn		**Pn**	**19 27 43.2**	**-5.3**
BAUV				IAmb		IAmb	19 28 00.5	
	comp=Z,16nm,1.0s							
OTAV	**Otavalo**	**17.91**	**163**			**Pn**	**19 27 53.9**	**-0.8**
833A	**Chaparral WMA,**	**18.00**	**310**	Pn		**Pn**	**19 27 54.4**	**-0.9**
833A				IAmb		IAmb	19 28 00.4	
	comp=Z,12nm,1.0s							
TKL	**Tuckaleechee C**	**18.09**	**360**	P		**Pn**	**19 27 55.0**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=228,slow=8.9,SNR=2.6							
	comp=Z,0.8nm,0.3s							
237A	**Washetta, Mont**	**18.12**	**325**	Pn		**P**	**19 27 56.9**	**-0.2**
237A				IAmb		IAmb	19 28 25.7	
	comp=Z,14nm,0.8s							
MIAR	**Mount Ida**	**19.14**	**334**	P		**Pn**	**19 28 09.1**	**+0.1**
BRDY	**Brady**	**19.52**	**318**	P		**Pn**	**19 28 13.2**	**-0.5**
BRDY				IAmb		IAmb	19 28 17.1	
	comp=Z,14nm,1.2s							
S44A	**Carbondale**	**20.70**	**347**	P		**P**	**19 28 24.1**	**-1.1**
S44A				IAmb		IAmb	19 28 30.6	
	comp=Z,10nm,0.8s							
OZNA	**Ozona**	**20.72**	**313**	P		Pn	19 28 27.5	-0.4
SAND	**Sanderson**	**20.89**	**310**	P		Pn	19 28 29.7	-0.2
SAND				IAmb		IAmb	19 28 32.8	
	comp=Z,7.3nm,0.9s							
OLIL	**Olney**	**21.51**	**351**	P		**P**	**19 28 35.4**	**+1.6**
CCM	**Cathedral Cave**	**21.52**	**344**	P		**P**	**19 28 35.5**	**+1.5**
CCM				IAmb		IAmb	19 28 39.6	
	comp=Z,11nm,0.9s							
TXAR	**Lajitas Array**	**21.74**	**306**	P		**P**	**19 28 37.7**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=118,slow=11,SNR=4.9							
	comp=Z,0.7nm,0.9s							
MNHN	**Manahans**	**22.11**	**312**	P		**P**	**19 28 43.9**	**+3.4**
DKNS	**Dickens**	**22.32**	**319**	P		**P**	**19 28 44.0**	**+1.4**
DKNS				IAmb		IAmb	19 29 24.2	
	comp=Z,5.8nm,0.9s							
P40A	**Paris**	**23.12**	**343**	P		**P**	**19 28 52.1**	**+1.1**
P40A				IAmb		IAmb	19 28 59.9	
	comp=Z,5.3nm,1.0s							
VHRN	**Van Horn**	**23.44**	**308**	P		**P**	**19 28 56.8**	**+2.3**
VHRN				IAmb		IAmb	19 28 58.4	
	comp=Z,7.1nm,1.4s							
MNTX	**Cornudas Mount**	**24.19**	**310**	P		**P**	**19 29 02.7**	**+1.3**
LPIG	**La Paz**	**25.69**	**289**	LR		LR	19 39 25.5	
	comp=Z,36nm,19.7s,baz=12,slow=37							
PDAR	**Pinedale Array**	**33.43**	**324**	P		**P**	**19 30 22.6**	**-1.3**
	comp=Z,1.0nm,1.1s,baz=141,slow=8.2,SNR=5.2							
	comp=Z,1.0nm,1.1s							
LPAZ	**La Paz**	**36.91**	**155**	P		**P**	**19 30 56.1**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=342,slow=6.3,SNR=3.9							
	comp=Z,1.3nm,0.7s							
SCHQ	**Schefferville**	**39.46**	**15**	P		**P**	**19 31 16.9**	**+1.9**
	comp=Z,3.7nm,0.7s,baz=205,slow=12,SNR=4.1							
	comp=Z,3.7nm,0.7s							
ILAR	**Eielson Array**	**62.97**	**335**	P		**P**	**19 34 12.4**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=108,slow=6.2,SNR=11							
	comp=Z,1.1nm,0.8s							
ESDC	**Sonseca Array**	**71.27**	**53**	P		**P**	**19 35 06.4**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=274,slow=6.2,SNR=8.8							
	comp=Z,1.0nm,0.9s							
GERES	**GERESS Array B**	**81.78**	**41**	P		**P**	**19 36 05.3**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=288,slow=0.9,SNR=5.0							
	comp=Z,0.4nm,0.7s							
FINES	**FINESS Array B**	**83.87**	**27**	P		**P**	**19 36 14.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=320,slow=5.6,SNR=3.6							
	comp=Z,1.3nm,0.8s							
WRA	**Warramunga Arr**	**143.93**	**260**	PKP		**PKPdf**	**19 43 20.0**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=85,slow=3.3,SNR=10							
ASAR	**Alice Springs**	**144.33**	**254**	PKP		**PKPdf**	**19 43 21.2**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=94,slow=3.4,SNR=22							

*IDC **04** 19:51:14.6±0.3, 30°.58N×50°.72E, h0km, mb5.1/35, mbtmp5.0/41, ML4.4/7, MS4.3/70, Error ellipse: s-maj=8.0km s-min=7.4km az=76.0*
*MOS **04** 19:51:15.7±1.3, 30°.50N×50°.86E, h19km, mb5.4/70, Error ellipse: s-maj=4.3km s-min=3.1km az=108.2*
*NEIC **04** 19:51:16.0±1.8, 30°.59N±0°.07×50°.85E±0°.08, h8km±1km, mb5.4/267, Error ellipse: s-maj=10.0km s-min=9.3km az=58.0*
*BJI **04** 19:51:16.0, 30°.60N×50°.80E, h12km, mB5.2/38, mb5.0/76, Ms4.8/69, Ms7 4.6/67*
*DSN **04** 19:51:17.3±0.3, 30°.49N×50°.62E, h15km, mb6.0/2, ML4.9/15, Error ellipse: s-maj=7.3km s-min=4.0km az=50.0*
*TEH **04** 19:51:18.2, 30°.58N×50°.78E, h20km±10km*
*OMAN **04** 19:51:19.7±0.0, 30°.39N×51°.01E, h10km, mb5.7/33, ms4.0/8, Error ellipse: s-maj=1.1km s-min=0.8km az=35.0*
*GII **04** 19:51:20.7±0.0, 30°.63N×50°.86E, h41km, confirmed*
*GCMT **04** 19:51:21.3±0.2, 30°.39N±0°.01×50°.66E±0°.02, h24km, MW5.0/86, Moment Tensor Solution. s40,c47; s86,c123; Duration: 0 Moment tensor: Scale 10^16Nm; M=1.09±.12; Mrr=0.56±.07; Mtt=-0.53±.08; Mrt=3.04±.10; Mrp=0.77±.06; Mtp=-1.67±.11; Best double couple: M=3.67500×10^16 NP1:φ=333.00000°, δ=11.00000°, λ=123.00000°. NP2: φ=119.00000°, δ=81.00000°, λ=84.00000°. Principal axes: T 3.6120, Plg54.0000°, Azm22.0000°; N 0.1210, Plg6.0000°, Azm120.0000°; P -3.7380, Plg36.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SGS **04** 19:51:43.6, 29°.08N×52°.23E, h10km, MlI5.6*

ISC 04 19:51:19.3±0.4, **30°.59N**±0°.02×**50°.83E**±0°.02, **h25**km±2km, **h25**km:**pP-P, n1355,** σ1**81**/1445, **mb5.3**/346, **MS4.3**/99, **80C-44D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.50**	**272**	Pg		**Pb**	**19 51 28.0**	**-1.5**
KLNJ	**Kolanjah**	**0.78**	**57**	Pg		**Pb**	**19 51 34.1**	**-0.4**
KAZ2	**Kazeron-Fars-I**	**1.21**	**143**	Pg		**Pb**	**19 51 41.3**	**-0.2**
IBRJ	**Brojen**	**1.37**	**16**	Pg		**Pb**	**19 51 44.2**	**-0.2**
ZNGN	**Zangian**	**1.53**	**1**	Pg		**Pb**	**19 51 47.2**	**+0.1**
JHBN	**Jahan bin**	**1.65**	**355**	Pg		**Pb**	**19 51 48.4**	**-0.8**
SHI	**Shiraz**	**1.74**	**122**	Pg		**Pb**	**19 51 49.7**	**-0.9**
SHI	**Shiraz**	**1.74**	**122**	P		**Pb**	**19 51 50.6**	**0.0**
IRAM	**Ramesheh**	**1.81**	**47**	Pn		**Pb**	**19 51 52.3**	**+0.5**
AHWZ	**Ahwaz**	**2.02**	**292**	Pn		**Pb**	**19 51 52.1**	**+0.3**
IGAR	**Gharneh**	**2.09**	**29**	Pn		**Pb**	**19 51 55.3**	**-1.3**
IPIR	**Pirpir**	**2.09**	**1**	Pn		**Pb**	**19 51 55.3**	**-1.5**
DSBU	**Dashti - Bushe**	**2.25**	**170**	Pn		**Pn**	**19 51 56.0**	**+1.0**
IZEF	**Zefreh**	**2.63**	**29**	Pn		**Pn**	**19 52 02.9**	**+2.4**
ISAD	**Sadrabad**	**2.78**	**61**	Pn		**Pn**	**19 52 05.4**	**+2.8**
IKLH	**Kolahrood**	**2.80**	**13**	Pn		**Pn**	**19 52 05.0**	**+2.2**
QIR1	**Qir**	**2.85**	**137**	Pn		**Pn**	**19 52 04.7**	**+1.4**
KBD	**Kabd**	**3.06**	**244**	P		**Pn**	**19 52 07.3**	**+1.2**
KBD					S	**Sb**	**19 52 47.1**	**-3.0**
KFJS2	**Khafji**	**3.08**	**224**		P	**Pn**	**19 52 06.9**	**+0.6**
JHRM	**Jahrom**	**3.17**	**130**		Pn	**Pn**	**19 52 09.5**	**+1.8**
QAMS	**Qamsar**	**3.18**	**9**		Pn	**Pn**	**19 52 10.2**	**+2.2**
IMEH	**Mehriz**	**3.35**	**75**		Pn	**Pn**	**19 52 12.8**	**+2.6**
KFJS1	**Al Wafrah**	**3.47**	**227**		P	**Pn**	**19 52 12.1**	**+0.3**
ICHK	**Chekchek**	**3.48**	**61**		Pn	**Pn**	**19 52 14.4**	**+2.3**
ANAR	**Anarak**	**3.58**	**43**		Pn	**Pn**	**19 52 15.8**	**+2.4**
BDRS	**Dareh Seyedi**	**3.74**	**334**		Pn	**Pn**	**19 52 16.8**	**+1.1**
LMD1	**Lamerd**	**3.83**	**147**		Pn	**Pn**	**19 52 18.3**	**+1.6**
IDOB	**Doab**	**3.91**	**326**		Pn	**Pn**	**19 52 19.1**	**+1.2**
ISFB	**Sefidab**	**3.94**	**17**		Pn	**Pn**	**19 52 20.1**	**+1.8**
WANAN	**Al Wanan**	**4.21**	**210**		P	**Pn**	**19 52 22.3**	**+0.4**
LAR1	**LAR**	**4.25**	**132**		Pn	**Pn**	**19 52 25.1**	**+2.6**
IQOM	**Qom**	**4.25**	**3**		Pn	**Pn**	**19 52 24.5**	**+1.8**
QYSM	**Um Kedad**	**4.40**	**233**		P	**Pb**	**19 52 36.8**	**+0.9**
HAGD	**Aghdareh**	**4.46**	**342**		Pn	**Pn**	**19 52 26.5**	**+0.9**
IVRN	**Varamin**	**4.46**	**10**		Pn	**Pn**	**19 52 27.3**	**+1.8**
SAKB	**Bahrain**	**4.60**	**183**		P	**Pn**	**19 52 28.3**	**+1.1**
SAKB					S	**Sn**	**19 53 21.8**	**+2.0**
IBZA	**Bozab**	**4.61**	**328**		Pn	**Pn**	**19 52 28.3**	**+0.6**
SHMA	**Al-Shehemyia**	**4.71**	**179**		P	**Pn**	**19 52 29.3**	**+0.5**
	SNR=104							
SHMA					S	**Sn**	**19 53 22.8**	**+0.1**
BOQSS		**4.87**	**196**		P	**Pn**	**19 52 31.9**	**+0.9**
KCHF	**Cheshme Sefid,**	**4.88**	**320**		Pn	**Pn**	**19 52 32.1**	**+0.8**
KHGB	**Koh Gabri**	**4.88**	**91**		Pn	**Pn**	**19 52 33.2**	**+1.8**
ZRDN	**Zarand Kerman**	**4.93**	**84**		Pn	**Pn**	**19 52 33.8**	**+1.8**
ILBA	**Ilam Banvizeh**	**4.96**	**309**		Pn	**Pn**	**19 52 31.5**	**-0.7**
SMAN	**Sihmah**	**5.02**	**210**		P	**Pn**	**19 52 50.6**	**+4.1**
SNQR	**Songor, Kerman**	**5.04**	**329**		Pn	**Pn**	**19 52 33.9**	**+0.3**
IDMV	**Damavand**	**5.08**	**11**		Pn	**Pn**	**19 52 36.0**	**+1.9**
ILAS	**Lasjerd**	**5.11**	**20**		Pn	**Pn**	**19 52 36.1**	**+1.6**
HGHA	**Hamedan- Ghaye**	**5.16

MRVT	**Maraveh tapeh**	**8.29**	**30**	Pn		**Pn**	**19 53 19.9**	**+1.8**
IHRS	**Heris**	**8.32**	**339**	Pn		**Pn**	**19 53 18.9**	**+0.3**
RAYN	**Ar Rayn**	**8.48**	**215**			**Pn**	**19 53 17.6**	**-3.0**
RAYN	**Ar Rayn**	**8.48**	**215**	Pn		**Pn**	**19 53 17.5**	**-3.2**
RAYN	**Ar Rayn**	**8.48**	**215**	P		**Pn**	**19 53 17.7**	**-3.0**
RAYN	**Ar Rayn**	**8.48**	**215**	*i* P		**Pn**	**19 53 17.7**	**-3.0**
	SNR=601							
TBHD	**Torbat heydari**	**8.54**	**53**	Pn		**Pn**	**19 53 23.9**	**+2.2**
GRMI	**Germi**	**8.55**	**344**	Pn		**Pn**	**19 53 21.5**	**-0.2**
ITBZ	**Tabriz**	**8.55**	**334**	Pn		**Pn**	**19 53 23.6**	**+1.9**
SHRT	**Shahrakht**	**8.59**	**67**	Pn		**Pn**	**19 53 24.2**	**+2.1**
ZHSF	**Zahedan**	**8.67**	**94**	Pn		**Pn**	**19 53 25.0**	**+1.6**
UMZA	**Um Al Zommool**	**8.74**	**153**	P		**Pn**	**19 53 23.3**	**-0.9**
UMZA				S		**Sn**	**19 54 56.9**	**-5.1**
ISFR	**Sfrayin**	**8.79**	**41**	Pn		**Pn**	**19 53 27.0**	**+2.0**
ISHB	**Shabestar**	**8.80**	**332**	Pn		**Pn**	**19 53 26.2**	**+1.1**
ARQ	**Araqi**	**8.82**	**144**	P		**Pn**	**19 53 24.9**	**-0.5**
	SNR=25							
ARQ				S		**Sn**	**19 54 59.6**	**-4.4**
IAKL	**Akhelmad**	**8.93**	**46**	Pn		**Pn**	**19 53 29.2**	**+2.2**
IPAY	**Payeh**	**8.98**	**47**	Pn		**Pn**	**19 53 29.2**	**+1.6**
IMOG	**Moghan**	**9.00**	**50**	Pn		**Pn**	**19 53 30.5**	**+2.6**
HOQ	**Hoqain**	**9.05**	**139**	P		**Pn**	**19 53 27.6**	**-0.9**
	SNR=14							
HOQ				S		**Sn**	**19 55 04.7**	**-5.0**
TBJM	**Torbat-e-JAM**	**9.25**	**57**	Pn		**Pn**	**19 53 33.7**	**+2.4**
IEMG	**Emamgholi**	**9.41**	**42**	Pn		**Pn**	**19 53 35.9**	**+2.3**
IKRD	**Kardeh**	**9.51**	**47**	Pn		**Pn**	**19 53 37.2**	**+2.3**
JRKH	**Jarkhoshk**	**9.58**	**54**	Pn		**Pn**	**19 53 37.8**	**+2.1**
BIDO	**Bidbid**	**9.58**	**136**	P		**Pn**	**19 53 35.6**	**-0.1**
	SNR=9.8							
BIDO				P		**Pn**	**19 53 35.6**	**-0.1**
	SNR=9.8							
BIDO				S		**Sn**	**19 55 18.7**	**-3.9**
BIDO				S		**Sn**	**19 55 18.7**	**-3.9**
IMYA	**Miami**	**9.64**	**51**	Pn		**Pn**	**19 53 37.7**	**+1.1**
CHBR	**Chabahar**	**9.87**	**118**	Pn		**Pn**	**19 53 37.4**	**-2.2**
SMDO	**Samad**	**9.88**	**138**	P		**Pn**	**19 53 39.0**	**-1.0**
	SNR=18							
SMDO				P		**Pn**	**19 53 39.0**	**-1.0**
	SNR=18							
SMDO				S		**Sn**	**19 55 25.4**	**-4.8**
SMDO				S		**Sn**	**19 55 25.4**	**-4.8**
GEVA	**Gevas**	**10.02**	**322**			**Pn**	**19 53 39.3**	**-2.6**
MAKU	**Maku**	**10.10**	**332**	Pn		**Pn**	**19 53 44.6**	**+1.7**
WSAR	**Wadi Sarin**	**10.10**	**135**	Pn		**Pn**	**19 53 40.6**	**-2.2**
	0.1nm,0.3s,baz=322,slow=20,SNR=32							
WSAR				S		**Sn**	**19 55 34.3**	**-1.0**
	0.3nm,0.3s,baz=343,slow=19,SNR=4.0							
WSAR				LR		LR	19 58 14.6	
	comp=Z,6.6nm,19.3s,baz=336,slow=41							
JMDO	**Jabal Madar**	**10.46**	**140**	P		**Pn**	**19 53 47.2**	**-0.5**
	SNR=8.5							
JMDO				P		**Pn**	**19 53 47.2**	**-0.5**
	SNR=8.5							
JMDO				S		**Sn**	**19 55 39.8**	**-4.3**
JMDO				S		**Sn**	**19 55 39.8**	**-4.3**
NGCH	**Negor - Chabah**	**10.49**	**117**	Pn		**Pn**	**19 53 46.4**	**-1.7**
MARD	**Mardin**	**10.71**	**311**			**Pn**	**19 53 48.6**	**-2.5**
GURO	**Guroymak-BITLI**	**10.75**	**320**			**Pn**	**19 53 50.8**	**-1.0**
GNI	**Garni**	**10.76**	**334**	Pn		**Pn**	**19 53 50.5**	**-1.4**
GNI	**Garni**	**10.76**	**334**	Pn		**Pn**	**19 53 54.2**	**+2.4**
	1.2nm,0.3s,baz=209,slow=7.8,SNR=16							
GNI				Sn		**Sn**	**19 55 52.4**	**+0.8**
	0.4nm,0.3s,baz=120,slow=20,SNR=1.6							
GNI				Lg		Lg	19 57 09.9	
	0.6nm,0.3s,baz=180,slow=20,SNR=1.5							
GNI				LR		LR	19 58 14.2	
	comp=Z,515nm,20.7s,baz=154,slow=39							
JLN	**Jalan Bani Buh**	**11.39**	**136**	P		**Pn**	**19 53 58.7**	**-1.7**
	SNR=7.6							
MHTO	**MHTO**	**11.52**	**144**	P		**Pn**	**19 54 01.0**	**-1.2**
	SNR=21							
MHTO				S		**Sn**	**19 56 11.0**	**+0.9**
	SNR=5.5							
ASF	**Jabal al Asfar**	**12.01**	**281**	Pn		**Pn**	**19 54 06.1**	**-2.9**
	6.5nm,0.3s,baz=111,slow=5.4,SNR=30							
ASF				Sn		**Sn**	**19 56 17.2**	**-5.1**
	12nm,0.3s,baz=204,slow=20,SNR=5.5							
ASF				LR		LR	20 00 07.1	
	comp=Z,2μm,18.9s,baz=123,slow=45							
	15nm,0.3s							
DOK	**Doka**	**12.29**	**165**	P		**Pn**	**19 54 12.0**	**-0.8**
	SNR=35							
KOPT	**Kop Dagi**	**12.63**	**321**	Pn		**Pn**	**19 54 15.3**	**-2.3**
MAK	**Makhachkala**	**12.63**	**349**	*e*P		**Pn**	**19 54 16.1**	**-1.3**
MAK				*e*S		**Sn**	**19 56 35.1**	**-2.1**
MAK				pmax		pmax		
	comp=Z,203nm,0.9s							
MAK				MLR		MLR		
	comp=Z,1μm,13.0s							
WHFO	**Wadi Hawf**	**12.89**	**167**	P		**Pn**	**19 54 19.1**	**-2.0**
	SNR=44							
KSHT	**Keshet**	**13.00**	**284**	P		**Pn**	**19 54 23.8**	**+1.3**
BALJ	**Balqa**	**13.07**	**280**	Pn		**Pn**	**19 54 20.7**	**-2.8**
GAZ	**Gaziantep**	**13.08**	**304**	Pn		**Pn**	**19 54 20.0**	**-3.6**
NATI	**Neve Ativ**	**13.10**	**286**	P		**Pn**	**19 54 24.8**	**+1.1**
GHAJ	**Ghor Haditha**	**13.12**	**277**			**Pn**	**19 54 20.9**	**-3.2**
GHAJ	**Ghor Haditha**	**13.12**	**277**	P		**Pn**	**19 54 24.6**	**+0.5**
GEM	**Giv'at Ha'Em**	**13.15**	**285**	P		**Pn**	**19 54 25.6**	**+1.1**
HMDT	**Nahal Hemdat**	**13.18**	**281**	P		**Pn**	**19 54 25.9**	**+1.1**
MMLI	**Mount Malkishu**	**13.28**	**282**	P		**Pn**	**19 54 27.4**	**+1.2**
DSI	**Dead Sea**	**13.28**	**278**	P		**Pn**	**19 54 26.8**	**+0.5**
MSBI	**Mazada**	**13.30**	**277**	P		**Pn**	**19 54 27.3**	**+0.8**
ARPR	**Arapgir-MALATY**	**13.31**	**313**			**Pn**	**19 54 24.6**	**-2.2**
MMA0B	**Mount Meron ar**	**13.34**	**284**	P		**Pn**	**19 54 28.6**	**+1.4**
MMAI	**Mount Meron Ar**	**13.34**	**284**	Pn		**Pn**	**19 54 25.3**	**-1.9**
	comp=Z,5.0nm,0.3s,baz=92,slow=17,SNR=14							
MMAI				Sn		Sn	19 56 45.8	-8.9
	comp=Z,5.3nm,0.3s,baz=111,slow=20,SNR=2.5							
MMAI				Lg		Lg	19 58 27.8	
	baz=119,slow=44							
MMAI				LR		LR	20 01 00.7	
	comp=Z,2μm,18.5s,baz=95,slow=44							
	comp=Z,3.7nm,0.5s							
DMTO	**DMTO**	**13.35**	**163**	P		**Pn**	**19 54 25.0**	**-2.3**
	SNR=23							
ABTO	**Aybut**	**13.36**	**170**	P		**Pn**	**19 54 25.1**	**-2.4**
	SNR=20							
RBK	**Rabkut**	**13.38**	**166**	P		**Pn**	**19 54 25.3**	**-2.4**
	SNR=10							
ZFRI	**Zfri**	**13.49**	**274**	P		**Pn**	**19 54 30.0**	**+0.9**
BLGI	**Bet Lehem HaGe**	**13.49**	**283**	P		**Pn**	**19 54 30.6**	**+1.4**
YTIR	**Yattir**	**13.51**	**277**	P		**Pn**	**19 54 30.0**	**+0.5**
SLTI	**Sal'it**	**13.59**	**281**	P		**Pn**	**19 54 32.5**	**+2.1**
PRNI	**Paran**	**13.65**	**273**	P		**Pn**	**19 54 31.5**	**-0.1**
HRFI	**Mount Harif**	**13.66**	**272**	P		**Pn**	**19 54 31.6**	**+0.2**
OFRI	**`Ofer**	**13.66**	**283**	P		**Pn**	**19 54 33.0**	**+1.6**
AMAZ	**Amatzia**	**13.68**	**278**	P		**Pn**	**19 54 33.2**	**+1.5**
EIL	**Elat**	**13.78**	**270**	Pn		**Pn**	**19 54 31.3**	**-1.7**
	comp=Z,5.3nm,0.3s,baz=90,slow=6.2,SNR=24							
EIL				Sn		**Sn**	**19 57 00.5**	**-4.8**
	comp=Z,4.7nm,0.3s,baz=51,slow=14,SNR=1.3							
EIL				LR		LR	20 01 00.5	
	comp=Z,2μm,19.9s,baz=81,slow=43							
	comp=Z,21nm,0.4s							
EIL	**Elat**	**13.78**	**270**	P		**Pn**	**19 54 33.6**	**+0.6**
MBRI	**Mt Berech**	**13.79**	**271**	P		**Pn**	**19 54 33.0**	**-0.3**
KRMI	**Paran Flat**	**13.92**	**272**	P		**Pn**	**19 54 35.6**	**+0.6**
KZIT	**Kziot**	**14.14**	**275**	P		**Pn**	**19 54 38.6**	**+0.6**
KBZ	**Khabaz**	**14.55**	**337**	Pn		**Pn**	**19 54 45.9**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=147,slow=9.8,SNR=24							
KBZ				Sn		**Sn**	**19 57 26.0**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=1.0							
KBZ				LR		LR	20 01 17.0	
	comp=Z,1μm,21.1s,baz=150,slow=42							
	comp=Z,48nm,1.0s							
KBZ	**Khabaz**	**14.55**	**337**	*de*P		**Pn**	**19 54 46.3**	**+2.7**
BNN	**Bunyan**	**14.81**	**308**			**Pn**	**19 54 46.2**	**-1.1**
KVAR	**Kislovodsk Arr**	**14.82**	**336**	Pn		**Pn**	**19 54 48.7**	**+1.4**
	baz=90,slow=20							
KVAR				Sn		**Sn**	**19 57 35.4**	**+4.6**
	baz=80,slow=12							
KVAR				LR		LR	20 01 11.6	
	comp=Z,1μm,21.8s,baz=74,slow=40							
	comp=Z,14nm,1.2s							
KIV	**Kislovodsk**	**14.82**	**336**			**Pn**	**19 54 46.0**	**-1.4**
KIV	**Kislovodsk**	**14.82**	**336**	⇑P		**Pn**	**19 54 49.2**	**+1.8**
KIV	**Kislovodsk**	**14.82**	**336**	*e*P		**Pn**	**19 54 48.4**	**+1.0**
KIV				*e*S		**Sn**	**19 57 32.2**	**+1.4**
KIV				pmax		pmax		
	comp=Z,150nm,1.1s							
KIV				MLR		MLR		
	comp=Z,708nm,13.0s							
KIV	**Kislovodsk**	**14.82**	**336**	*i* P		**Pn**	**19 54 47.9**	**+0.5**
	SNR=46							
TOKA	**Tokat**	**15.19**	**314**			**Pn**	**19 54 49.8**	**-2.4**
CSS	**Mathiatis**	**15.35**	**291**			**Pn**	**19 54 52.8**	**-1.5**
CSS				IAmb		IAmb	19 54 59.3	
	comp=Z,94nm,0.9s							
VSLR	**Vesyoloye**	**15.46**	**329**	⇓*e*P		**Pn**	**19 54 57.5**	**+1.9**
VSLR				pmax		pmax		
	comp=Z,54nm,1.1s							
GOF	**Gofitskoye**	**15.69**	**339**	*ce*P		**P**	**19 55 03.3**	**+0.8**
SOC	**Sochi**	**15.69**	**329**	*e*P		**Pn**	**19 54 57.9**	**-0.8**
SOC				*e*			19 57 50.5	
SOC				pmax		pmax		
	comp=Z,117nm,0.9s							
SOC				MLR		MLR		
	comp=Z,681nm,18.0s							
KBL	**Kabul**	**15.85**	**71**			**Pn**	**19 54 59.5**	**-1.5**
KBL	**Kabul**	**15.85**	**71**	P		**Pn**	**19 55 01.6**	**+0.6**
	SNR=17							
KBL				P		**Pn**	**19 55 01.6**	**+0.6**
	SNR=17							
KBL	**Kabul**	**15.85**	**71**	P		**Pn**	**19 54 59.5**	**-1.5**
KBL				pmax		pmax		
	comp=Z,18nm,1.4s							
KIRS	**Kirsehir-Merke**	**16.27**	**306**	⇑P		**P**	**19 55 07.8**	**-1.3**
BR131	**Keskin Array S**	**16.73**	**308**			**Pn**	**19 55 09.6**	**-2.6**
BR131	**Keskin Array S**	**16.73**	**308**	*de*P		**Pn**	**19 55 12.3**	**+0.1**
BRTR	**Keskin Array B**	**16.73**	**308**			**Pn**	**19 55 10.5**	**-1.6**
BRTR	**Keskin Array B**	**16.73**	**308**	Pn		**Pn**	**19 55 11.8**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=130,slow=13,SNR=17							
BRTR				Sn		**Sn**	**19 58 12.8**	**-4.6**
	baz=116,slow=9.8							
BRTR				Lg		Lg	20 00 10.8	
	comp=Z,0.1nm,0.3s,baz=121,slow=16,SNR=1.7							
	comp=Z,5.7nm,0.7s							
ERBR	**Yeremizino-Bor**	**17.13**	**335**	*e*P		**P**	**19 55 22.2**	**+3.7**
ERBR				pmax		pmax		
	comp=Z,150nm,0.9s							
ERBR				MLR		MLR		
	comp=Z,2μm,15.0s							
ANTO	**Ankara**	**17.38**	**307**	P		**Pn**	**19 55 20.0**	**-0.2**
ANTO	**Ankara**	**17.38**	**307**	⇑P		**P**	**19 55 21.0**	**-0.4**
ANTO	**Ankara**	**17.38**	**307**	P		**P**	**19 55 20.9**	**-0.4**
ANN	**Anapa**	**17.68**	**327**	*e*P		**P**	**19 55 26.6**	**+2.1**
ANN				*e*S		**S**	**19 58 48.2**	**+1.4**
ANN				pmax		pmax		
	comp=Z,93nm,0.7s							
JASL	**Jaisalmer**	**17.97**	**97**	*e*P		**Pn**	**19 55 24.1**	**-3.5**
JASL				IAmb		IAmb	19 55 29.6	
	comp=Z,134nm,1.6s							
GAR	**Garm**	**18.05**	**57**	P		**Pn**	**19 55 25.9**	**-2.6**
GAR				IAmb		IAmb	19 55 35.0	
	comp=Z,278nm,1.2s							
ISP	**Isparta**	**18.26**	**299**	P		**Pn**	**19 55 29.1**	**-2.1**
ISP	**Isparta**	**18.26**	**299**	⇑*e*P		**P**	**19 55 31.6**	**+0.5**
ISP				pmax		pmax		
	comp=Z,37nm,0.9s							
MDUB	**Mudurnu**	**18.74**	**307**	P		**P**	**19 55 34.6**	**-1.8**
NIL	**Nilore**	**19.23**	**75**	P		**P**	**19 55 40.0**	**-1.7**
NIL	**Nilore**	**19.23**	**75**	P		**P**	**19 55 40.0**	**-1.7**
NIL				pmax		pmax		
	comp=Z,36nm,0.8s							
IUG	**luzhnay**	**19.25**	**48**	*e*P		**P**	**19 55 42.1**	**+0.2**
IUG	**luzhnay**	**19.25**	**48**	*e*P		**P**	**19 55 42.2**	**+0.2**
IUG				*i* S		**Sn**	**19 59 18.2**	**+0.1**
SIM	**Simferopol'**	**19.44**	**322**	*e*P		**Pn**	**19 55 47.2**	**+2.0**
SIM				*e*S		**S**	**19 59 22.3**	**+0.1**
SIM				pmax		pmax		
	comp=Z,58nm,0.8s							
SIM				MLR		MLR		
	comp=Z,139nm,14.5s							
BRLS	**Boroldav**	**19.59**	**45**	*e*P		**P**	**19 55 43.3**	**-2.2**
BRLS	**Boroldav**	**19.59**	**45**	*e*P		**P**	**19 55 43.4**	**-2.2**
TRKS	**Terek-Say**	**19.67**	**51**	P		**Pn**	**19 55 47.9**	**-0.3**
ARG	**Arkhangelos**	**19.75**	**293**	P		**P**	**19 55 45.4**	**-2.0**
ARG	**Arkhangelos**	**19.75**	**293**	P		**P**	**19 55 45.4**	**-2.0**
ARG				pmax		pmax		
	comp=Z,80nm,1.0s							
AB31	**Akbulak array**	**19.89**	**18**	P		**P**	**19 55 47.6**	**-1.1**
AB31	**Akbulak array**	**19.89**	**18**	P		**P**	**19 55 48.4**	**-0.3**
ABKAR	**Akbulak array**	**19.89**	**18**	P		**P**	**19 55 48.4**	**-0.3**
MANT	**Manisa**	**19.94**	**299**	P		**P**	**19 55 49.3**	**-0.4**
MANT				IAmb		IAmb	19 55 57.2	
	comp=Z,87nm,0.7s							
KK31	**Karatay Array**	**20.05**	**46**	P		**P**	**19 55 50.5**	**-0.1**
KK31				IAmb		IAmb	19 55 58.5	
	comp=Z,248nm,1.4s							
KK31	**Karatay Array**	**20.05**	**46**	P		**P**	**19 55 50.5**	**-0.1**
KK31				pmax		pmax		
	comp=Z,248nm,1.5s							
KKAR	**Karatay Array**	**20.05**	**46**	P		**P**	**19 55 50.5**	**-0.1**
KKAR	**Karatay Array**	**20.05**	**46**	P		**P**	**19 55 50.5**	**-0.1**
ATD	**Arta Tunnel**	**20.36**	**203**	P		**P**	**19 55 54.5**	**+0.4**
ATD	**Arta Tunnel**	**20.36**	**203**	P		**P**	**19 55 53.3**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=20,slow=8.0,SNR=15							
ATD				S		**S**	**19 59 41.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=66,slow=20,SNR=1.7							
ATD				Lg		Lg	20 02 07.2	
	baz=90,slow=20,SNR=1.8							
ATD				LR		LR	20 04 23.7	
	comp=Z,112nm,20.7s,baz=21,slow=39							
OHH	**Osh**	**20.38**	**55**	P		**P**	**19 55 53.3**	**-1.0**
OHH				pmax		pmax		
	comp=Z,149nm,0.9s							
KARP	**Karpathos**	**20.43**	**290**	P		**P**	**19 55 54.0**	**-0.8**
KARP				IAmb		IAmb	19 56 04.9	
	comp=Z,164nm,0.9s							
DZA	**Taraz**	**20.45**	**47**	*e*P		**P**	**19 55 55.2**	**+0.2**
DZA	**Taraz**	**20.45**	**47**	*e*P		**P**	**19 55 55.2**	**+0.2**
AKTO	**Aktyubinsk**	**20.55**	**13**	P		**P**	**19 55 55.7**	**-0.2**
	comp=Z,55nm,0.7s,baz=197,slow=7.1,SNR=92							
AKTO				S		**S**	**19 59 46.0**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=105,slow=20,SNR=1.0							
AKTO				ScP		**ScP**	**20 03 42.0**	**+0.6**
	comp=Z,8.2nm,0.9s,baz=195,slow=1.0,SNR=4.6							
AKTO				LR		LR	20 05 54.3	
	comp=Z,1μm,19.9s,baz=172,slow=43							
	comp=Z,55nm,0.7s							
JMU	**Jammu**	**20.59**	**78**	*e*P		**P**	**19 55 54.7**	**-1.9**
JMU				IAmb		IAmb	19 56 02.3	
	comp=Z,274nm,1.4s							
JMU				*e*S		**S**	**19 59 43.2**	**-2.4**
ARSB	**Arslanbob**	**20.84**	**53**	P		**P**	**19 55 58.5**	**-0.7**
ARSB	**Arslanbob**	**20.84**	**53**	P		**P**	**19 55 58.5**	**-0.7**
ARSB				pmax		pmax		
	comp=Z,400nm,1.0s							
BAND	**Balkesir-Ban**	**20.87**	**304**	⇑P		Pn	19 56 01.0	-1.0
CTYL	**Yalikoy Yolu**	**21.16**	**307**	⇑P		**P**	**19 56 04.1**	**+1.5**
TLWR	**Talawar**	**21.51**	**80**	*e*P		**P**	**19 56 07.3**	**+0.8**
TLWR				IAmb		IAmb	19 56 12.0	
	comp=Z,394nm,1.1s							
VRH	**Novokhopyorsk**	**21.68**	**344**	*e*P		**P**	**19 56 06.2**	**-1.9**
VRH				*e*S		**S**	**20 00 07.3**	**+0.5**
VRH				pmax		pmax		
	comp=Z,190nm,0.6s							
VRH				pmax		pmax		
	comp=Z,840nm,0.7s							
VRH				smax		smax		
	comp=E,170nm,0.8s							
VRH				MLR		MLR		
	comp=Z,690nm,19.0s							
PHSR	**Pinarhisar**	**21.75**	**307**	⇓P		**P**	**19 56 09.3**	**+0.4**
BELG	**Belogornoye**	**21.92**	**355**	P		**P**	**19 56 10.2**	**-0.3**
	comp=Z,214nm,0.9s,baz=180,slow=20,SNR=27							
BELG				S		**S**	**20 00 13.2**	**+1.9**
	comp=Z,55nm,1.0s,baz=190,slow=6.1,SNR=3.0							
BELG				ScP		**ScP**	**20 03 45.6**	**+0.9**
	comp=Z,19nm,1.1s,baz=153,slow=2.3,SNR=2.9							
BELG				LR		LR	20 07 39.0	
	comp=Z,974nm,18.9s,baz=180,slow=45							
	comp=Z,214nm,0.9s							
BELG	**Belogornoye**	**21.92**	**355**	*c i*P		**P**	**19 56 09.0**	**-1.6**
BELG				pmax		pmax		
	comp=Z,15nm,1.0s							
EKS2	**Erkin-Say**	**21.93**	**50**	P		**P**	**19 56 12.7**	**+1.7**
	SNR=29							
EZN	**Ezine**	**21.99**	**301**	⇑P		**P**	**19 56 13.4**	**+2.0**
EZN	**Ezine**	**21.99**	**301**	P		**P**	**19 56 13.4**	**+2.0**
VORD	**Divnogorie**	**22.10**	**340**	*e*P		**P**	**19 56 11.3**	**-1.3**
VORD				*e*			19 56 12.2	
VORD				*e*S		**S**	**20 00 14.9**	**0.0**
VORD				pmax		pmax		
	comp=Z,540nm,0.6s							
VORD				smax		smax		
	comp=E,70nm,0.9s							
EFOR	**EFORIE**	**22.11**	**314**	⇑P		**P**	**19 56 14.3**	**+1.5**
PSN	**Preselentsi**	**22.21**	**312**	P		**P**	**19 56 12.1**	**-1.8**
IDI	**Anoyia**	**22.24**	**289**	P		**P**	**19 56 18.7**	**+4.3**
IDI				S		S	20 00 06.1	-12
IDI	**Anoyia**	**22.24**	**289**	P		**P**	**19 56 14.1**	**-0.3**
IDI				IAmb		IAmb	19 56 31.9	
	comp=Z,184nm,0.9s							
IDI	**Anoyia**	**22.24**	**289**	P		**P**	**19 56 13.6**	**-0.7**
	comp=Z,12nm,0.4s,baz=89,slow=5.8,SNR=35							
IDI				S		**S**	**20 00 13.9**	**-4.1**
	comp=Z,9.0nm,0.5s,baz=100,slow=18,SNR=3.3							
IDI				LR		LR	20 08 44.0	
	comp=Z,200nm,19.3s,baz=112,slow=47							
	comp=Z,12nm,0.4s							
UCH	**Uchtor**	**22.25**	**52**	P		**P**	**19 56 16.6**	**+1.8**
	SNR=15							
MFTR	**Murfatlar**	**22.30**	**314**	⇑P		**P**	**19 56 15.8**	**+1.1**
CGRH	**CHANDIGARH**	**22.31**	**83**	*e*P		**P**	**19 56 11.0**	**-4.1**
CGRH				IAmb		IAmb	19 56 18.0	
	comp=Z,606nm,1.8s							
JURR	**Jurilovca**	**22.32**	**315**	⇑P		**P**	**19 56 16.0**	**+1.0**
VSR	**Storozhevoye**	**22.36**	**340**	*e*P		**P**	**19 56 13.6**	**-1.8**
VSR				*e*			19 56 14.4	
VSR				*e*S		**S**	**20 00 16.5**	**-3.2**
VSR				pmax		pmax		
	comp=Z,310nm,0.6s							
VSR				smax		smax		
	comp=E,350nm,1.1s							
VSR				MLR		MLR		
	comp=Z,660nm,16.0s							
CAVK	**Edirne/Enez-Ca**	**22.37**	**304**	⇑P		**P**	**19 56 17.1**	**+1.5**
KSH	**Kashi**	**22.37**	**60**	P		**P**	**19 56 13.0**	**-2.8**
KSH				S		S	20 00 08.8	-12
KSH				pmax		pmax		
	comp=Z,170nm,1.4s							
KSH				pmax		pmax		
	comp=Z,360nm,11.5s							
KSH				LR		LR		
	comp=Z,1μm,16.9s							
KSH				LR		LR		
	comp=Z,2μm,15.7s							
KSH				LR		LR		
	comp=Z,2μm,18.6s							
AAK	**Ala-Archa**	**22.40**	**51**	P		**P**	**19 56 14.0**	**-2.1**
AAK				IAmb		IAmb	19 56 27.7	
	comp=Z,77nm,0.9s							
AAK	**Ala-Archa**	**22.40**	**51**	LR		LR	20 06 29.1	
	comp=Z,1μm,18.0s,baz=236,slow=41							
AAK	**Ala-Archa**	**22.40**	**51**	P		**P**	**19 56 19.7**	**+3.5**
	SNR=14							
AAK	**Ala-Archa**	**22.40**	**51**	*ce*P		**P**	**19 56 17.3**	**+1.2**
AAK				pmax		pmax		
	comp=Z,46nm,1.3s							
AAK	**Ala-Archa**	**22.40**	**51**	*i* P		**P**	**19 56 17.7**	**+1.6**
	SNR=21							
TIRR	**Tirgusor**	**22.44**	**314**	P		**P**	**19 56 15.6**	**-0.7**
TIRR	**Tirgusor**	**22.44**	**314**	⇑P		**P**	**19 56 17.5**	**+1.3**
TIRR	**Tirgusor**	**22.44**	**314**	P		**P**	**19 56 15.6**	**-0.7**
TIRR				pmax		pmax		
	comp=Z,50nm,0.8s							
PRD	**Provadia**	**22.46**	**310**	P		**P**	**19 56 18.0**	**+1.4**
KUDL	**Kundal**	**22.48**	**90**	*e*P		**P**	**19 56 18.8**	**+1.9**
KUDL				IAmb		IAmb	19 56 26.1	
	comp=Z,347nm,1.3s							
ALN	**Alexandroupoli**	**22.53**	**304**	P		**P**	**19 56 16.0**	**-1.3**
ALN	**Alexandroupoli**	**22.53**	**304**	P		**P**	**19 56 16.0**	**-1.3**
ALN				pmax		pmax		
	comp=Z,51nm,0.7s							
FRU1	**Bishkek**	**22.57**	**51**	P		**P**	**19 56 15.8**	**-2.0**
FRU1	**Bishkek**	**22.57**	**51**	P		**P**	**19 56 15.8**	**-2.0**
FRU1				pmax		pmax		
	comp=Z,72nm,1.0s							
NEF	**NEVSHA**	**22.60**	**311**	P		**P**	**19 56 17.0**	**-1.0**
SMLA	**Simla**	**22.60**	**82**	*e*P		**P**	**19 56 18.6**	**+0.4**
SMLA				IAmb		IAmb	19 56 24.5	
	comp=Z,685nm,2.5s							
SMLA				*e*S		**S**	**20 00 23.4**	**-1.0**
ICOR	**Ion Corvin**	**22.66**	**313**	⇑P		**P**	**19 56 19.6**	**+1.0

GHRR 23.88 317 ⇑P P 19 56 30.5 -0.3
SULR 23.90 313 ⇑P P 19 56 31.7 +0.7
ISR Istrita 23.93 314 ⇓P P 19 56 31.4 0.0
ISR Istrita 23.93 314 P P 19 56 31.3 0.0
ODBI Odobesti 23.94 316 ⇑P P 19 56 32.4 +1.1
VASR Vaslui 23.98 318 ⇑P P 19 56 32.3 +0.6
KDJ Kajisay 24.05 54 P P 19 56 31.4 -1.3
KDJ IAmb IAmb 19 56 43.5
comp=Z,80nm,0.9s
KDJ Kajisay 24.05 54 P P 19 56 31.4 -1.3
KDJ pmax pmax
comp=Z,80nm,0.9s
KUU Kurty 24.15 50 *e*P P 19 56 33.3 -0.1
KUU pmax pmax
comp=Z,129nm,1.6s
KUU Kurty 24.15 50 *e*P P 19 56 33.3 -0.1
comp=Z,129nm,1.6s
VRI Vrincioaia 24.18 316 ⇑P P 19 56 34.5 +0.7
VRI Vrincioaia 24.18 316 P P 19 56 34.4 +0.7
TNSS Tian-Shan 24.22 52 *e*P P 19 56 34.0 -0.4
TNSS Tian-Shan 24.22 52 *e*P P 19 56 34.1 -0.4
PLOR Plostina 24.23 316 ⇑P P 19 56 34.8 +0.7
PLOR Plostina 24.23 316 P P 19 56 34.8 +0.7
NEHR Nehoiu 24.23 315 ⇓P P 19 56 35.4 +1.3
AAA Alma-Ata 24.26 51 *e*P P 19 56 34.4 -0.1
AAA pmax pmax
comp=Z,66nm,1.0s
AAA Alma-Ata 24.26 51 *e*P P 19 56 34.4 -0.1
comp=Z,66nm,1.0s
KNDC Almaty 24.30 52 P P 19 56 35.4 +0.6
MMB Musomishta 24.37 304 P P 19 56 34.8 -0.7
FURI Furi 24.38 210 P P 19 56 35.1 -0.9
FURI Furi 24.38 210 P 19 56 36.1 +0.1
PGB Panagyurishte 24.39 307 P P 19 56 33.5 -2.2
IASR Iasi 24.40 319 ⇑P P 19 56 36.0 +0.4
PLVB Pleven 24.41 309 ⇑P P 19 56 36.1 +0.3
SOH Sokhos 24.45 302 P P 19 56 37.3 +1.1
SOH pmax pmax
comp=Z,121nm,0.8s
MLR Muntele Rosu 24.48 314 P 19 56 35.8 -0.7
MLR Muntele Rosu 24.48 314 ⇑P P 19 56 37.8 +1.3
MLR Muntele Rosu 24.48 314 P P 19 56 35.8 -0.7
MLR pmax pmax
comp=Z,122nm,0.8s
TESR Tescani 24.57 317 ⇓P P 19 56 38.0 +0.9
ONER Baraj Valea Uz 24.63 317 ⇑P P 19 56 38.6 +1.0
HUMR Humele 24.64 312 ⇑P P 19 56 38.7 +0.9
THE Thessaloniki 24.68 302 P P 19 56 39.8 +1.6
THE pmax pmax
comp=Z,63nm,0.9s
TURR Turia 24.71 316 ⇑P P 19 56 39.3 +0.8
JOSI Joshimath 24.71 83 *e*P P 19 56 37.5 -1.4
JOSI IAmb IAmb 19 56 42.1
comp=Z,560nm,3.0s
NRDN NARMADA NAGAR 24.77 102 *e*P P 19 56 35.7 -3.5
NRDN IAmb IAmb 19 56 43.1
comp=Z,531nm,2.6s
AGG Agios Georgios 24.79 298 P P 19 56 41.1 +1.8
AGG pmax pmax
comp=Z,96nm,1.1s
VLAD Vladila 24.80 310 ⇑P P 19 56 40.3 +1.0
ITM Ithomi 24.82 293 P P 19 56 40.6 +1.1
ITM IAmb IAmb 19 57 03.6
comp=Z,74nm,0.6s
OZUR 24.87 316 ⇓P P 19 56 40.1 +0.2
MTUR Matau 24.90 313 ⇑P P 19 56 41.4 +1.1
MTUR Matau 24.90 313 P P 19 56 41.3 +1.1
PLNA Plana 24.90 306 P P 19 56 40.4 0.0
KKB Krupnik 24.91 304 P P 19 56 39.8 -0.5
JHNI Jhansi 24.96 95 *e*P P 19 56 39.6 -1.3
JHNI IAmb IAmb 19 56 47.3
comp=Z,310nm,1.6s
MPEP Malo Peshtene 24.99 308 P P 19 56 40.8 -0.2
PRZ Przheval'sk 25.02 54 P P 19 56 41.0 -0.5
PRZ Przheval'sk 25.02 54 P P 19 56 41.0 -0.5
PRZ pmax pmax
comp=Z,157nm,0.9s
DOPR Dopca 25.05 315 ⇑P P 19 56 42.4 +0.9
VTS Vitosha 25.08 306 P P 19 56 41.0 -1.0
SATY Saty 25.22 53 *e*P P 19 56 43.3 +0.1
SATY pmax pmax
comp=Z,76nm,1.5s
SATY Saty 25.22 53 *e*P P 19 56 43.4 +0.1
comp=Z,76nm,1.5s
ARR Arges 25.23 313 ⇓P P 19 56 44.0 +0.7
BRZS Berezniki 25.39 34 *e*P P 19 56 44.9 +0.3
BRZS Berezniki 25.39 34 *e*P P 19 56 45.0 +0.3
PTH Pithoragarh 25.43 85 *e*P P 19 56 45.5 +0.2
PTH IAmb IAmb 19 56 51.0
comp=Z,342nm,2.1s
LGTI Lohaghat 25.47 85 *e*P P 19 56 43.4 -2.0
LGTI IAmb IAmb 19 56 50.0
comp=Z,217nm,1.3s
KPKS Kokpek 25.55 52 *e*P P 19 56 46.0 -0.2
KPKS Kokpek 25.55 52 *e*P P 19 56 46.0 -0.2
TNR Turnu Rosu 25.59 313 ⇑P P 19 56 47.5 +1.1
TNR Turnu Rosu 25.59 313 P P 19 56 47.5 +1.1
UZB Uzynbulak 25.68 53 *e*P P 19 56 47.5 +0.1
UZB pmax pmax
comp=Z,77nm,1.0s
UZB Uzynbulak 25.68 53 *e*P P 19 56 47.6 +0.1
comp=Z,77nm,1.0s
MDB Medias 25.75 315 ⇑P P 19 56 49.2 +1.3
MDB Medias 25.75 315 P P 19 56 49.1 +1.3
AKASG Malin Array Be 25.76 327 P P 19 56 45.6 -2.3
AKASG Malin Array Be 25.76 327 P P 19 56 46.2 -1.7
comp=Z,37nm,0.6s,baz=135,slow=8.6,SNR=67
AKASG PcP **PcP** 20 00 15.2 -2.1
comp=Z,3.4nm,0.6s,baz=91,slow=2.5,SNR=4.9
AKASG S **S** 20 01 16.8 +1.3
comp=Z,10nm,1.0s,baz=135,slow=22,SNR=7.8
AKASG ScP **ScP** 20 03 56.4 +1.2
comp=Z,4.2nm,0.8s,baz=102,slow=2.0,SNR=6.8
comp=Z,37nm,0.6s
AKBB Malin Array Si 25.76 327 P P 19 56 46.2 -1.7
AKBB Malin Array Si 25.76 327 P P 19 56 46.2 -1.7
AKBB pmax pmax
comp=Z,134nm,0.7s
KIEV Kiev 25.77 327 P P 19 56 46.1 -1.8
KIEV Kiev 25.77 327 ⇑P P 19 56 46.7 -1.2
KIEV Kiev 25.77 327 P P 19 56 46.1 -1.8
KIEV pmax pmax
comp=Z,122nm,0.8s
KIEV Kiev 25.77 327 *i* P P 19 56 46.6 -1.3
SNR=124
LOT Lotru 25.82 313 ⇑P P 19 56 49.5 +0.9
SRE Strehaia 25.85 311 ⇑P P 19 56 49.7 +0.9
SRE Strehaia 25.85 311 P P 19 56 49.7 +0.9
FNA Florina 25.89 301 P P 19 56 48.3 -0.9
FNA Florina 25.89 301 P P 19 56 48.3 -0.9
FNA pmax pmax
comp=Z,18nm,0.7s
TDK Taldyqorghan 25.96 49 *e*P P 19 56 49.9 +0.1
TDK pmax pmax
comp=Z,74nm,1.0s
TDK Taldyqorghan 25.96 49 *e*P P 19 56 49.9 +0.1
comp=Z,74nm,1.0s
BURAR Bucovina Array 25.98 318 P P 19 56 49.6 -0.5
BURAR Bucovina Array 25.98 318 ⇑P P 19 56 50.7 +0.6
BURAR Bucovina Array 25.98 318 P P 19 56 50.7 +0.6
SHLS Shalkode 25.98 53 *e*P P 19 56 52.8 +2.6
SHLS pmax pmax
comp=Z,47nm,1.0s
SHLS Shalkode 25.98 53 *e*P P 19 56 52.8 +2.6
comp=Z,47nm,1.0s
BUR08 Bucovina Ar. S 26.01 318 P 19 56 49.5 -0.8
BUR08 IAmb IAmb 19 57 02.0
comp=Z,50nm,0.7s
PDGK Podgornoye 26.06 53 P P 19 56 50.3 -0.6
SKO Skopje 26.15 304 *i* P P 19 56 51.6 +0.1
ARCR ARCALIA 26.22 316 ⇓P P 19 56 52.6 +0.5
DJES Djerdap 26.30 310 ⇓P P 19 56 53.4 +0.5
ARTI Arti 26.34 9 P P 19 56 52.6 -0.5
ARTI Arti 26.34 9 LR LR 20 09 50.7
comp=Z,2μm,19.9s,baz=183,slow=42
ARTI Arti 26.34 9*d* *i*P P 19 56 53.6 +0.6
ARTI *PP **sP** 19 57 05.8 +1.5
ARTI 19 57 36.2
ARTI 20 00 16.1
ARTI S **S** **20 01 27.4 +3.0**
ARTI SS **SnSn** **20 02 32.0 +6.6**
ARTI pmax pmax
comp=Z,73nm,1.0s
ARTI MLR MLR
comp=Z,1μm,19.0s
OHR Ohrid 26.39 302 *i* P P 19 56 54.2 +0.4
GZR Gura Zlata 26.43 312 ⇑P P 19 56 54.1 0.0
GZR Gura Zlata 26.43 312 P P 19 56 54.1 0.0
HERR Herculane 26.45 311 ⇑P P 19 56 54.9 +0.7
CJR Cluj-Napoca 26.49 315 ⇑P P 19 56 55.6 +0.9
CJR Cluj-Napoca 26.49 315 P P 19 56 55.5 +0.9
OBN Obninsk 26.55 342 P P 19 56 53.8 -1.1
OBN Obninsk 26.55 342 LR LR 20 08 47.8
comp=Z,694nm,21.8s,baz=99,slow=40
OBN Obninsk 26.55 342 ⇓P P 19 56 54.7 -0.2
OBN Obninsk 26.55 342*c* *i*P P 19 56 54.2 -0.7
OBN *i* 19 56 58.3
OBN *e**PP **sP** 19 57 05.8 -0.1
OBN *e* 19 57 37.8
OBN PPP PPP 19 57 44.0
OBN SSS SSS 20 02 51.0
OBN pmax pmax
comp=Z,55nm,0.9s
OBN MLR MLR
comp=Z,689nm,20.0s
DEV Deva 26.55 313 ⇑P P 19 56 56.1 +0.9
DEV Deva 26.55 313 P P 19 56 56.0 +0.9
BRVK Borovoye 26.56 27 P P 19 56 55.3 +0.2
BRVK IAmb IAmb 19 57 01.1
comp=Z,50nm,0.8s
BRVK Borovoye 26.56 27*c* *e*P P 19 56 55.9 +0.8
BRVK pmax pmax
comp=Z,58nm,0.8s
BVA0 Borovoye Array 26.58 27 *i* P P 19 56 55.2 -0.1
BVAR Borovoye Array 26.58 27 P P 19 56 56.1 +0.9
comp=Z,94nm,0.6s,baz=223,slow=7.1,SNR=337
BVAR PcP **PcP** 20 00 19.3 +0.2
comp=Z,14nm,0.7s,baz=220,slow=1.8,SNR=6.5
BVAR ScP **ScP** 20 03 55.9 -1.6
comp=Z,4.4nm,0.7s,baz=222,slow=2.2,SNR=8.8
BVAR LR LR 20 09 05.2
comp=Z,2μm,18.7s,baz=202,slow=40
BVAR P3KPbc 20 29 36.1
comp=Z,0.2nm,0.5s,baz=57,slow=5.3,SNR=1.7
comp=Z,94nm,0.6s
MARR Marisel-Cluj 26.77 315 ⇓P P 19 56 57.6 +0.5
MOS Moscow 26.83 343 *e*P P 19 56 55.3 -2.2
MOS *e* 19 57 04.2
MOS *e* 20 07 46.2
MOS pmax pmax
comp=Z,129nm,0.8s
MOS pmax pmax
comp=Z,200nm,0.8s
MDVR Moldovita 26.88 310 ⇓P P 19 56 58.7 +0.5
DRGR 27.07 315 ⇓P P 19 57 00.5 +0.6
DRGR 27.07 315 P P 19 57 00.5 +0.6
SVE Sverdlovsk 27.12 12 *e*P P 19 57 00.9 +0.8
SVE *e*S **S** **20 01 39.8 +3.1**
SVE pmax pmax
comp=Z,67nm,0.9s
SVE MLR MLR
comp=Z,642nm,15.0s
BZS Buzias 27.26 312 ⇑P P 19 57 02.1 +0.5
BZS Buzias 27.26 312 P P 19 57 02.0 +0.5
BANR Banloc 27.48 311 ⇑P P 19 57 04.0 +0.5
SIRR Siria 27.50 313 ⇓P P 19 57 04.1 +0.5
ALBI Allahabad 27.82 93 *e*P P 19 57 10.2 +3.5
ALBI IAmb IAmb 19 57 12.5
comp=Z,261nm,2.2s
PDG Podgorica 27.84 304 P P 19 57 05.2 -1.5
PDG IAmb IAmb 19 57 27.0
comp=Z,41nm,0.9s
PDG Podgorica 27.84 304 ⇑P P 19 57 07.1 +0.4
KIRV Kirov 28.01 358 LR LR 20 11 04.2
comp=Z,588nm,19.9s,baz=180,slow=42
KIRV Kirov 28.01 358*c* *e*P P 19 57 07.8 -0.2
RUDO Rudo 28.08 306 *e*P P 19 57 11.3 +2.4
KOLS Kolonicke sedl 28.34 318 *e*P P 19 57 11.3 +0.1
KOLS *e* 19 57 16.3
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 28.34 318 *e*P P 19 57 11.3 +0.1
KOLS *e* 19 57 16.3
HYB Hyderabad 28.43 111 *e*P P 19 57 11.5 -0.7
KWP Kalwaria Pacla 28.46 320 *e*P P 19 57 11.6 -0.5
KWP Kalwaria Pacla 28.46 320 P P 19 57 12.3 +0.1
KWP pmax pmax
comp=Z,53nm,1.1s
KLINJ Klinje 28.51 305 *e*P P 19 57 14.5 +1.7
TREB Trebinje 28.56 304 *e*P P 19 57 13.7 +0.6
KURBB Kurchatov Arra 28.76 38 P P 19 57 16.0 +1.2
comp=Z,41nm,0.8s,baz=239,slow=9.2,SNR=114
KURBB PcP **PcP** 20 00 22.0 -2.4
comp=Z,7.5nm,0.9s,baz=236,slow=3.2,SNR=4.4
KURBB ScP **ScP** 20 04 03.0 -1.2
comp=Z,2.7nm,0.8s,baz=235,slow=4.0,SNR=7.0
KURBB LR LR 20 10 41.2
comp=Z,2μm,21.6s,baz=202,slow=40
KURBB P3KPbc 20 29 28.2
comp=Z,0.6nm,0.8s,baz=53,slow=4.2,SNR=4.4
comp=Z,41nm,0.8s
KURBB Kurchatov Arra 28.76 38 P P 19 57 15.1 +0.3
KURK Kurchatov 28.86 38 P P 19 57 15.1 -0.6
KURK Kurchatov 28.86 38*c* *e*P P 19 57 17.2 +1.5
KURK pmax pmax
comp=Z,43nm,0.9s
MAKZ Makanchi 28.97 47 P 19 57 15.2 -1.6
MAKZ Makanchi 28.97 47 P P 19 57 15.2 -1.6
MAKZ pmax pmax
comp=Z,22nm,0.7s
MNK Minsk 29.02 332 *i* P P 19 57 19.6 +2.5
comp=E,11nm,0.7s
MNK *i* P P 19 57 19.6 +2.5
comp=N,9.0nm,0.6s
MNK *i* P P 19 57 19.6 +2.5
comp=Z,24nm,0.7s,baz=136
MNK *i* PP **PnPn** 19 58 10.8 +1.4
MNK *i* PPP PPP 19 58 18.7
MNK *i* S **S** **20 02 12.5 +5.8**
MNK *i* LQ LQ 20 07 16.7
MNK *i* LR LR 20 09 09.1
MNK *i* LRM MLR 20 10 11.2
comp=Z,558nm,15.3s
MNK *i* LRM MLR 20 10 15.4
comp=N,346nm,15.8s
MNK *i* LRM MLR 20 10 16.2
comp=E,367nm,14.7s
MNK Minsk 29.02 332 *i* P P 19 57 19.6 +2.5
MNK *i* 19 58 10.7
MNK *i* PPP PPP 19 58 18.6
MNK *i* S **S** **20 02 12.5 +5.8**
MNK pmax pmax
comp=N,9.0nm,0.6s
MNK pmax pmax
comp=E,11nm,0.7s
MNK pmax pmax
comp=Z,24nm,0.7s
MNK MLR MLR
comp=Z,558nm,15.0s
MNK MLR MLR
comp=N,346nm,16.0s
MNK MLR MLR
comp=E,367nm,15.0s
STON Ston 29.06 304 *e*P P 19 57 15.9 -1.6
TIP Timpagrande 29.10 296 P P 19 57 16.3 -1.8
TIP IAmb IAmb 19 57 44.4
comp=Z,43nm,0.9s
MK31 Makanchi Array 29.16 47*c* *i*P P 19 57 19.4 +0.9
MKAR Makanchi Array 29.16 47 P P 19 57 16.5 -2.0
MKAR Makanchi Array 29.16 47 P P 19 57 19.5 +1.0
comp=Z,28nm,0.8s,baz=250,slow=7.3,SNR=111
MKAR PcP **PcP** **20 00 23.4 -2.2**
comp=Z,6.0nm,0.8s,baz=248,slow=1.6,SNR=4.5
MKAR LR LR 20 10 44.1
comp=Z,1μm,19.6s,baz=316,slow=40
MKAR P3KPbc 20 29 27.8
comp=Z,0.8nm,0.8s,baz=63,slow=5.0,SNR=6.1
comp=Z,28nm,0.8s
PSZ Piszkesteto 29.29 315 P P 19 57 18.9 -0.7
PSZ Piszkesteto 29.29 315 P P 19 57 18.9 -0.7
PSZ pmax pmax
comp=Z,20nm,0.8s
PSZ Piszkesteto 29.29 315 *e*P P 19 57 20.2 +0.6
MORH Mrgy, Hungar 29.41 311 *e*P P 19 57 20.0 -0.6
MORH Mrgy, Hungar 29.41 311 ⇑P P 19 57 20.5 -0.1
CEL Celeste 29.69 294 P P 19 57 22.1 -1.1
NIE Niedzica 29.71 318 *e*P P 19 57 23.8 +0.5
NACGM Naroch 29.76 332 *e*P P 19 57 22.4 -1.2
comp=Z,6.0nm,0.8s,baz=135
BLY Banja Luka 29.91 308 *e*P P 19 57 24.2 -0.9
BLY Banja Luka 29.91 308 ⇓P P 19 57 25.7 +0.6
CUC Castrocucco 29.92 298 P P 19 57 23.3 -2.0
CUC IAmb IAmb 19 57 31.9
comp=Z,39nm,0.7s
ACER Acerenza 29.94 300 P 19 57 23.0 -2.5
ACER IAmb IAmb 19 57 43.3
comp=Z,26nm,0.7s
IDID Didziasalis 30.07 332 *e*P P 19 57 27.1 +0.7
LANS Liptovska Anna 30.08 317 *e*P P 19 57 26.8 +0.2
LANS *e* 19 57 31.3
LANS Liptovska Anna 30.08 317 *e*P P 19 57 26.8 +0.2
LANS *e* 19 57 31.3
VYHS Vyhne 30.17 315 *e*P P 19 57 26.9 -0.5
VYHS *e* 19 57 31.7
VYHS *e*S **S** **20 02 27.8 +2.8**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 30.17 315 *e*P P 19 57 26.9 -0.5
VYHS *e* 19 57 31.7
VYHS *e*S **S** **20 02 27.8 +2.8**
A051A Mrakovica 30.18 308 *e*P P 19 57 26.7 -0.9
SRO Srobarova 30.22 314 *e*P P 19 57 29.1 +1.4
SRO *e* 19 57 33.4
SRO pmax pmax
comp=Z,15nm,1.2s
SRO Srobarova 30.22 314 *e*P P 19 57 29.1 +1.4
SRO *e* 19 57 33.4
KIJV Kijevo 30.25 306 *e*P P 19 57 26.9 -1.3
A050A Klekovaca 30.29 307 *e*P P 19 57 27.2 -1.4
OJC Ojcow 30.38 319 *e*P P 19 57 28.9 -0.3
OJC Ojcow 30.38 319 P P 19 57 27.1 -2.1
OJC Ojcow 30.38 319 P P 19 57 27.1 -2.1
MOSL Moslavina 30.46 309 *e*P P 19 57 29.1 -0.9
ISAL Salakas 30.50 332 *e*P P 19 57 30.9 +0.8
BEL Belsk 30.66 322 *e*P P 19 57 31.8 +0.2
BEHE Becsehely 30.71 311 P P 19 57 30.4 -1.8
BEHE Becsehely 30.71 311 *e*P P 19 57 32.3 +0.1
LODK Lodwar 30.72 211 P P 19 57 30.4 -2.2
LODK Lodwar 30.72 211 P P 19 57 33.7 +1.2
SNR=25
SUW Suwalki 30.73 328 *e*P P 19 57 31.4 -0.9
SUW Suwalki 30.73 328 P P 19 57 30.5 -1.8
SUW Suwalki 30.73 328 P P 19 57 30.5 -1.8
SUW Suwalki 30.73 328 *e*P P 19 57 32.1 -0.2
VAE Valguarnera 30.81 293 LR LR 20 13 01.2
comp=Z,137nm,18.7s,baz=87,slow=42
GAYA Gaya 30.92 92 *e*P P 19 57 30.6 -3.7
GAYA IAmb IAmb 19 57 35.7
comp=Z,168nm,2.6s
JAVC Velka Javorina 31.02 316 *e*P P 19 57 35.4 +0.4
ZSN Zaisan 31.04 47 *e*P P 19 57 35.3 +0.3
ZSN Zaisan 31.04 47 *e*P P 19 57 35.3 +0.3
KOGS Kog 31.05 310 *i* P P 19 57 35.0 -0.2
KOGS *i* pP **pP** 19 57 39.0 -3.8
MODS Modra-Piesok 31.07 314 *e*P P 19 57 32.3 -3.1
MODS *e* 19 57 36.2
MODS pmax pmax
comp=Z,25nm,1.2s
MODS Modra-Piesok 31.07 314 *e*P P 19 57 32.3 -3.1
MAUC Maruska 31.14 316 *e*P P 19 57 35.7 -0.2
OKC Ostrava-Krasne 31.15 317 *e*P P 19 57 39.3 +3.3
OKC MLR MLR
comp=Z,200nm,18.2s
OKC Ostrava-Krasne 31.15 317 *e*P P 19 57 39.3 +3.3
OKC AMS AMS 20 12 30.0
comp=Z,200nm,18.2s
KLMR Klimovskoe 31.19 349 *e*P P 19 57 34.2 -2.0
KLMR pmax pmax
comp=Z,209nm,0.8s
OZLJ Ozalj 31.32 309 *e*P P 19 57 37.0 -0.5
PABE Paberze 31.35 330 P P 19 57 35.0 -2.6
PABE Paberze 31.35 330 *e*P P 19 57 37.1 -0.5
STEB Steborice 31.41 317 *e*P P 19 57 37.6 -0.7
STEB *e*pP **pP** 19 57 41.7 -4.3
EVN Everest 31.42 86 P P 19 57 37.0 -2.3
BOJS Bojanci 31.44 308 *i* P P 19 57 38.4 -0.2
BOJS *i* pP **pP** 19 57 42.4 -3.9
RONA Rosalia, Austr 31.44 313 *e*P P 19 57 38.2 -0.5
comp=Z,22nm,0.6s,SNR=33
RONA *e*ScP **ScP** **20 04 12.6 -0.5**
comp=Z,9.9nm,1.7s
MORC Moravsky Berou 31.48 317 P P 19 57 37.5 -1.5
MORC IAmb IAmb 19 57 43.3
comp=Z,19nm,0.7s
MORC Moravsky Berou 31.48 317 *e*P P 19 57 37.4 -1.6
MORC Moravsky Berou 31.48 317 ⇓P P 19 57 39.6 +0.6
MORC Moravsky Berou 31.48 317 P P 19 57 37.5 -1.5
MORC pmax pmax
comp=Z,19nm,0.7s
INTR Introdacqua 31.64 301 P P 19 57 38.5 -2.0
INTR IAmb IAmb 19 57 54.7
comp=Z,36nm,0.8s
VSVD Vaisvydziai 31.68 331 *e*P P 19 57 39.8 -0.7
ARSA Arzberg 31.78 312 P P 19 57 39.4 -2.2
ARSA Arzberg 31.78 312 *e*P P 19 57 41.4 -0.3
comp=Z,18nm,0.7s,SNR=21
ARSA *e*PcP **PcP** **20 00 32.9 +0.4**
comp=Z,3.3nm,0.6s
ARSA *e*ScP **ScP** **20 04 14.2 0.0**
comp=Z,13nm,1.1s
CONA Conrad Observa 31.79 313 *e*P P 19 57 41.2 -0.6
comp=Z,22nm,0.9s,SNR=20
CONA *e*ScP **ScP** **20 04 13.7 -0.6**
comp=Z,6.7nm,1.3s
BOK Bokaro 31.82 94 *e*P P 19 57 37.5 -4.7
BOK IAmb IAmb 19 57 47.5
comp=Z,178nm,2.0s
VRAC Vranov 31.85 316 LR LR 20 13 54.0
comp=Z,305nm,18.6s,baz=110,slow=43
VRAC Vranov 31.85 316 *e*P P 19 57 41.7 -0.5
VRAC Vranov 31.85 316 ⇑P P 19 57 42.0 -0.3
VRAC Vranov 31.85 316 P P 19 57 41.9 -0.3
PERS Pernice 31.85 310 *e*P P 19 57 41.8 -0.5
PERS *i* PcP **PcP** **20 00 32.2 -0.5**
PERS *i* pPcP 20 00 36.5
PERS *i* ScP **ScP** **20 04 17.0 +2.5**
KRUC Moravsky 31.88 315 *e*P P 19 57 41.5 -0.9
SOKA Soboth 31.92 310 *e*P P 19 57 42.5 -0.5
comp=Z,11nm,0.8s,SNR=7.0
SOKA *e*PcP **PcP** **20 00 32.7 -0.2**
comp=Z,7.3nm,0.6s
SOKA *e*ScP **ScP** **20 04 14.3 -0.5**
comp=Z,10nm,1.0s
WMQ Urumqi 31.93 55 *e*P P 19 57 48.1 +5.1
WMQ sP sP 19 57 58.4 +4.2
WMQ pmax pmax
comp=Z,39nm,1.3s
KOD Kodaikanal 32.00 124 *e*P P 19 57 40.8 -3.3
KOD IAmb IAmb 19 57 53.2
comp=Z,373nm,2.3s
KRLC Kraliky 32.05 317 AMS AMS 20 13 20.0
comp=Z,200nm,15.5s
AQU L'Aquila 32.06 302 P P 19 57 50.0 +5.9
AQU S **S** **20 02 46.0 -8.8**
LJU Ljubljana 32.08 309 *i* P P 19 57 44.2 +0.1
LJU *i* pP **pP** 19 57 48.4 -3.5
OBKA Obir 32.19 310 *e*P P 19 57 44.9 -0.4
comp=Z,8.9nm,1.2s
GUMA Gualdo di Mace 32.23 303 P P 19 57 42.9 -2.7
PUL Pulkovo 32.29 341⇑ *e*P P 19 57 45.5 -0.3
PUL pmax pmax
comp=Z,61nm,0.3s
BRJN Brijuni 32.31 307 *e*P P 19 57 45.1 -1.2
NRCA Norcia 32.35 303 P P 19 57 45.2 -1.6
NRCA IAmb IAmb 19 58 04.5
comp=Z,44nm,0.8s
VSU Vasula 32.38 336*c* *i*P P 19 57 44.5 -2.2
VSU pmax pmax
comp=Z,21nm,0.9s
VSU Vasula 32.38 336 *e*P P 19 57 45.5 -1.1
DPC Dobruska-Polom 32.43 317 *e*P P 19 57 46.7 -0.6
DPC *e**PP **pP** 19 57 50.8 -4.2
DPC MLR MLR
comp=Z,200nm,16.1s
DPC Dobruska-Polom 32.43 317 *e*P P 19 57 46.7 -0.6
DPC *e*pP **pP** 19 57 50.8 -4.2
DPC AMS AMS 20 13 20.0
comp=Z,200nm,16.1s
TREC Trest 32.52 315 *e*P P 19 57 48.3 +0.3
TREC Trest 32.52 315 *e*P P 19 57 48.3 +0.3

PBUR Paburge 32.56 330 *e*P **P** **19 57 48.0 -0.2**
OSTC Ostas 32.58 318 *e*P **P** **19 57 47.9 -0.7**
OSTC *e**PP **pP** **19 57 51.7 -4.6**
OSTC Ostas 32.58 318 *e*P **P** **19 57 47.9 -0.7**
OSTC *e*pP **pP** **19 57 51.7 -4.6**
KSP Ksiaz 32.66 318 *e*P **P** **19 57 48.8 -0.4**
KSP Ksiaz 32.66 318 P **P** **19 57 48.5 -0.7**
KSP pmax pmax
comp=Z,18nm,0.8s
SABO M.te Sabotino 32.68 309 P **P** **19 57 48.4 -1.1**
SABO IAmb IAmb 19 57 53.3
comp=Z,36nm,0.6s
CHVC Chvalec 32.69 318 *e*P **P** **19 57 49.0 -0.5**
CHVC *e**PP **pP** **19 57 53.0 -4.2**
CHVC MLR MLR
comp=Z,300nm,16.2s
CHVC Chvalec 32.69 318 *e*P **P** **19 57 49.0 -0.5**
CHVC *e*pP **pP** **19 57 53.0 -4.2**
CHVC AMS AMS 20 13 30.0
comp=Z,300nm,16.2s
CESX Cesi 32.70 302 P **P** **19 57 48.8 -1.0**
CESX IAmb IAmb 19 58 03.3
comp=Z,74nm,1.0s
MOA Molln 32.78 312 *e*P **P** **19 57 49.8 -0.5**
comp=Z,56nm,0.7s,SNR=48
MOA *e*PcP **PcP** **20 00 36.8 +1.6**
comp=Z,7.0nm,1.0s
MOA *e*ScP **ScP** **20 04 20.4 +2.8**
comp=Z,8.0nm,1.3s
MYKA Terra Mystica 32.83 310 *e*P **P** **19 57 50.1 -0.8**
comp=Z,5.6nm,0.6s
MYKA *e*ScP **ScP** **20 04 20.2 +2.4**
comp=Z,7.1nm,1.1s
CKRC Cesky Krumlov 33.07 314 *e*P **P** **19 57 52.1 -0.8**
CKRC *e**PP **pP** **19 57 56.5 -4.1**
CKRC *e*S **S** **20 03 09.8 -0.5**
CKRC Cesky Krumlov 33.07 314 *e*P **P** **19 57 52.1 -0.8**
CKRC *e*pP **pP** **19 57 56.5 -4.1**
CKRC *e*S **S** **20 03 09.8 -0.5**
GTK Tadong 33.11 86 *e*P **P** **19 57 53.6 0.0**
GTK IAmb IAmb 19 57 59.6
comp=Z,261nm,2.5s
BIOA Bad Ischl, Aus 33.13 312 *e*P **P** **19 57 52.9 -0.6**
comp=Z,54nm,0.8s,SNR=56
BIOA *e*PcP **PcP** **20 00 38.0 +1.9**
comp=Z,4.5nm,0.5s
BIOA *e*ScP **ScP** **20 04 20.8 +1.9**
comp=Z,7.3nm,1.0s
KBA Koelnbreinsper 33.15 310 *e*P **P** **19 57 53.3 -0.5**
comp=Z,9.1nm,0.5s
KBA *e*PcP **PcP** **20 00 38.9 +2.5**
comp=Z,3.5nm,0.6s
KBA *e*ScP **ScP** **20 04 21.4 +2.3**
comp=Z,6.7nm,1.0s
GOPC GO Pecny, Ondr 33.17 316 AMS AMS 20 14 20.0
comp=Z,400nm,17.3s
GKP Gorka Klasztor 33.25 323 *e*P **P** **19 57 54.4 0.0**
GKP Gorka Klasztor 33.25 323 *e*P **P** **19 57 54.2 -0.1**
PRU Pruhonice 33.34 316 *e*P **P** **19 57 57.0 +1.8**
PRU *e**PP **pP** **19 58 00.8 -2.1**
PRU *e*S **S** **20 03 14.8 +0.3**
PRU MLR MLR
comp=Z,400nm,14.4s
PRU Pruhonice 33.34 316 *e*P **P** **19 57 57.0 +1.8**
PRU *e*pP **pP** **19 58 00.8 -2.1**
PRU *e*S **S** **20 03 14.8 +0.3**
PRU AMS AMS 20 14 30.0
comp=Z,400nm,14.4s
ZVC Zvikov 33.36 315 *e*P **P** **19 57 54.9 -0.5**
ZVC *e*pP **pP** **19 57 59.0 -4.0**
ZVC AMS AMS 20 16 00.0
comp=Z,300nm,18.6s
ARBE Arbavere 33.38 337 *e*P **P** **19 57 54.7 -0.6**
SLIT Slitere, Latvi 33.45 332 *e*P **P** **19 57 56.0 0.0**
GERES GERESS Array B 33.46 314 P **P** **19 57 55.1 -1.2**
comp=Z,6.0nm,0.6s,baz=116,slow=6.7,SNR=32
GERES PcP **PcP** **20 00 36.6 -0.5**
comp=Z,5.1nm,0.6s,baz=134,slow=2.8,SNR=8.1
GERES S **S** **20 03 16.5 0.0**
comp=Z,0.8nm,0.9s,baz=98,slow=7.1,SNR=1.8
GERES ScP **ScP** **20 04 18.7 -1.3**
comp=Z,4.3nm,0.9s,baz=130,slow=3.1,SNR=9.4
comp=Z,6.0nm,0.6s
PVCC Panska Ves 33.53 317 *e*P **P** **19 57 56.0 -0.9**
PVCC MLR MLR
comp=Z,300nm,17.3s
PVCC Panska Ves 33.53 317 *e*P **P** **19 57 56.0 -0.9**
PVCC AMS AMS 20 15 20.0
comp=Z,300nm,17.3s
ABTA Abfaltersbach 33.61 310 *e*P **P** **19 57 56.9 -0.8**
comp=Z,44nm,1.0s,SNR=32
ABTA *e*PcP **PcP** **20 00 38.0 +0.4**
comp=Z,2.3nm,0.6s
KHC Kasperske Hory 33.63 314 *e*P **P** **19 57 57.4 -0.4**
KHC *e**PP **pP** **19 58 01.6 -3.9**
KHC *e*S **S** **20 03 19.0 0.0**
KHC MLR MLR
comp=Z,200nm,15.4s
KHC Kasperske Hory 33.63 314 *e*P **P** **19 57 57.4 -0.4**
KHC *e*pP **pP** **19 58 01.6 -3.9**
KHC *e*S **S** **20 03 19.0 0.0**
KHC AMS AMS 20 17 30.0
comp=Z,200nm,15.4s
LESA Schwarzleotal 33.68 311 *e*P **P** **19 57 57.3 -1.0**
comp=Z,5.9nm,0.4s,SNR=46
LESA *e*PcP **PcP** **20 00 37.2 -0.6**
comp=Z,3.9nm,0.5s
LESA *e*S **S** **20 03 16.8 -3.1**
comp=Z,7.8nm,1.1s
LESA *e*ScP **ScP** **20 04 23.3 +2.5**
comp=Z,5.2nm,1.0s
ZAA0 Zalesovo Array 33.80 36 P **P** **19 57 59.9 +0.8**
ZALV Zalesovo Beam 33.80 36 P **P** **19 57 59.6 +0.5**
comp=Z,102nm,0.9s,baz=248,slow=9.0,SNR=154
ZALV PcP **PcP** **20 00 38.2 +0.4**
comp=Z,5.6nm,0.6s,baz=239,slow=4.3,SNR=2.6
ZALV S **S** **20 03 22.6 +1.2**
comp=Z,0.8nm,0.6s,baz=258,slow=6.9,SNR=1.1
ZALV LR LR 20 13 48.9
comp=Z,1µm,19.9s,baz=240,slow=40
comp=Z,102nm,0.9s
CASP Castiglione de 33.98 302 P **P** **19 57 59.0 -1.9**
BRG Berggiesshubel 34.03 317 *e*P **P** **19 58 00.3 -0.9**
BRG Amp 19 58 02.2
comp=Z,2.2nm,0.8s
BRG Berggiesshubel 34.03 317 P **P** **19 58 04.9 +3.7**
BRG Amp 19 58 06.3
comp=Z,7.2nm,0.8s
BRG Berggiesshubel 34.03 317 S **S** **20 03 32.0 +6.9**
BRG ⇑SP **ScP** **20 04 22.3 +0.5**
BRG Amp 20 04 27.3
comp=Z,6.9nm,0.9s
WTTA Wattenberg 34.32 310 *e*P **P** **19 58 02.9 -1.1**
comp=Z,15nm,0.5s,SNR=53
WTTA *e*PcP **PcP** **20 00 39.0 -0.7**
comp=Z,8.9nm,0.5s
WTTA *e*S **S** **20 03 27.7 -2.2**
comp=Z,16nm,0.6s,SNR=11
WTTA *e*ScP **ScP** **20 04 25.3 +2.1**
comp=Z,19nm,0.9s
WTTA Wattenberg 34.32 310 *e*S **S** **20 03 27.7 -2.2**
comp=Z,16nm,0.6s,SNR=11
WATA Walderalm 34.38 310 *i* P **P** **19 58 03.2 -1.2**
comp=Z,11nm,0.5s,SNR=46
WATA *i* PcP **PcP** **20 00 39.2 -0.7**
comp=Z,6.7nm,0.6s
WATA *e*S **S** **20 03 27.2 -3.6**
comp=Z,24nm,1.1s,SNR=10
WATA *i* ScP **ScP** **20 04 25.7 +2.3**
comp=Z,11nm,0.9s
WATA Walderalm 34.38 310 *e*S **S** **20 03 27.2 -3.6**
comp=Z,24nm,1.1s,SNR=10
MEF Metsahovi 34.49 337 *e*P **P** **19 58 05.0 -0.1**
VLC Villacollemand 34.53 305 P P 19 58 12.4 +6.8
VLC S S 20 03 22.6 -10
SQTA Sankt Quirin 34.59 310 *i* P **P** **19 58 05.0 -1.2**
comp=Z,28nm,0.4s,SNR=79
SQTA *e*PcP **PcP** **20 00 40.1 -0.3**
comp=Z,12nm,0.6s
SQTA *e*S **S** **20 03 28.3 -5.7**
comp=Z,21nm,0.7s,SNR=9.5
SQTA *e*ScP **ScP** **20 04 27.1 +3.0**
comp=Z,18nm,0.8s
SQTA Sankt Quirin 34.59 310 *e*S **S** **20 03 28.3 -5.7**
comp=Z,21nm,0.7s,SNR=9.5
MOTA Moosalm 34.69 310 *e*P **P** **19 58 05.6 -1.6**
comp=Z,14nm,0.4s,SNR=61
MOTA *e*PcP **PcP** **20 00 44.1 +3.4**
comp=Z,5.5nm,0.5s
MOTA *e*S **S** **20 03 32.0 -3.6**
comp=Z,42nm,0.9s,SNR=9.1
MOTA *e*ScP **ScP** **20 04 27.5 +3.0**
comp=Z,22nm,1.0s
MOTA Moosalm 34.69 310 *e*S **S** **20 03 32.0 -3.6**
comp=Z,42nm,0.9s,SNR=9.1
JOF Joensuu 34.70 344 *e*P **P** **19 58 06.3 -0.5**
CLL Collm 34.75 318 P **P** **19 58 05.9 -1.5**
CLL Collm 34.75 318 P **P** **19 58 05.9 -1.5**
CLL pmax pmax
comp=Z,24nm,0.9s
CLL Collm 34.75 318 *i* P **P** **19 58 06.3 -1.1**
comp=Z,14nm,1.2s
CLL *i* Pmax 19 58 10.3
comp=Z,32nm,1.0s
CLL *i* x x 19 58 18.3
CLL *e*PP **PP** **19 59 27.0 +0.8**
CLL *e*x x 19 59 33.0
CLL *i* PcP **PcP** **20 00 44.2 +3.6**
comp=Z,8.0nm,0.7s
CLL *e*S **S** **20 03 35.0 -1.1**
CLL *e*ScP **ScP** **20 04 24.0 -0.4**
CLL *i* PcS **PcS** **20 04 27.6 +0.6**
comp=Z,13nm,1.2s
CLL *e*x x 20 04 38.0
CLL *e*SS **SS** **20 06 00.0 -7.1**
CLL *e*x x 20 07 12.0
CLL LmH 20 15 00.0
CLL comp=N,200nm,20.2s LmH 20 15 00.0
comp=E,200nm,21.2s
LSA Lhasa 34.75 81 P **P** **19 58 07.0 -1.2**
LSA pmax pmax
comp=E,15nm,0.8s
LSA LR LR
comp=E,440nm,16.9s
LSA LR LR
comp=E,670nm,17.6s
RUE Ruedersdorf 34.76 320 *e*P **P** **19 58 07.2 -0.2**
VSL Villasalto 34.83 296 IAmb IAmb 19 58 14.4
comp=Z,29nm,0.7s
FETA Feichten 34.86 310 *e*P **P** **19 58 07.6 -1.0**
comp=Z,8.3nm,0.5s,SNR=48
FETA *e*PcP **PcP** **20 00 44.5 +3.2**
comp=Z,7.2nm,0.6s
FETA *e*S **S** **20 03 36.8 -1.5**
comp=Z,11nm,0.9s
FETA *i* ScP **ScP** **20 04 27.4 +2.2**
comp=Z,12nm,0.9s
FIA1 FINESS Array S 34.88 339 P **P** **19 58 07.4 -1.0**
FINES FINESS Array B 34.88 339 P **P** **19 58 07.2 -1.2**
FINES FINESS Array B 34.88 339 P **P** **19 58 07.1 -1.3**
comp=Z,73nm,0.7s,baz=141,slow=8.4,SNR=279
FINES PcP **PcP** **20 00 42.1 +1.3**
comp=Z,7.4nm,0.6s,baz=132,slow=2.1,SNR=2.4
FINES LR LR 20 14 07.7
comp=Z,482nm,19.4s,baz=143,slow=39
comp=Z,73nm,0.7s
KEST Kesra 34.92 290 P **P** **19 58 09.0 -0.2**
comp=Z,4.9nm,0.9s,baz=81,slow=13,SNR=5.6
KEST ScP **ScP** **20 04 27.1 +1.6**
comp=Z,10nm,0.9s,baz=27,slow=2.3,SNR=6.4
comp=Z,4.9nm,0.9s
KEST Kesra 34.92 290 P **P** **19 58 12.3 +3.1**
SNR=8.6
KEST P **P** **19 58 12.3 +3.1**
SNR=8.6
KIBK Kibwezi 34.94 203 P **P** **19 58 08.9 -0.6**
KIBK Kibwezi 34.94 203 P **P** **19 58 10.4 +0.9**
SNR=10
RETA Reutte 34.95 310 *i* P **P** **19 58 08.0 -1.3**
comp=Z,8.5nm,0.5s,SNR=34
RETA *e*S **S** **20 03 35.7 -3.8**
comp=Z,30nm,0.9s,SNR=7.6
RETA *i* ScP **ScP** **20 04 28.4 +3.1**
comp=Z,13nm,0.8s
RETA Reutte 34.95 310 *e*S **S** **20 03 35.7 -3.8**
comp=Z,30nm,0.9s,SNR=7.6
FUORN Ofenpass-Fuorn 35.08 309 P **P** **19 58 09.3 -1.3**
MSSA Maissana 35.17 305 P **P** **19 58 09.7 -1.5**
GRA1 Grafenberg Arr 35.27 314 P **P** **19 58 11.2 -0.7**
GRF Grafenberg Arr 35.27 314 P **P** **19 58 11.2 -0.7**
GRF pmax pmax
comp=Z,70nm,0.7s
GRF Grafenberg Arr 35.27 314 *e*P **P** **19 58 11.3 -0.6**
comp=Z,36nm,0.9s,baz=108,slow=9.6
GRF *e*L L 20 15 59.3
comp=Z,230nm,20.1s
GRFO Grafenberg 35.27 314 P **P** **19 58 10.8 -1.1**
GRFO IAmb IAmb 19 58 16.2
comp=Z,66nm,0.8s
GRFO Grafenberg 35.27 314 P **P** **19 58 10.8 -1.1**
GRFO pmax pmax
comp=Z,66nm,0.8s
MOX Moxa 35.33 316 P **P** **19 58 11.9 -0.6**
MOX pmax pmax
comp=Z,15nm,1.0s
MOX Moxa 35.33 316 *e*L L 20 16 04.8
comp=Z,247nm,19.2s
BSD Bornholm Skovb 35.35 324 *e*P **P** **19 58 12.3 -0.2**
DAVOX Davos/Dischmat 35.37 309 S **S** **20 03 45.3 -0.9**
comp=Z,3.5nm,0.8s,baz=127,slow=20,SNR=4.2
DAVA Damuels 35.48 310 *i* P **P** **19 58 12.7 -1.3**
comp=Z,45nm,0.4s,SNR=85
DAVA *e*PcP **PcP** **20 00 43.2 +0.1**
comp=Z,3.1nm,0.5s
DAVA *e*S **S** **20 03 45.3 -2.5**
comp=Z,24nm,0.9s,SNR=7.7
DAVA Damuels 35.48 310 *e*S **S** **20 03 45.3 -2.5**
comp=Z,24nm,0.9s,SNR=7.7
TUE Stuetta 35.67 308 P **P** **19 58 14.3 -1.3**
TUE IAmb IAmb 19 58 26.7
comp=Z,29nm,0.7s
KEF Keuruu 35.81 339 *e*P **P** **19 58 15.9 -0.5**
RAF Rauma 35.98 336 *e*P **P** **19 58 17.1 -0.7**
STU Stuttgart 36.29 312 *e*P **P** **19 58 20.5 -0.2**
SHL Shillong 36.42 88 P **P** **19 58 20.8 -1.5**
SHL IAmb IAmb 19 58 25.9
comp=Z,57nm,1.0s
SHL Shillong 36.42 88 P **P** **19 58 21.1 -1.2**
SNR=25
SHL Shillong 36.42 88 *e*P **P** **19 58 20.0 -2.3**
SHL IAmb IAmb 19 58 27.2
comp=Z,175nm,2.0s
SHL Shillong 36.42 88 P **P** **19 58 20.8 -1.5**
SHL pmax pmax
comp=Z,57nm,1.0s
BFO Black Forest 36.74 311 P **P** **19 58 23.1 -1.5**
BFO Black Forest 36.74 311 P **P** **19 58 23.1 -1.5**
BFO pmax pmax
comp=Z,15nm,0.6s
UPP Uppsala 36.75 332 *e*P **P** **19 58 23.0 -1.4**
TEZP TEZPUR 36.91 85 *e*P **P** **19 58 25.4 -0.8**
TEZP IAmb IAmb 19 58 30.7
comp=Z,240nm,2.2s
GOMU GeErMu 36.91 69 P **P** **19 58 27.6 +1.0**
GOMU pP pP 19 58 31.5 -3.1
GOMU sP sP 19 58 35.7 -2.2
GOMU S **S** **20 04 18.0 +7.7**
GOMU LR LR
comp=Z,250nm,14.6s
GOMU LR LR
comp=Z,290nm,14.9s
GOMU LR LR
comp=Z,240nm,14.4s
SENIN Lac Senin/Sane 37.04 308 P **P** **19 58 26.1 -1.3**
BRDH Bariadhala 37.17 92 LR LR 20 18 05.6
comp=Z,477nm,20.6s,baz=311,slow=43
BNI Bardonecchia 37.28 305 P **P** **19 58 27.6 -1.7**
BNI IAmb IAmb 19 58 43.0
comp=Z,40nm,0.8s
BNI Bardonecchia 37.28 305 P **P** **19 58 27.6 -1.7**
BNI pmax pmax
comp=Z,40nm,0.8s
ECH Echery 37.48 311 P **P** **19 58 28.5 -2.4**
ECH Echery 37.48 311 P **P** **19 58 28.5 -2.4**
ECH pmax pmax
comp=Z,34nm,0.9s
ZIRO ZIRO 37.57 84 *e*P **P** **19 58 32.1 +0.1**
ZIRO IAmb IAmb 19 58 37.2
comp=Z,226nm,1.2s
AZL Aizawl 37.70 90 *e*P **P** **19 58 33.1 0.0**
AZL IAmb IAmb 19 58 40.5
comp=Z,256nm,1.8s
SET Setif 38.07 291 P **P** **19 58 40.0 +3.9**
KOHI KOHIMA 38.29 86 *e*P **P** **19 58 38.2 0.0**
KOHI IAmb IAmb 19 58 43.6
comp=Z,289nm,1.4s
KOHI *e*S **S** **20 04 31.5 +0.4**
IMP Imphal 38.43 88 *e*P **P** **19 58 39.9 +0.7**
IMP IAmb IAmb 19 58 44.9
comp=Z,396nm,5.3s
IMP *e*S **S** **20 04 33.5 +0.5**
WLF Walferdange 38.44 313 P **P** **19 58 37.0 -1.9**
WLF IAmb IAmb 19 58 51.6
comp=Z,42nm,0.8s
WLF Walferdange 38.44 313 P **P** **19 58 37.0 -1.9**
WLF pmax pmax
comp=Z,42nm,0.8s
WLF Walferdange 38.44 313 *d*P **P** **19 58 37.3 -1.5**
comp=Z,39nm,0.8s
WLF *d*x x 19 58 41.5
APA Apatity 38.44 349 *e*P **P** **19 58 38.1 -0.5**
APA *e* 20 00 07.6
APA *e*SS SS 20 07 20.7 -0.7
APA MLR MLR
comp=Z,1µm,4.6s
HFS Hagfors 38.52 331 P **P** **19 58 38.1 -1.3**
comp=Z,56nm,0.5s,baz=121,slow=10,SNR=199
HFS S **S** **20 04 34.6 +1.2**
comp=Z,8.1nm,0.8s,baz=123,slow=16,SNR=6.0
HFS LR LR 20 15 56.3
comp=Z,589nm,21.6s,baz=122,slow=38
comp=Z,56nm,0.5s
LVZ Lovozero 38.55 350⇑ *e*P **P** **19 58 39.4 -0.2**
LVZ pmax pmax
comp=Z,64nm,0.9s
BTNL Ternell 38.66 314 *d*P **P** **19 58 43.6 +2.9**
comp=Z,16nm,0.8s
MEM Membach 38.74 314 *d*P **P** **19 58 44.9 +3.5**
comp=Z,12nm,0.9s
RCHB Rochefort 39.13 313 *d*P **P** **19 58 43.9 -0.7**
comp=Z,20nm,0.9s
BGES Gesves 39.27 314 *d*P **P** **19 58 49.1 +3.4**
SJUU Sjulsmark 39.29 341 *e*P **P** **19 58 46.0 +0.3**
BMRD Maredsous 39.45 313 *d*P **P** **19 58 51.1 +3.8**
comp=Z,9.6nm,0.9s
DOU Dourbes 39.51 313 *d*P **P** **19 58 47.0 -0.8**
comp=Z,14nm,0.9s
OSL Oslo 39.69 329 *e*P **P** **19 58 48.0 -1.1**
NC602 NORSAR Array S 39.74 331 *e*P **P** **19 58 48.5 -1.1**
UCC Uccle 39.81 314 *d*P **P** **19 58 50.2 0.0**
comp=Z,26nm,0.9s
NC405 NORSAR Array S 39.87 331 P **P** **19 58 48.7 -2.0**
NC405 IAmb IAmb 19 58 53.9
comp=Z,58nm,0.6s
HOMB Homborsund 39.94 326 *e*P **P** **19 58 53.5 +2.3**
NB2 NORSAR Subarra 40.04 331 P **P** **19 58 50.1 -2.1**
comp=Z,124nm,3.3s,baz=122,slow=8.6
NB2 PP **PP** **20 00 22.2 -2.1**
comp=Z,7.8nm,0.8s,baz=130,slow=11
NB2 NORSAR Subarra 40.04 331 P **P** **19 58 50.1 -2.1**
baz=122,slow=8.6
NOA NORSAR Array B 40.04 331 P **P** **19 58 50.0 -2.1**
comp=Z,14nm,0.5s,baz=121,slow=8.2,SNR=38
NOA S **S** **20 04 56.0 -0.3**
comp=Z,0.8nm,0.7s,baz=125,slow=13,SNR=3.4
NOA LR LR 20 16 52.9
comp=Z,538nm,21.0s,baz=120,slow=38
comp=Z,14nm,0.5s
NOA NORSAR Array B 40.04 331 P **P** **19 58 50.0 -2.1**
NOA S **S** **20 04 56.0 -0.3**
KONO Kongsberg 40.05 329 P **P** **19 58 50.6 -1.6**
KONO Kongsberg 40.05 329 P **P** **19 58 50.6 -1.6**
KONO pmax pmax
comp=Z,23nm,0.7s
KONO Kongsberg 40.05 329 *e*P **P** **19 58 50.5 -1.6**
NC303 NORSAR Array S 40.07 331 P **P** **19 58 50.5 -1.9**
GTA Gaotai 40.66 64 P **P** **19 58 58.6 +0.9**
GTA PcP **PcP** **20 01 03.4 +4.2**
GTA ScP **ScP** **20 04 47.4 +0.3**
GTA S **S** **20 05 02.4 -4.0**
GTA ScS **ScS** **20 09 05.1 +3.3**
GTA pmax pmax
comp=Z,24nm,0.9s
GTA LR LR
comp=Z,250nm,17.1s
GTA LR LR
comp=Z,410nm,16.4s
GTA LR LR
comp=Z,470nm,17.1s
TAM Tamanrasset 41.00 270 IAmb IAmb 19 59 06.2
comp=Z,58nm,0.9s
SKAR Skarslia 41.10 330 *e*P **P** **19 59 00.3 -0.6**
VADS Vadso 41.39 349 *e*P **P** **19 59 03.0 -0.1**
BLS5 Blasjo 41.39 327 *e*P **P** **19 59 03.8 +0.5**
ODD1 Odda 41.51 328 *e*P **P** **19 59 04.9 +0.6**
SALU Saltoluokta 41.52 342 *e*P **PKiKP** **20 08 11.3 +3.1**
ARAG ARCESS Array S 41.58 347 *e*P **P** **19 59 04.4 -0.2**
ARCES ARCESS Array B 41.58 347 P **P** **19 59 04.9 +0.3**
ARCES ARCESS Array B 41.58 347 P **P** **19 59 04.0 -0.6**
comp=Z,24nm,0.6s,baz=144,slow=7.9,SNR=31
ARCES PP **PP** **20 00 37.6 -3.1**
comp=Z,12nm,0.6s,baz=142,slow=10,SNR=4.9
ARCES ScP **ScP** **20 04 51.6 +1.6**
comp=Z,4.8nm,0.9s,baz=123,slow=4.4,SNR=4.4
comp=Z,24nm,0.6s
ARCES ARCESS Array B 41.58 347 P **P** **19 59 04.9 +0.3**
ARCES pmax pmax
comp=Z,29nm,0.8s
KTK1 Kautokeino 41.61 345 *e*P **P** **19 59 04.2 -0.8**
NSS Namsos 41.68 336 *e*P **P** **19 59 04.5 -1.1**
MOR8 Moi Rana 41.87 339 *e*P **P** **19 59 06.7 -0.4**
KMY Karmoy 41.87 327 *e*P **P** **19 59 06.5 -0.7**
MOY Mondy 42.26 45 *e*P **P** **19 59 12.3 +1.7**
MOY pmax pmax
comp=Z,65nm,1.6s
BER Bergen 42.30 328 *e*P **P** **19 59 13.9 +3.3**
TNCH TengChong 42.30 85 ⇑P **P** **19 59 11.7 +0.3**
TNCH pP sP 19 59 22.5 -0.4
TNCH PP **PP** **20 00 54.4 +4.9**
TNCH S **S** **20 05 28.6 -2.5**
TNCH sS sS 20 05 46.9 +2.3
TNCH pmax pmax
comp=Z,40nm,0.9s
TNCH LR LR
comp=Z,250nm,13.4s
TNCH LR LR
comp=Z,240nm,13.3s
TNCH LR LR
comp=Z,430nm,18.1s
MOL Molde 42.31 332 *e*P **P** **19 59 13.8 +3.0**
ASK Askoy 42.40 328 *e*P **P** **19 59 14.7 +3.2**
FAUS Fauske 42.41 341 *e*P **P** **19 59 10.3 -1.2**
STOK Stokkvaagen 42.42 338 *e*P **P** **19 59 10.3 -1.2**
KONS Konsvik 42.49 339 *e*P **P** **19 59 15.2 +3.1**
VAGH Vaagaholmen 42.59 339 *e*P **P** **19 59 11.9 -1.0**
JETT Jettan, Norway 42.67 345 *e*P **P** **19 59 13.1 -0.5**
STEI Steigen 42.80 341 *e*P **P** **19 59 13.4 -1.2**
ECHE Chera 42.82 297 P P 19 59 20.6 +5.3
SUE Sulen 42.83 329 *e*P **P** **19 59 18.2 +3.3**
HAMF Hammerfest 42.85 347 *e*P **P** **19 59 14.4 -0.5**
FOO Floro 42.93 330 *e*P **P** **19 59 14.7 -1.1**
TRO Tromso 43.07 344 *e*P **P** **19 59 15.8 -0.9**
WOL Wolverton 43.37 314 *e*P **P** **19 59 18.7 -0.7**
WOL IAmb IAmb 19 59 23.4
comp=Z,106nm,0.7s
ZAK Zakamensk 43.50 48 *e*P **P** **19 59 21.3 +0.6**
ZAK pmax pmax
comp=Z,14nm,1.1s
TLOR Lorca, Murcia 43.57 294 P **P** **19 59 25.8 +4.5**
CWF Charnwood Fore 43.63 316 *e*P **P** **19 59 20.1 -1.4**
CWF IAmb IAmb 19 59 25.0
comp=Z,44nm,0.6s
JSA Saint Aubin 43.73 311 *e*P **P** **19 59 20.9 -1.5**
JSA IAmb IAmb 19 59 25.6
comp=Z,35nm,0.8s
SWN1 Swindon 43.75 314 *e*P **P** **19 59 21.8 -0.8**
SWN1 IAmb IAmb 19 59 26.6
comp=Z,80nm,0.6s
ENIJ Nijar 44.07 293 P **P** **19 59 29.6 +4.2**
LZH Lanzhou 44.18 68 *e*P **P** **19 59 27.0 +0.6**
LZH pP sP 19 59 37.1 -0.8
LZH PcP **PcP** **20 01 15.6 +4.6**
LZH S **S** **20 05 52.5 -5.9**
LZH pmax pmax
comp=Z,50nm,1.3s

LZH pmax pmax
comp=Z,170nm,4.0s
LZH LR LR
comp=Z,550nm,14.0s
LZH LR LR
comp=Z,830nm,17.1s
LZH LR LR
comp=Z,1μm,16.8s
IRK Irkutsk 44.35 45 *e*P **P 19 59 26.0 -1.4**
IRK *e* 20 01 11.2
IRK pmax pmax
comp=Z,68nm,2.1s
EDMD Edmundbyers 44.38 319 *e*P **P 19 59 26.4 -1.2**
EDMD IAmb IAmb 19 59 31.3
comp=Z,79nm,0.8s
UCM Universidad Co 44.51 298 P **P 19 59 33.3 +4.5**
MCH1 Michaelchurch 44.55 315 *e*P **P 19 59 27.5 -1.5**
MCH1 IAmb IAmb 19 59 32.3
comp=Z,60nm,0.7s
PZH PanZhiHua 44.61 82 P **P 19 59 29.2 -0.7**
PZH S **S 20 06 05.9 +1.2**
PZH ScS **ScS 20 09 28.5 +1.9**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH LR LR
comp=Z,190nm,16.7s
PZH LR LR
comp=Z,240nm,20.8s
FOEL Foel Wylfa 44.79 316 *e*P **P 19 59 29.5 -1.4**
FOEL IAmb IAmb 19 59 34.9
comp=Z,81nm,1.2s
CHTO Chiang Mai 44.95 94 P **P 19 59 31.7 -0.9**
CHTO IAmb IAmb 19 59 37.3
comp=Z,32nm,1.1s
CHTO Chiang Mai 44.95 94 P **P 19 59 32.7 +0.1**
CHTO Chiang Mai 44.95 94 P **P 19 59 31.7 -0.9**
CHTO pmax pmax
comp=Z,32nm,1.1s
ESY Stoneypath 44.96 320 *e*P **P 19 59 31.0 -1.2**
KESW Keswick, Cumbr 44.99 318 *e*P **P 19 59 31.4 -1.0**
KESW IAmb IAmb 19 59 36.3
comp=Z,118nm,0.8s
EQTA Presa de Quent 45.02 294 P **P 19 59 36.7 +3.7**
LLW Llanuwchllyn 45.06 316 *e*P **P 19 59 32.0 -1.1**
DRUM Mains of Drumt 45.10 322 *e*P **P 19 59 32.0 -1.2**
DRUM IAmb IAmb 19 59 36.8
comp=Z,100nm,0.9s
CM31 Chiang Mai Arr 45.10 94 P **P 19 59 33.3 -0.5**
CMAR Chiang Mai Arr 45.10 94 P **P 19 59 32.9 -0.8**
comp=Z,4.5nm,0.8s,baz=298,slow=7.8,SNR=12
CMAR PcP **PcP 20 01 13.6 -0.6**
comp=Z,2.2nm,0.3s,baz=295,slow=3.7,SNR=5.8
CMAR LR LR 20 20 56.5
comp=Z,141nm,20.9s,baz=275,slow=39
comp=Z,4.5nm,0.8s
ESDC Sonseca Array 45.12 297 **P 19 59 33.7 0.0**
ESDC Sonseca Array 45.12 297 P **P 19 59 33.0 -0.7**
comp=Z,3.1nm,0.6s,baz=82,slow=8.3,SNR=30
ESDC PcP **PcP 20 01 15.4 +1.3**
comp=Z,3.2nm,0.8s,baz=80,slow=3.0,SNR=4.5
ESDC ScP **ScP 20 05 07.4 +2.4**
comp=Z,2.0nm,0.8s,baz=73,slow=4.2,SNR=6.2
ESDC LR LR 20 19 40.4
comp=Z,88nm,21.8s,baz=78,slow=38
comp=Z,3.1nm,0.6s
CD2 Chengdu 45.12 75 P P 19 59 28.2 -5.7
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=E,700nm,22.6s
CD2 LR LR
comp=Z,790nm,23.0s
EKA Eskdalemuir Ar 45.15 319 P **P 19 59 32.1 -1.6**
comp=Z,26nm,0.6s,baz=96,slow=7.8,SNR=30
EKA ScP **ScP 20 05 07.6 +2.8**
comp=Z,1.5nm,0.7s,baz=115,slow=5.0,SNR=4.5
comp=Z,26nm,0.6s
ESK Eskdalemuir 45.18 319 **P 19 59 31.5 -2.4**
ESK IAmb IAmb 19 59 37.5
comp=Z,32nm,0.8s
ESK Eskdalemuir 45.18 319 *e*P **P 19 59 32.3 -1.5**
ESK IAmb IAmb 19 59 37.3
comp=Z,32nm,0.8s
ESK Eskdalemuir 45.18 319 P **P 19 59 31.5 -2.4**
ESK pmax pmax
comp=Z,32nm,0.8s
ELGU Los Guajares, 45.21 293 P **P 19 59 38.6 +4.1**
LRW Lerwick 45.25 326 *e*P **P 19 59 32.9 -1.5**
LRW IAmb IAmb 19 59 37.7
comp=Z,54nm,0.7s
SONM Songino Array 45.36 51 P **P 19 59 34.9 -0.7**
SONM Songino Array 45.36 51 P **P 19 59 36.2 +0.6**
comp=Z,11nm,0.8s,baz=267,slow=8.8,SNR=29
SONM PcP **PcP 20 01 13.6 -1.2**
comp=Z,2.9nm,0.8s,baz=267,slow=3.9,SNR=1.8
SONM LR LR 20 21 28.6
comp=Z,884nm,18.6s,baz=268,slow=40
comp=Z,11nm,0.8s
SONM Songino Array 45.36 51 P **P 19 59 34.9 -0.7**
SONM pmax pmax
comp=Z,12nm,1.0s
PAB San Pablo 45.43 297 P **P 19 59 34.9 -1.3**
PAB San Pablo 45.43 297 P **P 19 59 34.9 -1.3**
PAB pmax pmax
comp=Z,12nm,0.8s
EGOR Sierra Gorda, 45.56 294 P **P 19 59 40.6 +3.2**
WLF1 Llynfaes 45.56 316 *e*P **P 19 59 36.6 -0.3**
WLF1 IAmb IAmb 19 59 41.0
comp=Z,48nm,0.7s
MCD Coleburn Disti 45.65 322 *e*P **P 19 59 36.3 -1.3**
MCD IAmb IAmb 19 59 41.2
comp=Z,98nm,0.7s
NEWG New Galloway 45.72 319 *e*P **P 19 59 37.3 -0.9**
NEWG IAmb IAmb 19 59 41.8
comp=Z,20nm,0.8s
EADA Adamuz 45.77 295 P **P 19 59 42.8 +3.9**
ULN Ulaanbaatar 45.80 51 P **P 19 59 39.6 +0.4**
ULN IAmb IAmb 19 59 45.1
comp=Z,32nm,0.9s
ULN Ulaanbaatar 45.80 51 *c i*P **P 19 59 39.7 +0.5**
ULN pmax pmax
comp=Z,12nm,0.9s
INVG Invergeldie, C 45.84 321 *e*P **P 19 59 37.9 -1.2**
INVG IAmb IAmb 19 59 43.0
comp=Z,102nm,0.8s
EMAL Malaga-Limoner 45.87 293 P **P 19 59 43.1 +3.6**
KMI Kunming 45.89 84 ⇑P **P 19 59 40.1 -0.1**
KMI pP sP 19 59 50.5 -1.3
KMI pmax pmax
comp=Z,69nm,0.8s
KMI LR LR
comp=Z,290nm,13.4s
KMI LR LR
comp=Z,200nm,14.2s
KMI LR LR
comp=Z,230nm,21.1s
GAL1 Galloway 45.96 318 *e*P **P 19 59 39.7 -0.3**
GAL1 IAmb IAmb 19 59 43.8
comp=Z,50nm,0.8s
PGBU Glenifferbraes 45.98 320 *e*P **P 19 59 39.8 -0.4**
PGBU IAmb IAmb 19 59 44.1
comp=Z,123nm,0.8s
ECAB El Cabril 46.44 295 P **P 19 59 48.7 +4.6**
LAWE Loch Awe, Argy 46.56 320 *e*P **P 19 59 44.0 -0.7**
LAWE IAmb IAmb 19 59 49.0
comp=Z,41nm,0.8s
DSB Dublin 46.74 316 P **P 19 59 44.4 -1.8**
DSB Dublin 46.74 316 P **P 19 59 45.4 -0.8**
MDT Midelt 46.76 288 LR LR 20 23 14.4
comp=Z,67nm,18.6s,baz=82,slow=41
ECEU Ceuta 46.77 292 P **P 19 59 50.6 +3.9**
CLGH Cloghs, Cushen 46.79 319 *e*P **P 19 59 46.0 -0.5**
ILTH Belurgan, Co L 46.79 317 P **P 19 59 45.1 -1.5**
BJO1 Bjornoya 46.79 349 *e*P **P 19 59 45.6 -0.7**
IWEX Carrickbyrne, 46.90 315 P **P 19 59 49.3 +1.8**
ESPR Espera 46.98 294 P **P 19 59 51.6 +3.2**
ECAL Calabor 46.98 301 P **P 19 59 52.7 +4.2**
PBRG Braganca 47.00 300 *e*P **P 19 59 48.1 -0.4**
PBRG *i* IAmb IAmb 20 00 17.2
comp=Z,24nm,1.3s
MVO Moncorvo 47.28 300 *e*P **P 19 59 51.0 +0.3**
MVO *i* IAmb IAmb 20 00 00.6
comp=Z,36nm,0.8s
EMIN Mina Concepcio 47.47 295 P **P 19 59 56.4 +4.3**
EBAD Badajoz 47.58 296 P **P 19 59 56.8 +3.8**

IDGL Inch Island, C 47.59 318 P **P 19 59 52.8 0.0**
IDGL Inch Island, C 47.59 318 *e*P **P 19 59 51.8 -1.0**
IDGL IAmb IAmb 19 59 57.1
comp=Z,50nm,0.8s
PBAR Barrancos 47.69 296 P **P 19 59 58.1 +4.2**
PBAR Barrancos 47.69 296 *e*P **P 19 59 53.4 -0.5**
PBAR *i* IAmb IAmb 20 00 03.9
comp=Z,68nm,1.1s
PMRV Marv??o 47.78 297 *e*P **P 19 59 53.8 -0.8**
PMRV *i* IAmb IAmb 20 00 04.0
comp=Z,20nm,1.2s
PCBR Castelo Branco 47.79 298 *e*P **P 19 59 54.8 +0.2**
PCBR *i* IAmb IAmb 20 00 05.0
comp=Z,48nm,1.1s
PVRL Vila Real 47.79 300 *e*P **P 19 59 55.0 +0.4**
PVRL *i* IAmb IAmb 20 00 23.7
comp=Z,51nm,1.0s
POLO Lamas de Olo 47.83 300 *e*P **P 19 59 55.8 +0.7**
POLO *i* IAmb IAmb 20 00 24.0
comp=Z,23nm,1.4s
PCAB Cabril 47.97 300 *e*P **P 19 59 56.2 +0.2**
PCAB *i* IAmb IAmb 20 00 25.1
comp=Z,39nm,1.3s
PVIS Viseu 47.99 299 *e*P **P 19 59 57.3 +1.1**
PESTR Estremoz 48.01 297 P **P 20 00 00.6 +4.2**
PESTR Estremoz 48.01 297 IAmb IAmb 20 00 05.9
comp=Z,18nm,1.0s
PESTR Estremoz 48.01 297 *e*P **P 19 59 55.5 -0.9**
PESTR *i* IAmb IAmb 20 00 44.0
comp=Z,18nm,1.6s
PGAV Gavieira, Arco 48.12 301 *e*P **P 19 59 58.1 +0.9**
PGAV *i* IAmb IAmb 20 00 26.6
comp=Z,57nm,1.5s
SLVN Son La 48.23 88 P **P 19 59 58.9 +0.6**
PSARD Sardoal 48.34 298 *e*P **P 19 59 58.8 -0.1**
PSARD *i* IAmb IAmb 20 00 10.8
comp=Z,28nm,1.1s
PVAQ Vaqueiros 48.35 295 P **P 20 00 03.2 +4.2**
PVAQ Vaqueiros 48.35 295 IAmb IAmb 20 00 09.0
comp=Z,42nm,0.9s
PVAQ Vaqueiros 48.35 295 *e*P **P 20 00 01.7 +2.7**
PVAQ *i* IAmb IAmb 20 00 49.2
comp=Z,44nm,1.5s
BTO Baotou 48.36 61 *e*P **P 19 59 58.5 -0.6**
BTO pP **sP 20 00 10.5 -0.1**
BTO S **S 20 06 54.8 -3.2**
BTO pmax pmax
comp=Z,64nm,0.8s
BTO pmax pmax
comp=Z,190nm,4.2s
BTO LR LR
comp=Z,650nm,14.8s
BTO LR LR
comp=Z,900nm,13.4s
BTO LR LR
comp=Z,2μm,19.6s
PBEJ Beja 48.36 295 *e*P **P 19 59 58.9 -0.2**
PBEJ *i* IAmb IAmb 20 00 08.5
comp=Z,37nm,1.3s
TOA0 Torodi Ar. Sit 48.39 260 P **P 20 00 03.0 +3.5**
SNR=11
TORD Torodi Ar. Bea 48.39 260 P **P 19 59 59.2 -0.4**
TORD IAmb IAmb 20 00 03.9
comp=Z,25nm,0.8s
TORD Torodi Ar. Bea 48.39 260 P **P 19 59 58.9 -0.7**
comp=Z,35nm,0.7s,baz=58,slow=8.0,SNR=18
TORD ScP **ScP 20 05 16.9 -2.1**
comp=Z,4.1nm,1.0s,baz=58,slow=4.4,SNR=3.7
TORD LR LR 20 22 35.5
comp=Z,719nm,19.8s,baz=50,slow=39
comp=Z,35nm,0.7s
EVO Evora 48.39 296 *e*P **P 19 59 59.7 +0.4**
EVO *i* IAmb IAmb 20 00 11.8
comp=Z,20nm,2.0s
COI Coimbra 48.45 298 IAmb IAmb 20 00 10.2
comp=Z,36nm,0.7s
PMTG Montargil 48.47 297 *e*P **P 20 00 02.1 +2.2**
PMTG *i* IAmb IAmb 20 00 38.5
comp=Z,23nm,1.4s
PCAS Casmilo, Conde 48.53 298 *e*P **P 20 00 00.4 +0.1**
PCAS *i* IAmb IAmb 20 00 10.4
comp=Z,29nm,1.1s
IGLA Glengowla, Co 48.54 316 P **P 20 00 02.1 +1.9**
IGLA Glengowla, Co 48.54 316 *e*P **P 19 59 59.1 -1.0**
IGLA IAmb IAmb 20 00 04.1
comp=Z,57nm,1.1s
PCVE Castro Verde 48.56 295 P **P 20 00 04.9 +4.2**
PCVE Castro Verde 48.56 295 *e*P **P 20 00 04.2 +3.5**
XAN Xi'an 48.66 70 P **P 20 00 01.3 -0.2**
XAN pP pP 20 00 10.4 +0.7
XAN S **S 20 07 00.0 -2.3**
XAN pmax pmax
comp=Z,26nm,0.6s
XAN pmax pmax
comp=Z,130nm,3.6s
XAN LR LR
comp=Z,590nm,18.0s
XAN LR LR
comp=Z,940nm,17.9s
XAN LR LR
comp=Z,1μm,18.6s
MESJ Messejana 48.67 295 *e*P **P 20 00 05.2 +3.8**
MESJ *i* IAmb IAmb 20 00 11.3
comp=Z,34nm,1.3s
GYA Guiyang 48.81 80 ⇓P **P 20 00 02.6 -0.3**
GYA S **S 20 07 01.3 -3.6**
GYA pmax pmax
comp=Z,23nm,0.6s
GYA pmax pmax
comp=Z,170nm,4.0s
GYA LR LR
comp=Z,160nm,5.7s
GYA LR LR
comp=Z,140nm,6.3s
GYA LR LR
comp=Z,97nm,5.9s
OPO Ambohidratompo 49.00 185 LR LR 20 22 18.6
comp=Z,371nm,18.6s,baz=182,slow=38
VAL Valentia 49.02 314 P **P 20 00 05.3 +1.5**
PARRA Arraiolos 49.14 297 *e*P P 19 59 58.2 -6.9
PARRA *i* IAmb IAmb 20 00 06.0
comp=Z,14nm,1.9s
PFVI Vila Bisbo 49.27 294 P **P 20 00 10.2 +4.2**
HSPB Hornsund (broa 49.27 350 *e*P **P 20 00 09.6 +4.2**
PMAFR Mafra 49.30 297 *e*P **P 20 00 10.9 +4.6**
TIO Tiouine 49.41 286 P **P 20 00 11.4 +4.0**
ABPO Ambohimpanom 49.44 184 **P 20 00 08.1 +0.6**
ABPO IAmb IAmb 20 00 18.9
comp=Z,23nm,0.8s
ABPO Ambohimpanom 49.44 184 P **P 20 00 08.1 +0.6**
ABPO pmax pmax
comp=Z,23nm,0.8s
HHC Hu-ho-hao-te 49.48 61 ⇑*i*P **P 20 00 09.1 +1.3**
HHC S **S 20 07 14.1 +0.2**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,73nm,4.2s
HHC LR LR
comp=Z,340nm,16.0s
HHC LR LR
comp=Z,400nm,16.8s
HHC LR LR
comp=Z,630nm,21.0s
SPB2 Spitsbergen Ar 50.05 351 P **P 20 00 11.4 0.0**
SPA0 Spitsbergen Ar 50.06 351 *e*P **P 20 00 11.7 +0.2**
SPITS Spitsbergen Ar 50.06 351 P **P 20 00 11.3 -0.2**
comp=Z,57nm,0.7s,baz=145,slow=10,SNR=38
SPITS LR LR 20 24 16.1
comp=Z,286nm,20.7s,baz=140,slow=40
comp=Z,57nm,0.7s
SPITS Spitsbergen Ar 50.06 351 P **P 20 00 10.8 -0.7**
SPITS pmax pmax
comp=Z,100nm,0.9s
BOD Bodaibo 50.51 38 *e*P **P 20 00 15.3 +0.2**
BOD pmax pmax
comp=Z,105nm,0.9s
LSZ Lusaka 50.54 209 LR LR 20 22 32.1
comp=Z,2μm,18.3s,baz=36,slow=37
TIY Taiyuan 50.68 64 P **P 20 00 17.2 +0.3**
TIY sP **sP 20 00 32.6 +4.2**
TIY S **S 20 07 32.7 +2.1**
TIY pmax pmax
comp=Z,10.0nm,0.8s
TIY LR LR
comp=Z,350nm,17.9s

TIY LR LR
comp=Z,300nm,21.3s
TIY LR LR
comp=Z,360nm,22.7s
KBS Kingsbay 51.21 351 P **P 20 00 19.3 -0.8**
KBS Kingsbay 51.21 351 *de*P **P 20 00 20.0 -0.2**
KBS pmax pmax
comp=Z,26nm,0.9s
KBS Kingsbay 51.21 351 *e*P **P 20 00 19.8 -0.3**
KBS Kingsbay 51.21 351 *i*P **P 20 00 19.9 -0.2**
LYN LuoYang 51.40 68 P **P 20 00 22.4 +0.2**
LYN pP sP 20 00 35.3 +1.5
LYN S **S 20 07 35.6 -4.8**
LYN sS sS 20 07 55.6 +1.2
LYN pmax pmax
comp=Z,57nm,0.9s
LYN pmax pmax
comp=Z,190nm,4.2s
LYN LR LR
comp=Z,550nm,13.7s
LYN LR LR
comp=Z,570nm,14.1s
LYN LR LR
comp=Z,650nm,14.1s
JMIC Jan Mayen 51.50 339 LR LR 20 23 58.3
comp=Z,125nm,21.0s,baz=71,slow=38
VOI Vohitsoka 52.33 185 P **P 20 00 33.1 +3.8**
SNR=6.1
XLT XiLinHaoTe 52.35 56 *e*P **P 20 00 28.4 -0.9**
XLT S **S 20 07 48.8 -4.7**
XLT pmax pmax
comp=Z,12nm,1.0s
XLT pmax pmax
comp=Z,130nm,3.8s
XLT LR LR
comp=Z,480nm,15.4s
XLT LR LR
comp=Z,640nm,17.2s
TSI Tuntungan 52.44 111 P **P 20 00 30.9 +0.8**
HNS HongShan 52.51 64 ⇓P P 20 00 35.3 +4.9
HNS S S 20 08 05.0 +9.3
HNS LR LR
comp=Z,340nm,15.9s
HNS LR LR
comp=Z,450nm,19.1s
HNS LR LR
comp=Z,510nm,20.7s
GSI Gunungsitoli 52.97 114 **P 20 00 32.2 -1.9**
GSI IAmb IAmb 20 00 44.9
comp=Z,26nm,0.8s
GSI Gunungsitoli 52.97 114 P **P 20 00 37.7 +3.6**
GSI Gunungsitoli 52.97 114 P **P 20 00 33.5 -0.6**
BJI Beijing 53.09 61 P **P 20 00 35.5 +0.9**
BJI pP **pP 20 00 43.3 +0.3**
BJI sP **sP 20 00 48.6 +2.4**
BJI PcP **PcP 20 01 43.1 +0.3**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=Z,230nm,17.4s
BJI LR LR
comp=Z,190nm,19.2s
BJI LR LR
comp=Z,440nm,18.0s
KULM Kulim 53.10 108 P **P 20 00 38.0 +2.9**
PSI Prapat 53.14 112 LR LR 20 23 22.7
comp=Z,75nm,19.8s,baz=288,slow=36
PSI Prapat 53.14 112 P **P 20 00 38.2 +2.7**
PSI Prapat 53.14 112 P **P 20 00 33.3 -2.2**
PSI pmax pmax
comp=Z,20nm,0.7s
RPSI Rantau Prapat 53.20 112 P **P 20 00 33.2 -2.5**
RPSI IAmb IAmb 20 00 47.6
comp=Z,20nm,0.7s
CNSH ChangSha 53.55 76 P **P 20 00 37.6 -0.7**
CNSH S **S 20 08 07.7 -2.4**
CNSH pmax pmax
comp=Z,27nm,1.0s
CNSH LR LR
comp=Z,490nm,14.1s
CNSH LR LR
comp=Z,400nm,19.0s
CNSH LR LR
comp=Z,500nm,18.3s
WHN Wuhan 54.00 73 P **P 20 00 41.6 +0.1**
WHN pmax pmax
comp=Z,52nm,0.7s
QIZ Qiongzhong 54.26 88 P **P 20 00 43.0 -0.5**
QIZ S **S 20 08 17.4 -2.5**
QIZ LR LR
comp=Z,290nm,9.2s
QIZ LR LR
comp=Z,490nm,10.6s
TIA Tai'an 54.68 65 P **P 20 00 46.8 +0.4**
TIA pmax pmax
comp=Z,23nm,0.9s
TIA pmax pmax
comp=Z,140nm,4.1s
MATP Matopo 55.08 206 LR LR 20 25 18.7
comp=Z,306nm,18.7s,baz=41,slow=37
BORG Borgarnes 55.20 330 LR LR 20 25 53.1
comp=Z,230nm,20.8s,baz=94,slow=38
DBG Daneborg 55.71 342 *i*P **P 20 00 53.4 +0.2**
DBG IAmb IAmb 20 00 58.4
comp=Z,43nm,1.0s
DAG Danmarks Havn 55.79 345 P **P 20 00 53.2 -0.5**
DAG pmax pmax
comp=Z,77nm,0.8s
DAG Danmarks Havn 55.79 345 *i*P **P 20 00 53.7 0.0**
DAG IAmb IAmb 20 00 57.9
comp=Z,44nm,0.8s
BROLN Tlhalogang 56.13 207 *i*P **P 20 01 00.1 +3.2**
PMPS Porto Santo 56.22 291 *e*P **P 20 00 58.0 +0.5**
NOR Nord 56.68 351 *i*P **P 20 00 59.6 -0.5**
NOR IAmb IAmb 20 01 04.3
comp=Z,44nm,1.0s
PMAR Madeira 56.79 291 *e*P **P 20 01 02.2 +0.5**
PMAR *i* IAmb IAmb 20 01 12.0
comp=Z,159nm,1.0s
PMOZ Porto Moniz, M 56.99 291 P **P 20 01 08.5 +5.4**
PMOZ Porto Moniz, M 56.99 291 *e*P **P 20 01 03.6 +0.5**
PMOZ *i* IAmb IAmb 20 01 13.5
comp=Z,77nm,0.9s
NJ2 Nanjing 57.22 69 *e*P **P 20 01 02.8 -1.8**
NJ2 pmax pmax
comp=Z,14nm,1.0s
DBIC Dimbokro 57.23 257 P **P 20 01 05.2 +0.4**
DBIC IAmb IAmb 20 01 19.6
comp=Z,38nm,0.8s
DBIC PcP **PcP 20 01 58.2 -1.0**
DBIC Dimbokro 57.23 257 P **P 20 01 04.1 -0.7**
comp=Z,18nm,0.6s,baz=63,slow=9.1,SNR=20
DBIC LR LR 20 27 36.2
comp=Z,1μm,19.1s,baz=78,slow=38
comp=Z,18nm,0.6s
DBIC Dimbokro 57.23 257 P **P 20 01 05.2 +0.4**
DBIC 20 01 58.2
DBIC pmax pmax
comp=Z,38nm,0.9s
DL2 Dalian 57.45 61 P **P 20 01 06.5 +0.3**
DL2 S **S 20 09 04.0 +2.1**
DL2 pmax pmax
comp=Z,85nm,0.7s
DL2 pmax pmax
comp=Z,210nm,3.9s
DL2 LR LR
comp=Z,660nm,10.5s
DL2 LR LR
comp=Z,360nm,15.9s
DL2 LR LR
comp=Z,750nm,20.8s
TIXI Tiksi 57.53 22 P **P 20 01 06.3 +0.1**
TIXI IAmb IAmb 20 01 27.8
comp=Z,28nm,0.8s
TIXI Tiksi 57.53 22 LR LR 20 29 34.3
comp=Z,1μm,20.4s,baz=288,slow=40
TIXI Tiksi 57.53 22 ⇓*e*P **P 20 01 06.1 -0.1**
TIXI pmax pmax
comp=Z,13nm,1.0s
MYKOM Kota Tinggi 57.71 109 IAmb IAmb 20 01 18.2
comp=Z,24nm,0.9s
SNY Shenyang 58.16 57 ⇑P **P 20 01 08.8 -2.3**
SNY pmax pmax
comp=Z,7.0nm,0.5s
YAK Yakutsk 58.33 33 P **P 20 01 11.0 -0.9**
YAK Yakutsk 58.33 33 LR LR 20 29 24.8

comp=Z,673nm,18.8s,baz=270,slow=39
YAK Yakutsk 58.33 33 *e*P **P 20 01 11.4 -0.5**
YAK *e**PP **sP 20 01 23.1 -0.2**
YAK *e* 20 02 03.3
YAK *e* 20 03 19.2
YAK *e*S **S 20 09 11.0 -1.6**
YAK *e**SS **sS 20 09 32.0 +5.4**
YAK *e* 20 10 57.9
YAK *e*SS **SS 20 13 04.4 +0.2**
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,22nm,1.3s
YAK pmax pmax
comp=Z,20nm,1.8s
YAK smax smax
comp=E,56nm,2.7s
YAK smax smax
comp=N,23nm,2.5s
LPHEP Lephephe 58.75 207 P 20 01 15.5 +0.1
LPHEP Lephephe 58.75 207 *i*P **P 20 01 18.7 +3.3**
HEH HeiHe 58.89 47 *e*P **P 20 01 16.1 +0.1**
HEH pmax pmax
comp=N,30nm,0.8s
HEH LR LR
comp=N,400nm,17.3s
HEH LR LR
comp=N,350nm,17.5s
HEH LR LR
comp=N,1µm,18.6s
TSUM Tsumeb 58.93 217 LR LR 20 27 41.9
comp=N,431nm,18.6s,baz=40,slow=37
GRTLG Ghanzi 58.97 213 IAmb IAmb 20 01 30.4
comp=Z,43nm,0.9s
GRTLG Ghanzi 58.97 213 *i*P **P 20 01 21.2 +4.2**
CN2 Changchun 59.02 55 P **P 20 01 16.8 -0.2**
CN2 pP pP 20 01 21.1 -4.2
CN2 pmax pmax
comp=Z,20nm,0.7s
SOEG Soedalen 59.12 334 *i*P **P 20 01 18.4 +1.1**
SOEG IAmb IAmb 20 01 22.8
comp=Z,83nm,1.0s
KDWAN Kaudwane 59.24 208 *i*P **P 20 01 22.4 +3.6**
KGCAE Kacgae 59.82 211 *i*P **P 20 01 27.4 +4.5**
BNX BinXian 59.89 52 ⇓P **P 20 01 23.1 +0.1**
BNX pmax pmax
comp=Z,13nm,1.1s
LBTB Lobatse 60.34 206 P 20 01 26.0 -0.3
LBTB Lobatse 60.34 206 LR LR 20 29 10.9
comp=Z,472nm,18.7s,baz=44,slow=38
LBTB Lobatse 60.34 206 P **P 20 01 26.0 -0.3**
LBTB pmax pmax
comp=Z,50nm,1.0s
POGA Pongola 60.43 200 P **P 20 01 29.5 +2.7**
POGA IAmb IAmb 20 01 38.1
comp=Z,42nm,0.9s
SKOMA Sekoma 60.55 208 *i*P **P 20 01 31.5 +3.7**
KOOLE Kule 60.85 213 *i*P **P 20 01 34.6 +4.8**
SUMG Summit 60.92 340 P **P 20 01 29.3 -0.8**
SUMG Summit 60.92 340 P **P 20 01 29.3 -0.8**
SUMG pmax pmax
comp=Z,87nm,0.8s
SUMG Summit 60.92 340 *i*P **P 20 01 31.0 +0.9**
SUMG IAmb IAmb 20 01 35.0
comp=Z,89nm,0.8s
INCN Inchon 61.64 61 P **P 20 01 36.5 +1.4**
MDJ Mudanjiang 61.68 53 P **P 20 01 34.2 -1.0**
MDJ pP sP 20 01 48.9 +2.2
MDJ S **S 20 09 58.1 +1.8**
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ LR LR
comp=Z,1µm,15.8s
MDJ LR LR
comp=Z,1µm,16.7s
PHPEN Phepeng 61.84 209 *i*P **P 20 01 39.5 +3.0**
ANGG Ammassalik, Gr 61.95 332 *i*P **P 20 01 38.6 +2.0**
ANGG IAmb IAmb 20 01 41.0
comp=Z,45nm,0.8s
ISOG Isortoq, Green 62.51 332 *i*P **P 20 01 43.6 +3.2**
ISOG IAmb IAmb 20 01 44.2
comp=Z,67nm,0.7s
TJN Taejon 62.55 62 P **P 20 01 43.1 +2.0**
TJN Taejon 62.55 62*ce*P **P 20 01 39.8 -1.3**
KS19 Wonju Array Si 62.56 61 P **P 20 01 40.4 -0.8**
KS19 IAmb IAmb 20 01 46.1
comp=Z,28nm,0.8s
KSAR Wonju Array Be 62.60 61 P **P 20 01 40.1 -1.4**
KSAR Wonju Array Be 62.60 61 P **P 20 01 40.1 -1.4**
KSRS Korea Array 62.62 61 P **P 20 01 41.1 -0.5**
comp=Z,36nm,0.9s,baz=282,slow=6.5,SNR=121
comp=Z,36nm,0.9s
NEEM North Greenlan 62.93 346 *i*P **P 20 01 45.1 +1.7**
NEEM IAmb IAmb 20 01 48.9
comp=Z,45nm,0.7s
PSTR Posyet 63.09 55*d i*P **P 20 01 45.2 +0.5**
MSHR Mys Shultsa 63.36 55⇑*e*P **P 20 01 46.3 -0.2**
MSHR pmax pmax
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 63.45 53*de*P **P 20 01 46.6 -0.4**
USRK Ussuriysk Ar. 63.45 53 P **P 20 01 44.0 -3.0**
USRK Ussuriysk Ar. 63.45 53 P **P 20 01 45.8 -1.2**
comp=Z,6.2nm,0.7s,baz=285,slow=5.4,SNR=12
USRK LR LR 20 33 04.5
comp=Z,795nm,18.2s,baz=280,slow=40
comp=Z,6.2nm,0.7s
VLA Vladivostok 63.71 54⇑*i*P **P 20 01 48.4 -0.3**
VLA pmax pmax
comp=Z,25nm,0.9s
BOSA Boshof 63.72 205 P **P 20 01 47.8 -1.2**
comp=Z,9.4nm,0.9s,baz=17,slow=7.8,SNR=15
BOSA LR LR 20 30 55.5
comp=Z,961nm,18.6s,baz=38,slow=37
comp=Z,9.4nm,0.9s
SBUM Sibu 64.28 103 P **P 20 01 56.3 +3.4**
GRNR Gornyy 64.33 45⇓*i*P **P 20 01 52.1 -0.6**
GRNR pmax pmax
comp=Z,7.0nm,0.9s
GRNR MLR MLR
comp=E,320nm,16.0s
GRNR MLR MLR
comp=N,240nm,17.0s
GRNR MLR MLR
comp=Z,550nm,15.0s
UMMG Uummannaq 65.60 339 *i*P **P 20 02 03.3 +2.7**
UMMG IAmb IAmb 20 02 04.5
comp=Z,24nm,0.6s
LEM Lembang 65.84 114 LR LR 20 31 34.9
comp=Z,93nm,20.0s,baz=354,slow=37
UPNV Upernavik 65.90 342 *i*P **P 20 02 05.0 +2.5**
UPNV IAmb IAmb 20 02 06.9
comp=Z,33nm,0.5s
TEY Ternei 66.29 51 *e*P **P 20 02 04.2 -1.3**
JNU Nakatsue 66.40 64 LR LR 20 35 12.1
comp=Z,204nm,19.2s,baz=278,slow=40
JNU Nakatsue 66.40 64 P **P 20 02 08.9 +2.4**
SFJD Kangerlussuaq 66.53 335 LR LR 20 32 39.2
comp=Z,198nm,18.1s,baz=64,slow=37
NRS Narsarsuaq 66.59 328 P **P 20 02 05.6 -1.5**
NRS Narsarsuaq 66.59 328 P **P 20 02 05.6 -1.5**
NRS pmax pmax
comp=Z,40nm,0.5s
NRS Narsarsuaq 66.59 328⇓*i*P **P 20 02 09.4 +2.3**
NRS IAmb IAmb 20 02 10.6
comp=Z,37nm,0.6s
JOW Kunigami 66.75 72 LR LR 20 34 23.9
comp=Z,193nm,20.7s,baz=177,slow=39
IVI Ivigtut 67.81 329 P **P 20 02 13.6 -1.3**
IVI Ivigtut 67.81 329 *i*P **P 20 02 17.4 +2.5**
IVI IAmb IAmb 20 02 18.3
comp=Z,24nm,0.6s
TYV Tymovskoe 68.03 43 *e*P **P 20 02 20.6 +4.2**
TYV pmax pmax
comp=Z,44nm,0.9s
TYV pmax pmax
comp=Z,200nm,5.4s
NUUK Nuuk 68.10 333 *i*P **P 20 02 19.4 +2.8**
NUUK IAmb IAmb 20 02 20.4
comp=Z,32nm,0.7s
SEY Seymchan 68.21 29 P **P 20 02 17.5 +0.2**
comp=Z,25nm,0.9s,baz=291,slow=9.2,SNR=27
SEY LR LR 20 36 03.1
comp=Z,850nm,18.3s,baz=330,slow=39
comp=Z,25nm,0.9s
SEY Seymchan 68.21 29*c i*P **P 20 02 18.0 +0.6**
SEY pmax pmax
comp=Z,28nm,0.9s
JMN Monobe 68.48 63 P **P 20 02 19.3 -0.4**
JMN Monobe 68.48 63 P **P 20 02 21.6 +1.9**
MA2 Magadan 68.90 33 LR LR 20 36 42.2
comp=Z,379nm,19.4s,baz=282,slow=40
YSS Yuzhno-Sakhali 69.58 47 P **P 20 02 25.4 -0.7**
YSS Yuzhno-Sakhali 69.58 47 P **P 20 02 26.1 0.0**
YSS Yuzhno-Sakhali 69.58 47*ce*P **P 20 02 25.6 -0.5**
YSS pmax pmax
comp=Z,100nm,5.2s
YSS pmax pmax
comp=Z,60nm,0.9s
JSD Sado 70.05 57 P **P 20 02 32.2 +3.0**
INU Inuyama 70.22 60 P **P 20 02 29.0 -1.3**
INU IAmb IAmb 20 02 35.4
comp=Z,25nm,0.9s
INU Inuyama 70.22 60 P **P 20 02 30.9 +0.6**
JGF Kuroka 70.37 60 IAmb IAmb 20 03 03.5
comp=Z,47nm,1.7s
ASAJ Asahikawa 70.61 50 LR LR 20 36 26.9
comp=Z,850nm,19.4s,baz=304,slow=38
MJB9 Matsu-Tunnel 70.61 59 IAmb IAmb 20 02 37.0
comp=Z,16nm,0.9s
MAJO Matsushiro 70.61 59 P **P 20 02 31.2 -1.6**
MAJO IAmb IAmb 20 02 37.0
comp=Z,17nm,0.9s
MAJO Matsushiro 70.61 59 P **P 20 02 32.6 -0.1**
MAJO Matsushiro 70.61 59⇑*e*P **P 20 02 32.4 -0.3**
MAJO pmax pmax
comp=Z,19nm,1.0s
MJAR Matsushiro Arr 70.62 59 P **P 20 02 31.7 -1.1**
MJAR IAmb IAmb 20 02 38.4
comp=Z,35nm,2.0s
MJAR Matsushiro Arr 70.62 59 P **P 20 02 31.9 -0.8**
comp=Z,6.8nm,1.0s,baz=294,slow=9.1,SNR=14
MJAR LR LR 20 36 30.9
comp=Z,288nm,19.1s,baz=300,slow=38
comp=Z,6.8nm,1.0s
MJAR Matsushiro Arr 70.62 59 P **P 20 02 31.7 -1.1**
MJAR pmax pmax
comp=Z,35nm,2.0s
BILL Bilibino 70.75 21 P **P 20 02 33.5 +0.6**
BILL Bilibino 70.75 21*ce*P **P 20 02 33.5 +0.6**
BILL pmax pmax
comp=Z,19nm,0.9s
JTM Tenmabayashi 70.93 53 P **P 20 02 33.0 -1.5**
JTM Tenmabayashi 70.93 53 P **P 20 02 37.6 +3.1**
JMM Marumori 71.95 56 P **P 20 02 39.4 -1.3**
JMM IAmb IAmb 20 02 45.3
comp=Z,20nm,0.7s
JMM Marumori 71.95 56 P **P 20 02 40.0 -0.7**
RES Resolute Bay 72.62 351 LR LR 20 37 10.9
comp=Z,138nm,19.4s,baz=42,slow=38
JHJ Hachijo jima 2 73.23 61 LR LR 20 41 38.7
comp=Z,46nm,18.7s,baz=291,slow=41
FRB Frobisher Bay 74.61 336 LR LR 20 37 04.0
comp=Z,160nm,20.4s,baz=69,slow=37
KAPI Kappang 74.63 105 LR LR 20 39 01.3
comp=Z,83nm,18.8s,baz=302,slow=38
PEA0B Petropavlovsk- 75.34 37 P **P 20 02 57.5 -2.9**
PEA0B Petropavlovsk- 75.34 37 P **P 20 02 57.5 -2.9**
PEA0B pmax pmax
comp=Z,16nm,1.1s
PETK Petropavlovsk- 75.34 37 P **P 20 02 57.7 -2.7**
PETK Petropavlovsk- 75.34 37 P **P 20 02 58.4 -2.0**
comp=Z,5.0nm,0.9s,baz=333,slow=0.3,SNR=11
PETK LR LR 20 39 24.0
comp=Z,728nm,18.7s,baz=305,slow=38
comp=Z,5.0nm,0.9s
A21K Barrow 76.54 9 P **P 20 03 04.8 -2.1**
baz=336
A19K Wainwright 76.91 11 P **P 20 03 07.3 -1.6**
baz=332
A22K Sinclair Lake 77.05 8 P **P 20 03 07.3 -2.4**
baz=337
B18K Kokolik River 77.53 11 P **P 20 03 12.4 -0.1**
baz=332,SNR=6.3
A36M Sachs Harbour 77.67 359 P **P 20 03 13.0 -0.2**
A36M Sachs Harbour 77.67 359 P **P 20 03 12.2 -1.0**
baz=3.4
B20K Meade River 77.67 10 P **P 20 03 12.8 -0.5**
baz=336
JCJ Chichijima 77.81 66 LR LR 20 42 41.4
comp=Z,209nm,19.0s,baz=140,slow=40
C16K Lisburne Hills 77.84 13 P **P 20 03 13.3 -0.9**
baz=329
B22K Teshekpuk Lake 77.86 8 P **P 20 03 13.6 -0.7**
baz=339
C17K Dog Mountai 78.07 12 P **P 20 03 15.2 -0.4**
baz=330,SNR=15
C19K Lookout Ridge 78.12 11 P **P 20 03 15.8 -0.1**
baz=334,SNR=5.1
C18K Utukok River 78.27 11 P **P 20 03 16.7 0.0**
baz=332
SANI Sanana 78.30 99 P **P 20 03 20.6 +2.9**
B21K Ikpikpuk River 78.38 9 P **P 20 03 17.0 -0.2**
baz=338,SNR=7.0
RDOG Red Dog Mine 78.49 12 P **P 20 03 17.5 -0.4**
baz=331,SNR=5.3
C23K Itkillik River 78.67 7 P **P 20 03 18.2 -0.5**
baz=341,SNR=6.0
D17K Noatak River 78.77 13 P **P 20 03 19.3 -0.1**
baz=331,SNR=16
C21K Knifeblade Rid 78.79 9 P **P 20 03 19.6 +0.1**
baz=338,SNR=7.0
D19K Kuna River 78.91 10 IAmb IAmb 20 03 25.5
comp=Z,49nm,0.9s
D19K Kuna River 78.91 10 P **P 20 03 20.2 -0.1**
baz=335,SNR=7.6
D20K Etivluk River 78.94 10 IAmb IAmb 20 03 26.3
comp=Z,51nm,1.1s
D20K Etivluk River 78.94 10 P **P 20 03 20.2 -0.2**
baz=336
C24K Franklin Bluff 78.98 7 IAmb IAmb 20 03 26.3
comp=Z,58nm,1.1s
C24K Franklin Bluff 78.98 7 P **P 20 03 20.5 0.0**
baz=343
C26K Camden Bay 79.14 5 P **P 20 03 20.8 -0.5**
baz=346
D22K Ayikyak River 79.32 8 IAmb IAmb 20 03 28.1
comp=Z,46nm,0.8s
D22K Ayikyak River 79.32 8 P **P 20 03 22.0 -0.5**
baz=340,SNR=19
E18K Tukpahlearik C 79.46 12 P **P 20 03 23.1 -0.1**
E18K IAmb IAmb 20 03 28.1
comp=Z,38nm,0.8s
E18K Tukpahlearik C 79.46 12 P **P 20 03 22.6 -0.6**
baz=333
D23K Nanushuk River 79.49 8 P **P 20 03 22.8 -0.5**
baz=341,SNR=13
D24K Happy Valley 79.51 7 IAmb IAmb 20 03 28.9
comp=Z,26nm,0.8s
D24K Happy Valley 79.51 7 P **P 20 03 23.3 -0.1**
baz=343
C27K Jago River 79.52 5 P **P 20 03 22.9 -0.6**
baz=347
E17K Hotham Inlet 79.54 12 P **P 20 03 23.3 -0.4**
baz=332
SCHQ Schefferville 79.55 329 P **P 20 03 23.0 -0.9**
SCHQ IAmb IAmb 20 03 30.3
comp=Z,21nm,0.7s
SCHQ Schefferville 79.55 329 P **P 20 03 23.1 -0.9**
comp=Z,31nm,0.8s,baz=51,slow=9.6,SNR=20
SCHQ LR LR 20 39 28.1
comp=Z,73nm,20.2s,baz=91,slow=36
comp=Z,31nm,0.8s
E21K Killik River 79.57 9 IAmb IAmb 20 03 28.8
comp=Z,54nm,1.1s
E21K Killik River 79.57 9 P **P 20 03 23.0 -0.8**
baz=338,SNR=17
D25K Kavik River 79.59 6 P **P 20 03 23.5 -0.4**
baz=345,SNR=5.4
TNA Tin City 79.60 15 P **P 20 03 23.5 -0.5**
baz=327
TOLK Toolik Lake Re 79.92 7 P **P 20 03 25.9 +0.2**
TOLK IAmb IAmb 20 03 31.3
comp=Z,58nm,0.8s
TOLK Toolik Lake Re 79.92 7 P **P 20 03 25.3 -0.4**
baz=342,SNR=20
E19K Redstone River 80.00 11 P **P 20 03 25.7 -0.5**
E19K IAmb IAmb 20 03 30.9
comp=Z,45nm,0.7s
E19K Redstone River 80.00 11 P **P 20 03 25.3 -0.8**
baz=336,SNR=36
F14K Arctic Creek 80.03 15 P **P 20 03 25.4 -0.8**
baz=328
D27M Malcolm River 80.09 4 P **P 20 03 25.8 -0.9**
baz=350
D28M Stokes Point 80.14 3 P **P 20 03 25.5 -1.2**
baz=352
GAMB Gambell 80.14 18 P **P 20 03 25.7 -1.1**
baz=324
F15K North Star Dit 80.19 14 IAmb IAmb 20 03 32.5
comp=Z,35nm,0.9s
F15K North Star Dit 80.19 14 P **P 20 03 26.3 -0.9**
baz=330,SNR=6.6
F17K Baldwin Pennin 80.22 13 P **P 20 03 26.6 -0.7**
baz=332
F18K Selawik 80.37 12 P **P 20 03 26.8 -1.2**
baz=334,SNR=22
E23K Chandalar 80.47 8 P **P 20 03 28.4 -0.4**
E23K IAmb IAmb 20 03 36.3
comp=Z,39nm,0.9s
E23K Chandalar 80.47 8 P **P 20 03 28.1 -0.7**
baz=342,SNR=22
F19K Shaleruckik Mo 80.48 11 IAmb IAmb 20 03 33.0
comp=Z,37nm,0.8s
F19K Shaleruckik Mo 80.48 11 P **P 20 03 27.6 -1.0**
baz=335
E24K Your Creek 80.58 7 IAmb IAmb 20 03 34.9
comp=Z,27nm,0.9s
E24K Your Creek 80.58 7 P **P 20 03 29.4 +0.1**
baz=343,SNR=7.1
F20K Avaraart Lake 80.61 10 IAmb IAmb 20 03 34.2
comp=Z,37nm,0.8s
F20K Avaraart Lake 80.61 10 P **P 20 03 28.9 -0.5**
baz=337,SNR=38
F22K John River 80.68 9 P **P 20 03 30.0 +0.1**
baz=340,SNR=34
F21K Alatna River 80.78 9 IAmb IAmb 20 03 35.6
comp=Z,38nm,1.0s
F21K Alatna River 80.78 9 P **P 20 03 30.0 -0.3**
baz=339,SNR=39
E28M Babbage River 80.81 4 P **P 20 03 30.4 -0.1**
baz=351
G16K Koyuk River 80.93 13 IAmb IAmb 20 03 36.5
comp=Z,29nm,0.9s
G16K Koyuk River 80.93 13 P **P 20 03 31.2 +0.1**
baz=332
G15K Nikuluk 80.94 14 P **P 20 03 31.2 +0.1**
baz=330
ANM Nome 81.02 15 P **P 20 03 31.2 -0.4**
baz=329
E27K Coleen River 81.09 5 IAmb IAmb 20 03 37.4
comp=Z,36nm,1.4s
E27K Coleen River 81.09 5 P **P 20 03 32.0 0.0**
baz=349
E29M Blow River 81.11 3 P **P 20 03 31.9 -0.2**
baz=352
G17K Kiwalik Mounta 81.17 13 P **P 20 03 32.0 -0.4**
baz=333
G18K Tagagawik 81.18 12 IAmb IAmb 20 03 37.0
comp=Z,21nm,0.8s
G18K Tagagawik 81.18 12 P **P 20 03 31.7 -0.8**
baz=335,SNR=7.5
F24K Squaw Lake 81.19 7 P **P 20 03 32.0 -0.6**
baz=344
COLD Coldfoot 81.20 8 IAmb IAmb 20 03 38.0
comp=Z,28nm,0.9s
COLD Coldfoot 81.20 8 P **P 20 03 32.2 -0.4**
baz=342,SNR=14
G19K Purcell Mounta 81.22 11 P **P 20 03 32.4 -0.3**
baz=336,SNR=48
G22K Bettles 81.33 9 P **P 20 03 32.8 -0.4**
baz=341
F25K Christian Rive 81.34 6 P **P 20 03 32.7 -0.7**
baz=346
INK Inuvik 81.36 2 P **P 20 03 31.7 -1.6**
comp=Z,4.9nm,0.6s,baz=2.1,slow=5.8,SNR=4.2
INK LR LR 20 47 24.3
comp=Z,60nm,19.3s,baz=46,slow=41
comp=Z,4.9nm,0.6s
INK Inuvik 81.36 2 P **P 20 03 32.8 -0.6**
baz=356
F26K Sheenjek River 81.38 6 P **P 20 03 32.7 -0.8**
baz=347
G21K Allakaket 81.43 10 IAmb IAmb 20 03 38.6
comp=Z,41nm,0.8s
G21K Allakaket 81.43 10 P **P 20 03 33.2 -0.7**
baz=339,SNR=28
BMAR Burnt Mountain 81.60 6 P **P 20 03 34.5 -0.2**
H16K Elim 81.62 14 P **P 20 03 33.7 -1.1**
baz=332
G23K Bananza Creek 81.72 8 IAmb IAmb 20 03 40.9
comp=Z,22nm,1.1s
G23K Bananza Creek 81.72 8 P **P 20 03 34.6 -0.7**
baz=342,SNR=14
F28M Old Crow 81.77 4 P **P 20 03 34.8 -0.8**
baz=351
H17K Granite Mounta 81.82 13 IAmb IAmb 20 03 40.5
comp=Z,18nm,0.8s
H17K Granite Mounta 81.82 13 P **P 20 03 35.4 -0.4**
baz=334,SNR=6.7
H19K Roundabout Mou 81.89 11 P **P 20 03 35.6 -0.6**
baz=336,SNR=5.8
IMAR Indian Mountai 81.90 10 P **P 20 03 36.0 -0.2**
H18K Honhosa River 81.91 12 IAmb IAmb 20 03 41.2
comp=Z,28nm,0.8s
H18K Honhosa River 81.91 12 P **P 20 03 35.8 -0.6**
baz=335,SNR=6.1
F30M Barrier River 81.98 3 IAmb IAmb 20 03 48.4
comp=Z,67nm,1.4s
F30M Barrier River 81.98 3 P **P 20 03 36.2 -0.5**
baz=354
G24K Hadweenzic Riv 82.02 7 IAmb IAmb 20 03 42.7
comp=Z,34nm,1.0s
G24K Hadweenzic Riv 82.02 7 P **P 20 03 35.9 -1.0**
baz=344,SNR=24
G25K Bearman Lake 82.10 7 P **P 20 03 36.7 -0.6**
baz=345
G26K Porcupine Rive 82.14 6 P **P 20 03 36.3 -1.2**
baz=347,SNR=5.8
H20K Anotlenegga Mo 82.18 11 P **P 20 03 37.2 -0.6**
baz=338,SNR=38
F31M Tsiigehtchic 82.22 2 P **P 20 03 37.1 -0.8**
baz=356
H22K Ishtalitna Cre 82.32 9 P **P 20 03 37.8 -0.7**
baz=341,SNR=27
H21K Melozitna Rive 82.34 10 IAmb IAmb 20 03 44.1
comp=Z,40nm,0.8s
H21K Melozitna Rive 82.34 10 P **P 20 03 38.3 -0.3**
baz=340,SNR=43
G27K Doyon Strip 82.45 5 IAmb IAmb 20 03 44.8
comp=Z,14nm,0.8s
G27K Doyon Strip 82.45 5 P **P 20 03 38.6 -0.6**
baz=349,SNR=22
GCSA Galena City Sc 82.54 12 P **P 20 03 39.3 -0.3**
baz=336
G29M Pine Creek 82.58 4 P **P 20 03 38.7 -1.1**
baz=352
G30M tAoh Zraii Nji 82.59 3 IAmb IAmb 20 03 44.6
comp=Z,43nm,1.2s
G30M tAoh Zraii Nji 82.59 3 P **P 20 03 38.9 -1.1**
baz=354
I17K Unalakleet 82.61 13 P **P 20 03 39.1 -0.9**
baz=333
H25L Birch Creek 82.61 7 P **P 20 03 39.0 -1.0**
baz=346
H23K Yukon River 82.62 8 IAmb IAmb 20 03 46.1
comp=Z,34nm,0.9s
H23K Yukon River 82.62 8 P **P 20 03 39.8 -0.3**
baz=342,SNR=20
G31M Satah River 82.72 2 IAmb IAmb 20 03 45.1
comp=Z,35nm,1.1s
G31M Satah River 82.72 2 P **P 20 03 39.7 -0.8**
baz=356
H24K Noodor Dome 82.81 8 IAmb IAmb 20 03 46.7
comp=Z,18nm,0.8s
H24K Noodor Dome 82.81 8 P **P 20 03 40.9 -0.2**
baz=344,SNR=15
I20K Naaghedeneel 82.89 11 P **P 20 03 40.5 -1.0**
baz=338,SNR=5.6
I21K Tanana 82.91 9 P **P 20 03 41.1 -0.4**
baz=340,SNR=6.9
J14K Nanvaranak Lak 83.00 15 IAmb IAmb 20 03 47.4
comp=Z,30nm,0.9s
J14K Nanvaranak Lak 83.00 15 P **P 20 03 41.5 -0.5**
baz=331
H27K Steamboat Moun 83.03 5 IAmb IAmb 20 03 47.8
comp=Z,37nm,1.2s
H27K Steamboat Moun 83.03 5 P **P 20 03 41.6 -0.6**
baz=349,SNR=24

J16K Anvik River 83.16 14 P P 20 03 42.1 -0.8
baz=333,SNR=6.6
EPYK Eagle Plains 83.18 3 P P 20 03 42.1 -1.0
baz=353
H29M Whitestone 83.25 4 P P 20 03 42.9 -0.5
baz=352
I23K Minto, Yukon-K 83.29 8 IAmb IAmb 20 03 49.0
comp=Z,44nm,1.5s
I23K Minto, Yukon-K 83.29 8 P P 20 03 43.3 -0.2
baz=343,SNR=7.0
J17K VABM Dome 83.37 13 IAmb IAmb 20 03 49.0
comp=Z,26nm,0.9s
J17K VABM Dome 83.37 13 P P 20 03 43.0 -0.9
baz=334,SNR=5.3
PRP Porcupine Dome 83.37 7 IAmb IAmb 20 03 50.5
comp=Z,12nm,0.7s
PRP Porcupine Dome 83.37 7 P P 20 03 43.3 -0.9
baz=346,SNR=16
SHEM Shemya Is, Ala 83.44 31 LR LR 20 44 34.2
comp=Z,326nm,20.2s,baz=289,slow=38
J19K Poorman 83.45 11 IAmb IAmb 20 03 49.8
comp=Z,23nm,0.9s
J19K Poorman 83.45 11 P P 20 03 43.8 -0.6
baz=337,SNR=17
K13K Kusilvak Mount 83.46 16 IAmb IAmb 20 03 49.5
comp=Z,22nm,0.8s
K13K Kusilvak Mount 83.46 16 P P 20 03 44.1 -0.3
baz=330
J20K Nowinta River 83.53 11 IAmb IAmb 20 03 50.1
comp=Z,26nm,0.9s
J20K Nowinta River 83.53 11 P P 20 03 44.2 -0.6
baz=338,SNR=18
POKR Poker Plat Res 83.56 8 P P 20 03 44.1 -0.8
POKR Poker Plat Res 83.56 8 P P 20 03 44.3 -0.6
baz=344,SNR=7.0
I27K Kandik River 83.64 5 P P 20 03 44.1 -1.3
baz=349,SNR=6.4
COLA College 83.74 8 P P 20 03 45.9 +0.1
COLA College 83.74 8 *de*P P 20 03 45.6 -0.2
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 83.74 8 P P 20 03 44.8 -1.0
baz=344
J18K Innoko River 83.75 12 P P 20 03 45.1 -0.8
baz=336
I26K Coal Creek Min 83.81 6 IAmb IAmb 20 03 51.2
comp=Z,24nm,1.1s
I26K Coal Creek Min 83.81 6 P P 20 03 45.4 -0.8
baz=348,SNR=14
H31M Peel River 83.84 2 IAmb IAmb 20 04 35.2
comp=Z,21nm,1.1s
H31M Peel River 83.84 2 P P 20 03 45.8 -0.6
baz=356
K15K Wolf Creek Mou 83.85 15 IAmb IAmb 20 03 52.3
comp=Z,36nm,1.0s
K15K Wolf Creek Mou 83.85 15 P P 20 03 45.9 -0.6
baz=332
I28M Miner Creek 83.92 5 IAmb IAmb 20 03 50.9
comp=Z,12nm,0.6s
I28M Miner Creek 83.92 5 P P 20 03 45.6 -1.3
baz=351,SNR=14
IL31 83.95 8 IAmb IAmb 20 03 51.2
comp=Z,10nm,0.8s
ILAR Eielson Array 83.95 8 P 20 03 46.2 -0.7
ILAR Eielson Array 83.95 8 P P 20 03 45.9 -1.0
comp=Z,8.1nm,0.8s,baz=335,slow=5.1,SNR=31
ILAR PP PP 20 07 01.2 +1.4
comp=Z,2.6nm,0.9s,baz=342,slow=6.1,SNR=6.0
ILAR PKKPbc PKKPbc 20 22 00.5 -2.1
comp=Z,0.7nm,0.6s,baz=181,slow=2.2,SNR=5.3
ILAR LR LR 20 48 56.0
comp=Z,67nm,18.7s,baz=308,slow=41
comp=Z,8.1nm,0.8s
ILAR Eielson Array 83.95 8 P P 20 03 46.3 -0.7
CHUM Lake Minchimin 84.09 10 P P 20 03 46.6 -1.0
baz=340,SNR=28
I29M Ogilvie Camp, 84.11 4 IAmb IAmb 20 03 52.2
comp=Z,17nm,0.9s
I29M Ogilvie Camp, 84.11 4 P P 20 03 47.2 -0.5
baz=352,SNR=17
PSA00 Pilbara Seismi 84.12 119 P P 20 03 47.1 -1.3
comp=Z,17nm,1.0s
K17K Iditarod 84.14 13 P P 20 03 47.1 -0.8
baz=335,SNR=5.7
J25K Salcha River, 84.27 7 P P 20 03 48.7 0.0
J25K Salcha River, 84.27 7 P P 20 03 48.1 -0.6
baz=346,SNR=45
K20K Telida 84.30 11 P P 20 03 48.4 -0.4
K20K IAmb IAmb 20 03 54.1
comp=Z,33nm,1.2s
K20K Telida 84.30 11 P P 20 03 48.4 -0.4
baz=339,SNR=14
I30M Mount Dempster 84.34 3 IAmb IAmb 20 03 53.6
comp=Z,8nm,0.7s
I30M Mount Dempster 84.34 3 P P 20 03 48.1 -1.0
baz=354,SNR=21
M11K Mekoryuk 84.41 17 P P 20 03 48.9 -0.3
baz=329
L15K Ungalak Mounta 84.41 15 P P 20 03 48.9 -0.4
baz=332
L14K Kuka Creek 84.44 16 P P 20 03 48.6 -0.8
baz=331,SNR=5.7
J26L Joseph Creek 84.56 6 IAmb IAmb 20 03 54.9
comp=Z,18nm,0.8s
J26L Joseph Creek 84.56 6 P P 20 03 49.4 -0.7
baz=348,SNR=30
CAST Castle Rocks 84.56 10 P P 20 03 50.0 -0.1
baz=340,SNR=40
L17K Donlin 84.67 13 P P 20 03 50.1 -0.5
baz=335
MCK McKinley 84.70 9 P P 20 03 49.8 -1.0
baz=343,SNR=16
TRF Thorofare Moun 84.79 9 IAmb IAmb 20 03 56.9
comp=Z,26nm,0.8s
TRF Thorofare Moun 84.79 9 P P 20 03 50.6 -0.8
baz=342,SNR=8.0
L18K Granite Mounta 84.90 13 IAmb IAmb 20 03 57.1
comp=Z,22nm,1.1s
J30M Hart River 84.99 3 IAmb IAmb 20 03 57.6
comp=Z,45nm,1.5s
J30M Hart River 84.99 3 P P 20 03 52.2 -0.2
baz=354,SNR=17
K24K Donnelly Dome 85.02 7 P P 20 03 51.6 -0.8
baz=346,SNR=23
SCRK Sand Creek 85.03 7 P P 20 03 52.1 -0.4
baz=347,SNR=59
PPLA Purkeypile 85.04 10 IAmb IAmb 20 03 58.3
comp=Z,27nm,0.8s
PPLA Purkeypile 85.04 10 P P 20 03 52.3 -0.4
baz=340,SNR=5.9
M13K Dall Lake 85.09 16 P P 20 03 52.2 -0.6
baz=331
M14K Bethel 85.12 15 P P 20 03 52.3 -0.6
baz=332
K27K Chicken 85.16 6 P P 20 03 52.8 -0.3
baz=349
L20K Farewell, AK 85.16 11 P P 20 03 52.3 -0.8
baz=339,SNR=22
RIDG Independent Ri 85.18 7 P P 20 03 52.6 -0.6
baz=346,SNR=5.7
L19K White Mountain 85.27 12 P P 20 03 53.4 -0.2
baz=338,SNR=11
DAWY Dawson 85.32 4 IAmb IAmb 20 03 59.0
comp=Z,48nm,1.4s
DAWY Dawson 85.32 4 P P 20 03 53.4 -0.6
baz=351,SNR=25
M15K Kasigluk River 85.46 15 P P 20 03 54.2 -0.4
baz=333
M17K Holitna River 85.51 13 P P 20 03 54.2 -0.6
baz=336,SNR=17
M16K Timber Creek 85.54 14 P P 20 03 54.6 -0.4
baz=335,SNR=5.8
M19K Big River Lodg 85.61 12 IAmb IAmb 20 04 01.6
comp=Z,22nm,0.8s
M19K Big River Lodg 85.61 12 P P 20 03 54.9 -0.4
baz=338,SNR=5.2
D62A Allapoint, All 85.64 324 IAmb IAmb 20 04 00.2
comp=Z,31nm,1.4s
K29M Barlow Dome 85.66 4 P P 20 03 54.8 -0.9
baz=353,SNR=5.7
M18K Stony River 85.73 12 P P 20 03 55.5 -0.4
baz=337,SNR=21
CUT Chulitna 85.79 10 P P 20 03 55.1 -1.1
baz=342
M20K Styx River 85.84 11 IAmb IAmb 20 04 01.5
comp=Z,10nm,0.7s
M20K Styx River 85.84 11 P P 20 03 55.2 -1.4
baz=340

PAX Paxson 85.86 7 P P 20 03 55.6 -1.1
baz=346,SNR=6.2
MORW Morawa 85.88 127 P P 20 03 54.7 -2.4
MORW IAmb IAmb 20 04 00.7
comp=Z,13nm,0.8s
MORW Morawa 85.88 127 P P 20 04 00.3 +3.2
SPIA Saint Paul Isl 85.95 21 P P 20 03 55.7 -1.4
baz=325
MAYO Mayo, Yukon 85.99 3 P P 20 03 56.0 -1.2
baz=354
SKT Skwentna 86.01 10 P P 20 03 56.5 -0.8
baz=341,SNR=28
L26K Log Cabin Wild 86.03 6 IAmb IAmb 20 04 02.9
comp=Z,17nm,0.9s
L26K Log Cabin Wild 86.03 6 P P 20 03 56.9 -0.6
baz=348,SNR=5.9
N15K Kwethluk River 86.07 15 P P 20 03 56.9 -0.8
baz=334
MENT Mentasta 86.08 7 P P 20 04 02.0 +4.3
N16K Nishlik Lake 86.08 14 P P 20 03 56.9 -0.8
baz=335,SNR=5.2
BCAR Beaver Creek A 86.13 6 P 20 03 57.1 -0.8
L27K Beaver Creek, 86.13 6 IAmb IAmb 20 04 03.5
comp=Z,28nm,0.8s
L27K Beaver Creek, 86.13 6 P P 20 03 58.1 +0.1
baz=349,SNR=39
MEEK Meekatharra 86.21 124 P P 20 03 56.9 -2.0
comp=Z,23nm,1.1s
MEEK Meekatharra 86.21 124 P P 20 04 01.2 +2.4
L29M L29M 86.36 4 IAmb IAmb 20 04 04.4
comp=Z,34nm,1.2s
L29M L29M 86.36 4 P P 20 03 58.7 -0.4
baz=352,SNR=6.9
N17K Nushagak Hills 86.36 13 P P 20 03 58.7 -0.3
baz=336,SNR=5.4
WRGLY Wrigley 86.40 357 P P 20 03 58.8 -0.4
baz=4.9
STLK Strandline Lak 86.42 11 IAmb IAmb 20 04 07.0
comp=Z,18nm,0.8s
M22K Willow 86.44 10 P P 20 03 59.1 -0.3
baz=342,SNR=8.3
HARP HAARP 86.45 7 P P 20 03 59.8 +0.2
baz=346,SNR=5.9
N18K Kilae Creek 86.47 13 IAmb IAmb 20 04 05.2
comp=Z,33nm,0.9s
N18K Kilae Creek 86.47 13 P P 20 03 59.6 0.0
baz=347,SNR=6.8
YKA Yellowknife Ar 86.51 353 P P 20 03 57.7 -2.1
YKA Yellowknife Ar 86.51 353 P P 20 03 58.6 -1.2
comp=Z,4.6nm,0.9s,baz=12,slow=4.7,SNR=7.8
YKA LR LR 20 49 17.2
comp=Z,72nm,18.7s,baz=331,slow=40
comp=Z,4.6nm,0.9s
N19K Bonanza Creek 86.61 12 P P 20 04 00.5 +0.1
baz=338,SNR=15
SUA Susitna One 86.62 10 P P 20 03 59.5 -0.9
baz=342,SNR=28
M24K Tolsona, Glenn 86.62 8 P P 20 03 59.8 -0.6
baz=345,SNR=16
O14K Tigyukauivet M 86.62 16 P P 20 04 00.0 -0.3
baz=333
N20K Mount Spurr 86.64 11 P P 20 03 59.2 -1.3
baz=340
SPCR Spurr Chakacha 86.64 11 P P 20 03 59.0 -1.6
baz=340
P08K Saint George I 86.65 21 P P 20 03 59.2 -1.3
baz=326
M26K Nabesna, AK 86.67 6 IAmb IAmb 20 04 05.9
comp=Z,19nm,0.9s
M26K Nabesna, AK 86.67 6 P P 20 03 59.5 -1.2
baz=348,SNR=6.7
M23K Glacier View 86.73 9 P P 20 04 00.2 -0.7
baz=344,SNR=7.2
PMR Palmer 86.73 9 IAmb IAmb 20 04 05.6
comp=Z,48nm,1.2s
PMR Palmer 86.73 9 P P 20 04 01.1 +0.3
PMR Palmer 86.73 9 P P 20 04 00.2 -0.6
baz=343,SNR=5.8
SCM Sheep Creek Mo 86.74 9 P P 20 04 00.5 -0.5
baz=344,SNR=7.0
M27K Edge Creek, AK 86.82 6 P P 20 04 01.1 -0.4
baz=349,SNR=32
BVCY Beaver Creek 86.85 5 P P 20 04 01.4 -0.1
baz=350,SNR=5.2
M30M Minto, Yukon 86.96 4 P P 20 04 01.4 -0.6
baz=353
M29M Somme Creek 87.00 4 P P 20 04 01.8 -0.5
baz=352,SNR=7.1
KNK Knik Glacier 87.00 9 P P 20 04 01.7 -0.5
baz=343
O16K Kokwok River B 87.02 14 IAmb IAmb 20 04 08.4
comp=Z,43nm,1.2s
O16K Kokwok River B 87.02 14 P P 20 04 01.8 -0.5
baz=335
O17K Koliganek Bris 87.07 14 P P 20 04 02.0 -0.5
baz=336
MMPY Sheldon Lake, 87.11 1 IAmb IAmb 20 04 08.5
comp=Z,14nm,0.9s
MMPY Sheldon Lake, 87.11 1 P P 20 04 01.8 -1.0
baz=358
O19K Port Alsworth 87.21 12 P P 20 04 02.6 -0.6
baz=338
CAPN Captain Cook N 87.22 11 P P 20 04 02.5 -0.7
baz=341
N25K Chitina, Valde 87.29 7 P P 20 04 02.7 -1.0
baz=347
O18K Koktuh Hills 87.36 13 IAmb IAmb 20 04 15.9
comp=Z,40nm,1.2s
O18K Koktuh Hills 87.36 13 P P 20 04 03.3 -0.7
baz=338
M31M Drury Creek, Y 87.44 2 IAmb IAmb 20 04 09.2
comp=Z,13nm,0.8s
M31M Drury Creek, Y 87.44 2 P P 20 04 03.8 -0.6
baz=356,SNR=6.4
YUK3 Moose Creek 87.51 5 P P 20 04 04.3 -0.6
baz=350,SNR=23
PWL Port Wells 87.55 9 IAmb IAmb 20 04 09.7
comp=Z,23nm,1.0s
PWL Port Wells 87.55 9 P P 20 04 04.2 -0.7
baz=344
P16K Nushagak River 87.56 14 P P 20 04 04.2 -0.6
baz=335
DIV Divide 87.62 8 IAmb IAmb 20 04 11.1
comp=Z,30nm,1.0s
O20K Slope Mountain 87.62 12 P P 20 04 04.1 -1.2
baz=340
G62A West of Eustis 87.65 323 IAmb IAmb 20 04 10.1
comp=Z,11nm,0.7s
MCARA McCarthy VSAT 87.67 7 P P 20 04 04.6 -0.8
baz=338
GLI Glacier Island 87.69 9 P P 20 04 04.7 -0.9
baz=345
O22K Cooper Landing 87.71 10 P P 20 04 05.1 -0.5
baz=342
P17K Kvichak River 87.73 14 P P 20 04 04.7 -1.0
baz=337
VRDI Verde Repeater 87.78 7 IAmb IAmb 20 04 11.1
comp=Z,15nm,1.1s
P18K Big Mountain, 87.79 13 P P 20 04 05.4 -0.7
baz=338
MUN Mundaring 87.79 129 P P 20 04 04.5 -1.9
KNRA Kununurra 87.84 109 IAmb IAmb 20 04 10.8
comp=Z,17nm,0.8s
KNRA Kununurra 87.84 109 P P 20 04 05.2 -1.7
DRS Darwin Rock St 87.88 106 P P 20 04 10.3 +3.2
FID Port Fidalgo 87.90 8 IAmb IAmb 20 04 36.8
comp=Z,11nm,0.9s
P19K Oil Pt 87.92 12 P P 20 04 06.0 -0.7
baz=339
N30M Aishikik Lake 88.06 4 P P 20 04 06.6 -0.8
baz=353
YUK4 Talbot Arm 88.08 5 P P 20 04 06.1 -1.6
baz=352,SNR=25
SEW Seward 88.11 10 P P 20 04 06.5 -1.0
baz=343
Q16K King Salmon 88.16 14 P P 20 04 07.4 -0.4
baz=337
EYAK Cordova Ski Ar 88.19 8 P P 20 04 12.8 +5.0
EYAK Cordova Ski Ar 88.19 8 P P 20 04 07.8 -0.1
baz=346
TGTN Hyland Airport 88.22 360 P P 20 04 08.0 -0.1
baz=0.8,SNR=6.2
CTG Chitna Glacier 88.24 6 P P 20 04 07.7 -0.6
baz=350,SNR=6.5
CTGM Chitina Glacie 88.24 6 IAmb IAmb 20 04 13.7
comp=Z,19nm,0.8s
CRQE Cirque 88.28 7 P P 20 04 08.2 -0.3
baz=348

LOGN Logan Glacier 88.41 6 IAmb IAmb 20 04 14.4
comp=Z,20nm,0.8s
RAGM Ragged Mountai 88.47 8 IAmb IAmb 20 04 15.0
comp=Z,23nm,0.9s
YUK6 Outpost Mounta 88.49 4 P P 20 04 08.9 -0.8
baz=352
P23K Montague Islan 88.51 9 P P 20 04 08.4 -1.0
baz=344
O28M Mount Upton 88.53 5 IAmb IAmb 20 04 13.9
comp=Z,10nm,0.8s
O28M Mount Upton 88.53 5 P P 20 04 08.5 -1.4
baz=350
KLBR Kellerberrin 88.60 128 P P 20 04 12.8 +2.6
HYT Haines Junctio 88.67 4 P P 20 04 10.2 -0.2
baz=353,SNR=23
Q17K Contact Creek 88.70 14 P P 20 04 10.2 -0.3
baz=337
O30N Mendenhall 88.80 3 P P 20 04 10.7 -0.2
baz=354
MESA MESA 88.96 6 P P 20 04 10.6 -1.2
baz=349
WHY Whitehorse 88.97 3 P P 20 04 10.9 -0.9
baz=355
Q20K Shuyak Island 89.05 12 P P 20 04 11.4 -0.6
baz=340
O29M Mount Kennedy 89.12 5 P P 20 04 12.3 -0.2
baz=352
PINM Pinnacle 89.19 6 P P 20 04 12.7 0.0
baz=350
KDU Kakadu 89.32 105 P P 20 04 16.9 +3.0
P30M Million Dollar 89.40 4 P P 20 04 13.7 0.0
baz=353
P33M Teslin, Yukon 89.49 2 P P 20 04 13.9 -0.2
baz=357
S12K Black Hills 89.57 18 P P 20 04 14.2 -0.3
baz=332
PNL Peninsula 89.69 5 P P 20 04 14.5 -0.5
baz=351
S14K Fog Glacier 89.69 16 P P 20 04 15.1 -0.1
baz=334
KDAK Kodiak Island 89.80 12 P P 20 04 15.2 -0.2
KDAK Kodiak Island 89.80 12 P P 20 04 14.6 -0.8
comp=Z,10nm,0.6s,baz=326,slow=3.6,SNR=12
KDAK LR LR 20 50 17.3
comp=Z,128nm,21.4s,baz=341,slow=39
comp=Z,10nm,0.6s
KDAK Kodiak Island 89.80 12 P P 20 04 15.3 -0.2
KDAK pmax pmax
comp=Z,34nm,0.8s
KDAK Kodiak Island 89.80 12 P P 20 04 15.5 0.0
baz=340
P29M Windy Craggy 89.84 4 P P 20 04 15.8 0.0
baz=353
CHGN Chignik 89.95 16 P P 20 04 14.7 -1.5
CHGN Chignik 89.95 16 P P 20 04 16.3 +0.1
baz=335
P32M Atlin 90.08 2 P P 20 04 16.4 -0.4
baz=356
RCBR Riachuelo 90.12 263 LR LR 20 45 27.7
comp=Z,115nm,18.9s,baz=70,slow=36
SKAG Skagway 90.15 3 P P 20 04 21.8 +4.7
SKAG Skagway 90.15 3 P P 20 04 17.2 +0.1
baz=355
OHAK Old Harbor 90.19 13 P P 20 04 16.8 -0.5
baz=339
SDPT Sand Point 90.30 17 P P 20 04 17.5 -0.3
baz=333
R33M Jennings River 90.35 1 P P 20 04 18.1 -0.1
baz=358
Q32M Nakina River 90.76 2 P P 20 04 19.9 -0.3
baz=357
TOAD Toad River Com 90.84 358 P P 20 04 20.6 +0.2
baz=3.4
CHNA Chernabura Isl 90.99 17 P P 20 04 20.9 -0.2
baz=334
JAY Jayapura 91.16 92 LR LR 20 50 09.2
comp=Z,65nm,19.9s,baz=318,slow=39
DLBC Dease Lake 91.31 0 P P 20 04 21.2 -1.5
comp=Z,0.3nm,0.9s,baz=321,slow=8.7,SNR=4.3
DLBC LR LR 20 55 45.7
comp=Z,5.3nm,18.1s,baz=315,slow=42
DLBC Dease Lake 91.31 0 P P 20 04 23.0 +0.3
baz=359
R32K Eaglecrest 91.37 3 P P 20 04 22.5 -0.3
baz=355
S34M Telegraph Cree 91.83 1 P P 20 04 24.8 -0.2
baz=358
S32K Killisnoo 92.17 3 P P 20 04 26.8 +0.3
baz=355
SADO Sadowa 92.25 327 LR LR 20 46 48.6
comp=Z,56nm,20.2s,baz=7.5,slow=36
NBAN Anadia - AL 92.38 260 *e*P P 20 04 32.2 +4.0
SIT Sitka 92.55 3 P P 20 04 28.6 +0.4
baz=355
T35M Bob Quinn 92.77 1 P P 20 04 29.6 +0.2
baz=359
WRAK Wrangell Islan 93.30 2 P P 20 04 31.7 0.0
baz=357
E46A Sault Ste Mari 93.33 331 IAmb IAmb 20 04 36.1
comp=Z,13nm,0.7s
ULM Lac du Bonnet 94.28 339⇑ *e*P P 20 04 37.2 +0.8
WRA Warramunga Arr 94.59 110 P P 20 04 36.6 -1.7
comp=Z,2.9nm,0.7s,baz=310,slow=4.5,SNR=17
WRA PKKPbc PKKPbc 20 21 33.8 -2.1
comp=Z,1.4nm,0.9s,baz=120,slow=2.4,SNR=5.8
comp=Z,2.9nm,0.7s
ASAR Alice Springs 96.13 114 P P 20 04 43.4 -1.8
comp=Z,2.5nm,0.6s,baz=302,slow=4.4,SNR=36
ASAR PKKPbc PKKPbc 20 21 30.4 -1.6
comp=Z,0.4nm,0.5s,baz=112,slow=3.5,SNR=4.3
ASAR LR LR 20 52 05.2
comp=Z,38nm,18.7s,baz=314,slow=38
comp=Z,2.5nm,0.6s
AS31 Alice Springs 96.13 114 P 20 04 43.2 -2.1
BBB Bella Bella 97.58 359 LR LR 20 54 59.9
comp=Z,47nm,20.6s,baz=352,slow=39
MAW Mawson 98.31 175 P P 20 04 52.4 -1.5
comp=Z,1.1nm,0.9s,baz=354,slow=9.2,SNR=4.7
MAW PKKPbc PKKPbc 20 21 25.3 -2.2
comp=Z,1.9nm,0.6s,baz=166,slow=4.2,SNR=3.5
MAW PKKP PKKPdf 20 21 29.3 -1.9
comp=Z,1.2nm,0.7s,baz=135,slow=4.3,SNR=4.1
MAW LR LR 20 47 03.0
comp=Z,151nm,18.1s,baz=342,slow=34
comp=Z,1.1nm,0.9s
MDP Montagnes des 98.94 281 LR LR 20 51 42.3
comp=Z,115nm,20.9s,baz=104,slow=37
SYO Syowa Base 99.64 184⇑ *e*PP PP 20 09 07.0 +2.4
PDAR Pinedale Array 104.81 345 PP PKiKP 20 09 39.5 +0.2
comp=Z,1.4nm,0.8s,baz=354,slow=5.3,SNR=5.1
BDFB Brasília 105.27 261 PP PP 20 09 46.0 -2.1
comp=Z,0.8nm,0.3s,baz=80,slow=6.1,SNR=3.1
TXAR Lajitas Array 115.65 335 PKP PKiKP 20 09 58.6 -1.4
comp=Z,0.3nm,0.7s,baz=59,slow=1.0,SNR=1.8
TXAR PKKPbc PKKPbc 20 20 28.3 -3.9
comp=Z,0.3nm,0.7s,baz=196,slow=4.2,SNR=3.6
SIV San Ignacio 116.61 267 PKP PKPdf 20 10 00.7 -1.1
comp=Z,1.2nm,0.7s,baz=100,slow=6.1,SNR=7.5
CPUP Villa Florida 117.68 254 PKP PKPdf 20 10 01.4 -2.2
comp=Z,0.3nm,0.6s,baz=53,slow=5.1,SNR=3.2
BOAB BOACO BROADBA 120.17 309 PKP PKiKP 20 10 14.9 +6.0
QSPA South Pole Qui 120.42 180 PKPdf 20 10 07.3 -0.5
QSPA South Pole Qui 120.42 180 PKP PKPdf 20 10 07.0 -0.7
comp=Z,13nm,0.8s,baz=276,slow=1.1,SNR=34
QSPA PKKPbc PKKPbc 20 20 15.1 -1.1
comp=Z,1.0nm,0.6s,baz=45,slow=2.9,SNR=10.0
DZM Mont Dzumac 122.34 98 *e*LR LR 20 48 03.0
comp=Z,122nm,22.4s
CZSB Cruzeiro do Su 122.67 281 *e*P PKPdf 20 10 13.6 0.0
LPAZ La Paz 122.83 270 PKP PKPdf 20 10 13.3 -1.3
comp=Z,2.1nm,0.7s,baz=56,slow=3.6,SNR=6.4
VNDA Vanda 124.16 166 PKP PKPdf 20 10 13.9 -0.7
comp=Z,1.6nm,0.7s,baz=300,slow=4.2,SNR=4.9
CFA Coronel Fontan 128.43 252 PKP PKPdf 20 10 24.2 0.0
comp=Z,1.4nm,0.7s,baz=72,slow=6.4,SNR=5.5
PLCA Paso Flores 132.09 241 PKP PKPdf 20 10 30.9 +0.1
comp=Z,1.0nm,0.5s,baz=127,slow=5.1,SNR=9.0
PLCA SKPbc SKPab 20 13 58.0 +1.5
comp=Z,5.7nm,1.0s,baz=95,slow=2.9,SNR=6.6
TAOE Nuku Hiva Isla 156.07 28 *e*LR LR 21 03 35.9
comp=Z,254nm,25.0s
PPT2 Papeete2 157.37 60 *e*LR LR 21 04 13.5
comp=Z,161nm,22.8s
PPT2 *e*LR LR 21 04 23.8
comp=Z,171nm,22.0s
TBI Tubuai 160.55 73 *e*LR LR 21 05 40.3
comp=Z,1µm,32.8s
TBI *e*LR LR 21 05 40.9

comp=Z,787nm,28.8s

*IDC **04** 20:01:29.6±2.0,30˚.50N×50˚.62E,h0km,mb3.8/12, mbtmp3.8/12,Error ellipse: s-maj=42.7km s-min=21.7km az=174.0*

*TEH **04** 20:01:33.6,30˚.58N×50˚.79E,h14km±24km*

ISC 04 20:01:33.1±0.7,30°53'N±0'.04×50°75'E±0'.04,h19km,n43, σ1°69/43,mb3.8/11,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.43**	**279**	Pg	**Pb**	**20 01 43.0**	**+0.8**
KLNJ	**Kolanjah**	**0.86**	**57**	Pg	**Pb**	**20 01 49.2**	**-0.6**
KAZ2	**Kazeron-Fars-I**	**1.21**	**139**	Pg	**Pg**	**20 01 57.0**	**+0.4**
IBRJ	**Brojen**	**1.44**	**18**	Pg	**Pb**	**20 01 59.4**	**-0.1**
ZNGN	**Zangian**	**1.58**	**3**	Pg	**Pb**	**20 02 02.5**	**+0.6**
JHBN	**Jahan bin**	**1.69**	**358**	Pg	**Pb**	**20 02 04.3**	**+0.4**
SHI	**Shiraz**	**1.77**	**120**	Pg	**Pb**	**20 02 05.7**	**+0.6**
IRAM	**Rameshеh**	**1.89**	**47**	Pn	**Pb**	**20 02 07.2**	**0.0**
IPIR	**Pirpir**	**2.15**	**3**	Pn	**Pb**	**20 02 10.7**	**-0.9**
IGAR	**Gharneh**	**2.17**	**30**	Pn	**Pb**	**20 02 10.9**	**-1.0**
DSBU	**Dashti - Bushe**	**2.21**	**168**	Pn	**Pb**	**20 02 11.8**	**-0.7**
IZEF	**Zefreh**	**2.71**	**29**	Pn	**Pn**	**20 02 18.2**	**+2.3**
IKLH	**Kolahrood**	**2.87**	**14**	Pn	**Pn**	**20 02 20.4**	**+2.3**
ISAD	**Sadrabad**	**2.87**	**61**	Pn	**Pn**	**20 02 20.5**	**+2.4**
QAMS	**Qamsar**	**3.24**	**10**	Pn	**Pn**	**20 02 25.6**	**+2.4**
IMEH	**Mehriz**	**3.42**	**75**	Pn	**Pn**	**20 02 27.9**	**+2.1**
ANAR	**Anarak**	**3.66**	**43**	Pn	**Pn**	**20 02 31.3**	**+2.4**
BDRS	**Dareh Seyedi**	**3.76**	**336**	Pn	**Pn**	**20 02 32.4**	**+2.0**
IDOB	**Doab**	**3.91**	**327**	Pn	**Pn**	**20 02 35.6**	**+3.2**
IBAF	**Bafgh**	**4.26**	**74**	Pn	**Pn**	**20 02 39.3**	**+2.1**
IQOM	**Qom**	**4.30**	**4**	Pn	**Pn**	**20 02 39.7**	**+1.8**
HAGD	**Aghdareh**	**4.49**	**343**	Pn	**Pn**	**20 02 42.1**	**+1.8**
IVRN	**Varamin**	**4.52**	**10**	Pn	**Pn**	**20 02 42.4**	**+1.8**
IDMV	**Damavand**	**5.14**	**12**	Pn	**Pn**	**20 02 51.1**	**+1.7**
ILAS	**Lasjerd**	**5.18**	**20**	Pn	**Pn**	**20 02 51.4**	**+1.6**
NGRK	**Negar Kerman**	**5.26**	**98**	Pn	**Pn**	**20 02 53.6**	**+2.5**
IDHR	**Dehrash**	**5.55**	**320**	Pn	**Pn**	**20 02 57.1**	**+2.2**
IANJ	**Anjilo**	**5.59**	**28**	Pn	**Pn**	**20 02 57.1**	**+1.6**
TNSJ	**Nastanj**	**6.03**	**54**	Pn	**Pn**	**20 03 03.3**	**+2.0**
TKDS	**Koohdasht(Taba**	**6.22**	**59**	Pn	**Pn**	**20 03 05.8**	**+1.8**
IGLO	**Ghaloghah**	**6.48**	**23**	Pn	**Pn**	**20 03 10.7**	**+3.0**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=138,slow=8.9,SNR=3.0 0.2nm,0.3s	**25.77**	**328**	P	**P**	**20 07 02.0**	**-0.6**
BVAR	**Borovoye Array** 2.0nm,0.6s,baz=226,slow=6.7,SNR=9.2 2.0nm,0.6s	**26.65**	**27**	P	**P**	**20 07 11.3**	**+0.7**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=236,slow=9.9,SNR=4.0 0.6nm,0.6s	**28.84**	**38**	P	**P**	**20 07 31.4**	**+1.3**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=251,slow=8.1,SNR=5.1 0.4nm,0.7s	**29.24**	**47**	P	**P**	**20 07 34.6**	**+0.7**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=253,slow=8.9,SNR=3.0 0.8nm,0.5s	**33.88**	**36**	P	**P**	**20 08 13.6**	**-0.8**
FINES	**FINESS Array B** 1.0nm,0.3s,baz=139,slow=8.3,SNR=12 1.0nm,0.3s	**34.91**	**339**	P	**P**	**20 08 22.4**	**-0.8**
HFS	**Hagfors** 0.8nm,0.4s,baz=123,slow=10,SNR=10 0.8nm,0.4s	**38.53**	**331**	P	**P**	**20 08 53.3**	**-0.9**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=121,slow=8.2,SNR=1.4 0.3nm,0.5s	**40.05**	**331**	P	**P**	**20 09 05.5**	**-1.3**
EKA	**Eskdalemuir Ar** 0.1nm,0.4s,baz=96,slow=8.3,SNR=1.6 0.1nm,0.4s	**45.15**	**319**	P	**P**	**20 09 45.9**	**-2.4**
TORD	**Torodi Ar. Bea** 0.8nm,0.3s,baz=58,slow=7.8,SNR=3.8 0.8nm,0.3s	**48.31**	**260**	P	**P**	**20 10 12.9**	**-0.7**
SPITS	**Spitsbergen Ar** 5.3nm,1.0s,baz=152,slow=9.7,SNR=1.8 5.3nm,1.0s	**50.10**	**351**	P	**P**	**20 10 26.9**	**+0.5**
KSRS	**Korea Array** 0.5nm,0.6s,baz=271,slow=6.6,SNR=4.3 0.5nm,0.6s	**62.70**	**61**	P	**P**	**20 11 56.1**	**-0.8**

*NEIC **04** 20:09:13.7±1.6,35˚.867N±0˚.009×117˚.63W±0˚.02, h5km±1km,Error ellipse: s-maj=2.8km s-min=2.2km az=248.0*

PAS 04 20:09:14.5±1.0,35°847'N±0'.009×117°68'W±0'.02, h5km±3km,ML3.3/100,ML3.1/114(NEIC),Error ellipse: s-maj=2.0km s-min=1.2km az=72.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.08**	**242**		Pg	20 09 16.8	+0.5
TOW					Sg	20 09 19.1	+1.5
WVPM	**Volcano Peak E**	**0.15**	**312**		Pg	20 09 17.7	+0.1
WVPM					Sg	20 09 20.1	+0.4
SRTC	**Snort**	**0.17**	**201**		Pg	20 09 18.2	+0.4
SRTC					Sg	20 09 21.6	+1.6
JRC2	**Joshua Ridge**	**0.17**	**321**		Pg	20 09 18.1	+0.1
JRC2					Sg	20 09 20.8	+0.5
WNMM	**Nine Mile Cany**	**0.19**	**269**		Pg	20 09 18.2	+0.1
WNMM					Sg	20 09 21.3	+0.7
WCSM	**Coso Springs S**	**0.19**	**337**		Pg	20 09 18.3	0.0
WCSM					Sg	20 09 21.1	+0.1
GPO	**China Lake**	**0.20**	**177**		Pg	20 09 18.5	+0.1
GPO					Sg	20 09 22.1	+1.1
WRVM	**Rose V. Centra**	**0.24**	**313**		Pg	20 09 19.2	+0.1
WRVM					Sg	20 09 22.5	+0.2
MPMC	**Manual Prospec**	**0.26**	**36**		Pg	20 09 19.6	+0.1
MPMC	comp=N,3μm,0.6s			IAML		20 09 23.6	
MPMC	comp=E,3μm,0.8s			IAML		20 09 25.2	
WSHM	**Spangler Hills**	**0.29**	**149**		Pg	20 09 20.0	-0.1
WSHM	comp=E,4μm,0.4s			IAML		20 09 24.9	
WSHM	comp=E,5μm,0.4s			IAML		20 09 25.0	
MFS	**McCloud Flat S**	**0.31**	**332**		Pg	20 09 20.4	-0.1
MFS					Sg	20 09 24.6	+0.1
LRMC	**Laurel Mtn Rad**	**0.37**	**181**		Pg	20 09 21.4	-0.2
LRMC	comp=E,4μm,0.2s			IAML		20 09 27.1	
LRMC	comp=N,3μm,0.2s			IAML		20 09 27.8	
LRMC	**Laurel Mtn Rad**	**0.37**	**181**		Sg	20 09 26.8	+0.3
CCCA	**Chr Cany lake**	**0.41**	**142**		Pg	20 09 22.8	+0.4
CCCA	**Chr Cany lake**	**0.41**	**142**		Sg	20 09 28.9	+1.2
WORM	**Onyx Ranch**	**0.48**	**252**		Pg	20 09 23.6	-0.3
WORM					Sg	20 09 30.1	-0.1
WBSM	**Bird Springs**	**0.49**	**231**		Sg	20 09 30.5	+0.3
WHFM	**Hanning Flat**	**0.57**	**255**		Pg	20 09 25.1	-0.2
WHFM					Sg	20 09 32.8	0.0
DTP	**Desert Tortois**	**0.59**	**193**		Pg	20 09 25.5	-0.4
DTP					Sg	20 09 33.8	+0.1
QSM	**Queen of Sheba**	**0.67**	**80**		Pg	20 09 26.9	-0.3
QSM	comp=N,1μm,0.8s			IAML		20 09 39.6	
QSM	comp=E,734nm,0.5s			IAML		20 09 39.8	
QSM	**Queen of Sheba**	**0.67**	**80**		Sg	20 09 35.7	-0.2
ISA	**Isabella, Lake**	**0.68**	**254**		Pg	20 09 27.2	-0.3
ISA	**Isabella, Lake**	**0.68**	**254**		Sg	20 09 36.3	+0.1
CWC	**Cottonwood Cre**	**0.68**	**331**		Pg	20 09 27.0	-0.4
CWC	comp=N,627nm,0.2s			IAML		20 09 40.5	
CWC	**Cottonwood Cre**	**0.68**	**331**		Sg	20 09 36.5	+0.2
CGO	**Cerro Gordo**	**0.71**	**352**		Pg	20 09 27.5	-0.6
CGO					Sg	20 09 37.8	+0.4
WASM	**Alta Sierra Ca**	**0.72**	**262**		Pg	20 09 28.1	-0.3
WASM					Sg	20 09 37.9	+0.1
CCAC	**Calif City Air**	**0.75**	**202**		Pg	20 09 28.4	-0.4
CCAC					Sg	20 09 38.6	+0.1
GWY	**Greenwater Val**	**0.88**	**67**		Pg	20 09 31.1	-0.4
GWY	comp=N,566nm,0.6s			IAML		20 09 45.0	
GWY	comp=E,1000nm,0.3s			IAML		20 09 46.4	
GWY	**Greenwater Val**	**0.88**	**67**		Sg	20 09 42.9	0.0
GSC	**Goldstone, Bar**	**0.89**	**127**		Pg	20 09 31.0	-0.6
GSC	comp=N,729nm,0.5s			IAML		20 09 47.7	
GSC	**Goldstone, Bar**	**0.89**	**127**		Sg	20 09 43.2	0.0
FURC	**Furnace Creek,**	**0.90**	**47**		Pg	20 09 31.8	0.0
FURC	**Furnace Creek,**	**0.90**	**47**		Sg	20 09 43.8	+0.3
SPG2	**Springville 2**	**0.95**	**292**		Pg	20 09 31.8	-0.9
SPG2					Sg	20 09 44.3	-0.8
HYS	**Haystack Butte**	**0.98**	**175**		Pg	20 09 32.6	-0.8
HYS					Sg	20 09 45.8	-0.3
EDW2	**Edwards Air Fo**	**1.00**	**195**		Pg	20 09 32.6	-1.0
TEJ	**El Tejon**	**1.03**	**234**		Pg	20 09 33.1	-1.1
TEJ					Sg	20 09 46.2	-1.4
TPO	**Tropico Hills**	**1.07**	**205**		Pg	20 09 34.0	-0.9
TPO	comp=E,528nm,0.6s			IAML		20 09 59.3	
TPO	**Tropico Hills**	**1.07**	**205**		Sg	20 09 48.8	0.0
RRX	**Edison Barstow**	**1.12**	**150**		Pg	20 09 35.2	-0.7
RRX					Sn	20 09 52.0	-0.6
SHOC	**Shoshone, Teco**	**1.14**	**87**		Pg	20 09 35.2	-1.1
SHOC	**Shoshone, Teco**	**1.14**	**87**		Sg	20 09 50.5	-0.6
VES	**Vestal, Richgr**	**1.15**	**270**		Pg	20 09 35.6	-0.8
VES	comp=N,491nm,0.5s			IAML		20 09 57.0	
VES	comp=E,401nm,0.7s			IAML		20 10 04.1	
VES	**Vestal, Richgr**	**1.15**	**270**		Sg	20 09 51.2	-0.1
GRAC	**Grapevine Rang**	**1.17**	**12**		Pg	20 09 36.3	-0.7
GRAC	comp=N,492nm,0.7s			IAML		20 09 57.6	
WCT	**Wildcat Mounta**	**1.27**	**42**		Pg	20 09 37.8	-1.1
WCT	comp=N,248nm,0.5s			IAML		20 09 58.4	
WCT	comp=E,234nm,0.6s			IAML		20 09 58.6	
TIN	**Tinemaha, Big**	**1.28**	**340**		Pg	20 09 38.6	-0.5
TIN	comp=E,255nm,0.7s			IAML		20 09 58.7	
TIN	comp=N,288nm,0.7s			IAML		20 10 04.8	
GMN	**Gold Mountain**	**1.49**	**13**		Pn	20 09 41.4	-0.7
OSI	**Osito Audit: C**	**1.50**	**215**		Pn	20 09 41.4	-0.7
OSI	comp=N,166nm,0.7s			IAML		20 10 09.0	
OSI	comp=E,214nm,0.8s			IAML		20 10 14.2	
DSP	**Deep Springs**	**1.54**	**351**		Pn	20 09 42.0	-0.6
TPNV	**Topopah Spring**	**1.59**	**46**		Pn	20 09 42.6	-0.9
TPNV	comp=E,372nm,0.6s			IAML		20 10 07.3	
TPNV	comp=E,287nm,0.8s			IAML		20 10 09.4	
BFSC	**Mount Baldy Ra**	**1.60**	**179**		IAML	20 10 06.2	
BFSC	comp=E,198nm,0.5s					20 10 09.0	
BFSC	comp=N,207nm,0.6s						
MWC	**Mount Wilson**	**1.65**	**191**		Pn	20 09 43.5	-0.8
MWC	comp=E,287nm,0.5s			IAML		20 10 09.9	
MTPC	**Mountain Pass**	**1.77**	**101**		Pn	20 09 44.2	-1.6
MTPC	comp=N,191nm,0.4s			IAML		20 10 11.3	
MTPC	comp=E,151nm,0.3s			IAML		20 10 11.4	
SHPR	**Sheep Range**	**2.14**	**71**		Pn	20 09 50.2	-0.8
ELS	**Elsinore Mount**	**2.20**	**175**		Pn	20 09 50.9	-0.9
ELS	comp=E,72nm,0.4s			IAML		20 10 26.5	
DANC	**Danby, Needles**	**2.23**	**122**		Pn	20 09 50.2	-2.0
DANC	comp=E,220nm,0.5s			IAML		20 10 31.6	
DANC	comp=N,210nm,0.7s			IAML		20 10 36.2	
V12A	**Nelson**	**2.30**	**92**		Pn	20 09 51.6	-1.6
V12A	comp=E,67nm,0.6s			IAML		20 10 33.7	
BELC	**Belle Mtn. Jos**	**2.30**	**143**		Pn	20 09 51.7	-1.5
BELC	comp=N,130nm,0.8s			IAML		20 10 28.6	
BELC	comp=E,127nm,0.4s			IAML		20 10 28.9	
PMD	**Palm Desert**	**2.44**	**154**		Pn	20 09 53.7	-1.2
PFO	**Pinyon Flats O**	**2.44**	**155**		Pn	20 09 53.9	-1.2
PFO	comp=E,66nm,1.2s			IAML		20 10 37.0	
PFO	comp=E,56nm,0.9s			IAML		20 10 37.5	
LHV	**Little Huntoon**	**2.49**	**345**		Pn	20 09 56.0	+0.4
NV11	**Mina Array Sit**	**2.61**	**352**		Pn	20 09 57.6	+0.1
PRN	**Pahroc Range**	**2.62**	**53**		Pn	20 09 57.2	-0.4
PRN	comp=N,82nm,0.8s			IAML		20 10 48.4	
PRN	comp=E,82nm,0.7s			IAML		20 10 50.2	
IRM	**Iron Mountain**	**2.67**	**128**	IAML		20 10 40.9	
IRM	comp=N,59nm,0.5s			IAML		20 10 44.7	
	comp=E,46nm,0.8s						
NEE2	**Needles Airpor**	**2.72**	**112**		Pn	20 09 56.6	-2.3
NEE2	comp=E,135nm,0.8s			IAML		20 10 47.0	
BC3	**Big Chuckawall**	**2.85**	**139**		Pn	20 09 58.9	-1.8
BC3	comp=E,59nm,0.6s			IAML		20 10 47.2	
BC3	comp=N,125nm,0.6s			IAML		20 10 47.3	
RYN	**Ryan**	**2.86**	**347**		Pn	20 10 01.2	+0.4
DPP	**Dos Picos Cty**	**2.91**	**168**		Pn	20 10 00.8	-0.6
DPP	comp=E,46nm,0.5s			IAML		20 10 45.9	
R11B	**Troy Canyon, C**	**3.00**	**33**		Pg	20 10 13.0	+1.0
R11B	comp=E,43nm,0.9s			IAML		20 10 51.9	
W13A	**Hualapai Mount**	**3.18**	**102**		Pn	20 10 04.2	-1.2
BLYC	**Blythe**	**3.33**	**128**		Pn	20 10 05.2	-2.0
CBX	**Cerro Bola**	**3.62**	**166**		Pn	20 10 10.9	-0.5
AFDM	**Forest Hills D**	**4.06**	**321**		Pg	20 10 30.8	-1.4
AFDM	comp=N,18nm,0.7s			IAML		20 11 22.5	
AFDM	comp=E,20nm,1.0s			IAML		20 11 26.4	
PAHR	**Pah Rah Range**	**4.08**	**341**		Pg	20 10 30.2	-2.5
Y14A	**Wickenburg**	**4.29**	**115**		Pn	20 10 18.0	-2.4
Y14A	comp=N,37nm,0.6s			IAML		20 11 34.0	
Y14A	comp=E,19nm,1.0s			IAML		20 11 35.4	
U15A	**North Rim**	**4.40**	**81**		Pn	20 10 23.1	+0.9
U15A	comp=E,13nm,1.1s			IAML		20 11 42.2	

IDC 04 20:29:32.0±1.7,10°64S×123°30E,h0km,mb3.7/1, mbtmp3.4/4,ML3.1/3,Error ellipse: s-maj=26.0km s-min=11.3km az=121.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.56**	**39**	Pg	Pg	20 29 42.1	-0.6
BATI	345nm,0.3s,baz=219,slow=3.4,SNR=224			Lg	Lg	20 29 51.2	
FITZ	**Fitzroy Crossi** 522nm,0.3s,baz=225,slow=20,SNR=15	**7.75**	**163**	Pn	Pn	20 31 27.7	+1.5
FITZ	0.1nm,0.3s,baz=344,slow=7.4,SNR=2.4 1.0nm,0.3s,baz=295,slow=19,SNR=6.5 3.7nm,1.0s			Sn	Sn	20 32 54.7	0.0
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=303,slow=14,SNR=5.0 0.5nm,0.9s	**14.09**	**132**	Pn	Pn	20 32 51.7	-1.4
ASAR	**Alice Springs** 0.1nm,0.3s,baz=316,slow=12,SNR=8.9 0.4nm,0.6s	**16.43**	**143**	Pn	Pn	20 33 24.7	+0.6
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=134,slow=7.5,SNR=5.1 0.5nm,0.6s	**67.89**	**331**	P	P	20 40 32.8	+0.3

AUST 04 20:31:39.0±1.2,18°S±10°×12°0E±°,h10km,mb4.1/3, ML2.8/4,ML3.4/4,Error ellipse: s-maj=26.7km s-min=6.6km az=140.5,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.98**	**83**	P	Pn	20 32 12.8	+0.2
AUBRM				S	Sn	20 32 38.0	+0.6
MBWA	**Marble Bar**	**2.97**	**188**	P	Pn	20 32 27.2	+1.0
PSAC1	**Pilbara Seismi**	**3.33**	**186**	P	Pn	20 32 31.7	+0.5
PSAC1				S	Sn	20 33 11.7	+0.8
PSA00	**Pilbara Seismi**	**3.37**	**185**	P	Pn	20 32 32.4	+0.7
PSA00	**Pilbara Seismi**	**3.37**	**185**	P	Pn	20 32 32.2	+0.6
MEEK	**Meekatharra**	**8.52**	**189**	P	Pn	20 33 42.6	+0.1

comp=Z,7.9nm,1.7s,comp=Z,0.1nm

KNRA	**Kununurra** comp=Z,23nm,0.7s,comp=Z,0.1nm	**8.60**	**74**	P	Pn	20 33 37.6	-6.0
KNRA				S	Sn	20 34 47.9	-33
KNRA	**Kununurra**	**8.60**	**74**	P	Pn	20 33 37.5	-6.1
DPH	**Darwin Parliam**	**11.77**	**63**	P	Pn	20 34 10.2	-17
MTN	**Manton Dam**	**11.83**	**65**	P	Pn	20 34 05.6	-22
BLDU	**Ballidu** comp=Z,20nm,1.9s	**12.75**	**194**	P	Pn	20 34 39.2	-1.2
KDU	**Kakadu**	**13.07**	**67**	P	Pn	20 34 23.2	-22
KLBR	**Kellerberrin** comp=Z,14nm,1.7s	**13.51**	**189**	P	Pn	20 34 49.6	-1.2
MULG	**Mulgathing**	**17.45**	**136**	P	P	20 35 53.6	+10

IDC 04 20:38:19.8±1.8,10°69S×123°31E,h0km,mb3.9/1, mbtmp3.5/3,ML3.4/2,Error ellipse: s-maj=32.3km s-min=12.5km az=129.0,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 368nm,0.3s,baz=220,slow=3.4,SNR=195	**0.59**	**36**	Pg	Pg	20 38 30.5	-0.6
BATI	741nm,0.3s,baz=198,slow=22,SNR=14			Lg	Lg	20 38 40.0	
BATI	comp=Z,422nm,19.6s,baz=350,slow=46			LR	LR	20 38 47.1	
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=305,slow=15,SNR=2.3	**14.06**	**132**	Pn	Pn	20 41 39.3	-1.1
WRA	0.4nm,0.3s,baz=305,slow=26,SNR=9.4 0.4nm,0.6s			Sn	Sn	20 44 07.4	-10
ASAR	**Alice Springs** 0.2nm,0.3s,baz=316,slow=12,SNR=3.2	**16.39**	**143**	Pn	P	20 42 13.2	-1.2
ASAR	0.2nm,0.3s,baz=310,slow=22,SNR=4.5 0.4nm,0.4s			Sn	Sn	20 45 07.6	-6.5
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=137,slow=7.6,SNR=11 0.6nm,0.5s	**67.94**	**331**	P	P	20 49 20.8	+0.3

*IDC **04** 21:17:03.0±0.7,34˚.77S×108˚.95W,h0km,mb4.2/11, mbtmp4.2/11,MS4.0/30,Error ellipse: s-maj=23.5km s-min=18.4km az=104.0*

*NEIC **04** 21:17:04.5±1.6,34˚.6S±0˚.1×108˚.9W±0˚.2,h10km±1km, mb4.8/42,Error ellipse: s-maj=26.4km s-min=19.4km az=285.0*

*GCMT **04** 21:17:09.5±0.2,34˚.72S±0˚.01×108˚.87W±0˚.02,h25km±1km, MW5.0/111,Moment Tensor Solution. s41,c46; s111,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.67±.17; $M_{\theta\theta}$-0.96±.13; $M_{\phi\phi}$1.63±.14; $M_{r\theta}$-0.39±.27; $M_{\theta\phi}$-3.88±.11; $M_{\phi r}$-1.50±.28; Best double couple: M_o4.39600×10^{16} NP1:ϕ_s100.00000°,δ68.00000°, λ-174.00000°. NP2:ϕ_s8.00000°,δ84.00000°,λ-22.00000°. Principal axes: T 4.6170, Plg11.0000°, Azm56.0000°; N -0.4410, Plg68.0000°, Azm174.0000°; P -4.1740, Plg19.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 21:17:04.7±0.5,34°68S±0'.10×108°72W±0'.09,h10km, n122,σ1°26/93,mb4.7/30,MS4.0/31,5C-1D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez** baz=260,slow=73,SNR=31	**24.67**	**96**	T	T	21 48 19.1	
H03N3	**Juan Fernandez** baz=260,slow=73,SNR=25	**24.68**	**96**	T	T	21 48 05.8	
H03N1	**Juan Fernandez** baz=260,slow=73,SNR=21	**24.69**	**96**	T	T	21 48 14.4	
PLCA	**Paso Flores**	**30.62**	**113**		**P**	**21 23 18.8**	**-0.3**
PLCA	comp=Z,13nm,1.1s			IAmb	IAmb	21 23 23.9	
PLCA	**Paso Flores** comp=Z,8.0nm,0.9s,baz=266,slow=8.6,SNR=20	**30.62**	**113**	P	**P**	**21 23 20.8**	**+1.8**
PLCA	comp=Z,118nm,20.2s,baz=276,slow=32 comp=Z,8.0nm,0.9s			LR	LR	21 33 17.8	
PLCA	**Paso Flores**	**30.62**	**113**	eP	**P**	**21 23 21.3**	**+2.3**
BO02	**Sierra Bellavi**	**31.06**	**101**	P	**P**	**21 23 23.0**	**0.0**
BO02	comp=Z,55nm,1.9s			IAmb	IAmb	21 23 25.6	
MT09	**Talagante**	**31.09**	**99**	P	**P**	**21 23 24.3**	**+1.0**
PEL	**Peldehue**	**31.48**	**98**	P	**P**	**21 23 27.1**	**+0.4**
VA03	**San Esteban**	**31.68**	**98**	P	**P**	**21 23 28.7**	**+0.2**
VA03	comp=Z,16nm,1.0s			IAmb	IAmb	21 23 30.8	
LMEL	**Las Melosas**	**31.72**	**100**	P	**P**	**21 23 29.7**	**+0.8**
MT08	**Bocatoma Ro**	**31.96**	**99**	P	**P**	**21 23 31.8**	**+0.7**
MT08	comp=Z,24nm,0.9s			IAmb	IAmb	21 23 36.0	
ZON	**Zonda**	**33.53**	**96**		**P**	**21 23 45.1**	**+0.5**
ZON	comp=Z,32nm,1.3s			IAmb	IAmb	21 23 50.1	
AC02	**Maricunga**	**34.74**	**88**		**P**	**21 23 56.4**	**+0.7**
AC02	comp=Z,8.8nm,0.9s			IAmb	IAmb	21 23 58.6	
NNA	**Nana** comp=Z,531nm,21.0s,baz=226,slow=30	**36.71**	**60**	LR	LR	21 35 16.2	
PB09	**IPOC Station P**	**36.84**	**80**	P	**P**	**21 24 14.3**	**+0.9**
PB09	comp=Z,16nm,1.0s			IAmb	IAmb	21 24 18.2	
TBI	**Tubuai** comp=Z,832nm,24.0s	**37.14**	**277**	eS	**S**	**21 30 03.6**	**+1.4**
TBI	comp=Z,3μm,33.8s			eSS	**SS**	**21 32 45.4**	**+0.6**
TBI	comp=Z,1μm,27.8s			eLR	LR	21 34 04.2	
TBI	comp=Z,2μm,26.8s			eLR	LR	21 34 07.3	
ATAH	**Atahualpa** comp=Z,349nm,19.0s,baz=241,slow=30	**39.12**	**53**	LR	LR	21 36 38.1	
PPT2	**Papeete2** comp=Z,743nm,27.5s	**40.12**	**284**	eSS	SS	21 33 36.3	-8.7
PPT2	comp=Z,288nm,24.2s			eLR	LR	21 35 27.6	
PPT2	comp=Z,369nm,23.2s			eLR	LR	21 35 32.9	
PPT	**Papeete** comp=Z,198nm,21.6s,baz=154,slow=28	**40.13**	**285**	LR	LR	21 36 00.7	
PMSA	**Palmer Station** comp=Z,400nm,19.3s,baz=285,slow=29	**40.28**	**152**	LR	LR	21 36 26.3	
LPAZ	**La Paz**	**40.63**	**74**		**P**	**21 24 46.5**	**+0.8**
LPAZ	**La Paz** comp=Z,8.1nm,0.9s,baz=245,slow=2.9,SNR=32	**40.63**	**74**	P	**P**	**21 24 47.4**	**+1.6**
LPAZ	comp=Z,168nm,18.6s,baz=237,slow=30 comp=Z,8.1nm,0.9s			LR	LR	21 37 43.6	
LPAZ	**La Paz**	**40.63**	**74**	eP	**P**	**21 24 45.8**	**0.0**
COHC	**Cochancay**	**42.18**	**47**	P	**P**	**21 24 57.6**	**0.0**
CZSB	**Cruzeiro do Su**	**42.58**	**59**	eP	**P**	**21 25 01.0**	**-0.1**
CPUP	**Villa Florida** comp=Z,0.6nm,1.0s,baz=196,slow=1.3,SNR=3.0	**44.65**	**94**	P	**P**	**21 25 17.7**	**+0.1**
CPUP	comp=Z,59nm,18.5s,baz=102,slow=32 comp=Z,0.6nm,1.0s			LR	LR	21 40 41.3	
OTAV	**Otavalo**	**44.81**	**46**	P	**P**	**21 25 18.8**	**-0.7**
OTAV	**Otavalo**	**44.81**	**46**	eP	**P**	**21 25 18.2**	**-1.2**
PLTB	**Pedras Altas**	**45.72**	**103**	eP	**P**	**21 25 27.7**	**+1.6**
BBSD	**Serra de San D**	**46.19**	**80**	eP	**P**	**21 25 30.4**	**+0.5**
SJPY	**San Joaquin**	**46.21**	**93**	eP	**P**	**21 25 30.6**	**+0.6**
CPSB	**Cacapava Do Su**	**46.31**	**101**	eP	**P**	**21 25 31.2**	**+0.4**
MURT	**Porto Murtinho**	**46.44**	**88**	eP	**P**	**21 25 30.8**	**-1.0**
SIV	**San Ignacio** comp=Z,155nm,18.5s,baz=282,slow=33	**46.45**	**79**	LR	LR	21 42 46.1	
RAR	**Rarotonga** comp=Z,132nm,18.8s,baz=134,slow=31	**46.60**	**273**	LR	LR	21 41 14.9	
BDQN	**Bodoquena, MS**	**47.72**	**87**	eP	**P**	**21 25 42.1**	**+0.3**

	comp=Z,23nm,0.8s							
TEFE	**Tefe**	**51.30**	**63**	*eP*		**P**	**21 26 09.6**	**+0.4**
PDRB	**Porto dos Gac**	**52.38**	**77**	*eP*		**P**	**21 26 18.2**	**+0.9**
RUSC	**La Rusia**	**52.52**	**47**			**P**	**21 26 18.9**	**+0.1**
CMIG	**Matias Romero**	**53.14**	**17**	LR	LR	LR	21 43 24.4	
	comp=Z,122nm,19.8s,baz=178,slow=30							
CLDB	**Colider**	**53.55**	**77**	*eP*		**P**	**21 26 26.2**	**+0.2**
MACA	**Manacapuru-AM**	**54.46**	**66**			**P**	**21 26 32.1**	**-0.5**
MACA	**Manacapuru-AM**	**54.46**	**66**	*eP*		**P**	**21 26 32.1**	**-0.5**
QSPA	**South Pole Qui**	**55.52**	**180**			**P**	**21 26 39.5**	**-0.3**
QSPA					IAmb	IAmb	21 26 45.9	
	comp=Z,6.7nm,1.1s							
QSPA	**South Pole Qui**	**55.52**	**180**	P		**P**	**21 26 39.3**	**-0.5**
	comp=Z,3.9nm,1.0s,baz=122,slow=5.8,SNR=7.9							
QSPA					LR	LR	21 47 26.6	
	comp=Z,156nm,18.1s,baz=112,slow=33							
	comp=Z,3.9nm,1.0s							
NPGB	**Novo Progresso**	**56.14**	**74**	*eP*		**P**	**21 26 44.4**	**-0.4**
VNDA	**Vanda**	**56.31**	**195**	P		**P**	**21 26 43.9**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=99,slow=4.3,SNR=4.0							
VNDA					LR	LR	21 45 04.9	
	comp=Z,153nm,22.0s,baz=101,slow=30							
	comp=Z,1.1nm,0.9s							
SDV	**Santo Domingo**	**56.36**	**47**	LR	LR		21 47 21.5	
	comp=Z,190nm,19.4s,baz=247,slow=32							
BDFB	**Brasilia**	**57.30**	**87**	P		**P**		
	comp=Z,4.0nm,0.9s,baz=176,slow=5.7,SNR=3.5							
BDFB					LR	LR	21 48 18.2	
	comp=Z,143nm,21.8s,baz=268,slow=33							
	comp=Z,4.0nm,0.9s							
BAUV	**El Baul**	**57.99**	**49**			**P**	**21 26 56.6**	**-1.1**
BOAV	**Boa Vista**	**58.31**	**61**	P		**P**	**21 26 59.7**	**-0.3**
BOAV					IAmb	IAmb	21 27 00.3	
	comp=Z,7.8nm,1.0s							
BOAV	**Boa Vista**	**58.31**	**61**	*eP*		**P**	**21 26 59.7**	**-0.3**
LPIG	**La Paz**	**58.48**	**358**	LR	LR	LR	21 46 35.8	
	comp=Z,59nm,18.4s,baz=184,slow=30							
VNA3	**Neumayer Olymp**	**60.40**	**158**	⇑P		**P**	**21 27 13.2**	**-0.5**
	comp=Z,1.9nm,0.7s							
RPZ	**Rata Peaks**	**60.56**	**235**	LR	LR		21 47 04.0	
	comp=Z,206nm,20.2s,baz=132,slow=30							
JANB	**Januaria**	**60.65**	**88**	*eP*		**P**	**21 27 16.8**	**+0.5**
VNA1	**Neumayer--Stat**	**61.05**	**158**	⇑P		**P**	**21 27 17.9**	**-0.1**
	comp=Z,9.4nm,0.9s							
PCRV	**Puerto La Cruz**	**61.09**	**51**	LR	LR	LR	21 50 48.2	
	comp=Z,245nm,21.4s,slow=33							
SNAA	**Sanae**	**62.23**	**160**	⇑P		**P**	**21 27 25.0**	**-1.2**
	comp=Z,114nm,0.9s							
SNAA	**Sanae**	**62.23**	**160**	P		**P**	**21 27 25.5**	**-0.6**
SNAA					IAmb	IAmb	21 27 28.2	
	comp=Z,11nm,1.4s							
SNAA	**Sanae**	**62.23**	**160**	P		**P**	**21 27 25.2**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=266,slow=5.4,SNR=7.2							
	comp=Z,3.7nm,1.0s							
TROLL	**Troll, Antarti**	**63.54**	**161**	⇑P		**P**	**21 27 34.4**	**-0.6**
	comp=Z,407nm,0.9s							
TXAR	**Lajitas Array**	**63.85**	**5**	P		**P**	**21 27 37.9**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=193,slow=5.1,SNR=4.8							
TXAR					LR	LR	21 50 56.7	
	comp=Z,25nm,19.8s,baz=162,slow=32							
	comp=Z,0.4nm,0.8s							
JCT	**Junction City**	**65.35**	**8**	P		**P**	**21 27 45.2**	**-1.9**
JCT					IAmb	IAmb	21 27 50.6	
	comp=Z,8.2nm,0.8s							
MDP	**Montagnes des**	**65.92**	**65**	LR	LR	LR	21 53 40.6	
	comp=Z,328nm,18.8s,baz=225,slow=33							
BRDY	**Brady**	**66.25**	**9**			**P**	**21 27 51.7**	**-1.2**
SJG	**San Juan**	**66.28**	**45**	LR	LR	LR	21 55 40.5	
	comp=Z,71nm,18.1s,baz=196,slow=35							
SGCY	**Sterling City**	**66.62**	**7**	P		**P**	**21 27 56.2**	**+0.9**
SGCY					IAmb	IAmb	21 28 05.7	
	comp=Z,7.0nm,0.7s							
143A	**Socs Landing,**	**68.97**	**16**	P		**P**	**21 28 09.2**	**-0.8**
ANMO	**Albuquerque**	**69.30**	**2**	LR	LR	LR	21 53 59.9	
	comp=Z,63nm,19.1s,baz=270,slow=32							
HHAR	**Hobbs**	**71.93**	**13**	P		**P**	**21 28 28.6**	**+0.6**
HHAR					IAmb	IAmb	21 28 31.3	
	comp=Z,4.6nm,0.9s							
SDCO	**Great Sand Dun**	**72.12**	**3**	P		**P**	**21 28 29.9**	**+0.4**
DSP	**Deep Springs**	**72.20**	**352**	P		**P**	**21 28 30.1**	**+0.5**
PV05	**Paradox Valley**	**72.39**	**360**	P		**P**	**21 28 30.5**	**-0.5**
PV05					IAmb	IAmb	21 28 37.7	
	comp=Z,2.9nm,0.7s							
PV01	**Paradox Valley**	**72.45**	**0**	P		**P**	**21 28 29.6**	**-1.7**
PV18	**Skein Mesa, Pa**	**72.56**	**360**	P		**P**	**21 28 30.9**	**-1.1**
PV18					IAmb	IAmb	21 28 35.0	
	comp=Z,6.0nm,0.8s							
RCBR	**Riachuelo**	**72.58**	**85**	LR	LR		21 59 01.8	
	comp=Z,33nm,18.6s,baz=247,slow=35							
PV16	**Nyswonger Mesa**	**72.62**	**360**	P		**P**	**21 28 31.3**	**-1.1**
PV16					IAmb	IAmb	21 28 34.2	
	comp=Z,3.2nm,0.8s							
PV20	**West Nyswonger**	**72.65**	**360**	P		**P**	**21 28 31.3**	**-1.2**
PV20					IAmb	IAmb	21 28 34.6	
	comp=Z,6.3nm,1.1s							
PV23	**Carpenter Ridg**	**72.76**	**360**	P		**P**	**21 28 32.1**	**-1.1**
PV23					IAmb	IAmb	21 28 41.0	
	comp=Z,7.5nm,0.9s							
NVAR	**Mina Array Bea**	**73.28**	**352**	P		**P**	**21 28 37.4**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=181,slow=8.1,SNR=8.4							
	comp=Z,0.9nm,0.4s							
KSCO	**Kaye Shedlock'**	**73.54**	**5**	P		**P**	**21 28 35.9**	**-1.8**
DZM	**Mont Dzumac**	**73.71**	**254**	*e*LR	LR	LR	21 50 59.9	
	comp=Z,302nm,28.6s							
TKL	**Tuckaleechee C**	**73.75**	**21**	LR	LR	LR	21 55 47.7	
	comp=Z,115nm,21.5s,baz=199,slow=32							
SYO	**Syowa Base**	**74.00**	**169**	⇑*ep*P		**P**	**21 28 40.8**	**+0.9**
SYO	**Syowa Base**	**74.00**	**169**	⇓*e*PcP		**PcP**	**21 28 52.0**	**-3.2**
CASY	**Casey**	**74.94**	**195**	P		**P**	**21 28 46.0**	**+0.5**
PDAR	**Pinedale Array**	**77.08**	**359**	LR	LR	LR	21 58 57.2	
	comp=Z,30nm,18.2s,baz=172,slow=33							
YBH	**Yreka Blue Hor**	**77.12**	**349**	LR	LR		21 57 34.5	
	comp=Z,5.0nm,18.4s,baz=171,slow=32							
MAW	**Mawson**	**77.83**	**177**	P		**P**	**21 29 02.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=210,slow=5.5,SNR=7.1							
MAW					LR	LR	22 01 17.5	
	comp=Z,78nm,18.5s,baz=140,slow=34							
	comp=Z,1.0nm,0.5s							
PINE	**Pine Mountain**	**78.89**	**351**	P		**P**	**21 29 07.1**	**-0.9**
PINE					IAmb	IAmb	21 29 16.1	
	comp=Z,4.7nm,0.8s							
G08A	**Pilot Rock**	**80.14**	**353**	P		**P**	**21 29 14.7**	**0.0**
NEW	**Newport**	**82.91**	**354**	LR	LR	LR	22 00 48.0	
	comp=Z,38nm,18.3s,baz=152,slow=32							
SADO	**Sadowa**	**83.51**	**21**	LR	LR	LR	22 04 31.1	
	comp=Z,49nm,18.9s,baz=162,slow=34							
SACV	**Santiago Islan**	**94.45**	**75**	P		**P**	**21 30 24.6**	**-0.8**
KDAK	**Kodiak Island**	**99.20**	**338**	LR	LR	LR	22 05 46.6	
	comp=Z,56nm,19.8s,baz=177,slow=30							
H01W1	**Cape Leeuwin H**	**100.02**	**215**	T		T	23 23 00.5	
	baz=144,slow=76,SNR=30							
H01W2	**Cape Leeuwin H**	**100.02**	**215**	T		T	23 23 01.9	
	baz=144,slow=76,SNR=25							
H01W3	**Cape Leeuwin H**	**100.03**	**215**	T		T	23 23 03.5	
	baz=144,slow=76,SNR=28							
A36M	**Sachs Harbour**	**107.01**	**355**	Pdif		**Pdif**	**21 31 19.7**	**-0.5**
COI	**Coimbra**	**118.50**	**59**	PKPdf		**PKPdf**	**21 35 50.9**	**-1.6**
BORG	**Borgarnes**	**119.71**	**30**	PKPdf		**PKPdf**	**21 35 52.7**	**-1.2**
ESDC	**Sonseca Array**	**121.48**	**61**	PKP		**PKPdf**	**21 35 58.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=267,slow=2.2,SNR=5.4							
KIEV	**Kiev**	**145.71**	**49**	PKPdf		**PKPdf**	**21 36 40.4**	**-2.5**
AKASG	**Malin Array Be**	**145.72**	**49**	PKPbc		**PKPdf**	**21 36 41.9**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=270,slow=4.2,SNR=4.3							
ANTO	**Ankara**	**149.11**	**69**	PKPdf		**PKPdf**	**21 36 47.4**	**-1.6**
BRTR	**Keskin Array B**	**149.75**	**69**	PKPbc		**PKPbc**	**21 36 56.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=203,slow=4.4,SNR=5.0							
MMAI	**Mount Meron Ar**	**150.25**	**83**	PKPbc		**PKPbc**	**21 36 56.7**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=305,slow=2.9,SNR=4.2							
ULN	**Ulaanbaatar**	**150.34**	**307**	PKPdf		**PKPdf**	**21 36 52.1**	**+1.2**
CRAI	**Chiangrai**	**150.57**	**248**	PKPdf		**PKPdf**	**21 36 50.0**	**-1.8**
CM31	**Chiang Mai Arr**	**150.58**	**244**			**PKPdf**	**21 36 52.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**150.58**	**244**	PKPbc		**PKPdf**	**21 36 55.9**	**+4.0**
CMAR	**Chiang Mai Arr**	**150.58**	**244**	PKPbc		**PKPdf**	**21 36 56.0**	**+4.2**
	comp=Z,4.3nm,0.9s,baz=179,slow=1.8,SNR=18							
SONM	**Songino Array**	**150.78**	**307**	PKPdf		**PKPdf**	**21 36 53.0**	**+1.5**
SONM	**Songino Array**	**150.78**	**307**	PKPbc		**PKPdf**	**21 36 55.2**	**+3.8**
	comp=Z,2.7nm,0.9s,baz=123,slow=2.0,SNR=9.5							

*IDC **04** 21:21:53.0±0.9, 11°.17N×123°.83E, h0km, mb3.9/9, mbtmp3.9/9, MS3.4/15, Error ellipse: s-maj=66.5km s-min=16.2km az=69.0*
ISC 04 21:21:54.7±0.9,**11°.2N**±0°.2×**123°.9E**±0°.5,**h11**km,**n22,**
σ0**$**22/9,**mb4.0**/9,**MS3.4**/14,**Cebu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**16.60**	**194**	LR		LR	21 32 26.0	
	comp=Z,100nm,21.1s,baz=64,slow=38							
JNU	**Nakatsue**	**22.77**	**15**	LR		LR	21 35 12.7	
	comp=Z,40nm,21.1s,baz=198,slow=35							
CMAR	**Chiang Mai Arr**	**25.13**	**290**	LR		LR	21 38 11.2	
	comp=Z,60nm,18.1s,baz=130,slow=39							
PSI	**Prapat**	**26.09**	**253**	LR		LR	21 37 12.1	
	comp=Z,49nm,20.7s,baz=114,slow=35							
JHJ	**Hachijo jima 2**	**26.28**	**31**	LR		LR	21 37 05.7	
	comp=Z,41nm,20.1s,baz=308,slow=35							
KSRS	**Korea Array**	**26.42**	**7**	P		**P**	**21 27 31.4**	**0.0**
	0.6nm,0.6s,baz=180,slow=11,SNR=6.6							
	0.6nm,0.6s							
MJAR	**Matsushiro Arr**	**28.39**	**25**	LR		LR	21 37 04.0	
	comp=Z,56nm,21.9s,baz=209,slow=32							
WRA	**Warramunga Arr**	**32.60**	**161**	P		**P**	**21 28 26.3**	**-0.2**
	0.6nm,0.9s,baz=339,slow=8.4,SNR=2.1							
	0.6nm,0.9s							
BRDH	**Bariadhala**	**32.80**	**295**	LR		LR	21 42 16.8	
	comp=Z,100nm,18.4s,baz=106,slow=37							
ASAR	**Alice Springs**	**36.00**	**164**	P		**P**	**21 28 55.8**	**-0.1**
	0.9nm,0.9s,baz=349,slow=13,SNR=7.4							
ASAR					LR	LR	21 46 29.2	
	comp=Z,49nm,18.0s,baz=30,slow=41							
	0.9nm,0.9s							
SONM	**Songino Array**	**39.38**	**341**	P		**P**	**21 29 24.5**	**+0.1**
	1.3nm,1.0s,baz=157,slow=8.0,SNR=6.9							
SONM					LR	LR	21 45 19.0	
	comp=Z,66nm,19.1s,baz=142,slow=36							
	1.3nm,1.0s							
PALK	**Pallekele**	**42.75**	**269**	LR		LR	21 47 53.9	
	comp=Z,42nm,18.2s,baz=86,slow=36							
STKA	**Stephens Creek**	**46.06**	**159**	P		**P**	**21 30 18.9**	**+0.2**
	3.2nm,0.8s,baz=325,slow=6.6,SNR=5.0							
	3.2nm,0.8s							
MKAR	**Makanchi Array**	**49.88**	**323**	P		**P**	**21 30 48.3**	**+0.1**
	2.4nm,0.7s,baz=123,slow=8.4,SNR=20							
	2.4nm,0.7s							
YAK	**Yakutsk**	**50.94**	**4**	LR		LR	21 54 56.6	
	comp=Z,41nm,18.3s,baz=170,slow=39							
ZALV	**Zalesovo Beam**	**52.71**	**332**	P		**P**	**21 31 08.8**	**-0.4**
	1.2nm,0.7s,baz=116,slow=10,SNR=4.9							
	1.2nm,0.7s							
AAK	**Ala-Archa**	**53.02**	**315**	LR		LR	21 54 52.8	
	comp=Z,35nm,18.5s,baz=102,slow=37							
KURBB	**Kurchatov Arra**	**53.99**	**326**	P		**P**	**21 31 18.8**	**+0.1**
	1.2nm,0.6s,baz=123,slow=7.6,SNR=8.9							
	1.2nm,0.6s							
BVAR	**Borovoye Array**	**59.58**	**326**	P		**P**	**21 31 58.2**	**-0.2**
	1.2nm,0.9s,baz=111,slow=8.1,SNR=4.0							
	1.2nm,0.9s							
NOA	**NORSAR Array B**	**90.89**	**333**	LR		LR	22 18 59.1	
	comp=Z,30nm,19.5s,baz=105,slow=38							
LSZ	**Lusaka**	**98.28**	**256**	LR		LR	22 14 31.6	
	comp=Z,36nm,19.6s,baz=188,slow=32							
MATP	**Matopo**	**98.79**	**251**	LR		LR	22 16 53.6	
	comp=Z,27nm,18.1s,baz=214,slow=33							

*IDC **04** 21:27:49.1±1.6, 10°.60S×123°.34E, h0km, mb3.7/1, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=25.7km s-min=11.3km az=124.0*
*DJA **04** 21:27:53.8±0.9, 10°.5S±6°×12°.4E±°, h10km, M3.2/5, MLv3.2/5*
ISC 04 21:27:52.9±0.8,**10°.54S**±0°.06×**123°.62E**±0°.07,**h29**km,**n10,**
σ1**$**78/16,**Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**0.33**	**7**	Pg		**Pb**	**21 27 58.9**	**-1.9**
	470nm,0.3s,baz=216,slow=3.7,SNR=223							
BATI				Lg		Lg	21 28 05.8	
	566nm,0.3s,baz=213,slow=8.2,SNR=25							
BATI	**Baumata**	**0.33**	**7**	P		**Pb**	**21 27 58.6**	**-2.2**
BATI				S		**Sb**	**21 28 04.9**	**-1.2**
SOEI	**Soe**	**1.00**	**39**	P		**Pn**	**21 28 13.8**	**+2.6**
SOEI				S		**Sn**	**21 28 27.0**	**+2.6**
MMRI	**Maumere**	**2.33**	**324**	P		**Pn**	**21 28 31.0**	**+1.6**
MMRI				S		**Sn**	**21 28 57.8**	**+0.7**
EDFI	**Ende, Flores**	**2.61**	**313**	P		**Pn**	**21 28 34.0**	**+0.8**
EDFI				S		**Sn**	**21 29 04.8**	**+0.8**
WBSI	**Waikabubak, Su**	**4.26**	**282**	P		**Pn**	**21 28 56.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**7.76**	**166**	Pn		**Pn**	**21 29 45.4**	**+1.3**
	0.2nm,0.3s,baz=355,slow=11,SNR=9.8							
FITZ				Sn		**Sn**	**21 31 12.2**	**+1.2**
	0.7nm,0.3s,baz=239,slow=20,SNR=6.3							
	1.8nm,0.7s							
WRA	**Warramunga Arr**	**13.93**	**133**	Pn		**Pn**	**21 31 08.7**	**+0.2**
	0.1nm,0.3s,baz=308,slow=15,SNR=5.7							
WRA				Sn		**Sn**	**21 33 39.2**	**-3.1**
	0.3nm,0.3s,baz=318,slow=24,SNR=6.2							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**16.32**	**144**	Pn		**Pn**	**21 31 40.5**	**+0.3**
	0.1nm,0.3s,baz=314,slow=11,SNR=8.2							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**67.96**	**331**	P		**P**	**21 38 49.3**	**+0.1**
	0.5nm,0.5s,baz=143,slow=7.0,SNR=6.4							
	0.5nm,0.5s							

CATAC 04 21:29:46.6±0.2,**12°N**±1°×**87°W**±°,**h10**km±2km,**M3.3**/18,
MLv3.3/18,**4C-3D,Error ellipse: s-maj=2.9km s-min=2.4km az=7.6,confirmed,Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACON	**Acoyapa**	**0.18**	**37**	⇑P		Pb	21 29 52.0	0.0
ACON				S		Sg	21 29 55.5	+2.3
MORN	**Al O del Volca**	**0.45**	**233**	⇑P		Pb	21 29 56.4	-0.2
JAPN	**Al SSO del Vol**	**0.49**	**233**	⇑P		Pb	21 29 57.4	+0.2
ARIN	**Rivas**	**0.65**	**236**	P		Pg	21 29 59.6	+0.4
ARIN	**Rivas**	**0.65**	**236**	S		Sg	21 30 08.4	+0.6
CARN	**Rivas**	**0.67**	**200**	P		Pg	21 29 60.0	+0.3
BOAB	**BOACO BROADBAN**	**0.73**	**329**	S		Sb	21 30 10.8	-0.5
BOAB	**BOACO BROADBAN**	**0.73**	**329**	P		Pb	21 30 01.3	-0.1
NADN	**Granada**	**0.74**	**264**	P		Pg	21 30 01.1	+0.3
NADN				S		Sg	21 30 10.9	+0.4
NANN	**Nandasmo**	**0.83**	**278**	P		Pb	21 30 02.8	-0.2
NANN	**Nandasmo**	**0.83**	**278**	S		Sb	21 30 14.6	+0.3
SABN	**Sabanita**	**0.87**	**279**	P		Pg	21 30 03.5	+0.1
AERN	**Aeropuerto Man**	**0.92**	**290**	P		Pg	21 30 04.4	0.0
WILN	**Americas 2**	**0.95**	**291**	⇓P		Pg	21 30 04.8	-0.1
WILN				S		Sb	21 30 17.7	0.0
UPAL	**Upala**	**0.96**	**164**	S		Sb	21 30 18.4	+0.4
UPAL	**Upala**	**0.96**	**164**	P		Pb	21 30 05.2	-0.1
MGAN	**Managua**	**1.00**	**289**	S		Sb	21 30 19.3	+0.2
MGAN	**Managua**	**1.00**	**289**	P		Pg	21 30 05.5	-0.2
R4DEC	**Barrio San Lui**	**1.00**	**289**	P		Pb	21 30 06.0	0.0
R4DEC	**Barrio San Lui**	**1.00**	**289**	S		Sb	21 30 19.4	+0.2
UNAN	**Cigeo UNAN**	**1.01**	**287**	P		Pg	21 30 05.6	-0.4
UNAN				S		Sb	21 30 19.5	+0.1
ESPN	**Las Esperanzas**	**1.03**	**69**	P		Pn	21 30 07.1	+0.1
ESPN	**Las Esperanzas**	**1.03**	**69**	S		Sn	21 30 21.3	-0.2
SAPS	**Ciudad Sandino**	**1.15**	**288**	P		Pb	21 30 07.9	-0.6
ELI1	**Hacienda Flor**	**1.20**	**193**	P		Pb	21 30 08.8	-0.6
MATN	**Matagalpa**	**1.27**	**330**	P		Pn	21 30 10.1	-0.3
MATN	**Matagalpa**	**1.27**	**330**	S		Sb	21 30 25.9	-1.1
MOM2	**El Cardon**	**1.32**	**298**	P		Pn	21 30 10.9	-0.2
MOM2				S		Sg	21 30 29.3	+0.1
COPN	**Copaltepe**	**1.33**	**286**	P		Pn	21 30 10.7	-0.5
MOMN	**Momotombo**	**1.36**	**295**	P		Pn	21 30 11.3	-0.3
MOMN				S		Sb	21 30 29.5	-0.1
COVE	**Coope Vega, Sa**	**1.40**	**142**	P		Pb	21 30 12.8	0.0
COVE	**Coope Vega, Sa**	**1.40**	**142**	S		Sb	21 30 31.1	+0.5
CNGA	**Al SSO del Vol**	**1.54**	**296**	⇓P		Pb	21 30 14.7	-0.5
CNGN	**Cerro Negro**	**1.54**	**296**	⇓P		Pb	21 30 14.8	-0.5
JTS	**Las Juntas de**	**1.56**	**168**	P		Pn	21 30 14.5	+0.1
JTS				S		Sb	21 30 35.4	+0.2
SOCE	**Pocosol**	**1.57**	**155**	S		Sb	21 30 36.3	+0.6
SOCE	**Pocosol**	**1.57**	**155**	P		Pb	21 30 15.6	-0.2
RCPN	**Sur Rio San Ju**	**1.87**	**335**	P		Pn	21 30 19.4	+0.7
RCPN	**Sur Rio San Ju**	**1.87**	**335**	S		Sb	21 30 44.3	0.0
INDI	**Punta indio, G**	**1.96**	**186**	P		Pb	21 30 22.4	+0.1
RCVN	**Varillal2**	**1.96**	**333**	P		Pb	21 30 21.3	-1.2
RCVN	**Varillal2**	**1.96**	**333**	S		Sb	21 30 47.8	+0.7
LCR2	**La Lucha 2**	**2.42**	**149**	P		Pn	21 30 28.0	+1.6
CHOHN	**Orocuina**	**2.46**	**312**	P		Pn	21 30 27.2	+0.4
CHOHN	**Orocuina**	**2.46**	**312**	Sg		Sb	21 31 03.4	+1.9
YUSH	**Yuscaran**	**2.61**	**325**	⇑P		Pn	21 30 29.9	+1.0
YUSH	**Yuscaran**	**2.61**	**325**	Sg		Sb	21 31 07.8	+2.2

*IDC **04** 21:41:46.6±1.6, 38°.29N×135°.40E, h367km±20km, mb2.7/1, mbtmp3.3/4, Error ellipse: s-maj=45.9km s-min=27.0km az=39.0*
*JMA **04** 21:41:46.7±0.3, 38°N±1°×13°6E±°, h377km±2km, MV3.1/33, SEA OF JAPAN*
ISC 04 21:41:46.9±1.3,**38°.2N**±0°.1×**135°.5E**±0°.1,**h366**km,**n15,**
σ0**$**63/16,**Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHG	**Hegura jima**	**1.21**	**108**	P		**Pn**	**21 42 35.9**	**+0.7**
JJH	**Hakui**	**1.68**	**141**	P		**Pn**	**21 42 38.5**	**+0.8**
JKG	**Kaga**	**2.08**	**160**	P		**Pn**	**21 42 40.9**	**+0.6**
JSD	**Sado**	**2.21**	**94**	*eP*		**Pn**	**21 42 41.7**	**+0.5**
MJAR	**Matsushiro Arr**	**2.77**	**127**	P		**Pn**	**21 42 46.3**	**+0.7**
	2.0nm,0.7s,baz=311,slow=9.9,SNR=8.0							
JWT	**Wachi**	**2.95**	**181**	P		**Pn**	**21 42 47.6**	**+0.5**
JRG	**Rokugo**	**4.20**	**72**	P		**Pn**	**21 42 59.8**	**+1.0**
JRG				*e*S		**S**	**21 43 56.6**	**-0.5**
JMM	**Marumori**	**4.22**	**93**	P		**Pn**	**21 42 59.2**	**+0.2**
JFK	**Kawauchi**	**4.37**	**100**	P		**Pn**	**21 43 00.4**	**-0.3**
JMK	**Ichinoseki**	**4.57**	**79**	P		**Pn**	**21 43 02.8**	**+0.2**
JOT	**Ohata**	**5.33**	**52**	P		**Pn**	**21 43 10.9**	**+0.2**
BSO1	**Boso 1**	**5.71**	**127**	P		**Pn**	**21 43 13.8**	**-0.6**
KSRS	**Korea Array**	**6.02**	**265**	P		**Pn**	**21 43 17.9**	**-0.5**
	7.8nm,0.7s,baz=78,slow=12,SNR=51							
USRK	**Ussuriysk Ar.**	**6.51**	**337**	P		**Pn**	**21 43 23.0**	**-0.9**
	1.1nm,0.4s,baz=145,slow=11,SNR=1.6							
WRA	**Warramunga Arr**	**57.88**	**181**	P		**P**	**21 51 01.6**	**-0.2**
	0.3nm,0.6s,baz=357,slow=7.5,SNR=5.6							
	0.3nm,0.6s							

*IDC **04** 21:41:48.6±2.9, 31°.63S×178°.22W, h0km, mb3.8/2, mbtmp3.8/3, ML3.3/1, MS3.8/1, Error ellipse: s-maj=69.6km s-min=45.0km az=125.0*
ISC 04 21:41:53.6±2.3,**31°.8S**±0°.2×**178°.2W**±0°.4,**h35**km,**n6,**
σ0**$**78/6,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**7.48**	**210**	Pn		**Pn**	**21 43 40.0**	**-0.1**
	0.4nm,0.3s,baz=154,slow=22,SNR=1.3							
URZ				Sn		**Sn**	**21 45 03.8**	**+0.1**
	1.7nm,0.3s,baz=157,slow=14,SNR=7.7							
	5.8nm,0.7s							
STKA	**Stephens Creek**	**34.01**	**259**	LR		LR	22 01 44.9	
	comp=Z,138nm,19.2s,baz=175,slow=35							
ASAR	**Alice Springs**	**42.88**	**269**	P		**P**	**21 49 49.4**	**+0.5**
	0.5nm,0.5s,baz=110,slow=7.9,SNR=9.8							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**43.99**	**274**	P		**P**	**21 49 57.3**	**-0.5**
	0.6nm,0.3s,baz=112,slow=7.9,SNR=20							
	0.6nm,0.3s							
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc		**PKPbc**	**22 01 29.4**	**-0.7**
	0.8nm,0.4s,baz=60,slow=3.7,SNR=13							
NB2	**NORSAR Subarra**	**150.13**	**351**	PKP		**PKPab**	**22 01 46.8**	**+0.

RTC	**Rabat Centre**	**0.71**	**340**	P		**Pb**	**22 01 56.4**	**+1.0**
RTC	**Rabat Centre**	**0.71**	**340**	S		**Sb**	**22 02 06.0**	**+1.2**
SICH	**Sidi Chahed**	**1.30**	**53**	P		**Pb**	**22 02 06.2**	**+0.7**
SICH	**Sidi Chahed**	**1.30**	**53**	S		**Sb**	**22 02 25.0**	**+3.2**
CZD	**Col de Zad**	**1.31**	**102**	P		**Pb**	**22 02 05.7**	**0.0**
CZD	**Col de Zad**	**1.31**	**102**	S		**Sb**	**22 02 24.4**	**+2.1**
SRHM	**Skhour des Reh**	**1.40**	**233**	P		**Pn**	**22 02 07.1**	**+1.6**
SRHM	**Skhour des Reh**	**1.40**	**233**	S		**Sb**	**22 02 26.7**	**+2.1**
LCRM	**LCR**	**1.48**	**75**	P		**Pn**	**22 02 06.8**	**+0.2**
LCRM	**LCR**	**1.48**	**75**	S		**Sb**	**22 02 27.5**	**+0.7**
MD31	**MD31**	**1.58**	**106**	P		**Pn**	**22 02 08.1**	**+0.1**
MD31	**MD31**	**1.58**	**106**	S		**Sb**	**22 02 30.8**	**+0.9**
TISM	**Timmit**	**1.60**	**176**	P		**Pn**	**22 02 05.5**	**-2.5**
TISM	**Timmit**	**1.60**	**176**	S		**Sn**	**22 02 27.8**	**0.0**
MDT	**Midelt**	**1.72**	**106**	P		**Pn**	**22 02 10.1**	**+0.2**
MDT	**Midelt**	**1.72**	**106**	S		**Sb**	**22 02 34.6**	**+0.7**
GOLM	**Goulmima**	**2.11**	**139**	P		**Pn**	**22 02 17.1**	**+1.9**
GOLM	**Goulmima**	**2.11**	**139**	S		**Sb**	**22 02 44.7**	**-0.4**
OUZM	**OUZ**	**2.41**	**184**	P		**Pn**	**22 02 20.2**	**+0.8**
OUZM	**OUZ**	**2.41**	**184**	S		**Sn**	**22 02 50.4**	**+2.4**
TIO	**Tiouine**	**2.46**	**194**	Pn		**Pn**	**22 02 18.9**	**-1.2**
TIO				Sg		**Sb**	**22 02 52.7**	**-2.3**
TIO	**Tiouine**	**2.46**	**194**	P		**Pn**	**22 02 19.8**	**-0.2**
TIO	**Tiouine**	**2.46**	**194**	S		**Sn**	**22 02 48.5**	**-0.7**
AKLM	**AKL**	**2.54**	**61**	P		**Pn**	**22 02 22.0**	**+0.8**
AKLM	**AKL**	**2.54**	**61**	S		**Sb**	**22 02 55.3**	**-2.3**
PALE	**Palemas**	**2.89**	**48**	P		**Pn**	**22 02 27.3**	**+1.5**
PALE	**Palemas**	**2.89**	**48**	S		**Sb**	**22 03 03.7**	**-3.6**
TTIG	**Tnine Tigouga,**	**3.19**	**210**	P		**Pn**	**22 02 28.4**	**-1.7**
TTIG	**Tnine Tigouga,**	**3.19**	**210**	S		**Sn**	**22 03 05.6**	**-1.7**
ZGR	**Zagora**	**3.29**	**166**	P		**Pn**	**22 02 31.4**	**-0.1**
ZGR	**Zagora**	**3.29**	**166**	S		**Sn**	**22 02 09.8**	**+0.1**
ESPR	**Espera**	**3.59**	**9**	Pn		**Pn**	**22 02 37.4**	**+2.0**
ESPR				Sn		**Sn**	**22 03 16.7**	**-0.3**
TAF	**Taforalt**	**3.76**	**65**	P		**Pn**	**22 02 40.5**	**+2.6**
TAF	**Taforalt**	**3.76**	**65**	S		**Sn**	**22 03 25.2**	**+3.9**
PBDV	**Barranco-do-Ve**	**4.07**	**345**	*e*P		**Pn**	**22 02 43.3**	**+1.2**
PBDV				*e*S		**Sn**	**22 03 29.1**	**+0.2**
PBDV				*i* IAML			22 03 30.1	
PBDV				*i* IAML			22 03 32.5	
PBDV				*i* IAML			22 03 35.9	
PVAQ	**Vaqueiros**	**4.18**	**347**	Pn		**Pn**	**22 02 44.4**	**+0.7**
PVAQ	**Vaqueiros**	**4.18**	**347**	*e*P		**Pn**	**22 02 44.6**	**+1.0**
PVAQ				*e*S		**Sn**	**22 03 31.4**	**-0.3**
PVAQ				*i* IAML			22 03 37.0	
PVAQ				*i* IAML			22 03 41.9	
PVAQ				*i* IAML			22 03 47.8	
PFVI	**Vila Bisbo**	**4.23**	**335**	*e*P		**Pn**	**22 02 47.3**	**+3.0**
PFVI				*e*S		**Sn**	**22 03 33.4**	**+0.6**
PFVI				*i* IAML			22 03 36.6	
EGRO	**El Granado**	**4.27**	**350**	Pn		**Pn**	**22 02 45.9**	**+1.1**
EGRO				Sn		**Sn**	**22 03 34.0**	**+0.2**
EGRO	**El Granado**	**4.27**	**350**	Pn		**Pn**	**22 02 45.9**	**+1.1**
EGRO				⇑*i*VmB_VC			22 02 51.5	
	215nm,SNR=3.0							
EGRO				Sn		**Sn**	**22 03 32.6**	**-1.3**
ELGU	**Los Guajares,**	**4.29**	**33**	Pn		**Pn**	**22 02 45.6**	**+0.5**
ELGU				⇑*i*VmB_VC			22 02 47.3	
	62nm,SNR=1.3							
ELGU				Sn		**Sn**	**22 03 32.2**	**-2.1**
EGOR	**Sierra Gorda,**	**4.29**	**27**	Sn		**Sn**	**22 03 34.9**	**+0.6**
MORF	**Marmelete**	**4.33**	**337**	*e*S		**Sn**	**22 03 35.0**	**-0.2**
MORF				*i* IAML			22 03 38.2	
MORF				*i* IAML			22 03 39.4	
MORF				*i* IAML			22 03 40.4	
EMIN	**Mina Concepcio**	**4.44**	**359**	Pn		**Pn**	**22 02 48.5**	**+1.3**
EMIN				⇑*i*VmB_VC			22 02 52.8	
	97nm,SNR=2.6							
EMIN				Sn		**Sn**	**22 03 36.2**	**-1.8**
PCVE	**Castro Verde**	**4.47**	**345**	*e*P		**Pn**	**22 02 49.2**	**+1.7**
PCVE				*e*S		**Sn**	**22 03 38.3**	**-0.4**
PCVE				*i* IAML			22 03 40.1	
PCVE				*i* IAML			22 03 42.8	
PCVE				*i* IAML			22 03 50.5	
PTEO	**Sao Teotonio**	**4.57**	**338**	*e*P		**Pn**	**22 02 50.2**	**+1.3**
PTEO				*e*S		**Sn**	**22 03 40.8**	**-0.4**
MESJ	**Messejana**	**4.71**	**344**	*e*P		**Pn**	**22 02 52.5**	**+1.6**
MESJ				*e*S		**Sn**	**22 03 44.8**	**+0.2**
MESJ				*i* IAML			22 03 45.8	
MESJ				*i* IAML			22 03 54.8	
MESJ				*i* IAML			22 03 55.3	
ECAB	**El Cabril**	**4.84**	**11**	Pn		**Pn**	**22 02 53.8**	**+1.1**
ECAB				Sn		**Sn**	**22 03 45.9**	**-1.9**
ECAB	**El Cabril**	**4.84**	**11**	Pn		**Pn**	**22 02 53.6**	**+1.0**
ECAB				⇑*i*VmB_VC			22 02 55.4	
	66nm,SNR=2.4							
ECAB				Sn		**Sn**	**22 03 43.8**	**-4.1**
PBAR	**Barrancos**	**4.86**	**356**	Pn		**Pn**	**22 02 54.4**	**+1.4**
PBAR				Sn		**Sn**	**22 03 46.7**	**-1.7**
PBAR	**Barrancos**	**4.86**	**356**	*e*P		**Pn**	**22 02 54.2**	**+1.2**
PBAR				*e*S		**Sn**	**22 03 48.0**	**-0.4**
PBAR				*i* IAML			22 03 48.7	
PBAR				*i* IAML			22 03 50.3	
PBAR				*i* IAML			22 04 04.5	
EADA	**Adamuz**	**5.10**	**18**	Pn		**Pn**	**22 02 57.7**	**+1.4**
EADA				Sn		**Sn**	**22 03 52.4**	**-1.9**
EADA	**Adamuz**	**5.10**	**18**	Pn		**Pn**	**22 02 57.5**	**+1.2**
EADA				⇑*i*VmB_VC			22 02 58.4	
	129nm,SNR=3.8							
EADA				Sn		**Sn**	**22 03 51.8**	**-2.5**
EQES	**Quesada**	**5.31**	**32**	Pn		**Pn**	**22 03 01.4**	**+2.2**
EQES				⇑*i*VmB_VC			22 03 04.0	
	54nm,SNR=2.0							
EQES				Sn		**Sn**	**22 03 56.7**	**-2.7**
EVO	**Evora**	**5.33**	**348**	*e*P		**Pn**	**22 03 01.1**	**+1.7**
EVO				*e*S		**Sn**	**22 04 01.2**	**+1.2**
EBAD	**Badajoz**	**5.44**	**356**	Pn		**Pn**	**22 03 01.6**	**+0.8**
EBAD				Sn		**Sn**	**22 04 01.2**	**-1.3**
EBAD	**Badajoz**	**5.44**	**356**	Pn		**Pn**	**22 03 02.0**	**+1.1**
EBAD				⇑*i*VmB_VC			22 03 09.4	
	145nm,SNR=5.1							
EBAD				Sn		**Sn**	**22 03 58.9**	**-3.6**
PESTR	**Estremoz**	**5.60**	**352**	*e*P		**Pn**	**22 03 05.8**	**+2.7**
PESTR				*e*S		**Sn**	**22 04 05.3**	**-1.2**
PESTR				*i* IAML			22 04 09.4	
PESTR				*i* IAML			22 04 10.4	
PARRA	**Arraiolos**	**5.84**	**341**	*e*P		**Pn**	**22 03 04.6**	**-1.8**
PARRA				*e*S		**Sn**	**22 04 05.7**	**-6.7**
PARRA				*i* IAML			22 04 06.4	
PARRA				*i* IAML			22 04 08.1	
PMTG	**Montargil**	**5.89**	**347**	*e*P		**Pn**	**22 03 08.6**	**+1.4**
PMTG				*e*S		**Sn**	**22 04 12.7**	**-1.0**
PMTG				*i* IAML			22 04 17.7	
PSIM	**Granatula de C**	**5.94**	**22**	Pn		**Pn**	**22 03 08.8**	**+1.0**
PSIM				Sn		**Sn**	**22 04 11.5**	**-3.6**
PMRV	**Marv??o**	**6.13**	**354**	*e*P		**Pn**	**22 03 11.4**	**+0.9**
PMRV				*e*S		**Sn**	**22 04 17.4**	**-2.3**
PMRV				*i* IAML			22 04 21.4	
PMRV				*i* IAML			22 04 30.0	
PMRV				*i* IAML			22 04 32.8	
PSARD	**Sardoal**	**6.40**	**349**	*e*P		**Pn**	**22 03 15.8**	**+1.7**
PSARD				*e*S		**Sn**	**22 04 24.4**	**-1.9**
PSARD				*i* IAML			22 04 26.5	
PSARD				*i* IAML			22 04 29.2	
PAB	**San Pablo**	**6.47**	**15**	Pn		**Pn**	**22 03 15.5**	**+0.4**
PAB				⇑*i*VmB_VC			22 03 24.7	
	34nm,SNR=1.1							
PAB				Sn		**Sn**	**22 04 23.8**	**-4.3**
ESDC	**Sonseca Array**	**6.68**	**18**	Sn		**Sn**	**22 04 28.0**	**-5.3**
ESBB	**Sonseca Array**	**6.68**	**18**	Sn		**Sn**	**22 04 28.5**	**-4.8**
EPLA	**Plasencia**	**6.75**	**3**	Pn		**Pn**	**22 03 20.4**	**+1.6**
EPLA				⇑*i*VmB_VC			22 03 25.3	
	75nm,SNR=2.0							
EPLA				Sn		**Sn**	**22 04 30.6**	**-4.2**

*NEIC **04** 22:03:00.5±1.8,20.°52S±0.°09×174.°59E±0.°08,h10km±1km, mb4.7/23,Error ellipse: s-maj=16.3km s-min=12.4km az=153.0*

*IDC **04** 22:03:01.4±0.6,20.°39S×174.°19E,h0km,mb4.1/17, mbtmp4.1/19,ML3.5/2,MS4.0/35,Error ellipse: s-maj=20.1km s-min=16.5km az=107.0*

*GCMT **04** 22:03:06.5±0.3,20.°37S±0.°02×174.°44E±0.°02,h25km±1km, MW5.0/82,Moment Tensor Solution. s20,c22; s82,c115; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.23±.16; Mθθ-2.61±.14; Mϕϕ2.38±.15; Mrθ1.04±.29; Mθϕ-2.31±.10; Mϕr0.43±.28; Best double couple: M0 3.55700×10^16^ NP1:ϕs295.00000°,δ79.00000°,λ-169.00000°. NP2:*

ϕs203.00000°,δ79.00000°,λ-11.00000°. Principal axes: T 3.2850, Plg0.0000°, Azm249.0000°; N 0.5430, Plg74.0000°, Azm340.0000°; P -3.8280, Plg16.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 04 22:03:05.4±0.4,20.°48S±0.°07×174.°42E±0.°08,h35km,n126, σ1§57/101,mb4.5/34,MS4.1/32,4C-1D,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.38**	**52**	Pn		**Pn**	**22 04 06.1**	**-3.5**
PINNC	**Pines Island,**	**6.83**	**251**			**Pn**	**22 04 42.0**	**-1.1**
DZM	**Mont Dzumac**	**7.61**	**257**			**Pn**	**22 04 52.9**	**-0.9**
DZM	**Mont Dzumac**	**7.61**	**257**	*e*Pn		**Pn**	**22 04 54.3**	**+0.5**
	147nm,1.4s							
DZM				*e*LR		LR	22 06 34.1	
	4μm,24.9s							
DZM	**Mont Dzumac**	**7.61**	**257**	Pn		**Pn**	**22 04 51.2**	**-2.6**
	0.9nm,0.3s,baz=88,slow=18,SNR=10							
DZM				LR		LR	22 07 18.4	
	comp=Z,2μm,22.0s,baz=97,slow=35							
	22nm,1.0s							
ONTNC	**Ouen Toro**	**7.64**	**255**			**Pn**	**22 04 54.2**	**-0.1**
SANVU	**Saraoutou**	**8.49**	**305**			**Pn**	**22 05 04.2**	**-1.7**
RAO	**Raoul Island**	**11.16**	**143**	LR		LR	22 09 13.4	
	comp=Z,1μm,18.5s,baz=298,slow=33							
MXZ	**Matakaoa Point**	**17.36**	**170**	Pn		**Pn**	**22 07 01.0**	**-3.8**
MXZ				IAmb		IAmb	22 07 16.3	
	comp=Z,99nm,1.1s							
HNR	**Honiara**	**17.76**	**306**	LR		LR	22 12 54.1	
	comp=Z,335nm,19.2s,baz=122,slow=34							
URZ	**Urewera**	**17.87**	**173**	P		**P**	**22 07 14.2**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=244,slow=8.7,SNR=3.7							
URZ				LR		LR	22 12 29.1	
	comp=Z,624nm,21.6s,baz=357,slow=32							
	comp=Z,26nm,1.1s							
EIDS	**Eidsvold**	**22.03**	**253**			**P**	**22 07 56.8**	**-0.2**
EIDS				IAmb		IAmb	22 08 01.2	
	comp=Z,30nm,0.8s							
ARMA	**Armidale**	**22.80**	**240**			**P**	**22 08 02.6**	**-2.7**
ARMA				IAmb		IAmb	22 08 08.2	
	comp=Z,16nm,0.9s							
RPZ	**Rata Peaks**	**23.34**	**186**	LR		LR	22 16 12.0	
	comp=Z,668nm,20.7s,baz=350,slow=34							
RAR	**Rarotonga**	**24.12**	**96**	LR		LR	22 15 28.3	
	comp=Z,131nm,21.9s,baz=272,slow=31							
CTAO	**Charters Tower**	**26.41**	**266**	P		**P**	**22 08 38.4**	**-0.5**
CTAO				IAmb		IAmb	22 08 56.1	
	comp=Z,22nm,1.1s							
PMG	**Port Moresby**	**28.50**	**289**	LR		LR	22 18 44.2	
	comp=Z,166nm,19.8s,baz=64,slow=33							
STKA	**Stephens Creek**	**31.45**	**242**	P		**P**	**22 09 24.5**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=92,slow=14,SNR=3.8							
STKA				LR		LR	22 21 02.8	
	comp=Z,355nm,20.1s,baz=42,slow=34							
	comp=Z,0.9nm,0.3s							
TBI	**Tubuai**	**33.58**	**102**	*e*SS		SS	22 17 00.0	-28
	comp=Z,3μm,30.5s							
TBI				*e*LR		LR	22 18 30.3	
	comp=Z,2μm,37.0s							
PPT2	**Papeete2**	**34.12**	**91**	*e*SS		SS	22 17 14.6	-25
	comp=Z,708nm,33.0s							
PPT2				*e*LR		LR	22 18 40.5	
	comp=Z,341nm,28.2s							
PPT2				*e*LR		LR	22 18 44.9	
	comp=Z,263nm,31.0s							
PPT	**Papeete**	**34.12**	**91**	LR		LR	22 22 30.5	
	comp=Z,89nm,18.3s,baz=262,slow=34							
WR8	**Warramunga Arr**	**37.40**	**264**	P		**P**	**22 10 14.2**	**-1.0**
WB0	**Warramunga Arr**	**37.53**	**264**	P		**P**	**22 10 15.2**	**-1.2**
WB0				IAmb		IAmb	22 10 22.5	
	comp=Z,20nm,1.2s							
WRA	**Warramunga Arr**	**37.55**	**264**	P		**P**	**22 10 15.0**	**-1.5**
WRA	**Warramunga Arr**	**37.55**	**264**	P		**P**	**22 10 15.7**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=98,slow=8.7,SNR=12							
WRA				LR		LR	22 24 51.8	
	comp=Z,335nm,20.1s,baz=102,slow=35							
	comp=Z,3.9nm,0.9s							
AS31	**Alice Springs**	**37.59**	**258**			**P**	**22 10 15.7**	**-1.3**
ASAR	**Alice Springs**	**37.59**	**258**			**P**	**22 10 15.9**	**-1.0**
ASAR	**Alice Springs**	**37.59**	**258**	P		**P**	**22 10 16.2**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=87,slow=9.0,SNR=46							
ASAR				PcP		**PcP**	**22 12 33.9**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=99,slow=3.0,SNR=4.7							
ASAR				LR		LR	22 24 46.8	
	comp=Z,448nm,21.6s,baz=92,slow=35							
	comp=Z,4.3nm,0.8s							
FORT	**Forrest**	**42.78**	**246**	P		**P**	**22 10 58.9**	**-0.9**
GUMO	**Guam**	**44.61**	**317**	LR		LR	22 28 04.1	
	comp=Z,165nm,20.9s,baz=145,slow=34							
TAOE	**Nuku Hiva Isla**	**45.30**	**82**	*e*LR		LR	22 23 48.6	
	comp=Z,300nm,26.0s							
FITZ	**Fitzroy Crossi**	**45.97**	**264**	LR		LR	22 31 14.6	
	comp=Z,300nm,18.4s,baz=100,slow=37							
BATI	**Baumata**	**49.83**	**274**	LR		LR	22 32 34.7	
	comp=Z,248nm,18.4s,baz=229,slow=36							
MBWA	**Marble Bar**	**50.90**	**259**	P		**P**	**22 12 03.2**	**-0.2**
NWAO	**Narrogin (SRO)**	**52.02**	**244**	P		**P**	**22 12 09.1**	**-2.5**
NWAO	**Narrogin (SRO)**	**52.02**	**244**	LR		LR	22 34 07.3	
	comp=Z,406nm,19.0s,baz=112,slow=36							
MORW	**Morawa**	**53.24**	**249**			**P**	**22 12 20.8**	**0.0**
DAV	**Davao City (W)**	**55.26**	**295**	P		**P**	**22 12 34.0**	**-1.5**
	comp=Z,307nm,0.7s,baz=211,slow=9.2,SNR=3.9							
JCJ	**Chichijima**	**56.67**	**325**	LR		LR	22 35 24.9	
	comp=Z,64nm,19.1s,baz=106,slow=34							
VNDA	**Vanda**	**57.42**	**183**	P		**P**	**22 12 47.6**	**-2.4**
VNDA	**Vanda**	**57.42**	**183**	P		**P**	**22 12 52.2**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=345,slow=8.2,SNR=6.7							
	comp=Z,0.6nm,0.8s							
SBA	**Scott Base**	**57.54**	**182**			**P**	**22 12 49.3**	**-1.6**
SBA				IAmb		IAmb	22 13 00.2	
	comp=Z,7.4nm,0.8s							
JHJ	**Hachijo jima 2**	**62.73**	**328**	LR		LR	22 38 46.4	
	comp=Z,68nm,18.7s,baz=314,slow=34							
UGM	**Wanagama**	**62.86**	**272**	P		**P**	**22 13 28.0**	**-0.3**
JOW	**Kunigami**	**64.89**	**315**	LR		LR	22 37 22.6	
	comp=Z,139nm,21.9s,baz=100,slow=32							
MJAR	**Matsushiro Arr**	**66.23**	**329**	P		**P**	**22 13 48.3**	**-1.5**
MJAR				IAmb		IAmb	22 14 05.5	
	comp=Z,5.4nm,1.2s							
MJAR	**Matsushiro Arr**	**66.23**	**329**	P		**P**	**22 13 49.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=165,slow=6.3,SNR=1.8							
MJAR				LR		LR	22 37 15.9	
	comp=Z,59nm,21.8s,baz=164,slow=31							
	comp=Z,0.6nm,0.4s							
JNU	**Nakatsue**	**67.59**	**321**	LR		LR	22 37 41.7	
	comp=Z,81nm,21.1s,baz=86,slow=31							
QSPA	**South Pole Qui**	**69.59**	**180**			**P**	**22 14 09.7**	**-1.1**
QSPA				IAmb		IAmb	22 14 25.1	
	comp=Z,12nm,1.3s							
QSPA	**South Pole Qui**	**69.59**	**180**	P		**P**	**22 14 12.8**	**+2.0**
	comp=Z,1.8nm,1.0s,baz=14,slow=3.9,SNR=7.5							
	comp=Z,1.8nm,1.0s							
ASAJ	**Asahikawa**	**70.58**	**336**	LR		LR	22 39 28.5	
	comp=Z,226nm,21.8s,baz=176,slow=31							
KSRS	**Korea Array**	**72.36**	**323**	P		**P**	**22 14 27.8**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=145,slow=5.7,SNR=7.1							
	comp=Z,1.2nm,0.9s							
NJ2	**Nanjing**	**74.54**	**313**	*e*P		**P**	**22 14 41.0**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.6s							
PETK	**Petropavlovsk-**	**74.70**	**350**	P		**P**	**22 14 43.1**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=134,slow=6.4,SNR=4.5							
PETK				LR		LR	22 42 08.3	
	comp=Z,127nm,20.8s,baz=162,slow=32							
	comp=Z,0.9nm,0.6s							
USRK	**Ussuriysk Ar.**	**75.16**	**330**	P		**P**	**22 14 45.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=162,slow=6.1,SNR=2.9							
USRK				LR		LR	22 42 52.9	
	comp=Z,66nm,21.2s,baz=112,slow=32							
	comp=Z,1.8nm,0.8s							
CN2	**Changchun**	**78.13**	**326**	P		**P**	**22 15 03.8**	**+3.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
BNX	**BinXian**	**78.50**	**328**	⇓P		**P**	**22 15 04.7**	**+1.9**
BNX				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MAW	**Mawson**	**79.09**	**201**	P		**P**	**22 15 07.5**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=117,slow=5.3,SNR=4.8							
	comp=Z,1.4nm,0.6s							
HEH	**HeiHe**	**81.73**	**332**	*e*P		**P**	**22 15 22.7**	**+2.6**
MA2	**Magadan**	**82.08**	**348**	LR		LR	22 45 37.4	
	comp=Z,98nm,21.8s,baz=117,slow=31							
CMAR	**Chiang Mai Arr**	**83.47**	**292**	P		**P**	**22 15 29.9**	**0.0**
CMAR	**Chiang Mai Ar**	**83.47**	**292**	P		**P**	**22 15 31.2**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=135,slow=4.3,SNR=14							
CMAR				LR		LR	22 53 20.9	
	comp=Z,22nm,18.4s,baz=200,slow=36							
	comp=Z,3.4nm,0.8s							
HHC	**Hu-ho-hao-te**	**84.38**	**317**	*e*P		**P**	**22 15 34.1**	**-0.1**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CMB	**Columbia Colle**	**84.42**	**46**	P		**P**	**22 15 31.6**	**-2.8**
CMB				IAmb		IAmb	22 15 42.4	
	comp=Z,5.2nm,1.1s							
PZH	**PanZhiHua**	**84.50**	**301**	P		**P**	**22 15 35.5**	**+0.3**
PFO	**Pinyon Flats O**	**85.00**	**52**	LR		LR	22 46 42.3	
	comp=Z,80nm,18.9s,baz=229,slow=31							
LPIG	**La Paz**	**85.61**	**62**	LR		LR	22 44 31.0	
	comp=Z,129nm,22.0s,baz=218,slow=29							
NVAR	**Mina Array Bea**	**86.03**	**47**	P		**P**	**22 15 45.6**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=216,slow=10,SNR=5.3							
NVAR				LR		LR	22 45 36.4	
	comp=Z,184nm,22.0s,baz=262,slow=30							
	comp=Z,0.7nm,0.8s							
SKT	**Skwentna**	**86.54**	**15**	P		**P**	**22 15 42.8**	**-1.6**
SKT				IAmb		IAmb	22 15 45.6	
	comp=Z,4.4nm,1.2s							
J05D	**Fort Rock, OR**	**86.63**	**41**	P		**P**	**22 15 43.9**	**-1.5**
J05D				IAmb		IAmb	22 16 00.5	
	comp=Z,11nm,1.3s							
LZH	**Lanzhou**	**87.21**	**310**	*e*P		**P**	**22 15 51.6**	**+3.1**
LZH				pP		pP	22 15 56.0	-2.6
LZH				sP		sP	22 15 58.6	-3.6
LZH				pmax		pmax		
	comp=Z,12nm,1.3s							
TROLL	**Troll, Antarti**	**87.59**	**183**	⇑P		**P**	**22 15 50.1**	**+0.4**
	comp=Z,390nm,0.8s							
BBB	**Bella Bella**	**87.91**	**31**	LR		LR	22 48 35.0	
	comp=Z,50nm,19.6s,baz=230,slow=31							
SNAA	**Sanae**	**88.07**	**181**	⇑P		**P**	**22 15 52.4**	**+0.5**
	comp=Z,33nm,0.6s							
SNAA	**Sanae**	**88.07**	**181**	P		**P**	**22 15 52.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=230,slow=1.9,SNR=4.1							
	comp=Z,0.9nm,0.7s							
VNA3	**Neumayer Olymp**	**88.48**	**179**	⇑P		**P**	**22 15 54.2**	**+0.4**
	comp=Z,2.5nm,0.7s							
G08A	**Pilot Rock**	**89.07**	**40**	P		**P**	**22 15 53.4**	**-3.6**
G08A				IAmb		IAmb	22 16 05.8	
	comp=Z,2.7nm,0.8s							
VNA1	**Neumayer--Stat**	**89.10**	**179**	⇑P		**P**	**22 15 58.6**	**+1.9**
	comp=Z,3.2nm,0.9s							
ELK	**Elko**	**89.22**	**46**	LR		LR	22 50 13.7	
	comp=Z,177nm,18.9s,baz=254,slow=32							
YAK	**Yakutsk**	**89.58**	**341**	LR		LR	22 50 12.6	
	comp=Z,73nm,22.0s,baz=124,slow=32							
ILAR	**Eielson Array**	**90.03**	**16**	P		**P**	**22 16 01.6**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=225,slow=4.9,SNR=5.4							
	comp=Z,0.5nm,0.8s							
SONM	**Songino Array**	**91.18**	**321**	P		**P**	**22 16 06.6**	**-0.2**
	comp=Z,1.8nm,1.0s,baz=133,slow=4.3,SNR=6.9							
SONM				LR		LR	22 57 10.3	
	comp=Z,58nm,18.1s,baz=90,slow=36							
	comp=Z,1.8nm,1.0s							
ANMO	**Albuquerque**	**93.04**	**54**	LR		LR	22 51 37.0	
	comp=Z,180nm,19.3s,baz=336,slow=31							
TXAR	**Lajitas Array**	**93.11**	**60**	P		**P**	**22 16 18.0**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=219,slow=7.4,SNR=5.8							
TXAR				LR		LR	22 50 21.1	
	comp=Z,112nm,21.8s,baz=233,slow=30							
	comp=Z,0.5nm,0.9s							
PDAR	**Pinedale Array**	**93.93**	**46**	P		**P**	**22 16 21.5**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=229,slow=1.4,SNR=3.7							
	comp=Z,0.2nm,0.4s							
CMIG	**Matias Romero**	**96.46**	**74**	LR		LR	22 52 41.4	
	comp=Z,56nm,18.0s,baz=185,slow=31							
WMQ	**Urumqi**	**101.61**	**312**	*e*P		**Pdif**	**22 16 54.5**	**+0

0.2nm,0.4s
ASAR Alice Springs 26.94 166 P **P** **22 09 49.0 +1.2**
0.4nm,0.8s,baz=346,slow=11,SNR=4.1
0.4nm,0.8s
MKAR Makanchi Array 58.68 325 P **P** **22 14 03.6 +0.1**
0.2nm,0.5s,baz=126,slow=7.6,SNR=4.9
0.2nm,0.5s

---

*NAO **04** 22:16:18.6,35˚.12N×27˚.79E,h10km,mb4.1*
*GII **04** 22:16:19.8±0.0,35˚.15N±0˚.02×27˚.862E±0˚.006,h8km, Mws3.6,confirmed*
*IDC **04** 22:16:19.3±1.1,35˚.32N×27˚.93E,h0km,mb3.9/6, mbtmp3.7/16,ML3.4/8,MS2.7/2,Error ellipse: s-maj=19.0km s-min=16.5km az=8.0*
*NIC **04** 22:16:21.9,35˚.18N×27˚.83E,h19km±1km,Ml3.4/12*
*AFAD **04** 22:16:22.9,35˚.20N×27˚.93E,h7km±3km,MW3.8*
*ATH **04** 22:16:22.5,35˚.19N×27˚.89E,h9km±3km,ML3.4/6,Manual Solution by F.Xalaris First location: 2019/08/04 22:17:39, This location: 2020/10/16 07:20:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **04** 22:16:23.4,35˚N±11˚×2˚8E±1˚9,h0km±19km,M3.3/8, MLh3.3/8*
*ISK **04** 22:16:23.6,35˚.27N×27˚.74E,h15km,ML3.5/24*
ISC 04 22:16:20.9±1.1,**35˚.19N**±0˚.03×**27˚.87E**±0˚.02,**h13**km±8km, **n167,**σ1§**53**/206,**mb3.8**/5,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.68**	**302**	P	**Pb**	**22 16 34.6**	**-0.1**
KARP				S	**Sb**	**22 16 43.7**	**-0.2**
KARP	**Karpathos**	**0.68**	**302**	P	**Pg**	**22 16 34.2**	**+0.1**
KARP				S	**Sb**	**22 16 45.0**	**+1.0**
KARP				AML	AML	22 16 49.7	
	7.2nm,0.6s						
KARP				AML	AML	22 16 53.6	
	8.4nm,0.5s						
KARP	**Karpathos**	**0.68**	**302**	P	**Pg**	**22 16 34.2**	**+0.1**
KARP				S	**Sb**	**22 16 45.0**	**+1.0**
RGE1	**Gennadi, Rhode**	**0.83**	**4**	P	**Pn**	**22 16 38.8**	**+0.4**
RGE1				S	**Sn**	**22 16 49.7**	**-0.9**
ARG	**Arkhangelos**	**1.04**	**12**	Pg	**Pn**	**22 16 43.2**	**+1.9**
ARG				Sg	**Sn**	**22 16 57.4**	**+1.6**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pn**	**22 16 42.6**	**+1.3**
ARG				S	**Sn**	**22 16 58.1**	**+2.3**
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pn**	**22 16 41.4**	**+0.1**
ARG				S	**Sn**	**22 16 57.1**	**+1.3**
ARG				AML	AML	22 17 05.6	
	3.2nm,0.8s						
ARG				AML	AML	22 17 11.5	
	3.3nm,0.8s						
ARG	**Arkhangelos**	**1.04**	**12**	P	**Pn**	**22 16 42.1**	**+0.8**
ARG				S	**Sn**	**22 16 55.9**	**+0.1**
ZKR	**Zakros**	**1.35**	**267**	Pn	**Pg**	**22 16 47.3**	**+0.4**
ZKR	**Zakros**	**1.35**	**267**	P	**Pg**	**22 16 47.9**	**+0.9**
ZKR	**Zakros**	**1.35**	**267**	P	**Pn**	**22 16 45.8**	**+0.2**
ZKR				S	**Sb**	**22 17 03.3**	**-0.1**
ZKR				AML	AML	22 17 13.2	
	2.3nm,0.8s						
ZKR				AML	AML	22 17 18.3	
	3.8nm,0.7s						
ZKR	**Zakros**	**1.35**	**267**	P	**Pg**	**22 16 47.8**	**+0.9**
ZKR				S	**Sg**	**22 17 05.8**	**+1.3**
YAZI	**Mula-Dat§a-**	**1.52**	**347**	P	**Pg**	**22 16 49.6**	**-0.6**
YAZI				S	**Sg**	**22 17 09.7**	**-0.3**
DAT	**Datca**	**1.55**	**351**	Pn	**Pg**	**22 16 50.6**	**-0.2**
DAT				Sn	**Sb**	**22 17 09.4**	**+0.2**
DAT	**Datca**	**1.55**	**351**	P	**Pg**	**22 16 50.3**	**-0.5**
DAT				S	**Sn**	**22 17 08.0**	**-0.5**
TURN	**Turunc**	**1.61**	**11**	Pn	**Pg**	**22 16 51.8**	**0.0**
TURN				Sn	**Sg**	**22 17 11.9**	**-0.9**
TURN	**Turunc**	**1.61**	**11**	P	**Pg**	**22 16 51.6**	**-0.3**
TURN				S	**Sg**	**22 17 12.3**	**-0.5**
IZZE	**Mula-Seydike**	**1.66**	**41**	P	**Pn**	**22 16 50.4**	**+0.6**
IZZE				S	**Sb**	**22 17 12.0**	**-0.3**
KSL	**Kastellorizon**	**1.69**	**55**	P	**Pg**	**22 16 53.9**	**+0.4**
KSL	**Kastellorizon**	**1.69**	**55**	P	**Pn**	**22 16 50.5**	**+0.3**
KSL				AML	AML	22 17 51.1	
	0.5nm,1.0s						
KSL				AML	AML	22 17 56.7	
	0.8nm,2.5s						
KSL	**Kastellorizon**	**1.69**	**55**	P	**Pb**	**22 16 52.4**	**+0.4**
NPS	**Neapolis**	**1.85**	**273**	P	**Pg**	**22 16 55.4**	**-1.0**
SABU	**Mula-Dalaman**	**1.86**	**28**	P	**Pb**	**22 16 54.7**	**-0.1**
SABU				S	**Sg**	**22 17 27.6**	**+6.9**
BDRM	**Kayabasi**	**1.90**	**350**	P	**Pb**	**22 16 54.5**	**-1.0**
BDRM				S	**Sn**	**22 17 17.4**	**+0.4**
YKAV	**Yalikavak-Bodr**	**1.99**	**346**	Pn	**Pb**	**22 16 56.2**	**-0.7**
MULA	**Mugla, Merkez-**	**2.09**	**10**	P	**Pb**	**22 16 59.7**	**+0.8**
MULA				S	**Sg**	**22 17 27.4**	**-0.8**
CAME	**Cameli-Denizli**	**2.10**	**33**	Pn	**Pb**	**22 16 58.6**	**-0.4**
KNIK	**Mula-Seydike**	**2.15**	**39**	P	**Pb**	**22 16 59.1**	**-0.8**
CAEL	**Denizli, Camel**	**2.26**	**31**	P	**Pb**	**22 17 00.9**	**-0.7**
THERA	**Ancient Thera,**	**2.27**	**302**	P	**Pb**	**22 17 00.4**	**-1.4**
THERA	**Ancient Thera,**	**2.27**	**302**	P	**Pb**	**22 17 00.2**	**-1.6**
DNZT	**Denizli-Tavas-**	**2.28**	**24**	P	**Pb**	**22 17 00.9**	**-1.2**
DNZT				S	**Sn**	**22 17 27.2**	**+0.6**
AKUM	**Antalya-Kumluc**	**2.31**	**60**	P	**Pb**	**22 17 00.2**	**-1.6**
DDIM	**Aydin, Didim**	**2.32**	**348**	P	**Pb**	**22 17 02.2**	**-0.4**
THR6	**Thira Island,**	**2.32**	**301**	P	**Pb**	**22 17 01.2**	**-1.4**
SNT5	**Nea Kammeni, S**	**2.34**	**302**	P	**Pb**	**22 17 01.1**	**-1.9**
SNT5	**Nea Kammeni, S**	**2.34**	**302**	P	**Pb**	**22 17 01.3**	**-1.7**
TAVA	**DENIZLI_Tavas**	**2.42**	**20**	P	**Pb**	**22 17 03.1**	**-1.4**
TAVA				S	**Sb**	**22 17 34.5**	**+0.3**
IDI	**Anoyia**	**2.44**	**273**	Pn	**Pb**	**22 17 02.6**	**-2.1**
IDI	**Anoyia**	**2.44**	**273**	P	**Pb**	**22 17 03.2**	**-1.5**
IDI	**Anoyia**	**2.44**	**273**	Pn	**Pn**	**22 17 02.5**	**+1.9**
	33nm,0.3s,baz=112,slow=10,SNR=67						
IDI				LR	LR	22 17 32.3	
	comp=Z,162nm,21.2s,baz=116,slow=29						
IDI				Sn	**Sb**	**22 17 34.0**	**-0.7**
	13nm,0.3s,baz=225,slow=7.7,SNR=3.9						
IDI	**Anoyia**	**2.44**	**273**	P	**Pb**	**22 17 03.1**	**-1.5**
GOLH	**Golhisar**	**2.46**	**33**	P	**Pb**	**22 17 04.0**	**-1.0**
GOLH				S	**Sb**	**22 17 33.3**	**-2.1**
AYDN	**Tasoluk**	**2.46**	**0**	P	**Pb**	**22 17 03.1**	**-2.1**
AYDN				S	**Sn**	**22 17 31.1**	**+0.2**
APMY	**Acipayam-Deniz**	**2.55**	**27**	Pn	**Pb**	**22 17 05.4**	**-1.3**
GCAM	**G?zelcaml?**	**2.56**	**349**	Pn	**Pb**	**22 17 04.3**	**-2.3**
GCAM	**G?zelcaml?**	**2.56**	**349**	P	**Pb**	**22 17 05.6**	**-1.0**
GCAM				S	**Sn**	**22 17 32.0**	**-1.0**
DNIZ	**Denizli-Tavas-**	**2.61**	**21**	P	**Pn**	**22 17 05.0**	**+2.2**
DNIZ				S	**Sb**	**22 17 39.3**	**-0.2**
ESEN	**Aydn-Nazilli**	**2.63**	**8**	P	**Pn**	**22 17 05.2**	**+2.1**
ESEN				S	**Sn**	**22 17 37.1**	**+2.2**
SMG	**Samos**	**2.65**	**342**	P	**Pn**	**22 17 05.5**	**+2.2**
SMG	**Samos**	**2.65**	**342**	P	**Pn**	**22 17 05.5**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**2.75**	**0**	Pn	**Pb**	**22 17 06.9**	**+2.0**
NAZL	**Nazilli-Aydin**	**2.79**	**7**	Pn	**Pb**	**22 17 08.3**	**-2.3**
ANTB	**Antalya**	**2.83**	**52**	Pn	**Pb**	**22 17 10.5**	**-0.8**
INCE	**Denizli-Bozkur**	**2.87**	**28**	P	**Pn**	**22 17 08.9**	**+2.4**
INCE				S	**Sg**	**22 17 50.1**	**-2.9**
IZMR	**zmir-demi**	**2.94**	**1**	P	**Pn**	**22 17 09.1**	**+1.8**
DGB	**zmir**	**2.96**	**345**	P	**Pn**	**22 17 07.7**	**+0.1**
GMLD	**Gumuldur**	**2.98**	**345**	Pn	**Pn**	**22 17 10.3**	**+2.4**
KIRA	**zmir-Kiraz**	**3.03**	**8**	P	**Pn**	**22 17 10.1**	**+1.4**
BUCA	**Burdur, Bucak-**	**3.05**	**45**	P	**Pn**	**22 17 09.9**	**+1.0**
BRDR	**BURDUR-Merkez**	**3.06**	**35**	P	**Pb**	**22 17 16.0**	**+0.6**
ODEM	**Odemis-Izmir**	**3.08**	**3**	Pn	**Pb**	**22 17 12.5**	**-3.2**
GVD	**Gavdhos**	**3.12**	**265**	Pn	**Pn**	**22 17 12.7**	**+2.8**
GVD	**Gavdhos**	**3.12**	**265**	P	**Pn**	**22 17 12.8**	**+3.0**
BASM	**Basmaki-Afyon**	**3.24**	**32**	Pn	**Pb**	**22 17 15.4**	**-3.0**
BLCB	**Balcova**	**3.25**	**349**	Pn	**Pn**	**22 17 14.4**	**+2.7**
URLA	**Izmir**	**3.32**	**342**	Pn	**Pn**	**22 17 15.3**	**+2.6**
URLA	**Izmir**	**3.32**	**342**	P	**Pn**	**22 17 15.2**	**+2.6**
MANT	**Manisa**	**3.34**	**9**	P	**Pn**	**22 17 13.7**	**+0.6**
CESE	**eme**	**3.38**	**339**	Pn	**Pn**	**22 17 16.0**	**+2.7**
KULA	**Kula-Manisa**	**3.38**	**11**	Pn	**Pn**	**22 17 16.0**	**+2.5**
ISP	**Isparta**	**3.39**	**38**	Pn	**Pb**	**22 17 17.6**	**-3.3**
PASA	**Karahalli, USA**	**3.41**	**22**	P	**Pn**	**22 17 15.8**	**+1.9**
KNDR	**Palaiochora Ch**	**3.42**	**272**	Pn	**Pn**	**22 17 17.5**	**+3.5**
CHOS	**Chios island**	**3.50**	**336**	Pn	**Pn**	**22 17 17.6**	**+2.4**
AKMS	**Akamas**	**3.67**	**91**	P	**Pn**	**22 17 18.6**	**+1.2**
AKMS				S	**Sn**	**22 18 02.8**	**+2.2**
AKMS				AML	AML	22 18 06.7	
	0.3nm,0.7s						
AKMS				AML	AML	22 18 08.6	
	0.4nm,0.6s						
AKMS	**Akamas**	**3.67**	**91**	P	**Pn**	**22 17 18.6**	**+1.2**
AKHS	**Akhisar**	**3.68**	**359**	P	**Pn**	**22 17 19.2**	**+1.6**
GORD	**Gordes-Manisa**	**3.72**	**4**	Pn	**Pn**	**22 17 20.8**	**+2.7**
ALFC	**Alefka**	**3.88**	**89**	P	**Pn**	**22 17 21.3**	**+1.0**
ALFC				S	**Sn**	**22 18 08.1**	**+2.3**
ALFC				AML	AML	22 18 11.8	
	0.3nm,0.6s						
ALFC				AML	AML	22 18 12.1	
	0.2nm,0.7s						
NATA	**Nata**	**3.88**	**95**	P	**Pn**	**22 17 22.2**	**+1.8**
NATA				S	**Sn**	**22 18 07.6**	**+1.7**
NATA				AML	AML	22 18 15.1	
	0.7nm,0.5s						
NATA				AML	AML	22 18 17.0	
	0.9nm,0.7s						
KTHA	**Kythira Island**	**4.05**	**287**	Pn	**Pn**	**22 17 25.3**	**+2.6**
TROD	**Troodos**	**4.11**	**92**	P	**Pn**	**22 17 24.5**	**+0.8**
TROD				S	**Sn**	**22 18 14.5**	**+2.8**
TROD				AML	AML	22 18 21.9	
	0.2nm,0.7s						
TROD				AML	AML	22 18 23.1	
	0.2nm,0.6s						
XYLS	**Xyliatos**	**4.25**	**91**	P	**Pn**	**22 17 26.5**	**+1.1**
XYLS				S	**Sn**	**22 18 17.1**	**+2.1**
XYLS				AML	AML	22 18 20.4	
	0.2nm,1.0s						
XYLS				AML	AML	22 18 28.9	
	0.1nm,0.5s						
ASGA	**Asgata**	**4.44**	**94**	P	**Pn**	**22 17 29.5**	**+1.6**
ASGA				S	**Sn**	**22 18 21.7**	**+2.2**
ASGA				AML	AML	22 18 28.1	
	0.6nm,0.7s						
ASGA				AML	AML	22 18 34.6	
	0.3nm,0.6s						
CSS	**Mathiatis**	**4.49**	**91**	P	**Pn**	**22 17 30.3**	**+1.6**
CSS				S	**Sn**	**22 18 23.7**	**+2.9**
CSS				AML	AML	22 18 30.2	
	0.2nm,0.6s						
CSS				AML	AML	22 18 32.9	
	0.2nm,1.1s						
CSS	**Mathiatis**	**4.49**	**91**	P	**Pn**	**22 17 27.8**	**-0.9**
CSS	**Mathiatis**	**4.49**	**91**	S	**Sn**	**22 18 21.0**	**+0.2**
MVOU	**Mavrovouni**	**4.73**	**90**	P	**Pn**	**22 17 33.4**	**+1.4**
MVOU				S	**Sn**	**22 18 28.7**	**+2.0**
MVOU				AML	AML	22 18 35.8	
	0.1nm,0.6s						
MVOU				AML	AML	22 18 36.8	
	0.1nm,0.8s						
HNTI	**Hanita**	**6.41**	**107**	P	**Pn**	**22 17 54.5**	**-0.7**
HNTI	**Hanita**	**6.41**	**107**	S	**Sn**	**22 19 08.3**	**0.0**
BRTR	**Keskin Array B**	**6.45**	**44**	Pn	**Pn**	**22 17 56.1**	**+0.4**
	0.2nm,0.3s,baz=211,slow=15,SNR=8.0						
	1.1nm,0.7s						
OFRI	**`Ofer**	**6.45**	**111**	P	**Pn**	**22 17 55.3**	**-0.4**
OFRI	**`Ofer**	**6.45**	**111**	S	**Sn**	**22 19 08.7**	**-0.5**
BLGI	**Bet Lehem HaGe**	**6.56**	**110**	P	**Pn**	**22 17 56.7**	**-0.5**
BLGI	**Bet Lehem HaGe**	**6.56**	**110**	S	**Sn**	**22 19 11.6**	**-0.2**
MMA0B	**Mount Meron ar**	**6.62**	**107**	P	**Pn**	**22 17 57.6**	**-0.4**
MMA0B	**Mount Meron ar**	**6.62**	**107**	S	**Sn**	**22 19 13.5**	**+0.1**
MMAI	**Mount Meron Ar**	**6.62**	**107**	Pn	**Pn**	**22 17 57.8**	**-0.2**
	2.6nm,0.3s,baz=290,slow=12,SNR=16						
MMAI				Sn	**Sn**	**22 19 14.1**	**+0.7**
	3.5nm,0.3s,baz=305,slow=18,SNR=5.4						
	1.0nm,0.2s						
SLTI	**Sal'it**	**6.66**	**114**	P	**Pn**	**22 17 58.4**	**-0.1**
SLTI	**Sal'it**	**6.66**	**114**	S	**Sn**	**22 19 14.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**6.76**	**105**	P	**Pn**	**22 17 59.3**	**-0.6**
GEM	**Giv'at Ha'Em**	**6.76**	**105**	S	**Sn**	**22 19 17.2**	**+0.5**
NATI	**Neve Ativ**	**6.80**	**104**	P	**Pn**	**22 18 00.3**	**0.0**
NATI	**Neve Ativ**	**6.80**	**104**	S	**Sn**	**22 19 18.3**	**+0.7**
MMLI	**Mount Malkishu**	**6.86**	**111**	P	**Pn**	**22 18 00.5**	**-0.8**
MMLI	**Mount Malkishu**	**6.86**	**111**	S	**Sn**	**22 19 18.9**	**-0.4**
AMAZ	**Amatzia**	**6.93**	**120**	P	**Pn**	**22 18 02.0**	**-0.3**
AMAZ	**Amatzia**	**6.93**	**120**	S	**Sn**	**22 19 21.2**	**+0.1**
KZIT	**Kziot**	**6.95**	**126**	P	**Pn**	**22 18 02.2**	**-0.3**
KZIT	**Kziot**	**6.95**	**126**	S	**Sn**	**22 19 20.8**	**-0.7**
HMDT	**Nahal Hemdat**	**7.02**	**113**	P	**Pn**	**22 18 02.8**	**-0.7**
HMDT	**Nahal Hemdat**	**7.02**	**113**	S	**Sn**	**22 19 22.9**	**-0.3**
YTIR	**Yattir**	**7.17**	**120**	P	**Pn**	**22 18 05.3**	**-0.3**
YTIR	**Yattir**	**7.17**	**120**	S	**Sn**	**22 19 27.1**	**+0.1**
DSI	**Dead Sea**	**7.25**	**118**	P	**Pn**	**22 18 05.7**	**-0.8**
DSI	**Dead Sea**	**7.25**	**118**	S	**Sn**	**22 19 28.7**	**0.0**
MSBI	**Mazada**	**7.37**	**120**	P	**Pn**	**22 18 08.0**	**-0.2**
MSBI	**Mazada**	**7.37**	**120**	S	**Sn**	**22 19 31.2**	**-0.5**
GHAJ	**Ghor Haditha**	**7.53**	**119**	P	**Pn**	**22 18 09.9**	**-0.5**
GHAJ	**Ghor Haditha**	**7.53**	**119**	S	**Sn**	**22 19 35.6**	**+0.1**
KRMI	**Paran Flat**	**7.68**	**129**	P	**Pn**	**22 18 12.4**	**-0.2**
KRMI	**Paran Flat**	**7.68**	**129**	S	**Sn**	**22 19 39.2**	**-0.4**
PRNI	**Paran**	**7.71**	**127**	P	**Pn**	**22 18 12.6**	**-0.3**
PRNI	**Paran**	**7.71**	**127**	S	**Sn**	**22 19 39.8**	**-0.3**
HRFI	**Mount Harif**	**7.94**	**128**	P	**Pn**	**22 18 15.5**	**-0.5**
HRFI	**Mount Harif**	**7.94**	**128**	S	**Sn**	**22 19 44.8**	**-1.0**
MBRI	**Mt Berech**	**8.02**	**130**	P	**Pn**	**22 18 17.1**	**-0.3**
MBRI	**Mt Berech**	**8.02**	**130**	S	**Sn**	**22 19 47.5**	**-0.5**
ASF	**Jabal al Asfar**	**8.11**	**109**	Pn	**Pn**	**22 18 18.5**	**+0.1**
	0.5nm,0.3s,baz=312,slow=12,SNR=6.5						
ASF				Sn	**Sn**	**22 19 51.6**	**+1.6**
	0.5nm,0.3s,baz=142,slow=20,SNR=6.4						
	1.9nm,0.4s						
EIL	**Elat**	**8.13**	**131**	Pn	**Pn**	**22 18 18.3**	**-0.5**
	0.7nm,0.3s,baz=351,slow=5.0,SNR=8.3						
EIL				Sn	**Sn**	**22 19 48.5**	**-2.1**
	1.1nm,0.3s,baz=58,slow=21,SNR=6.2						
	4.8nm,0.6s						
EIL	**Elat**	**8.13**	**131**	P	**Pn**	**22 18 17.8**	**-0.9**
EIL	**Elat**	**8.13**	**131**	S	**Sn**	**22 19 49.8**	**-0.8**
MLR	**Muntele Rosu**	**10.39**	**352**	Pn	**Pn**	**22 18 48.7**	**-1.0**
	1.2nm,0.7s,baz=222,slow=14,SNR=1.0						
KBZ	**Khabaz**	**14.39**	**49**	Pn	**P**	**22 19 48.1**	**-3.0**
	0.1nm,0.3s,baz=227,slow=5.6,SNR=10.0						
	1.2nm,0.7s						
VYHS	**Vyhne**	**14.88**	**336**	*e*P	**P**	**22 19 55.5**	**-1.2**
VYHS				*e*		22 48 20.3	
SOKA	**Soboth**	**15.00**	**324**	Pn	**Pn**	**22 19 53.9**	**+1.2**
	3.4nm,1.1s						
OBKA	**Obir**	**15.12**	**322**	*e*Pn	**Pn**	**22 19 55.6**	**+1.3**
	1.6nm,1.3s						
LANS	**Liptovska Anna**	**15.26**	**339**	*e*P	**P**	**22 20 05.7**	**+4.8**
LANS				*e*		22 48 23.0	
MAUC	**Maruska**	**15.97**	**336**	*e*P	**P**	**22 20 12.7**	**+3.9**
KBA	**Koelnbreinsper**	**16.11**	**322**	*e*Pn	**Pn**	**22 20 08.4**	**+1.2**
	11nm,0.9s						
MOA	**Molln**	**16.20**	**325**	*e*Pn	**Pn**	**22 20 09.1**	**+0.8**
	3.7nm,1.3s						
ABTA	**Abfaltersbach**	**16.33**	**320**	*e*Pn	**Pn**	**22 20 10.3**	**+0.3**
	2.5nm,0.7s						
VRAC	**Vranov**	**16.36**	**333**	Pn	**Pn**	**22 20 10.3**	**0.0**
	0.1nm,0.3s,baz=152,slow=19,SNR=4.1						
	0.2nm,0.4s						
BIOA	**Bad Ischl, Aus**	**16.39**	**324**	*e*Pn	**Pn**	**22 20 11.9**	**+1.3**
	0.5nm,0.5s						
LESA	**Schwarzleotal**	**16.68**	**322**	*e*Pn	**P**	**22 20 16.1**	**-0.7**
	1.8nm,0.6s						
CKRC	**Cesky Krumlov**	**16.90**	**328**	*e*P	**P**	**22 20 21.1**	**+2.0**
KRLC	**Kraliky**	**16.93**	**335**	*e*P	**P**	**22 20 22.0**	**+2.5**
WTTA	**Wattenberg**	**17.12**	**320**	*e*Pn	**P**	**22 20 21.3**	**-0.4**
	2.3nm,0.9s						
GERES	**GERESS Array B**	**17.19**	**327**	P	**P**	**22 20 21.7**	**-0.7**
	baz=141,slow=12,SNR=18						
	1.6nm,0.8s						
WATA	**Walderalm**	**17.20**	**320**	*e*Pn	**P**	**22 20 22.8**	**+0.3**
	5.5nm,1.0s						
SQTA	**Sankt Quirin**	**17.32**	**319**	*e*Pn	**P**	**22 20 23.9**	**0.0**
	1.2nm,0.5s						
DPC	**Dobruska-Polom**	**17.32**	**335**	*e*P	**P**	**22 20 24.3**	**+0.5**
MOTA	**Moosalm**	**17.45**	**319**	*e*Pn	**P**	**22 20 26.5**	**+1.1**
	3.8nm,0.9s						
KHC	**Kasperske Hory**	**17.45**	**327**	*e*P	**P**	**22 20 25.2**	**-0.1**
FETA	**Feichten**	**17.46**	**318**	*e*Pn	**P**	**22 20 26.2**	**+0.7**
	7.8nm,1.0s						
RETA	**Reutte**	**17.72**	**319**	*e*Pn	**P**	**22 20 28.4**	**+0.1**
	5.3nm,1.2s						
DAVOX	**Davos/Dischmat**	**17.80**	**316**	P	**P**	**22 20 28.9**	**-0.3**
	0.1nm,0.3s,baz=100,slow=5.0,SNR=5.6						
	1.1nm,0.6s						
DAVA	**Damuels**	**18.09**	**317**	*e*Pn	**P**	**22 20 32.9**	**+0.6**
	4.7nm,0.9s						
CLL	**Collm**	**19.35**	**331**	*i* P	**Pn**	**22 20 47.6**	**+0.5**
	comp=Z,5.0nm,1.1s						
CLL				*i* x	x	22 20 50.6	
ESDC	**Sonseca Array**	**25.59**	**290**	P	**P**	**22 21 49.9**	**0.0**
	comp=Z,1.3nm,0.6s,baz=83,slow=9.5,SNR=20						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**26.30**	**358**	P	**P**	**22 21 55.3**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=142,slow=9.6,SNR=4.6						
	comp=Z,1.7nm,0.9s						
HFS	**Hagfors**	**26.60**	**344**	P	**P**	**22 21 57.7**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=151,slow=10,SNR=6.8						
	comp=Z,1.4nm,0.7s						
NB2	**NORSAR Subarra**	**27.98**	**343**	P	**P**	**22 22 09.0**	**-2.2**
	comp=Z,2.6nm,1.2s,baz=150,slow=9.3						
NOA	**NORSAR Array B**	**27.98**	**343**	P	**P**	**22 22 09.0**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=150,slow=8.5,SNR=3.8						
NOA				LR	LR	22 33 27.0	
	comp=Z,17nm,20.3s,baz=245,slow=37						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**32.25**	**234**	P	**P**	**22 22 50.7**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=30,slow=9.4,SNR=8.1						
	comp=Z,2.6nm,0.6s						
ARCES	**ARCESS Array B**	**34.42**	**359**	P	**P**	**22 23 07.0**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=151,slow=7.9,SNR=3.7						
	comp=Z,1.5nm,0.9s						

---

*NEIC **04** 22:18:02.4±1.5,18˚.1N±0˚.1×68˚.2W±0˚.1,h104km±9km, ML2.3/14,Md2.7/7(RSPR),Error ellipse: s-maj=21.8km s-min=14.4km az=212.0*
*SDD **04** 22:18:05.9±2.3,18˚.27N×68˚.01W,h105km±14km,MD3.1, ML2.5,MW3.6*
*RSPR **04** 22:18:05.9,18˚.15N×68˚.11W,h92km±4km,MD2.7/7*
ISC 04 22:18:04.0±2.1,**18˚.2N**±0˚.1×**68˚.07W**±0˚.04,**h107**km±14km, **n36,**σ1§**20**/46,**18C-5D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.46**	**319**	⇑*e*Sg	**Sn**	**22 18 32.0**	**-0.4**
PCDR				IAML		22 18 40.1	
	comp=N,728nm,0.9s						
IDE	**Isla Desecheo**	**0.60**	**69**		**Pn**	**22 18 21.4**	**+0.1**
IDE					**Sn**	**22 18 33.4**	**-0.9**
IDE	**Isla Desecheo**	**0.60**	**69**	⇑*e*P	**Pn**	**22 18 21.4**	**+0.1**
IDE	**Isla Desecheo**	**0.60**	**69**	*e*S	**Sn**	**22 18 33.4**	**-0.9**
SADR	**Isla Saona**	**0.68**	**272**	⇑*e*Pg	**Pn**	**22 18 23.2**	**+1.4**
SADR				⇑*e*Pg		22 18 24.3	
SADR				⇑*e*Sg	**Sn**	**22 18 35.2**	**0.0**
SADR				⇑*e*Sg		22 18 37.5	
SADR				IAML		22 18 57.0	
	comp=N,132nm,2.1s						
HIDR	**Higuey Centro**	**0.75**	**305**	⇑*e*Sg	**Sn**	**22 18 34.9**	**-1.5**
HIDR				IAML		22 19 09.7	
	comp=N,109nm,0.1s						
CRPR	**Cabo Rojo, PR**	**0.93**	**100**		**Pn**	**22 18 22.5**	**-1.7**
CRPR				IAML		22 18 56.7	
	comp=E,41nm,2.1s						
CRPR				IAML		22 18 58.6	
	comp=N,48nm,2.2s						
CRPR	**Cabo Rojo, PR**	**0.93**	**100**		**Sn**	**22 18 39.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.93**	**100**	⇓*e*P	**Pn**	**22 18 21.7**	**-2.4**
CRPR	**Cabo Rojo, PR**	**0.93**	**100**	*e*S	**Sn**	**22 18 39.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.93**	**100**	⇑*e*Sg	**Sn**	**22 18 37.8**	**-1.5**
CRPR				IAML		22 18 58.0	
	comp=N,52nm,2.0s						
LSP	**Las Mesas**	**0.93**	**89**		**Pn**	**22 18 25.2**	**+0.9**
LSP					**Sn**	**22 18 42.5**	**+2.9**
LSP	**Las Mesas**	**0.93**	**89**	⇓*e*P	**Pn**	**22 18 25.2**	**+0.9**
LSP	**Las Mesas**	**0.93**	**89**	*e*S	**Sn**	**22 18 42.5**	**+2.9**
AGPR	**Aguadilla, PR**	**0.96**	**72**		**Pn**	**22 18 23.8**	**-0.7**
AGPR					**Sn**	**22 18 39.9**	**-0.1**
AGPR				IAML		22 18 53.1	
	comp=E,82nm,2.3s						
AGPR	**Aguadilla, PR**	**0.96**	**72**	⇑*e*P	**Pn**	**22 18 25.8**	**+1.3**
AGPR	**

σ1ᵍ81/45, **5C-5D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 127nm,0.3s	**1.50**	**317**	P	**Pn**	**22 19 08.5**	**-1.6**
SHLS	215nm,0.3s			S	**Sn**	**22 19 26.7**	**-3.2**
SHLS	**Shalkode** 127nm,0.3s	**1.50**	**317**	*e*P	**Pn**	**22 19 08.4**	**-1.6**
SHLS	215nm,0.3s			*e*S	**Sn**	**22 19 26.7**	**-3.2**
PDGK	**Podgornoye** 31nm,0.5s	**1.62**	**322**	⇑P	**Pb**	**22 19 13.4**	**+0.4**
PDGK	80nm,0.5s			⇓S	**Sg**	**22 19 38.3**	**+3.2**
UZB	**Uzynbulak** 132nm,0.3s	**1.74**	**310**	P	**Pg**	**22 19 17.0**	**+0.7**
UZB	87nm,0.3s			S	**Sg**	**22 19 40.9**	**+2.2**
UZB	**Uzynbulak** 132nm,0.3s	**1.74**	**310**	*e*P	**Pg**	**22 19 17.0**	**+0.7**
UZB	87nm,0.3s			*e*S	**Sg**	**22 19 40.9**	**+2.2**
SATY	**Saty** 101nm,0.3s	**2.07**	**300**	Pg	**Pg**	**22 19 23.7**	**+1.2**
SATY	209nm,0.2s			Lg	Lg	22 19 53.8	
KPKS	**Kokpek** 3.1nm,0.3s	**2.13**	**312**	Pg	**Pg**	**22 19 23.9**	**+0.2**
KPKS	277nm,0.3s			Lg	Lg	22 19 53.0	
KURS	**Kuram** 59nm,0.5s	**2.44**	**307**	Pg	**Pg**	**22 19 29.3**	**-0.4**
KURS	47nm,0.4s			Lg	Lg	22 20 03.0	
TNSS	**Tian-Shan** 9.9nm,0.3s	**3.05**	**290**	Pg	**Pg**	**22 19 40.7**	**-0.6**
TNSS	17nm,0.7s			Lg	Lg	22 20 22.0	
TNSS	**Tian-Shan** 9.9nm,0.3s	**3.05**	**290**	*e*P	**Pg**	**22 19 40.7**	**-0.6**
TNSS	17nm,0.7s			*e*S	**Sg**	**22 20 22.0**	**+1.2**
ARXS	**Arharly** 14nm,0.2s	**3.09**	**315**	Pg	**Pg**	**22 19 40.2**	**-1.9**
ARXS	48nm,0.6s			Lg	Lg	22 20 21.2	
KNDC	**Almaty** 36nm,0.7s	**3.09**	**293**	⇓Pg	**Pg**	**22 19 41.0**	**-1.2**
KNDC	124nm,0.8s			⇑Lg	Lg	22 20 23.8	
AAA	**Alma-Ata** 55nm,0.5s	**3.12**	**293**	Pg	**Pg**	**22 19 42.7**	**-0.1**
AAA	7.0nm,0.3s			Lg	Lg	22 20 25.6	
AAA	**Alma-Ata** 55nm,0.5s	**3.12**	**293**	*e*P	**Pg**	**22 19 42.7**	**-0.1**
AAA	7.0nm,0.3s			*e*S	**Sg**	**22 20 25.6**	**+2.3**
CHKK	**Chushkaly** 8.4nm,0.1s	**3.36**	**304**	Pg	**Pg**	**22 19 45.4**	**-1.8**
CHKK	52nm,0.3s			Lg	Lg	22 20 30.2	
CHKK	**Chushkaly** 8.4nm,0.1s	**3.36**	**304**	*e*P	**Pg**	**22 19 45.4**	**-1.8**
CHKK	52nm,0.3s			*e*S	**Sg**	**22 20 30.2**	**-0.6**
TDK	**Taldyqorghan** 44nm,0.5s	**3.44**	**330**	Pg	**Pb**	**22 19 44.0**	**0.0**
TDK	77nm,0.4s			Lg	Lg	22 20 27.4	
TDK	**Taldyqorghan** 44nm,0.5s	**3.44**	**330**	*e*P	**Pb**	**22 19 44.0**	**0.0**
TDK	77nm,0.4s			*e*S	**Sb**	**22 20 27.4**	**+1.6**
KST	**Kastek** 15nm,0.4s	**3.74**	**287**	Pg	**Pg**	**22 19 53.8**	**-0.9**
KST	36nm,0.5s			Lg	Lg	22 20 44.4	
KST	**Kastek** 15nm,0.4s	**3.74**	**287**	*e*P	**Pg**	**22 19 53.8**	**-0.9**
KST	36nm,0.5s			*e*S	**Sg**	**22 20 44.4**	**+1.2**
DGS	**Degeres** 12nm,0.5s	**3.93**	**289**	Pg	**Pg**	**22 19 56.0**	**-2.2**
DGS	31nm,0.5s			Lg	Lg	22 20 48.3	
AAK	**Ala-Archa** 3.1nm,0.6s	**4.75**	**279**	⇑Pg	**Pg**	**22 20 15.6**	**+1.8**
AAK	20nm,1.3s			⇓Lg	Lg	22 21 20.2	
SGDS	**Sogindy** 7.1nm,0.7s	**4.79**	**289**	Pg	**Pg**	**22 20 13.6**	**-1.0**
SGDS	10nm,0.5s			Lg	Lg	22 21 18.3	
MAKZ	**Makanchi** 4.7nm,0.4s	**4.82**	**9**	Pn	**Pn**	**22 19 55.6**	**+0.1**
MAKZ	30nm,0.9s			Lg	Lg	22 21 11.1	
MK31	**Makanchi Array** 1.2nm,0.4s,baz=196,slow=13,SNR=95	**4.85**	**12**	⇓Pn	**Pn**	**22 19 55.4**	**-0.5**
MK31	6.0nm,0.4s,baz=188,slow=30,SNR=12			⇑Lg	Lg	22 21 12.7	
MRKS	**Merke** 3.8nm,0.2s	**5.69**	**280**	Pg	**Pg**	**22 20 30.2**	**-1.6**
MRKS	9.9nm,0.6s			Lg	Lg	22 21 46.8	
MRKS	**Merke** 2.6nm,0.4s	**5.69**	**280**	*e*P	**Pg**	**22 20 32.8**	**+0.9**
MRKS	7.4nm,0.5s			*e*S	**Sg**	**22 21 51.0**	**+5.6**
BTLS	**Baital** 6.1nm,0.6s	**5.78**	**303**	Pg	**Pg**	**22 20 31.6**	**-1.9**
BTLS	2.6nm,0.5s			Lg	Lg	22 21 49.4	
BTLS	**Baital** 6.1nm,0.6s	**5.78**	**303**	*e*P	**Pg**	**22 20 32.1**	**-1.4**
BTLS	3.8nm,0.4s			*e*S	**Sg**	**22 21 49.8**	**+1.6**
ZSN	**Zaisan** 3.3nm,0.5s	**6.10**	**27**	Pg	**Pb**	**22 20 29.2**	**-0.1**
ZSN	22nm,0.7s			Lg	Lg	22 21 45.2	
ZSN	**Zaisan** 3.3nm,0.5s	**6.10**	**27**	*e*P	**Pb**	**22 20 29.2**	**-0.1**
ZSN	22nm,0.7s			*e*S	**Sb**	**22 21 45.2**	**+2.9**
KK31	**Karatay Array** 1.1nm,0.6s,baz=86,slow=16,SNR=9.7	**7.70**	**281**	⇓Pg	**Pg**	**22 21 07.9**	**-2.4**
KK31	1.3nm,0.5s,baz=82,slow=27,SNR=3.8			⇑Lg	Lg	22 22 54.9	

IDC ***04*** *22:28:33.2±0.5,49°.77S×111°.97W,h0ᵏᵐ,mb4.1/14, mbtmp4.1/14,MS3.8/30,Error ellipse: s-maj=22.1km s-min=15.8km az=137.0*

NEIC ***04*** *22:28:35.9±1.0,49°.90S±0°.07×111°.8W±0°.2,h10ᵏᵐ±1ᵏᵐ, mb4.9/65,Error ellipse: s-maj=24.9km s-min=10.7km az=102.0*

GCMT ***04*** *22:28:39.9±0.2,50°.09S±0°.01×111°.48W±0°.04,h21ᵏᵐ, MW5.0/86,Moment Tensor Solution. s38,c44; s86,c119; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mᵣᵣ-3.55±.21; Mᵩᵩ4.08±.14; Mᵩᵩ-0.52±.15; Mᵣᵩ1.04±.20; Mᵩᵩ0.31±.08; Mᵣᵣ-0.26±.31; Best double couple: M₀3.97600×10¹⁶ NP1:ϕ₈80.00000°,δ38.00000°,λ-100.00000°. NP2: ϕ₈272.00000°,δ53.00000°,λ-83.00000°. Principal axes: T 4.2350, Plg7.0000°, Azm357.0000°; N -0.5150, Plg6.0000°, Azm87.0000°; P -3.7180, Plg80.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 22:28:35.0±0.4, 49°.85S±0°.09×111°.83W±0°.08, h10ᵏᵐ, n188, σ1ᵍ07/152, mb4.8/44, MS3.9/30, 15C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG05	**Puerto Natales** comp=Z,84nm,1.6s	**24.74**	**109**	P	**P**	**22 33 55.5**	**-0.9**
MG05				IAmb	IAmb	22 34 06.7	
H03S2	**Juan Fernandez** baz=225,slow=74,SNR=2530	**28.98**	**69**	T	T	23 04 57.1	
H03S1	**Juan Fernandez** baz=225,slow=74,SNR=2422	**28.98**	**69**	T	T	23 04 58.4	
H03S3	**Juan Fernandez**	**28.99**	**69**	T	T	23 04 57.4	
	baz=225,slow=74,SNR=2717						
H03N3	**Juan Fernandez** baz=227,slow=72,SNR=5722	**29.24**	**68**	T	T	23 05 13.5	
H03N2	**Juan Fernandez** baz=227,slow=72,SNR=9983	**29.25**	**68**	T	T	23 05 12.3	
H03N1	**Juan Fernandez** baz=227,slow=72,SNR=5458	**29.26**	**68**	T	T	23 05 12.6	
PLCA	**Paso Flores** comp=Z,0.6nm,0.5s,baz=237,slow=8.6,SNR=5.8	**30.10**	**88**	P	**P**	**22 34 46.3**	**+1.7**
PLCA	comp=Z,220nm,19.8s,baz=254,slow=30			LR	LR	22 43 52.3	
PLCA	comp=Z,0.6nm,0.5s **Paso Flores**	**30.10**	**88**	*e*P	**P**	**22 34 44.2**	**-0.4**
BO01	**Tunca**	**33.48**	**78**	P	**P**	**22 35 15.0**	**+0.8**
BO01	comp=Z,26nm,1.1s			IAmb	IAmb	22 35 22.7	
MT16	**CCHEN**	**34.45**	**77**	P	**P**	**22 35 23.9**	**+1.1**
CO02	**Combarbal**	**35.65**	**74**	P	**P**	**22 35 34.0**	**+0.8**
ZON	**Zonda**	**36.87**	**77**	P	**P**	**22 35 43.5**	**0.0**
ZON	comp=Z,37nm,1.7s			IAmb	IAmb	22 36 14.6	
TRQA	**Tornquist**	**37.12**	**91**		**P**	**22 35 45.6**	**+0.1**
TRQA	comp=Z,32nm,1.2s			IAmb	IAmb	22 35 54.9	
LCO	**Las Campanas**	**37.36**	**72**	P	**P**	**22 35 48.5**	**+0.5**
LCO	comp=Z,25nm,1.2s			IAmb	IAmb	22 35 57.3	
TBI	**Tubuai** comp=Z,550nm,22.8s	**39.51**	**298**	*e*LR	LR	22 46 32.2	
AC02	**Maricunga**	**39.89**	**71**		**P**	**22 36 10.4**	**+1.0**
QSPA	**South Pole Qui**	**40.36**	**180**	P	**P**	**22 36 13.9**	**+1.3**
QSPA	**South Pole Qui** comp=Z,2.0nm,0.9s,baz=122,slow=1.7,SNR=8.3	**40.36**	**180**	P	**P**	**22 36 14.4**	**+1.9**
QSPA	comp=Z,182nm,21.8s,baz=107,slow=32			LR	LR	22 50 18.4	
VNDA	comp=Z,2.0nm,0.9s **Vanda**	**41.15**	**199**	P	**P**	**22 36 20.6**	**+1.8**
VNDA	comp=Z,1.3nm,0.9s,baz=102,slow=7.0,SNR=6.4			LR	LR	22 51 23.6	
PPT2	comp=Z,97nm,18.5s,baz=92,slow=33 comp=Z,1.3nm,0.9s **Papeete2**	**44.18**	**303**	*e*S	**S**	**22 43 18.8**	**+1.6**
PPT2	comp=Z,76nm,24.0s			*e*SS	**SS**	**22 46 31.7**	**-3.3**
PPT2	comp=Z,470nm,34.0s			*e*LR	LR	22 48 43.5	
PPT2	comp=Z,322nm,26.0s			*e*LR	LR	22 48 50.5	
PPT	comp=Z,223nm,25.8s **Papeete**	**44.20**	**303**	LR	LR	22 49 52.1	
PB16	comp=Z,164nm,20.6s,baz=122,slow=29 **IPOC Station P**	**46.14**	**63**	P	**P**	**22 37 00.9**	**+0.7**
PB16	comp=Z,12nm,1.2s			IAmb	IAmb	22 37 10.0	
PLTB	**Pedras Altas**	**46.40**	**90**	P	**P**	**22 37 01.3**	**-0.2**
PLTB	comp=Z,22nm,1.1s			IAmb	IAmb	22 37 09.5	
PLTB	**Pedras Altas**	**46.40**	**90**	*e*P	**P**	**22 37 01.0**	**-0.6**
TAOE	**Nuku Hiva Isla** comp=Z,358nm,26.8s	**47.18**	**320**	*e*LR	LR	22 50 24.9	
RAR	**Rarotonga** comp=Z,55nm,18.6s,baz=138,slow=31	**47.25**	**289**	LR	LR	22 53 07.4	
VNA3	**Neumayer Olymp** comp=Z,3.2nm,0.8s	**47.38**	**155**	⇑P	**P**	**22 37 08.1**	**-0.7**
CPUP	**Villa Florida**	**47.66**	**81**	P	**P**	**22 37 11.3**	**-0.1**
CPUP	**Villa Florida** comp=Z,1.4nm,0.9s,baz=120,slow=4.6,SNR=6.9	**47.66**	**81**	P	**P**	**22 37 11.2**	**-0.1**
CPUP	comp=Z,50nm,20.0s,baz=91,slow=32			LR	LR	22 53 58.4	
VNA1	comp=Z,1.4nm,0.9s **Neumayer--Stat** comp=Z,3.7nm,0.9s	**48.09**	**154**	⇑P	**P**	**22 37 12.0**	**-2.2**
LPAZ	**La Paz**	**48.55**	**62**		**P**	**22 37 19.3**	**+0.2**
LPAZ	comp=Z,12nm,1.1s			IAmb	IAmb	22 37 30.5	
LPAZ	**La Paz** comp=Z,5.0nm,0.8s,baz=207,slow=5.2,SNR=16	**48.55**	**62**	P	**P**	**22 37 19.6**	**+0.5**
LPAZ	comp=Z,119nm,20.9s,baz=232,slow=30			LR	LR	22 52 49.0	
SNAA	comp=Z,5.0nm,0.8s **Sanae**	**48.98**	**157**	LR	LR	22 54 53.1	
SJPY	comp=Z,118nm,20.8s,baz=266,slow=32 **San Joaquin**	**49.38**	**81**	*e*P	**P**	**22 37 24.2**	**-0.5**
TROLL	**Troll, Antarti** comp=Z,169nm,1.1s	**50.10**	**158**	⇑P	**P**	**22 37 29.8**	**+0.1**
URZ	**Urrera** comp=Z,153nm,19.8s,baz=258,slow=30	**50.55**	**255**	LR	LR	22 53 38.6	
ATAH	**Atahualpa** comp=Z,156nm,18.5s,baz=245,slow=30	**50.94**	**45**	LR	LR	22 54 18.9	
AMBA	**Amambai (Brazi**	**51.56**	**80**	*e*P	**P**	**22 37 40.8**	**-0.4**
PTGB	**Pitanga**	**52.17**	**84**	*e*P	**P**	**22 37 45.6**	**-0.2**
BDQN	**Bodoquena, MS**	**52.25**	**77**	*e*P	**P**	**22 37 45.9**	**-0.4**
BBSD	**Serra de San D**	**52.31**	**70**	*e*P	**P**	**22 37 46.6**	**-0.2**
SIV	**San Ignacio** comp=Z,130nm,20.6s,baz=252,slow=32	**52.95**	**69**	LR	LR	22 56 29.1	
RPRD	**Ribas do Rio P**	**54.16**	**79**	*e*P	**P**	**22 38 00.0**	**-0.4**
PTLB	**Pontes e Lacer**	**54.54**	**70**		**P**	**22 38 03.2**	**+0.1**
PTLB	comp=Z,14nm,1.2s			IAmb	IAmb	22 38 11.2	
PTLB	**Pontes e Lacer**	**54.54**	**70**	*e*P	**P**	**22 38 03.0**	**-0.2**
COHC	**Cochancay**	**54.72**	**41**	P	**P**	**22 38 05.6**	**+1.2**
SALV	**Santo Antonio**	**56.32**	**74**	*e*P	**P**	**22 38 15.7**	**-0.3**
ARAG	**Araguaiana, MT**	**58.90**	**77**	*e*P	**P**	**22 38 33.9**	**-0.3**
PDRB	**Porto dos Gac**	**58.98**	**70**	*e*P	**P**	**22 38 34.6**	**-0.2**
IPMB	**Ipameri, GO**	**59.49**	**82**	*e*P	**P**	**22 38 37.5**	**-0.9**
CLDB	**Colider**	**60.12**	**70**	*e*P	**P**	**22 38 41.1**	**-1.6**
TEFE	**Tefe**	**60.96**	**57**	*e*P	**P**	**22 38 48.1**	**-0.2**
BDFB	**Brasilia** comp=Z,3.1nm,0.8s,baz=172,slow=9.1,SNR=3.4	**61.35**	**80**	P	**P**	**22 38 50.8**	**-0.3**
BDFB	comp=Z,122nm,18.6s,baz=151,slow=34			LR	LR	23 03 39.4	
MAW	comp=Z,3.1nm,0.8s **Mawson**	**62.80**	**178**	P	**P**	**22 38 59.6**	**-0.4**
MAW	comp=Z,2.3nm,0.9s,baz=143,slow=8.5,SNR=3.9 comp=Z,201nm,21.7s,baz=170,slow=33			LR	LR	23 03 31.5	
ROSC	comp=Z,2.3nm,0.9s **El Rosal**	**63.40**	**43**	LR	LR	23 01 49.8	
NPGB	comp=Z,82nm,18.3s,baz=90,slow=32 **Novo Progresso**	**63.40**	**68**	*e*P	**P**	**22 39 04.2**	**-0.5**
JTS	**Las Juntas de** comp=Z,96nm,19.4s,baz=206,slow=30	**64.34**	**30**	LR	LR	23 00 14.8	
DZM	**Mont Dzumac** comp=Z,144nm,24.2s	**68.21**	**261**	*e*LR	LR	22 59 53.8	
CMIG	**Matias Romero** comp=Z,67nm,18.5s,baz=176,slow=30	**68.31**	**17**	LR	LR	23 02 39.5	
TOO	**Toolangi**	**69.52**	**236**	P	**P**	**22 39 45.0**	**+1.3**
BAUV	**El Baul**	**69.88**	**47**	P	**P**	**22 39 45.2**	**-0.8**
PCRV	**Puerto La Cruz** comp=Z,100nm,20.1s,slow=32	**72.59**	**49**	LR	LR	23 07 56.1	
LPIG	**La Paz** comp=Z,34nm,19.8s,baz=171,slow=29	**73.63**	**1**	LR	LR	23 03 39.2	
STKA	**Stephens Creek** comp=Z,2.1nm,0.7s,baz=143,slow=5.9,SNR=4.5	**75.91**	**237**	P	**P**	**22 40 21.8**	**+0.1**
STKA	comp=Z,86nm,18.4s,baz=49,slow=31 comp=Z.1nm,0.7s			LR	LR	23 07 35.9	
SJG	**San Juan** comp=Z,32nm,18.9s,baz=145,slow=34	**78.78**	**44**	LR	LR	23 12 55.2	
TXAR	**Lajitas Array**	**79.16**	**7**		**P**	**22 40 41.0**	**+1.3**
TXAR	**Lajitas Array** comp=Z,2.0nm,0.9s,baz=181,slow=9.3,SNR=24 comp=Z,2.0nm,0.9s	**79.16**	**7**	P	**P**	**22 40 40.5**	**+0.7**
TX31	**Lajitas Ar. Si**	**79.16**	**7**		**P**	**22 40 40.8**	**+1.0**
HNDO	**Hondo**	**79.81**	**11**	P	**P**	**22 40 43.6**	**+0.5**
ALPN	**Alpine**	**80.20**	**7**	P	**P**	**22 40 46.1**	**+0.7**
JCT	**Junction City** comp=Z,12nm,0.8s	**80.68**	**11**		**P**	**22 40 49.3**	**+1.5**
JCT				IAmb	IAmb	22 40 50.2	
MNTX	**Cornudas Mount**	**81.39**	**6**		**P**	**22 40 53.4**	**+1.9**
SGCY	**Sterling City** comp=Z,17nm,0.9s	**81.95**	**9**		**P**	**22 40 56.2**	**+1.6**
SGCY				IAmb	IAmb	22 40 57.2	
PFO	**Pinyon Flats O** comp=Z,50nm,20.1s,baz=202,slow=31	**83.19**	**356**	LR	LR	23 11 11.2	
Y14A	**Wickenburg**	**83.42**	**359**		**P**	**22 41 03.7**	**+1.5**
APMT	**Aspermont**	**83.46**	**10**		**P**	**22 41 03.7**	**+1.4**
BELC	**Belle Mtn. Jos**	**83.56**	**357**		**P**	**22 41 04.7**	**+1.7**
BELC	comp=Z,7.0nm,1.3s			IAmb	IAmb	22 41 07.7	
X18A	**Snowflake**	**84.03**	**2**		**P**	**22 41 07.2**	**+1.8**
X18A	comp=Z,5.3nm,0.9s			IAmb	IAmb	22 41 07.9	
ANMO	**Albuquerque**	**84.56**	**4**		**P**	**22 41 09.2**	**+1.1**
ANMO	comp=Z,13nm,1.6s			IAmb	IAmb	22 41 10.9	
ANMO	**Albuquerque** comp=Z,2.3nm,0.8s,baz=250,slow=6.8,SNR=7.7	**84.56**	**4**	P	**P**	**22 41 08.2**	**+0.1**
ANMO	comp=Z,37nm,19.1s,baz=289,slow=32 comp=Z,2.3nm,0.8s			LR	LR	23 13 00.6	
W13A	**Hualapai Mount**	**84.60**	**358**		**P**	**22 41 09.4**	**+1.1**
W13A	comp=Z,7.8nm,1.5s			IAmb	IAmb	22 41 11.4	
GSC	**Goldstone, Bar**	**84.89**	**356**	P	**P**	**22 41 10.9**	**+1.3**
GSC	comp=Z,6.5nm,1.1s			IAmb	IAmb	22 41 12.4	
WSHM	**Spangler Hills**	**85.22**	**355**	P	**P**	**22 41 12.6**	**+1.3**
ISA	**Isabella, Lake**	**85.34**	**355**	P	**P**	**22 41 13.3**	**+1.4**
ISA	comp=Z,10nm,1.2s			IAmb	IAmb	22 41 15.1	
QSM	**Queen of Sheba**	**85.56**	**356**	P	**P**	**22 41 14.8**	**+1.9**
QSM	comp=Z,8.3nm,0.6s			IAmb	IAmb	22 43 44.3	
MPMC	**Manual Prospec**	**85.68**	**355**	P	**P**	**22 41 15.7**	**+1.9**
U15A	**North Rim**	**85.90**	**360**		**P**	**22 41 16.2**	**+1.3**
U15A	comp=Z,12nm,1.6s			IAmb	IAmb	22 41 17.9	
SHPR	**Sheep Range**	**86.03**	**357**	P	**P**	**22 41 17.3**	**+1.8**
RTBA	**Rita Blanca**	**86.29**	**7**	P	**P**	**22 41 17.9**	**+1.3**
RTBA	comp=Z,8.7nm,1.1s			IAmb	IAmb	22 41 18.5	
H01W1	**Cape Leeuwin H** baz=151,slow=76,SNR=185	**86.31**	**216**	T	T	00 17 22.7	
H01W2	**Cape Leeuwin H** baz=151,slow=76,SNR=162	**86.32**	**216**	T	T	00 17 22.9	
H01W3	**Cape Leeuwin H** baz=151,slow=76,SNR=159	**86.33**	**216**	T	T	00 17 23.9	
WHAR	**Wooly Hollow**	**86.52**	**16**		**P**	**22 41 18.9**	**+1.2**
ASAR	**Alice Springs**	**86.54**	**237**	P	**P**	**22 41 17.5**	**-0.9**
ASAR	**Alice Springs** comp=Z,1.7nm,0.9s,baz=141,slow=4.1,SNR=9.0	**86.54**	**237**	P	**P**	**22 41 17.4**	**-1.0**
ASAR	comp=Z,83nm,20.0s,baz=122,slow=33 comp=Z,1.7nm,0.9s			LR	LR	23 15 37.4	
MVCO	**Mesa Verde**	**86.73**	**3**		**P**	**22 41 19.9**	**+1.0**
T25A	**Trinidad**	**86.86**	**6**		**P**	**22 41 20.7**	**+1.2**
T25A	comp=Z,11nm,1.3s			IAmb	IAmb	22 41 22.4	
DSP	**Deep Springs**	**87.01**	**355**		**P**	**22 41 21.5**	**+1.6**
DSP	comp=Z,13nm,1.4s			IAmb	IAmb	22 41 23.4	
S22A	**4UR Ranch, Cre**	**87.33**	**4**		**P**	**22 41 23.0**	**+1.1**
S22A	comp=Z,8.8nm,1.2s			IAmb	IAmb	22 41 25.2	
T35A	**Sooner Cattle**	**87.45**	**12**	P	**P**	**22 41 23.7**	**+1.5**
R11B	**Troy Canyon, C**	**87.88**	**357**		**P**	**22 41 25.9**	**+1.4**
NVAR	**Mina Array Bea** comp=Z,1.1nm,0.8s,baz=188,slow=7.7,SNR=5.3 comp=Z,1.1nm,0.8s	**88.09**	**355**	P	**P**	**22 41 24.4**	**-1.1**
RYN	**Ryan**	**88.30**	**355**	P	**P**	**22 41 27.7**	**+1.4**
RYN	comp=Z,14nm,1.7s			IAmb	IAmb	22 41 29.4	
V53A	**Saluda**	**88.94**	**23**	P	**P**	**22 41 29.3**	**0.0**
V53A	comp=Z,6.6nm,1.1s			IAmb	IAmb	22 41 30.8	
CGM3	**Cape Girardeau**	**88.96**	**18**	P	**P**	**22 41 30.1**	**+0.9**
U49A	**Red Boiling Sp**	**89.03**	**21**	P	**P**	**22 41 30.2**	**+0.6**
U49A	comp=Z,5.8nm,0.8s			IAmb	IAmb	22 41 31.1	
T47A	**Sharon Grove**	**89.19**	**20**	P	**P**	**22 41 30.5**	**+0.1**
T47A	comp=Z,16nm,1.4s			IAmb	IAmb	22 41 31.9	
WRA	**Warramunga Arr** comp=Z,1.5nm,0.8s,baz=141,slow=4.2,SNR=9.8 comp=Z,1.5nm,0.8s	**89.29**	**239**	P	**P**	**22 41 29.5**	**-2.1**
CCM	**Cathedral Cave**	**89.40**	**16**	P	**P**	**22 41 32.5**	**+1.2**
CCM	comp=Z,6.4nm,1.0s			IAmb	IAmb	22 41 33.5	
WB0	**Warramunga Arr**	**89.40**	**240**	P	**P**	**22 41 32.5**	**+0.5**
ELK	**Elko** comp=Z,67nm,18.9s,baz=238,slow=31	**90.26**	**357**	LR	LR	23 15 15.1	
YBH	**Yreka Blue Hor** comp=Z,6.5nm,21.7s,baz=201,slow=30	**91.70**	**352**	LR	LR	23 13 57.2	
WVOR	**Wild Horse Val**	**92.09**	**355**	P	**P**	**22 41 44.5**	**+0.6**
WVOR	comp=Z,14nm,1.5s			IAmb	IAmb	22 41 47.0	
K22A	**Casper**	**92.23**	**4**		**P**	**22 41 45.7**	**+1.0**
BW06	**Boulder Array**	**92.25**	**2**	P	**P**	**22 41 45.4**	**+0.6**
PD31	**Pinedale Array**	**92.25**	**2**	P	**P**	**22 41 45.3**	**+0.5**
PDAR	**Pinedale Array**	**92.25**	**2**	P	**P**	**22 41 45.0**	**+0.2**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,baz=159,slow=4.5,SNR=6.7	**92.25**	**2**	P	**P**	**22 41 45.3**	**+0.5**
PDAR	comp=Z,40nm,18.1s,baz=202,slow=31 comp=Z,0.5nm,0.7s			LR	LR	23 16 30.2	
HLID	**Hailey**	**93.06**	**358**		**P**	**22 41 49.5**	**+1.1**
HLID	comp=Z,7.5nm,1.4s			IAmb	IAmb	22 41 51.4	
BOSA	**Boshof** comp=Z,63nm,18.4s,baz=203,slow=31	**93.08**	**143**	LR	LR	23 16 56.6	
FITZ	**Fitzroy Crossi** comp=Z,74nm,21.8s,baz=164,slow=33	**95.49**	**234**	LR	LR	23 20 44.9	
LBTB	**Lobatse** comp=Z,63nm,19.0s,baz=186,slow=30	**96.43**	**142**	LR	LR	23 17 39.4	
NEW	**Newport** comp=Z,37nm,20.7s,baz=178,slow=30	**97.84**	**356**	LR	LR	23 18 18.4	
H11S2	**WAKE ISLAND Hy** baz=140,slow=76,SNR=968	**98.57**	**288**	T	T	00 31 58.0	
H11S3	**WAKE ISLAND Hy** baz=140,slow=76,SNR=904	**98.59**	**288**	T	T	00 31 56.7	
H11S1	**WAKE ISLAND Hy** baz=140,slow=76,SNR=673	**98.59**	**288**	T	T	00 31 57.8	
H11N3	**WAKE ISLAND Hy** baz=140,slow=76,SNR=142	**99.38**	**289**	T	T	00 32 57.6	
H11N1	**WAKE ISLAND Hy** baz=140,slow=76,SNR=63	**99.39**	**289**	T	T	00 33 00.7	
H11N2	**WAKE ISLAND Hy** baz=140,slow=76,SNR=140	**99.40**	**289**	T	T	00 32 59.1	
PETK	**Petropavlovsk-** comp=Z,2.4nm,1.0s,baz=92,slow=3.4,SNR=4.5	**127.68**	**310**	PKP	**PKPdf**	**22 47 37.7**	**-1.7**
ESDC	**Sonseca Array**	**129.64**	**73**		**PKPdf**	**22 47 44.0**	**+0.3**
ESDC	**Sonseca Array** comp=Z,1.4nm,1.2s,baz=268,slow=1.3,SNR=6.5	**129.64**	**73**	PKP	**PKPdf**	**22 47 42.2**	**-1.5**
KSRS	**Korea Array** comp=Z,0.2nm,0.3s,baz=151,slow=2.9,SNR=4.5	**136.14**	**277**	PKP	**PKPdf**	**22 47 55.2**	**-0.7**
DAVA	**Damuels** comp=Z,0.9nm,0.7s	**142.18**	**71**	*i* PKP	**PKPdf**	**22 48 06.1**	**-0.7**
FETA	**Feichten** comp=Z,3.2nm,1.8s	**142.58**	**72**	*e*PKP	**PKPdf**	**22 48 07.0**	**-0.6**
RETA	**Reutte** comp=Z,1.8nm,1.0s	**142.81**	**71**	*e*PKP	**PKPdf**	**22 48 07.5**	**-0.4**
MOTA	**Moosalm** comp=Z,8.4nm,1.8s	**142.96**	**71**	*e*PKP	**PKPdf**	**22 48 05.1**	**-3.2**
SQTA	**Sankt Quirin** comp=Z,4.0nm,1.3s	**142.97**	**72**	*e*PKP	**PKPdf**	**22 48 05.4**	**-2.8**
WATA	**Walderalm** comp=Z,5.5nm,1.4s	**143.24**	**72**	*e*PKP	PKPbc	22 48 05.8	0.0
WTTA	**Wattenberg** comp=Z,3.1nm,0.9s	**143.25**	**72**	*e*PKP	**PKPdf**	**22 48 07.6**	**-1.2**
ABTA	**Abfaltersbach** comp=Z,3.1nm,0.8s	**143.56**	**73**	*i* PKP	PKPab	22 48 06.1	+0.3
LESA	**Schwarzleotal** comp=Z,2.7nm,0.6s,SNR=6.4	**143.96**	**72**	*e*PKP	PKPab	22 48 07.0	-0.2
CADS	**Cadrg**	**144.10**	**74**	*i* P	**PKPab**	**22 48 07.5**	**-0.3**
MYKA	**Terra Mystica** comp=Z,3.7nm,0.6s,SNR=7.4	**144.21**	**74**	*e*PKP	**PKPab**	**22 48 08.1**	**-0.1**
KBA	**Koelnbreinsper** comp=Z,3.7nm,0.9s	**144.22**	**73**	*e*PKP	**PKPab**	**22 48 07.3**	**-1.0**
BIOA	**Bad Ischl, Aus** comp=Z,7.5nm,0.9s,SNR=6.6	**144.66**	**72**	*e*PKP	**PKPab**	**22 48 09.0**	**-0.8**
OBKA	**Obir** comp=Z,5.2nm,0.8s,SNR=8.0	**144.72**	**74**	*e*PKP	**PKPab**	**22 48 10.0**	**-0.1**
SOKA	**Soboth** comp=Z,5.8nm,1.3s,SNR=7

comp=Z,12nm,1.4s
CONA Conrad Observa 146.13 73 *e*PKP **PKPdf 22 48 13.8 +0.1**
comp=Z,5.5nm,1.3s,SNR=7.3
RONA Rosalia, Austr 146.31 73 *e*PKP **PKPdf 22 48 14.0 +0.2**
comp=Z,4.3nm,1.1s
KRUC Moravsky 146.88 71 *eP* **PKPdf 22 48 15.7 +1.0**
NB2 NORSAR Subarra 146.89 48 PKP **PKPbc 22 48 16.2 -0.2**
comp=Z,49nm,2.5s,baz=257,slow=3.5
NOA NORSAR Array B 146.89 48 PKPbc **PKPbc 22 48 15.6 -0.8**
comp=Z,2.5nm,0.9s,baz=61,slow=2.6,SNR=6.9
VRAC Vranov 147.10 71 *e*PKP **PKPbc 22 48 16.6 -0.7**
DPC Dobruska-Polom 147.29 69 *e*PKP **PKPbc 22 48 18.3 +0.5**
OSTC Ostas 147.30 68 *e*PKP **PKPbc 22 48 18.2 +0.4**
KRLC Kraliky 147.48 69 *e*PKP **PKPbc 22 48 19.0 +0.6**
JAVC Velka Javorina 147.59 72 *e*PKP **PKPbc 22 48 19.3 +0.6**
MORC Moravsky Berou 147.84 70 *e*PKP **PKPbc 22 48 18.3 -1.1**
MORC Moravsky Berou 147.84 70 ⇑P **PKPbc 22 48 19.4 +0.1**
MAUC Maruska 147.87 71 *e*PKP **PKPbc 22 48 20.2 +0.8**
HFS Hagfors 148.01 50 PKPbc **PKPdf 22 48 17.5 +1.3**
comp=Z,1.9nm,0.7s,baz=197,slow=4.6,SNR=4.4
ELND Elena 150.34 87 ⇑P **PKPbc 22 48 25.6 -0.2**
HUMR Humele 150.49 84 ⇑P **PKPbc 22 48 26.1 0.0**
TNR Turnu Rosu 150.51 81 ⇑P **PKPbc 22 48 25.2 -1.0**
MMAI Mount Meron Ar 150.54 112 PKPbc **PKPbc 22 48 26.1 -0.6**
comp=Z,4.2nm,0.8s,baz=224,slow=4.0,SNR=5.9
ARR Arges 150.62 82 ⇑P **PKPbc 22 48 26.4 -0.1**
SGRR Singureni 150.99 85 ⇑P **PKiKP 22 48 30.5 +2.6**
DOPR Dopca 151.35 81 ⇑P **PKPbc 22 48 28.0 -0.1**
MLR Muntele Rosu 151.52 82 ⇑P **PKPbc 22 48 28.2 -0.4**
NEHR Nehoiu 151.72 83 ⇑P **PKPbc 22 48 27.3 -1.7**
VRI Vrincioaia 152.17 82 ⇑P **PKPbc 22 48 29.0 -1.0**
CFR Carcaliu 152.80 84 ⇑P **PKPbc 22 48 31.0 -0.3**
BRTR Keskin Array B 153.70 99 PKP **PKPdf 22 48 25.1 -0.8**
comp=Z,2.8nm,1.1s,baz=137,slow=2.4,SNR=5.6
BRTR PKPbc **PKPbc 22 48 33.4 -0.4**
comp=Z,1.2nm,0.7s,baz=193,slow=3.6,SNR=6.0
BRTR PKPab **PKPab 22 48 46.1 -0.5**
comp=Z,3.5nm,0.9s,baz=194,slow=4.6,SNR=9.6
SONM Songino Array 154.94 280 PKPbc **PKPbc 22 48 35.5 -0.6**
comp=Z,0.6nm,0.6s,baz=147,slow=1.8,SNR=4.0
SONM PKPab **PKPab 22 48 52.1 +0.4**
comp=Z,1.6nm,0.7s,baz=132,slow=4.5,SNR=6.7
MKAR Makanchi Array 170.11 257 PKPab **PKPab 22 49 57.8 -0.1**
comp=Z,2.3nm,1.0s,baz=124,slow=6.0,SNR=10
KURBB Kurchatov Arra 173.31 281 PKP **PKPdf 22 48 41.2 -2.3**
comp=Z,0.5nm,0.8s,baz=150,slow=1.5,SNR=5.9

---

*IDC **04** 22:29:23.6±1.6, 38.36N×142.26E, h0km, mb3.6/7, mbtmp3.5/10, ML2.7/3, Error ellipse: s-maj=35.6km s-min=25.4km az=83.0*
*NIED **04** 22:29:32.1, 38.18N×141.69E, h50km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; Mrr=0.70; Mθθ0.17; Mφφ0.53; Mrθ1.14; Mθφ-1.63; Mφr2.97; Fault plane solution: M03.54000×10^{14} NP1: φs287.00000°, δ29.00000°, λ-169.00000°. NP2: φs188.00000°, δ85.00000°, λ-62.00000°.*
*JMA **04** 22:29:32.1±0.1, 38.2N±0.3×141.7E±0.6, h50km, MV3.6/40, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 04 22:29:30.4±1.4, **38.16N**±0.06×**141.84E**±0.10, **h47**km±10km, **n30**, σ1**s30/33, mb3.7/7, 17D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.33**	**297**	⇓*i*P	**Pn**	**22 29 40.6**	**+1.0**
JIKH				⇓S	**Sn**	**22 29 46.4**	**+0.4**
JIO	**Ouri**	**0.49**	**308**	⇓*i*P	**Pn**	**22 29 42.0**	**+0.7**
JIO				⇓S	**Sn**	**22 29 48.9**	**-0.2**
JKMT	**Kesennumamotoy**	**0.71**	**336**	⇓*i*P	**Pn**	**22 29 45.1**	**+0.9**
JKMT				⇓S	**Sn**	**22 29 54.1**	**-0.1**
JMM	**Marumori**	**0.88**	**251**	⇓*i*P	**Pn**	**22 29 46.4**	**0.0**
JMM				⇓S	**Sn**	**22 29 56.9**	**-1.1**
JMK	**Ichinoseki**	**0.93**	**329**	⇓*i*P	**Pn**	**22 29 48.0**	**+0.9**
JMK				⇓S	**Sn**	**22 29 59.2**	**-0.1**
OFUJ	**Ofunato**	**0.93**	**352**	⇓*i*P	**Pn**	**22 29 48.2**	**+1.1**
OFUJ				⇓S	**Sn**	**22 29 59.6**	**+0.2**
JOU	**Okura**	**0.95**	**283**	⇓*i*P	**Pn**	**22 29 47.6**	**+0.2**
JOU				⇓S	**Sn**	**22 29 58.9**	**-1.0**
JOU	**Okura**	**0.95**	**283**	A	A	22 29 47.6	
	comp=N,2.0nm,1.5s,comp=E,2.0nm,1.4s						
JFK	**Kawauchi**	**1.10**	**224**	*i* P	**Pn**	**22 29 50.0**	**+0.6**
JFK				S	**Sn**	**22 30 03.1**	**-0.4**
JOTO	**OTAMA OYAMA**	**1.33**	**244**	*i* P	**Pn**	**22 29 53.3**	**+0.7**
JOM	**Ohasama**	**1.38**	**342**	⇓*i*P	**Pn**	**22 29 54.4**	**+1.2**
JOM				⇓S	**Sn**	**22 30 11.1**	**+0.7**
JYK	**Kaneyama**	**1.39**	**304**	*i* P	**Pn**	**22 29 53.9**	**+0.5**
JYS	**Shirataka**	**1.40**	**273**	*i* P	**Pn**	**22 29 53.9**	**+0.3**
JYS				S	**Sn**	**22 30 10.3**	**-0.5**
JRG	**Rokugo**	**1.56**	**323**	⇓*i*P	**Pn**	**22 29 56.8**	**+1.2**
MJAR	**Matsushiro Arr**	**3.31**	**242**	Pn	**Pn**	**22 30 23.1**	**+3.4**
	comp=E,0.3nm,0.3s,baz=59,slow=10,SNR=19						
MJAR				Sn	Sn	22 31 08.8	+11
	comp=E,0.3nm,0.3s,baz=40,slow=20,SNR=4.7 comp=E,5.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.57**	**312**	Pn	**Pn**	**22 31 44.9**	**-0.6**
	comp=E,0.2nm,0.3s,baz=124,slow=13,SNR=7.9 comp=E,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**18.55**	**31**	P	**P**	**22 33 38.3**	**-4.7**
	comp=E,0.1nm,0.3s,baz=231,slow=9.1,SNR=2.1 comp=E,0.5nm,0.5s						
SONM	**Songino Array**	**27.46**	**302**	P	**P**	**22 35 11.9**	**-0.1**
	comp=E,0.1nm,0.4s,baz=106,slow=11,SNR=2.1 comp=E,0.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.45**	**123**	T	T	23 05 35.1	
	baz=316,slow=76,SNR=92						
H11N1	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	23 05 36.3	
	baz=316,slow=76,SNR=76						
H11N3	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	23 05 36.9	
	baz=316,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**29.21**	**125**	T	T	23 06 35.8	
	baz=318,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.21**	**125**	T	T	23 06 36.5	
	baz=318,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**29.22**	**125**	T	T	23 06 37.5	
	baz=318,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**41.42**	**311**	P	**P**	**22 37 12.4**	**+0.4**
	comp=E,0.6nm,0.4s,baz=74,slow=6.4,SNR=2.9 comp=E,0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.82**	**301**	P	**P**	**22 37 32.3**	**+0.7**
	comp=E,0.5nm,0.6s,baz=83,slow=9.1,SNR=6.6 comp=E,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.59**	**307**	P	**P**	**22 37 46.3**	**+0.7**
	comp=E,0.5nm,0.3s,baz=82,slow=8.2,SNR=8.4 comp=E,0.5nm,0.3s						
BVAR	**Borovoye Array**	**50.07**	**312**	P	**P**	**22 38 20.1**	**-0.2**
	comp=E,0.3nm,0.5s,baz=59,slow=6.1,SNR=3.5 comp=E,0.3nm,0.5s						
WRA	**Warramunga Arr**	**58.22**	**188**	P	**P**	**22 39 21.1**	**+1.3**
	comp=E,0.3nm,0.5s,baz=6.5,slow=7.0,SNR=5.9 comp=E,0.3nm,0.5s						
HFS	**Hagfors**	**73.20**	**336**	P	**P**	**22 40 56.0**	**+0.1**
	comp=E,1.2nm,0.7s,baz=32,slow=5.9,SNR=4.1 comp=E,1.2nm,0.7s						

IDC 04 22:31:54.4±8.0, **12.04N×143.73E, h0km, mb3.5**/4, **mbtmp3.5**/4, **Error ellipse: s-maj=321.5km s-min=27.1km az=81.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.10**	**196**	P	P	22 38 32.4	+0.1
	0.5nm,0.7s,baz=19,slow=9.8,SNR=6.1 0.5nm,0.7s						
ASAR	**Alice Springs**	**36.77**	**195**	P	P	22 39 03.6	-0.3
	0.3nm,0.7s,baz=8.3,slow=7.5,SNR=2.3 0.3nm,0.7s						
MKAR	**Makanchi Array**	**61.84**	**317**	P	P	22 42 15.7	+0.3
	0.5nm,0.9s,baz=90,slow=7.2,SNR=2.8 0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**65.09**	**320**	P	P	22 42 36.6	-0.2
	0.7nm,0.7s,baz=104,slow=6.3,SNR=5.8 0.7nm,0.7s						

---

*IDC **04** 22:54:52.9±1.6, 10.60S×123.32E, h0km, mb3.8/1, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=27.5km s-min=11.2km az=127.0*
*DJA **04** 22:54:59.4±0.6, 10°S±9'×12°3'E±', h10km, M3.6/8, mb4.3/1, MLv3.3/8*
ISC 04 22:54:55.7±0.9, **10.40S**±0.09×**123.9E**±0.1, **h27**km, **n12**, σ1**s41/15, Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.30**	**311**	Pg	**Pb**	**22 55 02.8**	**-0.1**
	340nm,0.3s,baz=224,slow=2.9,SNR=119						
BATI				Lg	Lg	22 55 10.2	
	477nm,0.3s,baz=129,slow=22,SNR=18						
BATI				LR	LR	22 55 19.2	
	comp=Z,621nm,19.2s,baz=64,slow=51						
BATI	**Baumata**	**0.30**	**311**	P	**Pb**	**22 55 03.1**	**+0.3**
BATI				S	**Sn**	**22 55 08.8**	**-1.0**
SOEI	**Soe**	**0.74**	**30**	P	Pn	22 55 17.8	+7.3
SOEI				S	Sn	22 55 32.2	+11
MMRI	**Maumere**	**2.40**	**317**	P	**Pn**	**22 55 32.2**	**-1.0**
EDFI	**Ende, Flores**	**2.72**	**307**	P	**Pn**	**22 55 37.6**	**-0.1**
BASI	**Baing, Sumba**	**3.27**	**273**	P	**Pn**	**22 55 45.2**	**+0.1**
WBSI	**Waikabubak, Su**	**4.50**	**279**	P	**Pn**	**22 56 02.9**	**+0.8**
PLAI	**Plampang**	**6.23**	**284**	P	**Pn**	**22 56 24.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**7.84**	**168**	Pn	**Pn**	**22 56 49.1**	**+1.1**
	0.3nm,0.3s,baz=355,slow=9.4,SNR=10						
FITZ				Sn	**Sn**	**22 58 15.3**	**-0.6**
	1.1nm,0.3s,baz=73,slow=22,SNR=8.1 1.7nm,0.6s						
WRA	**Warramunga Arr**	**13.84**	**134**	Pn	**Pn**	**22 58 12.4**	**+2.2**
	0.1nm,0.3s,baz=304,slow=14,SNR=5.4						
WRA				Sn	**Sn**	**23 00 41.2**	**-1.9**
	0.3nm,0.3s,baz=293,slow=25,SNR=5.0 0.4nm,0.6s						
ASAR	**Alice Springs**	**16.29**	**145**	Pn	**P**	**22 58 45.0**	**-0.4**
	0.1nm,0.3s,baz=315,slow=12,SNR=8.0						
ASAR				Sn	**Sn**	**23 01 39.8**	**-2.9**
	0.1nm,0.3s,baz=307,slow=20,SNR=4.5 0.3nm,0.4s						
MKAR	**Makanchi Array**	**67.97**	**331**	P	**P**	**23 05 53.2**	**+1.0**
	0.6nm,0.6s,baz=136,slow=6.8,SNR=8.2 0.6nm,0.6s						

---

*NEIC **04** 23:13:35.4±1.5, 4.78S±0.1×153.65E±0.10, h55km±16km, mb4.2/15, Error ellipse: s-maj=24.2km s-min=8.7km az=209.0*
*IDC **04** 23:13:36.7±6.2, 4.70S×153.47E, h70km±50km, mb3.7/9, mbtmp4.1/10, ML2.6/1, Error ellipse: s-maj=41.3km s-min=21.0km az=85.0*
ISC 04 23:13:35.0±0.8, **4.79S**±0.09×**153.67E**±0.10, **h56**km, **n28**, σ0**s97/31, mb4.2/17, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.61**	**291**	Pn	**Pn**	**23 14 00.9**	**-0.1**
RABL				Sn	**Sn**	**23 14 23.2**	**+2.4**
PMG	**Port Moresby**	**7.92**	**234**	P	**Pn**	**23 15 27.8**	**+0.2**
	5.0nm,0.3s,baz=44,slow=6.6,SNR=8.2						
PMG				S	**Sn**	**23 16 55.5**	**-0.3**
	14nm,0.5s,baz=246,slow=11,SNR=2.0 55nm,0.7s						
DZM	**Mont Dzumac**	**21.18**	**145**	P	**P**	**23 18 16.4**	**+0.5**
DZM				IAmb	IAmb	23 18 19.3	
	comp=Z,12nm,0.9s						
MTN	**Manton Dam**	**23.64**	**249**	P	**P**	**23 18 42.1**	**+0.6**
WB0	**Warramunga Arr**	**23.96**	**230**	P	**P**	**23 18 44.2**	**-0.2**
WB0				IAmb	IAmb	23 18 56.1	
	comp=Z,8.2nm,1.1s						
WR0	**Warramunga Arr**	**23.96**	**229**	P	**P**	**23 18 44.8**	**+0.4**
WR0				IAmb	IAmb	23 18 54.6	
	comp=Z,9.7nm,1.1s						
WR8	**Warramunga Arr**	**23.99**	**229**	P	**P**	**23 18 43.9**	**-0.7**
WB2	**Warramunga Arr**	**24.10**	**230**	P	**P**	**23 18 45.7**	**+0.1**
WB2				IAmb	IAmb	23 18 51.1	
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**24.11**	**230**	P	**P**	**23 18 47.5**	**+1.8**
WRA	**Warramunga Arr**	**24.11**	**230**	P	**P**	**23 18 45.8**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=51,slow=10,SNR=21 comp=Z,1.8nm,0.4s						
ARMA	**Armidale**	**25.57**	**184**	P	**P**	**23 18 59.4**	**+0.5**
ARMA				IAmb	IAmb	23 19 01.7	
	comp=Z,8.5nm,1.1s						
AS31	**Alice Springs**	**26.75**	**224**	P	**P**	**23 19 09.3**	**-0.3**
ASAR	**Alice Springs**	**26.75**	**224**	P	**P**	**23 19 08.6**	**-1.0**
ASAR	**Alice Springs**	**26.75**	**224**	P	**P**	**23 19 09.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=56,slow=9.0,SNR=7.8						
ASAR				PcP	**PcP**	**23 22 31.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=67,slow=2.4,SNR=5.6 comp=Z,0.5nm,0.8s						
KNRA	**Kununurra**	**26.75**	**244**	P	**P**	**23 19 09.9**	**+0.2**
KNRA				IAmb	IAmb	23 19 14.0	
	comp=Z,12nm,0.9s						
BBOO	**Buckleboo**	**32.37**	**208**	P	**P**	**23 20 00.3**	**+0.9**
BBOO				IAmb	IAmb	23 20 09.7	
	comp=Z,3.8nm,0.9s						
FORT	**Forrest**	**35.35**	**220**	P	**P**	**23 20 24.1**	**-1.1**
FORT				IAmb	IAmb	23 20 38.9	
	comp=Z,4.8nm,1.0s						
MBWA	**Marble Bar**	**36.73**	**241**	P	**P**	**23 20 35.4**	**-1.7**
VNDA	**Vanda**	**72.81**	**178**	P	**P**	**23 24 58.0**	**+0.8**
VNDA				IAmb	IAmb	23 24 58.7	
	comp=Z,2.1nm,0.8s						
VNDA	**Vanda**	**72.81**	**178**	P	**P**	**23 24 57.5**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=332,slow=6.2,SNR=13 comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**23 25 43.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=95,slow=7.2,SNR=13 comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**81.62**	**326**	P	**P**	**23 25 45.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=96,slow=9.2,SNR=3.8 comp=Z,0.7nm,0.5s						
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**23 25 48.3**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=239,slow=6.3,SNR=5.8 comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**84.32**	**322**	P	**P**	**23 26 00.1**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=102,slow=3.7,SNR=5.6 comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**85.17**	**180**	P	**P**	**23 26 05.8**	**+0.6**
QSPA	**South Pole Qui**	**85.17**	**180**	P	**P**	**23 26 06.1**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=224,slow=0.5,SNR=22 comp=Z,3.8nm,0.6s						
BVAR	**Borovoye Array**	**89.75**	**323**	P	**P**	**23 26 25.3**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=60,slow=9.1,SNR=7.6 comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.12**	**289**	PKPbc	**PKPbc**	**23 33 22.0**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=52,slow=2.9,SNR=7.1						

IDC 04 23:19:52.7±61.0, **20.93S×176.70W, h0km, mb4.0**/3, **mbtmp4.0**/3, **Error ellipse: s-maj=1132.0km s-min=173.0km az=84.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.70**	**245**	P	P	23 27 18.2	-0.3
	2.0nm,0.6s,baz=102,slow=14,SNR=3.7 2.0nm,0.6s						
ASAR	**Alice Springs**	**45.60**	**257**	P	P	23 28 14.8	-0.3
	1.8nm,0.7s,baz=97,slow=7.2,SNR=18 1.8nm,0.7s						
WRA	**Warramunga Arr**	**45.74**	**262**	P	P	23 28 16.3	+0.1
	0.5nm,0.3s,baz=97,slow=8.3,SNR=15 0.5nm,0.3s						

IDC 04 23:46:35.5±2.8, **11.36S×122.20E, h0km, mb3.9**/1, **mbtmp3.5**/3, **ML3.0**/2, **Error ellipse: s-maj=225.0km s-min=33.5km az=50.0, South of Timor**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.46**	**128**	Pn	Pn	23 50 01.5	-0.2
	0.1nm,0.3s,baz=302,slow=13,SNR=1.7						
WRA				Sn	Sn	23 52 29.5	-13
	0.2nm,0.3s,baz=311,slow=21,SNR=4.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**16.55**	**139**	Pn	Pn	23 50 29.4	+0.2
	0.1nm,0.3s,baz=317,slow=12,SNR=5.8 0.4nm,0.6s						
MKAR	**Makanchi Array**	**68.00**	**332**	P	P	23 57 36.6	0.0
	0.6nm,0.5s,baz=140,slow=7.2,SNR=8.8 0.6nm,0.5s						

---

*NEIC **04** 23:50:18.9, 45.88N×111.35W, h5km*
*BUT **04** 23:50:19.7±1.1, 45.86N±0.02×111.36W±0.02, h8km±2km, Error ellipse: s-maj=2.3km s-min=2.0km az=206.0*
NEIC 04 23:50:19.4±1.2, **45.842N**±0.010×**111.39W**±0.02, **h5**km±1km, **ML3.6**/52, **Mwr3.6**/24, **ML3.9**/29(BUT), **Error ellipse: s-maj=2.6km s-min=2.4km az=309.0, Moment Tensor Solution. Moment tensor: Scale** 10^{14}**Nm;** Mrr-1.30; Mθθ-1.76; Mφφ3.06; Mrθ-0.34; Mθφ-1.81; Mφr0.10; **Fault plane solution:** M03.23000×10^{14} **NP1:** φs117.61000°, δ81.56000°, λ-168.10000°. **NP2:** φs25.84000°, δ78.23000°, λ-8.62000°. **Principal axes:** T 3.6709, Plg2.0000°, Azm251.0000°; N -1.2383, Plg75.0000°, Azm152.0000°; P -2.4326, Plg14.0000°, Azm342.0000°; **Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.07**	**31**		Pg	23 50 20.6	-0.6
NQMA					Sg	23 50 23.4	+1.0
BOZ	**Bozeman (W)**	**0.30**	**215**		Pg	23 50 26.1	+0.8
BOZ				Sg	Sg	23 50 30.4	+1.2
BOZ				IAML		23 50 32.3	
	7μm,0.3s						
BOZ				IAML		23 50 32.5	
	15μm,0.2s						
SXM	**Sixmile**	**0.33**	**22**		Pg	23 50 25.8	-0.2
BZMT	**Bozeman Pass**	**0.46**	**115**		Pg	23 50 28.6	+0.4
LRM	**Limekiln Ridge**	**0.74**	**269**		Pg	23 50 33.9	+0.2
MSMT	**Mission Creek**	**0.75**	**106**		Pg	23 50 34.0	+0.1
BGMT	**Barton Gulch**	**0.76**	**217**		Pb	23 50 34.7	-0.6
BUT	**Butte**	**0.84**	**282**		Pg	23 50 35.8	+0.3
HBMT	**Mount Humbug**	**0.86**	**267**		Pg	23 50 36.1	+0.3
HRY	**Holter Researc**	**0.92**	**341**		Pg	23 50 36.1	-1.0
CRMT	**Chrome Mountai**	**0.95**	**113**		Pg	23 50 37.1	-0.6
DLMT	**Dillon**	**0.98**	**241**		Pg	23 50 38.3	+0.2
DLMT				IAML		23 50 57.4	
	2μm,0.3s						
DLMT				IAML		23 50 57.5	
	2μm,0.3s						
YMV	**Mammoth Vault**	**1.00**	**150**		Pg	23 50 38.6	+0.1
YHL	**Hebgen Lake**	**1.00**	**172**		Pg	23 50 38.6	0.0
YHL				IAML		23 50 59.1	
	comp=N,2μm,0.4s						
YHL				IAML		23 50 59.2	
	comp=E,2μm,0.6s						
QLMT	**Earthquake Lak**	**1.01**	**182**		Pg	23 50 38.2	-0.5
QLMT				Sg	Sg	23 50 52.4	+0.5
GCR	**Grayling Creek**	**1.06**	**169**		Pg	23 50 40.0	+0.2
YHB	**Horse Butte**	**1.10**	**173**		Pg	23 50 40.3	-0.2
YHB				IAML		23 50 58.7	
	comp=E,2μm,0.7s						
YMC	**Maple Creek**	**1.11**	**166**		Pg	23 50 40.7	-0.1
BEMT	**Mount Belmont**	**1.12**	**325**		Pg	23 50 40.6	-0.3
YHH	**Holmes Hill**	**1.12**	**160**	Pg	Pg	23 50 40.7	-0.2
TPMT	**Tepee Creek**	**1.13**	**190**		Pb	23 50 41.4	-0.1
YPDC	**Denny Creek**	**1.14**	**175**		Pg	23 50 41.2	0.0
YNM	**Yellowstone No**	**1.22**	**156**		Pg	23 50 41.3	-1.4
YNM				IAML		23 51 04.8	
	comp=E,735nm,0.3s						
YNM				IAML		23 51 06.5	
	comp=N,757nm,0.3s						
YNR	**Norris Junctio**	**1.23**	**156**		Pg	23 50 42.8	-0.2
YNR				IAML		23 51 05.7	
	comp=N,655nm,0.3s						
YNR				IAML		23 51 08.2	
	comp=E,678nm,0.6s						
YPM	**Purple Mountai**	**1.24**	**163**		Pg	23 50 43.3	+0.1
YPWB	**West Boundary**	**1.25**	**171**		Pn	23 50 43.7	-0.1
YNE	**Yellowstone No**	**1.28**	**130**		Pg	23 50 43.4	-0.5
YNE				IAML		23 51 06.7	
	comp=E,2μm,0.3s						
YUF	**Upper Falls**	**1.29**	**151**		Pg	23 50 43.4	-0.7
LYMT	**Lyon Mountain**	**1.29**	**331**		Pg	23 50 43.2	-0.9
YPSB	**Soda Butte**	**1.29**	**137**		Pg	23 50 43.8	-0.4
YMP	**Mirror Lake Pl**	**1.40**	**141**		Pn	23 50 45.8	-0.1
MOMT	**Monida**	**1.44**	**210**		Pg	23 50 47.2	+0.3
YFT	**Old Faithful**	**1.44**	**164**		Pg	23 50 48.7	+1.6
MCMT	**McKenzie Canyo**	**1.45**	**226**		Pb	23 50 47.0	+0.1
LKWY	**Lake**	**1.45**	**151**		Pn	23 50 46.8	+0.2
LKWY				IAML		23 51 16.8	
	comp=E,546nm,0.7s						
YPPC	**Pelican Cone**	**1.46**	**144**		Pg	23 50 49.8	+2.4
YLT	**Little Thumb C**	**1.51**	**158**		Pg	23 50 49.6	+1.2
BPMT	**Black Pine Rid**	**1.55**	**293**		Pn	23 50 47.8	-0.1
YTP	**The Promontory**	**1.65**	**151**		Pb	23 50 49.8	-0.6
OVMT	**Ovando**	**1.65**	**318**		Pn	23 50 48.8	-0.5
RLMT	**Red Lodge**	**1.66**	**115**		Pn	23 50 48.8	-0.6
MCID	**Moose Creek**	**1.66**	**175**		Pb	23 50 50.7	+0.1
CHMT	**Chamberlain Mo**	**1.68**	**310**		Pn	23 50 49.4	-0.2
SLMT	**Seeley Lake**	**2.02**	**315**		Pn	23 50 53.9	-0.4
MSO	**Missoula**	**2.03**	**300**		Pn	23 50 54.3	0.0
MSO				IAML		23 51 27.9	
	comp=E,793nm,0.6s						
MSO				IAML		23 51 28.2	
	comp=E,723nm,0.7s						
VCMT	**Victor**	**2.04**	**288**		Pn	23 50 54.4	-0.1
FXWY	**Fox Creek**	**2.22**	**173**		Pb	23 50 59.7	-0.4
PCMT	**Pistol Creek**	**2.28**	**308**		Pn	23 50 57.6	-0.3
LOHW	**Long Hollow**	**2.30**	**166**		Pb	23 51 01.3	-0.2
TPAW	**Teton Pass**	**2.37**	**172**		Pb	23 51 02.5	-0.2
TPAW				IAML		23 51 38.0	
	comp=E,248nm,0.6s						
TPAW				IAML		23 51 49.1	
	comp=E,293nm,0.9s						
SNOW	**Snow King Moun**	**2.42**	**169**		Pb	23 51 03.6	0.0
EGMT	**Eagleton**	**2.45**	**27**		Pn	23 50 59.7	-0.4
SWMT	**Swartz Lake**	**2.45**	**314**		Pn	23 50 59.9	-0.3
FBMT	**Ferry Basin**	**2.61**	**308**		Pn	23 51 02.2	-0.3
YBMT	**Yellow Bay**	**2.71**	**319**		Pn	23 51 04.4	+0.7
NDMT	**Ninemile Divid**	**2.75**	**302**		Pn	23 51 05.3	+0.9
JTMT	**Jette**	**2.75**	**315**		Pn	23 51 04.2	-0.2
MKMT	**Mink Peak**	**2.87**	**297**		Pn	23 51 05.9	-0.1
BLMT	**Blacktail Moun**	**2.98**	**318**		Pn	23 51 07.8	+0.3
**BHM

*MOS **05** 00:08:39.3±1.0,50˚.76N×178˚.18E,h14km,mb4.6/34,Error ellipse: s-maj=9.1km s-min=6.8km az=100.5*
*IDC **05** 00:08:39.1±0.6,50˚.84N×178˚.22E,h0km,mb4.2/29, mbtmp4.2/33,ML3.8/4,MS3.2/9,Error ellipse: s-maj=18.7km s-min=11.1km az=1.0*
*NEIC **05** 00:08:40.1±1.6,50˚.62N±0˚.05×178˚.07E±0˚.07,h10km±1km, mb4.5/273,ML4.6/10,ML3.8(AEIC),Error ellipse: s-maj=9.3km s-min=6.8km az=142.0*
*AEIC **05** 00:08:43.3±1.5,50˚.64N±0˚.07×178˚.16E±0˚.08,h36km±5km, Error ellipse: s-maj=10.5km s-min=6.9km az=177.0*
ISC 05 00:08:43.0±0.8,50˚.67N±0˚.06×178˚.18E±0˚.03,h29km±4km, n398,σ1§08/386,mb4.5/177,MS3.2/7,11C-7D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.00**	**45**		**Sb**	**00 09 14.5**	**+0.1**
AMKA	**Amchitka**	**1.00**	**45**		**Pn**	**00 09 01.2**	**+0.1**
LSSE	**Little Sitkin**	**1.28**	**11**		**Pn**	**00 09 05.7**	**+0.7**
LSSA	**Little Sitkin**	**1.29**	**9**		**Pn**	**00 09 05.6**	**+0.4**
LSSA					**Pb**	**00 09 05.8**	**-0.9**
LSPA	**Little Sitkin**	**1.31**	**11**		**Pn**	**00 09 05.9**	**+0.6**
LSPA					**Sb**	**00 09 23.8**	**+0.5**
LSPA					**Sn**	**00 09 23.9**	**+2.1**
LSNW	**Little Sitkin**	**1.32**	**9**		**Pn**	**00 09 05.7**	**+0.3**
CESW	**Semis' Southwe**	**1.51**	**35**		**Pb**	**00 09 09.3**	**-1.0**
CESW					**Pn**	**00 09 09.5**	**+1.4**
CETU	**Semis' Tuman**	**1.54**	**32**		**Pb**	**00 09 09.9**	**-0.8**
CEPE	**Semis' Perret**	**1.59**	**35**		**Pb**	**00 09 10.6**	**-1.1**
CEAP	**Semis' Anvil P**	**1.59**	**33**		**Pb**	**00 09 10.7**	**-1.1**
CEAP					**Pn**	**00 09 11.0**	**+1.8**
CEAP					**Sb**	**00 09 31.2**	**-0.2**
CEAP					**Sn**	**00 09 31.4**	**+2.5**
GAKI	**Gareloi-Kavalg**	**2.09**	**64**		**Pn**	**00 09 16.8**	**+0.7**
GAKI					**Sn**	**00 09 41.5**	**+0.3**
GASW	**Gareloi Southw**	**2.17**	**58**		**Pn**	**00 09 18.6**	**+1.4**
GASW					**Sb**	**00 09 45.8**	**-2.2**
GALAA	**Gareloi Lava P**	**2.21**	**59**		**Pn**	**00 09 19.1**	**+1.4**
GANO	**Gareloi North**	**2.22**	**58**		**Pn**	**00 09 18.9**	**+1.1**
GANO					**Sb**	**00 09 47.2**	**-2.1**
GANE	**Gareloi Northe**	**2.23**	**58**		**Pn**	**00 09 19.4**	**+1.4**
TANO	**Tanaga North**	**2.64**	**60**		**Pn**	**00 09 25.2**	**+1.6**
TANO					**Sn**	**00 09 56.6**	**+2.0**
TASE	**Tanaga Southea**	**2.65**	**62**		**Pn**	**00 09 25.2**	**+1.4**
TASE					**Sn**	**00 09 57.3**	**+2.4**
TAFL	**Tanaga Flats**	**2.70**	**65**		**Pn**	**00 09 25.7**	**+1.4**
TAPA	**Tanaga Point A**	**2.77**	**64**		**Pn**	**00 09 26.8**	**+1.4**
KIMD	**Kanaga Island**	**3.08**	**68**		**Pn**	**00 09 31.0**	**+1.3**
KIMD					**Sn**	**00 10 06.2**	**+0.6**
KIMD					Lg	00 10 06.4	
KICM	**Kanaga Island**	**3.16**	**65**		**Pn**	**00 09 32.3**	**+1.5**
KIKV	**Kanaga Island**	**3.16**	**66**		**Pn**	**00 09 31.7**	**+0.9**
KIWB	**Kanaga Island**	**3.16**	**66**		**Pn**	**00 09 31.6**	**+0.9**
KIWB				IAML		00 10 11.2	
	comp=E,2μm,0.6s						
KIWB				IAML		00 10 11.7	
	comp=N,1μm,0.5s						
SHEM	**Shemya Is, Ala**	**3.27**	**311**	Pn	**Pn**	**00 09 31.2**	**-1.0**
	comp=N,7.9nm,0.3s,baz=49,slow=1.4,SNR=9.2						
SHEM				Sn	**Sn**	**00 10 08.0**	**-2.0**
	comp=N,26nm,0.3s,baz=303,slow=21,SNR=21						
SHEM				LR	LR	00 10 46.9	
	comp=N,181nm,20.9s,baz=212,slow=40						
	comp=N,20nm,0.6s						
SMY	**Shemya**	**3.27**	**311**		**Pn**	**00 09 32.2**	**0.0**
SMY	**Shemya**	**3.27**	**311**	P	**Pn**	**00 09 32.2**	**0.0**
SMY						00 10 08.2	
ADK	**Adak**	**3.45**	**67**		**Pn**	**00 09 35.5**	**+0.8**
ADK				Sn	**Sn**	**00 10 15.2**	**+0.7**
ADK				IAML		00 10 16.2	
	comp=N,1μm,0.4s						
ADK				IAML		00 10 21.7	
	comp=N,1μm,0.6s						
ADK	**Adak**	**3.45**	**67**	P	**Pn**	**00 09 35.4**	**+0.8**
ADK	**Adak**	**3.45**	**67**	P	**Pn**	**00 09 35.5**	**+0.8**
ADK						00 10 15.2	
ADAG	**Mount Adagdak**	**3.53**	**66**		**Pn**	**00 09 37.2**	**+1.4**
ETKA	**Kagalaska Isla**	**3.60**	**69**		**Pn**	**00 09 37.7**	**+0.9**
GSSP	**Great Sitkin S**	**3.81**	**66**		**Pn**	**00 09 40.2**	**+0.5**
GSTD	**Great Sitkin T**	**3.82**	**67**		**Pn**	**00 09 40.9**	**+1.1**
GSMY	**Great Sitkin M**	**3.87**	**67**		**Pn**	**00 09 41.6**	**+1.1**
GSTR	**Great Sitkin T**	**3.88**	**66**		**Pn**	**00 09 41.8**	**+1.2**
ATKA	**Atka Island**	**5.01**	**69**		**Pn**	**00 09 57.3**	**+1.2**
ATKA				IAML		00 10 55.5	
	comp=E,362nm,0.6s						
ATKA				IAML		00 10 59.3	
	comp=N,194nm,0.9s						
ATKA	**Atka Island**	**5.01**	**69**	P	**Pn**	**00 09 57.6**	**+1.5**
NIKH	**Nikolski High**	**8.36**	**69**	Pn	**Pn**	**00 10 42.4**	**+0.3**
NIKH	**Nikolski High**	**8.36**	**69**	P	**Pn**	**00 10 44.1**	**+2.0**
SPIA	**Saint Paul Isl**	**9.43**	**42**	Pn	**Pn**	**00 10 58.2**	**+2.0**
UNV	**Unalaska Valle**	**9.91**	**65**	Pn	**Pn**	**00 11 03.3**	**0.0**
AKUT	**Akutan**	**10.40**	**64**	Pn	**Pn**	**00 11 09.8**	**-0.2**
PET	**Petropavlovsk**	**12.30**	**289**	*ieP*	**Pn**	**00 11 34.2**	**-1.7**
PEA0B	**Petropavlovsk-**	**12.88**	**289**		**Pn**	**00 11 45.6**	**+1.7**
PEA0B	**Petropavlovsk-**	**12.88**	**289**	P	**Pn**	**00 11 45.6**	**+1.7**
PETK	**Petropavlovsk-**	**12.88**	**289**		**Pn**	**00 11 44.6**	**+0.7**
PETK	**Petropavlovsk-**	**12.88**	**289**	Pn	**Pn**	**00 11 44.3**	**+0.4**
	comp=N,1.2nm,0.3s,baz=88,slow=19,SNR=12						
	comp=N,0.7nm,0.4s						
PETK	**Petropavlovsk-**	**12.88**	**289**	P	**Pn**	**00 11 44.6**	**+0.7**
CHNA	**Chernabura Isl**	**14.07**	**64**	P	**Pn**	**00 11 58.8**	**-1.4**
O14K	**Tigyukauivet M**	**14.55**	**46**	P	**P**	**00 12 13.2**	**+0.4**
K13K	**Kusilvak Mount**	**14.70**	**33**	P	**P**	**00 12 12.5**	**-2.1**
M14K	**Bethel**	**15.00**	**40**		**P**	**00 12 15.9**	**-2.0**
M14K				IAmb	IAmb	00 12 34.5	
	comp=Z,30nm,0.9s						
N15K	**Kwethluk River**	**15.50**	**44**		**Pn**	**00 12 19.9**	**+0.6**
N15K				IAmb	IAmb	00 12 39.5	
	comp=Z,21nm,0.8s						
K15K	**Wolf Creek Mou**	**16.07**	**36**		**P**	**00 12 28.6**	**-1.0**
O16K	**Kokwok River B**	**16.16**	**47**	Pn	**Pn**	**00 12 28.3**	**+0.5**
M16K	**Timber Creek**	**16.40**	**42**		**Pn**	**00 12 30.9**	**+0.1**
N17K	**Nushagak Hills**	**16.95**	**45**	Pn	**Pn**	**00 12 38.1**	**+0.3**
J16K	**Anvik River**	**17.01**	**34**		**P**	**00 12 40.0**	**-0.1**
M17K	**Holitna River**	**17.23**	**42**		**P**	**00 12 42.3**	**-0.3**
M17K				IAmb	IAmb	00 12 59.1	
	comp=Z,18nm,0.8s						
F15K	**North Star Dit**	**17.48**	**24**	Pn	**Pn**	**00 12 42.9**	**-1.4**
K17K	**Iditarod**	**17.54**	**38**		**P**	**00 12 46.8**	**+0.8**
N18K	**Kilae Creek**	**17.60**	**45**		**P**	**00 12 46.4**	**-0.3**
O18K	**Koktuh Hills**	**17.62**	**48**	P	**P**	**00 12 48.0**	**+1.1**
O18K				IAmb	IAmb	00 13 02.8	
	comp=Z,16nm,0.7s						
J17K	**VABM Dome**	**17.63**	**35**		**P**	**00 12 47.7**	**+0.8**
L18K	**Granite Mounta**	**17.93**	**40**	P	**P**	**00 12 50.0**	**-0.3**
OHAK	**Old Harbor**	**17.93**	**58**		**Pn**	**00 12 47.8**	**-2.2**
OHAK				IAmb	IAmb	00 12 54.0	
	comp=Z,22nm,1.0s						
OHAK	**Old Harbor**	**17.93**	**58**	P	**P**	**00 12 51.7**	**+1.4**
N19K	**Bonanza Creek**	**18.29**	**46**	P	**Pn**	**00 12 54.5**	**0.0**
H17K	**Granite Mounta**	**18.30**	**30**	P	**P**	**00 12 53.5**	**-0.9**
BILL	**Bilibino**	**18.38**	**346**	*ieP*	**P**	**00 12 54.5**	**-0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.9s						
KDAK	**Kodiak Island**	**18.40**	**56**	P	**P**	**00 12 53.3**	**-2.2**
KDAK				IAmb	IAmb	00 13 01.9	
	comp=Z,28nm,1.2s						
KDAK	**Kodiak Island**	**18.40**	**56**	P	**P**	**00 12 52.3**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=227,slow=2.9,SNR=14						
KDAK				Sn	**Sn**	**00 16 13.7**	**-6.5**
	comp=Z,0.3nm,0.3s,baz=25,slow=22,SNR=6.3						
KDAK				LR	LR	00 19 42.6	
	comp=Z,108nm,21.9s,baz=239,slow=36						
	comp=Z,4.4nm,0.6s						
KDAK	**Kodiak Island**	**18.40**	**56**	P	**P**	**00 12 53.3**	**-2.2**
KDAK				pmax	pmax		
	comp=Z,28nm,1.3s						
SEY	**Seymchan**	**18.55**	**321**	P	**P**	**00 12 55.4**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=88,slow=11,SNR=3.6						
SEY				LR	LR	00 20 01.9	
	comp=Z,119nm,21.3s,baz=150,slow=37						
	comp=Z,1.7nm,0.5s						
J18K	**Innoko River**	**18.55**	**37**	P	**Pn**	**00 12 58.8**	**+1.4**
SYI	**Shuyak Island**	**18.67**	**53**	P	**P**	**00 12 57.3**	**-1.1**
SYI				IAmb	IAmb	00 12 59.2	
	comp=Z,66nm,1.4s						
L19K	**White Mountain**	**18.68**	**42**	P	**Pn**	**00 12 59.0**	**0.0**
M19K	**Big River Lodg**	**18.76**	**43**	P	**Pn**	**00 13 00.3**	**+0.3**
H18K	**Honhosa River**	**18.94**	**31**	P	**Pn**	**00 13 02.9**	**+0.7**
M20K	**Styx River**	**19.30**	**43**	P	**Pn**	**00 13 06.1**	**-0.5**
G18K	**Tagagawik**	**19.33**	**29**	P	**Pn**	**00 13 06.8**	**0.0**
C16K	**Lisburne Hills**	**19.41**	**19**	P	**Pn**	**00 13 07.8**	**+0.1**
C16K				IAmb	IAmb	00 13 09.1	
	comp=Z,25nm,1.2s						
CNPM	**China Poot**	**19.45**	**51**	P	**Pn**	**00 13 08.1**	**-0.3**
CNPM				IAmb	IAmb	00 13 17.6	
	comp=Z,19nm,1.1s						
K20K	**Telida**	**19.53**	**39**	P	**Pn**	**00 13 08.8**	**-0.4**
H19K	**Roundabout Mou**	**19.81**	**32**	P	**Pn**	**00 13 12.4**	**-0.1**
E18K	**Tukpahlearik C**	**19.84**	**24**	P	**Pn**	**00 13 12.4**	**-0.4**
J20K	**Nowinta River**	**19.89**	**37**	P	**Pn**	**00 13 12.7**	**-0.9**
J20K				IAmb	IAmb	00 13 18.0	
	comp=Z,34nm,1.4s						
G19K	**Purcell Mounta**	**19.98**	**30**	P	**Pn**	**00 13 14.1**	**-0.5**
G19K				IAmb	IAmb	00 13 31.6	
	comp=Z,15nm,0.8s						
SKT	**Skwentna**	**20.04**	**44**	P	**P**	**00 13 13.2**	**-0.2**
SKT				IAmb	IAmb	00 13 30.2	
	comp=Z,22nm,1.1s						
PPLA	**Purkeypile**	**20.10**	**41**	P	**P**	**00 13 14.3**	**+0.1**
CAST	**Castle Rocks**	**20.36**	**40**		Pn	00 13 18.0	-1.1
CAST				IAmb	IAmb	00 13 32.3	
	comp=Z,16nm,0.7s						
SEW	**Seward**	**20.46**	**50**	P	**P**	**00 13 18.2**	**+0.2**
SEW				IAmb	IAmb	00 13 34.6	
	comp=Z,18nm,1.0s						
C18K	**Utukok River**	**20.62**	**21**	P	**P**	**00 13 20.4**	**+0.7**
C18K				IAmb	IAmb	00 13 38.5	
	comp=Z,12nm,0.9s						
E19K	**Redstone River**	**20.79**	**27**	P	Pn	00 13 22.8	-1.3
KTH	**Kantishna Hill**	**20.89**	**40**	P	**P**	**00 13 22.9**	**+0.2**
KTH				IAmb	IAmb	00 13 37.8	
	comp=Z,14nm,0.8s						
F20K	**Avaraart Lake**	**20.97**	**29**	P	**P**	**00 13 24.2**	**+0.8**
IMAR	**Indian Mountai**	**20.99**	**33**	P	Pn	00 13 25.6	-0.7
PMR	**Palmer**	**21.00**	**46**	P	**P**	**00 13 24.3**	**+0.6**
PMR	**Palmer**	**21.00**	**46**	P	**P**	**00 13 24.3**	**+0.6**
PMR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TRF	**Thorofare Moun**	**21.11**	**41**	P	**P**	**00 13 24.2**	**-0.9**
GHO	**Glory Hole Cre**	**21.14**	**46**	P	**P**	**00 13 24.5**	**-0.9**
PWL	**Port Wells**	**21.18**	**48**	P	**P**	**00 13 24.2**	**-1.6**
I21K	**Tanana**	**21.20**	**36**	P	**P**	**00 13 25.9**	**+0.1**
KNK	**Knik Glacier**	**21.26**	**47**	P	**P**	**00 13 26.9**	**+0.4**
KNK				IAmb	IAmb	00 13 43.0	
	comp=Z,11nm,0.8s						
D19K	**Kuna River**	**21.27**	**24**	P	**P**	**00 13 27.3**	**+0.7**
D19K				IAmb	IAmb	00 13 44.3	
	comp=Z,14nm,0.9s						
C19K	**Lookout Ridge**	**21.35**	**22**	P	**P**	**00 13 29.5**	**+2.0**
C19K				IAmb	IAmb	00 13 45.7	
	comp=Z,11nm,0.9s						
G21K	**Allakaket**	**21.36**	**31**	P	**P**	**00 13 28.8**	**+1.1**
F21K	**Alatna River**	**21.78**	**30**	P	**P**	**00 13 32.4**	**+0.3**
D20K	**Etivluk River**	**21.81**	**25**	P	**P**	**00 13 32.7**	**+0.2**
D20K				IAmb	IAmb	00 13 51.2	
	comp=Z,23nm,0.9s						
SCM	**Sheep Creek Mo**	**21.89**	**46**	P	**P**	**00 13 33.0**	**-0.4**
SCM				IAmb	IAmb	00 13 47.8	
	comp=Z,9.6nm,0.7s						
SCM	**Sheep Creek Mo**	**21.89**	**46**	P	**P**	**00 13 33.0**	**-0.4**
SCM				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HIN	**Hinchinbrook I**	**21.96**	**50**	P	**P**	**00 13 34.2**	**0.0**
HIN				IAmb	IAmb	00 13 50.9	
	comp=Z,23nm,1.2s						
FID	**Port Fidalgo**	**22.04**	**49**	P	**P**	**00 13 33.5**	**-1.5**
FID				IAmb	IAmb	00 13 51.8	
	comp=Z,16nm,1.2s						
WRH	**Wood River Hil**	**22.40**	**39**	P	**P**	**00 13 36.9**	**-1.8**
M24K	**Tolsona, Glenn**	**22.48**	**46**	P	**P**	**00 13 39.8**	**0.0**
M24K				IAmb	IAmb	00 13 55.0	
	comp=Z,15nm,0.8s						
CCB	**Clear Creek Bu**	**22.58**	**39**	P	**P**	**00 13 40.0**	**-0.7**
B20K	**Meade River**	**22.59**	**22**	P	**P**	**00 13 41.6**	**+0.8**
B20K				IAmb	IAmb	00 14 00.8	
	comp=Z,15nm,1.1s						
G23K	**Bananza Creek**	**22.65**	**33**	P	**P**	**00 13 41.5**	**0.0**
B21K	**Ikpikpuk River**	**22.96**	**24**	P	**P**	**00 13 44.1**	**-0.5**
B21K				IAmb	IAmb	00 13 47.8	
	comp=Z,26nm,1.2s						
IL31		**22.99**	**39**	P	**P**	**00 13 43.6**	**-1.3**
ILAR	**Eielson Array**	**22.99**	**39**	P	**P**	**00 13 44.3**	**-0.7**
ILAR	**Eielson Array**	**22.99**	**39**	P	**P**	**00 13 42.4**	**-2.6**
	comp=Z,1.0nm,0.7s,baz=238,slow=8.2,SNR=24						
ILAR				PcP	**PcP**	**00 17 32.3**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=246,slow=3.3,SNR=2.7						
ILAR				LR	LR	00 23 58.1	
	comp=Z,80nm,19.9s,baz=314,slow=40						
	comp=Z,1.0nm,0.7s						
D22K	**Ayikyak River**	**23.01**	**27**	IAmb	IAmb	00 14 00.5	
	comp=Z,29nm,1.2s						
PAX	**Paxson**	**23.02**	**44**	P	**P**	**00 13 45.5**	**+0.1**
PAX	**Paxson**	**23.02**	**44**	P	**P**	**00 13 45.5**	**+0.1**
PAX				pmax	pmax		
	comp=Z,6.0nm,1.2s						
H24K	**Noodor Dome**	**23.02**	**36**	P	**P**	**00 13 45.6**	**+0.2**
HMT	**Hamilton**	**23.05**	**51**	P	**P**	**00 13 45.6**	**-0.1**
N25K	**Chitina, Valde**	**23.10**	**47**	P	**P**	**00 13 45.9**	**-0.4**
K24K	**Donnelly Dome**	**23.12**	**42**	P	**P**	**00 13 44.0**	**-2.4**
K24K				IAmb	IAmb	00 14 03.3	
	comp=Z,6.1nm,0.7s						
SUCK	**Suckling Hills**	**23.26**	**51**	P	**P**	**00 13 46.6**	**-1.1**
SUCK				IAmb	IAmb	00 13 51.6	
	comp=Z,34nm,1.3s						
GLB	**Gilahina Butte**	**23.44**	**48**	P	**P**	**00 13 49.0**	**-0.6**
RIDG	**Independent Ri**	**23.50**	**42**	P	**P**	**00 13 48.4**	**-1.8**
G24K	**Hadweenzic Riv**	**23.54**	**34**	P	**P**	**00 13 50.7**	**+0.2**
G24K				IAmb	IAmb	00 14 07.7	
	comp=Z,27nm,1.4s						
VRDI	**Verde Repeater**	**23.58**	**49**	IAmb	IAmb	00 14 05.7	
	comp=Z,7.9nm,0.7s						
CRQM	**Cirque**	**23.66**	**50**	P	**P**	**00 13 50.7**	**-1.1**
CRQM				IAmb	IAmb	00 14 07.9	
	comp=Z,7.3nm,0.9s						
WAX	**Waxell Ridge**	**23.76**	**51**	P	**P**	**00 13 50.9**	**-1.8**
WAX				IAmb	IAmb	00 14 08.0	
	comp=Z,13nm,0.9s						
PRP	**Porcupine Dome**	**23.80**	**38**	P	**P**	**00 13 52.4**	**-0.6**
TOLK	**Toolik Lake Re**	**23.80**	**29**	P	**P**	**00 13 53.8**	**+0.9**
TOLK				IAmb	IAmb	00 14 07.5	
	comp=Z,19nm,1.5s						
SCRK	**Sand Creek**	**23.93**	**42**	P	**P**	**00 13 52.6**	**-1.7**
L26K	**Log Cabin Wild**	**23.97**	**44**	P	**P**	**00 13 54.7**	**+0.1**
C23K	**Itkillik River**	**24.18**	**26**	P	**P**	**00 13 56.7**	**+0.3**
C23K				IAmb	IAmb	00 14 13.8	
	comp=Z,32nm,1.4s						
J26L	**Joseph Creek**	**24.26**	**41**	P	**P**	**00 13 56.1**	**-1.2**
J26L				IAmb	IAmb	00 14 10.6	
	comp=Z,18nm,0.7s						
GRNC	**Granite Creek**	**24.33**	**50**	P	**P**	**00 13 57.4**	**-0.7**
GRNC				IAmb	IAmb	00 14 14.3	
	comp=Z,6.1nm,0.8s						
M27K	**Edge Creek, AK**	**24.50**	**46**	P	**P**	**00 14 00.1**	**+0.5**
TABL	**Table Mountain**	**24.61**	**51**	P	**P**	**00 13 59.9**	**-0.8**
TABL				IAmb	IAmb	00 14 14.5	
	comp=Z,8.4nm,0.7s						
L27K	**Beaver Creek,**	**24.66**	**45**	P	**P**	**00 14 01.1**	**+0.2**
L27K				IAmb	IAmb	00 14 16.1	
	comp=Z,9.5nm,0.8s						
BCAR	**Beaver Creek A**	**24.68**	**45**	P	**P**	**00 14 01.4**	**+0.3**
G26K	**Porcupine Rive**	**24.98**	**35**		**P**	**00 14 03.9**	**+0.2**
G26K				IAmb	IAmb	00 14 18.4	
	comp=Z,11nm,0.9s						
D25K	**Kavik River**	**25.14**	**29**	P	**P**	**00 14 05.3**	**+0.1**
D25K				IAmb	IAmb	00 14 19.4	
	comp=Z,7.9nm,0.8s						
DAWY	**Dawson**	**25.92**	**43**	P	**P**	**00 14 14.2**	**+1.9**
DAWY				IAmb	IAmb	00 14 30.3	
	comp=Z,9.3nm,0.8s						
I28M	**Miner Creek**	**26.00**	**40**	P	**P**	**00 14 12.4**	**-0.6**
I28M				IAmb	IAmb	00 14 31.3	
	comp=Z,6.7nm,1.0s						
M29M	**Somme Creek**	**26.09**	**47**	P	**P**	**00 14 12.9**	**-1.0**
C27K	**Jago River**	**26.11**	**29**	P	**P**	**00 14 13.7**	**-0.3**
C27K				IAmb	IAmb	00 14 32.0	
	comp=Z,33nm,1.4s						
L29M	**L29M**	**26.33**	**45**	P	**P**	**00 14 15.8**	**-0.2**
HYT	**Haines Junctio**	**26.42**	**50**	P	**P**	**00 14 17.7**	**+0.7**
N30M	**Aishikik Lake**	**26.65**	**49**	P	**P**	**00 14 20.2**	**+1.2**
K29M	**Barlow Dome**	**26.70**	**44**	P	**P**	**00 14 19.8**	**+0.3**
H29M	**Whitestone**	**26.81**	**38**	P	**P**	**00 14 20.1**	**-0.2**
M30M	**Minto, Yukon**	**26.88**	**46**	P	**P**	**00 14 22.8**	**+1.8**
J30M	**Hart River**	**27.32**	**42**	P	**P**	**00 14 25.4**	**+0.3**
EPYK	**Eagle Plains**	**27.50**	**38**	P	**P**	**00 14 28.1**	**+1.6**
EPYK				IAmb	IAmb	00 14 44.5	
	comp=Z,6.5nm,1.2s						
H31M	**Peel River**	**28.34**	**40**	P	**P**	**00 14 33.1**	**-1.0**
YAK	**YAK**	**28.46**	**312**	*ieP*	**P**	**00 14 34.6**	**-0.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
Q32M	**Nakina River**	**29.11**	**54**	P	**P**	**00 14 42.4**	**+1.3**
Q32M				IAmb	IAmb	00 14 44.5	
	comp=Z,6.4nm,1.4s						
INK	**Inuvik**	**29.13**	**35**	LR	LR	00 26 25.0	
	comp=Z,64nm,19.5s,baz=246,slow=37						
MMPY	**Sheldon Lake,**	**29.43**	**47**	P	**P**	**00 14 44.1**	**+0.4**
R33M	**Jennings River**	**29.73**	**53**	P	**P**	**00 14 47.8**	**+1.3**
TIXI	**Tiksi**	**30.33**	**332**	LR	LR	00 28 11.9	
	comp=Z,76nm,18.1s,baz=180,slow=39						
TIXI	**Tiksi**	**30.33**	**332**	*ieP*	**P**	**00 14 52.2**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DLBC	**Dease Lake**	**30.33**	**55**	LR	LR	00 27 01.0	
	comp=Z,8.3nm,19.4s,baz=234,slow=36						
PSTR	**Posyet**	**33.00**	**275**	*ieP*	**P**	**00 15 14.1**	**-1.1**
YKAW3	**Yellowknife Wh**	**37.07**	**45**	P	**P**	**00 15 49.6**	**-0.5**
YKAW3				IAmb	IAmb	00 15 54.4	
	comp=Z,10nm,1.4s						
YKA	**Yellowknife Ar**	**37.09**	**45**	P	**P**	**00 15 48.9**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=290,slow=9.0,SNR=4.3						
YKA				PcP	**PcP**	**00 18 09.3**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=284,slow=2.8,SNR=3.5						
YKA				LR	LR	00 33 26.6	
	comp=Z,161nm,18.2s,baz=300,slow=40						
	comp=Z,1.2nm,0.8s						
YKA	**Yellowknife Ar**	**37.09**	**45**	*i* P	**P**	**00 15 50.5**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LLLB	**Lillooet**	**37.09**	**66**	P	**P**	**00 15 51.5**	**+0.9**
LLLB				IAmb	IAmb	00 15 53.2	
	comp=Z,9.0nm,0.9s						
NLWA	**Neilton Lookou**	**37.30**	**72**	P	**P**	**00 15 53.3**	**+1.0**
NLWA				IAmb	IAmb	00 16 10.8	
	comp=Z,8.0nm,1.1s						
KSRS	**Korea Array**	**37.73**	**269**	P	**P**	**00 15 56.5**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=58,slow=7.8,SNR=7.7						
	comp=Z,1.4nm,0.7s						
GNW	**Green Mountain**	**37.85**	**71**	P	**P**	**00 15 57.8**	**+0.9**
GNW				IAmb	IAmb	00 15 59.5	
	comp=Z,7.2nm,0.7s						
E03A	**Lebam**	**37.88**	**73**	P	**P**	**00 15 57.6**	**+0.4**
E03A				IAmb	IAmb	00 16 00.7	
	comp=Z,18nm,1.2s						
LON	**Longmire**	**38.85**	**72**	P	**P**	**00 16 05.5**	**+0.1**
LON	**Longmire**	**38.85**	**72**	P	**P**	**00 16 05.5**	**+0.1**
LON				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LTY	**Liberty**	**39.29**	**70**	P	**P**	**00 16 09.4**	**+0.3**
B08A	**Colville Reser**	**39.57**	**68**	P	**P**	**00 16 11.9**	**+0.5**
B08A				IAmb	IAmb	00 16 13.4	
	comp=Z,14nm,1.2s						
WAH2	**Wahluke Slope**	**40.20**	**71**	P	**P**	**00 16 16.7**	**+0.2**
WAH2				IAmb	IAmb	00 16 18.1	
	comp=Z,14nm,0.5s						
HAWA	**Hanford**	**40.40**	**71**	P	**P**	**00 16 18.5**	**+0.3**
HAWA				IAmb	IAmb	00 16 20.5	
	comp=Z,11nm,0.8s						
HAWA					**pwP**	**00 16 33.1**	**+0.7**
F07A	**Phinny Hill Vi**	**40.40**	**72**	P	**P**	**00 16 18.8**	**+0.5**
F07A				IAmb	IAmb	00 16 20.2	
	comp=Z,10nm,0.8s						
D08A	**Wollman Farm,**	**40.44**	**70**	P	**P**	**00 16 18.2**	**-0.3**
D08A				IAmb	IAmb	00 16 19.9	
	comp=Z,7.4nm,0.8s						
E08A	**Dider Farm, El**	**40.63**	**71**	P	**P**	**00 16 20.4**	**+0.3**
E08A				IAmb	IAmb	00 16 21.7	
	comp=Z,7.6nm,0.7s						
PINE	**Pine Mountain**	**40.87**	**75**	P	**P**	**00 16 22.2**	**-0.2**
PINE				IAmb	IAmb	00 16 24.9	
	comp=Z,9.3nm,1.2s						
YPT	**Yellepit**	**40.91**	**71**	P	**P**	**00 16 22.9**	**+0.4**
YPT				IAmb

	comp=Z,6.5nm,0.8s								
TPNV	**Topopah Spring**	**47.74**	**80**	P		**P**		**00 17 17.0**	**-0.3**
TPNV				pmax		pmax			
	comp=Z,7.0nm,0.8s								
HWUT	**Hardware Ranch**	**47.82**	**72**	P		**P**		**00 17 18.1**	**+0.2**
HWUT				IAmb		IAmb		00 17 19.5	
	comp=Z,3.5nm,1.1s								
LAO	**LASA Array**	**48.05**	**64**	P		**P**		**00 17 19.8**	**+0.2**
PRN	**Pahroc Range**	**48.20**	**79**	P		**P**		**00 17 20.9**	**0.0**
PRN				IAmb		IAmb		00 17 38.6	
	comp=Z,6.4nm,1.0s								
BW06	**Boulder Array**	**48.34**	**70**	IAmb		IAmb		00 17 23.2	
	comp=Z,7.0nm,0.8s								
PD31	**Pinedale Array**	**48.34**	**70**	IAmb		IAmb		00 17 23.3	
	comp=Z,7.0nm,0.8s								
PDAR	**Pinedale Array**	**48.34**	**70**	P		**P**		**00 17 22.2**	**+0.2**
PDAR	**Pinedale Array**	**48.34**	**70**	P		**P**		**00 17 22.4**	**+0.3**
	comp=Z,7.6nm,0.8s,baz=309,slow=4.4,SNR=58								
	comp=Z,7.6nm,0.8s								
SHOC	**Shoshone, Teco**	**48.38**	**81**	P		**P**		**00 17 21.7**	**-0.5**
SHOC				IAmb		IAmb		00 17 23.5	
	comp=Z,5.8nm,0.8s								
GSC	**Goldstone, Bar**	**48.42**	**82**	P		**P**		**00 17 21.9**	**-0.7**
GSC				IAmb		IAmb		00 17 23.6	
	comp=Z,3.8nm,0.8s								
GSC	**Goldstone, Bar**	**48.42**	**82**	P		**P**		**00 17 21.9**	**-0.7**
GSC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
MTPC	**Mountain Pass**	**49.09**	**81**	P		**P**		**00 17 27.8**	**-0.1**
MTPC				IAmb		IAmb		00 17 30.1	
	comp=Z,2.4nm,0.7s								
PFO	**Pinyon Flats O**	**49.73**	**84**	P		**P**		**00 17 31.4**	**-1.2**
PFO				IAmb		IAmb		00 17 33.8	
	comp=Z,7.1nm,1.3s								
PFO	**Pinyon Flats O**	**49.73**	**84**	*ce*P		**P**		**00 17 32.9**	**+0.3**
PFO				pmax		pmax			
	comp=Z,6.0nm,1.1s								
BORC	**Borrego Spring**	**49.98**	**84**	P		**P**		**00 17 34.2**	**-0.2**
BORC				IAmb		IAmb		00 17 35.9	
	comp=Z,6.1nm,0.9s								
IRM	**Iron Mountain**	**50.20**	**82**	P		**P**		**00 17 36.2**	**+0.1**
IRM				IAmb		IAmb		00 17 37.3	
	comp=Z,8.0nm,1.5s								
U15A	**North Rim**	**50.54**	**78**	P		**P**		**00 17 39.2**	**+0.2**
U15A				IAmb		IAmb		00 17 40.5	
	comp=Z,3.5nm,0.7s								
O20A	**White River Ct**	**50.71**	**72**	P		**P**		**00 17 39.4**	**-0.7**
O20A				IAmb		IAmb		00 17 42.2	
	comp=Z,4.6nm,0.6s								
RSSD	**Black Hills**	**50.79**	**65**	P		**P**		**00 17 39.7**	**-0.9**
RSSD				IAmb		IAmb		00 17 41.4	
	comp=Z,12nm,1.5s								
RSSD	**Black Hills**	**50.79**	**65**	P		**P**		**00 17 39.7**	**-0.9**
RSSD				pmax		pmax			
	comp=Z,13nm,1.5s								
BLYC	**Blythe**	**50.86**	**82**	P		**P**		**00 17 40.3**	**-0.8**
BLYC				IAmb		IAmb		00 17 42.2	
	comp=Z,4.7nm,1.0s								
SPITS	**Spitsbergen Ar**	**50.93**	**355**	P		**P**		**00 17 40.5**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=31,slow=5.2,SNR=8.1								
	comp=Z,1.7nm,0.5s								
PV21	**Cone Mtn., Par**	**51.24**	**74**	P		**P**		**00 17 44.0**	**-0.1**
PV21				IAmb		IAmb		00 18 03.3	
	comp=Z,5.4nm,0.7s								
PV23	**Carpenter Ridg**	**51.29**	**74**	P		**P**		**00 17 44.6**	**+0.1**
PV23				IAmb		IAmb		00 18 00.8	
	comp=Z,9.1nm,0.8s								
PV10	**Paradox Valley**	**51.32**	**74**	P		**P**		**00 17 45.3**	**+0.5**
PV14	**Lion Creek, Pa**	**51.33**	**74**	P		**P**		**00 17 43.5**	**-1.3**
PV14				IAmb		IAmb		00 18 01.3	
	comp=Z,4.7nm,0.9s								
PV22	**Blue Mesa, Par**	**51.37**	**74**	P		**P**		**00 17 44.9**	**-0.2**
PV22						**pwP**		**00 18 00.7**	**+1.4**
PV22				IAmb		IAmb		00 18 02.2	
	comp=Z,9.6nm,1.0s								
PV20	**West Nyswonger**	**51.38**	**74**	P		**P**		**00 17 44.5**	**-0.7**
PV20				IAmb		IAmb		00 18 02.2	
	comp=Z,12nm,0.8s								
PV04	**Paradox Valley**	**51.39**	**74**	P		**P**		**00 17 44.7**	**-0.5**
PV04				IAmb		IAmb		00 18 01.9	
	comp=Z,9.5nm,0.8s								
PV19	**Morning Glory**	**51.40**	**74**	P		**P**		**00 17 45.1**	**-0.1**
PV19				IAmb		IAmb		00 18 01.4	
	comp=Z,10nm,0.8s								
PV16	**Nyswonger Mesa**	**51.44**	**74**	P		**P**		**00 17 45.0**	**-0.5**
PV16				IAmb		IAmb		00 18 02.2	
	comp=Z,7.7nm,0.8s								
PV05	**Paradox Valley**	**51.47**	**74**	P		**P**		**00 17 46.0**	**+0.1**
PV05				IAmb		IAmb		00 18 02.5	
	comp=Z,6.7nm,1.1s								
PV11	**David Mesa, Pa**	**51.47**	**74**	P		**P**		**00 17 45.4**	**-0.4**
PV18	**Skein Mesa, Pa**	**51.48**	**74**	P		**P**		**00 17 45.9**	**0.0**
PV12	**Saucer Basin,**	**51.50**	**74**	P		**P**		**00 17 46.1**	**0.0**
PV12				IAmb		IAmb		00 18 04.5	
	comp=Z,11nm,0.9s								
PV03	**Paradox Valley**	**51.51**	**74**	P		**P**		**00 17 45.7**	**-0.5**
PV03				IAmb		IAmb		00 18 02.7	
	comp=Z,9.7nm,0.9s								
PV07	**Paradox Valley**	**51.52**	**74**	P		**P**		**00 17 45.7**	**-0.5**
PV07				IAmb		IAmb		00 18 02.4	
	comp=Z,4.7nm,1.0s								
PV13	**Radium Mtn., P**	**51.59**	**74**	P		**P**		**00 17 46.8**	**0.0**
PV02	**Paradox Valley**	**51.61**	**74**	P		**P**		**00 17 46.8**	**-0.1**
WUAZ	**Wupatki**	**51.69**	**78**	P		**P**		**00 17 47.9**	**+0.4**
WUAZ				IAmb		IAmb		00 17 49.0	
	comp=Z,3.7nm,0.8s								
PV01	**Paradox Valley**	**51.76**	**74**	P		**P**		**00 17 48.0**	**-0.1**
PV01				IAmb		IAmb		00 18 04.7	
	comp=Z,6.6nm,0.9s								
ISCO	**Idaho Springs**	**52.50**	**71**	P		**P**		**00 17 53.4**	**-0.2**
ISCO	**Idaho Springs**	**52.50**	**71**	P		**P**		**00 17 53.4**	**-0.2**
ISCO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
S22A	**4UR Ranch, Cre**	**53.07**	**73**	P		**P**		**00 17 57.5**	**-0.2**
S22A				IAmb		IAmb		00 18 15.0	
	comp=Z,4.2nm,0.9s								
ZAA0	**Zalesovo Array**	**53.11**	**312**	P		**P**		**00 17 55.7**	**-1.8**
ZALV	**Zalesovo Beam**	**53.11**	**312**	P		**P**		**00 17 55.0**	**-2.6**
ZALV	**Zalesovo Beam**	**53.11**	**312**	P		**P**		**00 17 56.9**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=54,slow=7.5,SNR=5.0								
	comp=Z,1.2nm,0.7s								
X18A	**Snowflake**	**53.22**	**78**	P		**P**		**00 17 59.2**	**+0.4**
SUSD	**Miller**	**53.49**	**62**	P		**P**		**00 17 59.9**	**-0.6**
SDCO	**Great Sand Dun**	**53.88**	**72**	P		**P**		**00 18 04.0**	**+0.3**
SDCO						**sP**		**00 18 15.0**	**+1.6**
GTA	**Gaotai**	**54.04**	**290**	*e*P		**P**		**00 18 04.3**	**-0.4**
GTA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GTA				LR		LR			
	comp=N,81nm,15.3s								
GTA				LR		LR			
	comp=E,110nm,15.3s								
GTA				LR		LR			
	comp=Z,130nm,14.2s								
T25A	**Trinidad**	**54.93**	**72**	P		**P**		**00 18 11.7**	**+0.4**
T25A				IAmb		IAmb		00 18 28.3	
	comp=Z,6.8nm,1.0s								
ANMO	**Albuquerque**	**55.11**	**76**	*e*P		**P**		**00 18 11.6**	**-1.0**
ANMO				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ECSD	**EROS Data Cent**	**55.25**	**62**	P		**P**		**00 18 12.9**	**-0.4**
ECSD				IAmb		IAmb		00 18 13.8	
	comp=Z,3.6nm,0.8s								
SBM	**South Baldy**	**55.31**	**77**	P		**P**		**00 18 14.7**	**+0.5**
LENM	**Lemitar**	**55.31**	**77**	P		**P**		**00 18 14.7**	**+0.7**
EYMN	**Ely**	**55.34**	**55**	P		**P**		**00 18 14.1**	**+0.2**
EYMN				IAmb		IAmb		00 18 15.1	
	comp=Z,3.4nm,0.9s								
Y22A	**Socorro**	**55.47**	**77**	P		**P**		**00 18 15.2**	**+0.1**
Y22A				IAmb		IAmb		00 18 16.5	
	comp=Z,2.5nm,0.8s								
TBO	**Thunder Bay**	**55.97**	**53**	P		**P**		**00 18 18.4**	**+0.1**
E38A	**The Farm, Brul**	**56.17**	**56**	P		**P**		**00 18 19.3**	**-0.5**
E38A				IAmb		IAmb		00 18 20.4	
	comp=Z,8.3nm,0.9s								
RTBA	**Rita Blanca**	**56.40**	**72**	P		**P**		**00 18 21.2**	**-0.5**
RTBA				IAmb		IAmb		00 18 38.5	
	comp=Z,5.1nm,1.0s								
L34A	**Svendsen Farm,**	**56.52**	**63**	P		**P**		**00 18 22.0**	**-0.4**
CBKS	**Cedar Bluff**	**56.63**	**68**	P		**P**		**00 18 23.3**	**+0.1**
CBKS	**Cedar Bluff**	**56.63**	**68**	P		**P**		**00 18 23.3**	**+0.1**
CBKS				pmax		pmax			
	comp=Z,39nm,1.5s								
G40A	**Rib Lake**	**57.76**	**57**	IAmb		IAmb		00 18 49.0	
	comp=Z,3.1nm,0.9s								
MNTX	**Cornudas Mount**	**57.96**	**78**	IAmb		IAmb		00 18 34.2	
	comp=Z,3.7nm,1.1s								
KURK	**Kurchatov**	**58.11**	**312**			**P**		**00 18 33.2**	**-0.2**
KURK				IAmb		IAmb		00 18 34.2	
	comp=Z,9.0nm,1.0s								
KURK	**Kurchatov**	**58.11**	**312**	P		**P**		**00 18 33.2**	**-0.2**
KURK				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KURBB	**Kurchatov Arra**	**58.21**	**312**	P		**P**		**00 18 33.9**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=46,slow=6.6,SNR=37								
	comp=Z,5.8nm,0.8s								
ARCES	**ARCESS Array B**	**58.44**	**349**	P		**P**		**00 18 35.4**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=30,slow=8.4,SNR=7.9								
	comp=Z,5.5nm,0.8s								
VHRN	**Van Horn**	**58.83**	**78**	IAmb		IAmb		00 18 39.9	
	comp=Z,2.6nm,1.0s								
MK31	**Makanchi Array**	**58.96**	**307**	*de*P		**P**		**00 18 38.2**	**-1.2**
MKAR	**Makanchi Array**	**58.96**	**307**	P		**P**		**00 18 38.5**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=52,slow=6.9,SNR=17								
	comp=Z,1.4nm,0.6s								
MAKZ	**Makanchi**	**59.10**	**307**			**P**		**00 18 39.7**	**-0.8**
MAKZ				IAmb		IAmb		00 18 40.4	
	comp=Z,2.8nm,0.8s								
MAKZ	**Makanchi**	**59.10**	**307**	P		**P**		**00 18 39.7**	**-0.8**
MAKZ				pmax		pmax			
	comp=Z,3.0nm,0.8s								
P38A	**Dawn**	**59.69**	**63**			pwP		00 18 58.7	-0.4
MNHN	**Monahans**	**59.83**	**76**	IAmb		IAmb		00 19 03.2	
	comp=Z,3.9nm,0.8s								
WMOK	**Wichita Mounta**	**59.93**	**71**	IAmb		IAmb		00 19 03.2	
	comp=Z,2.6nm,0.8s								
BVAR	**Borovoye Array**	**60.17**	**318**	P		**P**		**00 18 47.9**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=49,slow=7.2,SNR=48								
	comp=Z,6.2nm,0.6s								
BRVK	**Borovoye**	**60.19**	**319**			**P**		**00 18 48.0**	**+0.2**
BRVK				IAmb		IAmb		00 18 48.5	
	comp=Z,5.2nm,0.7s								
BRVK	**Borovoye**	**60.19**	**319**	P		**P**		**00 18 48.0**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
TX31	**Lajitas Ar. Si**	**60.66**	**79**	IAmb		IAmb		00 18 52.0	
	comp=Z,2.5nm,0.8s								
TXAR	**Lajitas Array**	**60.66**	**79**	P		**P**		**00 18 51.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=300,slow=4.9,SNR=18								
	comp=Z,1.6nm,0.8s								
U38A	**Gravette**	**61.37**	**67**	IAmb		IAmb		00 18 56.7	
	comp=Z,3.5nm,0.6s								
PLPT	**Palo Pinto**	**61.53**	**72**			pwP		00 19 05.8	-5.9
PZH	**PanZhiHua**	**61.57**	**278**	P		**P**		**00 18 57.0**	**-0.7**
PZH				PKP		PKiKP		00 25 39.8	-14
SCHQ	**Schefferville**	**61.72**	**37**	P		**P**		**00 18 57.1**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=297,slow=5.7,SNR=6.1								
	comp=Z,1.9nm,0.5s								
HHAR	**Hobbs**	**61.74**	**66**	IAmb		IAmb		00 19 13.8	
	comp=Z,2.8nm,0.8s								
CCM	**Cathedral Cave**	**62.06**	**63**	P		**P**		**00 19 00.3**	**-0.4**
CCM				IAmb		IAmb		00 19 01.0	
	comp=Z,7.3nm,1.2s								
CCM	**Cathedral Cave**	**62.06**	**63**	P		**P**		**00 19 00.3**	**-0.4**
CCM				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MGMO	**Mountain Grove**	**62.10**	**65**	IAmb		IAmb		00 19 00.8	
	comp=Z,6.3nm,0.8s								
ARTI	**Arti**	**62.27**	**327**			**P**		**00 19 02.0**	**+0.2**
ARTI	**Arti**	**62.27**	**327**	*d*	*i*P	**P**		**00 19 02.5**	**+0.7**
ARTI					S	**S**		**00 27 32.5**	**+6.9**
ARTI					SS	**SS**		**00 31 31.1**	**+3.0**
ARTI					pmax	pmax			
	comp=Z,16nm,0.9s								
KIRV	**Kirov**	**63.35**	**333**	*de*P		**P**		**00 19 09.7**	**+0.8**
WHAR	**Wooly Hollow**	**63.39**	**66**	IAmb		IAmb		00 19 10.1	
	comp=Z,7.7nm,0.9s								
WHAR						pwP		00 19 24.3	+0.2
SADO	**Sadowa**	**63.77**	**51**	P		**P**		**00 19 10.9**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=325,slow=11,SNR=4.4								
	comp=Z,2.4nm,0.6s								
KLMR	**Klimovskoe**	**63.97**	**339**	*e*P		**P**		**00 19 11.2**	**-1.8**
KLMR				pmax		pmax			
	comp=Z,15nm,1.4s								
WCI	**Wyandotte Cave**	**64.72**	**60**			**P**		**00 19 18.6**	**+0.4**
WCI	**Wyandotte Cave**	**64.72**	**60**	P		**P**		**00 19 18.6**	**+0.4**
WCI				pmax		pmax			
	comp=Z,11nm,1.1s								
HKT	**Hockley**	**65.05**	**73**	*e*P		**P**		**00 19 21.2**	**+0.7**
HKT				pmax		pmax			
	comp=Z,5.0nm,1.5s								
AAK	**Ala-Archa**	**65.82**	**308**	*e*P		**P**		**00 19 26.0**	**+0.4**
AAK				pmax		pmax			
	comp=Z,9.0nm,2.5s								
FINES	**FINESS Array B**	**66.02**	**346**	P		**P**		**00 19 26.0**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=22,slow=5.9,SNR=9.4								
	comp=Z,4.4nm,0.8s								
FINES	**FINESS Array B**	**66.02**	**346**	*i*	P	**P**		**00 19 26.0**	**-0.3**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.9s								
CLTN	**Cedars of Leba**	**66.23**	**62**	IAmb		IAmb		00 19 29.4	
	comp=Z,5.9nm,1.0s								
AB31	**Akbulak array**	**67.32**	**321**	IAmb		IAmb		00 19 36.2	
	comp=Z,5.9nm,1.1s								
ABKAR	**Akbulak array**	**67.32**	**321**			**P**		**00 19 34.2**	**-0.6**
KSH	**Kashi**	**67.36**	**305**	P		**P**		**00 19 39.4**	**+4.0**
KSH				pmax		pmax			
	comp=Z,8.0nm,0.8s								
SSPA	**Standing Stone**	**67.43**	**53**			**P**		**00 19 36.0**	**+0.4**
KK31	**Karatay Array**	**67.43**	**311**	IAmb		IAmb		00 19 36.5	
	comp=Z,3.2nm,0.8s								
KKAR	**Karatay Array**	**67.43**	**311**	P		**P**		**00 19 35.4**	**-0.2**
KKAR	**Karatay Array**	**67.43**	**311**	P		**P**		**00 19 35.4**	**-0.2**
ARSB	**Arslanbob**	**67.55**	**308**	IAmb		IAmb		00 19 39.9	
	comp=Z,5.4nm,0.9s								
TKL	**Tuckaleechee C**	**67.97**	**60**	P		**P**		**00 19 38.9**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=193,slow=5.6,SNR=6.5								
	comp=Z,5.1nm,1.0s								
NB2	**NORSAR Subarra**	**68.15**	**353**	P		**P**		**00 19 40.1**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=8.0,slow=6.5								
NOA	**NORSAR Array B**	**68.15**	**353**	P		**P**		**00 19 39.9**	**0.0**
	comp=Z,3.4nm,0.7s,baz=8.6,slow=6.3,SNR=24								
	comp=Z,3.4nm,0.7s								
HFS	**Hagfors**	**68.84**	**352**	P		**P**		**00 19 43.8**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=350,slow=1.8,SNR=22								
	comp=Z,3.8nm,0.6s								
BELG	**Belogornoye**	**69.14**	**330**	*ce*P		**P**		**00 19 46.9**	**+0.8**
BELG				pmax		pmax			
	comp=Z,5.0nm,1.0s								
OBN	**Obninsk**	**69.82**	**338**	*de*P		**P**		**00 19 50.5**	**+0.2**
OBN				*e*				00 20 12.7	
OBN				*e*				00 22 27.0	
OBN				*e*	PPP	PPP		00 24 05.7	
OBN				pmax		pmax			
	comp=Z,20nm,1.7s								
EKA	**Eskdalemuir Ar**	**74.36**	**1**	P		**P**		**00 20 17.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=3.6,slow=5.3,SNR=5.0								
	comp=Z,1.8nm,0.7s								
AKASG	**Malin Array Be**	**75.60**	**340**	P		**P**		**00 20 24.6**	**0.0**
	comp=Z,1.0nm,0.4s,baz=26,slow=6.0,SNR=8.3								
	comp=Z,1.0nm,0.4s								
AKBB	**Malin Array Si**	**75.60**	**340**	*e*P		**P**		**00 20 25.0**	**+0.3**
CLL	**Collm**	**77.62**	**351**	*e*P		**P**		**00 20 35.0**	**-1.1**
CLL				*e*Px		Px		00 20 35.0	
DPC	**Dobruska-Polom**	**78.17**	**348**	*e*P		**P**		**00 20 39.9**	**+0.6**
DPC	**Dobruska-Polom**	**78.17**	**348**	*e*P		**P**		**00 20 39.9**	**+0.6**
KBZ	**Khabaz**	**78.25**	**329**	P		**P**		**00 20 40.4**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=39,slow=13,SNR=4.1								
	comp=Z,2.4nm,0.7s								
KBZ	**Khabaz**	**78.25**	**329**	*e*P		**P**		**00 20 41.1**	**+1.4**
KBZ				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KRLC	**Kraliky**	**78.38**	**348**	*e*P		**P**		**00 20 41.0**	**+0.6**
KRLC	**Kraliky**	**78.38**	**348**	*e*P		**P**		**00 20 41.0**	**+0.6**
MORC	**Moravsky Berou**	**78.57**	**347**	*e*P		**P**		**00 20 41.5**	**0.0**
KOLS	**Kolonicke sedl**	**78.64**	**344**	*e*P		**P**		**00 20 43.0**	**+1.1**
KOLS	**Kolonicke sedl**	**78.64**	**344**	*e*P		**P**		**00 20 43.0**	**+1.1**
LANS	**Liptovska Anna**	**78.89**	**346**	*e*P		**P**		**00 20 44.5**	**+1.2**
LANS	**Liptovska Anna**	**78.89**	**346**	*e*P		**P**		**00 20 44.5**	**+1.2**
VRAC	**Vranov**	**79.16**	**348**	*e*P		**P**		**00 20 44.5**	**-0.2**
BUR08	**Bucovina Ar. S**	**79.33**	**342**	IAmb		IAmb		00 20 47.6	
	comp=Z,4.5nm,0.9s								
BURAR	**Bucovina Array**	**79.36**	**342**			**P**		**00 20 46.5**	**+0.7**
BURAR				IAmb		IAmb		00 20 48.0	
	comp=Z,4.4nm,0.8s								
BURAR	**Bucovina Array**	**79.36**	**342**	P		**P**		**00 20 46.6**	**+0.7**
BURAR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KRUC	**Moravsky**	**79.42**	**348**	*e*P		**P**		**00 20 46.1**	**0.0**
KHC	**Kasperske Hory**	**79.70**	**350**	*ce*P		**P**		**00 20 48.2**	**+0.5**
KHC				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KHC	**Kasperske Hory**	**79.70**	**350**	*e*P		**P**		**00 20 48.4**	**+0.7**
CKRC	**Cesky Krumlov**	**79.92**	**349**	*e*P		**P**		**00 20 49.8**	**+0.9**
CKRC	**Cesky Krumlov**	**79.92**	**349**	*e*P		**P**		**00 20 49.8**	**+0.9**
GERES	**GERESS Array B**	**79.97**	**350**	P		**P**		**00 20 49.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=56,slow=3.4,SNR=6.9								
	comp=Z,1.0nm,0.9s								
WRA	**Warramunga Arr**	**80.20**	**221**	P		**P**		**00 20 52.1**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=31,slow=5.7,SNR=8.5								
	comp=Z,1.4nm,0.7s								
WRA	**Warramunga Arr**	**80.20**	**221**	*i*	P	**P**		**00 20 52.7**	**+2.1**
WRA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
CONA	**Conrad Observa**	**80.61**	**348**	*e*P		**P**		**00 20 50.4**	**-2.2**
	comp=Z,4.5nm,1.8s								
RONA	**Rosalia, Austr**	**80.77**	**348**	*i*	P	**P**		**00 20 53.5**	**+0.1**
	comp=Z,0.2nm,0.5s								
BIOA	**Bad Ischl, Aus**	**81.11**	**349**	P		**P**		**00 20 55.6**	**+0.3**
	comp=Z,1.1nm,0.5s								
LESA	**Schwarzleotal**	**81.49**	**350**	*e*P		**P**		**00 20 56.4**	**-0.9**
	comp=Z,0.6nm,0.7s								
RETA	**Reutte**	**81.62**	**351**	*e*P		**P**		**00 20 57.9**	**-0.1**
	comp=Z,2.6nm,1.3s								
WATA	**Walderalm**	**81.69**	**351**	*ep*P		**P**		**00 20 58.7**	**+0.2**
	comp=Z,0.1nm,0.3s								
MOTA	**Moosalm**	**81.73**	**351**	*ep*P		**P**		**00 20 59.1**	**+0.4**
	comp=Z,1.5nm,0.9s								
KBA	**Koelnbreinsper**	**81.75**	**350**	*ep*P		**P**		**00 20 59.8**	**+1.0**
	comp=Z,3.1nm,0.6s								
WTTA	**Wattenberg**	**81.75**	**351**	*ep*P		**P**		**00 20 59.1**	**+0.2**
	comp=Z,1.7nm,0.7s								
SQTA	**Sankt Quirin**	**81.84**	**351**	*ep*P		**P**		**00 21 00.0**	**+0.8**
	comp=Z,1.8nm,1.3s								
DAVA	**Damuels**	**81.90**	**352**	*e*P		**P**		**00 20 58.7**	**-0.9**
	comp=Z,1.6nm,1.0s								
SOKA	**Soboth**	**81.94**	**348**	*ep*P		**P**		**00 21 00.5**	**+0.8**
	comp=Z,0.7nm,0.7s								
FETA	**Feichten**	**82.08**	**351**	*ep*P		**P**		**00 21 01.0**	**+0.4**
	comp=Z,2.3nm,0.9s								
MYKA	**Terra Mystica**	**82.16**	**349**	*e*P		**P**		**00 21 00.5**	**-0.4**
	comp=Z,0.1nm,0.3s								
OBKA	**Obir**	**82.17**	**349**	*ep*P		**P**		**00 21 02.2**	**+1.3**
	comp=Z,0.6nm,0.7s								
ABTA	**Abfaltersbach**	**82.17**	**350**	*ep*P		**P**		**00 21 02.0**	**+1.1**
	comp=Z,2.1nm,1.5s								
FUORN	**Ofenpass-Fuorn**	**82.53**	**352**	IAmb		IAmb		00 21 20.5	
	comp=Z,2.9nm,0.8s								
TUE	**Stuetta**	**82.75**	**352**	IAmb		IAmb		00 21 20.2	
	comp=Z,2.3nm,0.7s								
ASAR	**Alice Springs**	**83.70**	**220**	P		**P**		**00 21 11.4**	**+2.6**
	comp=Z,1.4nm,0.9s,baz=30,slow=5.5,SNR=8.2								
	comp=Z,1.4nm,0.9s								
BR131	**Keskin Array S**	**84.76**	**333**	IAmb		IAmb		00 21 16.4	
	comp=Z,4.6nm,0.8s								
BRTR	**Keskin Array B**	**84.76**	**333**	P		**P**		**00 21 14.9**	**+0.5**
	comp=Z,4.0nm,0.7s,baz=44,slow=2.9,SNR=19								
	comp=Z,4.0nm,0.7s								
BRTR	**Keskin Array B**	**84.76**	**333**	*i*	P	**P**		**00 21 14.8**	**+0.4**
BRTR				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ESDC	**Sonseca Array**	**90.01**	**2**	P		**P**		**00 21 38.5**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=345,slow=5.0,SNR=5.2								
	comp=Z,0.5nm,0.8s								
QSPA	**South Pole Qui**	**140.43**	**180**	PKP		**PKPdf**		**00 28 07.4**	**-0.5

JAMN	Amaminishikomi	1.02 352	*i*	P		Pn	00 32 33.5	+1.3
JOW	Kunigami	1.02 247				Pn	00 32 33.3	+0.9
JOW	Kunigami	1.02 247		Pn		Pn	00 32 33.6	+1.2
	comp=E,356nm,0.3s,baz=122,slow=26,SNR=441							
JOW				Sn		Sn	00 32 46.3	-0.2
	comp=E,402nm,0.3s,baz=101,slow=28,SNR=8.0							
JOW				LR		LR	00 33 05.0	
	comp=E,408nm,19.1s,baz=32,slow=55							
JOW	Kunigami	1.02 247	*i*	P		Pn	00 32 33.6	+1.2
JOW				eS		Sn	00 32 46.4	-0.2
JOW	Kunigami	1.02 247		A		A	00 32 33.6	
	comp=N,3.0nm,1.4s,comp=E,4.0nm,0.8s							
JAM	Amami Oshima	1.20 12	*i*	P		Pg	00 32 36.0	+0.5
JZK	Kikaishima	1.22 28	*e*	P		Pg	00 32 37.0	+1.2
JIH	Iheya	1.23 261	*i*	P		Pg	00 32 36.6	+0.5
JNTH	Nagotoyohara	1.37 239		P		Pg	00 32 38.4	-0.3
JNTH				eS		Sn	00 32 55.0	0.0
JJT3	Tamagusuku3	1.76 232	*e*	P		Pb	00 32 44.1	-0.3
JTAJ	Takarajima	1.92 357	*e*	P		Pb	00 32 46.0	-1.2
JAGN	Aguni-jima	1.97 251		P		Pb	00 32 46.6	-1.5
JKDJ	Kitadaitoujima	2.18 126		P		Pn	00 32 49.2	+1.0
JKDJ				eS		Sn	00 33 14.6	-0.4
JMZ	Minamidaito 2	2.20 129				Pn	00 32 49.0	+0.4
JMZ				Sn		Sn	00 33 14.5	-1.2
JMZ	Minamidaito 2	2.20 129	*i*	P		Pn	00 32 49.4	+0.8
JMZ				eS		Sn	00 33 14.1	-1.6
JKE	Kume jima 2	2.45 249		P		Pn	00 32 52.8	+0.9
JKE				eS		Sn	00 33 22.3	+0.7
JYAK	Yakushimahirau	3.17 19		eS		Sn	00 33 39.6	+0.1
JMTN	Minamitane	3.44 23	*e*	P		Pn	00 33 07.2	+1.5
JMTN				eS		Sn	00 33 45.5	-0.7
JTN	Tanegashima 3	3.70 23	*e*	P		Pn	00 33 10.8	+1.5
JTN				eS		Sn	00 33 52.7	-0.1
JNU	Nakatsue	6.02 12	Pn			Pn	00 33 41.0	-0.1
JNU	Nakatsue	6.02 12	Pn			Pn	00 33 41.4	+0.3
	comp=E,2.4nm,0.3s,baz=359,slow=3.2,SNR=4.6							
	comp=E,5.1nm,0.4s							
JMN	Monobe	7.57 30	Pn			Pn	00 34 03.1	+0.7
YHNB	Yeheng	7.60 252	Pn			Pn	00 34 02.9	0.0
NACB	Ninganchiao	7.61 248	Pn			Pn	00 34 01.6	-1.4
YULB	Yu-li	8.21 244	Pn			Pn	00 34 08.8	-2.4
SSLB	Suanglung	8.31 247				Pn	00 34 11.2	-1.3
TPUB	Ta-pu	8.79 245	Pn			Pn	00 34 18.8	-0.4
KSRS	Korea Array	10.26 354	Pn			Pn	00 34 39.1	-0.1
	comp=E,0.1nm,0.3s,baz=165,slow=11,SNR=1.1							
	comp=E,0.3nm,0.3s							
ASAJ	Asahikawa	19.95 29	LR			LR	00 44 36.1	
	comp=E,48nm,19.4s,baz=130,slow=37							
H11N1	WAKE ISLAND Hy 35.16	94	T			T	01 16 40.5	
	baz=290,slow=75,SNR=29							
H11N2	WAKE ISLAND Hy 35.16	94	T			T	01 16 36.4	
	baz=290,slow=75,SNR=40							
H11N3	WAKE ISLAND Hy 35.17	94	T			T	01 16 37.6	
	baz=290,slow=75,SNR=40							
H11S3	WAKE ISLAND Hy 35.40	96	T			T	01 16 53.5	
	baz=291,slow=75,SNR=6.4							
H11S1	WAKE ISLAND Hy 35.40	96	T			T	01 16 53.5	
	baz=291,slow=75,SNR=5.7							
H11S2	WAKE ISLAND Hy 35.41	96	T			T	01 16 54.8	
	baz=291,slow=75,SNR=6.2							
MKAR	Makanchi Array	41.61 311	P			P	00 39 59.0	-1.1
MKAR	Makanchi Array	41.61 311	P			P	00 39 58.8	-1.2
	comp=E,0.5nm,0.4s,baz=93,slow=9.6,SNR=10							
MKAR			PcP			PcP	00 41 56.7	-0.2
	comp=E,0.3nm,0.8s,baz=101,slow=1.5,SNR=3.5							
	comp=E,0.5nm,0.4s							
MAKZ	Makanchi	41.83 311	P			P	00 40 00.5	-1.3
ZALV	Zalesovo Beam	42.06 322	P			P	00 40 02.2	-1.3
ZALV	Zalesovo Beam	42.06 322	P			P	00 40 02.5	-1.0
	comp=E,0.5nm,0.3s,baz=108,slow=7.7,SNR=2.4							
	comp=E,0.5nm,0.3s							
KNRA	Kununurra	42.66 181	P			P	00 40 10.3	+1.6
KNRA			IAmb			IAmb	00 40 39.2	
	comp=Z,29nm,1.4s							
KURK	Kurchatov	44.78 316	P			P	00 40 25.3	-0.3
KURBB	Kurchatov Arra	44.82 316	P			P	00 40 25.3	-0.5
	comp=Z,1.3nm,0.4s,baz=102,slow=8.8,SNR=13							
	comp=Z,1.3nm,0.4s							
WB0	Warramunga Arr	46.98 173				P	00 40 43.7	+0.5
WRA	Warramunga Arr	47.15 174	P			P	00 40 43.6	-0.9
WRA	Warramunga Arr	47.15 174	P			P	00 40 45.9	+1.4
	comp=Z,0.5nm,0.6s,baz=353,slow=8.7,SNR=6.2							
	comp=Z,0.5nm,0.6s							
WR8	Warramunga Arr	47.18 173	P			P	00 40 45.5	+0.8
WR8			IAmb			IAmb	00 41 26.1	
	comp=Z,9.5nm,1.4s							
KK31	Karatay Array	49.64 305	P			P	00 41 03.8	+0.2
KK31			IAmb			IAmb	00 41 39.3	
	comp=Z,2.5nm,1.2s							
KKAR	Karatay Array	49.64 305	P			P	00 41 04.0	+0.4
BVAR	Borovoye Array	50.19 318	P			P	00 41 07.5	-0.1
	comp=Z,0.8nm,0.5s,baz=54,slow=13,SNR=4.3							
	comp=Z,0.8nm,0.5s							
ASAR	Alice Springs	50.79 175	P			P	00 41 15.0	+2.5
	comp=Z,0.5nm,0.9s,baz=4.7,slow=14,SNR=5.6							
	comp=Z,0.5nm,0.9s							
AB31	Akbulak array	56.68 313	P			P	00 41 55.7	+0.4
AB31			IAmb			IAmb	00 42 04.7	
	comp=Z,2.0nm,0.9s							
SDPT	Sand Point	56.91 40	P			P	00 41 56.5	-0.3
ARTI	Arti	57.32 321	P			P	00 41 59.0	-0.8
ARTI			IAmb			IAmb	00 42 01.8	
	comp=Z,3.8nm,0.4s							
TABL	Table Mountain	66.49 33	P			P	00 43 01.2	-0.4
SPITS	Spitsbergen Ar	68.05 348	P			P	00 43 11.5	+0.5
	comp=Z,2.7nm,0.5s,baz=66,slow=6.7,SNR=9.3							
	comp=Z,2.7nm,0.5s							
ARCES	ARCESS Array B	69.44 339	P			P	00 43 19.4	-0.4
	comp=Z,7.2nm,1.1s,baz=76,slow=6.4,SNR=9.9							
	comp=Z,7.2nm,1.1s							
FINES	FINESS Array B	72.48 331	P			P	00 43 38.6	+0.3
	comp=Z,4.6nm,0.4s,baz=66,slow=6.0,SNR=79							
	comp=Z,4.6nm,0.4s							
BRTR	Keskin Array B	77.19 308	P			P	00 44 06.5	+0.3
	comp=Z,1.3nm,0.7s,baz=113,slow=5.6,SNR=6.4							
	comp=Z,1.3nm,0.7s							
HFS	Hagfors	78.39 333	P			P	00 44 12.9	+0.6
	comp=Z,1.2nm,0.5s,baz=90,slow=7.4,SNR=21							
	comp=Z,1.2nm,0.5s							
NC405	NORSAR Array S	78.61 334	P			P	00 44 13.9	+0.3
NC405			IAmb			IAmb	00 44 15.8	
	comp=Z,4.9nm,0.6s							
NB2	NORSAR Subarra	78.85 334	P			P	00 44 15.0	+0.1
	comp=Z,1.6nm,0.5s,baz=51,slow=5.9							
NOA	NORSAR Array B	78.85 334	P			P	00 44 15.0	+0.1
	comp=Z,1.7nm,0.5s,baz=51,slow=5.7,SNR=22							
	comp=Z,1.7nm,0.5s							
CLL	Collm	83.89 326	*i*	P		P	00 44 42.6	+0.9
GERES	GERESS Array B	84.99 323	P			P	00 44 48.5	+0.9
	comp=Z,0.6nm,0.6s,baz=46,slow=5.8,SNR=5.0							
	comp=Z,0.6nm,0.6s							
FUORN	Ofenpass-Fuorn	88.19 323	P			P	00 45 03.5	+0.1
FUORN			IAmb			IAmb	00 45 07.1	
	comp=Z,2.6nm,0.6s							
EKA	Eskdalemuir Ar	88.29 335	P			P	00 45 04.3	+0.9
	comp=Z,0.3nm,0.4s,baz=45,slow=4.7,SNR=4.2							
	comp=Z,0.3nm,0.4s							
OPO	Ambohidratompo	91.64 250	LR			LR	01 22 12.7	
	comp=Z,1μm,20.6s,baz=58,slow=33							

IDC ***05*** *00:34:09.4±0.7, 19˚.44N×74˚.12W, h0km, mb4.0/10, mbtmp4.1/16, ML4.0/6, MS3.1/3, Error ellipse: s-maj=19.3km s-min=17.2km az=80.0*

NEIC ***05*** *00:34:12.2±1.8, 19˚.56N±0˚.06×74˚.22W±0˚.04, h10km±1km, mb4.3/122, Error ellipse: s-maj=11.1km s-min=5.6km az=204.0*

CATAC ***05*** *00:34:14.2±0.1, 20˚N×2˚×7˚4W±˚, h43km±9km, M4.7/15, mb4.6/12, mB5.3/5, MLv4.8/15, Mw(mB)4.7/5, MwMwp4.4/1, Mwp4.8/1, Error ellipse: s-maj=5.0km s-min=2.3km az=12.6, confirmed*

SSNC ***05*** *00:34:15.1±1.6, 19˚.52N×74˚.17W, h25km±8km, MD4.0, ML4.3, MW4.0*

OSPL ***05*** *00:34:15.4±1.7, 19˚.59N×74˚.24W, h49km±18km, ML4.2*

JSN ***05*** *00:34:16.4±2.0, 19˚.36N×74˚.44W, h0km±166km, MD5.0*

SDD ***05*** *00:34:16.0±2.5, 19˚.68N×74˚.20W, h66km±29km, MD3.8, ML4.3, MW4.2*

RSNC ***05*** *00:34:21.1±0.5, 19˚N±4˚×7˚4W±˚, h0km, M4.4, mB5.0, mb4.6, Mw(mB)4.4*

ISC 05 00:34:13.2±0.8, 19˚.54N±0˚.03×74˚.16W±0˚.03, h25km±6km, n261, σ1§54/302, mb4.2/47, 33C-3D, Cuba region

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

MASC	Masc	0.64 354	*i*	P		Pn	00 34 26.6	0.0
MASC	Masc	0.64 354	*i*	P		Pn	00 34 26.7	0.0
MASC	Masc	0.64 354	‖	P		Pn	00 34 26.6	0.0
QMBU	Quimbuelo	0.90 317	*i*	P		Pb	00 34 30.0	-0.2
QMBU				eS		Sb	00 34 40.6	-1.3
QMBU				IAML			00 34 41.8	
	comp=N,9μm,0.3s							
QMBU				IAML			00 34 41.9	
	comp=E,27μm,0.3s							
QMBU	Quimbuelo	0.90 317	⇑	*e*Pg		Pb	00 34 30.1	-0.2
QMBU			⇑	*e*Sg		Sb	00 34 40.5	-1.3
QMBU				IAML			00 34 42.2	
	comp=N,11μm,0.2s							
QMBU	Quimbuelo	0.90 317	⇑	P		Pb	00 34 30.0	-0.2
QMBU				S		Sb	00 34 40.8	-1.1
GTBY	Guantanamo Bay	0.98 293				Pn	00 34 32.2	+0.8
GTBY				Sg		Sb	00 34 41.6	-2.4
GTBY				Sn		Sn	00 34 44.3	-0.1
GTBY	Guantanamo Bay	0.98 293	*i*	P		Pn	00 34 32.1	+0.8
GTBY				eS		Sn	00 34 44.8	+0.4
GTBY				IAML			00 34 45.5	
	comp=N,9μm,0.5s							
GTBY				IAML			00 34 45.6	
	comp=N,7μm,0.3s							
GTBY	Guantanamo Bay	0.98 293	⇑	*i*P		Pn	00 34 32.2	+0.8
GTBY	Guantanamo Bay	0.98 293	*i*	P		Pn	00 34 32.1	+0.8
GTBY				eS		Sb	00 34 41.9	-2.2
GTBY				IAML			00 34 46.2	
	comp=Z,3μm,0.5s							
GTBY	Guantanamo Bay	0.98 293	⇑	*e*Pg		Pn	00 34 32.1	+0.8
GTBY			⇑	*e*Sg		Sn	00 34 44.5	+0.1
GTBY				IAML			00 34 45.5	
	comp=N,8μm,0.5s							
GTBY	Guantanamo Bay	0.98 293	⇑	P		Pn	00 34 32.1	+0.8
GTBY				S		Sn	00 34 44.8	+0.4
NMDO	Nuevo Mundo	1.28 323				Pn	00 34 35.6	+0.1
NMDO				Sn		Sn	00 34 50.6	-1.3
NMDO	Nuevo Mundo	1.28 323	*e*	P		Pn	00 34 35.2	-0.3
NMDO				eS		Sn	00 34 51.5	-0.4
NMDO				IAML			00 34 54.9	
	comp=E,3μm,0.3s							
NMDO				IAML			00 34 55.0	
	comp=N,3μm,0.2s							
NMDO	Nuevo Mundo	1.28 323	⇑	*e*Pg		Pn	00 34 35.5	0.0
NMDO			⇑	*e*Sg		Sn	00 34 50.5	-1.4
NMDO				IAML			00 34 57.5	
	comp=N,3μm,0.4s							
NMDO	Nuevo Mundo	1.28 323	⇑	P		Pn	00 34 35.1	-0.3
NMDO				S		Sb	00 34 53.5	+0.9
MOAC	Moa	1.35 326	*e*	P		Pn	00 34 36.5	+0.1
MOAC				eS		Sb	00 34 54.3	-0.3
RCC	Rio Carpintero	1.52 288	*e*	P		Pn	00 34 39.2	+0.4
RCC				eS		Sn	00 34 57.5	-0.3
RCC				IAML			00 34 58.8	
	comp=E,5μm,0.3s							
RCC				IAML			00 34 58.9	
	comp=N,3μm,0.2s							
MARVS	Santiago de Cu	1.71 286	*i*	P		Pn	00 34 42.0	+0.6
MARVS				eS		Sn	00 35 01.9	-0.5
MARVS				IAML			00 35 04.1	
	comp=N,3μm,0.3s							
MARVS				IAML			00 35 06.0	
	comp=E,3μm,0.4s							
NICP	Nicaro	1.73 312	*e*	P		Pn	00 34 41.8	+0.1
NICP				eS		Sn	00 35 01.6	-1.5
LGNH	Logne	1.79 125	⇑	P		Pn	00 34 42.6	+0.2
LGNH	Logne	1.79 125		S		Sn	00 35 03.9	-0.5
PINC	Pinares de May	1.80 302	*e*	P		Pn	00 34 42.5	-0.2
PINC				eS		Sn	00 35 03.4	-1.4
PAPH	Port-au-Prince	2.03 120	*e*	P		Pn	00 34 46.1	+0.3
PAPH				eS		Sn	00 35 09.7	-0.6
PAPH	Port-au-Prince	2.03 120	*i*	P		Pn	00 34 46.4	+0.6
PAPH				eS		Sn	00 35 10.7	+0.4
PAPH	Port-au-Prince	2.03 120	⇑	P		Pn	00 34 46.0	+0.2
CHIV	Chivirico	2.17 282				Pn	00 34 47.5	-0.3
CHIV	Chivirico	2.17 282	*e*	P		Pn	00 34 47.5	-0.3
CHIV				eS		Sn	00 35 13.2	-0.7
CHIV	Chivirico	2.17 282	⇑	P		Pn	00 34 47.4	-0.4
CHIV				S		Sn	00 35 14.0	+0.1
YAR	Yar	2.23 292	*e*	P		Pn	00 34 49.0	+0.4
YAR				eS		Sn	00 35 14.1	-1.3
YAR				IAML			00 35 15.9	
	comp=N,762nm,0.9s							
YAR				IAML			00 35 16.4	
	comp=E,1μm,0.7s							
HLGC	Holguin	2.24 307	*e*	P		Pb	00 34 51.1	-1.8
HLGC				eS		Sb	00 35 21.7	+1.5
MCDR	Montecristi	2.38 81	⇑	*e*Pg		Pn	00 34 51.3	+0.7
MCDR			⇑	*e*Sg		Sn	00 35 19.0	0.0
MCDR				IAML			00 35 33.0	
	comp=N,1μm,0.6s							
JIDR	Jimani	2.42 115	⇑	*e*Pg		Pn	00 34 51.9	+0.8
JIDR			⇑	*e*Sg		Sn	00 35 22.1	+2.1
JIDR				IAML			00 35 23.9	
	comp=N,3μm,1.2s							
REDR	Restauracion	2.63 98	⇑	*e*Pg		Pn	00 34 49.7	-4.4
REDR			⇑	*e*Sg		Sn	00 35 18.9	-6.4
REDR				IAML			00 35 19.2	
	comp=N,1μm,0.2s							
LMGC	Las Mercedes	2.73 281	*e*	P		Pn	00 34 53.0	-2.5
LMGC				*e*Pg		Pb	00 34 55.3	-6.1
LMGC				eS		Sn	00 35 25.3	-2.4
SDDR	Presa de Saban	2.77 101	*e*	P		Pn	00 34 56.4	+0.5
SDDR	Presa de Saban	2.77 101	*e*	P		Pn	00 34 56.5	+0.5
SDDR				eS		Sn	00 35 29.3	+0.7
SDDR	Presa de Saban	2.77 101	*i*	P		Pn	00 34 56.5	+0.5
SDDR				IAML			00 35 43.8	
	comp=Z,536nm,0.7s							
SDDR	Presa de Saban	2.77 101	⇑	*e*Pg		Pn	00 34 56.5	+0.5
SDDR			⇑	*e*Sg		Sn	00 35 29.8	+1.1
SDDR				IAML			00 35 51.4	
	comp=N,784nm,1.1s							
SDDR	Presa de Saban	2.77 101	⇑	P		Pn	00 34 56.2	+0.2
SDDR				S		Sn	00 35 29.5	+0.9
LODU1	El Espartillar	2.80 115	*i*	P		Pn	00 34 57.6	+1.2
LODU1				IAML			00 35 49.8	
	comp=Z,2μm,1.0s							
LOPP1	Punta Rusia, P	2.80 83	*i*	P		Pn	00 34 57.7	+1.2
LOPP1				IAML			00 35 36.0	
	comp=Z,646nm,0.5s							
GWJ	Greenwich	2.84 240	‖	*i*P		Pn	00 34 57.3	+0.2
STH	Stony Hill	2.91 240	*i*	P		Pn	00 34 58.0	+0.1
LOBH	Bahia de las A	2.91 125	*i*	P		Pn	00 34 59.3	+1.3
LOBH				eS		Sn	00 35 32.3	+0.1
LOBH				IAML			00 35 48.8	
	comp=Z,799nm,0.7s							
LTUP	Las Tunas	3.02 298	*e*	P		Pn	00 35 00.8	+1.3
LUDR	Luperon	3.04 83	⇑	*e*Pg		Pn	00 35 00.8	+1.1
PODR	Polo	3.04 116	⇑	*e*Pg		Pn	00 35 02.3	+2.3
PODR				IAML			00 36 00.3	
	comp=N,947nm,1.7s							
PILO	Pilon	3.08 277	*e*	P		Pn	00 34 59.8	-0.6
PILO				eS		Sn	00 35 32.5	-4.0
PILO	Pilon	3.08 277	⇑	P		Pn	00 34 59.4	-0.9
LOVI	El Cajuil, Ovi	3.16 123	*i*	P		Pn	00 35 03.0	+1.6
LOVI				IAML			00 36 00.1	
	comp=Z,1μm,0.9s							
SC01	Santiago de lo	3.24 91				Pn	00 35 03.1	+0.7
SC01	Santiago de lo	3.24 91	*i*	P		Pn	00 35 03.2	+0.8
SC01	Santiago de lo	3.24 91		P		Pn	00 35 03.2	+0.8
SC01	Santiago de lo	3.24 91		S		Sn	00 35 42.6	+2.4
ABDR	Alto Bandera	3.41 102	⇑	*e*Pg		Pn	00 35 06.0	+0.8
ABDR				IAML			00 35 59.4	
	comp=N,501nm,0.4s							
GRTK	Grand Turk	3.45 55				Pn	00 35 06.3	+1.0
GRTK	Grand Turk	3.45 55	*e*	P		Pn	00 35 05.7	+0.4
GRTK				eS		Sn	00 35 40.9	-4.4
GRTK	Grand Turk	3.45 55	*i*	P		Pn	00 35 05.7	+0.4
GRTK				eS		Sn	00 35 42.9	-2.5
GRTK				IAML			00 35 46.5	
	comp=Z,465nm,0.4s							
GRTK	Grand Turk	3.45 55	⇑	*e*Pg		Pn	00 35 05.7	+0.4
GRTK			⇑	*e*Sg		Sn	00 35 42.6	-2.7
GRTK				IAML			00 35 45.9	
	comp=N,1μm,0.3s							
GRTK	Grand Turk	3.45 55	⇑	P		Pn	00 35 05.6	+0.4
GRTK				S		Sn	00 35 42.0	-3.3
MTDJ	Mount Denham	3.46 248				Pn	00 35 05.2	-0.2
MTDJ	Mount Denham	3.46 248	*e*	P		Pn	00 35 04.9	-0.6
MTDJ	Mount Denham	3.46 248	‖	*i*P		Pn	00 35 05.6	0.0
MTDJ	Mount Denham	3.46 248	*i*	P		Pn	00 35 05.4	-0.2
MTDJ				eS		Sn	00 35 40.5	-5.2
MTDJ				IAML			00 35 57.9	
	comp=Z,187nm,0.4s							
MTDJ	Mount Denham	3.46 248	⇑	*e*Pg		Pn	00 35 05.3	-0.2
MTDJ			⇑	*e*Sg		Sn	00 35 45.4	-0.4
MTDJ				IAML			00 35 52.8	
	comp=N,251nm,0.4s							
MTDJ	Mount Denham	3.46 248		P		Pn	00 35 05.3	-0.2
MTDJ				S		Sn	00 35 44.7	-1.1
BANI	BANI	3.77 107				Pn	00 35 11.1	+1.2
BANI	BANI	3.77 107	⇑	*e*Pg		Pn	00 35 11.9	+2.0
BANI				IAML			00 36 15.2	
	comp=N,897nm,0.8s							
NADR	Nagua	4.06 92	⇑	*e*Pg		Pn	00 35 15.0	+1.2
NADR				IAML			00 36 19.6	
	comp=N,1μm,0.8s							
SDD	Santo Domingo	4.16 104				Pn	00 35 16.2	+1.2
SDD	Santo Domingo	4.16 104	*i*	P		Pn	00 35 17.2	+2.1
SDD	Santo Domingo	4.16 104		P		Pn	00 35 16.3	+1.2
DR12	Loma Pena Alta	4.57 99				Pn	00 35 22.6	+1.7
DR12				Sn		Sn	00 36 14.8	+1.5
HATOM	Hato Mayor del	4.57 99	⇑	*e*Pg		Pn	00 35 22.6	+1.8
HATOM				IAML			00 36 15.7	
	comp=N,155nm,0.7s							
CAIB	Caibarien	5.77 302	*e*	P		Pn	00 35 35.0	-2.2
CAIB	Caibarien	5.77 302		P		Pn	00 35 36.6	-0.7
CAIB				S		Sn	00 36 39.2	-3.5
FSCY	Frank Sound, G	6.64 269		P		Pn	00 35 47.5	-1.7
AGPR	Aguadilla, PR	6.75 98				Pn	00 35 51.3	+0.6
AGPR	Aguadilla, PR	6.75 98	P			Pn	00 35 50.4	-0.3
PRSN	Puerto Rico Se	6.77 100				Pn	00 35 52.5	+1.6
OBIP	Obispado Ponce	7.30 101				Pn	00 35 59.5	+1.2
CELP	Cerrillos	7.32 100				Pn	00 35 59.8	+1.2
CAMR	Camarioca	7.58 299	*e*	P		Pn	00 36 01.2	-1.0
CAMR	Camarioca	7.58 299		P		Pn	00 36 01.4	-0.8
CAMR				S		Sn	00 37 23.6	-3.7
SJG	San Juan	7.71 99		Pn		Pn	00 36 02.7	-1.2
	comp=N,6.8nm,0.3s,baz=316,slow=13,SNR=6.4							
SJG				Sn		Sn	00 37 27.0	-3.6
	comp=N,5.2nm,0.3s,baz=350,slow=22,SNR=1.8							
	comp=N,21nm,0.4s							
SJG	San Juan	7.71 99		P		Pn	00 36 03.9	-0.1
SJG				S		Sn	00 37 29.7	-0.8
SJG	San Juan	7.71 99		P		Pn	00 36 03.0	-1.0
	comp=N,28nm,0.7s							
SJG				S		Sn	00 37 25.0	-5.6
	comp=N,28nm,0.7s							
IGPR	InterUniversit	7.78 100		P		Pn	00 36 04.8	-0.1
PDPR	Patillas Dam,	7.85 100				Pn	00 36 06.6	+0.7
URIC	Uribia, Colomb	8.07 165		P		Pn	00 36 08.7	-0.1
	comp=N,15nm,0.5s							
URIC				S		Sn	00 37 31.4	-7.9
	comp=N,15nm,0.5s							
URI	Uribia	8.07 165		P		Pn	00 36 08.7	-0.2
SMRC	Santa Marta, M	8.33 180		Pn		Pn	00 36 13.4	+1.0
SMRC	Santa Marta, M	8.33 180		P		Pn	00 36 12.5	+0.1
	comp=N,43nm,0.8s							
SMRC				S		Sn	00 37 38.0	-7.7
	comp=N,43nm,0.8s							
CRJC	Cerrejon, Guaj	8.56 172		P		Pn	00 36 15.9	+0.2
	comp=N,557nmcomp=N,23nm,0.4s							
CRJC				S		Sn	00 37 45.3	-6.2
	comp=N,557nmcomp=N,23nm,0.4s							
061Z	Ochoppi	8.86 317		Pn		Pn	00 36 18.3	-1.4
SOR	Soroa	8.87 293		Pn		Pn	00 36 20.1	+0.2
PRVC	Isla de Provid	9.24 230		Pn		Pn	00 36 26.1	+1.3
ARGC	Ariguani, Magd	9.62 181		P		Pn	00 36 33.0	+2.8
	comp=N,25nm,0.9s							
ARGC				S		Sn	00 38 11.4	-6.2
	comp=N,25nm,0.9s							
SJCC	San Jacinto, C	9.64 186		P		Pn	00 36 30.8	+0.4
SJCC	San Jacinto, C	9.64 186		P		Pn	00 36 31.8	+1.4
	comp=N,13nm,1.4s							
SJCC				S		Sn	00 38 10.2	-7.8
	comp=N,13nm,1.4s							
SAIC	Isla e San And	10.06 227		P		Pn	00 36 38.3	+2.1
	comp=N,74nm,0.8s							
SDV	Santo Domingo	11.13 162		Pn		Pn	00 36 52.2	+1.3
SDV	Santo Domingo	11.13 162		Pn		Pn	00 36 49.2	-1.8
	comp=N,5.8nm,0.3s,baz=7.3,slow=6.9,SNR=6.8							
SDV				LR		LR	00 41 33.6	
	comp=N,67nm,18.9s,baz=308,slow=40							
	comp=N,7.4nm,0.4s							
CAP2	Capurgana	11.26 196		P		Pn	00 36 53.7	+1.0
UREC	San Jos de Ur	11.79 187		P		Pn	00 37 02.2	+2.3
APAC	Apartado, Choc	11.81 192		P		Pn	00 37 01.3	+1.2
	comp=N,25nm,0.6s							
ZARC	Zaragoza, Cauc	11.99 183		P		P

R58B **Mineral** **18.64 351** P **P** **00 38 28.1 -1.0**
R58B IAmb IAmb 00 38 31.4
comp=Z,17nm,0.8s
X48A **Hartselle** **18.75 325** P **P** **00 38 29.8 -0.5**
SWET **Sewanee** **18.77 329** P **P** **00 38 29.8 -0.8**
CBN **Corbin Frederi** **18.81 352** P **P** **00 38 29.6 -1.3**
CBN IAmb IAmb 00 38 32.1
comp=Z,13nm,0.7s
S54A **Dingess, Becki** **19.23 343** P **Pn** **00 38 36.7 0.0**
S54A IAmb IAmb 00 38 38.7
comp=Z,18nm,1.1s
R55A **Marlinton** **19.38 346** P **P** **00 38 37.9 +0.6**
R55A IAmb IAmb 00 38 41.1
comp=Z,17nm,1.0s
CLTN **Cedars of Leba** **19.66 329** P **P** **00 38 40.4 +0.1**
T50A **Nancy** **19.77 334** P **P** **00 38 42.3 +0.9**
Y45A **Yeager Farm, C** **19.78 319** P **P** **00 38 42.2 +0.6**
Y45A IAmb IAmb 00 38 46.3
comp=Z,19nm,0.8s
S51A **Beattyville** **19.82 337** P **P** **00 38 43.1 +1.1**
CMIG **Matias Romero** **19.83 266** P **P** **00 38 42.5 +0.2**
comp=Z,0.2nm,0.3s,baz=42,slow=6.0,SNR=5.7
comp=Z,2.5nm,0.7s
Q56A **Snyder Ridge,** **19.92 348** P **P** **00 38 44.2 +1.1**
SDMD **Soldier's Deli** **19.94 354** P **P** **00 38 44.0 +0.7**
P57A **Homestead Farm** **20.15 351** P **P** **00 38 46.8 +1.2**
P57A IAmb IAmb 00 38 54.5
comp=Z,9.2nm,0.9s
Q54A **Coxs Mills** **20.22 345** P **P** **00 38 47.0 +0.7**
Q54A IAmb IAmb 00 38 51.7
comp=Z,16nm,1.2s
WUPA **West Chester U** **20.36 357** P **P** **00 38 48.2 +0.3**
WUPA IAmb IAmb 00 38 53.5
comp=Z,13nm,1.2s
MVL **Millersville** **20.48 355** P **P** **00 38 49.1 0.0**
MVL IAmb IAmb 00 38 55.2
comp=Z,15nm,1.1s
Q52A **Bidwell** **20.59 342** P **P** **00 38 50.3 -0.1**
Q52A IAmb IAmb 00 38 56.8
comp=Z,22nm,1.2s
R50A **Paris** **20.66 337** P **P** **00 38 52.5 +1.3**
R50A IAmb IAmb 00 38 56.7
comp=Z,26nm,1.5s
T47A **Sharon Grove** **20.75 330** P **P** **00 38 52.4 +0.3**
T47A IAmb IAmb 00 38 54.6
comp=Z,9.5nm,0.9s
P53A **Whipple** **20.84 344** P **P** **00 38 53.8 +0.8**
P53A IAmb IAmb 00 38 59.7
comp=Z,15nm,1.1s
Q51A **Peebles** **20.98 340** P **P** **00 38 55.0 +0.3**
Q51A IAmb IAmb 00 39 14.8
comp=Z,9.6nm,0.8s
R49A **Shelbyville** **21.00 335** P **P** **00 38 54.9 +0.1**
R49A IAmb IAmb 00 38 57.2
comp=Z,8.3nm,0.8s
BRNJ **Basking Ridge** **21.08 359** P **P** **00 38 57.8 +2.2**
P52A **Corning** **21.17 343** P **P** **00 38 57.6 +1.0**
P52A IAmb IAmb 00 39 01.8
comp=Z,13nm,0.7s
O54A **Avella** **21.26 347** P **P** **00 38 58.6 +1.0**
O54A IAmb IAmb 00 39 03.1
comp=Z,10nm,0.7s
SSPA **Standing Stone** **21.27 352** P **P** **00 38 59.0 +1.3**
SSPA IAmb IAmb 00 39 03.5
comp=Z,7.8nm,0.8s
P51A **Williamsport** **21.31 341** P **P** **00 38 59.2 +1.1**
N58A **Sunbury** **21.34 355** P **P** **00 38 59.3 +0.8**
N58A IAmb IAmb 00 39 01.6
comp=Z,14nm,0.9s
USIN **University of** **21.80 330** P **P** **00 39 03.8 +0.4**
USIN IAmb IAmb 00 39 05.2
comp=Z,12nm,0.9s
PARMO **Parma** **21.86 325** P **P** **00 39 04.6 +0.5**
M57A **Sunshine Farm,** **21.88 354** P **P** **00 39 04.4 +0.2**
M57A IAmb IAmb 00 39 18.8
comp=Z,7.6nm,0.7s
ACSO **Alum Creek Sta** **21.97 342** P **P** **00 39 06.6 +1.3**
P48A **Milroy** **22.11 336** P **P** **00 39 06.7 0.0**
P48A IAmb IAmb 00 39 08.4
comp=Z,16nm,1.4s
LCAR **Lake Charles** **22.24 321** P **P** **00 39 08.6 +0.4**
LCAR IAmb IAmb 00 39 10.8
comp=Z,5.2nm,0.7s
X40A **Basin Creek Fa** **22.27 316** P **P** **00 39 07.8 -0.7**
CGM3 **Cape Girardeau** **22.28 326** P **P** **00 39 07.6 -1.0**
CGM3 IAmb IAmb 00 39 15.7
comp=Z,8.0nm,1.0s
PBMO **Poplar Bluff** **22.32 324** P **P** **00 39 08.7 -0.3**
PBMO IAmb IAmb 00 39 11.0
comp=Z,7.9nm,0.8s
O49A **Covington** **22.36 339** P **P** **00 39 08.9 -0.5**
SIUC **Southern Illin** **22.37 327** P **P** **00 39 09.4 -0.1**
SIUC IAmb IAmb 00 39 16.2
comp=Z,10.0nm,1.0s
WHAR **Wooly Hollow** **22.42 318** P **P** **00 39 10.3 +0.2**
WHAR IAmb IAmb 00 39 12.5
comp=Z,8.5nm,1.0s
L59A **Walton** **22.59 358** P **P** **00 39 11.2 -0.7**
L59A IAmb IAmb 00 39 32.7
comp=Z,6.0nm,0.9s
BINY **Binghamton** **22.64 356** P **P** **00 39 13.0 +0.6**
BINY IAmb IAmb 00 39 16.4
comp=Z,10nm,1.1s
FCAR **Ozark Folk Cen** **22.70 320** P **P** **00 39 13.3 +0.2**
FCAR IAmb IAmb 00 39 16.8
comp=Z,13nm,1.4s
O48B **Farmland** **22.71 338** P **P** **00 39 13.0 -0.1**
O48B IAmb IAmb 00 39 28.2
comp=Z,12nm,1.1s
L56A **Greenwood** **22.71 353** P **P** **00 39 12.8 -0.3**
L56A IAmb IAmb 00 39 16.3
comp=Z,10nm,1.1s
MIAR **Mount Ida** **22.80 315** P **P** **00 39 15.2 +1.0**
Q44A **Meyer Farm, Va** **23.19 329** P **P** **00 39 16.9 -1.2**
SFIN **Lafayette** **23.55 335** P **P** **00 39 21.9 +0.3**
SFIN IAmb IAmb 00 39 26.6
comp=Z,16nm,1.4s
MGMO **Mountain Grove** **23.64 322** P **P** **00 39 23.3 +0.8**
MGMO IAmb IAmb 00 39 26.4
comp=Z,9.6nm,0.9s
CCM **Cathedral Cave** **23.69 325** P **P** **00 39 23.1 +0.1**
CCM IAmb IAmb 00 39 26.0
comp=Z,5.0nm,0.7s
HBVL **Hebbronville** **23.70 293** P **P** **00 39 24.9 +1.6**
HBVL IAmb IAmb 00 39 42.5
comp=Z,5.7nm,0.8s
ACCN **Adirondack Com** **23.78 1** P **P** **00 39 23.9 +0.1**
P43A **Skaggs, Pawnee** **24.01 330** P **P** **00 39 26.5 +0.5**
AAM **Ann Arbor** **24.08 343** P **P** **00 39 27.0 +0.4**
HHAR **Hobbs** **24.09 318** P **P** **00 39 26.5 -0.3**
HHAR IAmb IAmb 00 39 29.4
comp=Z,6.5nm,0.7s
NCB **Newcomb** **24.36 360** P **P** **00 39 29.7 +0.5**
R40A **Maddies Statio** **24.42 324** P **P** **00 39 29.9 +0.1**
R40A IAmb IAmb 00 39 32.5
comp=Z,6.7nm,0.7s
PECO **Prince Edward** **24.44 355** P **P** **00 39 30.1 +0.2**
U38A **Gravette** **24.46 318** P **P** **00 39 30.1 -0.1**
I63A **Otisfield** **24.62 6** P **P** **00 39 31.7 +0.2**
LBNH **Lisbon** **24.70 4** P **P** **00 39 32.5 +0.2**
HNDO **Hondo** **24.88 298** P **P** **00 39 34.6 +0.5**
HNDO IAmb IAmb 00 39 38.4
comp=Z,6.9nm,1.0s
TUL3 **Leonard** **25.07 315** P **P** **00 39 35.6 -0.1**
DELO **Deloro Mine** **25.07 354** P **P** **00 39 36.1 +0.5**
P40A **Paris** **25.19 326** P **P** **00 39 36.5 -0.3**
P40A IAmb IAmb 00 39 40.9
comp=Z,8.1nm,0.9s
BRDY **Brady** **25.24 302** P **P** **00 39 38.5 +1.2**
BRDY IAmb IAmb 00 39 39.8
comp=Z,5.2nm,0.8s
PLPT **Palo Pinto** **25.32 306** P **P** **00 39 37.2 -0.8**
WBO **Williamsburg** **25.41 358** P **P** **00 39 38.3 -0.3**
WBO IAmb IAmb 00 39 41.0
comp=Z,8.5nm,1.0s
N41A **Harden Midland** **25.48 329** P **P** **00 39 39.6 +0.2**
N41A IAmb IAmb 00 39 42.9
comp=Z,6.3nm,1.0s

SADO **Sadowa** **25.50 352** P **P** **00 39 40.1 +0.6**
DEOK **Depew** **25.50 314** P **P** **00 39 39.1 -0.6**
OK052 **Battle Ridge R** **25.79 314** P **P** **00 39 41.0 -1.3**
WMOK **Wichita Mounta** **26.54 310** P **P** **00 39 48.4 -0.7**
JFWS **Jewell Farm** **26.97 333** P **P** **00 39 53.0 +0.2**
JFWS IAmb IAmb 00 39 54.9
comp=Z,6.9nm,1.0s
KAN14 **Manchester OK** **27.10 315** P **P** **00 39 53.5 -0.6**
TXAR **Lajitas Array** **28.51 296** P **P** **00 40 08.3 +1.4**
comp=Z,0.3nm,0.6s,baz=115,slow=8.3,SNR=6.2
comp=Z,0.3nm,0.6s
EYMN **Ely** **31.64 338** P **P** **00 40 33.1 -1.1**
T25A **Trinidad** **31.69 310** P **P** **00 40 35.3 +0.1**
SDCO **Great Sand Dun** **32.74 310** P **P** **00 40 41.5 -2.9**
ISCO **Idaho Springs** **33.72 314** IAmb IAmb 00 40 55.7
comp=Z,1.8nm,0.8s
PV13 **Radium Mtn., P** **35.31 309** IAmb IAmb 00 41 09.9
comp=Z,4.0nm,0.9s
SCHQ **Schefferville** **35.67 7** P **P** **00 41 10.7 +1.5**
comp=Z,7.4nm,0.6s,baz=188,slow=6.9,SNR=15
comp=Z,7.4nm,0.6s
LPAZ **La Paz** **36.09 170** P **P** **00 41 14.1 +0.2**
comp=Z,0.7nm,1.0s,baz=27,slow=18,SNR=2.0
comp=Z,0.7nm,1.0s
PDAR **Pinedale Array** **37.72 316** P **P** **00 41 28.2 +1.1**
comp=Z,0.4nm,0.4s,baz=113,slow=11,SNR=4.4
comp=Z,0.4nm,0.4s
LOHW **Long Hollow** **38.78 316** IAmb IAmb 00 41 38.7
comp=Z,5.3nm,0.9s
FXWY **Fox Creek** **39.07 316** IAmb IAmb 00 41 40.9
comp=Z,4.3nm,0.9s
DLMT **Dillon** **40.84 318** IAmb IAmb 00 41 56.1
comp=Z,7.2nm,1.1s
PLID **Pearl Lake** **42.92 316** P **P** **00 42 11.4 +1.3**
LNOR **Lincton Mounta** **44.70 316** IAmb IAmb 00 42 26.7
comp=Z,4.2nm,0.9s
G08A **Pilot Rock** **44.94 315** IAmb IAmb 00 42 28.6
comp=Z,4.6nm,0.9s
YKA **Yellowknife Ar** **51.12 337** P **P** **00 43 14.7 +1.1**
comp=Z,2.8nm,0.8s,baz=128,slow=7.2,SNR=11
comp=Z,2.8nm,0.8s
EKA **Eskdalemuir Ar** **63.36 37** P **P** **00 44 40.1 -0.1**
comp=Z,0.6nm,0.5s,baz=264,slow=8.3,SNR=4.4
comp=Z,0.6nm,0.5s
ILAR **Eielson Array** **65.14 333** P **P** **00 44 52.5 +0.8**
comp=Z,1.0nm,0.8s,baz=91,slow=4.8,SNR=8.4
comp=Z,1.0nm,0.8s
SPITS **Spitsbergen Ar** **71.12 13** P **P** **00 45 29.4 +0.3**
comp=Z,3.5nm,0.7s,baz=298,slow=6.2,SNR=5.1
comp=Z,3.5nm,0.7s
ARCES **ARCESS Array B** **75.19 21** P **P** **00 45 54.0 +0.8**
comp=Z,1.4nm,0.5s,baz=294,slow=3.9,SNR=12
comp=Z,1.4nm,0.5s
FINES **FINESS Array B** **77.81 29** P **P** **00 46 09.1 +0.9**
comp=Z,1.0nm,0.9s,baz=298,slow=4.1,SNR=4.5
comp=Z,1.2nm,0.9s
KVAR **Kislovodsk Arr** **94.45 40** LR LR 01 26 59.2
comp=Z,534nm,21.6s,slow=34
WRA **Warramunga Arr** **153.19 264** PKPbc **PKPbc** **00 54 08.7 -1.0**
comp=Z,1.0nm,0.5s,baz=85,slow=2.8,SNR=14
WRA PKPab **PKPab** **00 54 21.4 -0.1**
comp=Z,1.8nm,0.6s,baz=85,slow=2.7,SNR=18
ASAR **Alice Springs** **153.61 256** PKPbc **PKPbc** **00 54 10.1 -0.4**
comp=Z,0.4nm,0.6s,baz=85,slow=2.5,SNR=5.4
ASAR PKPab **sPKPbc** **00 54 21.9 +1.2**
comp=Z,0.7nm,0.5s,baz=83,slow=2.7,SNR=10

IDC ***05*** *00:40:42.5±0.4, 0.96N×27.71W, h0km, mb4.7/26, mbtmp4.7/26, ML5.3/1, MS5.2/61, Error ellipse: s-maj=17.2km s-min=10.7km az=138.0*
MOS ***05*** *00:40:43.1±1.2, 1.07N×27.80W, h10km, mb5.5/86, MS5.3/32, Error ellipse: s-maj=6.7km s-min=4.4km az=57.0*
BJI ***05*** *00:40:44.9, 1.02N×27.84W, h8km, mB5.6/15, Ms5.8/24, Ms7 5.6/23*
IPGP ***05*** *00:40:46.0, 1.03N×27.91W, h10km, Mw5.9, Fault plane solution: NP1:ϕs268.00000°, δ86.00000°, λ-169.00000°. NP2:ϕs177.00000°, δ79.00000°, λ-4.00000°.*
NEIC ***05*** *00:40:46.0±1.6, 1.04N±0.05×27.87W±0.07, h10km±1km, mb5.3/596, Ms_20 5.4/1053, Mwb5.8/67, Mww5.8/38, Error ellipse: s-maj=12.2km s-min=8.8km az=259.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.44; Mθθ0.43; Mϕϕ0.02; Mrθ1.10; Mθϕ-5.35; Mrϕ0.70; Fault plane solution: M₀5.52000×10¹⁷ NP1: ϕs178.07000°, δ77.86000°, λ-8.04000°. NP2:ϕs269.77000°, δ82.14000°, λ-167.74000°. Principal axes: T 5.5890, Plg3.0000°, Azm44.0000°; N -0.1405, Plg75.0000°, Azm302.0000°; P -5.4486, Plg14.0000°, Azm134.0000°;*
NEIC ***05*** *00:40:46, 1.04N×27.88W, h16km*
ISC-PP ***05*** *00:40:46, 1.04N×27.87W, h27km±1km, Mwppsm6.2, Moment Tensor Solution. s49 Moment tensor: Scale 10¹⁸Nm; Mrr0.25±.17; Mθθ-0.25±.18; Mϕϕ0.79±.16; Mrθ-0.01±.25; Mθϕ0.26±.14; Mϕr-0.24±.12; Fault plane solution: M₀2.24000×10¹⁸ NP1:ϕs300.40000°, δ71.30000°, λ169.10000°. NP2:ϕs34.00000°, δ79.70000°, λ19.00000°.*
NEIC ***05*** *00:40:46, 1.04N×27.88W, h16km, Moment Tensor Solution. Duration: 4s2 Moment tensor: Scale 10¹⁷Nm; Mrr-1.93; Mθθ1.74; Mϕϕ0.19; Mrθ0.03; Mθϕ-6.44; Mrϕ2.19; Fault plane solution: M₀7.05000×10¹⁷ NP1: ϕs267.84000°, δ68.24000°, λ-170.24000°. NP2: ϕs174.18000°, δ80.94000°, λ-22.05000°. Principal axes: T 7.6728, Plg9.0000°, Azm223.0000°; N -1.4807, Plg66.0000°, Azm333.0000°; P -6.1922, Plg22.0000°, Azm129.0000°;*
NEIC ***05*** *00:40:46.1, 1.04N×27.88W, h10km*
GCMT ***05*** *00:40:49.0±0.1, 1.13N×27.79W, h13km, MW5.9/160, Moment Tensor Solution. s148,c316; s160,c547; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr-1.49±.04; Mθθ2.01±.05; Mϕϕ-0.52±.05; Mrθ2.00±.13; Mθϕ-7.93±.05; Mrr-0.45±.11; Best double couple: Mo8.26600×10¹⁷ NP1:ϕs176.00000°, δ76.00000°, λ0.00000°. NP2:ϕs86.00000°, δ90.00000°, λ166.00000°. Principal axes: T 9.0860, Plg10.0000°, Azm40.0000°; N -1.6460, Plg76.0000°, Azm265.0000°; P -7.4470, Plg9.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 05 00:40:47.1±0.2, 0.92N±0.04×27.96W±0.04, h28km, n1383, σ1.9 75/1065, mb5.3/406, MS5.4/589, 54C-20D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
RCBR	**Riachuelo**	**10.38**	**230**			**Pn**	**00**	**43**	**11.3**	**-3.0**
RCBR	**Riachuelo**	**10.38**	**230**	Pn		**Pn**	**00**	**43**	**10.6**	**-3.7**
	5.3nm,0.3s,baz=43,slow=20,SNR=49									
RCBR				Sn		**Sn**	**00**	**45**	**01.1**	**-8.8**
	1.2nm,0.3s,baz=165,slow=23,SNR=1.0									
RCBR				LR		LR	00	46	29.6	
	comp=Z,7μm,19.0s,baz=66,slow=33									
RCBR	**Riachuelo**	**10.38**	**230**	P		**Pn**	**00**	**43**	**11.3**	**-3.0**
RCBR	**Riachuelo**	**10.38**	**230**	*eP*		**Pn**	**00**	**43**	**10.2**	**-4.1**
NBCL	**Cascavel-CE**	**11.52**	**244**	*eP*		**Pn**	**00**	**43**	**25.4**	**-4.5**
NBPB	**Pedra_Branca-C**	**13.27**	**241**	*eP*		**Pn**	**00**	**43**	**49.2**	**-4.6**
NBAN	**Anadia - AL**	**13.38**	**218**	*eP*		**Pn**	**00**	**43**	**53.7**	**-1.7**
SACV	**Santiago Islan**	**14.61**	**17**	Pn		Pn	00	44	06.7	-5.4
H10N3	**ASCENSION HYDR**	**15.99**	**123**	T		T	01	00	42.6	
	baz=303,slow=75,SNR=6153									
H10N2	**ASCENSION HYDR**	**16.00**	**123**	T		T	01	00	45.6	
	baz=303,slow=75,SNR=7221									
H10N1	**ASCENSION HYDR**	**16.01**	**123**	T		T	01	00	44.2	
	baz=303,slow=75,SNR=5501									
ASCN	**Ascension**	**16.16**	**123**			**Pn**	**00**	**44**	**31.7**	**-0.7**
H10S3	**ASCENSION HYDR**	**16.48**	**127**	T		T	01	01	22.2	
	baz=304,slow=74,SNR=8263									
H10S2	**ASCENSION HYDR**	**16.50**	**127**	T		T	01	01	25.0	
	baz=276,slow=74,SNR=6469									
MBO	**M'Bour**	**17.25**	**39**			**Pn**	**00**	**44**	**42.6**	**-3.6**
BBTS	**Babate**	**17.72**	**39**	P		**Pn**	**00**	**44**	**47.2**	**-4.8**
	9.4nm,0.3s,baz=244,slow=0.7,SNR=39									
BBTS				S		Sn	00	47	51.6	-17
	31nm,0.8s,baz=243,slow=22,SNR=6.2									
CMC01	**Camacan, BA**	**19.80**	**215**	*eP*		**P**	**00**	**45**	**14.4**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**20.40**	**261**	*eP*		**P**	**00**	**45**	**20.2**	**-1.9**
GUA01	**Guaratinga, BA**	**20.95**	**213**	*eP*		**P**	**00**	**45**	**27.4**	**-0.6**
SDBA	**SAO DESIDERIO**	**21.41**	**231**	*eP*		**P**	**00**	**45**	**30.0**	**-3.0**
SMTB	**Santa Maria do**	**21.84**	**243**	*eP*		**P**	**00**	**45**	**35.6**	**-2.0**
JANB	**Januaria**	**22.66**	**225**	*eP*		**P**	**00**	**45**	**44.3**	**-2.2**

PRPB **Parauapebas** **22.93 252** *eP* **P** **00 45 47.5 -1.7**
RIB01 **Linhares ES** **23.52 211** *eP* **P** **00 45 53.5 -1.6**
DBIC **Dimbokro** **23.74 75** **P** **00 45 54.6 -2.6**
DBIC **Dimbokro** **23.74 75** P **P** **00 45 52.9 -4.4**
128nm,0.9s,baz=277,slow=12,SNR=63
DBIC S **S** **00 50 09.8 -1.3**
16nm,0.8s,baz=350,slow=22,SNR=5.2
DBIC LR LR 00 52 46.7
comp=Z,11μm,21.8s,baz=274,slow=31
128nm,0.9s
DBIC **Dimbokro** **23.74 75** P **P** **00 45 54.7 -2.6**
DBIC pmax pmax
comp=Z,321nm,1.0s
DIAM **Diamantina, MG** **24.57 218** *eP* **P** **00 46 04.3 -0.8**
MDP **Montagnes des** **24.99 280** LR LR 00 55 05.9
comp=Z,2μm,18.1s,baz=84,slow=34
BDFB **Brasilia** **25.76 229** **P** **00 46 17.1 +1.3**
BDFB IAmb IAmb 00 46 21.8
comp=Z,185nm,1.9s
BDFB **Brasilia** **25.76 229** P **P** **00 46 16.8 +1.0**
comp=Z,20nm,0.8s,baz=72,slow=7.1,SNR=23
BDFB LR LR 00 55 21.2
comp=Z,16μm,20.8s,baz=62,slow=34
comp=Z,20nm,0.8s
BDFB **Brasilia** **25.76 229** P **P** **00 46 17.1 +1.3**
BDFB pmax pmax
comp=Z,185nm,1.9s
MAL2 **Monte Alegre,** **26.38 264** **P** **00 46 22.5 +1.0**
SNDB **Serra Nova Dou** **26.48 240** *eP* **P** **00 46 20.3 -2.0**
PMNB **Patos De Minas** **26.53 222** *eP* **P** **00 46 23.2 +0.4**
BSCB **Bom Sucesso** **27.29 216** *eP* **P** **00 46 29.2 -0.4**
IPMB **Ipameri, GO** **27.39 226** *eP* **P** **00 46 29.2 -1.2**
ACRG **Accra** **28.09 80** P **P** **00 46 36.0 -0.8**
NPGB **Novo Progresso** **28.46 253** *eP* **P** **00 46 38.1 -2.0**
ITRB **Iturama** **30.05 226** *eP* **P** **00 46 52.7 -1.4**
CLDB **Colider** **30.06 246** *eP* **P** **00 46 52.1 -2.2**
VAO **Valinhos** **30.13 217** **P** **00 46 55.4 +0.6**
VAO IAmb IAmb 00 47 01.8
comp=Z,43nm,1.0s
VAO **Valinhos** **30.13 217** *eP* **P** **00 46 53.6 -1.3**
PDRB **Porto dos Gac** **31.18 246** *eP* **P** **00 47 02.3 -1.9**
C2SB **Chapadao do Su** **31.31 230** *eP* **P** **00 47 03.9 -1.3**
TORD **Torodi Ar. Bea** **31.78 66** P **P** **00 47 06.7 -2.8**
TORD **Torodi Ar. Bea** **31.78 66** P **P** **00 47 06.7 -2.8**
comp=Z,47nm,0.8s,baz=260,slow=6.6,SNR=114
TORD LR LR 00 58 00.1
comp=Z,10μm,21.1s,baz=244,slow=33
comp=Z,47nm,0.8s
PCMB **Pacaembu** **31.93 224** *eP* **P** **00 47 09.2 -1.5**
SALV **Santo Antonio** **32.09 237** *eP* **P** **00 47 10.2 -2.0**
BOAV **Boa Vista** **32.58 273** **P** **00 47 17.2 +0.7**
BOAV **Boa Vista** **32.58 273** *eP* **P** **00 47 14.9 -1.7**
RPRD **Ribas do Rio P** **32.98 228** *eP* **P** **00 47 20.3 +0.4**
FUL **Funchal** **33.24 17** *eP* **P** **00 47 22.9 +0.9**
FUL *i* IAmb IAmb 00 47 39.9
comp=Z,70nm,1.7s
FUL *eT* T 01 21 22.5
PMAR **Madeira** **33.30 17** *eP* **P** **00 47 22.4 -0.4**
PMAR *i* IAmb IAmb 00 47 25.8
comp=Z,98nm,1.6s
PMAR *ePP* **PP** **00 48 34.3 -4.1**
PMAR *eT* T 01 21 21.3
PMOZ **Porto Moniz, M** **33.31 17** *eP* **P** **00 47 22.4 -0.4**
PMOZ *i* IAmb IAmb 00 47 56.3
comp=Z,68nm,1.6s
PMOZ *ePP* **PP** **00 48 40.9 +2.5**
PMOZ *eS* **S** **00 52 48.2 +6.4**
PMOZ *i* IAMs_20 IAMs_20 00 57 32.8
comp=Z,6μm,22.0s
PMOZ *eT* T 01 21 22.9
TRCB **Terra Rica** **33.66 224** P **P** **00 47 28.0 +2.1**
TRCB **Terra Rica** **33.66 224** *eP* **P** **00 47 23.2 -2.6**
PMPS **Porto Santo** **33.79 18** *eP* **P** **00 47 26.9 +0.1**
PMPS *i* IAmb IAmb 00 47 53.4
comp=Z,82nm,1.7s
PMPST **Porto Santo, M** **33.81 18** *eP* **P** **00 47 26.6 -0.3**
PMPST *i* IAmb IAmb 00 47 29.3
comp=Z,153nm,1.7s
PMPST *ePP* **PP** **00 48 44.0 +0.2**
AQDB **Aquidauana** **34.49 230** **P** **00 47 34.8 +1.7**
AQDB **Aquidauana** **34.49 230** *eP* **P** **00 47 30.3 -2.8**
PTGB **Pitanga** **34.57 221** *eP* **P** **00 47 32.0 -1.8**
VILB **Vilhena** **34.83 246** **P** **00 47 36.3 +0.2**
VILB IAmb IAmb 00 47 40.2
comp=Z,38nm,1.0s
VILB **Vilhena** **34.83 246** *eP* **P** **00 47 34.6 -1.5**
PTLB **Pontes e Lacer** **34.84 241** **P** **00 47 35.3 -0.8**
PTLB IAMs_20 IAMs_20 01 00 36.7
comp=Z,8μm,19.0s
PTLB **Pontes e Lacer** **34.84 241** *eP* **P** **00 47 35.0 -1.1**
MPOM **Morne Pois Mar** **35.19 294** **P** **00 47 40.2 +1.1**
BDQN **Bodoquena, MS** **35.30 231** *eP* **P** **00 47 37.3 -2.7**
AMBA **Amambai (Brazi** **35.42 226** *eP* **P** **00 47 40.3 -0.7**
PSMA **Santa Maria** **35.99 4** eLQ LQ 00 55 55.6
PSMA eLR LR 00 56 22.2
PSMA *i* IAMs_20 IAMs_20 00 57 11.9
comp=Z,539nm,19.3s
PSMA *eT* T 01 24 41.4
PSMN **Pico do Norte,** **36.01 4** eLQ LQ 00 55 41.3
PSMN eLR LR 00 56 10.6
PSMN *i* IAMs_20 IAMs_20 00 56 39.0
comp=Z,770nm,16.0s
PSMN *eT* T 01 24 39.3
CMLA **Cha da Macela** **36.73 3** P **P** **00 47 50.9 -1.2**
CMLA IAmb IAmb 00 49 06.1
comp=Z,34nm,0.8s
CMLA **Cha da Macela** **36.73 3** eLQ LQ 00 56 00.1
CMLA eLR LR 00 56 24.4
CMLA *i* IAMs_20 IAMs_20 00 56 28.9
comp=Z,723nm,20.0s
CMLA *eT* T 01 25 29.3
CMLA **Cha da Macela** **36.73 3** P **P** **00 47 50.9 -1.2**
CMLA pmax pmax
comp=Z,34nm,0.8s
PGRON **Lagoa das Cont** **36.75 3** *eT* T 01 25 26.6
SIV **San Ignacio** **36.76 241** LR LR 01 02 05.8
comp=Z,9μm,18.8s,baz=78,slow=35
BART **Pico Bartolome** **36.77 4** *eT* T 01 25 24.4
PCALD **Caldeiras da R** **36.77 3** eLR LR 00 56 41.6
PSET **Sete Cidades** **36.78 3** eLQ LQ 00 56 08.9
PSET eLR LR 00 56 56.5
PSET *i* IAMs_20 IAMs_20 00 57 14.2
comp=Z,2μm,18.0s
BBSD **Serra de San D** **36.87 239** *eP* **P** **00 47 52.3 -1.2**
PICO **Pico** **37.41 359** eLQ LQ 00 56 33.3
PICO eLR LR 00 57 17.5
PICO *i* IAMs_20 IAMs_20 01 00 00.9
comp=Z,3μm,20.0s
CALA **Caldeira** **37.49 359** eLQ LQ 00 56 56.5
CALA eLR LR 00 57 19.7
CALA *i* IAMs_20 IAMs_20 00 58 13.2
comp=Z,671nm,16.0s
SJPY **San Joaquin** **37.50 225** *eP* **P** **00 47 57.9 -0.9**
ROSA **Rosais** **37.62 360** eLQ LQ 00 56 36.0
ROSA eLR LR 00 57 24.2
ROSA *i* IAMs_20 IAMs_20 00 58 17.9
comp=Z,898nm,16.0s
PAGU **Agualva, Azore** **37.67 1** eLQ LQ 00 56 29.4
PAGU eLR LR 00 56 50.4
PAGU *i* IAMs_20 IAMs_20 00 57 23.2
comp=Z,613nm,18.0s
PGRA **Graciosa** **37.93 360** eLR LR 00 56 58.2
PGRA *i* IAMs_20 IAMs_20 00 57 33.6
comp=Z,1μm,18.0s
EDA **Edea** **38.18 85** **P** **00 48 04.5 -0.2**
H07S1 **FLORES T-PHASE** **38.39 356** eLR LR 00 56 54.8
MD31 **MD31** **38.55 32** IAmb IAmb 00 48 09.7
comp=Z,149nm,1.7s
MDT **Midelt** **38.59 32** LR LR 01 03 25.1
comp=Z,8μm,18.6s,baz=244,slow=36
CPUP **Villa Florida** **39.20 224** **P** **00 48 12.8 -0.2**
CPUP **Villa Florida** **39.20 224** P **P** **00 48 12.6 -0.4**
comp=Z,8.5nm,1.1s,baz=269,slow=8.2,SNR=21
CPUP LR LR 01 04 07.9
comp=Z,4μm,19.2s,baz=272,slow=36
comp=Z,8.5nm,1.1s
CPUP **Villa Florida** **39.20 224** P **P** **00 48 12.8 -0.2**
CPUP pmax pmax
comp=Z,24nm,1.3s
CPSB **Cacapava Do Su** **39.48 216** *eP* **P** **00 48 15.1 -0.3**
PFVI **Vila Bisbo** **40.14 24** *eP* **P** **00 48 20.6 0.0**
MORF **Marmelete** **40.35 24** *eP* **P** **00 48 22.7 +0.1**
MORF *ePP* **PP** **00 49 55.1 -0.7**
MORF *eS* **S** **00 54 31.0 +2.1**

MORF IAMs_20 IAMs_20 00 57 38.4
comp=E,6µm,24.9s
MORF Marmelete 40.35 24 IAmb IAmb 00 48 23.8
comp=Z,135nm,1.6s
MORF IAMs_20 IAMs_20 01 01 36.6
comp=Z,6µm,20.0s
MORF Marmelete 40.35 24 *e*P **P 00 48 22.6 0.0**
MORF *i* IAmb IAmb 00 48 24.7
comp=Z,112nm,1.5s
MORF *e*PP **PP 00 49 56.3 +0.5**
H09N1 TRISTAN DA CUN 40.48 161 T T 01 31 39.8
SNR=5.8
H09W1 TRISTAN DA CUN 40.50 161 T T 01 31 37.0
SNR=6.8
PTEO Sao Teotonio 40.53 24 *e*P **P 00 48 23.8 -0.2**
PTEO *i* IAmb IAmb 00 48 26.3
comp=Z,128nm,1.4s
PTEO *e*PP **PnPn 00 49 59.4 -2.3**
PLTB Pedras Altas 40.58 215 **P 00 48 25.5 +1.0**
PLTB IAMs_20 IAMs_20 01 03 41.0
comp=Z,6µm,20.0s
PLTB Pedras Altas 40.58 215 *e*P **P 00 48 22.8 -1.7**
PBDV Barranco-do-Ve 40.60 25 *e*P **P 00 48 24.3 -0.2**
PBDV *i* IAmb IAmb 00 48 26.8
comp=Z,86nm,1.6s
PBDV *e*PP **PP 00 49 54.1 -4.4**
BAUV El Baul 40.69 283 **P 00 48 27.4 +1.8**
PVAQ Vaqueiros 40.83 25 P **P 00 48 25.6 -0.8**
PVAQ IAmb IAmb 00 48 47.0
comp=Z,104nm,1.2s
PVAQ IAMs_20 IAMs_20 01 02 22.1
comp=Z,7µm,21.0s
PVAQ Vaqueiros 40.83 25 *e*P **P 00 48 26.0 -0.4**
PVAQ *i* IAmb IAmb 00 48 29.7
comp=Z,101nm,1.7s
PVAQ *e*PP **PP 00 50 01.4 +0.5**
PVAQ *e*S **S 00 54 38.8 +2.9**
PVAQ *i* IAMs_20 IAMs_20 01 02 46.9
comp=Z,4µm,18.0s
PCVE Castro Verde 40.89 24 *e*P **P 00 48 26.9 0.0**
PCVE *i* IAmb IAmb 00 48 30.1
comp=Z,107nm,1.7s
PCVE *e*PP **PP 00 50 03.1 +1.6**
HUMP Col San Antoni 40.95 297 P **P 00 48 29.2 +1.5**
HUMP IAmb IAmb 00 48 32.5
comp=Z,46nm,0.8s
MESJ Messejana 40.99 24 *e*P **P 00 48 27.9 +0.2**
MESJ *e*PP **PP 00 50 01.9 -0.7**
MESJ *e*S **S 00 54 40.2 +2.0**
MESJ IAMs_20 IAMs_20 01 02 10.2
comp=Z,6µm,16.9s
MESJ Messejana 40.99 24 P **P 00 48 27.7 -0.1**
MESJ IAmb IAmb 00 48 29.6
comp=Z,87nm,1.6s
MESJ IAMs_20 IAMs_20 01 01 56.4
comp=Z,6µm,20.0s
MESJ Messejana 40.99 24 *e*P **P 00 48 27.7 -0.1**
MESJ *i* IAmb IAmb 00 48 31.2
comp=Z,69nm,1.9s
MESJ *e*PP **PP 00 50 03.1 +0.5**
MESJ Messejana 40.99 24 P **P 00 48 27.7 -0.1**
MESJ pmax pmax
comp=Z,87nm,1.6s
PDPR Patillas Dam, 41.06 297 P **P 00 48 29.8 +1.1**
SJG San Juan 41.21 297 P **P 00 48 31.3 +1.4**
SJG San Juan 41.21 297 LR LR 01 01 52.6
comp=Z,4µm,21.5s,baz=113,slow=31
SJG San Juan 41.21 297 P **P 00 48 31.3 +1.4**
SJG pmax pmax
comp=Z,44nm,1.0s
GCPR Guaynabo City 41.22 297 P **P 00 48 31.6 +1.7**
PBEJ Beja 41.29 24 *e*P **P 00 48 30.2 -0.1**
PBEJ *i* IAmb IAmb 00 48 33.6
comp=Z,76nm,1.8s
PBEJ *e*PP **PnPn 00 50 08.3 -2.3**
LIS Lisbon 41.38 22 *e*P **P 00 48 31.2 +0.2**
LIS *e*PP **PP 00 50 06.3 -0.5**
LIS *e*S **S 00 54 45.9 +1.9**
LIS IAMs_20 IAMs_20 00 58 16.8
comp=E,10µm,26.8s
LIS Lisbon 41.38 22 *e*P **P 00 48 31.8 +0.9**
LIS *e*tx tx 00 48 31.9
LIS *e*PP **PP 00 50 07.0 +0.1**
PARRA Arraiolos 41.51 22 *e*P P 00 48 35.0 +3.1
PARRA *i* IAmb IAmb 00 48 38.7
comp=E,84nm,1.8s
PARRA *e*PP **PP 00 50 08.9 +0.7**
PMAFR Mafra 41.54 22 *e*P **P 00 48 32.5 +0.3**
PMAFR *i* IAmb IAmb 00 48 34.9
comp=E,113nm,1.6s
PMAFR *e*PP **PP 00 50 09.1 +0.5**
CELP Cerrillos 41.58 297 **P 00 48 34.2 +1.3**
CELP IAmb IAmb 00 48 37.2
comp=Z,38nm,0.8s
EVO Evora 41.67 24 *e*P **P 00 48 33.2 -0.1**
EVO *i* IAmb IAmb 00 48 37.0
comp=Z,82nm,1.6s
EMPR Esperanza - Ma 41.67 297 IAMs_20 IAMs_20 01 02 55.0
comp=Z,4µm,20.0s
PBAR Barrancos 41.77 25 *e*P **P 00 48 33.8 -0.3**
PBAR *i* IAmb IAmb 00 48 37.6
comp=Z,61nm,1.7s
PBAR *e*PP **PP 00 50 10.8 -0.2**
UUPR Utuado, UPR, P 41.77 297 P **P 00 48 34.8 +0.4**
PMTG Montargil 42.04 23 *e*P **P 00 48 36.5 +0.1**
PMTG *e*PP **PP 00 50 11.6 -2.4**
PESTR Estremoz 42.12 24 P **P 00 48 37.0 0.0**
PESTR IAmb IAmb 00 48 39.0
comp=Z,107nm,1.7s
PESTR Estremoz 42.12 24 *e*P **P 00 48 37.1 0.0**
PESTR *i* IAmb IAmb 00 48 40.8
comp=Z,72nm,1.7s
PESTR *e*PP **PP 00 50 14.7 -0.2**
PRSN Puerto Rico Se 42.13 296 P **P 00 48 37.7 +0.3**
PRSN IAmb IAmb 00 48 48.1
comp=Z,60nm,0.8s
TBTG Tabatinga, AM 42.23 263 P **P 00 48 39.0 +0.8**
TBTG IAmb IAmb 00 48 40.3
comp=Z,53nm,1.0s
PSARD Sardoal 42.53 23 *e*P **P 00 48 40.5 +0.2**
PSARD *i* IAmb IAmb 00 48 42.9
comp=Z,110nm,1.5s
PSARD *e*PP **PP 00 50 21.6 +2.4**
PMRV Marv??o 42.68 24 *e*P **P 00 48 42.1 +0.5**
PMRV *i* IAmb IAmb 00 48 44.4
comp=Z,140nm,1.7s
PMRV *e*PP **PP 00 50 22.5 +1.6**
PMRV *e*S **S 00 55 06.3 +3.0**
PMRV *i* IAMs_20 IAMs_20 01 03 17.1
comp=Z,4µm,20.0s
PCAS Casmilo, Conde 42.79 22 *e*P **P 00 48 42.3 -0.1**
PCAS *i* IAmb IAmb 00 48 46.1
comp=Z,71nm,1.7s
PCAS *e*PP **PP 00 50 22.6 +0.5**
COI Coimbra 42.96 22 **P 00 48 43.5 -0.3**
COI IAmb IAmb 00 48 45.0
comp=Z,75nm,1.4s
COI IAMs_20 IAMs_20 01 02 18.5
comp=Z,5µm,20.0s
COI Coimbra 42.96 22 *e*P **P 00 48 43.7 -0.1**
COI *i* IAmb IAmb 00 48 59.4
comp=Z,77nm,2.0s
COI Coimbra 42.96 22 P **P 00 48 43.5 -0.3**
COI pmax pmax
comp=Z,75nm,1.4s
PCBR Castelo Branco 43.00 23 *e*P **P 00 48 44.0 -0.1**
PCBR *i* IAmb IAmb 00 48 46.5
comp=Z,58nm,1.9s
PCBR *e*PP **PP 00 50 23.8 -0.6**
LPAZ La Paz 43.17 245 P **P 00 48 46.7 +0.1**
LPAZ La Paz 43.17 245 P **P 00 48 46.0 -0.6**
comp=Z,7.7nm,0.7s,baz=65,slow=6.4,SNR=20
LPAZ LR LR 01 06 27.7
comp=Z,5µm,20.8s,baz=69,slow=36
comp=Z,7.7nm,0.7s
LPAZ La Paz 43.17 245 P **P 00 48 46.7 +0.1**
LPAZ pmax pmax
comp=Z,34nm,1.2s
LPAZ La Paz 43.17 245 *e*P **P 00 48 43.6 -3.0**
SDV Santo Domingo 43.21 282 **P 00 48 47.9 +1.4**
SDV Santo Domingo 43.21 282 LR LR 01 07 52.2
comp=Z,1µm,18.4s,baz=102,slow=38
SDV Santo Domingo 43.21 282 *e*P **P 00 48 43.3 -3.1**
PVIS Viseu 43.59 22 *e*P **P 00 48 48.8 -0.2**

PTO Porto 43.70 21 *e*P **P 00 48 49.8 +0.1**
PTO *i* IAmb IAmb 00 48 52.3
comp=Z,142nm,1.9s
PAB San Pablo 44.07 26 P **P 00 48 51.4 -1.5**
PAB IAmb IAmb 00 48 54.5
comp=Z,84nm,1.6s
PAB San Pablo 44.07 26 P **P 00 48 51.4 -1.5**
PAB pmax pmax
comp=Z,84nm,1.6s
CART Cartagena 44.14 31 P **P 00 48 51.7 -1.6**
CART IAmb IAmb 00 48 54.0
comp=Z,56nm,1.5s
PVRL Vila Real 44.15 22 *e*P **P 00 48 53.6 +0.2**
PVRL *i* IAmb IAmb 00 48 56.2
comp=Z,69nm,1.9s
PVRL *e*PP **PP 00 50 36.3 -0.3**
POLO Lamas de Olo 44.20 22 *e*P **P 00 48 53.7 -0.2**
POLO *i* IAmb IAmb 00 48 57.1
comp=Z,26nm,1.6s
MVO Moncorvo 44.31 23 *e*P **P 00 48 54.7 -0.1**
MVO *i* IAmb IAmb 00 49 10.9
comp=Z,70nm,2.0s
MVO *e*S **S 00 55 30.4 +3.1**
MVO *i* IAMs_20 IAMs_20 01 03 55.3
comp=Z,3µm,20.0s
DR12 Loma Pena Alta 44.33 296 P **P 00 48 55.5 +0.3**
ESDC Sonseca Array 44.35 27 **P 00 48 53.7 -1.4**
ESDC IAmb IAmb 00 48 56.9
comp=Z,78nm,1.6s
ESDC Sonseca Array 44.35 27 P **P 00 48 52.1 -2.9**
comp=Z,28nm,1.2s,baz=222,slow=7.9,SNR=64
ESDC LR LR 01 04 60.0
comp=Z,3µm,21.4s,baz=235,slow=33
comp=Z,28nm,1.2s
ESBB Sonseca Array 44.35 27 IAmb IAmb 00 48 56.9
comp=Z,103nm,1.6s
PCAB Cabril 44.41 21 *e*P **P 00 48 55.7 +0.2**
PCAB *i* IAmb IAmb 00 48 58.5
comp=Z,124nm,1.8s
PGAV Gavieira, Arco 44.55 21 *e*P **P 00 48 56.6 0.0**
PGAV *i* IAmb IAmb 00 48 59.7
comp=Z,101nm,1.9s
PGAV *e*S **S 00 55 32.7 +2.0**
PGAV *i* IAMs_20 IAMs_20 01 03 35.1
comp=Z,4µm,22.0s
PB18 Visviri 44.83 244 P **P 00 49 01.4 +1.7**
PB18 IAmb IAmb 00 50 07.0
comp=Z,67nm,1.6s
PBRG Braganca 44.97 23 *e*P **P 00 48 60.0 0.0**
PBRG *i* IAmb IAmb 00 49 02.4
comp=Z,40nm,1.7s
BANI BANI 45.08 295 P **P 00 49 01.3 0.0**
PB16 IPOC Station P 45.11 243 P **P 00 49 02.2 +0.2**
PB16 IAMs_20 IAMs_20 01 07 09.6
comp=Z,5µm,21.0s
RUSC La Rusia 45.30 277 **P 00 49 04.8 +1.2**
RUSC IAmb IAmb 00 49 43.3
comp=Z,70nm,1.4s
CZSB Cruzeiro do Su 45.44 258 **P 00 49 04.5 +0.4**
CZSB IAmb IAmb 00 49 05.9
comp=Z,43nm,1.2s
CZSB Cruzeiro do Su 45.44 258 *e*P **P 00 49 03.2 -0.9**
PB08 IPOC Station P 45.45 240 IAMs_20 IAMs_20 01 08 25.9
comp=Z,4µm,18.0s
SC01 Santiago de lo 45.74 297 P **P 00 49 06.5 +0.2**
SC01 IAMs_20 IAMs_20 01 04 01.6
comp=Z,4µm,22.0s
PB01 IPOC Station P 46.09 239 IAMs_20 IAMs_20 01 08 26.8
comp=Z,7µm,22.0s
SDDR Presa de Saban 46.10 296 **P 00 49 11.2 +1.9**
SDDR IAmb IAmb 00 49 32.4
comp=Z,29nm,1.1s
ROSC El Rosal 46.46 276 P **P 00 49 13.8 +1.2**
ROSC El Rosal 46.46 276 P **P 00 49 12.7 +0.1**
comp=Z,15nm,0.8s,baz=293,slow=11,SNR=6.7
ROSC LR LR 01 07 14.8
comp=Z,6µm,19.8s,baz=104,slow=34
comp=Z,15nm,0.8s
ROSC El Rosal 46.46 276 P **P 00 49 13.8 +1.2**
ROSC pmax pmax
comp=Z,109nm,1.6s
PB02 IPOC Station P 46.55 239 IAMs_20 IAMs_20 01 08 40.9
comp=Z,5µm,20.0s
PB06 IPOC Station P 46.83 237 IAMs_20 IAMs_20 01 08 46.3
comp=Z,3µm,20.0s
FLOC Florencia 47.69 271 **P 00 49 22.2 +0.4**
FLOC IAmb IAmb 00 49 41.0
comp=Z,56nm,1.4s
MAHO Mahon 48.63 33 P **P 00 49 28.0 -0.6**
TSUM Tsumeb 48.96 117 **P 00 49 31.4 -0.2**
TSUM IAmb IAmb 00 49 37.6
comp=Z,33nm,1.1s
TSUM Tsumeb 48.96 117 LR LR 01 07 41.5
comp=Z,2µm,18.0s,baz=286,slow=33
KEST Kesra 48.98 41 **P 00 49 30.4 -1.1**
KEST IAmb IAmb 00 49 56.0
comp=Z,56nm,1.1s
KEST Kesra 48.98 41 P **P 00 49 28.7 -2.8**
comp=Z,24nm,1.2s,baz=241,slow=4.4,SNR=16
KEST LR LR 01 12 38.1
comp=Z,6µm,18.2s,baz=263,slow=39
comp=Z,24nm,1.2s
CEST Esterri de Car 49.07 28 **P 00 49 31.2 -0.9**
CEST IAMs_20 IAMs_20 01 08 12.3
comp=Z,5µm,21.0s
AC01 Pan de Azucar 49.15 234 IAMs_20 IAMs_20 01 10 55.8
comp=Z,3µm,20.0s
WIN Windhoek 49.70 121 P **P 00 49 37.8 +0.5**
WIN IAmb IAmb 00 49 40.3
comp=Z,62nm,1.3s
TSUM Tsumeb 49.70 121 P **P 00 49 37.8 +0.5**
WIN pmax pmax
comp=Z,62nm,1.3s
GTBY Guantanamo Bay 49.83 295 P **P 00 49 39.5 +1.4**
GTBY IAmb IAmb 00 49 43.1
comp=Z,35nm,0.9s
TRQA Tornquist 49.88 215 **P 00 49 39.5 +1.3**
TRQA IAmb IAmb 00 49 44.3
comp=Z,75nm,1.8s
TRQA IAMs_20 IAMs_20 01 09 36.0
comp=Z,3µm,20.0s
TRQA Tornquist 49.88 215 P **P 00 49 39.5 +1.3**
TRQA pmax pmax
comp=Z,75nm,1.8s
NMDO Nuevo Mundo 49.89 296 **P 00 49 38.6 +0.1**
NMDO IAmb IAmb 00 49 55.7
comp=Z,39nm,1.1s
NMDO IAMs_20 IAMs_20 01 06 52.7
comp=Z,4µm,22.0s
CFA Coronel Fontan 50.02 226 LR LR 01 11 08.3
comp=Z,7µm,19.1s,baz=34,slow=36
NNA Nana 50.20 254 **P 00 49 42.0 +0.9**
NNA IAmb IAmb 00 49 43.0
comp=Z,52nm,1.4s
NNA Nana 50.20 254 P **P 00 49 42.0 +0.9**
NNA pmax pmax
comp=Z,52nm,1.4s
ZON Zonda 50.30 226 **P 00 49 43.3 +1.7**
ZON Zonda 50.30 226 P **P 00 49 43.3 +1.7**
ZON pmax pmax
comp=Z,27nm,1.2s
ZON MLR MLR
comp=Z,12µm,20.0s
AC04 Llanos de Chal 50.45 231 P **P 00 49 43.7 +1.0**
AC04 IAMs_20 IAMs_20 01 11 15.4
comp=Z,4µm,19.0s
OTAV Otavalo 50.49 270 P **P 00 49 44.7 +0.9**
OTAV Otavalo 50.49 270 P **P 00 49 44.7 +0.9**
OTAV pmax pmax
comp=Z,10.0nm,1.0s
OTAV Otavalo 50.49 270 *e*P **P 00 49 40.5 -3.3**
LCO Las Campanas 50.54 230 IAMs_20 IAMs_20 01 11 45.7
comp=Z,4µm,19.0s
LCO Las Campanas 50.54 230 P **P 00 49 46.3 +2.6**
CO01 Juntas del Tor 50.55 229 P **P 00 49 46.5 +2.8**
CO01 IAmb IAmb 00 50 27.0
comp=Z,94nm,2.0s
ATAH Atahualpa 50.95 260 LR LR 01 12 52.5
comp=Z,2µm,18.1s,baz=81,slow=38
CHIV Chivirico 51.02 295 IAMs_20 IAMs_20 01 07 42.7
comp=Z,2µm,22.0s
GO04 Tololo Observa 51.18 229 P **P 00 49 50.1 +1.7**
VSL Villasalto 51.30 37 **P 00 49 48.5 -0.4**
VSL IAmb IAmb 00 49 50.9
comp=Z,84nm,1.7s
VSL IAMs_20 IAMs_20 01 09 53.5

comp=Z,3µm,19.0s
CO05 La Serena 51.39 230 IAMs_20 IAMs_20 01 11 27.1
comp=Z,4µm,20.0s
CO03 El Pedregal 51.42 228 P **P 00 49 51.3 +1.2**
CO03 IAmb IAmb 00 50 04.4
comp=Z,53nm,1.4s
CO06 Fray Jorge 52.05 229 IAMs_20 IAMs_20 01 12 04.8
comp=Z,5µm,21.0s
MT08 Bocatoma Ro 52.27 225 P **P 00 49 57.8 +1.3**
VA03 San Esteban 52.29 226 P **P 00 49 58.5 +2.0**
VA03 IAmb IAmb 00 50 04.9
comp=Z,24nm,0.6s
KOOLE Kule 52.52 120 **P 00 49 57.7 -0.7**
KOOLE IAMs_20 IAMs_20 01 07 41.6
comp=Z,3µm,21.0s
KOOLE Kule 52.52 120 *i* P **P 00 49 59.6 +1.2**
WDD Wied Dalam 52.52 44 P **P 00 49 57.4 -0.6**
PEL Peldehue 52.59 226 P **P 00 49 59.4 +0.7**
PEL IAmb IAmb 00 50 12.8
comp=Z,71nm,1.5s
PEL Peldehue 52.59 226 P **P 00 49 59.4 +0.7**
PEL pmax pmax
comp=Z,71nm,1.5s
PEL MLR MLR
comp=Z,7µm,20.0s
LMEL Las Melosas 52.61 225 P **P 00 50 00.1 +1.1**
MT16 CCHEN 52.62 225 P **P 00 50 00.6 +1.7**
MT16 IAmb IAmb 00 50 08.1
comp=Z,26nm,0.8s
SSB Saint Sauveur 52.65 29 **P 00 49 58.6 -0.3**
SSB IAMs_20 IAMs_20 01 09 59.0
comp=Z,4µm,19.0s
SSB Saint Sauveur 52.65 29 IAmb IAmb 00 50 01.1
comp=Z,104nm,1.8s
VA06 Catapilco 52.73 227 P **P 00 50 01.4 +1.8**
VA06 IAmb IAmb 00 50 08.1
comp=Z,32nm,0.9s
MT05 Renca 52.75 226 P **P 00 50 01.7 +1.8**
GRTLG Ghanzi 52.87 118 **P 00 50 01.4 +0.3**
GRTLG IAMs_20 IAMs_20 01 09 02.9
comp=Z,3µm,20.0s
GRTLG Ghanzi 52.87 118 *i* P **P 00 50 01.9 +0.8**
MT02 Curacav 52.97 226 P **P 00 50 02.7 +1.3**
MT02 IAmb IAmb 00 50 05.0
comp=Z,79nm,1.6s
BO04 La Punta 52.97 225 P **P 00 50 01.2 -0.3**
BO04 IAmb IAmb 00 50 16.3
comp=Z,44nm,1.0s
MT09 Talagante 53.13 225 IAmb IAmb 00 50 12.4
comp=Z,25nm,0.8s
GMARE Gumare 53.13 115 P **P 00 50 03.1 +0.1**
GMARE IAmb IAmb 00 50 05.2
comp=Z,33nm,1.1s
RAFF Raffo Rosso 53.15 42 P **P 00 50 03.0 +0.3**
RAFF IAmb IAmb 00 50 19.9
comp=Z,56nm,1.2s
VAE Valguarnera 53.32 42 LR LR 01 12 52.2
comp=Z,9µm,18.8s,baz=204,slow=36
MT01 Popeta 53.36 225 IAmb IAmb 00 50 11.3
comp=Z,74nm,1.6s
BO01 Tunca 53.52 225 **P 00 50 06.0 +0.5**
BO01 IAmb IAmb 00 50 15.9
comp=Z,37nm,1.0s
BO02 Sierra Bellavi 53.52 224 IAmb IAmb 00 50 19.7
comp=Z,27nm,0.8s
BNI Bardonecchia 53.53 30 IAMs_20 IAMs_20 01 11 01.4
comp=Z,4µm,21.0s
BNI Bardonecchia 53.53 30 P **P 00 50 06.0 +0.5**
CLF Chambon-Foret 53.72 25 IAMs_20 IAMs_20 01 09 04.2
comp=Z,3µm,22.0s
HAL Halifax 53.75 329 P **P 00 50 06.9 0.0**
HAL IAMs_20 IAMs_20 01 07 14.3
comp=Z,3µm,22.0s
HAL Halifax 53.75 329 P **P 00 50 06.9 0.0**
HAL pmax pmax
comp=Z,22nm,0.9s
CASP Castiglione de 54.26 35 IAMs_20 IAMs_20 01 10 32.5
comp=Z,3µm,21.0s
DRLN Deer Lake 54.41 337 P **P 00 50 13.0 +1.3**
DRLN IAMs_20 IAMs_20 01 08 33.3
comp=Z,3µm,20.0s
MSSA Maissana 54.50 32 IAMs_20 IAMs_20 01 12 39.0
comp=Z,3µm,19.0s
CEL Celeste 54.73 42 **P 00 50 13.5 -0.8**
SENIN Lac Senin/Sane 54.77 29 IAmb IAmb 00 50 35.1
comp=Z,30nm,1.0s
SENIN IAMs_20 IAMs_20 01 12 56.1
comp=Z,4µm,18.0s
OSSC Osservatorio P 54.94 34 IAMs_20 IAMs_20 01 10 40.5
comp=Z,4µm,22.0s
CESX Cesi 55.13 36 IAmb IAmb 00 50 18.3
comp=Z,58nm,1.4s
DSB Dublin 55.15 16 IAMs_20 IAMs_20 01 08 04.0
comp=Z,3µm,22.0s
LMN Caledonia Moun 55.21 329 **P 00 50 17.5 0.0**
LMN IAmb IAmb 00 50 28.6
comp=Z,35nm,1.3s
LMN IAMs_20 IAMs_20 01 08 21.9
comp=Z,3µm,21.0s
PRMA PARMA 55.22 32 P **P 00 50 18.0 +0.4**
PRMA IAMs_20 IAMs_20 01 10 27.1
comp=Z,3µm,20.0s
ZCCA Zocca 55.31 33 IAMs_20 IAMs_20 01 10 29.6
comp=Z,4µm,22.0s
KSANE Kasane 55.47 112 **P 00 50 20.1 0.0**
KSANE IAMs_20 IAMs_20 01 09 13.3
comp=Z,3µm,21.0s
KSANE Kasane 55.47 112 *i* P **P 00 50 20.8 +0.8**
PHDHD Phuduhudu 55.51 115 P **P 00 50 20.8 +0.6**
PHDHD IAmb IAmb 00 50 22.1
comp=Z,69nm,1.4s
PHDHD Phuduhudu 55.51 115 *i* P **P 00 50 21.2 +0.9**
INTR Introdacqua 55.56 37 IAMs_20 IAMs_20 01 12 00.1
comp=Z,4µm,19.0s
CAMP Campotosto 55.57 36 P **P 00 50 20.2 -0.2**
CAMP IAmb IAmb 00 50 49.3
comp=Z,29nm,1.1s
CAMP IAMs_20 IAMs_20 01 12 56.5
comp=Z,3µm,20.0s
NRCA Norcia 55.58 36 P **P 00 50 18.8 -1.5**
CUC Castrocucco 55.61 40 IAmb IAmb 00 50 21.5
comp=Z,39nm,1.2s
PHPEN Phepeng 55.65 122 IAmb IAmb 00 50 22.7
comp=Z,99nm,1.4s
PHPEN IAMs_20 IAMs_20 01 09 30.7
comp=Z,3µm,20.0s
PHPEN Phepeng 55.65 122 *i* P **P 00 50 22.6 +1.4**
FDMO Fiordimonte 55.69 36 P **P 00 50 19.8 -1.3**
FDMO IAmb IAmb 00 50 24.2
comp=Z,69nm,1.4s
GGN Saint George 55.79 327 P **P 00 50 22.6 +0.9**
GGN IAmb IAmb 00 50 30.2
comp=Z,27nm,1.1s
TIP Timpagrande 55.79 41 IAMs_20 IAMs_20 01 13 54.3
comp=Z,4µm,22.0s
M65A Busby, Falmout 55.80 322 IAMs_20 IAMs_20 01 07 58.1
comp=Z,3µm,22.0s
EMMW East Machias 55.85 327 **P 00 50 22.6 +0.4**
EMMW IAmb IAmb 00 50 27.6
comp=Z,31nm,1.1s
EMMW IAMs_20 IAMs_20 01 09 00.1
comp=Z,3µm,20.0s
TUE Stuetta 55.86 30 IAmb IAmb 00 50 38.1
comp=Z,33nm,1.2s
TUE IAMs_20 IAMs_20 01 12 15.0
comp=Z,3µm,18.0s
ECH Echery 56.02 28 IAMs_20 IAMs_20 01 11 36.3
comp=Z,4µm,21.0s
ACER Acerenza 56.12 39 P **P 00 50 23.8 -0.5**
ACER IAmb IAmb 00 52 28.6
comp=Z,56nm,1.4s
ACER IAMs_20 IAMs_20 01 12 04.1
comp=Z,4µm,21.0s
L64A Middleborough 56.13 322 IAMs_20 IAMs_20 01 08 20.9
comp=Z,3µm,22.0s
G65A Princeton 56.23 327 P **P 00 50 24.3 -0.5**
G65A IAmb IAmb 00 50 47.5
comp=Z,34nm,1.2s
G65A IAMs_20 IAMs_20 01 09 14.0
comp=Z,3µm,20.0s
CAMR Camarioca 56.28 297 IAMs_20 IAMs_20 01 15 25.0
comp=Z,3µm,18.0s
DOU Dourbes 56.29 25 *d*P **P 00 50 22.8 -2.5**
comp=Z,16nm,1.0s
BILN Bilwi Airport 56.32 286 IAMs_20 IAMs_20 01 12 43.8
comp=Z,753nm,21.0s

DAVOX **Davos/Dischmat** 56.34 30 LR LR 01 13 10.8
comp=Z,2µm,19.1s,baz=239,slow=35
FUORN **Ofenpass-Fuorn** 56.43 31 P 00 50 25.1 -1.6
FUORN IAmb IAmb 00 50 27.5
comp=Z,85nm,1.8s
BMRD **Maredsous** 56.52 25 *d*P P 00 50 25.1 -1.7
KDWAN **Kaudwane** 56.53 119 *i* P P 00 50 28.7 +1.2
SGRT **San Giovanni R** 56.54 38 IAMs_20 IAMs_20 01 17 43.0
comp=Z,3µm,18.0s
BCX **Boston College** 56.56 323 P P 00 50 27.4 +0.1
M63A **Gales Ferry** 56.58 321 P P 00 50 29.1 +1.7
RCHB **Rochefort** 56.60 25 *d*P P 00 50 26.5 -0.9
comp=Z,7.3nm,1.1s
WLF **Walferdange** 56.63 26 P P 00 50 27.5 -0.1
WLF IAmb IAmb 00 50 29.2
comp=Z,41nm,1.5s
WLF **Walferdange** 56.63 26 P P 00 50 27.5 -0.1
WLF pmax pmax
comp=Z,41nm,1.5s
WLF **Walferdange** 56.63 26 *d*P P 00 50 27.4 -0.3
comp=Z,7.3nm,1.4s
BFO **Black Forest** 56.66 28 P P 00 50 26.9 -1.0
BFO IAmb IAmb 00 50 29.4
comp=Z,57nm,1.5s
BFO IAMs_20 IAMs_20 01 12 16.9
comp=Z,3µm,20.0s
BFO **Black Forest** 56.66 28 P P 00 50 26.9 -1.0
BFO pmax pmax
comp=Z,57nm,1.5s
DAVA **Damuels** 56.69 30 *e*P P 00 50 27.6 -0.7
comp=Z,56nm,1.5s,SNR=15
WES **Weston** 56.69 322 P P 00 50 28.9 +0.8
WES IAmb IAmb 00 50 51.1
comp=Z,37nm,1.5s
WES IAMs_20 IAMs_20 01 08 37.5
comp=Z,3µm,22.0s
WES **Weston** 56.69 322 P P 00 50 28.9 +0.8
WES pmax pmax
comp=Z,37nm,1.5s
PLCA **Paso Flores** 56.70 218 P 00 50 29.5 +1.1
PLCA **Paso Flores** 56.70 218 P P 00 50 29.2 +0.8
comp=Z,3.1nm,0.5s,baz=120,slow=2.8,SNR=4.5
PLCA LR LR 01 14 45.4
comp=Z,3µm,20.7s,baz=58,slow=36
comp=Z,3.1nm,0.5s
PLCA **Paso Flores** 56.70 218 P P 00 50 29.5 +1.1
PLCA pmax pmax
comp=Z,24nm,1.4s
PLCA **Paso Flores** 56.70 218 *e*P P 00 50 27.1 -1.3
BGES **Gesves** 56.72 25 *d*P P 00 50 27.9 -0.3
comp=Z,7.9nm,1.1s
UCC **Uccle** 56.73 24 P P 00 50 27.6 -0.6
UCC IAmb IAmb 00 50 48.6
comp=Z,27nm,1.1s
UCC IAMs_20 IAMs_20 01 15 44.0
comp=Z,3µm,18.0s
UCC **Uccle** 56.73 24 P P 00 50 27.7 -0.6
UCC pmax pmax
comp=Z,27nm,1.1s
UCC MLR MLR
comp=Z,3µm,18.0s
UCC **Uccle** 56.73 24 *d*P P 00 50 27.9 -0.5
comp=Z,16nm,1.1s
BATG **Bathurst New B** 56.81 330 P 00 50 28.5 -0.5
BATG IAmb IAmb 00 50 42.4
comp=Z,31nm,1.0s
BATG IAMs_20 IAMs_20 01 10 51.2
comp=Z,3µm,19.0s
V61A **Roper** 56.86 313 IAMs_20 IAMs_20 01 08 38.0
comp=Z,3µm,22.0s
HRV **Adam Dziewonsk** 56.90 323 P P 00 50 30.0 +0.3
HRV IAmb IAmb 00 50 43.7
comp=Z,35nm,1.0s
HRV **Adam Dziewonsk** 56.90 323 IAMs_20 IAMs_20 01 08 54.1
comp=Z,3µm,21.0s
HRV **Adam Dziewonsk** 56.90 323 P P 00 50 30.0 +0.3
HRV pmax pmax
comp=Z,35nm,1.0s
UCCT **U. Connecticut** 56.91 321 P P 00 50 29.8 0.0
FETA **Feichten** 56.94 31 *e*P P 00 50 27.6 -2.5
comp=Z,49nm,1.5s,SNR=25
ESPN **Las Esperanzas** 56.97 284 P P 00 50 31.8 +1.2
ESPN IAmb IAmb 00 51 00.6
comp=Z,38nm,1.4s
WVL **Waterville** 56.99 325 IAMs_20 IAMs_20 01 10 27.4
comp=Z,3µm,19.0s
BSTI **Sart Tilman** 57.07 25 *d*P P 00 50 27.9 -2.8
F64A **Sherman** 57.08 327 P P 00 50 32.2 +1.4
F64A IAmb IAmb 00 50 37.3
comp=Z,44nm,1.7s
F64A IAMs_20 IAMs_20 01 09 40.4
comp=Z,3µm,20.0s
BHOU **Houvegnez** 57.08 25 *d*P P 00 50 30.8 -0.1
comp=Z,5.7nm,1.1s
S61A **Accomac** 57.08 316 IAMs_20 IAMs_20 01 08 24.6
comp=Z,3µm,21.0s
LR03 **Panguipulli** 57.20 220 P P 00 50 33.9 +2.0
LR03 IAmb IAmb 00 51 29.3
comp=Z,53nm,1.6s
BRJN **Brijuni** 57.20 34 *e*P P 00 50 28.4 -3.4
I63A **Otisfield** 57.21 324 IAMs_20 IAMs_20 01 10 13.3
comp=Z,2µm,20.0s
PKME **Peaks-Kenny Pk** 57.22 326 P P 00 50 32.2 +0.4
PKME IAmb IAmb 00 50 54.6
comp=Z,38nm,1.5s
PKME IAMs_20 IAMs_20 01 09 39.2
comp=Z,2µm,20.0s
RETA **Reutte** 57.26 30 *e*P P 00 50 29.5 -2.8
comp=Z,17nm,1.0s,SNR=21
MEM **Membach** 57.27 25 *d*P P 00 50 30.7 -1.4
comp=Z,15nm,1.0s
BEBN **Eben Emael** 57.28 25 *d*P P 00 50 32.1 0.0
comp=Z,20nm,0.9s
BEBN *d*PcP PcP 00 51 29.8 +3.6
BTNL **Ternell** 57.31 25 *d*P P 00 50 33.3 +0.8
comp=Z,12nm,1.7s
SQTA **Sankt Quirin** 57.31 31 *e*P P 00 50 30.0 -2.7
comp=Z,50nm,1.3s,SNR=44
LR05 **Currie** 57.32 219 P 00 50 33.7 +1.0
LR05 IAmb IAmb 00 50 38.2
comp=Z,22nm,0.9s
MOTA **Moosalm** 57.34 31 *e*P P 00 50 29.8 -3.2
comp=Z,34nm,1.2s,SNR=18
STU **Stuttgart** 57.38 28 P P 00 50 31.9 -1.0
STU IAMs_20 IAMs_20 01 12 27.0
comp=Z,3µm,20.0s
STU **Stuttgart** 57.38 28 P P 00 50 31.9 -1.0
STU pmax pmax
comp=Z,13nm,0.7s
JTS **Las Juntas de** 57.40 282 LR LR 01 15 49.9
comp=Z,864nm,18.9s,baz=94,slow=37
K62A **Royalston** 57.40 322 P P 00 50 34.0 +0.8
K62A IAmb IAmb 00 51 04.8
comp=Z,67nm,2.0s
K62A IAMs_20 IAMs_20 01 08 58.4
comp=Z,3µm,22.0s
I62A **Tamworth** 57.55 324 P P 00 50 35.2 +0.9
I62A IAMs_20 IAMs_20 01 09 06.2
comp=Z,3µm,21.0s
PAL **Palisades** 57.55 320 P P 00 50 35.5 +1.3
PAL IAmb IAmb 00 50 48.3
comp=Z,35nm,1.1s
PAL **Palisades** 57.55 320 P P 00 50 35.6 +1.3
PAL pmax pmax
comp=Z,35nm,1.2s
WTTA **Wattenberg** 57.56 31 *e*P P 00 50 32.0 -2.5
comp=Z,30nm,1.3s,SNR=24
LPHEP **Lephephe** 57.58 119 P 00 50 34.9 -0.1
LPHEP IAmb IAmb 00 50 37.1
comp=Z,49nm,1.4s
LPHEP **Lephephe** 57.58 119 *i* P P 00 50 35.7 +0.7
WATA **Walderalm** 57.58 31 *e*P P 00 50 31.6 -3.0
comp=Z,37nm,1.3s,SNR=21
SIUN **Universidad Ur** 57.62 286 P P 00 50 34.6 -0.6
SIUN IAmb IAmb 00 51 16.0
comp=Z,14nm,1.2s
SIUN IAMs_20 IAMs_20 01 13 17.2
comp=Z,754nm,20.0s
KSCT **Kent School, K** 57.66 321 P P 00 50 35.0 -0.1
KSCT IAmb IAmb 00 50 38.5
comp=Z,21nm,0.8s
ABTA **Abfaltersbach** 57.68 32 *e*P P 00 50 33.1 -2.2
comp=Z,92nm,1.4s,SNR=52
LSZ **Lusaka** 57.76 109 P 00 50 36.9 +0.5
LSZ IAmb IAmb 00 50 47.8
comp=Z,84nm,1.9s
LSZ **Lusaka** 57.76 109 IAMs_20 IAMs_20 01 09 56.0
comp=Z,5µm,22.0s
LSZ **Lusaka** 57.76 109 LR LR 01 10 29.8
comp=Z,3µm,21.1s,baz=286,slow=31
LSZ **Lusaka** 57.76 109 P P 00 50 36.9 +0.5
LSZ pmax pmax
comp=Z,84nm,1.9s
BRNJ **Basking Ridge** 57.81 319 P P 00 50 35.8 -0.4
BRNJ IAmb IAmb 00 50 47.1
comp=Z,72nm,1.8s
LBTB **Lobatse** 57.84 120 IAmb IAmb 00 50 38.2
comp=Z,47nm,1.1s
LBTB **Lobatse** 57.84 120 LR LR 01 10 43.8
comp=Z,3µm,20.8s,baz=286,slow=31
H62A **Milan** 57.86 325 P P 00 50 37.0 +0.6
H62A IAmb IAmb 00 50 52.6
comp=Z,62nm,1.8s
EKA **Eskdalemuir Ar** 57.88 16 P P 00 50 34.2 -2.2
comp=Z,2.3nm,0.6s,baz=216,slow=6.5,SNR=8.1
comp=Z,2.3nm,0.6s
G62A **West of Eustis** 57.88 326 P 00 50 36.7 +0.1
W59A **Clinton** 57.97 312 P P 00 50 38.6 +1.2
W59A IAMs_20 IAMs_20 01 10 21.4
comp=Z,3µm,20.0s
J61A **Chester** 57.98 323 IAmb IAmb 00 50 51.5
comp=Z,47nm,1.5s
CADS **Cadrg** 58.01 33 *i* P P 00 50 37.3 -0.2
CADS *i* PP PP 00 52 44.1 -2.2
HNH **Hanover** 58.02 323 IAmb IAmb 00 50 51.7
comp=Z,29nm,1.0s
HNH IAMs_20 IAMs_20 01 09 30.6
comp=Z,3µm,21.0s
LR04 **Corral** 58.03 220 P P 00 50 40.2 +2.5
KEK **Kerkira** 58.09 42 P P 00 50 38.0 -0.2
T59A **Double "B" Far** 58.09 314 IAmb IAmb 00 50 58.7
comp=Z,51nm,1.6s
T59A IAMs_20 IAMs_20 01 09 16.4
comp=Z,4µm,22.0s
LBNH **Lisbon** 58.11 324 P 00 50 39.4 +1.2
LBNH IAmb IAmb 00 51 01.5
comp=Z,78nm,1.9s
LBNH IAMs_20 IAMs_20 01 09 23.0
comp=Z,3µm,22.0s
LBNH **Lisbon** 58.11 324 P P 00 50 39.4 +1.2
LBNH pmax pmax
comp=Z,78nm,1.9s
EVGI **Lefkada island** 58.15 44 P P 00 50 37.4 -1.1
E62A **Clayton Lake** 58.19 327 P P 00 50 38.6 -0.1
E62A IAMs_20 IAMs_20 01 10 12.8
comp=Z,3µm,20.0s
LESA **Schwarzleotal** 58.20 31 *i* P P 00 50 36.4 -2.5
comp=Z,44nm,1.1s,SNR=33
KIJV **Kijevo** 58.21 36 *e*P P 00 50 35.5 -3.4
MYKA **Terra Mystica** 58.21 33 *e*P P 00 50 37.2 -1.7
comp=Z,86nm,1.6s,SNR=53
NYDR **Nydri-Lefkada** 58.22 44 P P 00 50 37.4 -1.6
D62A **Allapoint, All** 58.23 328 P 00 50 38.4 -0.5
D62A IAmb IAmb 00 51 01.6
comp=Z,26nm,1.1s
D62A IAMs_20 IAMs_20 01 10 17.7
comp=Z,2µm,20.0s
LKD2 **Lefkada island** 58.23 44 P P 00 50 36.5 -2.7
BROLN **Tlhalogang** 58.27 116 *i* P P 00 50 39.7 -0.2
TRY **Troy** 58.32 322 IAMs_20 IAMs_20 01 09 35.7
comp=Z,3µm,21.0s
LJU **Ljubljana** 58.33 34 *i* P P 00 50 39.9 +0.1
LJU *i* PP PP 00 52 47.4 -1.6
LJU *e* 00 54 03.5
LJU *i* S S 00 58 39.9 -0.7
KBA **Koelnbreinsper** 58.33 32 *e*P P 00 50 38.8 -1.1
comp=Z,15nm,0.9s
CSU **Charleston Sou** 58.35 309 IAMs_20 IAMs_20 01 09 14.8
comp=Z,3µm,22.0s
IGT **Igoumenitsa** 58.36 43 P P 00 50 38.7 -1.4
ITM **Ithomi** 58.39 46 P P 00 50 39.7 -0.6
ITM **Ithomi** 58.39 46 P P 00 50 39.7 -0.6
Y58A **Scranton** 58.39 310 P P 00 50 40.3 -0.1
Y58A IAmb IAmb 00 50 44.7
comp=Z,31nm,1.0s
X58A **Rowland** 58.40 311 IAMs_20 IAMs_20 01 09 30.8
comp=Z,3µm,21.0s
RLS **Riolos of Patr** 58.46 45 P P 00 50 39.7 -1.0
NHSC **New Hope** 58.48 309 IAMs_20 IAMs_20 01 09 29.2
comp=Z,3µm,22.0s
CBN **Corbin Frederi** 58.52 315 P P 00 50 42.1 +0.9
A050A **Klekovaca** 58.55 36 *e*P P 00 50 39.3 -2.1
DRO **Drossia** 58.58 45 P P 00 50 40.5 -1.1
OZLJ **Ozalj** 58.60 34 *e*P P 00 50 40.6 -0.9
OBKA **Obir** 58.63 33 *e*P P 00 50 40.0 -1.9
comp=Z,5.9nm,1.2s,SNR=17
VT1 **Waterbury** 58.65 324 P P 00 50 42.8 +0.9
VT1 IAMs_20 IAMs_20 01 10 00.1
comp=Z,3µm,21.0s
MVL **Millersville** 58.66 318 IAmb IAmb 00 50 52.8
comp=Z,64nm,1.9s
ACCN **Adirondack Com** 58.67 322 P P 00 50 43.0 +0.9
AMPL **Ampelaki** 58.67 44 P P 00 50 40.5 -1.7
SDMD **Soldier's Deli** 58.71 317 P P 00 50 42.8 +0.3
V58A **Windy Hill, Pi** 58.73 312 P P 00 50 43.8 +1.1
V58A IAmb IAmb 00 51 03.3
comp=Z,47nm,1.5s
V58A IAMs_20 IAMs_20 01 10 15.5
comp=Z,2µm,20.0s
257A **Skidaway Islan** 58.74 307 IAMs_20 IAMs_20 01 09 46.1
comp=Z,4µm,21.0s
BOSA **Boshof** 58.74 125 P 00 50 43.4 +0.3
BOSA IAmb IAmb 00 50 56.6
comp=Z,52nm,1.2s
BOSA **Boshof** 58.74 125 P P 00 50 40.2 -2.8
comp=Z,21nm,1.0s,baz=298,slow=8.1,SNR=18
BOSA LR LR 01 10 49.3
comp=Z,4µm,22.0s,baz=286,slow=31
comp=Z,21nm,1.0s
BOSA **Boshof** 58.74 125 P P 00 50 43.4 +0.3
BOSA pmax pmax
comp=Z,52nm,1.3s
PVO **Paravola** 58.75 44 P P 00 50 40.5 -2.2
MREMI **Moremi** 58.76 117 P P 00 50 43.3 +0.1
MREMI IAmb IAmb 00 50 44.4
comp=Z,29nm,1.1s
MREMI **Moremi** 58.76 117 *i* P P 00 50 43.9 +0.7
R58B **Mineral** 58.76 315 IAMs_20 IAMs_20 01 09 24.1
comp=Z,4µm,22.0s
JAN **Janina** 58.77 43 P P 00 50 42.0 -1.0
VLX **Vlachokerasia** 58.80 46 P P 00 50 42.0 -1.3
BUM **Brajici-Budva** 58.80 39⇑ *i* P P 00 50 43.4 +0.2
VA04 **Juan Fernndez** 58.83 229 P P 00 50 45.4 +2.0
BIOA **Bad Ischl, Aus** 58.88 32 *i* P P 00 50 42.5 -1.0
comp=Z,42nm,1.4s,SNR=22
PRMD **Pramanda** 58.88 43 P P 00 50 44.1 +0.4
BRY **Bratogost** 58.90 38⇑ *i* P P 00 50 43.2 -0.7
LL05 **Los Muermos** 58.90 219 P P 00 50 45.5 +1.8
TETR **Tetrakomo, Epi** 58.91 43 P P 00 50 43.3 -0.7
VLI **Veliai** 58.92 47 P P 00 50 43.3 -0.7
ICQ **Pointe Anglais** 58.92 331 IAMs_20 IAMs_20 01 11 55.0
comp=Z,3µm,19.0s
LL02 **Futaleuf** 58.92 216 P 00 50 45.2 +1.3
LL02 IAMs_20 IAMs_20 01 13 56.7
comp=Z,4µm,22.0s
DRME **Dracevica, Mon** 58.93 39⇑ *i* P P 00 50 44.0 0.0
EFP **Efpalio** 58.93 45 P P 00 50 43.3 -0.7
KLV **Kalavryta, Ach** 58.93 45 P P 00 50 43.3 -0.8
TIR **Tirane** 58.94 41 P P 00 50 43.7 -0.4
TIR **Tirane** 58.94 41 P P 00 50 43.7 -0.4
CEME **Ceyo** 58.95 39⇑ *i* P P 00 50 44.0 -0.2
GRFO **Grafenberg** 58.97 29 P P 00 50 44.6 +0.5
GRFO IAMs_20 IAMs_20 01 13 38.2
comp=Z,2µm,20.0s
GRFO **Grafenberg** 58.97 29 P P 00 50 44.6 +0.5
GRFO pmax pmax
comp=Z,124nm,1.7s
GRA1 **Grafenberg Arr** 58.97 29 IAMs_20 IAMs_20 01 13 39.3
comp=Z,2µm,20.0s
GRF **Grafenberg Arr** 58.97 29 *e*P P 00 50 41.6 -2.5
comp=Z,74nm,1.7s,baz=227,slow=7.2
GRF *e*L L 01 13 38.6
comp=Z,2µm,19.6s
Y57A **Sumter** 58.99 310 P 00 50 43.9 -0.6
SOKA **Soboth** 58.99 33 *e*P P 00 50 42.3 -2.1
comp=Z,47nm,1.5s,SNR=50
ANX **Ano Chora** 59.02 44 P P 00 50 43.3 -1.4
GUR **Goura** 59.02 45 P P 00 50 43.0 -1.8
SERG **Sergoula** 59.03 45 P P 00 50 43.9 -0.8
KSPA **Keystone Colle** 59.04 320 P P 00 50 45.6 +0.9
KLINJ **Klinje** 59.07 38 *e*P P 00 50 44.3 -0.7
A051A **Mrakovica** 59.08 36 *e*P P 00 50 42.8 -2.2
KALE **Kalithea** 59.08 45 P P 00 50 44.3 -0.8
EVR **Evrytania** 59.09 44 P P 00 50 45.2 -0.1
NKME **Niksic** 59.09 39⇑ *i* P P 00 50 44.8 -0.3
BLY **Banja Luka** 59.09 36 *e*P P 00 50 44.0 -1.0
656A **Willston** 59.09 304 IAMs_20 IAMs_20 01 11 10.9
comp=Z,2µm,20.0s
PDG **Podgorica** 59.10 39 IAMs_20 IAMs_20 01 16 53.0
comp=Z,3µm,22.0s
PDG **Podgorica** 59.10 39⇑ *i* P P 00 50 44.9 -0.2
W57A **Gilead** 59.13 311 P P 00 50 46.5 +1.0
W57A IAMs_20 IAMs_20 01 10 04.1
comp=Z,3µm,22.0s
MATP **Matopo** 59.16 114 LR LR 01 11 38.8
comp=Z,2µm,21.1s,baz=282,slow=32
LMQ **La Malbaie** 59.19 328 P P 00 50 46.7 +1.0
LMQ IAmb IAmb 00 51 43.4
comp=Z,24nm,1.3s
PENT **Pentalofos** 59.22 42 P P 00 50 46.0 -0.2
J59A **Piesco** 59.23 322 P P 00 50 45.1 -0.9
J59A IAMs_20 IAMs_20 01 10 23.8
comp=Z,2µm,20.0s
NEST **Nestorio** 59.27 42 P P 00 50 46.0 -0.5
BIRD **Birdtown, Kers** 59.28 310 P P 00 50 47.2 +0.6
BIRD IAMs_20 IAMs_20 01 10 07.3
comp=Z,3µm,22.0s
UPM **Unac-Piva** 59.29 38⇑ *i* P P 00 50 45.6 -1.0
MOA **Molln** 59.30 32 *e*P P 00 50 45.2 -1.3
comp=Z,3.3nm,0.8s,SNR=11
N58A **Sunbury** 59.31 318 P 00 50 48.2 +1.7
NCB **Newcomb** 59.33 323 P P 00 50 47.9 +1.2
NCB IAmb IAmb 00 51 09.8
comp=Z,39nm,1.6s
MOSL **Moslavina** 59.33 35 *e*P P 00 50 44.9 -1.8
T57A **Hurt** 59.33 313 P P 00 50 47.5 +0.6
T57A IAMs_20 IAMs_20 01 09 40.3
comp=Z,3µm,22.0s
MAKR **Makrakomi, Fth** 59.35 44 P P 00 50 46.0 -1.0
FRNY **Flat Rock** 59.43 324 P P 00 50 47.7 +0.4
FRNY IAmb IAmb 00 51 10.3
comp=Z,33nm,1.5s
FRNY IAMs_20 IAMs_20 01 10 22.9
comp=Z,3µm,21.0s
OHR **Ohrid** 59.44 41 *i* P P 00 50 49.4 +1.8
S57A **Dark Hollow, R** 59.44 314 P 00 50 49.4 +1.8
S57A IAmb IAmb 00 50 53.5
comp=Z,23nm,1.1s
S57A IAMs_20 IAMs_20 01 09 44.1
comp=Z,3µm,22.0s
KOME **Kolasin** 59.48 39⇑ *i* P P 00 50 46.9 -1.0
AGG **Agios Georgios** 59.49 44 P P 00 50 46.0 -2.0
BINY **Binghamton** 59.50 320 P 00 50 48.9 +0.9
BINY IAmb IAmb 00 51 03.6
comp=Z,29nm,1.2s
THL **Klokotos Trika** 59.52 43 P P 00 50 46.0 -2.1
KOGS **Kog** 59.53 34 *e*P P 00 50 47.8 -0.3
KOGS *i* S S 00 58 56.4 +0.4
P57A **Homestead Farm** 59.54 317 P P 00 50 49.6 +1.4
ARSA **Arzberg** 59.61 33 IAmb IAmb 00 50 49.6
comp=Z,72nm,1.8s
ARSA IAMs_20 IAMs_20 01 13 30.2
comp=Z,3µm,19.0s
ARSA **Arzberg** 59.61 33 *e*P P 00 50 46.6 -1.9
comp=Z,6.0nm,1.4s,SNR=15
AXAR **Agios Charalam** 59.61 44 P P 00 50 48.6 -0.2
GERES **GERESS Array B** 59.64 31 P P 00 50 46.3 -2.6
GERES **GERESS Array B** 59.64 31 P P 00 50 46.8 -2.1
baz=239,slow=7.6,SNR=35
GERES PP PP 00 53 01.7 +0.9
comp=Z,3.7nm,1.0s,baz=219,slow=7.8,SNR=3.6
PLE **Plјevlja** 59.65 38⇑ *i* P P 00 50 48.6 -0.5
FNA **Florina** 59.66 42 IAMs_20 IAMs_20 01 19 15.9
comp=Z,3µm,21.0s
FNA **Florina** 59.66 42 P P 00 50 48.0 -1.2
KZN **Kozani** 59.70 43 P P 00 50 48.8 -0.7
IVA **Berane** 59.73 39⇑ *i* P P 00 50 48.2 -1.4
TYRN **Tyrnavos** 59.74 43 P P 00 50 48.1 -1.5
JSC **Jenkinsville** 59.76 310 P P 00 50 50.3 +0.5
JSC IAmb IAmb 00 51 10.6
comp=Z,25nm,1.3s
JSC IAMs_20 IAMs_20 01 10 08.9
comp=Z,3µm,22.0s
JSC **Jenkinsville** 59.76 310 P P 00 50 50.3 +0.5
JSC pmax pmax
comp=Z,25nm,1.3s
KHC **Kasperske Hory** 59.76 30 *e*P P 00 50 47.7 -1.9
KHC *e* 00 53 03.6
KHC *e* 00 54 34.3
KHC *e*S S 00 59 03.0 +4.0
KHC MLR MLR
comp=Z,3µm,22.8s
KHC **Kasperske Hory** 59.76 30 *e*P P 00 50 47.7 -1.9
KHC *e*PP PP 00 53 03.6 +1.9
KHC *ex* x 00 54 34.3
KHC *e*S S 00 59 03.0 +4.0
KHC AMS AMS 01 12 00.0
comp=Z,3µm,22.8s
IDI **Anoyia** 59.79 49 P P 00 50 51.0 +0.9
IDI **Anoyia** 59.79 49 P P 00 50 49.5 -0.6
IDI **Anoyia** 59.79 49 LR LR 01 18 01.6
comp=Z,4µm,20.4s,baz=250,slow=38
LKR **Lokris** 59.80 45 P P 00 50 47.3 -2.7
MOX **Moxa** 59.80 28 *e*L L 01 15 13.3
comp=Z,2µm,20.4s
VILL **Villia** 59.81 45 P P 00 50 48.2 -2.0
M57A **Sunshine Farm,** 59.82 319 IAmb IAmb 00 51 13.4
comp=Z,47nm,1.5s
MNTQ **Montreal, Queb** 59.82 324 P P 00 50 50.4 +0.4
MNTQ IAMs_20 IAMs_20 01 10 27.2
comp=Z,3µm,22.0s
BEHE **Becsehely** 59.84 34 P P 00 50 50.3 +0.1
BEHE **Becsehely** 59.84 34 *e*P P 00 50 48.8 -1.4
U56A **King** 59.89 312 P P 00 50 51.2 +0.4
U56A IAmb IAmb 00 51 14.2
comp=Z,25nm,1.3s
U56A IAMs_20 IAMs_20 01 10 19.2
comp=Z,3µm,22.0s
LONY **Lake Ozonia** 59.90 323 P P 00 50 51.2 +0.6
LONY IAMs_20 IAMs_20 01 10 36.5
comp=Z,3µm,21.0s
PARN2 **Moni Osiou Mel** 59.92 45 P P 00 50 49.0 -2.0
CKRC **Cesky Krumlov** 59.94 31 *e*P P 00 50 48.7 -2.1
CKRC *e* 00 53 02.8
CKRC *e* 00 54 35.3
CKRC *e*S S 00 59 05.5 +4.2
CKRC **Cesky Krumlov** 59.94 31 *e*P P 00 50 48.7 -2.1
CKRC *e*PP PP 00 53 02.8 -0.5
CKRC *ex* x 00 54 35.3
CKRC *e*S S 00 59 05.5 +4.2
CKRC AMS AMS 01 10 00.0
comp=Z,5µm,38.8s
LDAQ **Lac Daran** 59.94 328 P P 00 50 50.3 -0.6
LDAQ IAmb IAmb 00 51 13.3
comp=Z,31nm,1.1s
GO07 **Milladeo Hill,** 59.97 217 IAMs_20 IAMs_20 01 15 04.3
comp=Z,4µm,22.0s
SSPA **Standing Stone** 59.99 318 P 00 50 52.1 +0.8
SSPA IAmb IAmb 00 51 05.8
comp=Z,32nm,1.6s
ATHU **Athens Univers** 60.06 46 P P 00 50 50.0 -1.8
TGUH **Tegucigalpa,Un** 60.07 286 P P 00 50 53.2 +0.8
TGUH IAmb IAmb 00 51 22.0
comp=Z,25nm,1.0s
K57A **Scipio Center** 60.11 320 P P 00 50 52.6 +0.5
J57A **Williamstown** 60.13 321 P P 00 50 53.0 +0.8
J57A IAMs_20 IAMs_20 01 10 39.6
comp=Z,2µm,21.0s
KMSC **Kings Mountain** 60.13 311 P P 00 50 54.2 +1.8
KMSC IAMs_20 IAMs_20 01 10 33.8
comp=Z,3µm,22.0s
PTL **Penteli** 60.15 46 P P 00 50 51.1 -1.4
Q56A **Snyder Ridge,** 60.16 316 P P 00 50 52.9 +0.3
Q56A IAmb IAmb 00 51 16.1
comp=Z,53nm,1.4s
CONA **Conrad Observa** 60.20 32 *e*P P 00 50 52.4 -0.4
comp=Z,5.8nm,1.5s,SNR=30
ZVC **Zvikov** 60.27 30 *e*P P 00 50 51.7 -1.3
ZVC *e*PP PP 00 53 05.7 -0.5
ZVC *ex* x 00 54 39.2
ZVC *e*S S 00 59 09.9 +4.5
ZVC AMS AMS 01 09 50.0
comp=Z,5µm,40.0s
BLA **Blacksburg** 60.27 313 IAmb IAmb 00 51 13.4
comp=Z,36nm,1.3s

BLA IAMs_20 IAMs_20 01 10 10.1
comp=Z,3µm,22.0s
SKO Skopje 60.27 41 *i* P **P** **00 50 51.9 -1.4**
RONA Rosalia, Austr 60.30 33 *i* P **P** **00 50 51.4 -2.0**
comp=Z,15nm,1.6s,SNR=53
V55A Taylorsville 60.32 311 IAmb IAmb 00 51 14.8
comp=Z,32nm,1.3s
V55A IAMs_20 IAMs_20 01 10 29.6
comp=Z,3µm,22.0s
COYC Coyhaique 60.47 214 **P** **00 50 56.1 +1.6**
COYC IAmb IAmb 00 51 02.0
comp=Z,41nm,1.2s
R55A Marlinton 60.49 314 IAMs_20 IAMs_20 01 10 17.0
comp=Z,3µm,21.0s
HODGE Hodges 60.51 309 IAMs_20 IAMs_20 01 10 30.8
comp=Z,2µm,21.0s
WBO Williamsburg 60.52 323 IAMs_20 IAMs_20 01 11 16.9
comp=Z,2µm,20.0s
MORH Mrgy, Hungar 60.76 35 *eP* **P** **00 50 54.3 -2.1**
TRQ Mont Tremblant 60.76 325 **P** **00 50 54.0 -2.6**
TRQ IAmb IAmb 00 51 10.0
comp=Z,31nm,1.0s
TRQ IAMs_20 IAMs_20 01 10 55.0
comp=Z,2µm,22.0s
PRU Pruhonice 60.79 30 *eP* **P** **00 50 54.6 -2.0**
PRU *e* 00 53 10.1
PRU *e* 00 54 44.8
PRU *eS* **S** **00 59 17.4 +5.3**
PRU MLR MLR
comp=Z,3µm,20.2s
PRU Pruhonice 60.79 30 *eP* **P** **00 50 54.6 -2.0**
PRU *ePP* **PP** **00 53 10.1 -0.7**
PRU *ex* x 00 54 44.8
PRU *eS* **S** **00 59 17.4 +5.3**
PRU AMS AMS 01 14 40.0
comp=Z,3µm,20.2s
TREC Trest 60.84 31 *eP* **P** **00 50 57.0 0.0**
TREC *e* 00 53 12.3
TREC *e* 00 54 44.2
TREC *eS* **S** **00 59 16.7 +3.9**
TREC MLR MLR
comp=Z,3µm,25.4s
TREC Trest 60.84 31 *eP* **P** **00 50 57.0 0.0**
TREC *ePP* **PP** **00 53 12.3 +1.1**
TREC *ex* x 00 54 44.2
TREC *eS* **S** **00 59 16.7 +3.9**
TREC AMS AMS 01 12 50.0
comp=Z,3µm,25.4s
GOPC GO Pecny, Ondr 60.87 30 *eP* **P** **00 50 55.3 -1.9**
GOPC *e* 00 53 10.3
GOPC *e* 00 54 47.0
GOPC *eS* **S** **00 59 19.6 +6.4**
GOPC MLR MLR
comp=Z,3µm,18.7s
GOPC GO Pecny, Ondr 60.87 30 *eP* **P** **00 50 55.3 -1.9**
GOPC *ePP* **PP** **00 53 10.3 -1.2**
GOPC *ex* x 00 54 47.0
GOPC *eS* **S** **00 59 19.6 +6.4**
GOPC AMS AMS 01 15 00.0
comp=Z,3µm,18.7s
MCWV Mont Chateau 60.89 316 P **P** **00 50 58.7 +1.2**
MCWV IAmb IAmb 00 51 03.3
comp=Z,23nm,1.0s
MCWV IAMs_20 IAMs_20 01 10 30.3
comp=Z,3µm,22.0s
CLL Collm 60.90 28 **P** **00 50 57.7 +0.4**
CLL IAmb IAmb 00 50 59.1
comp=Z,64nm,1.7s
CLL Collm 60.90 28 *i* P **P** **00 50 56.0 -1.3**
CLL *eS* **S** **00 59 15.0 +1.6**
CLL pmax pmax
comp=Z,71nm,1.8s
CLL MLR MLR
comp=Z,2µm,20.8s
553A Crawfordville 60.91 304 IAMs_20 IAMs_20 01 12 46.1
comp=Z,3µm,20.0s
RICC Richard 60.93 29 *eP* P 00 51 07.5 +10
RICC *ePP* **PP** **00 53 11.5 -0.5**
RICC *eS* S 00 59 25.0 +11
RICC AMS AMS 01 14 40.0
comp=Z,2µm,19.7s
MMNY Mt. Morris Dam 61.00 320 IAmb IAmb 00 51 12.0
comp=Z,33nm,1.1s
PECO Prince Edward 61.02 321 IAMs_20 IAMs_20 01 11 21.2
comp=Z,2µm,20.0s
U54A Nelsons Funny 61.03 312 IAMs_20 IAMs_20 01 10 53.3
comp=Z,3µm,22.0s
BRG Berggiesshubel 61.06 29 *eP* **P** **00 50 57.4 -1.1**
BRG Amp 00 51 01.2
comp=Z,20nm,1.3s
BRG Berggiesshubel 61.06 29 S **S** **00 59 16.0 +0.4**
PVCC Panska Ves 61.15 30 *eP* **P** **00 50 59.3 +0.3**
PVCC *e* 00 53 13.5
PVCC *e* 00 54 50.1
PVCC *eS* S 00 59 23.8 +7.2
PVCC MLR MLR
comp=Z,3µm,18.7s
PVCC Panska Ves 61.15 30 *eP* **P** **00 50 59.3 +0.3**
PVCC *ePP* **PP** **00 53 13.5 -0.4**
PVCC *ex* x 00 54 50.1
PVCC *eS* S 00 59 23.8 +7.2
PVCC AMS AMS 01 14 50.0
comp=Z,3µm,18.7s
S54A Dingess, Beckl 61.16 313 P **P** **00 51 00.4 +1.0**
S54A IAmb IAmb 00 51 22.8
comp=Z,62nm,1.7s
S54A IAMs_20 IAMs_20 01 10 36.5
comp=Z,3µm,22.0s
GOGA Godfrey 61.16 308 IAMs_20 IAMs_20 01 11 11.3
comp=Z,3µm,21.0s
KRUC Moravsky 61.17 32 *eP* **P** **00 50 56.8 -2.4**
KRUC *e* 00 50 58.9
J55A Hilton 61.20 320 P **P** **00 50 59.6 +0.1**
J55A IAmb IAmb 00 51 22.3
comp=Z,40nm,1.5s
MODS Modra-Piesok 61.23 33 *eP* **P** **00 50 55.1 -4.5**
MODS pmax pmax
comp=Z,227nm,1.7s
MODS Modra-Piesok 61.23 33 *eP* **P** **00 50 55.1 -4.5**
Q54A Coxs Mills 61.30 315 IAmb IAmb 00 51 06.3
comp=Z,26nm,1.1s
Q54A IAMs_20 IAMs_20 01 11 06.2
comp=Z,3µm,21.0s
BG3 Lake Jocassee 61.30 310 P **P** **00 51 02.0 +1.6**
BG3 IAmb IAmb 00 51 24.3
comp=Z,55nm,1.6s
KKB Krupnik 61.32 42 P **P** **00 50 58.8 -1.6**
GRHM Grahamstown, E 61.33 129 **P** **00 51 01.2 +0.5**
SMOL Smolenice 61.39 33 *eP* **P** **00 51 00.8 +0.1**
SMOL pmax pmax
comp=Z,26nm,1.6s
VRAC Vranov 61.42 32 LR LR 01 15 42.3
comp=Z,1µm,20.4s,baz=240,slow=34
VRAC Vranov 61.42 32 *eP* **P** **00 50 59.0 -1.9**
VRAC *e* 00 51 00.8
VRAC Vranov 61.42 32 ⇑P **P** **00 50 59.1 -1.8**
VRAC Vranov 61.42 32 P **P** **00 50 59.1 -1.8**
V53A Saluda 61.45 311 P **P** **00 51 03.0 +1.6**
V53A IAMs_20 IAMs_20 01 11 25.7
comp=Z,3µm,22.0s
SRO Srobarova 61.47 34 *eP* **P** **00 51 02.9 +1.7**
SRO pmax pmax
comp=Z,111nm,1.8s
SRO Srobarova 61.47 34 *eP* **P** **00 51 02.9 +1.7**
TRAN Tran 61.48 40 P P 00 50 56.5 -5.0
O54A Avella 61.48 316 P **P** **00 51 02.5 +0.9**
NRS Narsarsuaq 61.55 350 P **P** **00 51 03.0 +1.5**
NRS IAmb IAmb 00 51 34.0
comp=Z,34nm,1.2s
NRS Narsarsuaq 61.55 350 P **P** **00 51 03.0 +1.5**
NRS pmax pmax
comp=Z,34nm,1.2s
MEDO Medina 61.56 320 P **P** **00 51 02.8 +0.8**
MEDO IAmb IAmb 00 51 11.8
comp=Z,25nm,0.8s
MEDO IAMs_20 IAMs_20 01 11 57.7
comp=Z,2µm,20.0s
MMB Musomishta 61.60 42 P **P** **00 51 00.5 -1.8**
DELO Deloro Mine 61.70 322 **P** **00 51 03.3 +0.4**
DELO IAmb IAmb 00 51 25.6
comp=Z,32nm,1.3s
352A Blakely 61.71 306 P **P** **00 51 03.9 +0.7**
JAVC Velka Javorina 61.72 32 *eP* **P** **00 51 01.3 -1.7**
JAVC *e* 00 51 03.4

VTS Vitosha 61.75 41 P **P** **00 51 01.0 -2.5**
AY03 Cochrane 61.77 213 P **P** **00 51 05.5 +2.3**
AY03 IAmb IAmb 00 51 07.0
comp=Z,26nm,1.1s
Y52A Lilburn 61.78 308 P **P** **00 51 05.5 +1.8**
Y52A IAMs_20 IAMs_20 01 11 18.7
comp=Z,3µm,22.0s
PLNA Plana 61.81 41 P **P** **00 51 02.0 -1.8**
MDVR Moldovita 61.84 38 ⇑P **P** **00 51 03.2 -0.7**
UPC Upice 61.85 30 *eP* **P** **00 51 03.9 +0.1**
UPC *e* 00 53 19.0
UPC *e* 00 54 48.1
UPC *eS* S 00 59 33.0 +7.4
UPC Upice 61.85 30 *eP* **P** **00 51 03.9 +0.1**
UPC *ePP* **PP** **00 53 19.0 -1.2**
UPC *ex* x 00 54 48.1
UPC *eS* S 00 59 33.0 +7.4
UPC AMS AMS 01 10 30.0
comp=Z,6µm,45.5s
P53A Whipple 61.90 315 IAmb IAmb 00 51 10.0
comp=Z,27nm,1.0s
P53A IAMs_20 IAMs_20 01 11 24.0
comp=Z,3µm,21.0s
DPC Dobruska-Polom 61.91 30 *eP* **P** **00 51 04.1 -0.1**
DPC *e* 00 53 20.1
DPC *e* 00 54 53.8
DPC *eS* S 00 59 34.3 +7.8
DPC Dobruska-Polom 61.91 30 *eP* **P** **00 51 04.1 -0.1**
DPC *ePP* **PP** **00 53 20.1 -0.6**
DPC *ex* x 00 54 53.8
DPC *eS* S 00 59 34.3 +7.8
DPC AMS AMS 01 10 30.0
comp=Z,4µm,35.0s
152A Waverly Hall 61.91 307 P **P** **00 51 06.1 +1.5**
152A IAMs_20 IAMs_20 01 11 11.3
comp=Z,4µm,22.0s
CHVC Chvalec 61.92 30 *eP* **P** **00 51 04.6 +0.3**
CHVC *e* 00 53 19.8
CHVC *eS* **S** **00 59 33.4 +6.8**
CHVC Chvalec 61.92 30 *eP* **P** **00 51 04.6 +0.3**
CHVC *ePP* **PP** **00 53 19.8 -1.0**
CHVC *ex* x 00 54 59.2
CHVC *eS* **S** **00 59 33.4 +6.8**
CHVC AMS AMS 01 10 30.0
comp=Z,6µm,44.5s
KRLC Kraliky 61.98 31 *eP* **P** **00 51 05.6 +0.9**
KRLC *e* 00 53 21.1
KRLC *e* 00 54 57.2
KRLC *eS* **S** **00 59 34.3 +7.0**
KRLC MLR MLR
comp=Z,3µm,23.8s
KRLC Kraliky 61.98 31 *eP* **P** **00 51 05.6 +0.9**
KRLC *ePP* **PP** **00 53 21.1 -0.2**
KRLC *ex* x 00 54 57.2
KRLC *eS* **S** **00 59 34.3 +7.0**
KRLC AMS AMS 01 13 30.0
comp=Z,3µm,23.8s
OSTC Ostas 61.99 30 *eP* **P** **00 51 05.2 +0.5**
OSTC *e* 00 53 20.7
OSTC *e* 00 54 57.2
OSTC *eS* S 00 59 34.7 +7.4
OSTC Ostas 61.99 30 *eP* **P** **00 51 05.2 +0.5**
OSTC *ePP* **PP** **00 53 20.7 -0.7**
OSTC *ex* x 00 54 57.2
OSTC *eS* S 00 59 34.7 +7.4
OSTC AMS AMS 01 10 40.0
comp=Z,5µm,40.7s
N53A Lisbon 62.07 317 IAmb IAmb 00 51 11.4
comp=Z,35nm,1.1s
ERPA Erie 62.08 318 P **P** **00 51 06.1 +0.7**
ERPA IAmb IAmb 00 51 28.2
comp=Z,30nm,1.3s
IVI Ivigtut 62.08 349 P **P** **00 51 05.3 +0.2**
IVI IAmb IAmb 00 51 44.4
comp=Z,29nm,1.1s
O53A New Philadelph 62.09 316 IAmb IAmb 00 51 11.5
comp=Z,29nm,1.0s
O53A IAMs_20 IAMs_20 01 11 08.0
comp=Z,3µm,22.0s
W52A Murphy 62.10 310 P **P** **00 51 06.4 +0.6**
W52A IAmb IAmb 00 51 20.6
comp=Z,48nm,1.9s
451A Vernon 62.13 304 P **P** **00 51 07.7 +1.7**
451A IAMs_20 IAMs_20 01 13 06.1
comp=Z,3µm,20.0s
VYHS Vyhne 62.15 33 *eP* **P** **00 51 03.3 -2.5**
VYHS pmax pmax
comp=Z,91nm,1.7s
VYHS Vyhne 62.15 33 *eP* **P** **00 51 03.3 -2.5**
TKL Tuckaleechee C 62.18 310 P **P** **00 51 07.8 +1.5**
TKL IAmb IAmb 00 51 30.6
comp=Z,24nm,1.5s
TKL Tuckaleechee C 62.18 310 LR LR 01 12 09.3
comp=Z,2µm,22.0s,baz=118,slow=30
TKL Tuckaleechee C 62.18 310 P **P** **00 51 07.8 +1.5**
TKL pmax pmax
comp=Z,24nm,1.5s
MORC Moravsky Berou 62.20 32 **P** **00 51 04.7 -1.5**
MORC IAMs_20 IAMs_20 01 14 46.6
comp=Z,2µm,20.0s
MORC Moravsky Berou 62.20 32 *eP* **P** **00 51 04.3 -1.9**
MORC *e* 00 51 06.5
MORC Moravsky Berou 62.20 32 ⇑P **P** **00 51 05.1 -1.1**
MORC Moravsky Berou 62.20 32 P **P** **00 51 04.7 -1.5**
MORC pmax pmax
comp=Z,119nm,1.7s
BZS Buzias 62.20 37 ⇑P **P** **00 51 05.3 -1.0**
BZS Buzias 62.20 37 P **P** **00 51 05.2 -1.0**
KSP Ksiaz 62.20 30 *eP* **P** **00 51 05.0 -1.1**
KSP *eS* S 00 59 42.9 +13
KSP *eL* L 01 11 00.4
comp=Z,5µm,42.8s
Q52A Bidwell 62.31 314 P **P** **00 51 07.9 +0.8**
Q52A IAmb IAmb 00 51 11.9
comp=Z,22nm,0.9s
Q52A IAMs_20 IAMs_20 01 11 37.0
comp=Z,3µm,22.0s
TZTN Tazewell 62.33 311 IAMs_20 IAMs_20 01 11 53.8
comp=Z,3µm,21.0s
RZN Rozhen 62.33 42 P **P** **00 51 05.0 -2.4**
SSRD Sdr. Stenderup 62.35 23 *i* P **P** **00 51 07.8 +0.9**
SSRD IAmb IAmb 00 51 09.2
comp=Z,104nm,1.6s
SCHQ Schefferville 62.40 336 P **P** **00 51 08.2 +0.8**
SCHQ IAmb IAmb 00 51 29.5
comp=Z,30nm,1.1s
SCHQ Schefferville 62.40 336 P **P** **00 51 08.5 +1.1**
baz=108,slow=10,SNR=5.2
PSZ Piszkesteto 62.41 34 **P** **00 51 06.3 -1.4**
PSZ IAMs_20 IAMs_20 01 15 53.4
comp=Z,4µm,21.0s
PSZ Piszkesteto 62.41 34 ⇑P **P** **00 51 07.1 -0.6**
PSZ Piszkesteto 62.41 34 P **P** **00 51 06.3 -1.4**
PSZ pmax pmax
comp=Z,148nm,1.4s
MPEP Malo Peshtene 62.42 40 P **P** **00 51 06.0 -1.8**
O52A Adamsville 62.47 316 IAMs_20 IAMs_20 01 11 18.6
comp=Z,3µm,21.0s
P52A Corning 62.48 315 IAmb IAmb 00 51 13.8
comp=Z,29nm,1.0s
P52A IAMs_20 IAMs_20 01 11 42.4
comp=Z,3µm,22.0s
PLD Plovdiv 62.54 42 P **P** **00 51 07.0 -1.5**
OKC Ostrava-Krasne 62.55 32 *eP* **P** **00 51 09.0 +0.6**
OKC *e* 00 53 34.0
OKC *e* 00 55 03.6
OKC *eS* S 00 59 41.6 +7.2
OKC MLR MLR
comp=Z,2µm,25.3s
OKC Ostrava-Krasne 62.55 32 *eP* **P** **00 51 09.0 +0.6**
OKC *ePP* PP 00 53 34.0 +7.7
OKC *ex* x 00 55 03.6
OKC *eS* S 00 59 41.6 +7.2
OKC AMS AMS 01 12 00.0
comp=Z,2µm,25.3s
SIRR Siria 62.56 37 ⇑P **P** **00 51 07.8 -0.8**
RDO Rodhopi 62.64 43 IAmb IAmb 00 53 26.7
comp=Z,34nm,1.2s
X51A Calhoun 62.64 309 P **P** **00 51 10.2 +0.8**
X51A IAmb IAmb 00 51 16.7
comp=Z,54nm,1.8s
KDZ Kurdzhali 62.71 43 P **P** **00 51 07.0 -2.7**
S51A Beattyville 62.76 313 IAmb IAmb 00 51 16.2
comp=Z,20nm,1.1s

S51A IAMs_20 IAMs_20 01 11 59.2
comp=Z,3µm,22.0s
SADO Sadowa 62.77 321 P **P** **00 51 11.3 +1.3**
SADO IAmb IAmb 00 51 32.6
comp=Z,60nm,1.8s
GZR Gura Zlata 62.79 38 ⇑P **P** **00 51 09.2 -1.1**
GZR Gura Zlata 62.79 38 P **P** **00 51 09.2 -1.1**
LANS Liptovska Anna 62.86 33 *eP* **P** **00 51 11.3 +0.7**
LANS pmax pmax
comp=Z,20nm,1.6s
LANS Liptovska Anna 62.86 33 *eP* **P** **00 51 11.3 +0.7**
ALN Alexandroupoli 62.88 44 **P** **00 51 10.6 -0.2**
ALN Alexandroupoli 62.88 44 P **P** **00 51 10.6 -0.2**
ALN pmax pmax
comp=Z,62nm,1.3s
ALN MLR MLR
comp=Z,5µm,20.0s
MUD Monsted U'grnd 62.88 22 *i* P **P** **00 51 09.7 -0.8**
MUD IAmb IAmb 00 51 11.8
comp=Z,93nm,1.9s
250A Grady 62.95 306 IAMs_20 IAMs_20 01 12 37.8
comp=Z,4µm,21.0s
PLVB Pleven 63.01 41 ⇑P **P** **00 51 10.7 -0.9**
KECS Kecovo 63.05 34 *eP* **P** **00 51 12.5 +0.7**
KECS pmax pmax
comp=Z,56nm,1.8s
KECS Kecovo 63.05 34 *eP* **P** **00 51 12.5 +0.7**
P51A Williamsport 63.08 315 P **P** **00 51 13.4 +1.3**
P51A IAmb IAmb 00 51 35.3
comp=Z,32nm,1.2s
P51A IAMs_20 IAMs_20 01 11 37.3
comp=Z,3µm,22.0s
Q51A Peebles 63.10 314 P **P** **00 51 13.2 +0.8**
Q51A IAmb IAmb 00 51 31.4
comp=Z,24nm,1.1s
Q51A IAMs_20 IAMs_20 01 12 01.0
comp=Z,3µm,22.0s
VLAD Vladila 63.15 40 ⇓P **P** **00 51 11.7 -0.9**
N51A Ashland 63.17 316 P **P** **00 51 13.9 +1.1**
N51A IAmb IAmb 00 51 35.9
comp=Z,25nm,0.9s
W50A Signal Mountai 63.20 309 IAmb IAmb 00 51 42.9
comp=Z,17nm,1.0s
W50A IAMs_20 IAMs_20 01 12 04.1
comp=Z,3µm,22.0s
BUKO Buck Lake 63.25 322 IAmb IAmb 00 51 36.6
comp=Z,21nm,1.3s
BUKO IAMs_20 IAMs_20 01 12 26.3
comp=Z,2µm,22.0s
LODK Lodwar 63.31 87 **P** **00 51 14.4 +0.1**
ACSO Alum Creek Sta 63.32 315 IAmb IAmb 00 51 18.6
comp=Z,25nm,0.8s
ACSO IAMs_20 IAMs_20 01 11 44.7
comp=Z,3µm,22.0s
BRAL Brewton 63.36 305 IAMs_20 IAMs_20 01 13 15.7
comp=Z,4µm,21.0s
VLDQ Val d'Or 63.45 325 P **P** **00 51 16.7 +2.3**
VLDQ IAmb IAmb 00 51 38.1
comp=Z,30nm,1.5s
VLDQ IAMs_20 IAMs_20 01 12 54.8
comp=Z,2µm,21.0s
DRGR 63.45 36 ⇑P **P** **00 51 13.6 -1.0**
DRGR 63.45 36 P **P** **00 51 13.6 -1.0**
NIE Niedzica 63.46 33 *eP* **P** **00 51 14.7 +0.1**
NIE *eS* **S** **00 59 49.0 +3.0**
NIE *eL* L 01 12 33.9
comp=Z,2µm,35.0s
T50A Nancy 63.46 311 **P** **00 51 15.5 +0.7**
T50A IAmb IAmb 00 51 39.8
comp=Z,61nm,1.9s
T50A IAMs_20 IAMs_20 01 12 06.8
comp=Z,3µm,22.0s
R50A Paris 63.54 313 IAmb IAmb 00 51 38.8
comp=Z,44nm,1.3s
R50A IAMs_20 IAMs_20 01 12 23.7
comp=Z,3µm,22.0s
COP Copenhagen 63.62 24 *i* P **P** **00 51 15.1 -0.3**
COP IAmb IAmb 00 51 17.8
comp=Z,108nm,1.4s
ELND Elena 63.63 41 ⇑P **P** **00 51 14.8 -1.0**
Y49A Blount Mountai 63.63 308 P **P** **00 51 16.3 +0.3**
Y49A IAMs_20 IAMs_20 01 12 26.7
comp=Z,4µm,22.0s
MARR Marisel-Cluj 63.63 37 ⇑P **P** **00 51 14.8 -1.0**
OJC Ojcow 63.64 32 *eP* **P** **00 51 15.2 -0.5**
OJC *eS* **S** **00 59 50.0 +2.0**
OJC *eL* L 01 11 51.2
comp=Z,4µm,39.8s
SWET Sewanee 63.69 309 IAmb IAmb 00 51 26.5
comp=Z,22nm,1.0s
MANT Manisa 63.72 47 IAMs_20 IAMs_20 01 21 23.5
comp=Z,3µm,20.0s
HUMR Humele 63.76 40 ⇑P **P** **00 51 15.5 -1.0**
POGA Pongola 63.77 121 P **P** **00 51 17.0 0.0**
POGA IAMs_20 IAMs_20 01 15 52.7
comp=Z,3µm,18.0s
M50A Fremont 63.83 317 P **P** **00 51 18.0 +0.8**
M50A IAmb IAmb 00 51 21.9
comp=Z,27nm,0.9s
BORG Borgarnes 63.87 3 LR LR 01 13 57.4
comp=Z,637nm,20.0s,baz=179,slow=31
ARR Arges 63.93 39 ⇑P **P** **00 51 18.9 +1.1**
STHS Stebnicka Huta 63.98 33 *eP* **P** **00 51 17.2 -0.8**
STHS pmax pmax
comp=Z,8.0nm,1.2s
STHS Stebnicka Huta 63.98 33 *eP* **P** **00 51 17.2 -0.8**
U49A Red Boiling Sp 64.00 311 P **P** **00 51 18.4 +0.1**
U49A IAMs_20 IAMs_20 01 13 06.0
comp=Z,2µm,21.0s
LUNU Lund 64.00 25 *i* P **P** **00 51 18.1 +0.2**
K50A Casco 64.12 318 P **P** **00 51 19.1 +0.1**
K50A IAmb IAmb 00 51 24.3
comp=Z,23nm,0.9s
BJUU Bjuv 64.13 24 *i* P **P** **00 51 19.1 +0.4**
GKP Gorka Klasztor 64.16 28 *eP* **P** **00 51 18.9 -0.1**
GKP *eS* S 01 00 03.6 +9.3
GKP *eL* L 01 11 15.1
comp=Z,3µm,43.5s
R49A Shelbyville 64.16 313 P **P** **00 51 20.3 +1.0**
R49A IAmb IAmb 00 51 42.7
comp=Z,27nm,1.3s
R49A IAMs_20 IAMs_20 01 13 05.2
comp=Z,3µm,21.0s
PHSR Pinarhisar 64.20 43 ⇑P **P** **00 51 18.1 -1.4**
O49A Covington 64.26 315 P **P** **00 51 20.9 +1.0**
O49A IAmb IAmb 00 51 25.4
comp=Z,22nm,1.2s
O49A IAMs_20 IAMs_20 01 12 47.5
comp=Z,3µm,22.0s
BSD Bornholm Skovb 64.28 26 *i* P P 00 51 23.1 +3.4
BSD IAmb IAmb 00 51 30.1
comp=Z,27nm,1.1s
CLTN Cedars of Leba 64.28 310 P **P** **00 51 21.7 +1.5**
LOZB Loznitsa 64.29 41 ⇑P **P** **00 51 18.7 -1.4**
KOLS Kolonicke sedl 64.30 34 *eP* **P** **00 51 21.1 +1.1**
KOLS pmax pmax
comp=Z,20nm,1.6s
KOLS Kolonicke sedl 64.30 34 *eP* **P** **00 51 21.1 +1.1**
X48A Hartselle 64.31 308 IAMs_20 IAMs_20 01 12 58.7
comp=Z,3µm,22.0s
RAZG Razgrad 64.32 41 ⇑P **P** **00 51 19.5 -0.8**
N49A Columbus Grove 64.43 316 P **P** **00 51 21.3 +0.2**
N49A IAMs_20 IAMs_20 01 12 53.1
comp=Z,3µm,22.0s
AAM Ann Arbor 64.62 317 P **P** **00 51 23.6 +1.3**
AAM IAmb IAmb 00 51 28.1
comp=Z,31nm,1.1s
AAM Ann Arbor 64.62 317 P **P** **00 51 23.6 +1.3**
AAM pmax pmax
comp=Z,31nm,1.1s
DOPR Dopca 64.68 38 ⇑P **P** **00 51 21.7 -0.9**
I49A Point Hope 64.75 319 P **P** **00 51 22.3 -0.7**
I49A IAMs_20 IAMs_20 01 14 07.0
comp=Z,3µm,20.0s
Z47A Carrollton 64.76 307 IAMs_20 IAMs_20 01 13 01.6
comp=Z,4µm,22.0s
P48A Milroy 64.77 314 **P** **00 51 24.7 +1.4**
P48A IAmb IAmb 00 51 45.9
comp=Z,48nm,1.6s
P48A IAMs_20 IAMs_20 01 13 02.1
comp=Z,3µm,22.0s
MLR Muntele Rosu 64.81 39 **P** **00 51 22.4 -1.2**
MLR IAMs_20 IAMs_20 01 19 45.8
comp=Z,3µm,20.0s
MLR Muntele Rosu 64.81 39 ⇑P **P** **00 51 22.5 -1.2**

MLR Muntele Rosu 64.81 39 P P 00 51 22.4 -1.2
O48B Farmland 64.86 315 P P 00 51 25.3 +1.4
O48B IAmb IAmb 00 51 42.5
comp=Z,24nm,1.0s
O48B IAMs_20 IAMs_20 01 13 04.5
comp=Z,3μm,21.0s
KWP Kalwaria Pacla 64.90 34 *eP* **P 00 51 24.2 +0.2**
KWP *eS* **S 01 00 09.9 +6.2**
KWP *eL* L 01 13 12.7
comp=Z,3μm,34.4s
ISP Isparta 64.93 48 P 00 51 23.0 -1.5
ISP IAmb IAmb 00 51 25.7
comp=Z,35nm,1.3s
ISP Isparta 64.93 48 P P **00 51 23.0 -1.5**
ISP pmax pmax
comp=Z,35nm,1.3s
ISP MLR MLR
comp=Z,2μm,20.0s
WCI Wyandotte Cave 64.97 312 P 00 51 25.5 +0.9
WCI IAmb IAmb 00 51 47.8
comp=Z,34nm,1.2s
WCI Wyandotte Cave 64.97 312 IAMs_20 IAMs_20 01 13 40.5
comp=Z,3μm,21.0s
WCI Wyandotte Cave 64.97 312 P P **00 51 25.5 +0.9**
WCI pmax pmax
comp=Z,34nm,1.2s
OZUR 64.98 38 ⇑P **P 00 51 23.7 -0.9**
NEHR Nehoiu 65.00 39 ⇑P **P 00 51 23.4 -1.3**
BEL Belsk 65.07 31 *eP* **P 00 51 25.5 +0.5**
BEL *eS* S 00 59 53.9 -12
BEL *eL* L 01 12 25.1
comp=Z,89μm,42.4s
BORU Boraas 65.10 23 *i* P **P 00 51 24.1 -1.0**
T47A Sharon Grove 65.16 311 IAMs_20 IAMs_20 01 13 42.8
comp=Z,3μm,21.0s
PLAL Pickwick Lake 65.28 308 P P **00 51 28.1 +1.3**
PLAL IAmb IAmb 00 51 49.7
comp=Z,54nm,1.9s
PLAL IAMs_20 IAMs_20 01 13 18.3
comp=Z,4μm,22.0s
KUQ Kuujjuuaa 65.33 338 P P **00 51 27.4 +0.8**
KUQ IAmb IAmb 00 53 01.2
comp=Z,51nm,1.5s
KUQ IAMs_20 IAMs_20 01 13 46.8
comp=Z,3μm,22.0s
BURAR Bucovina Array 65.34 37 P 00 51 27.0 0.0
BURAR Bucovina Array 65.34 37 P P **00 51 26.0 -1.0**
BURAR pmax pmax
comp=Z,8.0nm,1.0s
BUR08 Bucovina Ar. S 65.35 37 P 00 51 27.2 +0.2
146A Union 65.40 306 P P **00 51 29.3 +1.7**
146A IAmb IAmb 00 51 51.7
comp=Z,26nm,1.0s
146A IAMs_20 IAMs_20 01 14 47.7
comp=Z,3μm,21.0s
ICOR Ion Corvin 65.40 41 ⇑P **P 00 51 25.9 -1.4**
KONO Kongsberg 65.40 20 IAMs_20 IAMs_20 01 14 33.1
comp=Z,3μm,20.0s
BLO Bloomington 65.46 313 P P **00 51 29.5 +1.7**
BLO IAMs_20 IAMs_20 01 13 34.4
comp=Z,3μm,22.0s
BLO Bloomington 65.46 313 P P **00 51 29.5 +1.7**
BLO pmax pmax
comp=Z,39nm,1.1s
R9F13 Warsaw-Wawer 65.46 31 *eP* **P 00 51 28.5 +1.0**
comp=Z,1.3nm,0.7s
R9F13 *i* S **SKSac 01 01 14.3 -6.6**
VRI Vrincioaia 65.47 39 ⇑P **P 00 51 26.4 -1.3**
VRI Vrincioaia 65.47 39 P P **00 51 26.4 -1.3**
N47A Urbana 65.48 315 P 00 51 28.9 +1.0
N47A IAmb IAmb 00 51 46.4
comp=Z,30nm,1.0s
N47A IAMs_20 IAMs_20 01 13 11.7
comp=Z,3μm,22.0s
HARR Harsova 65.73 40 ⇑P **P 00 51 27.7 -1.7**
HARR Harsova 65.73 40 P P **00 51 27.6 -1.7**
TLBR Topalu 65.74 41 ⇑P **P 00 51 28.8 -0.7**
J47A Sunmer 65.78 318 P P **00 51 31.5 +1.7**
J47A IAmb IAmb 00 51 35.2
comp=Z,42nm,1.4s
USIN University of 65.90 312 P 00 51 32.2 +1.6
USIN IAMs_20 IAMs_20 01 14 39.2
comp=Z,2μm,20.0s
CFR Carcaliu 66.06 40 ⇓P **P 00 51 29.4 -2.2**
CFR Carcaliu 66.06 40 P P **00 51 29.3 -2.2**
KIBK Kibwezi 66.07 93 P P **00 51 33.0 +0.7**
P46A Rosedale 66.11 313 IAMs_20 IAMs_20 01 14 05.6
comp=Z,3μm,22.0s
Y45A Yeager Farm, C 66.13 307 P P 00 51 33.6 +1.4
EIL Elat 66.16 58 LR LR 01 21 30.3
comp=Z,7μm,18.1s,baz=256,slow=37
CSS Mathiatis 66.20 52 P 00 51 31.0 -1.6
CSS IAmb IAmb 00 51 33.6
comp=Z,44nm,1.3s
CSS IAMs_20 IAMs_20 01 20 29.3
comp=Z,3μm,21.0s
OXF Oxford 66.20 308 P P **00 51 32.6 0.0**
OXF IAmb IAmb 00 51 36.4
comp=Z,15nm,0.8s
OXF IAMs_20 IAMs_20 01 14 06.6
comp=Z,3μm,22.0s
OXF Oxford 66.20 308 P P **00 51 32.6 0.0**
OXF pmax pmax
comp=Z,15nm,0.8s
GLMI Grayling 66.28 320 P P **00 51 33.4 +0.4**
SFIN Lafayette 66.29 314 IAMs_20 IAMs_20 01 13 59.4
comp=Z,3μm,22.0s
L46A Eue Claire 66.31 316 IAMs_20 IAMs_20 01 13 50.8
comp=Z,3μm,22.0s
MDUB Mudurnu 66.34 46 P 00 51 32.2 -1.3
T45A Paducah 66.34 310 P P **00 51 34.6 +1.1**
T45A IAMs_20 IAMs_20 01 14 04.0
comp=Z,2μm,22.0s
OLIL Olney 66.47 312 IAMs_20 IAMs_20 01 14 37.3
comp=Z,3μm,21.0s
VBMS Vicksburg 66.48 305 IAMs_20 IAMs_20 01 16 22.4
comp=Z,3μm,20.0s
HALT Halls 66.54 309 IAMs_20 IAMs_20 01 14 06.6
comp=Z,2μm,22.0s
LNXT Lenox 66.72 309 IAMs_20 IAMs_20 01 14 13.1
comp=Z,2μm,22.0s
NAO01 NORSAR Array S 66.72 20 P P **00 51 34.3 -1.2**
NAO01 IAmb IAmb 00 51 36.9
comp=Z,31nm,1.4s
E46A Sault Ste Mari 66.72 321 P 00 51 36.7 +0.9
E46A IAmb IAmb 00 51 58.1
comp=Z,38nm,1.3s
FURI Furi 66.78 81 P P **00 51 38.6 +1.4**
MET Memphis--Engin 66.78 308 IAMs_20 IAMs_20 01 14 24.0
comp=Z,3μm,22.0s
NBO00 NORSAR Array S 66.82 19 IAmb IAmb 00 51 50.7
comp=Z,18nm,1.0s
HDBT Hernando Brdge 66.89 308 IAMs_20 IAMs_20 01 22 20.8
comp=Z,2μm,22.0s
PVMO Portageville 66.97 309 IAMs_20 IAMs_20 01 14 20.7
comp=Z,2μm,21.0s
NB2 NORSAR Subarra 66.97 20 P P **00 51 35.1 -2.0**
comp=Z,105nm,2.5s,baz=224,slow=6.2
NB2 NORSAR Subarra 66.97 20 P P **00 51 35.1 -2.0**
baz=224,slow=6.2
NOA NORSAR Array B 66.97 20 P P **00 51 36.6 -0.5**
comp=Z,6.9nm,1.1s,baz=223,slow=6.2,SNR=12
NOA LR LR 01 16 05.4
comp=Z,2μm,21.7s,baz=225,slow=32
comp=Z,6.9nm,1.1s
SIUC Southern Illin 66.99 311 P P **00 51 38.5 +0.9**
SIUC IAMs_20 IAMs_20 01 14 27.1
comp=Z,3μm,22.0s
NC204 NORSAR Array S 67.00 19 P P **00 51 37.8 +0.5**
NC204 IAmb IAmb 00 51 49.3
comp=Z,28nm,1.4s
NB201 NORSAR Array S 67.01 20 P P **00 51 37.8 +0.4**
NB201 IAmb IAmb 00 51 39.0
comp=Z,37nm,1.3s
PEBM Pemiscott Bayo 67.01 309 IAMs_20 IAMs_20 01 14 20.8
comp=Z,2μm,22.0s
S44A Carbondale 67.01 311 P P **00 51 39.0 +1.3**
S44A IAMs_20 IAMs_20 01 14 26.6
comp=Z,2μm,22.0s
GHAJ Ghor Haditha 67.06 56 P P **00 51 38.6 +0.5**
GNAR Gosnell 67.09 309 IAMs_20 IAMs_20 01 14 22.9
comp=Z,2μm,22.0s
NC303 NORSAR Array S 67.16 19 P P **00 51 38.0 -0.3**
NC303 IAmb IAmb 00 51 40.1
comp=Z,27nm,1.3s
HFS Hagfors 67.19 21 P P **00 51 38.3 -0.1**
comp=Z,2.1nm,0.7s,baz=208,slow=5.9,SNR=6.9
HFS LR LR 01 16 37.1
comp=Z,2μm,21.8s,baz=229,slow=32
comp=Z,2.1nm,0.7s
NC405 NORSAR Array S 67.19 20 P 00 51 38.4 -0.1
NC405 IAmb IAmb 00 51 40.0
comp=Z,37nm,1.4s
SOEG Soedalen 67.20 359 *i* P **P 00 51 39.4 +1.0**
SOEG IAmb IAmb 00 51 40.6
comp=Z,23nm,1.2s
Q44A Meyer Farm, Va 67.20 312 P P **00 51 39.8 +0.9**
Q44A IAMs_20 IAMs_20 01 15 19.7
comp=Z,2μm,20.0s
MILM Milestii Mici 67.22 38⇑ *iP* **P 00 51 36.5 -2.4**
comp=Z,170nm,2.3s
MILM Milestii Mici 67.22 38 *i* PP PP 00 54 08.0 +0.7
MILM *i* S **S 01 00 26.0 -6.0**
MILM Milestii Mici 67.22 38 *c iP* **P 00 51 36.5 -2.4**
MILM *i* 00 54 08.0
MILM *i* S **S 01 00 26.0 -6.0**
MILM *i* PS **PnS 01 00 58.0 +1.9**
MILM pmax pmax
comp=Z,170nm,2.3s
KIS Kishinev 67.26 38 *eP* **P 00 51 36.0 -3.2**
KIS LRM MLR 01 21 29.0
comp=Z,500nm,19.0s
KIS Kishinev 67.26 38 *eP* **P 00 51 36.0 -3.2**
ANTO Ankara 67.28 47 P **P 00 51 38.5 -1.1**
ANTO Ankara 67.28 47 ⇑P **P 00 51 38.7 -0.9**
ANTO Ankara 67.28 47 P **P 00 51 38.5 -1.1**
ANTO pmax pmax
comp=Z,53nm,1.1s
ANTO MLR MLR
comp=Z,4μm,21.0s
BALJ Balqa 67.31 55 P P **00 51 39.7 -0.1**
M44A Midewin, Midew 67.31 315 IAMs_20 IAMs_20 01 14 42.4
comp=Z,3μm,22.0s
HQIL Hanson Quary C 67.32 315 IAMs_20 IAMs_20 01 14 31.5
comp=Z,3μm,22.0s
143A Socs Landing, 67.33 305 P P **00 51 41.6 +1.7**
143A IAMs_20 IAMs_20 01 16 48.8
comp=Z,3μm,20.0s
MMAI Mount Meron Ar 67.34 54 P P **00 51 38.5 -1.6**
comp=Z,12nm,1.0s,baz=248,slow=10,SNR=13
comp=Z,12nm,1.0s
HBAR Harrisburg 67.47 308 P P **00 51 42.6 +1.9**
HBAR IAMs_20 IAMs_20 01 14 44.2
comp=Z,2μm,22.0s
SUW Suwalki 67.47 30 *eP* **P 00 51 40.4 0.0**
SUW *eS* **S 01 00 40.7 +5.9**
SUW *eL* L 01 13 25.4
comp=Z,4μm,45.2s
SUW Suwalki 67.47 30 P P **00 51 38.8 -1.5**
SUW Suwalki 67.47 30 P P **00 51 38.8 -1.5**
L44A Lake County Fo 67.50 316 P P **00 51 42.7 +1.9**
L44A IAMs_20 IAMs_20 01 14 36.1
comp=Z,3μm,22.0s
PBMO Poplar Bluff 67.64 310 P P **00 51 42.3 +0.6**
PBMO IAMs_20 IAMs_20 01 14 42.4
comp=Z,3μm,22.0s
CMIG Matias Romero 67.70 288 LR LR 01 21 42.3
comp=Z,332nm,21.0s,baz=100,slow=36
PURM Purcari 67.72 39 ⇑P **P 00 51 40.4 -1.6**
P43A Skaggs, Pawnee 67.81 313 P 00 51 41.7 -1.1
P43A IAMs_20 IAMs_20 01 14 57.6
comp=Z,3μm,21.0s
SFJD Kangerlussuaq 67.84 351 P P **00 51 42.9 +0.5**
SFJD Kangerlussuaq 67.84 351 P 00 51 43.3 +0.9
SFJD Kangerlussuaq 67.84 351 LR LR 01 14 17.0
comp=Z,1μm,21.5s,baz=162,slow=30
BR131 Keskin Array S 67.86 47 IAmb IAmb 00 51 44.5
comp=Z,32nm,1.0s
BR131 Keskin Array S 67.86 47 *ceP* **P 00 51 42.9 -0.4**
BRTR Keskin Array B 67.86 47 P **P 00 51 41.7 -1.6**
BRTR Keskin Array B 67.86 47 P **P 00 51 41.4 -1.9**
comp=Z,12nm,0.8s,baz=228,slow=5.4,SNR=39
comp=Z,12nm,0.8s
KIRS Kirsehir-Merke 67.88 48 ⇑P **P 00 51 41.6 -1.8**
HDIL Hopedale 67.93 314 P P **00 51 43.5 0.0**
HDIL IAMs_20 IAMs_20 01 15 00.8
comp=Z,3μm,22.0s
K43A Burlington 67.97 316 P P **00 51 43.8 0.0**
K43A IAmb IAmb 00 52 02.0
comp=Z,36nm,1.0s
K43A IAMs_20 IAMs_20 01 14 39.6
comp=Z,3μm,22.0s
FVM French Village 67.98 311 P 00 51 43.6 -0.3
FVM IAmb IAmb 00 51 47.8
comp=Z,14nm,0.8s
FVM IAMs_20 IAMs_20 01 15 19.4
comp=Z,2μm,22.0s
FVM French Village 67.98 311 P P **00 51 43.6 -0.3**
FVM pmax pmax
comp=Z,14nm,0.8s
LCAR Lake Charles 68.00 309 P 00 51 45.5 +1.4
LCAR IAmb IAmb 00 52 02.9
comp=Z,22nm,1.2s
LCAR IAMs_20 IAMs_20 01 14 51.1
comp=Z,2μm,22.0s
SLM Saint Louis 68.03 312 P P **00 51 44.7 +0.5**
SLM IAMs_20 IAMs_20 01 15 11.6
comp=Z,3μm,22.0s
SLM Saint Louis 68.03 312 P P **00 51 44.7 +0.5**
SLM pmax pmax
comp=Z,59nm,1.5s
H43A Windswept, Lux 68.22 318 IAmb IAmb 00 52 03.5
comp=Z,21nm,1.0s
ASF Jabal al Asfar 68.36 56 LR LR 01 23 35.2
comp=Z,4μm,18.0s,baz=259,slow=38
441A DeRidder 68.36 303 IAMs_20 IAMs_20 01 19 29.4
comp=Z,2μm,19.0s
UALR University of 68.60 307 P 00 51 48.6 +0.7
Z41A Richland Creek 68.61 305 P P **00 51 49.6 +1.7**
CCM Cathedral Cave 68.62 311 P 00 51 47.2 -0.7
CCM IAmb IAmb 00 52 06.0
comp=Z,25nm,1.0s
CCM Cathedral Cave 68.62 311 P P **00 51 47.2 -0.7**
CCM pmax pmax
comp=Z,25nm,1.0s
L42A Oliver, Polo 68.67 315 P P **00 51 48.9 +0.7**
L42A IAmb IAmb 00 52 06.7
comp=Z,35nm,1.1s
L42A IAMs_20 IAMs_20 01 16 05.1
comp=Z,2μm,20.0s
WHAR Wooly Hollow 68.69 308 P 00 51 50.8 +2.4
WHAR IAmb IAmb 00 52 49.5
comp=Z,50nm,1.7s
WHAR IAMs_20 IAMs_20 01 15 22.5
comp=Z,3μm,22.0s
FCAR Ozark Folk Cen 68.71 308 P P **00 51 49.5 +1.0**
FCAR IAMs_20 IAMs_20 01 15 33.0
comp=Z,2μm,22.0s
I42A Draeger Farm, 68.78 317 P 00 51 48.8 0.0
BZK Bozkurt 68.83 45 IAMs_20 IAMs_20 01 24 02.6
comp=Z,3μm,21.0s
X40A Basin Creek Fa 68.92 307 P P **00 51 51.9 +2.0**
X40A IAMs_20 IAMs_20 01 15 29.8
comp=Z,3μm,22.0s
F42A Maple Grove Fa 68.93 319 P P **00 51 49.9 +0.2**
F42A IAMs_20 IAMs_20 01 16 54.7
comp=Z,2μm,19.0s
WLAR White Oak Lake 68.96 306 P 00 51 51.7 +1.6
KIEV Kiev 69.08 35 P 00 51 48.9 -1.6
KIEV Kiev 69.08 35 ⇑P **P 00 51 49.0 -1.5**
KIEV Kiev 69.08 35 P **P 00 51 48.9 -1.6**
KIEV pmax pmax
comp=Z,76nm,1.1s
KIEV MLR MLR
comp=Z,2μm,19.0s
AKASG Malin Array Be 69.09 35 P **P 00 51 49.2 -1.4**
AKASG Malin Array Be 69.09 35 P **P 00 51 48.5 -2.1**
comp=Z,36nm,0.9s,baz=243,slow=6.8,SNR=62
comp=Z,36nm,0.9s
AKASG Malin Array Be 69.09 35 P **P 00 51 49.2 -1.4**
AKASG pmax pmax
comp=Z,100nm,1.4s
AKBB Malin Array Si 69.09 35 P 00 51 49.0 -1.6
AKBB Malin Array Si 69.09 35 P **P 00 51 49.0 -1.6**
AKBB pmax pmax
comp=Z,85nm,1.1s
N41A Harden Midland 69.11 314 P P **00 51 51.3 +0.4**
MGMO Mountain Grove 69.16 310 IAmb IAmb 00 52 19.5
comp=Z,33nm,1.1s
MGMO IAMs_20 IAMs_20 01 15 38.6
comp=Z,2μm,22.0s
BNN Bunyan 69.23 49 IAMs_20 IAMs_20 01 22 50.5
comp=Z,2μm,22.0s
JFWS Jewell Farm 69.37 316 IAmb IAmb 00 51 56.7
comp=Z,18nm,0.8s
JFWS Jewell Farm 69.37 316 IAMs_20 IAMs_20 01 15 32.6
comp=Z,3μm,22.0s
FRB Frobisher Bay 69.39 342 LR LR 01 17 37.9
comp=Z,563nm,21.7s,baz=142,slow=32
R40A Maddies Statio 69.46 311 P **P 00 51 52.2 -0.9**
R40A IAmb IAmb 00 52 11.2
comp=Z,21nm,1.0s
R40A IAMs_20 IAMs_20 01 16 13.6
comp=Z,2μm,22.0s
MIAR Mount Ida 69.53 307 P 00 51 54.8 +1.1
MIAR IAMs_20 IAMs_20 01 15 59.9
comp=Z,3μm,22.0s
MIAR Mount Ida 69.53 307 P **P 00 51 54.8 +1.1**
MIAR pmax pmax
comp=Z,25nm,1.5s
P40A Paris 69.64 312 IAmb IAmb 00 52 12.1
comp=Z,28nm,1.0s
P40A IAMs_20 IAMs_20 01 16 13.1
comp=Z,3μm,22.0s
COWI Conover 69.71 319 P **P 00 51 54.5 0.0**
COWI IAmb IAmb 00 52 04.2
comp=Z,46nm,1.6s
COWI IAMs_20 IAMs_20 01 17 10.2
comp=Z,2μm,20.0s
L40A Anamosa 69.78 315 P **P 00 51 53.3 -1.7**
L40A IAmb IAmb 00 51 58.9
comp=Z,27nm,0.8s
L40A IAMs_20 IAMs_20 01 16 07.7
comp=Z,3μm,22.0s
NATX Nacogdoches 69.81 304 P **P 00 51 56.8 +1.4**
NATX IAmb IAmb 00 52 32.8
comp=Z,42nm,1.1s
NATX IAMs_20 IAMs_20 01 18 11.5
comp=Z,3μm,20.0s
GAZ Gaziantep 69.82 51 IAmb IAmb 00 51 57.4
comp=Z,39nm,1.0s
GAZ IAMs_20 IAMs_20 01 23 54.2
comp=Z,2μm,20.0s
SIM Simferopol' 69.90 42 P **P 00 51 57.6 +1.9**
SIM 00 54 26.0
SIM PPP PPP 00 56 10.0
SIM S **S 01 01 03.4 -0.5**
SIM SS **SS 01 05 34.0 +0.7**
SIM pmax pmax
comp=Z,190nm,6.4s
SIM pmax pmax
comp=Z,90nm,9.8s
SIM smax smax
comp=E,310nm,11.0s
SIM pmax pmax
comp=N,440nm,13.0s
ILULI Ilulissat 69.94 351 IAMs_20 IAMs_20 01 12 26.7
comp=Z,2μm,18.0s
MNK Minsk 70.10 31 *i* P **P 00 51 55.4 -1.3**
MNK *i* 00 54 30.5
MNK *i* PPP PPP 00 56 10.6
MNK *i* S **S 01 01 05.4 -0.5**
MNK *i* SS **SS 01 05 30.5 -5.5**
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=N,18nm,1.4s
MNK pmax pmax
comp=E,10.0nm,1.1s
MNK MLR MLR
comp=N,773nm,16.0s
MNK MLR MLR
comp=Z,2μm,19.0s
MNK MLR MLR
comp=E,1μm,18.0s
TOKA Tokat 70.11 47 P **P 00 51 57.1 -0.1**
TOKA IAmb IAmb 00 51 58.4
comp=Z,26nm,0.9s
TOKA IAMs_20 IAMs_20 01 23 34.8
comp=Z,2μm,20.0s
G40A Rib Lake 70.12 318 P **P 00 51 57.1 0.0**
G40A IAmb IAmb 00 52 19.4
comp=Z,56nm,1.9s
HHAR Hobbs 70.23 308 IAMs_20 IAMs_20 01 16 19.3
comp=Z,2μm,22.0s
HKT Hockley 70.44 301 P **P 00 52 01.7 +2.4**
HKT Hockley 70.44 301 IAMs_20 IAMs_20 01 23 16.8
comp=Z,2μm,19.0s
HKT Hockley 70.44 301 P **P 00 52 01.7 +2.4**
HKT pmax pmax
comp=Z,17nm,1.5s
HKT MLR MLR
comp=Z,2μm,19.0s
PMSA Palmer Station 70.62 196 LR LR 01 17 41.2
comp=Z,1μm,20.3s,baz=22,slow=31
U38A Gravette 70.62 308 P 00 52 00.7 +0.4
U38A IAmb IAmb 00 52 05.2
comp=Z,50nm,1.9s
P38A Dawn 70.77 312 P 00 52 01.4 +0.3
P38A IAmb IAmb 00 52 19.2
comp=Z,20nm,1.0s
P38A IAMs_20 IAMs_20 01 17 09.0
comp=Z,3μm,21.0s
TBO Thunder Bay 70.80 322 P **P 00 52 02.8 +1.6**
TBO IAmb IAmb 00 52 22.0
comp=Z,33nm,1.4s
TBO IAMs_20 IAMs_20 01 17 09.0
comp=Z,2μm,21.0s
237A Washetta, Mont 70.81 304 P **P 00 52 03.0 +1.4**
237A IAmb IAmb 00 52 38.8
comp=Z,56nm,1.6s
237A IAMs_20 IAMs_20 01 20 01.1
comp=Z,3μm,20.0s
N38A Joes South For 70.86 313 P **P 00 52 02.4 +0.7**
N38A IAmb IAmb 00 52 20.2
comp=Z,46nm,1.2s
ATD Arta Tunnel 71.01 78 P **P 00 52 02.6 -0.6**
RLO Rose Lookout 71.06 308 IAmb IAmb 00 52 07.2
comp=Z,18nm,0.7s
JMIC Jan Mayen 71.09 7 LR LR 01 16 26.8
comp=Z,922nm,19.5s,baz=193,slow=30
SCIA State Center 71.16 314 P **P 00 52 04.8 +1.3**
SCIA IAmb IAmb 00 52 25.5
comp=Z,27nm,1.1s
SCIA IAMs_20 IAMs_20 01 17 12.1
comp=Z,3μm,22.0s
E38A The Farm, Brul 71.45 319 P 00 52 07.2 +2.1
E38A IAMs_20 IAMs_20 01 18 13.4
comp=Z,2μm,20.0s
VSU Vasula 71.50 27 *de* **P P 00 52 04.6 -0.5**
VSU pmax pmax
comp=Z,29nm,1.2s
TUL3 Leonard 71.61 308 IAmb IAmb 00 52 31.1
comp=Z,26nm,1.0s
TUL3 IAMs_20 IAMs_20 01 17 12.7
comp=Z,2μm,22.0s
SPMN Marine on St. 71.84 318 P 00 52 07.2 -0.4
SPMN IAmb IAmb 00 52 12.1
comp=Z,38nm,1.1s
SUMG Summit 71.86 357 *i* P **P 00 52 08.2 +0.6**
SUMG IAmb IAmb 00 52 13.8
comp=Z,22nm,1.0s
EYMN Ely 71.86 321 P 00 52 08.2 +0.6
I37A Lemond, Waseca 71.89 316 IAMs_20 IAMs_20 01 17 00.3
comp=Z,2μm,22.0s
435B Jarrell 72.08 302 P **P 00 52 10.7 +1.4**
435B IAMs_20 IAMs_20 01 21 39.9
comp=Z,2μm,19.0s
ANN Anapa 72.08 43 *eP* **P 00 52 07.4 -1.5**
ANN *eS* **S 01 01 29.6 +0.4**
ANN pmax pmax
comp=Z,134nm,1.1s
ANN MLR MLR
comp=Z,2μm,17.0s
DEOK Depew 72.15 307 P **P 00 52 10.2 +0.6**
DEOK IAmb IAmb 00 52 38.7
comp=Z,34nm,1.4s
WHTX Lake Whitney, 72.19 303 IAMs_20 IAMs_20 01 20 35.5
comp=Z,2μm,20.0s
Z35A Perchaven, San 72.26 305 P **P 00 52 11.4 +1.1**
Z35A IAmb IAmb 00 52 14.0
comp=Z,15nm,0.7s
Z35A IAMs_20 IAMs_20 01 19 16.4
comp=Z,3μm,21.0s
LOOK Love County 72.33 305 P **P 00 52 12.2 +1.6**
LOOK IAMs_20 IAMs_20 01 20 43.1
comp=Z,2μm,19.0s

QUOK Quay 72.39 308 IAmb IAmb 00 52 15.4
comp=Z,19nm,0.8s
OK052 Battle Ridge R 72.43 308 P **P** **00 52 12.5 +1.3**
OK052 IAMs_20 IAMs_20 01 17 38.4
comp=Z,2µm,22.0s
VNA1 Neumayer--Stat 72.61 173 ⇑P P 00 52 15.5 +3.9
comp=Z,12nm,0.8s
MARD Mardin 72.62 51 IAmb IAmb 00 52 13.9
comp=Z,31nm,0.8s
FNO Franklin 72.75 307 IAMs_20 IAMs_20 01 18 02.2
comp=Z,2µm,22.0s
FINES FINESS Array B 72.78 24 **P** **00 52 13.5 +0.8**
FINES FINESS Array B 72.78 24 P **P** **00 52 11.4 -1.3**
comp=Z,13nm,1.0s,baz=205,slow=4.0,SNR=15
FINES LR LR 01 21 14.2
comp=Z,3µm,20.2s,baz=238,slow=34
comp=Z,13nm,1.0s
FINES FINESS Array B 72.78 24 P **P** **00 52 13.5 +0.8**
OK029 Liberty Lake 72.91 307 IAmb IAmb 00 52 18.8
comp=Z,27nm,0.8s
OK029 IAMs_20 IAMs_20 01 18 17.1
comp=Z,2µm,22.0s
BLOK Blackwell 72.91 308 P **P** **00 52 14.7 +0.6**
BLOK IAmb IAmb 00 52 34.2
comp=Z,44nm,1.2s
KSU1 Kansas State U 72.95 311 P **P** **00 52 15.4 +1.2**
KSU1 IAmb IAmb 00 52 35.8
comp=Z,32nm,1.1s
KSU1 IAMs_20 IAMs_20 01 18 11.0
comp=Z,2µm,21.0s
KOPT Kop Dagi 73.01 48 **P** **00 52 15.3 +0.4**
KOPT IAmb IAmb 00 52 17.4
comp=Z,56nm,1.3s
KOPT IAMs_20 IAMs_20 01 27 27.6
comp=Z,2µm,19.0s
VNA3 Neumayer Olymp 73.02 174 ⇑P **P** **00 52 16.7 +2.7**
comp=Z,7.2nm,0.7s
PLPT Palo Pinto 73.05 304 P **P** **00 52 16.5 +1.5**
833A Chaparral WMA, 73.25 299 P **P** **00 52 17.8 +1.5**
833A IAmb IAmb 00 52 46.2
comp=Z,30nm,1.4s
JRQG Juriquilla Cam 73.31 291 P **P** **00 52 17.8 +0.8**
SOC Sochi 73.33 45 *e*P **P** **00 52 15.4 -1.0**
SOC *e* 00 54 54.1
SOC *e*PPP PPP 00 56 37.4
SOC *e*S **SKiKP** **01 01 43.8 -2.3**
SOC pmax pmax
comp=Z,76nm,1.0s
SOC MLR MLR
comp=Z,709nm,20.0s
HNDO Hondo 73.33 300 P **P** **00 52 17.2 +0.4**
WTFS Witchita Falls 73.34 305 P **P** **00 52 18.4 +1.7**
DBG Daneborg 73.44 2 *i*P **P** **00 52 17.6 +1.2**
DBG IAmb IAmb 00 52 30.0
comp=Z,48nm,1.3s
L34A Svendsen Farm, 73.45 314 P **P** **00 52 17.7 +0.5**
CROK Carrier 73.47 308 P **P** **00 52 19.5 +2.1**
CROK IAmb IAmb 00 52 55.8
comp=Z,41nm,1.2s
CROK IAMs_20 IAMs_20 01 18 19.9
comp=Z,2µm,22.0s
WMOK Wichita Mounta 73.77 306 P **P** **00 52 20.3 +1.1**
WMOK Wichita Mounta 73.77 306 P **P** **00 52 20.3 +1.1**
WMOK pmax pmax
comp=Z,6.0nm,1.1s
GURO Guroymak-BITLI 73.85 50 IAMs_20 IAMs_20 01 26 46.9
comp=Z,2µm,19.0s
CSTR Hydro, Custer 73.86 307 P **P** **00 52 20.5 +0.8**
UPNV Upernavik 73.88 352 *i*P P 00 52 23.4 +4.4
UPNV IAmb IAmb 00 52 31.6
comp=Z,30nm,1.0s
JCT Junction City 73.92 301 **P** **00 52 21.6 +1.5**
JCT Junction City 73.92 301 P **P** **00 52 21.7 +1.5**
JCT pmax pmax
comp=Z,19nm,1.0s
ECSD EROS Data Cent 74.05 315 **P** **00 52 19.9 -0.8**
ECSD EROS Data Cent 74.05 315 IAMs_20 IAMs_20 01 18 29.6
comp=Z,2µm,22.0s
OK038 West end E0370 74.06 308 P **P** **00 52 22.5 +1.7**
OK038 IAmb IAmb 00 52 40.4
comp=Z,43nm,1.4s
OK038 IAMs_20 IAMs_20 01 18 48.6
comp=Z,2µm,22.0s
ABTX Abilene, Hawle 74.12 304 P **P** **00 52 23.0 +1.7**
ABTX IAmb IAmb 00 52 58.5
comp=Z,36nm,1.4s
NOKA Waynoka 74.24 308 P **P** **00 52 22.3 +0.3**
NOKA IAmb IAmb 00 52 44.9
comp=Z,32nm,0.9s
SNAA Sanae 74.25 172 ⇑P **P** **00 52 23.7 +2.3**
comp=Z,178nm,0.7s
SNAA Sanae 74.25 172 **P** **00 52 23.7 +2.3**
SNAA Sanae 74.25 172 *d i*P **P** **00 52 24.0 +2.6**
SNAA pmax pmax
comp=Z,20nm,1.1s
ERBR Yeremizino-Bor 74.41 43 *e*P **P** **00 52 21.5 -1.2**
ERBR *e*S **S** **01 01 50.9 -4.7**
ERBR pmax pmax
comp=Z,90nm,1.2s
R32A Long Quarter, 74.41 310 P **P** **00 52 23.8 +0.8**
R32A IAmb IAmb 00 52 41.9
comp=Z,59nm,1.4s
DRIO Del Rio 74.47 300 **P** **00 52 24.0 +0.6**
RAYN Ar Rayn 74.48 66 **P** **00 52 22.8 -0.8**
RAYN IAmb IAmb 00 52 38.6
comp=Z,25nm,1.0s
RAYN Ar Rayn 74.48 66 P **P** **00 52 22.8 -0.8**
RAYN pmax pmax
comp=Z,25nm,1.0s
RAYN MLR MLR
comp=Z,3µm,20.0s
ELIS Ellis County 74.52 307 P **P** **00 52 23.6 0.0**
ELIS IAmb IAmb 00 52 53.3
comp=Z,84nm,1.8s
GEVA Gevas 74.59 50 **P** **00 52 23.5 -0.7**
GEVA IAmb IAmb 00 52 26.4
comp=Z,46nm,1.0s
BGNE Belgrade 74.61 313 P **P** **00 52 24.2 +0.2**
APMT Aspermont 74.63 304 **P** **00 52 25.2 +0.9**
AGMN Agassiz Nation 74.75 320 IAmb IAmb 00 52 33.7
comp=Z,20nm,0.8s
OBN Obninsk 74.92 32 P **P** **00 52 25.1 -0.4**
OBN IAMs_20 IAMs_20 01 24 40.3
comp=Z,2µm,18.0s
OBN Obninsk 74.92 32 LR LR 01 23 57.5
comp=Z,2µm,21.0s,baz=194,slow=35
OBN Obninsk 74.92 32 ⇓ *i*P **P** **00 52 25.4 0.0**
OBN *e**PP **pP** **00 52 30.2 -3.1**
OBN *e* 00 52 38.8
OBN *e* 00 55 13.8
OBN *e*PPP PPP 00 56 57.2
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,2µm,17.0s
OZNA Ozona 75.11 302 **P** **00 52 27.6 +0.4**
VSR Storozhevoye 75.12 37 *e*P **P** **00 52 24.3 -2.3**
VSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 75.12 37 *e*P **P** **00 52 25.4 -1.2**
VORD pmax pmax
comp=Z,20nm,1.0s
SN07 Snyder 07 75.23 304 P **P** **00 52 28.6 +0.9**
SN07 IAmb IAmb 00 53 12.8
comp=Z,67nm,2.0s
SGCY Sterling City 75.25 303 **P** **00 52 28.9 +1.0**
CBKS Cedar Bluff 75.28 310 **P** **00 52 30.0 +2.1**
CBKS IAmb IAmb 00 52 50.5
comp=Z,41nm,1.1s
CBKS IAMs_20 IAMs_20 01 20 02.6
comp=Z,2µm,20.0s
CBKS Cedar Bluff 75.28 310 P **P** **00 52 30.0 +2.1**
CBKS pmax pmax
comp=Z,41nm,1.1s
VORR Voronezh 75.28 36 *e*P **P** **00 52 25.1 -2.5**
VORR pmax pmax
comp=Z,30nm,1.0s
ULM Lac du Bonnet 75.31 322 ⇑ *e*P **P** **00 52 26.8 -1.0**
DKNS Dickens 75.34 304 P **P** **00 52 30.3 +1.9**
TROLL Troll, Antarti 75.36 171 ⇑P **P** **00 52 28.6 +0.7**
comp=Z,375nm,0.7s
LPSR Galich'ya Gora 75.40 35 *e*P **P** **00 52 27.0 -1.3**
LPSR pmax pmax
comp=Z,30nm,1.0s
ZAIG Zacatecas 75.46 293 P **P** **00 52 30.6 +1.0**

KIV Kislovodsk 75.50 45 **P** **00 52 29.6 +0.5**
KIV IAMs_20 IAMs_20 01 26 31.2
comp=Z,2µm,22.0s
KIV Kislovodsk 75.50 45 *e*P **P** **00 52 28.2 -1.0**
KIV *e* 00 55 16.1
KIV *e*PPP PPP 00 57 01.2
KIV *e*S **S** **01 02 08.1 0.0**
KIV *e*SS **SS** **01 06 57.6 -1.6**
KIV pmax pmax
comp=Z,12nm,3.1s
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,1µm,18.0s
KULLO Kullorsuaq 75.60 352 *i*P **P** **00 52 28.4 -0.5**
KULLO IAmb IAmb 00 52 35.3
comp=Z,36nm,1.1s
KBZ Khabaz 75.60 45 P **P** **00 52 28.6 -1.0**
comp=Z,27nm,1.2s,baz=248,slow=6.5,SNR=15
KBZ LR LR 01 27 18.2
comp=Z,1µm,21.9s,baz=254,slow=37
comp=Z,27nm,1.2s
KBZ Khabaz 75.60 45 *ce*P **P** **00 52 29.5 -0.1**
KBZ pmax pmax
comp=Z,36nm,1.2s
MOS Moscow 75.71 32 *e*P **P** **00 52 26.7 -3.2**
MOS *e* 00 52 39.1
MOS *e* 00 55 16.6
MOS *e*S **S** **01 02 07.4 -2.2**
MOS pmax pmax
comp=Z,300nm,2.2s
MOS pmax pmax
comp=Z,97nm,1.5s
MOS MLR MLR
comp=E,2µm,19.0s
MOS MLR MLR
comp=Z,2µm,19.0s
POST Post 75.73 304 P **P** **00 52 31.4 +0.7**
SUSD Miller 75.86 316 IAMs_20 IAMs_20 01 19 34.4
comp=Z,2µm,22.0s
DAG Danmarks Havn 75.95 2 P **P** **00 52 30.8 -0.2**
DAG Danmarks Havn 75.95 2 *i*P **P** **00 52 30.9 -0.1**
DAG IAmb IAmb 00 52 43.5
comp=Z,46nm,1.2s
GOF Gofitskoye 76.00 44 *ce*P P 00 52 23.1 -8.8
TRLG Trialeti 76.01 47 P **P** **00 52 32.9 +0.7**
AMTX Amarillo 76.15 306 P **P** **00 52 33.9 +0.9**
GNI Garni 76.22 49 **P** **00 52 34.0 +0.5**
GNI Garni 76.22 49 IAMs_20 IAMs_20 01 27 57.6
comp=Z,2µm,20.0s
GNI Garni 76.22 49 LR LR 01 28 28.5
comp=Z,2µm,19.1s,baz=259,slow=38
GNI Garni 76.22 49 P **P** **00 52 34.0 +0.5**
GNI pmax pmax
comp=Z,74nm,1.4s
GNI MLR MLR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 76.31 110 **P** **00 52 36.3 +2.0**
ABPO IAmb IAmb 00 53 12.2
comp=Z,30nm,1.4s
ABPO Ambohimpanom 76.31 110 P **P** **00 52 36.3 +2.0**
ABPO pmax pmax
comp=Z,31nm,1.5s
ODSA Odessa 76.48 303 **P** **00 52 37.5 +2.6**
VRH Novokhopyorsk 76.66 37 *e*P **P** **00 52 33.2 -2.2**
VRH pmax pmax
comp=Z,10.0nm,1.0s
FOMA Nahampoana Res 76.75 116 IAMs_20 IAMs_20 01 21 26.5
comp=Z,2µm,21.0s
MSTX Muleshoe 76.91 305 **P** **00 52 38.4 +1.0**
MSTX IAmb IAmb 00 53 03.3
comp=Z,26nm,1.0s
MSTX IAMs_20 IAMs_20 01 22 13.4
comp=Z,3µm,21.0s
ARCES ARCESS Array B 77.04 17 P **P** **00 52 37.1 -0.2**
comp=Z,6.8nm,0.8s,baz=0.0,slow=1.2,SNR=7.8
ARCES LR LR 01 22 09.1
comp=Z,2µm,19.8s,baz=238,slow=32
comp=Z,6.8nm,0.8s
MDND Maddock 77.07 319 P **P** **00 52 39.7 +1.8**
MDND IAMs_20 IAMs_20 01 22 04.0
comp=Z,2µm,20.0s
TXAR Lajitas Array 77.10 300 P **P** **00 52 40.1 +1.5**
TXAR Lajitas Array 77.10 300 P **P** **00 52 39.9 +1.3**
comp=Z,1.9nm,0.8s,baz=120,slow=7.5,SNR=13
TXAR LR LR 01 21 30.2
comp=Z,400nm,21.8s,baz=71,slow=32
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 77.10 300 P **P** **00 52 40.1 +1.5**
ALPN Alpine 77.19 301 **P** **00 52 39.9 +0.8**
RTBA Rita Blanca 77.23 307 P **P** **00 52 39.9 +0.7**
OGNE Ogallala 77.40 312 **P** **00 52 41.7 +1.7**
OGNE IAMs_20 IAMs_20 01 21 46.5
comp=Z,2µm,20.0s
NEEM North Greenlan 77.48 355 *i*P **P** **00 52 40.6 +0.6**
NEEM IAmb IAmb 00 52 46.3
comp=Z,170nm,1.5s
GANJ Ganja 77.50 49 P **P** **00 52 41.7 +1.2**
PECS Pecos 77.50 302 P **P** **00 52 41.4 +0.7**
E28A Huff 77.51 318 **P** **00 52 40.3 -0.1**
KSCO Kaye Shedlock' 77.53 310 P **P** **00 52 42.5 +1.7**
CLN7 Carlsbad 7 77.57 303 P **P** **00 52 42.4 +1.2**
KEV Kevo 77.60 17 IAMs_20 IAMs_20 01 20 42.6
comp=Z,3µm,22.0s
POIN Pond Inlet 78.03 346 P **P** **00 52 42.5 -0.2**
POIN IAmb IAmb 00 53 13.7
comp=Z,44nm,1.7s
MNGR Mingechevir, A 78.09 49 P **P** **00 52 45.1 +1.4**
SEKA Sheki 78.25 48 P **P** **00 52 46.6 +1.9**
KLMR Klimovskoe 78.38 27 *e*P **P** **00 52 42.0 -2.9**
KLMR S **S** **01 02 37.0 -1.6**
KLMR pmax pmax
comp=Z,78nm,1.4s
VHRN Van Horn 78.39 301 **P** **00 52 45.8 0.0**
VHRN IAmb IAmb 00 53 16.2
comp=Z,70nm,1.6s
APA Apatity 78.55 20 *e*P **P** **00 52 46.9 +1.3**
APA *e*S **S** **01 02 42.8 +2.7**
APA *e*SS **SS** **01 07 48.6 +4.7**
HPIG **78.63 297** P **P** **00 52 48.9 +1.7**
T25A Trinidad 78.66 308 **P** **00 52 47.3 +0.1**
MAK Makhachkala 78.75 46 *e*P **P** **00 52 42.7 -4.6**
MAK *e*S **S** **01 02 37.6 -5.6**
MAK *e*SS **SS** **01 07 45.7 -2.4**
MAK *e*SSS SSS 01 11 06.3
MAK pmax pmax
comp=Z,223nm,2.0s
MAK MLR MLR
comp=Z,2µm,19.0s
MNTX Cornudas Mount 78.82 302 **P** **00 52 49.5 +1.5**
MNTX IAMs_20 IAMs_20 01 25 12.3
comp=Z,1µm,20.0s
TULEG Thule 78.89 351 P **P** **00 52 47.7 +0.3**
TULEG IAmb IAmb 00 53 15.1
comp=Z,50nm,1.3s
TULEG Thule 78.89 351 *i*P **P** **00 52 48.0 +0.6**
TULEG IAmb IAmb 00 52 53.2
comp=Z,57nm,1.5s
LKRN Lenkeran, Azer 79.08 51 P **P** **00 52 50.1 +0.9**
RSSD Black Hills 79.38 315 **P** **00 52 51.9 +0.9**
RSSD Black Hills 79.38 315 P **P** **00 52 51.9 +0.9**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
Q24A Divide 79.47 309 P **P** **00 52 52.5 +0.7**
Q24A IAmb IAmb 00 53 12.4
comp=Z,39nm,1.3s
SDCO Great Sand Dun 79.59 308 **P** **00 52 54.0 +1.5**
EPT El Paso 79.78 302 IAMs_20 IAMs_20 01 25 59.8
comp=Z,2µm,19.0s
BLKN Baker Lake 79.79 336 **P** **00 52 54.8 +2.3**
ISCO Idaho Springs 79.93 310 **P** **00 52 55.8 +1.6**
ISCO IAMs_20 IAMs_20 01 22 51.8
comp=Z,2µm,21.0s
ISCO Idaho Springs 79.93 310 P **P** **00 52 55.8 +1.6**
ISCO pmax pmax
comp=Z,38nm,1.6s
ANMO Albuquerque 80.05 305 **P** **00 52 55.6 +0.8**
ANMO Albuquerque 80.05 305 P **P** **00 52 56.0 +1.2**
ANMO IAmb IAmb 00 53 40.5
comp=Z,39nm,1.8s
ANMO Albuquerque 80.05 305 P **P** **00 52 55.6 +0.8**
ANMO IAmb IAmb 00 53 40.5
comp=Z,34nm,1.6s
ANMO Albuquerque 80.05 305 P **P** **00 52 55.6 +0.8**
ANMO pmax pmax
comp=Z,36nm,1.7s
FFC Flin Flon 80.06 326 **P** **00 52 53.5 -0.7**
FFC Flin Flon 80.06 326 P **P** **00 52 53.5 -0.7**
FFC pmax pmax
comp=Z,13nm,1.1s
DGMT Dagmar 80.20 319 P **P** **00 52 57.1 +2.0**
DGMT IAmb IAmb 00 53 19.8
comp=Z,56nm,1.1s
DGMT Dagmar 80.20 319 IAMs_20 IAMs_20 01 24 48.9
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 80.34 304 IAMs_20 IAMs_20 01 24 24.4
comp=Z,2µm,20.0s
Y22A Socorro 80.37 304 P **P** **00 52 58.5 +1.9**
Y22A IAMs_20 IAMs_20 01 24 46.0
comp=Z,3µm,20.0s
BELG Belogornoye 80.50 37 *c i*P **P** **00 52 56.3 -0.2**
BELG pmax pmax
comp=Z,14nm,1.5s
SBM South Baldy 80.55 304 P **P** **00 52 58.7 +0.9**
KBS Kingsbay 80.57 7 P **P** **00 52 57.5 +1.0**
KBS IAmb IAmb 00 53 11.3
comp=Z,51nm,1.3s
KBS IAMs_20 IAMs_20 01 20 35.8
comp=Z,2µm,22.0s
KBS Kingsbay 80.57 7 P **P** **00 52 57.5 +1.0**
KBS pmax pmax
comp=Z,51nm,1.3s
SPITS Spitsbergen Ar 80.62 8 LR LR 01 21 33.6
comp=Z,1µm,20.1s,baz=220,slow=30
S22A 4UR Ranch, Cre 80.64 308 P **P** **00 52 58.6 +0.6**
S22A IAMs_20 IAMs_20 01 28 29.8
comp=Z,2µm,18.0s
121A Cookes Peak, D 80.93 303 P **P** **00 53 00.8 +1.2**
121A IAMs_20 IAMs_20 01 26 06.1
comp=Z,2µm,20.0s
K22A Casper 80.97 313 P **P** **00 53 00.4 +0.8**
K22A IAmb IAmb 00 54 48.6
comp=Z,53nm,1.6s
LAO LASA Array 81.28 317 **P** **00 53 01.4 +0.4**
LAO IAmb IAmb 00 53 06.8
comp=Z,29nm,0.9s
LAO IAMs_20 IAMs_20 01 22 53.8
comp=Z,2µm,22.0s
MVCO Mesa Verde 81.91 307 **P** **00 53 05.6 +0.8**
MVCO IAmb IAmb 00 53 25.7
comp=Z,53nm,1.6s
O20A White River Ci 81.98 310 **P** **00 53 04.8 -0.3**
O20A IAmb IAmb 00 53 34.4
comp=Z,47nm,1.2s
O20A IAMs_20 IAMs_20 01 24 09.9
comp=Z,2µm,22.0s
PV15 Paradox Valley 82.00 308 P **P** **00 53 05.5 +0.3**
PV15 IAMs_20 IAMs_20 01 25 27.6
comp=Z,1µm,21.0s
DUN6 Lazy B Ranch 82.03 303 P **P** **00 53 05.9 +0.5**
DUN6 IAmb IAmb 00 53 35.4
comp=Z,58nm,1.4s
PV01 Paradox Valley 82.05 308 P **P** **00 53 06.7 +1.2**
PV01 IAMs_20 IAMs_20 01 25 34.0
comp=Z,1µm,21.0s
319A Douglas 82.11 301 P **P** **00 53 08.0 +2.2**
PV07 Paradox Valley 82.13 309 P **P** **00 53 07.9 +2.0**
PV07 IAMs_20 IAMs_20 01 27 55.2
comp=Z,2µm,21.0s
PV02 Paradox Valley 82.18 308 P **P** **00 53 07.6 +1.4**
PV02 IAmb IAmb 00 53 26.9
comp=Z,50nm,1.2s
PV12 Saucer Basin, 82.24 308 P **P** **00 53 08.5 +2.0**
PV13 Radium Mtn., P 82.25 308 P **P** **00 53 08.0 +1.5**
PV13 IAmb IAmb 00 53 27.2
comp=Z,52nm,1.4s
PV13 IAMs_20 IAMs_20 01 28 59.3
comp=Z,2µm,20.0s
PV22 Blue Mesa, Par 82.25 309 **P** **00 53 07.4 +0.9**
PV03 Paradox Valley 82.28 308 P **P** **00 53 07.6 +1.0**
PV03 IAmb IAmb 00 53 37.1
comp=Z,50nm,1.5s
PV03 IAMs_20 IAMs_20 01 24 43.0
comp=Z,1µm,20.0s
PV11 David Mesa, Pa 82.30 308 P **P** **00 53 06.5 -0.3**
PV18 Skein Mesa, Pa 82.32 308 P **P** **00 53 07.8 +0.9**
PV04 Paradox Valley 82.33 308 P **P** **00 53 07.8 +0.9**
PV04 IAmb IAmb 00 53 36.6
comp=Z,50nm,1.6s
PV16 Nyswonger Mesa 82.33 308 P **P** **00 53 07.8 +0.9**
PV16 IAmb IAmb 00 53 27.6
comp=Z,39nm,1.3s
PV16 IAMs_20 IAMs_20 01 25 19.6
comp=Z,2µm,21.0s
PV20 West Nyswonger 82.38 308 P **P** **00 53 08.9 +1.7**
PV20 IAmb IAmb 00 53 27.7
comp=Z,34nm,1.0s
PV19 Morning Glory 82.39 308 P **P** **00 53 09.2 +2.0**
PV21 Cone Mtn., Par 82.40 309 P **P** **00 53 08.9 +1.6**
PV21 IAmb IAmb 00 53 31.1
comp=Z,23nm,1.1s
PV23 Carpenter Ridg 82.42 309 P **P** **00 53 07.8 +0.4**
PV23 IAmb IAmb 00 53 31.4
comp=Z,45nm,1.1s
PV14 Lion Creek, Pa 82.42 308 P **P** **00 53 08.6 +1.1**
PV10 Paradox Valley 82.44 308 P **P** **00 53 08.1 +0.6**
PV05 Paradox Valley 82.46 308 P **P** **00 53 07.8 +0.1**
PV05 IAmb IAmb 00 53 27.8
comp=Z,31nm,1.1s
PV05 IAMs_20 IAMs_20 01 29 03.3
comp=Z,2µm,19.0s
LPIG La Paz 82.64 294 LR LR 01 28 44.4
comp=Z,632nm,19.6s,baz=84,slow=35
KIRV Kirov 82.64 31 LR LR 01 28 07.0
comp=Z,3µm,20.9s,baz=262,slow=34
KIRV Kirov 82.64 31 *ce*P **P** **00 53 07.2 -0.6**
W18A Petrified Fore 82.74 305 IAMs_20 IAMs_20 01 24 38.8
comp=Z,3µm,22.0s
X18A Snowflake 82.88 305 **P** **00 53 11.1 +1.2**
X18A IAmb IAmb 00 53 55.7
comp=Z,29nm,1.4s
X18A IAMs_20 IAMs_20 01 25 56.5
comp=Z,2µm,20.0s
SYO Syowa Base 82.95 160 ⇑ *ep*P pP 00 53 12.6 -4.6
SYO Syowa Base 82.95 160 ⇑ *e*PcP **PcP** **00 53 15.7 +1.9**
RES Resolute Bay 83.14 346 LR LR 01 22 35.0
comp=Z,856nm,21.9s,baz=132,slow=30
BW06 Boulder Array 83.21 313 P **P** **00 53 12.4 +1.0**
PD31 Pinedale Array 83.21 313 P **P** **00 53 12.8 +1.4**
PDAR Pinedale Array 83.21 313 P **P** **00 53 12.6 +1.2**
PDAR Pinedale Array 83.21 313 P **P** **00 53 11.4 0.0**
comp=Z,1.4nm,0.6s,baz=90,slow=6.1,SNR=18
PDAR LR LR 01 24 57.0
comp=Z,2µm,21.8s,baz=102,slow=32
comp=Z,1.4nm,0.6s
RLMT Red Lodge 83.21 315 **P** **00 53 11.7 +0.3**
RLMT IAmb IAmb 00 53 31.3
comp=Z,41nm,1.4s
HSIG 83.42 299 P **P** **00 53 12.8 +0.3**
HSIG IAmb IAmb 00 54 03.8
comp=Z,26nm,1.4s
TUC Tucson 83.44 302 pP 00 53 15.4 -5.2
TUC Tucson 83.44 302 P **P** **00 53 13.1 +0.5**
TUC IAmb IAmb 00 53 57.6
comp=Z,9.6nm,1.1s
TUC IAMs_20 IAMs_20 01 28 23.7
comp=Z,2µm,19.0s
TUC Tucson 83.44 302 P **P** **00 53 13.1 +0.5**
TUC *PP **pP** **00 53 15.4 -5.2**
YNE Yellowstone No 83.72 315 P **P** **00 53 14.1 0.0**
YMP Mirror Lake PI 83.81 315 IAMs_20 IAMs_20 01 24 28.8
comp=Z,2µm,22.0s
EGMT Eagleton 83.83 318 P **P** **00 53 15.1 +0.8**
EGMT IAmb IAmb 00 53 38.9
comp=Z,18nm,1.1s
EUNU Eureka 83.88 351 P **P** **00 53 15.6 +1.7**
LKWY Lake 83.97 315 P **P** **00 53 17.3 +2.0**
LKWY Lake 83.97 315 P **P** **00 53 17.3 +2.0**
LKWY pmax pmax
comp=Z,120nm,1.9s
LOHW Long Hollow 84.04 314 P **P** **00 53 17.5 +1.9**
LOHW IAmb IAmb 00 53 35.5
comp=Z,40nm,1.4s
X16A Lo Mia Camp, P 84.10 304 P **P** **00 53 17.2 +1.1**
X16A IAmb IAmb 00 53 40.4
comp=Z,30nm,1.4s
WUAZ Wupatki 84.11 305 P **P** **00 53 17.2 +1.2**
WUAZ IAMs_20 IAMs_20 01 25 19.8
comp=Z,2µm,21.0s
YNR Norris Junctio 84.18 315 IAMs_20 IAMs_20 01 28 01.6

comp=Z,2µm,18.0s
YNM Yellowstone No 84.19 315 IAMs_20 IAMs_20 01 28 02.1
comp=Z,2µm,19.0s
TPAW Teton Pass 84.28 313 P **P** **00 53 18.5 +1.6**
TPAW IAmb IAmb 00 53 36.1
comp=Z,22nm,1.2s
YHH Holmes Hill 84.30 315 P **P** **00 53 17.9 +0.8**
UOSS Minazif 84.32 65 P **P** **00 53 16.7 -0.5**
UOSS IAmb IAmb 00 53 30.4
comp=Z,23nm,0.9s
FXWY Fox Creek 84.35 314 P **P** **00 53 18.7 +1.4**
FXWY IAmb IAmb 00 53 37.0
comp=Z,29nm,1.4s
YHL Hebgen Lake 84.55 315 P **P** **00 53 19.1 +0.8**
YHL IAMs_20 IAMs_20 01 27 27.3
comp=Z,2µm,22.0s
HWUT Hardware Ranch 84.61 312 **P** **00 53 18.5 -0.1**
HWUT IAmb IAmb 00 53 38.4
comp=Z,49nm,1.5s
HWUT IAMs_20 IAMs_20 01 28 10.4
comp=Z,2µm,19.0s
QLMT Earthquake Lak 84.72 315 P **P** **00 53 20.1 +1.0**
U15A North Rim 84.89 306 P **P** **00 53 20.6 +0.4**
U15A IAmb IAmb 00 53 44.5
comp=Z,23nm,1.4s
BOZ Bozeman (W) 84.91 316 P **P** **00 53 21.0 +1.1**
BOZ IAMs_20 IAMs_20 01 27 35.9
comp=Z,1µm,20.0s
BOZ Bozeman (W) 84.91 316 P **P** **00 53 21.0 +1.1**
BOZ pmax pmax
comp=Z,15nm,1.4s
HRY Holter Researc 85.13 317 P **P** **00 53 21.6 +0.7**
214A Organ Pipe Nat 85.15 302 P **P** **00 53 23.1 +1.9**
214A IAMs_20 IAMs_20 01 28 21.9
comp=Z,1µm,20.0s
Y14A Wickenburg 85.38 304 P **P** **00 53 23.8 +1.4**
Y14A IAmb IAmb 00 53 45.7
comp=Z,22nm,1.4s
LYMT Lyon Mountain 85.46 317 P **P** **00 53 23.6 +0.9**
DUG Dugway, Tooele 85.47 310 IAMs_20 IAMs_20 01 25 53.5
comp=Z,2µm,21.0s
LRM Limekiln Ridge 85.50 316 P **P** **00 53 23.4 +0.4**
DLMT Dillon 85.58 315 P **P** **00 53 24.0 +0.7**
MCMT McKenzie Canyo 85.73 315 **P** **00 53 25.0 +0.8**
OVMT Ovando 85.94 317 P **P** **00 53 25.2 +0.2**
113A Mohawk Valley, 85.98 303 P **P** **00 53 26.3 +1.0**
113A IAMs_20 IAMs_20 01 29 42.8
comp=Z,1µm,19.0s
W13A Hualapai Mount 86.14 305 IAMs_20 IAMs_20 01 26 49.0
comp=Z,2µm,22.0s
BPMT Black Pine Rid 86.22 316 P **P** **00 53 26.8 +0.2**
WSAR Wadi Sarin 86.50 67 LR LR 01 32 56.9
comp=Z,13nm,19.4s,baz=296,slow=36
MSO Missoula 86.58 317 P **P** **00 53 28.6 +0.5**
MSO IAmb IAmb 00 53 47.9
comp=Z,23nm,1.4s
SPR3 Spring Creek 3 86.60 309 P **P** **00 53 29.7 +1.0**
SPR3 IAmb IAmb 00 53 49.2
comp=Z,44nm,1.7s
AKTO Aktyubinsk 86.73 40 LR LR 01 35 11.7
comp=Z,1µm,20.8s,baz=264,slow=38
NEE2 Needles Airpor 86.73 305 IAMs_20 IAMs_20 01 27 17.6
comp=Z,2µm,22.0s
HLID Hailey 86.80 313 P **P** **00 53 28.6 -0.8**
HLID IAmb IAmb 00 54 06.3
comp=Z,26nm,1.4s
JTMT Jette 86.85 318 P **P** **00 53 30.1 +0.6**
GLA Glamis 86.88 303 P **P** **00 53 31.7 +1.9**
GLA IAMs_20 IAMs_20 01 31 38.6
comp=Z,1µm,19.0s
GLA Glamis 86.88 303 P **P** **00 53 31.7 +1.9**
GLA pmax pmax
comp=Z,14nm,1.1s
GLA MLR MLR
comp=Z,1µm,19.0s
V12A Nelson 86.94 306 P **P** **00 53 31.7 +1.5**
V12A IAMs_20 IAMs_20 01 27 13.0
comp=Z,2µm,22.0s
PRN Pahroc Range 87.14 307 **P** **00 53 31.9 +0.8**
PRN IAMs_20 IAMs_20 01 26 23.8
comp=Z,2µm,22.0s
IRM Iron Mountain 87.16 304 P **P** **00 53 32.8 +1.7**
IRM IAmb IAmb 00 53 55.0
comp=Z,35nm,1.5s
IRM IAMs_20 IAMs_20 01 28 31.9
comp=Z,2µm,20.0s
SHPR Sheep Range 87.21 306 P **P** **00 53 32.6 +1.1**
ARTI Arti 87.21 34 **P** **00 53 30.6 -0.2**
ARTI IAmb IAmb 00 53 45.1
comp=Z,14nm,0.8s
ARTI IAMs_20 IAMs_20 01 34 58.2
comp=Z,2µm,20.0s
ARTI Arti 87.21 34 LR LR 01 32 57.2
comp=Z,1µm,19.2s,baz=264,slow=36
ARTI Arti 87.21 34*c i*P **P** **00 53 31.8 +1.0**
ARTI S **SKSac** **01 03 58.9 +2.6**
ARTI pmax pmax
comp=Z,17nm,1.6s
ARTI MLR MLR
comp=Z,1µm,19.0s
ELK Elko 87.34 311 **P** **00 53 31.9 -0.2**
ELK IAmb IAmb 00 53 55.5
comp=Z,18nm,1.2s
ELK IAMs_20 IAMs_20 01 29 53.9
comp=Z,1µm,18.0s
ELK Elko 87.34 311 P **P** **00 53 31.9 -0.2**
ELK pmax pmax
comp=Z,18nm,1.2s
DANC Danby, Needles 87.36 304 P **P** **00 53 32.9 +0.8**
DANC IAmb IAmb 00 53 55.9
comp=Z,24nm,1.3s
BC3 Big Chuckawall 87.41 303 P **P** **00 53 32.7 +0.3**
BC3 IAmb IAmb 00 53 55.1
comp=Z,25nm,1.7s
BC3 IAMs_20 IAMs_20 01 28 58.6
comp=Z,2µm,20.0s
MTPC Mountain Pass 87.51 305 P **P** **00 53 33.6 +0.6**
MTPC IAmb IAmb 00 53 56.7
comp=Z,22nm,1.4s
R11B Troy Canyon, C 87.57 308 **P** **00 53 33.9 +0.6**
R11B IAmb IAmb 00 53 56.7
comp=Z,25nm,1.3s
R11B IAMs_20 IAMs_20 01 29 25.3
comp=Z,1µm,21.0s
YKA Yellowknife Ar 87.64 332 P **P** **00 53 34.8 +2.1**
YKA Yellowknife Ar 87.64 332 P **P** **00 53 33.5 +0.8**
comp=Z,1.2nm,0.7s,baz=90,slow=5.6,SNR=3.3
YKA LR LR 01 28 48.4
comp=Z,2µm,21.0s,baz=82,slow=33
comp=Z,1.2nm,0.7s
YKA Yellowknife Ar 87.64 332 P **P** **00 53 34.8 +2.1**
VTX Valle De La Tr 87.67 301 IAMs_20 IAMs_20 01 30 55.7
comp=Z,1µm,20.0s
S11A Rachel 87.69 307 P **P** **00 53 36.6 +2.8**
S11A IAMs_20 IAMs_20 01 26 50.5
comp=Z,2µm,22.0s
YUH Yuha Desert 87.80 302 P **P** **00 53 35.7 +1.5**
YUH IAmb IAmb 00 53 57.2
comp=Z,38nm,1.9s
YUH IAMs_20 IAMs_20 01 30 47.9
comp=Z,1µm,19.0s
ESJX Sierra Juarez 87.81 302 P **P** **00 53 35.7 +1.2**
ESJX IAmb IAmb 00 54 15.7
comp=Z,24nm,1.6s
ESJX IAMs_20 IAMs_20 01 32 00.5
comp=Z,1µm,21.0s
MFID Camas Ranch 87.83 313 P **P** **00 53 35.9 +1.6**
BELC Belle Mtn. Jos 87.87 304 P **P** **00 53 36.6 +1.9**
BELC IAmb IAmb 00 53 57.7
comp=Z,28nm,1.5s
BELC IAMs_20 IAMs_20 01 30 01.6
comp=Z,2µm,20.0s
AB31 Akbulak array 87.94 41 IAmb IAmb 00 53 58.0
comp=Z,28nm,1.4s
ABKAR Akbulak array 87.94 41 **P** **00 53 34.9 +0.5**
PLID Pearl Lake 87.97 315 P **P** **00 53 36.4 +1.3**
PLID IAMs_20 IAMs_20 01 29 34.0
comp=Z,1µm,19.0s
TPNV Topopah Spring 88.09 307 P **P** **00 53 34.3 -1.4**
TPNV IAmb IAmb 00 54 09.7
comp=Z,21nm,1.1s
TPNV IAMs_20 IAMs_20 01 27 38.1
comp=Z,2µm,22.0s
TPNV Topopah Spring 88.09 307 P **P** **00 53 34.3 -1.4**
TPNV pmax pmax
comp=Z,21nm,1.2s

SHOC Shoshone, Teco 88.10 306 P **P** **00 53 37.3 +1.7**
SHOC IAmb IAmb 00 53 59.3
comp=Z,30nm,1.2s
SHOC IAMs_20 IAMs_20 01 28 00.6
comp=Z,2µm,21.0s
PMD Palm Desert 88.18 303 P **P** **00 53 37.4 +1.4**
PMD IAmb IAmb 00 54 29.4
comp=Z,23nm,1.6s
PMD IAMs_20 IAMs_20 01 29 33.0
comp=Z,2µm,20.0s
BORC Borrego Spring 88.21 303 P **P** **00 53 37.5 +1.4**
BORC IAMs_20 IAMs_20 01 30 40.9
comp=Z,1µm,19.0s
PFO Pinyon Flats O 88.25 303 IAMs_20 IAMs_20 01 30 40.7
comp=Z,2µm,20.0s
PFO Pinyon Flats O 88.25 303 LR LR 01 30 43.7
comp=Z,1µm,19.2s,baz=94,slow=34
PFO Pinyon Flats O 88.25 303‖*eP* **P** **00 53 37.1 +0.6**
PFO pmax pmax
comp=Z,34nm,1.6s
WCT Wildcat Mounta 88.39 307 P **P** **00 53 38.3 +1.3**
WCT IAmb IAmb 00 54 01.0
comp=Z,30nm,1.3s
GWY Greenwater Val 88.42 306 P **P** **00 53 39.4 +2.1**
SVE Sverdlovsk 88.47 33 *eP* **P** **00 53 38.4 +1.6**
SVE *eS* **SKSac** **01 04 07.8 +3.9**
SVE pmax pmax
comp=Z,31nm,1.6s
GSC Goldstone, Bar 88.53 305 P **P** **00 53 39.9 +2.1**
GSC IAmb IAmb 00 54 01.3
comp=Z,21nm,1.4s
GSC IAMs_20 IAMs_20 01 28 24.1
comp=Z,2µm,22.0s
GSC Goldstone, Bar 88.53 305 P **P** **00 53 39.9 +2.1**
GSC pmax pmax
comp=Z,21nm,1.4s
FURC Furnace Creek, 88.58 306 P **P** **00 53 40.0 +2.2**
FURC IAMs_20 IAMs_20 01 29 07.2
comp=Z,2µm,21.0s
QSM Queen of Sheba 88.58 306 P **P** **00 53 38.7 +0.8**
QSM IAMs_20 IAMs_20 01 27 26.4
comp=Z,2µm,21.0s
DPP Dos Picos Cty 88.65 303 P **P** **00 53 39.9 +1.6**
DPP IAmb IAmb 00 54 01.1
comp=Z,25nm,1.4s
DPP IAMs_20 IAMs_20 01 31 03.6
comp=Z,1µm,19.0s
NEW Newport 88.77 318 LR LR 01 30 29.8
comp=Z,858nm,19.2s,baz=80,slow=34
CPE Camp Elliot 88.79 303 IAMs_20 IAMs_20 01 31 08.3
comp=Z,1µm,19.0s
Q09A Carvers 88.83 309 IAMs_20 IAMs_20 01 29 47.4
comp=Z,1µm,20.0s
TPH Tonopah 88.86 308 P **P** **00 53 40.3 +0.9**
TPH Tonopah 88.86 308 P **P** **00 53 40.3 +0.9**
TPH pmax pmax
comp=Z,104nm,1.2s
GMN Gold Mountain 88.89 307 P **P** **00 53 40.8 +1.2**
BMO Blue Mountains 88.90 315 **P** **00 53 39.8 +0.5**
BMO IAmb IAmb 00 53 50.5
comp=Z,22nm,1.3s
BMO IAMs_20 IAMs_20 01 28 01.5
comp=Z,2µm,22.0s
BMO Blue Mountains 88.90 315 P **P** **00 53 39.8 +0.5**
BMO pmax pmax
comp=Z,22nm,1.3s
GRAC Grapevine Rang 88.98 307 P **P** **00 53 41.5 +1.8**
ELS Elsinore Mount 89.06 303 IAMs_20 IAMs_20 01 30 00.1
comp=Z,2µm,20.0s
DSP Deep Springs 89.46 307 P **P** **00 53 43.6 +1.8**
DSP IAMs_20 IAMs_20 01 30 34.4
comp=Z,2µm,22.0s
CWC Cottonwood Cre 89.56 306 IAMs_20 IAMs_20 01 28 14.2
comp=Z,2µm,22.0s
LNOR Lincton Mounta 89.58 316 IAMs_20 IAMs_20 01 29 02.4
comp=Z,1µm,20.0s
NV11 Mina Array Sit 89.59 308 P **P** **00 53 44.2 +1.5**
TIN Tinemaha, Big 89.67 307 IAMs_20 IAMs_20 01 29 32.0
comp=Z,2µm,22.0s
TPO Tropico Hills 89.70 305 P **P** **00 53 45.1 +1.9**
TPO IAMs_20 IAMs_20 01 30 00.2
comp=Z,2µm,20.0s
NVAR Mina Array Bea 89.71 308 P **P** **00 53 44.4 +1.0**
NVAR Mina Array Bea 89.71 308 P **P** **00 53 45.5 +2.2**
comp=Z,1.6nm,0.8s,baz=118,slow=5.6,SNR=8.5
NVAR LR LR 01 30 44.7
comp=Z,750nm,19.8s,baz=95,slow=33
comp=Z,1.6nm,0.8s
J08A Circle Bar Ran 89.75 313 P **P** **00 53 45.1 +1.8**
J08A IAmb IAmb 00 54 15.2
comp=Z,26nm,1.6s
LHV Little Huntoon 89.87 308 IAMs_20 IAMs_20 01 32 32.1
comp=Z,1µm,18.0s
RYN Ryan 89.88 308 P P 00 53 47.6 +3.6
RYN IAmb IAmb 00 54 07.3
comp=Z,29nm,1.6s
RYN IAMs_20 IAMs_20 01 30 39.2
comp=Z,2µm,20.0s
WVOR Wild Horse Val 89.89 312 P **P** **00 53 45.2 +1.2**
WVOR IAmb IAmb 00 54 09.8
comp=Z,33nm,1.9s
WVOR IAMs_20 IAMs_20 01 31 19.1
comp=Z,2µm,20.0s
WVOR Wild Horse Val 89.89 312 P **P** **00 53 45.2 +1.2**
WVOR pmax pmax
comp=Z,33nm,2.0s
ISA Isabella, Lake 89.89 305 P **P** **00 53 43.8 -0.3**
ISA IAmb IAmb 00 54 08.0
comp=Z,21nm,1.4s
ISA Isabella, Lake 89.89 305 P **P** **00 53 43.8 -0.3**
ISA pmax pmax
comp=Z,21nm,1.4s
D08A Wollman Farm, 89.99 317 IAMs_20 IAMs_20 01 29 46.2
comp=Z,1µm,19.0s
YPT Yellepit 90.05 316 IAMs_20 IAMs_20 01 28 10.8
comp=Z,2µm,22.0s
G08A Pilot Rock 90.06 315 IAMs_20 IAMs_20 01 33 39.3
comp=Z,1µm,18.0s
B08A Colville Reser 90.24 318 IAMs_20 IAMs_20 01 28 29.5
comp=Z,2µm,22.0s
VES Vestal, Richgr 90.39 306 IAMs_20 IAMs_20 01 29 23.1
comp=Z,2µm,22.0s
HAWA Hanford 90.43 316 IAMs_20 IAMs_20 01 28 20.9
comp=Z,1µm,21.0s
WAH2 Wahluke Slope 90.44 317 IAMs_20 IAMs_20 01 27 59.2
comp=Z,1µm,22.0s
PAHR Pah Rah Range 90.52 310 IAMs_20 IAMs_20 01 33 26.2
comp=Z,2µm,19.0s
WAKR Walker 90.60 308 IAMs_20 IAMs_20 01 31 23.3
comp=Z,2µm,21.0s
F07A Phinny Hill Vi 90.72 316 IAMs_20 IAMs_20 01 29 46.7
comp=Z,2µm,20.0s
QSPA South Pole Qui 90.98 180 P **P** **00 53 49.6 +1.1**
comp=Z,4.6nm,1.1s,baz=191,slow=3.1,SNR=9.8
QSPA LR LR 01 28 42.5
comp=Z,746nm,20.9s,baz=183,slow=32
comp=Z,4.6nm,1.1s
MAW Mawson 91.16 157 P **P** **00 53 50.1 +1.0**
baz=283,slow=12,SNR=5.7
CMB Columbia Colle 91.36 308 IAMs_20 IAMs_20 01 29 13.6
comp=Z,2µm,22.0s
A36M Sachs Harbour 91.40 342 IAMs_20 IAMs_20 01 31 35.4
comp=Z,1µm,20.0s
PMPB Monarch Peak 91.76 306 IAMs_20 IAMs_20 01 30 16.5
comp=Z,2µm,22.0s
RAMR Ramage Ranch 91.84 306 IAMs_20 IAMs_20 01 29 55.8
comp=Z,1µm,22.0s
BBGB Big Mountain B 91.94 306 IAMs_20 IAMs_20 01 29 39.1
comp=Z,2µm,22.0s
HOOD Mt Hood Mea 91.96 315 IAMs_20 IAMs_20 01 30 25.4
comp=Z,1µm,21.0s
LON Longmire 91.99 317 P **P** **00 53 54.2 +0.6**
LON IAmb IAmb 00 54 03.7
comp=Z,28nm,1.9s
LON IAMs_20 IAMs_20 01 31 47.0
comp=Z,1µm,20.0s
LON Longmire 91.99 317 P **P** **00 53 54.2 +0.6**
LON pmax pmax
comp=Z,28nm,1.9s
TULE Intermountain 92.01 312 IAMs_20 IAMs_20 01 30 43.3
comp=Z,1µm,22.0s
HULI Fort Hunter Li 92.12 306 IAMs_20 IAMs_20 01 30 27.1
comp=Z,2µm,22.0s
MTOS Mt Oso, Westle 92.13 307 IAMs_20 IAMs_20 01 32 19.0
comp=Z,1µm,21.0s
ORV Oroville 92.16 309 IAMs_20 IAMs_20 01 32 07.6
comp=Z,1µm,20.0s

SCZ Santa Cruz 92.23 306 IAMs_20 IAMs_20 01 30 20.9
comp=Z,2µm,22.0s
SAO San Andreas Ge 92.26 307 IAMs_20 IAMs_20 01 29 37.5
comp=Z,2µm,22.0s
H04A Detroit Lake 92.38 315 IAMs_20 IAMs_20 01 30 11.6
comp=Z,1µm,22.0s
G04A Mulino 92.55 315 IAMs_20 IAMs_20 01 30 54.1
comp=Z,1µm,21.0s
L04D Klamath Falls 92.62 312 IAMs_20 IAMs_20 01 30 32.3
comp=Z,2µm,21.0s
H04D Lebanon 92.78 314 IAMs_20 IAMs_20 01 30 12.2
comp=Z,2µm,22.0s
BBOR Butler Butte 92.85 313 IAMs_20 IAMs_20 01 31 21.3
comp=Z,2µm,21.0s
F04D Rainier, OR 92.86 316 IAMs_20 IAMs_20 01 30 32.1
comp=Z,1µm,20.0s
YBH Yreka Blue Hor 92.95 312 LR LR 01 31 57.2
comp=Z,57nm,21.6s,baz=88,slow=33
PGC Sidney 92.96 319 P **P** **00 53 59.6 +1.7**
PGC IAMs_20 IAMs_20 01 34 47.4
comp=Z,1µm,18.0s
CVS Carmenet Viney 92.97 308 IAMs_20 IAMs_20 01 31 11.3
comp=Z,1µm,22.0s
BUCK Buck Mountain 92.98 314 IAMs_20 IAMs_20 01 30 30.6
comp=Z,2µm,22.0s
G03D McMinnville, O 93.10 315 IAMs_20 IAMs_20 01 31 43.7
comp=Z,1µm,20.0s
COR Corvallis 93.18 315 IAMs_20 IAMs_20 01 32 30.8
comp=Z,1µm,20.0s
E03A Lebam 93.20 317 IAMs_20 IAMs_20 01 32 35.2
comp=Z,1µm,21.0s
GDXM Geysers 93.21 309 IAMs_20 IAMs_20 01 29 46.4
comp=Z,1µm,22.0s
F03A Seaside 93.25 316 IAMs_20 IAMs_20 01 31 25.6
comp=Z,1µm,22.0s
MCCM Marconi Confer 93.32 308 IAMs_20 IAMs_20 01 31 31.4
comp=Z,1µm,20.0s
NLWA Neilton Lookou 93.34 317 IAMs_20 IAMs_20 01 32 35.7
comp=Z,1µm,20.0s
RADR Rader Ridge 93.38 316 IAMs_20 IAMs_20 01 30 17.8
comp=Z,1µm,21.0s
CLRS Cowichan Lake 93.39 319 IAMs_20 IAMs_20 01 32 08.8
comp=Z,1µm,20.0s
HOPS Hopland Field 93.41 309 IAMs_20 IAMs_20 01 32 19.7
comp=Z,1µm,22.0s
FARB Farallon Islan 93.44 308 IAMs_20 IAMs_20 01 35 43.8
comp=Z,1µm,19.0s
I02E Swisshome, OR 93.61 314 IAMs_20 IAMs_20 01 31 02.1
comp=Z,2µm,22.0s
C03A Quillayute Air 93.76 318 IAMs_20 IAMs_20 01 38 18.7
comp=Z,2µm,18.0s
KHMM Horse Mountain 93.78 311 IAMs_20 IAMs_20 01 34 10.2
comp=Z,1µm,19.0s
KMRM Mail Ridge 93.81 310 IAMs_20 IAMs_20 01 31 20.2
comp=Z,1µm,21.0s
KRMB Red Mountain 93.86 312 IAMs_20 IAMs_20 01 32 47.3
comp=Z,1µm,20.0s
KRPM Rodgers 93.98 311 IAMs_20 IAMs_20 01 30 31.4
comp=Z,1µm,21.0s
JCC Jacoby Creek, 94.01 311 IAMs_20 IAMs_20 01 35 01.3
comp=Z,1µm,18.0s
CBB Campbell River 94.07 320 IAMs_20 IAMs_20 01 32 48.6
comp=Z,1µm,18.0s
OZB Mount Ozzard 94.27 319 IAMs_20 IAMs_20 01 29 53.1
comp=Z,1µm,22.0s
BVAR Borovoye Array 94.30 37 P **P** **00 54 04.1 +0.1**
comp=Z,0.3nm,0.4s,baz=336,slow=3.3,SNR=4.7
BVAR PP **PP** **00 57 45.5 -5.6**
comp=Z,1.2nm,0.9s,baz=308,slow=7.1,SNR=3.6
BVAR LR LR 01 36 12.8
comp=Z,2µm,21.0s,baz=282,slow=35
comp=Z,0.3nm,0.4s
INK Inuvik 94.88 339 LR LR 01 32 58.0
comp=Z,2µm,21.2s,baz=82,slow=33
MMPY Sheldon Lake, 95.30 333 IAMs_20 IAMs_20 01 32 14.3
comp=Z,2µm,21.0s
BBB Bella Bella 95.51 322 LR LR 01 33 07.4
comp=Z,2µm,21.1s,baz=72,slow=33
DLBC Dease Lake 95.53 329 LR LR 01 34 22.2
comp=Z,108nm,19.6s,baz=47,slow=34
HOLB Holberg 95.75 321 IAMs_20 IAMs_20 01 33 36.0
comp=Z,2µm,20.0s
GAR Garm 95.86 51 P **P** **00 54 11.9 +0.3**
GAR IAmb IAmb 00 54 50.2
comp=Z,14nm,1.0s
T35M Bob Quinn 95.93 327 IAMs_20 IAMs_20 01 33 14.7
comp=Z,1µm,19.0s
S34M Telegraph Cree 96.21 328 IAMs_20 IAMs_20 01 32 03.1
comp=Z,2µm,22.0s
G30M tAoh Zrail Nji 96.24 338 IAMs_20 IAMs_20 01 32 12.6
comp=Z,2µm,21.0s
E29M Blow River 96.41 339 IAMs_20 IAMs_20 01 33 37.9
comp=Z,1µm,21.0s
RUBB Prince Rupert 96.42 325 IAMs_20 IAMs_20 01 33 46.1
comp=Z,1µm,18.0s
EPYK Eagle Plains 96.61 337 IAMs_20 IAMs_20 01 32 15.5
comp=Z,2µm,21.0s
M31M Drury Creek, Y 96.81 333 IAMs_20 IAMs_20 01 35 14.3
comp=Z,1µm,19.0s
G29M Pine Creek 96.93 338 IAMs_20 IAMs_20 01 32 35.0
comp=Z,2µm,21.0s
V35K Ketchikan 97.00 326 IAMs_20 IAMs_20 01 32 00.3
comp=Z,1µm,21.0s
WRAK Wrangell Islan 97.17 327 IAMs_20 IAMs_20 01 34 12.7
comp=Z,2µm,20.0s
H29M Whitestone 97.29 337 IAMs_20 IAMs_20 01 32 45.5
comp=Z,1µm,20.0s
F28M Old Crow 97.37 339 IAMs_20 IAMs_20 01 34 34.5
comp=Z,2µm,21.0s
ARSB Arslanbob 97.61 48 P Pdif 00 54 19.9 +0.2
ARSB IAmb IAmb 00 54 32.7
comp=Z,15nm,1.4s
ARSB IAMs_20 IAMs_20 01 42 51.5
comp=Z,1µm,18.0s
ARSB Arslanbob 97.61 48 P Pdif 00 54 19.9 +0.3
ARSB pmax pmax
comp=Z,15nm,1.4s
MOBC Moresby Island 97.65 324 IAMs_20 IAMs_20 01 36 51.8
comp=Z,1µm,18.0s
U33K Whale Pass 97.66 327 IAMs_20 IAMs_20 01 34 55.7
comp=Z,1µm,20.0s
E27K Coleen River 97.76 340 IAMs_20 IAMs_20 01 34 32.8
comp=Z,1µm,21.0s
CRAG Craig 97.81 326 IAMs_20 IAMs_20 01 33 41.7
comp=Z,1µm,20.0s
R32K Eaglecrest 97.88 329 IAMs_20 IAMs_20 01 33 28.1
comp=Z,2µm,21.0s
S32K Killisnoo 98.11 328 IAMs_20 IAMs_20 01 33 48.4
comp=Z,2µm,20.0s
N30M Aishikik Lake 98.25 333 IAMs_20 IAMs_20 01 33 07.4
comp=Z,2µm,22.0s
G27K Doyon Strip 98.31 338 IAMs_20 IAMs_20 01 35 01.4
comp=Z,2µm,20.0s
H27K Steamboat Moun 98.48 338 IAMs_20 IAMs_20 01 33 33.0
comp=Z,1µm,19.0s
AAK Ala-Archa 98.53 47 IAMs_20 IAMs_20 01 47 26.8
comp=Z,1µm,20.0s
AAK Ala-Archa 98.53 47 LR LR 01 42 10.9
comp=Z,769nm,20.1s,baz=300,slow=38
FRU1 Bishkek 98.60 47 IAMs_20 IAMs_20 01 43 34.6
comp=Z,1µm,20.0s
SIT Sitka 98.61 328 IAMs_20 IAMs_20 01 34 13.6
comp=Z,2µm,20.0s
F26K Sheenjek River 98.84 340 IAMs_20 IAMs_20 01 35 25.4
comp=Z,1µm,21.0s
D25K Kavik River 98.87 342 IAMs_20 IAMs_20 01 35 51.8
comp=Z,1µm,21.0s
C24K Franklin Bluff 99.40 342 IAMs_20 IAMs_20 01 34 12.8
comp=Z,1µm,21.0s
F25K Christian Rive 99.41 340 IAMs_20 IAMs_20 01 34 35.2
comp=Z,1µm,21.0s
I26K Coal Creek Min 99.46 337 IAMs_20 IAMs_20 01 38 23.0
comp=Z,2µm,19.0s
KURBB Kurchatov Arra 99.70 38 P **Pdif** **00 54 28.1 -0.3**
comp=Z,0.4nm,0.2s,baz=284,slow=4.9,SNR=5.4
KURBB PP PP 00 58 22.4 -10
comp=Z,0.7nm,0.3s,baz=286,slow=6.8,SNR=4.6
KURBB LR LR 01 39 49.0
comp=Z,974nm,21.0s,baz=294,slow=36
comp=Z,0.4nm,0.2s
D24K Happy Valley 99.72 342 IAMs_20 IAMs_20 01 35 20.2
comp=Z,1µm,22.0s
KURK Kurchatov 99.73 38 IAMs_20 IAMs_20 01 38 54.8
comp=Z,1µm,21.0s
KURK Kurchatov 99.73 38 P **Pdif** **00 54 28.2 -0.4**
O28M Mount Upton 99.89 333 IAMs_20 IAMs_20 01 34 01.0
comp=Z,2µm,22.0s
F24K Squaw Lake 100.21 340 IAMs_20 IAMs_20 01 36 42.3

comp=Z,1μm,21.0s
TOLK Toolik Lake Re 100.21 342 IAMs_20 IAMs_20 01 36 38.2
comp=Z,1μm,20.0s
LOGN Logan Glacier 100.25 333 IAMs_20 IAMs_20 01 40 44.4
comp=Z,1μm,18.0s
PRP Porcupine Dome 100.28 338 IAMs_20 IAMs_20 01 34 41.4
comp=Z,1μm,20.0s
SCRK Sand Creek 100.33 336 IAMs_20 IAMs_20 01 36 47.0
comp=Z,2μm,20.0s
CTGM Chitina Glacie 100.35 333 IAMs_20 IAMs_20 01 38 03.0
comp=Z,1μm,18.0s
D23K Nanushuk River 100.39 342 IAMs_20 IAMs_20 01 36 04.0
comp=Z,1μm,22.0s
G24K Hadweenzic Riv 100.45 339 IAMs_20 IAMs_20 01 36 30.9
comp=Z,2μm,21.0s
GRNC Granite Creek 100.63 333 IAMs_20 IAMs_20 01 38 20.3
comp=Z,1μm,18.0s
RIDG Independent Ri 100.77 336 IAMs_20 IAMs_20 01 36 40.8
comp=Z,2μm,20.0s
ISLE Juniper Island 100.94 333 IAMs_20 IAMs_20 01 38 29.7
comp=Z,1μm,19.0s
H24K Noodor Dome 101.00 339 IAMs_20 IAMs_20 01 38 21.5
comp=Z,1μm,18.0s
D22K Ayikyak River 101.05 342 IAMs_20 IAMs_20 01 37 26.3
comp=Z,1μm,21.0s
K24K Donnelly Dome 101.12 336 IAMs_20 IAMs_20 01 35 19.9
comp=Z,1μm,19.0s
ILAR Eielson Array 101.12 338 P **Pdif 00 54 35.1 +0.7**
comp=Z,1.1nm,1.0s,baz=50,slow=4.6,SNR=6.2
COLD Coldfoot 101.13 340 IAMs_20 IAMs_20 01 36 50.7
comp=Z,1μm,20.0s
POKR Poker Plat Res 101.17 338 IAMs_20 IAMs_20 01 36 43.1
comp=Z,1μm,20.0s
WAX Waxell Ridge 101.23 333 IAMs_20 IAMs_20 01 37 57.4
comp=Z,1μm,18.0s
G23K Bananza Creek 101.33 340 IAMs_20 IAMs_20 01 37 23.1
comp=Z,2μm,22.0s
PRZ Przheval'sk 101.40 46 IAMs_20 IAMs_20 01 41 49.5
comp=Z,1μm,19.0s
COLA College 101.44 338 IAMs_20 IAMs_20 01 41 13.4
comp=Z,1μm,19.0s
CCB Clear Creek Bu 101.53 338 IAMs_20 IAMs_20 01 40 30.7
comp=Z,2μm,18.0s
H23K Yukon River 101.61 339 IAMs_20 IAMs_20 01 37 22.5
comp=Z,1μm,20.0s
BERG Berg Lake 101.65 333 IAMs_20 IAMs_20 01 37 32.2
comp=Z,2μm,20.0s
I23K Minto, Yukon-K 101.87 338 IAMs_20 IAMs_20 01 35 39.6
comp=Z,1μm,19.0s
NEA2 Nenana 102.04 338 IAMs_20 IAMs_20 01 40 48.0
comp=Z,2μm,19.0s
F21K Alatna River 102.22 341 IAMs_20 IAMs_20 01 36 33.3
comp=Z,2μm,22.0s
BWN Browne 102.39 338 IAMs_20 IAMs_20 01 41 30.7
comp=Z,1μm,19.0s
MCK McKinley 102.40 337 IAMs_20 IAMs_20 01 39 35.7
comp=Z,1μm,18.0s
MLY Manley 102.44 339 IAMs_20 IAMs_20 01 35 58.6
comp=Z,969nm,20.0s
RND Reindeer 102.53 337 IAMs_20 IAMs_20 01 39 48.1
comp=Z,1μm,20.0s
G21K Allakaket 102.61 340 IAMs_20 IAMs_20 01 37 45.0
comp=Z,1μm,20.0s
I21K Tanana 102.81 339 IAMs_20 IAMs_20 01 36 29.3
comp=Z,1μm,20.0s
MAKZ Makanchi 102.86 41 IAMs_20 IAMs_20 01 42 45.8
comp=Z,972nm,20.0s
C19K Lookout Ridge 102.91 344 IAMs_20 IAMs_20 01 39 51.5
comp=Z,1μm,21.0s
F20K Avaraart Lake 103.03 341 IAMs_20 IAMs_20 01 36 60.0
comp=Z,1μm,22.0s
TRF Thorofare Moun 103.07 337 IAMs_20 IAMs_20 01 40 14.3
comp=Z,1μm,19.0s
MKAR Makanchi Array 103.07 41 PP **PP 00 58 53.8 -4.5**
comp=Z,2.1nm,0.9s,baz=293,slow=7.5,SNR=4.1
Q23K Middleton Isla 103.26 332 IAMs_20 IAMs_20 01 40 19.8
comp=Z,1μm,19.0s
E19K Redstone River 103.26 342 IAMs_20 IAMs_20 01 38 28.8
comp=Z,1μm,21.0s
KTH Kantishna Hill 103.26 337 IAMs_20 IAMs_20 01 41 59.4
comp=Z,1μm,18.0s
P23K Montague Islan 103.49 333 IAMs_20 IAMs_20 01 37 27.9
comp=Z,2μm,20.0s
C18K Utukok River 103.65 344 IAMs_20 IAMs_20 01 36 47.0
comp=Z,1μm,22.0s
CAST Castle Rocks 103.78 337 IAMs_20 IAMs_20 01 42 25.0
comp=Z,1μm,18.0s
I20K Naaghedeneel 103.91 339 IAMs_20 IAMs_20 01 40 30.4
comp=Z,1μm,20.0s
G19K Purcell Mounta 104.01 341 IAMs_20 IAMs_20 01 39 01.8
comp=Z,958nm,20.0s
PPLA Purkeypile 104.09 337 IAMs_20 IAMs_20 01 40 37.4
comp=Z,1μm,20.0s
J20K Nowinta River 104.14 339 IAMs_20 IAMs_20 01 37 10.4
comp=Z,1μm,20.0s
H19K Roundabout Mou 104.17 340 IAMs_20 IAMs_20 01 41 43.0
comp=Z,1μm,20.0s
E18K Tukpahlearik C 104.30 343 IAMs_20 IAMs_20 01 39 09.1
comp=Z,2μm,22.0s
K20K Telida 104.57 338 IAMs_20 IAMs_20 01 42 06.8
comp=Z,1μm,19.0s
STLK Strandline Lak 104.68 336 IAMs_20 IAMs_20 01 40 15.0
comp=Z,1μm,19.0s
SPU Mount Spurr 104.93 335 IAMs_20 IAMs_20 01 40 15.8
comp=Z,1μm,20.0s
C16K Lisburne Hills 105.02 345 IAMs_20 IAMs_20 01 38 00.2
comp=Z,891nm,19.0s
H18K Honhosa River 105.04 341 IAMs_20 IAMs_20 01 39 28.0
comp=Z,928nm,20.0s
F17K Baldwin Pennin 105.13 342 IAMs_20 IAMs_20 01 39 40.3
comp=Z,969nm,21.0s
J18K Innoko River 105.48 339 IAMs_20 IAMs_20 01 40 05.9
comp=Z,1μm,20.0s
M19K Big River Lodg 105.49 337 IAMs_20 IAMs_20 01 38 52.5
comp=Z,2μm,21.0s
H17K Granite Mounta 105.69 341 IAMs_20 IAMs_20 01 40 10.1
comp=Z,1μm,20.0s
G16K Koyuk River 106.17 342 IAMs_20 IAMs_20 01 40 56.8
comp=Z,1μm,21.0s
L18K Granite Mounta 106.20 338 IAMs_20 IAMs_20 01 42 20.2
comp=Z,1μm,19.0s
J17K VABM Dome 106.37 339 IAMs_20 IAMs_20 01 40 12.4
comp=Z,1μm,20.0s
K17K Iditarod 106.51 339 IAMs_20 IAMs_20 01 39 56.1
comp=Z,1μm,19.0s
I17K Unalakleet 106.62 340 IAMs_20 IAMs_20 01 42 17.9
comp=Z,1μm,19.0s
M17K Holitna River 106.97 337 IAMs_20 IAMs_20 01 44 49.6
comp=Z,1μm,18.0s
J16K Anvik River 106.98 340 IAMs_20 IAMs_20 01 39 03.3
comp=Z,1μm,20.0s
OHAK Old Harbor 107.53 332 IAMs_20 IAMs_20 01 42 19.8
comp=Z,1μm,19.0s
WMQ Urumqi 107.60 43 Pdif **Pdif 00 55 06.0 +2.1**
WMQ LR LR
comp=Z,960nm,24.5s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,2μm,24.1s
ANM Nome 107.67 342 IAMs_20 IAMs_20 01 42 01.5
comp=Z,1μm,21.0s
M16K Timber Creek 107.79 337 IAMs_20 IAMs_20 01 43 30.2
comp=Z,1μm,20.0s
J14K Nanvaranak Lak 108.34 340 IAMs_20 IAMs_20 01 39 58.4
comp=Z,1μm,22.0s
PALK Pallekele 108.38 82 IAMs_20 IAMs_20 01 50 35.2
comp=Z,1μm,18.0s
N15K Kwethluk River 108.76 337 IAMs_20 IAMs_20 01 46 26.8
comp=Z,1μm,18.0s
L14K Kuka Creek 108.98 339 IAMs_20 IAMs_20 01 45 40.4
comp=Z,1μm,19.0s
K13K Kusilvak Mount 109.28 340 IAMs_20 IAMs_20 01 43 48.1
comp=Z,1μm,19.0s
GAMB Gambell 110.12 344 IAMs_20 IAMs_20 01 44 40.0
comp=Z,823nm,20.0s
CHGN Chignik 110.39 333 IAMs_20 IAMs_20 01 41 40.4
comp=Z,1μm,20.0s
CNBA Chernabura Isl 111.81 332 IAMs_20 IAMs_20 01 42 25.8
comp=Z,1μm,21.0s
TAOE Nuku Hiva Isla 112.06 261 *e*S 01 06 58.3
comp=Z,239nm,28.2s
TAOE Nuku Hiva Isla 112.06 261 *e*LR LR 01 32 43.6
comp=Z,645nm,26.7s
LSA Lhasa 114.54 57 IAMs_20 IAMs_20 01 45 24.8
comp=Z,1μm,22.0s
YAK Yakutsk 114.96 11 IAMs_20 IAMs_20 01 52 25.6
comp=Z,950nm,20.0s

SONM Songino Array 117.33 33 PKP **PKiKP 00 59 31.6 +1.2**
comp=Z,0.7nm,0.7s,baz=224,slow=4.3,SNR=5.8
SONM PP **PP 01 00 40.3 -0.8**
comp=Z,1.8nm,1.1s,baz=302,slow=8.5,SNR=4.1
TBI Tubuai 119.11 244 *e*S **SKSdf 01 06 53.7 +8.8**
comp=Z,3μm,35.5s
TBI Tubuai 119.11 244 *e*SS SS 01 17 18.5 +4.4
comp=Z,3μm,27.8s
TBI Tubuai 119.11 244 *e*LQ LQ 01 30 57.9
comp=Z,8μm,40.2s
TBI *e*LR LR 01 35 54.2
comp=Z,6μm,36.0s
TBI *e*LR LR 01 36 02.6
comp=Z,1μm,33.2s
MA2 Magadan 119.67 1 IAMs_20 IAMs_20 01 52 51.4
comp=Z,695nm,19.0s
PPT2 Papeete2 120.32 250 *e*PP **PP 01 00 58.9 -4.0**
comp=Z,69nm,24.2s
PPT2 *e*S 01 07 06.6
comp=Z,379nm,27.8s
PPT2 Papeete2 120.32 250 *e*SS SS 01 17 37.1 +6.9
comp=Z,826nm,28.2s
PPT2 Papeete2 120.32 250 *e*LQ LQ 01 31 19.4
comp=Z,4μm,34.0s
PPT2 *e*LR LR 01 36 29.0
comp=Z,1μm,24.0s
PPT2 *e*LR LR 01 36 31.3
comp=Z,911nm,24.5s
LZH Lanzhou 122.04 45 PKP **PKiKP 00 59 46.1 +6.1**
LZH sPKP 00 59 57.0
LZH PP **PP 01 01 18.4 +4.5**
LZH Lanzhou 122.04 45 SS SS 01 17 57.2 +6.4
LZH LR LR
comp=N,1μm,21.9s
LZH LR LR
comp=E,720nm,17.1s
LZH LR LR
comp=Z,2μm,21.6s
BTO Baotou 123.73 38 SS SS 01 18 14.6 +3.1
BTO pmax pmax
comp=Z,15nm,0.9s
BTO pmax pmax
comp=Z,130nm,3.8s
BTO LR LR
comp=N,3μm,19.1s
BTO LR LR
comp=E,2μm,18.7s
BTO LR LR
comp=Z,4μm,18.2s
CMAR Chiang Mai Arr 124.39 67 **PKiKP 00 59 45.6 +0.7**
CMAR Chiang Mai Arr 124.39 67 PKP **PKiKP 00 59 44.8 -0.1**
comp=Z,3.1nm,0.9s,baz=307,slow=3.4,SNR=7.7
CMAR Chiang Mai Arr 124.39 67 PKIKP **PKiKP 00 59 45.6 +0.7**
PZH PanZhiHua 124.42 57 PKP **PKiKP 00 59 45.7 +0.8**
HHC Hu-ho-hao-te 124.51 37 *e*PKP **PKPdf 00 59 41.0 -3.4**
HHC PP **PP 01 01 30.4 +0.2**
HHC AMB AMB
comp=Z,48nm,6.3s
HHC LR LR
comp=Z,980nm,21.0s
HHC LR LR
comp=Z,880nm,20.0s
HHC LR LR
comp=Z,2μm,21.6s
MWH Mokuaweoweo 124.81 295 IAMs_20 IAMs_20 01 36 59.3
comp=Z,858nm,19.0s
HEH HeiHe 124.84 19 PKP **PKiKP 00 59 47.7 +2.8**
HEH PP **PP 01 01 31.2 -0.4**
HEH SS SS 01 18 24.3 +0.2
HEH AMB AMB
comp=Z,250nm,7.1s
HEH LR LR
comp=Z,980nm,19.4s
HEH LR LR
comp=Z,520nm,20.8s
HEH LR LR
comp=Z,2μm,18.6s
PEA0B Petropavlovsk- 125.96 356 *d* iPKIKP **PKiKP 00 59 49.7 +2.7**
PETK Petropavlovsk- 125.96 356 PKP **PKiKP 00 59 46.1 -0.9**
comp=Z,1.8nm,0.8s,baz=69,slow=8.1,SNR=5.2
XAN Xi'an 126.67 45 PKP **PKiKP 00 59 48.8 -0.3**
XAN PP **PP 01 01 48.1 +3.3**
XAN AMB AMB
comp=Z,260nm,8.8s
XAN LR LR
comp=Z,1μm,20.3s
XAN LR LR
comp=Z,1μm,21.8s
XAN LR LR
comp=Z,2μm,21.0s
RPSI Rantau Prapat 126.78 86 IAMs_20 IAMs_20 01 53 01.0
comp=Z,826nm,20.0s
BJT Baijiatuan 127.74 35 IAMs_20 IAMs_20 02 00 51.9
comp=Z,934nm,19.0s
SLVN Son La 128.05 62 IAMs_20 IAMs_20 02 03 55.3
comp=Z,668nm,19.0s
KULM Kulim 128.30 83 IAMs_20 IAMs_20 01 51 28.2
comp=Z,683nm,20.0s
GYA Guiyang 128.50 55 ⇓PKP **PKiKP 00 59 54.4 +1.3**
GYA PP **PP 01 02 02.0 +4.6**
GYA SS SS 01 19 14.7 +2.1
GYA AMB AMB
comp=Z,140nm,11.6s
GYA LR LR
comp=Z,660nm,30.5s
GYA LR LR
comp=Z,780nm,17.6s
GYA LR LR
comp=Z,970nm,24.4s
BNX BinXian 128.69 22 ⇓PKP **PKiKP 00 59 55.1 +2.4**
LYN LuoYang 128.84 42 SS SS 01 19 04.7 -11
LYN AMB AMB
comp=Z,320nm,11.3s
LYN LR LR
comp=N,2μm,17.9s
LYN LR LR
comp=E,1μm,18.2s
LYN LR LR
comp=Z,3μm,18.5s
BKNI Bangkinang 128.98 89 IAMs_20 IAMs_20 01 51 24.7
comp=Z,840nm,18.0s
ENH Enshi 128.99 49 IAMs_20 IAMs_20 01 58 04.0
comp=Z,878nm,21.0s
CN2 Changchun 129.52 25 PKP **PKPdf 00 59 48.9 -4.8**
CN2 AMB AMB
comp=Z,80nm,5.5s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,5μm,21.0s
CN2 LR LR
comp=Z,800nm,19.1s
MDJ Mudanjiang 130.45 21 IAMs_20 IAMs_20 01 54 45.6
comp=Z,931nm,22.0s
DL2 Dalian 131.52 32 PKP **PKPdf 00 59 55.4 -2.2**
DL2 PP **PP 01 02 18.0 +2.1**
DL2 AMB AMB
comp=Z,130nm,4.7s
DL2 LR LR
comp=Z,2μm,23.7s
DL2 LR LR
comp=Z,1μm,21.1s
DL2 LR LR
comp=Z,3μm,22.6s
YSS Yuzhno-Sakhali 131.63 9 IAMs_20 IAMs_20 02 08 09.6
comp=Z,808nm,20.0s
YSS Yuzhno-Sakhali 131.63 9 *i* PKIKP **PKiKP 00 59 56.9 -1.7**
YSS *e* 01 02 15.0
YSS *e*PS PS 01 12 20.0 -11
YSS *e*SS SS 01 19 46.5 -1.5
MYKOM Kota Tinggi 131.74 87 IAMs_20 IAMs_20 01 52 35.5
comp=Z,770nm,21.0s
PMBI Palembang 132.72 93 IAMs_20 IAMs_20 01 53 14.0
comp=Z,878nm,20.0s
QIZ Qiongzhong 134.07 62 IAMs_20 IAMs_20 02 10 22.4
comp=Z,753nm,19.0s
QIZ Qiongzhong 134.07 62 PKP **PKiKP 01 00 02.1 -2.2**
QIZ PP **PP 01 02 33.4 -0.2**
QIZ SS SS 01 20 22.7 +1.7
QIZ LR LR
comp=Z,580nm,17.0s
QIZ LR LR
comp=Z,1μm,17.8s
JKA Kamikawa-asahi 134.38 10 IAMs_20 IAMs_20 02 06 47.2
comp=Z,1μm,22.0s
NJ2 Nanjing 134.60 41 *e*PKP **PKiKP 01 00 04.0 -1.0**
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,860nm,16.1s
NJ2 LR LR
comp=Z,2μm,19.7s
DLV Lat 134.90 72 IAMs_20 IAMs_20 02 10 55.8
comp=Z,660nm,22.0s
KSRS Korea Array 135.78 28 PP **PP 01 02 42.0 -0.9**
comp=Z,0.4nm,0.2s,baz=333,slow=5.1,SNR=6.2
SSE Sheshan 136.73 40 PKP **PKPdf 01 00 03.2 -4.4**
SSE PP **PP 01 02 49.8 +0.4**
SSE AMB AMB
comp=Z,87nm,3.9s
SSE LR LR
comp=Z,460nm,18.0s
SSE LR LR
comp=Z,410nm,18.2s
JSG Sagara 142.29 19 PKPpre 01 00 12.3
KKM Kota Kinabalu 143.57 79 IAMs_20 IAMs_20 02 02 51.5
comp=Z,712nm,21.0s
BBOO Buckleboo 144.89 156 **PKiKP 01 00 23.3 -2.8**
WBSI Waikabubak, Su 146.38 106 PKP **PKiKP 01 00 31.5 +1.8**
KAPI Kappang 147.50 98 IAMs_20 IAMs_20 01 56 13.0
comp=Z,669nm,22.0s
SPSI Sidrap Palu 147.62 96 PKP **PKPab 01 00 35.8 +3.5**
STKA Stephens Creek 147.66 163 **PKPab 01 00 32.0 +0.1**
STKA Stephens Creek 147.66 163 PKPbc **PKiKP 01 00 30.4 -1.5**
comp=Z,6.0nm,0.6s,baz=245,slow=1.1,SNR=8.0
STKA Stephens Creek 147.66 163 PKP2 **PKPab 01 00 32.0 +0.1**
MPSI Mapaga 147.83 88 PKP **PKPab 01 00 33.5 +0.3**
BNSI Bone 147.92 97 PKP **PKPab 01 00 38.0 +4.5**
TOLI2 Tolitoli 148.68 86 IAMs_20 IAMs_20 02 01 38.5
comp=Z,752nm,22.0s
EDFI Ende, Flores 148.79 105 PKP **PKPab 01 00 37.7 +0.6**
FITZ Fitzroy Crossi 148.95 125 **PKPab 01 00 35.6 -1.8**
MMRI Maumere 149.35 105 IAMs_20 IAMs_20 01 58 07.9
comp=Z,709nm,21.0s
LUWI Luwuk 150.73 90 PKP **PKPab 01 00 43.4 -1.6**
WRA Warramunga Arr 154.35 139 PKP **PKPdf 01 00 38.1 +0.5**
comp=Z,3.0nm,1.0s,baz=242,slow=1.7,SNR=7.9
WRA PKPbc **sPKPdf 01 00 46.7 -1.8**
comp=Z,5.9nm,1.0s,baz=244,slow=1.9,SNR=9.0
DZM Mont Dzumac 154.72 213 *e*PP **PP 01 04 31.7 -4.3**
comp=Z,142nm,26.3s
DZM Mont Dzumac 154.72 213 *e*SS SS 01 24 20.4 +4.5
comp=Z,938nm,31.2s
DZM Mont Dzumac 154.72 213 *e*LR LR 01 52 35.9
comp=Z,2μm,23.9s

SJA ***05*** *00:48:21.7±0.8,24°.10S×67°.15W,h206km±4km,ML3.5, MW3.7*
GUC ***05*** *00:48:23.8±0.7,24°.09S×67°.17W,h188km±5km,ML3.9*
ISC 05 00:48:22.2±1.5,24°.09S±0°.03×67°.19W±0°.04, h199km±12km, n37, σ1°58/67, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALTA		**0.79**	**100**	⇓*e*P	**Pn**		**00 48 51.2**	**0.0**
SALTA				*e*S	**Sn**		**00 49 12.5**	**-1.1**
SALTA		**0.79**	**100**	*e*P	**Pn**		**00 48 49.5**	**-1.7**
SALTA				*e*P			00 48 51.2	
SALTA				*e*S	Sn		00 48 59.1	-14
SALTA					IAML		00 49 07.6	
	comp=Z,140nm,2.4s							
AF01	**San Pedro de A**	**1.45**	**321**	*e*P	**Pn**		**00 48 57.3**	**+1.4**
AF01				*e*S	**Sn**		**00 49 22.6**	**+0.8**
AF01	**San Pedro de A**	**1.45**	**321**	*e*P	Pn		00 49 11.9	+16
AF01				*e*S	**Sn**		**00 49 23.5**	**+1.7**
AF01					IAML		00 49 41.4	
	comp=Z,174nm,0.8s							
SLA	**San Lorenzo**	**1.66**	**112**	*e*P	**Pn**		**00 48 57.7**	**+0.2**
SLA				*e*S	**Sn**		**00 49 23.9**	**-1.0**
SLA	**San Lorenzo**	**1.66**	**112**	*e*P	**Pn**		**00 48 58.4**	**+0.9**
SLA				*e*S	**Sn**		**00 49 25.4**	**+0.4**
AZAP	**Zapla**	**1.95**	**94**	*e*P	**Pn**		**00 49 00.6**	**+0.2**
FSA	**Cafayete**	**2.29**	**152**	*e*P	**Pn**		**00 49 04.7**	**+0.8**
FSA				*e*S	Sn		00 49 56.6	+20
GO02	**Mina Guanaco**	**2.43**	**244**	⇑*i*P	**Pn**		**00 49 06.9**	**+1.3**
GO02				*e*S	**Sn**		**00 49 39.8**	**+0.5**
GO02					IAML		00 49 40.6	
	comp=N,312nm,0.4s							
GO02	**Mina Guanaco**	**2.43**	**244**	*e*P	**Pn**		**00 49 07.0**	**+1.5**
GO02				*e*S	**Sn**		**00 49 40.2**	**+0.9**
YJA	**Yavi**	**2.46**	**39**	*e*P	**Pn**		**00 49 06.7**	**+0.7**
YJA				*e*S	**Sn**		**00 49 39.6**	**-0.6**
YJA	**Yavi**	**2.46**	**39**	*e*P	**Pn**		**00 49 06.8**	**+0.7**
YJA				*e*S	**Sn**		**00 49 40.8**	**+0.6**
PB06	**IPOC Station P**	**2.58**	**302**	⇓*e*P	**Pn**		**00 49 08.5**	**+1.3**
PB06				*e*S	**Sn**		**00 49 41.4**	**-0.9**
PB06					IAML		00 49 44.0	
	comp=E,496nm,0.3s							
PB06	**IPOC Station P**	**2.58**	**302**	*e*P	**Pn**		**00 49 08.7**	**+1.5**
PB06				*e*S	**Sn**		**00 49 41.2**	**-1.1**
PB06					IAML		00 49 44.1	
	comp=Z,229nm,0.3s							
ALOL	**LOMAS DE OLMED**	**2.95**	**85**	*e*P	**Pn**		**00 49 11.8**	**+0.5**
PB09	**IPOC Station P**	**2.97**	**320**	⇑*e*P	**Pn**		**00 49 13.4**	**+1.8**
PB09				*e*S	**Sn**		**00 49 50.2**	**0.0**
PB09					IAML		00 49 51.4	
	comp=N,143nm,0.7s							
PB09	**IPOC Station P**	**2.97**	**320**	*e*P	**Pn**		**00 49 13.4**	**+1.8**
PB09				*e*S	**Sn**		**00 49 50.4**	**+0.2**
PB09					IAML		00 49 55.5	
	comp=Z,120nm,0.6s							
PB05	**IPOC Station P**	**3.03**	**293**	⇑*e*P	**Pn**		**00 49 13.4**	**+1.1**
PB05				*e*S	**Sn**		**00 49 49.4**	**-1.9**
PB05					IAML		00 49 52.5	
	comp=N,136nm,0.3s							
PB05	**IPOC Station P**	**3.03**	**293**	*e*P	**Pn**		**00 49 13.4**	**+1.1**
PB05				*e*S	**Sn**		**00 49 49.9**	**-1.5**
PB05					IAML		00 49 56.5	
	comp=Z,85nm,0.4s							
PB03	**IPOC Station P**	**3.12**	**310**	*e*P	**Pn**		**00 49 14.3**	**+0.9**
PB03				*e*S	**Sn**		**00 49 51.7**	**-1.7**
PB03					IAML		00 49 53.6	
	comp=E,212nm,0.4s							
PB03	**IPOC Station P**	**3.12**	**310**	*e*P	**Pn**		**00 49 14.3**	**+0.9**
PB03				*e*S	**Sn**		**00 49 50.9**	**-2.4**
PB03					IAML		00 49 56.2	
	comp=Z,166nm,0.3s							
PB10	**IPOC Station P**	**3.13**	**280**	⇑*e*P	**Pn**		**00 49 14.8**	**+1.4**
PB10				*e*S	**Sn**		**00 49 51.8**	**-1.6**
PB10					IAML		00 49 55.9	
	comp=E,111nm,0.4s							
PB10	**IPOC Station P**	**3.13**	**280**	*e*P	**Pn**		**00 49 14.8**	**+1.4**
PB10				*e*S	**Sn**		**00 49 53.3**	**-0.1**
PB10					IAML		00 49 54.8	
	comp=Z,84nm,0.5s							
AHML	**Horco Molle**	**3.16**	**148**	*e*P	**Pn**		**00 49 15.6**	**+1.8**
AHML				*e*S	**Sn**		**00 49 53.9**	**-0.4**
AC02	**Maricunga**	**3.24**	**212**	⇑*i*P	**Pn**		**00 49 16.8**	**+1.5**
AC02				*e*S	**Sn**		**00 49 58.0**	**+1.3**
AC02	**Maricunga**	**3.24**	**212**	*e*P	**Pn**		**00 49 16.7**	**+1.5**
AC02				*e*S	**Sn**		**00 49 55.5**	**-1.1**
AC02					IAML		00 50 18.5	
	comp=Z,29nm,2.4s							
AC01	**Pan de Azucar**	**3.70**	**236**	*e*P	**Pn**		**00 49 20.5**	**+0.2**
AC01				*e*S	**Sn**		**00 50 04.6**	**-1.3**
AC01					IAML		00 50 05.3	
	comp=Z,50nm,0.3s							
PB01	**IPOC Station P**	**3.70**	**325**	*e*P	**Pn**		**00 49 21.0**	**+0.5**
PB01				*e*S	**Sn**		**00 50 04.7**	**-1.4**
PB01					IAML		00 50 07.5	
	comp=Z,59nm,0.2s							
PB02	**IPOC Station P**	**3.72**	**317**	*e*P	**Pn**		**00 49 21.3**	**+0.6**
PB02				*e*S	**Sn**		**00 50 04.8**	**-1.7**
PB02					IAML		00 50 10.6	
	comp=Z,171nm,0.4s							
PB08	**IPOC Station P**	**4.33**	**335**	*e*P	**Pn**		**00 49 30.0**	**+1.4**
PB08				*e*S	**Sn**		**00 50 20.3**	**-0.4**
PB08					IAML		00 50 26.7	
	comp=Z,23nm,0.5s							
GO03	**Copiapo**	**4.43**	**218**	*e*P	**Pn**		**00 49 29.8**	**+0.3**
GO03				*e*S	**Sn**		**00 50 21.2**	**-1.2**
TA01	**Diego Aracena**	**4.47**	**321**	*e*P	**Pn**		**00 49 30.7**	**+0.8**
TA01				*e*S	**Sn**		**00 50 18.1**	**-5.0**
TA01					IAML		00 50 21.9	
	comp=Z,26nm,1.6s							
CYA	**Choya**	**4.51**	**164**	*e*P	**Pn**		**00 49 33.5**	**+3.1**
CYA					IAML		00 51 10.7	
	comp=Z,17nm,3.9s							

GO01	**Chusmiza**	**4.78**	**337**	*eP*	**Pn**	**00 49 35.5**	**+1.2**
GO01				*eS*	**Sn**	**00 50 31.3**	**+0.3**
PB11	**IPOC Station P**	**4.88**	**332**	*eP*	**Pn**	**00 49 34.9**	**-0.4**
PB11				*eS*	**Sn**	**00 50 29.9**	**-2.9**
PB11				IAML		00 50 33.9	
	comp=Z,27nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.31**	**178**	*eP*	**Pn**	**00 49 42.0**	**+1.2**
ACLC				*eS*	**Sn**	**00 50 37.3**	**-5.6**
ACLC				IAML		00 50 55.5	
	comp=Z,10.0nm,3.2s						
AC04	**Llanos de Chal**	**5.38**	**220**	*eP*	**Pn**	**00 49 40.9**	**-0.6**
AC04				*eS*	Sn	00 50 32.5	-12
AC04				IAML		00 50 52.5	
	comp=Z,25nm,0.6s						

*JSN **05** 00:56:37.2±2.1, 18°.75N×73°.51W, h0km±316km, MD4.7*
*SDD **05** 00:56:40.2±11.0, 18°.72N×73°.75W, h15km±70km, MD3.4, ML3.5, MW3.7*
*SSNC **05** 00:56:40.0±1.8, 18°.51N×73°.78W, h7km±13km, MD3.6, ML3.4, MW3.3*
*OSPL **05** 00:56:42.1±4.8, 18°.53N×73°.82W, h25km±31km, ML3.3*
ISC 05 00:56:38.0±3.0, **18°.63N**±0°.05×**73.75W**±0.03, **h11**km±22km, **n41**, σ1§**67**/63, **6C-2D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.38**	**94**	*eP*	**Pn**	**00 57 03.1**	**0.0**
PAPH	**Port-au-Prince**	**1.38**	**94**	*i* P	**Pn**	**00 57 03.4**	**+0.3**
PAPH				*eS*	**Sn**	**00 57 21.6**	**+0.1**
MASC	**Masc**	**1.61**	**344**	*eP*	**Pb**	**00 57 07.5**	**-0.1**
MASC				*eS*	**Sn**	**00 57 26.2**	**-0.8**
MASC	**Masc**	**1.61**	**344**	*i* P	**Pb**	**00 57 07.5**	**-0.1**
MASC				*eS*	**Sn**	**00 57 27.3**	**+0.3**
MASC				IAML		00 57 34.1	
	comp=Z,228nm,0.1s						
MASC	**Masc**	**1.61**	**344**	*i* P	**Pb**	**00 57 07.7**	**0.0**
MASC				⇑*e*Sg	**Sb**	**00 57 28.6**	**+0.7**
MASC				IAML		00 57 39.9	
	comp=N,293nm,1.0s						
JIDR	**Jimani**	**1.81**	**94**	*i* P	**Pn**	**00 57 10.0**	**+1.0**
JIDR				IAML		00 57 38.5	
	comp=N,481nm,0.9s						
GTBY	**Guantanamo Bay**	**1.82**	**315**	*eP*	**Pb**	**00 57 10.6**	**-0.8**
GTBY				*eS*	**Sn**	**00 57 33.2**	**+0.8**
GTBY				IAML		00 57 38.9	
	comp=N,430nm,0.1s						
GTBY				IAML		00 57 39.1	
	comp=N,312nm,0.2s						
GTBY	**Guantanamo Bay**	**1.82**	**315**	⇓*i* P	**Pb**	**00 57 10.8**	**-0.5**
GTBY				*i* S	**Sn**	**00 57 33.2**	**+0.8**
GTBY	**Guantanamo Bay**	**1.82**	**315**	*i* P	**Pb**	**00 57 10.6**	**-0.8**
GTBY				*eS*	**Sb**	**00 57 33.4**	**-0.8**
GTBY				IAML		00 57 42.0	
	comp=Z,202nm,0.3s						
GTBY	**Guantanamo Bay**	**1.82**	**315**	*i* P	**Pb**	**00 57 10.8**	**-0.5**
GTBY				⇑*e*Sg	**Sn**	**00 57 32.9**	**+0.5**
GTBY				IAML		00 57 45.0	
	comp=N,308nm,0.7s						
QMBU	**Quimbuelo**	**1.86**	**328**	*eP*	**Pn**	**00 57 10.2**	**+0.4**
LOBH	**Bahia de las A**	**2.15**	**110**	*i* P	**Pn**	**00 57 14.6**	**+0.9**
LOBH				*eS*	**Sn**	**00 57 40.2**	**-0.1**
LOBH				IAML		00 57 45.8	
	comp=Z,530nm,0.3s						
LONE3	**El Aguacate, B**	**2.17**	**90**	IAML		01 00 15.3	
	comp=Z,197nm,0.4s						
LODU1	**El Espartillar**	**2.18**	**97**	*i* P	**Pn**	**00 57 15.6**	**+1.4**
LODU1				IAML		00 57 53.9	
	comp=Z,721nm,0.7s						
NMDO	**Nuevo Mundo**	**2.25**	**329**	*eP*	**Pn**	**00 57 15.4**	**+0.3**
NMDO				*eS*	**Sn**	**00 57 43.6**	**+0.8**
NMDO				*e*Sg	**Sb**	**00 57 47.0**	**+0.6**
NMDO				IAML		00 57 49.8	
	comp=N,119nm,0.2s						
NMDO				IAML		00 57 50.6	
	comp=E,187nm,0.2s						
NMDO	**Nuevo Mundo**	**2.25**	**329**	*i* P	**Pb**	**00 57 17.9**	**-0.7**
NMDO				IAML		00 58 00.1	
	comp=N,123nm,0.9s						
RCC	**Rio Carpintero**	**2.29**	**307**	*eP*	**Pn**	**00 57 16.3**	**+0.7**
RCC				*eS*	**Sn**	**00 57 44.2**	**+0.4**
RCC				IAML		00 57 53.0	
	comp=E,123nm,0.2s						
RCC				IAML		00 57 53.2	
	comp=N,249nm,0.2s						
REDR	**Restauracion**	**2.29**	**76**	*i* P	**Pn**	**00 57 13.7**	**-2.1**
REDR				⇑*e*Sg	**Sn**	**00 57 37.3**	**-6.7**
REDR				IAML		00 57 40.6	
	comp=N,850nm,0.2s						
MOAC	**Moa**	**2.32**	**331**	*eP*	**Pn**	**00 57 17.6**	**+1.4**
MOAC				*eS*	**Sb**	**00 57 48.6**	**0.0**
MOAC				IAML		00 57 53.1	
	comp=E,148nm,0.2s						
MOAC				IAML		00 57 53.4	
	comp=N,112nm,0.3s						
MCDR	**Montecristi**	**2.35**	**57**	*i* P	**Pb**	**00 57 20.4**	**+0.1**
MCDR				⇑*e*Sg	**Sn**	**00 57 45.5**	**+0.3**
MCDR				IAML		00 57 54.5	
	comp=N,326nm,0.2s						
SDDR	**Presa de Saban**	**2.36**	**81**	*eP*	**Pn**	**00 57 17.4**	**+0.7**
SDDR				*eS*	**Sn**	**00 57 45.9**	**+0.2**
SDDR	**Presa de Saban**	**2.36**	**81**	*i* P	**Pn**	**00 57 17.9**	**+1.2**
SDDR				IAML		00 57 59.9	
	comp=Z,148nm,0.5s						
SDDR	**Presa de Saban**	**2.36**	**81**	*i* P	**Pn**	**00 57 18.1**	**+1.4**
SDDR				IAML		00 58 01.8	
	comp=N,219nm,0.6s						
PODR	**Polo**	**2.39**	**101**	*i* P	**Pn**	**00 57 19.1**	**+1.8**
PODR	**Polo**	**2.39**	**101**	*i* P	**Pn**	**00 57 19.2**	**+1.9**
PODR				IAML		00 57 57.5	
	comp=N,355nm,0.5s						
LOVI	**El Cajuil, Ovi**	**2.41**	**110**	*i* P	**Pn**	**00 57 18.3**	**+0.9**
LOVI				*eS*	**Sn**	**00 57 47.7**	**+0.9**
LOVI				IAML		00 58 01.1	
	comp=Z,511nm,0.5s						
MARVS	**Santiago de Cu**	**2.45**	**304**	*eP*	**Pn**	**00 57 18.3**	**+0.5**
MARVS				*eS*	**Sn**	**00 57 48.4**	**+0.7**
MARVS				IAML		00 57 55.9	
	comp=N,260nm,0.3s						
MARVS				IAML		00 57 56.1	
	comp=E,248nm,0.4s						
PINC	**Pinares de May**	**2.67**	**314**	*eP*	**Pn**	**00 57 21.3**	**+0.4**
PINC				*eS*	**Sn**	**00 57 53.5**	**+0.3**
PINC				IAML		00 58 02.3	
	comp=N,208nm,0.1s						
PINC				IAML		00 58 02.7	
	comp=E,244nm,0.1s						
LOPP1	**Punta Rusia, P**	**2.70**	**63**	*i* P	**Pb**	**00 57 26.9**	**+0.5**
LOPP1				IAML		00 58 05.4	
	comp=Z,108nm,0.5s						
CHIV	**Chivirico**	**2.85**	**299**	*eP*	**Pn**	**00 57 23.5**	**+0.1**
CHIV				IAML		00 58 08.2	
	comp=E,52nm,0.2s						
CHIV				IAML		00 58 08.2	
	comp=N,56nm,0.3s						
STH	**Stony Hill**	**2.96**	**260**	⇓*i* P	**Pn**	**00 57 26.9**	**+2.0**
SC01	**Santiago de lo**	**2.97**	**74**	*i* P	**Pb**	**00 57 28.5**	**-2.5**
YAR	**Yar**	**3.01**	**306**	*eP*	**Pn**	**00 57 26.0**	**+0.4**
YAR				IAML		00 58 14.3	
	comp=N,36nm,0.3s						
YAR				IAML		00 58 14.6	
	comp=E,49nm,0.5s						
HLGC	**Holguin**	**3.13**	**316**	*eP*	**Pb**	**00 57 31.0**	**-2.7**
LMGC	**Las Mercedes**	**3.39**	**296**	*eP*	**Pn**	**00 57 30.1**	**-0.7**
LMGC				*eS*	**Sn**	**00 58 06.6**	**-4.4**
LMGC				IAML		00 58 10.2	
	comp=N,82nm,0.2s						
LMGC				IAML		00 58 10.3	
	comp=E,86nm,0.2s						
MTDJ	**Mount Denham**	**3.61**	**264**	*i* P	**Pn**	**00 57 36.7**	**+2.7**
MTDJ	**Mount Denham**	**3.61**	**264**	*i* P	**Pn**	**00 57 36.1**	**+2.1**
MTDJ				IAML		00 58 43.0	
	comp=Z,50nm,1.5s						
MTDJ	**Mount Denham**	**3.61**	**264**	*i* P	**Pn**	**00 57 36.9**	**+2.9**
MTDJ				⇑*e*Sg	**Sn**	**00 58 16.9**	**+0.2**
MTDJ				IAML		00 58 39.0	
	comp=N,88nm,0.5s						
PILO	**Pilon**	**3.68**	**291**	*eS*	**Sn**	**00 58 14.8**	**-3.5**
GRTK	**Grand Turk**	**3.78**	**40**	*i* P	**Pn**	**00 57 39.5**	**+3.3**
GRTK				*eS*	**Sn**	**00 58 20.5**	**-0.2**
GRTK				IAML		00 58 25.2	
	comp=Z,62nm,1.6s						
GRTK	**Grand Turk**	**3.78**	**40**	*i* P	**Pn**	**00 57 38.7**	**+2.5**
GRTK				⇑*e*Sg	**Sn**	**00 58 20.7**	**0.0**
GRTK				IAML		00 58 21.7	
	comp=N,115nm,0.2s						

*IDC **05** 01:11:44.7±1.0, 26°.33N×125°.88E, h0km, mb3.9/5, mbtmp3.8/7, ML2.7/2, MS4.7/2, Error ellipse: s-maj=26.4km s-min=18.1km az=53.0*
ISC 05 01:11:48.8±3.0, **26°.3N**±0°.3×**125°.9E**±0°.1, **h35**km, **n10**, σ1§**40**/5, **mb3.8**/6, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**2.22**	**75**	Pn	**Pn**	**01 12 22.5**	**-0.7**
	2.4nm,0.3s,baz=129,slow=27,SNR=6.0						
JOW				Sn	**Sn**	**01 12 50.5**	**+1.0**
	8.3nm,0.3s,baz=332,slow=27,SNR=4.5						
	17nm,0.3s						
KSRS	**Korea Array**	**11.27**	**8**	Pn	**Pn**	**01 14 26.9**	**-0.5**
	0.1nm,0.3s,baz=192,slow=11,SNR=5.5						
	0.3nm,0.3s						
SONM	**Songino Array**	**26.40**	**330**	P	**P**	**01 17 23.5**	**+1.4**
	0.6nm,0.4s,baz=145,slow=6.4,SNR=7.2						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**39.93**	**312**	P	P	01 19 20.1	+0.5
	1.1nm,0.6s,baz=98,slow=10,SNR=11						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**40.94**	**324**	**P**	**P**	**01 19 27.4**	**-0.4**
	0.3nm,0.3s,baz=101,slow=8.0,SNR=5.4						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**43.36**	**317**	P	P	01 19 48.2	+0.6
	1.4nm,0.8s,baz=107,slow=8.4,SNR=11						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**46.68**	**169**	P	P	01 20 15.4	+1.1
	1.3nm,0.7s,baz=351,slow=8.5,SNR=8.2						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**50.26**	**170**	P	P	01 20 43.4	+1.6
	0.6nm,0.8s,baz=352,slow=8.9,SNR=4.3						
NWAO	**Narrogin (SRO)**	**59.45**	**188**	LR	LR	01 50 28.1	
	comp=Z,540nm,18.8s,baz=254,slow=39						
RAO	**Raoul Island**	**77.16**	**132**	LR	LR	01 54 03.4	
	comp=Z,619nm,21.9s,baz=284,slow=33						

*NEIC **05** 01:52:15.3±1.8, 7°.54S±0°.10×127°.49E±0°.07, h159km±10km, mb4.0/5, Error ellipse: s-maj=14.5km s-min=9.1km az=172.0*
*IDC **05** 01:52:15.1±7.5, 7°.79S×127°.56E, h174km±81km, mb3.4/1, mbtmp4.4/5, Error ellipse: s-maj=81.9km s-min=23.6km az=39.0*
*DJA **05** 01:52:52.4±0.7, 9°.S±4°.×12°.5E±°, h10km, M2.9/4, MLv2.9/4*
ISC 05 01:52:15.1±0.8, **7°.63S**±0°.09×**127°.54E**±0°.07, **h162**km, **n34**, σ1§**69**/34, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.74**	**96**	Pn	**Pn**	**01 53 13.5**	**+1.2**
SOEI	**Soe**	**3.87**	**237**		**Pn**	**01 53 14.1**	**-0.1**
SOEI	**Soe**	**3.87**	**237**	P	**Pn**	**01 53 14.2**	**+0.1**
SOEI	**Soe**	**3.87**	**237**	S	**Sn**	**01 54 00.1**	**0.0**
SOEI	**Soe**	**3.87**	**237**	P	**Pn**	**01 53 14.0**	**-0.1**
BATI	**Baumata**	**4.61**	**236**	P	**Pn**	**01 53 24.3**	**+0.6**
	138nm,0.5s,baz=133,slow=1.3,SNR=17						
BATI				S	**Sn**	**01 54 16.4**	**-0.9**
	105nm,0.4s,baz=72,slow=18,SNR=10						
BATI	**Baumata**	**4.61**	**236**	P	**Pn**	**01 53 23.8**	**+0.1**
DRS	**Darwin Rock St**	**5.81**	**146**	P	**Pn**	**01 53 38.6**	**-0.8**
EDFI	**Ende, Flores**	**5.90**	**259**	P	**Pn**	**01 53 41.7**	**+1.0**
MTN	**Manton Dam**	**6.28**	**146**	Pn	**Pn**	**01 53 44.5**	**-1.1**
MTN	**Manton Dam**	**6.28**	**146**	P	**Pn**	**01 53 44.6**	**-1.1**
FAKI	**Fak Fak**	**6.62**	**45**	Pn	**Pn**	**01 53 49.1**	**-1.1**
KDU	**Kakadu**	**6.99**	**136**	P	**Pn**	**01 53 53.8**	**-1.3**
KNRA	**Kununurra**	**8.09**	**172**	Pn	**Pn**	**01 54 07.4**	**-2.3**
PLAI	**Plampang**	**9.74**	**262**	P	**Pn**	**01 54 31.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.57**	**190**	Pn	**Pn**	**01 54 38.6**	**-3.9**
FITZ	**Fitzroy Crossi**	**10.57**	**190**	P	**Pn**	**01 54 38.9**	**-3.7**
	6.9nm,0.3s,baz=20,slow=10,SNR=56						
FITZ				S	Sn	01 56 29.4	-10
	6.5nm,0.3s,baz=261,slow=21,SNR=7.1						
WB0	**Warramunga Arr**	**13.78**	**152**	Pn	**Pn**	**01 55 20.9**	**-2.9**
WRAB	**Tennant Creek**	**13.90**	**152**	Pn	**Pn**	**01 55 24.3**	**-1.1**
WRA	**Warramunga Arr**	**13.90**	**152**	Pn	**Pn**	**01 55 22.2**	**-3.2**
WRA	**Warramunga Arr**	**13.90**	**152**	P	**Pn**	**01 55 22.1**	**-3.4**
	1.5nm,0.3s,baz=324,slow=14,SNR=30						
WRA				S	Sn	01 57 48.7	-11
	4.3nm,0.5s,baz=325,slow=24,SNR=10						
WR8	**Warramunga Arr**	**13.99**	**152**	Pn	**Pn**	**01 55 23.8**	**-2.7**
MBWA	**Marble Bar**	**15.43**	**208**	P	**Pn**	**01 55 44.4**	**+0.1**
MBWA	**Marble Bar**	**15.43**	**208**	P	**P**	**01 55 46.6**	**+1.3**
PSA00	**Pilbara Seismi**	**15.73**	**207**	P	**Pn**	**01 55 47.7**	**-0.3**
PSA00				IAmb	IAmb	01 55 47.9	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**17.08**	**160**	P	**Pn**	**01 56 04.2**	**-0.1**
AS31				IAmb	IAmb	01 56 07.2	
	comp=Z,2.5nm,0.7s						
ASAR	**Alice Springs**	**17.08**	**160**	P	**P**	**01 56 03.0**	**-0.5**
	comp=Z,24nm,0.7s,baz=342,slow=12,SNR=23						
AS01	**Alice Springs**	**17.09**	**160**	P	**Pn**	**01 56 05.4**	**+0.8**
QIS	**Mount Isa**	**17.37**	**139**	P	**Pn**	**01 56 08.0**	**+0.2**
MEEK	**Meekatharra**	**20.73**	**203**	P	Pn	01 56 45.4	-2.2
MORW	**Morawa**	**23.93**	**205**	P	**P**	**01 57 15.7**	**+1.4**
MORW				IAmb	IAmb	01 57 28.6	
	comp=Z,5.7nm,1.1s						
PETK	**Petropavlovsk-**	**65.70**	**19**		**P**	**02 02 42.3**	**+0.3**
MKAR	**Makanchi Array**	**67.44**	**328**	P	**P**	**02 02 52.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=125,slow=7.6,SNR=5.5						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**82.36**	**180**	P	**P**	**02 04 19.8**	**+1.1**

*IDC **05** 02:07:20.7±3.6, 17°.95N×103°.38W, h0km, mb3.5/4, mbtmp3.4/6, ML3.0/2, MS3.8/1, Error ellipse: s-maj=90.5km s-min=31.6km az=33.0*
*MEX **05** 02:07:25.7±0.8, 18°.10N×103°.39W, h4km±4km, MD4.3*
ISC 05 02:07:21.1±1.4, **17°.99N**±0°.04×**103°.42W**±0°.04, **h9**km±8km, **n69**, σ2§**41**/92, **mb3.5**/4, **Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.30**	**13**	*eP*	**Pg**	**02 07 29.0**	**+1.8**
MMIG				*eS*	**Sg**	**02 07 32.3**	**+1.1**
CDAR	**Ciudad de Arme**	**1.10**	**329**	*eP*	**Pn**	**02 07 43.0**	**+0.3**
CDAR				*i* S	**Sg**	**02 07 56.5**	**0.0**
COMA	**Comala**	**1.36**	**346**	*i* P	**Pb**	**02 07 46.5**	**-0.4**
COMA				*i* S	**Sb**	**02 08 02.6**	**-1.9**
CEGR	**Campo Tres**	**1.45**	**343**	*eP*	**Pn**	**02 07 47.4**	**-0.3**
CEGR				*eS*	**Sn**	**02 08 05.5**	**-1.6**
MNGA	**Volcan de Coli**	**1.48**	**353**	*eP*	**Pn**	**02 07 47.8**	**-0.4**
MNGA				*eS*	**Sn**	**02 08 05.9**	**-1.9**
INCO	**Volcan de Coli**	**1.54**	**353**	*eP*	**Pb**	**02 07 49.3**	**-0.8**
INCO				*eS*	**Sn**	**02 08 06.6**	**-2.9**
SOMAC	**Volcano de Col**	**1.54**	**353**	*eP*	**Pb**	**02 07 49.4**	**-0.7**
SOMAC				*eS*	**Sn**	**02 08 06.9**	**-2.6**
ZIIG	**Zihuatanejo**	**1.90**	**101**	*eP*	**Pn**	**02 07 52.1**	**-1.7**
ZIIG				*eS*	**Sb**	**02 08 18.8**	**-1.1**
PET2	**Petatlan**	**2.10**	**102**	*e*	**Sb**	**02 08 24.2**	**-1.5**
CJM	**Chamela**	**2.15**	**314**	*eP*	**Pg**	**02 08 02.1**	**-0.3**
CJM				*eS*	**Sg**	**02 08 29.6**	**-0.6**
MOIG	**Morelia**	**2.70**	**51**	*eP*	**Pn**	**02 08 03.8**	**-1.2**
MOIG				*eS*	**Sn**	**02 08 36.4**	**-1.5**
ARIG	**Puente Sto Nin**	**2.93**	**84**	*eP*	**Pn**	**02 08 07.5**	**-0.6**
ARIG				*eS*	**Sn**	**02 08 43.6**	**+0.1**
CAIG	**El Cayaco**	**3.15**	**107**	*eP*	**Pn**	**02 08 10.7**	**-0.3**
CAIG				*eS*	**Sb**	**02 08 52.1**	**-3.7**
ANIG	**Ahuacatlan**	**3.22**	**341**	*eP*	**Pn**	**02 08 12.0**	**0.0**
ANIG				*eS*	**Sn**	**02 08 52.5**	**+1.9**
TEJU	**Tejupilco**	**3.22**	**73**	*eP*	**Pb**	**02 08 15.8**	**-2.9**
TEJU				*eS*	**Sn**	**02 08 45.5**	**-5.2**
IGIG	**Irapuato, Guan**	**3.38**	**35**	*eP*	**Pn**	**02 08 13.6**	**-0.8**
IGIG				*eS*	**Sn**	**02 08 55.6**	**+0.9**
MEIG	**Mezcala**	**3.62**	**90**	*eP*	**Pb**	**02 08 21.4**	**-3.9**
MEIG				*eS*	**Sb**	**02 09 06.0**	**-3.4**
DAIG	**Los Arroyos**	**3.72**	**104**	*eP*	**Pn**	**02 08 17.8**	**-1.0**
DAIG				*eS*	**Sn**	**02 09 06.0**	**+3.1**
ATVM	**ATLACOMULCO**	**3.82**	**62**	*e*	**Pb**	**02 08 25.8**	**-3.1**
ATVM				*e*		02 09 11.7	
MAVM	**Malinalco, Edo**	**3.85**	**75**	*e*	**Pn**	**02 08 22.8**	**+2.1**
MAVM				*e*		02 09 14.4	
ACIG	**Acambay**	**3.89**	**59**	*e*	**Pb**	**02 08 28.0**	**-2.0**
ACIG				*e*		02 09 16.4	
JRQG	**Juriquilla Cam**	**3.89**	**46**	*eP*	**Pb**	**02 08 29.4**	**-0.7**
JRQG				*eS*	**Sb**	**02 09 13.2**	**-4.3**
INVM	**La Marquesa**	**4.04**	**71**	*e*	**Pn**	**02 08 25.1**	**+1.6**
INVM				*e*	**Sb**	**02 09 17.9**	**-4.0**
AAIG	**Aguscalientes**	**4.08**	**14**	*eP*	**Pn**	**02 08 25.2**	**+1.3**
AAIG				*eS*	**Sb**	**02 09 18.8**	**-4.0**
AOVM	**Tlapan**	**4.09**	**71**	*e*	**Pb**	**02 08 30.2**	**-3.3**
AOVM				*e*	**Sb**	**02 09 18.4**	**-4.9**
CJVM	**Cuajimalpa**	**4.15**	**70**	*e*	Pg	02 09 25.0	+44
YAIG	**Yautepec**	**4.22**	**77**	*eP*	**Pn**	**02 08 25.9**	**+0.1**
YAIG				*eS*	**Sn**	**02 09 17.9**	**+2.5**
TLVM	**San Miguel Top**	**4.22**	**73**	*e*	**Pb**	**02 08 36.3**	**+0.5**
TLVM				*e*	**Sb**	**02 09 25.7**	**-1.4**
UNM	**Universidad Na**	**4.23**	**71**	*eS*	**Sn**	**02 09 17.7**	**+1.8**
BJVM	**Benito Juarez**	**4.25**	**70**	*e*	Sn	02 09 25.1	+8.8
APVM	**Azcapotzalco**	**4.26**	**69**	*e*	**Sn**	**02 09 21.4**	**+4.9**
COVM	**Coyoacan**	**4.26**	**71**	*e*	Sn	02 09 26.4	+10
CRIG	**Cruz Grande**	**4.28**	**106**	*eP*	**Pn**	**02 08 26.4**	**-0.1**
CRIG				*eS*	**Sn**	**02 09 16.6**	**0.0**
MPVM	**San Francisco**	**4.35**	**73**	*e*	Pn	02 08 31.6	+3.9
MPVM				*e*		02 09 31.2	
PBVM	**Pinon**	**4.35**	**70**	*e*	**Pb**	**02 08 34.9**	**-3.0**
PBVM				*e*		02 09 26.9	
THVM	**De Xico**	**4.41**	**72**	*e*	**Pb**	**02 08 40.5**	**+1.5**
THVM				*e*		02 09 30.4	
ZUVM	**ZUMPANGO**	**4.50**	**65**	*e*	**Pb**	**02 08 39.8**	**-0.6**
ZUVM				*e*		02 09 34.9	
AMVM	**AMECAMECA**	**4.54**	**75**	*e*	**Pb**	**02 08 37.2**	**-4.0**
AMVM				*e*		02 09 36.7	
MGIG	**Malinaltepec**	**4.62**	**99**	*e*	**Pn**	**02 08 32.5**	**+1.1**
MGIG				*e*		02 09 38.5	
TLIG	**Tlapa**	**4.64**	**95**	*eP*	**Pn**	**02 08 31.9**	**+0.3**
TLIG				*eS*	**Sn**	**02 09 28.8**	**+3.0**
PPM	**Popocatepetl**	**4.67**	**76**	*eP*	Pb	02 08 38.7	-4.9
PPM				*eS*	**Sn**	**02 09 30.9**	**+3.9**
DEIG	**Demacu**	**4.74**	**60**	*eP*	**Pn**	**02 08 33.7**	**-0.7**
DEIG				*eS*	**Sn**	**02 09 25.4**	**-2.8**
VTVM	**Tizayuca**	**4.74**	**67**	*e*	Pn	02 08 37.2	+4.1
VTVM				*e*		02 09 36.8	
ZAIG	**Zacatecas**	**4.82**	**9**	*eP*	**Pn**	**02 08 34.8**	**+0.6**
ZAIG				*eS*	**Sn**	**02 09 30.7**	**+0.4**
RPIG	**Rio Verde**	**5.04**	**39**	*eP*	Pn	02 08 41.2	+4.1
RPIG				*eS*	**Sn**	**02 09 37.0**	**+1.4**
PNIG	**Pinotepa**	**5.30**	**107**	*eP*	**Pn**	**02 08 40.4**	**-0.2**
PNIG				*eS*	**Sn**	**02 09 45.2**	**+3.3**
HLIG	**Huajuapan de L**	**5.35**	**91**	*eP*	**Pn**	**02 08 42.0**	**+0.6**
HLIG				*eS*	**Sn**	**02 09 36.6**	**-6.7**
TXIG	**Tlaxiaco**	**5.44**	**97**	*eP*	**Pn**	**02 08 43.0**	**+0.3**
TXIG				*eS*	**Sn**	**02 09 48.5**	**+2.9**
YOIG	**Yosondua**	**5.72**	**101**	*eP*	**Pn**	**02 08 47.5**	**+1.0**
YOIG				*e*		02 09 47.3	
TPIG	**Tehuac#an**	**5.77**	**85**	*eP*	**Pn**	**02 08 50.0**	**+2.8**
TPIG				*eS*	**Sn**	**02 09 55.9**	**+2.1**
CTUV	**Llano Grande**	**5.89**	**53**	*eP*	**Pn**	**02 08 51.5**	**+2.8**
CTUV				*eS*	Sb	02 10 03.5	-11
POHV	**Veracruz**	**5.92**	**79**	*eS*	**Sn**	**02 10 01.6**	**+3.8**
CXUV	**Coxquihui**	**5.92**	**68**	*eP*	**Pn**	**02 08 51.9**	**+2.7**
CXUV				*eS*	**Sn**	**02 10 02.7**	**+5.5**
TOIG	**Toxpalan**	**6.05**	**88**	*eP*	**Pn**	**02 08 52.5**	**+1.6**
TOIG				*eS*	**Sn**	**02 10 00.9**	**+0.5**
PEIG	**Puerto Escondi**	**6.32**	**107**	*eP*	**Pn**	**02 08 52.9**	**-1.7**
PEIG				*e*		02 10 15.9	
JAUV	**Jalcomulco**	**6.42**	**77**	*eS*	**Sn**	**02 10 12.1**	**+2.7**
GTIG	**Gomez Farias**	**6.43**	**38**	*eP*	**Pn**	**02 08 57.2**	**+1.1**
GTIG				*e*		02 10 18.1	
H06E1	**SOCORRO T-PHAS**	**7.17**	**277**	T	T	02 16 33.6	
LNIG	**Linares**	**7.79**	**27**	*eP*	**Pn**	**02 09 15.9**	**+1.1**
LNIG				*e*		02 10 48.1	
CMIG	**Matias Romero**	**8.19**	**95**	Pn	**Pn**	**02 09 21.4**	**+1.1**
	0.2nm,0.3s,baz=291,slow=10,SNR=3.6						
	0.8nm,0.3s						
TXAR	**Lajitas Array**	**11.29**	**359**	Pn	**Pn**	**02 10 05.6**	**+2.7**
	baz=180,slow=16,SNR=7.2						
	1.1nm,0.9s						
ANMO	**Albuquerque**	**17.10**	**351**	LR	LR	02 18 21.1	
	comp=Z,299nm,18.5s,baz=107,slow=38						
NVAR	**Mina Array Bea**	**24.16**	**330**	P	**P**	**02 12 40.0**	**+2.0**
	0.3nm,0.5s,baz=150,slow=11,SNR=4.9						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**25.24**	**349**	P	**P**	**02 12 49.1**	**+1.4**
	0.2nm,0.4s,baz=156,slow=7.7,SNR=2.4						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**55.01**	**339

MEEK	**Meekatharra**	**8.31**	**191**	S	Sn	03 01 59.0	-4.5
WRKA	**Warakurna**	**9.84**	**133**	P	Pn	03 00 50.1	-0.5
WRKA				S	Sn	03 02 35.4	-5.8
WC1	**Warramunga Arr**	**13.26**	**99**	P	Pn	03 01 35.1	-2.2

*SOME **05** 03:05:06.3, 41.72N × 77.60E, h10km*
*NNC **05** 03:05:07.7±1.2, 41.73N × 77.58E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=9.4km s-min=4.9km az=170.0*
*KRNET **05** 03:05:07.5±0.1, 41.73N × 77.63E, h20km, mb3.0*

ISC 05 03:05:07.7±1.2, 41°73'N±0'05 × 77°61'E±0'04, h10km, n25, σ1°29/45, 11C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.52**	**321**	⇑*i*P	**Pg**	**03 05 17.1**	**-0.7**
KDJ				⇑*i*S	**Sg**	**03 05 24.1**	**-0.5**
ULHL	**Ulahol**	**1.15**	**297**	⇓*i*P	**Pb**	**03 05 28.3**	**-1.4**
ULHL				⇓*i*S	**Sb**	**03 05 44.1**	**-0.7**
TNSS	**Tian-Shan** 2.3nm,0.2s	**1.40**	**340**	P	**Pb**	**03 05 33.2**	**-0.9**
TNSS				S	**Sg**	**03 05 53.1**	**+0.3**
TNSS	**Tian-Shan** 2.3nm,0.2s	**1.40**	**340**	*e*P	**Pb**	**03 05 33.2**	**-0.9**
TNSS				*e*S	**Sg**	**03 05 52.9**	**+0.2**
SATY	**Saty** 2.6nm,0.2s	**1.45**	**24**	P	**Pb**	**03 05 33.7**	**-1.2**
SATY				S	**Sg**	**03 05 53.7**	**-0.7**
JNKS	**Jany-Kuch**	**1.62**	**246**	⇓*e*P	**Pg**	**03 05 37.9**	**-0.9**
JNKS				⇓*e*S	**Sg**	**03 05 59.5**	**-0.3**
UZB	**Uzyndulak** 1.6nm,0.2s	**1.76**	**36**	P	**Pb**	**03 05 39.3**	**-0.9**
UZB				S	**Sg**	**03 06 03.4**	**-0.9**
UZB	**Uzyndulak** 1.6nm,0.2s	**1.76**	**36**	*e*P	**Pb**	**03 05 39.3**	**-0.9**
UZB				*e*S	**Sg**	**03 06 03.4**	**-0.9**
KURS	**Kuram** 2.3nm,0.2s	**1.81**	**13**	P	**Pg**	**03 05 41.1**	**-1.2**
KURS				S	**Sg**	**03 06 06.2**	**+0.5**
TKM2	**Tokmak 2**	**1.91**	**309**	⇑*i*P	**Pb**	**03 05 41.9**	**-0.9**
TKM2				⇑*i*S	**Sb**	**03 06 06.6**	**-0.2**
DGS	**Degeres** 1.9nm,0.3s	**2.04**	**319**	Pg	**Pb**	**03 05 44.2**	**-0.6**
DGS				Lg	Lg	03 06 11.6	
PDGK	**Podgornoye** 1.1nm,0.2s	**2.12**	**40**	⇓Pn	**Pb**	**03 05 45.5**	**-0.7**
PDGK				⇑Lg	Lg	03 06 13.9	
KBK	**Karagaybulak**	**2.19**	**296**	⇑*i*P	**Pb**	**03 05 45.4**	**-2.1**
KBK				⇑*i*S	**Sb**	**03 06 13.6**	**-1.1**
KUU	**Kurty** 1.3nm,0.2s	**2.36**	**337**	Pg	**Pb**	**03 05 49.8**	**-0.5**
KUU				Lg	Lg	03 06 21.2	
AAK	**Ala-Archa** 2.0nm,0.5s	**2.49**	**292**	⇓Pg	**Pb**	**03 05 52.2**	**-0.4**
AAK				⇓Lg	Lg	03 06 25.0	
KUU	**Kurty** 1.3nm,0.2s	**2.36**	**337**	*e*P	**Pb**	**03 05 49.8**	**-0.5**
KUU				*e*S	**Sb**	**03 06 21.2**	**+1.8**
CHMS	**Chumysh**	**2.47**	**302**	⇓*i*P	**Pn**	**03 05 49.3**	**+1.2**
CHMS				⇓*i*S	**Sn**	**03 06 19.9**	**+1.6**
ARXS	**Arharly**	**2.49**	**4**	*e*P	**Pb**	**03 05 51.9**	**-0.7**
ARXS				*e*S	**Sb**	**03 06 24.5**	**+1.3**
AAK	**Ala-Archa** 2.0nm,0.5s	**2.49**	**292**	⇓Pg	**Pb**	**03 05 52.2**	**-0.4**
AAK				⇓Lg	Lg	03 06 25.0	
AAK	**Ala-Archa**	**2.49**	**292**	⇑*i*P	**Pn**	**03 05 49.7**	**+1.3**
AAK				⇑*i*S	**Sn**	**03 06 20.7**	**+1.7**
USP	**Ospenovka**	**2.77**	**305**	⇑*i*P	**Pn**	**03 05 53.6**	**+1.4**
USP				⇑*i*S	**Sn**	**03 06 27.0**	**+1.3**
MRKS	**Merke** 1.1nm,0.2s	**3.41**	**289**	Pg	**Pb**	**03 06 09.5**	**+1.2**
MRKS				Lg	Lg	03 06 55.1	
MRKS	**Merke** 1.1nm,0.2s	**3.41**	**289**	*e*P	**Pb**	**03 06 09.5**	**+1.2**
MRKS				*e*S	**Sg**	**03 06 55.1**	**-2.2**
BTLS	**Baital** 0.6nm,0.1s	**4.21**	**323**	*e*P	**Pb**	**03 06 23.3**	**+1.5**
BTLS				*e*S	**Sg**	**03 07 18.3**	**-4.5**

*NEIC **05** 03:18:42.6±1.5, 17.7S±0.2 × 178.7W±0.2, h576km±10km, mb4.1/59, Error ellipse: s-maj=31.8km s-min=11.0km az=136.0*
*IDC **05** 03:18:42.8±5.2, 17.81S × 178.61W, h584km±63km, mb3.6/8, mbtmp4.5/9, Error ellipse: s-maj=35.6km s-min=23.3km az=142.0*

ISC 05 03:18:43.7±0.7, 17°95S±0'2 × 178°6W±0'1, h600km, n78, σ0°55/76, mb4.1/36, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.16**	**272**		**P**	**03 20 03.0**	**-0.9**
FUTU	**Fugatoga**	**3.58**	**8**	P	**P**	03 20 00.0	-6.5
SANVU	**Saraoutou**	**13.78**	**278**	P	**P**	**03 21 40.0**	**-0.5**
DZM	**Mont Dzumac** 7.8nm,0.6s,baz=87,slow=19,SNR=7.5	**14.63**	**251**	P	**P**	**03 21 47.7**	**-0.9**
EIDS	**Eidsvold**	**29.07**	**250**	P	**P**	**03 23 57.9**	**+0.3**
EIDS				IAmb	IAmb	03 23 58.7	
	comp=Z,7.8nm,0.9s						
ARMA	**Armidale**	**29.77**	**240**	P	**P**	**03 24 04.2**	**+0.6**
CTAO	**Charters Tower**	**33.23**	**260**	P	**P**	**03 24 33.3**	**+0.2**
CAN	**Canberra**	**33.55**	**232**	P	**P**	**03 24 35.7**	**+0.1**
CAN				IAmb	IAmb	03 24 36.7	
	comp=Z,5.7nm,0.7s						
COEN	**Coen**	**36.88**	**270**	P	**P**	**03 25 04.5**	**+1.2**
TOO	**Toolangi**	**37.02**	**231**	P	**P**	**03 25 04.9**	**+0.7**
TOO				IAmb	IAmb	03 25 05.5	
	comp=Z,5.7nm,0.8s						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 25 16.6**	**+0.8**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 25 16.8**	**+0.9**
	comp=Z,10nm,0.7s,baz=92,slow=10,SNR=16						
	comp=Z,10nm,0.7s						
BBOO	**Buckleboo**	**43.23**	**241**	P	**P**	**03 25 53.7**	**+0.1**
HMH	**Humu'ula Sheep**	**43.63**	**32**	P	**P**	**03 25 56.8**	**-0.3**
WR8	**Warramunga Arr**	**44.27**	**260**	P	**P**	**03 26 01.5**	**-0.3**
WR8				IAmb	IAmb	03 26 05.3	
	comp=Z,4.3nm,0.5s						
WB0	**Warramunga Arr**	**44.39**	**260**	P	**P**	**03 26 02.2**	**-0.5**
WRAB	**Tennant Creek**	**44.41**	**260**	P	**P**	**03 26 02.2**	**-0.7**
WRAB				IAmb	IAmb	03 26 03.4	
	comp=Z,6.3nm,0.6s						
WRA	**Warramunga Arr**	**44.42**	**260**	P	**P**	**03 26 01.8**	**-1.2**
WRA	**Warramunga Arr**	**44.42**	**260**	P	**P**	**03 26 02.6**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=92,slow=7.2,SNR=147						
	comp=Z,8.2nm,0.6s						
AS31	**Alice Springs**	**44.59**	**254**	P	**P**	**03 26 04.3**	**+0.1**
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**03 26 05.0**	**+0.7**
	comp=Z,42nm,0.6s,baz=80,slow=9.0,SNR=5.3						
	comp=Z,42nm,0.6s						
MTN	**Manton Dam**	**48.58**	**268**	P	**P**	**03 26 33.9**	**-0.4**
FORT	**Forrest**	**49.82**	**245**	P	**P**	**03 26 42.8**	**-0.4**
FORT				IAmb	IAmb	03 26 43.5	
	comp=Z,6.3nm,0.7s						
KNRA	**Kununurra**	**50.27**	**264**	P	**P**	**03 26 46.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.82**	**261**	P	**P**	**03 27 05.4**	**+0.5**
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**03 27 38.3**	**-0.5**
PSA00				IAmb	IAmb	03 27 39.3	
	comp=Z,5.5nm,0.9s						
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**03 27 38.5**	**-0.2**
PSA00				IAmb	IAmb	03 27 39.3	
	comp=Z,11nm,0.8s						
MBWA	**Marble Bar**	**57.87**	**256**	P	**P**	**03 27 39.7**	**-0.1**
MBWA				IAmb	IAmb	03 27 55.6	
	comp=Z,11nm,1.1s						
MORW	**Morawa**	**60.29**	**246**	P	**P**	**03 27 55.8**	**-0.2**
MORW				IAmb	IAmb	03 27 57.4	
	comp=Z,6.5nm,0.9s						
GIRL	**Giralia**	**62.69**	**253**	P	**P**	**03 28 12.5**	**+0.9**
UGM	**Wanagama**	**69.43**	**268**	P	**P**	**03 28 53.9**	**+0.4**
QSPA	**South Pole Qui**	**72.18**	**180**	P	**P**	**03 29 08.7**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=97,slow=2.9,SNR=4.4						
	comp=Z,2.0nm,0.9s						
MWC	**Mount Wilson**	**77.48**	**48**	P	**P**	**03 29 38.9**	**0.0**
MWC				IAmb	IAmb	03 29 51.0	
	comp=Z,6.7nm,1.1s						
CBX	**Cerro Bola**	**77.49**	**50**	P	**P**	**03 29 39.1**	**+0.2**
CBX				IAmb	IAmb	03 29 56.6	
	comp=Z,6.4nm,1.2s						
BFSC	**Mount Baldy Ra**	**77.77**	**48**	P	**P**	**03 29 40.4**	**0.0**
O16K	**Kokwok River B**	**78.99**	**10**	P	**P**	**03 29 44.7**	**-1.4**
BEKR	**Beckworth**	**79.01**	**42**	P	**P**	**03 29 46.9**	**0.0**
L04D	**Klamath Falls**	**79.17**	**39**	P	**P**	**03 29 48.0**	**+0.3**
L04D				IAmb	IAmb	03 30 02.6	
	comp=Z,8.9nm,1.1s						
DSP	**Deep Springs**	**79.20**	**45**	P	**P**	**03 29 47.7**	**0.0**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**03 29 50.5**	**+0.6**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**03 29 50.0**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=224,slow=8.9,SNR=17						
	comp=Z,1.4nm,0.7s						
O18K	**Koktuh Hills**	**79.76**	**12**	P	**P**	**03 29 49.6**	**-0.6**
O18K				IAmb	IAmb	03 29 50.9	
	comp=Z,10nm,1.0s						
M16K	**Timber Creek**	**80.20**	**10**	P	**P**	**03 29 53.0**	**+0.6**
M16K				IAmb	IAmb	03 30 15.3	
	comp=Z,8.6nm,1.1s						
J05D	**Fort Rock, OR**	**80.43**	**39**	P	**P**	**03 29 54.7**	**+0.5**
J05D				IAmb	IAmb	03 29 55.3	
	comp=Z,6.1nm,0.6s						
M17K	**Holitna River**	**80.80**	**10**	P	**P**	**03 29 56.2**	**+0.7**
PINE	**Pine Mountain**	**80.90**	**38**	P	**P**	**03 29 57.2**	**+0.5**
PINE				IAmb	IAmb	03 29 58.3	
	comp=Z,5.4nm,0.9s						
K15K	**Wolf Creek Mou**	**81.04**	**8**	P	**P**	**03 29 57.3**	**+0.6**
K15K				IAmb	IAmb	03 29 58.5	
	comp=Z,7.2nm,1.0s						
PRN	**Pahroc Range**	**81.21**	**46**	P	**P**	**03 29 58.2**	**-0.2**
PRN				IAmb	IAmb	03 29 59.9	
	comp=Z,3.1nm,0.9s						
NLWA	**Neilton Lookou**	**81.40**	**34**	P	**P**	**03 29 59.6**	**+0.6**
NLWA				IAmb	IAmb	03 30 14.5	
	comp=Z,3.8nm,1.1s						
SLKM	**Skilak Lake**	**81.41**	**14**	P	**P**	**03 29 58.2**	**-0.5**
WVOR	**Wild Horse Val**	**81.52**	**40**	P	**P**	**03 29 59.5**	**-0.3**
WVOR				IAmb	IAmb	03 30 01.0	
	comp=Z,3.7nm,0.9s						
L18K	**Granite Mounta**	**81.70**	**10**	P	**P**	**03 30 00.5**	**+0.4**
SUA	**Susitna One**	**82.15**	**13**	P	**P**	**03 30 02.0**	**-0.5**
SUA				IAmb	IAmb	03 30 19.3	
	comp=Z,9.4nm,1.0s						
J17K	**VABM Dome**	**82.43**	**9**	P	**P**	**03 30 03.6**	**-0.1**
J17K				IAmb	IAmb	03 30 26.3	
	comp=Z,11nm,1.1s						
GHO	**Glory Hole Cre**	**82.82**	**14**	P	**P**	**03 30 05.2**	**-0.6**
GHO				IAmb	IAmb	03 30 06.5	
	comp=Z,7.9nm,1.0s						
J18K	**Innoko River**	**82.86**	**10**	P	**P**	**03 30 05.8**	**-0.1**
G08A	**Pilot Rock**	**82.92**	**38**	P	**P**	**03 30 07.0**	**+0.2**
K20K	**Telida**	**83.21**	**11**	P	**P**	**03 30 07.1**	**-0.6**
N25K	**Chitina, Valde**	**83.72**	**16**	P	**P**	**03 30 10.2**	**-0.2**
N25K				IAmb	IAmb	03 30 10.9	
	comp=Z,2.7nm,0.7s						
TRF	**Thorofare Moun**	**84.02**	**12**	P	**P**	**03 30 11.2**	**-0.6**
TRF				IAmb	IAmb	03 30 12.4	
	comp=Z,5.7nm,0.9s						
Q32M	**Nakina River**	**85.43**	**22**	P	**P**	**03 30 19.2**	**+0.4**
CCB	**Clear Creek Bu**	**85.60**	**13**	P	**P**	**03 30 18.1**	**-1.1**
CCB				IAmb	IAmb	03 30 18.6	
	comp=Z,1.8nm,0.6s						
VHRN	**Van Horn**	**85.68**	**56**	P	**P**	**03 30 20.6**	**0.0**
IMAR	**Indian Mountai**	**85.68**	**10**	P	**P**	**03 30 19.4**	**-0.3**
ILAR	**Eielson Array**	**85.90**	**13**	P	**P**	**03 30 19.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=222,slow=4.6,SNR=13						
	comp=Z,0.5nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.16**	**58**	P	**P**	**03 30 22.9**	**0.0**
TX31				IAmb	IAmb	03 30 24.9	
	comp=Z,2.9nm,0.9s						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**03 30 23.8**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=220,slow=6.3,SNR=23						
	comp=Z,1.8nm,0.8s						
G21K	**Allakaket**	**86.21**	**10**	P	**P**	**03 30 21.6**	**-0.5**
MSO	**Missoula**	**86.69**	**38**	P	**P**	**03 30 25.4**	**+0.4**
OVMT	**Ovando**	**87.37**	**39**	P	**P**	**03 30 27.8**	**-0.4**
PD31	**Pinedale Array**	**87.48**	**44**	P	**P**	**03 30 28.5**	**-0.4**
PD31				IAmb	IAmb	03 30 29.5	
	comp=Z,1.6nm,0.7s						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**03 30 28.6**	**-0.3**
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**03 30 28.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=223,slow=2.8,SNR=13						
	comp=Z,1.1nm,0.6s						
D22K	**Ayikyak River**	**88.51**	**9**	P	**P**	**03 30 32.7**	**-0.2**
D22K				IAmb	IAmb	03 30 51.9	
	comp=Z,5.7nm,1.1s						
BMAR	**Burnt Mountain**	**88.67**	**12**	P	**P**	**03 30 34.0**	**+0.3**
BRTR	**Keskin Array B**	**144.60**	**315**	PKPbc	**PKPab**	**03 37 14.4**	**0.0**
BRTR	**Keskin Array B**	**144.60**	**315**	PKP	PKPbc	03 37 13.7	0.0
	comp=Z,0.9nm,0.9s,baz=90,slow=2.9,SNR=3.8						
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	**PKPbc**	**03 37 21.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=36,slow=3.7,SNR=3.4						

CATAC 05 03:30:29.6±0.4, 15°N±2' × 8°6W±', h0km, M3.3/7, MLv3.3/7, Error ellipse: s-maj=5.4km s-min=2.9km az=29.4, confirmed, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUSH	**Yuscaran**	**1.29**	**209**	P	Pg	03 30 53.6	-0.6
YUSH	**Yuscaran**	**1.29**	**209**	S	Sg	03 31 09.8	-1.2
TGUH	**Tegucigalpa,Un**	**1.46**	**226**	P	Pn	03 30 55.6	-1.7
TGUH				S	Sg	03 31 15.5	-1.0
RCVN	**Varillal2**	**1.49**	**180**	P	Pn	03 30 56.8	-0.9
RCVN	**Varillal2**	**1.49**	**180**	S	Sg	03 31 17.1	-0.4
RCPN	**Sur Rio San Ju**	**1.55**	**176**	P	Pn	03 30 56.8	-1.8
RCPN	**Sur Rio San Ju**	**1.55**	**176**	S	Sn	03 31 18.7	-0.7
CHOHN	**Orocuina**	**1.85**	**210**	P	Pn	03 31 02.9	+0.3
CHOHN	**Orocuina**	**1.85**	**210**	S	Sb	03 31 28.3	+0.4
SIUN	**Universidad Ur**	**1.94**	**134**	P	Pb	03 31 05.0	-0.7
SIUN				S	Sg	03 31 31.5	-0.3
MATN	**Matagalpa**	**2.16**	**173**	S	Sb	03 31 36.0	-0.9
MATN	**Matagalpa**	**2.16**	**173**	P	Pn	03 31 06.5	-0.4
POTN	**Potosi Cosigui**	**2.43**	**212**	P	Pn	03 31 09.7	-0.8
POLN	**Al Sur del Vol**	**2.49**	**194**	S	Sb	03 31 46.6	+0.1
SARH	**Santa Rosa de**	**2.50**	**263**	P	Pn	03 31 11.8	+0.3
SARH	**Santa Rosa de**	**2.50**	**263**	S	Sb	03 31 46.1	-0.6
BOAB	**BOACO BROADBAN**	**2.67**	**169**	S	Sb	03 31 50.6	-0.9
BOAB	**BOACO BROADBAN**	**2.67**	**169**	P	Pn	03 31 13.2	-0.6
BILN	**Bilwi Airport**	**2.92**	**110**	S	Sn	03 31 54.2	+1.2
ESPN	**Las Esperanzas**	**3.41**	**147**	P	Pn	03 31 21.2	-2.8
ESPN	**Las Esperanzas**	**3.41**	**147**	Sg	Sg	03 32 19.8	+0.5

*NEIC **05** 03:32:20.9±2.3, 22.1S±0.1 × 178.9W±0.1, h442km±6km, mb4.7/145, Error ellipse: s-maj=17.5km s-min=14.7km az=130.0*
*IDC **05** 03:32:20.7±0.8, 22.01S × 179.00W, h438km±7km, mb3.9/17, mbtmp4.7/19, Error ellipse: s-maj=13.5km s-min=10.3km az=117.0*
*NOU **05** 03:32:21.0, 22.14S × 178.80W, h442km, mb4.9/21, South of Fiji Islands*

ISC 05 03:32:21.0±0.3, 22°12S±0'05 × 178°85W±0'07, h450km, n603, σ0°91/558, mb4.7/94, 38C-30D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.87**	**0**	P	**P**	**03 33 34.8**	**-0.3**
LKBA	**Tubou, Lakemba**	**3.87**	**0**	S	**S**	**03 34 34.8**	**-0.5**
MSVF	**Nonsavu**	**5.25**	**326**		**P**	**03 33 47.9**	**-0.2**
MSVF	**Nonsavu**	**5.25**	**326**	P	**P**	**03 33 48.1**	**+0.1**
TAVE	**Taveuni**	**5.47**	**349**	P	**P**	**03 33 50.4**	**+0.2**
DGTI	**Dogotuki**	**5.94**	**347**	P	**P**	**03 33 54.8**	**-0.1**
YSA	**Yasawairara**	**6.36**	**327**	P	**P**	**03 33 59.5**	**+0.3**
RIZ	**Raoul Island**	**7.14**	**174**	P	**P**	**03 34 06.4**	**-0.8**
RIZ				S	**S**	**03 35 34.3**	**+0.1**
RAO	**Raoul Island**	**7.15**	**173**	P	**P**	**03 34 06.0**	**-1.2**
RAO	**Raoul Island**	**7.15**	**173**	S	**S**	**03 35 32.4**	**-1.9**
	638nm,0.3s,baz=52,slow=23,SNR=6.5						
GLKZ	**Green Lake**	**7.16**	**174**	P	**P**	**03 34 04.6**	**-2.8**
GLKZ				S	**S**	**03 35 34.1**	**-0.4**
NIUE	**Niue**	**8.88**	**72**	P	**P**	**03 34 26.8**	**+0.7**
PINNC	**Pines Island,**	**12.70**	**265**	P	**P**	**03 35 08.6**	**+1.2**
DZM	**Mont Dzumac** 16nm,0.9s,baz=100,slow=16,SNR=9.3	**13.64**	**267**	P	**P**	**03 35 17.1**	**-0.7**
OUZ	**Omahuta**	**14.63**	**205**	P	**P**	**03 35 30.2**	**+2.1**
WCZ	**Waipu Caves**	**15.00**	**202**	P	**P**	**03 35 34.2**	**+2.2**
MXZ	**Matakaoa Point**	**15.59**	**188**	P	**P**	**03 35 38.2**	**-0.1**
HAZ	**Te Kaha**	**15.85**	**190**	P	**P**	**03 35 40.1**	**-1.0**
URZ	**Urewera** 14nm,0.4s,baz=262,slow=4.5,SNR=13	**16.46**	**191**	P	**P**	**03 35 47.3**	**-0.1**
URZ				S	**S**	**03 38 39.6**	**+1.5**
	29nm,0.6s,baz=50,slow=17,SNR=10						
URZ	**Urewera**	**16.46**	**191**	P	**P**	**03 35 47.7**	**+0.2**
URZ	**Urewera**	**16.46**	**191**	S	**S**	**03 38 39.3**	**+1.2**
URZ	**Urewera**	**16.46**	**191**	P	**P**	**03 35 46.2**	**-1.2**
MWZ	**Matawai**	**16.46**	**190**	P	**P**	**03 35 46.1**	**-1.4**
VRZ	**Vera Road**	**17.81**	**196**	P	**P**	**03 36 03.9**	**+2.2**
PXZ	**Pawanui**	**18.23**	**191**	P	**P**	**03 36 06.0**	**+0.2**
MRZ	**Mangatainoka R**	**19.08**	**193**	P	**P**	**03 36 12.3**	**-1.5**
QRZ	**Quartz Range**	**20.03**	**199**	P	**P**	**03 36 22.5**	**0.0**
QRZ	**Quartz Range**	**20.03**	**199**	P	**P**	**03 36 22.9**	**+0.4**
QRZ	**Quartz Range**	**20.03**	**199**	P	**P**	**03 36 22.5**	**0.0**
NNZ	**Nelson**	**20.14**	**197**	P	**P**	**03 36 21.6**	**-2.0**
THZ	**Tophouse**	**20.78**	**198**	P	**P**	**03 36 29.0**	**-0.4**
DSZ	**Denniston Nort**	**21.09**	**200**	P	**P**	**03 36 33.0**	**+0.7**
KHZ	**Kahutara**	**21.22**	**196**	P	**P**	**03 36 31.5**	**-1.8**
KHZ				IAmb	IAmb	03 37 02.5	
	comp=Z,26nm,0.9s						
KHZ	**Kahutara**	**21.22**	**196**	P	**P**	**03 36 33.6**	**+0.3**
KHZ	**Kahutara**	**21.22**	**196**	P	**P**	**03 36 32.4**	**-1.0**
GVZ	**Greta Valley S**	**21.87**	**196**	P	**P**	**03 36 38.9**	**-0.3**
LTZ	**Lake Taylor**	**21.90**	**198**	P	**P**	**03 36 38.6**	**-1.0**
OXZ	**Oxford**	**22.47**	**198**	P	**P**	**03 36 45.5**	**+0.8**
OXZ				IAmb	IAmb	03 36 45.5	
	comp=Z,32nm,0.8s						
OXZ	**Oxford**	**22.47**	**198**	P	**P**	**03 36 45.6**	**+1.0**
WVZ	**Waitaha Valley**	**22.63**	**200**	P	**P**	**03 36 45.7**	**-0.4**
MQZ	**McQueen's Vall**	**22.66**	**196**	P	**P**	**03 36 45.4**	**-0.9**
RPZ	**Rata Peaks**	**23.11**	**199**	P	**P**	**03 36 50.7**	**+0.3**
FOZ	**Fox Glacier**	**23.34**	**201**	P	**P**	**03 36 51.7**	**-0.8**
TMZ	**Timaru**	**23.73**	**198**	P	**P**	**03 36 57.3**	**+1.3**
ALEG	**Aligegeo Malai**	**23.74**	**301**	P	**P**	**03 36 56.8**	**+0.4**
JCZ	**Jackson Bay**	**24.17**	**202**	P	**P**	**03 36 59.8**	**-0.2**
MLZ	**Mavora Lakes**	**25.53**	**202**	P	**P**	**03 37 13.6**	**+1.5**
WHZ	**Wether Hill Ro**	**26.05**	**201**	P	**P**	**03 37 17.0**	**+0.4**
ARMA	**Armidale**	**27.68**	**246**	P	**P**	**03 37 32.0**	**+0.7**
EIDS	**Eidsvold**	**27.69**	**257**	P	**P**	**03 37 31.4**	**0.0**
EIDS				IAmb	IAmb	03 37 32.2	
	comp=Z,13nm,0.7s						
EIDS	**Eidsvold**	**27.69**	**257**	P	**P**	**03 37 32.0**	**+0.6**
CAN	**Canberra**	**30.97**	**238**	P	**P**	**03 38 00.2**	**+0.2**
CTAO	**Charters Tower**	**32.58**	**267**	P	**P**	**03 38 13.9**	**0.0**
CTAO	**Charters Tower**	**32.58**	**267**	P	**P**	**03 38 14.3**	**+0.4**
CMSA	**Cobar Meteorol**	**32.89**	**246**	P	**P**	**03 38 16.5**	**+0.1**
QLP	**Quilpie**	**33.85**	**255**	P	**P**	**03 38 25.2**	**+0.6**
TOO	**Toolangi**	**34.32**	**235**	P	**P**	**03 38 28.1**	**-0.4**
MTSU	**Mount Surprise**	**34.76**	**270**	P	**P**	**03 38 33.6**	**+1.2**
PMG	**Port Moresby**	**34.98**	**286**	P	**P**	**03 38 35.2**	**+0.9**
PMG	**Port Moresby**	**34.98**	**286**	P	**P**	**03 38 35.6**	**+1.3**
KAVG	**Kavieng**	**35.30**	**299**	P	**P**	**03 38 37.9**	**+1.0**
BRAT	**Ballarat**	**35.51**	**236**	P	**P**	**03 38 39.1**	**+0.7**
STKA	**Stephens Creek**	**36.39**	**246**	P	**P**	**03 38 45.6**	**-0.2**
STKA				IAmb	IAmb	03 38 46.3	
	comp=Z,34nm,0.6s						
STKA	**Stephens Creek**	**36.39**	**246**	P	**P**	**03 38 45.8**	**-0.2**
	comp=Z,8.2nm,0.7s,baz=92,slow=10,SNR=15						
	comp=Z,8.2nm,0.7s						
STKA	**Stephens Creek**	**36.39**	**246**	P	**P**	**03 38 46.1**	**+0.2**
COEN	**Coen**	**36.93**	**276**	P	**P**	**03 38 51.4**	**+0.8**
COEN				IAmb	IAmb	03 38 51.8	
	comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**41.14**	**245**	P	**P**	**03 39 23.7**	**-0.9**
AS31	**Alice Springs**	**43.40**	**258**	P	**P**	**03 39 42.1**	**-0.6**
ASAR	**Alice Springs**	**43.40**	**258**	P	**P**	**03 39 42.0**	**-0.7**
	comp=Z,26nm,0.6s,baz=85,slow=8.3,SNR=4.7						
	comp=Z,26nm,0.6s						
WR8	**Warramunga Arr**	**43.47**	**264**	P	**P**	**03 39 42.0**	**-1.2**
WB0	**Warramunga Arr**	**43.61**	**264**	P	**P**	**03 39 43.2**	**-1.1**
WB0				IAmb	IAmb	03 39 43.8	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**43.61**	**264**	P	**P**	**03 39 43.1**	**-1.3**
WRAB				IAmb	IAmb	03 39 43.8	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**43.62**	**264**	P	**P**	**03 39 42.6**	**-1.8**
WRA	**Warramunga Arr**	**43.62**	**264**	P	**P**	**03 39 43.2**	**-1.2**
	comp=Z,14nm,0.7s,baz=99,slow=5.6,SNR=86						
	comp=Z,14nm,0.7s						
FORT	**Forrest**	**47.95**	**248**	P	**P**	**03 40 16.5**	**-1.0**
FORT				IAmb	IAmb	03 40 17.2	
	comp=Z,14nm,0.8s						
MTN	**Manton Dam**	**48.41**

	baz=198						
USRK	Ussuriysk Ar.	79.86	326	P	P	03 43 42.1	+0.5
USRK	Ussuriysk Ar.	79.86	326	P	P	03 43 42.5	+0.9
	comp=Z,6.7nm,0.9s,baz=135,slow=4.8,SNR=9.8						
	comp=Z,6.7nm,0.9s						
CHGN	Chignik	80.01	11	P	P	03 43 42.1	+0.1
CHGN	Chignik	80.01	11	P	P	03 43 42.0	0.0
	baz=199						
CHIR	Chirikof Islan	80.10	13	P	P	03 43 42.4	-0.2
	baz=202						
NJ2	Nanjing	80.31	310	*e*P	P	03 43 46.4	+2.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
KHMM	Horse Mountain	80.90	39	P	P	03 43 49.5	+2.2
O02D	Mt. Diablo Mer	81.02	40	P	P	03 43 49.4	+1.5
SII	Sitkinak Islan	81.09	14	P	P	03 43 47.7	-0.1
	baz=203						
R16K	Pilot Point	81.36	11	P	P	03 43 48.9	-0.1
	baz=200						
MDJ	Mudanjiang	81.39	326	P	P	03 43 49.8	+0.2
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.5s						
OHAK	Old Harbor	81.90	14	P	P	03 43 51.5	-0.4
	baz=204						
R18K	Karluk	81.97	13	P	P	03 43 52.0	-0.2
	baz=203						
WAKR	Walker	82.06	43	P	P	03 43 55.7	+2.2
BEKR	Beckworth	82.30	41	P	P	03 43 55.9	+1.3
Q17K	Contact Creek	82.33	12	P	P	03 43 53.8	-0.4
	baz=201,SNR=17						
DSP	Deep Springs	82.34	45	P	P	03 43 55.9	+1.3
O14K	Tigyukauivet M	82.36	9	P	P	03 43 54.0	-0.2
	baz=196						
KDAK	Kodiak Island	82.57	14	P	P	03 43 55.9	+0.6
KDAK				IAmb	IAmb	03 44 00.3	
	comp=Z,19nm,1.1s						
KDAK	Kodiak Island	82.57	14	P	P	03 43 55.1	-0.1
	baz=204						
Q16K	King Salmon	82.57	11	P	P	03 43 55.1	-0.2
	baz=201,SNR=5.5						
P16K	Nushagak River	82.67	11	P	P	03 43 54.8	-0.9
	baz=200						
NVAR	Mina Array Bea	82.74	44	P	P	03 43 58.9	+1.9
NVAR	Mina Array Bea	82.74	44	P	P	03 43 58.1	+1.1
	comp=Z,2.2nm,0.6s,baz=222,slow=8.2,SNR=26						
NVAR				pP	pP	03 45 36.9	+0.6
	comp=Z,0.2nm,0.6s,baz=219,slow=8.7,SNR=2.0						
	comp=Z,2.2nm,0.6s						
PAHR	Pah Rah Range	82.80	42	P	P	03 43 59.0	+1.8
M11K	Mekoryuk	82.85	6	P	P	03 43 57.0	+0.3
	baz=192						
N14K	Kuskokwak Cree	82.94	9	P	P	03 43 57.1	0.0
	baz=196						
P17K	Kvichak River	83.09	11	P	P	03 43 57.6	-0.3
	baz=201,SNR=8.6						
CN2	Changchun	83.10	323	*e*P	P	03 43 57.6	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
O16K	Kokwok River B	83.18	10	IAmb	IAmb	03 43 58.9	
	comp=Z,21nm,1.0s						
O16K	Kokwok River B	83.18	10	P	P	03 43 58.0	-0.4
	baz=199						
BNX	BinXian	83.30	325	⇓P	P	03 43 59.2	-0.1
BNX				pmax	pmax		
	comp=Z,8.0nm,0.8s						
Q20K	Shuyak Island	83.36	14	P	P	03 43 59.3	0.0
	baz=205						
Q19K	Cape Douglas,	83.39	13	P	P	03 43 59.8	+0.3
	baz=203						
N15K	Kwethluk River	83.41	9	P	P	03 43 59.5	0.0
	baz=198						
P18K	Big Mountain,	83.51	12	IAmb	IAmb	03 44 00.4	
	comp=Z,17nm,0.8s						
P18K	Big Mountain,	83.51	12	P	P	03 43 60.0	-0.1
	baz=202,SNR=5.1						
O17K	Koliganek Bris	83.52	11	P	P	03 43 60.0	-0.1
	baz=200						
M14K	Bethel	83.70	8	P	P	03 44 01.3	+0.4
	baz=196						
M15K	Kasigluk River	83.83	9	P	P	03 44 02.1	+0.6
	baz=197						
J05D	Fort Rock, OR	83.86	38	P	P	03 44 04.5	+2.2
J05D				IAmb	IAmb	03 44 05.3	
	comp=Z,7.2nm,0.6s						
N16K	Nishlik Lake	83.91	10	P	P	03 44 02.2	+0.2
	baz=199						
O18K	Koktuh Hills	83.94	12	P	P	03 44 02.4	+0.2
	baz=202,SNR=8.4						
P19K	Oil Pt	84.14	13	P	P	03 44 03.4	+0.2
	baz=204						
L14K	Kuka Creek	84.18	8	P	P	03 44 03.6	+0.3
	baz=195						
N17K	Nushagak Hills	84.22	11	P	P	03 44 03.6	+0.1
	baz=200						
PINE	Pine Mountain	84.34	38	P	P	03 44 06.5	+1.7
M16K	Timber Creek	84.40	10	IAmb	IAmb	03 44 07.8	
	comp=Z,14nm,0.9s						
M16K	Timber Creek	84.40	10	P	P	03 44 04.7	+0.3
	baz=198						
O19K	Port Alsworth	84.43	12	P	P	03 44 04.5	0.0
	baz=203,SNR=9.2						
HOM	Homer	84.48	13	P	P	03 44 04.7	-0.1
	baz=205						
K13K	Kusilvak Mount	84.53	7	P	P	03 44 05.7	+0.7
	baz=193						
N18K	Kilae Creek	84.58	11	P	P	03 44 06.0	+0.6
	baz=201						
O20K	Slope Mountain	84.66	13	P	P	03 44 05.6	-0.2
	baz=204						
L15K	Ungalak Mounta	84.66	8	P	P	03 44 05.8	+0.1
	baz=196						
N19K	Bonanza Creek	84.97	12	P	P	03 44 06.9	-0.4
	baz=203						
M17K	Holitna River	85.00	10	IAmb	IAmb	03 44 09.9	
	comp=Z,21nm,0.8s						
M17K	Holitna River	85.00	10	P	P	03 44 07.7	+0.3
	baz=200						
K15K	Wolf Creek Mou	85.25	8	IAmb	IAmb	03 44 11.2	
	comp=Z,15nm,0.8s						
K15K	Wolf Creek Mou	85.25	8	P	P	03 44 09.0	+0.5
	baz=196						
M18K	Stony River	85.35	11	P	P	03 44 09.3	+0.2
	baz=201						
SEW	Seward	85.37	14	IAmb	IAmb	03 44 10.6	
	comp=Z,17nm,1.0s						
SEW	Seward	85.37	14	P	P	03 44 09.3	+0.2
	baz=207						
L17K	Donlin	85.56	10	P	P	03 44 10.1	0.0
	baz=199						
P23K	Montague Islan	85.76	15	P	P	03 44 11.1	0.0
	baz=209						
N20K	Mount Spurr	85.77	13	P	P	03 44 10.7	-0.5
	baz=205						
SPCR	Spurr Chakacha	85.77	13	P	P	03 44 10.9	-0.3
	baz=205						
L18K	Granite Mounta	85.89	10	IAmb	IAmb	03 44 13.7	
	comp=Z,9.1nm,0.8s						
L18K	Granite Mounta	85.89	10	P	P	03 44 11.8	+0.1
	baz=201						
M19K	Big River Lodg	85.99	11	IAmb	IAmb	03 44 13.1	
	comp=Z,10nm,0.7s						
M19K	Big River Lodg	85.99	11	P	P	03 44 11.9	-0.3
	baz=203,SNR=6.3						
K17K	Iditarod	86.11	9	P	P	03 44 12.4	-0.3
	baz=199						
TROLL	Troll, Antarti	86.11	180	⇑P	P	03 44 11.9	-1.1
	comp=Z,297nm,0.6s						
L19K	White Mountain	86.17	11	IAmb	IAmb	03 44 14.3	
	comp=Z,19nm,1.0s						
L19K	White Mountain	86.17	11	P	P	03 44 13.0	0.0
	baz=202,SNR=8.4						
M20K	Styx River	86.21	12	P	P	03 44 12.8	-0.6
	baz=204						
HEH	HeiHe	86.27	329	*e*P	P	03 44 14.0	+0.2
PWL	Port Wells	86.30	14	IAmb	IAmb	03 44 14.7	
	comp=Z,23nm,0.9s						
PWL	Port Wells	86.30	14	P	P	03 44 13.3	-0.3
	baz=208						
SUA	Susitna One	86.31	13	P	P	03 44 13.7	-0.2
	baz=206						
J16K	Anvik River	86.33	8	P	P	03 44 13.9	+0.2
	baz=197						
G08A	Pilot Rock	86.37	38	P	P	03 44 16.1	+1.5
SNAA	Sanae	86.42	179	⇑P	P	03 44 13.7	-0.6
	comp=Z,32nm,0.6s						
CRAG	Craig	86.51	24	P	P	03 44 14.6	-0.1
	baz=222						
VNA3	Neumayer Olymp	86.58	177	⇑P	P	03 44 14.6	-0.5
	comp=Z,6.9nm,0.7s						
GLI	Glacier Island	86.61	15	P	P	03 44 14.8	-0.3
	baz=209						
SKT	Skwentna	86.61	13	P	P	03 44 14.9	-0.3
	baz=205						
L20K	Farewell, AK	86.62	11	P	P	03 44 14.9	-0.3
	baz=203						
J17K	VABM Dome	86.64	9	P	P	03 44 15.0	-0.2
	baz=198						
EYAK	Cordova Ski Ar	86.65	16	P	P	03 44 15.2	-0.1
	baz=210						
KNK	Knik Glacier	86.76	14	IAmb	IAmb	03 44 16.7	
	comp=Z,16nm,0.7s						
KNK	Knik Glacier	86.76	14	P	P	03 44 15.6	-0.3
	baz=208						
PMR	Palmer	86.77	14	IAmb	IAmb	03 44 16.4	
	comp=Z,10nm,0.6s						
PMR	Palmer	86.77	14	P	P	03 44 15.8	0.0
	baz=207						
V35K	Ketchikan	86.98	25	P	P	03 44 16.4	-0.6
	baz=223						
U33K	Whale Pass	86.99	24	P	P	03 44 16.9	-0.1
	baz=222						
ANM	Nome	87.03	6	P	P	03 44 17.0	0.0
	baz=192						
J18K	Innoko River	87.06	10	IAmb	IAmb	03 44 18.7	
	comp=Z,13nm,0.8s						
J18K	Innoko River	87.06	10	P	P	03 44 17.1	-0.1
	baz=200,SNR=9.3						
VNA1	Neumayer--Stat	87.25	177	⇑P	P	03 44 18.1	-0.1
	comp=Z,6.3nm,1.0s						
CUT	Chulitna	87.25	13	P	P	03 44 18.1	0.0
	baz=206						
M23K	Glacier View	87.26	14	P	P	03 44 18.1	-0.1
	baz=209						
BMRM	Bremner River	87.30	16	P	P	03 44 18.5	0.0
	baz=212						
S31K	Pelican	87.31	21	P	P	03 44 18.7	+0.3
	baz=219						
PPLA	Purkeypile	87.32	12	P	P	03 44 19.3	+0.7
	baz=205						
MESA	MESA	87.34	17	P	P	03 44 19.1	+0.2
	baz=214						
SCM	Sheep Creek Mo	87.39	14	P	P	03 44 19.2	+0.3
	baz=209						
K20K	Telida	87.40	11	IAmb	IAmb	03 44 19.6	
	comp=Z,13nm,0.8s						
K20K	Telida	87.40	11	P	P	03 44 19.1	+0.3
	baz=203,SNR=8.1						
KLU	Klutina	87.42	15	P	P	03 44 19.3	+0.2
	baz=210						
H16K	Elim	87.43	7	P	P	03 44 19.5	+0.6
	baz=195						
S32K	Killisnoo	87.49	22	P	P	03 44 19.7	+0.4
	baz=220						
WRAK	Wrangell Islan	87.51	24	P	P	03 44 19.8	+0.4
	baz=222						
CRQE	Cirque	87.51	17	P	P	03 44 19.9	+0.3
	baz=213						
YAH	Yahtse	87.55	17	P	P	03 44 20.3	+0.4
G15K	Niukluk	87.58	6	P	P	03 44 20.0	+0.4
	baz=194						
ISLE	Juniper Island	87.59	17	IAmb	IAmb	03 44 21.6	
	comp=Z,16nm,0.8s						
PNL	Peninsula	87.66	19	P	P	03 44 20.7	+0.5
	baz=216,SNR=5.5						
J19K	Poorman	87.73	10	IAmb	IAmb	03 44 21.5	
	comp=Z,7.7nm,0.8s						
J19K	Poorman	87.73	10	P	P	03 44 20.7	+0.4
	baz=202,SNR=5.6						
PINM	Pinnacle	87.75	18	P	P	03 44 20.8	+0.1
	baz=215						
TNA	Tin City	87.80	5	P	P	03 44 20.8	+0.2
	baz=190						
CAST	Castle Rocks	87.81	12	P	P	03 44 19.9	-0.9
	baz=205,SNR=24						
VRDI	Verde Repeater	87.82	16	IAmb	IAmb	03 44 22.1	
	comp=Z,9.3nm,0.8s						
F14K	Arctic Creek	87.84	5	P	P	03 44 20.7	-0.1
	baz=192						
N25K	Chitina, Valde	87.85	16	P	P	03 44 21.1	+0.1
	baz=212						
GRNC	Granite Creek	87.86	17	IAmb	IAmb	03 44 22.6	
	comp=Z,14nm,0.7s						
M24K	Tolsona, Glenn	87.90	15	P	P	03 44 21.4	+0.1
	baz=210						
GLB	Gilahina Butte	87.91	16	IAmb	IAmb	03 44 22.4	
	comp=Z,13nm,0.6s						
H17K	Granite Mounta	88.00	8	P	P	03 44 22.1	+0.6
	baz=198						
B08A	Colville Reser	88.00	35	P	P	03 44 23.0	+1.0
HLID	Hailey	88.06	41	P	P	03 44 23.8	+1.2
MCARA	McCarthy VSAT	88.06	16	IAmb	IAmb	03 44 24.4	
	comp=Z,16nm,1.0s						
MCARA	McCarthy VSAT	88.06	16	P	P	03 44 22.3	+0.4
	baz=213						
P29M	Windy Craggy	88.13	20	IAmb	IAmb	03 44 24.4	
	comp=Z,9.8nm,0.8s						
P29M	Windy Craggy	88.13	20	P	P	03 44 22.7	+0.3
	baz=218						
J20K	Nowinta River	88.14	11	IAmb	IAmb	03 44 23.1	
	comp=Z,9.6nm,0.8s						
J20K	Nowinta River	88.14	11	P	P	03 44 22.7	+0.4
	baz=203,SNR=5.7						
G16K	Koyuk River	88.15	7	P	P	03 44 22.7	+0.5
	baz=195						
KTH	Kantishna Hill	88.16	12	IAmb	IAmb	03 44 22.6	
	comp=Z,18nm,0.8s						
CTG	Chitna Glacier	88.16	17	P	P	03 44 22.9	+0.2
	baz=214,SNR=7.5						
TRF	Thorofare Moun	88.19	12	P	P	03 44 22.2	-0.5
	baz=206,SNR=32						
CHUM	Lake Minchumin	88.19	11	P	P	03 44 22.0	-0.5
	baz=204,SNR=9.9						
VHRN	Van Horn	88.21	56	P	P	03 44 25.1	+1.6
F15K	North Star Dit	88.22	6	P	P	03 44 22.6	0.0
	baz=193						
GCSA	Galena City Sc	88.24	9	P	P	03 44 22.8	+0.1
	baz=200						
O28M	Mount Upton	88.33	18	P	P	03 44 22.9	-0.7
	baz=215						
HARP	HAARP	88.39	15	P	P	03 44 23.6	+0.1
	baz=211						
O29M	Mount Kennedy	88.42	19	P	P	03 44 24.0	+0.2
	baz=217						
G17K	Kiwalik Mounta	88.45	7	P	P	03 44 23.6	-0.1
	baz=197						
TXAR	Lajitas Array	88.59	58	P	P	03 44 26.6	+1.3
	comp=Z,1.6nm,0.8s,baz=226,slow=4.7,SNR=17						
TXAR				pP	pP	03 46 05.6	-0.7
	comp=Z,0.4nm,0.9s,baz=226,slow=5.0,SNR=2.1						
TXAR				PKKPbc	PKKPbc	04 02 05.8	+1.3
	comp=Z,0.3nm,0.6s,baz=118,slow=2.7,SNR=4.3						
	comp=Z,1.6nm,0.8s						
BPAW	Bear Paw Mtn.	88.64	12	P	P	03 44 23.9	-0.8
	baz=206						
I20K	Naaghedeneel	88.66	10	P	P	03 44 24.6	0.0
	baz=202,SNR=5.7						
MCK	McKinley	88.72	13	P	P	03 44 24.9	-0.1
	baz=208,SNR=10						
P30M	Million Dollar	88.76	20	P	P	03 44 26.0	+0.7
	baz=218						
YUK8	Steele Glacier	88.86	18	P	P	03 44 26.2	+0.1
	baz=216,SNR=8.8						
M26K	Nabesna, AK	88.92	16	IAmb	IAmb	03 44 27.9	
	comp=Z,10nm,0.9s						
M26K	Nabesna, AK	88.92	16	P	P	03 44 26.4	+0.4
	baz=213,SNR=6.9						
YUK6	Outpost Mounta	88.99	18	P	P	03 44 26.6	0.0
	baz=217						
H19K	Roundabout Mou	89.04	9	IAmb	IAmb	03 44 27.9	
	comp=Z,12nm,0.8s						
H19K	Roundabout Mou	89.04	9	P	P	03 44 27.0	+0.6
	baz=201,SNR=12						
S34M	Telegraph Cree	89.06	23	IAmb	IAmb	03 44 29.0	
	comp=Z,6.8nm,0.7s						
S34M	Telegraph Cree	89.06	23	P	P	03 44 27.9	+1.2
	baz=223,SNR=5.1						
YUK3	Moose Creek	89.07	17	P	P	03 44 27.4	+0.4
	baz=215,SNR=19						
G18K	Tagagawik	89.08	8	IAmb	IAmb	03 44 27.1	
	comp=Z,7.3nm,0.8s						
G18K	Tagagawik	89.08	8	P	P	03 44 26.5	-0.2
	baz=199						
HYT	Haines Junctio	89.15	19	P	P	03 44 28.0	+0.8
HYT				IAmb	IAmb	03 44 28.9	
	comp=Z,5.7nm,0.8s						
HYT	Haines Junctio	89.15	19	P	P	03 44 27.7	+0.5
	baz=218,SNR=7.1						
M27K	Edge Creek, AK	89.17	16	IAmb	IAmb	03 44 29.0	
	comp=Z,14nm,0.8s						
M27K	Edge Creek, AK	89.17	16	P	P	03 44 27.8	+0.5
	baz=214,SNR=15						
YUK4	Talbot Arm	89.23	18	P	P	03 44 28.6	+0.9
	baz=217,SNR=6.2						
H20K	Anotleneega Mo	89.24	10	P	P	03 44 27.7	+0.3
	baz=202,SNR=12						
F17K	Baldwin Pennin	89.28	7	P	P	03 44 27.9	+0.4
	baz=196						
L26K	Log Cabin Wild	89.36	15	P	P	03 44 28.7	+0.7
	baz=213						
P32M	Atlin	89.40	21	P	P	03 44 28.8	+0.5
	baz=221						
Q32M	Nakina River	89.42	22	IAmb	IAmb	03 44 30.6	
	comp=Z,4.8nm,0.7s						
Q32M	Nakina River	89.42	22	P	P	03 44 28.9	+0.3
	baz=222						
I21K	Tanana	89.44	11	P	P	03 44 28.0	-0.3
	baz=205,SNR=16						
NEA2	Nenana	89.46	12	P	P	03 44 27.3	-1.1
	baz=207						
K24K	Donnelly Dome	89.46	14	P	P	03 44 28.7	+0.2
	baz=210,SNR=7.8						
BVCY	Beaver Creek	89.49	17	P	P	03 44 29.2	+0.5
	baz=215,SNR=11						
G19K	Purcell Mounta	89.53	9	IAmb	IAmb	03 44 30.1	
	comp=Z,12nm,0.8s						
G19K	Purcell Mounta	89.53	9	P	P	03 44 28.6	0.0
	baz=200,SNR=7.9						
MLY	Manley	89.53	12	P	P	03 44 28.1	-0.7
	baz=206						
O30N	Mendenhall	89.54	19	IAmb	IAmb	03 44 30.6	
	comp=Z,7.4nm,0.7s						
O30N	Mendenhall	89.54	19	P	P	03 44 29.3	+0.3
	baz=219,SNR=6.6						
RIDG	Independent Ri	89.62	14	IAmb	IAmb	03 44 30.6	
	comp=Z,10nm,0.9s						
RIDG	Independent Ri	89.62	14	P	P	03 44 29.4	+0.2
	baz=211						
F18K	Selawik	89.62	8	P	P	03 44 28.7	-0.3
	baz=198						
MCMT	McKenzie Canyo	89.69	41	P	P	03 44 31.6	+1.3
H21K	Melozitna Rive	89.73	10	P	P	03 44 29.5	-0.2
H21K				IAmb	IAmb	03 44 30.6	
	comp=Z,8.8nm,0.7s						
H21K	Melozitna Rive	89.73	10	P	P	03 44 29.8	+0.2
	baz=204,SNR=15						
L27K	Beaver Creek,	89.78	16	IAmb	IAmb	03 44 31.1	
	comp=Z,4.6nm,0.8s						
L27K	Beaver Creek,	89.78	16	P	P	03 44 30.1	+0.2
	baz=214,SNR=7.0						
N30M	Aishikik Lake	89.78	19	P	P	03 44 30.3	+0.2
	baz=218						
BCAR	Beaver Creek A	89.79	16	P	P	03 44 30.6	+0.6
WHY	Whitehorse	89.83	20	IAmb	IAmb	03 44 32.5	
	comp=Z,12nm,0.8s						
WHY	Whitehorse	89.83	20	P	P	03 44 30.6	+0.3
	baz=220						
E17K	Hotham Inlet	89.84	7	P	P	03 44 30.2	+0.1
	baz=196,SNR=5.3						
DLBC	Dease Lake	89.84	23	P	P	03 44 30.4	0.0
	baz=224						
I23K	Minto, Yukon-K	89.89	12	IAmb	IAmb	03 44 30.7	
	comp=Z,4.4nm,0.6s						
I23K	Minto, Yukon-K	89.89	12	P	P	03 44 29.9	-0.5
	baz=207,SNR=7.8						
CMAR	Chiang Mai Arr	89.92	290	P	P	03 44 33.4	+1.8
	comp=Z,2.2nm,0.4s,baz=128,slow=3.1,SNR=12						
	comp=Z,2.2nm,0.4s						
HHC	Hu-ho-hao-te	89.92	315	*e*P	P	03 44 32.1	+0.8
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,53nm,3.8s						
COLA	College	89.95	13	P	P	03 44 30.6	0.0
	baz=208						
SCRK	Sand Creek	90.02	15	IAmb	IAmb	03 44 32.2	
	comp=Z,7.0nm,0.8s						
SCRK	Sand Creek	90.02	15	P	P	03 44 31.2	0.0
	baz=212,SNR=6.1						
IL31		90.06	13	P	P	03 44 30.4	-0.7
IL31				IAmb	IAmb	03 44 31.4	
	comp=Z,6.5nm,0.7s						
ILAR	Eielson Array	90.06	13	P	P	03 44 30.9	-0.2
ILAR	Eielson Array	90.06	13	P	P	03 44 30.8	-0.4
	comp=Z,3.8nm,0.5s,baz=224,slow=5.4,SNR=51						
	comp=Z,3.8nm,0.5s						
F19K	Shaleruckik Mo	90.08	8	P	P	03 44 31.4	+0.2
	baz=200						
M29M	Somme Creek	90.17	18	IAmb	IAmb	03 44 33.4	
	comp=Z,9.5nm,0.8s						
M29M	Somme Creek	90.17	18	P	P	03 44 31.9	+0.1
	baz=217,SNR=12						
H22K	Ishtalitna Cre	90.19	11	P	P	03 44 32.0	+0.2
	baz=205,SNR=14						
R33M	Jennings River	90.20	22	P	P	03 44 31.9	-0.2
	baz=224						
J25K	Salcha River,	90.25	14	IAmb	IAmb	03 44 32.9	
	comp=Z,6.8nm,0.7s						
J25K	Salcha River,	90.25	14	P	P	03 44 32.0	-0.1
	baz=211,SNR=8.6						
POKR	Poker Plat Res	90.25	13	P	P	03 44 31.9	-0.2
	baz=209						
E18K	Tukpahlearik C	90.30	7	IAmb	IAmb	03 44 33.7	
	comp=Z,14nm,0.9s						
E18K	Tukpahlearik C	90.30	7	P	P	03 44 32.2	0.0
	baz=197						
D17K	Noatak River	90.31	6	P	P	03 44 32.2	0.0
	baz=195						
G21K	Allakaket	90.41	10	IAmb	IAmb	03 44 33.7	
	comp=Z,13nm,0.8s						
G21K	Allakaket	90.41	10	P	P	03 44 32.7	-0.1
	baz=203,SNR=13						
H23K	Yukon River	90.47	12	P	P	03 44 33.1	+0.1
	baz=207						
K27K	Chicken	90.52	15	P	P	03 44 33.9	+0.6
	baz=214						
J26L	Joseph Creek	90.56	14	P	P	03 44 34.1	+0.5
	baz=212,SNR=22						
F20K	Avaraart Lake	90.57	9	P	P	03 44 34.0	+0.6
	baz=201						
RDOG	Red Dog Mine	90.67	6	P	P	03 44 34.7	+0.7
	baz=195						
C16K	Lisburne Hills	90.67	5	P	P	03 44 34.4	+0.5
	baz=193						
PDAR	Pinedale Array	90.67	44	P	P	03 44 34.9	0.0
PDAR	Pinedale Array	90.67	44	P	P	03 44 35.8	+0.9
	comp=Z,1.4nm,0.7s,baz=200,slow=2.5,SNR=19						
	comp=Z,1.4nm,0.7s						
E19K	Redstone River	90.75	8	P	P	03 44 34.4	+0.1
	baz=200,SNR=16						
M30M	Minto, Yukon	90.75	18	IAmb	IAmb	03 44 36.4	
	comp=Z,7.9nm,0.7s						
M30M	Minto, Yukon	90.75	18	P	P	03 44 34.8	+0.4
	baz=218,SNR=18						
PZH	PanZhiHua	90.77	298	P	P	03 44 35.3	-0.3
L29M	L29M	90.79	17	IAmb	IAmb	03 44 36.4	
	comp=Z,11nm,0.8s						
L29M	L29M	90.79	17	P	P	03 44 35.2	+0.5
	baz=217,SNR=13						
H24K	Noodor Dome	90.80	12	P	P	03 44 35.3	+0.7
	baz=208						
PRP	Porcupine Dome	91.00	13	IAmb	IAmb	03 44 37.3	
	comp=Z,5.5nm,1.1s						
PRP	Porcupine Dome	91.00	13	P	P	03 44 36.0	+0.3
	baz=211,SNR=5.7						
C17K	DeLong Mountai	91.06	6	P	P	03 44 35.7	0.0
	baz=195						
F21K	Alatna River	91.06	10	P	P	03 44 35.7	-0.1
	baz=203						
G22K	Bettles	91.11	10	P	P	03 44 36.5	+0.5
	baz=205						
M31M	Drury Creek, Y	91.17	19	P	P	03 44 36.7	+0.3
	baz=220						
G23K	Bananza Creek	91.17	11	P	P	03 44 36.5	+0.2
	baz=207						
DAWY	Dawson	91.23	16	IAmb	IAmb	03 44 37.8	
	comp=Z,7.5nm,0.8s						
DAWY	Dawson	91.23	16	P	P	03 44 36.7	+0.1
	baz=216,SNR=9.6						
I26K	Coal Creek Min	91.34	14	P	P	03 44 36.9	-0.2
	baz=213						
C18K	Utukok River	91.42	6	P	P	03 44 37.9	+0.4
	baz=196						
F22K	John River	91.53	10	P	P	03 44 38.6	+0.6
	baz=205						

K29M	**Barlow Dome**	**91.54**	**17**	IAmb	IAmb	03 44 40.2	
	comp=Z,6.9nm,0.9s						
K29M	**Barlow Dome**	**91.54**	**17**	P	**P**	**03 44 38.3**	**+0.1**
	baz=218,SNR=8.7						
COLD	**Coldfoot**	**91.61**	**11**	IAmb	IAmb	03 44 39.7	
	comp=Z,5.8nm,0.7s						
COLD	**Coldfoot**	**91.61**	**11**	P	**P**	**03 44 38.6**	**+0.4**
	baz=206						
D19K	**Kuna River**	**91.62**	**8**	IAmb	IAmb	03 44 39.2	
	comp=Z,12nn,0.8s						
D19K	**Kuna River**	**91.62**	**8**	P	**P**	**03 44 38.4**	**+0.1**
	baz=199,SNR=6.5						
G24K	**Hadweenzic Riv**	**91.64**	**12**	P	**P**	**03 44 38.4**	**0.0**
	baz=209						
E20K	**Nigu River**	**91.64**	**8**	P	**P**	**03 44 38.7**	**+0.2**
	baz=201,SNR=14						
TOAD	**Toad River Com**	**91.94**	**25**	P	**P**	**03 44 40.3**	**+0.3**
	baz=228						
I27K	**Kandik River**	**91.94**	**15**	P	**P**	**03 44 40.4**	**+0.5**
	baz=214						
G25K	**Bearman Lake**	**91.96**	**12**	P	**P**	**03 44 40.3**	**+0.4**
	baz=210						
D20K	**Etivluk River**	**92.01**	**8**	IAmb	IAmb	03 44 41.2	
	comp=Z,10.0nm,0.8s						
D20K	**Etivluk River**	**92.01**	**8**	P	**P**	**03 44 40.5**	**+0.4**
	baz=201,SNR=7.6						
C19K	**Lookout Ridge**	**92.03**	**7**	P	**P**	**03 44 40.8**	**+0.5**
C19K	**Lookout Ridge**	**92.03**	**7**	P	**P**	**03 44 40.8**	**+0.5**
	baz=198						
B18K	**Kokolik River**	**92.05**	**6**	P	**P**	**03 44 40.7**	**+0.5**
	baz=196						
E21K	**Killik River**	**92.12**	**9**	P	**P**	**03 44 40.8**	**+0.2**
	baz=203						
E22K	**Anaktuvuk Pass**	**92.16**	**10**	P	**P**	**03 44 41.4**	**+0.5**
	baz=205						
I28M	**Miner Creek**	**92.21**	**15**	IAmb	IAmb	03 44 42.0	
	comp=Z,5.0nm,0.8s						
I28M	**Miner Creek**	**92.21**	**15**	P	**P**	**03 44 41.3**	**0.0**
	baz=216						
F24K	**Squaw Lake**	**92.28**	**11**	P	**P**	**03 44 41.9**	**+0.4**
	baz=209						
J30M	**Hart River**	**92.44**	**17**	P	**P**	**03 44 43.1**	**+0.8**
	baz=219						
MMPY	**Sheldon Lake,**	**92.45**	**20**	P	**P**	**03 44 43.3**	**+1.0**
	baz=223						
E23K	**Chandalar**	**92.45**	**11**	P	**P**	**03 44 43.4**	**+1.1**
	baz=207						
H27K	**Steamboat Moun**	**92.48**	**14**	P	**P**	**03 44 42.9**	**+0.5**
	baz=214						
I29M	**Ogilvie Camp,**	**92.55**	**16**	P	**P**	**03 44 43.2**	**+0.5**
	baz=217						
G26K	**Porcupine Rive**	**92.59**	**13**	P	**P**	**03 44 43.8**	**+1.0**
	baz=212						
TGTN	**Hyland Airport**	**92.66**	**22**	P	**P**	**03 44 44.3**	**+1.0**
	baz=226						
E24K	**Your Creek**	**92.66**	**11**	P	**P**	**03 44 43.8**	**+0.6**
	baz=208						
C21K	**Knifeblade Rid**	**92.67**	**8**	P	**P**	**03 44 44.2**	**+1.1**
	baz=202						
D22K	**Ayikyak River**	**92.71**	**9**	P	**P**	**03 44 44.2**	**+0.9**
	baz=204						
F25K	**Christian Rive**	**92.77**	**12**	P	**P**	**03 44 44.4**	**+0.7**
	baz=211						
A19K	**Wainwright**	**92.93**	**6**	P	**P**	**03 44 45.0**	**+0.7**
	baz=196						
G27K	**Doyon Strip**	**92.94**	**14**	P	**P**	**03 44 45.4**	**+0.9**
	baz=214						
I30M	**Mount Dempster**	**92.94**	**17**	IAmb	IAmb	03 44 45.5	
	comp=Z,5.3nm,0.9s						
I30M	**Mount Dempster**	**92.94**	**17**	P	**P**	**03 44 44.9**	**+0.3**
	baz=219						
TOLK	**Toolik Lake Re**	**92.98**	**10**	P	**P**	**03 44 45.5**	**+0.8**
	baz=207						
D23K	**Nanushuk River**	**93.09**	**10**	P	**P**	**03 44 45.6**	**+0.5**
	baz=206						
B21K	**Ikpikpuk River**	**93.12**	**8**	P	**P**	**03 44 46.0**	**+0.8**
	baz=202						
F26K	**Sheenjek River**	**93.15**	**13**	P	**P**	**03 44 46.3**	**+0.9**
	baz=212						
B20K	**Meade River**	**93.16**	**7**	P	**P**	**03 44 46.2**	**+0.8**
	baz=200						
H29M	**Whitestone**	**93.22**	**15**	IAmb	IAmb	03 44 47.1	
	comp=Z,7.5nm,0.8s						
H29M	**Whitestone**	**93.22**	**15**	P	**P**	**03 44 46.6**	**+0.9**
	baz=217						
D24K	**Happy Valley**	**93.56**	**10**	P	**P**	**03 44 48.0**	**+0.8**
	baz=208						
EPYK	**Eagle Plains**	**93.75**	**16**	P	**P**	**03 44 48.7**	**+0.5**
	baz=219						
G29M	**Pine Creek**	**93.86**	**15**	P	**P**	**03 44 49.5**	**+0.9**
	baz=217						
C23K	**Itkillik River**	**93.89**	**9**	P	**P**	**03 44 49.8**	**+1.1**
	baz=206						
H31M	**Peel River**	**93.93**	**17**	P	**P**	**03 44 49.8**	**+0.8**
	baz=221						
B22K	**Teshekpuk Lake**	**93.95**	**8**	P	**P**	**03 44 49.9**	**+1.0**
	baz=204						
F28M	**Old Crow**	**94.00**	**14**	P	**P**	**03 44 50.4**	**+1.1**
	baz=216						
C24K	**Franklin Bluff**	**94.09**	**10**	P	**P**	**03 44 50.4**	**+0.8**
	baz=208						
E27K	**Coleen River**	**94.09**	**13**	P	**P**	**03 44 50.7**	**+1.0**
	baz=214						
D25K	**Kavik River**	**94.13**	**11**	P	**P**	**03 44 50.8**	**+0.9**
	baz=210						
G30M	**tAoh Zraii Nji**	**94.35**	**15**	P	**P**	**03 44 50.1**	**-0.8**
G30M				IAmb	IAmb	03 44 52.1	
	comp=Z,9.3nm,0.9s						
G30M	**tAoh Zraii Nji**	**94.35**	**15**	P	**P**	**03 44 51.9**	**+0.9**
	baz=219						
A22K	**Sinclair Lake**	**94.36**	**8**	P	**P**	**03 44 51.9**	**+1.1**
	baz=202						
A21K	**Barrow**	**94.47**	**7**	P	**P**	**03 44 52.2**	**+1.0**
	baz=201						
G31M	**Satah River**	**94.80**	**16**	P	**P**	**03 44 53.3**	**+0.4**
	baz=221						
C27K	**Jago River**	**94.88**	**12**	P	**P**	**03 44 53.7**	**+0.4**
	baz=212						
C26K	**Camden Bay**	**94.91**	**11**	P	**P**	**03 44 53.7**	**+0.4**
	baz=211						
F30M	**Barrier River**	**94.95**	**15**	P	**P**	**03 44 54.0**	**+0.4**
	baz=220						
E29M	**Blow River**	**95.06**	**14**	P	**P**	**03 44 54.3**	**+0.2**
	baz=218						
D27M	**Malcolm River**	**95.10**	**13**	P	**P**	**03 44 54.4**	**+0.1**
	baz=215						
F31M	**Tsiigehtchic**	**95.33**	**16**	P	**P**	**03 44 55.4**	**+0.2**
	baz=221						
D28M	**Stokes Point**	**95.63**	**13**	P	**P**	**03 44 57.0**	**+0.4**
	baz=217						
INK	**Inuvik**	**96.03**	**15**	P	**P**	**03 44 58.8**	**+0.3**
	baz=222						
ZALV	**Zalesovo Beam**	**111.25**	**321**	PKiKP	**PKiKP**	**03 50 01.3**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=144,slow=1.8,SNR=5.2						
MKAR	**Makanchi Array**	**111.73**	**313**	PKiKP	**PKiKP**	**03 50 02.7**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=196,slow=1.0,SNR=8.2						
KURK	**Kurchatov**	**114.64**	**317**	PKiKP	PKPdf	03 50 07.4	-1.6
KURBB	**Kurchatov Array**	**114.69**	**317**	PKP	PKPdf	03 50 08.2	-1.0
	comp=Z,1.9nm,0.2s,baz=109,slow=2.1,SNR=6.4						
KKAR	**Karatay Array**	**119.62**	**308**		**PKPdf**	**03 50 17.8**	**-1.1**
BVAR	**Borovoye Array**	**119.80**	**319**	PKP	**PKPdf**	**03 50 18.2**	**-0.6**
	comp=Z,5.8nm,0.4s,baz=113,slow=1.6,SNR=21						
BRVK	**Borovoye**	**119.86**	**319**	PKPdf	**PKPdf**	**03 50 18.2**	**-0.8**
KBL	**Kabul**	**119.96**	**298**	PKPdf	**PKPdf**	**03 50 19.8**	**-0.3**
SPA0	**Spitsbergen Ar**	**123.42**	**356**	*e*P	**PKiKP**	**03 50 25.4**	**-0.1**
SPITS	**Spitsbergen Ar**	**123.42**	**356**	PKP	**PKiKP**	**03 50 25.4**	**-0.1**
	comp=Z,16nm,0.6s,baz=94,slow=5.0,SNR=23						
SPB2	**Spitsbergen Ar**	**123.43**	**356**	PKPdf	**PKPdf**	**03 50 24.9**	**-0.3**
BOSA	**Boshof**	**124.46**	**206**	PKP	**PKiKP**	**03 50 29.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=356,slow=2.2,SNR=3.6						
SUMG	**Summit**	**124.90**	**14**	PKPdf	**PKPdf**	**03 50 28.2**	**-0.5**
ARTI	**Arti**	**126.18**	**325**	PKPdf	**PKPdf**	**03 50 30.1**	**-0.9**
ARA0	**ARCESS Array S**	**130.36**	**349**	*e*P	**PKPdf**	**03 50 38.4**	**-0.2**
ARCES	**ARCESS Array B**	**130.36**	**349**	PKP	**PKPdf**	**03 50 38.2**	**-0.4**
	comp=Z,7.2nm,0.6s,baz=90,slow=6.1,SNR=26						
ARCES				SKPbc	**SKPab**	**03 53 21.4**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=42,slow=5.7,SNR=4.8						
KTK1	**Kautokeino**	**131.21**	**350**	*e*P	**PKPdf**	**03 50 40.1**	**-0.2**
STEI	**Steigen**	**133.35**	**353**	*e*P	**PKiKP**	**03 50 45.3**	**-0.3**
STOK	**Stokkvaagen**	**135.14**	**353**	*e*P	**PKPdf**	**03 50 47.5**	**-0.2**
LEIR	**Leirfjorden**	**135.34**	**353**	*e*P	**PKiKP**	**03 50 49.0**	**-0.6**
FINES	**FINESS Array B**	**137.09**	**343**	PKP	**PKPdf**	**03 50 51.9**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=86,slow=1.8,SNR=10.0						
FINES				SKPbc	**SKPbc**	**03 53 42.9**	**+1.3**
	comp=Z,2.3nm,0.8s,baz=46,slow=4.0,SNR=6.2						
NB2	**NORSAR Subarra1**	**140.48**	**352**	pPKP		03 53 52.7	
	comp=Z,0.7nm,0.8s,baz=9.2,slow=2.5						
NB2	**NORSAR Subarra1**	**140.48**	**352**	PKP	**PKPdf**	**03 50 51.1**	**-6.6**
	baz=16,slow=3.2						
NB2	**NORSAR Subarra1**	**140.48**	**352**	PKP	**PKPdf**	**03 50 51.1**	**-6.6**
	comp=Z,1.1nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**140.48**	**352**	PKhKP	PKPpre	03 50 51.0	
	comp=Z,3.2nm,0.7s,baz=16,slow=4.7,SNR=23						
NOA				PKP	**PKiKP**	**03 50 59.5**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=14,slow=4.0,SNR=11						
NOA				SKPbc	**SKiKP**	**03 53 52.5**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=14,slow=4.4,SNR=5.3						
NC602	**NORSAR Array S**	**140.73**	**352**	*e*P	**PKPdf**	**03 50 51.6**	**-6.5**
HFS	**Hagfors**	**141.00**	**350**	PKhKP	PKPpre	03 50 52.3	
	comp=Z,7.9nm,0.5s,baz=52,slow=2.6,SNR=58						
HFS				SKPbc	**SKiKP**	**03 53 53.6**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=96,slow=3.0,SNR=4.7						
KONO	**Kongsberg**	**142.03**	**353**	*e*P	**PKPdf**	**03 50 56.5**	**-4.0**
ODD1	**Odda**	**142.04**	**356**	*e*P	**PKPdf**	**03 50 56.2**	**-4.3**
BLS5	**Blasjo**	**142.54**	**356**	*e*P	**PKPdf**	**03 50 57.8**	**-3.6**
KMY	**Karmoy**	**142.83**	**357**	*e*P	**PKPdf**	**03 50 59.1**	**-2.8**
HOMB	**Homborsund**	**143.50**	**353**	*e*P	PKPbc	03 51 01.7	+0.4
HOMB	**Homborsund**	**143.50**	**353**	*i* P	PKPbc	03 51 01.3	-0.1
BORU	**Boraas**	**143.53**	**350**	*i* P	PKPab	03 51 00.6	-0.7
SNART	**Snartemo**	**143.56**	**355**	*e*P	PKPbc	03 51 01.6	+0.1
SNART	**Snartemo**	**143.56**	**355**	*i* P	PKPbc	03 51 01.5	0.0
ONAU	**Onsala**	**143.90**	**350**	*i* P	PKPab	03 51 01.7	-0.9
AKASG	**Malin Array Be**	**144.02**	**329**	PKP	PKPbc	03 51 02.2	-1.1
	comp=Z,10nm,0.5s,baz=42,slow=4.4,SNR=51						
AKBB	**Malin Array Si**	**144.02**	**329**		PKPbc	03 51 01.7	-1.6
KIEV	**Kiev**	**144.03**	**329**		PKPbc	03 51 01.1	-2.2
KIEV	**Kiev**	**144.03**	**329**	⇑P	PKPbc	03 51 02.5	-0.8
SUW	**Suwalki**	**144.05**	**338**	*e*PKP	PKPbc	03 51 02.7	-0.5
FABU	**Falkenberg**	**144.14**	**349**	*i* P	PKPbc	03 51 02.8	-0.7
BLEU	**Blekinge**	**144.18**	**346**	*i* P	PKPbc	03 51 02.4	-1.2
OVD	**Ostervraa, Den**	**144.22**	**352**	*i* P	**PKPab**	**03 51 03.7**	**-0.1**
DEL	**Delary**	**144.43**	**348**	*i* P	PKPbc	03 51 03.7	-0.7
BJUU	**Bjuv**	**144.96**	**348**	*i* P	**PKPdf**	**03 51 05.4**	**-0.2**
MUD	**Monsted U'grnd**	**145.20**	**352**	*i* P	**PKPbc**	**03 51 07.0**	**+0.2**
LUNU	**Lund**	**145.30**	**348**	*i* P	**PKPbc**	**03 51 06.8**	**-0.3**
COP	**Copenhagen**	**145.44**	**349**	*i* P	**PKPbc**	**03 51 07.7**	**+0.2**
BSD	**Bornholm Skovb**	**145.47**	**346**	*i* P	**PKPbc**	**03 51 07.2**	**-0.4**
SORM	**Soroca**	**146.14**	**327**	⇓P	**PKPbc**	**03 51 09.5**	**-0.3**
PURM	**Purcari**	**146.33**	**323**	⇑P	**PKPbc**	**03 51 10.9**	**+0.6**
GKP	**Gorka Klasztor**	**146.56**	**342**	*e*PKP	**PKPbc**	**03 51 11.1**	**+0.3**
BEL	**Belsk**	**146.67**	**338**	*e*PKP	**PKPbc**	**03 51 11.8**	**+0.7**
EKA	**Eskdalemuir Ar**	**146.68**	**4**	PKPbc	**PKPbc**	**03 51 10.8**	**-0.2**
	comp=Z,12nm,0.7s,baz=344,slow=2.7,SNR=26						
BR131	**Keskin Array S**	**147.31**	**310**		**PKPdf**	**03 51 09.6**	**-0.7**
BRTR	**Keskin Array B**	**147.31**	**310**	PKPdf	**PKPdf**	**03 51 09.3**	**-1.0**
BRTR	**Keskin Array B**	**147.31**	**310**	PKPbc	**PKPbc**	**03 51 13.2**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=140,slow=4.5,SNR=22						
KIRS	**Kirsehir-Merke**	**147.33**	**309**	⇑P	**PKPbc**	**03 51 13.8**	**+0.4**
VASR	**Vaslui**	**147.40**	**325**	⇑P	**PKiKP**	**03 51 14.1**	**-0.9**
KWP	**Kalwaria Pacla**	**147.69**	**333**	*e*PKP	**PKPbc**	**03 51 14.2**	**+0.2**
TLCR		**147.73**	**322**	⇑P	**PKPbc**	**03 51 14.5**	**+0.4**
ANTO	**Ankara**	**147.85**	**311**	⇑P	**PKiKP**	**03 51 15.5**	**-0.7**
MMAI	**Mount Meron Ar**	**147.89**	**297**	PKPbc	**PKPbc**	**03 51 15.6**	**+0.5**
	comp=Z,7.8nm,0.5s,baz=72,slow=5.4,SNR=15						
GHRR		**147.97**	**324**	⇑P	**PKiKP**	**03 51 16.2**	**0.0**
BUR08	**Bucovina Ar. S**	**148.04**	**329**		**PKPbc**	**03 51 15.2**	**+0.2**
BURAR	**Bucovina Array**	**148.05**	**329**	PKPbc	**PKPbc**	**03 51 15.4**	**+0.3**
BURAR	**Bucovina Array**	**148.05**	**329**	⇑P	**PKiKP**	**03 51 16.1**	**-0.4**
TESR	**Tescani**	**148.08**	**326**	⇑P	**PKPbc**	**03 51 15.1**	**0.0**
CFR	**Carcaliu**	**148.12**	**323**	⇑P	**PKPbc**	**03 51 15.3**	**+0.1**
ONER	**Baraj Valea Uz**	**148.33**	**326**	⇑P	**PKiKP**	**03 51 16.5**	**-0.5**
OJC	**Ojcow**	**148.36**	**337**	*e*PKP	**PKPbc**	**03 51 15.8**	**+0.2**
TIRR	**Tirgusor**	**148.39**	**321**	⇑P	**PKPbc**	**03 51 16.5**	**-0.6**
KOLS	**Kolnicke sedl**	**148.41**	**333**	*e*PKP	**PKiKP**	**03 51 16.5**	**-0.6**
STHS	**Stebnicka Huta**	**148.46**	**335**	*e*PKP	**PKPbc**	**03 51 15.8**	**-0.1**
STHS				*e*		03 51 20.9	
VRI	**Vrincioaia**	**148.46**	**325**	⇓P	**PKPbc**	**03 51 16.4**	**+0.3**
PLOR	**Plostina**	**148.51**	**325**	⇑P	**PKPbc**	**03 51 16.5**	**+0.3**
HARR	**Harsova**	**148.53**	**322**	⇑P	**PKiKP**	**03 51 16.8**	**-0.5**
MFTR	**Murfatlar**	**148.54**	**321**	⇑P	**PKiKP**	**03 51 17.2**	**-0.2**
TLBR	**Topalu**	**148.55**	**322**	⇑P	**PKiKP**	**03 51 17.1**	**-0.3**
TURR	**Turia**	**148.71**	**326**	⇑P	**PKiKP**	**03 51 17.8**	**0.0**
NIE	**Niedzica**	**148.82**	**336**	*e*PKP	**PKiKP**	**03 51 17.6**	**-0.3**
KSP	**Ksiaz**	**148.98**	**341**	*e*PKP	**PKiKP**	**03 51 17.8**	**-0.4**
DOPR	**Dopca**	**149.10**	**326**	⇓P	**PKiKP**	**03 51 18.5**	**-0.1**
CSS	**Mathiatis**	**149.12**	**302**	PKPbc	**PKPbc**	**03 51 17.6**	**-0.4**
MLR	**Muntele Rosu**	**149.12**	**325**	⇑P	**PKPbc**	**03 51 18.1**	**+0.2**
OSTC	**Ostas**	**149.26**	**341**	*e*PKP	**PKiKP**	**03 51 19.1**	**+0.3**
OKC	**Ostrava-Krasne**	**149.26**	**338**	*e*PKP	**PKiKP**	**03 51 18.5**	**-0.2**
CHVC	**Chvalec**	**149.28**	**341**	*e*PKP	**PKiKP**	**03 51 19.6**	**-0.2**
LANS	**Liptovska Anna**	**149.36**	**336**	*e*PKP	**PKiKP**	**03 51 19.6**	**+0.6**
LANS				*e*		03 51 25.3	
UPC	**Upice**	**149.36**	**341**	*e*PKP	**PKiKP**	**03 51 19.2**	**+0.2**
DPC	**Dobruska-Polom**	**149.41**	**341**	*e*PKP	**PKiKP**	**03 51 19.5**	**+0.4**
CLL	**Collm**	**149.44**	**345**	PKPbc	**PKPbc**	**03 51 17.4**	**-0.8**
CLL	**Collm**	**149.44**	**345**	⇑*i*PKPbc	**PKPbc**	**03 51 18.4**	**+0.2**
	comp=Z,45nn,0.8s						
CLL				*e*PKPab	**PKPab**	**03 51 25.0**	**+0.2**
CLL				*ep*PKPbc	**pPKPbc**	**03 53 05.0**	**-0.1**
CLL				*ex*	x	03 53 18.0	
CJR	**Cluj-Napoca**	**149.47**	**329**	⇓P	**PKiKP**	**03 51 19.0**	**-0.3**
KECS	**Kecovo**	**149.50**	**334**	*e*PKP	**PKiKP**	**03 51 19.8**	**+0.5**
KRLC	**Kraliky**	**149.50**	**340**	*e*PKP	**PKiKP**	**03 51 19.2**	**-0.1**
MORC	**Moravsky Berou**	**149.51**	**339**	*e*PKP	**PKPbc**	**03 51 18.6**	**+0.1**
MORC	**Moravsky Berou**	**149.51**	**339**	⇑P	**PKiKP**	**03 51 19.2**	**-0.2**
BRG	**Berggiesshubel**	**149.61**	**344**	*e*PKP	**PKiKP**	**03 51 19.5**	**0.0**
BRG				Amp		03 51 20.4	
	comp=Z,28nn,0.7s						
MARR	**Marisel-Cluj**	**149.73**	**329**	⇓P	**PKiKP**	**03 51 19.5**	**-0.4**
PVCC	**Panska Ves**	**149.75**	**343**	*e*PKP	**PKiKP**	**03 51 19.9**	**+0.2**
DRGR		**149.83**	**330**	⇑P	**PKPbc**	**03 51 19.4**	**0.0**
RICC	**Richard**	**149.87**	**343**	*e*PKP	**PKiKP**	**03 51 20.4**	**+0.4**
TNR	**Turnu Rosu**	**149.88**	**327**	⇑P	**PKiKP**	**03 51 20.4**	**+0.2**
ARR	**Arges**	**149.89**	**326**	⇑P	**PKiKP**	**03 51 21.3**	**+1.0**
LOZB	**Loznitsa**	**150.09**	**321**	⇑P	**PKPbc**	**03 51 20.0**	**-0.1**
VYHS	**Vyhne**	**150.14**	**336**	*e*PKP	**PKiKP**	**03 51 20.4**	**-0.2**
PSZ	**Piszkesteto**	**150.19**	**334**	⇑P	**PKPbc**	**03 51 20.2**	**-0.1**
VRAC	**Vranov**	**150.23**	**339**	*e*PKP	**PKiKP**	**03 51 20.6**	**-0.2**
VRAC	**Vranov**	**150.23**	**339**	⇑P	**PKiKP**	**03 51 20.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**150.25**	**342**	*e*PKP	**PKiKP**	**03 51 21.0**	**+0.2**
PRU	**Pruhonice**	**150.25**	**342**	*e*PKP	**PKiKP**	**03 51 20.8**	**0.0**
JAVC	**Velka Javorina**	**150.25**	**338**	*e*PKP	**PKiKP**	**03 51 21.0**	**+0.6**
HUMR	**Humele**	**150.27**	**324**	⇓P	**PKiKP**	**03 51 20.6**	**-0.4**
LOT	**Lotru**	**150.28**	**327**	⇓P	**PKPbc**	**03 51 20.2**	**-0.4**
ISP	**Isparta**	**150.29**	**308**	PKPbc	**PKPbc**	**03 51 19.0**	**-1.8**
DEV	**Deva**	**150.40**	**328**	⇑P	**PKiKP**	**03 51 21.3**	**+0.1**
KRUC	**Moravsky**	**150.51**	**339**	*e*PKP	**PKiKP**	**03 51 21.1**	**-0.3**
TREC	**Trest**	**150.59**	**341**	*e*PKP	**PKiKP**	**03 51 21.8**	**+0.2**
SIRR	**Siria**	**150.71**	**330**	⇓P	**PKiKP**	**03 51 21.8**	**-0.1**
ELND	**Elena**	**150.78**	**321**	⇑P	**PKiKP**	**03 51 22.0**	**-0.1**
MODS	**Modra-Piesok**	**150.81**	**338**	*e*PKP	**PKPbc**	**03 51 19.7**	**-1.9**
GZR	**Gura Zlata**	**150.81**	**328**	⇑P	**PKPbc**	**03 51 21.7**	**-0.1**
BAND	**Balkesir-Ban**	**150.83**	**315**	⇓P	**PKPbc**	**03 51 20.9**	**-0.9**
ZVC	**Zvikov**	**150.84**	**342**	*e*PKP	**PKiKP**	**03 51 22.3**	**+0.3**
SURR	**Surduc**	**150.87**	**329**	⇓P	**PKPdf**	**03 51 15.9**	**+0.2**
SRO	**Srobarova**	**150.90**	**336**	*e*PKP	**PKiKP**	**03 51 23.5**	**+1.3**
SRE	**Strehaia**	**151.11**	**326**	⇑P	**PKiKP**	**03 51 23.4**	**+0.7**
BEBN	**Eben Emael**	**151.16**	**354**	*d*PKiKP	**PKiKP**	**03 51 22.8**	**+0.2**
PLVE	**Pleven**	**151.21**	**323**	⇑P	**PKiKP**	**03 51 22.9**	**-0.1**
BZS	**Buzias**	**151.21**	**329**	⇓P	**PKiKP**	**03 51 22.8**	**-0.1**
UCC	**Uccle**	**151.26**	**356**	*d*PKiKP	**PKiKP**	**03 51 22.8**	**-0.1**
KHC	**Kasperske Hory**	**151.29**	**343**	*e*PKP	**PKiKP**	**03 51 23.3**	**+0.3**
MEM	**Membach**	**151.31**	**354**	*d*PKPdf	**PKPdf**	**03 51 16.6**	**+0.5**
MEM				*d*PKiKP	**PKiKP**	**03 51 23.0**	**0.0**
BTNL	**Ternell**	**151.32**	**353**	*d*PKiKP	**PKPbc**	**03 51 22.6**	**-0.1**
BTNL				*d*PKP	**PKPab**	**03 51 33.5**	**+0.8**
GRA1	**Grafenberg Arr**	**151.35**	**346**	PKPbc	**PKPbc**	**03 51 22.6**	**-0.2**
GRF	**Grafenberg Arr**	**151.35**	**346**	*e*PKP	**PKiKP**	**03 51 22.9**	**-0.2**
	comp=Z,12nn,0.8s,baz=20,slow=1.8						
GRFO	**Grafenberg**	**151.36**	**346**	PKPbc	**PKPbc**	**03 51 22.2**	**-0.5**
HERR	**Herculane**	**151.36**	**327**	⇓P	**PKiKP**	**03 51 23.0**	**-0.2**
CKRC	**Cesky Krumlov**	**151.37**	**342**	*e*PKP	**PKiKP**	**03 51 23.4**	**+0.2**
BSTI	**Sart Tilman**	**151.38**	**354**	*d*PKiKP	**PKiKP**	**03 51 23.0**	**-0.1**
GERES	**GERESS Array B**	**151.52**	**342**	PKP	**PKPdf**	**03 51 17.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=203,slow=1.0,SNR=5.1						
GERES				PKPbc	**PKiKP**	**03 51 23.5**	**-0.1**
	comp=Z,10nn,0.7s,baz=36,slow=2.5,SNR=69						
BHOU	**Houvegnez**	**151.56**	**353**	*d*PKPdf	**PKPdf**	**03 51 17.3**	**+0.7**
BHOU				*d*PKiKP	**PKiKP**	**03 51 23.8**	**+0.3**
BHOU				*d*PKPab	**PKPab**	**03 51 33.9**	**+0.2**
BANR	**Banloc**	**151.61**	**330**	⇑P	**PKiKP**	**03 51 24.7**	**+1.0**
BGES	**Gesves**	**151.62**	**355**	*d*PKPbc	**PKPbc**	**03 51 23.2**	**-0.1**
BGES				*d*PKP	**PKPab**	**03 51 33.3**	**-0.6**
CONA	**Conrad Observa**	**151.67**	**339**	*i* PKP	**PKiKP**	**03 51 24.0**	**+0.1**
	comp=Z,19nn,0.7s,SNR=16						
RONA	**Rosalia, Austr**	**151.72**	**338**	*i* PKP	**PKiKP**	**03 51 24.1**	**+0.1**
	comp=Z,19nn,0.5s,SNR=21						
BMRD	**Maredsous**	**151.73**	**355**	*d*PKiKP	**PKiKP**	**03 51 24.0**	**+0.2**
MDVR	**Moldovita**	**151.78**	**328**	⇑P	**PKPbc**	**03 51 23.8**	**-0.2**
RCHB	**Rochefort**	**151.84**	**354**	*d*PKiKP	**PKiKP**	**03 51 24.1**	**+0.1**
DOU	**Dourbes**	**151.95**	**355**	*d*PKiKP	**PKiKP**	**03 51 24.5**	**+0.2**
MORH	**Mrgy, Hungar**	**152.07**	**334**	⇑P	**PKPbc**	**03 51 24.0**	**-0.5**
WLF	**Walferdange**	**152.23**	**353**	*d*PKiKP	**PKiKP**	**03 51 25.2**	**+0.3**
MOA	**Molln**	**152.25**	**341**	*i* PKP	**PKiKP**	**03 51 24.8**	**-0.2**
	comp=Z,3.8nm,0.5s						
EZN	**Ezine**	**152.26**	**315**	⇓P	**PKiKP**	**03 51 25.1**	**-0.1**
BIOA	**Bad Ischl, Aus**	**152.58**	**342**	*i* PKP	**PKiKP**	**03 51 25.5**	**-0.2**
	comp=Z,0.4nm,0.3s						
SOKA	**Soboth**	**153.04**	**339**	*i* PKP	**PKPbc**	**03 51 26.3**	**-0.4**
	comp=Z,0.1nm,0.2s,SNR=5.3						
PERS	**Pernice**	**153.05**	**338**	*i* PKPbc	**PKPbc**	**03 51 25.8**	**-0.9**
LESA	**Schwarzleotal**	**153.10**	**343**	*i* PKP	**PKPbc**	**03 51 26.5**	**-0.3**
	comp=Z,2.5nm,0.4s						
KBA	**Koelnbreinsper**	**153.22**	**341**	*i* PKP	**PKPbc**	**03 51 26.5**	**-0.7**
	comp=Z,0.8nm,0.3s						
BFO	**Black Forest**	**153.22**	**349**	PKPbc	**PKPbc**	**03 51 26.1**	**-0.8**
WATA	**Walderalm**	**153.47**	**344**	*i* PKP	**PKiKP**	**03 51 27.7**	**0.0**
	comp=Z,4.2nm,0.5s						
WTTA	**Wattenberg**	**153.53**	**344**	*e*PKP	**PKiKP**	**03 51 27.8**	**-0.1**
	comp=Z,6.7nm,0.4s						
RETA	**Reutte**	**153.53**	**345**	*i* PKP	**PKPdf**	**03 51 19.5**	**-0.1**
	comp=Z,1.1nn,0.6s						
RETA				*i* PKP	**PKPbc**	**03 51 27.5**	**-0.2**
	comp=Z,1.9nn,0.6s						
MYKA	**Terra Mystica**	**153.53**	**340**	*i* PKP	**PKPbc**	**03 51 26.9**	**-0.9**
	comp=Z,4.0nn,0.5s						
MOTA	**Moosalm**	**153.58**	**345**	*i* PKP	**PKiKP**	**03 51 27.9**	**-0.1**
	comp=Z,0.4nn,0.3s						
SQTA	**Sankt Quirin**

	comp=Z,13nm,0.5s								
GTA	**Gaotai**	**41.91**	**0**	*e*P		**P**		**03 45 36.1**	**+0.4**
GTA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GTA				LR		LR			
	comp=Z,74nm,14.2s								
GTA				LR		LR			
	comp=Z,120nm,13.8s								
GTA				LR		LR			
	comp=Z,78nm,12.0s								
HHC	**Hu-ho-hao-te**	**44.66**	**13**	*e*P		**P**		**03 46 01.3**	**+3.4**
HHC				pmax		pmax			
	comp=Z,10.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,84nm,5.6s								
KSH	**Kashi**	**47.38**	**335**	P		**P**		**03 46 23.4**	**+4.0**
KSH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
PMG	**Port Moresby**	**47.52**	**100**	LR		LR		04 10 23.9	
	comp=Z,98nm,18.5s,baz=200,slow=41								
KSAR	**Wonju Array Be**	**47.69**	**30**	P		**P**		**03 46 21.0**	**-0.7**
KSRS	**Korea Array**	**47.72**	**30**	P		**P**		**03 46 21.5**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=222,slow=8.2,SNR=30								
	comp=Z,4.3nm,0.6s								
KS19	**Wonju Array Si**	**47.73**	**30**	P		**P**		**03 46 21.3**	**-0.7**
KS19				IAmb		IAmb		03 46 22.4	
	comp=Z,5.4nm,0.7s								
JMN	**Monobe**	**48.42**	**39**	P		**P**		**03 46 26.8**	**-0.6**
XLT	**XiLinHaoTe**	**48.64**	**16**	*e*P		**P**		**03 46 29.5**	**+0.5**
XLT				pmax		pmax			
	comp=Z,9.0nm,1.1s								
XLT				pmax		pmax			
	comp=Z,87nm,3.9s								
STKA	**Stephens Creek**	**48.83**	**131**	P		**P**		**03 46 30.8**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=322,slow=11,SNR=5.5								
STKA				LR		LR		04 09 47.3	
	comp=Z,57nm,18.5s,baz=233,slow=39								
	comp=Z,3.9nm,0.8s								
KDJ	**Kajisay**	**49.12**	**338**	P		**P**		**03 46 32.9**	**+0.1**
ARSB	**Arslanbob**	**50.16**	**334**	P		**P**		**03 46 41.5**	**+0.7**
ARSB				IAmb		IAmb		03 46 50.5	
	comp=Z,21nm,1.4s								
AAK	**Ala-Archa**	**50.60**	**336**	LR		LR		04 11 38.1	
	comp=Z,43nm,18.5s,baz=190,slow=40								
SONM	**Songino Array**	**50.66**	**6**	P		**P**		**03 46 44.7**	**+0.3**
SONM				IAmb		IAmb		03 46 47.0	
	comp=Z,8.8nm,0.9s								
SONM	**Songino Array**	**50.66**	**6**	P		**P**		**03 46 45.5**	**+1.1**
	comp=Z,7.7nm,0.7s,baz=189,slow=9.1,SNR=30								
	comp=Z,7.7nm,0.7s								
ULN	**Ulaanbaatar**	**50.76**	**6**	P		**P**		**03 46 45.2**	**0.0**
ULN				IAmb		IAmb		03 46 47.5	
	comp=Z,12nm,1.1s								
MKAR	**Makanchi Array**	**51.65**	**345**	P		**P**		**03 46 51.8**	**+0.1**
MKAR	**Makanchi Array**	**51.65**	**345**	P		**P**		**03 46 52.6**	**+0.9**
	comp=Z,8.1nm,0.7s,baz=150,slow=8.4,SNR=64								
	comp=Z,8.1nm,0.7s								
MAKZ	**Makanchi**	**51.75**	**344**	P		**P**		**03 46 52.5**	**0.0**
MJAR	**Matsushiro Arr**	**52.94**	**39**	P		**P**		**03 47 00.1**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=210,slow=6.6,SNR=4.9								
	comp=Z,1.7nm,0.5s								
BNX	**BinXian**	**54.09**	**24**	⇓P		**P**		**03 47 09.8**	**+0.1**
BNX				pmax		pmax			
	comp=Z,16nm,0.7s								
MDJ	**Mudanjiang**	**54.10**	**26**	P		**P**		**03 47 10.7**	**+0.9**
MDJ				pmax		pmax			
	comp=Z,12nm,0.9s								
USA0B	**Ussuriysk Arra**	**54.86**	**28**	P		**P**		**03 47 15.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**54.86**	**28**	P		**P**		**03 47 15.3**	**0.0**
USRK	**Ussuriysk Ar.**	**54.86**	**28**	P		**P**		**03 47 15.7**	**+0.3**
	comp=Z,15nm,0.6s,baz=213,slow=6.1,SNR=32								
	comp=Z,15nm,0.6s								
KURBB	**Kurchatov Arra**	**56.17**	**344**	P		**P**		**03 47 25.2**	**+0.6**
	comp=Z,4.3nm,0.2s,baz=161,slow=6.4,SNR=8.7								
	comp=Z,4.3nm,0.2s								
KURK	**Kurchatov**	**56.23**	**344**	P		**P**		**03 47 25.0**	**0.0**
KURK				IAmb		IAmb		03 47 27.2	
	comp=Z,8.8nm,1.1s								
ZAA0	**Zalesovo Array**	**57.82**	**350**	P		**P**		**03 47 36.0**	**-0.3**
ZAA0				IAmb		IAmb		03 47 41.7	
	comp=Z,9.9nm,0.8s								
ZALV	**Zalesovo Beam**	**57.82**	**350**	P		**P**		**03 47 36.2**	**0.0**
ZALV	**Zalesovo Beam**	**57.82**	**350**	P		**P**		**03 47 36.6**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=172,slow=5.2,SNR=23								
	comp=Z,8.3nm,0.7s								
HEH	**HeiHe**	**57.84**	**21**	*e*P		**P**		**03 47 36.5**	**0.0**
H04N2	**CROZET ISLANDS**	**60.12**	**217**	T		T		04 53 11.0	
	baz=59,slow=75,SNR=6304								
H04N1	**CROZET ISLANDS**	**60.13**	**217**	T		T		04 53 11.4	
	baz=59,slow=75,SNR=5080								
H04N3	**CROZET ISLANDS**	**60.14**	**217**	T		T		04 53 10.1	
	baz=59,slow=75,SNR=5246								
H04S1	**CROZET ISLANDS**	**60.41**	**216**	T		T		04 53 30.2	
	baz=58,slow=76,SNR=844								
H04S3	**CROZET ISLANDS**	**60.42**	**216**	T		T		04 53 27.7	
	baz=58,slow=76,SNR=1359								
H04S2	**CROZET ISLANDS**	**60.42**	**216**	T		T		04 53 30.7	
	baz=58,slow=76,SNR=570								
BVAR	**Borovoye Array**	**60.77**	**340**	P		**P**		**03 47 56.3**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=142,slow=11,SNR=4.1								
	comp=Z,1.4nm,0.6s								
AB31	**Akbulak array**	**62.16**	**332**	P		**P**		**03 48 06.1**	**-0.1**
AB31				IAmb		IAmb		03 48 07.2	
	comp=Z,6.4nm,0.8s								
ABKAR	**Akbulak array**	**62.16**	**332**	P		**P**		**03 48 06.1**	**-0.1**
PETK	**Petropavlovsk-**	**73.58**	**32**	P		**P**		**03 49 16.9**	**-1.2**
BRTR	**Keskin Array B**	**73.65**	**313**	P		**P**		**03 49 19.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=115,slow=8.3,SNR=4.1								
	comp=Z,0.8nm,0.7s								
TIXI	**Tiksi**	**76.58**	**9**	LR		LR		04 26 33.4	
	comp=Z,62nm,18.7s,baz=200,slow=38								
FINES	**FINESS Array B**	**84.64**	**332**	P		**P**		**03 50 18.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=115,slow=8.6,SNR=5.3								
	comp=Z,1.9nm,0.9s								
ARCES	**ARCESS Array B**	**87.06**	**340**	P		**P**		**03 50 30.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=90,slow=2.4,SNR=5.0								
	comp=Z,1.2nm,0.8s								
QSPA	**South Pole Qui**	**87.26**	**180**	P		**P**		**03 50 32.5**	**+1.0**
QSPA				IAmb		IAmb		03 51 06.4	
	comp=Z,4.7nm,1.4s								
CLL	**Collm**	**90.09**	**321**	*e*P		**P**		**03 50 46.0**	**+1.1**
HFS	**Hagfors**	**90.38**	**330**	LR		LR		04 35 52.9	
	comp=Z,24nm,19.6s,baz=270,slow=39								
STRU	**Stroemstad**	**91.59**	**329**	*i* P		P		03 50 56.9	+5.3
NC303	**NORSAR Array S**	**91.59**	**331**	P		**P**		**03 50 50.3**	**-1.5**
CPUP	**Villa Florida**	**143.64**	**216**	PKP		**PKPdf**		**03 57 19.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=252,slow=2.2,SNR=3.4								
APMT	**Aspermont**	**144.28**	**29**			PKPbc		03 57 19.8	-0.1
PBMO	**Poplar Bluff**	**144.80**	**14**	PKPdf		**PKPab**		**03 57 20.0**	**-1.3**
SGCY	**Sterling City**	**144.89**	**32**	PKPdf		PKPbc		03 57 21.7	-0.2
TXAR	**Lajitas Array**	**145.37**	**38**	PKPbc		**PKPdf**		**03 57 24.6**	**+0.8**
	comp=Z,9.6nm,0.7s,baz=284,slow=0.8,SNR=94								

*TAP **05** 03:39:39.0,23°.30N×120°.45E,h4km,ML4.1,C*
*JMA **05** 03:39:39.0±0.2,23°.3N±0°.3×120°.4E±0°.7,h0km,MV4.1/11, TAIWAN REGION*
ISC 05 03:39:39.9±0.8,23°31N±0°.01×120°43E±0°.01,h8km±4km, n153,σ0°90/264,26C-18D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWK	**Hsinying**	**0.07**	**131**	⇓*i*P	**Pg**	**03 39 40.8**	**-1.2**
TWK				S	**Sg**	**03 39 42.4**	**-1.1**
SNST	**Tainan City**	**0.11**	**146**	⇓*i*P	**Pg**	**03 39 41.5**	**-1.1**
SNST				*i* S	**Sg**	**03 39 43.5**	**-0.8**
ICHU	**Yijhu**	**0.14**	**289**	P	**Pg**	**03 39 43.6**	**+0.6**
CHN4	**Tsaushan**	**0.15**	**76**	⇓*i*P	**Pg**	**03 39 43.0**	**-0.2**
CHN4				S	**Sg**	**03 39 46.2**	**+0.7**
CHN1	**Nanshi**	**0.16**	**144**	⇓*i*P	**Pg**	**03 39 42.6**	**-0.7**
CHN1				S	**Sg**	**03 39 46.2**	**+0.6**
CHY	**Chiayi**	**0.18**	**359**	P	**Pg**	**03 39 44.5**	**+0.7**
CHY				S	**Sg**	**03 39 49.2**	**+2.9**
WTP	**Ta-pu**	**0.18**	**112**	⇓*i*P	**Pg**	**03 39 43.4**	**-0.3**
WTP				S	**Sg**	**03 39 47.1**	**+0.8**
TPUB	**Ta-pu**	**0.18**	**94**	P	**Pg**	**03 39 43.3**	**-0.4**
TPUB	**Ta-pu**	**0.18**	**94**	P	**Pb**	**03 39 47.0**	**+3.2**
TPUB	**Ta-pu**	**0.18**	**94**	⇓*i*P	**Pg**	**03 39 43.4**	**-0.4**
TPUB				S	**Sg**	**03 39 46.5**	**+0.1**
CHN8	**Yiju**	**0.20**	**279**	⇓*i*P	**Pg**	**03 39 44.8**	**+0.7**
CHN8				*i* S	**Sg**	**03 39 49.9**	**+3.0**
WCKO	**Fanlu**	**0.20**	**52**	⇑*i*P	**Pg**	**03 39 44.4**	**+0.3**
WCKO				S	**Sg**	**03 39 48.7**	**+1.7**
CHN3	**Shinhua**	**0.24**	**194**	P	**Pg**	**03 39 45.5**	**+0.6**
CHN3				S	**Sg**	**03 39 51.0**	**+2.8**
SCLT	**Jiali**	**0.26**	**237**	⇓*i*P	**Pg**	**03 39 45.9**	**+0.9**
SCLT				*i* S	**Sb**	**03 39 51.8**	**+0.4**
SGST	**Jiashian**	**0.27**	**148**	⇓*i*P	**Pg**	**03 39 44.4**	**-1.0**
SGST				S	**Sg**	**03 39 50.3**	**+1.3**
WSL	**Shuilin Townsh**	**0.28**	**318**	P	**Pb**	**03 39 46.5**	**-0.7**
WSL				*e*S	**Sb**	**03 39 52.8**	**+0.8**
SHHT	**Tainan City**	**0.30**	**194**	*e*P	**Pb**	**03 39 47.1**	**-0.4**
SHHT				S	**Sb**	**03 39 54.3**	**+1.6**
TAI1	**Yung-k'ang**	**0.33**	**214**	*e*P	**Pb**	**03 39 47.9**	**-0.2**
TAI1				*e*S	**Sb**	**03 39 54.7**	**+1.3**
STYH	**Taoyuan**	**0.35**	**114**	⇓P	**Pg**	**03 39 46.8**	**0.0**
STYH				S	**Sg**	**03 39 52.7**	**+1.2**
TSCK	**Chigu Township**	**0.36**	**242**	*e*P	**Pb**	**03 39 48.0**	**-0.5**
TSCK				*e*S	**Sb**	**03 39 55.1**	**+0.9**
CHN5	**Tsauling**	**0.36**	**39**	⇑*i*P	**Pg**	**03 39 47.7**	**+0.5**
CHN5				*e*S	**Sb**	**03 39 54.5**	**-0.1**
WTK	**Tuku**	**0.37**	**354**	*e*P	**Pb**	**03 39 48.4**	**-0.5**
WTK				*e*S	**Sb**	**03 39 56.0**	**+1.2**
WSF	**Szhu**	**0.38**	**330**	⇓P	**Pg**	**03 39 48.2**	**+0.9**
WSF				*e*S	**Sb**	**03 39 55.7**	**+0.8**
WDLH	**Douliu**	**0.39**	**15**	⇑P	**Pb**	**03 39 48.9**	**-0.2**
WDLH				*e*S	**Sb**	**03 39 56.5**	**+1.4**
WGK	**Gukeng**	**0.39**	**18**	⇑*i*P	**Pb**	**03 39 48.9**	**-0.2**
WGK				*e*S	**Sb**	**03 39 56.3**	**+1.0**
ALS	**Alishan**	**0.40**	**60**	⇑*i*P	**Pg**	**03 39 48.3**	**+0.5**
ALS				*e*S	**Sb**	**03 39 55.2**	**-0.5**
SCST	**Cishan**	**0.43**	**172**	*e*P	**Pb**	**03 39 49.9**	**+0.1**
SCST				*e*S	**Sb**	**03 39 59.0**	**+2.7**
TWM1	**Shoushan**	**0.49**	**181**	*e*P	**Pn**	**03 39 52.0**	**-1.2**
WHYT	**Xinyi Township**	**0.55**	**46**	P	**Pg**	**03 39 51.1**	**+0.6**
WHYT				S	**Sb**	**03 39 59.9**	**+0.2**
ELDTW	**Lidau**	**0.56**	**103**	*e*P	**Pg**	**03 39 50.8**	**+0.1**
ELDTW				*e*S	**Sg**	**03 39 59.8**	**+0.3**
SNJT	**Kaohsiung City**	**0.56**	**189**	*e*S	**Sg**	**03 39 57.6**	**-0.7**
WTCT	**Ta-ch'eng**	**0.56**	**346**	*e*S	**Sb**	**03 40 01.3**	**+1.0**
WJS	**Zhushan**	**0.58**	**28**	⇑P	**Pb**	**03 39 52.0**	**-0.3**
WJS				*e*S	**Sb**	**03 40 01.7**	**+1.1**
SGLT	**Jiouru**	**0.59**	**174**	*e*P	**Pn**	**03 39 54.2**	**-0.4**
SSD	**Sandimen**	**0.59**	**162**	⇓*i*P	**Pb**	**03 39 52.0**	**-0.5**
SSD				*e*S	**Sb**	**03 40 01.8**	**+0.6**
WNT	**Mingjian**	**0.61**	**23**	⇑*i*P	**Pb**	**03 39 52.7**	**-0.1**
WNT				*e*S	**Sb**	**03 40 02.7**	**+1.2**
TSMG	**Majia**	**0.64**	**162**	⇓P	**Pb**	**03 39 52.8**	**-0.5**
TSMG				*e*S	**Sb**	**03 40 03.0**	**+0.6**
SSLB	**Suanglung**	**0.67**	**46**	P	**Pg**	**03 39 53.2**	**+0.3**
SSLB	**Suanglung**	**0.67**	**46**	S	**Sb**	**03 40 04.4**	**+0.9**
SSLB	**Suanglung**	**0.67**	**46**	⇑*i*P	**Pg**	**03 39 53.3**	**+0.3**
SSLB				*e*S	**Sb**	**03 40 04.2**	**+0.7**
TYC	**Yuchr**	**0.71**	**34**	⇑*i*P	**Pb**	**03 39 54.3**	**-0.2**
TYC				*e*S	**Sn**	**03 40 05.9**	**-1.4**
WDGT	**Dungji**	**0.71**	**266**	⇓P	**Pg**	**03 39 53.5**	**-0.1**
WDGT				*e*S	**Sb**	**03 40 04.4**	**0.0**
SMLT	**Sun Moon Lake**	**0.71**	**37**	⇑*i*P	**Pb**	**03 39 54.3**	**-0.4**
SMLT				S	**Sb**	**03 40 05.2**	**+0.5**
MASBT	**Mashibuluo**	**0.72**	**165**	⇓*i*P	**Pb**	**03 39 54.4**	**-0.4**
MASBT				*e*S	**Sn**	**03 40 06.6**	**-1.1**
EHD	**Haiduan**	**0.73**	**103**	P	**Pg**	**03 39 53.9**	**-0.2**
EHD				S	**Sb**	**03 40 04.5**	**-0.6**
LONT	**Longtian**	**0.76**	**122**	*e*P	**Pg**	**03 39 54.7**	**+0.1**
LONT				*e*S	**Sb**	**03 40 05.7**	**-0.2**
TWG	**Pinlang**	**0.77**	**130**	*e*P	**Pg**	**03 39 54.9**	**+0.1**
TWG				*e*S	**Sb**	**03 40 06.5**	**+0.3**
WCHH	**Zhanghua**	**0.77**	**9**	*e*P	**Pb**	**03 39 55.4**	**-0.3**
WCHH				*e*S	**Sn**	**03 40 07.5**	**-1.4**
TWGBT	**Beinan**	**0.78**	**129**	P	**Pg**	**03 39 55.2**	**+0.3**
TWGBT	**Beinan**	**0.78**	**129**	S	**Sb**	**03 40 07.0**	**+0.6**
TWGBT	**Beinan**	**0.78**	**129**	*e*P	**Pg**	**03 39 54.9**	**0.0**
TWGBT				*e*S	**Sb**	**03 40 06.2**	**-0.1**
VWDT	**VWDT**	**0.79**	**56**	⇑*i*P	**Pg**	**03 39 55.4**	**+0.3**
VWDT				*e*S	**Sn**	**03 40 07.6**	**-1.6**
TWF1	**Yuli**	**0.80**	**87**	*e*P	**Pg**	**03 39 55.2**	**-0.1**
TWF1				*e*S	**Sb**	**03 40 07.0**	**-0.1**
YULB	**Yu-li**	**0.80**	**84**	P	**Pg**	**03 39 55.6**	**+0.2**
YULB	**Yu-li**	**0.80**	**84**	S	**Sb**	**03 40 07.8**	**+0.7**
YULB	**Yu-li**	**0.80**	**84**	⇑*i*P	**Pg**	**03 39 55.1**	**-0.3**
YULB				S	**Sg**	**03 40 05.8**	**0.0**
FULB	**Fuli**	**0.80**	**98**	P	**Pb**	**03 39 55.9**	**-0.3**
FULB				S	**Sn**	**03 40 08.0**	**-1.7**
PHUB	**P'eng-hu**	**0.81**	**284**	⇓*i*P	**Pg**	**03 39 55.0**	**-0.5**
PHUB				*e*S	**Sb**	**03 40 06.8**	**-0.6**
EYUL	**Yuli**	**0.82**	**87**	*e*P	**Pb**	**03 39 56.2**	**-0.2**
PNG	**Penghu**	**0.84**	**288**	⇓*i*P	**Pg**	**03 39 55.7**	**-0.4**
PNG				S	**Sg**	**03 40 07.7**	**+0.6**
EHY	**Hungye**	**0.84**	**77**	⇓P	**Pg**	**03 39 56.4**	**+0.2**
EHY				*e*S	**Sb**	**03 40 08.7**	**+0.4**
EHYH	**Wanrong**	**0.86**	**78**	*e*P	**Pg**	**03 40 08.4**	**+0.3**
EHYH				*e*S	**Sb**	**03 40 09.1**	**+0.3**
TCU	**Taichung**	**0.86**	**15**	*e*P	**Pb**	**03 39 57.2**	**+0.1**
TCU				*e*S	**Sn**	**03 40 13.5**	**+2.4**
ECL	**Taimali**	**0.86**	**146**	*e*P	**Pg**	**03 39 56.6**	**0.0**
ECL				*e*S	**Sn**	**03 40 10.0**	**-1.1**
WCS	**Beigang Elemen**	**0.86**	**31**	P	**Pg**	**03 39 56.7**	**+0.1**
WCS				S	**Sn**	**03 40 09.9**	**-1.3**
TTN	**Taitung**	**0.86**	**130**	*e*P	**Pn**	**03 39 57.6**	**-0.7**
TTN				*e*S	**Sn**	**03 40 10.4**	**-0.8**
EDH	**Donghe**	**0.87**	**113**	*e*P	**Pg**	**03 39 56.9**	**+0.1**
EDH				*e*S	**Sn**	**03 40 10.8**	**-0.7**
CHKT	**Chengkung**	**0.89**	**104**	*e*P	**Pn**	**03 39 57.9**	**-0.8**
CHKT				*e*S	**Sn**	**03 40 12.0**	**+0.3**
CHKH	**Chenggong**	**0.90**	**98**	*e*P	**Pg**	**03 39 57.4**	**+0.2**
CHKH				*e*S	**Sn**	**03 40 10.7**	**-1.3**
VCHM	**Qimei**	**0.93**	**264**	⇑P	**Pg**	**03 39 57.0**	**-0.8**
VCHM				*e*S	**Sb**	**03 40 10.6**	**-0.1**
WUSB	**Renai**	**0.93**	**43**	⇑*i*P	**Pg**	**03 39 57.6**	**-0.2**
WUSB				*e*S	**Sb**	**03 40 11.0**	**+0.2**
HGSD	**Ruisui**	**0.93**	**79**	*e*P	**Pb**	**03 39 58.5**	**+0.1**
HGSD				*e*S	**Sn**	**03 40 12.7**	**-0.1**
OWD	**Renai**	**0.94**	**47**	P	**Pg**	**03 39 58.1**	**+0.1**
OWD				*e*S	**Sb**	**03 40 11.5**	**+0.4**
SCZT	**Fangliau**	**0.95**	**169**	P	**Pn**	**03 39 59.4**	**-0.3**
SCZT				S	**Sn**	**03 40 14.5**	**+1.1**
WLCH	**Liuqiu**	**0.96**	**183**	*e*P	**Pn**	**03 40 01.6**	**+1.9**
WARBT	**Fenglin Townsh**	**0.97**	**65**	⇑*i*P	**Pg**	**03 39 58.3**	**-0.2**
WARBT				*e*S	**Sb**	**03 40 12.0**	**+0.1**
EGFH	**Guangfu**	**0.98**	**69**	*e*P	**Pg**	**03 39 58.7**	**-0.1**
EGFH				*e*S	**Sn**	**03 40 12.9**	**-1.2**
EAST	**Anshuo**	**1.00**	**157**	*e*P	**Pb**	**03 39 59.5**	**-0.1**
EAST				*e*S	**Sb**	**03 40 13.1**	**+0.1**
TAW	**Tawu**	**1.04**	**156**	*e*P	**Pb**	**03 39 59.5**	**-0.8**
ESL	**Shilin**	**1.05**	**61**	⇑P	**Pb**	**03 39 59.9**	**-0.4**
ESL				*e*S	**Sn**	**03 40 14.1**	**-0.6**
WDJ	**Dajia District**	**1.05**	**11**	*e*P	**Pg**	**03 40 00.5**	**+0.4**
WDJ				*e*S	**Sn**	**03 40 16.4**	**+0.7**
TAWH	**Dawu Township**	**1.06**	**156**	*e*P	**Pg**	**03 40 00.4**	**+0.2**
TAWH				*e*S	**Sn**	**03 40 15.9**	**-0.1**
WHP	**Taichung City**	**1.07**	**26**	*e*P	**Pb**	**03 40 00.3**	**-0.5**
WHP				*e*S	**Sn**	**03 40 16.8**	**+0.4**
TWQ1	**Liyutan**	**1.08**	**17**	*e*P	**Pb**	**03 40 00.6**	**-0.2**
TWQ1				*e*S	**Sn**	**03 40 16.8**	**+0.3**
WHF	**Hehuan Shan**	**1.13**	**43**	⇑*i*P	**Pb**	**03 40 01.3**	**-0.6**
NSY	**Sanyi**	**1.14**	**15**	*e*P	**Pn**	**03 40 01.9**	**-0.2**
NSY				*e*S	**Sn**	**03 40 18.7**	**+0.6**
SHUL	**Shoufeng**	**1.14**	**65**	*e*P	**Pg**	**03 40 02.0**	**+0.1**
SHUL				*e*S	**Sn**	**03 40 19.8**	**+1.8**
SLIU	**Shizi**	**1.14**	**163**	*e*P	**Pg**	**03 40 02.2**	**+0.3**
LXIB	**Xiulin Townshi**	**1.15**	**52**	⇑*i*P	**Pb**	**03 40 01.5**	**-0.6**
LXIB				*e*S	**Sn**	**03 40 17.9**	**-0.4**
TDCB	**Techi**	**1.15**	**35**	*e*P	**Pb**	**03 40 01.5**	**-0.7**
TDCB				*e*S	**Sg**	**03 40 17.6**	**+0.6**
LDUT	**Ludao**	**1.15**	**123**	*e*P	**Pb**	**03 40 01.4**	**-0.7**
LDUT				*e*S	**Sn**	**03 40 18.9**	**+0.7**
TWT	**Tachien**	**1.16**	**36**	*e*P	**Pb**	**03 40 01.6**	**-0.7**
TWT				*e*S	**Sn**	**03 40 19.3**	**+0.6**
FUSS	**Fushou**	**1.19**	**39**	*e*P	**Pb**	**03 40 02.6**	**-0.4**
FUSS				*e*S	**Sn**	**03 40 20.6**	**+0.9**
NMLH	**Miaoli**	**1.26**	**15**	*e*P	**Pn**	**03 40 03.8**	**-0.1**
HWA	**Hwalien**	**1.27**	**58**	*e*P	**Pg**	**03 40 04.5**	**+0.2**
ETLH	**Xiulin Townshi**	**1.31**	**47**	*e*P	**Pn**	**03 40 04.0**	**-0.6**
ETLH				*e*S	**Sg**	**03 40 23.3**	**+1.1**
TWD	**Chiawan**	**1.31**	**54**	*e*P	**Pb**	**03 40 04.5**	**-0.3**
TWD				*e*S	**Sg**	**03 40 22.8**	**+0.5**
SMST	**Manzhou Townsh**	**1.34**	**164**	*e*P	**Pb**	**03 40 05.3**	**0.0**
NACB	**Ninganchiao**	**1.37**	**51**	P	**Pb**	**03 40 05.4**	**-0.4**
NACB	**Ninganchiao**	**1.37**	**51**	⇑P	**Pn**	**03 40 05.1**	**-0.2**
NACB				*e*S	**Sg**	**03 40 24.0**	**0.0**
TWK1	**Hengchun**	**1.41**	**166**	*e*P	**Pb**	**03 40 06.5**	**+0.1**
NNSB	**Datong**	**1.41**	**38**	⇑*i*P	**Pn**	**03 40 05.6**	**-0.4**
NNSB				*e*S	**Sg**	**03 40 25.8**	**+0.4**
NSTT	**Nanjuang**	**1.41**	**22**	⇑*i*P	**Pn**	**03 40 05.6**	**-0.3**
NSTT				*e*S	**Sg**	**03 40 25.3**	**-0.1**
TWKBT	**Hengchun**	**1.41**	**165**	*e*P	**Pn**	**03 40 05.9**	**0.0**
LIOB	**Emei**	**1.43**	**22**	⇑*i*P	**Pn**	**03 40 06.0**	**-0.3**
LIOB				*e*S	**Sg**	**03 40 26.0**	**0.0**
NFF	**Wufeng Townshi**	**1.46**	**26**	*e*P	**Pn**	**03 40 06.3**	**-0.3**
NFF				*e*S	**Sg**	**03 40 27.0**	**+0.2**
SBCB	**Hsinchu**	**1.56**	**19**	*e*P	**Pn**	**03 40 08.0**	**+0.1**
SBCB				*e*S	**Sb**	**03 40 28.6**	**-0.3**
LATG	**Datong**	**1.58**	**39**	⇑*i*P	**Pn**	**03 40 08.5**	**+0.2**
LATG				*e*S	**Sg**	**03 40 31.1**	**+0.4**
NSK	**Sanguang**	**1.60**	**32**	⇑P	**Pn**	**03 40 08.6**	**0.0**
YHNB	**Yeheng**	**1.60**	**32**	P	**Pn**	**03 40 08.7**	**0.0**
YHNB	**Yeheng**	**1.60**	**32**	⇑*i*P	**Pn**	**03 40 08.7**	**0.0**
KSHI	**Guanxi Townshi**	**1.61**	**25**	*e*P	**Pn**	**03 40 08.8**	**+0.1**
KSHI				*e*S	**Sg**	**03 40 31.2**	**-0.5**
ENA	**Nanau**	**1.64**	**47**	*e*P	**Pb**	**03 40 09.8**	**-0.6**
ENA				*e*S	**Sg**	**03 40 33.4**	**+0.8**
LAY	**Lan-yu**	**1.64**	**141**	*e*P	**Pn**	**03 40 09.1**	**0.0**
EWUT	**Wuta**	**1.67**	**47**	*e*P	**Pn**	**03 40 10.0**	**+0.5**
EWUT				*e*S	**Sg**	**03 40 33.4**	**-0.4**
ENTT	**Nioudou**	**1.68**	**38**	*e*P	**Pb**	**03 40 10.3**	**-0.8**
ENTT				*e*S	**Sn**	**03 40 30.9**	**-0.5**
LYUB	**Lan-yu**	**1.69**	**141**	*e*P	**Pn**	**03 40 08.1**	**-1.6**
NWLT	**Wulai**	**1.76**	**34**	*e*P	**Pn**	**03 40 11.0**	**+0.3**
NDS	**Dongshan**	**1.76**	**42**	*e*P	**Pn**	**03 40 10.4**	**-0.4**
NDS				*e*S	**Sb**	**03 40 34.7**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.79**	**36**	⇑P	**Pn**	**03 40 11.6**	**+0.4**
FUSB				*e*S	**Sb**	**03 40 35.9**	**+0.3**
TWE	**Neicheng**	**1.80**	**39**	*e*P	**Pb**	**03 40 12.7**	**-0.5**
TWE				*e*S	**Sg**	**03 40 39.0**	**+1.1**
ESAO	**Su ao**	**1.80**	**46**	*e*P	**Pb**	**03 40 12.8**	**-0.4**
ESAO				*e*S	**Sg**	**03 40 37.8**	**-0.2**
TWC	**Suao**	**1.83**	**45**	*e*P	**Pb**	**03 40 13.1**	**-0.6**
TWC				*e*S	**Sg**	**03 40 38.6**	**-0.2**
VWUC	**VWUC**	**1.90**	**332**	*e*P	**Pn**	**03 40 11.6**	**-1.0**
VWUC				*e

LSP	**Las Mesas**	**2.95 227**	⇑*eP*		**Pg**	**03 48 21.9**	**-0.1**
LSP	**Las Mesas**	**2.95 227**	*eS*		**Sb**	**03 48 52.6**	**-1.1**
PRSN	**Puerto Rico Se**	**2.96 228**	Pn		**Pg**	**03 48 22.4**	**+0.2**
PRSN			Sn		**Sb**	**03 48 52.2**	**-1.9**
PRSN	**Puerto Rico Se**	**2.96 228**	⇓*eP*		**Pb**	**03 48 20.6**	**+2.6**
PRSN	**Puerto Rico Se**	**2.96 228**	*eS*		**Sb**	**03 48 53.1**	**-1.0**
MLPR	**Magueyes Islan**	**3.07 224**	⇓*eP*		**Pg**	**03 48 22.4**	**-1.8**
MLPR	**Magueyes Islan**	**3.07 224**	*eS*		**Sb**	**03 48 55.6**	**-1.5**
MLPR	**Magueyes Islan**	**3.07 224**	⇑*eP*g		**Pg**	**03 48 22.7**	**-1.6**
MLPR			⇑*eS*g		**Sb**	**03 48 58.0**	**+0.9**
MLPR			IAML			03 49 07.2	
	comp=N,12nm,1.9s						
CRPR	**Cabo Rojo, PR**	**3.08 225**	Pn		**Pb**	**03 48 22.3**	**+2.2**
CRPR			Sn		**Sb**	**03 48 55.0**	**-2.6**
CRPR			IAML			03 49 42.9	
	comp=E,44nm,2.1s						
CRPR			IAML			03 49 43.4	
	comp=N,42nm,1.8s						
CRPR	**Cabo Rojo, PR**	**3.08 225**	⇑*eP*		**Pg**	**03 48 23.1**	**-1.5**
CRPR	**Cabo Rojo, PR**	**3.08 225**	*eS*		**Sb**	**03 48 55.5**	**-2.1**
CRPR	**Cabo Rojo, PR**	**3.08 225**	⇑*eP*g		**Pg**	**03 48 23.9**	**-0.7**
CRPR			⇑*eS*g		**Sb**	**03 48 57.6**	**+0.1**
CRPR			IAML			03 48 58.8	
	comp=N,48nm,3.2s						
DR12	**Loma Pena Alta**	**4.53 253**	Pn		**Pb**	**03 48 46.0**	**+1.1**
HATOM	**Hato Mayor del**	**4.53 253**	⇑*eP*g		**Pb**	**03 48 46.7**	**+1.8**
HATOM			⇑*eS*g		**Sb**	**03 49 37.7**	**-1.8**
HATOM			IAML			03 49 43.2	
	comp=N,9.5nm,0.5s						
SDDR	**Presa de Saban**	**6.22 260**	Pn		**Pb**	**03 49 11.4**	**-2.2**

*BJI **05** 03:53:44.1, 1.°84N×127.°50E, h124km, mB4.8/8, mb4.7/38*
*NEIC **05** 03:53:44.8±1.5, 1.°82N±0.°07×127.°5E±0.°1, h117km±3km, mb4.7/37, Error ellipse: s-maj=19.7km s-min=9.5km az=75.0*
*DJA **05** 03:53:45.2±0.3, 2.°N±2.°×12.°7E±.°, h95km±4km, M4.9/19, mB5.4/13, mb5.2/16, MLv5.0/19, Mw(mB)4.8/13*
*IDC **05** 03:53:45.7±0.8, 1.°76N×127.°40E, h127km±7km, mb4.2/17, mbtmp4.6/20, Error ellipse: s-maj=24.3km s-min=9.0km az=80.0*

ISC 05 03:53:45.5±0.5, **1.°76N**±0.°04×**127.°27E**±0.°06, **h122**km±5km, **h123**km:**pP-P,n132,σ1.°23**/142, **mb4.6**/43, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**175**		**Pn**	**03 54 07.2**	**-0.3**
TNTI	**Ternate**	**0.98**	**175**	P	**Pn**	**03 54 07.6**	**+0.1**
TNTI	**Ternate**	**0.98**	**175**	P	**Pn**	**03 54 07.4**	**-0.1**
TNTI				S	**Sn**	**03 54 22.5**	**-1.7**
SGSI	**Sangihe**	**2.59**	**318**	P	**Pn**	**03 54 23.9**	**-2.6**
SGSI				S	**Sn**	**03 54 54.1**	**-4.0**
KMSI	**Cibinong**	**3.50**	**250**	P	**Pn**	**03 54 38.0**	**-0.3**
KMSI				S	**Sn**	**03 55 18.4**	**-0.9**
SANI	**Sanana**	**3.99**	**199**	P	**Pn**	**03 54 44.0**	**-1.0**
SANI	**Sanana**	**3.99**	**199**	P	**Pn**	**03 54 43.7**	**-1.3**
SWI	**Sorong**	**4.76**	**123**	P	**Pn**	**03 54 55.7**	**+0.5**
NLAI	**Namlea**	**4.96**	**182**	P	**Pn**	**03 54 58.0**	**0.0**
LUWI	**Luwuk**	**5.29**	**238**	P	**Pn**	**03 55 02.6**	**+0.2**
	6μm236nm,0.6s						
LUWI				S	**Sn**	**03 56 01.6**	**-0.7**
	6μm236nm,0.6s						
MRSI	**Marisa**	**5.48**	**257**	P	**Pn**	**03 55 06.1**	**+1.2**
	1.2nm2μm153nm,0.5s						
MRSI				S	**Sn**	**03 56 06.2**	**-0.7**
	1.2nm2μm153nm,0.5s						
AAI	**Ambon**	**5.48**	**170**	P	**Pn**	**03 55 05.8**	**+0.8**
	0.8nm3μm134nm,0.6s						
APSI	**Ampana**	**6.22**	**245**	P	**Pn**	**03 55 13.6**	**-1.3**
	4μm110nm,0.7s						
TOLI2	**Tolitoli**	**6.52**	**264**	Pn	**Pn**	**03 55 18.1**	**-0.9**
TOLI2	**Tolitoli**	**6.52**	**264**	P	**Pn**	**03 55 18.8**	**-0.2**
BNDI	**Bandanaira**	**6.77**	**157**	P	**Pn**	**03 55 22.5**	**+0.2**
FAKI	**Fak Fak**	**6.80**	**133**	Pn	**Pn**	**03 55 24.4**	**+1.6**
FAKI	**Fak Fak**	**6.80**	**133**	P	**Pn**	**03 55 23.7**	**+0.9**
FAKI	**Fak Fak**	**6.80**	**133**	P	**Pn**	**03 55 23.9**	**+1.1**
KDI	**Kendari**	**7.34**	**219**	P	**Pn**	**03 55 29.4**	**-0.6**
RKPI	**Ransiki, Papua**	**7.63**	**115**	P	Pn	03 55 47.7	+14
BBSI	**Bau Bau**	**8.59**	**213**	P	**Pn**	**03 55 47.9**	**+0.9**
BAKI	**Biak**	**9.30**	**108**	P	**Pn**	**03 55 58.8**	**+2.2**
	3μm222nm,1.1s						
MYLDM	**Lahad Datu**	**9.39**	**291**	Pn	**Pn**	**03 56 00.1**	**+2.3**
MYLDM	**Lahad Datu**	**9.39**	**291**	P	**Pn**	**03 55 58.8**	**+1.0**
SPSI	**Sidrap Palu**	**9.41**	**233**	P	**Pn**	**03 55 58.2**	**+0.2**
BNSI	**Bone**	**9.42**	**229**	P	**Pn**	**03 55 57.9**	**-0.2**
	2μm155nm,0.6s						
BKSI	**Bulukumba**	**10.02**	**225**	P	**Pn**	**03 56 07.4**	**+1.1**
KAPI	**Kappang**	**10.08**	**228**	Pn	**Pn**	**03 56 08.2**	**+1.1**
KAPI	**Kappang**	**10.08**	**228**	P	**Pn**	**03 56 07.9**	**+0.8**
	96nm,0.4s,baz=84,slow=8.2,SNR=44						
KAPI				S	**Sn**	**03 57 56.0**	**-2.4**
	40nm,0.4s,baz=245,slow=23,SNR=14						
KAPI	**Kappang**	**10.08**	**228**	P	**Pn**	**03 56 08.2**	**+1.1**
BSSI	**Bau Bau, Buton**	**10.37**	**221**	P	**Pn**	**03 56 10.8**	**-0.1**
	2μm150nm,0.6s						
SOEI	**Soe**	**11.82**	**195**	P	**Pn**	**03 56 31.3**	**+0.9**
KKM	**Kota Kinabalu**	**11.83**	**291**	Pn	**Pn**	**03 56 32.8**	**+2.3**
KKM	**Kota Kinabalu**	**11.83**	**291**	P	**Pn**	**03 56 31.6**	**+1.1**
BATI	**Baumata**	**12.41**	**197**	P	**Pn**	**03 56 38.9**	**+0.8**
	48nm,0.6s,baz=350,slow=1.6,SNR=5.2						
PLAI	**Plampang**	**14.15**	**222**	P	**P**	**03 57 02.1**	**-2.1**
DRS	**Darwin Rock St**	**14.55**	**166**	P	**Pn**	**03 57 05.3**	**-0.2**
MTN	**Manton Dam**	**15.00**	**165**	Pn	**Pn**	**03 57 09.7**	**-1.6**
SBUM	**Sibu**	**15.06**	**273**		**P**	**03 57 15.7**	**+1.2**
SBUM	**Sibu**	**15.06**	**273**	P	**P**	**03 57 14.0**	**-0.4**
KDU	**Kakadu**	**15.25**	**160**	P	**Pn**	**03 57 12.7**	**-1.7**
JAGI	**Jajag, Banyuwa**	**16.56**	**232**	P	**P**	**03 57 31.4**	**+0.3**
KNRA	**Kununurra**	**17.38**	**175**	P	**P**	**03 57 39.6**	**-0.4**
KNRA				IAmb	IAmb	03 57 41.9	
	comp=Z,45nm,1.1s						
UGM	**Wanagama**	**19.27**	**240**	P	**Pn**	**03 58 03.1**	**0.0**
UGM				IAmb	IAmb	03 58 30.5	
	comp=Z,61nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.79**	**185**	P	**P**	**03 58 05.7**	**-0.6**
	comp=Z,23nm,0.5s,baz=15,slow=9.3,SNR=94						
BBJI	**Bungbulang**	**21.61**	**245**	P	**P**	**03 58 27.3**	**+1.2**
TWG	**Pinlang**	**21.79**	**344**	P	**P**	**03 58 22.8**	**-4.9**
YULB	**Yu-li**	**22.28**	**345**	P	**P**	**03 58 29.7**	**-3.1**
YULB				IAmb	IAmb	03 58 36.0	
	comp=Z,18nm,0.8s						
YULB	**Yu-li**	**22.28**	**345**	P	**P**	**03 58 30.1**	**-2.7**
TPUB	**Ta-pu**	**22.37**	**344**		**P**	**03 58 31.9**	**-1.7**
TPUB				IAmb	IAmb	03 58 34.0	
	comp=Z,50nm,1.0s						
TPUB	**Ta-pu**	**22.37**	**344**	P	**P**	**03 58 31.6**	**-2.1**
WB0	**Warramunga Arr**	**22.50**	**162**	P	**P**	**03 58 34.4**	**-0.7**
WRAB	**Tennant Creek**	**22.64**	**162**	P	**P**	**03 58 36.0**	**-0.5**
WRAB				IAmb	IAmb	03 58 36.8	
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**22.65**	**163**	P	**P**	**03 58 34.5**	**-2.0**
WRA	**Warramunga Arr**	**22.65**	**163**	P	**P**	**03 58 35.8**	**-0.8**
	comp=Z,44nm,0.7s,baz=342,slow=11,SNR=258						
WRA				S	**S**	**04 02 34.8**	**-0.8**
	comp=Z,6.7nm,1.1s,baz=345,slow=17,SNR=7.1						
	comp=Z,44nm,0.7s						
WR8	**Warramunga Arr**	**22.71**	**162**	P	**P**	**03 58 36.3**	**-0.8**
WR8				IAmb	IAmb	03 58 37.4	
	comp=Z,42nm,0.7s						
SSLB	**Suanglung**	**22.74**	**345**	P	**P**	**03 58 35.6**	**-1.8**
SSLB				IAmb	IAmb	03 58 39.8	
	comp=Z,26nm,0.7s						
YHNB	**Yeheng**	**23.48**	**346**	P	**P**	**03 58 43.8**	**-0.6**
YHNB				IAmb	IAmb	03 58 45.2	
	comp=Z,21nm,0.7s						
MBWA	**Marble Bar**	**23.94**	**198**	P	**P**	**03 58 47.8**	**-0.7**
MBWA				IAmb	IAmb	03 58 49.6	
	comp=Z,32nm,0.8s						
MBWA	**Marble Bar**	**23.94**	**198**	P	**P**	**03 58 48.2**	**-0.2**
QIZ	**Qiongzhong**	**24.21**	**316**	P	**P**	**03 58 50.9**	**-0.1**
QIZ				S	**S**	**04 03 04.3**	**+3.6**
PSA00	**Pilbara Seismi**	**24.30**	**197**	P	**P**	**03 58 51.9**	**+0.3**
PSA00	**Pilbara Seismi**	**24.30**	**197**	P	**P**	**03 58 51.9**	**+0.3**
QIS	**Mount Isa**	**25.25**	**152**	P	**P**	**03 59 00.7**	**+0.3**
AS31	**Alice Springs**	**26.08**	**166**	P	**P**	**03 59 07.1**	**-0.7**
ASAR	**Alice Springs**	**26.08**	**166**	P	**P**	**03 59 07.5**	**-0.4**
	comp=Z,3.9nm,0.3s,baz=343,slow=10,SNR=19						
	comp=Z,3.9nm,0.3s						
AS01	**Alice Springs**	**26.09**	**166**	P	**P**	**03 59 07.7**	**-0.2**
GIRL	**Giralia**	**27.38**	**207**	P	**P**	**03 59 20.7**	**+1.2**
MEEK	**Meekatharra**	**29.44**	**196**	P	**P**	**03 59 37.7**	**-0.1**
NJ2	**Nanjing**	**31.16**	**346**	*eP*	**P**	**03 59 54.2**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.36**	**303**	P	**P**	**04 00 04.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=112,slow=7.0,SNR=6.3						
	comp=Z,0.7nm,0.3s						
FORT	**Forrest**	**32.36**	**179**	P	**P**	**04 00 02.5**	**-0.9**
FORT				IAmb	IAmb	04 00 03.8	
	comp=Z,12nm,0.7s						
MORW	**Morawa**	**32.48**	**199**	P	**P**	**04 00 04.1**	**-0.4**
MORW				IAmb	IAmb	04 00 06.0	
	comp=Z,9.3nm,0.6s						
MORW	**Morawa**	**32.48**	**199**	P	**P**	**04 00 04.7**	**+0.2**
BLDU	**Ballidu**	**33.73**	**197**	P	**P**	**04 00 15.5**	**+0.2**
KLBR	**Kellerberrin**	**34.37**	**194**	P	**P**	**04 00 21.1**	**+0.2**
PZH	**PanZhiHua**	**34.74**	**317**	P	**P**	**04 00 26.8**	**+2.5**
MUN	**Mundaring**	**35.15**	**196**	P	**P**	**04 00 28.1**	**+0.6**
BBOO	**Buckleboo**	**35.37**	**167**	P	**P**	**04 00 28.6**	**-0.8**
BBOO				IAmb	IAmb	04 00 47.8	
	comp=Z,7.8nm,1.0s						
BBOO	**Buckleboo**	**35.37**	**167**	P	**P**	**04 00 29.6**	**+0.2**
LYN	**LuoYang**	**35.43**	**339**	P	**P**	**04 00 30.7**	**+0.8**
LYN				pmax	pmax		
	comp=Z,31nm,0.7s						
KSRS	**Korea Array**	**35.53**	**1**	P	**P**	**04 00 30.6**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=179,slow=10,SNR=14						
KSRS				pP	**pP**	**04 00 59.0**	**+2.1**
	comp=Z,2.2nm,0.7s,baz=179,slow=9.8,SNR=4.1						
	comp=Z,2.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**35.78**	**195**	P	**P**	**04 00 33.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**35.78**	**195**	P	**P**	**04 00 33.4**	**+0.5**
MJAR	**Matsushiro Arr**	**36.06**	**15**	P	**P**	**04 00 33.5**	**-1.8**
	comp=Z,1.4nm,0.4s,baz=194,slow=8.6,SNR=5.6						
	comp=Z,1.4nm,0.4s						
STKA	**Stephens Creek**	**36.10**	**159**	P	**P**	**04 00 35.9**	**+0.3**
STKA	**Stephens Creek**	**36.10**	**159**	P	**P**	**04 00 34.9**	**-0.8**
	comp=Z,28nm,0.7s,baz=333,slow=8.8,SNR=46						
	comp=Z,28nm,0.7s						
STKA	**Stephens Creek**	**36.10**	**159**	P	**P**	**04 00 36.0**	**+0.3**
XAN	**Xi'an**	**36.41**	**334**	P	**P**	**04 00 38.2**	**-0.2**
XAN				pmax	pmax		
	comp=Z,26nm,0.7s						
HTT	**Hallett**	**36.68**	**164**	P	**P**	**04 00 41.4**	**+0.8**
CMSA	**Cobar Meteorol**	**37.45**	**154**	P	**P**	**04 00 47.6**	**+0.5**
BJI	**Beijing**	**39.42**	**347**	P	**P**	**04 01 03.3**	**-0.1**
BJI				pP	**pwP**	**04 01 33.0**	**-0.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARMA	**Armidale**	**39.53**	**146**	P	**P**	**04 01 04.5**	**-0.2**
ARMA				IAmb	IAmb	04 01 13.0	
	comp=Z,5.1nm,0.8s						
LZH	**Lanzhou**	**40.47**	**330**	*eP*	**P**	**04 01 13.7**	**+1.3**
LZH				pP	pwP	04 01 42.4	+0.1
LZH				pmax	pmax		
	comp=Z,33nm,1.2s						
HHC	**Hu-ho-hao-te**	**41.43**	**342**	*eP*	**P**	**04 01 22.1**	**+2.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,99nm,5.1s						
SHL	**Shillong**	**41.49**	**308**	P	**P**	**04 01 20.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**42.47**	**5**	P	**P**	**04 01 27.8**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=197,slow=9.1,SNR=4.7						
	comp=Z,1.0nm,0.3s						
TOO	**Toolangi**	**42.62**	**158**	P	**P**	**04 01 29.1**	**-0.6**
XLT	**XiLinHaoTe**	**43.13**	**348**	*eP*	**P**	**04 01 33.8**	**0.0**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,78nm,4.7s						
GTA	**Gaotai**	**45.06**	**330**	*eP*	**P**	**04 01 50.6**	**+1.2**
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
EVN	**Everest**	**46.61**	**308**	P	**P**	**04 02 02.2**	**-0.1**
EVN				IAmb	IAmb	04 02 03.9	
	comp=Z,16nm,0.8s						
HEH	**HeiHe**	**48.32**	**0**	*eP*	P	04 02 22.2	+7.8
SONM	**Songino Array**	**49.33**	**342**	P	**P**	**04 02 22.8**	**+0.4**
SONM	**Songino Array**	**49.33**	**342**	P	**P**	**04 02 22.3**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=163,slow=7.9,SNR=10						
SONM				pP	**pP**	**04 02 51.4**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=157,slow=8.3,SNR=3.0						
	comp=Z,2.5nm,0.6s						
WMQ	**Urumqi**	**54.65**	**326**	*eP*	P	04 03 07.0	+5.3
WMQ				pmax	pmax		
	comp=Z,43nm,0.7s						
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**04 03 35.7**	**0.0**
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**04 03 36.1**	**+0.5**
	comp=Z,6.3nm,0.4s,baz=120,slow=8.6,SNR=94						
MKAR				pP	**pP**	**04 04 05.9**	**+1.6**
	comp=Z,2.2nm,0.6s,baz=119,slow=8.9,SNR=2.8						
	comp=Z,6.3nm,0.4s						
MAKZ	**Makanchi**	**59.66**	**326**	P	**P**	**04 03 36.5**	**-0.4**
MAKZ				IAmb	IAmb	04 03 38.1	
	comp=Z,6.7nm,0.7s						
KSH	**Kashi**	**59.82**	**316**	P	**P**	**04 03 40.4**	**+2.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAA0	**Zalesovo Array**	**62.58**	**333**	P	**P**	**04 03 55.0**	**-1.4**
ZALV	**Zalesovo Beam**	**62.58**	**333**	P	**P**	**04 03 55.0**	**-1.4**
ZALV	**Zalesovo Beam**	**62.58**	**333**	P	**P**	**04 03 55.5**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=123,slow=5.5,SNR=5.7						
	comp=Z,1.7nm,0.5s						
KBL	**Kabul**	**63.15**	**308**	P	**P**	**04 03 59.4**	**-1.5**
KBL				IAmb	IAmb	04 04 03.2	
	comp=Z,4.6nm,0.6s						
GAR	**Garm**	**63.66**	**313**	P	**P**	**04 04 03.6**	**-0.4**
KURBB	**Kurchatov Arra**	**63.69**	**328**	P	**P**	**04 04 03.8**	**0.0**
	comp=Z,14nm,0.5s,baz=129,slow=6.3,SNR=52						
	comp=Z,14nm,0.5s						
KURK	**Kurchatov**	**63.69**	**328**	P	**P**	**04 04 03.6**	**-0.2**
KK31	**Karatay Array**	**65.04**	**317**	P	**P**	**04 04 11.9**	**-0.9**
KK31				IAmb	IAmb	04 04 15.5	
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**65.04**	**317**	P	**P**	**04 04 12.4**	**-0.5**
BVAR	**Borovoye Array**	**69.26**	**327**	P	**P**	**04 04 39.0**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=129,slow=8.6,SNR=16						
BVAR				pP	**pwP**	**04 05 11.2**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=117,slow=8.5,SNR=2.3						
	comp=Z,2.8nm,0.4s						
BRVK	**Borovoye**	**69.33**	**327**	P	**P**	**04 04 39.0**	**-0.6**
BRVK				IAmb	IAmb	04 04 43.2	
	comp=Z,5.5nm,0.7s						
AB31	**Akbulak array**	**74.02**	**321**	P	**P**	**04 05 07.4**	**-0.4**
ABKAR	**Akbulak array**	**74.02**	**321**	P	**P**	**04 05 06.6**	**-1.2**
VNDA	**Vanda**	**81.41**	**173**	P	**P**	**04 05 48.4**	**+0.1**
VNDA	**Vanda**	**81.41**	**173**	P	**P**	**04 05 48.4**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=317,slow=6.9,SNR=13						
	comp=Z,3.1nm,0.9s						
MAW	**Mawson**	**82.10**	**200**	P	**P**	**04 05 52.2**	**+0.2**
	comp=Z,6.5nm,0.6s,baz=75,slow=5.8,SNR=18						
	comp=Z,6.5nm,0.6s						
QSPA	**South Pole Qui**	**91.67**	**180**	P	**P**	**04 06 38.7**	**-0.1**
QSPA	**South Pole Qui**	**91.67**	**180**	P	**P**	**04 06 39.3**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=289,slow=1.4,SNR=6.7						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**92.48**	**340**	P	**P**	**04 06 43.4**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=59,slow=4.9,SNR=1.4						
	comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**93.82**	**332**	P	**P**	**04 06 49.4**	**+0.8**
	comp=Z,1.5nm,1.0s,baz=59,slow=6.1,SNR=1.1						
	comp=Z,1.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**124.03**	**287**	PKPdf	**PKiKP**	**04 12 30.5**	**-0.3**
MT02	**Curacav**	**144.22**	**153**	PKPdf	**PKPab**	**04 13 05.5**	**-0.1**

SDD 05 04:05:01.5±1.3, **19.°39N×69.°70W, h50**km±11km, **MD3.1, ML2.2, MW3.0, 1C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	**Nagua**	**0.15**	**255**	*eP*g	Pn	04 05 09.2	-0.3
NADR				*eS*g	Sn	04 05 14.4	-0.7
CADR	**Cabrera**	**0.35**	**321**	*eP*g	Pn	04 05 10.3	-0.8
CADR				*eS*g	Sn	04 05 16.7	-1.2
SMDR	**Samana, DR**	**0.50**	**102**	*eP*g	Pn	04 05 12.9	+0.2
SMDR				*eS*g	Sn	04 05 19.2	-1.5
SMDR				IAML		04 06 12.3	
	comp=N,46nm,0.9s						
SFDR	**San Fco. de Ma**	**0.52**	**258**	*eP*g	Pn	04 05 12.0	-1.0
SFDR				*eS*g	Sn	04 05 20.7	-0.5
DR08	**Loma La Naviza**	**0.52**	**215**	⇑*eP*g	Pn	04 05 11.6	-1.5

*MOS **05** 04:20:57.9±1.0, 14.°91S×167.°40E, h66km, mb5.2/27, Error ellipse: s-maj=9.4km s-min=8.9km az=106.4*
*BJI **05** 04:21:03.9, 14.°40S×167.°37E, h102km, mB4.8/11, mb4.9/45*
*GCMT **05** 04:21:03.3±0.3, 15.°02S±0.°05×167.°16E±0.°04, h107km±4km, MW4.8/76, Moment Tensor Solution. s23,c24; s76,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.31±.08; Mθθ-0.23±.15; Mϕϕ-2.09±.14; Mrθ-0.22±.14; Mϕθ-0.29±.17; Mrϕ0.08±.13; Best double couple: M0 2.23400×10^16 NP1:ϕs194.00000°, δ45.00000°, λ98.00000°. NP2: ϕs3.00000°, δ46.00000°, λ83.00000°. Principal axes: T 2.3320, Plg85.0000°, Azm195.0000°; N -0.2040, Plg5.0000°, Azm9.0000°; P -2.1350, Plg1.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **05** 04:21:04.8, 14.°93S×167.°32E, h102km, mb5.2/54, Vanuatu Islands*
*NEIC **05** 04:21:04.3±1.9, 14.°90S±0.°07×167.°3E±0.°1, h103km±4km, mb4.8/121, Error ellipse: s-maj=14.3km s-min=10.7km az=90.0*
*IDC **05** 04:21:04.2±0.7, 14.°89S×167.°38E, h109km±5km, mb4.5/18, mbtmp4.9/20, MS3.3/10, Error ellipse: s-maj=16.4km s-min=10.7km az=86.0*

ISC 05 04:21:04.5±0.4, **14.°92S**±0.°04×**167.°35E**±0.°05, **h111**km±3km, **h112**km:**pP-P,n592,σ0.°89**/551, **mb4.8**/133, **11C-16D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.54**	**195**		**Pn**	**04 21 21.2**	**-0.5**
SANVU				Sn	**Sn**	**04 21 33.1**	**-1.6**
SANVU	**Saraoutou**	**0.54**	**195**	P	**Pn**	**04 21 21.2**	**-0.5**
VLAKA	**Lakatoro**	**1.18**	**177**	P	**Pn**	**04 21 28.0**	**+0.3**
LUES	**Luesalemba Tem**	**4.46**	**342**	P	**Pn**	**04 22 10.5**	**+0.4**
KOUNC	**Koumac, New Ca**	**6.31**	**207**	P	**Pn**	**04 22 36.0**	**+0.9**
HURO	**Huro Makira**	**6.92**	**309**	P	**Pn**	**04 22 42.9**	**-0.4**
YATNC	**Mamie plateau,**	**7.11**	**183**	P	**Pn**	**04 22 44.9**	**-1.0**
DZM	**Mont Dzumac**	**7.16**	**187**	Pn	**Pn**	**04 22 46.6**	**0.0**
DZM				Sn	**Sn**	**04 24 04.9**	**-1.7**
DZM	**Mont Dzumac**	**7.16**	**187**	*e*Pn	**Pn**	**04 22 47.0**	**+0.3**
	260nm,0.9s						
DZM				*e*Sn	**Sn**	**04 24 05.9**	**-0.7**
	489nm,0.8s						
DZM				*e*LR	LR	04 24 25.2	
	348nm,34.2s						
DZM	**Mont Dzumac**	**7.16**	**187**	P	**Pn**	**04 22 47.3**	**+0.6**
	90nm,0.3s,baz=349,slow=13,SNR=64						
DZM				S	**Sn**	**04 24 03.9**	**-2.6**
	68nm,0.4s,baz=294,slow=21,SNR=4.1						
DZM	**Mont Dzumac**	**7.16**	**187**	P	**Pn**	**04 22 46.7**	**0.0**
DZM	**Mont Dzumac**	**7.16**	**187**	S	**Sn**	**04 24 06.7**	**+0.1**
ONTNC	**Ouen Toro**	**7.39**	**186**	Pn	**Pn**	**04 22 50.2**	**+0.5**
ONTNC				Sn	**Sn**	**04 24 11.5**	**-0.5**
ONTNC	**Ouen Toro**	**7.39**	**186**	P	**Pn**	**04 22 50.5**	**+0.8**
ONTNC	**Ouen Toro**	**7.39**	**186**	S	**Sn**	**04 24 12.0**	**-0.1**
OUENC	**Ouen Island, N**	**7.47**	**184**	P	**Pn**	**04 22 51.5**	**+0.7**
OUENC	**Ouen Island, N**	**7.47**	**184**	S	**Sn**	**04 24 14.3**	**+0.4**
PINNC	**Pines Island,**	**7.65**	**179**	Pn	**Pn**	**04 22 54.1**	**+0.9**
PINNC				Sn	**Sn**	**04 24 18.0**	**-0.2**
PINNC	**Pines Island,**	**7.65**	**179**	P	**Pn**	**04 22 54.2**	**+1.0**
NGOA	**Tingoa Renbel**	**7.84**	**294**	P	**Pn**	**04 22 56.1**	**+0.2**
HNR	**Honiara**	**9.06**	**306**	Pn	**Pn**	**04 23 11.4**	**-1.0**
HNR	**Honiara**	**9.06**	**306**	P	**Pn**	**04 23 12.2**	**-0.2**
	307nm,0.7s,baz=235,slow=5.2,SNR=6.2						
HNR				LR	LR	04 26 54.8	
	comp=Z,79nm,19.3s,baz=162,slow=39						
SAVO	**Savo Central**	**9.34**	**307**	P	**Pn**	**04 23 16.4**	**+0.2**
TATA	**Tatamba Isabel**	**9.84**	**311**	P	**Pn**	**04 23 23.5**	**+0.6**
MSVF	**Nonsavu**	**10.65**	**107**	P	**Pn**	**04 23 33.9**	**-0.1**
TAVE	**Taveuni**	**12.39**	**100**	P	**Pn**	**04 23 58.6**	**+1.4**
EIDS	**Eidsvold**	**18.45**	**233**		**Pn**	**04 25 13.2**	**+0.1**
EIDS	**Eidsvold**

comp=Z,11nm,0.9s
HTT Hallett 31.65 229 P **P** **04 27 18.1 +0.8**
comp=Z,12nm,1.0s
HTT Hallett 31.65 229 P **P** **04 27 18.7 +1.4**
WR9 Warramunga Arr 31.69 256 P **P** **04 27 15.9 -1.8**
WR8 Warramunga Arr 31.70 256 P **P** **04 27 15.9 -1.9**
WB0 Warramunga Arr 31.79 257 P **P** **04 27 17.1 -1.6**
WB0 IAmb IAmb 04 27 18.0
comp=Z,26nm,1.4s
RAR Rarotonga 31.84 106 LR LR 04 39 46.0
comp=Z,34nm,19.6s,baz=289,slow=35
WRAB Tennant Creek 31.84 256⇓ *e*P **P** **04 27 18.3 -0.8**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 31.85 256 P **P** **04 27 17.1 -2.1**
WRA Warramunga Arr 31.85 256 P **P** **04 27 17.9 -1.2**
comp=Z,4.6nm,0.6s,baz=80,slow=6.7,SNR=82
WRA PcP **PcP** **04 30 06.8 -0.9**
comp=Z,4.7nm,0.9s,baz=85,slow=2.8,SNR=10.0
WRA LR LR 04 40 05.2
comp=Z,98nm,18.3s,baz=92,slow=36
comp=Z,4.6nm,0.6s
WRA Warramunga Arr 31.85 256 *i* P **P** **04 27 18.0 -1.2**
WRA pmax pmax
comp=Z,4.0nm,0.7s
MOO Moorlands 32.46 208 P **P** **04 27 24.6 +0.4**
comp=Z,62nm,1.0s
MOO Moorlands 32.46 208 P **P** **04 27 24.7 +0.5**
WHYH Whyalla 32.47 231 P **P** **04 27 25.3 +0.9**
AS17 Alice Springs 32.59 249 P **P** **04 27 24.4 -1.3**
comp=Z,28nm,0.9s
AS01 Alice Springs 32.63 249 P **P** **04 27 25.6 -0.4**
AS31 Alice Springs 32.67 249 P **P** **04 27 25.1 -1.3**
AS31 IAmb IAmb 04 27 26.6
comp=Z,7.0nm,0.6s
AS31 Alice Springs 32.67 249 P **P** **04 27 25.5 -0.9**
comp=Z,9.7nm,0.6s
ASAR Alice Springs 32.67 249 P **P** **04 27 25.3 -1.1**
comp=Z,14nm,0.4s,baz=85,slow=8.6,SNR=85
ASAR LR LR 04 40 05.6
comp=Z,97nm,19.5s,baz=102,slow=35
comp=Z,14nm,0.4s
BBOO Buckleboo 33.52 232 P **P** **04 27 34.3 +0.7**
BBOO Buckleboo 33.52 232 P **P** **04 27 34.0 +0.4**
comp=Z,89nm,0.8s
BBOO Buckleboo 33.52 232 P **P** **04 27 34.3 +0.7**
KDU Kakadu 33.92 269 P **P** **04 27 36.5 -0.8**
comp=Z,10nm,1.8s
MTN Manton Dam 35.20 269 P **P** **04 27 48.6 +0.4**
MTN IAmb IAmb 04 28 03.2
comp=Z,21nm,1.2s
GUMO Guam 36.02 321 LR LR 04 41 09.3
comp=Z,36nm,21.4s,baz=236,slow=34
KNRA Kununurra 37.19 264 P **P** **04 28 04.1 -1.1**
KNRA IAmb IAmb 04 28 05.6
comp=Z,15nm,0.8s
KNRA Kununurra 37.19 264 P **P** **04 28 04.2 -1.0**
comp=Z,21nm,1.4s
WRKA Warakurna 37.94 248 P **P** **04 28 10.4 -1.1**
comp=Z,25nm,0.6s
FORT Forrest 39.26 239 P **P** **04 28 22.2 -0.2**
FORT Forrest 39.26 239 P **P** **04 28 22.3 -0.1**
comp=Z,55nm,1.0s
FITZ Fitzroy Crossi 40.05 260 P **P** **04 28 28.4 -0.7**
FITZ Fitzroy Crossi 40.05 260 P **P** **04 28 28.6 -0.6**
PPT2 Papeete2 41.38 100 *e*SS SS 04 37 49.9 -5.2
comp=Z,140nm,24.8s
PPT2 *e*LR LR 04 40 15.5
comp=Z,213nm,30.2s
PPT2 *e*LR LR 04 40 17.6
comp=Z,197nm,32.5s
PPTF Pamatai, Papee 41.39 100 P **P** **04 28 42.1 +1.9**
PPTF Pamatai, Papee 41.39 100 P **P** **04 28 42.6 +2.5**
TBI Tubuai 41.53 108 *e*SS SS 04 37 50.3 -7.6
comp=Z,264nm,26.8s
TBI *e*LR LR 04 40 15.5
comp=Z,869nm,31.5s
LBMI Labuha 41.84 286 P **P** **04 28 45.1 +1.2**
KMBL Kambalda 44.56 240 P **P** **04 29 05.8 +0.3**
comp=Z,14nm,0.8s
PSAC2 Pilbara Seismi 45.41 254 P **P** **04 29 11.6 -0.8**
comp=Z,28nm,1.2s
PSA00 Pilbara Seismi 45.46 254 P **P** **04 29 12.3 -0.4**
PSA00 IAmb IAmb 04 29 14.1
comp=Z,22nm,1.1s
PSA00 Pilbara Seismi 45.46 254 P **P** **04 29 12.4 -0.4**
comp=Z,20nm,1.0s
PSA00 Pilbara Seismi 45.46 254 P **P** **04 29 12.9 +0.1**
MBWA Marble Bar 45.57 255 P **P** **04 29 13.6 0.0**
MBWA Marble Bar 45.57 255 P **P** **04 29 13.4 -0.2**
comp=Z,41nm,0.9s
MBWA Marble Bar 45.57 255 P **P** **04 29 13.8 +0.2**
MBWA Marble Bar 45.57 255 P **P** **04 29 13.5 -0.1**
MBWA sP **sP** **04 29 48.4 -3.8**
MEEK Meekatharra 46.78 247 P **P** **04 29 22.7 -0.4**
comp=Z,83nm,1.0s
MEEK Meekatharra 46.78 247 P **P** **04 29 23.9 +0.8**
KAPI Kappang 47.81 277⇑ *e*P **P** **04 29 31.4 +0.2**
KAPI pmax pmax
comp=Z,27nm,1.0s
KLBR Kellerberrin 48.08 241 P **P** **04 29 32.2 -0.9**
comp=Z,47nm,0.9s
KLBR Kellerberrin 48.08 241 P **P** **04 29 33.4 +0.3**
JCJ Chichijima 48.39 330 P **P** **04 29 35.0 -0.3**
NWAO Narrogin (SRO) 48.72 239 P **P** **04 29 37.0 -0.9**
NWAO Narrogin (SRO) 48.72 239 P **P** **04 29 37.2 -0.7**
NWAO Narrogin (SRO) 48.72 239 P **P** **04 29 37.7 -0.2**
NWAO Narrogin (SRO) 48.72 239 P **P** **04 29 37.0 -0.9**
NWAO pmax pmax
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 48.72 239 P **P** **04 29 36.9 -1.1**
PLAI Plampang 48.81 271 P **P** **04 29 39.5 +0.6**
BLDU Ballidu 48.84 242 P **P** **04 29 38.0 -0.9**
comp=Z,14nm,2.4s
BLDU Ballidu 48.84 242 P **P** **04 29 39.5 +0.6**
MORW Morawa 49.25 244 P **P** **04 29 41.9 -0.2**
MORW Morawa 49.25 244 P **P** **04 29 41.3 -0.8**
comp=Z,48nm,1.0s
MORW Morawa 49.25 244 P **P** **04 29 42.7 +0.6**
MUN Mundaring 49.43 241 P **P** **04 29 43.3 -0.1**
comp=Z,45nm,1.8s
KIP Kipapa 49.60 44⇓ *e*P **P** **04 29 44.8 +0.1**
KIP pmax pmax
comp=Z,66nm,1.1s
TWSI Taliwang, Sumb 49.69 271 P **P** **04 29 45.6 0.0**
comp=Z,104nm,1.0s
GIRL Giralia 50.65 253 P **P** **04 29 53.5 +0.7**
TAOE Nuku Hiva Isla 51.64 90 *e*SS **SS** **04 40 48.5 -2.8**
comp=Z,54nm,25.0s
TAOE *e*LR LR 04 44 52.5
comp=Z,152nm,32.0s
UGM Wanagama 56.01 270 P **P** **04 30 31.9 -0.2**
UGM Wanagama 56.01 270 P **P** **04 30 33.9 +1.7**
JOW Kunigami 56.24 317 P **P** **04 30 34.5 +1.0**
JGF Kuroka 57.72 331 P **P** **04 30 43.1 -0.7**
JMN Monobe 57.95 327 P **P** **04 30 46.1 +0.7**
MJAR Matsushiro Arr 58.11 332 P **P** **04 30 45.4 -1.1**
comp=Z,4.1nm,0.7s,baz=173,slow=8.1,SNR=12
comp=Z,4.1nm,0.7s
MAJO Matsushiro 58.11 332 P **P** **04 30 46.5 0.0**
MAJO Matsushiro 58.11 332 P **P** **04 30 46.5 0.0**
MAJO pmax pmax
comp=Z,38nm,1.6s
JNU Nakatsue 59.12 324 P **P** **04 30 52.2 -1.3**
JNU Nakatsue 59.12 324 LR LR 04 53 15.4
comp=Z,24nm,20.5s,baz=144,slow=33
TPUB Ta-pu 59.42 309 P **P** **04 30 55.6 -0.2**
SSLB Suanglung 59.46 310 P **P** **04 30 55.1 -0.9**
YHNB Yeheng 59.67 311 P **P** **04 30 57.8 +0.3**
JTM Tenmabayashi 60.55 337 P **P** **04 31 03.0 -0.2**
ERM Erimo 60.89 340⇓ *e*P **P** **04 31 06.9 +1.5**
ERM pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 62.67 181 P **P** **04 31 16.7 -0.2**
VNDA IAmb IAmb 04 31 19.2
comp=Z,27nm,1.4s
VNDA Vanda 62.67 181 P **P** **04 31 17.1 +0.2**
comp=Z,8.6nm,0.7s,baz=353,slow=7.9,SNR=52
VNDA PcP **PcP** **04 31 54.9 +0.3**
comp=Z,4.8nm,0.7s,baz=316,slow=3.3,SNR=5.2
comp=Z,8.6nm,0.7s
VNDA Vanda 62.67 181 P **P** **04 31 16.7 -0.2**
VNDA pmax pmax
comp=Z,27nm,1.5s
VNDA Vanda 62.67 181 P **P** **04 31 17.0 +0.2**

VNDA PcP **PcP** **04 31 55.1 +0.5**
SBA Scott Base 62.94 180 P **P** **04 31 19.8 +1.1**
SBA Scott Base 62.94 180 P **P** **04 31 19.8 +1.1**
SBA pmax pmax
comp=Z,36nm,0.9s
SBA Scott Base 62.94 180 P **P** **04 31 19.8 +1.1**
ASAJ Asahikawa 62.95 340 LR LR 04 56 15.2
comp=Z,16nm,19.2s,baz=166,slow=34
TJN Taejon 63.47 325 *de*P **P** **04 31 22.4 -0.3**
KSRS Korea Array 63.94 326 P **P** **04 31 25.4 -0.4**
comp=Z,2.6nm,0.7s,baz=142,slow=6.8,SNR=14
KSRS pP **pP** **04 31 52.0 -0.8**
comp=Z,1.2nm,0.7s,baz=147,slow=6.2,SNR=2.6
KSRS LR LR 04 55 23.3
comp=Z,6µm,20.9s,baz=340,slow=32
comp=Z,2.6nm,0.7s
YSS Yuzhno-Sakhali 65.44 342 *de*P **P** **04 31 37.2 +1.9**
YSS pmax pmax
comp=Z,23nm,1.3s
NJ2 Nanjing 65.87 316 *e*P **P** **04 31 40.1 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
USA0B Ussuriysk Arra 67.09 333 *de*P **P** **04 31 46.9 +1.0**
USRK Ussuriysk Ar. 67.09 333 P **P** **04 31 47.1 +1.1**
comp=Z,2.7nm,0.6s,baz=140,slow=4.2,SNR=7.5
comp=Z,2.7nm,0.6s
SHEM Shemya Is, Ala 67.62 4 LR LR 04 58 53.4
comp=Z,21nm,18.3s,baz=261,slow=34
PEA0B Petropavlovsk- 68.26 354 P **P** **04 31 53.2 +0.1**
PEA0B IAmb IAmb 04 31 54.7
comp=Z,23nm,1.1s
PEA0B Petropavlovsk- 68.26 354 P **P** **04 31 53.2 +0.1**
PEA0B pmax pmax
comp=Z,23nm,1.1s
PETK Petropavlovsk- 68.26 354 P **P** **04 31 53.8 +0.7**
PETK Petropavlovsk- 68.26 354 P **P** **04 31 53.5 +0.4**
comp=Z,12nm,0.9s,baz=156,slow=8.0,SNR=29
comp=Z,12nm,0.9s
PETK Petropavlovsk- 68.26 354 P **P** **04 31 53.8 +0.7**
MDJ Mudanjiang 68.49 332 P **P** **04 31 55.0 +0.3**
MDJ pmax pmax
comp=Z,11nm,0.9s
CN2 Changchun 69.85 329 *e*P **P** **04 32 03.1 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BNX BinXian 70.34 331⇓ P **P** **04 32 06.3 +0.2**
BNX sP **sP** **04 32 48.2 +2.9**
BNX pmax pmax
comp=Z,26nm,0.7s
NIKH Nikolski High 70.66 15 P **P** **04 32 09.0 +1.2**
baz=204
LYN LuoYang 71.67 315 P **P** **04 32 15.1 +0.7**
LYN pmax pmax
comp=Z,37nm,0.9s
HNS HongShan 71.80 318⇑ P **P** **04 32 15.7 +0.7**
HNS pmax pmax
comp=Z,14nm,0.8s
GYA Guiyang 71.89 305⇓ P **P** **04 32 16.7 +0.7**
GYA pmax pmax
comp=Z,17nm,0.7s
UNV Unalaska Valle 72.06 16 P **P** **04 32 17.2 +1.0**
baz=207
HEH HeiHe 73.76 335 *e*P **P** **04 32 26.4 0.0**
HEH pmax pmax
comp=Z,8.0nm,0.7s
P08K Saint George I 73.83 13 P **P** **04 32 26.9 +0.3**
baz=203
XAN Xi'an 73.88 313 P **P** **04 32 27.9 +0.4**
XAN pP pP 04 32 54.3 -0.9
XAN pmax pmax
comp=Z,24nm,0.7s
SPIA Saint Paul Isl 74.21 12 P **P** **04 32 30.0 +1.2**
baz=202
KMI Kunming 74.47 302 P **P** **04 32 32.6 +1.2**
KMI pP pP 04 33 01.7 +2.5
KMI pmax pmax
comp=Z,23nm,0.9s
XLT XiLinHaoTe 74.91 324 *e*P **P** **04 32 33.8 +0.5**
XLT pP pP 04 33 01.0 +0.1
XLT S **S** **04 41 59.2 -2.5**
XLT pmax pmax
comp=Z,10.0nm,0.7s
XLT pmax pmax
comp=Z,60nm,4.1s
SDPT Sand Point 75.09 18 P **P** **04 32 35.0 +1.1**
baz=212
CMAR Chiang Mai Arr 75.10 294 P **P** **04 32 36.0 +1.2**
comp=Z,7.6nm,0.9s,baz=126,slow=4.2,SNR=20
CMAR pP **pP** **04 33 03.2 +0.5**
comp=Z,4.5nm,0.8s,baz=124,slow=4.6,SNR=4.7
comp=Z,7.6nm,0.9s
QSPA South Pole Qui 75.11 180 P **P** **04 32 34.8 +0.6**
QSPA South Pole Qui 75.11 180 P **P** **04 32 34.8 +0.6**
comp=Z,70nm,0.8s,baz=354,slow=0.9,SNR=338
comp=Z,70nm,0.8s
CHTO Chiang Mai 75.23 294 P **P** **04 32 35.9 +0.3**
CHTO IAmb IAmb 04 32 37.6
comp=Z,35nm,1.5s
CHTO Chiang Mai 75.23 294 P **P** **04 32 35.9 +0.3**
CHTO pmax pmax
comp=Z,35nm,1.5s
HHC Hu-ho-hao-te 75.78 320 *e*P **P** **04 32 40.0 +1.6**
HHC pmax pmax
comp=Z,48nm,5.2s
PZH PanZhiHua 75.87 303 P **P** **04 32 39.4 +0.2**
PZH pmax pmax
comp=Z,20nm,0.5s
S14K Fog Glacier 76.16 18 P **P** **04 32 41.1 +0.9**
baz=213
CHIR Chirikof Islan 77.04 20 P **P** **04 32 45.7 +0.7**
baz=217
R16K Pilot Point 77.83 18 P **P** **04 32 49.8 +0.4**
baz=215
M11K Mekoryuk 78.01 13 P **P** **04 32 50.6 +0.4**
baz=206
LZH Lanzhou 78.51 312 *e*P **P** **04 32 55.6 +1.8**
LZH pP pP 04 33 23.8 +2.0
LZH pmax pmax
comp=Z,24nm,1.0s
N14K Kuskokwak Cree 78.67 15 P **P** **04 32 54.3 +0.4**
baz=210
M13K Dall Lake 78.69 14 P **P** **04 32 54.9 +0.9**
baz=209
P16K Nushagak River 78.92 17 P **P** **04 32 55.3 -0.1**
baz=214
Q17K Contact Creek 78.93 19 P **P** **04 32 55.6 +0.1**
baz=216
OHAK Old Harbor 78.94 21 P **P** **04 32 55.3 -0.1**
baz=219
Q16K King Salmon 79.03 18 P **P** **04 32 56.0 +0.2**
baz=215
N15K Kwethluk River 79.30 16 P **P** **04 32 58.7 +1.3**
N15K IAmb IAmb 04 33 08.0
comp=Z,24nm,1.2s
N15K Kwethluk River 79.30 16 P **P** **04 32 57.9 +0.5**
baz=212
M14K Bethel 79.32 15 P **P** **04 32 58.2 +0.8**
baz=210
M15K Kasigluk River 79.59 15 P **P** **04 33 00.0 +1.1**
baz=211
KDAK Kodiak Island 79.62 21 LR LR 05 02 13.0
comp=Z,18nm,19.6s,baz=107,slow=31
KDAK Kodiak Island 79.62 21 P **P** **04 32 59.4 +0.2**
baz=219
L14K Kuka Creek 79.66 14 P **P** **04 33 00.5 +1.2**
baz=209
K13K Kusilvak Mount 79.73 13 P **P** **04 33 00.5 +0.8**
baz=207
O17K Koliganek Bris 79.80 17 P **P** **04 33 00.1 0.0**
baz=215
N16K Nishlik Lake 79.91 16 P **P** **04 33 01.0 +0.3**
baz=213
P18K Big Mountain, 80.04 18 P **P** **04 33 01.5 0.0**
baz=217
GAMB Gambell 80.11 9 P **P** **04 33 02.2 +0.6**
baz=200
Q19K Cape Douglas, 80.17 19 P **P** **04 33 02.0 -0.1**
baz=218
L15K Ungalak Mounta 80.24 15 P **P** **04 33 02.8 +0.4**
baz=210
M16K Timber Creek 80.32 16 P **P** **04 33 03.7 +0.8**
M16K IAmb IAmb 04 33 07.1
comp=Z,16nm,1.1s
M16K Timber Creek 80.32 16 P **P** **04 33 04.0 +1.1**
baz=213
Q20K Shuyak Island 80.32 20 P **P** **04 33 03.1 +0.2**
baz=219

N17K Nushagak Hills 80.39 17 P **P** **04 33 04.4 +1.1**
baz=215
O18K Koktuh Hills 80.42 18 P **P** **04 33 04.6 +1.2**
baz=217
J14K Nanvaranak Lak 80.70 13 P **P** **04 33 05.5 +0.7**
baz=208
K15K Wolf Creek Mou 80.76 14 P **P** **04 33 06.4 +1.2**
K15K IAmb IAmb 04 33 07.0
comp=Z,13nm,1.0s
K15K Wolf Creek Mou 80.76 14 P **P** **04 33 05.7 +0.5**
baz=210
L16K Owhat River 80.77 15 P **P** **04 33 06.4 +1.2**
baz=212
P19K Oil Pt 80.87 19 P **P** **04 33 06.4 +0.6**
baz=218
N18K Kilae Creek 80.89 17 P **P** **04 33 05.9 -0.1**
baz=216
O19K Port Alsworth 80.96 18 P **P** **04 33 06.5 +0.2**
baz=217
M17K Holitna River 81.04 16 P **P** **04 33 06.7 0.0**
baz=214
N19K Bonanza Creek 81.40 18 P **P** **04 33 08.9 +0.1**
baz=217
L17K Donlin 81.43 16 P **P** **04 33 09.4 +0.7**
baz=213
M18K Stony River 81.56 17 P **P** **04 33 11.1 +1.7**
baz=216
IMP Imphal 81.72 298⇑ *e*P **P** **04 33 11.7 +0.5**
IMP IAmb IAmb 04 33 20.4
comp=Z,32nm,2.7s
IMP *e*S **S** **04 43 13.6 -1.7**
MAW Mawson 81.73 202 P **P** **04 33 10.5 +0.1**
comp=Z,7.1nm,0.8s,baz=103,slow=5.4,SNR=21
comp=Z,7.1nm,0.8s
J16K Anvik River 81.83 14 IAmb IAmb 04 33 14.6
comp=Z,13nm,0.9s
J16K Anvik River 81.83 14 P **P** **04 33 12.3 +1.5**
baz=211
K17K Iditarod 81.91 15 P **P** **04 33 12.7 +1.5**
baz=213
L18K Granite Mounta 81.92 16 P **P** **04 33 12.7 +1.3**
baz=215
ANM Nome 81.94 12 P **P** **04 33 12.7 +1.3**
baz=207
YAK Yakutsk 82.24 343 *e*P **P** **04 33 13.1 +0.1**
YAK *e* 04 33 40.1
YAK *e* 04 36 22.3
YAK *e*S **S** **04 43 20.1 +1.2**
YAK pmax pmax
comp=Z,43nm,1.3s
J17K VABM Dome 82.29 15 P **P** **04 33 14.6 +1.3**
baz=213
M19K Big River Lodg 82.30 17 P **P** **04 33 15.0 +1.6**
baz=217
ULN Ulaanbaatar 82.34 324 P **P** **04 33 14.2 +0.1**
ULN IAmb IAmb 04 33 15.5
comp=Z,12nm,0.8s
ULN Ulaanbaatar 82.34 324 *c i*P **P** **04 33 14.4 +0.3**
ULN pmax pmax
comp=Z,15nm,1.0s
TNA Tin City 82.38 10 P **P** **04 33 14.5 +0.8**
baz=204
L19K White Mountain 82.39 17 P **P** **04 33 14.7 +0.8**
baz=217
N20K Mount Spurr 82.39 18 P **P** **04 33 15.1 +1.2**
baz=219
SPCR Spurr Chakacha 82.39 18 P **P** **04 33 15.1 +1.2**
baz=219
AZL Aizawl 82.42 297 *e*P **P** **04 33 14.0 -0.9**
AZL IAmb IAmb 04 33 24.4
comp=Z,53nm,2.2s
AZL *e*S **S** **04 43 23.8 +1.2**
H16K Elim 82.64 13 P **P** **04 33 16.2 +1.2**
baz=210
M20K Styx River 82.65 18 P **P** **04 33 16.1 +0.8**
baz=218
SONM Songino Array 82.70 324 P **P** **04 33 16.4 +0.5**
SONM IAmb IAmb 04 33 17.3
comp=Z,7.4nm,1.0s
SONM Songino Array 82.70 324 P **P** **04 33 16.1 +0.2**
comp=Z,2.4nm,0.4s,baz=151,slow=6.9,SNR=22
SONM pP **pP** **04 33 44.2 +0.1**
comp=Z,1.1nm,0.7s,baz=155,slow=4.2,SNR=2.0
comp=Z,2.4nm,0.4s
SONM Songino Array 82.70 324 P **P** **04 33 16.4 +0.5**
SONM pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 82.74 360 *d i*P **P** **04 33 15.9 +0.4**
BILL pmax pmax
comp=Z,27nm,1.7s
GTA Gaotai 82.86 314 *e*P **P** **04 33 18.2 +1.3**
GTA pP pP 04 33 44.8 -0.4
GTA pmax pmax
comp=Z,16nm,1.3s
L20K Farewell, AK 82.91 17 P **P** **04 33 16.9 +0.4**
baz=218,SNR=8.1
J18K Innoko River 82.94 15 P **P** **04 33 17.2 +0.6**
J18K IAmb IAmb 04 33 18.5
comp=Z,6.8nm,0.8s
J18K Innoko River 82.94 15 P **P** **04 33 17.6 +0.9**
baz=215,SNR=5.1
SUA Susitna One 83.05 19 IAmb IAmb 04 33 19.8
comp=Z,20nm,1.0s
SUA Susitna One 83.05 19 P **P** **04 33 18.3 +1.0**
baz=220
P23K Montague Islan 83.06 21 P **P** **04 33 18.1 +0.8**
baz=224
F15K North Star Dit 83.10 11 P **P** **04 33 18.2 +0.7**
baz=207
SKT Skwentna 83.20 18 P **P** **04 33 18.4 +0.3**
baz=220
G16K Koyuk River 83.28 12 P **P** **04 33 18.8 +0.5**
baz=209
TEZP TEZPUR 83.31 300 *e*P **P** **04 33 18.2 -1.1**
TEZP IAmb IAmb 04 33 28.1
comp=Z,67nm,3.0s
TEZP *e*S **S** **04 43 31.9 +0.6**
PWL Port Wells 83.38 20 IAmb IAmb 04 33 19.4
comp=Z,14nm,0.9s
PWL Port Wells 83.38 20 P **P** **04 33 19.0 +0.1**
baz=223
H17K Granite Mounta 83.41 13 P **P** **04 33 19.3 +0.3**
baz=212
M22K Willow 83.47 19 P **P** **04 33 18.8 -0.5**
baz=221,SNR=5.0
K20K Telida 83.55 16 IAmb IAmb 04 33 21.1
comp=Z,9.7nm,1.2s
K20K Telida 83.55 16 P **P** **04 33 19.8 0.0**
baz=217
J19K Poorman 83.66 15 P **P** **04 33 20.1 -0.2**
baz=216
PMR Palmer 83.66 19 IAmb IAmb 04 33 21.5
comp=Z,25nm,1.5s
PMR Palmer 83.66 19 P **P** **04 33 20.1 -0.2**
baz=222
PPLA Purkeypile 83.72 17 P **P** **04 33 20.7 -0.1**
baz=219
SHL Shillong 83.73 298 *e*P **P** **04 33 20.4 -1.3**
SHL IAmb IAmb 04 33 25.0
comp=Z,60nm,3.0s
SHL *e*S **SKSac** **04 43 29.8 -5.1**
SHL Shillong 83.73 298 P **P** **04 33 21.7 -0.1**
G17K Kiwalik Mounta 83.73 13 P **P** **04 33 20.5 -0.2**
baz=211
KNK Knik Glacier 83.74 20 P **P** **04 33 20.7 -0.1**
baz=223
GLI Glacier Island 83.81 21 P **P** **04 33 21.2 +0.1**
baz=224
GHO Glory Hole Cre 83.86 19 P **P** **04 33 21.5 0.0**
GHO IAmb IAmb 04 33 23.7
comp=Z,12nm,1.0s
H18K Honhosa River 83.94 14 P **P** **04 33 21.7 -0.1**
baz=213
GCSA Galena City Sc 83.96 15 P **P** **04 33 21.5 -0.3**
baz=215
EYAK Cordova Ski Ar 84.03 21 P **P** **04 33 22.1 -0.2**
baz=225
CAST Castle Rocks 84.16 17 IAmb IAmb 04 33 23.1
comp=Z,17nm,0.8s
CAST Castle Rocks 84.16 17 P **P** **04 33 21.9 -0.9**
baz=219,SNR=23
J20K Nowinta River 84.19 16 IAmb IAmb 04 33 24.6
comp=Z,6.3nm,0.8s
J20K Nowinta River 84.19 16 P **P** **04 33 22.2 -0.8**
baz=217,SNR=6.2
F17K Baldwin Pennin 84.42 12 P **P** **04 33 23.7 -0.3**
baz=210

SCM	**Sheep Creek Mo** baz=224	84.42	20	P		P	04 33 23.5	-0.8
CHUM	**Lake Minchumin** baz=219	84.45	17	P		P	04 33 23.7	-0.6
G18K	**Tagagawik** baz=213	84.50	13	P		P	04 33 24.9	+0.4
KTH	**Kantishna Hill** comp=Z,11nm,1.0s	84.59	17	IAmb	IAmb		04 33 25.6	
I20K	**Naaghedeneel** comp=Z,24nm,0.9s	84.60	15	IAmb	IAmb		04 33 27.6	
I20K	**Naaghedeneel** baz=217,SNR=5.9	84.60	15	P		P	04 33 24.8	-0.2
BERG	**Berg Lake** comp=Z,9.3nm,0.8s	84.66	22	IAmb	IAmb		04 33 26.6	
TRF	**Thorofare Moun** comp=Z,12nm,1.0s	84.70	18	IAmb	IAmb		04 33 26.4	
TRF	**Thorofare Moun** baz=221,SNR=7.7	84.70	18	P		P	04 33 25.1	-0.7
H19K	**Roundabout Mou** comp=Z,7.7nm,0.8s	84.70	14	IAmb	IAmb		04 33 27.9	
H19K	**Roundabout Mou** baz=215,SNR=5.9	84.70	14	P		P	04 33 25.3	-0.2
BMRM	**Bremner River** baz=226	84.73	21	P		P	04 33 26.0	+0.1
E17K	**Hotham Inlet** baz=210	84.86	12	P		P	04 33 26.3	+0.1
F18K	**Selawik** baz=212,SNR=5.4	84.88	13	P		P	04 33 26.5	+0.1
BPAW	**Bear Paw Mtn.**	85.00	17	P		P	04 33 25.6	-1.5
BPAW	**Bear Paw Mtn.** baz=220	85.00	17	P		P	04 33 26.9	-0.2
M24K	**Tolsona, Glenn** baz=225	85.00	20	P		P	04 33 27.4	+0.3
H20K	**Anotleneega Mo** baz=216,SNR=11	85.06	15	P		P	04 33 27.1	-0.3
G19K	**Purcell Mounta** comp=Z,16nm,0.8s	85.06	14	IAmb	IAmb		04 33 29.6	
G19K	**Purcell Mounta** baz=214,SNR=14	85.06	14	P		P	04 33 27.8	+0.5
RND	**Reindeer** comp=Z,8.8nm,0.8s	85.09	18	IAmb	IAmb		04 33 29.0	
D17K	**Noatak River** baz=209	85.16	11	P		P	04 33 27.8	+0.1
MESA	**MESA** baz=229	85.16	23	P		P	04 33 27.1	-1.1
N25K	**Chitina, Valde** baz=226	85.18	21	P		P	04 33 27.4	-0.7
MCK	**McKinley** comp=Z,11nm,1.1s	85.31	18	IAmb	IAmb		04 33 29.5	
MCK	**McKinley** baz=222	85.31	18	P		P	04 33 28.4	-0.2
E18K	**Tukpahlearik C** comp=Z,6.2nm,0.8s	85.39	12	IAmb	IAmb		04 33 31.0	
E18K	**Tukpahlearik C** baz=211,SNR=5.0	85.39	12	P		P	04 33 28.6	-0.3
F19K	**Shaleruckik Mo** comp=Z,6.7nm,0.8s	85.48	13	IAmb	IAmb		04 33 31.1	
F19K	**Shaleruckik Mo** baz=214	85.48	13	P		P	04 33 29.2	-0.2
RDOG	**Red Dog Mine** baz=209	85.51	11	P		P	04 33 29.4	-0.1
HARP	**HAARP** baz=226	85.54	20	P		P	04 33 29.8	0.0
I21K	**Tanana** comp=Z,14nm,0.9s	85.56	16	IAmb	IAmb		04 33 31.9	
I21K	**Tanana** baz=219	85.56	16	P		P	04 33 30.3	+0.6
H21K	**Melozitna Rive** baz=218,SNR=7.5	85.71	15	P		P	04 33 31.2	+0.6
IMAR	**Indian Mountai**	85.73	15	P		P	04 33 30.8	+0.1
PINM	**Pinnacle** baz=230	85.75	23	P		P	04 33 31.1	+0.1
ZAK	**Zakamensk** comp=Z,10.0nm,0.9s	85.75	325	*e*P	pmax	P pmax	04 33 30.8	-0.5
MLY	**Manley** comp=Z,14nm,1.6s	85.78	17	IAmb	IAmb		04 33 33.1	
MLY	**Manley** baz=220	85.78	17	P		P	04 33 31.0	0.0
C17K	**DeLong Mountai** baz=208	85.83	10	P		P	04 33 31.4	+0.2
PAX	**Paxson** baz=225	85.84	20	P		P	04 33 31.5	+0.1
CTG	**Chitna Glacier** baz=229	85.91	22	P		P	04 33 31.6	-0.2
NEA2	**Nenana** baz=222	85.92	17	P		P	04 33 31.6	0.0
S31K	**Pelican** baz=234	86.07	26	P		P	04 33 32.0	-0.5
F20K	**Avaraart Lake** comp=Z,6.3nm,0.9s	86.12	14	IAmb	IAmb		04 33 34.0	
F20K	**Avaraart Lake** baz=216	86.12	14	P		P	04 33 33.2	+0.7
E19K	**Redstone River** comp=Z,11nm,0.7s	86.12	13	IAmb	IAmb		04 33 34.9	
E19K	**Redstone River** baz=214,SNR=10	86.12	13	P		P	04 33 32.6	0.0
G21K	**Allakaket** G21K comp=Z,6.8nm,0.8s	86.22	15	P IAmb		P IAmb	04 33 33.3 04 33 35.1	+0.3
G21K	**Allakaket** baz=218	86.22	15	P		P	04 33 33.5	+0.4
I23K	**Minto, Yukon-K** baz=222	86.25	17	P		P	04 33 33.5	+0.3
H22K	**Ishtalitna Cre** baz=220,SNR=7.0	86.27	16	P		P	04 33 33.3	-0.1
M26K	**Nabesna, AK** baz=228	86.27	21	P		P	04 33 33.4	-0.1
K24K	**Donnelly Dome** baz=225	86.33	19	P		P	04 33 33.9	+0.2
C18K	**Utukok River** comp=Z,28nm,1.6s	86.34	11	IAmb	IAmb		04 33 40.0	
C18K	**Utukok River** baz=210	86.34	11	P		P	04 33 34.3	+0.6
U33K	**Whale Pass** baz=237	86.41	29	P		P	04 33 34.1	-0.1
P29M	**Windy Craggy** baz=232	86.45	25	P		P	04 33 34.8	+0.4
COLA	**College** COLA comp=Z,6.5nm,0.7s	86.48	18	P IAmb		P IAmb	04 33 33.4 04 33 49.0	-0.9
COLA	**College** COLA comp=Z,5.0nm,0.8s	86.48	18	*de*P pmax		P pmax	04 33 33.8	-0.5
S32K	**Killisnoo** baz=235	86.51	27	P		P	04 33 35.3	+0.6
O29M	**Mount Kennedy** baz=232	86.53	24	P		P	04 33 35.1	+0.2
RIDG	**Independent Ri** baz=226	86.58	19	P		P	04 33 35.4	+0.4
M27K	**Edge Creek, AK** baz=229	86.63	21	P		P	04 33 35.2	-0.1
IL31	comp=Z,6.5nm,0.7s	86.69	18	IAmb	IAmb		04 33 36.2	
ILAR	**Eielson Array**	86.69	18	P		P	04 33 33.7	-1.7
ILAR	**Eielson Array** comp=Z,5.5nm,0.7s,baz=236,slow=5.5,SNR=47	86.69	18	P		P	04 33 34.0	-1.4
ILAR	comp=Z,1.6nm,0.8s,baz=233,slow=6.1,SNR=2.0			*p*P PKKPbc		*p*P **PKKPdf**	04 34 03.6 04 51 29.2	+0.4 +2.6
V35K	comp=Z,0.6nm,0.5s,baz=346,slow=2.1,SNR=8.4 comp=Z,5.5nm,0.7s **Ketchikan** baz=238	86.70	30	P		P	04 33 35.2	-0.5
H23K	**Yukon River** baz=221	86.71	16	P		P	04 33 34.6	-0.9
YUK3	**Moose Creek** baz=230	86.76	22	P		P	04 33 36.0	-0.1
POKR	**Poker Plat Res** comp=Z,9.1nm,0.8s	86.78	18	IAmb	IAmb		04 33 36.2	
POKR	**Poker Plat Res** baz=223	86.78	18	P		P	04 33 35.3	-0.5
F21K	**Alatna River** comp=Z,5.4nm,0.8s	86.78	14	IAmb	IAmb		04 33 37.4	
F21K	**Alatna River** baz=218,SNR=5.3	86.78	14	P		P	04 33 35.8	-0.1
D19K	**Kuna River** baz=213	86.81	12	P		P	04 33 36.2	+0.3
B18K	**Kokolik River** baz=210	86.85	10	P		P	04 33 35.7	-0.3
WRAK	**Wrangell Islan** baz=237	86.94	29	P		P	04 33 36.3	-0.4
R32K	**Eaglecrest** baz=235	87.00	27	P		P	04 33 36.6	-0.4
E20K	**Nigu River** baz=215,SNR=7.7	87.01	13	P		P	04 33 36.5	-0.5
YUK6	**Outpost Mounta** baz=232	87.01	23	P		P	04 33 37.2	-0.2
SCRK	**Sand Creek** baz=227	87.02	19	P		P	04 33 37.2	0.0
BVCY	**Beaver Creek** baz=230	87.03	21	P		P	04 33 37.6	+0.4
G22K	**Bettles** baz=220	87.03	15	P		P	04 33 37.8	+0.9
J25K	**Salcha River,** comp=Z,6.1nm,0.9s	87.03	18	IAmb	IAmb		04 33 38.1	
J25K	**Salcha River,** baz=225	87.03	18	P		P	04 33 37.0	-0.1
C19K	**Lookout Ridge** baz=212	87.03	11	P		P	04 33 36.6	-0.4
PFO	**Pinyon Flats O** PFO comp=Z,5.0nm,1.0s	87.05	54	⇑*e*P pmax		P pmax	04 33 37.4	-0.6
P30M	**Million Dollar** baz=233	87.06	24	P		P	04 33 36.9	-0.5
L27K	**Beaver Creek,** baz=229	87.12	21	P		P	04 33 37.9	+0.3
YUK4	**Talbot Arm** baz=232	87.16	23	P		P	04 33 38.3	+0.3
G23K	**Bananza Creek** baz=221	87.25	16	P		P	04 33 38.5	+0.4
HYT	**Haines Junctio** baz=233	87.27	24	P		P	04 33 38.4	0.0
D20K	**Etivluk River** comp=Z,9.2nm,0.8s	87.30	12	IAmb	IAmb		04 33 40.6	
D20K	**Etivluk River** baz=215	87.30	12	P		P	04 33 38.8	+0.5
F22K	**John River** baz=219	87.32	14	P		P	04 33 39.0	+0.6
SKAG	**Skagway** baz=234	87.33	25	P		P	04 33 39.1	+0.5
NVAR	**Mina Array Bea** comp=Z,1.2nm,0.8s,baz=229,slow=8.6,SNR=8.7	87.34	49	P		P	04 33 38.5	-1.0
NVAR	comp=Z,1.2nm,1.0s,baz=100,slow=1.8,SNR=5.1 comp=Z,1.2nm,0.8s			PKPPKP		**P'P'df**	04 59 37.5	+0.8
J26L	**Joseph Creek** baz=227	87.52	19	P		P	04 33 39.4	-0.1
PINE	**Pine Mountain**	87.52	43	P		P	04 33 41.0	+0.8
COLD	**Coldfoot** baz=221	87.60	15	P		P	04 33 39.9	+0.2
PRP	**Porcupine Dome** baz=225	87.62	18	P		P	04 33 40.4	+0.3
E21K	**Killik River** comp=Z,13nm,1.1s	87.64	13	IAmb	IAmb		04 33 42.6	
E21K	**Killik River** baz=217	87.64	13	P		P	04 33 40.6	+0.7
K27K	**Chicken** baz=228	87.68	20	P		P	04 33 40.8	+0.6
O30N	**Mendenhall** baz=234	87.80	24	P		P	04 33 41.1	+0.2
N30M	**Aishikik Lake** baz=233	87.82	23	P		P	04 33 41.7	+0.8
E22K	**Anaktuvuk Pass** baz=219	87.90	14	P		P	04 33 41.5	+0.3
M29M	**Somme Creek** baz=232	87.91	22	P		P	04 33 41.5	0.0
G24K	**Hadweenzic Riv** baz=223	87.92	16	P		P	04 33 41.4	+0.1
WCT	**Wildcat Mounta** comp=Z,15nm,1.9s	88.01	51	IAmb	IAmb		04 33 43.9	
C21K	**Knifeblade Rid** baz=216	88.04	13	P		P	04 33 41.9	+0.1
H25L	**Birch Creek** baz=225	88.07	17	P		P	04 33 42.1	+0.1
P32M	**Atlin** baz=236	88.08	26	P		P	04 33 42.2	0.0
I26K	**Coal Creek Min** comp=Z,8.5nm,1.4s	88.19	19	IAmb	IAmb		04 33 45.2	
I26K	**Coal Creek Min** baz=227	88.19	19	P		P	04 33 43.2	+0.6
WHY	**Whitehorse** baz=235	88.21	25	P		P	04 33 43.3	+0.4
D22K	**Ayikyak River** comp=Z,9.9nm,0.9s	88.28	13	IAmb	IAmb		04 33 45.6	
D22K	**Ayikyak River** baz=218	88.28	13	P		P	04 33 43.3	+0.3
S34M	**Telegraph Cree** baz=238	88.30	28	P		P	04 33 43.5	+0.3
G25K	**Bearman Lake** baz=225	88.35	17	P		P	04 33 43.0	-0.2
Q32M	**Nakina River** baz=237	88.36	27	P		P	04 33 43.0	-0.7
E23K	**Chandalar** baz=221	88.37	15	P		P	04 33 43.6	+0.1
F24K	**Squaw Lake** baz=223	88.41	16	P		P	04 33 43.9	+0.3
L29M	**L29M** baz=232	88.44	22	P		P	04 33 44.0	+0.1
B21K	**Ikpikpuk River** baz=217	88.45	12	P		P	04 33 44.1	+0.4
SYO	**Syowa Base**	88.54	197	⇑*e*P		P	04 33 43.6	-0.7
SYO	**Syowa Base**	88.54	197	⇓*ep*P		pP	04 34 11.4	-1.8
DAWY	**Dawson** baz=231	88.60	21	P		P	04 33 45.0	+0.4
M30M	**Minto, Yukon** baz=233	88.60	23	P		P	04 33 44.6	0.0
E24K	**Your Creek** baz=222	88.67	15	P		P	04 33 45.0	+0.2
D23K	**Betmushuk River** baz=220	88.81	14	P		P	04 33 45.4	0.0
TOLK	**Toolik Lake Re** baz=221	88.82	14	P		P	04 33 46.3	+0.7
I27K	**Kandik River** baz=229	88.87	19	P		P	04 33 46.4	+0.5
J08A	**Circle Bar Ran** comp=Z,4.4nm,1.0s	89.02	45	IAmb	IAmb		04 33 49.0	
F25K	**Christian Rive** baz=225	89.06	16	P		P	04 33 46.8	+0.1
DLBC	**Dease Lake** baz=239	89.08	28	P		P	04 33 47.0	+0.1
K29M	**Barlow Dome** baz=232	89.11	21	P		P	04 33 47.1	0.0
G26K	**Porcupine Rive** comp=Z,5.1nm,0.8s	89.13	17	IAmb	IAmb		04 33 51.0	
G26K	**Porcupine Rive** baz=227	89.13	17	P		P	04 33 47.6	+0.6
R33M	**Jennings River** baz=238	89.16	27	P		P	04 33 47.2	-0.2
N32M	**Quiet Lake** baz=236	89.22	25	P		P	04 33 47.3	-0.3
M31M	**Drury Creek, Y** baz=235	89.29	23	P		P	04 33 48.1	+0.3
I28M	**Miner Creek** baz=230	89.30	19	P		P	04 33 48.2	+0.3
H27K	**Steamboat Moun** baz=232	89.31	18	P		P	04 33 48.0	+0.1
PRN	**Pahroc Range** comp=Z,5.3nm,0.8s	89.40	51	IAmb	IAmb		04 33 50.9	
C23K	**Itkillik River** baz=220	89.49	13	P		P	04 33 48.7	+0.1
A22K	**Sinclair Lake** baz=216	89.50	12	P		P	04 33 49.5	+1.0
F26K	**Sheenjek River** baz=226	89.55	17	P		P	04 33 48.7	-0.2
G27K	**Dezon Strip** baz=229	89.66	18	P		P	04 33 50.4	+0.9
I29M	**Ogilvie Camp,** baz=232	89.78	20	P		P	04 33 50.8	+0.7
C24K	**Franklin Bluff** baz=222	89.84	14	P		P	04 33 51.0	+0.8
J30M	**Hart River** baz=234	89.97	21	P		P	04 33 51.8	+0.7
D25K	**Kavik River** baz=224	90.11	15	P		P	04 33 51.7	+0.2
TIXI	**Tiksi** TIXI comp=Z,11nm,1.1s	90.17	349	⇓*e*P pmax		P pmax	04 33 51.4	-0.3
H29M	**Whitestone** baz=232	90.29	19	P		P	04 33 52.6	+0.2
I30M	**Mount Dempster** baz=234	90.34	21	P		P	04 33 53.0	+0.2
ELK	**Elko** ELK comp=Z,8.3nm,1.7s	90.36	48	P IAmb		P IAmb	04 33 53.4 04 33 54.3	-0.3
ELK	**Elko** ELK comp=Z,8.0nm,1.7s	90.36	48	P pmax		P pmax	04 33 53.4	-0.3
E27K	**Coleen River** baz=229	90.59	17	P		P	04 33 53.9	+0.1
F28M	**Old Crow** baz=230	90.71	18	P		P	04 33 54.5	+0.1
G29M	**Pine Creek** baz=232	90.83	19	P		P	04 33 54.7	-0.2
TUC	**Tucson** TUC comp=Z,5.6nm,1.4s	91.17	57	P IAmb		P IAmb	04 33 58.0 04 34 01.4	+0.6
E28M	**Babbage River** baz=231	91.44	17	P		P	04 33 57.1	-0.6
D27M	**Malcolm River** baz=229	91.46	16	P		P	04 33 57.2	-0.7
TOAD	**Toad River Com** baz=243	91.47	29	P		P	04 33 58.1	0.0
E29M	**Blow River** baz=232	91.78	18	P		P	04 33 59.4	+0.1
F30M	**Barrier River** baz=234	91.95	19	P		P	04 33 59.6	-0.4
G31M	**Satah River** baz=235	92.03	20	P		P	04 33 59.8	-0.6
F31M	**Tsiigehtchic** baz=236	92.49	19	P		P	04 34 02.8	+0.3
TROLL	**Troll, Antarti** comp=Z,3µm,0.6s	92.68	185	⇑P		P	04 34 03.1	-0.6
WMQ	**Urumqi** WMQ comp=Z,31nm,0.7s	92.92	315	*e*P pmax		P pmax	04 34 07.5	+2.3
INK	**Inuvik** baz=236	93.05	19	P		P	04 34 06.2	+1.1
SNAA	**Sanae** comp=Z,517nm,0.7s	93.36	183	⇑P		P	04 34 05.7	-1.0
SNAA	**Sanae** SNAA comp=Z,18nm,0.9s	93.36	183	P pmax		P pmax	04 34 05.4	-1.4
SNAA	**Sanae**	93.36	183	*ce*P		P	04 34 05.6	-1.2
VNA3	**Neumayer Olymp** comp=Z,47nm,0.5s	94.02	181	⇑P		P	04 34 08.5	-1.2
PV23	**Carpenter Ridg** comp=Z,3.7nm,0.8s	94.27	51	IAmb		IAmb	04 34 15.3	
VNA1	**Neumayer--Stat** comp=Z,15nm,0.4s	94.59	181	⇑P		P	04 34 11.3	-1.0
Y22D	**IRIS PASSCAL I** baz=255	94.76	56	P		P	04 34 13.5	-0.5
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=216,slow=5.7,SNR=4.4 comp=Z,0.3nm,0.7s	96.30	61	P		P	04 34 20.0	-1.1
TXAR	**Lajitas Array**	96.30	61	P		P	04 34 20.0	-1.1
MK31	**Makanchi Array**	97.40	316	*de*P		P	04 34 25.4	-0.1
MKAR	**Makanchi Array**	97.40	316	P		P	04 34 24.8	-0.7
MKAR	**Makanchi Array** comp=Z,4.8nm,0.7s,baz=87,slow=6.6,SNR=38	97.40	316	P		P	04 34 24.9	-0.6
MKAR	comp=Z,2.5nm,0.8s,baz=100,slow=6.7,SNR=5.4 comp=Z,4.8nm,0.7s			pP		pP	04 34 53.6	-0.6
MKAR	**Makanchi Array** MKAR comp=Z,3.0nm,0.5s	97.40	316	*i* P pmax		Pdif pmax	04 34 25.8	+0.2
ZALV	**Zalesovo Beam**	97.59	324	P		P	04 34 25.1	-1.0
ZALV	**Zalesovo Beam** comp=Z,5.2nm,0.7s,baz=118,slow=4.8,SNR=25	97.59	324	P		P	04 34 25.4	-0.8
ZALV	comp=Z,2.0nm,0.8s,baz=101,slow=3.0,SNR=2.9 comp=Z,5.2nm,0.7s			pP		pP	04 34 55.0	+0.2
MAKZ	**Makanchi** MAKZ comp=Z,5.9nm,1.1s	97.61	316	P IAmb		P IAmb	04 34 26.0 04 34 28.0	-0.4
MAKZ	**Makanchi** MAKZ comp=Z,6.0nm,1.2s	97.61	316	P pmax		P pmax	04 34 26.0	-0.4
KURK	**Kurchatov** KURK comp=Z,4.0nm,1.3s	100.60	320	⇓*e*P pmax		Pdif pmax	04 34 39.1	-0.5
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.3s,baz=124,slow=4.8,SNR=5.6	100.64	320	P		Pdif	04 34 39.7	-0.1
SPITS	**Spitsbergen Ar** comp=Z,1.7nm,0.5s,baz=116,slow=6.6,SNR=1.7	115.13	354	PKP		**PKiKP**	04 39 31.1	-0.8
R55A	**Marlinton**	116.71	54	PKPdf		**PKPdf**	04 39 34.5	-1.6
LPAZ	**La Paz**	117.05	117	PKPdf		**PKiKP**	04 39 38.6	+0.6
LPAZ	**La Paz** comp=Z,0.8nm,0.7s,baz=41,slow=3.8,SNR=5.1	117.05	117	PKP		**PKiKP**	04 39 38.1	0.0
LPAZ	**La Paz**	117.05	117	PKiKP		**PKiKP**	04 39 38.7	+0.6
BELG	**Belogornoye**	119.73	322	*d* PKiKP		**PKPdf**	04 39 41.2	-0.1
POGA	**Pongola**	119.86	226	PKPdf		**PKPdf**	04 39 42.3	-0.2
ARCES	**ARCESS Array B**	120.46	345	PKPdf		**PKPdf**	04 39 41.7	-0.6
ARCES	**ARCESS Array B** comp=Z,4.6nm,0.4s,baz=73,slow=2.0,SNR=71	120.46	345	PKP		**PKPdf**	04 39 41.0	-1.3
ARCES	comp=Z,1.5nm,0.8s,baz=270,slow=0.6,SNR=4.9			PKKPbc		**PKKPab**	04 49 48.4	-1.1
ARCES	**ARCESS Array B**	120.46	345	PKiKP		**PKPdf**	04 39 41.7	-0.6
NCB	**Newcomb**	120.62	48	PKPdf		**PKPdf**	04 39 41.2	-2.2
KTK1	**Kautokeino**	121.39	346	*e*P		**PKPdf**	04 39 43.2	-0.9
JETT	**Jettan, Norway**	121.62	347	*e*P		**PKPdf**	04 39 43.9	-0.7
TRO	**Tromso**	121.87	348	*e*P		**PKPdf**	04 39 44.2	-0.8
SCHQ	**Schefferville** comp=Z,1.9nm,0.7s,baz=286,slow=1.2,SNR=3.9	122.42	34	PKP		**PKPdf**	04 39 45.8	-0.7
SUR	**Sutherland**	123.09	214	PKPdf		**PKiKP**	04 39 49.2	+0.2
BOSA	**Boshof**	123.28	220	PKPdf		**PKPdf**	04 39 48.2	-1.0
BOSA	**Boshof** comp=Z,8.4nm,0.9s,baz=182,slow=0.9,SNR=11	123.28	220	PKP		**PKPdf**	04 39 48.5	-0.7
VRH	**Novokhopyorsk** VRH comp=Z,8.0nm,0.7s	123.59	322	*e*PKIKP pmax		**PKPdf** pmax	04 39 47.5	-1.3
STEI	**Steigen**	124.04	348	*e*P		**PKPdf**	04 39 48.8	-0.4
FAUS	**Fauske**	124.50	347	*e*P		**PKPdf**	04 39 49.6	-0.5
LPSR	**Galich'ya Gora** LPSR comp=Z,10.0nm,0.8s	124.69	324	*e*PKIKP pmax		**PKPdf** pmax	04 39 50.4	-0.5
VORR	**Voronezh** VORR comp=Z,10.0nm,0.8s	124.89	323	*e*PKIKP pmax		**PKPdf** pmax	04 39 50.2	-1.1
OBN	**Obninsk** OBN OBN comp=Z,5.0nm,0.8s	124.91	328	*e*PKIKP *e* *e*PPP pmax		**PKiKP** PPP pmax	04 39 53.6 04 41 41.3 04 44 22.7	+2.1
KBZ	**Khabaz** comp=Z,2.9nm,0.8s,baz=137,slow=2.4,SNR=4.6	124.94	313	PKP		**PKiKP**	04 39 51.9	-0.1
VSR	**Storozhevoye** VSR comp=Z,6.0nm,0.8s	125.09	323	*e*PKIKP pmax		**PKPdf** pmax	04 39 49.5	-2.2
VORD	**Divnogorie** VORD comp=Z,6.0nm,0.8s	125.10	323	*e*PKIKP pmax		**PKPdf** pmax	04 39 49.2	-2.5
VAGH	**Vaagaholmen**	125.47	348	*e*P		**PKPdf**	04 39 51.5	-0.5
LBTB	**Lobatse**	125.53	224	PKPdf		**PKPdf**	04 39 53.1	-0.5
LBTB	**Lobatse**	125.53	224	PKIKP		**PKPdf**	04 39 53.1	-0.5
MOR8	**Moi Rana**	125.70	347	*e*P		**PKPdf**	04 39 51.1	-1.4
KONS	**Konsvik**	125.70	348	*e*P		**PKPdf**	04 39 52.0	-0.4
STOK	**Stokkvaagen**	125.86	348	*e*P		**PKPdf**	04 39 52.4	-0.3
FINES	**FINESS Array B**	125.93	338	PKPdf		**PKPdf**	04 39 52.1	-0.9
FINES	**FINESS Array B** comp=Z,1.6nm,0.4s,baz=62,slow=2.0,SNR=23	125.93	338	PKP		**PKPdf**	04 39 52.6	-0.3
LEIR	**Leirfjorden**	126.03	347	*e*P		**PKPdf**	04 39 52.7	-0.4
LSZ	**Lusaka**	129.70	235	PKPdf		**PKPdf**	04 40 01.9	+0.1
LSZ	**Lusaka**	129.70	235	PKIKP		**PKPdf**	04 40 01.9	+0.1
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.4s,baz=31,slow=1.9	130.83	345	PKPdf		**PKPdf**	04 40 02.7	+0.3
NB2	comp=Z,0.5nm,0.7s,baz=40,slow=4.4			pPKP		**SKPab**	04 43 18.6	+1.9
NB2	**NORSAR Subarra** baz=31,slow=1.9	130.83	345	PKPdf		**PKPdf**	04 40 02.7	+0.3
NOA	**NORSAR Array B** comp=Z,1.6nm,0.6s,baz=34,slow=2.0,SNR=13	130.83	345	PKP		**PKPdf**	04 40 02.4	0.0
NOA	comp=Z,0.5nm,0.7s,baz=32,slow=3.1,SNR=4.6			SKPbc		**SKPab**	04 43 17.2	+0.5
HFS	**Hagfors** comp=Z,1.4nm,0.5s,baz=104,slow=6.3,SNR=12	130.93	343	PKP		**PKPdf**	04 40 02.5	0.0
AK05	**Malin Array Si**	130.99	326	PKP		**PKPdf**	04 40 00.9	-2.1
NC602	**NORSAR Array S**	131.01	345	PKPdf		**PKPdf**	04 40 01.9	-0.8
NC602	**NORSAR Array S**	131.01	345	*e*P		**PKPdf**	04 40 03.0	+0.3
AK06	**Malin Array Si**	131.01	326	PKP		**PKPdf**	04 40 01.8	-1.2
AK07	**Malin Array Si**	131.03	326	PKP		**PKPdf**	04 40 01.8	-1.2
AK14	**Malin Array Si**	131.04	326	PKP		**PKPdf**	04 40 01.8	-1.3
AK13	**Malin Array Si**	131.07	326	PKP		**PKPdf**	04 40 01.9	-1.2
LUBAR	**Lubar, Ukraine**	132.15	326	PKP		**PKPdf**	04 40 03.9	-1.3
RNPP9	**Sopachiv**	132.30	328	PKP		**PKPdf**	04 40 04.2	-1.2
RNPP5	**Staryi Chortor**	132.41	328	PKP		**PKPdf**	04 40 04.4	-1.2
BRTR	**Keskin Array B** comp=Z,1.3nm,0.6s,baz=145,slow=3.6,SNR=6.2	132.69	311	PKP		**PKPdf**	04 40 07.1	+0.3
BR105	**Keskin Array S**	132.71	311	PKP		**PKPdf**	04 40 06.0	-0.8
BDFB	**Brasilia** comp=Z,1.8nm,0.9s,baz=330,slow=3.5,SNR=3.3	133.71	130	PKP		**PKPdf**	04 40 08.1	-1.2
KSV	**Kosov**	134.51	325	PKP		**PKPdf**	04 40 08.5	-1.2
STHS	**Stebnicka Huta**	135.88	328	*e*PKIKP		**PKPdf**	04 40 11.3	-0.9
STHS	**Stebnicka Huta**	135.88	328	*e*PKP		**PKPdf**	04 40 11.3	-0.9
OSTC	**Ostas**	137.48	333	*e*PKHKP		PKPpre	04 40 07.8	
OSTC	**Ostas**	137.48	333	*e*PKP		PKPpre	04 40 07.8	
KRLC	**Kraliky**	137.58	332	*e*PKIKP		**PKiKP**	04 40 17.0	-0.4
KRLC	**Kraliky**	137.58	332	*e*PKP		**PKiKP**	04 40 17.0	-0.4

CLL	**Collm**	**138.26**	**336**	*i* PKIKP	**PKiKP**	**04 40 18.6**	**0.0**		
CLL				pmax	pmax				
	comp=Z,4.0nm,0.6s								
CLL	**Collm**	**138.26**	**336**	*i* PKPdf	**PKiKP**	**04 40 18.6**	**0.0**		
	comp=Z,4.0nm,0.6s								
PRU	**Pruhonice**	**138.63**	**333**	*e*PKHKP	PKPpre	04 40 06.1			
PRU	**Pruhonice**	**138.63**	**333**	*e*PKP	PKPpre	04 40 06.1			
EKA	**Eskdalemuir Ar**	**139.01**	**352**	PKhKP	PKPpre	04 40 08.5			
	comp=Z,0.3nm,0.3s,baz=8.9,slow=2.5,SNR=4.9								
EKA				PKP	**PKPdf**	**04 40 18.8**	**+1.0**		
	comp=Z,1.1nm,0.5s,baz=17,slow=2.3,SNR=5.4								
RONA	**Rosalia, Austr**	**139.47**	**330**	*i* PKP	PKPpre	04 40 12.7			
	comp=Z,2.8nm,0.5s								
CONA	**Conrad Observa**	**139.52**	**330**	*i* PKP	PKPpre	04 40 12.0			
	comp=Z,0.1nm,0.1s								
CKRC	**Cesky Krumlov**	**139.60**	**332**	*e*PKHKP	PKPpre	04 40 12.1			
CKRC	**Cesky Krumlov**	**139.60**	**332**	*e*PKP	PKPpre	04 40 12.1			
KHC	**Kasperske Hory**	**139.69**	**333**	*e*PKHKP	PKPpre	04 40 13.1			
KHC	**Kasperske Hory**	**139.69**	**333**	*e*PKP	PKPpre	04 40 13.1			
GERES	**GERESS Array B**	**139.85**	**333**	PKHKP	PKPpre	04 40 10.9			
	comp=Z,1.3nm,0.6s,baz=46,slow=3.9,SNR=7.9								
GERES				PKP	**PKiKP**	**04 40 20.9**	**-1.2**		
	comp=Z,2.2nm,0.7s,baz=64,slow=3.1,SNR=8.7								
MOA	**Molln**	**140.33**	**331**	*e*PKP	PKPpre	04 40 13.6			
	comp=Z,1.6nm,0.4s								
FNA	**Florina**	**140.79**	**318**	PKPpre	PKPpre	04 40 14.1			
FNA	**Florina**	**140.79**	**318**	PKHKP	PKPpre	04 40 14.1			
SOKA	**Soboth**	**140.81**	**330**	*i* PKP	PKPpre	04 40 15.1			
	comp=Z,0.5nm,0.3s								
OBKA	**Obir**	**141.16**	**330**	*i* PKP	PKPpre	04 40 15.7			
	comp=Z,2.3nm,0.8s								
LESA	**Schwarzleotal**	**141.37**	**332**	*i* PKP	PKPpre	04 40 16.9			
	comp=Z,2.7nm,0.4s								
MYKA	**Terra Mystica**	**141.51**	**331**	*i* PKP	PKPpre	04 40 16.9			
	comp=Z,1.7nm,0.5s								
WATA	**Walderalm**	**141.93**	**333**	*i* PKP	PKPpre	04 40 19.3			
	comp=Z,2.5nm,0.5s								
ABTA	**Abfaltersbach**	**141.95**	**332**	*e*PKP	PKPpre	04 40 17.6			
	comp=Z,1.2nm,0.4s								
WTTA	**Wattenberg**	**141.95**	**333**	*i* PKP	PKPpre	04 40 19.3			
	comp=Z,2.6nm,0.5s								
MOTA	**Moosalm**	**142.12**	**334**	*i* PKP	PKPpre	04 40 19.8			
	comp=Z,4.2nm,0.5s								
RETA	**Reutte**	**142.16**	**334**	*i* PKP	PKPpre	04 40 19.6			
	comp=Z,1.4nm,0.4s								
SQTA	**Sankt Quirin**	**142.17**	**333**	*i* PKP	PKPpre	04 40 19.7			
	comp=Z,1.0nm,0.3s								
FETA	**Feichten**	**142.53**	**333**	*i* PKP	PKPpre	04 40 20.9			
	comp=Z,4.6nm,0.6s								
DAVA	**Damuels**	**142.69**	**335**	*i* PKP	PKPpre	04 40 21.1			
	comp=Z,15nm,0.9s								
DAVOX	**Davos/Dischmat**	**143.09**	**334**	PKP	PKPbc	04 40 23.1	+0.3		
	comp=Z,19nm,0.6s,baz=57,slow=0.8,SNR=45								
GUMA	**Gualdo di Mace**	**144.19**	**327**	PKPdf	**PKPdf**	**04 40 26.7**	**-0.8**		
CEST	**Esterri de Car**	**149.94**	**339**	PKPbc	**PKiKP**	**04 40 42.7**	**-0.4**		
KEST	**Kesra**	**151.41**	**320**	PKPbc	**PKiKP**	**04 40 46.2**	**-0.1**		
	comp=Z,18nm,0.7s,baz=318,slow=1.0,SNR=26								
TORD	**Torodi Ar. Bea**	**165.97**	**265**	PKP	**PKPdf**	**04 40 56.4**	**-0.9**		
	comp=Z,1.6nm,0.5s,baz=25,slow=1.9,SNR=4.4								
TORD				PKPab	**PKPab**	**04 41 57.7**	**-0.2**		
	comp=Z,3.8nm,0.9s,baz=72,slow=6.4,SNR=3.9								
DBIC	**Dimbokro**	**168.78**	**224**	PKP	**PKPdf**	**04 40 58.4**	**-1.0**		
	comp=Z,4.4nm,0.6s,baz=118,slow=2.0,SNR=9.6								

CATAC 05 04:26:27.4±0.7,12°N±4°×8°7W±°,h18km±5km,M2.8/11,
MLv2.8/11,Error ellipse: s-maj=8.2km s-min=5.2km
az=10.8,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
COPN	**Copaltepe**	**0.74**	**40**	P	Pg	04 26 42.3	+0.4	
SAPS	**Ciudad Sandino**	**0.86**	**50**	P	Pg	04 26 44.2	0.0	
UNAN	**Cigeo UNAN**	**0.93**	**58**	P	Pn	04 26 45.4	-0.2	
UNAN				S	Sg	04 26 58.1	+0.1	
MOMN	**Momotombo**	**0.95**	**33**	P	Pb	04 26 45.4	0.0	
MOMN				S	Sg	04 26 58.5	0.0	
CNGA	**Al SSO del Vol**	**0.95**	**23**	P	Pb	04 26 45.5	+0.1	
CNGA				S	Sg	04 26 58.1	-0.4	
CNGN	**Cerro Negro**	**0.96**	**23**	P	Pb	04 26 45.7	+0.2	
CNGN	**Cerro Negro**	**0.96**	**23**	S	Sn	04 26 59.7	+0.5	
ROCN	**Rota Cerro Neg**	**0.96**	**20**	P	Pb	04 26 45.4	-0.1	
ROCN				S	Sb	04 26 58.1	+0.2	
MGAN	**Managua**	**0.97**	**57**	S	Sn	04 26 59.6	+0.2	
R4DEC	**Barrio San Lui**	**0.97**	**56**	S	Sn	04 26 59.4	0.0	
R4DEC	**Barrio San Lui**	**0.97**	**56**	P	Pb	04 26 45.8	+0.1	
NANN	**Nandasmo**	**0.99**	**71**	S	Sn	04 27 00.4	+0.4	
MOM2	**El Cardon**	**1.01**	**35**	S	Sn	04 27 00.6	+0.3	
WILN	**Americas 2**	**1.03**	**58**	S	Sn	04 27 00.4	-0.4	
POLN	**Al Sur del Vol**	**1.06**	**14**	P	Pb	04 26 45.9	-1.4	
CSGN	**Cosiguina Volc**	**1.44**	**341**	S	Sb	04 27 12.1	+0.4	
MATN	**Matagalpa**	**1.73**	**41**	P	Pn	04 26 55.5	-1.2	
MATN	**Matagalpa**	**1.73**	**41**	S	Sn	04 27 17.6	-0.7	
CNCH	**Conchagua**	**1.81**	**336**	P	Pn	04 26 57.5	-0.3	
CHOHN	**Orocuina**	**1.86**	**358**	P	Pn	04 26 58.4	0.0	
CHOHN	**Orocuina**	**1.86**	**358**	S	Sn	04 27 22.4	+0.9	
ACON	**Acoyapa**	**1.90**	**79**	P	Pn	04 26 58.9	+0.1	
RCVN	**Varillal2**	**2.14**	**24**	P	Pn	04 27 03.0	+0.6	
RCVN	**Varillal2**	**2.14**	**24**	S	Sn	04 27 29.7	+1.1	

NEIC ***05*** *04:37:35.6±0.9,33°.95N±0°.02×11°.50W±0°.09,h10km±2km, ML4.0/10,Error ellipse: s-maj=12.8km s-min=3.5km az=260.0*

MDD ***05*** *04:37:37.3±0.1,33°.88N×11°.59W,h40km,Mb4.8/42, M_mb4.3/42,Error ellipse: s-maj=4.0km s-min=1.0km az=130.0*

IGIL ***05*** *04:37:39.1,33°.92N×11°.50W,h39km,ML3.7*

IDC ***05*** *04:37:40.2±5.3,34°.29N×10°.97W,h0km,mb3.5/2, mbtmp3.7/4,ML4.2/2,MS3.7/4,Error ellipse: s-maj=73.1km s-min=47.5km az=60.0*

INMG ***05*** *04:37:41.6±2.2,33°.92N×11°.50W,h44km±9km,ML3.5, Error ellipse: s-maj=4.2km s-min=2.4km az=121.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Madeira Islands, Portugal Regi*

CNRM ***05*** *04:37:43.7,33°.56N×11°.08W,h75km,ML3.9*

ISC 05 04:37:41.6±1.8,34°.16N±0°.07×11°.21W±0°.09,h35km,n182,
σ18s84/204,MS3.8/4,33C,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h m s		ISC
SRHM	**Skhour des Reh**	**3.24**	**120**	P	**Pn**	**04 38 27.4**	**-2.6**	
SRHM	**Skhour des Reh**	**3.24**	**120**	S	**Sn**	**04 39 01.9**	**-5.6**	
AVE	**Averroes**	**3.27**	**104**	Sn	**Sn**	**04 39 07.5**	**-0.7**	
AVE				Pn	**Pn**	**04 38 30.7**	**+0.1**	
AVE	**Averroes**	**3.27**	**104**	Pn	**Pn**	**04 38 30.6**	**+0.1**	
AVE				Sn	**Sn**	**04 39 06.3**	**-1.9**	
AVE				IAML		04 39 12.6		
	comp=E,410nm,0.5s							
AVE				IAML		04 39 12.7		
	comp=N,380nm,0.5s							
AVE	**Averroes**	**3.27**	**104**	P	**Pn**	**04 38 30.6**	**+0.1**	
AVE	**Averroes**	**3.27**	**104**	S	**Sn**	**04 39 07.5**	**-0.7**	
PFVI	**Vila Bisbo**	**3.54**	**32**	Sn	**Sn**	**04 39 14.3**	**-0.5**	
PFVI				Pn	**Pn**	**04 38 35.0**	**+0.9**	
PFVI	**Vila Bisbo**	**3.54**	**32**	Pn	**Pn**	**04 38 34.7**	**+0.5**	
PFVI				Sn	**Sn**	**04 39 14.9**	**+0.1**	
PFVI				IAML		04 39 16.4		
	comp=E,181nm,0.4s							
PFVI				IAML		04 39 17.7		
	comp=N,251nm,0.6s							
PFVI	**Vila Bisbo**	**3.54**	**32**	*e*P	**Pn**	**04 38 35.0**	**+0.9**	
PFVI				*e*S	**Sn**	**04 39 15.5**	**+0.7**	
PFVI				*i* IAML		04 39 16.3		
PFVI				*i* IAML		04 39 18.2		
PFVI				*i* IAML		04 39 19.8		
RTC	**Rabat Centre**	**3.61**	**91**	Sn	**Sn**	**04 39 16.6**	**0.0**	
RTC	**Rabat Centre**	**3.61**	**91**	P	**Pn**	**04 38 37.5**	**+2.4**	
RTC	**Rabat Centre**	**3.61**	**91**	S	**Sn**	**04 39 17.1**	**+0.6**	
CGR	**Cap Guir**	**3.69**	**162**	P	Pn	04 38 29.4	-6.8	
CGR	**Cap Guir**	**3.69**	**162**	S	Sn	04 39 06.0	-12	
MORF	**Marmelete**	**3.76**	**33**	*e*P	**Pn**	**04 38 38.2**	**+1.0**	
MORF				*e*S	**Sn**	**04 39 21.0**	**+0.7**	
MORF				IAML		04 39 23.7		
	comp=N,184nm,0.4s							
MORF	**Marmelete**	**3.76**	**33**	Pn	**Pn**	**04 38 37.8**	**+0.6**	
MORF				IAML		04 39 24.1		
	comp=N,184nm,0.3s							
MORF				IAML		04 39 25.6		
	comp=E,151nm,0.3s							
MORF	**Marmelete**	**3.76**	**33**	*e*P	**Pn**	**04 38 38.2**	**+1.0**	
MORF				*e*S	**Sn**	**04 39 21.5**	**+1.2**	
MORF				*i* IAML		04 39 24.2		
MORF				*i* IAML		04 39 24.7		
MORF				*i* IAML		04 39 27.0		
ZHG	**ZHG**	**3.87**	**99**	P	**Pn**	**04 38 38.0**	**-0.7**	
ZHG	**ZHG**	**3.87**	**99**	S	**Sn**	**04 39 19.0**	**-3.8**	
PTEO	**Sao Teotonio**	**3.94**	**30**	*e*P	**Pn**	**04 38 40.4**	**+0.8**	
PTEO				*e*S	**Sn**	**04 39 24.7**	**+0.2**	
PTEO				*i* IAML		04 39 28.9		
PTEO				*i* IAML		04 39 29.3		
PTEO				*i* IAML		04 39 29.9		
PBDV	**Barranco-do-Ve**	**4.07**	**40**	Sn	**Sn**	**04 39 28.7**	**+0.9**	
PBDV				Pn	**Pn**	**04 38 42.9**	**+1.5**	
PBDV	**Barranco-do-Ve**	**4.07**	**40**	*e*P	**Pn**	**04 38 42.9**	**+1.5**	
PBDV				*e*S	**Sn**	**04 39 24.0**	**+1.1**	
PBDV				*i* IAML		04 39 32.9		
PBDV				*i* IAML		04 39 34.8		
PBDV				*i* IAML		04 39 35.2		
OUK	**Oukaimeden**	**4.07**	**135**	P	Pn	04 38 38.7	-3.1	
OUK	**Oukaimeden**	**4.07**	**135**	S	Sn	04 39 20.3	-8.1	
TTIG	**Tnine Tigouga,**	**4.29**	**146**	P	Pn	04 38 37.6	-7.0	
TTIG	**Tnine Tigouga,**	**4.29**	**146**	S	Sn	04 39 19.7	-14	
PVAQ	**Vaqueiros**	**4.30**	**40**	Pn	**Pn**	**04 38 46.0**	**+1.4**	
PVAQ	**Vaqueiros**	**4.30**	**40**	Pn	**Pn**	**04 38 45.6**	**+1.0**	
PVAQ	**Vaqueiros**	**4.30**	**40**	*i*P	**Pn**	**04 38 46.0**	**+1.4**	
PVAQ				*e*S	**Sn**	**04 39 33.8**	**+0.2**	
PVAQ				*i* IAML		04 39 38.2		
PVAQ				*i* IAML		04 39 42.3		
PVAQ				*i* IAML		04 39 43.5		
PCVE	**Castro Verde**	**4.32**	**36**	Pn	**Pn**	**04 38 46.0**	**+1.3**	
PCVE				Sn	**Sn**	**04 39 32.8**	**-1.1**	
PCVE	**Castro Verde**	**4.32**	**36**	*e*P	**Pn**	**04 38 46.0**	**+1.3**	
PCVE				*e*S	**Sn**	**04 39 34.0**	**+0.1**	
PCVE				*i* IAML		04 39 36.0		
PCVE				*i* IAML		04 39 37.5		
PCVE				*i* IAML		04 39 38.4		
MESJ	**Messejana**	**4.40**	**33**	*e*P	**Pn**	**04 38 46.7**	**+0.8**	
MESJ				*e*S	**Sn**	**04 39 35.8**	**-0.2**	
MESJ				IAML		04 39 40.2		
	comp=E,38nm,0.4s							
MESJ	**Messejana**	**4.40**	**33**	Pn	**Pn**	**04 38 46.6**	**+0.8**	
MESJ	**Messejana**	**4.40**	**33**	*e*P	**Pn**	**04 38 46.9**	**+1.0**	
MESJ				*e*S	**Sn**	**04 39 36.6**	**+0.7**	
MESJ				*i* IAML		04 39 40.2		
MESJ				*i* IAML		04 39 40.6		
MESJ				*i* IAML		04 39 41.0		
PMPST	**Porto Santo, M**	**4.41**	**257**	*e*P	Pn	04 38 39.1	-7.0	
PMPST				*e*S	Sn	04 39 21.4	-15	
PMPST				*i* IAML		04 39 27.1		
PMPST				*i* IAML		04 39 29.4		
PMPST				*i* IAML		04 39 30.3		
PMPS	**Porto Santo**	**4.42**	**257**	*e*P	Pn	04 38 39.2	-7.0	
PMPS				*i* IAML		04 39 27.9		
EGRO	**El Granado**	**4.53**	**41**	Pn	**Pn**	**04 38 49.1**	**+1.5**	
EGRO				Sn	**Sn**	**04 39 38.9**	**-0.1**	
EGRO	**El Granado**	**4.53**	**41**	Pn	**Pn**	**04 38 49.2**	**+1.5**	
EGRO				Sn	**Sn**	**04 39 39.6**	**+0.5**	
TIO	**Tiouine**	**4.63**	**133**	Pn	Pn	04 38 46.3	-2.9	
TIO				Sn	Sn	04 39 34.8	-7.1	
TIO	**Tiouine**	**4.63**	**133**	P	Pn	04 38 46.5	-2.8	
ARNO	**Arenosillo**	**4.68**	**50**	Sn	**Sn**	**04 39 42.3**	**-0.4**	
TISM	**Timmit**	**4.69**	**120**	P	Pn	04 38 46.9	-2.9	
PBEJ	**Beja**	**4.71**	**34**	*e*P	**Pn**	**04 38 51.4**	**+1.1**	
PBEJ				*e*S	**Sn**	**04 39 43.9**	**+0.3**	
PBEJ				*i* IAML		04 39 46.6		
PBEJ				*i* IAML		04 39 47.3		
PBEJ				*i* IAML		04 39 47.8		
LIS	**Lisbon**	**4.84**	**19**	*e*S	**Sn**	**04 39 45.6**	**-1.2**	
LIS				IAML		04 39 54.2		
	comp=N,224nm,0.3s							
LIS	**Lisbon**	**4.84**	**19**	*e*S	**Sn**	**04 39 47.4**	**+0.6**	
SICH	**Sidi Chahed**	**4.88**	**89**	P	**Pn**	**04 38 53.4**	**+0.8**	
OUZM	**OUZ**	**4.96**	**130**	P	**Pn**	**04 38 51.3**	**-2.4**	
PARRA	**Arraiolos**	**4.96**	**20**	*e*P	Pn	04 38 58.6	+4.9	
PARRA				*e*S	**Sn**	**04 39 57.1**	**+7.3**	
PARRA				*i* IAML		04 39 58.9		
PARRA				*i* IAML		04 39 59.0		
PARRA				*i* IAML		04 40 00.6		
PMAR	**Madeira**	**4.98**	**255**	*e*P	Pn	04 38 46.9	-7.3	
PMAR				*e*S	Sn	04 39 36.1	-14	
PMAR				*i* IAML		04 39 40.9		
PMAR				*i* IAML		04 39 43.9		
PMAR				*i* IAML		04 39 44.0		
FUL	**Funchal**	**4.99**	**254**	*e*P	Pn	04 38 46.7	-7.3	
FUL				*e*S	Sn	04 39 36.5	-14	
FUL				*i* IAML		04 39 40.0		
FUL				*i* IAML		04 39 41.3		
FUL				*i* IAML		04 39 43.1		
SMIR	**Smir Dam**	**5.02**	**71**	P	**Pn**	**04 38 55.7**	**+1.2**	
PMAFR	**Mafra**	**5.03**	**17**	Pn	**Pn**	**04 38 54.5**	**-0.2**	
PMAFR				Sn	**Sn**	**04 39 50.5**	**-1.0**	
PMAFR	**Mafra**	**5.03**	**17**	*e*P	**Pn**	**04 38 54.6**	**0.0**	
PMAFR				*e*S	**Sn**	**04 39 50.6**	**-0.9**	
PMAFR				*i* IAML		04 39 55.0		
PMAFR				*i* IAML		04 39 56.5		
PMAFR				*i* IAML		04 39 56.5		
EVO	**Evora**	**5.07**	**30**	Pn	**Pn**	**04 38 55.3**	**+0.1**	
EVO				Sn	**Sn**	**04 39 49.7**	**-2.7**	
EVO	**Evora**	**5.07**	**30**	*e*P	**Pn**	**04 38 55.6**	**+0.5**	
EVO				*e*S	**Sn**	**04 39 52.4**	**0.0**	
EVO				*i* IAML		04 39 54.1		
EVO				*i* IAML		04 39 54.4		
EVO				*i* IAML		04 39 54.5		
ECEU	**Ceuta**	**5.09**	**68**	Pn	**Pn**	**04 38 57.1**	**+1.7**	
ECEU				*i*VmbVC		04 38 58.8		
	comp=N,325nm,SNR=3.0							
ECEU				Sn	**Sn**	**04 39 54.2**	**+1.2**	
CEU	**Ceuta**	**5.09**	**68**	Sn	**Sn**	**04 39 55.1**	**+2.2**	
CEU				Pn	**Pn**	**04 38 58.4**	**+3.0**	
ESPR	**Espera**	**5.13**	**57**	Pn	**Pn**	**04 38 56.6**	**+0.6**	
ESPR				Sn	**Sn**	**04 39 52.8**	**-1.2**	
ESPR	**Espera**	**5.13**	**57**	Pn	**Pn**	**04 38 56.8**	**+0.8**	
ESPR				Sn	**Sn**	**04 39 54.7**	**+0.7**	
EMIN	**Mina Concepcio**	**5.15**	**44**	Pn	**Pn**	**04 38 57.1**	**+0.9**	
EMIN				Sn	**Sn**	**04 39 54.4**	**+0.1**	
EMIN	**Mina Concepcio**	**5.15**	**44**	Pn	**Pn**	**04 38 57.0**	**+0.9**	
EMIN				*i*VmbVC		04 38 58.8		
	comp=N,372nm,SNR=9.1							
EMIN				Sn	**Sn**	**04 39 55.0**	**+0.6**	
PMOZ	**Porto Moniz, M**	**5.18**	**257**	Pn	Pn	04 38 49.8	-7.0	
PMOZ				Sn	Sn	04 39 44.8	-11	
PMOZ	**Porto Moniz, M**	**5.18**	**257**	Pn	Pn	04 38 49.6	-7.2	
PMOZ	**Porto Moniz, M**	**5.18**	**257**	*e*P	Pn	04 38 50.0	-6.8	
PMOZ				*e*S	Sn	04 39 42.0	-13	
PMOZ				*i* IAML		04 39 51.5		
PMOZ				*i* IAML		04 39 51.6		
PMOZ				*i* IAML		04 39 52.8		
EJIF	**Jimena Fronter**	**5.22**	**62**	Pn	**Pn**	**04 38 58.5**	**+1.4**	
EJIF				Sn	**Sn**	**04 39 55.0**	**-1.1**	
PBAR	**Barrancos**	**5.24**	**39**	Pn	**Pn**	**04 38 58.4**	**+1.0**	
PBAR				Sn	**Sn**	**04 39 56.1**	**-0.4**	
PBAR	**Barrancos**	**5.24**	**39**	*e*P	**Pn**	**04 38 58.4**	**+1.0**	
PBAR				*e*S	**Sn**	**04 39 56.3**	**-0.3**	
PBAR				*i* IAML		04 39 58.9		
PBAR				*i* IAML		04 40 01.1		
PBAR				*i* IAML		04 40 01.3		
CZD	**Col de Zad**	**5.26**	**101**	P	**Pn**	**04 38 58.5**	**+0.4**	
LCRM	**LCR**	**5.30**	**93**	P	**Pn**	**04 38 57.7**	**-0.7**	
EFAM	**Famara**	**5.39**	**202**	Pn	Pn	04 38 48.5	-11	
EFAM				*i*VmbVC		04 38 54.8		
	comp=N,923nm,SNR=1.4							
EFAM				Sn	Sn	04 39 42.2	-18	
PMTG	**Montargil**	**5.46**	**25**	*e*P	**Pn**	**04 39 00.8**	**+0.4**	
PMTG				*e*S	**Sn**	**04 40 00.4**	**-1.5**	
PMTG				*i* IAML		04 40 02.1		
PMTG				*i* IAML		04 40 03.1		
PMTG				*i* IAML		04 40 04.9		
PESTR	**Estremoz**	**5.53**	**31**	Pn	**Pn**	**04 39 01.7**	**+0.2**	
PESTR				Sn	**Sn**	**04 40 02.0**	**-1.8**	
PESTR	**Estremoz**	**5.53**	**31**	Pn	**Pn**	**04 39 02.1**	**+0.7**	
PESTR	**Estremoz**	**5.53**	**31**	*e*P	**Pn**	**04 39 02.0**	**+0.6**	
PESTR				*e*S	**Sn**	**04 40 02.9**	**-0.8**	
PESTR				*i* IAML		04 40 05.1		
PESTR				*i* IAML		04 40 05.3		
PESTR				*i* IAML		04 40 06.1		
CBLAA	**Tinajo**	**5.54**	**203**	Pn	Pn	04 38 52.9	-8.6	
CBLAA				Sn	Sn	04 39 45.0	-19	
MD01	**Midelt array s**	**5.54**	**102**	Pn	**Pn**	**04 39 01.2**	**-0.5**	
MD31	**MD31**	**5.54**	**102**	Pn	**Pn**	**04 39 00.5**	**-1.2**	
MD31	**MD31**	**5.54**	**102**	P	**Pn**	**04 39 00.5**	**-1.2**	
MDT	**Midelt**	**5.67**	**102**	Pn	**Pn**	**04 39 02.5**	**-1.0**	
	comp=N,2.2nm,0.3s,baz=307,slow=7.3,SNR=14							
MDT				Sn	**Sn**	**04 40 03.0**	**-4.5**	
	comp=N,8.7nm,0.3s,baz=51,slow=7.5,SNR=18							
	comp=N,4.3nm,0.3s							
MDT	**Midelt**	**5.67**	**102**	P	**Pn**	**04 39 03.2**	**-0.4**	
EBAD	**Badajoz**	**5.70**	**35**	Pn	**Pn**	**04 39 04.4**	**+0.7**	
EBAD				Sn	**Sn**	**04 40 05.7**	**-2.2**	
EBAD	**Badajoz**	**5.70**	**35**	Pn	**Pn**	**04 39 04.3**	**+0.5**	
EBAD				*i*VmbVC		04 39 05.8		
	comp=N,443nm,SNR=12							
EBAD				Sn	**Sn**	**04 40 08.8**	**+0.9**	
GOLM	**Goulmima**	**5.80**	**113**	P	**Pn**	**04 39 03.2**	**-2.1**	
TZRR	**Tazzarine**	**5.83**	**124**	P	Pn	04 39 01.6	-4.1	
PSARD	**Sardoal**	**5.95**	**23**	*e*P	**Pn**	**04 39 07.5**	**+0.2**	
PSARD				*e*S	**Sn**	**04 40 13.2**	**-1.1**	
PSARD				*i* IAML		04 40 15.3		
PSARD				*i* IAML		04 40 18.2		
PSARD				*i* IAML		04 40 19.6		
CFUE	**Fuerteventura**	**5.97**	**204**	Pn	Pn	04 38 58.1	-9.4	
CFUE				Sn	Sn	04 39 55.2	-19	
PALE	**Palemas**	**6.08**	**78**	P	**Pn**	**04 39 10.8**	**+1.8**	
AKLM	**AKL**	**6.08**	**85**	P	**Pn**	**04 39 08.0**	**-1.1**	
PMRV	**Marv??o**	**6.08**	**29**	*e*P	**Pn**	**04 39 09.5**	**+0.4**	
PMRV				*e*S	**Sn**	**04 40 16.7**	**-0.8**	
PMRV				*i* IAML		04 40 17.6		
PMRV				*i* IAML		04 40 18.0		
PMRV				*i* IAML		04 40 18.7		
ECAB	**El Cabril**	**6.10**	**48**	Pn	**Pn**	**04 39 10.5**	**+1.1**	
ECAB				Sn	**Sn**	**04 40 17.5**	**-0.4**	
ECAB	**El Cabril**	**6.10**	**48**	Pn	**Pn**	**04 39 10.2**	**+0.9**	
ECAB				*i*VmbVC		04 39 10.7		
	comp=N,423nm,SNR=13							
ECAB				Sn	**Sn**	**04 40 17.6**	**-0.4**	
EMAL	**Malaga-Limoner**	**6.11**	**63**	Pn	**Pn**	**04 39 11.2**	**+1.8**	
EMAL				Sn	**Sn**	**04 40 17.4**	**-0.7**	
ZGR	**Zagora**	**6.22**	**129**	P	**Pn**	**04 39 08.7**	**-2.3**	
PCAS	**Casmilo, Conde**	**6.27**	**19**	*e*P	**Pn**	**04 39 12.4**	**+0.8**	
PCAS				*e*S	**Sn**	**04 40 20.0**	**-2.0**	
PCAS				*i* IAML		04 40 24.1		
PCAS				*i* IAML		04 40 28.2		
PCAS				*i* IAML		04 40 28.7		
PCBR	**Castelo Branco**	**6.41**	**27**	*e*P	**Pn**	**04 39 14.1**	**+0.6**	
PCBR				*e*S	**Sn**	**04 40 24.1**	**-1.3**	
PCBR				*i* IAML		04 40 28.0		
PCBR				*i* IAML		04 40 28.6		
PCBR				*i* IAML		04 40 28.8		
CGIN	**Giniginamar, F**	**6.42**	**203**	Pn	Pn	04 39 03.7	-10	
CGIN				*i*VmbVC		04 39 08.9		
	comp=N,629nm,SNR=2.0							
CGIN				Sn	Sn	04 40 06.7	-19	
COI	**Coimbra**	**6.44**	**19**	Pn	Pn	04 39 09.0	-4.9	
COI	**Coimbra**	**6.44**	**19**	*e*P	**Pn**	**04 39 16.0**	**+2.1**	
COI				*e*S	**Sn**	**04 40 24.1**	**-2.0**	
COI				*i* IAML		04 40 25.4		
COI				*i* IAML		04 40 26.2		
COI				*i* IAML		04 40 26.9		
ARF	**Arif**	**6.48**	**113**	P	**Pn**	**04 39 13.5**	**-1.1**	
EGOR	**Sierra Gorda,**	**6.49**	**61**	Pn	**Pn**	**04 39 16.8**	**+2.0**	
EGOR				Sn	**Sn**	**04 40 27.5**	**0.0**	
EGOR	**Sierra Gorda,**	**6.49**	**61**	Pn	**Pn**	**04 39 16.8**	**+2.0**	
EGOR				*i*VmbVC		04 39 17.1		
	comp=N,313nm,SNR=8.8							
EGOR				Sn	**Sn**	**04 40 28.2**	**+0.7**	
EADA	**Adamuz**	**6.69**	**51**	Pn	**Pn**	**04 39 18.0**	**+0.6**	
EADA				Sn	**Sn**	**04 40 30.9**	**-1.5**	

PAB Sn Sn 04 40 54.2 -2.8
PAB San Pablo 7.69 44 Pn Pn **04 39 31.3 +0.2**
POLO Lamas de Olo 7.69 20 *eP* Pn **04 39 31.7 +0.5**
POLO *eS* Sn **04 40 53.6 -3.6**
POLO *i* IAML 04 40 55.7
POLO *i* IAML 04 40 56.9
POLO *i* IAML 04 40 58.0
MVO Moncorvo 7.74 24 *eP* Pn **04 39 31.8 -0.1**
MVO *eS* Sn **04 40 55.8 -2.5**
MVO *i* IAML 04 40 58.7
MVO *i* IAML 04 41 00.7
MVO *i* IAML 04 41 09.5
CPUN Puntallana, La 7.78 228 Pn Pn 04 39 20.8 -12
CPUN Sn Sn 04 40 38.6 -21
ENIJ Nijar 7.85 66 Pn Pn **04 39 34.5 +1.2**
CMIR El Paso, La Pa 7.87 228 Pn Pn 04 39 21.9 -12
CMIR Sn Sn 04 40 39.4 -22
CBRE Brena Baja,La 7.88 227 Sn Sn 04 40 40.0 -22
EGOM La Gomera 7.89 222 Pn Pn 04 39 21.2 -13
EGOM Sn Sn 04 40 41.0 -21
CGOR Puntagorda, La 7.90 229 Sn Sn 04 40 40.0 -22
CENR El Paso, La Pa 7.91 228 Sn Sn 04 40 41.6 -21
TBT Taburiente 7.92 228 Pn Pn 04 39 21.8 -12
TBT ⇑*i*Vmb_VC 04 39 25.8
comp=N,354nm,SNR=1.6
TBT Sn Sn 04 40 39.5 -23
CVIE Villa de Mazo, 7.92 227 Pn Pn 04 39 22.9 -12
CVIE Sn Sn 04 40 42.5 -20
EHIG Higuera 7.94 227 Sn Sn 04 40 41.2 -22
PCAB Cabril 7.95 17 *eP* Pn **04 39 34.5 -0.2**
PCAB *eS* Sn **04 40 59.1 -4.2**
PCAB *i* IAML 04 41 02.4
PCAB *i* IAML 04 41 06.9
PCAB *i* IAML 04 41 15.4
CJED Jedey, El Paso 7.96 227 Sn Sn 04 40 42.6 -21
ESDC Sonseca Array 8.00 44 Pn Pn **04 39 36.5 +1.1**
ESDC ⇑*i*Vmb_VC 04 39 37.0
comp=N,262nm,SNR=8.0
ESDC Sonseca Array 8.00 44 Pn Pn **04 39 35.7 +0.3**
ESDC Sonseca Array 8.00 44 Pn Pn **04 39 35.5 +0.2**
comp=N,1.6nm,0.3s,baz=233,slow=13,SNR=80
ESDC Sn Sn **04 41 02.3 -2.3**
comp=N,1.7nm,0.3s,baz=233,slow=23,SNR=12
comp=N,5.1nm,0.4s
ESBB Sonseca Array 8.00 44 Pn Pn **04 39 35.9 +0.5**
ELOB Lobios 8.09 17 Pn Pn **04 39 36.6 -0.1**
ELOB Sn Sn **04 41 02.4 -4.4**
PGAV Gavieira, Arco 8.13 16 *eP* Pn **04 39 37.4 +0.2**
PGAV *eS* Sn **04 41 03.7 -4.2**
PGAV *i* IAML 04 41 08.8
PGAV *i* IAML 04 41 10.2
PGAV *i* IAML 04 41 17.9
PBRG Braganca 8.41 23 *eP* Pn **04 39 41.6 +0.6**
PBRG *eS* Sn **04 41 11.1 -3.6**
PBRG *i* IAML 04 41 15.2
PBRG *i* IAML 04 41 15.4
PBRG *i* IAML 04 41 17.5
ECAL Calabor 8.53 23 Pn Pn **04 39 42.7 0.0**
ECAL Sn Sn **04 41 12.3 -5.4**
ECAL Calabor 8.53 23 Pn Pn **04 39 42.7 0.0**
ECAL ⇑*i*Vmb_VC 04 39 45.5
comp=N,142nm,SNR=2.6
ECAL Sn Sn **04 41 14.5 -3.2**
GUD Guadarrama 8.56 39 Pn Pn **04 39 43.5 +0.3**
GUD ⇑*i*Vmb_VC 04 39 45.9
comp=N,105nm,SNR=5.6
GUD Sn Sn **04 41 16.8 -1.8**
UCM Universidad Co 8.83 44 Pn Pn **04 39 48.4 +1.7**
UCM Sn Sn **04 41 21.7 -3.2**
CART Cartagena 8.96 65 Pn Pn **04 39 49.0 +0.5**
EAGO Agolada(Pontev 8.97 15 Pn Pn **04 39 48.1 -0.6**
EAGO ⇑*i*Vmb_VC 04 39 48.5
comp=N,151nm,SNR=1.9
EAGO Sn Sn **04 41 22.7 -5.7**
EVIV Cofrentes, Val 9.57 55 Pn Pn **04 39 56.9 0.0**
EVIV Sn Sn **04 41 38.9 -4.3**
EPON Pontenova 9.69 18 Pn Pn **04 39 58.6 +0.2**
EPON ⇑*i*Vmb_VC 04 40 05.6
comp=N,147nm,SNR=1.4
EPON Sn Sn **04 41 41.0 -5.0**
AFON Font Roja 9.70 59 Pn Pn **04 39 59.8 +1.0**
AFON ⇑*i*Vmb_VC 04 40 00.6
comp=N,168nm,SNR=2.9
AFON Sn Sn **04 41 44.3 -2.2**
ETOR Torete 9.85 45 Pn Pn **04 40 02.0 +1.2**
ETOR ⇑*i*Vmb_VC 04 40 02.5
comp=N,154nm,SNR=4.0
ETOR Sn Sn **04 41 46.2 -3.9**
EARI Arriondas 10.26 25 Pn Pn **04 40 07.5 +1.1**
EARI Sn Sn **04 41 55.5 -4.5**
EMOS Mosqueruela 10.56 51 Pn Pn **04 40 10.7 +0.2**
EMOS Sn Sn **04 42 03.9 -3.7**
GERES GERESS Array B 23.59 44 P P **04 42 49.8 +0.6**
GERES GERESS Array B 23.59 44 P P **04 42 51.0 +1.8**
comp=N,0.9nm,0.8s,baz=221,slow=10,SNR=5.1
comp=N,0.9nm,0.8s
FINES FINESS Array B 36.18 30 P P **04 44 41.9 +1.4**
comp=N,0.9nm,0.7s,baz=224,slow=9.7,SNR=1.3
comp=N,0.9nm,0.7s
RES Resolute Bay 55.74 341 LR LR 05 07 25.8
comp=N,49nm,19.6s,baz=169,slow=32
YKA Yellowknife Ar 66.06 330 LR LR 05 13 49.8
comp=N,66nm,19.0s,baz=336,slow=33
BBB Bella Bella 77.92 326 LR LR 05 21 50.5
comp=N,46nm,18.1s,baz=60,slow=34
KDAK Kodiak Island 82.83 340 LR LR 05 25 51.8
comp=N,37nm,18.4s,baz=75,slow=35

*IDC **05** 05:01:01.2±1.4,46˚.84N×90˚.89E,h0km,mb3.6/2, mbtmp3.7/7, ML3.4/5, MS2.9/5, Error ellipse: s-maj=26.5km s-min=13.4km az=22.0*
*NNC **05** 05:01:05.0±1.3,47˚.09N×90˚.51E,h0km±6km,mb4.3, mpv4.2, Error ellipse: s-maj=11.3km s-min=8.9km az=148.0*
*ASRS **05** 05:01:11.1±0.5,48˚N±2˚×9˚1E±˚,h5km, MLh4.6/15, Error ellipse: s-maj=5.0km s-min=4.4km az=156.5, confirmed*
ISC 05 05:01:05.8±0.8,46˚.86N±0˚.03×90˚.52E±0˚.04,h10km,n38,
σ3§21/54,MS3.0/4,9C-9D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**3.51**	**325**	Pn	**Pn**	**05 02 02.3**	**+1.8**
DGZ				Pg	**Pb**	**05 02 08.7**	**+0.6**
DGZ				Sg	**Sb**	**05 02 53.3**	**+2.6**
AKAR	**Aktash**	**3.96**	**332**	Pn	**Pn**	**05 02 07.7**	**+1.1**
AKAR				Pg	**Pb**	**05 02 17.1**	**+1.4**
AKAR				Sg	**Sb**	**05 03 07.8**	**+4.2**
CHBI	**Chibit, Altay**	**3.99**	**331**	Pg	**Pb**	**05 02 17.0**	**+0.8**
CHBI				Sg	**Sb**	**05 03 07.3**	**+2.7**
ULGR	**Ulagan, Altay**	**4.12**	**337**	Pn	**Pn**	**05 02 10.7**	**+1.7**
ULGR				Pg	**Pb**	**05 02 20.1**	**+1.6**
ULGR				Sg	**Sb**	**05 03 11.7**	**+3.3**
TEL	**Teeli**	**4.17**	**357**	Pn	**Pn**	**05 02 05.6**	**-3.9**
TEL				Pg	**Pb**	**05 02 15.0**	**-4.2**
TEL				Sg	**Sb**	**05 03 06.5**	**-3.0**
ELDR	**Elanda**	**5.24**	**328**	Pg	Pb	05 02 41.0	+3.6
ELDR				Sg	**Sg**	**05 03 49.8**	**-4.1**
YALR	**Yailyu, Altay**	**5.26**	**340**	Pn	**Pn**	**05 02 24.8**	**+0.3**
YALR				Pg	Pb	05 02 41.5	+3.6
YALR				Sg	**Sg**	**05 03 48.4**	**-6.3**
ARTR	**Artybash**	**5.37**	**338**	Pg	Pb	05 02 44.2	+4.5
ARTR				Sg	Sb	05 03 50.4	+6.2
KZLR	**Kyzyl**	**5.49**	**27**	Sg	**Sb**	**05 03 43.9**	**-3.7**
UKR	**Ust'-Kan**	**5.56**	**319**	Pn	**Pn**	**05 02 32.5**	**+3.9**
UKR				Pg	Pb	05 02 47.2	+4.2
UKR				Sg	**Sg**	**05 04 01.8**	**-2.5**
MK31	**Makanchi Array**	**5.65**	**272**	Pn	**Pn**	**05 02 30.7**	**+0.9**
	2.8nm,0.3s,baz=90,slow=13,SNR=148						
MK31				⇑Pg	**Pb**	**05 02 48.0**	**+3.6**
	17nm,0.6s,baz=92,slow=16,SNR=9.2						
MK31				Sn	**Sn**	**05 03 37.6**	**+2.9**
	17nm,0.5s,baz=91,slow=23,SNR=5.7						
MK31				⇓Lg	Lg	05 04 04.8	
	38nm,0.5s,baz=77,slow=33,SNR=5.5						
MKAR	**Makanchi Array**	**5.65**	**272**	Pn	**Pn**	**05 02 31.3**	**+1.5**
	3.1nm,0.3s,baz=91,slow=15,SNR=127						
MKAR				Pg	**Pb**	**05 02 44.1**	**-0.3**
	3.3nm,0.3s,baz=88,slow=18,SNR=7.7						
MKAR				Sn	**Sn**	**05 03 39.5**	**+4.8**
	12nm,0.3s,baz=86,slow=27,SNR=9.1						
MKAR				Lg	Lg	05 04 06.7	
	17nm,0.3s,baz=88,slow=33,SNR=8.6						
MKAR				LR	LR	05 04 32.7	
	comp=Z,41nm,19.9s,baz=352,slow=36						
	4.2nm,0.3s						
MAKZ	**Makanchi**	**5.86**	**273**	⇑Pn	**Pn**	**05 02 33.1**	**+0.4**
	6.6nm,0.5s						
MAKZ				⇓Pg	**Pb**	**05 02 50.7**	**+2.7**
	16nm,0.7s						
MAKZ				⇑Sn	**Sn**	**05 03 41.5**	**+1.6**
	34nm,0.8s						
MAKZ				⇓Lg	Lg	05 04 11.3	
	40nm,0.8s						
MAKZ	**Makanchi**	**5.86**	**273**	Pn	**Pn**	**05 02 34.5**	**+1.8**
MAKZ				Pg	**Pb**	**05 02 50.3**	**+2.2**
MAKZ				S	**Sn**	**05 03 46.3**	**+6.4**
MAKZ				Sg	Sb	05 04 13.4	+15
DJO	**Djoy, Khakassi**	**5.94**	**4**	Pg	**Pb**	**05 02 50.1**	**+0.7**
DJO				Sg	**Sb**	**05 04 02.2**	**+1.7**
CERR	**Cheremushki**	**6.03**	**5**	Sg	**Sb**	**05 04 05.8**	**+2.8**
ARDR	**Aradan**	**6.03**	**17**	Pn	**Pn**	**05 02 30.6**	**-4.4**
ARDR				Sg	**Sb**	**05 04 04.1**	**+1.1**
TASR	**Tashtagol**	**6.14**	**345**	Pg	Pb	05 02 57.3	+4.4
TASR				Sg	Sb	05 04 13.8	+7.5
VEH	**Verkhnyaya Baz**	**6.40**	**359**	Pg	Pb	05 02 58.9	+1.7
VEH				Sg	**Sb**	**05 04 17.3**	**+3.5**
KALT2	**Kaltan 2**	**6.86**	**344**	Sg	**Sg**	**05 04 37.4**	**-8.3**
LUZB	**Luzhba, Kemero**	**6.88**	**352**	Pg	Pb	05 03 08.7	+3.3
LUZB				Sg	Sg	05 04 36.0	-11
ELT	**Eltsovka**	**6.97**	**338**	Pg	Pb	05 03 10.6	+3.7
ELT				Sg	**Sg**	**05 04 41.1**	**-8.3**
ZALV	**Zalesovo Beam**	**7.97**	**335**	Pn	**Pn**	**05 02 59.8**	**-1.8**
	0.4nm,0.3s,baz=154,slow=11,SNR=3.8						
ZALV				Lg	Lg	05 05 18.7	
	3.0nm,0.3s,baz=143,slow=25,SNR=8.5						
	0.7nm,0.3s						
PDGK	**Podgornoye**	**8.56**	**250**	⇑Pn	**Pn**	**05 03 12.1**	**+2.2**
	7.8nm,0.6s						
PDGK				⇓Sn	**Sn**	**05 04 50.3**	**+3.8**
	35nm,0.7s						
PDGK				⇓Lg	Lg	05 05 39.7	
	48nm,0.7s						
KURK	**Kurchatov**	**8.75**	**300**	⇑Pn	**Pn**	**05 03 11.1**	**-1.1**
	14nm,0.6s						
KURK				⇓Pn	Pg	05 03 11.2	-42
	8.9nm,0.5s						
KURBB	**Kurchatov Arra**	**8.77**	**300**	Pn	**Pn**	**05 03 12.0**	**-0.5**
	1.3nm,0.3s,baz=107,slow=14,SNR=45						
KURBB				Sn	**Sn**	**05 04 51.6**	**+0.3**
	0.6nm,0.3s,baz=96,slow=24,SNR=6.6						
KURBB				Lg	Lg	05 05 47.1	
	0.6nm,0.3s,baz=106,slow=31,SNR=5.0						
	5.6nm,0.4s						
KURBB	**Kurchatov Arra**	**8.77**	**300**	⇑Sn	**Sn**	**05 04 50.3**	**-1.0**
	36nm,0.7s						
KURBB				⇓Lg	Lg	05 05 39.9	
	124nm,0.7s						
GTA	**Gaotai**	**10.08**	**134**	*eP*	Pn	05 03 11.7	-19
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				LR	LR		
	comp=N,160nm,7.3s						
GTA				LR	LR		
	comp=E,150nm,7.3s						
GTA				LR	LR		
	comp=Z,55nm,6.9s						
SONM	**Songino Array**	**10.82**	**79**	Pn	Pn	05 03 33.0	-7.8
	comp=Z,0.5nm,0.3s,baz=257,slow=11,SNR=5.6						
SONM				Lg	Lg	05 06 28.2	
	comp=Z,1.6nm,0.3s,baz=269,slow=28,SNR=10.0						
	comp=Z,0.4nm,0.3s						
BVA0	**Bovoye Array**	**14.33**	**303**	⇑Pn	**Pn**	**05 04 26.6**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=105,slow=14,SNR=6.4						
BVA0				⇓Sn	**Sn**	**05 07 06.4**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=115,slow=23,SNR=3.8						
BVAR	**Borovoye Array**	**14.33**	**303**	Pn	**Pn**	**05 04 26.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=112,slow=14,SNR=7.0						
BVAR				Sn	Sn	05 07 02.4	-5.0
	comp=Z,0.1nm,0.3s,baz=107,slow=24,SNR=3.9						
	comp=Z,1.5nm,0.4s						
KK31	**Karatay Array**	**14.64**	**262**	⇑Pn	**Pn**	**05 04 31.8**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=58,slow=15,SNR=23						
KK31				⇑Sn	**Sn**	**05 07 18.0**	**+2.9**
	comp=Z,2.8nm,0.7s						
AB31	**Akbulak array**	**20.51**	**288**	⇓Pn	**P**	**05 05 45.8**	**+1.9**
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**30.64**	**23**	LR	LR	05 21 39.8	
	comp=Z,34nm,18.3s,baz=344,slow=40						
ARCES	**ARCESS Array B**	**38.47**	**329**	LR	LR	05 25 34.4	
	comp=Z,22nm,18.7s,baz=167,slow=38						
NOA	**NORSAR Array B**	**45.78**	**318**	P	**P**	**05 09 27.1**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=66,slow=7.3,SNR=2.0						
NOA				LR	LR	05 27 55.2	
	comp=Z,9.7nm,18.6s,baz=0.0,slow=35						
	comp=Z,0.5nm,0.8s						
GERES	**GERESS Array B**	**49.49**	**302**	LR	LR	05 29 22.4	
	comp=Z,30nm,19.9s,baz=306,slow=34						
WRA	**Warrumunga Arr**	**77.34**	**138**	P	P	05 12 56.4	-4.3
	comp=Z,0.5nm,0.7s,baz=331,slow=5.8,SNR=5.1						
	comp=Z,0.5nm,0.7s						

*IDC **05** 05:09:57.5±0.4,5˚.98S×102˚.31E,h0km,mb4.8/26, mbtmp4.7/28, ML4.4/2, MS3.6/27, Error ellipse: s-maj=17.1km s-min=11.1km az=62.0*
*MOS **05** 05:09:57.5±1.1,5˚.93S×102˚.30E,h10km,mb5.2/53, Error ellipse: s-maj=9.4km s-min=5.1km az=113.1*
*DJA **05** 05:09:58.7±0.2,6˚S±2˚×10˚2E±˚,h10km,M4.9/65, mb5.1/65, mB5.4/13, MLv5.0/27, Mw(mB)4.8/13*
*BJI **05** 05:09:58.0,6˚.00S×102˚.30E,h15km,mB4.9/18, mb5.0/66, Ms4.6/40, Ms7 4.4/41*
*NEIC **05** 05:09:59.9±2.3,6˚.03S±0˚.06×102˚.24E±0˚.07,h10km±1km, mb5.0/83, Error ellipse: s-maj=11.1km s-min=9.7km az=99.0*
ISC 05 05:09:59.5±0.4,6˚.04S±0˚.04×102˚.24E±0˚.05,h14km±2km,
h14km:pP-P,n440,σ1§06/455,mb5.0/139,MS3.9/43,
9C-11D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.81**	**23**		**Pn**	**05 10 30.4**	**+0.1**
MNAI	**Manna**	**1.81**	**23**	P	**Pn**	**05 10 30.5**	**+0.1**
LWLI	**Liwa**	**2.08**	**61**	P	**Pn**	**05 10 34.4**	**+0.3**
KASI	**Kota Agung**	**2.30**	**77**	P	**Pn**	**05 10 36.3**	**-0.8**
KSI	**Kapahiang**	**2.40**	**8**	P	**Pn**	**05 10 38.3**	**-0.2**
MDSI	**Maura Dua**	**2.47**	**51**	P	**Pn**	**05 10 39.4**	**0.0**
LHSI	**Lahat**	**2.54**	**30**	P	**Pn**	**05 10 40.9**	**+0.5**
KLI	**Kotabumi**	**2.85**	**66**	P	**Pn**	**05 10 45.8**	**+1.1**
BLSI	**Bandar Lampung**	**3.06**	**78**	P	**Pn**	**05 10 48.4**	**+0.8**
SBJI	**Serang**	**3.87**	**91**	P	**Pn**	**05 10 59.6**	**+1.0**
PPSI	**Pulau Pagai**	**3.94**	**326**	P	**Pn**	**05 11 00.1**	**+0.4**
PMBI	**Palembang**	**3.99**	**39**	Pn	**Pn**	**05 10 58.7**	**-1.7**
PMBI	**Palembang**	**3.99**	**39**	P	**Pn**	**05 11 01.2**	**+0.9**
DBJI	**Dramaga**	**4.51**	**97**	P	**Pn**	**05 11 08.0**	**+0.5**
CNJI	**Cibinong**	**5.02**	**105**	P	**Pn**	**05 11 13.3**	**-1.2**
	2µm162nm,0.8s						
SDSI	**Sungai Dareh**	**5.14**	**351**	P	**Pn**	**05 11 15.9**	**-0.2**
	82nm,1.0s						
PDSI	**Padang**	**5.39**	**341**	P	**Pn**	**05 11 19.1**	**-0.6**
	1.7nm12µm179nm,0.5s						
LEM	**Lembang**	**5.40**	**99**	Pn	**Pn**	**05 11 18.9**	**-1.0**
	25nm,0.3s,baz=230,slow=7.5,SNR=13						
	169nm,0.7s						
LEM	**Lembang**	**5.40**	**99**	P	**Pn**	**05 11 21.3**	**+1.4**
	1.1nm3µm216nm,0.7s						
SISI	**Saibi**	**5.64**	**326**	P	**Pn**	**05 11 22.2**	**-0.8**
	0.8nm4µm191nm,0.9s						
PPI	**Padang Panjang**	**5.84**	**342**	P	**Pn**	**05 11 25.3**	**-0.5**
	0.8nm2µm175nm,0.8s						
DSRI	**Dabo**	**6.00**	**23**	P	**Pn**	**05 11 28.9**	**+1.0**
	0.5nm110nm,0.6s						
TPI	**Tanjungpandan**	**6.30**	**59**	P	**Pn**	**05 11 32.8**	**+0.6**
CMJI	**Cimerak**	**6.40**	**106**	P	**Pn**	**05 11 32.2**	**-1.3**
BKNI	**Bangkinang**	**6.44**	**349**	Pn	**Pn**	**05 11 32.6**	**-1.4**
KPJI	**Karang Pucung**	**6.77**	**101**	P	**Pn**	**05 11 39.8**	**+1.3**
	0.5nm99nm,0.5s						
PBSI	**Pulau Batu**	**7.14**	**326**	P	**Pn**	**05 11 42.8**	**-0.8**
	190nm,1.1s						
MYKOM	**Kota Tinggi**	**7.94**	**12**	Pn	**Pn**	**05 11 54.4**	**-0.3**
COCO	**West Island**	**8.11**	**221**		**Pn**	**05 11 57.0**	**0.0**
COCO	**West Island**	**8.11**	**221**	P	**Pn**	**05 11 57.0**	**0.0**
SMRI	**Semarang**	**8.21**	**97**		**Pn**	**05 11 58.0**	**-0.3**
SMRI	**Semarang**	**8.21**	**97**	P	**Pn**	**05 11 58.8**	**+0.5**
	223nm,1.1s						
UGM	**Wanagama**	**8.43**	**103**		**Pn**	**05 12 00.8**	**-0.6**
UGM	**Wanagama**	**8.43**	**103**	P	**Pn**	**05 12 00.4**	**-1.0**
	162nm,0.7s						
GSI	**Gunungsitoli**	**8.65**	**327**		**Pn**	**05 12 03.3**	**-1.2**
GSI	**Gunungsitoli**	**8.65**	**327**	P	**Pn**	**05 12 03.2**	**-1.3**
	64nm,0.7s						
WOJI	**Wonogiri, Jawa**	**8.80**	**102**	P	**Pn**	**05 12 06.3**	**-0.2**
	84nm,0.9s						
PCJI	**Pacitan**	**9.12**	**104**	P	**Pn**	**05 12 10.1**	**-0.8**
	259nm,1.0s						
NGJI	**Ngawi**	**9.25**	**99**	P	**Pn**	**05 12 12.7**	**0.0**
	102nm,0.9s						
RPSI	**Rantau Prapat**	**9.29**	**339**		**Pn**	**05 12 11.4**	**-1.7**
PSI	**Prapat**	**9.39**	**339**	Pn	**Pn**	**05 12 11.3**	**-3.3**
	1.5nm,0.3s,baz=142,slow=20,SNR=13						
PSI				LR	LR	05 15 14.2	
	comp=Z,92nm,18.3s,baz=143,slow=34						
	5.1nm,0.4s						
PSI	**Prapat**	**9.39**	**339**	P	**Pn**	**05 12 11.4**	**-3.2**
TBJI	**Tambak Boyo**	**9.58**	**95**	P	**Pn**	**05 12 17.6**	**+0.5**
	176nm,1.1s						
GRJI	**Gresik**	**10.21**	**95**	P	**Pn**	**05 12 26.8**	**+1.0**
SNSI	**Sinabang, Aceh**	**10.26**	**325**	P	**Pn**	**05 12 24.6**	**-1.9**
GMJI	**Gumukmas**	**11.34**	**102**	P	**Pn**	**05 12 41.2**	**0.0**
	35nm,1.2s						
KULM	**Kulim**	**11.37**	**352**	Pn	**Pn**	**05 12 40.2**	**-1.5**
KMMI	**Kalianget**	**11.69**	**96**	P	**Pn**	**05 12 46.6**	**+0.5**
	156nm,1.1s						
MLSI	**Meulaboh, Aceh**	**11.78**	**330**	P	**Pn**	**05 12 45.9**	**-1.4**
	181nm,0.9s						
ABJI	**Asem Bagus**	**12.03**	**99**	P	**Pn**	**05 12 52.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**12.06**	**102**		**Pn**	**05 12 50.2**	**-0.9**
JAGI	**Jajag, Banyuwa**	**12.06**	**102**	P	**Pn**	**05 12 51.6**	**+0.4**
	106nm,0.9s						
LHMI	**Lhok Sumawe**	**12.38**	**335**	Pn	**Pn**	**05 12 53.5**	**-2.0**
SRBI	**Singaraja**	**13.03**	**100**	P	**Pn**	**05 13 04.8**	**+0.4**
	89nm,0.9s						
SBUM	**Sibu**	**13.05**	**50**	Pn	**Pn**	**05 13 03.5**	**-1.2**
TWSI	**Taliwang, Sumb**	**14.76**	**101**	P	**Pn**	**05 13 28.1**	**0.0**
	42nm,1.0s						
SRIT	**Nakonsritamara**	**14.77**	**350**	Pn	**Pn**	**05 13 26.1**	**-2.2**
WBSI	**Waikabak, Su**	**17.36**	**103**	P	**Pn**	**05 14 02.1**	**+0.4**
	79nm,1.1s						
KAPI	**Kappang**	**17.46**	**88**	LR	LR	05 22 35.0	
	comp=Z,287nm,18.6s,baz=270,slow=44						
BKSI	**Bulukumba**	**17.81**	**89**	P	**Pn**	**05 14 06.1**	**-1.1**
BNSI	**Bone**	**17.86**	**86**	P	**Pn**	**05 14 08.6**	**+0.7**
	59nm,1.2s						
KKM	**Kota Kinabalu**	**18.40**	**50**	P	**Pn**	**05 14 12.0**	**-2.6**
MPSI	**Mapaga**	**18.73**	**71**	P	**P**	**05 14 18.3**	**+0.2**
	1µm83nm,1.2s						
MYLDM	**Lahad Datu**	**19.69**	**56**		**P**	**05 14 28.1**	**-0.4**
TOLI2	**Tolitoli**	**19.83**	**70**		**P**	**05 14 29.9**	**-0.2**
TOLI2				IAmb	IAmb	05 14 31.1	
	comp=Z,136nm,1.1s						
MMRI	**Maumere**	**20.00**	**99**	P	**P**	**05 14 30.5**	**-1.5**
MMRI				IAmb	IAmb	05 14 42.8	
	comp=Z,80nm,0.9s						
APSI	**Ampana**	**20.02**	**76**	P	**P**	**05 14 32.6**	**+0.3**
	comp=Z,145nm,1.3s						
LUWI	**Luwuk**	**21.08**	**77**	P	**P**	**05 14 43.2**	**-0.5**
	comp=Z,3µmcomp=Z,91nm,0.9s						
BATI	**Baumata**	**21.60**	**102**	P	**P**	**05 14 48.8**	**-0.5**
	comp=Z,148nm,0.6s,baz=25,slow=1.7,SNR=9.7						
	comp=Z,148nm,0.6s						
BATI	**Baumata**	**21.60**	**102**	P	**P**	**05 14 48.5**	**-0.9**
	comp=Z,216nm,0.9s						
SOEI	**Soe**	**22.12**	**101**	P	**P**	**05 14 53.5**	**-1.5**
SOEI	**Soe**	**22.12**	**101**	P	**P**	**05 14 54.5**	**-0.6**
	comp=Z,191nm,1.0s						
PSA00	**Pilbara Seismi**	**22.99**	**134**	P	**P**	**05 15 04.4**	**+0.3**
PSA00	**Pilbara Seismi**	**22.99**	**134**	P	**P**	**05 15 03.8**	**-0.3**
	comp=Z,22nm,1.4s						
SANI	**Sanana**	**24.01**	**81**	P	**P**	**05 15 13.1**	**-1.1**
	comp=Z,56nm,1.1s						
CM31	**Chiang Mai Arr**	**24.56**	**352**	P	**P**	**05 15 19.4**	**+0.3**
CM31				IAmb	IAmb	05 15 20.2	
	comp=Z,26nm,0.9s						
CMAR	**Chiang Mai Arr**	**24.56**	**352**		**P**	**05 15 19.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**24.56**	**352**	P	**P**	**05 15 19.2**	**0.0**
	comp=Z,10nm,0.8s,baz=183,slow=8.5,SNR=46						
CMAR				PcP	**PcP**	**05 18 57.7**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=206,slow=3.2,SNR=8.0						
CMAR				LR	LR	05 26 26.6	
	comp=Z,148nm,19.3s,baz=185,slow=40						
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**24.56**	**352**	*ce*P	**P**	**05 15 19.2**	**0.0**
CMAR				pmax	pmax		
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**24.91**	**353**		**P**	**05 15 22.3**	**0.0**
CHTO				IAmb	IAmb	05 15 32.7	
	comp=Z,21nm,0.9s						
CHTO	**Chiang Mai**	**24.91**	**353**	P	**P**	**05 15 22.3**	**0.0**
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s						
PALK	**Pallekele**	**25.23**	**301**	LR	LR	05 24 53.2	
	comp=Z,159nm,18.3s,baz=124,slow=36						
FITZ	**Fitzroy Crossi**	**25.79**	**120**	P	**P**	**05 15 30.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.79**	**120**	P	**P**	**05 15 29.8**	**-0.6**
	comp=Z,5.3nm,0.9s						
QIZ	**Qiongzhong**	**26.01**	**17**	P	**P**	**05 15 32.8**	**+0.5**
QIZ				S	**S**	**05 20 05.1**	**+2.2**
QIZ				pmax	pmax		
	comp=Z,66nm,2.5s						
QIZ				pmax	pmax		
	comp=Z,990nm,3.3s						
QIZ				LR	LR		
	comp=Z,490nm,20.3s						
QIZ				LR	LR		
	comp=Z,770nm,13.7s						
SLVN	**Son La**	**27.25**	**3**		**P**	**05 15 43.9**	**+0.4**
KNRA	**Kununurra**	**27.72**	**112**		**P**	**05 15 47.1**	**-0.6**
KNRA				IAmb	IAmb	05 16 31.8	
	comp=Z,21nm,0.9s						
KNRA	**Kununurra**	**27.72**	**112**	P	**P**	**05 15 46.7**	**-1.1**
	comp=Z,26nm,0.8s						
MTN	**Manton Dam**	**29.27**	**105**	P	**P**	**05 16 00.4**	**-1.2**
MTN				IAmb	IAmb	05 16 38.7	
	comp=Z,29nm,0.9s						
H08S2	**

SHL Shillong 32.99 343 P **P** **05 16 34.2 -0.3**
SHL pmax pmax
comp=Z,27nm,0.7s
HYB Hyderabad 33.03 315 *e*P **P** **05 16 35.1 +0.4**
WB0 Warramunga Arr 34.09 117 P **P** **05 16 43.9 -0.1**
WB0 IAmb IAmb 05 16 44.6
comp=Z,25nm,0.8s
WRA Warramunga Arr 34.10 117 P **P** **05 16 43.9 -0.2**
WRA Warramunga Arr 34.10 117 P **P** **05 16 43.6 -0.5**
comp=Z,17nm,0.8s,baz=290,slow=10,SNR=70
WRA LR LR 05 30 07.8
comp=Z,106nm,22.0s,baz=264,slow=36
comp=Z,17nm,0.8s
WRA Warramunga Arr 34.10 117 P **P** **05 16 43.9 -0.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 34.11 117 P **P** **05 16 44.1 -0.1**
WRAB IAmb IAmb 05 16 44.8
comp=Z,26nm,0.8s
WRAB Tennant Creek 34.11 117 *de*P **P** **05 16 43.6 -0.6**
WRAB pmax pmax
comp=Z,25nm,0.9s
WR8 Warramunga Arr 34.25 117 P **P** **05 16 45.5 +0.1**
WR8 IAmb IAmb 05 16 46.2
comp=Z,28nm,0.9s
TPUB Ta-pu 34.25 31 P **P** **05 16 43.9 -1.5**
TPUB IAmb IAmb 05 17 31.1
comp=Z,39nm,1.3s
FORT Forrest 34.54 139 P **P** **05 16 48.2 +0.4**
AS31 Alice Springs 35.13 123 P **P** **05 16 52.8 -0.2**
AS31 Alice Springs 35.13 123 P **P** **05 16 52.7 -0.3**
comp=Z,5.2nm,0.9s
ASAR Alice Springs 35.13 123 P **P** **05 16 52.9 -0.1**
comp=Z,12nm,0.4s,baz=302,slow=7.7,SNR=65
ASAR LR LR 05 32 50.6
comp=Z,140nm,19.4s,baz=296,slow=39
comp=Z,12nm,0.4s
CNSH ChangSha 35.55 16 P **P** **05 16 55.7 -0.7**
CNSH S **S** **05 22 29.8 -2.1**
CNSH pmax pmax
comp=Z,20nm,1.0s
CNSH LR LR
comp=Z,330nm,13.7s
CNSH LR LR
comp=Z,310nm,11.3s
CNSH LR LR
comp=Z,330nm,14.8s
ENH Enshi 36.77 11 P **P** **05 17 05.8 -1.1**
ENH IAmb IAmb 05 17 06.8
comp=Z,29nm,1.0s
CD2 Chengdu 36.77 2 P **P** **05 17 06.6 -0.3**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 LR LR
comp=Z,410nm,16.4s
CD2 LR LR
comp=Z,800nm,21.8s
CD2 LR LR
comp=Z,620nm,18.4s
EVN Everest 36.93 337 P **P** **05 17 08.3 -0.7**
LSA Lhasa 37.10 344 P **P** **05 17 10.7 +0.5**
LSA IAmb IAmb 05 17 12.1
comp=Z,25nm,0.9s
LSA Lhasa 37.10 344 P **P** **05 17 10.2 0.0**
LSA pmax pmax
comp=Z,29nm,0.8s
LSA Lhasa 37.10 344 P **P** **05 17 10.7 +0.5**
LSA pmax pmax
comp=Z,25nm,0.9s
WHN Wuhan 38.18 17 P **P** **05 17 18.9 +0.1**
WHN pmax pmax
comp=Z,48nm,0.9s
QIS Mount Isa 38.99 115 P **P** **05 17 25.7 -0.2**
comp=Z,26nm,1.3s
XAN Xi'an 40.36 9 P **P** **05 17 36.0 -1.0**
XAN pP pwP 05 17 45.4 +1.5
XAN S **S** **05 23 43.7 -1.1**
XAN pmax pmax
comp=Z,51nm,1.0s
XAN pmax pmax
comp=Z,130nm,4.8s
XAN LR LR
comp=Z,390nm,13.9s
XAN LR LR
comp=Z,400nm,15.3s
XAN LR LR
comp=Z,670nm,16.3s
COEN Coen 41.02 104 P **P** **05 17 42.1 -0.7**
COEN IAmb IAmb 05 17 43.2
comp=Z,26nm,0.9s
COEN Coen 41.02 104 P **P** **05 17 41.5 -1.3**
comp=Z,41nm,1.0s
NJ2 Nanjing 41.06 22 *e*P **P** **05 17 43.2 +0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
JOW Kunigami 41.27 36 LR LR 05 34 15.8
comp=Z,73nm,21.4s,baz=84,slow=35
LYN LuoYang 41.51 13 P **P** **05 17 46.9 +0.4**
LYN pP sP 05 17 51.4 +0.1
LYN pmax pmax
comp=Z,75nm,1.0s
LYN pmax pmax
comp=Z,160nm,3.8s
LYN LR LR
comp=Z,610nm,15.5s
LYN LR LR
comp=Z,260nm,14.8s
LYN LR LR
comp=Z,590nm,15.8s
LZH Lanzhou 41.93 2 *e*P **P** **05 17 50.8 +0.7**
LZH sP pwP 05 17 57.6 +0.7
LZH pmax pmax
comp=Z,36nm,1.2s
LZH LR LR
comp=Z,420nm,14.0s
LZH LR LR
comp=Z,350nm,14.3s
LZH LR LR
comp=Z,520nm,14.6s
INKA Innaminka 42.42 125 P **P** **05 17 55.0 +1.0**
MTSU Mount Surprise 42.75 110 P **P** **05 17 56.4 -0.5**
comp=Z,23nm,1.3s
HTT Hallett 43.59 134 P **P** **05 18 03.6 0.0**
comp=Z,4.8nm,1.4s
PMG Port Moresby 44.61 97 P **P** **05 18 11.4 -0.5**
PMG Port Moresby 44.61 97 ⇓*e*P **P** **05 18 11.9 -0.1**
PMG pmax pmax
comp=Z,53nm,1.7s
HNS HongShan 44.75 14 ⇓P **P** **05 18 12.3 -0.3**
HNS pmax pmax
comp=Z,16nm,0.9s
HNS LR LR
comp=Z,260nm,14.3s
HNS LR LR
comp=Z,130nm,11.6s
HNS LR LR
comp=Z,150nm,13.1s
STKA Stephens Creek 44.83 130 P **P** **05 18 13.9 +0.4**
STKA Stephens Creek 44.83 130 P **P** **05 18 13.4 0.0**
comp=Z,135nm,1.5s
STKA Stephens Creek 44.83 130 P **P** **05 18 13.1 -0.4**
comp=Z,21nm,0.8s,baz=302,slow=8.5,SNR=24
STKA LR LR 05 40 11.2
comp=Z,58nm,18.3s,baz=355,slow=40
comp=Z,21nm,0.8s
STKA Stephens Creek 44.83 130 P **P** **05 18 13.9 +0.4**
STKA pmax pmax
comp=Z,101nm,0.8s
QLP Quilpie 44.89 122 P **P** **05 18 14.6 +0.6**
comp=Z,65nm,0.9s
CTAO Charters Tower 44.93 112 P **P** **05 18 14.9 +0.5**
CTAO IAmb IAmb 05 18 15.8
comp=Z,34nm,1.1s
CTAO Charters Tower 44.93 112 P **P** **05 18 15.0 +0.5**
CTAO pmax pmax
comp=Z,33nm,1.1s
GTA Gaotai 45.28 357 *e*P **P** **05 18 17.8 +0.8**
GTA sP pwP 05 18 27.4 +3.6
GTA PcP **PcP** **05 19 57.8 +1.0**
GTA pmax pmax
comp=Z,13nm,0.9s
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,180nm,15.6s
GTA LR LR

comp=Z,330nm,16.0s
BTO Baotou 46.96 8 *e*P **P** **05 18 31.6 +1.4**
BTO pP **pwP** **05 18 35.9 -1.2**
BTO sP **sP** **05 18 38.5 +3.4**
BTO S **S** **05 25 24.5 +3.2**
BTO pmax pmax
comp=Z,43nm,0.9s
BTO pmax pmax
comp=Z,170nm,3.9s
BTO LR LR
comp=Z,150nm,6.8s
BTO LR LR
comp=Z,600nm,9.2s
BTO LR LR
comp=Z,930nm,15.4s
HHC Hu-ho-hao-te 47.44 10 ⇑*i*P **P** **05 18 34.9 +1.0**
HHC pmax pmax
comp=Z,34nm,1.3s
HHC pmax pmax
comp=Z,68nm,3.7s
HHC LR LR
comp=Z,200nm,18.0s
HHC LR LR
comp=Z,200nm,16.0s
HHC LR LR
comp=Z,240nm,16.8s
BJI Beijing 47.62 14 P **P** **05 18 34.9 -0.2**
BJI sP **pwP** **05 18 44.5 +3.2**
BJI PcP **PcP** **05 20 05.7 +0.9**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI LR LR
comp=Z,150nm,13.0s
BJI LR LR
comp=Z,78nm,12.6s
BJI LR LR
comp=Z,160nm,12.4s
CMSA Cobar Meteorol 47.87 128 P **P** **05 18 37.8 +0.4**
comp=Z,52nm,0.9s
NIL Nilore 48.09 327 P **P** **05 18 39.2 +0.2**
NIL Nilore 48.09 327 P **P** **05 18 39.2 +0.2**
NIL pmax pmax
comp=Z,23nm,0.9s
KSAR Wonju Array Be 49.43 27 P **P** **05 18 49.2 0.0**
KSAR Wonju Array Be 49.43 27 P **P** **05 18 49.2 0.0**
KSRS Korea Array 49.46 27 P **P** **05 18 48.9 -0.5**
comp=Z,4.4nm,0.8s,baz=237,slow=7.6,SNR=29
comp=Z,4.4nm,0.8s
KS19 Wonju Array Si 49.47 27 P **P** **05 18 49.6 +0.1**
KS19 IAmb IAmb 05 18 50.4
comp=Z,21nm,1.3s
YNG Young 51.03 130 P **P** **05 18 59.6 -1.8**
comp=Z,18nm,1.1s
KBL Kabul 51.10 324 P **P** **05 19 02.5 +0.3**
KBL Kabul 51.10 324 P **P** **05 19 02.5 +0.3**
KBL pmax pmax
comp=Z,9.0nm,1.0s
XLT XiLinHaoTe 51.26 13 *e*P **P** **05 19 02.7 -0.3**
XLT sP pwP 05 19 12.5 +3.3
XLT pmax pmax
comp=Z,24nm,1.2s
XLT pmax pmax
comp=Z,110nm,5.1s
XLT LR LR
comp=Z,290nm,19.9s
XLT LR LR
comp=Z,79nm,12.2s
WMQ Urumqi 51.34 347 *e*P **P** **05 19 05.0 +1.4**
WMQ sP pwP 05 19 14.7 +4.2
WMQ pmax pmax
comp=Z,40nm,1.3s
WMQ pmax pmax
comp=Z,89nm,3.7s
KSH Kashi 51.42 334 P **P** **05 19 03.6 -0.8**
KSH pmax pmax
comp=Z,40nm,0.7s
CAN Canberra 51.88 131 P **P** **05 19 07.9 0.0**
CAN IAmb IAmb 05 19 09.9
comp=Z,15nm,0.8s
CAN Canberra 51.88 131 P **P** **05 19 06.7 -1.2**
comp=Z,23nm,1.0s
CAN Canberra 51.88 131 P **P** **05 19 07.9 0.0**
CAN pmax pmax
comp=Z,15nm,0.8s
ARMA Armidale 52.27 124 P **P** **05 19 09.8 -1.2**
ARMA IAmb IAmb 05 19 14.3
comp=Z,27nm,1.3s
JHJ Hachijo jima 2 52.78 40 LR LR 05 41 48.8
comp=Z,28nm,21.7s,baz=74,slow=36
KDJ Kajisay 53.11 337 P **P** **05 19 17.7 +0.7**
KDJ Kajisay 53.11 337 P **P** **05 19 17.7 +0.7**
KDJ pmax pmax
comp=Z,53nm,0.7s
SHLS Shalkode 53.15 339 *e*P **P** **05 19 16.1 -1.1**
SHLS pmax pmax
comp=Z,10.0nm,0.5s
SHLS Shalkode 53.15 339 *e*P **P** **05 19 16.1 -1.1**
comp=Z,9.6nm,0.5s
UZB Uzynbulak 53.29 339 *e*P **P** **05 19 18.1 -0.1**
UZB pmax pmax
comp=Z,8.0nm,0.5s
UZB Uzynbulak 53.29 339 *e*P **P** **05 19 18.2 -0.1**
comp=Z,7.6nm,0.5s
SATY Saty 53.44 338 *e*P **P** **05 19 19.1 -0.2**
SATY pmax pmax
comp=Z,6.0nm,0.5s
SATY Saty 53.44 338 *e*P **P** **05 19 19.1 -0.2**
comp=Z,5.9nm,0.5s
GAR Garm 53.69 329 P **P** **05 19 20.9 -0.3**
GAR IAmb IAmb 05 19 22.7
comp=Z,18nm,0.9s
SONM Songino Array 53.77 3 **P** **05 19 22.1 +0.6**
SONM PcP **PcP** **05 20 28.0 +0.4**
SONM Songino Array 53.77 3 P **P** **05 19 22.2 +0.6**
comp=Z,22nm,0.7s,baz=183,slow=8.9,SNR=100
SONM PcP **PcP** **05 20 27.9 +0.4**
comp=Z,12nm,0.7s,baz=184,slow=4.2,SNR=9.3
comp=Z,22nm,0.7s
ULN Ulaanbaatar 53.84 4 P **P** **05 19 22.7 +0.5**
ULN IAmb IAmb 05 19 23.7
comp=Z,17nm,0.9s
ULN PcP **PcP** **05 20 28.2 +0.3**
ULN Ulaanbaatar 53.84 4 *de*P **P** **05 19 22.6 +0.4**
ULN pmax pmax
comp=Z,24nm,1.0s
SIMJ Simiganj 54.11 328 P **P** **05 19 23.1 -1.2**
MJAR Matsushiro Arr 54.11 36 P **P** **05 19 23.5 -0.7**
comp=Z,0.7nm,0.4s,baz=186,slow=9.8,SNR=4.1
MJAR LR LR 05 44 48.4
comp=Z,38nm,18.2s,baz=229,slow=39
comp=Z,0.7nm,0.4s
ARSB Arslanbob 54.22 333 P **P** **05 19 25.7 +0.6**
ARSB Arslanbob 54.22 333 P **P** **05 19 25.7 +0.6**
ARSB pmax pmax
comp=Z,48nm,0.7s
AAK Ala-Archa 54.62 335 P **P** **05 19 27.9 -0.1**
AAK Ala-Archa 54.62 335 LR LR 05 46 47.6
comp=Z,69nm,19.2s,baz=132,slow=40
AAK Ala-Archa 54.62 335 *de*P **P** **05 19 28.7 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.0s
ABPO Ambohimpanom 55.02 251 P **P** **05 19 30.2 -1.1**
ABPO IAmb IAmb 05 19 55.5
comp=Z,22nm,1.5s
ABPO Ambohimpanom 55.02 251 P **P** **05 19 30.2 -1.1**
ABPO pmax pmax
comp=Z,22nm,1.5s
TDK Taldyqorghan 55.13 340 *e*P **P** **05 19 31.3 -0.2**
TDK pmax pmax
comp=Z,30nm,1.2s
TDK Taldyqorghan 55.13 340 *e*P **P** **05 19 31.3 -0.2**
comp=Z,30nm,1.2s
ZSN Zaisan 55.43 346 *e*P **P** **05 19 33.5 -0.1**
ZSN pmax pmax
comp=Z,11nm,0.9s
ZSN Zaisan 55.43 346 *e*P **P** **05 19 33.5 -0.1**
comp=Z,11nm,0.9s
MK31 Makanchi Array 55.50 343 P **P** **05 19 34.3 +0.2**
MK31 IAmb IAmb 05 19 35.7
comp=Z,19nm,1.0s
MK31 Makanchi Array 55.50 343 P **P** **05 19 34.3 +0.2**
MK31 pmax pmax
comp=Z,19nm,1.0s
MKAR Makanchi Array 55.50 343 P **P** **05 19 34.2 +0.1**
comp=Z,20nm,0.8s,baz=147,slow=8.0,SNR=125
comp=Z,20nm,0.8s

MAKZ Makanchi 55.61 343 P **P** **05 19 34.6 -0.3**
MAKZ IAmb IAmb 05 19 35.9
comp=Z,18nm,1.2s
MAKZ Makanchi 55.61 343 P **P** **05 19 34.6 -0.3**
MAKZ pmax pmax
comp=Z,18nm,1.3s
MDJ Mudanjiang 56.10 23 P **P** **05 19 37.7 -0.7**
MDJ IAmb IAmb 05 19 49.7
comp=Z,7.2nm,0.6s
MDJ Mudanjiang 56.10 23 P **P** **05 19 37.5 -0.9**
MDJ S **S** **05 27 32.9 +5.9**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ LR LR
comp=Z,190nm,13.1s
MDJ LR LR
comp=Z,140nm,13.7s
MDJ LR LR
comp=Z,320nm,14.4s
ZAK Zakamensk 56.20 1 *e*P **P** **05 19 39.1 0.0**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
DZA Taraz 56.21 333 *e*P **P** **05 19 38.9 -0.3**
DZA pmax pmax
comp=Z,10.0nm,0.7s
DZA Taraz 56.21 333 *e*P **P** **05 19 38.9 -0.3**
comp=Z,9.6nm,0.7s
IUG Iuzhnay 56.23 332 *e*P **P** **05 19 39.2 -0.3**
IUG pmax pmax
comp=Z,18nm,0.9s
IUG Iuzhnay 56.23 332 *e*P **P** **05 19 39.3 -0.3**
comp=Z,18nm,0.9s
BNX BinXian 56.23 21 ⇑P **P** **05 19 39.0 -0.3**
BNX sP **pwP** **05 19 48.3 +2.8**
BNX pmax pmax
comp=Z,38nm,0.8s
CHM Chimkent 56.56 331 *e*P **P** **05 19 41.5 -0.3**
CHM Chimkent 56.56 331 *e*P **P** **05 19 41.5 -0.3**
USA0B Ussuriysk Arra 56.74 25 P **P** **05 19 42.1 -0.9**
USA0B IAmb IAmb 05 19 42.9
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 56.74 25 P **P** **05 19 42.1 -0.9**
USA0B pmax pmax
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 56.74 25 P **P** **05 19 42.0 -1.0**
comp=Z,12nm,0.8s,baz=217,slow=7.5,SNR=19
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 56.74 25 P **P** **05 19 42.0 -1.0**
KK31 Karatay Array 56.74 333 P **P** **05 19 42.9 -0.2**
KK31 Karatay Array 56.74 333 P **P** **05 19 42.9 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 56.74 333 P **P** **05 19 43.1 0.0**
KKAR Karatay Array 56.74 333 P **P** **05 19 43.1 0.0**
BTLS Baital 56.79 336 *e*P **P** **05 19 42.9 -0.4**
BTLS Baital 56.79 336 *e*P **P** **05 19 42.9 -0.4**
BRLS Boroldoy 57.00 332 *e*P **P** **05 19 43.7 -1.2**
BRLS Boroldoy 57.00 332 *e*P **P** **05 19 43.7 -1.2**
HIA Hailar 57.16 14 P **P** **05 19 45.2 -0.7**
HIA Hailar 57.16 14 P **P** **05 19 45.2 -0.7**
HIA pmax pmax
comp=Z,8.0nm,0.8s
MOY Mondy 57.49 359 *e*P **P** **05 19 48.4 +0.1**
MOY pmax pmax
comp=Z,11nm,1.8s
LHI Lord Howe Isla 58.72 123 P **P** **05 19 56.3 -0.9**
H04N2 CROZET ISLANDS 58.98 219 T T 06 24 21.0
baz=63,slow=75,SNR=428
H04N1 CROZET ISLANDS 58.99 219 T T 06 24 03.8
baz=63,slow=75,SNR=314
H04N3 CROZET ISLANDS 58.99 219 T T 06 24 02.6
baz=63,slow=75,SNR=291
CRZF Crozet Islands 59.06 218 P **P** **05 19 58.4 -0.9**
H04S1 CROZET ISLANDS 59.21 218 T T 06 24 37.7
baz=63,slow=76,SNR=530
H04S3 CROZET ISLANDS 59.23 218 T T 06 24 37.2
baz=63,slow=76,SNR=1248
H04S2 CROZET ISLANDS 59.23 218 T T 06 24 38.6
baz=63,slow=76,SNR=612
KURBB Kurchatov Arra 60.04 343 P **P** **05 20 05.9 0.0**
comp=Z,14nm,0.8s,baz=160,slow=6.4,SNR=70
comp=Z,14nm,0.8s
KURK Kurchatov 60.09 343 **P** **05 20 06.2 0.0**
KURK Kurchatov 60.09 343 *d*i*P* **P** **05 20 06.2 0.0**
KURK pmax pmax
comp=Z,40nm,1.3s
HEH HeiHe 60.16 18 *e*P **P** **05 20 05.8 -0.9**
HEH pmax pmax
comp=Z,21nm,0.9s
HEH LR LR
comp=Z,140nm,11.2s
HEH LR LR
comp=Z,180nm,12.0s
HEH LR LR
comp=Z,170nm,10.2s
BRZS Berezniki 61.41 339 *e*P **P** **05 20 15.1 -0.1**
BRZS Berezniki 61.41 339 *e*P **P** **05 20 15.1 -0.1**
ZAA0 Zalesovo Array 61.54 348 P **P** **05 20 16.1 +0.1**
ZALV Zalesovo Beam 61.54 348 P **P** **05 20 15.8 -0.2**
comp=Z,38nm,1.0s,baz=160,slow=4.7,SNR=68
ZALV LR LR 05 50 26.2
comp=Z,106nm,18.6s,baz=127,slow=40
comp=Z,38nm,1.0s
RAYN Ar Rayn 62.66 300 P **P** **05 20 23.6 -0.7**
RAYN Ar Rayn 62.66 300 P **P** **05 20 23.6 -0.7**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
YSS Yuzhno-Sakhali 63.78 30 *de*P **P** **05 20 30.8 -0.3**
YSS pmax pmax
comp=Z,13nm,1.3s
DZM Mont Dzumac 63.86 112 *e*LR LR 05 39 31.1
comp=Z,128nm,26.4s
BVAR Borovoye Array 64.72 339 P **P** **05 20 37.0 -0.3**
comp=Z,22nm,0.6s,baz=144,slow=8.5,SNR=103
comp=Z,22nm,0.6s
BVAR Borovoye Array 64.72 339 P **P** **05 20 37.0 -0.3**
BRVK Borovoye 64.79 339 P **P** **05 20 37.4 -0.3**
BRVK Borovoye 64.79 339 P **P** **05 20 37.4 -0.3**
BRVK pmax pmax
comp=Z,14nm,0.7s
AB31 Akbulak array 66.23 331 **P** **05 20 47.2 +0.2**
ABKAR Akbulak array 66.23 331 P **P** **05 20 47.0 -0.1**
MAW Mawson 66.97 195 P **P** **05 20 52.7 +1.2**
comp=Z,2.9nm,0.8s,baz=20,slow=8.8,SNR=6.9
comp=Z,2.9nm,0.8s
YAK Yakutsk 71.10 13 LR LR 05 55 18.4
comp=Z,57nm,18.1s,baz=265,slow=38
YAK Yakutsk 71.10 13 *ce*P **P** **05 21 15.8 -1.3**
YAK pmax pmax
comp=Z,17nm,0.4s
SVE Sverdlovsk 71.25 337 *e*P **P** **05 21 19.0 +0.8**
SVE pmax pmax
comp=Z,28nm,1.0s
MARD Mardin 71.60 312 P **P** **05 21 21.5 +0.6**
MARD IAmb IAmb 05 21 23.2
comp=Z,17nm,0.8s
ARTI Arti 71.82 336 P **P** **05 21 21.8 +0.1**
ARTI Arti 71.82 336 LR LR 05 57 23.0
comp=Z,46nm,19.1s,baz=150,slow=40
ARTI Arti 71.82 336 *d*i*P* **P** **05 21 21.7 +0.1**
ARTI 05 23 56.7
ARTI S **S** **05 30 42.5 +0.8**
ARTI SS **SS** **05 35 13.3 -4.9**
ARTI pmax pmax
comp=Z,18nm,0.8s
MATP Matopo 72.70 251 LR LR 05 46 25.8
comp=Z,22nm,21.4s,baz=63,slow=30
KBZ Khabaz 72.81 319 P **P** **05 21 27.7 -0.1**
comp=Z,9.0nm,0.9s,baz=163,slow=7.6,SNR=8.2
comp=Z,9.0nm,0.9s
KBZ Khabaz 72.81 319 ⇑*e*P **P** **05 21 29.0 +1.2**
KIV Kislovodsk 73.04 319 *e*P **P** **05 21 28.4 -1.0**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 73.04 319 P **P** **05 21 29.1 -0.3**
comp=Z,11nm,1.1s
EIL Elat 73.58 303 LR LR 05 52 43.7
comp=Z,32nm,18.9s,baz=63,slow=35
GAZ Gaziantep 74.19 311 P **P** **05 21 37.6 +1.4**
GAZ IAmb IAmb 05 21 38.3
comp=Z,15nm,1.0s
MMAI Mount Meron Ar 74.22 307 P **P** **05 21 36.6 +0.1**
comp=Z,3.8nm,0.7s,baz=140,slow=10,SNR=3.8
MMAI LR LR 05 56 00.5
comp=Z,54nm,18.4s,baz=138,slow=37
comp=Z,3.8nm,0.7s

PETK **Petropavlovsk-** **75.13 31** P **P** **05 21 40.2 -1.0**
PETK **Petropavlovsk-** **75.13 31** P **P** **05 21 40.1 -1.2**
comp=Z,1.2nm,0.7s,baz=202,slow=3.2,SNR=4.1
PETK LR LR 05 56 57.3
comp=Z,31nm,19.1s,baz=228,slow=38
comp=Z,1.2nm,0.7s
PETK **Petropavlovsk-** **75.13 31** P **P** **05 21 40.2 -1.0**
LBTB **Lobatse** **75.38 246** LR LR 05 46 54.2
comp=Z,77nm,21.3s,baz=87,slow=29
BOSA **Boshof** **75.72 242** P **P** **05 21 46.2 +0.9**
comp=Z,4.7nm,0.9s,baz=18,slow=4.2,SNR=4.5
BOSA LR LR 05 47 05.7
comp=Z,30nm,19.7s,baz=92,slow=29
comp=Z,4.7nm,0.9s
MA2 **Magadan** **75.80 23** LR LR 05 57 39.7
comp=Z,30nm,18.4s,baz=248,slow=38
CSS **Mathiatis** **76.45 308** P **P** **05 21 49.2 0.0**
CSS IAmb IAmb 05 21 51.2
comp=Z,15nm,0.9s
CSS **Mathiatis** **76.45 308** P **P** **05 21 49.9 +0.7**
comp=Z,18nm,1.4s
VRH **Novokhopyorsk** **76.90 326** *e*P P 05 21 46.7 -4.6
VRH pmax pmax
comp=Z,10.0nm,0.8s
KIRV **Kirov** **76.95 335** *ce*P **P** **05 21 52.6 +1.2**
BR104 **Keskin Array S** **77.68 313** P **P** **05 21 54.9 -1.3**
comp=Z,65nmcomp=Z,7.8nm,0.9s
BR131 **Keskin Array S** **77.68 313** P **P** **05 21 55.8 -0.4**
BR131 **Keskin Array S** **77.68 313** P **P** **05 21 55.8 -0.4**
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BRTR **Keskin Array B** **77.68 313** P **P** **05 21 56.0 -0.2**
comp=Z,5.5nm,0.8s,baz=128,slow=7.5,SNR=22
comp=Z,5.5nm,0.8s
BRTR **Keskin Array B** **77.68 313** *i* P **P** **05 21 56.0 -0.2**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BR105 **Keskin Array S** **77.70 313** P **P** **05 21 55.7 -0.6**
comp=Z,8.3nm,0.9s
BR106 **Keskin Array S** **77.70 313** P **P** **05 21 55.7 -0.6**
comp=Z,7.9nm,0.9s
VNDA **Vanda** **77.79 169** P **P** **05 21 56.4 +0.5**
VNDA **Vanda** **77.79 169** P **P** **05 21 55.5 -0.4**
comp=Z,3.0nm,0.9s,baz=306,slow=6.1,SNR=16
comp=Z,3.0nm,0.9s
VNDA **Vanda** **77.79 169** P **P** **05 21 56.4 +0.5**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VORD **Divnogorie** **78.17 325** *e*P P 05 21 54.3 -4.1
VORD pmax pmax
comp=Z,6.0nm,0.9s
ANTO **Ankara** **78.35 313** P **P** **05 22 00.0 +0.2**
ANTO IAmb IAmb 05 22 00.9
comp=Z,18nm,1.2s
ANTO **Ankara** **78.35 313** P **P** **05 22 00.0 +0.2**
ANTO pmax pmax
comp=Z,18nm,1.2s
VSR **Storozhevoye** **78.35 325** *e*P P 05 21 54.6 -4.8
VSR pmax pmax
comp=Z,7.0nm,0.8s
LPSR **Galich'ya Gora** **79.07 326** *e*P **P** **05 21 59.5 -3.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
TIXI **Tiksi** **79.49 8** **P** **05 22 03.9 -1.3**
TIXI IAmb IAmb 05 22 04.7
comp=Z,21nm,1.2s
TIXI **Tiksi** **79.49 8**⇓ *e*P **P** **05 22 03.5 -1.7**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
YLV **Yalova** **81.06 313** P **P** **05 22 14.3 -0.2**
comp=Z,35nm,1.0s
OBN **Obninsk** **81.38 328** *ce*P **P** **05 22 16.8 +1.1**
OBN *e**PP **pP** **05 22 19.6 +0.1**
OBN *e**SP **PcP** **05 22 23.7 +1.9**
OBN *e* 05 25 23.1
OBN *e*PPP PPP 05 27 11.8
OBN pmax pmax
comp=Z,20nm,0.8s
KLMR **Klimovskoe** **82.42 334** *e*P **P** **05 22 18.6 -2.5**
KLMR pmax pmax
comp=Z,28nm,1.5s
TIRR **Tirgusor** **82.80 316** P **P** **05 22 23.8 +0.4**
TIRR IAmb IAmb 05 24 14.2
comp=Z,20nm,1.3s
TIRR **Tirgusor** **82.80 316** P **P** **05 22 23.8 +0.4**
TIRR pmax pmax
comp=Z,20nm,1.3s
TSUM **Tsumeb** **83.01 251** P **P** **05 22 24.1 -1.2**
SORM **Soroca** **83.84 320** P **P** **05 22 28.4 -0.4**
comp=Z,603nmcomp=Z,15nm,0.9s
QSPA **South Pole Qui** **83.95 180** P **P** **05 22 29.8 +0.6**
QSPA IAmb IAmb 05 22 31.2
comp=Z,9.5nm,0.9s
QSPA **South Pole Qui** **83.95 180** P **P** **05 22 30.0 +0.8**
comp=Z,8.9nm,0.9s,baz=321,slow=1.4,SNR=25
comp=Z,8.9nm,0.9s
AK09 **Malin Array Si** **83.97 322** P **P** **05 22 29.2 -0.1**
AK10 **Malin Array Si** **83.98 322** P **P** **05 22 29.3 -0.1**
AK08 **Malin Array Si** **83.99 322** P **P** **05 22 29.3 -0.1**
AK07 **Malin Array Si** **84.00 322** P **P** **05 22 29.3 -0.2**
AK06 **Malin Array Si** **84.01 322** P **P** **05 22 29.4 -0.2**
AK05 **Malin Array Si** **84.02 322** P **P** **05 22 29.0 -0.6**
RDO **Rodhopi** **84.02 312** P **P** **05 22 30.1 +0.2**
RDO IAmb IAmb 05 24 30.0
comp=Z,10nm,1.2s
AK02 **Malin Array Si** **84.03 322** P **P** **05 22 29.1 -0.5**
AKASG **Malin Array Be** **84.03 322** P **P** **05 22 29.7 +0.1**
AKASG **Malin Array Be** **84.03 322** P **P** **05 22 29.6 -0.1**
comp=Z,3.6nm,0.8s,baz=90,slow=4.6,SNR=14
AKASG LR LR 06 04 01.4
comp=Z,19nm,19.6s,baz=68,slow=38
comp=Z,3.6nm,0.8s
AKASG **Malin Array Be** **84.03 322** P **P** **05 22 29.7 +0.1**
AKASG pmax pmax
comp=Z,4.0nm,1.1s
AKBB **Malin Array Si** **84.03 322** **P** **05 22 29.8 +0.2**
AKBB IAmb IAmb 05 22 30.1
comp=Z,5.8nm,0.8s
AKBB **Malin Array Si** **84.03 322** P **P** **05 22 29.8 +0.2**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB **Malin Array Si** **84.03 322** P **P** **05 22 29.1 -0.5**
AK01 **Malin Array Si** **84.03 322** P **P** **05 22 29.1 -0.6**
KIEV **Kiev** **84.03 322** P **P** **05 22 29.6 -0.1**
KIEV IAmb IAmb 05 22 30.0
comp=Z,5.2nm,0.8s
KIEV **Kiev** **84.03 322** P **P** **05 22 29.6 -0.1**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV **Kiev** **84.03 322** P **P** **05 22 29.1 -0.6**
comp=Z,29nm,0.8s
AK03 **Malin Array Si** **84.04 322** P **P** **05 22 29.1 -0.6**
AK12 **Malin Array Si** **84.05 322** P **P** **05 22 29.2 -0.6**
AK11 **Malin Array Si** **84.05 322** P **P** **05 22 29.2 -0.6**
AK04 **Malin Array Si** **84.07 322** P **P** **05 22 29.4 -0.5**
AK14 **Malin Array Si** **84.08 322** P **P** **05 22 29.4 -0.5**
AK14 pP **pP** **05 22 32.5 -1.1**
AK16 **Malin Array Si** **84.09 322** P **P** **05 22 29.5 -0.5**
AK17 **Malin Array Si** **84.12 322** P **P** **05 22 29.5 -0.6**
AK18 **Malin Array Si** **84.13 322** P **P** **05 22 29.7 -0.5**
AK22 **Malin Array Si** **84.14 322** P **P** **05 22 29.7 -0.5**
AK21 **Malin Array Si** **84.16 322** P **P** **05 22 29.9 -0.4**
AK19 **Malin Array Si** **84.16 322** P **P** **05 22 29.9 -0.4**
AK20 **Malin Array Si** **84.17 322** P **P** **05 22 29.9 -0.5**
LUBAR **Lubar, Ukraine** **84.71 321** P **P** **05 22 32.0 -1.1**
MLR **Muntele Rosu** **84.75 317** P **P** **05 22 33.7 0.0**
MLR IAmb IAmb 05 22 35.7
comp=Z,13nm,1.0s
MLR **Muntele Rosu** **84.75 317** P **P** **05 22 33.7 0.0**
MLR pmax pmax
comp=Z,13nm,1.0s
MLR **Muntele Rosu** **84.75 317** P **P** **05 22 34.3 +0.6**
comp=Z,13nm,1.1s
KMPD **K-Podol'skiy** **85.17 320** P **P** **05 22 34.2 -1.3**
BURAR **Bucovina Array** **85.75 319** **P** **05 22 39.5 +0.9**
BURAR IAmb IAmb 05 22 41.4
comp=Z,6.6nm,0.8s
BUR08 **Bucovina Ar. S** **85.77 319** P **P** **05 22 38.6 0.0**
BUR08 IAmb IAmb 05 22 41.2
comp=Z,5.8nm,0.8s
MNK **Minsk** **85.90 326** *i* P **P** **05 22 38.3 -0.7**
MNK *i* 05 25 57.9
MNK *i* PPP PPP 05 27 51.1
MNK *i* S **SKSac** **05 33 03.3 -1.0**
MNK *i* SS **SS** **05 38 50.9 +1.3**
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=E,15nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK MLR MLR
comp=E,328nm,27.0s
MNK MLR MLR
comp=N,310nm,26.0s
MNK MLR MLR
comp=Z,32nm,18.0s
STNU **Starunia** **86.47 320** P **P** **05 22 42.4 +0.4**
TROLL **Troll, Antarti** **87.29 198** ⇑P **P** **05 22 48.1 +2.3**
comp=Z,174nm,0.7s
KOLS **Kolonicke sedl** **87.96 319** *e*P **P** **05 22 51.1 +1.9**
KOLS pmax pmax
comp=Z,29nm,0.8s
KOLS **Kolonicke sedl** **87.96 319** *e*P **P** **05 22 51.1 +1.9**
PABE **Paberze** **88.34 326** P **P** **05 22 50.3 -0.4**
SUW **Suwalki** **88.45 325** *e*P **P** **05 22 52.2 +0.9**
SUW **Suwalki** **88.45 325** P **P** **05 22 52.3 +1.0**
SUW **Suwalki** **88.45 325** P **P** **05 22 52.3 +1.0**
FINES **FINESS Array B** **88.70 332** P **P** **05 22 53.2 +0.8**
FINES **FINESS Array B** **88.70 332** P **P** **05 22 52.6 +0.3**
comp=Z,4.7nm,0.8s,baz=118,slow=6.8,SNR=15
FINES LR LR 06 07 54.7
comp=Z,42nm,18.1s,baz=78,slow=39
comp=Z,4.7nm,0.8s
FINES **FINESS Array B** **88.70 332** *i* P **P** **05 22 53.2 +0.8**
FINES pmax pmax
comp=Z,5.0nm,0.8s
STHS **Stebnicka Huta** **88.71 320** *e*P **P** **05 22 53.3 +0.6**
STHS pmax pmax
comp=Z,10.0nm,0.8s
STHS **Stebnicka Huta** **88.71 320** *e*P **P** **05 22 53.3 +0.6**
SNAA **Sanae** **89.01 198** ⇑P **P** **05 22 56.1 +2.3**
comp=Z,200nm,1.1s
SNAA **Sanae** **89.01 198** P **P** **05 22 55.0 +1.2**
SNAA IAmb IAmb 05 22 56.9
comp=Z,15nm,1.1s
SNAA **Sanae** **89.01 198**⇓ *e*P **P** **05 22 55.5 +1.7**
SNAA pmax pmax
comp=Z,14nm,1.0s
KECS **Kecovo** **89.03 319** *e*P **P** **05 22 55.2 +1.0**
KECS pmax pmax
comp=Z,13nm,0.6s
KECS **Kecovo** **89.03 319** *e*P **P** **05 22 55.2 +1.0**
NIE **Niedzica** **89.32 320** *e*P **P** **05 22 56.8 +1.1**
PSZ **Piszkesteto** **89.33 318** P **P** **05 22 55.8 +0.1**
PSZ IAmb IAmb 05 23 10.3
comp=Z,5.3nm,0.8s
PSZ **Piszkesteto** **89.33 318** P **P** **05 22 55.8 +0.1**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
LANS **Liptovska Anna** **89.81 319** *e*P **P** **05 22 59.4 +1.5**
LANS **Liptovska Anna** **89.81 319** *e*P **P** **05 22 59.4 +1.5**
VYHS **Vyhne** **90.12 319** *e*P **P** **05 23 00.5 +1.2**
VYHS pmax pmax
comp=Z,5.0nm,1.3s
VYHS **Vyhne** **90.12 319** *e*P **P** **05 23 00.5 +1.2**
JAVC **Velka Javorina** **90.94 319** *e*P **P** **05 23 04.6 +1.4**
ARCES **ARCESS Array B** **91.01 340** P **P** **05 23 03.9 +0.8**
comp=Z,4.2nm,0.8s,baz=74,slow=5.3,SNR=5.2
ARCES LR LR 06 10 18.9
comp=Z,49nm,18.2s,baz=116,slow=40
comp=Z,4.2nm,0.8s
MORC **Moravsky Berou** **91.15 320** **P** **05 23 05.0 +0.9**
MORC IAmb IAmb 05 23 06.3
comp=Z,5.1nm,1.0s
MORC **Moravsky Berou** **91.15 320** *e*P **P** **05 23 05.0 +0.9**
MORC **Moravsky Berou** **91.15 320** P **P** **05 23 05.0 +0.9**
MORC pmax pmax
comp=Z,5.0nm,1.0s
KSP **Ksiaz** **92.08 321** *e*P **P** **05 23 09.8 +1.4**
ARSA **Arzberg** **92.16 317** *e*PcP **PcP** **05 23 10.3 +0.7**
comp=Z,1.4nm,0.8s
SOKA **Soboth** **92.43 317** *i* PcP **P** **05 23 11.5 +1.2**
comp=Z,1.5nm,1.0s
GEC2 **GERESS Array S** **93.54 319** P **P** **05 23 15.7 +0.4**
GERES **GERESS Array B** **93.54 319** P **P** **05 23 15.8 +0.5**
GERES **GERESS Array B** **93.54 319** P **P** **05 23 15.9 +0.6**
comp=Z,1.5nm,0.7s,baz=84,slow=5.5,SNR=11
comp=Z,1.5nm,0.7s
CLL **Collm** **94.19 321** *e*P **P** **05 23 19.0 +0.9**
CLL **Collm** **94.19 321** *e*P **P** **05 23 19.0 +0.9**
HFS **Hagfors** **94.47 330** P **P** **05 23 18.5 -0.6**
comp=Z,1.5nm,0.6s,baz=126,slow=2.0,SNR=3.8
HFS LR LR 06 09 59.2
comp=Z,32nm,19.0s,baz=64,slow=38
comp=Z,1.5nm,0.6s
FUORN **Ofenpass-Fuorn** **95.70 316** P **P** **05 23 24.2 -1.3**
FUORN IAmb IAmb 05 23 36.4
comp=Z,11nm,1.8s
NOA **NORSAR Array B** **95.74 331** LR LR 06 11 08.8
comp=Z,27nm,21.0s,baz=70,slow=38
TBI **Tubuai** **104.23 116** *e*LR LR 05 58 11.5
comp=Z,218nm,26.0s
PPT2 **Papeete2** **105.34 110** *e*LR LR 05 58 42.1
comp=Z,96nm,28.5s
TAOE **Nuku Hiva Isla** **116.07 103** *e*LR LR 06 03 44.5
comp=Z,32nm,24.0s
SCHQ **Schefferville** **130.56 352** PKP **PKPdf** **05 29 09.8 -0.2**
comp=Z,2.5nm,0.8s,baz=64,slow=2.7,SNR=3.9
BDFB **Brasilia** **143.51 233** PKP **PKPdf** **05 29 35.6 +0.5**
comp=Z,1.7nm,0.6s,baz=112,slow=5.4,SNR=3.5
ODSA **Odessa** **145.23 39** PKPbc **PKPbc** **05 29 34.9 -2.4**
CPNY **Central Park** **145.23 355** PKPbc **PKPbc** **05 29 37.0 +0.2**
Q48B **Farmland** **145.29 10** **PKPbc** **05 29 36.1 -1.0**
N58A **Sunbury** **145.34 359** **PKPbc** **05 29 36.9 -0.3**
BRNJ **Basking Ridge** **145.39 356** PKPbc **PKPbc** **05 29 36.4 -1.0**
WMOK **Wichita Mounta** **145.47 31** **PKPbc** **05 29 37.2 -0.7**
WMOK **Wichita Mounta** **145.47 31** PKIKP **PKPbc** **05 29 37.2 -0.7**
Q49A **Covington** **145.49 9** **PKPbc** **05 29 37.2 -0.5**
SSPA **Standing Stone** **145.55 0** PKPbc **PKPdf** **05 29 37.8 0.0**
SLM **Saint Louis** **145.64 17** PKPbc **PKPdf** **05 29 38.1 +0.1**
SLM **Saint Louis** **145.64 17** PKIKP **PKPdf** **05 29 38.1 +0.1**
APMT **Aspermont** **145.81 35** PKPbc **PKPdf** **05 29 38.8 +0.3**
CCM **Cathedral Cave** **145.85 19** PKPbc **PKPdf** **05 29 38.7 +0.3**
CCM **Cathedral Cave** **145.85 19** PKP2 **PKPdf** **05 29 38.7 +0.3**
TUL3 **Leonard** **145.97 27** PKPbc **PKPdf** **05 29 39.4 +0.7**
P48A **Milroy** **146.01 11** PKPbc **PKPdf** **05 29 39.0 +0.4**
BLO **Bloomington** **146.08 12** PKPbc **PKPdf** **05 29 39.2 +0.4**
BLO **Bloomington** **146.08 12** PKP2 **PKPdf** **05 29 39.2 +0.4**
OLIL **Olney** **146.13 15** PKPbc **PKPdf** **05 29 39.6 +0.7**
FVM **French Village** **146.18 18** PKPbc **PKPdf** **05 29 39.8 +0.8**
FVM **French Village** **146.18 18** PKP2 **PKPdf** **05 29 39.8 +0.8**
WUPA **West Chester U** **146.20 357** PKPbc **PKPdf** **05 29 40.0 +1.1**
AC02 **Maricunga** **146.27 194** PKPbc **PKPdf** **05 29 41.1 +1.0**
HPIG **146.27 49** PKPbc **PKPdf** **05 29 41.0 +1.3**
TXAR **Lajitas Array** **146.31 43** **PKPdf** **05 29 39.8 +0.2**
TXAR **Lajitas Array** **146.31 43** PKPbc **PKPdf** **05 29 40.2 +0.6**
comp=Z,6.0nm,0.6s,baz=254,slow=1.3,SNR=86
HHAR **Hobbs** **146.44 24** PKPbc **PKPdf** **05 29 40.2 +0.7**
MCWV **Mont Chateau** **146.48 3** PKPbc **PKPdf** **05 29 41.1 +1.6**
P53A **Whipple** **146.54 5** **PKPdf** **05 29 40.7 +1.2**
P57A **Homestead Farm** **146.70 0** PKPbc **PKPdf** **05 29 41.5 +1.7**
Q51A **Peebles** **146.78 8** PKPbc **PKPdf** **05 29 41.4 +1.4**
SIUC **Southern Illin** **146.79 17** PKPbc **PKPdf** **05 29 41.9 +1.8**
SAND **Sanderson** **146.95 41** PKPbc **PKPbc** **05 29 43.1 +0.6**
WCI **Wyandotte Cave** **147.03 12** PKPbc **PKPdf** **05 29 42.0 +1.6**
WCI **Wyandotte Cave** **147.03 12** PKP2 **PKPdf** **05 29 42.0 +1.6**
R49A **Shelbyville** **147.20 11** PKPbc **PKPdf** **05 29 42.4 +1.7**
Z35A **Perchaven, San** **147.36 31** PKPbc **PKPdf** **05 29 42.5 +1.4**
FCAR **Ozark Folk Cen** **147.49 22** PKPbc **PKPdf** **05 29 43.1 +1.9**
LCAR **Lake Charles** **147.68 21** PKPbc **PKPdf** **05 29 43.8 +2.3**
R55A **Marlinton** **147.83 3** PKPbc **PKPbc** **05 29 44.5 -0.2**
WHAR **Wooly Hollow** **147.96 23** **PKPdf** **05 29 44.2 +2.2**
GO02 **Mina Guanaco** **147.98 194** PKPab **PKPbc** **05 29 46.5 +0.7**
T47A **Sharon Grove** **148.03 14** PKPdf **PKPdf** **05 29 42.0 -0.1**
T47A **pPKPdf** **05 29 44.7 -1.2**
T47A PKPab **PKiKP** **05 29 47.7 +0.6**
S54A **Dingess, Beckl** **148.22 5** PKPdf **PKPdf** **05 29 40.7 -1.8**
S54A **pPKPdf** **05 29 45.5 -0.8**
S54A PKPab **PKiKP** **05 29 48.1 +0.6**
HBAR **Harrisburg** **148.32 20** PKPdf **PKPdf** **05 29 41.2 -1.4**
HBAR PKPbc **pPKPdf** **05 29 46.0 -0.5**
HBAR PKPab **pPKPbc** **05 29 49.3 -0.5**
UALR **University of** **148.39 23** PKPdf **PKPdf** **05 29 40.2 -2.6**
UALR PKPbc **pPKPdf** **05 29 45.7 -0.9**
UALR PKPab **PiKiP** **05 29 48.9 +1.0**
S57A **Dark Hollow, R** **148.41 2** PKPdf **PKPdf** **05 29 41.5 -1.2**
S57A PKPbc **pPKPdf** **05 29 45.7 -0.8**
S57A PKPab **PiKiP** **05 29 49.0 +1.2**
X40A **Basin Creek Fa** **148.44 24** PKPdf **PKPdf** **05 29 40.0 -2.8**
X40A PKPbc **pPKPdf** **05 29 45.8 -0.9**
X40A PKPab **pPKPbc** **05 29 49.8 -0.4**
BLA **Blacksburg** **148.88 4** PKPdf **PKPdf** **05 29 41.3 -2.3**
BLA PKPbc **pPKPdf** **05 29 47.4 0.0**
BLA PKPab **PKPab** **05 29 51.7 +0.4**
BLA **Blacksburg** **148.88 4** PKP2 **PKPab** **05 29 51.7 +0.4**
CLTN **Cedars of Leba** **149.07 14** PKPdf **PKPdf** **05 29 42.6 -1.2**
CLTN PKPbc **sPKPdf** **05 29 47.9 -1.1**
CLTN PKPab **pPKPbc** **05 29 51.9 +0.2**
TZTN **Tazewell** **149.18 9** PKPdf **PKPdf** **05 29 42.1 -1.9**
TZTN PKPbc **pPKPdf** **05 29 47.6 -0.3**
TZTN PKPab **pPKPbc** **05 29 51.5 -0.5**
OXF **Oxford** **149.69 19** PKPdf **PKPdf** **05 29 42.8 -2.0**
OXF PKPbc **sPKPdf** **05 29 49.2 -0.8**
OXF PKPab **PKPab** **05 29 53.8 -0.8**
OXF **Oxford** **149.69 19** PKP2 **PKPab** **05 29 53.8 -0.8**
W50A **Signal Mountai** **150.16 12** PKPdf **PKPdf** **05 29 42.2 -3.5**
W50A PKPbc **sPKPdf** **05 29 50.0 -0.8**
W50A PKPab **sPKPbc** **05 29 55.2 -0.6**
LPAZ **La Paz** **155.86 203** PKP **PKPdf** **05 29 55.5 +0.4**
comp=Z,0.8nm,0.9s,baz=214,slow=4.9,SNR=4.0
LPAZ PKPab **PKPab** **05 30 23.0 +1.4**
comp=Z,1.8nm,0.7s,baz=189,slow=6.8,SNR=8.4

IDC ***05*** *05:21:05.4±0.8, 55.71S×27.49W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=37.7km s-min=20.5km az=67.0*

NEIC ***05*** *05:21:16.6±1.4, 55.9S±0.1×28.1W±0.2, h82km±8km, mb4.5/14, Error ellipse: s-maj=20.2km s-min=15.0km az=194.0*

ISC 05 05:21:17.5±0.5, 55.88S±0.09×28.13W±0.08, h100km, n43, σ0s92/46, mb4.3/10, 3C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.06**	**285**	Pn	**Pn**	**05 22 30.5**	**-0.4**
HOPE				Sn	**Sn**	**05 23 27.5**	**-0.6**
VNA1	**Neumayer--Stat**	**17.15**	**157**	⇑P	**P**	**05 25 10.4**	**-0.2**
	comp=Z,2.2nm,0.4s						
VNA3	**Neumayer Olymp**	**17.33**	**160**	⇑P	**Pn**	**05 25 12.1**	**-0.6**
	comp=Z,3.7nm,0.6s						
SNAA	**Sanae**	**19.11**	**156**	⇑P	**P**	**05 25 31.6**	**-0.6**
	comp=Z,241nm,0.4s						
SNAA	**Sanae**	**19.11**	**156**	P	**P**	**05 25 31.6**	**-0.6**
SNAA				IAmb	IAmb	05 25 32.2	
	comp=Z,9.0nm,0.4s						
PMSA	**Palmer Station**	**19.61**	**229**	P	**P**	**05 25 36.5**	**-1.0**
PMSA				IAmb	IAmb	05 25 38.4	
	comp=Z,37nm,1.3s						
TROLL	**Troll, Antarti**	**20.63**	**153**	⇓P	**P**	**05 25 47.8**	**-0.9**
	comp=Z,344nm,0.5s						
GO09	**Cerro Castillo**	**26.30**	**261**	P	**P**	**05 26 43.4**	**0.0**
GO09				IAmb	IAmb	05 27 19.2	
	comp=Z,28nm,1.2s						
LL05	**Los Muermos**	**32.62**	**277**	P	**P**	**05 27 40.5**	**+1.1**
QSPA	**South Pole Qui**	**34.37**	**180**	P	**P**	**05 27 56.1**	**+1.5**
QSPA	**South Pole Qui**	**34.37**	**180**	P	**P**	**05 27 55.9**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=225,slow=18,SNR=12						
	comp=Z,0.8nm,0.4s						
CPUP	**Villa Florida**	**36.30**	**312**	P	**P**	**05 28 11.1**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=171,slow=9.5,SNR=3.4						
	comp=Z,0.5nm,0.9s						
CO03	**El Pedregal**	**38.89**	**292**	P	**P**	**05 28 33.8**	**+0.7**
CO03				IAmb	IAmb	05 28 49.3	
	comp=Z,12nm,1.5s						
GO04	**Tololo Observa**	**39.47**	**293**	P	**P**	**05 28 37.3**	**-0.9**
MAW	**Mawson**	**40.60**	**144**	P	**P**	**05 28 46.3**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=241,slow=16,SNR=3.9						
	comp=Z,0.9nm,0.4s						
VNDA	**Vanda**	**46.71**	**183**	P	**P**	**05 29 36.5**	**+0.8**
VNDA	**Vanda**	**46.71**	**183**	P	**P**	**05 29 36.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=194,slow=7.3,SNR=7.6						
	comp=Z,0.5nm,0.6s						
GO01	**Chusmiza**	**47.41**	**303**	P	**P**	**05 29 43.0**	**+0.8**
GO01				IAmb	IAmb	05 30 12.1	
	comp=Z,4.8nm,0.7s						
PB16	**IPOC Station P**	**48.71**	**303**	P	**P**	**05 29 53.2**	**+0.9**
PB16				IAmb	IAmb	05 30 17.8	
	comp=Z,4.1nm,0.9s						
LBTB	**Lobatse**	**49.47**	**74**	P	**P**	**05 29 57.8**	**+0.2**
LBTB				IAmb	IAmb	05 30 26.4	
	comp=Z,11nm,1.4s						
LPAZ	**La Paz**	**49.85**	**306**	P	**P**	**05 30 00.9**	**-0.2**
LPAZ				IAmb	IAmb	05 30 23.8	
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**49.85**	**306**	P	**P**	**05 30 03.7**	**+2.6**
	comp=Z,0.8nm,0.4s,baz=159,slow=5.5,SNR=9.2						
	comp=Z,0.8nm,0.4s						
DBIC	**Dimbokro**	**65.24**	**26**	P	**P**	**05 31 48.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P	**P**	**05 32 38.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**73.18**	**30**	P	**P**	**05 32 37.7**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=203,slow=5.6,SNR=3.4						
	comp=Z,3.3nm,0.6s						
FINES	**FINESS Array B**	**124.48**	**28**	PKP	**PKPdf**	**05 40 02.1**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=211,slow=2.2,SNR=4.7						
G30M	**tAoh Zraii Nji**	**145.93**	**318**	PKPdf	**PKPab**	**05 40 44.4**	**-0.2**
EPYK	**Eagle Plains**	**145.94**	**317**	PKPdf	**PKPab**	**05 40 44.5**	**-0.1**
I29M	**Ogilvie Camp,**	**146.25**	**315**	PKPdf	**PKPab**	**05 40 44.9**	**-1.0**
DAWY	**Dawson**	**146.29**	**312**	PKPdf	**PKPab**	**05 40 45.7**	**-0.4**
G29M	**Pine Creek**	**146.59**	**318**	PKPdf	**PKPab**	**05 40 46.7**	**-0.5**
I28M	**Miner Creek**	**146.93**	**315**	PKPdf	**PKPab**	**05 40 47.6**	**-1.1**
BCAR	**Beaver Creek A**	**146.98**	**310**	PKPdf	**PKPab**	**05 40 47.8**	**-1.0**
K27K	**Chicken**	**147.40**	**312**		**PKiKP**	**05 40 49.4**	**-0.8**
HIN	**Hinchinbrook I**	**148.22**	**304**	PKPbc	**PKiKP**	**05 40 51.8**	**-0.2**
F26K	**Sheenjek River**	**149.08**	**318**	PKPbc	**PKiKP**	**05 40 54.1**	**+0.5**
PRP	**Porcupine Dome**	**149.21**	**314**	PKPbc	**PKiKP**	**05 40 54.0**	**0.0**
IL31		**149.61**	**312**	PKPdf	**PKPbc**	**05 40 51.4**	**-2.3**
IL31				PKPbc	**PKiKP**	**05 40 55.2**	**+0.5**
IL31				PKPab	**PKPab**	**05 41 00.7**	**+1.4**
ILAR	**Eielson Array**	**149.61**	**312**	PKPbc	**PKiKP**	**05 40 54.3**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=127,slow=1.8,SNR=23						
F25K	**Christian Rive**	**149.63**	**318**	PKPbc	**PKiKP**	**05 40 55.4**	**+0.6**
CCB	**Clear Creek Bu**	**149.97**	**312**	PKPbc	**PKiKP**	**05 40 55.2**	**-0.3**
SONM	**Songino Array**	**151.25**	**87**	PKPbc	**PKiKP**	**05 40 57.8**	**-1.1**
	comp=Z,1.9nm,0.4s,baz=221,slow=3.2,SNR=11						
PPLA	**Purkeypile**	**151.51**	**307**	PKPbc	**PKiKP**	**05 40 59.4**	**+0.5**

PRU 05 05:22:43.0, 51.52N×16.09E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.93**	**181**	*e*PG	Pg	05 22 59.2	-1.7
CHVC				*e*SG	Sg	05 23 13.1	+0.2
	4.9nm,0.8s						
OSTC	**Ostas**	**0.97**	**175**	*e*PG	Pg	05 23 00.6	-0.9
OSTC				*e*SG	Sg	05 23 14.4	+0.3
	3.2nm,0.5s						
UPC	**Upice**	**1.01**	**183**	*e*PG	Pg	05 22 59.9	-2.5
UPC				*e*SG	Sg	05 23 15.2	-0.4
	3.4nm,0.2s						
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	Pg	05 23 05.5	-0.1
DPC				*e*SG	Sg	05 23 20.3	-0.6
	3.5nm,1.0s						

NEIC ***05*** *05:24:55.2±0.8, 39.884N±0.006×111.59W±0.02, h1km±2km, Error ellipse: s-maj=2.1km s-min=0.7km az=75.0*

UUSS 05 05:24:55.5±0.8, 39.88N±0.01×111.60W±0.01, h3km±2km, ML2.5/18, ML2.9/89(NEIC), Error ellipse: s-maj=2.1km s-min=1.3km az=217.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPU	**Maple Canyon**	**0.14**	**348**		Pg	05 24 58.5	+0.1
MPU					Sg	05 25 00.6	+0.2
WMUT	**West Mountain**	**0.27**	**318**		Pg	05 25 01.3	+0.5
WMUT					Sg	05 25 05.5	+1.1
NLU	**North Lily Min**	**0.38**	**282**		Pg	05 25 03.3	+0.4
ELU	**Electric Lake**	**0.38**	**128**		Pg	05 25 03.8

RCJ	Ross Creek	0.79	9			Pg	05 25 11.2	+0.5
DCM	Dugout Coal Mi	0.80	103			Pg	05 25 11.2	+0.4
MHD	Mile High Driv	0.80	349			Pg	05 25 11.0	+0.1
ARGU	Argyle Ridge	0.81	93			Pb	05 25 11.8	-0.7
CTU	Camp Tracy	0.82	352			Pg	05 25 11.4	+0.1
HTU	Hoyt Peak	0.85	20			Pg	05 25 12.4	+0.6
NOQ	North Oquirrh	0.87	333			Pg	05 25 12.5	+0.2
BSUT	Blindstream Ca	0.92	44			Pg	05 25 13.3	+0.2
RBU	Red Butte Cany	0.92	350			Pg	05 25 13.3	+0.1
BCE	Book Cliffs Ea	0.95	106			Pg	05 25 13.9	+0.1
ROA	Roan Cliffs	0.97	102			Pg	05 25 14.5	+0.3
WCU	Willow Creek	0.99	203			Pg	05 25 14.7	+0.3
DUG	Dugway, Tooele	0.99	289	Pg		Pg	05 25 14.8	+0.3
DUG				Sg		Sg	05 25 27.9	+0.6
P18A	Preston Nutter	1.07	103			Pg	05 25 16.1	0.0
SAIU	Southern Antel	1.08	336			Pg	05 25 16.1	-0.1
LHUT	Little Humpy P	1.11	24			Pg	05 25 17.2	+0.3
SRU	San Rafael Swe	1.13	132			Pg	05 25 16.8	-0.4
FSU	Fish Springs	1.39	264			Pn	05 25 21.4	-0.6
TCRU	Three Creeks R	1.43	208			Pg	05 25 22.8	-0.1
MSU	Marysvale	1.43	199			Pg	05 25 22.9	-0.1
EPU	East Promontor	1.64	338			Pn	05 25 24.8	-0.5
HWUT	Hardware Ranch	1.73	1			Pn	05 25 27.2	+0.5
SPR3	Spring Creek 3	2.29	248	Pn		Pn	05 25 34.7	+0.2
PV21	Cone Mtn., Par	2.42	122			Pn	05 25 37.5	+1.3
PV21				IAML			05 26 16.4	
	comp=E,122nm,0.5s							
PV21				IAML			05 26 16.7	
	comp=N,99nm,0.5s							
PV23	Carpenter Ridg	2.46	124			Pn	05 25 38.3	+1.5
PV10	Paradox Valley	2.49	126			Pb	05 25 39.4	-1.6
PV14	Lion Creek, Pa	2.50	126			Pn	05 25 38.6	+1.2
PV14				IAML			05 26 17.4	
	comp=N,109nm,0.8s							
PV14				IAML			05 26 22.3	
	comp=E,103nm,0.6s							
PV20	West Nyswonger	2.56	126			Pn	05 25 39.7	+1.6
PV22	Blue Mesa, Par	2.56	121			Pn	05 25 39.0	+0.9
PV22				IAML			05 26 19.9	
	comp=E,93nm,0.8s							
PV04	Paradox Valley	2.56	124	Pn		Pn	05 25 38.7	+0.6
PV04				IAML			05 26 20.5	
	comp=N,76nm,1.2s							
PV04				IAML			05 26 21.8	
	comp=E,64nm,0.8s							
PV19	Morning Glory	2.56	127			Pn	05 25 39.3	+1.1
O20A	White River Ci	2.59	83	Pn		Pn	05 25 38.5	0.0
O20A				IAML			05 26 23.9	
	comp=E,94nm,0.6s							
O20A				IAML			05 26 27.6	
	comp=E,64nm,0.5s							
PV16	Nyswonger Mesa	2.60	126			Pn	05 25 39.3	+0.6
PV11	David Mesa, Pa	2.64	126	Pn		Pn	05 25 41.2	+2.0
PV05	Paradox Valley	2.65	132	Pn		Pn	05 25 40.5	+1.2
PV18	Skein Mesa, Pa	2.65	127			Pn	05 25 40.6	+1.3
PV12	Saucer Basin,	2.67	125			Pn	05 25 40.7	+1.0
PV03	Paradox Valley	2.68	126	Pn		Pn	05 25 39.9	+0.1
PV03				IAML			05 26 19.9	
	comp=E,99nm,0.7s							
PV07	Paradox Valley	2.70	121			Pn	05 25 40.1	0.0
PV07				IAML			05 26 23.0	
	comp=N,64nm,0.6s							
PV07				IAML			05 26 24.1	
	comp=E,63nm,0.8s							
PV13	Radium Mtn., P	2.76	128			Pn	05 25 42.4	+1.6
PV13				IAML			05 26 23.5	
	comp=N,74nm,0.6s							
PV13				IAML			05 26 29.1	
	comp=E,90nm,0.6s							
PV02	Paradox Valley	2.78	126			Pn	05 25 42.6	+1.5
PV15	Paradox Valley	2.87	121			Pn	05 25 42.9	+0.6
PV15				IAML			05 26 29.7	
	comp=N,68nm,0.5s							
PV15				IAML			05 26 32.8	
	comp=E,70nm,0.7s							
AHID	Auburn Hatcher	2.91	7			Pn	05 25 42.9	0.0
AHID				IAML			05 26 35.3	
	comp=E,26nm,0.6s							
AHID				IAML			05 26 36.7	
	comp=E,25nm,0.5s							
ELK	Elko	2.92	288	Pn		Pn	05 25 42.2	-0.9
PV01	Paradox Valley	2.93	125			Pn	05 25 43.8	+0.6
PV01				IAML			05 26 26.4	
	comp=N,54nm,0.7s							
PV01				IAML			05 26 39.0	
	comp=E,29nm,0.8s							
BW06	Boulder Array	3.27	27			Pn	05 25 48.0	0.0
PD31	Pinedale Array	3.27	27			Pn	05 25 48.0	+0.1
PDAR	Pinedale Array	3.27	27	Pn		Pn	05 25 48.1	+0.2
HAYD	Hayden	3.38	78	Pn		Pn	05 25 48.8	-0.7
HAYD				IAML			05 26 47.8	
	comp=N,41nm,0.8s							
R11B	Troy Canyon, C	3.46	245			Pn	05 25 50.4	0.0
MVCO	Mesa Verde	3.60	137			Pn	05 25 54.0	+1.5
MVCO				IAML			05 26 51.4	
	comp=N,26nm,0.6s							
MVCO				IAML			05 27 03.7	
	comp=N,25nm,1.3s							
TPAW	Teton Pass	3.64	7	Pn		Pn	05 25 52.0	-1.1
TPAW				IAML			05 26 59.5	
	comp=N,18nm,0.9s							
TPAW				IAML			05 27 17.7	
	comp=N,7.9nm,1.4s							
PRN	Pahroc Range	3.66	229	Pn		Pn	05 25 53.4	+0.2
PRN				IAML			05 26 54.5	
	comp=N,25nm,0.6s							
PRN				IAML			05 27 01.8	
	comp=E,20nm,0.5s							
FXWY	Fox Creek	3.78	6	Pn		Pn	05 25 54.1	-0.9
LOHW	Long Hollow	3.81	11	Pn		Pn	05 25 55.0	-0.3
S11A	Rachel	3.94	237	Pn		Pn	05 25 56.5	-0.5
S11A				IAML			05 27 14.8	
	comp=E,15nm,1.0s							
S11A				IAML			05 27 22.6	
	comp=N,18nm,1.2s							
S22A	4UR Ranch, Cre	4.29	118	Pn		Pn	05 26 00.9	-1.1
S22A				IAML			05 27 16.5	
	comp=E,5.9nm,0.9s							
WUAZ	Wupatki	4.35	178	Pn		Pn	05 26 02.1	-0.6
WUAZ				IAML			05 27 17.4	
	comp=E,16nm,0.6s							
WUAZ				IAML			05 27 27.8	
	comp=E,20nm,0.7s							
SHPR	Sheep Range	4.38	221	Pn		Pn	05 26 02.1	-1.0
ISCO	Idaho Springs	4.61	89	Pn		Pn	05 26 05.5	-0.8
ISCO				IAML			05 27 26.7	
	comp=E,4.3nm,1.1s							
TPNV	Topopah Spring	4.68	233	Pn		Pn	05 26 07.7	+0.4
TPNV				IAML			05 27 32.9	
	comp=E,5.6nm,1.4s							
TPNV				IAML			05 27 38.5	
	comp=E,4.2nm,1.3s							
K22A	Casper	4.72	52	Pn		Pn	05 26 06.3	-1.5
K22A				IAML			05 27 29.8	
	comp=E,14nm,0.6s							
K22A				IAML			05 27 30.7	
	comp=E,11nm,0.8s							
TPH	Tonopah	4.74	249	Pn		Pn	05 26 06.8	-1.3
TPH				IAML			05 27 40.1	
	comp=N,19nm,0.8s							
TPH				IAML			05 27 43.3	
	comp=E,18nm,0.9s							
MFID	Camas Ranch	4.75	319	Pn		Pn	05 26 07.5	-0.6
GWY	Greenwater Val	5.44	229	Pn		Pn	05 26 16.6	-1.0
X16A	Lo Mia Camp, P	5.45	179	Pn		Pn	05 26 17.6	-0.2
X18A	Snowflake	5.50	166	Pn		Pn	05 26 17.4	-1.1
RLMT	Red Lodge	5.52	17	Pn		Pn	05 26 17.4	-1.4
MPMC	Manual Prospec	6.02	233	Pn		Pn	05 26 24.8	-0.8

*IDC **05** 05:38:49.6±0.9,4°.06S×143°.16E,h0km,mb4.3/10, mbtmp4.3/11,ML4.1/2,MS3.1/4,Error ellipse: s-maj=32.6km s-min=16.8km az=84.0*
*NEIC **05** 05:38:55.5±1.3,4°.16S±0°.05×142°.97E±0°.05,h35km±1km, mb4.4/21,Error ellipse: s-maj=11.1km s-min=4.9km az=316.0*

ISC 05 05:38:55.2±0.6,**4°.14S**±0°.07×**142°.94E**±0°.07,**h35**km,**n41, σ0s82/40,mb4.4**/18,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	2.75	306	Pn	Pn	05 39 38.5	+1.6
	4.7nm,0.3s,baz=164,slow=17,SNR=13						
JAY				Sn	Sn	05 40 10.1	+1.1
	14nm,0.3s,baz=174,slow=22,SNR=6.3						
MANU	Manus Island	4.88	65	Pn	Pn	05 40 05.9	-0.3
PMG	Port Moresby	6.70	142	LR	LR	05 43 51.3	
	comp=Z,104nm,21.3s,baz=252,slow=46						
COEN	Coen	9.76	179	Pn	Pn	05 41 13.8	+0.7
FAKI	Fak Fak	10.74	276	Pn	Pn	05 41 26.9	+0.3
MTN	Manton Dam	14.53	233		Pn	05 42 17.6	-0.7
WR8	Warramunga Arr	17.75	207	P	Pn	05 42 59.7	0.0
WRA	Warramunga Arr	17.81	207		Pn	05 42 59.0	-1.5
WRA	Warramunga Arr	17.81	207	P	P	05 43 00.7	-0.2
	1.3nm,0.3s,baz=28,slow=11,SNR=34						
WRA				LR	LR	05 49 54.5	
	comp=Z,87nm,21.3s,baz=19,slow=37						
	8.0nm,0.8s						
KNRA	Kununurra	18.05	230	P	Pn	05 43 03.2	-0.2
KNRA				IAmb	IAmb	05 43 15.7	
	comp=Z,13nm,0.7s						
SOEI	Soe	19.35	252	P	P	05 43 18.2	+0.1
BATI	Baumata	20.05	251	P	P	05 43 26.3	+0.8
	comp=Z,64nm,0.7s,baz=67,slow=8.4,SNR=4.3						
	comp=Z,64nm,0.7s						
AS31	Alice Springs	21.28	203	P	P	05 43 37.2	-1.7
ASAR	Alice Springs	21.29	203	P	P	05 43 39.6	+0.8
	comp=Z,11nm,0.3s,baz=24,slow=11,SNR=15						
ASAR				LR	LR	05 52 26.2	
	comp=Z,98nm,19.5s,baz=336,slow=38						
	comp=Z,11nm,0.3s						
FITZ	Fitzroy Crossi	21.89	229	P	P	05 43 44.9	-0.4
TOLI2	Tolitoli	22.75	283	P	P	05 43 53.4	-1.2
TOLI2				IAmb	IAmb	05 44 05.7	
	comp=Z,15nm,1.0s						
STKA	Stephens Creek	27.62	182	P	P	05 44 39.3	-0.2
STKA	Stephens Creek	27.62	182	P	P	05 44 39.9	+0.3
	comp=Z,2.5nm,0.7s,baz=351,slow=11,SNR=4.6						
	comp=Z,2.5nm,0.7s						
MBWA	Marble Bar	28.19	231	P	P	05 44 43.8	-1.0
MBWA				IAmb	IAmb	05 45 10.0	
	comp=Z,20nm,1.4s						
ONTNC	Quen Toro	29.07	131	P	P	05 44 52.7	+0.2
BBOO	Buckleboo	29.24	192	P	P	05 44 54.3	+0.4
BBOO				IAmb	IAmb	05 45 09.2	
	comp=Z,19nm,1.2s						
FORT	Forrest	29.99	206	P	P	05 44 59.8	-0.7
FORT				IAmb	IAmb	05 45 16.5	
	comp=Z,11nm,1.4s						
MORW	Morawa	35.58	223	P	P	05 45 48.5	-1.0
KSRS	Korea Array	43.68	343	P	P	05 46 56.4	-0.2
	comp=Z,0.4nm,0.3s,baz=163,slow=9.1,SNR=4.9						
	comp=Z,0.4nm,0.3s						
ASAJ	Asahikawa	48.03	360	LR	LR	06 08 35.2	
	comp=Z,16nm,20.1s,baz=174,slow=37						
AKUT	Akutan	71.99	29	P	P	05 50 14.4	-0.8
MKAR	Makanchi Array	73.51	321	P	P	05 50 22.9	-1.6
MKAR	Makanchi Array	73.51	321	P	P	05 50 23.9	-0.6
	comp=Z,1.9nm,0.9s,baz=105,slow=7.8,SNR=12						
	comp=Z,1.9nm,0.9s						
VNDA	Vanda	74.03	176	P	P	05 50 27.7	+0.8
VNDA				IAmb	IAmb	05 50 28.9	
	comp=Z,5.4nm,1.4s						
VNDA	Vanda	74.03	176	P	P	05 50 27.5	+0.6
	comp=Z,0.8nm,0.6s,baz=330,slow=6.3,SNR=13						
	comp=Z,0.8nm,0.6s						
SBA	Scott Base	74.73	175	P	P	05 50 31.3	+0.3
SBA				IAmb	IAmb	05 50 41.4	
	comp=Z,4.3nm,1.5s						
K17K	Iditarod	79.93	24	P	P	05 51 01.1	+0.8
K17K				IAmb	IAmb	05 51 21.4	
	comp=Z,8.5nm,1.1s						
J17K	VABM Dome	79.97	23	P	P	05 51 00.2	-0.3
J17K				IAmb	IAmb	05 51 44.7	
	comp=Z,9.4nm,1.4s						
KKAR	Karatay Array	80.11	315	P	P	05 51 01.2	-0.5
G18K	Tagagawik	81.42	21	P	P	05 51 08.8	+0.6
J19K	Poorman	81.61	23	P	P	05 51 09.6	+0.4
J19K				IAmb	IAmb	05 51 34.7	
	comp=Z,4.3nm,1.4s						
MAW	Mawson	82.41	202	P	P	05 51 14.5	+1.1
	comp=Z,1.6nm,0.4s,baz=86,slow=8.0,SNR=8.4						
	comp=Z,1.6nm,0.4s						
E19K	Redstone River	82.69	20	P	P	05 51 15.3	+0.4
E19K				IAmb	IAmb	05 51 42.6	
	comp=Z,3.4nm,0.8s						
BVAR	Borovoye Array	82.90	324	P	P	05 51 17.2	+0.9
	comp=Z,1.4nm,0.7s,baz=106,slow=7.9,SNR=6.8						
	comp=Z,1.4nm,0.7s						
ILAR	Eielson Array	85.40	24	P	P	05 51 27.7	-1.0
	comp=Z,0.9nm,0.7s,baz=254,slow=5.0,SNR=9.0						
	comp=Z,0.9nm,0.7s						
QSPA	South Pole Qui	85.82	180	P	P	05 51 31.5	+0.5
	comp=Z,3.3nm,0.8s,baz=317,slow=0.9,SNR=23						
	comp=Z,3.3nm,0.8s						

*SGS **05** 05:39:01.6,25°.10N×36°.55E,h19km,Ml2.4*
*HLW **05** 05:39:02.9,25°.01N×36°.30E,h30km±8km,Md2.7,Ml2.4*

ISC 05 05:39:00.3±1.3,**25°.06N**±0°.06×**36°.47E**±0°.04,**h35**km,**n41, σ0s74/43,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJ12	UMJ12	0.71	55	P	Pn	05 39 14.1	+0.2
UMJS	Umm Lajj	0.78	77	P	Pn	05 39 14.4	-0.4
UMJ11	UMJ11	0.81	43	P	Pn	05 39 15.3	+0.2
UMJ11	UMJ11	0.81	43	S	Sn	05 39 25.5	-0.4
SUMJS	Umluj	0.90	110	P	Pn	05 39 16.0	-0.5
UMJ13	Umluj	0.95	63	P	Pn	05 39 17.0	-0.2
LNY07	LNY07	1.00	86	P	Pn	05 39 17.6	-0.2
UMJ01	UMJ01	1.01	53	P	Pn	05 39 17.9	-0.1
UMJ06	UMJ06	1.02	49	S	Sn	05 39 29.9	-1.3
UMJ06				P	Pn	05 39 18.1	0.0
UMJ02	UMJ02	1.05	51	P	Pn	05 39 18.6	0.0
LNY13	LNY13	1.06	84	P	Pn	05 39 18.6	-0.1
LNY16	LNY16	1.06	74	P	Pn	05 39 18.7	0.0
UMJ05	UMJ05	1.08	32	P	Pn	05 39 19.2	+0.1
LNY04	LNY04	1.08	79	P	Pn	05 39 19.1	+0.1
UMJ07	UMJ07	1.09	52	P	Pn	05 39 19.2	+0.1
UMJ04	UMJ04	1.10	49	P	Pn	05 39 19.5	+0.2
LNY05	LNY05	1.11	91	P	Pn	05 39 19.4	0.0
LNY09	LNY09	1.13	72	P	Pn	05 39 19.9	+0.2
UMJ08	UMJ08	1.14	61	P	Pn	05 39 20.0	+0.2
LNY14	LNY14	1.19	81	P	Pn	05 39 20.8	+0.2
LNY06	LNY06	1.20	83	P	Pn	05 39 21.0	+0.4
LNY12	LNY12	1.20	80	P	Pn	05 39 20.9	+0.2
LNY11	LNY11	1.21	78	P	Pn	05 39 21.1	+0.3
LNY15	LNY15	1.22	80	P	Pn	05 39 21.3	+0.4
LNY17	LNY17	1.22	81	P	Pn	05 39 21.3	+0.3
LNY08	LNY08	1.25	91	P	Pn	05 39 21.9	+0.4
LNY02	LNY02	1.26	86	P	Pn	05 39 22.0	+0.4
UMJ09	UMJ09	1.28	54	P	Pn	05 39 22.3	+0.6
LNY10	LNY10	1.28	80	P	Pn	05 39 22.2	+0.4
LNY03	LNY03	1.29	76	P	Pn	05 39 22.4	+0.5
LNY5	LNY5	1.34	89	P	Pn	05 39 23.1	+0.6
LNY01	LNY01	1.36	83	P	Pn	05 39 23.5	+0.7
UMJ10	UMJ10	1.39	48	P	Pn	05 39 24.1	+0.9
HAGS	Hagol	1.51	244	P	Pn	05 39 24.8	-0.1
HAGS				S	Sn	05 39 41.8	-1.6
YNBS	Yanbu` al Bahr	1.56	117	P	Pn	05 39 26.2	+0.7
NADB	Abo Dabab	1.80	279	P	Pn	05 39 29.6	+0.7
TRAS	Al Qrash	1.90	90	P	Pn	05 39 32.0	+1.8
YOBS		2.18	108	P	Pn	05 39 36.2	+2.0
BRNS	Bernies	2.46	241	P	Pn	05 39 38.7	+0.8
HHRG	Al Ghardaqah	3.38	310	P	Pn	05 39 50.2	-0.4
HKAT	Jabal Katrina	4.10	328	P	Pn	05 40 02.8	+2.2

IDC 05 05:59:36.0±3.0,**54°.18N**×**86°.33E,h0km,mbtmp3.1**/2, **ML2.6**/2,**Error ellipse: s-maj=21.9km s-min=12.7km az=61.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.92	256	I	I	06 05 40.0	
	baz=72,slow=313,SNR=2.5						
ZALV	Zalesovo Beam	0.92	256	Pg	Pg	05 59 52.5	-1.2
	1.0nm,0.3s,baz=75,slow=16,SNR=8.8						
ZALV				Lg	Lg	06 00 07.2	
	2.9nm,0.3s,baz=78,slow=30,SNR=14						
KURBB	Kurchatov Arra	5.96	236	Pn	Pn	06 01 06.2	+0.8
	0.2nm,0.3s,baz=53,slow=13,SNR=2.4						
	2.0nm,0.2s						
MKAR	Makanchi Array	7.83	201	Pn	Pn	06 01 32.4	+1.3
	0.1nm,0.3s,baz=20,slow=12,SNR=1.8						
	0.1nm,0.4s						

*GCG **05** 06:24:38.3±1.1,15°.67N×88°.45W,h9km±8km,MD3.8, MW2.6*
*CATAC **05** 06:24:39.4±0.2,16°N±2°×8°9W±°,h0km,M3.3/13, MLv3.3/13,Error ellipse: s-maj=3.9km s-min=3.0km az=51.5,confirmed*

ISC 05 06:24:38.3±0.9,**15°.66N**±0°.04×**88°.46W**±0°.04,**h10**km,**n35, σ1s31/38,1C,Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	Izabal, Puerto	0.14	302	P	Pg	06 24 41.5	0.0
IZABA				S	Sg	06 24 44.9	+1.3
SARH	Santa Rosa de	0.92	198	eP	Pg	06 24 56.0	-0.1
SARH				eS	Sb	06 25 08.9	+0.1
SARH	Santa Rosa de	0.92	198	P	Pg	06 24 54.3	-1.8
INTHN	La Esperanza I	1.38	165	P	Pn	06 25 03.7	-0.2
ESQI	Esquipulas	1.38	218	P	Pn	06 25 03.9	+0.2
ESQI	Esquipulas	1.38	218	S	Sg	06 25 23.3	+0.5
MTO3	Montecristo	1.52	215	eP	Pn	06 25 05.6	-0.1
MTO3	Montecristo	1.52	215	S	Sn	06 25 26.2	+0.4
MTO3	Montecristo	1.52	215	P	Pn	06 25 05.8	0.0
PETF	Flores	1.84	313	eP	Pn	06 25 09.2	-0.8
PETF	Flores	1.84	313	S	Sn	06 25 33.0	-0.3
PETF	Flores	1.84	313	P	Pn	06 25 09.3	-0.6
SCLA	Alcaldia de Sa	1.96	188	S	Sg	06 25 41.1	-0.2
SCLA	Alcaldia de Sa	1.96	188	P	Pb	06 25 13.6	-0.5
TGUH	Tegucigalpa,Un	1.96	144	P	Pn	06 25 13.0	+1.2
TGUH				S	Sb	06 25 39.0	+0.2
PAVA	Las Pavas	1.99	193	S	Sb	06 25 40.7	+1.2
PAVA	Las Pavas	1.99	193	P	Pb	06 25 13.9	-0.7
SLOZ	Alcaldia de Sa	2.06	218	S	Sb	06 25 41.9	+0.3
SLOZ	Alcaldia de Sa	2.06	218	P	Pb	06 25 15.0	-0.8
NUBE	Las Nubes	2.16	216	*i* S	Sb	06 25 46.3	+1.8
NUBE	Las Nubes	2.16	216	S	Sb	06 25 44.2	-0.3
NUBE	Las Nubes	2.16	216	P	Pb	06 25 17.0	-0.6
JAYA	Jayaque - finc	2.21	206	S	Sb	06 25 46.7	+0.8
JAYA	Jayaque - finc	2.21	206	P	Pb	06 25 17.7	-0.7
YUSH	Yuscaran	2.31	137	P	Pb	06 25 18.3	-1.8
LCND	La Caada	2.40	167	S	Sb	06 25 52.9	+1.6
LCND	La Caada	2.40	167	P	Pb	06 25 20.2	-1.4
CHOHN	Orocuina	2.50	150	P	Pb	06 25 22.4	-1.0
POTN	Potosi Cosigui	2.80	161	P	Pb	06 25 27.7	-0.7
RCVN	Varillal2	3.01	133	S	Sb	06 26 08.9	-0.2
RCVN	Varillal2	3.01	133	P	Pb	06 25 31.7	-0.5
RCPN	Sur Rio San Ju	3.12	132	P	Pb	06 25 31.2	-2.8
CCIG	Comitan	3.59	280	eP	Pn	06 25 35.6	+1.4
MATN	Matagalpa	3.66	137	P	Pb	06 25 40.2	-2.9
SIUN	Universidad Ur	4.06	118	P	Pn	06 25 44.5	+4.0

*DJA **05** 06:26:55.5±0.9,5°.S±8°.×14°.9E±1°.0,h10km,M5.1/9, mb4.7/9,mMb5.5/4,MLv5.3/1,Mw(mB)5.0/4*
*IDC **05** 06:27:01.1±0.8,6°.52S×149.77E,h0km,mb4.0/10, mbtmp4.1/11,ML2.7/1,MS3.7/28,Error ellipse: s-maj=33.2km s-min=15.8km az=102.0*
*NEIC **05** 06:27:08.3±1.8,6°.36S±0°.07×149°.38E±0°.09,h35km±2km, mb4.5/18,Error ellipse: s-maj=16.8km s-min=10.3km az=122.0*

ISC 05 06:27:08.6±0.6,**6°.41S**±0°.06×**149°.39E**±0°.09,**h49**km,**n63, σ1s17/40,mb4.3**/19,**MS3.7**/24,**1C,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.53	52		Pn	06 28 01.3	+0.3
PMG	Port Moresby	3.71	216		Pn	06 28 04.1	+0.7
PMG				Sn	Sn	06 28 48.1	+2.3
PMG	Port Moresby	3.71	216	Pn	Pn	06 28 02.8	-0.6
	43nm,0.3s,baz=31,slow=3.7,SNR=40						
PMG				Sn	Sn	06 28 47.3	+1.4
	35nm,0.3s,baz=226,slow=20,SNR=13						
PMG				LR	LR	06 29 42.8	
	comp=Z,1μm,20.5s,baz=32,slow=42						
	280nm,0.7s						
MANU	Manus Island	4.78	335		Pn	06 28 17.3	-0.8
JAY	Jayapura	9.48	294	LR	LR	06 32 48.7	
	comp=Z,412nm,18.2s,baz=348,slow=35						
COEN	Coen	9.68	219	Pn	Pn	06 29 25.3	0.0
GENI	Genyem	9.94	292	P	Pn	06 29 14.5	-14
	47nm,1.8s						
HNR	Honiara	10.88	107	LR	LR	06 33 08.8	
	comp=Z,278nm,20.0s,baz=266,slow=35						
MTN	Manton Dam	19.09	249		P	06 31 26.3	-1.1
WB0	Warramunga Arr	19.71	226		P	06 31 34.6	+0.4
WB0				IAmb	IAmb	06 31 35.3	
	comp=Z,43nm,0.8s						
WRAB	Tennant Creek	19.85	226	P	P	06 31 35.9	+0.2
WRA	Warramunga Arr	19.87	226	P	P	06 31 35.0	-0.8
WRA	Warramunga Arr	19.87	226	P	P	06 31 35.9	+0.1
	comp=Z,37nm,0.7s,baz=51,slow=11,SNR=116						
WRA				LR	LR	06 39 33.5	
	comp=Z,230nm,19.4s,baz=46,slow=38						
GUMO	Guam	20.37	347	LR	LR	06 38 47.5	
	comp=Z,124nm,19.3s,baz=150,slow=34						
KNRA	Kununurra	22.22	244	P	P	06 32 00.6	-0.6
KNRA				IAmb	IAmb	06 32 01.1	
	comp=Z,21nm,1.1s						
LBMI	Labuha	22.58	284	P	P	06 31 53.1	-12
AS31	Alice Springs	22.72	219		P	06 32 06.8	+0.3
ASAR	Alice Springs	22.72	219	P	P	06 32 06.7	+0.2
	comp=Z,12nm,0.4s,baz=39,slow=11,SNR=26						
	comp=Z,12nm,0.4s						
PINNC	Pines Island,	23.73	135	P	P	06 32 15.9	-0.5
ARMA	Armidale	23.98	175	P	P	06 32 18.6	-0.1
ARMA				IAmb	IAmb	06 32 48

VNDA IAmb IAmb 06 38 24.2
comp=Z,3.6nm,0.9s
VNDA Vanda 71.38 177 P P 06 38 22.2 -0.8
comp=Z,2.9nm,0.9s,baz=324,slow=7.6,SNR=15
VNDA LR LR 07 05 30.4
comp=Z,50nm,19.6s,baz=88,slow=32
comp=Z,2.9nm,0.9s
TIXI Tiksi 79.07 354 LR LR 07 11 15.1
comp=Z,22nm,21.8s,baz=140,slow=34
MKAR Makanchi Array 79.33 320 P P 06 39 09.7 +0.5
comp=Z,0.3nm,0.8s,baz=111,slow=7.9,SNR=2.7
comp=Z,0.3nm,0.8s
ZALV Zalesovo Beam 80.63 327 P P 06 39 17.5 +1.5
comp=Z,0.5nm,0.4s,baz=120,slow=8.5,SNR=2.7
ZALV LR LR 07 13 43.2
comp=Z,62nm,22.0s,baz=101,slow=35
comp=Z,0.5nm,0.4s
AAK Ala-Archa 83.32 314 LR LR 07 16 17.8
comp=Z,40nm,20.9s,baz=59,slow=35
RND Reindeer 83.53 24 P P 06 39 31.1 0.0
RND IAmb IAmb 06 39 32.8
comp=Z,2.9nm,1.0s
QSPA South Pole Qui 83.56 180 P P 06 39 31.1 -0.3
QSPA IAmb IAmb 06 39 32.1
comp=Z,5.3nm,1.2s
QSPA South Pole Qui 83.56 180 P P 06 39 30.9 -0.5
comp=Z,2.2nm,0.9s,baz=315,slow=3.6,SNR=6.6
comp=Z,2.2nm,0.9s
VRDI Verde Repeater 84.86 27 P P 06 39 38.4 +0.3
VRDI IAmb IAmb 06 40 17.5
comp=Z,3.2nm,0.6s
ILAR Eielson Array 84.93 23 P P 06 39 37.6 -0.5
comp=Z,0.4nm,0.8s,baz=234,slow=6.4,SNR=4.5
comp=Z,0.4nm,0.8s
BBB Bella Bella 90.43 38 LR LR 07 14 45.5
comp=Z,52nm,19.5s,baz=228,slow=32
ARTI Arti 95.84 326 LR LR 07 23 22.1
comp=Z,64nm,21.8s,baz=86,slow=35
PFO Pinyon Flats O 96.96 57 LR LR 07 17 01.9
comp=Z,45nm,20.1s,baz=232,slow=31
NEW Newport 97.06 42 LR LR 07 18 37.0
comp=Z,37nm,19.8s,baz=264,slow=32
ELK Elko 98.21 50 LR LR 07 24 35.5
comp=Z,28nm,18.1s,baz=284,slow=35
SNAA Sanae 99.97 189 ⇑P **Pdif 06 40 45.2 -2.9**
TORD Torodi Ar. Bea 147.49 284 PKPbc **PKPbc 06 46 47.6 -0.7**
comp=Z,1.5nm,0.3s,baz=74,slow=2.7,SNR=3.6
BDFB Brasilia 152.12 142 PKPbc **PKPbc 06 46 58.5 -1.4**
comp=Z,1.8nm,0.4s,baz=122,slow=4.5,SNR=7.3

*TEH **05** 06:30:13.7, 39˚.16N×55˚.69E, h10km±151km*
ISC 05 06:30:14.6±1.0,**39˚.18N**±0˚.06×**55˚.69E**±0˚.08,**h10**km,**n12**, σ**1**º**30**/14,**4C**,**Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**1.55**	**168**	Pg	**Pb**	**06 30 42.4**	**-1.1**
IMND	**Minoodasht**	**1.94**	**187**	Pn	**Pb**	**06 30 48.8**	**-1.2**
ISFR	**Sfrayin**	**2.80**	**139**	Pn	**Pn**	**06 31 00.7**	**+1.0**
IEMG	**Emamgholi**	**2.92**	**126**	Pn	**Pn**	**06 31 02.4**	**+1.0**
SBZV	**Sabzevar**	**3.18**	**151**	Pn	**Pn**	**06 31 05.6**	**+0.7**
IKIA	**Kiasar**	**3.37**	**209**	Pn	**Pn**	**06 31 08.1**	**+0.6**
IAKL	**Akhelmad**	**3.54**	**136**	Pn	**Pn**	**06 31 10.3**	**+0.5**
IPAY	**Payeh**	**3.78**	**135**	Pn	**Pn**	**06 31 14.3**	**+1.1**
IKRD	**Kardeh**	**3.86**	**127**	Pn	**Pn**	**06 31 15.1**	**+0.9**
IFIR	**Firoozkooh**	**4.24**	**214**	Pn	**Pn**	**06 31 20.5**	**+1.0**
AB31	**Akbulak array** 1.1nm,0.8s,baz=193,slow=13	**10.52**	**15**	⇑Pn	**Pn**	**06 32 45.5**	**+0.2**
AB31	3.4nm,0.5s,baz=194,slow=22			⇑Sn	**Sn**	**06 34 40.4**	**-2.8**
AKTO	**Aktyubinsk** 1.4nm,0.8s	**11.37**	**8**	⇑Pn	**Pn**	**06 32 58.5**	**+1.5**
AKTO	3.2nm,0.8s			⇑Sn	**Sn**	**06 35 04.2**	**+0.2**

*IDC **05** 06:48:14.1±0.7, 52˚.12N×169˚.61W, h0km, mb4.3/28, mbtmp4.3/31, ML4.3/3, MS3.5/5, Error ellipse: s-maj=20.3km s-min=12.8km az=175.0*
*NEIC **05** 06:48:15.1±2.3, 51˚.91N±0˚.05×169˚.40W±0˚.10, h10km±1km, mb4.3/147, ML4.1/22, ML3.8(AEIC), Error ellipse: s-maj=11.7km s-min=6.4km az=128.0*
*AEIC **05** 06:48:17.1±2.5, 51˚.91N±0˚.04×169˚.42W±0˚.10, h35km±4km, Error ellipse: s-maj=9.7km s-min=4.4km az=121.0*
ISC 05 06:48:15.6±1.9,**51˚.96N**±0˚.07×**169˚.44W**±0˚.05, **h14**km±10km,**n453**,σ**1**º**02**/449,**mb4.4**/75,**MS3.6**/6,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.08**	**19**		**Pg**	**06 48 36.5**	**+0.2**
NIKH					**Sn**	**06 48 51.6**	**+0.6**
NIKH	comp=E,3μm,0.6s			IAML		06 48 55.9	
NIKH	comp=N,3μm,0.6s			IAML		06 48 59.9	
NIKH	**Nikolski High** baz=197	**1.08**	**19**	P	**Pg**	**06 48 36.5**	**+0.2**
OKSP	**Okmok Steeple**	**1.48**	**28**		**Pn**	**06 48 42.3**	**+0.5**
OKSP					**Sn**	**06 49 01.4**	**+0.5**
OKSP					**Sb**	**06 49 01.6**	**+0.1**
OKCE	**Okmok Cone E**	**1.67**	**27**		**Pn**	**06 48 45.5**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.67**	**30**		**Pn**	**06 48 45.3**	**+0.9**
OKNC	**Okmok New Cone**	**1.70**	**28**		**Pb**	**06 48 46.4**	**-0.3**
OKNC					**Sb**	**06 49 08.7**	**+0.7**
OKFG	**Magazine Ridge**	**1.73**	**32**		**Pn**	**06 48 46.0**	**+0.8**
OKFG					**Sn**	**06 49 08.0**	**+0.9**
OKRE	**Okmok R'deer P**	**1.75**	**26**		**Pb**	**06 48 47.0**	**-0.4**
MAPS	**Pakushin South**	**2.40**	**38**		**Pn**	**06 48 54.9**	**+0.5**
MGOD	**Makushin Gods**	**2.41**	**39**		**Pn**	**06 48 55.2**	**+0.6**
MGOD					**Sn**	**06 49 24.5**	**+0.6**
MREP	**Makushin Rep't**	**2.47**	**40**		**Pn**	**06 48 56.3**	**+0.8**
UNV	**Unalaska Valle**	**2.60**	**42**		**Pn**	**06 48 58.2**	**+1.1**
UNV					**Sn**	**06 49 28.5**	**+0.1**
UNV	comp=N,512nm,0.6s			IAML		06 49 44.4	
UNV	**Unalaska Valle** baz=222	**2.60**	**42**	P	**Pn**	**06 48 57.4**	**+0.3**
MTBL	**Makushin Table**	**2.62**	**39**		**Pn**	**06 48 58.8**	**+1.3**
ATKA	**Atka Island**	**2.94**	**277**		**Pn**	**06 49 02.3**	**+0.4**
LVA	**Lava Point**	**3.02**	**42**	Pn	**Pn**	**06 49 01.8**	**-1.1**
LVA	comp=E,619nm,1.0s			IAML		06 50 07.6	
AKUT	**Akutan**	**3.11**	**44**	Pn	**Pn**	**06 49 03.4**	**-0.7**
AKUT	comp=E,278nm,0.9s			IAML		06 50 01.3	
GSIG	**Igitkin Island**	**4.01**	**273**		**Pn**	**06 49 17.2**	**+0.6**
GSMY	**Great Sitkin M**	**4.09**	**274**		**Pn**	**06 49 18.7**	**+1.0**
GSTR	**Great Sitkin T**	**4.09**	**275**		**Pn**	**06 49 16.7**	**-1.0**
GSTR	comp=E,306nm,0.8s			IAML		06 50 27.8	
GSTD	**Great Sitkin T**	**4.14**	**274**		**Pn**	**06 49 19.2**	**+0.8**
ETKA	**Kagalaska Isla**	**4.32**	**271**		**Pn**	**06 49 21.2**	**+0.4**
ADAG	**Mount Adagdak**	**4.43**	**273**		**Pn**	**06 49 23.8**	**+1.5**
ADK	**Adak**	**4.49**	**272**		**Pn**	**06 49 23.4**	**+0.4**
ADK	comp=E,122nm,0.7s			IAML		06 50 39.5	
ADK	comp=E,159nm,1.0s			IAML		06 50 45.9	
FALS	**False Pass**	**4.63**	**49**	Pn	**Pn**	**06 49 23.4**	**-1.6**
FALS	**False Pass** baz=232	**4.63**	**49**	P	**Pn**	**06 49 24.6**	**-0.4**
P08K	**Saint George I**	**4.66**	**359**	Pn	**Pn**	**06 49 25.1**	**-0.3**
P08K	comp=N,98nm,1.1s			IAML		06 50 30.8	
P08K	**Saint George I** baz=179	**4.66**	**359**	P	**Pn**	**06 49 26.4**	**+1.0**
KIWB	**Kanaga Island**	**4.78**	**272**		**Pn**	**06 49 26.7**	**-0.3**
KIWB	comp=E,166nm,1.0s			IAML		06 50 45.3	
KIWB	comp=N,162nm,0.9s			IAML		06 50 48.7	
KIKV	**Kanaga Island**	**4.79**	**272**		**Pn**	**06 49 28.5**	**+1.3**
KIMD	**Kanaga Island**	**4.84**	**271**		**Pn**	**06 49 28.8**	**+1.0**
TAPA	**Tanaga Point A**	**5.19**	**272**		**Pn**	**06 49 33.8**	**+1.0**
SPIA	**Saint Paul Isl**	**5.25**	**355**		**Pn**	**06 49 35.4**	**+1.8**
SPIA	comp=E,163nm,1.2s			IAML		06 50 46.6	
SPIA	**Saint Paul Isl** baz=175	**5.25**	**355**	P	**Pn**	**06 49 33.3**	**-0.2**
TASE	**Tanaga Southea**	**5.33**	**272**		**Pn**	**06 49 36.1**	**+1.4**
S12K	**Black Hills**	**5.76**	**46**	Pn	**Pn**	**06 49 39.9**	**-0.7**
S12K	**Black Hills**	**5.76**	**46**	P	**Pn**	**06 49 39.9**	**-0.7**
GANE	**Gareloi Northe** baz=231	**5.78**	**272**		**Pn**	**06 49 42.6**	**+1.7**
GALAA	**Gareloi Lava P**	**5.79**	**272**		**Pn**	**06 49 42.3**	**+1.4**
SDPT	**Sand Point**	**6.32**	**54**	Pn	**Pn**	**06 49 50.0**	**+1.7**
SDPT	**Sand Point** baz=240	**6.32**	**54**	P	**Pn**	**06 49 47.7**	**-0.5**
CNBA	**Chernabura Isl**	**6.55**	**60**	Pn	**Pn**	**06 49 52.0**	**+0.6**
CHNA	**Chernabura Isl** baz=247	**6.56**	**60**	P	**Pn**	**06 49 50.4**	**-1.1**
CEPE	**Semis' Peninsu**	**6.75**	**274**		**Pn**	**06 49 55.2**	**+1.1**
CETU	**Semis' Tuman**	**6.84**	**274**		**Pn**	**06 49 57.6**	**+2.2**
AMKA	**Amchitka**	**7.03**	**270**		**Pn**	**06 49 59.1**	**+1.1**
S14K	**Fog Glacier** baz=236	**7.25**	**49**	P	**Pn**	**06 49 59.9**	**-1.2**
LSPA	**Little Sitkin**	**7.41**	**275**		**Pn**	**06 50 04.5**	**+1.3**
LSSE	**Little Sitkin**	**7.41**	**275**		**Pn**	**06 50 05.1**	**+1.9**
LSNW	**Little Sitkin**	**7.44**	**275**		**Pn**	**06 50 05.3**	**+1.6**
CHGN	**Chignik**	**7.80**	**52**	Pn	**Pn**	**06 50 08.6**	**+0.1**
CHGN	**Chignik** baz=240	**7.80**	**52**	P	**Pn**	**06 50 07.2**	**-1.3**
M11K	**Mekoryuk**	**8.64**	**11**	Pn	**Pn**	**06 50 21.0**	**+1.0**
M11K	**Mekoryuk** baz=193	**8.64**	**11**	P	**Pn**	**06 50 19.8**	**-0.2**
O14K	**Tigyukauivet M**	**8.65**	**29**	Pn	**Pn**	**06 50 21.2**	**+1.1**
O14K	**Tigyukauivet M** baz=215	**8.65**	**29**	P	**Pn**	**06 50 19.3**	**-0.8**
R16K	**Pilot Point** baz=235	**8.86**	**46**	P	**Pn**	**06 50 21.2**	**-1.8**
CHIR	**Chirikof Islan**	**9.03**	**59**	Pn	**Pn**	**06 50 24.6**	**-0.8**
CHIR	**Chirikof Islan** baz=249	**9.03**	**59**	P	**Pn**	**06 50 23.9**	**-1.5**
N14K	**Kuskokwak Cree**	**9.09**	**25**	Pn	**Pn**	**06 50 26.6**	**+0.5**
N14K	**Kuskokwak Cree** baz=202	**9.09**	**25**	P	**Pn**	**06 50 25.9**	**-0.2**
M13K	**Dall Lake**	**9.13**	**19**	Pn	**Pn**	**06 50 29.3**	**+2.6**
M13K	**Dall Lake** baz=204	**9.13**	**19**	P	**Pn**	**06 50 26.1**	**-0.5**
P16K	**Nushagak River**	**9.61**	**38**	Pn	**Pn**	**06 50 34.5**	**+1.3**
P16K	**Nushagak River** baz=227	**9.61**	**38**	P	**Pn**	**06 50 31.3**	**-1.9**
M14K	**Bethel**	**9.74**	**22**	Pn	**Pn**	**06 50 36.7**	**+1.7**
M14K	**Bethel** baz=208	**9.74**	**22**	P	**Pn**	**06 50 34.2**	**-0.9**
N15K	**Kwethluk River**	**9.74**	**29**	Pn	**Pn**	**06 50 36.6**	**+1.5**
N15K	**Kwethluk River** baz=216	**9.74**	**29**	P	**Pn**	**06 50 33.7**	**-1.5**
O16K	**Kokwok River B**	**9.96**	**35**	Pn	**Pn**	**06 50 39.0**	**+0.9**
O16K	**Kokwok River B** baz=224	**9.96**	**35**	P	**Pn**	**06 50 37.8**	**-0.3**
Q17K	**Contact Creek** baz=236	**10.00**	**46**	P	**Pn**	**06 50 37.7**	**-1.1**
M15K	**Kasigluk River** baz=212	**10.01**	**26**	P	**Pn**	**06 50 38.6**	**-0.2**
SHEM	**Shemya Is, Ala** comp=E,3.0nm,0.3s,baz=66,slow=4.6,SNR=4.1 comp=E,17nm,0.8s	**10.11**	**281**	Pn	**Pn**	**06 50 39.4**	**-0.7**
SMY	**Shemya**	**10.11**	**281**	Pn	**Pn**	**06 50 41.1**	**+1.0**
L14K	**Kuka Creek** baz=204	**10.11**	**19**	P	**Pn**	**06 50 40.5**	**+0.4**
ACHA	**Angle Creek He**	**10.22**	**47**	Pn	**Pn**	**06 50 43.8**	**+2.0**
R18K	**Karluk** baz=243	**10.31**	**51**	P	**Pn**	**06 50 42.2**	**-0.7**
P17K	**Kvichak River** baz=230	**10.32**	**40**	P	**Pn**	**06 50 42.7**	**-0.3**
K13K	**Kusilvak Mount**	**10.34**	**13**	Pn	**Pn**	**06 50 45.8**	**+2.6**
K13K	**Kusilvak Mount** baz=197	**10.34**	**13**	P	**Pn**	**06 50 43.8**	**+0.5**
N16K	**Nishlik Lake** baz=219	**10.39**	**31**	P	**Pn**	**06 50 43.9**	**-0.1**
O17K	**Koliganek Bris** baz=226	**10.45**	**37**	P	**Pn**	**06 50 44.7**	**0.0**
L15K	**Ungalak Mounta** baz=207	**10.67**	**21**	P	**Pn**	**06 50 48.5**	**+0.7**
OHAK	**Old Harbor**	**10.74**	**54**	Pn	**Pn**	**06 50 48.8**	**0.0**
OHAK	**Old Harbor** baz=247	**10.74**	**54**	P	**Pn**	**06 50 48.3**	**-0.5**
P18K	**Big Mountain,** baz=233	**10.93**	**41**	P	**Pn**	**06 50 51.4**	**0.0**
N17K	**Nushagak Hills** baz=223	**10.95**	**34**	P	**Pn**	**06 50 51.5**	**-0.1**
K15K	**Wolf Creek Mou** baz=206	**11.21**	**19**	P	**Pn**	**06 50 54.5**	**-0.7**
O18K	**Koktuh Hills**	**11.22**	**40**	Pn	**Pn**	**06 50 56.5**	**+1.1**
O18K	**Koktuh Hills** baz=231	**11.22**	**40**	P	**Pn**	**06 50 54.8**	**-0.6**
J14K	**Nanvaranak Lak**	**11.27**	**14**	Pn	**Pn**	**06 50 58.8**	**+2.7**
J14K	**Nanvaranak Lak** baz=199	**11.27**	**14**	P	**Pn**	**06 50 55.3**	**-0.7**
KDAK	**Kodiak Island**	**11.31**	**52**	Pn	**Pn**	**06 50 56.1**	**-0.5**
KDAK	**Kodiak Island** comp=E,0.8nm,0.3s,baz=189,slow=1.1,SNR=19	**11.31**	**52**	Pn	**Pn**	**06 50 55.9**	**-0.8**
KDAK	**Kodiak Island** baz=245	**11.31**	**52**	P	**Pn**	**06 50 55.4**	**-1.3**
Q19K	**Cape Douglas,**	**11.35**	**46**	Pn	**Pn**	**06 50 58.8**	**+1.7**
N18K	**Kilae Creek**	**11.51**	**35**	Pn	**Pn**	**06 51 01.0**	**+1.6**
N18K	**Kilae Creek** baz=226	**11.51**	**35**	P	**Pn**	**06 50 58.7**	**-0.6**
M17K	**Holitna River**	**11.52**	**30**	Pn	**Pn**	**06 51 01.4**	**+2.0**
M17K	**Holitna River** baz=220	**11.52**	**30**	P	**Pn**	**06 50 58.7**	**-0.7**
Q20K	**Shuyak Island** baz=242	**11.76**	**49**	P	**Pn**	**06 51 01.1**	**-1.7**
SYI	**Shuyak Island**	**11.76**	**49**	Pn	**Pn**	**06 51 02.7**	**-0.1**
O19K	**Port Ailsworth** baz=232	**11.78**	**40**	P	**Pn**	**06 51 03.3**	**+0.2**
L17K	**Donlin** baz=215	**11.85**	**26**	P	**Pn**	**06 51 03.8**	**-0.1**
GAMB	**Gambell** baz=173	**11.91**	**355**	P	**Pn**	**06 51 05.7**	**+0.9**
M18K	**Stony River** baz=224	**12.10**	**33**	P	**Pn**	**06 51 06.9**	**-0.5**
N19K	**Bonanza Creek** baz=229	**12.11**	**37**	P	**Pn**	**06 51 07.9**	**+0.3**
J16K	**Anvil River** baz=206	**12.29**	**19**	P	**Pn**	**06 51 10.2**	**+0.3**
K17K	**Iditarod** baz=214	**12.33**	**25**	P	**Pn**	**06 51 10.9**	**+0.4**
L18K	**Granite Mounta** baz=219	**12.38**	**29**	P	**Pn**	**06 51 11.2**	**+0.1**
O20K	**Slope Mountain** baz=236	**12.41**	**42**	P	**Pn**	**06 51 10.8**	**-0.8**
J17K	**VABM Dome**	**12.72**	**22**	Pn	**Pn**	**06 51 18.5**	**+2.7**
J17K	**VABM Dome** baz=210	**12.72**	**22**	P	**Pn**	**06 51 15.6**	**-0.2**
CNPM	**China Poot**	**12.72**	**46**	Pn	**Pn**	**06 51 16.6**	**+0.7**
I17K	**Unalakleet** baz=205	**12.81**	**18**	P	**Pn**	**06 51 15.9**	**-1.2**
ANM	**Nome** baz=191	**12.82**	**8**	P	**Pn**	**06 51 16.5**	**-0.7**
M19K	**Big River Lodg** baz=226	**12.88**	**33**	P	**Pn**	**06 51 16.9**	**-1.2**
L19K	**White Mountain**	**12.92**	**32**	Pn	**Pn**	**06 51 21.0**	**+2.4**
L19K	**White Mountain** baz=240	**12.92**	**32**	P	**Pn**	**06 51 18.2**	**-0.5**
BRLK	**Bradley Lake**	**12.99**	**46**	Pn	**Pn**	**06 51 19.8**	**+0.2**
H16K	**Elim** baz=200	**13.26**	**14**	P	**Pn**	**06 51 22.6**	**-0.5**
M20K	**Styx River**	**13.31**	**35**	Pn	**Pn**	**06 51 24.4**	**+0.5**
M20K	**Styx River** baz=229	**13.31**	**35**	P	**Pn**	**06 51 23.4**	**-0.5**
J18K	**Innoko River**	**13.36**	**25**	Pn	**Pn**	**06 51 25.4**	**+0.9**
J18K	**Innoko River** baz=216	**13.36**	**25**	P	**Pn**	**06 51 23.8**	**-0.7**
G15K	**Niukluk** baz=194	**13.37**	**10**	P	**Pn**	**06 51 24.6**	**-0.1**
CAPN	**Captain Cook N** baz=236	**13.39**	**42**	P	**Pn**	**06 51 24.2**	**-0.8**
L20K	**Farewell, AK** baz=225	**13.45**	**32**	P	**Pn**	**06 51 25.7**	**-0.2**
STLK	**Strandline Lak**	**13.54**	**38**	Pn	**Pn**	**06 51 29.4**	**+2.3**
SLKM	**Skilak Lake**	**13.65**	**44**	Pn	**Pn**	**06 51 29.2**	**+0.6**
F14K	**Arctic Creek** baz=188	**13.65**	**6**	P	**Pn**	**06 51 28.2**	**-0.3**
TNA	**Tin City** baz=184	**13.67**	**3**	P	**Pn**	**06 51 28.6**	**-0.1**
SEW	**Seward**	**13.79**	**46**		**Pn**	**06 51 30.4**	**0.0**
SEW	**Seward** baz=242	**13.79**	**46**	P	**Pn**	**06 51 29.9**	**-0.4**
O22K	**Cooper Landing**	**13.85**	**44**		**Pn**	**06 51 30.2**	**-1.0**
O22K	**Cooper Landing** baz=240	**13.85**	**44**	P	**Pn**	**06 51 30.8**	**-0.4**
H17K	**Granite Mounta** baz=205	**13.91**	**17**	P	**Pn**	**06 51 32.5**	**+0.3**
SUA	**Susitna One**	**13.95**	**40**	Pn	**Pn**	**06 51 33.3**	**+0.6**
SKT	**Skwentna**	**13.95**	**37**	Pn	**Pn**	**06 51 34.8**	**+2.1**
G16K	**Koyuk River** baz=198	**13.96**	**12**	P	**Pn**	**06 51 32.9**	**+0.3**
F15K	**North Star Dit** baz=192	**14.01**	**8**	P	**Pn**	**06 51 33.6**	**+0.2**
K20K	**Telida**	**14.03**	**30**	Pn	**Pn**	**06 51 37.3**	**+3.6**
K20K	**Telida** baz=222	**14.03**	**30**	P	**Pn**	**06 51 33.9**	**+0.2**
J19K	**Poorman**	**14.07**	**26**	Pn	**Pn**	**06 51 36.5**	**+2.2**
J19K	**Poorman** baz=217	**14.07**	**26**	P	**Pn**	**06 51 34.5**	**+0.2**
RC01	**Rabbit Creek A**	**14.15**	**42**	Pn	**Pn**	**06 51 35.1**	**-0.3**
G17K	**Kiwalik Mounta** baz=202	**14.31**	**15**	P	**Pn**	**06 51 36.9**	**-0.6**
PPLA	**Purkeypile** baz=228	**14.31**	**33**	P	**Pn**	**06 51 37.0**	**-0.7**
H18K	**Honhosa River**	**14.40**	**19**	Pn	**Pn**	**06 51 39.1**	**+0.3**
H18K	**Honhosa River** baz=208	**14.40**	**19**	P	**Pn**	**06 51 38.5**	**-0.3**
J20K	**Nowinta River**	**14.62**	**27**	Pn	**Pn**	**06 51 44.3**	**+2.5**
J20K	**Nowinta River** baz=220	**14.62**	**27**	P	**Pn**	**06 51 41.8**	**0.0**
PWL	**Port Wells**	**14.63**	**44**		**Pn**	**06 51 40.6**	**-1.4**
PMR	**Palmer**	**14.67**	**41**	Pn	**Pn**	**06 51 42.4**	**0.0**
P23K	**Montague Islan**	**14.67**	**48**	Pn	**Pn**	**06 51 42.0**	**-0.5**
P23K	**Montague Islan** baz=246	**14.67**	**48**	P	**Pn**	**06 51 41.4**	**-1.1**
CUT	**Chulitna**	**14.68**	**37**	Pn	**Pn**	**06 51 42.4**	**-0.2**
CAST	**Castle Rocks** baz=226,SNR=10	**14.70**	**32**	P	**Pn**	**06 51 42.3**	**-0.6**
GHO	**Glory Hole Cre**	**14.85**	**41**	Pn	**Pn**	**06 51 45.7**	**+0.8**
CHUM	**Lake Minchumin** baz=225	**14.95**	**30**	P	**Pn**	**06 51 45.3**	**-0.9**
G18K	**Tagagawik**	**15.01**	**17**	Pn	**Pn**	**06 51 46.5**	**-0.5**
G18K	comp=Z,9.5nm,1.4s			IAmb	IAmb	06 52 04.8	
G18K	**Tagagawik** baz=206	**15.01**	**17**	P	**Pn**	**06 51 46.3**	**-0.7**
I20K	**Naaghedeneel** baz=218	**15.01**	**25**	P	**Pn**	**06 51 46.0**	**-1.0**
H19K	**Roundabout Mou**	**15.14**	**21**	Pn	**Pn**	**06 51 49.8**	**+1.1**
H19K	comp=Z,9.0nm,1.4s			IAmb	IAmb	06 52 08.0	
H19K	**Roundabout Mou** baz=212	**15.14**	**21**	P	**Pn**	**06 51 47.7**	**-1.0**
KTH	**Kantishna Hill**	**15.18**	**33**	Pn	**Pn**	**06 51 48.9**	**-0.5**
KTH	comp=Z,14nm,1.4s			IAmb	IAmb	06 52 07.0	
GLI	**Glacier Island**	**15.18**	**45**	Pn	**Pn**	**06 51 47.6**	**-1.8**
GLI	comp=Z,5.4nm,0.7s			IAmb	IAmb	06 52 14.2	
HIN	**Hinchinbrook I**	**15.24**	**47**		**Pn**	**06 51 48.3**	**-1.8**
HIN	comp=Z,39nm,1.5s			IAmb	IAmb	06 52 09.2	
TRF	**Thorofare Moun**	**15.32**	**34**	Pn	**Pn**	**06 51 51.6**	**+0.3**
TRF	comp=Z,12nm,1.4s			IAmb	IAmb	06 52 10.7	
TRF	**Thorofare Moun** baz=230	**15.32**	**34**	P	**Pn**	**06 51 49.7**	**-1.6**
FID	**Port Fidalgo**	**15.40**	**46**	Pn	**Pn**	**06 51 49.5**	**-2.7**
FID	comp=Z,6.9nm,0.8s			IAmb	IAmb	06 51 51.6	
BPAW	**Bear Paw Mtn.**	**15.52**	**31**	P	**Pn**	**06 51 56.3**	**+2.4**
BPAW	comp=Z,16nm,1.0s			IAmb	IAmb	06 51 59.1	
BPAW	**Bear Paw Mtn.** baz=227	**15.52**	**31**	P	**Pn**	**06 51 52.3**	**-1.6**
SCM	**Sheep Creek Mo**	**15.53**	**42**		**Pn**	**06 51 53.0**	**-1.0**
SCM	comp=Z,15nm,0.9s			IAmb	IAmb	06 51 58.0	
SCM	**Sheep Creek Mo** baz=240,SNR=9.9	**15.53**	**42**	P	**Pn**	**06 51 52.4**	**-1.5**
E17K	**Hotham Inlet** baz=198	**15.63**	**11**	P	**Pn**	**06 51 54.7**	**-0.5**
EYAK	**Cordova Ski Ar**	**15.65**	**47**	Pn	**Pn**	**06 51 54.1**	**-1.3**
EYAK	comp=Z,11nm,1.2s			IAmb	IAmb	06 52 20.6	
EYAK	**Cordova Ski Ar** baz=247	**15.65**	**47**	P	**Pn**	**06 51 53.8**	**-1.6**
RND	**Reindeer**	**15.80**	**36**	Pn	**Pn**	**06 51 56.5**	**-1.0**
KLU	**Klutina**	**15.96**	**44**		**Pn**	**06 51 58.5**	**-1.1**
KLU	comp=Z,12nm,0.5s			IAmb	IAmb	06 52 00.3	
KLU	**Klutina** baz=243,SNR=12	**15.96**	**44**	P	**Pn**	**06 51 57.5**	**-2.0**
MCK	**McKinley** baz=232	**15.97**	**34**	P	**Pn**	**06 51 58.4**	**-1.3**
I21K	**Tanana**	**15.99**	**27**		**P**	**06 52 02.4**	**-0.9**
I21K	comp=Z,17nm,1.4s			IAmb	IAmb	06 52 05.1	
I21K	**Tanana** baz=222	**15.99**	**27**	P	**Pn**	**06 51 59.9**	**0.0**
F19K	**Shaleruckik Mo** baz=207	**16.01**	**17**	P	**Pn**	**06 52 00.1**	**+0.1**
BWN	**Browne**	**16.07**	**33**	Pn	**Pn**	**06 52 01.2**	**+0.4**
BWN	comp=Z,14nm,0.9s			IAmb	IAmb	06 52 32.3	
RAGM	**Ragged Mountai**	**16.08**	**49**	Pn	**Pn**	**06 52 00.0**	**-1.0**
RAGM	comp=Z,14nm,0.6s			IAmb	IAmb	06 52 17.6	
D17K	**Noatak River** baz=194	**16.10**	**9**	P	**Pn**	**06 52 01.0**	**-0.1**
E18K	**Tukpahlearik C** baz=200	**16.11**	**12**	P	**Pn**	**06 52 00.8**	**-0.6**
H21K	**Melozitna Rive** baz=219	**16.13**	**25**	P	**Pn**	**06 52 03.3**	**+1.6**
M24K	**Tolsona, Glenn**	**16.14**	**42**		**Pn**	**06 52 00.5**	**-1.3**
M24K	comp=Z,15nm,0.6s			IAmb	IAmb	06 52 07.7	
MLY	**Manley** comp=Z,9.8nm,0.6s	**16.25**	**29**	IAmb	IAmb	06 52 08.1	
MLY	**Manley** baz=225	**16.25**	**29**	P	**Pn**	**06 52 02.9**	**-0.2**
HMT	**Hamilton**	**16.26**	**49**		**Pn**	**06 52 02.7**	**-0.5**
HMT	comp=Z,13nm,0.7s			IAmb	IAmb	06 52 15.1	
BMRM	**Bremner River**	**16.33**	**47**		**Pn**	**06 52 03.1**	**-1.1**
BMRM	comp=Z,12nm,0.9s			IAmb	IAmb	06 52 15.2	
BMRM	**Bremner River** baz=247	**16.33**	**47**	P	**Pn**	**06 52 04.1**	**-0.1**
NEA2	**Nenana**	**16.48**	**32**	Pn	**Pn**	**06 52 06.1**	**+0.1**
NEA2	**Nenana** baz=229	**16.48**	**32**	P	**Pn**	**06 52 06.4**	**+0.3**
C16K	**Lisburne Hills** baz=189	**16.49**	**5**	P	**Pn**	**06 52 06.3**	**+0.1**
BERG	**Berg Lake** comp=Z,12nm,0.6s	**16.54**	**49**	IAmb	IAmb	06 52 14.4	
N25K	**Chitina, Valde**	**16.58**	**45**		**Pn**	**06 52 06.6**	**-0.9**
N25K	**Chitina, Valde** baz=245,SNR=6.6	**16.58**	**45**	P	**Pn**	**06 52 06.7**	**-0.9**
F20K	**Avaraart Lake** baz=211	**16.59**	**19**	P	**Pn**	**06 52 07.1**	**-0.4**
G21K	**Allakaket** baz=216	**16.63**	**23**	P	**Pn**	**06 52 07.8**	**-0.2**
BGLC	**Bering Glacier** baz=252	**16.65**	**50**	P	**Pn**	**06 52 07.5**	**-0.6**
E19K	**Redstone River** baz=207	**16.67**	**17**	P	**Pn**	**06 52 08.3**	**-0.

D19K	Kuna River	17.46	14	P		Pn	06 52 16.5	-1.9
	baz=204							
RIDG	Independent Ri	17.48	38	Pn		Pn	06 52 17.5	-1.2
GRNC	Granite Creek	17.56	49	Pn		Pn	06 52 19.1	-0.7
GRNC				IAmb		IAmb	06 52 30.9	
	comp=Z,9.6nm,0.6s							
E20K	Nigu River	17.56	16	P		Pn	06 52 19.0	-0.7
	baz=208							
M26K	Nabesna, AK	17.60	43			Pn	06 52 20.4	+0.1
M26K	Nabesna, AK	17.60	43	P		Pn	06 52 18.4	-1.8
	baz=245,SNR=6.5							
G23K	Bananza Creek	17.67	26			P	06 52 22.8	+0.9
G23K	Bananza Creek	17.67	26	P		Pn	06 52 20.4	-0.7
	baz=222							
H24K	Noodor Dome	17.68	30	Pn		Pn	06 52 20.8	-0.3
H24K	Noodor Dome	17.68	30	P		Pn	06 52 19.3	-1.8
	baz=228							
BARN	Barnard Glacie	17.70	48	Pn		Pn	06 52 19.4	-2.2
L26K	Log Cabin Wild	17.72	41			Pn	06 52 21.3	-0.4
L26K	Log Cabin Wild	17.72	41	P		Pn	06 52 20.3	-1.4
	baz=243,SNR=7.2							
DOT	Dot Lake	17.73	39	Pn		Pn	06 52 20.7	-1.1
J25K	Salcha River,	17.76	35			Pn	06 52 21.1	-1.0
J25K	Salcha River,	17.76	35	P		Pn	06 52 21.0	-1.2
	baz=236,SNR=11							
TABL	Table Mountain	17.76	50			Pn	06 52 22.3	-0.1
TABL				IAmb		IAmb	06 52 37.1	
	comp=Z,14nm,0.8s							
CTG	Chitna Glacier	17.82	49	P		Pn	06 52 20.8	-2.2
	baz=252							
SCRK	Sand Creek	17.93	38			Pn	06 52 23.8	-0.5
SCRK	Sand Creek	17.93	38	P		Pn	06 52 23.2	-1.1
	baz=239							
COLD	Coldfoot	18.01	25	P		Pn	06 52 24.4	-0.8
	baz=221							
M27K	Edge Creek, AK	18.06	44			Pn	06 52 25.1	-0.9
M27K	Edge Creek, AK	18.06	44	P		Pn	06 52 25.7	-0.3
	baz=247							
PINM	Pinnacle	18.10	52	P		Pn	06 52 25.7	-0.8
	baz=256							
E21K	Killik River	18.13	18	P		Pn	06 52 27.0	+0.3
	baz=212							
PRP	Porcupine Dome	18.23	33			Pn	06 52 26.9	-1.1
PRP	Porcupine Dome	18.23	33	P		Pn	06 52 27.9	-0.1
	baz=233							
O28M	Mount Upton	18.30	50	P		Pn	06 52 27.9	-1.2
	baz=254							
J26L	Joseph Creek	18.35	37	P		Pn	06 52 28.6	-0.9
J26L				IAmb		IAmb	06 52 31.1	
	comp=Z,12nm,0.5s							
J26L	Joseph Creek	18.35	37	P		Pn	06 52 28.6	-0.9
	baz=239,SNR=22							
L27K	Beaver Creek,	18.36	42	P		Pn	06 52 28.4	-1.2
G24K	Hadweenzic Riv	18.38	28	P		P	06 52 30.0	+0.3
G24K	Hadweenzic Riv	18.38	28	P		P	06 52 29.1	-0.5
	baz=227							
PNL	Peninsula	18.43	53	P		P	06 52 29.6	-0.7
	baz=258							
YUK3	Moose Creek	18.48	47	P		P	06 52 30.1	-0.9
	baz=251,SNR=7.8							
H25L	Birch Creek	18.60	31	P		P	06 52 30.0	-2.0
	baz=231							
K27K	Chicken	18.69	39	P		P	06 52 31.9	-1.2
	baz=242							
D22K	Ayikyak River	18.76	19	P		P	06 52 33.7	-0.1
	baz=214							
G25K	Bearman Lake	18.83	29	P		P	06 52 34.3	-0.3
	baz=229							
F24K	Squaw Lake	18.83	26	P		P	06 52 34.0	-0.7
	baz=224							
I26K	Coal Creek Min	18.93	35	P		P	06 52 35.8	+0.1
	baz=237							
O29M	Mount Kennedy	18.96	52	P		P	06 52 35.8	-0.5
	baz=257,SNR=11							
E24K	Your Creek	19.08	24	P		P	06 52 37.4	0.0
	baz=222							
YUK4	Talbot Arm	19.18	49	P		P	06 52 38.4	-0.4
	baz=254							
YUK6	Outpost Mounta	19.21	50	P		P	06 52 37.6	-1.5
	baz=256,SNR=7.6							
P29M	Windy Craggy	19.25	54	P		P	06 52 38.3	-1.0
	baz=260,SNR=8.8							
F25K	Christian Rive	19.51	28	P		P	06 52 40.9	-1.3
	baz=228							
M29M	Somme Creek	19.58	46	P		P	06 52 43.2	+0.2
	baz=252,SNR=16							
HYT	Haines Junctio	19.59	51	P		Pn	06 52 45.9	+1.4
	baz=257,SNR=81							
I27K	Kandik River	19.63	35	P		P	06 52 43.1	-0.4
	baz=239							
G26K	Porcupine Rive	19.66	30			P	06 52 43.5	-0.1
G26K				IAmb		IAmb	06 52 45.6	
	comp=Z,12nm,1.5s							
G26K	Porcupine Rive	19.66	30	P		P	06 52 44.1	+0.5
	baz=232							
P30M	Million Dollar	19.72	53	P		P	06 52 45.2	+0.7
	baz=260							
DAWY	Dawson	19.77	41	P		P	06 52 45.7	+0.7
DAWY				IAmb		IAmb	06 52 52.8	
	comp=Z,12nm,1.3s							
DAWY	Dawson	19.77	41	P		P	06 52 45.1	+0.1
	baz=246							
S31K	Pelican	19.84	59	P		P	06 52 45.2	-0.6
	baz=266							
PEA0B	Petropavlovsk-	19.93	286	P		P	06 52 46.0	-0.8
PETK	Petropavlovsk-	19.93	286	P		P	06 52 45.4	-1.4
PETK	Petropavlovsk-	19.93	286	P		P	06 52 46.1	-0.6
	comp=Z,8.1nm,0.3s,baz=84,slow=14,SNR=73							
	comp=Z,24nm,0.5s							
N30M	Aishikik Lake	19.94	49	P		P	06 52 46.9	0.0
	baz=256,SNR=29							
L29M	L29M	19.94	44	P		P	06 52 46.9	0.0
L29M				IAmb		IAmb	06 53 13.4	
	comp=Z,5.0nm,0.7s							
L29M	L29M	19.94	44	P		P	06 52 46.3	-0.6
	baz=250							
C23K	Itkillik River	19.97	19	P		P	06 52 47.0	0.0
	baz=216							
H27K	Steamboat Moun	19.99	34	P		P	06 52 47.3	0.0
H27K	Steamboat Moun	19.99	34	P		P	06 52 46.9	-0.5
	baz=238							
F26K	Sheenjek River	20.01	28	P		P	06 52 46.4	-1.2
	baz=230							
I28M	Miner Creek	20.16	37	P		P	06 52 49.1	-0.3
I28M				IAmb		IAmb	06 52 53.2	
	comp=Z,13nm,1.4s							
I28M	Miner Creek	20.16	37	P		P	06 52 48.6	-0.8
	baz=242,SNR=9.1							
G27K	Doyon Strip	20.26	32	P		P	06 52 50.3	0.0
O30N	Mendenhall	20.26	51	P		P	06 52 49.4	-1.0
	baz=259,SNR=49							
A21K	Barrow	20.27	12	P		P	06 52 49.0	-1.3
	baz=203							
M30M	Minto, Yukon	20.36	46	P		Pn	06 52 53.0	-0.5
M30M	Minto, Yukon	20.36	46	P		P	06 52 50.6	-0.8
	baz=253							
SKAG	Skagway	20.44	55	P		Pn	06 52 53.7	-0.6
SKAG				IAmb		IAmb	06 53 12.3	
	comp=Z,11nm,0.7s							
SKAG	Skagway	20.44	55	P		P	06 52 51.0	-1.3
	baz=263,SNR=7.2							
K29M	Barlow Dome	20.45	42	P		P	06 52 52.3	-0.2
K29M				IAmb		IAmb	06 52 58.6	
	comp=Z,3.8nm,0.6s							
K29M	Barlow Dome	20.45	42	P		P	06 52 51.1	-1.3
	baz=249							
D25K	Kavik River	20.52	23	P		P	06 52 52.5	-0.6
D25K				IAmb		IAmb	06 53 32.9	
	comp=Z,9.9nm,1.1s							
I29M	Ogilvie Camp,	20.73	38	P		P	06 52 54.0	-1.4
I29M				IAmb		IAmb	06 53 01.1	
	comp=Z,7.0nm,1.1s							
WHY	Whitehorse	20.83	52	P		P	06 52 54.9	-1.6
	baz=260,SNR=8.7							
E27K	Coleen River	21.08	29	P		P	06 52 58.2	-0.9
E27K				IAmb		IAmb	06 53 10.1	
	comp=Z,17nm,1.5s							
H29M	Whitestone	21.10	36	P		P	06 52 59.0	-0.3
H29M				IAmb		IAmb	06 53 13.1	
	comp=Z,15nm,0.8s							
H29M	Whitestone	21.10	36	P		P	06 52 59.4	+0.1
	baz=242,SNR=7.8							
J30M	Hart River	21.20	41	P		P	06 53 00.0	-0.5
	baz=249							
P32M	Atlin	21.27	55	P		P	06 53 01.1	-0.2
P32M				IAmb		IAmb	06 53 09.4	
	comp=Z,4.8nm,0.8s							
P32M	Atlin	21.27	55	P		P	06 53 00.2	-1.1
	baz=264							
F28M	Old Crow	21.29	31	P		P	06 53 00.6	-0.8
C26K	Camden Bay	21.31	23	P		P	06 53 01.0	-0.5
	baz=225							
M31M	Drury Creek, Y	21.35	48	P		P	06 53 00.9	-1.2
	baz=257,SNR=6.0							
I30M	Mount Dempster	21.42	39			P	06 53 01.9	-1.0
I30M	Mount Dempster	21.42	39	P		P	06 53 01.9	-1.0
	baz=247							
G29M	Pine Creek	21.55	34	P		P	06 53 03.4	-0.7
G29M				IAmb		IAmb	06 53 22.5	
	comp=Z,21nm,1.0s							
G29M	Pine Creek	21.55	34	P		P	06 53 03.8	-0.4
	baz=241,SNR=6.8							
EPYK	Eagle Plains	21.76	36	P		P	06 53 05.5	-0.9
EPYK				IAmb		IAmb	06 53 17.2	
	comp=Z,13nm,0.9s							
EPYK	Eagle Plains	21.76	36	P		P	06 53 05.7	-0.7
	baz=244							
N32M	Quiet Lake	21.77	51	P		P	06 53 05.6	-1.0
	baz=261							
P33M	Teslin, Yukon	21.79	53	P		P	06 53 05.0	-1.8
	baz=264							
D27M	Malcolm River	21.90	27	P		P	06 53 07.8	-0.2
	baz=232							
E28M	Babbage River	21.94	29	P		P	06 53 08.4	+0.1
	baz=235							
G30M	tAoh Zraii Nji	22.21	35	P		P	06 53 10.3	-1.0
G30M				IAmb		IAmb	06 53 41.2	
	comp=Z,6.5nm,0.8s							
G30M	tAoh Zraii Nji	22.21	35	P		P	06 53 10.5	-0.8
	baz=244							
E29M	Blow River	22.33	31	P		P	06 53 12.2	-0.3
E29M				IAmb		IAmb	06 53 17.5	
	comp=Z,9.1nm,1.1s							
E29M	Blow River	22.33	31	P		P	06 53 11.6	-0.9
	baz=238							
H31M	Peel River	22.43	38			P	06 53 12.4	-1.2
H31M				IAmb		IAmb	06 53 13.5	
	comp=Z,6.6nm,0.9s							
H31M	Peel River	22.43	38	P		P	06 53 12.6	-1.0
	baz=249							
R33M	Jennings River	22.66	56	P		P	06 53 15.2	-1.1
	baz=268,SNR=5.9							
MMPY	Sheldon Lake,	22.86	47	P		P	06 53 17.2	-1.0
	baz=260,SNR=6.5							
SEY	Seymchan	22.92	313	P		P	06 53 17.7	-1.0
	comp=Z,2.9nm,0.5s,baz=81,slow=9.1,SNR=4.6							
	comp=Z,2.9nm,0.5s							
INK	Inuvik	23.72	33	P		P	06 53 26.2	-0.4
INK				IAmb		IAmb	06 53 33.9	
	comp=Z,8.2nm,1.1s							
WTLY	Watson Lake, Y	23.78	54	P		P	06 53 26.1	-1.4
	baz=268,SNR=6.3							
TGTN	Hyland Airport	24.12	51	P		P	06 53 30.9	+0.2
	baz=265,SNR=6.3							
YKA	Yellowknife Ar	30.55	48	P		P	06 54 28.0	-0.1
YKA	Yellowknife Ar	30.55	48	P		P	06 54 28.7	+0.5
	comp=Z,1.7nm,0.7s,baz=284,slow=12,SNR=8.2							
	comp=Z,1.7nm,0.7s							
ASAJ	Asahikawa	32.50	275	P		P	06 54 45.6	0.0
	comp=Z,12nm,0.9s,baz=69,slow=8.5,SNR=5.0							
ASAJ						LR	LR	07 08 22.9
	comp=Z,45nm,20.3s,baz=37,slow=37							
	comp=Z,12nm,0.9s							
ERM	Erimo	33.29	272	P		P	06 54 53.5	+1.1
ERM				IAmb		IAmb	06 55 14.8	
	comp=Z,7.2nm,0.8s							
JTM	Tenmabayashi	35.28	272	P		P	06 55 09.3	-0.4
BPMT	Black Pine Rid	36.22	76	P		P	06 55 17.5	-0.5
RES	Resolute Bay	36.76	25	LR		LR	07 14 27.2	
	comp=Z,51nm,18.5s,baz=42,slow=43							
H11N2	WAKE ISLAND Hy	37.10	219	T		T	07 35 18.2	
	baz=23,slow=76,SNR=5.7							
H11N3	WAKE ISLAND Hy	37.11	219	T		T	07 35 24.9	
	baz=23,slow=76,SNR=7.4							
H11N1	WAKE ISLAND Hy	37.12	219	T		T	07 35 21.3	
	baz=23,slow=76,SNR=6.2							
NVAR	Mina Array Bea	37.70	90	P		P	06 55 32.9	+2.2
	comp=Z,0.1nm,0.3s,baz=311,slow=6.2,SNR=1.9							
H11S1	WAKE ISLAND Hy	38.29	218	T		T	07 36 50.9	
	baz=23,slow=76,SNR=119							
H11S2	WAKE ISLAND Hy	38.30	218	T		T	07 36 55.1	
	baz=23,slow=76,SNR=67							
H11S3	WAKE ISLAND Hy	38.31	218	T		T	07 36 53.6	
	baz=23,slow=76,SNR=70							
BLKN	Baker Lake	38.38	42	P		P	06 55 36.3	+0.5
USA0B	Ussuriysk Arra	38.94	282	P		P	06 55 38.7	-2.1
USA0B				IAmb		IAmb	06 56 05.7	
	comp=Z,5.2nm,0.7s							
FFC	Flin Flon	38.97	58	P		P	06 55 39.3	-1.6
FFC				IAmb		IAmb	06 55 42.6	
	comp=Z,6.8nm,1.1s							
FURC	Furnace Creek,	39.83	92	P		P	06 55 47.1	-1.1
FURC				IAmb		IAmb	06 56 21.1	
	comp=Z,6.0nm,1.0s							
TPNV	Topopah Spring	39.90	91	P		P	06 55 47.9	-1.2
PD31	Pinedale Array	40.53	79	P		P	06 55 53.7	-0.6
PDAR	Pinedale Array	40.53	79	P		P	06 55 53.2	-1.1
PDAR	Pinedale Array	40.53	79	P		P	06 55 55.8	+1.5
	comp=Z,0.5nm,0.6s,baz=298,slow=3.4,SNR=7.1							
	comp=Z,0.5nm,0.6s							
SHOC	Shoshone, Teco	40.55	92	P		P	06 55 53.8	-0.5
SHOC				IAmb		IAmb	06 56 26.8	
	comp=Z,6.6nm,0.5s							
U15A	North Rim	42.68	88	P		P	06 56 10.2	-1.8
O20A	White River Ci	42.87	81	P		P	06 56 12.2	-1.2
O20A				IAmb		IAmb	06 56 30.2	
	comp=Z,7.7nm,1.2s							
RSSD	Black Hills	43.07	74	P		P	06 56 14.6	-0.5
RSSD				IAmb		IAmb	06 56 29.3	
	comp=Z,3.4nm,1.2s							
PV10	Paradox Valley	43.46	84	P		P	06 56 19.0	+0.7
PV10				IAmb		IAmb	06 56 36.1	
	comp=Z,6.3nm,1.0s							
PV19	Morning Glory	43.53	84	P		P	06 56 17.3	-1.6
PV19				IAmb		IAmb	06 56 36.0	
	comp=Z,4.2nm,0.9s							
KSRS	Korea Array	45.41	277	P		P	06 56 33.6	+0.1
	comp=Z,3.6nm,0.6s,baz=52,slow=7.8,SNR=22							
KSRS						LR	LR	07 13 24.2
	comp=Z,11μm,21.0s,baz=100,slow=33							
	comp=Z,3.6nm,0.6s							
EPLO	Experimental L	45.86	61	P		P	06 56 37.1	0.0
EPLO				IAmb		IAmb	06 56 50.2	
	comp=Z,4.1nm,0.8s							
ECSD	EROS Data Cent	47.66	70	P		P	06 56 51.6	+0.4
ECSD				IAmb		IAmb	06 57 18.2	
	comp=Z,6.5nm,1.4s							
121A	Cookes Peak, D	48.04	89	P		P	06 56 51.3	-3.1
121A				IAmb		IAmb	06 57 14.2	
	comp=Z,2.5nm,0.9s							
EYMN	Ely	48.06	62	P		P	06 56 51.3	-3.0
EYMN				IAmb		IAmb	06 56 56.1	
	comp=Z,4.3nm,0.9s							
SPITS	Spitsbergen Ar	50.08	358	P		P	06 57 08.9	-0.4
	comp=Z,1.3nm,0.4s,baz=55,slow=6.2,SNR=9.8							
	comp=Z,1.3nm,0.4s							
DAG	Danmarks Havn	50.21	8	*i* P		P	06 57 09.7	-0.5
DAG				IAmb		IAmb	06 57 10.4	
	comp=Z,11nm,0.5s							
COWI	Conover	50.45	63	P		P	06 57 12.9	+0.3
COWI				IAmb		IAmb	06 57 26.6	
	comp=Z,3.5nm,0.9s							
ILULI	Ilulissat	51.03	24	*i* P		P	06 57 13.5	-3.0
ILULI				IAmb		IAmb	06 57 17.2	
	comp=Z,6.7nm,0.7s							
SUMG	Summit	51.19	17	P		P	06 57 18.4	+0.3
SUMG	Summit	51.19	17	*i* P		P	06 57 18.5	+0.3
SUMG				IAmb		IAmb	06 57 20.9	
	comp=Z,9.0nm,0.8s							
SONM	Songino Array	51.48	301	P		P	06 57 19.8	-0.6
	comp=Z,1.3nm,0.8s,baz=62,slow=6.9,SNR=5.1							
	comp=Z,1.3nm,0.8s							
DBG	Daneborg	52.33	10	*i* P		P	06 57 25.6	-0.5
DBG				IAmb		IAmb	06 57 26.1	
	comp=Z,12nm,0.5s							
TX31	Lajitas Ar. Si	52.80	89	P		P	06 57 31.5	+1.1
TX31				IAmb		IAmb	06 57 44.1	
	comp=Z,3.1nm,0.9s							
TXAR	Lajitas Array	52.80	89	P		P	06 57 32.1	+1.7
TXAR	Lajitas Array	52.80	89	P		P	06 57 32.0	+1.6
	comp=Z,0.9nm,0.6s,baz=300,slow=5.7,SNR=22							
	comp=Z,0.9nm,0.6s							
E46A	Sault Ste Mari	52.91	60	P		P	06 57 31.9	+1.0
E46A				IAmb		IAmb	06 57 44.0	
	comp=Z,4.5nm,0.8s							
KUQ	Kuujjuuaa	52.92	41	P		P	06 57 31.8	+1.0
R40A	Maddies Statio	53.64	72	P		P	06 57 37.1	+0.8
R40A				IAmb		IAmb	06 57 42.8	
	comp=Z,2.4nm,0.8s							
BRDY	Brady	54.32	83	P		P	06 57 41.7	+0.2
BRDY				IAmb		IAmb	06 57 57.6	
	comp=Z,1.9nm,0.9s							
SCO	Scoresbysund	55.64	13	P		P	06 57 50.4	+0.1
SCHQ	Schefferville	55.77	43	P		P	06 57 52.2	+0.6
	comp=Z,3.3nm,0.8s,baz=326,slow=6.3,SNR=3.9							
	comp=Z,3.3nm,0.8s							
BUKO	Buck Lake	56.11	58	P		P	06 57 54.4	+0.2
BUKO				IAmb		IAmb	06 58 16.9	
	comp=Z,5.8nm,1.2s							
WLAR	White Oak Lake	56.25	77	P		P	06 57 55.1	-0.1
O48B	Farmland	56.44	66	P		P	06 57 56.2	-0.4
O48B				IAmb		IAmb	06 58 08.8	
	comp=Z,6.6nm,1.0s							
DELO	Deloro Mine	57.67	58	P		P	06 58 04.2	-1.0
DELO				IAmb		IAmb	06 58 25.7	
	comp=Z,4.9nm,1.1s							
ZALV	Zalesovo Beam	57.70	318	P		P	06 58 04.2	-1.1
	comp=Z,1.0nm,0.4s,baz=56,slow=4.5,SNR=3.8							
ZALV				PcP		PcP	06 58 59.0	+1.0
	comp=Z,1.5nm,0.6s,baz=29,slow=3.4,SNR=4.5							
	comp=Z,1.0nm,0.4s							
IVI	Ivigtut	57.87	29	P		P	06 58 07.3	+1.0
ARCES	ARCESS Array B	58.33	354	P		P	06 58 09.5	0.0
ARCES	ARCESS Array B	58.33	354	P		P	06 58 08.6	-0.9
	comp=Z,4.0nm,0.9s,baz=18,slow=6.5,SNR=15							
	comp=Z,4.0nm,0.9s							
LDAQ	Lac Daran	58.51	51	P		P	06 58 11.8	+0.6
LDAQ				IAmb		IAmb	06 58 41.7	
	comp=Z,6.3nm,1.1s							
WBO	Williamsburg	58.55	56	P		P	06 58 12.6	+1.3
WBO				IAmb		IAmb	06 58 33.0	
	comp=Z,8.1nm,1.3s							
SSLB	Suanglung	59.16	270	P		P	06 58 16.4	+0.5
LONY	Lake Ozonia	59.17	56	P		P	06 58 16.2	+0.4
LONY				IAmb		IAmb	06 58 50.5	
	comp=Z,4.5nm,0.9s							
L56A	Greenwood	59.34	60	P		P	06 58 16.9	-0.1
FRNY	Flat Rock	59.53	55	P		P	06 58 18.4	+0.2
FRNY				IAmb		IAmb	06 58 25.1	
	comp=Z,4.7nm,1.2s							
J59A	Piesco	60.02	57	P		P	06 58 21.7	+0.1
J59A				IAmb		IAmb	06 58 33.2	
	comp=Z,3.2nm,1.0s							
M57A	Sunshine Farm,	60.13	60	P		P	06 58 23.4	+1.0
SSPA	Standing Stone	60.21	61	P		P	06 58 24.0	+1.1
SSPA				IAmb		IAmb	06 58 24.2	
	comp=Z,6.4nm,1.1s							
E62A	Clayton Lake	60.29	51	P		P	06 58 23.6	+0.3
L59A	Walton	60.64	58	P		P	06 58 26.5	+0.6
H62A	Milan	60.94	54	P		P	06 58 28.2	+0.4
BORG	Borgarnes	61.04	15	P		P	06 58 28.6	+0.5
BATG	Bathurst New B	61.46	49	P		P	06 58 32.5	+1.2
KURK	Kurchatov	62.65	318	P		P	06 58 39.2	0.0
KURBB	Kurchatov Arra	62.76	318	P		P	06 58 39.6	-0.3
	comp=Z,4.2nm,0.7s,baz=44,slow=7.0,SNR=38							
	comp=Z,4.2nm,0.7s							
LMN	Caledonia Moun	63.09	49	P		P	06 58 43.1	+0.8
BVAR	Borovoye Array	64.01	324	P		P	06 58 48.0	-0.2
	comp=Z,1.1nm,0.5s,baz=51,slow=6.8,SNR=49							
	comp=Z,11nm,0.5s							
BRVK	Borovoye	64.03	325	P		P	06 58 48.5	+0.2
MKAR	Makanchi Array	64.06	313	P		P	06 58 47.8	-0.9
	comp=Z,0.6nm,0.3s,baz=42,slow=6.7,SNR=17							
	comp=Z,0.6nm,0.3s							
MAKZ	Makanchi	64.19	314	P		P	06 58 48.6	-0.9
MAKZ				IAmb		IAmb	06 59 17.2	
	comp=Z,1.6nm,0.6s							
ARTI	Arti	65.05	333	P		P	06 58 54.7	-0.3
ARTI	Arti	65.05	333	P		P	06 58 54.0	-0.9
	comp=Z,5.8nm,0.8s,baz=60,slow=2.5,SNR=6.8							
	comp=Z,5.8nm,0.8s							
KIRV	Kirov	65.37	339	P		P	06 58 56.0	-1.0
	comp=Z,11nm,0.5s,baz=185,slow=3.7,SNR=3.5							
KIRV						LR	LR	07 29 17.3
	comp=Z,82nm,18.4s,baz=77,slow=38							
	comp=Z,11nm,0.5s							
FIA1	FINESS Array S	66.27	352	P		P	06 59 01.8	-0.9
FINES	FINESS Array B	66.27	352	P		P	06 59 02.5	-0.2
FINES	FINESS Array B	66.27	352	P		P	06 59 02.4	-0.3
	comp=Z,4.9nm,0.6s,baz=14,slow=8.6,SNR=29							
	comp=Z,4.9nm,0.6s							
NC204	NORSAR Array S	67.12	360	P		P	06 59 08.3	+0.1
NB2	NORSAR Subarra	67.35	360	P		P	06 59 09.7	0.0
	comp=Z,1.7nm,0.6s,baz=1.3,slow=6.9							
NOA	NORSAR Array B	67.35	360	P		P	06 59 09.7	0.0
	comp=Z,24nm,0.7s,baz=0.3,slow=6.3,SNR=14							
	comp=Z,2.4nm,0.7s							
NC602	NORSAR Array S	67.66	359	P		P	06 59 12.1	+0.6
NC602				IAmb		IAmb	06 59 25.8	
	comp=Z,5.6nm,1.1s							
HFS	Hagfors	68.23	358	P		P	06 59 14.9	-0.3
	comp=Z,5.0nm,0.5s,baz=27,slow=3.6,SNR=24							
	comp=Z,5.0nm,0.5s							
KDJ	Kajisay	69.98	313	P		P	06 59 26.9	+0.3
AKTO	Aktyubinsk	70.35	330	P		P	06 59 28.1	-0.4
	comp=Z,5.4nm,0.6s,baz=41,slow=5.6,SNR=17							
	comp=Z,5.4nm,0.6s							
AAK	Ala-Archa	70.76	315	P		P	06 59 31.0	-0.3
	comp=Z,4.3nm,0.7s,baz=84,slow=5.3,SNR=4.6							
	comp=Z,4.3nm,0.7s							
ABKAR	Akbulak array	70.76	328	P		P	06 59 30.6	-0.4
KK31	Karatay Array	72.07	318	P		P	06 59 39.0	-0.1
KKAR	Karatay Array	72.07	318	P		P	06 59 39.1	+0.1
EKA	Eskdalemuir Ar

az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**256**	I	I	07 04 10.0	
	baz=76,slow=312,SNR=6.7						
ZALV	**Zalesovo Beam**	**1.43**	**256**	Pg	Pn	06 55 37.3	-1.8
	1.5nm,0.3s,baz=74,slow=17,SNR=13						
ZALV				Lg	Lg	06 55 57.7	
	1.9nm,0.3s,baz=73,slow=24,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.45**	**238**	Pn	Pn	06 56 48.5	+0.5
	0.1nm,0.3s,baz=57,slow=14,SNR=7.8						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.15**	**204**	Pn	Pn	06 57 13.0	+1.6
	0.1nm,0.3s,baz=24,slow=14,SNR=3.1						
	0.1nm,0.3s						

ASRS ***05*** *06:59:54.0±0.9,54.°10N×86.°46E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 06:59:57.2±3.1, 54.°18N×86.°54E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.8km s-min=15.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.04**	**258**	I	I	07 06 42.1	
	baz=78,slow=319,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.04**	**258**	Pg	Pg	07 00 15.5	-1.7
	1.0nm,0.3s,baz=75,slow=16,SNR=10						
ZALV				Lg	Lg	07 00 32.4	
	1.6nm,0.3s,baz=76,slow=27,SNR=9.8						
KURBB	**Kurchatov Arra**	**6.06**	**237**	Pn	Pn	07 01 28.9	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=5.5						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**7.88**	**202**	Pn	Pn	07 01 54.0	+1.1
	0.2nm,0.3s,baz=24,slow=14,SNR=4.2						
	0.2nm,0.3s						

ISU ***05*** *07:01:43,40.°79N×72.°94E,h5km*
SOME ***05*** *07:01:43.6,40.°78N×73.°08E,h20km*
KRNET ***05*** *07:01:43.3±0.1,40.°81N×73.°05E,h14km,mb2.3*
NNC ***05*** *07:01:44.4±3.0,40.°87N×73.°02E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=23.8km s-min=9.9km az=170.0*

ISC 05 07:01:43.2±1.1, 40.°80N±0.°03×73.°08E±0.°02, h8km±12km, n26, σ1s37/43, 20C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.35**	**219**	↑*i*P	**Pg**	**07 01 50.1**	**-0.1**
OHH				↑*i*S	**Sg**	**07 01 54.7**	**-0.1**
TSTA	**Tashata**	**0.51**	**244**	P	**Pg**	**07 01 52.7**	**-0.3**
TSTA				S	**Sg**	**07 01 59.3**	**-0.3**
ARSB	**Arslanbob**	**0.53**	**352**	↓*i*P	**Pg**	**07 01 53.4**	**-0.1**
ARSB				↓*i*S	**Sg**	**07 02 00.5**	**+0.1**
SALK	**Salom-Alik**	**0.57**	**81**	↑*i*P	**Pg**	**07 01 54.6**	**+0.3**
SALK				↑*i*S	**Sg**	**07 02 02.7**	**+0.9**
FRG	**Fergana**	**1.07**	**247**	S	**Sg**	**07 02 17.6**	**-0.1**
TRKS	**Terek-Say**	**1.63**	**297**	↑*i*P	**Pn**	**07 02 12.4**	**0.0**
TRKS				↑*i*S	**Sb**	**07 02 33.4**	**-1.1**
UCH	**Uchtor**	**1.79**	**37**	↓*i*P	**Pb**	**07 02 16.6**	**+0.1**
UCH				↓*i*S	**Sg**	**07 02 40.7**	**-0.1**
EKS2	**Erkin-Say**	**1.93**	**16**	↑*i*P	**Pb**	**07 02 18.8**	**0.0**
EKS2				↑*i*S	**Sg**	**07 02 44.6**	**-0.7**
MRKS	**Merke**	**1.95**	**3**	Pg	**Pb**	**07 02 19.3**	**+0.3**
	4.8nm,0.4s						
MRKS				Lg	Lg	07 02 45.3	
	9.0nm,0.2s						
MRKS	**Merke**	**1.95**	**3**	*e*P	**Pb**	**07 02 19.3**	**+0.3**
	4.8nm,0.4s						
MRKS				*e*S	**Sg**	**07 02 45.3**	**-0.4**
	9.0nm,0.2s						
JNKS	**Jany-Kuch**	**1.97**	**82**	↑*i*P	**Pb**	**07 02 19.7**	**+0.2**
JNKS				↑*i*S	**Sg**	**07 02 46.2**	**-0.3**
AAK	**Ala-Archa**	**2.12**	**30**	↑Pg	**Pg**	**07 02 24.7**	**+0.8**
	1.0nm,0.5s						
AAK				↑Lg	Lg	07 02 50.8	
	1.4nm,0.4s						
AAK	**Ala-Archa**	**2.12**	**30**	↑*i*P	**Pb**	**07 02 21.6**	**-0.4**
AAK				↑*i*S	**Sb**	**07 02 49.4**	**+0.8**
CHMS	**Chumysh**	**2.53**	**29**	↑*i*P	**Pb**	**07 02 27.0**	**-1.9**
CHMS				↑*i*S	**Sb**	**07 02 58.8**	**-1.3**
IUG	**Iuzhnay**	**2.65**	**301**	Pg	**Pb**	**07 02 32.0**	**+1.0**
	5.8nm,0.5s						
IUG				Lg	Lg	07 03 06.9	
	11nm,0.4s						
USP	**Ospenovka**	**2.68**	**23**	↓*i*P	**Pb**	**07 02 29.1**	**-2.4**
USP				↓*i*S	**Sb**	**07 03 02.6**	**-2.0**
ULHL	**Ulahol**	**2.78**	**58**	↑*i*P	**Pb**	**07 02 30.9**	**-2.4**
ULHL				↑*i*S	**Sb**	**07 03 05.5**	**-2.1**
TKM2	**Tokmak 2**	**2.83**	**41**	↓*i*P	**Pn**	**07 02 31.5**	**+2.5**
TKM2				↓*i*S	**Sb**	**07 03 06.7**	**-2.4**
KK31	**Karatay Array**	**2.99**	**321**	↑Pg	**Pb**	**07 02 37.6**	**+0.9**
	0.4nm,0.3s						
KK31				↑Lg	Lg	07 03 16.1	
	1.2nm,0.3s,baz=146,slow=30,SNR=6.0						
KST	**Kastek**	**3.11**	**43**	Pg	**Pb**	**07 02 38.0**	**-0.9**
	0.6nm,0.4s						
KST				Lg	Lg	07 03 17.7	
	1.8nm,0.4s						
KST	**Kastek**	**3.11**	**43**	*e*P	**Pb**	**07 02 38.0**	**-0.9**
	0.6nm,0.4s						
KST				*e*S	**Sb**	**07 03 17.3**	**+0.3**
	1.8nm,0.4s						
DGS	**Degeres**	**3.16**	**39**	Pg	**Pb**	**07 02 41.2**	**+1.5**
	1.1nm,0.4s						
DGS				Lg	Lg	07 03 22.6	
	2.0nm,0.8s						
BRLS	**Boroldav**	**3.29**	**314**	Pg	**Pb**	**07 02 40.8**	**-1.0**
	0.6nm,0.7s						
BRLS				Lg	Lg	07 03 21.9	
	1.8nm,0.4s						
BRLS	**Boroldav**	**3.29**	**314**	*e*P	**Pb**	**07 02 40.8**	**-1.0**
	0.6nm,0.7s						
BRLS				*e*S	**Sb**	**07 03 21.9**	**0.0**
	1.8nm,0.4s						
BTLS	**Baital**	**4.30**	**9**	Pg	**Pb**	**07 03 01.8**	**+2.8**
	0.6nm,0.4s						
BTLS				Lg	Lg	07 03 58.4	
	1.5nm,0.7s						
BTLS	**Baital**	**4.30**	**9**	*e*P	**Pb**	**07 03 01.8**	**+2.8**
	0.6nm,0.4s						
BTLS				*e*S	**Sg**	**07 03 58.4**	**-2.8**
	1.5nm,0.7s						

ASRS ***05*** *07:04:21.0±0.7,54.°18N×87.°06E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 07:04:22.2±3.6, 54.°27N×87.°36E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=33.4km s-min=20.4km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**259**	I	I	07 13 16.1	
	baz=77,slow=315,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.53**	**259**	Pg	Pn	07 04 48.6	-2.1
	0.7nm,0.3s,baz=74,slow=17,SNR=9.6						
ZALV				Lg	Lg	07 05 11.0	
	1.4nm,0.3s,baz=78,slow=27,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.52**	**239**	Pn	Pn	07 06 00.6	+1.3
	baz=56,slow=14,SNR=4.0						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**8.15**	**205**	Pn	Pn	07 06 22.6	+0.9
	0.1nm,0.3s,baz=27,slow=14,SNR=4.7						
	0.3nm,0.5s						

IDC 05 07:07:05.4±4.4, 5.°00S×153.°48E, h0km, mb3.7/3, mbtmp3.8/4, ML2.2/1, MS3.0/1, Error ellipse: s-maj=129.9km s-min=38.2km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.65**	**235**	Pn	Pn	07 08 59.2	+1.0
	1.9nm,0.3s,baz=32,slow=9.5,SNR=1.9						
PMG				Sn	Sn	07 10 17.3	-8.3
	0.7nm,0.3s,baz=149,slow=19,SNR=2.2						
	8.7nm,0.4s						
WRA	**Warramunga Arr**	**23.83**	**230**	P	P	07 12 18.8	-1.6
	3.6nm,0.5s,baz=54,slow=9.7,SNR=4.9						
	3.6nm,0.5s						
ASAR	**Alice Springs**	**26.47**	**224**	P	P	07 12 45.4	+0.9
	0.6nm,0.7s,baz=60,slow=8.9,SNR=9.1						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**28.97**	**201**	LR	LR	07 23 13.0	
	comp=Z,30nm,19.3s,baz=24,slow=33						
MKAR	**Makanchi Array**	**80.92**	**319**	P	P	07 19 21.9	+0.1
	0.1nm,0.5s,baz=101,slow=7.5,SNR=1.6						
	0.1nm,0.5s						

ASRS ***05*** *07:07:24.0±0.7,54.°35N×86.°77E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 07:07:25.2±3.1, 54.°36N×86.°81E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.4km s-min=17.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**252**	I	I	07 15 15.0	
	baz=68,slow=314,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.24**	**252**	Pg	Pg	07 07 47.3	-1.6
	0.9nm,0.3s,baz=69,slow=16,SNR=12						
ZALV				Lg	Lg	07 08 04.9	
	0.8nm,0.3s,baz=74,slow=29,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.29**	**237**	Pn	Pn	07 09 00.7	+1.5
	0.1nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Lg	Lg	07 10 45.7	
	baz=62,slow=34,SNR=5.2						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**8.10**	**203**	Pn	Pn	07 09 24.4	+0.4
	0.1nm,0.3s,baz=25,slow=14,SNR=4.2						
MKAR				Lg	Lg	07 11 44.0	
	0.1nm,0.3s,baz=23,slow=30,SNR=2.5						
	0.1nm,0.3s						

IDC 05 07:07:26.5±1.8, 1.°10S×127.°03E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=176.5km s-min=23.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.05**	**160**	P	P	07 12 02.2	+0.8
	0.1nm,0.3s,baz=338,slow=13,SNR=13						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**23.40**	**164**	P	P	07 12 36.6	-0.7
	0.2nm,0.6s,baz=344,slow=9.6,SNR=5.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**61.70**	**327**	P	P	07 17 46.5	0.0
	0.3nm,0.4s,baz=116,slow=6.8,SNR=4.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**65.96**	**329**	P	P	07 18 14.6	0.0
	0.3nm,0.4s,baz=127,slow=5.7,SNR=4.1						
	0.3nm,0.4s						

ASRS ***05*** *07:20:16.0±1.8,49.°63N×81.°67E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
NNC ***05*** *07:20:22.8±1.0,49.°64N×81.°44E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=16.4km s-min=4.6km az=52.0, Suspected Mining explosion.*

ISC 05 07:20:16.9±1.8, 50.°2N±0.°1×81.°94E±0.°10, h0km, n9, σ0s92/11, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.20**	**286**	↑Pn	**Pg**	**07 20 58.5**	**-0.5**
	31nm,0.8s						
KURK				↓Sn	**Sg**	**07 21 27.9**	**+0.4**
	35nm,0.6s						
KURBB	**Kurchatov Arra**	**2.23**	**284**	↓Pn	**Pb**	**07 20 58.2**	**+0.1**
	27nm,0.7s						
KURBB				↑Sn	**Sg**	**07 21 28.8**	**+0.2**
	86nm,0.6s						
ZSN	**Zaisan**	**3.32**	**143**	Pg	**Pb**	**07 21 16.7**	**0.0**
	3.7nm,0.4s						
ZSN				Lg	Lg	07 21 57.6	
	22nm,0.9s						
MAKZ	**Makanchi**	**3.34**	**180**	↑Pn	**Pn**	**07 21 11.0**	**+0.6**
	2.9nm,1.0s						
MAKZ				Lg	Lg	07 21 53.0	
	12nm,0.8s						
MK31	**Makanchi Array**	**3.37**	**176**	↑Pn	**Pn**	**07 21 10.6**	**-0.1**
	1.0nm,0.3s,baz=357,slow=12,SNR=31						
MK31				Lg	Lg	07 21 53.7	
	11nm,0.6s,baz=357,slow=27,SNR=15						
ARXS	**Arharly**	**6.57**	**207**	Pg	**Pb**	**07 22 11.2**	**-0.7**
	0.6nm,0.3s						
ARXS				Lg	Lg	07 23 30.7	
	2.8nm,0.6s						
KPKS	**Kokpek**	**7.05**	**200**	Pg	**Pb**	**07 22 21.1**	**+0.9**
	0.2nm,0.1s						
KPKS				Lg	Lg	07 23 48.2	
	2.3nm,0.7s						
SHLS	**Shalkode**	**7.20**	**195**	Pg	**Pb**	**07 22 21.2**	**-1.6**
	2.0nm,0.1s						
SHLS				Lg	Lg	07 23 49.1	
	1.3nm,0.3s						
UZB	**Uzynbulak**	**7.29**	**197**	Pg	**Pb**	**07 22 25.7**	**+1.4**
	2.0nm,0.6s						
UZB				Lg	Lg	07 23 56.1	
	2.5nm,0.8s						

DJA 05 07:38:13.5±1.1, 9.°S±2.°×12.°4E±.°, h21km±12km, M4.2/7, mb4.7/1, MLv3.9/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.84**	**162**	P	Pb	07 38 28.6	-0.9
SOEI				S	Sn	07 38 42.5	+0.4
BATI	**Baumata**	**1.29**	**195**	P	Pb	07 38 38.4	+1.3
BATI				S	Sb	07 38 53.2	-0.1
MMRI	**Maumere**	**1.77**	**280**	P	Pb	07 38 44.9	-0.4
MMRI				S	Sn	07 39 05.3	+0.5
EDFI	**Ende, Flores**	**2.29**	**275**	P	Pn	07 38 52.0	+1.8
EDFI				S	Sn	07 39 17.7	-0.1
WSI	**Waingapu**	**3.72**	**259**	P	Pn	07 39 06.9	-2.9

IDC 05 07:40:02.3±7.0, 16.°26S×178.°51W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=306.5km s-min=40.0km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.85**	**258**	P	P	07 48 18.9	+0.1
	0.2nm,0.4s,baz=92,slow=7.7,SNR=6.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.16**	**253**	P	P	07 48 20.9	-0.3
	1.5nm,0.5s,baz=88,slow=8.6,SNR=24						
	1.5nm,0.5s						
ILAR	**Eielson Array**	**84.31**	**13**	P	P	07 52 35.7	0.0
	0.1nm,0.4s,baz=207,slow=4.9,SNR=1.5						
	0.1nm,0.4s						

NEIC ***05*** *07:48:47.9±1.6,11.°65S±0.°07×76.°43W±0.°08,h91km±7km, mb4.5/79, Error ellipse: s-maj=11.7km s-min=10.2km az=123.0*
IDC ***05*** *07:48:48.0±6.4,11.°73S×76.°53W,h100km±65km,mb3.2/5, mbtmp3.8/7, ML3.6/2, MS2.4/1, Error ellipse: s-maj=77.6km s-min=19.9km az=65.0*
VAO ***05*** *07:48:49.9±2.4,11.°45S×76.°18W,h97km±9km, mb4.2*

ISC 05 07:48:46.3±0.5, 11.°64S±0.°05×76.°43W±0.°06, h81km, n133, σ1s11/126, mb4.6/38, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.53**	**230**		**Pn**	**07 49 03.0**	**+2.5**
NNA					**Sn**	**07 49 14.6**	**+3.6**
CZSB	**Cruzeiro do Su**	**5.34**	**44**		**Pn**	**07 50 05.4**	**+1.8**
CZSB					**Sn**	**07 51 05.3**	**+1.4**
CZSB	**Cruzeiro do Su**	**5.34**	**44**	*e*P	**Pn**	**07 50 03.3**	**-0.3**
CZSB	**Cruzeiro do Su**	**5.34**	**44**	P	**Pn**	**07 50 05.5**	**+1.8**
MCRA	**Macar, Loja**	**8.02**	**334**	P	**Pn**	**07 50 38.7**	**-1.6**
	16nm,0.6s						
PB18	**Visviri**	**8.95**	**132**	Pn	**Pn**	**07 50 53.8**	**+0.4**
LPAZ	**La Paz**	**9.28**	**121**		**Pn**	**07 51 00.0**	**+2.1**
LPAZ	**La Paz**	**9.28**	**121**	P	**Pn**	**07 50 59.8**	**+1.8**
	1.3nm,0.3s,baz=292,slow=9.3,SNR=43						
LPAZ				LR	LR	07 54 09.1	
	comp=Z,27nm,21.9s,baz=300,slow=34						
	4.1nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.28**	**121**	*e*P	**Pn**	**07 50 59.8**	**+1.8**
PB16	**IPOC Station P**	**9.43**	**136**		**Pn**	**07 51 00.3**	**+0.3**
COHC	**Cochancay**	**9.54**	**343**		**Pn**	**07 51 00.7**	**-0.2**
COHC	**Cochancay**	**9.54**	**343**	P	**Pn**	**07 51 02.4**	**+1.5**
TBTG	**Tabatinga, AM**	**9.82**	**42**		**Pn**	**07 51 04.7**	**-0.1**
TBTG	**Tabatinga, AM**	**9.82**	**42**	*e*P	**Pn**	**07 51 04.7**	**-0.1**
TBTG	**Tabatinga, AM**	**9.82**	**42**	P	**Pn**	**07 51 04.7**	**-0.1**
	892nm79nm,0.6s						
PB11	**IPOC Station P**	**10.38**	**142**		**Pn**	**07 51 11.8**	**-0.6**
GO01	**Chusmiza**	**10.59**	**140**		**Pn**	**07 51 15.2**	**-0.5**
PIAT	**Ana Tenorio**	**10.73**	**350**	P	Pn	07 51 12.3	-5.2
PPLP	**Puerto Lpez**	**10.92**	**336**	P	**Pn**	**07 51 18.7**	**-1.1**
	31nm,1.0s						
PB08	**IPOC Station P**	**10.97**	**141**	Pn	**Pn**	**07 51 19.8**	**-0.9**
PB02	**IPOC Station P**	**11.48**	**148**	Pn	**Pn**	**07 51 27.0**	**-0.4**
PTLC	**Puerto Leguiza**	**11.85**	**8**	P	Pn	07 51 26.3	-6.0
OTAV	**Otavalo**	**11.97**	**350**	Pn	**Pn**	**07 51 33.2**	**-1.2**
PB03	**IPOC Station P**	**12.16**	**149**	Pn	**Pn**	**07 51 38.1**	**+1.4**
PB09	**IPOC Station P**	**12.22**	**147**	Pn	**Pn**	**07 51 36.0**	**-1.5**
PB05	**IPOC Station P**	**12.63**	**153**	Pn	**Pn**	**07 51 43.5**	**+0.5**
FLOC	**Florencia**	**13.16**	**3**		**Pn**	**07 51 48.7**	**-1.4**
FLOC	**Florencia**	**13.16**	**3**	P	**Pn**	**07 51 48.5**	**-1.6**
	20nm,0.8s						
BBAC	**Balboa, Cauca**	**13.60**	**357**	P	**Pn**	**07 51 56.3**	**+0.3**
	13nm,0.7s						
AF01	**San Pedro de A**	**13.73**	**146**	Pn	**Pn**	**07 51 57.1**	**-0.6**
GARC	**Garzon, Huila**	**13.77**	**4**	P	**Pn**	**07 51 56.7**	**-1.6**
MACC	**Macarena, Meta**	**13.93**	**11**	P	**Pn**	**07 51 58.1**	**-2.1**
	32nm,0.6s						
POPC	**Popayan, Colom**	**14.09**	**359**	P	**Pn**	**07 52 02.1**	**-0.4**
	10.0nm,1.4s						
GO02	**Mina Guanaco**	**14.93**	**155**	Pn	**Pn**	**07 52 12.9**	**-0.4**
PRAC	**Prado**	**15.33**	**6**	P	Pn	07 52 10.5	-7.8
AC01	**Pan de Azucar**	**15.44**	**160**	Pn	**Pn**	**07 52 19.9**	**+0.3**
ORTC	**Ortega, Tolima**	**15.49**	**4**	P	**Pn**	**07 52 20.3**	**0.0**
	23nm,1.1s						
YOTC	**Yotoco, Valle**	**15.52**	**0**	P	**Pn**	**07 52 18.0**	**-2.8**
VILC	**Villavicencio,**	**15.88**	**10**	P	**P**	**07 52 26.1**	**-1.4**
	566nm51nm,0.8s						
CVER	**Cruz Verde, Cu**	**16.23**	**8**	P	**P**	**07 52 32.7**	**+1.1**
BBSD	**Serra de San D**	**16.28**	**112**	*e*P	**Pn**	**07 52 29.8**	**-0.3**
ROSC	**El Rosal**	**16.51**	**7**	Pn	**Pn**	**07 52 31.1**	**-2.2**
ROSC				IAmb	IAmb	07 52 39.2	
	comp=Z,17nm,0.8s						
ROSC	**El Rosal**	**16.51**	**7**	P	**P**	**07 52 36.0**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=121,slow=3.5,SNR=8.9						
	comp=Z,8.6nm,0.5s						
ROSC	**El Rosal**	**16.51**	**7**	P	**P**	**07 52 38.4**	**+3.8**
PTLB	**Pontes e Lacer**	**17.23**	**105**		**Pn**	**07 52 41.9**	**0.0**
PTLB	**Pontes e Lacer**	**17.23**	**105**	*e*P	**P**	**07 52 42.1**	**-0.1**
RUSC	**La Rusia**	**17.73**	**11**		**Pn**	**07 52 50.0**	**+1.5**
RUSC				IAmb	IAmb	07 52 53.0	
	comp=Z,20nm,0.7s						
LCO	**Las Campanas**	**18.09**	**164**	P	**Pn**	**07 52 54.1**	**+1.5**
CO05	**La Serena**	**18.82**	**166**	P	**Pn**	**07 53 00.5**	**-0.5**
CO05				IAmb	IAmb	07 53 07.5	
	comp=Z,12nm,0.7s						
GO04	**Tololo Observa**	**19.17**	**165**	P	**P**	**07 53 04.0**	**+0.3**
GO04				IAmb	IAmb	07 53 45.7	
	comp=Z,15nm,1.1s						
CO01	**Juntas del Tor**	**19.17**	**163**	P	**P**	**07 53 02.7**	**-1.1**
PDRB	**Porto dos Gac**	**19.30**	**92**	*e*P	**Pn**	**07 53 05.9**	**-0.9**
CO06	**Fray Jorge**	**19.45**	**168**	P	**P**	**07 53 04.7**	**-1.9**
CO06				IAmb	IAmb	07 53 14.2	
	comp=Z,20nm,1.2s						
CO03	**El Pedregal**	**19.83**	**165**	P	**P**	**07 53 09.4**	**-1.3**
CO02	**Combarbal**	**20.11**	**166**	P	**P**	**07 53 12.7**	**-1.1**
CO02				IAmb	IAmb	07 53 20.5	
	comp=Z,18nm,1.1s						
CLDB	**Colider**	**20.25**	**90**	*e*P	**P**	**07 53 14.8**	**-0.5**
BOAV	**Boa Vista**	**21.08**	**50**		**P**	**07 53 24.8**	**+0.5**
BOAV				IAmb	IAmb	07 53 26.2	
	comp=Z,19nm,0.9s						
BOAV	**Boa Vista**	**21.08**	**50**	*e*P	**P**	**07 53 23.9**	**-0.4**
SDV	**Santo Domingo**	**21.19**	**16**	P	**P**	**07 53 26.0**	**+0.4**
SDV				IAmb	IAmb	07 53 28.4	
	comp=Z,15nm,0.5s						
BRU2	**Volcan**	**21.23**	**343**	P	**P**	**07 53 26.1**	**+0.1**
BRU2				IAmb	IAmb	07 54 04.7	
	comp=Z,18nm,0.8s						
NPGB	**Novo Progresso**	**21.28**	**79**	*e*P	**P**	**07 53 25.8**	**-0.6**
VA03	**San Esteban**	**21.71**	**167**	P	**P**	**07 53 31.6**	**+0.7**
VA03				IAmb	IAmb	07 53 53.7	
	comp=Z,18nm,1.1s						
H03N1	**Juan Fernandez**	**21.82**	**186**	T	T	08 16 06.3	
	baz=3.7,slow=75,SNR=11						
H03N2	**Juan Fernandez**	**21.82**	**186**	T	T	08 16 07.9	
	baz=3.7,slow=75,SNR=9.7						
H03N3	**Juan Fernandez**	**21.84**	**186**	T	T	08 16 02.4	
	baz=3.7,slow=75,SNR=9.3						
BAUV	**El Baul**	**22.08**	**23**		**P**	**07 53 34.8**	**-0.2**
MT09	**Talagante**	**22.59**	**168**	P	**P**	**07 53 40.6**	**+0.3**
SMRC	**Santa Marta, M**	**22.76**	**6**	P	**P**	**07 53 42.9**	**+0.8**
SMRC				IAmb	IAmb	07 54 12.0	
	comp=Z,25nm,1.1s						
BO01	**Tunca**	**23.17**	**169**	P	**P**	**07 53 46.7**	**+0.7**
CPUP	**Villa Florida**	**23.18**	**132**	P	**P**	**07 53 46.2**	**0.0**
CPUP	**Villa Florida**	**23.18**	**132**	P	**P**	**07 53 46.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=311,slow=11,SNR=5.4						
	comp=Z,0.4nm,0.5s						
PRVC	**Isla de Provid**	**25.33**	**349**	P	**P**	**07 54 04.7**	**-1.1**
MGAN	**Managua**	**25.56**	**337**	P	**P**	**07 54 08.0**	**+0.1**
PLCA	**Paso Flores**	**29.44**	**171**	P	**P**	**07 54 43.9**	**+1.5**
PLCA	**Paso Flores**	**29.44**	**171**	P	**P**	**07 54 41.9**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=346,slow=11,SNR=2.9						
	comp=Z,1.8nm,0.9s						
MTDJ	**Mount Denham**	**29.70**	**358**	P	**P**	**07 54 45.4**	**+0.5**
ILAM	**Ilet Lapin Mar**	**30.43**	**31**	P	**P**	**07 54 51.1**	**-0.2**
CELP	**Cerrillos**	**31.09**	**18**	P	**P**	**07 54 56.3**	**-0.8**
CELP				IAmb	IAmb	07 55 18.2	
	comp=Z,12nm,0.8s						
PDPR	**Patillas Dam,**	**31.21**	**19**	P	**P**	**07 54 57.9**	**-0.3**
LL02	**Futaleuf**	**31.68**	**174**	P	**P**	**07 55 01.7**	**-0.4**
LL02				IAmb	IAmb	07 55 23.1	
	comp=Z,18nm,1.4s						
TEIG	**Tepich**	**33.74**	**340**	P	**P**	**07

Q51A				IAmb	IAmb	07 57 38.4		
	comp=Z,9.8nm,1.4s							
P48A	**Milroy**	**51.52**	**351**	P	**P**	**07 57 42.2**	**-1.7**
P48A				IAmb	IAmb	07 57 44.8		
	comp=Z,3.0nm,0.7s							
Q44A	**Meyer Farm, Va**	**51.63**	**347**	P	**P**	**07 57 43.3**	**-1.4**
SMWD	**Samnorwood**	**51.67**	**335**	P	**P**	**07 57 44.8**	**-0.3**
SMWD				IAmb	IAmb	07 57 45.4		
	comp=Z,4.9nm,0.7s							
R40A	**Maddies Statio**	**51.83**	**344**	P	**P**	**07 57 45.9**	**-0.3**
ACSO	**Alum Creek Sta**	**51.96**	**354**	P	**P**	**07 57 46.0**	**-1.1**
ACSO				IAmb	IAmb	07 57 46.3		
	comp=Z,5.1nm,0.7s							
BLOK	**Blackwell**	**51.97**	**339**	P	**P**	**07 57 47.6**	**+0.4**
BLOK				IAmb	IAmb	07 58 00.1		
	comp=Z,4.7nm,0.6s							
O49A	**Covington**	**52.08**	**352**	P	**P**	**07 57 46.6**	**-1.4**
O49A				IAmb	IAmb	07 58 28.8		
	comp=Z,7.9nm,1.3s							
O48B	**Farmland**	**52.26**	**352**	P	**P**	**07 57 48.1**	**-1.2**
O48B				IAmb	IAmb	07 57 48.4		
	comp=Z,8.0nm,1.0s							
SFIN	**Lafayette**	**52.69**	**350**	P	**P**	**07 57 50.7**	**-1.8**
SFIN				IAmb	IAmb	07 58 10.5		
	comp=Z,7.4nm,1.3s							
M57A	**Sunshine Farm,**	**52.71**	**359**	P	**P**	**07 57 52.6**	**-0.1**
M57A				IAmb	IAmb	07 58 33.3		
	comp=Z,9.6nm,1.3s							
P38A	**Dawn**	**53.43**	**344**	P	**P**	**07 57 56.9**	**-1.0**
P38A				IAmb	IAmb	07 57 57.3		
	comp=Z,9.6nm,1.5s							
DELO	**Deloro Mine**	**55.90**	**359**	P	**P**	**07 58 15.7**	**0.0**
DELO				IAmb	IAmb	07 58 22.9		
	comp=Z,11nm,1.4s							
FRNY	**Flat Rock**	**56.27**	**2**	P	**P**	**07 58 18.6**	**+0.3**
FRNY				IAmb	IAmb	07 58 19.1		
	comp=Z,2.9nm,0.7s							
I42A	**Draeger Farm,**	**56.42**	**349**	P	**P**	**07 58 18.3**	**-1.2**
I42A				IAmb	IAmb	07 58 51.4		
	comp=Z,8.7nm,1.2s							
H43A	**Windswept, Lux**	**56.78**	**350**	P	**P**	**07 58 20.6**	**-1.4**
BUKO	**Buck Lake**	**56.88**	**358**	P	**P**	**07 58 21.2**	**-1.4**
BUKO				IAmb	IAmb	07 58 22.0		
	comp=Z,4.6nm,0.9s							
G65A	**Princeton**	**57.14**	**7**	P	**P**	**07 58 25.3**	**+0.8**
E62A	**Clayton Lake**	**58.32**	**6**	P	**P**	**07 58 33.7**	**+0.9**
E62A				IAmb	IAmb	07 58 37.5		
	comp=Z,8.4nm,1.3s							
LDAQ	**Lac Daran**	**59.52**	**4**	P	**P**	**07 58 41.1**	**0.0**
PDAR	**Pinedale Array**	**62.06**	**333**	P	**P**	**07 58 58.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=119,slow=7.5,SNR=7.2 comp=Z,0.3nm,0.4s							
NVAR	**Mina Array Bea**	**63.33**	**324**	P	**P**	**07 59 07.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=133,slow=5.8,SNR=2.9 comp=Z,0.3nm,0.7s							
DBIC	**Dimbokro**	**73.47**	**79**	P	**P**	**08 00 10.5**	**-0.2**
SNAA	**Sanae**	**73.88**	**162**	P	**P**	**08 00 12.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**81.31**	**75**	P	**P**	**08 00 54.7**	**+0.2**
G31M	**Satah River**	**88.78**	**340**	P	**P**	**08 01 30.8**	**+0.2**
H11S2	**WAKE ISLAND Hyl**	**18.91**	**285**	T	T	10 16 36.1		
	baz=95,slow=75,SNR=5.3							
H11S1	**WAKE ISLAND Hyl**	**18.91**	**285**	T	T	10 16 36.5		
	baz=95,slow=75,SNR=6.3							
H11S3	**WAKE ISLAND Hyl**	**18.92**	**285**	T	T	10 16 36.4		
	baz=95,slow=75,SNR=5.3							

*ASRS **05** 08:05:07.0±0.5,53˚.74N×86˚.81E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 08:05:12.1±2.6,53˚.62N×86˚.98E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=23.7km s-min=15.2km az=72.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**285**	I	I	08 13 33.4	
	baz=103,slow=318,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.32**	**285**	Pg	Pg	08 05 36.3	-1.1
	1.3nm,0.3s,baz=107,slow=17,SNR=9.1						
ZALV				Lg	Lg	08 05 54.3	
	2.1nm,0.3s,baz=107,slow=29,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.01**	**243**	Pn	Pn	08 06 43.4	+1.2
	baz=59,slow=12,SNR=2.7						
KURBB				Pg	Pb	08 06 56.4	-1.2
	0.1nm,0.3s,baz=53,slow=19,SNR=5.5						
KURBB				Lg	Lg	08 08 23.2	
	0.1nm,0.3s,baz=40,slow=17,SNR=4.2 0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.47**	**206**	Pn	Pn	08 07 03.2	+1.0
	0.2nm,0.3s,baz=26,slow=14,SNR=6.7						
MKAR				Lg	Lg	08 09 10.3	
	baz=31,slow=32,SNR=1.0 0.2nm,0.3s						

CATAC 05 08:32:54.0±0.3,14˚N±2˚×8˚4W±˚,h0km,M2.9/8,MLv2.9/8, Error ellipse: s-maj=5.2km s-min=3.6km az=1.4, confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIUN	**Universidad Ur**	**0.67**	**234**	P	Pg	08 33 05.1	-1.7
SIUN				S	Sg	08 33 15.4	-0.1
BILN	**Bilwi Airport**	**0.82**	**94**	P	Pg	08 33 08.4	-1.2
BILN				S	Sg	08 33 20.8	+0.6
ESPN	**Las Esperanzas**	**1.91**	**183**	S	Sn	08 33 53.1	+0.7
ESPN	**Las Esperanzas**	**1.91**	**183**	P	Pn	08 33 26.9	-0.8
RCVN	**Varillal2**	**1.99**	**255**	S	Sn	08 33 52.9	-1.9
RCVN	**Varillal2**	**1.99**	**255**	P	Pn	08 33 26.7	-2.3
MATN	**Matagalpa**	**2.04**	**235**	P	Pn	08 33 27.6	-2.0
MATN	**Matagalpa**	**2.04**	**235**	S	Sn	08 33 55.4	-0.3
BOAB	**BOACO BROADBAN**	**2.17**	**221**	S	Sb	08 34 00.8	-0.9
BOAB	**BOACO BROADBAN**	**2.17**	**221**	P	Pn	08 33 30.6	-0.8
ACON	**Acoyapa**	**2.33**	**204**	P	Pn	08 33 33.0	-0.5
ACON	**Acoyapa**	**2.33**	**204**	S	Sb	08 34 04.4	-1.6
YUSH	**Yuscaran**	**2.56**	**267**	S	Sn	08 34 10.0	+1.4
YUSH	**Yuscaran**	**2.56**	**267**	P	Pn	08 33 37.7	+0.9
TGUH	**Tegucigalpa,Un**	**2.97**	**269**	P	Pn	08 33 43.1	+0.7
TGUH				S	Sn	08 34 20.8	+2.0

*SJA **05** 08:40:15.6±0.7,21˚.58S×70˚.57W,h15km±3km,ML3.8, MW3.8*

*GUC **05** 08:40:19.8±0.7,21˚.58S×70˚.42W,h24km±6km,ML3.8*

ISC 05 08:40:17.2±1.4,21˚.58S±0˚.02×70˚.50W±0˚.06,h12km±10km, n30,σ1s24/53,1C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB02	**IPOC Station P**	**0.61**	**65**	⇓*i* P	**Pg**	**08 40 29.9**	**+0.7**
PB02				*i* S	**Sg**	**08 40 37.3**	**0.0**
PB02				IAML		08 40 38.2	
	comp=E,18μm,0.4s						
PB02	**IPOC Station P**	**0.61**	**65**	*e*P	**Pg**	**08 40 29.2**	**0.0**
PB02				IAML		08 40 43.0	
	comp=Z,8μm,0.5s						
PB03	**IPOC Station P**	**0.83**	**124**	⇓*i* P	**Pg**	**08 40 33.7**	**+0.3**
PB03				*i* S	**Sg**	**08 40 43.8**	**-0.6**
PB03	**IPOC Station P**	**0.83**	**124**	*e*P	**Pg**	**08 40 33.0**	**-0.4**
PB03				IAML		08 40 47.4	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	**1.05**	**16**	*e*P	**Pb**	**08 40 36.9**	**-0.5**
TA01				*i* S	**Sb**	**08 40 50.0**	**-1.0**
TA01				IAML		08 40 53.5	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.05**	**16**	*e*P	**Pb**	**08 40 36.2**	**-1.1**
TA01				*e*S	Sb	08 40 36.9	-14
TA01				IAML		08 40 53.4	
	comp=Z,3μm,1.1s						
PB01	**IPOC Station P**	**1.08**	**61**	⇓*i* P	**Pb**	**08 40 37.4**	**-0.5**
PB01				*i* S	**Sb**	**08 40 50.2**	**-1.8**
PB01				IAML		08 40 51.2	
	comp=N,14μm,0.4s						
PB01	**IPOC Station P**	**1.08**	**61**	*e*P	**Pb**	**08 40 37.4**	**-0.5**
PB01				IAML		08 40 54.8	
	comp=Z,2μm,0.2s						
PB09	**IPOC Station P**	**1.19**	**101**	*i* S	**Sb**	**08 40 54.5**	**-0.7**
PB09				IAML		08 40 58.5	
	comp=E,3μm,0.1s						
PB09	**IPOC Station P**	**1.19**	**101**	*e*P	**Pn**	**08 40 39.6**	**-0.2**
PB09				*e*S	**Sb**	**08 40 55.2**	**0.0**
PB09				IAML		08 40 58.9	
	comp=Z,1μm,0.4s						
PB05	**IPOC Station P**	**1.30**	**168**	*e*P	**Pn**	**08 40 41.1**	**-0.2**
PB05				*i* S	**Sb**	**08 40 56.5**	**-1.8**
PB05				IAML		08 41 00.6	
	comp=E,4μm,0.8s						
PB05	**IPOC Station P**	**1.30**	**168**	*e*P	**Pn**	**08 40 40.5**	**-0.8**
PB05				*e*P	**Pn**	**08 40 41.1**	**-0.2**
PB05				*e*S	**Sg**	**08 40 59.9**	**+0.8**
PB05				IAML		08 41 00.4	
	comp=Z,1μm,0.8s						
TA02	**Huaiquique**	**1.34**	**15**	*e*P	**Pn**	**08 40 41.9**	**0.0**
TA02				*i* S	**Sn**	**08 40 58.4**	**-1.2**
TA02				IAML		08 41 01.4	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**1.34**	**15**	*e*P	**Pn**	**08 40 41.1**	**-0.7**
TA02				IAML		08 41 01.4	
	comp=Z,1μm,0.6s						
PB06	**IPOC Station P**	**1.41**	**143**	*e*P	**Pn**	**08 40 42.4**	**-0.5**
PB06				*i* S	**Sn**	**08 41 00.4**	**-1.2**
PB06				IAML		08 41 03.4	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	**1.41**	**143**	*e*P	**Pn**	**08 40 42.4**	**-0.5**
PB06				*e*S	**Sg**	**08 41 03.1**	**+0.4**
PB06				IAML		08 41 06.0	
	comp=Z,1μm,0.4s						
PB08	**IPOC Station P**	**1.90**	**42**	*e*P	**Pn**	**08 40 50.6**	**+0.8**
PB08				*i* S	**Sn**	**08 41 14.5**	**+0.6**
PB08				IAML		08 41 17.9	
	comp=N,1μm,0.4s						
PB08	**IPOC Station P**	**1.90**	**42**	*e*P	**Pn**	**08 40 50.7**	**+0.8**
PB08				*e*S	**Sb**	**08 41 15.3**	**-0.7**
PB08				IAML		08 41 19.9	
	comp=Z,907nm,0.7s						
PB10	**IPOC Station P**	**1.93**	**182**	*e*P	**Pn**	**08 40 49.6**	**-0.2**
PB10	**IPOC Station P**	**1.93**	**182**	*e*P	**Pn**	**08 40 49.2**	**-0.7**
PB10				*e*S	**Sn**	**08 41 15.5**	**+1.4**
PB11	**IPOC Station P**	**1.97**	**24**	⇑*e*P	**Pn**	**08 40 51.1**	**+0.5**
PB11				*i* S	**Sn**	**08 41 15.0**	**-0.3**
PB11				IAML		08 41 21.6	
	comp=N,2μm,0.9s						
PB11	**IPOC Station P**	**1.97**	**24**	*e*P	**Pn**	**08 40 51.4**	**+0.8**
PB11				*e*S	**Sb**	**08 41 18.8**	**+1.0**
PB11				IAML		08 41 20.2	
	comp=Z,597nm,0.5s						
GO01	**Chusmiza**	**2.26**	**33**	*e*P	**Pn**	**08 40 55.8**	**+1.0**
GO01				*i* S	**Sb**	**08 41 25.2**	**-1.1**
GO01	**Chusmiza**	**2.26**	**33**	*e*P	**Pn**	**08 40 56.2**	**+1.4**
GO01				*e*S	**Sb**	**08 41 27.5**	**+1.2**
AF01	**San Pedro de A**	**2.54**	**123**	*e*P	**Pb**	**08 41 02.8**	**-0.2**
PB16	**IPOC Station P**	**3.36**	**16**	*e*P	**Pn**	**08 41 11.1**	**+1.0**
PB16				*i* S	**Sb**	**08 41 58.7**	**+0.6**
PB16				IAML		08 42 05.6	
	comp=N,136nm,0.6s						
PB16	**IPOC Station P**	**3.36**	**16**	*e*P	**Pn**	**08 41 11.3**	**+1.3**
PB16				*e*S	**Sb**	**08 41 57.0**	**-1.1**
PB16				IAML		08 42 04.4	
	comp=Z,184nm,1.6s						
GO02	**Mina Guanaco**	**3.66**	**167**	*e*P	**Pn**	**08 41 15.0**	**+1.0**
GO02				*e*S	**Sn**	**08 42 02.2**	**+4.9**
AC01	**Pan de Azucar**	**4.55**	**181**	*e*P	**Pn**	**08 41 24.6**	**-1.3**
AC01				*e*S	**Sn**	**08 42 15.8**	**-3.0**
AC01				IAML		08 42 44.9	
	comp=Z,72nm,0.6s						
AC02	**Maricunga**	**5.38**	**167**	*e*P	**Pn**	**08 41 39.0**	**+1.2**
AC02				*e*S	**Sb**	**08 42 58.5**	**+2.3**

RSNC 05 08:50:20.5±0.0,4˚N±1˚×7˚6W±˚,h132km±2km,M2.4,ML2.1, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.13**	**139**	P	Pn	08 50 38.3	-0.3
YOTC				S	Sn	08 50 51.5	-0.8
PLMC	**San Jos del P**	**0.83**	**10**	P	Pn	08 50 42.3	+0.1
PLMC				S	Sn	08 50 58.9	+0.2
JAMC	**Jamundi, Valle**	**0.89**	**196**	P	Pn	08 50 42.9	0.0
JAMC				S	Sn	08 51 00.2	+0.3
ORTC	**Ortega, Tolima**	**1.19**	**98**	P	Pn	08 50 45.3	-0.2
ORTC				S	Sn	08 51 03.8	-0.7
POPC	**Popayan, Colom**	**1.55**	**189**	P	Pn	08 50 49.3	-0.3
POPC				S	Sn	08 51 10.7	-1.0
GUY2C	**Guyana, Caldas**	**1.56**	**43**	S	Sn	08 51 11.5	-0.7
PRAC	**Prado**	**1.58**	**103**	P	Pn	08 50 50.0	+0.3
PRAC				S	Sn	08 51 12.0	0.0
CBOC	**Ciudad Bolivar**	**1.82**	**13**	P	Pn	08 50 52.2	-0.4
CBOC				S	Sn	08 51 16.2	-1.0
GR1C	**Gorgona, Isla**	**2.04**	**238**	P	Pn	08 50 54.0	-1.8
GR1C				S	Sn	08 51 19.7	-1.8
GARC	**Garzon, Huila**	**2.10**	**154**	P	Pn	08 50 56.1	0.0
GARC				S	Sn	08 51 22.5	-0.8
BBAC	**Balboa, Cauca**	**2.20**	**202**	P	Pn	08 50 57.5	+0.2
BBAC				S	Sn	08 51 25.3	-0.2
CVER	**Cruz Verde, Cu**	**2.39**	**79**	P	Pn	08 50 59.4	-0.5
CVER				S	Sn	08 51 28.8	-1.2
FLOC	**Florencia**	**2.60**	**163**	P	Pn	08 51 02.5	+0.4
FLOC				S	Sn	08 51 33.3	-0.8
MACC	**Macarena, Meta**	**3.22**	**127**	S	Sn	08 51 47.1	-1.2

*NEIC **05** 09:01:00.7,18˚.37S×174˚.36W,h20km*

*ISC-PP **05** 09:01:00,18˚.38S×174˚.37W,h21km,Mwppsm5.8, Moment Tensor Solution. s29 Moment tensor: Scale 10^17^Nm; Mrr=0.04±.13; Mθθ-0.52±.16; Mφφ0.56±.16; Mrθ-0.26±.20; Mθφ-0.15±.13; Mφr-0.34±.13; Fault plane solution: Mo6.92000×10^17^ NP1:φs27.00000°,δ78.80000°, λ338.80000°. NP2:φs121.30000°,δ69.20000°, λ-168.00000°.*

*NEIC **05** 09:01:00.7±2.5,18˚.38S±0˚.10×174˚.37W±0˚.07,h10km±1km, mb5.7/65,Ms_20 5.5/618,Mww5.7/37 Error ellipse: s-maj=16.3km s-min=11.8km az=172.0*

*NEIC **05** 09:01:00.7,18˚.37S×174˚.26W,h20km,Moment Tensor Solution. Duration: 3s6 Moment tensor: Scale 10^17^Nm; Mrr4.69; Mθθ-2.32; Mφφ-2.37; Mrθ0.69; Mθφ1.07; Mφr-2.17; Fault plane solution: Mo4.78000×10^17^ NP1: φs311.26000°,δ31.74000°,λ76.39000°. NP2: φs147.15000°,δ59.25000°,λ98.29000°. Principal axes: T 5.3230, Plg74.0000°, Azm79.0000°; N -1.4049, Plg7.0000°, Azm323.0000°; P -3.9181, Plg14.0000°, Azm231.0000°;*

*IDC **05** 09:01:01.9±0.4,18˚.41S×174˚.59W,h0km,mb4.7/21, mbtmp4.7/23,ML3.9/2,MS5.1/60 Error ellipse: s-maj=16.3km s-min=14.2km az=132.0*

*BJI **05** 09:01:05.0,19˚.20S×174˚.80W,h10km,mB6.4/45, mb5.1/49,Ms5.4/68,Ms7 5.1/70*

*MOS **05** 09:01:05.5±1.9,19˚.23S×175˚.12W,h10km,mb5.6/26, MS5.4/18,Error ellipse: s-maj=12.0km s-min=11.9km az=75.5*

*IPGP **05** 09:01:08.0,19˚.35S×174˚.88W,h13km,Mw5.7,Fault plane solution: NP1:φs102.00000°,δ39.00000°,λ78.00000°. NP2:φs297.00000°,δ52.00000°,λ99.00000°.*

*GCMT **05** 09:01:11.7±0.1,18˚.38S×174˚.28W,h12km,MW5.7/161, Moment Tensor Solution. s132,c256; s161,c425; Duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr4.22±.03; Mθθ-2.07±.03; Mφφ-2.15±.03; Mrθ0.32±.08; Mθφ1.31±.02; Mφr-0.10±.08; Best double couple: Mo3.83400×10^17^ NP1:φs318.00000°,δ43.00000°, λ93.00000°. NP2:φs134.00000°,δ47.00000°,λ88.00000°. Principal axes: T 4.2360, Plg87.0000°, Azm7.0000°; N -0.8040, Plg2.0000°, Azm136.0000°; P -3.4320, Plg2.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 05 09:01:04.4±0.4,18˚.87S±0˚.06×174˚.27W±0˚.05,h17km±2km, h17km:pP-P,n1081,σ2s40/744,mb5.4/120,MS5.5/401, 55C-56D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.12**	**94**	Pn	**Pn**	**09 02 05.3**	**-1.4**
NIUE	**Niue**	**4.12**	**94**	P	**Pn**	**09 02 05.1**	**-1.6**
NIUE	**Niue**	**4.12**	**94**	P	**Pn**	**09 02 04.5**	**-2.2**
NIUE	**Niue**	**4.12**	**94**	⇑P	**Pn**	**09 02 06.2**	**-0.5**
AFI	**Afiamalu**	**5.48**	**26**	Pn	Pn	09 02 17.1	-8.4
AFI	**Afiamalu**	**5.48**	**26**	P	Pn	09 02 17.5	-8.0
AFI	**Afiamalu**	**5.48**	**26**	⇑P	Pn	09 02 17.9	-7.7
MSVF	**Nonsavu**	**7.38**	**278**	⇑*e*P	**Pn**	**09 02 51.8**	**+0.2**
MSVF	**Nonsavu**	**7.38**	**278**	⇑P	**Pn**	**09 02 54.7**	**+3.2**
RAR	**Rarotonga**	**13.82**	**102**	Pn	**P**	**09 04 24.0**	**-4.1**
	4.2nm,0.3s,baz=277,slow=8.1,SNR=4.7						
RAR				LR	LR	09 08 37.3	
	comp=Z,7μm,18.4s,baz=268,slow=32 25nm,0.5s						
PINNC	**Pines Island,**	**17.50**	**255**	Pn	**Pn**	**09 05 03.3**	**-4.5**
SANVU	**Saraoutou**	**18.02**	**278**	Pn	**Pn**	**09 05 07.9**	**-6.4**
SANVU				IAmb	IAmb	09 05 19.8	
	comp=E,646nm,1.8s						
DZM	**Mont Dzumac**	**18.34**	**257**		**P**	**09 05 14.1**	**-4.3**
DZM	**Mont Dzumac**	**18.34**	**257**	*e*P	**P**	**09 05 15.2**	**-3.1**
	comp=Z,424nm,1.4s						
DZM				*e*LR	LR	09 09 23.4	
	comp=Z,37μm,26.4s						
DZM	**Mont Dzumac**	**18.34**	**257**	P	**P**	**09 05 15.9**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=7.2						
DZM				LR	LR	09 11 16.4	
	comp=Z,19μm,22.0s,baz=114,slow=34 comp=Z,17nm,1.1s						
DZM	**Mont Dzumac**	**18.34**	**257**	⇑P	**Pn**	**09 05 23.9**	**+5.6**
ONTNC	**Ouen Toro**	**18.36**	**256**		**P**	**09 05 14.1**	**-4.3**
KUZ	**Kuaotunu**	**19.86**	**204**	P	**Pn**	**09 05 43.0**	**+6.6**
HAZ	**Te Kaha**	**20.06**	**199**	P	Pn	09 05 43.4	+4.8
MWZ	**Matawai**	**20.67**	**199**	P	Pn	09 05 52.5	+6.6
URZ	**Urewera**	**20.73**	**199**	P	Pn	09 05 47.9	+1.4
	comp=Z,26nm,1.1s,baz=29,slow=6.6,SNR=7.6						
URZ				LR	LR	09 13 14.2	
	comp=Z,19μm,18.2s,baz=32,slow=35 comp=Z,26nm,1.1s						
URZ	**Urewera**	**20.73**	**199**	P	Pn	09 05 52.9	+6.3
RTZ	**Ruatahuna**	**21.09**	**199**	IAMs_20	IAMs_20	09 13 55.3	
	comp=Z,17μm,18.0s						
BKZ	**Black Stump Fm**	**21.75**	**200**	IAMs_20	IAMs_20	09 13 36.6	
	comp=Z,16μm,19.0s						
MRZ	**Mangatainoka R**	**23.40**	**200**	IAMs_20	IAMs_20	09 14 50.3	
	comp=Z,12μm,18.0s						
MRZ	**Mangatainoka R**	**23.40**	**200**	P	**P**	**09 06 18.5**	**+6.0**
PAE	**Paea**	**23.48**	**91**	*e*P	**P**	**09 06 16.2**	**+2.8**
	comp=Z,82nm,1.5s						
PAE				*e*LR	LR	09 12 01.3	
	comp=Z,2μm,22.8s						
PPT2	**Papeete2**	**23.49**	**91**	*e*P	**P**	**09 06 18.6**	**+4.9**
	comp=Z,173nm,1.5s						
PPT2				*e*S	Sn	09 10 39.2	-7.6
	comp=Z,18μm,25.5s						
PPT2				*e*LR	LR	09 12 00.1	
	comp=Z,13μm,26.5s						
PPT2				*e*LR	LR	09 12 12.3	
	comp=Z,7μm,21.2s						
PPT	**Papeete**	**23.49**	**91**	P	**P**	**09 06 17.0**	**+3.4**
	comp=Z,16nm,0.7s,baz=310,slow=4.4,SNR=4.3						
PPT				LR	LR	09 13 01.4	
	comp=Z,5μm,19.3s,baz=261,slow=30 comp=Z,16nm,0.7s						
PPTF	**Pamatai, Papee**	**23.50**	**91**	P	**P**	**09 06 10.3**	**-3.5**
TBI	**Tubuai**	**23.56**	**105**	*e*P	**P**	**09 06 17.3**	**+3.1**
	comp=Z,241nm,1.2s						
TBI				*e*S	Sn	09 10 38.3	-10
	comp=Z,49μm,26.8s						
TBI				*e*LR	LR	09 12 02.9	
	comp=Z,51μm,28.2s						
TBI				*e*LR	LR	09 12 05.3	
	comp=Z,9μm,26.5s						
TVO	**Taravao**	**23.77**	**91**	*e*P	**P**	**09 06 21.6**	**+5.2**
	comp=Z,127nm,1.6s						
TVO				*e*LR	LR	09 12 09.6	
	comp=Z,3μm,24.3s						
SNZO	**South Karori**	**24.27**	**201**	IAMs_20	IAMs_20	09 15 08.2	
	comp=Z,12μm,19.0s						
QRZ	**Quartz Range**	**24.64**	**205**	IAMs_20	IAMs_20	09 15 27.2	
	comp=Z,13μm,19.0s						
NNZ	**Nelson**	**24.65**	**203**	IAMs_20	IAMs_20	09 15 46.9	
	comp=Z,11μm,19.0s						
THZ	**Tophouse**	**25.30**	**203**	IAMs_20	IAMs_20	09 16 08.1	
	comp=Z,13μm,19.0s						
PMOR	**Pomariorio Ree**	**25.52**	**85**	*e*P	**P**	**09 06 37.4**	**+5.1**
	comp=Z,362nm,1.5s						
PMOR				*e*LR	LR	09 13 02.8	
	comp=Z,14μm,23.3s						
DSZ	**Denniston Nort**	**25.70**	**205**	IAMs_20	IAMs_20	09 16 08.5	
	comp=Z,12μm,19.0s						
VAH	**Vaihoa**	**25.72**	**86**	*e*P	**P**	**09 06 39.7**	**+5.5**
	comp=Z,103nm,1.4s						
VAH				*e*LR	LR	09 13 01.1	
	comp=Z,9μm,24.9s						
GVZ	**Greta Valley S**	**26.31**	**201**	IAMs_20	IAMs_20	09 16 10.1	
	comp=Z,10μm,20.0s						
LTZ	**Lake Taylor**	**26.42**	**203**	IAMs_20	IAMs_20	09 16 09.7	
	comp=Z,15μm,22.0s						
LTZ	**Lake Taylor**	**26.42**	**203**	P	**P**	**09 06 47.1**	**+6.8**
HNR	**Honiara**	**26.67**	**287**	LR	LR	09 15 33.7	
	comp=Z,3μm,20.4s,baz=126,slow=33						
INZ	**Inchbonnie**	**26.68**	**204**	IAMs_20	IAMs_20	09 16 51.4	
	comp=Z,15μm,20.0s						
INZ	**Inchbonnie**	**26.68**	**204**	P	**P**	**09 06 48.4**	**+5.8**
OXZ	**Oxford**	**26.98**	**202**	IAMs_20	IAMs_20	09 17 21.5	
	comp=Z,12μm,18.0s						
RPZ	**Rata Peaks**	**27.67**	**203**	LR	LR	09 17 53.8	
	comp=Z,17μm,19.3s,baz=29,slow=36						
FOZ	**Fox Glacier**	**28.00**	**205**	IAMs_20	IAMs_20	09 19 51.1	
	comp=Z,10μm,18.0s						
LBZ	**Lake Benmore**	**28.57**	**204**	IAMs_20	IAMs_20	09 18 09.5	
	comp=Z,14μm,21.0s						
JCZ	**Jackson Bay**	**28.87**	**206**	P	P	09 07 08.2	+5.9
ODZ	**Otahua Downs**	**28.96**	**202**	IAMs_20	IAMs_20	09 18 34.1	
	comp=Z,11μm,18.0s						
WKZ	**Wanaka**	**29.40**	**205**	IAMs_20	IAMs_20	09 18 50.2	
	comp=Z,9μm,20.0s						
MLZ	**Mavora Lakes**	**30.20**	**205**	IAMs_20	IAMs_20	09 18 21.4	
	comp=Z,10μm,18.0s						
DCZ	**Deep Cove**	**30.67**	**206**	IAMs_20	IAMs_20	09 19 57.7	
	comp=Z,17μm,19.0s						
EIDS	**Eidsvold**	**32.67**	**252**		**P**	**09 07 33.3**	**-2.7**

comp=Z,17nm,1.7s
TOO Toolangi 39.69 233 P **P** **09 08 33.8 -2.1**
TOO pmax pmax
comp=Z,40nm,1.7s
TAU Tasmania Unive 40.25 225 IAMs_20 IAMs_20 09 23 19.9
comp=Z,5µm,20.0s
COEN Coen 41.04 270 P P 09 08 42.4 -4.9
COEN Coen 41.04 270 P **P** **09 08 45.9 -1.4**
comp=Z,55nm,2.2s
STKA Stephens Creek 41.65 243 P **P** **09 08 49.9 -2.3**
STKA Stephens Creek 41.65 243 P **P** **09 08 51.6 -0.6**
comp=Z,187nm,1.6s
STKA Stephens Creek 41.65 243 P **P** **09 08 50.5 -1.7**
comp=Z,22nm,1.1s,baz=95,slow=8.3,SNR=17
STKA LR LR 09 23 38.3
comp=Z,5µm,20.6s,baz=103,slow=33
comp=Z,22nm,1.1s
STKA Stephens Creek 41.65 243 P **P** **09 08 49.9 -2.3**
STKA pmax pmax
comp=Z,393nm,1.5s
H11N3 WAKE ISLAND Hy 42.56 333 T T 09 54 00.8
baz=151,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 42.56 333 T T 09 54 01.0
baz=151,slow=76,SNR=35
H11N2 WAKE ISLAND Hy 42.58 333 T T 09 54 05.5
baz=151,slow=76,SNR=29
KIP Kipapa 43.09 22⇓*eP* P 09 09 13.0 +9.1
KIP pmax pmax
comp=Z,142nm,1.5s
QIS Mount Isa 43.34 260 P **P** **09 09 04.1 -2.0**
comp=Z,0.0nmcomp=Z,54nm,1.8s
HTT Hallett 44.09 241 P **P** **09 09 11.6 -0.3**
comp=Z,14nm,1.4s
HTT Hallett 44.09 241 ⇑P **P** **09 09 12.4 +0.4**
BBOO Buckleboo 46.41 242 P **P** **09 09 28.1 -2.3**
BBOO IAmb IAmb 09 09 39.7
comp=Z,75nm,1.2s
BBOO Buckleboo 46.41 242 P **P** **09 09 29.0 -1.4**
comp=Z,57nm,2.0s
MIDW Midway 46.91 356 IAMs_20 IAMs_20 09 24 18.4
comp=Z,5µm,22.0s
JAY Jayapura 46.95 285 LR LR 09 29 12.0
comp=Z,2µm,19.3s,baz=106,slow=36
WR8 Warramunga Arr 48.17 260 P **P** **09 09 41.8 -2.5**
WR8 IAmb IAmb 09 09 52.7
comp=Z,146nm,1.4s
WB0 Warramunga Arr 48.30 260 P **P** **09 09 42.3 -3.0**
WRAB Tennant Creek 48.31 260 P **P** **09 09 42.2 -3.1**
WRAB Tennant Creek 48.31 260 P **P** **09 09 42.3 -3.1**
WRAB pmax pmax
comp=Z,219nm,1.6s
AS31 Alice Springs 48.32 255 P **P** **09 09 43.2 -2.2**
AS31 Alice Springs 48.32 255 P **P** **09 09 44.2 -1.2**
comp=Z,0.0nmcomp=Z,22nm,1.3s
ASAR Alice Springs 48.32 255 P **P** **09 09 43.3 -2.2**
ASAR Alice Springs 48.32 255 P **P** **09 09 43.8 -1.6**
comp=Z,20nm,0.9s,baz=84,slow=8.5,SNR=53
ASAR LR LR 09 28 45.9
comp=Z,3µm,21.7s,baz=96,slow=35
comp=Z,20nm,0.9s
WRA Warramunga Arr 48.32 260 P **P** **09 09 42.6 -2.9**
WRA Warramunga Arr 48.32 260 P **P** **09 09 43.1 -2.4**
comp=Z,22nm,0.9s,baz=95,slow=6.9,SNR=36
WRA LR LR 09 28 37.7
comp=Z,7µm,21.1s,baz=112,slow=34
comp=Z,22nm,0.9s
WRA Warramunga Arr 48.32 260 P **P** **09 09 42.6 -2.9**
WRA pmax pmax
comp=Z,21nm,1.7s
KDU Kakadu 51.46 269 P **P** **09 10 09.7 +0.3**
comp=Z,0.0nmcomp=Z,100nm,1.9s
MTN Manton Dam 52.69 268 P **P** **09 10 14.0 -4.5**
MTN IAmb IAmb 09 10 26.6
comp=Z,105nm,1.4s
MTN Manton Dam 52.69 268 P **P** **09 10 15.9 -2.7**
comp=Z,0.0nmcomp=Z,59nm,1.9s
MTN Manton Dam 52.69 268 ⇓P **P** **09 10 17.8 -0.7**
FORT Forrest 53.16 245 P **P** **09 10 19.4 -2.3**
FORT IAmb IAmb 09 10 30.5
comp=Z,70nm,1.4s
FORT Forrest 53.16 245 P **P** **09 10 19.6 -2.2**
comp=Z,43nm,1.3s
WRKA Warakurna 53.29 252 P **P** **09 10 21.3 -1.6**
comp=Z,0.0nmcomp=Z,39nm,1.1s
KNRA Kununurra 54.30 264 P **P** **09 10 27.6 -2.7**
KNRA Kununurra 54.30 264 P **P** **09 10 28.4 -1.9**
comp=Z,0.0nmcomp=Z,85nm,1.1s
SWI Sorong 56.28 282 P **P** **09 10 45.7 +1.1**
comp=Z,4µmcomp=Z,60nm,1.0s
FITZ Fitzroy Crossi 56.74 260 P **P** **09 10 46.2 -1.7**
FITZ Fitzroy Crossi 56.74 260 LR LR 09 33 57.3
comp=Z,5µm,19.9s,baz=108,slow=35
SBA Scott Base 59.74 185 P **P** **09 11 09.5 +1.6**
SBA IAmb IAmb 09 11 23.5
comp=Z,54nm,1.1s
SBA Scott Base 59.74 185 P **P** **09 11 09.5 +1.6**
SBA pmax pmax
comp=Z,54nm,1.1s
VNDA Vanda 59.86 186 P **P** **09 11 10.7 +2.0**
VNDA IAmb IAmb 09 11 24.0
comp=Z,42nm,1.4s
VNDA Vanda 59.86 186 P **P** **09 11 12.4 +3.7**
comp=Z,7.8nm,1.0s,baz=14,slow=7.0,SNR=12
VNDA LR LR 09 33 04.9
comp=Z,880nm,21.2s,baz=15,slow=32
comp=Z,7.8nm,1.0s
VNDA Vanda 59.86 186 P **P** **09 11 10.7 +2.0**
VNDA pmax pmax
comp=Z,42nm,1.4s
SOEI Soe 59.99 269 P **P** **09 11 08.0 -2.9**
SOEI Soe 59.99 269 P **P** **09 11 10.4 -0.4**
BATI Baumata 60.44 269 LR LR 09 39 01.0
comp=Z,4µm,18.1s,baz=144,slow=38
PSA00 Pilbara Seismi 61.47 255 P **P** **09 11 19.0 -1.6**
PSA00 Pilbara Seismi 61.47 255 P **P** **09 11 17.7 -2.9**
PSA00 IAmb IAmb 09 11 29.3
comp=Z,250nm,1.8s
PSA00 Pilbara Seismi 61.47 255 P **P** **09 11 18.6 -2.1**
comp=Z,80nm,1.6s
MBWA Marble Bar 61.65 256 P **P** **09 11 18.3 -3.5**
MBWA Marble Bar 61.65 256 P **P** **09 11 19.9 -1.9**
comp=Z,58nm,1.6s
MEEK Meekatharra 61.77 249 P **P** **09 11 20.4 -2.2**
comp=Z,24nm,1.7s
KLBR Kellerberrin 61.92 244 P **P** **09 11 22.1 -1.5**
comp=Z,83nm,1.3s
JCJ Chichijima 62.21 316 LR LR 09 34 05.2
comp=Z,1µm,20.0s,baz=112,slow=32
NWAO Narrogin (SRO) 62.23 242 IAMs_20 IAMs_20 09 35 53.8
comp=Z,3µm,20.0s
NWAO Narrogin (SRO) 62.23 242 LR LR 09 37 22.2
comp=Z,3µm,18.1s,baz=96,slow=35
EDFI Ende, Flores 62.72 270 P **P** **09 11 26.6 -2.6**
comp=Z,2µmcomp=Z,50nm,1.3s
MORW Morawa 63.69 246 P **P** **09 11 33.3 -2.1**
DAV Davao City (W) 64.63 288 LR LR 09 40 19.3
comp=Z,717nm,18.3s,baz=122,slow=37
BNSI Bone 65.53 274 P **P** **09 11 47.0 -0.6**
comp=Z,3µmcomp=Z,2µmcomp=Z,38nm,1.2s
KAPI Kappang 65.67 273 P **P** **09 11 44.4 -4.1**
KAPI IAmb IAmb 09 11 57.1
comp=Z,67nm,1.5s
KAPI Kappang 65.67 273 LR LR 09 38 20.2
comp=Z,401nm,21.9s,baz=98,slow=34
KAPI Kappang 65.67 273⇑*eP* **P** **09 11 48.2 -0.3**
KAPI pmax pmax
comp=Z,23nm,1.0s
PLAI Plampang 66.40 268 P **P** **09 11 52.8 -0.4**
comp=Z,4µmcomp=Z,3µmcomp=Z,156nm,1.3s
PCI Palu 66.93 277 P **P** **09 11 57.3 +0.7**
comp=Z,4µmcomp=Z,139nm,1.2s
TWSI Taliwang, Sumb 67.27 268 P **P** **09 11 58.1 -0.7**
comp=Z,3µmcomp=Z,140nm,1.1s
JHJ Hachijo jima 2 67.81 319 LR LR 09 36 54.4
comp=Z,263nm,18.8s,baz=94,slow=32
JAGI Jajag, Banyuwa 69.93 268 P P 09 12 08.9 -6.5
JAGI IAmb IAmb 09 12 22.9
comp=Z,86nm,1.0s
JAGI Jajag, Banyuwa 69.93 268 P **P** **09 12 12.6 -2.8**
comp=Z,78nm,1.0s
ADK Adak 70.48 358 IAMs_20 IAMs_20 09 36 56.5
comp=Z,3µm,20.0s
GMJI Gumukmas 70.66 268 P **P** **09 12 21.2 +1.4**
comp=Z,3µmcomp=Z,89nm,1.3s
ATKA Atka Island 70.77 0 IAMs_20 IAMs_20 09 36 09.3
comp=Z,2µm,21.0s
MJAR Matsushiro Arr 71.07 321 P **P** **09 12 19.8 -2.0**
comp=Z,15nm,1.1s,baz=153,slow=5.9,SNR=12
MJAR LR LR 09 38 38.8
comp=Z,962nm,21.7s,baz=120,slow=32
comp=Z,15nm,1.1s
QSPA South Pole Qui 71.19 180 P **P** **09 12 25.9 +3.6**
comp=Z,30nm,1.0s,baz=37,slow=2.6,SNR=19
QSPA LR LR 09 38 36.3
comp=Z,1µm,21.5s,baz=37,slow=32
comp=Z,30nm,1.0s
NIKH Nikolski High 71.69 3 P **P** **09 12 24.5 -0.7**
baz=186
TGY Tagaytay City 71.73 292 LR LR 09 42 28.7
comp=Z,1µm,19.6s,baz=125,slow=35
JOW Kunigami 71.89 308 LR LR 09 39 23.0
comp=Z,526nm,21.8s,baz=116,slow=32
SHEM Shemya Is, Ala 72.01 353 LR LR 09 36 59.7
comp=Z,4µm,21.9s,baz=126,slow=30
UNV Unalaska Valle 72.72 5 P **P** **09 12 29.5 -1.8**
baz=188
NGJI Ngawi 72.80 268 P **P** **09 12 34.0 +1.3**
comp=Z,125nm,1.4s
PCJI Pacitan 72.83 267 P **P** **09 12 34.8 +1.9**
comp=Z,4µmcomp=Z,146nm,1.7s
WOJI Wonogiri, Jawa 73.17 267 P **P** **09 12 34.9 0.0**
comp=Z,153nm,1.4s
JNU Nakatsue 73.58 314 LR LR 09 41 22.4
comp=Z,346nm,18.2s,baz=118,slow=33
SKR Severo-Kuril's 74.00 341*d iP* **P** **09 12 36.6 -2.3**
SKR *e* 09 12 53.8
SKR pmax pmax
comp=Z,2µm,5.4s
SKR pmax pmax
comp=Z,32nm,0.8s
SKR MLR MLR
comp=Z,1µm,18.0s
FALS False Pass 74.01 7 IAMs_20 IAMs_20 09 40 03.8
comp=Z,2µm,20.0s
FALS False Pass 74.01 7 P **P** **09 12 37.5 -1.4**
baz=191
ASAJ Asahikawa 74.06 329 LR LR 09 38 58.1
comp=Z,762nm,21.7s,baz=152,slow=31
FARB Farallon Islan 74.09 40 IAMs_20 IAMs_20 09 37 31.0
comp=Z,3µm,20.0s
RAMR Ramage Ranch 74.14 43 IAMs_20 IAMs_20 09 36 59.8
comp=Z,3µm,20.0s
HULI Fort Hunter Li 74.14 42 IAMs_20 IAMs_20 09 37 20.8
comp=Z,3µm,20.0s
MCCM Marconi Confer 74.45 40 IAMs_20 IAMs_20 09 38 01.8
comp=Z,3µm,20.0s
CNBA Chernabura Isl 74.46 9 IAMs_20 IAMs_20 09 39 16.2
comp=Z,3µm,20.0s
SAO San Andreas Ge 74.46 42 P P 09 12 36.3 -5.6
SAO IAmb IAmb 09 12 53.8
comp=Z,102nm,1.7s
CHNA Chernabura Isl 74.47 9 P **P** **09 12 40.2 -1.3**
baz=195
BBGB Big Mountain B 74.61 42 P **P** **09 12 38.6 -4.3**
BBGB IAmb IAmb 09 12 55.4
comp=Z,182nm,1.6s
SDPT Sand Point 74.85 8 P **P** **09 12 43.3 -0.4**
baz=194
S12K Black Hills 75.00 7 IAMs_20 IAMs_20 09 39 04.9
comp=Z,2µm,20.0s
S12K Black Hills 75.00 7 P **P** **09 12 42.4 -2.2**
baz=192
PASC Pasadena Art C 75.03 45 IAMs_20 IAMs_20 09 38 09.4
comp=Z,3µm,21.0s
CPE Camp Elliot 75.04 47 IAMs_20 IAMs_20 09 37 14.6
comp=Z,2µm,21.0s
STKI Sintang 75.13 275 P **P** **09 12 46.6 +0.2**
MWC Mount Wilson 75.15 45 P P 09 12 41.2 -5.0
KMPM Mount Pierce 75.19 37 P P 09 12 39.9 -6.3
KMPM IAmb IAmb 09 12 57.0
comp=Z,192nm,1.6s
KPJI Karang Pucung 75.21 267 P **P** **09 12 46.6 -0.2**
comp=Z,3µmcomp=Z,70nm,1.7s
SBUM Sibu 75.23 278 P **P** **09 12 42.6 -4.3**
ELS Elsinore Mount 75.25 46 P P 09 12 41.1 -5.5
RUSS Russell Ranch 75.32 40 IAMs_20 IAMs_20 09 38 28.5
comp=Z,3µm,20.0s
PET Petropavlovsk 75.34 343*eP* **P** **09 12 49.0 +2.4**
PET *eS* **S** **09 22 28.4 +3.1**
PET *ePS* **PnS** **09 23 12.8 +11**
PET pmax pmax
comp=Z,900nm,5.9s
PET pmax pmax
comp=Z,2µm,5.4s
PET MLR MLR
comp=Z,800nm,19.0s
ESJX Sierra Juarez 75.35 48 P P 09 12 41.0 -6.4
LPIG La Paz 75.57 58 LR LR 09 37 31.6
comp=Z,1µm,21.1s,baz=234,slow=29
YULB Yu-li 75.61 301 P P 09 12 42.0 -6.9
YULB IAmb IAmb 09 12 55.9
comp=Z,134nm,1.8s
PEA0B Petropavlovsk- 75.67 343⇓*eP* P 09 12 53.1 +4.5
PETK Petropavlovsk- 75.67 343 P **P** **09 12 45.4 -3.2**
comp=Z,11nm,1.0s,baz=155,slow=5.7,SNR=10
PETK LR LR 09 39 20.6
comp=Z,2µm,21.9s,baz=154,slow=31
comp=Z,11nm,1.0s
NACB Ninganchiao 75.73 302 P P 09 12 43.2 -6.3
SUTB Sutter Butte 75.80 39 IAMs_20 IAMs_20 09 37 18.1
comp=Z,2µm,22.0s
SPIA Saint Paul Isl 75.83 2 P **P** **09 12 48.6 -0.7**
baz=184
BUCR Buckhorn Ranch 75.84 42 IAMs_20 IAMs_20 09 37 52.6
comp=Z,2µm,21.0s
S14K Fog Glacier 75.89 8 P **P** **09 12 48.6 -1.2**
baz=195
PFO Pinyon Flats O 75.89 47 IAMs_20 IAMs_20 09 37 51.5
comp=Z,2µm,21.0s
PFO Pinyon Flats O 75.89 47 LR LR 09 38 02.6
comp=Z,2µm,21.7s,baz=247,slow=29
CHIR Chirikof Islan 76.06 11 P **P** **09 12 49.1 -1.5**
baz=199
CHGN Chignik 76.07 9 P **P** **09 12 49.7 -1.0**
baz=196
YSS Yuzhno-Sakhali 76.09 331 P P 09 12 45.5 -5.6
YSS IAmb IAmb 09 12 59.8
comp=Z,175nm,1.8s
YSS Yuzhno-Sakhali 76.09 331*eP* **P** **09 12 48.5 -2.6**
YSS *eS* **S** **09 22 29.3 -4.6**
YSS *ePS* **PnS** **09 23 13.6 +1.6**
YSS *eSS* **SS** **09 27 28.9 +1.2**
YSS pmax pmax
comp=Z,2µm,5.2s
YSS smax smax
comp=E,1µm,8.4s
YSS MLR MLR
comp=Z,600nm,16.0s
YHNB Yeheng 76.15 302 P P 09 12 44.7 -7.3
YHNB IAmb IAmb 09 13 00.5
comp=Z,169nm,1.5s
ORV Oroville 76.17 39 IAMs_20 IAMs_20 09 37 42.4
comp=Z,3µm,22.0s
WSHM Spangler Hills 76.32 45 IAMs_20 IAMs_20 09 38 39.4
comp=Z,3µm,21.0s
LEM Lembang 76.60 267 LR LR 09 50 17.5
comp=Z,420nm,18.4s,baz=198,slow=39
KSM Kuching 76.70 276 P P 09 12 48.8 -6.5
KSM IAmb IAmb 09 13 04.8
comp=Z,122nm,1.1s
YBH Yreka Blue Hor 76.86 37 LR LR 09 38 48.3
comp=Z,290nm,21.9s,baz=264,slow=30
SII Sitkinak Islan 77.02 11 IAMs_20 IAMs_20 09 39 07.9
comp=Z,3µm,21.0s
SII Sitkinak Islan 77.02 11 P **P** **09 12 55.8 -0.3**
baz=200
R16K Pilot Point 77.41 9 P **P** **09 12 57.6 -0.7**
baz=197
NVAR Mina Array Bea 77.45 42 P **P** **09 12 58.4 -0.9**
comp=Z,2.0nm,0.7s,baz=227,slow=8.6,SNR=14
NVAR LR LR 09 39 32.6
comp=Z,3µm,21.0s,baz=232,slow=30
comp=Z,2.0nm,0.7s
DBJI Dramaga 77.51 267 P **P** **09 12 59.9 0.0**
comp=Z,84nm,1.2s
TULE Intermountain 77.72 37 IAMs_20 IAMs_20 09 39 37.6
comp=Z,3µm,21.0s
TEY Ternei 77.72 327*ceP* **P** **09 13 02.4 +2.1**
TEY pmax pmax
comp=N,100nm,5.5s
TEY pmax pmax
comp=Z,200nm,5.5s
TEY pmax pmax
comp=E,100nm,5.5s
OHAK Old Harbor 77.81 11 P **P** **09 13 00.0 -0.5**
baz=201
TJN Taejon 77.82 315 *i* P P 09 13 06.9 +5.8
TPNV Topopah Spring 77.92 44 ⇓P **P** **09 13 01.4 -0.5**
R18K Karluk 77.92 11 P **P** **09 12 59.9 -1.2**
baz=200
UGL Uglegorsk 77.98 332*eP* **P** **09 13 02.7 +1.1**
UGL *eS* **S** **09 22 56.4 +2.0**
UGL pmax pmax
comp=Z,3µm,5.5s
UGL smax smax
comp=E,1µm,7.2s
UGL smax smax
comp=N,400nm,10.0s
KSRS Korea Array 78.06 317 P **P** **09 13 00.1 -2.2**
comp=N,11nm,1.0s,baz=132,slow=6.0,SNR=23
comp=N,11nm,1.0s
Q17K Contact Creek 78.34 10 P **P** **09 13 02.1 -1.5**
baz=198
COR Corvallis 78.39 35 IAMs_20 IAMs_20 09 39 11.3
comp=Z,3µm,22.0s
KDAK Kodiak Island 78.47 12 IAMs_20 IAMs_20 09 39 52.4
comp=Z,3µm,22.0s
KDAK Kodiak Island 78.47 12 LR LR 09 40 25.7
comp=Z,3µm,22.0s,baz=210,slow=30
KDAK Kodiak Island 78.47 12 P **P** **09 13 03.3 -0.9**
baz=201
QZH Quanzhou 78.51 301 P **P** **09 13 08.0 +2.9**
QZH PP **PP** **09 16 07.1 +4.0**
QZH S **SKSac** **09 23 09.1 -11**
QZH pmax pmax
comp=Z,4µm,6.5s
QZH LR LR
comp=Z,630nm,16.7s
O14K Tigyukauivet M 78.57 7 IAMs_20 IAMs_20 09 42 38.3
comp=Z,2µm,19.0s
O14K Tigyukauivet M 78.57 7 P **P** **09 13 03.2 -1.4**
baz=193
Q16K King Salmon 78.62 9 P **P** **09 13 04.0 -1.0**
baz=198
P16K Nushagak River 78.76 8 IAMs_20 IAMs_20 09 42 10.7
comp=Z,2µm,20.0s
P16K Nushagak River 78.76 8 P **P** **09 13 04.7 -1.0**
baz=196
PRN Pahroc Range 78.97 44 ⇑P **P** **09 13 07.0 -0.6**
TYV Tymovskoe 79.07 334*eP* **P** **09 13 08.4 +0.8**
TYV *eS* **S** **09 23 04.1 -1.9**
TYV pmax pmax
comp=Z,19nm,1.3s
TYV pmax pmax
comp=Z,2µm,4.4s
TYV smax smax
comp=N,400nm,10.1s
TYV smax smax
comp=E,2µm,10.1s
MSHR Mys Shultsa 79.12 322⇓*eP* P 09 13 14.2 +6.1
MSHR pmax pmax
comp=Z,61nm,1.7s
P17K Kvichak River 79.15 9 P **P** **09 13 07.5 -0.4**
baz=198
N14K Kuskokwak Cree 79.18 6 IAMs_20 IAMs_20 09 41 16.4
comp=Z,2µm,20.0s
N14K Kuskokwak Cree 79.18 6 P **P** **09 13 07.8 -0.2**
baz=193
TUC Tucson 79.23 50 IAMs_20 IAMs_20 09 40 04.6
comp=Z,2µm,21.0s
TUC Tucson 79.23 50 ⇓P **P** **09 13 10.0 +0.9**
M11K Mekoryuk 79.25 4 P **P** **09 13 07.9 -0.5**
baz=188
Q20K Shuyak Island 79.28 11 P **P** **09 13 07.8 -0.8**
baz=202
SYI Shuyak Island 79.28 11 IAMs_20 IAMs_20 09 40 07.8
comp=Z,2µm,22.0s
O16K Kokwok River B 79.29 8 IAMs_20 IAMs_20 09 42 47.6
comp=Z,2µm,20.0s
O16K Kokwok River B 79.29 8 P **P** **09 13 07.8 -0.9**
baz=196
Q19K Cape Duglas, 79.35 11 P **P** **09 13 08.4 -0.7**
baz=200
SSE Sheshan 79.40 308 P **P** **09 13 12.4 +2.5**
SSE pP **PcP** **09 13 17.5 -0.5**
SSE PP **PP** **09 16 12.6 +2.2**
SSE S **SKSac** **09 23 15.4 -10**
SSE SS **SS** **09 28 21.3 +3.0**
SSE pmax pmax
comp=Z,9.0nm,0.5s
SSE pmax pmax
comp=Z,710nm,6.5s
M13K Dall Lake 79.50 5 P **P** **09 13 09.1 -0.6**
baz=191
P18K Big Mountain, 79.53 10 IAMs_20 IAMs_20 09 40 40.0
comp=Z,2µm,21.0s
P18K Big Mountain, 79.53 10 P **P** **09 13 09.1 -0.9**
baz=199
N15K Kwethluk River 79.60 7 IAMs_20 IAMs_20 09 42 48.5
comp=Z,3µm,20.0s
N15K Kwethluk River 79.60 7 P **P** **09 13 09.0 -1.4**
baz=194
O17K Koliganek Bris 79.61 9 P **P** **09 13 09.8 -0.5**
baz=197
WVOR Wild Horse Val 79.66 38 ⇑P **P** **09 13 09.6 -1.6**
USRK Ussuriysk Ar. 79.66 324 P **P** **09 13 09.1 -1.9**
comp=Z,1.7nm,0.7s,baz=92,slow=5.9,SNR=6.9
USRK LR LR 09 42 43.2
comp=Z,2µm,20.7s,baz=132,slow=32
comp=Z,1.7nm,0.7s
M14K Bethel 79.96 6 P **P** **09 13 11.6 -0.6**
baz=192
NLWA Neilton Lookou 79.97 32 IAMs_20 IAMs_20 09 40 34.8
comp=Z,2µm,21.0s
O18K Koktuh Hills 79.97 10 P **P** **09 13 11.6 -0.8**
baz=199
M15K Kasigluk River 80.04 7 P **P** **09 13 12.3 -0.4**
baz=194
N16K Nishlik Lake 80.06 8 P **P** **09 13 13.1 +0.3**
baz=195
P19K Oil Pt 80.11 11 IAMs_20 IAMs_20 09 40 58.5
comp=Z,3µm,22.0s
P19K Oil Pt 80.11 11 P **P** **09 13 12.6 -0.6**
baz=201
N17K Nushagak Hills 80.32 8 P **P** **09 13 14.4 +0.1**
baz=197
HOM Homer 80.40 11 IAMs_20 IAMs_20 09 41 27.3
comp=Z,3µm,21.0s
HOM Homer 80.40 11 P **P** **09 13 15.1 +0.4**
baz=202
O19K Port Alsworth 80.44 10 IAMs_20 IAMs_20 09 41 42.1
comp=Z,2µm,21.0s
O19K Port Alsworth 80.44 10 P **P** **09 13 13.7 -1.1**
baz=200
WUAZ Wupatki 80.45 47 IAMs_20 IAMs_20 09 39 50.2
comp=Z,2µm,22.0s
L14K Kuka Creek 80.47 6 P **P** **09 13 14.9 -0.1**
baz=192
M16K Timber Creek 80.56 7 IAMs_20 IAMs_20 09 43 19.1
comp=Z,2µm,20.0s
M16K Timber Creek 80.56 7 P **P** **09 13 14.7 -0.8**
baz=195
MDSI Maura Dua 80.58 268 P **P** **09 13 16.0 -0.7**
comp=Z,2µmcomp=Z,43nm,1.0s
O20K Slope Mountain 80.62 11 P **P** **09 13 15.7 -0.3**
baz=201
N18K Kilae Creek 80.65 9 P **P** **09 13 15.2 -0.8**
baz=198
ELK Elko 80.73 41 LR LR 09 41 12.8
comp=Z,4µm,21.9s,baz=222,slow=30
ELK Elko 80.73 41 ⇓P **P** **09 13 17.7 +0.5**
K13K Kusilvak Mount 80.89 5 P **P** **09 13 18.5 +1.3**
baz=190
L15K Ungalak Mounta 80.92 6 P **P** **09 13 17.4 0.0**
baz=193
N19K Bonanza Creek 81.00 10 IAMs_20 IAMs_20 09 42 08.9
comp=Z,2µm,21.0s
N19K Bonanza Creek 81.00 10 P **P** **09 13 17.4 -0.6**
baz=199
M17K Holitna River 81.13 8 IAMs_20 IAMs_20 09 43 16.1
comp=Z,2µm,20.0s
M17K Holitna River 81.13 8 P **P** **09 13 18.2 -0.3**
baz=197
SEW Seward 81.24 12 IAMs_20 IAMs_20 09 41 02.7
comp=Z,3µm,22.0s
SEW Seward 81.24 12 P **P** **09 13 18.6 -0.5**
baz=204
MDJ Mudanjiang 81.27 323 IAMs_20 IAMs_20 09 44 13.7
comp=Z,2µm,20.0s
MDJ Mudanjiang 81.27 323 P **P** **09 13 21.0 +1.3**
MDJ PP **PP** **09 16 27.7 +2.1**

MDJ S **S** **09 23 34.6 +5.1**
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ LR LR
comp=Z,1µm,21.3s
MDJ LR LR
comp=Z,1µm,19.9s
MDJ LR LR
comp=Z,2µm,21.3s
Q23K Middleton Isla **81.30 14** IAMs_20 IAMs_20 09 41 25.5
comp=Z,2µm,21.0s
Q23K Middleton Isla **81.30 14** P **P** **09 13 20.3 +0.9**
baz=207
BBB Bella Bella **81.34 27** LR LR 09 40 38.8
comp=Z,1µm,21.9s,baz=235,slow=29
PMSA Palmer Station **81.36 156** LR LR 09 48 14.8
comp=Z,739nm,18.4s,baz=230,slow=35
M18K Stony River **81.44 9** P **P** **09 13 19.3 -0.8**
baz=198
K15K Wolf Creek Mou **81.52 6** P **P** **09 13 21.5 +0.9**
baz=193
CAPN Captain Cook N **81.53 11** P **P** **09 13 22.3 +1.7**
baz=202
O22K Cooper Landing **81.53 12** IAMs_20 IAMs_20 09 41 25.4
comp=Z,2µm,22.0s
O22K Cooper Landing **81.53 12** P **P** **09 13 20.7 0.0**
baz=204
P23K Montague Islan **81.57 13** P **P** **09 13 22.0 +1.1**
baz=206
HAWA Hanford **81.59 35** IAMs_20 IAMs_20 09 41 45.8
comp=Z,2µm,20.0s
NJ2 Nanjing **81.60 308** ⇑P **P** **09 13 25.0 +3.3**
NJ2 pP **sP** **09 13 29.6 +0.8**
NJ2 PP **PP** **09 16 30.9 +2.3**
NJ2 S **S** **09 23 38.4 +5.0**
NJ2 pmax pmax
comp=Z,28nm,1.5s
NJ2 pmax pmax
comp=Z,2µm,5.9s
L17K Donlin **81.72 8** P **P** **09 13 22.4 +0.8**
baz=196
GRNR Gornyy **81.74 331** *e*P **P** **09 13 19.8 -2.2**
N20K Mount Spurr **81.74 11** P **P** **09 13 21.0 -0.9**
baz=202
SPCR Spurr Chakacha **81.74 11** P **P** **09 13 22.2 +0.3**
baz=202
J14K Nanvaranak Lak **81.79 5** IAMs_20 IAMs_20 09 44 12.1
comp=Z,2µm,20.0s
J14K Nanvaranak Lak **81.79 5** P **P** **09 13 22.3 +0.3**
baz=191
CRAG Craig **81.85 22** P **P** **09 13 23.4 +0.9**
baz=219
BMO Blue Mountains **81.88 37** IAMs_20 IAMs_20 09 41 42.1
comp=Z,3µm,21.0s
MFID Camas Ranch **81.90 39** IAMs_20 IAMs_20 09 42 01.9
comp=Z,2µm,21.0s
DUG Dugway, Tooele **81.96 43** IAMs_20 IAMs_20 09 41 53.3
comp=Z,2µm,21.0s
L18K Granite Mounta **82.02 8** IAMs_20 IAMs_20 09 43 42.6
comp=Z,2µm,20.0s
L18K Granite Mounta **82.02 8** P **P** **09 13 23.4 +0.2**
baz=197
M19K Big River Lodg **82.05 9** P **P** **09 13 23.0 -0.3**
baz=199
FIS Fire Island **82.05 12** IAMs_20 IAMs_20 09 45 11.9
comp=Z,2µm,20.0s
RC01 Rabbit Creek A **82.09 12** IAMs_20 IAMs_20 09 43 51.1
comp=Z,2µm,20.0s
RC01 Rabbit Creek A **82.09 12** P **P** **09 13 23.7 +0.1**
baz=204
EPT El Paso **82.14 53** IAMs_20 IAMs_20 09 41 27.3
comp=Z,2µm,22.0s
PWL Port Wells **82.16 12** IAMs_20 IAMs_20 09 43 54.0
comp=Z,3µm,21.0s
PWL Port Wells **82.16 12** P **P** **09 13 23.9 -0.1**
baz=205
M20K Styx River **82.22 10** IAMs_20 IAMs_20 09 46 15.4
comp=Z,2µm,19.0s
M20K Styx River **82.22 10** P **P** **09 13 24.2 -0.3**
baz=201
L19K White Mountain **82.24 9** P **P** **09 13 23.1 -1.3**
baz=199
SUA Susitna One **82.25 11** P **P** **09 13 23.4 -1.2**
baz=203
K17K Iditarod **82.29 7** IAMs_20 IAMs_20 09 44 22.7
comp=Z,2µm,20.0s
K17K Iditarod **82.29 7** P **P** **09 13 25.3 +0.7**
baz=196
V35K Ketchikan **82.29 23** IAMs_20 IAMs_20 09 41 25.4
comp=Z,2µm,21.0s
V35K Ketchikan **82.29 23** P **P** **09 13 25.6 +0.9**
baz=221
SIT Sitka **82.35 20** P **P** **09 13 26.1 +1.1**
baz=217
U33K Whale Pass **82.36 22** IAMs_20 IAMs_20 09 42 17.8
comp=Z,2µm,20.0s
U33K Whale Pass **82.36 22** P **P** **09 13 25.8 +0.7**
baz=219
GAMB Gambell **82.40 1** IAMs_20 IAMs_20 09 45 37.0
comp=Z,2µm,20.0s
GAMB Gambell **82.40 1** P **P** **09 13 25.4 +0.3**
baz=183
EYAK Cordova Ski Ar **82.43 14** P **P** **09 13 25.2 -0.2**
baz=208
GLI Glacier Island **82.44 13** IAMs_20 IAMs_20 09 43 13.4
comp=Z,3µm,21.0s
GLI Glacier Island **82.44 13** P **P** **09 13 24.8 -0.6**
baz=206
J16K Anvik River **82.58 6** P **P** **09 13 26.1 -0.1**
baz=194
SKT Skwentna **82.59 11** IAMs_20 IAMs_20 09 42 06.0
comp=Z,3µm,22.0s
SKT Skwentna **82.59 11** P **P** **09 13 23.6 -2.6**
baz=202
M22K Willow **82.63 11** P **P** **09 13 24.8 -1.6**
baz=203
BGLC Bering Glacier **82.64 15** P **P** **09 13 26.8 +0.4**
baz=210
KNK Knik Glacier **82.64 12** IAMs_20 IAMs_20 09 42 10.6
comp=Z,2µm,21.0s
KNK Knik Glacier **82.64 12** P **P** **09 13 25.1 -1.4**
baz=205
L20K Farewell, AK **82.67 9** P **P** **09 13 26.2 -0.4**
baz=200
PMR Palmer **82.67 12** P **P** **09 13 26.5 -0.1**
baz=204
TLIG Tlapa **82.73 69** P P 09 13 22.3 -5.7
TLIG IAmb IAmb 09 13 39.9
comp=Z,58nm,1.8s
S31K Pelican **82.79 19** IAMs_20 IAMs_20 09 41 06.8
comp=Z,2µm,22.0s
S31K Pelican **82.79 19** P **P** **09 13 28.1 +0.8**
baz=216
HLID Hailey **82.83 39** IAMs_20 IAMs_20 09 41 57.5
comp=Z,2µm,22.0s
HLID Hailey **82.83 39** ⇑P **P** **09 13 27.0 -1.1**
J17K VABM Dome **82.86 7** IAMs_20 IAMs_20 09 45 11.7
comp=Z,2µm,21.0s
J17K VABM Dome **82.86 7** P **P** **09 13 28.2 +0.7**
baz=195
UNM Universidad Na **82.86 67** IAMs_20 IAMs_20 09 40 51.6
comp=Z,2µm,22.0s
WRAK Wrangell Islan **82.86 22** IAMs_20 IAMs_20 09 42 13.3
comp=Z,2µm,21.0s
WRAK Wrangell Islan **82.86 22** P **P** **09 13 28.6 +0.8**
baz=220
Y22D IRIS PASSCAL I **82.91 51** IAMs_20 IAMs_20 09 42 35.2
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I **82.91 51** P **P** **09 13 29.4 +0.6**
baz=242
S32K Killisnoo **82.93 20** P **P** **09 13 27.7 -0.3**
baz=218
DIV Divide **82.95 13** IAMs_20 IAMs_20 09 41 29.0
comp=Z,3µm,22.0s
MNTX Cornudas Mount **82.96 53** IAMs_20 IAMs_20 09 42 36.0
comp=Z,2µm,20.0s
MNTX Cornudas Mount **82.96 53** ⇓P **P** **09 13 29.2 +0.3**
T33K Petersburg **82.96 21** P **P** **09 13 27.9 -0.3**
baz=219
KLR Kul'dur **82.98 328** LR LR 09 43 48.8
comp=Z,493nm,20.3s,slow=31
DL2 Dalian **83.01 315** P **P** **09 13 28.9 0.0**
DL2 pP **sP** **09 13 37.1 +1.1**
DL2 S **SKSac** **09 23 47.2 -2.9**
DL2 pmax pmax
comp=Z,27nm,1.1s
DL2 pmax pmax
comp=Z,3µm,6.1s
DL2 LR LR
comp=Z,1µm,22.3s
DL2 LR LR
comp=Z,750nm,21.6s
DL2 LR LR
comp=Z,670nm,16.7s
MESA MESA **83.02 16** P **P** **09 13 28.1 -0.7**
baz=211
BMRM Bremner River **83.07 14** IAMs_20 IAMs_20 09 42 15.3
comp=Z,2µm,21.0s
BMRM Bremner River **83.07 14** P **P** **09 13 28.4 -0.4**
baz=209
M23K Glacier View **83.13 12** P **P** **09 13 28.5 -0.5**
baz=206
C09A Chrisman Ranch **83.13 34** IAMs_20 IAMs_20 09 41 37.7
comp=Z,2µm,22.0s
I17K Unalakleet **83.16 6** P **P** **09 13 29.4 +0.3**
baz=193
BNX BinXian **83.18 323** ⇑P **P** **09 13 28.6 -1.0**
BNX S **SKSac** **09 23 46.5 -4.5**
BNX pmax pmax
comp=Z,7.0nm,1.1s
BNX pmax pmax
comp=Z,2µm,6.0s
BNX LR LR
comp=Z,650nm,20.3s
BNX LR LR
comp=Z,1µm,20.1s
BNX LR LR
comp=Z,2µm,20.2s
CUT Chulitna **83.21 11** P **P** **09 13 27.7 -1.6**
baz=203
J18K Innoko River **83.21 8** IAMs_20 IAMs_20 09 45 23.1
comp=Z,2µm,20.0s
J18K Innoko River **83.21 8** P **P** **09 13 28.6 -0.9**
baz=197
MA2 Magadan **83.21 343** LR LR 09 44 28.3
comp=Z,1µm,21.9s,baz=132,slow=32
CN2 Changchun **83.21 321** *e*P **P** **09 13 28.3 -1.6**
CN2 pmax pmax
comp=Z,100nm,0.5s
TXAR Lajitas Array **83.23 56** P **P** **09 13 31.1 +0.6**
comp=Z,2.3nm,1.0s,baz=224,slow=3.5,SNR=16
TXAR LR LR 09 42 03.2
comp=Z,793nm,22.0s,baz=241,slow=30
comp=Z,2.3nm,1.0s
CRQE Cirque **83.24 15** P **P** **09 13 29.5 -0.3**
baz=210
KLU Klutina **83.24 13** P **P** **09 13 29.5 -0.2**
baz=207
SCM Sheep Creek Mo **83.25 13** P **P** **09 13 29.7 -0.1**
baz=206
PNL Peninsula **83.27 17** P **P** **09 13 29.5 -0.3**
baz=213
SNY Shenyang **83.28 318** ⇓P **P** **09 13 30.0 -0.2**
SNY S **S** **09 23 55.7 +5.5**
SNY pmax pmax
comp=Z,16nm,1.6s
SNY pmax pmax
comp=Z,2µm,6.0s
SNY LR LR
comp=Z,300nm,20.2s
SNY LR LR
comp=Z,340nm,16.7s
SNY LR LR
comp=Z,590nm,19.6s
MVCO Mesa Verde **83.30 47** IAMs_20 IAMs_20 09 42 05.7
comp=Z,2µm,22.0s
R31K City Hall, Gus **83.31 19** P **P** **09 13 30.4 +0.4**
baz=217
U35K Hyder **83.33 23** IAMs_20 IAMs_20 09 41 35.8
comp=Z,2µm,22.0s
U35K Hyder **83.33 23** P **P** **09 13 31.1 +1.0**
baz=222
PPLA Purkeypile **83.33 10** IAMs_20 IAMs_20 09 44 24.7
comp=Z,2µm,20.0s
PPLA Purkeypile **83.33 10** P **P** **09 13 29.8 -0.4**
baz=202
PINM Pinnacle **83.39 16** P **P** **09 13 30.0 -0.5**
baz=213
QIZ Qiongzhong **83.44 293** P **P** **09 13 34.4 +2.8**
QIZ PP **PP** **09 16 43.4 -0.6**
QIZ SS SS 09 29 21.1 +2.2
QIZ LR LR
comp=Z,510nm,18.9s
QIZ LR LR
comp=Z,1µm,16.3s
ANM Nome **83.45 4** P **P** **09 13 31.3 +0.7**
baz=189
K20K Telida **83.47 9** P **P** **09 13 29.8 -1.0**
baz=200
HWUT Hardware Ranch **83.52 42** ⇑P **P** **09 13 30.9 -0.8**
VRDI Verde Repeater **83.57 14** IAMs_20 IAMs_20 09 43 32.5
comp=Z,2µm,21.0s
R32K Eaglecrest **83.59 20** IAMs_20 IAMs_20 09 41 43.0
comp=Z,2µm,22.0s
R32K Eaglecrest **83.59 20** P **P** **09 13 31.6 +0.1**
baz=218
N25K Chitina, Valde **83.63 14** IAMs_20 IAMs_20 09 42 22.2
comp=Z,3µm,22.0s
N25K Chitina, Valde **83.63 14** P **P** **09 13 31.1 -0.6**
baz=209
ANMO Albuquerque **83.66 50** IAMs_20 IAMs_20 09 42 58.9
comp=Z,2µm,20.0s
ANMO Albuquerque **83.66 50** LR LR 09 43 21.2
comp=Z,2µm,20.6s,baz=328,slow=30
ANMO Albuquerque **83.66 50** *de*P P 09 13 41.5 +8.8
ANMO pmax pmax
comp=Z,92nm,2.3s
GLB Gilahina Butte **83.67 14** IAMs_20 IAMs_20 09 42 00.2
comp=Z,2µm,22.0s
P29M Windy Craggy **83.70 18** P **P** **09 13 31.9 -0.1**
baz=215
BESE Bessie Mountai **83.72 20** IAMs_20 IAMs_20 09 42 31.5
comp=Z,2µm,21.0s
M24K Tolsona, Glenn **83.74 13** IAMs_20 IAMs_20 09 44 02.8
comp=Z,2µm,20.0s
M24K Tolsona, Glenn **83.74 13** P **P** **09 13 31.6 -0.6**
baz=207
H16K Elim **83.76 5** P **P** **09 13 32.0 -0.2**
baz=192
MCARA McCarthy VSAT **83.80 15** IAMs_20 IAMs_20 09 44 57.8
comp=Z,2µm,20.0s
MCARA McCarthy VSAT **83.80 15** P **P** **09 13 31.8 -0.7**
baz=210
CAST Castle Rocks **83.84 10** IAMs_20 IAMs_20 09 45 21.0
comp=Z,2µm,20.0s
CAST Castle Rocks **83.84 10** P **P** **09 13 30.9 -1.8**
baz=202
CTG Chitna Glacier **83.85 15** P **P** **09 13 32.5 -0.5**
baz=212
J19K Poorman **83.86 8** IAMs_20 IAMs_20 09 46 39.4
comp=Z,2µm,20.0s
J19K Poorman **83.86 8** P **P** **09 13 32.2 -0.5**
baz=198
G15K Niukluk **83.97 4** P **P** **09 13 33.2 -0.1**
baz=190
O28M Mount Upton **83.98 16** P **P** **09 13 33.7 -0.1**
baz=213
H03S2 Juan Fernandez **83.99 124** T T 10 46 06.9
baz=249,slow=75,SNR=228
H03S1 Juan Fernandez **84.00 124** T T 10 46 07.9
baz=249,slow=75,SNR=268
H03S3 Juan Fernandez **84.00 124** T T 10 46 06.7
baz=249,slow=75,SNR=257
O29M Mount Kennedy **84.02 17** P **P** **09 13 33.3 -0.5**
baz=214
NEW Newport **84.03 34** IAMs_20 IAMs_20 09 42 48.4
comp=Z,2µm,22.0s
NEW Newport **84.03 34** LR LR 09 42 58.8
comp=Z,2µm,21.8s,baz=220,slow=30
T35M Bob Quinn **84.05 22** IAMs_20 IAMs_20 09 43 52.6
comp=Z,2µm,20.0s
T35M Bob Quinn **84.05 22** P **P** **09 13 32.8 -1.0**
baz=222
TRF Thorofare Moun **84.17 11** P **P** **09 13 32.6 -2.0**
baz=203
HARP HAARP **84.21 13** P **P** **09 13 34.4 -0.2**
baz=208
CHUM Lake Minchumin **84.24 10** P **P** **09 13 33.6 -1.0**
baz=201
J20K Nowinta River **84.24 9** P **P** **09 13 33.0 -1.6**
baz=200
MAW Mawson **84.25 199** P **P** **09 13 35.8 +0.9**
comp=Z,5.8nm,1.1s,baz=146,slow=4.7,SNR=6.8
MAW LR LR 09 48 44.5
comp=Z,2µm,19.7s,baz=126,slow=34
comp=Z,5.8nm,1.1s
H17K Granite Mounta **84.27 6** P **P** **09 13 34.4 -0.4**
baz=194
SKAG Skagway **84.28 19** P **P** **09 13 35.2 +0.3**
baz=217
F14K Arctic Creek **84.30 3** P **P** **09 13 35.3 +0.4**
baz=188
SDSI Sungai Dareh **84.30 271** P **P** **09 13 37.6 +1.4**
TNA Tin City **84.31 3** P **P** **09 13 34.4 -0.5**
baz=187
P30M Million Dollar **84.33 18** P **P** **09 13 34.5 -0.8**
baz=216
WHN Wuhan **84.36 305** P **P** **09 13 37.2 +1.2**
WHN PP **PP** **09 16 57.5 +6.2**
WHN S **S** **09 24 02.2 +0.7**
WHN LR LR
comp=Z,2µm,16.2s
GCSA Galena City Sc **84.42 7** P **P** **09 13 34.3 -1.3**
baz=197
AHID Auburn Hatcher **84.42 41** IAMs_20 IAMs_20 09 43 19.1
comp=Z,2µm,21.0s
AHID Auburn Hatcher **84.42 41** ⇑P **P** **09 13 35.1 -1.3**
S34M Telegraph Cree **84.44 22** IAMs_20 IAMs_20 09 45 29.8
comp=Z,2µm,20.0s
S34M Telegraph Cree **84.44 22** P **P** **09 13 34.8 -1.0**
baz=221
CNSH ChangSha **84.48 302** P P 09 13 42.4 +5.7
CNSH S S 09 24 11.7 +8.8
CNSH pmax pmax
comp=Z,41nm,3.3s
CNSH LR LR
comp=Z,580nm,20.1s
CNSH LR LR
comp=Z,470nm,19.5s
CNSH LR LR
comp=Z,460nm,19.8s
G16K Koyuk River **84.49 5** P **P** **09 13 35.4 -0.4**
baz=192
YUK8 Steele Glacier **84.53 16** P **P** **09 13 35.5 -1.1**
baz=213
YUK6 Outpost Mounta **84.62 17** P **P** **09 13 35.5 -1.4**
baz=214
F15K North Star Dit **84.63 4** P **P** **09 13 35.4 -1.3**
baz=190
H18K Honhosa River **84.64 7** IAMs_20 IAMs_20 09 47 43.8
comp=Z,2µm,20.0s
H18K Honhosa River **84.64 7** P **P** **09 13 35.3 -1.4**
baz=196
BPAW Bear Paw Mtn. **84.65 10** P **P** **09 13 35.3 -1.5**
baz=202
PAX Paxson **84.66 13** IAMs_20 IAMs_20 09 43 10.1
comp=Z,3µm,22.0s
PAX Paxson **84.66 13** P **P** **09 13 35.4 -1.5**
baz=208
MCK McKinley **84.67 11** P **P** **09 13 34.9 -2.0**
baz=204
M26K Nabesna, AK **84.70 14** IAMs_20 IAMs_20 09 43 09.4
comp=Z,3µm,22.0s
M26K Nabesna, AK **84.70 14** P **P** **09 13 35.0 -2.1**
baz=210,SNR=14
S22A 4UR Ranch, Cre **84.72 47** IAMs_20 IAMs_20 09 42 53.4
comp=Z,2µm,22.0s
G17K Kiwalik Mounta **84.75 6** P **P** **09 13 34.3 -2.9**
baz=193
HYT Haines Junctio **84.76 17** P **P** **09 13 36.1 -1.5**
baz=215,SNR=7.5
YUK3 Moose Creek **84.77 15** P **P** **09 13 36.3 -1.4**
baz=212,SNR=7.2
I20K Naaghedeneel **84.78 8** IAMs_20 IAMs_20 09 46 37.7
comp=Z,2µm,20.0s
I20K Naaghedeneel **84.78 8** P **P** **09 13 36.1 -1.3**
baz=199
Q32M Nakina River **84.86 20** IAMs_20 IAMs_20 09 42 10.7
comp=Z,2µm,21.0s
Q32M Nakina River **84.86 20** P **P** **09 13 37.4 -0.8**
baz=220
YUK4 Talbot Arm **84.88 16** P **P** **09 13 37.9 -0.3**
baz=214
P32M Atlin **84.88 19** IAMs_20 IAMs_20 09 42 44.2
comp=Z,2µm,22.0s
P32M Atlin **84.88 19** P **P** **09 13 37.7 -0.4**
baz=218
TPAW Teton Pass **84.90 41** IAMs_20 IAMs_20 09 44 37.5
comp=Z,2µm,20.0s
M27K Edge Creek, AK **84.92 15** IAMs_20 IAMs_20 09 46 14.4
comp=Z,2µm,20.0s
M27K Edge Creek, AK **84.92 15** P **P** **09 13 36.5 -1.8**
baz=211,SNR=15
O20A White River Ci **84.92 45** IAMs_20 IAMs_20 09 43 27.1
comp=Z,2µm,22.0s
FXWY Fox Creek **84.93 41** IAMs_20 IAMs_20 09 43 15.4
comp=Z,2µm,22.0s
SNOW Snow King Moun **85.00 41** IAMs_20 IAMs_20 09 44 30.4
comp=Z,2µm,21.0s
O30N Mendenhall **85.11 18** P **P** **09 13 38.6 -0.6**
baz=216,SNR=7.2
L26K Log Cabin Wild **85.16 14** P **P** **09 13 38.3 -1.1**
baz=210
LOHW Long Hollow **85.18 41** IAMs_20 IAMs_20 09 45 05.0
comp=Z,2µm,20.0s
BVCY Beaver Creek **85.22 15** P **P** **09 13 38.6 -1.0**
baz=212
DLBC Dease Lake **85.22 22** LR LR 09 46 16.5
comp=Z,125nm,18.9s,baz=204,slow=32
DLBC Dease Lake **85.22 22** P **P** **09 13 39.9 +0.1**
baz=222
H19K Roundabout Mou **85.22 7** IAMs_20 IAMs_20 09 46 34.3
comp=Z,2µm,20.0s
H19K Roundabout Mou **85.22 7** P **P** **09 13 38.2 -1.3**
baz=197,SNR=6.8
G18K Tagagawik **85.33 6** P **P** **09 13 39.1 -1.1**
baz=195
K24K Donnelly Dome **85.34 12** IAMs_20 IAMs_20 09 45 17.0
comp=Z,2µm,20.0s
K24K Donnelly Dome **85.34 12** P **P** **09 13 38.8 -1.5**
baz=207
WHY Whitehorse **85.38 18** P **P** **09 13 40.4 -0.2**
baz=217
H20K Anotleneega Mo **85.39 8** P **P** **09 13 40.4 -0.1**
baz=199
BW06 Boulder Array **85.39 42** ⇑P **P** **09 13 42.2 +1.0**
N30M Aishikik Lake **85.39 17** IAMs_20 IAMs_20 09 43 16.2
comp=Z,3µm,21.0s
N30M Aishikik Lake **85.39 17** P **P** **09 13 39.9 -0.7**
baz=215
PDAR Pinedale Array **85.39 42** P **P** **09 13 39.5 -1.8**
comp=Z,3.6nm,1.2s,baz=208,slow=5.0,SNR=12
PDAR LR LR 09 44 45.1
comp=Z,2µm,20.8s,baz=228,slow=31
comp=Z,3.6nm,1.2s
GULI GuiLin **85.41 299** P **P** **09 13 38.1 -3.4**
GULI GuiLin **85.41 299** S **S** **09 24 08.9 -3.3**
GULI pmax pmax
comp=Z,21nm,1.5s
GULI LR LR
comp=N,400nm,9.3s
GULI LR LR
comp=E,470nm,17.8s
GULI LR LR
comp=Z,750nm,12.5s
NEA2 Nenana **85.44 11** P **P** **09 13 39.4 -1.3**
baz=204
RIDG Independent Ri **85.47 13** P **P** **09 13 39.3 -1.7**
baz=208
I21K Tanana **85.50 9** P **P** **09 13 38.9 -2.1**
baz=202
L27K Beaver Creek, **85.54 14** IAMs_20 IAMs_20 09 44 17.7
comp=Z,2µm,21.0s
L27K Beaver Creek, **85.54 14** P **P** **09 13 40.8 -0.5**
baz=211
DOT Dot Lake **85.56 13** IAMs_20 IAMs_20 09 43 47.8
comp=Z,2µm,22.0s
MLY Manley **85.56 10** P **P** **09 13 40.0 -1.4**
baz=203
BOZ Bozeman (W) **85.61 39** ⇑P **P** **09 13 40.9 -1.3**
R33M Jennings River **85.62 21** P **P** **09 13 41.1 -0.7**
baz=221,SNR=6.6
SEY Seymchan **85.64 345** LR LR 09 47 32.9
comp=Z,1µm,20.0s,baz=146,slow=33
SEY Seymchan **85.64 345** *e*P P 09 13 36.2 -5.5
SEY pmax pmax
comp=Z,40nm,1.5s
P33M Teslin, Yukon **85.65 19** IAMs_20 IAMs_20 09 43 30.5
comp=Z,2µm,22.0s
P33M Teslin, Yukon **85.65 19** P **P** **09 13 42.0 0.0**
baz=219
HDA Harding Lake **85.66 12** P **P** **09 13 40.1 -1.7**
baz=206
CCB Clear Creek Bu **85.71 11** IAMs_20 IAMs_20 09 45 39.6

	comp=Z,2µm,20.0s							
G19K	**Purcell Mounta**	**85.74**	**7**	IAMs_20	IAMs_20	09 47 02.0		
	comp=Z,2µm,20.0s							
G19K	**Purcell Mounta**	**85.74**	**7**	P	**P**	**09 13 41.5**	**-0.7**	
	baz=197							
LKWY	**Lake**	**85.80**	**40**	IAMs_20	IAMs_20	09 45 41.3		
	comp=Z,2µm,20.0s							
CMIG	**Matias Romero**	**85.82**	**70**	LR	LR	09 42 34.4		
	comp=Z,2µm,21.3s,baz=245,slow=29							
HEH	**HeiHe**	**85.83**	**327**	*e*P	P	09 13 49.0	+6.1	
HEH				S	**S**	**09 24 22.4**	**+7.1**	
HEH				pmax	pmax			
	comp=Z,31nm,1.9s							
HEH				pmax	pmax			
	comp=Z,2µm,7.6s							
HEH				LR	LR			
	comp=Z,1µm,20.8s							
HEH				LR	LR			
	comp=Z,910nm,21.4s							
HEH				LR	LR			
	comp=Z,2µm,21.6s							
M29M	**Somme Creek**	**85.84**	**16**	P	**P**	**09 13 42.7**	**-0.2**	
	baz=214							
SCRK	**Sand Creek**	**85.86**	**13**	IAMs_20	IAMs_20	09 44 08.9		
	comp=Z,3µm,22.0s							
SCRK	**Sand Creek**	**85.86**	**13**	P	**P**	**09 13 42.5**	**-0.5**	
	baz=209							
I23K	**Minto, Yukon-K**	**85.90**	**10**	P	**P**	**09 13 41.6**	**-1.3**	
	baz=204							
COLA	**College**	**85.91**	**11**	⇑P	**P**	**09 13 39.5**	**-3.5**	
COLA	**College**	**85.91**	**11**	P	**P**	**09 13 41.5**	**-1.5**	
	baz=205							
F18K	**Selawik**	**85.92**	**6**	P	**P**	**09 13 41.5**	**-1.4**	
	baz=194							
MSTX	**Muleshoe**	**85.94**	**52**	IAMs_20	IAMs_20	09 44 09.6		
	comp=Z,3µm,21.0s							
LL02	**Futaleuf**	**85.97**	**134**	P	**P**	**09 13 42.8**	**-1.3**	
ILAR	**Eielson Array**	**85.99**	**11**	P	**P**	**09 13 40.3**	**-3.1**	
	comp=Z,3.0nm,1.0s,baz=219,slow=5.7,SNR=16							
ILAR				LR	LR	09 45 17.0		
	comp=Z,1µm,21.6s,baz=202,slow=31							
	comp=Z,3.0nm,1.0s							
J25K	**Salcha River,**	**86.14**	**12**	IAMs_20	IAMs_20	09 49 38.3		
	comp=Z,2µm,19.0s							
J25K	**Salcha River,**	**86.14**	**12**	P	**P**	**09 13 41.8**	**-2.5**	
	baz=208,SNR=15							
E17K	**Hotham Inlet**	**86.20**	**5**	P	**P**	**09 13 43.2**	**-1.1**	
	baz=192							
POKR	**Poker Plat Res**	**86.21**	**11**	P	**P**	**09 13 43.0**	**-1.5**	
	baz=206							
H22K	**Ishtalitna Cre**	**86.27**	**9**	P	**P**	**09 13 42.5**	**-2.3**	
	baz=202,SNR=20							
N32M	**Quiet Lake**	**86.31**	**19**	IAMs_20	IAMs_20	09 43 38.7		
	comp=Z,3µm,22.0s							
N32M	**Quiet Lake**	**86.31**	**19**	P	**P**	**09 13 43.7**	**-1.5**	
	baz=219							
K27K	**Chicken**	**86.32**	**14**	IAMs_20	IAMs_20	09 45 14.9		
	comp=Z,2µm,20.0s							
K27K	**Chicken**	**86.32**	**14**	P	**P**	**09 13 44.4**	**-0.7**	
	baz=211							
F19K	**Shaleruckik Mo**	**86.33**	**6**	IAMs_20	IAMs_20	09 48 27.5		
	comp=Z,2µm,20.0s							
F19K	**Shaleruckik Mo**	**86.33**	**6**	P	**P**	**09 13 42.8**	**-2.2**	
	baz=196							
M30M	**Minto, Yukon**	**86.39**	**16**	P	**P**	**09 13 43.8**	**-1.7**	
	baz=216							
J26L	**Joseph Creek**	**86.41**	**13**	P	**P**	**09 13 43.9**	**-1.8**	
	baz=209,SNR=21							
Q24A	**Divide**	**86.46**	**47**	IAMs_20	IAMs_20	09 44 56.3		
	comp=Z,2µm,20.0s							
L29M	**L29M**	**86.48**	**16**	P	**P**	**09 13 44.2**	**-1.8**	
	baz=214,SNR=21							
H23K	**Yukon River**	**86.49**	**10**	IAMs_20	IAMs_20	09 44 41.1		
	comp=Z,2µm,22.0s							
H23K	**Yukon River**	**86.49**	**10**	P	**P**	**09 13 44.5**	**-1.4**	
	baz=204							
G21K	**Allakaket**	**86.54**	**8**	P	**P**	**09 13 44.7**	**-1.5**	
	baz=200							
E18K	**Tukpahlearik C**	**86.63**	**5**	P	**P**	**09 13 44.8**	**-1.7**	
	baz=194							
D17K	**Noatak River**	**86.71**	**4**	P	**P**	**09 13 45.1**	**-1.8**	
	baz=191							
M31M	**Drury Creek, Y**	**86.75**	**18**	P	**P**	**09 13 46.1**	**-1.1**	
	baz=218							
JCT	**Junction City**	**86.75**	**56**	⇑P	**P**	**09 13 49.0**	**+1.0**	
F20K	**Avaraart Lake**	**86.77**	**7**	IAMs_20	IAMs_20	09 47 54.2		
	comp=Z,2µm,20.0s							
F20K	**Avaraart Lake**	**86.77**	**7**	P	**P**	**09 13 45.5**	**-1.7**	
	baz=198,SNR=5.2							
RLMT	**Red Lodge**	**86.78**	**40**	IAMs_20	IAMs_20	09 44 18.2		
	comp=Z,2µm,22.0s							
H24K	**Noodor Dome**	**86.78**	**11**	P	**P**	**09 13 45.3**	**-2.0**	
	baz=205							
WTLY	**Watson Lake, Y**	**86.89**	**21**	P	**P**	**09 13 48.4**	**+0.4**	
	baz=223							
PRP	**Porcupine Dome**	**86.92**	**12**	P	**P**	**09 13 46.6**	**-1.6**	
	baz=208							
DAWY	**Dawson**	**86.97**	**15**	P	**P**	**09 13 47.5**	**-0.9**	
	baz=213,SNR=17							
E19K	**Redstone River**	**86.99**	**6**	IAMs_20	IAMs_20	09 46 44.1		
	comp=Z,2µm,21.0s							
E19K	**Redstone River**	**86.99**	**6**	P	**P**	**09 13 46.0**	**-2.3**	
	baz=197							
RDOG	**Red Dog Mine**	**87.07**	**4**	P	**P**	**09 13 48.3**	**-0.4**	
	baz=191							
HNS	**HongShan**	**87.09**	**311**	⇓P	**P**	**09 13 50.2**	**+0.8**	
HNS				S	**S**	**09 24 30.3**	**+2.2**	
HNS				SS	**SS**	**09 30 11.2**	**-0.8**	
HNS				pmax	pmax			
	comp=Z,3µm,6.4s							
HNS				LR	LR			
	comp=Z,330nm,20.1s							
HNS				LR	LR			
	comp=Z,490nm,20.1s							
HNS				LR	LR			
	comp=Z,570nm,23.0s							
C16K	**Lisburne Hills**	**87.14**	**3**	IAMs_20	IAMs_20	09 47 12.5		
	comp=Z,2µm,20.0s							
C16K	**Lisburne Hills**	**87.14**	**3**	P	**P**	**09 13 47.5**	**-1.5**	
	baz=189							
AMTX	**Amarillo**	**87.14**	**52**	IAMs_20	IAMs_20	09 44 49.4		
	comp=Z,2µm,21.0s							
I26K	**Coal Creek Min**	**87.20**	**13**	IAMs_20	IAMs_20	09 46 24.4		
	comp=Z,2µm,20.0s							
I26K	**Coal Creek Min**	**87.20**	**13**	P	**P**	**09 13 49.1**	**-0.3**	
	baz=210							
G22K	**Bettles**	**87.20**	**9**	P	**P**	**09 13 48.2**	**-1.1**	
	baz=202							
F21K	**Alatna River**	**87.22**	**8**	P	**P**	**09 13 48.6**	**-0.8**	
	baz=200							
G23K	**Bananza Creek**	**87.23**	**9**	P	**P**	**09 13 48.3**	**-1.2**	
	baz=203							
K29M	**Barlow Dome**	**87.25**	**15**	P	**P**	**09 13 48.1**	**-1.6**	
	baz=215,SNR=15							
TOAD	**Toad River Com**	**87.25**	**23**	P	**P**	**09 13 49.5**	**-0.2**	
	baz=226							
BJI	**Beijing**	**87.25**	**314**	P	**P**	**09 13 48.9**	**-1.3**	
BJI				pP	**sP**	**09 13 59.5**	**+2.2**	
BJI				S	S	09 24 39.6	+10	
BJI				pmax	pmax			
	comp=Z,10.0nm,1.4s							
BJI				pmax	pmax			
	comp=Z,1µm,5.9s							
BJI				LR	LR			
	comp=Z,180nm,13.0s							
BJI				LR	LR			
	comp=Z,130nm,14.7s							
BJI				LR	LR			
	comp=Z,260nm,21.2s							
LIRD	**Liard River Hi**	**87.33**	**22**	P	**P**	**09 13 50.3**	**+0.2**	
	baz=225							
MAYO	**Mayo, Yukon**	**87.46**	**16**	P	**P**	**09 13 50.9**	**+0.3**	
	baz=216							
C17K	**DeLong Mountai**	**87.47**	**4**	P	**P**	**09 13 50.8**	**+0.1**	
	baz=191							
LYN	**LuoYang**	**87.50**	**308**	P	**P**	**09 13 51.2**	**-0.3**	
LYN				S	**S**	**09 24 37.0**	**+4.8**	
LYN				pmax	pmax			
	comp=Z,33nm,0.6s							
LYN				LR	LR			
	comp=Z,2µm,14.8s							
LYN				LR	LR			
	comp=Z,580nm,17.2s							
LYN				LR	LR			
	comp=Z,1µm,19.6s							
H25L	**Birch Creek**	**87.54**	**11**	P	**P**	**09 13 51.7**	**+0.8**	
	baz=207							
J29N	**Klondike Camp**	**87.58**	**15**	IAMs_20	IAMs_20	09 49 11.6		
	comp=Z,2µm,19.0s							
J29N	**Klondike Camp**	**87.58**	**15**	P	**P**	**09 13 51.1**	**-0.2**	
	baz=214							
G24K	**Hadweenzic Riv**	**87.64**	**10**	P	**P**	**09 13 50.7**	**-0.8**	
	baz=206							
F22K	**John River**	**87.66**	**8**	P	**P**	**09 13 51.4**	**-0.1**	
	baz=201							
COLD	**Coldfoot**	**87.68**	**9**	P	**P**	**09 13 51.2**	**-0.4**	
	baz=203							
ABTX	**Abilene, Hawle**	**87.75**	**55**	IAMs_20	IAMs_20	09 44 47.1		
	comp=Z,2µm,22.0s							
I27K	**Kandik River**	**87.78**	**13**	P	**P**	**09 13 51.6**	**-0.6**	
	baz=211							
C18K	**Utukok River**	**87.79**	**5**	P	**P**	**09 13 50.6**	**-1.6**	
	baz=193							
PLCA	**Paso Flores**	**87.81**	**132**	P	**P**	**09 13 50.7**	**-2.5**	
PLCA				IAmb	IAmb	09 14 08.8		
	comp=Z,82nm,1.6s							
PLCA	**Paso Flores**	**87.81**	**132**	P	**P**	**09 13 55.7**	**+2.5**	
	comp=Z,3.7nm,1.1s,baz=304,slow=5.9,SNR=2.9							
PLCA				LR	LR	09 44 28.5		
	comp=Z,410nm,20.8s,baz=240,slow=30							
	comp=Z,3.7nm,1.1s							
PLCA	**Paso Flores**	**87.81**	**132**	P	**P**	**09 13 50.7**	**-2.5**	
PLCA				pmax	pmax			
	comp=Z,82nm,1.7s							
BILL	**Bilibino**	**87.83**	**353**	*c*eP	P	09 13 59.5	+7.2	
BILL				pmax	pmax			
	comp=Z,49nm,1.5s							
PSI	**Prapat**	**87.87**	**274**	LR	LR	09 55 52.0		
	comp=Z,362nm,18.5s,baz=135,slow=38							
E20K	**Nigu River**	**87.88**	**7**	P	**P**	**09 13 52.0**	**-0.6**	
	baz=198							
D19K	**Kuna River**	**87.91**	**6**	IAMs_20	IAMs_20	09 47 24.2		
	comp=Z,2µm,20.0s							
D19K	**Kuna River**	**87.91**	**6**	P	**P**	**09 13 51.9**	**-0.8**	
	baz=196							
FYU	**Fort Yukon**	**87.91**	**11**	IAMs_20	IAMs_20	09 44 45.9		
	comp=Z,3µm,22.0s							
G25K	**Bearman Lake**	**87.93**	**11**	P	**P**	**09 13 53.0**	**+0.2**	
	baz=207							
MMPY	**Sheldon Lake,**	**87.99**	**18**	P	**P**	**09 13 52.9**	**-0.3**	
	baz=221							
I28M	**Miner Creek**	**88.02**	**14**	P	**P**	**09 13 52.5**	**-0.9**	
	baz=213							
TGTN	**Hyland Airport**	**88.11**	**20**	P	**P**	**09 13 54.3**	**+0.4**	
	baz=223							
J30M	**Hart River**	**88.14**	**15**	P	**P**	**09 13 53.9**	**-0.1**	
	baz=216							
D20K	**Etivluk River**	**88.27**	**6**	IAMs_20	IAMs_20	09 48 25.8		
	comp=Z,2µm,20.0s							
D20K	**Etivluk River**	**88.27**	**6**	P	**P**	**09 13 53.8**	**-0.6**	
	baz=197							
E22K	**Anaktuvuk Pass**	**88.30**	**8**	IAMs_20	IAMs_20	09 46 27.6		
	comp=Z,2µm,22.0s							
E22K	**Anaktuvuk Pass**	**88.30**	**8**	P	**P**	**09 13 54.4**	**-0.2**	
	baz=202							
E21K	**Killik River**	**88.31**	**7**	IAMs_20	IAMs_20	09 48 31.8		
	comp=Z,2µm,20.0s							
E21K	**Killik River**	**88.31**	**7**	P	**P**	**09 13 54.8**	**+0.2**	
	baz=200							
F24K	**Squaw Lake**	**88.31**	**10**	P	**P**	**09 13 54.7**	**0.0**	
	baz=205							
I29M	**Ogilvie Camp,**	**88.31**	**14**	IAMs_20	IAMs_20	09 46 55.0		
	comp=Z,2µm,20.0s							
I29M	**Ogilvie Camp,**	**88.31**	**14**	P	**P**	**09 13 53.8**	**-0.9**	
	baz=214							
H27K	**Steamboat Moun**	**88.34**	**13**	IAMs_20	IAMs_20	09 46 50.5		
	comp=Z,2µm,20.0s							
H27K	**Steamboat Moun**	**88.34**	**13**	P	**P**	**09 13 54.0**	**-0.8**	
	baz=211							
C19K	**Lookout Ridge**	**88.37**	**5**	IAMs_20	IAMs_20	09 50 03.1		
	comp=Z,2µm,20.0s							
C19K	**Lookout Ridge**	**88.37**	**5**	P	**P**	**09 13 52.8**	**-2.2**	
	baz=194							
B18K	**Kokolik River**	**88.44**	**4**	P	**P**	**09 13 54.6**	**-0.6**	
	baz=192							
G26K	**Porcupine Rive**	**88.52**	**12**	P	**P**	**09 13 55.4**	**-0.2**	
	baz=209							
E23K	**Chandalar**	**88.54**	**9**	P	**P**	**09 13 55.2**	**-0.6**	
	baz=204							
KOTAN	**Kotaneelee Air**	**88.57**	**23**	P	**P**	**09 13 55.7**	**-0.3**	
	baz=227							
I30M	**Mount Dempster**	**88.66**	**15**	P	**P**	**09 13 55.8**	**-0.7**	
	baz=216							
GSI	**Gunungsitoli**	**88.67**	**272**	P	P	09 13 52.7	-4.8	
GSI	**Gunungsitoli**	**88.67**	**272**	P	**P**	**09 13 58.1**	**+0.5**	
	comp=Z,140nm,2.0s							
E24K	**Your Creek**	**88.72**	**9**	IAMs_20	IAMs_20	09 46 25.1		
	comp=Z,1µm,21.0s							
E24K	**Your Creek**	**88.72**	**9**	P	**P**	**09 13 56.1**	**-0.6**	
	baz=205							
F25K	**Christian Rive**	**88.76**	**11**	P	P	09 13 52.0	-4.8	
F25K	**Christian Rive**	**88.76**	**11**	P	**P**	**09 13 56.5**	**-0.3**	
	baz=207							
G27K	**Doyon Strip**	**88.82**	**12**	IAMs_20	IAMs_20	09 47 45.9		
	comp=Z,2µm,20.0s							
G27K	**Doyon Strip**	**88.82**	**12**	P	**P**	**09 13 56.6**	**-0.5**	
	baz=211							
TIY	**Taiyuan**	**88.85**	**311**	P	**P**	**09 13 59.5**	**+1.5**	
TIY				S	**S**	**09 24 44.0**	**-1.1**	
TIY				pmax	pmax			
	comp=Z,53nm,1.4s							
TIY				pmax	pmax			
	comp=Z,2µm,5.6s							
TIY				LR	LR			
	comp=Z,380nm,18.4s							
TIY				LR	LR			
	comp=Z,320nm,19.0s							
TIY				LR	LR			
	comp=Z,570nm,19.0s							
D22K	**Ayikyak River**	**88.88**	**8**	IAMs_20	IAMs_20	09 48 40.1		
	comp=Z,2µm,21.0s							
D22K	**Ayikyak River**	**88.88**	**8**	P	**P**	**09 13 56.6**	**-0.8**	
	baz=201							
C21K	**Knifeblade Rid**	**88.89**	**7**	P	**P**	**09 13 57.0**	**-0.4**	
	baz=199							
GYA	**Guiyang**	**88.94**	**298**	⇑P	**P**	**09 14 00.6**	**+1.9**	
GYA				S	**S**	**09 24 41.2**	**-5.3**	
GYA				pmax	pmax			
	comp=Z,17nm,1.6s							
GYA				pmax	pmax			
	comp=Z,2µm,6.9s							
GYA				LR	LR			
	comp=Z,500nm,6.6s							
GYA				LR	LR			
	comp=Z,290nm,5.6s							
GYA				LR	LR			
	comp=Z,450nm,11.8s							
H29M	**Whitestone**	**89.02**	**14**	IAMs_20	IAMs_20	09 45 55.5		
	comp=Z,3µm,22.0s							
H29M	**Whitestone**	**89.02**	**14**	P	**P**	**09 13 58.0**	**0.0**	
	baz=214							
SYO	**Syowa Base**	**89.05**	**192**	⇓*e*PcP	**PcP**	**09 13 59.2**	**-0.6**	
SYO	**Syowa Base**	**89.05**	**192**	⇑*i*sP	sP	09 14 02.4	-2.9	
TOLK	**Toolik Lake Re**	**89.08**	**9**	P	**P**	**09 13 57.7**	**-0.6**	
	baz=204							
XLT	**XiLinHaoTe**	**89.09**	**317**	*e*P	P	09 14 03.7	+4.8	
XLT				sP	sP	09 14 11.0	+4.9	
XLT				S	**S**	**09 24 55.0**	**+7.9**	
XLT				pmax	pmax			
	comp=Z,31nm,2.1s							
XLT				pmax	pmax			
	comp=Z,2µm,6.9s							
XLT				LR	LR			
	comp=Z,310nm,18.4s							
XLT				LR	LR			
	comp=Z,380nm,23.7s							
F26K	**Sheenjek River**	**89.11**	**11**	IAMs_20	IAMs_20	09 47 44.6		
	comp=Z,2µm,20.0s							
F26K	**Sheenjek River**	**89.11**	**11**	P	**P**	**09 13 59.4**	**+1.0**	
	baz=209							
D23K	**Nanushuk River**	**89.23**	**8**	IAMs_20	IAMs_20	09 48 44.2		
	comp=Z,2µm,20.0s							
D23K	**Nanushuk River**	**89.23**	**8**	P	**P**	**09 13 59.1**	**+0.2**	
	baz=203							
WMOK	**Wichita Mounta**	**89.25**	**53**	IAMs_20	IAMs_20	09 46 57.6		
	comp=Z,2µm,20.0s							
A19K	**Wainwright**	**89.32**	**4**	P	**P**	**09 13 59.0**	**-0.2**	
	baz=193							
TROLL	**Troll, Antarti**	**89.33**	**179**	⇑P	**P**	**09 14 01.6**	**+1.9**	
	comp=Z,838nm,0.9s							
B21K	**Ikpikpuk River**	**89.36**	**7**	IAMs_20	IAMs_20	09 49 01.4		
	comp=Z,2µm,20.0s							
B21K	**Ikpikpuk River**	**89.36**	**7**	P	**P**	**09 14 00.0**	**+0.6**	
	baz=199							
LAO	**LASA Array**	**89.40**	**40**	IAMs_20	IAMs_20	09 46 11.5		
	comp=Z,2µm,22.0s							
HIA	**Hailar**	**89.45**	**323**	IAMs_20	IAMs_20	09 49 19.3		
	comp=Z,2µm,20.0s							
B20K	**Meade River**	**89.46**	**6**	IAMs_20	IAMs_20	09 48 38.1		
	comp=Z,2µm,20.0s							
B20K	**Meade River**	**89.46**	**6**	P	**P**	**09 13 59.0**	**-0.9**	
	baz=197							
OGNE	**Ogallala**	**89.49**	**46**	IAMs_20	IAMs_20	09 46 53.3		
	comp=Z,1µm,21.0s							
VNA3	**Neumayer Olymp**	**89.49**	**175**	⇑P	**P**	**09 14 01.7**	**+1.4**	
	comp=Z,23nm,0.8s							
SNAA	**Sanae**	**89.50**	**177**	⇑P	**P**	**09 14 02.3**	**+1.8**	
	comp=Z,257nm,1.0s							
SNAA	**Sanae**	**89.50**	**177**	P	**P**	**09 14 01.5**	**+1.0**	
SNAA				IAmb	IAmb	09 14 13.2		
	comp=Z,45nm,1.3s							
SNAA	**Sanae**	**89.50**	**177**	P	**P**	**09 14 01.5**	**+1.0**	
SNAA				pmax	pmax			
	comp=Z,45nm,1.3s							
SNAA	**Sanae**	**89.50**	**177**	⇓P	**P**	**09 14 02.1**	**+1.6**	
EPYK	**Eagle Plains**	**89.52**	**14**	IAMs_20	IAMs_20	09 45 48.9		
	comp=Z,2µm,22.0s							
EPYK	**Eagle Plains**	**89.52**	**14**	P	**P**	**09 13 59.0**	**-1.4**	
	baz=216							
RSSD	**Black Hills**	**89.57**	**43**	IAMs_20	IAMs_20	09 47 22.6		
	comp=Z,2µm,21.0s							
H31M	**Peel River**	**89.64**	**15**	P	**P**	**09 14 00.9**	**-0.1**	
	baz=218							
D24K	**Happy Valley**	**89.66**	**9**	P	**P**	**09 14 00.2**	**-0.7**	
	baz=204							
G29M	**Pine Creek**	**89.67**	**13**	IAMs_20	IAMs_20	09 46 03.8		
	comp=Z,3µm,22.0s							
G29M	**Pine Creek**	**89.67**	**13**	P	**P**	**09 14 00.8**	**-0.3**	
	baz=214							
F28M	**Old Crow**	**89.87**	**12**	P	**P**	**09 14 02.4**	**+0.5**	
	baz=213							
Z35A	**Perchaven, San**	**89.87**	**55**	IAMs_20	IAMs_20	09 46 27.4		
	comp=Z,2µm,22.0s							
XAN	**Xi'an**	**89.98**	**306**	P	**P**	**09 14 02.4**	**-0.9**	
XAN				pP	sP	09 14 12.4	+1.9	
XAN				PP	**PP**	**09 17 37.1**	**+0.4**	
XAN				S	**S**	**09 24 51.0**	**-4.8**	
XAN				sS	sS	09 25 10.1	+5.4	
XAN				pmax	pmax			
	comp=Z,26nm,1.5s							
XAN				LR	LR			
	comp=Z,520nm,18.0s							
XAN				LR	LR			
	comp=Z,380nm,19.2s							
XAN				LR	LR			
	comp=Z,570nm,22.0s							
E27K	**Coleen River**	**90.02**	**12**	P	**P**	**09 14 02.7**	**0.0**	
	baz=211							
C23K	**Itkillik River**	**90.05**	**8**	P	**P**	**09 14 02.9**	**+0.2**	
	baz=203							
G30M	**tAoh Zraii Nji**	**90.14**	**14**	IAMs_20	IAMs_20	09 46 06.1		
	comp=Z,2µm,22.0s							
G30M	**tAoh Zraii Nji**	**90.14**	**14**	P	**P**	**09 14 03.1**	**-0.1**	
	baz=216							
B22K	**Teshekpuk Lake**	**90.17**	**7**	IAMs_20	IAMs_20	09 52 26.1		
	comp=Z,2µm,19.0s							
B22K	**Teshekpuk Lake**	**90.17**	**7**	P	**P**	**09 14 03.1**	**-0.2**	
	baz=200							
VNA1	**Neumayer--Stat**	**90.18**	**175**	⇑P	**P**	**09 14 06.0**	**+2.5**	
	comp=Z,49nm,0.9s							
D25K	**Kavik River**	**90.19**	**10**	IAMs_20	IAMs_20	09 47 10.8		
	comp=Z,3µm,22.0s							
D25K	**Kavik River**	**90.19**	**10**	P	**P**	**09 14 03.8**	**+0.3**	
	baz=207							
CBKS	**Cedar Bluff**	**90.20**	**49**	IAMs_20	IAMs_20	09 46 16.6		
	comp=Z,2µm,22.0s							
C24K	**Franklin Bluff**	**90.20**	**9**	P	**P**	**09 14 03.6**	**+0.2**	
	baz=205							
SNSI	**Sinabang, Aceh**	**90.20**	**272**	P	**P**	**09 14 06.8**	**+2.0**	
G31M	**Satah River**	**90.55**	**15**	IAMs_20	IAMs_20	09 46 31.0		
	comp=Z,2µm,22.0s							
G31M	**Satah River**	**90.55**	**15**	P	**P**	**09 14 05.6**	**+0.6**	
	baz=218							
A22K	**Sinclair Lake**	**90.64**	**6**	P	**P**	**09 14 06.1**	**+0.7**	
	baz=199							
OK029	**Liberty Lake**	**90.67**	**52**	IAMs_20	IAMs_20	09 46 49.9		
	comp=Z,2µm,21.0s							
MLSI	**Meulaboh, Aceh**	**90.72**	**274**	P	**P**	**09 14 06.6**	**-0.6**	
F30M	**Barrier River**	**90.75**	**14**	IAMs_20	IAMs_20	09 47 09.2		
	comp=Z,2µm,22.0s							
F30M	**Barrier River**	**90.75**	**14**	P	**P**	**09 14 05.9**	**-0.1**	
	baz=216							
HHC	**Hu-ho-hao-te**	**90.77**	**313**	*e*P	**P**	**09 14 10.2**	**+3.3**	
HHC				pP	sP	09 14 15.7	+1.6	
HHC				PP	**PP**	**09 17 43.6**	**+0.7**	
HHC				S	**S**	**09 24 55.0**	**-7.9**	
HHC				sS	pS	09 25 10.1	+0.7	
HHC				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC				pmax	pmax			
	comp=Z,2µm,5.5s							
HHC				LR	LR			
	comp=Z,350nm,20.4s							
HHC				LR	LR			
	comp=Z,410nm,21.9s							
HHC				LR	LR			
	comp=Z,850nm,21.6s							
R32A	**Long Quarter,**	**90.78**	**50**	P	**P**	**09 14 02.2**	**-4.7**	
R32A				IAMs_20	IAMs_20	09 47 37.1		
	comp=Z,2µm,21.0s							
E28M	**Babbage River**	**90.78**	**12**	IAMs_20	IAMs_20	09 51 56.7		
	comp=Z,1µm,19.0s							
E28M	**Babbage River**	**90.78**	**12**	P	**P**	**09 14 05.8**	**-0.3**	
	baz=213							
C27K	**Jago River**	**90.89**	**10**	P	**P**	**09 14 06.5**	**-0.2**	
	baz=209							
WRGLY	**Wrigley**	**90.90**	**21**	P	**P**	**09 14 07.2**	**+0.4**	
	baz=228							
E29M	**Blow River**	**90.93**	**13**	P	**P**	**09 14 05.6**	**-1.2**	
	baz=215							
C26K	**Camden Bay**	**90.95**	**10**	P	**P**	**09 14 05.8**	**-1.1**	
	baz=208							
D27M	**Malcolm River**	**91.05**	**11**	P	**P**	**09 14 07.1**	**-0.4**	
	baz=212							
F31M	**Tsiigehtchic**	**91.08**	**15**	IAMs_20	IAMs_20	09 46 58.2		
	comp=Z,2µm,22.0s							
F31M	**Tsiigehtchic**	**91.08**	**15**	P	**P**	**09 14 07.7**	**+0.2**	
	baz=218							
CO02	**Combarbal**	**91.18**	**123**	P	**P**	**09 14 05.6**	**-3.6**	
OK052	**Battle Ridge R**	**91.23**	**52**	IAMs_20	IAMs_20	09 47 19.9		
	comp=Z,2µm,21.0s							
NATX	**Nacogdoches**	**91.32**	**57**	IAMs_20	IAMs_20	09 47 28.1		
	comp=Z,1µm,21.0s							
D28M	**Stokes Point**	**91.54**	**12**	P	**P**	**09 14 10.3**	**+0.6**	
	baz=214							
CO03	**El Pedregal**	**91.56**	**123**	P	**P**	**09 14 09.9**	**-1.1**	
CO03				IAmb	IAmb	09 14 25.2		
	comp=Z,69nm,1.4s							
BTO	**Baotou**	**91.74**	**312**	*e*P	**P**	**09 14 10.6**	**-0.8**	
BTO				S	**S**	**09 25 07.1**	**-4.6**	
BTO				SS	**SS**	**09 31 24.3**	**+4.5**	
BTO				pmax	pmax			
	comp=Z,14nm,0.9s							
BTO				pmax

YAK Yakutsk 91.96 337 LR LR 09 50 09.0
comp=Z,334nm,21.8s,baz=107,slow=32
YAK Yakutsk 91.96 337 *e*P **P** **09 14 15.1 +3.4**
YAK *e**PP **sP** **09 14 18.6 -0.2**
YAK *e*S **SKSac** **09 24 47.8 +4.2**
YAK pmax pmax
comp=Z,12nm,1.3s
YAK smax smax
comp=E,109nm,4.7s
YAK smax smax
comp=N,100nm,3.3s
YAK MLR MLR
comp=N,441nm,27.0s
TUL3 Leonard 91.96 53 P **P** **09 14 08.4 -4.0**
TUL3 IAmb IAmb 09 14 23.6
comp=Z,72nm,1.8s
TUL3 IAMs_20 IAMs_20 09 47 41.2
comp=Z,2μm,22.0s
LCO Las Campanas 92.27 122 P **P** **09 14 10.9 -3.6**
LCO Las Campanas 92.27 122 P **P** **09 14 10.9 -3.6**
LCO pmax pmax
comp=Z,70nm,1.3s
BGNE Belgrade 92.35 47 IAMs_20 IAMs_20 09 48 41.2
comp=Z,2μm,21.0s
KSU1 Kansas State U 92.55 50 IAMs_20 IAMs_20 09 49 13.1
comp=Z,2μm,20.0s
JTS Las Juntas de 92.64 80 P P 09 14 10.7 -5.3
JTS IAmb IAmb 09 14 30.7
comp=Z,86nm,1.6s
JTS Las Juntas de 92.64 80 LR LR 09 45 50.1
comp=Z,1μm,21.1s,baz=261,slow=29
BOAB BOACO BROADBAND 92.66 78 IAMs_20 IAMs_20 09 45 23.6
comp=Z,2μm,20.0s
ZON Zonda 92.86 125 P **P** **09 14 12.2 -4.6**
ZON IAmb IAmb 09 14 31.5
comp=Z,61nm,1.6s
ZON Zonda 92.86 125 P **P** **09 14 12.3 -4.6**
ZON pmax pmax
comp=Z,61nm,1.6s
CD2 Chengdu 92.90 302 P **P** **09 14 20.3 +3.3**
CD2 PP **PP** **09 18 02.2 +2.4**
CD2 S **S** **09 25 26.1 +3.7**
CD2 sS sS 09 25 32.2 +0.9
CD2 LR LR
comp=Z,610nm,21.2s
CD2 LR LR
comp=Z,670nm,18.4s
CD2 LR LR
comp=Z,760nm,21.8s
CMAR Chiang Mai Arr 92.91 288 P **P** **09 14 15.3 -1.9**
comp=Z,9.2nm,1.1s,baz=121,slow=3.0,SNR=13
CMAR LR LR 09 54 13.5
comp=Z,422nm,20.3s,baz=95,slow=34
comp=Z,9.2nm,1.1s
CHTO Chiang Mai 93.02 289 P P 09 14 11.2 -6.5
CHTO Chiang Mai 93.02 289 P P 09 14 11.2 -6.5
CHTO pmax pmax
comp=Z,121nm,1.9s
NNA Nana 93.07 104 LR LR 09 46 05.1
comp=Z,896nm,22.0s,baz=256,slow=29
NNA Nana 93.07 104‖ *e*P P 09 14 23.9 +5.8
NNA pmax pmax
comp=Z,39nm,1.6s
PZH PanZhiHua 93.08 297 S **S** **09 25 28.0 +3.7**
PZH pmax pmax
comp=Z,20nm,1.9s
PZH pmax pmax
comp=Z,1μm,8.6s
PZH LR LR
comp=N,170nm,20.1s
PZH LR LR
comp=E,290nm,23.0s
PZH LR LR
comp=Z,270nm,19.6s
U38A Gravette 93.21 53 IAMs_20 IAMs_20 09 49 12.4
comp=Z,1μm,20.0s
ATAH Atahualpa 93.24 99 LR LR 09 48 47.2
comp=Z,1μm,18.1s,baz=254,slow=31
YKA Yellowknife Ar 93.60 24 P **P** **09 14 18.2 -1.1**
comp=Z,1.9nm,0.9s,baz=237,slow=3.6,SNR=3.8
YKA LR LR 09 49 03.2
comp=Z,2μm,21.1s,baz=243,slow=31
comp=Z,1.9nm,0.9s
L34A Svendsen Farm, 93.79 47 IAMs_20 IAMs_20 09 50 15.3
comp=Z,1μm,20.0s
MDND Maddock 93.96 41 IAMs_20 IAMs_20 09 48 53.3
comp=Z,2μm,22.0s
ECSD EROS Data Cent 94.29 45 IAMs_20 IAMs_20 09 51 06.1
comp=Z,1μm,20.0s
S39A Bolivar 94.45 52 IAMs_20 IAMs_20 09 49 18.7
comp=Z,2μm,21.0s
LZH Lanzhou 94.60 306 *e*P **P** **09 14 24.7 -0.1**
LZH sP sP 09 14 33.4 +1.4
LZH PP **PP** **09 18 13.4 +0.2**
LZH S **S** **09 25 36.8 -0.6**
LZH SS **SS** **09 32 00.8 -0.3**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,360nm,4.0s
LZH LR LR
comp=Z,580nm,15.9s
LZH LR LR
comp=Z,500nm,16.8s
LZH LR LR
comp=Z,740nm,16.8s
P38A Dawn 94.97 50 IAMs_20 IAMs_20 09 49 37.1
comp=Z,2μm,22.0s
TNCH TengChong 95.36 294 P **P** **09 14 31.5 +2.9**
TNCH sP sP 09 14 44.3 +8.6
TNCH PP **PP** **09 18 18.5 -0.8**
TNCH S **S** **09 25 37.0 -7.5**
TNCH sS pS 09 25 51.1 +0.1
TNCH pmax pmax
comp=Z,59nm,2.6s
TNCH LR LR
comp=Z,1μm,18.6s
TNCH LR LR
comp=Z,520nm,18.6s
R40A Maddies Statio 95.44 52 IAMs_20 IAMs_20 09 49 59.9
comp=Z,2μm,21.0s
FFC Flin Flon 95.44 34 IAMs_20 IAMs_20 09 49 19.1
comp=Z,2μm,22.0s
N38A Joes South For 95.58 49 IAMs_20 IAMs_20 09 51 07.1
comp=Z,2μm,20.0s
SCIA State Center 95.97 48 IAMs_20 IAMs_20 09 50 25.3
comp=Z,2μm,22.0s
P40A Paris 96.01 50 P P 09 14 25.6 -5.3
P40A IAmb IAmb 09 14 42.6
comp=Z,31nm,1.8s
CCM Cathedral Cave 96.12 52 P P 09 14 25.7 -5.8
CCM IAmb IAmb 09 14 41.4
comp=Z,18nm,1.4s
OXF Oxford 96.39 56 IAMs_20 IAMs_20 09 50 06.3
comp=Z,1μm,22.0s
AGMN Agassiz Nation 96.45 41 IAMs_20 IAMs_20 09 51 39.3
comp=Z,1μm,20.0s
A36M Sachs Harbour 96.45 14 IAMs_20 IAMs_20 09 52 35.9
comp=Z,2μm,20.0s
A36M Sachs Harbour 96.45 14 P **P** **09 14 32.4 +0.2**
baz=226
ULN Ulaanbaatar 96.46 318 *de*P P 09 14 38.3 +5.3
ULN pmax pmax
comp=Z,20nm,2.8s
I37A Lemond, Waseca 96.56 46 IAMs_20 IAMs_20 09 51 33.3
comp=Z,2μm,20.0s
FVM French Village 96.71 52 P **P** **09 14 30.3 -3.9**
FVM IAmb IAmb 09 14 44.8
comp=Z,39nm,1.4s
FVM French Village 96.71 52 P **P** **09 14 30.3 -3.9**
FVM pmax pmax
comp=Z,39nm,1.5s
SONM Songino Array 96.86 318 P P 09 14 27.0 -7.8
SONM Songino Array 96.86 318 P **P** **09 14 33.7 -1.1**
comp=Z,0.2nm,0.4s,baz=152,slow=6.5,SNR=1.3
SONM LR LR 09 54 05.2
comp=Z,423nm,21.9s,baz=110,slow=33
comp=Z,0.2nm,0.4s
SONM Songino Array 96.86 318 P P 09 14 27.0 -7.8
SONM pmax pmax
comp=Z,8.0nm,1.5s
N41A Harden Midland 97.26 50 IAMs_20 IAMs_20 09 51 58.7
comp=Z,2μm,21.0s
L40A Anamosa 97.43 48 IAMs_20 IAMs_20 09 51 18.8
comp=Z,2μm,22.0s
S44A Carbondale 97.50 53 IAMs_20 IAMs_20 09 50 53.9
comp=Z,2μm,22.0s
T45A Paducah 97.76 54 IAMs_20 IAMs_20 09 57 20.8
comp=Z,1μm,19.0s
P43A Skaggs, Pawnee 97.90 51 IAMs_20 IAMs_20 09 52 37.9
comp=Z,2μm,20.0s
TIXI Tiksi 98.10 344 IAMs_20 IAMs_20 09 52 01.9
comp=Z,1μm,22.0s
TIXI Tiksi 98.10 344 LR LR 09 53 29.1
comp=Z,1μm,21.6s,baz=128,slow=32
TIXI Tiksi 98.10 344⇑ *e*P Pdif 09 14 46.3 +6.6
X48A Hartselle 98.23 57 IAMs_20 IAMs_20 09 52 06.2
comp=Z,1μm,22.0s
JFWS Jewell Farm 98.38 48 IAMs_20 IAMs_20 09 52 48.8
comp=Z,2μm,20.0s
I40A Norwalk 98.42 47 IAMs_20 IAMs_20 09 51 59.8
comp=Z,1μm,21.0s
GTA Gaotai 98.69 309 *e*P Pdif 09 14 50.6 +7.4
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,590nm,6.9s
GTA LR LR
comp=Z,230nm,15.3s
GTA LR LR
comp=Z,640nm,13.8s
GTA LR LR
comp=Z,820nm,16.0s
T47A Sharon Grove 98.92 54 IAMs_20 IAMs_20 09 51 14.9
comp=Z,1μm,22.0s
EYMN Ely 99.09 42 IAMs_20 IAMs_20 09 52 55.4
comp=Z,2μm,20.0s
G40A Rib Lake 99.12 45 IAMs_20 IAMs_20 09 51 58.1
comp=Z,1μm,22.0s
LPAZ La Paz 99.39 111 P **Pdif** **09 14 51.2 +3.6**
comp=Z,0.5nm,0.8s,baz=186,slow=6.6,SNR=1.8
LPAZ LR LR 09 50 33.1
comp=Z,987nm,20.7s,baz=266,slow=30
comp=Z,0.5nm,0.8s
I42A Draeger Farm, 99.60 47 IAMs_20 IAMs_20 09 52 04.0
comp=Z,2μm,22.0s
K43A Burlington 99.66 48 IAMs_20 IAMs_20 09 53 29.0
comp=Z,1μm,21.0s
U49A Red Boiling Sp 99.81 55 IAMs_20 IAMs_20 09 52 35.5
comp=Z,2μm,22.0s
WCI Wyandotte Cave 99.89 53 IAMs_20 IAMs_20 09 52 49.3
comp=Z,2μm,21.0s
X51A Calhoun 100.00 57 IAMs_20 IAMs_20 09 53 42.0
comp=Z,1μm,21.0s
H43A Windswept, Lux 100.55 47 IAMs_20 IAMs_20 09 53 47.1
comp=Z,2μm,20.0s
F42A Maple Grove Fa 100.66 45 IAMs_20 IAMs_20 09 52 54.6
comp=Z,2μm,22.0s
T50A Nancy 100.68 55 IAMs_20 IAMs_20 09 53 35.4
comp=Z,2μm,20.0s
R49A Shelbyville 100.76 53 IAMs_20 IAMs_20 09 52 44.3
comp=Z,2μm,22.0s
P48A Milroy 100.88 52 IAMs_20 IAMs_20 09 53 30.1
comp=Z,1μm,21.0s
L46A Eue Claire 100.92 49 IAMs_20 IAMs_20 09 54 20.6
comp=Z,1μm,20.0s
O48B Farmland 101.29 51 IAMs_20 IAMs_20 09 53 21.8
comp=Z,2μm,21.0s
R50A Paris 101.40 53 IAMs_20 IAMs_20 09 53 15.2
comp=Z,2μm,22.0s
TZTN Tazewell 101.55 55 IAMs_20 IAMs_20 09 53 51.7
comp=Z,2μm,22.0s
GOMU GeErMu 101.61 304 Pdif **Pdif** **09 15 00.0 +3.4**
GOMU SS SS 09 33 34.9 -5.1
GOMU AMB AMB
comp=Z,770nm,7.2s
GOMU LR LR
comp=Z,240nm,19.7s
GOMU LR LR
comp=Z,170nm,19.5s
GOMU LR LR
comp=Z,300nm,19.7s
060A Indiantown 101.71 65 IAMs_20 IAMs_20 09 53 34.5
comp=Z,1μm,22.0s
S51A Beattyville 101.80 54 IAMs_20 IAMs_20 09 53 16.9
comp=Z,2μm,21.0s
O49A Covington 101.88 52 IAMs_20 IAMs_20 09 53 40.5
comp=Z,2μm,22.0s
Q51A Peebles 102.33 53 IAMs_20 IAMs_20 09 54 15.8
comp=Z,2μm,22.0s
AAM Ann Arbor 102.89 50 IAMs_20 IAMs_20 09 55 48.8
comp=Z,2μm,20.0s
U54A Nelsons Funny 102.89 56 IAMs_20 IAMs_20 09 54 44.4
comp=Z,1μm,22.0s
ACSO Alum Creek Sta 102.89 52 IAMs_20 IAMs_20 09 54 23.4
comp=Z,2μm,22.0s
KMSC Kings Mountain 102.94 57 IAMs_20 IAMs_20 09 55 44.1
comp=Z,1μm,22.0s
LSA Lhasa 102.96 297 P **Pdif** **09 15 04.9 +2.0**
LSA LR LR
comp=Z,330nm,11.5s
LSA LR LR
comp=Z,120nm,9.7s
Q52A Bidwell 103.13 53 IAMs_20 IAMs_20 09 54 41.0
comp=Z,2μm,22.0s
S54A Dingess, Beckl 103.59 54 IAMs_20 IAMs_20 09 54 35.5
comp=Z,2μm,22.0s
O52A Adamsville 103.72 52 IAMs_20 IAMs_20 09 54 47.6
comp=Z,2μm,22.0s
I49A Point Hope 103.86 48 IAMs_20 IAMs_20 09 54 56.1
comp=Z,1μm,21.0s
P53A Whipple 103.92 53 IAMs_20 IAMs_20 09 55 24.7
comp=Z,1μm,21.0s
W57A Gilead 104.02 57 IAMs_20 IAMs_20 09 56 26.5
comp=Z,1μm,22.0s
BLA Blacksburg 104.15 55 IAMs_20 IAMs_20 09 55 23.4
comp=Z,2μm,22.0s
X58A Rowland 104.40 58 IAMs_20 IAMs_20 09 55 50.9
comp=Z,1μm,22.0s
R55A Marlinton 104.61 54 IAMs_20 IAMs_20 09 55 27.6
comp=Z,2μm,22.0s
N53A Lisbon 104.62 52 IAMs_20 IAMs_20 09 55 46.9
comp=Z,2μm,22.0s
O54A Avella 104.83 52 IAMs_20 IAMs_20 09 56 52.7
comp=Z,2μm,20.0s
T57A Hurt 105.01 56 IAMs_20 IAMs_20 09 56 31.4
comp=Z,1μm,22.0s
MCWV Mont Chateau 105.12 53 IAMs_20 IAMs_20 09 55 22.5
comp=Z,2μm,22.0s
W59A Clinton 105.26 58 IAMs_20 IAMs_20 09 55 30.4
comp=Z,1μm,22.0s
S57A Dark Hollow, R 105.40 55 IAMs_20 IAMs_20 09 56 33.6
comp=Z,1μm,22.0s
ERPA Erie 105.51 50 IAMs_20 IAMs_20 09 57 03.3
comp=Z,1μm,20.0s
R58B Mineral 106.28 55 IAMs_20 IAMs_20 09 56 58.8
comp=Z,1μm,22.0s
T59A Double "B" Far 106.33 56 IAMs_20 IAMs_20 09 57 41.5
comp=Z,1μm,22.0s
P57A Homestead Farm 106.47 53 IAMs_20 IAMs_20 09 57 17.4
comp=Z,2μm,21.0s
PALK Pallekele 106.50 272 IAMs_20 IAMs_20 10 04 27.5
comp=Z,1μm,20.0s
CBN Corbin Frederi 106.72 55 IAMs_20 IAMs_20 09 56 42.3
comp=Z,1μm,22.0s
SSPA Standing Stone 106.78 52 IAMs_20 IAMs_20 09 57 17.4
comp=Z,2μm,21.0s
J55A Hilton 107.30 49 IAMs_20 IAMs_20 09 57 18.3
comp=Z,1μm,20.0s
N58A Sunbury 107.69 52 IAMs_20 IAMs_20 09 57 01.5
comp=Z,2μm,21.0s
SDDR Presa de Saban 107.78 76 IAMs_20 IAMs_20 09 54 23.7
comp=Z,1μm,22.0s
S61A Accomac 107.94 56 IAMs_20 IAMs_20 09 58 30.9
comp=Z,1μm,20.0s
R61A Willards 108.31 55 IAMs_20 IAMs_20 09 57 29.6
comp=Z,2μm,21.0s
WMQ Urumqi 108.52 311 Pdif **Pdif** **09 15 32.8 +6.0**
WMQ LR LR
comp=Z,350nm,13.5s
WMQ LR LR
comp=Z,380nm,21.1s
WMQ LR LR
comp=Z,350nm,19.3s
J57A Williamstown 108.63 50 IAMs_20 IAMs_20 09 58 39.7
comp=Z,1μm,21.0s
J59A Piesco 109.72 50 IAMs_20 IAMs_20 09 59 33.4
comp=Z,1μm,20.0s
LONY Lake Ozonia 109.81 48 IAMs_20 IAMs_20 09 58 38.5
comp=Z,2μm,22.0s
VT1 Waterbury 111.08 49 IAMs_20 IAMs_20 09 59 17.2
comp=Z,2μm,22.0s
J61A Chester 111.11 50 IAMs_20 IAMs_20 09 59 35.4
comp=Z,1μm,22.0s
HYB Hyderabad 111.26 282 *e*PKiKP **PKiKP** **09 19 34.3 -4.0**
HYB *es*PKiKP **sPKiKP** **09 19 38.9 -6.6**
HNH Hanover 111.34 50 IAMs_20 IAMs_20 10 02 13.5
comp=Z,1μm,20.0s
ZALV Zalesovo Beam 111.42 321 PKiKP **PKiKP** **09 19 37.3 -0.2**
comp=Z,0.5nm,0.5s,baz=108,slow=4.8,SNR=4.0
LBNH Lisbon 111.66 49 IAMs_20 IAMs_20 10 01 21.6
comp=Z,1μm,20.0s
I62A Tamworth 112.05 50 IAMs_20 IAMs_20 10 00 54.0
comp=Z,1μm,20.0s
I63A Otisfield 112.61 49 IAMs_20 IAMs_20 10 01 38.7
comp=Z,1μm,21.0s
MKAR Makanchi Array 112.63 314 PKiKP **PKiKP** **09 19 39.2 -0.9**
comp=Z,0.5nm,0.7s,baz=48,slow=1.8,SNR=4.9
E62A Clayton Lake 113.52 47 IAMs_20 IAMs_20 10 02 29.3
comp=Z,1μm,20.0s
KURK Kurchatov 115.17 318 PKiKP **PKiKP** **09 19 43.0 -1.7**
KURBB Kurchatov Arra 115.22 318 PKP **PKiKP** **09 19 43.0 -1.8**
comp=Z,1.9nm,1.0s,baz=90,slow=1.6,SNR=7.5
ILULI Ilulissat 119.03 20 IAMs_20 IAMs_20 10 03 30.7
comp=Z,1μm,22.0s
BVAR Borovoye Array 120.07 321 PKP **PKPdf** **09 19 53.0 -1.1**
comp=Z,1.8nm,0.7s,baz=48,slow=2.2,SNR=8.5
BVAR Borovoye Array 120.07 321 PKiKP **PKPdf** **09 19 53.0 -1.1**
BRVK Borovoye 120.12 321 *i* PKiKP **PKiKP** **09 19 57.1 +2.8**
SUMG Summit 120.74 14 IAMs_20 IAMs_20 10 13 00.7
comp=Z,1μm,19.0s
KKAR Karatay Array 120.95 309 **PKPdf** **09 19 53.2 -3.0**
KKAR Karatay Array 120.95 309 PKiKP **PKPdf** **09 19 53.2 -3.0**
NRS Narsarsuaq 124.69 27 IAMs_20 IAMs_20 10 13 51.4
comp=Z,1μm,20.0s
ANGG Ammassalik, Gr 125.33 20 IAMs_20 IAMs_20 10 11 32.3
comp=Z,986nm,19.0s
MSEY Mahe Island 125.72 250 IAMs_20 IAMs_20 10 14 11.7
comp=Z,1μm,20.0s
SCO Scoresbysund 125.78 11 IAMs_20 IAMs_20 10 11 20.3
comp=Z,1μm,21.0s
ARTI Arti 125.92 327 **PKPdf** **09 20 01.1 -4.1**
ARTI IAMs_20 IAMs_20 10 13 49.8
comp=Z,1μm,20.0s
ARTI Arti 125.92 327 *i* PKiKP **PKiKP** **09 20 06.7 +1.1**
ARTI 09 27 18.0
ARTI MLR MLR
comp=Z,1μm,20.0s
AB31 Akbulak array 127.28 318 **PKPdf** **09 20 04.1 -4.0**
ABKAR Akbulak array 127.28 318 **PKPdf** **09 20 05.0 -3.1**
LVZ Lovozero 127.68 347 IAMs_20 IAMs_20 10 08 35.6
comp=Z,1μm,22.0s
ARCES ARCESS Array B 127.90 351 PKP **PKPdf** **09 20 07.3 -1.4**
comp=Z,7.8nm,1.0s,baz=30,slow=12,SNR=4.9
KIRV Kirov 129.24 332 *d* PKiKP **PKiKP** **09 20 18.0 +5.8**
KLMR Klimovskoe 131.73 339 *e*PKiKP **PKiKP** **09 20 18.3 +1.2**
KLMR pmax pmax
comp=Z,23nm,1.2s
FINES FINESS Array B 135.12 346 PKP **PKPdf** **09 20 22.3 -0.2**
comp=Z,4.7nm,1.0s,baz=90,slow=4.8,SNR=5.4
MOS Moscow 136.04 335 *i* PKiKP **PKiKP** **09 20 29.5 +3.5**
MOS *e* 09 23 05.1
MOS pmax pmax
comp=Z,600nm,4.2s
OBN Obninsk 136.91 334 *e*PKiKP **PKiKP** **09 20 31.2 +3.4**
OBN *e* 09 23 12.7
OBN *e*PPP PPP 09 26 19.8
OBN pmax pmax
comp=Z,13nm,1.3s
MAK Makhachkala 137.45 314 *i* P **Pdif** **09 17 24.5 -11**
MAK *i* 09 20 26.6
MAK *e* 09 23 09.5
MAK *e*PPP PPP 09 26 13.0
MAK *e* 09 27 35.4
MAK *e*SS SS 09 41 20.0 -0.2
MAK *e*SSS SSS 09 46 23.3
MAK pmax pmax
comp=Z,335nm,1.4s
NOA NORSAR Array B 137.70 356 PKP **PKPdf** **09 20 25.5 -1.9**
comp=Z,0.9nm,0.8s,baz=12,slow=4.2,SNR=3.2
KONO Kongsberg 139.18 357 IAMs_20 IAMs_20 10 17 37.8
comp=Z,741nm,22.0s
KBZ Khabaz 140.21 317 *d* PKiKP **PKiKP** **09 20 40.3 +5.4**
KIV Kislovodsk 140.25 317 *i* PKiKP **PKiKP** **09 20 39.7 +4.5**
KIV *e* 09 23 33.6
KIV *e*PPP PPP 09 26 36.2
KIV *e*SS SS 09 41 57.8 +4.6
KIV *e*SSS SSS 09 47 09.5
KIV pmax pmax
comp=Z,5.0nm,1.1s
GNI Garni 140.39 311 *i* PKiKP **PKiKP** **09 20 40.5 +4.8**
TSUM Tsumeb 140.41 198 IAMs_20 IAMs_20 10 24 16.3
comp=Z,876nm,20.0s
MNK Minsk 140.59 340 *i* PKiKP **PKiKP** **09 20 36.8 +1.4**
MNK *i* 09 23 37.4
MNK *i* PPP PPP 09 26 42.5
MNK *i* 09 27 50.3
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,24nm,0.8s
MNK MLR MLR
comp=Z,2μm,23.0s
MNK MLR MLR
comp=E,1μm,21.0s
KIBK Kibwezi 141.86 240 IAMs_20 IAMs_20 10 18 25.5
comp=Z,661nm,19.0s
SUW Suwalki 142.44 343 *e*PKP **PKPdf** **09 20 33.1 -3.0**
RAYN Ar Rayn 142.71 284 ⇑PKiKP **PKPdf** **09 20 36.2 -1.4**
ANN Anapa 143.06 321 *i* PKiKP **PKPdf** **09 20 38.3 +0.8**
ANN pmax pmax
comp=Z,58nm,0.9s
ANN MLR MLR
comp=Z,519nm,18.0s
AKASG Malin Array Be 143.16 335 PKhKP PKPpre 09 20 33.7
comp=Z,1.4nm,0.7s,baz=39,slow=2.3,SNR=12
KIEV Kiev 143.17 335 IAMs_20 IAMs_20 10 27 03.6
comp=Z,710nm,21.0s
KIEV Kiev 143.17 335 ⇓P PKPab 09 20 33.3 +0.2
KIEV Kiev 143.17 335 ⇓PKHKP PKPpre 09 20 33.3
RGN Rugen 143.91 352 IAMs_20 IAMs_20 10 21 10.9
comp=Z,910nm,20.0s
PCED Cedros 144.25 49 *e*PKP **PKiKP** **09 20 45.6 +2.2**
CALA Caldeira 144.27 49 *e*PKP **PKiKP** **09 20 46.5 +2.9**
PCAN Candelaria 144.48 49 *e*PKP **PKiKP** **09 20 47.1 +3.2**
PICO Pico 144.50 49 *e*PKP **PKiKP** **09 20 46.7 +2.7**
PICO *e*LR LR 10 08 58.2
PICO *i* IAMs_20 IAMs_20 10 09 29.4
comp=Z,108nm,21.8s
GKP Gorka Klasztor 144.52 348 *e*PKP **PKPdf** **09 20 39.2 -0.6**
ROSA Rosais 144.55 49 *e*PKP **PKPab** **09 20 35.0 -3.8**
ROSA *e*LR LR 10 09 12.2
ROSA *i* IAMs_20 IAMs_20 10 11 35.6
comp=Z,62nm,22.5s
PGRA Graciosa 144.60 48 *e*PKP PKiKP 09 21 00.1 +16
PGRA *e*LR LR 10 08 56.2
PGRA *i* IAMs_20 IAMs_20 10 10 49.8
comp=Z,69nm,19.5s
PPNO Prainha do Nor 144.63 49 *e*PKP **PKiKP** **09 20 50.8 +6.5**
PMAN Manadas 144.69 49 *e*PKP **PKiKP** **09 20 47.0 +2.7**
PID Ribeirinha 144.75 49 *e*PKP **PKiKP** **09 20 43.7 -0.8**
SIM Simferopol' 144.88 324 *e*PKiKP **PKiKP** **09 20 46.0 +1.5**
SIM pmax pmax
comp=Z,1μm,6.9s
BEL Belsk 145.03 344 *e*PKP **PKPab** **09 20 37.5 -2.6**
PSBA Serra de Santa 145.18 48 *e*PKP **PKPbc** **09 20 37.8 -3.2**
PAGU Agualva, Azore 145.28 48 *e*PKP **PKiKP** **09 20 46.0 +0.4**
PAGU *e*LR LR 10 09 04.2
PAGU *i* IAMs_20 IAMs_20 10 09 35.8
comp=Z,117nm,18.8s
PSCM Serra do Cume 145.35 48 *e*PKP **PKPdf** **09 20 42.2 +0.4**
KIS Kishinev 146.16 331 *e*PKP **PKPdf** **09 20 41.0 -1.8**
KIS Kishinev 146.16 331 *e*PKHKP PKPpre 09 20 41.0
KIS *e*PPP PPP 09 27 29.0
MILM Milestii Mici 146.22 331‖ *i* PKP **PKPdf** **09 20 41.0 -1.9**
comp=Z,3μm,7.5s
MILM *e*L L 10 16 00.0
MILM LRM MLR 10 24 51.0
comp=Z,600nm,22.0s
MILM Milestii Mici 146.22 331 *d* PKHKP PKPpre 09 20 41.0
MILM pmax pmax
comp=Z,3μm,7.5s
KWP Kalwaria Pacla 146.42 340 *e*PKP **PKPab** **09 20 45.0 -0.4**
FURI Furi 146.57 257 IAMs_20 IAMs_20 10 22 36.1
comp=Z,826nm,20.0s
PSET Sete Cidades 146.72 49 *e*PKP **PKiKP** **09 20 54.2 +5.6**
PSET *e*LR LR 10 08 58.2
PSET *i* IAMs_20 IAMs_20 10 10 53.2
comp=Z,207nm,20.7s

OJC	Ojcow	146.76	343	*e*PKP		PKPdf	09 20 43.9	+0.1
CMLA	Cha da Macela	146.89	49	*e*PKP		PKiKP	09 20 49.4	+0.5
CMLA				*e*LR	LR		10 09 24.1	
CMLA				*i* IAMs_20	IAMs_20		10 13 33.3	
	comp=Z,117nm,25.3s							
KSP	Ksiaz	147.01	348	*e*PKP		PKPbc	09 20 44.9	-1.3
STHS	Stebnicka Huta	147.07	341	*e*PKHKP	PKPpre		09 20 45.1	
STHS	Stebnicka Huta	147.07	341	*e*PKP		PKPbc	09 20 45.1	-1.3
CLL	Collm	147.12	352	*e*PKHKP	PKPpre		09 20 45.0	
CLL				*i*			09 20 47.0	
CLL				*i*			09 20 49.2	
CLL				pmax	pmax			
	comp=Z,22nm,1.3s							
CLL				pmax	pmax			
	comp=Z,43nm,1.2s							
KOLS	Kolonicke sedl	147.17	340	*e*PKP2		PKiKP	09 20 55.7	+6.6
LODK	Lodwar	147.21	246	IAMs_20	IAMs_20		10 24 26.8	
	comp=Z,671nm,19.0s							
BURAR	Bucovina Array	147.21	335	⇑P		PKPbc	09 20 47.4	+0.4
BURAR	Bucovina Array	147.21	335	⇑PKIKP		PKPbc	09 20 47.4	+0.4
OSTC	Ostas	147.30	348	*e*PKIKP		PKPbc	09 20 47.5	+0.5
OSTC				MLR	MLR			
	comp=Z,1μm,27.5s							
OSTC	Ostas	147.30	348	*e*PKP		PKPbc	09 20 47.5	+0.5
OSTC				AMS	AMS		10 18 10.0	
	comp=Z,1μm,27.5s							
CHVC	Chvalec	147.30	348	*e*PKIKP		PKPab	09 20 48.0	-0.8
CHVC				MLR	MLR			
	comp=Z,1μm,25.1s							
CHVC	Chvalec	147.30	348	*e*PKP		PKPab	09 20 48.0	-0.8
CHVC				AMS	AMS		10 18 10.0	
	comp=Z,1μm,25.1s							
NIE	Niedzica	147.35	342	*e*PKP		PKPab	09 20 48.4	-0.6
UPC	Upice	147.39	348	*e*PKIKP		PKPab	09 20 48.4	-0.7
UPC				MLR	MLR			
	comp=Z,1μm,22.9s							
UPC	Upice	147.39	348	*e*PKP		PKPab	09 20 48.4	-0.7
UPC				AMS	AMS		10 18 00.0	
	comp=Z,1μm,22.9s							
BIZ	Bicaz	147.39	334	⇑P		PKPab	09 20 48.4	-0.9
BRG	Berggiesshubel	147.41	350	*e*PKP		PKPbc	09 20 46.4	-0.9
BRG				Amp			09 20 49.1	
	comp=Z,26nm,1.2s							
BRG	Berggiesshubel	147.41	350	P		PKiKP	09 20 51.0	+1.5
BRG				Amp			09 20 52.0	
	comp=Z,27nm,1.1s							
DPC	Dobruska-Polom	147.47	347	*e*PKIKP		PKPbc	09 20 47.5	-0.1
DPC				MLR	MLR			
	comp=Z,1μm,25.5s							
DPC	Dobruska-Polom	147.47	347	*e*PKP		PKPbc	09 20 47.5	-0.1
DPC				AMS	AMS		10 18 50.0	
	comp=Z,1μm,25.5s							
TESR	Tescani	147.50	333	⇑P		PKPbc	09 20 46.4	-1.3
OKC	Ostrava-Krasne	147.54	345	AMS	AMS		10 21 50.0	
	comp=Z,1μm,24.3s							
PSMN	Pico do Norte,	147.55	50	*e*PKP		PKiKP	09 20 50.5	+0.3
PSMN				*e*LR	LR		10 10 00.0	
PSMN				*i* IAMs_20	IAMs_20		10 12 03.7	
	comp=Z,73nm,21.9s							
KRLC	Kraliky	147.63	347	*e*PKP2		PKPab	09 20 50.3	+0.1
KRLC				MLR	MLR			
	comp=Z,1μm,21.9s							
KRLC	Kraliky	147.63	347	*e*PKP		PKPab	09 20 50.3	+0.1
KRLC				AMS	AMS		10 24 00.0	
	comp=Z,1μm,21.9s							
PVCC	Panska Ves	147.64	349	*e*PKIKP		PKPab	09 20 49.8	-0.3
PVCC				MLR	MLR			
	comp=Z,1μm,24.7s							
PVCC	Panska Ves	147.64	349	*e*PKP		PKPab	09 20 49.8	-0.3
PVCC				AMS	AMS		10 22 30.0	
	comp=Z,1μm,24.7s							
RICC	Richard	147.70	350	AMS	AMS		10 22 10.0	
	comp=Z,1μm,23.9s							
MORC	Moravsky Berou	147.74	346	*e*PKP		PKPdf	09 20 46.5	+1.0
MORC	Moravsky Berou	147.74	346	⇑P		PKPbc	09 20 47.7	-0.6
MORC	Moravsky Berou	147.74	346	⇑PKIKP		PKPbc	09 20 47.7	-0.6
CFR	Carcaliu	147.83	330	⇓P		PKPdf	09 20 46.8	+1.1
CFR	Carcaliu	147.83	330	⇓PKIKP		PKPdf	09 20 46.8	+1.1
TPGR	Topolog	147.92	329	⇓P		PKPdf	09 20 47.0	+1.1
VRI	Vrincioaia	147.96	332	⇓P		PKPbc	09 20 47.8	-1.2
VRI	Vrincioaia	147.96	332	⇓PKIKP		PKPbc	09 20 47.8	-1.2
PLOR	Plostina	148.01	332	⇑P		PKPbc	09 20 47.5	-1.6
PLOR	Plostina	148.01	332	⇑PKIKP		PKPbc	09 20 47.5	-1.6
UCC	Uccle	148.12	2	*d*PKPdf		PKPbc	09 20 49.5	+0.4
KECS	Kecovo	148.13	341	*e*PKP2		PKPab	09 20 58.9	+6.8
BEBN	Eben Emael	148.15	0	*d*PKPdf		PKiKP	09 20 50.3	-0.7
PRU	Pruhonice	148.16	349	*e*PKIKP		PKiKP	09 20 50.7	-0.4
PRU				MLR	MLR			
	comp=Z,1μm,21.5s							
PRU	Pruhonice	148.16	349	*e*PKP		PKiKP	09 20 50.7	-0.4
PRU				AMS	AMS		10 23 20.0	
	comp=Z,1μm,21.5s							
GOPC	GO Pecny, Ondr	148.19	349	*e*PKP2		PKPab	09 20 51.7	-0.7
GOPC				MLR	MLR			
	comp=Z,1μm,23.2s							
GOPC	GO Pecny, Ondr	148.19	349	*e*PKP		PKPab	09 20 51.7	-0.7
GOPC				AMS	AMS		10 23 20.0	
	comp=Z,1μm,23.2s							
OZUR		148.19	333	⇑P		PKPab	09 20 52.3	-0.2
BR131	Keskin Array S	148.21	317	*i* PKP2		PKPab	09 20 55.9	+2.9
BRTR	Keskin Array B	148.21	317	PKPbc		PKPdf	09 20 47.7	+1.0
	comp=Z,3.4nm,0.9s,baz=114,slow=3.1,SNR=9.4							
TIRR	Tirgusor	148.22	328			PKPdf	09 20 45.5	-0.9
TIRR	Tirgusor	148.22	328	PKHKP	PKPpre		09 20 45.5	
HARR	Harsova	148.28	329	⇑P		PKPbc	09 20 49.2	-0.6
HARR	Harsova	148.28	329	⇑PKIKP		PKPbc	09 20 49.2	-0.6
KIRS	Kirsehir-Merke	148.34	316	⇓P		PKPbc	09 20 48.4	-1.9
BTNL	Ternell	148.35	360	*d*PKPdf		PKiKP	09 20 51.4	-0.1
BSTI	Sart Tilman	148.36	0	*d*PKPdf		PKiKP	09 20 51.6	+0.1
VRAC	Vranov	148.40	346	*e*PKP		PKiKP	09 20 50.5	-1.1
VRAC	Vranov	148.40	346	⇓P		PKPbc	09 20 49.2	-0.8
VRAC	Vranov	148.40	346	⇓PKIKP		PKPbc	09 20 49.2	-0.8
DOPR	Dopca	148.47	333	⇑P		PKPbc	09 20 48.9	-1.4
BGES	Gesves	148.55	1	*d*PKPdf		PKPab	09 20 53.1	-0.6
BGES				*d*PKP		pPKPab	09 20 58.9	-0.1
JAVC	Velka Javorina	148.56	345	*e*PKP		PKPbc	09 20 49.4	-1.1
BHOU	Houvegnez	148.59	360	*d*PKPdf		PKiKP	09 20 51.8	-0.2
BHOU				*d*PKP		pPKPab	09 20 59.3	+0.1
VYHS	Vyhne	148.60	343	*e*PKIKP		PKiKP	09 20 52.1	0.0
VYHS	Vyhne	148.60	343	*e*PKP		PKiKP	09 20 52.1	0.0
MLR	Muntele Rosu	148.60	332	IAMs_20	IAMs_20		10 28 43.8	
	comp=Z,986nm,21.0s							
MLR	Muntele Rosu	148.60	332	⇑P		PKPdf	09 20 48.0	+0.9
MLR	Muntele Rosu	148.60	332	⇑PKHKP	PKPpre		09 20 48.0	
ISR	Istrita	148.62	331	⇑P		PKPbc	09 20 48.8	-2.0
ISR	Istrita	148.62	331	⇑PKIKP		PKPbc	09 20 48.8	-2.0
BMRD	Maredsous	148.63	1	*d*PKPdf		PKiKP	09 20 51.6	-0.4
BMRD				*d*PKiKP		pPKPbc	09 20 56.3	+0.5
TREC	Trest	148.65	348	AMS	AMS		10 16 20.0	
	comp=Z,1μm,28.9s							
ANTO	Ankara	148.67	318			PKPbc	09 20 49.4	-1.7
ANTO	Ankara	148.67	318	⇓P		PKiKP	09 20 52.3	-0.3
ANTO	Ankara	148.67	318	PKIKP		PKPbc	09 20 49.4	-1.7
KRUC	Moravsky	148.68	346	*e*PKP		PKPdf	09 20 47.8	+0.8
ZVC	Zvikov	148.75	349	*e*PKP		PKiKP	09 20 52.4	+0.1
ZVC				AMS	AMS		10 23 10.0	
	comp=Z,1μm,22.5s							
RCHB	Rochefort	148.78	1	*d*PKPdf		PKPbc	09 20 49.8	-1.1
MARR	Marisel-Cluj	148.80	337	⇓P		PKPbc	09 20 49.0	-2.3
PSZ	Piszkesteto	148.81	341	⇑P		PKPbc	09 20 49.4	-1.8
PSZ	Piszkesteto	148.81	341	⇑PKIKP		PKPbc	09 20 49.4	-1.8
DOU	Dourbes	148.83	1	*d*PKiKP		PKPab	09 20 57.0	+2.1
DRGR		148.85	337	⇑P		PKPbc	09 20 50.1	-1.3
DRGR		148.85	337	⇑PKIKP		PKPbc	09 20 50.1	-1.3
GRA1	Grafenberg Arr	148.94	353	IAMs_20	IAMs_20		10 26 32.7	
	comp=Z,902nm,21.0s							
GRFO	Grafenberg	148.94	353	IAMs_20	IAMs_20		10 26 31.7	
	comp=Z,942nm,22.0s							
PSN	Preselentsi	148.94	328	P		PKPab	09 20 55.5	-0.1
SMOL	Smolenice	148.94	345	*e*PKP2		PKPab	09 20 57.7	+2.3
MODS	Modra-Piesok	149.11	345	*e*PKHKP	PKPpre		09 20 48.1	
MODS				*e*			09 20 55.2	
MODS	Modra-Piesok	149.11	345	*e*PKP		PKPdf	09 20 48.1	+0.4
MODS				*e*			09 20 55.2	
KHC	Kasperske Hory	149.16	350	*e*PKIKP		PKPbc	09 20 51.5	-0.5
KHC	Kasperske Hory	149.16	350	*e*PKP		PKPbc	09 20 51.5	-0.5
KHC				AMS	AMS		10 15 20.0	
	comp=Z,1μm,30.0s							
ARR	Arges	149.26	333	⇓P		PKiKP	09 20 53.2	-0.4
WLF	Walferdange	149.28	359			PKPdf	09 20 43.1	-4.8
WLF	Walferdange	149.28	359	PKIKP		PKPdf	09 20 43.1	-4.8
WLF				MLR	MLR			
	comp=Z,1μm,21.0s							
WLF	Walferdange	149.28	359	*d*PKPdf		PKiKP	09 20 52.5	-0.9
CKRC	Cesky Krumlov	149.33	349	*e*PKHKP	PKPpre		09 20 52.4	
CKRC				MLR	MLR			
	comp=Z,1μm,22.8s							
CKRC	Cesky Krumlov	149.33	349	*e*PKP		PKPbc	09 20 52.4	0.0
CKRC				AMS	AMS		10 23 50.0	
	comp=Z,1μm,22.8s							
SRO	Srobarova	149.36	343	*e*PKP2		PKPab	09 21 03.8	+6.7
GERES	GERESS Array B	149.41	350	PKPbc		PKPbc	09 20 52.5	-0.2
	comp=Z,7.9nm,1.1s,baz=64,slow=3.1,SNR=7.8							
PRD	Provadia	149.65	328	P		PKPab	09 20 56.5	-2.0
SIRR	Siria	149.68	338	⇓P		PKPbc	09 20 53.1	-0.2
CONA	Conrad Observa	149.86	346	*i* PKP		PKPbc	09 20 51.2	-2.6
	comp=Z,5.6nm,1.0s							
SURR	Surduc	149.95	337	⇓P		PKPdf	09 20 46.5	-2.6
MMAI	Mount Meron Ar	149.95	304	PKPbc		PKPbc	09 20 53.4	-1.2
	comp=Z,13nm,0.9s,baz=320,slow=3.3,SNR=9.1							
RONA	Rosalia, Austr	149.98	346	*i* PKP		PKPbc	09 20 52.3	-1.8
	comp=Z,4.3nm,0.9s							
GZR	Gura Zlata	150.00	336	⇓P		PKPbc	09 20 52.4	-1.8
GZR	Gura Zlata	150.00	336	⇓PKHKP	PKPpre		09 20 52.4	
STU	Stuttgart	150.04	355	IAMs_20	IAMs_20		10 29 18.0	
	comp=Z,646nm,20.0s							
BZS	Buzias	150.25	337	⇓P		PKPbc	09 20 52.1	-2.6
BZS	Buzias	150.25	337	⇓PKIKP		PKPbc	09 20 52.1	-2.6
MOA	Molln	150.27	348	*i* PKP		PKPbc	09 20 52.8	-2.0
	comp=Z,5.2nm,1.0s							
BFO	Black Forest	150.54	356			PKPbc	09 20 53.8	-1.6
BFO				IAMs_20	IAMs_20		10 25 10.3	
	comp=Z,674nm,21.0s							
BFO	Black Forest	150.54	356	PKIKP		PKPbc	09 20 53.8	-1.6
HERR	Herculane	150.57	335	⇓P		PKPbc	09 20 53.1	-2.4
ARSA	Arzberg	150.58	346	*e*PKP		PKPbc	09 20 52.9	-2.6
	comp=Z,3.6nm,1.2s							
ELND	Elena	150.59	329	⇑P		PKiKP	09 20 56.6	+0.2
ECH	Echery	150.71	358			PKPbc	09 20 54.7	-1.1
ECH	Echery	150.71	358	PKIKP		PKPbc	09 20 54.7	-1.1
MORH	Mrgy, Hungar	150.72	341	⇑P		PKPbc	09 20 53.6	-2.2
CSS	Mathiatis	150.76	309	PKPdf		PKPdf	09 20 47.7	-3.1
CSS				IAMs_20	IAMs_20		10 38 59.8	
	comp=Z,597nm,20.0s							
PLVB	Pleven	150.83	331	⇑P		PKPbc	09 20 55.3	-0.8
MDVR	Moldovita	150.92	336	⇑P		PKPbc	09 20 55.0	-1.5
LESA	Schwarzleotal	150.96	350	*i* PKP		PKPbc	09 20 54.0	-2.4
	comp=Z,3.0nm,0.9s							
RETA	Reutte	151.16	353	*i* PKP		PKPbc	09 20 54.0	-3.0
	comp=Z,5.3nm,0.9s							
KBA	Koelnbreinsper	151.18	349	*e*PKP		PKPbc	09 20 54.4	-2.8
	comp=Z,6.8nm,1.0s							
WATA	Walderalm	151.21	352	*e*PKP		PKPbc	09 20 53.9	-3.2
	comp=Z,0.1nm,0.2s							
SOKA	Soboth	151.23	347	*i* PKP		PKPdf	09 20 53.7	+2.5
	comp=Z,6.6nm,1.2s							
PERS	Pernice	151.25	346	*e*PKPbc		PKiKP	09 20 57.5	-0.2
MPEP	Malo Peshtene	151.25	332	P		PKPdf	09 20 49.0	-2.2
MOTA	Mosalm	151.26	352	*i* PKP		PKPbc	09 20 54.4	-2.9
	comp=Z,5.4nm,0.9s							
WTTA	Wattenberg	151.27	352	*i* PKP		PKPbc	09 20 54.7	-2.6
	comp=Z,5.8nm,0.8s							
ISP	Isparta	151.29	316	IAMs_20	IAMs_20		10 33 25.3	
	comp=Z,612nm,21.0s							
SQTA	Sankt Quirin	151.37	352	*i* PKP		PKPbc	09 20 54.3	-3.1
	comp=Z,6.7nm,1.1s							
DAVA	Damuels	151.46	354	*e*PKP		PKPbc	09 20 54.7	-3.1
	comp=Z,9.3nm,0.9s							
MYKA	Terra Mystica	151.56	349	*i* PKP		PKPdf	09 20 54.1	+2.5
	comp=Z,5.6nm,0.9s							
FETA	Feichten	151.62	353	*e*PKP		PKPbc	09 20 55.1	-3.1
	comp=Z,8.2nm,1.1s							
ABTA	Abfaltersbach	151.64	350	*i* PKP		PKPbc	09 20 54.7	-3.4
	comp=Z,9.2nm,1.3s							
PGB	Panagyurishte	151.72	330	P		PKPdf	09 20 54.0	+2.0
LJU	Ljubljana	151.94	347	*i* PKPdf		PKPdf	09 20 54.2	+2.1
LJU				*i* PKPbc		sPKPdf	09 20 59.4	0.0
VTS	Vitosha	152.06	332	P		PKPdf	09 20 54.0	+1.3
RZN	Rozhen	152.07	329	P		PKPdf	09 20 55.7	+2.9
FUORN	Ofenpass-Fuorn	152.07	353	IAMs_20	IAMs_20		10 30 29.7	
	comp=Z,756nm,22.0s							
PLNA	Plana	152.09	331	P		PKPdf	09 20 52.0	-0.7
MANT	Manisa	152.15	319	PKPdf		PKPdf	09 20 47.6	-5.4
BOJS	Bojanci	152.29	346	*e*PKPbc		PKiKP	09 20 59.6	-0.1
TUE	Stuetta	152.31	355			PKPdf	09 20 54.3	+1.3
TUE				IAMs_20	IAMs_20		10 31 35.1	
	comp=Z,859nm,20.0s							
EZN	Ezine	152.58	324	⇓P		PKPdf	09 20 51.8	-1.5
EZN	Ezine	152.58	324	⇓PKIKP		PKPdf	09 20 51.8	-1.5
MMB	Musomishta	152.66	330	P		PKPdf	09 20 55.5	+2.0
PDG	Podgorica	153.86	337	IAMs_20	IAMs_20		10 28 37.4	
	comp=Z,966nm,22.0s							
BNI	Bardonecchia	153.88	358	IAMs_20	IAMs_20		10 27 17.8	
	comp=Z,797nm,21.0s							
PGAV	Gavieira, Arco	154.08	24	*e*PKPdf		PKPbc	09 21 03.1	-0.6
PGAV				*e*PKPab		sPKPab	09 21 24.1	-0.1
PCAB	Cabril	154.39	24	*e*PKPdf		PKiKP	09 21 04.0	-0.3
PCAB				*e*PKPab		sPKPab	09 21 25.0	-0.4
POLO	Lamas de Olo	154.77	24	*e*PKPdf		PKPbc	09 21 03.2	-2.0
POLO				*e*PKPab		sPKPab	09 21 27.6	+0.6
PBRG	Braganca	154.79	22	*e*PKPdf		PKPbc	09 21 00.5	-4.6
PBRG				*e*PKPab		sPKPab	09 21 26.6	-0.5
MVO	Moncorvo	155.24	23	*e*PKPdf		PKPdf	09 21 03.7	+6.5
MVO				*e*PKPab		sPKPab	09 21 29.7	+0.6
PVIS	Viseu	155.29	25	*e*PKPdf		PKPdf	09 21 01.4	+4.2
PVIS				*e*PKPab		sPKPab	09 21 29.9	+0.6
PMAR	Madeira	155.46	51	*e*PKPdf		PKPdf	09 21 03.2	+5.4
PMAR				*e*PKPab		sPKPab	09 21 32.7	+2.2
PCAS	Casmilo, Conde	155.59	27	*e*PKPdf		PKPdf	09 21 01.4	+3.9
PCAS				*e*PKPab		sPKPab	09 21 30.0	-0.5
PMPST	Porto Santo, M	155.71	50	*e*PKPdf		PKPdf	09 21 03.0	+5.1
PMPST				*e*PKPab		sPKPab	09 21 31.9	+0.6
PSARD	Sardoal	156.11	27	*e*PKPdf		PKPdf	09 21 01.5	+3.2
PSARD				*e*PKPab		sPKPab	09 21 32.3	-0.5
PMAFR	Mafra	156.12	30	*e*PKPab	PKPab		09 21 34.0	+8.2
PCBR	Castelo Branco	156.20	26	*e*PKPdf	PKPdf		09 21 06.4	+8.0
PCBR				*e*PKPab	sPKPab		09 21 32.8	-0.3
PARRA	Arraiolos	156.35	30	*e*PKPdf		PKPdf	09 21 04.0	+5.4
PARRA				*e*PKPab		sPKPab	09 21 36.2	+2.4
LIS	Lisbon	156.38	30	*e*PKPdf		PKPdf	09 21 03.6	+4.9
LIS				IAMs_20	IAMs_20		10 25 32.9	
	comp=Z,2μm,17.5s							
PMTG	Montargil	156.52	28	*e*PKPdf		PKPdf	09 21 04.9	+6.1
PMTG				*e*PKPab		sPKPab	09 21 35.0	+0.5
PMRV	Marv??o	156.58	26	*e*PKPdf		PKPdf	09 21 02.4	+3.5
PESTR	Estremoz	156.96	27	*e*PKPab		PKPab	09 21 36.8	+7.3
EVO	Evora	157.05	29	*e*PKPdf		PKPdf	09 21 04.5	+4.9
EVO				*e*PKPab		sPKPab	09 21 37.3	+0.5
CUC	Castrocucco	157.22	340	IAMs_20	IAMs_20		10 37 52.2	
	comp=Z,562nm,20.0s							
PTEO	Sao Teotonio	157.51	31	*e*PKPdf		PKPdf	09 21 02.4	+2.3
PTEO				*e*PKPab		sPKPab	09 21 39.3	+0.5
MESJ	Messejana	157.52	30	*e*PKPdf		PKPdf	09 21 04.9	+4.8
MESJ				IAMs_20	IAMs_20		10 23 51.5	
	comp=Z,1μm,20.4s							
MESJ	Messejana	157.52	30	*e*PKPdf	PKPdf		09 21 07.9	+7.8
MESJ				*e*PKPab	sPKPab		09 21 38.9	0.0
PBEJ	Beja	157.53	29	*e*PKPdf	PKPdf		09 21 08.9	+8.7
PBEJ				*e*PKPab	sPKPab		09 21 39.1	+0.2
TIP	Timpagrande	157.62	337	IAMs_20	IAMs_20		10 26 38.9	
	comp=Z,924nm,22.0s							
ESDC	Sonseca Array	157.64	20			PKPdf	09 21 01.7	+1.3
ESDC	Sonseca Array	157.64	20	PKP		PKPdf	09 21 00.7	+0.4
	comp=Z,0.3nm,0.5s,baz=331,slow=2.4,SNR=4.8							
ESDC				PKPab		PKPab	09 21 30.6	-1.8
	comp=Z,2.0nm,0.9s,baz=327,slow=3.6,SNR=7.4							
MORF	Marmelete	157.73	32	*e*PKPdf		PKPdf	09 21 05.2	+4.8
MORF				IAMs_20	IAMs_20		10 24 41.0	
	comp=Z,1μm,31.4s							
MORF	Marmelete	157.73	32	*e*PKPdf		PKPdf	09 21 03.8	+3.3
MORF				*e*PKPab		sPKPab	09 21 40.0	+0.2
PCVE	Castro Verde	157.77	30	*e*PKPdf		PKPdf	09 21 04.5	+4.0
PCVE				*e*PKPab		sPKPab	09 21 39.6	-0.3
PFVI	Vila Bisbo	157.78	32	*e*PKPdf	PKPdf		09 21 08.4	+7.9
PFVI				*e*PKPab	sPKPab		09 21 40.2	+0.2
PBAR	Barrancos	157.78	27	*e*PKPdf		PKPdf	09 21 05.6	+5.1
PBAR				*e*PKPab		sPKPab	09 21 40.3	+0.4
PVAQ	Vaqueiros	158.10	30	*e*PKPdf		PKPdf	09 21 05.3	+4.4
PVAQ				*e*PKPab		sPKPab	09 21 41.1	-0.2
CEL	Celeste	158.75	337	IAMs_20	IAMs_20		10 35 00.7	
	comp=Z,778nm,22.0s							
MAHO	Mahon	159.01	3	IAMs_20	IAMs_20		10 28 23.0	
	comp=Z,715nm,22.0s							
VSL	Villasalto	159.21	352	IAMs_20	IAMs_20		10 32 09.4	
	comp=Z,837nm,21.0s							
CART	Cartagena	160.44	16	IAMs_20	IAMs_20		10 28 18.1	
	comp=Z,580nm,20.0s							
DBIC	Dimbokro	164.09	138	PKP		PKPdf	09 21 08.9	+1.0
	comp=Z,10nm,1.1s,baz=231,slow=2.5,SNR=4.0							
DBIC	Dimbokro	164.09	138	PKIKP		PKPdf	09 21 09.0	+1.0
TORD	Torodi Ar. Bea	173.12	145	PKP		PKPdf	09 21 14.9	+1.1
	comp=Z,1.9nm,0.4s,baz=333,slow=2.0,SNR=3.7							
TORD				PKPab		PKPab	09 22 42.4	+1.5
	comp=Z,1.2nm,0.3s,baz=215,slow=1.8,SNR=1.6							

NEIC ***05*** *09:05:46.3±0.5, 19°.39N±0°.09×154°.88W±0°.09, h51km±3km, Error ellipse: s-maj=16.8km s-min=5.3km az=135.0*

HVO 05 09:05:46.4±0.8, 19°.26N±0°.07×154°.72W±0°.04, h44km±6km, ML2.4/18, ML2.6/44(NEIC), Error ellipse: s-maj=10.7km s-min=4.9km az=166.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOKA	Jonika Flow	0.32	303			Pn	09 05 54.2	-0.9
JOKA						Sn	09 05 59.8	-1.6
JCUZ	Jacuzzi	0.38	289			Sn	09 06 01.2	-1.4
NPOC	North of Pu'u	0.39	290			Pn	09 05 55.0	-1.0
NPOC						Sn	09 06 01.3	-1.5
STCH	Steam Cracks	0.40	288			Pn	09 05 55.1	-1.0
STCH						Sn	09 06 01.4	-1.6
STCH	Steam Cracks	0.40	288	IAML			09 06 02.2	
	comp=E,332nm,0.1s							
STCH				IAML			09 06 02.2	
	comp=N,383nm,0.3s							
KNHH	Kane Nui o Ham	0.44	286			Pn	09 05 55.5	-1.1
PUH	Pauahi	0.48	284			Pn	09 05 55.9	-1.3
PUH						Sn	09 06 02.7	-2.1
PUH	Pauahi	0.48	284	IAML			09 06 03.9	
	comp=E,237nm,0.9s							
PUH				IAML			09 06 08.7	
	comp=N,228nm,1.1s							
BYL	Byron's Ledge	0.53	287			Pn	09 05 56.4	-1.4
BYL						Sn	09 06 04.1	-1.8
BYL	Byron's Ledge	0.53	287	IAML			09 06 04.3	
	comp=N,294nm,0.4s							
BYL				IAML			09 06 04.3	
	comp=E,290nm,0.3s							
KKO	Keanakako'i	0.53	285			Pn	09 05 56.4	-1.4
KKO						Sn	09 06 04.3	-1.6
HATHI	Halema'uma'u T	0.53	288			Pn	09 05 56.4	-1.4
HATHI						Sn	09 06 03.9	-2.1
HATHI	Halema'uma'u T	0.53	288	IAML			09 06 04.3	
	comp=N,389nm,0.2s							
HATHI				IAML			09 06 04.5	
	comp=E,327nm,0.4s							
RIM	Rim	0.54	285			Pn	09 05 56.5	-1.4
RIM						Sn	09 06 04.0	-2.1
SBLHI	Steaming Bluff	0.54	288			Pn	09

PIC2	El Picacho	0.63	354	*e*P		Pn	09 06 18.4	0.0	
PIC2				*e*S		Sn	09 06 29.2	+0.8	
LFU	La Fuente	0.64	6	*e*P		Pn	09 06 18.2	0.0	
LBRS	Las Brisas	0.64	13	*e*P		Pn	09 06 18.3	+0.1	
PAVA	Las Pavas	0.64	22	*e*P		Pn	09 06 18.2	-0.2	
PAVA	Las Pavas	0.64	22	P		Pn	09 06 18.4	0.0	
PAVA	Las Pavas	0.64	22	S		Sn	09 06 27.8	-0.6	
UESV	Universidad de	0.65	37	*e*P		Pn	09 06 18.4	+0.1	
UESV				*e*S		Sn	09 06 28.4	0.0	
UESV	Universidad de	0.65	37	P		Pn	09 06 18.4	+0.1	
CEDA	San Andres	0.71	344	*e*P		Pn	09 06 18.9	-0.2	
CEDA	San Andres	0.71	344	P		Pn	09 06 19.1	-0.1	
CEDA	San Andres	0.71	344	S		Sn	09 06 30.2	+0.4	
SCLA	Alcaldia de Sa	0.74	37	*e*P		Pn	09 06 19.3	-0.1	
SCLA	Alcaldia de Sa	0.74	37	S		Sn	09 06 30.5	+0.2	
SCLA	Alcaldia de Sa	0.74	37	P		Pn	09 06 19.4	0.0	
TECA	Tecapa	0.77	60	*e*P		Pn	09 06 19.9	-0.1	
TECA				*e*P			09 06 20.1		
PQSS	Presa 15 de Se	0.79	50	*e*P		Pn	09 06 19.9	-0.1	
PQSS	Presa 15 de Se	0.79	50	P		Pn	09 06 20.0	0.0	
PQSS	Presa 15 de Se	0.79	50	S		Sn	09 06 31.9	+0.5	
CEVE	Cerro Verde	0.83	329	*e*P		Pn	09 06 20.9	+0.2	
CEVE	Cerro Verde	0.83	329	P		Pn	09 06 21.1	+0.3	
SNJE	San Jose	0.85	332	*e*P		Pn	09 06 20.9	-0.1	
RTR	El Retiro	0.90	330	*e*P		Pn	09 06 21.9	+0.4	
PACA	Pacayal	0.91	67	*e*P		Pn	09 06 22.1	+0.4	
PACA				*e*S		Sn	09 06 35.8	+1.5	
LCY	Lacayo	0.92	70	*e*P		Pn	09 06 22.4	+0.6	
VSM	San Miguel	0.94	70	*e*P		Pn	09 06 22.9	+0.7	
NUBE	Las Nubes	0.97	324	*e*P		Pn	09 06 22.4	0.0	
NUBE				*e*S		Sn	09 06 35.9	+0.2	
NUBE	Las Nubes	0.97	324	*i* P		Pn	09 06 22.4	0.0	
NUBE				*e*S		Sn	09 06 36.5	+0.8	
NUBE	Las Nubes	0.97	324	P		Pn	09 06 22.5	0.0	
BLLM	Bellamira	0.98	70	*e*P		Pn	09 06 23.0	+0.5	
LLGN	La Laguna	1.07	13	*e*P		Pn	09 06 23.1	-0.6	
SLOZ	Alcaldia de Sa	1.08	327	*e*P		Pn	09 06 23.6	-0.2	
SLOZ				*e*S		Sn	09 06 38.4	+0.4	
LCND	La Caada	1.28	81	*e*P		Pn	09 06 26.7	+0.4	
MTO3	Montecristo	1.29	353	*e*P		Pn	09 06 26.2	-0.5	
MTO3	Montecristo	1.29	353	*i* P		Pn	09 06 26.2	-0.5	
CNCH	Conchagua	1.33	83	*e*P		Pn	09 06 24.6	-2.5	
CNCH				*e*P			09 06 27.6		
ESQI	Esquipulas	1.45	354	*e*P		Pn	09 06 28.5	-0.2	
SARH	Santa Rosa de	1.70	14	*i* P		Pn	09 06 32.2	+0.1	

JMA ***05*** *09:10:15.5±0.2,25˚N±2˚×123˚3E±0˚7, h142km±2km, MV2.6/12, NW OFF ISHIGAKIJIMA IS*

ISC 05 09:10:15.4±2.5, 24˚9N±0˚2×123˚32E±0˚06, h144km±14km, n16, σ0°56/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**213**	P	**Pn**	**09 10 36.1**	**0.0**
YOJ	**Yonaguni jima**	**0.52**	**213**	S	**Sn**	**09 10 52.5**	**+0.6**
YOJ	**Yonaguni jima**	**0.52**	**213**	P	**Pn**	**09 10 36.3**	**+0.1**
YOJ				*e*S	**Sn**	**09 10 52.0**	**+0.1**
JYNG	**Yonagunijimaku**	**0.56**	**217**	P	**Pn**	**09 10 36.6**	**+0.2**
JYNG				*e*S	**Sn**	**09 10 52.2**	**0.0**
IRIF	**Iriomote-Funau**	**0.68**	**146**	P	**Pn**	**09 10 37.1**	**0.0**
IRIF				*e*S	**Sn**	**09 10 53.1**	**-0.4**
JKRS	**Kuro-shima**	**0.91**	**136**	P	**Pn**	**09 10 39.3**	**+0.5**
JKRS				*e*S	**Sn**	**09 10 56.9**	**+0.3**
JIJ	**Ishigaki jima**	**0.92**	**125**	P	**Pn**	**09 10 38.9**	**0.0**
JIJ				*e*S	**Sn**	**09 10 55.9**	**-0.9**
HATJ	**Hateruma jima**	**0.95**	**152**	*e*P	**Pn**	**09 10 39.5**	**+0.4**
HATJ				*e*S	**Sn**	**09 10 57.2**	**0.0**
JTJ	**Tarama**	**1.28**	**101**	*e*P	**Pn**	**09 10 42.3**	**+0.1**
JTJ				*e*S	**Sn**	**09 11 02.2**	**-0.5**
NACB	**Ninganchiao**	**1.73**	**246**	P	**Pn**	**09 10 46.5**	**-0.5**
YHNB	**Yeheng**	**1.78**	**263**	P	**Pn**	**09 10 48.1**	**+0.4**
YULB	**Yu-li**	**2.38**	**231**	P	**Pn**	**09 10 54.3**	**-0.5**
YULB	**Yu-li**	**2.38**	**231**	S	**Sn**	**09 11 24.3**	**-0.7**
SSLB	**Suanglung**	**2.43**	**243**	P	**Pn**	**09 10 55.1**	**-0.2**
SSLB	**Suanglung**	**2.43**	**243**	S	**Sn**	**09 11 25.6**	**-0.5**
TPUB	**Ta-pu**	**2.93**	**238**	P	**Pn**	**09 11 03.2**	**+1.5**

IDC ***05*** *09:37:12.7±0.6, 1˚14S×29˚83E, h0km, mb3.9/14, mbtmp4.0/16, ML4.1/2, MS3.8/2, Error ellipse: s-maj=32.1km s-min=11.3km az=108.0*
NEIC ***05*** *09:37:13.5±1.6, 0˚9S±0˚1×29˚5E±0˚1, h10km±1km, mb4.4/14, Error ellipse: s-maj=20.5km s-min=19.1km az=327.0*

ISC 05 09:37:13.8±0.5, 1˚03S±0˚06×29˚53E±0˚09, h10km, n44, σ1°67/45, mb4.3/24, 4C, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODK	**Lodwar**	**7.32**	**53**	Pn	**Pn**	**09 38 58.8**	**-2.1**
KIBK	**Kibwezi**	**8.61**	**99**	Pn	**Pn**	**09 39 18.7**	**0.0**
LSZ	**Lusaka**	**14.21**	**185**	Pn	**Pn**	**09 40 32.1**	**-3.3**
LSZ	**Lusaka**	**14.21**	**185**	Pn	**Pn**	**09 40 33.3**	**-2.1**
	0.5nm,0.3s,baz=4.5,slow=9.9,SNR=23						
LSZ				Sn	**Sn**	**09 43 12.6**	**-0.8**
	0.5nm,0.3s,baz=0.4,slow=4.5,SNR=2.0						
LSZ				Lg	Lg	09 44 32.1	
	0.7nm,0.3s,baz=105,slow=8.2,SNR=6.7 10nm,0.7s						
MATP	**Matopo**	**19.30**	**183**	P	**P**	**09 41 38.9**	**-0.3**
	0.2nm,0.3s,baz=353,slow=13,SNR=12						
MATP				Lg	Lg	09 47 11.0	
	0.1nm,0.3s,baz=270,slow=19,SNR=6.8 2.2nm,0.7s						
GMARE	**Gumare**	**19.62**	**201**	P	**P**	**09 41 43.4**	**+0.8**
EDA	**Edea**	**19.95**	**284**	P	**P**	**09 41 42.6**	**-3.6**
EDA				IAmb	IAmb	09 41 50.5	
	comp=Z,13nm,0.6s						
MREMI	**Moremi**	**21.50**	**185**	P	**P**	**09 42 02.7**	**-0.3**
MREMI				IAmb	IAmb	09 42 10.9	
	comp=Z,10nm,0.7s						
TSUM	**Tsumeb**	**21.52**	**212**	P	**P**	**09 42 03.5**	**+0.2**
TSUM	**Tsumeb**	**21.52**	**212**	P	**P**	**09 42 03.1**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=41,slow=9.3,SNR=1.7						
TSUM				S	**S**	**09 46 06.1**	**+4.0**
	comp=Z,2.5nm,0.7s,baz=4.9,slow=19,SNR=1.7						
TSUM				Lg	Lg	09 48 27.0	
	comp=Z,0.3nm,0.3s,baz=153,slow=18,SNR=3.2						
TSUM				LR	LR	09 50 01.6	
	comp=Z,133nm,18.8s,baz=318,slow=36 comp=Z,1.4nm,0.7s						
GRTLG	**Ghanzi**	**21.77**	**201**	P	**P**	**09 42 05.3**	**-0.7**
GRTLG				IAmb	IAmb	09 42 13.5	
	comp=Z,18nm,1.2s						
LBTB	**Lobatse**	**24.14**	**189**	P	**P**	**09 42 29.3**	**-1.0**
BOSA	**Boshof**	**27.73**	**188**	P	**P**	**09 43 02.6**	**-0.1**
BOSA				IAmb	IAmb	09 43 14.0	
	comp=Z,5.8nm,1.1s						
BOSA	**Boshof**	**27.73**	**188**	P	**P**	**09 43 02.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=321,slow=10.0,SNR=1.6						
BOSA				Lg	Lg	09 51 40.4	
	baz=209,slow=5.1,SNR=3.0 comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.99**	**298**	P	**P**	**09 43 29.3**	**-2.4**
TORD	**Torodi Ar. Bea**	**30.99**	**298**	P	**P**	**09 43 30.1**	**-1.7**
	comp=Z,2.7nm,0.4s,baz=105,slow=6.9,SNR=1.9						
DBIC	**Dimbokro**	**35.16**	**283**	P	**P**	**09 44 08.0**	**-0.1**
BRTR	**Keskin Array B**	**40.74**	**5**	P	**P**	**09 44 54.5**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=211,slow=7.9,SNR=1.9 comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**50.79**	**327**	P	**P**	**09 46 17.0**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=135,slow=8.0,SNR=8.5 comp=Z,1.1nm,0.8s						
GERES	**GERESS Array B**	**51.54**	**347**	P	**P**	**09 46 21.9**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=180,slow=8.4,SNR=6.4 comp=Z,1.2nm,0.7s						
AKASG	**Malin Array Be**	**51.54**	**360**	P	**P**	**09 46 21.3**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=187,slow=6.5,SNR=3.3 comp=Z,0.4nm,0.5s						
AKTO	**Aktyubinsk**	**56.76**	**21**	P	**P**	**09 46 58.5**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=220,slow=8.7,SNR=5.1 comp=Z,1.2nm,0.5s						
KK31	**Karatay Array**	**57.27**	**35**	P	**P**	**09 47 00.1**	**-1.6**
KK31				IAmb	IAmb	09 47 08.8	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**57.27**	**35**	P	**P**	**09 47 00.3**	**-1.4**
ARTI	**Arti**	**61.83**	**18**	P	**P**	**09 47 34.3**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=225,slow=8.6,SNR=3.0 comp=Z,1.3nm,0.3s						
BVAR	**Borovoye Array**	**63.74**	**26**	P	**P**	**09 47 45.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=237,slow=4.5,SNR=2.5 comp=Z,0.6nm,0.5s						

RCBR	**Riachuelo**	**65.45**	**264**	LR		LR	10 10 43.7		
	comp=Z,158nm,22.0s,baz=249,slow=31								
MAKZ	**Makanchi**	**66.07**	**37**	P		**P**	**09 48 00.1**	**-0.9**	
MAKZ				IAmb		IAmb	09 48 02.6		
	comp=Z,7.8nm,1.5s								
KURBB	**Kurchatov Arra**	**66.17**	**32**	P		**P**	**09 48 01.4**	**-0.1**	
	comp=Z,0.9nm,0.9s,baz=236,slow=6.7,SNR=6.5 comp=Z,0.9nm,0.9s								
MKAR	**Makanchi Array**	**66.25**	**37**	P		**P**	**09 48 01.3**	**-0.9**	
MKAR	**Makanchi Array**	**66.25**	**37**	P		**P**	**09 48 02.1**	**-0.1**	
	comp=Z,1.2nm,0.7s,baz=236,slow=4.7,SNR=9.5 comp=Z,1.2nm,0.7s								
MAW	**Mawson**	**70.33**	**167**	P		**P**	**09 48 26.6**	**-0.6**	
	comp=Z,2.1nm,0.8s,baz=338,slow=10.0,SNR=4.2 comp=Z,2.1nm,0.8s								
ZAA0	**Zalesovo Array**	**71.21**	**31**	P		**P**	**09 48 31.6**	**-1.4**	
ZAA0				IAmb		IAmb	09 48 42.3		
	comp=Z,2.9nm,1.1s								
ZALV	**Zalesovo Beam**	**71.21**	**31**	P		**P**	**09 48 32.0**	**-0.9**	
ZALV	**Zalesovo Beam**	**71.21**	**31**	P		**P**	**09 48 33.3**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=270,slow=5.9,SNR=5.3 comp=Z,0.3nm,0.3s								
TROLL	**Troll, Antarti**	**72.91**	**188**	⇑P		**P**	**09 48 45.7**	**+2.8**	
	comp=Z,174nm,0.7s								
SNAA	**Sanae**	**73.49**	**190**	⇑P		**P**	**09 48 45.7**	**-0.7**	
	comp=Z,35nm,0.9s								
SNAA	**Sanae**	**73.49**	**190**			**P**	**09 48 47.3**	**+1.0**	
SNAA				IAmb		IAmb	09 48 50.2		
	comp=Z,4.6nm,1.3s								
VNA1	**Neumayer--Stat**	**73.73**	**192**	⇑P		**P**	**09 48 50.3**	**+2.7**	
	comp=Z,7.4nm,1.0s								
VNA3	**Neumayer Olymp**	**74.48**	**192**	⇑P		**P**	**09 48 53.8**	**+1.8**	
	comp=Z,4.7nm,0.8s								
GTA	**Gaotai**	**75.52**	**49**	*e*P		**P**	**09 49 00.4**	**+1.5**	
GTA				pmax		pmax			
	comp=Z,5.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**84.64**	**49**	*e*P		**P**	**09 49 46.9**	**-1.2**	
HHC				pmax		pmax			
	comp=Z,12nm,0.6s								
HHC				pmax		pmax			
	comp=Z,80nm,5.8s								
QSPA	**South Pole Qui**	**89.01**	**180**	P		**P**	**09 50 11.4**	**+2.6**	
QSPA	**South Pole Qui**	**89.01**	**180**	P		**P**	**09 50 10.0**	**+1.2**	
	comp=Z,3.0nm,1.0s,baz=252,slow=2.8,SNR=6.2 comp=Z,3.0nm,1.0s								

IDC ***05*** *09:42:59.6±0.6, 25˚39N×96˚53E, h0km, mb4.2/22, mbtmp4.2/23, ML4.0/1, Error ellipse: s-maj=23.0km s-min=12.4km az=51.0*
MOS ***05*** *09:42:59.9±1.0, 25˚46N×96˚66E, h10km, mb4.7/27, Error ellipse: s-maj=12.8km s-min=5.8km az=120.0*
BJI ***05*** *09:43:01.4, 25˚64N×96˚56E, h12km, mB4.6/5, mb4.3/29, ML3.8/6, Ms4.2/13, Ms7 3.9/14*
NEIC ***05*** *09:43:03.2±2.4, 25˚68N±0˚09×96˚64E±0˚09, h10km±1km, mb4.7/47, Error ellipse: s-maj=17.4km s-min=12.1km az=216.0*

ISC 05 09:43:01.9±0.4, 25˚51N±0˚05×96˚61E±0˚03, h10km, n140, σ1°38/149, mb4.5/62, 5C-6D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCH	**TengChong**	**1.79**	**105**	Pn	**Pn**	**09 43 32.5**	**-0.6**
TNCH				Pg	**Pb**	**09 43 34.1**	**-0.8**
TNCH				Sn	**Sb**	**09 43 56.0**	**-1.5**
TNCH				Sg	**Sg**	**09 43 59.2**	**-0.3**
TNCH				smax	smax		
	comp=N,3μm,1.7s						
TNCH				smax	smax		
	comp=E,4μm,1.8s						
KOHI	**KOHIMA**	**2.27**	**276**	*e*P	**Pb**	**09 43 42.6**	**-0.5**
KOHI				*e*S	**Sb**	**09 44 12.2**	**+0.8**
KOHI				IAML		09 44 16.6	
	comp=N,10μm,0.6s						
IMP	**Imphal**	**2.51**	**255**	*e*P	**Pb**	**09 43 46.5**	**-0.6**
IMP				*e*S	**Sb**	**09 44 18.3**	**+0.2**
IMP				IAML		09 44 26.4	
	comp=E,2μm,0.4s						
IMP				IAML		09 44 26.5	
	comp=N,2μm,0.3s						
ITAN	**ITANAGAR**	**3.06**	**303**	*e*P	**Pn**	**09 43 50.6**	**+0.2**
ITAN				*e*S	**Sn**	**09 44 24.2**	**-2.9**
ITAN				IAML		09 44 25.4	
	comp=E,4μm,0.3s						
TEZP	**TEZPUR**	**3.60**	**289**	*e*P	**Pn**	**09 43 56.7**	**-1.1**
TEZP				*e*S	**Sn**	**09 44 40.9**	**+0.4**
TEZP				IAML		09 44 43.4	
	comp=E,1μm,0.2s						
SHL	**Shillong**	**4.27**	**272**		**Pn**	**09 44 08.7**	**+1.5**
SHL	**Shillong**	**4.27**	**272**	*e*P	**Pn**	**09 44 06.4**	**-0.8**
SHL				*e*S	**Sn**	**09 44 57.9**	**+0.7**
SHL				IAML		09 45 00.7	
	comp=N,823nm,0.3s						
SHL				IAML		09 45 00.8	
	comp=E,607nm,0.3s						
SHL	**Shillong**	**4.27**	**272**	P	**Pn**	**09 44 08.7**	**+1.5**
GUWA	**GUWAHATI**	**4.49**	**280**	*e*P	**Pn**	**09 44 11.4**	**+1.5**
GUWA				*e*S	**Sn**	**09 45 03.5**	**+1.3**
GUWA				IAML		09 45 05.2	
	comp=N,3μm,0.3s						
GUWA				IAML		09 45 05.3	
	comp=E,1μm,0.3s						
PZH	**PanZhiHua**	**4.72**	**77**	Pn	**Pn**	**09 44 13.8**	**+0.5**
PZH				Pg	**Pg**	**09 44 28.7**	**-3.7**
PZH				Sg	**Sg**	**09 45 29.5**	**-4.1**
PZH				smax	smax		
	comp=E,50nm,1.0s						
PZH				smax	smax		
	comp=E,50nm,1.2s						
KMI	**Kunming**	**5.56**	**93**	Pn	Pn	09 44 29.4	+4.5
KMI				Sn	**Sn**	**09 45 33.0**	**+4.0**
KMI				Sg	**Sg**	**09 46 05.8**	**+5.4**
KMI				smax	smax		
	comp=E,71nm,1.1s						
KMI				smax	smax		
	comp=E,75nm,1.5s						
KMI				LR	LR		
	comp=E,3μm,6.2s						
KMI				LR	LR		
	comp=E,1μm,9.7s						
KMI				LR	LR		
	comp=E,1μm,9.7s						
LSA	**Lhasa**	**6.40**	**312**	Pn	**Pn**	**09 44 34.3**	**-2.4**
LSA				Sn	**Sn**	**09 45 54.4**	**+4.4**
LSA				smax	smax		
	comp=E,37nm,1.0s						
CHTO	**Chiang Mai**	**7.00**	**162**	Pn	**Pn**	**09 44 46.0**	**+1.4**
CHTO	**Chiang Mai**	**7.00**	**162**	P	**Pn**	**09 44 46.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**7.34**	**162**	Pn	**Pn**	**09 44 48.2**	**-1.0**
	comp=E,0.7nm,0.3s,baz=336,slow=14,SNR=6.4						
CMAR				Lg	Lg	09 46 50.8	
	comp=E,0.2nm,0.3s,baz=356,slow=22,SNR=9.6 comp=E,1.4nm,0.3s						
GTK	**Tadong**	**7.41**	**286**	*e*P	**Pn**	**09 44 47.6**	**-2.7**
GTK				*e*S	**Sn**	**09 46 10.5**	**-3.9**
GTK				IAML		09 46 11.5	
	comp=N,298nm,0.2s						
GTK				IAML		09 46 11.5	
	comp=E,228nm,0.2s						
CD2	**Chengdu**	**8.29**	**48**	Pg	**Pg**	**09 45 40.4**	**-0.2**
CD2				Sg	**Sg**	**09 47 31.4**	**+3.5**
CD2				smax	smax		
	comp=N,30nm,2.0s						
CD2				smax	smax		
	comp=E,40nm,2.5s						
EVN	**Everest**	**9.09**	**288**		**Pn**	**09 45 15.5**	**+1.7**
XAN	**Xi'an**	**13.65**	**49**	P	**Pn**	**09 46 14.8**	**-0.8**
XAN				pmax	pmax		
	comp=E,9.0nm,0.8s						
XAN				LR	LR		
	comp=E,2μm,12.7s						
XAN				LR	LR		
	comp=E,870nm,13.2s						
XAN				LR	LR		
	comp=E,2μm,13.1s						
GTA	**Gaotai**	**14.12**	**10**	*e*P	**P**	**09 46 31.9**	**+2.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LYN	**LuoYang**	**16.41**	**53**	P	**Pn**	**09 46 51.4**	**-0.9**
LYN				pmax	pmax		
	comp=Z,17nm,0.8s						
HYB	**Hyderabad**	**18.62**	**248**	*e*P	**Pn**	**09 47 21.8**	**+1.8**
BTO	**Baotou**	**18.75**	**33**	*e*P	**P**	**09 47 20.5**	**-0.6**
BTO				PP	**PnPn**	**09 47 37.0**	**+3.4**
BTO				S	**Sn**	**09 50 50.0**	**-1.3**
BTO				pmax	pmax		
	comp=Z,21nm,0.8s						
BTO				pmax	pmax		
	comp=Z,640nm,10.0s						
BTO				LR	LR		
	comp=Z,870nm,12.9s						
BTO				LR	LR		
	comp=Z,1μm,12.2s						
BTO				LR	LR		
	comp=Z,590nm,9.5s						
HNS	**HongShan**	**19.42**	**48**	⇓P	**Pn**	**09 47 29.9**	**+0.4**
HNS				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ	**Urumqi**	**19.66**	**341**	*e*P	**Pn**	**09 47 32.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**19.72**	**35**	*e*P	Pn	09 47 41.0	+7.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
NJ2	**Nanjing**	**20.54**	**66**	*e*P	**P**	**09 47 40.2**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NIL	**Nilore**	**21.84**	**297**		**P**	**09 47 55.0**	**+0.3**
NIL				IAmb	IAmb	09 48 07.0	
	comp=Z,20nm,0.8s						
NIL	**Nilore**	**21.84**	**297**	P	**P**	**09 47 55.0**	**+0.3**
NIL				pmax	pmax		
	comp=Z,20nm,0.8s						
BJI	**Beijing**	**21.85**	**44**	P	**P**	**09 47 56.0**	**+1.4**
BJI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSH	**Kashi**	**22.25**	**314**	P	**P**	**09 48 00.7**	**+1.6**
KSH				pmax	pmax		
	comp=Z,18nm,1.5s						
TARG	**Taragay, Kyrgy**	**22.44**	**321**	P	**P**	**09 48 02.3**	**+0.9**
TARG	**Taragay, Kyrgy**	**22.44**	**321**	P	**P**	**09 48 02.3**	**+0.9**
TARG				pmax	pmax		
	comp=Z,11nm,0.8s						
KDJ	**Kajisay**	**23.05**	**321**		**P**	**09 48 08.8**	**+1.2**
KDJ				IAmb	IAmb	09 48 11.8	
	comp=Z,22nm,0.9s						
KDJ	**Kajisay**	**23.05**	**321**	P	**P**	**09 48 08.8**	**+1.2**
KDJ				pmax	pmax		
	comp=Z,22nm,0.9s						
SONM	**Songino Array**	**23.59**	**17**		**P**	**09 48 12.1**	**-0.8**
SONM	**Songino Array**	**23.59**	**17**	P	**P**	**09 48 12.9**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=201,slow=11,SNR=7.8 comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**23.59**	**17**	P	**P**	**09 48 12.1**	**-0.8**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ULN	**Ulaanbaatar**	**23.79**	**18**	⇑*e*P	**P**	**09 48 14.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK31	**Makanchi Array**	**24.11**	**335**	*de*P	**P**	**09 48 19.0**	**+1.2**
MKAR	**Makanchi Array**	**24.11**	**335**		**P**	**09 48 18.4**	**+0.6**
MKAR	**Makanchi Array**	**24.11**	**335**	P	**P**	**09 48 18.7**	**+0.9**
	comp=Z,14nm,0.7s,baz=144,slow=9.1,SNR=7.5 comp=Z,14nm,0.7s						
MAKZ	**Makanchi**	**24.24**	**335**	P	**P**	**09 48 19.9**	**+0.9**
MAKZ				IAmb	IAmb	09 48 22.6	
	comp=Z,17nm,1.2s						
MAKZ	**Makanchi**	**24.24**	**335**	P	**P**	**09 48 19.9**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,17nm,1.2s						
XLT	**XiLinHaoTe**	**24.24**	**36**	*e*P	**P**	**09 48 19.8**	**+0.7**
XLT				pP	sP	09 48 23.0	-0.5
XLT				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XLT				pmax	pmax		
	comp=Z,110nm,7.3s						
XLT				LR	LR		
	comp=Z,46nm,19.3s						
XLT				LR	LR		
	comp=Z,240nm,17.7s						
XLT				LR	LR		
	comp=Z,390nm,16.9s						
AAK	**Ala-Archa**	**24.93**	**319**	P	**P**	**09 48 26.6**	**+1.1**
AAK	**Ala-Archa**	**24.93**	**319**	P	**P**	**09 48 26.8**	**+1.3**
	comp=Z,1.7nm,0.4s,baz=130,slow=8.6,SNR=6.0 comp=Z,1.7nm,0.4s						
AAK	**Ala-Archa**	**24.93**	**319**	⇑*i*P	**P**	**09 48 27.3**	**+1.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARSB	**Arslanbob**	**25.14**	**315**		**P**	**09 48 28.4**	**+1.1**
ARSB	**Arslanbob**	**25.14**	**315**	P	**P**	**09 48 28.4**	**+1.1**
ARSB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ZAK	**Zakamensk**	**25.36**	**10**	*e*P	**P**	**09 48 29.6**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,12nm,1.5s						
KBL	**Kabul**	**25.45**	**297**		**P**	**09 48 31.2**	**+0.9**
KBL	**Kabul**	**25.45**	**297**	P	**P**	**09 48 31.2**	**+0.9**
KBL				pmax	pmax		
	comp=Z,23nm,0.8s						
GAR	**Garm**	**25.88**	**308**		**P**	**09 48 34.0**	**-0.1**
SIMJ	**Simiganj**	**26.70**	**306**	P	**P**	**09 48 41.5**	**+0.1**
SIMJ				IAmb	IAmb	09 48 42.5	
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**27.63**	**316**	P	**P**	**09 48 50.0**	**+0.4**
KKAR	**Karatay Array**	**27.63**	**316**	P	**P**	**09 48 50.1**	**+0.4**
KURBB	**Kurchatov Arra**	**28.68**	**336**	P	**P**	**09 49 00.1**	**+1.2**
	comp=Z,2.5nm,0.6s,baz=147,slow=8.8,SNR=19 comp=Z,2.5nm,0.6s						
KURK	**Kurchatov**	**28.72**	**336**		**P**	**09 48 60.0**	**+0.7**
KURK				IAmb	IAmb	09 49 06.4	
	comp=Z,13nm,1.1s						
KURK	**Kurchatov**	**28.72**	**336**	P	**P**	**09 49 00.0**	**+0.7**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s						
KSRS	**Korea Array**	**29.10**	**58**	P	**P**	**09 49 03.3**	**+0.6**
	comp=Z,0.3n

OBN				*e*			09 53 25.2		
OBN				*e*			09 54 11.7		
OBN				*e*	PPP	PPP	09 55 16.6		
OBN					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BRTR	**Keskin Array B**	**53.89**	**302**		P	**P**	**09 52 25.5**	**-0.2**	
BRTR	**Keskin Array B**	**53.89**	**302**		P	**P**	**09 52 25.1**	**-0.6**	
	comp=Z,1.8nm,0.8s,baz=100,slow=7.9,SNR=8.1								
	comp=Z,1.8nm,0.8s								
BRTR	**Keskin Array B**	**53.89**	**302**	*ce*	P	**P**	**09 52 26.2**	**+0.5**	
BRTR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	**56.53**	**315**		P	**P**	**09 52 43.1**	**-1.2**	
	comp=Z,0.6nm,0.3s,baz=85,slow=6.2,SNR=5.2								
	comp=Z,0.6nm,0.3s								
AKASG	**Malin Array Be**	**56.53**	**315**	*ce*	P	**P**	**09 52 43.0**	**-1.4**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.3s								
AKBB	**Malin Array Si**	**56.53**	**315**	ǁ *e*	P	**P**	**09 52 43.2**	**-1.1**	
WB0	**Warramunga Arr**	**58.09**	**137**		P	**P**	**09 52 56.5**	**+0.8**	
WB0					IAmb	IAmb	09 53 16.5		
	comp=Z,12nm,1.4s								
WRA	**Warramunga Arr**	**58.19**	**137**		P	**P**	**09 52 55.5**	**-0.9**	
	comp=Z,2.9nm,1.0s,baz=322,slow=7.6,SNR=8.8								
	comp=Z,2.9nm,1.0s								
WRA	**Warramunga Arr**	**58.19**	**137**	*i* P		**P**	**09 52 57.7**	**+1.3**	
WRA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
FINES	**FINESS Array B**	**58.65**	**328**		P	**P**	**09 52 58.9**	**-0.2**	
FINES	**FINESS Array B**	**58.65**	**328**		P	**P**	**09 52 59.1**	**0.0**	
	comp=Z,2.4nm,0.8s,baz=107,slow=6.6,SNR=4.2								
	comp=Z,2.4nm,0.8s								
FINES	**FINESS Array B**	**58.65**	**328**	*i* P		**P**	**09 52 59.0**	**0.0**	
FINES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BILL	**Bilibino**	**59.00**	**24**	ǁ *e*	P	**P**	**09 53 01.3**	**-0.2**	
BILL					pmax	pmax			
	comp=Z,6.0nm,1.7s								
MLR	**Muntele Rosu**	**59.01**	**309**		P	**P**	**09 53 02.0**	**0.0**	
MLR					IAmb	IAmb	09 53 03.3		
	comp=Z,10.0nm,1.1s								
MLR	**Muntele Rosu**	**59.01**	**309**		P	**P**	**09 53 02.1**	**0.0**	
MLR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
ASAR	**Alice Springs**	**60.78**	**140**		P	**P**	**09 53 14.1**	**-0.2**	
ASAR	**Alice Springs**	**60.78**	**140**		P	**P**	**09 53 13.7**	**-0.6**	
	comp=Z,2.1nm,0.7s,baz=321,slow=6.6,SNR=28								
	comp=Z,2.1nm,0.7s								
ASAR	**Alice Springs**	**60.78**	**140**		P	**P**	**09 53 14.1**	**-0.2**	
MORC	**Moravsky Berou**	**64.08**	**315**	*e*	P	**P**	**09 53 35.9**	**-0.2**	
MORC	**Moravsky Berou**	**64.08**	**315**		P	**P**	**09 53 35.3**	**-0.8**	
MORC					pmax	pmax			
	comp=Z,6.0nm,0.9s								
JAVC	**Velka Javorina**	**64.15**	**314**	*e*	P	**P**	**09 53 37.3**	**+0.7**	
HFS	**Hagfors**	**64.75**	**327**		P	**P**	**09 53 39.9**	**-0.4**	
	comp=Z,3.3nm,0.9s,baz=66,slow=7.0,SNR=5.4								
	comp=Z,3.3nm,0.9s								
VRAC	**Vranov**	**64.77**	**315**	*e*	P	**P**	**09 53 40.6**	**0.0**	
VRAC	**Vranov**	**64.77**	**315**		P	**P**	**09 53 40.8**	**+0.2**	
VRAC					pmax	pmax			
	comp=Z,11nm,1.0s								
KRUC	**Moravsky**	**64.94**	**314**	*e*	P	**P**	**09 53 41.3**	**-0.4**	
NB2	**NORSAR Subarra**	**65.83**	**328**		P	**P**	**09 53 46.2**	**-1.1**	
	comp=Z,1.0nm,0.8s,baz=81,slow=6.5								
NOA	**NORSAR Array B**	**65.83**	**328**		P	**P**	**09 53 46.3**	**-1.1**	
	comp=Z,1.9nm,0.9s,baz=82,slow=6.4,SNR=5.8								
	comp=Z,1.9nm,0.9s								
GERES	**GERESS Array B**	**66.72**	**314**		P	**P**	**09 53 52.0**	**-1.3**	
GERES	**GERESS Array B**	**66.72**	**314**		P	**P**	**09 53 52.6**	**-0.7**	
	comp=Z,2.3nm,0.7s,baz=83,slow=5.5,SNR=13								
	comp=Z,2.3nm,0.7s								
MOX	**Moxa**	**67.64**	**317**		P	**P**	**09 53 58.8**	**-0.2**	
MOX					pmax	pmax			
	comp=Z,4.0nm,1.1s								
C18K	**Utukok River**	**70.81**	**22**		P	**P**	**09 54 17.4**	**-1.0**	
C18K					IAmb	IAmb	09 54 19.0		
	comp=Z,4.9nm,0.9s								
C19K	**Lookout Ridge**	**71.19**	**22**		P	**P**	**09 54 20.1**	**-0.6**	
C19K					IAmb	IAmb	09 54 29.4		
	comp=Z,8.4nm,1.2s								
WLF	**Walferdange**	**71.29**	**317**		P	**P**	**09 54 22.2**	**+0.7**	
WLF	**Walferdange**	**71.29**	**317**		P	**P**	**09 54 22.2**	**+0.7**	
WLF					pmax	pmax			
	comp=Z,18nm,1.1s								
KEST	**Kesra**	**73.50**	**302**		P	**P**	**09 54 32.9**	**-2.3**	
	comp=Z,5.3nm,1.1s,baz=76,slow=8.3,SNR=3.5								
	comp=Z,5.3nm,1.1s								
F21K	**Alatna River**	**74.06**	**22**			**P**	**09 54 37.6**	**-0.2**	
EKA	**Eskdalemuir Ar**	**74.70**	**324**		P	**P**	**09 54 40.3**	**-1.3**	
	comp=Z,1.6nm,0.8s,baz=71,slow=6.3,SNR=4.1								
	comp=Z,1.6nm,0.8s								
F25K	**Christian Rive**	**76.45**	**20**		IAmb	IAmb	09 54 53.1		
	comp=Z,4.4nm,1.0s								
BPAW	**Bear Paw Mtn.**	**76.49**	**25**		P	**P**	**09 54 51.3**	**-0.6**	
BMAR	**Burnt Mountain**	**76.88**	**20**			**P**	**09 54 54.8**	**+0.8**	
SUMG	**Summit**	**77.55**	**347**			**P**	**09 54 56.8**	**-1.2**	
SUMG					IAmb	IAmb	09 54 58.9		
	comp=Z,5.7nm,1.0s								
SUMG	**Summit**	**77.55**	**347**		P	**P**	**09 54 56.8**	**-1.2**	
SUMG					pmax	pmax			
	comp=Z,6.0nm,1.0s								
ILAR	**Eielson Array**	**77.63**	**23**		P	**P**	**09 54 56.8**	**-1.4**	
	comp=Z,1.2nm,1.1s,baz=299,slow=5.7,SNR=7.8								
	comp=Z,1.2nm,1.1s								
H27K	**Steamboat Moun**	**78.57**	**21**		IAmb	IAmb	09 55 04.6		
	comp=Z,6.6nm,0.9s								
L27K	**Beaver Creek,**	**80.45**	**23**		IAmb	IAmb	09 55 15.0		
	comp=Z,6.8nm,1.2s								
BCAR	**Beaver Creek A**	**80.46**	**23**			**P**	**09 55 13.4**	**-0.4**	
DAWY	**Dawson**	**80.65**	**22**		P	**P**	**09 55 14.5**	**-0.3**	
DAWY					IAmb	IAmb	09 55 15.1		
	comp=Z,6.3nm,1.1s								
I30M	**Mount Dempster**	**80.84**	**20**		IAmb	IAmb	09 55 16.1		
	comp=Z,6.5nm,0.9s								
H31M	**Peel River**	**81.05**	**19**		P	**P**	**09 55 16.3**	**-0.5**	
H31M					IAmb	IAmb	09 55 17.1		
	comp=Z,12nm,0.9s								
K29M	**Barlow Dome**	**81.42**	**21**		IAmb	IAmb	09 55 19.7		
	comp=Z,6.7nm,0.9s								
ESDC	**Sonseca Array**	**81.70**	**310**			**P**	**09 55 19.2**	**-1.7**	
ESDC	**Sonseca Array**	**81.70**	**310**		P	**P**	**09 55 19.6**	**-1.3**	
	comp=Z,1.7nm,1.0s,baz=45,slow=6.1,SNR=10								
	comp=Z,1.7nm,1.0s								
L29M	**L29M**	**81.71**	**22**		IAmb	IAmb	09 55 21.5		
	comp=Z,7.2nm,0.9s								
HYT	**Haines Junctio**	**83.46**	**24**			**P**	**09 55 29.5**	**-0.2**	
HYT					IAmb	IAmb	09 55 30.8		
	comp=Z,6.9nm,1.1s								
M31M	**Drury Creek, Y**	**83.58**	**22**		IAmb	IAmb	09 55 30.9		
	comp=Z,4.5nm,1.1s								
MMPY	**Sheldon Lake,**	**84.29**	**20**		P	**P**	**09 55 34.5**	**+0.7**	
MMPY					IAmb	IAmb	09 55 35.0		
	comp=Z,5.7nm,0.9s								
N32M	**Quiet Lake**	**84.78**	**22**		P	**P**	**09 55 36.5**	**+0.2**	
R33M	**Jennings River**	**86.78**	**22**		IAmb	IAmb	09 55 47.7		
	comp=Z,3.5nm,0.9s								

*NOU **05** 10:12:58.4, 39˚.34S×174˚.68E, h191km, MLv3.8/19, North Island, New Zealand*
*WEL **05** 10:12:60.0±1.1, 39˚S±14˚×17˚5E±˚, h187km±8km, M3.0/21, ML3.2/7, MLv3.0/21, Error ellipse: s-maj=19.0km s-min=10.8km az=158.6, confirmed*
ISC 05 10:12:56.1±1.6, 39˚30S±0˚.04×174˚68E±0˚.05, h216km±9km, n153, σ1§22/158, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
VRZ	**Vera Road**	**0.18**	**19**	P	**Pn**	**10 13 24.9**		**+0.5**
VRZ				S	**S**	**10 13 44.6**		**-1.7**
LREZ	**Lake Rotokare**	**0.27**	**233**	P	**Pn**	**10 13 25.7**		**+1.3**
LREZ				S	**S**	**10 13 46.3**		**-0.2**
DREZ	**Durham Road**	**0.39**	**286**	P	**Pn**	**10 13 25.4**		**+0.6**
PREZ	**Palmer Road**	**0.41**	**264**	P	**Pn**	**10 13 26.0**		**+1.2**
PREZ				S	**S**	**10 13 47.1**		**0.0**
NEZ	**North Egmont**	**0.46**	**274**	P	**Pn**	**10 13 26.5**		**+1.5**
NEZ				S	**S**	**10 13 47.1**		**-0.4**
WAZ	**Wanganui**	**0.51**	**153**	P	**Pn**	**10 13 26.7**		**+1.7**
KHEZ	**Kahui Hut**	**0.52**	**270**	P	**Pn**	**10 13 25.9**		**+0.7**
KHEZ	**Kahui Hut**	**0.52**	**270**	S	**S**	**10 13 47.5**		**-0.3**
KHEZ	**Kahui Hut**	**0.52**	**270**	P	**Pn**	**10 13 26.4**		**+1.2**
PKE	**Pukeiti**	**0.55**	**281**	P	**Pn**	**10 13 26.8**		**+1.5**
MTVZ	**Mangateitei**	**0.62**	**98**	P	**Pn**	**10 13 26.6**		**+1.1**
TWVZ	**Taurewa**	**0.63**	**69**	P	**Pn**	**10 13 26.5**		**+0.8**
NBEZ	**Newall Road No**	**0.63**	**273**	P	**Pn**	**10 13 26.3**		**+0.8**
NMEZ	**Namu Road**	**0.63**	**259**	P	**Pn**	**10 13 26.9**		**+1.4**
TRVZ	**Turoa**	**0.67**	**90**	P	**Pn**	**10 13 26.8**		**+0.8**
COVZ	**Chateau Observ**	**0.68**	**82**	P	**Pn**	**10 13 27.0**		**+1.2**
FWVZ	**Far West T-bar**	**0.68**	**87**	P	**Pn**	**10 13 27.1**		**+1.0**
MAVZ	**Matarangi**	**0.68**	**88**	P	**Pn**	**10 13 27.7**		**+1.5**
WHVZ	**Whangaehu Hut**	**0.70**	**89**	P	**Pn**	**10 13 27.3**		**+1.2**
WNVZ	**Wahianoa**	**0.71**	**92**	P	**Pn**	**10 13 27.3**		**+1.2**
NGZ	**Ngauruhoe**	**0.72**	**80**	P	**Pn**	**10 13 27.4**		**+1.2**
WTVZ	**West Tongariro**	**0.73**	**76**	P	**Pn**	**10 13 27.3**		**+1.1**
NNVZ	**North Ngauruho**	**0.74**	**77**	P	**Pn**	**10 13 27.4**		**+1.1**
SNVZ	**South Ngauruho**	**0.75**	**82**	P	**Pn**	**10 13 27.7**		**+1.3**
SNVZ				S	**S**	**10 13 47.9**		**-1.8**
TUVZ	**Tukino**	**0.76**	**88**	P	**Pn**	**10 13 28.1**		**+1.8**
KRVZ	**Karewarewa**	**0.77**	**75**	P	**Pn**	**10 13 27.4**		**+1.1**
OTVZ	**Oturere**	**0.78**	**80**	P	**Pn**	**10 13 27.8**		**+1.4**
HIZ	**Hauiti**	**0.80**	**10**	P	**Pn**	**10 13 26.8**		**+0.4**
HIZ	**Hauiti**	**0.80**	**10**	P	**S**	**10 13 48.3**		**-1.6**
HIZ	**Hauiti**	**0.80**	**10**	P	**Pn**	**10 13 26.9**		**+0.4**
NTVZ	**North Tongarir**	**0.80**	**76**	P	**Pn**	**10 13 27.8**		**+1.3**
TMVZ	**Te Maari**	**0.82**	**77**	P	**Pn**	**10 13 28.0**		**+1.4**
ETVZ	**East Tongariro**	**0.82**	**79**	P	**Pn**	**10 13 27.9**		**+1.3**
MOVZ	**Moawhango**	**0.84**	**98**	P	**Pn**	**10 13 27.5**		**+0.8**
KATZ	**Kakaramea**	**0.85**	**68**	P	**Pn**	**10 13 28.1**		**+1.2**
RATZ	**Rangitukua**	**0.95**	**63**	P	**Pn**	**10 13 28.2**		**+0.9**
RITZ	**Rihia Road**	**0.97**	**71**	P	**Pn**	**10 13 28.5**		**+1.1**
WATZ	**Wairara**	**1.01**	**55**	P	**Pn**	**10 13 28.8**		**+1.2**
OHWZ	**Ohakea**	**1.03**	**152**	P	**Pn**	**10 13 29.6**		**+2.0**
TLZ	**Tolley Road**	**1.18**	**35**	P	**Pn**	**10 13 29.5**		**+0.6**
WHTZ	**Whakaora**	**1.18**	**58**	P	**Pn**	**10 13 29.9**		**+1.0**
KUTZ	**Kaahu Road**	**1.20**	**48**	P	**Pn**	**10 13 30.0**		**+1.1**
TSZ	**Takapari Road**	**1.25**	**128**	P	**Pn**	**10 13 30.7**		**+1.5**
PNHZ	**Pukenui**	**1.32**	**139**	P	**Pn**	**10 13 31.2**		**+1.4**
KRHZ	**Kereru**	**1.35**	**105**	P	**Pn**	**10 13 31.4**		**+1.3**
KWHZ	**Kaweka Forest**	**1.36**	**96**	P	**Pn**	**10 13 31.8**		**+1.7**
POWZ	**Post Office Ro**	**1.38**	**143**	P	**Pn**	**10 13 31.4**		**+1.3**
WPRZ	**Whakapapataran**	**1.39**	**56**	P	**Pn**	**10 13 31.1**		**+0.7**
BKZ	**Black Stump Fm**	**1.41**	**85**	P	**Pn**	**10 13 31.4**		**+0.9**
BKZ	**Black Stump Fm**	**1.41**	**85**	P	**S**	**10 13 55.0**		**-2.2**
BKZ	**Black Stump Fm**	**1.41**	**85**	P	**Pn**	**10 13 31.4**		**+0.9**
MRHZ	**Matea Rd**	**1.43**	**72**	P	**Pn**	**10 13 31.1**		**+0.4**
GRRZ	**Galatos Road**	**1.47**	**50**	P	**Pn**	**10 13 31.9**		**+0.9**
ALRZ	**Allen Road**	**1.49**	**61**	P	**Pn**	**10 13 31.8**		**+0.6**
DVHZ	**Dannevirke**	**1.52**	**132**	P	**Pn**	**10 13 32.7**		**+1.4**
MRZ	**Mangatainoka R**	**1.52**	**153**	P	**Pn**	**10 13 32.6**		**+1.2**
HRRZ	**Handcock Road**	**1.55**	**55**	P	**Pn**	**10 13 32.5**		**+0.8**
PRRZ	**Plateau Road**	**1.56**	**60**	P	**Pn**	**10 13 32.2**		**+0.5**
WPHZ	**Waipukurau**	**1.56**	**120**	P	**Pn**	**10 13 33.3**		**+1.6**
OGWZ	**Otaki Gorge**	**1.56**	**166**	P	**Pn**	**10 13 33.2**		**+1.6**
KIW	**Kapiti Island**	**1.57**	**174**	P	**Pn**	**10 13 33.0**		**+1.2**
MCHZ	**McNeill Hill**	**1.57**	**96**	P	**Pn**	**10 13 33.8**		**+2.1**
HSRZ	**Hossack Road**	**1.57**	**52**	P	**Pn**	**10 13 32.8**		**+0.9**
PRWZ	**Pori Road**	**1.60**	**142**	P	**Pn**	**10 13 33.6**		**+1.6**
DUWZ	**D'Urville Isla**	**1.61**	**201**	P	**Pn**	**10 13 33.5**		**+1.3**
UTU	**Utuhina**	**1.63**	**47**	P	**Pn**	**10 13 33.5**		**+1.1**
NMHZ	**Naumai**	**1.66**	**84**	P	**Pn**	**10 13 34.6**		**+1.9**
HLRZ	**Highlands Stat**	**1.67**	**52**	P	**Pn**	**10 13 34.3**		**+1.5**
TOZ	**Tahuroa Road**	**1.69**	**23**	P	**Pn**	**10 13 33.7**		**+0.8**
HOWZ	**Holdsworth Sta**	**1.72**	**158**	P	**Pn**	**10 13 34.2**		**+1.1**
RRRZ	**Republican Roa**	**1.72**	**57**	P	**Pn**	**10 13 33.9**		**+0.6**
MTHZ	**Maungataniwha**	**1.74**	**76**	P	**Pn**	**10 13 34.1**		**+0.7**
TIWZ	**Tintock**	**1.74**	**148**	P	**Pn**	**10 13 34.6**		**+1.3**
KAHZ	**Kahuranaki**	**1.77**	**107**	P	**Pn**	**10 13 35.5**		**+1.9**
KARZ	**Kaharoa**	**1.77**	**44**	P	**Pn**	**10 13 34.6**		**+1.0**
TARZ	**Mount Tarawera**	**1.78**	**54**	P	**Pn**	**10 13 34.7**		**+0.9**
OMRZ	**Omania**	**1.78**	**49**	P	**Pn**	**10 13 33.2**		**-0.6**
PRHZ	**Porangahau**	**1.79**	**123**	P	**Pn**	**10 13 35.5**		**+1.7**
ARHZ	**Aropaoanui**	**1.80**	**90**	P	**Pn**	**10 13 35.5**		**+1.7**
ANWZ	**Angora Road**	**1.80**	**131**	P	**Pn**	**10 13 35.6**		**+1.7**
MUGZ	**Muipara**	**1.83**	**64**	P	**Pn**	**10 13 34.5**		**+0.3**
CAW	**Cannon Point**	**1.83**	**171**	P	**Pn**	**10 13 35.4**		**+1.3**
BFZ	**Birch Farm**	**1.83**	**139**	P	**Pn**	**10 13 35.4**		**+1.2**
BFZ	**Birch Farm**	**1.83**	**139**	S	**S**	**10 14 02.4**		**-1.3**
BFZ	**Birch Farm**	**1.83**	**139**	P	**Pn**	**10 13 35.3**		**+1.2**
CKHZ	**Cape Kidnapper**	**1.89**	**102**	P	**Pn**	**10 13 36.7**		**+2.0**
RAHZ	**Arahi**	**1.91**	**79**	P	**Pn**	**10 13 36.3**		**+1.4**
RTZ	**Ruatahuna**	**1.92**	**70**	P	**Pn**	**10 13 35.8**		**+0.7**
TCW	**Tory Channel**	**1.93**	**189**	P	**Pn**	**10 13 36.6**		**+1.5**
MTW	**Mount Morrison**	**1.96**	**162**	P	**Pn**	**10 13 36.4**		**+1.0**
WEL	**Wellington**	**1.98**	**178**	P	**Pn**	**10 13 36.7**		**+1.1**
CPWZ	**Castlepoint**	**1.99**	**145**	P	**Pn**	**10 13 37.4**		**+1.8**
WHHZ	**Waihua**	**2.00**	**84**	P	**Pn**	**10 13 37.3**		**+1.5**
TGRZ	**Tauranga**	**2.00**	**39**	P	**Pn**	**10 13 36.8**		**+1.0**
SNZO	**South Karori**	**2.01**	**179**	P	**Pn**	**10 13 36.9**		**+1.1**
SNZO	**South Karori**	**2.01**	**179**	S	**S**	**10 14 05.4**		**-1.3**
TMWZ	**Te Maipa**	**2.03**	**158**	P	**Pn**	**10 13 37.2**		**+1.2**
OPRZ	**Ohinemea**	**2.07**	**46**	P	**Pn**	**10 13 37.3**		**+0.8**
BHW	**Baring Head**	**2.11**	**176**	P	**Pn**	**10 13 37.8**		**+1.0**
SNGZ	**Shannon Statio**	**2.13**	**77**	P	**Pn**	**10 13 38.3**		**+1.1**
PAWZ	**Paruwai Farm**	**2.16**	**165**	P	**Pn**	**10 13 38.4**		**+1.0**
MSWZ	**Moikau Station**	**2.16**	**169**	P	**Pn**	**10 13 38.3**		**+1.0**
NNZ	**Nelson**	**2.16**	**207**	P	**Pn**	**10 13 38.5**		**+1.2**
URZ	**Urewera**	**2.17**	**62**	P	**Pn**	**10 13 37.5**		**+0.1**
URZ	**Urewera**	**2.17**	**62**	P	**Pn**	**10 13 37.6**		**+0.1**
TKNZ	**Takaka Hill**	**2.18**	**217**	P	**Pn**	**10 13 38.2**		**+0.7**
TUWZ	**Tuamarina**	**2.20**	**195**	P	**Pn**	**10 13 39.3**		**+1.6**
MKAZ	**Moumakai**	**2.22**	**10**	P	**Pn**	**10 13 39.4**		**+1.3**
AWAZ	**Awhitu Peninsu**	**2.23**	**359**	P	**Pn**	**10 13 39.7**		**+1.5**
TRWZ	**Traveller**	**2.23**	**160**	P	**Pn**	**10 13 39.2**		**+1.1**
QRZ	**Quartz Range**	**2.25**	**227**	P	**Pn**	**10 13 38.7**		**+0.5**
QRZ	**Quartz Range**	**2.25**	**227**	S	**S**	**10 14 08.9**		**-2.1**
QRZ	**Quartz Range**	**2.25**	**227**	P	**Pn**	**10 13 38.8**		**+0.5**
RAGZ	**Rawiri**	**2.28**	**70**	P	**Pn**	**10 13 39.4**		**+0.7**
PLWZ	**Palliser**	**2.31**	**169**	P	**Pn**	**10 13 39.7**		**+0.8**
KNZ	**Kokohu**	**2.34**	**84**	P	**Pn**	**10 13 40.4**		**+1.1**
ETAZ	**East Tamaki Re**	**2.35**	**5**	P	**Pn**	**10 13 40.9**		**+1.5**
WTAZ	**Waiatarua**	**2.37**	**358**	P	**Pn**	**10 13 41.5**		**+1.8**
EPAZ	**Eden Park BICE**	**2.42**	**1**	P	**Pn**	**10 13 41.7**		**+1.6**
MWZ	**Matawai**	**2.42**	**67**	P	**Pn**	**10 13 40.7**		**+0.4**
HBAZ	**Herne Bay Bore**	**2.45**	**1**	P	**Pn**	**10 13 42.0**		**+1.6**
CMWZ	**Cape Campbell**	**2.47**	**188**	P	**Pn**	**10 13 42.5**		**+1.8**
RIGZ	**Rimuhau**	**2.47**	**77**	P	**Pn**	**10 13 41.9**		**+1.2**
BSWZ	**Blackbirch Sta**	**2.49**	**194**	P	**Pn**	**10 13 42.6**		**+1.7**
MHGZ	**Mahia Peninsul**	**2.51**	**88**	P	**Pn**	**10 13 42.7**		**+1.6**
PRGZ	**Paritu Road**	**2.52**	**82**	P	**Pn**	**10 13 42.4**		**+1.2**
RVAZ	**Riverhead Bore**	**2.53**	**358**	P	**Pn**	**10 13 42.9**		**+1.6**
WIAZ	**Waiheke Island**	**2.53**	**8**	P	**Pn**	**10 13 42.7**		**+1.4**
MBAZ	**Motutapu North**	**2.53**	**4**	P	**Pn**	**10 13 42.8**		**+1.5**
MRNZ	**Matariki Terra**	**2.56**	**214**	P	**Pn**	**10 13 42.2**		**+0.6**
TKGZ	**Te Karaka**	**2.62**	**72**	P	**Pn**	**10 13 43.4**		**+1.1**
KUZ	**Kuaotunu**	**2.68**	**18**	P	**Pn**	**10 13 44.1**		**+1.1**
KUZ	**Kuaotunu**	**2.68**	**18**	P	**Pn**	**10 13 44.3**		**+1.3**
RUGZ	**Raukumara Rang**	**2.70**	**61**	P	**Pn**	**10 13 42.9**		**-0.4**
THZ	**Tophouse**	**2.81**	**208**	P	**Pn**	**10 13 45.3**		**+0.9**
CNGZ	**Carnagh Statio**	**2.87**	**75**	P	**Pn**	**10 13 46.5**		**+1.4**
HAZ	**Te Kaha**	**2.88**	**59**	P	**Pn**	**10 13 44.9**		**-0.3**
PKGZ	**Pakihiroa**	**3.02**	**63**	P	**Pn**	**10 13 47.1**		**+0.2**
PUZ	**Puketiti**	**3.06**	**67**	P	**Pn**	**10 13 47.6**		**+0.3**
GRZ	**Great Barrier**	**3.11**	**12**	P	**Pn**	**10 13 49.3**		**+1.5**
KHZ	**Kahutara**	**3.23**	**195**	P	**Pn**	**10 13 50.7**		**+1.6**
KHZ	**Kahutara**	**3.23**	**195**	P	**S**	**10 14 28.9**		**-1.7**
KHZ	**Kahutara**	**3.23**	**195**	P	**Pn**	**10 13 50.3**		**+1.1**
WMGZ	**Waiomatatini S**	**3.28**	**64**	P	**Pn**	**10 13 50.1**		**+0.2**
DSZ	**Denniston Nort**	**3.28**	**221**	P	**Pn**	**10 13 50.3**		**+0.5**
MXZ	**Matakaoa Point**	**3.33**	**60**	P	**Pn**	**10 13 50.9**		**+0.4**
MXZ	**Matakaoa Point**	**3.33**	**60**	P	**Pn**	**10 13 50.8**		**+0.4**
GVZ	**Greta Valley S**	**3.87**	**198**	P	**Pn**	**10 13 57.4**		**+0.5**
LTZ	**Lake Taylor**	**3.93**	**207**	P	**Pn**	**10 13 58.1**		**+0.6**
AMZ	**Amberley**	**4.16**	**201**	P	**Pn**	**10 14 01.2**		**+0.8**
OKCZ	**Okains Bay**	**4.58**	**195**	P	**Pn**	**10 14 06.0**		**+0.4**
RPZ	**Rata Peaks**	**5.18**	**211**	P	**Pn**	**10 14 14.2**		**+1.1**
ODZ	**Otahua Downs**	**6.47**	**206**	P	**Pn**	**10 14 30.7**		**+1.1**

IDC 05 10:13:56.2±5.3, 20˚.94S×171˚.88W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=218.9km s-min=82.8km az=147.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
STKA	**Stephens Creek**	**42.79**	**245**	P	P	10 21	55.2	-0.7
	1.1nm,0.4s,baz=78,slow=8.3,SNR=4.6							
	1.1nm,0.4s							
ASAR	**Alice Springs**	**49.99**	**256**	P	P	10 22	52.5	-0.1
	0.7nm,0.7s,baz=97,slow=8.0,SNR=9.8							
	0.7nm,0.7s							
WRA	**Warramunga Arr**	**50.21**	**261**	P	P	10 22	54.5	+0.2
	0.5nm,0.9s,baz=89,slow=5.9,SNR=18							
	0.5nm,0.9s							
FINES	**FINESS Array B**	**137.63**	**347**	PKP	PKPdf	10 33	21.5	-0.3
	0.7nm,0.4s,baz=29,slow=3.2,SNR=6.2							

*IDC **05** 10:14:57.4±1.1, 77˚.33N×136˚.11E, h0km, mb3.6/9, mbtmp3.6/9, Error ellipse: s-maj=38.3km s-min=17.0km az=136.0*
ISC 05 10:14:58.9±1.1, 77˚2N±0˚.2×136˚2E±0˚.2, h10km, n10, σ1§92/10, mb3.6/9, North of New Siberian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TIXI	**Tiksi**	**5.88**	**203**	Pn	**Pn**	**10 16 22.8**		**-3.1**
	1.8nm,0.3s,baz=32,slow=12,SNR=14							
TIXI				Sn	Sn	10 17 25.8		-7.4
	0.8nm,0.3s,baz=8.0,slow=23,SNR=1.8							
PETK	**Petropavlovsk-**	**25.45**	**149**	P	**P**	**10 20 25.9**		**-0.5**
	0.8nm,0.5s,baz=0.6,slow=13,SNR=4.1							
	0.8nm,0.5s							
ILAR	**Eielson Array**	**25.54**	**76**	P	**P**	**10 20 26.9**		**-0.3**
	0.8nm,0.8s,baz=332,slow=9.7,SNR=13							
	0.8nm,0.8s							
SONM	**Songino Array**	**31.68**	**220**	P	**P**	**10 21 24.5**		**+2.3**
	0.4nm,0.5s,baz=353,slow=7.3,SNR=2.2							
	0.4nm,0.5s							
USRK	**Ussuriysk Ar.**	**33.12**	**185**	P	**P**	**10 21 36.9**		**+2.2**
	0.6nm,0.7s,baz=359,slow=12,SNR=2.0							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**36.99**	**247**	P	**P**	**10 22 07.1**		**-0.9**
	0.3nm,0.5s,baz=27,slow=6.8,SNR=4.9							
	0.3nm,0.5s	

0.6nm,0.6s,baz=100,slow=5.1,SNR=5.7
0.6nm,0.6s
ILAR Eielson Array 83.40 22 P **P 10 47 41.5 +0.2**
0.1nm,0.5s,baz=238,slow=5.0,SNR=1.5
0.1nm,0.5s
NVAR Mina Array Bea 92.05 52 P **P 10 48 24.1 +0.2**
0.7nm,1.0s,baz=259,slow=5.2,SNR=4.6
0.7nm,1.0s

IDC 05 10:46:27.4±6.5, 47.84S×100.59E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/1, Error ellipse: s-maj=200.0km s-min=26.4km az=116.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**16.41**	**43**	T	T	11 06 52.5	
	baz=212,slow=73						
H01W1	**Cape Leeuwin H**	**16.43**	**43**	T	T	11 06 50.1	
	baz=212,slow=73						
H01W3	**Cape Leeuwin H**	**16.43**	**43**	T	T	11 06 53.5	
	baz=212,slow=73						
ASAR	**Alice Springs**	**35.79**	**59**	P	P	10 53 28.6	+0.4
	0.6nm,0.9s,baz=215,slow=7.5,SNR=4.2						
	0.6nm,0.9s						
VNDA	**Vanda**	**37.65**	**162**	P	P	10 53 43.4	-0.2
	1.1nm,0.8s,baz=288,slow=9.4,SNR=6.0						
VNDA				LR	LR	11 07 46.0	
	comp=Z,76nm,19.4s,baz=268,slow=34						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**38.96**	**56**	P	P	10 53 54.6	-0.6
	1.0nm,1.1s,baz=219,slow=8.9,SNR=2.6						
	1.0nm,1.1s						
QSPA	**South Pole Qui**	**42.30**	**180**	P	P	10 54 22.5	0.0
	1.8nm,1.1s,baz=324,slow=5.4,SNR=8.5						
	1.8nm,1.1s						

*MDD **05** 11:17:18.4±0.9, 42.67N×12.88W, h29km±24km, Mb4.1/12, M_mb3.5/12, Error ellipse: s-maj=21.9km s-min=4.6km az=113.0*
*IGIL **05** 11:17:19.1, 42.67N×12.88W, h29km, ML2.5*
*INMG **05** 11:17:21.0±1.0, 42.69N×12.97W, h28km, ML2.3, Error ellipse: s-maj=5.2km s-min=2.9km az=99.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Banco da Galiza*

ISC 05 11:17:18.9±3.0, 42.56N±0.08×12.7W±0.1, h35km, n51, σ1.62/89, 15C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**2.79**	**81**	P	**Pn**	**11 18 01.8**	**+0.7**
EMAZ				⇑*i*Vmb_VC		11 18 06.5	
	340nm,SNR=1.7						
EMAZ				S	**Sn**	**11 18 33.1**	**-0.5**
EZAM	**Zamans**	**3.02**	**96**	P	**Pn**	**11 18 05.5**	**+1.4**
EZAM				⇑*i*Vmb_VC		11 18 06.7	
	319nm,SNR=2.7						
EZAM				S	**Sn**	**11 18 38.3**	**-0.8**
PGAV	**Gavieira, Arco**	**3.36**	**99**	*e*P	**Pn**	**11 18 10.7**	**+1.7**
PGAV				*e*S	**Sn**	**11 18 48.5**	**+0.8**
PGAV				*i* IAML		11 18 50.0	
PGAV				*i* IAML		11 18 50.0	
PGAV				*i* IAML		11 18 50.0	
PTO	**Porto**	**3.39**	**113**	*e*P	**Pn**	**11 18 11.2**	**+1.9**
PTO				*e*S	**Sn**	**11 18 48.7**	**+0.4**
EAGO	**Agolada(Pontev**	**3.43**	**84**	P	**Pn**	**11 18 10.6**	**+0.8**
EAGO				⇑*i*Vmb_VC		11 18 13.8	
	270nm,SNR=2.9						
EAGO				S	**Sn**	**11 18 48.1**	**-1.2**
ELOB	**Lobios**	**3.54**	**100**	P	**Pn**	**11 18 13.0**	**+1.6**
ELOB				⇑*i*Vmb_VC		11 18 15.3	
	217nm,SNR=2.6						
ELOB				S	**Sn**	**11 18 52.0**	**+0.1**
PCAB	**Cabril**	**3.60**	**102**	*e*P	**Pn**	**11 18 14.2**	**+2.0**
PCAB				*e*S	**Sn**	**11 18 54.2**	**+0.8**
PCAB				*i* IAML		11 18 56.0	
PCAB				*i* IAML		11 18 56.2	
PCAB				*i* IAML		11 18 57.6	
POLO	**Lamas de Olo**	**3.86**	**106**	*e*P	**Pn**	**11 18 17.9**	**+2.0**
POLO				*e*S	**Sn**	**11 19 01.0**	**+0.8**
PVRL	**Vila Real**	**3.95**	**107**	*e*S	**Sn**	**11 19 03.2**	**+1.0**
PCAS	**Casmilo, Conde**	**4.05**	**127**	⇑*e*P	**Pn**	**11 18 19.9**	**+1.5**
PCAS				S	**Sn**	**11 19 04.8**	**+0.2**
PCAS				*i* IAML		11 19 06.5	
PCAS				*i* IAML		11 19 09.3	
PCAS				*i* IAML		11 19 09.8	
PVIS	**Viseu**	**4.06**	**115**	*e*P	**Pn**	**11 18 20.3**	**+1.7**
PVIS				*e*S	**Sn**	**11 19 04.5**	**-0.5**
EPON	**Pontenova**	**4.17**	**77**	P	**Pn**	**11 18 20.8**	**+0.8**
EPON				⇑*i*Vmb_VC		11 18 30.2	
	190nm,SNR=1.4						
EPON				S	**Sn**	**11 19 04.5**	**-2.9**
PMAFR	**Mafra**	**4.45**	**143**	Pn	**Pn**	**11 18 25.5**	**+1.7**
PMAFR				Sn	**Sn**	**11 19 14.0**	**-0.4**
PMAFR	**Mafra**	**4.45**	**143**	*e*P	**Pn**	**11 18 25.6**	**+1.8**
MVO	**Moncorvo**	**4.48**	**106**	⇑*e*P	**Pn**	**11 18 25.8**	**+1.5**
MVO				*e*S	**Sn**	**11 19 14.7**	**-0.5**
MVO				*i* IAML		11 19 18.2	
ECAL	**Calabor**	**4.49**	**96**	Pn	**Pn**	**11 18 26.1**	**+1.6**
ECAL				Sn	**Sn**	**11 19 15.9**	**+0.4**
ECAL	**Calabor**	**4.49**	**96**	P	**Pn**	**11 18 26.1**	**+1.6**
ECAL				⇑*i*Vmb_VC		11 18 27.7	
	134nm,SNR=2.0						
ECAL				S	**Sn**	**11 19 15.0**	**-0.5**
PSARD	**Sardoal**	**4.54**	**129**	*e*P	**Pn**	**11 18 26.7**	**+1.6**
PSARD				*e*S	**Sn**	**11 19 16.7**	**0.0**
PSARD				*i* IAML		11 19 16.8	
PSARD				*i* IAML		11 19 20.6	
PSARD				*i* IAML		11 19 23.3	
PARRA	**Arraiolos**	**4.67**	**142**	*e*P	Pn	11 18 34.8	+7.9
PARRA				*e*S	Sn	11 19 31.2	+11
PARRA				*i* IAML		11 19 33.7	
PARRA				*i* IAML		11 19 35.5	
PARRA				*i* IAML		11 19 36.2	
PMTG	**Montargil**	**4.88**	**134**	⇑*e*P	**Pn**	**11 18 31.1**	**+1.3**
PMTG				*e*S	**Sn**	**11 19 23.9**	**-1.1**
PMTG				*i* IAML		11 19 26.9	
PMTG				*i* IAML		11 19 30.4	
PMRV	**Marv??o**	**5.11**	**126**	*e*P	**Pn**	**11 18 34.0**	**+1.1**
PMRV				*e*S	**Sn**	**11 19 29.3**	**-1.3**
PMRV				*i* IAML		11 19 32.6	
PMRV				*i* IAML		11 19 34.6	
PMRV				*i* IAML		11 19 36.0	
PESTR	**Estremoz**	**5.37**	**132**	Pn	**Pn**	**11 18 37.4**	**+0.9**
PESTR	**Estremoz**	**5.37**	**132**	*e*P	**Pn**	**11 18 37.6**	**+1.1**
PESTR				*e*S	**Sn**	**11 19 35.8**	**-1.2**
PESTR				*i* IAML		11 19 40.8	
PESTR				*i* IAML		11 19 41.3	
PESTR				*i* IAML		11 19 44.0	
EVO	**Evora**	**5.39**	**137**	Sn	**Sn**	**11 19 35.4**	**-2.1**
EVO				Pn	**Pn**	**11 18 38.3**	**+1.5**
EARI	**Arriondas**	**5.57**	**80**	P	**Pn**	**11 18 41.3**	**+2.0**
EARI				⇑*i*Vmb_VC		11 18 49.5	
	78nm,SNR=1.0						
EARI				S	**Sn**	**11 19 39.9**	**-2.2**
EPLA	**Plasencia**	**5.59**	**114**	P	**Pn**	**11 18 41.0**	**+1.5**
EPLA				⇑*i*Vmb_VC		11 18 42.1	
	123nm,SNR=3.1						
EPLA				S	**Sn**	**11 19 40.9**	**-1.7**
EBAD	**Badajoz**	**5.77**	**129**	Pn	**Pn**	**11 18 43.2**	**+1.2**
EBAD				Sn	**Sn**	**11 19 44.8**	**-2.1**
EBAD	**Badajoz**	**5.77**	**129**	P	**Pn**	**11 18 42.8**	**+0.8**
EBAD				S	**Sn**	**11 19 45.2**	**-1.7**
MESJ	**Messejana**	**5.84**	**142**	*e*P	**Pn**	**11 18 44.0**	**+1.0**
MESJ				*e*S	**Sn**	**11 19 45.9**	**-2.8**
MESJ				IAML		11 19 52.2	
	comp=N,4.1nm,0.3s						
MESJ	**Messejana**	**5.84**	**142**	*e*P	**Pn**	**11 18 44.5**	**+1.6**
MESJ				S	**Sn**	**11 19 47.0**	**-1.7**
MESJ				*i* IAML		11 19 48.3	
MESJ				*i* IAML		11 19 52.3	
MESJ				*i* IAML		11 19 52.8	
PCVE	**Castro Verde**	**6.09**	**142**	Pn	**Pn**	**11 18 47.9**	**+1.5**
PCVE	**Castro Verde**	**6.09**	**142**	*e*P	**Pn**	**11 18 47.9**	**+1.5**
MORF	**Marmelete**	**6.11**	**148**	*e*P	**Pn**	**11 18 47.7**	**+1.0**
MORF				*e*S	**Sn**	**11 19 52.3**	**-3.0**
MORF				IAML		11 19 55.3	
	comp=N,5.7nm,0.3s						
MORF	**Marmelete**	**6.11**	**148**	*e*P	**Pn**	**11 18 48.6**	**+1.9**
MORF				S	**Sn**	**11 19 53.6**	**-1.8**
MORF				*i* IAML		11 19 57.5	
PBAR	**Barrancos**	**6.17**	**133**	Pn	**Pn**	**11 18 48.8**	**+1.4**
PBAR				Sn	**Sn**	**11 19 54.2**	**-2.5**
PBAR	**Barrancos**	**6.17**	**133**	*e*P	**Pn**	**11 18 49.4**	**+1.9**
PBAR				*i* IAML		11 18 49.6	
PBAR				*e*S	**Sn**	**11 19 55.3**	**-1.4**
PBAR				*i* IAML		11 19 59.8	
PBAR				*i* IAML		11 19 60.0	
PFVI	**Vila Bisbo**	**6.19**	**150**	*e*S	**Sn**	**11 19 55.8**	**-1.5**
PVAQ	**Vaqueiros**	**6.42**	**142**	Pn	**Pn**	**11 18 52.6**	**+1.7**
PVAQ	**Vaqueiros**	**6.42**	**142**	*e*P	**Pn**	**11 18 52.7**	**+1.7**
PVAQ				*e*S	**Sn**	**11 20 01.0**	**-2.0**
EGRO	**El Granado**	**6.43**	**140**	Pn	**Pn**	**11 18 52.7**	**+1.7**
EGRO	**El Granado**	**6.43**	**140**	P	**Pn**	**11 18 51.5**	**+0.5**
EGRO				⇑*i*Vmb_VC		11 18 55.0	
	comp=N,86nm,SNR=1.7						
EGRO				S	**Sn**	**11 20 01.1**	**-2.0**
PBDV	**Barranco-do-Ve**	**6.46**	**144**	Pn	**Pn**	**11 18 53.3**	**+1.8**
EMIN	**Mina Concepcio**	**6.66**	**134**	Sn	**Sn**	**11 20 06.1**	**-2.8**
EMIN				Pn	**Pn**	**11 18 55.9**	**+1.7**
EMIN	**Mina Concepcio**	**6.66**	**134**	P	**Pn**	**11 18 55.9**	**+1.7**
EMIN				S	**Sn**	**11 20 08.3**	**-0.6**
GUD	**Guadarrama**	**6.71**	**104**	P	**Pn**	**11 18 56.3**	**+1.3**
GUD				S	**Sn**	**11 20 09.3**	**-0.9**
ELAN	**Lanestosa**	**6.86**	**81**	P	**Pn**	**11 18 57.5**	**+0.5**
ELAN				⇑*i*Vmb_VC		11 18 59.3	
	comp=N,67nm,SNR=1.4						
ELAN				S	**Sn**	**11 20 09.8**	**-4.1**
PAB	**San Pablo**	**7.01**	**113**	P	**Pn**	**11 19 01.3**	**+2.1**
PAB				⇑*i*Vmb_VC		11 19 02.1	
	comp=N,74nm,SNR=2.6						
PAB				S	**Sn**	**11 20 14.3**	**-3.3**
ECAB	**El Cabril**	**7.16**	**126**	Pn	**Pn**	**11 19 01.6**	**+0.5**
ECAB	**El Cabril**	**7.16**	**126**	P	**Pn**	**11 19 01.4**	**+0.3**
ECAB				S	**Sn**	**11 20 18.8**	**-2.4**
EADA	**Adamuz**	**7.61**	**122**	Pn	**Pn**	**11 19 08.2**	**+0.9**
EADA	**Adamuz**	**7.61**	**122**	P	**Pn**	**11 19 07.3**	**0.0**
EADA				⇑*i*Vmb_VC		11 19 09.1	
	comp=N,66nm,SNR=2.6						
EADA				S	**Sn**	**11 20 30.9**	**-1.4**

*ASRS **05** 11:42:36.0±1.4, 56.04N×90.49E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 11:42:40.6±6.2, 56.20N×90.15E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=70.3km s-min=42.1km az=170.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.80**	**236**	I	I	12 05 33.0	
	0.6nm,1.0s,baz=52,slow=313,SNR=19						
ZALV	**Zalesovo Beam**	**3.80**	**236**	Pn	Pn	11 43 41.9	+1.5
	0.4nm,0.3s,baz=57,slow=11,SNR=4.2						
ZALV				Lg	Lg	11 44 41.5	
	1.0nm,0.3s,baz=60,slow=27,SNR=6.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**10.60**	**211**	Pn	Pn	11 45 13.6	-0.1
	0.1nm,0.3s,baz=30,slow=13,SNR=1.2						
	0.1nm,0.4s						
I31KZ	**AKTYUBINSK INF**	**19.92**	**267**	I	I	13 40 50.0	
	0.2nm,0.5s,baz=62,slow=322,SNR=3.1						
I43RU	**DUBNA INFRASON**	**28.65**	**293**	I	I	14 37 30.0	
	baz=68,slow=324,SNR=5.9						
I37NO	**I37NO**	**33.13**	**321**	I	I	14 59 50.0	
	baz=73,slow=319,SNR=1.1						

*IDC **05** 11:46:05.6±0.8, 58.13N×137.58W, h0km, mb3.2/4, mbtmp3.4/9, ML3.4/4, MS3.2/11, Error ellipse: s-maj=17.3km s-min=7.8km az=43.0*
*NEIC **05** 11:46:06.7±1.3, 57.99N±0.03×137.68W±0.05, h11km±6km, Error ellipse: s-maj=4.8km s-min=3.8km az=146.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=0.71; Mθθ=0.35; Mφφ=0.36; Mrθ=-0.17; Mrφ=1.16; Mθφ=0.45; Fault plane solution: M0=1.40000×10^15 NP1:φ=82.16000°, δ=57.27000°, λ=-29.22000°. NP2:φ=188.98000°, δ=65.75000°, λ=-143.63000°. Principal axes: T 1.5316, Plg=5.0000°, Azm=314.0000°; N -0.3225, Plg=47.0000°, Azm=218.0000°; P -1.2091, Plg=42.0000°, Azm=49.0000°;*
*NEIC **05** 11:46:07.7, 57.96N×137.69W, h13km*
*ANF **05** 11:46:07.8±0.4, 57.98N×137.62W, h21km±3km, ML4.4/41, Error ellipse: s-maj=2.1km s-min=1.2km az=17.0*
*AEIC **05** 11:46:08.5±1.4, 57.95N±0.05×137.69W±0.07, h26km±7km, ML4.0, mb3.7/2(NEIC), ML4.1/110(NEIC), Mwr4.0/40(NEIC), Error ellipse: s-maj=8.5km s-min=5.0km az=202.0*

ISC 05 11:46:05.5±2.8, 57.97N±0.04×137.72W±0.04, h4km±19km, n275, σ0.89/271, mb3.7/5, MS3.2/7, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
S31K	**Pelican**	**0.79**	**90**		**Pb**	**11 46 21.5**	**-0.3**
S31K				IAML		11 46 33.1	
	comp=N,6μm,0.8s						
S31K	**Pelican**	**0.79**	**90**		**Sb**	**11 46 31.6**	**-1.2**
S31K	**Pelican**	**0.79**	**90**	P	**Pb**	**11 46 21.2**	**-0.6**
	baz=269,SNR=465						
S31K				S	**Sb**	**11 46 31.6**	**-1.2**
	baz=269						
R31K	**City Hall, Gus**	**1.14**	**66**		**Pn**	**11 46 27.0**	**-1.2**
R31K					**Sb**	**11 46 42.0**	**-0.8**
R31K	**City Hall, Gus**	**1.14**	**66**	P	**Pn**	**11 46 27.1**	**-1.1**
	baz=245,SNR=116						
R31K				S	**Sb**	**11 46 42.5**	**-0.3**
	baz=245						
SIT	**Sitka**	**1.58**	**124**		**Pn**	**11 46 33.0**	**-1.3**
SIT	**Sitka**	**1.58**	**124**	P	**Pn**	**11 46 32.7**	**-1.5**
	baz=306,SNR=90						
SIT				S	**Sn**	**11 46 52.7**	**-2.4**
	baz=306						
BESE	**Bessie Mountai**	**1.63**	**67**		**Pn**	**11 46 34.6**	**-0.5**
BESE				IAML		11 46 57.4	
	comp=N,2μm,1.0s						
BESE				IAML		11 46 57.6	
	comp=E,2μm,1.0s						
BESE	**Bessie Mountai**	**1.63**	**67**		**Sn**	**11 46 54.8**	**-1.7**
P29M	**Windy Craggy**	**1.67**	**360**		**Sn**	**11 46 55.4**	**-1.9**
P29M	**Windy Craggy**	**1.67**	**360**		**Pn**	**11 46 34.8**	**-0.7**
P29M				IAML		11 46 57.7	
	comp=N,4μm,0.3s						
P29M	**Windy Craggy**	**1.67**	**360**	P	**Pn**	**11 46 34.2**	**-1.2**
	baz=178,SNR=308						
P29M				S	**Sn**	**11 46 55.3**	**-1.9**
	baz=178						
R32K	**Eaglecrest**	**1.73**	**78**		**Pn**	**11 46 35.9**	**-0.3**
R32K				IAML		11 47 00.9	
	comp=N,1μm,0.4s						
R32K	**Eaglecrest**	**1.73**	**78**		**Sn**	**11 46 57.9**	**-0.8**
R32K	**Eaglecrest**	**1.73**	**78**	P	**Pn**	**11 46 35.7**	**-0.6**
	baz=260,SNR=236						
R32K				S	**Sn**	**11 46 57.9**	**-0.8**
	baz=260						
S32K	**Killisnoo**	**1.76**	**105**		**Pn**	**11 46 36.7**	**0.0**
S32K	**Killisnoo**	**1.76**	**105**	P	**Pn**	**11 46 36.2**	**-0.5**
	baz=287,SNR=128						
S32K				S	**Sn**	**11 46 58.7**	**-0.7**
	baz=287						
JIS	**Juneau Island**	**1.80**	**79**		**Pn**	**11 46 36.8**	**-0.4**
JIS					**Sn**	**11 46 57.8**	**-2.6**
YKU2	**Yakutat**	**1.85**	**327**		**Pn**	**11 46 37.6**	**-0.3**
PNL	**Peninsula**	**1.91**	**334**		**Pn**	**11 46 38.2**	**-0.7**
PNL					**Pb**	**11 46 38.4**	**-2.6**
PNL	**Peninsula**	**1.91**	**334**	P	**Pn**	**11 46 36.9**	**-2.0**
	baz=151,SNR=92						
PNL				S	**Sn**	**11 47 03.0**	**-0.4**
	baz=151						
SKAG	**Skagway**	**1.95**	**39**		**Pn**	**11 46 39.0**	**-0.3**
SKAG	**Skagway**	**1.95**	**39**	P	**Pn**	**11 46 38.7**	**-0.5**
	baz=219,SNR=264						
P30M	**Million Dollar**	**2.19**	**10**		**Pn**	**11 46 42.4**	**-0.4**
P30M	**Million Dollar**	**2.19**	**10**	IAML		11 47 13.1	
	comp=N,1μm,0.3s						
P30M				IAML		11 47 14.4	
	comp=E,883nm,1.1s						
P30M	**Million Dollar**	**2.19**	**10**	P	**Pn**	**11 46 41.9**	**-0.9**
	baz=189						
P30M				S	**Sn**	**11 47 10.3**	**0.0**
	baz=189						
BCPM	**Bancas Point**	**2.22**	**334**		**Pn**	**11 46 42.7**	**-0.4**
BCPM				IAML		11 47 24.7	
	comp=E,1μm,0.5s						
BCPM				IAML		11 47 25.2	
	comp=N,1μm,0.8s						
O29M	**Mount Kennedy**	**2.38**	**350**		**Pn**	**11 46 45.3**	**-0.1**
O29M				IAML		11 47 29.4	
	comp=N,1μm,0.8s						
O29M	**Mount Kennedy**	**2.38**	**350**	P	**Pn**	**11 46 44.9**	**-0.5**
	baz=168,SNR=73						
O29M				S	**Sn**	**11 47 14.3**	**-0.7**
	baz=168						
PINM	**Pinnacle**	**2.50**	**330**	P	**Pn**	**11 46 46.1**	**-0.9**
	baz=147,SNR=58						
PCA	**Pinnacle**	**2.50**	**329**		**Pn**	**11 46 47.2**	**+0.2**
P32M	**Atlin**	**2.64**	**50**		**Pn**	**11 46 48.6**	**-0.3**
P32M	**Atlin**	**2.64**	**50**	P	**Pn**	**11 46 48.3**	**-0.6**
	baz=232,SNR=96						
P32M				S	**Sb**	**11 47 27.0**	**+0.9**
	baz=232						
SAMH	**Samovar Hills**	**2.68**	**325**		**Pn**	**11 46 50.3**	**+0.8**
CHX	**Chaix Hills**	**2.74**	**322**		**Pn**	**11 46 51.0**	**+0.8**
T33K	**Petersburg**	**2.83**	**112**	Pb	**Pb**	**11 46 56.3**	**-0.2**
	baz=296						
HYT	**Haines Junctio**	**2.87**	**2**		**Pn**	**11 46 52.0**	**-0.1**
HYT				IAML		11 47 32.3	
	comp=E,827nm,1.2s						
HYT				IAML		11 47 33.1	
	comp=N,627nm,1.1s						
HYT	**Haines Junctio**	**2.87**	**2**	P	**Pn**	**11 46 51.5**	**-0.5**
	baz=181,SNR=110						
HYT				S	**Sn**	**11 47 26.0**	**-1.0**
	baz=181						
O30N	**Mendenhall**	**2.93**	**16**		**Pn**	**11 46 52.9**	**0.0**
O30N				IAML		11 47 35.1	
	comp=E,698nm,1.2s						
O30N				IAML		11 47 35.5	
	comp=N,599nm,0.8s						
O30N	**Mendenhall**	**2.93**	**16**	P	**Pn**	**11 46 52.9**	**0.0**
	baz=196,SNR=79						
O30N				Sb	**Sb**	**11 47 34.3**	**-0.1**
	baz=196						
RKAV	**Rock Avalanche**	**2.99**	**323**		**Pn**	**11 46 54.3**	**+0.5**
YUK6	**Outpost Mounta**	**3.00**	**354**	P	**Pn**	**11 46 54.0**	**0.0**
	baz=173,SNR=26						
Q32M	**Nakina River**	**3.03**	**69**		**Pn**	**11 46 54.8**	**+0.5**
Q32M				IAML		11 47 46.1	
	comp=N,584nm,1.2s						
Q32M				IAML		11 47 47.8	
	comp=E,855nm,1.2s						
Q32M	**Nakina River**	**3.03**	**69**	P	**Pn**	**11 46 53.6**	**-0.7**
	baz=252,SNR=9.6						
TABL	**Table Mountain**	**3.04**	**326**		**Pn**	**11 46 56.1**	**+1.6**
TABL				IAML		11 47 42.4	
	comp=E,694nm,1.0s						
TABL				IAML		11 47 47.1	
	comp=N,884nm,0.9s						
WHY	**Whitehorse**	**3.06**	**27**		**Pn**	**11 46 55.0**	**+0.3**
WHY	**Whitehorse**	**3.06**	**27**	P	**Pn**	**11 46 53.7**	**-1.1**
	baz=208,SNR=28						
WHY				Sb	**Sb**	**11 47 39.1**	**+0.7**
	baz=208						
O28M	**Mount Upton**	**3.08**	**337**	IAML		11 47 48.4	
	comp=E,590nm,1.1s						
O28M				IAML		11 47 49.1	
	comp=N,515nm,0.9s						
O28M	**Mount Upton**	**3.08**	**337**	P	**Pn**	**11 46 54.2**	**-1.0**
	baz=154,SNR=262						
MESA	**MESA**	**3.11**	**317**	P	**Pn**	**11 46 54.2**	**-1.3**
	baz=133,SNR=37						
U33K	**Whale Pass**	**3.13**	**125**		**Pn**	**11 46 55.2**	**-0.3**
U33K	**Whale Pass**	**3.13**	**125**	P	**Pn**	**11 46 54.0**	**-1.5**
	baz=308						
YAH	**Yahtse**	**3.17**	**321**	IAML		11 47 55.9	
	comp=E,630nm,1.6s						
YAH				IAML		11 48 11.7	
	comp=N,767nm,1.2s						
WRAK	**Wrangell Islan**	**3.31**	**116**		**Pn**	**11 46 58.6**	**+0.6**
WRAK				IAML		11 47 59.3	
	comp=N,556nm,0.5s						
WRAK				IAML		11 48 06.8	
	comp=N,426nm,0.8s						
WRAK	**Wrangell Islan**	**3.31**	**116**	P	**Pn**	**11 46 56.1**	**-1.9**
	baz=300,SNR=18						
LOGN	**Logan Glacier**	**3.32**	**331**		**Pn**	**11 46 58.9**	**+0.6**
LOGN				IAML		11 47 52.7	
	comp=E,411nm,1.0s						
LOGN				IAML		11 47 54.9	
	comp=N,479nm,0.9s						
BAGL	**Bagley Icefiel**	**3.38**	**320**		**Pn**	**11 46 58.5**	**-0.4**
P33M	**Teslin, Yukon**	**3.38**	**46**		**Pn**	**11 46 59.0**	**-0.1**
P33M	**Teslin, Yukon**	**3.38**	**46**	P	**Pn**	**11 46 58.5**	**-0.6**
	baz=230,SNR=13						
P33M				Sb	**Sb**	**11 47 50.0**	**+2.5**
	baz=230						
YUK4	**Talbot Arm**	**3.42**	**352**	P	**Pn**	**11 47 01.4**	**+1.7**
	baz=172,SNR=44						
YUK4				S	**Sn**	**11 47 42.1**	**+1.4**
	baz=172						
YUK8	**Steele Glacier**	**3.48**	**344**	Sb	**Sb**	**11 47 53.3**	**+2.7**
	baz=161						
S34M	**Telegraph Cree**	**3.51**	**88**		**Pn**	**11 47 01.0**	**+0.2**
S34M				IAML		11 47 57.9	
	comp=N,483nm,1.2s						
S34M				IAML		11 47 59.5	
	comp=E,438nm,1.1s						
S34M	**Telegraph Cree**	**3.51**	**88**	P	**Pn**	**11 47 00.4**	**-0.4**
	baz=273,SNR=14						
N30M	**Aishikik Lake**	**3.52**	**5**	IAML		11 47 53.2	
	comp=E,441nm,1.0s						
N30M	**Aishikik Lake**	**3.52**	**5**	P	**Pn**	**11 47 01.0**	**+0.1**
	baz=185,SNR=22						
N30M				Sb	**Sb**	**11 47 53.0**	**+1.7**
	baz=185						
CTGM	**Chitina Glacie**	**3.52**	**330**		**Pn**	**11 47 01.9**	**+0.7**
CTGM				IAML		11 48 12.6	
	comp=N,310nm,1.1s						
CTG	**Chitna Glacier**	**3.53**	**330**	P	**Pn**	**11 47 01.8**	**+0.6**
	baz=146,SNR=28						
CTG				S	**Sn**	**11 47 42.9**	**-0.3**
	baz=146						
ISLE	**Juniper Island**	**3.55**	**320**		**Pn**	**11 47 02.2**	**+0.8**
CRAG	**Craig**	**3.56**	**133**		**Pn**	**11 47 02.9**	**+1.4**
CRAG	**Craig**	**3.56**	**133**	P	**Pn**	**11 47 00.4**	**-1.1**
	baz=317						
BGLC	**Bering Glacier**	**3.59**	**309**	P	**Pn**	**11 47 03.1**	**+1.2**
	baz=124						
BARN	**Barnard Glacie**	**3.69**	**329**		**Pn**	**11 47 04.0**	**+0.5**
BARN				IAML		11 48 06.0	
	comp=E,284nm,0.8s						
GRIN	**Grindle Hills**	**3.70**	**311**		**Pn**	**11 47 03.7**	**+0.3**
SUCK	**Suckling Hills**	**3.77**	**307**	IAML		11 48 08.2	
	comp=N,318nm,0.7s						
SUCK				IAML		11 48 32.7	
	comp=E,395nm,0.9s						
KIAG	**Kiagna River**	**3.79**	**323**	

comp=N,159nm,1.7s
V35K Ketchikan 4.29 126 P Pn 11 47 11.0 -0.3
baz=311
MCARA McCarthy VSAT 4.35 324 Pn 11 47 11.7 -0.7
MCARA McCarthy VSAT 4.35 324 P Pn 11 47 12.5 +0.1
baz=139,SNR=13
VRDI Verde Repeater 4.38 321 Pn 11 47 13.2 +0.4
VRDI IAML 11 48 28.4
comp=N,176nm,1.1s
VRDI IAML 11 48 38.3
comp=E,193nm,1.2s
M29M Somme Creek 4.50 356 IAML 11 48 26.5
comp=N,163nm,0.8s
M29M IAML 11 48 28.0
comp=E,193nm,1.1s
M29M Somme Creek 4.50 356 P Pn 11 47 15.0 +0.5
baz=174,SNR=26
M31M Drury Creek, Y 4.56 20 Pn 11 47 14.4 -0.8
M31M Drury Creek, Y 4.56 20 IAML 11 48 37.8
comp=E,254nm,0.9s
M31M Drury Creek, Y 4.56 20 P Pn 11 47 15.3 +0.1
baz=202,SNR=8.9
BMRM Bremner River 4.62 313 Pn 11 47 16.3 +0.2
BMRM IAML 11 48 37.9
comp=E,252nm,0.8s
BMRM IAML 11 48 40.0
comp=N,292nm,0.9s
BMRM Bremner River 4.62 313 P Pn 11 47 16.1 0.0
baz=128,SNR=15
M30M Minto, Yukon 4.64 5 IAML 11 48 29.0
comp=N,118nm,1.0s
M30M IAML 11 48 42.7
comp=E,182nm,1.3s
M30M Minto, Yukon 4.64 5 P Pn 11 47 16.2 -0.2
baz=186,SNR=18
GLB Gilahina Butte 4.65 321 Pn 11 47 16.0 -0.5
GLB Gilahina Butte 4.65 321 IAML 11 48 45.0
comp=N,138nm,1.3s
GLB IAML 11 48 48.5
comp=E,166nm,1.6s
BVCY Beaver Creek 4.73 342 P Pn 11 47 17.7 +0.2
baz=159
EYAK Cordova Ski Ar 4.87 305 Pn 11 47 20.5 +1.1
EYAK Cordova Ski Ar 4.87 305 P Pn 11 47 20.0 +0.7
baz=119
M27K Edge Creek, AK 4.87 337 Pn 11 47 20.3 +0.8
M27K IAML 11 48 56.2
comp=E,138nm,1.0s
M27K IAML 11 48 57.9
comp=N,144nm,1.4s
M27K Edge Creek, AK 4.87 337 P Pn 11 47 20.3 +0.8
baz=153,SNR=15
N25K Chitina, Valde 5.04 319 Pn 11 47 21.9 +0.1
N25K Chitina, Valde 5.04 319 IAML 11 48 56.7
comp=E,122nm,0.9s
N25K IAML 11 48 57.7
comp=N,111nm,1.1s
N25K Chitina, Valde 5.04 319 P Pn 11 47 22.1 +0.3
baz=133,SNR=23
WTLY Watson Lake, Y 5.08 61 P Pn 11 47 23.6 +1.2
baz=248
L29M L29M 5.16 358 P Pn 11 47 23.9 +0.5
baz=177,SNR=24
M26K Nabesna, AK 5.17 332 Pn 11 47 23.7 +0.2
M26K Nabesna, AK 5.17 332 P Pn 11 47 24.0 +0.5
baz=147,SNR=10
DIV Divide 5.18 311 IAML 11 48 52.5
comp=E,96nm,0.9s
DIV IAML 11 48 54.0
comp=N,96nm,0.7s
FID Port Fidalgo 5.28 306 IAML 11 49 13.0
comp=E,73nm,1.0s
P23K Montague Islan 5.41 296 P Pn 11 47 26.3 -0.5
baz=108
KLU Klutina 5.45 314 Pn 11 47 27.3 -0.2
KLU Klutina 5.45 314 P Pn 11 47 27.8 +0.3
baz=127,SNR=11
L27K Beaver Creek, 5.50 340 P Pn 11 47 28.1 0.0
baz=156
RUBB Prince Rupert 5.54 128 Pn 11 47 29.4 +0.8
GLI Glacier Island 5.61 305 Pn 11 47 29.8 +0.3
GLI Glacier Island 5.61 305 P Pn 11 47 29.6 +0.1
baz=117
MMPY Sheldon Lake, 5.66 32 Pn 11 47 29.9 -0.4
MMPY Sheldon Lake, 5.66 32 P Pn 11 47 30.8 +0.5
baz=217,SNR=28
MAYO Mayo, Yukon 5.72 8 P Pn 11 47 31.2 +0.2
baz=189
L26K Log Cabin Wild 5.78 334 P Pn 11 47 32.6 +0.6
baz=148,SNR=12
HARP HAARP 5.79 323 Pn 11 47 32.5 +0.5
HARP HAARP 5.79 323 P Pn 11 47 32.8 +0.8
baz=137,SNR=7.2
K29M Barlow Dome 5.89 1 P Pn 11 47 34.0 +0.4
baz=181,SNR=32
M24K Tolsona, Glenn 5.93 318 Pn 11 47 33.9 -0.2
M24K Tolsona, Glenn 5.93 318 P Pn 11 47 34.4 +0.4
baz=131
TGTN Hyland Airport 5.96 49 P Pn 11 47 34.7 +0.3
baz=237,SNR=11
PWL Port Wells 6.14 303 Pn 11 47 36.2 -0.7
PWL Port Wells 6.14 303 P Pn 11 47 36.2 -0.7
baz=114
DAWY Dawson 6.17 353 Pn 11 47 37.9 +0.6
DAWY Dawson 6.17 353 P Pn 11 47 37.5 +0.2
baz=171,SNR=19
SCM Sheep Creek Mo 6.19 313 Pn 11 47 38.1 +0.4
SCM Sheep Creek Mo 6.19 313 P Pn 11 47 38.4 +0.7
baz=124,SNR=8.1
LIRD Liard River Hi 6.23 72 P Pn 11 47 38.5 +0.4
baz=261
PAX Paxson 6.31 326 Pn 11 47 39.5 +0.3
PAX Paxson 6.31 326 P Pn 11 47 40.3 +1.0
baz=139,SNR=14
M23K Glacier View 6.33 311 P Pn 11 47 40.6 +1.1
baz=123
K27K Chicken 6.44 343 P Pn 11 47 41.4 +0.5
baz=159
KNK Knik Glacier 6.44 307 P Pn 11 47 41.4 +0.4
baz=118
J29N Klondike Camp 6.51 358 P Pn 11 47 42.3 +0.3
baz=177
TOAD Toad River Com 6.62 77 P Pn 11 47 43.7 +0.2
baz=267
O22K Cooper Landing 6.66 297 P Pn 11 47 44.3 +0.4
baz=107
J30M Hart River 6.66 5 Pn 11 47 44.6 +0.5
J30M Hart River 6.66 5 P Pn 11 47 44.9 +0.8
baz=186
RIDG Independent Ri 6.75 332 P Pn 11 47 45.7 +0.4
baz=146
SCRK Sand Creek 6.75 336 P Pn 11 47 45.6 +0.3
baz=150
PMR Palmer 6.81 307 Pn 11 47 47.1 +1.1
PMR Palmer 6.81 307 P Pn 11 47 45.5 -0.5
baz=117
RC01 Rabbit Creek A 6.86 302 Pn 11 47 47.4 +0.6
RC01 Rabbit Creek A 6.86 302 P Pn 11 47 46.7 -0.1
baz=112
K24K Donnelly Dome 7.05 330 P Pn 11 47 50.6 +1.3
baz=142
J26L Joseph Creek 7.13 339 Pn 11 47 50.7 +0.2
J26L Joseph Creek 7.13 339 P Pn 11 47 50.8 +0.2
baz=154,SNR=7.4
M22K Willow 7.30 306 Pn 11 47 52.8 +0.1
M22K Willow 7.30 306 P Pn 11 47 53.6 +0.9
baz=116,SNR=7.4
I30M Mount Dempster 7.31 4 P Pn 11 47 53.4 +0.4
baz=185,SNR=23
I29M Ogilvie Camp, 7.42 358 P Pn 11 47 55.0 +0.6
baz=177
SUA Susitna One 7.46 303 P Pn 11 47 55.3 +0.3
baz=112
I28M Miner Creek 7.58 353 Pn 11 47 56.6 -0.1
I28M Miner Creek 7.58 353 P Pn 11 47 56.9 +0.3
baz=171,SNR=12
J25K Salcha River, 7.61 334 P Pn 11 47 57.1 0.0
baz=147
CUT Chulitna 7.67 311 P Pn 11 47 58.5 +0.7
baz=120,SNR=7.3
RND Reindeer 7.71 320 Pn 11 47 58.8 +0.3
I26K Coal Creek Min 7.80 343 P Pn 11 47 59.9 +0.3
baz=158
HDA Harding Lake 7.84 329 P Pn 11 48 00.9 +0.7
baz=141
I27K Kandik River 7.88 348 P Pn 11 48 01.8 +1.1
baz=164

KDAK Kodiak Island 7.93 275 Pn 11 48 00.8 -0.6
KDAK Kodiak Island 7.93 275 Pn Pn 11 48 00.7 -0.6
KDAK Sn Sn 11 49 27.6 -3.8
comp=E,1.3nm,0.3s,baz=333,slow=7.1,SNR=58
comp=E,0.8nm,0.3s,baz=308,slow=4.2,SNR=1.5
comp=E,3.7nm,0.3s
KDAK Kodiak Island 7.93 275 P Pn 11 48 00.7 -0.6
baz=83
MCK McKinley 7.95 321 P Pn 11 48 00.6 -1.1
baz=131
BBB Bella Bella 7.99 132 Pn Pn 11 48 03.2 +0.9
comp=E,0.4nm,0.3s,baz=351,slow=9.0,SNR=6.6
BBB Sn Sn 11 49 33.5 +0.6
comp=E,0.7nm,0.3s,baz=110,slow=20,SNR=6.9
BBB Lg Lg 11 50 19.0
comp=E,0.2nm,0.3s,baz=37,slow=8.1,SNR=3.8
comp=E,7.0nm,0.8s
SKT Skwentna 8.00 306 P Pn 11 48 02.4 -0.1
baz=114,SNR=6.4
H31M Peel River 8.02 10 P Pn 11 48 03.5 +0.8
baz=193
ILAR Eielson Array 8.11 331 Pn Pn 11 48 02.8 -1.1
comp=E,0.3nm,0.3s,baz=150,slow=13,SNR=18
ILAR Sn Sn 11 49 32.6 -3.3
comp=E,0.1nm,0.3s,baz=126,slow=24,SNR=4.3
ILAR Lg Lg 11 50 18.9
comp=E,0.2nm,0.3s,baz=157,slow=26,SNR=4.0
ILAR LR LR 11 51 02.6
comp=E,153nm,20.1s,baz=102,slow=37
comp=E,1.2nm,0.7s
TRF Thorofare Moun 8.25 317 P Pn 11 48 06.7 +0.8
baz=126,SNR=41
H29M Whitestone 8.29 358 P Pn 11 48 06.6 +0.3
baz=177
OHAK Old Harbor 8.40 271 P Pn 11 48 06.5 -1.2
baz=79
EPYK Eagle Plains 8.44 3 P Pn 11 48 07.9 -0.6
baz=183
H27K Steamboat Moun 8.48 349 P Pn 11 48 08.6 -0.4
baz=166
NEA2 Nenana 8.59 325 P Pn 11 48 10.2 -0.2
baz=135,SNR=12
M20K Styx River 8.67 303 P Pn 11 48 11.1 -0.5
baz=110
PPLA Purkeypile 8.68 311 P Pn 11 48 10.6 -1.2
baz=118
BPAW Bear Paw Mtn. 8.89 319 P Pn 11 48 14.1 -0.5
baz=128,SNR=15
CAST Castle Rocks 8.90 314 P Pn 11 48 14.2 -0.6
baz=121,SNR=7.8
N19K Bonanza Creek 9.01 295 P Pn 11 48 16.4 +0.1
baz=101
G27K Doyon Strip 9.05 350 P Pn 11 48 17.5 +0.7
baz=166
G30M tAoh Zraii Nji 9.07 4 P Pn 11 48 16.8 -0.3
baz=185
I23K Minto, Yukon-K 9.08 327 P Pn 11 48 17.2 +0.2
baz=137
G31M Satah River 9.12 9 P Pn 11 48 17.1 -0.6
baz=191
H25L Birch Creek 9.14 339 P Pn 11 48 17.6 -0.3
baz=152
L20K Farewell, AK 9.21 306 P Pn 11 48 18.5 -0.5
baz=112
CHUM Lake Minchumin 9.24 316 P Pn 11 48 20.0 +0.7
baz=123,SNR=6.6
MLY Manley 9.41 324 P Pn 11 48 22.0 +0.3
baz=133
G26K Porcupine Rive 9.43 345 P Pn 11 48 22.1 +0.1
baz=160
L19K White Mountain 9.54 303 P Pn 11 48 22.4 -1.0
baz=109
Q17K Contact Creek 9.62 279 P Pn 11 48 24.5 -0.1
baz=84
H23K Yukon River 9.64 330 P Pn 11 48 25.5 +0.7
baz=139
K20K Telida 9.65 311 P Pn 11 48 24.8 -0.3
baz=117
F30M Barrier River 9.72 4 P Pn 11 48 24.4 -1.5
baz=186
G24K Hadweenzic Riv 9.85 337 P Pn 11 48 27.6 -0.1
baz=148
P17K Kvichak River 9.85 285 P Pn 11 48 28.5 +0.9
baz=89
I21K Tanana 9.90 323 P Pn 11 48 28.0 -0.4
baz=130
J20K Nowinta River 10.08 315 Pn 11 48 30.9 0.0
J20K Nowinta River 10.08 315 P Pn 11 48 30.8 0.0
baz=120,SNR=15
F26K Sheenjek River 10.19 346 P Pn 11 48 33.2 +0.9
baz=160
H22K Ishtalitna Cre 10.20 327 P Pn 11 48 33.2 +0.7
baz=135
F25K Christian Rive 10.30 343 P Pn 11 48 35.2 +1.2
baz=156
G23K Bananza Creek 10.45 332 P Pn 11 48 36.4 +0.5
baz=141
I20K Naaghedeneel 10.53 317 P Pn 11 48 37.3 +0.4
baz=123
INK Inuvik 10.54 9 Pn Pn 11 48 34.8 -2.3
comp=E,0.1nm,0.3s,baz=184,slow=15,SNR=1.5
INK Lg Lg 11 51 31.4
comp=E,0.1nm,0.3s,baz=100,slow=28,SNR=5.9
INK LR LR 11 52 25.3
comp=E,66nm,18.1s,baz=163,slow=37
comp=E,2.1nm,0.7s
J19K Poorman 10.56 312 Pn 11 48 37.6 +0.2
J19K Poorman 10.56 312 P Pn 11 48 36.8 -0.6
baz=117,SNR=5.2
F24K Squaw Lake 10.64 338 Pn 11 48 39.9 +1.4
F24K Squaw Lake 10.64 338 P Pn 11 48 38.5 0.0
baz=149
J18K Innoko River 10.79 309 Pn 11 48 40.9 +0.4
J18K Innoko River 10.79 309 P Pn 11 48 39.6 -0.9
baz=112,SNR=5.1
IMAR Indian Mountai 10.98 324 Pn 11 48 44.2 +1.0
G22K Bettles 10.99 330 P Pn 11 48 42.9 -0.3
baz=138
H20K Anotleneega Mo 11.06 320 P Pn 11 48 44.2 0.0
baz=125,SNR=10
N16K Nishlik Lake 11.06 292 P Pn 11 48 44.3 0.0
baz=94
E24K Your Creek 11.23 339 P Pn 11 48 47.0 +0.4
baz=149
G21K Allakaket 11.26 326 P Pn 11 48 47.3 +0.4
baz=132
H19K Roundabout Mou 11.62 318 P Pn 11 48 51.7 -0.2
baz=122,SNR=16
F21K Alatna River 11.74 329 P Pn 11 48 54.6 +1.1
baz=135
TOLK Toolik Lake Re 11.93 339 P Pn 11 48 57.2 +1.0
baz=148
H18K Honhosa River 12.14 315 P Pn 11 48 59.1 +0.1
baz=117
G19K Purcell Mounta 12.18 320 Pn 11 48 59.5 0.0
G19K Purcell Mounta 12.18 320 P Pn 11 48 58.4 -1.1
baz=123,SNR=5.9
F20K Avaraart Lake 12.27 325 Pn 11 49 02.6 +1.8
F20K Avaraart Lake 12.27 325 P Pn 11 48 59.6 -1.1
baz=129
YKA Yellowknife Ar 12.31 59 LR LR 11 53 03.1
comp=E,60nm,21.9s,baz=142,slow=34
K15K Wolf Creek Mou 12.60 300 P Pn 11 49 04.8 -0.4
baz=99
G18K Tagagawik 12.60 318 P Pn 11 49 04.9 -0.4
baz=119
F19K Shaleruckik Mo 12.79 322 P Pn 11 49 06.9 -0.9
baz=124
E19K Redstone River 12.99 325 P Pn 11 49 10.1 -0.5
baz=128
L14K Kuka Creek 13.03 296 P Pn 11 49 10.6 -0.5
baz=94
G17K Kiwalik Mounta 13.16 314 P Pn 11 49 14.0 +1.2
baz=114
E20K Nigu River 13.20 329 P Pn 11 49 14.1 +0.6
baz=132
F18K Selawik 13.30 320 P Pn 11 49 14.9 +0.2
baz=120
J14K Nanvaranak Lak 13.60 301 P Pn 11 49 19.0 +0.2
baz=99
D20K Etivluk River 13.63 330 P Pn 11 49 20.3 +1.0
baz=133
B21K Ikpikpuk River 13.79 335 P Pn 11 49 21.8 +0.4
baz=139
D19K Kuna River 13.90 328 P Pn 11 49 22.2 -0.8
baz=129
E17K Hotham Inlet 14.29 320 P Pn 11 49 27.2 -1.0
baz=118

C18K Utukok River 14.90 325 P Pn 11 49 36.6 0.0
baz=124
NEW Newport 15.66 119 LR LR 11 55 47.8
comp=E,41nm,21.5s,baz=328,slow=37
PINE Pine Mountain 17.63 136 P 11 50 13.5 +0.4
PINE IAmb IAmb 11 50 18.2
comp=Z,13nm,1.5s
PLID Pearl Lake 18.57 125 P 11 50 21.0 -2.4
PLID IAmb IAmb 11 50 30.1
comp=Z,5.2nm,1.4s
ELK Elko 22.44 130 LR LR 11 59 44.9
comp=Z,94nm,18.6s,baz=350,slow=36
NVAR Mina Array Bea 23.29 139 P P 11 51 15.7 +1.4
comp=Z,0.4nm,0.8s,baz=330,slow=8.6,SNR=5.4
comp=Z,0.4nm,0.8s
PDAR Pinedale Array 23.30 119 P P 11 51 15.1 +0.8
comp=Z,0.1nm,0.4s,baz=322,slow=11,SNR=5.7
PDAR LR LR 11 59 24.2
comp=Z,52nm,20.6s,baz=331,slow=34
comp=Z,0.1nm,0.4s
SHEM Shemya Is, Ala 27.40 280 LR LR 12 02 59.6
comp=Z,46nm,18.1s,baz=122,slow=37
ANMO Albuquerque 31.05 124 LR LR 12 04 34.6
comp=Z,53nm,18.8s,baz=96,slow=36
PETK Petropavlovsk- 35.61 291 P P 11 53 04.9 +1.1
comp=Z,1.2nm,0.9s,baz=68,slow=12,SNR=2.8
comp=Z,1.2nm,0.9s
TXAR Lajitas Array 37.06 126 LR LR 12 10 37.8
comp=Z,21nm,18.3s,baz=346,slow=40
SFJD Kangerlussuaq 37.94 40 LR LR 12 09 32.9
comp=Z,83nm,18.9s,baz=20,slow=37
TKL Tuckaleechee C 41.71 98 LR LR 12 12 13.7
comp=Z,110nm,18.5s,baz=336,slow=38
H11N2 WAKE ISLAND Hy 55.31 251 T T 12 55 17.9
baz=32,slow=76,SNR=319
H11N3 WAKE ISLAND Hy 55.31 251 T T 12 55 18.3
baz=32,slow=76,SNR=440
H11N1 WAKE ISLAND Hy 55.33 251 T T 12 55 19.3
baz=32,slow=76,SNR=269
H11S1 WAKE ISLAND Hy 56.44 250 T T 12 56 37.2
baz=31,slow=76,SNR=81
H11S2 WAKE ISLAND Hy 56.45 250 T T 12 56 37.7
baz=31,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 56.46 250 T T 12 56 38.1
baz=31,slow=76,SNR=21
SONM Songino Array 62.06 317 P P 11 56 28.9 +2.0
comp=Z,0.4nm,0.6s,baz=57,slow=5.3,SNR=2.0
comp=Z,0.4nm,0.6s
HHC Hu-ho-hao-te 65.90 309 *e*P **P 11 56 52.5 +0.3**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,99nm,5.5s

ASRS ***05*** *12:04:37.0±1.1,56°.03N×90°.52E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 05 12:04:44.4±8.2,56°.25N×89°.81E,h0km,mbtmp2.4/1, ML2.1/1,Error ellipse: s-maj=61.2km s-min=53.4km az=151.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.68**	**233**	I	I	12 26 48.8	
	0.3nm,0.9s,baz=52,slow=316,SNR=17						
ZALV	**Zalesovo Beam**	**3.68**	**233**	Pn	Pn	12 05 42.5	0.0
	0.8nm,0.3s,baz=49,slow=12,SNR=6.2						
ZALV				Lg	Lg	12 06 41.3	
	0.7nm,0.3s,baz=47,slow=26,SNR=4.5						
	0.6nm,0.4s						
I31KZ	**AKTYUBINSK INF**	**19.73**	**266**	I	I	14 03 24.4	
	0.2nm,0.5s,baz=61,slow=324,SNR=2.9						
I43RU	**DUBNA INFRASON**	**28.46**	**293**	I	I	15 00 00.0	
	baz=68,slow=324,SNR=3.5						
I37NO	**I37NO**	**32.97**	**321**	I	I	15 21 50.0	
	baz=75,slow=321,SNR=1.7						

IDC ***05*** *12:31:14.6±11.0,23°.51S×179°.72E,h577km±131km, mb2.9/4,mbtmp3.9/4,Error ellipse: s-maj=69.4km s-min=25.6km az=63.0*

ISC 05 12:31:12.5±1.4,23°.5S±0°.2×179°.8E±0°.3,h550km,n7, σ1°75/6,mb3.5/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.89**	**260**	P	**P**	**12 38 15.3**	**0.0**
	0.5nm,0.4s,baz=102,slow=7.6,SNR=29						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**42.22**	**266**	P	**P**	**12 38 17.6**	**-0.3**
	0.9nm,0.4s,baz=103,slow=7.9,SNR=49						
	0.9nm,0.4s						
QSPA	**South Pole Qui**	**66.60**	**180**	P	**P**	**12 41 08.1**	**-0.1**
	1.1nm,0.6s,baz=20,slow=1.5,SNR=12						
	1.1nm,0.6s						
PETK	**Petropavlovsk-**	**78.65**	**347**	P	**P**	**12 42 17.4**	**0.0**
	0.5nm,0.6s,baz=196,slow=6.9,SNR=1.7						
	0.5nm,0.6s						
HFS	**Hagfors**	**142.10**	**349**	PKhKP	PKPpre	12 49 36.3	
	1.0nm,0.3s,baz=45,slow=2.7,SNR=12						
AKASG	**Malin Array Be**	**144.50**	**327**	PKP	**PKPdf**	**12 49 44.4**	**-1.9**
	0.9nm,0.5s,baz=40,slow=3.6,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.33**	**295**	PKPbc	**PKPdf**	**12 49 54.1**	**+2.4**
	1.3nm,0.5s,baz=85,slow=3.0,SNR=1.9						

NEIC ***05*** *12:32:48.6±0.5,19°.256N±0°.009×155°.378W±0°.007, h5km±1km,Error ellipse: s-maj=2.7km s-min=1.5km az=96.0*

HVO 05 12:32:48.1±0.6,19°.263N±0°.007×155°.380W±0°.008, h2km±6km,ML2.7/5,ML1.9/38(NEIC),Error ellipse: s-maj=1.5km s-min=0.3km az=133.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.03**	**213**		Pg	12 32 49.8	+0.9
HLP	**Hilina Pali**	**0.07**	**64**		Pg	12 32 50.8	+1.1
HLP	**Hilina Pali**	**0.07**	**64**		Sg	12 32 52.7	+2.0
HLP	**Hilina Pali**	**0.07**	**64**	IAML		12 32 51.4	
	comp=E,576nm,0.4s						
HLP				IAML		12 32 51.5	
	comp=N,484nm,0.5s						
AIN	**Ainahou**	**0.13**	**326**		Pg	12 32 51.8	+1.1
AIN					Sg	12 32 54.5	+2.0
AIN	**Ainahou**	**0.13**	**326**	IAML		12 32 54.9	
	comp=E,2μm,0.3s						
AIN				IAML		12 32 55.0	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.15**	**33**		Pg	12 32 51.7	+0.7
SDHHI					Sg	12 32 54.5	+1.4
WRMHI	**West Rim**	**0.16**	**28**		Pg	12 32 51.9	+0.6
WRMHI					Sg	12 32 54.4	+0.9
RIM	**Rim**	**0.17**	**37**		Pg	12 32 51.9	+0.6
RIM					Sg	12 32 54.7	+1.1
KKO	**Keanakako'i**	**0.17**	**39**		Pg	12 32 52.1	+0.6
KKO					Sg	12 32 55.2	+1.4
UWE	**Uwekahuna**	**0.18**	**28**		Pg	12 32 52.1	+0.6
UWE				IAML		12 32 57.1	
	comp=E,394nm,1.3s						
UWE	**Uwekahuna**	**0.18**	**28**		Sg	12 32 55.3	+1.4
UWE	**Uwekahuna**	**0.18**	**28**	IAML		12 32 53.2	
	comp=N,220nm,1.4s						
OBL	**Observatory Le**	**0.18**	**30**		Pg	12 32 52.1	+0.5
OBL					Sg	12 32 54.9	+0.9
BYL	**Byron's Ledge**	**0.19**	**37**		Pg	12 32 52.2	+0.5
BYL					Sg	12 32 55.4	+1.2
BYL	**Byron's Ledge**	**0.19**	**37**	IAML		12 32 55.5	
	comp=E,222nm,1.8s						
BYL				IAML		12 32 55.9	
	comp=N,159nm,1.3s						
UWB	**Uwekahuna Bluf**	**0.19**	**31**		Pg	12 32 52.2	+0.4
UWB					Sg	12 32 55.8	+1.5
PUH	**Pauahi**	**0.19**	**54**		Pg	12 32 52.2	+0.4
PUH				IAML		12 32 57.8	
	comp=E,205nm,0.4s						
PUH	**Pauahi**	**0.19**	**54**		Sg	12 32 55.4	+1.1
PUH	**Pauahi**	**0.19**	**54**	IAML		12 32 53.6	
	comp=N,202nm,2.0s						
SBLHI	**Steaming Bluff**	**0.19**	**33**		Pg	12 32 52.3	+0.4
SBLHI					Sg	12 32 55.9	+1.5
HATHI	**Halema'uma'u T**	**0.20**	**35**		Pg	12 32 52.4	+0.4
HATHI					Sg	12 32 55.8	+1.3
HATHI	**Halema'uma'u T**	**0.20**	**35**	IAML		12 32 57.3	
	comp=E,182nm,0.4s						
HATHI				IAML		12 32 58.6	

comp=N,231nm,0.5s
RSD Rainshed 0.22 26 Pg 12 32 52.7 +0.3
RSD Sg 12 32 56.5 +1.1
KHU Kahuku 0.22 266 Pg 12 32 53.0 +0.6
KHU Sg 12 32 56.6 +1.2
KNHH Kane Nui o Ham 0.23 60 Pg 12 32 52.9 +0.3
MLH Mauna Loa 0.23 359 Pg 12 32 53.4 +0.8
MLH Sg 12 32 57.2 +1.6
MLH Mauna Loa 0.23 359 IAML 12 32 57.5
comp=E,325nm,0.3s
MLH IAML 12 32 57.8
comp=N,489nm,0.5s
STCH Steam Cracks 0.27 63 Pg 12 32 53.4 +0.1
STCH Sg 12 32 58.1 +1.3
STCH Steam Cracks 0.27 63 IAML 12 33 00.2
comp=E,123nm,0.5s
STCH IAML 12 33 00.8
comp=N,109nm,0.3s
NPOC North of Pu'u 0.29 63 Pg 12 32 53.8 +0.2
NPOC Sg 12 32 58.8 +1.4
JCUZ Jacuzzi 0.29 65 Pg 12 32 54.3 +0.6
MWH Mokuaweoweo 0.30 317 Pg 12 32 54.4 +0.4
MWH Mokuaweoweo 0.30 317 Sg 12 32 59.0 +1.0
MWH Mokuaweoweo 0.30 317 IAML 12 32 56.7
comp=E,292nm,2.5s
HMH Humu'ula Sheep 0.35 344 Sg 12 33 00.7 +1.1
HMH Humu'ula Sheep 0.35 344 Pg 12 32 55.6 +0.6
HMH IAML 12 33 05.8
comp=E,163nm,1.2s
HMH Humu'ula Sheep 0.35 344 IAML 12 32 59.8
comp=N,148nm,3.3s
ALEP Alea Permanent 0.37 318 Pg 12 32 55.3 0.0
ALEP Sg 12 33 00.8 +0.5
JOKA Jonika Flow 0.39 64 Pg 12 32 56.1 +0.4
JOKA Sg 12 33 02.0 +1.2
JOKA Jonika Flow 0.39 64 IAML 12 33 02.6
comp=N,283nm,1.6s
JOKA IAML 12 33 08.7
comp=E,127nm,1.0s
POHA Pohakuloa 0.51 344 Pg 12 32 57.7 -0.3
POHA Sg 12 33 05.3 +0.7
POHA Pohakuloa 0.51 344 IAML 12 33 14.5
comp=E,123nm,2.5s
POHA IAML 12 33 15.2
comp=E,119nm,2.2s
CPH Captain Cook 0.56 294 Pg 12 32 58.4 -0.4
HUH Hualalai 0.60 314 Pg 12 33 00.2 +0.6

*IDC **05** 12:32:49.2±0.8,52°.30N×170°.68W, h0km, mb3.9/15, mbtmp3.9/17, ML3.4/1, MS3.3/22, Error ellipse: s-maj=26.6km s-min=15.6km az=177.0*
*NEIC **05** 12:32:56.6±2.7, 52°.2N±0°.1×170°.42W±0°.09, h45km±10km, mb3.8/29, ML4.2/20, ML3.9(AEIC), Error ellipse: s-maj=16.2km s-min=6.9km az=167.0*
*AEIC **05** 12:32:56.4±3.1, 52°.4N±0°.1×170°.5W±0°.1, h25km±6km, Error ellipse: s-maj=18.8km s-min=6.9km az=157.0*

ISC 05 12:32:55.4±1.4, 52°.1N±0°.1×170°.49W±0°.06, h46km±11km, n105, σ1§52/73, mb3.9/16, MS3.3/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.30**	**49**		**Pn**	**12 33 14.8**	**-2.4**
NIKH					**Sn**	**12 33 30.1**	**-3.2**
NIKH	**Nikolski High**	**1.30**	**49**	IAML		12 33 36.6	
	comp=E,4µm,0.5s						
NIKH	**Nikolski High**	**1.30**	**49**	P	**Pn**	**12 33 14.9**	**-2.3**
OKSP	**Okmok Steeple**	**1.74**	**49**		**Pn**	**12 33 21.6**	**-1.6**
OKSP					**Sn**	**12 33 42.0**	**-2.2**
OKCE	**Okmok Cone E**	**1.91**	**47**		**Pn**	**12 33 24.9**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.94**	**49**		**Pn**	**12 33 25.1**	**-0.9**
OKNC	**Okmok New Cone**	**1.95**	**46**		**Pn**	**12 33 25.4**	**-0.7**
OKFG	**Magazine Ridge**	**2.02**	**50**		**Pn**	**12 33 26.2**	**-0.8**
OKFG					**Sn**	**12 33 49.8**	**-1.2**
ATKA	**Atka Island**	**2.28**	**273**		**Pn**	**12 33 29.5**	**-1.1**
ATKA					**Sn**	**12 33 56.0**	**-1.4**
ATKA	**Atka Island**	**2.28**	**273**	P	**Pn**	**12 33 29.2**	**-1.4**
MAPS	**Pakushin South**	**2.72**	**51**		**Pn**	**12 33 36.1**	**-0.5**
MAPS					**Sn**	**12 34 07.5**	**-0.8**
MGOD	**Makushin Gods**	**2.75**	**51**		**Pn**	**12 33 36.5**	**-0.5**
UNV	**Unalaska Valle**	**2.95**	**53**		**Pn**	**12 33 39.3**	**-0.5**
UNV					**Sn**	**12 34 13.0**	**-1.0**
UNV					LR	12 34 13.9	
UNV	**Unalaska Valle**	**2.95**	**53**	IAML		12 34 26.9	
	comp=N,833nm,0.8s						
UNV	**Unalaska Valle**	**2.95**	**53**	P	**Pn**	**12 33 39.3**	**-0.5**
GSIG	**Igitkin Island**	**3.36**	**270**		**Pn**	**12 33 45.7**	**+0.3**
LVA	**Lava Point**	**3.36**	**51**		**Pn**	**12 33 46.8**	**+1.4**
LVA						12 34 52.0	
	comp=E,743nm,0.7s						
AKGG	**Akutan Green G**	**3.40**	**51**		**Pn**	**12 33 45.9**	**-0.1**
GSTR	**Great Sitkin T**	**3.43**	**271**		**Pn**	**12 33 48.0**	**+1.6**
GSTR				IAML		12 34 46.2	
	comp=E,528nm,0.9s						
AKUT	**Akutan**	**3.48**	**53**		**Pn**	**12 33 48.8**	**+1.9**
AKUT				IAML		12 34 48.6	
	comp=E,350nm,1.0s						
GSTD	**Great Sitkin T**	**3.49**	**271**		**Pn**	**12 33 47.4**	**+0.2**
GSCK	**Great Sitkin C**	**3.50**	**270**		**Pn**	**12 33 46.6**	**-0.7**
GSSP	**Great Sitkin S**	**3.50**	**271**		**Pn**	**12 33 46.8**	**-0.5**
ADK	**Adak**	**3.83**	**269**		**Pn**	**12 33 52.3**	**+0.5**
ADK				IAML		12 34 53.8	
	comp=E,261nm,0.9s						
ADK	**Adak**	**3.83**	**269**	P	**Pn**	**12 33 52.1**	**+0.2**
KIWB	**Kanaga Island**	**4.13**	**269**		**Pn**	**12 33 56.9**	**+1.0**
KIWB				IAML		12 34 59.9	
	comp=N,225nm,1.3s						
KIWB				IAML		12 35 07.3	
	comp=E,226nm,1.2s						
P08K	**Saint George I**	**4.50**	**7**		**Pn**	**12 34 01.6**	**+0.6**
P08K				IAML		12 34 44.0	
	comp=N,291nm,2.5s						
P08K				IAML		12 36 24.8	
	comp=E,253nm,2.9s						
SPIA	**Saint Paul Isl**	**5.05**	**2**		**Pn**	**12 34 09.4**	**+0.9**
AMKA	**Amchitka**	**6.38**	**267**		**Pn**	**12 34 28.1**	**+1.3**
SDPT	**Sand Point**	**6.75**	**58**	P	**Pn**	**12 34 33.2**	**+1.4**
CNBA	**Chernabura Isl**	**7.04**	**63**	Pn	**Pn**	**12 34 36.0**	**+0.3**
CHNA	**Chernabura Isl**	**7.04**	**63**	P	**Pn**	**12 34 35.8**	**0.0**
CHGN	**Chignik**	**8.21**	**55**	Pn	**Pn**	**12 34 53.4**	**+1.6**
N15K	**Kwethluk River**	**9.91**	**32**	Pn	**Pn**	**12 35 17.1**	**+2.0**
O16K	**Kokwok River B**	**10.20**	**38**		**Pn**	**12 35 21.7**	**+2.7**
N17K	**Nushagak Hills**	**11.17**	**36**		**Pn**	**12 35 34.3**	**+2.1**
OHAK	**Old Harbor**	**11.17**	**56**	P	**Pn**	**12 35 32.0**	**-0.3**
O18K	**Koktuh Hills**	**11.51**	**42**		**Pn**	**12 35 39.2**	**+2.4**
KDAK	**Kodiak Island**	**11.72**	**54**	Pn	**Pn**	**12 35 37.2**	**-2.6**
	comp=E,0.5nm,0.3s,baz=230,slow=6.2,SNR=8.6						
KDAK				Sn	Sn	12 37 40.3	-8.8
	comp=E,0.1nm,0.3s,baz=211,slow=8.1,SNR=1.6						
K17K	**Iditarod**	**12.44**	**27**		**Pn**	**12 35 51.8**	**+2.2**
L18K	**Granite Mounta**	**12.54**	**31**		**Pn**	**12 35 54.2**	**+3.3**
M19K	**Big River Lodg**	**13.10**	**35**		**Pn**	**12 36 00.9**	**+2.3**
J20K	**Nowinta River**	**14.77**	**29**	Pn	**Pn**	**12 36 23.3**	**+2.3**
CAST	**Castle Rocks**	**14.90**	**34**		**Pn**	**12 36 25.6**	**+2.8**
BPAW	**Bear Paw Mtn.**	**15.71**	**33**	P	**Pn**	**12 36 35.7**	**+2.4**
BPAW				IAmb	IAmb	12 36 40.0	
	comp=Z,7.9nm,1.1s						
MLY	**Manley**	**16.41**	**31**	IAmb	IAmb	12 36 49.1	
	comp=Z,7.0nm,1.2s						
N25K	**Chitina, Valde**	**16.92**	**46**	IAmb	IAmb	12 36 53.3	
	comp=Z,3.5nm,0.7s						
I23K	**Minto, Yukon-K**	**16.93**	**32**	IAmb	IAmb	12 37 07.4	
	comp=Z,9.8nm,1.2s						
GLB	**Gilahina Butte**	**17.21**	**47**		**Pn**	**12 36 52.8**	**+0.6**
ILAR	**Eielson Array**	**17.53**	**35**	P	**Pn**	**12 36 55.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=239,slow=11,SNR=11						
ILAR				LR	LR	12 44 13.3	
	comp=Z,76nm,20.5s,baz=202,slow=39						
	comp=Z,0.4nm,0.5s						
M26K	**Nabesna, AK**	**17.92**	**44**	IAmb	IAmb	12 37 05.5	
	comp=Z,7.3nm,1.4s						
G24K	**Hadweenzic Riv**	**18.53**	**29**	IAmb	IAmb	12 37 20.6	
	comp=Z,8.2nm,1.1s						
J26L	**Joseph Creek**	**18.60**	**38**	IAmb	IAmb	12 37 17.7	
	comp=Z,3.6nm,0.7s						
O28M	**Mount Upton**	**18.69**	**51**	IAmb	IAmb	12 37 17.8	
	comp=Z,9.9nm,1.2s						
PETK	**Petropavlovsk-**	**19.26**	**286**	P	**P**	**12 37 15.3**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=71,slow=9.7,SNR=4.1						
PETK				LR	LR	12 45 14.3	
	comp=Z,34nm,18.9s,baz=122,slow=39						
F25K	**Christian Rive**	**19.66**	**29**	IAmb	IAmb	12 37 41.4	
	comp=Z,8.2nm,1.3s						
P29M	**Windy Craggy**	**19.67**	**55**		**Pn**	**12 37 23.5**	**+1.5**
M29M	**Somme Creek**	**19.92**	**46**	IAmb	IAmb	12 37 30.9	
	comp=Z,8.0nm,1.4s						
L29M	**L29M**	**20.27**	**45**		**P**	**12 37 28.8**	**+2.1**
N30M	**Aishikik Lake**	**20.31**	**50**	IAmb	IAmb	12 37 51.1	
	comp=Z,4.3nm,0.8s						
I28M	**Miner Creek**	**20.41**	**38**	P	**P**	**12 37 29.7**	**+1.3**
I28M				IAmb	IAmb	12 37 38.8	
	comp=Z,3.5nm,0.8s						
O30N	**Mendenhall**	**20.66**	**52**	IAmb	IAmb	12 38 11.9	
	comp=Z,7.0nm,1.2s						
K29M	**Barlow Dome**	**20.76**	**43**		**P**	**12 37 35.0**	**+2.9**
K29M				IAmb	IAmb	12 37 37.5	
	comp=Z,3.6nm,1.1s						
P32M	**Atlin**	**21.70**	**55**		**P**	**12 37 44.1**	**+1.9**
P32M				IAmb	IAmb	12 37 47.5	
	comp=Z,4.7nm,0.9s						
MA2	**Magadan**		**22.70 304**	LR	LR	12 48 46.6	
	comp=Z,38nm,18.2s,baz=109,slow=42						
INK	**Inuvik**		**23.92 33**	LR	LR	12 48 32.7	
	comp=Z,108nm,18.4s,baz=263,slow=40						
YKA	**Yellowknife Ar**		**30.91 48**	LR	LR	12 52 00.9	
	comp=Z,59nm,21.9s,baz=312,slow=37						
ASAJ	**Asahikawa**		**31.84 274**	LR	LR	12 51 18.2	
	comp=Z,36nm,21.2s,baz=108,slow=35						
TIXI	**Tiksi**		**32.58 329**	LR	LR	12 52 20.8	
	comp=Z,51nm,21.6s,baz=266,slow=36						
YAK	**Yakutsk**		**32.80 311**	LR	LR	12 52 29.3	
	comp=Z,46nm,21.9s,baz=54,slow=36						
H11N2	**WAKE ISLAND Hy**		**36.85 217**	T	T	13 19 28.3	
	baz=22,slow=74,SNR=6.4						
H11N3	**WAKE ISLAND Hy**		**36.85 217**	T	T	13 19 29.5	
	baz=22,slow=74,SNR=6.2						
H11N1	**WAKE ISLAND Hy**		**36.87 217**	T	T	13 19 31.6	
	baz=22,slow=74,SNR=6.5						
RES	**Resolute Bay**		**36.88 25**	LR	LR	12 57 44.9	
	comp=Z,29nm,20.1s,baz=38,slow=41						
H11S1	**WAKE ISLAND Hy**		**38.04 217**	T	T	13 21 07.1	
	baz=22,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**		**38.05 217**	T	T	13 21 14.4	
	baz=22,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**		**38.06 217**	T	T	13 21 00.7	
	baz=22,slow=76,SNR=47						
NVAR	**Mina Array Bea**		**38.35 90**	P	**P**	**12 40 13.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=321,slow=10.0,SNR=2.5						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**		**41.12 78**	P	**P**	**12 40 36.4**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=299,slow=4.6,SNR=18						
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**		**44.74 276**	P	**P**	**12 41 03.7**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=71,slow=7.8,SNR=5.3						
	comp=Z,0.9nm,0.8s						
FRB	**Frobisher Bay**		**49.56 35**	LR	LR	13 03 32.9	
	comp=Z,58nm,19.4s,baz=302,slow=37						
SONM	**Songino Array**		**50.82 300**	P	**P**	**12 41 50.8**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=46,slow=6.4,SNR=5.0						
SONM				LR	LR	13 06 28.3	
	comp=Z,56nm,18.0s,baz=58,slow=40						
	comp=Z,0.9nm,0.9s						
TXAR	**Lajitas Array**		**53.44 88**	P	**P**	**12 42 11.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=302,slow=4.5,SNR=8.1						
	comp=Z,0.5nm,0.7s						
SCHQ	**Schefferville**		**56.07 43**	P	**P**	**12 42 29.3**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=299,slow=8.8,SNR=4.8						
	comp=Z,6.1nm,0.8s						
ZALV	**Zalesovo Beam**		**57.12 317**	LR	LR	13 08 11.9	
	comp=Z,25nm,19.9s,baz=90,slow=37						
ARCES	**ARCESS Array B**		**58.07 353**	LR	LR	13 07 32.1	
	comp=Z,28nm,22.0s,baz=4.0,slow=36						
KURBB	**Kurchatov Arra**		**62.19 318**	P	**P**	**12 43 10.3**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=48,slow=7.2,SNR=8.1						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**		**63.46 313**	LR	LR	13 12 42.9	
	comp=Z,19nm,19.3s,baz=80,slow=38						
BVAR	**Borovoye Array**		**63.49 324**	P	**P**	**12 43 19.3**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=20,slow=5.2,SNR=6.2						
BVAR				LR	LR	13 12 08.8	
	comp=Z,18nm,19.8s,baz=29,slow=37						
	comp=Z,2.1nm,0.9s						
ARTI	**Arti**		**64.59 332**	LR	LR	13 14 56.1	
	comp=Z,25nm,19.4s,baz=36,slow=39						
KIRV	**Kirov**		**64.96 338**	LR	LR	13 15 14.4	
	comp=Z,33nm,19.0s,baz=31,slow=39						
FINES	**FINESS Array B**		**66.00 351**	LR	LR	13 13 28.5	
	comp=Z,15nm,21.5s,baz=60,slow=37						
NB2	**NORSAR Subarra**		**67.16 359**	P	**P**	**12 43 43.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=1.3,slow=6.5						
NOA	**NORSAR Array B**		**67.16 359**	P	**P**	**12 43 42.9**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=1.8,slow=6.4,SNR=4.1						
NOA				LR	LR	13 13 30.1	
	comp=Z,9.2nm,18.4s,baz=325,slow=36						
	comp=Z,1.1nm,0.8s						
HFS	**Hagfors**		**68.03 358**	P	**P**	**12 43 48.1**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=27,slow=3.5,SNR=11						
	comp=Z,1.1nm,0.4s						
CMAR	**Chiang Mai Arr**		**75.99 282**	P	**P**	**12 44 37.6**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=27,slow=6.9,SNR=11						
	comp=Z,2.2nm,0.8s						
AKASG	**Malin Array Be**		**76.18 347**	LR	LR	13 19 31.6	
	comp=Z,19nm,22.0s,baz=52,slow=37						
GERES	**GERESS Array B**		**79.33 357**	P	**P**	**12 44 55.6**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=11,slow=7.5,SNR=6.0						
	comp=Z,1.4nm,0.9s						
MLR	**Muntele Rosu**		**81.72 348**	LR	LR	13 24 22.4	
	comp=Z,29nm,20.6s,baz=227,slow=38						
WRA	**Warramunga Arr**		**86.32 231**	P	**P**	**12 45 31.6**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=27,slow=5.3,SNR=2.2						
	comp=Z,0.4nm,0.9s						
ESDC	**Sonseca Array**		**87.81 10**	P	**P**	**12 45 38.7**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=350,slow=5.6,SNR=13						
ESDC				LR	LR	13 24 45.5	
	comp=Z,16nm,20.4s,baz=310,slow=36						
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**		**89.72 229**	P	**P**	**12 45 48.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=26,slow=5.4,SNR=10						
	comp=Z,0.3nm,0.7s						
H03N2	**Juan Fernandez**		**116.48 111**	T	T	14 58 57.7	
	baz=317,slow=77,SNR=9.4						
H03N1	**Juan Fernandez**		**116.50 111**	T	T	14 58 50.2	
	baz=317,slow=77,SNR=15						
H03N3	**Juan Fernandez**		**116.50 111**	T	T	14 58 48.6	
	baz=317,slow=77,SNR=10						

IDC 05 12:34:51.6±539.0, 56°.43N×90°.93E, h0km, Error ellipse: s-maj=247.6km s-min=88.8km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**4.29**	**237**	I	I	13 01 05.9	
	1.0nm,0.9s,baz=52,slow=314,SNR=9.4						
I31KZ	**AKTYUBINSK INF**	**20.37**	**267**	I	I	14 38 31.6	
	0.1nm,0.4s,baz=62,slow=324,SNR=2.1						
I43RU	**DUBNA INFRASON**	**28.95**	**293**	I	I	15 33 50.0	
	baz=69,slow=325,SNR=1.9						
I37NO	**I37NO**	**33.22**	**321**	I	I	15 56 09.2	
	baz=75,slow=322,SNR=1.8						

IDC 05 12:35:37.3±2.1, 0°.68S×127°.97E, h0km, mb3.4/3, mbtmp3.6/4, ML3.3/1, MS3.2/1, Error ellipse: s-maj=108.9km s-min=27.2km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.46**	**187**	P	Pn	12 39 41.5	-0.9
	0.1nm,0.3s,baz=356,slow=15,SNR=2.0						
	2.3nm,0.9s						
WRA	**Warramunga Arr**	**20.13**	**162**	P	P	12 40 13.3	+0.2
	0.5nm,0.4s,baz=342,slow=10,SNR=9.5						
	0.5nm,0.4s						
PMG	**Port Moresby**	**20.97**	**115**	LR	LR	12 51 13.7	
	comp=Z,66nm,19.9s,baz=20,slow=45						
ASAR	**Alice Springs**	**23.56**	**166**	P	P	12 40 49.9	+0.2
	1.7nm,0.6s,baz=346,slow=12,SNR=38						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**61.87**	**326**	P	P	12 45 58.4	-0.2
	0.2nm,0.4s,baz=123,slow=8.2,SNR=2.1						
	0.2nm,0.4s						

*AEIC **05** 12:51:42.7±0.8, 51°.71N±0°.07×179°.57E±0°.05, h84km±4km, Error ellipse: s-maj=11.3km s-min=2.1km az=201.0*
*NEIC **05** 12:51:43.1±1.1, 51°.66N±0°.06×179°.55E±0°.05, h87km±3km, mb3.9/12, ML3.9/10, ML3.3(AEIC), Error ellipse: s-maj=8.7km s-min=4.2km az=165.0*
*IDC **05** 12:51:43.1±2.8, 51°.91N×179°.45E, h88km±25km, mb3.4/15, mbtmp3.7/17, MS2.8/1, Error ellipse: s-maj=21.7km s-min=12.7km az=169.0*

ISC 05 12:51:42.8±0.7, 51°.72N±0°.09×179°.53E±0°.03, h88km±5km, n70, σ0§92/76, mb3.7/17, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESW	**Semis' Southwe**	**0.18**	**6**		**Pn**	**12 51 55.4**	**-0.1**
CERB	**Semis' Cerberu**	**0.22**	**16**		**Pn**	**12 51 55.9**	**+0.3**
CERB					**Sn**	**12 52 05.4**	**+0.3**
CETU	**Semis' Tuman**	**0.25**	**354**		**Pn**	**12 51 55.8**	**0.0**
CEPE	**Semis' Perret**	**0.26**	**16**		**Pn**	**12 51 55.7**	**0.0**
CEAP	**Semis' Anvil P**	**0.28**	**6**		**Pn**	**12 51 56.0**	**+0.1**
AMKA	**Amchitka**	**0.37**	**203**		**Pn**	**12 51 56.2**	**-0.2**
AMKA				Sn	**Sn**	**12 52 06.0**	**-0.3**
LSSE	**Little Sitkin**	**0.64**	**290**		**Pn**	**12 51 58.9**	**+0.4**
LSPA	**Little Sitkin**	**0.64**	**292**		**Pn**	**12 51 58.7**	**+0.2**
LSPA					**Sn**	**12 52 10.6**	**+0.4**
LSNW	**Little Sitkin**	**0.68**	**292**		**Pn**	**12 51 59.0**	**+0.1**
GASW	**Gareloi Southw**	**1.00**	**86**		**Pn**	**12 52 02.5**	**+0.2**
GASW					**Sn**	**12 52 17.0**	**0.0**
GANO	**Gareloi North**	**1.04**	**84**		**Sn**	**12 52 17.7**	**-0.1**
GAKI	**Gareloi-Kavalg**	**1.04**	**98**		**Pn**	**12 52 02.9**	**+0.1**
GAKI					**Sn**	**12 52 17.7**	**-0.1**
GALAA	**Gareloi Lava P**	**1.05**	**87**		**Pn**	**12 52 03.4**	**+0.5**
GALAA					**Sn**	**12 52 18.8**	**+0.7**
GANE	**Gareloi Northe**	**1.05**	**84**		**Pn**	**12 52 03.1**	**+0.2**
GANE					**Sn**	**12 52 18.1**	**0.0**
GAEA	**Gareloi East**	**1.07**	**86**		**Pn**	**12 52 03.4**	**+0.2**
GAEA					**Sn**	**12 52 18.3**	**-0.1**
TANO	**Tanaga North**	**1.47**	**81**		**Pn**	**12 52 08.5**	**+0.5**
TANO					**Sn**	**12 52 27.2**	**+0.1**
TAFP	**Tanaga Falls P**	**1.55**	**82**		**Pn**	**12 52 09.2**	**+0.1**
TAFL	**Tanaga Flats**	**1.60**	**88**		**Pn**	**12 52 10.1**	**+0.4**
TAFL					**Sn**	**12 52 30.5**	**+0.5**
KIKV	**Kanaga Island**	**2.05**	**84**		**Pn**	**12 52 15.7**	**+0.1**
KIKV					**Sn**	**12 52 40.9**	**+0.2**
KIWB	**Kanaga Island**	**2.06**	**85**		**Pn**	**12 52 15.9**	**+0.2**
KIWB				Sn	**Sn**	**12 52 40.5**	**-0.3**
KIWB				IAML		12 52 45.4	
	comp=E,618nm,0.5s						
KIWB				IAML		12 52 52.3	
	comp=N,704nm,0.6s						
ADK	**Adak**	**2.35**	**85**		**Pn**	**12 52 19.6**	**+0.1**
ADK				IAML		12 52 56.6	
	comp=N,578nm,0.5s						
ADK				IAML		12 52 57.0	
	comp=N,724nm,0.3s						
ADK	**Adak**	**2.35**	**85**		**Sn**	**12 52 47.6**	**-0.1**
ETKA	**Kagalaska Isla**	**2.53**	**85**		**Pn**	**12 52 21.8**	**0.0**
GSSP	**Great Sitkin S**	**2.68**	**80**		**Pn**	**12 52 23.3**	**-0.2**
GSCK	**Great Sitkin C**	**2.69**	**82**		**Pn**	**12 52 24.2**	**+0.2**
GSTD	**Great Sitkin T**	**2.70**	**81**		**Pn**	**12 52 24.0**	**-0.3**
GSTR	**Great Sitkin T**	**2.76**	**80**		**Pn**	**12 52 25.2**	**+0.3**
SHEM	**Shemya Is, Ala**	**3.49**	**289**	P	**Pn**	**12 52 33.9**	**-0.9**
	comp=N,15nm,0.3s,baz=49,slow=3.0,SNR=15						
SHEM				S	**Sn**	**12 53 17.6**	**+2.5**
	comp=N,50nm,0.3s,baz=278,slow=17,SNR=9.4						
SMY	**Shemya**	**3.49**	**289**		**Pn**	**12 52 35.9**	**+1.0**
SMY				IAML		12 53 38.4	
	comp=E,189nm,1.1s						
ATKA	**Atka Island**	**3.91**	**80**		**Pn**	**12 52 41.0**	**+0.5**
ATKA				IAML		12 53 40.7	
	comp=N,143nm,0.6s						
SPIA	**Saint Paul Isl**	**8.08**	**43**	Pn	**Pn**	**12 53 38.2**	**+1.0**
UNV	**Unalaska Valle**	**8.73**	**70**	Pn	**Pn**	**12 53 48.1**	**+2.0**
CNBA	**Chernabura Isl**	**12.87**	**68**	Pn	**Pn**	**12 54 42.3**	**+0.3**
PETK	**Petropavlovsk-**	**13.39**	**285**	LR	LR	12 59 31.2	
	comp=N,38nm,20.0s,baz=149,slow=35						
O16K	**Kokwok River B**	**14.83**	**49**	P	**P**	**12 55 12.9**	**+1.7**
OHAK	**Old Harbor**	**16.66**	**60**	Pn	**Pn**	**12 55 29.6**	**-1.0**
KDAK	**Kodiak Island**	**17.12**	**58**	Pn	**Pn**	**12 55 35.0**	**-1.1**
KDAK	**Kodiak Island**	**17.12**	**58**	P	**Pn**	**12 55 34.1**	**-2.1**
	comp=N,1.8nm,0.3s,baz=186,slow=1.4,SNR=27						
KDAK				S	**Sn**	**12 58 44.9**	**-1.1**
	comp=N,15nm,1.2s,baz=355,slow=14,SNR=2.0						
STLK	**Strandline Lak**	**18.40**	**47**	P	**P**	**12 55 51.3**	**+0.6**
SKT	**Skwentna**	**18.69**	**45**	P	**Pn**	**12 55 56.4**	**+1.2**
SKT				IAmb	IAmb	12 55 59.1	
	comp=Z,5.8nm,0.6s						
PMR	**Palmer**	**19.66**	**48**	P	**Pn**	**12 56 06.2**	**-0.3**
PMR				IAmb	IAmb	12 56 43.2	
	comp=Z,7.7nm,1.5s						
C19K	**Lookout Ridge**	**20.06**	**22**	P	Pn	12 56 11.7	+0.5
SCM	**Sheep Creek Mo**	**20.55**	**48**	P	**P**	**12 56 14.7**	**+0.7**
SCM				IAmb	IAmb	12 56 15.0	
	comp=Z,6.4nm,0.6s						
NEA2	**Nenana**	**20.70**	**39**	P	**P**	**12 56 17.1**	**+1.5**
NEA2				IAmb	IAmb	12 56 41.3	
	comp=Z,8.9nm,1.5s						
CCB	**Clear Creek Bu**	**21.23**	**40**	P	**P**	**12 56 23.1**	**+1.9**
ILAR	**Eielson Array**	**21.64**	**40**	P	**P**	**12 56 24.6**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=226,slow=8.1,SNR=5.0						
	comp=Z,0.1nm,0.4s						
D22K	**Ayikyak River**	**21.69**	**27**	P	**P**	**12 56 27.9**	**+1.7**
D22K				IAmb	IAmb	12 56 58.7	
	comp=Z,13nm,1.4s						

JMI	**Jan Mayen**	**1.26**	**122**	*eP*	**Pg**	**12 58 02.4 +0.5**
JMIC	**Jan Mayen**	**1.29**	**118**	*eP*	**Pg**	**12 58 02.6 +0.1**
JMIC				*eS*	**Sb**	**12 58 17.8 -0.9**
JMIC				IAML		12 58 18.8
	comp=Z,42nm,0.3s					
JNW	**Jan Mayen West**	**1.29**	**116**	*eP*	**Pb**	**12 58 02.5 +0.4**
JNW				*eS*	**Sb**	**12 58 17.9 -0.8**
JNW				IAML		12 58 22.4
	comp=Z,35nm,0.3s					
JNE	**Jan Mayen East**	**1.35**	**116**	*eP*	**Pg**	**12 58 03.7 +0.1**
JNE				*eS*	**Sb**	**12 58 18.4 -1.9**
JNE				IAML		12 58 21.1
	comp=Z,49nm,0.5s					
SCO	**Scoresbysund**	**3.44**	**255**	*eP*	**Pn**	**12 58 33.1 +1.7**
SCO				*eS*	**Sn**	**12 59 10.2 -1.9**
DBG	**Daneborg**	**3.62**	**322**	*eP*	**Pn**	**12 58 35.5 +1.7**
DBG				*eS*	**Sn**	**12 59 14.0 -2.5**
DBG	**Daneborg**	**3.62**	**322**	*eP*	**Pn**	**12 58 35.8 +2.0**
DBG				*eS*	**Sn**	**12 59 13.6 -2.9**
DAG	**Danmarks Havn**	**5.48**	**344**	*eP*	**Pn**	**12 59 01.4 +2.1**

*OSUNB **05** 13:10:00.7±0.3,5.°17S×64.°43W,h0km,mR3.3/6,Error ellipse: s-maj=2.2km s-min=2.6km az=0.0*
*VAO **05** 13:10:03.4±0.2,5.°14S×65.°06W,h0km,mbR3.6*
ISC 05 13:10:05.3±0.9,5.°14S±0.°05×65.°04W±0.°06,h10km,n14, σ1§14/18,Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEFE	**Tefe**	**1.67**	**14**	P	**Pn**	**13 10 34.4**	**-0.2**
TEFE				S	**Sn**	**13 10 55.6**	**-0.4**
TEFE	**Tefe**	**1.67**	**14**	*eP*	**Pn**	**13 10 33.2**	**-1.4**
TEFE				*eS*	**Sn**	**13 10 55.7**	**-0.4**
LABB	**Lıbrea**	**4.20**	**189**	P	**Pn**	**13 11 09.3**	**-0.1**
LABB				S	**Sn**	**13 11 58.5**	**-0.2**
TBTG	**Tabatinga, AM**	**4.95**	**281**	P	**Pn**	**13 11 21.5**	**+1.8**
TBTG	**Tabatinga, AM**	**4.95**	**281**	*eP*	**Pn**	**13 11 18.6**	**-1.2**
TBTG				*eS*	**Sn**	**13 12 17.5**	**+0.5**
SGC2	**Sao Gabriel da**	**5.32**	**339**	P	**Pn**	**13 11 26.0**	**+1.2**
SGC2				S	**Sn**	**13 12 27.0**	**+0.8**
CZSB	**Cruzeiro do Su**	**8.04**	**251**	*eP*	**Pn**	**13 12 00.8**	**-1.5**
CZSB				*eS*	**Sn**	**13 13 33.7**	**+0.3**
BOAV	**Boa Vista**	**8.74**	**31**	P	Pn	13 12 06.7	-5.1
BOAV				S	Sn	13 13 38.5	-12
BOAV	**Boa Vista**	**8.74**	**31**	*eP*	**Pn**	**13 12 11.8**	**0.0**
ITTB	**Itaituba**	**9.30**	**86**	P	Pn	13 12 09.0	-11
ITTB				S	Sn	13 13 46.1	-18
ITTB	**Itaituba**	**9.30**	**86**	*eP*	**Pn**	**13 12 18.2**	**-1.4**
ITTB				*eS*	**Sn**	**13 14 05.8**	**+1.4**
NPGB	**Novo Progresso**	**9.81**	**102**	S	Sn	13 13 59.2	-18
NPGB	**Novo Progresso**	**9.81**	**102**	*eS*	**Sn**	**13 14 18.4**	**+1.4**
PDRB	**Porto dos Gac**	**10.44**	**129**	*eS*	**Sn**	**13 14 33.7**	**+1.4**

IDC 05 13:15:40.5±1.1,5.°97N×124.°78E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=29.3km s-min=14.4km az=111.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.35**	**36**	Pg	Pb	13 16 06.7	+0.1
	180nm,0.3s,baz=221,slow=9.3,SNR=3.0						
DAV				Lg	Lg	13 16 23.2	
	144nm,0.3s,baz=58,slow=23,SNR=14						
WRA	**Warramunga Arr**	**27.41**	**160**	P	P	13 21 28.4	+0.4
	0.4nm,0.9s,baz=337,slow=10,SNR=7.7						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**30.77**	**163**	P	P	13 21 58.1	+0.2
	0.3nm,0.7s,baz=341,slow=7.2,SNR=6.7						
ASAR				PcP	PcP	13 24 53.7	-2.0
	0.1nm,0.5s,baz=336,slow=2.5,SNR=1.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**54.62**	**325**	P	P	13 25 12.6	+1.6
	0.2nm,0.5s,baz=121,slow=8.2,SNR=2.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**58.82**	**327**	P	P	13 25 39.4	-1.3
	0.2nm,0.4s,baz=125,slow=7.4,SNR=2.0						
	0.2nm,0.4s						

IDC 05 13:26:31.1±6.7,8.°19S×129.°73E,h0km,mb3.9/1, mbtmp3.4/4,ML2.8/3,MS3.8/1,Error ellipse: s-maj=83.7km s-min=51.9km az=148.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.63**	**202**	Pn	Pn	13 29 06.2	+1.6
	baz=18,slow=13,SNR=1.9						
FITZ				Sn	Sn	13 31 06.2	+1.6
	0.1nm,0.3s,baz=133,slow=20,SNR=1.4						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**12.51**	**160**	Pn	Pn	13 29 29.6	-0.9
	0.1nm,0.3s,baz=339,slow=14,SNR=7.1						
WRA				Sn	Sn	13 31 53.5	+2.8
	0.1nm,0.3s,baz=333,slow=22,SNR=5.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**15.90**	**166**	Pn	Pn	13 30 15.1	-1.4
	baz=345,slow=10,SNR=8.1						
	0.2nm,0.6s						
STKA	**Stephens Creek**	**26.03**	**157**	P	P	13 32 06.0	0.0
	1.6nm,0.8s,baz=337,slow=7.7,SNR=3.1						
	1.6nm,0.8s						
RAO	**Raoul Island**	**53.33**	**120**	LR	LR	13 58 20.1	
	comp=Z,76nm,18.4s,baz=296,slow=36						

IDC 05 14:11:49.8±9.9,6.°37S×128.°51E,h255km±110km,mb2.8/1, mbtmp3.4/4,MS2.8/2,Error ellipse: s-maj=85.0km s-min=36.4km az=52.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.98**	**193**	P	Pn	14 14 34.0	+0.9
	1.7nm,0.8s,baz=36,slow=7.0,SNR=6.5						
FITZ				S	S	14 16 45.2	-1.6
	2.3nm,1.1s,baz=354,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**14.63**	**158**	P	P	14 15 03.9	-1.4
	0.3nm,0.6s,baz=334,slow=13,SNR=6.0						
WRA				S	S	14 17 45.8	-1.4
	0.3nm,0.5s,baz=336,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**17.96**	**164**	P	P	14 15 42.4	+0.6
	0.6nm,0.7s,baz=343,slow=11,SNR=12						
GUMO	**Guam**	**25.64**	**39**	LR	LR	14 29 05.0	
	comp=Z,17nm,18.0s,baz=219,slow=40						
NWAO	**Narrogin (SRO)**	**28.43**	**200**	LR	LR	14 29 56.7	
	comp=Z,20nm,18.6s,baz=302,slow=38						
MKAR	**Makanchi Array**	**66.90**	**327**	P	P	14 22 14.6	-0.2
	0.2nm,0.4s,baz=112,slow=6.9,SNR=2.3						
	0.2nm,0.4s						

*DJA **05** 14:14:45.0±0.3,8.°5±3.°×12.°0E±.°,h175km±3km,M3.8/12, mb3.9/6,MLv3.7/12*
*IDC **05** 14:14:46.9±1.6,7.°89S×120.°32E,h210km±14km,mb3.5/5, mbtmp3.9/9,Error ellipse: s-maj=52.5km s-min=7.9km az=54.0*
*NEIC **05** 14:14:47.1±1.3,7.°92S±0.°08×120.°3E±0.°1,h211km±8km, mb4.3/10,Error ellipse: s-maj=17.5km s-min=6.8km az=56.0*
ISC 05 14:14:45.0±0.5,8.°20S±0.°05×119.°91E±0.°05,h200km,n44, σ1§79/49,mb4.1/7,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.51**	**165**	P	**Pn**	**14 15 16.5**	**-2.3**
WSI				S	**Sn**	**14 15 40.0**	**-5.1**
WBSI	**Waikabubak, Su**	**1.52**	**200**	P	Pn	14 15 15.8	-3.1
WBSI				S	Sn	14 15 39.2	-6.2
EDFI	**Ende, Flores**	**1.84**	**107**	P	**Pn**	**14 15 21.2**	**-0.8**
BASI	**Baing, Sumba**	**2.11**	**162**	P	**Pn**	**14 15 22.9**	**-1.8**
BSSI	**Bau Bau, Buton**	**2.12**	**16**	P	**Pn**	**14 15 24.1**	**-0.7**
PLAI	**Plampang**	**2.20**	**253**	P	**Pn**	**14 15 23.5**	**-2.1**
MMRI	**Maumere**	**2.34**	**101**	Pn	**Pn**	**14 15 27.1**	**-0.1**
MMRI	**Maumere**	**2.34**	**101**	P	**Pn**	**14 15 27.1**	**-0.1**
BKSI	**Bulukumba**	**2.87**	**4**	P	**Pn**	**14 15 33.0**	**-0.1**
KAPI	**Kappang**	**3.17**	**357**	Pn	**Pn**	**14 15 36.8**	**+0.1**
KAPI	**Kappang**	**3.17**	**357**	P	**Pn**	**14 15 36.7**	**0.0**
	19nm,0.4s,baz=164,slow=12,SNR=8.3						
KAPI				S	**Sn**	**14 16 14.7**	**-2.5**
	4.5nm,0.4s,baz=204,slow=20,SNR=1.2						
BATI	**Baumata**	**4.21**	**119**	P	**Pn**	**14 15 50.6**	**+1.2**
	8.3nm,0.3s,baz=308,slow=9.8,SNR=2.1						
BATI				S	**Sn**	**14 16 38.1**	**-1.9**
	16nm,0.4s,baz=22,slow=9.5,SNR=1.8						
BATI	**Baumata**	**4.21**	**119**	P	**Pn**	**14 15 49.5**	**+0.1**
SPSI	**Sidrap Palu**	**4.21**	**358**	P	**Pn**	**14 15 49.4**	**-0.1**
SOEI	**Soe**	**4.57**	**110**		**Pn**	**14 15 54.2**	**+0.1**
SOEI	**Soe**	**4.57**	**110**	P	**Pn**	**14 15 54.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**5.71**	**267**	P	**Pn**	**14 16 06.9**	**-1.6**
	33nm,1.4s						
TOLI2	**Tolitoli**	**9.29**	**5**	Pn	**Pn**	**14 16 52.7**	**-2.4**
FITZ	**Fitzroy Crossi**	**11.31**	**151**	P	**Pn**	**14 17 22.8**	**+1.7**
	1.5nm,0.6s,baz=344,slow=18,SNR=1.3						
FITZ				S	**Sn**	**14 19 21.3**	**-6.0**
	3.9nm,0.4s,baz=2.8,slow=19,SNR=8.0						
KNRA	**Kununurra**	**11.41**	**131**	Pn	**Pn**	**14 17 22.1**	**-0.3**
MBWA	**Marble Bar**	**12.88**	**181**	Pn	**P**	**14 17 46.0**	**+1.6**
SBUM	**Sibu**	**13.07**	**324**	Pn	**Pn**	**14 17 43.7**	**+0.3**
PSA00	**Pilbara Seismi**	**13.29**	**180**	Pn	**P**	**14 17 51.4**	**+2.4**
FAKI	**Fak Fak**	**13.35**	**68**	P	**Pn**	**14 17 46.6**	**-0.4**
FAKI	**Fak Fak**	**13.35**	**68**	P	**P**	**14 17 47.8**	**-1.9**
	30nm,1.5s						
WB0	**Warramunga Arr**	**18.14**	**131**	P	**P**	**14 18 43.4**	**+0.9**
WB0				IAmb	IAmb	14 19 04.6	
	comp=Z,4.7nm,1.1s						
WRA	**Warramunga Arr**	**18.20**	**131**	P	**P**	**14 18 43.5**	**+0.4**
WRA	**Warramunga Arr**	**18.20**	**131**	P	**P**	**14 18 44.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=306,slow=12,SNR=17						
WRA				S	**S**	**14 22 01.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=240,slow=25,SNR=4.6						
WRAB	**Tennant Creek**	**18.21**	**131**	P	**P**	**14 18 44.3**	**+1.1**
WRAB				IAmb	IAmb	14 18 52.3	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**20.40**	**141**	P	**P**	**14 19 07.6**	**+0.7**
ASAR	**Alice Springs**	**20.40**	**141**	P	**P**	**14 19 08.2**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=322,slow=12,SNR=27						
ASAR				S	**S**	**14 22 44.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=326,slow=24,SNR=4.9						
	comp=Z,0.5nm,0.4s						
COCO	**West Island**	**23.05**	**258**	P	**P**	**14 19 36.8**	**+3.8**
FORT	**Forrest**	**23.72**	**162**	P	**P**	**14 19 40.8**	**+1.9**
FORT				IAmb	IAmb	14 19 42.7	
	comp=Z,4.1nm,0.8s						
BBOO	**Buckleboo**	**28.70**	**151**	P	**P**	**14 20 24.7**	**+1.2**
BBOO				IAmb	IAmb	14 20 41.0	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**31.01**	**142**	P	**P**	**14 20 46.2**	**+2.3**
STKA				IAmb	IAmb	14 21 15.4	
	comp=Z,19nm,1.2s						
STKA	**Stephens Creek**	**31.01**	**142**	P	**P**	**14 20 45.1**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=306,slow=14,SNR=3.3						
	comp=Z,0.9nm,0.3s						
CM31	**Chiang Mai Arr**	**33.61**	**322**	P	**P**	**14 21 07.4**	**+0.7**
CM31				IAmb	IAmb	14 21 48.6	
	comp=Z,12nm,1.3s						
TKNZ	**Takaka Hill**	**57.12**	**134**	P	**P**	**14 24 11.7**	**+0.9**
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**14 24 58.1**	**-0.1**
MKAR	**Makanchi Array**	**64.17**	**332**	P	**P**	**14 24 58.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=149,slow=7.8,SNR=9.3						
	comp=Z,0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**68.62**	**339**	P	**P**	**14 25 25.8**	**-0.5**
ZALV	**Zalesovo Beam**	**68.62**	**339**	P	**P**	**14 25 25.9**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=142,slow=6.3,SNR=4.1						
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**71.91**	**16**	P	**P**	**14 25 44.4**	**-1.7**
MMAI	**Mount Meron Ar**	**89.84**	**303**	P	**P**	**14 27 22.1**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=142,slow=7.3,SNR=3.5						
	comp=Z,1.0nm,0.4s						

*IDC **05** 15:01:39.5±3.0,36.°89N×141.°38E,h39km±27km,mb3.2/7, mbtmp3.5/10,ML3.4/3,MS3.3/2,Error ellipse: s-maj=27.2km s-min=16.9km az=96.0*
*NIED **05** 15:01:40.4,36.°88N×141.°14E,h49km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.38; Mθθ-1.24; Mφφ-0.15; Mrθ0.12; Mrφ-1.08; Mθφ-1.22; Fault plane solution: M₀2.10000×10¹⁴ NP1:φ₁87.00000°, δ44.00000°,λ139.00000°. NP2:φ₂208.00000°,δ63.00000°, λ53.00000°.*
*JMA **05** 15:01:40.4±0.1,36.°9N±0.°4×141.°1E±0.°8,h49km±1km, MV3.6/35,E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 05 15:01:39.3±1.5,36.°87N±0.°04×141.°29E±0.°06,h33km±5km, n37,σ1§25/36,mb3.5/7,5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**301**	*i* P	**Pn**	**15 01 49.8**	**+0.2**
ONAJ				S	**Sb**	**15 01 56.3**	**+0.2**
JFK	**Kawauchi**	**0.60**	**326**	⇓P	**Pb**	**15 01 51.8**	**+0.4**
JFFD	**Fukushimafurud**	**0.62**	**291**	*i* P	**Pn**	**15 01 51.7**	**0.0**
JFFD				S	**Sn**	**15 01 59.4**	**-1.2**
JHO	**Hitachi**	**0.63**	**246**	P	**Pn**	**15 01 51.7**	**-0.2**
JHO				S	**Sn**	**15 01 59.8**	**-1.1**
JOTO	**OTAMA OYAMA**	**1.03**	**312**	*i* P	**Pn**	**15 01 58.1**	**+0.8**
JMM	**Marumori**	**1.07**	**338**	P	**Pn**	**15 01 58.2**	**+0.3**
JMM	**Marumori**	**1.07**	**338**	P	**Sn**	**15 02 11.6**	**0.0**
JMM	**Marumori**	**1.07**	**338**	⇓*i*P	**Pn**	**15 01 58.2**	**+0.3**
JMM				⇓S	**Sn**	**15 02 11.0**	**-0.7**
JFY	**Yanaizu**	**1.38**	**293**	*i* P	**Pn**	**15 02 02.1**	**0.0**
JIO	**Ouri**	**1.58**	**2**	⇓*i*P	**Pn**	**15 02 05.7**	**+0.7**
JYS	**Shirataka**	**1.66**	**325**	⇓*i*P	**Pn**	**15 02 06.9**	**+0.8**
MJAR	**Matsushiro Arr**	**2.50**	**263**	Pn	**Pn**	**15 02 17.6**	**0.0**
	1.4nm,0.3s,baz=15,slow=15,SNR=57						
MJAR				Sn	**Sn**	**15 02 48.4**	**+1.5**
	2.1nm,0.3s,baz=69,slow=20,SNR=4.7						
	5.4nm,0.3s						
MAJO	**Matsushiro**	**2.50**	**263**	P	**Pn**	**15 02 19.0**	**+1.4**
MAJO	**Matsushiro**	**2.50**	**263**	S	**Sn**	**15 02 49.0**	**+2.1**
JSD	**Sado**	**2.68**	**297**	P	**Pn**	**15 02 19.6**	**-0.4**
JGF	**Kuroka**	**3.42**	**249**	P	**Pn**	**15 02 33.0**	**+2.7**
INU	**Inuyama**	**3.78**	**248**	P	**Pn**	**15 02 37.6**	**+2.4**
JTM	**Tenmabayashi**	**3.91**	**358**	P	**Pn**	**15 02 39.3**	**+2.3**
JHJ2	**Mitsune**	**3.94**	**198**	P	**Pn**	**15 02 39.8**	**+2.4**
JHJ	**Hachijo jima 2**	**3.94**	**199**	Pn	**Pn**	**15 02 38.5**	**+1.1**
	13nm,0.3s,baz=335,slow=23,SNR=19						
JHJ				Sn	**Sn**	**15 03 22.1**	**-0.4**
	26nm,0.3s,baz=116,slow=22,SNR=8.9						
	33nm,0.2s						
ERM	**Erimo**	**5.34**	**15**	P	**Pn**	**15 02 57.9**	**+1.4**
ASAJ	**Asahikawa**	**7.31**	**7**	Pn	**Pn**	**15 03 23.2**	**-0.3**
	0.9nm,0.3s,baz=218,slow=15,SNR=11						
ASAJ				Sn	**Sn**	**15 04 45.8**	**+0.5**
	0.3nm,0.3s,baz=337,slow=5.3,SNR=3.6						
	2.2nm,0.4s						
YAK	**Yakutsk**	**26.21**	**348**	LR	LR	15 18 20.4	
	comp=Z,27nm,20.1s,baz=61,slow=38						
SONM	**Songino Array**	**27.79**	**304**	P	**P**	**15 07 26.9**	**+1.6**
	0.5nm,0.4s,baz=94,slow=6.1,SNR=1.8						
	0.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.15**	**120**	T	T	15 37 27.4	
	baz=313,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	15 37 28.1	
	baz=313,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	15 37 28.9	
	baz=313,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.86**	**122**	T	T	15 38 26.6	
	baz=314,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**28.86**	**123**	T	T	15 38 23.9	
	baz=314,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.87**	**122**	T	T	15 38 26.5	
	baz=314,slow=76,SNR=20						
MKAR	**Makanchi Array**	**44.12**	**302**	P	**P**	**15 09 44.0**	**-0.4**
	0.2nm,0.5s,baz=82,slow=10,SNR=1.5						
	0.2nm,0.5s						
BRDH	**Bariadhala**	**44.88**	**266**	LR	LR	15 32 41.6	
	comp=Z,84nm,18.3s,baz=138,slow=41						
KURBB	**Kurchatov Arra**	**46.02**	**308**	P	**P**	**15 09 58.0**	**-1.4**
	0.5nm,0.5s,baz=83,slow=8.1,SNR=5.7						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**49.69**	**32**	P	**P**	**15 10 26.3**	**-1.2**
	0.2nm,0.8s,baz=283,slow=8.1,SNR=4.4						
	0.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.63**	**198**	P	**P**	**15 11 19.9**	**+0.8**
	2.1nm,1.0s,baz=0.0,slow=5.1,SNR=2.1						
	2.1nm,1.0s						
WRA	**Warramunga Arr**	**56.89**	**188**	P	**P**	**15 11 19.9**	**-1.0**
	0.5nm,0.9s,baz=4.9,slow=7.4,SNR=2.3						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**60.61**	**188**	P	**P**	**15 11 46.1**	**-0.7**
	0.2nm,0.9s,baz=11,slow=7.8,SNR=1.4						
	0.2nm,0.9s						

*NEIC **05** 15:16:28.7±1.7,24.°9S±0.°1×179.°9E±0.°2,h507km±12km, mb4.2/9,Error ellipse: s-maj=23.5km s-min=14.3km az=132.0*

*IDC **05** 15:16:29.1±3.3,24.°98S×179.°71E,h494km±36km,mb2.9/5, mbtmp3.9/6,Error ellipse: s-maj=29.8km s-min=19.4km az=10.0*
ISC 05 15:16:28.2±0.7,25.°01S±0.°09×179.°9E±0.°1,h501km,n22, σ1§32/24,mb3.8/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.43**	**347**	P	**P**	**15 18 20.5**	**+1.5**
MXZ	**Matakaoa Point**	**12.59**	**186**	P	**P**	**15 19 12.7**	**-0.1**
URZ	**Urewera**	**13.41**	**189**	P	**P**	**15 19 21.1**	**-0.5**
	6.1nm,0.3s,baz=15,slow=2.1,SNR=15						
URZ				S	**S**	**15 21 43.9**	**-0.6**
	34nm,1.2s,baz=61,slow=21,SNR=11						
AFI	**Afiamalu**	**13.57**	**37**	P	**P**	**15 19 21.9**	**-1.7**
BKZ	**Black Stump Fm**	**14.40**	**191**	P	**P**	**15 19 29.1**	**-2.8**
QRZ	**Quartz Range**	**16.92**	**199**	P	**P**	**15 19 58.9**	**+0.7**
THZ	**Tophouse**	**17.68**	**197**	P	**P**	**15 20 05.1**	**-0.3**
AS31	**Alice Springs**	**41.73**	**262**	P	**P**	**15 23 33.0**	**-0.1**
ASAR	**Alice Springs**	**41.73**	**262**	P	**P**	**15 23 33.8**	**+0.7**
	0.2nm,0.3s,baz=98,slow=7.5,SNR=8.6						
ASAR				S	**S**	**15 29 13.2**	**-0.5**
	0.1nm,0.6s,baz=101,slow=15,SNR=1.4						
	0.2nm,0.3s						
WR8	**Warramunga Arr**	**42.06**	**267**	P	**P**	**15 23 35.7**	**+0.1**
WR8				IAmb	IAmb	15 24 01.8	
	comp=Z,8.5nm,1.4s						
WB0	**Warramunga Arr**	**42.20**	**268**	P	**P**	**15 23 37.0**	**+0.2**
WB0				IAmb	IAmb	15 24 03.3	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**42.21**	**267**	P	**P**	**15 23 36.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=103,slow=7.8,SNR=14						
	comp=Z,1.0nm,0.7s						
FORT	**Forrest**	**45.81**	**251**	P	**P**	**15 24 04.7**	**+0.1**
FORT				IAmb	IAmb	15 24 37.9	
	comp=Z,3.9nm,1.1s						
KNRA	**Kununurra**	**48.55**	**271**	P	**P**	**15 24 26.5**	**+1.0**
KNRA				IAmb	IAmb	15 24 34.8	
	comp=Z,6.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.62**	**267**	P	**P**	**15 24 42.1**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=108,slow=6.4,SNR=1.6						
	comp=Z,1.9nm,1.0s						
QSPA	**South Pole Qui**	**65.08**	**180**	P	**P**	**15 26 20.6**	**+2.0**
QSPA	**South Pole Qui**	**65.08**	**180**	P	**P**	**15 26 20.7**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=47,slow=3.6,SNR=8.7						
	comp=Z,1.7nm,0.8s						
KKM	**Kota Kinabalu**	**69.10**	**287**	P	**P**	**15 26 42.2**	**-2.0**
KKM				IAmb	IAmb	15 27 15.1	
	comp=Z,31nm,1.2s						
TXAR	**Lajitas Array**	**91.13**	**58**	P	**P**	**15 28 40.8**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=205,slow=5.5,SNR=4.0						
	comp=Z,0.4nm,0.8s						
KIV	**Kislovodsk**	**140.47**	**310**		**PKPdf**	**15 34 58.5**	**-1.6**
HFS	**Hagfors**	**143.60**	**348**	PKP	**PKPdf**	**15 35 03.9**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=43,slow=2.6,SNR=10						
MMAI	**Mount Meron Ar**	**148.01**	**293**	PKPbc	**PKiKP**	**15 35 19.3**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=115,slow=5.6,SNR=2.4						

*ISK **05** 15:23:53.9,39.°68N×25.°84E,h6km,ML3.0/34*
*THE **05** 15:23:54.8,39.°7N±0.°9×2.°6E±.°,h10km±1km,M2.7/9, MLh2.7/9*
*ATH **05** 15:23:54.9,39.°65N×25.°86E,h22km±1km,ML2.7/8, Manual Solution by E.Daskalaki First location: 2019/08/05 15:25:52, This location: 2019/08/05 16:30:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*AFAD **05** 15:23:55.0,39.°67N×25.°92E,h7km±2km,ML2.7*
*SOF **05** 15:23:56.8,39.°83N±0.°05×25.°69E±0.°04,h20km±9km, MD2.9/3*
ISC 05 15:23:54.5±0.9,39.°67N±0.°02×25.°84E±0.°02,h13km±7km, n82,σ0§82/113,3C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.24**	**43**	Pg	**Pg**	**15 23 59.3**	**-0.3**
BOZC				Sg	**Sg**	**15 24 02.6**	**-0.4**
BOZC	**Bozcaada**	**0.24**	**43**	P	**Pg**	**15 23 59.2**	**-0.3**
BOZC				*i* IAML		15 24 02.0	
	comp=N,6μm,0.2s						
BOZC				S	**Sg**	**15 24 02.6**	**-0.4**
BOZC				*i* IAML		15 24 03.0	
	comp=E,3μm,0.6s						
KOCA	**Canakkale, Ayv**	**0.28**	**126**	P	**Pg**	**15 24 00.3**	**-0.1**
KOCA				*i* IAML		15 24 04.0	
	comp=N,3μm,0.3s						
KOCA				S	**Sg**	**15 24 04.2**	**-0.1**
KOCA				*i* IAML		15 24 05.0	
	comp=E,4μm,0.1s						
GPNR	**Gulpinar-Canak**	**0.31**	**133**	Pg	**Pg**	**15 24 00.4**	**-0.5**
EZN	**Ezine**	**0.40**	**67**	Pg	**Pg**	**15 24 01.9**	**-0.7**
EZN	**Ezine**	**0.40**	**67**	P	**Pg**	**15 24 01.9**	**-

comp=E,195nm,0.4s

YENI	Yenice-Canakka	1.11	76	Pn	Pb	15 24 15.7	+0.2
ERIK	Erikli-Kesan	1.12	27	Pn	Pb	15 24 15.3	-0.5
FOCM	Foa	1.18	144	Pn	Pg	15 24 17.6	+0.4
ALN	Alexandroupoli	1.24	7	Pn	Pn	15 24 17.5	+0.1
ALN	Alexandroupoli	1.24	7	P	Pn	15 24 17.2	-0.2
ALN				S	Sb	15 24 33.4	0.0
ALN	Alexandroupoli	1.24	7	P	Pn	15 24 17.0	-0.4
ALN				S	Sb	15 24 32.9	-0.6
THAS	Thassos island	1.27	318	P	Pn	15 24 17.6	-0.3
THAS	Thassos island	1.27	318	P	Pn	15 24 17.6	-0.3
THAS				S	Sb	15 24 33.6	-0.9
CHOS	Chios island	1.29	173	Pn	Pn	15 24 17.2	-1.1
CHOS	Chios island	1.29	173	P	Pn	15 24 17.5	-0.8
CHOS				S	Sg	15 24 36.8	+0.7
CHOS	Chios island	1.29	173	P	Pn	15 24 17.1	-1.2
KRBG	Karabiga-Canak	1.33	57	Pn	Pn	15 24 19.1	+0.4
SOMA	Soma-Manisa	1.41	111	Pn	Pn	15 24 20.6	+0.8
URLA	Izmir	1.43	156	Pn	Pn	15 24 21.2	+1.0
RDO	Rodhopi	1.49	351	Pn	Pn	15 24 21.1	+0.1
RDO	Rodhopi	1.49	351	P	Pn	15 24 20.9	0.0
RDO	Rodhopi	1.49	351	P	Pn	15 24 20.8	-0.1
OUR	Ouranopolis	1.58	296	Pn	Pn	15 24 22.3	+0.2
OUR	Ouranopolis	1.58	296	P	Pn	15 24 22.3	+0.2
OUR	Ouranopolis	1.58	296	P	Pn	15 24 22.1	+0.1
OUR				S	Sn	15 24 41.5	-0.8
UKOP	Uzunkopru-Edir	1.58	22	Pn	Pn	15 24 22.9	+0.8
BLCB	Balcova	1.59	144	Pn	Pb	15 24 23.8	+0.2
AOS	Alonnisos	1.60	252	P	Pn	15 24 23.0	+0.5
MRMT	Marmara Adasi	1.64	55	Pn	Pn	15 24 24.2	+1.2
KAVA	Kavala	1.67	323	P	Pn	15 24 23.4	0.0
KAVA	Kavala	1.67	323	P	Pn	15 24 23.3	-0.1
KAVA				S	Sn	15 24 43.0	-1.6
EDC	Edincik	1.69	66	Pn	Pn	15 24 24.9	+1.2
KYMI	Kymi, Euboea I	1.71	233	P	Pn	15 24 23.9	0.0
KYMI	Kymi, Euboea I	1.71	233	P	Pn	15 24 23.0	-0.8
TKR	Tekirdag	1.85	44	Pn	Pn	15 24 27.3	+1.5
GORD	Gordes-Manisa	1.96	112	Pn	Pn	15 24 28.8	+1.3
KARY	Karystos	1.97	214	P	Pn	15 24 26.3	-1.2
KDZ	Kurdzhali	2.00	349	Pn	Pn	15 24 28.1	+0.2
KDZ	Kurdzhali	2.00	349	⇑*i*P	Pn	15 24 28.0	+0.2
KDZ				S	Sn	15 24 51.8	-0.9
KDZ	Kurdzhali	2.00	349	P	Pn	15 24 27.7	-0.2
DION	Dionisos Attik	2.18	224	P	Pn	15 24 29.6	-0.9
RZN	Rozhen	2.19	338	⇑*i*P	Pn	15 24 31.3	+0.6
RZN				S	Sn	15 24 57.1	-0.7
ODEM	Odemis-Izmir	2.23	128	Pn	Pn	15 24 32.8	+1.7
SRS	Serrai	2.25	311	P	Pn	15 24 31.8	+0.4
EDRB	Edirne	2.28	17	Pn	Pn	15 24 32.8	+1.0
HORT	Hortiatis	2.30	295	P	Pn	15 24 32.7	+0.6
AYDB	Zeytinkoy-Aydi	2.35	136	Pn	Pn	15 24 34.7	+1.8
DIM	Dimitrovgrad	2.38	355	P	Pn	15 24 35.2	+2.0
SLVT	Silivri	2.39	48	Pn	Pn	15 24 34.7	+1.5
MDNY	Mudanya-Bursa	2.44	72	Pn	Pn	15 24 35.6	+1.7
MMB	Musomishta	2.46	320	⇑*i*P	Pn	15 24 35.1	+0.8
MMB				S	Sn	15 25 03.7	-0.5
KULA	Kula-Manisa	2.48	117	Pn	Pn	15 24 36.3	+1.7
SIMA	Simav-Kutahya	2.50	103	Pn	Pn	15 24 36.9	+2.0
CTKS	Kestanelik-??a	2.56	52	Pn	Pn	15 24 37.0	+1.3
CTYL	Yalikoy Yolu	2.59	45	Pn	Pn	15 24 37.6	+1.5
JMB	Yambol	2.87	10	P	Pb	15 24 45.6	+0.1
MPEP	Malo Peshtene	4.01	337	P	Pn	15 24 56.8	+1.3

*NOU **05** 15:38:23.7,41°.57S×174°.79E,h38km,MLv4.3/21,Cook Strait, New Zealand*
*WEL **05** 15:38:24.6±0.7,41°.S±4°×17°.5E±°,h40km±6km,M4.0/12, ML4.3/11,MLv4.0/12,Error ellipse: s-maj=5.2km s-min=4.1km az=162.9,confirmed*

ISC 05 15:38:23.9±1.3, 41°.55S±0°.03×174°.78E±0°.03, h59km±6km, n100, σ0.95/115, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BHW	Baring Head	0.16	27	P	Pn	Pn	15 38 33.2	+0.1
BHW				S		Sn	15 38 39.1	-0.6
SNZO	South Karori	0.25	347	P	Pn	Pn	15 38 33.6	+0.1
SNZO	South Karori	0.25	347	S		Sn	15 38 39.3	-1.2
WEL	Wellington	0.27	359	P	Pn	Pn	15 38 33.8	+0.1
WEL				S		Sn	15 38 39.8	-1.0
POTA	Wellington Pot	0.28	360	P	Pn	Pn	15 38 33.9	+0.1
SOMS	Somes Island	0.30	13	P	Pn	Pn	15 38 34.1	+0.1
SOMS				S		Sn	15 38 39.9	-1.3
NEWS	Newlands	0.32	6	P	Pn	Pn	15 38 34.1	+0.0
NEWS				S		Sn	15 38 40.4	-1.1
MKBS	Makara Bunker	0.33	350	P	Pn	Pn	15 38 34.3	+0.1
MKBS				S		Sn	15 38 40.3	-1.3
NWFS	Ngawi Fire Sta	0.35	97	P	Pn	Pn	15 38 35.3	+1.0
NWFS				S		Sn	15 38 42.5	+0.7
PLWZ	Palliser	0.36	93	P	Pn	Pn	15 38 35.7	+1.1
PLWZ				S		Sn	15 38 43.1	+0.9
MSWZ	Moikau Station	0.38	69	P	Pn	Pn	15 38 35.5	+0.9
MSWZ				S		Sn	15 38 43.0	+0.5
CMWZ	Cape Campbell	0.47	245	P	Pn	Pn	15 38 36.5	+1.0
CMWZ				S		Sn	15 38 45.6	+1.7
CAW	Cannon Point	0.49	26	P	Pn	Pn	15 38 36.1	+0.4
CAW				S		Sn	15 38 43.9	-0.5
TCW	Tory Channel	0.51	312	P	Pn	Pn	15 38 35.6	-0.2
PAWZ	Paruwai Farm	0.52	71	P	Pn	Pn	15 38 36.9	+0.8
SEDS	Seddon Fire St	0.54	257	P	Pn	Pn	15 38 37.1	+0.9
SEDS				S		Sn	15 38 45.9	+0.8
TUWZ	Tuamarina	0.64	281	P	Pn	Pn	15 38 37.4	0.0
PAPS	Paraparaumu Pr	0.66	15	P	Pn	Pn	15 38 37.8	+0.2
PAPS				S		Sn	15 38 46.7	-0.8
BWRS	Waikakaho Road	0.66	279	P	Pn	Pn	15 38 37.4	-0.2
MTW	Mount Morrison	0.67	55	P	Pn	Pn	15 38 38.4	+0.6
BSWZ	Blackbirch Sta	0.69	256	P	Pn	Pn	15 38 38.6	+0.5
KIW	Kapiti Island	0.70	8	P	Pn	Pn	15 38 38.4	+0.3
TRWZ	Traveller	0.70	78	P	Pn	Pn	15 38 39.3	+1.1
OGWZ	Otaki Gorge	0.79	22	P	Pn	Pn	15 38 39.6	+0.3
HAVS	Havelock	0.80	290	P	Pn	Pn	15 38 39.3	+0.1
WRCS	Masterton Wair	0.89	48	P	Pn	Pn	15 38 41.0	+0.5
WRCS				S		Sn	15 38 53.9	+1.3
TMWZ	Te Maipa	0.95	63	P	Pn	Pn	15 38 41.9	+0.6
DUWZ	D'Urville Isla	0.99	319	P	Pn	Pn	15 38 41.9	+0.1
DUWZ				S		Sn	15 38 53.6	-1.4
MRZ	Mangatainoka R	1.08	35	P	Pn	Pn	15 38 43.3	+0.4
MRZ				S		Sn	15 38 56.7	-0.3
NNZ	Nelson	1.10	287	P	Pn	Pn	15 38 43.2	-0.1
TIWZ	Tintock	1.14	48	P	Pn	Pn	15 38 44.0	+0.2
CPWZ	Castlepoint	1.25	60	P	Pn	Pn	15 38 45.8	+0.6
KHZ	Kahutara	1.26	226	P	Pn	Pn	15 38 45.9	+0.5
KHZ	Kahutara	1.26	226	S		Sn	15 39 01.5	+0.1
KHZ	Kahutara	1.26	226	P	Pn	Pn	15 38 46.2	+0.8
PRWZ	Pori Road	1.34	43	P	Pn	Pn	15 38 46.8	+0.3
POWZ	Post Office Ro	1.38	33	P	Pn	Pn	15 38 47.1	+0.2
OHWZ	Ohakea	1.41	17	P	Pn	Pn	15 38 48.8	+1.5
BFZ	Birch Farm	1.41	52	P	Pn	Pn	15 38 47.2	-0.1
BFZ	Birch Farm	1.41	52	S		Sn	15 39 05.4	+0.4
BFZ	Birch Farm	1.41	52	P	Pn	Pn	15 38 47.2	-0.1
THZ	Tophouse	1.42	261	P	Pn	Pn	15 38 47.5	0.0
TKNZ	Takaka Hill	1.46	290	P	Pn	Pn	15 38 48.4	+0.3
MRNZ	Matariki Terra	1.52	275	P	Pn	Pn	15 38 49.3	+0.4
DVHZ	Dannevirke	1.64	41	P	Pn	Pn	15 38 50.1	-0.3
ANWZ	Angora Road	1.69	50	P	Pn	Pn	15 38 50.7	-0.3
TSZ	Takapari Road	1.74	32	P	Pn	Pn	15 38 51.9	0.0
WAZ	Wanganui	1.80	5	P	Pn	Pn	15 38 54.5	+1.8
QRZ	Quartz Range	1.84	292	P	Pn	Pn	15 38 53.9	+0.7
QRZ	Quartz Range	1.84	292	S		Sn	15 39 15.0	-0.5
QRZ	Quartz Range	1.84	292	P	Pn	Pn	15 38 54.0	+0.7
PRHZ	Porangahau	1.91	48	P	Pn	Pn	15 38 53.5	-0.5
GVZ	Greta Valley S	1.92	222	P	Pn	Pn	15 38 54.8	+0.6
WPHZ	Waipukurau	1.95	41	P	Pn	Pn	15 38 54.4	-0.3
PNHZ	Pukenui	1.96	34	P	Pn	Pn	15 38 54.6	-0.2
LREZ	Lake Rotokare	2.11	352	P	Pn	Pn	15 38 58.4	+1.6
MTVZ	Mangateitei	2.23	14	P	Pn	Pn	15 38 59.6	+1.1
LTZ	Lake Taylor	2.23	236	P	Pn	Pn	15 38 58.8	+0.2
DSZ	Denniston Nort	2.23	264	P	Pn	Pn	15 38 58.8	+0.2
NMEZ	Namu Road	2.24	342	P	Pn	Pn	15 39 00.2	+1.6
PREZ	Palmer Road	2.26	348	P	Pn	Pn	15 39 01.0	+2.1
KRHZ	Kereru	2.26	33	P	Pn	Pn	15 38 58.5	-0.5
AMCZ	Amberley	2.26	223	P	Pn	Pn	15 38 59.0	+0.1
MOVZ	Moawhango	2.27	20	P	Pn	Pn	15 38 59.4	+0.3
PKVZ	Pokaka	2.30	11	P	Pn	Pn	15 39 00.6	+1.0
WNVZ	Wahianoa	2.31	16	P	Pn	Pn	15 39 00.8	+1.1
TRVZ	Turoa	2.33	15	P	Pn	Pn	15 39 01.1	+1.1
KHEZ	Kahui Hut	2.33	345	P	Pn	Pn	15 39 01.6	+1.7
KHEZ	Kahui Hut	2.33	345	P	Pn	Pn	15 39 01.6	+1.7
NEZ	North Egmont	2.34	347	P	Pn	Pn	15 39 02.2	+2.1
WHVZ	Whangaehu Hut	2.35	16	P	Pn	Pn	15 39 01.5	+1.2
MAVZ	Matarangi	2.36	15	P	Pn	Pn	15 39 01.8	+1.3
FWVZ	Far West T-bar	2.37	15	P	Pn	Pn	15 39 01.5	+0.9
KAHZ	Kahuranaki	2.37	43	P	Pn	Pn	15 38 59.6	-0.9
TUVZ	Tukino	2.38	17	P	Pn	Pn	15 39 01.8	+1.2
NBEZ	Newall Road No	2.38	343	P	Pn	Pn	15 39 02.1	+1.6
DREZ	Durham Road	2.40	349	P	Pn	Pn	15 39 02.8	+2.0
COVZ	Chateau Observ	2.42	14	P	Pn	Pn	15 39 02.3	+1.2
NGZ	Ngauruhoe	2.46	15	P	Pn	Pn	15 39 03.0	+1.3
OTVZ	Oturere	2.48	16	P	Pn	Pn	15 39 03.0	+1.0
NNVZ	North Ngauruho	2.50	15	P	Pn	Pn	15 39 03.7	+1.4
WTVZ	West Tongariro	2.51	15	P	Pn	Pn	15 39 03.7	+1.3
OKCZ	Okains Bay	2.51	210	P	Pn	Pn	15 39 02.5	+0.1
TMVZ	Te Maari	2.53	17	P	Pn	Pn	15 39 04.1	+1.4
MCHZ	McNeill Hill	2.56	35	P	Pn	Pn	15 39 02.4	-0.6
CKHZ	Cape Kidnapper	2.58	44	P	Pn	Pn	15 39 01.9	-1.3
MQZ	McQueen's Vall	2.66	215	P	Pn	Pn	15 39 03.6	-0.7
BKZ	Black Stump Fm	2.72	29	P	Pn	Pn	15 39 04.3	-0.9
BKZ	Black Stump Fm	2.72	29	S	Sn	Sn	15 39 36.9	0.0
BKZ	Black Stump Fm	2.72	29	P	Pn	Pn	15 39 04.4	-0.9
HIZ	Hauiti	3.04	1	P	Pn	Pn	15 39 11.1	+1.6
HIZ	Hauiti	3.04	1	S	Sn	Sn	15 39 44.7	+0.1
RPZ	Rata Peaks	3.50	231	P	Pn	Pn	15 39 14.7	-1.1
URZ	Urewera	3.75	29	P	Pn	Pn	15 39 17.7	-1.5
ODZ	Otahua Downs	4.61	219	P	Pn	Pn	15 39 30.5	-0.5
MXZ	Matakaoa Point	4.83	36	P	Pn	Pn	15 39 32.0	-2.0
KUZ	Kuaotunu	4.86	9	P	Pn	Pn	15 39 35.1	+0.7
JCZ	Jackson Bay	5.08	238	P	Pn	Pn	15 39 36.2	-1.3
OUZ	Omahuta	6.39	351	P	Pn	Pn	15 39 56.3	+0.9
CTZ	Chatham Island	6.71	112	P	Pn	Pn	15 39 59.9	+0.1

*MDD **05** 15:48:34.8±0.8,36°.65N×9°.79W,h24km±6km,mb_Lg3.1/17, Error ellipse: s-maj=6.2km s-min=3.6km az=59.0*
*SFS **05** 15:48:35.7,36°.64N×9°.76W,h26km,ML3.1/12,ML3.0/15, MLv2.9/15*
*IGIL **05** 15:48:36.9,36°.71N×9°.70W,h18km,ML2.4*
*INMG **05** 15:48:36.1±1.4,36°.66N×9°.72W,h19km±4km,ML2.5,Error ellipse: s-maj=4.0km s-min=3.0km az=61.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*
*CNRM **05** 15:48:37.6,36°.50N×9°.25W,h62km,ML2.6*

ISC 05 15:48:34.7±1.7, 36°.66N±0°.05×9°.74W±0°.07, h35km, n73, σ1.9/62/124, 5C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.87	57	Pg	Pn	Pn	15 48 51.8	+1.5
PFVI				Sg		Sn	15 49 03.0	+1.2
PFVI	Vila Bisbo	0.87	57	⇑*i*P	Pn	Pn	15 48 51.8	+1.5
PFVI				*e*S		Sn	15 49 02.7	+0.9
PFVI				*i* IAML			15 49 03.4	
PFVI				*i* IAML			15 49 03.7	
PFVI				*i* IAML			15 49 04.0	
PFVI	Vila Bisbo	0.87	57	P	Pn	Pn	15 48 51.7	+1.4
PFVI	Vila Bisbo	0.87	57	S		Sn	15 49 03.2	+1.4
MORF	Marmelete	1.08	53	*e*P	Pn	Pn	15 48 54.8	+1.5
MORF				*e*S		Sn	15 49 07.9	+0.8
MORF				IAML			15 49 10.8	
	comp=E,101nm,0.2s							
MORF	Marmelete	1.08	53	⇑*e*P	Pn	Pn	15 48 54.8	+1.5
MORF				*e*S		Sn	15 49 08.5	+1.5
MORF				*i* IAML			15 49 09.1	
MORF				*i* IAML			15 49 10.2	
MORF				*i* IAML			15 49 11.3	
PTEO	Sao Teotonio	1.20	42	⇑*e*P	Pn	Pn	15 48 56.4	+1.5
PTEO				*e*S		Sn	15 49 11.3	+1.4
PTEO				*i* IAML			15 49 12.0	
PTEO				*i* IAML			15 49 12.3	
PTEO				*i* IAML			15 49 15.4	
PBDV	Barranco-do-Ve	1.56	68	Pn	Pn	Pn	15 49 01.5	+1.6
PBDV				Sn		Sn	15 49 19.6	+0.7
PBDV	Barranco-do-Ve	1.56	68	⇑*e*P	Pn	Pn	15 49 01.4	+1.6
PBDV				*e*S		Sn	15 49 19.7	+0.8
PCVE	Castro Verde	1.67	54	Pn	Pn	Pn	15 49 03.0	+1.7
PCVE				Sn		Sn	15 49 22.5	+1.1
PCVE	Castro Verde	1.67	54	*e*P	Pn	Pn	15 49 03.0	+1.7
PCVE				*e*S		Sn	15 49 22.6	+1.1
PCVE				*i* IAML			15 49 23.8	
PCVE				*i* IAML			15 49 24.1	
PCVE				*i* IAML			15 49 24.6	
MESJ	Messejana	1.69	45	*e*P	Pn	Pn	15 49 03.1	+1.5
MESJ				*e*S		Sn	15 49 22.3	+0.3
MESJ				IAML			15 49 25.0	
	comp=N,21nm,0.1s							
MESJ	Messejana	1.69	45	*e*P	Pn	Pn	15 49 03.1	+1.5
MESJ				*e*S		Sn	15 49 23.1	+1.1
MESJ				*i* IAML			15 49 24.5	
MESJ				*i* IAML			15 49 24.6	
MESJ				*i* IAML			15 49 35.1	
PVAQ	Vaqueiros	1.78	65	Pn	Pn	Pn	15 49 04.4	+1.5
PVAQ	Vaqueiros	1.78	65	*e*P	Pn	Pn	15 49 04.4	+1.5
PVAQ				*e*S		Sn	15 49 25.0	+0.7
PVAQ				*i* IAML			15 49 27.0	
PVAQ				*i* IAML			15 49 27.3	
PVAQ				*i* IAML			15 49 36.4	
PVAQ	Vaqueiros	1.78	65	P	Pn	Pn	15 49 04.4	+1.5
PVAQ	Vaqueiros	1.78	65	S		Sn	15 49 23.0	-1.3
EGRO	El Granado	2.00	64	Pn	Pn	Pn	15 49 07.5	+1.6
EGRO				Sn		Sn	15 49 30.7	+1.0
EGRO	El Granado	2.00	64	Pn	Pn	Pn	15 49 07.4	+1.4
EGRO				Sn		Sn	15 49 30.2	+0.5
EGRO				*i* IVmb_Lg			15 49 36.3	
PBEJ	Beja	2.02	47	*e*S		Sn	15 49 30.6	+0.4
PBEJ				*i* IAML			15 49 31.9	
PBEJ				*i* IAML			15 49 32.3	
PBEJ				*i* IAML			15 49 32.7	
PARRA	Arraiolos	2.22	14	*e*P	Pn		15 49 14.7	+5.5
PARRA				*e*S		Sn	15 49 43.0	+7.8
PARRA				*i* IAML			15 49 45.2	
PARRA				*i* IAML			15 49 45.3	
PARRA				*i* IAML			15 49 46.1	
EVO	Evora	2.31	36	Pn	Pn	Pn	15 49 11.5	+1.2
EVO				Sn		Sn	15 49 37.5	-0.1
EVO	Evora	2.31	36	⇓*e*P	Pn	Pn	15 49 11.5	+1.2
EVO				*e*S		Sn	15 49 37.6	0.0
EVO				*i* IAML			15 49 38.7	
EVO				*i* IAML			15 49 39.8	
EVO				*i* IAML			15 49 40.1	
PMAFR	Mafra	2.32	9	Pn	Pn	Pn	15 49 11.4	+1.1
PMAFR				Sn		Sn	15 49 38.1	+0.5
PMAFR	Mafra	2.32	9	*e*P	Pn	Pn	15 49 11.4	+1.1
PMAFR				*e*S		Sn	15 49 38.7	+1.1
PMAFR				*i* IAML			15 49 39.1	
PMAFR				*i* IAML			15 49 39.6	
PMAFR				*i* IAML			15 49 41.2	
PBAR	Barrancos	2.62	54	Pn	Pn	Pn	15 49 16.0	+1.5
PBAR				Sn		Sn	15 49 45.8	+0.7
PBAR	Barrancos	2.62	54	*e*P	Pn	Pn	15 49 16.0	+1.5
PBAR				*e*S		Sn	15 49 45.6	+0.4
PBAR				*i* IAML			15 49 47.5	
PBAR				*i* IAML			15 49 56.9	
PBAR				*i* IAML			15 50 00.3	
EMIN	Mina Concepcio	2.68	65	Pn	Pn	Pn	15 49 17.0	+1.7
EMIN				Sn		Sn	15 49 46.7	+0.1
EMIN	Mina Concepcio	2.68	65	Pn	Pn	Pn	15 49 15.4	0.0
EMIN				Sn		Sn	15 49 47.0	+0.4
EMIN				*i* IVmb_Lg			15 49 50.0	
PMTG	Montargil	2.68	26	*e*P	Pn	Pn	15 49 16.7	+1.4
PMTG				*e*S		Sn	15 49 46.6	0.0
PMTG				*i* IAML			15 49 48.0	
PMTG				*i* IAML			15 49 48.0	
PMTG				*i* IAML			15 49 49.2	
PESTR	Estremoz	2.78	37	Pn	Pn	Pn	15 49 18.1	+1.4
PESTR				Sn		Sn	15 49 49.0	-0.1
PESTR	Estremoz	2.78	37	*e*P	Pn	Pn	15 49 18.1	+1.4
PESTR				*e*S		Sn	15 49 49.1	0.0
PESTR				*i* IAML			15 49 50.4	
PESTR				*i* IAML			15 49 51.3	
PESTR				*i* IAML			15 49 52.1	
PESTR	Estremoz	2.78	37	P	Pn	Pn	15 49 18.1	+1.4
EBAD	Badajoz	3.00	45	Pn	Pn	Pn	15 49 20.4	+0.6
EBAD				Sn		Sn	15 49 54.0	-0.6
EBAD	Badajoz	3.00	45	Pn	Pn	Pn	15 49 20.6	+0.8
EBAD				Sn		Sn	15 49 54.2	-0.3
EBAD				*i* IVmb_Lg			15 49 56.9	
ESPR	Espera	3.12	85	Pn	Pn	Pn	15 49 22.6	+1.2
ESPR				Sn		Sn	15 49 56.8	-0.7
ESPR	Espera	3.12	85	Pn	Pn	Pn	15 49 22.5	+1.1
ESPR				Sn		Sn	15 49 56.5	-0.9
ESPR				*i* IVmb_Lg			15 49 58.0	
PSARD	Sardoal	3.19	22	*e*P	Pn	Pn	15 49 23.6	+1.3
PSARD				*e*S		Sn	15 49 58.5	-0.5
PSARD				*i* IAML			15 50 01.1	
PSARD				*i* IAML			15 50 02.7	
PMRV	Marv??o	3.32	33	*e*P	Pn	Pn	15 49 25.4	+1.2
PMRV				*e*S		Sn	15 50 01.6	-0.9
PMRV				*i* IAML			15 50 03.5	
PMRV				*i* IAML			15 50 03.7	
PMRV				*i* IAML			15 50 03.7	
EJIF	Jimena Fronter	3.44	92	Pn	Pn	Pn	15 49 27.2	+1.5
EJIF				Sn		Sn	15 50 05.7	+0.4
PCAS	Casmilo, Conde	3.52	16	*e*P	Pn	Pn	15 49 28.1	+1.2
PCAS				*e*S		Sn	15 50 06.7	-0.6
PCAS				*i* IAML			15 50 08.8	
PCAS				*i* IAML			15 50 09.1	
PCAS				*i* IAML			15 50 11.6	
PCBR	Castelo Branco	3.64	29	*e*P	Pn	Pn	15 49 29.8	+1.4
PCBR				*e*S		Sn	15 50 09.5	-0.6
PCBR				*i* IAML			15 50 11.2	
PCBR				*i* IAML			15 50 12.7	
PCBR				*i* IAML			15 50 22.8	
ECAB	El Cabril	3.72	66	Pn	Pn	Pn	15 49 31.2	+1.6
ECAB				Sn		Sn	15 50 11.7	-0.5
ECAB	El Cabril	3.72	66	Pn	Pn	Pn	15 49 29.8	+0.3
ECAB				Sn		Sn	15 50 10.0	-2.2
ECAB				*i* IVmb_Lg			15 50 13.4	
AVE	Averroes	3.86	150	Pn	Pn	Pn	15 49 31.5	-0.1
AVE				Sn		Sn	15 50 13.9	-1.7
ZHG	ZHG	4.09	141	P	Pn	Pn	15 49 34.2	-0.6
ZHG	ZHG	4.09	141	S		Sn	15 50 17.6	-3.9
PVIS	Viseu	4.30	19	*e*P	Pn	Pn	15 49 38.3	+0.8
PVIS				*e*S		Sn	15 50 25.8	-0.7
EADA	Adamuz	4.37	68	Pn	Pn	Pn	15 49 39.8	+1.2
EADA				Sn		Sn	15 50 27.6	-0.7
EADA	Adamuz	4.37	68	Pn	Pn	Pn	15 49 39.8	+1.2
EADA				Sn		Sn	15 50 26.3	-2.0
EADA				*i* IVmb_Lg			15 50 30.7	
EPLA	Plasencia	4.45	39	Pn	Pn	Pn	15 49 40.1	+0.5
EPLA				Sn		Sn	15 50 28.2	-2.0
EPLA				*i* IVmb_Lg			15 50 30.5	
ELGU	Los Guajares,	4.91	86	Pn	Pn	Pn	15 49 47.1	+1.1
ELGU				Sn		Sn	15 50 40.6	-1.0
ELGU				*i* IVmb_Lg			15 50 48.1	
POLO	Lamas de Olo	4.94	17	*e*P	Pn	Pn	15 49 47.2	+0.8
POLO				*e*S		Sn	15 50 39.8	-2.7
POLO				*i* IAML			15 50 43.6	
POLO				*i* IAML			15 50 43.8	
POLO				*i* IAML			15 50 44.1	
MVO	Moncorvo	4.97	24	⇑*e*P	Pn	Pn	15 49 47.6	+0.8
MVO				*e*S		Sn	15 50 41.2	-1.8
MVO				*i* IAML			15 50 43.9	
MVO				*i* IAML			15 50 44.3	
MVO				*i* IAML			15 50 45.9	
PAB	San Pablo	5.13	54	Pn	Pn	Pn	15 49 50.1	+1.0
PAB				Sn		Sn	15 50 44.6	-2.5
PAB				*i* IVmb_Lg			15 50 53.0	
PSIM	Granatula de C	5.21	64	Pn	Pn	Pn	15 49 50.7	+0.7
PSIM				Sn		Sn	15 50 47.0	-1.9
PCAB	Cabril	5.21	14	*e*P	Pn	Pn	15 49 51.1	+0.9
PCAB				*e*S		Sn	15 50 47.1	-1.9
ELOB	Lobios	5.36	14	Pn	Pn	Pn	15 49 52.5	+0.3
ELOB				Sn		Sn	15 50 49.1	-3.6
ELOB				*i* IVmb_L

	baz=134						
O30N	**Mendenhall**	**5.95**	**253**	P	Pn	16 07 47.9	-0.2
	baz=62						
N30M	**Aishikik Lake**	**6.11**	**261**	P	Pn	16 07 50.1	-0.3
	baz=70,SNR=27						
N30M				S	Sn	16 08 58.1	-1.9
	baz=70						
L29M	**L29M**	**6.21**	**277**	P	Pn	16 07 51.9	+0.1
	baz=85,SNR=11						
L29M				Sb	Sb	16 09 28.0	+5.5
	baz=85						
EPYK	**Eagle Plains**	**6.23**	**308**	P	Pn	16 07 52.3	+0.3
	baz=117						
EPYK				S	Sn	16 09 03.2	+0.3
	baz=117						
G30M	**tAoh Zraii Nji**	**6.36**	**314**	P	Pn	16 07 53.5	-0.3
	baz=123,SNR=22						
G30M				S	Sn	16 09 05.1	-1.2
	baz=123						
M29M	**Somme Creek**	**6.46**	**271**	P	Pn	16 07 54.7	-0.6
	baz=79,SNR=13						
I29M	**Ogilvie Camp,**	**6.48**	**297**	P	Pn	16 07 55.7	+0.3
	baz=105						
INK	**Inuvik**	**6.48**	**329**	P	Pn	16 07 55.7	+0.3
	baz=140						
HYT	**Haines Junctio**	**6.54**	**256**	P	Pn	16 07 56.6	+0.2
	baz=64,SNR=23						
F30M	**Barrier River**	**6.60**	**319**	P	Pn	16 07 57.1	+0.1
	baz=129,SNR=39						
F30M				S	Sn	16 09 10.5	-1.5
	baz=129						
P30M	**Million Dollar**	**6.64**	**250**	P	Pn	16 07 57.3	-0.3
	baz=58						
T35M	**Bob Quinn**	**6.72**	**208**	P	Pn	16 07 59.0	+0.2
	baz=23						
DAWY	**Dawson**	**6.75**	**285**	P	Pn	16 07 59.8	+0.7
	baz=92						
H29M	**Whitestone**	**6.77**	**304**	P	Pn	16 07 58.9	-0.5
	baz=112,SNR=22						
H29M				S	Sn	16 09 12.5	-3.8
	baz=112						
YUK4	**Talbot Arm**	**6.85**	**262**	P	Pn	16 08 00.1	-0.6
	baz=70						
YUK6	**Outpost Mounta**	**6.87**	**259**	P	Pn	16 08 01.2	+0.1
	baz=66,SNR=11						
G29M	**Pine Creek**	**6.94**	**310**	P	Pn	16 08 02.2	+0.5
	baz=118,SNR=20						
G29M				S	Sn	16 09 19.4	-1.0
	baz=118						
I28M	**Miner Creek**	**7.16**	**297**	P	Pn	16 08 05.3	+0.4
	baz=103,SNR=14						
I28M				S	Sn	16 09 24.5	-1.5
	baz=103						
E29M	**Blow River**	**7.71**	**320**	P	Pn	16 08 12.4	+0.2
	baz=128,SNR=18						
E29M				S	Sn	16 09 38.0	-1.1
	baz=128						
O28M	**Mount Upton**	**7.76**	**260**	P	Pn	16 08 13.5	+0.2
	baz=66						
I27K	**Kandik River**	**7.88**	**297**	P	Pn	16 08 14.7	+0.1
	baz=101						
I27K				S	Sn	16 09 43.2	-0.4
	baz=101						
L27K	**Beaver Creek,**	**7.89**	**278**	P	Pn	16 08 14.6	-0.2
	baz=82						
G27K	**Doyon Strip**	**8.21**	**305**	P	Pn	16 08 20.0	+0.8
	baz=109,SNR=17						
E28M	**Babbage River**	**8.32**	**319**	P	Pn	16 08 20.8	+0.2
	baz=125						
C27K	**Jago River**	**10.13**	**319**	P	Pn	16 08 45.9	+0.4
	baz=121,SNR=13						

IDC 05 16:14:13.6±12.0, 5°.57S×128°.85E, h250km±138km, mb2.8/1, mbtmp3.6/4, Error ellipse: s-maj=72.5km s-min=49.1km az=43.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.84**	**194**	P	Pn	16 17 07.7	+0.1
	1.9nm,1.0s,baz=29,slow=11,SNR=7.7						
FITZ				S	S	16 19 29.1	-1.3
	1.3nm,0.8s,baz=280,slow=12,SNR=1.4						
WRA	**Warramunga Arr**	**15.25**	**160**	P	P	16 17 36.5	+0.2
	0.5nm,0.3s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**18.64**	**165**	P	P	16 18 13.3	+0.1
	1.1nm,0.3s,baz=344,slow=11,SNR=75						
MKAR	**Makanchi Array**	**66.42**	**327**	P	P	16 24 36.1	0.0
	0.2nm,0.4s,baz=120,slow=8.0,SNR=2.3						
	0.2nm,0.4s						

*IDC **05** 16:48:39.6±1.8, 32°.04S×177°.82W, h0km, mb4.0/3, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=56.2km s-min=30.9km az=134.0*

ISC 05 16:48:41.3±1.8, 32°.05S±0°.2×177°.8W±0°.3, h10km, n8, σ0s98/9, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.46**	**212**	Pn	**Pn**	**16 50 29.9**	**-0.3**
	0.5nm,0.3s,baz=254,slow=5.4,SNR=7.8						
URZ				Sn	**Sn**	**16 51 55.1**	**+0.1**
	2.7nm,0.3s,baz=64,slow=19,SNR=9.5						
	9.0nm,0.8s						
STKA	**Stephens Creek**	**34.30**	**259**	P	**P**	**16 55 29.2**	**+1.3**
	1.3nm,0.6s,baz=331,slow=5.1,SNR=2.9						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**43.21**	**269**	P	**P**	**16 56 42.1**	**-0.7**
	0.6nm,0.4s,baz=109,slow=7.7,SNR=26						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.34**	**274**	P	**P**	**16 56 51.0**	**-1.0**
	1.0nm,0.4s,baz=112,slow=8.0,SNR=49						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**118.95**	**309**	PKP	**PKPdf**	**17 07 29.4**	**-0.5**
	0.2nm,0.6s,baz=114,slow=3.6,SNR=2.0						
KURBB	**Kurchatov Arra**	**122.33**	**313**	PKP	**PKPdf**	**17 07 35.8**	**-0.4**
	0.2nm,0.5s,baz=113,slow=2.8,SNR=1.7						
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc	**PKPdf**	**17 08 22.4**	**+1.3**
	1.5nm,0.5s,baz=58,slow=4.5,SNR=19						
BRTR	**Keskin Array B**	**153.49**	**296**	PKPbc	**PKPbc**	**17 08 39.6**	**-0.6**
	0.5nm,0.4s,baz=45,slow=0.4,SNR=3.6						

IDC 05 16:52:14.7±3.0, 31°.57S×178°.26W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, MS3.0/1, Error ellipse: s-maj=71.3km s-min=46.2km az=122.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.68**	**208**	Pn	Pn	16 54 07.0	-0.8
	0.2nm,0.3s,baz=38,slow=14,SNR=0.9						
URZ				Sn	Sn	16 55 27.8	-7.6
	0.2nm,0.3s,baz=44,slow=7.4,SNR=3.9						
	11nm,0.9s						
RPZ	**Rata Peaks**	**14.77**	**212**	LR	LR	17 00 25.2	
	comp=Z,53nm,19.5s,baz=344,slow=33						
ASAR	**Alice Springs**	**42.84**	**268**	P	P	17 00 14.6	-0.2
	0.2nm,0.4s,baz=110,slow=7.6,SNR=7.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.93**	**274**	P	P	17 00 23.7	+0.1
	1.0nm,0.6s,baz=112,slow=8.0,SNR=8.9						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**146.16**	**339**	PKPbc	PKPdf	17 11 55.2	+0.1
	1.1nm,0.7s,baz=70,slow=4.4,SNR=7.7						

*SOME **05** 16:53:37.9, 40°.70N×75°.73E, h5km*
*KRNET **05** 16:53:39.9±0.1, 40°.71N×75°.75E, h21km, mb4.2*
*MOS **05** 16:53:40.3±0.7, 40°.62N×75°.77E, h23km, mb4.4/7, Error ellipse: s-maj=8.5km s-min=5.4km az=98.1*
*NNC **05** 16:53:40.1±0.9, 40°.72N×75°.75E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=7.5km s-min=4.3km az=168.0*
*KNET **05** 16:53:40.2±0.5, 40°.79N×75°.85E, h3km±3km, ml3.8, Error ellipse: s-maj=4.5km s-min=2.9km az=125.0*

ISC 05 16:53:42.2±1.0, 40°.80N±0°.03×75°.68E±0°.02, h14km±7km, n96, σ1s54/148, mb4.1/8, 44C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNKS	**Jany-Kuch**	**0.26**	**356**	⇑*iP*	**Pg**	**16 53 47.5**	**-0.5**
JNKS				⇑*iS*	**Sg**	**16 53 52.7**	**+0.7**
KSH	**Kashi**	**1.30**	**170**	Pg	**Pg**	**16 54 08.1**	**+0.9**
KSH				Sg	**Sn**	**16 54 29.6**	**+6.4**
KSH				smax	smax		
	comp=N,850nm,0.7s						
KSH				smax	smax		
SALK	**Salom-Alik**	**1.41**	**274**	⇑*iP*	**Pn**	**16 54 06.7**	**-0.9**
SALK				⇑*iS*	**Sb**	**16 54 26.6**	**+0.3**
SALK	**Salom-Alik**	**1.41**	**274**	*i* PG	**Pn**	**16 54 06.7**	**-0.9**
SALK				*i* S	**Sb**	**16 54 26.6**	**+0.3**
ULHL	**Ulahol**	**1.51**	**16**	P	**Pn**	**16 54 09.4**	**+0.4**
	comp=E,158nm,0.2s,SNR=389						
ULHL				⇑S	**Sb**	**16 54 30.5**	**+1.3**
	comp=E,845nm,0.4s						
ULHL	**Ulahol**	**1.51**	**16**	⇓*iP*	**Pn**	**16 54 08.7**	**-0.3**
ULHL				⇓*iS*	**Sn**	**16 54 29.7**	**+1.1**
ULHL	**Ulahol**	**1.51**	**16**	*i* PN	**Pn**	**16 54 08.7**	**-0.3**
ULHL				*i* S	**Sn**	**16 54 29.7**	**+1.1**
UCH	**Uchtor**	**1.68**	**329**	⇑P	**Pb**	**16 54 13.5**	**+0.4**
	comp=E,63nm,0.2s,SNR=51						
UCH	**Uchtor**	**1.68**	**329**	⇑*iP*	**Pn**	**16 54 12.1**	**+0.6**
UCH				⇑*iS*	**Sb**	**16 54 35.4**	**+1.2**
UCH	**Uchtor**	**1.68**	**329**	*i* PN	**Pn**	**16 54 12.1**	**+0.6**
UCH				*i* S	**Sb**	**16 54 35.4**	**+1.2**
KDJ	**Kajisay**	**1.75**	**40**	⇑*iP*	**Pn**	**16 54 12.1**	**-0.2**
KDJ				⇑*iS*	**Sn**	**16 54 35.4**	**+1.0**
KDJ	**Kajisay**	**1.75**	**40**	*i* PN	**Pn**	**16 54 12.1**	**-0.2**
KDJ				*i* S	**Sn**	**16 54 35.4**	**+1.0**
KBK	**Karagaybulak**	**1.94**	**344**	⇑P	**Pb**	**16 54 17.7**	**+0.3**
	comp=E,130nm,0.2s,SNR=88						
KBK				⇓S	**Sg**	**16 54 46.5**	**+1.9**
	comp=E,1μm,0.2s						
KBK	**Karagaybulak**	**1.94**	**344**	⇓*iP*	**Pn**	**16 54 15.4**	**+0.5**
KBK				⇓*iS*	**Sn**	**16 54 41.5**	**+2.4**
KBK	**Karagaybulak**	**1.94**	**344**	*i* PN	**Pn**	**16 54 15.4**	**+0.5**
KBK				*i* S	**Sn**	**16 54 41.5**	**+2.4**
AAK	**Ala-Archa**	**2.04**	**335**	⇑P	**Pb**	**16 54 19.2**	**0.0**
	comp=E,155nm,0.3s,SNR=66						
AAK				⇑S	**Sg**	**16 54 49.4**	**+1.5**
	comp=E,526nm,0.3s						
AAK	**Ala-Archa**	**2.04**	**335**	⇓Pn	**Pn**	**16 54 17.9**	**+1.6**
	comp=E,55nm,0.4s						
AAK				⇑Lg	Lg	16 54 49.6	
	comp=E,1μm,0.4s						
AAK	**Ala-Archa**	**2.04**	**335**	⇓*iP*	**Pn**	**16 54 17.1**	**+0.8**
AAK				⇓*iS*	**Sn**	**16 54 44.1**	**+2.4**
AAK	**Ala-Archa**	**2.04**	**335**	*i* PN	**Pn**	**16 54 17.1**	**+0.8**
AAK				*i* S	**Sn**	**16 54 44.1**	**+2.4**
ARSB	**Arslanbob**	**2.10**	**285**	⇑*eP*	**Pn**	**16 54 17.5**	**+0.3**
ARSB				⇑*iS*	**Sn**	**16 54 45.0**	**+1.8**
ARSB	**Arslanbob**	**2.10**	**285**	*i* PN	**Pn**	**16 54 17.5**	**+0.3**
ARSB				*i* S	**Sn**	**16 54 45.0**	**+1.8**
TKM2	**Tokmak 2**	**2.12**	**358**	⇑P	**Pb**	**16 54 20.6**	**0.0**
	comp=E,193nm,0.3s,SNR=261						
TKM2				⇑S	**Sg**	**16 54 51.2**	**+0.6**
	comp=E,565nm,0.3s						
TKM2	**Tokmak 2**	**2.12**	**358**	⇓*iP*	**Pn**	**16 54 18.0**	**+0.5**
TKM2				⇓*iS*	**Sn**	**16 54 45.9**	**+2.1**
TKM2	**Tokmak 2**	**2.12**	**358**	*i* PN	**Pn**	**16 54 18.0**	**+0.5**
TKM2				*i* S	**Sn**	**16 54 45.9**	**+2.1**
FRU1	**Bishkek**	**2.16**	**339**	⇑*iP*	**Pn**	**16 54 19.0**	**+1.2**
FRU1				⇑*iS*	**Sb**	**16 54 47.4**	**-0.4**
FRU1	**Bishkek**	**2.16**	**339**	*i* PN	**Pn**	**16 54 19.0**	**+1.2**
FRU1				*i* S	**Sb**	**16 54 47.4**	**-0.4**
OHH	**Osh**	**2.22**	**264**	⇑*iP*	**Pn**	**16 54 18.5**	**-0.1**
OHH				⇑*iS*	**Sn**	**16 54 46.7**	**+0.9**
OHH	**Osh**	**2.22**	**264**	*i* PN	**Pn**	**16 54 18.5**	**-0.1**
OHH				*i* S	**Sn**	**16 54 46.7**	**+0.9**
KST	**Kastek**	**2.25**	**5**	Pg	**Pb**	**16 54 22.5**	**-0.3**
	comp=E,53nm,0.3s						
KST				Lg	Lg	16 54 55.1	
	comp=E,452nm,0.6s						
KST	**Kastek**	**2.25**	**5**	*eP*	**Pb**	**16 54 22.5**	**-0.3**
	comp=E,53nm,0.3s						
KST				*eS*	**Sg**	**16 54 54.9**	**+0.1**
	comp=E,452nm,0.6s						
CHMS	**Chumysh**	**2.31**	**343**	⇑P	**Pb**	**16 54 22.8**	**-0.8**
	comp=E,40nm,0.2s,SNR=17						
CHMS				⇓S	**Sg**	**16 54 56.3**	**-0.1**
	comp=E,280nm,0.3s						
CHMS	**Chumysh**	**2.31**	**343**	⇓*iP*	**Pn**	**16 54 20.6**	**+0.8**
CHMS				⇓*iS*	**Sn**	**16 54 50.1**	**+2.1**
CHMS	**Chumysh**	**2.31**	**343**	*i* PN	**Pn**	**16 54 20.6**	**+0.8**
CHMS				*i* S	**Sn**	**16 54 50.1**	**+2.1**
EKS2	**Erkin-Say**	**2.34**	**323**	⇑P	**Pb**	**16 54 23.8**	**-0.5**
	comp=E,16nm,0.2s,SNR=40						
EKS2				⇓S	**Sg**	**16 54 57.8**	**+0.1**
	comp=E,52nm,0.2s						
EKS2	**Erkin-Say**	**2.34**	**323**	⇓*iP*	**Pn**	**16 54 21.3**	**+0.9**
EKS2				⇓*iS*	**Sn**	**16 54 51.3**	**+2.2**
EKS2	**Erkin-Say**	**2.34**	**323**	*i* PN	**Pn**	**16 54 21.3**	**+0.9**
EKS2				*i* S	**Sn**	**16 54 51.3**	**+2.2**
TNSS	**Tian-Shan**	**2.43**	**23**	Pg	**Pb**	**16 54 24.2**	**-1.7**
	comp=E,23nm,0.5s						
TNSS				Lg	Lg	16 54 57.9	
	comp=E,88nm,0.5s						
TNSS	**Tian-Shan**	**2.43**	**23**	*eP*	**Pb**	**16 54 24.2**	**-1.7**
	comp=E,23nm,0.5s						
TNSS				*eS*	**Sb**	**16 54 57.9**	**+2.0**
	comp=E,88nm,0.5s						
DGS	**Degeres**	**2.44**	**2**	Pg	**Pb**	**16 54 25.1**	**-0.9**
	comp=E,53nm,0.5s						
DGS				Lg	Lg	16 54 59.0	
	comp=E,391nm,0.7s						
AAA	**Alma-Ata**	**2.58**	**21**	Pg	**Pb**	**16 54 28.7**	**+0.4**
	comp=E,156nm,0.4s						
AAA				Lg	Lg	16 55 05.2	
	comp=E,31nm,0.3s						
AAA	**Alma-Ata**	**2.58**	**21**	*eP*	**Pb**	**16 54 28.7**	**+0.4**
	comp=E,156nm,0.4s						
AAA				*eS*	**Sg**	**16 55 05.2**	**0.0**
	comp=E,31nm,0.3s						
KNDC	**Almaty**	**2.60**	**21**	⇓Pn	**Pn**	**16 54 25.8**	**+1.9**
	comp=E,208nm,0.6s						
KNDC				⇑Lg	Lg	16 55 05.9	
	comp=E,437nm,0.3s						
KNDC	**Almaty**	**2.60**	**21**	PN	**Pn**	**16 54 25.8**	**+1.9**
USP	**Ospenovka**	**2.62**	**341**	⇑P	**Pb**	**16 54 27.1**	**-1.9**
	comp=E,22nm,0.3s,SNR=53						
USP	**Ospenovka**	**2.62**	**341**	⇑*iP*	**Pn**	**16 54 25.0**	**+0.9**
USP				⇑*iS*	**Sn**	**16 54 57.8**	**+2.0**
USP	**Ospenovka**	**2.62**	**341**	*i* PN	**Pn**	**16 54 25.0**	**+0.9**
USP				*i* S	**Sn**	**16 54 57.8**	**+2.0**
PRZ	**Przheval'sk**	**2.65**	**50**	⇑*iP*	**Pn**	**16 54 24.5**	**-0.1**
PRZ				⇑*iS*	**Sn**	**16 54 56.9**	**+0.3**
PRZ	**Przheval'sk**	**2.65**	**50**	*i* PN	**Pn**	**16 54 24.5**	**-0.1**
PRZ				*i* S	**Sn**	**16 54 56.9**	**+0.3**
MRKS	**Merke**	**2.67**	**318**	Pg	**Pb**	**16 54 29.4**	**-0.5**
	comp=E,34nm,0.5s						
MRKS				Lg	Lg	16 55 06.7	
	comp=E,101nm,0.4s						
MRKS	**Merke**	**2.67**	**318**	*eP*	**Pb**	**16 54 29.4**	**-0.5**
	comp=E,34nm,0.5s						
MRKS				*eS*	**Sg**	**16 55 06.7**	**-1.5**
	comp=E,101nm,0.4s						
SATY	**Saty**	**3.04**	**41**	Pg	**Pb**	**16 54 35.3**	**-0.9**
	comp=E,17nm,0.5s						
SATY				Lg	Lg	16 55 16.3	
	comp=E,115nm,0.4s						
KUU	**Kurty**	**3.13**	**9**	Pg	**Pb**	**16 54 38.9**	**+1.2**
	comp=E,13nm,0.4s						
KUU				Lg	Lg	16 55 21.7	
	comp=E,279nm,0.7s						
KUU	**Kurty**	**3.13**	**9**	*eP*	**Pb**	**16 54 38.3**	**+0.6**
	comp=E,13nm,0.4s						
KUU				*eS*	**Sg**	**16 55 21.8**	**-1.1**
	comp=E,117nm,0.6s						
CHKK	**Chushkaly**	**3.21**	**17**	*eP*	**Pb**	**16 54 39.8**	**+0.9**
	comp=E,64nm,0.4s						
CHKK				*eS*	**Sg**	**16 55 24.0**	**-1.3**
	comp=E,226nm,0.3s						
UZB	**Uzynbulak**	**3.43**	**46**	Pg	**Pb**	**16 54 41.5**	**-1.3**
	comp=E,13nm,0.9s						
UZB				Lg	Lg	16 55 27.6	
	comp=E,74nm,0.6s						
UZB	**Uzynbulak**	**3.43**	**46**	*eP*	**Pb**	**16 54 41.5**	**-1.3**
	comp=E,13nm,0.9s						
UZB				*eS*	**Sb**	**16 55 27.6**	**+3.3**
	comp=E,74nm,0.6s						
KPKS	**Kokpek**	**3.48**	**39**	Pg	**Pb**	**16 54 42.9**	**-0.7**
	comp=E,0.4nm,0.7s						
KPKS				Lg	Lg	16 55 29.8	
	comp=E,390nm,0.5s						
TRKS	**Terek-Say**	**3.50**	**284**	⇑*iP*	**Pn**	**16 54 36.4**	**0.0**
TRKS				⇑*iS*	**Sn**	**16 55 17.6**	**-0.1**
TRKS	**Terek-Say**	**3.50**	**284**	*i* PN	**Pn**	**16 54 36.4**	**0.0**
TRKS				*i* S	**Sn**	**16 55 17.6**	**-0.1**
SHLS	**Shalkode**	**3.68**	**49**	Pg	**Pg**	**16 54 51.3**	**-1.4**
	comp=E,29nm,0.4s						
SHLS				Lg	Lg	16 55 43.6	
	comp=E,66nm,0.5s						
SHLS	**Shalkode**	**3.68**	**49**	*eP*	**Pg**	**16 54 51.3**	**-1.4**
	comp=E,29nm,0.4s						
SHLS				*eS*	**Sg**	**16 55 43.6**	**+3.3**
	comp=E,66nm,0.5s						
PDGK	**Podgornoye**	**3.80**	**47**	⇑Pn	**Pn**	**16 54 41.2**	**+0.7**
	comp=E,4.7nm,0.7s						
PDGK				⇑Pg	**Pb**	**16 54 49.0**	**-0.1**
	comp=E,19nm,0.7s						
PDGK				⇑Lg	Lg	16 55 41.4	
	comp=E,129nm,0.8s						
PDGK	**Podgornoye**	**3.80**	**47**	PN	**Pn**	**16 54 41.2**	**+0.7**
PDGK				PG	**Pb**	**16 54 49.2**	**0.0**
PDGK				LG	Lg	16 55 41.4	
DZA	**Taraz**	**3.86**	**304**	*eP*	**Pb**	**16 54 52.9**	**+2.8**
DZA				*eS*	**Sg**	**16 55 46.4**	**+0.1**
IUG	**Iuzhnay**	**4.45**	**289**	Pg	**Pb**	**16 55 02.0**	**+1.8**
	comp=E,40nm,0.8s						
IUG				Lg	Lg	16 56 02.6	
	comp=E,57nm,0.7s						
KK31	**Karatay Array**	**4.49**	**303**	⇑Pn	**Pn**	**16 54 50.6**	**+0.8**
	comp=E,2.4nm,0.5s,baz=125,slow=14,SNR=14						
KK31				⇑Pg	**Pb**	**16 55 04.0**	**+3.3**
	comp=E,7.5nm,0.5s,baz=123,slow=16,SNR=14						
KK31				⇓Lg	Lg	16 56 05.1	
	comp=E,18nm,0.5s,baz=125,slow=29,SNR=9.8						
KK31	**Karatay Array**	**4.49**	**303**	PN	**Pn**	**16 54 50.6**	**+0.8**
KK31				PG	**Pb**	**16 55 04.1**	**+3.3**
KK31				LG	Lg	16 56 05.9	
GAR	**Garm**	**4.50**	**248**	⇓*iP*	**Pn**	**16 54 49.8**	**-0.2**
GAR				⇓*iS*	**Sn**	**16 55 40.9**	**-1.2**
GAR	**Garm**	**4.50**	**248**	*i* PN	**Pn**	**16 54 49.8**	**-0.2**
GAR				*i* S	**Sn**	**16 55 40.9**	**-1.2**
TDK	**Taldyqorghan**	**4.66**	**25**	*eP*	**Pb**	**16 55 03.7**	**+0.1**
	comp=E,24nm,0.2s						
TDK				*eS*	**Sb**	**16 56 05.0**	**+5.5**
	comp=E,105nm,0.6s						
BRLS	**Boroldaу**	**4.90**	**299**	Pg	**Pb**	**16 55 09.9**	**+2.1**
	comp=E,2.7nm,0.5s						
BRLS				Lg	Lg	16 56 16.2	
	comp=E,14nm,0.5s						
BRLS	**Boroldaу**	**4.90**	**299**	*eP*	**Pb**	**16 55 09.9**	**+2.1**
	comp=E,2.7nm,0.5s						
BRLS				*eS*	**Sg**	**16 56 16.2**	**-3.2**
	comp=E,14nm,0.5s						
MAKZ	**Makanchi**	**7.54**	**35**	Pn	**Pn**	**16 55 31.7**	**0.0**
	comp=E,2.3nm,0.7s						
MAKZ				⇑Pg	Pb	16 55 58.0	+5.3
	comp=E,2.9nm,0.8s						
MAKZ				⇓Lg	Lg	16 57 41.2	
	comp=E,13nm,1.1s						
MAKZ	**Makanchi**	**7.54**	**35**	P	**Pn**	**16 55 31.7**	**0.0**
MK31	**Makanchi Array**	**7.67**	**36**	Lg	Lg	16 57 45.6	
	comp=E,3.7nm,0.6s,baz=223,slow=27,SNR=5.0						
WMQ	**Urumqi**	**9.40**	**67**	P	Pn	16 56 05.1	+7.8
KURBB	**Kurchatov Arra**	**10.03**	**10**	⇓Lg	Lg	16 59 00.8	
	comp=E,43nm,0.8s						
KURK	**Kurchatov**	**10.13**	**11**	⇓Lg	Lg	16 59 03.2	
	comp=E,24nm,0.8s						
KURK	**Kurchatov**	**10.13**	**11**	*eP*	**Pn**	**16 56 08.8**	**+1.7**
BVA0	**Borovoye Array**	**12.75**	**345**	⇓Pn	**Pn**	**16 56 41.7**	**-1.2**
	comp=E,3.0nm,0.9s,baz=157,slow=13,SNR=11						
BVA0	**Borovoye Array**	**12.75**	**345**	P	**Pn**	**16 56 41.7**	**-1.2**
BRVK	**Borovoye**	**12.80**	**345**	⇑Pn	**Pn**	**16 56 42.5**	**-1.1**
	comp=E,3.7nm,1.0s						
BRVK	**Borovoye**	**12.80**	**345**	*d iP*	**Pn**	**16 56 45.8**	**+2.1**
ZALV	**Zalesovo Beam**	**14.52**	**22**	*i* P	**Pn**	**16 57 09.3**	**+2.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GTA	**Gaotai**	**18.51**	**86**	*eP*	**P**	**16 57 56.1**	**-2.0**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARTI	**Arti**	**19.26**	**330**	P	**P**	**16 58 06.3**	**+0.3**
ARTI				S	**S**	**17 01 45.3**	**+1.8**
BELG	**Belogornoye**	**22.34**	**311**	*i* P	**P**	**16 58 38.9**	**-0.5**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	**Ulaanbaatar**	**23.41**	**62**	*i* P	**P**	**16 58 47.1**	**-3.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GNI	**Garni**	**23.49**	**279**	*i* P	**P**	**16 58 50.6**	**-1.0**
GNI				pmax	pmax		
	comp=Z,26nm,1.7s						
KBZ	**Khabaz**	**24.35**	**288**	⇑*iP*	**P**	**16 58 58.6**	**-0.9**
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KIRV	**Kirov**	**24.35**	**326**	⇑*iP*	**P**	**16 58 59.2**	**-0.1**
KIV	**Kislovodsk**	**24.48**	**288**	*eP*	**P**	**16 58 58.8**	**-2.1**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,13nm,15.0s						
VSLR	**Vesyoloye**	**26.45**	**288**	⇑*iP*	**P**	**16 59 17.5**	**-1.0**
VSLR				pmax	pmax		
	comp=Z,15nm,1.1s						
OBN	**Obninsk**	**29.41**	**312**	*eP*	**P**	**16 59 42.7**	**-2.1**
OBN				*e*		17 00 39.8	
OBN				*e*		17 02 47.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si**	**33.39**	**303**	⇑*iP*	**P**	**17 00 20.2**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YAK	**Yakutsk**	**38.34**	**38**	⇑*iP*	**P**	**17 01 01.9**	**-0.3**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						

**IDC 05 17:00:48.9±10.0, 12°.43S×166°.80E, h

MOMN	**Momotombo**	**1.94**	**242**	P	Pn	17 59 11.0 -0.6
MOMN				S	Sn	17 59 37.2 +0.6

*IDC **05** 17:59:57.2±1.4,61.64N×150.11W,h54km±13km,mb3.7/20, mbtmp4.0/23,MS3.1/16,Error ellipse: s-maj=13.8km s-min=8.7km az=108.0*
*NEIC **05** 17:59:57.4±1.2,61.51N±0.04×149.90W±0.03,h49km±4km, Error ellipse: s-maj=5.8km s-min=1.8km az=172.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-1.95; Mθθ0.42; Mφφ 1.53; Mrθ0.89; Mθφ0.46; Mrφ0.50; Fault plane solution: M₀2.11000×10¹⁵ NP1:ϕ₁8.11100°, δ34.73000°,λ-113.68000°. NP2:ϕ₂216.20000°, δ58.55000°,λ-74.44000°. Principal axes: T 1.8701, Plg12.0000°, Azm295.0000°; N 0.4099, Plg13.0000°, Azm28.0000°; P -2.2800, Plg72.0000°, Azm164.0000°;*
*NEIC **05** 17:59:58.2,61.50N×149.90W,h45km*
*AEIC **05** 17:59:58.3±1.2,61.50N±0.03×149.90W±0.05,h45km±4km, ML4.0,mb4.3/30(NEIC),ML4.2/226(NEIC), Mwr4.1/132(NEIC),Error ellipse: s-maj=4.6km s-min=3.4km az=190.0*
ISC 05 17:59:56.3±0.4,61.53N±0.03×149.90W±0.02,h42km, n198,σ1s55/140,mb4.2/37,MS3.1/12,3C-5D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.25**	**335**		**Sn**	**18 00 12.7**	**+3.0**
M22K	**Willow**	**0.25**	**335**		**Pn**	**18 00 05.6**	**+1.4**
M22K				IAML		18 00 13.1	
	comp=E,36μm,0.6s						
M22K				IAML		18 00 13.4	
	comp=N,43μm,0.6s						
PMR	**Palmer**	**0.37**	**80**		**Sn**	**18 00 14.1**	**+2.1**
PMR	**Palmer**	**0.37**	**80**		**Pn**	**18 00 06.7**	**+1.2**
PMR				IAML		18 00 14.8	
	comp=N,21μm,0.5s						
PMR				IAML		18 00 14.8	
	comp=E,30μm,0.7s						
SUA	**Susitna One**	**0.41**	**261**		**Sn**	**18 00 15.5**	**+2.5**
SUA	**Susitna One**	**0.41**	**261**		**Pn**	**18 00 07.5**	**+1.4**
SUA				IAML		18 00 16.4	
	comp=E,52μm,0.8s						
SUA				IAML		18 00 16.5	
	comp=N,63μm,0.8s						
FIS	**Fire Island**	**0.41**	**202**		**Pn**	**18 00 07.8**	**+1.8**
RC01	**Rabbit Creek A**	**0.45**	**170**		**Sn**	**18 00 15.6**	**+2.0**
RC01	**Rabbit Creek A**	**0.45**	**170**		**Pn**	**18 00 07.5**	**+1.1**
RC01				IAML		18 00 15.8	
	comp=E,17μm,0.7s						
RC01				IAML		18 00 16.5	
	comp=N,21μm,0.4s						
GHO	**Glory Hole Cre**	**0.53**	**62**		**Sn**	**18 00 17.8**	**+2.3**
GHO	**Glory Hole Cre**	**0.53**	**62**		**Pn**	**18 00 08.8**	**+1.3**
GHO				IAML		18 00 18.5	
	comp=E,37μm,0.5s						
GHO				IAML		18 00 19.0	
	comp=N,37μm,0.5s						
KNK	**Knik Glacier**	**0.70**	**99**		**Sn**	**18 00 21.8**	**+2.3**
KNK	**Knik Glacier**	**0.70**	**99**		**Pn**	**18 00 11.1**	**+1.3**
CUT	**Chulitna**	**0.90**	**349**		**Sn**	**18 00 26.5**	**+2.3**
CUT	**Chulitna**	**0.90**	**349**		**Pn**	**18 00 13.8**	**+1.4**
SKT	**Skwentna**	**0.90**	**301**		**Sn**	**18 00 26.2**	**+1.8**
SKT	**Skwentna**	**0.90**	**301**		**Pn**	**18 00 13.5**	**+1.0**
SKT				IAML		18 00 26.9	
	comp=N,11μm,0.4s						
STLK	**Strandline Lak**	**0.93**	**269**		**Pn**	**18 00 14.1**	**+1.1**
STLK				IAML		18 00 27.6	
	comp=N,10μm,0.8s						
STLK				IAML		18 00 27.9	
	comp=E,6μm,0.5s						
STLK	**Strandline Lak**	**0.93**	**269**		**Sn**	**18 00 26.8**	**+1.7**
CAPN	**Captain Cook N**	**0.98**	**219**		**Pn**	**18 00 15.8**	**+2.3**
PWL	**Port Wells**	**1.01**	**131**		**Pn**	**18 00 15.2**	**+1.2**
SLKM	**Skilak Lake**	**1.04**	**189**		**Sn**	**18 00 29.7**	**+2.1**
SLKM	**Skilak Lake**	**1.04**	**189**		**Pn**	**18 00 15.0**	**+0.6**
SLKM				IAML		18 00 31.3	
	comp=N,7μm,0.4s						
SPCG	**Spurr Capps Gl**	**1.05**	**258**		**Sn**	**18 00 30.2**	**+2.1**
O22K	**Cooper Landing**	**1.05**	**175**		**Pn**	**18 00 15.7**	**+1.1**
M23K	**Glacier View**	**1.07**	**75**		**Sn**	**18 00 31.5**	**+3.0**
SPU	**Mount Spurr**	**1.10**	**252**		**Pn**	**18 00 16.3**	**+1.1**
SPCP	**Crater Peak Br**	**1.12**	**257**		**Pn**	**18 00 17.0**	**+1.4**
SPCR	**Spurr Chakacha**	**1.16**	**255**		**Pn**	**18 00 17.4**	**+1.3**
SPCR	**Spurr Chakacha**	**1.16**	**255**		**Sn**	**18 00 32.5**	**+1.7**
SPBG	**Spurr Blockage**	**1.22**	**258**		**Sn**	**18 00 34.3**	**+2.0**
SCM	**Sheep Creek Mo**	**1.26**	**75**		**Sn**	**18 00 36.3**	**+3.0**
SCM	**Sheep Creek Mo**	**1.26**	**75**		**Pn**	**18 00 19.2**	**+1.6**
SEW	**Seward**	**1.45**	**171**		**Pn**	**18 00 20.9**	**+1.0**
SEW				IAML		18 00 44.6	
	comp=N,3μm,0.7s						
SEW				IAML		18 00 44.8	
	comp=E,3μm,0.4s						
GLI	**Glacier Island**	**1.50**	**114**		**Pn**	**18 00 21.6**	**+0.9**
GLI				IAML		18 00 41.8	
	comp=E,4μm,0.7s						
GLI				IAML		18 00 53.5	
	comp=N,4μm,0.6s						
RDT	**Redoubt**	**1.55**	**233**		**Sn**	**18 00 42.8**	**+2.5**
M20K	**Styx River**	**1.58**	**284**		**Pn**	**18 00 23.5**	**+1.6**
M20K				IAML		18 00 46.4	
	comp=N,2μm,0.8s						
M20K				IAML		18 00 47.1	
	comp=E,5μm,0.7s						
RDJH	**Redoubt Jeurge**	**1.70**	**238**		**Sn**	**18 00 46.2**	**+2.2**
PPLA	**Purkeypile**	**1.74**	**323**		**Pn**	**18 00 25.7**	**+1.6**
PPLA				IAML		18 01 04.8	
	comp=N,3μm,0.9s						
PPLA				IAML		18 01 04.9	
	comp=E,3μm,0.7s						
RED	**Redoubt Volcan**	**1.79**	**233**		**Pn**	**18 00 25.6**	**+0.8**
RED				IAML		18 00 51.0	
	comp=E,4μm,0.8s						
RED				IAML		18 00 51.5	
	comp=N,2μm,0.6s						
FID	**Port Fidalgo**	**1.83**	**114**		**Pn**	**18 00 25.7**	**+0.4**
FID				IAML		18 00 58.4	
	comp=E,3μm,0.6s						
FID				IAML		18 00 59.8	
	comp=N,2μm,0.4s						
BRLK	**Bradley Lake**	**1.84**	**196**		**Pn**	**18 00 26.0**	**+0.7**
BRLK				IAML		18 00 54.7	
	comp=E,2μm,0.6s						
BRLK				IAML		18 00 54.0	
	comp=N,2μm,0.6s						
M24K	**Tolsona, Glenn**	**1.86**	**70**		**Pn**	**18 00 28.0**	**+2.3**
M24K				IAML		18 00 56.5	
	comp=N,3μm,0.9s						
KLU	**Klutina**	**1.91**	**89**		**Pn**	**18 00 27.5**	**+1.2**
KLU				IAML		18 00 59.5	
	comp=N,2μm,0.7s						
TRF	**Thorofare Moun**	**1.94**	**355**		**Pn**	**18 00 28.7**	**+1.8**
TRF				IAML		18 00 56.7	
	comp=E,1μm,0.6s						
TRF				IAML		18 01 08.5	
	comp=N,2μm,0.8s						
RND	**Reindeer**	**1.95**	**14**		**Pn**	**18 00 28.9**	**+2.0**
P23K	**Montague Islan**	**1.96**	**140**		**Pn**	**18 00 27.1**	**0.0**
P23K				IAML		18 01 01.7	
	comp=N,3μm,1.0s						
HIN	**Hinchinbrook I**	**2.01**	**123**		**Pn**	**18 00 28.6**	**+0.9**
HIN				IAML		18 01 03.5	
	comp=N,2μm,1.0s						
DIV	**Divide**	**2.03**	**100**		**Pn**	**18 00 28.7**	**+0.7**
DIV				IAML		18 01 03.8	
	comp=N,3μm,0.6s						
DIV				IAML		18 01 05.4	
	comp=E,1μm,0.6s						
HOM	**Homer**	**2.06**	**205**		**Pn**	**18 00 29.3**	**+0.9**
KTH	**Kantishna Hill**	**2.09**	**347**		**Pn**	**18 00 30.8**	**+2.0**
KTH				IAML		18 00 57.8	
	comp=E,3μm,0.6s						
KTH				IAML		18 00 58.6	
	comp=N,2μm,0.8s						
CNPM	**China Poot**	**2.12**	**199**		**Pn**	**18 00 29.6**	**+0.5**
CNPM				IAML		18 01 01.2	
	comp=N,1μm,0.5s						
CNPM				IAML		18 01 01.5	
	comp=E,1μm,0.5s						
CAST	**Castle Rocks**	**2.15**	**333**		**Pn**	**18 00 31.1**	**+1.5**
CAST				IAML		18 01 13.7	
	comp=E,2μm,0.6s						
CAST				IAML		18 01 14.8	
	comp=N,2μm,0.6s						
M19K	**Big River Lodg**	**2.17**	**282**		**Pn**	**18 00 31.2**	**+1.2**
M19K				IAML		18 01 12.2	
	comp=E,1μm,0.9s						
M19K				IAML		18 01 15.1	
	comp=N,1μm,1.1s						
ILS	**Iliamna Low So**	**2.22**	**226**		**Pn**	**18 00 32.2**	**+1.6**
ILSW	**Iliamna Southw**	**2.22**	**227**		**Pn**	**18 00 31.3**	**+0.6**
EYAK	**Cordova Ski Ar**	**2.25**	**114**		**Pn**	**18 00 31.3**	**+0.4**
EYAK				IAML		18 01 09.3	
	comp=N,1μm,0.8s						
MCK	**McKinley**	**2.26**	**11**		**Pn**	**18 00 33.3**	**+2.2**
MCK				IAML		18 01 13.8	
	comp=N,1μm,0.9s						
N19K	**Bonanza Creek**	**2.33**	**254**		**Pn**	**18 00 33.1**	**+0.9**
N19K				IAML		18 01 06.6	
	comp=E,993nm,0.8s						
HARP	**HAARP**	**2.40**	**67**		**Pn**	**18 00 35.8**	**+2.7**
L19K	**White Mountain**	**2.44**	**288**		**Pn**	**18 00 35.2**	**+1.6**
L19K				IAML		18 01 22.1	
	comp=N,886nm,0.8s						
L19K				IAML		18 01 25.7	
	comp=E,1μm,0.7s						
P19K	**Oil Pt**	**2.50**	**223**		**Pn**	**18 00 35.8**	**+1.4**
PAX	**Paxson**	**2.53**	**53**		**Pn**	**18 00 36.4**	**+1.5**
N25K	**Chitina, Valde**	**2.54**	**86**	IAML		18 01 15.1	
	comp=N,1μm,0.4s						
N25K				IAML		18 01 18.2	
	comp=E,908nm,0.6s						
BMRM	**Bremner River**	**2.62**	**100**	IAML		18 01 22.0	
	comp=N,1μm,0.5s						
BMRM				IAML		18 01 22.1	
	comp=E,1μm,0.5s						
BPAW	**Bear Paw Mtn.**	**2.63**	**350**		**Pn**	**18 00 37.5**	**+1.3**
BWN	**Browne**	**2.66**	**4**		**Pn**	**18 00 38.6**	**+2.0**
K20K	**Telida**	**2.67**	**315**		**Pn**	**18 00 38.1**	**+1.4**
K20K				IAML		18 01 17.2	
	comp=N,910nm,0.8s						
K20K				IAML		18 01 17.4	
	comp=E,1μm,0.7s						
WACK	**Wrangell Chich**	**2.69**	**78**		**Pn**	**18 00 38.8**	**+1.6**
M18K	**Stony River**	**2.84**	**272**		**Pn**	**18 00 40.4**	**+1.3**
GLB	**Gilahina Butte**	**2.92**	**89**		**Pn**	**18 00 41.2**	**+0.9**
GLB				IAML		18 01 27.8	
	comp=N,979nm,0.7s						
HMT	**Hamilton**	**3.00**	**111**		**Pn**	**18 00 41.6**	**+0.3**
N18K	**Kilae Creek**	**3.03**	**256**		**Pn**	**18 00 42.6**	**+0.9**
N18K				IAML		18 01 41.2	
	comp=E,508nm,0.7s						
WRH	**Wood River Hil**	**3.07**	**15**	IAML		18 01 36.2	
	comp=E,600nm,0.9s						
WRH				IAML		18 01 36.9	
	comp=N,619nm,0.8s						
O18K	**Koktuh Hills**	**3.10**	**240**	IAML		18 01 49.0	
	comp=N,680nm,0.9s						
VRDI	**Verde Repeater**	**3.12**	**93**	IAML		18 01 38.4	
	comp=N,508nm,0.9s						
HDA	**Harding Lake**	**3.19**	**24**	IAML		18 01 42.4	
	comp=N,801nm,0.8s						
HDA				IAML		18 01 42.6	
	comp=E,488nm,0.6s						
MENT	**Mentasta**	**3.22**	**61**	IAML		18 01 44.3	
	comp=N,1μm,1.1s						
RIDG	**Independent Ri**	**3.22**	**44**		**Pn**	**18 00 48.1**	**+3.8**
RIDG	**Independent Ri**	**3.22**	**44**	IAML		18 01 39.7	
	comp=N,746nm,0.8s						
RIDG				IAML		18 01 43.3	
	comp=E,633nm,0.8s						
J20K	**Nowinta River**	**3.29**	**326**	IAML		18 01 49.0	
	comp=E,887nm,0.7s						
J20K				IAML		18 01 55.7	
	comp=N,824nm,1.1s						
SUCK	**Suckling Hills**	**3.34**	**113**		**Pn**	**18 00 45.8**	**-0.1**
SUCK	**Suckling Hills**	**3.34**	**113**	IAML		18 01 52.5	
	comp=N,466nm,0.7s						
SUCK				IAML		18 02 06.0	
	comp=E,482nm,1.2s						
CRQM	**Cirque**	**3.37**	**100**	IAML		18 01 55.1	
	comp=N,946nm,0.9s						
L26K	**Log Cabin Wild**	**3.41**	**61**	IAML		18 01 45.6	
	comp=E,499nm,0.7s						
L26K				IAML		18 01 53.0	
	comp=N,609nm,0.7s						
DOT	**Dot Lake**	**3.44**	**49**		**Pn**	**18 00 50.8**	**+3.5**
DOT	**Dot Lake**	**3.44**	**49**	IAML		18 01 49.4	
	comp=E,521nm,0.9s						
DOT				IAML		18 01 53.9	
	comp=N,468nm,1.0s						
TGL	**Tana Glacier**	**3.51**	**100**	IAML		18 01 46.5	
	comp=N,833nm,0.6s						
ILAR	**Eagle Array**	**3.53**	**21**	P	**Pn**	**18 00 49.0**	**+0.5**
	comp=N,12nm,0.4s,baz=206,slow=14,SNR=121						
ILAR				S	**Sn**	**18 01 28.9**	**-0.1**
	comp=N,26nm,0.5s,baz=95,slow=21,SNR=7.3						
ILAR				LR	LR	18 01 47.9	
	comp=N,124nm,18.1s,baz=270,slow=32						
WAX	**Waxell Ridge**	**3.60**	**104**	IAML		18 01 51.8	
	comp=E,733nm,0.5s						
J19K	**Poorman**	**3.61**	**316**	IAML		18 01 52.9	
	comp=E,465nm,0.8s						
J19K				IAML		18 02 04.5	
	comp=N,527nm,1.1s						
M17K	**Holitna River**	**3.62**	**271**	IAML		18 02 03.6	
	comp=N,767nm,1.0s						
N17K	**Nushagak Hills**	**3.69**	**257**	IAML		18 01 56.0	
	comp=N,414nm,0.6s						
J18K	**Innoko River**	**3.71**	**305**	IAML		18 01 34.6	
	comp=N,296nm,0.7s						
J18K				IAML		18 01 57.9	
	comp=E,290nm,0.8s						
J25K	**Salcha River,**	**3.72**	**32**	IAML		18 01 44.5	
	comp=E,315nm,0.6s						
ISLE	**Juniper Island**	**3.79**	**101**	IAML		18 01 55.1	
	comp=E,571nm,0.8s						
KDAK	**Kodiak Island**	**4.00**	**201**	P	**Pn**	**18 00 56.5**	**+1.5**
	comp=E,11nm,0.4s,baz=36,slow=3.9,SNR=28						
KDAK				S	**Sn**	**18 01 43.4**	**+3.0**
	comp=E,87nm,0.6s,baz=7.5,slow=6.2,SNR=4.2						
KDAK				LR	LR	18 02 53.5	
	comp=E,319nm,21.9s,baz=44,slow=43						
BARN	**Barnard Glacie**	**4.00**	**93**	IAML		18 02 07.0	
	comp=E,366nm,1.0s						
BARN				IAML		18 02 12.5	
	comp=N,284nm,0.8s						
GRNC	**Granite Creek**	**4.03**	**98**	IAML		18 02 02.1	
	comp=N,580nm,0.7s						
MESA	**MESA**	**4.12**	**106**	IAML		18 02 11.2	
	comp=E,425nm,0.9s						
K17K	**Iditarod**	**4.12**	**290**	IAML		18 02 16.0	
	comp=N,445nm,0.9s						
K17K				IAML		18 02 21.5	
	comp=E,387nm,0.9s						
YAH	**Yahtse**	**4.14**	**103**	IAML		18 02 06.0	
	comp=E,213nm,0.8s						
YAH				IAML		18 02 14.8	
	comp=N,377nm,0.9s						
J26L	**Joseph Creek**	**4.15**	**41**	IAML		18 01 57.4	
	comp=N,229nm,0.6s						
CTGM	**Chitina Glacie**	**4.18**	**94**	IAML		18 02 11.5	
	comp=N,294nm,0.9s						
CTGM				IAML		18 02 13.8	
	comp=E,211nm,1.0s						
H21K	**Melozitna Rive**	**4.34**	**344**	IAML		18 02 07.5	
	comp=E,221nm,0.8s						
LOGN	**Logan Glacier**	**4.36**	**95**	IAML		18 02 18.2	
	comp=N,260nm,0.9s						
LOGN				IAML		18 02 21.7	
	comp=E,250nm,1.1s						
TABL	**Table Mountain**	**4.40**	**100**	IAML		18 02 14.4	
	comp=E,245nm,1.1s						
TABL				IAML		18 02 24.7	
	comp=N,251nm,0.9s						
M16K	**Timber Creek**	**4.40**	**267**	IAML		18 02 24.2	
	comp=N,221nm,0.7s						
H24K	**Noodor Dome**	**4.42**	**11**	IAML		18 02 27.9	
	comp=E,172nm,0.8s						
PRP	**Porcupine Dome**	**4.46**	**24**	IAML		18 02 22.2	
	comp=E,209nm,1.1s						
PRP				IAML		18 02 30.8	
	comp=N,185nm,0.9s						
O16K	**Kokwok River B**	**4.49**	**248**	IAML		18 02 16.0	
	comp=N,215nm,0.8s						
O16K				IAML		18 02 23.6	
	comp=E,175nm,1.1s						
J17K	**VABM Dome**	**4.66**	**298**	IAML		18 02 30.4	
	comp=E,167nm,1.1s						
J17K				IAML		18 02 35.9	
	comp=N,176nm,0.8s						
O28M	**Mount Upton**	**4.76**	**95**	IAML		18 02 29.5	
	comp=N,192nm,1.1s						
H19K	**Roundabout Mou**	**4.97**	**327**	IAML		18 02 43.7	
	comp=E,253nm,1.1s						
H19K				IAML		18 02 52.4	
	comp=N,240nm,1.1s						
N15K	**Kwethluk River**	**5.17**	**259**	IAML		18 02 45.7	
	comp=N,263nm,0.9s						
G21K	**Allakaket**	**5.25**	**344**	IAML		18 02 15.3	
	comp=N,112nm,0.8s						
G21K				IAML		18 02 16.3	
	comp=E,122nm,0.8s						
H18K	**Honhosa River**	**5.27**	**317**	IAML		18 02 59.4	
	comp=N,106nm,1.1s						
BCPM	**Bancas Point**	**5.28**	**103**	IAML		18 02 38.1	
	comp=E,166nm,0.9s						
BCPM				IAML		18 02 55.7	
	comp=N,143nm,1.2s						
J16K	**Anvik River**	**5.28**	**294**	IAML		18 03 00.4	
	comp=N,112nm,0.8s						
J16K				IAML		18 03 00.5	
	comp=E,112nm,0.8s						
G24K	**Hadweenzic Riv**	**5.30**	**10**	IAML		18 02 56.8	
	comp=N,153nm,1.1s						
INK	**Inuvik**	**9.69**	**38**	P	**Pn**	**18 02 13.7**	**+0.8**
	comp=N,1.6nm,0.2s,baz=226,slow=7.1,SNR=3.8						
INK				S	**Sn**	**18 04 00.9**	**+0.7**
	comp=N,3.0nm,0.5s,baz=230,slow=5.1,SNR=1.6						
INK				LR	LR	18 06 24.5	
	comp=N,98nm,19.2s,baz=230,slow=40						
DLBC	**Dease Lake**	**10.41**	**98**	P	**Pn**	**18 02 24.8**	**+1.9**
	comp=N,0.2nm,1.0s,baz=298,slow=17,SNR=2.5						
DLBC				LR	LR	18 07 22.2	
	comp=N,6.0nm,20.1s,baz=282,slow=42						
BBB	**Bella Bella**	**15.07**	**119**	LR	LR	18 07 55.9	
	comp=N,57nm,21.0s,baz=351,slow=32						
YKA	**Yellowknife Ar**	**16.47**	**71**	LR	LR	18 10 43.3	
	comp=N,40nm,18.8s,baz=280,slow=39						
NEW	**Newport**	**22.75**	**111**	LR	LR	18 13 36.8	
	comp=N,51nm,19.4s,baz=329,slow=36						
PLID	**Pearl Lake**	**25.68**	**114**	P	**P**	**18 05 23.1**	**+0.9**
LYMT	**Lyon Mountain**	**25.90**	**107**	P	**P**	**18 05 25.1**	**+0.9**
EGMT	**Eagleton**	**26.30**	**102**	P	**P**	**18 05 28.6**	**+0.9**
EGMT				IAmb	IAmb	18 05 29.9	
	comp=Z,11nm,1.1s						
MA2	**Magadan**	**28.37**	**293**	LR	LR	18 16 41.1	
	comp=Z,31nm,19.3s,baz=256,slow=36						
RLMT	**Red Lodge**	**28.68**	**106**	P	**P**	**18 05 51.2**	**+2.0**
RLMT				IAmb	IAmb	18 05 52.7	
	comp=Z,9.1nm,1.1s						
PETK	**Petropavlovsk-**	**28.77**	**277**	P	**P**	**18 05 48.1**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=75,slow=12,SNR=1.7						
PETK				LR	LR	18 18 04.8	
	comp=Z,31nm,18.6s,baz=5.6,slow=38						
	comp=Z,0.7nm,0.6s						
TPAW	**Teton Pass**	**29.17**	**110**	IAmb	IAmb	18 05 56.5	
	comp=Z,5.4nm,1.1s						
ELK	**Elko**	**29.52**	**119**	P	**P**	**18 05 58.3**	**+1.6**
NVAR	**Mina Array Bea**	**30.25**	**125**	P	**P**	**18 06 04.8**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=313,slow=9.4,SNR=8.8						
	comp=Z,1.3nm,0.7s						
PDAR	**Pinedale Array**	**30.37**	**109**	P	**P**	**18 06 05.4**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=316,slow=8.2,SNR=5.4						
PDAR				LR	LR	18 19 21.8	
	comp=Z,17nm,18.1s,baz=322,slow=38						
	comp=Z,0.9nm,0.5s						
R11B	**Troy Canyon, C**	**31.40**	**122**	P	**P**	**18 06 14.7**	**+1.4**
PV19	**Morning Glory**	**34.23**	**114**	IAmb	IAmb	18 06 56.4	
	comp=Z,4.2nm,0.9s						
PV18	**Skein Mesa, Pa**	**34.32**	**114**	IAmb	IAmb	18 06 40.7	
	comp=Z,4.8nm,1.0s						
PV05	**Paradox Valley**	**34.38**	**114**	IAmb	IAmb	18 06 47.3	
	comp=Z,4.0nm,1.0s						
PV13	**Radium Mtn., P**	**34.43**	**114**	IAmb	IAmb	18 06 41.9	
	comp=Z,4.6nm,0.9s						
PV01	**Paradox Valley**	**34.56**	**113**	IAmb	IAmb	18 06 42.9	
	comp=Z,3.9nm,0.8s						
SPITS	**Spitsbergen Ar**	**40.28**	**4**	P	**P**	**18 07 27.7**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=347,slow=11,SNR=4.5						
	comp=Z,3.7nm,0.8s						
WMOK	**Wichita Mounta**	**41.79**	**106**	P	**P**	**18 07 42.1**	**+0.7**
ASAJ	**Asahikawa**	**42.19**	**278**	LR	LR	18 25 36.4	
	comp=Z,23nm,18.1s,baz=126,slow=37						
VHRN	**Van Horn**	**42.35**	**116**	P	**P**	**18 07 47.6**	**+1.4**
VHRN				IAmb	IAmb	18 07 49.1	
	comp=Z,3.2nm,0.9s						
SADO	**Sadowa**	**43.24**	**79**	LR	LR	18 26 25.3	
	comp=Z,38nm,19.6s,baz=286,slow=37						
TXAR	**Lajitas Array**	**44.17**	**115**	P	**P**	**18 08 01.9**	**+1.1**
TXAR	**Lajitas Array**	**44.17**	**115**	P	**P**	**18 08 01.6**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=335,slow=7.5,SNR=10						
	comp=Z,0.8nm,0.7s						
T50A	**Nancy**	**46.53**	**91**	P	**P**	**18 08 19.6**	**+0.3**
USRK	**Ussuriysk Ar.**	**47.10**	**286**	LR	LR	18 31 46.2	
	comp=Z,19nm,19.2s,baz=314,slow=41						
TKL	**Tuckaleechee C**	**48.14**	**91**	P	**P**	**18 08 32.1**	**+0.3**
TKL				IAmb	IAmb	18 08 48.9	
	comp=Z,4.2nm,0.8s						
TKL	**Tuckaleechee C**	**48.14**	**91**	LR	LR	18 29 45.8	
	comp=Z,54nm,18.2s,baz=195,slow=37						
FPAL	**Fort Paine**	**48.16**	**93**	P	**P**	**18 08 32.0**	**-0.1**
FPAL				IAmb	IAmb	18 08 32.9	
	comp=Z,4.3nm,0.9s						
LMN	**Caledonia Moun**	**48.98**	**67**	P	**P**	**18 08 38.3**	**+0.1**
KSRS	**Korea Array**	**54.31**	**284**	P	**P**	**18 09 17.6**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=32,slow=7.1,SNR=12						
	comp=Z,1.5nm,0.6s						
SONM	**Songino Array**	**55.10**	**307**	P	**P**	**18 09 24.0**	**+0.1**
SONM				IAmb	IAmb	18 09 24.9	
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**55.10**	**307**	P	**P**	**18 09 23.4**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=34,slow=7.6,SNR=15						
	comp=Z,2.2nm,0.8s						
NOA	**NORSAR Array B**	**56.90**	**11**	P	**P**	**18 09 35.0**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=351,slow=7.0,SNR=3.7						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**57.02**	**325**	P	**P**	**18 09 35.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=38,slow=9.8,SNR=4.6						
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**57.31**	**2**	LR	LR	18 38 09.1	
	comp=Z,10.0nm,18.0s,baz=80,slow=40						
HFS	**Hagfors**	**58.01**	**10**	P	**P**	**18 09 42.1**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=4.4,slow=7.5,SNR=4.4						
	comp=Z,0.9nm,0.8s						
HHC	**Hu-ho-hao-te**	**58.81**	**299**	*e*P	**P**	**18 09 50.7**	**+0.6**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,99nm,4.7s						
ARTI	**Arti**	**60.35**	**342**	P	**P**	**18 09 59.6**	**-0.7**
**ART

GERES	**GERESS Array B**	**69.19**	**12**	P		**P**		**18 10 57.5**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=330,slow=5.1,SNR=6.2								
	comp=Z,0.7nm,0.7s								
KRUC	**Moravsky**	**69.21**	**10**	*e*P		**P**		**18 10 58.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**71.11**	**4**	P		**P**		**18 11 09.3**	**-0.6**
BUR08				IAmb		IAmb		18 11 14.7	
	comp=Z,2.8nm,1.0s								
BURAR	**Bucovina Array**	**71.14**	**3**	P		**P**		**18 11 09.3**	**-0.7**
BURAR				IAmb		IAmb		18 11 10.5	
	comp=Z,1.4nm,0.7s								
BURAR	**Bucovina Array**	**71.14**	**3**	⇓P		**P**		**18 11 10.2**	**+0.1**
SURR	**Surduc**	**72.88**	**6**	⇓P		P		18 11 14.7	-5.6
GZR	**Gura Zlata**	**73.27**	**5**	⇑P		**P**		**18 11 22.7**	**-0.1**
MLR	**Muntele Rosu**	**73.28**	**3**	⇓P		**P**		**18 11 22.2**	**-0.7**
CFR	**Carcaliu**	**73.64**	**1**	⇑P		**P**		**18 11 24.7**	**-0.1**
MDVR	**Moldovita**	**73.83**	**6**	⇑P		**P**		**18 11 25.9**	**-0.2**
HARR	**Harsova**	**74.12**	**2**	⇓P		**P**		**18 11 25.3**	**-2.3**
PZH	**PanZhiHua**	**75.27**	**298**	P		**P**		**18 11 37.8**	**+3.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
ESDC	**Sonseca Array**	**75.42**	**27**	P		**P**		**18 11 34.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=348,slow=5.1,SNR=13								
	comp=Z,1.4nm,0.7s								
BAUV	**El Baul**	**78.31**	**93**	P		**P**		**18 11 51.1**	**-0.7**
RUSC	**La Rusia**	**78.56**	**99**	P		**P**		**18 11 53.0**	**-0.8**
BRTR	**Keskin Array B**	**79.06**	**357**	P		**P**		**18 11 55.1**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=8.1,slow=3.1,SNR=3.0								
	comp=Z,0.8nm,0.9s								
KEST	**Kesra**	**81.62**	**17**	P		**P**		**18 12 08.3**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=22,slow=5.4,SNR=3.9								
	comp=Z,3.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**83.57**	**297**	P		**P**		**18 12 18.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=1.8,slow=6.3,SNR=5.6								
	comp=Z,1.1nm,0.7s								
QSPA	**South Pole Qui**	**151.34**	**180**	PKPbc		**PKPbc**		**18 19 42.8**	**-0.8**
	comp=Z,5.9nm,0.7s,baz=112,slow=2.0,SNR=45								

IDC ***05*** *18:00:35.7±1.3,6˚.11S×102˚.39E, h0km, mb3.7/10, mbtmp3.8/10, Error ellipse: s-maj=52.1km s-min=19.0km az=53.0*

DJA ***05*** *18:00:37.8±1.9,6˚.5S±8˚×10˚.2E±˚, h27km±17km, M4.1/12, mB4.7/1, mb4.2/5, MLv4.0/12, Mw(mB)3.9/1*

ISC 05 18:00:38.7±1.0, 6˚.1S±0˚.1×102˚.3E±0˚.1, h21km, n29, σ0.96/20, mb3.8/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.86**	**22**	P	**Pn**	**18 01 09.3**	**-0.1**
LWLI	**Liwa**	**2.09**	**59**	P	**Pn**	**18 01 12.6**	**0.0**
KASI	**Kota Agung**	**2.29**	**76**	P	**Pn**	**18 01 15.4**	**+0.1**
KSI	**Kapahiang**	**2.46**	**8**	P	**Pn**	**18 01 17.2**	**-0.5**
MDSI	**Maura Dua**	**2.49**	**50**	P	**Pn**	**18 01 18.7**	**+0.6**
LHSI	**Lahat**	**2.59**	**29**	P	**Pn**	**18 01 19.7**	**+0.3**
CNJI	**Cibinong**	**4.98**	**104**	P	**Pn**	**18 01 51.7**	**-0.5**
	0.2nm730nm32nm,0.8s						
SDSI	**Sungai Dareh**	**5.21**	**351**	P	**Pn**	**18 01 55.4**	**0.0**
PDSI	**Padang**	**5.46**	**341**	P	**Pn**	**18 01 57.4**	**-1.6**
	0.2nm17nm,0.8s						
BATI	**Baumata**	**21.57**	**102**	P	**P**	**18 05 25.4**	**-1.7**
	9.1nm,0.5s,baz=248,slow=19,SNR=1.7						
	9.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.63**	**352**	P	**P**	**18 05 57.2**	**-0.7**
	0.6nm,0.7s,baz=170,slow=10,SNR=4.8						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.73**	**120**	P	**P**	**18 06 07.1**	**-0.9**
	4.4nm,1.2s,baz=288,slow=6.4,SNR=2.2						
	4.4nm,1.2s						
H08S2	**Diego Garcia H**	**29.59**	**265**	T	T	18 37 44.6	
	baz=89,slow=74,SNR=134						
H08S3	**Diego Garcia H**	**29.60**	**265**	T	T	18 37 52.2	
	baz=89,slow=74,SNR=111						
H08S1	**Diego Garcia H**	**29.61**	**265**	T	T	18 37 48.8	
	baz=89,slow=74,SNR=95						
WRA	**Warramunga Arr**	**34.05**	**117**	P	**P**	**18 07 21.1**	**-0.7**
	0.9nm,0.8s,baz=288,slow=7.8,SNR=2.9						
	0.9nm,0.8s						
SONM	**Songino Array**	**53.83**	**3**	P	**P**	**18 10 01.5**	**+1.3**
	0.8nm,0.8s,baz=186,slow=8.2,SNR=4.9						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**55.57**	**343**	P	**P**	**18 10 13.1**	**+0.4**
	0.3nm,0.5s,baz=142,slow=7.3,SNR=4.5						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**58.94**	**219**	T	T	19 14 30.1	
	baz=63,slow=75,SNR=35						
H04N1	**CROZET ISLANDS**	**58.95**	**219**	T	T	19 14 38.6	
	baz=63,slow=75,SNR=32						
H04N3	**CROZET ISLANDS**	**58.96**	**219**	T	T	19 14 37.4	
	baz=63,slow=75,SNR=33						
H04S1	**CROZET ISLANDS**	**59.18**	**218**	T	T	19 14 45.5	
	baz=63,slow=76,SNR=33						
H04S3	**CROZET ISLANDS**	**59.19**	**218**	T	T	19 14 45.0	
	baz=63,slow=76,SNR=96						
H04S2	**CROZET ISLANDS**	**59.20**	**218**	T	T	19 14 46.4	
	baz=63,slow=76,SNR=60						
KURBB	**Kurchatov Arra**	**60.11**	**343**	P	**P**	**18 10 44.6**	**+0.2**
	0.6nm,0.8s,baz=153,slow=6.3,SNR=4.0						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**61.61**	**348**	P	**P**	**18 10 56.5**	**+2.0**
	0.6nm,0.6s,baz=145,slow=5.3,SNR=1.4						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**64.80**	**339**	P	**P**	**18 11 15.9**	**+0.2**
	0.6nm,0.5s,baz=142,slow=8.8,SNR=4.1						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**18 13 07.5**	**+0.7**
	0.5nm,0.7s,baz=56,slow=3.6,SNR=1.5						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**146.34**	**44**	PKPbc	**PKPbc**	**18 20 17.7**	**-1.0**
	0.2nm,0.5s,baz=311,slow=4.5,SNR=2.5						

DJA 05 18:02:33.7±0.5, 3˚.5S±6˚×14˚.0E±˚, h58km±11km, M3.9/7, mb4.2/2, MLv3.7/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.57**	**86**	P	Pn	18 02 46.9	+0.6
GENI				S	Sn	18 02 58.7	+3.3
SMPI	**Sarmi**	**1.09**	**306**	P	Pn	18 02 52.4	-0.5
JAY	**Jayapura**	**1.11**	**84**	P	Pn	18 02 53.2	0.0
JAY				S	Sn	18 03 08.3	+0.7
WAMI	**Wamena**	**1.53**	**215**	P	Pn	18 03 00.1	+1.3
SRPI	**Serui, Papua**	**3.44**	**283**	P	Pn	18 03 25.1	+0.2
BAKI	**Biak**	**3.77**	**292**	P	Pn	18 03 30.7	+1.3
BAKI				S	Sn	18 04 13.3	+0.7
FAKI	**Fak Fak**	**7.35**	**268**	P	Pn	18 04 16.9	-1.5
	43nm,1.6s						

ATH ***05*** *18:04:14.3,36˚.65N×21˚.25E, h6km±2km, ML3.2/10, Manual Solution by A.Fokaefs First location: 2019/08/05 18:05:31, This location: 2020/09/03 14:46:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

IDC ***05*** *18:04:15.7±1.5,36˚.98N×21˚.67E, h0km, mb3.7/6, mbtmp3.7/6, MS2.3/1, Error ellipse: s-maj=44.3km s-min=27.8km az=129.0*

THE ***05*** *18:04:16.7,37˚.N±2˚×2˚.1E±˚, h3km±3km, M3.0/11, MLh3.0/11*

ISC 05 18:04:16.4±1.5, 36˚.72N±0˚.05×21˚.34E±0˚.04, h8km±9km, n38, σ1.925/50, mb3.9/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL1	**Pylos**	**0.34**	**56**	P	**Pg**	**18 04 23.3**	**+0.2**
PYL1				S	**Sg**	**18 04 29.1**	**+1.3**
ITM	**Ithomi**	**0.66**	**46**	P	**Pb**	**18 04 29.5**	**-0.6**
ITM				S	**Sb**	**18 04 39.7**	**+0.3**
ITM	**Ithomi**	**0.66**	**46**	P	**Pg**	**18 04 28.9**	**-0.1**
ITM				S	**Sb**	**18 04 38.9**	**-0.6**
AMT	**Artemida-Makis**	**0.86**	**20**	P	**Pg**	**18 04 32.7**	**-0.3**
AMT				S	**Sb**	**18 04 45.9**	**+0.5**
KRI1	**kERI**	**1.03**	**336**	P	**Pb**	**18 04 36.4**	**0.0**
KRI1				S	**Sb**	**18 04 51.3**	**+1.2**
KRI1	**kERI**	**1.03**	**336**	P	**Pg**	**18 04 35.2**	**-1.0**
VLX	**Vlachokerasia**	**1.05**	**52**	P	**Pb**	**18 04 36.7**	**-0.2**
VLX				S	**Sb**	**18 04 52.3**	**+1.3**
VLX	**Vlachokerasia**	**1.05**	**52**	P	**Pg**	**18 04 36.4**	**-0.3**
VLX				S	**Sb**	**18 04 51.5**	**+0.6**
LTHK	**Lithakia**	**1.07**	**338**	P	**Pg**	**18 04 36.5**	**-0.4**
LTHK				S	**Sn**	**18 04 52.7**	**+0.1**
LTHK	**Lithakia**	**1.07**	**338**	P	**Pg**	**18 04 35.7**	**-1.1**
LTHK				S	**Sb**	**18 04 51.8**	**+0.7**
KYPS	**Kipseli, Zakin**	**1.17**	**340**	P	**Pg**	**18 04 37.6**	**-1.3**
CLEM	**Kyllini,Ilia,G**	**1.18**	**352**	P	**Pg**	**18 04 38.0**	**-1.0**
DRO	**Drossia**	**1.27**	**13**	P	**Pg**	**18 04 39.9**	**-0.7**
DRO				S	**Sn**	**18 04 59.7**	**+2.1**
DRO	**Drossia**	**1.27**	**13**	P	**Pg**	**18 04 39.8**	**-0.8**
VLI	**Veliai**	**1.28**	**90**	P	**Pb**	**18 04 41.0**	**+0.2**
VLI				S	**Sn**	**18 04 59.1**	**+1.1**
VLI	**Veliai**	**1.28**	**90**	P	**Pg**	**18 04 40.1**	**-0.9**
RLS	**Riolos of Patr**	**1.34**	**4**	P	**Pg**	**18 04 41.9**	**-0.1**
RLS				S	**Sn**	**18 05 01.0**	**+1.7**
YRMI	**Loutra Irminis**	**1.38**	**0**	P	**Pn**	**18 04 41.2**	**-0.7**
RTZL	**Ratzakli, Kefa**	**1.43**	**342**	P	**Pn**	**18 04 42.4**	**-0.1**
RTZL				S	**Sn**	**18 05 03.0**	**+1.5**
GUR	**Goura**	**1.45**	**33**	P	**Pn**	**18 04 43.3**	**+0.2**
GUR	**Goura**	**1.45**	**33**	P	**Pn**	**18 04 43.2**	**+0.1**
KTHA	**Kythira Island**	**1.46**	**108**	P	**Pn**	**18 04 43.2**	**+0.1**
KLV	**Kalavryta, Ach**	**1.47**	**26**	P	**Pn**	**18 04 43.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.47**	**26**	P	**Pn**	**18 04 43.1**	**-0.1**
AXS	**Araxos**	**1.47**	**1**	P	**Pn**	**18 04 42.6**	**-0.6**
PSDA	**Pessada-Kefalo**	**1.52**	**337**	P	**Pn**	**18 04 44.1**	**+0.3**
VLS	**Valsamata**	**1.57**	**338**	P	**Pn**	**18 04 44.8**	**+0.2**
ANKY	**Antikythira Is**	**1.80**	**118**	P	**Pn**	**18 04 47.4**	**-0.3**
ANKY	**Antikythira Is**	**1.80**	**118**	P	**Pn**	**18 04 46.6**	**-1.1**
OHR	**Ohrid**	**4.41**	**355**	*i* Pn	**Pn**	**18 05 24.4**	**+0.8**
DAVOX	**Davos/Dischmat**	**13.18**	**323**	LR	LR	18 13 07.9	
	comp=Z,12nm,18.8s,baz=127,slow=40						
HFS	**Hagfors**	**23.94**	**351**	P	**P**	**18 09 28.2**	**-2.5**
	3.9nm,1.1s,baz=163,slow=10,SNR=4.6						
	3.9nm,1.1s						
FINES	**FINESS Array B**	**24.93**	**5**	P	**P**	**18 09 38.8**	**-0.4**
FINES	**FINESS Array B**	**24.93**	**5**	P	**P**	**18 09 38.9**	**-0.8**
	2.6nm,0.9s,baz=167,slow=9.0,SNR=5.9						
	2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.34**	**222**	P	**P**	**18 10 23.7**	**+3.9**
	0.3nm,0.3s,baz=20,slow=9.2,SNR=2.3						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**42.59**	**52**	P	**P**	**18 12 10.8**	**-1.9**
	0.4nm,0.6s,baz=280,slow=8.7,SNR=3.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.52**	**57**	P	**P**	**18 12 33.4**	**-3.0**
	0.2nm,0.5s,baz=266,slow=8.2,SNR=1.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.19**	**47**	P	**P**	**18 12 38.6**	**-2.8**
	0.7nm,0.3s,baz=280,slow=8.1,SNR=4.1						
	0.7nm,0.3s						

IDC ***05*** *18:16:14.8±1.3,1˚.54S×122˚.81E, h0km, mb3.5/5, mbtmp3.6/6, ML3.8/1, MS3.6/1, Error ellipse: s-maj=50.9km s-min=20.4km az=61.0*

DJA ***05*** *18:16:21.1±1.1,2˚.5S±3˚×12˚.3E±˚, h28km±13km, M4.0/16, mb4.3/1, MLv3.9/16*

ISC 05 18:16:20.7±0.9, 1˚.86S±0˚.04×122˚.60E±0˚.05, h35km, n21, σ1.934/22, mb3.5/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.83**	**12**	P	**Pn**	**18 16 36.5**	**+0.5**
LUWI				S	**Sn**	**18 16 48.0**	**+1.0**
APSI	**Ampana**	**1.34**	**315**	P	**Pn**	**18 16 43.9**	**+0.9**
KDI	**Kendari**	**2.08**	**179**	P	**Pn**	**18 16 53.3**	**+0.1**
MRSI	**Marisa**	**2.41**	**344**	P	**Pn**	**18 16 58.9**	**+1.1**
KMSI	**Cibinong**	**2.78**	**30**	P	**Pn**	**18 17 04.1**	**+1.2**
PCI	**Palu**	**2.92**	**289**	P	**Pn**	**18 17 05.9**	**+1.1**
SANI	**Sanana**	**3.39**	**93**	P	**Pn**	**18 17 11.6**	**+0.4**
MPSI	**Mapaga**	**3.47**	**309**	P	**Pn**	**18 17 13.5**	**+1.2**
SPSI	**Sidrap Palu**	**3.52**	**233**	P	**Pn**	**18 17 14.4**	**+1.5**
BNSI	**Bone**	**3.55**	**225**	P	**Pn**	**18 17 14.2**	**+0.9**
BBSI	**Bau Bau**	**3.60**	**180**	P	**Pn**	**18 17 14.9**	**+0.7**
KAPI	**Kappang**	**4.23**	**222**	Pn	**Pn**	**18 17 24.7**	**+2.0**
	4.7nm,0.3s,baz=340,slow=3.1,SNR=6.6						
KAPI				Sn	**Sn**	**18 18 11.2**	**+0.2**
	7.9nm,0.3s,baz=76,slow=19,SNR=5.3						
	11nm,0.3s						
BKSI	**Bulukumba**	**4.24**	**216**	P	**Pn**	**18 17 23.6**	**+0.8**
NLAI	**Namlea**	**4.70**	**107**	P	**Pn**	**18 17 31.1**	**+1.9**
BSSI	**Bau Bau, Buton**	**4.75**	**206**	P	**Pn**	**18 17 30.6**	**+0.7**
WRA	**Warramunga Arr**	**21.32**	**148**	P	**P**	**18 21 05.1**	**+0.2**
	1.4nm,0.8s,baz=323,slow=11,SNR=9.4						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**24.29**	**154**	P	**P**	**18 21 36.4**	**+1.4**
	1.1nm,0.7s,baz=330,slow=9.0,SNR=22						
	1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.82**	**312**	P	**P**	**18 22 33.6**	**0.0**
	0.6nm,0.6s,baz=128,slow=8.5,SNR=4.4						
	0.6nm,0.6s						
JCJ	**Chichijima**	**34.42**	**32**	LR	LR	18 34 16.3	
	comp=Z,92nm,21.2s,baz=120,slow=32						
MKAR	**Makanchi Array**	**59.98**	**329**	P	**P**	**18 26 21.9**	**-1.9**
	0.3nm,0.7s,baz=134,slow=8.4,SNR=2.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**64.37**	**331**	P	**P**	**18 26 50.1**	**-2.9**
	0.4nm,0.8s,baz=118,slow=6.6,SNR=2.8						
	0.4nm,0.8s						

DNK ***05*** *18:20:56.1±2.4,57˚.66N×10˚.69E, h0km, ML2.4, ML1.8(BER), Explosion*

UPP ***05*** *18:20:56.6±0.6,57˚.58N×10˚.65E, h0km, ML2.7, Presumed earthquake*

BER ***05*** *18:20:57.3±2.1,57˚.62N×10˚.75E, h0km, ML1.8, ML2.1(DNK), Suspected explosion*

IDC ***05*** *18:21:00.1±2.0,57˚.97N×10˚.32E, h0km, mbtmp3.0/4, ML2.1/3, Error ellipse: s-maj=17.4km s-min=15.2km az=97.0*

ISC 05 18:20:55.1±0.7, 57˚.63N±0˚.02×10˚.74E±0˚.02, h0km, n61, σ1.921/122, 3C, Denmark

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVD	**Ostervraa, Den**	**0.42**	**223**	⇑*i* P	**Pb**	**18 21 05.0**	**-0.4**
OVD				*i* S	**Sg**	**18 21 10.1**	**+1.4**
OVD	**Ostervraa, Den**	**0.42**	**223**	⇑*i* P	**Pb**	**18 21 05.0**	**-0.4**
OVD				⇑*i* P	**Pb**	**18 21 05.0**	**-0.4**
OVD				*i* S	**Sg**	**18 21 10.1**	**+1.4**
OVD				*i* S	**Sg**	**18 21 10.1**	**+1.4**
ONAU	**Onsala**	**0.68**	**110**	P	**Pb**	**18 21 10.1**	**+0.4**
ONAU				S	**Sb**	**18 21 19.3**	**-0.3**
ONAU	**Onsala**	**0.68**	**110**	*i* P	**Pb**	**18 21 10.1**	**+0.4**
ONAU				*i* P	**Sg**	**18 21 15.8**	**-0.9**
ONAU	**Onsala**	**0.68**	**110**	P	**Pb**	**18 21 10.1**	**+0.4**
ONAU				*i* P	**Pb**	**18 21 10.1**	**+0.4**
ONAU				*i* P	**Pb**	**18 21 10.1**	**+0.4**
ONAU				*i* S	**Sg**	**18 21 15.8**	**-0.9**
ONAU				*i* S	**Sg**	**18 21 15.8**	**-0.9**
ONAU				S	**Sb**	**18 21 19.3**	**-0.3**
BORU	**Boraas**	**1.09**	**89**	P	**Pn**	**18 21 17.9**	**+0.2**
BORU				S	**Sn**	**18 21 33.1**	**-0.3**
BORU	**Boraas**	**1.09**	**89**	*i* P	**Pn**	**18 21 17.8**	**+0.2**
BORU				*i* S	**Sg**	**18 21 29.9**	**-0.2**
BORU	**Boraas**	**1.09**	**89**	*i* P	**Pn**	**18 21 17.8**	**+0.2**
BORU				*i* P	**Pn**	**18 21 17.8**	**+0.2**
BORU				P	**Pn**	**18 21 17.9**	**+0.2**
BORU				*i* S	**Sg**	**18 21 29.9**	**-0.2**
BORU				*i* S	**Sg**	**18 21 29.9**	**-0.2**
BORU				S	**Sn**	**18 21 33.1**	**-0.3**
VANU	**Vaenersborg**	**1.12**	**39**	P	**Pn**	**18 21 18.8**	**+0.8**
VANU				S	**Sn**	**18 21 34.5**	**+0.5**
VANU	**Vaenersborg**	**1.12**	**39**	P	**Pn**	**18 21 18.8**	**+0.8**
VANU				S	**Sn**	**18 21 34.5**	**+0.5**
FABU	**Falkenberg**	**1.24**	**119**	P	**Pn**	**18 21 19.9**	**+0.2**
FABU				S	**Sn**	**18 21 37.5**	**+0.4**
FABU	**Falkenberg**	**1.24**	**119**	*i* P	**Pb**	**18 21 19.7**	**+0.3**
FABU				*i* S	**Sb**	**18 21 36.1**	**+0.2**
FABU	**Falkenberg**	**1.24**	**119**	*i* P	**Pb**	**18 21 19.7**	**+0.3**
FABU				*i* P	**Pb**	**18 21 19.7**	**+0.3**
FABU				P	**Pn**	**18 21 19.9**	**+0.2**
FABU				*i* S	**Sb**	**18 21 36.1**	**+0.2**
FABU				*i* S	**Sb**	**18 21 36.1**	**+0.2**
FABU				S	**Sn**	**18 21 37.5**	**+0.4**
HOMB	**Homborsund**	**1.36**	**299**	*e*P	**Pg**	**18 21 21.0**	**0.0**
HOMB				*e*S	**Sg**	**18 21 38.9**	**+0.3**
HOMB				IAML		18 21 40.4	
	comp=Z,12nm,0.1s						
HOMB	**Homborsund**	**1.36**	**299**	*e*P	**Pg**	**18 21 21.0**	**0.0**
HOMB				*i* P	**Pn**	**18 21 21.6**	**+0.4**
HOMB				*i* S	**Sg**	**18 21 37.6**	**-1.0**
HOMB				*e*S	**Sg**	**18 21 38.9**	**+0.3**
HOMB				IAML		18 21 40.4	
	comp=Z,12nm,0.1s						
STRU	**Stroemstad**	**1.43**	**9**	P	**Pb**	**18 21 23.8**	**+1.3**
STRU				S	**Sn**	**18 21 43.5**	**+1.8**
STRU	**Stroemstad**	**1.43**	**9**	*e*P	**Pb**	**18 21 23.9**	**+1.3**
STRU	**Stroemstad**	**1.43**	**9**	P	**Pb**	**18 21 23.8**	**+1.3**
STRU				*i* P	**Pb**	**18 21 23.8**	**+1.3**
STRU				*e*P	**Pb**	**18 21 23.9**	**+1.3**
STRU				*i* S	**Sn**	**18 21 42.3**	**+0.5**
STRU				S	**Sn**	**18 21 43.5**	**+1.8**
MUD	**Monsted U'grnd**	**1.45**	**217**	*e*P	**Pn**	**18 21 22.6**	**+0.1**
MUD	**Monsted U'grnd**	**1.45**	**217**	*i* P	**Pn**	**18 21 22.4**	**-0.1**
MUD				*e*P	**Pn**	**18 21 22.6**	**+0.1**
GNOU	**Gnosjoe**	**1.66**	**100**	P	**Pg**	**18 21 27.4**	**+0.5**
GNOU	**Gnosjoe**	**1.66**	**100**	P	**Pg**	**18 21 27.4**	**+0.5**
BJUU	**Bjuv**	**2.00**	**140**	*i* P	**Pb**	**18 21 31.7**	**-0.5**
BJUU				*i* S	**Sb**	**18 21 58.2**	**+0.6**
SNART	**Snartemo**	**2.01**	**292**	*e*P	**Pn**	**18 21 30.1**	**-0.1**
SNART				*e*Pg	**Pb**	**18 21 32.8**	**+0.3**
SNART				IAML		18 22 01.0	
	comp=Z,34nm,0.3s						
SNART	**Snartemo**	**2.01**	**292**	*e*P	**Pn**	**18 21 30.1**	**-0.1**
SNART				*i* P	**Pn**	**18 21 30.2**	**-0.1**
SNART				*e*Pg	**Pb**	**18 21 32.8**	**+0.3**
SNART				*i* S	**Sn**	**18 21 55.2**	**-0.8**
SNART				IAML		18 22 01.0	
	comp=Z,34nm,0.3s						
DEL	**Delary**	**2.07**	**123**	*i* P	**Pb**	**18 21 32.8**	**-0.6**
DEL				*i* S	**Sb**	**18 21 59.1**	**-0.5**
COP	**Copenhagen**	**2.16**	**154**	*i* P	**Pb**	**18 21 35.1**	**+0.2**
SSRD	**Sdr. Stenderup**	**2.24**	**196**	*i* P	**Pn**	**18 21 34.5**	**+1.1**
SSRD				*i* S	**Sb**	**18 22 03.7**	**-0.8**
SSRD				IAML		18 22 12.2	
	comp=Z,5.1nm,0.3s						
LUNU	**Lund**	**2.50**	**142**	*i* P	**Pn**	**18 21 38.2**	**+1.3**
LUNU				*i* S	**Sb**	**18 22 13.3**	**+1.3**
BLS5	**Blasjo**	**2.88**	**311**	*e*P	**Pn**	**18 21 42.7**	**+0.4**
BLS5				*e*Sg	**Sb**	**18 22 24.5**	**+1.4**
BLS5	**Blasjo**	**2.88**	**311**	*e*P	**Pn**	**18 21 42.7**	**+0.4**
BLS5				*e*Sg	**Sb**	**18 22 24.5**	**+1.4**
HFS	**Hagfors**	**2.94**	**30**	Pn	**Pn**	**18 21 45.0**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=217,slow=13,SNR=22						
HFS				Pg	**Pb**	**18 21 49.7**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=221,slow=17,SNR=6.2						
HFS				Sn	**Sn**	**18 22 17.4**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=208,slow=25,SNR=5.1						
HFS				Lg	Lg	18 22 27.9	
	comp=Z,2.9nm,0.3s,baz=208,slow=30,SNR=17						
	comp=Z,1.6nm,0.4s						
BLEU	**Blekinge**	**3.08**	**113**	*i* P	**Pn**	**18 21 46.3**	**+1.5**
BLEU				*i* S	**Sn**	**18 22 21.8**	**-0.6**
ODD1	**Odda**	**3.14**	**319**	*e*P	**Pn**	**18 21 46.8**	**+1.0**
ODD1				*e*S	**Sn**	**18 22 23.4**	**-0.5**
ODD1	**Odda**	**3.14**	**319**	*e*P	**Pn**	**18 21 46.8**	**+1.0**
ODD1				*e*S	**Sn**	**18 22 23.4**	**-0.5**
NC602	**NORSAR Array S**	**3.15**	**7**	*e*P	**Pn**	**18 21 46.8**	**+1.0**
NC602				*e*S	**Sn**	**18 22 22.1**	**-1.9**
NC602				IAML		18 22 37.4	
	comp=Z,5.7nm,0.4s						
NC602	**NORSAR Array S**	**3.15**	**7**	*e*P	**Pn**	**18 21 46.8**	**+1.0**
NC602				*e*S	**Sn**	**18 22 22.1**	**-1.9**
NC602				IAML		18 22 37.4	
	comp=Z,5.7nm,0.4s						
NAO01	**NORSAR Array S**	**3.23**	**1**	*e*P	**Pn**	**18 21 47.8**	**+0.9**
NAO01				*e*S	**Sn**	**18 22 24.1**	**-2.0**
NAO01				IAML		18 22 44.1	
	comp=Z,6.7nm,0.6s						
NAO01	**NORSAR Array S**	**3.23**	**1**	*e*P	**Pn**	**18 21 47.8**	**+0.9**
NAO01				*e*S	**Sn**	**18 22 24.1**	**-2.0**
NAO01				IAML		18 22 44.1	
	comp=Z,6.7nm,0.6s						
KMY	**Karmoy**	**3.30**	**301**	*e*P	**Pn**	**18 21 48.9**	**+1.0**
KMY	**Karmoy**	**3.30**	**301**	*e*P	**Pn**	**18 21 48.9**	**+1.0**
SKAR	**Skarslia**	**3.31**	**339**	*e*P	**Pn**	**18 21 48.8**	**+0.7**
SKAR	**Skarslia**	**3.31**	**339**	*e*P	**Pn**	**18 21 48.8**	**+0.7**
NBO00	**NORSAR Array S**	**3.42**	**0**	*e*P	**Pn**	**18 21 50.1**	**+0.6**
NBO00				*e*S	**Sn**	**18 22 28.2**	**-2.5**
NBO00				IAML		18 22 53.1	
	comp=Z,5.3nm,0.5s						
NBO00	**NORSAR Array S**	**3.42**	**0**	*e*P	**Pn**	**18 21 50.1**	**+0.6**
NBO00				*e*S	**Sn**	**18 22 28.2**	**-2.5**
NBO00				IAML		18 22 53.1	
	comp=Z,5.3nm,0.5s						
BSD	**Bornholm Skovb**	**3.42**	**136**	*i* P	**Pn**	**18 21 50.0**	**+0.4**
BSD				*i* S	**Sn**	**18 22 34.5**	**+3.6**

JAGI	**Jajag, Banyuwa**	**5.28**	**261**	P	**Pn**	**18 27 21.1 +0.8**
KMMI	**Kalianget**	**5.46**	**276**	P	**Pn**	**18 27 26.4 +4.0**
	0.3nm67nm,0.9s					
GMJI	**Gumukmas**	**5.96**	**264**	P	**Pn**	**18 27 30.9 +2.2**
	0.3nm34nm,1.3s					
LUWI	**Luwuk**	**7.40**	**27**	P	**Pn**	**18 27 48.5 +1.7**
	0.4nm1µm102nm,1.3s					
PCJI	**Pacitan**	**8.19**	**266**	P	**Pn**	**18 27 57.6 +0.8**
WOJI	**Wonogiri, Jawa**	**8.43**	**268**	P	**Pn**	**18 28 01.4 +1.6**
	121nm,1.1s					
NLAI	**Namlea**	**8.82**	**60**	P	**Pn**	**18 28 07.6 +2.8**
	46nm,0.7s					
UGM	**Wanagama**	**8.83**	**268**	P	**Pn**	**18 28 06.0 +1.1**
UGM	**Wanagama**	**8.83**	**268**	P	**Pn**	**18 28 05.1 +0.2**
	68nm,1.6s					
BBJI	**Bungbulang**	**11.68**	**270**	P	**Pn**	**18 28 42.4 +1.6**
FITZ	**Fitzroy Crossi**	**11.98**	**150**		**Pn**	**18 28 45.5 +1.1**
FITZ	**Fitzroy Crossi**	**11.98**	**150**	P	**Pn**	**18 28 46.1 +1.7**
	52nm,0.7s,baz=309,slow=5.2,SNR=56					
FITZ				S	**S**	**18 31 00.1 +2.1**
	21nm,0.7s,baz=238,slow=14,SNR=5.8					
FITZ	**Fitzroy Crossi**	**11.98**	**150**	P	**Pn**	**18 28 45.6 +1.1**
KNRA	**Kununurra**	**12.10**	**132**		**Pn**	**18 28 46.0 +0.1**
CNJI	**Cibinong**	**12.20**	**271**	P	**Pn**	**18 28 48.2 +1.0**
	32nm,1.2s					
DRS	**Darwin Rock St**	**12.23**	**114**	P	**Pn**	**18 28 48.0 +0.4**
SBUM	**Sibu**	**12.38**	**324**		**Pn**	**18 28 51.0 +1.5**
MTN	**Manton Dam**	**12.60**	**115**		**Pn**	**18 28 52.2 +0.1**
MTN	**Manton Dam**	**12.60**	**115**	P	**Pn**	**18 28 52.5 +0.4**
KSM	**Kuching**	**12.87**	**315**		**Pn**	**18 28 55.2 -0.4**
FAKI	**Fak Fak**	**13.62**	**70**	P	**Pn**	**18 29 03.8 -0.8**
KDU	**Kakadu**	**13.76**	**112**	P	**Pn**	**18 29 06.2 -0.2**
KKM	**Kota Kinabalu**	**14.02**	**347**		**Pn**	**18 29 10.0 +0.3**
KKM	**Kota Kinabalu**	**14.02**	**347**	P	**P**	**18 29 11.0 +0.8**
WB0	**Warramunga Arr**	**18.83**	**131**		**P**	**18 30 02.8 +0.1**
MEEK	**Meekatharra**	**18.86**	**182**	P	**P**	**18 30 04.9 +1.9**
WRA	**Warramunga Arr**	**18.90**	**132**		**P**	**18 30 03.2 -0.2**
WRA	**Warramunga Arr**	**18.90**	**132**	P	**P**	**18 30 03.9 +0.4**
	12nm,0.3s,baz=304,slow=12,SNR=229					
WRA				S	**S**	**18 33 23.2 -1.5**
	9.9nm,1.0s,baz=301,slow=21,SNR=11					
WRAB	**Tennant Creek**	**18.90**	**132**	P	**P**	**18 30 03.5 0.0**
WR8	**Warramunga Arr**	**19.02**	**131**		**P**	**18 30 05.0 +0.2**
AS31	**Alice Springs**	**21.10**	**140**		**P**	**18 30 26.7 0.0**
AS31				IAmb	IAmb	18 30 28.6
	comp=Z,9.6nm,0.5s					
ASAR	**Alice Springs**	**21.10**	**140**		**P**	**18 30 26.8 +0.1**
ASAR	**Alice Springs**	**21.10**	**140**	P	**P**	**18 30 27.1 +0.4**
	comp=Z,18nm,0.4s,baz=314,slow=8.8,SNR=396					
ASAR				S	**S**	**18 34 04.5 -0.6**
	comp=Z,6.6nm,0.9s,baz=326,slow=23,SNR=13					
	comp=Z,18nm,0.4s					
AS01	**Alice Springs**	**21.12**	**140**	P	**P**	**18 30 27.5 +0.5**
MORW	**Morawa**	**21.50**	**188**	P	**P**	**18 30 31.4 +0.9**
KULM	**Kulim**	**22.75**	**304**	P	**P**	**18 30 40.8 -1.2**
KULM				IAmb	IAmb	18 30 55.5
	comp=Z,19nm,1.1s					
KULM	**Kulim**	**22.75**	**304**	P	**P**	**18 30 41.2 -0.8**
BLDU	**Ballidu**	**22.95**	**186**	P	**P**	**18 30 44.5 +0.8**
QIS	**Mount Isa**	**23.34**	**125**	P	**P**	**18 30 48.0 +0.6**
KLBR	**Kellerberrin**	**23.83**	**184**	P	**P**	**18 30 53.4 +1.7**
COEN	**Coen**	**24.13**	**107**	P	**P**	**18 30 54.4 -0.2**
FORT	**Forrest**	**24.35**	**162**	P	**P**	**18 30 57.3 +0.9**
MTSU	**Mount Surprise**	**26.35**	**116**	P	**P**	**18 31 14.5 -0.1**
BBOO	**Buckleboo**	**29.37**	**151**	P	**P**	**18 31 41.6 +0.4**
HTT	**Hallett**	**31.32**	**148**	P	**P**	**18 31 59.5 +1.1**
STKA	**Stephens Creek**	**31.70**	**142**	P	**P**	**18 32 02.3 +0.7**
STKA	**Stephens Creek**	**31.70**	**142**	P	**P**	**18 32 02.2 +0.6**
	comp=Z,3.5nm,0.3s,baz=329,slow=8.4,SNR=17					
	comp=Z,3.5nm,0.3s					
STKA	**Stephens Creek**	**31.70**	**142**	P	**P**	**18 32 05.2 +0.9**
CMAR	**Chiang Mai Arr**	**32.92**	**322**	P	**P**	**18 32 10.0 -2.3**
CMAR	**Chiang Mai Arr**	**32.92**	**322**	P	**P**	**18 32 12.9 +0.6**
	comp=Z,1.4nm,0.8s,baz=155,slow=6.9,SNR=9.8					
	comp=Z,1.4nm,0.8s					
CMSA	**Cobar Meteorol**	**34.09**	**138**	P	**P**	**18 32 23.9 +1.6**
KMI	**Kunming**	**36.45**	**334**	P	**P**	**18 32 44.0 +1.4**
KMI				pmax	pmax	
	comp=Z,7.0nm,1.1s					
KMI				LR	LR	
	comp=N,140nm,11.7s					
KMI				LR	LR	
	comp=E,180nm,9.3s					
KMI				LR	LR	
	comp=Z,130nm,13.0s					
PZH	**PanZhiHua**	**38.08**	**334**	P	**P**	**18 32 56.5 +0.3**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.9s					
SHL	**Shillong**	**42.56**	**322**	P	**P**	**18 33 31.4 -1.4**
SHL				IAmb	IAmb	18 33 32.4
	comp=Z,11nm,0.9s					
KSRS	**Korea Array**	**45.61**	**9**	P	**P**	**18 33 56.0 -0.6**
	comp=Z,1.6nm,0.7s,baz=188,slow=9.1,SNR=10					
	comp=Z,1.6nm,0.7s					
LSA	**Lhasa**	**46.06**	**325**	P	**P**	**18 34 00.0 -0.9**
LSA				pmax	pmax	
	comp=Z,12nm,0.8s					
EVN	**Everest**	**47.43**	**320**		**P**	**18 34 11.0 -0.7**
EVN				IAmb	IAmb	18 34 12.3
	comp=Z,18nm,1.1s					
HHC	**Hu-ho-hao-te**	**48.84**	**352**	*e*P	**P**	**18 34 23.5 +1.9**
HHC				pmax	pmax	
	comp=Z,11nm,0.6s					
HHC				pmax	pmax	
	comp=Z,100nm,5.3s					
GTA	**Gaotai**	**50.27**	**340**	*e*P	**P**	**18 34 32.9 +0.5**
GTA				pmax	pmax	
	comp=Z,7.0nm,0.9s					
USRK	**Ussuriysk Ar.**	**52.89**	**11**	P	**P**	**18 34 49.2 -2.2**
	comp=Z,2.4nm,0.7s,baz=173,slow=7.3,SNR=4.8					
	comp=Z,2.4nm,0.7s					
SONM	**Songino Array**	**56.48**	**349**	P	**P**	**18 35 16.4 -0.9**
SONM	**Songino Array**	**56.48**	**349**	P	**P**	**18 35 16.3 -0.9**
	comp=Z,1.3nm,0.5s,baz=169,slow=7.6,SNR=10					
	comp=Z,1.3nm,0.5s					
KSH	**Kashi**	**61.82**	**323**	P	**P**	**18 35 52.6 -1.4**
KSH				pmax	pmax	
	comp=Z,13nm,0.6s					
KBL	**Kabul**	**63.47**	**315**	P	**P**	**18 36 02.4 -2.7**
KBL				IAmb	IAmb	18 36 03.3
	comp=Z,4.9nm,0.6s					
MKAR	**Makanchi Array**	**63.50**	**332**		**P**	**18 36 03.1 -1.7**
MKAR	**Makanchi Array**	**63.50**	**332**	P	**P**	**18 36 03.6 -1.2**
	comp=Z,5.5nm,0.6s,baz=155,slow=7.0,SNR=49					
	comp=Z,5.5nm,0.6s					
AAK	**Ala-Archa**	**64.66**	**325**	P	**P**	**18 36 10.9 -1.6**
AAK				IAmb	IAmb	18 36 12.1
	comp=Z,5.0nm,0.6s					
GAR	**Garm**	**65.03**	**319**		**P**	**18 36 12.9 -2.0**
GAR				IAmb	IAmb	18 36 14.0
	comp=Z,17nm,1.0s					
KK31	**Karatay Array**	**67.27**	**323**	P	**P**	**18 36 26.4 -2.5**
KKAR	**Karatay Array**	**67.27**	**323**		**P**	**18 36 26.6 -2.3**
ZALV	**Zalesovo Beam**	**67.98**	**339**		**P**	**18 36 30.4 -2.6**
ZALV	**Zalesovo Beam**	**67.98**	**339**	P	**P**	**18 36 30.9 -2.1**
	comp=Z,1.3nm,0.3s,baz=137,slow=5.4,SNR=9.2					
	comp=Z,1.3nm,0.3s					
KURBB	**Kurchatov Arra**	**68.00**	**333**	P	**P**	**18 36 31.7 -1.6**
	comp=Z,2.2nm,0.7s,baz=146,slow=5.6,SNR=28					
	comp=Z,2.2nm,0.7s					
KURK	**Kurchatov**	**68.02**	**333**		**P**	**18 36 31.8 -1.6**
KURK				IAmb	IAmb	18 36 33.2
	comp=Z,4.3nm,0.9s					
PETK	**Petropavlovsk-**	**68.72**	**24**	P	**P**	**18 36 35.9 -1.8**
	comp=Z,1.5nm,0.6s,baz=174,slow=3.0,SNR=3.9					
	comp=Z,1.5nm,0.6s					
VNDA	**Vanda**	**73.20**	**171**	P	**P**	**18 37 03.6 -0.6**
	comp=Z,0.2nm,0.3s,baz=359,slow=10,SNR=1.7					
	comp=Z,0.2nm,0.3s					
BVAR	**Borovoye Array**	**73.35**	**332**	P	**P**	**18 37 03.2 -2.2**
	comp=Z,1.1nm,0.6s,baz=108,slow=9.5,SNR=7.2					
	comp=Z,1.1nm,0.6s					
QSPA	**South Pole Qui**	**82.29**	**180**	P	**P**	**18 37 54.7 +0.1**
	comp=Z,0.5nm,0.6s,baz=297,slow=6.0,SNR=1.3					
	comp=Z,0.5nm,0.6s					
GEVA	**Gevas**	**84.17**	**310**	P	**P**	**18 38 03.1 -1.6**
GEVA				IAmb	IAmb	18 38 04.4
	comp=Z,5.0nm,0.9s					

NIED ***05*** *18:34:25.6,21.˚10N×121.˚97E,h1km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}1.59; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-1.95; $M_{r\theta}$0.54; $M_{\theta\phi}$0.54; $M_{r\phi}$0.72; Fault plane solution: M_o2.07000×10^{15} NP1: ϕ_s144.00000°,δ41.00000°,λ53.00000°. NP2:ϕ_s9.00000°, δ58.00000°,λ118.00000°.*

JMA ***05*** *18:34:25.6±0.3,21˚N±1˚×122.˚0E±0.˚8,h1km,MV4.4/16, TAIWAN REGION*

NEIC ***05*** *18:34:27.2±1.5,20.˚95N±0.˚04×121.˚97E±0.˚10,h10km±2km, mb4.2/7,Error ellipse: s-maj=16.0km s-min=5.2km az=111.0*

IDC ***05*** *18:34:28.1±7.8,20.˚70N×122.˚12E,h30km±59km,mb3.6/14, mbtmp3.8/16,ML3.7/2,MS3.3/19,Error ellipse: s-maj=24.6km s-min=15.0km az=67.0*

ISC 05 18:34:25.4±0.7,20.˚84N±0.˚07×122.˚10E±0.˚07,h10km,n71, σ1.937/60,mb3.9/19,MS3.3/16,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TWGBT	**Beinan**	**2.18**	**335**	P			**Pn**	**18 35 01.8**	**0.0**
TWG	**Pinlang**	**2.19**	**334**				**Pn**	**18 34 59.5**	**-2.4**
YULB	**Yu-li**	**2.65**	**344**				**Pn**	**18 35 06.6**	**-1.7**
YULB	**Yu-li**	**2.65**	**344**	P			**Pn**	**18 35 07.0**	**-1.2**
TPUB	**Ta-pu**	**2.80**	**331**				**Pn**	**18 35 11.6**	**+1.2**
TPUB	**Ta-pu**	**2.80**	**331**	P			**Pn**	**18 35 12.1**	**+1.7**
SSLB	**Suanglung**	**3.12**	**340**				**Pn**	**18 35 16.1**	**+1.3**
SSLB	**Suanglung**	**3.12**	**340**	P			**Pn**	**18 35 15.6**	**+0.9**
NACB	**Ninganchiao**	**3.35**	**352**				**Pn**	**18 35 16.6**	**-1.3**
NACB	**Ninganchiao**	**3.35**	**352**	P			**Pn**	**18 35 16.8**	**-1.1**
HATJ	**Hateruma jima**	**3.57**	**26**	*e*S			**Sn**	**18 36 02.3**	**-0.9**
JYNG	**Yonaguni jima**	**3.68**	**12**	*e*P			**Pn**	**18 35 22.4**	**0.0**
JYNG				*e*S			**Sn**	**18 36 02.9**	**-2.9**
YOJ	**Yonaguni jima**	**3.70**	**13**				**Pn**	**18 35 23.1**	**+0.4**
YOJ	**Yonaguni jima**	**3.70**	**13**	P			**Pn**	**18 35 25.7**	**+3.0**
YOJ	**Yonaguni jima**	**3.70**	**13**	*e*P			**Pn**	**18 35 23.1**	**+0.4**
YOJ				*e*S			**Sn**	**18 36 05.4**	**-1.0**
IRIF	**Iriomote-Funau**	**3.79**	**23**	P			**Pn**	**18 35 24.7**	**+0.7**
IRIF				S			**Sn**	**18 36 07.8**	**-0.8**
JKRS	**Kuro-shima**	**3.82**	**27**	*e*P			**Pn**	**18 35 25.2**	**+0.9**
JKRS				S			**Sn**	**18 36 08.8**	**-0.5**
YHNB	**Yeheng**	**3.87**	**350**				**Pn**	**18 35 25.2**	**+0.1**
YHNB	**Yeheng**	**3.87**	**350**	P			**Pn**	**18 35 25.5**	**+0.4**
JIJ	**Ishigaki jima**	**3.98**	**28**	*e*P			**Pn**	**18 35 27.1**	**+0.5**
JIJ				*e*S			**Sn**	**18 36 11.2**	**-2.2**
TATO	**Taipei**	**4.16**	**352**				**Pn**	**18 35 31.0**	**+2.1**
JTJ	**Tarama**	**4.48**	**32**	S			**Sn**	**18 36 24.3**	**-1.3**
JIRB	**Irabujima**	**4.88**	**35**	*e*P			**Pn**	**18 35 40.2**	**+1.3**
JIRB				*e*S			**Sn**	**18 36 33.6**	**-1.8**
JMJ2	**Miyako jima3**	**4.90**	**37**	*e*S			**Sn**	**18 36 34.9**	**-0.9**
KNMB	**Chin-men Tao**	**4.97**	**317**	Pn			**Pn**	**18 35 38.4**	**-1.8**
JIKM	**Ikemajima**	**5.00**	**35**	*e*S			**Sn**	**18 36 37.2**	**-1.1**
JOW	**Kunigami**	**8.22**	**42**	P			**Pn**	**18 36 25.6**	**+0.8**
JOW	**Kunigami**	**8.22**	**42**	Pn			**Pn**	**18 36 25.4**	**+0.7**
	2.4nm,0.3s,baz=198,slow=13,SNR=16								
JOW				Sn			**Sn**	**18 37 53.5**	**-4.2**
	1.0nm,0.3s,baz=225,slow=20,SNR=1.0								
JOW				LR			LR	18 39 26.5	
	comp=Z,188nm,19.5s,baz=269,slow=36								
	9.5nm,0.3s								
DAV	**Davao City (W)**	**14.10**	**166**	LR			LR	18 42 59.4	
	comp=Z,64nm,20.8s,baz=168,slow=37								
JNU	**Nakatsue**	**14.51**	**31**	LR			LR	18 43 16.5	
	comp=Z,66nm,21.1s,baz=160,slow=36								
KSRS	**Korea Array**	**17.31**	**16**	P			**P**	**18 38 28.8**	**+0.1**
	0.3nm,0.3s,baz=199,slow=12,SNR=10								
	1.9nm,0.8s								
SBUM	**Sibu**	**20.66**	**209**	P			**P**	**18 39 06.5**	**+1.0**
MJAR	**Matsushiro Arr**	**21.04**	**39**	P			**P**	**18 39 12.6**	**+3.1**
	0.4nm,0.4s,baz=228,slow=13,SNR=1.4								
	0.4nm,0.4s								
CMAR	**Chiang Mai Arr**	**21.93**	**268**	P			**P**	**18 39 19.7**	**+0.4**
	1.6nm,0.8s,baz=76,slow=9.1,SNR=7.3								
CMAR				LR			LR	18 48 16.9	
	comp=Z,45nm,19.3s,baz=90,slow=38								
	1.6nm,0.8s								
GUMO	**Guam**	**22.90**	**105**	LR			LR	18 47 36.7	
	comp=Z,24nm,20.1s,baz=237,slow=34								
SONM	**Songino Array**	**29.77**	**338**	P			**P**	**18 40 33.3**	**+1.0**
	0.5nm,0.6s,baz=160,slow=6.8,SNR=3.9								
SONM				LR			LR	18 53 46.3	
	comp=Z,60nm,18.1s,baz=145,slow=39								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**41.35**	**318**	P			**P**	**18 42 11.6**	**0.0**
MKAR	**Makanchi Array**	**41.35**	**318**	P			**P**	**18 42 12.0**	**+0.4**
	1.5nm,0.7s,baz=110,slow=10.0,SNR=8.8								
MKAR				LR			LR	19 01 17.9	
	comp=Z,39nm,18.6s,baz=102,slow=39								
	1.5nm,0.7s								
YAK	**Yakutsk**	**41.49**	**5**	LR			LR	19 00 33.4	
	comp=Z,22nm,19.6s,baz=286,slow=38								
MAKZ	**Makanchi**	**41.55**	**318**	P			**P**	**18 42 13.9**	**+0.7**
MAKZ				IAmb			IAmb	18 42 14.6	
	comp=Z,3.3nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**41.93**	**83**	T			T	19 27 16.6	
	baz=274,slow=75,SNR=44								
H11N2	**WAKE ISLAND Hy**	**41.94**	**83**	T			T	19 27 16.3	
	baz=274,slow=75,SNR=60								
H11N3	**WAKE ISLAND Hy**	**41.95**	**83**	T			T	19 27 17.8	
	baz=274,slow=75,SNR=75								
H11S3	**WAKE ISLAND Hy**	**41.96**	**85**	T			T	19 27 10.6	
	baz=281,slow=75,SNR=308								
H11S1	**WAKE ISLAND Hy**	**41.97**	**85**	T			T	19 27 10.9	
	baz=281,slow=75,SNR=340								
H11S2	**WAKE ISLAND Hy**	**41.98**	**85**	T			T	19 27 13.6	
	baz=281,slow=75,SNR=266								
PETK	**Petropavlovsk-**	**42.21**	**31**	LR			LR	19 00 22.9	
	comp=Z,24nm,18.7s,baz=241,slow=37								
WRA	**Warramunga Arr**	**42.27**	**163**	P			**P**	**18 42 16.9**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=344,slow=9.1,SNR=5.6								
	comp=Z,0.6nm,0.7s								
ZAA0	**Zalesovo Array**	**43.51**	**329**	P			**P**	**18 42 29.4**	**+0.4**
ZAA0				IAmb			IAmb	18 42 36.8	
	comp=Z,5.3nm,0.7s								
ZALV	**Zalesovo Beam**	**43.51**	**329**	P			**P**	**18 42 29.3**	**+0.3**
ZALV	**Zalesovo Beam**	**43.51**	**329**	P			**P**	**18 42 29.5**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=107,slow=6.8,SNR=10								
ZALV				LR			LR	19 00 49.2	
	comp=Z,22nm,19.8s,baz=114,slow=36								
	comp=Z,2.1nm,0.6s								
MA2	**Magadan**	**43.77**	**21**	LR			LR	19 00 30.2	
	comp=Z,17nm,19.4s,baz=114,slow=36								
KURK	**Kurchatov**	**45.21**	**322**	P			**P**	**18 42 42.5**	**-0.1**
KURK				IAmb			IAmb	18 43 01.2	
	comp=Z,2.8nm,1.0s								
KURBB	**Kurchatov Arra**	**45.22**	**322**	P			**P**	**18 42 43.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=120,slow=7.5,SNR=11								
	comp=Z,1.1nm,0.6s								
AAK	**Ala-Archa**	**45.24**	**310**	LR			LR	19 04 44.9	
	comp=Z,30nm,19.4s,baz=120,slow=40								
ASAR	**Alice Springs**	**45.71**	**165**	P			**P**	**18 42 45.4**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=339,slow=6.8,SNR=7.9								
	comp=Z,0.5nm,0.5s								
BVAR	**Borovoye Array**	**50.80**	**322**	P			**P**	**18 43 26.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=107,slow=7.9,SNR=4.7								
	comp=Z,0.6nm,0.6s								
BRVK	**Borovoye**	**50.88**	**322**	P			**P**	**18 43 27.2**	**+0.7**
BRVK				IAmb			IAmb	18 43 33.7	
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**	**50.98**	**3**	LR			LR	19 06 55.9	
	comp=Z,34nm,19.9s,baz=184,slow=38								
STKA	**Stephens Creek**	**55.65**	**160**	P			**P**	**18 44 00.6**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=310,slow=8.1,SNR=4.6								
	comp=Z,2.4nm,0.7s								
AB31	**Akbulak array**	**56.40**	**316**	P			**P**	**18 44 07.2**	**+0.2**
AB31				IAmb			IAmb	18 44 32.3	
	comp=Z,3.3nm,1.4s								
ABKAR	**Akbulak array**	**56.40**	**316**	P			**P**	**18 44 07.0**	**0.0**
ARTI	**Arti**	**58.38**	**324**				**P**	**18 44 20.6**	**-0.3**
ARTI	**Arti**	**58.38**	**324**	LR			LR	19 11 24.6	
	comp=Z,178nm,18.4s,baz=204,slow=38								
ILAR	**Eielson Array**	**71.80**	**27**	P			**P**	**18 45 47.5**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=266,slow=7.1,SNR=4.7								
	comp=Z,0.4nm,0.8s								
SPITS	**Spitsbergen Ar**	**72.92**	**348**	LR			LR	19 25 06.6	
	comp=Z,15nm,18.5s,baz=18,slow=42								
FINES	**FINESS Array B**	**74.75**	**330**	P			**P**	**18 46 06.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=66,slow=4.6,SNR=4.0								
FINES				LR			LR	19 21 00.0	
	comp=Z,29nm,19.2s,baz=65,slow=37								
	comp=Z,1.1nm,0.8s								
BRTR	**Keskin Array B**	**75.84**	**307**	P			**P**	**18 46 13.3**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=90,slow=4.3,SNR=2.2								
	comp=Z,0.3nm,0.5s								
HFS	**Hagfors**	**80.89**	**331**	P			**P**	**18 46 39.6**	**0.0**
	comp=Z,1.9nm,1.0s,baz=93,slow=3.0,SNR=5.0								
HFS				LR			LR	19 23 37.7	
	comp=Z,30nm,18.9s,baz=76,slow=36								
	comp=Z,1.9nm,1.0s								
NOA	**NORSAR Array B**	**81.56**	**333**	LR			LR	19 26 32.7	
	comp=Z,32nm,18.1s,baz=55,slow=38								
DAVOX	**Davos/Dischmat**	**89.21**	**320**	LR			LR	19 32 32.1	
	comp=Z,25nm,18.4s,baz=65,slow=39								

IDC 05 18:36:58.5±523.0,56.˚06N×89.˚93E,h0km,Error ellipse: s-maj=256.6km s-min=82.6km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.62**	**236**		I		I	18 58 35.1	
	0.5nm,1.4s,baz=52,slow=303,SNR=1.6								
I43RU	**DUBNA INFRASON**	**28.59**	**294**		I		I	21 33 00.0	
	baz=69,slow=324,SNR=1.7								
I37NO	**I37NO**	**33.16**	**322**		I		I	22 00 00.0	
	baz=73,slow=320,SNR=0.8								

CATAC 05 18:40:49.5±0.5,12.˚7N±4.˚4×87.˚7W±.˚,h88km±3km,M3.0/18, MLv3.0/18,Error ellipse: s-maj=9.3km s-min=4.4km az=34.3,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
COPN	**Copaltepe**	**0.19**	**342**	P			Pn	18 41 03.2	+1.0
SAPS	**Ciudad Sandino**	**0.21**	**36**	P			Pn	18 41 03.5	+1.2
SAPS	**Ciudad Sandino**	**0.21**	**36**	S			Sn	18 41 14.1	+2.4
CRUN	**El Crucero**	**0.23**	**94**	P			Pn	18 41 02.6	+0.2
UNAN	**Cigeo UNAN**	**0.28**	**67**	P			Pn	18 41 03.7	+1.1
UNAN				S			Sn	18 41 15.8	+3.5
TISN	**Laguna Tiscapa**	**0.29**	**61**	P			Pn	18 41 03.8	+1.1
APQ3	**Volcan Apoyequ**	**0.32**	**31**	P			Pn	18 41 04.1	+1.4
APQ3				S			Sn	18 41 15.7	+3.1
WILN	**Americas 2**	**0.37**	**65**	P			Pn	18 41 04.2	+1.2
WILN				S			Sn	18 41 16.6	+3.4
MOMN	**Momotombo**	**0.41**	**359**	P			Pn	18 41 04.3	+0.9
MOMN				S			Sn	18 41 16.4	+2.7
NANN	**Nandasmo**	**0.41**	**98**	S			Sn	18 41 16.5	+2.8
NANN	**Nandasmo**	**0.41**	**98**	P			Pn	18 41 04.9	+1.6
MOM2	**El Cardon**	**0.44**	**6**	P			Pn	18 41 04.8	+1.2
MOM2				S			Sn	18 41 17.4	+3.5
CNGA	**Al SSO del Vol**	**0.52**	**341**	P			Pn	18 41 05.4	+1.1
CNGA				S			Sn	18 41 17.5	+2.3
CNGN	**Cerro Negro**	**0.52**	**342**	P			Pn	18 41 05.3	+1.0
CNGN	**Cerro Negro**	**0.52**	**342**	S			Sn	18 41 17.0	+1.7
ROCN	**Rota Cerro Neg**	**0.56**	**338**	P			Pn	18 41 05.1	+0.6
ROCN				S			Sn	18 41 17.7	+2.0
POLN	**Al Sur del Vol**	**0.70**	**337**	P			Pn	18 41 07.0	+1.1
POLN				S			Sn	18 41 20.4	+2.3
CRIN	**San Cristobal**	**0.86**	**324**	P			Pn	18 41 08.4	+0.9
CRIN	**San Cristobal**	**0.86**	**324**	S			Sn	18 41 22.7	+1.6
BOAB	**BOACO BROADBAN**	**0.96**	**62**	P			Pn	18 41 08.7	+0.1
BOAB	**BOACO BROADBAN**	**0.96**	**62**	S			Sn	18 41 23.2	+0.4
JAPN	**Al SSO del Vol**	**0.96**	**119**	P			Pn	18 41 09.3	+0.7
JAPN				S			Sn	18 41 23.5	+0.6
MATN	**Matagalpa**	**1.10**	**33**	P			Pn	18 41 10.0	-0.3
MATN	**Matagalpa**	**1.10**	**33**	S			Sn	18 41 25.8	-0.1
CSGN	**Cosiguina Volc**	**1.40**	**314**	P			Pn	18 41 14.4	+0.6
CSGN				S			Sn	18 41 33.2	+0.9
RCPN	**Sur Rio San Ju**	**1.58**	**16**	P			Pn	18 41 16.0	-0.2
RCVN	**Varillal2**	**1.61**	**12**	P			Pn	18 41 17.3	+0.6

GII ***05*** *19:05:07.4±0.0,33.˚385N±0.˚001×35.˚487E±0.˚001, h1km,Mws2.1,confirmed*

GRAL ***05*** *19:05:08.6±0.3,33.˚37N×35.˚49E,h0km±41km,MD3.0*

JSO ***05*** *19:05

mb4.5/12,MLv4.4/16
IDC ***05*** *19:13:10.2±3.3,2.62S×129.42E,h103km±32km,mb3.5/11, mbtmp3.9/13,MS3.2/4,Error ellipse: s-maj=30.0km s-min=15.8km az=74.0*
ISC 05 19:13:03.7±0.5,2.69S±0.05×129.03E±0.07,h35km,n63, σ2s20/67,mb4.0/14,MS3.3/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.66**	**189**	P	**Pn**	**19 13 15.7**	**-1.0**
MSAI				S	**Sn**	**19 13 28.8**	**+2.9**
AAI	**Ambon**	**1.30**	**220**	P	**Pn**	**19 13 26.5**	**+1.1**
AAI				S	**Sn**	**19 13 43.0**	**+1.5**
NLAI	**Namlea**	**2.00**	**254**	P	**Pn**	**19 13 34.3**	**-0.8**
BNDI	**Bandanaira**	**2.02**	**154**	P	**Pn**	**19 13 39.5**	**+4.1**
SWI	**Sorong**	**2.87**	**51**	P	**Pn**	**19 13 49.6**	**+2.5**
SANI	**Sanana**	**3.10**	**282**	P	**Pn**	**19 13 47.2**	**-3.1**
FAKI	**Fak Fak**	**3.22**	**94**		**Pn**	**19 13 54.5**	**+2.5**
FAKI	**Fak Fak**	**3.22**	**94**	P	**Pn**	**19 13 54.7**	**+2.8**
TNTI	**Ternate**	**3.82**	**334**	Pn	**Pn**	**19 13 58.5**	**-1.6**
TNTI	**Ternate**	**3.82**	**334**	P	**Pn**	**19 13 59.7**	**-0.4**
KMPI	**Kaimana, Papua**	**4.77**	**102**	P	**Pn**	**19 14 16.7**	**+3.6**
LUWI	**Luwuk** 0.3nm64nm,0.9s	**6.46**	**285**	P	**Pn**	**19 14 34.1**	**-2.4**
KDI	**Kendari**	**6.52**	**259**	P	**Pn**	**19 14 35.4**	**-1.9**
BBSI	**Bau Bau** 0.2nm54nm,1.1s	**7.02**	**246**	P	**Pn**	**19 14 45.5**	**+1.4**
BAKI	**Biak** 58nm,1.3s	**7.23**	**78**	P	**Pn**	**19 14 51.1**	**+4.1**
MRSI	**Marisa** 0.2nm34nm,1.0s	**7.75**	**294**	P	**Pn**	**19 14 52.0**	**-2.2**
BNSI	**Bone**	**9.07**	**259**	P	**Pn**	**19 15 10.7**	**-1.5**
TOLI2	**Tolitoli**	**9.07**	**294**	Pn	**Pn**	**19 15 09.1**	**-3.1**
BATI	**Baumata** 14nm,0.7s,baz=94,slow=17,SNR=1.4	**9.18**	**215**	P	Pn	19 15 24.0	+10
BSSI	**Bau Bau, Buton** 65nm,1.7s	**9.18**	**248**	P	**Pn**	**19 15 13.5**	**-0.3**
BKSI	**Bulukumba** 27nm,0.7s	**9.26**	**253**	P	**Pn**	**19 15 15.3**	**+0.4**
SPSI	**Sidrap Palu** 27nm,0.9s	**9.33**	**262**	P	**Pn**	**19 15 15.6**	**-0.3**
KAPI	**Kappang** 14nm,0.8s,baz=73,slow=14,SNR=4.7	**9.54**	**256**	P	**Pn**	**19 15 20.8**	**+2.1**
KAPI				LR	LR	19 20 21.2	
	comp=Z,78nm,18.4s,baz=90,slow=43						
MPSI	**Mapaga**	**9.61**	**288**	P	**Pn**	**19 15 17.9**	**-1.8**
MTN	**Manton Dam**	**10.30**	**168**		**Pn**	**19 15 29.3**	**+0.1**
JAY	**Jayapura** 7.6nm,1.0s,baz=257,slow=14,SNR=1.0	**11.66**	**89**	P	**Pn**	**19 15 48.4**	**+0.5**
JAY				LR	LR	19 22 10.7	
	comp=Z,219nm,18.3s,baz=320,slow=48						
KNRA	**Kununurra**	**12.91**	**181**		**Pn**	**19 16 04.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.67**	**192**	P	**Pn**	**19 16 43.0**	**+1.0**
FITZ	**Fitzroy Crossi** 2.0nm,0.4s,baz=30,slow=11,SNR=12	**15.67**	**192**	P	**Pn**	**19 16 43.5**	**+1.4**
FITZ				S	**Sn**	**19 19 40.2**	**+5.5**
	2.6nm,1.0s,baz=21,slow=20,SNR=1.0						
JAGI	**Jajag, Banyuwa**	**15.88**	**248**	P	**Pn**	**19 16 43.8**	**-0.9**
JAGI				IAmb	IAmb	19 17 26.2	
	comp=Z,30nm,1.1s						
WB0	**Warramunga Arr**	**17.77**	**163**		**Pn**	**19 17 07.0**	**-1.4**
WB0				IAmb	IAmb	19 17 14.6	
	comp=Z,17nm,0.9s						
COEN	**Coen**		**17.91 130**	P	**P**	**19 17 12.2**	**+1.6**
COEN				IAmb	IAmb	19 17 15.2	
	comp=Z,32nm,1.5s						
WRAB	**Tennant Creek**	**17.91**	**164**	P	**Pn**	**19 17 08.6**	**-1.7**
WRAB				IAmb	IAmb	19 17 24.9	
	comp=Z,32nm,1.4s						
WRA	**Warramunga Arr**	**17.92**	**164**		**Pn**	**19 17 07.0**	**-3.4**
WRA	**Warramunga Arr**	**17.92**	**164**	P	**Pn**	**19 17 09.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=342,slow=12,SNR=4.6						
WRA				S	**Sn**	**19 20 22.5**	**-6.7**
	comp=Z,1.3nm,0.6s,baz=350,slow=22,SNR=2.8						
WB2	**Warramunga Arr**	**17.92**	**164**		**Pn**	**19 17 09.2**	**-1.2**
WB2				IAmb	IAmb	19 17 15.9	
	comp=Z,12nm,0.7s						
WR8	**Warramunga Arr**	**17.98**	**163**		**Pn**	**19 17 09.7**	**-1.4**
WR0	**Warramunga Arr**	**17.99**	**163**	P	**Pn**	**19 17 09.3**	**-1.9**
MBWA	**Marble Bar**	**20.47**	**206**	P	**P**	**19 17 37.4**	**-1.2**
MBWA				IAmb	IAmb	19 17 47.1	
	comp=Z,18nm,1.2s						
PSA00	**Pilbara Seismi**	**20.79**	**205**	P	**P**	**19 17 38.9**	**-3.1**
PSA00				IAmb	IAmb	19 17 52.2	
	comp=Z,9.6nm,1.2s						
PSA00	**Pilbara Seismi**	**20.79**	**205**	P	**P**	**19 17 40.7**	**-1.3**
PSA00				IAmb	IAmb	19 17 52.3	
	comp=Z,48nm,1.5s						
AS31	**Alice Springs**	**21.38**	**168**		**P**	**19 17 48.7**	**+0.2**
AS31				IAmb	IAmb	19 17 55.7	
	comp=Z,9.4nm,0.5s						
ASAR	**Alice Springs**	**21.38**	**168**		**P**	**19 17 48.5**	**+0.1**
ASAR	**Alice Springs**	**21.38**	**168**	P	**P**	**19 17 48.9**	**+0.4**
	comp=Z,15nm,0.5s,baz=350,slow=12,SNR=247						
ASAR				S	**S**	**19 21 39.3**	**-4.8**
	comp=Z,4.6nm,0.9s,baz=348,slow=21,SNR=15						
	comp=Z,15nm,0.5s						
CTAO	**Charters Tower**	**24.12**	**137**	P	**P**	**19 18 15.1**	**-1.4**
FORT	**Forrest**	**27.96**	**182**	P	**P**	**19 18 51.7**	**+0.7**
FORT				IAmb	IAmb	19 19 29.5	
	comp=Z,8.4nm,1.2s						
BBOO	**Buckleboo**	**30.68**	**168**	P	**P**	**19 19 13.5**	**-1.7**
STKA	**Stephens Creek**	**31.36**	**159**	P	**P**	**19 19 21.1**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=328,slow=15,SNR=2.1						
	comp=Z,1.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**36.32**	**307**	P	**P**	**19 20 06.9**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=135,slow=8.7,SNR=2.5						
CMAR				LR	LR	19 36 56.4	
	comp=Z,25nm,21.0s,baz=135,slow=39						
	comp=Z,0.2nm,0.5s						
CAN	**Canberra**	**37.39**	**153**	P	**P**	**19 20 13.0**	**-0.4**
PZH	**PanZhiHua**	**39.21**	**319**	P	**P**	**19 20 30.9**	**+2.0**
MJAR	**Matsushiro Arr**	**39.95**	**12**	P	**P**	**19 20 34.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=182,slow=8.5,SNR=2.0						
MJAR				LR	LR	19 35 56.1	
	comp=Z,42nm,18.8s,baz=204,slow=34						
	comp=Z,0.9nm,0.7s						
HHC	**Hu-ho-hao-te**	**46.17**	**342**	*eP*	**P**	**19 21 25.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SONM	**Songino Array**	**54.07**	**341**	P	**P**	**19 22 23.2**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=125,slow=9.0,SNR=2.1						
	comp=Z,0.2nm,0.6s						
TUWZ	**Tuamarina**	**55.76**	**140**	P	**P**	**19 22 36.8**	**-0.4**
WMQ	**Urumqi**	**59.28**	**326**	*eP*	**P**	**19 23 04.7**	**+2.6**
WMQ				LR	LR		
	comp=Z,140nm,23.9s						
MKAR	**Makanchi Array**	**64.12**	**326**	P	**P**	**19 23 36.0**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=123,slow=8.9,SNR=2.3						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**67.31**	**333**	P	**P**	**19 23 53.0**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=120,slow=5.2,SNR=10						
	comp=Z,1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**68.36**	**328**	P	**P**	**19 24 01.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=129,slow=6.0,SNR=4.7						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**73.92**	**328**	P	**P**	**19 24 36.5**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=104,slow=12,SNR=4.3						
	comp=Z,0.8nm,0.6s						
VNDA	**Vanda**	**76.82**	**173**	P	**P**	**19 24 50.0**	**-1.5**
VNDA				IAmb	IAmb	19 25 26.0	
	comp=Z,3.2nm,1.4s						
VNDA	**Vanda**	**76.82**	**173**	P	**P**	**19 24 49.7**	**-1.8**
	comp=Z,0.4nm,0.8s,baz=307,slow=8.4,SNR=5.0						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**87.26**	**180**	P	**P**	**19 25 46.7**	**+0.1**
	comp=Z,1.5nm,1.1s,baz=288,slow=7.3,SNR=2.0						
	comp=Z,1.5nm,1.1s						

IDC ***05*** *19:16:45.4±0.5,2.55N×128.55E,h0km,mb4.1/18, mbtmp4.2/20,ML4.1/1,MS3.3/2,Error ellipse: s-maj=29.0km s-min=11.6km az=78.0*
DJA ***05*** *19:16:50.3±0.6,3.1N±4.1×12.8E±0.7,h10km±3km,M4.6/11, mB5.0/1,mb4.6/8,MLv4.6/11,Mw(mB)4.2/1*
NEIC ***05*** *19:16:52.0±1.4,2.47N±0.06×128.36E±0.07,h35km±2km, mb4.4/24,Error ellipse: s-maj=13.2km s-min=9.1km az=130.0*
ISC 05 19:16:51.3±0.4,2.53N±0.05×128.46E±0.07,h35km,n77, σ1s19/74,mb4.4/28,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.06**	**212**		**Pn**	**19 17 23.0**	**-0.4**
TNTI	**Ternate**	**2.06**	**212**	P	**Pn**	**19 17 23.9**	**+0.5**
SGSI	**Sangihe**	**3.14**	**291**	P	**Pn**	**19 17 37.3**	**-1.0**
SWI	**Sorong**	**4.38**	**140**	P	**Pn**	**19 17 57.8**	**+2.4**
KMSI	**Cibinong**	**4.88**	**247**	P	**Pn**	**19 18 02.7**	**+0.5**
KMSI				S	**Sn**	**19 18 57.8**	**+0.3**
DAV	**Davao City (W)** 110nm,0.6s,baz=186,slow=10,SNR=1.1	**5.34**	**328**	Pn	**Pn**	**19 18 08.2**	**-0.4**
FAKI	**Fak Fak**	**6.61**	**145**	Pn	**Pn**	**19 18 28.9**	**+2.9**
FAKI	**Fak Fak** 0.3nm52nm,1.0s	**6.61**	**145**	P	**Pn**	**19 18 28.2**	**+2.2**
MRSI	**Marisa** 0.3nm924nm86nm,0.6s	**6.83**	**253**	P	**Pn**	**19 18 29.5**	**+0.5**
TOLI2	**Tolitoli**	**7.80**	**260**		**Pn**	**19 18 41.5**	**-0.9**
KDI	**Kendari**	**8.69**	**222**	P	**Pn**	**19 18 55.3**	**+0.6**
MYLDM	**Lahad Datu**	**10.28**	**285**	Pn	**Pn**	**19 19 18.1**	**+1.7**
SPSI	**Sidrap Palu** 20nm,1.0s	**10.82**	**233**	P	**Pn**	**19 19 24.5**	**+0.7**
BNSI	**Bone** 21nm,1.0s	**10.82**	**230**	P	**Pn**	**19 19 23.8**	**0.0**
BKSI	**Bulukumba**	**11.41**	**227**	P	**Pn**	**19 19 32.5**	**+0.6**
KAPI	**Kappang** 1.6nm,0.3s,baz=65,slow=9.4,SNR=3.5	**11.48**	**229**	Pn	**Pn**	**19 19 28.7**	**-4.1**
KAPI				Sn	**Sn**	**19 21 38.5**	**-1.4**
	1.4nm,0.3s,baz=59,slow=19,SNR=2.0						
BATI	**Baumata** 0.9nm,0.3s,baz=291,slow=12,SNR=1.8	**13.53**	**201**	Pn	**Pn**	**19 20 01.2**	**+0.3**
BATI				Sn	Sn	19 22 18.6	-11
	5.5nm,0.3s,baz=323,slow=22,SNR=7.2						
	20nm,1.0s						
MTN	**Manton Dam**	**15.51**	**170**	Pn	**Pn**	**19 20 28.8**	**+1.4**
MTN				IAmb	IAmb	19 20 37.3	
	comp=Z,30nm,1.4s						
SBUM	**Sibu**	**16.22**	**270**	P	**P**	**19 20 39.5**	**+0.1**
SBUM				IAmb	IAmb	19 20 40.7	
	comp=Z,14nm,0.9s						
KNRA	**Kununurra**	**18.09**	**179**		**P**	**19 21 00.6**	**+0.4**
GUMO	**Guam**	**19.59**	**55**	LR	LR	19 28 25.3	
	comp=Z,46nm,19.0s,baz=254,slow=36						
FITZ	**Fitzroy Crossi**	**20.69**	**188**	P	**P**	**19 21 29.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.69**	**188**	P	**P**	**19 21 29.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=330,slow=19,SNR=1.4						
	comp=Z,1.5nm,0.7s						
YULB	**Yu-li**	**21.87**	**342**	P	**P**	**19 21 41.0**	**-0.2**
YULB				IAmb	IAmb	19 21 49.6	
	comp=Z,28nm,1.3s						
SSLB	**Suanglung**	**22.34**	**342**	P	**P**	**19 21 46.9**	**+0.6**
WB0	**Warramunga Arr**	**22.91**	**166**	P	**P**	**19 21 52.0**	**-0.3**
WB0				IAmb	IAmb	19 21 53.1	
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**23.07**	**166**	P	**P**	**19 21 51.9**	**-2.0**
WRA	**Warramunga Arr**	**23.07**	**166**	P	**P**	**19 21 53.7**	**-0.3**
	comp=Z,6.4nm,0.5s,baz=344,slow=10,SNR=19						
WRA				PcP	**PcP**	**19 25 41.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=332,slow=2.0,SNR=1.7						
	comp=Z,6.4nm,0.5s						
MYKOM	**Kota Tinggi**	**24.60**	**269**	P	**P**	**19 22 07.4**	**-1.1**
MYKOM				IAmb	IAmb	19 22 07.6	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**25.39**	**199**	P	**P**	**19 22 13.8**	**-1.8**
AS31	**Alice Springs**	**26.57**	**169**	P	**P**	**19 22 25.8**	**-0.5**
ASAR	**Alice Springs**	**26.57**	**169**	P	**P**	**19 22 25.9**	**-0.5**
ASAR	**Alice Springs**	**26.57**	**169**	P	**P**	**19 22 25.6**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=348,slow=7.5,SNR=14						
ASAR				PcP	**PcP**	**19 25 48.8**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=357,slow=2.0,SNR=12						
	comp=Z,1.7nm,0.5s						
PSI	**Prapat**	**29.50**	**271**	LR	LR	19 36 21.8	
	comp=Z,100nm,18.3s,baz=94,slow=40						
CMAR	**Chiang Mai Arr**	**32.96**	**301**	P	**P**	**19 23 21.6**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=111,slow=7.0,SNR=5.7						
	comp=Z,1.0nm,0.8s						
FORT	**Forrest**	**33.13**	**181**	P	**P**	**19 23 24.3**	**0.0**
FORT				IAmb	IAmb	19 23 27.6	
	comp=Z,6.3nm,1.0s						
KSRS	**Korea Array**	**34.76**	**359**	P	**P**	**19 23 38.0**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=176,slow=9.6,SNR=18						
	comp=Z,2.5nm,0.6s						
MJAR	**Matsushiro Arr**	**35.02**	**14**	P	**P**	**19 23 39.1**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=180,slow=8.9,SNR=6.9						
	comp=Z,1.9nm,0.7s						
XAN	**Xi'an**	**36.27**	**332**	P	**P**	**19 23 53.4**	**+2.0**
XAN				pmax	pmax		
	comp=Z,18nm,0.7s						
STKA	**Stephens Creek**	**36.42**	**161**	P	**P**	**19 23 52.3**	**-0.5**
	comp=Z,2.9nm,0.4s,baz=356,slow=9.1,SNR=7.3						
	comp=Z,2.9nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**40.66**	**64**	T	T	20 07 46.6	
	baz=251,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**40.68**	**64**	T	T	20 07 50.7	
	baz=251,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**40.68**	**64**	T	T	20 07 49.2	
	baz=251,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**41.24**	**63**	T	T	20 08 20.9	
	baz=250,slow=75,SNR=60						
H11N2	**WAKE ISLAND Hy**	**41.25**	**63**	T	T	20 08 28.7	
	baz=250,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**41.26**	**63**	T	T	20 08 25.3	
	baz=250,slow=75,SNR=44						
USRK	**Ussuriysk Ar.**	**41.61**	**4**	P	**P**	**19 24 36.1**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=214,slow=5.6,SNR=3.3						
	comp=Z,1.9nm,0.6s						
GTA	**Gaotai**	**45.01**	**328**	*eP*	**P**	**19 25 07.1**	**+3.5**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EVN	**Everest**	**47.08**	**307**	P	**P**	**19 25 21.1**	**+0.4**
SONM	**Songino Array**	**48.99**	**340**	P	**P**	**19 25 35.5**	**+1.0**
SONM				IAmb	IAmb	19 25 41.5	
	comp=Z,1.7nm,0.9s						
SONM	**Songino Array**	**48.99**	**340**	P	**P**	**19 25 34.2**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=156,slow=8.7,SNR=9.0						
SONM				PcP	**PcP**	**19 26 58.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=156,slow=3.5,SNR=2.2						
	comp=Z,1.6nm,0.7s						
PETK	**Petropavlovsk-**	**55.91**	**21**	P	**P**	**19 26 25.7**	**+0.1**
PETK	**Petropavlovsk-**	**55.91**	**21**	P	**P**	**19 26 24.8**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=190,slow=5.4,SNR=6.8						
	comp=Z,3.5nm,0.8s						
YAK	**Yakutsk**	**59.36**	**1**		**P**	**19 26 49.8**	**+0.1**
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**19 26 50.7**	**-0.5**
MKAR	**Makanchi Array**	**59.52**	**325**	P	**P**	**19 26 50.5**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=116,slow=7.0,SNR=24						
	comp=Z,1.3nm,0.4s						
MAKZ	**Makanchi**	**59.71**	**325**	P	**P**	**19 26 51.6**	**-0.8**
MAKZ				IAmb	IAmb	19 26 57.2	
	comp=Z,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**62.43**	**333**	P	**P**	**19 27 10.8**	**0.0**
ZALV	**Zalesovo Beam**	**62.43**	**333**	P	**P**	**19 27 11.6**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=124,slow=6.7,SNR=5.4						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.67**	**327**	P	**P**	**19 27 18.3**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=127,slow=6.0,SNR=17						
	comp=Z,3.2nm,0.6s						
KURK	**Kurchatov**	**63.67**	**327**	P	**P**	**19 27 19.7**	**+0.6**
KK31	**Karatay Array**	**65.28**	**317**		**P**	**19 27 30.1**	**+0.3**
KK31				IAmb	IAmb	19 27 33.9	
	comp=Z,3.6nm,1.1s						
KKAR	**Karatay Array**	**65.28**	**317**		**P**	**19 27 29.8**	**0.0**
BVAR	**Boroye Array**	**69.26**	**327**	P	**P**	**19 27 54.3**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=109,slow=6.8,SNR=8.5						
	comp=Z,1.6nm,0.6s						
AB31	**Akbulak array**	**74.16**	**321**	P	**P**	**19 28 24.2**	**-0.1**
ABKAR	**Akbulak array**	**74.16**	**321**	P	**P**	**19 28 24.2**	**-0.1**
H19K	**Roundabout Mou**	**81.55**	**24**	P	**P**	**19 29 05.7**	**+0.6**
H19K				IAmb	IAmb	19 29 06.8	
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**19 29 05.8**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=313,slow=5.7,SNR=6.0						
	comp=Z,0.8nm,0.6s						
J20K	**Nowinta River**	**82.25**	**26**	P	**P**	**19 29 09.4**	**+0.6**
J20K				IAmb	IAmb	19 29 11.5	
	comp=Z,3.5nm,0.8s						
E22K	**Anaktuvuk Pass**	**83.83**	**22**	P	**P**	**19 29 17.6**	**+0.7**
I23K	**Minto, Yukon-K**	**84.42**	**25**	P	**P**	**19 29 20.7**	**+0.8**
RND	**Reindeer**	**84.47**	**27**	P	**P**	**19 29 20.1**	**-0.2**
RND				IAmb	IAmb	19 29 20.3	
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**85.44**	**25**	P	**P**	**19 29 23.4**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=253,slow=5.4,SNR=5.5						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**92.11**	**310**	P	**P**	**19 29 58.8**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=137,slow=3.0,SNR=1.6						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**92.45**	**180**	P	**P**	**19 29 57.8**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=316,slow=6.6,SNR=2.6						
	comp=Z,1.3nm,0.9s						
TXAR	**Lajitas Array**	**120.94**	**53**	PKP	**PKPdf**	**19 35 39.7**	**-1.2**
	comp=Z,0.3nm,0.9s,baz=352,slow=3.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**124.93**	**288**	PKP	**PKPdf**	**19 35 47.2**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=58,slow=2.1,SNR=1.9						

IDC 05 19:26:33.1±1.3,7.06S×120.80E,h388km±13km,mb2.9/3, mbtmp3.6/7,Error ellipse: s-maj=106.8km s-min=13.8km az=56.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang** 30nm,0.4s,baz=173,slow=5.3,SNR=26	**2.29**	**333**	P	Pn	19 27 31.0	+1.0
BATI	**Baumata** 6.5nm,0.3s,baz=296,slow=1.5,SNR=7.7	**4.22**	**138**	P	Pn	19 27 46.5	-0.1
BATI				S	S	19 28 45.4	-0.8
	10nm,0.3s,baz=255,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi** 1.8nm,1.0s,baz=343,slow=14,SNR=1.4	**11.94**	**157**	P	P	19 29 12.2	-0.3
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=310,slow=11,SNR=9.6	**18.34**	**136**	P	P	19 30 22.2	+0.3
ASAR	**Alice Springs** 0.9nm,0.5s,baz=320,slow=9.2,SNR=20 0.9nm,0.5s	**20.76**	**144**	P	P	19 30 46.0	+0.5
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=150,slow=7.6,SNR=4.5 0.3nm,0.5s	**63.59**	**331**	P	P	19 36 23.7	-0.2
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=125,slow=7.2,SNR=1.8 0.4nm,0.4s	**67.90**	**338**	P	P	19 36 50.2	-0.7

WEL ***05*** *19:29:22.6±0.8,32°S±5°×17°8W±1°5,h12km,M4.9/14, mB5.3/14,ML5.3/15,MLv5.3/13,Mw(mB)4.7/14,Error ellipse: s-maj=20.6km s-min=3.2km az=104.0,confirmed*
IDC ***05*** *19:29:22.8±0.5,31.67S×177.95W,h0km,mb4.2/14, mbtmp4.3/17,ML3.3/2,MS4.2/38,Error ellipse: s-maj=19.4km s-min=15.0km az=90.0*
NEIC ***05*** *19:29:24.6±2.4,31.67S±0.07×177.9W±0.2,h10km±1km, mb4.9/26,Error ellipse: s-maj=23.9km s-min=8.7km az=108.0*
GCMT ***05*** *19:29:30.6±0.3,31.85S±0.02×177.71W±0.02,h21km, MW5.0/100,Moment Tensor Solution. s48,c66; s100,c137; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.13±.17; Mθθ-0.08±.11; Mϕϕ-3.05±.11; Mrθ0.68±.22; Mθϕ-0.83±.07; Mrϕ2.05±.17; Best double couple: Mo3.86100×10¹⁶ NP1:ϕs192.00000°,δ28.00000°, λ86.00000°. NP2:ϕs17.00000°,δ62.00000°,λ92.00000°. Principal axes: T 3.7940, Plg73.0000°, Azm292.0000°; N 0.1360, Plg2.0000°, Azm196.0000°; P -3.9280, Plg17.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***05*** *19:29:39.0,32.94S×177.93W,h77km,mb4.6/10,South of Kermadec Islands*
ISC 05 19:29:25.7±0.3,31.86S±0.05×177.76W±0.06,h24km, n190,σ1s85/169,mb4.8/33,MS4.3/38,7C-1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.59**	**357**	P	**Pn**	**19 30 03.9**	**-2.2**
GLKZ				S	**Sn**	**19 30 35.3**	**-1.6**
RAO	**Raoul Island**	**2.60**	**357**	Pn	**Pn**	**19 30 04.3**	**-2.1**
RAO	**Raoul Island** 696nm,0.2s,baz=191,slow=15,SNR=14	**2.60**	**357**	Pn	**Pn**	**19 30 04.9**	**-1.4**
RAO				Sn	**Sn**	**19 30 33.9**	**-3.3**
	614nm,0.3s,baz=120,slow=20,SNR=6.0						
RAO				LR	LR	19 31 06.6	
	comp=Z,2µm,18.3s,baz=165,slow=43						
RIZ	**Raoul Island**	**2.61**	**357**	P	**Pn**	**19 30 04.8**	**-1.6**
RIZ				S	**Sn**	**19 30 36.2**	**-1.2**
MXZ	**Matakaoa Point**	**6.55**	**209**	Pn	**Pn**	**19 30 57.2**	**-3.2**
MXZ	**Matakaoa Point**	**6.55**	**209**	P	**Pn**	**19 30 58.8**	**-1.7**
MXZ	**Matakaoa Point**	**6.55**	**209**	P	**Pn**	**19 30 58.6**	**-1.9**
MXZ				S	**Sn**	**19 32 13.8**	**-0.5**
WMGZ	**Waiomatatini S**	**6.72**	**207**	P	**Pn**	**19 31 01.3**	**-1.6**
WMGZ				S	**Sn**	**19 32 17.3**	**-1.5**
PKGZ	**Pakihiroa**	**6.90**	**209**	P	**Pn**	**19 31 03.1**	**-2.2**
PKGZ				S	**Sn**	**19 32 21.2**	**-1.9**
HAZ	**Te Kaha**	**6.93**	**211**	P	**Pn**	**19 31 04.0**	**-1.8**
HAZ				S	**Sn**	**19 32 25.7**	**+1.9**
PUZ	**Puketiti**	**7.01**	**207**	P	**Pn**	**19 31 04.9**	**-1.9**
PUZ				S	**Sn**	**19 32 23.5**	**-2.2**
RUGZ	**Raukumara Rang**	**7.15**	**210**	P	**Pn**	**19 31 07.5**	**-1.4**
TWGZ	**Tauwhareparae**	**7.

comp=Z,647nm,18.8s,baz=83,slow=35
4.7nm,0.6s
BBOO Buckleboo 38.80 256 P 19 36 48.5 -0.1
BBOO IAmb IAmb 19 36 51.4
comp=Z,21nm,1.1s
PMG Port Moresby 39.44 297 LR LR 19 51 24.0
comp=Z,242nm,19.5s,baz=137,slow=34
TAOE Nuku Hiva Isla 41.71 65 *e*S **S 19 43 24.0 -4.8**
comp=Z,166nm,25.0s
TAOE *e*LR LR 19 48 33.3
comp=Z,350nm,27.6s
AS31 Alice Springs 43.26 268 P 19 37 23.8 -1.7
ASAR Alice Springs 43.26 268 P 19 37 23.1 -2.4
ASAR Alice Springs 43.26 268 P **P 19 37 24.4 -1.1**
comp=Z,6.0nm,0.6s,baz=110,slow=7.6,SNR=81
ASAR ScP **ScP 19 43 05.0 +0.8**
comp=Z,0.8nm,1.0s,baz=91,slow=4.2,SNR=2.2
ASAR LR LR 19 55 16.8
comp=Z,305nm,18.5s,baz=112,slow=36
comp=Z,6.0nm,0.6s
WR8 Warramunga Arr 44.24 274 P 19 37 32.1 -1.3
WR8 IAmb IAmb 19 37 50.0
comp=Z,16nm,0.8s
WRAB Tennant Creek 44.37 274 P **P 19 37 33.3 -1.1**
WRAB IAmb IAmb 19 37 50.9
comp=Z,17nm,0.8s
WRA Warramunga Arr 44.38 274 P 19 37 32.5 -2.0
WRA Warramunga Arr 44.38 274 P **P 19 37 33.6 -0.9**
comp=Z,9.5nm,0.6s,baz=113,slow=7.9,SNR=56
WRA ScP **ScP 19 43 10.5 +1.7**
comp=Z,0.6nm,0.8s,baz=111,slow=4.1,SNR=2.4
WRA LR LR 19 55 06.9
comp=Z,753nm,18.7s,baz=120,slow=35
comp=Z,9.5nm,0.6s
WB0 Warramunga Arr 44.41 274 P 19 37 33.1 -1.7
WB0 IAmb IAmb 19 37 49.0
comp=Z,21nm,0.8s
FORT Forrest 45.89 256 P 19 37 44.8 -1.6
FORT IAmb IAmb 19 38 04.2
comp=Z,15nm,1.1s
SBA Scott Base 46.60 184 P 19 37 55.8 +4.5
SBA IAmb IAmb 19 38 11.8
comp=Z,19nm,1.4s
VNDA Vanda 46.67 186 P 19 37 53.6 +1.7
VNDA Vanda 46.67 186 P **P 19 37 54.1 +2.3**
comp=Z,0.6nm,0.7s,baz=17,slow=5.6,SNR=4.5
comp=Z,0.6nm,0.7s
JAY Jayapura 48.76 298 LR LR 19 57 05.2
comp=Z,213nm,21.5s,baz=150,slow=34
MTN Manton Dam 50.43 280 P 19 38 20.0 -1.6
MTN IAmb IAmb 19 38 34.2
comp=Z,15nm,0.7s
KNRA Kununurra 51.04 275 P 19 38 26.4 +0.2
KNRA IAmb IAmb 19 38 37.1
comp=Z,12nm,0.8s
FITZ Fitzroy Crossi 52.58 271 P 19 38 35.0 -2.6
FITZ Fitzroy Crossi 52.58 271 LR LR 20 00 25.1
comp=Z,960nm,19.0s,baz=124,slow=36
NWAO Narrogin (SRO) 54.09 250 LR LR 20 00 09.5
comp=Z,292nm,20.1s,baz=64,slow=34
MEEK Meekatharra 55.07 258 P **PKiKP 19 46 31.2 +1.5**
GUMO Guam 57.67 316 LR LR 19 59 54.9
comp=Z,201nm,22.0s,baz=132,slow=32
BATI Baumata 58.05 278 LR LR 20 04 35.7
comp=Z,787nm,18.2s,baz=134,slow=36
QSPA South Pole Qui 58.25 180 P 19 39 21.1 +3.1
QSPA South Pole Qui 58.25 180 P **P 19 39 21.1 +3.1**
comp=Z,7.0nm,1.0s,baz=5.6,slow=2.4,SNR=14
QSPA LR LR 20 02 48.8
comp=Z,457nm,18.7s,baz=38,slow=34
comp=Z,7.0nm,1.0s
KAPI Kappang 64.08 281 LR LR 20 06 45.8
comp=Z,365nm,20.8s,baz=112,slow=35
PMSA Palmer Station 70.85 155 LR LR 20 08 51.6
comp=Z,279nm,19.6s,baz=240,slow=33
MAW Mawson 71.02 201 P **P 19 40 43.0 +2.0**
comp=Z,2.1nm,0.7s,baz=146,slow=6.9,SNR=7.7
MAW LR LR 20 13 06.6
comp=Z,249nm,18.1s,baz=112,slow=37
comp=Z,2.1nm,0.7s
LEM Lembang 73.38 272 LR LR 20 13 49.4
comp=Z,242nm,19.8s,baz=168,slow=36
SYO Syowa Base 75.74 193 ⇑ *i*P **P 19 41 10.0 +1.1**
SYO Syowa Base 75.74 193 ⇑ *e*pP pP 19 41 12.8 -2.0
SYO Syowa Base 75.74 193 ⇑ *e*PcP **PcP 19 41 21.1 -0.4**
TROLL Troll, Antarti 76.42 180 ⇑P **P 19 41 14.6 +1.7**
comp=Z,433nm,0.8s
SNAA Sanae 76.69 178 ⇑P **P 19 41 17.2 +2.8**
comp=Z,186nm,0.9s
SNAA Sanae 76.69 178 P 19 41 15.4 +1.0
SNAA IAmb IAmb 19 41 37.5
comp=Z,14nm,0.9s
SNAA Sanae 76.69 178 P **P 19 41 16.7 +2.3**
comp=Z,1.9nm,0.8s
comp=Z,1.9nm,0.8s
VNA3 Neumayer Olymp 76.84 176 ⇑P **P 19 41 16.3 +1.1**
comp=Z,12nm,0.7s
VNA1 Neumayer--Stat 77.50 176 ⇑P **P 19 41 21.1 +2.3**
comp=Z,22nm,1.0s
JOW Kunigami 77.80 312 LR LR 20 11 28.3
comp=Z,120nm,20.6s,baz=176,slow=33
H03S2 Juan Fernandez 79.49 123 T T 21 10 36.9
baz=235
H03S1 Juan Fernandez 79.50 123 T T 21 10 37.9
baz=235
H03S3 Juan Fernandez 79.51 123 T T 21 10 39.7
baz=235
MJAR Matsushiro Arr 79.56 325 P **P 19 41 30.4 -0.2**
comp=Z,0.6nm,0.6s,baz=165,slow=7.4,SNR=2.0
MJAR LR LR 20 11 27.8
comp=Z,61nm,19.4s,baz=138,slow=32
comp=Z,0.6nm,0.6s
H03N3 Juan Fernandez 79.69 123 T T 21 10 38.4
baz=240,slow=74
H03N2 Juan Fernandez 79.69 123 T T 21 11 00.0
baz=240
H03N1 Juan Fernandez 79.70 123 T T 21 10 41.9
baz=240,slow=74
PLCA Paso Flores 81.36 133 P **P 19 41 42.7 +2.2**
comp=Z,4.1nm,1.1s,baz=183,slow=7.9,SNR=3.1
PLCA LR LR 20 11 43.0
comp=Z,130nm,18.1s,baz=244,slow=31
comp=Z,4.1nm,1.1s
ASAJ Asahikawa 83.83 332 LR LR 20 15 25.9
comp=Z,97nm,18.4s,baz=170,slow=33
SHEM Shemya Is, Ala 84.53 355 LR LR 20 13 59.1
comp=Z,199nm,20.2s,baz=130,slow=32
LPIG La Paz 85.13 58 LR LR 20 13 37.7
comp=Z,161nm,18.8s,baz=218,slow=31
KSRS Korea Array 85.59 320 P **P 19 42 02.6 +0.7**
comp=Z,0.6nm,0.8s,baz=150,slow=5.4,SNR=8.6
comp=Z,0.6nm,0.8s
PSI Prapat 85.79 276 LR LR 20 23 53.9
comp=Z,294nm,18.0s,baz=126,slow=38
PFO Pinyon Flats O 87.04 47 LR LR 20 17 59.2
comp=Z,102nm,18.1s,baz=224,slow=34
PETK Petropavlovsk- 87.28 345 P 19 42 09.4 -0.4
PETK Petropavlovsk- 87.28 345 P **P 19 42 10.2 +0.4**
comp=Z,3.5nm,0.7s,baz=112,slow=7.9,SNR=12
PETK LR LR 20 15 01.7
comp=Z,89nm,21.9s,baz=160,slow=32
comp=Z,3.5nm,0.7s
NJ2 Nanjing 87.35 311 *e*P **P 19 42 11.6 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
IRM Iron Mountain 88.22 47 P 19 42 16.6 +1.7
YBH Yreka Blue Hor 89.05 38 LR LR 20 17 27.8
comp=Z,74nm,18.5s,baz=232,slow=32
NVAR Mina Array Bea 89.17 43 P **P 19 42 20.6 +1.1**
comp=Z,0.5nm,0.5s,baz=218,slow=7.4,SNR=3.6
comp=Z,0.5nm,0.5s
W13A Hualapai Mount 89.62 47 P **P 19 42 23.7 +2.0**
SHPR Sheep Range 89.75 46 P 19 42 21.9 -0.3
MDJ Mudanjiang 89.94 325 P **P 19 42 23.5 +0.8**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
TLIG Tlapa 90.30 70 P **P 19 42 25.6 +0.4**
TLIG IAmb IAmb 19 42 49.5
comp=Z,10nm,1.2s
PRN Pahroc Range 90.40 45 P **P 19 42 26.0 +0.9**
PRN IAmb IAmb 19 42 43.2
comp=Z,5.1nm,1.0s
X16A Lo Mia Camp, P 90.74 49 IAmb IAmb 19 42 45.0
comp=Z,4.8nm,0.9s
CN2 Changchun 91.43 323 *e*P **P 19 42 29.2 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
U15A North Rim 91.47 47 IAmb IAmb 19 42 48.2
comp=Z,7.3nm,1.0s
KDAK Kodiak Island 91.78 13 LR LR 20 19 43.8
comp=Z,47nm,18.4s,baz=209,slow=33
BNX BinXian 91.82 325 ⇓P **P 19 42 30.8 -0.6**
BNX pmax pmax
comp=Z,7.0nm,1.3s
NNA Nana 92.82 106 LR LR 20 16 59.2
comp=Z,101nm,20.0s,baz=188,slow=31
TXAR Lajitas Array 93.00 57 P **P 19 42 38.9 +1.5**
comp=Z,0.1nm,0.3s,baz=235,slow=4.4,SNR=4.3
comp=Z,0.1nm,0.3s
CMIG Matias Romero 93.01 72 LR LR 20 14 39.3
comp=Z,62nm,20.9s,baz=186,slow=29
CMAR Chiang Mai Arr 94.08 289 P **P 19 42 42.8 +0.4**
comp=Z,0.4nm,0.7s,baz=95,slow=4.4,SNR=1.9
comp=Z,0.4nm,0.7s
ATAH Atahualpa 94.16 101 LR LR 20 19 48.2
comp=Z,65nm,18.2s,baz=261,slow=32
ANMO Albuquerque 94.32 51 LR LR 20 22 06.4
comp=Z,93nm,18.2s,baz=324,slow=34
MA2 Magadan 94.75 345 LR LR 20 23 43.9
comp=Z,70nm,19.3s,baz=130,slow=34
M22K Willow 95.94 13 P **P 19 42 49.1 -0.7**
PZH PanZhiHua 96.16 297 P **P 19 42 51.0 -1.0**
NEW Newport 96.43 36 LR LR 20 19 51.7
comp=Z,190nm,19.9s,baz=196,slow=31
PDAR Pinedale Array 97.05 44 LR LR 20 23 56.0
comp=Z,86nm,18.1s,baz=236,slow=34
LPAZ La Paz 97.36 114 LR LR 20 20 43.7
comp=Z,41nm,18.4s,baz=240,slow=32
HHC Hu-ho-hao-te 97.39 314 *e*P **P 19 42 55.6 -1.6**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,33nm,5.3s
JTS Las Juntas de 97.71 83 LR LR 20 17 24.2
comp=Z,65nm,20.6s,baz=258,slow=29
CPUP Villa Florida 98.92 128 LR LR 20 23 38.2
comp=Z,14nm,18.6s,baz=85,slow=33
WMQ Urumqi 114.29 308 *e*PKP PKPdf 19 48 01.5 -1.6
WMQ LR LR
comp=Z,440nm,23.7s
MKAR Makanchi Array 118.86 309 PKPdf 19 48 10.8 -1.0
MKAR Makanchi Array 118.86 309 PKP **PKPdf 19 48 11.3 -0.4**
comp=Z,0.6nm,0.5s,baz=87,slow=1.4,SNR=9.6
ZALV Zalesovo Beam 119.26 318 PKP **PKiKP 19 48 12.9 +0.6**
comp=Z,0.6nm,0.4s,baz=90,slow=2.9,SNR=2.6
KURK Kurchatov 122.20 313 PKPdf 19 48 17.3 -0.7
KURBB Kurchatov Arra 122.24 313 PKP **PKPdf 19 48 17.5 -0.6**
comp=Z,1.2nm,0.5s,baz=114,slow=2.0,SNR=25
KBL Kabul 124.97 292 PKiKP 19 48 24.4 -0.1
GAR Garm 125.23 298 PKiKP 19 48 24.6 -0.1
KKAR Karatay Array 126.05 303 PKPdf 19 48 25.3 -0.4
BVAR Borovoye Array 127.59 315 PKP **PKiKP 19 48 28.7 -0.2**
comp=Z,1.1nm,0.4s,baz=66,slow=3.6,SNR=7.1
BRVK Borovoye 127.66 315 PKiKP 19 48 28.8 -0.2
ARCES ARCESS Array B 140.06 348 PKhKP PKPpre 19 48 45.0
comp=Z,3.0nm,0.8s,baz=39,slow=6.9,SNR=5.8
KBZ Khabaz 146.08 302 PKPbc **PKPbc 19 49 03.3 -0.2**
comp=Z,14nm,1.1s,baz=86,slow=1.6,SNR=9.3
FINES FINESS Array B 146.58 339 PKPbc **PKPbc 19 49 04.2 -0.1**
comp=Z,8.6nm,0.5s,baz=59,slow=3.9,SNR=69
NB2 NORSAR Subarra 150.22 351 PKP **PKPbc 19 49 13.7 -0.3**
comp=Z,50nm,2.5s,baz=18,slow=2.6
NOA NORSAR Array B 150.22 351 PKPbc **PKPbc 19 49 14.1 +0.1**
comp=Z,2.0nm,0.7s,baz=16,slow=4.2,SNR=10
HFS Hagfors 150.71 348 PKPbc **PKPbc 19 49 15.0 -0.1**
comp=Z,2.7nm,0.6s,baz=28,slow=3.4,SNR=13
MMAI Mount Meron Ar 152.05 281 PKPbc **PKiKP 19 49 20.3 +0.8**
comp=Z,11nm,0.7s,baz=82,slow=6.8,SNR=22
AK03 Malin Array Si 152.56 321 PKP **PKPbc 19 49 18.1 -1.5**
AKASG Malin Array Be 152.58 321 PKPbc **PKPbc 19 49 19.6 0.0**
comp=Z,1.7nm,0.5s,baz=48,slow=2.3,SNR=29
AKBB Malin Array Si 152.58 321 PKP **PKPbc 19 49 18.2 -1.5**
AK01 Malin Array Si 152.59 321 PKP **PKPbc 19 49 18.4 -1.3**
KIEV Kiev 152.59 321 PKP **PKPbc 19 49 18.4 -1.3**
SUW Suwalki 153.27 332 *e*PKP **PKiKP 19 49 22.5 +1.3**
BRTR Keskin Array B 153.45 296 PKPbc **PKiKP 19 49 22.5 +0.2**
comp=Z,2.2nm,0.5s,baz=116,slow=3.4,SNR=19
KWP Kalwaria Pacla 156.56 325 *e*PKP **PKPab 19 49 46.9 -0.3**
STHS Stebnicka Huta 157.41 326 *e*PKP **PKPab 19 49 51.2 +0.3**
NIE Niedzica 157.84 328 *e*PKP **PKPab 19 49 50.1 -2.7**
KSP Ksiaz 158.37 335 *e*PKP **PKPab 19 49 54.2 -0.7**
LANS Liptovska Anna 158.41 328 *e*PKP **PKPab 19 49 55.8 +0.5**
MORC Moravsky Berou 158.76 332 *e*PKP **PKPab 19 49 57.1 +0.3**
CLL Collm 159.01 341 *i* PKPab **PKPab 19 49 57.2 -0.5**
comp=Z,10.0nm,1.3s
CLL *i* pPKPab **pPKPab 19 50 02.4 -1.5**
CLL *i* x x 19 50 10.4
CLL LmH 21 03 00.0
comp=Z,100nm,21.8s
CLL LmV 21 07 00.0
comp=Z,100nm,20.0s
BRG Berggiesshubel 159.12 339 *e*PKP **PKPab 19 49 58.7 +0.5**
BRG Amp 19 50 00.2
comp=Z,12nm,1.4s
BRG Berggiesshubel 159.12 339 P PKPab 19 50 06.5 +8.3
BRG Amp 19 50 07.1
comp=Z,4.4nm,1.0s
VYHS Vyhne 159.18 328 *e*PKP **PKPab 19 49 58.2 -0.4**
JAVC Velka Javorina 159.42 330 *e*PKP **PKPab 19 50 00.1 +0.4**
VRAC Vranov 159.51 332 *e*PKP **PKPab 19 50 00.2 +0.2**
KRUC Moravsky 159.78 332 *e*PKP **PKPab 19 50 01.1 -0.1**
RONA Rosalia, Austr 160.90 330 *e*PKP **PKPab 19 50 05.3 -0.8**
comp=Z,6.0nm,1.1s
CONA Conrad Observa 160.90 331 *i* PKP **PKPab 19 50 05.3 -0.9**
comp=Z,9.7nm,1.7s
GERES GERESS Array B 160.96 336 PKPab **PKPab 19 50 05.7 -0.7**
comp=Z,0.5nm,0.6s,baz=40,slow=2.3,SNR=5.0
TORD Torodi Ar. Bea 161.37 178 PKPab **PKPab 19 50 09.8 +1.0**
comp=Z,1.3nm,0.6s,baz=173,slow=2.9,SNR=10
ARSA Arzberg 161.57 330 *e*PKP **PKPab 19 50 09.1 0.0**
comp=Z,2.0nm,0.9s
BIOA Bad Ischl, Aus 161.96 334 *i* PKP **PKPab 19 50 10.1 -0.7**
comp=Z,6.7nm,1.1s
SOKA Soboth 162.23 330 *e*PKP **PKPab 19 50 11.8 -0.2**
comp=Z,6.7nm,1.5s
LESA Schwarzleotal 162.53 336 *e*PKP **PKPab 19 50 12.7 -0.6**
comp=Z,5.0nm,1.2s
KBA Koelnbreinsper 162.58 334 *e*pPKP **PKPab 19 50 15.4 +1.7**
comp=Z,6.7nm,1.7s
WATA Walderalm 162.98 338 *e*PKP **PKPab 19 50 14.4 -0.9**
comp=Z,4.1nm,1.1s
WTTA Wattenberg 163.02 338 *i* PKP **PKPab 19 50 16.4 +0.8**
comp=Z,6.9nm,1.1s
RETA Reutte 163.09 340 *e*PKP **PKPab 19 50 15.2 -0.5**
comp=Z,7.6nm,1.2s
MOTA Moosalm 163.12 339 *e*PKP **PKPab 19 50 15.4 -0.6**
comp=Z,8.0nm,1.2s
ABTA Abfaltersbach 163.17 335 *e*PKP **PKPab 19 50 15.7 -0.4**
comp=Z,5.0nm,1.3s
SQTA Sankt Quirin 163.19 338 *i* PKP **PKPab 19 50 16.9 +0.7**
comp=Z,3.4nm,0.9s
FETA Feichten 163.52 339 *i* PKP **PKPab 19 50 17.6 -0.2**
comp=Z,5.2nm,1.4s
DAVA Damuels 163.52 341 *i* PKP **PKPab 19 50 17.4 -0.3**
comp=Z,3.5nm,0.7s

*UPP **05** 19:32:46.4±1.4,57.59N×10.55E,h0km,ML2.8, Presumed earthquake*
*DNK **05** 19:32:47.1±2.2,57.63N×10.66E,h0km,ML2.2, Explosion*
*BER **05** 19:32:48.6±1.8,57.63N×10.67E,h0km,ML1.7, ML2.2(DNK), Suspected explosion*
*IDC **05** 19:32:50.6±2.0,57.87N×10.43E,h0km,mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=16.9km s-min=15.4km az=91.0*
ISC 05 19:32:45.8±0.7,57.63N±0.02×10.61E±0.02,h0km,n66,
σ1§02/135,Denmark

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OVD	**Ostervraa, Den**	**0.38**	**215**	*i*	P	**Pb**		**19 32 55.8**	**+0.4**
OVD				*i*	S	**Sb**		**19 33 02.0**	**+0.2**
OVD					IAML			19 33 06.2	
	comp=Z,130nm,0.2s								
OVD	**Ostervraa, Den**	**0.38**	**215**	*i*	P	**Pb**		**19 32 55.8**	**+0.4**
OVD				*i*	P	**Pb**		**19 32 55.8**	**+0.4**
OVD				*i*	S	**Sb**		**19 33 02.0**	**+0.2**
OVD				*i*	S	**Sb**		**19 33 02.0**	**+0.2**
OVD					IAML			19 33 06.2	
	comp=Z,130nm,0.2s								
OVD					IAML			19 33 06.2	
	comp=Z,130nm,0.2s								
ONAU	**Onsala**	**0.74**	**108**		P	**Pg**		**19 33 01.0**	**+0.9**
ONAU					S	**Sg**		**19 33 10.6**	**+0.9**
ONAU	**Onsala**	**0.74**	**108**	*i*	P	**Pg**		**19 33 01.1**	**+1.1**
ONAU				*i*	S	**Sg**		**19 33 09.3**	**-0.3**
ONAU	**Onsala**	**0.74**	**108**		P	**Pg**		**19 33 01.0**	**+0.9**
ONAU				*i*	P	**Pg**		**19 33 01.1**	**+1.1**
ONAU				*i*	P	**Pg**		**19 33 01.1**	**+1.1**
ONAU				*i*	S	**Sg**		**19 33 09.3**	**-0.3**
ONAU				*i*	S	**Sg**		**19 33 09.3**	**-0.3**
ONAU					S	**Sg**		**19 33 10.6**	**+0.9**
BORU	**Boraas**	**1.16**	**89**		P	**Pg**		**19 33 08.6**	**+0.6**
BORU					S	**Sb**		**19 33 24.8**	**+0.5**
BORU	**Boraas**	**1.16**	**89**	*i*	P	**Pg**		**19 33 08.7**	**+0.6**
BORU				*i*	S	**Sg**		**19 33 23.4**	**+0.3**
BORU	**Boraas**	**1.16**	**89**		P	**Pg**		**19 33 08.6**	**+0.6**
BORU				*i*	P	**Pg**		**19 33 08.7**	**+0.6**
BORU				*i*	P	**Pg**		**19 33 08.7**	**+0.6**
BORU				*i*	S	**Sg**		**19 33 23.4**	**+0.3**
BORU				*i*	S	**Sg**		**19 33 23.4**	**+0.3**
BORU					S	**Sb**		**19 33 24.8**	**+0.5**
VANU	**Vaenersborg**	**1.16**	**41**		P	**Pb**		**19 33 09.3**	**+0.5**
VANU	**Vaenersborg**	**1.16**	**41**		P	**Pb**		**19 33 09.3**	**+0.5**
HOMB	**Homborsund**	**1.29**	**301**	*e*	P	**Pn**		**19 33 12.3**	**+1.2**
HOMB				*e*	S	**Sb**		**19 33 29.1**	**+0.9**
HOMB					IAML			19 33 30.1	
	comp=Z,16nm,0.2s								
HOMB	**Homborsund**	**1.29**	**301**	*i*	P	**Pn**		**19 33 11.9**	**+0.8**
HOMB				*e*	P	**Pn**		**19 33 12.3**	**+1.2**
HOMB				*i*	S	**Sb**		**19 33 29.1**	**+0.9**
HOMB				*e*	S	**Sb**		**19 33 29.1**	**+0.9**
HOMB					IAML			19 33 30.1	
	comp=Z,16nm,0.2s								
FABU	**Falkenberg**	**1.30**	**118**		P	**Pg**		**19 33 10.8**	**0.0**
FABU	**Falkenberg**	**1.30**	**118**	*i*	P	**Pg**		**19 33 11.1**	**+0.3**
FABU				*i*	S	**Sg**		**19 33 27.1**	**-0.6**
FABU	**Falkenberg**	**1.30**	**118**		P	**Pg**		**19 33 10.8**	**0.0**
FABU				*i*	P	**Pg**		**19 33 11.1**	**+0.3**
FABU				*i*	P	**Pg**		**19 33 11.1**	**+0.3**
FABU				*i*	S	**Sg**		**19 33 27.1**	**-0.6**
FABU				*i*	S	**Sg**		**19 33 27.1**	**-0.6**
MUD	**Monsted U'grnd**	**1.42**	**214**	*i*	P	**Pn**		**19 33 13.5**	**+0.7**
MUD				*i*	S	**Sg**		**19 33 31.0**	**-0.2**
MUD					IAML			19 33 39.6	
	comp=Z,4.0nm,0.2s								
MUD	**Monsted U'grnd**	**1.42**	**214**	*i*	P	**Pn**		**19 33 13.5**	**+0.7**
MUD				*i*	P	**Pn**		**19 33 13.5**	**+0.7**
MUD				*i*	S	**Sg**		**19 33 31.0**	**-0.2**
MUD				*i*	S	**Sg**		**19 33 31.0**	**-0.2**
MUD					IAML			19 33 39.6	
	comp=Z,4.0nm,0.2s								
MUD					IAML			19 33 39.6	
	comp=Z,4.0nm,0.2s								
STRU	**Stroemstad**	**1.44**	**12**		P	**Pb**		**19 33 14.2**	**+0.7**
STRU	**Stroemstad**	**1.44**	**12**	*e*	P	**Pb**		**19 33 14.2**	**+0.7**
STRU				*e*	S	**Sg**		**19 33 32.6**	**+0.5**
STRU	**Stroemstad**	**1.44**	**12**	*i*	P	**Pg**		**19 33 14.0**	**+0.5**
STRU				*e*	P	**Pb**		**19 33 14.2**	**+0.7**
STRU					P	**Pb**		**19 33 14.2**	**+0.7**
STRU				*i*	P			19 33 14.4	
STRU				*e*	S	**Sg**		**19 33 32.6**	**+0.5**
STRU				*i*	S	**Sn**		**19 33 33.6**	**+0.8**
GNOU	**Gnosjoe**	**1.73**	**100**		P	**Pb**		**19 33 18.4**	**-0.1**
GNOU	**Gnosjoe**	**1.73**	**100**		P	**Pb**		**19 33 18.4**	**-0.1**
NASU	**Vaermlandsnaes**	**1.88**	**45**		P	**Pb**		**19 33 20.6**	**-0.4**
NASU	**Vaermlandsnaes**	**1.88**	**45**		P	**Pb**		**19 33 20.6**	**-0.4**
SNART	**Snartemo**	**1.95**	**293**	*e*	P	**Pn**		**19 33 20.9**	**+0.8**
SNART				*e*	S	**Sn**		**19 33 46.1**	**+0.8**
SNART					IAML			19 33 49.0	
	comp=Z,33nm,0.3s								
SNART	**Snartemo**	**1.95**	**293**	*i*	P	**Pn**		**19 33 20.8**	**+0.7**
SNART				*e*	P	**Pn**		**19 33 20.9**	**+0.8**
SNART				*i*	S	**Sn**		**19 33 45.7**	**+0.4**
SNART				*e*	S	**Sn**		**19 33 46.1**	**+0.8**
SNART					IAML			19 33 49.0	
	comp=Z,33nm,0.3s								
BJUU	**Bjuv**	**2.04**	**139**		P	**Pn**		**19 33 22.2**	**+0.7**
BJUU	**Bjuv**	**2.04**	**139**	*i*	P	**Pn**		**19 33 21.9**	**+0.5**
BJUU				*i*	S	**Sn**		**19 33 48.0**	**+0.4**
BJUU	**Bjuv**	**2.04**	**139**	*i*	P	**Pn**		**19 33 21.9**	**+0.5**
BJUU				*i*	P	**Pn**		**19 33 21.9**	**+0.5**
BJUU					P	**Pn**		**19 33 22.2**	**+0.7**
BJUU				*i*	S	**Sn**		**19 33 48.0**	**+0.4**
BJUU				*i*	S	**Sn**		**19 33 48.0**	**+0.4**
KONO	**Kongsberg**	**2.10**	**346**	*e*	P	**Pn**		**19 33 22.7**	**+0.6**
KONO	**Kongsberg**	**2.10**	**346**	*e*	P	**Pn**		**19 33 22.7**	**+0.6**
DEL	**Delary**	**2.12**	**122**		P	**Pn**		**19 33 23.6**	**+1.0**
DEL	**Delary**	**2.12**	**122**	*i*	P	**Pn**		**19 33 23.0**	**+0.5**
DEL				*i*	S	**Sn**		**19 33 50.4**	**+0.8**
DEL	**Delary**	**2.12**	**122**	*i*	P	**Pn**		**19 33 23.0**	**+0.5**
DEL				*i*	P	**Pn**		**19 33 23.0**	**+0.5**
DEL					P	**Pn**		**19 33 23.6**	**+1.0**
DEL				*i*	S	**Sn**		**19 33 50.4**	**+0.8**
DEL				*i*	S	**Sn**		**19 33 50.4**	**+0.8**
COP	**Copenhagen**	**2.19**	**152**	*i*	Pg	**Pb**		**19 33 26.3**	**0.0**
COP				*i*	Sg	**Sg**		**19 33 55.5**	**-0.6**
COP					IAML			19 33 57.9	
	comp=Z,13nm,0.4s								
COP	**Copenhagen**	**2.19**	**152**	*i*	Pg	**Pb**		**19 33 26.3**	**0.0**
COP				*i*	P	**Pb**		**19 33 26.3**	**0.0**
COP				*i*	Sg	**Sg**		**19 33 55.5**	**-0.6**
COP				*i*	S	**Sg**		**19 33 55.5**	**-0.6**
COP					IAML			19 33 57.9	
	comp=Z,13nm,0.4s								
COP					IAML			19 33 57.9	
	comp=Z,13nm,0.4s								
VXJU	**Vaexsjoe**	**2.45**	**105**		P	**Pn**		**19 33 28.1**	**+1.1**
VXJU	**Vaexsjoe**	**2.45**	**105**		P	**Pn**		**19 33 28.1**	**+1.1**
LUNU	**Lund**	**2.54**	**141**	*i*	P	**Pn**		**19 33 28.9**	**+0.6**
LUNU				*e*	S	**Sn**		**19 33 59.1**	**-0.7**
LUNU	**Lund**	**2.54**	**141**	*i*	P	**Pn**		**19 33 28.9**	**+0.6**
LUNU				*i*	P	**Pn**		**19 33 28.9**	**+0.6**
LUNU				*e*	S	**Sn**		**19 33 59.1**	**-0.7**
LUNU				*e*	S	**Sn**		**19 33 59.1**	**-0.7**
BLS5	**Blasjo**	**2.83**	**311**	*e*	P	**Pn**		**19 33 33.4**	**+1.1**
BLS5	**Blasjo**	**2.83**	**311**	*e*	P	**Pn**		**19 33 33.4**	**+1.1**
HFS	**Hagfors**	**2.98**	**31**		Pn	**Pn**		**19 33 35.1**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=222,slow=17,SNR=25								
HFS					Pg	**Pb**		**19 33 40.6**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=222,slow=19,SNR=7.4								
HFS					Sn	**Sn**		**19 34 09.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=217,slow=22,SNR=6.3								
HFS					Lg	Lg		19 34 19.5	
	comp=Z,1.9nm,0.3s,baz=215,slow=27,SNR=16								
	comp=Z,1.6nm,0.4s								
ODD1	**Odda**	**3.09**	**320**	*e*	P	**Pn**		**19 33 37.3**	**+1.5**
ODD1	**Odda**	**3.09**	**320**	*e*	P	**Pn**		**19 33 37.3**	**+1.5**
BLEU	**Blekinge**	**3.14**	**113**	*i*	P	**Pn**		**19 33 36.9**	**+0.4**
BLEU				*i*	S	**Sn**		**19 34 14.6**	**-0.1**
BLEU	**Blekinge**	**3.14**	**113**	*i*	P	**Pn**		**19 33 36.9**	**+0.4**
BLEU				*i*	P	**Pn**		**19 33 36.9**	**+0.4**
BLEU				*i*	S	**Sn**		**19 34 14.6**	**-0.1**
BLEU				*i*	S	**Sn**		**19 34 14.6**	**-0.1**
NC602	**NORSAR Array S**	**3.15**	**8**	*e*	P	**Pn**		**19 33 37.2**	**+0.5**
NC602	**NORSAR Array S**	**3.15**	**8**	*e*	P	**Pn**		**19 33 37.2**	**+0.5**
NAO01	**NORSAR Array S**	**3.23**	**2**	*e*	P	**Pn**		**19 33 38.3**	**+0.5**
NAO01	**NORSAR Array S**	**3.23**	**2**	*e*	P	**Pn**		**19 33 38.3**	**+0.5**
NBO00	**NORSAR Array S**	**3.42**	**1**	*e*	P	**Pn**		**19 33 41.1**	**+0.8**
NBO00	**NORSAR Array S**	**3.42**	**1**	*e*	P	**Pn**		**19 33 41.1**	**+0.8**
NOA	**NORSAR Array B**	**3.44**	**5**	Pn		**Pn**		**19 33 40.5**	**-0.1**
	baz=186,slow=12,SNR=16								
NOA					Sn	**Sn**		**19 34 14.5**	**-7.5**
	baz=155,slow=5.4,SNR=4.8								
NOA					Lg	Lg		19 34 31.1	
	comp=Z,0.1nm,0.3s,baz=191,slow=19,SNR=5.6								
	comp=Z,0.4nm,0.3s								
NB201	**NORSAR Array S**	**3.45**	**6**	*e*	P	**Pn**		**19 33 41.8**

EKA	**Eskdalemuir Ar**	**7.96**	**259**	Pn		**Pn**	**19 34 41.1**	**-1.6**
	baz=70,slow=13								
FINES	**FINESS Array B**	**8.73**	**58**	Pn		**Pn**	**19 34 54.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=248,slow=12,SNR=22								
FINES				Sn		**Sn**	**19 36 29.0**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=251,slow=21,SNR=4.0								
FINES				Lg		Lg	19 37 17.1		
	comp=Z,0.1nm,0.3s,baz=252,slow=28,SNR=0.9								
	comp=Z,0.6nm,0.3s								
ARCES	**ARCESS Array B**	**13.60**	**23**	Pn		**Pn**	**19 35 57.7**	**-2.0**
	baz=213,slow=13,SNR=2.0								
	comp=Z,1.6nm,0.9s								
NRS	**Narsarsuaq**	**28.00**	**301**	*i* P		P	19 38 46.0	+8.2	

*TEH **05** 19:34:00.7, 34.75N×45.34E, h18km±71km*
*ISN **05** 19:34:00.5±0.4, 34.75N×45.33E, h11km±9km, ML2.6*
ISC 05 19:34:00.3±1.5**, 34.77N**±0.05**×45.33E**±0.06**, h5**km±12**km, n9, σ0.9s79**/15**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.34**	**140**	Pg		**Pg**	**19 34 07.6**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.81**	**143**	Pg		**Pg**	**19 34 15.6**	**-0.3**
IDHR	**Dehrash**	**0.88**	**94**	Pg		**Pg**	**19 34 17.2**	**0.0**
IKRK	**Kirkuk**	**1.02**	**308**	*e*Pg		**Pb**	**19 34 20.5**	**-0.1**
IKRK				*e*Sg		**Sn**	**19 34 35.5**	**-0.7**
IKRK				AML		AML	19 34 46.9	
	comp=N,120nm,0.3s							
IKRK				AML		AML	19 34 47.4	
	comp=E,178nm,0.4s							
IGHG	**Ghaleghazi**	**1.12**	**113**	Pg		**Pg**	**19 34 21.9**	**+0.1**
IGHG				Sg		**Sn**	**19 34 37.5**	**-1.3**
ILBA	**Ilam Banvizeh**	**1.36**	**147**	Pg		**Pg**	**19 34 25.9**	**-0.4**
ILBA				Sg		**Sg**	**19 34 44.6**	**+0.7**
BHD	**Baghdad**	**1.69**	**208**	*e*Pn		**Pb**	**19 34 31.7**	**-0.2**
BHD				*e*Sn		**Sg**	**19 34 54.0**	**-0.6**
IBDR	**Badra**	**1.73**	**163**	*e*Pn		**Pb**	**19 34 32.0**	**-0.6**
IBDR				*e*Sn		**Sg**	**19 34 55.0**	**-0.9**
IBDR				AML		AML	19 34 55.5	
	comp=N,68nm,0.4s							
IBDR				AML		AML	19 35 08.1	
	comp=E,87nm,0.6s							
RAFI	**Al-Rafai**	**3.11**	**168**	*e*Pn		**Pn**	**19 34 51.2**	**+1.2**
RAFI				*e*Sn		**Sn**	**19 35 28.3**	**+0.7**

*IDC **05** 19:42:42.1±0.6, 10.76S×113.83E, h0km, mb4.0/17, mbtmp4.1/19, ML4.4/2, MS3.4/3, Error ellipse: s-maj=20.9km s-min=11.4km az=58.0*
*NEIC **05** 19:42:44.9±1.6, 10.85S±0.1×113.88E±0.09, h10km±2km, mb4.2/10, Error ellipse: s-maj=18.1km s-min=13.3km az=204.0*
*DJA **05** 19:42:46.0±0.4, 11˚S±3˚×114˚E±˚, h10km, M4.6/17, mb4.6/7, MLv4.5/17*
ISC 05 19:42:43.4±0.5**, 10.80S**±0.06×**113.89E**±0.06**, h10**km**, n72, σ1.9s80/69, mb4.2/20, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.33**	**6**			**Pn**	**19 43 22.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.33**	**6**	P		**Pn**	**19 43 22.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**2.33**	**6**	P		**Pn**	**19 43 22.8**	**+1.0**
JAGI				S		**Sn**	**19 43 45.6**	**-5.0**
DNP	**Denpasar**	**2.48**	**32**	P		**Pn**	**19 43 26.4**	**+2.5**
DNP				S		**Sn**	**19 43 54.7**	**+0.5**
GMJI	**Gumukmas**	**2.55**	**350**	P		**Pn**	**19 43 25.3**	**+0.4**
GMJI				S		**Sn**	**19 43 54.3**	**-1.7**
SRBI	**Singaraja**	**3.00**	**26**	P		**Pn**	**19 43 33.3**	**+2.3**
SRBI				S		**Sn**	**19 44 09.1**	**+2.1**
PCJI	**Pacitan**	**3.73**	**314**	P		**Pn**	**19 43 40.5**	**-0.5**
KMMI	**Kalianget**	**3.73**	**1**	P		**Pn**	**19 43 43.9**	**+2.8**
GRJI	**Gresik**	**4.11**	**340**	P		**Pn**	**19 43 47.6**	**+1.3**
WOJI	**Wonogiri, Jawa**	**4.16**	**315**	P		**Pn**	**19 43 47.4**	**+0.5**
NGJI	**Ngawi**	**4.17**	**325**	P		**Pn**	**19 43 47.8**	**+0.6**
PLAI	**Plampang**	**4.30**	**63**	P		**Pn**	**19 43 50.7**	**+1.7**
PLAI	**Plampang**	**4.30**	**63**	P		**Pn**	**19 43 51.5**	**+2.5**
UGM	**Wanagama**	**4.39**	**311**			**Pn**	**19 43 50.5**	**+0.2**
UGM	**Wanagama**	**4.39**	**311**	P		**Pn**	**19 43 50.3**	**0.0**
UGM	**Wanagama**	**4.39**	**311**	P		**Pn**	**19 43 50.2**	**0.0**
TBJI	**Tambak Boyo**	**4.45**	**333**	P		**Pn**	**19 43 51.7**	**+0.8**
SMRI	**Semarang**	**5.05**	**317**	Pn		**Pn**	**19 44 00.9**	**+1.6**
KPJI	**Karang Pucung**	**5.99**	**305**	P		**Pn**	**19 44 12.5**	**+0.3**
	0.5nm48nm,0.6s							
BBJI	**Bungbulang**	**7.00**	**298**	P		**Pn**	**19 44 25.2**	**-0.9**
LEM	**Lembang**	**7.35**	**302**	LR		LR	19 48 00.2	
	comp=Z,78nm,18.4s,baz=182,slow=44							
CNJI	**Cibinong**	**7.53**	**297**	P		**Pn**	**19 44 32.1**	**-1.2**
	0.2nm43nm,1.4s							
EDFI	**Ende, Flores**	**7.95**	**76**	P		**Pn**	**19 44 42.1**	**+2.9**
BSSI	**Bau Bau, Buton**	**8.00**	**55**	P		**Pn**	**19 44 42.4**	**+2.6**
	61nm,1.2s							
KAPI	**Kappang**	**8.17**	**46**	Pn		**Pn**	**19 44 44.1**	**+2.0**
	4.5nm,0.3s,baz=188,slow=6.3,SNR=4.1							
KAPI				Sn		**Sn**	**19 46 11.7**	**-2.9**
	baz=204,slow=20							
	7.8nm,0.3s							
BKSI	**Bulukumba**	**8.23**	**49**	P		**Pn**	**19 44 45.2**	**+2.3**
	31nm,0.6s							
BNSI	**Bone**	**8.85**	**45**	P		**Pn**	**19 44 54.4**	**+2.9**
	21nm,0.5s							
BATI	**Baumata**	**9.63**	**87**	Pn		**Pn**	**19 45 03.5**	**+1.4**
	3.8nm,0.3s,baz=271,slow=15,SNR=4.5							
BATI				Sn		**Sn**	**19 46 45.0**	**-5.5**
	3.2nm,0.3s,baz=341,slow=21,SNR=6.6							
	9.5nm,0.3s							
BATI	**Baumata**	**9.63**	**87**	P		**Pn**	**19 45 03.6**	**+1.4**
SOEI	**Soe**	**10.26**	**85**	Pn		**Pn**	**19 45 12.4**	**+1.4**
SOEI	**Soe**	**10.26**	**85**	P		**Pn**	**19 45 12.1**	**+1.1**
MBWA	**Marble Bar**	**11.72**	**152**	Pn		Pn	19 45 27.0	-3.9
GIRL	**Giralia**	**11.78**	**178**	Pn		Pn	19 45 28.9	-2.6
PSA00	**Pilbara Seismi**	**12.14**	**153**	Pn		Pn	19 45 31.8	-4.7
PSA00	**Pilbara Seismi**	**12.14**	**153**	Pn		Pn	19 45 33.0	-3.5
PSA00	**Pilbara Seismi**	**12.14**	**153**	P		**Pn**	**19 45 35.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**13.49**	**124**	Pn		Pn	19 45 52.4	-2.6
FITZ	**Fitzroy Crossi**	**13.49**	**124**	Pn		Pn	19 45 53.2	-1.7
	0.4nm,0.3s,baz=305,slow=10,SNR=12							
FITZ				Sn		Sn	19 48 12.1	-13
	0.4nm,0.3s,baz=18,slow=20,SNR=6.9							
KNRA	**Kununurra**	**15.26**	**110**	Pn		**Pn**	**19 46 17.7**	**-1.4**
KNRA				IAmb		IAmb	19 46 27.2	
	comp=Z,10nm,1.1s							
MTN	**Manton Dam**	**17.00**	**99**	Pn		**Pn**	**19 46 39.5**	**-2.0**
MTN				IAmb		IAmb	19 47 04.5	
	comp=Z,17nm,1.1s							
MORW	**Morawa**	**18.28**	**174**	P		**Pn**	**19 46 55.3**	**-2.0**
FAKI	**Fak Fak**	**19.82**	**68**	P		**P**	**19 47 13.6**	**-0.9**
FAKI	**Fak Fak**	**19.82**	**68**	P		**P**	**19 47 15.8**	**+1.3**
KULM	**Kulim**	**20.72**	**320**	P		**P**	**19 47 24.0**	**-0.2**
KULM				IAmb		IAmb	19 47 35.6	
	comp=Z,30nm,1.5s							
WB0	**Warramunga Arr**	**21.67**	**117**	P		**P**	**19 47 35.0**	**+0.5**
WB0				IAmb		IAmb	19 47 38.6	
	comp=Z,7.9nm,0.8s							
WRA	**Warramunga Arr**	**21.69**	**117**	P		**P**	**19 47 36.0**	**+1.3**
WRA	**Warramunga Arr**	**21.69**	**117**	P		**P**	**19 47 35.9**	**+1.2**
	comp=Z,8.3nm,0.7s,baz=292,slow=9.9,SNR=31							
WRA				S		**S**	**19 51 31.0**	**-3.9**
	comp=Z,1.0nm,0.7s,baz=288,slow=23,SNR=5.1							
	comp=Z,8.3nm,0.7s							
WR8	**Warramunga Arr**	**21.83**	**117**	P		**P**	**19 47 37.3**	**+1.1**
WR8				IAmb		IAmb	19 47 40.5	
	comp=Z,9.8nm,0.9s							
ASAR	**Alice Springs**	**22.96**	**126**	P		**P**	**19 47 49.8**	**+1.6**
ASAR	**Alice Springs**	**22.96**	**126**	P		**P**	**19 47 49.5**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=302,slow=8.9,SNR=50							
ASAR				S		**S**	**19 52 02.2**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=305,slow=24,SNR=5.7							
	comp=Z,2.9nm,0.7s							
AS31	**Alice Springs**	**22.96**	**126**	P		**P**	**19 47 49.2**	**+1.0**
FORT	**Forrest**	**23.84**	**149**			**P**	**19 47 57.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**32.60**	**333**	P		**P**	**19 49 16.3**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=165,slow=9.1,SNR=17							
CMAR				LR		LR	20 03 35.4	
	comp=Z,48nm,18.1s,baz=160,slow=38							
	comp=Z,1.7nm,0.6s							
STKA	**Stephens Creek**	**33.08**	**134**	P		**P**	**19 49 20.9**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=314,slow=9.8,SNR=4.9							
	comp=Z,2.7nm,0.7s							
H08S2	**Diego Garcia H**	**40.96**	**271**	T		T	20 33 56.7	
	baz=96,slow=75,SNR=18							
H08S3	**Diego Garcia H**	**40.97**	**271**	T		T	20 33 57.0	
	baz=96,slow=75,SNR=14							
H08S1	**Diego Carcia H**	**40.98**	**271**	T		T	20 34 03.4	
	baz=96,slow=75,SNR=3.5							
KSRS	**Korea Array**	**49.77**	**15**	P		**P**	**19 51 36.2**	**0.0**
	comp=Z,1.5nm,0.7s,baz=198,slow=7.5,SNR=9.2							
	comp=Z,1.5nm,0.7s							
MJAR	**Matsushiro Arr**	**52.36**	**25**	P		P	19 51 54.0	-1.7
	comp=Z,1.4nm,0.8s,baz=215,slow=11,SNR=4.4							
	comp=Z,1.4nm,0.8s							
USRK	**Ussuriysk Ar.**	**57.16**	**15**	P		**P**	**19 52 29.9**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=209,slow=7.5,SNR=7.6							
	comp=Z,5.2nm,0.8s							
SONM	**Songino Array**	**58.76**	**354**	P		**P**	**19 52 41.3**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=180,slow=8.3,SNR=12							
	comp=Z,1.7nm,0.7s							
HEH	**HeiHe**	**61.94**	**10**	*e*P		**P**	**19 53 01.8**	**-1.4**
HEH					pmax	pmax		
	comp=Z,5.0nm,0.8s							
MKAR	**Makanchi Array**	**63.92**	**336**	P		**P**	**19 53 16.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=162,slow=6.8,SNR=5.3							
	comp=Z,0.6nm,0.6s							
MAW	**Mawson**	**65.87**	**199**	P		**P**	**19 53 29.2**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=21,slow=11,SNR=4.1							
	comp=Z,3.0nm,0.9s							
KURBB	**Kurchatov Arra**	**68.48**	**337**	P		**P**	**19 53 45.5**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=151,slow=6.0,SNR=6.2							
	comp=Z,0.6nm,0.6s							
ZALV	**Zalesovo Beam**	**69.06**	**342**	P		**P**	**19 53 48.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=160,slow=4.7,SNR=4.7							
	comp=Z,0.8nm,0.4s							
VNDA	**Vanda**	**71.04**	**170**	P		**P**	**19 54 01.8**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=290,slow=4.7,SNR=5.9							
	comp=Z,0.9nm,0.9s							
BVAR	**Borovoye Array**	**73.62**	**334**	P		**P**	**19 54 18.2**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=120,slow=5.8,SNR=2.2							
	comp=Z,0.5nm,0.5s							
QSPA	**South Pole Qui**	**79.21**	**180**	P		**P**	**19 54 49.3**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=240,slow=1.8,SNR=2.7							
	comp=Z,1.3nm,0.9s							
SNAA	**Sanae**	**87.89**	**196**	P		**P**	**19 55 33.2**	**+0.2**
	comp=Z,2.2nm,0.8s							
	comp=Z,2.2nm,0.8s							
BRTR	**Keskin Array B**	**89.44**	**311**	P		**P**	**19 55 41.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=111,slow=3.2,SNR=2.1							
	comp=Z,0.4nm,0.8s							
ARCES	**ARCESS Array B**	**99.47**	**339**	P		**Pdif**	**19 56 25.2**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=107,slow=4.0,SNR=2.1							
ARCES				LR		LR	20 48 59.4	
	comp=Z,51nm,19.9s,baz=19,slow=40							

*IDC **05** 19:54:58.4±2.1, 61.25N×4.33E, h0km, mbtmp3.7/5, ML2.9/4, Error ellipse: s-maj=24.4km s-min=15.9km az=2.0*
*DNK **05** 19:55:01.3±2.3, 61.13N×4.73E, h0km±50km, ML3.0*
*NAO **05** 19:55:01.9±0.3, 61.28N×4.32E, h32km±2km, ML2.9*
*BGS **05** 19:55:02.3±0.3, 61.29N×4.26E, h24km±3km, ML3.0*
*BER **05** 19:55:03.0±1.6, 61.32N×4.35E, h31km±4km, ML2.8, ML2.9(NAO), Confirmed Earthquake*
*UPP **05** 19:55:05.2±3.2, 61.11N×5.38E, h0km, ML2.8, Presumed earthquake*
ISC 05 19:55:00.1±1.0**, 61.29N**±0.03×**4.35E**±0.05**, h35**km**, n110, σ2.9s05/166, 10C-13D, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SUE	**Sulen**	**0.31**	**140**	Pb		**Pn**	**19 55 10.2**	**+2.1**
SUE				Sb		**Sn**	**19 55 15.9**	**+2.4**
SUE	**Sulen**	**0.31**	**140**	⇓*i*P		**Pn**	**19 55 10.3**	**+2.2**
SUE				*e*S		**Sn**	**19 55 15.9**	**+2.4**
SUE				IAML			19 55 16.1	
	comp=Z,3μm,0.3s							
FOO	**Floro**	**0.45**	**47**	*e*P		**Pn**	**19 55 11.6**	**+1.5**
FOO				*e*S		**Sn**	**19 55 18.2**	**+1.2**
FOO				IAML			19 55 18.4	
	comp=N,2μm,0.2s							
FOO				IAML			19 55 18.5	
	comp=E,1μm,0.2s							
FOO	**Floro**	**0.45**	**47**	Pb		**Pn**	**19 55 11.6**	**+1.5**
FOO				Sb		**Sn**	**19 55 18.1**	**+1.2**
FOO	**Floro**	**0.45**	**47**	⇑*e*P		**Pn**	**19 55 11.6**	**+1.5**
FOO				*e*S		**Sn**	**19 55 18.2**	**+1.2**
FOO				IAML			19 55 18.5	
	comp=E,1μm,0.2s							
BAS01	**BAS01**	**0.68**	**161**	⇑*i*P		**Pn**	**19 55 15.6**	**+2.5**
BAS01	**BAS01**	**0.68**	**161**	*e*S		**Sn**	**19 55 24.7**	**+2.3**
BAS01				IAML			19 55 25.3	
	comp=Z,379nm,0.2s							
BAS02	**BAS02**	**0.75**	**157**	*e*P		**Pn**	**19 55 16.4**	**+2.3**
BAS02	**BAS02**	**0.75**	**157**	*e*S		**Sn**	**19 55 26.2**	**+2.1**
BAS02				IAML			19 55 26.9	
	comp=Z,194nm,0.1s							
BAS03	**BAS03**	**0.83**	**154**	⇓*e*P		**Pn**	**19 55 17.6**	**+2.4**
BAS03	**BAS03**	**0.83**	**154**	*e*S		**Sn**	**19 55 28.4**	**+2.1**
BAS03				IAML			19 55 29.2	
	comp=Z,1μm,0.1s							
HYA	**Hoyanger**	**0.90**	**97**	Pn		**Pn**	**19 55 18.1**	**+2.0**
HYA				Sn		**Sn**	**19 55 31.2**	**+3.4**
HYA	**Hoyanger**	**0.90**	**97**	⇓*e*P		**Pn**	**19 55 18.3**	**+2.0**
HYA				*e*S		**Sn**	**19 55 31.3**	**+3.4**
HYA				IAML			19 55 31.8	
	comp=Z,452nm,0.4s							
ASK	**Askoy**	**0.91**	**153**	⇓*i*P		**Pn**	**19 55 18.7**	**+2.4**
ASK				*e*S		**Sn**	**19 55 30.1**	**+1.9**
ASK				IAML			19 55 36.9	
	comp=Z,196nm,0.5s							
BAS0D	**BAS04**	**0.92**	**149**	⇓*e*P		**Pn**	**19 55 18.8**	**+2.3**
BER	**Bergen**	**1.03**	**152**	*e*P		**Pn**	**19 55 20.1**	**+2.1**
BER				IAML			19 55 40.1	
	comp=E,97nm,0.1s							
BER				IAML			19 55 41.1	
	comp=N,74nm,0.2s							
BER	**Bergen**	**1.03**	**152**	Pn		**Pn**	**19 55 20.3**	**+2.4**
BER				Sb		**Sn**	**19 55 32.9**	**+1.7**
BER	**Bergen**	**1.03**	**152**	*e*P		**Pn**	**19 55 20.1**	**+2.1**
BER				*e*Pg		**Pn**	**19 55 21.7**	**+3.7**
BER				*e*S		**Sn**	**19 55 32.8**	**+1.7**
BAS15	**BAS15**	**1.09**	**163**	*e*P		**Pn**	**19 55 21.0**	**+2.3**
BAS15	**BAS15**	**1.09**	**163**	*e*		Pn	19 55 30.5	+12
BAS15	**BAS15**	**1.09**	**163**	*e*S		**Sn**	**19 55 34.3**	**+1.8**
BAS16	**BAS16**	**1.14**	**159**	*e*P		**Pn**	**19 55 21.7**	**+2.3**
BAS17	**BAS17**	**1.22**	**155**	*e*P		**Pn**	**19 55 22.6**	**+2.1**
BAS17				*e*			19 55 25.0	
BAS17	**BAS17**	**1.22**	**155**	*e*S		**Sn**	**19 55 37.3**	**+1.6**
BAS10	**BAS10**	**1.48**	**140**	⇓*e*P		**Pn**	**19 55 26.6**	**+2.5**
BAS11	**BAS11**	**1.63**	**139**	*e*P		**Pn**	**19 55 29.1**	**+2.9**
BAS12	**BAS12**	**1.77**	**137**	⇓*e*P		**Pn**	**19 55 30.8**	**+2.6**
BAS12	**BAS12**	**1.77**	**137**	*i*		**Sn**	**19 55 51.4**	**+2.0**
ODD1	**Odda**	**1.78**	**140**	Pn		**Pn**	**19 55 31.1**	**+2.7**
ODD1				Sn		**Sn**	**19 55 51.4**	**+1.7**
ODD1	**Odda**	**1.78**	**140**	*e*P		**Pn**	**19 55 31.1**	**+2.7**
ODD1				*e*S		**Sn**	**19 55 51.5**	**+1.7**
ODD1				IAML			19 55 52.6	
	comp=Z,293nm,0.3s							
BAS14	**BAS14**	**1.90**	**139**	⇑*e*P		**Pn**	**19 55 32.8**	**+2.8**
BAS14	**BAS14**	**1.90**	**139**	*e*S		**Sn**	**19 55 54.3**	**+1.6**
BAS14				IAML			19 55 55.1	
	comp=Z,288nm,0.1s							
MOL	**Molde**	**1.98**	**48**	*e*P		**Pn**	**19 55 33.2**	**+2.2**
MOL				IAML			19 56 09.1	
	comp=E,17nm,0.4s							
MOL				IAML			19 56 10.2	
	comp=N,21nm,0.3s							
MOL	**Molde**	**1.98**	**48**	Pn		**Pn**	**19 55 33.2**	**+2.2**
MOL				Sn		**Sn**	**19 55 56.0**	**+1.4**
MOL	**Molde**	**1.98**	**48**	⇓*e*P		**Pn**	**19 55 33.2**	**+2.2**
SKAR	**Skarslia**	**2.02**	**106**	Pn		**Pn**	**19 55 34.4**	**+2.7**
SKAR				Sn		**Sn**	**19 55 57.8**	**+2.1**
SKAR	**Skarslia**	**2.02**	**106**	⇑*e*P		**Pn**	**19 55 34.4**	**+2.7**
SKAR				*e*S		**Sn**	**19 55 57.9**	**+2.2**
SKAR				IAML			19 56 11.0	
	comp=Z,201nm,0.5s							
KMY	**Karmoy**	**2.13**	**168**	Pn		**Pn**	**19 55 35.4**	**+2.2**
KMY				Sn		**Sn**	**19 55 58.4**	**+0.1**
KMY	**Karmoy**	**2.13**	**168**	⇑*e*P		**Pn**	**19 55 35.3**	**+2.2**
KMY				*e*S		**Sn**	**19 55 58.4**	**+0.1**
KMY				IAML			19 56 19.8	
	comp=Z,76nm,0.4s							
BLS5	**Blasjo**	**2.15**	**150**	Pn		**Pn**	**19 55 36.0**	**+2.7**
BLS5				Sn		**Sn**	**19 55 59.4**	**+0.7**
BLS5	**Blasjo**	**2.15**	**150**	⇓*i*P		**Pn**	**19 55 36.1**	**+2.7**
BLS5				*e*S		**Sn**	**19 55 59.6**	**+0.9**
BLS5				IAML			19 55 59.9	
	comp=Z,154nm,0.2s							
BLS5	**Blasjo**	**2.15**	**150**	*i* P		**Pn**	**19 55 36.1**	**+2.7**
BLS5				*i* S		**Sn**	**19 55 59.6**	**+0.9**
STAV	**Stavanger**	**2.46**	**163**	Pn		**Pn**	**19 55 39.6**	**+2.1**
STAV				Sn		**Sn**	**19 56 06.2**	**-0.1**
STAV	**Stavanger**	**2.46**	**163**	*i* P		**Pn**	**19 55 39.7**	**+2.1**
STAV				*e*S		**Sn**	**19 56 06.3**	**-0.1**
LRW	**Lerwick**	**2.95**	**249**	*e*P		**Pn**	**19 55 45.9**	**+1.5**
LRW				IAML			19 56 19.2	
	comp=E,42nm,0.3s							
LRW				IAML			19 56 20.0	
	comp=N,28nm,0.4s							
LRW	**Lerwick**	**2.95**	**249**	Pn		**Pn**	**19 55 45.9**	**+1.5**
LRW				Sn		**Sn**	**19 56 18.1**	**-0.4**
LRW	**Lerwick**	**2.95**	**249**	*e*P		**Pn**	**19 55 45.9**	**+1.5**
LRW				*e*S		**Sn**	**19 56 17.3**	**-1.3**
LRW				IAML			19 56 19.2	
	comp=E,42nm,0.3s							
KONO	**Kongsberg**	**3.08**	**120**	*e*P		**Pn**	**19 55 48.0**	**+1.9**
KONO	**Kongsberg**	**3.08**	**120**	*i* P		**Pn**	**19 55 47.9**	**+1.9**
KONO				*i* S		**Sn**	**19 56 21.8**	**+0.2**
NC204	**NORSAR Array S**	**3.10**	**87**	⇓*e*P		**Pn**	**19 55 48.1**	**+1.7**
NC204				*e*S		**Sn**	**19 56 22.0**	**-0.2**
NBO00	**NORSAR Array S**	**3.12**	**92**	⇓*e*P		**Pn**	**19 55 48.9**	**+2.1**
NAO01	**NORSAR Array S**	**3.21**	**95**	⇓*e*P		**Pn**	**19 55 49.8**	**+1.9**
SNART	**Snartemo**	**3.29**	**153**	⇑*e*P		**Pn**	**19 55 51.5**	**+2.4**
SNART				*e*S		**Sn**	**19 56 26.7**	**-0.3**
SNART	**Snartemo**	**3.29**	**153**	*i* P		**Pn**	**19 55 51.5**	**+2.4**
SNART				*i* S		**Sn**	**19 56 26.7**	**-0.3**
NB2	**NORSAR Subarra**	**3.33**	**91**	Pn		**Pn**	**19 55 51.4**	**+1.7**
	baz=276,slow=14							
NB2				Pn		Pn	19 55 52.0	+2.3
NB2				Sn		**Sn**	**19 56 28.1**	**+0.1**
NOA	**NORSAR Array B**	**3.33**	**91**	Pn		**Pn**	**19 55 50.5**	**+0.8**
	comp=E,0.4nm,0.3s,baz=275,slow=13,SNR=40							
NOA				Pg		Pn	19 55 58.3	+8.6
	comp=E,0.4nm,0.3s,baz=278,slow=17,SNR=68							
NOA				Sn		**Sn**	**19 56 25.0**	**-3.0**
	comp=E,0.7nm,0.3s,baz=284,slow=19,SNR=5.5							
NOA				Lg		Lg	19 56 42.2	
	comp=E,1.4nm,0.3s,baz=277,slow=5.8,SNR=3.3							
	comp=E,2.6nm,0.2s							
NB201	**NORSAR Array S**	**3.37**	**91**	⇓*e*P		**Pn**	**19 55 51.7**	**+1.5**
NC303	**NORSAR Array S**	**3.39**	**88**	*e*P		**Pn**	**19 55 51.9**	**+1.5**
OSL	**Oslo**	**3.42**	**111**	*e*P		**Pn**	**19 55 53.3**	**+2.5**
NC602	**NORSAR Array S**	**3.54**	**96**	*e*P		**Pn**	**19 55 53.9**	**+1.4**
NRA0	**NORESS Array S**	**3.54**	**96**	Pn		**Pn**	**19 55 54.1**	**+1.6**
	baz=286,slow=16							
NRA0				Sn		**Sn**	**19 56 33.9**	**+0.8**
	baz=279,slow=22							
NRA0	**NORESS Array S**	**3.54**	**96**	Pn		**Pn**	**19 55 54.1**	**+1.6**
	baz=286,slow=16							
NRA0				Sn		**Sn**	**19 56 33.9**	**+0.8**
	baz=279,slow=22							
HOMB	**Homborsund**	**3.69**	**143**	⇑*e*P		**Pn**	**19 55 56.9**	**+2.5**
HOMB	**Homborsund**	**3.69**	**143**	⇑*i*P		**Pn**	**19 55 56.9**	**+2.5**
HOMB				*e*S		**Sn**	**19 56 36.4**	**-0.2**
STRU	**Stroemstad**	**4.09**	**121**	P		**Pn**	**19 56 01.2**	**+1.2**
STRU				S		**Sn**	**19 56 44.6**	**-2.1**
STRU	**Stroemstad**	**4.09**	**121**	*e*P		Sn	19 56 39.6	-7.0
STRU	**Stroemstad**	**4.09**	**121**	*e*P		**Pn**	**19 56 01.1**	**+1.0**
STRU				*e*S		**Sn**	**19 56 44.3**	**-2.4**
STRU	**Stroemstad**	**4.09**	**121**	P		**Pn**	**19 56 01.2**	**+1.2**
STRU				*e*P		**Pn**	**19 56 01.4**	**+1.4**
STRU				S		**Sn**	**19 56 44.6**	**-2.1**
STRU				*i* S		**Sn**	**19 56 44.6**	**

baz=284,slow=22
FINES FINESS Array B 10.42 80 Pn **Pn** **19 57 27.4 +0.7**
comp=E,0.7nm,0.3s,baz=279,slow=12,SNR=35
FINES Sn **Sn** **19 59 16.5 -5.5**
comp=E,0.3nm,0.3s,baz=270,slow=15,SNR=1.3
FINES Lg Lg 20 00 20.4
comp=E,0.8nm,0.3s,baz=284,slow=25,SNR=8.0
comp=E,2.9nm,0.4s
ARCES ARCESS Array B 12.00 38 Pn **Pn** **19 57 48.5 +0.1**
baz=234,slow=12,SNR=1.7
comp=E,1.9nm,1.0s
NACGM Naroch 13.43 108 *eP* **P** **19 58 15.8 -1.0**
comp=Z,4.0nm,0.8s,baz=308

HEL 05 20:05:20.7±0.3, 67.76N×33.65E, h0km, ML1.1,
Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.41**	**70**	PG	Pg	20 05 28.7	+0.2
LVZ				SG	Sg	20 05 32.1	-1.6
VRF	**Varrio**	**1.54**	**271**	PG	Pn	20 05 48.5	-0.9
VRF				MSG		20 06 06.8	
	comp=Z,1.4nm,0.2s						
VRF				SN	Sn	20 06 08.8	-1.2
RAJF	**Raja-Jooseppi**	**2.12**	**292**	SG	Sn	20 06 24.7	+0.3
OLKF	**Oulanka, Finla**	**2.21**	**231**	PB	Pn	20 05 58.7	+0.2
OLKF				MSG		20 06 26.0	
	comp=Z,0.7nm,0.2s						
OLKF				SB	Sn	20 06 27.7	+1.2
KU6	**Riekki**	**2.29**	**222**	PN	Pn	20 05 59.7	+0.1
	baz=38						
KU6				MSG		20 06 28.3	
	comp=Z,0.4nm,0.2s						
KU6				SN	Sn	20 06 28.9	+0.5
MSF	**Maaselka**	**2.60**	**227**	PN	Pn	20 06 05.3	+1.3
KU2	**Taivalkoski**	**2.98**	**229**	PB	Pb	20 06 12.3	-2.2
RNF	**Rovaniemi**	**3.19**	**252**	PN	Pn	20 06 11.1	-0.9
HEF	**Hetta**	**3.80**	**284**	PB	Pb	20 06 24.5	-4.0
HEF				SN	Sn	20 07 04.4	-1.3
KTK1	**Kautokeino**	**4.05**	**293**	PG	Pb	20 06 33.8	+1.0
ERTU	**Ertsjaerv**	**4.63**	**260**	PN	Pn	20 06 30.2	-1.6

*HEL **05** 20:05:40.1±0.3, 67.79N×20.25E, h0km, ML1.4, Suspected explosion*
UPP 05 20:05:40.1±0.1, 67.88N×20.13E, h0km, ML1.9,
Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**45**	P	Pg	20 05 42.4	+0.2
KUA				S	Sg	20 05 43.9	+0.4
KOVU	**Salmi**	**0.35**	**2**	P	Pg	20 05 46.8	+0.1
KOVU				S	Sg	20 05 52.1	+0.9
LANU	**Lannavaara**	**0.72**	**76**	P	Pg	20 05 53.8	-0.1
LANU				S	Sg	20 06 03.1	-0.2
LANU	**Lannavaara**	**0.72**	**76**	PG	Pg	20 05 52.8	-1.1
LANU				SG	Sg	20 06 01.9	-1.4
SALU	**Saltoluokta**	**0.80**	**232**	*eP*	Pg	20 05 54.6	-0.8
KIF	**Kilpisjarvi**	**1.16**	**12**	*eP*	Pb	20 06 02.8	-0.1
KIF	**Kilpisjarvi**	**1.16**	**12**	PG	Pb	20 06 02.9	-0.1
KIF				SG	Sb	20 06 18.6	+0.1
KIF				MSG		20 06 18.7	
	comp=Z,3.5nm,0.2s						
HEF	**Hetta**	**1.42**	**66**	PG	Pn	20 06 05.8	-1.4
HEF				MSG		20 06 22.9	
	comp=Z,2.7nm,0.2s						
KLF	**Kolari**	**1.61**	**112**	PN	Pn	20 06 08.7	-1.0
KLF				MSG		20 06 26.0	
	comp=Z,1.5nm,0.2s						
KLF				SN	Sn	20 06 30.5	-0.5
KTK1	**Kautokeino**	**1.62**	**44**	PG	Pn	20 06 09.9	+0.1
TRO	**Tromso**	**1.82**	**347**	PG	Pg	20 06 14.8	-0.1
TRO				SG	Sg	20 06 38.3	-0.1
KALU	**Kalix**	**2.39**	**146**	PG	Pn	20 06 20.5	+0.1
TOF	**Tornio**	**2.44**	**136**	PG	Pn	20 06 21.6	+0.4
TOF				MSG		20 06 49.5	
	comp=Z,1.6nm,0.2s						
ARA0	**ARCESS Array S**	**2.57**	**47**	PG	Pb	20 06 25.2	-1.8
ARA0				SB	Sb	20 06 58.0	-1.1
RNF	**Rovaniemi**	**2.62**	**116**	PG	Pn	20 06 25.4	+1.8
RNF				SG	Sb	20 06 58.7	-1.7
RAJF	**Raja-Jooseppi**	**3.11**	**75**	PB	Pn	20 06 33.3	+2.9
	baz=256						
OLKF	**Oulanka, Finla**	**3.94**	**109**	SB	Sn	20 07 31.8	+3.1
MSF	**Maaselka**	**4.03**	**115**	PN	Pn	20 06 39.0	-3.9
KU6	**Riekki**	**4.26**	**111**	SG	Sb	20 07 48.8	+1.1

*NOU **05** 20:47:26.2, 26.34S×178.72E, h659km, mb4.7/49, South of Fiji Islands*
*NEIC **05** 20:47:27.4±2.1, 26.3S±0.1×178.4E±0.1, h624km±8km, mb4.8/32, Error ellipse: s-maj=19.1km s-min=15.3km az=75.0*
*IDC **05** 20:47:28.2±1.0, 26.30S×178.26E, h628km±11km, mb3.8/21, mbtmp4.7/23, Error ellipse: s-maj=12.4km s-min=9.9km az=68.0*
ISC 05 20:47:26.5±0.3, 26.40S±0.05×178.32E±0.06, h612km,
n267, σ1s58/287, mb4.7/51, 10C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**4.36**	**131**	P	**P**	**20 48 57.5**	**+2.2**
RAO	**Raoul Island**	**4.38**	**131**	P	**P**	**20 48 56.8**	**+1.5**
RAO	**Raoul Island**	**4.38**	**131**	P	**P**	**20 48 59.3**	**+3.9**
	381nm,0.2s,baz=88,slow=5.6,SNR=5.2						
GLKZ	**Green Lake**	**4.38**	**131**	P	**P**	**20 48 57.9**	**+2.6**
LKBA	**Tubou, Lakemba**	**8.55**	**19**	P	**P**	**20 49 31.8**	**+0.2**
MSVF	**Nonsavu**	**8.63**	**358**		**P**	**20 49 31.5**	**-1.0**
MSVF	**Nonsavu**	**8.63**	**358**	P	**P**	**20 49 32.1**	**-0.3**
OUZ	**Omahuta**	**9.68**	**204**	P	**P**	**20 49 46.7**	**+4.5**
OUZ	**Omahuta**	**9.68**	**204**	P	**P**	**20 49 45.9**	**+3.8**
TAVE	**Taveuni**	**9.79**	**10**	P	**P**	**20 49 44.3**	**+0.8**
WCZ	**Waipu Caves**	**10.10**	**199**	P	**P**	**20 49 48.7**	**+2.5**
DGTI	**Dogotuki**	**10.14**	**8**	P	**P**	**20 49 47.1**	**+0.1**
KUZ	**Kuaotunu**	**10.55**	**191**	P	**P**	**20 49 54.1**	**+3.4**
ABAZ	**Army Bay**	**10.59**	**195**	P	P	20 49 57.7	+6.6
PINNC	**Pines Island,**	**10.60**	**289**	P	**P**	**20 49 53.6**	**+2.2**
WIAZ	**Waiheke Island**	**10.71**	**194**	P	**P**	**20 49 56.1**	**+3.8**
WTAZ	**Waiatarua**	**10.97**	**196**	P	P	20 50 00.5	+5.6
MKAZ	**Moumakai**	**11.00**	**193**	P	**P**	**20 49 58.9**	**+3.7**
AWAZ	**Awhitu Peninsu**	**11.08**	**195**	P	**P**	**20 49 59.5**	**+3.5**
MXZ	**Matakaoa Point**	**11.13**	**180**	P	**P**	**20 49 55.3**	**-1.1**
MXZ	**Matakaoa Point**	**11.13**	**180**	P	**P**	**20 49 55.5**	**-0.9**
OUENC	**Ouen Island, N**	**11.19**	**288**	P	**P**	**20 49 59.7**	**+2.4**
YATNC	**Mamie plateau,**	**11.29**	**290**	P	**P**	**20 50 00.7**	**+2.4**
HAZ	**Te Kaha**	**11.33**	**182**	P	**P**	**20 49 57.8**	**-0.6**
HAZ				S	**S**	**20 51 58.2**	**-4.9**
WMGZ	**Waiomatatini S**	**11.38**	**180**	P	**P**	**20 49 58.4**	**-0.5**
WMGZ				S	**S**	**20 52 01.8**	**-2.4**
PKGZ	**Pakihiroa**	**11.43**	**181**	P	**P**	**20 49 59.0**	**-0.5**
RUGZ	**Raukumara Rang**	**11.54**	**183**	P	**P**	**20 50 00.9**	**+0.2**
TOZ	**Tahuroa Road**	**11.54**	**191**		**P**	**20 50 03.6**	**+3.1**
PUZ	**Puketiti**	**11.63**	**180**	P	**P**	**20 50 03.4**	**+2.0**
DZM	**Mont Dzumac**	**11.66**	**289**		**P**	**20 50 03.5**	**+1.4**
DZM	**Mont Dzumac**	**11.66**	**289**	P	**P**	**20 50 04.5**	**+2.4**
	38nm,0.6s,baz=127,slow=23,SNR=32						
DZM	**Mont Dzumac**	**11.66**	**289**	P	**P**	**20 50 04.2**	**+2.1**
TWGZ	**Tauwhareparae**	**11.74**	**181**	P	**P**	**20 50 04.2**	**+1.7**
TWGZ				S	**S**	**20 52 08.1**	**-2.6**
URZ	**Urewera**	**11.87**	**185**	P	**P**	**20 50 03.0**	**-0.6**
	21nm,0.3s,baz=259,slow=2.4,SNR=30						
URZ				S	**S**	**20 52 09.0**	**-3.8**
	13nm,0.4s,baz=209,slow=23,SNR=10						
URZ	**Urewera**	**11.87**	**185**	P	**P**	**20 50 04.5**	**+0.8**
URZ	**Urewera**	**11.87**	**185**	P	**P**	**20 50 04.1**	**+0.4**
URZ				S	**S**	**20 52 09.2**	**-3.6**
MWZ	**Matawai**	**11.92**	**183**	P	**P**	**20 50 03.5**	**-0.7**
MWZ				S	**S**	**20 52 09.4**	**-4.3**
RRRZ	**Republican Roa**	**12.00**	**187**	P	**P**	**20 50 07.4**	**+2.4**
TKGZ	**Te Karaka**	**12.01**	**182**	P	**P**	**20 50 06.1**	**+1.0**
TKGZ				S	**S**	**20 52 11.6**	**-3.7**
CNGZ	**Carnagh Statio**	**12.05**	**180**	P	**P**	**20 50 04.9**	**-0.5**
CNGZ				S	**S**	**20 52 14.8**	**-1.2**
HRRZ	**Handcock Road**	**12.08**	**188**	P	**P**	**20 50 08.8**	**+3.0**
TLZ	**Tolley Road**	**12.12**	**190**	P	**P**	**20 50 10.6**	**+4.3**
RTZ	**Ruatahuna**	**12.23**	**185**		**P**	**20 50 08.9**	**+1.5**
RTZ	**Ruatahuna**	**12.23**	**185**	P	**P**	**20 50 08.1**	**+0.7**
SNGZ	**Shannon Statio**	**12.37**	**184**	P	**P**	**20 50 08.6**	**-0.1**
SNGZ				S	**S**	**20 52 19.4**	**-2.6**
HIZ	**Hauiti**	**12.42**	**193**	P	**P**	**20 50 09.5**	**+0.3**
HIZ	**Hauiti**	**12.42**	**193**	P	P	20 50 14.8	+5.6
MTHZ	**Maungataniwha**	**12.48**	**185**	P	**P**	**20 50 10.6**	**+0.8**
MRHZ	**Matea Rd**	**12.50**	**187**	P	**P**	**20 50 09.6**	**-0.4**
RATZ	**Rangitukua**	**12.61**	**189**	P	**P**	**20 50 11.9**	**+0.8**
RITZ	**Rihia Road**	**12.71**	**189**	P	**P**	**20 50 15.1**	**+3.1**
MHGZ	**Mahia Peninsul**	**12.72**	**181**	P	**P**	**20 50 13.7**	**+1.6**
NMHZ	**Naumai**	**12.72**	**185**	P	**P**	**20 50 14.2**	**+2.0**
BKZ	**Black Stump Fm**	**12.82**	**186**		**P**	**20 50 12.7**	**-0.5**
BKZ	**Black Stump Fm**	**12.82**	**186**	P	**P**	**20 50 11.9**	**-1.3**
BKZ	**Black Stump Fm**	**12.82**	**186**	P	**P**	**20 50 12.5**	**-0.7**
BKZ				S	**S**	**20 52 26.0**	**-4.1**
TWVZ	**Taurewa**	**12.86**	**190**	P	**P**	**20 50 16.3**	**+2.6**
TMVZ	**Te Maari**	**12.87**	**189**	P	**P**	**20 50 16.1**	**+2.4**
ETVZ	**East Tongariro**	**12.88**	**189**	P	**P**	**20 50 16.1**	**+2.3**
SNVZ	**South Ngauruho**	**12.95**	**189**	P	**P**	**20 50 16.9**	**+2.4**
TUVZ	**Tukino**	**13.02**	**189**	P	**P**	**20 50 17.1**	**+1.8**
FWVZ	**Far West T-bar**	**13.03**	**190**	P	**P**	**20 50 18.0**	**+2.6**
VRZ	**Vera Road**	**13.03**	**192**	P	**P**	**20 50 18.8**	**+3.6**
WHVZ	**Whangaehu Hut**	**13.05**	**189**	P	**P**	**20 50 17.7**	**+2.0**
WNVZ	**Wahianoa**	**13.09**	**189**	P	**P**	**20 50 17.8**	**+1.9**
PKVZ	**Pokaka**	**13.09**	**190**	P	**P**	**20 50 18.0**	**+2.1**
MOVZ	**Moawhango**	**13.15**	**189**	P	**P**	**20 50 18.0**	**+1.6**
KRHZ	**Kereru**	**13.30**	**187**	P	**P**	**20 50 16.4**	**-1.6**
KHEZ	**Kahui Hut**	**13.35**	**195**	P	**P**	**20 50 18.3**	**-0.2**
BFZ	**Birch Farm**	**14.35**	**186**	P	**P**	**20 50 26.8**	**-1.2**
BFZ	**Birch Farm**	**14.35**	**186**	P	**P**	**20 50 27.2**	**-0.8**
MRZ	**Mangatainoka R**	**14.40**	**188**	P	**P**	**20 50 27.7**	**-0.8**
SANVU	**Saraoutou**	**15.04**	**314**	P	**P**	**20 50 35.4**	**+0.7**
TCW	**Tory Channel**	**15.14**	**192**	P	**P**	**20 50 35.9**	**+0.7**
TCW					**S**	**20 53 10.4**	**+1.3**
QRZ	**Quartz Range**	**15.17**	**197**	P	**P**	**20 50 37.9**	**+2.4**
QRZ	**Quartz Range**	**15.17**	**197**	P	**P**	**20 50 36.9**	**+1.4**
SNZO	**South Karori**	**15.17**	**190**	P	**P**	**20 50 35.9**	**+0.5**
SNZO	**South Karori**	**15.17**	**190**	P	**P**	**20 50 35.9**	**+0.5**
MSWZ	**Moikau Station**	**15.19**	**189**	P	**P**	**20 50 35.1**	**-0.5**
BHW	**Baring Head**	**15.24**	**190**	P	**P**	**20 50 36.3**	**+0.2**
TKNZ	**Takaka Hill**	**15.25**	**196**	P	**P**	**20 50 37.2**	**+0.9**
NNZ	**Nelson**	**15.33**	**194**	P	**P**	**20 50 37.2**	**+0.3**
PLWZ	**Palliser**	**15.34**	**189**		**P**	**20 50 36.5**	**-0.6**
TUWZ	**Tuamarina**	**15.42**	**192**	P	**P**	**20 50 38.0**	**+0.2**
MRNZ	**Matariki Terra**	**15.65**	**196**	P	**P**	**20 50 40.9**	**+1.0**
CMWZ	**Cape Campbell**	**15.68**	**191**	P	**P**	**20 50 41.2**	**+1.1**
BSWZ	**Blackbird Sta**	**15.71**	**192**	P	**P**	**20 50 41.7**	**+1.4**
THZ	**Tophouse**	**15.96**	**195**		**P**	**20 50 43.7**	**+0.9**
DSZ	**Denniston Nort**	**16.22**	**198**	P	**P**	**20 50 47.2**	**+2.0**
KHZ	**Kahutara**	**16.45**	**193**		**P**	**20 50 47.3**	**+0.2**
KHZ	**Kahutara**	**16.45**	**193**	P	**P**	**20 50 47.5**	**+0.4**
LTZ	**Lake Taylor**	**17.07**	**195**		**P**	**20 50 53.4**	**+0.5**
GVZ	**Greta Valley S**	**17.08**	**193**	P	**P**	**20 50 53.2**	**+0.3**
INZ	**Inchbonnie**	**17.23**	**197**		**P**	**20 50 54.9**	**+0.7**
LHI	**Lord Howe Isla**	**17.60**	**249**	P	**P**	**20 51 00.9**	**+3.1**
OXZ	**Oxford**	**17.64**	**195**	P	**P**	**20 50 58.0**	**-0.1**
MQZ	**McQueen's Vall**	**17.87**	**193**	P	**P**	**20 51 00.9**	**+0.8**
RPZ	**Rata Peaks**	**18.25**	**197**		**P**	**20 51 04.8**	**+1.2**
RPZ	**Rata Peaks**	**18.25**	**197**	P	**P**	**20 51 04.1**	**+0.5**
	21nm,0.4s,baz=185,slow=8.4,SNR=10						
RPZ	**Rata Peaks**	**18.25**	**197**	P	**P**	**20 51 03.5**	**-0.1**
JCZ	**Jackson Bay**	**19.25**	**201**	P	**P**	**20 51 14.0**	**+1.3**
ODZ	**Otahua Downs**	**19.60**	**196**	P	**P**	**20 51 15.3**	**-0.5**
MLZ	**Mavora Lakes**	**20.62**	**201**		**P**	**20 51 26.4**	**+1.4**
WHZ	**Wether Hill Ro**	**21.14**	**200**		**P**	**20 51 31.1**	**+1.4**
ARMA	**Armidale**	**23.79**	**254**	P	**P**	**20 51 55.6**	**+2.0**
ARMA	**Armidale**	**23.79**	**254**	P	**P**	**20 51 55.9**	**+2.3**
EIDS	**Eidsvold**	**24.52**	**266**		**P**	**20 52 00.6**	**+0.7**
EIDS	**Eidsvold**	**24.52**	**266**	P	**P**	**20 52 01.2**	**+1.3**
MGCD	**Mangrove Creek**	**24.52**	**247**	P	**P**	**20 52 02.7**	**+2.8**
TATA	**Tatamba Isabel**	**25.10**	**312**	P	**P**	**20 52 04.1**	**-1.1**
CMSA	**Cobar Meteorol**	**28.94**	**252**	P	**P**	**20 52 39.6**	**+1.2**
CTAO	**Charters Tower**	**30.07**	**275**		**P**	**20 52 49.2**	**+0.8**
CTAO	**Charters Tower**	**30.07**	**275**	P	**P**	**20 52 49.5**	**+1.1**
CTAO	**Charters Tower**	**30.07**	**275**	P	**P**	**20 52 49.7**	**+1.3**
QLP	**Quilpie**	**30.46**	**262**	P	**P**	**20 52 52.4**	**+0.9**
STKA	**Stephens Creek**	**32.43**	**252**		**P**	**20 53 09.0**	**+0.8**
STKA	**Stephens Creek**	**32.43**	**252**	P	**P**	**20 53 09.6**	**+1.3**
	5.5nm,0.5s,baz=96,slow=11,SNR=30						
	5.5nm,0.5s						
STKA	**Stephens Creek**	**32.43**	**252**	P	**P**	**20 53 09.5**	**+1.3**
MTSU	**Mount Surprise**	**32.45**	**278**	P	**P**	**20 53 09.8**	**+1.2**
PMG	**Port Moresby**	**33.99**	**294**	P	**P**	**20 53 21.6**	**+0.1**
HTT	**Hallett**	**34.71**	**249**	P	**P**	**20 53 28.2**	**+0.9**
COEN	**Coen**	**35.12**	**284**		**P**	**20 53 31.4**	**+0.6**
COEN				IAmb	IAmb	20 53 32.6	
	comp=Z,28nm,0.8s						
COEN	**Coen**	**35.12**	**284**	P	**P**	**20 53 31.7**	**+0.9**
QIS	**Mount Isa**	**35.89**	**271**	P	**P**	**20 53 37.4**	**+0.2**
BBOO	**Buckleboo**	**37.11**	**250**	P	**P**	**20 53 47.0**	**0.0**
MANU	**Manus Island**	**38.34**	**304**	P	**P**	**20 53 55.4**	**-1.7**
AS01	**Alice Springs**	**40.15**	**264**	P	**P**	**20 54 12.0**	**+0.4**
AS31	**Alice Springs**	**40.19**	**264**		**P**	**20 54 11.7**	**-0.2**
AS31				IAmb	IAmb	20 54 13.6	
	comp=Z,13nm,0.6s						
ASAR	**Alice Springs**	**40.19**	**264**		**P**	**20 54 11.5**	**-0.4**
ASAR	**Alice Springs**	**40.19**	**264**	P	**P**	**20 54 12.4**	**+0.5**
	comp=Z,24nm,0.5s,baz=91,slow=7.3,SNR=434						
ASAR				PcP	**pwP**	**20 55 57.9**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=110,slow=7.0,SNR=4.4						
ASAR				ScP	**ScP**	**20 58 50.9**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=102,slow=3.9,SNR=3.5						
ASAR				S	**S**	**20 59 29.0**	**-7.4**
	comp=Z,2.3nm,1.1s,baz=101,slow=14,SNR=6.1						
	comp=Z,24nm,0.5s						
WR8	**Warramunga Arr**	**40.64**	**270**	IAmb	IAmb	20 54 16.3	
	comp=Z,37nm,0.9s						
WRAB	**Tennant Creek**	**40.78**	**270**	P	**P**	**20 54 16.1**	**-0.5**
WRAB				IAmb	IAmb	20 54 17.3	
	comp=Z,38nm,0.9s						
WRA	**Warramunga Arr**	**40.79**	**270**		**P**	**20 54 15.6**	**-1.0**
WRA	**Warramunga Arr**	**40.79**	**270**	P	**P**	**20 54 16.9**	**+0.2**
	comp=Z,27nm,0.5s,baz=104,slow=7.9,SNR=332						
WRA				ScP	**ScP**	**20 58 53.5**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=108,slow=3.9,SNR=4.9						
WRA				S	**S**	**20 59 43.1**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=108,slow=15,SNR=4.6						
	comp=Z,27nm,0.5s						
JAY	**Jayapura**	**43.20**	**297**	P	**P**	**20 54 35.4**	**-0.1**
	comp=Z,14nm,0.6s,baz=148,slow=9.9,SNR=4.8						
	comp=Z,14nm,0.6s						
JAY	**Jayapura**	**43.20**	**297**	P	**P**	**20 54 34.6**	**-0.9**
	comp=Z,18nm,0.8s						
FORT	**Forrest**	**44.06**	**252**		**P**	**20 54 41.2**	**-0.7**
FORT				IAmb	IAmb	20 54 42.7	
	comp=Z,19nm,0.7s						
KDU	**Kakadu**	**45.08**	**279**	P	**P**	**20 54 49.4**	**-0.5**
SMPI	**Sarmi**	**45.11**	**296**	P	**P**	**20 54 48.5**	**-1.6**
	comp=Z,18nm,1.8s						
MTN	**Manton Dam**	**46.20**	**278**	IAmb	IAmb	20 56 49.5	
	comp=Z,21nm,1.1s						
MTN	**Manton Dam**	**46.20**	**278**	P	**P**	**20 54 57.9**	**-0.5**
DRS	**Darwin Rock St**	**46.58**	**278**	P	**P**	**20 55 00.7**	**-0.5**
BAKI	**Biak**	**47.68**	**295**	P	**P**	**20 55 09.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**49.18**	**268**	P	**P**	**20 55 20.7**	**+0.2**
FAKI	**Fak Fak**	**49.93**	**290**	P	**P**	**20 55 25.3**	**-0.7**
VNDA	**Vanda**	**51.77**	**185**		**P**	**20 55 39.3**	**+1.0**
VNDA	**Vanda**	**51.77**	**185**	P	**P**	**20 55 40.1**	**+1.7**
	comp=Z,3.6nm,0.5s,baz=3.0,slow=8.1,SNR=45						
	comp=Z,3.6nm,0.5s						
VNDA	**Vanda**	**51.77**	**185**	P	**P**	**20 55 40.1**	**+1.7**
VNDA				PcP	**PcP**	**20 56 40.8**	**+0.2**
VNDA				ScP	**ScP**	**20 59 38.7**	**-0.9**
SBA	**Scott Base**	**51.80**	**183**		**P**	**20 55 40.7**	**+2.1**
SBA				IAmb	IAmb	20 55 42.5	
	comp=Z,29nm,0.8s						
SBA	**Scott Base**	**51.80**	**183**	P	**P**	**20 55 41.0**	**+2.5**
SWI	**Scott Base**	**51.87**	**291**	P	**P**	**20 55 39.8**	**-0.2**
KLBR	**Kellerberrin**	**52.65**	**249**	P	**P**	**20 55 45.0**	**-0.4**
MEEK	**Meekatharra**	**52.98**	**255**	P	**P**	**20 55 47.1**	**-0.7**
PSA00	**Pilbara Seismi**	**53.26**	**262**	P	**P**	**20 55 48.6**	**-1.3**
PSA00				IAmb	IAmb	20 55 49.6	
	comp=Z,39nm,1.9s						
MBWA	**Marble Bar**	**53.49**	**262**	P	**P**	**20 55 50.9**	**-0.6**
SOEI	**Soe**	**53.60**	**277**	IAmb	IAmb	20 56 09.6	
	comp=Z,54nm,0.9s						
SOEI	**Soe**	**53.60**	**277**	P	**P**	**20 55 54.1**	**+1.6**
	comp=Z,63nm,0.8s						
BLDU	**Ballidu**	**53.72**	**250**	P	**P**	**20 55 52.6**	**-0.4**
MORW	**Morawa**	**54.62**	**252**	P	**P**	**20 55 59.1**	**-0.2**
CCD	**Concordia, Ant**	**55.93**	**195**	P	**P**	**20 56 08.8**	**+0.8**
CCD				ScP	**ScP**	**20 59 56.7**	**-1.7**
EDFI	**Ende, Flores**	**56.33**	**277**	P	**P**	**20 56 11.1**	**-0.3**
	comp=Z,35nm,0.8s						
BKSI	**Bulukumba**	**59.24**	**280**	P	**P**	**20 56 30.4**	**-0.5**
	comp=Z,41nm,0.8s						
KAPI	**Kappang**	**59.71**	**280**	P	**P**	**20 56 34.3**	**+0.2**
	comp=Z,4.0nm,0.5s,baz=74,slow=8.7,SNR=2.1						
	comp=Z,4.0nm,0.5s						
PLAI	**Plampang**	**59.78**	**275**	P	**P**	**20 56 33.6**	**-0.9**
TOLI2	**Tolitoli**	**61.79**	**287**	P	**P**	**20 56 45.8**	**-1.8**
JAGI	**Jajag, Banyuwa**	**63.17**	**274**	P	**P**	**20 56 55.3**	**-1.3**
QSPA	**South Pole Qui**	**63.69**	**180**		**P**	**20 57 00.7**	**+1.6**
QSPA				IAmb	IAmb	20 57 02.1	
	comp=Z,45nm,0.8s						
QSPA	**South Pole Qui**	**63.69**	**180**	P	**P**	**20 57 01.2**	**+2.1**
	comp=Z,42nm,0.5s,baz=295,slow=0.3,SNR=354						
	comp=Z,42nm,0.5s						
QSPA	**South Pole Qui**	**63.69**	**180**	P	**P**	**20 57 01.2**	**+2.1**
SBUM	**Sibu**	**69.86**	**283**	P	**P**	**20 57 37.2**	**-0.5**
JOW	**Kunigami**	**71.58**	**314**	P	**P**	**20 57 47.2**	**-0.2**
	comp=Z,8.0nm,0.5s,baz=124,slow=11,SNR=2.0						
	comp=Z,8.0nm,0.5s						
MJAR	**Matsushiro Arr**	**73.13**	**327**	P	**P**	**20 57 55.2**	**-0.9**
MJAR	**Matsushiro Arr**	**73.13**	**327**	P	**P**	**20 57 54.9**	**-1.3**
	comp=Z,4.9nm,0.6s,baz=157,slow=6.1,SNR=20						
	comp=Z,4.9nm,0.6s						
MAJO	**Matsushiro**	**73.13**	**327**	P	**P**	**20 57 55.0**	**-1.2**
MDSI	**Maura Dua**	**73.82**	**273**	P	**P**	**20 57 59.3**	**-1.3**
	comp=Z,36nm,0.8s						
MAW	**Mawson**	**74.88**	**201**	P	**P**	**20 58 06.2**	**+0.7**
	comp=Z,8.3nm,0.5s,baz=125,slow=5.6,SNR=24						
	comp=Z,8.3nm,0.5s						
JTM	**Tenmabayashi**	**75.27**	**332**	P	**P**	**20 58 06.9**	**-1.1**
JTM				IAmb	IAmb	20 58 08.8	
	comp=Z,46nm,1.3s						
JKA	**Kamikawa-asahi**	**77.43**	**334**	P	**P**	**20 58 20.8**	**+1.0**
KIWB	**Kanaga Island**	**78.02**	**3**	P	**P**	**20 58 22.4**	**-0.3**
KIWB				IAmb	IAmb	20 58 23.2	
	comp=Z,20nm,0.7s						
ADK	**Adak**	**78.07**	**3**	P	**P**	**20 58 22.1**	**-0.8**
ADK				IAmb	IAmb	20 58 23.2	
	comp=Z,23nm,0.7s						
KSRS	**Korea Array**	**79.21**	**321**	P	**P**	**20 58 29.1**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=140,slow=6.0,SNR=18						
	comp=Z,3.3nm,0.7s						
SYO	**Syowa Base**	**80.23**	**194**	⇑*eP*	**P**	**20 58 33.9**	**-0.3**
SYO	**Syowa Base**	**80.23**	**194**	⇓*ePcP*	**PcP**	**20 58 38.6**	**-0.5**
ESPZ	**Base Esperanza**	**80.49**	**158**	P	**P**	**20 58 36.1**	**+0.4**
ESPZ				IAmb	IAmb	20 58 37.4	
	comp=Z,30nm,0.7s						
NJ2	**Nanjing**	**81.18**	**312**	*eP*	**P**	**20 58 40.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PETK	**Petropavlovsk-**	**81.19**	**348**	P	**P**	**20 58 38.8**	**-0.4**
PETK	**Petropavlovsk-**	**81.19**	**348**	P	**P**	**20 58 39.1**	**-0.2**
	comp=Z,6.2nm,0.7s,baz=117,slow=6.7,SNR=12						
	comp=Z,6.2nm,0.7s						
TROLL	**Troll, Antarti**	**81.81**	**181**	⇑P	**P**	**20 58 42.7**	**+0.2**
	comp=Z,3μm,0.6s						
USRK	**Ussuriysk Ar.**	**82.06**	**328**	P	**P**	**20 58 43.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**82.06**	**328**	P	**P**	**20 58 44.1**	**+0.2**
	comp=Z,6.7nm,0.7s,baz=168,slow=3.3,SNR=14

ASF	Jabal al Asfar	146.00	289	PKPbc	PKPbc	21 05 58.6	-0.8	
	comp=Z,4.1nm,0.8s,baz=89,slow=2.3,SNR=6.1							
ODD1	Odda	146.02	353	*e*P	PKPbc	21 05 58.1	-0.4	
AKASG	Malin Array Be	146.17	324	PKPbc	PKPbc	21 05 58.1	-1.0	
	comp=Z,4.7nm,0.6s,baz=47,slow=3.8,SNR=30							
MMAI	Mount Meron Ar	147.25	291	PKPbc	PKPbc	21 06 03.5	+0.8	
	comp=Z,5.1nm,0.7s,baz=69,slow=4.6,SNR=10							
BRTR	Keskin Array B	147.77	303	PKPbc	PKPbc	21 06 03.1	-0.8	
	comp=Z,2.0nm,0.8s,baz=84,slow=2.9,SNR=8.8							
BEL	Belsk	149.44	332	*e*PKP	PKPbc	21 06 07.6	+0.3	
GKP	Gorka Klasztor	149.68	337	*e*PKP	PKPbc	21 06 07.8	-0.1	
OJC	Ojcow	151.06	331	*e*PKP	PKPbc	21 06 10.8	-0.4	
EKA	Eskdalemuir Ar	151.08	2	PKPbc	PKPbc	21 06 10.2	-0.8	
	comp=Z,0.7nm,0.4s,baz=328,slow=2.7,SNR=11							
KSP	Ksiaz	152.00	335	*e*PKP	PKiKP	21 06 13.5	+0.1	
OSTC	Ostas	152.26	335⇑	*e*PKP	PKiKP	21 06 14.2	+0.2	
OSTC				*e*PKPAB	PKPab	21 06 24.0	-2.9	
MORC	Moravsky Berou	152.35	333	*e*PKP	PKPab	21 06 26.6	-0.7	
DPC	Dobruska-Polom	152.38	335⇑	*e*PKP	PKiKP	21 06 17.4	+3.1	
DPC				*e*PKPAB	PKPab	21 06 27.7	+0.2	
CLL	Collm	152.73	340⇑	*i*PKPbc	PKPbc	21 06 14.7	-0.1	
	comp=Z,5.0nm,1.0s							
CLL				⇓*i*PKPab	PKPab	21 06 28.2	-0.6	
	comp=Z,6.0nm,0.6s							
CLL				*i* pPKPbc	pPKPbc	21 08 36.2	+2.5	
CLL				*i* SKPdf	SKPdf	21 08 42.1	-1.1	
	comp=Z,4.0nm,0.8s							
CLL				*i* pPKPab	pPKPab	21 08 43.7	+2.4	
CLL				*i* x	x	21 08 48.3		
PVCC	Panska Ves	152.88	337	*e*PKPAB	PKPab	21 06 29.7	+0.2	
VRAC	Vranov	153.10	333	*e*PKP	PKPab	21 06 30.2	-0.3	
KRUC	Moravsky	153.38	333	*e*PKP	PKPab	21 06 30.9	-0.8	
ZVC	Zvikov	153.92	336	*e*PKPAB	PKPab	21 06 34.9	+0.9	
CKRC	Cesky Krumlov	154.39	335	*e*PKPAB	PKPab	21 06 35.9	-0.2	
KHC	Kasperske Hory	154.40	336⇑	*e*PKP	PKPbc	21 06 27.1	+0.6	
KHC				*e*PKPAB	PKPab	21 06 36.0	-0.1	
RONA	Rosalia, Austr	154.47	331	*i* PKP	PKPab	21 06 36.7	+0.2	
	comp=Z,5.4nm,1.5s							
CONA	Conrad Observa	154.48	332	*i* PKP	PKPab	21 06 36.7	+0.1	
	comp=Z,2.2nm,0.6s							
GERES	GERESS Array B	154.59	336	PKPab	PKPab	21 06 36.6	-0.4	
	comp=Z,1.7nm,0.9s,baz=42,slow=6.3,SNR=7.5							
ARSA	Arzberg	155.15	331	*i* PKP	PKPab	21 06 39.2	-0.2	
	comp=Z,1.2nm,0.7s							
BIOA	Bad Ischl, Aus	155.57	334	*i* PKP	PKPab	21 06 40.5	-0.7	
	comp=Z,3.1nm,1.1s							
SOKA	Soboth	155.81	331	*i* PKP	PKPab	21 06 41.7	-0.6	
	comp=Z,1.7nm,0.7s							
KBA	Koelnbreinsper	156.19	334	*i* PKP	PKPab	21 06 42.7	-1.3	
	comp=Z,0.9nm,0.6s							
MYKA	Terra Mystica	156.43	333	*i* PKP	PKPab	21 06 43.9	-1.1	
	comp=Z,2.9nm,0.7s							
WTTA	Wattenberg	156.67	337	*i* PKP	PKPab	21 06 44.2	-2.0	
	comp=Z,2.8nm,1.0s							
RETA	Reutte	156.78	338	*i* PKP	PKPab	21 06 46.4	-0.1	
	comp=Z,2.7nm,0.8s							
ABTA	Abfaltersbach	156.78	335	*i* PKP	PKPab	21 06 45.2	-1.3	
	comp=Z,4.5nm,1.2s							
MOTA	Moosalm	156.79	338	*i* PKP	PKPab	21 06 46.0	-0.6	
	comp=Z,3.1nm,0.8s							
SQTA	Sankt Quirin	156.86	337	*i* PKP	PKPab	21 06 46.7	-0.2	
	comp=Z,2.5nm,0.7s							
FETA	Feichten	157.20	338	*i* PKP	PKPab	21 06 48.3	-0.2	
	comp=Z,2.3nm,0.7s							
DAVA	Damuels	157.24	339	*i* PKP	PKPab	21 06 48.6	0.0	
	comp=Z,1.6nm,0.5s							
DAVOX	Davos/Dischmat	157.69	339	PKPab	PKPab	21 06 50.8	+0.2	
	comp=Z,1.9nm,0.6s,baz=341,slow=1.2,SNR=5.9							
DBIC	Dimbokro	160.14	171	PKPab	PKPab	21 07 01.6	-0.1	
	comp=Z,1.2nm,0.4s,baz=152,slow=1.7,SNR=4.6							
TORD	Torodi Ar. Bea	166.44	194	PKPab	PKPab	21 07 28.8	-0.7	
	comp=Z,4.1nm,0.7s,baz=161,slow=3.6,SNR=26							
ESDC	Sonseca Array	166.63	8	PKPab	PKPab	21 07 29.3	-0.6	
	comp=Z,0.1nm,0.3s,baz=329,slow=5.0,SNR=4.0							

NAO ***05*** *21:04:43.9,44.°06N×27.°24E,h33km,mb3.6*
SOF ***05*** *21:05:05.9,45.°94N±0.°02×26.°66E±0.°01,h90km±9km, MD4.4/12*
PRU ***05*** *21:05:06.7,45.°72N×26.°96E,h50km,M4.4*
MOS ***05*** *21:05:07.0±1.1,45.°81N×26.°67E,h71km,mb4.4/11,Error ellipse: s-maj=5.4km s-min=3.8km az=109.4*
SIGU ***05*** *21:05:07.8,45.°82N×26.°69E,h76km*
MCSM ***05*** *21:05:08.2±0.2,46.°N±2.°×2.°7E±.°,h67km±5km,mb4.2, mB4.9,MLv4.0,Mw(mB)4.2*
BUC ***05*** *21:05:08.7±0.1,45.°80N×26.°70E,h70km±1km,ml4.1/82, Error ellipse: s-maj=1.0km s-min=0.8km az=29.0*
NEIC ***05*** *21:05:08.7±2.6,45.°81N±0.°06×26.°64E±0.°07,h61km±8km, mb4.4/25,Error ellipse: s-maj=9.4km s-min=7.0km az=211.0*
IDC ***05*** *21:05:08.6±0.8,45.°94N×26.°40E,h68km±10km,mb3.5/12, mbtmp3.9/18,Error ellipse: s-maj=16.7km s-min=11.7km az=160.0*
BEO ***05*** *21:05:10.2±0.7,45.°66N×26.°55E,h44km±3km,ML3.4/20*
CFUSG ***05*** *21:05:10.3,45.°80N×27.°00E,h70km,mb3.4/8,MD3.6/7, Romania Magtype MSH 4.0 from 8 stations*
ISC 05 21:05:08.0±0.5,45.°78N±0.°02×26.°68E±0.°02,h65km±5km, n437,σ1s80/583,mb4.2/31,84C-76D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR5	Plostina Array	0.06	353	Pn	Pn	21 05 17.8	+0.1
PLOR	Plostina	0.07	345	⇑P	Pn	21 05 18.7	+0.9
PLOR				⇓S	Sn	21 05 26.5	+1.6
PLOR	Plostina	0.07	345	P	Pn	21 05 18.6	+0.9
PLOR				S	Sn	21 05 26.4	+1.6
VRI	Vrincioaia	0.09	24	⇑P	Pn	21 05 18.9	+1.1
VRI				⇑S	Sn	21 05 26.3	+1.4
VRI	Vrincioaia	0.09	24	P	Pn	21 05 18.8	+1.1
VRI				S	Sn	21 05 26.2	+1.4
VRI	Vrincioaia	0.09	24	Pn	Pn	21 05 17.8	0.0
BISRR	Bisoca	0.24	174	⇓P	Pn	21 05 20.2	+1.8
BISRR				⇑S	Sn	21 05 28.8	+2.9
BISRR	Bisoca	0.24	174	Pn	Pn	21 05 19.5	+1.1
ODBI	Odobesti	0.27	94	⇓P	Pn	21 05 20.6	+2.1
ODBI				⇑S	Sn	21 05 27.9	+1.8
ODBI	Odobesti	0.27	94	Pn	Pn	21 05 19.4	+0.9
PANC	Panciu	0.34	75	⇓P	Pn	21 05 20.6	+1.6
PANC				⇑S	Sn	21 05 29.4	+2.4
NEHR	Nehoiu	0.44	217	⇑P	Pn	21 05 22.2	+2.3
NEHR				⇓S	Sn	21 05 31.6	+2.9
COSR	Cosmesti PH	0.45	80	⇓P	Pn	21 05 21.0	+1.1
COSR				⇓S	Sn	21 05 30.5	+1.9
TURR	Turia	0.54	301	⇑P	Pn	21 05 22.0	+1.1
TURR				⇑S	Sn	21 05 31.5	+1.2
GHRR		0.58	61	⇓P	Pn	21 05 22.7	+1.4
GHRR				⇑S	Sn	21 05 32.7	+1.7
ONER	Baraj Valea Uz	0.59	341	⇑P	Pn	21 05 22.6	+1.2
ONER				⇓S	Sn	21 05 32.4	+1.2
MLR	Muntele Rosu	0.59	241	⇑P	Pn	21 05 23.0	+1.4
MLR				⇑S	Sn	21 05 33.0	+1.6
MLR	Muntele Rosu	0.59	241		Pn	21 05 22.9	+1.4
MLR				Sn	Sn	21 05 30.8	-0.7
MLR	Muntele Rosu	0.59	241	P	Pn	21 05 22.9	+1.4
	560nm,0.5s,baz=48,slow=2.6,SNR=2095						
MLR				S	Sn	21 05 31.3	-0.1
	1um,0.4s,baz=202,slow=23,SNR=31						
MLR	Muntele Rosu	0.59	241	P	Pn	21 05 22.9	+1.4
MLR				S	Sn	21 05 33.0	+1.6
MLR	Muntele Rosu	0.59	241	*e*Pg	Pn	21 05 22.9	+1.4
MLR				*e*Sg	Sn	21 05 30.7	-0.7
MLR	Muntele Rosu	0.59	241	Pn	Pn	21 05 22.0	+0.5
ISR	Istrita	0.67	188	⇓P	Pn	21 05 24.5	+2.1
ISR	Istrita	0.67	188	P	Pn	21 05 24.4	+2.1
ISR	Istrita	0.67	188	Pn	Pn	21 05 22.9	+0.6
OZUR		0.69	297	⇑P	Pn	21 05 23.3	+0.7
OZUR				⇑S	Sn	21 05 34.3	+1.0
TUDR		0.72	105	⇓P	Pn	21 05 23.5	+0.7
TUDR				⇑S	Sn	21 05 34.9	+1.2
TESR	Tescani	0.73	359	⇓P	Pn	21 05 23.8	+0.8
TESR				⇑S	Sn	21 05 34.6	+0.6
TESR	Tescani	0.73	359	Pn	Pn	21 05 22.6	-0.4
IZVR	Izvoarele	0.80	107	⇓P	Pn	21 05 24.1	+0.3
IZVR				⇓S	Sn	21 05 36.2	+0.8
BIR	Birlad	0.82	54	⇑P	Pn	21 05 25.3	+1.3
BIR	Birlad	0.82	54	P	Pn	21 05 25.3	+1.3
VARL	Varlezi	0.83	81	⇓P	Pn	21 05 25.3	+1.2
VARL				⇑S	Sn	21 05 37.7	+1.7
SCHL	Schela	0.86	109	⇓P	Pn	21 05 24.9	+0.4
SCHLR	Schela	0.87	111	⇓P	Pn	21 05 25.0	+0.4
SCHLR				⇑S	Sn	21 05 37.2	+0.3
NEGRR	Negrea	0.88	106	⇓P	Pn	21 05 25.5	+0.8
NEGRR				⇑S	Sn	21 05 37.6	+0.6
PGOR	Pogoanele	0.90	166	⇓P	Pn	21 05 26.7	+1.7
PGOR				⇑S	Sn	21 05 39.2	+1.7
DOPR	Dopca	0.92	282	⇑P	Pn	21 05 26.4	+1.1
DOPR				⇑S	Sn	21 05 39.3	+1.2
SCTR	Scanteiesti	0.93	96	⇓P	Pn	21 05 26.5	+1.1
SCTR				⇑S	Sn	21 05 39.3	+1.1
PLAR	PLOIESTI	0.98	208	⇓P	Pn	21 05 28.1	+2.1
TATR	Tatarca	0.98	100	⇓P	Pn	21 05 27.1	+1.1
TATR				⇓S	Sn	21 05 40.6	+1.3
VLDR	Vladesti	0.98	86	⇓P	Pn	21 05 27.5	+1.4
VLDR				⇑S	Sn	21 05 41.1	+1.6
GISR	Galati	1.03	109	⇑P	Pn	21 05 27.4	+0.8
GISR				⇑S	Sn	21 05 40.7	+0.3
GIUM	Giurgiulesti	1.12	105	⇓P	Pn	21 05 29.1	+1.3
GIUM				⇓S	Sn	21 05 43.8	+1.4
GIUM	Giurgiulesti	1.12	105	P	Pn	21 05 29.0	+1.3
SULR		1.14	195	⇓P	Pn	21 05 30.2	+2.0
SULR				⇑S	Sn	21 05 45.8	+2.7
VASR	Vaslui	1.16	42	⇓P	Pn	21 05 29.6	+1.3
GIRR	Girov	1.18	354	⇑P	Pn	21 05 29.6	+1.0
CFR	Carcaliu	1.19	120	⇓P	Pn	21 05 29.1	+0.3
CFR	Carcaliu	1.19	120	P	Pn	21 05 29.0	+0.3
BIZ	Bicaz	1.22	341	⇓S	Sn	21 05 46.8	+1.8
JOSR	Joseni	1.23	319	⇓P	Pn	21 05 29.8	+0.6
AMRR	Amara	1.26	158	⇓P	Pn	21 05 31.1	+1.4
AMRR	Amara	1.26	158	P	Pn	21 05 31.0	+1.4
MTUR	Matau	1.26	244	P	Pn	21 05 32.0	+2.2
LEHL	Lehliu	1.31	175	⇓P	Pn	21 05 31.9	+1.6
LEHL				⇓S	Sn	21 05 49.3	+2.3
INCR	INCERC-Sediu C	1.39	195	⇓P	Pn	21 05 32.9	+1.5
INCR				⇓S	Sn	21 05 51.6	+2.8
HARR	Harsova	1.41	140	⇓P	Pn	21 05 32.5	+0.9
HARR	Harsova	1.41	140	P	Pn	21 05 32.4	+0.9
BUC	Bucharest	1.43	197	⇓P	Pn	21 05 33.3	+1.4
BUC				⇓S	Sn	21 05 51.7	+2.0
CIOR	Ciorogarla	1.45	203	⇓P	Pn	21 05 33.6	+1.5
CIOR				⇓S	Sn	21 05 51.9	+1.7
ARR	Arges	1.49	255	⇓P	Pn	21 05 34.6	+1.8
BUC1	Bucharest	1.51	198	⇓P	Pn	21 05 34.3	+1.4
BUC1	Bucharest	1.51	198	⇓P	Pn	21 05 34.3	+1.4
BUC1	Bucharest	1.51	198	P	Pn	21 05 34.3	+1.4
IASR	Iasi	1.53	24	⇓P	Pn	21 05 34.0	+0.8
IASR				⇑S	Sn	21 05 52.4	+0.2
TLBR	Topalu	1.57	141	⇓P	Pn	21 05 34.7	+0.9
TLBR				⇑S	Sn	21 05 54.4	+1.1
CICN	Ciocanesti	1.60	171	⇓P	Pn	21 05 35.3	+1.1
CICN				⇑S	Sn	21 05 55.2	+1.3
PRAR	RASCA	1.61	349	⇓P	Pn	21 05 35.4	+1.1
TLCR		1.62	111	⇓P	Pn	21 05 35.6	+1.2
TLCR				⇑S	Sn	21 05 55.8	+1.5
TLCR		1.62	111	P	Pn	21 05 35.6	+1.2
TLCR				S	Sn	21 05 55.8	+1.5
SGRR	Singureni	1.64	198	⇓P	Pn	21 05 35.8	+1.2
MDB	Medias	1.64	283	⇑P	Pn	21 05 36.6	+1.8
MDB				⇓S	Sn	21 05 57.5	+2.6
MDB	Medias	1.64	283	P	Pn	21 05 36.5	+1.8
TGMR	Targu Mures	1.67	297	⇑P	Pn	21 05 36.9	+1.8
TGMR				⇑S	Sn	21 05 57.8	+2.1
HUMR	Humele	1.73	224	⇑P	Pn	21 05 37.1	+1.1
HUMR				⇑S	Sn	21 05 58.8	+1.6
CVDA	Cernavoda	1.74	146	⇓P	Pn	21 05 37.1	+1.1
TIRR	Tirgusor	1.81	136	⇓P	Pn	21 05 37.7	+0.8
TIRR	Tirgusor	1.81	136	Pn	Pn	21 05 37.5	+0.6
TIRR				Sn	Sn	21 05 58.2	-0.6
TIRR	Tirgusor	1.81	136	P	Pn	21 05 37.5	+0.6
TIRR						21 05 58.3	
TIRR	Tirgusor	1.81	136	Pn	Pn	21 05 37.3	+0.4
JURR	Jurilovca	1.86	122	⇑P	Pn	21 05 39.0	+1.4
MILM	Milestii Mici	1.87	52	⇑P	Pn	21 05 37.9	+0.2
MILM	Milestii Mici	1.87	52⇑	*i*P	Pn	21 05 37.9	+0.2
	70nm,0.2s						
MILM				*e*S	Sn	21 05 59.3	-1.0
	380nm,0.2s						
MILM	Milestii Mici	1.87	52	P	Pn	21 05 37.9	+0.2
MILM	Milestii Mici	1.87	52	P	Pn	21 05 37.9	+0.2
MILM				Pm		21 05 39.7	
MILM				*e*S	Sn	21 05 59.3	-1.0
MILM				Sm		21 05 59.4	
KIS	Kishinev	1.92	50	⇑P	Pn	21 05 39.2	+0.8
KIS	Kishinev	1.92	50	*e*P	Pn	21 05 39.0	+0.6
	44nm,0.2s						
KIS				*e*S	Sn	21 06 01.5	0.0
	420nm,0.3s						
KIS	Kishinev	1.92	50	*e*P	Pn	21 05 39.0	+0.6
KIS				*e*S	Sn	21 06 01.5	0.0
KIS				smax	smax		
	comp=E,420nm,0.3s						
KIS				smax	smax		
	comp=N,320nm,0.3s						
KIS	Kishinev	1.92	50	*e*P	Pn	21 05 39.0	+0.6
KIS				Pm		21 05 40.0	
KIS				*e*S	Sn	21 06 01.5	0.0
KIS				Sm		21 06 01.6	
KIS				m		21 06 03.0	
KIS	Kishinev	1.92	50	Pn	Pn	21 05 38.9	+0.6
COPA	Copaceanca	1.95	213	⇓P	Pn	21 05 39.7	+0.9
COPA				⇓S	Sn	21 06 03.3	+1.1
MFTR	Murfatlar	2.03	142	⇓P	Pn	21 05 40.8	+0.9
MFTR				⇑S	Sn	21 06 04.8	+0.7
LOT	Lotru	2.07	262	⇓P	Pn	21 05 41.6	+1.1
BURAR	Bucovina Array	2.09	332	Pn	Pn	21 05 41.8	+0.9
BURAR	Bucovina Array	2.09	332	P	Pn	21 05 41.8	+0.9
BUR08	Bucovina Ar. S	2.12	332	Pn	Pn	21 05 42.3	+1.0
TSCT	Constanta Port	2.15	138	⇑P	Pn	21 05 42.5	+0.9
EFOR	EFORIE	2.20	140	⇓P	Pn	21 05 43.3	+1.0
RAZG	Razgrad	2.22	183	⇓P	Pn	21 05 43.4	+0.9
ZIMR		2.32	204	⇑P	Pn	21 05 44.5	+0.6
CJR	Cluj-Napoca	2.33	295	⇑P	Pn	21 05 45.1	+1.0
CJR				⇓S	Sn	21 06 12.9	+1.2
CJR	Cluj-Napoca	2.33	295	P	Pn	21 05 45.0	+1.0
PURM	Purcari	2.34	70	⇑P	Pn	21 05 45.2	+1.0
PURM				⇓S	Sn	21 06 11.6	-0.2
PURM	Purcari	2.34	70	Pn	Pn	21 05 43.6	-0.6
CBBR	Cluj-Babes-Bol	2.38	296	⇑P	Pn	21 05 45.6	+0.9
PSN	Preselentsi	2.38	154	⇓*i*P	Pn	21 05 45.9	+1.1
PSN				S	Sn	21 06 13.3	+0.4
PSN	Preselentsi	2.38	154	P	Pn	21 05 45.6	+0.8
VLAD	Vladila	2.41	223	⇑P	Pn	21 05 45.5	+0.5
TSMN	Mangalia Port-	2.41	145	⇑P	Pn	21 05 46.0	+0.9
TSMN				⇑S	Sn	21 06 15.0	+1.6
LOZB	Loznitsa	2.41	181	⇑P	Pn	21 05 46.1	+0.9
DRBR	Darabani	2.43	359	⇑P	Pn	21 05 46.1	+0.8
DRBR				⇑S	Sn	21 06 14.0	+0.1
NEF	NEVSHA	2.55	170	⇓*i*P	Pn	21 05 48.3	+1.2
SZH	Strazhitsa	2.57	191	⇓*i*P	Pn	21 05 47.7	+0.4
CHRU	Chernivtsi	2.57	349	*i* P	Pn	21 05 48.1	+0.8
CHRU				Pm		21 05 48.3	
CHRU				*i* S	Sn	21 06 18.2	+0.8
CHRU				Sm		21 06 23.8	
CHRU	Chernivtsi	2.57	349	Pn	Pn	21 05 46.9	-0.4
CHRU				Sn	Sn	21 06 16.5	-0.9
SORM	Soroca	2.62	25	⇓P	Pn	21 05 47.9	-0.1
SORM	Soroca	2.62	25	P	Pn	21 05 47.8	-0.1
SORM	Soroca	2.62	25	Pn	Pn	21 05 47.4	-0.5
MARR	Marisel-Cluj	2.62	291	⇓P	Pn	21 05 49.3	+1.1
MARR				⇑S	Sn	21 06 20.3	+1.3
DEV	Deva	2.64	274	⇑P	Pn	21 05 49.4	+1.2
DEV				⇓S	Sn	21 06 21.4	+2.3
PRD	Provadia	2.67	168	*i* P	Pn	21 05 49.8	+1.1
KALB	Balgarevo	2.68	152	⇑P	Pn	21 05 49.9	+1.1
KALB				⇑S	Sn	21 06 21.5	+1.4
ROIA	ROIAK	2.73	169	*i* P	Pn	21 05 51.2	+1.6
AVR	AVREN	2.76	165	*i* P	Pn	21 05 51.3	+1.5
KSV	Kosov	2.76	337	*i* P	Pn	21 05 50.6	+0.7
KSV				Pm		21 05 51.4	
KSV				*i* S	Sn	21 06 23.1	+1.0
KSV				Sm		21 06 27.0	
KSV	Kosov	2.76	337	Pn	Pn	21 05 49.6	-0.3
GZR	Gura Zlata	2.77	263	*e*Pn	Pn	21 05 51.3	+1.3
GZR				*e*Sn	Sn	21 06 21.8	-0.5
KMPD	K-Podol'skiy	2.79	357	*i* P	Pn	21 05 50.5	+0.3
KMPD				*i* S	Sn	21 06 21.3	-1.3
KMPD	K-Podol'skiy	2.79	357	Pn	Pn	21 05 49.4	-0.8
KMPD				Pn	Pn	21 05 49.4	-0.8
PLVB	Pleven	2.81	212	⇓P	Pn	21 05 51.0	+0.4
RAKU	Rahkiv	2.83	323	*i* P	Pn	21 05 51.8	+1.0
RAKU				Pm		21 05 53.0	
RAKU				*i* S	Sn	21 06 24.5	+0.8
RAKU				Sm		21 06 27.5	
NDNU	Novodnistrovsk	2.85	9	*i* P	Pn	21 05 51.4	+0.3
NDNU				Pm		21 05 52.2	
NDNU				*i* S	Sn	21 06 23.6	-0.7
NDNU				Sm		21 06 35.5	
NDNU	Novodnistrovsk	2.85	9	Pn	Pn	21 05 50.3	-0.8
NSLU	Nyzhne Selyshc	2.85	329	*i* P	Pn	21 05 57.8	+6.7
NSLU				Pm		21 05 59.6	
NSLU				*i* S	Sn	21 06 35.5	+11
NSLU				Sm		21 06 39.4	
PVL	Pavlikeni	2.87	203	*i* P	Pn	21 05 52.0	+0.6
BMR	Baia Mare	2.89	312	⇓P	Pn	21 05 53.0	+1.3
BMR				⇑S	Sn	21 06 25.8	+0.6
BMR	Baia Mare	2.89	312	P	Pn	21 05 52.9	+1.3
ELND	Elena	2.91	192	⇑P	Pn	21 05 53.0	+1.0
MESR	Meseseni	2.92	299	⇑P	Pn	21 05 52.8	+0.8
MESR				⇑S	Sn	21 06 28.0	+2.1
DRGR		2.93	292	⇓P	Pn	21 05 52.9	+0.7
DRGR		2.93	292	P	Pn	21 05 52.9	+0.7
DRGR				S	Sn	21 06 26.6	+0.3
DRGR		2.93	292	*e*Pn	Pn	21 05 52.7	+0.5
DRGR				*e*Sn	Sn	21 06 25.4	-0.9
BAL3X	Bal3x, Balta	2.94	42	Pn	Pn	21 05 51.6	-0.8
BAL3X				Sn	Sn	21 06 24.5	-2.0
RMGR	Halanga-Turnu	3.03	250	⇑S	Sn	21 06 29.5	+0.9
PUNG	Punghina	3.05	242	⇑P	Pn	21 05 54.0	+0.2
PUNG	Punghina	3.05	242	*e*Sn	Sn	21 06 26.5	-2.6
VALD	Valchedram	3.12	229	*i* P	Pn	21 05 55.0	+0.3
HERR	Herculane	3.14	255	⇑P	Pn	21 05 56.1	+1.1
DJES	Djerdap	3.14	251	*e*Sn	Sn	21 06 30.1	-1.3
MPEP	Malo Peshtene	3.21	222	*i* P	Pn	21 05 56.5	+0.5
MPEP				S	Sn	21 06 32.9	-0.1
STNU	Starunia	3.28	334	*i* P	Pn	21 05 57.4	+0.4
STNU				*i* S	Sn	21 06 35.3	+0.5
STNU	Starunia	3.28	334	Pn	Pn	21 05 56.4	-0.6
JMB	Yambol	3.29	182	*i* P	Pn	21 05 57.9	+0.8
KORU	Korolevo	3.39	316	*i* P	Pn	21 05 59.2	+0.7
KORU				*i* S	Sn	21 06 39.4	+1.9
KORU	Korolevo	3.39	316	Pn	Pn	21 05 58.1	-0.4
HORU	Horodok	3.44	357	*i* P	Pn	21 05 59.6	+0.5
HORU				Pm		21 05 59.8	
HORU				*i* S	Sn	21 06 38.0	-0.6
HORU				Sm		21 06 51.0	
HORU	Horodok	3.44	357	Pn	Pn	21 05 58.3	-0.8
TRSU	Trosnyk	3.44	314	*i* P	Pn	21 05 59.9	+0.8
TRSU				Pm		21 06 01.2	
TRSU				*i* S	Sn	21 06 39.9	+1.3
TRSU				Sm		21 06 56.8	
MEZ	Mezhgor'ye	3.48	323	*i* P	Pn	21 06 01.0	+1.3
SIRR	Siria	3.53	280	⇓P	Pn	21 06 01.6	+1.3
SIRR				⇓S	Sn	21 06 41.4	+0.5
SIRR	Siria	3.53	280	*e*Pn	Pn	21 06 01.4	+1.0
SIRR				*e*Sn	Sn	21 06 39.5	-1.3
BZS	Buzias	3.55	269	⇓P	Pn	21 06 01.5	+0.8
BZS	Buzias	3.55	269	P	Pn	21 06 01.4	+0.8
BZS	Buzias	3.55	269	*e*Pn	Pn	21 06 00.9	+0.3
BRIU	Brid	3.57	317	*i* P	Pn	21 06 01.7	+0.8
BRIU				Pm		21 06 02.1	
BRIU				*i* S	Sn	21 06 43.4	+1.5
BRIU				Sm		21 07 08.6	
BRIU	Brid	3.57	317	Pn	Pn	21 06 00.9	-0.1
BLKB	Belogradchik	3.58	234	*e*Sn	Sn	21 06 37.5	-4.6
BORR	Bors

SEV Pm 21 06 23.8
comp=Z,37nm,0.4s
SEV ex x 21 07 12.2
SEV eS Sn 21 07 17.3 -2.0
SEV Sm 21 07 19.2
comp=N,7.0nm,0.3s
SEV Sm 21 07 19.2
comp=E,123nm,0.4s
CAVK Edirne/Enez-Ca 5.10 184 ⇑P **Pn 21 06 22.8 +0.9**
SILT Sile 5.11 154 ⇓P **Pn 21 06 22.1 +0.1**
AK14 Malin Array Si 5.12 18 Pn **Pn 21 06 21.1 -0.9**
AK10 Malin Array Si 5.12 19 Pn **Pn 21 06 21.1 -0.9**
PSZ Piszkesteto 5.12 297 ⇓P **Pn 21 06 22.5 +0.4**
PSZ Piszkesteto 5.12 297 Pn **Pn 21 06 22.1 -0.1**
PSZ Piszkesteto 5.12 297 P **Pn 21 06 22.1 -0.1**
PSZ Piszkesteto 5.12 297 eP **Pn 21 06 22.7 +0.5**
AK05 Malin Array Si 5.13 18 Pn **Pn 21 06 21.1 -1.1**
IVAS Ivanjica 5.15 247 ePn **Pn 21 06 22.3 -0.3**
IVAS eSn **Sn 21 07 15.4 -5.2**
STHS Stebnicka Huta 5.17 317 eP **Pn 21 06 23.2 +0.4**
STHS eS **Sn 21 07 19.8 -1.2**
STHS Stebnicka Huta 5.17 317 eP **Pn 21 06 23.2 +0.4**
STHS eS **Sn 21 07 19.8 -1.2**
SRS Serrai 5.17 207 ePn **Pn 21 06 23.8 +0.9**
KIEV Kiev 5.20 18 Pn **Pn 21 06 22.6 -0.5**
KIEV Kiev 5.20 18 P **Pn 21 06 22.7 -0.5**
KIEV Kiev 5.20 18 Pn **Pn 21 06 22.4 -0.7**
comp=E,1.7nmcomp=E,7µmcomp=E,130nm,0.8s
TEKS Tekeris 5.20 259 ePn **Pn 21 06 22.8 -0.5**
TEKS eSn **Sn 21 07 17.4 -4.5**
AK20 Malin Array Si 5.20 17 Pn **Pn 21 06 22.4 -0.8**
AKASG Malin Array Be 5.21 18 Pn **Pn 21 06 21.3 -2.0**
AKASG Malin Array Be 5.21 18 P **Pn 21 06 22.6 -0.6**
comp=E,21nm,0.3s,baz=204,slow=13,SNR=90
AKASG S **Sn 21 07 17.0 -4.9**
comp=E,18nm,0.2s,baz=202,slow=25,SNR=10
AKASG Malin Array Be 5.21 18 *ce*P **Pn 21 06 22.7 -0.6**
AKASG pmax pmax
comp=Z,18nm,0.3s
AKBB Malin Array Si 5.21 18 Pn **Pn 21 06 22.8 -0.5**
AKBB Malin Array Si 5.21 18 P **Pn 21 06 22.8 -0.5**
AKBB Malin Array Si 5.21 18 Pn **Pn 21 06 22.5 -0.8**
SIM Simferopol' 5.31 96 eP **Pn 21 06 25.5 +0.8**
SIM eS **Sn 21 07 22.9 -1.6**
SIM Simferopol' 5.31 96 eP **Pn 21 06 25.5 +0.8**
SIM Pm 21 06 28.5
SIM eS **Sn 21 07 22.9 -1.6**
SIM Sm 21 07 24.3
SIM Simferopol' 5.31 96 eP **Pn 21 06 25.5 +0.8**
SIM Pm 21 06 28.5
comp=Z,45nm,0.6s
SIM ex x 21 07 21.3
SIM eS **Sn 21 07 22.9 -1.6**
SIM Sm 21 07 24.3
comp=N,96nm,0.3s
SIM Sm 21 07 24.3
comp=E,40nm,0.3s
VAY Valandovo 5.37 215 *i* Pn **Pn 21 06 26.7 +1.3**
SJES Sjenica 5.41 245 ePn **Pn 21 06 26.5 +0.3**
SJES eSn **Sn 21 07 23.4 -3.8**
YAL Yalta 5.45 101 eP **Pn 21 06 27.3 +0.7**
YAL eS **Sn 21 07 26.1 -1.7**
YAL Yalta 5.45 101 eP **Pn 21 06 27.3 +0.7**
YAL Pm 21 06 30.0
YAL eS **Sn 21 07 26.1 -1.7**
YAL Sm 21 07 30.8
YAL Yalta 5.45 101 eP **Pn 21 06 27.3 +0.7**
YAL Pm 21 06 30.0
comp=Z,7.0nm,0.2s
YAL ex x 21 07 24.9
YAL eS **Sn 21 07 26.1 -1.7**
YAL Sm 21 07 30.8
comp=N,24nm,0.2s
YAL Sm 21 07 30.8
comp=E,85nm,0.6s
RNPP5 Staryi Chortor 5.48 355 Pn **Pn 21 06 26.5 -0.4**
SOH Sokhos 5.52 207 P **Pn 21 06 28.2 +0.6**
BAND Balkesir-Ban 5.52 169 ⇑P **Pn 21 06 28.3 +0.6**
ALU Alushta 5.57 99 eP **Pn 21 06 27.4 -0.8**
ALU eS **Sn 21 06 26.9 -3.9**
ALU Alushta 5.57 99 eP **Pn 21 06 27.4 -0.8**
ALU Pm 21 06 27.9
ALU eS **Sn 21 07 26.9 -3.9**
ALU Sm 21 07 30.0
ALU Alushta 5.57 99 eP **Pn 21 06 27.4 -0.8**
ALU Pm 21 06 27.9
comp=Z,13nm,0.4s
ALU eS **Sn 21 07 26.9 -3.9**
ALU Sm 21 07 30.0
comp=N,49nm,0.3s
ALU Sm 21 07 30.0
comp=E,38nm,0.3s
RNPP8 Varash 5.58 355 Pn **Pn 21 06 27.9 -0.5**
MORH Mrgy, Hungar 5.61 277 ⇑P **Pn 21 06 29.3 +0.4**
MORH Mrgy, Hungar 5.61 277 Pn **Pn 21 06 29.1 +0.3**
comp=E,0.0nmcomp=E,2.9nm,1.3s
NIE Niedzica 5.64 312 Pn **Pn 21 06 29.0 -0.2**
comp=E,0.0nmcomp=E,7.8nm,0.5s
RNPP9 Sopachiv 5.66 355 Pn **Pn 21 06 28.9 -0.5**
LANS Liptovska Anna 5.94 307 eP **Pn 21 06 35.8 +2.5**
LANS eS **Sn 21 07 38.6 -1.3**
LANS Liptovska Anna 5.94 307 eP **Pn 21 06 35.8 +2.5**
LANS eS **Sn 21 07 38.6 -1.3**
SUDU Sudak 5.94 96 eP **Pn 21 06 33.1 -0.1**
SUDU eS **Sn 21 07 37.4 -2.4**
SUDU Sudak 5.94 96 eP **Pn 21 06 33.1 -0.1**
SUDU Pm 21 06 38.8
SUDU eS **Sn 21 07 37.4 -2.4**
SUDU Sm 21 07 40.7
SUDU Sudak 5.94 96 eP **Pn 21 06 33.1 -0.1**
SUDU Pm 21 06 38.8
comp=Z,33nm,0.5s
SUDU eS **Sn 21 07 37.4 -2.4**
SUDU Sm 21 07 40.7
comp=N,162nm,0.5s
SUDU Sm 21 07 40.7
comp=E,170nm,0.4s
EZN Ezine 5.96 183 ⇑P **Pn 21 06 34.8 +1.2**
EZN Ezine 5.96 183 P **Pn 21 06 34.8 +1.2**
EZN Ezine 5.96 183 Pn **Pn 21 06 34.1 +0.5**
comp=E,1.1nmcomp=E,3µmcomp=E,247nm,0.5s
VYHS Vyhne 6.00 300 eP **Pn 21 06 35.9 +1.8**
VYHS eS **Sn 21 07 42.2 +0.9**
VYHS Vyhne 6.00 300 ePKP Pn 21 06 29.0 -5.1
VYHS Vyhne 6.00 300 eP **Pn 21 06 35.9 +1.8**
VYHS eS **Sn 21 07 42.2 +0.9**
SRO Srobarova 6.09 292 eP **Pn 21 06 37.9 +2.6**
SRO eS **Sn 21 07 44.7 +1.1**
SRO Srobarova 6.09 292 eP **Pn 21 06 37.9 +2.6**
SRO eS **Sn 21 07 44.7 +1.1**
FEO Feodosiya 6.18 94 eP **Pn 21 06 35.4 -1.2**
FEO eS **Sn 21 07 43.4 -2.5**
FEO Feodosiya 6.18 94 eP **Pn 21 06 35.4 -1.2**
FEO Pm 21 06 36.2
FEO eS **Sn 21 07 43.4 -2.5**
FEO Sm 21 07 47.3
FEO Feodosiya 6.18 94 eP **Pn 21 06 35.4 -1.2**
FEO Pm 21 06 36.2
comp=Z,13nm,0.4s
FEO Sm 21 07 40.7
comp=E,79nm,0.4s
FEO eS **Sn 21 07 43.4 -2.5**
FEO Sm 21 07 47.3
comp=N,121nm,0.5s
MDUB Mudurnu 6.25 146 Pn **Pn 21 06 39.3 +1.5**
FNA Florina 6.32 220 Pn **Pn 21 06 38.8 +0.2**
FNA Florina 6.32 220 P **Pn 21 06 38.8 +0.2**
OJC Ojcow 6.40 316 Pn **Pn 21 06 40.2 +0.6**
OJC Ojcow 6.40 316 P **Pn 21 06 40.2 +0.6**
OJC Ojcow 6.40 316 Pn **Pn 21 06 39.5 -0.1**
comp=N,0.1nmcomp=N,21nm,1.2s
LIT Litokhoron 6.46 210 Pn **Pn 21 06 41.9 +1.5**
LIT Litokhoron 6.46 210 P **Pn 21 06 41.9 +1.5**
BZK Bozkurt 6.53 123 ⇓P **Pn 21 06 41.0 -0.4**
BZK Bozkurt 6.53 123 Pn **Pn 21 06 40.9 -0.5**
JAVC Velka Javorina 6.85 300 ePN **Pn 21 06 46.6 +0.8**
MODS Modra-Piesok 6.92 295 eP **Pn 21 06 44.5 -2.2**
MODS eS **Sn 21 07 59.0 -5.0**
MODS Modra-Piesok 6.92 295 eP **Pn 21 06 44.5 -2.2**
MODS eS **Sn 21 07 59.0 -5.0**
OKC Ostrava-Krasne 7.03 308 eSN **Sn 21 08 04.0 -2.6**
MORC Moravsky Berou 7.33 306 Pn **Pn 21 06 52.3 -0.1**
MORC Moravsky Berou 7.33 306 ePN **Pn 21 06 52.7 +0.3**
MORC eSN **Sn 21 08 10.0 -4.2**
MORC Moravsky Berou 7.33 306 P **Pn 21 06 52.3 -0.1**
RONA Rosalia, Austr 7.38 289 *i* Pn **Pn 21 06 53.8 +0.7**
comp=N,1.6nm,0.5s
RONA eSn **Sn 21 08 12.2 -3.2**
comp=N,7.2nm,0.5s
MANT Manisa 7.42 168 Pn **Pn 21 06 53.7 -0.1**
VRAC Vranov 7.68 301 S **Sn 21 08 20.1 -2.4**
comp=N,1.3nm,0.3s,baz=226,slow=6.0,SNR=3.0
VRAC Vranov 7.68 301 ePN **Pn 21 06 57.6 +0.5**
VRAC eSN **Sn 21 08 21.5 -1.0**
KRUC Moravsky 7.71 299 ePN **Pn 21 06 57.9 +0.5**
KRUC eSN **Sn 21 08 21.7 -1.5**
CONA Conrad Observa 7.72 290 *i* Pn **Pn 21 06 58.5 +0.8**
comp=N,0.7nm,0.3s
CONA *i* Sn **Sn 21 08 20.8 -2.8**
comp=N,3.4nm,0.4s
ARSA Arzberg 7.83 285 *i* Pn **Pn 21 07 00.6 +1.3**
comp=N,0.6nm,0.3s
ARSA *i* Sn **Sn 21 08 23.8 -2.6**
comp=N,2.3nm,0.5s
BR105 Keskin Array S 7.92 137 Pn **Pn 21 07 01.1 +0.5**
comp=N,0.0nmcomp=N,65nmcomp=N,5.6nm,0.7s
BR131 Keskin Array S 7.93 137 Pn **Pn 21 07 00.2 -0.4**
BR131 Keskin Array S 7.93 137 eP **Pn 21 07 00.3 -0.4**
BRTR Keskin Array B 7.93 137 Pn **Pn 21 06 59.7 -1.0**
BRTR Keskin Array B 7.93 137 P **Pn 21 07 01.2 +0.5**
comp=N,0.7nm,0.2s,baz=330,slow=12,SNR=14
BRTR S **Sn 21 08 37.2 +8.2**
comp=N,0.9nm,0.6s,baz=322,slow=19,SNR=1.4
BRTR Keskin Array B 7.93 137 P **Pn 21 06 59.7 -1.0**
SOKA Soboth 8.12 281 *i* Sn **Sn 21 08 32.2 -1.3**
comp=N,0.3nm,0.2s
DPC Dobruska-Polom 8.30 307 eP **Pn 21 07 06.0 +0.4**
DPC *e* 21 08 34.8
DPC Dobruska-Polom 8.30 307 ePN **Pn 21 07 06.0 +0.4**
DPC eSN **Sn 21 08 34.8 -3.0**
TREC Trest 8.35 299 eSN **Sn 21 08 36.3 -2.6**
OBKA Obir 8.45 279 *i* Sn **Sn 21 08 41.7 0.0**
comp=N,0.9nm,0.4s
ISP Isparta 8.46 159 Pn **Pn 21 07 07.7 -0.1**
ISP Isparta 8.46 159 P **Pn 21 07 07.7 -0.1**
ISP Isparta 8.46 159 eP **Pn 21 07 07.9 +0.1**
OSTC Ostas 8.46 308 eP **Pn 21 07 08.2 +0.4**
OSTC *e* 21 08 38.4
OSTC Ostas 8.46 308 ePN **Pn 21 07 08.2 +0.4**
OSTC eSN **Sn 21 08 38.4 -3.4**
SUW Suwalki 8.54 346 Pn **Pn 21 07 07.0 -1.8**
SUW Suwalki 8.54 346 P **Pn 21 07 07.0 -1.8**
SUW Suwalki 8.54 346 eP **Pn 21 07 08.1 -0.7**
CHVC Chvalec 8.57 308 eP **Pn 21 07 08.1 -1.2**
CHVC *e* 21 08 41.9
CHVC Chvalec 8.57 308 ePN **Pn 21 07 08.1 -1.2**
CHVC eSN **Sn 21 08 41.9 -2.4**
KSP Ksiaz 8.57 310 P **Pn 21 07 09.5 +0.2**
KSP Ksiaz 8.57 310 Pn **Pn 21 07 09.1 -0.2**
NACGM Naroch 9.13 0 ⇑*i*P **Pn 21 07 15.0 -1.9**
comp=Z,17nm,0.9s,baz=180
KBA Koelnbreinsper 9.30 283 *i* Sn **Sn 21 08 59.3 -3.1**
comp=Z,1.1nm,0.5s
ITM Ithomi 9.30 204 Pn **Pn 21 07 20.9 +1.6**
GERES GERESS Array B 9.33 294 P **Pn 21 07 16.4 -3.3**
comp=Z,0.3nm,0.4s,baz=98,slow=14,SNR=6.2
GERES S **Sn 21 08 58.8 -4.3**
comp=Z,0.3nm,0.5s,baz=105,slow=25,SNR=1.6
KHC Kasperske Hory 9.48 295 ⇑*e*P **Pn 21 07 23.0 +1.2**
KHC Kasperske Hory 9.48 295 eSN **Sn 21 09 01.7 -5.0**
ISAL Salakas 9.81 358 eP **Pn 21 07 21.9 -4.2**
VORD Divnogorie 9.86 54 eP **Pn 21 07 25.9 -1.0**
VORD eS **Sn 21 09 09.7 -6.2**
VORD pmax pmax
comp=Z,7.0nm,0.4s
VORD smax smax
comp=E,10.0nm,1.0s
PABE Paberze 9.88 351 Pn **Pn 21 07 25.2 -1.9**
PABE Paberze 9.88 351 eP **Pn 21 07 24.5 -2.6**
VSR Storozhevoye 9.91 52 eP **Pn 21 07 27.3 -0.2**
VSR pmax pmax
comp=Z,10.0nm,0.4s
PBUR Paburge 10.68 345 eP **Pn 21 07 35.4 -2.5**
ARPR Arapgir-MALATY 10.90 124 Pn **Pn 21 07 41.9 +0.7**
OBN Obninsk 11.26 30 P **Pn 21 07 43.2 -2.7**
comp=Z,8.4nm,0.3s,baz=126,slow=17,SNR=3.2
OBN S Sn 21 09 37.1 -13
comp=Z,16nm,0.6s,baz=315,slow=22,SNR=6.4
OBN Obninsk 11.26 30 eP **Pn 21 07 43.0 -2.9**
OBN pmax pmax
comp=Z,8.0nm,1.0s
VRH Novokhopyorsk 11.35 56 eP **Pn 21 07 43.9 -3.3**
VRH pmax pmax
comp=Z,7.0nm,0.5s
KIV Kislovodsk 11.51 93 eP **Pn 21 07 46.5 -3.0**
KIV eS **Sn 21 09 51.4 -5.0**
KIV pmax pmax
comp=Z,3.0nm,1.1s
KVAR Kislovodsk Arr 11.52 93 P **Pn 21 07 52.9 +3.3**
comp=Z,1.9nm,0.8s,baz=285,slow=14,SNR=1.5
KVAR S **Sn 21 09 50.5 -6.1**
comp=Z,3.3nm,0.5s,baz=218,slow=20,SNR=2.6
KBZ Khabaz 11.72 94 ⇑*e*P **Pn 21 07 50.3 -1.9**
BSD Bornholm Skovb 11.96 326 eP **Pn 21 07 53.7 -1.8**
BSD Bornholm Skovb 11.96 326 eP **Pn 21 07 53.9 -1.5**
SLIT Slitere, Latvi 12.17 349 eP **Pn 21 07 54.1 -4.1**
BLEU Blekinge 12.54 331 eP **Pn 21 08 00.5 -2.8**
VSU Vasula 12.70 0 eP **Pn 21 08 00.9 -4.6**
LUNU Lund 12.92 325 eP **Pn 21 08 07.5 -1.0**
DEL Delary 13.36 328 eP **Pn 21 08 11.8 -2.6**
BJUU Bjuv 13.40 325 eP **Pn 21 08 13.4 -1.6**
ARBE Arbavere 13.68 359 eP **Pn 21 08 14.5 -4.2**
BNI Bardonecchia 14.07 274 **P** 21 08 31.9 +2.1
BNI Bardonecchia 14.07 274 P **P** 21 08 32.0 +2.1
FABU Falkenberg 14.18 327 eP **Pn 21 08 24.3 -1.0**
GNI Garni 14.37 107 P **P** 21 08 30.9 -2.4
comp=Z,3.9nm,0.4s,baz=271,slow=23,SNR=1.6
MEF Metsahovi 14.52 355 eP **Pn** 21 08 25.0 -4.8
BORU Boraas 14.63 329 eP **Pn 21 08 29.7 -1.5**
ONAU Onsala 14.77 327 eP **Pn 21 08 32.6 -0.3**
RAF Rauma 15.54 351 eP **Pn 21 08 37.9 -4.9**
FIA1 FINESS Array S 15.70 359 Pn **Pn 21 08 38.2 -6.7**
FIA1 IAmb IAmb 21 08 53.3
comp=Z,47nm,1.4s
FINES FINESS Array B 15.70 359 P **Pn 21 08 38.7 -6.1**
comp=Z,1.7nm,0.3s,baz=177,slow=14,SNR=2.1
FINES S Sn 21 11 19.6 -18
comp=Z,3.6nm,0.3s,baz=191,slow=19,SNR=6.8
VALR Valaam 15.80 7 *i* P **Pn 21 08 43.8 -2.3**
STRU Stroemstad 16.23 330 eP **Pn 21 08 48.7 -2.9**
HFS Hagfors 16.32 336 P **Pn 21 08 49.3 -3.3**
comp=Z,3.1nm,0.4s,baz=130,slow=14,SNR=2.4
HFS S Sn 21 11 41.7 -11
comp=Z,3.3nm,0.5s,baz=135,slow=23,SNR=5.5
KEF Keuruu 16.45 357 eP **Pn 21 08 49.6 -4.7**
KLMR Klimovskoe 16.88 22 eP **Pn 21 08 57.6 -2.1**
KLMR *e* 21 11 55.5
KLMR pmax pmax
comp=Z,12nm,1.1s
JOF Joensuu 17.37 7 eP **Pn 21 09 01.3 -4.4**
NC602 NORSAR Array S 17.43 335 Pn **Pn 21 09 03.7 -2.8**
NC602 NORSAR Array S 17.43 335 eP **Pn 21 09 04.3 -2.1**
NB2 NORSAR Subarra 17.77 335 P **P** 21 09 07.7 -2.9
comp=Z,1.7nm,0.4s,baz=143,slow=12
NB2 NORSAR Subarra 17.77 335 P **P** 21 09 07.7 -2.9
baz=143,slow=12
NOA NORSAR Array B 17.77 335 P **Pn 21 09 07.8 -2.9**
comp=Z,1.1nm,0.5s,baz=139,slow=12,SNR=26
BLS5 Blasjo 18.26 326 eP **Pn 21 09 18.2 +1.6**
NSS Namsos 20.48 342 eP **P** 21 09 40.4 +0.3
EKA Eskdalemuir Ar 21.07 308 P **P** 21 09 44.4 -2.2
comp=Z,0.5nm,0.5s,baz=106,slow=10,SNR=2.0
comp=Z,0.5nm,0.5s
AKTO Aktyubinsk 21.35 66 P **P** 21 09 50.5 +0.9
comp=Z,2.4nm,0.6s,baz=277,slow=9.9,SNR=7.3
comp=Z,2.4nm,0.6s
MOR8 Moi Rana 21.47 346 eP **P** 21 09 52.5 +1.8
LEIR Leirfjorden 21.65 345 eP **P** 21 09 53.8 +1.3
ARTI Arti 22.37 50 P **P** 21 09 60.0 -0.5
ARTI Arti 22.37 50 *c* *i*P **P** 21 09 59.9 -0.5
ARTI 21 10 23.9
ARTI S **S** 21 14 05.0 +3.3
ARTI SS **SnSn** 21 14 37.3 +2.7
ARTI pmax pmax
comp=Z,9.0nm,0.9s
LVZ Lovozero 22.56 8 P **P** 21 10 05.9 +3.5
LVZ IAmb IAmb 21 10 12.3
comp=Z,31nm,1.1s
LVZ Lovozero 22.56 8 P **P** 21 10 05.9 +3.5
LVZ pmax pmax
comp=Z,31nm,1.1s
AB31 Akbulak array 22.63 69 P **P** 21 10 03.4 +0.1
ABKAR Akbulak array 22.63 69 P **P** 21 10 03.0 -0.3
ESDC Sonseca Array 23.23 266 P **P** 21 10 09.1 -0.4
comp=Z,0.6nm,0.6s,baz=65,slow=10,SNR=8.8
comp=Z,0.6nm,0.6s
KTK1 Kautokeino 23.36 357 eP **P** 21 10 16.5 +6.1
ARCES ARCESS Array B 23.83 359 P **P** 21 10 16.7 +2.1
ARCES IAmb IAmb 21 10 25.9
comp=Z,10nm,1.1s
ARCES ARCESS Array B 23.83 359 P **P** 21 10 13.6 -1.1
comp=Z,1.1nm,0.6s,baz=172,slow=9.7,SNR=6.0
comp=Z,1.1nm,0.6s
ARCES ARCESS Array B 23.83 359 P **P** 21 10 16.7 +2.1
ARCES pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 28.91 59 P **P** 21 11 02.4 +1.9
BRVK Borovoye 28.91 59 P **P** 21 11 02.4 +1.9
BRVK pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 28.98 60 P **P** 21 11 02.7 +1.6
comp=Z,0.8nm,0.6s,baz=270,slow=8.9,SNR=5.0
comp=Z,0.8nm,0.6s
KK31 Karatay Array 31.12 79 P **P** 21 11 22.1 +1.9
KK31 Karatay Array 31.12 79 P **P** 21 11 22.1 +1.9
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 31.12 79 P **P** 21 11 22.3 +2.1
KKAR Karatay Array 31.12 79 P **P** 21 11 22.3 +2.1
GAR Garm 32.61 86 P **P** 21 11 36.3 +2.8
ARSB Arslanbob 33.49 81 P **P** 21 11 43.4 +2.3
ARSB IAmb IAmb 21 11 44.4
comp=Z,4.3nm,0.6s
ARSB Arslanbob 33.49 81 P **P** 21 11 43.4 +2.3
ARSB pmax pmax
comp=Z,4.0nm,0.6s
KBS Kingsbay 33.73 355 *i* P **P** 21 11 43.3 +0.8
KBS pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 34.02 78 ⇑*i*P **P** 21 11 48.4 +2.7
AAK pmax pmax
comp=Z,2.0nm,0.5s
KURBB Kurchatov Arra 34.31 63 P **P** 21 11 49.1 +1.2
comp=Z,0.7nm,0.6s,baz=287,slow=9.7,SNR=7.3
comp=Z,0.7nm,0.6s
KURK Kurchatov 34.35 63 P **P** 21 11 49.5 +1.3
KURK Kurchatov 34.35 63 P **P** 21 11 49.5 +1.3
KURK pmax pmax
comp=Z,3.0nm,1.4s
ZAA0 Zalesovo Array 37.39 56 P **P** 21 12 15.4 +1.3
ZAA0 IAmb IAmb 21 12 16.1
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 37.39 56 P **P** 21 12 15.5 +1.3
comp=Z,2.4nm,0.4s,baz=280,slow=9.1,SNR=18
comp=Z,2.4nm,0.4s
ZALV Zalesovo Beam 37.39 56 *i* P **P** 21 12 15.5 +1.3
ZALV pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 37.76 68 *ce*P **P** 21 12 18.9 +1.4
MKAR Makanchi Array 37.76 68 P **P** 21 12 19.1 +1.7
comp=Z,1.9nm,0.5s,baz=276,slow=8.2,SNR=40
comp=Z,1.9nm,0.5s
TORD Torodi Ar. Bea 38.80 221 P **P** 21 12 26.9 +0.5
comp=Z,0.6nm,0.5s,baz=29,slow=8.4,SNR=9.6
comp=Z,0.6nm,0.5s
WMQ Urumqi 42.41 70 eP P 21 13 02.3 +6.3
WMQ pP pP 21 13 12.0 -0.5
WMQ pmax pmax
comp=Z,1.0nm,0.8s
DBIC Dimbokro 47.55 225 P **P** 21 13 36.1 -0.9
comp=Z,5.7nm,1.0s,baz=55,slow=8.1,SNR=7.6
comp=Z,5.7nm,1.0s
SONM Songino Array 52.26 57 P **P** 21 14 13.3 +0.8
comp=Z,0.7nm,0.9s,baz=311,slow=8.3,SNR=4.4
comp=Z,0.7nm,0.9s
HHC Hu-ho-hao-te 59.15 62 eP **P** 21 15 04.5 +2.5
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.6s
PZH PanZhiHua 61.40 80 P **P** 21 15 19.8 +2.3
CHTO Chiang Mai 64.48 89 P **P** 21 15 38.6 +0.7
CHTO Chiang Mai 64.48 89 P **P** 21 15 38.6 +0.7
CHTO pmax pmax
comp=Z,13nm,1.4s
B20K Meade River 64.49 1 P **P** 21 15 39.2 +2.1
CMAR Chiang Mai Arr 64.72 89 P **P** 21 15 40.5 +1.1
comp=Z,1.0nm,0.6s,baz=304,slow=8.2,SNR=5.1
comp=Z,1.0nm,0.6s
D25K Kavik River 65.10 357 P **P** 21 15 42.4 +1.2
D25K IAmb IAmb 21 16 19.3
comp=Z,2.5nm,1.1s
E29M Blow River 65.57 354 P **P** 21 15 45.8 +1.6
E29M IAmb IAmb 21 15 46.6
comp=Z,7.4nm,1.2s
C18K Utukok River 65.74 3 P **P** 21 15 47.4 +2.1
D19K Kuna River 65.99 2 P **P** 21 15 48.1 +1.2
D19K IAmb IAmb 21 16 32.2
comp=Z,11nm,1.5s
F24K Squaw Lake 66.95 358 P **P** 21 15 55.5 +2.4
E19K Redstone River 67.05 2 P **P** 21 15 55.5 +1.8
E19K IAmb IAmb 21 15 56.2
comp=Z,2.5nm,0.7s
F21K Alatna River 67.33 0 P **P** 21 15 57.4 +2.0
F21K IAmb IAmb 21 15 58.7
comp=Z,1.9nm,0.9s
G18K Tagagawik 68.58 2 P **P** 21 16 04.4 +1.0
G18K IAmb IAmb 21 16 31.2
comp=Z,11nm,1.5s
J30M Hart River 69.18 352 P **P** 21 16 09.1 +1.9
J30M IAmb IAmb 21 16 09.5
comp=Z,3.6nm,1.1s
Y49A Blount Mountai 80.34 309 P **P** 21 17 11.2 -0.9
Y49A IAmb IAmb 21 17 16.9
comp=Z,4.6nm,0.7s
JMZ Minamidaito 2 81.31 62 P **P** 21 17 18.1 +0.8

NEIC ***05*** *21:18:58.5±0.7, 19°.28N±0°.03×155°.15W±0°.03, h44km±2km, Error ellipse: s-maj=5.0km s-min=2.7km az=148.0*
HVO 05 21:18:59.7±0.7, 19°.25N±0°.03×155°.12W±0°.02, h39km±2km**, ML2.3**/12**, ML2.5**/40(NEIC)**, Error ellipse: s-maj=3.8km s-min=2.4km az=171.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.14**	**5**			Pn	21 19 05.9	-2.4
JCUZ						Sn	21 19 10.4	-5.0
STCH	**Steam Cracks**	**0.14**	**356**	Pn	Pn	Pn	21 19 05.8	-2.5
STCH				Sn	Sn	Sn	21 19 09.9	-5.5
STCH				IAML			21 19 10.9	
comp=N,588nm,0.1s								
KNHH	**Kane Nui o Ham**	**0.14**	**339**	Pn	Pn	Pn	21 19 05.6	-2.7
NPOC	**North of Pu'u**	**0.15**	**2**		Pn	Pn	21 19 05.8	-2.4
NPOC					Sn	Sn	21 19 10.6	-4.7
PUH	**Pauahi**	**0.16**	**323**	Pn	Pn	Pn	21 19 05.7	-2.4
PUH				Sn	Sn	Sn	21 19 10.3	-4.8
PUH				IAML			21 19 11.3	
comp=N,423nm,0.6s								
HLP	**Hilina Pali**	**0.19**	**285**	Pn	Pn	Pn	21 19 06.3	-1.6
HLP				Sn	Sn	Sn	21 19 11.0	-3.5
HLP				IAML			21 19 11.8	
comp=E,546nm,0.2s								
KKO	**Keanakako'i**	**0.21**	**317**			Pn	21 19 06.3	-1.5
KKO						Sn	21 19 11.1	-3.3
RIM	**Rim**	**0.21**	**315**			Pn	21 19 06.3	-1.6
RIM						Sn	21 19 11.3	-3.1
JOKA	**Jonika Flow**	**0.21**	**29**	Pn	Pn	Pn	21 19 06.2	-1.6
JOKA				Sn	Sn	Sn	21 19 11.2	-3.0
BYL	**Byron's Ledge**	**0.21**	**320**	Pn	Pn	Pn	21 19 06.3	-1.5
BYL				IAML			21 19 10.4	
comp=E,556nm,1.7s								
BYL				Sn	Sn	Sn	21 19 10.4	-3.9
BYL				IAML			21 19 11.6	
comp=N,395nm,4.6s								
SDHHI	**Sand Hill**	**0.22**	**310**			Pn	21 19 06.3	-1.5
SDHHI						Sn	21 19 11.4	-2.9
HATHI	**Halema'uma'u T**	**0.22**	**322**	Pn	Pn	Pn	21 19 06.2	-1.6
HATHI				Sn	Sn	Sn	21 19 10.2	-4.1
HATHI				IAML			21 19 15.8	
comp=E,320nm,0.6s								

HATHI				IAML			21 19 18.6	
	comp=N,422nm,1.1s							
SBLHI	**Steaming Bluff**	**0.23**	**321**		Pn		21 19 06.3	-1.5
SBLHI					Sn		21 19 11.4	-2.9
OBL	**Observatory Le**	**0.23**	**317**		Sn		21 19 11.8	-2.5
WRMHI	**West Rim**	**0.24**	**313**		Pn		21 19 06.4	-1.4
WRMHI					Sn		21 19 11.3	-3.0
RSD	**Rainshed**	**0.27**	**325**		Pn		21 19 07.0	-1.0
RSD					Sn		21 19 12.2	-2.1
HTC	**Hot Caves**	**0.27**	**268**		Pn		21 19 07.0	-0.8
AIN	**Ainahou**	**0.35**	**291**	Pn	Pn		21 19 07.8	-0.8
AIN				Sn	Sn		21 19 14.0	-1.1
MLH	**Mauna Loa**	**0.36**	**314**	Pn	Pn		21 19 07.7	-1.0
MLH				Sn	Sn		21 19 13.6	-1.8
MLH				IAML			21 19 13.9	
	comp=E,260nm,0.2s							
MLH				IAML			21 19 14.7	
	comp=N,354nm,0.3s							
HPO	**Honuapo**	**0.44**	**249**	Pn	Pn		21 19 09.1	-0.5
HPO	**Honuapo**	**0.44**	**249**		Sn		21 19 15.1	-1.4
KHU	**Kahuku**	**0.47**	**270**		Pn		21 19 08.9	-1.3
KHU					Sn		21 19 15.7	-1.9
HMH	**Humu'ula Sheep**	**0.50**	**316**	Pn	Pn		21 19 09.3	-1.4
HMH				Sn	Sn		21 19 16.6	-1.7
HMH				IAML			21 19 18.3	
	comp=E,241nm,0.2s							
MWH	**Mokuaweoweo**	**0.51**	**298**	Pn	Pn		21 19 09.4	-1.6
MWH				Sn	Sn		21 19 16.0	-3.0
MWH				IAML			21 19 32.3	
	comp=N,204nm,2.4s							
ALEP	**Alea Permanent**	**0.58**	**301**		Pn		21 19 10.0	-1.9
ALEP					Sn		21 19 17.9	-2.5
POHA	**Pohakuloa**	**0.64**	**322**	Pn	Pn		21 19 10.5	-2.1
POHA				Sn	Sn		21 19 19.0	-2.8
POHA	**Pohakuloa**	**0.64**	**322**	IAML			21 19 18.3	
	comp=N,94nm,2.5s							
POHA				IAML			21 19 19.4	
	comp=N,141nm,0.8s							
HUH	**Hualalai**	**0.81**	**303**	Pn	Pn		21 19 13.2	-1.7
HUH				Sn	Sn		21 19 22.1	-3.6
HPAH	**Hawaii Prepara**	**0.95**	**325**	Pn	Pn		21 19 14.4	-2.3
HPAH				Sn	Sn		21 19 25.6	-3.5
HPAH				IAML			21 19 41.9	
	comp=E,101nm,2.3s							
HPAH				IAML			21 19 50.0	
	comp=N,91nm,3.3s							
MHA	**Mahukona**	**1.20**	**322**		Pn		21 19 18.1	-1.8
MHA					Sn		21 19 32.3	-2.6
HLK	**Haleakala**	**1.84**	**325**		Pn		21 19 26.9	-2.2
WMR	**Waimanalo Ridg**	**3.17**	**311**		Pn		21 19 44.7	-2.4

*IDC **05** 21:27:41.1±2.7,6.20S×101.63E,h0km,mb3.9/8, mbtmp3.9/8,MS3.2/2,Error ellipse: s-maj=113.3km s-min=21.6km az=52.0*
*DJA **05** 21:27:42.0±0.5,6.3S×10.2E±.°,h10km,M4.4/15,mB5.1/2, mb4.5/6,MLv4.3/15,Mw(mB)4.4/2*
ISC 05 21:27:44.8±1.1,6.12S±0.10×101.9E±0.1,h22km,n31, σ1§15/23,mb4.0/8,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.06**	**32**	P	**Pn**	**21 28 17.3**	**-0.8**
LWLI	**Liwa**	**2.44**	**63**	P	**Pn**	**21 28 22.8**	**-0.7**
KSI	**Kapahiang**	**2.56**	**16**	P	**Pn**	**21 28 24.0**	**-1.1**
KSI				S	**Sn**	**21 28 55.9**	**+0.3**
KASI	**Kota Agung**	**2.68**	**77**	P	**Pn**	**21 28 25.2**	**-1.5**
LHSI	**Lahat**	**2.81**	**36**	P	**Pn**	**21 28 28.1**	**-0.4**
MDSI	**Maura Dua**	**2.81**	**55**	P	**Pn**	**21 28 28.7**	**+0.2**
BLSI	**Bandar Lampung**	**3.44**	**78**	P	**Pn**	**21 28 37.0**	**-0.2**
PPSI	**Pulau Pagai**	**3.82**	**331**	P	**Pn**	**21 28 40.8**	**-1.5**
DBJI	**Dramaga**	**4.87**	**95**	P	**Pn**	**21 28 54.7**	**-2.1**
SDSI	**Sungai Dareh**	**5.17**	**355**	P	**Pn**	**21 28 59.0**	**-2.0**
CNJI	**Cibinong** 0.2nm55nm,1.2s	**5.36**	**103**	P	Pn	21 29 00.7	-2.8
PDSI	**Padang** 0.4nm1µm42nm,0.5s	**5.36**	**345**	P	**Pn**	**21 29 02.3**	**-1.3**
PPI	**Padang Panjang** 0.2nm35nm,0.5s	**5.82**	**345**	P	**Pn**	**21 29 08.9**	**-0.9**
KPJI	**Karang Pucung** 0.2nm26nm,0.5s	**7.12**	**100**	P	**Pn**	**21 29 26.2**	**-1.5**
CMAR	**Chiang Mai Arr** 2.1nm,0.6s,baz=186,slow=8.6,SNR=14 2.1nm,0.6s	**24.59**	**353**	P	**P**	**21 33 03.6**	**+0.1**
H08S2	**Diego Garcia H** baz=88,slow=74	**29.20**	**265**	T	T	22 05 33.5	
H08S3	**Diego Garcia H** baz=88,slow=74	**29.21**	**265**	T	T	22 05 35.9	
H08S1	**Diego Garcia H** baz=88	**29.22**	**265**	T	T	22 05 43.9	
NWAO	**Narrogin (SRO)** comp=Z,31nm,18.4s,baz=284,slow=38	**30.26**	**154**	LR	LR	21 46 43.6	
H01W3	**Cape Leeuwin H** baz=334	**30.78**	**160**	T	T	22 06 59.4	
H01W2	**Cape Leeuwin H** baz=334	**30.79**	**160**	T	T	22 07 08.3	
H01W1	**Cape Leeuwin H** baz=334	**30.80**	**160**	T	T	22 06 47.1	
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=290,slow=11,SNR=2.9 0.9nm,1.0s	**34.40**	**117**	P	**P**	**21 34 31.0**	**+0.2**
ASAR	**Alice Springs** 0.4nm,1.0s,baz=298,slow=8.3,SNR=1.9 0.4nm,1.0s	**35.40**	**123**	P	**P**	**21 34 40.9**	**+1.5**
SONM	**Songino Array** 2.3nm,0.8s,baz=180,slow=7.9,SNR=11 2.3nm,0.8s	**53.87**	**4**	P	**P**	**21 37 06.7**	**+0.3**
MKAR	**Makanchi Array** 1.1nm,0.6s,baz=151,slow=9.0,SNR=9.6 1.1nm,0.6s	**55.48**	**344**	P	**P**	**21 37 18.1**	**+0.1**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=161,slow=6.3,SNR=4.5 0.3nm,0.3s	**60.01**	**343**	P	**P**	**21 37 49.1**	**-0.6**
ZALV	**Zalesovo Beam** 2.1nm,0.7s,baz=159,slow=7.0,SNR=9.5 2.1nm,0.7s	**61.54**	**349**	P	**P**	**21 38 00.0**	**-0.1**
BVAR	**Borovoye Array** 1.0nm,0.5s,baz=143,slow=7.5,SNR=8.9 1.0nm,0.5s	**64.67**	**340**	P	**P**	**21 38 20.3**	**-0.6**
VRAC	**Vranov** comp=Z,16nm,18.3s,baz=304,slow=39	**91.52**	**319**	LR	LR	22 26 44.8	
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=285,slow=2.3,SNR=6.1	**146.62**	**43**	PKPbc	**PKPdf**	**21 47 25.7**	**+1.6**

KRSC 05 21:45:57.2±2.1,51.07N×157.22E,h154km±27km,MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.47**	**327**	*e*P	Pn	21 46 20.2	+1.4
SKR	**Severo-Kuril's**	**0.80**	**241**	*e*P	Pn	21 46 21.8	+1.1
MIPR	**Malaya Ipel'ka**	**1.24**	**347**	*e*P	Pn	21 46 24.9	+0.5
MIPR				*e*S	Sn	21 46 44.8	-0.7
ASAK	**Asacha**	**1.38**	**17**	*e*P	Pn	21 46 27.4	+1.5
MTVR	**Mutnovka**	**1.54**	**22**	*e*P	Pn	21 46 28.9	+1.3
GRL	**Gorelyy**	**1.57**	**19**	*e*P	Pn	21 46 30.2	+2.3
RUS	**Russkaya**	**1.58**	**30**	*e*P	Pn	21 46 28.6	+0.8
RUS				*e*S	Sn	21 46 53.7	+2.2
KRMR	**Karymshinskiy**	**1.85**	**17**	*e*S	Sn	21 46 59.4	+2.8
UGLR	**Uglovaya**	**2.36**	**24**	*e*P	Pn	21 46 39.8	+3.0
AVH	**Avacha**	**2.39**	**22**	*e*P	Pn	21 46 40.1	+3.0
KOK	**Koryaka**	**2.39**	**21**	*e*P	Pn	21 46 40.0	+2.9
SMAR	**Somma**	**2.40**	**23**	*e*P	Pn	21 46 39.6	+2.1
KRER	**Koryakskii**	**2.43**	**22**	*e*P	Pn	21 46 40.5	+2.8
SDLR	**Sedlovina**	**2.44**	**24**	*e*P	Pn	21 46 40.3	+2.5
KRX	**Arik**	**2.45**	**20**	*e*P	Pn	21 46 40.4	+2.4
NLC	**Nalytchevo**	**2.48**	**31**	*e*S	Sn	21 47 10.1	+0.3
GNL	**Ganaly**	**2.67**	**9**	*e*P	Pn	21 46 41.8	+1.3
SPN	**Mys Shipunskiy**	**2.67**	**39**	*e*P	Pn	21 46 42.9	+2.5
SPN				*e*S	Sn	21 47 14.8	+0.9
MKZ	**Mys Kozlova**	**4.43**	**36**	*e*P	Pn	21 47 04.5	+1.4
MKZ				*e*S	Sn	21 47 53.0	-1.4
BKI	**Bering**	**6.70**	**48**	*e*P	Pn	21 47 35.2	+2.2
BKI				*e*S	Sn	21 48 45.0	-3.1

*ROM **05** 21:49:09.3±0.1,46.653N±0.005×13.684E±0.008, h10km,ML2.6/88,Error ellipse: s-maj=0.7km s-min=0.5km az=38.0*
*VIE **05** 21:49:09.4±0.1,46.65N×13.69E,h11km±1km,mb2.3/22, ml2.9/22,Error ellipse: s-maj=0.7km s-min=0.5km az=177.0 3 km N of Bad Bleiberg*

*LJU **05** 21:49:09.0,46.66N×13.73E,h10km,ML2.3*
*PRU **05** 21:49:11.1,46.70N×13.79E,h0km,Bad Bleiberg*
ISC 05 21:49:09.7±0.8,46.67N±0.01×13.72E±0.01,h9km±6km, n121,σ0§93/208,14C-12D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	**Terra Mystica** 538nm,0.0s,SNR=1504	**0.06**	**233**	*i* Pg	**Pg**	**21 49 11.8**	**+0.2**
MYKA	1µm,0.0s			*i* Sg	**Sg**	**21 49 13.0**	**-0.1**
ACOM	**Acomizza, Ital**	**0.18**	**229**	⇓*e*Pg	**Pg**	**21 49 13.3**	**-0.2**
ACOM				*e*Sg	**Sg**	**21 49 16.0**	**-0.2**
ACOM	**Acomizza, Ital**	**0.18**	**229**	⇑P	**Pg**	**21 49 13.6**	**+0.1**
ACOM				S	**Sg**	**21 49 16.2**	**-0.1**
ACOM	comp=E,3710µm,0.3s			AML	AML		
ACOM	comp=N,3625µm,0.5s			AML	AML		
ACOM	comp=N,3650µm,0.5s			AML	AML		
ACOM	comp=E,3810µm,0.8s			AML	AML		
LSR	**Lussari**	**0.23**	**214**	⇑*e*Pg	**Pg**	**21 49 14.4**	**0.0**
LSR				*e*Sg	**Sg**	**21 49 17.7**	**+0.1**
PTCC	**Patocco-Chiusa**	**0.36**	**224**	⇑P	**Pg**	**21 49 16.4**	**-0.4**
PTCC				S	**Sg**	**21 49 21.3**	**-0.2**
PTCC	comp=N,814µm,1.6s			AML	AML		
PTCC	comp=E,1074µm,0.2s			AML	AML		
PTCC	comp=N,814µm,0.4s			AML	AML		
GORS	**Gorjuse**	**0.40**	**151**	⇓*i* Pg	**Pg**	**21 49 17.5**	**0.0**
GORS				*i* Sg	**Sg**	**21 49 23.3**	**+0.5**
GORS	comp=Z,134nm,0.1s			IAML		21 49 24.0	
PLRO	**Paularo**	**0.41**	**253**	⇑*e*Pg	**Pg**	**21 49 17.4**	**-0.2**
PLRO				*e*Sg	**Sg**	**21 49 23.1**	**+0.1**
PLRO	**Paularo**	**0.41**	**253**	⇑P	**Pg**	**21 49 17.4**	**-0.2**
PLRO				S	**Sg**	**21 49 22.9**	**-0.2**
CADS	**Cadrg**	**0.44**	**178**	⇓*i* Pg	**Pg**	**21 49 17.9**	**-0.4**
CADS				*i* Sg	**Sg**	**21 49 24.1**	**0.0**
CADS	comp=Z,359nm,0.1s			IAML		21 49 25.2	
ROBS	**Robic**	**0.45**	**199**	⇑*i* Pg	**Pg**	**21 49 18.0**	**-0.4**
ROBS				*e*Sg	**Sg**	**21 49 24.1**	**-0.1**
ROBS	comp=Z,197nm,0.2s			IAML		21 49 25.0	
KBA	**Koelnbreinsper** comp=Z,56nm,0.1s	**0.48**	**328**	*i* Pg	**Pg**	**21 49 19.5**	**+0.5**
KBA	comp=Z,21nm,0.1s			*i* Sg	**Sg**	**21 49 25.8**	**+0.4**
DRE	**Drenchia**	**0.50**	**186**	⇓*e*Pg	**Pg**	**21 49 18.9**	**-0.4**
DRE				*e*Sg	**Sg**	**21 49 25.8**	**-0.1**
DRE	**Drenchia**	**0.50**	**186**	P	**Pg**	**21 49 18.9**	**-0.4**
DRE				S	**Sg**	**21 49 25.7**	**-0.1**
VINO	**Villanova**	**0.51**	**216**	⇑*e*Pg	**Pg**	**21 49 19.1**	**-0.4**
VINO				*e*Sg	**Sg**	**21 49 26.1**	**-0.1**
VINO	**Villanova**	**0.51**	**216**	⇑P	**Pg**	**21 49 19.1**	**-0.4**
VINO				S	**Sg**	**21 49 26.4**	**+0.2**
VINO	comp=N,494µm,0.3s			AML	AML		
VINO	comp=E,636µm,0.2s			AML	AML		
VINO	comp=N,495µm,0.3s			AML	AML		
ZOU	**Zoufplan**	**0.52**	**258**	⇑*e*Pg	**Pg**	**21 49 19.5**	**-0.3**
ZOU				*e*Sg	**Sg**	**21 49 27.1**	**+0.4**
ZOU	**Zoufplan**	**0.52**	**258**	⇑P	**Pg**	**21 49 19.5**	**-0.3**
ZOU				S	**Sg**	**21 49 26.5**	**-0.2**
ZOU	comp=N,670µm,0.3s			AML	AML		
ZOU	comp=N,680µm,0.3s			AML	AML		
ZOU	comp=E,673µm,0.6s			AML	AML		
ZOU	comp=E,666µm,0.6s			AML	AML		
ZOU	comp=N,669µm,0.3s			AML	AML		
ZOU	comp=N,680µm,1.7s			AML	AML		
ZOU	comp=E,672µm,0.6s			AML	AML		
ZOU	comp=N,669µm,1.7s			AML	AML		
BAD	**Bernadia**	**0.54**	**217**	⇑*e*Pg	**Pg**	**21 49 19.6**	**-0.5**
BAD				*e*Sg	**Sg**	**21 49 27.4**	**+0.2**
BAD	**Bernadia**	**0.54**	**217**	P	**Pg**	**21 49 19.5**	**-0.7**
BAD				S	**Sb**	**21 49 28.1**	**-1.2**
BOO	**Bordano**	**0.55**	**231**	⇑*e*Pg	**Pg**	**21 49 19.8**	**-0.5**
BOO				*e*Sg	**Sg**	**21 49 27.6**	**+0.1**
BOO	**Bordano**	**0.55**	**231**	P	**Pg**	**21 49 19.7**	**-0.5**
BOO				S	**Sg**	**21 49 27.6**	**+0.1**
FUSE	**Fusea**	**0.56**	**243**	⇑*e*Pg	**Pg**	**21 49 19.9**	**-0.5**
FUSE				*e*Sg	**Sg**	**21 49 28.1**	**+0.5**
FUSE	**Fusea**	**0.56**	**243**	P	**Pg**	**21 49 19.9**	**-0.5**
GEPF	**Gemona**	**0.56**	**226**	P	**Pg**	**21 49 19.9**	**-0.5**
GEPF				S	**Sg**	**21 49 27.7**	**-0.1**
GEPF	comp=N,438µm,1.5s			AML	AML		
GEPF	comp=E,440µm,1.4s			AML	AML		
GEPF	comp=N,438µm,0.5s			AML	AML		
GEPF	comp=E,440µm,0.6s			AML	AML		
COLI	**Coloredo**	**0.58**	**204**	*e*Pg	**Pg**	**21 49 20.6**	**-0.3**
COLI				*e*Sg	**Sg**	**21 49 29.0**	**+0.4**
OBKA	**Obir** comp=E,24nm,0.1s,SNR=30	**0.60**	**105**	*e*Pg	**Pg**	**21 49 21.4**	**+0.2**
OBKA	comp=E,101nm,0.1s			*e*Sg	**Sg**	**21 49 29.5**	**+0.5**
BUA	**Buia**	**0.61**	**222**	*e*Pg	**Pg**	**21 49 21.0**	**-0.4**
BUA				*e*Sg	**Sg**	**21 49 29.9**	**+0.5**
CLUD	**Cludinico**	**0.61**	**250**	*e*Pg	**Pg**	**21 49 21.0**	**-0.5**
CLUD	**Cludinico**	**0.61**	**250**	P	**Pg**	**21 49 20.8**	**-0.7**
CLUD				S	**Sg**	**21 49 29.3**	**-0.2**
CLUD	comp=N,395µm,1.1s			AML	AML		
CLUD	comp=N,396µm,1.1s			AML	AML		
CLUD	comp=N,394µm,1.1s			AML	AML		
CLUD	comp=E,384µm,0.7s			AML	AML		
CLUD	comp=E,378µm,0.7s			AML	AML		
CLUD	comp=N,396µm,0.9s			AML	AML		
CLUD	comp=N,394µm,0.9s			AML	AML		
MOZS	**Mozjanca**	**0.63**	**126**	⇓*i* Pg	**Pg**	**21 49 21.9**	**+0.1**
MOZS				*i* Sg	**Sb**	**21 49 31.1**	**-0.7**
MOZS	comp=Z,44nm,0.1s			IAML		21 49 31.7	
VOJS	**Vojsko**	**0.65**	**170**	*i* Pg	**Pg**	**21 49 21.6**	**-0.6**
VOJS				*i* Sg	**Sg**	**21 49 31.1**	**+0.5**
VOJS	comp=Z,43nm,0.2s			IAML		21 49 32.9	
MPRI	**Monte Prat**	**0.66**	**230**	⇑*e*Pg	**Pg**	**21 49 21.7**	**-0.7**
MPRI	**Monte Prat**	**0.66**	**230**	P	**Pg**	**21 49 21.7**	**-0.7**
MPRI				S	**Sg**	**21 49 31.2**	**+0.2**
MPRI	comp=N,541µm,0.3s			AML	AML		
MPRI	comp=N,412µm,0.2s			AML	AML		
MPRI	comp=E,394µm,0.3s			AML	AML		
MPRI	comp=E,526µm,0.3s			AML	AML		
DST2	**Trieste**	**0.69**	**233**	P	**Pg**	**21 49 22.2**	**-0.8**
DST2	comp=E,874µm,0.3s			AML	AML		
DST2	comp=N,544µm,0.8s			AML	AML		
DST2	comp=E,874µm,0.4s			AML	AML		
DST2	comp=N,544µm,0.9s			AML	AML		
SABO	**M.te Sabotino**	**0.69**	**187**	⇓*e*Pg	**Pg**	**21 49 22.4**	**-0.6**
SABO	**M.te Sabotino**	**0.69**	**187**	P	**Pg**	**21 49 22.4**	**-0.6**
SABO				S	**Sg**	**21 49 32.4**	**+0.4**
SABO	comp=E,3145µm,1.0s			AML	AML		
SABO	comp=E,765µm,1.0s			AML	AML		
SABO	comp=N,4470µm,0.5s			AML	AML		
SABO	comp=E,3150µm,1.0s			AML	AML		
SABO	comp=N,1165µm,0.5s			AML	AML		
SABO	comp=N,4475µm,0.5s			AML	AML		
SABO	comp=E,765µm,1.0s			AML	AML		
CRNS	**Crni Vrh**	**0.70**	**147**	⇓*i* Pg	**Pg**	**21 49 22.8**	**-0.3**
CRNS				*i* Sg	**Sg**	**21 49 32.2**	**0.0**
CRNS	comp=Z,50nm,0.1s			IAML		21 49 33.4	
JAVS	**Javornik**	**0.81**	**163**	⇓*i* Pg	**Pg**	**21 49 24.3**	**-1.0**
JAVS				*e*Sg	**Sg**	**21 49 36.1**	**+0.3**
JAVS	comp=Z,37nm,0.1s			IAML		21 49 41.8	
ABTA	**Abfaltersbach** comp=Z,9.4nm,0.1s,SNR=17	**0.83**	**276**	*i* Pg	**Pg**	**21 49 25.1**	**-0.6**
ABTA	comp=Z,102nm,0.2s			*i* Sg	**Sg**	**21 49 36.8**	**+0.3**
LJU	**Ljubljana**	**0.84**	**138**	⇓*i* Pg	**Pb**	**21 49 25.9**	**-0.5**
LJU	comp=Z,26nm,0.1s			IAML		21 49 39.2	
LJU	**Ljubljana**	**0.84**	**138**	P	**Pg**	**21 49 25.7**	**-0.1**
LJU	comp=E,1605µm,1.3s			AML	AML		
LJU	comp=N,1675µm,0.2s			AML	AML		
LJU	comp=E,1605µm,0.7s			AML	AML		
VNDS	**Vrh nad Dolski**	**0.89**	**129**	⇓*i* Pg	**Pg**	**21 49 26.6**	**-0.1**
VNDS				*i* Sg	**Sb**	**21 49 39.2**	**0.0**
VNDS	comp=Z,29nm,0.1s			IAML		21 49 41.4	
GBAS	**Gorenja Brezov**	**0.89**	**145**	⇓*i* Pg	**Pg**	**21 49 26.1**	**-0.6**
GBAS				*i* Sg	**Sb**	**21 49 39.1**	**-0.1**
GBAS	comp=Z,45nm,0.2s			IAML		21 49 43.8	
SOKA	**Soboth** comp=Z,4.1nm,0.2s,SNR=28	**0.91**	**89**	*e*Pg	**Pg**	**21 49 26.9**	**-0.2**
SOKA	comp=Z,53nm,0.1s			*i* Sg	**Sg**	**21 49 39.0**	**+0.1**
ZAVS	**Zavodnje**	**0.93**	**104**	⇓*i* Pg	**Pg**	**21 49 27.4**	**-0.2**
ZAVS				*i* Sg	**Sg**	**21 49 39.8**	**0.0**
ZAVS	comp=Z,150nm,0.1s			IAML		21 49 42.2	
PERS	**Pernice**	**0.97**	**91**	*i* Pg	**Pg**	**21 49 27.8**	**-0.4**
PERS				*i* Sg	**Sg**	**21 49 40.7**	**0.0**
PERS	comp=Z,140nm,0.2s			IAML		21 49 43.1	
BIOA	**Bad Ischl, Aus** comp=Z,3.0nm,0.2s,SNR=17	**1.02**	**357**	*i* Pg	**Pb**	**21 49 29.7**	**+0.1**
BIOA	comp=Z,32nm,0.2s			*e*Sg	**Sb**	**21 49 43.6**	**+0.4**
LESA	**Schwarzleotal** comp=Z,13nm,0.2s,SNR=16	**1.04**	**317**	*e*Pg	**Pg**	**21 49 29.2**	**-0.3**
LESA	comp=Z,18nm,0.2s			*e*Sg	**Sb**	**21 49 43.7**	**+0.1**
CEY	**Cerknica**	**1.05**	**152**	*e*Pg	**Pg**	**21 49 28.7**	**-1.2**
CEY				*i* Sg	**Sb**	**21 49 43.8**	**-0.2**
CEY	comp=Z,28nm,0.2s			IAML		21 49 48.0	
PDKS	**Podkum**	**1.08**	**124**	*i* Pg	**Pg**	**21 49 30.1**	**-0.3**
PDKS				*i* Sg	**Sb**	**21 49 44.5**	**-0.2**
PDKS	comp=Z,56nm,0.3s			IAML		21 49 49.7	
SKDS	**Skadanscina**	**1.14**	**169**	*i* Pg	**Pb**	**21 49 29.9**	**-1.7**
SKDS				*e*Sg	**Sb**	**21 49 46.6**	**+0.1**
SKDS	comp=Z,29nm,0.2s			IAML		21 49 49.0	
VISS	**Visnje**	**1.17**	**138**	*i* Pg	**Pb**	**21 49 31.6**	**-0.3**
VISS				*e*Sg	**Sg**	**21 49 47.0**	**-0.1**
VISS	comp=Z,25nm,0.1s			IAML		21 49 49.7	
KNDS	**Knezji Dol**	**1.23**	**158**	*i* Pg	**Pn**	**21 49 31.8**	**-1.3**
KNDS				*e*Sg	**Sn**	**21 49 50.3**	**+0.4**
KNDS	comp=Z,40nm,0.3s			IAML		21 49 54.1	
MOA	**Molln** comp=Z,5.9nm,0.1s,SNR=8.3	**1.24**	**17**	*e*Pg	**Pg**	**21 49 33.9**	**+0.4**
MOA	comp=Z,41nm,0.3s			*e*Sg	**Sn**	**21 49 51.2**	**+1.1**
GROS	**Grobnik**	**1.25**	**99**	*i* Pg	**Pn**	**21 49 33.2**	**-0.2**
GROS				*e*Sg	**Sg**	**21 49 49.5**	**-0.3**
GROS	comp=Z,26nm,0.1s			IAML		21 49 51.7	
DOBS	**Dobrina** comp=Z,15nm,0.1s	**1.32**	**113**	*i* Pg	**Pg**	**21 49 34.6**	**-0.4**
DOBS				IAML		21 49 54.9	
LEGS	**Legarje**	**1.32**	**122**	*i* Pg	**Pg**	**21 49 35.1**	**0.0**
LEGS				*i* Sg	**Sg**	**21 49 52.5**	**+0.4**
ARSA	**Arzberg** comp=Z,5.5nm,0.2s,SNR=11	**1.37**	**64**	*e*Pg	**Pb**	**21 49 35.3**	**-0.1**
ARSA	comp=Z,15nm,0.2s			*i* Sg	**Sg**	**21 49 53.7**	**0.0**
GBRS	**Gornja Briga**	**1.37**	**146**	*i* Pg	**Pb**	**21 49 35.0**	**-0.5**
GBRS	comp=Z,58nm,0.4s			IAML		21 49 55.1	
CESS	**Cesta pri Krsk**	**1.40**	**119**	*i* Pg	**Pg**	**21 49 37.3**	**+0.8**
CESS				*i* Sg	**Sg**	**21 49 55.3**	**+0.8**
CRES	**Cresnjevec Ost**	**1.47**	**124**	*i* Pg	**Pg**	**21 49 37.5**	**-0.4**
CRES				*e*Sg	**Sg**	**21 49 56.9**	**-0.1**
CRES	comp=Z,18nm,0.3s			IAML		21 50 01.8	
GOLS	**Golise**	**1.48**	**116**	*i* Pg	**Pg**	**21 49 37.5**	**-0.5**
GOLS				*e*Sg	**Sg**	**21 49 57.0**	**-0.1**
GOLS	comp=Z,21nm,0.2s			IAML		21 49 59.2	
WTTA	**Wattenberg** comp=Z,36nm,0.3s,SNR=15	**1.54**	**293**	*i* Pg	**Pb**	**21 49 38.1**	**-0.4**
WTTA	comp=Z,32nm,0.4s			*i* Sg	**Sg**	**21 49 58.8**	**-0.5**
GCIS	**Gornji Cirnik**	**1.55**	**120**	*e*Pn	**Pg**	**21 49 39.0**	**-0.4**
GCIS				Sn	**Sg**	**21 49 59.0**	**-0.4**
GCIS	comp=Z,22nm,0.3s			IAML		21 50 03.9	
BOJS	**Bojanci**	**1.58**	**137**	*e*Sn	**Sg**	**21 49 59.7**	**-0.8**
BOJS	comp=Z,11nm,0.2s			IAML		21 50 04.6	
WATA	**Walderalm** comp=Z,12nm,0.1s,SNR=16	**1.61**	**295**	*e*Pg	**Pb**	**21 49 39.4**	**-0.3**
WATA	comp=Z,20nm,0.2s			*e*Sg	**Sg**	**21 50 01.2**	**-0.2**
OZLJ	**Ozalj**	**1.61**	**130**	*e*Pn	**Pb**	**21 49 39.2**	**-0.3**
OZLJ	**Ozalj**	**1.61**	**130**	*e*Pg	**Pb**	**21 49 39.5**	**0.0**
OZLJ				Sg	**Sb**	**21 49 59.3**	**-0.7**
LOBO	**Lobor**	**1.71**	**107**	*e*Pn	**Pg**	**21 49 42.3**	**-0.1**
PTJ	**Puntijarka**	**1.74**	**115**	*e*Pn	**Pg**	**21 49 43.3**	**+0.3**
BRJN	**Brijuni**	**1.76**	**179**	*e*Pn	**Pb**	**21 49 41.3**	**-0.8**
BRJN	**Brijuni**	**1.76**	**179**	*e*Pn	**Pb**	**21 49 42.1**	**0.0**
BRJN				Sg	**Sb**	**21 50 04.9**	**+0.5**
KOGS	**Kog**	**1.76**	**96**	*i* Pn	**Pn**	**21 49 40.8**	**+0.4**
KOGS				*e*Sn	**Sb**	**21 50 04.3**	**-0.1**
KOGS	comp=Z,10nm,0.1s			IAML		21 50 13.9	
SQTA	**Sankt Quirin** comp=Z,17nm,0.2s,SNR=22	**1.80**	**289**	*e*Pg	**Pb**	**21 49 42.7**	**-0.2**
SQTA	comp=Z,19nm,0.3s			*e*Sg	**Sg**	**21 50 07.6**	**0.0**
MOTA	**Moosalm** comp=Z,7.2nm,0.2s,SNR=13	**1.91**	**292**	*e*Pg	**Pb**	**21 49 44.5**	**-0.3**
MOTA	comp=Z,12nm,0.3s			*e*Sg	**Sg**	**21 50 10.8**	**-0.3**
CONA	**Conrad Observa** comp=Z,5.0nm,0.3s,SNR=12	**1.93**	**48**	*e*Pn	**Pb**	**21 49 44.3**	**-0.7**
CONA	comp=Z,4.2nm,0.3s			*e*Sg	**Sg**	**21 50 13.2**	**+1.5**
RONA	**Rosalia, Austr** comp=Z,5.7nm,0.2s	**2.04**	**59**	*i* Pn	**Pb**	**21 49 45.4**	**-1.6**
RONA	comp=Z,2.2nm,0.2s			*e*Sg	**Sg**	**21 50 16.9**	**+1.7**
RABC	**Rab**	**2.06**	**158**	*e*Pn	**Pb**	**21 49 47.8**	**

	comp=N,83µm,1.0s								
BEHE	**Becsehely**	**2.12**	**94**	*e*Pn	**Pn**	**21 49 46.3**	**+1.0**		
RETA	**Reutte**	**2.18**	**293**	*e*Sg	**Pg**	**21 49 50.6**	**-0.8**		
	comp=N,16nm,0.2s,SNR=18								
RETA				*e*Sg	**Sg**	**21 50 20.3**	**+0.7**		
	comp=N,15nm,0.3s								
CKRC	**Cesky Krumlov**	**2.19**	**10**	*e*PN	**Pb**	**21 49 49.6**	**+0.1**		
CKRC				*e*SN	**Sn**	**21 50 14.9**	**+1.4**		
CKRC				*e*SG	**Sg**	**21 50 19.8**	**-0.2**		
	comp=N,26nm,0.3s								
MBAL	**Monte Baldo -**	**2.21**	**245**	AML	AML				
	comp=E,106µm,0.4s								
MBAL				AML	AML				
	comp=N,91µm,0.8s								
MBAL				AML	AML				
	comp=N,91µm,1.2s								
PLIT	**Plitvice**	**2.23**	**143**	*e*Pn	**Pn**	**21 49 48.2**	**+1.3**		
PLIT				Sn	**Sn**	**21 50 15.5**	**+0.9**		
NVLJ	**Novalja**	**2.26**	**159**	*e*Pn	**Pb**	**21 49 50.6**	**+0.1**		
MOSL	**Moslavina**	**2.36**	**115**	*e*Pn	**Pb**	**21 49 48.6**	**0.0**		
KHC	**Kasperske Hory**	**2.47**	**358**	*e*PN	**Pb**	**21 49 52.4**	**-1.8**		
KHC				*e*SN	**Sb**	**21 50 22.5**	**-2.2**		
KHC				*e*SG	**Sg**	**21 50 28.5**	**-0.3**		
	comp=N,12nm,0.3s								
VIRC	**Vir**	**2.56**	**158**	*e*Pn	**Pb**	**21 49 53.3**	**-2.4**		
UDBI	**Udbina**	**2.58**	**145**	*i* Pn	**Pb**	**21 49 53.8**	**-2.3**		
DAVA	**Damuels**	**2.70**	**285**	*e*Pn	**Pn**	**21 49 54.2**	**+0.8**		
	comp=N,5.6nm,0.3s								
DAVA				*i* Pg	**Pg**	**21 50 00.5**	**-0.9**		
	comp=N,3.4nm,0.2s								
DAVA				*e*Sg	**Sg**	**21 50 36.4**	**+0.1**		
	comp=N,34nm,0.6s								
A051A	**Mrakovica**	**2.78**	**125**	*e*Pn	**Pb**	**21 49 56.8**	**-2.7**		
ZVC	**Zvikov**	**2.79**	**6**	*e*PN	**Pn**	**21 49 56.5**	**+2.0**		
ZVC				*e*SN	**Sn**	**21 50 30.0**	**+1.7**		
ZVC				*e*SG	**Sg**	**21 50 38.1**	**-1.2**		
	comp=N,17nm,0.2s								
TREC	**Trest**	**2.88**	**24**	*e*PN	**Pn**	**21 49 56.8**	**+1.0**		
TREC				*e*SN	**Sn**	**21 50 31.6**	**+0.9**		
TREC				*e*SG	**Sg**	**21 50 40.4**	**-1.9**		
	comp=N,11nm,0.5s								
A050A	**Klekovaca**	**2.95**	**137**	*e*Pn	**Pn**	**21 49 57.1**	**+0.3**		
MODS	**Modra-Piesok**	**2.96**	**53**	*e*PN	**Pn**	**21 49 55.6**	**-1.2**		
MODS				*e*PG	**Pb**	**21 50 02.2**	**-0.3**		
MODS				*e*SG	**Sg**	**21 50 43.0**	**-1.6**		
KRUC	**Moravsky**	**3.00**	**36**	*e*PN	**Pn**	**21 49 58.2**	**+0.8**		
KRUC				*e*SG	**Sg**	**21 50 45.4**	**-0.5**		
BLY	**Banja Luka**	**3.10**	**127**	*e*Pn	**Pb**	**21 50 03.4**	**-1.5**		
MORI	**Morici**	**3.14**	**153**	*e*Pn	**Pn**	**21 50 00.8**	**+1.6**		
MORI				Sn	**Sn**	**21 50 37.5**	**+0.8**		
KIJV	**Kijevo**	**3.27**	**144**	*e*Pn	**Pn**	**21 50 00.2**	**-0.9**		
KIJV	**Kijevo**	**3.27**	**144**	*e*Pn	**Pn**	**21 50 03.6**	**+2.5**		
VRAC	**Vranov**	**3.27**	**35**	*e*PN	**Pn**	**21 50 00.5**	**-0.7**		
VRAC				*e*SG	**Sg**	**21 50 51.8**	**-2.9**		
ZIRJ	**Zirje**	**3.31**	**155**	*e*Pn	**Pn**	**21 50 03.1**	**+1.5**		
ZIRJ				Sn	**Sn**	**21 50 41.4**	**+0.3**		
GOPC	**GO Pecny, Ondr**	**3.33**	**12**	*e*SG	**Sg**	**21 50 55.3**	**-1.1**		
	comp=N,6.1nm,0.4s								
PRU	**Pruhonice**	**3.37**	**9**	*e*SN	**Sn**	**21 50 45.5**	**+3.0**		
PRU				*e*SG	**Sg**	**21 50 56.8**	**-1.0**		
	comp=N,16nm,0.7s								
MORH	**Mrgy, Hungar**	**3.44**	**96**	*e*Pn	**Pn**	**21 50 05.7**	**+2.3**		
CSNT	**Castellina Chi**	**3.63**	**209**	AML	AML				
	comp=E,8µm,1.3s								
CSNT				AML	AML				
	comp=E,8µm,0.7s								
CSNT				AML	AML				
	comp=N,8µm,0.6s								
RICC	**Richard**	**3.89**	**4**	*e*SG	**Sg**	**21 51 12.9**	**-1.5**		
	comp=N,14nm,0.4s								
PVCC	**Panska Ves**	**3.90**	**8**	*e*SG	**Sg**	**21 51 15.7**	**+0.7**		
	comp=N,16nm,0.6s								
VYHS	**Vyhne**	**3.92**	**60**	*e*PN	**Pn**	**21 50 10.1**	**+0.1**		
VYHS				*e*PG	**Pg**	**21 50 24.7**	**0.0**		
KRLC	**Kraliky**	**3.98**	**30**	*e*SG	**Sg**	**21 51 16.5**	**-0.7**		
	comp=N,15nm,0.8s								
MORC	**Moravsky Berou**	**4.03**	**38**	*e*PN	**Pn**	**21 50 10.7**	**-0.8**		
MORC				*e*SG	**Sg**	**21 51 17.5**	**-1.4**		
DPC	**Dobruska-Polom**	**4.07**	**24**	*e*SG	**Sg**	**21 51 19.0**	**-1.3**		
	comp=N,12nm,1.2s								
UPC	**Upice**	**4.13**	**21**	*e*SG	**Sg**	**21 51 21.3**	**-1.0**		
	comp=N,34nm,1.1s								
BRG	**Berggiesshubel**	**4.21**	**2**	Pg	**Pg**	**21 50 31.6**	**+1.3**		
BRG				Sn	**Sn**	**21 51 03.2**	**-0.1**		
BRG				Sg	**Sg**	**21 51 23.3**	**-1.5**		
BRG				Amp		21 51 29.5			
	comp=Z,6.4nm,0.4s								
CHVC	**Chvalec**	**4.22**	**21**	*e*SG	**Sg**	**21 51 23.6**	**-1.4**		
	comp=Z,12nm,0.7s								
OSTC	**Ostas**	**4.23**	**22**	*e*SG	**Sg**	**21 51 23.2**	**-2.2**		
	comp=Z,20nm,0.9s								
LSTV	**Lastovo**	**4.51**	**149**	*i* Pn	**Pn**	**21 50 19.3**	**+1.2**		
CLL	**Collm**	**4.67**	**354**	*e*Pn	**Pn**	**21 50 22.0**	**+1.7**		
CLL				*e*Sn	**Sn**	**21 51 15.0**	**+0.5**		
CLL				*e*Sg	**Sg**	**21 51 38.0**	**-1.4**		
	comp=Z,10.0nm,0.6s								
STON	**Ston**	**4.74**	**142**	*e*Pn	**Pn**	**21 50 24.7**	**+3.4**		
STON	**Ston**	**4.74**	**142**	*e*Pn	**Pn**	**21 50 24.3**	**+3.0**		

IDC 05 21:59:49.4±556.0, 46°29N×63°05E, h0km, Error ellipse: s-maj=268.8km s-min=110.5km az=149.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.31**	**323**	I	I	22 29 30.0	
	baz=138,slow=320,SNR=0.4						
I46RU	**ZALESOVO INFRA**	**15.89**	**53**	I	I	23 40 20.0	
	baz=246,slow=315,SNR=1.4						
I43RU	**DUBNA INFRASON**	**9.05**	**313**	I	I	23 57 50.0	
	baz=111,slow=325,SNR=1.4						
I18DK	**QAANAAQ INFRAS**	**53.05**	**348**	I	I	03 22 33.7	
	baz=38,slow=328,SNR=1.7						

IDC 05 22:00:12.8±7.8, 16°82S×177°67W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=199.8km s-min=42.9km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.78**	**240**	P	P	22 07 48.5	+0.9
	1.7nm,0.5s,baz=72,slow=6.4,SNR=5.9 1.7nm,0.5s						
WRA	**Warramunga Arr**	**45.54**	**258**	P	P	22 08 33.7	-1.0
	0.3nm,0.4s,baz=96,slow=7.8,SNR=8.3 0.3nm,0.4s						
ASAR	**Alice Springs**	**45.77**	**253**	P	P	22 08 36.4	-0.1
	5.4nm,0.5s,baz=92,slow=7.6,SNR=82 5.4nm,0.5s						
QSPA	**South Pole Qui**	**73.23**	**180**	P	P	22 11 45.7	0.0
	1.8nm,1.0s,baz=72,slow=3.2,SNR=6.9 1.8nm,1.0s						

*IDC **05** 22:08:58.8±1.1, 21°.33S×175°.32W, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=38.8km s-min=29.2km az=110.0*

ISC 05 22:09:07.4±1.1, 21°4S±0°2×175°5W±0°3, h60km, n12, σ1s06/13, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.62**	**257**	P	**P**	**22 17 31.6**	**+1.6**
	2.1nm,0.6s,baz=95,slow=8.2,SNR=31						
ASAR				PcP	**PcP**	**22 19 02.6**	**-0.6**
	0.2nm,0.5s,baz=88,slow=2.7,SNR=1.5 2.1nm,0.6s						
WRA	**Warramunga Arr**	**46.81**	**262**	P	**P**	**22 17 31.8**	**+0.3**
	1.0nm,0.5s,baz=99,slow=8.1,SNR=33 1.0nm,0.5s						
VNDA	**Vanda**	**57.25**	**186**	P	**P**	**22 18 47.7**	**-0.5**
	0.9nm,0.7s,baz=10,slow=19,SNR=7.1 0.9nm,0.7s						
MJAR	**Matsushiro Arr**	**72.33**	**322**	P	**P**	**22 20 25.2**	**-1.6**
	2.0nm,0.6s,baz=155,slow=5.5,SNR=6.3 2.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**81.03**	**325**	P	**P**	**22 21 15.9**	**+0.3**
	1.8nm,0.8s,baz=142,slow=5.1,SNR=4.2 1.8nm,0.8s						
ILAR	**Eielson Array**	**88.67**	**12**	P	**P**	**22 21 55.0**	**+1.4**
	0.3nm,0.4s,baz=207,slow=5.0,SNR=1.8 0.3nm,0.4s						
MKAR	**Makanchi Array**	**113.52**	**313**	PKiKP	**PKiKP**	**22 27 38.5**	**-0.3**
	0.3nm,0.6s,baz=60,slow=3.9,SNR=2.7						
BVAR	**Borovoye Array**	**121.27**	**320**	PKP	**PKiKP**	**22 27 53.3**	**-0.2**
	0.5nm,0.4s,baz=123,slow=0.8,SNR=4.3						
AKASG	**Malin Array Be**	**144.90**	**332**	PKP	**PKPab**	**22 28 35.9**	**-0.9**
	1.6nm,0.5s,baz=44,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**149.17**	**313**	PKPbc	**PKPbc**	**22 28 48.8**	**-0.7**
	0.4nm,0.6s,baz=82,slow=3.1,SNR=2.9						
MMAI	**Mount Meron Ar**	**150.30**	**300**	PKPbc	**PKPbc**	**22 28 51.9**	**-0.4**
	0.7nm,0.5s,baz=103,slow=1.9,SNR=2.6						
GERES	**GERESS Array B**	**151.63**	**347**	PKPbc	**PKiKP**	**22 28 56.7**	**+1.3**
	0.2nm,0.6s,baz=39,slow=1.9,SNR=3.8						

*SJA **05** 22:12:18.0±0.8, 25°.36S×70°.76W, h28km±3km, ML3.7, MW3.5*
*GUC **05** 22:12:20.6±0.8, 25°.41S×70°.72W, h26km±7km, ML3.8*

ISC 05 22:12:19.5±1.3, 25°40S±0°03×70°82W±0°07, h28km±14km, n23, σ1s77/33, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.77**	**165**	↑*iP*	**Pb**	**22 12 34.6**	**+0.2**
AC01				*e*S	**Sb**	**22 12 44.8**	**+0.3**
AC01				IAML		22 12 45.3	
	comp=N,9µm,0.2s						
AC01	**Pan de Azucar**	**0.77**	**165**	*i* P	**Pb**	**22 12 33.8**	**-0.6**
AC01				*e*S	**Sn**	**22 12 45.8**	**+0.5**
AC01				IAML		22 12 47.2	
	comp=Z,1µm,0.2s						
GO02	**Mina Guanaco**	**1.14**	**78**	↓*iP*	**Pb**	**22 12 40.1**	**-0.7**
GO02				*e*S	**Sn**	**22 12 54.4**	**-0.4**
GO02	**Mina Guanaco**	**1.14**	**78**	*i* P	**Pn**	**22 12 39.4**	**-0.6**
GO02				*e*S	**Sn**	**22 12 54.5**	**-0.4**
GO02				IAML		22 12 56.5	
	comp=Z,4µm,0.2s						
PB10	**IPOC Station P**	**1.90**	**7**	*e*P	**Pn**	**22 12 49.5**	**-0.6**
PB10	**IPOC Station P**	**1.90**	**7**	*e*P	**Pn**	**22 12 49.5**	**-0.6**
PB10				*e*S	**Sb**	**22 13 16.8**	**0.0**
PB10				IAML		22 13 26.5	
	comp=Z,191nm,1.2s						
AC02	**Maricunga**	**2.09**	**134**	↓*iP*	**Pb**	**22 12 55.4**	**-1.6**
AC02				IAML		22 13 24.5	
	comp=E,2µm,0.4s						
AC02	**Maricunga**	**2.09**	**134**	*e*P	**Pb**	**22 12 55.6**	**-1.4**
AC02				*e*S	**Sb**	**22 13 22.8**	**+0.1**
AC02				IAML		22 13 26.2	
	comp=Z,508nm,0.2s						
GO03	**Copiapo**	**2.25**	**167**	*e*P	**Pn**	**22 12 56.8**	**+1.8**
GO03				IAML		22 13 32.9	
	comp=N,473nm,0.3s						
GO03	**Copiapo**	**2.25**	**167**	*i* P	**Pn**	**22 12 56.3**	**+1.4**
GO03				*e*S	**Sn**	**22 13 24.3**	**+2.5**
GO03				IAML		22 13 33.7	
	comp=Z,566nm,0.3s						
PB05	**IPOC Station P**	**2.60**	**13**	↑*iP*	**Pn**	**22 12 59.5**	**-0.4**
PB05				IAML		22 13 45.1	
	comp=E,276nm,0.3s						
PB05	**IPOC Station P**	**2.60**	**13**	*e*P	**Pn**	**22 12 59.5**	**-0.4**
PB05				*e*S	**Sb**	**22 13 38.7**	**+1.5**
PB05				IAML		22 13 48.0	
	comp=Z,143nm,0.4s						
AC04	**Llanos de Chal**	**2.80**	**185**	*e*P	**Pn**	**22 13 01.9**	**-0.6**
AC04				IAML		22 13 51.6	
	comp=E,371nm,0.5s						
PB06	**IPOC Station P**	**2.92**	**23**	*e*P	**Pn**	**22 13 04.4**	**+0.1**
PB06				IAML		22 13 51.7	
	comp=N,476nm,0.4s						
PB06	**IPOC Station P**	**2.92**	**23**	*e*P	**Pn**	**22 13 04.8**	**+0.6**
PB06				*e*S	**Sb**	**22 13 50.4**	**+4.1**
PB06				IAML		22 13 56.1	
	comp=Z,232nm,0.3s						
LCO	**Las Campanas**	**3.60**	**178**	*e*P	**Pn**	**22 13 14.1**	**+0.4**
PB09	**IPOC Station P**	**3.87**	**22**	*e*P	**Pn**	**22 13 18.1**	**+0.7**
PB09	**IPOC Station P**	**3.87**	**22**	*e*P	**Pn**	**22 13 18.4**	**+0.9**
PB09				*e*S	**Sb**	**22 14 16.1**	**+2.3**
PB09				IAML		22 14 34.7	
	comp=Z,182nm,0.5s						
VCA	**Vinchina**	**4.06**	**145**	*e*P	**Pb**	**22 13 25.8**	**-4.6**
VCA				*e*S	**Sb**	**22 14 22.5**	**+3.4**
VCA				IAML		22 14 28.8	
	comp=Z,104nm,0.3s						
PB02	**IPOC Station P**	**4.15**	**12**	*e*P	**Pn**	**22 13 20.5**	**-0.7**
PB02				IAML		22 14 38.9	
	comp=Z,170nm,0.3s						
FSA	**Cafayete**	**4.42**	**100**	*e*P	Pn	22 13 30.0	+5.0
PB01	**IPOC Station P**	**4.51**	**16**	*e*P	**Pn**	**22 13 25.8**	**-0.3**
PB01				IAML		22 14 37.6	
	comp=Z,52nm,0.3s						
AROD	**Rodeo**	**4.89**	**166**	*e*P	**Pb**	**22 13 41.3**	**-3.4**

IDC 05 22:17:27.8±2.3, 30°67S×178°58W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=67.4km s-min=40.1km az=45.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.59**	**267**	P	P	22 25 25.6	-0.3
	0.1nm,0.3s,baz=108,slow=8.5,SNR=1.1 0.1nm,0.3s						
WRA	**Warramunga Arr**	**43.61**	**273**	P	P	22 25 34.1	+0.1
	0.3nm,0.7s,baz=115,slow=8.0,SNR=4.6 0.3nm,0.7s						
QSPA	**South Pole Qui**	**59.44**	**180**	P	P	22 27 32.2	0.0
	0.5nm,0.6s,baz=45,slow=2.9,SNR=5.2 0.5nm,0.6s						
FINES	**FINESS Array B**	**145.22**	**339**	PKPbc	PKPbc	22 37 05.3	-1.0
	2.7nm,1.0s,baz=44,slow=4.2,SNR=3.4						

*IDC **05** 22:20:08.9±1.0, 32°.16S×177°.72W, h0km, mb4.1/4, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=35.0km s-min=25.1km az=109.0*

ISC 05 22:20:11.4±1.0, 32°1S±0°1×177°7W±0°2, h18km, n13, σ0s95/14, mb4.0/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.50**	**213**	Pn	**Pn**	**22 22 00.2**	**+0.4**
	0.8nm,0.3s,baz=52,slow=12,SNR=7.0						
URZ				Sn	**Sn**	**22 23 23.7**	**-0.6**
	2.2nm,0.3s,baz=52,slow=15,SNR=3.8 6.6nm,0.8s						
ASAR	**Alice Springs**	**43.28**	**269**	P	**P**	**22 28 12.6**	**+0.4**
	0.8nm,0.5s,baz=112,slow=8.4,SNR=13 0.8nm,0.5s						
WRA	**Warramunga Arr**	**44.42**	**274**	P	**P**	**22 28 21.7**	**+0.3**
	1.6nm,0.6s,baz=116,slow=7.9,SNR=27 1.6nm,0.6s						
QSPA	**South Pole Qui**	**58.06**	**180**	P	**P**	**22 30 04.4**	**+1.2**
	1.1nm,1.0s,baz=27,slow=1.9,SNR=2.2 1.1nm,1.0s						
MAW	**Mawson**	**70.85**	**201**	P	**P**	**22 31 25.2**	**-1.4**
	2.1nm,0.3s,baz=139,slow=20,SNR=12 2.1nm,0.3s						
KURBB	**Kurchatov Arra**	**122.39**	**313**	PKP	**PKiKP**	**22 39 05.8**	**+0.6**
	0.3nm,0.3s,baz=101,slow=2.7,SNR=1.8						
BVAR	**Borovoye Array**	**127.74**	**315**	PKP	**PKiKP**	**22 39 16.4**	**+0.6**
	0.3nm,0.3s,baz=130,slow=2.2,SNR=1.8						
ARCES	**ARCESS Array B**	**140.25**	**347**	PKP	**PKPdf**	**22 39 36.5**	**-1.6**
	3.7nm,0.9s,baz=51,slow=1.9,SNR=2.8						
FINES	**FINESS Array B**	**146.77**	**339**	PKPbc	**PKPab**	**22 39 52.5**	**-0.3**
	1.0nm,0.4s,baz=57,slow=5.1,SNR=21						
NOA	**NORSAR Array B**	**150.42**	**351**	PKPbc	**PKPbc**	**22 40 01.3**	**+0.2**
	0.2nm,0.7s,baz=13,slow=2.4,SNR=3.7						
HFS	**Hagfors**	**150.91**	**348**	PKPbc	**PKiKP**	**22 40 03.3**	**+0.5**
	2.1nm,1.0s,baz=35,slow=5.3,SNR=4.6						
AKASG	**Malin Array Be**	**152.74**	**321**	PKPbc	**PKPbc**	**22 40 05.5**	**-1.1**
	0.3nm,0.4s,baz=49,slow=2.8,SNR=1.4						
BRTR	**Keskin Array B**	**153.56**	**296**	PKPbc	**PKiKP**	**22 40 10.0**	**+0.8**
	0.2nm,0.4s,baz=95,slow=1.8,SNR=4.2						

*IDC **05** 22:35:03.9±2.4, 50°.47N×160°.07E, h0km, mb3.7/4, mbtmp3.6/5, ML2.3/1, MS3.4/2, Error ellipse: s-maj=56.7km s-min=28.8km az=20.0*
*KRSC **05** 22:35:04.9±1.9, 50°.48N×160°.11E, h68km±40km, Ml3.7*

ISC 05 22:35:04.7±1.3, 50°44N±0°08×160°08E±0°06, h10km, n29, σ1s35/39, mb3.6/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.22**	**334**	*e*P	**Pn**	**22 35 40.9**	**-0.6**
RUS				*e*S	**Sn**	**22 36 06.6**	**-2.4**
MTVR	**Mutnovka**	**2.36**	**331**	*e*P	**Pn**	**22 35 43.4**	**-0.3**
MTVR				*e*S	**Sn**	**22 36 10.6**	**-2.2**
ASAK	**Asacha**	**2.37**	**326**	*e*P	**Pn**	**22 35 43.9**	**+0.1**
ASAK				*e*S	**Sn**	**22 36 11.6**	**-1.3**
GRL	**Gorelyy**	**2.45**	**330**	*e*P	**Pn**	**22 35 45.5**	**+0.6**
GRL				*e*S	**Sn**	**22 36 15.0**	**0.0**
SKR	**Severo-Kuril's**	**2.54**	**277**	*e*P	**Pn**	**22 35 45.3**	**-0.6**
SKR				*e*S	**Sn**	**22 36 13.8**	**-3.0**
SPN	**Mys Shipunski**	**2.66**	**359**	*e*P	**Pn**	**22 35 47.3**	**-0.3**
SPN				*e*S	**Sn**	**22 36 17.4**	**-2.5**
KRMR	**Karymshinskiy**	**2.68**	**334**	*e*P	**Pn**	**22 35 47.6**	**-0.3**
KRMR				*e*S	**Sn**	**22 36 19.3**	**-1.0**
DALK	**Dalny**	**2.72**	**343**	*e*P	**Pn**	**22 35 48.3**	**-0.2**
NLC	**Nalytchevo**	**2.77**	**351**	*e*P	**Pn**	**22 35 50.0**	**+0.9**
NLC				*e*S	**Sn**	**22 36 22.3**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.77**	**313**	*e*P	**Pn**	**22 35 49.8**	**+0.6**
MIPR				*e*S	**Sn**	**22 36 23.0**	**+0.3**
UGLR	**Uglovaya**	**2.88**	**345**	*e*P	**Pn**	**22 35 51.0**	**+0.3**
SDLR	**Sedlovina**	**2.93**	**346**	*e*P	**Pn**	**22 35 51.6**	**0.0**
AVH	**Avacha**	**2.94**	**344**	*e*P	**Pn**	**22 35 52.8**	**+1.1**
KOK	**Koryaka**	**2.99**	**343**	*e*P	**Pn**	**22 35 52.7**	**+0.5**
PETK	**Petropavlovsk-**	**3.05**	**332**	Pn	**Pn**	**22 35 53.1**	**+0.1**
	1.8nm,0.3s,baz=134,slow=16,SNR=12						
PETK				Sn	**Sn**	**22 36 31.1**	**+1.5**
	1.4nm,0.3s,baz=128,slow=28,SNR=1.6 5.5nm,0.5s						
KRX	**Arik**	**3.05**	**344**	*e*P	**Pn**	**22 35 53.3**	**+0.2**
APC	**Apacha**	**3.08**	**325**	*e*P	**Pn**	**22 35 54.8**	**+1.5**
GNL	**Ganaly**	**3.51**	**339**	*e*P	**Pn**	**22 36 01.0**	**+1.5**
MKZ	**Mys Kozlova**	**4.24**	**13**	*e*P	**Pn**	**22 36 09.1**	**-0.2**
MKZ				*e*S	**Sn**	**22 36 55.9**	**-2.9**
TUMD	**Tumrok D**	**4.77**	**2**	*e*P	**Pn**	**22 36 17.4**	**+0.7**
TUMD				*e*S	**Sn**	**22 37 09.4**	**-2.6**
KMNR	**Kamenistaya**	**5.32**	**1**	*e*P	**Pn**	**22 36 27.3**	**+3.0**
BKI	**Bering**	**5.96**	**35**	*e*P	**Pn**	**22 36 32.6**	**-0.2**
KBTR	**Krutoberegovo**	**6.00**	**15**	*e*P	**Pn**	**22 36 33.8**	**+0.3**
ILAR	**Eielson Array**	**30.74**	**42**	P	**P**	**22 41 19.8**	**+0.1**
	0.3nm,0.6s,baz=261,slow=6.7,SNR=3.0 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**49.26**	**304**	P	**P**	**22 43 53.1**	**-0.1**
	1.0nm,0.2s,baz=62,slow=6.6,SNR=1.6 1.0nm,0.2s						
BVAR	**Borovoye Array**	**52.06**	**310**	P	**P**	**22 44 15.1**	**+0.8**
	0.6nm,0.6s,baz=57,slow=10,SNR=2.4 0.6nm,0.6s						
AKTO	**Aktyubinsk**	**59.62**	**314**	LR	LR	23 13 23.4	
	comp=Z,19nm,19.5s,baz=136,slow=39						
PSI	**Prapat**	**69.79**	**249**	LR	LR	23 20 20.3	
	comp=Z,39nm,18.2s,baz=160,slow=39						
TXAR	**Lajitas Array**	**71.70**	**66**	P	**P**	**22 46 28.0**	**+1.0**
	0.2nm,0.5s,baz=312,slow=4.4,SNR=3.4 0.2nm,0.5s						

*IDC **05** 22:40:33.8±15.0, 23°.44S×179°.46W, h602km±186km, mb2.8/5, mbtmp3.8/5, Error ellipse: s-maj=88.1km s-min=35.9km az=58.0*

ISC 05 22:40:27.9±1.4, 23°3S±0°2×179°3W±0°2, h536km, n6, σ0s88/6, mb3.7/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.55**	**247**	P	**P**	**22 46 40.1**	**0.0**
	1.2nm,0.5s,baz=97,slow=16,SNR=3.9 1.2nm,0.5s						
ASAR	**Alice Springs**	**42.78**	**260**	P	**P**	**22 47 39.0**	**+0.4**
	1.8nm,0.8s,baz=95,slow=8.0,SNR=16 1.8nm,0.8s						
WRA	**Warramunga Arr**	**43.11**	**265**	P	**P**	**22 47 41.1**	**-0.1**
	1.8nm,0.7s,baz=101,slow=8.0,SNR=23 1.8nm,0.7s						
VNDA	**Vanda**	**54.99**	**185**	P	**P**	**22 49 08.3**	**+0.1**
	0.3nm,0.8s,baz=40,slow=16,SNR=1.7 0.3nm,0.8s						
ILAR	**Eielson Array**	**91.33**	**13**	P	**P**	**22 52 36.5**	**+0.6**
	0.2nm,0.6s,baz=212,slow=3.2,SNR=1.8 0.2nm,0.6s						
HFS	**Hagfors**	**142.12**	**349**	PKP	**PKPdf**	**22 58 57.3**	**-1.3**
	0.9nm,0.3s,baz=15,slow=1.6,SNR=20						

*MOS **05** 22:52:05.4±1.4, 52°.30N×159°.17E, h54km, mb4.0/8, Error ellipse: s-maj=9.6km s-min=5.2km az=92.1*
*KRSC **05** 22:52:05.3±1.4, 52°.35N×159°.27E, h28km±14km, Ml3.9*

ISC 05 22:52:04.1±1.1, 52°37N±0°04×159°29E±0°03, h19km±3km, n69, σ1s32/88, mb3.9/10, 7C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.48**	**277**	PN	**Pb**	**22 52 15.2**	**+1.3**
RUS				S	**Sg**	**22 52 21.3**	**+1.0**
RUS	**Russkaya**	**0.48**	**277**	*e*P	**Pb**	**22 52 15.2**	**+1.3**
RUS				*e*S	**Sg**	**22 52 21.3**	**+1.0**
MTVR	**Mutnovka**	**0.69**	**280**	PN	**Pg**	**22 52 18.6**	**+1.0**
MTVR				S	**Sb**	**22 52 27.4**	**+0.9**
MTVR	**Mutnovka**	**0.69**	**280**	*e*P	**Pg**	**22 52 18.7**	**+1.0**
MTVR				*e*S	**Sb**	**22 52 27.4**	**+0.9**
DALK	**Dalny**	**0.73**	**334**	PN	**Pn**	**22 52 20.4**	**+1.0**
DALK				S	**Sn**	**22 52 29.9**	**-0.1**
DALK	**Dalny**	**0.73**	**334**	*e*P	**Pn**	**22 52 20.5**	**+1.0**
DALK		

KBTR	Krutoberegovo	4.36	27	eP	Pn	22 53 14.4	+5.2
BKI	Bering	4.87	52	PN	Pn	22 53 19.7	+3.5
BKI	Bering	4.87	52	eP	Pn	22 53 19.8	+3.5
BKI				eS	Sn	22 54 12.8	+0.8
SEY	Seymchan	11.21	344	i PN	Pn	22 54 44.9	+1.9
YSS	Yuzhno-Sakhali	12.00	250	i PN	Pn	22 54 54.0	+0.1
YUK	Yuzh-Kuril'sk	12.22	232	i PN	Pn	22 54 56.9	-0.1
ERM	Erimo	15.05	233	i P	Pn	22 55 34.4	-1.1
ERM				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL	Bilibino	16.07	10	eP	Pn	22 55 49.9	+1.2
YAK	Yakutsk	18.55	313	eP	P	22 56 19.1	-0.3
MSHR	Mys Shultsa	21.26	254⇑	iP	P	22 56 48.7	-0.3
MSHR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PSTR	Posyet	21.43	254⇑	eP	P	22 56 50.6	-0.2
MAJO	Matsushiro	21.71	232⇑	iP	P	22 56 52.7	-1.2
MAJO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	Ulaanbaatar	33.19	283	i P	P	22 58 38.9	-0.5
ULN				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KURK	Kurchatov	47.70	302⇑	iP	P	23 00 37.3	-1.7
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MK31	Makanchi Array	48.02	296	eP	P	23 00 41.4	-0.3
BRVK	Borovoye	50.48	309	i P	P	23 00 58.8	-1.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARTI	Arti	53.69	317	i P	P	23 01 23.2	-1.0
ARTI				pmax	pmax		
	comp=Z,2.0nm,1.7s						
AAK	Ala-Archa	54.95	296	i P	P	23 01 32.5	-1.2
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OBN	Obninsk	62.85	327	eP	P	23 02 25.1	-3.0
OBN				e		23 03 01.5	
OBN				e		23 04 44.3	
OBN				ePPP	PPP	23 06 14.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,15nm,16.0s						

*IDC **05** 22:56:31.8±1.6,2.°98S×128.°39E,h0km,mb3.8/5, mbtmp3.9/7,ML3.8/2,Error ellipse: s-maj=119.1km s-min=21.8km az=71.0*
*DJA **05** 22:56:34.3±0.3,3.°5±2.°×12.°9E±.°,h10km,M4.0/9,MLv4.0/9*
ISC 05 22:56:31.8±0.8,2.°82S±0.°08×128.°57E±0.°08,h10km,n14, σ1s76/12,mb3.8/5,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	Masohi	0.63	146	P		Pn		22 56 47.7	+0.8
AAI	Ambon	0.94	204	P		Pn		22 56 58.3	+7.1
NLAI	Namlea	1.53	254	P		Pg		22 57 05.8	+4.6
BNDI	Bandanaira	2.15	142	P		Pb		22 57 10.5	-0.4
SANI	Sanana	2.69	286	P		Pb		22 57 19.4	-0.8
SWI	Sorong	3.31	54	P		Pn		22 57 22.6	-1.2
FAKI	Fak Fak	3.67	92	P		Pn		22 57 28.8	+0.1
FITZ	Fitzroy Crossi	15.46	191	Pn		P		23 00 10.8	-3.8
	0.1nm,0.3s,baz=20,slow=16,SNR=1.9 1.7nm,0.8s								
WRA	Warramunga Arr	17.93	162	P		Pn		23 00 40.3	-1.1
	0.8nm,0.3s,baz=342,slow=12,SNR=22 4.2nm,0.5s								
ASAR	Alice Springs	21.36	166	P		P		23 01 20.4	+0.9
	9.7nm,0.6s,baz=348,slow=12,SNR=69 9.7nm,0.6s								
MKAR	Makanchi Array	63.97	326	P		P		23 07 07.9	+2.5
	0.4nm,0.8s,baz=122,slow=7.6,SNR=2.3 0.4nm,0.8s								
KURBB	Kurchatov Arra	68.23	328	P		P		23 07 34.1	+1.5
	0.3nm,0.5s,baz=126,slow=5.7,SNR=4.8 0.3nm,0.5s								
VNDA	Vanda	76.74	173	P		P		23 08 23.5	+0.5
	0.8nm,0.9s,baz=310,slow=7.9,SNR=4.5 0.8nm,0.9s								
QSPA	South Pole Qui	87.13	180	P		P		23 09 18.5	+0.5
	1.2nm,0.9s,baz=341,slow=17,SNR=3.8 1.2nm,0.9s								

IDC 05 22:58:06.0±1.9,3.°80S×128.°18E,h0km,mb3.5/3, mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=120.0km s-min=25.6km az=71.0,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	14.43	190	Pn		Pn		23 01 32.0	+0.4
	1.4nm,0.8s,baz=14,slow=12,SNR=1.2								
WRA	Warramunga Arr	17.13	160	P		Pn		23 02 06.7	-0.3
	0.1nm,0.3s,baz=342,slow=12,SNR=3.5 1.8nm,0.8s								
ASAR	Alice Springs	20.51	165	P		P		23 02 45.8	-0.1
	1.5nm,0.5s,baz=345,slow=9.9,SNR=4.4 1.5nm,0.5s								
MKAR	Makanchi Array	64.58	327	P		P		23 08 43.2	-2.0
	0.3nm,0.7s,baz=123,slow=7.9,SNR=2.0 0.3nm,0.7s								
KURBB	Kurchatov Arra	68.86	329	P		P		23 09 14.3	+2.0
	0.3nm,0.6s,baz=133,slow=6.8,SNR=2.0 0.3nm,0.6s								

*SOF **05** 22:58:44.6,39.°74N±0.°04×22.°07E±0.°02,h10km±2km, MD3.2/6*
*IDC **05** 22:58:44.5±1.4,39.°67N×22.°20E,h0km,mb3.4/5, mbtmp3.3/7,ML2.6/2,MS3.5/2,Error ellipse: s-maj=27.9km s-min=21.4km az=4.0*
*THE **05** 22:58:45.7,39.°8N±0.°6×22.°1E±0.°6,h3km±1km,M3.1/30, MLh3.1/30*
*BEO **05** 22:58:45.6±0.6,39.°71N×22.°26E,h8km±4km,ML2.7/11*
*ATH **05** 22:58:45.5,39.°76N×22.°09E,h9km,ML3.1/21,Manual Solution by S.Liakopoulos First location: 2019/08/05 22:59:52, This location: 2019/08/06 05:14:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
ISC 05 22:58:45.8±0.8,39.°74N±0.°01×22.°12E±0.°02,h12km±5km, n144,σ1s14/181,mb3.5/4,7C-9D,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TYRN	Tyrnavos	0.09	110	P		Pg		22 58 48.4	0.0
TYRN				S		Sg		22 58 49.9	-0.5
TYRN	Tyrnavos	0.09	110	P		Pg		22 58 48.3	0.0
TYRN				S		Sg		22 58 50.3	0.0
THL	Klokotos Trika	0.20	206	P		Pg		22 58 49.8	-0.2
THL				S		Sg		22 58 52.6	-0.3
THL	Klokotos Trika	0.20	206	P		Pg		22 58 49.8	-0.2
THL				S		Sg		22 58 52.5	-0.3
LRSO	Larissa Observ	0.22	108	P		Pg		22 58 50.8	+0.4
LRSO				S		Sg		22 58 53.8	+0.3
LRSO	Larissa Observ	0.22	108	P		Pg		22 58 50.8	+0.4
LRSO				S		Sg		22 58 54.6	+1.1
LIT	Litokhoron	0.46	38	P		Pg		22 58 54.2	-0.6
LIT				S		Sg		22 59 00.8	0.0
LIT	Litokhoron	0.46	38	P		Pg		22 58 54.2	-0.6
LIT				S		Sg		22 59 01.7	+0.8
KZN	Kozani	0.63	334	P		Pg		22 58 57.1	-0.8
MAKR	Makrakomi, Fth	0.73	180	P		Pb		22 59 00.3	-0.1
MAKR				S		Sb		22 59 11.2	+0.9
MAKR	Makrakomi, Fth	0.73	180	P		Pb		22 59 00.3	-0.1
AGG	Agios Georgios	0.73	167	P		Pb		22 59 00.4	-0.2
AGG				S		Sb		22 59 11.9	+1.3
AGG	Agios Georgios	0.73	167	P		Pb		22 59 00.4	-0.2
VOL2	Volos	0.74	120	P		Pb		22 59 00.7	+0.1
TETR	Tetrakomo, Epi	0.77	239	P		Pg		22 58 59.8	-0.8
TETR				S		Sb		22 59 12.0	+0.5
TETR	Tetrakomo, Epi	0.77	239	P		Pg		22 59 00.3	-0.3
PRMD	Pramanda	0.82	255	P		Pg		22 59 00.8	-0.8
PRMD				S		Sb		22 59 12.8	-0.3
EVR	Evrytania	0.86	197	P		Pg		22 59 02.0	-0.4
EVR				S		Sb		22 59 14.5	+0.3
EVR	Evrytania	0.86	197	P		Pg		22 59 02.0	-0.4
LAM2	Lamia	0.87	164	P		Pb		22 59 02.6	-0.2
PENT	Pentalofos	0.88	301	P		Pg		22 59 02.5	-0.3
PENT				S		Sb		22 59 15.2	+0.2
PENT	Pentalofos	0.88	301	P		Pg		22 59 02.2	-0.6
NEO	Neokhori	0.95	117	P		Pb		22 59 04.6	+0.3
NEO				S		Sb		22 59 17.9	+1.0
NEO	Neokhori	0.95	117	P		Pb		22 59 04.3	+0.1
JAN	Janina	0.99	266	P		Pb		22 59 04.9	0.0
JAN				S		Sb		22 59 17.9	+0.1
JAN	Janina	0.99	266	P		Pn		22 59 05.1	-0.4
AXAR	Agios Charalam	1.06	157	P		Pg		22 59 06.0	-0.1
AXAR				S		Sn		22 59 21.8	+0.6
AXAR	Agios Charalam	1.06	157	P		Pg		22 59 05.5	-0.7
NEST	Nestorio	1.06	310	P		Pg		22 59 05.6	-0.7
NEST				S		Sb		22 59 20.2	0.0
NEST	Nestorio	1.06	310	P		Pg		22 59 05.6	-0.7
NEST				S		Sg		22 59 19.7	-0.5
AMPL	Ampelaki	1.08	221	P		Pg		22 59 05.7	-0.8
THE	Thessaloniki	1.10	36	P		Pg		22 59 06.2	-0.8
THE	Thessaloniki	1.10	36	P		Pg		22 59 06.0	-0.9
THE				S		Sn		22 59 22.2	+0.1
HORT	Hortiatis	1.14	41	P		Pg		22 59 06.9	-0.7
HORT	Hortiatis	1.14	41	P		Pg		22 59 06.6	-1.1
ANX	Ano Chora	1.16	188	P		Pg		22 59 07.4	-0.6
ANX	Ano Chora	1.16	188	P		Pg		22 59 07.4	-0.6
FNA	Florina	1.19	331	P		Pg		22 59 07.8	-0.8
FNA	Florina	1.19	331	eP		Pg		22 59 07.6	-1.0
FNA				eS		Sn		22 59 26.3	+1.8
FNA	Florina	1.19	331	P		Pg		22 59 07.6	-1.0
FNA				S		Sn		22 59 24.4	-0.1
PLG	Polygyros	1.20	58	P		Pb		22 59 07.8	-0.6
PLG	Polygyros	1.20	58	P		Pg		22 59 07.5	-0.8
PLG				S		Sg		22 59 24.2	-0.1
PVO	Paravola	1.22	203	P		Pb		22 59 08.2	-0.5
PVO	Paravola	1.22	203	P		Pb		22 59 07.8	-0.9
PVO				S		Sb		22 59 24.5	+0.1
LKR	Lokris	1.28	148	P		Pn		22 59 09.7	+0.2
LKR	Lokris	1.28	148	P		Pn		22 59 09.8	+0.2
LKR				S		Sn		22 59 28.5	+1.8
EFP	Efpalio	1.32	187	P		Pb		22 59 10.7	+0.1
EFP				S		Sb		22 59 27.2	-0.2
LMS2	Laimos Florina	1.33	326	P		Pn		22 59 10.2	-0.1
SERG	Sergoula	1.33	182	P		Pb		22 59 10.6	0.0
SERG	Sergoula	1.33	182	P		Pn		22 59 10.3	+0.2
SERG				S		Sb		22 59 27.6	0.0
KALE	Kalithea	1.35	179	P		Pb		22 59 10.9	0.0
KALE	Kalithea	1.35	179	P		Pb		22 59 11.0	0.0
KALE				S		Sg		22 59 29.4	+0.3
IGT	Igoumenitsa	1.40	262	P		Pb		22 59 11.7	-0.1
IGT	Igoumenitsa	1.40	262	eP		Pg		22 59 11.7	-0.1
IGT				eS		Sg		22 59 33.5	+2.7
IGT	Igoumenitsa	1.40	262	P		Pb		22 59 11.5	-0.3
IGT				S		Sb		22 59 28.6	-1.1
SOH	Sokhos	1.43	41	P		Pn		22 59 12.1	+0.4
SOH	Sokhos	1.43	41	P		Pn		22 59 12.0	+0.4
TSLK	Tsoukalades, L	1.46	232	P		Pg		22 59 13.0	-0.8
AOS	Alonnisos	1.47	112	P		Pn		22 59 11.7	-0.4
LKD2	Lefkada island	1.48	231	P		Pb		22 59 13.4	+0.1
LKD2	Lefkada island	1.48	231	P		Pb		22 59 13.4	+0.1
NYDR	Nydri-Lefkada	1.51	228	P		Pb		22 59 13.5	-0.2
NYDR	Nydri-Lefkada	1.51	228	P		Pb		22 59 13.4	-0.2
KNT	Kendrikon	1.54	22	P		Pn		22 59 13.3	+0.2
KNT	Kendrikon	1.54	22	P		Pn		22 59 13.2	+0.2
OUR	Ouranopolis	1.54	67	P		Pn		22 59 13.2	+0.1
OUR	Ouranopolis	1.54	67	P		Pn		22 59 13.3	+0.1
EVGI	Lefkada island	1.60	226	P		Pb		22 59 14.9	-0.4
VAY	Valandovo	1.61	12	iPn		Pn		22 59 15.1	-0.4
VAY				iSn		Sg		22 59 40.8	+3.1
AXS	Araxos	1.65	201	P		Pb		22 59 16.0	-0.1
KLV	Kalavryta, Ach	1.69	179	P		Pn		22 59 16.0	+0.7
OHR	Ohrid	1.70	324	iPn		Pg		22 59 17.9	-0.6
OHR				iSn		Sg		22 59 46.3	+5.8
KLV1	Kalavrita	1.71	180	P		Pb		22 59 16.7	-0.5
YRMI	Loutra Irminis	1.74	201	P		Pn		22 59 16.6	+0.8
FSK	Fiskardo	1.77	224	P		Pn		22 59 16.2	+0.1
VIL2	Platees	1.77	149	P		Pn		22 59 17.4	+1.1
SRS	Serrai	1.77	39	P		Pn		22 59 16.3	-0.1
SRS	Serrai	1.77	39	ePn		Pn		22 59 16.1	-0.2
SRS				eSn		Sn		22 59 38.6	-0.3
SRS	Serrai	1.77	39	P		Pn		22 59 16.3	-0.1
GUR	Goura	1.81	175	P		Pn		22 59 17.1	+0.2
LTK	Loutraki	1.84	159	P		Pn		22 59 17.7	+0.5
PARN2	Moni Osiou Mel	1.86	146	P		Pn		22 59 17.8	+0.2
LOUT	Loutraki	1.87	159	P		Pn		22 59 18.2	+0.6
KYMI	Kymi, Euboea I	1.89	125	P		Pn		22 59 17.9	-0.1
STFN	Stefani	1.91	144	P		Pn		22 59 19.0	+0.7
VLS	Valsamata	1.97	218	P		Pb		22 59 20.3	-1.3
MAGU	Magoula	1.98	146	P		Pn		22 59 19.8	+0.7
PARN3	Mandra,Attica,	1.98	147	P		Pn		22 59 19.5	+0.4
CLEM	Kyllini,Ilia,G	2.00	203	P		Pn		22 59 20.2	+0.7
MMB	Musomishta	2.19	34	P		Pn		22 59 22.6	+0.6
MMB				S		Sn		22 59 50.3	+1.2
KKB	Krupnik	2.23	20	P		Pn		22 59 23.4	+0.7
KKB				S		Sn		22 59 51.8	+1.6
SKO	Skopje	2.29	347	iPn		Pg		22 59 28.6	-1.0
TIR	Tirane	2.35	314	⇑P		Pb		22 59 28.3	+0.2
TIR	Tirane	2.35	314	ePn		Pb		22 59 27.6	-0.5
BOSS	Bosilegrad	2.77	5	ePn		Pn		22 59 29.8	-0.2
RZN	Rozhen	2.79	45	P		Pn		22 59 30.8	+0.4
RZN				S		Sn		23 00 03.9	-0.2
PLNA	Plana	2.90	19	P		Pn		22 59 34.8	+2.8
PLNA				S		Sg		23 00 20.5	+1.4
VTS	Vitosha	2.99	16	P		Pn		22 59 33.5	+0.3
VTS	Vitosha	2.99	16	ePn		Pn		22 59 33.5	+0.3
VTS				eSn		Sn		23 00 08.5	-0.7
BARS	Barje	3.08	356	ePn		Pn		22 59 34.6	+0.3
BARS				eSn		Sn		23 00 11.5	+0.4
KDZ	Kurdzhali	3.09	51	P		Pn		22 59 34.1	-0.3
PLD	Plovdiv	3.12	39	ePn		Pn		22 59 33.9	-0.9
CAVK	Edirne/Enez-Ca	3.24	72	⇑P		Pg		22 59 57.0	+9.2
PDG	Podgorica	3.45	322	⇑P		Pn		22 59 41.2	+1.9
PDG	Podgorica	3.45	322	ePn		Pn		22 59 40.8	+1.4
PDG				eSn		Sn		23 00 23.0	+2.8
MPEP	Malo Peshtene	3.81	18	P		Pn		22 59 45.5	+1.2
SJES	Sjenica	3.87	336	ePn		Pn		22 59 45.8	+0.6
BLKB	Belogradchik	3.90	6	ePn		Pn		22 59 46.2	+0.6
BOVS	Bovan	3.90	356	⇓P		Pn		22 59 49.6	+4.0
BOVS	Bovan	3.90	356	ePn		Pn		22 59 46.9	+1.3
GOCS	Kraljevo Serbi	3.93	347	ePn		Pn		22 59 46.6	+0.5
GOCS				eSn		Sn		23 00 09.1	-0.3
ZAGS	Zajecar	4.07	1	ePn		Pn		22 59 47.8	-0.1
ZAGS				eSn		Sn		23 00 34.5	-0.9
PLVB	Pleven	4.10	26	⇑P		Pg		23 00 03.2	-1.0
IVAS	Ivanjica	4.11	340	ePn		Pn		22 59 48.8	+0.4
TIP	Timpagrande	4.19	264	⇓P		Pn		22 59 50.7	+1.1
ELND	Elena	4.26	40	⇓P		Pn		22 59 54.2	+3.8
GRUS	Gruza	4.28	346	ePn		Pn		22 59 51.0	+0.3
BBLS	Lazi&#263i	4.59	335	ePn		Pn		22 59 55.1	-0.1
TRUS	Trudelj	4.66	345	ePn		Pn		22 59 56.2	+0.2
TRUS				eSn		Sn		23 00 50.0	0.0
KUBS	Kucevo	4.68	356	ePn		Pn		22 59 55.2	-1.1
MDVR	Moldovita	5.05	357	ePn		Pn		23 00 02.4	+1.1
HERR	Herculane	5.14	2	⇓P		Pn		23 00 01.1	-1.4
TEKS	Tekeris	5.18	339	ePn		Pn		23 00 03.0	-0.1
VRSS	Vrsac	5.41	354	ePn		Pn		23 00 08.2	+1.9
BUC1	Bucharest	5.44	31	⇑P		Pg		23 00 36.6	+6.6
GZR	Gura Zlata	5.67	5	⇓P		Pn		23 00 10.0	+0.1
FRGS	Fruska Gora	5.68	343	ePn		Pn		23 00 09.5	-0.5
BZS	Buzias	5.88	357	ePn		Pn		23 00 14.2	+1.4
ARR	Arges	5.92	17	⇓P		Pb		23 00 21.7	-7.2
MLR	Muntele Rosu	6.40	25	⇓P		Pn		23 00 23.7	+3.7
NEHR	Nehoiu	6.46	27	⇑P		Pn		23 00 23.4	+2.6
TURR	Turia	6.93	23	⇓P		Pn		23 00 24.3	-2.9
PLOR	Plostina	6.95	27	⇓P		Pn		23 00 29.9	+2.4
VRI	Vrincioaia	6.99	27	⇑P		Pn		23 00 29.2	+1.1
BRTR	Keskin Array B	8.87	86	Pn		Pn		23 00 55.5	+1.6
	0.2nm,0.3s,baz=267,slow=11,SNR=9.3 0.6nm,0.5s								
GERES	GERESS Array B	10.91	329	Pn		Pn		23 01 23.9	+2.1
	baz=150,slow=17,SNR=1.2 1.1nm,0.3s								
ESDC	Sonseca Array	20.05	278	P		Pn		23 03 20.3	-0.4
	0.1nm,0.5s,baz=87,slow=11,SNR=4.3 0.1nm,0.5s								
HFS	Hagfors	21.09	348	P		P		23 03 31.1	+1.3
	0.6nm,0.7s,baz=159,slow=18,SNR=2.1 0.6nm,0.7s								
TORD	Torodi Ar. Bea	32.03	220	P		P		23 05 12.6	+0.3
	0.6nm,0.3s,baz=37,slow=9.2,SNR=1.9 0.6nm,0.3s								
MKAR	Makanchi Array	43.43	60	P		P		23 06 48.6	+0.2
	0.6nm,0.6s,baz=282,slow=7.4,SNR=6.1 0.6nm,0.6s								
ZALV	Zalesovo Beam	43.72	49	P		P		23 06 50.6	0.0
	0.7nm,0.4s,baz=293,slow=7.7,SNR=3.8 0.7nm,0.4s								
LSZ	Lusaka	55.02	173	LR		LR		23 33 55.5	
	comp=Z,50nm,19.0s,baz=176,slow=38								
RES	Resolute Bay	58.62	344	LR		LR		23 32 59.2	
	comp=Z,29nm,18.7s,baz=311,slow=35								
ILAR	Eielson Array	75.47	355	P		P		23 10 25.3	-4.1
	0.2nm,0.6s,baz=9.5,slow=6.2,SNR=2.5								

*ISK **05** 23:00:51.7,39.°50N×25.°83E,h5km,ML2.8/30*
*AFAD **05** 23:00:51.9,39.°48N×25.°85E,h7km±1km,ML2.6*
*ATH **05** 23:00:51.9,39.°48N×25.°85E,h14km±1km,ML2.4/6, Manual Solution by S.Liakopoulos First location: 2019/08/05 23:26:01, This location: 2019/08/06 05:38:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **05** 23:00:52.1,39.°5N±0.°7×2.°6E±.°,h7km±3km,M2.5/7, MLh2.5/7*
ISC 05 23:00:52.0±0.9,39.°49N±0.°02×25.°87E±0.°02,h13km±7km, n60,σ0s55/87,2D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.20	98	Pg		Pb		23 00 57.4	-0.2
GPNR				Sg		Sg		23 01 00.2	+0.7
KOCA	Canakkale, Ayv	0.20	85	P		Pb		23 00 56.9	-0.7
KOCA				*i* IAML				23 01 00.0	
	comp=N,692nm,0.1s								
KOCA				*i* IAML				23 01 00.0	
	comp=E,1μm,0.3s								
KOCA				S		Sg		23 01 00.3	+0.7
SIGR	SIGRI	0.27	183	Pg		Pg		23 00 57.5	-0.2
SIGR				Sg		Sg		23 01 02.0	+0.5
SIGR	SIGRI	0.27	183	P		Pg		23 00 57.4	-0.2
SIGR				S		Sg		23 01 01.4	-0.2
SIGR	SIGRI	0.27	183	P		Pg		23 00 57.4	-0.2
SIGR				S		Sg		23 01 01.6	0.0
BOZC	Bozcaada	0.38	21	Pg		Pg		23 00 59.6	-0.1
BOZC				Sg		Sb		23 01 05.9	-0.6
BOZC	Bozcaada	0.38	21	P		Pg		23 00 59.5	-0.1
BOZC				*i* IAML				23 01 05.0	
	comp=N,417nm,0.4s								
BOZC				S		Sb		23 01 05.7	-0.7
BOZC				*i* IAML				23 01 06.0	
	comp=E,635nm,0.3s								
EZNE	Ezine-Canakkal	0.47	54	Pg		Pb		23 01 01.8	-0.3
EZNE				Sg		Sb		23 01 08.7	-0.2
EZN	Ezine	0.49	46	Pg		Pg		23 01 01.6	0.0
EZN				Sg		Sb		23 01 09.1	-0.4
EZN	Ezine	0.49	46	P		Pg		23 01 01.6	0.0
EZN				S		Sb		23 01 08.8	-0.7
EZN	Ezine	0.49	46	⇓P		Pg		23 01 01.7	0.0
BAYC	CANAKKALE_Bayr	0.58	64	P		Pg		23 01 03.3	0.0
BAYC				S		Sb		23 01 11.9	-0.3
BAYC				*i* IAML				23 01 12.0	
	comp=N,310nm,0.2s								
BAYC				*i* IAML				23 01 13.0	
	comp=E,320nm,0.3s								
ECEA	Canakkale, Ece	0.60	22	P		Pb		23 01 04.0	-0.5
ECEA				*i* IAML				23 01 13.0	
	comp=N,470nm,0.7s								
ECEA				S		Sb		23 01 13.4	+0.5
LIA	Limnos Island	0.67	308	P		Pg		23 01 04.9	-0.2
LIA				S		Sb		23 01 14.3	-0.6
LIA	Limnos Island	0.67	308	P		Pg		23 01 05.0	-0.2
LIA				S		Sb		23 01 14.8	-0.1
GOAD	anakkale-G¶	0.68	2	P		Pg		23 01 04.8	-0.3
GOAD				S		Sb		23 01 15.0	+0.1
GOAD				*i* IAML				23 01 18.0	
	comp=N,276nm,0.5s								
GOAD				*i* IAML				23 01 19.0	
	comp=E,266nm,0.4s								
CNKL	anakkale-Mer	0.70	34	P		Pb		23 01 05.6	-0.5
CNKL				S		Sb		23 01 15.8	+0.1
CNKL				*i* IAML				23 01 19.0	
	comp=N,250nm,0.3s								
CNKL				*i* IAML				23 01 19.0	
	comp=E,234nm,0.3s								
GADA	Gvkgeada	0.70	2	Pg		Pg		23 01 04.9	-0.8
GADA				Sg		Sb		23 01 15.7	-0.1
GADA	Gvkgeada	0.70	2	P		Pg		23 01 05.2	-0.5
GADA				S		Sb		23 01 15.6	-0.2
CAND	Candarli	0.90	126	Pg		Pb		23 01 09.5	+0.1
DKL	Dikili	0.90	117	Pg		Pn		23 01 09.9	-0.4
DKL				Sg		Sn		23 01 23.3	+0.1
DKL	Dikili	0.90	117	P		Pb		23 01 09.6	+0.2
DKL				S		Sb		23 01 21.3	0.0
YAYO	Edremit-Balk	0.94	82	Pg		Pn		23 01 10.6	-0.2
YAYO				Sg		Sn		23 01 24.7	+0.6
FOM	Foa	1.02	139	Pg		Pn		23 01 12.8	+0.3
SMTH	Samothraki Isl	1.02	345	P		Pg		23 01 11.0	-0.6
SMTH				S		Sb		23 01 25.3	+0.4
SMTH	Samothraki Isl	1.02	345	P		Pg		23 01 11.0	-0.6
SMTH				S

ASAR	**Alice Springs**	**23.79**	**232**	P		**P**	**23 13 38.1**	**-0.4**	
	1.3nm,1.0s,baz=57,slow=9.1,SNR=8.2								
ASAR				LR		LR	23 22 48.0		
	comp=Z,48nm,19.8s,baz=100,slow=36								
	1.3nm,1.0s								
STKA	**Stephens Creek**	**24.82**	**206**	P		**P**	**23 13 47.3**	**-0.5**	
	3.9nm,0.6s,baz=22,slow=13,SNR=6.9								
STKA				LR		LR	23 23 33.8		
	comp=Z,73nm,18.4s,baz=21,slow=37								
	3.9nm,0.6s								
GUMO	**Guam**	**25.16**	**338**	LR		LR	23 22 24.4		
	comp=Z,30nm,18.8s,baz=225,slow=34								
MJAR	**Matsushiro Arr**	**48.63**	**343**	LR		LR	23 35 57.5		
	comp=Z,15nm,21.8s,baz=190,slow=34								
PETK	**Petropavlovsk-**	**62.84**	**2**	P		**P**	**23 18 51.9**	**+0.7**	
	1.4nm,0.6s,baz=172,slow=5.9,SNR=3.9								
	1.4nm,0.6s								
SONM	**Songino Array**	**71.43**	**328**	P		**P**	**23 19 46.5**	**+0.4**	
	0.5nm,0.6s,baz=143,slow=5.0,SNR=2.0								
	0.5nm,0.6s								
QSPA	**South Pole Qui**	**80.08**	**180**	P		**P**	**23 20 36.5**	**+1.2**	
	1.0nm,0.7s,baz=14,slow=0.8,SNR=3.7								
QSPA				LR		LR	23 51 23.5		
	comp=Z,22nm,18.2s,baz=276,slow=32								
	1.0nm,0.7s								
MKAR	**Makanchi Array**	**85.14**	**319**	P		**P**	**23 21 00.4**	**-1.4**	
	0.4nm,0.5s,baz=93,slow=7.2,SNR=12								
	0.4nm,0.5s								
ILAR	**Eielson Array**	**86.33**	**22**	P		**P**	**23 21 07.0**	**-0.3**	
	0.5nm,0.7s,baz=236,slow=6.6,SNR=5.5								
ILAR				LR		LR	23 55 00.5		
	comp=Z,18nm,19.6s,baz=283,slow=32								
	0.5nm,0.7s								

IDC ***05*** *23:23:36.2±1.7,24°.21S×67°.08W,h145km±16km,mb3.6/3, mbtmp4.0/8,Error ellipse: s-maj=32.0km s-min=12.5km az=103.0*

SJA ***05*** *23:23:36.6±0.7,24°.23S×67°.29W,h194km,ML3.6,MW3.7*

GUC ***05*** *23:23:37.8±0.7,24°.29S×67°.29W,h169km±6km,ML3.9*

NEIC ***05*** *23:23:38.4±2.0,24°.22S±0°.06×67°.3W±0°.1,h189km±10km, mb4.4/5,ML3.8(GUC),Error ellipse: s-maj=16.8km s-min=8.8km az=102.0*

VAO ***05*** *23:23:43.5±0.8,23°.83S×66°.87W,h203km±7km,mb3.6*

ISC 05 23:23:37.8±0.6,24°20S±0°.04×67°30W±0°.04,h183km±6km, n95,σ1°39/111,7C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.88**	**92**	*eP*	**Pn**	**23 24 04.9**	**-0.7**
AF01	**San Pedro de A**	**1.48**	**327**	Pn	**Pn**	**23 24 11.7**	**+1.5**
AF01					**Sn**	**23 24 36.5**	**+1.3**
AF01	**San Pedro de A**	**1.48**	**327**	*eP*	**Pn**	**23 24 11.1**	**+0.9**
AF01				*eS*	**Sn**	**23 24 35.7**	**+0.5**
AF01	**San Pedro de A**	**1.48**	**327**	*eP*	**Pn**	**23 24 11.9**	**+1.7**
AF01				*eS*	**Sn**	**23 24 35.8**	**+0.6**
SLA	**San Lorenzo**	**1.72**	**108**	*eP*	**Pn**	**23 24 12.4**	**+0.1**
SLA				*eS*	**Sn**	**23 24 39.3**	**+0.2**
AZAP	**Zapla**	**2.04**	**91**	*eP*	**Pn**	**23 24 15.4**	**-0.4**
AZAP				*eS*	**Sn**	**23 24 45.9**	**+0.7**
AZAP				IAML		23 24 46.4	
	comp=Z,169nm,1.1s						
FSA	**Cafayete**	**2.25**	**148**	*eP*	**Pn**	**23 24 17.7**	**-0.4**
GO02	**Mina Guanaco**	**2.29**	**245**		**Pn**	**23 24 19.3**	**+0.6**
GO02				Sn	**Sn**	**23 24 50.7**	**+0.3**
GO02	**Mina Guanaco**	**2.29**	**245**	*eP*	**Pn**	**23 24 19.0**	**+0.3**
GO02				*eS*	**Sn**	**23 24 50.3**	**-0.1**
GO02				IAML		23 24 52.2	
	comp=E,797nm,0.2s						
GO02	**Mina Guanaco**	**2.29**	**245**	*eP*	**Pn**	**23 24 18.5**	**-0.1**
PB06	**IPOC Station P**	**2.56**	**305**		**Pn**	**23 24 22.9**	**+1.3**
PB06				Sn	**Sn**	**23 24 55.2**	**-0.3**
PB06	**IPOC Station P**	**2.56**	**305**	*eP*	**Pn**	**23 24 22.5**	**+1.0**
PB06				IAML		23 24 57.1	
	comp=N,569nm,0.4s						
PB06	**IPOC Station P**	**2.56**	**305**	*eP*	**Pn**	**23 24 22.6**	**+1.0**
PB06				*eS*	**Sn**	**23 24 55.8**	**+0.3**
PB06				IAML		23 25 01.0	
	comp=Z,228nm,0.6s						
YJA	**Yavi**	**2.60**	**40**	*eP*	**Pn**	**23 24 23.3**	**+1.0**
YJA				*eS*	**Sn**	**23 24 57.3**	**+0.5**
PB05	**IPOC Station P**	**2.98**	**296**		**Pn**	**23 24 27.4**	**+0.9**
PB05				Sn	**Sn**	**23 25 02.9**	**-1.6**
PB05	**IPOC Station P**	**2.98**	**296**	*eP*	**Pn**	**23 24 27.1**	**+0.6**
PB05				IAML		23 25 04.7	
	comp=E,180nm,0.2s						
PB05	**IPOC Station P**	**2.98**	**296**	*eP*	**Pn**	**23 24 26.5**	**0.0**
PB09	**IPOC Station P**	**2.98**	**323**		**Pn**	**23 24 28.5**	**+1.8**
PB09				Sn	**Sn**	**23 25 05.8**	**+1.2**
PB09	**IPOC Station P**	**2.98**	**323**	*eP*	**Pn**	**23 24 28.2**	**+1.5**
PB09				IAML		23 25 06.3	
	comp=N,166nm,0.6s						
PB09	**IPOC Station P**	**2.98**	**323**	*eP*	**Pn**	**23 24 27.7**	**+1.1**
PB10	**IPOC Station P**	**3.05**	**282**		**Pn**	**23 24 28.1**	**+0.9**
PB10				Sn	**Sn**	**23 25 04.5**	**-1.4**
PB10	**IPOC Station P**	**3.05**	**282**	*eP*	**Pn**	**23 24 28.1**	**+0.8**
PB10				IAML		23 25 10.0	
	comp=E,135nm,0.7s						
PB10	**IPOC Station P**	**3.05**	**282**	*eP*	**Pn**	**23 24 27.7**	**+0.4**
ALOL	**LOMAS DE OLMED**	**3.06**	**84**	*eP*	**Pn**	**23 24 27.1**	**-0.3**
AC02	**Maricunga**	**3.10**	**212**		**Pn**	**23 24 29.0**	**+0.6**
AC02	**Maricunga**	**3.10**	**212**	*eP*	**Pn**	**23 24 28.9**	**+0.5**
AC02				*eS*	**Sn**	**23 25 07.3**	**-0.6**
AC02				IAML		23 25 11.8	
	comp=E,159nm,0.5s						
AC02	**Maricunga**	**3.10**	**212**	*eP*	**Pn**	**23 24 28.3**	**-0.1**
AC01	**Pan de Azucar**	**3.56**	**236**		**Pn**	**23 24 33.0**	**-0.5**
AC01	**Pan de Azucar**	**3.56**	**236**	*eP*	**Pn**	**23 24 32.8**	**-0.7**
AC01	**Pan de Azucar**	**3.56**	**236**	*eP*	**Pn**	**23 24 32.2**	**-1.4**
PB01	**IPOC Station P**	**3.73**	**327**		**Pn**	**23 24 35.7**	**-0.1**
PB01	**IPOC Station P**	**3.73**	**327**	*eP*	**Pn**	**23 24 36.0**	**+0.2**
PB01	**IPOC Station P**	**3.73**	**327**	*eP*	**Pn**	**23 24 35.6**	**-0.2**
PB02	**IPOC Station P**	**3.73**	**320**		**Pn**	**23 24 35.8**	**0.0**
PB02	**IPOC Station P**	**3.73**	**320**	*eP*	**Pn**	**23 24 36.1**	**+0.3**
PB02	**IPOC Station P**	**3.73**	**320**	*eP*	**Pn**	**23 24 35.7**	**0.0**
PATCX	**Punta Patache**	**4.27**	**321**		**Pn**	**23 24 42.6**	**0.0**
GO03	**Copiapo**	**4.29**	**217**		**Pn**	**23 24 40.7**	**-2.1**
GO03	**Copiapo**	**4.29**	**217**	*eP*	**Pn**	**23 24 41.6**	**-1.2**
PB08	**IPOC Station P**	**4.38**	**337**		**Pn**	**23 24 44.8**	**+0.4**
CYA	**Choya**	**4.44**	**163**	*eP*	**Pn**	**23 24 45.1**	**+0.5**
CYA				*eP*		23 24 45.9	
TA01	**Diego Aracena**	**4.49**	**323**	Pn	**Pn**	**23 24 44.9**	**-0.4**
HMBC	**Humberstone**	**4.58**	**328**		**Pn**	**23 24 46.0**	**-0.6**
TA02	**Huaiquique**	**4.70**	**326**	Pn	**Pn**	**23 24 49.5**	**+1.4**
GO01	**Chusmiza**	**4.83**	**338**		**Pn**	**23 24 50.5**	**+0.3**
PB11	**IPOC Station P**	**4.92**	**333**		**Pn**	**23 24 50.3**	**-0.8**
AC04	**Llanos de Chal**	**5.24**	**220**		**Pn**	**23 24 53.1**	**-1.8**
LCO	**Las Campanas**	**5.68**	**212**		**Pn**	**23 24 58.8**	**-2.1**
CO01	**Juntas del Tor**	**6.27**	**203**		**Pn**	**23 25 06.4**	**-0.2**
GO04	**Tololo Observa**	**6.72**	**207**		**Pn**	**23 25 11.9**	**-2.6**
CO03	**El Pedregal**	**7.27**	**204**		**Pn**	**23 25 19.1**	**-2.5**
CFA	**Coronel Fontan**	**7.43**	**186**	P	**Pn**	**23 25 22.6**	**-1.0**
	comp=E,0.9nm,0.3s,baz=4.1,slow=14,SNR=20						
CFA				S	**Sn**	**23 26 42.4**	**-4.9**
	comp=E,1.6nm,0.3s,baz=285,slow=20,SNR=7.3						
LPAZ	**La Paz**	**7.91**	**354**		**Pn**	**23 25 31.5**	**+0.9**
LPAZ	**La Paz**	**7.91**	**354**	P	**Pn**	**23 25 31.2**	**+0.7**
	comp=E,5.4nm,0.3s,baz=171,slow=7,3,SNR=72						
LPAZ				S	**Sn**	**23 26 57.2**	**-2.5**
	comp=E,2.9nm,0.8s,baz=145,slow=16,SNR=3.8						
LPAZ	**La Paz**	**7.91**	**354**	*eP*	**Pn**	**23 25 31.2**	**+0.7**
MURT	**Porto Murtinho**	**9.28**	**76**	*eP*	**Pn**	**23 25 46.5**	**-1.5**
BBSD	**Serra de San D**	**9.37**	**43**	*eP*	**Pn**	**23 25 46.9**	**-2.4**
BBSD				*eS*	**Sn**	**23 27 27.9**	**-6.0**
SIV	**San Ignacio**	**10.04**	**37**	P	**Pn**	**23 25 55.5**	**-2.5**
	comp=E,3.2nm,0.5s,baz=221,slow=13,SNR=23						
SIV				S	Sn	23 27 36.3	-14
	comp=E,1.1nm,0.7s,baz=218,slow=18,SNR=2.6						
VILB	**Vilhena**	**13.05**	**32**	*eP*	**Pn**	**23 26 35.1**	**-1.5**
TRCB	**Terra Rica**	**13.53**	**87**	P	**P**	**23 26 45.8**	**+0.1**
TRCB	**Terra Rica**	**13.53**	**87**	*eP*	**Pn**	**23 26 43.4**	**+0.7**
SALV	**Santo Antonio**	**13.67**	**55**	*eP*	**Pn**	**23 26 43.9**	**-0.5**
PTGB	**Pitanga**	**13.89**	**95**	*eP*	**P**	**23 26 48.7**	**-0.9**
TRQA	**Tornquist**	**14.54**	**163**	P	**P**	**23 26 57.2**	**+0.5**
PDRB	**Porto dos Gac**	**16.04**	**41**	*eP*	**P**	**23 27 11.9**	**-1.6**
ITRB	**Iturama**	**16.34**	**77**	*eP*	**P**	**23 27 16.4**	**-0.4**
PLCA	**Paso Flores**	**16.71**	**189**	Pn	**Pn**	**23 27 23.5**	**+2.0**
PLCA				IAmb	IAmb	23 27 30.5	
	comp=Z,4.7nm,0.7s						
PLCA	**Paso Flores**	**16.71**	**189**	P	**Pn**	**23 27 23.0**	**+1.5**
	comp=Z,2.4nm,0.9s,baz=11,slow=11,SNR=4.9						
PLCA	**Paso Flores**	**16.71**	**189**	*eP*	Pn	23 27 29.9	+8.3
ARAG	**Araguaiana, MT**	**16.82**	**63**	*eP*	**P**	**23 27 21.0**	**-1.0**
CLDB	**Colider**	**17.18**	**42**	*eP*	**P**	**23 27 24.5**	**-1.5**
VAO	**Valinhos**	**18.68**	**90**	P	**P**	**23 27 42.2**	**-0.2**
VAO	**Valinhos**	**18.68**	**90**	*eP*	**P**	**23 27 41.8**	**-0.6**
IPMB	**Ipameri, GO**	**18.85**	**74**	*eP*	**P**	**23 27 43.9**	**-0.3**
LL02	**Futaleuf**	**19.31**	**190**	P	**Pn**	**23 27 53.0**	**+0.8**
LL02				IAmb	IAmb	23 27 54.4	
	comp=Z,17nm,0.8s						
SNDB	**Serra Nova Dou**	**19.45**	**54**	*eP*	**P**	**23 27 50.0**	**-0.7**
BDFB	**Brasilia**	**20.01**	**68**	P	**P**	**23 27 56.7**	**-0.2**
BDFB				IAmb	IAmb	23 27 57.8	
	comp=Z,20nm,0.8s						
BDFB	**Brasilia**	**20.01**	**68**	P	**P**	**23 27 56.3**	**-0.5**
	comp=Z,21nm,0.7s,baz=247,slow=11,SNR=23						
PMNB	**Patos De Minas**	**20.22**	**78**	*eP*	**P**	**23 27 56.7**	**-2.3**
NPGB	**Novo Progresso**	**20.54**	**36**	*eP*	**P**	**23 28 00.5**	**-1.8**
TEFE	**Tefe**	**20.73**	**8**	*eP*	**P**	**23 28 04.5**	**+0.2**
BSCB	**Bom Sucesso**	**21.04**	**86**	*eP*	**P**	**23 28 07.2**	**-0.5**
ITTB	**Itaituba**	**22.65**	**31**	*eP*	**P**	**23 28 22.6**	**-1.0**
JANB	**Januaria**	**23.46**	**71**	*eP*	**P**	**23 28 29.6**	**-1.4**
SMTB	**Santa Maria do**	**24.23**	**54**	*eP*	**P**	**23 28 37.0**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.24**	**65**	*eP*	**P**	**23 28 37.5**	**-0.7**
BOAV	**Boa Vista**	**27.24**	**15**	P	**P**	**23 29 05.8**	**+0.8**
MG05	**Puerto Natales**	**27.73**	**187**	P	**P**	**23 29 08.2**	**-0.8**
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**23 34 07.6**	**+3.0**
	comp=Z,1.4nm,0.5s,baz=135,slow=1.4,SNR=15						
	comp=Z,1.4nm,0.5s						
VNDA	**Vanda**	**74.46**	**190**	P	**P**	**23 34 59.2**	**+3.7**
	comp=Z,0.4nm,0.8s,baz=121,slow=5.9,SNR=2.6						
	comp=Z,0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.90**	**69**	P	**P**	**23 35 11.1**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=260,slow=5.0,SNR=2.0						
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**128.16**	**205**	PKP	**PKiKP**	**23 42 24.5**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=132,slow=1.4,SNR=2.6						
WRA	**Warramunga Arr**	**131.33**	**208**	PKP	**PKiKP**	**23 42 31.1**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=165,slow=1.7,SNR=1.9						
ZALV	**Zalesovo Beam**	**143.69**	**28**	PKP	**PKPdf**	**23 42 51.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=305,slow=5.1,SNR=2.2						
MKAR	**Makanchi Array**	**146.85**	**39**	PKPbc	**PKiKP**	**23 43 00.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=303,slow=3.8,SNR=7.8						

IDC ***05*** *23:36:15.9±1.6,32°.79N×90°.24E,h0km,mb3.5/4, mbtmp3.4/7,ML3.6/3,MS2.6/1,Error ellipse: s-maj=66.9km s-min=21.6km az=66.0*

ISC 05 23:36:20.4±1.4,32°9N±0°.2×90°2E±0°.3,h35km,n7,σ1°60/7, mb3.5/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.16**	**339**	Pn	**Pn**	**23 39 50.1**	**-1.7**
	0.1nm,0.3s,baz=152,slow=16,SNR=3.6						
	0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.36**	**149**	Pn	**Pn**	**23 40 06.4**	**-1.0**
	0.4nm,0.3s,baz=333,slow=13,SNR=4.3						
CMAR				LR	LR	23 46 49.0	
	comp=Z,18nm,18.5s,baz=120,slow=39						
	0.4nm,0.3s						
SONM	**Songino Array**	**19.30**	**35**	P	**Pn**	**23 40 44.2**	**+0.7**
	0.1nm,0.3s,baz=224,slow=12,SNR=2.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**21.41**	**351**	P	**P**	**23 41 04.5**	**-0.4**
	0.9nm,0.5s,baz=170,slow=11,SNR=6.2						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**24.67**	**331**	P	**P**	**23 41 39.8**	**+2.1**
	0.3nm,0.6s,baz=131,slow=5.9,SNR=1.9						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**67.35**	**135**	P	**P**	**23 47 11.7**	**-0.3**
	0.7nm,0.9s,baz=327,slow=7.5,SNR=2.8						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**69.98**	**138**	P	**P**	**23 47 29.5**	**+1.1**
	0.5nm,0.7s,baz=320,slow=7.0,SNR=4.2						
	0.5nm,0.7s						

NEIC ***05*** *23:44:32.0±0.8,54°.13N±0°.10×157°.93W±0°.07,h30km±9km, ML3.3/30,ML3.0(AEIC),Error ellipse: s-maj=15.6km s-min=1.5km az=158.0*

AEIC ***05*** *23:44:31.9±0.9,54°.11N±0°.09×157°.9W±0°.1,h25km±9km, Error ellipse: s-maj=14.1km s-min=7.6km az=159.0*

IDC ***05*** *23:44:34.6±2.0,54°.02N×156°.75W,h0km,mb3.5/2, mbtmp3.3/4,ML2.9/2,MS3.2/2,Error ellipse: s-maj=34.8km s-min=28.7km az=106.0*

ISC 05 23:44:32.3±1.5,54°19N±0°.09×157°87W±0°.05,h35km,n58, σ1°44/55,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.18**	**303**		**Pn**	**23 44 51.0**	**-1.3**
CNBA				IAML		23 45 08.8	
	comp=N,277nm,0.3s						
SDPT	**Sand Point**	**1.91**	**309**		**Pn**	**23 45 01.7**	**-0.5**
SDPT					**Sn**	**23 45 25.5**	**+0.6**
VNKR	**Veniaminof 5**	**2.04**	**336**		**Pn**	**23 45 04.9**	**+0.9**
VNSG	**Veniaminof 6**	**2.06**	**341**		**Pn**	**23 45 05.4**	**+0.9**
CHIR	**Chirikof Islan**	**2.09**	**37**	Pn	**Pn**	**23 45 04.2**	**-0.5**
CHIR				IAML		23 45 30.4	
	comp=E,81nm,1.2s						
VNSW	**Veniaminof 7**	**2.12**	**334**		**Pn**	**23 45 05.0**	**-0.2**
CHGN	**Chignik**	**2.14**	**352**		**Pn**	**23 45 06.0**	**+0.6**
CHGN				Sn	**Sn**	**23 45 32.5**	**+1.7**
CHGN				IAML		23 45 35.0	
	comp=N,184nm,0.3s						
CHGN				IAML		23 45 35.2	
	comp=E,198nm,0.2s						
VNHG	**Veniaminof 1**	**2.17**	**341**		**Pn**	**23 45 07.0**	**+1.1**
VNNF	**Veniaminof 3**	**2.26**	**339**		**Pn**	**23 45 08.3**	**+1.1**
PS1A	**Pavlof South-1**	**2.56**	**300**		**Pn**	**23 45 11.4**	**+0.2**
PS1A					**Sn**	**23 45 41.2**	**+0.2**
PS4A	**Pavlof South-4**	**2.58**	**298**		**Pn**	**23 45 11.5**	**0.0**
HAG	**Hague Volcano**	**2.60**	**297**		**Pn**	**23 45 11.7**	**0.0**
ANPB	**Aniakchak Plen**	**2.63**	**355**		**Pn**	**23 45 14.2**	**+2.0**
S12K	**Black Hills**	**2.85**	**304**	Pn	**Pn**	**23 45 15.6**	**+0.3**
S12K				Sn	**Sn**	**23 45 48.8**	**+0.4**
S12K				IAML		23 45 50.2	
	comp=N,239nm,0.2s						
SII	**Sitkinak Islan**	**3.17**	**40**	Pn	**Pn**	**23 45 19.7**	**0.0**
SII				IAML		23 45 59.6	
	comp=E,87nm,1.1s						
SII				IAML		23 47 11.3	
	comp=N,99nm,1.4s						
FALS	**False Pass**	**3.30**	**284**	Pn	**Pn**	**23 45 20.7**	**-0.6**
PLK4	**Peulik 4**	**3.56**	**13**		**Pn**	**23 45 26.7**	**+1.7**
PLK4				IAML		23 46 16.2	
	comp=E,52nm,0.8s						
PLK4				IAML		23 46 21.6	
	comp=N,43nm,0.8s						
OHAK	**Old Harbor**	**4.00**	**39**	Pn	**Pn**	**23 45 31.3**	**+0.4**
OHAK				IAML		23 46 21.7	
	comp=N,17nm,0.3s						
ACHA	**Angle Creek He**	**4.28**	**18**	Pn	**Pn**	**23 45 35.6**	**+0.7**
AKUT	**Akutan**	**4.64**	**273**	Pn	**Pn**	**23 45 38.6**	**-1.2**
AKUT				IAML		23 46 36.0	
	comp=N,60nm,1.4s						
AKUT				IAML		23 47 53.0	
	comp=E,49nm,1.4s						
KDAK	**Kodiak Island**	**4.67**	**37**	Pn	**Pn**	**23 45 40.5**	**+0.3**
KDAK				IAML		23 46 46.9	
	comp=E,11nm,1.1s						
KDAK				IAML		23 46 48.9	
	comp=E,12nm,1.4s						
KDAK	**Kodiak Island**	**4.67**	**37**	Pn	**Pn**	**23 45 39.8**	**-0.4**
	comp=E,0.6nm,0.3s,baz=221,slow=8.7,SNR=10.0						
KDAK				Sn	**Sn**	**23 46 30.3**	**-2.8**
	comp=E,1.1nm,0.3s,baz=210,slow=20,SNR=6.2						
	comp=E,3.8nm,0.6s						
LVA	**Lava Point**	**4.79**	**273**	Pn	**Pn**	**23 45 40.3**	**-1.6**
P16K	**Nushagak River**	**4.86**	**359**	Pn	**Pn**	**23 45 43.1**	**+0.4**
P16K				IAML		23 47 27.0	
	comp=N,38nm,1.3s						
P16K				IAML		23 47 42.5	
	comp=E,53nm,1.4s						
Q19K	**Cape Douglas,**	**5.30**	**24**	Pn	**Pn**	**23 45 50.8**	**+2.0**
SYI	**Shuyak Island**	**5.38**	**32**	Pn	**Pn**	**23 45 50.7**	**+0.8**
O14K	**Tigyukauivet M**	**5.41**	**341**	Pn	**Pn**	**23 45 50.8**	**+0.5**
P18K	**Big Mountain,**	**5.42**	**14**	Pn	**Pn**	**23 45 51.0**	**+0.5**
O16K	**Kokwok River B**	**5.42**	**359**	Pn	**Pn**	**23 45 51.8**	**+1.3**
O18K	**Koktuh Hills**	**5.86**	**13**	Pn	**Pn**	**23 45 57.5**	**+0.9**
N15K	**Kwethluk River**	**6.12**	**350**	Pn	**Pn**	**23 46 01.8**	**+1.7**
N17K	**Nushagak Hills**	**6.37**	**3**	Pn	**Pn**	**23 46 04.1**	**+0.6**
CNPM	**China Poot**	**6.47**	**32**	Pn	**Pn**	**23 46 06.5**	**+1.5**
N18K	**Kilae Creek**	**6.60**	**9**	Pn	**Pn**	**23 46 07.5**	**+0.8**
M16K	**Timber Creek**	**6.88**	**356**	Pn	**Pn**	**23 46 11.9**	**+1.4**
N19K	**Bonanza Creek**	**6.89**	**14**	Pn	**Pn**	**23 46 11.7**	**+1.0**
M14K	**Bethel**	**6.94**	**343**	Pn	**Pn**	**23 46 11.8**	**+0.5**
M17K	**Holitna River**	**7.24**	**2**	Pn	**Pn**	**23 46 15.2**	**-0.2**
SEW	**Seward**	**7.49**	**34**	Pn	**Pn**	**23 46 20.1**	**+1.3**
L14K	**Kuka Creek**	**7.62**	**342**	Pn	**Pn**	**23 46 21.2**	**+0.6**
M19K	**Big River Lodg**	**7.95**	**12**	Pn	**Pn**	**23 46 27.9**	**+2.6**
L18K	**Granite Mounta**	**8.08**	**4**	Pn	**Pn**	**23 46 26.6**	**-0.4**
M20K	**Styx River**	**8.11**	**16**		**Pn**	**23 46 29.1**	**+1.6**
P23K	**Montague Islan**	**8.14**	**40**	Pn	**Pn**	**23 46 29.1**	**+1.3**
L19K	**White Mountain**	**8.17**	**10**	Pn	**Pn**	**23 46 29.6**	**+1.4**
SUA	**Susitna One**	**8.22**	**25**	Pn	**Pn**	**23 46 30.0**	**+1.0**
K17K	**Iditarod**	**8.56**	**359**	Pn	**Pn**	**23 46 34.0**	**+0.6**
ILAR	**Eielson Array**	**11.97**	**23**	Pn	**Pn**	**23 47 18.6**	**-1.5**
	comp=E,0.1nm,0.3s,baz=212,slow=13,SNR=3.0						
ILAR				Sn	**Sn**	**23 49 26.1**	**-6.1**
	baz=209,slow=11,SNR=1.7						
	comp=E,0.3nm,0.5s						
SHEM	**Shemya Is, Ala**	**16.71**	**276**	LR	LR	23 55 59.6	
	comp=E,23nm,18.2s,baz=290,slow=39						
H11N2	**WAKE ISLAND Hy**	**43.63**	**232**	T	T	00 40 01.6	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**43.64**	**232**	T	T	00 40 03.8	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**43.65**	**232**	T	T	00 40 02.5	
	baz=28						
H11S1	**WAKE ISLAND Hy**	**44.79**	**231**	T	T	00 41 17.2	
	baz=28						
H11S2	**WAKE ISLAND Hy**	**44.80**	**231**	T	T	00 41 12.0	
	baz=28						
H11S3	**WAKE ISLAND Hy**	**44.80**	**231**	T	T	00 41 20.6	
	baz=28						
TXAR	**Lajitas Array**	**46.01**	**100**	P	**P**	**23 52 54.2**	**+2.0**
	comp=E,0.5nm,0.8s,baz=322,slow=7.4,SNR=6.3						
	comp=E,0.5nm,0.8s						
SFJD	**Kangerlussuaq**	**47.51**	**31**	LR	LR	00 12 56.9	
	comp=E,65nm,18.6s,baz=157,slow=36						
SONM	**Songino Array**	**56.06**	**306**	P	P	23 54 19.6	+12
	comp=E,0.3nm,0.5s,baz=48,slow=8.6,SNR=2.7						
	comp=E,0.3nm,0.5s						

IDC ***06*** *00:24:49.0±2.2,51°.19N×92°.84E,h0km,mbtmp3.0/3, ML3.1/2,Error ellipse: s-maj=27.1km s-min=17.1km az=21.0*

ASRS ***06*** *00:24:53.7±0.4,51°.N±2°.×9°.2E±°,h5km,MLh4.0/13,Error ellipse: s-maj=4.7km s-min=2.7km az=132.6,confirmed*

ISC 06 00:24:53.7±1.4,50°.99N±0°.05×92°.79E±0°.06,h6km±14km, n19,σ1°97/41,4D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.26**	**55**	Pg	**Pg**	**00 25 17.4**	**-0.5**
KZLR				Sg	**Sg**	**00 25 33.1**	**-1.2**
TEL	**Teeli**	**1.64**	**272**	Pg	**Pn**	**00 25 20.5**	**-2.6**
TEL				Sg	**Sn**	**00 25 41.9**	**-2.6**
ARDR	**Aradan**	**1.64**	**14**	Pg	**Pn**	**00 25 22.7**	**-0.5**
ARDR				Sg	**Sn**	**00 25 43.9**	**-0.7**
DJO	**Djoy, Khakassi**	**2.04**	**332**	Pg	**Pn**	**00 25 30.2**	**+1.6**
DJO				Sg	**Sn**	**00 25 55.8**	**+1.5**
CERR	**Cheremushki**	**2.05**	**336**	Pg	**Pn**	**00 25 30.3**	**-1.0**
CERR				Sg	**Sn**	**00 25 56.3**	**+1.8**
VEH	**Verkhnyaya Baz**	**2.73**	**327**	Pg	**Pn**	**00 25 39.5**	**+1.4**
VEH				Sg	**Sb**	**00 26 17.4**	**+0.7**
CUR	**Chagan-Uzun**	**2.97**	**254**	Pg	**Pn**	**00 25 42.4**	**+0.9**
CUR				Sg	**Sb**

ATKA	**Atka Island**	**4.87**	**65**		Pn		00 40 29.6	-0.9	
NIKH	**Nikolski High**	**8.21**	**67**		Pn		00 41 16.0	-0.5	
J17K	**VABM Dome**	**17.73**	**34**	P	Pn		00 43 24.0	+0.2	
J17K				IAmb	IAmb		00 43 36.1		
	comp=Z,10nm,1.2s								
J18K	**Innoko River**	**18.63**	**36**	P	Pn		00 43 35.3	+0.4	
J18K				IAmb	IAmb		00 43 54.1		
	comp=Z,5.6nm,0.8s								
RED	**Redoubt Volcan**	**18.95**	**47**	P	P		00 43 37.9	-0.2	
H18K	**Honhosa River**	**19.07**	**30**	P	P		00 43 39.3	+0.1	
H18K				IAmb	IAmb		00 43 57.4		
	comp=Z,12nm,1.4s								
G18K	**Tagagawik**	**19.47**	**28**	P	P		00 43 44.1	+0.5	
C16K	**Lisburne Hills**	**19.62**	**18**	P	P		00 43 45.1	-0.1	
F19K	**Shaleruckik Mo**	**20.36**	**27**	P	P		00 43 52.8	-0.5	
C18K	**Utukok River**	**20.81**	**21**	P	P		00 43 58.1	0.0	
H21K	**Melozitna Rive**	**21.25**	**33**	P	P		00 44 02.4	-0.4	
H21K				IAmb	IAmb		00 44 12.9		
	comp=Z,4.1nm,1.4s								
C19K	**Lookout Ridge**	**21.54**	**21**	P	P		00 44 07.7	+1.8	
D20K	**Etivluk River**	**21.98**	**24**	P	P		00 44 09.9	-0.8	
D20K				IAmb	IAmb		00 44 12.8		
	comp=Z,4.5nm,1.1s								
G23K	**Bananza Creek**	**22.76**	**32**	P	P		00 44 18.7	-0.3	
G23K				IAmb	IAmb		00 44 21.5		
	comp=Z,3.2nm,1.2s								
G24K	**Hadweenzic Riv**	**23.64**	**34**	P	P		00 44 27.5	-0.4	
G24K				IAmb	IAmb		00 44 28.7		
	comp=Z,6.4nm,1.4s								
D23K	**Nanushuk River**	**23.79**	**27**	P	P		00 44 29.2	-0.1	
D23K				IAmb	IAmb		00 44 37.1		
	comp=Z,8.5nm,1.4s								
F24K	**Squaw Lake**	**23.89**	**32**	P	P		00 44 29.6	-0.6	
M27K	**Edge Creek, AK**	**24.52**	**46**	P	P		00 44 36.0	-0.2	
F25K	**Christian Rive**	**24.69**	**32**		P		00 44 37.9	+0.3	
F25K				IAmb	IAmb		00 44 38.6		
	comp=Z,1.9nm,1.0s								
BMAR	**Burnt Mountain**	**24.98**	**33**	P	P		00 44 40.5	+0.3	
G26K	**Porcupine Rive**	**25.07**	**35**	P	P		00 44 41.5	+0.5	
G26K				IAmb	IAmb		00 44 42.1		
	comp=Z,3.0nm,0.9s								

IDC 06 00:50:36.9±1.5, 0°59S×127°58E, h0km, mb3.4/4, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=55.0km s-min=23.6km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.96**	**241**	Pn	Pn	00 52 47.8	+0.1
	1.4nm,0.3s,baz=94,slow=20,SNR=3.6 4.4nm,0.3s						
WRA	**Warramunga Arr**	**20.34**	**161**	P	P	00 55 14.1	-0.9
	0.4nm,0.7s,baz=340,slow=11,SNR=4.9 0.4nm,0.7s						
ASAR	**Alice Springs**	**23.74**	**165**	P	P	00 55 51.8	+0.7
	0.8nm,0.6s,baz=344,slow=12,SNR=5.2 0.8nm,0.6s						
MKAR	**Makanchi Array**	**61.58**	**326**	P	P	01 00 56.5	+0.3
	0.4nm,0.5s,baz=114,slow=8.3,SNR=4.8 0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**65.82**	**328**	P	P	01 01 23.7	-0.4
	0.3nm,0.3s,baz=130,slow=6.2,SNR=4.9 0.3nm,0.3s						

*IDC **06** 01:14:36.3±0.9, 18°.31S×174°.67W, h0km, mb3.9/7, mbtmp3.9/7, MS3.3/1, Error ellipse: s-maj=41.2km s-min=22.7km az=145.0*

ISC 06 01:14:54.6±0.8, 18°.2S±0°.2×174°.9W±0°.2, h150km, n13, σ1s06/12, mb4.0/9, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.91**	**255**	LR	LR	01 23 48.6	
	comp=Z,87nm,18.9s,baz=30,slow=30						
STKA	**Stephens Creek**	**41.40**	**242**	P	**P**	**01 22 25.4**	**-0.9**
	0.7nm,0.2s,baz=4.8,slow=12,SNR=1.9 0.7nm,0.2s						
WRA	**Warramunga Arr**	**47.83**	**259**	P	**P**	**01 23 17.4**	**-0.1**
	1.8nm,0.6s,baz=97,slow=8.4,SNR=16 1.8nm,0.6s						
ASAR	**Alice Springs**	**47.90**	**254**	P	**P**	**01 23 18.7**	**+0.7**
	3.0nm,0.8s,baz=86,slow=8.6,SNR=18 3.0nm,0.8s						
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**01 26 00.3**	**-0.5**
	3.2nm,0.8s,baz=74,slow=1.1,SNR=9.3 3.2nm,0.8s						
NVAR	**Mina Array Bea**	**77.39**	**42**	P	**P**	**01 26 33.3**	**-0.1**
	0.4nm,0.8s,baz=254,slow=5.8,SNR=4.1 0.4nm,0.8s						
TXAR	**Lajitas Array**	**83.39**	**56**	P	**P**	**01 27 05.3**	**-0.1**
	0.2nm,0.9s,baz=248,slow=5.3,SNR=1.6 0.2nm,0.9s						
ILAR	**Eielson Array**	**85.48**	**12**	P	**P**	**01 27 14.6**	**-0.4**
	0.3nm,0.6s,baz=219,slow=5.8,SNR=6.2 0.3nm,0.6s						
TROLL	**Troll, Antarti**	**89.98**	**179**	⇑P	**P**	**01 27 39.0**	**+2.1**
	comp=Z,68nm,0.7s						
SNAA	**Sanae**	**90.17**	**178**	⇑P	**P**	**01 27 38.9**	**+1.2**
	comp=Z,24nm,1.1s						
VNA3	**Neumayer Olymp**	**90.19**	**175**	⇑P	**P**	**01 27 36.7**	**-0.9**
	comp=Z,2.7nm,0.8s						
VNA1	**Neumayer--Stat**	**90.88**	**176**	⇑P	**P**	**01 27 40.6**	**-0.1**
	comp=Z,2.5nm,0.9s						
BRTR	**Keskin Array B**	**147.31**	**317**	PKPbc	**PKPab**	**01 34 24.2**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=48,slow=2.1,SNR=2.6						

*NEIC **06** 01:18:12.4±1.9, 36°.99N±0°.03×112°.37W±0°.03, h10km±2km, Error ellipse: s-maj=5.3km s-min=3.4km az=133.0*

UUSS 06 01:18:14.7±2.2, 37°.03N±0°.02×112°.38W±0°.03, h17km±7km, ML2.4/8, ML2.5/91(NEIC), Error ellipse: s-maj=4.1km s-min=2.2km az=129.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNB	**Kanab**	**0.35**	**269**		Pg	01 18 22.2	0.0
KNB					Sb	01 18 27.8	-0.2
KNB	**Kanab**	**0.35**	**269**	IAML		01 18 27.9	
	comp=N,806nm,0.1s						
KNB				IAML		01 18 28.6	
	comp=E,266nm,0.2s						
PKCU	**Pink Cliffs**	**0.42**	**8**		Pg	01 18 23.6	+0.1
PKCU					Sb	01 18 30.2	0.0
PKCU	**Pink Cliffs**	**0.42**	**8**	IAML		01 18 30.2	
	comp=N,597nm,0.4s						
PKCU				IAML		01 18 31.4	
	comp=E,1μm,0.2s						
U15A	**North Rim**	**0.60**	**173**		Pg	01 18 26.4	-0.3
U15A	**North Rim**	**0.60**	**173**	IAML		01 18 35.4	
	comp=E,210nm,0.3s						
U15A				IAML		01 18 35.6	
	comp=N,195nm,0.1s						
ZNPU	**Zion National**	**0.68**	**299**		Pg	01 18 27.7	-0.4
LCMT	**Little Creek M**	**0.69**	**269**		Pg	01 18 27.6	-0.7
LCMT					Sg	01 18 36.9	-0.5
LCMT	**Little Creek M**	**0.69**	**269**	IAML		01 18 37.3	
	comp=N,414nm,0.2s						
LCMT				IAML		01 18 37.8	
	comp=E,462nm,0.1s						
BTU	**Barney Top**	**0.83**	**29**		Pb	01 18 30.6	-0.4
CCUT	**Cedar City**	**0.94**	**304**		Pb	01 18 32.4	-0.4
MTPU	**Mount Pierson**	**1.03**	**9**		Pb	01 18 33.8	-0.5
MTPU	**Mount Pierson**	**1.03**	**9**	IAML		01 18 48.6	
	comp=E,75nm,0.3s						
ARUT	**Antelope Range**	**1.13**	**312**		Pn	01 18 36.1	0.0
DWU	**Dry Willow Pea**	**1.18**	**336**		Pb	01 18 37.0	+0.1
ICU	**Indian Springs**	**1.24**	**276**		Pn	01 18 37.3	-0.1
MSU	**Marysvale**	**1.49**	**6**		Pn	01 18 40.6	-0.4
PSUT	**Pine Spring**	**1.90**	**323**	Pn	Pn	01 18 46.5	-0.2
Q16A	**Castle Valley**	**2.12**	**27**	Pn	Pn	01 18 48.8	-0.8
Q16A				IAML		01 19 22.0	
	comp=N,18nm,0.3s						
PRN	**Pahroc Range**	**2.16**	**281**	Pn	Pn	01 18 49.1	-1.1
PRN				IAML		01 19 25.6	
	comp=N,19nm,0.5s						
W13A	**Hualapai Mount**	**2.28**	**213**	Pn	Pn	01 18 50.8	-1.0
SHPR	**Sheep Range**	**2.29**	**258**	Pn	Pn	01 18 51.0	-0.9
V12A	**Nelson**	**2.38**	**238**	Pn	Pn	01 18 52.9	-0.2
TMUT	**Trail Mountain**	**2.45**	**22**	Pn	Pn	01 18 53.6	-0.6
TMUT				IAML		01 19 34.3	
	comp=N,14nm,0.6s						
TMUT				IAML		01 19 36.8	
	comp=E,19nm,0.6s						
SRU	**San Rafael Swe**	**2.55**	**35**		Pn	01 18 55.0	-0.5
SRU					IAML	01 19 32.7	
	comp=N,11nm,0.6s						
SRU					IAML	01 19 39.4	
	comp=E,14nm,0.5s						
X16A	**Lo Mia Camp, P**	**2.71**	**163**	Pn	Pn	01 18 58.4	+0.6
PV05	**Paradox Valley**	**2.81**	**67**	Pn	Pn	01 18 59.6	+0.5
PV05					IAML	01 19 51.8	
	comp=N,27nm,0.6s						
R11B	**Troy Canyon, C**	**2.86**	**298**	Pn	Pn	01 18 59.7	-0.1
W18A	**Petrified Fore**	**2.87**	**131**	Pn	Pn	01 18 59.5	-0.3
W18A					IAML	01 19 46.8	
	comp=E,11nm,0.6s						
W18A					IAML	01 19 48.0	
	comp=N,14nm,0.4s						
PV10	**Paradox Valley**	**2.98**	**62**	Pn	Pn	01 19 00.1	-1.3
PV14	**Lion Creek, Pa**	**2.98**	**62**	Pn	Pn	01 19 01.1	-0.4
PV14					IAML	01 19 52.4	
	comp=N,27nm,0.4s						
PV14					IAML	01 19 58.2	
	comp=E,31nm,0.5s						
PV19	**Morning Glory**	**2.99**	**64**	Pn	Pn	01 19 01.4	-0.1
PV16	**Nyswonger Mesa**	**3.04**	**64**	IAML		01 19 57.1	
	comp=E,25nm,0.6s						
PV13	**Radium Mtn., P**	**3.05**	**67**	IAML		01 19 54.1	
	comp=N,22nm,0.4s						
PV13				IAML		01 19 56.3	
	comp=E,19nm,0.8s						
PV03	**Paradox Valley**	**3.06**	**65**	IAML		01 19 50.8	
	comp=E,18nm,0.3s						
PV03				IAML		01 19 52.4	
	comp=N,19nm,0.4s						
PV04	**Paradox Valley**	**3.08**	**63**	IAML		01 19 55.2	
	comp=E,28nm,1.1s						
PV04				IAML		01 20 06.2	
	comp=N,26nm,0.8s						
P18A	**Preston Nutter**	**3.09**	**32**	IAML		01 19 38.1	
	comp=N,7.4nm,1.6s						
P18A				IAML		01 19 54.5	
	comp=E,7.0nm,0.5s						
MVCO	**Mesa Verde**	**3.11**	**85**	IAML		01 19 57.7	
	comp=E,16nm,0.4s						
MVCO				IAML		01 19 59.7	
	comp=E,13nm,0.7s						
X18A	**Snowflake**	**3.18**	**141**	IAML		01 19 57.7	
	comp=N,9.4nm,0.4s						
X18A				IAML		01 19 59.6	
	comp=E,13nm,0.6s						
PV22	**Blue Mesa, Par**	**3.22**	**61**	IAML		01 19 57.5	
	comp=E,20nm,0.7s						
PV22				IAML		01 20 01.1	
	comp=N,12nm,0.6s						
PV01	**Paradox Valley**	**3.23**	**69**	IAML		01 19 59.5	
	comp=E,15nm,0.5s						
PV01				IAML		01 19 59.9	
	comp=N,15nm,0.6s						
PV07	**Paradox Valley**	**3.28**	**63**	IAML		01 20 00.3	
	comp=N,13nm,0.8s						
PV07				IAML		01 20 03.5	
	comp=E,14nm,0.7s						
PV15	**Paradox Valley**	**3.36**	**66**	IAML		01 20 05.4	
	comp=N,16nm,0.8s						
PV15				IAML		01 20 08.8	
	comp=E,17nm,1.0s						
MPMC	**Manual Prospec**	**4.22**	**258**	IAML		01 19 49.5	
	comp=N,4.0nm,0.8s						
S22A	**4UR Ranch, Cre**	**4.48**	**79**	IAML		01 21 22.4	
	comp=E,6.8nm,0.1s						
S22A				IAML		01 21 23.6	
	comp=N,2.9nm,0.1s						

*IDC **06** 01:19:47.4±0.5, 23°.65N×121°.66E, h0km, mb4.5/27, mbtmp4.5/32, ML3.9/5, MS4.1/64, Error ellipse: s-maj=15.1km s-min=12.9km az=61.0*

*BJI **06** 01:19:47.1, 23°.61N×121°.70E, h10km, mB5.1/39, mb4.5/73, ML5.1/11, Ms5.0/87, Ms7 4.8/85*

*GCMT **06** 01:19:48.0±0.3, 23°.59N±0°.02×121°.45E±0°.03, h12km±1km, MW4.8/88, Moment Tensor Solution. s28,c35; s88,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.81±.14; $M_{\theta\theta}$-1.15±.09; $M_{\phi\phi}$-0.65±.10; $M_{r\theta}$1.33±.27; $M_{\theta\phi}$-0.90±.06; $M_{r\phi}$-0.21±.28; Best double couple: M_o2.25100×10^{16} NP1:ϕ_s214.00000°, δ35.00000°, λ.54.00000°. NP2: ϕ_s76.00000°, δ63.00000°, λ112.00000°. Principal axes: T 2.4110, Plg65.0000°, Azm24.0000°; N -0.3180, Plg19.0000°, Azm245.0000°; P -2.0910, Plg15.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*TAP **06** 01:19:48.7, 23°.67N×121°.53E, h5km, ML5.1, C*

*JMA **06** 01:19:48.3±0.2, 23°.7N±0°.4×121°.6E±0°.9, h1km±2km, MD5.0/15, MV4.8/15, TAIWAN REGION*

*MOS **06** 01:19:48.6±1.2, 23°.63N×121°.62E, h17km, mb5.0/44, MS4.3/6, Error ellipse: s-maj=7.3km s-min=4.9km az=111.9*

*NEIC **06** 01:19:50.0±1.4, 23°.69N±0°.03×121°.54E±0°.05, h10km±1km, mb5.3/284, Mwr4.8/22, Mww4.8/12, Error ellipse: s-maj=8.0km s-min=3.4km az=303.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.30; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.47; $M_{\theta\phi}$-0.81; $M_{r\phi}$0.82; Fault plane solution: M_o1.68000×10^{16} NP1:ϕ_s36.10000°, δ62.32000°, λ.80.36000°. NP2:ϕ_s236.19000°, δ29.18000°, λ107.71000°. Principal axes: T 1.6179, Plg71.0000°, Azm285.0000°; N 0.1240, Plg9.0000°, Azm41.0000°; P -1.7420, Plg17.0000°, Azm133.0000°;*

*NEIC **06** 01:19:50.3, 23°.68N×121°.56E, h10km*

*NEIC **06** 01:19:50, 23°.69N×121°.55E, h12km*

ISC 06 01:19:49.8±0.5, 23°.67N±0°.01×121°.56E±0°.02, h13km±2km, n952, σ1s37/924, mb5.2/229, MS4.2/77, 70C-72D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.05**	**341**	⇑P	**Pg**	**01 19 50.4**	**-1.8**
TEGC				*i* S	**Sg**	**01 19 51.8**	**-2.1**
SHUL	**Shoufeng**	**0.12**	**3**	⇓P	**Pg**	**01 19 52.4**	**-0.7**
SHUL				S	**Sg**	**01 19 55.5**	**+0.2**
WARBT	**Fenglin Townsh**	**0.16**	**289**	⇓*i*P	**Pg**	**01 19 51.9**	**-1.8**
WARBT				*e*S	**Sg**	**01 19 54.3**	**-2.1**
ESL	**Shilin**	**0.19**	**323**	⇓*i*P	**Pg**	**01 19 52.6**	**-1.5**
ESL				*i* S	**Sg**	**01 19 55.4**	**-1.5**
TEYL	**Yanliau Villag**	**0.20**	**11**	P	**Pg**	**01 19 54.8**	**+0.5**
TEYL				*e*S	**Sb**	**01 19 58.6**	**-0.7**
HGSD	**Ruisui**	**0.21**	**215**	⇓*i*P	**Pg**	**01 19 53.9**	**-0.5**
HGSD				S	**Sg**	**01 19 57.9**	**+0.4**
EHYH	**Wanrong**	**0.26**	**229**	*e*P	**Pg**	**01 19 54.0**	**-1.2**
EHY	**Hungye**	**0.27**	**234**	⇑*i*P	**Pg**	**01 19 54.0**	**-1.4**
EHY				*e*S	**Sg**	**01 19 59.5**	**+0.3**
ETM	**Tongmen**	**0.30**	**349**	⇓*i*P	**Pg**	**01 19 55.1**	**-1.0**
ETM				*i* S	**Sg**	**01 19 59.4**	**-0.9**
HWA	**Hwalien**	**0.31**	**8**	P	**Pg**	**01 19 56.3**	**0.0**
ECBN	**Changbin**	**0.36**	**196**	*e*P	**Pg**	**01 19 57.0**	**-0.1**
ECBN				*e*S	**Sg**	**01 20 03.0**	**+1.0**
YULB	**Yu-li**	**0.36**	**221**	Pg	**Pg**	**01 19 57.0**	**-0.2**
YULB				Sg	**Sg**	**01 20 02.7**	**+0.8**
YULB	**Yu-li**	**0.36**	**221**	P	**Pg**	**01 19 57.4**	**+0.3**
YULB	**Yu-li**	**0.36**	**221**	S	**Sb**	**01 20 03.7**	**-0.1**
YULB	**Yu-li**	**0.36**	**221**	⇑P	**Pg**	**01 19 56.1**	**-1.0**
YULB				*e*S	**Sg**	**01 20 02.8**	**+0.8**
EYUL	**Yuli**	**0.38**	**215**	*e*P	**Pg**	**01 19 57.8**	**+0.2**
VWDT	**VWDT**	**0.39**	**283**	⇓*i*P	**Pg**	**01 19 56.7**	**-1.0**
VWDT				*e*S	**Sg**	**01 20 02.5**	**-0.4**
TWF1	**Yuli**	**0.39**	**217**	⇑*i*P	**Pg**	**01 19 56.8**	**-0.9**
TWF1				S	**Sg**	**01 20 04.0**	**+1.0**
TWD	**Chiawan**	**0.41**	**5**	⇓P	**Pg**	**01 19 57.6**	**-0.5**
TWD				S	**Sg**	**01 20 03.6**	**0.0**
OWD	**Renai**	**0.45**	**310**	⇓P	**Pg**	**01 19 57.7**	**-1.1**
OWD				*e*S	**Sg**	**01 20 04.2**	**-0.8**
CHKH	**Chenggong**	**0.49**	**197**	*e*P	**Pg**	**01 19 59.4**	**-0.2**
ETL	**Fush Village**	**0.49**	**7**	*e*P	**Pg**	**01 19 59.0**	**-0.7**
ETL				*e*S	**Sg**	**01 20 06.0**	**-0.2**
NACB	**Ninganchiao**	**0.51**	**4**		**Pg**	**01 19 58.8**	**-1.0**
NACB					**Sg**	**01 20 07.2**	**+0.6**
NACB	**Ninganchiao**	**0.51**	**4**	P	**Pg**	**01 19 59.4**	**-0.4**
NACB	**Ninganchiao**	**0.51**	**4**	S	**Sg**	**01 20 06.7**	**+0.1**
NACB	**Ninganchiao**	**0.51**	**4**	⇓*i*P	**Pg**	**01 19 59.0**	**-0.8**
NACB				*e*S	**Sg**	**01 20 07.3**	**+0.7**
WUSB	**Renai**	**0.52**	**309**	⇓*i*P	**Pg**	**01 19 59.1**	**-0.9**
WUSB				S	**Sg**	**01 20 06.6**	**-0.3**
FULB	**Fuli**	**0.52**	**207**	⇓*e*P	**Pg**	**01 19 60.0**	**-0.1**
ETLH	**Xiulin Townshi**	**0.54**	**353**	⇓*i*P	**Pg**	**01 19 59.5**	**-1.0**
ETLH				*e*S	**Sg**	**01 20 07.3**	**-0.5**
WHF	**Hehuan Shan**	**0.55**	**331**	⇓*i*P	**Pg**	**01 19 59.5**	**-1.2**
WHF				*e*S	**Sg**	**01 20 06.5**	**-1.5**
SSLB	**Suanglung**	**0.56**	**283**		**Pg**	**01 19 59.5**	**-1.4**
SSLB					**Sg**	**01 20 07.6**	**-0.8**
SSLB	**Suanglung**	**0.56**	**283**	P	**Pg**	**01 20 00.1**	**-0.8**
SSLB	**Suanglung**	**0.56**	**283**	⇓*i*P	**Pg**	**01 19 59.8**	**-1.1**
SSLB				S	**Sg**	**01 20 07.2**	**-1.2**
YUS	**Yu-Shan**	**0.58**	**253**	⇑*e*P	**Pg**	**01 20 00.4**	**-1.0**
YUS				*e*S	**Sg**	**01 20 09.2**	**+0.1**
CHKT	**Chengkung**	**0.59**	**197**	P	**Pg**	**01 20 01.0**	**-0.4**
CHKT				*e*S	**Sb**	**01 20 11.1**	**+0.7**
EHD	**Haiduan**	**0.61**	**212**	*e*P	**Pg**	**01 20 00.8**	**-0.9**
SMLT	**Sun Moon Lake**	**0.64**	**290**	⇓*i*P	**Pg**	**01 20 01.4**	**-0.9**
SMLT				*e*S	**Sg**	**01 20 09.7**	**-1.1**
WHYT	**Xinyi Township**	**0.65**	**273**	*e*P	**Pg**	**01 20 01.7**	**-0.8**
WHYT				*e*S	**Sg**	**01 20 10.4**	**-0.6**
ECS	**Chishang**	**0.65**	**209**	*e*P	**Pg**	**01 20 02.4**	**-0.1**
FUSS	**Fushou**	**0.65**	**334**	⇓P	**Pg**	**01 20 01.6**	**-0.9**
FUSS				*i* S	**Sg**	**01 20 10.5**	**-0.6**
WPL	**Puli Township**	**0.65**	**302**	*e*P	**Pg**	**01 20 01.7**	**-0.8**
WPL				S	**Sg**	**01 20 11.0**	**0.0**
EHP	**Heping Village**	**0.66**	**15**	*e*P	**Pb**	**01 20 03.3**	**0.0**
TWT	**Tachien**	**0.68**	**329**	P	**Pg**	**01 20 02.4**	**-0.7**
TWT				S	**Sg**	**01 20 11.3**	**-0.9**
EAHA	**Aohua**	**0.68**	**14**	*e*P	**Pg**	**01 20 02.4**	**-0.7**
DPDB	**Guoxing**	**0.68**	**303**	⇓P	**Pg**	**01 20 02.5**	**-0.7**
DPDB				*e*S	**Sg**	**01 20 11.8**	**-0.3**
TYC	**Yuchr**	**0.68**	**290**	⇓*i*P	**Pg**	**01 20 02.1**	**-1.0**
TYC				*e*S	**Sg**	**01 20 11.8**	**-0.4**
ELDTW	**Lidau**	**0.69**	**226**	*e*P	**Pg**	**01 20 02.1**	**-1.1**
ELDTW				*e*S	**Sg**	**01 20 12.1**	**-0.1**
TDCB	**Techi**	**0.69**	**328**	⇓*i*P	**Pg**	**01 20 02.5**	**-0.8**
TDCB				S	**Sg**	**01 20 11.5**	**-0.9**
ALS	**Alishan**	**0.71**	**258**	*e*P	**Pg**	**01 20 02.9**	**-0.8**
ALS				*e*S	**Sg**	**01 20 13.2**	**+0.2**
WCS	**Beigang Elemen**	**0.71**	**304**	P	**Pg**	**01 20 03.0**	**-0.6**
WCS				*e*S	**Sg**	**01 20 12.8**	**-0.1**
EDH	**Donghe**	**0.73**	**199**	⇓*e*P	**Pg**	**01 20 03.2**	**-0.8**
EDH				*e*S	**Sb**	**01 20 14.8**	**+0.5**
WJS	**Zhushan**	**0.78**	**282**	*e*P	**Pb**	**01 20 05.7**	**-0.1**
WJS				*e*S	**Sn**	**01 20 17.4**	**-0.7**
NNSB	**Datong**	**0.78**	**348**	⇓*i*P	**Pg**	**01 20 04.1**	**-0.8**
NNSB				S	**Sg**	**01 20 14.1**	**-1.0**
ENA	**Nanau**	**0.78**	**12**	*e*P	**Pg**	**01 20 04.1**	**-0.8**
CHN5	**Tsauling**	**0.81**	**265**	*e*P	**Pg**	**01 20 05.3**	**-0.2**
CHN5				*e*S	**Sn**	**01 20 17.9**	**-1.1**
WHP	**Taichung City**	**0.83**	**318**	⇓P	**Pg**	**01 20 05.1**	**-0.8**
WHP				*e*S	**Sg**	**01 20 16.7**	**0.0**
WNT	**Mingjian**	**0.83**	**285**	*e*P	**Pb**	**01 20 06.2**	**+0.1**
WNT				*e*S	**Sn**	**01 20 19.0**	**-0.4**
EOS4	**EOS4**	**0.83**	**57**	*e*P	**Pb**	**01 20 05.8**	**-0.1**
EOS4				*e*S	**Sg**	**01 20 17.6**	**+0.8**
WNT1	**Nantou City**	**0.84**	**287**	*e*P	**Pb**	**01 20 06.4**	**+0.1**
WNT1				*e*S	**Sn**	**01 20 19.9**	**+0.3**
LONT	**Longtian**	**0.85**	**208**	*e*P	**Pb**	**01 20 05.5**	**-0.8**
LATG	**Datong**	**0.87**	**358**	⇓*i*P	**Pg**	**01 20 05.7**	**-0.9**
LATG				S	**Sg**	**01 20 18.3**	**+0.2**
STYH	**Taoyuan**	**0.87**	**236**	*e*P	**Pb**	**01 20 05.7**	**-1.1**
STYH				*e*S	**Sb**	**01 20 18.9**	**+0.5**
WWF	**Wufeng**	**0.87**	**296**	*e*P	**Pg**	**01 20 07.1**	**+0.4**
WWF				*e*S	**Sn**	**01 20 19.4**	**-1.0**
STYT	**Tauyuan**	**0.89**	**236**	⇑*i*P	**Pb**	**01 20 06.4**	**-0.8**
STYT				S	**Sb**	**01 20 19.5**	**+0.5**
WCKO	**Fanlu**	**0.90**	**256**	⇑*e*P	**Pg**	**01 20 07.6**	**+0.4**
WCKO				*e*S	**Sn**	**01 20 21.5**	**+0.2**
WGK	**Gukeng**	**0.91**	**271**	⇑P	**Pg**	**01 20 07.9**	**+0.4**
TPUB	**Ta-pu**	**0.93**	**247**	Pg	**Pb**	**01 20 07.2**	**-0.6**
TPUB				Sg	**Sb**	**01 20 20.4**	**+0.5**
TPUB	**Ta-pu**	**0.93**	**247**	P	**Pg**	**01 20 08.1**	**+0.4**
TPUB	**Ta-pu**	**0.93**	**247**	⇑*i*P	**Pb**	**01 20 07.5**	**-0.3**
TPUB				*i* S	**Sg**	**01 20 20.6**	**+0.8**
EOS3	**EOS3**	**0.93**	**48**	*e*P	**Pb**	**01 20 07.9**	**+0.1**
EOS3				*e*S	**Sn**	**01 20 21.4**	**-0.3**
WDL	**Douliou City**	**0.93**	**273**	*e*P	**Pb**	**01 20 07.7**	**-0.2**
WDLH	**Douliu**	**0.93**	**272**	⇑P	**Pb**	**01 20 08.0**	**+0.3**
CHN4	**Tsaushan**	**0.94**	**251**	⇑*i*P	**Pb**	**01 20 08.1**	**0.0**
CHN4				S	**Sg**	**01 20 20.8**	**+0.5**
TCU	**Taichung**	**0.94**	**301**	⇓*e*P	**Pg**	**01 20 08.3**	**+0.3**
TCU				*e*S	**Sn**	**01 20 21.5**	**-0.6**
ESAO	**Su ao**	**0.94**	**16**	⇑*e*P	**Pb**	**01 20 07.3**	**-0.8**
TWG	**Pinlang**	**0.95**	**208**	Pg	**Pb**	**01 20 08.0**	**-0.3**
TWG	**Pinlang**	**0.95**	**208**	*e*P	**Pb**	**01 20 06.0**	**-2.3**
TWG				*e*S	**Sb**	**01 20 21.0**	**+0.2**
TWGBT	**Beinan**	**0.95**	**208**	P	**Pb**	**01 20 06.8**	**-1.4**
TWGBT	**Beinan**	**0.95**	**208**	*e*P	**Pb**	**01 20 06.2**	**-2.0**
TWGBT				*e*S	**Sb**	**01 20 20.8**	**+0.1**
WTP	**Ta-pu**	**0.96**	**244**	⇑*i*P	**Pb

CHN3 **Shinhua** 1.24 242 ⇑P Pg 01 20 13.8 +0.1
CHN3 eS Sg 01 20 32.9 +3.0
SCST Cishan 1.25 232⇑eP Pb 01 20 13.4 +0.2
SCST eS Sg 01 20 33.3 +3.2
SSD Sandimen 1.25 223 eP Pn 01 20 12.1 -1.0
SSD eS Sg 01 20 31.2 +1.1
HSN Hsinchu 1.25 335 eP Pb 01 20 13.5 +0.2
HSN eS Sg 01 20 32.4 +2.1
TSMG Majia 1.27 221 eP Pn 01 20 13.2 -0.2
TSMG eS Sg 01 20 31.4 +0.5
CHN8 Yiju 1.27 256 ⇑P Pn 01 20 13.4 0.0
CHN8 eS Sg 01 20 31.2 +0.2
NHDH Xindian Distri 1.29 359 eP Pb 01 20 14.0 -0.1
TATO Taipei 1.31 357 Pn 01 20 13.6 -0.2
TATO Taipei 1.31 357 P Pb 01 20 14.3 0.0
TATO Taipei 1.31 357⇑iP Pn 01 20 13.8 0.0
TATO eS Sg 01 20 32.8 +0.8
TWA Mucha 1.31 1 eP Pn 01 20 13.2 -0.7
TIPB Shuangxi 1.32 11 eP Pn 01 20 14.1 0.0
TWM1 Shoushan 1.34 231⇑eP Pb 01 20 15.2 +0.4
NCUH Zhongli 1.34 345 eP Pb 01 20 14.9 0.0
SCLT Jiali 1.34 249 eP Pn 01 20 14.1 -0.3
SCLT eS Sg 01 20 34.1 +0.9
NTY Taoyuan 1.35 350 eP Pg 01 20 15.9 +0.1
MASBT Mashibuluo 1.35 219 eP Pn 01 20 13.5 -1.0
MASBT eS Sn 01 20 32.2 0.0
SGLT Jiouru 1.35 227 eP Pb 01 20 15.6 +0.5
TAP Taipei 1.37 358 eP Pb 01 20 15.4 +0.1
TSPT Pingtung City 1.39 225 eP Pb 01 20 15.9 +0.2
TWB1 Santiao Chiao 1.39 16 eP Pb 01 20 15.8 0.0
NHW Xinwu Township 1.41 341 eP Pn 01 20 15.7 +0.3
NHW eS Sg 01 20 36.0 +0.6
NWF Wu-fen Shan 1.41 8 eP Pb 01 20 16.8 +0.6
WFSB Wu-fen Shan 1.41 8 eP Pb 01 20 16.1 -0.1
WFSB eS Sg 01 20 35.5 +0.1
TAI Tainan 1.42 242 eP Pb 01 20 16.2 0.0
EAST Anshuo 1.43 207 eP Pn 01 20 13.8 -1.8
TWS1 Kuangyinshan 1.44 355 eP Pb 01 20 16.4 -0.1
TAW Tawu 1.44 205 eP Pg 01 20 17.3 -0.2
SNJT Kaohsiung City 1.44 231 eP Pb 01 20 17.0 +0.3
SXI1 Grass Mountain 1.45 11 eP Pn 01 20 15.4 -0.5
TAWH Dawu Township 1.46 205 eP Pn 01 20 16.0 +0.1
YM01 YM01 1.48 0⇑eP Pn 01 20 15.5 -0.7
YM01 eS Sg 01 20 38.6 +1.3
ZUZH Zhuzihu 1.49 360 eP Pb 01 20 17.2 -0.2
JYNG Yonagunijimaku 1.49 58 eP Pn 01 20 16.4 0.0
JYNG eS Sb 01 20 36.7 +0.4
JYNG Yonagunijimaku 1.49 58 A A 01 20 16.4
comp=N,36nm,4.8s,comp=E,30nm,2.4s
TNOU National Taiwa 1.49 8 eP Pb 01 20 17.0 -0.4
NTST Danshui 1.50 356 eP Pb 01 20 17.4 -0.1
ANP Anpu 1.52 359 eP Pn 01 20 16.5 -0.3
YM08 YM08 1.52 1 eP Pn 01 20 16.8 0.0
YOJ Yonaguni jima 1.55 59 Pn Pn 01 20 17.1 -0.1
YOJ Yonaguni jima 1.55 59 P Pn 01 20 17.7 +0.6
YOJ Yonaguni jima 1.55 59 P Pn 01 20 17.1 -0.1
YOJ Yonaguni jima 1.55 59 P Pn 01 20 17.1 -0.1
YOJ S Sn 01 20 37.2 +0.1
YOJ Yonaguni jima 1.55 59 P Pn 01 20 17.8 +0.6
YOJ S Sn 01 20 37.6 +0.4
YOJ Yonaguni jima 1.55 59 A A 01 20 17.8
comp=N,32nm,2.2s,comp=E,35nm,4.8s
SCZT Fangliau 1.55 214 eP Pn 01 20 17.8 +0.6
SCZT eS Sg 01 20 39.1 -0.6
TWY Chenhua 1.60 1 eP Pb 01 20 19.2 -0.1
LAY Lan-yu 1.62 180 eP Pn 01 20 15.3 -2.9
LYUB Lan-yu 1.66 179 eP Pn 01 20 15.3 -3.3
LYUB eS Sn 01 20 37.4 -2.4
WLCH Liuqiu 1.70 220 eP Pb 01 20 20.4 -0.6
TWP Hsiaoliuchiu 1.71 220 eP Pb 01 20 21.1 -0.1
SMST Manzhou Townsh 1.77 202 eP Pn 01 20 21.2 +1.0
WDGT Dungji 1.79 257⇑eP Pn 01 20 20.1 -0.4
WDGT eS Sn 01 20 42.7 -0.4
HEN Hengchun 1.82 205 eP Pb 01 20 22.6 -0.4
PHUB P'eng-hu 1.83 266 ⇑P Pn 01 20 20.6 -0.5
PHUB eS Sb 01 20 44.9 -1.1
PNG Penghu 1.84 267 eP Pn 01 20 21.0 -0.1
TWK1 Hengchun 1.85 202 eP Pn 01 20 20.5 -0.8
TWKBT Hengchun 1.85 202 eP Pn 01 20 20.6 -0.7
TWKBT eS Sb 01 20 46.7 +0.1
TSEB Hengchuen, Pin 1.86 199 eP Pb 01 20 22.9 -0.8
VCHM Qimei 2.01 257 eP Pn 01 20 23.1 -0.4
PCYT Pengchaiyu 2.01 13 eP Pn 01 20 24.0 +0.4
HATJ Hateruma jima 2.10 79 eP Pn 01 20 24.2 -0.4
HATJ eS Sn 01 20 50.2 -0.4
HATJ Hateruma jima 2.10 79 A A 01 20 24.2
comp=N,50nm,5.7s,comp=E,36nm,2.6s
IRIF Iriomote-Funau 2.10 71 P Pn 01 20 24.4 -0.3
IRIF S Sn 01 20 51.0 +0.3
IRIF Iriomote-Funau 2.10 71 A A 01 20 24.4
comp=N,27nm,1.1s,comp=E,19nm,3.4s
JKRS Kuro-shima 2.31 75 eP Pn 01 20 27.7 0.0
JKRS eS Sn 01 20 55.1 -1.0
JKRS Kuro-shima 2.31 75 A A 01 20 27.7
comp=N,42nm,4.2s,comp=E,54nm,3.4s
VWUC VWUC 2.33 305⇑eP Pn 01 20 26.9 -1.0
JIJ Ishigaki jima 2.46 73 P Pn 01 20 29.1 -0.7
JIJ S Sn 01 20 59.9 +0.1
JIJ Ishigaki jima 2.46 73 A A 01 20 29.1
comp=N,9.0nm,3.9s,comp=E,9.0nm,5.6s
PTMZ Houxiangcun 2.61 302⇑eP Pn 01 20 31.3 -0.5
MATB Ma-tsu 2.88 330 eP Pn 01 20 35.0 -0.4
KNM Kinmen 2.95 285⇑eP Pn 01 20 37.9 +1.4
QZH Quanzhou 2.99 296⇑iPn Pn 01 20 36.4 -0.6
QZH Sn Sn 01 21 12.2 -0.5
QZH smax smax
comp=E,8μm,1.4s
QZH smax smax
comp=E,8μm,1.1s
QZH LR LR
comp=E,27μm,6.9s
QZH LR LR
comp=E,34μm,6.2s
QZH LR LR
comp=E,26μm,5.6s
KNMB Chin-men Tao 3.00 286 Pn 01 20 36.8 -0.4
KNMB Chin-men Tao 3.00 286⇑eP Pn 01 20 37.2 +0.1
JTJ Tarama 3.03 71 P Pn 01 20 37.4 -0.2
JTJ Tarama 3.03 71 A A 01 20 37.4
comp=N,21nm,4.2s,comp=E,11nm,2.4s
MHZQ Yeshan 3.34 317 eP Pn 01 20 41.7 -0.1
XPSS Dashiqiu 3.48 339 eP Pn 01 20 43.8 +0.1
AXDP Jialang 3.50 291⇑eP Pn 01 20 43.9 -0.1
ZPLA Ao Xicun 3.50 275⇑eP Pn 01 20 44.1 +0.1
JIRB Irabujima 3.50 70 eP Pn 01 20 43.9 -0.1
JIRB eS Sn 01 21 24.6 -0.7
JIRB Irabujima 3.50 70 A A 01 20 43.9
comp=N,15nm,4.5s,comp=E,11nm,3.8s
JIKM Ikemajima 3.59 69 A A 01 20 46.4
comp=N,12nm,4.3s,comp=E,14nm,4.3s
JMJ Miyako jima 2 3.60 71 eP Pn 01 20 45.7 +0.4
JMJ eS Sn 01 21 26.5 -1.3
JMJ2 Miyako jima3 3.61 72 eP Pn 01 20 46.1 +0.7
JMJ2 eS Sn 01 21 27.9 -0.1
DSXP Dongshan 3.79 271⇑eP Pn 01 20 47.4 -0.6
SXFK Yanhouchang 4.47 308⇑eP Pn 01 20 56.5 -0.9
VDOS Pratas Island 5.36 238 eP Pn 01 21 11.1 +1.5
JOW Kunigami 6.85 61 Pn 01 21 29.8 -0.3
JOW Kunigami 6.85 61 Pn Pn 01 21 28.5 -1.6
comp=E,7.2nm,0.3s,baz=232,slow=11,SNR=7.1
JOW Sn Sn 01 22 42.0 -6.1
comp=E,0.7nm,0.3s,baz=234,slow=18,SNR=1.3
comp=E,22nm,0.3s
JOW Kunigami 6.85 61 eP Pn 01 21 29.2 -0.9
SSE Sheshan 7.41 358 Pn Pn 01 21 41.3 +3.6
SSE Sn Sn 01 23 06.7 +5.0
SSE smax smax
comp=E,230nm,1.2s
SSE smax smax
comp=E,240nm,1.5s
SSE LR LR
comp=E,3μm,6.9s
SSE LR LR
comp=E,2μm,5.8s
GZH Guangzhou 7.57 267 Pn Pn 01 21 35.9 -4.0
GZH Sn Sn 01 23 00.9 -4.7
GZH smax smax
comp=E,2μm,1.1s
GZH smax smax
comp=E,890nm,0.9s
NJ2 Nanjing 8.69 345 eP Pn 01 21 55.9 +0.6
NJ2 pP Pg 01 21 59.8 -36
NJ2 S Sn 01 23 31.8 -1.4
NJ2 pmax pmax
comp=E,53nm,1.0s
NJ2 smax smax
comp=E,640nm,1.4s
NJ2 smax smax
comp=E,600nm,1.7s
NJ2 LR LR
comp=E,6μm,6.8s
NJ2 LR LR
comp=E,3μm,7.7s
NJ2 LR LR
comp=E,5μm,6.4s
CNSH ChangSha 8.97 302 P Pn 01 21 57.0 -2.2
CNSH smax smax
comp=E,2μm,1.4s
CNSH smax smax
comp=E,2μm,1.5s
CNSH LR LR
comp=E,8μm,9.3s
CNSH LR LR
comp=E,12μm,9.3s
CNSH LR LR
comp=E,10μm,10.1s
WHN Wuhan 9.39 318 P Pn 01 22 05.0 +0.1
WHN S Sn 01 23 46.4 -3.9
WHN pmax pmax
comp=E,200nm,1.4s
WHN LR LR
comp=E,10μm,5.9s
WHN LR LR
comp=E,13μm,5.6s
TGY Tagaytay City 9.53 184 LR LR 01 26 30.7
comp=E,932nm,19.1s,baz=7.0,slow=42
GULI GuiLin 10.32 281 P Pn 01 22 14.0 -3.7
GULI pmax pmax
comp=Z,44nm,1.1s
QIZ Qiongzhong 11.85 249 P Pn 01 22 38.2 -0.5
QIZ S Sn 01 24 54.9 +4.1
QIZ LR LR
comp=Z,1μm,11.9s
QIZ LR LR
comp=Z,3μm,7.7s
JNU Nakatsue 12.49 39 Pn 01 22 48.2 +0.8
JNU Nakatsue 12.49 39 Pn Pn 01 22 44.3 -3.0
comp=Z,0.5nm,0.3s,baz=243,slow=2.6,SNR=4.9
comp=Z,8.3nm,0.8s
ENH Enshi 12.61 304 Pn 01 22 49.1 0.0
TIA Tai'an 13.08 344 P P 01 23 02.5 -3.2
TIA S S 01 25 37.7 -8.4
TIA pmax pmax
comp=Z,13nm,0.7s
TIA LR LR
comp=N,4μm,7.7s
TIA LR LR
comp=E,2μm,6.5s
TIA LR LR
comp=Z,6μm,7.0s
LYN LuoYang 13.44 326 P Pn 01 23 02.8 +2.5
LYN sP P 01 23 11.6 +1.9
LYN SS S 01 25 53.3 -0.1
LYN pmax pmax
comp=Z,17nm,0.5s
LYN LR LR
comp=Z,8μm,10.0s
LYN LR LR
comp=Z,4μm,7.3s
LYN LR LR
comp=Z,8μm,10.3s
TJN Taejon 13.63 20 Pn Pn 01 23 05.4 +2.5
TJN Taejon 13.63 20 P Pn 01 23 05.4 +2.5
GYA Guiyang 13.78 285⇓P Pn 01 23 06.7 +1.5
GYA S Sn 01 25 39.8 +1.6
GYA pmax pmax
comp=Z,31nm,0.9s
GYA pmax pmax
comp=Z,280nm,3.1s
GYA LR LR
comp=Z,2μm,4.2s
GYA LR LR
comp=Z,6μm,8.4s
GYA LR LR
comp=Z,7μm,9.0s
INCN Inchon 14.45 16 Pn Pn 01 23 12.4 -1.7
INCN Inchon 14.45 16 P Pn 01 23 12.4 -1.7
KSAR Wonju Array Be 14.77 20 Pn 01 23 19.1 +0.6
KSAR Wonju Array Be 14.77 20 P Pn 01 23 19.1 +0.6
KSRS Korea Array 14.79 20 Pn Pn 01 23 17.9 -0.9
comp=Z,0.3nm,0.3s,baz=201,slow=12,SNR=36
comp=Z,2.2nm,0.8s
KS19 Wonju Array Si 14.82 20 Pn 01 23 19.1 -0.1
HNS HongShan 14.90 338⇑P Pn 01 23 22.5 +2.3
HNS pmax pmax
comp=Z,72nm,1.3s
HNS pmax pmax
comp=Z,590nm,4.9s
HNS LR LR
comp=Z,3μm,11.1s
HNS LR LR
comp=Z,2μm,9.2s
HNS LR LR
comp=Z,4μm,11.9s
XAN Xi'an 15.13 316⇓P Pn 01 23 24.0 +0.6
XAN pP pP 01 23 31.8 -0.4
XAN S S 01 26 20.3 -7.9
XAN pmax pmax
comp=Z,44nm,1.0s
XAN pmax pmax
comp=Z,410nm,5.4s
XAN LR LR
comp=Z,9μm,4.8s
XAN LR LR
comp=Z,6μm,4.8s
XAN LR LR
comp=Z,6μm,9.6s
DL2 Dalian 15.19 0 P P 01 23 28.2 -1.0
DL2 pmax pmax
comp=Z,25nm,1.0s
DL2 pmax pmax
comp=Z,270nm,6.0s
DL2 LR LR
comp=Z,2μm,11.5s
DL2 LR LR
comp=Z,1μm,8.9s
DL2 LR LR
comp=Z,3μm,12.0s
TIY Taiyuan 16.04 333 P P 01 23 39.1 +0.4
TIY S S 01 26 41.8 -4.9
TIY pmax pmax
comp=Z,430nm,3.7s
TIY LR LR
comp=Z,3μm,11.5s
TIY LR LR
comp=Z,3μm,13.3s
TIY LR LR
comp=Z,3μm,14.6s
SLVN Son La 16.48 265 Pn 01 23 38.8 -2.2
BJT Baijiatuao 16.93 346 Pn Pn 01 23 45.6 -0.9
BJT Baijiatuao 16.93 346 P Pn 01 23 45.6 -0.9
BJT pmax pmax
comp=Z,53nm,1.4s
DAV Davao City (W) 16.95 166 LR LR 01 30 02.6
comp=Z,916nm,20.4s,baz=344,slow=36
BJI Beijing 16.95 346 P P 01 23 49.8 +1.2
BJI S S 01 27 03.8 -1.3
BJI pmax pmax
comp=Z,10.0nm,1.4s
BJI pmax pmax
comp=Z,210nm,7.7s
BJI LR LR
comp=Z,810nm,11.3s
BJI LR LR
comp=Z,320nm,9.1s
BJI LR LR
comp=Z,990nm,11.7s
KMI Kunming 17.20 279 P P 01 23 52.7 +0.9
KMI SS S 01 27 22.9 +12
KMI pmax pmax
comp=Z,41nm,1.5s
KMI pmax pmax
comp=Z,330nm,4.0s
KMI LR LR
comp=Z,3μm,6.3s
KMI LR LR
comp=Z,5μm,10.2s
KMI LR LR
comp=Z,4μm,9.6s
CD2 Chengdu 17.38 298 P P 01 23 53.0 -0.5
CD2 PP PnPn 01 24 05.3 +2.9
CD2 S Sn 01 27 06.7 +1.1
CD2 sS sS 01 27 19.1 -0.8
CD2 PcP PcP 01 28 34.2 +0.2
CD2 pmax pmax
comp=Z,60nm,1.5s
CD2 LR LR
comp=Z,8μm,6.8s
CD2 LR LR
comp=Z,7μm,8.4s
CD2 LR LR
comp=Z,10μm,9.1s
PZH PanZhiHua 18.17 283 P P 01 24 03.8 +1.4
PZH S Sn 01 27 22.5 -2.4
PZH SS SnSn 01 27 47.7 +9.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,290nm,8.9s
PZH LR LR
comp=Z,2μm,8.3s
PZH LR LR
comp=Z,4μm,11.3s
PZH LR LR
comp=Z,3μm,10.0s
SNY Shenyang 18.19 5⇓P P 01 24 04.8 +2.5
SNY S S 01 27 30.6 +0.2
SNY pmax pmax
comp=Z,14nm,1.3s
SNY pmax pmax
comp=Z,250nm,5.2s
SNY LR LR
comp=Z,1μm,14.3s
SNY LR LR
comp=Z,970nm,8.6s
SNY LR LR
comp=Z,2μm,14.7s
KKM Kota Kinabalu 18.26 197 Pn 01 24 02.8 -0.4
JHJ Hachijo jima 2 18.57 55 P P 01 24 05.9 -0.8
comp=Z,4.5nm,0.3s,baz=236,slow=11,SNR=3.7
JHJ LR LR 01 31 22.9
comp=Z,254nm,19.8s,baz=330,slow=38
comp=Z,147nm,0.8s
JCJ Chichijima 18.95 75 LR LR 01 30 34.3
comp=Z,392nm,20.3s,baz=124,slow=34
HHC Hu-ho-hao-te 19.08 336 eP Pn 01 24 16.0 +2.9
HHC pP sP 01 24 20.3 +2.8
HHC S S 01 27 49.6 +1.0
HHC sS sS 01 27 56.5 +2.2
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,410nm,4.8s
HHC LR LR
comp=Z,1μm,9.6s
HHC LR LR
comp=Z,720nm,9.9s
HHC LR LR
comp=Z,2μm,10.3s
MAJO Matsushiro 19.26 44 P P 01 24 13.7 -0.5
MAJO Matsushiro 19.26 44 P P 01 24 13.7 -0.5
MAJO pmax pmax
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 19.26 44 P P 01 24 12.7 -1.5
comp=Z,0.1nm,0.3s,baz=230,slow=9.5,SNR=14
MJAR LR LR 01 32 41.5
comp=Z,282nm,19.5s,baz=230,slow=40
comp=Z,6.2nm,1.0s
BTO Baotou 19.48 333 eP Pn 01 24 22.9 +5.0
BTO pP sP 01 24 25.9 +4.0
BTO sP pP 01 24 30.7 +11
BTO pmax pmax
comp=Z,33nm,0.9s
BTO pmax pmax
comp=Z,540nm,4.3s
BTO LR LR
comp=Z,6μm,12.5s
BTO LR LR
comp=Z,5μm,11.4s
BTO LR LR
comp=Z,8μm,11.7s
LZH Lanzhou 19.69 313 eP Pn 01 24 21.5 +1.0
LZH sP sP 01 24 26.8 +2.6
LZH S Sn 01 28 06.7 +5.1
LZH SS SnSn 01 28 23.7 +7.7
LZH pmax pmax
comp=Z,47nm,1.0s
LZH pmax pmax
comp=Z,960nm,4.6s
LZH LR LR
comp=Z,2μm,11.2s
LZH LR LR
comp=Z,3μm,10.8s
LZH LR LR
comp=Z,4μm,10.1s
CN2 Changchun 20.34 8 P P 01 24 26.4 +0.5
CN2 S S 01 28 09.3 -4.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,550nm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
MSHR Mys Shultsa 20.48 21⇑eP Pn 01 24 29.1 -0.4
MSHR pmax pmax
comp=Z,26nm,1.1s
XLT XiLinHaoTe 20.68 349 eP Pn 01 24 31.6 -0.4
XLT S S 01 28 18.3 -2.2
XLT pmax pmax
comp=Z,26nm,1.3s
XLT LR LR
comp=Z,120nm,13.1s
XLT LR LR
comp=Z,480nm,9.7s
XLT LR LR
comp=Z,1μm,12.4s
TNCH TengChong 21.03 278 P P 01 24 36.0 +2.2
TNCH S S 01 28 26.1 -1.9
TNCH pmax pmax
comp=Z,130nm,1.0s
TNCH pmax pmax
comp=Z,490nm,3.5s
TNCH LR LR
comp=Z,2μm,7.8s
TNCH LR LR
comp=Z,4μm,8.5s
TNCH LR LR
comp=Z,4μm,9.8s
CHTO Chiang Mai 21.61 261 P P 01 24 38.6 -1.3
CHTO Chiang Mai 21.61 261 P P 01 24 38.6 -1.3
CHTO pmax pmax
comp=Z,49nm,1.0s
JMM Marumori 21.70 45 P P 01 24 38.8 -1.8
CM31 Chiang Mai Arr 21.72 260 P P 01 24 40.4 -0.6
CMAR Chiang Mai Arr 21.72 260 P 01 24 40.6 -0.4
CMAR Chiang Mai Arr 21.72 260 P P 01 24 42.6 +1.6
comp=Z,28nm,1.1s,baz=65,slow=8.2,SNR=62
CMAR PcP PcP 01 28 42.5 +0.6
comp=Z,0.8nm,0.5s,baz=56,slow=2.3,SNR=4.3
CMAR LR LR 01 33 38.0
comp=Z,348nm,18.9s,baz=85,slow=38
comp=Z,28nm,1.1s
CMAR Chiang Mai Arr 21.72 260 iP P 01 24 43.5 +2.5
CMAR pmax pmax
comp=Z,30nm,1.1s
MDJ Mudanjiang 21.91 16 P P 01 24 41.6 -1.2
MDJ pmax pmax
comp=Z,20nm,1.2s
MDJ LR LR
comp=Z,1μm,14.7s
MDJ LR LR
comp=Z,2μm,14.1s
USRK Ussuriysk Ar. 22.20 20 P P 01 24 45.5 -0.4
comp=Z,4.2nm,0.6s,baz=206,slow=8.3,SNR=10
USRK LR LR 01 33 48.4
comp=Z,304nm,18.7s,baz=198,slow=38
comp=Z,4.2nm,0.6s
TOLI2 Tolitoli 22.43 182 P P 01 24 48.5 -0.2
BNX BinXian 22.53 11⇓P P 01 24 47.5 -1.9
BNX PcP PcP 01 28 43.2 +0.2
BNX S S 01 28 57.4 +1.2
BNX pmax pmax

BNX pmax pmax
comp=Z,5.0nm,1.4s
BNX LR LR
comp=Z,110nm,3.9s
BNX LR LR
comp=Z,340nm,10.3s
BNX LR LR
comp=Z,350nm,11.8s
BNX LR LR
comp=Z,280nm,9.6s
SBUM Sibu 22.95 205 P P **01 24 53.3 -0.7**
GTA Gaotai 24.19 316 *e*P P **01 25 07.0 +0.7**
GTA pP pP 01 25 10.7 +0.6
GTA S S **01 29 31.9 +7.5**
GTA pmax pmax
comp=Z,13nm,1.6s
GTA pmax pmax
comp=Z,480nm,8.0s
GTA LR LR
comp=Z,2µm,10.8s
GTA LR LR
comp=Z,2µm,13.9s
GTA LR LR
comp=Z,2µm,13.9s
GUMO Guam 24.22 110 LR LR 01 33 55.8
comp=Z,283nm,19.8s,baz=273,slow=35
LUWI Luwuk 24.59 177 P P **01 25 13.7 +3.8**
comp=Z,3µmcomp=Z,130nm,1.1s
KSM Kuching 24.61 208 P P **01 25 09.8 -0.3**
KSM IAmb IAmb 01 25 14.5
comp=Z,46nm,1.1s
ERM Erimo 25.65 39 P P **01 25 19.0 -0.3**
ERM Erimo 25.65 39*ce*P P **01 25 19.8 +0.5**
ERM pmax pmax
comp=Z,35nm,1.7s
GOMU GeErMu 26.23 305 P P **01 25 26.2 +1.1**
GOMU pP sP 01 25 30.8 +0.3
GOMU sP pP 01 25 35.2 +6.3
GOMU pmax pmax
comp=Z,14nm,1.2s
GOMU LR LR
comp=Z,1µm,8.9s
GOMU LR LR
comp=Z,970nm,8.3s
GOMU LR LR
comp=Z,1µm,8.4s
ASAJ Asahikawa 26.71 35 LR LR 01 36 50.0
comp=Z,425nm,19.7s,baz=198,slow=38
ULN Ulaanbaatar 26.77 338 P P **01 25 28.7 -0.9**
ULN Ulaanbaatar 26.77 338*de*P P **01 25 29.9 +0.3**
ULN pmax pmax
comp=Z,20nm,1.3s
HEH HeiHe 26.93 8 *e*P P **01 25 30.4 -0.4**
HEH pP pP **01 25 35.0 +0.3**
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,230nm,4.8s
HEH LR LR
comp=Z,1µm,12.9s
HEH LR LR
comp=Z,550nm,13.6s
HEH LR LR
comp=Z,1µm,15.8s
SONM Songino Array 26.98 337 P P **01 25 31.5 +0.1**
comp=Z,11nm,1.0s,baz=160,slow=8.5,SNR=27
SONM LR LR 01 37 26.2
comp=Z,1µm,19.3s,baz=144,slow=39
comp=Z,11nm,1.0s
SHL Shillong 27.02 280 P P **01 25 32.5 +0.4**
SHL IAmb IAmb 01 25 36.1
comp=Z,56nm,1.1s
SHL Shillong 27.02 280 P P **01 25 32.5 +0.4**
SHL pmax pmax
comp=Z,56nm,1.1s
BRDH Bariadhala 27.50 274 LR LR 01 38 16.9
comp=Z,73nm,21.1s,baz=134,slow=40
LSA Lhasa 27.78 289 P P **01 25 40.6 +1.4**
LSA LR LR
comp=Z,320nm,7.6s
LSA LR LR
comp=Z,700nm,11.0s
KAPI Kappang 28.56 184 LR LR 01 37 18.2
comp=Z,310nm,21.5s,baz=354,slow=37
KAPI Kappang 28.56 184 P P **01 25 41.9 -3.8**
YSS Yuzhno-Sakhali 28.79 31 *e*P P **01 25 51.7 +4.2**
YSS *e*S S **01 30 40.3 +3.5**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,200nm,17.0s
PSI Prapat 30.16 230 LR LR 01 38 43.0
comp=Z,182nm,18.7s,baz=54,slow=38
PSI Prapat 30.16 230 P P **01 26 00.5 +0.5**
PSI pmax pmax
comp=Z,14nm,1.0s
RPSI Rantau Prapat 30.23 230 P P **01 26 00.5 -0.1**
JAY Jayapura 32.01 142 LR LR 01 36 38.9
comp=Z,630nm,21.0s,baz=1.5,slow=32
SMRI Semarang 32.40 201 P P **01 26 19.9 +0.2**
MDSI Maura Dua 32.71 213 P P **01 26 25.6 +3.2**
comp=Z,28nm,1.4s
BATI Baumata 33.73 176 LR LR 01 41 45.1
comp=Z,192nm,19.2s,baz=346,slow=39
WMQ Urumqi 34.26 314 *e*P P **01 26 36.8 +1.1**
WMQ pmax pmax
comp=Z,34nm,1.1s
WMQ LR LR
comp=Z,1µm,13.1s
WMQ LR LR
comp=Z,1µm,13.1s
WMQ LR LR
comp=Z,500nm,16.3s
YAK Yakutsk 38.75 6 LR LR 01 44 02.9
comp=Z,310nm,20.4s,baz=187,slow=38
MK31 Makanchi Array 38.95 316*ce*P P **01 27 16.1 +0.5**
MKAR Makanchi Array 38.95 316 P P **01 27 16.1 +0.5**
comp=Z,11nm,0.9s,baz=105,slow=9.7,SNR=33
MKAR PcP **PcP** **01 29 25.9 -0.2**
comp=Z,5.1nm,1.0s,baz=102,slow=5.1,SNR=4.3
MKAR LR LR 01 44 54.4
comp=Z,546nm,19.3s,baz=153,slow=39
comp=Z,11nm,0.9s
MKAR Makanchi Array 38.95 316 *i* P P **01 27 16.1 +0.5**
MKAR pmax pmax
comp=Z,12nm,0.9s
SHLS Shalkode 39.65 310 *e*P P **01 27 19.4 -2.3**
SHLS Shalkode 39.65 310 *e*P P **01 27 19.5 -2.3**
UZB Uzynbulak 39.96 310 *e*P P **01 27 24.4 +0.2**
UZB Uzynbulak 39.96 310 *e*P P **01 27 24.5 +0.2**
PETK Petropavlovsk- 40.11 34 P P **01 27 24.5 -0.6**
comp=Z,1.7nm,0.8s,baz=232,slow=4.7,SNR=2.0
PETK LR LR 01 43 54.0
comp=Z,175nm,21.9s,baz=238,slow=36
comp=Z,1.7nm,0.8s
PRZ Przheval'sk 40.24 308 P P **01 27 28.4 +1.8**
PRZ Przheval'sk 40.24 308 P P **01 27 28.4 +1.8**
PRZ pmax pmax
comp=Z,16nm,1.1s
SATY Saty 40.38 309 *e*P P **01 27 27.9 +0.2**
SATY Saty 40.38 309 *e*P P **01 27 27.9 +0.2**
PET Petropavlovsk 40.55 34 P P **01 27 29.2 +0.4**
PET Petropavlovsk 40.55 34‖ *e*P P **01 27 30.4 +1.6**
PET pmax pmax
comp=Z,30nm,1.4s
PET Petropavlovsk 40.55 34 P P **01 27 29.2 +0.4**
comp=Z,22nm,1.4s
ZALV Zalesovo Beam 40.86 327 P P **01 27 30.8 -0.6**
comp=Z,18nm,0.9s,baz=114,slow=7.2,SNR=22
ZALV PcP **PcP** **01 29 30.5 -1.4**
comp=Z,1.0nm,0.4s,baz=123,slow=3.4,SNR=2.7
ZALV LR LR 01 45 38.5
comp=Z,584nm,18.5s,baz=126,slow=38
comp=Z,18nm,0.9s
ZALV Zalesovo Beam 40.86 327 *i* P P **01 27 30.7 -0.7**
ZALV pmax pmax
comp=Z,18nm,0.9s
TDK Taldyqorghan 40.90 312 *e*P P **01 27 32.1 +0.3**
TDK pmax pmax
comp=Z,13nm,0.7s
TDK Taldyqorghan 40.90 312 *e*P P **01 27 32.1 +0.3**
comp=Z,13nm,0.7s
KDJ Kajisay 41.04 308 P P **01 27 33.5 +0.2**
KDJ Kajisay 41.04 308 P P **01 27 33.5 +0.2**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
PMG Port Moresby 41.31 140 LR LR 01 44 12.0
comp=Z,238nm,18.4s,baz=324,slow=36
MA2 Magadan 41.33 22 LR LR 01 45 47.4
comp=Z,292nm,18.7s,baz=258,slow=38
TNSS Tian-Shan 41.41 309 *e*P P **01 27 36.4 -0.1**
TNSS Tian-Shan 41.41 309 *e*P P **01 27 36.4 -0.1**
KSH Kashi 41.47 303 P P **01 27 40.4 +3.7**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH LR LR
comp=Z,770nm,13.5s
KSH LR LR
comp=Z,510nm,14.3s
KSH LR LR
comp=Z,660nm,21.3s
AAA Alma-Ata 41.47 309 *e*P P **01 27 37.0 +0.4**
AAA Alma-Ata 41.47 309 *e*P P **01 27 37.0 +0.4**
WAKE Wake Island 42.06 87 P P **01 27 42.4 +0.7**
H11N1 WAKE ISLAND Hy 42.18 86 T T 02 12 38.1
baz=283,slow=74,SNR=917
H11N2 WAKE ISLAND Hy 42.18 86 T T 02 12 38.1
baz=283,slow=74,SNR=702
H11N3 WAKE ISLAND Hy 42.19 86 T T 02 12 39.3
baz=283,slow=74,SNR=867
H11S3 WAKE ISLAND Hy 42.29 88 T T 02 12 47.2
baz=284,slow=75,SNR=1517
H11S1 WAKE ISLAND Hy 42.30 88 T T 02 12 47.9
baz=284,slow=75,SNR=613
H11S2 WAKE ISLAND Hy 42.31 88 T T 02 12 49.2
baz=284,slow=75,SNR=446
PALK Pallekele 42.42 254 LR LR 01 46 19.0
comp=Z,163nm,19.7s,baz=55,slow=37
KURK Kurchatov 42.71 320 P P **01 27 46.3 -0.2**
KURK Kurchatov 42.71 320*ce*P P **01 27 46.3 -0.2**
KURK pmax pmax
comp=Z,19nm,1.2s
KURBB Kurchatov Arra 42.72 320 P P **01 27 47.0 +0.4**
comp=Z,9.5nm,1.0s,baz=116,slow=7.5,SNR=23
KURBB LR LR 01 46 44.5
comp=Z,272nm,18.5s,baz=176,slow=38
comp=Z,9.5nm,1.0s
COEN Coen 42.95 148 P P **01 27 49.0 +0.1**
AAK Ala-Archa 43.09 308 P P **01 27 50.4 +0.4**
AAK Ala-Archa 43.09 308 LR LR 01 47 48.3
comp=Z,285nm,19.0s,baz=94,slow=39
AAK Ala-Archa 43.09 308 P P **01 27 50.4 +0.4**
AAK pmax pmax
comp=Z,7.0nm,1.1s
BTLS Baital 43.90 311 *e*P P **01 27 56.6 +0.4**
BTLS Baital 43.90 311 *e*P P **01 27 56.7 +0.4**
ARSB Arslanbob 43.99 306 P P **01 27 57.4 +0.2**
ARSB Arslanbob 43.99 306 P P **01 27 57.4 +0.2**
ARSB pmax pmax
comp=Z,15nm,1.2s
PSA00 Pilbara Seismi 45.00 182 P P **01 28 04.0 -1.2**
PSA00 Pilbara Seismi 45.00 182 P P **01 28 03.5 -1.7**
PSA00 IAmb IAmb 01 28 11.3
comp=Z,27nm,1.4s
WRAB Tennant Creek 45.09 163 P P **01 28 03.9 -2.1**
WRAB IAmb IAmb 01 28 06.3
comp=Z,32nm,1.4s
WRAB Tennant Creek 45.09 163 P P **01 28 03.9 -2.1**
WRAB pmax pmax
comp=Z,32nm,1.5s
WRA Warramunga Arr 45.10 163 P P **01 28 04.2 -1.9**
comp=Z,6.7nm,0.9s,baz=344,slow=8.7,SNR=15
WRA LR LR 01 49 08.9
comp=Z,97nm,18.9s,baz=2.0,slow=39
comp=Z,6.7nm,0.9s
WRA Warramunga Arr 45.10 163 *i* P P **01 28 04.1 -1.9**
WRA pmax pmax
comp=Z,5.0nm,0.6s
DZA Taraz 45.43 308 *e*P P **01 28 08.7 +0.2**
DZA Taraz 45.43 308 *e*P P **01 28 08.8 +0.2**
GAR Garm 45.78 302 P P **01 28 11.7 +0.2**
GAR IAmb IAmb 01 28 14.2
comp=Z,40nm,1.3s
BRZS Berezniki 46.05 318 *e*P P **01 28 13.4 +0.1**
BRZS Berezniki 46.05 318 *e*P P **01 28 13.4 +0.1**
IUG Iuzhnay 46.28 306 *e*P P **01 28 15.7 +0.3**
IUG pmax pmax
comp=Z,15nm,1.1s
IUG Iuzhnay 46.28 306 *e*P P **01 28 15.7 +0.3**
comp=Z,15nm,1.1s
BRLS Boroldav 46.54 308 *e*P P **01 28 18.3 +1.0**
BRLS Boroldav 46.54 308 *e*P P **01 28 18.3 +1.0**
SIMJ Simiganj 46.78 301 P P **01 28 19.3 -0.1**
TIXI Tiksi 48.19 3 LR LR 01 50 29.5
comp=Z,558nm,19.5s,baz=196,slow=38
TIXI Tiksi 48.19 3‖ *e*P P **01 28 28.9 -0.7**
TIXI pmax pmax
comp=Z,37nm,1.5s
BVAR Borovoye Array 48.29 321 P P **01 28 30.7 -0.1**
comp=Z,3.3nm,0.7s,baz=106,slow=10.0,SNR=12
BVAR PcP **PcP** **01 29 57.0 -0.5**
comp=Z,3.5nm,0.8s,baz=106,slow=3.2,SNR=5.0
BVAR LR LR 01 48 19.5
comp=Z,113nm,20.7s,baz=110,slow=35
comp=Z,3.3nm,0.7s
BRVK Borovoye 48.36 321 P P **01 28 30.6 -0.6**
BRVK PcP **PcP** **01 29 57.1 -0.6**
BRVK Borovoye 48.36 321 P P **01 28 30.6 -0.6**
BRVK 01 29 57.2
BRVK pmax pmax
comp=Z,12nm,1.0s
ASAR Alice Springs 48.55 165 P P **01 28 32.2 -0.9**
comp=Z,4.0nm,0.8s,baz=345,slow=5.7,SNR=16
ASAR LR LR 01 50 29.0
comp=Z,130nm,19.0s,baz=340,slow=38
comp=Z,4.0nm,0.8s
SHEM Shemya Is, Ala 49.01 40 LR LR 01 49 52.5
comp=Z,45nm,20.5s,baz=108,slow=37
HNR Honiara 49.90 127 LR LR 01 47 57.2
comp=Z,165nm,20.6s,baz=265,slow=34
AMKA Amchitka 51.85 42 P P **01 28 57.9 +0.2**
BILL Bilibino 52.05 20‖ *e*P P **01 29 00.1 +1.1**
BILL pmax pmax
comp=Z,17nm,1.0s
FORT Forrest 54.49 173 P P **01 29 17.5 +0.1**
AKTO Aktyubinsk 55.38 316 P P **01 29 23.3 -0.4**
comp=Z,4.2nm,1.1s,baz=89,slow=7.7,SNR=4.3
AKTO LR LR 01 54 48.6
comp=Z,401nm,19.1s,baz=88,slow=38
comp=Z,4.2nm,1.1s
ARTI Arti 55.82 323 P P **01 29 26.0 -0.7**
ARTI Arti 55.82 323 P P **01 29 25.6 -1.1**
comp=Z,5.3nm,0.7s,baz=88,slow=4.6,SNR=7.3
ARTI LR LR 01 55 38.6
comp=Z,203nm,18.5s,baz=66,slow=38
comp=Z,5.3nm,0.7s
ARTI Arti 55.82 323*c i*P P **01 29 26.1 -0.6**
ARTI 01 30 23.2
ARTI 01 31 32.1
ARTI S S **01 37 14.5 +1.1**
ARTI SS SS **01 40 52.5 -6.3**
ARTI pmax pmax
comp=Z,15nm,1.6s
NWAO Narrogin (SRO) 56.43 184 LR LR 01 57 44.1
comp=Z,38nm,18.3s,baz=5.0,slow=40
BBOO Buckleboo 57.84 166 P P **01 29 40.8 -0.5**
BBOO IAmb IAmb 01 29 45.8
comp=Z,40nm,1.3s
STKA Stephens Creek 58.46 160 P P **01 29 44.7 -0.9**
comp=Z,4.5nm,0.6s,baz=335,slow=7.3,SNR=12
STKA LR LR 01 54 58.4
comp=Z,101nm,21.6s,baz=22,slow=36
comp=Z,4.5nm,0.6s
P08K Saint George I 58.99 37 P P **01 29 49.1 0.0**
baz=266
KIRV Kirov 60.84 325 P P **01 30 00.7 -1.0**
comp=Z,8.2nm,0.8s,baz=124,slow=4.5,SNR=4.3
KIRV LR LR 01 59 04.8
comp=Z,287nm,18.9s,baz=90,slow=39
comp=Z,8.2nm,0.8s
KIRV Kirov 60.84 325‖ *e*P P **01 30 01.2 -0.5**
M11K Mekoryuk 60.97 33 P P **01 30 03.1 +0.5**
baz=267
F14K Arctic Creek 61.30 27 P P **01 30 05.4 +0.6**
baz=264
K13K Kusilvak Mount 61.79 31 P P **01 30 08.2 +0.1**
K13K IAmb IAmb 01 30 11.7
comp=Z,33nm,1.1s
K13K Kusilvak Mount 61.79 31 P P **01 30 08.2 +0.1**
baz=268,SNR=7.0
C16K Lisburne Hills 61.99 24 P P **01 30 08.9 -0.5**
baz=264
F15K North Star Dit 62.02 27 P P **01 30 09.9 +0.3**
F15K IAmb IAmb 01 30 15.1
comp=Z,37nm,1.3s
F15K North Star Dit 62.02 27 P P **01 30 10.1 +0.5**
baz=266
G15K Niukluk 62.22 28 P P **01 30 11.3 +0.3**
baz=266
J14K Nanvaranak Lak 62.33 30 P P **01 30 11.8 +0.1**
J14K Nanvaranak Lak 62.33 30 P P **01 30 12.1 +0.3**
baz=268,SNR=6.7
M13K Dall Lake 62.38 33 P P **01 30 12.8 +0.7**
baz=270
L14K Kuka Creek 62.72 32 P P **01 30 14.9 +0.5**
L14K Kuka Creek 62.72 32 P P **01 30 14.8 +0.5**
baz=270,SNR=16
D17K Noatak River 62.78 25 P P **01 30 14.5 -0.2**
baz=266,SNR=8.1
C17K DeLong Mountai 62.80 24 P P **01 30 15.3 +0.4**
baz=266
MAK Makhachkala 62.87 308 *e*P P **01 30 12.0 -3.7**
MAK *e*S **S** **01 38 40.1 -5.0**
MAK *e*SS **SS** **01 42 46.6 -3.4**
MAK *e*SSS SSS 01 45 37.8
MAK MLR MLR
comp=Z,318nm,16.0s
H16K Elim 62.98 28 P P **01 30 16.2 +0.2**
baz=268
DZM Mont Dzumac 63.03 133 *e*LR LR 01 49 02.4
comp=Z,548nm,24.9s
DZM Mont Dzumac 63.03 133 LR LR 01 52 40.3
comp=Z,200nm,21.7s,baz=359,slow=31
M14K Bethel 63.07 32 P P **01 30 17.4 +0.8**
M14K IAmb IAmb 01 30 20.0
comp=Z,32nm,1.1s
M14K Bethel 63.07 32 P P **01 30 17.0 +0.4**
baz=271
S12K Black Hills 63.18 38 P P **01 30 17.2 -0.4**
baz=273
N14K Kuskokwak Cree 63.22 33 P P **01 30 17.8 +0.2**
baz=271
E17K Hotham Inlet 63.23 25 P P **01 30 18.1 +0.4**
baz=268,SNR=10
K15K Wolf Creek Mou 63.26 31 P P **01 30 18.3 +0.3**
K15K Wolf Creek Mou 63.26 31 P P **01 30 18.7 +0.7**
baz=270,SNR=12
L15K Ungalak Mounta 63.29 31 P P **01 30 18.2 0.0**
baz=271
SEKA Sheki 63.35 306 P P **01 30 23.2 +4.1**
B18K Kokolik River 63.37 23 P P **01 30 18.5 -0.1**
baz=266
F17K Baldwin Pennin 63.44 26 IAmb IAmb 01 30 22.4
comp=Z,19nm,1.0s
F17K Baldwin Pennin 63.44 26 P P **01 30 19.6 +0.5**
baz=268
O14K Tigyukauivet M 63.45 34 P P **01 30 18.7 -0.6**
baz=272
MNGR Mingechevir, A 63.51 305 P P **01 30 24.7 +4.7**
C18K Utukok River 63.54 24 IAmb IAmb 01 30 21.1
comp=Z,17nm,1.2s
C18K Utukok River 63.54 24 P P **01 30 19.5 -0.4**
baz=267
I17K Unalakleet 63.64 29 P P **01 30 21.0 +0.6**
baz=270
G17K Kiwalik Mounta 63.66 27 P P **01 30 20.3 -0.2**
baz=269,SNR=16
A19K Wainwright 63.67 22 P P **01 30 20.9 +0.4**
baz=267
J16K Anvik River 63.68 30 P P **01 30 21.0 +0.3**
baz=270
M15K Kasigluk River 63.69 32 P P **01 30 20.8 0.0**
baz=272,SNR=6.8
E18K Tukpahlearik C 63.72 25 P P **01 30 20.7 -0.3**
E18K IAmb IAmb 01 30 24.2
comp=Z,10.0nm,0.8s
E18K Tukpahlearik C 63.72 25 P P **01 30 21.1 +0.1**
baz=268,SNR=9.5
H17K Granite Mounta 63.97 28 P P **01 30 22.6 0.0**
H17K Granite Mounta 63.97 28 P P **01 30 23.1 +0.5**
baz=270,SNR=15
N15K Kwethluk River 64.01 33 P P **01 30 22.5 -0.5**
baz=272,SNR=7.5
F18K Selawik 64.08 26 P P **01 30 23.6 +0.3**
baz=270
GANJ Ganja 64.10 305 P P 01 30 29.3 +5.3
SDPT Sand Point 64.10 38 P P **01 30 23.6 0.0**
baz=275
C19K Lookout Ridge 64.14 23 IAmb IAmb 01 30 25.4
comp=Z,32nm,1.4s
C19K Lookout Ridge 64.14 23 P P **01 30 23.5 -0.3**
baz=269
J17K VABM Dome 64.37 29 P P **01 30 25.8 +0.5**
J17K VABM Dome 64.37 29 P P **01 30 25.8 +0.5**
baz=272,SNR=18
G18K Tagagawik 64.49 27 P P **01 30 26.2 +0.2**
G18K IAmb IAmb 01 30 28.2
comp=Z,43nm,1.4s
G18K Tagagawik 64.49 27 P P **01 30 25.6 -0.4**
baz=271,SNR=12
M16K Timber Creek 64.53 32 P P **01 30 26.8 +0.5**
M16K IAmb IAmb 01 30 29.6
comp=Z,33nm,1.1s
M16K Timber Creek 64.53 32 P P **01 30 26.6 +0.2**
baz=273,SNR=12
S14K Fog Glacier 64.54 37 P P **01 30 25.6 -1.0**
baz=275
H18K Honhosa River 64.63 27 P P **01 30 26.8 -0.1**
H18K Honhosa River 64.63 27 P P **01 30 27.3 +0.4**
baz=272,SNR=9.6
N16K Nishlik Lake 64.65 33 P P **01 30 27.9 +0.7**
baz=274,SNR=14
D19K Kuna River 64.67 24 P P **01 30 27.4 +0.2**
D19K Kuna River 64.67 24 P P **01 30 27.4 +0.2**
baz=270,SNR=20
K17K Iditarod 64.75 30 P P **01 30 28.2 +0.5**
K17K Iditarod 64.75 30 P P **01 30 28.3 +0.5**
baz=273,SNR=14
L17K Donlin 64.78 31 P P **01 30 28.7 +0.7**
baz=273,SNR=18
F19K Shaleruckik Mo 64.83 26 IAmb IAmb 01 30 30.2
comp=Z,38nm,1.4s
F19K Shaleruckik Mo 64.83 26 P P **01 30 27.9 -0.3**
baz=271
NAX Nakhchivan 64.99 304 P P **01 30 34.5 +4.6**
B20K Meade River 65.00 22 P P **01 30 29.6 +0.4**
baz=270
E19K Redstone River 65.02 25 IAmb IAmb 01 30 31.1
comp=Z,28nm,1.2s
E19K Redstone River 65.02 25 P P **01 30 29.8 +0.3**
baz=272,SNR=15
O16K Kokwok River B 65.05 34 IAmb IAmb 01 30 31.7
comp=Z,33nm,1.2s
O16K Kokwok River B 65.05 34 P P **01 30 30.1 +0.4**
baz=274,SNR=5.9
G19K Purcell Mounta 65.12 26 IAmb IAmb 01 30 32.4
comp=Z,29nm,1.2s
G19K Purcell Mounta 65.12 26 P P **01 30 30.4 +0.3**
baz=272,SNR=14
P16K Nushagak River 65.15 34 P P **01 30 30.1 -0.3**
baz=275
A21K Barrow 65.17 21 P P **01 30 30.3 0.0**
baz=270
D20K Etivluk River 65.22 23 P P **01 30 31.1 +0.3**
baz=272,SNR=14
M17K Holitna River 65.24 32 P P **01 30 32.0 +1.0**
baz=274,SNR=11
GNI Garni 65.38 305 LR LR 02 02 31.9
comp=Z,133nm,20.4s,baz=92,slow=39
E20K Nigu River 65.39 24 P P **01 30 32.2 +0.2**
baz=272,SNR=28
H19K Roundabout Mou 65.41 27 P P **01 30 32.8 +0.8**
baz=273,SNR=46
J18K Innoko River 65.43 29 P P **01 30 31.0 -1.2**
J18K Innoko River 65.43 29 P P **01 30 32.4 +0.2**
baz=274,SNR=9.9
N17K Nushagak Hills 65.43 33 P P **01 30 33.0 +0.8**
N17K IAmb IAmb 01 30 36.0
comp=Z,36nm,1.2s
N17K Nushagak Hills 65.43 33 P P **01 30 32.8 +0.6**
baz=275,SNR=9.5
R16K Pilot Point 65.50 36 P P **01 30 32.7 0.0**
baz=276
L18K Granite Mounta 65.53 31 P P **01 30 33.5 +0.7**
L18K Granite Mounta 65.53 31 P P **01 30 33.5 +0.7**
baz=274,SNR=17
O17K Koliganek Bris 65.54 33 P P **01 30 33.2 +0.3**
baz=275
F20K Avaraart Lake 65.62 25 IAmb IAmb 01 30 35.9
comp=Z,24nm,1.2s

F20K	**Avaraart Lake**	**65.62**	**25**	P		**P**		**01 30 33.6**	**+0.3**
	baz=273								
VRH	**Novokhopyorsk**	**65.67**	**317**	*e*P		**P**		**01 30 31.8**	**-2.1**
VRH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KLMR	**Klimovskoe**	**65.78**	**328**	*e*P		**P**		**01 30 32.0**	**-2.5**
KLMR				pmax		pmax			
	comp=Z,27nm,1.6s								
KLMR				MLR		MLR			
	comp=Z,406nm,14.0s								
C21K	**Knifeblade Rid**	**65.86**	**23**	P		**P**		**01 30 35.1**	**+0.2**
	baz=273,SNR=11								
J19K	**Poorman**	**65.87**	**29**	P		**P**		**01 30 35.4**	**+0.4**
	baz=275,SNR=31								
Q16K	**King Salmon**	**65.87**	**35**	P		**P**		**01 30 35.2**	**+0.1**
	baz=276								
B21K	**Ikpikpuk River**	**65.90**	**22**	P		**P**		**01 30 35.7**	**+0.6**
	baz=273,SNR=5.7								
P17K	**Kvichak River**	**65.93**	**34**	P		**P**		**01 30 35.7**	**+0.3**
	baz=276								
M18K	**Stony River**	**66.00**	**31**	P		**P**		**01 30 36.5**	**+0.6**
	baz=276,SNR=8.8								
N18K	**Kilae Creek**	**66.05**	**32**			**P**		**01 30 37.0**	**+0.7**
N18K				IAmb		IAmb		01 30 39.3	
	comp=Z,28nm,1.2s								
N18K	**Kilae Creek**	**66.05**	**32**	P		**P**		**01 30 36.8**	**+0.5**
	baz=276,SNR=7.0								
H20K	**Anotlenegea Mo**	**66.07**	**27**	P		**P**		**01 30 36.8**	**+0.5**
	baz=275,SNR=18								
KBZ	**Khabaz**	**66.07**	**309**	P		**P**		**01 30 37.5**	**+0.9**
	comp=Z,9.3nm,1.1s,baz=167,slow=4.7,SNR=7.0								
KBZ				LR		LR		02 04 01.5	
	comp=Z,174nm,18.8s,baz=90,slow=40								
	comp=Z,9.3nm,1.1s								
KBZ	**Khabaz**	**66.07**	**309**	⇓*e*P		**P**		**01 30 37.2**	**+0.6**
R17L	**Mt. Peulik Vol**	**66.15**	**36**	P		**P**		**01 30 37.2**	**+0.3**
	baz=277								
KVAR	**Kislovodsk Arr**	**66.17**	**309**	LR		LR		02 04 17.4	
	comp=Z,102nm,18.1s,baz=236,slow=40								
KIV	**Kislovodsk**	**66.18**	**309**			**P**		**01 30 37.7**	**+0.2**
KIV				IAmb		IAmb		01 30 45.3	
	comp=Z,22nm,0.8s								
KIV	**Kislovodsk**	**66.18**	**309**	⇓P		**P**		**01 30 38.6**	**+1.1**
KIV	**Kislovodsk**	**66.18**	**309**	*e*P		**P**		**01 30 38.0**	**+0.5**
KIV				*e*S		**S**		**01 39 27.6**	**+1.4**
KIV								01 46 40.2	
KIV				pmax		pmax			
	comp=Z,21nm,1.1s								
KIV				MLR		MLR			
	comp=Z,84nm,17.0s								
KIV	**Kislovodsk**	**66.18**	**309**	P		**P**		**01 30 37.7**	**+0.2**
	comp=Z,23nm,1.2s								
E21K	**Killik River**	**66.20**	**24**	P		**P**		**01 30 37.0**	**-0.1**
	baz=274								
B22K	**Teshekpuk Lake**	**66.27**	**22**	P		**P**		**01 30 37.6**	**+0.2**
	baz=274								
I20K	**Naaghedeneel**	**66.30**	**28**	P		**P**		**01 30 38.8**	**+1.1**
	baz=275,SNR=17								
Q17K	**Contact Creek**	**66.32**	**35**	P		**P**		**01 30 37.5**	**-0.7**
	baz=277,SNR=6.4								
L19K	**White Mountain**	**66.39**	**31**	P		**P**		**01 30 39.0**	**+0.5**
	baz=276,SNR=22								
O18K	**Koktuh Hills**	**66.48**	**33**	IAmb		IAmb		01 30 42.6	
	comp=Z,33nm,1.1s								
O18K	**Koktuh Hills**	**66.48**	**33**	P		**P**		**01 30 40.0**	**+1.0**
	baz=277,SNR=7.7								
F21K	**Alatna River**	**66.48**	**25**	IAmb		IAmb		01 30 41.0	
	comp=Z,20nm,1.2s								
F21K	**Alatna River**	**66.48**	**25**	P		**P**		**01 30 39.0**	**+0.1**
	baz=275,SNR=19								
J20K	**Nowinta River**	**66.50**	**28**	P		**P**		**01 30 40.1**	**+1.1**
	baz=276,SNR=24								
P18K	**Big Mountain,**	**66.52**	**34**	P		**P**		**01 30 39.7**	**+0.4**
	baz=277,SNR=6.1								
G21K	**Allakaket**	**66.54**	**26**	P		**P**		**01 30 39.9**	**+0.6**
	baz=275,SNR=42								
ACHA	**Angle Creek He**	**66.62**	**35**	IAmb		IAmb		01 30 43.3	
	comp=Z,26nm,1.1s								
K20K	**Telida**	**66.62**	**29**	P		**P**		**01 30 40.8**	**+1.0**
	baz=276,SNR=21								
D22K	**Ayikyak River**	**66.64**	**23**	P		**P**		**01 30 40.5**	**+0.6**
	baz=275,SNR=16								
M19K	**Big River Lodg**	**66.64**	**31**	P		**P**		**01 30 41.1**	**+1.1**
	baz=277,SNR=14								
N19K	**Bonanza Creek**	**66.72**	**32**	IAmb		IAmb		01 30 42.8	
	comp=Z,34nm,1.3s								
N19K	**Bonanza Creek**	**66.72**	**32**	P		**P**		**01 30 41.3**	**+0.7**
	baz=277,SNR=6.5								
Q18K	**Katmai Hardscr**	**66.73**	**34**	P		**P**		**01 30 41.1**	**+0.4**
	baz=278								
L20K	**Farewell, AK**	**66.81**	**30**	P		**P**		**01 30 41.9**	**+0.8**
	baz=277,SNR=18								
H21K	**Melozitna Rive**	**66.91**	**27**	P		**P**		**01 30 42.5**	**+0.8**
	baz=276,SNR=54								
F22K	**John River**	**66.96**	**25**	P		**P**		**01 30 42.8**	**+0.8**
	baz=276								
E22K	**Anaktuvuk Pass**	**67.03**	**24**	P		**P**		**01 30 42.9**	**+0.5**
	baz=276								
LPSR	**Galich'ya Gora**	**67.17**	**319**	*e*P		**P**		**01 30 40.2**	**-3.3**
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
R18K	**Karluk**	**67.17**	**36**	P		**P**		**01 30 43.8**	**+0.4**
	baz=278								
M20K	**Styx River**	**67.23**	**31**	P		**P**		**01 30 44.1**	**+0.3**
	baz=278								
VSR	**Storozhevoye**	**67.25**	**317**	*e*P		P		01 30 38.8	-5.2
VSR				pmax		pmax			
	comp=Z,6.0nm,1.1s								
C23K	**Itkillik River**	**67.27**	**22**	IAmb		IAmb		01 30 46.2	
	comp=Z,18nm,1.0s								
C23K	**Itkillik River**	**67.27**	**22**	P		**P**		**01 30 44.2**	**+0.4**
	baz=277,SNR=10.0								
I21K	**Tanana**	**67.31**	**27**	P		**P**		**01 30 44.9**	**+0.8**
	baz=277								
D23K	**Nanushuk River**	**67.35**	**23**	P		**P**		**01 30 44.6**	**+0.3**
	baz=277								
Q19K	**Cape Douglas,**	**67.40**	**34**	P		**P**		**01 30 45.3**	**+0.4**
	baz=278								
MOS	**Moscow**	**67.42**	**322**	*e*P		**P**		**01 30 43.5**	**-1.5**
MOS				*e*				01 33 12.3	
H22K	**Ishtalitna Cre**	**67.47**	**26**	P		**P**		**01 30 46.1**	**+0.9**
	baz=278,SNR=71								
P19K	**Oil Pt**	**67.50**	**33**	P		**P**		**01 30 45.6**	**+0.1**
	baz=278								
O20K	**Slope Mountain**	**67.74**	**33**	P		**P**		**01 30 46.9**	**-0.2**
	baz=279								
N20K	**Mount Spurr**	**67.77**	**31**	P		**P**		**01 30 47.4**	**+0.2**
	baz=279,SNR=7.5								
SPCR	**Spurr Chakacha**	**67.77**	**31**	P		**P**		**01 30 47.3**	**+0.1**
	baz=279								
TOLK	**Toolik Lake Re**	**67.79**	**23**	IAmb		IAmb		01 30 48.9	
	comp=Z,41nm,1.4s								
TOLK	**Toolik Lake Re**	**67.79**	**23**	P		**P**		**01 30 47.8**	**+0.5**
	baz=278,SNR=12								
SPU	**Mount Spurr**	**67.84**	**31**	IAmb		IAmb		01 30 49.6	
	comp=Z,39nm,1.3s								
OHAK	**Old Harbor**	**67.85**	**36**	P		**P**		**01 30 47.4**	**-0.3**
OHAK				IAmb		IAmb		01 30 53.5	
	comp=Z,25nm,1.2s								
OHAK	**Old Harbor**	**67.85**	**36**	P		**P**		**01 30 47.4**	**-0.3**
	baz=280								
E23K	**Chandalar**	**67.86**	**24**	IAmb		IAmb		01 30 50.3	
	comp=Z,31nm,1.1s								
E23K	**Chandalar**	**67.86**	**24**	P		**P**		**01 30 48.2**	**+0.5**
	baz=278,SNR=26								
G23K	**Bananza Creek**	**67.90**	**25**	IAmb		IAmb		01 30 50.5	
	comp=Z,36nm,1.1s								
G23K	**Bananza Creek**	**67.90**	**25**	P		**P**		**01 30 48.3**	**+0.4**
	baz=278,SNR=49								
STLK	**Strandline Lak**	**67.90**	**31**	IAmb		IAmb		01 30 49.8	
	comp=Z,24nm,1.5s								
C24K	**Franklin Bluff**	**67.94**	**22**	P		**P**		**01 30 48.4**	**+0.3**
	baz=278								
D24K	**Happy Valley**	**67.98**	**23**	IAmb		IAmb		01 30 50.7	
	comp=Z,38nm,1.2s								
D24K	**Happy Valley**	**67.98**	**23**	P		**P**		**01 30 49.0**	**+0.6**
	baz=278,SNR=10								
Q20K	**Shuyak Island**	**68.09**	**34**	P		**P**		**01 30 49.0**	**-0.2**
	baz=280								
OBN	**Obninsk**	**68.12**	**322**	*e*P		**P**		**01 30 49.1**	**-0.3**
OBN				*e*'PP		**pP**		**01 30 53.0**	**-0.5**
OBN				*e*'SP		**sP**		**01 30 55.6**	**+0.6**
OBN				*e*				01 31 15.0	
OBN				*e*				01 33 16.5	
OBN				*e*PPP		PPP		01 34 57.7	
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,141nm,18.0s								
KDAK	**Kodiak Island**	**68.13**	**35**			**P**		**01 30 49.3**	**-0.1**
KDAK	**Kodiak Island**	**68.13**	**35**	P		**P**		**01 30 49.3**	**-0.1**
KDAK				pmax		pmax			
	comp=Z,104nm,1.4s								
KDAK	**Kodiak Island**	**68.13**	**35**	P		**P**		**01 30 49.1**	**-0.4**
	baz=280								
H23K	**Yukon River**	**68.22**	**26**	P		**P**		**01 30 50.9**	**+0.9**
	baz=279,SNR=82								
E24K	**Your Creek**	**68.27**	**24**	IAmb		IAmb		01 30 52.8	
	comp=Z,31nm,1.1s								
E24K	**Your Creek**	**68.27**	**24**	P		**P**		**01 30 50.7**	**+0.4**
	baz=279								
I23K	**Minto, Yukon-K**	**68.41**	**27**	IAmb		IAmb		01 30 53.7	
	comp=Z,45nm,1.4s								
I23K	**Minto, Yukon-K**	**68.41**	**27**	P		**P**		**01 30 51.7**	**+0.6**
	baz=280,SNR=24								
SUA	**Susitna One**	**68.42**	**31**	P		**P**		**01 30 51.1**	**-0.3**
	baz=280								
F24K	**Squaw Lake**	**68.59**	**24**	IAmb		IAmb		01 30 55.2	
	comp=Z,24nm,0.8s								
F24K	**Squaw Lake**	**68.59**	**24**	P		**P**		**01 30 53.0**	**+0.7**
	baz=280,SNR=46								
M22K	**Willow**	**68.66**	**31**	P		**P**		**01 30 53.1**	**+0.4**
	baz=280								
D25K	**Kavik River**	**68.82**	**22**	IAmb		IAmb		01 30 55.7	
	comp=Z,29nm,1.1s								
D25K	**Kavik River**	**68.82**	**22**	P		**P**		**01 30 53.9**	**+0.2**
	baz=281,SNR=35								
RAYN	**Ar Rayn**	**68.82**	**287**			**P**		**01 30 53.5**	**-1.0**
RAYN				IAmb		IAmb		01 30 59.5	
	comp=Z,15nm,1.2s								
RAYN	**Ar Rayn**	**68.82**	**287**	P		**P**		**01 30 53.5**	**-1.0**
RAYN				pmax		pmax			
	comp=Z,15nm,1.3s								
SLKM	**Skilak Lake**	**68.84**	**32**	IAmb		IAmb		01 30 55.0	
	comp=Z,33nm,1.2s								
G24K	**Hadweenzic Riv**	**68.90**	**25**	IAmb		IAmb		01 30 56.8	
	comp=Z,33nm,1.1s								
G24K	**Hadweenzic Riv**	**68.90**	**25**	P		**P**		**01 30 54.5**	**+0.4**
	baz=281,SNR=35								
H24K	**Noodor Dome**	**68.90**	**26**	P		**P**		**01 30 54.9**	**+0.7**
	baz=281,SNR=52								
MARD	**Mardin**	**69.02**	**303**	IAmb		IAmb		01 31 03.7	
	comp=Z,13nm,0.7s								
O22K	**Cooper Landing**	**69.09**	**32**	P		**P**		**01 30 55.7**	**+0.3**
	baz=281								
COLA	**College**	**69.09**	**27**	P		**P**		**01 30 55.3**	**0.0**
	baz=281								
PMR	**Palmer**	**69.16**	**31**	IAmb		IAmb		01 30 56.5	
	comp=Z,32nm,1.2s								
PMR	**Palmer**	**69.16**	**31**	P		**P**		**01 30 55.3**	**-0.5**
	baz=281,SNR=7.6								
POKR	**Poker Plat Res**	**69.22**	**27**	P		**P**		**01 30 56.2**	**+0.1**
	baz=281,SNR=7.6								
G25K	**Bearman Lake**	**69.42**	**25**	P		**P**		**01 30 58.1**	**+0.7**
	baz=282,SNR=22								
F25K	**Christian Rive**	**69.42**	**24**	IAmb		IAmb		01 31 00.3	
	comp=Z,17nm,0.9s								
F25K	**Christian Rive**	**69.42**	**24**	P		**P**		**01 30 58.5**	**+1.0**
	baz=282,SNR=26								
ILAR	**Eielson Array**	**69.52**	**27**	P		**P**		**01 30 57.1**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=281,slow=5.1,SNR=21								
ILAR				LR		LR		02 03 58.9	
	comp=Z,83nm,18.4s,baz=274,slow=38								
	comp=Z,2.5nm,0.9s								
H25L	**Birch Creek**	**69.64**	**26**	P		**P**		**01 30 59.4**	**+0.7**
	baz=282,SNR=6.5								
C27K	**Jago River**	**69.67**	**22**	IAmb		IAmb		01 31 01.4	
	comp=Z,35nm,1.1s								
C27K	**Jago River**	**69.67**	**22**	P		**P**		**01 30 59.2**	**+0.3**
	baz=283,SNR=27								
F26K	**Shonjek River**	**69.96**	**24**	IAmb		IAmb		01 31 03.5	
	comp=Z,30nm,1.1s								
F26K	**Sheenjek River**	**69.96**	**24**	P		**P**		**01 31 01.4**	**+0.6**
	baz=283,SNR=29								
SPITS	**Spitsbergen Ar**	**70.06**	**348**	LR		LR		02 05 34.9	
	comp=Z,162nm,18.4s,baz=52,slow=39								
ARCES	**ARCESS Array B**	**70.14**	**338**	P		**P**		**01 31 01.7**	**-0.1**
	comp=Z,5.4nm,1.1s,baz=56,slow=7.4,SNR=4.2								
ARCES				LR		LR		02 06 59.0	
	comp=Z,159nm,19.0s,baz=91,slow=40								
	comp=Z,5.4nm,1.1s								
J25K	**Salcha River,**	**70.19**	**27**	P		**P**		**01 31 00.5**	**-1.7**
	baz=283,SNR=11								
K24K	**Donnelly Dome**	**70.20**	**28**	P		**P**		**01 31 01.6**	**-0.7**
	baz=283,SNR=21								
G26K	**Porcupine Rive**	**70.27**	**25**	IAmb		IAmb		01 31 05.4	
	comp=Z,30nm,1.1s								
G26K	**Porcupine Rive**	**70.27**	**25**	P		**P**		**01 31 03.4**	**+0.8**
	baz=284,SNR=31								
P23K	**Montague Islan**	**70.32**	**32**	P		**P**		**01 31 03.1**	**+0.1**
	baz=283,SNR=9.1								
M24K	**Tolsona, Glenn**	**70.42**	**30**	P		**P**		**01 31 04.0**	**+0.3**
	baz=284,SNR=8.9								
D27M	**Malcolm River**	**70.71**	**22**	IAmb		IAmb		01 31 07.7	
	comp=Z,24nm,1.2s								
D27M	**Malcolm River**	**70.71**	**22**	P		**P**		**01 31 05.1**	**-0.2**
	baz=286								
E27K	**Coleen River**	**70.77**	**23**	IAmb		IAmb		01 31 08.1	
	comp=Z,26nm,1.2s								
E27K	**Coleen River**	**70.77**	**23**	P		**P**		**01 31 05.9**	**+0.3**
	baz=285,SNR=19								
HARP	**HAARP**	**70.81**	**29**	P		**P**		**01 31 05.4**	**-0.6**
	baz=284								
I26K	**Coal Creek Min**	**70.93**	**26**	IAmb		IAmb		01 31 08.3	
	comp=Z,36nm,1.2s								
I26K	**Coal Creek Min**	**70.93**	**26**	P		**P**		**01 31 06.3**	**-0.3**
	baz=285								
J26L	**Joseph Creek**	**70.97**	**27**	IAmb		IAmb		01 31 08.2	
	comp=Z,27nm,1.1s								
J26L	**Joseph Creek**	**70.97**	**27**	P		**P**		**01 31 06.4**	**-0.7**
	baz=285,SNR=33								
Q23K	**Middleton Isla**	**70.98**	**33**	P		**P**		**01 31 07.0**	**+0.1**
	baz=284								
G27K	**Doyon Strip**	**71.12**	**25**	IAmb		IAmb		01 31 10.4	
	comp=Z,21nm,1.2s								
G27K	**Doyon Strip**	**71.12**	**25**	P		**P**		**01 31 08.2**	**+0.4**
	baz=286,SNR=27								
N25K	**Chitina, Valde**	**71.27**	**30**	IAmb		IAmb		01 31 11.3	
	comp=Z,33nm,1.2s								
N25K	**Chitina, Valde**	**71.27**	**30**	P		**P**		**01 31 09.6**	**+0.7**
	baz=285,SNR=13								
MENT	**Mentasta**	**71.31**	**29**	IAmb		IAmb		01 31 11.4	
	comp=Z,28nm,1.1s								
H27K	**Steamboat Moun**	**71.33**	**25**	P		**P**		**01 31 09.6**	**+0.5**
	baz=286,SNR=30								
E28M	**Babbage River**	**71.39**	**22**	IAmb		IAmb		01 31 11.6	
	comp=Z,24nm,1.2s								
E28M	**Babbage River**	**71.39**	**22**	P		**P**		**01 31 09.6**	**+0.2**
	baz=287,SNR=19								
D28M	**Stokes Point**	**71.44**	**22**	P		**P**		**01 31 10.1**	**+0.5**
	baz=288								
L26K	**Log Cabin Wild**	**71.45**	**29**	IAmb		IAmb		01 31 12.3	
	comp=Z,26nm,1.1s								
L26K	**Log Cabin Wild**	**71.45**	**29**	P		**P**		**01 31 10.5**	**+0.6**
	baz=286,SNR=7.5								
I27K	**Kandik River**	**71.47**	**26**	P		**P**		**01 31 10.8**	**+0.9**
	baz=286,SNR=28								
F28M	**Old Crow**	**71.56**	**24**	IAmb		IAmb		01 31 12.7	
	comp=Z,29nm,1.1s								
F28M	**Old Crow**	**71.56**	**24**	P		**P**		**01 31 11.1**	**+0.6**
	baz=287,SNR=29								
K27K	**Chicken**	**71.72**	**27**	IAmb		IAmb		01 31 14.0	
	comp=Z,44nm,1.2s								
K27K	**Chicken**	**71.72**	**27**	P		**P**		**01 31 11.7**	**+0.3**
	baz=286								
M26K	**Nabesna, AK**	**71.78**	**29**	P		**P**		**01 31 11.8**	**-0.1**
	baz=286,SNR=35								
KAIM	**Kayak Island**	**71.80**	**32**	P		**P**		**01 31 12.1**	**+0.1**
	baz=286								
SIM	**Simferopol'**	**71.93**	**312**	*e*P		**P**		**01 31 09.8**	**-3.3**
SIM				*e*				01 31 30.0	
SIM				pmax		pmax			
	comp=Z,20nm,1.2s								
SIM				MLR		MLR			
	comp=Z,100nm,16.0s								
E29M	**Blow River**	**72.03**	**23**	P		**P**		**01 31 13.6**	**+0.4**
	baz=289,SNR=8.9								
FINES	**FINESS Array B**	**72.06**	**330**	P		**P**		**01 31 14.0**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=90,slow=5.7,SNR=12								
FINES				LR		LR		02 05 45.6	
	comp=Z,377nm,18.6s,baz=74,slow=38								
	comp=Z,1.7nm,0.5s								
FINES	**FINESS Array B**	**72.06**	**330**	*i* P		**P**		**01 31 14.8**	**+1.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
L27K	**Beaver Creek,**	**72.11**	**28**	P		**P**		**01 31 14.8**	**+0.9**
	baz=287,SNR=50								
I28M	**Miner Creek**	**72.19**	**26**	IAmb		IAmb		01 31 16.2	
	comp=Z,24nm,1.1s								
I28M	**Miner Creek**	**72.19**	**26**	P		**P**		**01 31 14.8**	**+0.4**
	baz=288,SNR=15								
M27K	**Edge Creek, AK**	**72.29**	**29**	IAmb		IAmb		01 31 17.2	
	comp=Z,19nm,1.2s								
M27K	**Edge Creek, AK**	**72.29**	**29**	P		**P**		**01 31 15.1**	**0.0**
	baz=287,SNR=15								
BNN	**Bunyan**	**72.37**	**305**	P		**P**		**01 31 15.7**	**-0.3**
G29M	**Pine Creek**	**72.46**	**24**	IAmb		IAmb		01 31 17.9	
	comp=Z,43nm,1.1s								
G29M	**Pine Creek**	**72.46**	**24**	P		**P**		**01 31 16.0**	**+0.2**
	baz=289,SNR=16								
H29M	**Whitestone**	**72.55**	**25**	IAmb		IAmb		01 31 17.9	
	comp=Z,17nm,1.0s								
H29M	**Whitestone**	**72.55**	**25**	P		**P**		**01 31 16.4**	**-0.1**
	baz=289,SNR=12								
BVCY	**Beaver Creek**	**72.73**	**29**	P		**P**		**01 31 17.9**	**+0.4**
	baz=288,SNR=9.1								
DAWY	**Dawson**	**72.84**	**27**	IAmb		IAmb		01 31 20.1	
	comp=Z,29nm,1.1s								
DAWY	**Dawson**	**72.84**	**27**	P		**P**		**01 31 18.4**	**+0.2**
	baz=289,SNR=34								
I29M	**Ogilvie Camp,**	**72.86**	**26**	P		**P**		**01 31 17.4**	**-0.9**
I29M				IAmb		IAmb		01 31 20.3	
	comp=Z,34nm,1.5s								
I29M	**Ogilvie Camp,**	**72.86**	**26**	P		**P**		**01 31 18.3**	**0.0**
	baz=289,SNR=8.5								
F30M	**Barrier River**	**73.04**	**23**	IAmb		IAmb		01 31 21.1	
	comp=Z,20nm,0.9s								
F30M	**Barrier River**	**73.04**	**23**	P		**P**		**01 31 19.7**	**+0.4**
	baz=291,SNR=6.7								
G30M	**tAoh Zraii Nji**	**73.10**	**24**	IAmb		IAmb		01 31 20.9	
	comp=Z,35nm,1.1s								
G30M	**tAoh Zraii Nji**	**73.10**	**24**	P		**P**		**01 31 19.5**	**-0.2**
	baz=291,SNR=13								
YUK3	**Moose Creek**	**73.11**	**29**	P		**P**		**01 31 20.1**	**+0.1**
	baz=288,SNR=14								
EPYK	**Eagle Plains**	**73.13**	**24**	P		**P**		**01 31 19.0**	**-0.9**
EPYK				IAmb		IAmb		01 31 21.2	
	comp=Z,38nm,1.4s								
EPYK	**Eagle Plains**	**73.13**	**24**	P		**P**		**01 31 19.7**	**-0.2**
	baz=290,SNR=6.5								
MNK	**Minsk**	**73.14**	**323**	*i* P		**P**		**01 31 19.6**	**-0.5**
MNK				*i*				01 34 01.0	
MNK				*i* PPP		PPP		01 35 47.6	
MNK				*i* S		**S**		**01 40 48.2**	**+0.7**
MNK				*i* SS		**SS**		**01 45 31.8**	**+3.7**
MNK				pmax		pmax			
	comp=Z,23nm,0.9s								
MNK				pmax		pmax			
	comp=E,20nm,0.9s								
MNK				pmax		pmax			
	comp=N,16nm,0.9s								
MNK				MLR		MLR			
	comp=N,143nm,17.0s								
MNK				MLR		MLR			
	comp=Z,135nm,16.0s								
MNK				MLR		MLR			
	comp=E,133nm,19.0s								
J29N	**Klondike Camp**	**73.20**	**26**	IAmb		IAmb		01 31 23.6	
	comp=Z,29nm,0.9s								
J29N	**Klondike Camp**	**73.20**	**26**	P		**P**		**01 31 20.3**	**0.0**
	baz=290,SNR=5.0								
AKASG	**Malin Array Be**	**73.48**	**318**	P		**P**		**01 31 21.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=61,slow=5.4,SNR=8.6								
AKASG				LR		LR		02 05 49.1	
	comp=Z,103nm,18.6s,baz=50,slow=38								
	comp=Z,0.4nm,0.4s								
AKASG	**Malin Array Be**	**73.48**	**318**	*i* P		**P**		**01 31 21.2**	**-1.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKBB	**Malin Array Si**	**73.48**	**318**	⇑*e*P		**P**		**01 31 21.6**	**-0.6**
AKBB	**Malin Array Si**	**73.48**	**318**	P		**P**		**01 31 22.3**	**+0.1**
KIEV	**Kiev**	**73.49**	**318**	P		**P**		**01 31 22.1**	**0.0**
KIEV	**Kiev**	**73.49**	**318**	⇑P		P		01 31 28.4	+6.2
KIEV	**Kiev**	**73.49**	**318**	P		**P**		**01 31 22.2**	**0.0**
KIEV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KIEV	**Kiev**	**73.49**	**318**	P		**P**		**01 31 22.3**	**+0.1**
	comp=Z,1µmcomp=Z,32nm,1.2s								
ASF	**Jabal al Asfar**	**73.51**	**298**	LR		LR		02 08 30.1	
	comp=Z,107nm,20.2s,baz=106,slow=40								
AK11	**Malin Array Si**	**73.52**	**318**	P		**P**		**01 31 23.0**	**+0.6**
O28M	**Mount Upton**	**73.55**	**30**	P		**P**		**01 31 23.4**	**+0.6**
O28M				IAmb		IAmb		01 31 26.1	
	comp=Z,27nm,1.0s								
O28M	**Mount Upton**	**73.55**	**30**	P		**P**		**01 31 22.2**	**-0.6**
	baz=289,SNR=5.5								
INK	**Inuvik**	**73.58**	**22**	IAmb		IAmb		01 31 27.5	
	comp=Z,27nm,1.2s								
INK	**Inuvik**	**73.58**	**22**	LR		LR		02 07 54.5	
	comp=Z,81nm,18.2s,baz=262,sl

HYT	Haines Junctio	74.77	30	IAmb	IAmb	01 31 32.5		
	comp=Z,44nm,1.4s							
HYT	Haines Junctio	74.77	30	P	P	01 31 30.2	+0.5	
	baz=291,SNR=24							
SORM	Soroca	74.81	316	⇓P	P	01 31 33.6	+3.7	
SORM	Soroca	74.81	316	⇓P	P	01 31 33.6	+3.7	
P29M	Windy Craggy	75.09	31	IAmb	IAmb	01 31 34.4		
	comp=Z,50nm,1.5s							
P29M	Windy Craggy	75.09	31	P	P	01 31 32.0	+0.5	
	baz=291,SNR=6.6							
P30M	Million Dollar	75.28	30	P	P	01 31 32.8	+0.3	
	baz=292							
O30N	Mendenhall	75.44	30	P	P	01 31 33.0	-0.4	
O30N				IAmb	IAmb	01 31 36.1		
	comp=Z,29nm,1.4s							
O30N	Mendenhall	75.44	30	P	P	01 31 34.0	+0.5	
	baz=292,SNR=17							
CSS	Mathiatis	75.46	302	P	P	01 31 33.2	-0.8	
CSS	Mathiatis	75.46	302	P	P	01 31 34.8	+0.8	
	comp=Z,19nm,0.9s							
M31M	Drury Creek, Y	75.63	28	P	P	01 31 34.2	-0.3	
M31M	Drury Creek, Y	75.63	28	P	P	01 31 35.1	+0.6	
	baz=293,SNR=7.3							
HORU	Horodok	75.67	318	P	P	01 31 35.6	+0.7	
TPGR	Topolog	75.83	313	⇓P	P	01 31 40.5	+4.6	
EIL	Elat	75.89	296	LR	LR	02 09 33.6		
	comp=Z,77nm,20.6s,baz=100,slow=39							
CFR	Carcaliu	75.91	313	⇓P	P	01 31 37.1	+0.8	
CFR	Carcaliu	75.91	313	⇓P	P	01 31 37.1	+0.8	
SUW	Suwalki	75.91	323	*eP*	P	01 31 35.8	-0.4	
WHY	Whitehorse	76.03	30	P	P	01 31 37.3	+0.4	
	baz=293,SNR=20							
HARR	Harsova	76.21	313	⇑P	P	01 31 43.2	+5.2	
HARR	Harsova	76.21	313	⇑P	P	01 31 43.2	+5.1	
SKAG	Skagway	76.30	31	IAmb	IAmb	01 31 41.1		
	comp=Z,57nm,1.4s							
SKAG	Skagway	76.30	31	P	P	01 31 38.8	+0.5	
	baz=293							
ODBI	Odobesti	76.43	314	⇑P	P	01 31 45.7	+6.5	
TESR	Tescani	76.44	315	⇓P	P	01 31 40.4	+1.1	
TESR	Tescani	76.44	315	P	P	01 31 39.7	+0.3	
	comp=Z,13nm,1.9s							
S31K	Pelican	76.45	32	IAmb	IAmb	01 31 41.7		
	comp=Z,35nm,1.4s							
S31K	Pelican	76.45	32	P	P	01 31 39.6	+0.5	
	baz=293							
VRI	Vrincioaia	76.61	314	⇓P	P	01 31 41.9	+1.5	
VRI	Vrincioaia	76.61	314	⇓P	P	01 31 41.9	+1.5	
VRI	Vrincioaia	76.61	314	P	P	01 31 40.6	+0.2	
	comp=Z,15nm,1.2s							
N32M	Quiet Lake	76.63	29	IAmb	IAmb	01 31 42.5		
	comp=Z,45nm,1.4s							
N32M	Quiet Lake	76.63	29	P	P	01 31 40.3	0.0	
	baz=295							
PLOR5	Plostina Array	76.66	314	P	P	01 31 40.9	+0.2	
	comp=Z,12nm,1.1s							
ONER	Baraj Valea Uz	76.67	315	⇑P	P	01 31 45.2	+4.6	
PLOR	Plostina	76.67	314	⇑P	P	01 31 42.9	+2.2	
PLOR	Plostina	76.67	314	⇑P	P	01 31 42.9	+2.2	
MMPY	Sheldon Lake,	76.78	27	P	P	01 31 41.3	+0.2	
	baz=296,SNR=7.1							
BURAR	Bucovina Array	76.97	316	⇑P	P	01 31 44.5	+2.0	
BURAR	Bucovina Array	76.97	316	⇑P	P	01 31 44.5	+2.0	
P32M	Atiin	77.00	30	P	P	01 31 42.8	+0.5	
	baz=294,SNR=5.5							
TURR	Turia	77.01	315	⇑P	P	01 31 43.8	+1.2	
STNU	Starunia	77.03	318	P	P	01 31 42.9	+0.2	
NEHR	Nehoiu	77.05	314	⇑P	P	01 31 47.7	+4.8	
OZUR		77.14	315	⇑P	P	01 31 44.3	+0.9	
P33M	Teslin, Yukon	77.14	30	IAmb	IAmb	01 31 45.7		
	comp=Z,26nm,1.4s							
P33M	Teslin, Yukon	77.14	30	P	P	01 31 43.3	+0.2	
	baz=295,SNR=12							
R32K	Eaglecrest	77.16	32	P	P	01 31 43.3	+0.1	
	baz=294							
MLR	Muntele Rosu	77.25	314	LR	LR	02 11 18.3		
	comp=Z,167nm,18.3s,baz=50,slow=40							
MLR	Muntele Rosu	77.25	314	⇓P	P	01 31 46.1	+2.0	
MLR	Muntele Rosu	77.25	314	⇓P	P	01 31 46.1	+2.0	
MLR	Muntele Rosu	77.25	314	P	P	01 31 44.2	+0.1	
	comp=Z,7.8nm,0.9s							
S32K	Killisnoo	77.46	33	P	P	01 31 44.9	+0.1	
	baz=294							
ARCR	ARCALIA	77.71	316	⇓P	P	01 31 51.9	+5.4	
KWP	Kalwaria Pacla	77.79	319	*eP*	P	01 31 46.8	-0.1	
KWP	Kalwaria Pacla	77.79	319	P	P	01 31 47.1	+0.2	
Q32M	Nakina River	77.94	31	P	P	01 31 48.0	+0.3	
	baz=296							
BEL	Belsk	78.07	321	*eP*	P	01 31 49.6	+1.3	
ARR	Arges	78.16	314	⇓P	P	01 31 50.3	+1.2	
HFS	Hagfors	78.18	331	P	P	01 31 49.1	+0.2	
	comp=Z,2.0nm,0.7s,baz=61,slow=10,SNR=6.2							
HFS				LR	LR	02 09 26.1		
	comp=Z,564nm,19.4s,baz=52,slow=38							
	comp=Z,2.0nm,0.7s							
ELND	Elena	78.22	312	⇓P	P	01 31 54.3	+4.9	
HUMR	Humele	78.24	313	⇑P	P	01 31 46.3	-3.2	
KOLS	Kolonicke sedl	78.32	318	*eP*	P	01 31 54.7	+4.9	
KOLS	Kolonicke sedl	78.32	318	*eP*	P	01 31 54.7	+4.9	
CJR	Cluj-Napoca	78.33	316	⇑P	P	01 31 52.5	+2.5	
CJR	Cluj-Napoca	78.33	316	⇑P	P	01 31 52.5	+2.5	
R33M	Jennings River	78.34	30	IAmb	IAmb	01 31 53.0		
	comp=Z,22nm,1.4s							
R33M	Jennings River	78.34	30	P	P	01 31 50.2	+0.2	
	baz=297,SNR=9.7							
TGTN	Hyland Airport	78.53	27	P	P	01 31 50.9	+0.1	
	baz=299							
MARR	Marisel-Cluj	78.65	316	⇓P	P	01 31 51.9	+0.1	
LOT	Lotru	78.69	315	⇓P	P	01 31 53.2	+1.0	
STHS	Stebnicka Huta	78.75	319	*eP*	P	01 31 55.8	+3.6	
STHS	Stebnicka Huta	78.75	319	*eP*	P	01 31 55.8	+3.6	
U33K	Whale Pass	78.76	33	P	P	01 31 52.1	0.0	
	baz=296							
NB2	NORSAR Subarra	78.84	332	P	P	01 31 52.0	-0.5	
	comp=Z,7.4nm,1.2s,baz=63,slow=5.3							
NOA	NORSAR Array B	78.84	332	P	P	01 31 52.1	-0.4	
	comp=Z,2.5nm,0.8s,baz=61,slow=5.5,SNR=10							
NOA				LR	LR	02 09 56.7		
	comp=Z,571nm,18.2s,baz=60,slow=38							
	comp=Z,2.5nm,0.8s							
DRGR		78.86	316	⇑P	P	01 31 53.7	+0.7	
DRGR		78.86	316	⇑P	P	01 31 53.7	+0.7	
S34M	Telegraph Cree	78.94	31	P	P	01 31 53.5	+0.4	
	baz=297							
WTLY	Watson Lake, Y	78.98	29	IAmb	IAmb	01 31 59.8		
	comp=Z,18nm,1.1s							
WTLY	Watson Lake, Y	78.98	29	P	P	01 31 53.5	+0.2	
	baz=298							
WRAK	Wrangell Islan	79.01	33	P	P	01 31 54.0	+0.5	
	baz=296							
EZN	Ezine	79.03	309	⇓P	P	01 31 57.9	+4.0	
EZN	Ezine	79.03	309	⇓P	P	01 31 57.9	+4.0	
CRAG	Craig	79.04	34	P	P	01 31 54.2	+0.6	
	baz=296							
DEV	Deva	79.09	315	⇓P	P	01 31 55.9	+1.8	
DEV	Deva	79.09	315	⇓P	P	01 31 55.9	+1.8	
RDO	Rodhopi	79.11	310	P	P	01 31 54.6	+0.3	
RES	Resolute Bay	79.12	9	LR	LR	02 09 49.9		
	comp=Z,109nm,20.4s,baz=350,slow=38							
DLBC	Dease Lake	79.22	31	P	P	01 31 55.1	+0.4	
	baz=298,SNR=6.2							
OJC	Ojcow	79.29	320	*eP*	P	01 31 55.1	-0.1	
OJC	Ojcow	79.29	320	P	P	01 31 54.0	-1.2	
OJC	Ojcow	79.29	320	P	P	01 31 54.0	-1.2	
NIE	Niedzica	79.32	319	*eP*	P	01 31 55.4	+0.1	
GZR	Gura Zlata	79.36	315	⇓P	P	01 31 57.0	+1.2	
GZR	Gura Zlata	79.36	315	⇓P	P	01 31 57.0	+1.2	
GKP	Gorka Klasztor	79.46	324	*eP*	P	01 31 52.5	-3.5	
SURR	Surduc	79.64	315	⇓P	P	01 31 52.0	-5.2	
SIRR	Siria	79.74	316	⇓P	P	01 31 58.7	+1.1	
T35M	Bob Quinn	79.79	32	P	P	01 31 57.6	-0.1	
	baz=298							
HERR	Herculane	79.80	315	⇑P	P	01 31 58.4	+0.4	
LANS	Liptovska Anna	79.92	319	*eP*	P	01 32 01.2	+2.5	
LANS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
LANS	Liptovska Anna	79.92	319	*eP*	P	01 32 01.2	+2.5	
PSZ	Piszkesteto	80.17	318	⇓P	P	01 32 01.3	+1.2	
PSZ	Piszkesteto	80.17	318	⇓P	P	01 32 01.3	+1.2	
MDVR	Moldovita	80.30	315	⇑P	P	01 32 01.2	+0.4	
VYHS	Vyhne	80.58	319	*eP*	P	01 32 02.2	0.0	
VYHS				pmax	pmax			
	comp=Z,12nm,1.2s							
VYHS	Vyhne	80.58	319	*eP*	P	01 32 02.2	0.0	
STEB	Steborice	80.59	320	*eP*	P	01 32 08.1	+5.9	
URZ	Urewera	80.67	139	LR	LR	02 05 41.3		
	comp=Z,94nm,20.1s,baz=310,slow=34							
BOVS	Bovan	80.76	314	⇓P	P	01 32 04.2	+1.0	
MORC	Moravsky Berou	80.80	320	*eP*	P	01 32 03.7	+0.3	
MORC	Moravsky Berou	80.80	320	⇓P	P	01 32 04.5	+1.1	
MORC	Moravsky Berou	80.80	320	⇓P	P	01 32 04.5	+1.1	
KSP	Ksiaz	81.05	322	*eP*	P	01 32 04.8	+0.1	
KRLC	Kraliky	81.11	321	*eP*	P	01 32 04.8	-0.2	
KRLC	Kraliky	81.11	321	*eP*	P	01 32 04.8	-0.2	
JAVC	Velka Javorina	81.12	320	*eP*	P	01 32 06.5	+1.4	
OSTC	Ostas	81.22	322	AMS	AMS	02 12 50.0		
	comp=Z,300nm,14.3s							
DPC	Dobruska-Polom	81.25	321	*eP*	P	01 32 07.7	+1.9	
DPC	Dobruska-Polom	81.25	321	*eP*	P	01 32 07.7	+1.9	
UPC	Upice	81.36	322	AMS	AMS	02 12 50.0		
	comp=Z,300nm,12.5s							
VRAC	Vranov	81.56	320	LR	LR	02 11 34.8		
	comp=Z,118nm,18.6s,baz=66,slow=38							
VRAC	Vranov	81.56	320	*eP*	P	01 32 07.6	+0.2	
VRAC	Vranov	81.56	320	⇓P	P	01 32 09.0	+1.6	
VRAC	Vranov	81.56	320	⇓P	P	01 32 09.0	+1.6	
MODS	Modra-Piesok	81.56	319	*eP*	P	01 32 11.3	+3.8	
MODS				pmax	pmax			
	comp=Z,13nm,1.2s							
MODS	Modra-Piesok	81.56	319	*eP*	P	01 32 11.3	+3.8	
MORH	Mrgy, Hungar	81.67	317	⇑P	P	01 32 08.5	+0.6	
KRUC	Moravsky	81.78	320	*eP*	P	01 32 08.5	-0.1	
BRG	Berggiesshubel	82.36	322	*eP*	P	01 32 12.3	+0.8	
BRG				Amp		01 32 14.3		
	comp=Z,2.9nm,1.0s							
PRU	Pruhonice	82.43	321	AMS	AMS	02 13 30.0		
	comp=Z,200nm,21.4s							
RONA	Rosalia, Austr	82.45	319	*eP*	P	01 32 12.7	+0.5	
	comp=Z,2.6nm,0.9s							
CONA	Conrad Observa	82.61	319	*eP*	P	01 32 12.5	-0.6	
	comp=Z,9.6nm,1.2s,SNR=7.8							
CLL	Collm	82.67	323	*i* P	P	01 32 12.0	-1.1	
CLL				*i*		01 32 19.8		
CLL				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CLL	Collm	82.67	323	*i* P	P	01 32 12.0	-1.1	
	comp=Z,5.0nm,0.9s							
CLL				*i* x	x	01 32 19.8		
CLL				*e*PP	PP	01 35 24.0	+1.6	
CLL				Lm	MLR	02 13 00.0		
	comp=Z,400nm,18.2s							
KOGS	Kog	83.05	318	*i* P	P	01 32 15.7	+0.5	
CKRC	Cesky Krumlov	83.12	321	*eP*	P	01 32 16.7	+1.1	
CKRC				MLR	MLR			
	comp=Z,200nm,21.1s							
CKRC	Cesky Krumlov	83.12	321	*eP*	P	01 32 16.7	+1.1	
CKRC				AMS	AMS	02 13 40.0		
	comp=Z,200nm,21.1s							
ARSA	Arzberg	83.13	319	*i* P	P	01 32 15.5	-0.2	
	comp=Z,5.5nm,1.4s							
BLY	Banja Luka	83.23	316	⇓P	P	01 32 17.7	+1.5	
ITM	Ithomi	83.24	308	IAmb	IAmb	01 32 20.1		
	comp=Z,13nm,0.8s							
YKA	Yellowknife Ar	83.31	23	P	P	01 32 15.4	-0.8	
	comp=Z,8.7nm,1.0s,baz=322,slow=5.9,SNR=9.5							
YKA				LR	LR	02 12 32.7		
	comp=Z,70nm,18.2s,baz=300,slow=38							
	comp=Z,8.7nm,1.0s							
YKA	Yellowknife Ar	83.31	23	*i* P	P	01 32 16.7	+0.5	
YKA				pmax	pmax			
	comp=Z,11nm,1.0s							
KHC	Kasperske Hory	83.39	321	*ce*P	P	01 32 17.6	+0.6	
KHC				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KHC	Kasperske Hory	83.39	321	*eP*	P	01 32 17.9	+0.9	
KHC				AMS	AMS	02 12 10.0		
	comp=Z,200nm,14.5s							
GERES	GERESS Array B	83.46	321	P	P	01 32 16.9	-0.5	
	comp=Z,4.0nm,0.9s,baz=48,slow=4.0,SNR=20							
	comp=Z,4.0nm,0.9s							
MOA	Molln	83.60	320	*i* P	P	01 32 19.0	+0.9	
	comp=Z,15nm,1.7s							
SOKA	Soboth	83.69	318	*eP*	P	01 32 18.8	+0.2	
	comp=Z,8.9nm,1.4s,SNR=7.9							
MOX	Moxa	83.76	323	*eL*	L	02 13 43.3		
	comp=Z,300nm,18.0s							
CRES	Cresnjevec Ost	83.83	317	*i* P	P	01 32 18.4	-0.8	
ABPO	Ambohimpanom	83.97	246		P	01 32 19.8	-0.8	
ABPO				IAmb	IAmb	01 32 23.9		
	comp=Z,20nm,1.1s							
ABPO	Ambohimpanom	83.97	246	P	P	01 32 19.8	-0.8	
ABPO				pmax	pmax			
	comp=Z,20nm,1.1s							
BIOA	Bad Ischl, Aus	84.05	320	*i* P	P	01 32 20.9	+0.5	
	comp=Z,8.3nm,1.2s							
OBKA	Obir	84.06	318	*eP*	P	01 32 20.6	0.0	
	comp=Z,7.1nm,1.2s							
GRA1	Grafenberg Arr	84.46	322	IAmb	IAmb	01 32 24.1		
	comp=Z,16nm,1.2s							
GRF	Grafenberg Arr	84.46	322	*eP*	P	01 32 21.3	-1.1	
	comp=Z,11nm,1.1s,baz=60,slow=4.8							
GRF				*eL*	L	02 14 08.5		
	comp=Z,163nm,18.9s							
GRFO	Grafenberg	84.46	322	P	P	01 32 21.6	-0.8	
GRFO				IAmb	IAmb	01 32 24.0		
	comp=Z,18nm,1.3s							
GRFO	Grafenberg	84.46	322	P	P	01 32 21.6	-0.8	
GRFO				pmax	pmax			
	comp=Z,18nm,1.3s							
KBA	Koelnbreinsper	84.52	319	*i* P	P	01 32 22.9	-0.1	
	comp=Z,5.7nm,0.6s							
MYKA	Terra Mystica	84.56	319	*i* P	P	01 32 22.7	-0.3	
	comp=Z,1.5nm,0.4s							
LESA	Schwarzleotal	84.75	320	*i* P	P	01 32 24.0	0.0	
	comp=Z,10nm,1.2s,SNR=8.9							
SABO	M.te Sabotino	84.89	318	P	P	01 32 21.3	-3.4	
SABO				IAmb	IAmb	01 32 24.7		
	comp=Z,22nm,1.4s							
KIBK	Kibwezi	84.99	265	P	P	01 32 24.7	-1.0	
ABTA	Abfaltersbach	85.18	319	*eP*	P	01 32 25.4	-0.8	
	comp=Z,8.3nm,1.2s,SNR=5.7							
KMBO	Kilima Mbogo	85.23	267	P	P	01 32 27.6	+0.4	
	comp=Z,2.5nm,0.8s,baz=43,slow=6.5,SNR=3.9							
	comp=Z,2.5nm,0.8s							
MATE	Matera	85.40	312	⇓P	P	01 32 28.2	+0.9	
WATA	Walderalm	85.44	320	*eP*	P	01 32 27.1	-0.5	
	comp=Z,7.9nm,1.3s							
WTTA	Wattenberg	85.44	320	*eP*	P	01 32 27.4	-0.2	
	comp=Z,9.8nm,1.2s							
VOI	Vohitsoka	85.66	244		P	01 32 28.0	-1.0	
VOI				IAmb	IAmb	01 32 30.8		
	comp=Z,25nm,1.4s							
ILON	Igloolik, Nuna	85.70	8	IAmb	IAmb	01 32 29.9		
	comp=Z,21nm,1.1s							
MOTA	Moosalm	85.71	320	*eP*	P	01 32 28.4	-0.5	
	comp=Z,8.4nm,1.3s,SNR=5.5							
SQTA	Sankt Quirin	85.71	320	*eP*	P	01 32 28.8	-0.1	
	comp=Z,9.7nm,1.3s							
CBB	Campbell River	85.80	37	P	P	01 32 29.1	0.0	
RETA	Reutte	85.84	321	*eP*	P	01 32 29.1	-0.4	
	comp=Z,1.7nm,0.9s							
ACER	Acerenza	85.85	313	IAmb	IAmb	01 32 31.0		
	comp=Z,35nm,1.5s							
TIP	Timpagrande	86.04	311	IAmb	IAmb	01 32 32.8		
	comp=Z,25nm,1.4s							
TIP	Timpagrande	86.04	311	⇓P	P	01 32 31.6	+1.0	
FETA	Feichten	86.10	320	*eP*	P	01 32 30.6	-0.3	
	comp=Z,8.9nm,1.4s							
OZB	Mount Ozzard	86.30	37	P	P	01 32 32.3	+0.6	
OZB				IAmb	IAmb	01 32 36.9		
	comp=Z,31nm,1.2s							
DAVA	Damuels	86.46	321	*eP*	P	01 32 32.4	-0.2	
	comp=Z,6.9nm,1.3s							
INTR	Introdacqua	86.62	315	P	P	01 32 33.9	+0.4	
FDMO	Fiordimonte	86.65	316	IAmb	IAmb	01 32 36.6		
	comp=Z,27nm,1.2s							
CAMP	Campotosto	86.69	315	P	P	01 32 33.7	-0.1	
CAMP				IAmb	IAmb	01 32 38.2		
	comp=Z,21nm,1.3s							
DAVOX	Davos/Dischmat	86.72	320	LR	LR	02 15 33.0		
	comp=Z,158nm,18.0s,baz=79,slow=38							
NRCA	Norcia	86.73	316	IAmb	IAmb	01 32 36.4		
	comp=Z,28nm,1.3s							
CEL	Celeste	87.06	311	P	P	01 32 35.2	-0.4	
TUE	Stuetta	87.19	320		P	01 32 35.1	-1.2	
WLF	Walferdange	87.26	324	IAmb	IAmb	01 32 39.0		
	comp=Z,28nm,1.3s							
BORG	Borgarnes	87.31	345	LR	LR	02 14 26.9		
	comp=Z,158nm,20.1s,baz=25,slow=38							
ZCCA	Zocca	87.32	318	P	P	01 32 36.9	+0.2	
ZCCA				IAmb	IAmb	01 32 38.9		
	comp=Z,21nm,1.3s							
LLLB	Lillooet	87.34	35	P	P	01 32 37.4	+0.7	
LLLB				IAmb	IAmb	01 32 43.9		
	comp=Z,15nm,1.1s							
NLWA	Neilton Lookou	88.06	38	IAmb	IAmb	01 32 44.2		
	comp=Z,11nm,1.0s							
VAE	Valguarnera	88.46	310	LR	LR	02 19 57.1		
	comp=Z,43nm,18.0s,baz=126,slow=41							
GNW	Green Mountain	88.56	38	IAmb	IAmb	01 32 46.4		
	comp=Z,23nm,1.4s							
RAR	Rarotonga	88.60	114	LR	LR	02 05 38.5		
	comp=Z,60nm,19.0s,baz=312,slow=31							
RAFF	Raffo Rosso	88.62	310	P	P	01 32 43.3	+0.2	
RAFF				IAmb	IAmb	01 32 50.7		
	comp=Z,18nm,1.2s							
RADR	Rader Ridge	88.64	39	P	P	01 32 43.8	+0.8	
E03A	Lebam	88.71	39	P	P	01 32 42.8	-0.4	
F03A	Seaside	89.05	39	P	P	01 32 44.9	0.0	
D05A	Enumclaw	89.24	38	P	P	01 32 46.9	+1.2	
SFJD	Kangerlussuaq	89.43	357	LR	LR	02 13 18.2		
	comp=Z,54nm,20.9s,baz=356,slow=36							
BNI	Bardonecchia	89.53	320		P	01 32 46.8	-0.5	
BNI	Bardonecchia	89.53	320	P	P	01 32 46.8	-0.5	
BNI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
LON	Longmire	89.59	38	P	P	01 32 47.7	+0.3	
LON				IAmb	IAmb	01 32 53.8		
	comp=Z,19nm,1.1s							
LON	Longmire	89.59	38	P	P	01 32 47.7	+0.3	
LON				pmax	pmax			
	comp=Z,19nm,1.1s							
LTY	Liberty	89.93	37	P	P	01 32 49.2	+0.1	
LTY				IAmb	IAmb	01 32 54.8		
	comp=Z,14nm,1.1s							
B08A	Colville Reser	90.01	36	P	P	01 32 48.4	-0.9	
B08A				IAmb	IAmb	01 32 52.7		
	comp=Z,24nm,1.1s							
G04A	Mulino	90.09	39	P	P	01 32 49.9	+0.2	
KEBM	Edson Butte	90.27	42	P	P	01 32 51.7	+1.0	
H04D	Lebanon	90.32	40	P	P	01 32 51.0	+0.2	
I03D	Drain, OR	90.42	41	IAmb	IAmb	01 32 55.3		
	comp=Z,22nm,1.4s							
HOOD	Mount Hood Mea	90.50	39	IAmb	IAmb	01 33 01.8		
	comp=Z,23nm,1.0s							
MXC	Moxie City	90.54	37	IAmb	IAmb	01 32 55.5		
	comp=Z,29nm,1.1s							
H04A	Detroit Lake	90.55	40	IAmb	IAmb	01 32 54.1		
	comp=Z,14nm,1.0s							
VSL	Villasalto	90.86	314	IAmb	IAmb	01 32 57.4		
	comp=Z,12nm,1.0s							
C09A	Chrisman Ranch	90.91	36	IAmb	IAmb	01 32 57.0		
	comp=Z,23nm,1.3s							
D08A	Wollman Farm,	91.01	37	IAmb	IAmb	01 32 57.4		
	comp=Z,19nm,1.3s							
HAWA	Hanford	91.07	37	IAmb	IAmb	01 32 58.0		
	comp=Z,18nm,1.2s							
G06A	Carlson Farm,	91.13	39	IAmb	IAmb	01 33 00.5		
	comp=Z,18nm,1.1s							
F07A	Phinny Hill Vi	91.15	38	IAmb	IAmb	01 32 58.5		
	comp=Z,18nm,1.2s							
L02F	Cave Junction	91.16	42	IAmb	IAmb	01 32 57.8		
	comp=Z,21nm,1.4s							
NEW	Newport	91.23	35	IAmb	IAmb	01 32 58.4		
	comp=Z,14nm,1.2s							
I05D	Terrebonne, OR	91.25	40	IAmb	IAmb	01 32 58.1		
	comp=Z,14nm,1.2s							
BBOR	Butler Butte	91.28	41	IAmb	IAmb	01 33 08.1		
	comp=Z,14nm,1.3s							
E08A	Dider Farm, El	91.28	37	IAmb	IAmb	01 32 58.8		
	comp=Z,19nm,1.3s							
E09A	Wood Farm, Sta	91.76	37	IAmb	IAmb	01 33 01.2		
	comp=Z,10nm,1.1s							
YBH	Yreka Blue Hor	91.91	42	IAmb	IAmb	01 33 02.5		
	comp=Z,13nm,1.2s							
J05D	Fort Rock, OR	91.92	41	IAmb	IAmb	01 33 01.7		
	comp=Z,19nm,1.2s							
FRB	Frobisher Bay	92.52	4	LR	LR	02 16 36.8		
	comp=Z,48nm,20.1s,baz=348,slow=37							
O02D	Mt. Diablo Mer	92.73	44	IAmb	IAmb	01 33 07.9		
	comp=Z,11nm,1.1s							
KEST	Kesra	92.86	311	LR	LR	02 21 29.5		
	comp=Z,82nm,18.4s,baz=285,slow=40							
J08A	Circle Bar Ran	93.50	39	IAmb	IAmb	01 33 12.0		
	comp=Z,14nm,1.2s							
WVOR	Wild Horse Val	93.96	40	IAmb	IAmb	01 33 13.4		
	comp=Z,10nm,1.2s							
PAHR	Pah Rah Range	95.14	43	IAmb	IAmb	01 33 16.8		
	comp=Z,10nm,1.1s							
DLMT	Dillon	95.48	35	IAmb	IAmb	01 33 19.9		
	comp=Z,11nm,1.2s							
CMB	Columbia Colle	95.49	44	IAmb	IAmb	01 33 20.2		
	comp=Z,8.8nm,1.1s

YALR			S	**Sb**	**01 30 18.9**	**+0.7**
ARTR	**Artybash**	**2.15 196**	P	**Pb**	**01 29 50.6**	**-1.0**
ARTR			S	**Sb**	**01 30 18.8**	**+0.1**
CERR	**Cheremushki**	**2.17 117**	P	**Pb**	**01 29 52.3**	**+0.3**
CERR			S	**Sg**	**01 30 21.7**	**+0.1**
KURK	**Kurchatov**	**6.67 246** ⇓Pn		**Pn**	**01 30 52.2**	**+1.2**
	2.7nm,0.7s					
KURK		⇑Sn		**Sn**	**01 32 04.1**	**-3.6**
	2.3nm,0.7s					
KURK		⇑Lg		Lg	01 32 40.4	
	7.7nm,0.7s					
KURBB	**Kurchatov Arra**	**6.77 245** ⇑Pn		**Pn**	**01 30 53.4**	**+1.1**
	2.1nm,0.3s					
KURBB		⇓Sn		**Sn**	**01 32 08.4**	**-1.7**
	8.9nm,0.6s					
KURBB		⇓Lg		Lg	01 32 44.4	
	12nm,0.7s					
MK31	**Makanchi Array**	**8.03 210** ⇑Pn		**Pn**	**01 31 11.9**	**+2.2**
	0.6nm,0.5s,baz=30,slow=13,SNR=12					
MK31		⇑Sn		**Sn**	**01 32 41.3**	**+0.2**
	0.9nm,0.6s					
MK31		⇓Lg		Lg	01 33 24.4	
	3.6nm,0.8s					

*IDC **06** 01:31:28.2±0.6,23°.64N×121°.71E,h0km,mb4.1/25, mbtmp4.1/29,ML3.8/4,MS3.7/11,Error ellipse: s-maj=17.3km s-min=13.6km az=65.0*

*BJI **06** 01:31:29.6,23°.64N×121°.62E,h10km,mB5.1/10,mb4.3/45, ML4.6/10,Ms4.7/48,Ms7 4.5/48*

*JMA **06** 01:31:29.9±0.3,23°.7N±0°.4×12°.2E±°,h2km±3km,MD4.6/15, MV4.6/15,TAIWAN REGION*

*TAP **06** 01:31:30.4,23°.68N×121°.52E,h4km,ML4.7,C*

*NEIC **06** 01:31:31.1±1.4,23°.63N±0°.07×121°.55E±0°.04,h10km±1km, mb4.8/106,Mwr4.5/25,Error ellipse: s-maj=11.9km s-min=6.6km az=173.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr6.06; Mθθ-2.99; Mφφ-3.07; Mrθ2.41; Mrφ-2.97; Mθφ2.75; Fault plane solution: M₀7.05000×10¹⁵ NP1:φs42.87000°,δ60.63000°, λ88.30000°. NP2:φs226.33000°,δ29.42000°,λ93.02000°. Principal axes: T 7.0814, Plg74.0000°, Azm308.0000°; N -0.0672, Plg1.0000°, Azm44.0000°; P -7.0142, Plg16.0000°, Azm134.0000°;*

*NEIC **06** 01:31:31.2,23°.64N×121°.55E,h10km*

ISC 06 01:31:30.8±0.6,23°.64N±0°.01×121°.62E±0°.02,h12km±3km, n535,σ1°$30/656,mb4.8/84,MS3.7/12,21C-20D,Taiwan

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.10 314**	*i*	**Pg**	**01 31 31.9**	**-1.7**
TEGC			*i*	**Sg**	**01 31 33.3**	**-2.4**
SHUL	**Shoufeng**	**0.15 342**	⇓*i*	**Pg**	**01 31 33.8**	**-0.6**
SHUL			S	**Sg**	**01 31 36.5**	**-0.5**
EGFH	**Guangfu**	**0.17 279**	*e*	**Pg**	**01 31 32.8**	**-2.0**
EGFH			*i*	**Sg**	**01 31 34.6**	**-2.9**
WARBT	**Fenglin Townsh**	**0.22 290**	⇓*i*	**Pg**	**01 31 33.5**	**-2.1**
WARBT			*i*	**Sg**	**01 31 35.9**	**-2.9**
TEYL	**Yanliau Villag**	**0.23 356**	*e*	**Pg**	**01 31 36.1**	**+0.5**
TEYL			S	**Sg**	**01 31 40.3**	**+1.4**
HGSD	**Ruisui**	**0.23 230**	⇓*i*	**Pg**	**01 31 35.5**	**-0.2**
HGSD			S	**Sg**	**01 31 39.4**	**+0.4**
ESL	**Shilin**	**0.24 316**	⇓*i*	**Pg**	**01 31 34.1**	**-1.8**
ESL			*i*	**Sg**	**01 31 36.6**	**-2.6**
EHYH	**Wanrong**	**0.29 239**	*i*	**Pg**	**01 31 36.1**	**-0.7**
EHYH				**Sb**	**01 31 41.4**	**-1.3**
EHY	**Hungye**	**0.30 243**	*e*	**Pg**	**01 31 35.9**	**-1.1**
EHY				**Sg**	**01 31 41.5**	**+0.4**
HWA	**Hwalien**	**0.33 358**	*e*	**Pb**	**01 31 37.8**	**-0.9**
HWA				**Sb**	**01 31 44.0**	**0.0**
ETM	**Tongmen**	**0.34 341**	⇑*i*	**Pg**	**01 31 36.6**	**-1.1**
ETM			S	**Sg**	**01 31 41.0**	**-1.4**
ECBN	**Changbin**	**0.36 205**	⇓*i*	**Pb**	**01 31 38.6**	**-0.5**
ECBN				**Sb**	**01 31 45.6**	**+0.9**
YULB	**Yu-li**	**0.38 230**		**Pg**	**01 31 37.8**	**-0.7**
YULB			Sg	**Sg**	**01 31 41.9**	**-1.7**
YULB	**Yu-li**	**0.38 230**	P	**Pg**	**01 31 37.9**	**-0.6**
YULB				**Sb**	**01 31 44.4**	**-1.1**
EYUL	**Yuli**	**0.40 223**	*e*	**Pb**	**01 31 39.2**	**-0.6**
EYUL				**Sb**	**01 31 44.8**	**-1.1**
TWF1	**Yuli**	**0.41 225**	⇓*i*	**Pg**	**01 31 38.7**	**-0.3**
TWF1				**Sb**	**01 31 45.8**	**-0.4**
TWD	**Chiawan**	**0.44 358**	⇑*e*	**Pg**	**01 31 38.9**	**-0.6**
TWD				**Sb**	**01 31 46.2**	**-0.8**
VWDT	**VWDT**	**0.45 284**	⇓*i*	**Pg**	**01 31 38.3**	**-1.4**
VWDT				**Sg**	**01 31 44.4**	**-1.3**
CHKH	**Chenggong**	**0.49 204**	*e*	**Pb**	**01 31 40.9**	**-0.5**
CHKH				**Sb**	**01 31 49.7**	**+1.1**
OWD	**Renai**	**0.51 308**	⇓*i*	**Pg**	**01 31 39.3**	**-1.5**
OWD				**Sg**	**01 31 45.6**	**-2.0**
ETL	**Fush Village**	**0.52 1**	*e*	**Pg**	**01 31 40.4**	**-0.6**
ETL				**Sb**	**01 31 48.3**	**-1.0**
NACB	**Ninganchiao**	**0.53 358**	Pg	**Pg**	**01 31 40.1**	**-1.0**
NACB	**Ninganchiao**	**0.53 358**	⇑*i*	**Pg**	**01 31 40.2**	**-1.0**
NACB				**Sg**	**01 31 47.7**	**-0.6**
FULB	**Fuli**	**0.53 214**	*e*	**Pb**	**01 31 41.5**	**-0.5**
FULB				**Sb**	**01 31 51.4**	**+1.7**
WUSB	**Renai**	**0.57 307**	⇓*i*	**Pg**	**01 31 40.8**	**-1.3**
WUSB				**Sg**	**01 31 48.8**	**-0.9**
ETLH	**Xiulin Townshi**	**0.57 348**	⇑*e*	**Pg**	**01 31 40.9**	**-1.2**
ETLH				**Sg**	**01 31 48.7**	**-1.0**
CHKT	**Chengkung**	**0.59 203**	⇓P	**Pb**	**01 31 42.4**	**-0.6**
CHKT				**Sb**	**01 31 52.4**	**+1.1**
WHF	**Hehuan Shan**	**0.59 327**	⇓P	**Pg**	**01 31 41.0**	**-1.5**
WHF			S	**Sg**	**01 31 49.2**	**-1.3**
EHD	**Haiduan**	**0.62 218**	*e*	**Pg**	**01 31 42.4**	**-0.4**
EHD				**Sb**	**01 31 53.3**	**+1.1**
SSLB	**Suanglung**	**0.62 284**	Pg	**Pg**	**01 31 41.2**	**-1.8**
SSLB			Sg	**Sg**	**01 31 49.2**	**-2.0**
SSLB	**Suanglung**	**0.62 284**	⇓*i*	**Pg**	**01 31 41.4**	**-1.6**
SSLB			S	**Sg**	**01 31 49.4**	**-1.8**
ECS	**Chishang**	**0.66 214**	*e*	**Pb**	**01 31 44.6**	**+0.4**
ECS				**Sn**	**01 31 56.0**	**-0.2**
FUSS	**Fushou**	**0.69 331**	⇓*e*	**Pg**	**01 31 43.2**	**-1.1**
FUSS			S	**Sg**	**01 31 51.5**	**-2.0**
EAHA	**Aohua**	**0.69 9**	*e*	**Pb**	**01 31 44.1**	**-0.7**
EAHA				**Sb**	**01 31 54.7**	**+0.3**
SMLT	**Sun Moon Lake**	**0.70 290**	⇓*i*	**Pg**	**01 31 43.0**	**-1.4**
SMLT			S	**Sg**	**01 31 52.5**	**-1.1**
WHYT	**Xinyi Township**	**0.70 275**	*e*	**Pg**	**01 31 43.4**	**-1.1**
WHYT				**Sg**	**01 31 52.9**	**-0.8**
ELDTW	**Lidau**	**0.71 231**	⇑*i*	**Pg**	**01 31 43.7**	**-1.0**
ELDTW			S	**Sb**	**01 31 54.5**	**-0.5**
EDH	**Donghe**	**0.72 203**	*e*	**Pb**	**01 31 44.6**	**-0.7**
EDH				**Sn**	**01 31 57.4**	**-0.5**
TWT	**Tachien**	**0.73 327**	⇓P	**Pg**	**01 31 44.0**	**-1.0**
TWT				**Sg**	**01 31 52.9**	**-1.8**
TDCB	**Techi**	**0.74 326**	⇓P	**Pg**	**01 31 44.1**	**-1.1**
TDCB				**Sg**	**01 31 51.2**	**-3.7**
ALS	**Alishan**	**0.76 260**	*e*	**Pg**	**01 31 44.7**	**-0.8**
ALS			S	**Sb**	**01 31 55.5**	**-0.9**
WCS	**Beigang Elemen**	**0.77 303**	⇓P	**Pg**	**01 31 44.5**	**-1.1**
WCS				**Sg**	**01 31 54.2**	**-1.5**
ENA	**Nanau**	**0.79 8**	⇓P	**Pg**	**01 31 45.6**	**-0.5**
ENA				**Sb**	**01 31 57.8**	**+0.6**
EOS4	**EOS4**	**0.80 53**	*e*	**Pn**	**01 31 47.0**	**-0.6**
EOS4				**Sn**	**01 31 59.8**	**+0.6**
NNSB	**Datong**	**0.81 345**	⇑P	**Pg**	**01 31 45.5**	**-1.0**
NNSB				**Sg**	**01 31 55.8**	**-1.4**
EWUT	**Wuta**	**0.81 11**	*e*	**Pb**	**01 31 46.2**	**-0.7**
WJS	**Zhushan**	**0.83 283**	⇑*e*	**Pb**	**01 31 47.2**	**0.0**
WJS			S	**Sb**	**01 31 58.9**	**+0.5**
LONT	**Longtian**	**0.86 211**	*e*	**Pg**	**01 31 46.8**	**-0.6**
LONT				**Sn**	**01 32 00.6**	**-0.6**
CHN5	**Tsauling**	**0.86 267**	⇓P	**Pg**	**01 31 46.8**	**-0.6**
CHN5				**Sb**	**01 31 59.2**	**-0.1**
WHP	**Taichung City**	**0.88 316**	*e*	**Pg**	**01 31 46.9**	**-1.0**
WHP				**Sg**	**01 31 58.9**	**-0.5**
WNT	**Mingjian**	**0.89 286**	⇑P	**Pb**	**01 31 48.3**	**+0.2**
WNT			*i*	**Sb**	**01 32 00.6**	**+0.7**
LATG	**Datong**	**0.89 355**	*e*	**Pg**	**01 31 47.3**	**-0.8**
LATG				**Sb**	**01 31 59.9**	**-0.3**
STYH	**Taoyuan**	**0.90 239**	⇑*e*	**Pg**	**01 31 47.6**	**-0.6**
STYH				**Sb**	**01 32 00.9**	**+0.6**
EOS3	**EOS3**	**0.91 45**	*e*	**Pn**	**01 31 49.1**	**-0.2**
EOS3				**Sn**	**01 32 02.3**	**+0.1**
WCKO	**Fanlu**	**0.95 258**	⇑*e*	**Pb**	**01 31 49.1**	**-0.1**
WCKO				**Sb**	**01 32 02.1**	**+0.3**
ESAO	**Su ao**	**0.95 13**	*e*	**Pg**	**01 31 48.3**	**-0.9**
EOS2	**EOS2**	**0.96 36**	*e*	**Pn**	**01 31 49.8**	**-0.2**
TWGBT	**Beinan**	**0.96 211**	*e*	**Pg**	**01 31 47.8**	**-1.5**
TWGBT				**Sn**	**01 32 03.9**	**+0.3**
TWG	**Pinlang**	**0.96 212**	Pg	**Pg**	**01 31 47.8**	**-1.6**
TWG	**Pinlang**	**0.96 212**	*e*	**Pg**	**01 31 47.9**	**-1.4**
TWG			S	**Sb**	**01 32 02.7**	**+0.7**
TPUB	**Ta-pu**	**0.97 250**	Pg	**Pg**	**01 31 48.2**	**-1.2**
TPUB	**Ta-pu**	**0.97 250**	⇑*i*	**Pb**	**01 31 49.2**	**-0.3**
TPUB				**Sb**	**01 32 02.4**	**+0.1**
WGK	**Gukeng**	**0.97 273**	*e*	**Pb**	**01 31 49.6**	**+0.1**
WGK				**Sb**	**01 32 03.5**	**+1.2**
LDUT	**Ludao**	**0.97 188**	*e*	**Pg**	**01 31 48.5**	**-1.1**
LDUT				**Sb**	**01 32 02.9**	**+0.5**
CHN4	**Tsaushan**	**0.98 253**	⇑*i*	**Pb**	**01 31 49.7**	**-0.1**
CHN4				**Sn**	**01 32 04.0**	**-0.2**
TTN	**Taitung**	**0.98 206**	*e*	**Pb**	**01 31 49.5**	**-0.3**
TTN				**Sn**	**01 32 05.6**	**+1.4**
TWC	**Suao**	**0.99 12**	*e*	**Pb**	**01 31 49.4**	**-0.4**
TWC				**Sn**	**01 32 04.0**	**-0.3**
WDLH	**Douliu**	**0.99 273**	*e*	**Pb**	**01 31 49.5**	**-0.4**
WDLH				**Sb**	**01 32 04.0**	**+1.1**
WDL	**Douliou City**	**0.99 274**	*e*	**Pg**	**01 31 49.3**	**-0.6**
WDL				**Sb**	**01 32 03.5**	**+0.6**
ENTT	**Nioudou**	**0.99 357**	*e*	**Pg**	**01 31 49.0**	**-1.0**
ENTT				**Sb**	**01 32 04.1**	**+1.0**
TCU	**Taichung**	**1.00 301**	⇑*e*	**Pn**	**01 31 50.4**	**-0.2**
TCU				**Sb**	**01 32 03.2**	**+0.2**
WTP	**Ta-pu**	**1.00 247**	⇑P	**Pb**	**01 31 49.8**	**-0.3**
WTP			S	**Sb**	**01 32 03.8**	**+0.6**
TWQ1	**Liyutan**	**1.04 313**	⇑P	**Pb**	**01 31 50.6**	**-0.2**
TWQ1				**Sb**	**01 32 04.2**	**-0.3**
YHNB	**Yeheng**	**1.05 348**	Pg	**Pg**	**01 31 49.9**	**-1.1**
YHNB	**Yeheng**	**1.05 348**	⇑*e*	**Pg**	**01 31 50.0**	**-1.0**
YHNB			S	**Sg**	**01 32 03.9**	**-0.8**
CHN2	**Minshiung**	**1.05 264**	*e*	**Pn**	**01 31 51.2**	**-0.2**
CHN2				**Sn**	**01 32 06.7**	**+0.7**
NSK	**Sanguang**	**1.06 347**	*e*	**Pg**	**01 31 50.4**	**-0.8**
NSK				**Sb**	**01 32 04.8**	**-0.1**
WCHH	**Zhanghua**	**1.06 294**	*e*	**Pb**	**01 31 51.2**	**+0.1**
WCHH				**Sn**	**01 32 06.4**	**+0.2**
WCH1	**Changhua City**	**1.07 294**	*e*	**Pb**	**01 31 51.2**	**0.0**
WCH1				**Sb**	**01 32 05.6**	**+0.5**
TWE	**Neicheng**	**1.07 2**	*e*	**Pb**	**01 31 51.1**	**-0.3**
TWE				**Sn**	**01 32 06.7**	**+0.2**
NFF	**Wufeng Townshi**	**1.08 335**	*e*	**Pb**	**01 31 51.4**	**-0.2**
NFF				**Sg**	**01 32 04.3**	**-1.6**
NSY	**Sanyi**	**1.10 315**	⇑P	**Pn**	**01 31 52.0**	**-0.1**
NSY				**Sb**	**01 32 05.9**	**-0.2**
CHN1	**Nanshi**	**1.10 246**	*i* P	**Pb**	**01 31 51.6**	**-0.1**
CHN1			*i* S	**Sn**	**01 32 08.7**	**+1.5**
TWK	**Hsinying**	**1.10 250**	P	**Pb**	**01 31 51.6**	**-0.2**
TWK			S	**Sn**	**01 32 08.9**	**+0.9**
CHY	**Chiayi**	**1.10 263**	*e*	**Pn**	**01 31 52.0**	**0.0**
CHY				**Sb**	**01 32 07.1**	**+1.0**
SNST	**Tainan City**	**1.11 248**	*e*	**Pb**	**01 31 51.9**	**-0.1**
SNST			S	**Sn**	**01 32 08.2**	**+0.9**
FUSB	**Fushanzhiwuyua**	**1.11 359**	*e*	**Pb**	**01 31 51.8**	**-0.3**
FUSB				**Sb**	**01 32 07.3**	**+0.8**
ILA	**Ilan**	**1.12 6**	*e*	**Pn**	**01 31 52.5**	**+0.1**
ILA				**Sb**	**01 32 07.2**	**+0.4**
WTK	**Tuku**	**1.13 273**	*e*	**Pn**	**01 31 52.3**	**0.0**
WTK				**Sn**	**01 32 08.3**	**+0.6**
NSTT	**Nanjuang**	**1.13 330**	P	**Pb**	**01 31 52.1**	**-0.2**
NSTT				**Sg**	**01 32 06.3**	**-1.1**
NWLT	**Wulai**	**1.14 355**	*e*	**Pg**	**01 31 51.5**	**-1.1**
NWLT			S	**Sg**	**01 32 06.4**	**-1.1**
WDJ	**Dajia District**	**1.14 308**	⇑*e*	**Pn**	**01 31 53.0**	**+0.4**
WDJ				**Sb**	**01 32 07.3**	**+0.2**
LIOB	**Emei**	**1.14 331**	*e*	**Pb**	**01 31 52.1**	**-0.4**
NMLH	**Miaoli**	**1.17 320**	P	**Pn**	**01 31 53.6**	**+0.6**
NMLH			S	**Sb**	**01 32 08.7**	**+0.7**
KSHI	**Guanxi Townshi**	**1.20 341**	*e*	**Pn**	**01 31 53.8**	**+0.4**
KSHI				**Sb**	**01 32 09.3**	**+0.4**
ECL	**Taimali**	**1.21 210**	*e*	**Pg**	**01 31 51.7**	**-2.3**
EGS		**1.23 14**	*e*	**Pn**	**01 31 55.4**	**+1.5**
WTCT	**Ta-ch'eng**	**1.24 281**	*e*	**Pg**	**01 31 53.1**	**-1.7**
WTCT				**Sb**	**01 32 10.4**	**+0.2**
ICHU	**Yijhu**	**1.26 257**	P	**Pn**	**01 31 54.6**	**+0.4**
ICHU				**Sn**	**01 32 13.1**	**+2.1**
SSD	**Sandimen**	**1.27 226**	*e*	**Pg**	**01 31 54.2**	**-1.1**
SSD				**Sn**	**01 32 13.0**	**+1.6**
SCST	**Cishan**	**1.28 234**	*e*	**Pn**	**01 31 55.7**	**+1.3**
SCST			S	**Sn**	**01 32 15.6**	**+4.1**
WSL	**Shuilin Townsh**	**1.28 265**	*e*	**Pn**	**01 31 54.8**	**+0.3**
WSL			S	**Sn**	**01 32 13.4**	**+1.8**
CHN3	**Shinhua**	**1.28 244**	*e*	**Pn**	**01 31 56.1**	**+1.6**
CHN3				**Sn**	**01 32 14.7**	**+3.1**
SBCB	**Hsinchu**	**1.28 333**	*e*	**Pn**	**01 31 55.5**	**+1.0**
SBCB				**Sn**	**01 32 12.6**	**+0.9**
TSMG	**Majia**	**1.29 224**	*e*	**Pb**	**01 31 54.8**	**-0.2**
TSMG				**Sn**	**01 32 14.5**	**+2.6**
HSN	**Hsinchu**	**1.30 333**	*e*	**Pb**	**01 31 55.2**	**+0.1**
HSN				**Sn**	**01 32 13.5**	**+1.5**
NHDH	**Xindian Distri**	**1.32 356**	*e*	**Pb**	**01 31 56.3**	**+0.8**
NHDH				**Sb**	**01 32 12.8**	**+0.4**
SHHT	**Tainan City**	**1.32 242**	*e*	**Pb**	**01 31 56.5**	**+1.0**
SHHT				**Sn**	**01 32 17.6**	**+5.0**
CHN8	**Yiju**	**1.32 257**	*e*	**Pb**	**01 31 55.5**	**0.0**
CHN8				**Sn**	**01 32 15.1**	**+2.5**
TATO	**Taipei**	**1.33 355**		**Pn**	**01 31 54.7**	**-0.6**
TWA	**Mucha**	**1.33 359**	*e*	**Pb**	**01 31 55.9**	**+0.1**
TWA				**Sn**	**01 32 15.0**	**+2.1**
TIPB	**Shuangxi**	**1.34 8**	*e*	**Pn**	**01 31 55.8**	**-0.1**
MASBT	**Mashibuluo**	**1.37 222**	*e*	**Pn**	**01 31 55.5**	**-0.2**
MASBT			S	**Sn**	**01 32 16.2**	**+2.4**
TWM1	**Shoushan**	**1.37 234**	*e*	**Pg**	**01 31 58.1**	**+1.0**
TWM1				**Sn**	**01 32 17.5**	**+3.7**
NCUH	**Zhongli**	**1.38 344**	*e*	**Pg**	**01 31 57.2**	**-0.1**
NCUH				**Sn**	**01 32 16.9**	**+2.9**
SGLT	**Jiouru**	**1.38 229**	*e*	**Pg**	**01 31 58.3**	**+1.0**
SGLT				**Sn**	**01 32 18.8**	**+4.7**
SCLT	**Jiali**	**1.39 251**	*e*	**Pg**	**01 31 56.8**	**-0.7**
SCLT				**Sn**	**01 32 17.4**	**+3.2**
TWB1	**Santiao Chiao**	**1.40 14**	*e*	**Pg**	**01 31 57.3**	**-0.4**
TWB1				**Sn**	**01 32 16.4**	**+1.8**
WFSB	**Wu-fen Shan**	**1.43 6**	*e*	**Pg**	**01 31 59.0**	**+0.7**
EAST	**Anshuo**	**1.44 210**	*e*	**Pn**	**01 31 55.1**	**-1.7**
JYNG	**Yonagunijimaku**	**1.46 56**	*e*	**Pg**	**01 31 57.7**	**-1.1**
JYNG	**Yonagunijimaku**	**1.46 56**	A	A	01 31 57.7	
	comp=N,15nn,5.2s,comp=E,12nn,2.3s					
TAWH	**Dawu Township**	**1.46 207**	*e*	**Pn**	**01 31 55.5**	**-1.4**
TWS1	**Kuangyinshan**	**1.46 353**	*e*	**Pg**	**01 31 58.1**	**-0.8**
TWS1			S	**Sg**	**01 32 18.4**	**+0.5**
SXI1	**Grass Mountain**	**1.47 9**	*e*	**Pg**	**01 31 58.5**	**-0.5**
SXI1				**Sg**	**01 32 19.3**	**+1.3**
SNJT	**Kaohsiung City**	**1.47 233**	*e*	**Pg**	**01 31 59.8**	**+0.6**
TSCK	**Chigu Township**	**1.49 251**	*e*	**Pg**	**01 31 58.7**	**-0.7**
TSCK			*i* S	**Sg**	**01 32 20.9**	**+2.1**
YM01	**YM01**	**1.50 358**	*e*	**Pb**	**01 31 58.2**	**-0.4**
YM01				**Sb**	**01 32 18.0**	**+0.4**
TNOU	**National Taiwa**	**1.51 5**	*e*	**Pg**	**01 31 59.1**	**-0.7**
YOJ	**Yonaguni jima**	**1.51 57**	Pn	**Pn**	**01 31 57.9**	**+0.1**
YOJ	**Yonaguni jima**	**1.51 57**	*e*	**Pb**	**01 31 58.5**	**-0.3**
YOJ			*i* S	**Sg**	**01 32 20.4**	**+0.8**
YOJ	**Yonaguni jima**	**1.51 57**	P	**Pg**	**01 31 58.7**	**-1.2**
YOJ				**Sb**	**01 32 18.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.51 57**	A	A	01 31 58.7	
	comp=N,12nn,5.1s,comp=E,12nn,3.9s					
ZUZH	**Zhuzihu**	**1.52 358**	*e*	**Pb**	**01 31 58.7**	**-0.1**
NTST	**Danshui**	**1.52 354**	*e*	**Pg**	**01 31 59.6**	**-0.5**
YM08	**YM08**	**1.54 359**	*e*	**Pn**	**01 31 58.2**	**+0.1**
SCZT	**Fangliau**	**1.56 216**	*e*	**Pg**	**01 31 59.6**	**-1.2**
SCZT			S	**Sg**	**01 32 22.1**	**+1.0**
LAY	**Lan-yu**	**1.60 182**	*e*	**Pn**	**01 31 56.8**	**-2.1**
SLIU	**Shizi**	**1.61 208**	*e*	**Pb**	**01 32 00.3**	**-0.1**
TWY	**Chenhua**	**1.63 359**	*e*	**Pn**	**01 31 59.6**	**+0.3**
LYUB	**Lan-yu**	**1.63 181**	*e*	**Pn**	**01 31 56.2**	**-3.2**
WLCH	**Liuqiu**	**1.72 222**	*e*	**Pg**	**01 32 04.2**	**+0.4**
TWP	**Hsiaoliuchiu**	**1.73 222**	*e*	**Pg**	**01 32 03.0**	**-1.0**
TWP			S	**Sg**	**01 32 29.1**	**+2.6**
SMST	**Manzhou Townsh**	**1.77 204**	*e*	**Pn**	**01 32 01.8**	**+0.6**
HEN	**Hengchun**	**1.82 207**	*e*	**Pb**	**01 32 03.8**	**-0.2**
HEN				**Sg**	**01 32 28.3**	**-1.1**
WDGT	**Dungji**	**1.84 258**	*e*	**Pn**	**01 32 01.6**	**-0.5**
WDGT				**Sb**	**01 32 27.4**	**+0.2**
TWK1	**Hengchun**	**1.85 204**	*e*	**Pb**	**01 32 03.6**	**-0.9**
TWK1				**Sn**	**01 32 26.6**	**+0.9**
TWKBT	**Hengchun**	**1.85 204**	*e*	**Pn**	**01 32 02.5**	**+0.2**
TSEB	**Hengchuen, Pin**	**1.85 201**	*e*	**Pg**	**01 32 05.1**	**-1.3**
TSEB				**Sn**	**01 32 26.7**	**+0.9**
PHUB	**P'eng-hu**	**1.88 266**	*e*	**Pn**	**01 32 02.4**	**-0.3**
PHUB				**Sn**	**01 32 27.0**	**+0.6**
PNG	**Penghu**	**1.89 268**	*e*	**Pn**	**01 32 02.6**	**-0.3**
PNG				**Sb**	**01 32 28.9**	**+0.1**
PCYT	**Pengchaiyu**	**2.02 12**	*e*	**Pb**	**01 32 06.7**	**-0.8**
HATJ	**Hateruma jima**	**2.05 78**	P	**Pn**	**01 32 05.4**	**+0.4**
HATJ				**Sn**	**01 32 31.7**	**+1.2**
HATJ	**Hateruma jima**	**2.05 78**	A	A	01 32 05.4	
	comp=N,16nn,5.6s,comp=E,13nn,2.8s					
IRIF	**Iriomote-Funau**	**2.05 70**	P	**Pn**	**01 32 05.7**	**+0.5**
IRIF			S	**Sn**	**01 32 32.2**	**+1.6**
VCHM	**Qimei**	**2.05 258**	*e*	**Pn**	**01 32 03.7**	**-1.4**
JKRS	**Kuro-shima**	**2.27 74**	P	**Pn**	**01 32 09.0**	**+0.9**
JKRS	**Kuro-shima**	**2.27 74**	A	A	01 32 09.0	
	comp=N,14nn,4.9s,comp=E,15nn,3.4s					
VWUC	**VWUC**	**2.39 305**	*e*	**Pn**	**01 32 09.1**	**-0.7**
JIJ	**Ishigaki jima**	**2.42 72**	P	**Pn**	**01 32 10.2**	**+0.1**
JIJ				**Sn**	**01 32 40.4**	**+0.7**
PTMZ	**Houxiangcun**	**2.67 302**	*e*	**Pn**	**01 32 12.6**	**-1.0**
MATB	**Ma-tsu**	**2.92 329**	*e*	**Pn**	**01 32 15.8**	**-1.3**
JTJ	**Tarama**	**2.99 70**	P	**Pn**	**01 32 18.6**	**+0.6**
JTJ				**Sn**	**01 32 54.8**	**+1.0**
KNM	**Kinmen**	**3.01 285**	*e*	**Pn**	**01 32 19.0**	**+0.7**
QZH	**Quanzhou**	**3.05 296**	⇑*i*	**Pn**	**01 32 18.2**	**-0.6**
QZH			Sn	**Sn**	**01 32 53.5**	**-1.7**
QZH			smax	smax		
	comp=E,2μm,0.9s					
QZH			smax	smax		
	comp=E,3μm,0.8s					
QZH			LR	LR		
	comp=E,10μm,6.4s					
QZH			LR	LR		
	comp=E,13μm,6.5s					
QZH			LR	LR		
	comp=E,10μm,5.7s					
KNMB	**Chin-men Tao**	**3.06 286**	Pn	**Pn**	**01 32 18.4**	**-0.6**
KNMB	**Chin-men Tao**	**3.06 286**	*e*	**Pn**	**01 32 18.2**	**-0.8**
MHZQ	**Yeshan**	**3.39 317**	*e*	**Pn**	**01 32 23.3**	**-0.2**
XPSS	**Dashiqiu**	**3.52 339**	*e*	**Pn**	**01 32 24.5**	**-0.8**
JIKM	**Ikemajima**	**3.55 68**	*e*	**Sn**	**01 33 08.2**	**+0.5**
ZPLA	**Ao Xicun**	**3.55 275**	*e*	**Pn**	**01 32 24.6**	**-1.1**
AXDP	**Jialang**	**3.56 291**	*e*	**Pn**	**01 32 25.5**	**-0.2**
JMJ2	**Miyako jima3**	**3.56 71**	*e*	**Sn**	**01 33 09.1**	**+1.2**
DSXP	**Dongshan**	**3.84 272**	*e*	**Pn**	**01 32 29.1**	**-0.6**
SXFK	**Yanhouchang**	**4.53 308**	*e*	**Pn**	**01 32 38.6**	**-0.6**
JOW	**Kunigami**	**6.81 61**	Pn	**Pn**	**01 33 09.4**	**-1.3**
JOW	**Kunigami**	**6.81 61**	Pn	**Pn**	**01 33 10.1**	**-0.5**
	comp=E,6.1nm,0.3s,baz=262,slow=14,SNR=7.2					
JOW			Sn	**Sn**	**01 34 24.6**	**-3.5**
	comp=E,3.6nm,0.3s,baz=146,slow=30,SNR=3.5					
	comp=E,17nm,0.4s					
SSE	**Sheshan**	**7.43 357**	Pn	**Pn**	**01 33 22.5**	**+3.4**
SSE			Sn	**Sn**	**01 34 47.8**	**+4.4**
SSE			smax	smax		
	comp=E,48nm,1.4s					
SSE			smax	smax		
	comp=E,73nm,0.9s					
SSE			LR	LR		
	comp=E,1μm,6.8s					
SSE			LR	LR		
	comp=E,310nm,7.0s					
GZH	**Guangzhou**	**7.62 267**	Pn	**Pn**	**01 33 19.8**	**-1.9**
GZH			Sn	**Sn**	**01 34 42.3**	**-5.7**
GZH			smax	smax		
	comp=E,310nm,0.7s					
GZH			smax	smax		
	comp=E,290nm,

KMI LR LR
comp=E,1µm,9.4s
CD2 Chengdu 17.44 298 P P 01 35 35.2 0.0
CD2 PP **PnPn 01 35 49.0 +4.8**
CD2 pmax pmax
comp=E,30nm,2.0s
CD2 LR LR
comp=E,4µm,7.5s
CD2 LR LR
comp=E,4µm,9.3s
CD2 LR LR
comp=E,5µm,7.4s
PZH PanZhiHua 18.23 283 P Pn 01 35 44.1 +0.2
HHC Hu-ho-hao-te 19.12 336 *eP* **Pn 01 35 56.0 +1.4**
HHC pmax pmax
comp=E,15nm,1.0s
HHC pmax pmax
comp=E,310nm,4.1s
HHC LR LR
comp=E,710nm,14.5s
HHC LR LR
comp=E,400nm,15.3s
HHC LR LR
comp=E,580nm,13.8s
MJAR Matsushiro Arr 19.23 44 P P 01 35 55.3 +0.3
baz=228,slow=8.0,SNR=4.0
comp=E,0.6nm,0.3s
BTO Baotou 19.53 333 *eP* **Pn 01 36 01.2 +1.7**
BTO pP **sP 01 36 05.8 +3.1**
BTO sP pP 01 36 08.2 +6.5
BTO PP **PnPn 01 36 21.0 +8.1**
BTO pmax pmax
comp=E,13nm,0.6s
BTO pmax pmax
comp=E,1µm,7.3s
BTO LR LR
comp=E,2µm,11.4s
BTO LR LR
comp=E,2µm,9.3s
BTO LR LR
comp=E,3µm,10.8s
LZH Lanzhou 19.74 313 *eP* **Pn 01 36 07.2 +5.0**
LZH sP sP 01 36 13.0 +8.0
LZH pmax pmax
comp=E,21nm,1.1s
LZH LR LR
comp=E,1µm,7.4s
LZH LR LR
comp=E,1µm,7.2s
LZH LR LR
comp=E,1µm,10.7s
XLT XiLinHaoTe 20.71 349 *eP* Pn 01 36 12.8 -0.6
XLT pmax pmax
comp=E,9.0nm,1.1s
XLT LR LR
comp=E,40nm,9.8s
XLT LR LR
comp=E,340nm,6.6s
XLT LR LR
comp=E,510nm,8.3s
CHTO Chiang Mai 21.66 262 P 01 36 22.8 +1.4
CMAR Chiang Mai Arr 21.77 261 P **P 01 36 24.2 +1.6**
comp=E,6.0nm,0.9s,baz=64,slow=8.5,SNR=18
CMAR LR LR 01 44 14.9
comp=E,172nm,19.2s,baz=80,slow=35
comp=E,6.0nm,0.9s
MDJ Mudanjiang 21.92 15 P P 01 36 24.1 +0.2
MDJ pmax pmax
comp=E,8.0nm,1.2s
USRK Ussuriysk Ar. 22.20 20 P P 01 36 26.7 -0.2
comp=E,1.7nm,0.5s,baz=203,slow=8.8,SNR=4.8
USRK LR LR 01 46 10.0
comp=E,84nm,19.6s,baz=199,slow=40
comp=E,1.7nm,0.5s
TOLI2 Tolitoli 22.41 182 P P 01 36 28.5 -0.9
BNX BinXian 22.54 11 ⇑P **P 01 36 30.2 -0.4**
BNX pmax pmax
comp=E,5.0nm,0.3s
GUMO Guam 24.16 110 LR LR 01 44 12.0
comp=E,150nm,21.3s,baz=280,slow=32
GTA Gaotai 24.25 316 *eP* **P 01 36 49.5 +1.7**
GTA pP sP 01 36 52.5 +0.1
GTA pmax pmax
comp=E,6.0nm,1.5s
GTA LR LR
comp=E,510nm,10.8s
GTA LR LR
comp=E,670nm,12.7s
GTA LR LR
comp=E,680nm,14.3s
ERM Erimo 25.64 39 P P 01 36 59.4 -0.8
GOMU GeErMu 26.29 305 P P 01 37 06.0 -0.7
GOMU pP sP 01 37 09.6 -1.6
GOMU sP pP 01 37 13.8 +3.4
GOMU S **S 01 41 42.4 +2.9**
GOMU pmax pmax
comp=E,3.0nm,0.6s
GOMU LR LR
comp=E,550nm,8.2s
GOMU LR LR
comp=E,460nm,8.0s
GOMU LR LR
comp=E,650nm,8.0s
ASAJ Asahikawa 26.70 35 LR LR 01 47 23.4
comp=E,172nm,19.3s,baz=236,slow=36
HEH HeiHe 26.95 8 *eP* **P 01 37 10.6 -1.4**
HEH pmax pmax
comp=E,7.0nm,1.5s
HEH LR LR
comp=E,470nm,10.5s
HEH LR LR
comp=E,280nm,11.5s
HEH LR LR
comp=E,500nm,10.9s
SONM Songino Array 27.02 337 P P 01 37 12.7 -0.1
comp=E,1.8nm,0.7s,baz=155,slow=9.3,SNR=6.8
SONM S **S 01 41 49.3 -1.0**
comp=E,0.3nm,0.5s,baz=126,slow=15,SNR=2.0
SONM LR LR 01 49 06.6
comp=E,452nm,18.1s,baz=128,slow=39
comp=E,1.8nm,0.7s
KAPI Kappang 28.54 184 LR LR 01 48 49.5
comp=E,159nm,21.4s,baz=3.5,slow=36
JAY Jayapura 31.96 142 LR LR 01 48 20.6
comp=E,204nm,19.6s,baz=358,slow=32
WMQ Urumqi 34.31 314 *eP* **P 01 38 19.5 +2.3**
WMQ pmax pmax
comp=E,38nm,1.1s
WMQ LR LR
comp=E,520nm,15.9s
WMQ LR LR
comp=E,420nm,8.5s
WMQ LR LR
comp=E,150nm,17.7s
MK31 Makanchi Array 39.00 316 P P 01 38 57.3 +0.2
MKAR Makanchi Array 39.00 316 P P 01 38 57.3 +0.2
comp=E,2.0nm,0.6s,baz=104,slow=10,SNR=9.7
comp=E,2.0nm,0.6s
KNRA Kununurra 39.70 169 P P 01 39 01.7 -1.4
PETK Petropavlovsk- 40.10 33 P P 01 39 04.6 -1.5
comp=E,1.0nm,0.5s,baz=249,slow=7.6,SNR=2.5
PETK LR LR 01 55 46.9
comp=E,91nm,20.6s,baz=228,slow=36
comp=E,1.0nm,0.5s
ZALV Zalesovo Beam 40.91 327 P P 01 39 11.7 -1.1
comp=E,2.6nm,0.7s,baz=119,slow=7.8,SNR=5.4
comp=E,2.6nm,0.7s
PMG Port Moresby 41.26 140 LR LR 01 55 43.0
comp=E,108nm,18.5s,baz=322,slow=35
FITZ Fitzroy Crossi 41.67 174 P P 01 39 17.6 -1.8
H11N1 WAKE ISLAND Hy 42.12 86 T T 02 24 19.8
baz=283,slow=74
H11N2 WAKE ISLAND Hy 42.13 86 T T 02 24 20.0
baz=283,slow=74
H11N3 WAKE ISLAND Hy 42.14 86 T T 02 24 21.0
baz=283,slow=74
H11S3 WAKE ISLAND Hy 42.24 88 T T 02 24 27.8
baz=285,slow=75
H11S1 WAKE ISLAND Hy 42.25 88 T T 02 24 28.5
baz=285,slow=75
H11S2 WAKE ISLAND Hy 42.26 88 T T 02 24 29.1
baz=285,slow=75
KURK Kurchatov 42.76 320 P P 01 39 28.1 +0.1
KURBB Kurchatov Arra 42.77 320 P P 01 39 27.9 -0.2
comp=E,0.8nm,0.4s,baz=110,slow=9.6,SNR=18
comp=E,0.8nm,0.4s
COEN Coen 42.91 148 P P 01 39 30.7 +1.2

MBWA Marble Bar 44.57 183 P P 01 39 42.7 -0.1
MBWA IAmb IAmb 01 40 15.7
comp=Z,20nm,1.3s
WB0 Warramunga Arr 44.91 163 P P 01 39 44.5 -1.0
PSA00 Pilbara Seismi 44.98 182 P P 01 39 44.0 -2.0
PSA00 Pilbara Seismi 44.98 182 P P 01 39 45.0 -1.0
PSA00 IAmb IAmb 01 40 04.5
comp=Z,10nm,0.9s
WRA Warramunga Arr 45.06 163 P P 01 39 45.7 -1.1
comp=Z,3.9nm,0.6s,baz=344,slow=8.7,SNR=4.8
WRA PcP **PcP 01 41 26.2 -1.3**
comp=Z,0.6nm,0.7s,baz=346,slow=3.9,SNR=2.2
comp=Z,3.9nm,0.6s
WB2 Warramunga Arr 45.06 163 P P 01 39 45.9 -0.9
WB2 IAmb IAmb 01 39 53.5
comp=Z,16nm,1.4s
WR8 Warramunga Arr 45.12 163 P P 01 39 46.3 -0.9
WR0 Warramunga Arr 45.13 163 P P 01 39 46.3 -1.0
WR0 IAmb IAmb 01 39 50.8
comp=Z,7.1nm,0.7s
GIRL Giralia 46.56 189 P P 01 39 58.6 0.0
TIXI Tiksi 48.21 3 P P 01 40 11.2 +0.3
TIXI IAmb IAmb 01 40 42.3
comp=Z,6.5nm,0.8s
BVAR Borovoye Array 48.34 321 P P 01 40 12.2 +0.1
comp=Z,1.1nm,0.5s,baz=98,slow=8.0,SNR=6.5
BVAR PcP **PcP 01 41 38.0 -0.7**
comp=Z,0.9nm,0.6s,baz=112,slow=4.0,SNR=3.7
comp=Z,1.1nm,0.5s
ASAR Alice Springs 48.52 165 P P 01 40 13.2 -0.7
comp=Z,0.7nm,0.5s,baz=349,slow=8.2,SNR=9.7
ASAR PcP **PcP 01 41 38.5 -1.2**
comp=Z,0.4nm,0.5s,baz=349,slow=2.7,SNR=2.3
comp=Z,0.7nm,0.5s
MORW Morawa 52.68 186 P P 01 40 45.6 +0.4
MORW IAmb IAmb 01 41 09.1
comp=Z,29nm,1.5s
AB31 Akbulak array 54.10 315 P P 01 40 55.9 +0.4
FORT Forrest 54.46 173 P P 01 40 57.7 -0.5
AKTO Aktyubinsk 55.44 316 P P 01 41 04.8 -0.3
comp=Z,0.8nm,0.4s,baz=72,slow=9.6,SNR=2.0
comp=Z,0.8nm,0.4s
ARTI Arti 55.87 323 P P 01 41 07.3 -0.8
ARTI IAmb IAmb 01 41 12.1
comp=Z,5.1nm,0.6s
ARTI Arti 55.87 323 P P 01 41 07.2 -0.9
comp=Z,3.1nm,0.6s,baz=174,slow=4.1,SNR=5.3
comp=Z,3.1nm,0.6s
BBOO Buckeboo 57.80 166 P P 01 41 20.2 -1.8
STKA Stephens Creek 58.42 160 P P 01 41 25.7 -0.7
comp=Z,3.9nm,0.7s,baz=337,slow=4.8,SNR=6.4
comp=Z,3.9nm,0.7s
SPIA Saint Paul Isl 58.64 36 P P 01 41 24.8 -2.9
baz=265
GAMB Gambell 58.77 28 P P 01 41 26.7 -1.7
baz=260
P08K Saint George I 58.98 37 P P 01 41 28.5 -1.6
baz=266
TNA Tin City 60.65 27 P P 01 41 40.3 -1.0
baz=263
UNV Unalaska Valle 60.65 40 P P 01 41 39.4 -2.1
baz=270
KIRV Kirov 60.89 325 P P 01 41 41.8 -1.3
comp=Z,3.3nm,0.4s,baz=37,slow=5.1,SNR=5.2
comp=Z,3.3nm,0.4s
M11K Mekoryuk 60.96 33 P P 01 41 42.0 -1.5
baz=267
F14K Arctic Creek 61.30 27 P P 01 41 46.2 +0.4
baz=264
K13K Kusilvak Mount 61.78 31 P P 01 41 50.4 +1.3
K13K IAmb IAmb 01 41 54.2
comp=Z,8.6nm,1.0s
C16K Lisburne Hills 61.99 24 P P 01 41 47.8 -2.5
baz=264
F15K North Star Dit 62.01 27 P P 01 41 51.0 +0.4
baz=266
G15K Niukluk 62.22 28 P P 01 41 48.9 -3.1
baz=266
J14K Nanvaranak Lak 62.32 30 P P 01 41 51.2 -1.5
baz=268
L14K Kuka Creek 62.71 32 P P 01 41 57.1 +1.8
L14K Kuka Creek 62.71 32 P P 01 41 54.4 -0.9
baz=270
D17K Noatak River 62.78 25 P P 01 41 55.0 -0.7
baz=266
DZM Mont Dzumac 62.98 133 *e*LR LR 02 00 37.4
comp=Z,230nm,24.7s
M14K Bethel 63.06 32 P P 01 41 55.0 -2.6
baz=271
E17K Hotham Inlet 63.23 25 P P 01 41 57.9 -0.8
baz=268
K15K Wolf Creek Mou 63.26 31 P P 01 41 57.9 -1.0
baz=270
B18K Kokolik River 63.37 23 P P 01 41 59.3 -0.3
baz=266
F17K Baldwin Pennin 63.44 26 P P 01 41 59.5 -0.6
baz=268
C18K Utukok River 63.54 24 P P 01 42 01.4 +0.5
baz=267
G17K Kiwalik Mounta 63.66 27 P P 01 42 01.1 -0.6
baz=269
J16K Anvik River 63.68 30 P P 01 41 59.6 -2.1
baz=270
M15K Kasigluk River 63.69 32 P P 01 42 00.9 -0.9
baz=272
E18K Tukpahlearik C 63.72 25 P P 01 42 03.2 +1.2
E18K IAmb IAmb 01 42 06.8
comp=Z,5.2nm,0.7s
E18K Tukpahlearik C 63.72 25 P P 01 42 01.3 -0.6
baz=268
H17K Granite Mounta 63.97 28 P P 01 42 02.7 -0.9
baz=270
N15K Kwethluk River 64.00 33 P P 01 42 03.1 -0.9
baz=272
F18K Selawik 64.08 26 P P 01 42 03.3 -0.9
baz=270
C19K Lookout Ridge 64.14 23 P P 01 42 03.6 -1.2
baz=269
J17K VABM Dome 64.36 29 P P 01 42 07.9 +1.7
J17K IAmb IAmb 01 42 09.6
comp=Z,8.3nm,0.8s
J17K VABM Dome 64.36 29 P P 01 42 05.5 -0.7
baz=272
G18K Tagagawik 64.49 27 P P 01 42 06.0 -1.0
baz=271
M16K Timber Creek 64.52 32 P P 01 42 06.3 -1.0
baz=273
H18K Honhosa River 64.62 27 P P 01 42 07.4 -0.6
baz=272
N16K Nishlik Lake 64.64 33 P P 01 42 07.8 -0.3
baz=273
D19K Kuna River 64.67 24 P 01 42 08.8 +0.6
D19K Kuna River 64.67 24 P P 01 42 07.3 -0.9
baz=270,SNR=7.9
K17K Iditarod 64.74 30 P 01 42 10.5 +1.7
K17K Iditarod 64.74 30 P P 01 42 08.8 +0.1
baz=273
L17K Donlin 64.77 31 P P 01 42 08.4 -0.6
baz=273
F19K Shaleruckik Mo 64.82 26 P P 01 42 10.7 +1.5
F19K IAmb IAmb 01 42 11.6
comp=Z,9.4nm,1.4s
F19K Shaleruckik Mo 64.82 26 P P 01 42 08.9 -0.3
baz=271
B20K Meade River 65.00 22 P P 01 42 09.2 -1.1
baz=270
E19K Redstone River 65.02 25 P P 01 42 11.6 +1.1
E19K IAmb IAmb 01 42 18.7
comp=Z,4.5nm,0.8s
E19K Redstone River 65.02 25 P P 01 42 09.9 -0.6
baz=272
G19K Purcell Mounta 65.12 26 P 01 42 12.5 +1.4
G19K IAmb IAmb 01 42 14.6
comp=Z,14nm,1.5s
G19K Purcell Mounta 65.12 26 P P 01 42 11.1 0.0
baz=272
D20K Etivluk River 65.22 23 P P 01 42 12.6 +0.8
D20K IAmb IAmb 01 42 17.8
comp=Z,4.5nm,0.8s
D20K Etivluk River 65.22 23 P P 01 42 11.2 -0.6
baz=272
M17K Holitna River 65.23 32 P P 01 42 11.3 -0.6
baz=274
E20K Nigu River 65.39 24 P P 01 42 12.4 -0.5
baz=272,SNR=9.3
H19K Roundabout Mou 65.41 27 P 01 42 14.0 +1.0
H19K Roundabout Mou 65.41 27 P P 01 42 12.1 -0.9
baz=273
N17K Nushagak Hills 65.42 33 P P 01 42 12.3 -0.9
baz=275
J18K Innoko River 65.42 29 P P 01 42 11.0 -2.2
baz=274
L18K Granite Mounta 65.52 31 P 01 42 15.0 +1.2
L18K Granite Mounta 65.52 31 P P 01 42 13.3 -0.5
baz=274
O17K Koliganek Bris 65.53 33 P P 01 42 13.4 -0.5
baz=275
F20K Avaraart Lake 65.62 25 P P 01 42 15.8 +1.4
F20K IAmb IAmb 01 42 16.6
comp=Z,9.4nm,1.4s
F20K Avaraart Lake 65.62 25 P P 01 42 13.5 -0.9
baz=273
C21K Knifeblade Rid 65.86 23 P P 01 42 14.9 -1.0
baz=273
J19K Poorman 65.87 29 P 01 42 17.2 +1.2
J19K Poorman 65.87 29 P P 01 42 14.3 -1.8
baz=275
B21K Ikpikpuk River 65.90 22 P P 01 42 14.3 -1.8
baz=273
P17K Kvichak River 65.92 34 P P 01 42 15.3 -1.1
baz=276
M18K Stony River 65.99 31 P P 01 42 16.0 -0.9
baz=276
H20K Anotleneega Mo 66.06 27 P P 01 42 16.0 -1.3
baz=275
KBZ Khabaz 66.12 309 P P 01 42 18.6 +0.6
comp=Z,1.8nm,0.8s,baz=135,slow=2.8,SNR=4.7
comp=Z,1.8nm,0.8s
E21K Killik River 66.20 24 P P 01 42 18.9 +0.8
E21K IAmb IAmb 01 42 26.4
comp=Z,5.4nm,0.8s
E21K Killik River 66.20 24 P P 01 42 16.4 -1.8
baz=274
I20K Naaghedeneel 66.29 28 P P 01 42 20.3 +1.6
I20K Naaghedeneel 66.29 28 P P 01 42 18.0 -0.7
baz=275
L19K White Mountain 66.38 31 P P 01 42 20.2 +0.8
L19K White Mountain 66.38 31 P P 01 42 18.6 -0.8
baz=276
O18K Koktuh Hills 66.47 33 P P 01 42 18.9 -1.0
baz=277
F21K Alatna River 66.48 25 P P 01 42 20.9 +0.9
F21K Alatna River 66.48 25 P P 01 42 19.3 -0.6
baz=275
J20K Nowinta River 66.50 28 P 01 42 20.7 +0.6
J20K Nowinta River 66.50 28 P P 01 42 18.7 -1.3
baz=276
P18K Big Mountain, 66.51 34 P P 01 42 19.1 -1.2
baz=277
G21K Allakaket 66.54 26 P 01 42 20.6 +0.3
G21K Allakaket 66.54 26 P P 01 42 18.9 -1.4
baz=275,SNR=9.9
K20K Telida 66.62 29 P P 01 42 22.0 +1.1
K20K IAmb IAmb 01 42 26.1
comp=Z,9.3nm,1.2s
K20K Telida 66.62 29 P P 01 42 20.1 -0.8
baz=276
D22K Ayikyak River 66.64 23 P 01 42 21.9 +1.0
D22K IAmb IAmb 01 42 27.0
comp=Z,12nm,1.1s
D22K Ayikyak River 66.64 23 P P 01 42 19.5 -1.4
baz=275
N19K Bonanza Creek 66.71 32 P P 01 42 20.5 -1.1
baz=277
L20K Farewell, AK 66.80 30 P P 01 42 21.8 -0.2
baz=277
H21K Melozitna Rive 66.91 27 P P 01 42 23.9 +1.2
H21K Melozitna Rive 66.91 27 P P 01 42 21.7 -1.0
baz=276,SNR=12
F22K John River 66.96 25 P P 01 42 22.9 -0.1
baz=276
E22K Anaktuvuk Pass 67.03 24 P P 01 42 24.6 +1.1
E22K Anaktuvuk Pass 67.03 24 P P 01 42 23.4 -0.1
baz=276
R18K Karluk 67.16 36 P P 01 42 24.0 -0.3
baz=278
M20K Styx River 67.22 31 P P 01 42 25.7 +0.9
M20K IAmb IAmb 01 42 32.7
comp=Z,10nm,1.2s
M20K Styx River 67.22 31 P P 01 42 25.1 +0.2
baz=278
C23K Itkillik River 67.27 22 P P 01 42 24.8 -0.1
baz=277
G22K Bettles 67.28 25 P P 01 42 24.4 -0.6
baz=277
I21K Tanana 67.31 27 P P 01 42 26.5 +1.3
I21K Tanana 67.31 27 P P 01 42 23.5 -1.6
baz=277
D23K Nanushuk River 67.35 23 P 01 42 26.4 +1.0
D23K IAmb IAmb 01 42 27.8
comp=Z,13nm,1.2s
D23K Nanushuk River 67.35 23 P P 01 42 23.8 -1.6
baz=277
H22K Ishtalitna Cre 67.47 26 P P 01 42 25.0 -1.2
baz=278,SNR=14
P19K Oil Pt 67.49 33 P P 01 42 25.0 -1.5
baz=278
CAST Castle Rocks 67.50 29 P 01 42 27.7 +1.2
CAST Castle Rocks 67.50 29 P P 01 42 26.2 -0.2
baz=278
O20K Slope Mountain 67.73 33 P P 01 42 27.0 -1.0
baz=279
COLD Coldfoot 67.75 25 P P 01 42 29.6 +1.7
COLD IAmb IAmb 01 42 31.0
comp=Z,11nm,1.4s
COLD Coldfoot 67.75 25 P P 01 42 28.0 +0.1
baz=278
N20K Mount Spurr 67.76 31 P P 01 42 27.0 -1.3
baz=279
SPCR Spurr Chakacha 67.76 31 P P 01 42 27.3 -0.9
baz=279
TOLK Toolik Lake Re 67.79 23 P P 01 42 28.1 -0.2
TOLK IAmb IAmb 01 42 32.1
comp=Z,4.6nm,0.8s
TOLK Toolik Lake Re 67.79 23 P P 01 42 27.8 -0.4
baz=278
MLY Manley 67.85 27 P P 01 42 29.8 +1.1
MLY Manley 67.85 27 P P 01 42 28.4 -0.3
baz=278
E23K Chandalar 67.86 24 P 01 42 30.0 +1.3
E23K IAmb IAmb 01 42 33.4
comp=Z,7.1nm,0.9s
E23K Chandalar 67.86 24 P P 01 42 28.6 -0.2
baz=278,SNR=7.0
G23K Bananza Creek 67.89 25 P 01 42 30.2 +1.3
G23K IAmb IAmb 01 42 38.0
comp=Z,5.1nm,0.8s
G23K Bananza Creek 67.89 25 P P 01 42 29.1 +0.1
baz=278,SNR=8.7
C24K Franklin Bluff 67.94 22 P P 01 42 28.7 -0.4
baz=278
SKT Skwentna 67.96 31 P P 01 42 29.9 +0.5
SKT IAmb IAmb 01 42 33.0
comp=Z,10nm,1.2s
SKT Skwentna 67.96 31 P P 01 42 28.4 -1.1
baz=279
D24K Happy Valley 67.98 23 P 01 42 30.4 +0.9
D24K IAmb IAmb 01 42 37.7
comp=Z,7.8nm,0.7s
D24K Happy Valley 67.98 23 P P 01 42 28.8 -0.6
baz=278
Q20K Shuyak Island 68.08 34 P P 01 42 29.6 -0.6
baz=280
KDAK Kodiak Island 68.12 35 P P 01 42 29.0 -1.4
baz=280
H23K Yukon River 68.22 26 P P 01 42 32.0 +1.0
H23K Yukon River 68.22 26 P P 01 42 30.4 -0.6
baz=279,SNR=8.6
E24K Your Creek 68.27 24 P P 01 42 30.7 -0.6
baz=279
TRF Thorofare Moun 68.29 29 P P 01 42 30.5 -1.1
baz=279
I23K Minto, Yukon-K 68.41 27 P P 01 42 33.0 +0.9
I23K IAmb IAmb 01 42 35.1
comp=Z,8.8nm,1.2s
I23K Minto, Yukon-K 68.41 27 P P 01 42 30.8 -1.3
baz=280,SNR=7.4
SUA Susitna One 68.41 31 P P 01 42 32.5 +0.1
SUA Susitna One 68.41 31 P P 01 42 31.3 -1.1
baz=280
F24K Squaw Lake 68.59 24 P 01 42 34.2 +0.9
F24K IAmb IAmb 01 42 40.2
comp=Z,7.6nm,0.8s
F24K Squaw Lake 68.59 24 P P 01 42 32.8 -0.5

baz=280,SNR=13
NEA2 Nenana 68.62 28 P P 01 42 34.4 +0.9
NEA2 IAmb IAmb 01 42 37.7
comp=Z,10nm,1.2s
NEA2 Nenana 68.62 28 P P 01 42 33.4 -0.1
baz=280
M22K Willow 68.66 31 P P 01 42 33.5 -0.2
MCK McKinley 68.84 28 P 01 42 35.2 +0.3
MCK McKinley 68.84 28 P P 01 42 34.0 -0.8
baz=280
G24K Hadweenzic Riv 68.89 25 P P 01 42 35.7 +0.5
G24K IAmb IAmb 01 42 39.9
comp=Z,6.3nm,0.9s
G24K Hadweenzic Riv 68.89 25 P P 01 42 33.8 -1.3
baz=281,SNR=6.9
H24K Noodor Dome 68.89 26 P P 01 42 35.8 +0.6
H24K Noodor Dome 68.89 26 P P 01 42 33.9 -1.3
baz=281,SNR=6.6
PMR Palmer 69.15 31 P P 01 42 36.9 +0.2
PMR IAmb IAmb 01 42 39.5
comp=Z,11nm,1.3s
PMR Palmer 69.15 31 P P 01 42 35.9 -0.9
baz=281
C26K Camden Bay 69.20 22 P P 01 42 35.1 -1.9
baz=282
POKR Poker Plat Res 69.21 27 P P 01 42 36.8 -0.4
baz=281
G25K Bearman Lake 69.42 25 P P 01 42 37.4 -1.0
baz=282,SNR=8.1
F25K Christian Rive 69.42 24 P 01 42 39.2 +0.7
F25K IAmb IAmb 01 42 43.4
comp=Z,5.1nm,0.8s
F25K Christian Rive 69.42 24 P P 01 42 38.4 0.0
baz=282,SNR=5.2
KNK Knik Glacier 69.50 31 P P 01 42 37.0 -2.0
baz=282
ILAR Eielson Array 69.51 27 P P 01 42 38.0 -1.0
comp=Z,0.6nm,0.6s,baz=293,slow=7.8,SNR=9.3
comp=Z,0.6nm,0.6s
H25L Birch Creek 69.63 26 P P 01 42 38.8 -0.8
baz=282
PRP Porcupine Dome 69.91 26 P P 01 42 42.8 +1.1
PRP Porcupine Dome 69.91 26 P P 01 42 40.7 -1.0
baz=283
F26K Sheenjek River 69.96 24 P P 01 42 42.4 +0.6
F26K IAmb IAmb 01 42 46.5
comp=Z,5.7nm,0.8s
F26K Sheenjek River 69.96 24 P P 01 42 39.8 -2.0
baz=283,SNR=7.6
J25K Salcha River, 70.18 27 P P 01 42 43.4 +0.2
J25K Salcha River, 70.18 27 P P 01 42 41.4 -1.8
baz=283
ARCES ARCESS Array B 70.19 338 P P 01 42 43.3 +0.2
comp=Z,3.6nm,1.0s,baz=44,slow=11,SNR=4.0
comp=Z,3.6nm,1.0s
K24K Donnelly Dome 70.19 28 P P 01 42 43.0 -0.2
K24K Donnelly Dome 70.19 28 P P 01 42 41.7 -1.5
baz=283
G26K Porcupine Rive 70.27 25 P 01 42 43.9 +0.3
G26K IAmb IAmb 01 42 48.3
comp=Z,9.1nm,0.9s
G26K Porcupine Rive 70.27 25 P P 01 42 43.0 -0.6
baz=284,SNR=12
P23K Montague Islan 70.31 32 P 01 42 44.5 +0.5
P23K Montague Islan 70.31 32 P P 01 42 43.3 -0.7
baz=283
M24K Tolsona, Glenn 70.41 30 P P 01 42 44.2 -0.5
baz=284
PAX Paxson 70.52 29 P P 01 42 45.5 +0.2
PAX IAmb IAmb 01 42 47.7
comp=Z,12nm,1.5s
PAX Paxson 70.52 29 P P 01 42 45.0 -0.4
baz=284
RIDG Independent Ri 70.61 28 P P 01 42 46.0 +0.2
RIDG IAmb IAmb 01 42 51.2
comp=Z,11nm,1.2s
RIDG Independent Ri 70.61 28 P P 01 42 46.3 +0.5
baz=284
E27K Coleen River 70.77 23 P P 01 42 46.0 -0.7
baz=285
SCRK Sand Creek 70.92 28 P 01 42 47.5 -0.3
SCRK IAmb IAmb 01 42 50.7
comp=Z,13nm,1.4s
SCRK Sand Creek 70.92 28 P P 01 42 46.9 -0.9
baz=285
I26K Coal Creek Min 70.93 26 P P 01 42 47.9 +0.2
I26K IAmb IAmb 01 42 49.7
comp=Z,16nm,1.5s
I26K Coal Creek Min 70.93 26 P P 01 42 47.1 -0.6
baz=285,SNR=7.0
J26L Joseph Creek 70.97 27 P P 01 42 48.0 0.0
J26L Joseph Creek 70.97 27 P P 01 42 47.2 -0.8
baz=285,SNR=7.8
G27K Doyon Strip 71.12 25 P P 01 42 49.5 +0.6
G27K IAmb IAmb 01 42 51.8
comp=Z,9.0nm,1.4s
G27K Doyon Strip 71.12 25 P P 01 42 48.5 -0.4
baz=286
N25K Chitina, Valde 71.26 30 P P 01 42 50.0 +0.2
N25K IAmb IAmb 01 42 53.6
comp=Z,14nm,1.4s
N25K Chitina, Valde 71.26 30 P P 01 42 49.1 -0.7
baz=285
MENT Mentasta 71.31 29 P P 01 42 51.1 +1.1
H27K Steamboat Moun 71.33 25 P P 01 42 51.4 +1.2
H27K IAmb IAmb 01 42 53.3
comp=Z,9.5nm,1.1s
H27K Steamboat Moun 71.33 25 P P 01 42 49.3 -0.9
baz=286,SNR=9.1
E28M Babbage River 71.39 22 P P 01 42 49.8 -0.6
baz=287
I27K Kandik River 71.47 26 P P 01 42 49.9 -1.1
baz=286,SNR=6.3
F28M Old Crow 71.56 24 P P 01 42 52.5 +1.1
F28M IAmb IAmb 01 42 54.1
comp=Z,14nm,1.3s
F28M Old Crow 71.56 24 P P 01 42 50.9 -0.6
baz=287,SNR=8.9
K27K Chicken 71.72 27 P P 01 42 53.5 +1.0
K27K IAmb IAmb 01 42 56.9
comp=Z,7.8nm,0.9s
K27K Chicken 71.72 27 P P 01 42 52.0 -0.5
baz=286
M26K Nabesna, AK 71.77 29 P P 01 42 53.6 +0.6
M26K IAmb IAmb 01 42 57.5
comp=Z,19nm,1.4s
M26K Nabesna, AK 71.77 29 P P 01 42 51.8 -1.2
baz=286,SNR=8.2
KAIM Kayak Island 71.79 32 P P 01 42 52.2 -0.8
baz=286
E29M Blow River 72.03 23 P 01 42 55.0 +0.7
E29M Blow River 72.03 23 P P 01 42 52.3 -1.9
baz=289
MCARA McCarthy VSAT 72.05 30 P P 01 42 52.4 -2.0
baz=286
L27K Beaver Creek, 72.10 28 P 01 42 55.8 +1.0
L27K IAmb IAmb 01 42 58.1
comp=Z,12nm,1.2s
L27K Beaver Creek, 72.10 28 P P 01 42 53.8 -1.0
baz=287,SNR=14
FINES FINESS Array B 72.11 330 P P 01 42 54.5 -0.4
comp=Z,0.9nm,0.6s,baz=50,slow=5.7,SNR=6.3
comp=Z,0.9nm,0.6s
I28M Miner Creek 72.18 26 P 01 42 56.5 +1.2
I28M IAmb IAmb 01 42 59.2
comp=Z,13nm,1.3s
I28M Miner Creek 72.18 26 P P 01 42 53.9 -1.4
baz=288,SNR=5.3
M27K Edge Creek, AK 72.29 29 P P 01 42 57.1 +1.0
M27K Edge Creek, AK 72.29 29 P P 01 42 54.7 -1.4
baz=287
G29M Pine Creek 72.46 24 P P 01 42 57.8 +0.9
G29M IAmb IAmb 01 42 59.4
comp=Z,12nm,1.1s
G29M Pine Creek 72.46 24 P P 01 42 55.8 -1.1
baz=289
H29M Whitestone 72.55 25 P P 01 42 58.3 +0.9
H29M IAmb IAmb 01 42 60.0
comp=Z,8.7nm,1.0s
H29M Whitestone 72.55 25 P P 01 42 56.0 -1.4
baz=289,SNR=5.6
DAWY Dawson 72.84 27 P P 01 42 59.5 +0.3
DAWY Dawson 72.84 27 P P 01 42 58.3 -0.9
baz=289,SNR=9.0
I29M Ogilvie Camp, 72.86 26 P P 01 43 00.0 +0.7
I29M IAmb IAmb 01 43 02.4
comp=Z,12nm,1.4s

F30M Barrier River 73.04 23 P P 01 42 59.1 -1.2
baz=291
YUK3 Moose Creek 73.10 29 P P 01 42 59.5 -1.5
baz=288
G30M tAoh Zraii Nji 73.10 24 P 01 43 00.2 -0.6
G30M IAmb IAmb 01 43 03.9
comp=Z,11nm,1.1s
G30M tAoh Zraii Nji 73.10 24 P P 01 43 00.8 0.0
baz=290
EPYK Eagle Plains 73.13 24 P P 01 43 00.3 -0.6
baz=290
J29N Klondike Camp 73.19 26 P P 01 43 01.2 -0.1
baz=290
AKASG Malin Array Be 73.53 319 P P 01 43 03.5 0.0
comp=Z,0.2nm,0.2s,baz=61,slow=6.3,SNR=4.5
comp=Z,0.2nm,0.2s
INK Inuvik 73.58 22 P P 01 43 03.2 -0.2
baz=292
I30M Mount Dempster 73.67 25 P 01 43 04.9 +0.7
I30M Mount Dempster 73.67 25 P P 01 43 03.7 -0.5
baz=291
L29M L29M 73.69 28 P 01 43 05.5 +1.3
L29M IAmb IAmb 01 43 07.6
comp=Z,7.8nm,0.9s
L29M L29M 73.69 28 P P 01 43 03.9 -0.4
baz=290,SNR=9.6
K29M Barlow Dome 73.69 27 01 43 05.5 +1.1
K29M Barlow Dome 73.69 27 P P 01 43 02.5 -1.9
baz=290,SNR=7.1
M29M Somme Creek 73.77 28 P P 01 43 05.8 +1.0
M29M Somme Creek 73.77 28 P P 01 43 03.2 -1.6
baz=290,SNR=7.3
BRTR Keskin Array B 73.81 307 P P 01 43 05.3 -0.2
comp=Z,1.0nm,0.7s,baz=90,slow=4.8,SNR=6.5
comp=Z,1.0nm,0.7s
G31M Satah River 73.84 23 P P 01 43 04.2 -0.8
baz=292
J30M Hart River 73.92 26 P P 01 43 05.2 -0.5
baz=291
H31M Peel River 74.24 25 P P 01 43 06.5 -0.9
baz=292
YUK6 Outpost Mounta 74.33 30 P P 01 43 07.0 -1.3
baz=290
M30M Minto, Yukon 74.45 28 P P 01 43 09.7 +1.0
M30M Minto, Yukon 74.45 28 P P 01 43 07.7 -1.0
baz=291,SNR=13
O29M Mount Kennedy 74.45 31 P P 01 43 08.0 -0.9
baz=290
N30M Aishikik Lake 74.72 29 P P 01 43 10.9 +0.5
N30M Aishikik Lake 74.72 29 P P 01 43 10.2 -0.2
baz=291,SNR=7.3
HYT Haines Junctio 74.76 30 P 01 43 11.0 +0.4
HYT IAmb IAmb 01 43 13.9
comp=Z,14nm,1.4s
HYT Haines Junctio 74.76 30 P P 01 43 11.2 +0.6
baz=291,SNR=5.8
P29M Wiry Craggy 75.09 31 P P 01 43 12.0 -0.4
baz=291
P30M Million Dollar 75.27 30 P P 01 43 12.5 -1.0
baz=292
O30N Mendenhall 75.43 30 P P 01 43 15.3 +0.9
O30N Mendenhall 75.43 30 P P 01 43 13.4 -1.0
baz=292,SNR=5.2
WHY Whitehorse 76.02 30 P 01 43 18.5 +0.6
WHY Whitehorse 76.02 30 P P 01 43 16.2 -1.6
baz=293,SNR=6.3
N32M Quiet Lake 76.62 29 P P 01 43 21.0 -0.2
baz=295
MMPY Sheldon Lake, 76.78 27 P P 01 43 22.5 +0.5
baz=296
P32M Atlin 76.99 30 P P 01 43 21.4 -1.9
baz=294
P33M Teslin, Yukon 77.14 30 P 01 43 25.4 +1.3
P33M Teslin, Yukon 77.14 30 P P 01 43 23.1 -1.1
baz=295
R32K Eaglecrest 77.15 32 P P 01 43 23.7 -0.4
baz=294
S32K Killisnoo 77.45 33 P P 01 43 24.6 -1.2
baz=294
KWP Kalwaria Pacla 77.84 319 eP P 01 43 25.1 -3.1
Q32M Nakina River 77.93 31 P P 01 43 28.6 -0.1
baz=296
HFS Hagfors 78.23 331 P P 01 43 30.0 -0.2
comp=Z,1.5nm,0.6s,baz=57,slow=5.5,SNR=6.5
comp=Z,1.5nm,0.6s
R33M Jennings River 78.34 30 P P 01 43 30.5 -0.5
R33M IAmb IAmb 01 43 35.1
comp=Z,11nm,1.4s
R33M Jennings River 78.34 30 P P 01 43 29.5 -1.4
baz=297
TGTN Hyland Airport 78.53 27 P P 01 43 31.5 -0.4
baz=299
NB2 NORSAR Subarra 78.89 332 P P 01 43 33.3 -0.5
comp=Z,0.8nm,0.6s,baz=59,slow=5.6
NOA NORSAR Array B 78.89 332 P P 01 43 33.0 -0.8
comp=Z,0.9nm,0.6s,baz=60,slow=5.3,SNR=8.7
comp=Z,0.9nm,0.6s
S34M Telegraph Cree 78.93 31 P P 01 43 34.1 0.0
baz=297
WTLY Watson Lake, Y 78.98 29 P P 01 43 34.2 -0.1
WTLY IAmb IAmb 01 43 38.3
comp=Z,18nm,1.5s
WTLY Watson Lake, Y 78.98 29 P P 01 43 33.6 -0.7
baz=298
CRAG Craig 79.03 34 P P 01 43 33.2 -1.4
baz=296
DLBC Dease Lake 79.21 31 P P 01 43 35.1 -0.5
baz=298
OJC Ojcow 79.34 320 P P 01 43 36.7 +0.2
NIE Niedzica 79.37 319 eP P 01 43 38.0 +1.3
GKP Gorka Klasztor 79.51 324 eP P 01 43 27.4 -10
T35M Bob Quinn 79.78 32 P P 01 43 37.6 -1.2
baz=298
VYHS Vyhne 80.63 319 eP P 01 43 48.2 +4.7
YKA Yellowknife Ar 83.31 23 P P 01 43 55.3 -1.9
comp=Z,1.8nm,0.6s,baz=310,slow=5.3,SNR=3.4
comp=Z,1.8nm,0.6s
GERES GERESS Array B 83.51 321 P P 01 43 59.2 +0.4
comp=Z,1.1nm,0.7s,baz=64,slow=6.2,SNR=9.3
comp=Z,1.1nm,0.7s
PPT2 Papeete2 95.83 107 eLR LR 02 15 55.8
comp=Z,116nm,24.5s
PPT2 eLR LR 02 15 58.3
comp=Z,79nm,25.8s
NVAR Mina Array Bea 96.56 43 P P 01 44 58.3 -2.7
comp=Z,0.1nm,0.4s,baz=298,slow=7.1,SNR=4.0
comp=Z,0.1nm,0.4s
TBI Tubuai 98.12 112 eLR LR 02 16 51.4
comp=Z,362nm,39.8s
BILN Bilwi Airport 135.27 36 PKPdf **PKPdf** 01 50 49.7 -1.6
BAUV El Baul 146.27 17 PKPdf **PKPdf** 01 51 10.7 -0.4
MT09 Talagante 165.04 135 PKPdf **PKPdf** 01 51 35.5 0.0

*NAO **06** 01:46:31.4,34˚.95N×24˚.51E,h10km,mb3.7*
*IDC **06** 01:46:52.9±0.9, 37˚.24N×22˚.07E, h0km, mb3.8/13, mbtmp3.7/26,ML3.4/10,MS2.9/6, Error ellipse: s-maj=17.1km s-min=12.8km az=27.0*
*ATH **06** 01:46:53.3,37˚.01N×21˚.94E,h9km,ML3.8/31,Manual Solution by M.Charalampakis First location: 2019/08/06 01:47:56, This location: 2019/08/06 02:07:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*NEIC **06** 01:46:54.7±1.9, 37˚.06N×0˚.03×21˚.96E±0˚.05, h10km±1km, mb4.3/8, Error ellipse: s-maj=7.8km s-min=2.9km az=308.0*
*THE **06** 01:46:54.1, 37˚N±2˚×2˚2E±˚, h0km±2km, M3.7/38, MLh3.7/38*

ISC 06 01:46:54.0±0.7, 37˚07N±0˚03×22˚00E±0˚02, h12km±4km, n217,σ1s82/241, mb3.9/16, **10C-5D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ITM	**Ithomi**	**0.13**	**333**		**Pg**	**01 46 56.9**	**-0.4**
ITM				Sg	**Sg**	**01 46 59.6**	**-0.1**
ITM	**Ithomi**	**0.13**	**333**	*eP*	**Pg**	**01 46 56.9**	**-0.4**
ITM	**Ithomi**	**0.13**	**333**	P	**Pg**	**01 46 57.1**	**-0.2**
ITM				S	**Sg**	**01 46 59.5**	**-0.1**
ITM	**Ithomi**	**0.13**	**333**	P	**Pg**	**01 46 57.1**	**-0.2**
ITM				S	**Sg**	**01 46 59.3**	**-0.4**
AMT	**Artemida-Makis**	**0.52**	**334**	P	**Pb**	**01 47 04.7**	**-0.4**
AMT				S	**Sb**	**01 47 12.3**	**-0.3**
ARS1	**Argos**	**0.81**	**45**	P	**Pg**	**01 47 10.1**	**+0.3**
VLI	**Veliai**	**0.83**	**114**	P	**Pg**	**01 47 10.1**	**+0.1**

VLI Veliai 0.83 114 P Pg 01 47 09.9 -0.1
VLI S Sg 01 47 20.0 -0.8
GUR Goura 0.91 17 P Pg 01 47 11.0 -0.7
GUR S Sn 01 47 25.4 -0.4
DRO Drossia 0.91 346 P Pg 01 47 11.8 +0.1
DRO S Sn 01 47 25.7 -0.1
DRO Drossia 0.91 346 P Pb 01 47 11.9 +0.1
KLV1 Kalavrita 0.97 5 P Pg 01 47 12.4 -0.4
KLV1 S Sn 01 47 27.4 +0.2
KLV Kalavryta, Ach 0.98 7 P Pg 01 47 12.4 -0.6
KLV S Sn 01 47 28.2 +0.7
KLV Kalavryta, Ach 0.98 7 P Pg 01 47 12.3 -0.7
KLV S Sn 01 47 27.7 +0.2
CLEM Kyllini,Ilia,G 1.07 320 P Pn 01 47 14.9 0.0
RLS Riolos of Patr 1.08 337 P Pb 01 47 14.6 +0.1
RLS Riolos of Patr 1.08 337 P Pb 01 47 14.5 0.0
RLS S Sn 01 47 30.3 +0.6
KRI1 kERI 1.11 303 P Pb 01 47 14.6 -0.6
KRI1 kERI 1.11 303 P Pb 01 47 14.4 -0.8
LTHK Lithakia 1.13 305 P Pb 01 47 14.8 -0.7
LTHK Lithakia 1.13 305 P Pb 01 47 14.7 -0.7
YRMI Loutra Irminis 1.16 334 P Pg 01 47 16.2 0.0
YRMI S Sn 01 47 33.3 +1.6
KTHA Kythira Island 1.18 133 *i* P Pg 01 47 17.1 +0.5
MET2 Kameni Chora, 1.19 62 P Pn 01 47 16.7 +0.3
KYPS Kipseli, Zakin 1.20 309 P Pb 01 47 16.6 -0.1
MET6 Megalochori,Me 1.20 64 P Pg 01 47 17.2 +0.1
LOUT Loutraki 1.20 40 P Pb 01 47 17.0 +0.2
MET5 Makryloggos,Me 1.22 62 P Pb 01 47 17.4 +0.4
LTK Loutraki 1.23 39 P Pb 01 47 17.3 +0.1
LTK Loutraki 1.23 39 P Pn 01 47 17.0 0.0
UPR University Cam 1.23 352 P Pg 01 47 17.9 +0.3
UPR University Cam 1.23 352 P Pb 01 47 17.5 +0.1
AXS Araxos 1.23 337 P Pb 01 47 17.2 0.0
ORTH Orthonies,Zaky 1.30 307 P Pn 01 47 17.7 -0.3
ORTH Orthonies,Zaky 1.30 307 P Pn 01 47 17.6 -0.3
KALE Kalithea 1.33 5 P Pn 01 47 18.3 0.0
KALE Kalithea 1.33 5 P Pn 01 47 18.4 0.0
SERG Sergoula 1.35 2 P Pn 01 47 18.6 0.0
SERG Sergoula 1.35 2 P Pn 01 47 18.8 +0.2
EFP Efpalio 1.36 357 P Pb 01 47 19.5 +0.1
EFP Efpalio 1.36 357 P Pb 01 47 19.5 +0.1
RTZL Ratzakli, Kefa 1.40 316 P Pn 01 47 19.6 +0.3
VILL Villia 1.51 43 P Pb 01 47 22.2 +0.1
VIL2 Platees 1.52 41 P Pb 01 47 22.2 0.0
ANX Ano Chora 1.53 358 P Pb 01 47 21.9 -0.4
ANX Ano Chora 1.53 358 P Pb 01 47 22.3 0.0
PSDA Pessada-Kefalo 1.54 313 P Pn 01 47 21.5 +0.3
PSDA Pessada-Kefalo 1.54 313 P Pn 01 47 21.3 +0.1
PARN3 Mandra,Attica, 1.56 50 P Pb 01 47 22.9 +0.1
PARN3 Mandra,Attica, 1.56 50 P Pb 01 47 23.0 +0.2
MAGU Magoula 1.57 49 P Pb 01 47 22.9 -0.1
MAGU Magoula 1.57 49 P Pb 01 47 23.1 +0.2
VLS Valsamata 1.58 315 P Pn 01 47 22.0 +0.2
ANKY Antikythira Is 1.59 138 P Pb 01 47 23.3 0.0
ANKY Antikythira Is 1.59 138 P Pn 01 47 22.4 +0.4
PVO Paravola 1.59 347 P Pg 01 47 24.3 -0.3
PVO Paravola 1.59 347 P Pg 01 47 24.0 -0.6
PARN2 Moni Osiou Mel 1.61 45 P Pb 01 47 23.8 0.0
PARN2 Moni Osiou Mel 1.61 45 P Pb 01 47 23.6 -0.1
ATH Athens Observa 1.64 56 P Pb 01 47 23.9 -0.2
ATH Athens Observa 1.64 56 P Pb 01 47 23.7 -0.4
STFN Stefani 1.65 47 P Pb 01 47 24.7 +0.3
ATHU Athens Univers 1.68 57 P Pn 01 47 24.1 +1.0
ATHU Athens Univers 1.68 57 P Pn 01 47 24.4 -0.4
PARN1 Fyli,Attica,Gr 1.68 52 P Pb 01 47 24.5 -0.3
PARN1 Fyli,Attica,Gr 1.68 52 P Pb 01 47 24.3 -0.5
FILI Fyli 1.70 51 P Pb 01 47 24.8 -0.4
FILI Fyli 1.70 51 P Pb 01 47 24.7 -0.4
LKR Lokris 1.77 26 P Pb 01 47 26.2 -0.1
AXAR Agios Charalam 1.78 17 P Pb 01 47 26.3 -0.2
AXAR Agios Charalam 1.78 17 P Pb 01 47 26.5 +0.1
PTL Penteli 1.78 56 P Pb 01 47 25.9 -0.6
DION Dionisos Attik 1.84 56 P Pb 01 47 26.7 -0.8
DION Dionisos Attik 1.84 56 P Pn 01 47 26.6 +1.2
EVR Evrytania 1.85 355 P Pb 01 47 28.3 +0.5
MAKR Makrakomi, Fth 1.95 3 P Pb 01 47 29.8 +0.4
MAKR Makrakomi, Fth 1.95 3 P Pb 01 47 29.5 +0.1
MHLO Agia Marina, M 1.96 100 P Pb 01 47 29.0 -0.7
MHLO Agia Marina, M 1.96 100 P Pb 01 47 28.7 -1.0
AGG Agios Georgios 1.97 8 P Pb 01 47 29.7 -0.1
AGG Agios Georgios 1.97 8 P Pb 01 47 29.8 -0.1
KARY Karystos 2.16 63 P Pn 01 47 31.6 +1.8
KARY Karystos 2.16 63 P Pn 01 47 31.2 +1.4
CHAN Chania 2.26 132 P Pb 01 47 32.7 -1.0
KNDR Palaiochora Ch 2.28 143 eP Pn 01 47 33.2 +1.8
KYMI Kymi, Euboea I 2.28 46 P Pn 01 47 33.0 +1.5
KYMI Kymi, Euboea I 2.28 46 P Pn 01 47 32.9 +1.5
NEO Neokhori 2.44 23 P Pn 01 47 35.5 +1.9
NEO Neokhori 2.44 23 P Pn 01 47 35.4 +1.8
THL Klokotos Trika 2.50 0 P Pb 01 47 37.3 -1.5
AOS Alonnisos 2.57 35 P Pn 01 47 36.7 +1.3
TYRN Tyrnavos 2.65 4 P Pn 01 47 38.8 +2.4
JAN Janina 2.74 341 P Pb 01 47 40.7 -2.3
GVD Gavdhos 2.79 142 eP Pb 01 47 42.4 -1.4
IDI Anoyia 2.94 126 Pn Pn 01 47 41.9 +1.4
IDI Anoyia 2.94 126 eP Pn 01 47 42.9 +2.4
IDI Anoyia 2.94 126 Pn Pn 01 47 42.2 +1.7
23nm,0.8s,baz=258,slow=11,SNR=25
IDI Sn **Sn** 01 48 17.0 +1.3
13nm,0.3s,baz=315,slow=18,SNR=4.2
LIT Litokhoron 3.06 7 Pn 01 47 44.6 +2.5
KEK Kerkira 3.16 327 Pn Pb 01 47 48.3 -1.8
KEK Kerkira 3.16 327 eP Pn 01 47 47.6 -2.4
CHOS Chios island 3.48 66 eP Pn 01 47 50.5 +2.6
OUR Ouranopolis 3.61 25 P Pn 01 47 52.4 +2.7
SIGR SIGRI 3.72 54 eP Pn 01 47 52.8 +1.6
FNA Florina 3.74 353 Pn Pn 01 47 52.5 +0.9
URLA Izmir 3.87 69 eP Pn 01 47 55.8 +2.5
OHR Ohrid 4.15 347 *i* Pn Pn 01 48 00.7 +3.5
BOZC Bozcaada 4.22 48 eP Pn 01 48 01.0 +2.9
VAY Valandovo 4.27 6 *i* Pn Pn 01 48 03.1 +4.3
KARP Karpathos 4.43 108 Pn Pn 01 48 03.9 +2.8
TIP Timpagrande 4.64 299 Pn Pn 01 48 05.6 +1.7
TIP Timpagrande 4.64 299 ⇑P Pn 01 48 06.0 +2.1
MMB Musomishta 4.68 16 P Pn 01 48 08.0 +3.6
MMB S Sn 01 49 02.9 +4.3
AYDB Zeytinkoy-Aydi 4.77 78 P Pn 01 48 08.8 +3.1
KKB Krupnik 4.85 10 P Pn 01 48 11.1 +4.4
KKB S Sn 01 49 09.3 +6.5
RDO Rodhopi 4.92 33 Pn Pn 01 48 08.9 +1.3
ALN Alexandroupoli 4.96 38 Pn Pn 01 48 09.5 +1.3
ODEM Odemis-Izmir 4.97 74 eP Pn 01 48 11.8 +3.4
CEL Celeste 4.99 286 Pn Pn 01 48 09.1 +0.4
ARG Arkhangelos 5.00 98 Pn Pn 01 48 10.7 +1.9
RZN Rozhen 5.09 24 P Pn 01 48 12.8 +2.6
KDZ Kurdzhali 5.24 29 P Pn 01 48 13.7 +1.6
MANT Manisa 5.39 73 Pn Pn 01 48 15.0 +0.7
MATE Matera 5.47 313 ⇑P Pn 01 48 16.8 +1.6
PLNA Plana 5.51 11 P Pn 01 48 20.7 +4.7
VTS Vitosha 5.63 9 P Pn 01 48 21.0 +3.5
CUC Castrocucco 5.66 303 Pn Pn 01 48 19.1 +1.2
PDG Podgorica 5.76 339 Pn Pn 01 48 19.9 +0.7
PDG Podgorica 5.76 339 ⇑P Pn 01 48 21.0 +1.8
ACER Acerenza 6.01 310 Pn Pn 01 48 24.6 +1.9
VAE Valguarnera 6.07 276 Pn Pn 01 48 26.0 +2.5
16nm,0.9s,baz=2.4,slow=5.7,SNR=9.4
VAE Sn **Sn** 01 49 37.9 +5.0
2.9nm,0.3s,baz=224,slow=21,SNR=3.7
RAFF Raffo Rosso 6.10 274 Pn Pn 01 48 24.2 +0.2
WDD Wied Dalam 6.15 261 Pn Pn 01 48 23.9 -0.7
TREB Trebinje 6.30 335 ePn Pn 01 48 26.4 -0.3
MPEP Malo Peshtene 6.42 11 P Pn 01 48 31.3 +3.0
BOVS Bovan 6.57 358 ⇓P Pn 01 48 32.6 +2.3
KLINJ Klinje 6.63 338 ePn Pn 01 48 31.9 +0.6
STON Ston 6.67 332 ePn Pn 01 48 30.3 -1.4
SGRT San Giovanni R 6.74 316 Pn Pn 01 48 32.6 -0.1
RUDO Rudo 6.85 344 ePn Pn 01 48 33.6 -0.6
PAOL Paolisi 7.01 307 Pn Pn 01 48 38.0 +1.5
HERR Herculane 7.81 2 ⇓P Pn 01 48 49.6 +2.1
INTR Introdacqua 7.97 311 Pn Pn 01 48 50.2 +0.6
KIJV Kijevo 8.13 330 ePn Pn 01 48 51.8 0.0
ICOR Ion Corvin 8.31 30 ⇑P Pn 01 48 58.5 +4.3
GZR Gura Zlata 8.34 4 ⇓P Pn 01 48 58.1 +3.4
LOT Lotru 8.48 8 ⇑P Pn 01 49 00.0 +3.4
A050A Klekovaca 8.49 332 ePn Pn 01 48 57.0 +0.2
BLY Banja Luka 8.49 336 ePn Pn 01 48 54.5 -2.3
BLY Banja Luka 8.49 336 ⇑P Pn 01 48 58.2 +1.4
CAMP Campotosto 8.57 312 Pn Pn 01 48 59.4 +1.5
A051A Mrakovica 8.82 336 ePn Pn 01 49 00.7 -0.6

MLR	**Muntele Rosu**	**8.92**	**18**	Pn		**Pn**	**01 49 03.6**	**+0.8**
MLR	**Muntele Rosu**	**8.92**	**18**	Pn		**Pn**	**01 49 00.3**	**-2.5**
	0.6nm,0.6s,baz=193,slow=15							
MLR				LR		LR	01 52 47.6	
	comp=Z,72nm,20.6s,baz=192,slow=41							
MLR	**Muntele Rosu**	**8.92**	**18**	⇑P		**Pn**	**01 49 05.7**	**+2.9**
NRCA	**Norcia**	**8.93**	**313**	Pn		**Pn**	**01 49 04.6**	**+1.8**
FDMO	**Fiordimonte**	**9.07**	**314**	Pn		**Pn**	**01 49 06.6**	**+2.0**
MOSL	**Moslavina**	**9.40**	**337**	*e*Pn		**Pn**	**01 49 07.9**	**-1.3**
CSS	**Mathiatis**	**9.42**	**100**	Pn		**Pn**	**01 49 10.6**	**+1.1**
PLOR	**Plostina**	**9.44**	**20**	⇓P		**Pn**	**01 49 12.9**	**+3.1**
OZUR		**9.46**	**16**	⇑P		**Pn**	**01 49 14.1**	**+4.1**
TURR	**Turia**	**9.47**	**17**	⇓P		**Pn**	**01 49 13.9**	**+3.7**
MORH	**Mrgy, Hungar**	**9.48**	**346**	*e*Pn		**Pn**	**01 49 07.3**	**-2.9**
VRI	**Vrincioaia**	**9.48**	**20**	⇑P		**Pn**	**01 49 14.4**	**+4.2**
BR131	**Keskin Array S**	**9.52**	**70**	Pn		**Pn**	**01 49 13.2**	**+2.3**
BRTR	**Keskin Array B**	**9.52**	**70**	Pn		**Pn**	**01 49 12.8**	**+1.9**
BRTR	**Keskin Array B**	**9.52**	**70**	Pn		**Pn**	**01 49 10.3**	**-0.6**
	0.2nm,0.3s,baz=250,slow=13,SNR=14							
	0.2nm,0.5s							
KIRS	**Kirsehir-Merke**	**9.62**	**74**	⇑P		Pn	01 49 18.8	+6.5
VSL	**Villasalto**	**10.22**	**288**	Pn		**Pn**	**01 49 20.6**	**+0.3**
KEST	**Kesra**	**10.29**	**266**	Pn		**Pn**	**01 49 21.6**	**+0.2**
	0.1nm,0.3s,baz=79,slow=16,SNR=4.4							
	2.7nm,0.9s							
SABO	**M.te Sabotino**	**10.90**	**327**	Pn		**Pn**	**01 49 30.0**	**+0.2**
SOKA	**Soboth**	**10.91**	**334**	*i* Pn		**Pn**	**01 49 30.4**	**+0.5**
	0.7nm,0.4s							
SOKA				*i* Sn		**Sn**	**01 51 27.0**	**-5.0**
	0.6nm,0.4s							
OBKA	**Obir**	**10.95**	**332**	*e*Pn		**Pn**	**01 49 31.2**	**+0.8**
	1.1nm,0.4s							
OBKA				*i* Sn		**Sn**	**01 51 31.4**	**-1.4**
	2.9nm,0.6s							
BNN	**Bunyan**	**11.08**	**77**	Pn		**Pn**	**01 49 33.9**	**+1.6**
ARSA	**Arzberg**	**11.25**	**337**	Pn		**Pn**	**01 49 35.2**	**+0.7**
ARSA	**Arzberg**	**11.25**	**337**	*e*Pn		**Pn**	**01 49 34.5**	**0.0**
	0.6nm,0.3s							
MYKA	**Terra Mystica**	**11.40**	**330**	*i* Pn		**Pn**	**01 49 39.1**	**+2.5**
	2.2nm,0.4s							
MMAI	**Mount Meron Ar**	**11.70**	**106**	Pn		**Pn**	**01 49 40.4**	**-0.4**
	1.3nm,0.3s,baz=306,slow=11,SNR=6.8							
MMAI				Sn		**Sn**	**01 51 46.5**	**-5.0**
	1.4nm,0.3s,baz=295,slow=27,SNR=2.5							
	0.6nm,0.3s							
ABTA	**Abfaltersbach**	**11.97**	**327**	*i* Pn		**Pn**	**01 49 45.7**	**+1.3**
	0.8nm,0.4s							
ABTA				*e*Sn		**Sn**	**01 51 57.7**	**-0.2**
	2.3nm,0.8s							
MOA	**Molln**	**12.19**	**335**	*i* Pn		**Pn**	**01 49 47.3**	**0.0**
	0.7nm,0.3s							
LESA	**Schwarzleotal**	**12.43**	**329**	*i* Pn		**Pn**	**01 49 52.7**	**+2.0**
	0.7nm,0.3s							
LESA				*e*Sn		**Sn**	**01 52 07.6**	**-1.6**
	1.0nm,0.4s							
WTTA	**Wattenberg**	**12.75**	**326**	*e*Pn		**Pn**	**01 49 58.0**	**+2.8**
	0.8nm,0.3s							
WTTA				*i* Sn		**Sn**	**01 52 15.4**	**-1.7**
	2.2nm,0.5s							
VRAC	**Vranov**	**12.85**	**344**	Pn		**Pn**	**01 49 53.9**	**-2.4**
	0.3nm,0.3s,baz=198,slow=19,SNR=2.0							
VRAC				LR		LR	01 55 13.1	
	comp=Z,68nm,21.7s,baz=180,slow=39							
	0.7nm,0.4s							
FETA	**Feichten**	**12.99**	**323**	*i* Pn		**Pn**	**01 50 02.7**	**+4.3**
	0.3nm,0.3s							
FETA				*i* Sn		**Sn**	**01 52 22.6**	**-0.3**
	0.4nm,0.4s							
EIL	**Elat**	**13.09**	**121**	Pn		**Pn**	**01 50 01.6**	**+1.9**
	0.4nm,0.3s,baz=326,slow=10,SNR=4.5							
EIL				Sn		Sn	01 52 14.5	-11
	0.9nm,0.3s,baz=17,slow=20,SNR=5.1							
EIL				LR		LR	01 57 37.1	
	comp=Z,30nm,18.8s,baz=53,slow=49							
	3.5nm,0.6s							
ASF	**Jabal al Asfar**	**13.20**	**107**	Pn		**Pn**	**01 50 01.8**	**+0.5**
	0.3nm,0.3s,baz=295,slow=8.0,SNR=4.9							
ASF				Sn		**Sn**	**01 52 20.0**	**-8.1**
	0.1nm,0.3s,baz=26,slow=16,SNR=1.8							
	5.1nm,1.1s							
GERES	**GERESS Array B**	**13.24**	**335**	Pn		**Pn**	**01 50 00.0**	**-1.7**
	baz=153,slow=12,SNR=4.3							
GERES				Sn		**Sn**	**01 52 22.2**	**-6.7**
	baz=157,slow=28,SNR=1.2							
GERES				LR		LR	01 55 42.4	
	comp=Z,55nm,20.3s,baz=156,slow=40							
	0.3nm,0.5s							
DAVOX	**Davos/Dischmat**	**13.24**	**321**	Pn		**Pn**	**01 50 02.1**	**+0.3**
	0.1nm,0.3s,baz=138,slow=15,SNR=4.1							
DAVOX				Sn		Sn	01 52 18.9	-10
	0.1nm,0.3s,baz=294,slow=20,SNR=2.1							
	0.5nm,0.4s							
SENIN	**Lac Senin/Sane**	**14.36**	**315**	Pn		**Pn**	**01 50 17.8**	**+0.5**
AKASG	**Malin Array Be**	**14.58**	**19**	Pn		**Pn**	**01 50 18.1**	**-1.8**
	0.3nm,0.3s,baz=212,slow=10,SNR=1.7							
	0.1nm,0.2s							
CLL	**Collm**	**15.61**	**339**	*es*P		**P**	**01 50 39.0**	**+1.1**
CLL				*e*PP		**sP**	**01 50 43.0**	**-0.1**
CLL				*es*PP			01 50 46.0	
KBZ	**Khabaz**	**17.23**	**61**	P		**Pn**	**01 50 54.0**	**-0.4**
	0.1nm,0.3s,baz=263,slow=9.5,SNR=6.1							
	0.8nm,0.7s							
NACGM	**Naroch**	**18.14**	**9**	*e*P		**P**	**01 51 08.1**	**+2.3**
	comp=Z,7.0nm,0.9s,baz=193							
ESDC	**Sonseca Array**	**20.50**	**285**	P		**P**	**01 51 32.5**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=77,slow=11,SNR=10							
	comp=Z,1.7nm,0.9s							
PAB	**San Pablo**	**20.80**	**285**	P		Pn	01 51 36.9	-0.7
MDT	**Midelt**	**22.19**	**267**	LR		LR	02 01 54.7	
	comp=Z,34nm,21.9s,baz=108,slow=40							
HFS	**Hagfors**	**23.69**	**350**	P		**P**	**01 52 05.1**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=151,slow=9.5,SNR=13							
	comp=Z,2.2nm,0.6s							
KONO	**Kongsberg**	**23.97**	**344**	P		**P**	**01 52 07.5**	**-0.5**
KONO				IAmb		IAmb	01 52 41.5	
	comp=Z,19nm,1.5s							
FINES	**FINESS Array B**	**24.54**	**5**	P		**P**	**01 52 13.5**	**+0.4**
FINES	**FINESS Array B**	**24.54**	**5**	P		**P**	**01 52 13.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=186,slow=7.1,SNR=4.7							
FINES				PcP		**PcP**	**01 55 50.7**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=163,slow=1.5,SNR=3.6							
	comp=Z,1.5nm,0.6s							
NC602	**NORSAR Array S**	**24.60**	**348**	P		**P**	**01 52 13.7**	**-0.1**
NC602				IAmb		IAmb	01 52 28.8	
	comp=Z,5.2nm,1.0s							
NAO01	**NORSAR Array S**	**24.82**	**347**	P		**P**	**01 52 15.8**	**0.0**
NAO01				IAmb		IAmb	01 52 24.8	
	comp=Z,8.0nm,1.1s							
NC405	**NORSAR Array S**	**24.93**	**348**	P		**P**	**01 52 16.2**	**-0.5**
NC405				IAmb		IAmb	01 52 35.0	
	comp=Z,13nm,1.4s							
NB2	**NORSAR Subarra**	**24.95**	**348**	P		**P**	**01 52 16.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**24.95**	**348**	P		**P**	**01 52 16.9**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=156,slow=8.8,SNR=9.9							
	comp=Z,1.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**25.01**	**325**	P		**P**	**01 52 18.1**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=126,slow=9.7,SNR=4.7							
	comp=Z,2.0nm,0.7s							
AB31	**Akbulak array**	**29.92**	**54**	P		**P**	**01 53 02.4**	**+0.8**
ARCES	**ARCESS Array B**	**32.58**	**2**	P		**P**	**01 53 25.3**	**+0.5**
ARCES	**ARCESS Array B**	**32.58**	**2**	P		**P**	**01 53 24.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=184,slow=8.5,SNR=6.4							
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**36.95**	**49**	P		**P**	**01 54 02.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=251,slow=7.7,SNR=3.9							
	comp=Z,0.6nm,0.5s							
SPITS	**Spitsbergen Ar**	**41.29**	**358**	P		**P**	**01 54 38.3**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=189,slow=8.6,SNR=4.6							
	comp=Z,4.7nm,0.9s							
KURBB	**Kurchatov Arra**	**41.96**	**53**	P		**P**	**01 54 43.8**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=281,slow=8.6,SNR=9.0							
	comp=Z,0.9nm,0.5s							
MKAR	**Makanchi Array**	**44.89**	**58**	P		**P**	**01 55 08.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=270,slow=7.7,SNR=4.8							
	comp=Z,0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**45.57**	**47**	P		**P**	**01 55 14.8**	**+1.3**
ZALV	**Zalesovo Beam**	**45.57**	**47**	P		**P**	**01 55 12.7**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=262,slow=9.7,SNR=7.1							
ZALV				LR		LR	02 16 06.3	
	comp=Z,27nm,18.5s,baz=77,slow=39							
	comp=Z,0.9nm,0.3s							
KOOLE	**Kule**	**59.76**	**182**	P		**P**	**01 56 60.0**	**+1.1**
SONM	**Songino Array**	**60.26**	**51**	P		**P**	**01 57 02.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=297,slow=6.8,SNR=4.2							
	comp=Z,0.3nm,0.5s							
BOSA	**Boshof**	**65.41**	**177**	P		**P**	**01 57 37.6**	**+1.1**
	comp=Z,4.6nm,1.1s,baz=0.0,slow=13,SNR=2.2							
	comp=Z,4.6nm,1.1s							

IDC 06 01:56:08.0±2.0, 1.1°12N×125.57E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=183.1km s-min=26.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.63**	**158**	P	P	02 01 10.7	-0.1
	0.6nm,0.3s,baz=336,slow=10,SNR=12						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**25.94**	**162**	P	P	02 01 42.3	0.0
	0.2nm,0.5s,baz=346,slow=9.3,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.05**	**327**	P	P	02 06 10.1	+0.1
	0.4nm,0.5s,baz=112,slow=8.6,SNR=4.7						
	0.4nm,0.5s						

*JMA **06** 02:12:57.0±0.8, 45°N±5°×15°0E±°, h30km, MV4.2/12, KURILE ISLANDS REGION*

SKHL 06 02:12:59.1±0.6, 45.30N×150.10E, h33km±4km, mb4.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.58**	**268**	*i* P	Pn	02 13 24.6	-0.1
KUR				AMB	AMB	02 13 25.5	
	150nm,0.3s						
KUR				*i* S	Sn	02 13 43.7	-0.3
KUR				A	A	02 13 45.1	
	530nm,0.4s						
KUR				A	A	02 13 45.1	
	340nm,0.4s						
SHO	**Shikotan**	**2.74**	**240**	*e*P	Pn	02 13 41.2	+0.5
SHO				AMB	AMB	02 13 45.5	
	60nm,0.3s						
SHO				*e*S	Sn	02 14 12.2	-0.4
SHO				A	A	02 14 21.3	
	190nm,0.3s						
SHO				A	A	02 14 21.3	
	140nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.28**	**249**	*e*P	Pn	02 13 49.3	+1.2
YUK				AMB	AMB	02 13 51.4	
	130nm,0.4s						
YUK				*e*S	Sn	02 14 26.6	+0.7
YUK				A	A	02 14 31.9	
	260nm,0.4s						
YUK				A	A	02 14 31.9	
	150nm,0.4s						
GLVR	**Golovnino**	**3.63**	**246**	*e*P	Pn	02 13 53.8	+0.9
GLVR				AMB	AMB	02 13 58.9	
	80nm,0.4s						
GLVR				*e*S	Sn	02 14 34.0	-0.6
GLVR				A	A	02 14 43.4	
	150nm,0.4s						
GLVR				A	A	02 14 43.4	
	110nm,0.4s						
NEM2	**Nemuro 2**	**3.68**	**240**	*e*P	Pn	02 13 53.1	-0.4
NEM2				*e*S	Sn	02 14 34.4	-1.3
NMR	**Nemuro--Hokkai**	**3.68**	**240**	*e*P	Pn	02 13 53.3	-0.4
NMR				*e*S	Sn	02 14 34.2	-1.7
JRA	**Rausu**	**3.81**	**251**	*e*P	Pn	02 13 57.8	+2.4
JNK	**Nakash**	**4.22**	**248**	*e*P	Pn	02 14 02.5	+1.4
JNK				*e*S	Sn	02 14 52.6	+3.5
AKK	**Akkeshi**	**4.42**	**241**	*e*P	Pn	02 14 03.2	-0.6
AKK				*e*S	Sn	02 14 51.8	-2.2
JAK	**Akkeshi**	**4.52**	**241**	*e*P	Pn	02 14 04.8	-0.4
JAK				*e*S	Sn	02 14 54.8	-1.8
JTKR	**Abashiri--Toko**	**4.62**	**255**	*e*P	Pn	02 14 08.6	+2.1
JTKR				*e*S	Sn	02 15 03.8	+4.9
JAR	**Ashorobuto**	**4.96**	**248**	*e*P	Pn	02 14 13.2	+1.9
JAR				*e*S	Sn	02 15 09.9	+2.3
JOB	**Onbets**	**5.11**	**244**	*e*P	Pn	02 14 13.6	+0.3
JOB				*e*S	Sn	02 15 11.7	+0.7
JCH	**Churui**	**5.55**	**243**	*e*P	Pn	02 14 18.3	-1.1
JCH				*e*S	Sn	02 15 20.3	-1.7
JNBK	**Urakawa-nobuka**	**6.11**	**243**	*e*P	Pn	02 14 25.7	-1.3
JNBK				*e*S	Sn	02 15 33.8	-2.0
JANG	**Nango**	**8.00**	**235**	*e*P	Pn	02 14 50.3	-2.7
JANG				*e*S	Sn	02 16 16.1	-6.1

*NEIC **06** 02:18:39.2±1.7, 7.49S±0.08×130.05E±0.04, h35km±2km, mb4.2/11, Error ellipse: s-maj=13.1km s-min=6.6km az=190.0*
*IDC **06** 02:18:56.1±3.6, 8.52S×129.84E, h236km±32km, mb3.7/3, mbtmp4.4/7, Error ellipse: s-maj=37.0km s-min=18.1km az=64.0*

ISC 06 02:18:35.8±0.5, 7.42S±0.05×130.13E±0.06, h10km, n43, σ1°62/41, mb4.4/8, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.29**	**116**		**Pg**	**02 19 02.7**	**+2.1**
SAUI				Sn	**Sb**	**02 19 17.3**	**+0.6**
BNDI	**Bandanaira**	**2.88**	**356**	P	**Pb**	**02 19 27.0**	**-0.3**
FAKI	**Fak Fak**	**4.94**	**25**		**Pn**	**02 19 51.8**	**+1.6**
FAKI	**Fak Fak**	**4.94**	**25**	P	**Pn**	**02 19 52.3**	**+2.2**
FAKI	**Fak Fak**	**4.94**	**25**	S	**Sn**	**02 20 45.8**	**-1.6**
DRS	**Darwin Rock St**	**5.04**	**171**	P	**Pn**	**02 19 54.4**	**+2.9**
MTN	**Manton Dam**	**5.48**	**170**		**Pn**	**02 19 59.8**	**+2.3**
MTN	**Manton Dam**	**5.48**	**170**	P	**Pn**	**02 20 00.5**	**+2.9**
KDU	**Kakadu**	**5.72**	**156**	P	**Pn**	**02 20 03.4**	**+2.5**
KDU	**Kakadu**	**5.72**	**156**	S	**Sn**	**02 21 05.9**	**-0.7**
BATI	**Baumata**	**6.97**	**246**	P	Pn	02 20 27.7	+10
	30nm,0.4s,baz=94,slow=15,SNR=1.8						
BATI				S	**Sn**	**02 21 41.2**	**+3.8**
	19nm,0.3s,baz=139,slow=22,SNR=1.3						
KNRA	**Kununurra**	**8.32**	**189**		**Pn**	**02 20 37.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**11.48**	**202**		**Pn**	**02 21 19.9**	**0.0**
FITZ	**Fitzroy Crossi**	**11.48**	**202**	P	**Pn**	**02 21 20.7**	**+0.8**
	17nm,0.3s,baz=30,slow=9.7,SNR=70						
FITZ				S	Sn	02 23 15.2	-13
	9.9nm,0.3s,baz=174,slow=16,SNR=6.8						
PLAI	**Plampang**	**12.31**	**263**	P	Pn	02 21 41.1	+10
WB0	**Warramunga Arr**	**12.96**	**162**		**Pn**	**02 21 38.6**	**-1.5**
WRAB	**Tennant Creek**	**13.10**	**162**	Pn	**Pn**	**02 21 41.0**	**-1.0**
WRA	**Warramunga Arr**	**13.10**	**162**		**Pn**	02 21 38.5	-3.6
WRA	**Warramunga Arr**	**13.10**	**162**	P	**Pn**	**02 21 41.0**	**-1.1**
	2.3nm,0.5s,baz=347,slow=13,SNR=31						
WRA				S	Sn	02 23 55.5	-13
	14nm,0.7s,baz=343,slow=23,SNR=7.6						
WR8	**Warramunga Arr**	**13.17**	**162**		**Pn**	**02 21 41.4**	**-1.6**
COEN	**Coen**	**14.37**	**118**	Pn	**Pn**	**02 21 59.2**	**-0.2**
COEN	**Coen**	**14.37**	**118**	P	**Pn**	**02 21 58.1**	**-1.3**
QIS	**Mount Isa**	**15.96**	**146**	P	**Pn**	**02 22 19.4**	**-1.2**
AS31	**Alice Springs**	**16.56**	**168**		**Pn**	**02 22 26.8**	**-1.4**
ASAR	**Alice Springs**	**16.56**	**168**		**Pn**	**02 22 28.3**	**0.0**
ASAR	**Alice Springs**	**16.56**	**168**	P	**Pn**	**02 22 24.9**	**-3.3**
	2.3nm,0.4s,baz=349,slow=13,SNR=31						
ASAR				S	Sn	02 25 12.7	-20
	3.4nm,0.8s,baz=350,slow=24,SNR=8.1						
MBWA	**Marble Bar**	**16.96**	**215**		**Pn**	**02 22 33.1**	**-0.2**
MBWA				IAmb	IAmb	02 22 52.0	
	comp=Z,17nm,1.2s						
PSA00	**Pilbara Seismi**	**17.22**	**214**		**Pn**	**02 22 37.0**	**+0.3**
PSA00	**Pilbara Seismi**	**17.22**	**214**		**Pn**	**02 22 36.9**	**+0.3**
PSA00				IAmb	IAmb	02 22 45.7	
	comp=Z,15nm,1.2s						
FORT	**Forrest**	**23.32**	**185**	P	**P**	**02 23 42.4**	**-1.7**
FORT				IAmb	IAmb	02 23 47.4	
	comp=Z,7.0nm,0.8s						
MORW	**Morawa**	**25.30**	**210**	P	**P**	**02 24 00.1**	**-2.6**
BBOO	**Buckleboo**	**25.86**	**168**	P	**P**	**02 24 08.0**	**+0.4**
BBOO				IAmb	IAmb	02 24 12.1	
	comp=Z,15nm,1.4s						
TOO	**Toolangi**	**33.10**	**157**	P	**P**	**02 25 11.0**	**-1.1**
TOO				IAmb	IAmb	02 25 13.5	
	comp=Z,6.7nm,1.4s						
KSAR	**Wonju Array Be**	**44.67**	**357**	P	**P**	**02 26 48.8**	**0.0**
NIUE	**Niue**	**59.24**	**108**	P	**P**	**02 28 36.8**	**-1.1**
PETK	**Petropavlovsk-**	**64.68**	**18**	P	**P**	**02 29 13.6**	**-0.2**
MKAR	**Makanchi Array**	**68.64**	**327**	P	**P**	**02 29 38.9**	**-0.4**
MKAR	**Makanchi Array**	**68.64**	**327**	P	**P**	**02 29 39.1**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=124,slow=7.6,SNR=16						
	comp=Z,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**72.93**	**329**	P	**P**	**02 30 03.9**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=132,slow=5.3,SNR=6.0						
	comp=Z,0.7nm,0.5s						
MAW	**Mawson**	**74.61**	**202**	P	P	02 30 02.0	-13
	comp=Z,4.9nm,0.7s,baz=53,slow=3.7,SNR=8.2						
	comp=Z,4.9nm,0.7s						

QSPA	**South Pole Qui**	**82.56**	**180**	P		**P**	**02 30 59.6**	**+0.8**
QSPA				IAmb		IAmb	02 31 04.1	
	comp=Z,4.3nm,1.4s							
AB31	**Akbulak array**	**82.91**	**322**	P		**P**	**02 31 01.7**	**+0.9**
AB31				IAmb		IAmb	02 31 20.7	
	comp=Z,2.6nm,1.4s							
ABKAR	**Akbulak array**	**82.91**	**322**			**P**	**02 31 00.2**	**-0.6**

*BEO **06** 02:23:26.7±1.3, 45.70N×26.92E, h95km±8km, ML3.3/17*
*SIGU **06** 02:23:30.0, 45.56N×26.39E, h117km*
*MCSM **06** 02:23:30.7±0.9, 46°N±6°×2°6E±°, h103km±9km, MLv3.0*
*BUC **06** 02:23:30.8±0.2, 45.54N×26.35E, h109km±1km, ml3.8/74, Error ellipse: s-maj=1.2km s-min=1.0km az=13.0*
*SOF **06** 02:23:31.6, 45.50N±0.01×26.38E±0.02, h100km±2km, MD3.3/4*
*CFUSG **06** 02:23:32.5, 45.50N×26.60E, h100km, mb2.7/5, MD3.3/3, Romania Magtype MSH 3.3 from 3 stations*

ISC 06 02:23:29.8±1.1, 45.54N±0.02×26.33E±0.02, h118km±5km, n142, σ1°25/227, 54C-79D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEHR	**Nehoiu**	**0.11**	**193**	⇑P	**Pn**	**02 23 46.7**	**+0.5**
NEHR				⇑S	**Sn**	**02 23 58.1**	**-0.3**
BISRR	**Bisoca**	**0.27**	**88**	⇓P	**Pn**	**02 23 47.2**	**+0.6**
BISRR				⇑S	**Sn**	**02 23 58.3**	**-0.8**
BISRR	**Bisoca**	**0.27**	**88**	P	**Pn**	**02 23 47.5**	**+1.0**
MLR	**Muntele Rosu**	**0.28**	**260**	⇑P	**Pn**	**02 23 47.1**	**+0.4**
MLR				⇑S	**Sn**	**02 23 59.3**	**0.0**
MLR	**Muntele Rosu**	**0.28**	**260**	*e*Pg	**Pn**	**02 23 47.1**	**+0.4**
MLR				*e*Sg	**Sn**	**02 23 58.9**	**-0.4**
MLR	**Muntele Rosu**	**0.28**	**260**	P	**Pn**	**02 23 46.9**	**+0.2**
PLOR	**Plostina**	**0.39**	**35**	⇑P	**Pn**	**02 23 47.0**	**-0.1**
PLOR				⇑S	**Sn**	**02 23 59.0**	**-1.0**
PLOR5	**Plostina Array**	**0.39**	**37**	P	**Pn**	**02 23 46.4**	**-0.6**
VRI	**Vrincioaia**	**0.43**	**40**	⇑P	**Pn**	**02 23 47.4**	**+0.2**
VRI				⇓S	**Sn**	**02 23 60.0**	**-0.4**
VRI	**Vrincioaia**	**0.43**	**40**	P	**Pn**	**02 23 47.0**	**-0.2**
ISR	**Istrita**	**0.45**	**160**	⇓P	**Pn**	**02 23 47.9**	**+0.5**
ISR				⇓S	**Sn**	**02 24 00.6**	**+0.1**
ISR	**Istrita**	**0.45**	**160**	P	**Pn**	**02 23 47.9**	**+0.5**
GRER		**0.48**	**109**	⇑S	**Sn**	**02 24 00.5**	**-0.2**
ODBI	**Odobesti**	**0.56**	**66**	⇓S	**Sn**	**02 24 01.3**	**-0.3**
ODBI	**Odobesti**	**0.56**	**66**	P	**Pn**	**02 23 48.7**	**+0.8**
TURR	**Turia**	**0.56**	**337**	⇑P	**Pn**	**02 23 48.3**	**+0.2**
TURR				⇑S	**Sn**	**02 24 00.8**	**-1.0**
PANC	**Panciu**	**0.66**	**59**	⇓P	**Pn**	**02 23 49.2**	**+0.6**
PANC				⇓S	**Sn**	**02 24 03.1**	**+0.2**
OZUR		**0.68**	**326**	⇑P	**Pn**	**02 23 48.8**	**-0.1**
OZUR				⇓S	**Sn**	**02 24 01.9**	**-1.4**
COSR	**Cosmesti PH**	**0.76**	**65**	⇓P	**Pn**	**02 23 49.3**	**-0.2**
COSR				⇑S	**Sn**	**02 24 04.2**	**-0.1**
PGOR	**Pogoanele**	**0.78**	**144**	⇓P	**Pn**	**02 23 50.5**	**+0.8**
PGOR				⇑S	**Sn**	**02 24 04.5**	**-0.1**
DOPR	**Dopca**	**0.79**	**303**	⇑P	**Pn**	**02 23 50.0**	**+0.2**
DOPR				⇑S	**Sn**	**02 24 03.9**	**-0.9**
ONER	**Baraj Valea Uz**	**0.80**	**3**	⇑P	**Pn**	**02 23 50.2**	**+0.4**
ONER				⇓S	**Sn**	**02 24 04.4**	**-0.6**
SULR		**0.86**	**184**	⇓P	**Pn**	**02 23 51.3**	**+0.9**
SULR				⇓S	**Sn**	**02 24 06.6**	**+0.8**
GHRR		**0.92**	**55**	⇓P	**Pn**	**02 23 51.4**	**+0.6**
GHRR				⇑S	**Sn**	**02 24 06.7**	**-0.1**
GHRR		**0.92**	**55**	P	**Pn**	**02 23 51.0**	**+0.1**
TUDR		**0.94**	**86**	⇓P	**Pn**	**02 23 51.0**	**-0.1**
TUDR				⇑S	**Sn**	**02 24 06.3**	**-0.8**
TESR	**Tescani**	**1.00**	**13**	⇑P	**Pn**	**02 23 51.7**	**0.0**
TESR	**Tescani**	**1.00**	**13**	P	**Pn**	**02 23 51.4**	**-0.3**
IZVR	**Izvoarele**	**1.01**	**89**	⇓P	**Pn**	**02 23 51.4**	**-0.3**
SCHL	**Schela**

KIS					*e*S		Sn	02 24 32.4	-2.1
	270nm,0.3s								
KIS	**Kishinev**	**2.26**	**49**	*e*P			Pn	02 24 07.0	+0.6
KIS					Pm			02 24 07.3	
KIS					*e*S		Sn	02 24 32.4	-2.1
KIS					Sm			02 24 32.6	
SZH	**Strazhitsa**	**2.29**	**187**		P		Pn	02 24 07.6	+0.8
SZH					S		Sn	02 24 33.8	-1.4
PSN	**Preselentsi**	**2.30**	**145**	*i* P			Pn	02 24 08.0	+1.1
PSN					S		Sn	02 24 35.0	-0.3
NEF	**NEVSHA**	**2.37**	**163**	*i* P			Pn	02 24 09.3	+1.4
NEF					S		Sn	02 24 36.9	-0.2
SRE	**Strehaia**	**2.38**	**250**	⇓P			Pn	02 24 09.0	+1.0
SRE				⇓S			Sn	02 24 38.3	+1.0
PLVB	**Pleven**	**2.48**	**210**	⇓P			Pn	02 24 10.2	+1.0
PRD	**Provadia**	**2.50**	**162**	*i* P			Pn	02 24 11.1	+1.6
PRD					S		Sn	02 24 39.5	-0.5
GZR	**Gura Zlata**	**2.50**	**268**	⇓P			Pn	02 24 09.9	+0.2
GZR				⇑S			Sn	02 24 41.7	+1.4
GZR	**Gura Zlata**	**2.50**	**268**	*e*Pn			Pn	02 24 09.9	+0.2
GZR				*e*Sn			Sn	02 24 35.4	-4.8
MARR	**Marisel-Cluj**	**2.51**	**298**	⇓P			Pn	02 24 10.2	+0.5
MARR				⇓S			Sn	02 24 41.2	+0.8
ROIA	**ROIAK**	**2.56**	**163**	*i* P			Pn	02 24 12.3	+2.0
ROIA					S		Sn	02 24 41.7	+0.3
AVR	**AVREN**	**2.60**	**158**	*i* P			Pn	02 24 13.2	+2.3
AVR					S		Sn	02 24 43.4	+1.0
KALB	**Balgarevo**	**2.60**	**144**	⇓S			Sn	02 24 41.8	-0.5
ELND	**Elena**	**2.63**	**187**	⇓P			Pn	02 24 12.5	+1.2
ELND				⇓S			Sn	02 24 43.5	+0.4
PURM	**Purcari**	**2.66**	**67**	⇓P			Pn	02 24 11.8	+0.2
PURM	**Purcari**	**2.66**	**67**	P			Pn	02 24 10.9	-0.6
RMGR	**Halanga-Turnu**	**2.72**	**253**	⇓P			Pn	02 24 12.5	+0.1
RMGR				⇑S			Sn	02 24 44.2	-1.0
PUNG	**Punghina**	**2.72**	**244**	⇑P			Pn	02 24 12.9	+0.5
PUNG	**Punghina**	**2.72**	**244**	*e*Pn			Pn	02 24 12.4	0.0
PUNG				*e*Sn			Sn	02 24 41.4	-3.8
VALD	**Valchedram**	**2.77**	**229**	P			Pn	02 24 14.1	+1.0
DRGR		**2.81**	**298**	⇓P			Pn	02 24 14.0	+0.4
DRGR		**2.81**	**298**	*e*Pn			Pn	02 24 13.5	-0.1
DJES	**Djerdap**	**2.84**	**253**	*e*Pg			Pn	02 24 26.4	+12
DJES				*e*Sn			Sn	02 24 44.0	-3.8
HERR	**Herculane**	**2.84**	**258**	⇑P			Pn	02 24 14.5	+0.5
MPEP	**Malo Peshtene**	**2.86**	**221**	*i* P			Pn	02 24 15.8	+1.5
KSV	**Kosov**	**2.91**	**343**	*e*P			Pn	02 24 16.1	+1.2
KSV					Pm			02 24 32.2	
KSV				*i* S			Sn	02 24 50.7	+1.1
KSV					Sm			02 25 16.7	
KSV	**Kosov**	**2.91**	**343**	P			Pn	02 24 15.0	+0.1
JMB	**Yambol**	**3.05**	**177**	*i* P			Pn	02 24 17.8	+1.1
JMB					S		Sn	02 24 51.8	-1.0
NDNU	**Novodnistrovsk**	**3.14**	**13**	*i* P			Pn	02 24 18.2	+0.4
NDNU				*i* S			Sn	02 24 56.0	+1.1
NDNU	**Novodnistrovsk**	**3.14**	**13**	P			Pn	02 24 17.8	0.0
BLKB	**Belogradchik**	**3.24**	**235**	*e*Pn			Pn	02 24 19.5	+0.3
BLKB				*e*Sn			Sn	02 24 54.4	-3.0
BZS	**Buzias**	**3.31**	**273**	*e*Pn			Pn	02 24 20.0	-0.1
SIRR	**Siria**	**3.34**	**284**	⇓S			Sn	02 24 60.0	+0.2
MDVR	**Moldovita**	**3.35**	**259**	⇓P			Pn	02 24 21.6	+0.8
MDVR	**Moldovita**	**3.35**	**259**	*e*Sn			Sn	02 24 57.1	-3.0
ZAGS	**Zajecar**	**3.39**	**241**	*e*Pn			Pn	02 24 20.8	-0.4
ZAGS				*e*Sn			Sn	02 24 56.9	-4.1
KUBS	**Kucevo**	**3.49**	**253**	*e*Pn			Pn	02 24 21.4	-1.1
VRSS	**Vrsac**	**3.56**	**265**	*e*Pn			Pn	02 24 23.3	-0.1
VTS	**Vitosha**	**3.67**	**218**	*e*Pn			Pn	02 24 26.4	+1.3
HORU	**Horodok**	**3.68**	**1**	*e*P			Pn	02 24 27.1	+2.1
HORU					Pm			02 24 36.7	
HORU				*i* S			Sn	02 25 08.4	+0.7
HORU					Sm			02 25 22.1	
BOVS	**Bovan**	**3.81**	**242**	*e*Pn			Pn	02 24 26.7	-0.1
BOVS				*e*Sn			Sn	02 25 07.8	-3.1
MORS	**Morshin**	**3.96**	**336**	*e*P			Pn	02 24 30.2	+1.5
MORS				*e*S			Sn	02 25 16.3	+1.9
BARS	**Barje**	**4.24**	**232**	*e*Pn			Pn	02 24 33.8	+1.3
STZU	**Stuzhytsa**	**4.30**	**325**	*i* P			Pn	02 24 35.1	+1.8
STZU				*e*S			Sn	02 25 24.1	+1.6
GRUS	**Gruza**	**4.33**	**250**	*e*Pn			Pn	02 24 33.5	-0.2
GRUS				*e*Sn			Sn	02 25 20.5	-2.8
TARU	**Tarkhankut**	**4.37**	**90**	*e*P			Pn	02 24 34.7	+0.6
TARU					Pm			02 24 35.5	
	comp=Z,3.0nm,0.2s								
TARU					*e*S		Sn	02 25 22.7	-1.4
TARU					Sm			02 25 22.8	
	comp=N,11nm,0.5s								
TARU					Sm			02 25 22.8	
	comp=E,10.0nm,0.3s								
GOCS	**Kraljevo Serbi**	**4.37**	**245**	*e*Pn			Pn	02 24 35.0	+0.6
GOCS				*e*Sn			Sn	02 25 20.0	-4.5
TRUS	**Trudelj**	**4.41**	**255**	*e*Pn			Pn	02 24 34.6	-0.2
IVAS	**Ivanjica**	**4.83**	**248**	*e*Pn			Pn	02 24 40.1	-0.4
IVAS				*e*Sn			Sn	02 25 30.2	-5.3
DNZ2	**Donuzlav2**	**4.85**	**89**	*e*P			Pn	02 24 40.9	+0.3
DNZ2					Pm			02 24 41.0	
	comp=Z,20nm,0.5s								
DNZ2					*e*S		Sn	02 25 33.0	-2.6
DNZ2					Sm			02 25 34.6	
	comp=N,36nm,0.6s								
DNZ2					Sm			02 25 34.6	
	comp=E,52nm,0.5s								
TEKS	**Tekeris**	**4.92**	**261**	*e*Pn			Pn	02 24 41.1	-0.6
TEKS				*e*Sn			Sn	02 25 33.5	-4.0
SJES	**Sjenica**	**5.09**	**246**	*e*Pn			Pn	02 24 44.7	+0.6
SJES				*e*Sn			Sn	02 25 38.8	-3.0
SEV	**Sevastopol'**	**5.29**	**98**	*e*P			Pn	02 24 47.4	+0.8
SEV					Pm			02 24 48.7	
SEV					*e*S		Sn	02 25 44.6	-1.8
SEV					Sm			02 25 44.7	
SEV	**Sevastopol'**	**5.29**	**98**	*e*P			Pn	02 24 47.4	+0.8
SEV					Pm			02 24 48.7	
	comp=Z,6.0nm,0.5s								
SEV					*e*S		Sn	02 25 44.6	-1.8
SEV					Sm			02 25 49.4	
	comp=E,6.0nm,0.3s								
YAL	**Yalta**	**5.64**	**98**	*e*P			Pn	02 24 52.2	+0.8
YAL					Pm			02 24 52.3	
YAL					*e*S		Sn	02 25 55.3	+0.4
YAL					Sm			02 25 55.5	
YAL	**Yalta**	**5.64**	**98**	*e*P			Pn	02 24 52.2	+0.8
YAL					Pm			02 24 52.3	
	comp=Z,2.0nm,0.2s								
YAL					*e*S		Sn	02 25 55.3	+0.4
YAL					Sm			02 25 57.2	
	comp=N,7.0nm,0.4s								
YAL					Sm			02 25 57.2	
	comp=E,8.0nm,0.5s								
RNPP9	**Sopachiv**	**5.89**	**357**	P			Pn	02 24 54.4	-0.2
SUDU	**Sudak**	**6.16**	**93**	*e*P			Pn	02 24 59.3	+1.0
SUDU					Pm			02 24 59.9	
SUDU					*e*S		Sn	02 26 05.8	-1.6
SUDU					Sm			02 26 09.9	
	comp=Z,3.0nm,0.2s								
SUDU					*e*S		Sn	02 26 05.8	-1.6
SUDU					Sm			02 26 09.9	
	comp=N,23nm,0.7s								
SUDU					Sm			02 26 09.9	
	comp=E,11nm,0.6s								

MOS ***06*** *02:27:19.2≈1.3,51°.63N×179°.60E,h49km,mb4.5/20,Error ellipse: s-maj=10.6km s-min=8.4km az=122.5*
AEIC ***06*** *02:27:21.9≈1.1,51°.5N±0°.1×179°.66E±0°.04,h57km±5km, Error ellipse: s-maj=15.8km s-min=2.2km az=191.0*
NEIC ***06*** *02:27:22.5≈1.2,51°.5N±0°.1×179°.66E±0°.06,h61km±6km, mb4.2/117,ML4.4/10,ML4.0(AEIC), Error ellipse: s-maj=15.6km s-min=4.8km az=188.0*
IDC ***06*** *02:27:25.4≈2.0,51°.72N×179°.64E,h92km±16km,mb3.8/21, mbtmp4.2/24,MS3.1/19,Error ellipse: s-maj=17.7km s-min=10.5km az=174.0*
ISC 06 02:27:21.3±0.7,**51°.49N**±0°.07×**179°.64E**±0°.03,**h59**km±5km, **n389**,n0**ē93**/359,**mb4.2**/70,**MS3.3**/16,**5C-2D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.24**	**243**				Pn	02 27 31.6	+0.8
AMKA							Sn	02 27 38.6	+0.9
CESW	**Semis' Southwe**	**0.42**	**354**				Pn	02 27 33.4	+1.1
CEPE	**Semis' Perret**	**0.48**	**1**				Pn	02 27 34.1	+1.1
CETU	**Semis' Tuman**	**0.49**	**350**				Pn	02 27 34.2	+1.1
CEAP	**Semis' Anvil P**	**0.52**	**356**				Pn	02 27 34.6	+1.3
LSSE	**Little Sitkin**	**0.80**	**304**				Pn	02 27 38.1	+1.4
LSPA	**Little Sitkin**	**0.81**	**306**				Pn	02 27 38.2	+1.4
LSPA							Sn	02 27 50.2	+1.9
LSNW	**Little Sitkin**	**0.85**	**305**				Pn	02 27 38.4	+1.1
GAKI	**Gareloi-Kavalg**	**0.97**	**85**				Pn	02 27 39.7	+0.8
GAKI							Sn	02 27 52.6	+0.7
GASW	**Gareloi Southw**	**0.98**	**72**				Pn	02 27 39.9	+0.8
GASW							Sn	02 27 53.4	+1.1
GANO	**Gareloi North**	**1.03**	**70**				Pn	02 27 40.5	+0.9
GANE	**Gareloi Northe**	**1.04**	**71**				Pn	02 27 40.7	+0.8
GANE							Sn	02 27 54.8	+1.2
GAEA	**Gareloi East**	**1.05**	**73**				Pn	02 27 41.0	+1.1
TANO	**Tanaga North**	**1.46**	**72**				Pn	02 27 46.6	+1.2
TANO							Sn	02 28 04.7	+1.2
TAFP	**Tanaga Falls P**	**1.54**	**73**				Pn	02 27 47.3	+0.8
TAFL	**Tanaga Flats**	**1.56**	**79**				Pn	02 27 47.8	+1.1
TAFL							Sn	02 28 07.3	+1.4
TAPA	**Tanaga Point A**	**1.62**	**77**				Pn	02 27 48.6	+1.0
KIMD	**Kanaga Island**	**1.97**	**81**				Pn	02 27 53.3	+1.0
KIMD							Sn	02 28 16.4	+0.5
KICM	**Kanaga Island**	**2.02**	**76**				Pn	02 27 54.2	+1.2
KIWB	**Kanaga Island**	**2.03**	**78**				Pn	02 27 54.1	+1.0
ADK	**Adak**	**2.33**	**79**				Pn	02 27 58.0	+0.9
ADK						IAML		02 28 35.1	
	1μm,0.3s								
ADK						IAML		02 28 38.8	
	1μm,0.3s								
ADK	**Adak**	**2.33**	**79**	P			Pn	02 27 58.0	+0.9
ADK								02 28 24.9	
ADAG	**Mount Adagdak**	**2.39**	**77**				Pn	02 27 59.0	+1.0
ETKA	**Kagalaska Isla**	**2.49**	**80**				Pn	02 28 00.3	+0.9
GSCK	**Great Sitkin C**	**2.66**	**77**				Pn	02 28 02.6	+0.9
GSTD	**Great Sitkin T**	**2.68**	**76**				Pn	02 28 02.5	+0.4
GSMY	**Great Sitkin M**	**2.73**	**77**				Pn	02 28 03.5	+0.8
GSTR	**Great Sitkin T**	**2.74**	**76**				Pn	02 28 03.5	+0.6
GSTR						IAML		02 28 49.0	
	comp=E,2μm,0.4s								
GSTR						IAML		02 28 51.7	
	comp=N,2μm,0.7s								
GSIG	**Igitkin Island**	**2.81**	**78**				Pn	02 28 04.3	+0.6
SHEM	**Shemya Is, Ala**	**3.63**	**292**	P			Pn	02 28 17.8	+2.8
	comp=N,88nm,0.3s,baz=171,slow=3.2,SNR=20								
SHEM						LR	LR	02 28 53.4	
	comp=N,52nm,20.1s,baz=128,slow=25								
SHEM						S	Sn	02 29 00.5	+4.0
	comp=N,237nm,0.5s,baz=284,slow=20,SNR=13								
SMY	**Shemya**	**3.63**	**292**				Pn	02 28 16.4	+1.4
SMY	**Shemya**	**3.63**	**292**	P			Pn	02 28 16.4	+1.4
ATKA	**Atka Island**	**3.89**	**77**				Pn	02 28 19.1	+0.6
ATKA						IAML		02 29 16.7	
	comp=N,457nm,0.6s								
ATKA						IAML		02 29 17.6	
	comp=E,501nm,0.7s								
NIKH	**Nikolski High**	**7.22**	**74**				Pn	02 29 07.2	+3.1
NIKH	**Nikolski High** baz=262	**7.22**	**74**	P			Pn	02 29 03.9	-0.2
P08K	**Saint George I**	**8.17**	**47**				Pn	02 29 19.0	+2.1
P08K	**Saint George I** baz=235	**8.17**	**47**	P			Pn	02 29 17.0	0.0
SPIA	**Saint Paul Isl**	**8.21**	**42**				Pn	02 29 20.2	+2.6
SPIA	**Saint Paul Isl** baz=230,SNR=5.2	**8.21**	**42**	P			Pn	02 29 19.1	+1.5
MAPS	**Paushin South**	**8.49**	**69**				Pn	02 29 23.9	+2.4
MGOD	**Makushin Gods**	**8.53**	**69**				Pn	02 29 24.5	+2.5
UNV	**Unalaska Valle**	**8.75**	**69**				Pn	02 29 27.3	+2.3
UNV	**Unalaska Valle** baz=260	**8.75**	**69**	P			Pn	02 29 25.7	+0.8
AKBBA	**Akutan Broad B**	**9.13**	**68**				Pn	02 29 32.9	+2.7
S12K	**Black Hills** baz=256	**11.66**	**62**	P			Pn	02 30 04.4	-0.2
M11K	**Mekoryuk** baz=228	**11.91**	**36**	P			Pn	02 30 07.6	-0.5
SDPT	**Sand Point** baz=260	**12.47**	**64**	P			Pn	02 30 14.9	-0.8
CHNA	**Chernabura Isl** baz=263	**12.90**	**67**	P			Pn	02 30 21.1	-0.4
PET	**Petropavlovsk**	**12.94**	**285**	*e*P			Pn	02 30 19.4	-2.8
M13K	**Dall Lake** baz=234	**13.03**	**40**	P			Pn	02 30 23.2	-0.1
GAMB	**Gambell** baz=204	**13.15**	**17**	P			Pn	02 30 25.0	+0.1
S14K	**Fog Glacier** baz=257	**13.16**	**60**	P			Pn	02 30 24.8	-0.5
O14K	**Tigyukauivet M** baz=242	**13.32**	**47**	P			Pn	02 30 26.8	-0.4
N14K	**Kuskokwak Cree** baz=239	**13.46**	**44**	P			Pn	02 30 29.1	-0.1
PEA0B	**Petropavlovsk-**	**13.52**	**285**	*e*P			Pn	02 30 28.4	-1.6
PETK	**Petropavlovsk-** comp=E,1.2nm,0.6s,baz=85,slow=18,SNR=5.0	**13.52**	**285**	P			Pn	02 30 31.1	+1.1
PETK						S	Sn	02 32 54.8	-3.6
	comp=E,1.2nm,0.8s,baz=248,slow=23,SNR=1.7								
PETK						LR	LR	02 35 24.4	
	comp=E,71nm,21.9s,baz=121,slow=36								
K13K	**Kusilvak Mount** baz=226	**13.52**	**33**	P			Pn	02 30 30.1	+0.2
CHGN	**Chignik** baz=259	**13.79**	**61**	P			Pn	02 30 33.7	+0.1
M14K	**Bethel** baz=236	**13.79**	**41**	P			Pn	02 30 33.1	-0.4
L14K	**Kuka Creek** baz=232	**13.85**	**38**	P			Pn	02 30 34.0	-0.4
N15K	**Kwethluk River**	**14.28**	**45**	Pn			P	02 30 43.3	-2.4
N15K	**Kwethluk River** baz=241	**14.28**	**45**	P			Pn	02 30 39.9	-0.2
M15K	**Kasigluk River** baz=238	**14.28**	**42**	P			Pn	02 30 39.9	-0.2
J14K	**Nanvaranak Lak** baz=226	**14.46**	**32**	P			Pn	02 30 42.3	-0.1
L15K	**Ungalak Mounta** baz=234	**14.51**	**38**	P			Pn	02 30 42.6	-0.5
P16K	**Nunagak River** baz=249	**14.77**	**51**	P			Pn	02 30 45.8	-0.6
SKR	**Severo-Kuril's**	**14.79**	**276**	*ce*P			Pn	02 30 44.4	-2.4
K15K	**Wolf Creek Mou** baz=232	**14.87**	**36**	P			Pn	02 30 47.2	-0.6
O16K	**Kokwok River B**	**14.93**	**48**				P	02 30 52.0	-1.0
O16K	**Kokwok River B** baz=247	**14.93**	**48**	P			Pn	02 30 48.2	-0.4
N16K	**Nishlik Lake** baz=243	**15.00**	**45**	P			Pn	02 30 49.0	-0.5
R17L	**Mt. Peulik Vol** baz=256	**15.17**	**57**	P			Pn	02 30 51.4	-0.4
PLK4	**Peulik 4**	**15.17**	**57**	Pn			P	02 30 54.1	-1.6
PLK4						IAmb	IAmb	02 31 09.0	
	comp=Z,21nm,0.8s								
M16K	**Timber Creek** baz=240	**15.18**	**43**	P			Pn	02 30 51.7	-0.1
CHIR	**Chirikof Islan** baz=264	**15.26**	**64**	P			Pn	02 30 52.2	-0.7
ANM	**Nome** baz=218	**15.26**	**25**	P			Pn	02 30 52.0	-0.8
O17K	**Koliganek Bris** baz=248,SNR=5.5	**15.47**	**49**	P			Pn	02 30 54.9	-0.6
TNA	**Tin City** baz=210	**15.49**	**20**	P			Pn	02 30 54.9	-0.7
Q17K	**Contact Creek** baz=255	**15.57**	**55**	P			Pn	02 30 56.0	-1.0
P17K	**Kvichak River** baz=251	**15.58**	**51**	P			Pn	02 30 56.0	-0.9
N17K	**Nushagak Hills**	**15.73**	**46**	Pn			Pn	02 30 59.8	+1.0
N17K	**Nushagak Hills** baz=245	**15.73**	**46**	P			Pn	02 30 57.6	-1.2
F14K	**Arctic Creek** baz=214	**15.77**	**22**	P			Pn	02 30 58.8	-0.4
J16K	**Anvik River** baz=231	**15.82**	**34**	P			Pn	02 30 59.5	-0.5
G15K	**Niukluk** baz=220	**15.96**	**26**	P			Pn	02 31 00.9	-0.8
M17K	**Holitna River**	**16.01**	**43**				P	02 31 04.8	-0.1
M17K	**Holitna River** baz=242,SNR=9.8	**16.01**	**43**	P			Pn	02 31 01.1	-1.3
L17K	**Donlin** baz=238	**16.02**	**40**	P			Pn	02 31 01.2	-1.3
Q18K	**Katmai Hardscr** baz=254,SNR=9.8	**16.12**	**54**	P			Pn	02 31 03.7	-0.3
I17K	**Unalakleet** baz=229	**16.18**	**32**	P			Pn	02 31 04.7	+0.2
H16K	**Elim** baz=224	**16.21**	**29**	P			Pn	02 31 04.9	0.0
P18K	**Big Mountain,** baz=252	**16.23**	**51**	P			Pn	02 31 05.0	-0.2
K17K	**Iditarod** baz=236	**16.33**	**38**	P			Pn	02 31 06.4	-0.1
F15K	**North Star Dit** baz=217	**16.36**	**23**	P			Pn	02 31 06.9	+0.1
N18K	**Kilae Creek** baz=247	**16.37**	**46**	P			Pn	02 31 06.9	-0.1
O18K	**Koktuh Hills**	**16.39**	**50**	Pn			Pn	02 31 07.4	+0.2
O18K						IAmb	IAmb	02 31 13.2	
	comp=Z,30nm,0.8s								
O18K	**Koktuh Hills** baz=250,SNR=6.0	**16.39**	**50**	P			Pn	02 31 07.2	0.0
J17K	**VABM Dome**	**16.43**	**35**	Pn			Pn	02 31 08.0	+0.3
J17K	**VABM Dome** baz=233	**16.43**	**35**	P			Pn	02 31 07.7	0.0
L18K	**Granite Mounta**	**16.71**	**41**				P	02 31 12.9	+0.2
L18K						IAmb	IAmb	02 31 14.8	
	comp=Z,14nm,1.1s								
L18K	**Granite Mounta** baz=241	**16.71**	**41**	P			Pn	02 31 11.3	+0.1
OHAK	**Old Harbor** baz=261	**16.73**	**59**	P			Pn	02 31 11.5	+0.2
G16K	**Koyuk River** baz=222	**16.73**	**27**	P			Pn	02 31 11.5	+0.2
M18K	**Stony River** baz=244	**16.74**	**44**	P			Pn	02 31 10.9	-0.6
Q19K	**Cape Douglas,** baz=255	**16.88**	**53**	P			Pn	02 31 13.4	0.0
N19K	**Bonanza Creek**	**17.06**	**47**				P	02 31 17.3	+0.6
N19K						IAmb	IAmb	02 31 22.9	
	comp=Z,17nm,1.0s								
N19K	**Bonanza Creek** baz=248	**17.06**	**47**	P			Pn	02 31 15.4	-0.3
H17K	**Granite Mounta** baz=228	**17.13**	**30**	P			Pn	02 31 16.5	+0.1
KDAK	**Kodiak Island** comp=Z,5.2nm,0.3s,baz=194,slow=2.4,SNR=39	**17.19**	**58**	P			Pn	02 31 16.6	-0.5
KDAK	**Kodiak Island** baz=260	**17.19**	**58**	P			Pn	02 31 16.8	-0.3
P19K	**Oil Pt** baz=254	**17.28**	**51**	P			Pn	02 31 17.9	-0.4
G17K	**Kiwalik Mounta** baz=225	**17.30**	**28**	P			Pn	02 31 18.2	-0.2
J18K	**Innoko River** baz=237	**17.35**	**37**	P			Pn	02 31 18.7	-0.3
Q20K	**Shuyak Island** baz=258	**17.44**	**55**	P			Pn	02 31 19.6	-0.6
L19K	**White Mountain**	**17.46**	**42**	P			P	02 31 22.1	+1.1
L19K						IAmb	IAmb	02 31 29.1	
	comp=Z,11nm,0.9s								
L19K	**White Mountain** baz=244,SNR=8.1	**17.46**	**42**	P			Pn	02 31 20.3	-0.2
M19K	**Big River Lodg**	**17.53**	**43**				P	02 31 22.9	+1.1
M19K	**Big River Lodg** baz=245	**17.53**	**43**	P			Pn	02 31 21.1	-0.3
O20K	**Slope Mountain** baz=253	**17.69**	**50**	P			Pn	02 31 22.3	-1.1
RED	**Redoubt Volcan**	**17.73**	**49**				P	02 31 24.5	+0.5
H18K	**Honhosa River**	**17.77**	**31**	P			P	02 31 25.5	+1.1
H18K	**Honhosa River** baz=230	**17.77**	**31**	P			Pn	02 31 24.0	-0.3
F17K	**Baldwin Pennin** baz=222	**17.81**	**25**	P			Pn	02 31 24.1	-0.6
BILL	**Bilibino**	**17.84**	**344**	*i* P			P	02 31 24.0	-1.0
L20K	**Farewell, AK** baz=244,SNR=6.0	**18.00**	**42**	P			P	02 31 26.8	-0.1
J19K	**Poorman**	**18.04**	**37**				Pn	02 31 29.5	+1.9
J19K	**Poorman** baz=238,SNR=5.3	**18.04**	**37**	P			P	02 31 27.4	0.0
M20K	**Styx River**	**18.07**	**44**	Pn			Pn	02 31 30.6	+2.6
M20K	**Styx River** baz=247	**18.07**	**44**	P			P	02 31 27.6	-0.1
MA2	**Magadan** comp=Z,40nm,19.5s,baz=230,slow=35	**18.11**	**308**	LR			LR	02 37 59.0	
E17K	**Hotham Inlet** baz=220,SNR=6.9	**18.15**	**24**	P			Pn	02 31 28.8	0.0
G18K	**Tagagawik**	**18.17**	**29**	P			Pn	02 31 30.7	+1.6
G18K	**Tagagawik** baz=228	**18.17**	**29**	P			P	02 31 28.5	-0.2
N20K	**Mount Spurr** baz=250	**18.24**	**47**	P			P	02 31 29.4	-0.2
K20K	**Telida**	**18.32**	**39**	P			Pn	02 31 32.0	+1.1
K20K	**Telida** baz=242,SNR=5.7	**18.32**	**39**	P			P	02 31 30.2	-0.1
D17K	**Noatak River** baz=216	**18.34**	**21**	P			P	02 31 30.4	-0.1
C16K	**Lisburne Hills** baz=211	**18.35**	**18**	P			P	02 31 30.9	+0.3
F18K	**Selawik** baz=224	**18.37**	**27**	P			Pn	02 31 31.1	-0.3
STLK	**Strandline Lak**	**18.51**	**46**	P			Pn	02 31 33.8	+0.5
STLK						IAmb	IAmb	02 31 37.7	
	comp=Z,16nm,0.9s								
SEY	**Seymchan**	**18.51**	**319**	*i* P			P	02 31 32.6	+0.1
SEY						pmax	pmax		
	comp=Z,2.0nm,1.0s								
CAPN	**Captain Cook N** baz=253	**18.59**	**49**	P			P	02 31 33.3	-0.1
H19K	**Roundabout Mou**	**18.63**	**32**	P			P	02 31 34.1	+0.4
H19K	**Roundabout Mou** baz=232	**18.63**	**32**	P			P	02 31 34.1	+0.4
J20K	**Nowinta River**	**18.69**	**37**	P			Pn	02 31 35.0	-0.4
J20K						IAmb	IAmb	02 31 39.3	
	comp=Z,26nm,1.4s								
J20K	**Nowinta River** baz=239,SNR=7.8	**18.69**	**37**	P			P	02 31 34.4	0.0
E18K	**Tukpahlearik C**	**18.72**	**24**				Pn	02 31 35.6	0.0
E18K						IAmb	IAmb	02 31 41.2	
	comp=Z,19nm,1.4s								
E18K	**Tukpahlearik C** baz=221	**18.72**	**24**	P			P	02 31 34.7	+0.1
SKT	**Skwentna**	**18.81**	**45**	P			Pn	02 31 37.0	+0.1
SKT						IAmb	IAmb	02 31 41.3	
	comp=Z,25nm,0.8s								
**SKT

comp=Z,12nm,0.7s
H21K **Melozitna Rive** **19.95** **34** P **P** **02 31 48.5 +0.3**
baz=238,SNR=23
B18K **Kokolik River** **19.97** **19** P **P** **02 31 48.5 +0.2**
baz=216
I21K **Tanana** **20.00** **36** P **Pn** **02 31 50.3 -0.6**
I21K IAmb IAmb 02 31 54.5
comp=Z,8.3nm,0.7s
I21K **Tanana** **20.00** **36** P **P** **02 31 49.3 +0.6**
baz=240
KNK **Knik Glacier** **20.03** **48** P **P** **02 31 49.1 +0.1**
baz=255
D19K **Kuna River** **20.15** **24** **Pn** 02 31 51.8 -0.8
D19K IAmb IAmb 02 31 53.0
comp=Z,12nm,0.9s
D19K **Kuna River** **20.15** **24** P **P** **02 31 50.5 +0.2**
baz=223,SNR=6.9
G21K **Allakaket** **20.19** **32** **Pn** 02 31 52.4 -0.7
G21K IAmb IAmb 02 31 53.8
comp=Z,7.4nm,0.8s
G21K **Allakaket** **20.19** **32** P **P** **02 31 51.2 +0.5**
baz=235,SNR=10
P23K **Montague Islan** **20.22** **52** P **P** **02 31 51.3 +0.2**
baz=260
C19K **Lookout Ridge** **20.25** **22** P **P** **02 31 51.3 -0.1**
baz=220
MLY **Manley** **20.39** **37** P **P** **02 31 53.2 +0.1**
MLY **Manley** **20.39** **37** P **P** **02 31 53.1 +0.1**
baz=242,SNR=7.1
E20K **Nigu River** **20.49** **26** P **P** **02 31 53.7 -0.3**
baz=227,SNR=8.3
GLI **Glacier Island** **20.54** **50** P **P** **02 31 54.5 -0.1**
GLI IAmb IAmb 02 31 57.3
comp=Z,9.6nm,0.8s
GLI **Glacier Island** **20.54** **50** P **P** **02 31 54.2 -0.4**
baz=258
MCK **McKinley** **20.56** **41** P **P** **02 31 54.6 -0.2**
baz=248
H22K **Ishtalitna Cre** **20.58** **34** P **P** **02 31 54.7 -0.3**
baz=239,SNR=7.7
F21K **Alatna River** **20.61** **30** **P** **02 31 56.3 +0.9**
F21K **Alatna River** **20.61** **30** P **P** **02 31 54.9 -0.4**
baz=233,SNR=9.8
SCM **Sheep Creek Mo** **20.66** **47** P **P** **02 31 56.2 +0.2**
SCM IAmb IAmb 02 31 57.0
comp=Z,17nm,1.0s
SCM **Sheep Creek Mo** **20.66** **47** P **P** **02 31 56.2 +0.2**
SCM pmax pmax
comp=Z,17nm,1.0s
SCM **Sheep Creek Mo** **20.66** **47** P **P** **02 31 55.2 -0.7**
baz=255,SNR=5.6
D20K **Etivluk River** **20.69** **25** P **P** **02 31 57.2 +1.1**
D20K IAmb IAmb 02 31 58.6
comp=Z,25nm,1.1s
D20K **Etivluk River** **20.69** **25** P **P** **02 31 55.6 -0.5**
baz=225,SNR=15
A19K **Wainwright** **20.81** **18** P **P** **02 31 57.4 +0.1**
baz=216
FID **Port Fidalgo** **20.81** **50** P **P** **02 31 58.0 +0.4**
FID IAmb IAmb 02 32 02.9
comp=Z,14nm,0.8s
NEA2 **Nenana** **20.84** **39** P **P** **02 31 58.6 +0.8**
NEA2 **Nenana** **20.84** **39** P **P** **02 31 57.6 -0.2**
baz=246,SNR=9.7
I23K **Minto, Yukon-K** **20.97** **37** P **P** **02 31 59.3 +0.2**
I23K **Minto, Yukon-K** **20.97** **37** P **P** **02 31 59.1 0.0**
baz=244,SNR=7.1
G22K **Bettles** **21.08** **32** P **P** **02 32 01.2 +0.9**
baz=237
EYAK **Cordova Ski Ar** **21.13** **51** P **P** **02 32 01.3 +0.4**
baz=260
WRH **Wood River Hil** **21.18** **40** P **P** **02 32 01.1 -0.3**
F22K **John River** **21.19** **30** P **P** **02 32 02.1 +0.6**
baz=235
H23K **Yukon River** **21.20** **36** P **P** **02 32 04.0 +2.3**
H23K **Yukon River** **21.20** **36** P **P** **02 32 02.0 +0.3**
baz=242,SNR=6.4
E21K **Killik River** **21.23** **27** IAmb IAmb 02 32 06.3
comp=Z,10nm,0.7s
E21K **Killik River** **21.23** **27** P **P** **02 32 02.1 +0.3**
baz=230
KLU **Klutina** **21.23** **49** P **P** **02 32 02.1 +0.1**
baz=258
M24K **Tolsona, Glenn** **21.26** **47** P **P** **02 32 02.3 0.0**
baz=256
COLA **College** **21.43** **39** *i* P **P** **02 32 02.2 -1.9**
G23K **Bananza Creek** **21.46** **33** IAmb IAmb 02 32 09.3
comp=Z,11nm,0.8s
G23K **Bananza Creek** **21.46** **33** P **P** **02 32 04.9 +0.4**
baz=240,SNR=22
C21K **Knifeblade Rid** **21.48** **25** P **P** **02 32 05.4 +0.9**
baz=227
B20K **Meade River** **21.49** **22** P **P** **02 32 05.5 +0.8**
baz=222
HDA **Harding Lake** **21.62** **40** IAmb IAmb 02 32 08.7
comp=Z,4.8nm,0.6s
HDA **Harding Lake** **21.62** **40** P **P** **02 32 06.0 -0.1**
baz=249
E22K **Anaktuvuk Pass** **21.67** **29** IAmb IAmb 02 32 11.1
comp=Z,7.3nm,0.7s
E22K **Anaktuvuk Pass** **21.67** **29** P **P** **02 32 06.9 +0.2**
baz=234,SNR=13
COLD **Coldfoot** **21.67** **32** P **P** **02 32 06.1 -0.6**
baz=238,SNR=5.4
POKR **Poker Plat Res** **21.70** **38** P **P** **02 32 06.9 0.0**
baz=247
BMRM **Bremner River** **21.75** **50** P **P** **02 32 07.2 -0.5**
baz=260
IL31 **21.78** **40** P **P** **02 32 07.7 0.0**
ILAR **Eielson Array** **21.78** **40** P **P** **02 32 07.0 -0.8**
comp=Z,1.2nm,0.6s,baz=240,slow=9.1,SNR=20
ILAR LR LR 02 40 10.9
comp=Z,40nm,19.9s,baz=268,slow=35
comp=Z,1.2nm,0.6s
HARP **HAARP** **21.79** **46** P **P** **02 32 07.8 -0.2**
baz=256
PAX **Paxson** **21.80** **45** IAmb IAmb 02 32 11.7
comp=Z,8.2nm,0.9s
PAX **Paxson** **21.80** **45** P **P** **02 32 08.1 0.0**
baz=254
H24K **Noodor Dome** **21.82** **36** IAmb IAmb 02 32 12.5
comp=Z,16nm,0.9s
H24K **Noodor Dome** **21.82** **36** P **P** **02 32 08.1 -0.2**
baz=244
B21K **Ikpikpuk River** **21.84** **24** P **P** **02 32 08.5 +0.1**
baz=227
D22K **Ayikyak River** **21.87** **27** P **P** **02 32 09.3 +0.6**
D22K **P** **02 32 11.5 +2.7**
D22K IAmb IAmb 02 32 13.5
comp=Z,12nm,0.8s
D22K **Ayikyak River** **21.87** **27** P **P** **02 32 08.4 -0.3**
baz=231,SNR=7.7
N25K **Chitina, Valde** **21.88** **49** P **P** **02 32 10.0 +1.1**
N25K **Chitina, Valde** **21.88** **49** P **P** **02 32 08.9 -0.1**
baz=259
K24K **Donnelly Dome** **21.90** **42** P **P** **02 32 09.7 +0.5**
K24K IAmb IAmb 02 32 10.2
comp=Z,8.2nm,0.7s
K24K **Donnelly Dome** **21.90** **42** P **P** **02 32 08.2 -1.0**
baz=252
GLB **Gilahina Butte** **22.22** **49** IAmb IAmb 02 32 16.2
comp=Z,5.5nm,0.7s
RIDG **Independent Ri** **22.28** **43** IAmb IAmb 02 32 25.1
comp=Z,6.5nm,0.6s
RIDG **Independent Ri** **22.28** **43** P **P** **02 32 12.7 -0.6**
baz=253
E23K **Chandalar** **22.31** **30** **P** **02 32 14.3 +0.7**
E23K **Chandalar** **22.31** **30** P **P** **02 32 13.2 -0.4**
baz=237
G24K **Hadweenzic Riv** **22.35** **35** P **P** **02 32 13.4 -0.6**
baz=243
D23K **Nanushuk River** **22.50** **28** IAmb IAmb 02 32 18.4
comp=Z,11nm,0.7s
D23K **Nanushuk River** **22.50** **28** P **P** **02 32 15.1 -0.4**
baz=234,SNR=10
DOT **Dot Lake** **22.59** **43** IAmb IAmb 02 32 56.1
comp=Z,9.1nm,1.1s
F24K **Squaw Lake** **22.59** **33** P **P** **02 32 15.6 -1.0**
baz=241
B22K **Teshekpuk Lake** **22.63** **23** P **P** **02 32 16.0 -0.8**
baz=227
TOLK **Toolik Lake Re** **22.64** **29** P **P** **02 32 17.5 +0.5**
TOLK IAmb IAmb 02 32 20.1
comp=Z,6.5nm,0.8s
TOLK **Toolik Lake Re** **22.64** **29** P **P** **02 32 16.7 -0.4**
baz=236,SNR=7.2
E24K **Your Creek** **22.68** **31** IAmb IAmb 02 32 21.7
comp=Z,4.1nm,0.7s
E24K **Your Creek** **22.68** **31** P **P** **02 32 16.5 -1.0**
baz=239
SCRK **Sand Creek** **22.71** **43** P **P** **02 32 17.4 -0.5**
baz=254
A22K **Sinclair Lake** **22.73** **21** P **P** **02 32 17.3 -0.5**
baz=224
L26K **Log Cabin Wild** **22.75** **45** IAmb IAmb 02 32 48.9
comp=Z,15nm,1.4s
L26K **Log Cabin Wild** **22.75** **45** P **P** **02 32 17.6 -0.7**
baz=257
M26K **Nabesna, AK** **22.77** **47** P **P** **02 32 18.6 0.0**
M26K **Nabesna, AK** **22.77** **47** P **P** **02 32 17.8 -0.7**
baz=259
C23K **Itkillik River** **23.04** **26** IAmb IAmb 02 32 41.2
comp=Z,6.5nm,0.8s
C23K **Itkillik River** **23.04** **26** P **P** **02 32 20.7 -0.4**
baz=232
D24K **Happy Valley** **23.15** **28** **P** **02 32 23.3 +1.1**
D24K IAmb IAmb 02 32 24.2
comp=Z,9.1nm,0.8s
D24K **Happy Valley** **23.15** **28** P **P** **02 32 21.7 -0.5**
baz=236
M27K **Edge Creek, AK** **23.28** **47** P **P** **02 32 22.6 -1.0**
baz=260,SNR=9.9
L27K **Beaver Creek,** **23.43** **46** P **P** **02 32 24.2 -0.8**
baz=258
C24K **Franklin Bluff** **23.51** **27** P **P** **02 32 25.4 -0.2**
baz=235
K27K **Chicken** **23.54** **43** P **P** **02 32 26.0 +0.1**
baz=256
BVCY **Beaver Creek** **23.75** **47** P **P** **02 32 27.7 -0.2**
baz=261
PINM **Pinnacle** **23.80** **53** P **P** **02 32 27.9 -0.4**
baz=267
YUK3 **Moose Creek** **23.85** **49** P **P** **02 32 28.8 -0.2**
baz=263,SNR=13
O28M **Mount Upton** **23.87** **51** P **P** **02 32 28.8 -0.6**
baz=265
F26K **Sheenjek River** **23.95** **34** P **P** **02 32 28.9 -0.8**
baz=245
D25K **Kavik River** **23.98** **29** IAmb IAmb 02 32 33.3
comp=Z,6.3nm,0.8s
D25K **Kavik River** **23.98** **29** P **P** **02 32 29.9 -0.1**
baz=239
YUK8 **Steele Glacier** **24.13** **50** P **P** **02 32 31.1 -0.5**
baz=264
YSS **Yuzhno-Sakhali** **24.34** **274** *eP* **P** **02 32 32.9 -0.4**
YUK4 **Talbot Arm** **24.67** **50** P **P** **02 32 36.4 -0.1**
baz=265,SNR=6.5
DAWY **Dawson** **24.70** **44** P **P** **02 32 36.7 +0.2**
baz=259
C26K **Camden Bay** **24.73** **29** P **P** **02 32 37.0 +0.4**
baz=240
M29M **Somme Creek** **24.86** **48** IAmb IAmb 02 32 43.2
comp=Z,4.3nm,0.7s
M29M **Somme Creek** **24.86** **48** P **P** **02 32 37.8 -0.3**
baz=263
C27K **Jago River** **24.95** **30** P **P** **02 32 39.0 +0.3**
baz=242
E27K **Coleen River** **25.03** **34** P **P** **02 32 39.1 -0.3**
baz=248
L29M **L29M** **25.10** **46** P **P** **02 32 40.1 0.0**
baz=262
HYT **Haines Junctio** **25.19** **52** P **P** **02 32 41.2 0.0**
baz=268
J29N **Klondike Camp** **25.28** **43** P **P** **02 32 41.8 0.0**
baz=259
N30M **Aishikik Lake** **25.42** **50** P **P** **02 32 42.9 -0.2**
baz=267
M30M **Minto, Yukon** **25.65** **48** P **P** **02 32 44.9 -0.2**
baz=265
D27M **Malcolm River** **25.66** **32** P **P** **02 32 46.2 +1.0**
D27M **P** **02 32 46.4 +1.2**
D27M IAmb IAmb 02 33 15.5
comp=Z,8.4nm,0.7s
D27M **Malcolm River** **25.66** **32** P **P** **02 32 45.4 +0.2**
baz=246
ASAJ **Asahikawa** **25.73** **268** LR LR 02 41 10.2
comp=Z,18nm,21.2s,baz=184,slow=32
E28M **Babbage River** **25.90** **33** P **P** **02 32 47.4 +0.1**
baz=249
J30M **Hart River** **26.10** **43** P **P** **02 32 49.2 -0.1**
baz=261
ERM **Erimo** **26.48** **263** *eP* **P** **02 32 51.4 -1.4**
ERM pmax pmax
comp=Z,6.0nm,0.8s
F30M **Barrier River** **26.94** **36** P **P** **02 32 56.1 -0.5**
baz=256
P32M **Atlin** **27.10** **54** P **P** **02 32 57.8 -0.4**
baz=273
N32M **Quiet Lake** **27.35** **51** P **P** **02 32 59.9 -0.6**
baz=271
P33M **Teslin, Yukon** **27.51** **53** P **P** **02 33 01.4 -0.6**
baz=273
Q32M **Nakina River** **27.89** **56** P **P** **02 33 04.6 -0.8**
baz=276
INK **Inuvik** **27.93** **35** LR LR 02 44 26.8
comp=Z,32nm,19.5s,baz=78,slow=37
MMPY **Sheldon Lake,** **28.20** **48** P **P** **02 33 07.5 -0.6**
baz=270
DLBC **Lease Lake** **29.11** **56** LR LR 02 44 14.0
comp=Z,7.2nm,19.7s,baz=250,slow=35
USA0B **Ussuriysk Arra** **32.31** **276** *eP* **P** **02 33 47.2 +2.8**
USRK **Ussuriysk Ar.** **32.31** **276** P **P** **02 33 44.5 0.0**
comp=Z,2.6nm,0.8s,baz=57,slow=10,SNR=3.3
comp=Z,2.6nm,0.8s
MJAR **Matsushiro Arr** **32.84** **259** LR LR 02 45 03.8
comp=Z,28nm,20.5s,baz=93,slow=32
MAJO **Matsushiro** **32.84** **259** *eP* **P** **02 33 51.0 +1.8**
MAJO pmax pmax
comp=Z,3.0nm,0.9s
H11N2 **WAKE ISLAND Hy** **33.24** **202** T T 03 09 28.6
baz=16,slow=76,SNR=43
H11N3 **WAKE ISLAND Hy** **33.25** **202** T T 03 10 00.3
baz=16,slow=76,SNR=43
H11N1 **WAKE ISLAND Hy** **33.26** **202** T T 03 09 36.5
baz=16,slow=76,SNR=38
MSHR **Mys Shultsa** **33.67** **274** ⇑ *iP* **P** **02 33 57.0 +0.7**
MSHR pmax pmax
comp=Z,6.0nm,0.9s
H11S1 **WAKE ISLAND Hy** **34.46** **202** T T 03 11 32.7
baz=15,slow=76,SNR=27
H11S2 **WAKE ISLAND Hy** **34.48** **202** T T 03 11 32.2
baz=15,slow=76,SNR=13
H11S3 **WAKE ISLAND Hy** **34.48** **202** T T 03 11 32.5
baz=15,slow=76,SNR=20
YKA **Yellowknife Ar** **35.87** **46** LR LR 02 49 41.8
comp=Z,62nm,18.4s,baz=305,slow=37
KSRS **Korea Array** **38.66** **269** P **P** **02 34 39.8 +0.9**
comp=Z,1.7nm,0.7s,baz=59,slow=8.0,SNR=6.7
KSRS PcP **PcP** **02 36 49.8 0.0**
comp=Z,1.0nm,0.6s,baz=46,slow=3.5,SNR=2.4
comp=Z,1.7nm,0.7s
KSRS **Korea Array** **38.66** **269** *eP* **P** **02 34 40.5 +1.6**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
NEW **Newport** **39.76** **69** LR LR 02 50 01.7
comp=Z,39nm,18.1s,baz=256,slow=34
PAHR **Pah Rah Range** **43.06** **81** **P** **02 35 15.6 +0.2**
PAHR IAmb IAmb 02 35 32.9
comp=Z,6.0nm,1.2s
HLID **Hailey** **43.85** **73** **P** **02 35 22.4 +0.7**
RYN **Ryan** **44.25** **82** **P** **02 35 24.7 -0.2**
RYN IAmb IAmb 02 35 29.6
comp=Z,3.3nm,0.9s
NVAR **Mina Array Bea** **44.51** **82** P **P** **02 35 28.7 +1.7**
NVAR **Mina Array Bea** **44.51** **82** P **P** **02 35 28.4 +1.4**
comp=Z,2.7nm,0.7s,baz=298,slow=7.0,SNR=16
NVAR PcP **PcP** **02 37 09.7 +0.3**
comp=Z,0.3nm,0.5s,baz=327,slow=5.0,SNR=2.8
comp=Z,2.7nm,0.7s
ELK **Elko** **44.99** **77** **P** **02 35 31.9 +1.0**
ELK IAmb IAmb 02 35 34.4
comp=Z,2.7nm,0.8s
ELK **Elko** **44.99** **77** P **P** **02 35 31.9 +1.0**
ELK pmax pmax
comp=Z,3.0nm,0.8s
YHL **Hebgen Lake** **45.04** **70** IAmb IAmb 02 35 33.9
comp=Z,4.5nm,1.1s
ULN **Ulaanbaatar** **45.33** **295** ⇓ *iP* **P** **02 35 33.9 +0.5**
ULN pmax pmax
comp=Z,6.0nm,0.7s
SONM **Songino Array** **45.72** **296** P **P** **02 35 37.1 +0.7**
comp=Z,4.3nm,0.6s,baz=61,slow=8.0,SNR=29
SONM PcP **PcP** **02 37 13.4 +0.1**
comp=Z,0.6nm,0.5s,baz=48,slow=2.3,SNR=3.6
SONM LR LR 02 55 48.7
comp=Z,20nm,19.2s,baz=50,slow=37
comp=Z,4.3nm,0.6s
R11B **Troy Canyon, C** **46.24** **80** **P** **02 35 41.6 +1.0**
R11B IAmb IAmb 02 35 44.3
comp=Z,3.6nm,0.9s
SPR3 **Spring Creek 3** **46.60** **79** **P** **02 35 45.1 +1.4**
SPR3 IAmb IAmb 02 35 47.8
comp=Z,2.0nm,0.6s
PD31 **Pinedale Array** **47.21** **71** P **P** **02 35 47.8 -0.5**
PD31 IAmb IAmb 02 36 05.0
comp=Z,3.5nm,0.9s
PDAR **Pinedale Array** **47.21** **71** **P** **02 35 48.2 0.0**
PDAR **Pinedale Array** **47.21** **71** P **P** **02 35 48.1 -0.1**
comp=Z,2.3nm,0.8s,baz=307,slow=3.0,SNR=16
comp=Z,2.3nm,0.8s
BSUT **Blindstream Ca** **47.83** **75** IAmb IAmb 02 35 55.9
comp=Z,2.6nm,0.8s
MTPU **Mount Pierson** **48.52** **78** IAmb IAmb 02 36 02.6
comp=Z,3.6nm,0.9s
LCMT **Little Creek M** **48.52** **80** IAmb IAmb 02 36 02.5
comp=Z,3.8nm,0.8s
P18A **Preston Nutter** **48.70** **75** IAmb IAmb 02 36 02.5
comp=Z,3.4nm,0.8s
SPITS **Spitsbergen Ar** **50.19** **356** P **P** **02 36 09.7 -0.7**
comp=Z,3.0nm,0.5s,baz=50,slow=6.9,SNR=16
comp=Z,3.0nm,0.5s
PV22 **Blue Mesa, Par** **50.27** **75** IAmb IAmb 02 36 14.0
comp=Z,3.3nm,0.7s
PV01 **Paradox Valley** **50.66** **76** IAmb IAmb 02 36 15.8
comp=Z,3.3nm,0.8s
S22A **4UR Ranch, Cre** **51.96** **75** IAmb IAmb 02 36 28.1
comp=Z,2.0nm,1.0s
ZALV **Zalesovo Beam** **53.24** **313** P **P** **02 36 32.7 -0.7**
comp=Z,0.9nm,0.6s,baz=38,slow=7.3,SNR=3.7
comp=Z,0.9nm,0.6s
FRB **Frobisher Bay** **53.44** **31** LR LR 03 02 42.3
comp=Z,34nm,18.0s,baz=218,slow=40
ANMO **Albuquerque** **54.03** **77** ⇑ *iP* **P** **02 36 40.3 +0.6**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ARCES **ARCESS Array B** **57.81** **350** P **P** **02 37 04.5 -1.5**
comp=Z,3.7nm,1.0s,baz=21,slow=8.7,SNR=2.6
comp=Z,3.7nm,1.0s
KURK **Kurchatov** **58.23** **313** *c iP* **P** **02 37 09.2 +0.1**
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURBB **Kurchatov Arra** **58.34** **313** P **P** **02 37 09.7 -0.2**
comp=Z,3.3nm,0.5s,baz=43,slow=6.6,SNR=25
comp=Z,3.3nm,0.5s
MK31 **Makanchi Array** **59.19** **307** *d iP* **P** **02 37 15.2 -0.8**
MKAR **Makanchi Array** **59.19** **307** P **P** **02 37 15.3 -0.7**
comp=Z,3.2nm,0.6s,baz=48,slow=7.0,SNR=29
comp=Z,3.2nm,0.6s
TXAR **Lajitas Array** **59.60** **80** P **P** **02 37 19.4 +0.3**
comp=Z,0.9nm,0.6s,baz=300,slow=5.2,SNR=15
TXAR PcP **PcP** **02 38 06.8 +1.0**
comp=Z,0.6nm,0.8s,baz=101,slow=22,SNR=3.9
comp=Z,0.9nm,0.6s
BVAR **Borovoye Array** **60.17** **319** P **P** **02 37 22.8 +0.3**
comp=Z,1.2nm,0.5s,baz=58,slow=6.9,SNR=6.2
BVAR LR LR 03 04 57.7
comp=Z,25nm,20.0s,baz=52,slow=38
comp=Z,1.2nm,0.5s
BRVK **Borovoye** **60.19** **319** *i* P **P** **02 37 22.0 -0.6**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
ARTI **Arti** **62.08** **327** *i* P **P** **02 37 35.9 +0.5**
ARTI pmax pmax
comp=Z,1.0nm,0.7s
SADO **Sadowa** **62.54** **52** LR LR 03 04 20.1
comp=Z,39nm,18.9s,baz=3.5,slow=36
VALR **Valaam** **64.77** **344** *i* P **P** **02 37 53.9 +0.9**
FINES **FINESS Array B** **65.45** **346** P **P** **02 37 55.9 -1.5**
comp=Z,1.2nm,0.8s,baz=40,slow=7.4,SNR=3.9
FINES LR LR 03 10 27.2
comp=Z,14nm,18.1s,baz=85,slow=40
comp=Z,1.2nm,0.8s
FINES **FINESS Array B** **65.45** **346** *eP* **P** **02 37 57.6 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.8s
AAK **Ala-Archa** **66.03** **309** LR LR 03 08 34.7
comp=Z,19nm,18.1s,baz=279,slow=38
AAK **Ala-Archa** **66.03** **309** *ce* P **P** **02 38 02.6 +0.9**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AKTO **Aktyubinsk** **67.02** **324** LR LR 03 09 55.0
comp=Z,20nm,18.4s,baz=232,slow=38
NB2 **NORSAR Subarra** **67.44** **354** P **P** **02 38 09.1 -1.1**
comp=Z,1.2nm,0.7s,baz=7.1,slow=6.5
NOA **NORSAR Array B** **67.44** **354** P **P** **02 38 09.1 -1.1**
comp=Z,1.9nm,0.7s,baz=8.1,slow=6.3,SNR=14
comp=Z,1.9nm,0.7s
HFS **Hagfors** **68.16** **352** P **P** **02 38 13.2 -1.4**
comp=Z,1.6nm,0.5s,baz=20,slow=4.7,SNR=19
comp=Z,1.6nm,0.5s
OBN **Obninsk** **69.41** **338** *eP* **P** **02 38 21.0 -1.5**
OBN *e** PP **sP** **02 38 43.3 -1.4**
OBN *e* 02 38 47.6
OBN pmax pmax
comp=Z,3.0nm,0.7s
CMAR **Chiang Mai Arr** **70.03** **275** P **P** **02 38 27.2 +0.4**
comp=Z,1.3nm,0.3s,baz=30,slow=6.8,SNR=7.2
comp=Z,1.3nm,0.3s
AKASG **Malin Array Be** **75.13** **341** P **P** **02 38 54.6 -2.1**
comp=Z,0.5nm,0.4s,baz=23,slow=6.5,SNR=3.7
AKASG LR LR 03 14 55.1
comp=Z,13nm,20.1s,baz=323,slow=38
comp=Z,0.5nm,0.4s
AKBB **Malin Array Si** **75.13** **341** *i* P **P** **02 38 57.8 +1.1**
AKBB pmax pmax
comp=Z,5.0nm,1.5s
KBZ **Khabaz** **78.03** **329** *i* P **P** **02 39 14.3 +1.2**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
BIOA **Bad Ischl, Aus** **80.47** **350** *i* P **P** **02 39 26.0 -0.5**
comp=Z,0.8nm,0.4s
KBA **Koelnbreinsper** **81.11** **351** *i* P **P** **02 39 30.2 +0.2**
comp=Z,4.0nm,0.7s
SOKA **Soboth** **81.32** **349** *i* P **P** **02 39 30.7 -0.4**
comp=Z,2.3nm,1.1s
FETA **Feichten** **81.41** **352** *eP* **P** **02 39 31.0 -0.7**
comp=Z,2.8nm,1.1s
WRA **Warramunga Arr** **81.42** **223** P **P** **02 39 31.9 +0.2**
comp=Z,1.6nm,0.7s,baz=32,slow=6.2,SNR=11
comp=Z,1.6nm,0.7s
WRA **Warramunga Arr** **81.42** **223** *eP* **P** **02 39 31.6 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.7s
OBKA **Obir** **81.54** **350** *i* P **P** **02 39 32.8 +0.5**
comp=Z,1.4nm,0.7s
ASAR **Alice Springs** **84.91** **221** P **P** **02 39 50.6 +0.9**
comp=Z,1.3nm,0.8s,baz=22,slow=5.4,SNR=11
comp=Z,1.3nm,0.8s
ESDC **Sonseca Array** **89.16** **3** P **P** **02 40 08.8 -1.5**
comp=Z,0.2nm,0.7s,baz=356,slow=4.2,SNR=2.8
comp=Z,0.2nm,0.7s
PCRV **Puerto La Cruz** **97.48** **63** LR LR 03 24 21.5
comp=Z,27nm,19.9s,slow=35
H03N2 **Juan Fernandez** **122.12** **105** T T 05 00 31.1
baz=313,slow=77,SNR=5.0
H03N1 **Juan Fernandez** **122.13** **105** T T 05 00 33.4
baz=313,slow=77,SNR=4.8
H03N3 **Juan Fernandez** **122.14** **105** T T 05 00 36.8
baz=313,slow=77,SNR=4.5
QSPA **South Pole Qui** **141.24** **180** PKhKP PKPpre 02 46 39.6
comp=Z,1.6nm,0.8s,baz=215,slow=1.3,SNR=6.6
MAW **Mawson** **145.97** **218** PKPbc **PKPbc** **02 46 52.8 0.0**
comp=Z,1.1nm,0.4s,baz=169,slow=5.2,SNR=4.0
BOSA **Boshof** **150.17** **310** PKPbc **PKiKP** **02 47 05.8 -0.4**
comp=Z,4.6nm,0.6s,baz=53,slow=2.3,SNR=13

IDC ***06*** *02:40:59.6±0.7, 6.4°S×149.7°E, h0km, mb4.0/9, mbtmp4.1/10, ML2.5/1, MS3.4/11, Error ellipse: s-maj=36.4km s-min=17.5km az=117.0*
NEIC ***06*** *02:41:02.9±1.8, 6.6°S±0.1°×149.85°E±0.0°, h10km±1km, mb4.6/25, Error ellipse: s-maj=21.5km s-min=8.8km az=323.0*
ISC 06 02:41:06.2±0.5, **6.56°S**±0.09°×**149.82°E**±0.0°, **h43**km, **n49,**
σ1s00/46, mb4.4/16, **MS3.3**/10, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.31**	**45**		**Pn**	**02 41 55.3**	**-0.3**
PMG	**Port Moresby**	**3.87**	**223**		**Pn**	**02 42 03.0**	**-0.4**
PMG	**Port Moresby**	**3.87**	**223**	Pn	**Pn**	**02 42 03.2**	**-0.1**
	24nm,0.3s,baz=68,slow=4.8,SNR=21						

PMG Sn **Sn** **02 42 48.4 +0.8**
74nm,0.3s,baz=260,slow=20,SNR=7.8
PMG LR LR 02 43 32.2
comp=E,374nm,20.7s,baz=344,slow=39
96nm,0.4s
COEN Coen 9.84 221 Pn **Pn** **02 43 24.1 -1.1**
FAKI Fak Fak 17.88 281 **Pn** **02 45 11.3 -0.7**
FAKI IAmb IAmb 02 45 21.3
comp=E,60nm,1.3s
EIDS Eidsvold 18.75 176 P **P** **02 45 21.8 +0.2**
MTN Manton Dam 19.45 250 P **P** **02 45 29.2 -0.2**
MTN IAmb IAmb 02 45 47.7
comp=E,45nm,1.4s
WB0 Warramunga Arr 19.93 227 **P** **02 45 34.5 -0.2**
WB0 IAmb IAmb 02 45 41.8
comp=E,16nm,0.9s
WR8 Warramunga Arr 19.97 227 **P** **02 45 35.0 -0.1**
WRAB Tennant Creek 20.07 227 P **P** **02 45 36.2 0.0**
WRAB IAmb IAmb 02 45 43.1
comp=E,17nm,0.8s
WRA Warramunga Arr 20.08 227 **P** **02 45 35.1 -1.2**
WRA Warramunga Arr 20.08 227 P **P** **02 45 35.9 -0.4**
comp=E,4.3nm,0.3s,baz=53,slow=11,SNR=51
WRA PcP **PcP** **02 49 50.4 -0.3**
comp=E,0.6nm,0.6s,baz=51,slow=1.7,SNR=5.7
WRA LR LR 02 52 20.0
comp=E,59nm,21.9s,baz=58,slow=34
WRA ScP **ScP** **02 53 27.7 +3.9**
comp=E,0.3nm,0.8s,baz=40,slow=2.9,SNR=1.3
comp=E,4.3nm,0.3s
DZM Mont Dzumac 22.26 136 P **P** **02 45 59.2 -0.7**
DZM IAmb IAmb 02 46 12.8
comp=E,25nm,1.1s
KNRA Kununurra 22.55 245 P **P** **02 46 01.8 -1.1**
KNRA IAmb IAmb 02 46 21.0
comp=E,9.3nm,0.7s
INKA Innaminka 22.76 201 P **P** **02 46 04.4 -0.7**
AS31 Alice Springs 22.88 220 **P** **02 46 05.4 -0.9**
ASAR Alice Springs 22.88 220 P **P** **02 46 05.0 -1.4**
ASAR Alice Springs 22.88 220 P **P** **02 46 05.5 -0.8**
comp=E,2.6nm,0.6s,baz=57,slow=9.7,SNR=18
ASAR PcP **PcP** **02 49 55.9 -0.3**
comp=E,0.2nm,0.4s,baz=29,slow=2.4,SNR=1.5
ASAR LR LR 02 54 37.7
comp=E,65nm,21.7s,baz=90,slow=36
comp=E,2.6nm,0.6s
ARMA Armidale 23.80 176 **P** **02 46 13.5 -1.8**
ARMA IAmb IAmb 02 46 16.2
comp=E,22nm,1.2s
BATI Baumata 26.13 260 LR LR 02 58 22.2
comp=E,149nm,19.5s,baz=108,slow=40
FITZ Fitzroy Crossi 26.22 242 **P** **02 46 36.2 -1.2**
FITZ Fitzroy Crossi 26.22 242 LR LR 02 57 43.6
comp=E,103nm,18.1s,baz=9.0,slow=38
STKA Stephens Creek 26.34 196 P **P** **02 46 38.4 +0.1**
STKA Stephens Creek 26.34 196 P **P** **02 46 38.6 +0.3**
comp=E,3.0nm,0.7s,baz=358,slow=11,SNR=6.2
STKA LR LR 02 56 53.0
comp=E,82nm,19.3s,baz=29,slow=36
comp=E,3.0nm,0.7s
BBOO Buckleboo 29.09 204 P **P** **02 47 03.8 +0.9**
BBOO IAmb IAmb 02 47 16.0
comp=E,37nm,1.5s
TOLI2 Tolitoli 29.97 284 P **P** **02 47 11.4 +0.4**
TOLI2 IAmb IAmb 02 47 19.5
comp=E,16nm,1.1s
MBWA Marble Bar 32.53 240 P **P** **02 47 33.7 +0.3**
MJAR Matsushiro Arr 44.23 347 LR LR 03 07 49.1
comp=E,23nm,19.4s,baz=166,slow=36
PETK Petropavlovsk- **59.81 5** LR LR 03 12 46.8
comp=E,25nm,21.5s,baz=182,slow=32
VNDA Vanda 71.21 177 P **P** **02 52 20.6 +0.3**
comp=E,0.5nm,0.7s,baz=310,slow=10,SNR=4.7
comp=E,0.5nm,0.7s
GAMB Gambell 75.88 17 P **P** **02 52 48.9 +1.0**
N15K Kwethluk River 77.26 23 P **P** **02 52 57.4 +1.5**
M17K Holitna River 79.05 23 P **P** **02 53 06.9 +1.2**
M17K IAmb IAmb 02 53 24.1
comp=E,8.8nm,1.2s
K17K Iditarod 79.51 22 P **P** **02 53 08.6 +0.4**
K17K IAmb IAmb 02 53 24.6
comp=E,5.9nm,1.1s
SYI Shuyak Island 79.59 27 P **P** **02 53 08.4 -0.3**
MKAR Makanchi Array 79.72 320 P **P** **02 53 08.4 -1.4**
comp=E,0.1nm,0.4s,baz=134,slow=6.2,SNR=2.1
comp=E,0.1nm,0.4s
L18K Granite Mounta 79.82 22 P **P** **02 53 10.8 +1.0**
L18K IAmb IAmb 02 53 17.4
comp=E,6.6nm,1.4s
CNPM China Poot 80.58 26 P **P** **02 53 14.6 +0.6**
ZALV Zalesovo Beam 80.99 327 LR LR 03 29 36.4
comp=E,12nm,19.4s,baz=164,slow=36
KURBB Kurchatov Arra 83.36 323 P **P** **02 53 28.1 -0.7**
comp=E,0.3nm,0.6s,baz=111,slow=3.2,SNR=2.8
comp=E,0.3nm,0.6s
QSPA South Pole Qui 83.42 180 P **P** **02 53 29.5 +0.5**
QSPA IAmb IAmb 02 53 39.2
comp=E,11nm,1.4s
QSPA South Pole Qui 83.42 180 P **P** **02 53 29.2 +0.2**
comp=E,2.0nm,0.7s,baz=18,slow=0.5,SNR=14
comp=E,2.0nm,0.7s
ILAR Eielson Array 84.90 23 P **P** **02 53 35.1 -1.2**
comp=E,1.1nm,0.6s,baz=250,slow=5.0,SNR=23
comp=E,1.1nm,0.6s
BBB Bella Bella 90.28 38 LR LR 03 26 12.4
comp=E,26nm,21.9s,baz=223,slow=30
NVAR Mina Array Bea 95.49 52 P **P** **02 54 28.2 +1.1**
comp=E,1.7nm,0.7s,baz=250,slow=6.4,SNR=17
comp=E,1.7nm,0.7s
YKA Yellowknife Ar 98.35 28 LR LR 03 34 18.3
comp=E,56nm,21.0s,baz=287,slow=32
PDAR Pinedale Array 102.21 48 P **Pdif** **02 54 56.9 -0.3**
comp=E,0.2nm,0.3s,baz=299,slow=1.5,SNR=4.2
GERES GERESS Array B 123.93 327 PKP **PKPdf** **03 00 00.1 +0.1**
comp=E,1.1nm,0.6s,baz=50,slow=2.1,SNR=14
BDFB Brasilia 151.74 141 PKPbc **PKPbc** **03 00 56.7 -0.7**
comp=E,3.4nm,1.0s,baz=242,slow=2.2,SNR=4.4

*NEIC **06** 02:52:33.1±1.8,35.12N±0.02×95.37W±0.02,h5km±1km, mb_Lg2.4/48,ML2.2/8,ML2.6/12,Error ellipse: s-maj=3.0km s-min=2.8km az=149.0*

NEIC 06 02:52:33.1±2.3,35.14N±0.01×95.36W±0.01,h5km±1km, Error ellipse: s-maj=2.9km s-min=2.5km az=245.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.84**	**336**		Pg	02 52 49.3	+0.1
TUL3				Sg	Sg	02 53 00.6	+0.4
RLO	**Rose Lookout**	**1.06**	**15**		Pg	02 52 53.0	-0.4
RLO					Sg	02 53 07.3	+0.3
RLO				IAML		02 53 13.3	
	comp=E,178nm,0.2s						
RLO				IAML		02 53 14.1	
	comp=N,191nm,0.2s						
DEOK	**Depew**	**1.16**	**307**		Pg	02 52 55.1	-0.2
DEOK					Sg	02 53 10.5	+0.1
DEOK				IAML		02 53 15.2	
	comp=N,136nm,0.4s						
DEOK				IAML		02 53 17.6	
	comp=E,110nm,0.3s						
OK052	**Battle Ridge R**	**1.45**	**306**		Pn	02 52 59.8	-0.2
OK052				Sg	Sg	02 53 19.8	+0.2
QUOK	**Quay**	**1.50**	**314**		Pn	02 53 00.8	+0.1
QUOK					Sg	02 53 21.4	0.0
U38A	**Gravette**	**1.52**	**31**		Pn	02 53 01.0	0.0
U38A					Sn	02 53 21.2	+0.1
MIAR	**Mount Ida**	**1.59**	**112**		Pn	02 53 02.3	+0.4
MIAR					Sb	02 53 23.6	+0.3
HHAR	**Hobbs**	**1.62**	**45**		Pn	02 53 02.7	+0.3
HHAR					Sb	02 53 24.3	0.0
FNO	**Franklin**	**1.67**	**274**		Pn	02 53 02.9	-0.1
ADOK	**Arcadia Dam**	**1.72**	**288**		Pn	02 53 03.4	-0.3
OKCSW	**OKLAHOMA CITY**	**1.72**	**279**		Pn	02 53 03.5	-0.2
OKCSW				IAmb_Lg		02 53 31.9	
	comp=E,36nm,0.7s						
OK029	**Liberty Lake**	**1.83**	**291**		Pn	02 53 04.8	-0.4
LOOK	**Love County**	**1.89**	**233**		Pn	02 53 05.1	-0.9
Z38A	**Mt. Pleasant**	**1.91**	**170**	Pn	Pn	02 53 05.9	-0.3
Z38A					Sb	02 53 32.5	0.0
Z38A				IAmb_Lg		02 53 35.4	
	comp=E,24nm,0.8s						
T35A	**Sooner Cattle**	**2.00**	**333**		Pb	02 53 08.9	-1.0
X40A	**Basin Creek Fa**	**2.18**	**107**		Pn	02 53 09.9	-0.1
X40A				IAmb_Lg		02 53 45.3	
	comp=E,20nm,0.7s						
BLOK	**Blackwell**	**2.20**	**318**		Pn	02 53 10.0	-0.4
BLOK					Sb	02 53 41.4	+0.3
WLAR	**White Oak Lake**	**2.36**	**127**		Pn	02 53 11.1	-1.4
WLAR				IAmb_Lg		02 53 45.4	
	comp=E,18nm,0.9s						
Z35A	**Perchaven, San**	**2.39**	**221**		Pn	02 53 12.1	-0.9
TREL	**Terrell**	**2.48**	**194**		Pn	02 53 15.3	+1.1
UALR	**University of**	**2.51**	**98**		Pn	02 53 14.7	+0.2
UALR				IAmb_Lg		02 53 56.4	
	comp=E,18nm,1.1s						
KAN14	**Manchester OK**	**2.78**	**311**	IAmb_Lg		02 54 03.2	
	comp=E,7.9nm,0.8s						
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		02 54 19.1	
	comp=E,12nm,0.8s						
LCAR	**Lake Charles**	**3.55**	**74**	IAmb_Lg		02 54 29.1	
	comp=E,7.5nm,0.8s						
SMWD	**Samnorwood**	**4.00**	**271**	IAmb_Lg		02 54 50.2	
	comp=E,7.3nm,0.8s						
R32A	**Long Quarter,**	**4.23**	**322**	IAmb_Lg		02 54 59.0	
	comp=E,9.4nm,0.9s						
CCM	**Cathedral Cave**	**4.41**	**48**	IAmb_Lg		02 54 55.7	
	comp=E,7.2nm,0.7s						
P38A	**Dawn**	**4.71**	**18**	IAmb_Lg		02 55 10.5	
	comp=E,7.1nm,0.8s						
DKNS	**Dickens**	**4.83**	**254**	IAmb_Lg		02 55 05.6	
	comp=E,4.8nm,0.9s						
FVM	**French Village**	**4.88**	**53**	IAmb_Lg		02 55 09.7	
	comp=E,6.2nm,0.7s						
SN07	**Snyder 07**	**5.02**	**248**	IAmb_Lg		02 55 13.8	
	comp=E,3.9nm,0.9s						
CGM3	**Cape Girardeau**	**5.09**	**63**	IAmb_Lg		02 55 18.8	
	comp=E,9.4nm,1.1s						
P40A	**Paris**	**5.11**	**30**	IAmb_Lg		02 55 16.8	
	comp=E,7.1nm,0.8s						
SIUC	**Southern Illin**	**5.58**	**61**	IAmb_Lg		02 55 30.9	
	comp=E,10nm,0.8s						
SGCY	**Sterling City**	**5.79**	**238**	IAmb_Lg		02 55 46.1	
	comp=E,9.5nm,1.0s						
P43A	**Skaggs, Pawnee**	**6.46**	**44**	IAmb_Lg		02 55 58.0	
	comp=E,11nm,0.9s						
SFIN	**Lafayette**	**8.37**	**49**	IAmb_Lg		02 56 58.5	
	comp=E,4.4nm,0.7s						

*SJA **06** 02:54:45.6±1.6,21.18S×68.44W,h100km,ML3.9,MW3.8*
*IDC **06** 02:54:46.1±2.2,21.40S×68.21W,h86km±23km,mb3.6/3, mbtmp4.0/9,Error ellipse: s-maj=25.1km s-min=19.1km az=100.0*
*NEIC **06** 02:54:47.0±1.7,21.16S±0.05×68.66W±0.08,h132km±6km, mb4.2/8,ML3.9(GUC),Error ellipse: s-maj=11.6km s-min=6.8km az=79.0*
*GUC **06** 02:54:47.9±0.6,21.16S×68.66W,h128km±3km,ML3.9*

ISC 06 02:54:47.2±0.7,21.22S±0.03×68.69W±0.06,h131km±6km, n80,σ1°46/105,mb3.9/5,7C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.76**	**283**		Pn	**02 55 08.1**	**-0.1**
PB01	**IPOC Station P**	**0.76**	**283**	⇑*iP*	Pn	**02 55 08.1**	**-0.1**
PB01				*eS*	Sn	**02 55 23.6**	**-0.5**
PB01				IAML		02 55 24.8	
	comp=N,3μm,0.2s						
PB01	**IPOC Station P**	**0.76**	**283**	*eP*	Pn	**02 55 08.2**	**-0.1**
PB01				*eS*	Sn	**02 55 24.5**	**+0.3**
PB01				IAML		02 55 26.0	
	comp=Z,2μm,0.2s						
PB09	**IPOC Station P**	**0.77**	**221**		Pn	**02 55 09.4**	**+1.0**
PB09				Sn	Sn	**02 55 25.5**	**+1.0**
PB09	**IPOC Station P**	**0.77**	**221**	⇑*iP*	Pn	**02 55 09.1**	**+0.7**
PB09				*i* S	Sn	**02 55 25.7**	**+1.2**
PB09				IAML		02 55 26.5	
	comp=N,2μm,0.5s						
PB09	**IPOC Station P**	**0.77**	**221**	*eP*	Pn	**02 55 09.3**	**+0.8**
PB09				*eS*	Sn	**02 55 26.2**	**+1.7**
PB09				IAML		02 55 26.4	
	comp=Z,1μm,0.5s						
PB02	**IPOC Station P**	**1.13**	**264**		Pn	**02 55 11.8**	**+0.3**
PB02				Sn	Sn	**02 55 30.1**	**+0.2**
PB02	**IPOC Station P**	**1.13**	**264**	⇑*iP*	Pn	**02 55 11.9**	**+0.3**
PB02				*i* S	Sn	**02 55 30.1**	**+0.2**
PB02				IAML		02 55 33.4	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**1.13**	**264**	*eP*	Pn	**02 55 11.2**	**-0.4**
PB02				*eS*	Sn	**02 55 30.6**	**+0.6**
PB02				IAML		02 55 34.6	
	comp=Z,3μm,0.3s						
PB08	**IPOC Station P**	**1.15**	**338**		Pn	**02 55 12.1**	**0.0**
PB08	**IPOC Station P**	**1.15**	**338**	⇓*iP*	Pn	**02 55 11.9**	**-0.2**
PB08				*i* S	Sn	**02 55 30.5**	**-0.5**
PB08				IAML		02 55 31.7	
	comp=N,1μm,0.3s						
PB08	**IPOC Station P**	**1.15**	**338**	*eP*	Pn	**02 55 11.9**	**-0.2**
PB08				*eS*	Sn	**02 55 31.2**	**+0.2**
PX03	**IPOC Station P**	**1.19**	**312**	*eP*	Pn	**02 55 11.0**	**-1.2**
PX03				*eS*	Sn	**02 55 30.2**	**-1.0**
PX03				IAML		02 55 32.1	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**1.29**	**230**		Pn	**02 55 13.9**	**+0.7**
PATCX	**Punta Patache**	**1.42**	**286**		Pn	**02 55 14.9**	**+0.3**
PATCX	**Punta Patache**	**1.42**	**286**	⇑*iP*	Pn	**02 55 14.7**	**+0.2**
PATCX				*i* S	Sn	**02 55 35.4**	**0.0**
PATCX				IAML		02 55 36.8	
	comp=N,3μm,0.3s						
PATCX	**Punta Patache**	**1.42**	**286**	*eP*	Pn	**02 55 14.8**	**+0.2**
PATCX				*eS*	Sn	**02 55 35.9**	**+0.6**
PATCX				IAML		02 55 36.9	
	comp=Z,1μm,0.3s						
HMBC	**Humberstone**	**1.46**	**310**		Pn	**02 55 14.2**	**-0.8**
HMBC	**Humberstone**	**1.46**	**310**	⇓*iP*	Pn	**02 55 14.5**	**-0.6**
HMBC				*i* S	Sn	**02 55 35.3**	**-0.9**
HMBC				IAML		02 55 35.7	
	comp=N,3μm,0.3s						
HMBC	**Humberstone**	**1.46**	**310**	*eP*	Pn	**02 55 14.4**	**-0.7**
HMBC				*eS*	Sn	**02 55 35.9**	**-0.3**
HMBC				IAML		02 55 37.1	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	**1.53**	**295**		Pn	**02 55 15.5**	**-0.3**
TA01	**Diego Aracena**	**1.53**	**295**	⇑*iP*	Pn	**02 55 15.4**	**-0.3**
TA01				*i* S	Sn	**02 55 36.7**	**-0.8**
TA01				IAML		02 55 37.2	
	comp=N,1μm,0.3s						
TA01	**Diego Aracena**	**1.53**	**295**	*eP*	Pn	**02 55 15.5**	**-0.3**
TA01				*eS*	Sn	**02 55 37.4**	**-0.1**
GO01	**Chusmiza**	**1.61**	**343**		Pn	**02 55 16.7**	**-0.6**
GO01	**Chusmiza**	**1.61**	**343**	⇓*iP*	Pn	**02 55 16.6**	**-0.6**
GO01				*i* S	Sn	**02 55 39.2**	**-0.7**
GO01				IAML		02 55 41.5	
	comp=N,2μm,0.2s						
GO01	**Chusmiza**	**1.61**	**343**	*eP*	Pn	**02 55 16.5**	**-0.6**
GO01				*eS*	Sn	**02 55 40.2**	**+0.3**
TA02	**Huaiquique**	**1.64**	**305**		Pn	**02 55 16.5**	**-0.5**
TA02	**Huaiquique**	**1.64**	**305**	*eP*	Pn	**02 55 16.8**	**-0.2**
TA02				*i* S	Sn	**02 55 38.8**	**-0.9**
TA02				IAML		02 55 46.0	
	comp=N,3μm,0.1s						
TA02	**Huaiquique**	**1.64**	**305**	*eP*	Pn	**02 55 16.2**	**-0.8**
TA02				*eS*	Sn	**02 55 39.3**	**-0.4**
TA02				IAML		02 55 42.9	
	comp=Z,745nm,0.2s						
PB06	**IPOC Station P**	**1.69**	**209**		Pn	**02 55 18.6**	**+0.8**
PB06	**IPOC Station P**	**1.69**	**209**	⇑*iP*	Pn	**02 55 18.5**	**+0.8**
PB06				*i* S	Sn	**02 55 41.9**	**+0.8**
PB06				IAML		02 55 43.0	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**1.69**	**209**	*eP*	Pn	**02 55 17.9**	**+0.1**
PB06				*eS*	Sn	**02 55 42.2**	**+1.1**
PB06				IAML		02 55 43.7	
	comp=Z,1μm,0.2s						
PB11	**IPOC Station P**	**1.71**	**328**		Pn	**02 55 17.1**	**-0.9**
PB11	**IPOC Station P**	**1.71**	**328**	⇓*iP*	Pn	**02 55 17.0**	**-0.9**
PB11				*i* S	Sn	**02 55 40.1**	**-1.3**
PB11				IAML		02 55 42.2	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.71**	**328**	*eP*	Pn	**02 55 17.0**	**-0.9**
PB11				*eS*	Sn	**02 55 40.8**	**-0.6**
PB11				IAML		02 55 41.9	
	comp=Z,1μm,0.2s						
AF01	**San Pedro de A**	**1.79**	**165**		Pn	**02 55 20.2**	**+1.1**
PB05	**IPOC Station P**	**2.15**	**220**		Pn	**02 55 23.5**	**+0.3**
PB05	**IPOC Station P**	**2.15**	**220**	⇑*iP*	Pn	**02 55 23.5**	**+0.3**
PB05				*i* S	Sn	**02 55 50.3**	**-0.4**
PB05				IAML		02 55 52.6	
	comp=E,384nm,0.3s						
PB05	**IPOC Station P**	**2.15**	**220**	*eP*	Pn	**02 55 23.5**	**+0.3**
PB05				*ePg*		02 55 50.0	
PB10	**IPOC Station P**	**2.86**	**217**		Pn	**02 55 32.3**	**+0.2**
PB10	**IPOC Station P**	**2.86**	**217**	*eP*	Pn	**02 55 31.9**	**-0.2**
PB10				*eS*	Sn	**02 56 02.0**	**-4.7**
PB16	**IPOC Station P**	**2.97**	**345**		Pn	**02 55 33.5**	**-0.6**
AP01	**Chacalluta**	**3.23**	**331**	Pn	Pn	**02 55 35.7**	**-1.2**
PB18	**Visviri**	**3.68**	**348**		Pn	**02 55 43.7**	**+0.4**
GO02	**Mina Guanaco**	**4.01**	**192**		Pn	**02 55 47.1**	**-0.4**
SLA	**San Lorenzo**	**4.56**	**141**	*eP*	Pn	**02 55 55.3**	**+0.7**
SLA				*eS*	Sn	02 56 35.5	-12
LPAZ	**La Paz**	**4.93**	**6**		Pn	**02 56 00.4**	**+0.4**
LPAZ	**La Paz**	**4.93**	**6**	P	Pn	**02 56 00.7**	**+0.7**
	comp=E,25nm,0.4s,baz=200,slow=12,SNR=223						
LPAZ				S	Sn	**02 56 54.6**	**-1.9**
	comp=E,3.1nm,0.5s,baz=174,slow=19,SNR=1.6						
LPAZ	**La Paz**	**4.93**	**6**	*eP*	Pn	**02 56 00.5**	**+0.4**
LPAZ				*eS*	Sn	**02 56 54.7**	**-1.9**
AC01	**Pan de Azucar**	**5.21**	**199**	Pn	Pn	**02 56 01.8**	**-1.4**
AC01	**Pan de Azucar**	**5.21**	**199**	*eP*	Pn	**02 56 01.2**	**-2.0**
AC01				*eS*	Sn	**02 56 58.8**	**-3.6**
AC02	**Maricunga**	**5.61**	**184**		Pn	**02 56 08.5**	**-0.4**
GO03	**Copiapo**	**6.50**	**192**		Pn	**02 56 18.4**	**-2.1**
AC04	**Llanos de Chal**	**7.29**	**197**	Pn	Pn	**02 56 27.1**	**-4.0**
LCO	**Las Campanas**	**7.97**	**193**		Pn	**02 56 36.9**	**-3.7**
CO01	**Juntas del Tor**	**8.82**	**188**	Pn	Pn	**02 56 49.2**	**-2.7**
SIV	**San Ignacio**	**8.90**	**56**	P	Pn	02 56 48.3	-4.5
	comp=E,13nm,0.4s,baz=255,slow=9.3,SNR=78						
GO04	**Tololo Observa**	**9.12**	**192**		Pn	**02 56 52.0**	**-3.9**
CO03	**El Pedregal**	**9.75**	**190**		Pn	**02 57 00.1**	**-4.2**
CO02	**Combarbal**	**10.16**	**191**	Pn	Pn	02 57 04.9	-4.9
CFA	**Coronel Fontan**	**10.36**	**178**	P	Pn	**02 57 08.3**	**-4.1**
	comp=E,1.6nm,0.3s,baz=2.0,slow=11,SNR=11						
PTLB	**Pontes e Lacer**	**10.73**	**59**		Pn	**02 57 14.4**	**-3.0**
BO01	**Tunca**	**13.29**	**189**	Pn	Pn	**02 57 51.1**	**+0.2**
BO02	**Sierra Bellavi**	**13.65**	**187**	Pn	Pn	**02 57 56.0**	**+0.5**
TRCB	**Terra Rica**	**14.98**	**99**	P	Pn	**02 58 13.5**	**+1.2**
ATAH	**Atahualpa**	**16.85**	**325**	P	Pn	02 58 42.5	+6.6
	comp=E,2.3nm,0.5s,baz=142,slow=9.1,SNR=2.1						
TRQA	**Tornquist**	**17.76**	**162**	P	**P**	**02 58 45.0**	**-0.2**
TRQA				IAmb	IAmb	02 59 20.4	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**19.52**	**184**	P	Pn	**02 59 05.5**	**-1.5**
PLCA	**Paso Flores**	**19.52**	**184**	P	Pn	**02 59 06.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=355,slow=10,SNR=3.2						
BDFB	**Brasilia**	**20.38**	**78**	P	**P**	**02 59 12.8**	**-1.2**
BDFB				IAmb	IAmb	02 59 15.8	
	comp=Z,20nm,1.4s						
BDFB	**Brasilia**	**20.38**	**78**	P	**P**	**02 59 12.1**	**-1.8**
	comp=Z,3.9nm,0.5s,baz=259,slow=6.5,SNR=8.4						
BAUV	**El Baul**	**29.98**	**1**	P	**P**	**03 00 42.5**	**-1.0**
BAUV				IAmb	IAmb	03 00 45.0	
	comp=Z,12nm,1.1s						
PMSA	**Palmer Station**	**43.65**	**177**	P	**P**	**03 02 40.0**	**+1.6**
TXAR	**Lajitas Array**	**60.51**	**325**	P	P	03 04 49.9	+6.1
	comp=Z,0.1nm,0.4s,baz=115,slow=5.6,SNR=2.1						
	comp=Z,0.1nm,0.4s						
SNAA	**Sanae**	**62.48**	**161**	P	**P**	**03 04 57.9**	**+1.5**
SNAA				IAmb	IAmb	03 05 24.6	
	comp=Z,2.0nm,1.3s						
BATG	**Bathurst New B**	**68.21**	**2**	P	**P**	**03 05 32.6**	**-0.8**
PPT	**Papeete**	**75.58**	**257**	P	P	03 06 24.7	+6.6
	comp=Z,25nm,0.6s,baz=119,slow=13,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P	**P**	**03 06 28.6**	**+2.0**
	comp=Z,3.5nm,0.3s,baz=256,slow=5.0,SNR=1.2						
	comp=Z,3.5nm,0.3s						
VNDA	**Vanda**	**77.16**	**190**	P	**P**	**03 06 28.6**	**+2.6**
VNDA	**Vanda**	**77.16**	**190**	P	**P**	**03 06 29.0**	**+3.0**
	comp=Z,0.4nm,0.4s,baz=274,slow=13,SNR=7.2						
	comp=Z,0.4nm,0.4s						

IDC 06 02:55:42.1±1.2,14.60S×172.80W,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=47.8km s-min=29.2km az=138.0,Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.59**	**256**	P	P	03 04 43.9	+0.8
	0.9nm,0.9s,baz=94,slow=8.0,SNR=5.2						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**50.91**	**251**	P	P	03 04 45.0	-0.5
	2.1nm,0.8s,baz=85,slow=8.5,SNR=20						
	2.1nm,0.8s						
QSPA	**South Pole Qui**	**75.44**	**180**	P	P	03 07 27.8	-0.1
	2.1nm,0.8s,baz=17,slow=2.2,SNR=6.6						
	2.1nm,0.8s						
PDAR	**Pinedale Array**	**81.28**	**42**	P	P	03 08 01.6	+1.0
	0.1nm,0.3s,baz=255,slow=8.0,SNR=1.3						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**81.55**	**11**	P	P	03 08 00.4	-0.8
	0.2nm,0.9s,baz=188,slow=5.8,SNR=4.5						
	0.2nm,0.9s						

*IDC **06** 03:14:43.5±1.4,18.22S×174.70W,h0km,mb3.9/5, mbtmp3.9/5,MS2.9/2,Error ellipse: s-maj=38.4km s-min=35.2km az=67.0*
*NEIC **06** 03:14:57.8±1.1,18.4S±0.2×174.8W±0.1,h104km±10km, mb4.2/11,Error ellipse: s-maj=26.2km s-min=13.7km az=188.0*

ISC 06 03:14:56.7±0.8,18.4S±0.2×174.82W±0.10,h100km,n24, σ0°77/22,mb4.2/12,3C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.69**	**99**	Pn	**Pn**	**03 16 05.3**	**+0.2**
MSVF	**Nonsavu**	**6.82**	**274**	Pn	**Pn**	**03 16 35.0**	**+0.9**
RAR	**Rarotonga**	**14.44**	**104**	LR	LR	03 22 24.8	
	comp=Z,60nm,18.4s,baz=66,slow=32						
PPT	**Papeete**	**24.02**	**92**	LR	LR	03 26 37.6	
	comp=Z,27nm,21.4s,baz=330,slow=30						
CTAO	**Charters Tower**	**36.74**	**261**	P	**P**	**03 21 55.1**	**+0.4**
BBOO	**Buckleboo**	**46.19**	**242**	P	**P**	**03 23 10.0**	**-1.6**
WR8	**Warramunga Arr**	**47.75**	**259**	P	**P**	**03 23 22.7**	**-1.3**
WR8				IAmb	IAmb	03 23 27.0	
	comp=Z,9.9nm,1.4s						
WB0	**Warramunga Arr**	**47.88**	**260**	P	**P**	**03 23 25.1**	**+0.1**
WB0				IAmb	IAmb	03 23 36.9	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**47.89**	**259**	P	**P**	**03 23 24.7**	**-0.4**
WB2				IAmb	IAmb	03 23 32.6	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**47.91**	**259**	P	**P**	**03 23 25.2**	**0.0**
WRA	**Warramunga Arr**	**47.91**	**259**	P	**P**	**03 23 24.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=97,slow=8.5,SNR=8.5						

Ms4.4/70,Ms7 4.3/71
MOS ***06*** *03:51:14.8±1.1,2˝.18N×126˚.31E,h39km,mb5.8/69,Error ellipse: s-maj=7.8km s-min=4.1km az=112.5*
NEIC ***06*** *03:51:16.5,2˝.25N×126˚.66E,h46km,Moment Tensor Solution. Duration: 1ᵗ8 Moment tensor: Scale 10¹⁶Nm; Mrr6.19; Mθθ 0.51; Mϕϕ-6.69; Mrθ 1.75; Mθϕ 2.60; Mϕr-1.88; Fault plane solution: M₀7.42000×10¹⁶ NP1: ϕs353.93000°,δ36.77000°,λ108.26000°. NP2: ϕs151.54000°,δ55.36000°,λ76.82000°. Principal axes: T 6.7823, Plg76.0000°, Azm21.0000°; N 1.1399, Plg11.0000°, Azm159.0000°; P -7.9222, Plg9.0000°, Azm251.0000°;*
IDC ***06*** *03:51:16.3±1.9,2˝.14N×126˚.26E,h36km±15km,mb5.2/42, mbtmp5.4/43,ML4.6/1,MS3.9/44 Error ellipse: s-maj=15.2km s-min=8.7km az=77.0*
NEIC ***06*** *03:51:16.5±1.8,2˝.15N±0˝.06×126˚.56E±0˝.07,h35km±1km, mb5.6/343,Mww5.2/12,Error ellipse: s-maj=12.6km s-min=8.0km az=238.0*
NEIC ***06*** *03:51:16.5,2˝.15N×126˚.56E,h46km*
DJA ***06*** *03:51:18.8±0.2,2˚N±2˚×12˚6E±˚,h59km±2km,M5.2/93, mb5.4/93,mB5.7/55,MLv5.4/21,Mw(mB)5.2/55, MwMwp4.9/13,Mwp5.2/13*
GCMT ***06*** *03:51:20.5±0.2,2˚.32N±0˝.01×126˚.17E±0˝.01,h48km±1km, MW5.2/107,Moment Tensor Solution. s105,c143; s107,c145; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.47±.18; Mθθ0.55±.13; Mϕϕ-6.02±.13; Mrθ3.39±.14; Mθϕ 1.75±.12; Mϕr-1.82±.15; Best double couple: M₀7.14600×10¹⁶ NP1:ϕs8.00000°,δ38.00000°, λ129.00000°. NP2:ϕs143.00000°,δ61.00000°,λ64.00000°. Principal axes: T 7.2520, Plg64.0000°, Azm9.0000°; N -0.2170, Plg23.0000°, Azm156.0000°; P -7.0400, Plg13.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 03:51:17.2±0.2,2˚.17N±0˝.03×126˚.49E±0˚.04,h47km, h47km:pP-P,n1081,σ1ˢ45/1049,mb5.5/316,MS4.1/76, 36C-34D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.64**	**148**			**Pn**	**03 51 42.4**	**-1.3**
TNTI					Sn	**Sn**	**03 52 01.4**	**-2.2**
TNTI	**Ternate**	**1.64**	**148**	P		**Pn**	**03 51 43.7**	**0.0**
TNTI	**Ternate**	**1.64**	**148**	P		**Pn**	**03 51 43.3**	**-0.4**
SGSI	**Sangihe**	**1.79**	**328**	P		**Pn**	**03 51 46.5**	**+0.8**
KMSI	**Cibinong**	**2.96**	**238**	P		**Pn**	**03 52 03.5**	**+1.7**
SANI	**Sanana**	**4.22**	**187**	P		**Pn**	**03 52 18.7**	**-0.3**
SANI	**Sanana**	**4.22**	**187**	P		**Pn**	**03 52 18.3**	**-0.7**
MRSI	**Marisa**	**4.84**	**250**	P		**Pn**	**03 52 29.5**	**+1.9**
LUWI	**Luwuk**	**4.89**	**229**	P		**Pn**	**03 52 30.4**	**+2.1**
DAV	**Davao City (W)**	**4.95**	**350**	Pn		**Pn**	**03 52 29.2**	**0.0**
DAV	**Davao City (W)**	**4.95**	**350**	Pn		**Pn**	**03 52 31.2**	**+2.0**
	128nm,0.3s,baz=323,slow=10,SNR=2.0							
NLAI	**Namlea**	**5.40**	**173**	P		**Pn**	**03 52 36.1**	**+0.8**
	2.5nm10μm654nm,0.9s							
SWI	**Sorong**	**5.64**	**122**	P		**Pn**	**03 52 41.0**	**+2.4**
	0.7nm5μm181nm,0.9s							
APSI	**Ampana**	**5.72**	**238**	P		**Pn**	**03 52 43.0**	**+3.3**
TOLI2	**Tolitoli**	**5.80**	**260**	Pn		**Pn**	**03 52 40.8**	**+0.1**
TOLI2	**Tolitoli**	**5.80**	**260**	P		**Pn**	**03 52 41.1**	**+0.4**
MSAI	**Masohi**	**6.00**	**156**	P		**Pn**	**03 52 45.7**	**+2.2**
	1.6nm6μm385nm,1.0s							
AAI	**Ambon**	**6.06**	**164**	P		**Pn**	**03 52 47.4**	**+3.1**
	1.2nm4μm289nm,0.9s							
MPSI	**Mapaga**	**6.83**	**255**	P		**Pn**	**03 52 57.3**	**+2.4**
	1.7nm7μm6μm495nm,0.9s							
KDI	**Kendari**	**7.21**	**212**	P		**Pn**	**03 53 01.4**	**+1.3**
PCI	**Palu**	**7.32**	**245**	P		**Pn**	**03 53 04.4**	**+2.8**
	2.4nm8μm735nm,0.9s							
FAKI	**Fak Fak**	**7.66**	**131**	Pn		**Pn**	**03 53 07.4**	**+1.1**
FAKI	**Fak Fak**	**7.66**	**131**	P		**Pn**	**03 53 06.0**	**-0.3**
FAKI	**Fak Fak**	**7.66**	**131**	P		**Pn**	**03 53 08.3**	**+2.0**
MYLDM	**Lahad Datu**	**8.51**	**291**			**Pn**	**03 53 18.2**	**+0.2**
BBSI	**Bau Bau**	**8.55**	**207**	P		**Pn**	**03 53 19.7**	**+1.2**
SPSI	**Sidrap Palu**	**9.06**	**228**	P		**Pn**	**03 53 27.1**	**+1.6**
	4μm328nm,0.8s							
BNSI	**Bone**	**9.12**	**224**	P		**Pn**	**03 53 27.7**	**+1.4**
	4μm3μm378nm,0.8s							
SMKI	**Samarinda**	**9.63**	**254**	P		**Pn**	**03 53 34.5**	**+1.2**
BKSI	**Bulukumba**	**9.78**	**220**	P		**Pn**	**03 53 36.5**	**+1.1**
	2μm265nm,0.7s							
KAPI	**Kappang**	**9.80**	**223**	Pn		**Pn**	**03 53 36.4**	**+0.7**
KAPI	**Kappang**	**9.80**	**223**	Pn		**Pn**	**03 53 35.6**	**-0.1**
	16nm,0.3s,baz=22,slow=5.7,SNR=57							
KAPI					LR	LR	03 56 44.7	
	comp=Z,391nm,19.8s,baz=48,slow=34							
KAPI	**Kappang**	**9.80**	**223**	P		**Pn**	**03 53 36.6**	**+0.9**
KAPI	**Kappang**	**9.80**	**223**	*d*	*i*P	**Pn**	**03 53 36.4**	**+0.7**
BAKI	**Biak**	**10.18**	**109**	P		**Pn**	**03 53 45.4**	**+4.5**
	5μm463nm,1.2s							
BSSI	**Bau Bau, Buton**	**10.20**	**216**	P		**Pn**	**03 53 42.6**	**+1.5**
	4μm403nm,0.7s							
KKM	**Kota Kinabalu**	**10.94**	**291**	Pn		**Pn**	**03 53 53.6**	**+2.3**
MMRI	**Maumere**	**11.54**	**201**	Pn		**Pn**	**03 54 00.1**	**+0.7**
MMRI	**Maumere**	**11.54**	**201**	P		**Pn**	**03 54 00.3**	**+0.9**
	3μm177nm,1.7s							
EDFI	**Ende, Flores**	**11.85**	**204**	P		**Pn**	**03 54 04.3**	**+0.5**
	2μm165nm,0.7s							
SOEI	**Soe**	**12.05**	**191**	Pn		**Pn**	**03 54 08.4**	**+1.9**
SOEI	**Soe**	**12.05**	**191**	P		**Pn**	**03 54 09.9**	**+3.4**
	4μm417nm,1.2s							
BATI	**Baumata**	**12.61**	**193**	Pn		**Pn**	**03 54 15.7**	**+1.6**
	8.3nm,0.3s,baz=57,slow=6.4,SNR=12							
BATI	**Baumata**	**12.61**	**193**	P		**Pn**	**03 54 18.5**	**+4.4**
	2μm199nm,1.2s							
SMPI	**Sarmi**	**12.90**	**109**	P		**Pn**	**03 54 21.6**	**+3.6**
	116nm,1.2s							
WSI	**Waingapu**	**13.28**	**208**	P		**Pn**	**03 54 25.5**	**+2.3**
	405nm,1.2s							
BASI	**Baing, Sumba**	**13.64**	**205**	P		**Pn**	**03 54 29.3**	**+1.2**
	6μm364nm,1.7s							
WBSI	**Waikabubak, Su**	**13.69**	**211**	P		**Pn**	**03 54 29.8**	**+0.9**
	3μm218nm,0.8s							
PLAI	**Plampang**	**13.95**	**218**	P		**Pn**	**03 54 33.9**	**+1.5**
PLAI	**Plampang**	**13.95**	**218**	P		**Pn**	**03 54 34.7**	**+2.3**
SBUM	**Sibu**	**14.26**	**271**	Pn		**Pn**	**03 54 37.9**	**+1.4**
SBUM	**Sibu**	**14.26**	**271**	P		**Pn**	**03 54 38.1**	**+1.6**
TWSI	**Taliwang, Sumb**	**14.46**	**221**	P		**Pn**	**03 54 40.2**	**+1.0**
GENI	**Genyem**	**14.47**	**109**	P		**P**	**03 54 42.9**	**-2.2**
	4μm426nm,0.9s							
JAY	**Jayapura**	**14.96**	**108**	Pn		**P**	**03 54 49.1**	**-1.4**
	2.6nm,0.3s,baz=289,slow=7.6,SNR=28							
JAY					LR	LR	03 59 55.2	
	comp=Z,924nm,20.5s,baz=320,slow=34							
	170nm,0.8s							
JAY	**Jayapura**	**14.96**	**108**	P		**P**	**03 54 49.9**	**-0.6**
	169nm,0.9s							
STKI	**Sintang**	**15.15**	**262**	P		**P**	**03 54 50.4**	**-2.2**
	324nm,1.2s							
DRS	**Darwin Rock St**	**15.15**	**163**	P		**Pn**	**03 54 48.4**	**+0.1**
SRBI	**Singaraja**	**15.17**	**228**	P		**P**	**03 54 52.7**	**-0.1**
	3μm339nm,0.8s							
KMMI	**Kalianget**	**15.49**	**234**	P		**P**	**03 54 57.7**	**+1.3**
DNP	**Denpasar**	**15.57**	**226**	P		**P**	**03 54 56.1**	**-1.1**
MTN	**Manton Dam**	**15.61**	**163**	Pn		**Pn**	**03 54 51.6**	**-2.6**
MTN	**Manton Dam**	**15.61**	**163**	P		**Pn**	**03 54 52.2**	**-2.0**
	comp=Z,70nm,1.1s							
MTN	**Manton Dam**	**15.61**	**163**	P		**Pn**	**03 54 54.4**	**+0.2**
ABJI	**Asem Bagus**	**15.73**	**231**	P		**P**	**03 54 59.2**	**+0.2**
	comp=Z,211nm,1.0s							
KDU	**Kakadu**	**15.91**	**158**	P		**P**	**03 55 00.3**	**-0.7**
	comp=Z,208nm,1.0s							
KSM	**Kuching**	**16.18**	**268**			**P**	**03 55 04.0**	**-0.1**
KSM					IAmb	IAmb	03 55 11.2	
	comp=Z,674nm,1.8s							
JAGI	**Jajag, Banyuwa**	**16.21**	**229**	Pn		**Pn**	**03 55 02.3**	**+0.3**
JAGI					IAmb	IAmb	03 55 08.2	
	comp=Z,246nm,0.8s							
JAGI	**Jajag, Banyuwa**	**16.21**	**229**	P		**P**	**03 55 03.7**	**-0.7**
	comp=Z,5μmcomp=Z,377nm,1.0s							
GMJI	**Gumukmas**	**16.63**	**231**	P		**Pn**	**03 55 07.5**	**+0.3**
	comp=Z,258nm,0.8s							
NGJI	**Ngawi**	**17.73**	**238**	P		**Pn**	**03 55 20.8**	**-0.1**
	comp=Z,133nm,1.1s							
KNRA	**Kununurra**	**17.87**	**173**			**Pn**	**03 55 20.7**	**-1.9**
KNRA	**Kununurra**	**17.87**	**173**	P		**Pn**	**03 55 21.4**	**-1.1**
	comp=Z,180nm,1.5s							
PCJI	**Pacitan**	**18.41**	**236**	P		**Pn**	**03 55 29.5**	**+0.3**
	comp=Z,3μmcomp=Z,309nm,1.3s							
WOJI	**Wonogiri, Jawa**	**18.43**	**237**	P		**P**	**03 55 28.2**	**-0.7**
	comp=Z,142nm,0.9s							
SMRI	**Semarang**	**18.45**	**240**	P		**P**	**03 55 28.6**	**-0.5**
	comp=Z,223nm,1.0s							
UGM	**Wanagama**	**18.81**	**238**	P		**P**	**03 55 33.3**	**+0.2**
UGM	**Wanagama**	**18.81**	**238**	P		**Pn**	**03 55 34.5**	**+0.5**
TPI	**Tanjungpandan**	**19.45**	**256**	P		**P**	**03 55 40.4**	**+0.3**
	comp=Z,2μmcomp=Z,89nm,0.9s							
KPJI	**Karang Pucung**	**19.90**	**242**	P		**P**	**03 55 44.3**	**-0.7**
	comp=Z,232nm,0.8s							
FITZ	**Fitzroy Crossi**	**20.15**	**182**	P		**P**	**03 55 46.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**20.15**	**182**	P		**P**	**03 55 46.2**	**-1.5**
	comp=Z,32nm,1.6s							
FITZ	**Fitzroy Crossi**	**20.15**	**182**	P		**P**	**03 55 46.6**	**-1.1**
	comp=Z,46nm,0.6s,baz=13,slow=8.4,SNR=120							
FITZ					S	**S**	**03 59 29.4**	**-2.2**
	comp=Z,11nm,0.9s,baz=4.3,slow=22,SNR=3.4							
	comp=Z,46nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.15**	**182**	P		**P**	**03 55 46.9**	**-0.8**
DLV	**Lat**	**20.31**	**299**	P		**P**	**03 55 50.2**	**+0.4**
LEM	**Lembang**	**20.84**	**244**	LR		LR	04 05 54.9	
	comp=Z,485nm,20.1s,baz=29,slow=43							
BBJI	**Bungbulang**	**21.09**	**243**	P		**P**	**03 55 56.1**	**-1.9**
TWGBT	**Beinan**	**21.19**	**346**	P		**P**	**03 55 57.0**	**-1.9**
TWG	**Pinlang**	**21.19**	**346**	P		**P**	**03 55 56.5**	**-2.5**
TWG					IAmb	IAmb	03 56 01.4	
	comp=Z,190nm,0.6s							
MANU	**Manus Island**	**21.29**	**101**	P		**P**	**03 55 58.2**	**-1.9**
CNJI	**Cibinong**	**21.49**	**244**	P		**P**	**03 56 00.9**	**-1.3**
DBJI	**Dramaga**	**21.52**	**246**	P		**P**	**03 56 03.1**	**+0.5**
	comp=Z,121nm,0.8s							
YULB	**Yu-li**	**21.69**	**347**	P		**P**	**03 56 00.9**	**-3.4**
TPUB	**Ta-pu**	**21.76**	**345**	P		**P**	**03 56 03.0**	**-2.1**
TPUB					IAmb	IAmb	03 56 07.8	
	comp=Z,320nm,0.8s							
TPUB	**Ta-pu**	**21.76**	**345**	P		**P**	**03 56 03.7**	**-1.3**
DSRI	**Dabo**	**22.06**	**263**	P		**P**	**03 56 10.1**	**+1.7**
	comp=Z,170nm,1.1s							
SSLB	**Suanglung**	**22.15**	**346**	P		**P**	**03 56 06.5**	**-2.7**
SSLB					IAmb	IAmb	03 56 14.1	
	comp=Z,139nm,0.7s							
SSLB	**Suanglung**	**22.15**	**346**	P		**P**	**03 56 07.5**	**-1.7**
NACB	**Ninganchiao**	**22.38**	**348**	P		**P**	**03 56 08.9**	**-2.8**
NACB	**Ninganchiao**	**22.38**	**348**	P		**P**	**03 56 09.9**	**-1.8**
YOJ	**Yonaguni jima**	**22.42**	**352**	P		**P**	**03 56 11.1**	**-0.9**
YOJ					IAmb	IAmb	03 56 16.6	
	comp=Z,152nm,0.9s							
YOJ	**Yonaguni jima**	**22.42**	**352**	P		**P**	**03 56 11.1**	**-0.9**
YOJ					pmax	pmax		
	comp=Z,152nm,0.9s							
BLSI	**Bandar Lampung**	**22.50**	**251**	P		**P**	**03 56 14.2**	**+1.1**
	comp=Z,173nm,0.7s							
JMJ	**Miyako jima 2**	**22.55**	**357**	P		**P**	**03 56 14.1**	**+0.7**
MYKOM	**Kota Tinggi**	**22.62**	**269**	P		**P**	**03 56 13.9**	**-0.5**
MYKOM					IAmb	IAmb	03 56 17.7	
	comp=Z,511nm,1.9s							
YHNB	**Yeheng**	**22.91**	**348**	P		**P**	**03 56 14.8**	**-2.5**
YHNB					IAmb	IAmb	03 56 20.8	
	comp=Z,131nm,0.7s							
YHNB	**Yeheng**	**22.91**	**348**	P		**P**	**03 56 16.0**	**-1.3**
COEN	**Coen**	**23.03**	**135**	P		**P**	**03 56 16.9**	**-1.7**
COEN	**Coen**	**23.03**	**135**	P		**P**	**03 56 17.7**	**-0.9**
	comp=Z,36nm,1.3s							
COEN	**Coen**	**23.03**	**135**	P		**P**	**03 56 18.6**	**0.0**
WB0	**Warramunga Arr**	**23.14**	**161**	P		**P**	**03 56 18.1**	**-1.5**
WB0					IAmb	IAmb	03 56 25.8	
	comp=Z,150nm,0.9s							
TATO	**Taipei**	**23.18**	**348**	P		**P**	**03 56 18.7**	**-1.3**
TATO					IAmb	IAmb	03 56 20.9	
	comp=Z,131nm,0.8s							
MDSI	**Maura Dua**	**23.25**	**253**	P		**P**	**03 56 18.7**	**-2.1**
	comp=Z,2μmcomp=Z,131nm,1.1s							
KASI	**Kota Agung**	**23.25**	**251**	P		**P**	**03 56 19.6**	**-1.2**
	comp=Z,1μmcomp=Z,195nm,0.8s							
WRAB	**Tennant Creek**	**23.28**	**161**	P		**P**	**03 56 18.8**	**-2.2**
WRAB	**Tennant Creek**	**23.28**	**161**	P		**P**	**03 56 18.8**	**-2.2**
WRAB					pmax	pmax		
	comp=Z,87nm,0.8s							
WRA	**Warramunga Arr**	**23.29**	**161**	P		**P**	**03 56 17.8**	**-3.3**
WRA	**Warramunga Arr**	**23.29**	**161**	P		**P**	**03 56 19.8**	**-1.2**
	comp=Z,70nm,0.7s,baz=337,slow=11,SNR=196							
WRA					PcP	**PcP**	**04 00 08.2**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=337,slow=2.2,SNR=5.9							
WRA					S	**S**	**04 00 30.7**	**+0.5**
	comp=Z,19nm,1.0s,baz=345,slow=18,SNR=5.4							
WRA					P3KPbc		04 29 48.4	
	comp=Z,1.7nm,0.9s,baz=159,slow=4.0,SNR=8.8							
	comp=Z,70nm,0.7s							
WRA	**Warramunga Arr**	**23.29**	**161**	*i*	P	**P**	**03 56 19.1**	**-1.9**
WRA					pmax	pmax		
	comp=Z,43nm,0.4s							
WR8	**Warramunga Arr**	**23.35**	**161**	P		**P**	**03 56 19.8**	**-1.8**
QIZ	**Qiongzhong**	**23.38**	**317**	P		**P**	**03 56 21.3**	**-0.7**
QIZ	**Qiongzhong**	**23.38**	**317**	P		**P**	**03 56 19.8**	**-2.1**
QIZ					S	**S**	**04 00 30.1**	**-1.5**
QIZ					pmax	pmax		
	comp=Z,150nm,1.1s							
QIZ					pmax	pmax		
	comp=Z,580nm,2.7s							
QIZ					LR	LR		
	comp=Z,330nm,16.7s							
QIZ					LR	LR		
	comp=Z,950nm,16.7s							
LWLI	**Liwa**	**23.51**	**252**	P		**P**	**03 56 22.6**	**-0.8**
PMG	**Port Moresby**	**23.59**	**119**	↑	*i*P	**P**	**03 56 23.8**	**-0.2**
PMG					pmax	pmax		
	comp=Z,50nm,2.0s							
LHSI	**Lahat**	**23.71**	**255**	P		**P**	**03 56 26.1**	**+1.0**
	comp=Z,3μmcomp=Z,163nm,1.4s							
QZH	**Quanzhou**	**23.89**	**342**	P		**P**	**03 56 25.8**	**-0.9**
QZH					S	**S**	**04 00 32.7**	**-7.1**
QZH					pmax	pmax		
	comp=Z,130nm,0.8s							
QZH					LR	LR		
	comp=Z,800nm,27.5s							
QZH					LR	LR		
	comp=Z,580nm,22.3s							
QZH					LR	LR		
	comp=Z,2μm,27.5s							
MBWA	**Marble Bar**	**24.11**	**196**	P		**P**	**03 56 27.0**	**-1.7**
MBWA					IAmb	IAmb	03 56 29.8	
	comp=Z,244nm,1.7s							
MBWA	**Marble Bar**	**24.11**	**196**	P		**P**	**03 56 27.4**	**-1.3**
	comp=Z,65nm,1.6s							
MBWA	**Marble Bar**	**24.11**	**196**	P		**P**	**03 56 27.9**	**-0.8**
MNAI	**Manna**	**24.39**	**255**	P		**P**	**03 56 32.7**	**+1.3**
PSAC1	**Pilbara Seismi**	**24.44**	**195**	P		**P**	**03 56 30.9**	**-0.9**
	comp=Z,91nm,1.6s							
PSA00	**Pilbara Seismi**	**24.47**	**195**	P		**P**	**03 56 30.8**	**-1.2**
PSA00	**Pilbara Seismi**	**24.47**	**195**	P		**P**	**03 56 30.7**	**-1.3**
PSA00					IAmb	IAmb	03 56 33.1	
	comp=Z,84nm,1.3s							
PSA00	**Pilbara Seismi**	**24.47**	**195**	P		**P**	**03 56 31.3**	**-0.7**
	comp=Z,88nm,2.0s							
PSA00	**Pilbara Seismi**	**24.47**	**195**	P		**P**	**03 56 32.7**	**+0.7**
KSI	**Kapahiang**	**24.57**	**256**	P		**P**	**03 56 33.4**	**+0.3**
JOW	**Kunigami**	**24.59**	**4**	P		**P**	**03 56 34.6**	**+1.6**
JOW					IAmb	IAmb	03 56 37.9	
	comp=Z,167nm,0.9s							
JOW	**Kunigami**	**24.59**	**4**	P		**P**	**03 56 33.8**	**+0.8**
SDSI	**Sungai Dareh**	**25.24**	**263**	P		**P**	**03 56 40.1**	**+1.0**
	comp=Z,2μmcomp=Z,65nm,0.9s							
BKNI	**Bangkinang**	**25.50**	**266**	P		**P**	**03 56 42.9**	**+1.4**
	comp=Z,110nm,0.9s							
KULM	**Kulim**	**25.96**	**278**	P		**P**	**03 56 45.6**	**-0.1**
QIS	**Mount Isa**	**25.99**	**151**	P		**P**	**03 56 45.2**	**-0.6**
	comp=Z,85nm,1.0s							
QIS	**Mount Isa**	**25.99**	**151**	P		**P**	**03 56 46.0**	**+0.2**
AS15	**Alice Springs**	**26.65**	**165**	P		**P**	**03 56 50.7**	**-1.1**
	comp=Z,90nm,1.0s							
AS31	**Alice Springs**	**26.67**	**165**	P		**P**	**03 56 51.4**	**-0.6**
AS31	**Alice Springs**	**26.67**	**165**	P		**P**	**03 56 51.1**	**-0.9**
	comp=Z,23nm,0.6s							
ASAR	**Alice Springs**	**26.67**	**165**	P		**P**	**03 56 51.3**	**-0.7**
ASAR						**PcP**	**04 00 14.9**	**-0.1**
ASAR	**Alice Springs**	**26.67**	**165**	P		**P**	**03 56 51.0**	**-1.0**
	comp=Z,16nm,0.5s,baz=347,slow=6.8,SNR=82							
ASAR					PcP	**PcP**	**04 00 15.2**	**+0.2**
	comp=Z,9.0nm,0.4s,baz=349,slow=2.1,SNR=12							
ASAR					S	**S**	**04 01 25.7**	**+1.5**
	comp=Z,8.2nm,0.8s,baz=351,slow=20,SNR=6.5							
ASAR					P3KPbc		04 29 33.2	
	comp=Z,0.8nm,0.7s,baz=160,slow=5.3,SNR=7.4							
	comp=Z,16nm,0.5s							
ASAR	**Alice Springs**	**26.67**	**165**	P		**P**	**03 56 51.3**	**-0.7**
ASAR							04 00 15.0	
AS01	**Alice Springs**	**26.68**	**165**	P		**P**	**03 56 51.9**	**-0.2**
MTSU	**Mount Surprise**	**26.75**	**140**	P		**P**	**03 56 54.4**	**+1.6**
	comp=Z,35nm,1.0s							
WRKA	**Warakurna**	**27.10**	**176**	P		**P**	**03 56 55.1**	**-0.8**
	comp=Z,31nm,0.8s							
GIRL	**Giralia**	**27.40**	**205**	P		**P**	**03 56 58.8**	**+0.3**
GIRL					IAmb	IAmb	03 57 02.8	
	comp=Z,142nm,1.1s							
GIRL	**Giralia**	**27.40**	**205**	P		**P**	**03 56 59.2**	**+0.7**
	comp=Z,127nm,1.6s							
RPSI	**Rantau Prapat**	**27.54**	**272**	P		**P**	**03 56 58.9**	**-1.0**
RPSI					IAmb	IAmb	03 57 01.4	
	comp=Z,255nm,2.0s							
PSI	**Prapat**	**27.54**	**272**	P		**P**	**03 56 58.9**	**-1.2**
PSI					pmax	pmax		
	comp=Z,255nm,2.0s							
GULI	**GuiLin**	**27.75**	**327**	P		**P**	**03 56 57.5**	**-4.1**
GULI					pmax	pmax		
	comp=Z,22nm,1.3s							
GULI					pmax	pmax		
	comp=Z,200nm,3.8s							
GSI	**Gunungsitoli**	**28.91**	**269**	P		**P**	**03 57 13.4**	**+1.3**
CNSH	**ChangSha**	**28.93**	**335**	P		**P**	**03 57 11.4**	**-0.7**
CNSH					S	**S**	**04 02 06.8**	**+7.2**
CNSH					pmax	pmax		
	comp=Z,24nm,1.2s							
CNSH					LR	LR		
	comp=Z,560nm,24.7s							
CNSH					LR	LR		
	comp=Z,440nm,26.1s							
CNSH					LR	LR		
	comp=Z,500nm,26.7s							
JCJ	**Chichijima**	**29.00**	**30**	LR		LR	04 09 58.1	
	comp=Z,95nm,19.1s,baz=170,slow=38							
JCJ	**Chichijima**	**29.00**	**30**	P		**P**	**03 57 12.4**	**-0.3**
SLVN	**Son La**	**29.10**	**313**	P		**P**	**03 57 14.0**	**+0.2**
SSE	**Sheshan**	**29.21**	**351**	P		**P**	**03 57 15.3**	**+0.8**
SSE					S	**S**	**04 02 06.8**	**+2.9**
SSE					pmax	pmax		
	comp=Z,43nm,0.8s							
SSE					pmax	pmax		
	comp=Z,100nm,3.5s							
SSE					LR	LR		
	comp=Z,120nm,20.4s							
SSE					LR	LR		
	comp=Z,160nm,20.6s							
CTAO	**Charters Tower**	**29.42**	**140**	P		**P**	**03 57 16.0**	**-0.5**
CTAO	**Charters Tower**	**29.42**	**140**	P		**P**	**03 57 16.0**	**-0.5**
CTAO					pmax	pmax		
	comp=Z,20nm,1.0s							
MEEK	**Meekatharra**	**29.63**	**194**	P		**P**	**03 57 17.6**	**-0.7**
	comp=Z,85nm,1.2s							
WHN	**Wuhan**	**30.48**	**339**	P		**P**	**03 57 25.7**	**0.0**
WHN					pmax	pmax		
	comp=Z,140nm,1.0s							
NJ2	**Nanjing**	**30.58**	**347**	*e*P		**P**	**03 57 27.1**	**+0.4**
NJ2					sP	**pwP**	**03 57 40.8**	**0.0**
NJ2					pmax	pmax		
	comp=Z,43nm,0.7s							
NJ2					LR	LR		
	comp=Z,290nm,19.6s							
NJ2					LR	LR		
	comp=Z,300nm,21.3s							
NJ2					LR	LR		
	comp=Z,480nm,20.4s							
GYA	**Guiyang**	**30.75**	**324**	↑	P	**P**	**03 57 29.5**	**+1.1**
GYA					S	**S**	**04 02 30.2**	**+1.6**
GYA					pmax	pmax		
	comp=Z,27nm,0.8s							
GYA					pmax	pmax		
	comp=Z,100nm,3.1s							
GYA					LR	LR		
	comp=Z,420nm,10.4s							
GYA					LR	LR		
	comp=Z,250nm,5.7s							
GYA					LR	LR		
	comp=Z,320nm,12.6s							
JNU	**Nakatsue**	**31.07**	**7**	P		**P**	**03 57 31.4**	**+0.5**
JNU					IAmb	IAmb	03 57 32.8	
	comp=Z,101nm,0.9s							
JNU	**Nakatsue**	**31.07**	**7**	P		**P**	**03 57 31.8**	**+0.8**
	comp=Z,83nm,0.9s,baz=192,slow=5.0,SNR=19							
JNU					LR	LR	04 12 31.3	
	comp=Z,72nm,19.4s,baz=168,slow=41							
	comp=Z,83nm,0.9s							
JNU	**Nakatsue**	**31.07**	**7**	P		**P**	**03 57 31.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**31.48**	**303**	P		**P**	**03 57 33.8**	**-1.0**
	comp=Z,8.5nm,0.7s,baz=102,slow=7.3,SNR=16							
CMAR					PcP	**PcP**	**04 00 27.9**	**+0.7**
	comp=Z

LYN					pmax	pmax			
	comp=Z,77nm,0.8s								
LYN					LR	LR			
	comp=Z,490nm,19.9s								
LYN					LR	LR			
	comp=Z,680nm,22.7s								
LYN					LR	LR			
	comp=Z,1µm,21.0s								
TIA	**Tai'an**	**34.97**	**347**		P	**P**	**03**	**58**	**05.0 0.0**
TIA					PcP	**PcP**	**04**	**00**	**38.0 +1.4**
TIA					S	**S**	**04**	**03**	**36.0 +2.4**
TIA					pmax	pmax			
	comp=Z,41nm,0.9s								
TIA					LR	LR			
	comp=Z,610nm,18.0s								
TIA					LR	LR			
	comp=Z,220nm,19.6s								
TIA					LR	LR			
	comp=Z,720nm,26.0s								
KSAR	**Wonju Array Be**	**35.13**	**2**		P	**P**	**03**	**58**	**06.8 +0.5**
KSAR						**PcP**	**04**	**00**	**37.0 0.0**
KSAR	**Wonju Array Be**	**35.13**	**2**		P	**P**	**03**	**58**	**06.8 +0.5**
KSAR							04	00	37.0
KSRS	**Korea Array**	**35.14**	**2**		P	**P**	**03**	**58**	**07.7 +1.3**
	comp=Z,17nm,0.7s,baz=178,slow=9.9,SNR=68								
KSRS					PcP	**PcP**	**04**	**00**	**38.6 +1.5**
	comp=Z,4.9nm,0.6s,baz=190,slow=2.6,SNR=7.3								
KSRS					ScP	**ScP**	**04**	**04**	**19.1 0.0**
	comp=Z,2.2nm,0.8s,baz=184,slow=4.2,SNR=5.7								
	comp=Z,17nm,0.7s								
INCN	**Inchon**	**35.15**	**0**		P	**P**	**03**	**58**	**06.7 +0.2**
INCN					IAmb	IAmb	03	58	08.8
	comp=Z,52nm,1.0s								
INCN	**Inchon**	**35.15**	**0**		P	**P**	**03**	**58**	**06.7 +0.2**
INCN					pmax	pmax			
	comp=Z,51nm,1.0s								
KS19	**Wonju Array Si**	**35.19**	**2**		P	**P**	**03**	**58**	**07.0 +0.2**
TNCH	**TengChong**	**35.27**	**313**	*eP*		**P**	**03**	**58**	**08.6 +0.7**
TNCH					pmax	pmax			
	comp=Z,59nm,0.7s								
HNR	**Honiara**	**35.27**	**110**		LR	LR	04	12	40.9
	comp=Z,277nm,21.3s,baz=315,slow=36								
MUN	**Mundaring**	**35.33**	**195**		P	**P**	**03**	**58**	**07.6 -0.5**
	comp=Z,52nm,1.0s								
MUN	**Mundaring**	**35.33**	**195**		P	**P**	**03**	**58**	**07.8 -0.3**
XAN	**Xi'an**	**35.70**	**335**	⇓	P	**P**	**03**	**58**	**10.5 -0.9**
XAN					pP	pP	03	58	20.8 -2.6
XAN					PcP	**PcP**	**04**	**00**	**40.0 +1.1**
XAN					S	**S**	**04**	**03**	**39.9 -5.1**
XAN					pmax	pmax			
	comp=Z,160nm,0.9s								
XAN					LR	LR			
	comp=Z,350nm,22.0s								
XAN					LR	LR			
	comp=Z,690nm,23.4s								
XAN					LR	LR			
	comp=Z,1µm,24.9s								
CD2	**Chengdu**	**35.77**	**325**		P	**P**	**03**	**58**	**11.1 -0.9**
CD2					sP	sP	03	58	26.9 -2.5
CD2					PP	**PP**	**03**	**59**	**34.8 +0.8**
CD2					pmax	pmax			
	comp=Z,80nm,1.0s								
CD2					LR	LR			
	comp=Z,350nm,21.3s								
CD2					LR	LR			
	comp=Z,320nm,26.8s								
CD2					LR	LR			
	comp=Z,390nm,15.5s								
MAJO	**Matsushiro**	**35.88**	**16**		P	**P**	**03**	**58**	**12.5 -0.4**
MAJO					IAmb	IAmb	03	58	15.0
	comp=Z,88nm,0.7s								
MAJO	**Matsushiro**	**35.88**	**16**		P	**P**	**03**	**58**	**13.2 +0.4**
MAJO	**Matsushiro**	**35.88**	**16**	*c i*	P	**P**	**03**	**58**	**12.3 -0.5**
MAJO					pmax	pmax			
	comp=Z,196nm,1.5s								
MAJO	**Matsushiro**	**35.88**	**16**		P	**P**	**03**	**58**	**12.5 -0.4**
MAJO					pP	**pP**	**03**	**58**	**22.5 -2.3**
MJAR	**Matsushiro Arr**	**35.88**	**16**		P	**P**	**03**	**58**	**12.1 -0.7**
MJAR	**Matsushiro Arr**	**35.88**	**16**		P	**P**	**03**	**58**	**12.4 -0.4**
	comp=Z,61nm,0.8s,baz=188,slow=9.0,SNR=108								
MJAR					ScP	**ScP**	**04**	**04**	**22.1 +0.2**
	comp=Z,4.4nm,1.0s,baz=211,slow=4.6,SNR=7.0								
MJAR					LR	LR	04	13	58.1
	comp=Z,153nm,20.6s,baz=218,slow=38								
	comp=Z,61nm,0.8s								
MJAR	**Matsushiro Arr**	**35.88**	**16**		P	**P**	**03**	**58**	**12.1 -0.7**
MJAR					pmax	pmax			
	comp=Z,42nm,0.9s								
MJB9	**Matsu-Tunnel**	**35.88**	**16**		P	**P**	**03**	**58**	**13.0 +0.1**
MJB9					IAmb	IAmb	03	58	16.0
	comp=Z,86nm,0.7s								
BBOO	**Buckleboo**	**35.95**	**166**		P	**P**	**03**	**58**	**12.7 -0.7**
BBOO					IAmb	IAmb	03	58	14.3
	comp=Z,44nm,0.7s								
BBOO	**Buckleboo**	**35.95**	**166**		P	**P**	**03**	**58**	**12.5 -0.9**
	comp=Z,63nm,1.2s								
BBOO	**Buckleboo**	**35.95**	**166**		P	**P**	**03**	**58**	**13.2 -0.2**
NWAO	**Narrogin (SRO)**	**35.98**	**193**		P	**P**	**03**	**58**	**13.9 +0.3**
NWAO					IAmb	IAmb	03	58	15.2
	comp=Z,134nm,1.4s								
NWAO	**Narrogin (SRO)**	**35.98**	**193**		P	**P**	**03**	**58**	**13.4 -0.3**
	comp=Z,99nm,1.3s								
NWAO	**Narrogin (SRO)**	**35.98**	**193**		LR	LR	04	17	15.0
	comp=Z,73nm,18.2s,baz=43,slow=43								
NWAO	**Narrogin (SRO)**	**35.98**	**193**		P	**P**	**03**	**58**	**14.1 +0.4**
NWAO	**Narrogin (SRO)**	**35.98**	**193**		P	**P**	**03**	**58**	**14.0 +0.3**
NWAO	**Narrogin (SRO)**	**35.98**	**193**		P	**P**	**03**	**58**	**14.0 +0.3**
NWAO					pmax	pmax			
	comp=Z,134nm,1.5s								
EIDS	**Eidsvold**	**36.29**	**140**		P	**P**	**03**	**58**	**15.4 -1.0**
EIDS	**Eidsvold**	**36.29**	**140**		P	**P**	**03**	**58**	**15.3 -1.2**
	comp=Z,47nm,1.0s								
EIDS	**Eidsvold**	**36.29**	**140**		P	**P**	**03**	**58**	**16.5 0.0**
HNS	**HongShan**	**36.70**	**344**	⇑	P	**P**	**03**	**58**	**19.3 -0.4**
HNS					sP	**pwP**	**03**	**58**	**34.8 +0.7**
HNS					PcP	**PcP**	**04**	**00**	**43.5 +1.8**
HNS					pmax	pmax			
	comp=Z,54nm,1.1s								
HNS					LR	LR			
	comp=Z,470nm,18.0s								
HNS					LR	LR			
	comp=Z,200nm,21.2s								
HNS					LR	LR			
	comp=Z,640nm,21.4s								
STKA	**Stephens Creek**	**36.77**	**158**		P	**P**	**03**	**58**	**19.3 -1.1**
STKA	**Stephens Creek**	**36.77**	**158**		P	**P**	**03**	**58**	**20.1 -0.4**
	comp=Z,286nm,0.9s								
STKA	**Stephens Creek**	**36.77**	**158**		P	**P**	**03**	**58**	**20.3 -0.1**
	comp=Z,36nm,0.7s,baz=332,slow=8.5,SNR=50								
STKA					LR	LR	04	15	24.5
	comp=Z,254nm,21.9s,baz=336,slow=39								
	comp=Z,36nm,0.7s								
STKA	**Stephens Creek**	**36.77**	**158**		P	**P**	**03**	**58**	**20.4 -0.1**
STKA	**Stephens Creek**	**36.77**	**158**		P	**P**	**03**	**58**	**19.3 -1.1**
STKA					pmax	pmax			
	comp=Z,279nm,1.0s								
DL2	**Dalian**	**36.84**	**354**		P	**P**	**03**	**58**	**21.2 +0.3**
DL2					S	**S**	**04**	**04**	**01.2 -0.8**
DL2					pmax	pmax			
	comp=Z,400nm,5.9s								
DL2					LR	LR			
	comp=Z,1µm,24.1s								
DL2					LR	LR			
	comp=Z,460nm,16.9s								
DL2					LR	LR			
	comp=Z,830nm,17.6s								
JSD	**Sado**	**37.30**	**15**		P	**P**	**03**	**58**	**25.0 +0.2**
HTT	**Hallett**	**37.30**	**163**		P	**P**	**03**	**58**	**24.5 -0.5**
	comp=Z,7.8nm,1.4s								
HTT	**Hallett**	**37.30**	**163**		P	**P**	**03**	**58**	**25.2 +0.2**
RKGY	**Rocky Gully**	**37.66**	**193**		P	**P**	**03**	**58**	**28.7 +0.8**
	comp=Z,95nm,1.3s								
TIY	**Taiyuan**	**37.66**	**342**		P	**P**	**03**	**58**	**28.5 +0.5**
TIY					sP	**sP**	**03**	**58**	**44.4 -1.1**
TIY					S	**S**	**04**	**04**	**16.9 +2.1**
TIY					pmax	pmax			
	comp=Z,63nm,0.9s								
TIY					pmax	pmax			
	comp=Z,170nm,5.1s								
TIY					LR	LR			
	comp=Z,400nm,24.7s								
TIY					LR	LR			
	comp=Z,270nm,19.2s								
TIY					LR	LR			
	comp=Z,560nm,26.8s								
JMM	**Marumori**	**37.88**	**19**		P	**P**	**03**	**58**	**30.0 +0.2**
	comp=Z,29nm,1.4s								
TOO	**Toolangi**	**43.29**	**158**		P	**P**	**03**	**59**	**15.4 +1.0**
	comp=Z,8.8nm,1.3s								
LSA	**Lhasa**	**43.30**	**313**		P	**P**	**03**	**59**	**15.1 -0.1**
LSA	**Lhasa**	**43.30**	**313**		P	**P**	**03**	**59**	**14.2 -1.0**
LSA	**Lhasa**	**43.30**	**313**		P	**P**	**03**	**59**	**15.1 -0.1**
LSA					pmax	pmax			
	comp=Z,33nm,0.7s								
BNX	**BinXian**	**43.40**	**1**	⇓	P	**P**	**03**	**59**	**15.7 +0.5**
BNX					pP	**pP**	**03**	**59**	**22.0 -5.5**
BNX					S	**S**	**04**	**05**	**43.4 +3.4**
BNX					pmax	pmax			
	comp=Z,35nm,1.0s								
BNX					pmax	pmax			
	comp=Z,200nm,3.3s								
BNX					LR	LR			
	comp=Z,260nm,24.4s								
BNX					LR	LR			
	comp=Z,230nm,26.6s								
BNX					LR	LR			
	comp=Z,290nm,24.4s								
ASAJ	**Asahikawa**	**44.15**	**17**		LR	LR	04	17	34.4
	comp=Z,217nm,21.6s,baz=202,slow=36								
ASAJ	**Asahikawa**	**44.15**	**17**		P	**P**	**03**	**59**	**21.7 +0.5**
ASAJ					pmax	pmax			
	comp=Z,125nm,1.0s								
JKA	**Kamikawa-asahi**	**44.15**	**17**		P	**P**	**03**	**59**	**21.7 +0.4**
JKA					IAmb	IAmb	03	59	24.0
	comp=Z,125nm,1.0s								
GTA	**Gaotai**	**44.31**	**330**		P	**P**	**03**	**59**	**23.1 +0.3**
GTA					pP	pP	03	59	29.8 -5.3
GTA					PcP	**PP**	**04**	**01**	**07.8 +0.9**
GTA					ScP	**ScP**	**04**	**04**	**56.6 +1.8**
GTA					ScS	**ScS**	**04**	**09**	**18.1 +0.7**
GTA					pmax	pmax			
	comp=Z,58nm,1.2s								
GTA					pmax	pmax			
	comp=Z,150nm,11.3s								
GTA					LR	LR			
	comp=Z,370nm,20.7s								
GTA					LR	LR			
	comp=Z,340nm,23.9s								
GTA					LR	LR			
	comp=Z,850nm,24.3s								
GOMU	**GeErMu**	**44.77**	**323**		P	**P**	**03**	**59**	**26.7 -0.1**
GOMU					pP	pP	03	59	30.6 -8.5
GOMU					sP	pwP	03	59	34.3 -6.9
GOMU					S	**S**	**04**	**06**	**00.2 -0.7**
GOMU					pmax	pmax			
	comp=Z,22nm,1.2s								
GOMU					LR	LR			
	comp=Z,130nm,15.5s								
GOMU					LR	LR			
	comp=Z,130nm,15.6s								
GOMU					LR	LR			
	comp=Z,200nm,15.6s								
YUK	**Yuzh-Kuril'sk**	**45.09**	**20**	⇑	*eP*	**P**	**03**	**59**	**28.9 +0.1**
EVN	**Everest**	**45.74**	**308**		P	**P**	**03**	**59**	**34.0 -1.0**
EVN					IAmb	IAmb	03	59	36.2
	comp=Z,108nm,0.8s								
DZM	**Mont Dzumac**	**45.85**	**124**	*e*	S	**S**	**04**	**06**	**11.1 -5.4**
	comp=Z,164nm,26.8s								
DZM				*e*	SS	**SS**	**04**	**09**	**41.8 0.0**
	comp=Z,239nm,29.9s								
DZM				*e*	LR	LR	04	12	28.6
	comp=Z,654nm,25.1s								
PALK	**Pallekele**	**45.89**	**278**		LR	LR	04	20	29.3
	comp=Z,254nm,21.9s,baz=102,slow=38								
YSS	**Yuzhno-Sakhali**	**46.80**	**15**		P	**P**	**03**	**59**	**42.4 +0.2**
YSS	**Yuzhno-Sakhali**	**46.80**	**15**		P	**P**	**03**	**59**	**43.4 +1.2**
YSS	**Yuzhno-Sakhali**	**46.80**	**15**	*oe*	P	**P**	**03**	**59**	**43.1 +0.9**
YSS				*e*	S	**S**	**04**	**06**	**33.1 +4.0**
YSS					pmax	pmax			
	comp=Z,100nm,1.3s								
YSS					pmax	pmax			
	comp=Z,200nm,4.3s								
YSS					MLR	MLR			
	comp=Z,200nm,18.0s								
GLAD	**Gladstone**	**47.22**	**158**		P	**P**	**03**	**59**	**45.7 +0.2**
HIA	**Hailar**	**47.28**	**354**		P	**P**	**03**	**59**	**46.5 +0.6**
HIA					IAmb	IAmb	03	59	49.0
	comp=Z,141nm,1.4s								
HIA	**Hailar**	**47.28**	**354**		P	**P**	**03**	**59**	**46.5 +0.6**
HIA					pmax	pmax			
	comp=Z,141nm,1.4s								
HEH	**HeiHe**	**47.92**	**1**	*e*	P	**P**	**03**	**59**	**50.9 +0.1**
HEH					PcP	**PcP**	**04**	**01**	**19.2 +0.6**
HEH					S	**S**	**04**	**06**	**44.5 -0.4**
HEH					pmax	pmax			
	comp=Z,110nm,1.2s								
HEH					LR	LR			
	comp=Z,180nm,18.9s								
HEH					LR	LR			
	comp=Z,170nm,20.7s								
HEH					LR	LR			
	comp=Z,350nm,22.8s								
ULN	**Ulaanbaatar**	**48.52**	**343**		P	**P**	**03**	**59**	**55.6 -0.2**
ULN					IAmb	IAmb	03	59	57.1
	comp=Z,32nm,0.8s								
ULN	**Ulaanbaatar**	**48.52**	**343**	*c i*	P	**P**	**03**	**59**	**55.6 -0.2**
ULN					pmax	pmax			
	comp=Z,36nm,0.8s								
ULN	**Ulaanbaatar**	**48.52**	**343**		P	**P**	**03**	**59**	**56.1 +0.4**
ULN					PcP	**PcP**	**04**	**01**	**21.8 +0.7**
SONM	**Songino Array**	**48.70**	**342**		P	**P**	**03**	**59**	**57.4 +0.3**
SONM	**Songino Array**	**48.70**	**342**		P	**P**	**03**	**59**	**56.7 -0.3**
	comp=Z,28nm,0.7s,baz=156,slow=9.0,SNR=96								
SONM					PcP	**PcP**	**04**	**01**	**22.6 +0.9**
	comp=Z,20nm,0.8s,baz=164,slow=4.1,SNR=11								
SONM					ScP	**ScP**	**04**	**05**	**13.8 +0.8**
	comp=Z,3.2nm,1.0s,baz=209,slow=8.5,SNR=4.0								
SONM					ScS	**ScS**	**04**	**09**	**51.5 +5.8**
	comp=Z,0.4nm,0.3s,baz=118,slow=8.0,SNR=5.6								
SONM					LR	LR	04	23	57.0
	comp=Z,163nm,21.9s,baz=155,slow=40								
	comp=Z,28nm,0.7s								
SONM	**Songino Array**	**48.70**	**342**		P	**P**	**03**	**59**	**57.4 +0.3**
SONM					pmax	pmax			
	comp=Z,24nm,0.8s								
GRNR	**Gornyy**	**49.15**	**8**	⇑	*iP*	**P**	**04**	**00**	**01.7 +1.4**
GRNR					pmax	pmax			
	comp=Z,70nm,0.7s								
HYB	**Hyderabad**	**49.43**	**291**	*e*	P	**P**	**04**	**00**	**03.5 +0.4**
TYV	**Tymovskoe**	**50.41**	**13**	*e*	P	**P**	**04**	**00**	**11.4 +1.6**
TYV					pmax	pmax			
	comp=Z,200nm,2.3s								
TYV					pmax	pmax			
	comp=Z,27nm,1.2s								
ZAK	**Zakamensk**	**51.91**	**341**	*e*	P	**P**	**04**	**00**	**20.3 -1.0**
ZAK					pmax	pmax			
	comp=Z,11nm,1.4s								
IRK	**Irkutsk**	**53.24**	**343**	*e*	P	**P**	**04**	**00**	**30.2 -0.8**
IRK					pmax	pmax			
	comp=Z,87nm,1.7s								
MOY	**Mondy**	**53.76**	**341**	*e*	P	**P**	**04**	**00**	**35.9 +1.0**
MOY					pmax	pmax			
	comp=Z,62nm,1.7s								
WMQ	**Urumqi**	**53.87**	**326**	*e*	P	**P**	**04**	**00**	**37.4 +1.6**
WMQ					pmax	pmax			
	comp=Z,52nm,0.9s								
WMQ					LR	LR			
	comp=Z,340nm,24.1s								
MSVF	**Nonsavu**	**54.50**	**114**		P	**P**	**04**	**00**	**40.9 +0.1**
BOD	**Bodaibo**	**56.37**	**352**	*e*	P	**P**	**04**	**00**	**53.7 +0.3**
BOD					pmax	pmax			
	comp=Z,85nm,1.5s								
PEA0B	**Petropavlovsk-**	**56.96**	**22**		P	**P**	**04**	**00**	**57.8 0.0**
PEA0B					IAmb	IAmb	04	01	00.2
	comp=Z,45nm,0.7s								
PEA0B	**Petropavlovsk-**	**56.96**	**22**		P	**P**	**04**	**00**	**57.8 0.0**
PEA0B					pmax	pmax			
	comp=Z,45nm,0.7s								
PETK	**Petropavlovsk-**	**56.96**	**22**		P	**P**	**04**	**00**	**58.3 +0.5**
PETK	**Petropavlovsk-**	**56.96**	**22**		P	**P**	**04**	**00**	**58.5 +0.7**
	comp=Z,40nm,0.8s,baz=199,slow=5.8,SNR=45								
PETK					LR	LR	04	25	07.3
	comp=Z,72nm,21.1s,baz=204,slow=36								
	comp=Z,40nm,0.8s								
PET	**Petropavlovsk**	**57.26**	**22**	*e*	P	**P**	**04**	**01**	**00.6 +0.8**
PET				*e*	S	**S**	**04**	**08**	**43.5 -8.8**
PET					pmax	pmax			
	comp=Z,300nm,8.9s								
PET					pmax	pmax			
	comp=Z,100nm,11.3s								
PET					MLR	MLR			
	comp=Z,100nm,20.0s								
JMM	**Marumori**	**37.88**	**19**		P	**P**	**03**	**58**	**30.8 +1.1**
CMSA	**Cobar Meteorol**	**38.17**	**153**		P	**P**	**03**	**58**	**31.5 -0.8**
	comp=Z,46nm,1.1s								
CMSA	**Cobar Meteorol**	**38.17**	**153**		P	**P**	**03**	**58**	**32.5 +0.2**
BJT	**Baijiatuao**	**38.83**	**347**		P	**P**	**03**	**58**	**37.3 -0.4**
BJT					IAmb	IAmb	03	58	39.9
	comp=Z,114nm,1.2s								
BJT	**Baijiatuao**	**38.83**	**347**		P	**P**	**03**	**58**	**37.3 -0.4**
BJT					pmax	pmax			
	comp=Z,114nm,1.2s								
BJI	**Beijing**	**38.84**	**347**		P	**P**	**03**	**58**	**37.4 -0.4**
BJI					pP	**pP**	**03**	**58**	**45.8 -4.1**
BJI					sP	**sP**	**03**	**58**	**54.4 -0.8**
BJI					PcP	**PcP**	**04**	**00**	**48.9 +0.6**
BJI					S	**S**	**04**	**04**	**33.3 +0.9**
BJI					ScP	**ScP**	**04**	**04**	**35.0 +2.2**
BJI					pmax	pmax			
	comp=Z,40nm,1.0s								
BJI					pmax	pmax			
	comp=Z,85nm,4.8s								
BJI					LR	LR			
	comp=Z,160nm,17.5s								
BJI					LR	LR			
	comp=Z,140nm,18.0s								
BJI					LR	LR			
	comp=Z,210nm,24.5s								
SNY	**Shenyang**	**39.57**	**357**	⇑	P	**P**	**03**	**58**	**44.5 +0.6**
SNY					sP	**pwP**	**03**	**58**	**57.6 -0.6**
SNY					S	**S**	**04**	**04**	**41.4 -1.9**
SNY					pmax	pmax			
	comp=Z,110nm,0.8s								
SNY					pmax	pmax			
	comp=Z,170nm,3.6s								
SNY					LR	LR			
	comp=Z,490nm,22.6s								
SNY					LR	LR			
	comp=Z,260nm,14.5s								
SNY					LR	LR			
	comp=Z,400nm,24.7s								
LZH	**Lanzhou**	**39.73**	**331**	⇑	P	**P**	**03**	**58**	**45.6 +0.1**
LZH					sP	pP	03	58	56.5 -1.2
LZH					PcP	**PcP**	**04**	**00**	**52.9 +1.5**
LZH					PcS	**PcS**	**04**	**04**	**42.3 +0.6**
LZH					S	**S**	**04**	**04**	**44.2 -2.1**
LZH					sS	sS	04	04	59.5 -7.0
LZH					pmax	pmax			
	comp=Z,170nm,1.1s								
LZH					pmax	pmax			
	comp=Z,360nm,4.8s								
LZH					LR	LR			
	comp=Z,630nm,17.7s								
LZH					LR	LR			
	comp=Z,160nm,18.4s								
LZH					LR	LR			
	comp=Z,950nm,21.2s								
ARMA	**Armidale**	**40.31**	**145**		P	**P**	**03**	**58**	**50.1 -0.2**
ARMA	**Armidale**	**40.31**	**145**		P	**P**	**03**	**58**	**50.3 -0.1**
	comp=Z,56nm,0.9s								
ARMA	**Armidale**	**40.31**	**145**		P	**P**	**03**	**58**	**51.0 +0.6**
MSHR	**Mys Shultsa**	**40.45**	**5**	*c i*	P	**P**	**03**	**58**	**52.8 +1.6**
MSHR					pmax	pmax			
	comp=Z,78nm,1.0s								
PSTR	**Posyet**	**40.49**	**5**	*d i*	P	**P**	**03**	**58**	**53.4 +1.9**
SHL	**Shillong**	**40.62**	**308**		P	**P**	**03**	**58**	**51.8 -1.3**
SHL					IAmb	IAmb	03	58	54.2
	comp=Z,101nm,0.6s								
SHL	**Shillong**	**40.62**	**308**		P	**P**	**03**	**58**	**51.8 -1.3**
SHL					pmax	pmax			
	comp=Z,101nm,0.6s								
JTM	**Tenmabayashi**	**40.64**	**17**		P	**P**	**03**	**58**	**53.4 +0.6**
JTM					IAmb	IAmb	03	58	55.4
	comp=Z,169nm,0.9s								
JTM	**Tenmabayashi**	**40.64**	**17**		P	**P**	**03**	**58**	**54.6 +1.8**
HHC	**Hu-ho-hao-te**	**40.80**	**343**	*eP*		**P**	**03**	**58**	**54.4 +0.2**
HHC					pP	pP	03	59	02.0 -4.4
HHC					pmax	pmax			
	comp=Z,31nm,0.8s								
HHC					pmax	pmax			
	comp=Z,140nm,4.9s								
HHC					LR	LR			
	comp=Z,350nm,16.8s								
HHC					LR	LR			
	comp=Z,210nm,17.6s								
HHC					LR	LR			
	comp=Z,540nm,19.2s								
VLA	**Vladivostok**	**41.06**	**6**	*d i*	P	**P**	**03**	**58**	**57.7 +1.6**
VLA					pmax	pmax			
	comp=Z,154nm,1.0s								
BTO	**Baotou**	**41.06**	**341**	*eP*		**P**	**03**	**58**	**57.3 +0.9**
BTO					pP	**pP**	**03**	**59**	**03.0 -5.6**
BTO					sP	**pwP**	**03**	**59**	**05.4 -5.2**
BTO					S	**S**	**04**	**05**	**09.7 +3.8**
BTO					pmax	pmax			
	comp=Z,22nm,0.9s								
BTO					pmax	pmax			
	comp=Z,190nm,5.7s								
BTO					LR	LR			
	comp=Z,700nm,17.8s								
BTO					LR	LR			
	comp=Z,520nm,12.9s								
BTO					LR	LR			
	comp=Z,1µm,20.8s								
ARPS	**Mount Arapiles**	**41.29**	**161**		P	**P**	**03**	**58**	**58.4 +0.3**
	comp=Z,29nm,1.0s								
CN2	**Changchun**	**41.47**	**359**		P	**P**	**03**	**58**	**59.4 -0.1**
CN2					S	**S**	**04**	**05**	**14.5 +2.9**
CN2					pmax	pmax			
	comp=Z,20nm,1.0s								
CN2					LR	LR			
	comp=Z,130nm,22.0s								
CN2					LR	LR			
	comp=Z,290nm,22.0s								
CN2					LR	LR			
	comp=Z,310nm,20.0s								
YNG	**Young**	**41.71**	**152**		P	**P**	**03**	**59**	**02.2 +0.5**
	comp=Z,35nm,2.0s								
USA0B	**Ussuriysk Arra**	**42.14**	**6**		P	**P**	**03**	**59**	**06.0 +1.1**
USA0B					IAmb	IAmb	03	59	07.4
	comp=Z,109nm,0.9s								
USA0B	**Ussuriysk Arra**	**42.14**	**6**		P	**P**	**03**	**59**	**06.1 +1.1**
USA0B					pmax	pmax			
	comp=Z,109nm,0.9s								
USRK	**Ussuriysk Ar.**	**42.14**	**6**		P	**P**	**03**	**59**	**06.1 +1.1**
	comp=Z,94nm,0.9s,baz=189,slow=7.7,SNR=135								
USRK					LR	LR	04	19	37.7
	comp=Z,79nm,18.1s,baz=195,slow=40								
	comp=Z,94nm,0.9s								
MDJ	**Mudanjiang**	**42.36**	**3**		P	**P**	**03**	**59**	**06.5 -0.3**
MDJ	**Mudanjiang**	**42.36**	**3**		P	**P**	**03**	**59**	**08.1 +1.3**
MDJ					PP	**PP**	**04**	**00**	**46.2 +0.5**
MDJ					S	**S**	**04**	**05**	**25.8 +1.0**
MDJ					pmax	pmax			
	comp=Z,65nm,1.1s								
MDJ					LR	LR			
	comp=Z,260nm,22.4s							

ZSN Zaisan 57.68 328 *e*P **P 04 01 02.7 -0.3**
ZSN Zaisan 57.68 328 *e*P **P 04 01 02.8 -0.3**
SHLS Shalkode 58.39 321 *e*P **P 04 01 05.7 -2.5**
SHLS pmax pmax
comp=Z,21nm,0.6s
SHLS Shalkode 58.39 321 *e*P **P 04 01 05.7 -2.5**
comp=Z,21nm,0.6s
PDGK Podgornoye 58.46 321 P **P 04 01 07.7 -1.0**
UZB Uzynbulak 58.66 321 *e*P **P 04 01 09.4 -0.7**
UZB Uzynbulak 58.66 321 *e*P **P 04 01 09.4 -0.7**
NIL Nilore 58.69 309 P **P 04 01 09.7 -0.6**
NIL lAmb lAmb 04 01 13.4
comp=Z,29nm,0.6s
NIL Nilore 58.69 309 P **P 04 01 09.7 -0.6**
NIL pmax pmax
comp=Z,29nm,0.6s
MK31 Makanchi Array 58.70 326 *i* P **P 04 01 09.7 -0.4**
MK31 pmax pmax
comp=Z,15nm,0.4s
MKAR Makanchi Array 58.70 326 P **P 04 01 09.5 -0.6**
comp=Z,35nm,0.4s,baz=121,slow=8.0,SNR=608
MKAR PcP **PcP 04 01 59.9 +0.2**
comp=Z,17nm,0.7s,baz=121,slow=4.4,SNR=6.3
MKAR ScP **ScP 04 05 55.6 -0.8**
comp=Z,2.0nm,0.8s,baz=114,slow=5.9,SNR=3.9
MKAR S **S 04 09 12.4 +0.9**
comp=Z,2.5nm,1.1s,baz=125,slow=12,SNR=5.1
comp=Z,35nm,0.4s
MKAR Makanchi Array 58.70 326 *i* P **P 04 01 09.5 -0.6**
MKAR pmax pmax
comp=Z,36nm,0.4s
PRZ Przheval'sk 58.73 320 P **P 04 01 11.0 +0.4**
PRZ Przheval'sk 58.73 320 P **P 04 01 11.0 +0.4**
PRZ pmax pmax
comp=Z,66nm,0.6s
TARG Taragay, Kyrgy 58.75 319 P **P 04 01 10.9 -0.2**
TARG lAmb lAmb 04 01 20.8
comp=Z,31nm,0.9s
TARG Taragay, Kyrgy 58.75 319 P **P 04 01 10.9 -0.2**
TARG pmax pmax
comp=Z,31nm,0.9s
MAKZ Makanchi 58.88 326 P **P 04 01 11.1 -0.3**
MAKZ PcP **PcP 04 01 60.0 -0.4**
KSH Kashi 58.98 316 P **P 04 01 13.5 +1.1**
KSH pmax pmax
comp=Z,28nm,0.8s
SATY Saty 59.01 320 *e*P **P 04 01 11.7 -0.8**
SATY pmax pmax
comp=Z,27nm,0.7s
SATY Saty 59.01 320 *e*P **P 04 01 11.8 -0.8**
comp=Z,26nm,0.7s
KPKS Kokpek 59.04 321 *e*P **P 04 01 11.9 -0.8**
KPKS Kokpek 59.04 321 *e*P **P 04 01 11.9 -0.8**
KDJ Kajisay 59.35 319 P **P 04 01 14.7 -0.3**
KDJ lAmb lAmb 04 01 17.0
comp=Z,49nm,0.8s
KDJ Kajisay 59.35 319 P **P 04 01 14.7 -0.3**
KDJ pmax pmax
comp=Z,49nm,0.8s
JCZ Jackson Bay 59.55 146 P **P 04 01 16.8 +0.6**
YAK Yakutsk 59.77 2 P **P 04 01 17.6 +0.5**
YAK Yakutsk 59.77 2 LR LR 04 28 44.4
comp=Z,76nm,21.4s,baz=185,slow=38
YAK Yakutsk 59.77 2*c i*P **P 04 01 17.4 +0.3**
YAK *e* 04 02 04.2
YAK *e* 04 03 28.4
YAK *e*S **S 04 09 28.6 +3.9**
YAK *e**SS **pS 04 09 34.4 -5.3**
YAK *e* 04 11 02.8
YAK *e*SS **SS 04 13 25.0 +3.7**
YAK pmax pmax
comp=Z,353nm,1.3s
YAK pmax pmax
comp=N,114nm,1.5s
YAK pmax pmax
comp=E,38nm,1.7s
YAK pmax pmax
comp=Z,102nm,1.8s
YAK pmax pmax
comp=N,97nm,2.0s
YAK pmax pmax
comp=E,113nm,3.4s
YAK smax smax
comp=N,219nm,2.7s
YAK smax smax
comp=E,188nm,3.0s
TNSS Tian-Shan 59.93 320 *e*P **P 04 01 18.2 -1.0**
TNSS Tian-Shan 59.93 320 *e*P **P 04 01 18.2 -1.0**
ARXS Arharly 59.95 321 *e*P **P 04 01 17.8 -1.1**
TDK Taldyqorghan 59.99 322 *e*P **P 04 01 18.6 -0.5**
TDK pmax pmax
comp=Z,34nm,0.7s
TDK Taldyqorghan 59.99 322 *e*P **P 04 01 18.6 -0.5**
comp=Z,34nm,0.7s
ULHL Ulahol 60.02 319 P **P 04 01 19.9 +0.3**
SNR=18
MA2 Magadan 60.27 14 P **P 04 01 21.4 +0.8**
MA2 Magadan 60.27 14 P **P 04 01 21.8 +1.1**
comp=Z,125nm,0.8s,baz=206,slow=4.6,SNR=19
MA2 LR LR 04 26 58.8
comp=Z,65nm,21.6s,baz=230,slow=36
comp=Z,125nm,0.8s
MA2 Magadan 60.27 14 P **P 04 01 22.4 +1.8**
MA2 Magadan 60.27 14 *ji*P **P 04 01 22.6 +1.9**
MA2 pmax pmax
comp=Z,129nm,0.8s
MA2 Magadan 60.27 14 P **P 04 01 21.2 +0.5**
comp=Z,181nm,0.9s
MA2 Magadan 60.27 14 P **P 04 01 22.5 +1.8**
MA2 PcP **PcP 04 02 04.4 -1.2**
KUU Kurty 60.73 320 *e*P **P 04 01 23.5 -0.6**
KUU pmax pmax
comp=Z,25nm,0.5s
KUU Kurty 60.73 320 *e*P **P 04 01 23.6 -0.6**
comp=Z,25nm,0.5s
TKM2 Tokmak 2 60.76 319 P **P 04 01 24.3 -0.3**
SNR=45
TUWZ Tuamarina 61.10 141 P **P 04 01 26.1 -0.6**
UCH Uchtor 61.16 318 P **P 04 01 28.3 +0.6**
SNR=20
AAK Ala-Archa 61.35 319 P **P 04 01 28.8 +0.2**
AAK Ala-Archa 61.35 319 P **P 04 01 28.7 +0.2**
SNR=6.5
AAK Ala-Archa 61.35 319 P **P 04 01 28.8 +0.2**
AAK pmax pmax
comp=Z,16nm,1.0s
KHZ Kahutara 61.38 142 P **P 04 01 28.7 +0.2**
URZ Urewera 61.58 136 LR LR 04 29 32.6
comp=Z,323nm,19.6s,baz=310,slow=37
BKZ Black Stump Fm 61.60 137 P **P 04 01 30.4 +0.3**
USP Ospenovka 61.63 319 P **P 04 01 30.0 -0.3**
SNR=39
RAO Raoul Island 61.63 125 LR LR 04 27 27.3
comp=Z,105nm,19.2s,baz=294,slow=35
RTZ Ruatahuna 61.66 137 P **P 04 01 29.7 -0.9**
RTZ lAmb lAmb 04 01 36.3
comp=Z,54nm,1.0s
ARSB Arslanbob 61.81 317 P **P 04 01 31.6 -0.1**
ARSB lAmb lAmb 04 01 33.7
comp=Z,26nm,0.6s
ARSB Arslanbob 61.81 317 P **P 04 01 31.6 -0.1**
ARSB pmax pmax
comp=Z,26nm,0.6s
EKS2 Erkin-Say 61.84 318 P **P 04 01 32.3 +0.5**
SNR=32
ZAA0 Zalesovo Array 61.87 334 P **P 04 01 31.1 -0.4**
ZALV Zalesovo Beam 61.87 334 P **P 04 01 30.7 -0.9**
ZALV Zalesovo Beam 61.87 334 P **P 04 01 30.4 -1.2**
comp=Z,9.1nm,0.4s,baz=121,slow=6.6,SNR=34
ZALV PcP **PcP 04 02 11.7 -0.5**
comp=Z,4.5nm,0.7s,baz=90,slow=2.1,SNR=3.7
ZALV LR LR 04 29 55.5
comp=Z,74nm,21.5s,baz=120,slow=38
comp=Z,9.1nm,0.4s
ZALV Zalesovo Beam 61.87 334 *i* P **P 04 01 31.0 -0.6**
ZALV pmax pmax
comp=Z,9.0nm,0.4s
KBL Kabul 62.28 308 P **P 04 01 34.2 -0.8**
KBL lAmb lAmb 04 01 35.9
comp=Z,54nm,0.7s
KBL Kabul 62.28 308 P **P 04 01 34.2 -0.8**
KBL pmax pmax
comp=Z,54nm,0.7s
BTLS Baital 62.72 321 *e*P **P 04 01 36.5 -1.0**
BTLS Baital 62.72 321 *e*P **P 04 01 36.6 -1.0**

KURBB Kurchatov Arra 62.92 328 P **P 04 01 38.0 -0.6**
comp=Z,63nm,0.6s,baz=130,slow=6.3,SNR=454
KURBB PKPPKP **P'P'df 04 30 40.6 +0.5**
comp=Z,0.4nm,0.6s,baz=289,slow=3.9,SNR=4.7
comp=Z,63nm,0.6s
KURK Kurchatov 62.92 328 P **P 04 01 38.5 -0.2**
KURK Kurchatov 62.92 328 P **P 04 01 38.5 -0.2**
KURK pmax pmax
comp=Z,124nm,0.5s
KURK Kurchatov 62.92 328 P **P 04 01 38.1 -0.6**
DZA Taraz 63.57 318 *e*P **P 04 01 42.3 -0.9**
DZA Taraz 63.57 318 *e*P **P 04 01 42.4 -0.9**
SEY Seymchan 63.60 13 P **P 04 01 44.9 +2.0**
comp=Z,61nm,0.9s,baz=216,slow=5.9,SNR=34
comp=Z,61nm,0.9s
SEY Seymchan 63.60 13*c i*P **P 04 01 44.9 +2.0**
SEY pmax pmax
comp=Z,128nm,1.1s
SIMJ Simiganj 63.64 313 P **P 04 01 43.1 -0.9**
SIMJ lAmb lAmb 04 01 45.3
comp=Z,48nm,1.2s
SIMJ Simiganj 63.64 313 P **P 04 01 42.9 -1.0**
SHEM Shemya Is, Ala 63.93 30 P **P 04 01 46.2 +0.9**
comp=Z,61nm,0.6s,baz=19,slow=2.4,SNR=13
SHEM LR LR 04 25 07.4
comp=Z,138nm,21.3s,baz=246,slow=32
comp=Z,61nm,0.6s
IUG Iuzhnay 64.17 316 *e*P **P 04 01 46.4 -0.8**
IUG pmax pmax
comp=Z,28nm,0.4s
IUG Iuzhnay 64.17 316 *e*P **P 04 01 46.5 -0.8**
comp=Z,28nm,0.4s
KK31 Karatay Array 64.21 318 P **P 04 01 46.6 -0.8**
KKAR Karatay Array 64.21 318 P **P 04 01 46.6 -0.8**
KKAR Karatay Array 64.21 318 P **P 04 01 46.6 -0.8**
BRLS Borolday 64.64 317*c i*P **P 04 01 49.4 -0.8**
BRLS Borolday 64.64 317*ji*P **P 04 01 49.5 -0.8**
BRZS Berezniki 65.82 325 *e*P **P 04 01 57.3 -0.4**
BRZS Berezniki 65.82 325 *e*P **P 04 01 57.3 -0.4**
ADK Adak 68.39 34 P **P 04 02 13.9 0.0**
ADK lAmb lAmb 04 02 15.8
comp=Z,68nm,0.9s
ADK Adak 68.39 34 P **P 04 02 14.7 +0.8**
ADK Adak 68.39 34 P **P 04 02 13.9 0.0**
ADK pmax pmax
comp=Z,68nm,1.0s
ADK Adak 68.39 34 P **P 04 02 14.7 +0.8**
ADK PcP **PcP 04 02 38.6 -0.5**
BVAR Borovoye Array 68.49 327 P **P 04 02 14.2 -0.5**
comp=Z,19nm,0.6s,baz=136,slow=9.9,SNR=94
comp=Z,19nm,0.6s
BRVK Borovoye 68.56 327 P **P 04 02 14.5 -0.5**
BRVK lAmb lAmb 04 02 17.2
comp=Z,53nm,1.1s
BRVK Borovoye 68.56 327*c i*P **P 04 02 14.6 -0.5**
BRVK *i* *PP **pP 04 02 26.1 -1.9**
BRVK pmax pmax
comp=Z,84nm,1.8s
BRVK Borovoye 68.56 327 P **P 04 02 14.9 -0.1**
GSTR Great Sitkin T 68.83 34 lAmb lAmb 04 02 22.8
comp=Z,62nm,0.9s
DRV Dumont d'Urvil 69.35 174 P **P 04 02 19.7 +0.1**
TIXI Tiksi 69.40 1 P **P 04 02 19.7 -0.1**
TIXI lAmb lAmb 04 02 21.2
comp=Z,56nm,0.8s
TIXI Tiksi 69.40 1 P **P 04 02 19.9 +0.1**
comp=Z,44nm,0.6s,baz=199,slow=3.6,SNR=21
TIXI LR LR 04 34 09.7
comp=Z,144nm,21.9s,baz=192,slow=37
comp=Z,44nm,0.6s
TIXI Tiksi 69.40 1*d i*P **P 04 02 19.7 -0.1**
TIXI pmax pmax
comp=Z,70nm,0.8s
TIXI Tiksi 69.40 1 P **P 04 02 20.1 +0.2**
ATKA Atka Island 69.92 34 P **P 04 02 24.3 +0.9**
BILL Bilibino 71.12 15 P **P 04 02 31.1 +0.7**
BILL Bilibino 71.12 15*ce*P **P 04 02 30.8 +0.4**
BILL pmax pmax
comp=Z,33nm,1.5s
ABKAR Akbulak array 73.20 321 P **P 04 02 42.7 -0.6**
NIKH Nikolski High 73.23 35 P **P 04 02 44.6 +1.3**
NIKH Nikolski High 73.23 35 P **P 04 02 44.0 +0.7**
baz=250
SPIA Saint Paul Isl 73.96 30 P **P 04 02 48.8 +1.3**
baz=248
P08K Saint George I 74.11 31 P **P 04 02 50.1 +1.7**
AKTO Aktyubinsk 74.73 322 P **P 04 02 51.9 -0.3**
comp=Z,36nm,0.6s,baz=94,slow=5.0,SNR=59
AKTO LR LR 04 38 55.3
comp=Z,167nm,21.8s,baz=220,slow=38
comp=Z,36nm,0.6s
UNV Unalaska Valle 74.84 34 lAmb lAmb 04 02 54.7
comp=Z,122nm,1.2s
UNV Unalaska Valle 74.84 34 P **P 04 02 53.5 +0.9**
baz=252
SVE Sverdlovsk 75.16 329*de*P **P 04 02 54.6 +0.1**
SVE *e*S **S 04 12 28.5 -1.1**
SVE pmax pmax
comp=Z,196nm,1.0s
AKUT Akutan 75.34 34 P **P 04 02 57.0 +1.4**
RAR Rarotonga 75.67 112 LR LR 04 35 46.3
comp=Z,85nm,18.2s,baz=288,slow=35
GAMB Gambell 75.92 24 lAmb lAmb 04 03 01.3
comp=Z,57nm,1.0s
GAMB Gambell 75.92 24 P **P 04 03 00.1 +1.4**
baz=245
ARTI Arti 76.20 328 P **P 04 02 59.6 -0.8**
ARTI Arti 76.20 328 P **P 04 02 59.8 -0.7**
comp=Z,59nm,0.7s,baz=118,slow=2.6,SNR=71
ARTI LR LR 04 39 40.3
comp=Z,58nm,22.0s,baz=87,slow=38
comp=Z,59nm,0.7s
ARTI Arti 76.20 328*c i*P **P 04 02 59.7 -0.8**
ARTI 04 05 48.9
ARTI S **S 04 12 42.4 +1.3**
ARTI SS **SS 04 17 34.4 -1.0**
ARTI pmax pmax
comp=Z,84nm,0.8s
FALS False Pass 76.86 34 P **P 04 03 05.1 +0.9**
baz=255
M11K Mekoryuk 77.06 28 P **P 04 03 06.9 +1.7**
baz=251
S12K Black Hills 77.83 33 P **P 04 03 10.3 +0.6**
baz=256
POHA Pohakuloa 77.96 70 P **P 04 03 11.6 +0.2**
MLH Mauna Loa 78.09 71 P **P 04 03 10.9 -1.3**
TNA Tin City 78.11 23 P **P 04 03 12.3 +1.3**
baz=248
K13K Kusilvak Mount 78.25 27 P **P 04 03 12.4 +0.5**
K13K lAmb lAmb 04 03 14.9
comp=Z,76nm,0.8s
K13K Kusilvak Mount 78.25 27 P **P 04 03 13.6 +1.8**
baz=252,SNR=26
M13K Dall Lake 78.41 28 P **P 04 03 13.1 +0.3**
M13K lAmb lAmb 04 03 15.9
comp=Z,82nm,0.8s
M13K Dall Lake 78.41 28 P **P 04 03 14.7 +2.0**
baz=254,SNR=6.3
SDPT Sand Point 78.62 34 P **P 04 03 14.8 +0.8**
SDPT Sand Point 78.62 34 P **P 04 03 15.1 +1.1**
SDPT Sand Point 78.62 34 P **P 04 03 14.7 +0.8**
baz=257,SNR=11
F14K Arctic Creek 78.70 23 P **P 04 03 16.2 +1.9**
baz=250
ANM Nome 78.78 24 P **P 04 03 16.0 +1.3**
baz=251
L14K Kuka Creek 78.98 28 P **P 04 03 16.6 +0.7**
L14K Kuka Creek 78.98 28 P **P 04 03 17.9 +2.0**
baz=254,SNR=40
J14K Nanvaranak Lak 78.99 26 P **P 04 03 17.3 +1.4**
J14K lAmb lAmb 04 03 18.8
comp=Z,54nm,1.3s
J14K Nanvaranak Lak 78.99 26 P **P 04 03 17.7 +1.8**
baz=253,SNR=5.3
CNBA Chernabura Isl 79.00 35 P **P 04 03 17.0 +0.9**
CNBA lAmb lAmb 04 03 18.5
comp=Z,38nm,0.8s
CHNA Chernabura Isl 79.00 34 P **P 04 03 17.7 +1.6**
CHNA Chernabura Isl 79.00 34 P **P 04 03 17.0 +0.9**
baz=258
LKRN Lenkeran, Azer 79.06 309 P **P 04 03 17.3 +0.5**
N14K Kuskokwak Cree 79.08 29 P **P 04 03 17.9 +1.5**
baz=255,SNR=7.9
O14K Tigyukauivet M 79.12 30 lAmb lAmb 04 03 19.2
comp=Z,65nm,0.9s

O14K Tigyukauivet M 79.12 30 P **P 04 03 18.2 +1.5**
baz=256,SNR=6.5
M14K Bethel 79.17 28 P **P 04 03 18.5 +1.6**
baz=255,SNR=22
S14K Fog Glacier 79.33 33 P **P 04 03 19.0 +0.9**
baz=258,SNR=5.6
F15K North Star Dit 79.44 23 lAmb lAmb 04 03 21.2
comp=Z,58nm,1.2s
F15K North Star Dit 79.44 23 P **P 04 03 20.0 +1.7**
baz=251,SNR=11
G15K Niukluk 79.46 24 P **P 04 03 19.6 +1.2**
baz=252
L15K Ungalak Mounta 79.63 27 P **P 04 03 20.8 +1.4**
baz=255,SNR=21
M15K Kasigluk River 79.75 29 P **P 04 03 21.6 +1.5**
baz=256,SNR=30
K15K Wolf Creek Mou 79.77 27 lAmb lAmb 04 03 23.4
comp=Z,101nm,0.9s
K15K Wolf Creek Mou 79.77 27 P **P 04 03 22.1 +1.9**
baz=255,SNR=30
N15K Kwethluk River 79.92 29 lAmb lAmb 04 03 23.9
comp=Z,99nm,1.1s
N15K Kwethluk River 79.92 29 P **P 04 03 22.6 +1.6**
baz=257,SNR=14
CHGN Chignik 79.96 33 lAmb lAmb 04 03 24.4
comp=Z,49nm,0.8s
CHGN Chignik 79.96 33 P **P 04 03 21.7 +0.5**
baz=259,SNR=7.7
C16K Lisburne Hills 80.03 21 lAmb lAmb 04 03 24.6
comp=Z,82nm,1.1s
C16K Lisburne Hills 80.03 21 P **P 04 03 22.8 +1.4**
baz=250,SNR=19
H16K Elim 80.09 24 P **P 04 03 23.3 +1.4**
baz=254,SNR=10
G16K Koyuk River 80.26 24 lAmb lAmb 04 03 25.5
comp=Z,99nm,1.1s
G16K Koyuk River 80.26 24 P **P 04 03 24.2 +1.5**
baz=254
J16K Anvik River 80.43 26 lAmb lAmb 04 03 27.1
comp=Z,87nm,0.9s
J16K Anvik River 80.43 26 P **P 04 03 25.8 +2.1**
baz=256,SNR=24
MAK Makhachkala 80.46 313 *e*P **P 04 03 21.0 -3.3**
MAK *e*S **S 04 13 23.8 -3.5**
MAK pmax pmax
comp=Z,30nm,0.5s
SEKA Sheki 80.52 311 P **P 04 03 25.1 +0.3**
I17K Unalakleet 80.54 25 lAmb lAmb 04 03 27.7
comp=Z,141nm,1.2s
I17K Unalakleet 80.54 25 P **P 04 03 26.3 +2.0**
baz=255,SNR=12
ABPO Ambohimpanom 80.56 250 P **P 04 03 24.8 -0.7**
ABPO Ambohimpanom 80.56 250 P **P 04 03 24.8 -0.7**
ABPO pmax pmax
comp=Z,14nm,1.0s
MNGR Mingechevir, A 80.56 311 P **P 04 03 25.5 +0.6**
N16K Nishlik Lake 80.63 29 P **P 04 03 27.0 +2.1**
baz=258,SNR=26
D17K Noatak River 80.65 21 P **P 04 03 26.8 +2.0**
baz=253,SNR=41
R16K Pilot Point 80.65 32 P **P 04 03 26.4 +1.4**
baz=259
M16K Timber Creek 80.65 28 lAmb lAmb 04 03 27.9
comp=Z,84nm,0.9s
M16K Timber Creek 80.65 28 P **P 04 03 26.9 +1.9**
baz=255,SNR=32
P16K Nushagak River 80.72 30 P **P 04 03 24.9 -0.4**
baz=259
O16K Kokwok River B 80.78 30 lAmb lAmb 04 03 28.3
comp=Z,65nm,0.9s
O16K Kokwok River B 80.78 30 P **P 04 03 26.7 +1.0**
baz=258,SNR=22
RDOG Red Dog Mine 80.82 21 lAmb lAmb 04 03 29.3
comp=Z,58nm,1.0s
RDOG Red Dog Mine 80.82 21 P **P 04 03 27.3 +1.6**
baz=253,SNR=10
C17K DeLong Mountai 80.85 21 P **P 04 03 27.5 +1.6**
baz=252,SNR=19
RAYN Ar Rayn 80.87 293 P **P 04 03 27.0 0.0**
RAYN Ar Rayn 80.87 293 P **P 04 03 27.0 0.0**
RAYN pmax pmax
comp=Z,14nm,0.7s
E17K Hotham Inlet 80.94 22 P **P 04 03 28.4 +2.0**
baz=254,SNR=43
G17K Kiwalik Mounta 80.97 24 P **P 04 03 28.5 +1.9**
baz=255,SNR=34
F17K Baldwin Pennin 80.98 23 lAmb lAmb 04 03 29.5
comp=Z,41nm,0.7s
F17K Baldwin Pennin 80.98 23 P **P 04 03 28.4 +1.9**
baz=254
GANJ Ganja 81.13 311 P **P 04 03 28.4 +0.4**
J17K VABM Dome 81.13 26 lAmb lAmb 04 03 30.7
comp=Z,65nm,0.8s
J17K VABM Dome 81.13 26 P **P 04 03 29.6 +2.2**
baz=257,SNR=24
H17K Granite Mounta 81.13 24 lAmb lAmb 04 03 30.6
comp=Z,79nm,1.2s
H17K Granite Mounta 81.13 24 P **P 04 03 29.4 +2.0**
baz=256,SNR=26
L17K Donlin 81.20 27 P **P 04 03 30.2 +2.4**
baz=258,SNR=34
VOI Vohitsoka 81.25 248 P **P 04 03 28.7 -0.4**
R17L Mt. Peulik Vol 81.31 32 P **P 04 03 29.1 +0.5**
baz=260,SNR=11
PLK4 Peulik 4 81.31 32 lAmb lAmb 04 03 30.3
comp=Z,90nm,0.9s
O17K Koliganek Bris 81.31 30 P **P 04 03 29.9 +1.5**
baz=259,SNR=22
K17K Iditarod 81.32 27 P **P 04 03 30.7 +2.2**
baz=258,SNR=49
N17K Nushagak Hills 81.41 29 lAmb lAmb 04 03 32.3
comp=Z,77nm,1.3s
N17K Nushagak Hills 81.41 29 P **P 04 03 31.0 +2.0**
baz=258,SNR=17
CHIR Chirikof Islan 81.41 34 P **P 04 03 30.9 +1.8**
CHIR Chirikof Islan 81.41 34 P **P 04 03 30.8 +1.7**
baz=261
KIRV Kirov 81.42 329 P **P 04 03 29.1 0.0**
comp=Z,81nm,0.8s,baz=106,slow=2.5,SNR=54
KIRV LR LR 04 42 43.3
comp=Z,114nm,21.2s,baz=100,slow=38
comp=Z,81nm,0.8s
KIRV Kirov 81.42 329*c i*P **P 04 03 28.8 -0.3**
M17K Holitna River 81.45 28 lAmb lAmb 04 03 32.7
comp=Z,83nm,1.2s
M17K Holitna River 81.45 28 P **P 04 03 31.2 +2.0**
baz=259,SNR=15
E18K Tukpahlearik C 81.49 22 lAmb lAmb 04 03 32.4
comp=Z,84nm,1.0s
E18K Tukpahlearik C 81.49 22 P **P 04 03 31.3 +2.0**
baz=255,SNR=46
BELG Belogornoye 81.49 323 P **P 04 03 29.3 -0.2**
comp=Z,169nm,0.9s,baz=310,slow=0.9,SNR=21
comp=Z,169nm,0.9s
BELG Belogornoye 81.49 323*c i*P **P 04 03 29.2 -0.3**
BELG pmax pmax
comp=Z,32nm,0.9s
P17K Kvichak River 81.53 30 P **P 04 03 30.7 +1.1**
baz=260
B18K Kokolik River 81.59 20 P **P 04 03 32.0 +2.2**
baz=254,SNR=16
C18K Utukok River 81.60 21 lAmb lAmb 04 03 32.6
comp=Z,66nm,1.2s
C18K Utukok River 81.60 21 P **P 04 03 31.5 +1.6**
baz=254,SNR=20
F18K Selawik 81.64 23 P **P 04 03 31.7 +1.6**
baz=256
NAX Nakhchivan 81.65 309 P **P 04 03 31.2 +0.4**
Q17K Contact Creek 81.66 31 P **P 04 03 30.5 0.0**
baz=260,SNR=20
H18K Honhosa River 81.82 24 P **P 04 03 32.6 +1.4**
baz=257,SNR=21
G18K Tagagawik 81.87 24 P **P 04 03 32.6 +1.3**
baz=257,SNR=25
VNDA Vanda 81.92 173 P **P 04 03 31.5 +0.2**
VNDA Vanda 81.92 173 P **P 04 03 31.7 +0.4**
comp=Z,5.6nm,0.5s,baz=317,slow=6.7,SNR=65
comp=Z,5.6nm,0.5s
VNDA Vanda 81.92 173 P **P 04 03 31.5 +0.2**
VNDA pmax pmax
comp=Z,13nm,0.9s
L18K Granite Mounta 81.96 27 lAmb lAmb 04 03 35.1
comp=Z,73nm,0.8s
L18K Granite Mounta 81.96 27 P **P 04 03 34.0 +2.2**
baz=259,SNR=52
N18K Kilae Creek 82.06 29 lAmb lAmb 04 03 35.8
comp=Z,123nm,1.8s
N18K Kilae Creek 82.06 29 P **P 04 03 34.4 +1.9**

baz=260,SNR=7.8
A19K Wainwright 82.07 19 P P 04 03 34.5 +2.3
baz=254
Q18K Katmai Hardscr 82.18 31 P P 04 03 33.3 +0.1
baz=261,SNR=12
P18K Big Mountain, 82.18 30 IAmb IAmb 04 03 34.7
comp=Z,119nm,1.8s
P18K Big Mountain, 82.18 30 P P 04 03 33.5 +0.3
baz=261
J18K Innoko River 82.18 26 IAmb IAmb 04 03 35.7
comp=Z,66nm,0.8s
J18K Innoko River 82.18 26 P P 04 03 34.7 +1.7
baz=259,SNR=51
MAW Mawson 82.21 200 P P 04 03 32.6 -0.4
comp=Z,6.3nm,0.9s,baz=251,slow=2.0,SNR=8.6
comp=Z,6.3nm,0.9s
M18K Stony River 82.23 28 P P 04 03 35.4 +2.1
baz=260,SNR=32
O18K Koktuh Hills 82.26 30 P P 04 03 35.0 +1.4
baz=261,SNR=9.5
C19K Lookout Ridge 82.28 20 IAmb IAmb 04 03 36.9
comp=Z,82nm,0.8s
C19K Lookout Ridge 82.28 20 P P 04 03 35.6 +2.1
baz=256,SNR=33
R18K Karluk 82.31 32 P P 04 03 34.1 +0.3
baz=262
SII Sitkinak Islan 82.32 33 P P 04 03 34.5 +0.6
SII Sitkinak Islan 82.32 33 P P 04 03 35.3 +1.4
baz=262,SNR=5.5
GCSA Galena City Sc 82.36 25 P P 04 03 35.5 +1.6
baz=259,SNR=8.8
F19K Shaleruckik Mo 82.42 23 P P 04 03 35.5 +1.3
baz=258
G19K Purcell Mounta 82.55 23 P P 04 03 36.6 +1.7
baz=258,SNR=116
D19K Kuna River 82.66 21 P P 04 03 37.3 +1.8
baz=257,SNR=71
H19K Roundabout Mou 82.69 24 P P 04 03 37.8 +2.2
baz=259,SNR=163
O19K Port Alsworth 82.75 30 P P 04 03 36.9 +0.9
baz=262
J19K Poorman 82.76 26 P P 04 03 37.9 +1.9
baz=260,SNR=131
E19K Redstone River 82.76 22 P P 04 03 38.1 +2.1
baz=258,SNR=188
N19K Bonanza Creek 82.77 29 P P 04 03 38.1 +1.9
baz=261,SNR=41
L19K White Mountain 82.80 28 P P 04 03 37.9 +1.6
baz=261,SNR=57
SBA Scott Base 82.83 172 P P 04 03 37.0 +0.9
SBA Scott Base 82.83 172 P P 04 03 37.0 +0.9
TRLG Trialeti 82.86 311 P P 04 03 37.7 +0.4
OHAK Old Harbor 82.89 33 IAmb IAmb 04 03 39.2
comp=Z,58nm,0.8s
OHAK Old Harbor 82.89 33 P P 04 03 37.9 +1.1
OHAK Old Harbor 82.89 33 P P 04 03 38.1 +1.4
baz=263,SNR=11
Q19K Cape Douglas, 82.92 31 IAmb IAmb 04 03 39.3
comp=Z,103nm,1.2s
Q19K Cape Douglas, 82.92 31 P P 04 03 36.9 -0.1
baz=262
M19K Big River Lodg 82.97 28 IAmb IAmb 04 03 40.4
comp=Z,69nm,0.8s
M19K Big River Lodg 82.97 28 P P 04 03 39.3 +2.1
baz=261,SNR=36
P19K Oil Pt 83.22 30 P P 04 03 40.1 +1.6
baz=263
D20K Etivluk River 83.24 21 P P 04 03 40.4 +1.9
baz=258,SNR=124
F20K Avaraart Lake 83.26 23 P P 04 03 40.6 +2.1
baz=260
L20K Farewell, AK 83.29 27 P P 04 03 40.7 +1.9
baz=262,SNR=49
E20K Nigu River 83.31 21 P P 04 03 40.8 +1.9
baz=259,SNR=254
B20K Meade River 83.32 20 P P 04 03 40.7 +1.9
baz=258
H20K Anotleneega Mo 83.32 24 P P 04 03 40.8 +1.9
baz=260,SNR=84
KDAK Kodiak Island 83.33 32 P P 04 03 39.6 +0.5
KDAK IAmb IAmb 04 03 41.5
comp=Z,63nm,0.8s
KDAK Kodiak Island 83.33 32 P P 04 03 39.9 +0.8
comp=Z,51nm,0.7s,baz=244,slow=3.7,SNR=40
KDAK LR LR 04 36 59.0
comp=Z,83nm,21.7s,baz=243,slow=33
comp=Z,51nm,0.7s
KDAK Kodiak Island 83.33 32 P P 04 03 39.6 +0.5
KDAK pmax pmax
comp=Z,63nm,0.8s
KDAK Kodiak Island 83.33 32 P P 04 03 40.4 +1.3
baz=263
K20K Telida 83.34 27 P P 04 03 41.0 +2.0
baz=262,SNR=63
I20K Naaghedeneel 83.38 25 P P 04 03 41.4 +2.3
baz=261,SNR=32
J20K Nowinta River 83.42 26 P P 04 03 41.5 +2.0
baz=261,SNR=76
Q20K Shuyak Island 83.53 31 P P 04 03 40.5 +0.5
baz=264
SYI Shuyak Island 83.53 31 IAmb IAmb 04 03 42.1
comp=Z,101nm,1.2s
M20K Styx River 83.56 28 P P 04 03 42.2 +1.9
baz=262
A21K Barrow 83.77 18 P P 04 03 42.7 +1.7
baz=258
GOF Gofitskoye 83.84 315 *ce* P P 04 03 41.3 -0.7
IMAR Indian Mountai 83.86 24 P P 04 03 42.8 +1.1
KBZ Khabaz 83.87 314 P P 04 03 42.1 0.0
comp=Z,11nm,0.8s,baz=92,slow=3.1,SNR=19
KBZ LR LR 04 46 50.7
comp=Z,53nm,20.2s,baz=80,slow=40
comp=Z,11nm,0.8s
KBZ Khabaz 83.87 314 *c i* P P 04 03 41.8 -0.3
N20K Mount Spurr 83.92 29 P P 04 03 42.7 +0.6
baz=263
SPCR Spurr Chakacha 83.92 29 P P 04 03 42.8 +0.7
baz=263
C21K Knifeblade Rid 83.97 21 P P 04 03 44.2 +2.0
baz=260,SNR=39
SPU Mount Spurr 83.99 29 IAmb IAmb 04 03 44.6
comp=Z,78nm,1.1s
KVAR Kislovodsk Arr 84.03 314 P P 04 03 43.5 +0.4
comp=Z,5.2nm,0.7s,baz=264,slow=22,SNR=3.8
comp=Z,5.2nm,0.7s
KIV Kislovodsk 84.03 314 P P 04 03 43.7 +0.6
KIV IAmb IAmb 04 04 00.2
comp=Z,30nm,0.5s
KIV Kislovodsk 84.03 314 ⇓P P 04 03 42.8 -0.3
KIV Kislovodsk 84.03 314 *e* P P 04 03 41.7 -1.4
KIV *e* S SKSac 04 14 00.8 -2.0
KIV pmax pmax
comp=Z,20nm,1.0s
KIV MLR MLR
comp=Z,82nm,19.0s
KIV Kislovodsk 84.03 314 P P 04 03 43.2 +0.1
comp=Z,293nmcomp=Z,28nm,1.0s
G21K Allakaket 84.04 23 P P 04 03 44.1 +1.6
baz=262,SNR=102
B21K Ikpikpuk River 84.11 20 P P 04 03 44.8 +2.0
baz=260
PPLA Purkeypile 84.12 27 IAmb IAmb 04 03 46.3
comp=Z,63nm,1.2s
PPLA Purkeypile 84.12 27 P P 04 03 44.1 +0.9
baz=263,SNR=13
STLK Strandline Lak 84.13 28 IAmb IAmb 04 03 44.5
comp=Z,37nm,0.9s
F21K Alatna River 84.15 23 IAmb IAmb 04 03 45.6
comp=Z,29nm,0.9s
F21K Alatna River 84.15 23 P P 04 03 44.5 +1.4
baz=262,SNR=37
E21K Killik River 84.15 21 P P 04 03 44.7 +1.6
baz=261
CHUM Lake Minchumin 84.18 26 P P 04 03 44.8 +1.5
baz=263,SNR=8.4
H21K Melozitna Rive 84.20 24 IAmb IAmb 04 03 46.4
comp=Z,70nm,1.0s
H21K Melozitna Rive 84.20 24 P P 04 03 45.0 +1.6
baz=262,SNR=88
CAST Castle Rocks 84.23 27 IAmb IAmb 04 03 46.9
comp=Z,46nm,1.4s
CAST Castle Rocks 84.23 27 P P 04 03 44.3 +0.7
baz=263,SNR=20
A22K Sinclair Lake 84.23 19 P P 04 03 45.5 +2.1
baz=260
SKT Skwentna 84.32 28 P P 04 03 44.2 +0.1
baz=264,SNR=39
I21K Tanana 84.48 25 IAmb IAmb 04 03 47.8
comp=Z,38nm,0.8s
I21K Tanana 84.48 25 P P 04 03 46.2 +1.4
baz=263
B22K Teshekpuk Lake 84.63 20 P P 04 03 47.0 +1.5
baz=261,SNR=13
SUA Susitna One 84.64 29 P P 04 03 46.2 +0.3
baz=265
D22K Ayikyak River 84.68 21 IAmb IAmb 04 03 48.9
comp=Z,35nm,0.9s
D22K Ayikyak River 84.68 21 P P 04 03 47.6 +1.8
baz=262,SNR=18
F22K John River 84.69 22 P P 04 03 47.7 +1.9
baz=263
BPAW Bear Paw Mtn. 84.79 26 IAmb IAmb 04 03 48.7
comp=Z,49nm,1.5s
BPAW Bear Paw Mtn. 84.79 26 P P 04 03 47.2 +0.7
baz=264,SNR=8.3
H22K Ishtalitna Cre 84.81 24 P P 04 03 47.9 +1.4
baz=264,SNR=44
PPT Papeete 84.87 108 LR LR 04 38 22.1
comp=Z,82nm,20.4s,baz=312,slow=33
PPT2 Papeete2 84.87 108 *e* S SKSac 04 14 12.1 +3.0
comp=Z,45nm,23.5s
PPT2 *e* SS SS 04 19 40.9 -6.0
comp=Z,74nm,23.8s
PPT2 Papeete2 84.87 108 *e* LR LR 04 30 33.8
comp=Z,258nm,24.8s
PPT2 *e* LR LR 04 30 33.8
comp=Z,224nm,29.0s
G22K Bettles 84.88 23 P P 04 03 47.7 +0.9
baz=264
E22K Anaktuvuk Pass 84.90 22 P P 04 03 48.6 +1.7
baz=263,SNR=124
CUT Chulitna 84.95 28 P P 04 03 47.3 +0.1
baz=265
M22K Willow 84.97 28 P P 04 03 47.2 0.0
baz=265,SNR=32
MLY Manley 84.99 25 P P 04 03 48.3 +0.8
baz=264,SNR=19
VRH Novokhopyorsk 85.03 321 *e* P P 04 03 44.5 -3.3
VRH pmax pmax
comp=Z,160nm,0.9s
TRF Thorofare Moun 85.04 27 P P 04 03 47.8 -0.1
baz=265,SNR=12
O22K Coldfoot Landing 85.06 30 P P 04 03 48.0 +0.3
baz=266,SNR=5.1
RC01 Rabbit Creek A 85.10 29 P P 04 03 48.2 +0.2
baz=266,SNR=42
SEW Seward 85.17 30 P P 04 03 48.9 +0.6
baz=266,SNR=16
MARD Mardin 85.28 307 IAmb IAmb 04 03 52.4
comp=Z,35nm,0.8s
TBI Tubuai 85.39 113 *e* LR LR 04 30 48.0
comp=Z,1µm,32.2s
D23K Nanushuk River 85.41 21 IAmb IAmb 04 03 53.4
comp=Z,63nm,0.9s
D23K Nanushuk River 85.41 21 P P 04 03 51.3 +1.9
baz=264,SNR=56
COLD Coldfoot 85.42 23 IAmb IAmb 04 03 53.2
comp=Z,59nm,1.0s
COLD Coldfoot 85.42 23 P P 04 03 50.9 +1.4
baz=265,SNR=64
PMR Palmer 85.43 29 P P 04 03 50.7 +1.1
PMR Palmer 85.43 29 P P 04 03 49.9 +0.4
baz=266,SNR=44
G23K Bananza Creek 85.44 23 IAmb IAmb 04 03 53.5
comp=Z,42nm,0.9s
G23K Bananza Creek 85.44 23 P P 04 03 51.1 +1.5
baz=265,SNR=52
C23K Itkillik River 85.52 20 P P 04 03 51.2 +1.3
baz=264,SNR=46
GHO Glory Hole Cre 85.54 28 IAmb IAmb 04 04 01.5
comp=Z,39nm,0.8s
H23K Yukon River 85.56 24 IAmb IAmb 04 03 53.7
comp=Z,30nm,0.8s
H23K Yukon River 85.56 24 P P 04 03 51.1 +0.9
baz=265,SNR=47
I23K Minto, Yukon-K 85.58 25 IAmb IAmb 04 03 54.9
comp=Z,46nm,1.1s
I23K Minto, Yukon-K 85.58 25 P P 04 03 51.3 +1.0
baz=266,SNR=41
MCK McKinley 85.66 26 IAmb IAmb 04 03 52.9
comp=Z,44nm,1.0s
MCK McKinley 85.66 26 P P 04 03 50.8 0.0
baz=266,SNR=12
ERBR Yeremizino-Bor 85.66 315 *e* P P 04 03 50.7 -0.5
ERBR *e* *PP PcP 04 03 58.8 +4.8
ERBR *e* S SKSac 04 14 13.1 +0.2
ERBR pmax pmax
comp=Z,120nm,1.0s
NEA2 Nenana 85.66 26 P P 04 03 51.4 +0.6
baz=266,SNR=13
RND Reindeer 85.68 27 IAmb IAmb 04 03 52.6
comp=Z,38nm,1.0s
E23K Chandalar 85.72 22 IAmb IAmb 04 03 54.5
comp=Z,46nm,0.8s
E23K Chandalar 85.72 22 P P 04 03 52.7 +1.6
baz=265,SNR=96
KNK Knik Glacier 85.74 29 P P 04 03 52.1 +0.9
baz=267,SNR=22
PWL Port Wells 85.77 29 P P 04 03 52.1 +0.8
baz=267,SNR=24
TOLK Toolik Lake Re 85.78 21 IAmb IAmb 04 03 55.0
comp=Z,35nm,0.9s
TOLK Toolik Lake Re 85.78 21 P P 04 03 52.4 +1.1
baz=265,SNR=23
VSLR Vesyoloye 85.94 313 *d i* P P 04 03 52.7 +0.1
VSLR pmax pmax
comp=Z,174nm,1.0s
D24K Happy Valley 86.09 21 P P 04 03 54.0 +1.3
baz=266,SNR=28
M23K Glacier View 86.11 28 P P 04 03 53.6 +0.6
baz=267,SNR=22
E24K Your Creek 86.14 22 P P 04 03 54.1 +1.0
baz=266
SOC Sochi 86.17 313 *e* P P 04 03 51.7 -2.0
SOC *e* 04 07 11.0
SOC *e* PPP PPP 04 09 05.7
SOC *e* S SKSac 04 14 14.3 -1.9
SOC *e* SSS SSS 04 23 34.3
SOC pmax pmax
comp=Z,80nm,0.7s
C24K Franklin Bluff 86.18 20 IAmb IAmb 04 03 56.1
comp=Z,42nm,0.8s
C24K Franklin Bluff 86.18 20 P P 04 03 54.3 +1.2
baz=266
P23K Montague Islan 86.19 30 P P 04 03 54.3 +0.9
baz=268,SNR=8.5
COLA College 86.20 25 *de* P P 04 03 53.1 -0.3
COLA pmax pmax
comp=Z,7.0nm,0.8s
H24K Noodor Dome 86.24 24 P P 04 03 54.2 +0.6
H24K Noodor Dome 86.24 24 P P 04 03 54.7 +1.0
baz=267,SNR=27
SCM Sheep Creek Mo 86.30 28 P P 04 03 54.4 +0.4
baz=268,SNR=30
F24K Squaw Lake 86.33 23 IAmb IAmb 04 03 57.5
comp=Z,22nm,0.8s
F24K Squaw Lake 86.33 23 P P 04 03 55.2 +1.2
baz=267,SNR=29
GLI Glacier Island 86.37 29 P P 04 03 54.4 +0.1
baz=268,SNR=31
POKR Poker Flat Res 86.39 25 P P 04 03 53.9 -0.4
baz=267
G24K Hadweenzic Riv 86.45 23 IAmb IAmb 04 03 57.8
comp=Z,27nm,0.8s
G24K Hadweenzic Riv 86.45 23 P P 04 03 55.8 +1.2
baz=267,SNR=44
VORD Divnogorie 86.56 321 *e* P P 04 03 53.2 -2.2
VORD pmax pmax
comp=Z,110nm,1.0s
HDA Harding Lake 86.57 26 P P 04 03 55.2 0.0
baz=266,SNR=19
ILAR Eielson Array 86.61 25 P P 04 03 54.6 -0.8
ILAR Eielson Array 86.61 25 P P 04 03 54.5 -1.0
comp=Z,3.5nm,0.5s,baz=246,slow=4.6,SNR=57
ILAR PP PP 04 07 19.2 +1.5
comp=Z,3.4nm,1.1s,baz=277,slow=5.8,SNR=4.1
comp=Z,3.5nm,0.5s
ILAR Eielson Array 86.61 25 P P 04 03 54.6 -0.8
KLMR Klimovskoe 86.64 331 *e* P P 04 03 53.0 -2.6
KLMR pmax pmax
comp=Z,137nm,1.3s
KLMR MLR MLR
comp=Z,137nm,15.0s
VSR Storozhevoye 86.64 321 *e* P P 04 03 52.6 -3.2
VSR pmax pmax
comp=Z,90nm,1.0s
HIN Hinchinbrook I 86.65 30 IAmb IAmb 04 03 58.1
comp=Z,27nm,0.6s
LPSR Galich'ya Gora 86.81 322 *e* P P 04 03 54.1 -2.5
LPSR pmax pmax
comp=Z,160nm,1.0s
M24K Tolsona, Glenn 86.85 28 IAmb IAmb 04 03 59.3
comp=Z,31nm,0.8s
M24K Tolsona, Glenn 86.85 28 P P 04 03 57.3 +0.6
baz=269,SNR=7.7
KLU Klutina 86.96 29 IAmb IAmb 04 03 59.8
comp=Z,38nm,1.3s
KLU Klutina 86.96 29 P P 04 03 57.8 +0.5
baz=269,SNR=7.7
D25K Kavik River 86.97 21 P P 04 03 58.0 +0.8
baz=268
G25K Bearman Lake 87.00 23 P P 04 03 58.1 +0.9
baz=268,SNR=13
DIV Divide 87.02 29 IAmb IAmb 04 04 00.4
comp=Z,51nm,1.1s
K24K Donnelly Dome 87.07 26 IAmb IAmb 04 03 59.2
comp=Z,30nm,0.9s
K24K Donnelly Dome 87.07 26 P P 04 03 57.7 0.0
baz=269,SNR=14
H25L Birch Creek 87.10 24 P P 04 03 59.1 +1.4
baz=269,SNR=28
PAX Paxson 87.19 27 P P 04 03 58.9 +0.5
baz=269,SNR=20
F25K Christian River 87.20 23 P P 04 03 59.5 +1.2
baz=269,SNR=32
J25K Salcha River, 87.26 26 P P 04 03 57.9 -0.8
baz=269,SNR=13
HARP HAARP 87.33 28 P P 04 03 58.9 -0.1
baz=270
FYU Fort Yukon 87.34 24 IAmb IAmb 04 04 02.4
comp=Z,45nm,1.0s
RIDG Independent Ri 87.48 26 IAmb IAmb 04 04 01.4
comp=Z,33nm,1.0s
RIDG Independent Ri 87.48 26 P P 04 03 59.8 0.0
baz=270,SNR=27
C26K Camden Bay 87.50 20 P P 04 04 01.0 +1.4
baz=269
MOS Moscow 87.58 326 *e* P P 04 03 59.0 -1.3
MOS *e* 04 07 30.0
MOS *e* S SKSac 04 14 25.3 +1.0
MOS pmax pmax
comp=Z,103nm,0.9s
BMRM Bremner River 87.59 29 IAmb IAmb 04 04 05.0
comp=Z,31nm,1.1s
BMRM Bremner River 87.59 29 P P 04 04 00.8 +0.5
baz=270
N25K Chitina, Valde 87.59 29 IAmb IAmb 04 04 04.1
comp=Z,47nm,1.4s
N25K Chitina, Valde 87.59 29 P P 04 04 00.9 +0.6
baz=270,SNR=9.1
BMAR Burnt Mountain 87.60 23 P P 04 04 01.1 +0.9
KAIM Kayak Island 87.69 30 IAmb IAmb 04 04 03.9
comp=Z,30nm,0.8s
KAIM Kayak Island 87.69 30 P P 04 04 01.9 +1.2
baz=270
F26K Sheenjek River 87.77 22 P P 04 04 02.3 +1.3
baz=270,SNR=23
ANN Anapa 87.81 315 *e* P P 04 04 00.6 -1.0
ANN *e* *PP pP 04 04 11.6 -3.4
ANN *e* 04 07 24.1
ANN *e* S SKSac 04 14 25.8 -0.4
ANN pmax pmax
comp=Z,121nm,0.7s
SCRK Sand Creek 87.86 26 P P 04 04 01.6 0.0
baz=270,SNR=12
C27K Jago River 87.92 21 P P 04 04 02.4 +0.8
baz=270,SNR=46
G26K Porcupine Rive 87.92 23 IAmb IAmb 04 04 04.7
comp=Z,34nm,1.1s
G26K Porcupine Rive 87.92 23 P P 04 04 02.7 +1.0
baz=271,SNR=40
GLB Gilahina Butte 87.97 29 IAmb IAmb 04 04 04.4
comp=Z,23nm,1.0s
MENT Mentasta 87.99 27 IAmb IAmb 04 04 03.8
comp=Z,15nm,0.6s
J26L Joseph Creek 88.04 26 IAmb IAmb 04 04 03.7
comp=Z,19nm,0.8s
J26L Joseph Creek 88.04 26 P P 04 04 02.1 -0.3
baz=271,SNR=34
GAZ Gaziantep 88.13 307 IAmb IAmb 04 04 04.9
comp=Z,46nm,0.9s
L26K Log Cabin Wild 88.16 27 P P 04 04 03.3 +0.4
baz=271,SNR=5.4
OBN Obninsk 88.19 325 P P 04 04 03.0 -0.1
OBN Obninsk 88.19 325 P P 04 04 02.3 -0.8
comp=Z,43nm,0.5s,baz=250,slow=1.7,SNR=22
OBN LR LR 04 46 02.9
comp=Z,52nm,21.8s,baz=112,slow=37
comp=Z,43nm,0.5s
OBN Obninsk 88.19 325 ⇓P P 04 04 02.9 -0.2
OBN Obninsk 88.19 325 ⇓*e* P P 04 04 02.8 -0.4
OBN *e* 04 07 27.4
OBN *e* PPP PPP 04 09 25.2
OBN pmax pmax
comp=Z,110nm,1.0s
OBN MLR MLR
comp=Z,120nm,24.0s
OBN Obninsk 88.19 325 P P 04 04 02.3 -0.8
comp=Z,964nmcomp=Z,119nm,0.8s
I26K Coal Creek Min 88.20 25 P P 04 04 02.8 -0.2
baz=271
CRQE Cirque 88.33 29 P P 04 04 04.5 +0.6
baz=271
M26K Nabesna, AK 88.34 28 P P 04 04 04.1 +0.2
baz=271,SNR=8.9
MCARA McCarthy VSAT 88.35 29 IAmb IAmb 04 04 23.8
comp=Z,23nm,1.1s
MCARA McCarthy VSAT 88.35 29 P P 04 04 04.5 +0.6
baz=271
WAX Waxell Ridge 88.46 30 IAmb IAmb 04 04 09.8
comp=Z,20nm,0.7s
KHAM Kharkiv 88.51 320 P P 04 04 02.7 -2.2
ASF Jabal al Asfar 88.51 302 LR LR 04 52 44.4
comp=Z,34nm,18.1s,baz=131,slow=42
KIBK Kibwezi 88.53 268 P P 04 04 05.4 -0.4
TOKA Tokat 88.62 310 IAmb IAmb 04 04 07.3
comp=Z,23nm,0.5s
K27K Chicken 88.70 26 IAmb IAmb 04 04 08.7
comp=Z,51nm,1.0s
K27K Chicken 88.70 26 P P 04 04 06.9 +1.4
baz=272
LVZ Lovozero 88.70 338 ⇑P P 04 04 10.0 +4.6
ISLE Juniper Island 88.71 30 IAmb IAmb 04 04 16.9
comp=Z,18nm,0.9s
E27K Coleen River 88.72 22 IAmb IAmb 04 04 07.6
comp=Z,39nm,1.0s
E27K Coleen River 88.72 22 P P 04 04 06.2 +0.7
baz=273,SNR=53
G27K Doyon Strip 88.76 23 P P 04 04 06.7 +1.0
baz=272,SNR=28
I27K Kandik River 88.83 25 P P 04 04 07.2 +1.1
baz=273,SNR=49
H27K Steamboat Moun 88.84 24 P P 04 04 07.5 +1.3
baz=273,SNR=19
L27K Beaver Creek, 88.85 27 IAmb IAmb 04 04 08.4
comp=Z,21nm,0.8s
L27K Beaver Creek, 88.85 27 P P 04 04 07.3 +1.0
baz=272,SNR=45
M27K Edge Creek, AK 88.86 28 P P 04 04 06.9 +0.5
baz=272,SNR=15
BCAR Beaver Creek A 88.87 27 P P 04 04 07.3 +1.0
D27M Malcolm River 88.90 21 IAmb IAmb 04 04 08.5
comp=Z,23nm,0.8s
D27M Malcolm River 88.90 21 P P 04 04 07.1 +0.8
baz=273
MESA MESA 88.92 30 P P 04 04 07.6 +0.9
baz=272
GRNC Granite Creek 88.99 29 IAmb IAmb 04 04 09.3
comp=Z,23nm,1.1s
BARN Barnard Glacie 89.02 29 IAmb IAmb 04 04 10.7
comp=Z,42nm,1.2s
CTG Chitna Glacier 89.18 29 P P 04 04 08.9 +0.9
baz=273,SNR=11
CTGM Chitina Glacie 89.19 29 IAmb IAmb 04 04 10.3
comp=Z,34nm,1.0s
APA Apatity 89.19 337 *e* P P 04 04 05.8 -1.9
APA *e* 04 07 35.6
APA MLR MLR
comp=Z,573nm,27.6s
KMBO Kilima Mbogo 89.28 269 P P 04 04 09.4 -0.1
comp=Z,16nm,1.1s,baz=50,slow=6.4,SNR=9.1
comp=Z,16nm,1.1s
BVCY Beaver Creek 89.33 28 P P 04 04 09.5 +1.0

baz=273,SNR=8.5
F28M **Old Crow** 89.41 22 IAmb IAmb 04 04 10.6
comp=Z,29nm,0.9s
F28M **Old Crow** 89.41 22 P **P** **04 04 09.3 +0.6**
baz=274,SNR=38
E28M **Babbage River** 89.46 21 IAmb IAmb 04 04 10.9
comp=Z,35nm,0.9s
E28M **Babbage River** 89.46 21 P **P** **04 04 09.7 +0.8**
baz=274
I28M **Miner Creek** 89.54 25 IAmb IAmb 04 04 11.6
comp=Z,23nm,0.8s
I28M **Miner Creek** 89.54 25 P **P** **04 04 10.4 +0.9**
baz=274,SNR=39
YUK3 **Moose Creek** 89.56 28 P **P** **04 04 10.4 +0.6**
baz=274,SNR=12
GHAJ **Ghor Haditha** 89.67 301 IAmb IAmb 04 04 12.2
comp=Z,53nm,1.1s
MMAI **Mount Meron Ar** 89.74 303 P **P** **04 04 11.5 +0.4**
comp=Z,7.4nm,0.5s,baz=113,slow=3.8,SNR=13
MMAI LR LR 04 52 16.9
comp=Z,33nm,18.4s,baz=84,slow=41
comp=Z,7.4nm,0.5s
O28M **Mount Upton** 89.75 29 P **P** **04 04 11.0 +0.2**
baz=274
PINM **Pinnacle** 89.77 30 P **P** **04 04 11.3 +0.7**
baz=274
DAWY **Dawson** 89.88 26 IAmb IAmb 04 04 12.8
comp=Z,24nm,1.1s
DAWY **Dawson** 89.88 26 P **P** **04 04 11.7 +0.7**
baz=275,SNR=27
YUK8 **Steele Glacier** 89.92 29 P **P** **04 04 12.8 +1.3**
baz=274
E29M **Blow River** 90.08 22 P **P** **04 04 12.2 +0.4**
baz=276,SNR=12
H29M **Whitestone** 90.12 24 P **P** **04 04 12.4 +0.3**
baz=276,SNR=10.0
SIM **Simferopol'** 90.17 315 *e*P **P** **04 04 10.1 -2.6**
SIM *e*S **S** **04 14 57.0 -6.0**
SIM pmax pmax
comp=Z,48nm,0.8s
G29M **Pine Creek** 90.18 23 IAmb IAmb 04 04 14.2
comp=Z,50nm,1.1s
G29M **Pine Creek** 90.18 23 P **P** **04 04 13.1 +0.7**
baz=276,SNR=21
I29M **Ogilvie Camp,** 90.22 25 IAmb IAmb 04 04 14.2
comp=Z,24nm,1.0s
I29M **Ogilvie Camp,** 90.22 25 P **P** **04 04 13.1 +0.5**
baz=276,SNR=22
PNL **Peninsula** 90.23 30 P **P** **04 04 13.3 +0.6**
baz=275
EIL **Elat** 90.28 300 LR LR 04 49 06.6
comp=Z,34nm,20.9s,baz=90,slow=38
J29N **Klondike Camp** 90.35 26 IAmb IAmb 04 04 15.5
comp=Z,42nm,1.5s
J29N **Klondike Camp** 90.35 26 P **P** **04 04 14.0 +0.8**
baz=276
M29M **Somme Creek** 90.44 28 IAmb IAmb 04 04 16.2
comp=Z,18nm,0.8s
M29M **Somme Creek** 90.44 28 P **P** **04 04 15.0 +1.3**
baz=275,SNR=28
YUK4 **Talbot Arm** 90.46 29 P **P** **04 04 15.1 +1.1**
baz=275,SNR=9.1
L29M **L29M** 90.53 27 IAmb IAmb 04 04 16.7
comp=Z,50nm,0.9s
L29M **L29M** 90.53 27 P **P** **04 04 15.3 +1.3**
baz=276,SNR=49
O29M **Mount Kennedy** 90.59 30 IAmb IAmb 04 07 07.3
comp=Z,18nm,0.3s
O29M **Mount Kennedy** 90.59 30 P **P** **04 04 15.3 +0.8**
baz=275
YUK6 **Outpost Mounta** 90.63 29 P **P** **04 04 15.8 +0.9**
baz=276
KIRS **Kirsehir-Merke** 90.64 309 ⇓P **P** **04 04 14.5 -0.7**
K29M **Barlow Dome** 90.72 26 IAmb IAmb 04 04 18.1
comp=Z,33nm,1.4s
K29M **Barlow Dome** 90.72 26 P **P** **04 04 16.0 +1.0**
baz=276,SNR=28
EPYK **Eagle Plains** 90.76 24 IAmb IAmb 04 04 17.1
comp=Z,44nm,1.1s
EPYK **Eagle Plains** 90.76 24 P **P** **04 04 15.1 0.0**
baz=277,SNR=13
BR104 **Keskin Array S** 90.82 310 P **P** **04 04 15.2 -0.9**
comp=Z,89nmcomp=Z,12nm,0.9s
BRTR **Keskin Array B** 90.82 310 P **P** **04 04 15.5 -0.6**
BRTR **Keskin Array B** 90.82 310 P **P** **04 04 14.8 -1.4**
comp=Z,7.0nm,0.8s,baz=120,slow=5.3,SNR=44
BRTR PP **PP** **04 07 54.3 +2.1**
comp=Z,1.3nm,0.9s,baz=112,slow=5.5,SNR=4.0
comp=Z,7.0nm,0.8s
BRTR **Keskin Array B** 90.82 310 *i* P **P** **04 04 15.3 -0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.6s
BR106 **Keskin Array S** 90.84 310 P **P** **04 04 15.3 -0.9**
comp=Z,69nmcomp=Z,9.7nm,1.0s
BR105 **Keskin Array S** 90.84 310 P **P** **04 04 15.3 -0.9**
comp=Z,91nmcomp=Z,12nm,1.0s
G30M **tAoh Zraii Nji** 90.88 23 IAmb IAmb 04 04 16.6
comp=Z,31nm,1.1s
G30M **tAoh Zraii Nji** 90.88 23 P **P** **04 04 15.5 -0.2**
baz=276,SNR=12
SYO **Syowa Base** 90.89 201⇓ *e*P **P** **04 04 16.8 +1.3**
SYO **Syowa Base** 90.89 201⇑ *e*PcP **PcP** **04 04 19.5 +3.0**
SYO **Syowa Base** 90.89 201⇓ *e*sP sP 04 04 33.2 -0.6
F30M **Barrier River** 90.96 22 IAmb IAmb 04 04 17.6
comp=Z,32nm,1.0s
F30M **Barrier River** 90.96 22 P **P** **04 04 16.3 +0.3**
baz=278,SNR=9.5
I30M **Mount Dempster** 91.05 25 P **P** **04 04 16.8 +0.3**
baz=277,SNR=7.2
HYT **Haines Junctio** 91.06 29 P **P** **04 04 17.5 +0.8**
baz=276,SNR=14
P29M **Windy Craggy** 91.08 30 IAmb IAmb 04 04 19.2
comp=Z,24nm,1.0s
P29M **Windy Craggy** 91.08 30 P **P** **04 04 18.0 +1.3**
baz=276,SNR=9.1
J30M **Hart River** 91.15 25 P **P** **04 04 17.8 +0.7**
baz=277,SNR=12
N30M **Aishikik Lake** 91.19 29 IAmb IAmb 04 04 19.6
comp=Z,22nm,1.1s
N30M **Aishikik Lake** 91.19 29 P **P** **04 04 18.0 +0.8**
baz=277,SNR=18
M30M **Minto, Yukon** 91.20 27 IAmb IAmb 04 04 19.6
comp=Z,26nm,1.0s
M30M **Minto, Yukon** 91.20 27 P **P** **04 04 18.4 +1.2**
baz=277,SNR=36
CSS **Mathiatis** 91.36 305 IAmb IAmb 04 04 19.6
comp=Z,30nm,0.9s
CSS **Mathiatis** 91.36 305 P **P** **04 04 17.9 -0.6**
comp=Z,35nm,0.8s
CSS pP **pP** **04 04 27.4 -4.6**
comp=Z,35nm,0.8s
P30M **Million Dollar** 91.41 30 P **P** **04 04 19.5 +1.2**
baz=277
ANTO **Ankara** 91.46 310 P **P** **04 04 18.2 -0.8**
comp=Z,5.5nm,0.8s
MAYO **Mayo, Yukon** 91.47 26 P **P** **04 04 19.6 +1.2**
baz=278
G31M **Satah River** 91.65 23 IAmb IAmb 04 04 20.2
comp=Z,34nm,1.0s
G31M **Satah River** 91.65 23 P **P** **04 04 19.1 0.0**
baz=279,SNR=12
INK **Inuvik** 91.69 21 IAmb IAmb 04 04 20.5
comp=Z,35nm,1.1s
INK **Inuvik** 91.69 21 P **P** **04 04 19.3 0.0**
comp=Z,22nm,1.0s,baz=282,slow=6.6,SNR=14
INK LR LR 04 47 19.4
comp=Z,35nm,21.0s,baz=266,slow=37
comp=Z,22nm,1.0s
INK **Inuvik** 91.69 21 P **P** **04 04 19.3 0.0**
baz=280,SNR=12
H31M **Peel River** 91.80 24 IAmb IAmb 04 04 21.9
comp=Z,25nm,1.3s
H31M **Peel River** 91.80 24 P **P** **04 04 20.1 +0.2**
baz=279,SNR=5.8
ARA0 **ARCESS Array S** 91.82 340 *e*P **P** **04 04 18.9 -1.0**
ARCES **ARCESS Array B** 91.82 340 P **P** **04 04 19.2 -0.7**
ARCES IAmb IAmb 04 04 20.1
comp=Z,38nm,0.9s
ARCES **ARCESS Array B** 91.82 340 P **P** **04 04 19.3 -0.6**
comp=Z,27nm,0.8s,baz=69,slow=6.6,SNR=45
ARCES LR LR 04 50 51.2
comp=Z,56nm,20.3s,baz=82,slow=39
comp=Z,27nm,0.8s
ARCES **ARCESS Array B** 91.82 340 P **P** **04 04 19.2 -0.7**
ARCES pmax pmax
comp=Z,39nm,0.9s
SPA0 **Spitsbergen Ar** 91.95 349 *e*P **P** **04 04 20.7 +0.3**
SPITS **Spitsbergen Ar** 91.95 349 P **P** **04 04 19.4 -1.0**
comp=Z,23nm,0.6s,baz=113,slow=12,SNR=24
SPITS LR LR 04 51 50.3
comp=Z,81nm,19.6s,baz=65,slow=40
comp=Z,23nm,0.6s
SPITS **Spitsbergen Ar** 91.95 349 P **P** **04 04 20.2 -0.2**
SPITS pmax pmax
comp=Z,33nm,0.8s
S31K **Pelican** 92.05 32 P **P** **04 04 21.8 +0.6**
baz=277
QSPA **South Pole Qui** 92.08 180 P **P** **04 04 22.3 +1.0**
QSPA IAmb IAmb 04 04 53.5
comp=Z,34nm,1.8s
QSPA **South Pole Qui** 92.08 180 P **P** **04 04 21.5 +0.2**
comp=Z,3.2nm,0.7s,baz=152,slow=3.8,SNR=17
comp=Z,3.2nm,0.7s
HAMF **Hammerfest** 92.20 341 *e*P **P** **04 04 21.0 -0.6**
SKAG **Skagway** 92.31 30 IAmb IAmb 04 04 24.7
comp=Z,22nm,0.8s
SKAG **Skagway** 92.31 30 P **P** **04 04 23.3 +1.0**
baz=278
M31M **Drury Creek, Y** 92.36 28 IAmb IAmb 04 04 24.4
comp=Z,33nm,1.3s
M31M **Drury Creek, Y** 92.36 28 P **P** **04 04 23.4 +0.9**
baz=279,SNR=17
WHY **Whitehorse** 92.36 29 P **P** **04 04 24.0 +1.3**
baz=279,SNR=23
KBS **Kingsbay** 92.49 350 IAmb IAmb 04 04 22.6
comp=Z,22nm,1.2s
KBS P **P** **04 04 22.6 -0.1**
KBS **Kingsbay** 92.49 350 *i* P **P** **04 04 22.4 -0.4**
SIT **Sitka** 92.66 33 P **P** **04 04 25.3 +1.4**
baz=278
BESE **Bessie Mountai** 92.69 31 IAmb IAmb 04 04 26.6
comp=Z,33nm,1.1s
KTK1 **Kautokeino** 92.72 339 *e*P **P** **04 04 23.3 -0.8**
R32K **Eaglecrest** 92.91 32 IAmb IAmb 04 04 27.5
comp=Z,16nm,0.9s
R32K **Eaglecrest** 92.91 32 P **P** **04 04 26.2 +1.1**
baz=279
AK09 **Malin Array Si** 92.92 321 P **P** **04 04 23.5 -1.8**
AK08 **Malin Array Si** 92.93 321 P **P** **04 04 23.8 -1.6**
AK10 **Malin Array Si** 92.94 321 P **P** **04 04 24.1 -1.3**
AK03 **Malin Array Si** 92.94 321 P **P** **04 04 24.1 -1.3**
AKASG **Malin Array Be** 92.94 321 P **P** **04 04 24.4 -1.0**
AKASG IAmb IAmb 04 04 25.7
comp=Z,28nm,1.8s
AKASG **Malin Array Be** 92.94 321 P **P** **04 04 24.1 -1.4**
comp=Z,3.3nm,0.6s,baz=70,slow=4.5,SNR=17
AKASG LR LR 04 50 19.8
comp=Z,90nm,21.6s,baz=80,slow=38
comp=Z,3.3nm,0.6s
AKASG **Malin Array Be** 92.94 321 P **P** **04 04 24.4 -1.0**
AKASG pmax pmax
comp=Z,28nm,1.8s
AKBB **Malin Array Si** 92.94 321 *c e*P **P** **04 04 24.0 -1.4**
AKBB **Malin Array Si** 92.94 321 P **P** **04 04 24.1 -1.4**
AK01 **Malin Array Si** 92.95 321 P **P** **04 04 24.3 -1.2**
KIEV **Kiev** 92.95 321 P **P** **04 04 24.6 -0.9**
KIEV **Kiev** 92.95 321 ⇑P **P** **04 04 24.1 -1.4**
KIEV **Kiev** 92.95 321 P **P** **04 04 24.6 -0.9**
KIEV pmax pmax
comp=Z,13nm,1.1s
KIEV **Kiev** 92.95 321 P **P** **04 04 24.2 -1.3**
comp=Z,48nm,1.2s
AK02 **Malin Array Si** 92.96 321 P **P** **04 04 24.3 -1.2**
AK05 **Malin Array Si** 92.97 321 P **P** **04 04 24.4 -1.1**
AK06 **Malin Array Si** 92.97 321 P **P** **04 04 24.4 -1.2**
AK07 **Malin Array Si** 92.97 321 P **P** **04 04 24.4 -1.2**
AK04 **Malin Array Si** 92.98 321 P **P** **04 04 24.4 -1.2**
AK11 **Malin Array Si** 92.98 321 P **P** **04 04 24.2 -1.4**
AK12 **Malin Array Si** 92.99 321 P **P** **04 04 24.3 -1.4**
S32K **Killisnoo** 93.00 32 P **P** **04 04 26.1 +0.6**
baz=279
PURM **Purcari** 93.00 317 ⇑P **P** **04 04 24.9 -0.8**
PURM **Purcari** 93.00 317 P **P** **04 04 24.4 -1.4**
comp=Z,2,µmcomp=Z,59nm,1.4s
AK15 **Malin Array Si** 93.01 321 P **P** **04 04 24.3 -1.4**
AK16 **Malin Array Si** 93.02 321 P **P** **04 04 24.4 -1.4**
AK14 **Malin Array Si** 93.03 321 P **P** **04 04 24.4 -1.4**
AK22 **Malin Array Si** 93.03 321 P **P** **04 04 24.4 -1.4**
AK18 **Malin Array Si** 93.04 321 P **P** **04 04 24.5 -1.4**
AK21 **Malin Array Si** 93.05 321 P **P** **04 04 24.5 -1.4**
AK17 **Malin Array Si** 93.05 321 P **P** **04 04 24.5 -1.4**
AK13 **Malin Array Si** 93.06 321 P **P** **04 04 24.6 -1.4**
AK20 **Malin Array Si** 93.07 321 P **P** **04 04 24.6 -1.4**
AK19 **Malin Array Si** 93.08 321 P **P** **04 04 24.6 -1.4**
FINES **FINESS Array B** 93.08 332 P **P** **04 04 24.9 -1.0**
comp=Z,7.6nm,0.5s,baz=57,slow=4.7,SNR=24
FINES LR LR 04 49 56.5
comp=Z,94nm,20.1s,baz=75,slow=38
comp=Z,7.6nm,0.5s
P32M **Atlin** 93.11 30 IAmb IAmb 04 04 28.2
comp=Z,16nm,1.1s
P32M **Atlin** 93.11 30 P **P** **04 04 26.7 +0.6**
baz=280
N32M **Quiet Lake** 93.15 29 P **P** **04 04 27.3 +1.0**
baz=280
MNK **Minsk** 93.25 325 *i* P **P** **04 04 24.3 -2.5**
MNK *i* 04 08 07.1
MNK *i* PPP PPP 04 10 07.2
MNK *i* S **SKSac** **04 14 55.5 -1.6**
MNK *i* SS **SS** **04 21 46.3 -0.1**
MNK *i* SSS SSS 04 25 27.0
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,30nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK MLR MLR
comp=E,263nm,23.0s
MNK MLR MLR
comp=N,150nm,19.0s
MNK MLR MLR
comp=Z,94nm,22.0s
P33M **Teslin, Yukon** 93.44 29 IAmb IAmb 04 04 29.6
comp=Z,18nm,1.1s
P33M **Teslin, Yukon** 93.44 29 P **P** **04 04 28.5 +0.8**
baz=280
JETT **Jettan, Norway** 93.56 340 *e*P **P** **04 04 27.2 -0.8**
TAOE **Nuku Hiva Isla** 93.65 99 *e*LR LR 04 34 37.4
comp=Z,257nm,24.1s
MMPY **Sheldon Lake,** 93.71 27 P **P** **04 04 30.0 +1.2**
baz=282
Q32M **Nakina River** 93.95 31 IAmb IAmb 04 04 32.6
comp=Z,26nm,1.4s
Q32M **Nakina River** 93.95 31 P **P** **04 04 31.1 +0.9**
baz=281
LUBAR **Lubar, Ukraine** 93.98 320 P **P** **04 04 28.4 -1.8**
U33K **Whale Pass** 94.01 34 P **P** **04 04 31.1 +0.9**
baz=280
YLV **Yalova** 94.01 311 P **P** **04 04 29.0 -1.7**
CRAG **Craig** 94.12 34 P **P** **04 04 32.0 +1.3**
baz=280
WRAK **Wrangell Islan** 94.38 33 IAmb IAmb 04 04 34.5
comp=Z,35nm,0.8s
WRAK **Wrangell Islan** 94.38 33 P **P** **04 04 32.9 +1.1**
baz=280
VASR **Vaslui** 94.41 317 ⇑P **P** **04 04 32.6 +0.3**
R33M **Jennings River** 94.52 30 IAmb IAmb 04 04 35.2
comp=Z,21nm,0.9s
R33M **Jennings River** 94.52 30 P **P** **04 04 34.0 +1.3**
baz=282
NOR **Nord** 94.62 355 *i* P **P** **04 04 32.0 -0.6**
NOR IAmb IAmb 04 04 33.0
comp=Z,26nm,1.0s
S34M **Telegraph Cree** 94.74 32 IAmb IAmb 04 04 36.0
comp=Z,16nm,0.9s
S34M **Telegraph Cree** 94.74 32 P **P** **04 04 34.8 +1.3**
baz=282
RNPP9 **Sopachiv** 94.92 322 P **P** **04 04 33.3 -1.2**
RNPP5 **Staryi Chortor** 94.96 322 P **P** **04 04 33.4 -1.3**
RNPP8 **Varash** 94.96 322 P **P** **04 04 33.4 -1.3**
DLBC **Dease Lake** 95.20 31 P **P** **04 04 36.1 +0.3**
comp=Z,0.6nm,0.8s,baz=287,slow=5.0,SNR=16
DLBC **Dease Lake** 95.20 31 P **P** **04 04 36.7 +1.0**
baz=283
TESR **Tescani** 95.21 317 ⇓P **P** **04 04 35.8 -0.2**
VRI **Vrincioaia** 95.25 316 ⇓P **P** **04 04 36.5 +0.3**
VRI **Vrincioaia** 95.25 316 ⇓P **P** **04 04 36.5 +0.3**
PLOR **Plostina** 95.31 316 ⇓P **P** **04 04 36.7 +0.2**
PLOR **Plostina** 95.31 316 ⇓P **P** **04 04 36.7 +0.2**
TGTN **Hyland Airport** 95.33 28 P **P** **04 04 37.3 +1.0**
baz=284
T35M **Bob Quinn** 95.40 32 IAmb IAmb 04 04 39.1
comp=Z,19nm,1.2s
T35M **Bob Quinn** 95.40 32 P **P** **04 04 37.8 +1.2**
baz=282
WTLY **Watson Lake, Y** 95.43 29 P **P** **04 04 37.7 +1.0**
baz=284
NEHR **Nehoiu** 95.61 316 ⇓P **P** **04 04 37.9 +0.1**
MLR **Muntele Rosu** 95.85 316 IAmb IAmb 04 04 39.7
comp=Z,56nm,1.8s
MLR **Muntele Rosu** 95.85 316 P **P** **04 04 39.0 -0.1**
comp=Z,5.4nm,0.6s,baz=335,slow=6.1,SNR=10
MLR LR LR 04 55 16.9
comp=Z,66nm,21.6s,baz=70,slow=40
comp=Z,5.4nm,0.6s
MLR **Muntele Rosu** 95.85 316 ⇓P **P** **04 04 38.8 -0.3**
MLR **Muntele Rosu** 95.85 316 P **P** **04 04 39.0 -0.1**
STEI **Steigen** 95.86 339 *e*P **P** **04 04 37.2 -1.2**
BURAR **Bucovina Array** 96.00 318 P **P** **04 04 39.4 -0.3**
BURAR IAmb IAmb 04 05 03.3
comp=Z,16nm,0.9s
BURAR **Bucovina Array** 96.00 318 ⇓P **P** **04 04 39.9 +0.2**
BURAR **Bucovina Array** 96.00 318 ⇓P **P** **04 04 39.9 +0.2**
BUR08 **Bucovina Ar. S** 96.00 318 IAmb IAmb 04 04 44.4
comp=Z,13nm,0.8s
FAUS **Fauske** 96.03 339 *e*P **P** **04 04 38.3 -1.0**
SUW **Suwalki** 96.05 325 *e*P **P** **04 04 38.9 -0.7**
DOPR **Dopca** 96.16 316 ⇓P **P** **04 04 40.3 -0.1**
LIRD **Liard River Hi** 96.93 29 P **P** **04 04 44.6 +1.1**
baz=286
KWP **Kalwaria Pacla** 97.25 320 *e*P **P** **04 04 44.7 -0.5**
LEIR **Leirfjorden** 97.30 338 *e*P **P** **04 04 44.2 -0.8**
LOT **Lotru** 97.36 316 ⇑P **P** **04 04 45.1 -0.9**
TOAD **Toad River Com** 97.52 30 P Pdif 04 04 46.5 +0.3
baz=287
BBB **Bella Bella** 97.69 37 LR LR 04 46 41.7
comp=Z,36nm,18.8s,baz=270,slow=34
KOTAN **Kotaneelee Air** 97.71 28 P Pdif 04 04 47.6 +0.6
baz=288
GZR **Gura Zlata** 98.06 316 ⇑P Pdif 04 04 49.1 +0.1
GZR **Gura Zlata** 98.06 316 ⇑P Pdif 04 04 49.1 +0.1
NSS **Namsos** 98.36 337 *e*P **P** **04 04 48.9 -0.9**
SURR **Surduc** 98.44 317 ⇓P **P** 04 04 44.3 -6.3
LSZ **Lusaka** 98.57 255 LR LR 04 46 06.8
comp=Z,122nm,21.5s,baz=110,slow=34
SIRR **Siria** 98.65 317 ⇓P Pdif 04 04 51.8 +0.2
DAG **Danmarks Havn** 98.76 352 *i* P **P** **04 04 50.4 -1.0**
DAG IAmb IAmb 04 04 51.3
comp=Z,29nm,0.6s
NIE **Niedzica** 98.83 321 *e*P Pdif 04 04 52.5 +0.1
OJC **Ojcow** 98.95 321 *e*P **P** **04 04 52.1 -0.6**
HFS **Hagfors** 99.28 332 P **Pdif** **04 04 52.6 -1.5**
comp=Z,6.1nm,0.9s,baz=96,slow=4.5,SNR=16
HFS LR LR 04 54 10.2
comp=Z,95nm,21.4s,baz=64,slow=38
comp=Z,6.1nm,0.9s
LIT **Litokhoron** 99.28 311 IAmb IAmb 04 04 53.6
comp=Z,19nm,1.1s
RES **Resolute Bay** 99.38 10 LR LR 04 57 11.4
comp=Z,20nm,18.8s,baz=325,slow=40
LANS **Liptovska Anna** 99.42 320 *e*P **Pdif** **04 04 55.9 +0.9**
LANS **Liptovska Anna** 99.42 320 *e*PDIFF **Pdif** **04 04 55.9 +0.9**
PSZ **Piszkesteto** 99.45 319 ⇑P **Pdif** **04 04 55.6 +0.4**
PSZ **Piszkesteto** 99.45 319 ⇑P **Pdif** **04 04 55.6 +0.4**
VYHS **Vyhne** 99.99 320 *e*P **Pdif** **04 04 58.0 +0.5**
VYHS **Vyhne** 99.99 320 *e*PDIFF **Pdif** **04 04 58.0 +0.5**
NB2 **NORSAR Subarra** 100.07 333 P **Pdif** **04 04 55.8 -1.8**
comp=Z,8.2nm,0.9s,baz=67,slow=4.6
NB2 **NORSAR Subarra** 100.07 333 P **Pdif** **04 04 55.8 -1.8**
baz=67,slow=4.6
NOA **NORSAR Array B** 100.07 333 P **Pdif** **04 04 56.0 -1.6**
comp=Z,5.4nm,0.8s,baz=67,slow=4.6,SNR=22
NOA LR LR 04 55 00.8
comp=Z,84nm,20.3s,baz=55,slow=38
comp=Z,5.4nm,0.8s
NOA **NORSAR Array B** 100.07 333 P **Pdif** **04 04 56.0 -1.6**
MORC **Moravsky Berou** 100.47 321 *e*PDIFF **Pdif** **04 05 00.9 +1.3**
NEEM **North Greenlan** 100.47 359 *i* P **Pdif** **04 04 59.3 -0.1**
NEEM IAmb IAmb 04 05 00.3
comp=Z,17nm,0.7s
JAVC **Velka Javorina** 100.64 321 *e*PDIFF **Pdif** **04 05 01.3 +0.9**
KSP **Ksiaz** 100.93 323 *e*P **Pdif** **04 05 01.7 +0.1**
YKA **Yellowknife Ar** 101.01 24 P **Pdif** **04 05 01.8 +0.1**
comp=Z,3.3nm,0.9s,baz=310,slow=4.8,SNR=4.5
YKA **Yellowknife Ar** 101.01 24 *i* P **Pdif** **04 05 02.5 +0.8**
YKA pmax pmax
comp=Z,3.0nm,0.9s
DBG **Daneborg** 101.02 351 *i* P **Pdif** **04 05 01.6 +0.1**
DBG IAmb IAmb 04 05 02.0
comp=Z,14nm,0.8s
VRAC **Vranov** 101.19 321 *e*PDIFF **Pdif** **04 05 03.4 +0.6**
KRUC **Moravsky** 101.39 321 *e*PDIFF **Pdif** **04 05 03.3 -0.4**
TROLL **Troll, Antarti** 102.07 195 ⇓P **Pdif** **04 05 15.8 +9.4**
comp=Z,41nm,0.7s
BRG **Berggiesshubel** 102.34 323 ⇓ *e*Pif **Pdif** **04 05 08.6 +0.8**
BRG Amp 04 05 10.2
comp=Z,5.4nm,1.0s
CLL **Collm** 102.75 324 *e*P **Pdif** **04 05 09.0 -0.7**
CLL **Collm** 102.75 324 *e*Pdif **Pdif** **04 05 09.0 -0.7**
CLL *e*PP **PP** **04 09 24.0 +0.6**
BLS5 **Blasjo** 102.91 333 *e*P **Pdif** **04 05 09.9 -0.3**
GERES **GERESS Array B** 103.15 321 Pdiff **Pdif** **04 05 11.3 -0.3**
comp=Z,0.8nm,0.6s,baz=69,slow=7.3,SNR=7.5
GERES PP **PKiKP** **04 09 32.4 +1.3**
comp=Z,0.8nm,0.9s,baz=64,slow=4.8,SNR=3.4
SNAA **Sanae** 103.65 195 ⇓P **Pdif** **04 05 16.9 +3.6**
comp=Z,22nm,1.0s
VNA1 **Neumayer--Stat** 105.66 194 ⇓P **Pdif** **04 05 21.3 -0.8**
comp=Z,2.4nm,1.2s
NVAR **Mina Array Bea** 108.12 48 Pdiff **Pdif** **04 05 35.2 +1.1**
comp=Z,0.6nm,0.7s,baz=276,slow=4.5,SNR=4.8
NVAR PP **PP** **04 10 04.1 +0.2**
comp=Z,1.8nm,1.1s,baz=282,slow=7.3,SNR=5.7
NVAR PKKPbc **PKKPab** **04 21 01.6 -5.4**
comp=Z,0.6nm,0.7s,baz=111,slow=5.5,SNR=4.9
PDAR **Pinedale Array** 112.68 41 PKiKP **PKiKP** **04 09 49.9 +0.5**
comp=Z,0.7nm,0.6s,baz=184,slow=1.5,SNR=7.0
PDAR PKKPbc **PKKPbc** **04 20 40.4 +1.4**
comp=Z,1.3nm,0.8s,baz=120,slow=5.8,SNR=9.7
RSSD **Black Hills** 115.56 38 **PKiKP** **04 09 53.8 -1.0**
RSSD **Black Hills** 115.56 38 PKIKP **PKiKP** **04 09 53.8 -1.0**
MVCO **Mesa Verde** 115.80 47 **PKiKP** **04 09 55.0 -0.4**
ISCO **Idaho Springs** 116.68 43 **PKPdf** **04 09 57.1 -0.1**
ISCO **Idaho Springs** 116.68 43 PKIKP **PKPdf** **04 09 57.1 -0.1**
ANMO **Albuquerque** 118.25 48 **PKPdf** **04 09 59.7 -0.5**
ANMO **Albuquerque** 118.25 48 PKIKP **PKPdf** **04 09 59.7 -0.5**
ESDC **Sonseca Array** 118.46 318 PP **PP** **04 11 18.1 +1.3**
comp=Z,1.7nm,0.9s,baz=58,slow=6.7,SNR=4.9
PGAV **Gavieira, Arco** 119.98 322 *e*PKPdf **PKiKP** **04 10 04.2 +1.0**
POLO **Lamas de Olo** 120.02 322 *e*PKPdf **PKiKP** **04 10 04.2 +0.9**
PCBR **Castelo Branco** 120.67 320 *e*PKPdf **PKiKP** **04 10 05.3 +0.8**
PMRV **Marv??o** 120.84 319 *e*PKPdf **PKiKP** **04 10 07.5 +2.6**
PCAS **Casmilo, Conde** 121.21 321 *e*PKPdf **PKiKP** **04 10 06.3 +0.8**
PSARD **Sardoal** 121.25 320 *e*PKPdf **PKiKP** **04 10 09.5 +3.8**
PBAR **Barrancos** 121.28 318 *e*PKPdf **PKiKP** **04 10 06.6 +0.8**
EVO **Evora** 121.74 319 *e*PKPdf **PKiKP** **04 10 07.9 +1.3**
SCHQ **Schefferville** 122.14 9 PKP **PKiKP** **04 10 07.3 +0.3**
comp=Z,6.3nm,0.5s,baz=311,slow=1.8,SNR=28
PARRA **Arraiolos** 122.25 320 *e*PKPdf **PKiKP** **04 10 07.8 +0.1**
TXAR **Lajitas Array** 122.74 53 PKP **PKiKP** **04 10 09.6 +0.5**
comp=Z,2.0nm,0.7s,baz=216,slow=0.8,SNR=23
TXAR PKKPbc **PKKPab** **04 20 03.6 +1.1**
comp=Z,0.5nm,0.8s,baz=54,slow=5.1,SNR=3.6
TORD **Torodi Ar. Bea** 123.16 287 PKP **PKPdf** **04 10 09.7 -0.2**
comp=Z,8.4nm,0.8s,baz=355,slow=3.5,SNR=5.4
CCM **Cathedral Cave** 126.93 37 **PKPdf** **04 10 16.3 -0.2**
CCM **Cathedral Cave** 126.93 37 PKIKP **PKPdf** **04 10 16.3 -0.2**
WCI **Wyandotte Cave** 129.68 34 **PKPdf** **04 10 21.9 +0.3**
WCI **Wyandotte Cave** 129.68 34 PKIKP **PKPdf** **04 10 22.0 +0.3**
DBIC **Dimbokro** 130.64 281 PKP **PKiKP** **04 10 24.9 -0.2**
comp=Z,6.2nm,0.8s,baz=317,slow=0.4,SNR=7.2
SSPA **Standing Stone** 131.94 25 **PKPdf** **04 10 25.9 -0.1**
PLCA **Paso Flores** 138.63 160 PKhKP PKPpre 04 10 29.3
comp=Z,2.3nm,1.0s,baz=270,slow=2.0,SNR=3.1
PLCA PKP **PKiKP** **04 10 39.8 -0.8**
comp=Z,7.1nm,0.9s,baz=180,slow=8.5,SNR=8.4
AAGR **Agrelo** 146.05 157 *e*P **PKPab** **04 10 54.2 +0.8**
ARCO **CERRO ARCO** 146.22 156 *e*P **PKPab** **04 10 54.5 +0.4**
ASAL **Salagasta** 146.48 156 *e*P **PKPab** **04 10 55.0 0.0**
AUSP **Uspallata** 146.58 155 *e*P **PKPab** **04 10 55.5 -0.1**
RTLS **Leoncito** 146.98 155 *e*P **PKPdf** **04 10 52.2 -1.6**
CFA **Coronel Fontan** 147.59 156 PKP **PKPdf** **04 10 55.5 +1.0**
comp=Z,22nm,0.7s,baz=229,slow=3.0,SNR=40
CFA PKPbc **PKPbc** **04 10 57.9 +0.7**
comp=Z,22nm,0.7s,baz=246,slow=4.3,SNR=43
ACCO **Cerro Coronel** 148.12 154 *e*P **PKiKP** **04 11 00.1 -0.7**
AROD **Rodeo** 148.30 153 *e*P **PKiKP** **04 11 00.8 -0.3**
ACDV **Cuesta del Vie** 148.46 154 *e*P **PKPbc** **04 11 00.4 +0.7**

ACHE	**Chepes**	**148.60**	**158**	*e*P		**PKPbc**	**04 11 00.6**	**+0.6**
LCO	**Las Campanas**	**148.68**	**150**			**PKPbc**	**04 11 00.1**	**-0.3**
LCO	**Las Campanas**	**148.68**	**150**		PKP2	**PKPbc**	**04 11 00.1**	**-0.3**
AVFE	**Valle Fertil**	**148.74**	**156**	*e*P		**PKPbc**	**04 11 00.3**	**0.0**
AC04	**Llanos de Chal**	**149.15**	**149**			**PKPbc**	**04 11 01.3**	**0.0**
APLL	**PUNTA DE LOS L**	**149.33**	**158**	*e*P		**PKPbc**	**04 11 02.1**	**+0.4**
ACLC	**CERRO LA CRUZ**	**150.03**	**156**	*e*P		**PKiKP**	**04 11 04.2**	**-0.4**
PLTB	**Pedras Altas**	**150.56**	**180**	*e*P		**PKPdf**	**04 10 60.0**	**+0.7**
CYA	**Choya**	**151.36**	**157**⇓	*e*P		**PKPbc**	**04 11 05.8**	**-0.8**
CPSB	**Cacapava Do Su**	**151.91**	**180**	*e*P		**PKPdf**	**04 11 02.8**	**+1.5**
FSA	**Cafayete**	**153.35**	**154**	*e*P		**PKPbc**	**04 11 11.4**	**0.0**
ATAH	**Atahualpa**	**154.72**	**102**	PKP		**PKPdf**	**04 11 06.9**	**+0.6**
	comp=Z,6.2nm,0.8s,baz=238,slow=3.4,SNR=5.6							
ATAH				PKPbc		**PKiKP**	**04 11 15.8**	**+0.9**
	comp=Z,16nm,0.8s,baz=328,slow=0.8,SNR=12							
ATAH				PKPab		**PKPab**	**04 11 31.3**	**+1.4**
	comp=Z,13nm,0.9s,baz=180,slow=4.0,SNR=4.5							
OTAV	**Otavalo**	**154.96**	**85**	*e*P		**PKPdf**	**04 11 07.2**	**+0.4**
CPUP	**Villa Florida**	**155.70**	**172**	PKP		**PKPdf**	**04 11 06.8**	**0.0**
	comp=Z,0.9nm,1.0s,baz=243,slow=8.4,SNR=3.9							
CPUP				PKPbc		**pPKPdf**	**04 11 17.1**	**-3.6**
	comp=Z,2.5nm,0.9s,baz=341,slow=1.6,SNR=11							
CPUP				PKPab		**PKPab**	**04 11 33.5**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=92,slow=2.3,SNR=4.7							
ROSC	**El Rosal**	**158.08**	**71**	PKP		**PKPdf**	**04 11 10.6**	**-0.1**
	comp=Z,5.7nm,0.3s,baz=151,slow=4.5,SNR=5.5							
ROSC				PKPab		**PKPab**	**04 11 45.8**	**+1.5**
	comp=Z,29nm,0.8s,baz=121,slow=6.0,SNR=8.0							
SDV	**Santo Domingo**	**159.71**	**57**	PKP		**PKPdf**	**04 11 12.7**	**+0.4**
	comp=Z,9.2nm,0.4s,baz=332,slow=3.6,SNR=6.3							
SDV				PKPab		**PKPab**	**04 11 52.5**	**+1.5**
	comp=Z,6.9nm,0.3s,baz=298,slow=6.6,SNR=4.0							
LPAZ	**La Paz**	**159.90**	**135**	PKP		**PKPdf**	**04 11 13.1**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=136,slow=0.7,SNR=6.9							
CZSB	**Cruzeiro do Su**	**160.10**	**107**	*e*P		**PKPdf**	**04 11 13.4**	**+0.9**
AQDB	**Aquidauana**	**161.68**	**173**	*e*P		**PKPdf**	**04 11 15.7**	**+1.7**
BBSD	**Serra de San D**	**163.52**	**155**	*e*P		**PKPdf**	**04 11 17.0**	**+1.0**
SIV	**San Ignacio**	**164.38**	**152**	PKP		**PKPdf**	**04 11 17.8**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=224,slow=1.9,SNR=16							
SIV				PKPab		**PKPab**	**04 12 12.6**	**+1.6**
	comp=Z,3.8nm,0.7s,baz=218,slow=3.9,SNR=6.2							
BDFB	**Brasilia**	**165.56**	**202**	PKP		**PKPdf**	**04 11 18.3**	**+0.4**
	comp=Z,3.2nm,0.9s,baz=162,slow=6.0,SNR=3.2							
PTLB	**Pontes e Lacer**	**165.69**	**158**	*e*P		**PKPdf**	**04 11 18.4**	**+0.6**
VILB	**Vilhena**	**167.40**	**149**	*e*P		**PKPdf**	**04 11 19.9**	**+0.6**
TEFE	**Tefe**	**168.81**	**97**	*e*P		**PKPdf**	**04 11 20.7**	**+0.5**
ITTB	**Itaituba**	**176.89**	**135**	*e*P		**PKPdf**	**04 11 24.1**	**+0.5**

GCG 06 03:53:23.6±2.4, 16°20N×90°59W, h5km±13km, MD3.8, ML3.4, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETF	**Flores**	**0.99**	**44**	*i* P	Pg	03 53 41.6	-1.1
PETF				*e*S	Sg	03 53 55.1	-0.5
PETF				IAML		03 53 59.6	
	comp=N,955nm,0.3s						
QUIS	**Sacapulas**	**1.03**	**208**	*e*P	Pg	03 53 42.2	-1.2
QUIS				IAML		03 54 00.9	
	comp=E,1μm,0.3s						
HUEH	**Huehuetenango**	**1.24**	**225**	*i* P	Pg	03 53 45.9	-1.5
HUEH				*i* S	Sg	03 54 03.0	-0.6
HUEH				IAML		03 54 12.2	
	comp=N,977nm,0.7s						
CCIG	**Comitan**	**1.49**	**273**	*i* P	Pb	03 53 52.0	+0.1
CCIG				*i* S	Sg	03 54 13.4	+1.8
CCIG				IAML		03 54 15.9	
	comp=N,143nm,0.5s						
SOKI	**Kika Raxquin**	**1.58**	**210**	IAML		03 54 17.8	
	comp=N,352nm,0.8s						
SARH	**Santa Rosa de**	**2.26**	**129**	*e*S	Sb	03 54 32.8	-0.5

*SDD **06** 04:00:21.8±0.7, 18°19N×72°07W, h16km±30km, MD2.7, ML2.1, MW2.5*
*OSPL **06** 04:00:23.2±1.3, 18°23N±0°04×71°88W±0°04, h12km±12km, ML1.9*
ISC 06 04:00:24.2±1.3, 18°23N±0°04×71°88W±0°04, h12km±12km, n8, σ0s80/15, 3C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.26**	**6**⇑	*e*Pg	**Pg**	**04 00 29.1**	**-0.5**
JIDR			⇑	*e*Sg	**Sg**	**04 00 33.6**	**+0.5**
JIDR				IAML		04 00 34.2	
	comp=N,207nm,0.2s						
LODU1	**El Espartillar**	**0.40**	**73**	*i* P	**Pg**	**04 00 31.6**	**-0.5**
LODU1				*e*S	**Sg**	**04 00 38.2**	**+0.7**
LODU1				IAML		04 00 41.2	
	comp=Z,210nm,0.4s						
LOBH	**Bahia de las A**	**0.43**	**148**	*i* P	**Pg**	**04 00 32.6**	**-0.1**
LOBH				*e*S	**Sg**	**04 00 39.1**	**+0.6**
LOBH				IAML		04 00 39.4	
	comp=Z,64nm,1.3s						
PAPH	**Port-au-Prince**	**0.49**	**306**	*i* P	**Pg**	**04 00 33.8**	**-0.1**
PAPH				*e*S	**Sb**	**04 00 41.9**	**-0.2**
PAPH				IAML		04 00 43.1	
	comp=Z,32nm,0.7s						
NEDR	**Neiba UASD**	**0.50**	**60**	*e*Pg	**Pg**	**04 00 32.9**	**-1.1**
NEDR			⇑	*e*Sg	**Sb**	**04 00 42.1**	**-0.2**
NEDR				IAML		04 00 42.4	
	comp=N,117nm,0.2s						
PODR	**Polo**	**0.57**	**97**	*i* P	**Pg**	**04 00 35.7**	**+0.4**
PODR				*e*S	**Sb**	**04 00 45.0**	**+0.6**
PODR	**Polo**	**0.57**	**97**	*e*Pg	**Pg**	**04 00 35.3**	**-0.1**
PODR			⇓	*e*Sg	**Sb**	**04 00 45.1**	**+0.7**
PODR				IAML		04 00 54.3	
	comp=N,55nm,0.5s						
LOVI	**El Cajuil, Ovi**	**0.65**	**132**	*i* P	**Pg**	**04 00 35.0**	**-1.8**
LOVI				IAML		04 00 49.6	
	comp=Z,68nm,0.9s						

*IDC **06** 04:01:06.9±2.5, 10°14S×119°49E, h0km, mb3.9/2, mbtmp3.8/5, ML3.2/3, Error ellipse: s-maj=155.6km s-min=23.0km az=55.0*
*DJA **06** 04:01:10.2±0.7, 10°S±4°×11°9E±°, h10km, M4.1/6, mb4.7/1, MLv3.8/6*
ISC 06 04:01:10.6±1.0, 10°62S±0°07×119°10E±0°06, h35km, n13, σ1s98/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.01**	**16**	P	**Pn**	**04 01 26.5**	**-1.8**
WBSI				S	**Sn**	**04 01 39.4**	**-1.9**
BASI	**Baing, Sumba**	**1.50**	**75**	P	**Pn**	**04 01 36.0**	**+0.9**
BASI				S	**Sn**	**04 01 55.6**	**+2.1**
WSI	**Waingapu**	**1.51**	**51**	P	**Pn**	**04 01 35.5**	**+0.4**
WSI				S	**Sn**	**04 01 56.2**	**+2.7**
PLAI	**Plampang**	**2.21**	**324**	P	**Pn**	**04 01 44.9**	**+0.1**
TWSI	**Taliwang, Sumb**	**2.88**	**310**	P	**Pn**	**04 01 55.6**	**+1.6**
EDFI	**Ende, Flores**	**3.15**	**54**	P	**Pn**	**04 01 57.5**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.65**	**17**	P	**Pn**	**04 02 20.3**	**+1.9**
BSSI				S	**Sn**	**04 03 11.6**	**+0.4**
BKSI	**Bulukumba**	**5.36**	**11**	P	**Pn**	**04 02 29.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**9.77**	**140**	Pn	**Pn**	**04 03 29.3**	**+0.6**
	0.4nm,0.3s,baz=323,slow=9.6,SNR=7.6						
FITZ				Sn	**Sn**	**04 05 12.7**	**-4.5**
	0.2nm,0.3s,baz=294,slow=21,SNR=1.5 4.5nm,0.7s						
WRA	**Warramunga Arr**	**17.37**	**124**	P	**Pn**	**04 05 08.6**	**-1.8**
	0.1nm,0.3s,baz=305,slow=13,SNR=2.3 0.6nm,0.7s						
ASAR	**Alice Springs**	**19.17**	**134**	P	**Pn**	**04 05 34.9**	**+2.5**
	0.1nm,0.3s,baz=314,slow=12,SNR=6.7 2.6nm,0.9s						
SONM	**Songino Array**	**59.28**	**350**	P	**P**	**04 11 08.0**	**-0.8**
	1.4nm,0.6s,baz=172,slow=8.3,SNR=9.0 1.4nm,0.6s						
MKAR	**Makanchi Array**	**65.93**	**333**	P	**P**	**04 11 52.6**	**-0.5**
	0.7nm,0.6s,baz=157,slow=6.6,SNR=4.5 0.7nm,0.6s						

GCG 06 04:09:22.0±0.3, 13°24N×89°57W, h62km±4km, MD3.2, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.43**	**16**	*i* P	Pn	04 09 33.4	-0.2
JAYA				*i* S	Sn	04 09 42.2	+0.2
NUBE	**Las Nubes**	**0.69**	**343**	*i* P	Pn	04 09 36.8	+0.3
NUBE				*i* S	Sn	04 09 48.4	+1.4
MTO3	**Montecristo**	**1.17**	**10**	*i* P	Pn	04 09 43.2	+0.6

*IDC **06** 04:13:22.8±0.8, 13°60N×144°41E, h139km±46km, mb3.2/4, mbtmp3.7/4, Error ellipse: s-maj=175.2km s-min=16.0km az=86.0*
*NEIC **06** 04:13:23.5±1.6, 13°61N±0°07×144°5E±0°2, h148km±4km, mb4.2/12, Error ellipse: s-maj=25.3km s-min=10.1km az=96.0*
ISC 06 04:13:22.9±0.9, 13°6N±0°1×144°5E±0°2, h150km±10km, n19, σ0s85/20, mb4.1/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**95**	P	**Pn**	**04 13 44.1**	**+0.4**
	1μm,0.3s,baz=270,slow=1.0,SNR=72						
GUMO				S	**Sn**	**04 13 58.9**	**-0.6**
	1μm,0.3s,baz=125,slow=22,SNR=31						
WB0	**Warramunga Arr**	**34.64**	**197**	P	**P**	**04 19 58.3**	**+0.3**
WB0				IAmb	IAmb	04 20 09.8	
	comp=Z,11nm,1.5s						
WR8	**Warramunga Arr**	**34.79**	**197**	P	**P**	**04 19 59.8**	**+0.5**
WR8				IAmb	IAmb	04 20 03.1	
	comp=Z,6.0nm,1.4s						
WRA	**Warramunga Arr**	**34.82**	**197**	P	**P**	**04 20 00.1**	**+0.5**
WRA	**Warramunga Arr**	**34.82**	**197**	P	**P**	**04 20 00.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=19,slow=9.1,SNR=16						
	comp=Z,0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**36.60**	**211**	P	**P**	**04 20 15.7**	**+1.0**
ASAR	**Alice Springs**	**38.48**	**196**	P	**P**	**04 20 29.6**	**-1.0**
ASAR	**Alice Springs**	**38.48**	**196**	P	**P**	**04 20 30.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=17,slow=12,SNR=12						
	comp=Z,0.4nm,0.4s						
FORT	**Forrest**	**46.89**	**199**	P	**P**	**04 21 37.8**	**-0.5**
FORT				IAmb	IAmb	04 21 51.5	
	comp=Z,5.4nm,1.0s						
TOO	**Toolangi**	**50.93**	**179**	P	**P**	**04 22 08.7**	**-0.2**
TOO				IAmb	IAmb	04 22 11.8	
	comp=Z,7.2nm,1.4s						
LSA	**Lhasa**	**51.66**	**297**	P	**P**	**04 22 14.9**	**-0.3**
EVN	**Everest**	**55.32**	**295**	P	**P**	**04 22 40.5**	**-1.6**
MKAR	**Makanchi Array**	**61.21**	**316**	P	**P**	**04 23 23.1**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=92,slow=6.6,SNR=2.6						
	comp=Z,0.5nm,0.6s						
K17K	**Iditarod**	**63.23**	**26**	P	**P**	**04 23 35.8**	**+0.7**
KURBB	**Kurchatov Arra**	**64.36**	**320**	P	**P**	**04 23 42.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=99,slow=6.8,SNR=5.7						
	comp=Z,0.3nm,0.3s						
D25K	**Kavik River**	**70.01**	**21**	P	**P**	**04 24 18.8**	**+0.8**
D25K				IAmb	IAmb	04 24 26.9	
	comp=Z,6.3nm,1.5s						
BMAR	**Burnt Mountain**	**70.21**	**23**	P	**P**	**04 24 17.9**	**-1.3**
L27K	**Beaver Creek,**	**70.56**	**28**	P	**P**	**04 24 20.9**	**-0.6**
L27K				IAmb	IAmb	04 24 39.6	
	comp=Z,4.6nm,1.5s						
C27K	**Jago River**	**71.00**	**21**	P	**P**	**04 24 24.6**	**+0.7**

RSNC 06 04:20:14.8±0.0, 10°N±1°×7°3W±°, h106km±2km, M2.7, mB4.8, mb3.4, ML2.3, Mw(mB)4.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.90**	**28**	P	Pn	04 20 34.9	+0.1
CRJC				S	Sn	04 20 49.9	+0.1
ARGC	**Ariguani, Magd**	**0.99**	**249**	P	Pn	04 20 36.1	+0.5
ARGC				S	Sn	04 20 52.6	+1.4
SMRC	**Santa Marta, M**	**1.30**	**316**	P	Pn	04 20 39.4	+0.4
SMRC				S	Sn	04 20 57.1	-0.2
AGCC	**Aguachica**	**1.72**	**189**	P	Pn	04 20 43.5	-0.7
AGCC				S	Sn	04 21 05.7	-0.8
SJCC	**San Jacinto, C**	**1.87**	**260**	P	Pn	04 20 45.5	-0.5
SJCC				S	Sn	04 21 09.8	0.0
URIC	**Uribia, Colomb**	**1.96**	**41**	P	Pn	04 20 46.8	-0.3
URIC				S	Sn	04 21 11.7	-0.1
OCAC	**Ocana**	**1.97**	**180**	P	Pn	04 20 46.1	-1.3
OCAC				S	Sn	04 21 10.5	-1.7
EZNC	**La Esperanza**	**2.58**	**180**	P	Pn	04 20 54.5	-0.7
EZNC				S	Sn	04 21 25.1	-1.1
VMM07	**Puerto Wilches**	**2.89**	**191**	P	Pn	04 20 59.0	-0.3
VMM07				S	Sn	04 21 33.5	-0.1
PAMC	**Pamplona, Colo**	**2.92**	**168**	P	Pn	04 20 59.2	-1.0
PAMC				S	Sn	04 21 33.6	-1.4
VMM09	**Lebrija**	**3.07**	**180**	P	Pn	04 21 01.9	+0.1
VMM09				S	Sn	04 21 37.6	-0.5
ZARC	**Zaragoza, Cauc**	**3.11**	**210**	P	Pn	04 21 02.0	-0.2
ZARC				S	Sn	04 21 35.1	-3.7
BRJC	**Barrancabermej**	**3.25**	**188**	P	Pn	04 21 03.6	-0.5
BRJC				S	Sn	04 21 41.6	-0.6
UREC	**San Jos de Ur**	**3.29**	**222**	P	Pn	04 21 04.4	-0.2
UREC				S	Sn	04 21 39.2	-3.9
VMM10	**El Carmen**	**3.46**	**187**	P	Pn	04 21 06.0	-0.8
VMM10				S	Sn	04 21 45.8	-1.2
BARC	**Barichara**	**3.61**	**178**	P	Pn	04 21 08.4	-0.7
BARC				S	Sn	04 21 50.2	-0.8
PTBC	**PUERTO BERRIO,**	**3.83**	**197**	P	Pn	04 21 11.4	-0.5
PTBC				S	Sn	04 21 52.7	-3.3
DBBC	**Dabeiba**	**4.28**	**222**	P	Pn	04 21 17.1	-0.9
DBBC				S	Sn	04 22 01.5	-5.6
HELC	**Santa Helena**	**4.57**	**209**	P	Pn	04 21 23.3	+1.2
HELC				S	Sn	04 22 12.4	-1.9
NORC	**Norcasia**	**4.88**	**199**	P	Pn	04 21 26.4	+0.4
CBOC	**Ciudad Bolivar**	**5.09**	**212**	P	Pn	04 21 29.7	+0.7

*NEIC **06** 04:27:04.9±1.4, 45°88N±0°02×111°36W±0°02, h5km±1km, mb4.0/15, ML4.1/72, Mwr4.1/41, ML4.3/29(BUT), Error ellipse: s-maj=3.4km s-min=2.4km az=26.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.27; Mθθ-1.14; Mϕϕ1.42; Mrθ-0.46; Mθϕ-1.08; Mϕr-0.23; Fault plane solution: M0 1.77000×10¹⁵ NP1: ϕs116.63000°, δ75.09000°, λ-167.13000°. NP2: ϕs23.26000°, δ77.57000°, λ-15.27000°. Principal axes: T 1.8125, Plg2.0000°, Azm70.0000°; N -0.0951, Plg70.0000°, Azm165.0000°; P -1.7174, Plg20.0000°, Azm340.0000°;*
*NEIC **06** 04:27:04.8, 45°88N×111°37W, h5km*
*IDC **06** 04:27:04.2±0.7, 45°91N×111°32W, h0km, mb3.8/6, mbtmp3.6/12, ML3.9/4, MS3.2/9, Error ellipse: s-maj=13.1km s-min=7.5km az=67.0*
*BUT **06** 04:27:05.5±1.5, 45°86N±0°02×111°36W±0°02, h7km±3km, Error ellipse: s-maj=2.8km s-min=2.1km az=201.0*
ISC 06 04:27:04.9±0.8, 45°87N±0°02×111°36W±0°02, h6km±5km, n144, σ1s09/138, mb4.1/11, MS3.4/3, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin River**	**0.04**	**33**		**Pg**	**04 27 06.3**	**-0.2**
NQMA					**Sg**	**04 27 07.9**	**+0.3**
SXM	**Sixmile**	**0.30**	**21**		**Pg**	**04 27 11.5**	**+0.6**
BOZ	**Bozeman (W)**	**0.33**	**214**	Pg	**Pg**	**04 27 11.9**	**+0.4**
BOZ				Sg	**Sg**	**04 27 15.9**	**0.0**
BOZ				IAML		04 27 16.7	
	15μm,0.2s						
BOZ				IAML		04 27 16.9	
	12μm,0.2s						
BZMT	**Bozeman Pass**	**0.46**	**119**		**Pg**	**04 27 14.6**	**+0.8**
MSMT	**Mission Creek**	**0.75**	**108**		**Pg**	**04 27 19.8**	**+0.5**
LRM	**Limekiln Ridge**	**0.76**	**267**	Pg	**Pg**	**04 27 19.8**	**+0.2**
BGMT	**Barton Gulch**	**0.80**	**217**		**Pg**	**04 27 20.5**	**+0.2**
BUT	**Butte**	**0.85**	**280**		**Pg**	**04 27 21.6**	**+0.4**
HBMT	**Mount Humbug**	**0.87**	**265**		**Pg**	**04 27 21.9**	**+0.1**
HRY	**Holter Researc**	**0.90**	**339**	Pg	**Pg**	**04 27 22.3**	**+0.1**
CRMT	**Chrome Mountai**	**0.95**	**115**		**Pg**	**04 27 22.9**	**-0.3**
DLMT	**Dillon**	**1.00**	**240**	Pg	**Pg**	**04 27 24.1**	**-0.1**
DLMT				Sg	**Sg**	**04 27 37.5**	**+0.3**
DLMT				IAML		04 27 40.9	
	4μm,0.8s						
DLMT				IAML		04 27 42.5	
	4μm,0.3s						
YMV	**Mammoth Vault**	**1.02**	**152**		**Pg**	**04 27 24.3**	**-0.2**
YHL	**Hebgen Lake**	**1.03**	**173**	Pg	**Pg**	**04 27 24.2**	**-0.5**
YHL				Sg	**Sg**	**04 27 37.4**	**-0.7**
YHL				IAML		04 27 44.1	
	comp=E,8μm,0.9s						
YHL				IAML		04 27 47.8	
	comp=N,4μm,1.0s						
QLMT	**Earthquake Lak**	**1.04**	**183**	Pg	**Pg**	**04 27 24.4**	**-0.5**
GCR	**Grayling Creek**	**1.09**	**170**		**Pg**	**04 27 25.7**	**-0.1**
BEMT	**Mount Belmont**	**1.10**	**323**		**Pb**	**04 27 26.3**	**-0.2**
YHB	**Horse Butte**	**1.13**	**174**		**Pg**	**04 27 26.2**	**-0.3**
YHB	**Horse Butte**	**1.13**	**174**	IAML		04 27 49.4	
	comp=N,3μm,0.4s						
YHB				IAML		04 27 50.5	
	comp=E,3μm,0.7s						
YMC	**Maple Creek**	**1.14**	**167**		**Pg**	**04 27 26.4**	**-0.4**
YHH	**Holmes Hill**	**1.14**	**161**	Pg	**Pg**	**04 27 26.4**	**-0.4**
TPMT	**Tepee Creek**	**1.16**	**191**		**Pb**	**04 27 27.4**	**-0.1**
YPDC	**Denny Creek**	**1.17**	**176**		**Pg**	**04 27 27.0**	**-0.3**
YNM	**Yellowstone No**	**1.24**	**158**	Pg	**Pg**	**04 27 28.2**	**-0.5**
YNR	**Norris Junctio**	**1.25**	**157**	Pg	**Pg**	**04 27 28.6**	**-0.4**
YNR				Sg	**Sb**	**04 27 45.5**	**0.0**
YPM	**Purple Mountai**	**1.26**	**164**		**Pg**	**04 27 29.1**	**-0.1**
LYMT	**Lyon Mountain**	**1.27**	**330**	Pg	**Pb**	**04 27 29.4**	**0.0**
YPWB	**West Boundary**	**1.28**	**172**		**Pg**	**04 27 29.5**	**0.0**
YNE	**Yellowstone No**	**1.29**	**132**	Pg	**Pn**	**04 27 29.2**	**-0.5**
YNE				IAML		04 27 53.1	
	comp=N,5μm,0.8s						
YNE				IAML		04 27 55.6	
	comp=E,3μm,0.8s						
YPSB	**Soda Butte**	**1.31**	**139**		**Pn**	**04 27 29.5**	**-0.4**
YUF	**Upper Falls**	**1.31**	**152**		**Pn**	**04 27 29.5**	**-0.4**
YMP	**Mirror Lake Pl**	**1.42**	**143**		**Pb**	**04 27 31.9**	**0.0**
YMP	**Mirror Lake Pl**	**1.42**	**143**	IAML		04 27 56.9	
	comp=N,4μm,0.4s						
YMP				IAML		04 27 57.1	
	comp=E,4μm,0.6s						
YFT	**Old Faithful**	**1.47**	**165**		**Pb**	**04 27 32.5**	**-0.3**
MOMT	**Monida**	**1.47**	**210**		**Pb**	**04 27 33.0**	**+0.2**
LKWY	**Lake**	**1.47**	**152**		**Pb**	**04 27 32.9**	**+0.1**
LKWY				IAML		04 28 01.3	
	comp=E,1μm,0.8s						
YPPC	**Pelican Cone**	**1.48**	**146**		**Pg**	**04 27 34.1**	**+0.8**
MCMT	**McKenzie Canyo**	**1.48**	**226**		**Pb**	**04 27 32.9**	**-0.1**
YLT	**Little Thumb C**	**1.54**	**159**		**Pg**	**04 27 34.9**	**+0.5**
BPMT	**Black Pine Rid**	**1.56**	**292**		**Pn**	**04 27 33.4**	**0.0**
OVMT	**Ovando**	**1.64**	**317**		**Pn**	**04 27 34.6**	**+0.2**
RLMT	**Red Lodge**	**1.65**	**116**		**Pb**	**04 27 35.3**	**-0.6**
YTP	**The Promontory**	**1.67**	**152**		**Pb**	**04 27 35.9**	**-0.3**
CHMT	**Chamberlain Mo**	**1.67**	**309**		**Pn**	**04 27 35.2**	**+0.2**
MCID	**Moose Creek**	**1.69**	**176**		**Pb**	**04 27 36.2**	**-0.1**
SLMT	**Seeley Lake**	**2.01**	**314**		**Pn**	**04 27 39.7**	**+0.2**
MSO	**Missoula**	**2.03**	**299**	Pn	**Pn**	**04 27 39.9**	**+0.2**
VCMT	**Victor**	**2.04**	**287**		**Pn**	**04 27 39.4**	**-0.6**
FXWY	**Fox Creek**	**2.25**	**174**		**Pb**	**04 27 44.7**	**-1.3**
PCMT	**Pistol Creek**	**2.28**	**307**		**Pn**	**04 27 43.5**	**+0.3**
LOHW	**Long Hollow**	**2.32**	**166**		**Pb**	**04 27 46.5**	**-0.8**
TPAW	**Teton Pass**	**2.40**	**173**		**Pb**	**04 27 48.4**	**-0.3**
TPAW	**Teton Pass**	**2.40**	**173**	IAML		04 28 33.6	
	comp=E,778nm,0.9s						
EGMT	**Eagleton**	**2.42**	**27**	Pn	**Pn**	**04 27 45.7**	**+0.6**
ALMT	**Alberton, Mont**	**2.42**	**300**		**Pg**	**04 27 50.7**	**-0.7**
SWMT	**Swartz Lake**	**2.44**	**313**		**Pn**	**04 27 45.8**	**+0.3**
SNOW	**Snow King Moun**	**2.45**	**170**		**Pb**	**04 27 49.5**	**0.0**
FBMT	**Ferry Basin**	**2.61**	**307**		**Pn**	**04 27 48.1**	**+0.4**
YBMT	**Yellow Bay**	**2.70**	**319**		**Pn**	**04 27 50.2**	**+1.2**
JTMT	**Jette**	**2.75**	**314**	Pn	**Pn**	**04 27 50.1**	**+0.5**
NDMT	**Ninemile Divid**	**2.75**	**302**		**Pn**	**04 27 49.5**	**-0.2**
MKMT	**Mink Peak**	**2.87**	**297**		**Pn**	**04 27 51.0**	**-0.4**
BLMT	**Blacktail Moun**	**2.97**	**317**		**Pn**	**04 27 53.6**	**+0.9**
BHMT	**Big Hole Peak**	**3.05**	**305**		**Pn**	**04 27 53.9**	**+0.1**
BSMT	**Bassoo Peak**	**3.07**	**311**		**Pn**	**04 27 54.8**	**+0.7**
AHID	**Auburn Hatcher**	**3.11**	**176**		**Pb**	**04 27 59.8**	**-1.0**
AHID	**Auburn Hatcher**	**3.11**	**176**	IAML		04 28 47.6	
	comp=E,311nm,1.5s						
AHID				IAML		04 28 55.4	
	comp=E,339nm,1.3s						
HLID	**Hailey**	**3.17**	**224**	Pn	**Pn**	**04 27 55.9**	**+0.4**
HLID				IAML		04 28 44.6	
	comp=E,807nm,0.5s						
HLID				IAML		04 28 49.7	
	comp=E,628nm,0.5s						
MKRVA	**Milk River, Al**	**3.29**	**355**		**Pn**	**04 27 57.1**	**+0.1**
PLID	**Pearl Lake**	**3.35**	**258**	Pn	**Pn**	**04 27 58.1**	**0.0**
PLID				IAML		04 28 52.2	
	comp=E,275nm,0.6s						
PLID				IAML		04 28 56.2	
	comp=E,429nm,0.6s						
BW06	**Boulder Array**	**3.36**	**157**		**Pb**	**04 28 02.2**	**-2.9**
PDAR	**Pinedale Array**	**3.36**	**157**	Pn	**Pn**	**04 28 01.1**	**+3.0**
	comp=E,4.9nm,0.3s,baz=356,slow=13,SNR=87						
PDAR				Lg	Lg	04 28 48.6	
	comp=E,8.4nm,0.3s,baz=358,slow=21,SNR=4.0						
PDAR				LR	LR	04 29 38.5	
	comp=E,198nm,21.9s,baz=322,slow=46 comp=E,14nm,0.6s						
LAO	**LASA Array**	**3.66**	**75**

NVAR				Lg		Lg	04 31 51.1		
	comp=E,0.3nm,0.3s,baz=33,slow=37,SNR=4.4								
YBH	**Yreka Blue Hor**	**9.19**	**247**	Pn		**Pn**	**04 29 20.2**	**+2.2**	
	baz=110,slow=3.9,SNR=3.9								
YBH				LR		LR	04 33 27.4		
	comp=E,7.7nm,18.6s,baz=80,slow=42								
TPNV	**Topopah Spring**	**9.64**	**204**	Pn		**Pn**	**04 29 23.8**	**-0.4**	
AGMN	**Agassiz Nation**	**10.85**	**71**	Pn		**Pn**	**04 29 41.1**	**+0.5**	
ANMO	**Albuquerque**	**11.53**	**159**	LR		LR	04 34 59.1		
	comp=E,115nm,20.9s,baz=104,slow=41								
PFO	**Pinyon Flats O**	**12.85**	**199**	LR		LR	04 34 56.9		
	comp=E,97nm,18.6s,baz=358,slow=37								
N38A	**Joes South For**	**14.13**	**105**	Pn		**Pn**	**04 30 24.6**	**-0.9**	
P38A	**Dawn**	**14.50**	**109**	Pn		**Pn**	**04 30 30.5**	**-0.1**	
COWI	**Conover**	**15.45**	**81**	Pn		**Pn**	**04 30 42.9**	**-0.4**	
COWI				IAmb		IAmb	04 30 51.4		
	comp=Z,8.4nm,1.2s								
MNHN	**Monahans**	**15.97**	**152**	P		**P**	**04 30 56.1**	**+2.3**	
MNHN				IAmb		IAmb	04 31 01.8		
	comp=Z,19nm,1.4s								
SGCY	**Sterling City**	**16.03**	**147**	P		**P**	**04 30 54.1**	**-0.3**	
SGCY				IAmb		IAmb	04 31 02.3		
	comp=Z,18nm,1.4s								
YKA	**Yellowknife Ar**	**16.76**	**355**	Pn		**Pn**	**04 30 55.3**	**-4.7**	
	comp=Z,0.4nm,0.3s,baz=174,slow=12,SNR=5.8								
	comp=Z,2.1nm,0.6s								
P43A	**Skaggs, Pawnee**	**17.18**	**103**	Pn		**Pn**	**04 31 04.2**	**-1.2**	
P43A				IAmb		IAmb	04 31 12.8		
	comp=Z,12nm,0.8s								
TXAR	**Lajitas Array**	**17.58**	**157**	P		**P**	**04 31 11.8**	**+0.1**	
	baz=342,slow=7.9,SNR=3.5								
TXAR				LR		LR	04 38 28.4		
	comp=Z,59nm,18.1s,baz=336,slow=39								
	comp=Z,0.3nm,0.9s								
X40A	**Basin Creek Fa**	**18.11**	**122**	P		**Pn**	**04 31 16.4**	**-0.7**	
P33M	**Teslin, Yukon**	**19.17**	**326**	P		**P**	**04 31 29.0**	**+0.1**	
P33M				IAmb		IAmb	04 31 33.4		
	comp=Z,6.9nm,1.2s								
PLAL	**Pickwick Lake**	**20.72**	**113**	P		**P**	**04 31 45.7**	**-0.3**	
M31M	**Drury Creek, Y**	**21.03**	**329**	P		**P**	**04 31 50.0**	**+0.9**	
M31M				IAmb		IAmb	04 31 55.8		
	comp=Z,5.2nm,1.1s								
U49A	**Red Boiling Sp**	**21.33**	**107**	P		**P**	**04 31 53.7**	**+1.2**	
U49A				IAmb		IAmb	04 32 02.0		
	comp=Z,10nm,1.3s								
R50A	**Paris**	**21.38**	**101**	P		**P**	**04 31 53.4**	**+0.4**	
R50A				IAmb		IAmb	04 31 59.6		
	comp=Z,10nm,1.2s								
Z47A	**Carrollton**	**21.88**	**117**	P		**P**	**04 31 59.2**	**+0.7**	
SADO	**Sadowa**	**22.61**	**81**	LR		LR	04 41 09.0		
	comp=Z,166nm,19.1s,baz=279,slow=37								
L29M	**L29M**	**22.95**	**328**	P		**P**	**04 32 09.6**	**0.0**	
TKL	**Tuckaleechee C**	**23.15**	**106**	LR		LR	04 41 28.0		
	comp=Z,111nm,21.8s,baz=311,slow=37								
DOT	**Dot Lake**	**25.49**	**326**	P		**P**	**04 32 34.9**	**+1.3**	
J26L	**Joseph Creek**	**25.73**	**328**	P		**P**	**04 32 36.8**	**+0.9**	
J26L				IAmb		IAmb	04 32 45.1		
	comp=Z,2.6nm,0.9s								
ILAR	**Eielson Array**	**27.11**	**327**	P		**P**	**04 32 49.6**	**+1.4**	
	comp=Z,0.3nm,0.8s,baz=139,slow=7.7,SNR=9.6								
	comp=Z,0.3nm,0.8s								
RES	**Resolute Bay**	**29.80**	**9**	LR		LR	04 45 04.0		
	comp=Z,102nm,21.9s,baz=306,slow=36								
ZALV	**Zalesovo Beam**	**79.60**	**350**	P		**P**	**04 39 11.8**	**-0.8**	
	comp=Z,1.2nm,0.6s,baz=14,slow=6.7,SNR=4.2								
	comp=Z,1.2nm,0.6s								
SONM	**Songino Array**	**81.00**	**335**	P		**P**	**04 39 21.7**	**+1.3**	
	comp=Z,0.3nm,0.5s,baz=1.4,slow=5.8,SNR=1.7								
	comp=Z,0.3nm,0.5s								
BVAR	**Borovoye Array**	**81.47**	**359**	P		**P**	**04 39 23.2**	**+0.6**	
	comp=Z,1.1nm,0.6s,baz=330,slow=2.4,SNR=4.0								
	comp=Z,1.1nm,0.6s								
KURBB	**Kurchatov Arra**	**83.50**	**354**	P		**P**	**04 39 33.0**	**-0.3**	
	comp=Z,0.5nm,0.4s,baz=6.4,slow=4.8,SNR=4.8								
	comp=Z,0.5nm,0.4s								
HHC	**Hu-ho-hao-te**	**85.52**	**329**	*e*P		**P**	**04 39 41.4**	**-2.4**	
HHC				pmax		pmax			
	comp=Z,15nm,0.6s								
HHC				pmax		pmax			
	comp=Z,79nm,5.7s								
MKAR	**Makanchi Array**	**86.94**	**351**	P		**P**	**04 39 50.9**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=354,slow=4.5,SNR=1.8								
	comp=Z,0.4nm,0.7s								

*THE **06** 04:32:48.8,40˚N±4˚×2˚1E±˚, h0km±2km, M2.4/7, MLh2.4/7*
*TIR **06** 04:32:48.7,40˚.50N×20˚.85E, h4km, Ml2.7/4*
*SKO **06** 04:32:49.3,40˚.49N×20˚.96E, h21km, ML2.4*
*BEO **06** 04:32:50.3±0.4,40˚.44N×21˚.05E, h13km±4km, ML2.2/6*

ISC 06 04:32:49.7±1.0,40˚.51N±0˚.02×20˚.90E±0˚.02, h4km±10km, n35,σ1°30/51, 6C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KBN	**Korca**	**0.14**	**323**	Pg		**Pg**	**04 32 51.3**	**-1.3**
KBN				Sg		**Sg**	**04 32 53.2**	**-1.3**
NEST	**Nestorio**	**0.15**	**130**	⇑Pg		**Pg**	**04 32 52.5**	**-0.1**
NEST				Sg		**Sg**	**04 32 55.8**	**+1.2**
NEST				AML		AML	04 32 58.7	
	14nm,0.5s							
NEST	**Nestorio**	**0.15**	**130**	P		**Pg**	**04 32 52.9**	**+0.3**
NEST				S		**Sg**	**04 32 56.2**	**+1.6**
PENT	**Pentalofos**	**0.36**	**150**	P		**Pg**	**04 32 56.4**	**-0.3**
FNA	**Florina**	**0.45**	**53**	⇑Pg		**Pg**	**04 32 58.1**	**-0.3**
FNA				Sg		**Sb**	**04 33 06.6**	**-0.8**
FNA	**Florina**	**0.45**	**53**	S		**Sb**	**04 33 06.6**	**-0.8**
FNA	**Florina**	**0.45**	**53**	*i* Pg		**Pg**	**04 32 58.0**	**-0.5**
FNA				*i* Sg		**Sb**	**04 33 06.3**	**-1.1**
FNA	**Florina**	**0.45**	**53**	*e*Pg		**Pg**	**04 32 57.9**	**-0.5**
FNA				*e*Sg		**Sb**	**04 33 06.3**	**-1.1**
OHR	**Ohrid**	**0.61**	**353**	*i* Pg		**Pg**	**04 33 00.8**	**-0.5**
OHR				*i* Sg		**Sg**	**04 33 11.8**	**+2.6**
OHR				*e*Lg		Lg	04 33 12.4	
	comp=E,244nm,0.5s							
OHR				*e*Lg		Lg	04 33 12.5	
	comp=N,111nm,0.3s							
KZN	**Kozani**	**0.69**	**107**	P		**Pb**	**04 33 03.1**	**-1.3**
KZN				S		**Sn**	**04 33 15.1**	**-2.6**
SRN	**Sarande**	**0.93**	**228**	⇑Pg		**Pg**	**04 33 05.9**	**-1.7**
SRN				Sg		**Sg**	**04 33 20.9**	**+1.3**
SRN				AML		AML	04 33 22.8	
	comp=N,0.3nm,0.6s							
IGT	**Igoumenitsa**	**1.07**	**204**	⇑Pn		**Pg**	**04 33 09.3**	**-0.9**
IGT				Sn		**Sg**	**04 33 24.9**	**+0.9**
IGT	**Igoumenitsa**	**1.07**	**204**	P		**Pg**	**04 33 08.9**	**-1.2**
IGT	**Igoumenitsa**	**1.07**	**204**	*i* Pg		**Pg**	**04 33 08.8**	**-1.4**
IGT				*i* Sg		**Sb**	**04 33 27.2**	**+2.1**
IGT	**Igoumenitsa**	**1.07**	**204**	*e*Pg		**Pg**	**04 33 08.8**	**-1.4**
IGT				*e*Sg		**Sg**	**04 33 24.6**	**+0.6**
PHP	**Peshkopia**	**1.23**	**344**	⇑Pg		**Pg**	**04 33 12.0**	**-1.1**
PHP				Sg		**Sg**	**04 33 30.5**	**+1.5**
PHP				AML		AML	04 33 39.3	
	comp=N,0.3nm,0.4s							
THL	**Klokotos Trika**	**1.27**	**137**	P		**Pg**	**04 33 13.5**	**-0.6**
LIT	**Litokhoron**	**1.28**	**108**	P		**Pb**	**04 33 14.0**	**-0.4**
LIT	**Litokhoron**	**1.28**	**108**	*i* Pn		**Pn**	**04 33 14.3**	**-0.1**
VAY	**Valandovo**	**1.50**	**57**	*i* Pn		**Pn**	**04 33 17.6**	**+0.2**
VAY				*i* Sn		**Sn**	**04 33 41.0**	**+3.6**
VAY				*e*Lg		Lg	04 33 41.6	
	comp=E,29nm,0.8s							
VAY				*e*Lg		Lg	04 33 44.9	
	comp=N,45nm,0.7s							
KNT	**Kendrikon**	**1.65**	**66**	*i* Pn		**Pn**	**04 33 19.4**	**0.0**
HORT	**Hortiatis**	**1.68**	**86**	P		**Pn**	**04 33 19.8**	**-0.1**
PUK	**Puka**	**1.71**	**334**	⇑Pn		**Pg**	**04 33 22.0**	**+1.7**
PUK				Sn		**Sg**	**04 33 46.2**	**+1.5**
PUK				AML		AML	04 33 49.9	
	comp=N,0.4nm,0.7s							
SOH	**Sokhos**	**1.89**	**80**	*i* Pn		**Pn**	**04 33 22.9**	**+0.1**
SOH				*i* Sn		**Sg**	**04 33 52.0**	**+1.6**
DRME	**Dracevica, Mon**	**2.12**	**323**	*e*Pn		**Pn**	**04 33 26.6**	**+0.7**
SRS	**Serrai**	**2.13**	**73**	*i* Pn		**Pb**	**04 33 27.7**	**-1.2**
PDG	**Podgorica**	**2.28**	**328**	*e*Pn		**Pn**	**04 33 30.1**	**+1.9**
BOSS	**Bosilegrad**	**2.31**	**30**	*e*Pn		**Pn**	**04 33 27.7**	**-0.9**
MMB	**Musomishta**	**2.39**	**63**	*i* Pn		**Pb**	**04 33 32.8**	**-0.5**
BARS	**Barje**	**2.41**	**16**	*e*Pn		**Pn**	**04 33 29.6**	**-0.3**
KOME	**Kolasin**	**2.56**	**337**	*e*Pn		**Pn**	**04 33 33.7**	**+1.6**
VTS	**Vitosha**	**2.74**	**39**	*e*Pn		**Pn**	**04 33 34.6**	**0.0**
SJES	**Sjenica**	**2.84**	**346**	*e*Pn		**Pn**	**04 33 36.8**	**+0.9**
IVAS	**Ivanjica**	**3.12**	**350**	*e*Pn		**Pn**	**04 33 40.4**	**+0.7**
ZAGS	**Zajecar**	**3.45**	**16**	*e*Pn		**Pn**	**04 33 43.8**	**-0.3**

*BUT **06** 04:35:25.8±0.9,45˚.859N±0˚.008×111˚.37W±0˚.02,*

h10km±8km, Error ellipse: s-maj=2.0km s-min=0.5km az=57.0

NEIC 06 04:35:25.4±0.9,45˚.86N±0˚.01×111˚.38W±0˚.02, h4km±7km, ML2.3/38, ML2.6/12(BUT), Error ellipse: s-maj=2.2km s-min=0.7km az=138.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SXM	**Sixmile**	**0.31**	**22**	Pg		Pg	04 35 31.9	+0.5
SXM				Sg		Sg	04 35 36.5	+0.9
BOZ	**Bozeman (W)**	**0.32**	**214**	Pg		Pg	04 35 32.1	+0.5
BOZ				Sg		Sg	04 35 36.4	+0.6
BOZ	**Bozeman (W)**	**0.32**	**214**	IAML			04 35 36.7	
	956nm,0.2s							
BOZ				IAML			04 35 36.7	
	475nm,0.3s							
BZMT	**Bozeman Pass**	**0.46**	**118**			Pg	04 35 34.9	+0.7
LRM	**Limekiln Ridge**	**0.75**	**267**			Pg	04 35 40.1	+0.3
MSMT	**Mission Creek**	**0.75**	**108**			Pg	04 35 39.9	+0.1
BGMT	**Barton Gulch**	**0.79**	**217**			Pg	04 35 40.8	+0.3
BUT	**Butte**	**0.84**	**281**			Pg	04 35 41.9	+0.3
HBMT	**Mount Humbug**	**0.86**	**266**			Pg	04 35 42.2	+0.3
HRY	**Holter Researc**	**0.90**	**340**			Pg	04 35 42.9	+0.2
CRMT	**Chrome Mountai**	**0.96**	**115**			Pg	04 35 43.3	-0.4
DLMT	**Dillon**	**0.99**	**240**			Pg	04 35 44.4	0.0
DLMT	**Dillon**	**0.99**	**240**	IAML			04 36 01.6	
	99nm,0.6s							
DLMT				IAML			04 36 01.9	
	130nm,0.3s							
YMV	**Mammoth Vault**	**1.01**	**151**			Pg	04 35 44.9	0.0
YHL	**Hebgen Lake**	**1.02**	**172**			Pg	04 35 44.8	-0.2
YHL	**Hebgen Lake**	**1.02**	**172**	IAML			04 36 00.8	
	comp=E,80nm,0.5s							
YHL				IAML			04 36 02.8	
	comp=N,79nm,0.5s							
QLMT	**Earthquake Lak**	**1.03**	**182**			Pg	04 35 45.0	-0.2
GCR	**Grayling Creek**	**1.08**	**170**			Pg	04 35 46.1	-0.1
BEMT	**Mount Belmont**	**1.10**	**324**			Pg	04 35 46.7	+0.1
YHB	**Horse Butte**	**1.12**	**173**			Pg	04 35 46.7	-0.2
YHB	**Horse Butte**	**1.12**	**173**	IAML			04 36 04.7	
	comp=E,67nm,0.7s							
YHB				IAML			04 36 05.0	
	comp=N,77nm,0.2s							
YMC	**Maple Creek**	**1.14**	**167**			Pg	04 35 46.8	-0.3
YHH	**Holmes Hill**	**1.14**	**161**			Pg	04 35 46.8	-0.4
YPDC	**Denny Creek**	**1.16**	**175**			Pg	04 35 47.4	-0.1
YNR	**Norris Junctio**	**1.25**	**157**			Pg	04 35 49.0	-0.3
YNR	**Norris Junctio**	**1.25**	**157**	IAML			04 36 13.8	
	comp=N,30nm,0.4s							
YPM	**Purple Mountai**	**1.26**	**163**			Pg	04 35 49.6	+0.1
YPWB	**West Boundary**	**1.27**	**171**			Pg	04 35 49.8	0.0
LYMT	**Lyon Mountain**	**1.27**	**331**			Pb	04 35 50.0	-0.1
YNE	**Yellowstone No**	**1.29**	**131**			Pg	04 35 49.6	-0.5
YNE	**Yellowstone No**	**1.29**	**131**	IAML			04 36 09.7	
	comp=N,97nm,0.4s							
YNE				IAML			04 36 09.7	
	comp=E,95nm,0.5s							
YMP	**Mirror Lake Pl**	**1.42**	**142**			Pb	04 35 52.4	-0.1
YMP				IAML			04 36 13.0	
	comp=E,77nm,0.4s							
MOMT	**Monida**	**1.46**	**210**			Pg	04 35 53.4	+0.1
YFT	**Old Faithful**	**1.46**	**165**			Pn	04 35 52.6	-0.1
MCMT	**McKenzie Canyo**	**1.47**	**226**			Pb	04 35 53.1	-0.2
LKWY	**Lake**	**1.47**	**152**			Pn	04 35 52.6	-0.3
LKWY				IAML			04 36 24.3	
	comp=E,22nm,0.8s							
BPMT	**Black Pine Rid**	**1.55**	**292**			Pg	04 35 55.1	0.0
OVMT	**Ovando**	**1.64**	**318**			Pn	04 35 55.1	0.0
RLMT	**Red Lodge**	**1.66**	**116**			Pb	04 35 56.5	-0.1
YTP	**The Promontory**	**1.66**	**152**			Pg	04 35 57.2	0.0
CHMT	**Chamberlain Mo**	**1.67**	**310**			Pn	04 35 56.6	+0.1
SLMT	**Seeley Lake**	**2.01**	**314**			Pn	04 35 59.9	-0.1
MSO	**Missoula**	**2.02**	**299**	Pn		Pn	04 36 00.4	0.0
MSO				IAML			04 36 32.5	
	comp=E,39nm,0.6s							
MSO				IAML			04 36 32.5	
	comp=E,44nm,0.5s							
FXWY	**Fox Creek**	**2.24**	**174**	Pn		Pn	04 36 03.5	0.0
LOHW	**Long Hollow**	**2.32**	**166**	Pn		Pn	04 36 05.3	+0.9
TPAW	**Teton Pass**	**2.39**	**173**	Pn		Pn	04 36 05.7	+0.2
TPAW				IAML			04 36 53.5	
	comp=E,11nm,0.8s							
EGMT	**Eagleton**	**2.43**	**27**	Pn		Pn	04 36 06.3	+0.4
SNOW	**Snow King Moun**	**2.44**	**169**	Pn		Pn	04 36 06.1	-0.1
SNOW				IAML			04 36 29.6	
	comp=E,7.9nm,2.3s							
SNOW				IAML			04 37 00.2	
	comp=E,14nm,3.5s							
JTMT	**Jette**	**2.74**	**314**	Pn		Pn	04 36 10.6	+0.3
HLID	**Hailey**	**3.16**	**224**	IAML			04 37 04.2	
	comp=E,9.2nm,0.6s							
PLID	**Pearl Lake**	**3.34**	**258**	IAML			04 37 13.5	
	comp=E,4.9nm,0.7s							
PLID				IAML			04 37 16.2	
	comp=E,5.3nm,1.2s							

*JMA **06** 04:37:44.3±0.4,24˚N±1˚×12˚2E±˚, h27km, MV3.1/12, TAIWAN REGION*
*TAP **06** 04:37:45.9,23˚.72N×121˚.55E, h23km, ML3.5, B*

ISC 06 04:37:45.2±0.9,23˚.69N±0˚.01×121˚.63E±0˚.02, h28km±4km, n145,σ0°88/246, 3C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TEGC	**Jichi Village**	**0.08**	**282**	P		**Pb**	**04 37 50.2**	**+0.1**
TEGC				*e*S		**Sb**	**04 37 53.7**	**+0.2**
SHUL	**Shoufeng**	**0.11**	**329**	⇑*i*P		**Pb**	**04 37 50.5**	**+0.2**
SHUL				*e*S		**Sb**	**04 37 54.0**	**+0.1**
TEYL	**Yanliau Villag**	**0.18**	**352**	⇑*i*P		**Pn**	**04 37 51.7**	**-0.4**
TEYL				*e*S		**Sb**	**04 37 56.5**	**+1.6**
EGFH	**Guangfu**	**0.18**	**263**	*i* P		**Pb**	**04 37 50.6**	**-0.4**
EGFH				*e*S		**Sb**	**04 37 54.0**	**-1.0**
ESL	**Shilin**	**0.21**	**305**	⇓*i*P		**Pb**	**04 37 50.7**	**-0.7**
ESL				S		**Sb**	**04 37 54.4**	**-1.2**
WARBT	**Fenglin Townsh**	**0.22**	**277**	⇓*i*P		**Pb**	**04 37 50.7**	**-0.8**
WARBT				S		**Sb**	**04 37 53.9**	**-1.9**
HGSD	**Ruisui**	**0.27**	**223**	⇑P		**Pn**	**04 37 52.8**	**-0.6**
HGSD				S		**Sb**	**04 37 57.5**	**+0.7**
HWA	**Hwalien**	**0.28**	**356**	*e*P		**Pb**	**04 37 52.7**	**+0.4**
HWA				*e*S		**Sn**	**04 37 58.2**	**-0.7**
ETM	**Tongmen**	**0.30**	**336**	⇓*i*P		**Pb**	**04 37 52.2**	**-0.4**
ETM				*e*S		**Sb**	**04 37 56.0**	**-1.5**
EHYH	**Wanrong**	**0.32**	**233**	*e*P		**Pb**	**04 37 52.5**	**-0.4**
EHYH				*e*S		**Sb**	**04 37 56.2**	**-1.9**
EHY	**Hungye**	**0.34**	**237**	*e*P		**Pb**	**04 37 52.4**	**-0.7**
EHY				*e*S		**Sb**	**04 37 58.2**	**-0.1**
TWD	**Chiawan**	**0.39**	**356**	⇓P		**Pb**	**04 37 53.9**	**+0.1**
TWD				S		**Sb**	**04 38 00.2**	**+0.6**
ECBN	**Changbin**	**0.41**	**203**	*e*P		**Pn**	**04 37 55.0**	**-0.3**
ECBN				*i* S		**Sn**	**04 38 02.0**	**+0.1**
YULB	**Yu-li**	**0.42**	**225**	P		**Pb**	**04 37 53.8**	**-0.6**
YULB	**Yu-li**	**0.42**	**225**	S		**Sb**	**04 37 59.7**	**-0.9**
YULB	**Yu-li**	**0.42**	**225**	*e*P		**Pb**	**04 37 53.7**	**-0.6**
EYUL	**Yuli**	**0.44**	**219**	*e*P		**Pb**	**04 37 54.9**	**+0.2**
EYUL				*e*S		**Sn**	**04 38 02.0**	**-0.8**
VWDT	**VWDT**	**0.45**	**278**	⇓*i*P		**Pb**	**04 37 54.2**	**-0.6**
VWDT				*e*S		**Sb**	**04 37 59.5**	**-1.7**
TWF1	**Yuli**	**0.45**	**222**	*e*P		**Pb**	**04 37 54.4**	**-0.4**
TWF1				*e*S		**Sn**	**04 38 02.6**	**-0.5**
ETL	**Fush Village**	**0.47**	**360**	*e*P		**Pb**	**04 37 55.2**	**+0.1**
ETL				*e*S		**Sb**	**04 38 02.2**	**+0.5**
NACB	**Ninganchiao**	**0.48**	**357**	P		**Pb**	**04 37 54.8**	**-0.5**
NACB	**Ninganchiao**	**0.48**	**357**	S		**Sb**	**04 38 01.2**	**-0.9**
NACB	**Ninganchiao**	**0.48**	**357**	⇓P		**Pb**	**04 37 54.9**	**-0.4**
NACB				*e*S		**Sb**	**04 38 01.5**	**-0.6**
OWD	**Renai**	**0.49**	**302**	⇓*i*P		**Pb**	**04 37 54.6**	**-0.9**
OWD				*e*S		**Sb**	**04 38 00.7**	**-1.8**
ETLH	**Xiulin Townshi**	**0.53**	**346**	⇓P		**Pb**	**04 37 55.5**	**-0.7**
ETLH				*e*S		**Sb**	**04 38 03.2**	**-0.4**
CHKH	**Chenggong**	**0.54**	**203**	P		**Pn**	**04 37 56.7**	**-0.3**
CHKH				*e*S		**Sn**	**04 38 05.4**	**+0.2**
WUSB	**Renai**	**0.55**	**303**	⇓*i*P		**Pb**	**04 37 55.8**	**-0.8**
WHF	**Hehuan Shan**	**0.56**	**324**	⇓*i*P		**Pb**	**04 37 55.8**	**-1.1**
WHF				*e*S		**Sb**	**04 38 03.3**	**-1.5**
FULB	**Fuli**	**0.58**	**212**	*e*P		**Pb**	**04 37 57.1**	**+0.2**
FULB				*e*S		**Sn**	**04 38 06.3**	**+0.2**
SSLB	**Suanglung**	**0.62**	**279**	P		**Pb**	**04 37 56.4**	**-1.2**
SSLB	**Suanglung**	**0.62**	**279**	S		**Sb**	**04 38 06.2**	**+0.1**
SSLB	**Suanglung**	**0.62**	**279**	⇓*i*P		**Pb**	**04 37 56.5**	**-1.2**
SSLB				*e*S		**Sb**	**04 38 05.7**	**-0.4**
CHKT	**Chengkung**	**0.64**	**202**	*e*P		**Pn**	**04 37 58.3**	**-0.1**
CHKT					*e*S		**Sn**	**04 38 07.9**	**+0.4**
EAHA	**Aohua**	**0.64**	**9**	*e*P		**Pn**	**04 37 58.4**	**-0.1**
EAHA					*e*S		**Sn**	**04 38 07.8**	**+0.1**
FUSS	**Fushou**	**0.66**	**328**	⇓P		**Pb**	**04 37 57.6**	**-0.7**
FUSS					*e*S		**Sb**	**04 38 07.0**	**-0.2**
EHD	**Haiduan**	**0.66**	**216**	*e*P		**Pb**	**04 37 57.1**	**-1.2**
EHD					*e*S		**Sn**	**04 38 08.3**	**0.0**
SMLT	**Sun Moon Lake**	**0.69**	**286**	*e*P		**Pb**	**04 37 57.9**	**-0.9**
SMLT					*e*S		**Sb**	**04 38 06.7**	**-1.4**
TWT	**Tachien**	**0.69**	**324**	*e*P		**Pb**	**04 37 58.4**	**-0.5**
TWT					*e*S		**Sb**	**04 38 07.3**	**-0.9**
ECS	**Chishang**	**0.70**	**212**	*e*P		**Pn**	**04 37 59.4**	**+0.1**
ECS					*e*S		**Sn**	**04 38 09.8**	**+0.6**
TDCB	**Techi**	**0.70**	**323**	⇓P		**Pb**	**04 37 58.5**	**-0.6**
TDCB					*e*S		**Sb**	**04 38 06.7**	**-1.9**
WHYT	**Xinyi Township**	**0.71**	**271**	*e*P		**Pb**	**04 37 58.5**	**-0.6**
WHYT					*e*S		**Sb**	**04 38 07.2**	**-1.3**
TYC	**Yuchr**	**0.74**	**287**	⇓P		**Pb**	**04 37 58.4**	**-1.0**
TYC					*e*S		**Sb**	**04 38 08.4**	**-0.8**
ENA	**Nanau**	**0.74**	**8**	*e*P		**Pb**	**04 37 59.3**	**-0.3**
ENA					*e*S		**Sb**	**04 38 08.6**	**-0.8**
WCS	**Beigang Elemen**	**0.75**	**299**	⇓*i*P		**Pb**	**04 37 59.0**	**-0.7**
WCS					S		**Sb**	**04 38 08.3**	**-1.2**
ELDTW	**Lidau**	**0.75**	**228**	*e*P		**Pb**	**04 37 58.9**	**-0.9**
ELDTW					*e*S		**Sb**	**04 38 08.2**	**-1.6**
EWUT	**Wuta**	**0.76**	**10**	*e*P		**Pb**	**04 37 59.7**	**-0.2**
EOS4	**EOS4**	**0.76**	**56**	P		**Pn**	**04 38 00.7**	**+0.9**
EOS4				*i* S		**Sn**	**04 38 11.7**	**+1.5**
NNSB	**Datong**	**0.77**	**343**	⇓*e*P		**Pb**	**04 37 59.4**	**-0.7**
NNSB					*e*S	**Sb**	**04 38 08.7**	**-1.6**
ALS	**Alishan**	**0.78**	**257**	⇓P		**Pb**	**04 37 59.9**	**-0.5**
ALS				*i* S		**Sb**	**04 38 09.9**	**-0.7**
EDH	**Donghe**	**0.78**	**203**	*e*P		**Pb**	**04 37 59.9**	**-0.2**
EDH					S	**Sn**	**04 38 11.3**	**+0.4**
WJS	**Zhushan**	**0.83**	**279**	*e*P		**Pn**	**04 38 01.3**	**+0.2**
WJS				*i* S		**Sn**	**04 38 12.7**	**+0.3**
LATG	**Datong**	**0.84**	**354**	⇓P		**Pb**	**04 38 00.5**	**-0.9**
LATG					S	**Sb**	**04 38 11.2**	**-1.3**
WHP	**Taichung City**	**0.85**	**313**	⇓P		**Pb**	**04 38 01.0**	**-0.6**
WHP					*e*S	**Sb**	**04 38 11.4**	**-1.3**
EOS3	**EOS3**	**0.87**	**47**	*e*P		**Pn**	**04 38 01.8**	**+0.4**
CHN5	**Tsauling**	**0.88**	**264**	*i* P		**Pn**	**04 38 02.1**	**+0.4**
CHN5					*e*S	**Sb**	**04 38 13.4**	**+0.2**
ESAO	**Su ao**	**0.90**	**13**	*e*P		**Pn**	**04 38 03.2**	**+1.1**
ESAO					*e*S	**Sn**	**04 38 15.3**	**+1.1**
LONT	**Longtian**	**0.91**	**210**	*e*P		**Pb**	**04 38 00.1**	**-2.3**
LONT					*e*S	**Sn**	**04 38 15.6**	**+1.3**
EOS2	**EOS2**	**0.91**	**37**	*e*P		**Pn**	**04 38 03.7**	**+1.7**
EOS2					*e*S	**Sn**	**04 38 16.4**	**+2.2**
TWC	**Suao**	**0.94**	**13**	*e*P		**Pb**	**04 38 03.0**	**+0.2**
TWC					*e

LAY	**Lan-yu**	**1.65**	**182**	*eP*	**Pn**	**04 38 11.6**	**-0.8**
LYUB	**Lan-yu**	**1.68**	**181**	*eP*	**Pn**	**04 38 12.0**	**-0.8**
SMST	**Manzhou Townsh**	**1.82**	**204**	*eP*	**Pn**	**04 38 16.0**	**+1.4**
SMST				*eS*	**Sn**	**04 38 38.2**	**+1.5**
WDGT	**Dungji**	**1.86**	**257**	*eP*	**Pn**	**04 38 15.7**	**+0.5**
PHUB	**P'eng-hu**	**1.89**	**265**	*eP*	**Pn**	**04 38 15.5**	**-0.2**
PHUB				*eS*	**Sn**	**04 38 38.4**	**-0.2**
TWKBT	**Hengchun**	**1.90**	**203**	*eP*	**Pn**	**04 38 17.4**	**+1.6**
PNG	**Penghu**	**1.90**	**267**	P	**Pn**	**04 38 16.4**	**+0.6**
TSEB	**Hengchuen, Pin**	**1.91**	**201**	*eP*	**Pb**	**04 38 17.8**	**-1.6**
TSEB				*eS*	**Sn**	**04 38 40.7**	**+1.8**
PCYT	**Pengchaiyu**	**1.97**	**12**	*eP*	**Pn**	**04 38 17.2**	**+0.4**
PCYT				*eS*	**Sn**	**04 38 41.8**	**+1.2**
HATJ	**Hateruma jima**	**2.03**	**79**	*eS*	**Sb**	**04 38 44.6**	**-1.6**
IRIF	**Iriomote-Funau**	**2.03**	**71**	*eP*	**Pb**	**04 38 19.7**	**-1.7**
IRIF				*eS*	**Sb**	**04 38 44.4**	**-1.8**
VCHM	**Qimei**	**2.07**	**257**	*eP*	**Pn**	**04 38 18.3**	**+0.1**
JKRS	**Kuro-shima**	**2.25**	**76**	*eP*	**Pb**	**04 38 23.0**	**-2.2**
JKRS				*eS*	**Sb**	**04 38 50.0**	**-2.5**
VWUC	**VWUC**	**2.37**	**304**	*eP*	**Pn**	**04 38 21.6**	**-0.6**
JIJ	**Ishigaki jima**	**2.40**	**73**	*eP*	**Pn**	**04 38 24.2**	**+1.6**
JIJ				*eS*	**Sn**	**04 38 52.2**	**+1.2**
MATB	**Ma-tsu**	**2.88**	**328**	*eP*	**Pn**	**04 38 29.5**	**+0.2**
JTJ	**Tarama**	**2.96**	**71**	*eP*	**Pn**	**04 38 32.0**	**+1.6**
KNM	**Kinmen**	**3.01**	**285**	*eP*	**Pn**	**04 38 32.5**	**+1.5**
KNMB	**Chin-men Tao**	**3.06**	**285**	*eP*	**Pn**	**04 38 31.5**	**-0.2**
MHZQ	**Yeshan**	**3.36**	**316**	*eP*	**Pn**	**04 38 35.8**	**-0.1**
AXDP	**Jialang**	**3.55**	**291**	*eP*	**Pn**	**04 38 38.2**	**-0.2**
ZPLA	**Ao Xicun**	**3.56**	**275**	*eP*	**Pn**	**04 38 39.1**	**+0.5**
SXFK	**Yanhouchang**	**4.51**	**308**	*eP*	**Pn**	**04 38 51.2**	**-0.5**

KRNET ***06*** *04:42:12.3±0.1, 40.°80N×74.°20E, h15km, mb2.6*
NNC ***06*** *04:42:14.4±2.5, 40.°80N×74.°16E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=19.4km s-min=9.8km az=168.0*
SOME ***06*** *04:42:15.9, 41.°00N×74.°13E, h10km*
ISC 06 04:42:13.8±1.1, 40°.83N±0°.06×74°.17E±0°.03, h10km, n21, σ1°89/34, 15C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.27**	**281**	⇓*i*P	**Pg**	**04 42 18.4**	**-0.9**
SALK				⇓*i*S	**Sg**	**04 42 22.4**	**-0.5**
JNKS	**Jany-Kuch**	**1.15**	**78**	⇓*i*P	**Pb**	**04 42 33.6**	**-2.3**
JNKS				⇓*i*S	**Sg**	**04 42 49.3**	**-1.5**
AAK	**Ala-Archa** 2.6nm,0.6s	**1.82**	**8**	⇑P	**Pg**	**04 42 49.5**	**+0.8**
AAK				⇑S	**Sg**	**04 43 14.2**	**+1.9**
	1.2nm,0.5s						
AAK	**Ala-Archa**	**1.82**	**8**	⇑*i*P	**Pb**	**04 42 46.5**	**-0.7**
AAK				⇑*i*S	**Sg**	**04 43 11.4**	**-0.9**
KBK	**Karagaybulak**	**1.91**	**18**	⇑*i*P	**Pb**	**04 42 47.9**	**-1.0**
KBK				⇑*i*S	**Sg**	**04 43 13.7**	**-1.6**
MRKS	**Merke** 5.5nm,0.3s	**2.04**	**340**	Pg	**Pg**	**04 42 52.3**	**-0.4**
MRKS				Lg	Lg	04 43 18.8	
	5.6nm,0.3s						
MRKS	**Merke**	**2.04**	**340**	*eP*	**Pg**	**04 42 51.6**	**-1.2**
	5.8nm,0.3s						
MRKS				*eS*	**Sg**	**04 43 17.0**	**-2.2**
	11nm,0.3s						
ULHL	**Ulahol**	**2.10**	**47**	⇑*i*P	**Pn**	**04 42 50.2**	**+1.0**
ULHL				⇑*i*S	**Sb**	**04 43 17.8**	**-0.5**
TKM2	**Tokmak 2**	**2.34**	**27**	⇑*i*P	**Pn**	**04 42 53.7**	**+1.2**
TKM2				⇑*i*S	**Sb**	**04 43 23.9**	**-1.4**
KST	**Kastek** 2.4nm,0.4s	**2.58**	**31**	Pg	**Pg**	**04 43 01.8**	**-1.5**
KST				Lg	Lg	04 43 35.2	
	8.6nm,0.4s						
KST	**Kastek**	**2.58**	**31**	*eP*	**Pg**	**04 43 01.8**	**-1.5**
	2.4nm,0.4s						
KST				*eS*	**Sg**	**04 43 35.2**	**-1.6**
	8.6nm,0.4s						
KDJ	**Kajisay**	**2.61**	**59**	⇑*i*P	**Pn**	**04 42 57.2**	**+1.1**
KDJ				⇑*i*S	**Sn**	**04 43 29.9**	**+1.9**
TARG	**Taragay, Kyrgy**	**2.88**	**71**	⇑*i*P	**Pn**	**04 43 00.9**	**+0.8**
TARG				⇑*i*S	**Sn**	**04 43 36.3**	**+1.2**
TNSS	**Tian-Shan** 0.7nm,0.3s	**3.02**	**42**	Pg	**Pb**	**04 43 10.1**	**+2.2**
TNSS				Lg	Lg	04 43 48.8	
	2.4nm,0.7s						
TNSS	**Tian-Shan**	**3.02**	**42**	*eP*	**Pb**	**04 43 10.1**	**+2.2**
	0.7nm,0.3s						
TNSS				*eS*	**Sg**	**04 43 48.8**	**-2.1**
	2.4nm,0.7s						
IUG	**Iuzhnay** 6.8nm,0.3s	**3.37**	**294**	Pg	**Pb**	**04 43 16.0**	**+2.3**
IUG				Lg	Lg	04 43 59.0	
	27nm,0.5s						
KTBS	**Karatobe** 1.4nm,0.4s	**3.43**	**32**	Pg	**Pb**	**04 43 16.9**	**+2.3**
KTBS				Lg	Lg	04 44 00.9	
	7.6nm,0.4s						
KK31	**Karatay Array** 0.3nm,0.3s	**3.55**	**311**	⇓Pg	**Pg**	**04 43 19.4**	**-2.3**
KK31				⇑Lg	Lg	04 44 05.2	
	0.6nm,0.2s,baz=123,slow=29,SNR=5.2						
SATY	**Saty** 1.0nm,0.2s	**3.87**	**53**	Pg	**Pb**	**04 43 24.7**	**+2.6**
SATY				Lg	Lg	04 44 13.9	
	8.5nm,0.5s						
BRLS	**Borolday** 1.1nm,0.4s	**3.91**	**306**	Pg	**Pb**	**04 43 24.9**	**+2.1**
BRLS				Lg	Lg	04 44 14.4	
	1.9nm,0.6s						
BRLS	**Borolday** 1.1nm,0.4s	**3.91**	**306**	*eP*	**Pb**	**04 43 24.9**	**+2.1**
BRLS				*eS*	**Sg**	**04 44 14.4**	**-4.8**
	1.9nm,0.6s						

JMA ***06*** *05:03:28.8±0.2, 35.°4N±0.°9×136.°9E±0.°8, h309km±1km, MV3.3/46, SW GIFU PREF*
IDC ***06*** *05:03:29.2±0.9, 35.°31N×137.°34E, h313km±20km, mb3.0/4, mbtmp3.6/4, Error ellipse: s-maj=61.3km s-min=18.9km az=63.0*
ISC 06 05:03:29.3±0.9, 35°.30N±0°.08×136°.98E±0°.06, h304km±7km, n21, σ0°71/25, mb3.2/4, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.23**	**99**	*eP*	**Pn**	**05 04 08.3**	**+0.3**
JEG	**Eigenji**	**0.51**	**251**	*eP*	**Pn**	**05 04 08.8**	**+0.3**
JIE	**Ise**	**0.94**	**194**	*eP*	**Pn**	**05 04 10.3**	**+0.3**
JIE				*eS*	**S**	**05 04 41.7**	**-0.6**
JKG	**Kaga**	**1.10**	**332**	*eP*	**Pn**	**05 04 10.3**	**-0.2**
JKN2	**Miekihoku**	**1.21**	**209**	*eP*	**Pn**	**05 04 11.5**	**+0.2**
JKN2				*eS*	**S**	**05 04 43.9**	**-0.7**
JWT	**Wachi**	**1.29**	**270**	P	**Pn**	**05 04 11.7**	**+0.1**
JNG	**Nsakai**	**1.43**	**39**	*eP*	**Pn**	**05 04 12.5**	**+0.1**
TK02	**Tokai 2**	**1.50**	**154**	*eP*	**Pn**	**05 04 13.7**	**+1.1**
JWY	**Kouya**	**1.57**	**227**	*eP*	**Pn**	**05 04 13.7**	**+0.2**
MJAR	**Matsushiro Arr** 4.5nm,0.5s,baz=215,slow=7.1,SNR=12	**1.59**	**39**	P	**Pn**	**05 04 13.7**	**+0.3**
MJAR				S	**S**	**05 04 48.1**	**-0.4**
	1.0nm,0.3s,baz=209,slow=15,SNR=4.5						
JTNC	**Tanabenakahech**	**1.86**	**218**	*eP*	**Pn**	**05 04 15.4**	**-0.1**
JAI	**Aioi**	**2.57**	**235**	*eP*	**Pn**	**05 04 21.1**	**-0.2**
BSO4	**Boso 4**	**2.77**	**96**	*eP*	**Pn**	**05 04 22.8**	**-0.2**
BSO4				*eS*	**S**	**05 05 05.9**	**0.0**
JHS	**Saijyo**	**3.18**	**266**	*eP*	**Pn**	**05 04 26.8**	**-0.3**
JOI	**OKI**	**3.19**	**289**	*eP*	**Pn**	**05 04 26.8**	**-0.3**
JHO	**Hitachi**	**3.19**	**65**	*eP*	**Pn**	**05 04 26.7**	**-0.5**
BSO1	**Boso 1**	**3.35**	**100**	*eP*	**Pn**	**05 04 28.2**	**-0.1**
SONM	**Songino Array** 0.3nm,0.4s,baz=116,slow=10,SNR=2.7	**25.90**	**308**	P	**P**	**05 08 36.6**	**+2.5**
	0.3nm,0.4s						
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=81,slow=9.3,SNR=3.5	**42.02**	**303**	P	**P**	**05 10 51.7**	**+0.2**
	0.5nm,0.7s						
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=0.0,slow=7.6,SNR=17	**55.00**	**183**	P	**P**	**05 12 29.1**	**-0.8**
	0.3nm,0.3s						
FINES	**FINESS Array B** 0.7nm,0.7s,baz=45,slow=7.2,SNR=0.8	**68.63**	**331**	P	**P**	**05 13 59.0**	**-0.7**
	0.7nm,0.7s						

KRNET ***06*** *05:10:23.8±0.1, 40.°85N×74.°90E, h28km, mb2.7*
NNC ***06*** *05:10:24.7±2.2, 40.°84N×74.°92E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=16.4km s-min=9.2km az=168.0*
SOME ***06*** *05:10:26.3, 41.°07N×74.°88E, h5km*
ISC 06 05:10:22.1±1.6, 40°.70N±0°.07×74°.78E±0°.03, h14km±11km, n27, σ1°17/45, 17C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.75**	**284**	⇑*i*P	**Pn**	**05 10 39.4**	**+1.0**
SALK				⇑*i*S	**Sn**	**05 10 50.7**	**+1.0**
JNKS	**Jany-Kuch**	**0.76**	**62**	⇓*i*P	**Pb**	**05 10 35.7**	**-1.5**
JNKS				⇓*i*S	**Sb**	**05 10 44.5**	**-2.9**
UCH	**Uchtor**	**1.54**	**353**	⇑*i*P	**Pn**	**05 10 49.6**	**0.0**
UCH				⇑*i*S	**Sn**	**05 11 08.2**	**-1.4**
ULHL	**Ulahol**	**1.90**	**35**	⇑*i*P	**Pn**	**05 10 54.5**	**+0.2**
ULHL				⇑*i*S	**Sn**	**05 11 16.7**	**-1.4**
AAK	**Ala-Archa** 1.1nm,0.4s	**1.95**	**354**	⇓P	**Pb**	**05 10 58.3**	**+0.9**
AAK				⇑S	**Sg**	**05 11 23.6**	**-1.1**
	2.3nm,0.5s						
AAK	**Ala-Archa**	**1.95**	**354**	⇓*i*P	**Pn**	**05 10 55.7**	**+0.8**
AAK				⇓*i*S	**Sn**	**05 11 18.9**	**-0.4**
KBK	**Karagaybulak**	**1.96**	**4**	⇓*i*P	**Pn**	**05 10 55.6**	**+0.5**
KBK				⇓*i*S	**Sn**	**05 11 18.9**	**-0.7**
EKS2	**Erkin-Say**	**2.10**	**339**	⇑*e*P	**Pn**	**05 10 58.3**	**+1.4**
EKS2				⇑*i*S	**Sn**	**05 11 23.2**	**+0.3**
CHMS	**Chumysh**	**2.30**	**360**	⇑*i*P	**Pn**	**05 11 00.2**	**+0.6**
CHMS				⇑*i*S	**Sn**	**05 11 26.7**	**-1.0**
TKM2	**Tokmak 2**	**2.30**	**15**	⇑*i*P	**Pn**	**05 11 00.2**	**+0.4**
TKM2				⇑*i*S	**Sn**	**05 11 26.7**	**-1.4**
KDJ	**Kajisay**	**2.30**	**51**	⇑*i*P	**Pn**	**05 11 00.4**	**+0.6**
KDJ				⇑*i*S	**Sn**	**05 11 27.0**	**-1.1**
MRKS	**Merke** 3.5nm,0.2s	**2.35**	**331**	Pg	**Pg**	**05 11 06.4**	**-0.7**
MRKS				Lg	Lg	05 11 35.0	
	24nm,0.4s						
MRKS	**Merke**	**2.35**	**331**	*eP*	**Pb**	**05 11 05.5**	**+1.2**
	3.6nm,0.2s						
MRKS				*eS*	**Sb**	**05 11 33.2**	**0.0**
	23nm,0.3s						
KST	**Kastek** 3.0nm,0.2s	**2.50**	**20**	Pg	**Pb**	**05 11 07.5**	**+0.6**
KST				Lg	Lg	05 11 37.4	
	26nm,0.3s						
KST	**Kastek** 3.0nm,0.2s	**2.50**	**20**	*eP*	**Pb**	**05 11 07.0**	**+0.1**
KST				*eS*	**Sn**	**05 11 35.7**	**+2.8**
	26nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.50**	**65**	⇑*i*P	**Pn**	**05 11 03.4**	**+0.6**
TARG				⇑*i*S	**Sn**	**05 11 32.1**	**-1.3**
TNSS	**Tian-Shan** 0.7nm,0.3s	**2.84**	**34**	Pg	**Pb**	**05 11 13.9**	**+1.1**
TNSS				Lg	Lg	05 11 47.7	
	3.4nm,0.5s						
TNSS	**Tian-Shan**	**2.84**	**34**	*eP*	**Pb**	**05 11 13.9**	**+1.1**
	0.7nm,0.3s						
TNSS				*eS*	**Sb**	**05 11 47.7**	**0.0**
	3.4nm,0.5s						
KUU	**Kurty** 1.8nm,0.1s	**3.39**	**19**	Pg	**Pb**	**05 11 22.8**	**+0.8**
KUU				Lg	Lg	05 12 03.1	
	18nm,0.4s						
KUU	**Kurty**	**3.39**	**19**	*eP*	**Pb**	**05 11 22.8**	**+0.8**
	1.8nm,0.1s						
KUU				*eS*	**Sb**	**05 12 03.1**	**-0.1**
	18nm,0.4s						
IUG	**Iuzhnay** 8.4nm,0.4s	**3.85**	**294**	Pg	**Pg**	**05 11 35.9**	**+0.1**
IUG				Lg	Lg	05 12 25.5	
	10nm,0.5s						
KK31	**Karatay Array** 0.5nm,0.3s,baz=113,slow=17,SNR=4.0	**3.99**	**308**	Pg	**Pg**	**05 11 36.6**	**-1.8**
KK31				⇓Lg	Lg	05 12 27.9	
	1.4nm,0.3s,baz=126,slow=27,SNR=5.0						
ARXS	**Arharly** 2.0nm,0.5s	**4.17**	**32**	Pg	**Pb**	**05 11 36.7**	**+1.4**
ARXS				Lg	Lg	05 12 27.3	
	3.8nm,0.7s						
SHLS	**Shalkode** 3.0nm,0.2s	**4.27**	**53**	Pg	**Pg**	**05 11 44.8**	**+1.0**
SHLS				Lg	Lg	05 12 40.9	
	3.2nm,0.4s						
SHLS	**Shalkode** 3.0nm,0.2s	**4.27**	**53**	*eP*	**Pg**	**05 11 44.8**	**+1.0**
SHLS				*eS*	**Sg**	**05 12 40.9**	**+1.7**
	3.2nm,0.4s						
BRLS	**Borolday** 1.2nm,0.5s	**4.36**	**304**	Pg	**Pg**	**05 11 44.7**	**-0.9**
BRLS				Lg	Lg	05 12 40.9	
	3.1nm,0.3s						
BRLS	**Borolday** 1.2nm,0.5s	**4.36**	**304**	*eP*	**Pg**	**05 11 44.7**	**-0.9**
BRLS				*eS*	**Sg**	**05 12 40.9**	**-1.2**
	3.1nm,0.3s						

IDC 06 05:35:10.3±1.5, 24°.87N×141°.87E, h206km±45km, mb3.5/3, mbtmp4.0/4, Error ellipse: s-maj=244.5km s-min=26.0km az=87.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 35nm,0.3s,baz=67,slow=23,SNR=6.6	**2.24**	**7**	P	**Pn**	**05 35 53.6**	**+1.9**
JCJ				S	**S**	**05 36 24.3**	**+0.6**
	85nm,0.3s,baz=278,slow=22,SNR=20						
WRA	**Warramunga Arr** 4.5nm,0.4s,baz=8.4,slow=8.0,SNR=79	**45.14**	**190**	P	**P**	**05 43 05.9**	**-0.7**
	4.5nm,0.4s						
ASAR	**Alice Springs** 0.3nm,0.6s,baz=12,slow=9.0,SNR=5.1	**48.86**	**190**	P	**P**	**05 43 35.8**	**+0.5**
	0.3nm,0.6s						
FINES	**FINESS Array B** 1.3nm,0.9s,baz=57,slow=5.1,SNR=1.6	**79.81**	**334**	P	**P**	**05 46 55.9**	**+0.4**
	1.3nm,0.9s						

IDC ***06*** *05:53:06.9±4.8, 13.°26S×170.°14E, h557km±65km, mb3.0/4, mbtmp4.0/5, Error ellipse: s-maj=82.9km s-min=31.3km az=155.0*
ISC 06 05:53:06.3±1.5, 13°.2S±0°.2×170°.1E±0°.3, h550km, n6, σ0°86/6, mb3.7/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 4.1nm,0.6s,baz=268,slow=11,SNR=6.3	**9.46**	**201**	P	**P**	**05 55 19.2**	**+0.4**
STKA	**Stephens Creek** 2.7nm,0.4s,baz=72,slow=19,SNR=3.9	**32.05**	**230**	P	**P**	**05 58 47.5**	**-0.9**
	2.7nm,0.4s						
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=81,slow=8.1,SNR=12	**34.87**	**254**	P	**P**	**05 59 12.8**	**+0.6**
	0.4nm,0.3s						
ASAR	**Alice Springs** 1.6nm,0.5s,baz=75,slow=9.5,SNR=22	**35.78**	**248**	P	**P**	**05 59 20.1**	**+0.3**
	1.6nm,0.5s						
ILAR	**Eielson Array** 0.3nm,0.5s,baz=225,slow=6.0,SNR=5.0	**84.28**	**17**	P	**P**	**06 04 40.4**	**+0.4**
	0.3nm,0.5s						
ARCES	**ARCESS Array B** 1.7nm,0.8s,baz=70,slow=1.8,SNR=5.4	**119.47**	**346**	PKP	**PKPdf**	**06 10 52.2**	**-0.9**

ASRS ***06*** *06:02:17.4±0.3, 48.°7N×2.°5E±.°, h20km, MLh3.2/12, Error ellipse: s-maj=6.8km s-min=2.9km az=137.1, confirmed*
NNC ***06*** *06:02:20.5±2.2, 48.°33N×85.°22E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=16.1km s-min=5.3km az=82.0*
SOME ***06*** *06:02:21.4, 48.°28N×84.°78E, h0km*
ISC 06 06:02:21.3±0.8, 48°.35N±0°.04×85°.28E±0°.04, h10km, n19, σ2°48/31, 3C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan** 4.8nm,0.2s	**0.94**	**197**	*eP*	**Pg**	**06 02 36.8**	**-2.5**
ZSN				*eS*	**Sg**	**06 02 47.7**	**-3.9**
	53nm,0.2s						
DGZ	**Jazzator, Alta**	**1.96**	**45**	Pg	**Pb**	**06 02 56.5**	**-0.6**
DGZ				Sg	**Sb**	**06 03 21.2**	**-0.4**
CHBI	**Chibit, Altay**	**2.45**	**36**	Pg	**Pn**	**06 03 03.0**	**+1.7**
CHBI				Sg	**Sb**	**06 03 35.6**	**+0.1**
AKAR	**Aktash**	**2.50**	**37**	Pg	**Pb**	**06 03 05.1**	**-1.2**
AKAR				Sg	**Sb**	**06 03 38.5**	**+1.4**
MK31	**Makanchi Array** 4.6nm,0.4s,baz=57,slow=13,SNR=192	**2.55**	**234**	⇑Pg	**Pb**	**06 03 06.5**	**-0.6**
MK31				⇑Lg	Lg	06 03 40.2	
	8.6nm,0.3s,baz=52,slow=16,SNR=14						
MAKZ	**Makanchi** 3.6nm,0.3s	**2.72**	**237**	Pg	**Pb**	**06 03 09.0**	**-0.9**
MAKZ				Lg	Lg	06 03 45.0	
	16nm,0.5s						
MAKZ	**Makanchi**	**2.72**	**237**	Pg	**Pb**	**06 03 09.0**	**-0.9**
MAKZ				Sg	**Sg**	**06 03 45.5**	**-3.0**
ULGR	**Ulagan, Altay**	**2.87**	**36**	Pg	**Pb**	**06 03 11.4**	**-1.2**
ULGR				Sg	**Sb**	**06 03 50.5**	**+2.7**
ELDR	**Elanda**	**2.92**	**10**	Pg	**Pb**	**06 03 11.4**	**-2.0**
ELDR				Sg	**Sb**	**06 03 50.4**	**+1.3**
ARTR	**Artybash**	**3.69**	**20**	Pg	**Pb**	**06 03 27.7**	**+1.3**
ARTR				Sg	**Sb**	**06 04 14.7**	**+3.6**
YALR	**Yailyu, Altay**	**3.74**	**23**	Pg	**Pb**	**06 03 28.1**	**+0.7**
YALR				Sg	**Sb**	**06 04 16.0**	**+3.3**
SEM	**Semipalatinsk** 2.6nm,0.1s	**3.88**	**304**	*eP*	**Pb**	**06 03 28.9**	**-1.0**
SEM				*eS*	**Sb**	**06 04 17.2**	**+0.3**
	9.6nm,0.1s						
TEL	**Teeli**	**4.17**	**48**	Pg	**Pb**	**06 03 35.0**	**+0.4**
TEL				Sg	**Sg**	**06 04 30.8**	**-4.1**
TASR	**Tashtagol**	**4.72**	**20**	Sg	**Sg**	**06 04 49.1**	**-3.5**
KURK	**Kurchatov** 1.2nm,0.4s	**4.94**	**301**	⇓Sn	**Sn**	**06 04 34.4**	**+1.7**
KURK				⇓Lg	Lg	06 04 56.2	
	5.0nm,0.4s						
KURK	**Kurchatov**	**4.94**	**301**	Sg	**Sg**	**06 04 56.8**	**-3.0**
KURBB	**Kurchatov Arra** 2.6nm,0.5s	**4.95**	**300**	⇑Sn	**Sn**	**06 04 34.1**	**+1.1**
KURBB				⇓Lg	Lg	06 04 58.0	
	20nm,0.7s						
ELT	**Eltsovka**	**4.96**	**7**	Sg	**Sg**	**06 04 56.1**	**-4.2**
SHLS	**Shalkode** 1.0nm,0.1s	**6.60**	**220**	*eP*	**Pb**	**06 04 17.5**	**+1.4**
SHLS				*eS*	**Sb**	**06 05 40.5**	**+5.5**
	3.1nm,0.1s						

SNET ***06*** *06:21:57.5±1.0, 13.°21N×87.°96W, h1km±8km, ML2.7*
CATAC ***06*** *06:21:58.4±0.2, 13.°7N±2.°×8.°8W±.°, h5km±1km, M2.6/13, MLv2.6/13, Error ellipse: s-maj=4.8km s-min=2.5km az=21.4, confirmed*
GCG ***06*** *06:21:58.9±1.2, 13.°10N×87.°81W, h36km±999km, MD3.5*
ISC 06 06:21:58.2±0.9, 13°.23N±0°.05×87°.92W±0°.03, h15km±4km, n34, σ0°65/46, 3C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.09**	**21**	*i* P	**Pg**	**06 22 00.8**	**-0.5**
LCND				⇑*i*P		06 22 00.9	
LCND				*e*S	**Sg**	**06 22 02.8**	**-0.5**
LCND				*e*S		06 22 02.9	
LCND				IAML		06 22 03.7	
	comp=Z,3μm,0.2s						
LCND				IAML		06 22 03.7	
	comp=Z,3μm,0.2s						
LCND	**La Caada**	**0.09**	**21**	P	**Pg**	**06 22 00.8**	**-0.5**
CNCH	**Conchagua**	**0.10**	**61**	⇑*i*P	**Pb**	**06 22 01.4**	**-0.2**
CNCH				*e*S	**Sg**	**06 22 03.6**	**-0.1**
CNCH	**Conchagua**	**0.10**	**61**	P	**Pb**	**06 22 01.4**	**-0.2**
CNCH				S	**Sg**	**06 22 03.8**	**0.0**
BLLM	**Bellamira**	**0.37**	**305**	*i* P	**Pg**	**06 22 05.5**	**-0.3**
VSM	**San Miguel**	**0.40**	**300**	*e*P	**Pg**	**06 22 06.4**	**+0.1**
LCY	**Lacayo**	**0.41**	**298**	⇑*i*P	**Pg**	**06 22 06.5**	**0.0**
CSGN	**Cosiguina Volc**	**0.43**	**125**	P	**Pb**	**06 22 07.3**	**-0.3**
CSGN				S	**Sb**	**06 22 14.2**	**+0.2**
PACA	**Pacayal**	**0.46**	**302**	*i* P	**Pg**	**06 22 07.1**	**-0.2**
PACA				*e*P	**Pb**	**06 22 07.4**	**-0.7**
PACA	**Pacayal**	**0.46**	**302**	P	**Pg**	**06 22 07.1**	**-0.2**
POTN	**Potosi Cosigui**	**0.46**	**119**	P	**Pb**	**06 22 08.0**	**-0.1**
POTN				S	**Sb**	**06 22 15.2**	**+0.4**
PQSS	**Presa 15 de Se**	**0.73**	**302**	*i* P	**Pg**	**06 22 12.2**	**-0.4**
PQSS	**Presa 15 de Se**	**0.73**	**302**	P	**Pg**	**06 22 12.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.92**	**301**	*e*P	**Pg**	**06 22 15.0**	**-0.9**
SCLA	**Alcaldia de Sa**	**0.92**	**301**	P	**Pg**	**06 22 15.0**	**-0.9**
SCLA	**Alcaldia de Sa**	**0.92**	**301**	S	**Sb**	**06 22 27.9**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.04**	**37**	P	**Pg**	**06 22 17.5**	**-0.8**
TGUH				S	**Sg**	**06 22 31.5**	**-0.4**
POLN	**Al Sur del Vol**	**1.23**	**118**	P	**Pb**	**06 22 20.6**	**-0.5**
POLN				S	**Sn**	**06 22 37.4**	**+0.2**
JAYA	**Jayaque - finc**	**1.54**	**286**	*e*P	**Pn**	**06 22 25.7**	**+0.4**
JAYA				*e*S	**Sb**	**06 22 46.5**	**+0.4**
JAYA	**Jayaque - finc**	**1.54**	**286**	*e*P	**Pn**	**06 22 25.5**	**+0.1**
JAYA				*i* S	**Sb**	**06 22 46.5**	**+0.4**
JAYA	**Jayaque - finc**	**1.54**	**286**	P	**Pn**	**06 22 25.4**	**0.0**
RCVN	**Varillal2**	**1.72**	**78**	P	**Pb**	**06 22 29.5**	**-0.1**
RCVN	**Varillal2**	**1.72**	**78**	S	**Sb**	**06 22 51.9**	**+0.8**
SARH	**Santa Rosa de**	**1.74**	**332**	*e*P	**Pb**	**06 22 29.5**	**-0.4**
SARH				*i* S	**Sb**	**06 22 52.8**	**+1.1**
RCPN	**Sur Rio San Ju**	**1.80**	**80**	S	**Sb**	**06 22 54.1**	**+0.5**
RCPN	**Sur Rio San Ju**	**1.80**	**80**	P	**Pn**	**06 22 29.3**	**+0.4**
MTO3	**Montecristo**	**1.82**	**310**	*e*P	**Pn**	**06 22 30.3**	**+1.0**
MTO3	**Montecristo**	**1.82**	**310**	*i* P	**Pn**	**06 22 30.2**	**+1.0**
ESQI	**Esquipulas**	**1.91**	**314**	*e*P	**Pb**	**06 22 31.9**	**-1.0**
NUBE	**Las Nubes**	**1.93**	**291**	*e*P	**Pb**	**06 22 32.7**	**-0.5**
NUBE				*e*S	**Sb**	**06 22 58.2**	**+1.1**
NUBE	**Las Nubes**	**1.93**	**291**	P	**Pn**	**06 22 31.7**	**+1.0**
NUBE	**Las Nubes**	**1.93**	**291**	S	**Sb**	**06 22 57.8**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.33**	**109**	S	**Sb**	**06 23

WR8					IAmb	IAmb	06 55 48.1		
	comp=Z,8.2nm,1.1s								
WB0	**Warramunga Arr**	**47.42**	**260**			**P**	**06 55 45.7**	**+1.0**	
WB0					IAmb	IAmb	06 55 48.1		
	comp=Z,7.3nm,0.8s								
WRA	**Warramunga Arr**	**47.45**	**259**			**P**	**06 55 45.6**	**+0.8**	
WRA	**Warramunga Arr**	**47.45**	**259**	P		**P**	**06 55 45.2**	**+0.4**	
	comp=Z,4.1nm,0.6s,baz=97,slow=8.4,SNR=58								
WRA				LR		LR	07 14 51.9		
	comp=Z,61nm,19.3s,baz=49,slow=35								
	comp=Z,4.1nm,0.6s								
AS31	**Alice Springs**	**47.53**	**254**			**P**	**06 55 46.2**	**+0.7**	
AS31					IAmb	IAmb	06 55 54.9		
	comp=Z,1.9nm,0.8s								
ASAR	**Alice Springs**	**47.53**	**254**			**P**	**06 55 46.3**	**+0.8**	
ASAR	**Alice Springs**	**47.53**	**254**	P		**P**	**06 55 46.0**	**+0.6**	
	comp=Z,7.0nm,0.8s,baz=86,slow=8.5,SNR=50								
ASAR				LR		LR	07 14 49.7		
	comp=Z,40nm,18.4s,baz=88,slow=35								
	comp=Z,7.0nm,0.8s								
FORT	**Forrest**	**52.54**	**245**	P		**P**	**06 56 22.7**	**-0.1**	
FORT					IAmb	IAmb	06 56 24.7		
	comp=Z,5.4nm,0.8s								
KNRA	**Kununurra**	**53.35**	**264**	P		**P**	**06 56 30.6**	**+1.6**	
KNRA					IAmb	IAmb	06 56 33.5		
	comp=Z,12nm,0.8s								
FITZ	**Fitzroy Crossi**	**55.85**	**260**	P		**P**	**06 56 48.8**	**+1.9**	
VNDA	**Vanda**	**60.49**	**186**	P		**P**	**06 57 15.2**	**-2.7**	
	comp=Z,1.5nm,1.0s,baz=16,slow=6.2,SNR=6.6								
	comp=Z,1.5nm,1.0s								
SHEM	**Shemya Is, Ala**	**71.15**	**353**	LR		LR	07 22 33.2		
	comp=Z,56nm,22.0s,baz=193,slow=30								
QSPA	**South Pole Qui**	**71.93**	**180**	P		**P**	**06 58 30.8**	**+0.1**	
QSPA					IAmb	IAmb	06 58 33.5		
	comp=Z,12nm,0.9s								
QSPA	**South Pole Qui**	**71.93**	**180**	P		**P**	**06 58 28.5**	**-2.2**	
	comp=Z,8.8nm,0.9s,baz=53,slow=1.5,SNR=8.0								
	comp=Z,8.8nm,0.9s								
PETK	**Petropavlovsk-**	**74.67**	**344**	LR		LR	07 25 47.7		
	comp=Z,20nm,21.9s,baz=148,slow=31								
PFO	**Pinyon Flats O**	**76.14**	**47**	LR		LR	07 25 09.9		
	comp=Z,40nm,19.6s,baz=216,slow=30								
KSRS	**Korea Array**	**76.82**	**317**	P		**P**	**06 59 01.6**	**+2.6**	
	comp=Z,1.7nm,0.6s,baz=139,slow=7.2,SNR=10.0								
	comp=Z,1.7nm,0.6s								
YBH	**Yreka Blue Hor**	**76.89**	**38**	P		P	06 58 56.5	-3.0	
	baz=190,slow=14,SNR=3.4								
NVAR	**Mina Array Bea**	**77.60**	**42**	P		P	06 59 00.7	-3.0	
	comp=Z,1.3nm,0.8s,baz=222,slow=9.1,SNR=10								
	comp=Z,1.3nm,0.8s								
KDAK	**Kodiak Island**	**77.96**	**12**	LR		LR	07 26 08.9		
	comp=Z,37nm,20.3s,baz=178,slow=30								
ELK	**Elko**	**80.86**	**42**	P		P	06 59 18.1	-3.2	
	comp=Z,0.6nm,0.6s,baz=66,slow=0.3,SNR=3.7								
ELK				LR		LR	07 27 29.3		
	comp=Z,38nm,20.5s,baz=242,slow=30								
	comp=Z,0.6nm,0.6s								
MA2	**Magadan**	**82.21**	**343**	LR		LR	07 30 11.9		
	comp=Z,16nm,20.4s,baz=165,slow=31								
TXAR	**Lajitas Array**	**83.68**	**57**	P		P	06 59 32.7	-3.2	
	comp=Z,0.4nm,0.7s,baz=210,slow=4.3,SNR=5.5								
	comp=Z,0.4nm,0.7s								
ANMO	**Albuquerque**	**83.98**	**50**	P		P	06 59 34.7	-2.7	
	comp=Z,0.4nm,0.4s,baz=321,slow=5.5,SNR=6.4								
ANMO				LR		LR	07 28 57.8		
	comp=Z,40nm,20.2s,baz=324,slow=30								
	comp=Z,0.4nm,0.4s								
NEW	**Newport**	**84.01**	**35**	LR		LR	07 29 14.8		
	comp=Z,30nm,19.1s,baz=222,slow=30								
ILAR	**Eielson Array**	**85.48**	**12**	P		**P**	**06 59 41.5**	**-2.4**	
	comp=Z,1.1nm,0.7s,baz=230,slow=5.9,SNR=13								
ILAR				LR		LR	07 30 38.9		
	comp=Z,23nm,21.2s,baz=272,slow=31								
	comp=Z,1.1nm,0.7s								
PDAR	**Pinedale Array**	**85.53**	**42**	P		P	06 59 42.2	-2.8	
	comp=Z,0.6nm,0.9s,baz=224,slow=6.2,SNR=5.9								
	comp=Z,0.6nm,0.9s								
INK	**Inuvik**	**91.36**	**14**	LR		LR	07 36 39.8		
	comp=Z,36nm,19.2s,baz=156,slow=33								
BRTR	**Keskin Array B**	**146.97**	**317**	PKPbc		**PKPbc**	**07 06 49.0**	**+0.7**	
	comp=Z,1.3nm,0.7s,baz=116,slow=2.9,SNR=6.4								
GERES	**GERESS Array B**	**148.49**	**349**	PKPbc		**PKPbc**	**07 06 52.4**	**+0.4**	
	comp=Z,0.7nm,0.7s,baz=19,slow=9.0,SNR=3.4								
ESDC	**Sonseca Array**	**157.27**	**17**	PKPab		**PKPab**	**07 07 29.6**	**-3.7**	
	comp=Z,0.4nm,0.6s,baz=295,slow=1.9,SNR=5.1								

*IDC **06** 06:53:42.8±0.9, 54°.36S×5°.53E, h0km, mb4.2/8, mbtmp4.3/9, MS3.7/25, Error ellipse: s-maj=28.3km s-min=19.7km az=55.0*
*NEIC **06** 06:53:45.1±1.1, 54°.4S±0°.1×5°.2E±0°.3, h10km±1km, mb4.6/11, Error ellipse: s-maj=29.9km s-min=19.0km az=298.0*

ISC 06 06:53:44.9±0.6, 54°.39S±0°.09×5°.3E±0°.1, h10km, n54, σ1s68/27, mb4.4/9, MS3.8/25, 2C-5D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**17.40**	**195**	⇓P		**Pn**	**06 57 45.9**	**-1.5**
	comp=Z,19nm,0.4s							
SNAA	**Sanae**	**17.71**	**188**	⇓P		**Pn**	**06 57 49.5**	**-1.8**
	comp=Z,866nm,0.8s							
SNAA				S		Sn	07 00 56.5	-12
SNAA	**Sanae**	**17.71**	**188**			**Pn**	**06 57 49.3**	**-2.0**
SNAA					IAmb	IAmb	06 57 53.4	
	comp=Z,47nm,0.9s							
SNAA	**Sanae**	**17.71**	**188**	P		**Pn**	**06 57 49.7**	**-1.6**
	comp=Z,34nm,0.8s							
TROLL	**Troll, Antarti**	**17.73**	**183**	⇓P		**Pn**	**06 57 49.0**	**-2.6**
	comp=Z,443nm,0.4s							
TROLL				S		Sn	07 00 55.7	-13
VNA3	**Neumayer Olymp**	**18.15**	**196**	⇓P		**Pn**	**06 57 54.9**	**-1.7**
	comp=Z,11nm,0.6s							
VNA3				S		Sn	07 01 04.6	-14
SYO	**Syowa Base**	**21.44**	**146**	⇑*i*P		**P**	**06 58 34.9**	**+2.2**
SYO	**Syowa Base**	**21.44**	**146**	⇓*e*Sn		**P**	**06 58 38.1**	**+5.4**
SYO	**Syowa Base**	**21.44**	**146**	⇑*e*PnPn		P	06 58 49.2	+17
HOPE	**Hope Point**	**24.13**	**253**	P		P	**06 58 59.5**	**-1.1**
BOSA	**Boshof**	**29.55**	**37**	P		**P**	**06 59 49.7**	**0.0**
BOSA	**Boshof**	**29.55**	**37**	P		**P**	**06 59 48.8**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=196,slow=10.0,SNR=3.7							
BOSA				LR		LR	07 09 19.7	
	comp=Z,257nm,20.7s,baz=196,slow=32							
	comp=Z,1.9nm,0.6s							
MAW	**Mawson**	**29.60**	**139**	P		**P**	**06 59 48.5**	**-1.0**
	comp=Z,6.0nm,0.9s,baz=279,slow=9.4,SNR=6.9							
MAW				LR		LR	07 09 27.7	
	comp=Z,55nm,20.6s,baz=269,slow=32							
	comp=Z,6.0nm,0.9s							
H04S2	**CROZET ISLANDS**	**30.01**	**95**	T		T	07 31 38.8	
	baz=239,slow=75,SNR=158							
H04S3	**CROZET ISLANDS**	**30.02**	**95**	T		T	07 31 42.7	
	baz=239,slow=75,SNR=163							
H04S1	**CROZET ISLANDS**	**30.03**	**95**	T		T	07 31 38.0	
	baz=239,slow=75,SNR=203							
LBTB	**Lobatse**	**32.98**	**35**	P		**P**	**07 00 19.3**	**-0.5**
LBTB	**Lobatse**	**32.98**	**35**	LR		LR	07 11 01.6	
	comp=Z,142nm,21.2s,baz=193,slow=32							
PMSA	**Palmer Station**	**34.80**	**225**	P		**P**	**07 00 36.9**	**+1.7**
PMSA	**Palmer Station**	**34.80**	**225**	LR		LR	07 10 47.5	
	comp=Z,188nm,20.7s,baz=86,slow=29							
QSPA	**South Pole Qui**	**35.85**	**180**	P		**P**	**07 00 44.7**	**+0.2**
QSPA					IAmb	IAmb	07 00 45.3	
	comp=Z,7.6nm,0.8s							
QSPA	**South Pole Qui**	**35.85**	**180**	P		**P**	**07 00 44.6**	**+0.2**
	comp=Z,6.3nm,0.7s,baz=236,slow=3.4,SNR=19							
QSPA				LR		LR	07 14 50.9	
	comp=Z,194nm,19.4s,baz=214,slow=35							
	comp=Z,6.3nm,0.7s							
TSUM	**Tsumeb**	**36.36**	**20**	LR		LR	07 13 22.2	
	comp=Z,284nm,20.9s,baz=148,slow=32							
MATP	**Matopo**	**38.21**	**37**	LR		LR	07 15 11.7	
	comp=Z,92nm,18.1s,baz=204,slow=34							
LSZ	**Lusaka**	**42.90**	**33**	LR		LR	07 17 39.8	
	comp=Z,174nm,18.7s,baz=188,slow=34							
VOI	**Vohitsoka**	**44.93**	**61**	P		**P**	**07 02 00.4**	**+0.4**
VOI					IAmb	IAmb	07 02 03.8	
	comp=Z,7.5nm,1.0s							
SBA	**Scott Base**	**47.53**	**175**	P		**P**	**07 02 20.4**	**+0.8**
VNDA	**Vanda**	**47.55**	**173**	P		**P**	**07 02 19.9**	**+0.1**
VNDA					IAmb	IAmb	07 02 27.3	
	comp=Z,5.0nm,1.0s							
VNDA	**Vanda**	**47.55**	**173**	P		**P**	**07 02 19.8**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=211,slow=8.2,SNR=17							
VNDA				LR		LR	07 21 51.7	
	comp=Z,95nm,19.8s,baz=188,slow=36							
	comp=Z,2.7nm,0.7s							
H10S2	**ASCENSION HYDR**	**48.04**	**333**	T		T	07 54 06.1	
	baz=164,slow=74,SNR=8.3							
H10S3	**ASCENSION HYDR**	**48.05**	**333**	T		T	07 54 06.4	
	baz=56,slow=74,SNR=10							
CPUP	**Villa Florida**	**53.21**	**275**	P		**P**	**07 03 03.6**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=138,slow=16,SNR=3.4							
CPUP				LR		LR	07 23 33.4	
	comp=Z,8.9nm,18.8s,baz=347,slow=34							
	comp=Z,0.8nm,0.9s							
BDFB	**Brasilia**	**56.38**	**292**	P		**P**	**07 03 27.2**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=163,slow=9.1,SNR=3.1							
BDFB				LR		LR	07 22 08.4	
	comp=Z,49nm,21.4s,baz=325,slow=30							
	comp=Z,2.0nm,0.6s							
KMBO	**Kilima Mbogo**	**59.19**	**38**	LR		LR	07 27 10.8	
	comp=Z,116nm,20.1s,baz=274,slow=34							
DBIC	**Dimbokro**	**61.43**	**348**	LR		LR	07 24 09.4	
	comp=Z,71nm,20.9s,baz=152,slow=30							
SIV	**San Ignacio**	**63.43**	**280**	LR		LR	07 28 59.5	
	comp=Z,42nm,18.1s,baz=108,slow=33							
LPAZ	**La Paz**	**67.30**	**274**	P		**P**	**07 04 40.0**	**-0.5**
LPAZ	**La Paz**	**67.30**	**274**	P		**P**	**07 04 40.5**	**0.0**
	comp=Z,2.3nm,0.8s,baz=154,slow=4.1,SNR=11							
LPAZ				LR		LR	07 30 46.6	
	comp=Z,35nm,21.2s,baz=90,slow=33							
	comp=Z,2.3nm,0.8s							
H01W2	**Cape Leeuwin H**	**72.12**	**125**	T		T	08 24 49.2	
	baz=216							
H01W1	**Cape Leeuwin H**	**72.14**	**125**	T		T	08 24 45.1	
	baz=216,slow=74,SNR=62							
H01W3	**Cape Leeuwin H**	**72.14**	**125**	T		T	08 24 49.9	
	baz=216,slow=74,SNR=46							
NNA	**Nana**	**75.80**	**269**	LR		LR	07 36 20.3	
	comp=Z,38nm,21.8s,baz=168,slow=34							
MDP	**Montagnes des**	**76.27**	**300**	LR		LR	07 35 21.6	
	comp=Z,44nm,18.5s,baz=235,slow=33							
ATAH	**Atahualpa**	**80.59**	**271**	LR		LR	07 40 59.9	
	comp=Z,25nm,19.5s,baz=170,slow=35							
MDT	**Midelt**	**87.27**	**352**	LR		LR	07 41 11.4	
	comp=Z,53nm,18.6s,baz=186,slow=33							
PALK	**Pallekele**	**87.45**	**74**	LR		LR	07 37 39.6	
	comp=Z,28nm,19.4s,baz=236,slow=30							
EIL	**Elat**	**87.53**	**26**	LR		LR	07 44 42.6	
	comp=Z,121nm,18.5s,baz=255,slow=35							
ROSC	**El Rosal**	**87.90**	**281**	LR		LR	07 42 40.9	
	comp=Z,66nm,20.9s,baz=186,slow=33							
ASF	**Jabal al Asfar**	**90.41**	**26**	LR		LR	07 45 34.4	
	comp=Z,84nm,19.1s,baz=252,slow=34							
ASAR	**Alice Springs**	**90.61**	**134**	P		**P**	**07 06 45.8**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=192,slow=5.3,SNR=6.6							
	comp=Z,0.7nm,0.8s							
MMAI	**Mount Meron Ar**	**90.83**	**25**	LR		LR	07 45 49.6	
	comp=Z,66nm,20.9s,baz=188,slow=34							
PVAQ	**Vaqueiros**	**92.11**	**350**	P		**P**	**07 06 54.3**	**+0.6**
ESDC	**Sonseca Array**	**94.03**	**353**	LR		LR	07 44 14.5	
	comp=Z,25nm,21.2s,baz=226,slow=32							
ILAR	**Eielson Array**	**162.67**	**318**	PKPab		**PKPab**	**07 14 33.2**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=33,slow=3.2,SNR=5.6							

*NSSP **06** 06:55:52.8, 41°.90N×45°.80E, h10km, Ms3.1*
*IDC **06** 06:55:52.5±4.3, 41°.85N×45°.71E, h0km, mb3.4/2, mbtmp3.4/4, ML3.0/2, MS2.6/2, Error ellipse: s-maj=87.0km s-min=18.1km az=21.0*
*MOS **06** 06:55:53.6, 41°.94N×45°.88E, h12km, MPVA4.2*
*TIF **06** 06:55:53.5, 41°.99N×45°.79E, h16km*
*NORS **06** 06:55:54.5, 41°.89N×45°.81E, h1km, MPVA4.1*
*DRS **06** 06:55:54.9, 41°.94N×45°.84E, h18km*
*AZER **06** 06:55:55.3, 41°.78N×45°.82E, h9km, ml3.1*

ISC 06 06:55:53.9±1.1, 41°.90N±0°.01×45°.77E±0°.01, h4km±9km, n128, σ1s06/237, 7C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TLTR	**Tlyarata**	**0.48**	**64**	*e*PG		**Pg**	**06 56 03.3**	**+0.1**
TLTR				*e*S		**Sg**	**06 56 09.8**	**+0.3**
DGRG	**David-gareji**	**0.54**	**214**	P		**Pn**	**06 56 07.5**	**-0.9**
DGRG	**David-gareji**	**0.54**	**214**	PG		**Pn**	**06 56 07.5**	**-0.9**
ZKTA	**Zakatala**	**0.69**	**112**	P		**Pb**	**06 56 08.2**	**-0.3**
ZKTA				S		**Sn**	**06 56 19.7**	**-1.9**
SEAG	**Tbilisi Sea**	**0.74**	**260**	P		**Pb**	**06 56 09.3**	**0.0**
SEAG				S		**Sb**	**06 56 20.1**	**+0.3**
SEAG	**Tbilisi Sea**	**0.74**	**260**	PG		**Pb**	**06 56 09.3**	**0.0**
SEAG				S		**Sb**	**06 56 20.1**	**+0.3**
BTNK	**Botanikuri**	**0.76**	**254**	PG		**Pb**	**06 56 09.7**	**0.0**
TBLG	**Delisi**	**0.79**	**258**	P		**Pb**	**06 56 10.1**	**-0.2**
TBLG				S		**Sb**	**06 56 22.2**	**+0.9**
TBLG	**Delisi**	**0.79**	**258**	PG		**Pb**	**06 56 10.1**	**-0.2**
TBLG				S		**Sb**	**06 56 22.2**	**+0.9**
VSHL	**Vashlovani**	**0.82**	**145**	P		**Pn**	**06 56 12.4**	**+0.2**
VSHL				S		**Sn**	**06 56 27.0**	**+2.2**
BTLR	**Botlikh**	**0.83**	**23**	*e*Pg		**Pg**	**06 56 10.0**	**+0.1**
BTLR				*e*Sg		**Sg**	**06 56 20.5**	**-0.3**
BTLR	**Botlikh**	**0.83**	**23**	*c i*PG		**Pg**	**06 56 09.7**	**-0.2**
BTLR				*i* S		**Sb**	**06 56 21.5**	**-1.1**
BTLR				pmax	pmax			
	comp=Z,229nm,0.6s							
SHTL	**Shatili**	**0.89**	**329**	P		**Pg**	**06 56 09.8**	**-1.1**
SHTL				S		**Sg**	**06 56 21.7**	**-0.8**
SHTL	**Shatili**	**0.89**	**329**	PG		**Pg**	**06 56 09.8**	**-1.1**
SHTL				S		**Sg**	**06 56 21.7**	**-0.8**
QZX	**Qazax, Azerbai**	**0.89**	**200**	P		**Pb**	**06 56 12.3**	**+0.4**
QZX				S		**Sn**	**06 56 26.1**	**-0.6**
XNZR	**Khunzakh**	**0.94**	**47**	*e*Pg		**Pb**	**06 56 12.4**	**-0.5**
XNZR				*e*Sg		**Sg**	**06 56 24.4**	**+0.1**
HNZR	**Khunzah**	**0.96**	**46**	*e*PG		**Pg**	**06 56 12.4**	**0.0**
HNZR				*e*S		**Sg**	**06 56 24.4**	**-0.5**
GNBR	**Gunib**	**1.01**	**61**	*e*Pg		**Pb**	**06 56 13.5**	**-0.6**
GNBR				*e*Sg		**Sb**	**06 56 27.5**	**-0.2**
GNBR	**Gunib**	**1.01**	**61**	*e*PG		**Pb**	**06 56 13.5**	**-0.6**
GNBR				*e*S		**Sb**	**06 56 27.5**	**-0.2**
KMKR	**Kumukh**	**1.01**	**76**	*e*Pg		**Pb**	**06 56 13.7**	**-0.6**
KMKR				*e*Sg		**Sb**	**06 56 27.1**	**-0.9**
KMKR	**Kumukh**	**1.01**	**76**	*e*PG		**Pb**	**06 56 13.6**	**-0.6**
KMKR				*e*S		**Sb**	**06 56 27.1**	**-0.9**
KMKR				pmax	pmax			
	comp=Z,290nm,0.3s							
LSVT	**Lusahovit**	**1.07**	**204**	⇑*i*P		**Pb**	**06 56 15.1**	**0.0**
LSVT				⇓*i*S		**Sn**	**06 56 31.1**	**-0.1**
UNCR	**Uncukul**	**1.11**	**43**	*e*Pg		**Pg**	**06 56 15.2**	**-0.1**
UNCR				*e*Sg		**Sb**	**06 56 30.2**	**-0.4**
UNCR	**Uncukul**	**1.11**	**43**	*e*PG		**Pg**	**06 56 15.2**	**-0.1**
UNCR				*e*S		**Sb**	**06 56 30.2**	**-0.4**
UNCR				pmax	pmax			
	comp=Z,144nm,0.4s							
ARKR	**Arakani**	**1.15**	**52**	*e*Pg		**Pg**	**06 56 15.7**	**-0.2**
ARKR				*e*Sg		**Sb**	**06 56 30.9**	**-0.8**
ARKR	**Arakani**	**1.15**	**52**	*e*PG		**Pg**	**06 56 15.7**	**-0.2**
ARKR				*e*S		**Sb**	**06 56 30.8**	**-0.8**
ARKR				pmax	pmax			
	comp=Z,135nm,0.5s							
KZRT	**Kazreti**	**1.15**	**244**	P		**Pg**	**06 56 13.7**	**-2.2**
KZRT				S		**Sg**	**06 56 30.0**	**-0.8**
KZRT	**Kazreti**	**1.15**	**244**	PG		**Pg**	**06 56 13.7**	**-2.2**
KZRT				S		**Sg**	**06 56 30.0**	**-0.8**
GDB	**GEDABAY**	**1.18**	**181**	P		**Pg**	**06 56 16.5**	**0.0**
GDB				S		**Sn**	**06 56 33.3**	**-0.6**
KRNR	**Karanay**	**1.25**	**42**	*e*Pg		**Pn**	**06 56 17.8**	**-0.5**
KRNR				*e*Sg		**Sn**	**06 56 34.4**	**-1.2**
KRNR	**Karanay**	**1.25**	**42**	*e*PG		**Pn**	**06 56 17.8**	**-0.5**
KRNR				*e*S		**Sn**	**06 56 34.4**	**-1.2**
KRNR				pmax	pmax			
	comp=Z,134nm,0.2s							
SEKA	**Sheki**	**1.27**	**122**	Pn		**Pg**	**06 56 18.3**	**0.0**
SEKA				Sn		**Sn**	**06 56 37.1**	**+1.0**
SEKA	**Sheki**	**1.27**	**122**	PG		**Pg**	**06 56 18.3**	**0.0**
TRLG	**Trialeti**	**1.30**	**255**	P		**Pn**	**06 56 18.4**	**-0.6**
TRLG				S		**Sn**	**06 56 37.3**	**+0.4**
TRLG	**Trialeti**	**1.30**	**255**	PG		**Pn**	**06 56 18.4**	**-0.6**
TRLG				S		**Sn**	**06 56 37.3**	**+0.4**
GANJ	**Ganja**	**1.32**	**162**	P		**Pn**	**06 56 18.9**	**-0.3**
GANJ				S		**Sn**	**06 56 37.8**	**+0.7**
GANJ	**Ganja**	**1.32**	**162**	PG		**Pn**	**06 56 18.8**	**-0.3**
DLMR	**Dylym**	**1.33**	**28**	*e*Pg		**Pg**	**06 56 19.7**	**+0.2**
DLMR				*e*Sg		**Sn**	**06 56 37.3**	**-0.2**
DLMR	**Dylym**	**1.33**	**28**	*e*PG		**Pg**	**06 56 19.7**	**+0.2**
DLMR				*e*S		**Sn**	**06 56 37.3**	**-0.2**
KMGR	**Komgaron**	**1.34**	**330**	*e*Pg		**Pg**	**06 56 20.0**	**+0.4**
KMGR				*e*Sg		**Sn**	**06 56 40.0**	**+2.3**
KMGR	**Komgaron**	**1.34**	**330**	*e*PG		**Pg**	**06 56 20.0**	**+0.4**
KMGR				*e*S		**Sn**	**06 56 40.0**	**+2.3**
BUJR	**Buynaksk**	**1.36**	**46**	*e*Pg		**Pg**	**06 56 19.8**	**-0.1**
BUJR				*e*Sg		**Sn**	**06 56 38.2**	**+0.1**
BUJR	**Buynaksk**	**1.36**	**46**	PG		**Pg**	**06 56 20.0**	**+0.1**
BUJR				S		**Sn**	**06 56 38.2**	**+0.1**
SRTK	**Saratovka**	**1.37**	**233**	⇓*i*P		**Pn**	**06 56 19.5**	**-0.4**
SRTK				⇓*i*S		**Sn**	**06 56 38.6**	**0.0**
VLKR	**Vladikavkaz**	**1.41**	**325**	*e*Pg		**Pg**	**06 56 20.9**	**+0.1**
VLKR				*e*Sg		**Sg**	**06 56 41.7**	**+2.6**
VLKR	**Vladikavkaz**	**1.41**	**325**	*e*PG		**Pg**	**06 56 20.9**	**+0.1**
VLKR				*e*S		**Sg**	**06 56 41.7**	**+2.6**
URKR	**Urkarakh**	**1.41**	**78**	*e*Pg		**Pb**	**06 56 20.5**	**-0.4**
URKR				*e*Sg		**Sg**	**06 56 39.2**	**-0.1**
URKR	**Urkarakh**	**1.41**	**78**	*e*PG		**Pb**	**06 56 20.5**	**-0.4**
URKR				*e*S		**Sg**	**06 56 39.2**	**-0.1**
LACR	**Lac**	**1.43**	**311**	*e*Pg		**Pn**	**06 56 20.2**	**-0.6**
LACR				*e*Sg		**Sb**	**06 56 39.2**	**-0.8**
LACR	**Lac**	**1.43**	**311**	*e*PG		**Pn**	**06 56 20.2**	**-0.6**
LACR				*e*S		**Sb**	**06 56 39.2**	**-0.8**
MNGR	**Mingechevir, A**	**1.50**	**138**	Pn		**Pg**	**06 56 22.8**	**+0.2**
MNGR				Sn		**Sg**	**06 56 45.0**	**+3.0**
MNGR	**Mingechevir, A**	**1.50**	**138**	PG		**Pg**	**06 56 22.8**	**+0.2**
AKT	**Akhty**	**1.52**	**105**	*e*Pg		**Pb**	**06 56 22.1**	**-0.7**
AKT				*e*Sg		**Sg**	**06 56 43.9**	**+1.0**
AKT	**Akhty**	**1.52**	**105**	*c i*PG		**Pb**	**06 56 22.2**	**-0.6**
AKT				*e*S		**Sg**	**06 56 44.7**	**+1.8**
AKT				pmax	pmax			
	comp=Z,348nm,0.5s							
AKT				smax	smax			
	comp=Z,1.0nm,1.2s							
ALIG	**Mtskhetisjvari**	**1.60**	**278**	P		**Pn**	**06 56 22.6**	**-0.4**
ALIG				S		**Sn**	**06 56 44.0**	**-0.1**
ALIG	**Mtskhetisjvari**	**1.60**	**278**	PN		**Pn**	**06 56 22.6**	**-0.4**
ALIG				S		**Sn**	**06 56 44.0**	**-0.1**
MAK	**Makhachkala**	**1.67**	**50**	*e*Pg		**Pg**	**06 56 25.2**	**-0.6**
MAK				*e*Sg		**Sn**	**06 56 44.8**	**-0.8**
MAK	**Makhachkala**	**1.67**	**50**	⇑*i*PN		**Pn**	**06 56 24.0**	**+0.2**
MAK				*e*S		**Sg**	**06 56 47.1**	**-0.3**
MAK				pmax	pmax			
	comp=Z,204nm,0.2s							
MAK				smax	smax			
	comp=E,555nm,0.4s							
MAK				smax	smax			
	comp=N,509nm,0.5s							
MAK				smax	smax			
	comp=E,546nm,0.6s							
ARNR	**Ardon**	**1.69**	**320**	*e*Pg		**Pg**	**06 56 26.0**	**-0.3**
ARNR				*e*Sg		**Sg**	**06 56 49.8**	**+1.6**
ARNR	**Ardon**	**1.69**	**320**	*e*PN		**Pg**	**06 56 26.2**	**-0.1**
ARNR				*e*S		**Sg**	**06 56 49.8**	**+1.6**
BTKR	**Batakoyurt**	**1.73**	**329**	*e*Pg		**Pg**	**06 56 27.1**	**0.0**
BTKR				*e*Sg		**Sg**	**06 56 52.9**	**+3.4**
BTKR	**Batakoyurt**	**1.73**	**329**	*e*PN		**Pg**	**06 56 27.1**	**0.0**
BTKR				*e*S		**Sg**	**06 56 52.9**	**+3.4**
KORR	**Kora**	**1.73**	**314**	*e*PN		**Pb**	**06 56 26.8**	**+0.5**
KORR				*e*S		**Sg**	**06 56 50.9**	**+1.3**
KMOZ	**Kamo**	**1.74**	**233**	⇓*i*P		**Pb**	**06 56 26.4**	**-0.2**
KMOZ				⇑*i*S		**Sg**	**06 56 51.3**	**+1.4**
KAPZ	**Kaputan**	**1.77**	**208**	*e*P		**Pb**	**06 56 26.7**	**-0.3**
KAPZ				*e*S		**Sg**	**06 56 51.5**	**+0.7**
AKH	**Akhalkalaki**	**1.78**	**255**	P		**Pn**	**06 56

KIV					*e*S		**Sb**	**06 57 23.8**	**-2.9**
GLBA	**Clilabad**	**3.32**	**142**		Pg		**Pb**	**06 56 51.9**	**-1.5**
GLBA					Sg		**Sb**	**06 57 35.6**	**+1.6**
YRD	**Yardimli**	**3.52**	**147**		Pg		**Pn**	**06 56 51.4**	**+1.8**
YRD					Sg		**Sn**	**06 57 33.9**	**+2.0**
LRK	**Lerik**	**3.80**	**148**		Pg		**Pn**	**06 56 53.7**	**+0.3**
LRK					Sg		**Sn**	**06 57 40.0**	**+1.5**
ASTR	**Astara**	**4.06**	**144**		Pg		**Pn**	**06 56 57.2**	**+0.5**
ASTR					Sg		**Sn**	**06 57 45.0**	**+0.3**
GUZR	**Guzeripl'**	**4.65**	**299**	⇓	*e*PN		**Pn**	**06 57 07.7**	**+2.8**
SOC	**Sochi**	**4.77**	**293**	*e*	PN		**Pn**	**06 57 06.6**	**+0.1**
SOC					*e*			06 57 18.2	
SOC					*e*	PPP	PPP	06 57 26.5	
SOC					*e*			06 58 02.5	
SOC					*e*	SS	**Sb**	**06 58 15.7**	**0.0**
SOC						MLR	MLR		
	comp=Z,16nm,11.0s								
AKTO	**Aktyubinsk**	**12.03**	**41**		LR		LR	07 04 41.0	
	comp=Z,28nm,19.5s,baz=286,slow=44								
OBN	**Obninsk**	**14.54**	**339**	*e*	P		**Pn**	**06 59 22.3**	**+2.0**
OBN						pmax	pmax		
	comp=Z,18nm,0.4s								
BVAR	**Borovoye Array**	**19.91**	**48**		P		**Pn**	**07 00 27.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=242,slow=10,SNR=4.5								
	comp=Z,0.9nm,0.4s								
BVAR	**Borovoye Array**	**19.91**	**48**		P		**Pn**	**07 00 28.0**	**0.0**
FINES	**FINESS Array B**	**22.89**	**335**		P		**P**	**07 00 56.2**	**-2.1**
	comp=Z,2.3nm,1.0s,baz=152,slow=6.3,SNR=1.5								
	comp=Z,2.3nm,1.0s								
MKAR	**Makanchi Array**	**26.41**	**67**		P		**P**	**07 01 30.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=274,slow=9.4,SNR=1.9								
	comp=Z,0.2nm,0.4s								
NOA	**NORSAR Array B**	**28.30**	**324**		LR		LR	07 14 01.7	
	comp=Z,9.2nm,18.9s,baz=290,slow=38								

*IDC **06** 07:00:07.0±3.5,54.°21N×87.°42E,h0km,mbtmp2.8/2, ML2.7/2,Error ellipse: s-maj=32.8km s-min=19.4km az=41.0*

ASRS 06 07:00:06.0±0.9,54.°15N×87.°19E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**263**	I	I	07 09 00.0	
	baz=81,slow=315,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.41**	**263**	Pg	Pb	07 00 34.5	+1.2
	3.4nm,0.3s,baz=81,slow=13,SNR=29						
ZALV				Lg	Lg	07 00 56.9	
	6.1nm,0.3s,baz=77,slow=33,SNR=14						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	07 01 44.5	+3.4
	0.1nm,0.3s,baz=53,slow=13,SNR=5.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	07 02 07.5	+4.0
	0.1nm,0.3s,baz=29,slow=14,SNR=5.4						
	0.1nm,0.3s						

VIE 06 07:00:31.4±1.0,47.°95N×16.°66E,h0km,mb0.8/1,ml1.4/3, Error ellipse: s-maj=5.7km s-min=3.1km az=76.0 13 km SW of Bruck a.d. Leitha Suspected Mining explosion.,Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RONA	**Rosalia, Austr**	**0.35**	**225**	*e*Pg	Pg	07 00 38.3	+0.3
	0.4nm,0.1s						
RONA				*i* Sg	Sg	07 00 42.5	0.0
	5.8nm,0.3s						
CONA	**Conrad Observa**	**0.54**	**268**	*e*Pg	Pg	07 00 41.6	-0.1
	0.5nm,0.1s						
CONA				*i* Sg	Sg	07 00 49.3	+0.8
	6.3nm,0.4s						
MODS	**Modra-Piesok**	**0.60**	**44**	*e*P	Pg	07 00 40.4	-2.5
MODS	**Modra-Piesok**	**0.60**	**44**	*e*PG	Pg	07 00 40.4	-2.5
MODS				*e*SG	Sg	07 00 49.5	-1.1
ARSA	**Arzberg**	**1.04**	**228**	*e*Sg	Sb	07 01 06.4	0.0
	1.8nm,0.3s						

*IDC **06** 07:02:34.4±5.0,36.°05N×70.°91E,h173km±46km,mb3.4/7, mbtmp3.9/12,Error ellipse: s-maj=36.7km s-min=17.1km az=32.0*

*NNC **06** 07:02:37.6±49.0,36.°00N×70.°82E,h200km±635km,mb3.1, mpv4.1,Error ellipse: s-maj=468.2km s-min=384.4km az=31.0*

*NEIC **06** 07:02:42.4±1.1,36.°42N±0.°04×71.°0E±0.°1,h231km±7km, mb4.3/8,Error ellipse: s-maj=12.9km s-min=2.8km az=66.0*

ISC 06 07:02:42.7±0.7,36.°47N±0.°06×71.°14E±0.°08,h250km,n51, σ1§57/54,mb3.6/9,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.58**	**222**		**Pn**	**07 03 27.9**	**-3.1**
GAR	**Garm**	**2.61**	**346**		**Pn**	**07 03 29.7**	**-1.4**
SIMJ	**Simiganj**	**2.77**	**323**	Pn	**Pn**	**07 03 30.8**	**-2.0**
NIL	**Nilore**	**3.30**	**148**		**Pn**	**07 03 37.2**	**-1.4**
ARSB	**Arslanbob**	**5.05**	**16**		**Pn**	**07 03 58.5**	**-0.7**
DHRM	**DHARAMSHALA**	**5.99**	**133**	*e*P	**Pn**	**07 04 08.9**	**-2.1**
DHRM				*e*S	S	07 05 12.3	-9.2
DHRM				*e*S	S	07 05 13.4	-8.2
DHRM				IAML		07 05 17.9	
	comp=E,429nm,0.3s						
DHRM				IAML		07 05 18.4	
	comp=N,344nm,0.2s						
UCH	**Uchtor**	**6.32**	**23**	P	**Pn**	**07 04 15.2**	**+0.1**
	SNR=35						
EKS2	**Erkin-Say**	**6.51**	**17**	P	**Pn**	**07 04 17.1**	**-0.1**
	SNR=38						
KK31	**Karatay Array**	**6.64**	**356**		**Pn**	**07 04 18.4**	**-0.4**
KK31	**Karatay Array**	**6.64**	**356**	⇑Pn	**Pn**	**07 04 19.0**	**+0.3**
	comp=N,2.8nm,0.2s,baz=180,slow=13,SNR=32						
KK31				⇑Sn	**S**	**07 05 30.9**	**-4.9**
	comp=N,18nm,0.3s,baz=178,slow=19,SNR=14						
KKAR	**Karatay Array**	**6.64**	**356**		**Pn**	**07 04 18.3**	**-0.5**
BHK	**Bhakra**	**6.68**	**137**	IAML		07 05 31.7	
	comp=N,178nm,0.7s						
BHK				IAML		07 05 32.0	
	comp=E,143nm,0.5s						
BHK				*e*S	**S**	**07 05 35.5**	**-1.4**
AAK	**Ala-Archa**	**6.68**	**22**		**Pn**	**07 04 19.9**	**+0.4**
AAK	**Ala-Archa**	**6.68**	**22**	P	**Pn**	**07 04 18.4**	**-1.0**
	comp=E,17nm,0.3s,baz=184,slow=7.2,SNR=18						
AAK				S	**S**	**07 05 35.2**	**-1.7**
	comp=E,16nm,0.5s,baz=37,slow=21,SNR=6.1						
AAK	**Ala-Archa**	**6.68**	**22**	P	**Pn**	**07 04 19.8**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**6.68**	**22**	⇓Pn	**Pn**	**07 04 19.7**	**+0.3**
	comp=E,6.2nm,0.5s						
AAK				⇑Sn	**S**	**07 05 34.2**	**-2.7**
	comp=E,12nm,0.7s						
KBK	**Karagaybulak**	**6.84**	**24**	P	**Pn**	**07 04 22.1**	**+0.7**
	SNR=9.0						
ULHL	**Ulahol**	**6.99**	**33**	P	**Pn**	**07 04 23.2**	**-0.1**
	SNR=13						
CHMS	**Chumysh**	**7.09**	**22**	P	**Pn**	**07 04 25.8**	**+1.4**
	SNR=12						
USP	**Ospenovka**	**7.26**	**20**	P	**Pn**	**07 04 26.2**	**-0.4**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.30**	**27**	P	**Pn**	**07 04 27.4**	**+0.1**
	SNR=30						
SMLA	**Simla**	**7.31**	**135**	*e*P	**Pn**	**07 04 25.8**	**-1.5**
SMLA				*e*S	S	07 05 42.3	-9.1
SMLA				IAML		07 05 47.5	
	comp=E,182nm,0.6s						
SMLA				IAML		07 05 47.7	
	comp=N,148nm,0.5s						
KDJ	**Kajisay**	**7.34**	**38**		**Pn**	**07 04 27.2**	**-0.5**
KLP	**Kalpa**	**7.68**	**128**	*e*P	**Pn**	**07 04 31.0**	**-1.4**
KLP				*e*S	S	07 05 51.0	-9.4
KLP				IAML		07 05 56.8	
	comp=E,199nm,0.3s						
KLP				IAML		07 05 59.6	
	comp=N,164nm,0.5s						
DDI	**Dehra Dun**	**8.42**	**135**	*e*P	**Pn**	**07 04 39.9**	**-1.5**
DDI				*e*S	S	07 06 08.3	-8.9
DDI				IAML		07 06 12.2	
	comp=E,163nm,0.3s						
DDI				IAML		07 06 19.0	
	comp=N,134nm,0.5s						
MKAR	**Makanchi Array**	**13.25**	**35**	P	**Pn**	**07 05 42.2**	**+0.7**
	comp=N,0.5nm,0.6s,baz=207,slow=11,SNR=6.2						
KURBB	**Kurchatov Arra**	**15.12**	**18**	P	**P**	**07 06 03.7**	**+0.2**
	comp=N,0.3nm,0.3s,baz=206,slow=11,SNR=4.1						
AB31	**Akbulak array**	**15.17**	**331**	P	**Pn**	**07 06 04.4**	**-0.3**
AB31	**Akbulak array**	**15.17**	**331**	P	**P**	**07 06 03.9**	**-0.2**
	comp=N,0.6nm,0.3s,baz=151,slow=11,SNR=49						
ABKAR	**Akbulak array**	**15.17**	**331**		**P**	**07 06 03.8**	**-0.3**
EVN	**Everest**	**15.73**	**118**	P	**Pn**	**07 06 12.3**	**0.0**
EVN				IAmb	IAmb	07 06 15.8	
	comp=Z,17nm,1.3s						
BVAR	**Borovoye Array**	**16.56**	**358**	P	**P**	**07 06 18.7**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=156,slow=10,SNR=6.4						
AKTO	**Aktyubinsk**	**16.86**	**330**	P	**P**	**07 06 21.9**	**-0.8**
	comp=Z,5.3nm,0.8s,baz=156,slow=8.5,SNR=19						
AKTO	**Aktyubinsk**	**16.86**	**330**	⇓P	**Pn**	**07 06 24.2**	**-0.5**
	comp=Z,5.1nm,0.7s						
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**07 09 34.5**	**+1.6**
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**07 09 34.3**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=115,slow=13,SNR=4.5						
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**41.22**	**338**	P	**P**	**07 10 05.0**	**+2.2**
ARCES	**ARCESS Array B**	**41.22**	**338**	P	**P**	**07 10 04.0**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=115,slow=7.9,SNR=15						
	comp=Z,0.9nm,0.4s						
HFS	**Hagfors**	**43.16**	**322**	P	**P**	**07 10 19.9**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=104,slow=11,SNR=7.7						
	comp=Z,1.6nm,0.5s						
NB2	**NORSAR Subarra**	**44.47**	**323**	P	**P**	**07 10 29.8**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**07 10 29.8**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=97,slow=7.7,SNR=4.9						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	**P**	**07 12 59.8**	**-1.9**
	comp=Z,1.6nm,0.4s,baz=49,slow=6.3,SNR=35						
	comp=Z,1.6nm,0.4s						
IMAR	**Indian Mountai**	**72.17**	**18**	P	**P**	**07 13 41.9**	**+2.1**
BMAR	**Burnt Mountain**	**72.94**	**14**	P	**P**	**07 13 48.3**	**+3.9**
LBTB	**Lobatse**	**74.73**	**222**	P	**P**	**07 13 56.7**	**+1.3**
H29M	**Whitestone**	**75.14**	**12**	P	**P**	**07 14 00.0**	**+3.0**
H29M				IAmb	IAmb	07 14 23.5	
	comp=Z,6.8nm,1.4s						
P33M	**Teslin, Yukon**	**81.67**	**12**	P	**P**	**07 14 35.0**	**+2.2**
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**07 14 33.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=324,slow=5.1,SNR=8.0						
	comp=Z,0.2nm,0.4s						
WRAB	**Tennant Creek**	**81.88**	**122**	P	**P**	**07 14 34.6**	**+0.3**
WRAB				IAmb	IAmb	07 14 57.1	
	comp=Z,8.4nm,1.4s						
WB2	**Warramunga Arr**	**81.89**	**122**	P	**P**	**07 14 34.7**	**+0.3**
WB2				IAmb	IAmb	07 14 55.6	
	comp=Z,9.2nm,1.4s						
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**07 14 46.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=308,slow=4.5,SNR=9.1						
	comp=Z,0.4nm,0.5s						

*ASRS **06** 07:07:22.0±1.0,54.°36N×86.°75E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 06 07:07:23.9±3.6,54.°39N×86.°67E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=30.4km s-min=17.9km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.18**	**249**	I	I	07 14 40.0	
	baz=67,slow=310,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.18**	**249**	Pg	Pg	07 07 45.3	-1.1
	0.9nm,0.3s,baz=66,slow=16,SNR=5.9						
ZALV				Lg	Lg	07 08 02.5	
	1.0nm,0.3s,baz=67,slow=27,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.24**	**236**	Pn	Pn	07 08 58.3	+1.2
	0.1nm,0.3s,baz=51,slow=14,SNR=5.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**8.10**	**202**	Pn	Pn	07 09 23.4	+0.7
	0.1nm,0.3s,baz=23,slow=13,SNR=1.9						
	0.1nm,0.4s						

IDC 06 07:14:11.4±54.0,16.°41S×176.°57W,h0km,mb4.3/3, mbtmp4.3/3,Error ellipse: s-maj=1016.0km s-min=168.5km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.89**	**240**	P	P	07 21 55.9	+0.3
	1.6nm,0.4s,baz=68,slow=11,SNR=3.7						
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**46.65**	**258**	P	P	07 22 41.9	-0.1
	1.0nm,0.5s,baz=93,slow=7.2,SNR=26						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**46.90**	**253**	P	P	07 22 43.5	-0.4
	7.2nm,0.6s,baz=93,slow=8.0,SNR=105						
	7.2nm,0.6s						

*IDC **06** 07:18:53.6±8.9,23.°35N×125.°99E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=192.2km s-min=161.5km az=26.0*

*JMA **06** 07:19:03.8±0.2,25.°N±2.°×12.°7E±.°,h89km,MV3.0/7,NEAR MIYAKOJIMA ISLAND*

ISC 06 07:19:01.0±2.5,24.°8N±0.°2×126.°9E±0.°2,h10km,n10, σ1§22/12,mb3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.31**	**267**	*e*P	**Pn**	**07 19 26.0**	**+0.7**
JOGS				*e*S	**Sb**	**07 19 42.8**	**+0.2**
JMJ2	**Miyako jima3**	**1.38**	**266**	*e*P	**Pn**	**07 19 26.8**	**+0.5**
JMJ2				*e*S	**Sb**	**07 19 44.0**	**-0.7**
JIKM	**Ikemajima**	**1.45**	**274**	*e*P	**Pn**	**07 19 27.7**	**+0.4**
JKE	**Kume jima 2**	**1.48**	**358**	P	**Pn**	**07 19 27.7**	**-0.1**
JJT3	**Tamagusuku3**	**1.55**	**33**	*e*S	**Sn**	**07 19 49.3**	**+0.4**
JTJ	**Tarama**	**1.96**	**265**	P	**Pn**	**07 19 34.2**	**0.0**
SONM	**Songino Array**	**28.09**	**330**	P	**P**	**07 24 55.3**	**+2.4**
	0.8nm,0.7s,baz=147,slow=8.2,SNR=4.6						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**41.55**	**313**	P	**P**	**07 26 46.9**	**-1.9**
	0.5nm,0.6s,baz=105,slow=9.9,SNR=4.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.02**	**318**	P	**P**	**07 27 15.0**	**-1.7**
	0.2nm,0.3s,baz=110,slow=8.9,SNR=2.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**73.46**	**330**	P	**P**	**07 30 33.0**	**-0.4**
	1.6nm,0.9s,baz=68,slow=9.3,SNR=2.0						
	1.6nm,0.9s						

IDC 06 07:40:09.4±3.1,54.°08N×86.°62E,h0km,mbtmp2.7/2, ML2.4/2,Error ellipse: s-maj=25.7km s-min=15.5km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**264**	I	I	07 46 50.0	
	baz=84,slow=316,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.07**	**264**	Pg	Pg	07 40 28.1	-1.8
	0.4nm,0.3s,baz=81,slow=18,SNR=4.0						
ZALV				Lg	Lg	07 40 45.5	
	0.9nm,0.3s,baz=80,slow=29,SNR=8.5						
KURBB	**Kurchatov Arra**	**6.05**	**238**	Pn	Pn	07 41 40.8	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=4.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	07 42 05.3	+1.2
	0.1nm,0.3s,baz=24,slow=13,SNR=1.8						
	0.1nm,0.3s						

*IDC **06** 07:55:15.2±3.7,53.°68N×87.°84E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=36.5km s-min=20.0km az=49.0*

ASRS 06 07:55:11.0±1.1,53.°67N×87.°81E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**280**	I	I	08 06 50.0	
	0.1nm,0.8s,baz=99,slow=315,SNR=6.5						
ZALV	**Zalesovo Beam**	**1.80**	**280**	Pn	Pg	07 55 46.6	+1.2
	0.9nm,0.3s,baz=98,slow=15,SNR=6.6						
ZALV				Lg	Lg	07 56 13.3	
	0.9nm,0.3s,baz=102,slow=28,SNR=5.5						
KURBB	**Kurchatov Arra**	**6.47**	**246**	Pn	Pn	07 56 52.1	+4.7
	0.1nm,0.3s,baz=63,slow=14,SNR=4.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.74**	**209**	Pn	Pn	07 57 11.2	+6.3
	baz=33,slow=11,SNR=1.5						
	0.2nm,0.5s						

IDC 06 08:02:43.2±5.1,6.°29S×148.°97E,h93km±48km,mb2.9/2, mbtmp3.5/4,Error ellipse: s-maj=115.4km s-min=35.8km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.58**	**210**	P	Pn	08 03 36.5	0.0
	11nm,0.3s,baz=29,slow=13,SNR=5.6						
PMG				S	Sn	08 04 18.6	+0.7
	54nm,0.7s,baz=16,slow=17,SNR=7.5						
WRA	**Warramunga Arr**	**19.65**	**225**	P	P	08 07 04.3	-0.5
	1.0nm,0.3s,baz=51,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.55**	**218**	P	P	08 07 36.0	+0.3
	0.5nm,0.6s,baz=51,slow=8.9,SNR=8.6						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**84.98**	**23**	P	P	08 15 08.0	+0.1
	0.1nm,0.6s,baz=243,slow=4.0,SNR=2.3						
	0.1nm,0.6s						

*AFAD **06** 08:10:51.0,35.°19N×27.°83E,h8km±3km,ML2.8*

*IDC **06** 08:10:53.7±1.6,34.°56N×27.°81E,h0km,mb3.5/2, mbtmp3.3/5,ML1.9/2,Error ellipse: s-maj=39.7km s-min=20.6km az=1.0*

*ISK **06** 08:10:55.2,35.°33N×27.°71E,h14km,ML2.9/12*

ISC 06 08:10:52.9±1.7,35.°17N±0.°06×27.°82E±0.°04,h5km±11km, n25,σ0§70/32,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.65**	**305**	Pg	**Pg**	**08 11 05.2**	**-0.3**
KARP				Sg	**Sg**	**08 11 13.2**	**-0.8**
ARG	**Arkhangelos**	**1.07**	**14**	Pg	**Pb**	**08 11 14.3**	**+0.3**
ARG				Sg	**Sg**	**08 11 27.9**	**+0.4**
ZKR	**Zakros**	**1.31**	**268**	Pn	**Pg**	**08 11 18.7**	**+0.6**
ZKR				Sn	**Sn**	**08 11 36.1**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.54**	**349**	P	**Pn**	**08 11 20.6**	**-0.4**
YAZI				S	**Sn**	**08 11 40.8**	**-0.6**
YAZI				*i* IAML		08 11 47.0	
	comp=E,82nm,0.6s						
DAT	**Datca**	**1.57**	**353**	Pn	**Pn**	**08 11 21.2**	**-0.4**
TURN	**Turunc**	**1.64**	**12**	Pn	**Pn**	**08 11 22.8**	**+0.4**
TURN	**Turunc**	**1.64**	**12**	P	**Pn**	**08 11 23.2**	**+0.8**
TURN				S	**Sb**	**08 11 44.4**	**-0.2**
TURN				*i* IAML		08 11 52.0	
	comp=E,109nm,0.5s						
TURN				*i* IAML		08 11 54.0	
	comp=N,113nm,0.6s						
SABU	**Mula-Dalaman**	**1.90**	**29**	P	**Pn**	**08 11 25.4**	**-0.6**
BDRM	**Kayabasi**	**1.91**	**351**	P	**Pn**	**08 11 26.4**	**+0.1**
BDRM				S	**Sb**	**08 11 52.2**	**-0.4**
BDRM				*i* IAML		08 12 01.0	
	comp=E,87nm,0.7s						
MULA	**Mugla, Merkez-**	**2.12**	**11**	P	**Pg**	**08 11 33.7**	**+0.1**
CAME	**Cameli-Denizli**	**2.14**	**34**	Pn	**Pn**	**08 11 30.5**	**+1.0**
DNZT	**Denizli-Tavas-**	**2.32**	**25**	P	**Pn**	**08 11 32.1**	**+0.2**
IDI	**Anoyia**	**2.40**	**274**	Pn	**Pn**	**08 11 33.9**	**+0.9**
IDI	**Anoyia**	**2.40**	**274**	Pn	**Pb**	**08 11 36.4**	**-0.2**
	2.0nm,0.3s,baz=115,slow=12,SNR=7.6						
IDI				Sn	**Sg**	**08 12 09.9**	**-0.1**
	2.0nm,0.3s,baz=9.9,slow=20,SNR=2.1						
	20nm,0.9s						
TAVA	**DENIZLI Tavas**	**2.46**	**21**	P	**Pn**	**08 11 34.0**	**+0.2**
AYDN	**Tasoluk**	**2.48**	**1**	P	**Pn**	**08 11 34.1**	**0.0**
GCAM	**G?zelcaml?**	**2.57**	**350**	Pn	**Pn**	**08 11 35.1**	**-0.1**
APMY	**Acipayam-Deniz**	**2.59**	**27**	Pn	**Pn**	**08 11 36.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.77**	**1**	Pn	**Pn**	**08 11 38.2**	**+0.1**
NAZL	**Nazilli-Aydin**	**2.81**	**8**	Pn	**Pn**	**08 11 39.0**	**+0.3**
ODEM	**Odemis-Izmir**	**3.11**	**4**	Pn	**Pn**	**08 11 42.8**	**+0.1**
BRTR	**Keskin Array B**	**6.49**	**44**	Pn	Pb	08 12 39.9	-6.6
	0.1nm,0.3s,baz=229,slow=16,SNR=3.5						
	0.7nm,0.6s						
MMAI	**Mount Meron Ar**	**6.65**	**107**	Pn	**Pn**	**08 12 30.0**	**-1.5**
	0.6nm,0.3s,baz=297,slow=13,SNR=1.9						
MMAI				Sn	**Sn**	**08 13 47.5**	**-0.1**
	1.5nm,0.3s,baz=315,slow=22,SNR=3.9						
ESDC	**Sonseca Array**	**25.56**	**290**	P	**P**	**08 16 24.7**	**+1.9**
	0.4nm,0.7s,baz=85,slow=11,SNR=1.8						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**32.20**	**234**	P	**P**	**08 17 21.0**	**-1.1**
	0.9nm,0.8s,baz=32,slow=9.8,SNR=4.1						
	0.9nm,0.8s						

*IDC **06** 08:58:42.6±3.0,53.°52N×87.°78E,h0km,mbtmp2.9/2, ML2.9/2,Error ellipse: s-maj=28.6km s-min=16.8km az=54.0*

ASRS 06 08:58:40.0±1.1,53.°51N×87.°71E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**286**	I	I	09 09 40.0	
	baz=101,slow=314,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.77**	**285**	Pn	Pg	08 59 15.6	+1.6
	1.6nm,0.3s,baz=101,slow=14,SNR=9.1						
ZALV				Lg	Lg	08 59 39.4	
	4.1nm,0.3s,baz=105,slow=23,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.36**	**247**	Pn	Pn	09 00 18.8	+3.9
	0.1nm,0.3s,baz=61,slow=14,SNR=4.3						
KURBB				Lg	Lg	09 02 05.8	
	0.1nm,0.3s,baz=61,slow=31,SNR=5.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.57**	**210**	Pn	Pn	09 00 35.5	+3.9
	0.5nm,0.3s,baz=31,slow=14,SNR=13						
MKAR				Lg	Lg	09 02 44.0	
	0.1nm,0.3s,baz=24,slow=32,SNR=3.1						
	0.4nm,0.3s						

*IDC **06** 09:29:07.2±3.4,53.°55N×87.°69E,h0km,mbtmp2.9/1, ML2.9/1,Error ellipse: s-maj=33.7km s-min=17.6km az=53.0*

**

1.6nm,0.8s
KURK ⇓Lg Lg 09 38 01.7
3.2nm,0.7s
KURBB Kurchatov Arra 6.05 238 Pn **Pn 09 36 26.7 +0.7**
0.3nm,0.3s,baz=56,slow=14,SNR=12
KURBB Lg Lg 09 38 07.2
0.1nm,0.3s,baz=54,slow=32,SNR=6.8
2.3nm,0.4s
KURBB Kurchatov Arra 6.05 238 ⇑Pn **Pn 09 36 27.4 +1.3**
1.8nm,0.3s
KURBB ⇓Sn **Sn 09 37 37.9 +1.9**
3.2nm,0.6s
KURBB ⇑Lg Lg 09 38 03.5
6.4nm,0.8s
MK31 Makanchi Array 7.83 202 Pn **Pn 09 36 52.0 +1.6**
0.1nm,0.1s,baz=59,slow=6.6,SNR=29
MK31 ⇑Sn **Sn 09 38 19.2 -0.5**
0.6nm,0.5s,baz=22,slow=26,SNR=4.9
MK31 ⇑Lg Lg 09 39 02.4
0.9nm,0.7s
MKAR Makanchi Array 7.83 202 Pn **Pn 09 36 51.6 +1.1**
0.4nm,0.3s,baz=26,slow=14,SNR=20
MKAR Sn **Sn 09 38 17.7 -2.0**
0.3nm,0.3s,baz=21,slow=26,SNR=5.9
MKAR Lg Lg 09 39 02.1
0.1nm,0.3s,baz=25,slow=31,SNR=5.6
0.6nm,0.3s

WEL 06 09:38:32.4±0.8, 45°S±4°×16°7E±°, h5km, M3.3/8, ML3.5/12, MLv3.3/8, Error ellipse: s-maj=6.7km s-min=3.5km az=122.1, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.48**	**162**	P	Pb	09 38 43.2	-0.2
DCZ				S	Sb	09 38 49.6	-1.2
TAFS	**Te Anau Fire S**	**0.69**	**127**	P	Pg	09 38 45.5	-0.1
TAFS				S	Sg	09 38 54.8	+0.2
RLNS	**Resolution Isl**	**0.70**	**194**	P	Pb	09 38 46.6	-0.6
RLNS				S	Sb	09 38 56.5	-0.8
MSZ	**Milford Sound**	**0.78**	**65**	P	Pb	09 38 48.5	+0.1
MSZ				S	Sg	09 38 58.0	+0.6
MLZ	**Mavora Lakes**	**0.91**	**114**	P	Pg	09 38 50.1	+0.2
MOSS	**Mossburn Schoo**	**1.13**	**126**	P	Pg	09 38 53.9	-0.2
MOSS				S	Sg	09 39 08.6	-0.1
WHZ	**Wether Hill Ro**	**1.14**	**142**	P	Pg	09 38 53.5	-0.7
PYZ	**Puysegur Point**	**1.18**	**189**	P	Pg	09 38 53.4	-1.5
RRKS	**Rarakau**	**1.20**	**162**	P	Pg	09 38 54.6	-0.8
QTPS	**Queenstown Pol**	**1.22**	**92**	P	Pn	09 38 56.4	+0.3
QTPS				S	Sb	09 39 12.0	-0.1
ORPS	**Orepuki**	**1.41**	**156**	P	Pn	09 38 58.2	-0.5
ORPS				S	Sb	09 39 16.0	-1.4
WKZ	**Wanaka**	**1.49**	**84**	P	Pb	09 39 00.6	+0.1
WKZ				S	Sg	09 39 20.6	+0.4
NSBS	**Neils Beach**	**1.59**	**51**	P	Pn	09 38 59.1	-2.2
JCZ	**Jackson Bay**	**1.62**	**55**	P	Pn	09 38 59.9	-1.8
EAZ	**Earnscleugh**	**1.69**	**99**	P	Pn	09 39 03.0	+0.4
APZ	**The Paps**	**1.97**	**158**	P	Pn	09 39 06.6	+0.2
TUZ	**Tuapeka**	**2.12**	**118**	P	Pn	09 39 08.6	+0.2
SYZ	**Scrubby Hill**	**2.17**	**136**	P	Pn	09 39 08.8	-0.4
LBZ	**Lake Benmore**	**2.40**	**76**	P	Pn	09 39 11.9	-0.5
FOZ	**Fox Glacier**	**2.54**	**56**	P	Pn	09 39 11.9	-2.3
ODZ	**Otahua Downs**	**2.63**	**92**	P	Pn	09 39 15.1	-0.4
HHSZ	**Highcliff Hill**	**2.72**	**110**	P	Pn	09 39 16.8	0.0
GCSZ	**Gaunt Creek Bo**	**2.97**	**56**	P	Pn	09 39 17.6	-2.5
TMZ	**Timaru**	**2.97**	**79**	P	Pn	09 39 19.1	-1.1
ARCZ	**Arundel**	**3.21**	**72**	P	Pn	09 39 22.0	-1.6
RPZ	**Rata Peaks**	**3.22**	**68**	P	Pn	09 39 22.4	-1.3
WVZ	**Waitaha Valley**	**3.35**	**56**	P	Pn	09 39 22.9	-2.5
MHCZ	**Mount Hutt**	**3.64**	**68**	P	Pn	09 39 27.3	-2.1
WACZ	**Wakanui South**	**3.67**	**75**	P	Pn	09 39 28.3	-1.4
INZ	**Inchbonnie**	**3.98**	**57**	P	Pn	09 39 31.6	-2.4
DSZ	**Denniston Nort**	**4.82**	**49**	P	Pn	09 39 43.5	-2.1
THZ	**Tophouse**	**5.42**	**55**	P	Pn	09 39 52.4	-1.5
MRNZ	**Matariki Terra**	**5.58**	**52**	P	Pn	09 39 54.2	-1.8
QRZ	**Quartz Range**	**5.86**	**46**	P	Pn	09 39 57.8	-2.1

IDC 06 09:50:26.2±2.9, 53°73N×86°68E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=25.4km s-min=14.8km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**282**	I	I	09 56 20.0	
	baz=100,slow=319,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.12**	**282**	Pg	Pg	09 50 46.2	-1.5
	0.5nm,0.3s,baz=101,slow=18,SNR=6.2						
ZALV				Lg	Lg	09 51 04.4	
	0.7nm,0.3s,baz=104,slow=27,SNR=4.0						
KURBB	**Kurchatov Arra**	**5.90**	**241**	Pn	Pn	09 51 55.3	+0.6
	0.1nm,0.3s,baz=53,slow=14,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.49**	**204**	Pn	Pn	09 52 18.2	+1.5
	0.1nm,0.3s,baz=23,slow=14,SNR=1.4						
	0.1nm,0.3s						

HEL 06 09:59:21.1±0.1, 60°41N×24°82E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUR	**Nurmijarvi**	**0.13**	**321**	PG	Pg	09 59 23.1	-0.6
HEL1	**Helsinki**	**0.23**	**172**	PG	Pg	09 59 25.2	-0.3
	baz=353						
MEF	**Metsahovi**	**0.28**	**228**	PG	Pg	09 59 26.1	-0.4
MEF				SG	Sg	09 59 30.4	+0.3
HEL5	**Espoo, Suvisaa**	**0.29**	**188**	PG	Pg	09 59 26.4	-0.2
	baz=8.0						
PVF	**Pernaja**	**0.54**	**74**	PG	Pg	09 59 30.4	-0.9
PVF				SG	Sg	09 59 37.3	-1.0
PVF				MSG		09 59 38.2	
	comp=Z,1.9nm,0.2s						
TVF	**Tvarminne**	**0.97**	**235**	PB	Pg	09 59 38.8	-0.8
TVF				MSG		09 59 50.7	
	comp=Z,0.6nm,0.2s						
TVF				SB	Sg	09 59 51.4	-0.7
FIA0	**FINESS Array S**	**1.21**	**30**	PG	Pg	09 59 42.7	-1.6
FIA0				MSG		09 59 57.7	
	comp=Z,1.1nm,0.2s						
VJF	**Virojoki**	**1.36**	**83**	MSG		10 00 02.1	
	comp=Z,1.8nm,0.2s						
VJF				SB	Sg	10 00 04.3	-0.5
RAF	**Rauma**	**1.62**	**294**	MSG		10 00 09.6	
	comp=Z,1.3nm,0.2s						
RAF				SN	Sn	10 00 12.4	-0.1
KEF	**Keuruu**	**1.77**	**1**	PN	Pn	09 59 53.5	+0.6
KEF				MSG		10 00 13.7	
	comp=Z,1.1nm,0.2s						
KAF	**Kangasniemi**	**1.86**	**22**	PG	Pn	09 59 55.0	+0.8
KAF				MSG		10 00 16.3	
	comp=Z,1.3nm,0.2s						
KPF	**Kankaanpaa**	**1.96**	**318**	MSG		10 00 19.1	
	comp=Z,0.9nm,0.2s						
KPF				SG	Sb	10 00 21.8	-0.7
AAL	**Aland**	**2.41**	**267**	SG	Sb	10 00 35.4	-0.2

*KRNET **06** 09:59:27.2±0.1, 40°77N×73°26E, h17km, mb3.9*
*NNC **06** 09:59:28.5±1.2, 40°82N×73°24E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=10.4km s-min=4.4km az=173.0*
*ISU **06** 09:59:29, 40°71N×73°20E, h19km*
*KNET **06** 09:59:29.2±0.3, 40°82N×73°44E, h15km±2km, ml3.4, Error ellipse: s-maj=3.9km s-min=2.3km az=80.0*

ISC 06 09:59:28.1±1.1, 40°74N±0°04×73°24E±0°02, h4km±10km, n48, σ1s03/75, 28C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.41**	**238**	⇑eP	**Pg**	**09 59 35.8**	**-0.2**
OHH				⇑eS	**Sg**	**09 59 41.8**	**+0.5**
SALK	**Salom-Alik**	**0.46**	**72**	⇓eP	**Pg**	**09 59 35.9**	**-1.2**
SALK				⇓eS	**Sg**	**09 59 42.0**	**-1.1**
TSTA	**Tashata**	**0.60**	**255**	P	**Pg**	**09 59 39.2**	**-0.5**
TSTA				S	**Sg**	**09 59 47.6**	**+0.1**
ANR	**Andizhan**	**0.67**	**272**	P	**Pb**	**09 59 41.5**	**-0.9**
FRG	**Fergana**	**1.17**	**252**	P	**Pg**	**09 59 50.0**	**-0.5**
FRG				S	**Sb**	**10 00 05.9**	**-0.5**
NAM	**Namangan**	**1.23**	**282**	P	**Pn**	**09 59 52.7**	**+0.6**
CHMI	**Chimion**	**1.39**	**251**	P	**Pn**	**09 59 53.5**	**-0.9**
CHMI				S	**Sb**	**10 00 12.6**	**-0.2**
MINT	**Mingtut**	**1.75**	**262**	S	**Sg**	**10 00 23.2**	**-1.0**

UCH	**Uchtor**	**1.77**	**32**	⇓P	**Pn**	**09 59 59.6**	**-0.4**
	16nm,0.2s,SNR=40						
UCH				⇑S	**Sn**	**10 00 23.1**	**-0.1**
	2.3nm,0.1s						
TRKS	**Terek-Say**	**1.77**	**297**	⇓eP	**Pn**	**09 59 58.7**	**-1.0**
TRKS				⇓eS	**Sn**	**10 00 21.8**	**-1.0**
JNKS	**Jany-Kuch**	**1.86**	**79**	⇓eP	**Pn**	**10 00 00.8**	**-0.2**
JNKS				⇓eS	**Sn**	**10 00 25.2**	**+0.2**
EKS2	**Erkin-Say**	**1.96**	**12**	⇓P	**Pb**	**10 00 03.2**	**-1.3**
	30nm,0.1s,SNR=49						
EKS2				⇑S	**Sb**	**10 00 29.2**	**-0.2**
	93nm,0.2s						
EKS2	**Erkin-Say**	**1.96**	**12**	⇑eP	**Pn**	**10 00 01.9**	**-0.4**
EKS2				⇑eS	**Sn**	**10 00 27.3**	**-0.2**
MRKS	**Merke**	**2.00**	**360**	Pg	**Pb**	**10 00 04.1**	**-1.1**
	106nm,0.3s						
MRKS				Lg	Lg	10 00 30.4	
	670nm,0.4s						
AAK	**Ala-Archa**	**2.12**	**26**	⇑P	**Pn**	**10 00 05.4**	**+0.9**
	38nm,0.2s,SNR=22						
AAK				⇑S	**Sb**	**10 00 33.6**	**-0.3**
	181nm,0.2s						
AAK	**Ala-Archa**	**2.12**	**26**	⇑Pn	**Pn**	**10 00 05.4**	**+0.9**
	26nm,0.5s						
AAK				⇑Sn	**Sb**	**10 00 33.6**	**-0.3**
	76nm,0.5s						
AAK	**Ala-Archa**	**2.12**	**26**	eP	**Pn**	**10 00 04.1**	**-0.4**
AAK				eS	**Sn**	**10 00 31.0**	**-0.3**
KBK	**Karagaybulak**	**2.30**	**33**	⇑P	**Pn**	**10 00 07.9**	**+0.8**
	33nm,0.2s,SNR=23						
KBK				⇓S	**Sb**	**10 00 37.9**	**-1.4**
	259nm,0.3s						
KBK	**Karagaybulak**	**2.30**	**33**	⇑eP	**Pn**	**10 00 06.8**	**-0.3**
KBK				⇑eS	**Sn**	**10 00 35.5**	**-0.5**
FRU1	**Bishkek**	**2.32**	**26**	eP	**Pn**	**10 00 07.0**	**-0.1**
FRU1				eS	**Sn**	**10 00 36.0**	**-0.1**
CHMS	**Chumysh**	**2.52**	**26**	⇓P	**Pn**	**10 00 10.8**	**+0.9**
	38nm,0.3s,SNR=11						
CHMS				⇓S	**Sn**	**10 00 43.2**	**+2.0**
	70nm,0.2s						
CHMS	**Chumysh**	**2.52**	**26**	⇓eP	**Pn**	**10 00 09.7**	**-0.3**
CHMS				⇓eS	**Sn**	**10 00 40.5**	**-0.7**
DZA	**Taraz**	**2.58**	**327**	Pg	**Pb**	**10 00 15.0**	**0.0**
	302nm,0.3s						
DZA				Lg	Lg	10 00 48.5	
	820nm,0.4s						
USP	**Ospenovka**	**2.69**	**20**	⇑P	**Pn**	**10 00 13.6**	**+1.3**
	25nm,0.3s,SNR=19						
USP				⇑S	**Sn**	**10 00 47.5**	**+2.1**
	126nm,0.4s						
USP	**Ospenovka**	**2.69**	**20**	⇑eP	**Pn**	**10 00 12.0**	**-0.3**
USP				⇑eS	**Sn**	**10 00 44.7**	**-0.7**
ULHL	**Ulahol**	**2.71**	**55**	⇑P	**Pn**	**10 00 12.7**	**0.0**
	12nm,0.1s,SNR=19						
ULHL				⇓S	**Sn**	**10 00 46.7**	**+0.7**
	53nm,0.2s						
ULHL	**Ulahol**	**2.71**	**55**	⇑eP	**Pn**	**10 00 12.5**	**-0.2**
ULHL				⇑eS	**Sn**	**10 00 45.4**	**-0.7**
IUG	**Iuzhnay**	**2.79**	**301**	Pg	**Pb**	**10 00 18.8**	**+0.2**
	219nm,0.6s						
IUG				Lg	Lg	10 00 55.4	
	306nm,0.5s						
TKM2	**Tokmak 2**	**2.80**	**38**	⇑P	**Pn**	**10 00 14.6**	**+0.7**
	14nm,0.2s,SNR=20						
TKM2	**Tokmak 2**	**2.80**	**38**	⇑eP	**Pn**	**10 00 13.8**	**-0.1**
TKM2				⇑eS	**Sn**	**10 00 47.6**	**-0.7**
GAR	**Garm**	**2.84**	**233**	⇑eP	**Pn**	**10 00 15.0**	**+0.6**
GAR				⇑eS	**Sn**	**10 00 49.9**	**+0.8**
TGS	**TashGRES**	**2.89**	**285**	S	**Sg**	**10 01 06.0**	**+5.0**
SGDS	**Sogindy**	**2.90**	**20**	Pg	**Pb**	**10 00 20.7**	**+0.2**
	12nm,0.3s						
SGDS				Lg	Lg	10 00 57.2	
	73nm,0.6s						
KST	**Kastek**	**3.07**	**41**	Pg	**Pb**	**10 00 23.1**	**-0.4**
	11nm,0.4s						
KST				Lg	Lg	10 01 01.4	
	55nm,0.4s						
KK31	**Karatay Array**	**3.12**	**320**	Pn	**Pn**	**10 00 17.9**	**-0.2**
	1.2nm,0.2s,baz=126,slow=13,SNR=178						
KK31				Pg	**Pb**	**10 00 23.4**	**-0.7**
	6.8nm,0.2s,baz=145,slow=14,SNR=55						
KK31				⇑Lg	Lg	10 01 04.9	
	30nm,0.3s,baz=141,slow=30,SNR=6.3						
NZBK	**Nazarbek**	**3.16**	**280**	S	**Sg**	**10 01 10.2**	**+0.7**
KDJ	**Kajisay**	**3.27**	**64**	⇑P	**Pn**	**10 00 20.5**	**+0.1**
KDJ				⇑eS	**Sn**	**10 00 59.2**	**-0.7**
BRLS	**Borolday**	**3.42**	**313**	Pg	**Pb**	**10 00 28.8**	**-0.5**
	36nm,0.5s						
BRLS				Lg	Lg	10 01 13.5	
	55nm,0.5s						
TARG	**Taragay, Kyrgy**	**3.58**	**72**	⇓eP	**Pn**	**10 00 24.8**	**0.0**
TARG				⇓eS	**Sn**	**10 01 06.7**	**-1.1**
TNSS	**Tian-Shan**	**3.60**	**49**	Pg	**Pb**	**10 00 33.8**	**+1.2**
	6.3nm,0.4s						
TNSS				Lg	Lg	10 01 20.1	
	24nm,0.7s						
KUU	**Kurty**	**3.90**	**35**	Pg	**Pb**	**10 00 38.4**	**+0.9**
	7.2nm,0.3s						
KUU				Lg	Lg	10 01 28.1	
	124nm,0.4s						
KTBS	**Karatobe**	**3.92**	**40**	Pg	**Pb**	**10 00 38.4**	**+0.6**
	6.7nm,0.6s						
KTBS				Lg	Lg	10 01 27.8	
	94nm,0.4s						
CHKK	**Chushkaly**	**4.17**	**41**	Pg	**Pb**	**10 00 44.1**	**+2.0**
	6.5nm,0.2s						
CHKK				Lg	Lg	10 01 37.4	
	31nm,0.4s						
BTLS	**Baital**	**4.34**	**8**	Pg	**Pb**	**10 00 46.5**	**+1.6**
	7.3nm,0.3s						
BTLS				Lg	Lg	10 01 41.8	
	71nm,0.5s						
SATY	**Saty**	**4.50**	**57**	Pg	**Pb**	**10 00 49.7**	**+1.9**
	9.1nm,0.4s						
SATY				Lg	Lg	10 01 47.5	
	50nm,0.9s						
ARXS	**Arharly**	**4.85**	**43**	Pg	**Pb**	**10 00 53.9**	**+0.2**
	4.6nm,0.4s						
ARXS				Lg	Lg	10 01 56.2	
	41nm,0.6s						
KPKS	**Kokpek**	**4.88**	**54**	Pg	**Pb**	**10 00 56.1**	**+1.8**
	0.7nm,0.3s						
KPKS				Lg	Lg	10 01 58.4	
	49nm,0.6s						
SHLS	**Shalkode**	**5.23**	**60**	Pg	**Pg**	**10 01 08.1**	**-0.2**
	6.6nm,0.5s						
SHLS				Lg	Lg	10 02 19.1	
	61nm,0.8s						

*IDC **06** 09:59:35.2±3.0, 53°54N×87°73E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=27.2km s-min=17.0km az=58.0*

ASRS 06 09:59:33.0±1.7, 53°54N×87°75E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**284**	I	I	10 10 26.9	
	0.1nm,1.0s,baz=102,slow=305,SNR=6.4						
ZALV	**Zalesovo Beam**	**1.79**	**284**	Pn	Pb	10 00 06.0	-0.6
	0.7nm,0.3s,baz=104,slow=15,SNR=8.3						
ZALV				Lg	Lg	10 00 31.4	
	1.8nm,0.3s,baz=103,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	Pn	10 01 11.5	+3.2
	0.1nm,0.3s,baz=61,slow=13,SNR=4.2						
KURBB				Lg	Lg	10 02 57.9	
	baz=63,slow=32,SNR=5.5						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**7.61**	**210**	Pn	Pn	10 01 28.3	+3.3
	0.2nm,0.3s,baz=30,slow=14,SNR=5.4						
MKAR				Lg	Lg	10 03 36.7	
	0.1nm,0.3s,baz=22,slow=32,SNR=5.7						
	0.3nm,0.5s						

*UPP **06** 10:00:28.2±3.7, 64°30N×31°03E, h0km, ML1.8, Presumed earthquake*
*HEL **06** 10:00:31.5±0.2, 64°79N×30°79E, h0km, ML2.1, Suspected explosion*
*KOLA **06** 10:00:33.5, 64°89N×30°61E, h0km, ML2.4, Error ellipse: s-maj=14.0km s-min=8.5km az=150.0, Karelia*
*IDC **06** 10:00:34.4±2.2, 64°85N×30°25E, h0km, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=35.4km s-min=8.0km az=97.0*

ISC 06 10:00:30.7±0.8, 64°79N±0°02×30°68E±0°04, h0km, n51, σ1s75/77, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.66**	**209**	PG	**Pg**	**10 00 43.9**	**+0.5**
RMF				SG	**Sg**	**10 00 52.8**	**+0.9**
RMF				MSG		10 00 53.0	
	comp=Z,26nm,0.2s						
KU1	**Kurvinen**	**0.91**	**329**	PG	**Pg**	**10 00 48.2**	**+0.1**
KU6	**Riekki**	**1.28**	**346**	PN	**Pg**	**10 00 54.7**	**-0.5**
	baz=161						
KU6				MSG		10 01 10.7	
	comp=Z,11nm,0.2s						
KU6				SN	**Sb**	**10 01 12.4**	**-0.3**
MSF	**Maaselka**	**1.32**	**329**	PG	**Pg**	**10 00 55.6**	**-0.4**
	baz=149						
MSF				SN	**Sn**	**10 01 15.7**	**+1.1**
KU2	**Taivalkoski**	**1.38**	**313**	PG	**Pg**	**10 00 56.7**	**-0.5**
OLKF	**Oulanka, Finla**	**1.62**	**342**	PG	**Pn**	**10 01 00.7**	**+0.1**
OLKF				MSG		10 01 20.5	
	comp=Z,9.6nm,0.2s						
OLKF				SN	**Sg**	**10 01 23.7**	**+0.8**
NIF	**Nilsia**	**1.89**	**223**	PG	**Pb**	**10 01 05.6**	**-0.4**
	baz=39						
NIF				MSG		10 01 28.5	
	comp=Z,13nm,0.2s						
NIF				SG	**Sb**	**10 01 30.6**	**+0.5**
JOF	**Joensuu**	**1.90**	**171**	eP	**Pn**	**10 01 05.2**	**+0.8**
JOF	**Joensuu**	**1.90**	**171**	SN	**Pn**	**10 01 05.7**	**+1.3**
JOF	**Joensuu**	**1.90**	**171**	PG	**Pn**	**10 01 04.8**	**+0.4**
JOF				SG	**Sb**	**10 01 30.6**	**+0.1**
RANF	**Ranua**	**2.04**	**309**	PG	**Pb**	**10 01 07.9**	**-0.6**
	baz=120						
RANF				SG	**Sb**	**10 01 34.5**	**+0.1**
OUL	**Oulu**	**2.06**	**280**	PG	**Pb**	**10 01 08.5**	**-0.3**
	baz=95						
OUL				SG	**Sb**	**10 01 35.1**	**+0.2**
KVDA	**Kovda**	**2.11**	**24**	P	**Pn**	**10 01 08.4**	**+1.2**
KVDA				S	**Sb**	**10 01 35.8**	**-0.8**
OBF4	**Vikkela, Lumij**	**2.38**	**273**	PB	**Pb**	**10 01 13.7**	**-0.8**
OBF4				MSG		10 01 43.3	
	comp=Z,12nm,0.2s						
OBF4				SB	**Sg**	**10 01 45.9**	**-1.3**
OUF	**Merijarvi**	**2.60**	**263**	SB	**Pn**	**10 01 16.4**	**+2.5**
OUF	**Merijarvi**	**2.60**	**263**	PB	**Pn**	**10 01 16.4**	**+2.5**
	baz=76						
OUF				MSG		10 01 49.5	
	comp=Z,15nm,0.2s						
OUF				SB	**Sb**	**10 01 51.1**	**+0.5**
RNF	**Rovaniemi**	**2.65**	**316**	PN	**Pn**	**10 01 16.0**	**+1.3**
	baz=127						
RNF				SB	**Sb**	**10 01 52.6**	**+0.5**
OBF0	**Syolatti, Pyha**	**2.79**	**267**	SB	**Pb**	**10 01 20.4**	**-0.9**
OBF0	**Syolatti, Pyha**	**2.79**	**267**	PB	**Pb**	**10 01 20.4**	**-0.9**
OBF0				MSG		10 01 54.9	
	comp=Z,9.7nm,0.2s						
SUF	**Sumiainen**	**2.89**	**226**	PB	**Pb**	**10 01 21.3**	**-1.8**
	baz=39						
SUF				MSG		10 01 57.5	
	comp=Z,3.9nm,0.2s						
TOF	**Tornio**	**2.95**	**299**	PB	**Pb**	**10 01 22.9**	**-1.2**
TOF				MSG		10 01 59.3	
	comp=Z,3.7nm,0.2s						
TOF				SB	**Sb**	**10 02 00.8**	**+0.2**
APA0	**Apatity Array**	**2.98**	**17**	P	**Pn**	**10 01 20.4**	**+1.2**
APA0				S	**Sn**	**10 01 54.5**	**-1.0**
KAF				SB	**Sb**	**10 02 12.0**	**+0.5**
VRF	**Varrio**	**3.00**	**352**	PB	**Pn**	**10 01 21.2**	**+1.7**
VRF				MSG		10 01 59.9	
	comp=Z,4.1nm,0.2s						
VRF				SG	**Sb**	**10 02 03.8**	**+1.6**
KALU	**Kalix**	**3.25**	**293**	P	**Pn**	**10 01 25.2**	**+2.3**
KALU	**Kalix**	**3.25**	**293**	PN	**Pn**	**10 01 25.5**	**+2.6**
KALU				SG	**Sg**	**10 02 13.6**	**-1.5**
KAF	**Kangasniemi**	**3.33**	**218**	PB	**Pn**	**10 01 27.1**	**+3.1**
KAF				SB	**Sb**	**10 02 12.0**	**+0.5**
LVZ	**Lovozero**	**3.51**	**25**	S	**Sn**	**10 02 07.9**	**-0.7**
LVZ	**Lovozero**	**3.51**	**25**	PB	**Pn**	**10 01 27.6**	**+1.2**
KLF	**Kolari**	**3.68**	**315**	PN	**Pn**	**10 01 31.5**	**+2.7**
KLF				SG	**Sg**	**10 02 27.6**	**-1.2**
KEF	**Keuruu**	**3.70**	**227**	eP	**Pn**	**10 01 31.5**	**+2.4**
KEF	**Keuruu**	**3.70**	**227**	PN	**Pn**	**10 01 32.1**	**+3.0**
	baz=40						
KEF				SG	**Sg**	**10 02 27.4**	**-2.2**
RAJF	**Raja-Jooseppi**	**3.82**	**347**	PN	**Pn**	**10 01 31.8**	**+1.1**
PAJU	**Pajala**	**3.83**	**309**	P	**Pn**	**10 01 33.7**	**+2.9**
PAJU	**Pajala**	**3.83**	**309**	PG	**Pb**	**10 01 38.8**	**-0.2**
PAJU				SG	**Sb**	**10 02 29.2**	**+3.4**
SJUU	**Sjulsmark**	**3.90**	**285**	P	**Pn**	**10 01 32.7**	**+1.0**
SJUU	**Sjulsmark**	**3.90**	**285**	eP	**Pn**	**10 01 33.3**	**+1.5**
ERTU	**Ertsjaerv**	**3.93**	**301**	P	**Pn**	**10 01 34.7**	**+2.5**
ERTU	**Ertsjaerv**	**3.93**	**301**	PN	**Pn**	**10 01 34.4**	**+2.1**
ERTU				SB	**Sb**	**10 02 30.2**	**+1.3**
FIA0	**FINESS Array S**	**3.96**	**214**	PN	**Pn**	**10 01 34.1**	**+1.5**
FIA0				SG	**Sg**	**10 02 34.6**	**-3.1**
FINES	**FINESS Array B**	**3.96**	**214**	Pn	**Pn**	**10 01 34.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=6.2						
FINES				Pg	**Pb**	**10 01 43.0**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=14,SNR=6.8						
FINES				Lg	Lg	10 02 35.5	
	comp=Z,0.9nm,0.3s,baz=28,slow=28,SNR=8.1						
	comp=Z,0.4nm,0.2s						
HARU	**Harads**	**4.27**	**293**	P	**Pn**	**10 01 38.6**	**+1.7**
UMAU	**Umeaa**	**4.44**	**263**	PN	**Pn**	**10 01 39.4**	**+0.2**
UMAU				SG	**Sg**	**10 02 50.6**	**-2.7**
VJF	**Virojoki**	**4.50**	**200**	SB	**Sb**	**10 02 46.6**	**+1.3**
HEF	**Hetta**	**4.58**	**326**	PN	**Pn**	**10 01 42.7**	**+1.5**
	baz=134						
HEF				SG	**Sb**	**10 02 52.3**	**+4.7**
TERR	**Teriberka**	**4.76**	**19**	P	**Pn**	**10 01 44.0**	**+0.5**
ARCES	**ARCESS Array B**	**5.17**	**339**	Pn	**Pn**	**10 01 50.1**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=153,slow=13,SNR=55						
ARCES				Sn	**Sn**	**10 02 45.5**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=153,slow=10,SNR=0.7

	comp=Z,2.7nm,0.8s,comp=Z,0.0nm						
FITZ	**Fitzroy Crossi**	**5.09**	**90**	S	Sn	10 38 05.8	-1.2
GIRL	**Giralia**	**7.21**	**231**	P	Pn	10 37 39.1	+1.5
	comp=Z,58nm,1.6s						
GIRL				S	Sn	10 38 55.0	-4.3
KNRA	**Kununurra**	**8.48**	**74**	P	Pn	10 37 55.4	+0.2
	comp=Z,6.9nm,1.9s,comp=Z,0.0nm						
CVQOZ	**Cooralya Stati**	**8.51**	**222**	P	Pn	10 37 57.2	+1.7
	comp=Z,301nm,1.9s						
MEEK	**Meekatharra**	**8.56**	**190**	P	Pn	10 37 57.2	+1.0
	comp=Z,18nm,1.9s,comp=Z,0.1nm						
MEEK	**Meekatharra**	**8.56**	**190**	S	Sn	10 39 28.2	-4.4
EDFI	**Ende, Flores**	**9.47**	**8**	P	Pn	10 38 06.8	-2.1
	comp=Z,6.3nm,1.3s,comp=Z,0.0nm						
WRKA	**Warakurna**	**10.10**	**134**	P	Pn	10 38 17.5	+0.1
	comp=Z,3.5nm,2.3s,comp=Z,0.0nm						
WRKA				S	Sn	10 40 05.7	-4.7
MORW	**Morawa**	**11.51**	**199**	P	Pn	10 38 35.9	-0.9
	comp=Z,23nm,2.6s						
MORW	**Morawa**	**11.51**	**199**	S	Sn	10 40 34.7	-10
MTN	**Manton Dam**	**11.72**	**65**	P	Pn	10 38 38.6	-0.9
	comp=Z,8.7nm,1.2s						
MTN	**Manton Dam**	**11.72**	**65**	S	Sn	10 40 42.9	-7.3
BLDU	**Ballidu**	**12.80**	**194**	P	Pn	10 38 53.7	-0.7
	comp=Z,25nm,1.5s						
KDU	**Kakadu**	**12.95**	**67**	P	Pn	10 38 56.6	+0.1
	comp=Z,8.7nm,1.1s						
KMBL	**Kambalda**	**13.21**	**174**	P	Pn	10 38 57.8	-2.1
	comp=Z,5.7nm,1.5s						
KMBL				S	Sn	10 41 18.5	-8.1
WC1	**Warramunga Arr**	**13.40**	**100**	P	Pn	10 39 01.5	-1.0
KLBR	**Kellerberrin**	**13.55**	**189**	P	Pn	10 39 04.1	-0.4
	comp=Z,22nm,1.3s						
FORT	**Forrest**	**14.39**	**152**	P	Pn	10 39 14.4	-1.7
	comp=Z,5.8nm,0.9s						
NWAO	**Narrogin (SRO)**	**14.94**	**190**	P	Pn	10 39 21.4	-2.1
	comp=Z,35nm,1.8s						
RKGY	**Rocky Gully**	**16.63**	**190**	P	Pn	10 39 45.4	0.0
	comp=Z,74nm,2.1s						

KRSZO 06 10:50:42.8±1.5, **47°.89N**×**20°.07E, h0**km, **Error ellipse: s-maj=5.3km s-min=0.7km az=102.0, Explosion. locality : Kisnna Hungary, Hungary**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSZ	**Piszkesteto**	**0.12**	**282**	Pg	Pg	10 50 46.1	+1.0
PSZ				Lg	Lg	10 50 47.8	
KECS	**Kecovo**	**0.65**	**25**	Lg	Lg	10 51 06.2	
KECS	**Kecovo**	**0.65**	**25**	*e*SG	Sb	10 51 06.3	-0.5
VYHS	**Vyhne**	**1.02**	**307**	Pn	Pn	10 51 03.9	-0.5
VYHS				Lg	Lg	10 51 17.0	
VYHS	**Vyhne**	**1.02**	**307**	*e*PG	Pb	10 51 03.5	+0.1
VYHS				*e*SG	Sb	10 51 17.0	-0.3

BEO 06 10:51:28.7±0.3, **44°.13N**×**22°.15E, h0**km±3km, **ML1.5**/8, **5C-8D, Mining explosion., Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAGS	**Zajecar**	**0.32**	**169**	*e*Pg	Pg	10 51 34.0	-0.8
ZAGS				*e*Sg	Sg	10 51 39.6	+0.7
KUBS	**Kucevo**	**0.45**	**310**	*e*Pg	Pg	10 51 34.6	-2.6
KUBS				*e*Sg	Sg	10 51 41.7	-1.3
BOVS	**Bovan**	**0.59**	**213**	↑P	Pg	10 51 39.5	-0.4
BOVS				↓S	Sg	10 51 47.9	+0.4
BLKB	**Belogradchik**	**0.63**	**143**	↑S	Sg	10 51 49.5	+0.6
BLKB	**Belogradchik**	**0.63**	**143**	*e*Pg	Pg	10 51 40.3	-0.5
BLKB				*e*Sg	Sg	10 51 49.1	+0.2
MDVR	**Moldovita**	**0.73**	**335**	↑P	Pg	10 51 41.8	-0.8
MDVR				↓S	Sg	10 51 52.2	+0.2
MDVR	**Moldovita**	**0.73**	**335**	*e*Pg	Pg	10 51 41.8	-0.8
MDVR				*e*Sg	Sg	10 51 52.1	+0.1
HERR	**Herculane**	**0.78**	**14**	↓P	Pg	10 51 43.3	-0.4
HERR				↓S	Sg	10 51 55.0	+1.3
GRUS	**Gruza**	**1.06**	**258**	*e*Pg	Pg	10 51 48.5	-0.5
GRUS				*e*Sg	Sg	10 52 03.3	+0.5
GOCS	**Kraljevo Serbi**	**1.08**	**239**	*e*Pg	Pg	10 51 48.8	-0.6
GOCS				*e*Sg	Sg	10 52 04.0	+0.6
VRSS	**Vrsac**	**1.16**	**330**	*e*Pg	Pg	10 51 50.1	-0.8
VRSS				*e*Sg	Sg	10 52 06.1	+0.2
TRUS	**Trudelj**	**1.26**	**275**	*e*Pg	Pg	10 51 51.6	-1.2
TRUS				*e*Sg	Sg	10 52 09.4	+0.3
BARS	**Barje**	**1.33**	**191**	*e*Pg	Pg	10 51 52.3	-1.9
BARS				*e*Sg	Sg	10 52 10.3	-1.1
GZR	**Gura Zlata**	**1.34**	**19**	↓P	Pg	10 51 53.5	-1.0
GZR				↑S	Sb	10 52 12.5	-0.1
GZR	**Gura Zlata**	**1.34**	**19**	*e*Pg	Pg	10 51 53.4	-1.1
GZR				*e*Sg	Sg	10 52 11.8	-0.1
BZS	**Buzias**	**1.54**	**346**	↓P	Pn	10 51 56.3	-1.1
BZS				↓S	Sn	10 52 17.0	-1.0
BZS	**Buzias**	**1.54**	**346**	*e*Pg	Pn	10 51 55.4	-2.0
BZS				*e*Sg	Sn	10 52 17.4	-0.7
IVAS	**Ivanjica**	**1.54**	**250**	*e*Pg	Pn	10 51 56.2	-1.4
IVAS				*e*Sg	Sg	10 52 16.6	-1.7
BOSS	**Bosilegrad**	**1.65**	**171**	*e*Sg	Sn	10 52 19.9	-0.9
LOT	**Lotru**	**1.75**	**41**	↑P	Pn	10 52 00.4	-0.1
LOT				↓S	Sn	10 52 23.2	-0.4

*IPEC **06** 10:51:46.9±0.2, 50°.23N×19°.00E, h1km, ML2.6/4, Error ellipse: s-maj=2.0km s-min=0.9km az=179.0*
*VIE **06** 10:51:47.1±0.4, 50°.22N×18°.96E, h0km, mb2.4/7, ml2.7/3, ms3.2/3, Error ellipse: s-maj=5.1km s-min=3.0km az=161.0 4 km SSW of Katowice Suspected Mining induced.*
*PRU **06** 10:51:47.3, 50°.27N×18°.94E, h0km*
*IDC **06** 10:51:48.0±2.0, 50°.14N×18°.99E, h0km, mbtmp3.3/3, ML2.5/3, Error ellipse: s-maj=37.8km s-min=10.5km az=136.0*

ISC 06 10:51:46.7±0.7, **50°.21N**±0°.04×**18°.93E**±0°.02, **h0**km, **n37, σ1§14/60, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.56**	**89**	*e*Pg	**Pg**	**10 51 57.1**	**-0.3**
OJC				*e*Sg	**Sg**	**10 52 04.8**	**+0.3**
OKC	**Ostrava-Krasne**	**0.63**	**234**	*e*PG	**Pb**	**10 52 00.3**	**-0.2**
OKC				*e*SG	**Sb**	**10 52 09.1**	**-0.8**
STEB	**Steborice**	**0.80**	**250**	*e*PG	**Pb**	**10 52 03.1**	**-0.3**
STEB				*e*SG	**Sb**	**10 52 14.9**	**+0.2**
	144nm,0.5s						
MORC	**Moravsky Berou**	**1.00**	**245**	*e*Pg	**Pb**	**10 52 06.8**	**0.0**
	baz=64						
MORC				*e*Sg	**Sg**	**10 52 19.4**	**+0.8**
	67nm,0.4s,baz=64						
MORC	**Moravsky Berou**	**1.00**	**245**	*e*PG	**Pb**	**10 52 06.9**	**+0.1**
MORC				*e*SG	**Sg**	**10 52 19.5**	**+0.8**
LANS	**Liptovska Anna**	**1.12**	**162**	*e*PG	**Pb**	**10 52 08.7**	**-0.2**
LANS				*e*SG	**Sb**	**10 52 24.2**	**+0.2**
LANS				*e*LG	Lg	10 52 27.8	
NIE	**Niedzica**	**1.19**	**131**	*e*Pg	**Pb**	**10 52 09.9**	**-0.2**
NIE				*e*Sg	**Sn**	**10 52 27.6**	**+0.1**
KRLC	**Kraliky**	**1.39**	**265**	*e*PG	**Pg**	**10 52 13.0**	**-0.3**
KRLC				*e*SG	**Sg**	**10 52 30.9**	**-0.4**
	69nm,0.5s						
DPC	**Dobruska-Polom**	**1.68**	**276**	*e*PG	**Pn**	**10 52 17.8**	**+0.4**
DPC				*e*SG	**Sg**	**10 52 41.0**	**+0.4**
	82nm,0.8s						
STHS	**Stebnicka Huta**	**1.70**	**117**	*e*PN	**Pn**	**10 52 18.1**	**+0.6**
STHS				*e*SG	**Sg**	**10 52 43.0**	**+1.9**
STHS				*e*LG	Lg	10 52 50.4	
VYHS	**Vyhne**	**1.72**	**182**	*e*PN	**Pn**	**10 52 17.7**	**-0.2**
VYHS				*e*SN	**Sg**	**10 52 41.8**	**-0.1**
VRAC	**Vranov**	**1.77**	**240**	Pn	**Pb**	**10 52 19.2**	**-0.6**
	4.0nm,0.3s,baz=64,slow=16,SNR=13						
VRAC				Lg	Lg	10 52 44.8	
	12nm,0.3s,baz=339,slow=21,SNR=13						
VRAC	**Vranov**	**1.77**	**240**	*e*Pn	**Pb**	**10 52 19.3**	**-0.6**
	baz=58						
VRAC				*e*Sg	**Sg**	**10 52 43.8**	**+0.5**
	43nm,0.5s,baz=58						
OSTC	**Ostas**	**1.77**	**282**	*e*SG	**Sg**	**10 52 44.0**	**+0.4**
KSP	**Ksiaz**	**1.80**	**292**	*e*Pg	**Pg**	**10 52 21.6**	**+0.5**
KSP				*e*Sg	**Sg**	**10 52 46.3**	**+1.9**
CHVC	**Chvalec**	**1.88**	**283**	*e*PG	**Pn**	**10 52 20.9**	**+0.8**
KECS	**Kecovo**	**2.01**	**149**	*e*PN	**Pn**	**10 52 21.3**	**-0.5**
KECS				*e*PG	**Pb**	**10 52 24.6**	**+0.6**
KECS				*e*SN	**Sn**	**10 52 46.1**	**-1.5**
KECS				*e*LG	Lg	10 52 54.9	
KRUC	**Moravsky**	**2.01**	**236**	*e*Pn	**Pn**	**10 52 22.6**	**+0.8**
	baz=54						
KRUC				*e*Sg	**Sg**	**10 52 51.2**	**0.0**
	37nm,0.7s,baz=54						
MODS	**Modra-Piesok**	**2.13**	**211**	*e*PN	**Pn**	**10 52 24.2**	**+0.6**
MODS				*e*SN	**Sn**	**10 52 52.0**	**+1.2**
MODS				*e*LG	Lg	10 52 57.1	
KOLS	**Kolonicke sedl**	**2.52**	**119**	*e*PN	**Pn**	**10 52 30.5**	**+1.6**
KOLS				*e*PG	**Pg**	**10 52 37.6**	**+2.6**
KOLS				*e*SN	**Sn**	**10 52 58.8**	**-1.6**
KOLS				*e*LG	Lg	10 53 15.6	
GOPC	**GO Pecny, Ondr**	**2.69**	**265**	*e*SG	**Sg**	**10 53 11.2**	**-1.8**
PRU	**Pruhonice**	**2.83**	**267**	*e*SG	**Sg**	**10 53 16.7**	**-1.0**
	35nm,0.6s						
CONA	**Conrad Observa**	**3.05**	**223**	*i* Pn	**Pn**	**10 52 36.2**	**0.0**
	0.2nm,0.1s						
CONA				*i* Sn	**Sn**	**10 53 13.5**	**+0.1**
	5.2nm,0.4s						
RONA	**Rosalia, Austr**	**3.06**	**216**	*i* Pn	**Pn**	**10 52 37.4**	**+1.1**
	1.5nm,0.3s						
BRG	**Berggiesshubel**	**3.25**	**284**	Pg	**Pg**	**10 52 49.6**	**+0.7**
BRG				Sg	**Sg**	**10 53 33.0**	**+2.0**
BRG				Amp		10 53 35.6	
	comp=Z,10nm,0.4s						
KHC	**Kasperske Hory**	**3.64**	**255**	*e*PN	**Pn**	**10 52 45.1**	**+0.8**
KHC				*e*PG	**Pb**	**10 52 51.4**	**-0.5**
KHC				*e*SG	**Sg**	**10 53 42.2**	**-1.4**
	comp=Z,22nm,0.4s						
GERES	**GERESS Array B**	**3.67**	**250**	Pn	**Pn**	**10 52 45.2**	**+0.4**
	baz=69,slow=15,SNR=4.2						
GERES				Pg	**Pb**	**10 52 54.7**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=65,slow=18,SNR=6.0						
GERES				Lg	Lg	10 53 46.1	
	comp=Z,0.3nm,0.3s,baz=63,slow=29,SNR=7.4						
	comp=Z,0.3nm,0.3s						
CLL	**Collm**	**3.92**	**289**	*e*Pg	**Pg**	**10 53 05.0**	**+3.2**
CLL				*e*Sg	**Sg**	**10 53 54.0**	**+1.4**
	comp=Z,17nm,0.8s						
LESA	**Schwarzleotal**	**4.99**	**238**	*e*Sg	**Sg**	**10 54 27.2**	**+0.5**
	comp=Z,11nm,0.6s						
WTTA	**Wattenberg**	**5.66**	**241**	Sg	**Sg**	**10 54 49.1**	**+0.8**
	comp=Z,13nm,0.7s						
MOTA	**Moosalm**	**5.92**	**244**	*e*Sg	**Sg**	**10 54 56.9**	**+0.3**
	comp=Z,13nm,0.9s						
RETA	**Reutte**	**6.04**	**246**	Sg	**Sg**	**10 55 00.3**	**-0.3**
	comp=Z,5.3nm,0.6s						
AKASG	**Malin Array Be**	**6.59**	**82**	Lg	Lg	10 55 10.3	
	comp=Z,1.6nm,0.3s,baz=274,slow=28,SNR=5.1						
NACGM	**Naroch**	**6.71**	**43**	*e*P	**Pn**	**10 53 27.4**	**+1.1**
	baz=228						
DAVOX	**Davos/Dischmat**	**6.92**	**244**	Lg	Lg	10 55 29.4	
	comp=Z,0.3nm,0.3s,baz=329,slow=23,SNR=6.0						
FINES	**FINESS Array B**	**11.94**	**17**	Pn	**Pn**	**10 54 34.6**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=8.9						
	comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B**	**19.64**	**7**	Pn	**P**	**10 56 15.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=190,slow=11,SNR=8.4						
	comp=Z,0.9nm,0.5s						

*NEIC **06** 10:56:21.1±1.4, 18°.1S±0°.1×174°.17W±0°.08, h10km±1km, mb4.6/11, Error ellipse: s-maj=24.9km s-min=12.0km az=191.0*
*IDC **06** 10:56:21.4±0.8, 18°.48S×174°.64W, h0km, mb4.1/10, mbtmp4.1/10, MS3.3/5, Error ellipse: s-maj=29.1km s-min=21.5km az=130.0*

ISC 06 10:56:21.9±0.6, **18°.4S**±0°.1×**174°.24W**±0°.08, **h10**km, **n37, σ1§66/25, mb4.5**/16, **MS3.4**/5, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.15**	**101**	Pn	**Pn**	**10 57 24.2**	**-1.1**
FUTU	**Fugatoga**	**5.49**	**317**	Pn	**Pn**	**10 57 41.1**	**-2.6**
MSVF	**Nonsavu**	**7.36**	**274**	Pn	**Pn**	**10 58 09.5**	**0.0**
RAR	**Rarotonga**	**13.91**	**104**	Pn	**Pn**	**10 59 37.4**	**-1.8**
RAR	**Rarotonga**	**13.91**	**104**	LR	LR	11 04 01.3	
	comp=Z,102nm,18.5s,baz=292,slow=32						
PPT	**Papeete**	**23.48**	**92**	LR	LR	11 08 02.9	
	comp=Z,77nm,21.4s,baz=324,slow=29						
HNR	**Honiara**	**26.55**	**286**	LR	LR	11 09 30.3	
	comp=Z,15nm,21.9s,baz=86,slow=30						
EIDS	**Eidsvold**	**32.86**	**252**	P	**P**	**11 02 56.1**	**+0.1**
CTAO	**Charters Tower**	**37.28**	**261**	P	**P**	**11 03 33.6**	**-0.7**
CTAO				IAmb	IAmb	11 04 19.4	
	comp=Z,15nm,1.3s						
COEN	**Coen**	**41.07**	**270**	P	**P**	**11 04 06.0**	**-0.1**
COEN				IAmb	IAmb	11 04 24.2	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**41.91**	**243**	P	**P**	**11 04 11.8**	**-1.0**
	comp=Z,4.8nm,1.1s,baz=100,slow=14,SNR=3.8						
STKA				LR	LR	11 20 25.6	
	comp=Z,50nm,18.1s,baz=24,slow=35						
	comp=Z,4.8nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**42.12**	**333**	T	T	11 49 12.5	
	baz=150,slow=77,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**42.13**	**333**	T	T	11 49 10.1	
	baz=150,slow=77,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**42.14**	**333**	T	T	11 49 11.5	
	baz=150,slow=77,SNR=4.5						
WR8	**Warramunga Arr**	**48.29**	**259**	P	**P**	**11 05 02.2**	**-1.5**
WR8				IAmb	IAmb	11 05 03.3	
	comp=Z,7.6nm,1.1s						
WB0	**Warramunga Arr**	**48.41**	**260**	P	**P**	**11 05 03.0**	**-1.7**
WB0				IAmb	IAmb	11 05 04.2	
	comp=Z,6.1nm,1.1s						
WRAB	**Tennant Creek**	**48.43**	**259**	P	**P**	**11 05 03.8**	**-1.0**
WRAB				IAmb	IAmb	11 05 04.3	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**48.44**	**259**	P	**P**	**11 05 03.2**	**-1.7**
WRA	**Warramunga Arr**	**48.44**	**259**	P	**P**	**11 05 01.1**	**-3.7**
	comp=Z,3.7nm,0.9s,baz=96,slow=7.6,SNR=17						
	comp=Z,3.7nm,0.9s						
AS31	**Alice Springs**	**48.48**	**254**	P	**P**	**11 05 03.8**	**-1.3**
ASAR	**Alice Springs**	**48.48**	**254**	P	**P**	**11 05 03.8**	**-1.3**
ASAR	**Alice Springs**	**48.48**	**254**	P	**P**	**11 05 02.5**	**-2.6**
	comp=Z,7.5nm,0.8s,baz=86,slow=8.6,SNR=29						
	comp=Z,7.5nm,0.8s						
KNRA	**Kununurra**	**54.38**	**264**	P	**P**	**11 05 49.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**56.86**	**260**	LR	LR	11 29 06.9	
	comp=Z,79nm,18.4s,baz=165,slow=35						
SBA	**Scott Base**	**60.25**	**185**	P	**P**	**11 06 31.3**	**+1.4**
SBA				IAmb	IAmb	11 06 53.5	
	comp=Z,5.4nm,1.4s						
VNDA	**Vanda**	**60.36**	**186**	P	**P**	**11 06 31.0**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=21,slow=7.1,SNR=5.4						
	comp=Z,1.6nm,1.0s						
JOW	**Kunigami**	**71.60**	**307**	LR	LR	11 31 35.5	
	comp=Z,1μm,21.7s,baz=0.0,slow=30						
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**11 07 44.6**	**+0.6**
QSPA				IAmb	IAmb	11 07 48.4	
	comp=Z,8.0nm,0.9s						
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**11 07 44.5**	**+0.6**
	comp=Z,6.0nm,0.8s,baz=31,slow=0.9,SNR=20						
	comp=Z,6.0nm,0.8s						
NVAR	**Mina Array Bea**	**77.06**	**42**	P	**P**	**11 08 17.8**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=218,slow=8.9,SNR=5.3						
	comp=Z,0.6nm,0.9s						
KSRS	**Korea Array**	**77.72**	**316**	P	**P**	**11 08 20.4**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=151,slow=5.7,SNR=5.6						
	comp=Z,1.3nm,0.9s						
H03S2	**Juan Fernandez**	**84.24**	**124**	T	T	12 42 12.0	
	baz=250,slow=74,SNR=6.5						
H03S1	**Juan Fernandez**	**84.26**	**124**	T	T	12 42 14.0	
	baz=250,slow=74,SNR=5.0						
H03S3	**Juan Fernandez**	**84.26**	**124**	T	T	12 42 09.0	
	baz=250,slow=74,SNR=6.5						
PDAR	**Pinedale Array**	**85.00**	**42**	P	P	11 09 01.1	+3.2
	comp=Z,0.3nm,0.7s,baz=174,slow=3.0,SNR=3.9						
	comp=Z,0.3nm,0.7s						
ILAR	**Eielson Array**	**85.49**	**11**	P	**P**	**11 09 01.6**	**+2.0**
	comp=Z,0.7nm,1.0s,baz=227,slow=4.4,SNR=6.8						
	comp=Z,0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.78**	**288**	P	**P**	**11 09 36.2**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=115,slow=4.0,SNR=5.3						
	comp=Z,1.2nm,0.9s						

*IDC **06** 11:13:39.3±0.5, 13°.62N×120°.91E, h142km±4km, mb4.0/26, mbtmp4.5/28, MS3.2/1, Error ellipse: s-maj=17.7km s-min=7.3km az=71.0*
*NEIC **06** 11:13:40.0±1.6, 13°.63N±0°.07×120°.87E±0°.09, h147km±4km, mb4.5/110, Error ellipse: s-maj=13.3km s-min=10.0km az=85.0*
*DJA **06** 11:13:46.9±0.7, 14°N±4°×12°1E±°, h217km±8km, M4.8/42, mb4.9/42, mB5.4/13, Mw(mB)4.8/13*

ISC 06 11:13:39.8±0.3, **13°.62N**±0°.04×**120°.89E**±0°.06, **h150**km, **n416, σ1§07/414, mb4.5**/101, **3D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.49**	**6**	LR	LR	11 13 59.2	
	comp=Z,430nm,19.5s,baz=231,slow=42						
TGY				P	**Pn**	**11 14 00.6**	**-0.6**
	24μm,0.6s,baz=243,slow=2.0,SNR=507						
TGY				S	**Sn**	**11 14 17.1**	**-0.4**
	7μm,0.5s,baz=230,slow=23,SNR=6.8						
DAV	**Davao City (W)**	**7.97**	**144**	Pn	**Pn**	**11 15 31.8**	**-1.2**
MYLDM	**Lahad Datu**	**8.71**	**196**		**Pn**	**11 15 42.1**	**-0.7**
KKM	**Kota Kinabalu**	**8.82**	**212**	Pn	**Pn**	**11 15 43.3**	**-1.0**
TWG	**Pinlang**	**9.16**	**1**	Pn	**Pn**	**11 15 47.0**	**-1.7**
TPUB	**Ta-pu**	**9.64**	**359**	Pn	**Pn**	**11 15 53.4**	**-1.7**
YULB	**Yu-li**	**9.73**	**2**	Pn	**Pn**	**11 15 55.2**	**-1.1**
YULB	**Yu-li**	**9.73**	**2**	P	Pn	11 16 01.1	+4.8
SSLB	**Suanglung**	**10.12**	**0**	Pn	**Pn**	**11 15 59.6**	**-1.8**
YHNB	**Yeheng**	**11.01**	**2**	Pn	**Pn**	**11 16 11.1**	**-2.1**
KNMB	**Chin-men Tao**	**11.05**	**348**	Pn	**Pn**	**11 16 11.3**	**-2.3**
QIZ	**Qiongzhong**	**11.89**	**298**	Pn	**P**	**11 16 29.5**	**-2.0**
QIZ				Sn	**Sn**	**11 18 38.3**	**+2.1**
QIZ				smax	smax		
	comp=E,6.0nm,1.0s						
QIZ				LR	LR		
	comp=E,140nm,6.0s						
QIZ				LR	LR		
	comp=Z,370nm,11.3s						
DLV	**Lat**	**12.21**	**264**	Pn	**Pn**	**11 16 27.1**	**-2.0**
TOLI2	**Tolitoli**	**12.42**	**180**	Pn	**Pn**	**11 16 31.6**	**-0.1**
MRSI	**Marisa**	**13.10**	**175**	P	**P**	**11 16 43.7**	**-1.3**
	comp=Z,73nm,0.8s						
MPSI	**Mapaga**	**13.23**	**184**	P	**P**	**11 16 48.5**	**+2.0**
SBUM	**Sibu**	**14.02**	**218**	Pn	**Pn**	**11 16 51.4**	**-0.7**
TNTI	**Ternate**	**14.28**	**153**	Pn	**Pn**	**11 16 54.6**	**-0.8**
APSI	**Ampana**	**14.45**	**177**	P	**P**	**11 17 02.2**	**+2.1**
	comp=Z,1μmcomp=Z,97nm,1.2s						
LUWI	**Luwuk**	**14.68**	**173**	P	**P**	**11 17 06.4**	**+3.8**
	comp=Z,168nm,1.2s						
JOW	**Kunigami**	**14.86**	**27**	Pn	**Pn**	**11 17 01.4**	**-1.2**
JOW	**Kunigami**	**14.86**	**27**	P	**Pn**	**11 17 03.3**	**+0.8**
	comp=Z,61nm,1.1s,baz=192,slow=13,SNR=6.9						
JOW				LR	LR	11 22 29.7	
	comp=Z,99nm,21.7s,baz=146,slow=36						
KSM	**Kuching**	**15.97**	**222**		**Pn**	**11 17 15.4**	**-0.9**
SSE	**Sheshan**	**17.40**	**1**	P	**Pn**	**11 17 36.7**	**+3.2**
SSE				S	**Sn**	**11 20 48.7**	**+0.3**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SSE				pmax	pmax		
	comp=Z,120nm,5.8s						
SSE				LR	LR		
	comp=N,740nm,16.5s						
SSE				LR	LR		
	comp=E,320nm,15.1s						
SPSI	**Sidrap Palu**	**17.50**	**184**	P	**Pn**	**11 17 36.9**	**+2.1**
	comp=E,47nm,0.8s						
BNSI	**Bone**	**17.91**	**183**	P	**Pn**	**11 17 41.9**	**+2.2**
	comp=E,44nm,0.8s						
SLVN	**Son La**	**17.92**	**298**	P	**P**	**11 17 36.9**	**-1.4**
KAPI	**Kappang**	**18.54**	**184**	P	**Pn**	**11 17 46.6**	**-0.5**
	comp=E,54nm,0.6s,baz=341,slow=8.0,SNR=23						
BKSI	**Bulukumba**	**18.83**	**182**	P	**Pn**	**11 17 50.2**	**-0.3**
MYKOM	**Kota Tinggi**	**20.55**	**237**	P	**P**	**11 18 06.1**	**-0.7**
KMI	**Kunming**	**20.57**	**307**	P	Pn	11 18 09.5	-1.7
KMI				S	**S**	**11 21 48.1**	**-1.1**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI				LR	LR		
	comp=Z,130nm,15.0s						
SRIT	**Nakonsritamara**	**21.47**	**259**		**P**	**11 18 15.9**	**-0.8**
KULM	**Kulim**	**21.59**	**249**		**P**	**11 18 17.3**	**-0.7**
KULM				IAmb	IAmb	11 18 20.1	
	comp=Z,22nm,0.7s						
KULM	**Kulim**	**21.59**	**249**	P	**P**	**11 18 19.1**	**+1.1**
IPM	**Ipoh**	**21.59**	**247**		**P**	**11 18 16.6**	**-1.5**
IPM				IAmb	IAmb	11 18 20.2	
	comp=Z,24nm,1.0s						
CMAR	**Chiang Mai Arr**	**21.63**	**286**		**P**	**11 18 17.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.63**	**286**	P	**P**	**11 18 18.9**	**+0.5**
	comp=Z,22nm,0.8s,baz=94,slow=7.8,SNR=103						
CMAR				PcP	**PcP**	**11 22 15.8**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=90,slow=0.6,SNR=7.2						
	comp=Z,22nm,0.8s						
KMMI	**Kalianget**	**21.65**	**199**	P	**P**	**11 18 21.1**	**+2.5**
	comp=Z,117nm,1.0s						
CHTO	**Chiang Mai**	**21.69**	**287**	P	**P**	**11 18 18.4**	**-0.6**
CHTO				IAmb	IAmb	11 18 20.4	
	comp=Z,19nm,0.7s						
PZH

comp=Z,360nm,10.1s
HHC Hu-ho-hao-te 28.33 345 *e*P **P 11 19 22.3 +2.6**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,93nm,5.4s
SHL Shillong 29.73 298 P 11 19 32.0 -0.3
JMM Marumori 29.95 33 P **P 11 19 32.1 -1.8**
KNRA Kununurra 30.13 165 P **P 11 19 34.9 -0.8**
KNRA lAmb lAmb 11 19 39.3
comp=Z,6.9nm,1.0s
GTA Gaotai 31.71 328 P **P 11 19 51.4 +1.9**
GTA pP pP 11 20 29.0 +7.6
GTA ScP **ScP 11 26 09.1 +2.0**
GTA pmax pmax
comp=Z,21nm,1.0s
LSA Lhasa 31.81 305 P **P 11 19 48.2 -2.7**
LSA Lhasa 31.81 305 P **P 11 19 49.9 -1.0**
FITZ Fitzroy Crossi 31.86 171 P **P 11 19 50.7 -0.1**
FITZ Fitzroy Crossi 31.86 171 P **P 11 19 50.2 -0.6**
comp=Z,9.3nm,1.1s,baz=21,slow=8.0,SNR=6.7
comp=Z,9.3nm,1.1s
BNX BinXian 32.49 9 ⇓P **P 11 19 57.4 +1.3**
BNX pmax pmax
comp=Z,4.0nm,1.0s
MBWA Marble Bar 34.58 182 P 11 20 14.4 0.0
MBWA Marble Bar 34.58 182 P **P 11 20 14.0 -0.4**
EVN Everest 34.76 300 P **P 11 20 15.7 -1.1**
PSA00 Pilbara Seismi 34.98 182 P **P 11 20 17.7 -0.1**
PSA00 Pilbara Seismi 34.98 182 P **P 11 20 17.9 0.0**
COEN Coen 35.18 140 P **P 11 20 20.2 +0.5**
WB0 Warramunga Arr 35.74 158 P 11 20 23.9 -0.4
WB0 lAmb lAmb 11 20 24.3
comp=Z,8.3nm,0.6s
WRAB Tennant Creek 35.87 158 P **P 11 20 25.1 -0.4**
WRAB lAmb lAmb 11 20 26.0
comp=Z,18nm,1.1s
WRA Warramunga Arr 35.88 158 P 11 20 25.3 -0.3
WRA Warramunga Arr 35.88 158 P **P 11 20 25.1 -0.5**
comp=Z,6.0nm,0.6s,baz=336,slow=9.6,SNR=46
WRA pP **pP 11 20 55.8 -2.3**
comp=Z,4.9nm,0.9s,baz=337,slow=9.4,SNR=3.4
WRA ScP **ScP 11 26 21.6 -0.4**
comp=Z,0.7nm,0.7s,baz=344,slow=4.0,SNR=5.2
comp=Z,6.0nm,0.6s
WR8 Warramunga Arr 35.95 158 P 11 20 25.6 -0.6
WR8 lAmb lAmb 11 20 28.3
comp=Z,11nm,1.1s
ULN Ulaanbaatar 36.04 344 P **P 11 20 25.8 -1.0**
ULN lAmb lAmb 11 21 02.8
comp=Z,7.9nm,1.4s
SONM Songino Array 36.19 343 P 11 20 27.4 -0.6
SONM Songino Array 36.19 343 P **P 11 20 28.7 +0.6**
comp=Z,2.3nm,0.6s,baz=160,slow=10,SNR=9.8
SONM ScP **ScP 11 26 22.8 +0.1**
comp=Z,0.4nm,0.4s,baz=160,slow=5.5,SNR=3.7
comp=Z,2.3nm,0.6s
HEH HeiHe 36.92 7 ⇓P **P 11 20 36.1 +2.0**
HEH pmax pmax
comp=Z,10.0nm,0.7s
QIS Mount Isa 38.62 151 P **P 11 20 49.6 +0.9**
AS31 Alice Springs 39.18 161 P 11 20 53.4 +0.1
ASAR Alice Springs 39.18 161 P 11 20 53.4 0.0
ASAR Alice Springs 39.18 161 P **P 11 20 53.5 +0.2**
comp=Z,4.3nm,0.5s,baz=338,slow=6.9,SNR=44
ASAR pP **pP 11 21 25.5 -0.9**
comp=Z,4.0nm,0.7s,baz=337,slow=6.6,SNR=4.8
ASAR PcP **PcP 11 23 00.2 +0.4**
comp=Z,2.2nm,0.6s,baz=342,slow=2.4,SNR=8.3
ASAR S **S 11 26 37.3 -5.1**
comp=Z,0.9nm,0.9s,baz=349,slow=20,SNR=5.1
comp=Z,4.3nm,0.5s
AS01 Alice Springs 39.19 161 P 11 20 53.7 +0.3
MEEK Meekatharra 40.07 183 P 11 21 00.7 0.0
CTA Charters Tower 41.77 143 P 11 21 15.7 +1.1
CTAO Charters Tower 41.77 143 P 11 21 14.2 -0.4
CTAO lAmb lAmb 11 21 17.2
comp=Z,15nm,0.9s
CTAO Charters Tower 41.77 143 P 11 21 15.8 +1.1
MORW Morawa 42.69 186 P 11 21 21.9 0.0
MORW Morawa 42.69 186 P 11 21 22.1 +0.2
BLDU Ballidu 44.16 185 P 11 21 33.4 -0.3
FORT Forrest 44.67 171 P 11 21 38.4 +0.6
FORT lAmb lAmb 11 21 39.5
comp=Z,12nm,0.7s
KLBR Kellerberrin 45.05 184 P 11 21 40.4 -0.3
MUN Mundaring 45.55 186 P 11 21 45.5 +0.8
QLP Quilpie 45.95 150 P 11 21 48.3 +0.4
MKAR Makanchi Array 46.21 324 P 11 21 50.2 +0.5
MKAR Makanchi Array 46.21 324 P **P 11 21 50.8 +1.0**
comp=Z,6.5nm,0.8s,baz=126,slow=9.0,SNR=33
MKAR ScP **ScP 11 27 00.9 -1.4**
comp=Z,1.0nm,0.8s,baz=112,slow=5.4,SNR=5.0
comp=Z,6.5nm,0.8s
NWAO Narrogin (SRO) 46.41 184 P 11 21 50.9 -0.5
NWAO Narrogin (SRO) 46.41 184 P **P 11 21 51.4 0.0**
comp=Z,16nm,0.6s,baz=354,slow=7.3,SNR=18
comp=Z,16nm,0.6s
KSH Kashi 47.09 312 P **P 11 21 59.2 +2.3**
KSH pmax pmax
comp=Z,10.0nm,1.0s
KDJ Kajisay 47.22 316 P 11 21 59.0 +1.1
KDJ lAmb lAmb 11 21 59.7
comp=Z,8.2nm,0.5s
NIL Nilore 47.51 303 P 11 21 59.8 -0.3
BBOO Buckleboo 48.39 163 P **P 11 22 06.3 -0.3**
BBOO lAmb lAmb 11 22 07.0
comp=Z,16nm,1.1s
PETK Petropavlovsk- 49.01 29 P **P 11 22 12.1 +0.8**
comp=Z,2.9nm,0.8s,baz=191,slow=2.7,SNR=4.5
comp=Z,2.9nm,0.8s
ZAA0 Zalesovo Array 49.22 333 P 11 22 12.6 -0.2
ZAA0 lAmb lAmb 11 22 13.9
comp=Z,7.9nm,1.3s
ZALV Zalesovo Beam 49.22 333 P **P 11 22 12.8 +0.1**
comp=Z,2.5nm,0.3s,baz=122,slow=6.9,SNR=16
comp=Z,2.5nm,0.3s
STKA Stephens Creek 49.40 157 P 11 22 14.3 -0.1
comp=Z,3.6nm,0.4s,baz=76,slow=6.8,SNR=3.1
comp=Z,3.6nm,0.4s
ARSB Arslanbob 49.85 313 lAmb lAmb 11 22 19.7
comp=Z,10.0nm,0.9s
KURBB Kurchatov Arra 50.36 326 P 11 22 21.4 0.0
comp=Z,10.0nm,0.9s,baz=121,slow=8.7,SNR=40
KURBB pP **pP 11 22 55.2 -0.2**
comp=Z,3.8nm,0.9s,baz=121,slow=8.5,SNR=3.0
comp=Z,10.0nm,0.9s
KURK Kurchatov 50.36 326 P 11 22 22.4 +0.9
KBL Kabul 51.11 303 P 11 22 27.9 +0.3
GAR Garm 51.12 309 P 11 22 28.1 +0.7
SIMJ Simiganj 52.02 309 P **P 11 22 34.5 +0.2**
SIMJ lAmb lAmb 11 22 37.0
comp=Z,20nm,1.2s
KK31 Karatay Array 52.16 314 P 11 22 35.6 +0.5
KKAR Karatay Array 52.16 314 P 11 22 35.4 +0.3
BVAR Borovoye Array 55.95 326 P **P 11 23 02.8 +0.5**
comp=Z,2.3nm,0.7s,baz=124,slow=9.5,SNR=12
BVAR pP **pP 11 23 35.6 -1.5**
comp=Z,1.3nm,0.6s,baz=116,slow=10,SNR=2.8
comp=Z,2.3nm,0.7s
BRVK Borovoye 56.02 326 P **P 11 23 02.8 0.0**
BRVK lAmb lAmb 11 23 04.5
comp=Z,10nm,1.1s
TIXI Tiksi 58.21 3 P 11 23 17.4 -0.4
TIXI lAmb lAmb 11 23 18.9
comp=Z,8.3nm,0.9s
AB31 Akbulak array 60.92 319 P 11 23 37.1 +0.3
AB31 lAmb lAmb 11 23 38.0
comp=Z,9.9nm,0.9s
ABKAR Akbulak array 60.92 319 P 11 23 36.8 0.0
ARTI Arti 63.64 327 P **P 11 23 54.7 -0.1**
ARTI lAmb lAmb 11 23 55.1
comp=Z,13nm,1.3s
SPIA Saint Paul Isl 67.23 33 P **P 11 24 17.7 -0.1**
baz=260
NIKH Nikolski High 67.36 38 P **P 11 24 18.7 0.0**
baz=262
P08K Saint George I 67.50 34 P **P 11 24 18.9 -0.6**
baz=260
GAMB Gambell 67.95 26 P **P 11 24 22.7 +0.6**
baz=256
UNV Unalaska Valle 68.86 37 P **P 11 24 28.2 +0.1**
baz=264
M11K Mekoryuk 69.82 30 P **P 11 24 34.3 +0.5**
baz=262
TNA Tin City 69.93 25 P **P 11 24 34.6 +0.2**
baz=258
F14K Arctic Creek 70.57 25 P **P 11 24 38.6 +0.3**
baz=260
K13K Kusilvak Mount 70.77 29 P **P 11 24 40.2 +0.7**
baz=263
M13K Dall Lake 71.23 31 P **P 11 24 42.5 +0.2**
baz=264
F15K North Star Dit 71.30 25 P **P 11 24 43.5 +0.8**
F15K lAmb lAmb 11 24 57.3
comp=Z,9.9nm,1.4s
F15K North Star Dit 71.30 25 P **P 11 24 42.9 +0.2**
baz=262
J14K Nanvaranak Lak 71.38 28 P **P 11 24 43.1 -0.1**
baz=264
C16K Lisburne Hills 71.44 22 P **P 11 24 44.4 +0.9**
C16K lAmb lAmb 11 25 15.4
comp=Z,16nm,1.4s
C16K Lisburne Hills 71.44 22 P **P 11 24 43.8 +0.3**
baz=260
G15K Niukluk 71.45 26 P **P 11 24 44.2 +0.6**
baz=262
RAYN Ar Rayn 71.46 290 P 11 24 45.0 +0.4
S12K Black Hills 71.57 36 P **P 11 24 44.9 +0.4**
baz=267
L14K Kuka Creek 71.64 30 P **P 11 24 45.4 +0.5**
baz=265
M14K Bethel 71.94 30 P **P 11 24 47.1 +0.5**
baz=266
N14K Kuskokwak Cree 72.02 31 P **P 11 24 47.4 +0.3**
baz=266
KBZ Khabaz 72.08 312 P **P 11 24 48.2 +0.4**
comp=Z,4.7nm,0.9s,baz=88,slow=6.4,SNR=8.5
comp=Z,4.7nm,0.9s
O14K Tigyukauivet M 72.19 32 P **P 11 24 48.5 +0.4**
baz=267
D17K Noatak River 72.19 23 P **P 11 24 48.5 +0.5**
baz=262
G16K Koyuk River 72.20 25 P **P 11 24 48.5 +0.4**
baz=264
L15K Ungalak Mounta 72.24 29 P **P 11 24 48.6 +0.1**
baz=266
C17K DeLong Mountai 72.27 22 P **P 11 24 48.8 +0.3**
baz=262
K15K Wolf Creek Mou 72.27 29 P **P 11 24 48.8 +0.3**
baz=266
SDPT Sand Point 72.46 36 P **P 11 24 49.6 -0.2**
baz=269
M15K Kasigluk River 72.56 30 P **P 11 24 50.3 0.0**
baz=267
E17K Hotham Inlet 72.60 24 P **P 11 24 50.9 +0.4**
baz=264
F17K Baldwin Pennin 72.76 24 P **P 11 24 53.4 +2.0**
F17K lAmb lAmb 11 24 54.7
comp=Z,4.5nm,0.8s
F17K Baldwin Pennin 72.76 24 P **P 11 24 51.6 +0.2**
baz=264
J16K Anvik River 72.77 28 P **P 11 24 51.9 +0.4**
baz=266
I17K Unalakleet 72.77 27 P **P 11 24 50.3 -1.2**
baz=266
N15K Kwethluk River 72.83 31 P **P 11 24 50.9 -1.1**
baz=267
B18K Kokolik River 72.88 21 P **P 11 24 51.9 -0.1**
baz=263
G17K Kiwalik Mounta 72.92 25 P **P 11 24 52.1 -0.3**
baz=265
CHNA Chernabura Isl 72.96 37 P **P 11 24 53.2 +0.5**
baz=270
GURO Guroymak-BITLI 72.99 306 lAmb lAmb 11 24 55.8
comp=Z,14nm,0.9s
S14K Fog Glacier 73.00 35 P **P 11 24 53.3 +0.2**
baz=269
C18K Ututok River 73.01 22 P **P 11 24 52.6 -0.3**
baz=264
E18K Tukpahlearik C 73.11 23 P **P 11 24 53.6 +0.2**
baz=265
RPZ Rata Peaks 73.11 144 P **P 11 24 54.4 +0.6**
comp=Z,9.5nm,0.8s,baz=288,slow=21,SNR=16
comp=Z,9.5nm,0.8s
H17K Granite Mounta 73.19 26 P **P 11 24 53.9 -0.1**
baz=266
A19K Wainwright 73.23 20 P **P 11 24 53.8 -0.3**
baz=263
F18K Selawik 73.41 24 P **P 11 24 55.5 +0.3**
baz=266
M16K Timber Creek 73.42 30 P **P 11 24 55.6 +0.2**
baz=268
J17K VABM Dome 73.47 28 lAmb lAmb 11 24 59.2
comp=Z,8.3nm,0.8s
J17K VABM Dome 73.47 28 P **P 11 24 56.3 +0.7**
baz=267
N16K Nishlik Lake 73.50 31 P **P 11 24 56.6 +0.7**
baz=268
C19K Lookout Ridge 73.64 22 P **P 11 24 57.3 +0.7**
baz=265
BKZ Black Stump Fm 73.75 138 P **P 11 24 59.0 +1.3**
G18K Tagagawik 73.77 25 P **P 11 24 58.0 +0.6**
baz=267
L17K Donlin 73.78 29 P **P 11 24 57.4 0.0**
baz=268
K17K Iditarod 73.79 28 lAmb lAmb 11 25 01.1
comp=Z,9.7nm,0.9s
K17K Iditarod 73.79 28 P **P 11 24 58.0 +0.4**
baz=268
O16K Kokwok River B 73.82 32 P **P 11 24 58.4 +0.6**
baz=269
H18K Honhosa River 73.86 26 P **P 11 24 58.7 +0.8**
baz=268
P16K Nushagak River 73.87 32 P **P 11 24 58.3 +0.3**
baz=270
KOPT Kop Dagi 74.07 308 P **P 11 24 59.6 -0.3**
KOPT lAmb lAmb 11 25 08.5
comp=Z,5.8nm,0.6s
D19K Kuna River 74.13 22 P **P 11 25 01.5 +2.1**
D19K lAmb lAmb 11 25 02.3
comp=Z,7.2nm,1.1s
D19K Kuna River 74.13 22 P **P 11 24 60.0 +0.6**
baz=267
M17K Holitna River 74.17 30 P **P 11 25 02.0 +2.2**
M17K lAmb lAmb 11 25 03.5
comp=Z,8.4nm,0.9s
M17K Holitna River 74.17 30 P **P 11 24 59.8 +0.1**
baz=269
F19K Shaleruckik Mo 74.17 24 P **P 11 25 00.3 +0.6**
baz=268
N17K Nushagak Hills 74.29 31 P **P 11 25 00.3 -0.2**
baz=270
O17K Koliganek Bris 74.33 31 P **P 11 25 00.6 0.0**
baz=270
E19K Redstone River 74.41 23 P **P 11 25 01.4 +0.4**
baz=268
G19K Purcell Mounta 74.42 25 P **P 11 25 03.4 +2.3**
G19K Purcell Mounta 74.42 25 P **P 11 25 01.7 +0.6**
baz=268
J18K Innoko River 74.53 28 P **P 11 25 01.9 +0.1**
baz=269
L18K Granite Mounta 74.53 29 P **P 11 25 02.6 +0.8**
baz=270
B20K Meade River 74.55 21 P **P 11 25 02.5 +0.8**
baz=267
H19K Roundabout Mou 74.67 25 lAmb lAmb 11 25 05.9
comp=Z,11nm,1.1s
H19K Roundabout Mou 74.67 25 P **P 11 25 03.2 +0.7**
baz=269
P17K Kvichak River 74.67 32 P **P 11 25 03.5 +0.9**
baz=271
D20K Etivluk River 74.69 22 P **P 11 25 04.0 +1.4**
baz=268
R17L Mt. Peulik Vol 74.74 34 P **P 11 25 03.3 +0.2**
baz=271
A21K Barrow 74.79 19 P **P 11 25 03.8 +0.7**
baz=267
E20K Nigu River 74.83 23 P **P 11 25 04.3 +0.7**
baz=269
N18K Kilae Creek 74.92 30 P **P 11 25 04.6 +0.5**
baz=271
M18K Stony River 74.94 30 P **P 11 25 05.3 +1.1**
baz=271
Q17K Contact Creek 74.98 33 P **P 11 25 05.4 +0.8**
baz=272
F20K Avaraart Lake 74.98 24 P **P 11 25 05.5 +1.2**
baz=269
J19K Poorman 75.02 27 P **P 11 25 06.0 +1.4**
baz=270
CHIR Chirikof Islan 75.21 35 P **P 11 25 06.2 +0.4**
baz=272
O18K Koktuh Hills 75.28 31 P **P 11 25 06.5 +0.3**
baz=272
P18K Big Mountain, 75.29 32 P **P 11 25 06.4 +0.2**
baz=272
A22K Sinclair Lake 75.31 20 P **P 11 25 06.9 +0.8**
baz=269
H20K Anotleneega Mo 75.32 25 P **P 11 25 07.3 +1.0**
baz=271
C21K Knifeblade Rid 75.36 22 P **P 11 25 07.4 +0.9**
baz=270
L19K White Mountain 75.39 29 P **P 11 25 07.8 +1.0**
baz=271
B21K Ikpikpuk River 75.42 21 P **P 11 25 07.7 +1.0**
baz=270
Q18K Katmai Hardscr 75.43 33 P **P 11 25 07.8 +0.6**
baz=272
I20K Naaghedeneel 75.50 26 P **P 11 25 08.6 +1.3**
baz=271
N19K Bonanza Creek 75.61 30 P **P 11 25 08.7 +0.6**
baz=272
M19K Big River Lodg 75.62 29 P **P 11 25 08.4 +0.4**
baz=272
E21K Killik River 75.65 22 P **P 11 25 08.6 +0.4**
baz=271
J20K Nowinta River 75.66 27 P **P 11 25 08.3 +0.1**
baz=272
O19K Port Alsworth 75.72 31 P **P 11 25 09.1 +0.5**
baz=272
K20K Telida 75.72 28 P **P 11 25 09.3 +0.7**
baz=272
R18K Karluk 75.77 34 P **P 11 25 09.3 +0.4**
baz=273
L20K Farewell, AK 75.84 29 P **P 11 25 10.1 +0.8**
baz=272
F21K Alatna River 75.86 24 P **P 11 25 10.3 +1.0**
baz=271
G21K Allakaket 75.87 24 lAmb lAmb 11 25 12.4
comp=Z,7.6nm,1.0s
G21K Allakaket 75.87 24 P **P 11 25 10.3 +0.9**
baz=272
D22K Ayikyak River 76.12 22 P **P 11 25 11.6 +0.8**
baz=272
H21K Melozitna Rive 76.18 25 lAmb lAmb 11 25 14.6
comp=Z,11nm,1.3s
H21K Melozitna Rive 76.18 25 P **P 11 25 11.3 0.0**
baz=272,SNR=10
M20K Styx River 76.22 29 P **P 11 25 12.0 +0.5**
baz=273
F22K John River 76.36 23 P **P 11 25 12.3 +0.2**
baz=272
OHAK Old Harbor 76.42 34 P **P 11 25 13.2 +0.6**
baz=274
E22K Anaktuvuk Pass 76.47 23 P **P 11 25 13.2 +0.4**
baz=273
CHUM Lake Minchumin 76.48 27 P **P 11 25 13.6 +0.7**
baz=273
I21K Tanana 76.55 26 P **P 11 25 14.0 +0.8**
baz=273
O20K Slope Mountain 76.57 31 P **P 11 25 13.8 +0.2**
baz=274
PPLA Purkeypile 76.59 28 P **P 11 25 14.0 +0.3**
baz=274
CAST Castle Rocks 76.61 28 P 11 25 15.7 +2.0
CAST lAmb lAmb 11 25 16.6
comp=Z,8.5nm,0.7s
CAST Castle Rocks 76.61 28 P **P 11 25 14.5 +0.8**
baz=274,SNR=13
G22K Bettles 76.64 24 P **P 11 25 14.3 +0.6**
baz=273
H22K Ishtalitna Cre 76.76 25 P **P 11 25 15.5 +1.0**
baz=274,SNR=7.1
Q20K Shuyak Island 76.80 32 P **P 11 25 15.4 +0.7**
baz=274
C23K Itkillik River 76.81 21 P **P 11 25 15.1 +0.5**
C23K lAmb lAmb 11 25 23.5
comp=Z,5.2nm,0.9s
C23K Itkillik River 76.81 21 P **P 11 25 16.2 +1.6**
baz=273
D23K Nanushuk River 76.84 22 P **P 11 25 16.3 +1.4**
baz=274
SKT Skwentna 76.96 29 P **P 11 25 16.0 +0.3**
baz=274
BPAW Bear Paw Mtn. 77.05 27 P **P 11 25 16.4 +0.3**
baz=274
MLY Manley 77.08 26 P **P 11 25 16.9 +0.5**
baz=274
HOM Homer 77.10 31 P **P 11 25 16.4 0.0**
baz=275
COLD Coldfoot 77.14 24 P **P 11 25 16.8 +0.3**
baz=274
CAPN Captain Cook N 77.25 30 P **P 11 25 17.5 +0.4**
baz=275
G23K Bananza Creek 77.25 24 P **P 11 25 17.5 +0.3**
baz=275
TOLK Toolik Lake Re 77.26 22 P **P 11 25 17.9 +0.7**
baz=275
E23K Chandalar 77.29 23 P **P 11 25 18.5 +1.0**
baz=275
TRF Thorofare Moun 77.41 27 P **P 11 25 18.6 +0.2**
baz=275
C24K Franklin Bluff 77.48 21 P **P 11 25 18.9 +0.6**
baz=275
D24K Happy Valley 77.49 22 P **P 11 25 19.5 +1.1**
baz=275
H23K Yukon River 77.52 25 P **P 11 25 19.4 +0.7**
baz=275
M22K Willow 77.65 29 P **P 11 25 19.7 +0.2**
baz=276
I23K Minto, Yukon-K 77.66 26 P **P 11 25 20.0 +0.6**
baz=276
E24K Your Creek 77.71 23 P **P 11 25 20.0 +0.2**
baz=276
NEA2 Nenana 77.84 26 P **P 11 25 21.0 +0.6**
baz=276
RC01 Rabbit Creek A 77.90 30 P **P 11 25 20.4 -0.5**
baz=276
MCK McKinley 77.99 27 lAmb lAmb 11 25 23.4
comp=Z,7.3nm,0.8s
MCK McKinley 77.99 27 P **P 11 25 21.4 +0.1**
baz=276
F24K Squaw Lake 78.00 23 P **P 11 25 21.8 +0.4**
baz=276,SNR=6.5
RND Reindeer 78.06 27 lAmb lAmb 11 25 59.3
comp=Z,5.2nm,0.8s
PMR Palmer 78.14 29 P **P 11 25 22.3 +0.2**
baz=277
SEW Seward 78.15 31 P **P 11 25 22.1 -0.1**
baz=277
H24K Noodor Dome 78.20 25 P **P 11 25 23.1 +0.6**
baz=277
G24K Hadweenzic Riv 78.25 24 P **P 11 25 23.3 +0.6**
baz=277
COLA College 78.32 26 P **P 11 25 23.9 +0.8**
baz=277
D25K Kavik River 78.34 21 lAmb lAmb 11 25 25.8
comp=Z,6.0nm,1.1s
D25K Kavik River 78.34 21 P **P 11 25 22.7 -0.5**
baz=278
POKR Poker Flat Res 78.47 26 P **P 11 25 24.0 +0.1**
baz=277
PWL Port Wells 78.61 30 P **P 11 25 24.6 -0.2**
baz=277
ILAR Eielson Array 78.75 26 P **P 11 25 25.1 -0.3**
comp=Z,0.5nm,0.6s,baz=268,slow=3.9,SNR=8.9
ILAR pP **pP 11 26 00.2 -2.4**
comp=Z,0.7nm,0.8s,baz=221,slow=7.4,SNR=5.7
comp=Z,0.5nm,0.6s
HDA Harding Lake 78.77 26 P **P 11 25 26.2 +0.6**
baz=278
G25K Bearman Lake 78.79 24 P **P 11 25 26.4 +0.8**
baz=278
F25K Christian Rive 78.84 23 P **P 11 25 26.4 +0.4**
baz=278,SNR=6.9
SCM Sheep Creek Mo 78.96 29 P **P 11 25 26.8 0.0**
baz=278
H25L Birch Creek 78.97 24 P **P 11 25 27.3 +0.7**
baz=279
P23K Montague Islan 79.19 31 P **P 11 25 28.4 +0.5**
baz=278
GLI Glacier Island 79.21 30 P **P 11 25 27.8 -0.2**
baz=278
ARCES ARCESS Array B 79.23 339 P **P 11 25 28.5 +0.5**
comp=Z,2.5nm,0.6s,baz=79,slow=7.3,SNR=12
comp=Z,2.5nm,0.6s
BMAR Burnt Mountain 79.27 23 P 11 25 30.7 +2.4
BR31 Keskin Array S 79.34 308 P **P 11 25 29.0 -0.4**
BRTR Keskin Array B 79.34 308 P **P 11 25 29.2 -0.2**
BRTR Keskin Array B 79.34 308 P **P 11 25 29.5 +0.1**
comp=Z,1.0nm,0.8s,baz=106,slow=7.8,SNR=5.7
comp=Z,1.0nm,0.8s

K24K	**Donnelly Dome**	79.37	27	IAmb	IAmb	11 25 31.4					
	comp=Z,6.1nm,0.8s										
K24K	**Donnelly Dome**	79.37	27	P	**P**	**11 25 28.8**	**-0.1**				
	baz=279										
F26K	**Sheenjek River**	79.39	23	P	**P**	**11 25 29.1**	**+0.2**				
	baz=280										
J25K	**Salcha River,**	79.42	26	P	**P**	**11 25 28.8**	**-0.4**				
	baz=279										
PAX	**Paxson**	79.64	28	P	**P**	**11 25 30.1**	**-0.3**				
	baz=280										
G26K	**Porcupine Rive**	79.66	23	P	**P**	**11 25 30.6**	**+0.2**				
	baz=280										
KLU	**Klutina**	79.67	29	P	**P**	**11 25 30.8**	**+0.1**				
	baz=279										
SPITS	**Spitsbergen Ar**	79.71	348	P	**P**	**11 25 30.5**	**0.0**				
	comp=Z,1.3nm,0.3s,baz=92,slow=6.2,SNR=14										
	comp=Z,1.3nm,0.3s										
RIDG	**Independent Ri**	79.79	27	IAmb	IAmb	11 25 35.0					
	comp=Z,5.2nm,0.8s										
RIDG	**Independent Ri**	79.79	27	P	**P**	**11 25 31.1**	**0.0**				
	baz=280										
Q23K	**Middleton Isla**	79.80	31	P	**P**	**11 25 30.7**	**-0.5**				
	baz=279										
EYAK	**Cordova Ski Ar**	79.91	30	P	**P**	**11 25 32.2**	**+0.4**				
	baz=280										
SCRK	**Sand Creek**	80.12	26	P	**P**	**11 25 32.9**	**-0.1**				
	baz=281										
I26K	**Coal Creek Min**	80.22	25	IAmb	IAmb	11 25 35.7					
	comp=Z,5.0nm,0.7s										
I26K	**Coal Creek Min**	80.22	25	P	**P**	**11 25 33.7**	**+0.3**				
	baz=281										
D27M	**Malcolm River**	80.25	21	IAmb	IAmb	11 25 36.4					
	comp=Z,7.1nm,1.0s										
D27M	**Malcolm River**	80.25	21	P	**P**	**11 25 34.1**	**+0.6**				
	baz=282										
E27K	**Coleen River**	80.25	22	P	**P**	**11 25 33.3**	**-0.2**				
	baz=282										
N25K	**Chitina, Valde**	80.28	29	P	**P**	**11 25 33.4**	**-0.5**				
	baz=280										
BMRM	**Bremner River**	80.39	30	P	**P**	**11 25 34.6**	**+0.1**				
	baz=281										
FINES	**FINESS Array B**	80.45	331	P	**P**	**11 25 34.5**	**-0.2**				
	comp=Z,1.1nm,0.4s,baz=58,slow=4.7,SNR=14										
	comp=Z,1.1nm,0.4s										
G27K	**Doyon Strip**	80.51	23	P	**P**	**11 25 35.5**	**+0.5**				
	baz=282										
L26K	**Log Cabin Wild**	80.58	27	P	**P**	**11 25 35.9**	**+0.5**				
	baz=281										
AKASG	**Malin Array Be**	80.64	320	P	**P**	**11 25 36.3**	**+0.4**				
	comp=Z,0.2nm,0.3s,baz=83,slow=3.3,SNR=4.3										
	comp=Z,0.2nm,0.3s										
KAIM	**Kayak Island**	80.68	31	P	**P**	**11 25 35.6**	**-0.4**				
	baz=281										
H27K	**Steamboat Moun**	80.69	24	P	**P**	**11 25 35.9**	**0.0**				
	baz=282										
I27K	**Kandik River**	80.79	25	P	**P**	**11 25 36.7**	**+0.2**				
	baz=282										
M26K	**Nabesna, AK**	80.87	28	P	**P**	**11 25 37.1**	**+0.1**				
	baz=282										
E28M	**Babbage River**	80.90	21	P	**P**	**11 25 37.0**	**0.0**				
	baz=284										
K27K	**Chicken**	80.93	26	P	**P**	**11 25 37.8**	**+0.6**				
	baz=282										
F28M	**Old Crow**	81.01	23	P	**P**	**11 25 37.5**	**-0.1**				
	baz=284,SNR=8.0										
L27K	**Beaver Creek,**	81.25	27	P	**P**	**11 25 40.1**	**+1.1**				
L27K	**Beaver Creek,**	81.25	27	P	**P**	**11 25 38.6**	**-0.4**				
	baz=283										
BCAR	**Beaver Creek A**	81.27	27	P	**P**	**11 25 39.9**	**+0.7**				
M27K	**Edge Creek, AK**	81.38	28	P	**P**	**11 25 39.4**	**-0.5**				
	baz=283										
I28M	**Miner Creek**	81.50	25	IAmb	IAmb	11 25 43.5					
	comp=Z,4.9nm,0.8s										
I28M	**Miner Creek**	81.50	25	P	**P**	**11 25 40.3**	**0.0**				
	baz=284										
E29M	**Blow River**	81.53	22	P	**P**	**11 25 40.4**	**0.0**				
	baz=285										
BVCY	**Beaver Creek**	81.83	28	P	**P**	**11 25 42.6**	**+0.6**				
	baz=284										
G29M	**Pine Creek**	81.88	23	IAmb	IAmb	11 25 44.9					
	comp=Z,7.4nm,0.8s										
G29M	**Pine Creek**	81.88	23	P	**P**	**11 25 42.5**	**+0.3**				
	baz=286,SNR=6.4										
H29M	**Whitestone**	81.93	24	IAmb	IAmb	11 25 45.2					
	comp=Z,7.1nm,0.8s										
H29M	**Whitestone**	81.93	24	P	**P**	**11 25 42.8**	**+0.3**				
	baz=285,SNR=8.2										
CTG	**Chitna Glacier**	81.95	29	P	**P**	**11 25 42.9**	**+0.1**				
	baz=283										
DAWY	**Dawson**	82.07	26	P	**P**	**11 25 43.9**	**+0.6**				
	baz=285										
I29M	**Ogilvie Camp,**	82.19	25	P	**P**	**11 25 44.1**	**+0.3**				
	baz=286										
F30M	**Barrier River**	82.52	22	P	**P**	**11 25 45.6**	**+0.1**				
	baz=287										
EPYK	**Eagle Plains**	82.53	23	P	**P**	**11 25 45.0**	**-0.7**				
	baz=287										
O28M	**Mount Upton**	82.54	29	P	**P**	**11 25 46.5**	**+0.4**				
	baz=284										
G30M	**tAoh Zraii Nji**	82.55	23	IAmb	IAmb	11 25 48.1					
	comp=Z,5.5nm,0.8s										
G30M	**tAoh Zraii Nji**	82.55	23	P	**P**	**11 25 45.8**	**+0.1**				
	baz=287										
L29M	**L29M**	82.87	27	P	**P**	**11 25 48.4**	**+1.0**				
	baz=286,SNR=5.3										
M29M	**Somme Creek**	82.91	27	P	**P**	**11 25 48.3**	**+0.6**				
	baz=286,SNR=7.1										
K29M	**Barlow Dome**	82.93	26	P	**P**	**11 25 48.3**	**+0.4**				
	baz=286										
I30M	**Mount Dempster**	83.00	24	IAmb	IAmb	11 25 50.7					
	comp=Z,3.9nm,0.7s										
I30M	**Mount Dempster**	83.00	24	P	**P**	**11 25 48.2**	**0.0**				
	baz=287										
INK	**Inuvik**	83.11	21	P	**P**	**11 25 47.8**	**-0.7**				
	baz=289										
YUK4	**Talbot Arm**	83.12	29	P	**P**	**11 25 48.0**	**-0.9**				
	baz=286										
PNL	**Peninsula**	83.21	30	P	**P**	**11 25 49.0**	**-0.2**				
	baz=285										
J30M	**Hart River**	83.22	25	P	**P**	**11 25 48.9**	**-0.4**				
	baz=287										
G31M	**Satah River**	83.29	23	P	**P**	**11 25 49.8**	**+0.3**				
	baz=289										
YUK6	**Outpost Mounta**	83.36	29	P	**P**	**11 25 49.0**	**-1.2**				
	baz=286										
M30M	**Minto, Yukon**	83.61	27	P	**P**	**11 25 51.1**	**-0.2**				
	baz=287,SNR=6.8										
H31M	**Peel River**	83.63	24	P	**P**	**11 25 50.3**	**-0.9**				
	baz=289										
HYT	**Haines Junctio**	83.80	29	P	**P**	**11 25 50.5**	**-1.8**				
	baz=287										
N30M	**Aishikik Lake**	83.81	28	P	**P**	**11 25 54.0**	**+1.7**				
N30M				IAmb	IAmb	11 25 55.9					
	comp=Z,5.3nm,0.8s										
N30M	**Aishikik Lake**	83.81	28	P	**P**	**11 25 52.4**	**+0.1**				
	baz=287,SNR=6.9										
BURAR	**Bucovina Array**	83.84	317		**P**	**11 25 53.0**	**+0.1**				
BUR08	**Bucovina Ar. S**	83.85	317	P	**P**	**11 25 53.0**	**+0.2**				
BUR08				IAmb	IAmb	11 25 57.0					
	comp=Z,7.4nm,1.4s										
P29M	**Windy Craggy**	84.03	30	P	**P**	**11 25 53.3**	**-0.1**				
	baz=287										
KMBO	**Kilima Mbogo**	84.08	267	P	**P**	**11 25 55.4**	**+0.6**				
	comp=Z,1.9nm,0.3s,baz=54,slow=9.4,SNR=5.4										
	comp=Z,1.9nm,0.3s										
P30M	**Million Dollar**	84.26	29	P	**P**	**11 25 54.5**	**-0.1**				
	baz=287										
A36M	**Sachs Harbour**	84.27	17	P	**P**	**11 25 54.5**	**+0.2**				
	baz=297										
M31M	**Drury Creek, Y**	84.79	27	P	**P**	**11 25 57.8**	**+0.6**				
M31M				IAmb	IAmb	11 25 60.0					
	comp=Z,4.1nm,0.8s										
M31M	**Drury Creek, Y**	84.79	27	P	**P**	**11 25 57.0**	**-0.2**				
	baz=289										
LODK	**Lodwar**	84.86	272	P	**P**	**11 25 59.5**	**+0.9**				
LODK				IAmb	IAmb	11 26 01.2					
	comp=Z,9.1nm,1.5s										
WHY	**Whitehorse**	85.08	29	P	**P**	**11 25 58.7**	**0.0**				
	baz=289										
SKAG	**Skagway**	85.25	30	P	**P**	**11 25 59.5**	**+0.1**				
	baz=289										
S31K	**Pelican**	85.28	31	P	**P**	**11 25 59.5**	**-0.1**				
	baz=288										
N32M	**Quiet Lake**	85.74	28	P	**P**	**11 26 01.3**	**-0.6**				
	baz=290										
P32M	**Atlin**	85.98	29	P	**P**	**11 26 03.2**	**+0.1**				
	baz=290										
MMPY	**Sheldon Lake,**	86.01	26	P	**P**	**11 26 03.1**	**-0.2**				
	baz=292										
P33M	**Teslin, Yukon**	86.19	29	P	**P**	**11 26 04.1**	**-0.1**				
	baz=291										
S32K	**Killisnoo**	86.28	32	P	**P**	**11 26 04.0**	**-0.5**				
	baz=290										
HFS	**Hagfors**	86.64	331	P	**P**	**11 26 05.3**	**-1.0**				
	comp=Z,1.8nm,0.5s,baz=74,slow=5.3,SNR=14										
	comp=Z,1.8nm,0.5s										
Q32M	**Nakina River**	86.90	30	P	**P**	**11 26 07.2**	**-0.6**				
	baz=291										
NC405	**NORSAR Array S**	87.17	333	P	**P**	**11 26 08.4**	**-0.5**				
NC405				IAmb	IAmb	11 26 09.1					
	comp=Z,6.9nm,0.8s										
R33M	**Jennings River**	87.36	29	P	**P**	**11 26 09.5**	**-0.5**				
	baz=292										
NB2	**NORSAR Subarra**	87.42	333	P	**P**	**11 26 09.1**	**-1.0**				
	comp=Z,1.7nm,0.7s,baz=65,slow=5.1										
NOA	**NORSAR Array B**	87.42	333	P	**P**	**11 26 09.4**	**-0.7**				
	comp=Z,1.9nm,0.9s,baz=69,slow=4.5,SNR=5.5										
NOA				pP	**pP**	**11 26 44.7**	**-3.3**				
	comp=Z,2.1nm,0.8s,baz=67,slow=4.7,SNR=4.8										
	comp=Z,1.9nm,0.9s										
U33K	**Whale Pass**	87.49	33	P	**P**	**11 26 10.1**	**-0.4**				
	baz=291										
CRAG	**Craig**	87.72	33	P	**P**	**11 26 10.9**	**-0.6**				
	baz=291										
WRAK	**Wrangell Islan**	87.79	32	P	**P**	**11 26 11.0**	**-0.8**				
	baz=291										
DLBC	**Dease Lake**	88.18	30	P	**P**	**11 26 13.3**	**-0.5**				
	baz=293										
V35K	**Ketchikan**	88.57	33	P	**P**	**11 26 15.1**	**-0.4**				
	baz=292										
T35M	**Bob Quinn**	88.64	31	P	**P**	**11 26 15.8**	**-0.2**				
	baz=293										
GEC2	**GERESS Array S**	90.81	321	P	**P**	**11 26 26.1**	**-0.2**				
GEC2				IAmb	IAmb	11 26 26.8					
	comp=Z,3.2nm,1.1s										
GERES	**GERESS Array B**	90.81	321	P	**P**	**11 26 26.3**	**0.0**				
	comp=Z,0.5nm,0.5s,baz=59,slow=8.0,SNR=4.8										
	comp=Z,0.5nm,0.5s										
VNDA	**Vanda**	93.93	172	P	**P**	**11 26 39.9**	**0.0**				
VNDA				IAmb	IAmb	11 26 40.7					
	comp=Z,1.7nm,0.8s										
VNDA	**Vanda**	93.93	172	P	**P**	**11 26 39.8**	**-0.1**				
	comp=Z,1.8nm,0.8s,baz=318,slow=5.6,SNR=11										
	comp=Z,1.8nm,0.8s										
QSPA	**South Pole Qui**	103.46	180	Pdiff	**Pdif**	**11 27 25.5**	**+2.5**				
	comp=Z,0.7nm,0.7s,baz=260,slow=2.3,SNR=5.4										
PDAR	**Pinedale Array**	107.32	36	PKKPbc	PKKPbc	11 43 15.6	+9.3				
	comp=Z,0.9nm,0.7s,baz=108,slow=4.8,SNR=6.9										
TXAR	**Lajitas Array**	119.40	45	PKP	**PKiKP**	**11 32 13.6**	**+1.3**				
	comp=Z,1.2nm,0.6s,baz=220,slow=1.0,SNR=13										
TXAR				PKKPbc	**PKKPbc**	**11 42 25.0**	**-0.2**				
	comp=Z,2.1nm,1.3s,baz=136,slow=6.4,SNR=4.1										
PLCA	**Paso Flores**	151.19	162	PKPbc	**PKiKP**	**11 33 17.3**	**+1.0**				
	comp=Z,2.8nm,0.7s,baz=220,slow=1.5,SNR=9.0										

*NEIC **06** 11:20:27.1±2.6, 19.°68N±0.°09×68.°45W±0.°04, h10km±2km, ML3.5/28, Md3.3/16(RSPR), Error ellipse: s-maj=15.8km s-min=5.7km az=357.0*
*RSPR **06** 11:20:32.9, 19.°38N×68.°54W, h81km±6km, MD3.3/16*
*OSPL **06** 11:20:33.3±2.6, 19.°39N×68.°32W, h0km±35km, ML3.3*
*SDD **06** 11:20:33.5±2.1, 19.°20N×68.°38W, h23km±50km, MD3.7, ML3.4, MW3.6*

ISC 06 11:20:30.8±1.4, **19.°30N**±0.°05×**68.°37W**±0.°02, **h5**km±10km, **n69**, σ1§**11**/96, **34C-2D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.72**	**244**	*i*P	**Pb**	**11 20 45.8**	**+0.1**
MIDR	**Miches**	**0.72**	**244**	*e*S	**Sb**	**11 20 56.9**	**+0.9**
MIDR	**Miches**	**0.72**	**244**	*i*Pg	**Pb**	**11 20 45.7**	**-0.1**
MIDR				⇑*e*Sg	**Sb**	**11 20 56.4**	**+0.5**
MIDR				IAML		11 20 57.4	
	comp=N,354nm,0.4s						
SMDR	**Samana, DR**	**0.77**	**269**	⇑*e*P	**Pn**	**11 20 47.6**	**-0.8**
SMDR	**Samana, DR**	**0.77**	**269**	*e*S	**Sn**	**11 20 59.7**	**-0.7**
HIDR	**Higuey Centro**	**0.78**	**205**	⇑*i*Pg	**Pg**	**11 20 46.2**	**+0.4**
HIDR				⇑*e*Sg	**Sg**	**11 20 53.8**	**-2.1**
HIDR				IAML		11 20 58.5	
	comp=N,807nm,0.2s						
DR12	**Loma Pena Alta**	**1.08**	**242**	Pn	**Pg**	**11 20 51.9**	**+0.2**
DR12				Sn	**Sb**	**11 21 07.2**	**+0.6**
HATOM	**Hato Mayor del**	**1.08**	**242**	⇑*i*Pg	**Pb**	**11 20 52.0**	**-0.1**
HATOM				⇑*e*Sg	**Sb**	**11 21 07.0**	**+0.5**
HATOM				IAML		11 21 09.7	
	comp=N,335nm,0.6s						
SADR	**Isla Saona**	**1.17**	**199**	⇑*e*P	**Pb**	**11 20 53.0**	**-0.5**
SADR	**Isla Saona**	**1.17**	**199**	*e*S	**Sn**	**11 21 10.3**	**+0.1**
IDE	**Isla Desecheo**	**1.25**	**137**		**Pn**	**11 20 53.5**	**-1.4**
IDE					**Sb**	**11 21 10.9**	**-0.2**
IDE	**Isla Desecheo**	**1.25**	**137**	⇑*e*P	**Pn**	**11 20 53.5**	**-1.4**
IDE	**Isla Desecheo**	**1.25**	**137**	*e*S	**Sb**	**11 21 10.9**	**-0.2**
NADR	**Nagua**	**1.40**	**272**	⇑*e*Pg	**Pb**	**11 20 57.4**	**-0.1**
NADR				IAML		11 21 26.2	
	comp=N,1μm,0.7s						
AGPR	**Aguadilla, PR**	**1.45**	**125**		**Pg**	**11 20 58.5**	**-0.1**
AGPR				Sn	**Sg**	**11 21 18.6**	**+1.0**
AGPR				IAML		11 21 21.0	
	comp=E,310nm,0.8s						
AGPR	**Aguadilla, PR**	**1.45**	**125**	⇑*e*P	**Pg**	**11 20 58.4**	**-0.3**
AGPR	**Aguadilla, PR**	**1.45**	**125**	*i*P	**Pg**	**11 20 58.4**	**-0.3**
AGPR				*e*S	**Sg**	**11 21 18.5**	**+1.0**
AGPR				IAML		11 21 20.3	
	comp=Z,193nm,0.3s						
AGPR	**Aguadilla, PR**	**1.45**	**125**	⇑*i*Pg	**Pg**	**11 20 58.4**	**-0.3**
AGPR				⇑*e*Sg	**Sb**	**11 21 16.9**	**-0.3**
AGPR				IAML		11 21 27.9	
	comp=N,394nm,0.3s						
PRSN	**Puerto Rico Se**	**1.59**	**133**		**Pn**	**11 20 58.6**	**-1.0**
PRSN					**Sg**	**11 21 23.1**	**+1.4**
PRSN	**Puerto Rico Se**	**1.59**	**133**	*e*S	**Sg**	**11 21 22.9**	**+1.1**
DR08	**Loma La Naviza**	**1.60**	**258**	⇑*i*Pg	**Pn**	**11 20 00.0**	**+0.2**
DR08				⇑*e*Sg	**Sb**	**11 21 21.6**	**+0.2**
DR08				IAML		11 21 25.8	
	comp=N,3μm,0.1s						
LSP	**Las Mesas**	**1.66**	**132**		**Pn**	**11 21 00.5**	**0.0**
LSP					**Sg**	**11 21 26.0**	**+2.0**
LSP	**Las Mesas**	**1.66**	**132**	⇑*e*P	**Pn**	**11 21 00.5**	**0.0**
LSP	**Las Mesas**	**1.66**	**132**	*e*S	**Sg**	**11 21 26.0**	**+2.0**
SDD	**Santo Domingo**	**1.69**	**240**	Pn	**Pn**	**11 20 58.6**	**-2.3**
SDD					**Sb**	**11 21 24.1**	**+0.3**
SDD				IAML		11 21 25.4	
	comp=N,406nm,0.6s						
SDD	**Santo Domingo**	**1.69**	**240**	*i*P	**Pb**	**11 21 02.5**	**+0.2**
SDD				*e*S	**Sb**	**11 21 24.7**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.76**	**137**		**Pn**	**11 21 02.1**	**+0.2**
CRPR					**Sb**	**11 21 26.4**	**+0.5**
CRPR				IAML		11 21 30.1	
	comp=E,213nm,0.8s						
CRPR	**Cabo Rojo, PR**	**1.76**	**137**	⇑*e*P	**Pn**	**11 21 01.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.76**	**137**	*e*S	**Sg**	**11 21 27.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.76**	**137**	*i*P	**Pn**	**11 21 01.8**	**-0.2**
CRPR				*e*S	**Sg**	**11 21 26.8**	**-0.5**
CRPR				IAML		11 21 31.1	
	comp=Z,365nm,1.0s						
AOPR	**Arecibo Observ**	**1.80**	**122**		**Pn**	**11 21 02.9**	**+0.3**
AOPR					**Sb**	**11 21 27.2**	**-0.1**
AOPR				IAML		11 21 32.4	
	comp=N,383nm,0.3s						
AOPR	**Arecibo Observ**	**1.80**	**122**	⇑*e*P	**Pb**	**11 21 03.3**	**-1.0**
AOPR	**Arecibo Observ**	**1.80**	**122**	*e*S	**Sb**	**11 21 27.4**	**+0.1**
AOPR	**Arecibo Observ**	**1.80**	**122**	⇑*i*Pg	**Pb**	**11 21 03.4**	**-0.9**
AOPR				⇓*e*Sg	**Sn**	**11 21 26.0**	**+0.1**
AOPR				IAML		11 21 32.3	
	comp=N,376nm,0.2s						
MLPR	**Magueyes Islan**	**1.83**	**136**	⇑*e*P	**Pb**	**11 21 04.4**	**-0.4**
MLPR	**Magueyes Islan**	**1.83**	**136**	*e*S	**Sb**	**11 21 28.2**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.88**	**123**		**Pb**	**11 21 04.9**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.88**	**123**	⇑*e*P	**Pb**	**11 21 05.1**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.88**	**123**	*e*S	**Sg**	**11 21 31.7**	**+0.4**
EMPR	**Esperanza - Ma**	**1.93**	**115**		**Pn**	**11 21 03.1**	**-1.1**
EMPR				Sn	**Sb**	**11 21 29.3**	**-1.5**
EMPR				IAML		11 21 36.6	
	comp=N,453nm,0.5s						
EMPR	**Esperanza - Ma**	**1.93**	**115**	⇑*e*P	**Pb**	**11 21 06.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.93**	**115**	*e*S	**Sg**	**11 21 31.9**	**-0.8**
BANI	**BANI**	**2.09**	**245**	Pn	**Pn**	**11 21 02.7**	**-3.9**
BANI	**BANI**	**2.09**	**245**	⇑*e*Pg	**Pb**	**11 21 08.6**	**-0.7**
BANI				⇑*e*Sg	**Sn**	**11 21 33.9**	**+0.9**
BANI				IAML		11 21 51.2	
	comp=N,300nm,0.7s						
OBIP	**Obispado Ponce**	**2.09**	**127**		**Pn**	**11 21 05.6**	**-0.9**
OBIP					**Sn**	**11 21 33.4**	**+0.4**
OBIP				IAML		11 21 40.7	
	comp=E,291nm,0.6s						
OBIP				IAML		11 21 40.9	
	comp=N,346nm,0.6s						
OBIP	**Obispado Ponce**	**2.09**	**127**	⇑*e*P	**Pb**	**11 21 09.1**	**-0.1**
OBIP	**Obispado Ponce**	**2.09**	**127**	*e*S	**Sb**	**11 21 35.3**	**-0.2**
CELP	**Cerrillos**	**2.09**	**125**		**Pn**	**11 21 06.8**	**+0.3**
CELP					**Sn**	**11 21 33.3**	**+0.3**
CELP				IAML		11 21 38.4	
	comp=E,297nm,0.8s						
CELP	**Cerrillos**	**2.09**	**125**	⇑*e*P	**Pb**	**11 21 08.5**	**-0.7**
CELP	**Cerrillos**	**2.09**	**125**	*e*S	**Sb**	**11 21 35.0**	**-0.6**
CELP	**Cerrillos**	**2.09**	**125**	⇑*e*Pg	**Pb**	**11 21 08.2**	**-1.0**
CELP				⇑*e*Sg	**Sb**	**11 21 34.9**	**-0.7**
CELP				IAML		11 21 40.5	
	comp=N,459nm,0.5s						
ECPR	**Experimental S**	**2.14**	**117**	⇑*e*P	**Pn**	**11 21 07.6**	**+0.4**
ABDR	**Alto Bandera**	**2.19**	**257**	⇑*e*Pg	**Pb**	**11 21 10.8**	**-0.3**
ABDR				⇓*e*Sg	**Sb**	**11 21 37.8**	**-0.9**
ABDR				IAML		11 21 44.7	
	comp=N,265nm,0.5s						
GCPR	**Guaynabo City**	**2.38**	**114**	Pn	**Pn**	**11 21 09.5**	**-1.0**
SJG	**San Juan**	**2.42**	**119**		**Pn**	**11 21 11.1**	**+0.1**
SJG				Sn	**Sn**	**11 21 39.7**	**-1.3**
SJG				IAML		11 21 48.0	
	comp=N,139nm,0.5s						
SJG				IAML		11 21 55.9	
	comp=N,163nm,0.4s						
SJG	**San Juan**	**2.42**	**119**	*i*P	**Pn**	**11 21 12.3**	**+1.4**
SJG				IAML		11 21 49.9	
	comp=Z,61nm,0.4s						
IGPR	**InterUniversit**	**2.52**	**121**		**Pb**	**11 21 14.4**	**-2.2**
IGPR					**Sb**	**11 21 47.3**	**-0.8**
IGPR	**InterUniversit**	**2.52**	**121**	⇑*e*P	**Pb**	**11 21 14.4**	**-2.2**
IGPR	**InterUniversit**	**2.52**	**121**	*e*S	**Sb**	**11 21 47.3**	**-0.8**
PDPR	**Patillas Dam,**	**2.57**	**119**		**Pn**	**11 21 13.3**	**+0.2**
PDPR				Sn	**Sn**	**11 21 43.9**	**-0.8**
PDPR				IAML		11 21 53.9	
	comp=E,110nm,0.9s						
PDPR	**Patillas Dam,**	**2.57**	**119**	⇑*e*P	**Pb**	**11 21 15.8**	**-1.5**
PDPR	**Patillas Dam,**	**2.57**	**119**	*e*S	**Sb**	**11 21 46.8**	**-2.5**
HUMP	**Col San Antoni**	**2.65**	**115**		**Pn**	**11 21 13.7**	**-0.6**
HUMP					**Sn**	**11 21 48.1**	**+1.2**
HUMP				IAML		11 21 59.0	
	comp=E,113nm,0.2s						
HUMP	**Col San Antoni**	**2.65**	**115**	⇑*e*P	**Pn**	**11 21 15.2**	**+0.9**
HUMP	**Col San Antoni**	**2.65**	**115**	*e*S	**Sn**	**11 21 47.8**	**+0.9**
SDDR	**Presa de Saban**	**2.78**	**264**	Pn	**Pn**	**11 21 11.9**	**-4.2**
SDDR				IAML		11 22 05.5	
	comp=E,175nm,0.6s						
SDDR				IAML		11 22 10.5	
	comp=E,116nm,1.1s						
SDDR	**Presa de Saban**	**2.78**	**264**	*i*P	**Pb**	**11 21 19.9**	**-1.1**
SDDR				IAML		11 22 07.3	
	comp=Z,105nm,0.7s						
GRTK	**Grand Turk**	**3.40**	**311**	*i*P	**Pn**	**11 21 25.1**	**+0.6**
GRTK				IAML		11 22 07.0	
	comp=Z,59nm,1.1s						
BAUV	**El Baul**	**10.30**	**178**		**Pn**	**11 23 01.8**	**+2.4**

*NIED **06** 11:30:07.4, 28.°10N×128.°16E, h7km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.56; $M_{\theta\theta}$4.69; $M_{\phi\phi}$-2.13; $M_{r\theta}$-3.54; $M_{\theta\phi}$0.47; $M_{r\phi}$-6.82; Fault plane solution: $M_0$8.54000×10^{15} NP1: ϕ_s293.00000°, δ26.00000°, λ-18.00000°. NP2:ϕ_s40.00000°, δ82.00000°, λ-115.00000°.*
*JMA **06** 11:30:07.4±0.3, 28.°1N±0.°5×128.°2E±0.°6, h7km±2km, MD4.3/14, MV4.1/14, NW OFF OKINAWAJIMA IS*
*IDC **

comp=E,0.8nm,0.5s
PMG Port Moresby 41.47 151 LR LR 11 52 20.2
comp=E,110nm,21.7s,baz=306,slow=32
SHEM Shemya Is, Ala 41.80 41 LR LR 11 54 01.5
comp=E,20nm,21.6s,baz=246,slow=34
KURBB Kurchatov Arra 43.58 315 P **P** **11 38 11.6 -0.9**
comp=E,1.2nm,0.7s,baz=102,slow=8.8,SNR=6.4
KURBB LR LR 11 57 49.6
comp=E,110nm,18.5s,baz=171,slow=38
comp=E,1.2nm,0.7s
TIXI Tiksi 43.67 0 LR LR 11 57 16.9
comp=E,186nm,18.0s,baz=199,slow=37
FITZ Fitzroy Crossi 45.91 183 P **P** **11 38 31.2 -0.2**
comp=E,1.9nm,0.6s,baz=16,slow=6.7,SNR=8.3
FITZ LR LR 11 58 28.0
comp=E,20nm,18.4s,baz=326,slow=37
comp=E,1.9nm,0.6s
WRA Warramunga Arr 48.04 172 P **P** **11 38 47.8 -0.2**
comp=E,1.4nm,0.8s,baz=353,slow=8.1,SNR=10
WRA LR LR 11 57 34.4
comp=E,36nm,22.0s,baz=359,slow=34
comp=E,1.4nm,0.8s
BVAR Borovoye Array 48.96 317 P **P** **11 38 54.8 0.0**
comp=E,1.0nm,0.7s,baz=81,slow=12,SNR=6.0
BVAR LR LR 12 01 04.3
comp=E,241nm,18.3s,baz=93,slow=38
comp=E,1.0nm,0.7s
PALK Pallekele 49.39 255 LR LR 12 02 02.1
comp=E,45nm,18.4s,baz=82,slow=39
ASAR Alice Springs 51.67 173 P **P** **11 39 15.3 -0.3**
comp=E,0.5nm,0.5s,baz=358,slow=8.8,SNR=15
ASAR LR LR 11 59 28.6
comp=E,44nm,21.6s,baz=351,slow=34
comp=E,0.5nm,0.5s
KIRV Kirov 60.80 324 LR LR 12 09 04.3
comp=E,84nm,19.7s,baz=93,slow=38
KDAK Kodiak Island 61.08 37 LR LR 12 07 10.8
comp=E,23nm,20.9s,baz=231,slow=36
ILAR Eielson Array 62.86 29 P **P** **11 40 37.0 +2.9**
comp=E,0.4nm,0.7s,baz=284,slow=7.5,SNR=6.5
ILAR LR LR 12 10 30.7
comp=E,38nm,18.4s,baz=240,slow=38
comp=E,0.4nm,0.7s
SPITS Spitsbergen Ar 67.08 348 LR LR 12 12 06.9
comp=E,48nm,21.2s,baz=42,slow=38
ARCES ARCESS Array B 68.35 338 LR LR 12 15 53.6
comp=E,58nm,18.3s,baz=64,slow=40
OBN Obninsk 68.43 322 LR LR 12 14 36.2
comp=E,107nm,18.5s,baz=132,slow=39
RES Resolute Bay 73.79 11 LR LR 12 17 59.6
comp=E,28nm,19.5s,baz=32,slow=39
AKASG Malin Array Be 74.18 319 LR LR 12 16 19.5
comp=E,117nm,18.8s,baz=58,slow=37
HFS Hagfors 77.25 332 LR LR 12 17 40.9
comp=E,101nm,18.8s,baz=61,slow=37
MMAI Mount Meron Ar 77.49 301 LR LR 12 20 46.6
comp=E,33nm,18.9s,baz=78,slow=39
NOA NORSAR Array B 77.72 334 LR LR 12 19 34.9
comp=E,42nm,19.5s,baz=40,slow=38
MLR Muntele Rosu 78.48 315 LR LR 12 19 45.1
comp=E,58nm,19.1s,baz=49,slow=38
EIL Elat 79.28 298 LR LR 12 22 36.9
comp=E,25nm,18.5s,baz=68,slow=40
VRAC Vranov 81.96 322 LR LR 12 21 13.0
comp=E,55nm,19.0s,baz=66,slow=38
GERES GERESS Array B 83.78 323 LR LR 12 22 31.3
comp=E,81nm,18.1s,baz=87,slow=38
BORG Borgarnes 84.54 347 LR LR 12 25 27.8
comp=E,24nm,18.1s,baz=334,slow=39
SFJD Kangerlussuaq 85.28 360 LR LR 12 22 01.0
comp=E,39nm,21.0s,baz=36,slow=36
DAVOX Davos/Dischmat 87.08 323 LR LR 12 24 46.2
comp=E,63nm,19.6s,baz=76,slow=38
PFO Pinyon Flats O 93.31 49 LR LR 12 18 40.3
comp=E,24nm,20.7s,baz=287,slow=31

*HEL **06** 11:30:19.4±0.1, 63°.98N×28°.06E, h0km, ML1.8, Suspected explosion*
*IDC **06** 11:30:19.9±1.9, 63°.95N×28°.40E, h0km, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=37.7km s-min=9.7km az=98.0*
ISC 06 11:30:18.8±0.8, 63°.96N±0°.02×28°.13E±0°.03, h0km, n35, σ1§12/57, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.59**	**194**	PG	**Pg**	**11 30 30.4**	**+0.3**
NIF				SG	**Sg**	**11 30 38.0**	**+0.2**
NIF				MSG		11 30 38.6	
	comp=Z,10nm,0.2s						
RMF	**Romuvaara**	**0.83**	**71**	PG	**Pg**	**11 30 35.0**	**+0.3**
RMF				MSG		11 30 45.9	
	comp=Z,12nm,0.2s						
RMF				SG	**Sg**	**11 30 46.0**	**+0.6**
OUL	**Oulu**	**1.48**	**320**	PN	**Pn**	**11 30 46.3**	**-0.4**
OUL				SN	**Sg**	**11 31 06.4**	**0.0**
SUF	**Sumiainen**	**1.54**	**216**	PG	**Pn**	**11 30 47.4**	**0.0**
SUF				MSG		11 31 05.5	
	comp=Z,4.8nm,0.2s						
OUF	**Merijarvi**	**1.54**	**287**	PN	**Pn**	**11 30 46.9**	**-0.6**
OUF				MSG		11 31 04.5	
	comp=Z,7.4nm,0.2s						
OUF				SN	**Sn**	**11 31 07.1**	**-1.1**
OBF4	**Vikkela, Lumij**	**1.57**	**304**	PN	**Pn**	**11 30 47.6**	**-0.2**
	baz=120						
OBF4				MSG		11 31 05.3	
	comp=Z,6.8nm,0.2s						
KU1	**Kurvinen**	**1.72**	**20**	PG	**Pn**	**11 30 50.2**	**+0.3**
KU1				SN	**Sb**	**11 31 13.3**	**0.0**
KU2	**Taivalkoski**	**1.75**	**1**	PG	**Pn**	**11 30 49.0**	**-1.4**
JOF	**Joensuu**	**1.77**	**125**	*eP*	**Pb**	**11 30 52.0**	**-0.1**
JOF	**Joensuu**	**1.77**	**125**	PG	**Pb**	**11 30 51.6**	**-0.5**
JOF				SG	**Sb**	**11 31 14.8**	**-0.1**
OBF0	**Syolatti, Pyha**	**1.79**	**289**	PG	**Pn**	**11 30 51.2**	**+0.4**
OBF0				MSG		11 31 11.5	
	comp=Z,8.1nm,0.2s						
OBF0				SN	**Sn**	**11 31 14.4**	**+0.3**
MSF	**Maaselka**	**1.99**	**11**	PG	**Pn**	**11 30 54.8**	**+1.1**
	baz=191						
MSF				SG	**Sb**	**11 31 20.6**	**-0.6**
KAF	**Kangasniemi**	**2.04**	**205**	PG	**Pb**	**11 30 55.8**	**-0.8**
	baz=21						
KAF				MSG		11 31 20.0	
	comp=Z,9.6nm,0.2s						
KAF				SG	**Sb**	**11 31 23.1**	**+0.7**
RANF	**Ranua**	**2.14**	**345**	PG	**Pb**	**11 30 57.6**	**-0.7**
RANF				SG	**Sb**	**11 31 24.8**	**-0.5**
KU6	**Riekki**	**2.20**	**19**	PG	**Pb**	**11 30 58.7**	**-0.6**
KU6				MSG		11 31 24.4	
	comp=Z,3.8nm,0.2s						
KU6				SB	**Sb**	**11 31 26.5**	**-0.7**
KEF	**Keuruu**	**2.34**	**221**	*eP*	**Pb**	**11 31 01.3**	**-0.4**
KEF	**Keuruu**	**2.34**	**221**	PG	**Pb**	**11 31 01.2**	**-0.4**
KEF				MSG		11 31 28.3	
	comp=Z,7.2nm,0.2s						
KEF				SG	**Sb**	**11 31 31.4**	**+0.3**
OLKF	**Oulanka, Finla**	**2.43**	**12**	PG	**Pb**	**11 31 02.2**	**-1.0**
OLKF				MSG		11 31 30.7	
	comp=Z,3.9nm,0.2s						
OLKF				SG	**Sb**	**11 31 33.0**	**-0.6**
RUF	**Ruokolahti**	**2.58**	**171**	PB	**Pb**	**11 31 04.8**	**-1.0**
	baz=348						
RUF				MSG		11 31 36.1	
	comp=Z,4.0nm,0.2s						
RUF				SG	**Sb**	**11 31 38.1**	**+0.2**
TOF	**Tornio**	**2.67**	**324**	PB	**Pn**	**11 31 04.2**	**+1.3**
TOF				SB	**Sn**	**11 31 36.4**	**+0.5**
TOF				MSG		11 31 36.9	
	comp=Z,1.7nm,0.2s						
FIA0	**FINESS Array S**	**2.70**	**201**	PB	**Pb**	**11 31 06.3**	**-1.6**
FIA0				MSG		11 31 39.2	
	comp=Z,2.7nm,0.2s						
FIA0				SG	**Sb**	**11 31 41.0**	**-0.5**
FINES	**FINESS Array B**	**2.70**	**201**	Pn	**Pb**	**11 31 06.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=23,slow=15,SNR=13						
FINES				Sn	**Sb**	**11 31 41.6**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=25,slow=26,SNR=19						
	comp=Z,2.1nm,0.6s						
KALU	**Kalix**	**2.79**	**315**	PB	**Pn**	**11 31 05.9**	**+1.4**
KALU				SB	**Sn**	**11 31 39.8**	**+1.0**
RNF	**Rovaniemi**	**2.80**	**342**	PG	**Pb**	**11 31 08.7**	**-0.9**
RNF				SB	**Sn**	**11 31 40.4**	**+1.2**
SJUU	**Sjulsmark**	**3.20**	**302**	*eP*	**Pn**	**11 31 11.9**	**+1.7**
UMAU	**Umeaa**	**3.29**	**272**	PN	**Pn**	**11 31 12.0**	**+0.5**
	baz=81						
UMAU				SG	**Sb**	**11 31 58.5**	**0.0**
KPF	**Kankaanpaa**	**3.50**	**235**	PB	**Pb**	**11 31 18.6**	**-2.9**
	baz=50						
ERTU	**Ertsjaerv**	**3.61**	**319**	PB	**Pn**	**11 31 18.2**	**+2.4**
ERTU				SG	**Sb**	**11 32 10.1**	**+2.6**
KLF	**Kolari**	**3.71**	**334**	PN	**Pn**	**11 31 18.5**	**+1.2**
KLF				SN	**Sn**	**11 32 01.0**	**-0.6**
RAF	**Rauma**	**4.17**	**228**	PN	**Pn**	**11 31 25.3**	**+1.7**
RAJF	**Raja-Jooseppi**	**4.53**	**1**	PN	**Pn**	**11 31 31.1**	**+2.6**
HEF	**Hetta**	**4.82**	**340**	SN	**Sn**	**11 32 27.9**	**-1.0**
ARCES	**ARCESS Array B**	**5.69**	**351**	Pn	**Pn**	**11 31 45.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=6.4						
ARCES				Sn	**Sn**	**11 32 47.8**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=170,slow=24,SNR=6.9						
ARCES				Lg	Lg	11 33 10.1	
	comp=Z,0.2nm,0.3s,baz=167,slow=32,SNR=5.6						
	comp=Z,1.2nm,0.8s						
I37NO	**I37NO**	**6.38**	**328**	I	I	12 10 05.0	
	baz=139,slow=324,SNR=0.5						
HFS	**Hagfors**	**7.79**	**247**	Pn	**Pn**	**11 32 13.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=18,SNR=1.8						
	comp=Z,0.4nm,0.4s						

*JMA **06** 11:39:50.2±0.3, 28°.1N±0°.5×128°.2E±0°.6, h7km±2km, MV3.2/10, NW OFF OKINAWAJIMA IS*
*IDC **06** 11:39:51.2±1.4, 27°.81N×127°.79E, h0km, mb3.3/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=56.4km s-min=18.2km az=72.0*
ISC 06 11:39:50.9±2.0, 28°.03N±0°.06×128°.23E±0°.08, h9km±12km, n13, σ0§72/20, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.69**	**111**	*i* P	**Pg**	**11 40 04.3**	**+0.1**
JTK				S	**Sb**	**11 40 14.5**	**-0.1**
JAMN	**Amaminishikomi**	**0.86**	**76**	*i* P	**Pb**	**11 40 07.2**	**-0.8**
JAMN				S	**Sg**	**11 40 19.3**	**+0.5**
JIH	**Iheya**	**1.02**	**193**	P	**Pb**	**11 40 10.3**	**-0.4**
JIH				S	**Sb**	**11 40 24.2**	**0.0**
JYRO	**Yoronjima**	**1.02**	**169**	P	**Pb**	**11 40 10.0**	**-0.8**
JYRO				*e*S	**Sg**	**11 40 24.6**	**+0.7**
JOW	**Kunigami**	**1.20**	**178**	Pn	**Pn**	**11 40 12.4**	**-1.5**
	104nm,0.3s,baz=354,slow=16,SNR=16						
JOW				Sn	**Sb**	**11 40 29.1**	**-0.2**
	44nm,0.3s,baz=111,slow=29,SNR=11						
JOW	**Kunigami**	**1.20**	**178**	P	**Pn**	**11 40 13.2**	**-0.6**
JOW				S	**Sn**	**11 40 30.2**	**-0.1**
JAM	**Amami Oshima**	**1.27**	**72**	*e*P	**Pn**	**11 40 14.7**	**-0.1**
JAM				S	**Sb**	**11 40 31.6**	**0.0**
JTAJ	**Takarajima**	**1.41**	**37**	*e*P	**Pn**	**11 40 15.9**	**-0.9**
JNTH	**Nagotoyohara**	**1.52**	**187**	*e*P	**Pn**	**11 40 18.0**	**-0.2**
JNTH				S	**Sn**	**11 40 37.9**	**-0.2**
JNU	**Nakatsue**	**5.56**	**24**	Pn	Pn	11 41 21.3	+7.3
	0.9nm,0.3s,baz=290,slow=5.1,SNR=6.3						
	21nm,1.0s						
SONM	**Songino Array**	**26.06**	**325**	P	**P**	**11 45 24.9**	**+0.1**
	0.6nm,0.5s,baz=145,slow=10,SNR=3.6						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**48.06**	**172**	P	**P**	**11 48 31.6**	**+0.8**
	0.3nm,0.6s,baz=354,slow=8.1,SNR=4.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**51.69**	**173**	P	**P**	**11 48 59.9**	**+1.4**
	0.2nm,0.5s,baz=2.1,slow=12,SNR=5.4						
	0.2nm,0.5s						

*IDC **06** 12:06:20.3±0.7, 0°.52S×127°.76E, h0km, mb3.9/12, mbtmp4.0/14, ML3.9/2, Error ellipse: s-maj=32.4km s-min=14.5km az=78.0*
*DJA **06** 12:06:25.1±0.3, 1°.S±2°×12°.8E±°, h10km, M4.6/12, mB5.1/4, mb5.3/4, MLv4.3/12, Mw(mB)4.5/4*
ISC 06 12:06:25.7±0.7, 0°.53S±0°.07×127°.83E±0°.09, h35km, n24, σ1§21/25, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.38**	**340**	P	**Pn**	**12 06 47.7**	**-0.7**
SANI	**Sanana**	**2.38**	**231**	P	**Pn**	**12 07 00.5**	**-1.8**
NLAI	**Namlea**	**2.79**	**195**	P	**Pn**	**12 07 07.4**	**-0.5**
SWI	**Sorong**	**3.44**	**96**	P	Pn	12 07 24.0	+7.2
KMSI	**Cibinong**	**4.01**	**286**	P	**Pn**	**12 07 24.1**	**-0.5**
LUWI	**Luwuk**	**5.09**	**264**	P	**Pn**	**12 07 37.8**	**-1.7**
APSI	**Ampana**	**6.20**	**266**	P	**Pn**	**12 07 53.4**	**-1.3**
	2µm218nm,0.6s						
SPSI	**Sidrap Palu**	**8.75**	**247**	P	**Pn**	**12 08 28.8**	**-1.0**
	4µm380nm,0.9s						
BKSI	**Bulukumba**	**9.05**	**238**	P	**Pn**	**12 08 33.6**	**-0.4**
KAPI	**Kappang**	**9.22**	**241**	Pn	**Pn**	**12 08 35.3**	**-1.0**
	3.1nm,0.3s,baz=76,slow=8.5,SNR=11						
KAPI				Sn	**Sn**	**12 10 21.4**	**+2.6**
	1.6nm,0.3s,baz=136,slow=14,SNR=1.1						
	18nm,0.5s						
FITZ	**Fitzroy Crossi**	**17.59**	**187**	Pn	**Pn**	**12 10 27.7**	**-0.5**
	0.2nm,0.3s,baz=7.1,slow=16,SNR=5.2						
	5.2nm,1.0s						
WRA	**Warramunga Arr**	**20.32**	**162**	P	**P**	**12 10 58.2**	**-0.7**
	1.6nm,0.7s,baz=342,slow=11,SNR=9.4						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**23.74**	**166**	P	**P**	**12 11 34.4**	**-0.5**
	3.5nm,0.8s,baz=343,slow=11,SNR=30						
ASAR				PcP	**PcP**	**12 15 18.7**	**+0.3**
	0.2nm,0.7s,baz=345,slow=2.4,SNR=2.1						
	3.5nm,0.8s						
STKA	**Stephens Creek**	**33.78**	**159**	P	**P**	**12 13 04.9**	**+0.5**
	2.5nm,1.1s,baz=326,slow=18,SNR=2.3						
	2.5nm,1.1s						
KSRS	**Korea Array**	**37.80**	**0**	P	**P**	**12 13 39.3**	**+0.7**
	0.6nm,0.6s,baz=163,slow=10,SNR=2.9						
	0.6nm,0.6s						
MJAR	**Matsushiro Arr**	**38.12**	**14**	P	**P**	**12 13 42.5**	**+1.0**
	1.1nm,0.4s,baz=199,slow=9.7,SNR=3.5						
	1.1nm,0.4s						
GTA	**Gaotai**	**47.31**	**330**	*e*P	**P**	**12 14 58.1**	**+1.9**
GTA				pP	pP	12 15 01.8	-4.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**51.66**	**342**	P	**P**	**12 15 28.3**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=158,slow=12,SNR=2.2						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**61.67**	**326**	P	**P**	**12 16 40.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=126,slow=7.2,SNR=8.5						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**64.86**	**334**	P	**P**	**12 16 59.6**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=132,slow=6.0,SNR=1.7						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**65.91**	**328**	P	**P**	**12 17 07.9**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=126,slow=6.1,SNR=5.6						
	comp=Z,1.4nm,0.6s						
BVAR	**Borovoye Array**	**71.48**	**328**	P	**P**	**12 17 41.2**	**-1.5**
	comp=Z,0.9nm,0.2s,baz=134,slow=4.2,SNR=3.8						
	comp=Z,0.9nm,0.2s						
VNDA	**Vanda**	**79.09**	**173**	P	**P**	**12 18 25.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=326,slow=7.3,SNR=1.3						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**89.40**	**180**	P	**P**	**12 19 19.7**	**+1.0**
	comp=Z,1.4nm,1.0s,baz=315,slow=1.4,SNR=2.7						
	comp=Z,1.4nm,1.0s						

*IDC **06** 12:06:38.8±0.8, 0°.52S×127°.91E, h0km, mb4.2/10, mbtmp4.3/12, ML4.2/2, Error ellipse: s-maj=43.0km s-min=15.0km az=76.0*
ISC 06 12:06:44.0±0.8, 0°.6S±0°.1×127°.8E±0°.2, h35km, n12, σ0§47/12, mb4.3/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.21**	**241**	Pn	**Pn**	**12 08 54.2**	**-0.2**
	6.6nm,0.3s,baz=64,slow=9.9,SNR=12						
	34nm,0.5s						
FITZ	**Fitzroy Crossi**	**17.56**	**187**	P	**Pn**	**12 10 46.2**	**0.0**
	0.3nm,0.3s,baz=24,slow=8.8,SNR=7.6						
	10nm,1.0s						
WRA	**Warramunga Arr**	**20.29**	**162**	P	**P**	**12 11 16.9**	**0.0**
	4.2nm,0.8s,baz=343,slow=12,SNR=11						
	4.2nm,0.8s						
ASAR	**Alice Springs**	**23.71**	**166**	P	**P**	**12 11 52.5**	**-0.4**
	8.8nm,0.8s,baz=336,slow=9.3,SNR=4.6						
	8.8nm,0.8s						
STKA	**Stephens Creek**	**33.76**	**159**	P	**P**	**12 13 22.2**	**-0.2**
	4.0nm,1.0s,baz=341,slow=12,SNR=5.4						
	4.0nm,1.0s						
KSRS	**Korea Array**	**37.83**	**0**	P	**P**	**12 13 56.5**	**-0.7**
	2.0nm,0.6s,baz=177,slow=9.9,SNR=10						
	2.0nm,0.6s						
SONM	**Songino Array**	**51.69**	**342**	P	**P**	**12 15 48.4**	**+0.7**
	0.8nm,0.5s,baz=155,slow=7.3,SNR=4.8						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**61.70**	**326**	P	**P**	**12 16 59.0**	**+0.3**
	1.8nm,0.6s,baz=116,slow=8.2,SNR=7.4						
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**64.89**	**334**	P	**P**	**12 17 19.7**	**0.0**
	2.6nm,0.9s,baz=126,slow=7.7,SNR=6.3						
	2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**65.93**	**328**	P	**P**	**12 17 26.8**	**+0.4**
	3.6nm,0.7s,baz=127,slow=5.8,SNR=6.8						
	3.6nm,0.7s						
BVAR	**Borovoye Array**	**71.50**	**328**	P	**P**	**12 18 00.8**	**-0.4**
	1.1nm,0.5s,baz=123,slow=5.5,SNR=6.3						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**89.37**	**180**	P	**P**	**12 19 37.5**	**+0.7**
	2.1nm,1.0s,baz=324,slow=5.0,SNR=3.7						
	2.1nm,1.0s						

*IDC **06** 12:10:30.9±2.0, 0°.29N×125°.00E, h0km, mb3.3/3, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=142.5km s-min=27.0km az=66.0*
*DJA **06** 12:10:37.7±0.3, 0°.N±3°×12°.5E±°, h10km, M3.8/12, mb3.7/1, MLv3.8/12*
ISC 06 12:10:35.9±1.4, 0°.20N±0°.09×125°.38E±0°.06, h10km, n11, σ2§67/10, mb3.3/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.45**	**285**	P	**Pn**	**12 11 02.3**	**+0.1**
TNTI	**Ternate**	**2.06**	**74**	P	**Pn**	**12 11 13.1**	**+2.5**
SANI	**Sanana**	**2.32**	**165**	P	**Pn**	**12 11 14.8**	**+0.6**
LUWI	**Luwuk**	**2.89**	**245**	P	**Pn**	**12 11 25.4**	**+3.4**
MRSI	**Marisa**	**3.45**	**275**	P	**Pn**	**12 11 29.9**	**+0.1**
NLAI	**Namlea**	**3.83**	**153**	P	**Pn**	**12 11 37.1**	**+2.2**
APSI	**Ampana**	**3.90**	**253**	P	**Pn**	**12 11 39.9**	**+4.0**
FITZ	**Fitzroy Crossi**	**18.19**	**179**	P	**Pn**	**12 14 46.2**	**-2.6**
	0.1nm,0.3s,baz=3.7,slow=14,SNR=2.4						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**21.86**	**157**	P	**P**	**12 15 27.2**	**-1.8**
	0.7nm,0.6s,baz=334,slow=10,SNR=9.1						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.13**	**161**	P	**P**	**12 16 00.2**	**-1.1**
	0.2nm,0.5s,baz=341,slow=8.9,SNR=8.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.72**	**327**	P	P	12 20 35.4	-5.4
	0.2nm,0.4s,baz=121,slow=7.5,SNR=1.8						
	0.2nm,0.4s						

*HEL **06** 12:12:53.7±0.2, 61°.01N×28°.93E, h0km, ML1.6, Suspected explosion*
*IDC **06** 12:12:54.4±2.2, 60°.89N×28°.82E, h0km, mbtmp3.1/2, ML2.2/2, Error ellipse: s-maj=20.5km s-min=14.2km az=3.0*
ISC 06 12:12:54.1±1.2, 61°.03N±0°.05×28°.75E±0°.07, h0km, n16, σ1§38/22, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUF	**Ruokolahti**	**0.41**	**14**	PG	**Pg**	**12 13 01.2**	**-0.7**
RUF				SG	**Sg**	**12 13 06.6**	**-0.6**
VJF	**Virojoki**	**0.76**	**231**	PG	**Pg**	**12 13 08.7**	**0.0**
	baz=56						
VJF				MSG		12 13 19.1	
	comp=Z,10nm,0.2s						
VJF				SB	**Sb**	**12 13 20.2**	**-0.9**
FIA0	**FINESS Array S**	**1.36**	**289**	PG	**Pn**	**12 13 19.5**	**-0.8**
FIA0				MSG		12 13 37.2	
	comp=Z,4.6nm,0.2s						
FINES	**FINESS Array B**	**1.36**	**289**	Pg	**Pn**	**12 13 19.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=111,slow=16,SNR=27						
FINES				Lg	Lg	12 13 39.5	
	comp=Z,1.6nm,0.3s,baz=108,slow=27,SNR=17						
PVF	**Pernaja**	**1.50**	**252**	PG	**Pn**	**12 13 21.8**	**-0.4**
PVF				MSG		12 13 40.9	
	comp=Z,4.8nm,0.2s						
PVF				SN	**Sn**	**12 13 45.5**	**+3.2**
KAF	**Kangasniemi**	**1.60**	**314**	PN	**Pn**	**12 13 24.4**	**+0.8**
KAF				MSG		12 13 43.7	
	comp=Z,7.9nm,0.2s						
SUF	**Sumiainen**	**2.10**	**325**	PG	**Pb**	**12 13 32.9**	**-0.1**
	baz=139						
SUF				MSG		12 13 57.7	
	comp=Z,1.8nm,0.2s						
SUF				SG	**Sb**	**12 14 01.5**	**+2.0**
ARBE	**Arbavere**	**2.11**	**222**	PG	**Pb**	**12 13 32.3**	**-0.8**
KEF	**Keuruu**	**2.18**	**303**	PG	**Pb**	**12 13 33.8**	**-0.6**
	baz=121						
KEF				MSG		12 14 00.6	
	comp=Z,1.9nm,0.2s						
JOF	**Joensuu**	**2.25**	**31**	PG	**Pn**	**12 13 33.3**	**+0.7**
	baz=207						
JOF				SB	**Sn**	**12 14 00.6**	**-0.4**
MEF	**Metsahovi**	**2.29**	**251**	PG	**Pb**	**12 13 36.5**	**+0.2**
	baz=67						
MEF				MSG		12 14 03.9	
	comp=Z,2.2nm,0.2s						
MEF				SG	**Sb**	**12 14 05.5**	**+0.3**
NIF	**Nilsia**	**2.41**	**350**	PG	**Pn**	**12 13 36.8**	**+2.1**
NIF				MSG		12 14 06.0	
	comp=Z,3.4nm,0.2s						
NIF				SG	**Sb**	**12 14 08.7**	**+0.2**
UMAU	**Umeaa**	**4.72**	**311**	SB	**Sb**	**12 15 11.3**	**-3.4**
HFS	**Hagfors**	**7.47**	**270**	Pn	**Pn**	**12 14 43.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=80,slow=16,SNR=1.6						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**8.65**	**352**	Pn	**Pn**	**12 15 00.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=167,slow=12,SNR=0.9						
	comp=Z,1.1nm,0.7s						
I37NO	**I37NO**	**9.13**	**336**	I	I	13 08 23.2	
	baz=146,slow=325,SNR=2.3						

*IDC **06** 12:27:20.6±1.7, 0°.60S×127°.71E, h0km, mb3.2/3, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=55.9km s-min=24.5km az=69.0*
*DJA **06** 12:27:24.1±0.3, 1°.S±2°×12°.7E±°, h10km, M3.9/10, mb4.2/3, MLv3.7/10*
ISC 06 12:27:26.6±1.0, 0°.78S±0°.06×127°.42E±0°.09, h35km, n10, σ1§18/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.54**	**358**	P	**Pn**	**12 27 51.8**	**+0.2**
TNTI				S	**Sn**	**12 28 12.2**	**+1.9**
SANI	**Sanana**	**1.91**	**229**	P	**Pn**	**12 27 55.8**	**-0.9**
SANI				S	**Sn**	**12 28 19.2**	**-0.4**
NLAI	**Namlea**	**2.47**	**187**	P	**Pn**	**12 28 04.5**	**+0.1**
FAKI	**Fak Fak**	**5.27**	**114**	P	**Pn**	**12 28 42.7**	**-

EOS4	**EOS4**	**0.49**	**281**	⇑P	**Pb**	**12 28 46.9**	**+0.3**	**F17K**	**Baldwin Pennin**	**11.25**	**24**
EOS4				eS	**Sb**	**12 28 53.9**	**+0.5**	**J20K**	**Nowinta River**	**11.89**	**43**
EOS3	**EOS3**	**0.55**	**298**	P	**Pb**	**12 28 48.5**	**+0.8**	**BPAW**	**Bear Paw Mtn.**	**13.08**	**46**
EOS3				eS	**Sb**	**12 28 56.4**	**+1.2**	**E22K**	**Anaktuvuk Pass**	**14.97**	**31**
EOS2	**EOS2**	**0.68**	**305**	eP	**Pn**	**12 28 51.4**	**0.0**	**PAX**	**Paxson**	**15.06**	**54**
EOS2				eS	**Sn**	**12 29 01.4**	**-0.2**	**D22K**	**Ayikyak River**	**15.23**	**28**
IRIF	**Iriomote-Funau**	**0.86**	**69**	*i* P	**Pn**	**12 28 54.1**	**+0.1**	D22K			
IRIF				S	**Sn**	**12 29 06.3**	**+0.1**		comp=Z,6.6nm,1.5s		
HATJ	**Hateruma jima**	**0.88**	**88**	P	**Pn**	**12 28 54.1**	**0.0**	**L26K**	**Log Cabin Wild**	**16.03**	**54**
HATJ				eS	**Sn**	**12 29 06.3**	**-0.3**		comp=Z,5.7nm,0.8s		
EAHA	**Aohua**	**1.05**	**287**	eP	**Pn**	**12 28 56.8**	**+0.2**	**M27K**	**Edge Creek, AK**	**16.60**	**57**
EAHA				eS	**Sn**	**12 29 11.5**	**+0.5**		comp=Z,3.3nm,0.9s		
EWUT	**Wuta**	**1.06**	**293**	eP	**Pb**	**12 28 56.5**	**+0.1**	**L27K**	**Beaver Creek,**	**16.72**	**55**
EWUT				S	**Sg**	**12 29 10.8**	**-0.1**	**K27K**	**Chicken**	**16.78**	**51**
ESAO	**Su ao**	**1.06**	**301**	eP	**Pn**	**12 28 56.8**	**0.0**		comp=Z,3.1nm,0.9s		
ESAO				eS	**Sb**	**12 29 10.4**	**+0.2**	**CTGM**	**Chitina Glacie**	**16.78**	**62**
TWC	**Suao**	**1.08**	**303**	eP	**Pn**	**12 28 57.0**	**+0.1**	CTGM			
TWC				eS	**Sb**	**12 29 10.7**	**+0.1**		comp=Z,4.9nm,1.0s		
JKRS	**Kuro-shima**	**1.08**	**79**	P	**Pg**	**12 28 58.2**	**+0.8**	**DAWY**	**Dawson**	**17.95**	**52**
JKRS				eS	**Sn**	**12 29 12.6**	**+1.0**		comp=Z,3.5nm,0.7s		
ENA	**Nanau**	**1.08**	**292**	eP	**Pb**	**12 28 57.0**	**+0.1**	**INK**	**Inuvik**	**21.13**	**41**
ENA				eS	**Sb**	**12 29 11.4**	**+0.6**				
NACB	**Ninganchiao**	**1.15**	**277**	eP	**Pn**	**12 28 57.9**	**-0.1**				
NDS	**Dongshan**	**1.20**	**300**	eP	**Pn**	**12 28 57.1**	**-1.5**				
NDS				eS	**Sb**	**12 29 12.6**	**-1.4**				
JIJ	**Ishigaki jima**	**1.23**	**74**	P	**Pg**	**12 29 00.3**	**0.0**				
JIJ				eS	**Sg**	**12 29 16.5**	**+0.1**				
ETM	**Tongmen**	**1.24**	**267**	eP	**Pn**	**12 28 58.2**	**-0.9**				
ETM				eS	**Sb**	**12 29 14.7**	**-0.6**				
ETLH	**Xiulin Townshi**	**1.26**	**278**	eP	**Pn**	**12 28 59.5**	**-0.1**				
TWE	**Neicheng**	**1.28**	**303**	eP	**Pg**	**12 29 00.9**	**-0.3**				
TWE				eS	**Sb**	**12 29 10.4**	**0.0**				
LATG	**Datong**	**1.31**	**293**	eP	**Pb**	**12 29 01.2**	**+0.4**				
LATG				eS	**Sn**	**12 29 18.2**	**+0.9**				
ENTT	**Nioudou**	**1.32**	**298**	eP	**Pb**	**12 29 01.5**	**+0.6**				
ENTT				eS	**Sn**	**12 29 18.3**	**+0.8**				
TIPB	**Shuangxi**	**1.32**	**315**	eP	**Pg**	**12 29 01.9**	**-0.1**				
TIPB				eS	**Sg**	**12 29 19.4**	**+0.1**				
FUSB	**Fushanzhiwuyua**	**1.36**	**303**	eP	**Pg**	**12 29 02.5**	**-0.2**				
FUSB				eS	**Sg**	**12 29 19.8**	**-0.7**				
WARBT	**Fenglin Townsh**	**1.37**	**257**	eP	**Pn**	**12 29 00.1**	**-0.9**				
WARBT				eS	**Sn**	**12 29 16.7**	**-2.2**				
SXI1	**Grass Mountain**	**1.38**	**320**	eP	**Pb**	**12 29 02.3**	**+0.3**				
SXI1				eS	**Sg**	**12 29 20.5**	**-0.7**				
NNSB	**Datong**	**1.40**	**287**	eP	**Pb**	**12 29 02.4**	**+0.2**				
NNSB				eS	**Sb**	**12 29 20.7**	**+0.8**				
HGSD	**Ruisui**	**1.41**	**248**	eP	**Pn**	**12 29 00.4**	**-1.1**				
HGSD				eS	**Sn**	**12 29 16.1**	**-3.6**				
NWLT	**Wulai**	**1.43**	**302**	eP	**Pg**	**12 29 03.9**	**-0.3**				
NWLT				eS	**Sb**	**12 29 41.4**	**+0.5**				
WHF	**Hehuan Shan**	**1.45**	**275**	eP	**Pn**	**12 29 02.9**	**+0.4**				
WHF				eS	**Sb**	**12 29 22.4**	**+0.6**				
EHYH	**Wanrong**	**1.48**	**249**	eP	**Pn**	**12 29 01.9**	**-0.5**				
EHYH				eS	**Sn**	**12 29 20.1**	**-1.2**				
YHNB	**Yeheng**	**1.49**	**296**	eP	**Pb**	**12 29 04.3**	**+0.5**				
YHNB				eS	**Sg**	**12 29 23.9**	**-0.6**				
TWA	**Mucha**	**1.49**	**310**	eS	**Sb**	**12 29 22.9**	**+0.4**				
EHY	**Hungye**	**1.49**	**250**	eP	**Pn**	**12 29 01.9**	**-0.7**				
EHY				eS	**Sn**	**12 29 19.8**	**-2.0**				
NSK	**Sanguang**	**1.50**	**296**	eP	**Pb**	**12 29 04.4**	**+0.4**				
NSK				eS	**Sb**	**12 29 23.5**	**+0.5**				
OWD	**Renai**	**1.53**	**268**	eP	**Pn**	**12 29 03.9**	**+0.6**				
OWD				eS	**Sn**	**12 29 22.1**	**-0.9**				
YULB	**Yu-li**	**1.56**	**246**	eP	**Pn**	**12 29 02.8**	**-0.7**				
YULB				eS	**Sn**	**12 29 21.6**	**-1.7**				
TWF1	**Yuli**	**1.57**	**245**	eP	**Pn**	**12 29 02.8**	**-0.9**				
TWF1				eS	**Sn**	**12 29 21.7**	**-2.1**				
WUSB	**Renai**	**1.58**	**269**	eP	**Pn**	**12 29 04.2**	**+0.2**				
WUSB				eS	**Sn**	**12 29 24.1**	**-0.1**				
VWDT	**VWDT**	**1.58**	**260**	eP	**Pn**	**12 29 04.2**	**+0.2**				
VWDT				eS	**Sn**	**12 29 23.3**	**-0.7**				
NFF	**Wufeng Townshi**	**1.69**	**291**	eP	**Pb**	**12 29 08.2**	**+0.9**				
NFF				eS	**Sb**	**12 29 28.9**	**+0.6**				
EHD	**Haiduan**	**1.74**	**240**	eP	**Pn**	**12 29 04.7**	**-1.4**				
EHD				eS	**Sn**	**12 29 25.0**	**-3.0**				
SSLB	**Suanglung**	**1.75**	**262**	eP	**Pn**	**12 29 07.6**	**+1.4**				
SSLB				eS	**Sb**	**12 29 30.2**	**+0.3**				
WHP	**Taichung City**	**1.75**	**278**	eP	**Pb**	**12 29 08.8**	**+0.5**				
WCS	**Beigang Elemen**	**1.77**	**271**	eP	**Pb**	**12 29 08.9**	**+0.3**				
LIOB	**Emei**	**1.78**	**291**	eP	**Pb**	**12 29 09.2**	**+0.5**				
SMLT	**Sun Moon Lake**	**1.79**	**266**	eP	**Pb**	**12 29 09.1**	**+0.1**				
JTJ	**Tarama**	**1.80**	**70**	P	**Pb**	**12 29 09.5**	**+0.5**				
TYC	**Yuchr**	**1.82**	**266**	eP	**Pb**	**12 29 09.3**	**-0.2**				
TYC				eS	**Sb**	**12 29 31.9**	**-0.2**				
WHYT	**Xinyi Township**	**1.85**	**260**	eP	**Pn**	**12 29 08.6**	**+0.8**				
WHYT				eS	**Sb**	**12 29 34.2**	**+1.1**				
ELDTW	**Lidau**	**1.88**	**244**	eP	**Pn**	**12 29 07.0**	**-1.1**				
ELDTW				eS	**Sn**	**12 29 28.1**	**-3.3**				
ALS	**Alishan**	**1.94**	**255**	eP	**Pn**	**12 29 09.8**	**+0.7**				
ALS				eS	**Sn**	**12 29 33.2**	**-0.1**				
TWGBT	**Beinan**	**2.02**	**234**	eP	**Pn**	**12 29 08.7**	**-1.3**				
TWGBT				eS	**Sn**	**12 29 31.8**	**-3.1**				
TWG	**Pinlang**	**2.03**	**234**	eP	**Pn**	**12 29 08.8**	**-1.2**				
CHN5	**Tsauling**	**2.03**	**258**	eP	**Pn**	**12 29 11.4**	**+1.3**				
CHN5				eS	**Sn**	**12 29 37.4**	**+2.1**				
STYH	**Taoyuan**	**2.08**	**246**	eP	**Pn**	**12 29 11.2**	**+0.4**				
STYH				eS	**Sn**	**12 29 36.0**	**-0.4**				
WCKO	**Fanlu**	**2.14**	**254**	eP	**Pb**	**12 29 13.8**	**-1.0**				
WCKO				eS	**Sn**	**12 29 39.7**	**+2.0**				
TPUB	**Ta-pu**	**2.16**	**251**	eP	**Pn**	**12 29 13.6**	**+1.8**				
TPUB				eS	**Sn**	**12 29 39.8**	**+1.5**				
CHN4	**Tsaushan**	**2.17**	**252**	eP	**Pn**	**12 29 14.3**	**+2.2**				
CHN4				eS	**Sb**	**12 29 41.6**	**-0.6**				
WTP	**Ta-pu**	**2.19**	**250**	eP	**Pn**	**12 29 13.5**	**+1.2**				
WTP				eS	**Sn**	**12 29 41.8**	**+2.7**				
CHN1	**Nanshi**	**2.29**	**249**	eP	**Pn**	**12 29 15.9**	**+2.3**				
CHN1				eS	**Sn**	**12 29 43.6**	**+2.2**				
TWK	**Hsinying**	**2.29**	**251**	eP	**Pn**	**12 29 15.5**	**+1.8**				
TWK				eS	**Sn**	**12 29 44.2**	**+2.6**				
MASBT	**Mashibuluo**	**2.48**	**236**	eP	**Pn**	**12 29 15.9**	**-0.3**				
MASBT				S	**Sn**	**12 29 49.5**	**+3.4**				

*AEIC **06** 13:12:12.0±2.2,56°.70N±0°.04×172°.92W±0°.06,h20km±7km, Error ellipse: s-maj=6.8km s-min=4.5km az=159.0*

NEIC 06 13:12:12.0±0.9,**56°.65N**±0°.05×**172°.84W**±0°.02,**h10**km±1km, **mb3.6**/10,**ML3.5**(AEIC), **Error ellipse: s-maj=9.2km s-min=2.9km az=185.0, Bering Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIA	**Saint Paul Isl**	**1.52**	**69**		**Pn**	**13 12 37.9**	**-1.3**
SPIA	**Saint Paul Isl**	**1.52**	**69**		Sn	**13 12 58.1**	**-0.9**
P08K	**Saint George I**	**1.82**	**90**		Sb	13 13 08.1	-0.1
P08K	**Saint George I**	**1.82**	**90**		Pn	13 12 43.5	+0.2
NIKH	**Nikolski High**	**4.35**	**146**		Pn	13 13 18.2	+0.1
ATKA	**Atka Island**	**4.53**	**191**		Pn	13 13 20.0	-0.5
ATKA					Sn	13 14 11.8	-1.3
UNV	**Unalaska Valle**	**4.59**	**125**		Pn	13 13 20.9	-0.4
AKUT	**Akutan**	**4.75**	**119**		Pn	13 13 23.4	-0.2
GSTR	**Great Sitkin T**	**4.94**	**204**	Pn	Pn	13 13 26.3	+0.1
M11K	**Mekoryuk**	**5.11**	**40**		Pn	13 13 28.1	-0.4
M11K					Sn	13 14 27.7	+0.2
ADK	**Adak**	**5.28**	**207**		Pn	13 13 29.9	-0.9
ADK					Sn	13 14 31.0	-0.6
KIWB	**Kanaga Island**	**5.43**	**210**	Pn	Pn	13 13 32.6	-0.3
S12K	**Black Hills**	**6.10**	**94**		Sn	13 14 53.7	+1.9
S12K	**Black Hills**	**6.10**	**94**		Pn	13 13 42.2	+0.2
M13K	**Dall Lake**	**6.24**	**49**		Pn	13 13 43.4	-0.5
O14K	**Tigyukauivet M**	**6.69**	**62**		Pn	13 13 49.9	-0.3
N14K	**Kuskokwak Cree**	**6.73**	**56**		Pn	13 13 50.7	-0.1
K13K	**Kusilvak Mount**	**6.75**	**35**		Pn	13 13 50.1	-0.9
M14K	**Bethel**	**7.00**	**50**		Pn	13 13 54.2	-0.2
L14K	**Kuka Creek**	**7.04**	**44**		Pn	13 13 54.8	-0.3
GAMB	**Gambell**	**7.17**	**4**		Pn	13 13 56.9	+0.1
M15K	**Kasigluk River**	**7.52**	**52**		Pn	13 14 01.3	-0.2
N15K	**Kwethluk River**	**7.56**	**57**		Pn	13 14 02.0	-0.2
L15K	**Ungalak Mounta**	**7.71**	**44**		Pn	13 14 04.0	-0.1
K15K	**Wolf Creek Mou**	**8.07**	**41**		Pn	13 14 08.7	-0.3
O16K	**Kokwok River B**	**8.34**	**63**		Pn	13 14 13.2	+0.3
M16K	**Timber Creek**	**8.42**	**53**		Pn	13 14 14.3	+0.4
O17K	**Koliganek Bris**	**8.88**	**63**		Pn	13 14 20.2	+0.1
N17K	**Nushagak Hills**	**9.04**	**58**	Pn	Pn	13 14 23.4	+0.9
M17K	**Holitna River**	**9.25**	**53**		Pn	13 14 26.0	+0.7
CNTC	**Contact Creek**	**9.28**	**73**		Pn	13 14 25.6	-0.2
KAHC	**Katmai Hardscr**	**9.76**	**71**		Pn	13 14 32.6	+0.2
L18K	**Granite Mounta**	**9.93**	**49**	Pn	Pn	13 14 34.8	+0.3
G16K	**Koyuk River**	**10.12**	**26**	Pn	Pn	13 14 37.2	0.0
H17K	**Granite Mounta**	**10.42**	**32**	Pn	Pn	13 14 41.2	0.0

*HEL **06** 13:14:24.8±0.1, 68°.14N×33°.17E, h0km, ML1.7, Explosion*
*UPP **06** 13:14:24.3±3.4, 68°.24N×33°.30E, h0km, ML2.0, Presumed earthquake*
*KOLA **06** 13:14:25.7, 68°.10N×33°.21E, h0km, ML2.1, Error ellipse: s-maj=2.4km s-min=1.6km az=100.0, Olenegorsk City, Mines*
*IDC **06** 13:14:28.3±2.7, 68°.22N×32°.59E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=33.6km s-min=13.6km az=57.0*

ISC 06 13:14:23.5±0.8,**68°.11N**±0°.03×**33°.21E**±0°.03,**h0**km,**n39,** σ1**28**/66**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.52**	**189**	P	**Pb**	**13 14 34.5**	**-0.9**
APA0				S	**Sg**	**13 14 41.0**	**+1.0**
APA	**Apatity**	**0.55**	**172**	P	**Pb**	**13 14 35.6**	**-0.4**
APA				S	**Sb**	**13 14 43.3**	**-1.1**
LVZ	**Lovozero**	**0.59**	**111**	P	**Pb**	**13 14 35.8**	**-0.8**
LVZ				S	**Sb**	**13 14 44.0**	**-1.5**
LVZ	**Lovozero**	**0.59**	**111**	PG	**Pb**	**13 14 36.0**	**-0.6**
LVZ				SG	**Sg**	**13 14 43.0**	**+0.8**
TERR	**Teriberka**	**1.30**	**32**	P	**Pg**	**13 14 41.1**	**-0.1**
TERR				S	**Sb**	**13 15 05.7**	**-0.2**
VRF	**Varrio**	**1.41**	**257**	PG	**Pn**	**13 14 50.1**	**-0.2**
VRF				MSG		13 15 07.0	
	comp=Z,12nm,0.2s						
VRF				SG	**Sg**	**13 15 08.6**	**0.0**
KVDA	**Kovda**	**1.43**	**185**	P	**Pb**	**13 14 50.9**	**-0.1**
KVDA				S	**Sg**	**13 15 08.5**	**-1.0**
RAJF	**Raja-Jooseppi**	**1.86**	**284**	PG	**Pb**	**13 14 57.5**	**-0.7**
RAJF				SN	**Sb**	**13 15 21.6**	**-0.3**
OLKF	**Oulanka, Finla**	**2.33**	**221**	PB	**Pb**	**13 15 05.5**	**-0.8**
OLKF				MSG		13 15 34.0	
	comp=Z,3.0nm,0.2s						
OLKF				SB	**Sb**	**13 15 35.8**	**+0.2**
VADS	**Vadso**	**2.44**	**327**	P	**Pb**	**13 15 07.6**	**-0.6**
VADS				S	**Sb**	**13 15 38.4**	**-0.4**
VADS	**Vadso**	**2.44**	**327**	eP	**Pb**	**13 15 07.9**	**-0.2**
KU6	**Riekki**	**2.47**	**213**	PB	**Pb**	**13 15 07.7**	**-0.9**
KU6				MSG		13 15 38.1	
	comp=Z,2.2nm,0.2s						
KU6				SB	**Sb**	**13 15 39.9**	**+0.5**
MSF	**Maaselka**	**2.75**	**218**	PN	**Pn**	**13 15 09.0**	**+0.2**
MSF				SG	**Sb**	**13 15 48.2**	**+0.6**
KEV	**Kevo**	**2.78**	**309**	PN	**Pn**	**13 15 10.5**	**+1.3**
KEV				SG	**Sb**	**13 15 47.7**	**-0.8**
KU1	**Kurvinen**	**2.94**	**211**	PB	**Pb**	**13 15 14.3**	**-2.4**
KU2	**Taivalkoski**	**3.11**	**221**	PB	**Pn**	**13 15 16.5**	**+2.8**
ARA0	**ARCESS Array S**	**3.14**	**301**	eP	**Pn**	**13 15 15.2**	**+1.1**
ARA0	**ARCESS Array S**	**3.14**	**301**	PN	**Pn**	**13 15 15.2**	**+1.1**
ARA0				SG	**Sb**	**13 16 01.1**	**+2.4**
ARCES	**ARCESS Array B**	**3.14**	**301**	Pn	**Pn**	**13 15 15.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=115,slow=15,SNR=23						
ARCES				Sn	**Sn**	**13 15 51.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=116,slow=27,SNR=6.3						
ARCES				Lg	Lg	13 15 58.3	
	comp=Z,1.3nm,0.3s,baz=110,slow=33,SNR=7.2						
	comp=Z,0.8nm,0.3s						
ARCES	**ARCESS Array B**	**3.14**	**301**	P	**Pn**	**13 15 15.3**	**+1.2**
ARCES				S	**Sn**	**13 15 52.8**	**+0.6**
RNF	**Rovaniemi**	**3.17**	**245**	PN	**Pn**	**13 15 15.7**	**+1.2**
RNF				SN	**Sn**	**13 15 54.0**	**+1.2**
RANF	**Ranua**	**3.28**	**233**	PN	**Pn**	**13 15 16.9**	**+0.9**
RANF				SG	**Sg**	**13 16 05.8**	**-2.9**
HEF	**Hetta**	**3.56**	**279**	PN	**Pn**	**13 15 20.4**	**+0.5**
HEF				SN	**Sn**	**13 16 01.8**	**-0.9**
KLF	**Kolari**	**3.64**	**260**	PN	**Pn**	**13 15 21.8**	**+0.9**
KLF				SG	**Sg**	**13 16 18.5**	**-1.6**
KTK1	**Kautokeino**	**3.77**	**288**	PN	**Pn**	**13 15 23.6**	**+0.9**
KTK1				SG	**Sb**	**13 16 18.1**	**+1.2**
PAJU	**Pajala**	**4.02**	**259**	P	**Pn**	**13 15 27.5**	**+1.3**
PAJU	**Pajala**	**4.02**	**259**	PN	**Pn**	**13 15 27.4**	**+1.3**
PAJU				SN	**Sn**	**13 16 15.1**	**+1.2**
TOF	**Tornio**	**4.03**	**244**	PN	**Pn**	**13 15 26.6**	**+0.3**
TOF				SN	**Sn**	**13 16 15.2**	**+1.2**
RMF	**Romuvaara**	**4.13**	**200**	PN	**Pn**	**13 15 28.9**	**+1.2**
LANU	**Lannavaara**	**4.20**	**274**	P	**Pn**	**13 15 29.2**	**+0.5**
LANU	**Lannavaara**	**4.20**	**274**	PN	**Pn**	**13 15 29.7**	**+1.0**
LANU				SG	**Sb**	**13 16 32.7**	**+3.3**
KALU	**Kalix**	**4.48**	**244**	PN	**Pn**	**13 15 33.1**	**+0.7**
KALU				SN	**Sn**	**13 16 27.2**	**+2.0**
ERTU	**Ertsjaerv**	**4.54**	**255**	PN	**Pn**	**13 15 33.6**	**+0.2**
ERTU				SN	**Sn**	**13 16 26.2**	**-0.5**
KIF	**Kilpisjarvi**	**4.64**	**287**	PN	**Pn**	**13 15 36.0**	**+1.3**
KIF				SN	**Sn**	**13 16 27.5**	**-1.6**
KUA	**Kurravaara**	**4.83**	**274**	P	**Pn**	**13 15 37.6**	**+0.3**
KUA				S	**Sn**	**13 16 33.9**	**-0.1**
KOVU	**Salmi**	**4.87**	**277**	P	**Pn**	**13 15 38.5**	**+0.6**
I37NO	**I37NO**	**5.43**	**287**	I	I	13 46 00.0	
	baz=93,slow=316,SNR=3.0						
FAUS	**Fauske**	**6.84**	**272**	S	**Sn**	**13 17 19.9**	**-3.3**
FINES	**FINESS Array B**	**7.35**	**208**	Pn	**Pn**	**13 16 14.2**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=1.8						
	comp=Z,0.8nm,0.8s						

*IDC **06** 13:59:42.1±4.3,28°.10N×128°.05E, h0km, mb3.3/5, mbtmp3.3/5, MS3.0/4, Error ellipse: s-maj=242.5km s-min=23.1km az=64.0*
*JMA **06** 13:59:42.6±0.3,28°.1N±0°.6×128°.2E±0°.8, h11km±3km, MV3.3/16, NW OFF OKINAWAJIMA IS*

ISC 06 13:59:42.6±1.6,**28°.09N**±0°.05×**128°.20E**±0°.06,**h11**km±11km, **n22,** σ0**91**/24**, mb3.3**/5**, MS3.2**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.73**	**114**	eP	**Pg**	**13 59 56.7**	**-0.1**
JTK				S	**Sg**	**14 00 06.7**	**+0.4**
JAMN	**Amaminishikomi**	**0.88**	**79**	eP	**Pg**	**13 59 59.6**	**+0.1**
JAMN				S	**Sg**	**14 00 11.7**	**+0.7**
JIH	**Iheya**	**1.07**	**191**	eP	**Pb**	**14 00 02.4**	**-0.7**
JIH				S	**Sb**	**14 00 16.5**	**-0.6**
JYRO	**Yoronjima**	**1.08**	**168**	eP	**Pb**	**14 00 02.8**	**-0.6**
JYRO				S	**Sb**	**14 00 17.0**	**-0.4**
JOW	**Kunigami**	**1.25**	**177**	LR	LR	14 00 36.4	
	comp=Z,217nm,20.5s,baz=348,slow=42						
JOW	**Kunigami**	**1.25**	**177**	eP	**Pn**	**14 00 05.5**	**-0.6**
JOW				eS	**Sb**	**14 00 21.9**	**-0.6**
JAM	**Amami Oshima**	**1.28**	**75**	eP	**Pn**	**14 00 06.7**	**+0.2**
JAM				eS	**Sb**	**14 00 22.9**	**-0.4**
JTAJ	**Takarajima**	**1.38**	**39**	eP	**Pn**	**14 00 06.7**	**-1.2**
JNTH	**Nagotoyohara**	**1.57**	**186**	eP	**Pn**	**14 00 10.4**	**-0.1**
JNTH				eS	**Sn**	**14 00 30.1**	**-0.7**
JAGN	**Aguni-jima**	**1.72**	**210**	eP	**Pb**	**14 00 13.2**	**-1.0**
JJT3	**Tamagusuku3**	**1.97**	**191**	eP	**Pn**	**14 00 17.0**	**+1.0**
JKE	**Kume jima 2**	**2.16**	**216**	eP	**Pn**	**14 00 21.0**	**-0.8**
JKDJ	**Kitadaitoujima**	**3.49**	**127**	eS	**Sn**	**14 01 17.1**	**-1.0**
MJAR	**Matsushiro Arr**	**11.94**	**43**	LR	LR	14 07 01.1	
	comp=Z,44nm,20.7s,baz=212,slow=36						
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**14 05 17.4**	**+1.7**
	0.4nm,0.4s,baz=134,slow=6.2,SNR=3.6						
	0.4nm,0.4s						
KAPI	**Kappang**	**33.90**	**195**	LR	LR	14 20 51.4	
	comp=Z,19nm,19.6s,baz=26,slow=38						
MKAR	**Makanchi Array**	**40.30**	**310**	P	**P**	**14 07 19.6**	**-0.4**
	0.3nm,0.7s,baz=100,slow=7.5,SNR=2.8						
	0.3nm,0.7s						

KURBB	**Kurchatov Arra**	**43.51**	**315**	P	**P**	**14 07 45.1**	**-0.9**
	0.1nm,0.4s,baz=105,slow=8.8,SNR=2.7						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**48.11**	**172**	P	**P**	**14 08 24.3**	**+1.6**
	0.3nm,0.5s,baz=353,slow=7.9,SNR=2.6						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**48.89**	**317**	LR	LR	14 30 39.2	
	comp=Z,36nm,19.4s,baz=32,slow=38						
ASAR	**Alice Springs**	**51.74**	**173**	P	**P**	**14 08 51.4**	**+1.1**
	0.2nm,0.5s,baz=352,slow=9.0,SNR=5.0						
	0.2nm,0.5s						
NOA	**NORSAR Array B**	**77.64**	**334**	LR	LR	14 49 08.7	
	comp=Z,11nm,19.2s,baz=75,slow=38						

*IDC **06** 14:10:10.3±0.6, 18°.14S×174°.69W, h0km, mb4.2/15, mbtmp4.1/15, MS3.5/11, Error ellipse: s-maj=23.7km s-min=17.8km az=130.0*
*NEIC **06** 14:10:15.0±0.9, 18°.4S±0°.1×174°.22W±0°.09, h51km±6km, mb4.7/7, Error ellipse: s-maj=18.1km s-min=11.8km az=177.0*

ISC 06 14:10:15.1±0.5,**18°.3S**±0°.1×**174°.35W**±0°.09,**h35**km,**n43,** σ1**93**/32**, mb4.2**/20**, MS3.5**/11**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.26**	**101**		**Pn**	**14 11 15.4**	**-2.1**
AFI	**Afiamalu**	**5.04**	**30**	Pn	**Pn**	**14 11 28.3**	**+0.1**
MSVF	**Nonsavu**	**7.25**	**273**	Pn	**Pn**	**14 12 02.4**	**+3.6**
CTAO	**Charters Tower**	**37.19**	**261**	P	**P**	**14 17 21.9**	**-1.3**
CTAO				IAmb	IAmb	14 17 28.2	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**41.84**	**242**	P	**P**	**14 18 01.8**	**0.0**
	comp=Z,3.4nm,1.0s,baz=78,slow=9.3,SNR=3.5						
STKA				LR	LR	14 33 25.8	
	comp=Z,80nm,18.9s,baz=29,slow=34						
	comp=Z,3.4nm,1.0s						
WB0	**Warramunga Arr**	**48.32**	**260**	P	**P**	**14 18 51.5**	**-2.0**
WB0				IAmb	IAmb	14 18 54.6	
	comp=Z,4.7nm,0.8s						
WRAB	**Tennant Creek**	**48.34**	**259**	P	**P**	**14 18 51.0**	**-2.7**
WRAB				IAmb	IAmb	14 18 53.3	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**48.35**	**259**	P	**P**	**14 18 51.2**	**-2.5**
WRA	**Warramunga Arr**	**48.35**	**259**	P	**P**	**14 18 51.2**	**-2.5**
	comp=Z,3.0nm,0.6s,baz=97,slow=7.8,SNR=43						
WRA				PcP	**PcP**	**14 20 18.9**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=98,slow=2.7,SNR=1.6						
	comp=Z,3.0nm,0.6s						
AS31	**Alice Springs**	**48.39**	**254**	P	**P**	**14 18 52.1**	**-2.0**
AS31				IAmb	IAmb	14 19 02.9	
	comp=Z,1.5nm,0.8s						
ASAR	**Alice Springs**	**48.39**	**254**	P	**P**	**14 18 51.8**	**-2.3**
	comp=Z,5.2nm,0.9s,baz=96,slow=8.2,SNR=44						
ASAR				PcP	**PcP**	**14 20 19.5**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=104,slow=2.9,SNR=1.7						
	comp=Z,5.2nm,0.9s						
MTN	**Manton Dam**	**52.64**	**268**	P	**P**	**14 19 23.1**	**-3.1**
KNRA	**Kununurra**	**54.28**	**264**	P	**P**	**14 19 35.2**	**-3.0**
KNRA				IAmb	IAmb	14 19 39.4	
	comp=Z,10nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.76**	**260**	LR	LR	14 42 36.5	
	comp=Z,38nm,21.0s,baz=72,slow=34						
VNDA	**Vanda**	**60.39**	**186**	P	**P**

JMYK			S		Sn	14 22 45.0	-0.3
BSO3	Boso 3	1.56 347	P		Pn	14 22 31.5	+1.3
JKO	Kozu shima	1.74 302	P		Pn	14 22 33.8	+0.8
JKO			*e*S		Sn	14 22 54.1	0.0
BSO4	Boso 4	1.77 344	P		Pn	14 22 34.7	+1.4
JTHY	Toshimahigashi	1.84 313	P		Pn	14 22 35.3	+0.9
JTHY			S		Sn	14 22 56.9	+0.4
JIM2	Oshima 3	1.90 319	P		Pn	14 22 35.7	+0.6
JIM2			S		Sn	14 22 56.8	-1.0
JIZS	Izushimoda	2.22 311	P		Pn	14 22 40.7	+1.1
JIZS			S		Sn	14 23 06.2	+0.3
JOD2	Odawara 2	2.50 323	*i* P		Pn	14 22 44.1	+0.8
TK02	Tokai 2	2.73 285	P		Pn	14 22 47.7	+1.4
SHZ3	Shizuoka 3	2.87 309	P		Pn	14 22 50.6	+2.1
JYN	Shimob	2.96 319	P		Pn	14 22 51.7	+1.9
JYN			S		Sn	14 23 25.7	+1.6
MJAR	Matsushiro Arr	3.94 326	Pn		Pn	14 23 03.6	+0.3
	1.1nm,0.3s,baz=147,slow=12,SNR=60						
MJAR			Sn		Sn	14 23 49.4	+1.2
	0.6nm,0.3s,baz=151,slow=27,SNR=2.1						
MJAR			LR		LR	14 24 49.7	
	comp=Z,39nm,21.4s,baz=177,slow=42 5.7nm,0.3s						
ASAJ	Asahikawa	10.90 6	Pn		Pn	14 24 36.7	-1.7
	0.7nm,0.3s,baz=209,slow=9.8,SNR=11						
ASAJ			Sn		Sn	14 26 33.0	-5.9
	0.2nm,0.3s,baz=198,slow=20,SNR=2.1 2.1nm,0.4s						
KSRS	Korea Array	11.40 295	Pn		Pn	14 24 46.7	+1.4
	baz=109,slow=14,SNR=4.4 1.1nm,0.8s						
H11N2	WAKE ISLAND Hy 26.79 114		T		T	14 56 41.7	
	baz=306,slow=75,SNR=58						
H11N1	WAKE ISLAND Hy 26.79 114		T		T	14 56 39.0	
	baz=306,slow=75,SNR=65						
H11N3	WAKE ISLAND Hy 26.80 114		T		T	14 56 42.9	
	baz=306,slow=75,SNR=52						
H11S3	WAKE ISLAND Hy 27.36 116		T		T	14 57 15.5	
	baz=307,slow=75,SNR=5.0						
H11S1	WAKE ISLAND Hy 27.36 116		T		T	14 57 19.7	
	baz=307,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy 27.38 116		T		T	14 57 21.6	
	baz=307,slow=75,SNR=3.1						
SONM	Songino Array	29.71 310	P		P	14 28 07.6	+0.9
	0.5nm,0.5s,baz=115,slow=9.7,SNR=2.3 0.5nm,0.5s						
ZALV	Zalesovo Beam	44.22 315	P		P	14 30 09.4	-0.1
	0.2nm,0.3s,baz=106,slow=7.7,SNR=1.9 0.2nm,0.3s						
MKAR	Makanchi Array	45.86 305	P		P	14 30 22.7	0.0
	0.3nm,0.6s,baz=98,slow=9.2,SNR=4.2 0.3nm,0.6s						
KURBB	Kurchatov Arra	48.07 311	P		P	14 30 39.2	-0.5
	0.2nm,0.3s,baz=89,slow=7.4,SNR=5.5 0.2nm,0.3s						
KDAK	Kodiak Island	50.19 40	LR		LR	14 49 26.7	
	comp=Z,36nm,21.2s,baz=199,slow=33						
BVAR	Borovoye Array	52.85 314	P		P	14 31 16.0	+0.2
	0.3nm,0.5s,baz=61,slow=6.8,SNR=1.6 0.3nm,0.5s						
WRA	Warramunga Arr	53.30 188	P		P	14 31 18.5	-0.9
	5.2nm,0.4s,baz=6.1,slow=7.5,SNR=192						
ASAR	Alice Springs	57.02 188	P		P	14 31 45.9	-0.3
	1.3nm,0.3s,baz=4.7,slow=6.6,SNR=68 1.3nm,0.3s						
STKA	Stephens Creek	64.81 179	P		P	14 32 39.4	+0.5
	1.2nm,0.4s,baz=342,slow=20,SNR=3.6 1.2nm,0.4s						
NWAO	Narrogin (SRO)	69.53 201	LR		LR	15 05 18.6	
	comp=Z,28nm,18.1s,baz=107,slow=37						
TXAR	Lajitas Array	92.73 52	P		P	14 35 14.4	+1.7
	0.4nm,0.7s,baz=300,slow=3.9,SNR=4.1 0.4nm,0.7s						

*IDC **06** 14:39:34.0±0.6,0°.60S×127°.78E,h0km,mb4.1/14, mbtmp4.1/16,ML4.2/2,MS3.1/7,Error ellipse: s-maj=28.4km s-min=13.0km az=82.0*

*DJA **06** 14:39:35.6±0.2,1°.5±1°×12°.8E±°,h10km,M4.5/18,mB5.2/6, mb4.9/13,MLv4.3/18,Mw(mB)4.5/6*

*NEIC **06** 14:39:36.2±2.2,0°.53S±0°.06×127°.83E±0°.08,h10km±1km, mb4.5/25,Error ellipse: s-maj=14.5km s-min=9.7km az=69.0*

ISC 06 14:39:39.4±0.4,0°.65S±0°.04×127°.73E±0°.06,h35km,n96, σ1§49/98,mb4.4/29,MS3.2/6,1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.46 346		Pn	Pn	14 40 00.3	-3.0
TNTI	Ternate	1.46 346		P	Pn	14 40 01.5	-1.8
TNTI	Ternate	1.46 346		P	Pn	14 40 00.7	-2.6
TNTI				S	Sn	14 40 21.1	-0.1
SANI	Sanana	2.23 231		P	Pn	14 40 11.3	-2.6
SANI	Sanana	2.23 231		P	Pn	14 40 10.5	-3.4
SANI				S	Sn	14 40 39.2	-1.0
NLAI	Namlea	2.65 194		P	Pn	14 40 18.8	-0.9
NLAI				S	Sn	14 40 52.6	+2.1
MSAI	Masohi	2.93 156		P	Pn	14 40 21.5	-2.1
AAI	Ambon	3.05 171		P	Pn	14 40 25.0	-0.2
AAI				S	Sn	14 41 00.2	-0.3
SWI	Sorong	3.54 93		P	Pn	14 40 30.6	-1.3
KMSI	Cibinong	3.94 288		P	Pn	14 40 35.1	-2.4
LUWI	Luwuk	4.97 265		P	Pn	14 40 48.4	-3.3
FAKI	Fak Fak	5.05 117			Pn	14 40 51.5	-1.2
FAKI	Fak Fak	5.05 117		P	Pn	14 40 52.5	-0.2
FAKI	Fak Fak	5.05 117		P	Pn	14 40 51.7	-1.0
	0.2nm61nm,0.9s						
MRSI	Marisa	5.90 281		P	Pn	14 40 59.9	-4.5
	0.2nm51nm,0.6s						
APSI	Ampana	6.09 268		P	Pn	14 41 04.7	-2.3
	3µm268nm,0.6s						
TOLI2	Tolitoli	7.17 284		Pn	Pn	14 41 21.6	-0.2
TOLI2	Tolitoli	7.17 284		P	Pn	14 41 22.5	+0.7
MPSI	Mapaga	7.89 277		P	Pn	14 41 29.5	-2.3
BNSI	Bone	8.48 244		P	Pn	14 41 36.8	-3.0
	46nm,0.8s						
SPSI	Sidrap Palu	8.61 247		P	Pn	14 41 41.3	-0.3
BKSI	Bulukumba	8.90 238		P	Pn	14 41 44.3	-1.3
	749nm77nm,0.6s						
BSSI	Bau Bau, Buton	9.05 233		P	Pn	14 41 46.3	-1.4
	55nm,1.3s						
KAPI	Kappang	9.07 241			Pn	14 41 48.5	+0.5
KAPI	Kappang	9.07 241		Pn	Pn	14 41 48.2	+0.3
	9.0nm,0.3s,baz=78,slow=9.3,SNR=18						
KAPI					Sn	14 43 29.2	+0.3
	1.2nm,0.3s,baz=45,slow=19,SNR=1.3 39nm,0.5s						
EDFI	Ende, Flores	10.05 217		P	Pn	14 42 00.5	-0.9
BATI	Baumata	10.32 203		LR	LR	14 46 38.2	
	comp=Z,35nm,21.8s,baz=20,slow=41						
MYLDM	Lahad Datu	10.89 302			Pn	14 42 13.8	+0.9
MYLDM	Lahad Datu	10.89 302		P	Pn	14 42 14.8	+1.9
MTN	Manton Dam	12.57 165		Pn	Pn	14 42 36.3	+0.3
MTN	Manton Dam	12.57 165		P	Pn	14 42 35.6	-0.3
KDU	Kakadu	12.85 159		P	Pn	14 42 37.6	-2.1
KNRA	Kununurra	14.96 176		Pn	Pn	14 43 09.8	+1.3
KNRA				IAmb	IAmb	14 43 26.5	
	comp=Z,11nm,1.3s						
FITZ	Fitzroy Crossi	17.46 187		Pn	Pn	14 43 39.8	-0.5
FITZ	Fitzroy Crossi	17.46 187		P	Pn	14 43 40.1	-0.2
	comp=Z,0.3nm,0.3s,baz=13,slow=13,SNR=10 comp=Z,5.6nm,0.9s						
FITZ	Fitzroy Crossi	17.46 187		P	P	14 43 41.0	-0.3
KSM	Kuching	17.55 277			P	14 43 42.1	-0.2
KSM				IAmb	IAmb	14 44 13.1	
	comp=Z,24nm,1.4s						
KSM	Kuching	17.55 277		P	P	14 43 42.7	+0.4
WB0	Warramunga Arr	20.09 161		P	P	14 44 08.9	-1.3
WRAB	Tennant Creek	20.23 162		P	P	14 44 10.4	-1.3
WRA	Warramunga Arr	20.23 162		P	P	14 44 09.7	-2.0
WRA	Warramunga Arr	20.23 162		P	P	14 44 10.4	-1.3
	comp=Z,4.4nm,0.9s,baz=342,slow=11,SNR=30						
WRA				S	S	14 47 52.1	-5.0
	comp=Z,0.7nm,1.1s,baz=343,slow=19,SNR=2.4 comp=Z,4.4nm,0.9s						
WR8	Warramunga Arr	20.30 161		P	P	14 44 11.1	-1.4
BBJI	Bungbulang	21.13 251		P	P	14 44 21.9	+0.3
MBWA	Marble Bar	21.83 200		P	P	14 44 30.4	+1.5
MBWA				IAmb	IAmb	14 45 09.3	
	comp=Z,25nm,1.4s						
GUMO	Guam	22.11 50		LR	LR	14 51 39.0	
	comp=Z,25nm,22.0s,baz=254,slow=33						
PSA00	Pilbara Seismi	22.17 200		P	P	14 44 33.3	+0.7
PSA00				IAmb	IAmb	14 45 16.1	
	comp=Z,19nm,1.1s						
QIS	Mount Isa	22.94 150		P	P	14 44 41.9	+1.1
AS31	Alice Springs	23.65 166			P	14 44 46.7	-1.1
ASAR	Alice Springs	23.65 166			P	14 44 46.8	-1.0
ASAR	Alice Springs	23.65 166		P	P	14 44 46.9	-0.9
	comp=Z,10.0nm,0.9s,baz=341,slow=8.5,SNR=44						
ASAR				PcP	PcP	14 48 32.4	+0.4
	comp=Z,0.3nm,0.6s,baz=353,slow=2.4,SNR=5.4 comp=Z,10.0nm,0.9s						
AS01	Alice Springs	23.66 166		P	P	14 44 47.3	-0.6
MNAI	Manna	25.02 261		P	P	14 45 00.6	+0.1
YHNB	Yeheng	25.91 347		P	P	14 45 09.7	+1.2
TATO	Taipei	26.18 347		P	P	14 45 10.2	-0.6
IPM	Ipoh	27.16 281		P	P	14 45 20.4	+0.5
IPM				IAmb	IAmb	14 45 22.1	
	comp=Z,15nm,1.0s						
PSI	Prapat	29.00 277		LR	LR	14 59 32.0	
	comp=Z,59nm,18.4s,baz=88,slow=41						
FORT	Forrest	29.96 179		P	P	14 45 45.2	+0.7
FORT				IAmb	IAmb	14 45 47.7	
	comp=Z,5.4nm,0.8s						
BBOO	Buckleboo	32.94 167		P	P	14 46 09.9	-0.9
HNR	Honiara	33.22 106		LR	LR	14 59 50.6	
	comp=Z,58nm,18.1s,baz=286,slow=37						
NJ2	Nanjing	33.59 346		*e*P	P	14 46 17.2	+0.8
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
STKA	Stephens Creek	33.71 158		P	P	14 46 17.7	+0.2
STKA	Stephens Creek	33.71 158		P	P	14 46 18.0	+0.5
	comp=Z,3.5nm,0.9s,baz=339,slow=8.6,SNR=4.3 comp=Z,3.5nm,0.9s						
PZH	PanZhiHua	36.83 319		P	P	14 46 46.8	+2.2
KSRS	Korea Array	37.91 0		P	P	14 46 52.9	-0.5
	comp=Z,1.0nm,0.5s,baz=178,slow=9.4,SNR=10.0 comp=Z,1.0nm,0.5s						
MJAR	Matsushiro Arr	38.26 14		P	P	14 46 54.9	-1.5
	comp=Z,1.4nm,0.6s,baz=198,slow=7.5,SNR=4.8						
MJAR				LR	LR	15 00 55.7	
	comp=Z,34nm,20.2s,baz=193,slow=34 comp=Z,1.4nm,0.6s						
MJB9	Matsu-Tunnel	38.27 14		P	P	14 46 55.6	-0.8
MJB9				IAmb	IAmb	14 47 36.1	
	comp=Z,11nm,1.3s						
JMM	Marumori	40.18 16		P	P	14 47 11.9	-0.5
JMM				IAmb	IAmb	14 47 45.2	
	comp=Z,19nm,1.2s						
HHC	Hu-ho-hao-te	43.85 342		*e*P	P	14 47 44.0	+1.6
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,93nm,4.8s						
USRK	Ussuriysk Ar.	44.82 4		P	P	14 47 49.7	-0.2
	comp=Z,0.9nm,0.5s,baz=171,slow=6.2,SNR=2.4 comp=Z,0.9nm,0.5s						
BNX	BinXian	46.20 360		⇓P	P	14 48 01.0	+0.1
BNX				pmax	pmax		
	comp=Z,5.0nm,2.8s						
GTA	Gaotai	47.36 330		*e*P	P	14 48 10.8	+0.5
GTA				pP	pP	14 48 14.9	-5.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PALK	Pallekele	47.56 280		LR	LR	15 08 00.5	
	comp=Z,7.2nm,19.3s,baz=158,slow=36						
EVN	Everest	48.46 309			P	14 48 19.0	-0.6
SONM	Songino Array	51.74 342		P	P	14 48 42.8	-0.8
	comp=Z,0.7nm,0.6s,baz=157,slow=7.8,SNR=4.2 comp=Z,0.7nm,0.6s						
PETK	Petropavlovsk-	59.12 21		P	P	14 49 35.9	-0.5
PETK	Petropavlovsk-	59.12 21		P	P	14 49 35.0	-1.4
	comp=Z,1.1nm,0.5s,baz=221,slow=6.7,SNR=4.6 comp=Z,1.1nm,0.5s						
MKAR	Makanchi Array	61.72 326			P	14 49 53.3	-1.0
MKAR	Makanchi Array	61.72 326		P	P	14 49 53.2	-1.1
	comp=Z,1.9nm,0.5s,baz=126,slow=7.9,SNR=14						
MKAR				PcP	PcP	14 50 37.2	+1.8
	comp=Z,0.7nm,0.6s,baz=112,slow=4.7,SNR=1.6 comp=Z,1.9nm,0.5s						
KSH	Kashi	61.86 316		P	P	14 49 58.6	+3.1
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	Yakutsk	62.54 1		P	P	14 49 59.1	-0.3
ZALV	Zalesovo Beam	64.93 334		P	P	14 50 14.8	-0.5
ZALV	Zalesovo Beam	64.93 334		P	P	14 50 15.9	+0.5
	comp=Z,1.7nm,0.8s,baz=129,slow=3.9,SNR=6.2 comp=Z,1.7nm,0.8s						
KURBB	Kurchatov Arra	65.95 328		P	P	14 50 21.2	-0.8
	comp=Z,3.2nm,0.6s,baz=125,slow=5.9,SNR=16 comp=Z,3.2nm,0.6s						
KURK	Kurchatov	65.96 328			P	14 50 22.5	+0.4
KURK				IAmb	IAmb	14 50 25.9	
	comp=Z,4.8nm,0.8s						
KKAR	Karatay Array	67.12 318		P	P	14 50 29.6	-0.1
BVAR	Borovoye Array	71.52 328		P	P	14 50 56.9	+0.2
	comp=Z,1.7nm,0.8s,baz=134,slow=8.3,SNR=8.2 comp=Z,1.7nm,0.8s						
AB31	Akbulak array	76.16 321		P	P	14 51 22.5	-1.5
AB31				IAmb	IAmb	14 51 27.5	
	comp=Z,6.5nm,1.4s						
ABKAR	Akbulak array	76.16 321		P	P	14 51 22.6	-1.3
VNDA	Vanda	78.98 173		P	P	14 51 39.9	+0.7
	comp=Z,0.5nm,0.7s,baz=329,slow=5.9,SNR=2.7 comp=Z,0.5nm,0.7s						
VOI	Vohitsoka	81.35 248		P	P	14 51 54.4	+1.1
VOI				IAmb	IAmb	14 51 56.3	
	comp=Z,9.2nm,1.2s						
J17K	VABM Dome	83.10 26		P	P	14 52 01.8	+0.4
J17K				IAmb	IAmb	14 52 20.7	
	comp=Z,6.7nm,1.4s						
KDAK	Kodiak Island	85.04 32		LR	LR	15 30 29.4	
	comp=Z,27nm,19.3s,baz=231,slow=36						
QSPA	South Pole Qui	89.28 180		P	P	14 52 32.6	+0.7
	comp=Z,2.5nm,1.1s,baz=14,slow=17,SNR=3.8 comp=Z,2.5nm,1.1s						
N25K	Chitina, Valde	89.45 29		P	P	14 52 33.3	+0.6
N25K				IAmb	IAmb	14 52 36.2	
	comp=Z,3.7nm,0.8s						
TORD	Torodi Ar. Bea	125.14 286		PKP	PKPdf	14 58 36.1	-1.2
	comp=Z,0.4nm,0.6s,baz=56,slow=3.0,SNR=1.4						

*IDC **06** 14:51:25.7±0.9,24°.01S×82°.36E,h0km,mb3.7/8, mbtmp3.7/8,Error ellipse: s-maj=31.7km s-min=24.8km az=72.0*

ISC 06 14:51:27.3±0.9,24°.05S±0°.2×82°.4E±0°.2,h10km,n20, σ0§36/8,mb3.9/8,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	Diego Garcia H	18.83 328		T	T	15 15 24.6	
	baz=152,slow=74,SNR=23						
H08S1	Diego Garcia H	18.84 328		T	T	15 15 27.5	
	baz=152,slow=74,SNR=27						
H08S3	Diego Garcia H	18.85 328		T	T	15 15 13.7	
	baz=152,slow=74,SNR=26						
H01W3	Cape Leeuwin H	29.59 119		T	T	15 28 33.9	
	baz=284						
H01W2	Cape Leeuwin H	29.59 119		T	T	15 28 31.8	
	baz=284						
H01W1	Cape Leeuwin H	29.61 119		T	T	15 28 31.5	
	baz=284						
H04N2	CROZET ISLANDS	33.06 220		T	T	15 32 55.0	
	baz=59,slow=75,SNR=4.7						
H04N1	CROZET ISLANDS	33.07 220		T	T	15 32 56.7	
	baz=59,slow=75,SNR=5.1						
H04N3	CROZET ISLANDS	33.08 220		T	T	15 32 54.9	
	baz=59,slow=75,SNR=5.9						
H04S1	CROZET ISLANDS	33.35 219		T	T	15 33 21.1	
	baz=57						
H04S3	CROZET ISLANDS	33.36 219		T	T	15 33 13.6	
	baz=57						
H04S2	CROZET ISLANDS	33.37 219		T	T	15 33 23.8	
	baz=57						
ASAR	Alice Springs	46.91 101		P	P	14 59 58.2	-0.2
	0.7nm,0.8s,baz=256,slow=8.2,SNR=8.1 0.7nm,0.8s						
WRA	Warramunga Arr	48.14 96		P	P	15 00 07.8	-0.1
	1.1nm,0.8s,baz=256,slow=8.1,SNR=8.1 1.1nm,0.8s						
VNDA	Vanda	64.45 166		P	P	15 02 03.6	+0.1
	0.9nm,0.8s,baz=271,slow=7.6,SNR=1.7 0.9nm,0.8s						
SNAA	Sanae	65.92 200		P	P	15 02 13.2	0.0
	0.4nm,0.8s,baz=74,slow=14,SNR=1.5 0.4nm,0.8s						
QSPA	South Pole Qui	66.10 180		P	P	15 02 14.5	0.0
	1.9nm,1.0s,baz=279,slow=6.0,SNR=4.2 1.9nm,1.0s						
MMAI	Mount Meron Ar	72.25 320		P	P	15 02 52.7	-0.3
	0.3nm,0.3s,baz=132,slow=6.0,SNR=2.6 0.3nm,0.3s						
KURBB	Kurchatov Arra	74.38 357		P	P	15 03 04.9	-0.1
	0.6nm,1.0s,baz=167,slow=5.7,SNR=2.8 0.6nm,1.0s						
ZALV	Zalesovo Beam	77.66 1		P	P	15 03 24.3	+0.7
	0.6nm,0.6s,baz=182,slow=7.2,SNR=2.1 0.6nm,0.6s						

*IDC **06** 15:02:32.4±1.5,30°.29S×178°.02W,h59km±13km,mb4.0/8, mbtmp4.2/8,MS3.4/4,Error ellipse: s-maj=22.1km s-min=15.7km az=107.0*

*NEIC **06** 15:02:33.9±1.7,30°.2S±0°.1×178°.1W±0°.1,h62km±8km, mb4.5/21,Error ellipse: s-maj=17.0km s-min=15.0km az=73.0*

ISC 06 15:02:30.4±0.5,30°.56S±0°.06×178°.2W±0°.1,h46km,n107, σ3§22/102,mb4.4/21,MS3.3/4,1C-6D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	1.31 9		P	Pn	15 02 51.5	-0.8
GLKZ				S	Sn	15 03 05.3	-3.3
RAO	Raoul Island	1.32 9			Pn	15 02 52.0	-0.4
RAO	Raoul Island	1.32 9		P	Pn	15 02 51.9	-0.4
	1µm,0.2s,baz=24,slow=21,SNR=14						
RAO				S	Sn	15 03 04.7	-4.1
	3µm,0.2s,baz=164,slow=21,SNR=13						
RIZ	Raoul Island	1.33 9		P	Pn	15 02 52.2	-0.3
RIZ				S	Sn	15 03 06.7	-2.3
MXZ	Matakaoa Point	7.57 202		S	Sn	15 05 40.8	-1.8
WMGZ	Waiomatatini S	7.77 200		P	Pn	15 04 18.6	-2.4
WMGZ				S	Sn	15 05 47.3	-0.3
PKGZ	Pakihiroa	7.92 202		P	Pn	15 04 20.9	-2.0
PKGZ				S	Sn	15 05 52.5	+1.2
HAZ	Te Kaha	7.92 204		P	Pn	15 04 21.4	-1.6
HAZ				S	Sn	15 05 51.8	+0.6
PUZ	Puketiti	8.05 201		P	Pn	15 04 22.0	-2.8
PUZ				S	Sn	15 05 51.4	-3.1
RUGZ	Raukumara Rang	8.15 204		P	Pn	15 04 24.2	-1.9
RUGZ				S	Sn	15 05 58.7	+1.7
TWGZ	Tauwhareparae	8.24 202		P	Pn	15 04 23.5	-3.8
WCZ	Waipu Caves	8.25 227		P	Pn	15 04 35.4	+8.0
OUZ	Omahuta	8.34 234		P	Pn	15 04 36.7	+8.1
CNGZ	Carnagh Statio	8.45 200		P	Pn	15 04 27.8	-2.4
TKGZ	Te Karaka	8.52 202		P	Pn	15 04 30.5	-0.6
MWZ	Matawai	8.53 203		P	Pn	15 04 28.7	-2.6
MWZ				S	Sn	15 06 03.1	-3.1
URZ	Urewera	8.61 206		P	Pn	15 04 30.5	-1.9
	3.1nm,0.3s,baz=266,slow=4.4,SNR=24						
URZ				S	Sn	15 06 08.0	-0.2
	19nm,0.3s,baz=223,slow=22,SNR=15						
URZ	Urewera	8.61 206		P	Pn	15 04 29.9	-2.5
URZ				S	Sn	15 06 07.9	-0.2
RIGZ	Rimuhau	8.79 201		S	Sn	15 06 11.4	-1.2
MUGZ	Murupara	8.93 207		P	Pn	15 04 31.3	-5.5
MUGZ				S	Sn	15 06 14.8	-1.2
PRGZ	Paritu Road	8.95 200		P	Pn	15 04 33.3	-3.7
PRGZ				S	Sn	15 06 10.7	-5.8
SNGZ	Shannon Statio	9.00 203		P	Pn	15 04 36.4	-1.2
SNGZ				S	Sn	15 06 17.9	+0.3
MHGZ	Mahia Peninsul	9.16 200		P	Pn	15 04 37.1	-2.7
MHGZ				S	Sn	15 06 18.3	-3.3
KAHZ	Kahuranaki	10.06 202		P	Pn	15 04 47.2	-5.1
KAHZ				S	Sn	15 06 41.3	-2.5
KRHZ	Kereru	10.10 205		P	Pn	15 04 48.1	-4.7
KRHZ				S	Sn	15 06 38.3	-6.5
POWZ	Post Office Ro	10.98 205		P	Sn	15 07 02.0	-4.3
PRWZ	Pori Road	11.05 204		P	Sn	15 07 00.7	-7.2
BFZ	Birch Farm	11.07 203		P	Sn	15 07 01.6	-6.8
TIWZ	Tintock	11.28 204		S	Sn	15 07 06.8	-6.8
MRZ	Mangatainoka R	11.29 205		Pn	Pn	15 05 07.0	-2.0
HOWZ	Holdsworth Sta	11.52 205		P	Sn	15 07 11.4	-7.9
TMWZ	Te Maipa	11.57 203		P	Sn	15 07 13.2	-7.5
OGWZ	Otaki Gorge	11.57 206		P	Pn	15 05 07.0	-5.9
OGWZ				S	Sn	15 07 12.8	-7.9
KIW	Kapiti Island	11.71 207		P	Sn	15 07 17.0	-7.1
MTW	Mount Morrison	11.75 204		P	Sn	15 07 17.2	-7.8
CAW	Cannon Point	11.87 206		P	Sn	15 07 20.5	-7.3
PAWZ	Paruwai Farm	11.97 204		P	Sn	15 07 23.2	-7.3
DUWZ	D'Urville Isla	12.07 210		P	Sn	15 07 29.1	-3.7
WEL	Wellington	12.13 206		P	Sn	15 07 26.8	-7.5
PLWZ	Palliser	12.20 204		P	Sn	15 07 26.0	-10
TUWZ	Tuamarina	12.58 208		Pn	Pn	15 05 23.6	-3.0
THZ	Tophouse	13.29 210		P	Pn	15 05 36.7	+0.2
KHZ	Kahutara	13.57 207		P	Pn	15 05 34.1	-6.1
DZM	Mont Dzumac	16.17 298		*e*LR	LR	15 10 06.4	
	205nm,24.4s						
FUTU	Fugatoga	16.18 0		Pn	Pn	15 06 11.7	-2.9
TBI	Tubuai	26.53 81		*e*LR	LR	15 14 33.9	
	433nm,30.0s						
CAN	Canberra	27.89 251		P	P	15 08 17.6	+1.6
CAN				IAmb	IAmb	15 08 34.9	
	comp=Z,15nm,1.4s						
PPT2	Papeete2	29.03 70		*e*LR	LR	15 15 19.2	
	comp=Z,90nm,40.2s						
PPT2				*e*LR	LR	15 15 42.0	
	comp=Z,82nm,25.2s						
TOO	Toolangi	30.77 247		P	P	15 08 44.9	+3.4
TOO				IAmb	IAmb	15 08 46.2	
	comp=Z,6.1nm,1.1s						
STKA	Stephens Creek	34.30 257			P	15 09 15.7	+3.3
STKA	Stephens Creek	34.30 257		P	P	15 09 15.8	+3.3
	comp=Z,20nm,0.8s,baz=101,slow=10,SNR=36						
STKA				LR	LR	15 21 02.6	
	comp=Z,67nm,19.3s,baz=30,slow=32 comp=Z,20nm,0.8s						
PMG	Port Moresby	38.55 296		LR	LR	15 24 17.1	
	comp=Z,76nm,20.2s,baz=141,slow=34						
BBOO	Buckleboo	38.79 254		P	P	15 09 52.4	+1.7
BBOO				IAmb	IAmb	15 09 53.2	
	comp=Z,8.3nm,0.8s						
AS31	Alice Springs	42.96 267		P	P	15 10 26.3	+1.1
ASAR	Alice Springs	42.96 267		P	P	15 10 26.3	+1.1
ASAR	Alice Springs	42.96 267		P	P	15 10 26.8	+1.6
	comp=Z,2.0nm,0.5s,baz=104,slow=7.2,SNR=57						
ASAR				PcP	PcP

SNAA	**Sanae**	**78.00**	**178**	⇓P		**P**	**15 14 24.6**	**+1.1**
	comp=Z,27nm,0.7s							
SNAA	**Sanae**	**78.00**	**178**	P		**P**	**15 14 24.5**	**+1.0**
SNAA	**Sanae**	**78.00**	**178**	P		**P**	**15 14 24.2**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=212,slow=7.6,SNR=9.3 comp=Z,1.7nm,0.9s							
VNA3	**Neumayer Olymp**	**78.15**	**176**	⇓P		**P**	**15 14 25.0**	**+0.6**
	comp=Z,5.1nm,0.6s							
VNA1	**Neumayer--Stat**	**78.82**	**177**	⇓P		**P**	**15 14 28.9**	**+1.0**
	comp=Z,2.4nm,0.6s							
H03S2	**Juan Fernandez**	**80.50**	**124**	T		T	16 43 47.9	
	baz=238,slow=74,SNR=20							
H03S1	**Juan Fernandez**	**80.51**	**124**	T		T	16 43 49.0	
	baz=238,slow=74,SNR=24							
H03S3	**Juan Fernandez**	**80.51**	**124**	T		T	16 43 47.9	
	baz=238,slow=74,SNR=24							
H03N3	**Juan Fernandez**	**80.69**	**123**	T		T	16 44 04.0	
	baz=242,slow=72,SNR=14							
H03N2	**Juan Fernandez**	**80.69**	**123**	T		T	16 43 50.2	
	baz=242,slow=72,SNR=21							
H03N1	**Juan Fernandez**	**80.70**	**123**	T		T	16 44 02.9	
	baz=242,slow=72,SNR=26							
KIWB	**Kanaga Island**	**82.06**	**1**	P		**P**	**15 14 45.4**	**0.0**
KIWB				IAmb		IAmb	15 14 46.6	
	comp=Z,6.3nm,0.8s							
ADK	**Adak**	**82.10**	**1**	P		**P**	**15 14 45.7**	**+0.2**
ADK				IAmb		IAmb	15 15 00.6	
	comp=Z,20nm,1.4s							
NVAR	**Mina Array Bea**	**88.45**	**43**	P		**P**	**15 15 18.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=216,slow=7.2,SNR=5.9 comp=Z,0.7nm,0.6s							
PDAR	**Pinedale Array**	**96.35**	**44**	P		**P**	**15 15 54.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=261,slow=7.5,SNR=1.8 comp=Z,0.3nm,0.5s							
MKAR	**Makanchi Array**	**117.77**	**310**	PKP		**PKPdf**	**15 21 09.7**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=150,slow=3.2,SNR=2.5							
KURBB	**Kurchatov Arra**	**121.09**	**314**	PKP		**PKPdf**	**15 21 16.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=123,slow=1.8,SNR=5.6							
BVAR	**Borovoye Array**	**126.42**	**316**	PKP		**PKPdf**	**15 21 26.8**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=164,slow=2.8,SNR=3.9							
H10S3	**ASCENSION HYDR**	**137.64**	**155**	T		T	17 55 58.2	
	baz=15,slow=74,SNR=8.2							
H10S2	**ASCENSION HYDR**	**137.64**	**155**	T		T	17 55 56.5	
	baz=205,slow=74,SNR=11							
ARCES	**ARCESS Array B**	**138.72**	**348**	PKP		**PKPdf**	**15 21 49.2**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=5.7,slow=2.4,SNR=5.2							
H10N3	**ASCENSION HYDR**	**138.72**	**155**	T		T	17 57 33.4	
	baz=204,slow=75,SNR=24							
H10N1	**ASCENSION HYDR**	**138.73**	**155**	T		T	17 57 41.4	
	baz=204,slow=75,SNR=26							
H10N2	**ASCENSION HYDR**	**138.74**	**155**	T		T	17 57 36.5	
	baz=204,slow=75,SNR=30							
FINES	**FINESS Array B**	**145.25**	**340**	PKPbc		**PKPbc**	**15 22 01.6**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=38,slow=3.6,SNR=25							
NB2	**NORSAR Subarra**	**148.89**	**351**	PKP		**PKPbc**	**15 22 12.4**	**0.0**
	comp=Z,1.3nm,0.5s,baz=14,slow=2.6							
NOA	**NORSAR Array B**	**148.89**	**351**	PKPbc		**PKPbc**	**15 22 11.9**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=15,slow=4.2,SNR=10							
HFS	**Hagfors**	**149.37**	**348**	PKPbc		**PKPbc**	**15 22 12.9**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=76,slow=1.8,SNR=11							
AKASG	**Malin Array Be**	**151.34**	**322**	PKPbc		**PKPbc**	**15 22 17.6**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=52,slow=2.2,SNR=8.6							
MMAI	**Mount Meron Ar**	**151.43**	**284**	PKPbc		**PKiKP**	**15 22 20.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=126,slow=2.0,SNR=2.5							
BRTR	**Keskin Array B**	**152.55**	**298**	PKPbc		**PKPbc**	**15 22 21.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=106,slow=4.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**162.67**	**180**	PKPab		**PKPab**	**15 23 17.2**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=163,slow=2.2,SNR=5.9							

IDC 06 15:21:33.6±15.0, **8°.13S**×**120°.98E**, **h373**km±182km, **mb3.2**/2, **mbtmp3.8**/4, **MS3.5**/1, **Error ellipse: s-maj=238.7km s-min=39.8km az=64.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.47**	**134**	P	P	15 25 13.3	-0.5
	0.8nm,0.4s,baz=307,slow=12,SNR=33						
ASAR	**Alice Springs**	**19.80**	**143**	P	P	15 25 38.6	+0.4
	1.1nm,0.6s,baz=318,slow=9.3,SNR=34						
STKA	**Stephens Creek**	**30.43**	**144**	P	P	15 27 12.6	-0.5
	1.8nm,0.5s,baz=319,slow=9.3,SNR=6.3 1.8nm,0.5s						
BRDH	**Bariadhala**	**41.98**	**317**	LR	LR	15 52 29.7	
	comp=Z,57nm,18.5s,baz=58,slow=44						
MKAR	**Makanchi Array**	**64.60**	**332**	P	P	15 31 32.3	-0.1
	0.6nm,0.6s,baz=132,slow=6.4,SNR=3.9 0.6nm,0.6s						

*GII **06** 15:25:15.5±0.0, 33°.73N±0°.02×36°.38E±0°.02, h0km, confirmed*
*GRAL **06** 15:25:20.1±0.3, 33°.60N×36°.24E, h0km±66km, MD2.8*
ISC 06 15:25:16.7±1.6, **33°.64N**±0°.04×**36°.34E**±0°.09, **h0km**, **n26**, **σ0s72/28**, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**	**0.44**	**300**	*e*P	**Pb**	**15 25 27.2**	**-0.2**
RCY	**Rachaya**	**0.45**	**252**	*e*P	**Pb**	**15 25 26.3**	**-1.2**
RCY				*e*S	**Sg**	**15 25 31.1**	**+0.1**
QRWL	**Qaraoun**	**0.56**	**261**	*e*P	**Pb**	**15 25 28.5**	**-0.9**
SHBL	**Chebaa**	**0.58**	**240**	*e*P	**Pb**	**15 25 28.9**	**-0.9**
SHBL				*e*S	**Sg**	**15 25 35.2**	**0.0**
NATI	**Neve Ativ**	**0.63**	**234**	P	**Pg**	**15 25 29.4**	**+0.6**
NATI	**Neve Ativ**	**0.63**	**234**	S	**Sb**	**15 25 39.9**	**0.0**
BHL	**Bhannes**	**0.63**	**295**	*e*P	**Pb**	**15 25 30.5**	**-0.2**
DQRL	**Deir Qamar**	**0.65**	**276**	*e*P	**Pb**	**15 25 30.4**	**-0.6**
GEM	**Giv'at Ha'Em**	**0.71**	**233**	P	**Pg**	**15 25 30.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.71**	**233**	S	**Sb**	**15 25 42.4**	**+0.1**
HWQ	**Hawqa**	**0.72**	**333**	*e*P	**Pn**	**15 25 33.0**	**-1.2**
KSHT	**Keshet**	**0.79**	**214**	P	**Pg**	**15 25 31.6**	**-0.2**
KSHT	**Keshet**	**0.79**	**214**	S	**Sb**	**15 25 45.1**	**+0.5**
BEIL	**Beino**	**0.91**	**352**	*e*P	**Pn**	**15 25 37.0**	**+0.1**
MMA0B	**Mount Meron ar**	**1.00**	**232**	P	**Pg**	**15 25 36.1**	**+0.2**
MMA0B	**Mount Meron ar**	**1.00**	**232**	S	**Sb**	**15 25 51.9**	**+1.2**
HNTI	**Hanita**	**1.12**	**241**	P	**Pg**	**15 25 38.4**	**+0.1**
HNTI	**Hanita**	**1.12**	**241**	S	**Sb**	**15 25 54.6**	**+0.5**
OFRI	**`Ofer**	**1.52**	**229**	P	**Pn**	**15 25 44.1**	**-1.1**
OFRI	**`Ofer**	**1.52**	**229**	S	**Sn**	**15 26 07.1**	**+1.3**
HMDT	**Nahal Hemdat**	**1.54**	**207**	P	**Pn**	**15 25 44.9**	**-0.6**
HMDT	**Nahal Hemdat**	**1.54**	**207**	S	**Sn**	**15 26 06.4**	**+0.2**
SLTI	**Sal'it**	**1.77**	**219**	P	**Pn**	**15 25 48.4**	**-0.2**
SLTI	**Sal'it**	**1.77**	**219**	S	**Sg**	**15 26 13.6**	**0.0**
GHAJ	**Ghor Haditha**	**2.42**	**196**	P	**Pn**	**15 25 57.1**	**-0.3**
GHAJ	**Ghor Haditha**	**2.42**	**196**	S	**Sn**	**15 26 29.2**	**+1.4**

*ISK **06** 15:28:14.7, 35°.20N×27°.90E, h5km, ML3.0/10*
*AFAD **06** 15:28:15.1, 35°.13N×27°.70E, h22km±2km, MW3.8*
ISC 06 15:28:17.0±1.7, **35°.21N**±0°.08×**27°.87E**±0°.05, **h10km**±11km, **n26**, **σ0s99/39**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.67**	**301**	Pg	**Pg**	**15 28 28.5**	**-1.5**
KARP				Sg	**Sb**	**15 28 40.1**	**0.0**
ARG	**Arkhangelos**	**1.03**	**12**	Pg	**Pb**	**15 28 35.9**	**-1.0**
ARG				Sg	**Sb**	**15 28 50.7**	**+0.2**
ZKR	**Zakros**	**1.35**	**267**	Pn	**Pg**	**15 28 42.1**	**-0.9**
ZKR				Sn	**Sg**	**15 29 02.5**	**+2.0**
YAZI	**Mula-Dat§a-**	**1.51**	**347**	P	**Pb**	**15 28 44.8**	**-0.4**
YAZI				S	**Sb**	**15 29 04.6**	**+0.3**
YAZI				*i* IAML		15 29 10.0	
	comp=E,78nm,0.6s						
YAZI				*i* IAML		15 29 13.0	
	comp=N,70nm,1.1s						
DAT	**Datca**	**1.54**	**351**	Pn	**Pn**	**15 28 44.4**	**-0.2**
DAT	**Datca**	**1.54**	**351**	P	**Pb**	**15 28 45.2**	**-0.5**
DAT				S	**Sn**	**15 29 03.9**	**-0.8**
DAT				*i* IAML		15 29 09.0	
	comp=N,98nm,0.4s						
DAT				*i* IAML		15 29 15.0	
	comp=E,82nm,0.4s						
TURN	**Turunc**	**1.60**	**11**	P	**Pb**	**15 28 47.0**	**+0.4**
TURN				S	**Sg**	**15 29 10.7**	**+2.3**
TURN				*i* IAML		15 29 15.0	
	comp=E,103nm,0.5s						
TURN				*i* IAML		15 29 17.0	
	comp=N,109nm,0.4s						
IZZE	**Mula-Seydike**	**1.65**	**42**	P	**Pn**	**15 28 45.3**	**-0.8**
SABU	**Mula-Dalaman**	**1.85**	**29**	P	**Pb**	**15 28 50.1**	**-0.8**
SABU				S	**Sg**	**15 29 17.2**	**+0.8**
SABU				*i* IAML		15 29 29.0	
	comp=N,55nm,0.8s						
SABU				*i* IAML		15 29 42.0	
	comp=E,52nm,0.8s						
BDRM	**Kayabasi**	**1.89**	**350**	P	**Pn**	**15 28 49.4**	**+0.1**
BDRM				S	**Sb**	**15 29 15.0**	**-0.2**
BDRM				*i* IAML		15 29 25.0	
	comp=E,82nm,0.7s						
CAME	**Cameli-Denizli**	**2.09**	**33**	Pn	**Pn**	**15 28 52.0**	**-0.2**
KNIK	**Mula-Seydike**	**2.14**	**40**	P	**Pn**	**15 28 53.8**	**+0.9**
DNZT	**Denizli-Tavas-**	**2.27**	**24**	P	**Pn**	**15 28 55.5**	**+0.8**
DNZT				S	**Sn**	**15 29 23.6**	**+0.8**
DNZT				*i* IAML		15 29 44.0	
	comp=E,27nm,0.6s						
DNZT				*i* IAML		15 29 53.0	
	comp=N,25nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.41**	**20**	P	**Pn**	**15 28 57.4**	**+0.8**
TAVA				S	**Sb**	**15 29 30.4**	**+0.1**
TAVA				*i* IAML		15 29 45.0	
	comp=N,36nm,0.8s						
TAVA				*i* IAML		15 29 47.0	
	comp=E,36nm,0.7s						
IDI	**Anoyia**	**2.44**	**273**	Pn	**Pn**	**15 28 57.5**	**+0.6**
GOLH	**Golhisar**	**2.45**	**34**	P	**Pn**	**15 28 58.2**	**+1.1**
AYDN	**Tasoluk**	**2.45**	**0**	P	**Pn**	**15 28 57.6**	**+0.5**
AYDN				S	**Sn**	**15 29 27.9**	**+0.7**
AYDN				*i* IAML		15 29 35.0	
	comp=E,37nm,0.4s						
AYDN				*i* IAML		15 29 40.0	
	comp=N,45nm,0.6s						
APMY	**Acipayam-Deniz**	**2.54**	**27**	Pn	**Pn**	**15 28 58.3**	**-0.1**
DNIZ	**Denizli-Tavas-**	**2.59**	**21**	P	**Pn**	**15 29 01.0**	**+1.9**
DNIZ				S	**Sb**	**15 29 34.1**	**-1.6**
DNIZ				*i* IAML		15 29 50.0	
	comp=E,94nm,0.4s						
DNIZ				*i* IAML		15 29 53.0	
	comp=N,81nm,0.4s						
ESEN	**Aydn-Nazilli**	**2.62**	**8**	P	**Pn**	**15 29 00.4**	**+1.1**
ESEN				*i* IAML		15 29 13.0	
	comp=N,19nm,0.7s						
ESEN				S	**Sn**	**15 29 30.2**	**-1.0**
ESEN				*i* IAML		15 29 56.0	
	comp=E,22nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**2.74**	**0**	Pn	**Pn**	**15 29 01.2**	**+0.1**
NAZL	**Nazilli-Aydin**	**2.78**	**7**	Pn	**Pn**	**15 29 01.9**	**+0.4**
IZMR	**zmir-demi**	**2.93**	**1**	P	**Pn**	**15 29 02.6**	**-0.9**
KIRA	**zmir-Kiraz**	**3.02**	**8**	P	**Pn**	**15 29 05.6**	**+0.7**
ODEM	**Odemis-Izmir**	**3.07**	**3**	Pn	**Pn**	**15 29 06.1**	**+0.5**
PASA	**Karahalli, USA**	**3.40**	**22**	P	**Pn**	**15 29 11.8**	**+1.6**

*IDC **06** 15:28:15.0±0.9, 41°.22S×91°.49W, h0km, mb4.1/6, mbtmp4.0/7, MS4.1/36, Error ellipse: s-maj=38.2km s-min=22.5km az=83.0*
*NEIC **06** 15:28:18.9±1.6, 41°.3S±0°.1×91°.1W±0°.3, h10km±1km, mb4.5/48, Error ellipse: s-maj=35.3km s-min=22.6km az=277.0*
*GCMT **06** 15:28:19.9±0.2, 41°.16S±0°.01×91°.34W±0°.02, h21km±1km, MW5.1/110, Moment Tensor Solution. s51,c59; s110,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.85±.20; $M_{\theta\theta}$0.81±.15; $M_{\phi\phi}$1.04±.17; $M_{r\theta}$0.12±.25; $M_{\theta\phi}$-5.42±.13; $M_{r\phi}$-0.18±.28; Best double couple: M_o5.42400×10^{16} NP1:ϕ_s91.00000°, δ88.00000°, λ180.00000°. NP2:ϕ_s181.00000°, δ90.00000°, λ2.00000°. Principal axes: T 6.3490, Plg1.0000°, Azm46.0000°; N -1.8550, Plg88.0000°, Azm197.0000°; P -4.4990, Plg1.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 15:28:18.5±0.8, **41°.3S**±0°.1×**91°.2W**±0°.1, **h10km**, **n96**, **σ1s90/59**, **mb4.5/27**, **MS4.2/36**, **4D, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.22**	**56**	T	T	15 43 49.5	
	baz=229,slow=73,SNR=911						
H03S1	**Juan Fernandez**	**12.23**	**57**	T	T	15 43 48.3	
	baz=229,slow=73,SNR=196						
H03S3	**Juan Fernandez**	**12.24**	**56**	T	T	15 43 44.6	
	baz=229,slow=73,SNR=192						
H03N3	**Juan Fernandez**	**12.48**	**55**	T	T	15 44 03.6	
	baz=230,slow=71,SNR=1855						
H03N2	**Juan Fernandez**	**12.49**	**55**	T	T	15 43 58.0	
	baz=230,slow=71,SNR=1631						
H03N1	**Juan Fernandez**	**12.49**	**55**	T	T	15 43 57.8	
	baz=230,slow=71,SNR=2374						
PLCA	**Paso Flores**	**15.58**	**95**	Pn	**Pn**	**15 31 58.7**	**+0.5**
	1.5nm,0.8s,baz=232,slow=16,SNR=1.2						
PLCA				LR	LR	15 36 31.9	
	comp=Z,968nm,18.2s,baz=262,slow=31						
MT09	**Talagante**	**17.65**	**71**	P	**P**	**15 32 25.1**	**-0.5**
BO04	**La Punta**	**17.82**	**73**		**P**	**15 32 27.8**	**+0.5**
PEL	**Peldehue**	**18.20**	**70**		**P**	**15 32 32.2**	**+0.7**
AC02	**Maricunga**	**23.17**	**58**		**P**	**15 33 24.7**	**-1.1**
AC02				IAmb	IAmb	15 33 39.6	
	comp=Z,11nm,0.9s						
GO02	**Mina Guanaco**	**24.07**	**55**	P	**P**	**15 33 34.0**	**-0.4**
PB01	**IPOC Station P**	**27.27**	**49**	P	**P**	**15 34 03.2**	**+0.1**
PB01				IAmb	IAmb	15 34 11.7	
	comp=Z,8.2nm,1.0s						
PMSA	**Palmer Station**	**28.20**	**156**	LR	LR	15 42 13.9	
	comp=Z,665nm,19.9s,baz=288,slow=30						
PB11	**IPOC Station P**	**28.20**	**47**	P	**P**	**15 34 10.3**	**-1.3**
PB11				IAmb	IAmb	15 34 34.6	
	comp=Z,8.6nm,1.1s						
CPUP	**Villa Florida**	**31.60**	**73**	LR	LR	15 46 09.3	
	comp=Z,169nm,19.0s,baz=100,slow=34						
NNA	**Nana**	**31.77**	**27**	LR	LR	15 43 59.8	
	comp=Z,583nm,20.6s,baz=193,slow=30						
LPAZ	**La Paz**	**31.87**	**45**	P	**P**	**15 34 45.2**	**+0.6**
LPAZ				IAmb	IAmb	15 35 07.3	
	comp=Z,6.4nm,1.1s						
LPAZ	**La Paz**	**31.87**	**45**	P	**P**	**15 34 44.0**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=195,slow=7.1,SNR=7.3						
LPAZ				LR	LR	15 44 47.2	
	comp=Z,567nm,18.8s,baz=218,slow=31 comp=Z,1.8nm,0.7s						
SIV	**San Ignacio**	**36.19**	**55**	LR	LR	15 49 16.3	
	comp=Z,574nm,19.5s,baz=284,slow=35						
BDFB	**Brasilia**	**45.11**	**68**	LR	LR	15 54 43.8	
	comp=Z,549nm,18.9s,baz=227,slow=35						
ROSC	**El Rosal**	**48.42**	**23**	LR	LR	15 55 17.6	
	comp=Z,314nm,19.1s,baz=272,slow=34						
VNA3	**Neumayer Olymp**	**48.86**	**155**	⇓P	**P**	**15 37 04.1**	**+0.3**
	comp=Z,0.2nm,0.2s						
QSPA	**South Pole Qui**	**48.95**	**180**	LR	LR	15 55 06.5	
	comp=Z,230nm,18.9s,baz=129,slow=33						
VNA1	**Neumayer--Stat**	**49.41**	**154**	⇓P	**P**	**15 37 07.9**	**0.0**
	comp=Z,17nm,1.0s						
SNAA	**Sanae**	**50.92**	**156**	⇓P	**P**	**15 37 18.8**	**-0.7**
	comp=Z,92nm,0.9s						
SNAA	**Sanae**	**50.92**	**156**		**P**	**15 37 18.9**	**-0.5**
SNAA				IAmb	IAmb	15 37 21.2	
	comp=Z,6.8nm,1.0s						
SNAA	**Sanae**	**50.92**	**156**	P	**P**	**15 37 18.4**	**-1.0**
	comp=Z,5.9nm,1.1s,baz=278,slow=7.1,SNR=17						
SNAA				LR	LR	15 55 44.7	
	comp=Z,184nm,19.3s,baz=292,slow=32 comp=Z,5.9nm,1.1s						
JTS	**Las Juntas de**	**51.63**	**8**	LR	LR	15 53 50.3	
	comp=Z,296nm,18.9s,baz=179,slow=30						
TROLL	**Troll, Antarti**	**52.44**	**157**	⇓P	**P**	**15 37 30.7**	**-0.2**
	comp=Z,404nm,0.9s						
SBA	**Scott Base**	**52.49**	**195**	P	**P**	**15 37 32.7**	**+1.7**
SBA				IAmb	IAmb	15 37 50.4	
	comp=Z,7.2nm,1.2s						
SDV	**Santo Domingo**	**53.38**	**26**	LR	LR	15 58 36.8	
	comp=Z,379nm,19.9s,baz=206,slow=34						
VNDA	**Vanda**	**53.58**	**195**	P	**P**	**15 37 37.5**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=107,slow=6.1,SNR=3.7						
VNDA				LR	LR	15 55 22.7	
	comp=Z,165nm,21.1s,baz=108,slow=30 comp=Z,0.9nm,0.8s						
PCRV	**Puerto La Cruz**	**56.74**	**32**	LR	LR	16 00 08.8	
	comp=Z,224nm,19.2s,slow=34						
MDP	**Montagnes des**	**58.05**	**47**	LR	LR	16 00 40.4	
	comp=Z,293nm,21.1s,baz=264,slow=33						
RCBR	**Riachuelo**	**60.43**	**70**	LR	LR	16 03 53.5	
	comp=Z,161nm,18.7s,baz=230,slow=35						
RAR	**Rarotonga**	**60.46**	**267**	LR	LR	15 57 39.3	
	comp=Z,116nm,21.7s,baz=132,slow=29						
SJG	**San Juan**	**63.48**	**27**	LR	LR	16 05 30.6	
	comp=Z,199nm,18.6s,baz=189,slow=35						
URZ	**Urewera**	**67.20**	**239**	LR	LR	16 01 13.9	
	comp=Z,345nm,20.7s,baz=158,slow=30						
LPIG	**La Paz**	**67.43**	**341**	LR	LR	16 01 04.7	
	comp=Z,80nm,21.6s,baz=175,slow=29						
RAO	**Raoul Island**	**69.09**	**249**	LR	LR	16 01 31.4	
	comp=Z,171nm,21.8s,baz=82,slow=29						
MAW	**Mawson**	**69.67**	**170**	LR	LR	16 07 51.4	
	comp=Z,148nm,19.4s,baz=154,slow=34						
TXAR	**Lajitas Array**	**71.21**	**348**	P	**P**	**15 39 37.5**	**-0.1**
TXAR	**Lajitas Array**	**71.21**	**348**	P	**P**	**15 39 35.4**	**-2.2**
	comp=Z,1.6nm,1.0s,baz=180,slow=7.5,SNR=12						
TXAR				LR	LR	16 04 40.1	
	comp=Z,84nm,20.0s,baz=166,slow=31 comp=Z,1.6nm,1.0s						
TX31	**Lajitas Ar. Si**	**71.21**	**348**	P	**P**	**15 39 38.8**	**+1.2**
TX31				IAmb	IAmb	15 39 40.3	
	comp=Z,5.9nm,1.3s						
ALPN	**Alpine**	**72.22**	**349**	P	**P**	**15 39 44.5**	**+0.8**
ALPN				IAmb	IAmb	15 39 46.1	
	comp=Z,6.9nm,1.2s						
NATX	**Nacogdoches**	**72.75**	**357**	P	**P**	**15 39 48.2**	**+1.6**
SGCY	**Sterling City**	**73.41**	**351**	P	**P**	**15 39 51.9**	**+1.2**
TUC	**Tucson**	**75.43**	**343**	P	**P**	**15 40 02.1**	**-0.3**
TUC				IAmb	IAmb	15 40 05.7	
	comp=Z,3.4nm,1.0s						
HODGE	**Hodges**	**75.59**	**8**	P	**P**	**15 40 02.9**	**-0.3**
TKL	**Tuckaleechee C**	**76.87**	**6**	LR	LR	16 08 08.8	
	comp=Z,98nm,20.2s,baz=198,slow=31						
ANMO	**Albuquerque**	**77.15**	**347**	LR	LR	16 08 51.8	
	comp=Z,127nm,18.1s,baz=256,slow=32						
U49A	**Red Boiling Sp**	**77.58**	**4**	P	**P**	**15 40 14.3**	**-0.1**
X16A	**Lo Mia Camp, P**	**77.60**	**343**		**P**	**15 40 15.5**	**+0.7**
X16A				IAmb	IAmb	15 40 18.2	
	comp=Z,4.3nm,1.1s						
PFO	**Pinyon Flats O**	**78.08**	**339**	LR	LR	16 07 23.0	
	comp=Z,69nm,19.1s,baz=152,slow=30						
W13A	**Hualapai Mount**	**78.82**	**341**	P	**P**	**15 40 22.5**	**+0.9**
CCM	**Cathedral Cave**	**78.96**	**360**	P	**P**	**15 40 20.9**	**-1.1**
BFSC	**Mount Baldy Ra**	**79.00**	**338**	P	**P**	**15 40 23.5**	**+1.0**
BFSC				IAmb	IAmb	15 40 29.1	
	comp=Z,5.3nm,1.0s						
V12A	**Nelson**	**79.66**	**341**	P	**P**	**15 40 27.4**	**+1.4**
V12A				IAmb	IAmb	15 40 29.7	
	comp=Z,4.7nm,1.2s						
S22A	**4UR Ranch, Cre**	**79.94**	**347**		**P**	**15 40 26.9**	**-0.9**
S22A				IAmb	IAmb	15 40 31.2	
	comp=Z,4.7nm,1.2s						
GWY	**Greenwater Val**	**80.56**	**339**	P	**P**	**15 40 31.6**	**+0.6**
PV01	**Paradox Valley**	**80.62**	**346**	P	**P**	**15 40 31.4**	**+0.1**
PV01				IAmb	IAmb	15 40 34.5	
	comp=Z,5.3nm,1.4s						
PV13	**Radium Mtn., P**	**80.69**	**346**	P	**P**	**15 40 32.8**	**+1.1**
PV13				IAmb	IAmb	15 40 44.8	
	comp=Z,6.5nm,1.4s						
PV02	**Paradox Valley**	**80.72**	**346**	P	**P**	**15 40 32.0**	**+0.2**
PV03	**Paradox Valley**	**80.79**	**346**	P	**P**	**15 40 32.3**	**+0.1**
PV03				IAmb	IAmb	15 40 35.0	
	comp=Z,6.9nm,1.4s						
PV18	**Skein Mesa, Pa**	**80.79**	**346**		**P**	**15 40 32.1**	**-0.1**
PV12	**Saucer Basin,**	**80.84**	**346**	P	**P**	**15 40 33.0**	**+0.5**
HMU	**Henry Mountain**	**80.85**	**344**	P	**P**	**15 40 33.0**	**+0.4**
HMU				IAmb	IAmb	15 40 41.1	
	comp=Z,6.6nm,1.3s						
PV04	**Paradox Valley**	**80.93**	**346**	P	**P**	**15 40 33.0**	**+0.1**
PV04				IAmb	IAmb	15 40 36.1	
	comp=Z,7.4nm,1.2s						
PV21	**Cone Mtn., Par**	**81.11**	**346**	P	**P**	**15 40 35.2**	**+1.3**
GMN	**Gold Mountain**	**81.77**	**339**	P	**P**	**15 40 38.0**	**+0.5**
MZP	**Montezuma Peak**	**82.18**	**339**	P	**P**	**15 40 40.0**	**+0.4**
R11B	**Troy Canyon, C**	**82.33**	**341**	P	**P**	**15 40 41.8**	**+1.4**
SPR3	**Spring Creek 3**	**82.65**	**342**		**P**	**15 40 43.1**	**+1.0**
SPR3				IAmb	IAmb	15 40 48.1	
	comp=Z,5.1nm,1.5s						
LHV	**Little Huntoon**	**83.00**	**339**	P	**P**	**15 40 44.5**	**+1.0**
NVAR	**Mina Array Bea**	**83.11**	**339**	P	**P**	**15 40 44.7**	**+0.3**
NVAR	**Mina Array Bea**	**83.11**	**339**	P	**P**	**15 40 41.7**	**-2.7**
	comp=Z,1.0nm,0.9s,baz=164,slow=4.1,SNR=7.6 comp=Z,1.0nm,0.9s						
BSUT	**Blindstream Ca**	**83.36**	**345**		**P**	**15 40 45.8**	**-0.1**
BSUT				IAmb	IAmb	15 40 50.9	
	comp=Z,3.6nm,1.0s						
AFDM	**Forest Hills D**	**84.35**	**337**	P	**P**	**15 40 51.2**	**+0.7**
AFDM				IAmb	IAmb	15 40

MPNC				AML	AML		
	comp=E,54μm,0.6s						
MSFR	**San Fratello**	**0.34**	**269**	P	Pb	15 31 42.5	-0.7
MSFR				S	Sb	15 31 47.6	-1.3
MSFR				AML	AML		
	comp=E,21μm,0.3s						
MSFR				AML	AML		
	comp=N,21μm,0.5s						
MSFR				AML	AML		
	comp=E,21μm,1.7s						
VPL	**Vulcano Piano**	**0.34**	**355**	P	Pg	15 31 42.1	+0.4
VPL				S	Sb	15 31 48.6	-0.3
MSRU	**Castanea**	**0.45**	**59**	P	Pb	15 31 44.6	-0.4
MSRU				S	Sb	15 31 51.3	-0.6

*IDC **06** 15:32:23.2±3.7,22°.78N×11°.55W,h0km,mb3.8/3, mbtmp3.7/5,ML3.5/2,Error ellipse: s-maj=121.8km s-min=32.3km az=79.0*

ISC 06 15:32:23.2±2.5,22°.7N±0°.2×11°.7W±0°.5,h10km,n7,σ0961/6, mb3.7/3,Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.90**	**124**	Pn	**Pn**	**15 36 07.2**	**-0.2**
	0.2nm,0.3s,baz=313,slow=13,SNR=6.3						
	0.3nm,0.4s						
DBIC	**Dimbokro**	**17.24**	**156**	P	**Pn**	**15 36 24.2**	**-0.1**
	0.2nm,0.3s,baz=333,slow=2.3,SNR=1.4						
	3.6nm,0.7s						
I42PT	**GRACIOSA ISLAN**	**21.41**	**323**	I	I	17 40 10.0	
	baz=140,slow=320,SNR=1.8						
HFS	**Hagfors**	**41.47**	**19**	P	**P**	**15 40 09.6**	**-0.5**
	1.0nm,0.6s,baz=212,slow=10,SNR=2.1						
	1.0nm,0.6s						
FINES	**FINESS Array B**	**46.63**	**24**	P	**P**	**15 40 51.0**	**-0.4**
	0.8nm,0.6s,baz=248,slow=7.4,SNR=3.9						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**76.47**	**45**	P	**P**	**15 44 14.2**	**+0.8**
	0.3nm,0.5s,baz=305,slow=6.8,SNR=4.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**148.45**	**99**	PKPbc	**PKiKP**	**15 52 12.4**	**-0.1**
	0.3nm,0.7s,baz=290,slow=3.1,SNR=4.9						

ROM 06 15:32:31.5±0.2,38°.746N±0°.007×15°.67E±0°.01, h103km±1km,ML2.2/65,1D,Error ellipse: s-maj=1.0km s-min=1.0km az=281.0,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SICLA	**Scilla**	**0.49**	**176**	P	Pn	15 32 47.5	+0.1
SICLA				S	Sn	15 32 59.7	+0.2
SICLA				AML	AML		
	comp=N,172μm,1.5s						
SICLA				AML	AML		
	comp=E,190μm,0.3s						
SICLA				AML	AML		
	comp=N,143μm,0.2s						
SICLA				AML	AML		
	comp=E,190μm,0.3s						
MSRU	**Castanea**	**0.50**	**195**	↓P	Pn	15 32 47.7	+0.1
MSRU				S	Sn	15 32 59.6	0.0
MSRU				AML	AML		
	comp=N,410μm,1.5s						
MSRU				AML	AML		
	comp=N,410μm,0.5s						
MSRU				AML	AML		
	comp=E,330μm,0.9s						
MSRU				AML	AML		
	comp=N,374μm,0.2s						
MSRU				AML	AML		
	comp=E,261μm,0.2s						
CEL	**Celeste**	**0.52**	**160**	P	Pn	15 32 47.7	-0.1
CEL				S	Sn	15 32 59.9	-0.1
CEL				AML	AML		
	comp=N,126μm,0.2s						
CEL				AML	AML		
	comp=E,110μm,0.4s						
CEL				AML	AML		
	comp=N,126μm,0.2s						
CEL				AML	AML		
	comp=N,122μm,0.2s						
CEL				AML	AML		
	comp=E,100μm,0.2s						
CEL				AML	AML		
	comp=N,126μm,0.2s						
CEL				AML	AML		
	comp=E,118μm,0.2s						
MILZ	**Milazzo**	**0.58**	**216**	P	Pn	15 32 48.6	+0.5
MILZ				S	Sn	15 33 00.6	-0.1
MILZ				AML	AML		
	comp=N,1960μm,0.3s						
MILZ				AML	AML		
	comp=E,3090μm,0.2s						
MILZ				AML	AML		
	comp=E,3088μm,0.2s						
MILZ				AML	AML		
	comp=N,1959μm,0.3s						
GRI	**Girifalco**	**0.59**	**82**	P	Pn	15 32 48.8	+0.5
GRI				S	Sn	15 33 01.1	+0.2
GRI				AML	AML		
	comp=E,174μm,0.4s						
GRI				AML	AML		
	comp=N,166μm,0.6s						
GRI				AML	AML		
	comp=E,173μm,0.5s						
GRI				AML	AML		
	comp=N,149μm,0.3s						
MPNC	**Port Mandanici**	**0.65**	**203**	P	Pn	15 32 48.9	+0.1
MPNC				S	Sn	15 33 01.7	0.0
MPNC				AML	AML		
	comp=E,338μm,0.4s						
MPNC				AML	AML		
	comp=N,334μm,1.2s						
MPNC				AML	AML		
	comp=N,274μm,0.2s						
MPNC				AML	AML		
	comp=E,338μm,0.4s						
VPL	**Vulcano Piano**	**0.65**	**236**	P	Pn	15 32 49.6	+0.8
VPL				S	Sn	15 33 02.5	+0.8
VPL				AML	AML		
	comp=E,148μm,0.3s						
VPL				AML	AML		
	comp=N,162μm,0.6s						
VPL				AML	AML		
	comp=E,148μm,1.7s						
VPL				AML	AML		
	comp=E,105μm,0.2s						
VPL				AML	AML		
	comp=N,136μm,0.4s						
CAR1	**CAROLEI**	**0.66**	**40**	P	Pn	15 32 48.9	0.0
CAR1				S	Sn	15 33 01.4	-0.6
CAR1				AML	AML		
	comp=N,342μm,0.8s						
CAR1				AML	AML		
	comp=E,562μm,0.3s						
CAR1				AML	AML		
	comp=N,284μm,0.1s						
CAR1				AML	AML		
	comp=N,279μm,0.2s						
CAR1				AML	AML		
	comp=E,348μm,0.3s						
CAR1				AML	AML		
	comp=E,353μm,0.3s						
PLAC	**Placanica**	**0.67**	**116**	P	Pn	15 32 49.2	+0.2
PLAC				S	Sn	15 33 02.2	+0.1
PLAC				AML	AML		
	comp=E,84μm,1.2s						
PLAC				AML	AML		
	comp=N,95μm,0.3s						
PLAC				AML	AML		
	comp=E,84μm,0.8s						
PLAC				AML	AML		
	comp=E,92μm,0.3s						
PLAC				AML	AML		
	comp=N,95μm,0.3s						
PLAC				AML	AML		
	comp=E,83μm,0.3s						
PLAC				AML	AML		
	comp=N,68μm,0.2s						
SOI	**Samo**	**0.74**	**156**	P	Pn	15 32 49.8	+0.2
SOI				S	Sn	15 33 02.9	-0.2
SOI				AML	AML		
	comp=E,37μm,1.1s						
SOI				AML	AML		
	comp=E,37μm,1.1s						
SOI				AML	AML		
	comp=N,47μm,0.7s						
SOI				AML	AML		
	comp=N,44μm,0.8s						
SOI				AML	AML		
	comp=E,36μm,0.4s						
MTTG	**Motta San Giov**	**0.74**	**178**	P	Pn	15 32 50.3	+0.7
MTTG				S	Sn	15 33 03.9	+0.7
MTTG				AML	AML		
	comp=N,118μm,0.5s						
MTTG				AML	AML		
	comp=E,86μm,0.8s						
MTTG				AML	AML		
	comp=E,75μm,0.5s						
MTTG				AML	AML		
	comp=N,117μm,0.5s						
CET2	**Cetraro**	**0.81**	**16**	P	Pn	15 32 50.5	+0.2
CET2				S	Sn	15 33 04.2	-0.2
CET2				AML	AML		
	comp=E,363μm,1.4s						
CET2				AML	AML		
	comp=N,626μm,0.8s						
CET2				AML	AML		
	comp=N,608μm,0.2s						
CET2				AML	AML		
	comp=E,299μm,0.1s						
AIO	**Antillo**	**0.85**	**204**	P	Pn	15 32 51.4	+0.8
AIO				S	Sn	15 33 05.9	+0.9
CELI	**Celico**	**0.93**	**45**	P	Pn	15 32 52.2	+0.8
CELI				S	Sn	15 33 07.3	+0.8
CELI				AML	AML		
	comp=E,121μm,1.1s						
CELI				AML	AML		
	comp=N,118μm,0.5s						
CELI				AML	AML		
	comp=N,49μm,0.7s						
CELI				AML	AML		
	comp=N,119μm,0.5s						
CELI				AML	AML		
	comp=E,54μm,0.5s						
CELI				AML	AML		
	comp=E,113μm,0.5s						
MUCR	**Ucria**	**0.94**	**222**	P	Pn	15 32 52.4	+0.8
MUCR				S	Sn	15 33 07.0	+0.3
MUCR				AML	AML		
	comp=E,68μm,1.5s						
MUCR				AML	AML		
	comp=N,42μm,1.5s						
MUCR				AML	AML		
	comp=E,68μm,0.5s						
MUCR				AML	AML		
	comp=N,42μm,0.5s						
MUCR				AML	AML		
	comp=N,41μm,0.4s						
MUCR				AML	AML		
	comp=E,63μm,0.4s						
TIP	**Timpagrande**	**0.95**	**63**	P	Pn	15 32 52.0	+0.4
TIP				S	Sn	15 33 07.2	+0.3
TIP				AML	AML		
	comp=E,46μm,0.4s						
TIP				AML	AML		
	comp=N,46μm,0.8s						
TIP				AML	AML		
	comp=N,46μm,1.2s						
TIP				AML	AML		
	comp=E,46μm,0.4s						
TIP				AML	AML		
	comp=E,83μm,1.1s						
TIP				AML	AML		
	comp=N,68μm,0.7s						
TIP				AML	AML		
	comp=N,40μm,0.3s						
GRIS	**Grisolia**	**1.00**	**8**	P	Pn	15 32 52.4	+0.2
GRIS				S	Sn	15 33 07.5	-0.3
TDS	**Terranova Siba**	**1.05**	**30**	P	Pn	15 32 52.9	+0.3
TDS				S	Sn	15 33 09.0	+0.4
TDS				AML	AML		
	comp=E,40μm,0.3s						
TDS				AML	AML		
	comp=N,44μm,0.7s						
TDS				AML	AML		
	comp=N,33μm,0.2s						
TDS				AML	AML		
	comp=E,40μm,0.3s						
EPIT	**Pozzo Pitarron**	**1.05**	**207**	P	Pn	15 32 54.1	+1.2
LADO	**San Nicola del**	**1.15**	**62**	P	Pn	15 32 54.0	+0.1
SALB	**San Lorenzo Be**	**1.25**	**25**	P	Pn	15 32 55.8	+0.8
SALB				AML	AML		
	comp=N,38μm,0.6s						
SALB				AML	AML		
	comp=E,40μm,0.3s						
SALB				AML	AML		
	comp=E,40μm,1.7s						
SALB				AML	AML		
	comp=N,39μm,0.6s						
SALB				AML	AML		
	comp=E,40μm,0.3s						
CUC	**Castrocucco**	**1.25**	**5**	P	Pn	15 32 54.8	-0.1
CUC				S	Sn	15 33 12.4	-0.3
CUC				AML	AML		
	comp=E,54μm,1.0s						
CUC				AML	AML		
	comp=N,45μm,0.3s						
CUC				AML	AML		
	comp=E,54μm,1.0s						
CUC				AML	AML		
	comp=N,45μm,0.3s						
CUC				AML	AML		
	comp=E,48μm,0.1s						
BULG	**Bulgheria - Ca**	**1.35**	**350**	P	Pn	15 32 56.4	+0.3
BULG				AML	AML		
	comp=N,49μm,0.6s						
MGR	**Morigerati**	**1.39**	**356**	P	Pn	15 32 57.0	+0.5
MGR				AML	AML		
	comp=E,31μm,0.4s						
MGR				AML	AML		
	comp=N,25μm,0.7s						
MGR				AML	AML		
	comp=E,31μm,0.4s						
MGR				AML	AML		
	comp=N,20μm,0.2s						
SIRI	**Monte Sirino -**	**1.44**	**6**	P	Pn	15 32 57.3	0.0
SIRI				AML	AML		
	comp=E,35μm,0.8s						
SIRI				AML	AML		
	comp=N,30μm,0.2s						
SIRI				AML	AML		
	comp=E,26μm,0.4s						
SIRI				AML	AML		
	comp=N,32μm,0.4s						
SIRI				AML	AML		
	comp=N,30μm,0.2s						
HAGA	**Augusta**	**1.51**	**196**	P	Pn	15 32 57.2	-0.9
HAGA				S	Sn	15 33 16.4	-1.8
HAGA				AML	AML		
	comp=E,94μm,0.9s						
HAGA				AML	AML		
	comp=N,108μm,0.6s						
HAGA				AML	AML		
	comp=N,108μm,1.4s						
HAGA				AML	AML		
	comp=E,94μm,1.1s						
HAGA				AML	AML		
	comp=E,92μm,0.2s						
HAGA				AML	AML		
	comp=N,85μm,0.1s						
HLNI	**Lentini**	**1.53**	**204**	P	Pn	15 32 57.7	-0.6
HLNI				S	Sn	15 33 16.8	-1.8
HLNI				AML	AML		
	comp=E,66μm,0.2s						
HLNI				AML	AML		
	comp=N,56μm,0.6s						
HLNI				AML	AML		
	comp=E,66μm,0.2s						
HLNI				AML	AML		
	comp=N,48μm,0.2s						
MCEL	**Monticello**	**1.58**	**4**	P	Pn	15 32 59.7	+0.8
MCEL				AML	AML		
	comp=N,21μm,1.0s						
MCEL				AML	AML		
	comp=E,22μm,0.3s						
MCEL				AML	AML		
	comp=N,20μm,0.5s						
MCEL				AML	AML		
	comp=N,36μm,0.9s						
MCEL				AML	AML		
	comp=E,29μm,0.4s						
MCEL				AML	AML		
	comp=E,22μm,0.3s						

WEL 06 15:44:58.0±1.1,47°.S±7°×16°.6E±°,h5km,M4.0/10, ML4.1/10,MLv4.0/10,Error ellipse: s-maj=8.8km s-min=8.2km az=174.9,confirmed,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**1.17**	**37**	P	Pg	15 45 19.5	-1.0
RRKS	**Rarakau**	**1.57**	**53**	P	Pn	15 45 26.9	+0.3
APZ	**The Paps**	**1.62**	**81**	P	Pn	15 45 25.9	-1.4
APZ				S	Sn	15 45 47.7	-0.9
DCZ	**Deep Cove**	**1.94**	**33**	P	Pn	15 45 29.3	-2.3
WHZ	**Wether Hill Ro**	**1.99**	**53**	P	Pn	15 45 31.8	-0.6
WHZ				S	Sn	15 45 58.7	+1.0
MLZ	**Mavora Lakes**	**2.44**	**45**	P	Pn	15 45 39.1	+0.6
MLZ				S	Sb	15 46 11.7	-1.0
SYZ	**Scrubby Hill**	**2.46**	**78**	P	Pn	15 45 38.6	-0.1
SYZ				S	Sn	15 46 10.6	+1.5
MSZ	**Milford Sound**	**2.90**	**34**	P	Pn	15 45 44.7	-0.1
MSZ				S	Sn	15 46 20.5	+0.5
BDCS	**Balclutha Dist**	**2.92**	**75**	P	Pn	15 45 45.0	-0.2
BDCS				S	Sb	15 46 23.7	-3.0
QTPS	**Queenstown Pol**	**2.94**	**46**	P	Pn	15 45 46.6	+1.1
TUZ	**Tuapeka**	**2.98**	**69**	P	Pn	15 45 45.6	-0.2
TUZ				S	Sn	15 46 22.3	+0.4
EAZ	**Earnscleugh**	**3.15**	**55**	P	Pn	15 45 47.7	-0.6
EAZ				S	Sn	15 46 27.3	+1.0
WKZ	**Wanaka**	**3.27**	**47**	P	Pn	15 45 50.9	+0.9
WKZ				S	Sn	15 46 31.3	+2.1
HHSZ	**Highcliff Hill**	**3.62**	**72**	P	Pn	15 45 54.6	-0.2
JCZ	**Jackson Bay**	**3.74**	**37**	P	Pn	15 45 57.1	+0.6
MECS	**Makarora Emerg**	**3.81**	**42**	P	Pn	15 45 58.6	+1.2
MECS				S	Sn	15 46 44.0	+1.4
ODZ	**Otahua Downs**	**4.04**	**61**	P	Pn	15 45 58.3	-2.2
ODZ				S	Sn	15 46 48.0	-0.1
LBZ	**Lake Benmore**	**4.17**	**51**	P	Pn	15 46 00.6	-1.8
LBZ				S	Sn	15 46 50.9	-0.6
FOZ	**Fox Glacier**	**4.62**	**41**	P	Pn	15 46 07.9	-0.6
FOZ				S	Sn	15 47 01.7	-0.8
TMZ	**Timaru**	**4.63**	**56**	P	Pn	15 46 06.6	-2.0
ARCZ	**Arundel**	**5.00**	**53**	P	Pn	15 46 11.3	-2.4
GCSZ	**Gaunt Creek Bo**	**5.02**	**43**	P	Pn	15 46 13.3	-0.7
RPZ	**Rata Peaks**	**5.09**	**50**	P	Pn	15 46 12.4	-2.6
WACZ	**Wakanui South**	**5.37**	**56**	P	Pn	15 46 17.5	-1.3
WVZ	**Waitaha Valley**	**5.40**	**44**	P	Pn	15 46 18.8	-0.3
OXZ	**Oxford**	**5.88**	**52**	P	Pn	15 46 25.4	-0.4
INZ	**Inchbonnie**	**6.00**	**45**	P	Pn	15 46 25.7	-1.7
LTZ	**Lake Taylor**	**6.38**	**50**	P	Pn	15 46 31.2	-1.5
DSZ	**Denniston Nort**	**6.93**	**42**	P	Pn	15 46 38.6	-1.6
KHZ	**Kahutara**	**7.31**	**53**	P	Pn	15 46 46.4	+1.1
THZ	**Tophouse**	**7.44**	**47**	P	Pn	15 46 45.8	-1.4
MRNZ	**Matariki Terra**	**7.65**	**44**	P	Pn	15 46 48.9	-1.1
QRZ	**Quartz Range**	**7.99**	**41**	P	Pn	15 46 53.2	-1.6
NNZ	**Nelson**	**8.09**	**46**	P	Pn	15 46 56.8	+0.7

*BGSI **06** 15:56:27.5±0.3,24°.16S×26°.16E,h173km±8km,ML2.0*

PRE 06 15:55:54.5±0.8,26°.39S×27°.35E,h2km,ML2.3,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**0.58**	**31**	*e*P	Pg	15 56 06.4	+0.7
HRAO				*e*S	Sg	15 56 13.5	+0.3
HRAO				IAML		15 56 15.2	
	comp=Z,271nm,0.1s						
SNKL	**Senekal, Frees**	**1.91**	**169**	*e*P	Pn	15 56 29.2	+0.8
SNKL				*e*S	Sb	15 56 54.6	-0.1
SNKL				IAML		15 56 56.4	
	comp=Z,88nm,0.2s						
LBTB	**Lobatse**	**2.09**	**310**	*e*P	Pn	15 56 31.8	+1.1
LBTB				*e*S	Sn	15 56 58.4	+0.9
LBTB				IAML		15 57 05.8	
	comp=Z,42nm,0.3s						
LEPH	**Lephalale, Lim**	**2.55**	**9**	*e*P	Pn	15 56 37.7	+0.7
LEPH				*e*S	Sn	15 57 08.9	+0.2
LEPH				IAML		15 57 18.6	
	comp=Z,18nm,0.7s						
NWCL	**Newcastle**	**2.63**	**121**	*e*P	Pn	15 56 39.2	+1.0
NWCL				*e*S	Sn	15 57 11.2	+0.4
NWCL				IAML		15 57 17.5	
	comp=Z,12nm,0.4s						
BOSA	**Boshof**	**2.89**	**220**	*e*P	Pn	15 56 42.2	+0.5
BOSA				*e*S	Sn	15 57 17.7	+0.5
BOSA				IAML		15 57 31.4	
	comp=Z,9.7nm,0.4s						
LPHEP	**Lephephe**	**3.31**	**335**	*i* P	Pb	15 56 52.2	-1.8
LPHEP				IAML		15 57 47.3	
	comp=N,16nm,0.4s						
PILG	**Pilgrimsrest,**	**3.36**	**65**	*e*P	Pn	15 56 49.7	+1.4
PILG				*e*S	Sn	15 57 29.1	+0.3
PILG				IAML		15 57 46.7	
	comp=Z,15nm,0.7s						
SKOMA	**Sekoma**	**3.61**	**300**	*i* P	Pg	15 57 03.3	-0.5
SKOMA				IAML		15 57 56.3	
	comp=N,18nm,0.6s						
KDWAN	**Kaudwane**	**3.87**	**320**	*i* P	Pn	15 56 58.3	+3.2
KDWAN				IAML		15 58 02.1	
	comp=E,34nm,0.5s						
PMBG	**Pietermaritzbu**	**4.18**	**139**	*e*P	Pn	15 56 60.0	+0.6
PMBG				*e*S	Sn	15 57 47.3	-1.5
PMBG				IAML		15 58 04.1	
	comp=Z,10nm,0.5s						
KSTD	**Kokstad**	**4.55**	**158**	*e*P	Pn	15 57 05.2	+0.6
KSTD				*e*S	Sn	15 57 57.0	-1.1
KSTD				IAML		15 58 21.5	
	comp=Z,4.0nm,0.4s						
MOPA	**Mopani**	**4.65**	**53**	*e*P	Pn	15 57 05.9	0.0
MOPA				*e*S	Sn	15 57 59.6	-0.9
MOPA				IAML		15 58 20.4	
	comp=Z,10nm,0.3s						
MUSN	**Musina, Limpop**	**4.68**	**30**	*e*P	Pn	15 57 07.1	+0.9
MUSN				*e*S	Sn	15 58 00.1	-1.1
MUSN				IAML		15 58 22.4	
	comp=Z,7.4nm,0.3s						
BROLN	**Tlhalogang**	**5.27**	**360**	*i* P	Pn	15 57 16.9	+2.6
BROLN				IAML		15 58 44.2	
	comp=N,9.2nm,2.4s						
ALKP	**Alkanpan, Nort**	**5.73**	**231**	*e*P	Pn	15 57 21.2	+0.4
ALKP				*e*S	Sn	15 58 25.7	-1.4
ALKP				IAML		15 59 02.1	
	comp=Z,8.5nm,0.4s						
BFON	**Badsfontein, M**	**6.27**	**210**	*e*P	Pn	15 57 29.1	+0.9
BFON				*e*S	Sn	15 58 38.4	-2.1
BFON				IAML		15 59 12.1	
	comp=Z,3.6nm,0.6s						
BRAK	**Brakfontein**	**6.64**	**215**	*e*P	Pn	15 57 34.5	+1.3
BRAK				*e*S	Sn	15 58 47.3	-2.2
BRAK				IAML		15 59 27.1	
	comp=Z,3.2nm,0.3s						
FRAZ	**Fraserburg**	**7.58**	**222**	*e*P	Pn	15 57 46.4	+0.2
FRAZ				*e*S	Sn	15 59 09.0	-3.7
FRAZ				IAML		15 59 28.3	
	comp=Z,1.4nm,0.6s						

NOU 06 15:57:29.6,11°.37S×161°.70E,h8km,MLv3.8/7,Solomon Islands,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGOA	**Tingoa Renbel**	**1.62**	**263**	P	Pn	15 57 57.9	-0.5
NGOA	**Tingoa Renbel**	**1.62**	**263**	P	Sn	15 58 19.9	+0.4
HNR	**Honiara**	**2.58**	**318**	P	Pn	15 58 12.0	+0.2
ALEG	**Aligegeo Malai**	**2.78**	**339**	P	Pn	15 58 14.6	+0.1
ALEG	**Aligegeo Malai**	**2.78**	**339**	P	Sn	15 58 49.0	+0.7
SAVO	**Savo Central**	**2.88**	**320**	P	Pn	15 58 15.2	-0.7
TATA	**Tatamba Isabel**	**3.50**	**328**	P	Pn	15 58 25.0	+0.6

AUST 06 16:00:12.8±0.3,20°.S±3°×13°.4E±°,h10km,mb3.6/5, ML2.7/8,ML3.5/8,Error ellipse: s-maj=6.4km s-min=4.3km az=28.0,Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**0.47**	**115**	P	Pb	16 00 22.7	-0.6
WRAB				S	Sg	16 00 29.4	+1.0
WB2	**Warramunga Arr**	**0.48**	**116**	P	Pg	16 00 22.4	+0.2

WB2				S	Sg	16 00 28.8	+0.3
AS31	**Alice Springs**	**3.92**	**180**	P	Pn	16 01 14.8	+1.7
AS31	**Alice Springs**	**3.92**	**180**	S	Sn	16 01 59.6	+0.4
AUALC	**St Philip's Co**	**3.94**	**180**	P	Pn	16 01 15.5	+2.1
QIS	**Mount Isa**	**5.43**	**100**	P	Pn	16 01 35.5	+1.6
	comp=Z,0.0nmcomp=Z,26µmcomp=Z,3.1nm,1.6s						
QIS	**Mount Isa**	**5.43**	**100**	S	Sn	16 02 38.0	+1.6
KNRA	**Kununurra**	**6.34**	**309**	P	Pn	16 01 46.5	+0.2
	comp=Z,0.0nmcomp=Z,27µmcomp=Z,9.4nm,1.8s						
KNRA				S	Sn	16 02 56.2	-2.6
KDU	**Kakadu**	**7.14**	**349**	P	Pn	16 01 58.0	+0.6
MTN	**Manton Dam**	**7.34**	**338**	P	Pn	16 01 59.3	-0.9
	comp=Z,0.0nmcomp=Z,41µmcomp=Z,11nm,1.7s						
MTN	**Manton Dam**	**7.34**	**338**	S	Sn	16 03 20.0	-3.7
WRKA	**Warakurna**	**7.40**	**223**	P	Pn	16 01 59.2	-1.7
	comp=Z,0.0nmcomp=Z,15µmcomp=Z,2.7nm,2.5s						
WRKA				S	Sn	16 03 19.7	-5.3
FITZ	**Fitzroy Crossi**	**7.98**	**280**	P	Pn	16 02 07.6	-1.3
FITZ	**Fitzroy Crossi**	**7.98**	**280**	S	Sn	16 03 33.6	-5.7
COEN	**Coen**	**10.58**	**59**	P	Pn	16 02 44.8	+0.2
	comp=Z,12nm,2.2s,comp=Z,0.0nm						

*IDC **06** 16:00:51.1±0.9,58˚.84N×157˚.88E,h0km,mb3.6/9, mbtmp3.6/12,ML3.2/3,MS3.2/7,Error ellipse: s-maj=17.8km s-min=14.4km az=20.0*
*MOS **06** 16:00:53.7±0.7,58˚.79N×157˚.89E,h31km,mb4.0/3,Error ellipse: s-maj=15.1km s-min=5.5km az=101.6*
*KRSC **06** 16:00:55.8±1.9,58˚.58N×158˚.45E,h31km±21km,Ml4.4*
*NERS **06** 16:00:57.9,59˚.03N×157˚.20E,h23km*

ISC 06 16:00:54.1±0.6,58˚.64N±0˚.04×158˚.29E±0˚.04,h10km,n70, σ2§00/56,mb3.7/10,MS3.4/4,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALN	**Palana**	**0.98**	**62**	PN		**Pg**	**16 01 12.5**	**-0.3**
PALN				S		**Sn**	**16 01 27.9**	**+0.2**
PALN	**Palana**	**0.98**	**62**	*e*P		**Pg**	**16 01 12.5**	**-0.3**
PALN				*e*S		**Sn**	**16 01 27.9**	**+0.2**
SRDR	**Sredinnyy**	**2.45**	**161**	PN		**Pn**	**16 01 35.1**	**+1.0**
SRDR	**Sredinnyy**	**2.45**	**161**	*e*P		**Pn**	**16 01 35.2**	**+1.0**
OSSR	**Ossora**	**2.54**	**74**	PN		**Pn**	**16 01 35.3**	**0.0**
OSSR	**Ossora**	**2.54**	**74**	*e*P		**Pn**	**16 01 35.3**	**0.0**
OSSR				*e*S		**Sn**	**16 02 05.2**	**-1.1**
KLY	**Klyuchi**	**2.66**	**150**	PN		**Pb**	**16 01 39.7**	**-1.9**
KLY	**Klyuchi**	**2.66**	**150**	*e*P		**Pb**	**16 01 39.8**	**-1.9**
SMKR	**Semkarok**	**2.68**	**139**	PN		**Pn**	**16 01 37.9**	**+0.7**
SMKR	**Semkarok**	**2.68**	**139**	*e*P		**Pn**	**16 01 38.0**	**+0.7**
KOZ	**Kozyrevsk**	**2.73**	**161**	PN		**Pn**	**16 01 39.2**	**+1.3**
KOZ	**Kozyrevsk**	**2.73**	**161**	*e*P		**Pn**	**16 01 39.2**	**+1.3**
ESO	**Esso**	**2.73**	**175**	PN		**Pn**	**16 01 37.8**	**-0.1**
ESO	**Esso**	**2.73**	**175**	*e*P		**Pn**	**16 01 37.9**	**-0.1**
KPT	**Kopyto**	**2.88**	**158**	PN		**Pn**	**16 01 41.0**	**+1.0**
KPT	**Kopyto**	**2.88**	**158**	*e*P		**Pn**	**16 01 41.0**	**+1.0**
KIRR	**Kirishev**	**2.92**	**157**	PN		**Pn**	**16 01 43.7**	**+3.1**
KIRR	**Kirishev**	**2.92**	**157**	*e*P		**Pn**	**16 01 43.8**	**+3.1**
BZWR	**Bezymyannyi-We**	**2.94**	**155**	PN		**Pn**	**16 01 42.3**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.94**	**155**	*e*P		**Pn**	**16 01 42.4**	**+1.4**
BZMR	**Bezymyannaya**	**2.96**	**155**	PN		**Pn**	**16 01 43.1**	**+1.9**
BZMR	**Bezymyannaya**	**2.96**	**155**	*e*P		**Pn**	**16 01 43.1**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**3.01**	**153**	PN		**Pn**	**16 01 43.1**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**3.01**	**153**	*e*P		**Pn**	**16 01 43.1**	**+1.3**
KMNR	**Kamenistaya**	**3.08**	**159**	PN		**Pn**	**16 01 43.7**	**+0.9**
KMNR	**Kamenistaya**	**3.08**	**159**	*e*P		**Pn**	**16 01 43.7**	**+0.9**
KBTR	**Krutoberegovo**	**3.46**	**133**	PN		**Pn**	**16 01 51.2**	**+3.4**
KBTR	**Krutoberegovo**	**3.46**	**133**	*e*P		**Pn**	**16 01 51.2**	**+3.4**
TUMD	**Tumrok D**	**3.63**	**161**	PN		**Pn**	**16 01 52.6**	**+2.3**
TUMD	**Tumrok D**	**3.63**	**161**	*e*P		**Pn**	**16 01 52.6**	**+2.3**
GADL	**Gadlja**	**3.74**	**289**	*e*P		Pn	16 01 42.0	-10
GADL				*e*P		Pb	16 01 48.9	-11
GADL				Pgmax			16 01 54.4	
	280nm,0.6s							
GADL				*e*S		**Sn**	**16 02 34.4**	**-1.3**
GADL				Sgmax			16 02 47.5	
	2µm,0.6s							
GADL				Sgmax			16 02 47.5	
	980nm,0.6s							
TLAR	**Talaya**	**3.88**	**313**	*e*P		Pn	16 01 47.8	-5.9
TLAR				*e*Pg		Pb	16 01 57.8	-4.7
TLAR				Pgmax			16 01 58.2	
	40nm,0.5s							
TLAR				*e*S		Sn	16 02 29.3	-10
TLAR				*e*Sg		Sb	16 02 42.0	-7.5
TLAR				Sgmax			16 02 52.7	
	380nm,0.6s							
TLAR				Sgmax			16 02 52.7	
	560nm,0.6s							
MA2	**Magadan**	**3.99**	**287**	Pn		Pn	16 01 50.4	-4.8
	0.7nm,0.3s,baz=147,slow=14,SNR=8.5							
MA2				Lg		Lg	16 02 46.8	
	26nm,0.3s,baz=245,slow=9.0,SNR=9.9							
MA2				LR		LR	16 03 21.6	
	comp=Z,143nm,19.5s,baz=110,slow=40							
	9.5nm,0.7s							
MA2	**Magadan**	**3.99**	**287**	*e*P		Pn	16 01 50.4	-4.8
MA2				*e*Pg		Pb	16 01 58.8	-5.6
MA2				Pgmax			16 02 02.9	
	110nm,0.6s							
MA2				*e*Sg		**Sn**	**16 02 45.0**	**+3.0**
MA2				Sgmax			16 02 53.0	
	300nm,0.6s							
MA2				Sgmax			16 02 53.0	
	190nm,0.6s							
MGD	**Magadan 1**	**4.12**	**293**	*e*P		Pn	16 01 51.0	-6.0
MGD				*e*Pg		Pb	16 02 03.2	-3.4
MGD				Pgmax			16 02 07.7	
	30nm,0.4s							
MGD				*e*Sg		**Sn**	**16 02 46.9**	**+1.7**
MGD				Sgmax			16 02 53.9	
	110nm,0.4s							
MGD				Sgmax			16 02 53.9	
	370nm,0.4s							
TILK	**Tilichiki**	**4.39**	**62**	PN		**Pn**	**16 02 04.0**	**+3.4**
TILK	**Tilichiki**	**4.39**	**62**	*e*P		**Pn**	**16 02 04.1**	**+3.4**
MKZ	**Mys Kozlova**	**4.51**	**154**	PN		**Pn**	**16 02 05.5**	**+3.2**
MKZ	**Mys Kozlova**	**4.51**	**154**	*e*P		**Pn**	**16 02 05.6**	**+3.2**
GNL	**Ganaly**	**4.96**	**182**	PN		**Pn**	**16 02 11.5**	**+2.9**
GNL	**Ganaly**	**4.96**	**182**	*e*P		**Pn**	**16 02 11.5**	**+2.9**
TLON	**Talon**	**5.08**	**287**	*e*P		Pn	16 02 05.4	-4.7
TLON				*e*Pg		**Pb**	**16 02 22.6**	**-0.3**
TLON				*e*Sg		Sn	16 03 19.7	+11
TLON				Sgmax			16 03 34.0	
	860nm,0.7s							
SEY	**Seymchan**	**5.19**	**329**	Pn		Pn	16 02 07.2	-4.4
	0.3nm,0.3s,baz=21,slow=23,SNR=3.9							
SEY				Lg		Lg	16 03 24.8	
	3.0nm,0.3s,baz=82,slow=11,SNR=4.2							
	4.8nm,0.8s							
SEY	**Seymchan**	**5.19**	**329**	*e*P		Pn	16 02 07.1	-4.5
SEY				*e*Pg		Pb	16 02 21.3	-3.4
SEY				Pgmax			16 02 21.9	
	10.0nm,0.7s							
SEY				*e*Sg		**Sb**	**16 03 25.7**	**-1.3**
SEY				Sgmax			16 03 43.8	
	90nm,0.8s							
BKI	**Bering**	**5.43**	**126**	PN		**Pn**	**16 02 18.6**	**+3.6**
BKI	**Bering**	**5.43**	**126**	*e*P		**Pn**	**16 02 18.6**	**+3.6**
KMSK	**Kamenskaya**	**5.47**	**42**	PN		Pn	16 02 21.3	+5.8
KMSK	**Kamenskaya**	**5.47**	**42**	*e*P		Pn	16 02 21.4	+5.8
PETK	**Petropavlovsk-**	**5.56**	**184**	Pn		**Pn**	**16 02 18.7**	**+2.0**
	0.4nm,0.3s,baz=346,slow=8.0,SNR=6.3							
	1.8nm,0.6s							
SHEM	**Shemya Is, Ala**	**10.69**	**117**	LR		LR	16 07 03.5	
	comp=Z,56nm,20.8s,baz=278,slow=34							
YAK	**Yakutsk**	**14.50**	**296**	Lg		Lg	16 08 19.2	
	1.4nm,0.3s,baz=122,slow=4.0,SNR=2.5							
YAK	**Yakutsk**	**14.50**	**296**	*e*P		**P**	**16 04 25.7**	**-0.1**
YAK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
YAK				pmax		pmax		
	comp=N,3.0nm,1.8s							
YAK				pmax		pmax		
	comp=E,3.0nm,1.1s							
KLR	**Kul'dur**	**18.13**	**250**	LR		LR	16 13 23.7	
	comp=E,103nm,20.0s,baz=20,slow=42							
USRK	**Ussuriysk Ar.**	**21.66**	**240**	P		**P**	**16 05 42.3**	**-2.2**
	comp=E,2.6nm,0.8s,baz=35,slow=13,SNR=4.1							
	comp=E,2.6nm,0.8s							
MJA0	**Matsu Arr-Jizo**	**25.72**	**220**	*e*P		**P**	**16 06 26.2**	**+1.9**
MJA0				pmax		pmax		
	comp=Z,2.0nm,0.9s							
MJAR	**Matsushiro Arr**	**25.73**	**220**	P		**P**	**16 06 22.6**	**-1.8**
	comp=Z,2.8nm,1.1s,baz=41,slow=11,SNR=5.7							
	comp=Z,2.8nm,1.1s							
ILAR	**Eielson Array**	**25.94**	**53**	P		**P**	**16 06 25.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=276,slow=8.6,SNR=7.9							
	comp=Z,0.5nm,0.6s							
ILAR	**Eielson Array**	**25.94**	**53**	*e*P		**P**	**16 06 25.0**	**-1.1**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KSRS	**Korea Array**	**28.93**	**236**	P		**P**	**16 06 52.8**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=24,slow=8.4,SNR=4.9							
	comp=Z,0.9nm,0.6s							
SONM	**Songino Array**	**32.08**	**273**	LR		LR	16 20 57.9	
	comp=Z,37nm,20.9s,baz=1.5,slow=38							
KURK	**Kurchatov**	**44.15**	**296**	P		P	16 08 59.6	-2.7
KURBB	**Kurchatov Arra**	**44.25**	**296**	P		P	16 08 59.5	-3.6
	comp=Z,1.0nm,0.7s,baz=54,slow=8.2,SNR=11							
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**45.07**	**290**	P		P	16 09 05.8	-4.0
	comp=Z,0.2nm,0.6s,baz=57,slow=5.3,SNR=2.5							
	comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**46.30**	**303**	P		P	16 09 16.0	-3.4
	comp=Z,0.8nm,0.7s,baz=64,slow=10,SNR=4.7							
	comp=Z,0.8nm,0.7s							
OBN	**Obninsk**	**57.34**	**325**	*e*P		P	16 10 30.0	-12
OBN				*e*			16 11 27.2	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
NOA	**NORSAR Array B**	**57.93**	**342**	LR		LR	16 39 32.0	
	comp=Z,14nm,18.9s,baz=250,slow=40							
HFS	**Hagfors**	**58.36**	**340**	LR		LR	16 39 06.5	
	comp=Z,66nm,21.6s,baz=256,slow=40							
MLR	**Muntele Rosu**	**69.02**	**326**	LR		LR	16 44 21.0	
	comp=Z,78nm,21.6s,baz=265,slow=38							
TXAR	**Lajitas Array**	**69.42**	**67**	P		**P**	**16 12 01.3**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=351,slow=4.0,SNR=4.7							
	comp=Z,0.1nm,0.4s							
ASAR	**Alice Springs**	**84.46**	**202**	P		**P**	**16 13 24.1**	**-2.5**
	comp=Z,0.2nm,0.8s,baz=5.5,slow=6.0,SNR=1.6							
	comp=Z,0.2nm,0.8s							

*IDC **06** 16:13:52.1±1.0,13˚.02N×144˚.40E,h0km,mb3.5/5, mbtmp3.5/5,MS3.8/1,Error ellipse: s-maj=32.1km s-min=14.8km az=123.0*
*NEIC **06** 16:13:57.8±2.2,13˚.1N±0˚.1×144˚.6E±0˚.2,h49km±10km, mb4.5/7,Error ellipse: s-maj=25.4km s-min=14.6km az=125.0*

ISC 06 16:13:58.4±0.8,13˚.1N±0˚.1×144˚.5E±0˚.2,h54km,n15, σ1§57/16,mb4.1/10,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**0.59**	**33**	Pn		**Pn**	**16 14 09.4**	**-1.5**
GUMO	**Guam**	**0.59**	**33**	LR		LR	16 13 57.6	
	comp=Z,54nm,20.2s,baz=66,slow=7.6							
GUMO				Pn		**Pn**	**16 14 10.0**	**-1.0**
	153nm,0.3s,baz=111,slow=4.3,SNR=33							
GUMO				Sn		**Sn**	**16 14 21.1**	**+1.0**
	126nm,0.3s,baz=179,slow=22,SNR=6.2							
TOLI2	**Tolitoli**	**26.37**	**245**	P		**P**	**16 19 30.1**	**+0.2**
TOLI2				IAmb		IAmb	16 19 36.9	
	comp=Z,22nm,1.0s							
WB0	**Warramunga Arr**	**34.15**	**197**	P		**P**	**16 20 37.1**	**-1.4**
WB0				IAmb		IAmb	16 20 41.7	
	comp=Z,9.7nm,1.5s							
WR8	**Warramunga Arr**	**34.30**	**197**	P		**P**	**16 20 38.2**	**-1.6**
WR8				IAmb		IAmb	16 21 06.8	
	comp=Z,7.0nm,1.4s							
WRA	**Warramunga Arr**	**34.33**	**197**	P		**P**	**16 20 39.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=8.9,slow=8.5,SNR=6.1							
	comp=Z,0.3nm,0.7s							
AS31	**Alice Springs**	**37.98**	**196**	P		**P**	**16 21 09.0**	**-2.2**
ASAR	**Alice Springs**	**37.98**	**196**	P		**P**	**16 21 11.1**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=15,slow=14,SNR=6.4							
	comp=Z,0.2nm,0.7s							
MSVF	**Nonsavu**	**45.08**	**132**	P		**P**	**16 22 11.6**	**+2.1**
MSVF				IAmb		IAmb	16 22 50.2	
	comp=Z,23nm,1.2s							
GIRL	**Giralia**	**46.29**	**220**	P		**P**	**16 22 19.0**	**+0.1**
MKAR	**Makanchi Array**	**61.62**	**316**	P		**P**	**16 24 12.2**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=108,slow=4.7,SNR=2.8							
	comp=Z,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**64.80**	**320**	P		**P**	**16 24 32.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=102,slow=7.1,SNR=5.0							
	comp=Z,0.2nm,0.3s							
BVAR	**Borovoye Array**	**70.12**	**322**	P		**P**	**16 25 05.8**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=86,slow=7.8,SNR=6.4							
BVAR				LR		LR	16 58 24.7	
	comp=Z,59nm,19.6s,baz=289,slow=38							
	comp=Z,1.1nm,0.5s							
BMAR	**Burnt Mountain**	**70.68**	**23**	P		**P**	**16 25 05.5**	**-2.7**
N32M	**Quiet Lake**	**74.96**	**30**	P		**P**	**16 25 34.3**	**+0.6**
N32M				IAmb		IAmb	16 25 41.6	
	comp=Z,3.2nm,1.0s							

*NEIC **06** 16:27:15.6±0.4,19˚.36N±0˚.02×155˚.137W±0˚.009, h4km±1km,Error ellipse: s-maj=3.1km s-min=0.7km az=162.0*

HVO 06 16:27:15.0±0.3,19˚.35N±0˚.02×155˚.136W±0˚.009, h6km±2km,ML2.5/33,ML2.6/42(NEIC),Error ellipse: s-maj=2.6km s-min=0.9km az=166.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STCH	**Steam Cracks**	**0.04**	**16**			Pg	16 27 16.8	+0.3
STCH				IAML			16 27 17.7	
	comp=N,4µm,0.1s							
KNHH	**Kane Nui o Ham**	**0.04**	**316**			Pg	16 27 16.9	+0.4
JCUZ	**Jacuzzi**	**0.05**	**41**			Pg	16 27 16.9	+0.3
JCUZ						Sg	16 27 18.2	+0.6
NPOC	**North of Pu'u**	**0.05**	**29**			Pg	16 27 16.9	+0.4
NPOC						Sg	16 27 18.6	+0.9
PUH	**Pauahi**	**0.08**	**290**			Pg	16 27 17.4	+0.4
PUH				IAML			16 27 19.4	
	comp=E,6µm,0.2s							
PUH				IAML			16 27 19.4	
	comp=N,4µm,0.3s							
KKO	**Keanakako'i**	**0.13**	**293**			Pg	16 27 18.2	+0.4
KKO						Sg	16 27 20.7	+0.9
BYL	**Byron's Ledge**	**0.13**	**299**			Pg	16 27 18.2	+0.4
RIM	**Rim**	**0.14**	**290**			Pg	16 27 18.3	+0.4
RIM						Sg	16 27 20.8	+0.9
HATHI	**Halema'uma'u T**	**0.14**	**303**			Pg	16 27 18.2	+0.2
HATHI				IAML			16 27 21.1	
	comp=E,1µm,0.5s							
HATHI				IAML			16 27 23.1	
	comp=N,2µm,0.2s							
SBLHI	**Steaming Bluff**	**0.15**	**303**			Pg	16 27 18.4	+0.3
SBLHI						Sg	16 27 20.9	+0.8
JOKA	**Jonika Flow**	**0.15**	**55**			Pg	16 27 18.2	0.0
SDHHI	**Sand Hill**	**0.15**	**286**			Pg	16 27 18.5	+0.3
SDHHI						Sg	16 27 21.1	+0.8
UWB	**Uwekahuna Bluf**	**0.15**	**300**			Pg	16 27 18.5	+0.3
UWB						Sg	16 27 21.1	+0.7
OBL	**Observatory Le**	**0.16**	**297**			Pg	16 27 18.6	+0.4
UWE	**Uwekahuna**	**0.17**	**297**			Pg	16 27 18.8	+0.4
UWE						Sg	16 27 21.6	+0.9
UWE	**Uwekahuna**	**0.17**	**297**	IAML			16 27 22.0	
	comp=N,890nm,0.7s							
UWE				IAML			16 27 22.3	
	comp=E,730nm,0.8s							
WRMHI	**West Rim**	**0.17**	**291**			Pg	16 27 18.7	+0.3
WRMHI						Sg	16 27 21.4	+0.7
HLP	**Hilina Pali**	**0.17**	**253**			Pg	16 27 19.0	+0.5
HLP						Sg	16 27 21.9	+1.1
HLP	**Hilina Pali**	**0.17**	**253**	IAML			16 27 22.2	
	comp=N,1µm,0.3s							
HLP				IAML			16 27 23.0	
	comp=E,888nm,0.3s							
RSD	**Rainshed**	**0.18**	**311**			Pg	16 27 19.0	+0.3
RSD						Sg	16 27 22.0	+1.0
HTC	**Hot Caves**	**0.27**	**246**			Pg	16 27 20.9	+0.5
MLH	**Mauna Loa**	**0.28**	**302**			Pg	16 27 20.8	+0.2
MLH						Sg	16 27 24.9	+0.7
MLH	**Mauna Loa**	**0.28**	**302**	IAML			16 27 26.8	
	comp=N,424nm,0.2s							
MLH				IAML			16 27 27.6	
	comp=E,363nm,0.2s							
AIN	**Ainahou**	**0.30**	**275**			Pg	16 27 21.3	+0.2
AIN						Sb	16 27 27.6	-0.8
AIN	**Ainahou**	**0.30**	**275**	IAML			16 27 28.0	
	comp=N,7µm,0.2s							
AIN				IAML			16 27 28.1	
	comp=E,2µm,0.2s							
HMH	**Humu'ula Sheep**	**0.41**	**308**			Pg	16 27 23.2	0.0
HMH						Sb	16 27 30.4	-1.3
HMH	**Humu'ula Sheep**	**0.41**	**308**	IAML			16 27 30.6	
	comp=N,5µm,0.2s							
HMH				IAML			16 27 30.7	
	comp=E,3µm,0.2s							
MWH	**Mokuaweoweo**	**0.46**	**288**			Pg	16 27 23.8	-0.2
MWH						Sb	16 27 31.6	-1.5
MWH	**Mokuaweoweo**	**0.46**	**288**	IAML			16 27 32.0	
	comp=E,847nm,0.6s							
MWH				IAML			16 27 32.1	
	comp=N,835nm,0.4s							
KHU	**Kahuku**	**0.46**	**258**			Pg	16 27 23.8	-0.2
KHU						Sg	16 27 30.9	+0.8
ALEP	**Alea Permanent**	**0.52**	**292**			Pg	16 27 24.6	-0.4
POHA	**Pohakuloa**	**0.55**	**318**			Pg	16 27 25.3	-0.5
POHA				IAML			16 27 34.3	
	comp=N,505nm,0.4s							
POHA				IAML			16 27 34.3	
	comp=N,408nm,0.3s							
HUH	**Hualalai**	**0.74**	**297**			Pg	16 27 28.3	-1.0
HPAH	**Hawaii Prepara**	**0.86**	**322**	IAML			16 27 43.2	
	comp=N,182nm,0.3s							
HPAH				IAML			16 27 43.3	
	comp=E,200nm,0.2s							

*KRSC **06** 16:28:27.4±0.2,58˚.30N×158˚.45E,h3km,Ml3.6*
*NERS **06** 16:28:37.0,59˚.00N×157˚.01E,h33km*

ISC 06 16:28:25.6±1.6,58˚.4N±0˚.1×158˚.22E±0˚.04,h10km,n8, σ3§32/16,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PALN	**Palana**	**1.15**	**52**	*e*P		**Pg**	**16 28 49.4**	**+1.7**
PALN				*e*S		**Sn**	**16 29 05.3**	**+1.9**
OSSR	**Ossora**	**2.66**	**69**	*e*P		**Pb**	**16 29 12.8**	**-0.5**
GADL	**Gadlja**	**3.79**	**293**	*e*P		**Pn**	**16 29 20.1**	**-3.8**
GADL				*e*P		Pb	16 29 27.0	-5.5
GADL				*e*S		**Sn**	**16 30 10.7**	**+2.2**
GADL				Sgmax			16 30 24.3	
	240nm,0.6s							
GADL				Sgmax			16 30 24.3	
	100nm,0.6s							
TLAR	**Talaya**	**4.02**	**315**	*e*P		**Pn**	**16 29 23.8**	**-3.5**
TLAR				*e*Pg		**Pb**	**16 29 37.3**	**+0.8**
TLAR				Pgmax			16 29 40.1	
	10.0nm,0.4s							
TLAR				*e*S		Sn	16 30 06.4	-8.0
TLAR				*e*Sg		**Sb**	**16 30 19.2**	**-6.0**
TLAR				Sgmax			16 30 29.2	
	30nm,0.6s							
TLAR				Sgmax			16 30 29.2	
	50nm,0.6s							
MA2	**Magadan**	**4.03**	**290**	*e*P		**Pn**	**16 29 27.5**	**+0.2**
MA2				*e*Pg		**Pb**	**16 29 36.6**	**-0.1**
MA2				Pgmax			16 29 38.3	
	20nm,1.0s							
MA2				*e*Sg		**Sb**	**16 30 22.7**	**-2.7**
MA2				Sgmax			16 30 29.8	
	30nm,0.6s							
MA2				Sgmax			16 30 29.8	
	10.0nm,0.6s							
MGD	**Magadan 1**	**4.19**	**296**	*e*P		**Pn**	**16 29 29.2**	**-0.3**
MGD				*e*Sg		**Sn**	**16 30 25.3**	**+6.9**
MGD				Sgmax			16 30 30.6	
	20nm,0.6s							
MGD				Sgmax			16 30 30.6	
	40nm,0.6s							
TLON	**Talon**	**5.12**	**290**	*e*Sg		**Sb**	**16 30 54.9**	**-1.7**
TLON				Sgmax			16 31 10.5	
	60nm,0.6s							
SEY	**Seymchan**	**5.38**	**330**	*e*P		**Pb**	**16 30 02.1**	**+2.5**
SEY				*e*Sg		**Sb**	**16 31 02.1**	**-2.0**
SEY				Sgmax			16 31 15.9	
	10.0nm,0.4s							

*IDC **06** 16:58:29.5±0.6,0˚.05N×30˚.05E,h0km,mb3.9/15, mbtmp4.0/16,ML4.2/1,MS3.6/25,Error ellipse: s-maj=22.0km s-min=11.9km az=94.0*
*NEIC **06** 16:58:31.1±1.8,0˚.04N±0˚.09×30˚.1E±0˚.1,h10km±1km, mb4.6/22,Error ellipse: s-maj=18.7km s-min=15.2km az=265.0*

ISC 06 16:58:32.0±0.4,0˚.03N±0˚.06×30˚.04E±0˚.07,h16km,n79, σ1§16/64,mb4.4/26,MS3.5/23,5D,Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LODK	**Lodwar**	**6.29**	**58**			**Pn**	**17 00 01.8**	**-2.4**
KMBO	**Kilima Mbogo**	**7.30**	**99**	Pn		**Pn**	**17 00 17.8**	**-0.4**
	4.0nm,0.3s,baz=228,slow=17,SNR=15							
KMBO				Sn		**Sn**	**17 01 41.7**	**+0.7**
	21nm,0.3s,baz=358,slow=20,SNR=5.0							
KMBO				Lg		Lg	17 02 09.5	
	34nm,0.3s,baz=219,slow=19,SNR=8.0							
KMBO				LR		LR	17 03 19.0	
	comp=Z,502nm,18.1s,baz=280,slow=40							
	9.5nm,0.4s							
KIBK	**Kibwezi**	**8.34**	**106**			**Pn**	**17 00 29.

comp=Z,2.9nm,0.5s,baz=101,slow=7.2,SNR=6.8
TORD LR LR 17 17 43.9
comp=Z,191nm,18.1s,baz=133,slow=37
comp=Z,2.9nm,0.5s
ASF Jabal al Asfar 32.62 11 LR LR 17 18 11.7
comp=Z,53nm,19.8s,baz=150,slow=36
MMAI Mount Meron Ar 33.19 8 LR LR 17 18 42.2
comp=Z,70nm,18.3s,baz=185,slow=37
GRHM Grahamstown, E 33.31 186 P **P** **17 05 09.1 -0.1**
SUR Sutherland 33.40 194 P **P** **17 05 10.1 0.0**
DBIC Dimbokro 35.44 281 P **P** **17 05 27.7 -0.1**
DBIC IAmb IAmb 17 05 58.9
comp=Z,16nm,1.2s
DBIC Dimbokro 35.44 281 LR LR 17 21 36.8
comp=Z,81nm,18.5s,baz=134,slow=39
BRTR Keskin Array B 39.64 4 P **P** **17 06 04.4 +1.2**
comp=Z,0.7nm,0.6s,baz=165,slow=5.1,SNR=4.5
comp=Z,0.7nm,0.6s
KEST Kesra 40.41 334 LR LR 17 25 24.4
comp=Z,87nm,19.1s,baz=334,slow=40
GNI Garni 42.12 17 LR LR 17 24 49.9
comp=Z,86nm,18.8s,baz=201,slow=38
KBZ Khabaz 45.00 13 LR LR 17 26 20.3
comp=Z,47nm,18.3s,baz=154,slow=37
MLR Muntele Rosu 45.41 356 LR LR 17 29 06.6
comp=Z,55nm,18.9s,baz=153,slow=40
MDT Midelt 46.13 318 LR LR 17 27 53.5
comp=Z,195nm,18.9s,baz=56,slow=38
TUE Stuetta 49.69 341 P **P** **17 07 23.7 +0.3**
DAVOX Davos/Dischmat 49.80 342 LR LR 17 29 51.6
comp=Z,48nm,19.5s,baz=82,slow=38
ESDC Sonseca Array 50.20 326 P **P** **17 07 27.9 +0.7**
comp=Z,0.3nm,0.6s,baz=131,slow=6.3,SNR=4.9
ESDC LR LR 17 30 43.5
comp=Z,96nm,18.7s,baz=128,slow=38
comp=Z,0.3nm,0.6s
SENIN Lac Senin/Sane 50.28 340 P **P** **17 07 27.6 -0.3**
VRAC Vranov 50.43 349 LR LR 17 32 12.6
comp=Z,41nm,19.4s,baz=164,slow=40
AKASG Malin Array Be 50.48 359 P **P** **17 07 28.9 -0.2**
comp=Z,0.2nm,0.4s,baz=187,slow=7.2,SNR=6.4
comp=Z,0.2nm,0.4s
GERES GERESS Array B 50.63 346 P **P** **17 07 29.7 -0.6**
comp=Z,0.8nm,0.9s,baz=170,slow=7.5,SNR=2.7
comp=Z,0.8nm,0.9s
PALK Pallekele 51.03 81 LR LR 17 29 11.5
comp=Z,32nm,18.1s,baz=62,slow=36
ABKAR Akbulak array 55.36 23 P **P** **17 08 05.4 +0.3**
KK31 Karatay Array 56.11 35 **P** **17 08 10.5 -0.2**
KK31 IAmb IAmb 17 08 19.9
comp=Z,6.2nm,0.9s
KKAR Karatay Array 56.11 35 P **P** **17 08 10.2 -0.6**
AAK Ala-Archa 58.19 37 LR LR 17 33 50.7
comp=Z,37nm,20.6s,baz=276,slow=36
ARTI Arti 60.66 18 P **P** **17 08 41.6 -0.6**
ARTI Arti 60.66 18 LR LR 17 36 32.0
comp=Z,44nm,20.8s,baz=220,slow=38
NOA NORSAR Array B 62.54 350 P **P** **17 08 53.6 -1.2**
comp=Z,0.6nm,0.7s,baz=161,slow=6.6,SNR=4.9
NOA LR LR 17 39 45.3
comp=Z,19nm,19.3s,baz=125,slow=40
comp=Z,0.6nm,0.7s
BVAR Borovoye Array 62.56 26 P **P** **17 08 53.5 -1.6**
comp=Z,1.2nm,0.7s,baz=220,slow=5.8,SNR=6.4
BVAR LR LR 17 38 59.5
comp=Z,39nm,19.2s,baz=232,slow=39
comp=Z,1.2nm,0.7s
KURBB Kurchatov Arra 65.00 32 P **P** **17 09 11.4 +0.3**
comp=Z,2.2nm,1.0s,baz=239,slow=6.7,SNR=9.4
comp=Z,2.2nm,1.0s
MKAR Makanchi Array 65.10 37 P **P** **17 09 11.8 -0.1**
MKAR Makanchi Array 65.10 37 P **P** **17 09 12.3 +0.4**
comp=Z,1.2nm,0.6s,baz=242,slow=5.4,SNR=11
MKAR LR LR 17 41 57.0
comp=Z,30nm,18.4s,baz=266,slow=40
comp=Z,1.2nm,0.6s
KURK Kurchatov 65.10 32 P **P** **17 09 11.0 -0.8**
KURK IAmb IAmb 17 09 24.3
comp=Z,5.1nm,1.2s
SYO Syowa Base 69.22 176⇓*eP* **P** **17 09 39.2 +1.6**
ARCES ARCESS Array B 69.44 358 P **P** **17 09 38.5 -0.6**
comp=Z,1.4nm,0.8s,baz=154,slow=8.7,SNR=4.9
comp=Z,1.4nm,0.8s
ZAA0 Zalesovo Array 70.04 31 P **P** **17 09 42.3 -0.7**
ZAA0 IAmb IAmb 17 09 51.0
comp=Z,7.4nm,1.4s
ZALV Zalesovo Beam 70.04 31 P **P** **17 09 41.8 -1.1**
ZALV Zalesovo Beam 70.04 31 P **P** **17 09 43.1 +0.1**
comp=Z,2.1nm,0.7s,baz=264,slow=4.5,SNR=10
comp=Z,2.1nm,0.7s
PZH PanZhiHua 73.64 62 P **P** **17 10 07.0 +1.6**
TROLL Troll, Antarti 74.03 189⇓P **P** **17 10 08.6 +1.8**
comp=Z,120nm,0.9s
GTA Gaotai 74.44 49 *eP* **P** **17 10 10.2 +0.4**
GTA pP sP 17 10 16.0 -1.5
GTA pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 74.62 190⇓P **P** **17 10 10.1 0.0**
comp=Z,16nm,1.0s
VNA1 Neumayer--Stat 74.87 192⇓P **P** **17 10 13.5 +2.1**
comp=Z,3.4nm,0.9s
VNA3 Neumayer Olymp 75.62 192⇓P **P** **17 10 16.9 +1.1**
comp=Z,2.5nm,0.6s
SONM Songino Array 80.83 42 P **P** **17 10 46.3 +1.0**
comp=Z,0.4nm,0.5s,baz=264,slow=2.5,SNR=2.0
comp=Z,0.4nm,0.5s
HHC Hu-ho-hao-te 83.56 49 *eP* **P** **17 11 01.7 +1.9**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,79nm,5.3s
QSPA South Pole Qui 90.06 180 P **P** **17 11 32.5 +1.6**
comp=Z,2.8nm,0.9s,baz=283,slow=1.7,SNR=12
comp=Z,2.8nm,0.9s
PCRV Puerto La Cruz 94.60 280 LR LR 17 49 13.6
comp=Z,112nm,21.0s,slow=32
TXAR Lajitas Array 127.09 308 PKP **PKiKP** **17 17 36.1 -0.7**
comp=Z,0.2nm,0.4s,baz=18,slow=1.5,SNR=5.0

*UPP **06** 17:01:23.5±0.1, 67.06N×20.96E, h0km, ML2.2, Unknown Suspected explosion*
*HEL **06** 17:01:23.7±0.5, 67.02N×20.58E, h0km, Explosion*
*IDC **06** 17:01:24.1±1.0, 67.06N×21.09E, h0km, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=16.1km s-min=8.3km az=109.0*

ISC 06 17:01:23.6±0.8, 67.06N±0.03×20.93E±0.03, h0km, n32, σ0s74/41, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.16**	**294**	P		**Pg**	**17 01 26.9**	**+0.3**
DUNU				S		**Sg**	**17 01 29.3**	**+0.7**
MASU	**Masugnsbyn**	**0.58**	**45**	P		**Pg**	**17 01 34.4**	**-0.3**
MASU				S		**Sg**	**17 01 42.2**	**+0.1**
ERTU	**Ertsjaerv**	**0.71**	**135**	P		**Pg**	**17 01 36.8**	**-0.4**
ERTU				S		**Sg**	**17 01 46.3**	**0.0**
HARU	**Harads**	**0.90**	**179**	P		**Pg**	**17 01 40.4**	**-0.4**
RATU	**Laukkuluspa**	**0.93**	**327**	P		**Pg**	**17 01 40.7**	**-0.7**
KUA	**Kurravaara**	**0.93**	**346**	P		**Pg**	**17 01 40.6**	**-0.8**
SALU	**Saltoluokta**	**1.00**	**290**	P		**Pg**	**17 01 42.3**	**-0.4**
SALU	**Saltoluokta**	**1.00**	**290**	*eP*		**Pg**	**17 01 42.4**	**-0.3**
LANU	**Lannavaara**	**1.07**	**22**	P		**Pg**	**17 01 43.3**	**-0.9**
LANU	**Lannavaara**	**1.07**	**22**	*eP*		**Pb**	**17 01 44.9**	**-0.2**
LANU				*eS*		**Sb**	**17 02 00.1**	**+0.5**
NIKU	**Nikkaluokta**	**1.09**	**319**	P		**Pg**	**17 01 43.8**	**-0.8**
KLF	**Kolari**	**1.20**	**80**	*eP*		**Pb**	**17 01 46.9**	**-0.2**
KLF				*eS*		**Sn**	**17 02 05.4**	**+0.9**
KOVU	**Salmi**	**1.21**	**346**	P		**Pg**	**17 01 45.7**	**-1.0**
KALU	**Kalix**	**1.55**	**140**	P		**Pn**	**17 01 51.9**	**-0.5**
SJUU	**Sjulsmark**	**1.58**	**170**	P		**Pn**	**17 01 52.5**	**-0.3**
SJUU	**Sjulsmark**	**1.58**	**170**	*eP*		**Pn**	**17 01 52.6**	**-0.2**
TOF	**Tornio**	**1.67**	**124**	*eP*		**Pg**	**17 01 55.7**	**+0.1**
TOF				*eS*		**Sg**	**17 02 17.9**	**+0.5**
TOF				MSG			17 02 21.6	
HEF	**Hetta**	**1.71**	**36**	*eP*		**Pn**	**17 01 54.2**	**-0.4**
HEF	**Hetta**	**1.71**	**36**	*eS*		**Sg**	**17 02 18.8**	**+0.4**
HEF				MSG			17 02 23.5	
KIF	**Kilpisjarvi**	**1.96**	**359**	*eP*		**Pb**	**17 01 59.7**	**-0.3**
KIF				*eS*		**Sb**	**17 02 25.1**	**+0.2**
KIF				MSG			17 02 33.9	
RNF	**Rovaniemi**	**2.06**	**100**	*eP*		**Pn**	**17 02 00.2**	**+0.8**
RNF				*eS*		**Sg**	**17 02 29.6**	**-0.1**
RNF				MSG			17 02 36.4	
I37NO	**I37NO**	**2.21**	**338**	I		I	17 15 00.0	
	baz=157,slow=324,SNR=1.9							
SGF	**Sodankyl**	**2.21**	**77**	*eP*		**Pn**	**17 02 02.7**	**+1.3**
SGF				MSG			17 02 40.0	
RANF	**Ranua**	**2.57**	**111**	*eS*		**Sb**	**17 02 41.4**	**-1.1**
OBF0	**Syolatti, Pyha**	**2.91**	**151**	*eS*		**Sn**	**17 02 46.5**	**-0.1**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn		**Pn**	**17 02 12.6**	**+0.1**
	0.3nm,0.3s,baz=212,slow=14,SNR=50							
ARCES				Sn		**Sn**	**17 02 50.1**	**+0.8**
	1.6nm,0.3s,baz=213,slow=25,SNR=11							
	1.3nm,0.2s							
KEF	**Keuruu**	**5.19**	**159**	*eP*		**Pn**	**17 02 43.7**	**+1.3**
JOF	**Joensuu**	**6.05**	**129**	*eP*		**Pn**	**17 02 55.6**	**+1.5**
FINES	**FINESS Array B**	**6.06**	**156**	Pn		**Pn**	**17 02 55.0**	**+0.7**
	0.1nm,0.3s,baz=345,slow=13,SNR=9.4							
FINES				Sn		**Sn**	**17 04 03.4**	**-1.0**
	0.4nm,0.3s,baz=355,slow=21,SNR=6.3							
FINES				Lg		Lg	17 04 35.0	
	0.4nm,0.3s,baz=344,slow=28,SNR=3.4							
	2.4nm,1.1s							
RAF	**Rauma**	**6.07**	**176**	*eP*		**Pn**	**17 02 56.2**	**+1.8**
NOA	**NORSAR Array B**	**7.38**	**220**	Pn		**Pn**	**17 03 11.8**	**-0.7**
	baz=30,slow=11,SNR=4.0							
NOA				Lg		Lg	17 05 19.4	
	baz=343,slow=7.0,SNR=3.4							
	0.2nm,0.7s							
HFS	**Hagfors**	**7.66**	**208**	Pn		**Pn**	**17 03 15.5**	**-0.8**
	0.1nm,0.3s,baz=39,slow=14,SNR=5.9							
	1.1nm,0.7s							

*SOME **06** 17:08:38.4, 41.82N×72.60E, h10km*
*KRNET **06** 17:08:38.4±0.1, 41.75N×72.55E, h21km, mb2.3*
*NNC **06** 17:08:39.1±2.4, 41.76N×72.64E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=22.8km s-min=8.9km az=152.0*

ISC 06 17:08:38.4±1.3, 41.76N±0.04×72.61E±0.04, h9km±12km, n10, σ0s72/18, 4C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARSB	**Arslanbob**	**0.52**	**148**	⇓*iP*		**Pg**	**17 08 48.9**	**+0.4**
ARSB				⇓*iS*		**Sb**	**17 08 56.7**	**-0.7**
MRKS	**Merke**	**1.08**	**25**	P		**Pg**	**17 08 59.2**	**0.0**
	2.2nm,0.2s							
MRKS				S		**Sb**	**17 09 14.0**	**+0.5**
	6.6nm,0.3s							
MRKS	**Merke**	**1.08**	**25**	*eP*		**Pg**	**17 08 59.2**	**0.0**
	2.2nm,0.2s							
MRKS				*eS*		**Sb**	**17 09 14.0**	**+0.5**
	6.6nm,0.3s							
SALK	**Salom-Alik**	**1.27**	**134**	⇓*iP*		**Pn**	**17 09 02.2**	**-0.2**
SALK				⇓*iS*		**Sn**	**17 09 19.6**	**0.0**
UCH	**Uchtor**	**1.49**	**71**	⇑*iP*		**Pb**	**17 09 06.5**	**0.0**
UCH				⇑*iS*		**Sg**	**17 09 26.9**	**+0.5**
IUG	**Iuzhnay**	**1.96**	**282**	Pg		**Pg**	**17 09 15.9**	**-0.2**
	8.4nm,0.2s							
IUG				Lg		Lg	17 09 41.5	
	14nm,0.2s							
CHMS	**Chumysh**	**2.01**	**51**	⇑*iP*		**Pb**	**17 09 14.3**	**-0.8**
CHMS				⇑*iS*		**Sb**	**17 09 40.3**	**+0.1**
KK31	**Karatay Array**	**2.05**	**311**	Pn		**Pb**	**17 09 16.1**	**+0.3**
	0.6nm,0.3s,baz=130,slow=15,SNR=12							
KK31				⇓Sn		**Sg**	**17 09 44.0**	**-0.4**
	1.3nm,0.2s,baz=134,slow=28,SNR=9.0							
KST	**Kastek**	**2.79**	**62**	Pg		**Pg**	**17 09 30.8**	**-1.1**
	1.1nm,0.4s							
KST				Lg		Lg	17 10 07.3	
	6.1nm,0.5s							
KST	**Kastek**	**2.79**	**62**	*eP*		**Pb**	**17 09 30.3**	**+1.8**
	1.1nm,0.4s							
KST				*eS*		**Sg**	**17 10 07.3**	**-0.7**
	6.1nm,0.5s							

*IDC **06** 17:20:56.3±0.8, 5.93S×107.18W, h0km, mb4.0/10, mbtmp4.0/10, MS4.3/45, Error ellipse: s-maj=34.9km s-min=19.7km az=73.0*
*NEIC **06** 17:20:57.0±1.3, 6.15S±0.1×107.3W±0.1, h10km±1km, mb4.9/166, Error ellipse: s-maj=21.9km s-min=18.7km az=272.0*
*GCMT **06** 17:21:00.0±0.2, 6.17S±0.01×107.28W±0.01, h14km±1km, MW5.1/127, Moment Tensor Solution. s75,c105; s127,c199; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.02±.10; Mθθ 1.57±.09; Mϕϕ -1.55±.11; Mrθ 1.03±.23; Mθϕ 4.60±.10; Mϕr 0.62±.22; Best double couple: Mo 4.99700×10^16 NP1:ϕs 9.00000°, δ80.00000°, λ172.00000°. NP2:ϕs 100.00000°, δ82.00000°, λ10.00000°. Principal axes: T 5.1440, Plg13.0000°, Azm324.0000°; N -0.2960, Plg77.0000°, Azm139.0000°; P -4.8490, Plg1.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:20:56.3±0.5, 6.03S±0.09×107.32W±0.08, h10km, n191, σ1s24/98, mb4.8/88, MS4.4/45, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TLIG	**Tlapa**	**24.99**	**20**	P		**P**	**17 26 20.2**	**-0.4**
TLIG				IAmb		IAmb	17 26 33.7	
	comp=Z,32nm,1.5s							
CMIG	**Matias Romero**	**26.06**	**28**	LR		LR	17 34 32.5	
	comp=Z,899nm,20.1s,baz=196,slow=32							
CCIG	**Comitan**	**26.79**	**34**	P		**P**	**17 26 33.3**	**-3.7**
CCIG				IAmb		IAmb	17 27 01.7	
	comp=Z,40nm,1.6s							
MTO3	**Montecristo**	**27.01**	**41**	P		**P**	**17 26 39.0**	**-0.1**
ESQI	**Esquipulas**	**27.14**	**41**	P		**P**	**17 26 39.9**	**-0.2**
JTS	**Las Juntas de**	**27.56**	**54**	LR		LR	17 35 02.2	
	comp=Z,2μm,18.3s,baz=228,slow=31							
COHC	**Cochancay**	**28.21**	**84**	P		**P**	**17 26 49.7**	**+0.1**
ATAH	**Atahualpa**	**28.76**	**94**	LR		LR	17 35 39.0	
	comp=Z,349nm,18.3s,baz=264,slow=31							
LPIG	**La Paz**	**30.09**	**355**	LR		LR	17 36 09.1	
	comp=Z,856nm,20.6s,baz=176,slow=30							
NNA	**Nana**	**30.66**	**103**	LR		LR	17 36 08.8	
	comp=Z,351nm,18.4s,baz=275,slow=30							
TAOE	**Nuku Hiva Isla**	**32.66**	**263**	*eLR*		LR	17 35 48.5	
	comp=Z,952nm,25.6s							
CZSB	**Crucero do Su**	**34.40**	**95**			**P**	**17 27 43.8**	**-0.4**
ROSC	**El Rosal**	**34.68**	**73**	LR		LR	17 39 13.9	
	comp=Z,680nm,18.4s,baz=243,slow=32							
TX31	**Lajitas Ar. Si**	**35.34**	**6**	P		**P**	**17 27 52.0**	**-0.2**
TXAR	**Lajitas Array**	**35.34**	**6**			**P**	**17 27 51.9**	**-0.2**
TXAR	**Lajitas Array**	**35.34**	**6**	P		**P**	**17 27 53.9**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=184,slow=12,SNR=7.5							
TXAR				LR		LR	17 39 44.8	
	comp=Z,263nm,19.7s,baz=187,slow=32							
	comp=Z,0.5nm,0.9s							
DRIO	**Del Rio**	**35.84**	**10**	P		**P**	**17 27 57.3**	**+1.0**
SAND	**Sanderson**	**36.13**	**8**			**P**	**17 27 58.6**	**-0.2**
SAND				IAmb		IAmb	17 28 15.3	
	comp=Z,15nm,1.0s							
ALPN	**Alpine**	**36.37**	**5**	P		**P**	**17 28 00.5**	**-0.6**
VHRN	**Van Horn**	**36.68**	**3**			**P**	**17 28 03.7**	**0.0**
VHRN				IAmb		IAmb	17 28 18.5	
	comp=Z,16nm,1.3s							
319A	**Douglas**	**37.24**	**357**			**P**	**17 28 07.7**	**-0.7**
319A				IAmb		IAmb	17 28 23.8	
	comp=Z,16nm,1.1s							
H03N2	**Juan Fernandez**	**37.92**	**140**	T		T	18 08 18.7	
	baz=313,slow=77,SNR=63							
H03N1	**Juan Fernandez**	**37.94**	**140**	T		T	18 08 20.5	
	baz=313,slow=77,SNR=67							
H03N3	**Juan Fernandez**	**37.94**	**140**	T		T	18 08 19.8	
	baz=313,slow=77,SNR=65							
BRDY	**Brady**	**37.95**	**12**			**P**	**17 28 14.7**	**+0.3**
SGCY	**Sterling City**	**38.20**	**9**			**P**	**17 28 16.9**	**+0.5**
SGCY				IAmb		IAmb	17 28 31.4	
	comp=Z,14nm,1.0s							
DUN6	**Lazy B Ranch**	**38.41**	**358**			**P**	**17 28 18.8**	**+0.5**
HMBC	**Humberstone**	**38.98**	**115**	P		**P**	**17 28 23.2**	**-0.1**
HMBC				IAmb		IAmb	17 28 34.2	
	comp=Z,42nm,1.5s							
PB11	**IPOC Station P**	**39.05**	**114**	P		**P**	**17 28 23.1**	**-0.9**
PB11				IAmb		IAmb	17 28 34.4	
	comp=Z,20nm,1.1s							
POST	**Post**	**39.27**	**8**	P		**P**	**17 28 24.8**	**-0.7**
SN07	**Snyder 07**	**39.38**	**9**	P		**P**	**17 28 26.8**	**+0.4**
SN07				IAmb		IAmb	17 28 37.2	
	comp=Z,47nm,1.8s							
GO01	**Chusmiza**	**39.45**	**114**	P		**P**	**17 28 26.3**	**-1.3**
SDV	**Santo Domingo**	**39.46**	**68**	LR		LR	17 43 08.6	
	comp=Z,442nm,20.6s,baz=246,slow=34							
PB01	**IPOC Station P**	**39.56**	**116**	P		**P**	**17 28 27.8**	**-0.3**
PB01				IAmb		IAmb	17 28 40.2	
	comp=Z,40nm,1.2s							
PB08	**IPOC Station P**	**39.61**	**114**	P		**P**	**17 28 27.5**	**-1.3**
PB08				IAmb		IAmb	17 28 40.7	
	comp=Z,21nm,1.1s							
LPAZ	**La Paz**	**39.70**	**108**	P		**P**	**17 28 30.0**	**0.0**
LPAZ	**La Paz**	**39.70**	**108**	P		**P**	**17 28 29.8**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=271,slow=7.0,SNR=5.3							
LPAZ				LR		LR	17 41 23.4	
	comp=Z,355nm,20.2s,baz=267,slow=31							
	comp=Z,1.1nm,0.7s							
Y22A	**Socorro**	**39.75**	**0**	P		**P**	**17 28 31.4**	**+1.8**
CRNM	**Carthage**	**39.77**	**1**	P		**P**	**17 28 27.6**	**-2.1**
SBM	**South Baldy**	**39.79**	**0**	P		**P**	**17 28 28.8**	**-1.3**
DKNS	**Dickens**	**39.95**	**8**	P		**P**	**17 28 31.2**	**+0.1**
DKNS				IAmb		IAmb	17 28 42.4	
	comp=Z,54nm,2.0s							
BNM	**Barren Site**	**39.97**	**1**	P		**P**	**17 28 30.6**	**-0.9**
MSTX	**Muleshoe**	**40.02**	**6**			**P**	**17 28 31.4**	**-0.3**
MSTX				IAmb		IAmb	17 28 45.9	
	comp=Z,30nm,1.5s							
BC3	**Big Chuckawall**	**40.22**	**349**	P		**P**	**17 28 34.4**	**+1.0**
BC3				IAmb		IAmb	17 28 53.1	
	comp=Z,36nm,1.9s							
PFO	**Pinyon Flats O**	**40.37**	**348**	LR		LR	17 41 16.2	
	comp=Z,719nm,21.0s,baz=165,slow=30							
PMD	**Palm Desert**	**40.39**	**348**	P		**P**	**17 28 35.0**	**+0.3**
X16A	**Lo Mia Camp, P**	**40.42**	**355**	P		**P**	**17 28 34.6**	**-0.5**
X18A	**Snowflake**	**40.42**	**357**	P		**P**	**17 28 34.4**	**-0.7**
ANMO	**Albuquerque**	**40.77**	**1**	LR		LR	17 42 57.4	
	comp=Z,611nm,18.7s,baz=278,slow=32							
WMOK	**Wichita Mounta**	**41.35**	**11**	P		**P**	**17 28 43.4**	**+0.9**
W13A	**Hualapai Mount**	**41.38**	**352**			**P**	**17 28 43.1**	**+0.1**
BAUV	**El Baul**	**41.89**	**70**	P		**P**	**17 28 46.0**	**-1.3**
GSC	**Goldstone, Bar**	**42.07**	**348**	P		**P**	**17 28 47.7**	**-0.9**
GSC				IAmb		IAmb	17 29 04.1	
	comp=Z,35nm,1.9s							
V12A	**Nelson**	**42.14**	**351**			**P**	**17 28 48.5**	**-0.7**
MIAR	**Mount Ida**	**42.40**	**17**	P		**P**	**17 28 51.3**	**+0.2**
U15A	**North Rim**	**42.49**	**354**			**P**	**17 28 52.1**	**-0.1**
ELIS	**Ellis County**	**42.53**	**9**	P		**P**	**17 28 53.9**	**+1.6**
QSM	**Queen of Sheba**	**42.73**	**349**	P		**P**	**17 28 54.4**	**+0.6**
QSM				IAmb		IAmb	17 29 11.2	
	comp=Z,27nm,1.6s							
PPT	**Papeete**	**42.81**	**251**	LR		LR	17 42 04.8	
	comp=Z,551nm,18.9s,baz=88,slow=30							
PPT2	**Papeete2**	**42.82**	**251**	*eS*		**S**	**17 35 14.4**	**-5.2**
	comp=Z,129nm,27.2s							
PPT2				*eSS*		**SS**	**17 38 33.9**	**+3.1**
	comp=Z,1μm,27.5s							
PPT2				*eLR*		LR	17 40 42.3	
	comp=Z,1μm,24.5s							
PPT2				*eLR*		LR	17 40 49.1	
	comp=Z,1μm,26.5s							
MVCO	**Mesa Verde**	**43.03**	**359**	IAmb		IAmb	17 29 11.5	
	comp=Z,38nm,1.5s							
KNB	**Kanab**	**43.13**	**354**	P		**P**	**17 28 56.6**	**-0.7**
KNB				IAmb		IAmb	17 29 09.8	
	comp=Z,33nm,1.7s							
WHAR	**Wooly Hollow**	**43.47**	**18**			**P**	**17 29 00.1**	**+0.3**
WHAR				IAmb		IAmb	17 29 11.0	
	comp=Z,48nm,1.6s							
PKCU	**Pink Cliffs**	**43.50**	**354**	IAmb		IAmb	17 29 15.6	
	comp=Z,53nm,1.8s							
S22A	**4UR Ranch, Cre**	**43.56**	**1**			**P**	**17 29 01.3**	**+0.5**
SDCO	**Great Sand Dun**	**43.59**	**2**	P		**P**	**17 29 01.1**	**+0.1**
PRN	**Pahroc Range**	**43.81**	**351**	IAmb		IAmb	17 29 24.4	
	comp=Z,23nm,1.6s							
T35A	**Sooner Cattle**	**43.91**	**13**	P		**P**	**17 29 04.0**	**+0.6**
T35A				IAmb		IAmb	17 29 16.7	
	comp=Z,24nm,1.3s							
PV05	**Paradox Valley**	**43.92**	**358**	IAmb		IAmb	17 30 29.3	
	comp=Z,13nm,0.8s							
PV01	**Paradox Valley**	**43.96**	**359**	P		**P**	**17 29 05.1**	**+1.1**
PV13	**Radium Mtn., P**	**43.99**	**358**	P		**P**	**17 29 04.7**	**+0.5**
PV13				IAmb		IAmb	17 30 21.0	
	comp=Z,15nm,0.9s							
TBI	**Tubuai**	**44.03**	**243**	*eS*		**S**	**17 35 35.4**	**-1.7**
	comp=Z,804nm,28.0s							
TBI				*eSS*		**SS**	**17 38 53.0**	**-1.3**
	comp=Z,1μm,39.0s							
TBI				*eLR*		LR	17 41 12.0	
	comp=Z,6μm,27.5s							
LMEL	**Las Melosas**	**44.12**	**134**	P		**P**	**17 29 06.2**	**+0.9**
LMEL				IAmb		IAmb	17 29 16.6	
	comp=Z,21nm,1.3s							
PV19	**Morning Glory**	**44.14**	**358**	P		**P**	**17 29 05.6**	**+0.2**
LCAR	**Lake Charles**	**44.55**	**19**			**P**	**17 29 09.4**	**+1.0**
LCAR				IAmb		IAmb	17 29 18.1	
	comp=Z,17nm,1.2s							
CBKS	**Cedar Bluff**	**45.17**	**8**			**P**	**17 29 14.9**	**+1.4**
MGMO	**Mountain Grove**	**45.21**	**17**	IAmb		IAmb	17 29 23.4	
	comp=Z,31nm,1.6s							
SPR3	**Spring Creek 3**	**45.27**	**352**	IAmb		IAmb	17 29 35.1	
	comp=Z,13nm,1.3s							
NVAR	**Mina Array Bea**	**45.40**	**348**	P		**P**	**17 29 15.5**	**0.0**
NVAR	**Mina Array Bea**	**45.40**	**348**	P		**P**	**17 29 18.0**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=178,slow=10,SNR=8.3							
NVAR				LR		LR	17 44 31.9	
	comp=Z,508nm,18.1s,baz=165,slow=31							
	comp=Z,1.9nm,0.8s							
P18A	**Preston Nutter**	**45.51**	**357**	IAmb		IAmb	17 30 29.0	
	comp=Z,10nm,0.8s							
ISCO	**Idaho Springs**	**45.63**	**2**	IAmb		IAmb	17 29 54.0	
	comp=Z,10nm,0.7s							
CCM	**Cathedral Cave**	**46.35**	**18**			**P**	**17 29 23.2**	**+0.5**
CCM				IAmb		IAmb	17 29 31.8	
	comp=Z,11nm,1.0s							
SIV	**San Ignacio**	**46.37**	**106**	LR		LR	17 46 02.0	
	comp=Z,338nm,21.9s,baz=293,slow=32							
BSUT	**Blindstream Ca**	**46.45**	**356**	IAmb		IAmb	17 30 26.1	
	comp=Z,9.6nm,0.7s							
PAHR	**Pah Rah Range**	**46.86**	**347**			**P**	**17 29 26.9**	**0.0**
VILB	**Vilhena**	**46.92**	**102**			**P**	**17 29 26.7**	**-1.0**
TKL	**Tuckaleechee C**	**47.01**	**26**	LR		LR	17 48 48.7	
	comp=Z,123nm,19.2s,baz=189,slow=36							
ELK	**Elko**	**47.11**	**352**			**P

G08A Pilot Rock 52.15 350 lAmb lAmb 17 30 20.8
comp=Z,23nm,1.9s
RAR Rarotonga 52.91 248 LR LR 17 46 41.7
comp=Z,299nm,21.2s,baz=106,slow=29
M57A Sunshine Farm, 54.65 28 lAmb lAmb 17 30 40.1
comp=Z,18nm,1.3s
NEW Newport 54.75 352 LR LR 17 50 13.0
comp=Z,334nm,19.9s,baz=168,slow=32
MDP Montagnes des 55.70 80 LR LR 17 52 37.8
comp=Z,299nm,18.2s,baz=280,slow=34
SADO Sadowa 56.55 24 LR LR 17 54 58.5
comp=Z,269nm,18.2s,baz=196,slow=36
BDFB Brasilia 58.87 105 **P** **17 30 54.9 -1.2**
BDFB Brasilia 58.87 105 P **P** **17 30 57.9 +1.8**
comp=Z,1.4nm,0.3s,baz=264,slow=10,SNR=4.2
BDFB LR LR 17 53 31.8
comp=Z,325nm,20.8s,baz=277,slow=33
comp=Z,1.4nm,0.3s
BBB Bella Bella 60.65 345 LR LR 17 52 38.6
comp=Z,126nm,19.1s,baz=177,slow=31
BATG Bathurst New B 64.37 30 P **P** **17 31 32.8 +0.3**
PMSA Palmer Station 66.13 161 LR LR 17 53 42.3
comp=Z,747nm,18.4s,baz=290,slow=30
DLBC Dease Lake 66.81 347 LR LR 17 58 24.5
comp=Z,41nm,18.2s,baz=128,slow=34
R33M Jennings River 67.89 347 **P** **17 31 56.0 +1.0**
YKA Yellowknife Ar 68.56 356 P **P** **17 31 59.3 +0.4**
comp=Z,1.3nm,0.8s,baz=174,slow=5.7,SNR=5.0
YKA LR LR 18 00 00.8
comp=Z,550nm,18.1s,baz=146,slow=34
comp=Z,1.3nm,0.8s
SCHQ Schefferville 69.36 24 P **P** **17 32 03.8 -0.3**
SCHQ lAmb lAmb 17 32 32.0
comp=Z,12nm,1.1s
SCHQ Schefferville 69.36 24 P **P** **17 32 03.3 -0.9**
comp=Z,2.4nm,0.7s,baz=236,slow=7.3,SNR=3.9
SCHQ LR LR 18 02 02.2
comp=Z,175nm,20.4s,baz=256,slow=36
comp=Z,2.4nm,0.7s
RAO Raoul Island 70.15 241 LR LR 17 54 55.2
comp=Z,221nm,20.6s,baz=77,slow=29
MMPY Sheldon Lake, 70.87 349 lAmb lAmb 17 32 26.3
comp=Z,20nm,1.7s
N30M Aishikik Lake 71.15 345 lAmb lAmb 17 32 28.4
comp=Z,16nm,1.6s
O28M Mount Upton 71.40 344 P **P** **17 32 17.0 +0.1**
O28M lAmb lAmb 17 32 30.1
comp=Z,17nm,1.2s
M30M Minto, Yukon 72.04 346 lAmb lAmb 17 32 33.3
comp=Z,27nm,1.9s
M29M Somme Creek 72.33 345 lAmb lAmb 17 32 38.1
comp=Z,9.4nm,1.4s
L29M L29M 72.82 346 **P** **17 32 25.4 +0.4**
BMRM Bremner River 72.85 342 P **P** **17 32 26.1 +0.9**
M27K Edge Creek, AK 73.16 344 lAmb lAmb 17 32 45.4
comp=Z,28nm,1.8s
KDAK Kodiak Island 73.33 337 LR LR 17 57 42.7
comp=Z,644nm,18.5s,baz=137,slow=30
M26K Nabesna, AK 73.51 344 lAmb lAmb 17 32 44.4
comp=Z,29nm,1.9s
BCAR Beaver Creek A 73.71 344 P **P** **17 32 31.2 +0.9**
L27K Beaver Creek, 73.72 344 lAmb lAmb 17 32 42.9
comp=Z,19nm,1.6s
DAWY Dawson 73.93 346 lAmb lAmb 17 32 44.1
comp=Z,15nm,1.3s
I30M Mount Demmer 74.23 348 lAmb lAmb 17 33 52.9
comp=Z,5.4nm,0.7s
URZ Urewera 74.96 232 LR LR 18 00 14.3
comp=Z,317nm,18.1s,baz=100,slow=31
FRB Frobisher Bay 75.45 17 LR LR 18 04 52.2
comp=Z,218nm,18.7s,baz=208,slow=35
J25K Salcha River, 75.91 344 lAmb lAmb 17 32 55.1
comp=Z,13nm,1.4s
H27K Steamboat Moun 76.23 346 lAmb lAmb 17 32 56.4
comp=Z,8.7nm,1.1s
INK Inuvik 76.42 350 LR LR 18 03 37.5
comp=Z,406nm,19.5s,baz=144,slow=34
ILAR Eielson Array 76.45 344 P **P** **17 32 46.3 +0.3**
ILAR Eielson Array 76.45 344 P **P** **17 32 46.0 0.0**
comp=Z,1.1nm,1.1s,baz=161,slow=4.9,SNR=6.3
ILAR LR LR 18 00 23.2
comp=Z,209nm,18.6s,baz=124,slow=31
comp=Z,1.1nm,1.1s
NEA2 Nenana 76.94 343 lAmb lAmb 17 33 00.6
comp=Z,7.7nm,1.1s
K20K Telida 77.64 340 lAmb lAmb 17 33 04.2
comp=Z,12nm,1.2s
MLY Manley 77.75 343 lAmb lAmb 17 33 05.3
comp=Z,14nm,1.3s
BMAR Burnt Mountain 77.92 346 P **P** **17 32 54.0 -0.3**
F26K Sheenjek River 78.03 346 lAmb lAmb 17 33 07.5
comp=Z,24nm,1.9s
G24K Hadweenzie Riv 78.08 345 lAmb lAmb 17 33 08.6
comp=Z,22nm,1.5s
J20K Nowinta River 78.22 341 lAmb lAmb 17 33 10.3
comp=Z,22nm,1.8s
J18K Innoko River 78.61 340 lAmb lAmb 17 33 09.8
comp=Z,12nm,1.4s
F24K Squaw Lake 78.80 345 lAmb lAmb 17 33 17.6
comp=Z,12nm,1.5s
E24K Your Creek 79.37 345 lAmb lAmb 17 33 22.3
comp=Z,13nm,1.4s
J17K VABM Dome 79.40 339 P **P** **17 33 03.1 +0.7**
J17K lAmb lAmb 17 33 15.2
comp=Z,21nm,1.3s
E23K Chandalar 79.65 345 **P** **17 33 04.2 +0.5**
H18K Honhosa River 80.24 341 lAmb lAmb 17 33 20.2
comp=Z,12nm,1.1s
E22K Anaktuvuk Pass 80.27 345 P **P** **17 33 07.9 +0.7**
E22K lAmb lAmb 17 33 19.6
comp=Z,16nm,1.6s
G19K Purcell Mounta 80.45 342 lAmb lAmb 17 33 20.9
comp=Z,14nm,1.2s
D23K Nanushuk River 80.58 345 lAmb lAmb 17 33 21.2
comp=Z,15nm,1.4s
F20K Avaraart Lake 80.62 343 lAmb lAmb 17 33 26.2
comp=Z,31nm,1.9s
RES Resolute Bay 80.94 3 LR LR 18 08 21.3
comp=Z,172nm,18.8s,baz=217,slow=35
E21K Killik River 81.07 344 P **P** **17 33 12.2 +0.9**
E21K lAmb lAmb 17 33 21.0
comp=Z,21nm,1.9s
E18K Tukpahlearik C 82.34 342 lAmb lAmb 17 33 31.0
comp=Z,7.8nm,1.1s
SFJD Kangerlussuaq 83.19 19 LR LR 18 10 13.7
comp=Z,178nm,18.8s,baz=238,slow=36
C18K Utukok River 83.25 343 P **P** **17 33 24.2 +1.3**
QSPA South Pole Qui 84.03 180 P **P** **17 33 27.1 +0.1**
QSPA South Pole Qui 84.03 180 P **P** **17 33 29.3 +2.3**
comp=Z,4.1nm,0.9s,baz=166,slow=2.0,SNR=8.7
QSPA LR LR 18 03 39.7
comp=Z,210nm,20.6s,baz=112,slow=30
comp=Z,4.1nm,0.9s
DZM Mont Dzumac 84.28 248 *e*LR LR 18 00 04.5
comp=Z,181nm,23.2s
VNDA Vanda 84.33 193 **P** **17 33 28.7 +0.5**
VNDA lAmb lAmb 17 33 49.0
comp=Z,13nm,1.6s
VNDA Vanda 84.33 193 P **P** **17 33 31.4 +3.2**
comp=Z,0.7nm,0.8s,baz=146,slow=3.0,SNR=5.0
comp=Z,0.7nm,0.8s
H11N3 WAKE ISLAND Hy 88.04 290 T T 19 11 16.7
baz=98,slow=74,SNR=20
H11N2 WAKE ISLAND Hy 88.06 290 T T 19 11 12.2
baz=98,slow=74,SNR=24
H11N1 WAKE ISLAND Hy 88.06 290 T T 19 11 20.0
baz=98,slow=74,SNR=20
H11S2 WAKE ISLAND Hy 88.09 289 T T 19 11 20.5
baz=98,slow=75,SNR=30
H11S1 WAKE ISLAND Hy 88.09 289 T T 19 11 17.5
baz=98,slow=75,SNR=26
H11S3 WAKE ISLAND Hy 88.10 289 T T 19 11 13.7
baz=98,slow=75,SNR=26
SNAA Sanae 88.83 162 LR LR 18 07 02.4
comp=Z,319nm,19.1s,baz=289,slow=31
HNR Honiara 91.70 260 LR LR 18 08 39.3
comp=Z,78nm,18.1s,baz=58,slow=31
BORG Borgarnes 93.70 25 LR LR 18 14 51.8
comp=Z,46nm,19.8s,baz=286,slow=35
PETK Petropavlovsk- 97.78 326 LR LR 18 09 45.4
comp=Z,146nm,21.9s,baz=92,slow=30
JMIC Jan Mayen 98.55 19 LR LR 18 18 20.6
comp=Z,121nm,19.9s,baz=290,slow=35
SONM Songino Array 129.38 331 PKP **PKiKP** **17 40 07.6 +1.3**
comp=Z,1.2nm,1.1s,baz=72,slow=4.7,SNR=6.1
MKAR Makanchi Array 138.55 350 PKP **PKPdf** **17 40 22.3 -0.4**
comp=Z,0.5nm,0.8s,baz=2.9,slow=2.4,SNR=3.7
CMAR Chiang Mai Arr 151.57 298 **PKPdf** **17 40 43.2 -2.5**
CMAR Chiang Mai Arr 151.57 298 PKPbc **PKPbc** **17 40 52.2 +0.3**
comp=Z,0.6nm,0.4s,baz=112,slow=0.6,SNR=4.8

*IDC **06** 17:32:39.9±0.7,7°.51N×126°.37E, h0km, mb4.0/15, mbtmp4.0/15, MS3.7/10, Error ellipse: s-maj=16.1km s-min=9.5km az=136.0*
*DJA **06** 17:32:46.5±1.8,8°.1N×16°.12'6E±°, h44km±14km, M4.9/15, mb5.0/15, mB5.3/7, MLv5.1/8, Mw(mB)4.7/7*
*NEIC **06** 17:32:49.5±1.4,7°.29N±0°.03×125°.5E±0°.1, h63km±6km, mb4.3/20, Error ellipse: s-maj=16.4km s-min=1.7km az=73.0*
ISC 06 17:32:46.2±0.5,7°.47N±0°.06×125°.79E±0°.10, h35km, n80, σ1§99/75, mb4.2/25, MS4.1/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**0.45**	**208**			**Pn**	**17 32 59.2**	**+3.1**
DAV	**Davao City (W)**	**0.45**	**208**	Pg		**Pn**	**17 32 58.9**	**+2.9**
	4μm,0.3s,baz=356,slow=1.6,SNR=186							
DAV				Lg		Lg	17 33 08.3	
	2μm,0.3s,baz=133,slow=22,SNR=9.0							
DAV				LR		LR	17 33 16.6	
	comp=Z,2μm,21.4s,baz=298,slow=41							
DAV	**Davao City (W)**	**0.45**	**208**	P		**Pn**	**17 32 59.2**	**+3.1**
DAV	**Davao City (W)**	**0.45**	**208**	P		**Pn**	**17 32 55.0**	**-1.1**
SGSI	**Sangihe**	**3.76**	**184**	P		**Pn**	**17 33 45.0**	**+3.2**
TNTI	**Ternate**	**6.83**	**167**			**Pn**	**17 34 25.7**	**+1.7**
TNTI						**Sn**	**17 35 40.7**	**+0.1**
TNTI	**Ternate**	**6.83**	**167**	P		**Pn**	**17 34 25.1**	**+1.1**
TNTI	**Ternate**	**6.83**	**167**	P		**Pn**	**17 34 26.9**	**+2.9**
	0.4nm73nm,0.5s							
KMSI	**Cibinong**	**7.08**	**195**	P		**Pn**	**17 34 28.5**	**+1.2**
	0.9nm183nm,0.7s							
MYLDM	**Lahad Datu**	**7.59**	**253**	Pn		**Pn**	**17 34 30.8**	**-3.7**
MRSI	**Marisa**	**7.93**	**209**	P		**Pn**	**17 34 40.4**	**+1.3**
	0.6nm2μm86nm,0.8s							
TOLI2	**Tolitoli**	**8.05**	**219**	Pn		**Pn**	**17 34 39.2**	**-1.5**
TOLI2	**Tolitoli**	**8.05**	**219**	P		**Pn**	**17 34 39.1**	**-1.5**
LBMI	**Labuha**	**8.23**	**168**	P		**Pn**	**17 34 46.5**	**+3.4**
LUWI	**Luwuk**	**8.97**	**200**	P		**Pn**	**17 34 56.0**	**+2.7**
	136nm,0.9s							
MPSI	**Mapaga**	**9.20**	**220**	P		**Pn**	**17 34 56.2**	**-0.3**
	9.6nm,0.8s							
APSI	**Ampana**	**9.29**	**207**	P		**Pn**	**17 34 59.6**	**+1.9**
	39nm,0.7s							
SANI	**Sanana**	**9.45**	**179**	P		**Pn**	**17 34 58.5**	**-1.5**
SANI	**Sanana**	**9.45**	**179**	P		**Pn**	**17 34 58.9**	**-1.1**
	1μm41nm,0.6s							
SWI	**Sorong**	**9.91**	**146**	P		**Pn**	**17 35 10.0**	**+3.8**
	75nm,0.7s							
NLAI	**Namlea**	**10.71**	**173**	P		**Pn**	**17 35 16.5**	**-0.7**
	1μm61nm,0.7s							
SMKI	**Samarinda**	**11.62**	**228**	P		**Pn**	**17 35 29.1**	**-0.5**
FAKI	**Fak Fak**	**12.16**	**148**	Pn		**Pn**	**17 35 39.4**	**+2.3**
FAKI	**Fak Fak**	**12.16**	**148**	P		**Pn**	**17 35 39.6**	**+2.5**
FAKI	**Fak Fak**	**12.16**	**148**	S		**Sn**	**17 37 51.0**	**-0.6**
KAPI	**Kappang**	**13.78**	**206**	LR		LR	17 41 56.2	
	comp=Z,52nm,19.0s,baz=12,slow=40							
GUMO	**Guam**	**19.71**	**70**	LR		LR	17 43 20.0	
	comp=Z,32nm,21.6s,baz=223,slow=33							
DRS	**Darwin Rock St**	**20.41**	**166**	P		**P**	**17 37 21.7**	**+1.4**
MTN	**Manton Dam**	**20.86**	**165**			**P**	**17 37 25.7**	**+0.4**
MTN				lAmb		lAmb	17 37 40.6	
	comp=Z,19nm,1.1s							
MTN	**Manton Dam**	**20.86**	**165**	P		**P**	**17 37 25.6**	**+0.3**
KDU	**Kakadu**	**21.09**	**162**	P		**P**	**17 37 27.8**	**0.0**
KNRA	**Kununurra**	**23.18**	**173**	P		**P**	**17 37 48.7**	**-1.2**
KNRA				lAmb		lAmb	17 38 17.8	
	comp=Z,11nm,0.6s							
JCJ	**Chichijima**	**24.97**	**37**	LR		LR	17 47 16.1	
	comp=Z,104nm,21.1s,baz=96,slow=36							
FITZ	**Fitzroy Crossi**	**25.40**	**180**	P		**P**	**17 38 09.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**28.31**	**295**	P		**P**	**17 38 39.2**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=139,slow=10,SNR=4.8							
CMAR				LR		LR	17 50 03.9	
	comp=Z,24nm,19.3s,baz=110,slow=36							
	comp=Z,0.6nm,0.7s							
WB0	**Warramunga Arr**	**28.36**	**163**	P		**P**	**17 38 35.1**	**-2.1**
WB0				lAmb		lAmb	17 38 55.8	
	comp=Z,11nm,1.2s							
WRAB	**Tennant Creek**	**28.50**	**163**	P		**P**	**17 38 36.6**	**-1.8**
WRAB				lAmb		lAmb	17 39 20.3	
	comp=Z,9.7nm,1.2s							
WRA	**Warramunga Arr**	**28.50**	**163**	P		**P**	**17 38 36.3**	**-2.2**
WRA	**Warramunga Arr**	**28.50**	**163**	P		**P**	**17 38 34.9**	**-3.6**
	comp=Z,0.8nm,0.6s,baz=342,slow=9.2,SNR=7.0							
	comp=Z,0.8nm,0.6s							
WR8	**Warramunga Arr**	**28.57**	**163**	P		**P**	**17 38 36.3**	**-2.7**
WR8				lAmb		lAmb	17 39 07.1	
	comp=Z,12nm,1.3s							
MJAR	**Matsushiro Arr**	**31.08**	**20**	P		**P**	**17 38 57.8**	**-3.4**
	comp=Z,1.9nm,0.7s,baz=194,slow=9.3,SNR=4.8							
	comp=Z,1.9nm,0.7s							
AS31	**Alice Springs**	**31.94**	**166**	P		**P**	**17 39 07.8**	**-1.1**
ASAR	**Alice Springs**	**31.94**	**166**	P		**P**	**17 39 07.8**	**-1.0**
ASAR	**Alice Springs**	**31.94**	**166**	P		**P**	**17 39 07.3**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=339,slow=7.5,SNR=42							
	comp=Z,0.9nm,0.3s							
JMM	**Marumori**	**33.18**	**22**	P		**P**	**17 39 20.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**36.99**	**7**	P		**P**	**17 39 51.4**	**-0.9**
USRK	**Ussuriysk Ar.**	**36.99**	**7**	P		**P**	**17 39 48.9**	**-3.4**
	comp=Z,2.5nm,0.7s,baz=199,slow=7.5,SNR=2.9							
	comp=Z,2.5nm,0.7s							
INKA	**Innaminka**	**37.87**	**158**	P		**P**	**17 39 59.6**	**-0.3**
FORT	**Forrest**	**38.09**	**177**	P		**P**	**17 39 58.7**	**-3.0**
ASAJ	**Asahikawa**	**39.35**	**19**	P		**P**	**17 40 08.6**	**-3.6**
	comp=Z,1.5nm,0.7s,baz=197,slow=7.6,SNR=7.7							
	comp=Z,1.5nm,0.7s							
GTA	**Gaotai**	**39.45**	**328**	*e*P		**P**	**17 40 17.7**	**+4.5**
GTA				pP		pP	17 40 22.9	-0.6
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
STKA	**Stephens Creek**	**41.93**	**160**	P		**P**	**17 40 31.2**	**-2.4**
	comp=Z,1.5nm,0.3s,baz=319,slow=9.3,SNR=3.8							
	comp=Z,0.5nm,0.3s							
SONM	**Songino Array**	**43.48**	**341**	P		**P**	**17 40 45.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=154,slow=8.4,SNR=3.9							
	comp=Z,0.3nm,0.4s							
ONTNC	**Ouen Toro**	**49.62**	**128**	P		**P**	**17 41 34.4**	**-0.1**
MKAR	**Makanchi Array**	**53.98**	**324**	P		**P**	**17 42 06.5**	**-0.3**
MKAR	**Makanchi Array**	**53.98**	**324**	P		**P**	**17 42 08.2**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=99,slow=7.5,SNR=18							
MKAR				LR		LR	18 06 55.3	
	comp=Z,125nm,19.8s,baz=65,slow=38							
	comp=Z,1.3nm,0.5s							
ZAA0	**Zalesovo Array**	**56.86**	**332**	P		**P**	**17 42 25.4**	**-1.8**
ZAA0				lAmb		lAmb	17 42 36.2	
	comp=Z,2.1nm,0.8s							
ZALV	**Zalesovo Beam**	**56.86**	**332**	P		**P**	**17 42 28.2**	**+0.9**
ZALV	**Zalesovo Beam**	**56.86**	**332**	P		**P**	**17 42 28.6**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=134,slow=6.4,SNR=4.1							
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**58.12**	**327**	P		**P**	**17 42 36.1**	**-0.1**
KURBB	**Kurchatov Arra**	**58.12**	**327**	P		**P**	**17 42 36.7**	**+0.5**
	comp=Z,1.8nm,0.2s,baz=126,slow=6.0,SNR=1.8							
	comp=Z,1.8nm,0.2s							
KKAR	**Karatay Array**	**59.90**	**316**	P		**P**	**17 42 47.2**	**-1.6**
BVAR	**Borovoye Array**	**63.71**	**326**	P		**P**	**17 43 15.3**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=93,slow=5.1,SNR=4.8							
	comp=Z,0.5nm,0.4s							
AB31	**Akbulak array**	**68.69**	**320**	P		**P**	**17 43 47.1**	**+0.9**
AB31				lAmb		lAmb	17 44 10.2	
	comp=Z,3.9nm,1.4s							
ABKAR	**Akbulak array**	**68.69**	**320**	P		**P**	**17 43 47.3**	**+1.1**
E18K	**Tukpahlearik C**	**76.87**	**22**	P		**P**	**17 44 35.9**	**+1.5**
E18K				lAmb		lAmb	17 44 37.0	
	comp=Z,5.3nm,0.8s							
C19K	**Lookout Ridge**	**77.60**	**21**	P		**P**	**17 44 40.3**	**+1.8**
D20K	**Etivluk River**	**78.58**	**21**	P		**P**	**17 44 45.3**	**+1.3**
D20K				lAmb		lAmb	17 44 46.5	
	comp=Z,3.6nm,0.8s							
IMAR	**Indian Mountai**	**79.34**	**24**	P		**P**	**17 44 49.7**	**+1.6**
ILAR	**Eielson Array**	**82.16**	**26**	P		**P**	**17 45 01.6**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=243,slow=5.8,SNR=11							
	comp=Z,0.9nm,0.7s							
BMAR	**Burnt Mountain**	**83.02**	**23**	P		**P**	**17 45 09.3**	**+1.6**
BCAR	**Beaver Creek A**	**84.50**	**27**	P		**P**	**17 45 17.4**	**+2.0**
ARCES	**ARCESS Array B**	**86.64**	**340**	P		**P**	**17 45 26.6**	**+0.8**
ARCES	**ARCESS Array B**	**86.64**	**340**	P		**P**	**17 45 27.0**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=76,slow=5.8,SNR=4.1							
ARCES				LR		LR	18 28 54.3	
	comp=Z,111nm,18.2s,baz=328,slow=39							
	comp=Z,1.7nm,0.7s							
HYT	**Haines Junctio**	**86.80**	**29**	P		**P**	**17 45 28.1**	**+1.1**
HYT				lAmb		lAmb	17 45 30.5	
	comp=Z,2.8nm,1.1s							
FINES	**FINESS Array B**	**88.12**	**332**	P		**P**	**17 45 33.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.8,SNR=7.5							
FINES				LR		LR	18 28 26.4	
	comp=Z,85nm,18.5s,baz=288,slow=38							
	comp=Z,0.5nm,0.4s							
AKASG	**Malin Array Be**	**88.42**	**321**	LR		LR	18 28 51.3	
	comp=Z,67nm,19.0s,baz=339,slow=38							
LSZ	**Lusaka**	**99.23**	**256**	LR		LR	18 32 34.8	
	comp=Z,163nm,18.6s,baz=233,slow=36							
MATP	**Matopo**	**99.37**	**251**	LR		LR	18 27 36.5	
	comp=Z,99nm,21.3s,baz=226,slow=33							
TXAR	**Lajitas Array**	**120.00**	**50**	PKP		**PKPdf**	**17 51 32.4**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=149,slow=0.7,SNR=4.4							

*MOS **06** 17:40:41.6±1.1, 47°.74N×143°.82E, h17km, mb5.0/50, Error ellipse: s-maj=6.5km s-min=4.4km az=105.4*
MOS Felt (III-IV) at Makarov; (III) at Starodubskoye.
*BJI **06** 17:40:41.2, 47°.73N×144°.23E, h29km, mB4.9/18, mb4.8/62, Ms4.4/44, Ms7 4.3/45*
*SKHL **06** 17:40:42.5±0.4, 47°.70N×143°.90E, h11km±2km, mb5.7/10, ms4.6/8*
*NEIC **06** 17:40:46.2±1.6, 47°.72N±0°.08×143°.8E±0°.1, h35km±1km, mb4.8/352, Error ellipse: s-maj=17.3km s-min=8.5km az=137.0*
*IDC **06** 17:40:47.1±2.6, 47°.74N×143°.70E, h37km±22km, mb4.2/33, mbtmp4.4/39, ML3.5/6, MS3.7/19, Error ellipse: s-maj=12.3km s-min=9.4km az=153.0*
ISC 06 17:40:44.5±0.4, 47°.66N±0°.03×143°.86E±0°.03, h25km±2km, h25km:pP-P, n758, σ1§29/684, mb4.8/275, MS4.1/33, 21C-22D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzhno-Sakhali**	**1.03**	**227**			**Pn**	**17 41 02.8**	**-0.6**
YSS				Sn		**Sn**	**17 41 17.0**	**0.0**
YSS	**Yuzhno-Sakhali**	**1.03**	**227**	*ae*PN		**Pn**	**17 41 03.0**	**-0.4**
YSS				*e*			17 41 17.4	
YSS				pmax		pmax		
	comp=Z,5μm,1.2s							
YSS				smax		smax		
	comp=N,25μm,3.2s							
YSS				smax		smax		
	comp=E,32μm,2.0s							
YSS				smax		smax		
	comp=N,23μm,0.6s							
YSS				smax		smax		
	comp=E,28μm,0.6s							
YSS	**Yuzhno-Sakhali**	**1.03**	**227**	*e*Pg		**Pn**	**17 41 03.2**	**-0.2**
YSS				AMB		AMB	17 41 04.3	
	comp=E,7μm,0.5s							
YSS				*e*Sg		**Sn**	**17 41 17.7**	**+0.7**
YSS				A		A	17 41 20.1	
	comp=E,22μm,0.5s							
YSS				A		A	17 41 20.1	
	comp=E,21μm,0.5s							
YSS				AMS		AMS	17 41 42.0	
	comp=E,12μm,9.0s							
YSS				AMS		AMS	17 41 42.0	
	comp=E,10μm,9.0s							
YSS				AMS		AMS	17 41 42.0	
	comp=E,11μm,9.0s							
KHLM	**Kholmsk**	**1.37**	**244**	*e*P		**Pn**	**17 41 08.4**	**+0.4**
KHLM				*e*Pg		**Pb**	**17 41 10.5**	**+1.1**
KHLM				AMB		AMB	17 41 11.0	
	comp=E,2μm,0.7s							
KHLM				*e*S		**Sb**	**17 41 26.1**	**-0.4**
KHLM				*e*Sg		**Sn**	**17 41 29.8**	**+4.5**
KHLM				A		A	17 41 30.7	
	comp=E,30μm,0.6s							
KHLM				A		A	17 41 30.7	
	comp=E,25μm,0.6s							
NEVR	**Nevel`sk**	**1.68**	**235**	*e*P		**Pn**	**17 41 13.3**	**+1.0**
NEVR				AMB		AMB	17 41 13.7	
	comp=E,680nm,0.4s							
NEVR				*e*S		**Sb**	**17 41 35.4**	**-0.1**
NEVR				A		A	17 41 42.2	
	comp=E,6μm,0.5s							
NEVR				A		A	17 41 42.2	
	comp=E,9μm,0.5s							
NEVR				AMS		AMS	17 42 03.8	
	comp=E,19μm,6.0s							
NEVR				AMS		AMS	17 42 03.8	
	comp=E,14μm,6.0s							
NEVR				AMS		AMS	17 42 03.8	
	comp=E,15μm,6.0s							
UGL	**Uglegorsk**	**1.86**	**321**	*i*PN		**Pn**	**17 41 15.0**	**+0.2**
UGL				*e*S		**Sb**	**17 41 39.0**	**-1.5**
UGL				pmax		pmax		
	comp=Z,4μm,0.5s							
UGL				pmax		pmax		
	comp=Z,5μm,0.4s							
UGL				smax		smax		
	comp=E,22μm,0.6s							
UGL				smax		smax		
	comp=N,22μm,1.1s							
UGL				smax		smax		
	comp=E,24μm,0.5s							
UGL				smax		smax		
	comp=N,8μm,0.4s							
UGL	**Uglegorsk**	**1.86**	**321**	*e*P		**Pn**	**17 41 15.0**	**+0.2**
UGL				AMB		AMB	17 41 15.6	
	comp=N,5μm,0.4s							
UGL				*e*S		**Sn**	**17 41 38.7**	**+1.3**
UGL				A		A	17 41 40.0	
	comp=N,8μm,0.5s							
UGL				A		A	17 41 40.0	
	comp=N,24μm,0.5s							
UGL				AMS		AMS	17 41 50.0	
	comp=N,20μm,4.0s							
UGL				AMS		AMS	17 41 50.0	
	comp=N,28μm,4.0s							
UGL				AMS		AMS	17 41 50.0	
	comp=N,13μm,4.0s							
TYV	**Tymovskoe**	**3.30**	**347**	*e*PN		**Pb**	**17 41 41.3**	**-1.1**
TYV				pmax		pmax		
	comp=Z,449nm,0.6s							
TYV				pmax		pmax		
	comp=Z,800nm,1.0s							
TYV	**Tymovskoe**	**3.30**	**347**	*e*P		**Pn**	**17 41 33.9**	**-0.7**
TYV				*e*P		**Pb**	**17 41 40.3**	**-2.1**
TYV				*e*Pg			17 41 45.7	
TYV				AMB		AMB	17 41 48.8	
	comp=Z,310nm,0.5s							
TYV				*e*S		**Sn**	**17 42 12.5**	**-0.6**
TYV				*e*Sg		**Sb**	**17 42 30.2**	**+8.1**
TYV				A		A	17 42 30.7	
	comp=Z,1μm,0.6s							
TYV				A		A	17 42 30.7	
	comp=Z,760nm,0.6s							
TYV				AMS		AMS	17 42 47.0	
	comp=Z,3μm,9.0s							
TYV				AMS		AMS	17 42 47.0	
	comp=Z,6μm,9.0s							
TYV				AMS		AMS	17 42 47.0	
	comp=Z,4μm,9.0s							
ASAJ	**Asahikawa**	**3.65**	**194**	Pn		Pn	17 41 33.0	-6.4
	comp=Z,1.9nm,0.3s,baz=352,slow=14,SNR=32							
ASAJ				Sn		**Sn**	**17 42 21.1**	**-0.6**
	comp=Z,14nm,0.3s,baz=56,slow=17,SNR=4.8							
ASAJ				LR		LR	17 42 34.4	
	comp=Z,227nm,18.9s,baz=329,slow=29							
KUR	**Kuril'sk**	**3.68**	**130**	*e*PN		**Pn**	**17 41 39.4**	**-0.5**
KUR	**Kuril'sk**	**3.68**	**130**	*e*P		**Pn**	**17 41 41.0**	**+1.1**
KUR				AMB		AMB	17 41 49.2	
	comp

YUK pmax pmax
comp=Z,92nm,0.2s
YUK Yuzh-Kuril'sk 3.88 158 eP Pn 17 41 43.7 +1.1
YUK AMB AMB 17 41 47.3
comp=Z,90nm,0.2s
GLVR Golovnino 4.09 163 ePN Pn 17 41 41.7 -3.7
GLVR pmax pmax
comp=N,22nm,0.1s
GLVR pmax pmax
comp=Z,64nm,0.1s
SHO Shikotan 4.32 150 ciPN Pn 17 41 51.6 +3.0
SHO pmax pmax
comp=Z,111nm,0.5s
SHO pmax pmax
comp=E,19nm,0.3s
SHO pmax pmax
comp=N,61nm,0.6s
SHO Shikotan 4.32 150 eP Pn 17 41 50.8 +2.2
SHO AMB AMB 17 41 52.3
comp=N,110nm,0.7s
SHO eS Sn **17 42 40.1 +1.9**
SHO A A 17 42 45.2
comp=N,2µm,0.8s
SHO A A 17 42 45.2
comp=N,2µm,0.8s
SHO AMS AMS 17 43 44.4
comp=N,2µm,9.0s
SHO AMS AMS 17 43 44.4
comp=N,2µm,9.0s
SHO AMS AMS 17 43 44.4
comp=N,1µm,9.0s
AKK Akkeshi 4.69 171 eP Pn 17 41 56.4 +2.6
TEY Ternei 5.67 245⇑ ePN Pn 17 42 08.5 +1.4
TEY pmax pmax
comp=E,30nm,0.6s
TEY pmax pmax
comp=N,10.0nm,0.7s
TEY pmax pmax
comp=Z,20nm,0.8s
GRNR Gornyy 5.78 305⇓ iPN Pn 17 42 08.3 -0.4
GRNR pmax pmax
comp=N,4.0nm,0.3s
GRNR pmax pmax
comp=Z,10.0nm,0.3s
GRNR MLR MLR
comp=E,940nm,15.0s
GRNR MLR MLR
comp=N,800nm,13.0s
GRNR MLR MLR
comp=Z,1µm,11.0s
NKL Nikolayevsk 5.86 341 ePN Pn 17 42 10.4 +0.7
NKL MLR MLR
comp=N,4µm,15.0s
NKL MLR MLR
comp=E,8µm,15.0s
NKL MLR MLR
comp=Z,4µm,15.0s
NKL Nikolayevsk 5.86 341 eP Pn 17 42 08.2 -1.5
NKL AMB AMB 17 42 08.8
comp=Z,50nm,0.3s
NKL eS Sn **17 43 13.5 -2.6**
NKL A A 17 43 14.8
comp=Z,160nm,0.7s
NKL A A 17 43 14.8
comp=Z,180nm,0.7s
NKL AMS AMS 17 44 44.7
comp=Z,4µm,15.0s
NKL AMS AMS 17 44 44.7
comp=Z,8µm,15.0s
NKL AMS AMS 17 44 44.7
comp=Z,4µm,15.0s
USA0B Ussuriysk Arra 8.96 252 Pn Pn 17 42 50.6 -1.8
USA0B Ussuriysk Arra 8.96 252 PN Pn 17 42 50.6 -1.8
USRK Ussuriysk Ar. 8.96 252 Pn Pn 17 42 50.3 -2.1
USRK Ussuriysk Ar. 8.96 252 Pn Pn 17 42 54.5 +2.1
comp=Z,0.4nm,0.3s,baz=54,slow=14,SNR=10
USRK Sn **Sn 17 44 33.4 +0.9**
comp=Z,0.4nm,0.3s,baz=77,slow=19,SNR=3.4
USRK LR LR 17 46 33.8
comp=Z,363nm,18.9s,baz=58,slow=39
comp=Z,11nm,0.7s
MSHR Mys Shultsa 10.31 245⇓ ePN Pn 17 43 10.9 +0.1
MDJ Mudanjiang 10.36 258 Pn Pn 17 43 12.3 +0.9
PEA0B Petropavlovsk- 10.38 53 Pn Pn 17 43 11.1 -0.6
PEA0B Petropavlovsk- 10.38 53⇓ ePN Pn 17 43 13.7 +2.0
PETK Petropavlovsk- 10.38 53 Pn Pn 17 43 11.5 -0.2
PETK Petropavlovsk- 10.38 53 Pn Pn 17 43 13.6 +1.8
comp=Z,0.5nm,0.3s,baz=233,slow=6.8,SNR=7.3
PETK Sn **Sn 17 45 07.0 -0.2**
comp=Z,1.1nm,0.3s,baz=19,slow=31,SNR=5.9
PETK LR LR 17 47 04.3
comp=Z,200nm,21.7s,baz=251,slow=36
comp=Z,1.3nm,0.4s
PET Petropavlovsk 10.87 55⇑ ePN Pn 17 43 17.5 -0.8
PET Petropavlovsk 10.87 55 P Pn 17 43 21.1 +2.8
comp=Z,12nm,1.0s
HEH HeiHe 11.12 290 eP Pn 17 43 23.3 +1.4
HEH S Sn **17 45 27.8 +2.5**
HEH LR LR
comp=Z,730nm,13.4s
HEH LR LR
comp=Z,1µm,12.5s
HEH LR LR
comp=Z,2µm,12.3s
BNX BinXian 11.46 266 ⇓P Pn 17 43 25.4 -1.2
BNX S Sn **17 45 34.6 +0.9**
BNX pmax pmax
comp=Z,7.0nm,1.7s
BNX pmax pmax
comp=Z,170nm,4.6s
BNX LR LR
comp=Z,170nm,9.8s
BNX LR LR
comp=Z,130nm,8.7s
BNX LR LR
comp=Z,570nm,9.2s
MJB9 Matsu-Tunnel 11.87 203 Pn 17 43 31.5 -0.7
MAJO Matsushiro 11.87 203 Pn 17 43 32.3 +0.1
MAJO Matsushiro 11.87 203⇑ ePN Pn 17 43 34.4 +2.2
MJAR Matsushiro Arr 11.87 203 Pn 17 43 30.4 -1.8
MJAR Matsushiro Arr 11.87 203 Pn Pn 17 43 33.2 +1.1
baz=29,slow=16,SNR=9.3
comp=Z,4.6nm,0.9s
MA2 Magadan 12.61 16 Pn Pn 17 43 41.4 -0.8
MA2 Magadan 12.61 16 Pn Pn 17 43 41.3 -0.9
comp=Z,1.7nm,0.3s,baz=228,slow=7.6,SNR=8.8
MA2 LR LR 17 49 01.0
comp=Z,349nm,18.4s,baz=152,slow=39
MA2 Magadan 12.61 16 cePN Pn 17 43 42.8 +0.6
MA2 Magadan 12.61 16 eP Pn 17 43 42.8 +0.6
MA2 Magadan 12.61 16 P P 17 43 54.9 +1.5
comp=Z,42nm,1.2s
JGF Kuroka 12.98 204 Pn Pn 17 43 47.0 -0.4
INU Inuyama 13.32 205 Pn Pn 17 43 51.5 -0.4
CN2 Changchun 13.42 260 P Pn 17 43 56.9 +3.6
CN2 sP P 17 44 04.9 +2.4
CN2 S Sn **17 46 26.3 +4.7**
CN2 LR LR
comp=Z,750nm,15.0s
CN2 LR LR
comp=Z,420nm,15.0s
CN2 LR LR
comp=Z,710nm,12.0s
JHJ Hachijo jima 2 14.85 193 LR LR 17 49 45.0
comp=Z,95nm,19.7s,baz=332,slow=36
KSRS Korea Array 15.52 235 Pn Pn 17 44 21.6 -0.1
comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=9.6
comp=Z,2.7nm,0.9s
KSAR Wonju Array Be 15.55 235 Pn 17 44 21.2 -0.8
KSAR Wonju Array Be 15.55 235 P Pn 17 44 21.2 -0.8
JMN Monobe 15.82 212 Pn Pn 17 44 25.5 -0.1
SEY Seymchan 16.03 14 Pn P 17 44 30.7 -0.6
comp=Z,0.8nm,0.3s,baz=208,slow=7.9,SNR=12
SEY Seymchan 16.03 14⇑ eP P 17 44 30.3 -1.1
SEY MLR MLR
comp=Z,515nm,14.0s
HIA Hailar 16.06 285 Pn Pn 17 44 27.7 -0.9
HIA Hailar 16.06 285 P Pn 17 44 27.7 -0.9
HIA pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 16.49 336 Pn 17 44 31.7 -2.2
YAK Yakutsk 16.49 336 Pn Pn 17 44 32.6 -1.3
comp=Z,0.3nm,0.3s,baz=116,slow=17,SNR=5.0
YAK LR LR 17 51 05.8
comp=Z,344nm,19.1s,baz=142,slow=38
comp=Z,11nm,0.9s

YAK Yakutsk 16.49 336 eP Pn 17 44 32.6 -1.3
YAK eS Sn **17 47 35.8 -0.2**
YAK pmax pmax
comp=Z,14nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK smax smax
comp=E,183nm,8.4s
YAK smax smax
comp=N,96nm,5.4s
YAK MLR MLR
comp=Z,734nm,22.0s
YAK MLR MLR
comp=N,401nm,21.0s
YAK MLR MLR
comp=E,304nm,20.0s
YAK Yakutsk 16.49 336 eP Pn 17 44 33.9 0.0
JNU Nakatsue 17.53 219 P Pn 17 44 46.6 -0.6
comp=E,0.2nm,0.3s,baz=112,slow=16,SNR=2.1
JNU LR LR 17 51 34.2
comp=E,272nm,18.3s,baz=24,slow=37
comp=E,9.0nm,1.0s
DL2 Dalian 18.35 250 P P 17 44 50.7 -6.4
DL2 S Sn 17 48 06.0 -15
DL2 pmax pmax
comp=Z,21nm,1.0s
DL2 pmax pmax
comp=Z,240nm,5.8s
DL2 LR LR
comp=N,490nm,11.3s
DL2 LR LR
comp=E,570nm,12.2s
DL2 LR LR
comp=Z,630nm,13.1s
XLT XiLinHaoTe 19.69 269 eP Pn 17 45 13.8 +0.4
XLT S **S 17 48 51.0 -1.5**
XLT pmax pmax
comp=Z,44nm,1.2s
XLT LR LR
comp=Z,820nm,11.4s
XLT LR LR
comp=Z,1µm,12.3s
SHEM Shemya Is, Ala 19.93 64 LR LR 17 54 10.1
comp=Z,162nm,18.1s,baz=286,slow=40
BOD Bodaibo 20.57 311 eP P 17 45 20.8 -0.4
BOD pmax pmax
comp=Z,46nm,1.2s
BJI Beijing 21.29 259 P P 17 45 29.1 0.0
BJI pP **sP 17 45 38.1 -0.9**
BJI S Sn 17 49 31.8 -0.2
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI LR LR
comp=Z,210nm,9.5s
BJI LR LR
comp=Z,200nm,10.9s
BJI LR LR
comp=Z,290nm,13.4s
TIA Tai'an 22.82 250 P P 17 45 47.3 +1.7
TIA pmax pmax
comp=Z,57nm,1.1s
TIA LR LR
comp=Z,180nm,12.7s
TIA LR LR
comp=Z,400nm,11.4s
TIA LR LR
comp=Z,490nm,13.1s
BILL Bilibino 23.39 21 diP P 17 45 51.4 +0.4
BILL Bilibino 23.39 21 eP P 17 45 51.4 +0.4
HNS HongShan 23.67 255 ⇓P P 17 45 55.9 +1.9
HNS S **S 17 50 11.3 +4.0**
HNS pmax pmax
comp=Z,45nm,1.3s
HNS LR LR
comp=Z,510nm,15.7s
HNS LR LR
comp=Z,350nm,18.1s
HNS LR LR
comp=Z,410nm,12.6s
HHC Hu-ho-hao-te 23.99 265 eP P 17 45 57.4 +0.2
HHC sP sP 17 46 12.6 +5.2
HHC S **S 17 50 07.0 -5.6**
HHC pmax pmax
comp=Z,44nm,1.2s
HHC pmax pmax
comp=Z,130nm,4.7s
HHC LR LR
comp=Z,150nm,9.2s
HHC LR LR
comp=Z,430nm,11.1s
HHC LR LR
comp=Z,490nm,12.2s
JOW Kunigami 24.12 216 LR LR 17 55 43.3
comp=Z,146nm,18.2s,baz=94,slow=37
NJ2 Nanjing 24.57 240 eP P 17 46 02.6 +0.2
NJ2 pmax pmax
comp=Z,11nm,0.8s
NJ2 LR LR
comp=Z,340nm,11.1s
NJ2 LR LR
comp=Z,230nm,8.5s
NJ2 LR LR
comp=Z,400nm,14.0s
ULN Ulaanbaatar 24.60 284 ciP P 17 46 03.1 +0.4
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 24.60 284 eP P 17 46 03.1 +0.4
SONM Songino Array 25.03 284 P P 17 46 05.8 -0.9
SONM Songino Array 25.03 284 P P 17 46 06.9 +0.3
comp=Z,6.2nm,0.7s,baz=76,slow=9.1,SNR=38
SONM PcP **PcP 17 49 41.1 +0.2**
comp=Z,3.3nm,1.0s,baz=129,slow=2.4,SNR=7.4
comp=Z,6.2nm,0.7s
SONM Songino Array 25.03 284 P P 17 46 05.8 -0.9
SONM pmax pmax
comp=Z,12nm,1.2s
BTO Baotou 25.14 266 eP P 17 46 08.4 +0.8
BTO pP **pP 17 46 13.7 -1.2**
BTO sP **sP 17 46 17.5 -0.4**
BTO S **S 17 50 33.5 +2.4**
BTO pmax pmax
comp=Z,75nm,1.0s
BTO pmax pmax
comp=Z,240nm,6.3s
BTO LR LR
comp=Z,460nm,6.0s
BTO LR LR
comp=Z,650nm,10.0s
BTO LR LR
comp=Z,880nm,11.7s
ADK Adak 25.61 66 P 17 46 11.2 -0.4
ADK IAmb IAmb 17 46 18.0
comp=Z,32nm,1.1s
ADK Adak 25.61 66 P P 17 46 11.2 -0.4
ADK pmax pmax
comp=Z,32nm,1.2s
IRK Irkutsk 25.65 295 eP P 17 46 11.3 -0.7
IRK pmax pmax
comp=Z,42nm,1.2s
ZAK Zakamensk 26.52 291 eP P 17 46 20.7 +0.7
ZAK pmax pmax
comp=Z,30nm,1.1s
LYN LuoYang 26.83 252 P P 17 46 24.4 +1.5
LYN pmax pmax
comp=Z,21nm,0.8s
GAMB Gambell 29.00 40 P P 17 46 41.4 -0.5
baz=258
SPIA Saint Paul Isl 29.04 54 P P 17 46 42.2 -0.1
baz=271
P08K Saint George I 29.44 55 P P 17 46 45.2 -0.7
baz=272
NIKH Nikolski High 30.21 62 P P 17 46 52.5 -0.2
baz=279
TNA Tin City 30.96 37 P 17 47 00.0 +0.8
TNA IAmb IAmb 17 47 05.4
comp=Z,20nm,1.0s
TNA Tin City 30.96 37 P P 17 46 59.1 -0.2
baz=259
M11K Mekoryuk 31.17 47 P P 17 47 00.6 -0.5
baz=269
F14K Arctic Creek 31.60 37 P P 17 47 04.8 -0.1
baz=260
LZH Lanzhou 31.62 263 eP P 17 47 06.8 +1.2
LZH pP pP 17 47 12.4 -0.5

LZH pmax pmax
comp=Z,42nm,1.0s
LZH LR LR
comp=Z,520nm,12.2s
LZH LR LR
comp=Z,230nm,11.0s
LZH LR LR
comp=Z,360nm,11.7s
ANM Nome 31.87 39 P P 17 47 07.8 +0.5
baz=263
K13K Kusilvak Mount 31.97 44 P P 17 47 08.1 0.0
baz=268
F15K North Star Dit 32.33 37 P P 17 47 11.2 -0.1
baz=262
G15K Niukluk 32.49 39 P P 17 47 12.8 +0.2
baz=263
J14K Nanvaranak Lak 32.52 43 P P 17 47 13.0 +0.1
baz=267
C16K Lisburne Hills 32.54 32 P P 17 47 12.9 -0.2
baz=257
M13K Dall Lake 32.58 47 P P 17 47 13.2 -0.3
baz=271
GTA Gaotai 32.60 272 P P 17 47 15.3 +1.1
GTA pP pP 17 47 20.2 -1.3
GTA pmax pmax
comp=Z,16nm,1.3s
GTA LR LR
comp=Z,410nm,14.7s
GTA LR LR
comp=Z,690nm,13.9s
GTA LR LR
comp=Z,920nm,13.1s
L14K Kuka Creek 32.90 45 P P 17 47 15.4 -0.8
baz=270
H16K Elim 33.22 39 P P 17 47 19.0 -0.1
baz=266,SNR=6.3
G16K Koyuk River 33.24 38 P P 17 47 19.1 -0.1
baz=264
M14K Bethel 33.26 47 P P 17 47 19.2 -0.3
baz=272
D17K Noatak River 33.26 34 P P 17 47 19.0 -0.4
baz=260
C17K DeLong Mountai 33.37 32 P P 17 47 20.1 -0.3
baz=259
N14K Kuskokwak Cree 33.43 48 P P 17 47 20.3 -0.6
baz=273
K15K Wolf Creek Mou 33.44 44 P 17 47 21.8 +0.7
K15K IAmb IAmb 17 47 28.2
comp=Z,21nm,1.4s
K15K Wolf Creek Mou 33.44 44 P P 17 47 21.1 0.0
baz=270
L15K Ungalak Mounta 33.47 45 P P 17 47 20.5 -0.8
baz=271
E17K Hotham Inlet 33.65 35 P P 17 47 22.5 -0.3
baz=262
O14K Tigyukauivet M 33.69 49 P P 17 47 23.1 -0.2
baz=275
S12K Black Hills 33.70 56 P P 17 47 23.2 -0.2
baz=280
F17K Baldwin Pennin 33.80 36 P P 17 47 23.6 -0.5
baz=264
I17K Unalakleet 33.85 41 P P 17 47 24.4 -0.1
baz=268
J16K Anvik River 33.88 42 P 17 47 25.3 +0.5
J16K Anvik River 33.88 42 P P 17 47 24.5 -0.4
baz=269
M15K Kasigluk River 33.89 47 P P 17 47 24.8 -0.1
baz=273
G17K Kiwalik Mounta 33.96 38 P P 17 47 25.3 -0.2
baz=266,SNR=15
B18K Kokolik River 34.03 31 P P 17 47 26.1 0.0
baz=259
C18K Utukok River 34.12 32 P 17 47 27.0 +0.1
C18K IAmb IAmb 17 47 28.2
comp=Z,16nm,1.2s
C18K Utukok River 34.12 32 P P 17 47 26.1 -0.9
baz=261,SNR=6.3
E18K Tukpahlearik C 34.16 35 P P 17 47 28.2 +0.9
E18K Tukpahlearik C 34.16 35 P P 17 47 26.4 -0.9
baz=263
N15K Kwethluk River 34.22 48 P 17 47 28.4 +0.6
N15K IAmb IAmb 17 47 35.0
comp=Z,11nm,0.9s
N15K Kwethluk River 34.22 48 P P 17 47 27.8 0.0
baz=274
H17K Granite Mounta 34.23 39 P 17 47 29.0 +1.1
H17K Granite Mounta 34.23 39 P P 17 47 27.5 -0.4
baz=268,SNR=13
A19K Wainwright 34.45 30 P P 17 47 29.3 -0.3
baz=259
F18K Selawik 34.45 36 P P 17 47 28.9 -0.9
baz=265
J17K VABM Dome 34.57 42 P 17 47 31.3 +0.5
J17K IAmb IAmb 17 47 33.4
comp=Z,16nm,1.0s
J17K VABM Dome 34.57 42 P P 17 47 30.0 -0.8
baz=270,SNR=8.6
SDPT Sand Point 34.65 56 P P 17 47 31.2 -0.4
baz=281
M16K Timber Creek 34.71 46 P P 17 47 31.4 -0.6
baz=274
C19K Lookout Ridge 34.77 32 P 17 47 31.9 -0.6
C19K IAmb IAmb 17 47 38.6
comp=Z,17nm,1.3s
C19K Lookout Ridge 34.77 32 P P 17 47 31.6 -0.9
baz=262
G18K Tagagawik 34.81 37 P 17 47 33.7 +0.8
G18K IAmb IAmb 17 47 39.8
comp=Z,11nm,0.8s
G18K Tagagawik 34.81 37 P P 17 47 32.3 -0.6
baz=267,SNR=15
N16K Nishlik Lake 34.85 47 P P 17 47 32.7 -0.6
baz=275
H18K Honhosa River 34.90 39 P P 17 47 34.6 +1.0
H18K Honhosa River 34.90 39 P P 17 47 33.9 +0.2
baz=269,SNR=13
K17K Iditarod 34.94 43 P 17 47 35.0 +1.1
K17K IAmb IAmb 17 47 40.9
comp=Z,21nm,1.1s
K17K Iditarod 34.94 43 P P 17 47 34.0 0.0
baz=272,SNR=9.2
L17K Donlin 34.96 44 P P 17 47 34.6 +0.4
baz=273
S14K Fog Glacier 34.99 54 P P 17 47 35.2 +0.6
baz=280
F19K Shaleruckik Mo 35.21 36 P P 17 47 36.5 +0.2
baz=267
D19K Kuna River 35.22 33 IAmb IAmb 17 47 42.9
comp=Z,24nm,1.2s
D19K Kuna River 35.22 33 P P 17 47 36.2 -0.2
baz=264
CHNA Chernabura Isl 35.25 57 P P 17 47 36.8 0.0
baz=282
O16K Kokwok River B 35.27 48 P P 17 47 37.1 +0.2
baz=277
P16K Nushagak River 35.40 49 P P 17 47 38.0 +0.1
baz=278
M17K Holitna River 35.42 45 IAmb IAmb 17 47 46.2
comp=Z,13nm,0.9s
M17K Holitna River 35.42 45 P P 17 47 38.7 +0.6
baz=275,SNR=6.1
G19K Purcell Mounta 35.46 37 P 17 47 39.1 +0.7
G19K PcP **PcP 17 50 07.5 +0.1**
G19K Purcell Mounta 35.46 37 P P 17 47 39.2 +0.7
baz=268,SNR=8.8
E19K Redstone River 35.46 35 IAmb IAmb 17 47 40.7
comp=Z,13nm,0.8s
E19K Redstone River 35.46 35 P P 17 47 39.2 +0.8
baz=266,SNR=18
J18K Innoko River 35.63 42 P 17 47 40.6 +0.6
J18K IAmb IAmb 17 47 46.2
comp=Z,11nm,0.8s
J18K Innoko River 35.63 42 P P 17 47 40.4 +0.4
baz=272,SNR=14
H19K Roundabout Mou 35.71 38 P P 17 47 41.5 +0.9
baz=270,SNR=36
L18K Granite Mounta 35.71 44 P 17 47 41.3 +0.7
L18K IAmb IAmb 17 47 44.1
comp=Z,22nm,1.3s
L18K Granite Mounta 35.71 44 P P 17 47 41.8 +1.1
baz=274,SNR=6.6
B20K Meade River 35.73 30 P P 17 47 41.1 +0.4
baz=263,SNR=11
O17K Koliganek Bris 35.76 48 P P 17 47 41.9 +0.8
baz=277
D20K Etivluk River 35.79 33 P P 17 47 41.5 +0.2
baz=265,SNR=14

E20K Nigu River 35.91 33 P P 17 47 42.9 +0.6
baz=266,SNR=17
F20K Avaraart Lake 36.03 35 P P 17 47 43.9 +0.6
baz=268,SNR=5.3
J19K Poorman 36.09 41 P 17 47 44.5 +0.6
J19K IAmb IAmb 17 47 45.6
comp=Z,15nm,1.1s
J19K Poorman 36.09 41 P P 17 47 44.1 +0.2
baz=273,SNR=14
P17K Kvichak River 36.16 49 P P 17 47 44.5 -0.1
baz=279
M18K Stony River 36.18 45 P P 17 47 45.7 +1.0
baz=276
N18K Kilae Creek 36.24 46 P P 17 47 46.1 +0.9
baz=277
H20K Anotleneega Mo 36.36 38 P P 17 47 46.9 +0.7
baz=271,SNR=14
R17L Mt. Peulik Vol 36.47 51 P P 17 47 48.2 +1.0
baz=281
C21K Knifeblade Rid 36.48 32 P P 17 47 47.5 +0.3
baz=266,SNR=26
I20K Naaghedeneel 36.55 39 P P 17 47 48.7 +0.9
baz=273
L19K White Mountain 36.57 44 P P 17 47 48.5 +0.5
baz=276
B21K Ikpikpuk River 36.58 31 P P 17 47 48.5 +0.6
baz=266,SNR=21
A22K Sinclair Lake 36.58 29 P P 17 47 48.2 +0.2
baz=264
Q17K Contact Creek 36.60 50 P P 17 47 49.1 +0.7
baz=280
O18K Koktuh Hills 36.69 48 P P 17 47 49.8 +0.7
baz=279
J20K Nowinta River 36.73 40 IAmb IAmb 17 47 51.5
comp=Z,18nm,0.8s
J20K Nowinta River 36.73 40 P P 17 47 50.0 +0.7
baz=274,SNR=18
E21K Killik River 36.74 33 IAmb IAmb 17 47 50.7
comp=Z,14nm,0.9s
E21K Killik River 36.74 33 P P 17 47 49.4 -0.1
baz=268,SNR=14
P18K Big Mountain, 36.75 48 P P 17 47 49.2 -0.4
baz=279
IMAR Indian Mountai 36.82 37 P P 17 47 50.5 +0.5
IMAR PcP PcP 17 50 11.1 -0.3
M19K Big River Lodg 36.82 44 P P 17 47 50.8 +0.7
baz=277
K20K Telida 36.82 42 IAmb IAmb 17 47 56.9
comp=Z,16nm,1.0s
K20K Telida 36.82 42 P P 17 47 49.7 -0.4
baz=275,SNR=12
ZALV Zalesovo Beam 36.88 302 P P 17 47 50.1 -0.5
ZALV PcP 17 50 10.0 -1.8
ZALV Zalesovo Beam 36.88 302 P P 17 47 50.4 -0.3
comp=Z,1.7nm,0.6s,baz=63,slow=7.1,SNR=8.3
ZALV PcP PcP 17 50 11.7 -0.1
comp=Z,5.2nm,0.8s,baz=90,slow=2.7,SNR=14
ZALV LR LR 18 04 34.8
comp=Z,85nm,19.8s,baz=94,slow=39
comp=Z,1.7nm,0.6s
G21K Allakaket 36.90 36 P P 17 47 49.9 -0.9
baz=271
F21K Alatna River 36.91 35 P P 17 47 50.1 -0.7
baz=270,SNR=10
N19K Bonanza Creek 36.91 46 P P 17 47 50.8 -0.2
baz=278
Q18K Katmai Hardscr 36.99 50 P P 17 47 51.6 -0.2
baz=280
L20K Farewell, AK 36.99 43 P P 17 47 51.6 0.0
baz=276
B22K Teshekpuk Lake 37.04 30 P P 17 47 51.8 0.0
baz=266,SNR=9.2
H21K Melozitna Rive 37.22 38 P P 17 47 53.2 -0.3
baz=273,SNR=5.8
D22K Ayikyak River 37.23 32 IAmb IAmb 17 47 55.2
comp=Z,14nm,0.9s
D22K Ayikyak River 37.23 32 P P 17 47 52.4 -1.1
baz=269,SNR=8.6
CHIR Chirikof Islan 37.24 54 P P 17 47 53.0 -0.8
baz=284
F22K John River 37.41 35 P P 17 47 54.9 -0.2
baz=271,SNR=6.4
M20K Styx River 37.41 44 P P 17 47 55.5 +0.3
M20K IAmb IAmb 17 47 58.2
comp=Z,21nm,1.3s
M20K Styx River 37.41 44 P P 17 47 54.8 -0.4
baz=278,SNR=5.8
R18K Karluk 37.49 51 P P 17 47 56.1 +0.3
baz=282
E22K Anaktuvuk Pass 37.54 34 IAmb IAmb 17 47 57.7
comp=Z,15nm,0.9s
E22K Anaktuvuk Pass 37.54 34 P P 17 47 56.0 -0.2
baz=271,SNR=17
CHUM Lake Minchumin 37.56 41 P P 17 47 55.8 -0.6
baz=276
I21K Tanana 37.59 39 IAmb IAmb 17 47 58.9
comp=Z,20nm,1.4s
I21K Tanana 37.59 39 P P 17 47 56.4 -0.2
baz=274
Q19K Cape Douglas, 37.63 49 P P 17 47 57.2 +0.1
baz=281
GOMU GeErMu 37.65 271 P P 17 47 58.0 +0.1
GOMU S S 17 53 46.7 +0.1
GOMU pmax pmax
comp=Z,30nm,1.0s
GOMU LR LR
comp=Z,410nm,12.0s
GOMU LR LR
comp=Z,290nm,12.3s
GOMU LR LR
comp=Z,450nm,12.1s
CAST Castle Rocks 37.71 41 IAmb IAmb 17 48 00.0
comp=Z,17nm,0.8s
CAST Castle Rocks 37.71 41 P P 17 47 57.6 0.0
baz=276,SNR=18
P19K Oil Pt 37.71 48 P P 17 47 58.5 +0.8
baz=280
PPLA Purkeypile 37.72 42 IAmb IAmb 17 48 05.2
comp=Z,22nm,1.1s
PPLA Purkeypile 37.72 42 P P 17 47 58.3 +0.4
baz=277
H22K Ishtalitna Cre 37.79 37 P P 17 47 59.2 +0.9
baz=274,SNR=9.0
SII Sitkinak Islan 37.85 53 P P 17 47 59.0 0.0
baz=284
O20K Slope Mountain 37.93 47 P P 17 47 59.7 0.0
baz=280
N20K Mount Spurr 37.95 45 P P 17 48 00.3 +0.5
baz=279
SPCR Spurr Chakacha 37.95 45 P P 17 48 00.4 +0.6
baz=279
D23K Nanushuk River 37.95 32 IAmb IAmb 17 48 01.5
comp=Z,17nm,1.1s
D23K Nanushuk River 37.95 32 P P 17 47 59.8 +0.1
baz=270,SNR=14
C23K Itkillik River 37.98 31 P P 17 48 00.2 +0.4
baz=270,SNR=15
STLK Strandline Lak 38.08 44 P P 17 48 01.5 +0.6
BPAW Bear Paw Mtn. 38.12 40 P P 17 48 01.2 0.0
baz=276
MLY Manley 38.13 39 P P 17 48 01.5 +0.3
MLY Manley 38.13 39 P P 17 48 01.5 +0.3
baz=276
SKT Skwentna 38.15 44 P P 17 48 00.8 -0.6
baz=279
OHAK Old Harbor 38.18 52 P P 17 48 01.7 +0.1
baz=283
COLD Coldfoot 38.18 35 IAmb IAmb 17 48 03.6
comp=Z,9.8nm,0.8s
COLD Coldfoot 38.18 35 P P 17 48 01.6 0.0
baz=273,SNR=14
G23K Bananza Creek 38.28 36 P P 17 48 02.4 -0.1
baz=274,SNR=12
Q20K Shuyak Island 38.34 49 P P 17 48 03.1 +0.2
baz=282
TOLK Toolik Lake Re 38.36 33 IAmb IAmb 17 48 04.6
comp=Z,23nm,1.1s
TOLK Toolik Lake Re 38.36 33 P P 17 48 03.2 +0.1
baz=272,SNR=13
E23K Chandalar 38.37 34 IAmb IAmb 17 48 04.8
comp=Z,16nm,0.9s
E23K Chandalar 38.37 34 P P 17 48 03.3 0.0
baz=273,SNR=19
KDAK Kodiak Island 38.42 51 P P 17 48 04.1 +0.4
baz=283
HOM Homer 38.50 47 P P 17 48 04.5 +0.2
baz=282
TRF Thorofare Moun 38.50 41 IAmb IAmb 17 48 12.6
comp=Z,12nm,0.7s
TRF Thorofare Moun 38.50 41 P P 17 48 04.6 +0.1
baz=278
CAPN Captain Cook N 38.53 46 P P 17 48 04.8 +0.3
baz=281
H23K Yukon River 38.55 37 P P 17 48 05.4 +0.7
baz=276,SNR=8.0
D24K Happy Valley 38.61 32 P P 17 48 05.4 +0.2
baz=272,SNR=14
C24K Franklin Bluff 38.64 31 P P 17 48 05.2 -0.2
baz=271
WMQ Urumqi 38.66 286 *e*P P 17 48 07.6 +1.6
WMQ LR LR
comp=Z,280nm,11.7s
WMQ LR LR
comp=Z,330nm,12.7s
WMQ LR LR
comp=Z,120nm,16.5s
CUT Chulitna 38.67 43 P P 17 48 06.0 +0.4
baz=279
I23K Minto, Yukon-K 38.70 38 IAmb IAmb 17 48 13.3
comp=Z,22nm,1.4s
I23K Minto, Yukon-K 38.70 38 P P 17 48 06.7 +0.8
baz=277,SNR=10
BWN Browne 38.77 40 P P 17 48 07.2 +0.6
E24K Your Creek 38.79 34 IAmb IAmb 17 48 08.4
comp=Z,15nm,0.8s
E24K Your Creek 38.79 34 P P 17 48 07.4 +0.7
baz=274,SNR=20
NEA2 Nenana 38.89 39 IAmb IAmb 17 48 13.9
comp=Z,19nm,1.2s
NEA2 Nenana 38.89 39 P P 17 48 08.0 +0.5
baz=278,SNR=10
ZSN Zaisan 38.96 292 *e*P P 17 48 08.5 +0.1
ZSN Zaisan 38.96 292 *e*P P 17 48 08.6 +0.1
F24K Squaw Lake 39.06 35 P P 17 48 09.4 +0.4
baz=280,SNR=10
MCK McKinley 39.06 41 IAmb IAmb 17 48 15.8
comp=Z,14nm,0.9s
MCK McKinley 39.06 41 P P 17 48 09.4 +0.3
baz=279
PZH PanZhiHua 39.06 252 P P 17 48 09.8 +0.2
PZH pmax pmax
comp=Z,20nm,0.9s
RC01 Rabbit Creek A 39.15 45 P P 17 48 10.2 +0.4
baz=281
RND Reindeer 39.15 41 PcP PcP 17 50 17.6 -1.2
H24K Noodor Dome 39.23 37 IAmb IAmb 17 48 12.7
comp=Z,31nm,2.0s
H24K PcP 17 50 18.5 -0.5
H24K Noodor Dome 39.23 37 P P 17 48 11.0 +0.5
baz=277,SNR=5.9
G24K Hadweenzic Riv 39.29 36 P P 17 48 11.7 +0.8
baz=276,SNR=18
WRH Wood River Hil 39.32 39 IAmb IAmb 17 48 13.0
comp=Z,21nm,1.2s
PMR Paner 39.34 44 P P 17 48 11.6 +0.3
baz=281
COLA College 39.37 39 *de*P P 17 48 11.8 +0.3
COLA pmax pmax
comp=Z,20nm,1.3s
KMI Kunming 39.39 250 ⇑P P 17 48 13.4 +0.9
KMI pmax pmax
comp=Z,39nm,0.9s
KMI LR LR
comp=Z,200nm,12.1s
KMI LR LR
comp=Z,190nm,11.8s
KMI LR LR
comp=Z,170nm,11.0s
GHO Glory Hole Cre 39.40 44 P P 17 48 12.3 +0.3
GHO IAmb IAmb 17 48 18.2
comp=Z,23nm,0.9s
D25K Kavik River 39.48 32 IAmb IAmb 17 48 13.6
comp=Z,22nm,0.8s
D25K Kavik River 39.48 32 P P 17 48 12.3 -0.2
baz=274,SNR=27
SEW Seward 39.49 46 P P 17 48 12.8 +0.2
baz=283
POKR Poker Plat Res 39.51 38 P P 17 48 13.2 +0.4
baz=278
KNK Knik Glacier 39.69 44 IAmb IAmb 17 48 20.5
comp=Z,20nm,1.0s
KNK Knik Glacier 39.69 44 P P 17 48 14.3 0.0
baz=282
QIZ Qiongzhong 39.74 236 P P 17 48 14.6 -0.5
QIZ S S 17 54 15.8 -1.8
QIZ pmax pmax
comp=Z,320nm,6.6s
QIZ LR LR
comp=Z,190nm,12.5s
QIZ LR LR
comp=Z,390nm,13.4s
IL31 39.79 39 IAmb IAmb 17 48 17.2
comp=Z,28nm,1.8s
ILAR Eielson Array 39.79 39 P 17 48 14.3 -0.7
ILAR PcP PcP 17 50 18.2 -2.6
ILAR Eielson Array 39.79 39 P P 17 48 15.6 +0.5
comp=Z,1.7nm,0.6s,baz=277,slow=9.6,SNR=22
comp=Z,1.7nm,0.6s
ILAR Eielson Array 39.79 39 P P 17 48 14.4 -0.7
ILAR 17 50 18.2
HDA Harding Lake 39.82 39 IAmb IAmb 17 48 17.4
comp=Z,21nm,1.5s
HDA Harding Lake 39.82 39 P P 17 48 14.9 -0.5
baz=280
G25K Bearman Lake 39.83 36 P P 17 48 14.9 -0.4
baz=277
PWL Port Wells 39.86 45 P P 17 48 15.4 -0.3
baz=283
F25K Christian Rive 39.91 34 P P 17 48 16.1 0.0
baz=277,SNR=14
C26K Camden Bay 39.95 31 P P 17 48 16.1 -0.1
baz=275
H25L Birch Creek 40.01 36 P P 17 48 17.1 +0.2
baz=278
SCM Sheep Creek Mo 40.13 43 IAmb IAmb 17 48 24.3
comp=Z,17nm,1.0s
SCM Sheep Creek Mo 40.13 43 P P 17 48 18.7 +0.7
baz=282
PRP Porcupine Dome 40.24 37 P P 17 48 19.6 +0.6
PRP IAmb IAmb 17 48 21.0
comp=Z,17nm,1.0s
PRP Porcupine Dome 40.24 37 P P 17 48 19.2 +0.2
baz=279,SNR=7.1
BMAR Burnt Mountain 40.33 34 P 17 48 20.3 +0.7
BMAR PcP PcP 17 50 22.6 +0.1
C27K Jago River 40.39 31 P P 17 48 20.1 +0.1
baz=276,SNR=33
K24K Donnelly Dome 40.43 40 IAmb IAmb 17 48 21.4
comp=Z,15nm,0.9s
K24K Donnelly Dome 40.43 40 P P 17 48 20.4 -0.1
baz=281
GLI Glacier Island 40.45 45 P P 17 48 20.7 +0.1
baz=284
J25K Salcha River, 40.46 39 P P 17 48 20.2 -0.5
baz=280
F26K Sheenjek River 40.46 34 IAmb IAmb 17 48 22.7
comp=Z,14nm,0.8s
F26K Sheenjek River 40.46 34 P P 17 48 21.2 +0.6
baz=278,SNR=23
P23K Montague Islan 40.51 46 P P 17 48 21.0 -0.1
baz=284
M24K Tolsona, Glenn 40.60 43 IAmb IAmb 17 48 30.1
comp=Z,14nm,0.7s
M24K Tolsona, Glenn 40.60 43 P P 17 48 22.4 +0.5
baz=283
G26K Porcupine Rive 40.71 35 P P 17 48 23.2 +0.5
baz=279,SNR=11
PAX Paxson 40.74 41 P P 17 48 22.8 -0.3
baz=282
MK31 Makanchi Array 40.84 292 *c i*P P 17 48 24.0 0.0
MKAR Makanchi Array 40.84 292 P P 17 48 23.5 -0.5
MKAR PcP PcP 17 50 23.3 -1.2
MKAR Makanchi Array 40.84 292 P P 17 48 24.1 +0.1
comp=Z,5.5nm,0.8s,baz=70,slow=8.2,SNR=51
MKAR PcP PcP 17 50 24.2 -0.3
comp=Z,3.6nm,0.7s,baz=57,slow=4.5,SNR=10
comp=Z,5.5nm,0.8s
RIDG Independent Ri 40.85 40 IAmb IAmb 17 48 25.4
comp=Z,15nm,1.0s
RIDG Independent Ri 40.85 40 P P 17 48 24.0 0.0
baz=282,SNR=5.8
KLU Klutina 40.86 44 IAmb IAmb 17 48 30.4
comp=Z,15nm,0.9s
KLU Klutina 40.86 44 P P 17 48 24.5 +0.5
baz=284,SNR=9.4
HARP HAARP 41.00 42 P P 17 48 25.9 +0.7
baz=283
DIV Divide 41.02 44 IAmb IAmb 17 48 27.3
comp=Z,36nm,1.5s
MAKZ Makanchi 41.03 293 P P 17 48 25.6 0.0
MAKZ PcP PcP 17 50 25.3 +0.2
EYAK Cordova Ski Ar 41.17 45 P P 17 48 26.5 0.0
baz=285
SCRK Sand Creek 41.18 40 P P 17 48 26.6 -0.1
baz=282
J26L Joseph Creek 41.25 39 P P 17 48 27.0 -0.2
baz=282
I26K Coal Creek Min 41.25 38 P P 17 48 27.4 +0.3
baz=282
E27K Coleen River 41.34 33 P P 17 48 28.5 +0.6
baz=280,SNR=11
D27M Malcolm River 41.40 31 P P 17 48 28.6 +0.3
baz=279
SLVN Son La 41.44 245 P P 17 48 29.9 +0.7
SLVN IAmb IAmb 17 48 31.7
comp=Z,23nm,0.9s
N25K Chitina, Valde 41.45 43 P P 17 48 29.1 +0.2
N25K Chitina, Valde 41.45 43 P P 17 48 29.9 +1.0
baz=284
KURK Kurchatov 41.51 299 P 17 48 28.9 -0.6
KURK Kurchatov 41.51 299 *c i*P P 17 48 29.1 -0.3
KURK pmax pmax
comp=Z,12nm,0.9s
KURK MLR MLR
comp=Z,80nm,15.0s
KURK Kurchatov 41.51 299 *e*P P 17 48 29.1 -0.3
KURK Kurchatov 41.51 299 P P 17 48 29.1 -0.3
KURK pP sP 17 48 39.5 -0.4
G27K Doyon Strip 41.56 35 P P 17 48 30.7 +1.0
baz=281,SNR=14
KURBB Kurchatov Arra 41.60 299 P P 17 48 30.2 0.0
comp=Z,3.2nm,0.3s,baz=69,slow=8.7,SNR=17
KURBB PcP PcP 17 50 26.6 -0.2
comp=Z,3.3nm,0.2s,baz=74,slow=3.2,SNR=8.3
comp=Z,3.2nm,0.3s
BMRM Bremner River 41.61 44 P P 17 48 31.0 +0.8
baz=285
H27K Steamboat Moun 41.73 36 P P 17 48 31.9 +0.9
baz=282,SNR=9.5
I27K Kandik River 41.82 37 P P 17 48 33.0 +1.1
baz=282
KAIM Kayak Island 41.98 46 P P 17 48 33.2 +0.1
baz=286
M26K Nabesna, AK 41.98 42 IAmb IAmb 17 48 40.0
comp=Z,35nm,1.1s
M26K Nabesna, AK 41.98 42 P P 17 48 34.3 +1.1
baz=285,SNR=23
K27K Chicken 41.98 39 P P 17 48 33.6 +0.5
baz=284
E28M Babbage River 42.02 32 P P 17 48 33.3 -0.1
E28M Babbage River 42.02 32 P P 17 48 33.8 +0.4
baz=281,SNR=7.7
VRDI Verde Repeater 42.08 44 P 17 48 34.2 0.0
F28M Old Crow 42.09 34 P P 17 48 34.7 +0.7
baz=282,SNR=11
D28M Stokes Point 42.17 31 P P 17 48 36.2 +1.7
baz=281
TNCH TengChong 42.17 254 P P 17 48 36.6 +1.2
TNCH pmax pmax
comp=Z,72nm,0.9s
TNCH pmax pmax
comp=Z,210nm,3.9s
MCARA McCarthy VSAT 42.24 43 IAmb IAmb 17 48 44.5
comp=Z,17nm,1.0s
MCARA McCarthy VSAT 42.24 43 P P 17 48 36.4 +1.2
baz=286
L27K Beaver Creek, 42.33 41 P 17 48 37.2 +1.1
L27K IAmb IAmb 17 48 38.6
comp=Z,30nm,1.1s
L27K Beaver Creek, 42.33 41 P P 17 48 37.5 +1.5
baz=285,SNR=42
BCAR Beaver Creek A 42.35 41 P 17 48 37.0 +0.7
BCAR PcP PcP 17 50 27.5 -1.6
CRQM Cirque 42.36 44 IAmb IAmb 17 48 39.0
comp=Z,32nm,1.2s
CRQE Cirque 42.38 44 P P 17 48 37.6 +1.0
baz=286
BGLC Bering Glacier 42.47 45 P P 17 48 38.5 +1.4
baz=287
M27K Edge Creek, AK 42.49 42 IAmb IAmb 17 48 40.2
comp=Z,28nm,0.9s
M27K Edge Creek, AK 42.49 42 P P 17 48 38.6 +1.1
baz=286,SNR=24
I28M Miner Creek 42.54 37 P 17 48 38.3 +0.6
I28M IAmb IAmb 17 48 39.9
comp=Z,15nm,0.9s
I28M Miner Creek 42.54 37 P P 17 48 38.4 +0.6
baz=284,SNR=17
E29M Blow River 42.65 32 P P 17 48 38.8 +0.3
baz=282,SNR=7.0
BVCY Beaver Creek 42.94 41 P P 17 48 41.8 +0.9
baz=286
G29M Pine Creek 42.94 35 P P 17 48 41.4 +0.5
baz=284,SNR=5.2
BARN Barnard Glacie 42.96 43 IAmb IAmb 17 48 49.2
comp=Z,14nm,0.9s
H29M Whitestone 42.98 36 P P 17 48 41.8 +0.6
baz=284
GRNC Granite Creek 43.02 44 IAmb IAmb 17 48 48.6
comp=Z,16nm,1.0s
MESA MESA 43.09 45 P P 17 48 43.0 +0.6
baz=288
DAWY Dawson 43.12 39 P P 17 48 42.6 +0.1
baz=286
CTG Chitna Glacier 43.14 44 P P 17 48 43.1 +0.4
baz=288,SNR=7.7
CTGM Chitina Glacie 43.14 44 IAmb IAmb 17 48 49.6
comp=Z,30nm,1.2s
I29M Ogilvie Camp, 43.22 37 P P 17 48 43.9 +0.7
baz=285
YUK3 Moose Creek 43.30 42 P P 17 48 44.5 +0.4
baz=287,SNR=8.3
J29N Klondike Camp 43.50 38 P P 17 48 46.1 +0.5
baz=286
EPYK Eagle Plains 43.58 35 P P 17 48 46.4 +0.3
EPYK IAmb IAmb 17 48 47.8
comp=Z,15nm,0.8s
EPYK Eagle Plains 43.58 35 P P 17 48 46.5 +0.3
baz=286,SNR=9.0
F30M Barrier River 43.61 33 P P 17 48 47.2 +0.9
baz=285,SNR=13
G30M tAoh Zraii Nji 43.61 34 IAmb IAmb 17 48 48.0
comp=Z,28nm,1.4s
G30M tAoh Zraii Nji 43.61 34 P P 17 48 46.7 +0.3
baz=285
O28M Mount Upton 43.73 44 P P 17 48 48.5 +0.8
baz=289
PINM Pinnacle 43.92 44 P P 17 48 49.7 +0.7
baz=289
L29M L29M 43.93 40 P P 17 48 50.5 +1.5
baz=288,SNR=22
K29M Barlow Dome 43.97 39 P P 17 48 50.3 +0.9
baz=288,SNR=5.9
LSA Lhasa 43.98 265 P P 17 48 50.6 +0.3
M29M Somme Creek 43.99 41 P P 17 48 50.9 +1.3
baz=288,SNR=8.4
I30M Mount Dempster 44.04 37 P 17 48 50.3 +0.4
I30M Mount Dempster 44.04 37 P P 17 48 50.5 +0.6
baz=287,SNR=14
TDK Taldyqorghan 44.06 292 *e*P P 17 48 50.5 +0.3
TDK pmax pmax
comp=Z,21nm,0.9s
TDK Taldyqorghan 44.06 292 *e*P P 17 48 50.5 +0.3
comp=Z,21nm,0.9s
INK Inuvik 44.24 32 P P 17 48 51.5 +0.2
baz=286
J30M Hart River 44.25 38 IAmb IAmb 17 48 54.5
comp=Z,25nm,1.9s
J30M Hart River 44.25 38 P P 17 48 52.1 +0.4
baz=288,SNR=6.9
SHLS Shalkode 44.27 289 *e*P P 17 48 50.1 -2.0
SHLS pmax pmax
comp=Z,10.0nm,1.3s
SHLS Shalkode 44.27 289 *e*P P 17 48 50.1 -2.0
comp=Z,9.6nm,1.3s
G31M Satah River 44.37 34 IAmb IAmb 17 48 53.4
comp=Z,13nm,0.9s
G31M Satah River 44.37 34 P P 17 48 52.5 +0.2
baz=287,SNR=5.6
PNL Peninsula 44.47 45 P P 17 48 53.8 +0.5
baz=290
UZB Uzyunbulak 44.56 289 *e*P P 17 48 54.5 +0.1

UZB Uzynbulak 44.56 289 *e*P P 17 48 54.5 +0.1
KPKS Kokpek 44.62 290 *e*P P 17 48 55.2 +0.4
KPKS Kokpek 44.62 290 *e*P P 17 48 55.3 +0.4
O29M Mount Kennedy 44.64 44 P P 17 48 55.6 +0.8
baz=290
H31M Peel River 44.67 35 IAmb IAmb 17 49 00.9
comp=Z,22nm,1.0s
H31M Peel River 44.67 35 P P 17 48 55.6 +0.7
baz=288,SNR=12
M30M Minto, Yukon 44.68 40 IAmb IAmb 17 48 57.9
comp=Z,18nm,0.9s
M30M Minto, Yukon 44.68 40 P P 17 48 56.8 +1.8
baz=289,SNR=20
N30M Aishikik Lake 44.93 42 P P 17 48 58.2 +1.2
baz=290
SATY Saty 45.00 289 *e*P P 17 48 58.1 +0.3
SATY Saty 45.00 289 *e*P P 17 48 58.1 +0.3
P29M Windy Craggy 45.27 44 P P 17 49 01.9 +2.2
baz=291,SNR=9.5
BVAR Borovoye Array 45.30 305 P P 17 49 00.2 +0.3
comp=Z,8.0nm,0.9s,baz=61,slow=9.3,SNR=17
BVAR PcP PcP 17 50 39.5 +0.2
comp=Z,2.3nm,0.6s,baz=85,slow=4.4,SNR=5.3
BVAR LR LR 18 09 37.1
comp=Z,135nm,18.0s,baz=5.7,slow=38
comp=Z,8.0nm,0.9s
BRVK Borovoye 45.34 306 P 17 48 59.6 -0.7
BRVK IAmb IAmb 17 49 05.9
comp=Z,12nm,0.9s
BRVK PcP PcP 17 50 38.8 -0.6
P30M Million Dollar 45.46 44 P P 17 49 02.9 +1.7
baz=292
M31M Drury Creek, Y 45.86 40 P P 17 49 05.9 +1.6
baz=291
SHL Shillong 46.18 260 P 17 49 06.6 -0.8
SHL Shillong 46.18 260 P P 17 49 06.6 -0.8
SHL pmax pmax
comp=Z,25nm,0.9s
WHY Whitehorse 46.22 42 P P 17 49 08.8 +1.6
baz=292,SNR=11
CHTO Chiang Mai 46.40 247 P P 17 49 10.0 +1.0
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 46.40 247 P P 17 49 09.9 +0.9
CHTO pP pP 17 49 17.9 +1.4
S31K Pelican 46.64 46 P P 17 49 11.7 +1.3
baz=294
CMAR Chiang Mai Arr 46.66 247 P 17 49 11.3 +0.3
CMAR Chiang Mai Arr 46.66 247 P P 17 49 12.1 +1.0
comp=Z,5.4nm,1.0s,baz=34,slow=6.9,SNR=18
CMAR PcP PcP 17 50 45.5 +0.9
comp=Z,0.4nm,0.5s,baz=29,slow=2.9,SNR=4.6
CMAR LR LR 18 11 31.5
comp=Z,72nm,18.2s,baz=65,slow=40
comp=Z,5.4nm,1.0s
CMAR Chiang Mai Arr 46.66 247 *i* P P 17 49 12.1 +1.0
CMAR pmax pmax
comp=Z,6.0nm,1.0s
N32M Quiet Lake 46.84 41 P P 17 49 13.1 +1.1
baz=293
BESE Bessie Mountai 47.05 45 P P 17 49 14.2 +0.4
BESE IAmb IAmb 17 49 16.5
comp=Z,16nm,1.1s
MMPY Sheldon Lake, 47.05 39 P P 17 49 15.4 +1.7
baz=293,SNR=16
P32M Atlin 47.18 43 P P 17 49 16.5 +1.8
baz=294
P33M Teslin, Yukon 47.34 42 P 17 49 16.4 +0.4
P33M Teslin, Yukon 47.34 42 P P 17 49 17.8 +1.8
baz=294,SNR=17
R32K Eaglecrest 47.34 45 P P 17 49 17.5 +1.6
baz=295
S32K Killisnoo 47.65 46 P P 17 49 19.4 +1.1
baz=295
AAK Ala-Archa 47.69 291 *de*P P 17 49 20.0 +0.9
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK MLR MLR
comp=Z,117nm,16.0s
AAK Ala-Archa 47.69 291 *e*P P 17 49 20.0 +0.9
Q32M Nakina River 48.12 44 P P 17 49 23.4 +1.2
baz=296
BRDH Bariadhala 48.32 258 LR LR 18 11 39.3
comp=Z,115nm,18.0s,baz=292,slow=38
KSH Kashi 48.40 287 P P 17 49 28.0 +3.4
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=Z,200nm,17.9s
KSH LR LR
comp=Z,200nm,16.5s
KSH LR LR
comp=Z,190nm,16.5s
R33M Jennings River 48.53 43 IAmb IAmb 17 49 33.0
comp=Z,8.4nm,0.9s
R33M Jennings River 48.53 43 P P 17 49 26.7 +1.4
baz=296
SVE Sverdlovsk 48.74 313 *e*P P 17 49 27.4 +0.6
SVE pmax pmax
comp=Z,32nm,0.9s
SVE MLR MLR
comp=Z,465nm,14.0s
TGTN Hyland Airport 48.79 40 P P 17 49 29.0 +1.8
baz=296,SNR=9.5
U33K Whale Pass 48.97 47 P P 17 49 29.5 +1.1
baz=297
WRAK Wrangell Islan 49.21 47 P P 17 49 32.1 +1.7
baz=298
CRAG Craig 49.27 48 P P 17 49 32.4 +1.6
baz=298
ARSB Arslanbob 49.34 290 P P 17 49 29.1 -2.7
ARSB IAmb IAmb 17 49 38.1
comp=Z,14nm,0.9s
ARSB Arslanbob 49.34 290 P P 17 49 29.1 -2.7
ARSB pmax pmax
comp=Z,14nm,0.9s
DLBC Dease Lake 49.40 44 P P 17 49 33.9 +2.0
comp=Z,0.6nm,0.7s,baz=277,slow=9.7,SNR=8.1
comp=Z,0.6nm,0.7s
DLBC Dease Lake 49.40 44 P P 17 49 33.8 +1.9
baz=298,SNR=5.9
KK31 Karatay Array 49.94 294 P 17 49 35.8 -0.3
KK31 Karatay Array 49.94 294 P P 17 49 35.8 -0.3
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 49.94 294 P 17 49 35.6 -0.5
KKAR PcP PcP 17 50 53.6 -2.5
KKAR Karatay Array 49.94 294 P P 17 49 35.6 -0.5
KKAR 17 50 53.6
T35M Bob Quinn 49.97 45 P P 17 49 37.6 +1.4
baz=298
ARTI Arti 50.05 314 P 17 49 36.0 -0.8
ARTI Arti 50.05 314 *c* *i*P P 17 49 36.6 -0.1
ARTI 17 50 55.3
ARTI 17 51 29.8
ARTI S S 17 56 49.6 +3.5
ARTI SS SS 18 00 21.5 +2.9
ARTI pmax pmax
comp=Z,39nm,0.8s
ARTI Arti 50.05 314 P P 17 49 36.7 -0.1
ARTI pP sP 17 49 47.5 +0.2
ARTI sP pP 17 49 51.3 +7.0
ARTI PcP PcP 17 50 54.1 -2.1
V35K Ketchikan 50.09 48 P P 17 49 38.3 +1.3
baz=299
MRSI Marisa 50.71 209 P P 17 49 44.4 +2.2
comp=Z,26nm,0.9s
IUG Iuzhnay 50.75 293 *e*P P 17 49 42.5 +0.1
IUG pmax pmax
comp=Z,18nm,1.4s
IUG Iuzhnay 50.75 293 *e*P P 17 49 42.6 +0.1
comp=Z,18nm,1.4s
CHM Chimkent 50.92 293 *e*P P 17 49 43.8 +0.2
CHM pmax pmax
comp=Z,7.0nm,0.7s
CHM Chimkent 50.92 293 *e*P P 17 49 43.8 +0.2
comp=Z,6.8nm,0.7s
KOTAN Kotaneelee Air 51.27 40 P P 17 49 46.9 +1.0
baz=300
TOAD Toad River Com 51.40 42 P P 17 49 48.2 +1.3
baz=300,SNR=19
GAR Garm 52.33 289 P 17 49 53.6 -0.7
SBUM Sibu 52.68 221 P 17 49 56.6 -0.2
SBUM IAmb IAmb 17 50 00.1
comp=Z,8.3nm,0.8s
AB31 Akbulak array 52.87 305 P 17 49 57.5 -0.4

AB31 Akbulak array 52.87 305 *i* P P 17 49 57.8 -0.1
ABKAR Akbulak array 52.87 305 P P 17 49 57.3 -0.6
KIRV Kirov 53.11 319 *c* *i*P P 17 49 59.6 +0.1
SIMJ Simiganj 53.36 290 P P 17 50 02.3 +0.4
SIMJ PcP PcP 17 51 06.9 -2.2
BBB Bella Bella 53.49 50 P P 17 50 03.1 +0.7
comp=Z,6.0nm,0.8s,baz=315,slow=5.8,SNR=3.8
BBB LR LR 18 11 20.5
comp=Z,68nm,19.8s,baz=213,slow=34
comp=Z,6.0nm,0.8s
NIL Nilore 53.58 282 P 17 50 03.5 0.0
NIL Nilore 53.58 282 P P 17 50 03.5 0.0
NIL pmax pmax
comp=Z,49nm,1.0s
YKA Yellowknife Ar 53.85 34 P P 17 50 05.2 +0.3
comp=Z,11nm,0.8s,baz=311,slow=7.6,SNR=17
comp=Z,11nm,0.8s
ARCES ARCESS Array B 54.77 338 P P 17 50 11.4 -0.2
comp=Z,2.5nm,0.8s,baz=43,slow=5.4,SNR=5.4
comp=Z,2.5nm,0.8s
KBL Kabul 55.80 286 P 17 50 18.1 -1.6
KBL Kabul 55.80 286 P P 17 50 18.1 -1.6
KBL pmax pmax
comp=Z,20nm,0.7s
BNSI Bone 55.89 209 P P 17 50 23.2 +3.0
comp=Z,26nm,1.2s
KLMR Klimovskoe 55.90 325 *e*P P 17 50 18.4 -1.4
KLMR *e* 17 51 16.0
KLMR *e* 17 52 22.4
KLMR pmax pmax
comp=Z,22nm,1.5s
KLMR MLR MLR
comp=Z,119nm,15.0s
KULM Kulim 56.07 235 P 17 50 20.9 -0.6
MSF Maaselka 56.26 333 P P 17 50 20.9 -1.4
PMG Port Moresby 56.89 176 LR LR 18 12 45.8
comp=Z,126nm,21.5s,baz=138,slow=34
BELG Belogornoye 57.50 314‖ *e*P P 17 50 31.1 -0.1
BELG pmax pmax
comp=Z,6.0nm,0.8s
MOS Moscow 59.94 321 *e*P P 17 50 50.5 +2.3
MOS pmax pmax
comp=Z,33nm,0.6s
B08A Colville Reser 60.29 50 IAmb IAmb 17 50 57.3
comp=Z,8.6nm,1.0s
FIA1 FINESS Array S 60.34 331 P P 17 50 50.0 -0.9
FINES FINESS Array B 60.34 331 P P 17 50 49.9 -1.0
FINES FINESS Array B 60.34 331 P P 17 50 51.2 +0.3
comp=Z,3.8nm,0.5s,baz=45,slow=8.2,SNR=31
comp=Z,3.8nm,0.5s
OBN Obninsk 60.81 321 *ce*P P 17 50 53.8 -0.4
OBN *i* *PP pP 17 50 58.4 -3.4
OBN *e* 17 51 36.0
OBN *e* 17 53 06.2
OBN *e*PPP PPP 17 54 31.6
OBN *e*S S 17 59 11.1 +1.5
OBN *e*SS SS 18 03 12.1 +4.2
OBN pmax pmax
comp=Z,34nm,1.3s
OBN MLR MLR
comp=Z,117nm,14.0s
OBN Obninsk 60.81 321 *e*P P 17 50 53.7 -0.4
VRH Novokhopyorsk 61.09 315 *e*P P 17 50 53.9 -2.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 61.46 318 *e*P P 17 50 56.5 -2.1
LPSR pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 61.48 49 IAmb IAmb 17 51 00.8
comp=Z,6.5nm,0.9s
NEW Newport 61.48 49 P P 17 50 59.8 +0.9
comp=Z,3.4nm,0.7s,baz=296,slow=5.0,SNR=8.8
comp=Z,3.4nm,0.7s
BBOR Butler Butte 61.99 56 IAmb IAmb 17 51 05.8
comp=Z,10nm,1.1s
VSR Storozhevoye 62.28 317 *e*P P 17 51 02.3 -1.9
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSU Vasula 62.30 328 *de*P P 17 51 02.9 -1.2
VSU pmax pmax
comp=Z,30nm,1.6s
VSU MLR MLR
comp=Z,122nm,17.0s
VORD Divnogorie 62.40 316 *e*P P 17 51 03.1 -1.8
VORD pmax pmax
comp=Z,10.0nm,1.0s
YBH Yreka Blue Hor 62.72 57 P 17 51 08.5 +1.1
YBH IAmb IAmb 17 51 10.6
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 62.72 57 P P 17 51 09.6 +2.2
comp=Z,0.5nm,0.8s,baz=344,slow=4.3,SNR=13
YBH Yreka Blue Hor 62.72 57 P P 17 51 08.5 +1.1
YBH pmax pmax
comp=Z,9.0nm,1.0s
BMO Blue Mountains 63.63 52 IAmb IAmb 17 51 20.6
comp=Z,10nm,1.3s
FFC Flin Flon 63.91 36 P 17 51 14.6 -0.3
FFC Flin Flon 63.91 36 P P 17 51 14.6 -0.3
FFC pmax pmax
comp=Z,26nm,1.0s
J08A Circle Bar Ran 64.00 54 IAmb IAmb 17 51 18.9
comp=Z,9.0nm,1.0s
MSO Missoula 64.05 48 IAmb IAmb 17 51 23.4
comp=Z,15nm,1.2s
PLID Pearl Lake 64.17 51 IAmb IAmb 17 51 23.6
comp=Z,9.0nm,1.0s
GOF Gofitskoye 64.54 310 *ce*P P 17 51 19.4 +0.2
MNK Minsk 64.79 325 *i* P P 17 51 19.7 -1.0
MNK *i* 17 53 41.5
MNK *i* PPP PPP 17 55 14.1
MNK *i* S S 18 00 01.6 +2.0
MNK *i* SS SS 18 04 12.9 +2.8
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=E,110nm,16.0s
MNK MLR MLR
comp=N,99nm,16.0s
SEKA Sheki 64.88 304 P P 17 51 19.2 -2.4
NB2 NORSAR Subarra 65.11 337 P P 17 51 22.6 -0.1
comp=Z,5.3nm,0.9s,baz=35,slow=6.5
NOA NORSAR Array B 65.11 337 P P 17 51 22.0 -0.7
comp=Z,2.3nm,0.9s,baz=34,slow=6.3,SNR=7.9
NOA LR LR 18 23 08.1
comp=Z,60nm,19.3s,baz=290,slow=39
comp=Z,2.3nm,0.9s
HFS Hagfors 65.18 335 P P 17 51 22.5 -0.6
comp=Z,2.3nm,0.7s,baz=53,slow=5.7,SNR=8.6
HFS LR LR 18 21 44.7
comp=Z,150nm,21.2s,baz=294,slow=38
comp=Z,2.3nm,0.7s
MNGR Mingechevir, A 65.24 304 P P 17 51 21.9 -1.9
NCK Nalchik 65.31 308‖ *i*P P 17 51 25.0 +0.8
NCK pmax pmax
comp=Z,21nm,0.6s
ERBR Yeremizino-Bor 65.40 311 *e*P P 17 51 24.7 -0.1
ERBR *e**PP pP 17 51 29.4 -3.2
ERBR *e*S S 18 00 10.2 +2.8
ERBR pmax pmax
comp=Z,36nm,0.8s
KIV Kislovodsk 65.47 309 P P 17 51 24.5 -0.9
KIV Kislovodsk 65.47 309 *e*P P 17 51 25.6 +0.2
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,137nm,17.0s
KIV Kislovodsk 65.47 309 P P 17 51 26.7 +1.3
comp=Z,437nmcomp=Z,47nm,1.0s
KIV Kislovodsk 65.47 309 P P 17 51 26.9 +1.5
KIV pP sP 17 51 41.3 +5.2
KIV PcP PcP 17 51 54.5 -2.6
KBZ Khabaz 65.52 309 P P 17 51 25.8 +0.2
comp=Z,9.7nm,0.9s,baz=22,slow=5.4,SNR=18
comp=Z,9.7nm,0.9s
KBZ Khabaz 65.52 309 *c* *i*P P 17 51 25.5 0.0
KBZ pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 65.52 309 *e*P P 17 51 25.5 0.0
SHA1 Shidzhatmaz 65.64 309 *c* *i*P P 17 51 27.1 +0.5
LKRN Lenkeran, Azer 65.66 301 P P 17 51 24.7 -1.8
GANJ Ganja 65.75 304 P P 17 51 25.2 -2.0
FRB Frobisher Bay 66.04 15 P P 17 51 28.4 -0.2

comp=Z,4.7nm,0.5s,baz=340,slow=9.0,SNR=3.2
comp=Z,4.7nm,0.5s
CMB Columbia Colle 66.51 59 IAmb IAmb 17 51 34.6
comp=Z,9.3nm,1.1s
WAKR Walker 66.74 58 IAmb IAmb 17 51 36.6
comp=Z,8.3nm,0.9s
YHL Hebgen Lake 66.81 48 IAmb IAmb 17 51 41.1
comp=Z,11nm,1.2s
YHB Horse Butte 66.87 48 IAmb IAmb 17 51 36.8
comp=Z,11nm,1.0s
GNI Garni 66.97 305 *de*P P 17 51 35.3 +0.1
GNI pmax pmax
comp=Z,67nm,1.2s
AK03 Malin Array Si 67.06 321 P P 17 51 39.1 +3.8
AKASG Malin Array Be 67.08 321 P P 17 51 34.6 -0.8
comp=Z,4.2nm,0.7s,baz=41,slow=6.7,SNR=24
comp=Z,4.2nm,0.7s
AKBB Malin Array Si 67.08 321 P P 17 51 33.4 -2.0
AKBB IAmb IAmb 17 51 40.2
comp=Z,12nm,1.0s
AKBB Malin Array Si 67.08 321 *ce*P P 17 51 34.5 -0.9
AKBB pmax pmax
comp=Z,11nm,0.9s
AK04 Malin Array Si 67.08 321 P P 17 51 39.1 +3.6
KIEV Kiev 67.09 321 P 17 51 33.4 -2.1
KIEV IAmb IAmb 17 51 40.2
comp=Z,9.7nm,0.9s
KIEV Kiev 67.09 321 P P 17 51 33.4 -2.1
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 67.09 321 P P 17 51 38.5 +3.0
comp=Z,44nm,1.0s
AK01 Malin Array Si 67.09 321 P P 17 51 39.1 +3.6
AK09 Malin Array Si 67.11 321 P P 17 51 39.0 +3.4
AK02 Malin Array Si 67.12 321 P P 17 51 39.1 +3.4
AK18 Malin Array Si 67.13 321 P P 17 51 39.0 +3.3
VSLR Vesyoloye 67.20 310‖ *e*P P 17 51 36.3 -0.1
VSLR pmax pmax
comp=Z,32nm,0.9s
NAX Nakhchivan 67.22 303 P P 17 51 34.7 -2.0
NVAR Mina Array Bea 67.44 57 P P 17 51 37.6 -0.6
NVAR Mina Array Bea 67.44 57 P P 17 51 40.0 +1.8
comp=Z,6.9nm,0.8s,baz=295,slow=5.9,SNR=44
comp=Z,6.9nm,0.8s
NV11 Mina Array Sit 67.52 57 IAmb IAmb 17 51 45.8
comp=Z,7.4nm,0.8s
ELK Elko 67.55 54 P 17 51 39.3 +0.4
ELK Elko 67.55 54 P P 17 51 40.2 +1.3
comp=Z,1.7nm,0.8s,baz=309,slow=6.3,SNR=7.4
comp=Z,1.7nm,0.8s
ELK Elko 67.55 54 P P 17 51 39.3 +0.4
ELK pmax pmax
comp=Z,3.0nm,1.0s
RLMT Red Lodge 67.57 47 IAmb IAmb 17 51 46.1
comp=Z,17nm,1.3s
ANN Anapa 67.58 312 *e*P P 17 51 37.1 -1.6
ANN *e**PP pP 17 51 40.7 -5.8
ANN *e*S S 18 00 34.0 +0.3
ANN pmax pmax
comp=Z,26nm,0.8s
WB0 Warramunga Arr 67.65 190 P P 17 51 39.6 +0.4
WRAB Tennant Creek 67.82 190 P P 17 51 40.4 +0.1
WRAB IAmb IAmb 17 51 46.1
comp=Z,12nm,1.2s
WRAB Tennant Creek 67.82 190‖ *e*P P 17 51 41.2 +0.9
WRAB pmax pmax
comp=Z,12nm,1.3s
WR8 Warramunga Arr 67.82 190 P 17 51 40.0 -0.4
WR8 IAmb IAmb 17 51 46.9
comp=Z,14nm,1.2s
WRA Warramunga Arr 67.83 190 P P 17 51 40.3 -0.2
WRA Warramunga Arr 67.83 190 P P 17 51 41.0 +0.6
comp=Z,3.9nm,0.8s,baz=5.1,slow=6.5,SNR=29
WRA LR LR 18 23 27.6
comp=Z,94nm,18.1s,baz=6.5,slow=38
comp=Z,3.9nm,0.8s
WRA Warramunga Arr 67.83 190 *i* P P 17 51 41.0 +0.6
WRA pmax pmax
comp=Z,4.0nm,0.8s
TPAW Teton Pass 67.89 49 IAmb IAmb 17 51 48.7
comp=Z,13nm,1.1s
LAO LASA Array 67.92 44 IAmb IAmb 17 51 47.6
comp=Z,17nm,1.2s
LOHW Long Hollow 67.98 49 IAmb IAmb 17 51 49.0
comp=Z,8.7nm,1.1s
RNPP8 Varash 67.99 323 P P 17 51 45.6 +4.4
DSP Deep Springs 68.36 58 IAmb IAmb 17 51 46.8
comp=Z,11nm,1.1s
HWUT Hardware Ranch 68.91 51 IAmb IAmb 17 51 54.4
comp=Z,13nm,0.9s
R11B Troy Canyon, C 69.03 56 IAmb IAmb 17 51 50.5
comp=Z,18nm,1.9s
PD31 Pinedale Array 69.12 49 IAmb IAmb 17 51 55.1
comp=Z,11nm,0.9s
PDAR Pinedale Array 69.12 49 P P 17 51 48.8 +0.1
PDAR Pinedale Array 69.12 49 P P 17 51 49.5 +0.9
comp=Z,5.7nm,0.7s,baz=321,slow=1.9,SNR=29
comp=Z,5.7nm,0.7s
GEVA Gevas 69.19 304 IAmb IAmb 17 51 55.7
comp=Z,7.9nm,0.9s
SPR3 Spring Creek 3 69.27 55 IAmb IAmb 17 51 52.9
comp=Z,13nm,1.3s
SORM Soroca 69.38 320 P P 17 51 53.7 +3.8
KOPT Kop Dagi 69.39 307 P P 17 51 50.8 +0.3
TPNV Topopah Spring 69.64 57 IAmb IAmb 17 51 54.3
comp=Z,12nm,0.8s
WSHM Spangler Hills 69.87 59 P P 17 51 52.8 -0.4
WSHM IAmb IAmb 17 51 55.4
comp=Z,9.2nm,1.0s
KMPD K-Podol'skiy 69.87 321 P P 17 51 56.0 +3.1
GWY Greenwater Val 69.93 58 P P 17 51 54.4 +0.7
TPO Tropico Hills 69.94 60 IAmb IAmb 17 51 56.2
comp=Z,15nm,1.0s
BSUT Blindstream Ca 70.10 51 IAmb IAmb 17 52 02.0
comp=Z,7.0nm,0.8s
GSC Goldstone, Bar 70.47 59 IAmb IAmb 17 51 59.3
comp=Z,12nm,1.2s
UOSS Minazif 70.48 286 P P 17 51 55.8 -1.2
SHPR Sheep Range 70.57 57 P 17 51 58.1 +0.4
KWP Kalwaria Pacla 70.58 324 *e*P P 17 51 57.4 +0.2
TMUT Trail Mountain 70.75 53 IAmb IAmb 17 52 01.0
comp=Z,8.3nm,0.8s
RSSD Black Hills 70.85 45 P P 17 51 58.4 -0.9
RSSD Black Hills 70.85 45 P P 17 51 58.4 -0.9
RSSD pmax pmax
comp=Z,18nm,1.1s
RSSD Black Hills 70.85 45 P P 17 51 60.0 +0.7
P17A Butcher Ranch, 70.88 52 IAmb IAmb 17 52 06.5
comp=Z,15nm,1.2s
EPLO Experimental L 71.05 35 P P 17 51 58.8 -1.3
EPLO IAmb IAmb 17 52 05.0
comp=Z,10nm,1.1s
BUR08 Bucovina Ar. S 71.12 321 IAmb IAmb 17 52 05.7
comp=Z,18nm,1.8s
MTPU Mount Pierson 71.13 54 IAmb IAmb 17 52 08.8
comp=Z,21nm,1.7s
OJC Ojcow 71.25 326 *e*P P 17 52 01.5 +0.2
SRU San Rafael Swe 71.25 52 IAmb IAmb 17 52 09.0
comp=Z,14nm,1.0s
AGMN Agassiz Nation 71.28 38 IAmb IAmb 17 52 06.7
comp=Z,7.7nm,1.0s
LCMT Little Creek M 71.28 55 IAmb IAmb 17 52 10.0
comp=Z,6.2nm,2.0s
PKCU Pink Cliffs 71.49 55 IAmb IAmb 17 52 06.4
comp=Z,6.8nm,0.9s
KNB Kanab 71.51 55 P P 17 52 03.2 -0.2
KNB IAmb IAmb 17 52 10.8
comp=Z,10nm,1.0s
KNB Kanab 71.51 55 P P 17 52 03.2 -0.2
KNB pmax pmax
comp=Z,10.0nm,1.0s
AS31 Alice Springs 71.56 190 P 17 52 04.2 +0.8
ASAR Alice Springs 71.56 190 P P 17 52 03.9 +0.5
ASAR Alice Springs 71.56 190 P P 17 52 05.0 +1.7
comp=Z,3.3nm,0.7s,baz=0.2,slow=5.3,SNR=30
comp=Z,3.3nm,0.7s
NIE Niedzica 71.70 325 *e*P P 17 52 04.5 +0.5
BELC Belle Mtn. Jos 71.86 59 IAmb IAmb 17 52 07.3
comp=Z,9.5nm,1.1s
KSP Ksiaz 72.03 328 *e*P P 17 52 06.3 +0.4
BORC Borrego Spring 72.14 60 IAmb IAmb 17 52 14.3
comp=Z,15nm,1.3s
OKC Ostrava-Krasne 72.18 326 AMS AMS 18 26 50.0
comp=Z,200nm,13.6s
U15A North Rim 72.23 55 IAmb IAmb 17 52 10.5
comp=Z,7.6nm,0.9s

IRM	Iron Mountain	72.25	59	IAmb	IAmb	17 52 10.2		
	comp=Z,16nm,1.2s							
W13A	Hualapai Mount	72.30	57	P	P	17 52 08.4	+0.3	
CHVC	Chvalec	72.32	328	AMS	AMS	18 26 30.0		
	comp=Z,200nm,14.4s							
UPC	Upice	72.41	328	AMS	AMS	18 26 30.0		
	comp=Z,200nm,18.9s							
DPC	Dobruska-Polom	72.42	328	eP	P	17 52 09.2	+0.8	
DPC	Dobruska-Polom	72.42	328	eP	P	17 52 09.2	+0.8	
BC3	Big Chuckawall	72.43	59	IAmb	IAmb	17 52 10.9		
	comp=Z,9.3nm,1.1s							
MORC	Moravsky Berou	72.45	327	IAmb	IAmb	17 52 15.3		
	comp=Z,14nm,1.3s							
MORC	Moravsky Berou	72.45	327	eP	P	17 52 08.6	0.0	
MORC				e		17 52 13.5		
PV21	Cone Mtn., Par	72.48	52	IAmb	IAmb	17 52 15.9		
	comp=Z,11nm,0.9s							
PV22	Blue Mesa, Par	72.60	52	P	P	17 52 09.3	-0.5	
PV22				IAmb	IAmb	17 52 11.8		
	comp=Z,9.4nm,0.7s							
PV04	Paradox Valley	72.64	52	IAmb	IAmb	17 52 12.2		
	comp=Z,12nm,1.1s							
PV16	Nyswonger Mesa	72.70	52	IAmb	IAmb	17 52 17.2		
	comp=Z,22nm,1.3s							
BNN	Bunyan	72.71	309	P	P	17 52 09.7	-0.7	
BNN				IAmb	IAmb	17 52 16.5		
	comp=Z,14nm,0.9s							
PV12	Saucer Basin,	72.75	52	P	P	17 52 10.3	-0.5	
PV12				IAmb	IAmb	17 52 16.4		
	comp=Z,21nm,1.2s							
PV03	Paradox Valley	72.77	52	IAmb	IAmb	17 52 18.1		
	comp=Z,10nm,1.1s							
CLL	Collm	72.78	330	IAmb	IAmb	17 52 16.3		
	comp=Z,8.9nm,0.8s							
CLL	Collm	72.78	330	*i* P	P	17 52 09.7	-0.7	
CLL				*i*		17 52 14.3		
CLL				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CLL	Collm	72.78	330	*i* P	P	17 52 09.7	-0.7	
	comp=Z,8.0nm,0.8s							
CLL				*i* x	x	17 52 14.3		
	comp=Z,14nm,1.1s							
CLL				*e*pP	sP	17 52 21.0	-0.2	
CLL				*e*PcP	PcP	17 52 27.0	-0.6	
CLL				LmV		18 25 00.0		
	comp=Z,100nm,18.6s							
BRG	Berggiesshubel	72.83	329	eP	P	17 52 11.3	+0.5	
BRG				Amp		17 52 12.1		
	comp=Z,4.2nm,1.1s							
BRG	Berggiesshubel	72.83	329	P	P	17 52 16.1	+5.3	
BRG				Amp		17 52 17.5		
	comp=Z,6.6nm,1.2s							
PV13	Radium Mtn., P	72.86	52	IAmb	IAmb	17 52 18.2		
	comp=Z,14nm,1.0s							
PV02	Paradox Valley	72.87	52	IAmb	IAmb	17 52 22.1		
	comp=Z,7.3nm,0.7s							
PVCC	Panska Ves	72.90	329	AMS	AMS	18 27 30.0		
	comp=Z,100nm,16.9s							
BLYC	Blythe	72.90	59	P	P	17 52 11.9	+0.4	
BLYC				IAmb	IAmb	17 52 18.6		
	comp=Z,15nm,1.1s							
PV15	Paradox Valley	72.91	52	IAmb	IAmb	17 52 18.3		
	comp=Z,12nm,0.9s							
VYHS	Vyhne	73.01	325	eP	P	17 52 12.9	+1.0	
VYHS	Vyhne	73.01	325	eP	P	17 52 12.9	+1.0	
F33A	5 Mile Ranch,	73.04	39	IAmb	IAmb	17 52 12.9		
	comp=Z,12nm,1.0s							
JAVC	Velka Javorina	73.16	326	eP	P	17 52 13.7	+0.9	
VRAC	Vranov	73.19	327	eP	P	17 52 13.5	+0.6	
VRAC				e		17 52 18.0		
BR131	Keskin Array S	73.21	311		P	17 52 12.8	-0.6	
BR131	Keskin Array S	73.21	311	P	P	17 52 12.8	-0.6	
BR131				pmax	pmax			
	comp=Z,7.0nm,0.9s							
BRTR	Keskin Array B	73.21	311	P	P	17 52 12.5	-0.9	
BRTR	Keskin Array B	73.21	311	P	P	17 52 13.7	+0.3	
	comp=Z,3.9nm,0.9s,baz=67,slow=4.2,SNR=17							
	comp=Z,3.9nm,0.9s							
BRTR	Keskin Array B	73.21	311	*i* P	P	17 52 13.6	+0.2	
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GLA	Glamis	73.23	59	IAmb	IAmb	17 52 15.9		
	comp=Z,14nm,0.9s							
ISCO	Idaho Springs	73.31	49	IAmb	IAmb	17 52 21.9		
	comp=Z,16nm,1.9s							
EYMN	Ely	73.31	35	P	P	17 52 12.6	-1.1	
EYMN				IAmb	IAmb	17 52 18.9		
	comp=Z,13nm,0.9s							
ESJX	Sierra Juarez	73.32	61	IAmb	IAmb	17 52 21.2		
	comp=Z,11nm,0.9s							
GOPC	GO Pecny, Ondr	73.34	328	AMS	AMS	18 27 10.0		
	comp=Z,100nm,19.8s							
PRU	Pruhonice	73.36	329	AMS	AMS	18 27 20.0		
	comp=Z,200nm,19.8s							
KRUC	Moravsky	73.47	327	eP	P	17 52 15.5	+0.9	
EKA	Eskdalemuir Ar	73.70	341	P	P	17 52 15.8	0.0	
	comp=Z,2.1nm,0.7s,baz=12,slow=5.4,SNR=4.5							
	comp=Z,2.1nm,0.7s							
MODS	Modra-Piesok	73.71	326	eP	P	17 52 14.6	-1.4	
MODS	Modra-Piesok	73.71	326	eP	P	17 52 14.6	-1.4	
MVCO	Mesa Verde	73.73	52	IAmb	IAmb	17 52 25.1		
	comp=Z,9.6nm,0.9s							
MOX	Moxa	73.81	331	eL	L	18 23 35.3		
	comp=Z,99nm,20.9s							
ZVC	Zvikov	73.95	328	AMS	AMS	18 30 00.0		
	comp=Z,100nm,20.9s							
113A	Mohawk Valley,	74.05	59	IAmb	IAmb	17 52 20.5		
	comp=Z,8.6nm,0.9s							
E38A	The Farm, Brul	74.39	36		P	17 52 19.2	-0.8	
KHC	Kasperske Hory	74.42	329	*d* P	P	17 52 20.6	+0.4	
KHC				pmax	pmax			
	comp=Z,11nm,1.4s							
KHC	Kasperske Hory	74.42	329	eP	P	17 52 20.7	+0.5	
KHC				AMS	AMS	18 28 20.0		
	comp=Z,200nm,20.1s							
CKRC	Cesky Krumlov	74.42	328	eP	P	17 52 19.8	-0.4	
CKRC				MLR	MLR			
	comp=Z,100nm,14.9s							
CKRC	Cesky Krumlov	74.42	328	eP	P	17 52 19.8	-0.4	
CKRC				AMS	AMS	18 27 40.0		
	comp=Z,100nm,14.9s							
ECSD	EROS Data Cent	74.57	41	IAmb	IAmb	17 52 26.7		
	comp=Z,9.2nm,0.9s							
CONA	Conrad Observa	74.61	327	eP	P	17 52 21.2	-0.1	
	comp=Z,3.2nm,1.1s							
GERES	GERESS Array B	74.62	328	P	P	17 52 21.2	-0.2	
	comp=Z,0.7nm,0.6s,baz=7.6,slow=4.0,SNR=5.6							
	comp=Z,0.7nm,0.6s							
RONA	Rosalia, Austr	74.63	326	eP	P	17 52 21.5	+0.1	
	comp=Z,6.7nm,1.3s							
SCHQ	Schefferville	74.65	18	P	P	17 52 21.0	-0.4	
	comp=Z,4.7nm,0.9s,baz=34,slow=3.6,SNR=3.6							
	comp=Z,4.7nm,0.9s							
GRF	Grafenberg Arr	74.75	330	eP	P	17 52 22.3	+0.3	
	comp=Z,7.0nm,1.1s,baz=31,slow=5.2							
GRF				eL	L	18 32 01.1		
	comp=Z,106nm,18.1s							
214A	Organ Pipe Nat	75.19	59	IAmb	IAmb	17 52 31.9		
	comp=Z,12nm,1.1s							
MOA	Molln	75.26	328	eP	P	17 52 24.0	-1.1	
	comp=Z,0.8nm,0.5s							
ARSA	Arzberg	75.30	326	eP	P	17 52 24.8	-0.5	
	comp=Z,1.0nm,0.5s							
BIOA	Bad Ischl, Aus	75.62	328	eP	P	17 52 27.1	0.0	
	comp=Z,2.1nm,0.6s							
SOKA	Soboth	75.96	326	eP	P	17 52 29.1	-0.1	
	comp=Z,7.1nm,1.4s							
G40A	Rib Lake	76.02	36	P	P	17 52 28.2	-1.2	
G40A				IAmb	IAmb	17 52 34.9		
	comp=Z,12nm,0.8s							
RDO	Rodhopi	76.07	317	IAmb	IAmb	17 52 37.4		
	comp=Z,8.1nm,0.9s							
LESA	Schwarzleotal	76.19	328	eP	P	17 52 29.5	-0.9	
	comp=Z,6.2nm,1.0s							
KBA	Koelnbreinsper	76.24	328	eP	P	17 52 30.8	0.0	
	comp=Z,11nm,1.0s							
OBKA	Obir	76.28	327	eP	P	17 52 30.1	-0.9	
	comp=Z,3.4nm,1.0s							
MYKA	Terra Mystica	76.52	327	eP	P	17 52 31.9	-0.4	
	comp=Z,1.5nm,0.4s							
ANMO	Albuquerque	76.52	53	P	P	17 52 31.8	-0.9	
ANMO	Albuquerque	76.52	53	P	P	17 52 33.9	+1.2	
	comp=Z,2.7nm,0.7s,baz=340,slow=5.2,SNR=7.3							
	comp=Z,2.7nm,0.7s							
ANMO	Albuquerque	76.52	53	P	P	17 52 31.8	-0.9	
ANMO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
WATA	Walderalm	76.65	329	eP	P	17 52 33.3	+0.1	
	comp=Z,7.8nm,0.8s							
WTTA	Wattenberg	76.69	329	eP	P	17 52 33.8	+0.3	
	comp=Z,6.9nm,0.6s							
RETA	Reutte	76.81	329	eP	P	17 52 33.7	-0.2	
	comp=Z,6.0nm,0.9s							
MOTA	Moosalm	76.81	329	eP	P	17 52 33.9	-0.2	
	comp=Z,10nm,0.9s							
ABTA	Abfaltersbach	76.83	328	eP	P	17 52 32.5	-1.6	
	comp=Z,5.9nm,1.6s							
SQTA	Sankt Quirin	76.88	329	eP	P	17 52 33.9	-0.5	
	comp=Z,7.4nm,0.9s							
CSS	Mathiatis	76.96	308	IAmb	IAmb	17 52 40.5		
	comp=Z,13nm,0.9s							
FETA	Feichten	77.22	329	eP	P	17 52 36.5	+0.1	
	comp=Z,8.1nm,1.2s							
DAVA	Damuels	77.28	330	eP	P	17 52 36.6	-0.1	
	comp=Z,6.9nm,0.8s							
MMAI	Mount Meron Ar	77.30	305	P	P	17 52 37.1	+0.1	
	comp=Z,6.0nm,0.7s,baz=46,slow=7.4,SNR=9.7							
	comp=Z,6.0nm,0.7s							
RTBA	Rita Blanca	77.34	49	IAmb	IAmb	17 52 38.4		
	comp=Z,15nm,1.3s							
ECH	Echery	77.36	332	P	P	17 52 36.4	-0.6	
ECH				IAmb	IAmb	17 52 37.6		
	comp=Z,8.7nm,1.1s							
ECH	Echery	77.36	332	P	P	17 52 36.4	-0.6	
ECH				pmax	pmax			
	comp=Z,9.0nm,1.1s							
121A	Cookes Peak, D	77.61	55	IAmb	IAmb	17 52 46.2		
	comp=Z,8.1nm,0.8s							
FUORN	Ofenpass-Fuorn	77.73	329	IAmb	IAmb	17 52 46.2		
	comp=Z,16nm,1.2s							
PDG	Podgorica	77.81	321	P	P	17 52 38.8	-0.7	
PDG				IAmb	IAmb	17 52 44.7		
	comp=Z,8.5nm,0.8s							
VLDQ	Val d'Or	78.07	27	P	P	17 52 38.2	-2.6	
TUE	Stuetta	78.17	330	P	P	17 52 40.8	-1.0	
TUE				IAmb	IAmb	17 52 47.4		
	comp=Z,11nm,1.3s							
RAYN	Ar Rayn	78.33	292	P	P	17 52 42.2	-0.6	
RAYN				IAmb	IAmb	17 52 48.4		
	comp=Z,15nm,1.1s							
RAYN	Ar Rayn	78.33	292	P	P	17 52 42.2	-0.6	
RAYN				pmax	pmax			
	comp=Z,15nm,1.1s							
STKA	Stephens Creek	79.20	182	P	P	17 52 47.5	+0.5	
	comp=Z,1.6nm,0.9s,baz=40,slow=7.9,SNR=2.8							
	comp=Z,1.8nm,0.9s							
FDMO	Fiordimonte	79.78	326	P	P	17 52 50.9	+0.5	
FDMO				IAmb	IAmb	17 52 57.0		
	comp=Z,15nm,1.2s							
P40A	Paris	79.98	41	IAmb	IAmb	17 52 52.4		
	comp=Z,13nm,0.8s							
CAMP	Campotosto	80.08	325	IAmb	IAmb	17 52 53.3		
	comp=Z,11nm,1.0s							
BNI	Bardonecchia	80.31	331	P	P	17 52 52.6	-0.8	
BNI	Bardonecchia	80.31	331	P	P	17 52 52.6	-0.8	
BNI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
INTR	Introdacqua	80.34	325	P	P	17 52 52.2	-1.3	
INTR				IAmb	IAmb	17 53 00.0		
	comp=Z,17nm,1.2s							
SADO	Sadowa	80.50	30	LR	LR	18 34 16.2		
	comp=Z,40nm,18.2s,baz=176,slow=40							
POST	Post	80.59	51	IAmb	IAmb	17 53 01.2		
	comp=Z,9.0nm,0.9s							
TRQ	Mont Tremblant	80.64	26	IAmb	IAmb	17 52 55.4		
	comp=Z,14nm,1.0s							
SSB	Saint Sauveur	80.80	332	IAmb	IAmb	17 53 01.6		
	comp=Z,12nm,1.3s							
R40A	Maddies Statio	80.90	41	IAmb	IAmb	17 53 01.8		
	comp=Z,11nm,1.0s							
U38A	Gravette	81.44	44	IAmb	IAmb	17 53 00.2		
	comp=Z,9.6nm,0.8s							
ALPN	Alpine	81.54	54	IAmb	IAmb	17 53 06.8		
	comp=Z,6.8nm,0.7s							
CCM	Cathedral Cave	81.55	41	P	P	17 52 58.5	-1.4	
CCM				IAmb	IAmb	17 53 05.4		
	comp=Z,7.5nm,0.8s							
CCM	Cathedral Cave	81.55	41	P	P	17 52 58.5	-1.4	
CCM				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HHAR	Hobbs	81.78	44	P	P	17 52 59.4	-1.8	
HHAR				IAmb	IAmb	17 53 01.9		
	comp=Z,7.6nm,0.8s							
TX31	Lajitas Ar. Si	82.33	55	IAmb	IAmb	17 53 11.2		
	comp=Z,5.5nm,0.8s							
TXAR	Lajitas Array	82.33	55		P	17 53 04.1	-0.2	
TXAR	Lajitas Array	82.33	55	P	P	17 53 05.4	+1.1	
	comp=Z,5.3nm,0.7s,baz=296,slow=4.1,SNR=71							
	comp=Z,5.3nm,0.7s							
SAND	Sanderson	82.69	53	IAmb	IAmb	17 53 12.1		
	comp=Z,6.8nm,0.9s							
S44A	Carbondale	82.72	40	IAmb	IAmb	17 53 11.6		
	comp=Z,11nm,0.9s							
PBMO	Poplar Bluff	82.97	41	IAmb	IAmb	17 53 13.1		
	comp=Z,12nm,0.9s							
J59A	Piesco	83.16	27	IAmb	IAmb	17 53 12.6		
	comp=Z,6.9nm,0.8s							
BRDY	Brady	83.30	50	IAmb	IAmb	17 53 15.2		
	comp=Z,5.8nm,0.8s							
DRIO	Del Rio	83.91	52		P	17 53 12.0	-0.3	
CEST	Esterri de Car	84.24	333	IAmb	IAmb	17 53 17.8		
	comp=Z,8.7nm,1.1s							
N58A	Sunbury	84.81	30	IAmb	IAmb	17 53 22.3		
	comp=Z,11nm,1.0s							
T50A	Nancy	85.14	37	IAmb	IAmb	17 53 24.1		
	comp=Z,10.0nm,0.9s							
Y45A	Yeager Farm, C	85.79	42	P	P	17 53 22.3	+0.6	
R55A	Marlinton	85.88	33	IAmb	IAmb	17 53 23.2		
	comp=Z,12nm,1.1s							
TKL	Tuckaleechee C	86.75	37	P	P	17 53 26.0	-0.5	
	comp=Z,2.4nm,0.6s,baz=14,slow=3.8,SNR=4.0							
	comp=Z,2.4nm,0.6s							
TKL	Tuckaleechee C	86.75	37	P	P	17 53 26.0	-0.5	
POLO	Lamas de Olo	87.85	339	eP	P	17 53 31.2	-0.6	
POLO				*i* IAmb	IAmb	17 53 37.9		
	comp=Z,8.2nm,1.3s							
MVO	Moncorvo	87.86	338	eP	P	17 53 31.2	-0.6	
PVRL	Vila Real	87.93	339	eP	P	17 53 32.0	0.0	
ESBB	Sonseca Array	88.45	336	IAmb	IAmb	17 53 40.8		
	comp=Z,7.9nm,1.2s							
ESDC	Sonseca Array	88.45	336		P	17 53 33.4	-1.3	
ESDC	Sonseca Array	88.45	336	P	P	17 53 34.2	-0.4	
	comp=Z,3.0nm,0.9s,baz=13,slow=4.0,SNR=27							
	comp=Z,3.0nm,0.9s							
PAB	San Pablo	88.68	336	P	P	17 53 33.0	-2.7	
PAB				IAmb	IAmb	17 53 40.9		
	comp=Z,4.5nm,1.0s							
PAB	San Pablo	88.68	336	P	P	17 53 33.0	-2.7	
PAB				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VNDA	Vanda	125.41	175	PKP	PKiKP	17 59 41.9	-0.2	
	comp=Z,1.0nm,0.6s,baz=276,slow=2.1,SNR=4.9							
QSPA	South Pole Qui	137.39	180	PKiKP	PKPpre	17 59 57.5		
	comp=Z,1.1nm,0.7s,baz=297,slow=2.5,SNR=8.0							
LPAZ	La Paz	139.12	51	PKP	PKPdf	18 00 11.1	+1.0	
	comp=Z,0.7nm,0.5s,baz=45,slow=1.4,SNR=2.0							
BDFB	Brasilia	146.60	21	PKPbc	PKPbc	18 00 23.5	-0.6	
	comp=Z,6.6nm,0.8s,baz=288,slow=2.3,SNR=4.7							
TROLL	Troll, Antarti	149.82	203	⇑PKPbc	PKiKP	18 00 31.6	-0.4	
TROLL				⇓PKPdf	PKPdf	18 00 26.5	+0.3	
	comp=Z,884nm,1.2s							
SNAA	Sanae	151.38	201	⇓PKPdf	PKPdf	18 00 29.0	+0.4	
	comp=Z,162nm,0.8s							
SNAA	Sanae	151.38	201	⇓pPKPdf	PKPbc	18 00 34.8	+0.2	
SNAA	Sanae	151.38	201	PKPbc	PKPbc	18 00 34.6	0.0	
	comp=Z,8.7nm,0.9s,baz=160,slow=1.7,SNR=33							
VNA3	Neumayer Olymp	153.25	199	⇓PKPdf	PKPdf	18 00 32.0	+0.7	
	comp=Z,8.9nm,0.8s							
VNA3	Neumayer Olymp	153.25	199	⇓pPKPdf	PKiKP	18 00 39.2	+0.2	
VNA1	Neumayer--Stat	153.37	200	⇓PKPdf	PKPdf	18 00 32.4	+0.9	
	comp=Z,11nm,1.0s							
VNA1	Neumayer--Stat	153.37	200	⇓pPKPdf	PKPbc	18 00 38.6	-0.5	

JMA 06 17:40:52.0±0.1, 41.6N±0.5×142.1E±0.6, h63km±2km, MV3.1/40, E OFF AOMORI PREF, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAHD	Aomorihigashid	0.62	242	P	Pn	17 41 06.0	+0.5
JAHD				eS	Sn	17 41 16.1	+0.8
JARK	Aomorirokkasho	0.76	224	P	Pn	17 41 07.1	0.0
JARK				eS	Sn	17 41 17.9	-0.4
JOT	Ohata	0.78	258	P	Pn	17 41 07.5	0.0
JOT				eS	Sn	17 41 19.1	+0.3
JKB	Kayabe	0.84	294	P	Pn	17 41 07.9	-0.3
JKB				eS	Sn	17 41 19.4	-0.6
JNBK	Urakawa-nobuka	0.89	35	P	Pn	17 41 08.3	-0.4
JEM	Erimo	0.94	60	P	Pn	17 41 09.3	-0.1
JEM				eS	Sn	17 41 21.6	-0.5
JIAM	Iburiatsuma	1.07	354	P	Pn	17 41 12.1	+1.0
JIAM				eS	Sn	17 41 27.4	+2.1
JTM	Tenmabayashi	1.08	225	P	Pn	17 41 11.6	+0.4
JTM				eS	Sn	17 41 25.4	+0.1
JNB	Noboribetsu	1.19	320	P	Pn	17 41 12.3	-0.3
JNB				S	Sn	17 41 27.4	-0.6
JSR	Shiriuchi	1.24	269	P	Pn	17 41 13.6	+0.4
JBT2	Biratori 2	1.24	10	eP	Pn	17 41 13.8	+0.5
JBT2				eS	Sn	17 41 30.5	+1.2
JANG	Nango	1.25	200	eP	Pn	17 41 13.4	0.0
JANG				eS	Sn	17 41 29.1	-0.5
JEW	Eniwo	1.36	341	P	Pn	17 41 15.5	+0.6
JEW				eS	Sn	17 41 32.7	+0.5
JYM2	Yakumo 2	1.39	294	P	Pn	17 41 15.8	+0.6
JCH	Churui	1.43	42	P	Pn	17 41 16.7	+0.8
JOMM	Oshimamatsumae	1.55	270	eP	Pn	17 41 17.5	+0.2
JFR	Furan	1.65	14	eP	Pn	17 41 19.1	+0.3
JOSM	Okushiri--Mats	2.01	286	eP	Pn	17 41 23.4	-0.1

GCG 06 17:57:46.1±0.5, 13.17N×91.57W, h50km±241km, MD3.6, ML3.5

SNET 06 17:57:50.9±1.4, 13.41N×91.20W, h15km±168km, ML2.9

ISC 06 17:57:47.4±4.6, 13.3N±0.2×91.4W±0.2, h10km, n9, σ0.93/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSG	Sabana Grande	1.18	26	eP	Pg	17 58 09.5	-0.7
FG16	Alotenango, Sa	1.26	41	eP	Pg	17 58 10.7	-1.0
SOKI	Kika Raxquin	1.50	358	eP	Pn	17 58 14.5	-0.2
SOKI				eS	Sn	17 58 36.1	+1.5
NUBE	Las Nubes	1.65	69	eP	Pn	17 58 17.4	+0.8
SNJE	San Jose	1.79	72	eP	Pn	17 58 18.5	-0.2
SNJE				IAML		17 58 53.4	
	comp=Z,63nm,0.5s						
JAYA	Jayaque - finc	1.89	79	eP	Pn	17 58 19.6	-0.3
JAYA				IAML		17 58 56.9	
	comp=Z,177nm,0.3s						
JAYA	Jayaque - finc	1.89	79	eP	Pn	17 58 19.4	-0.6
MTO3	Montecristo	2.22	61	eP	Pn	17 58 25.1	+0.6
LFRS	El Faro	2.26	82	eP	Pn	17 58 25.9	+1.0
LFRS				IAML		17 59 02.6	
	comp=Z,174nm,0.5s						

NEIC 06 18:08:30.6±1.5, 45.86N±0.01×111.39W±0.02, h5km±1km, ML2.9/50, Error ellipse: s-maj=3.2km s-min=2.8km az=235.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZ	Bozeman (W)	0.31	213		Pg	18 08 37.2	+0.6
BOZ				Sg	Sg	18 08 41.3	+0.7
BOZ				IAML		18 08 42.5	
	1μm,0.3s						
BOZ				IAML		18 08 42.7	
	2μm,0.4s						
LRM	Limekiln Ridge	0.74	268		Pg	18 08 45.0	+0.1
HRY	Holter Researc	0.91	341		Pg	18 08 47.7	-0.3
DLMT	Dillon	0.98	240		Pg	18 08 49.7	+0.3
DLMT				IAML		18 09 07.3	
	229nm,0.6s						
DLMT				IAML		18 09 07.4	
	307nm,0.5s						
YHL	Hebgen Lake	1.01	172		Pg	18 08 50.3	+0.3
YHL					Sg	18 09 03.5	+0.2
YHL				IAML		18 09 06.7	
	comp=E,374nm,0.7s						
YHL				IAML		18 09 13.7	
	comp=N,341nm,0.5s						
QLMT	Earthquake Lak	1.02	181		Pg	18 08 50.2	-0.1
YHB	Horse Butte	1.11	173		Pg	18 08 52.0	0.0
YHB				Sg	Sg	18 09 06.3	-0.1
YHB				IAML		18 09 10.4	
	comp=E,312nm,0.6s						
YHB				IAML		18 09 10.5	
	comp=N,339nm,0.5s						
YHH	Holmes Hill	1.13	160		Pg	18 08 52.2	-0.1
GCMT	Greycliff	1.21	92		Pg	18 08 53.9	+0.1
YNM	Yellowstone No	1.23	156		Pn	18 08 55.1	+0.4
YNM				IAML		18 09 19.9	
	comp=N,138nm,0.3s						
YNM				IAML		18 09 31.6	
	comp=E,179nm,0.3s						
YNR	Norris Junctio	1.25	156		Pg	18 08 54.0	-0.5
YNR				IAML		18 09 16.4	
	comp=N,133nm,0.5s						
LYMT	Lyon Mountain	1.28	331		Pg	18 08 54.9	-0.2
YNE	Yellowstone No	1.29	130		Pg	18 08 54.5	-0.8
YMP	Mirror Lake Pl	1.42	141		Pg	18 08 57.7	0.0
YMP				IAML		18 09 18.5	
	comp=E,364nm,0.4s						
MCMT	McKenzie Canyo	1.45	225		Pb	18 08 58.3	0.0
YFT	Old Faithful	1.46	164		Pb	18 08 58.2	-0.1
LKWY	Lake	1.47	151		Pn	18 08 57.4	-0.6
LKWY				IAML		18 09 37.3	
	comp=E,139nm,0.5s						
BPMT	Black Pine Rid	1.54	293		Pb	18 08 59.4	-0.4
OVMT	Ovando	1.64	318		Pn	18 08 60.0	-0.3
RLMT	Red Lodge	1.67	115		Pn	18 09 00.4	-0.2
MSO	Missoula	2.02	300		Pn	18 09 05.8	+0.4
MSO				IAML		18 09 38.2	
	comp=E,152nm,0.7s						
MSO				IAML		18 09 38.2	
	comp=E,152nm,0.5s						

DUG	**Dugway, Tooele**	**5.75 191**	Pn	Pn	18 09 53.4	-3.4
ELK	**Elko**	**5.83 210**	Pn	Pn	18 09 54.6	-3.2
E07A	**Sunnyside**	**5.92 280**	Pn	Pn	18 09 55.6	-3.2
B08A	**Colville Reser**	**5.97 298**	Pn	Pn	18 09 57.5	-2.1
MXC	**Moxie City**	**6.22 280**	Pn	Pn	18 10 00.7	-2.3
P18A	**Preston Nutter**	**6.28 172**		Pn	18 10 01.4	-2.7
P17A	**Butcher Ranch,**	**6.40 175**	Pn	Pn	18 10 03.6	-2.0
LTY	**Liberty**	**6.55 286**	Pn	Pn	18 10 04.9	-2.7
SRU	**San Rafael Swe**	**6.77 174**	Pn	Pn	18 10 07.8	-3.0

*KRNET **06** 18:19:48.9±0.1, 42°.22N×75°.38E, h17km, mb3.7*
*KNET **06** 18:19:48.5±0.5, 42°.25N×75°.36E, h11km±4km, ml2.9, Error ellipse: s-maj=3.9km s-min=2.5km az=169.0*
*SOME **06** 18:19:49.3, 42°.22N×75°.40E, h15km*
*NNC **06** 18:19:50.2±0.7, 42°.31N×75°.34E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=6.3km s-min=1.9km az=175.0*

ISC 06 18:19:48.3±1.1, 42°.19N±0".02×75°.35E±0".01, h4km±10km, n57, σ1§20/106, 30C-23D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.55**	**327**	⇓P		**Pb**	**18 19 60.0**	**-0.8**
	176nm,0.1s,SNR=214							
KBK				⇓S		**Sg**	**18 20 07.2**	**+0.9**
	4µm,0.2s							
KBK	**Karagaybulak**	**0.55**	**327**	⇑*eP*		**Pg**	**18 19 59.4**	**+0.4**
KBK				⇑*eS*		**Sg**	**18 20 07.1**	**+0.9**
UCH	**Uchtor**	**0.62**	**274**	⇑P		**Pb**	**18 20 01.4**	**-0.7**
	37nm,0.2s,SNR=106							
UCH				⇓S		**Sb**	**18 20 10.3**	**-1.2**
	7.4nm,0.1s							
ULHL	**Ulahol**	**0.66**	**85**	⇑P		**Pg**	**18 20 01.2**	**+0.1**
	47nm,0.1s,SNR=209							
ULHL				⇓S		**Sg**	**18 20 09.9**	**+0.2**
	145nm,0.1s							
ULHL	**Ulahol**	**0.66**	**85**	⇑*eP*		**Pg**	**18 20 01.0**	**-0.1**
ULHL				⇑*eS*		**Sg**	**18 20 09.9**	**+0.2**
TKM2	**Tokmak 2**	**0.75**	**14**	⇓P		**Pg**	**18 20 02.8**	**0.0**
	228nm,0.2s,SNR=750							
TKM2				⇑S		**Sg**	**18 20 12.0**	**-0.5**
	217nm,0.1s							
TKM2	**Tokmak 2**	**0.75**	**14**	⇑*eP*		**Pg**	**18 20 02.5**	**-0.3**
TKM2				⇑*eS*		**Sg**	**18 20 12.3**	**-0.3**
AAK	**Ala-Archa**	**0.78**	**305**	⇓P		**Pb**	**18 20 03.9**	**-0.7**
	150nm,0.2s,SNR=109							
AAK				⇓S		**Sg**	**18 20 14.0**	**+0.6**
	2µm,0.4s							
AAK	**Ala-Archa**	**0.78**	**305**	⇑P		**Pb**	**18 20 03.8**	**-0.7**
	160nm,0.3s							
AAK				⇑S		**Sg**	**18 20 13.8**	**+0.5**
	3µm,0.4s							
AAK	**Ala-Archa**	**0.78**	**305**	⇑*eP*		**Pb**	**18 20 03.6**	**-0.9**
AAK				⇑*eS*		**Sb**	**18 20 14.1**	**-1.4**
FRU1	**Bishkek**	**0.82**	**319**	⇑*eP*		**Pb**	**18 20 04.5**	**-0.7**
FRU1				⇑*eS*		**Sb**	**18 20 15.9**	**-0.7**
CHMS	**Chumysh**	**0.92**	**331**	⇓P		**Pb**	**18 20 06.1**	**-0.8**
	96nm,0.2s,SNR=54							
CHMS				⇓S		**Sg**	**18 20 17.9**	**0.0**
	914nm,0.1s							
CHMS	**Chumysh**	**0.92**	**331**	⇑*eP*		**Pg**	**18 20 05.7**	**-0.3**
CHMS				⇑*eS*		**Sg**	**18 20 18.0**	**0.0**
KST	**Kastek**	**0.96**	**28**	P		**Pg**	**18 20 06.7**	**-0.1**
	44nm,0.3s							
KST				S		**Sg**	**18 20 19.1**	**-0.2**
	342nm,0.3s							
KST	**Kastek**	**0.96**	**28**	*eP*		**Pg**	**18 20 06.7**	**-0.1**
KST				*eS*		**Sg**	**18 20 19.1**	**-0.2**
KST	**Kastek**	**0.96**	**28**	*eP*		**Pg**	**18 20 06.7**	**-0.1**
	44nm,0.3s							
KST				*eS*		**Sg**	**18 20 19.1**	**-0.2**
	342nm,0.3s							
DGS	**Degeres**	**1.09**	**16**	P		**Pg**	**18 20 09.2**	**-0.2**
	92nm,0.2s							
DGS				S		**Sb**	**18 20 22.8**	**-1.8**
	146nm,0.2s							
DGS	**Degeres**	**1.09**	**16**	*eP*		**Pg**	**18 20 09.2**	**-0.2**
DGS				*eS*		**Sb**	**18 20 22.8**	**-1.8**
JNKS	**Jany-Kuch**	**1.15**	**169**	⇑*eP*		**Pg**	**18 20 10.7**	**+0.2**
JNKS				⇑*eS*		**Sn**	**18 20 26.6**	**-1.3**
USP	**Ospenovka**	**1.25**	**330**	⇓P		**Pb**	**18 20 11.8**	**-0.6**
	86nm,0.1s,SNR=72							
USP				⇓S		**Sg**	**18 20 28.4**	**0.0**
	148nm,0.1s							
USP	**Ospenovka**	**1.25**	**330**	⇑*eP*		**Pn**	**18 20 11.5**	**-1.1**
USP				⇑*eS*		**Sn**	**18 20 28.0**	**-1.9**
EKS2	**Erkin-Say**	**1.26**	**292**	⇑P		**Pg**	**18 20 13.0**	**+0.6**
	18nm,0.1s,SNR=85							
EKS2				⇓S		**Sg**	**18 20 30.6**	**+1.8**
	52nm,0.1s							
EKS2	**Erkin-Say**	**1.26**	**292**	⇓*eP*		**Pg**	**18 20 12.3**	**-0.2**
EKS2				⇓*eS*		**Sg**	**18 20 29.2**	**+0.4**
KDJ	**Kajisay**	**1.36**	**92**	⇓*eP*		**Pb**	**18 20 13.6**	**-0.9**
KDJ				⇓*eS*		**Sg**	**18 20 31.7**	**-0.3**
SGDS	**Sogindy**	**1.37**	**337**	P		**Pb**	**18 20 14.0**	**-0.5**
	70nm,0.2s							
SGDS				S		**Sb**	**18 20 31.6**	**-0.9**
	279nm,0.2s							
TNSS	**Tian-Shan**	**1.45**	**54**	P		**Pb**	**18 20 15.4**	**-0.7**
	5.3nm,0.3s							
TNSS				S		**Sb**	**18 20 33.9**	**-1.2**
	20nm,0.4s							
TNSS	**Tian-Shan**	**1.45**	**54**	*eP*		**Pb**	**18 20 15.4**	**-0.7**
TNSS				*eS*		**Sb**	**18 20 33.9**	**-1.2**
TNSS	**Tian-Shan**	**1.45**	**54**	*eP*		**Pb**	**18 20 15.4**	**-0.7**
	5.3nm,0.3s							
TNSS				*eS*		**Sb**	**18 20 33.9**	**-1.2**
	20nm,0.4s							
AAA	**Alma-Ata**	**1.54**	**48**	P		**Pg**	**18 20 17.5**	**-0.3**
	96nm,0.2s							
AAA				S		**Sg**	**18 20 38.0**	**+0.3**
	22nm,0.3s							
AAA	**Alma-Ata**	**1.54**	**48**	*eP*		**Pg**	**18 20 17.5**	**-0.3**
	96nm,0.2s							
AAA				*eS*		**Sg**	**18 20 38.0**	**+0.3**
	22nm,0.3s							
KNDC	**Almaty**	**1.57**	**49**	⇓P		**Pb**	**18 20 17.4**	**-0.6**
	26nm,0.2s							
KNDC				⇑S		**Sg**	**18 20 38.7**	**-0.1**
	243nm,0.4s							
MRKS	**Merke**	**1.67**	**290**	P		**Pg**	**18 20 20.4**	**+0.1**
	26nm,0.3s							
MRKS				S		**Sg**	**18 20 42.2**	**+0.2**
	130nm,0.3s							
MRKS	**Merke**	**1.67**	**290**	*eP*		**Pg**	**18 20 20.4**	**+0.1**
	26nm,0.3s							
MRKS				*eS*		**Sg**	**18 20 42.2**	**+0.2**
	130nm,0.3s							
SALK	**Salom-Alik**	**1.74**	**222**	⇓*eP*		**Pg**	**18 20 21.2**	**-0.5**
SALK				⇓*eS*		**Sg**	**18 20 44.8**	**+0.6**
KTBS	**Karatobe**	**1.81**	**32**	P		**Pb**	**18 20 21.9**	**-0.2**
	132nm,0.2s							
KTBS				S		**Sg**	**18 20 45.1**	**-1.3**
	466nm,0.5s							
KUU	**Kurty**	**1.85**	**23**	P		**Pb**	**18 20 22.3**	**-0.4**
	39nm,0.2s							
KUU				S		**Sg**	**18 20 46.6**	**-1.1**
	378nm,0.4s							
KUU	**Kurty**	**1.85**	**23**	*eP*		**Pb**	**18 20 22.4**	**-0.4**
KUU				*eS*		**Sg**	**18 20 46.6**	**-1.1**
KUU	**Kurty**	**1.85**	**23**	*eP*		**Pb**	**18 20 22.4**	**-0.4**
	39nm,0.2s							
KUU				*eS*		**Sg**	**18 20 46.6**	**-1.1**
	378nm,0.4s							
ARSB	**Arslanbob**	**1.97**	**245**	⇓*eP*		**Pb**	**18 20 24.5**	**-0.4**
ARSB				⇓*eS*		**Sb**	**18 20 50.3**	**+0.4**
CHKK	**Chushkaly**	**2.05**	**35**	Pg		**Pb**	**18 20 26.2**	**0.0**
	67nm,0.2s							
CHKK				Lg		Lg	18 20 52.4	
	359nm,0.3s							
CHKK	**Chushkaly**	**2.05**	**35**	*eP*		**Pb**	**18 20 26.1**	**0.0**
	67nm,0.2s							
CHKK				*eS*		**Sg**	**18 20 52.4**	**-1.8**
	359nm,0.3s							
PRZ	**Przheval'sk**	**2.28**	**82**	⇑*eP*		**Pb**	**18 20 27.9**	**-2.2**
PRZ				⇑*eS*		**Sb**	**18 20 56.4**	**-2.3**
SATY	**Saty**	**2.41**	**68**	Pg		**Pg**	**18 20 33.1**	**-1.6**
	16nm,0.3s							
SATY				Lg		Lg	18 21 04.1	
	125nm,0.3s							
OHH	**Osh**	**2.55**	**230**	⇓*eP*		**Pb**	**18 20 32.5**	**-2.2**
OHH				⇓*eS*		**Sb**	**18 21 04.1**	**-2.4**
ARXS	**Arharly**	**2.71**	**41**	Pg		**Pb**	**18 20 37.0**	**-0.5**
	60nm,0.2s							
ARXS				Lg		Lg	18 21 10.4	
	116nm,0.4s							
ARXS	**Arharly**	**2.71**	**41**	*eP*		**Pb**	**18 20 37.0**	**-0.5**
ARXS				*eS*		**Sb**	**18 21 10.4**	**-0.8**
KPKS	**Kokpek**	**2.76**	**61**	Pg		**Pb**	**18 20 39.1**	**+0.8**
	0.6nm,0.3s							
KPKS				Lg		Lg	18 21 14.5	
	72nm,0.5s							
BTLS	**Baital**	**3.00**	**342**	Pg		**Pb**	**18 20 42.6**	**+0.2**
	19nm,0.3s							
BTLS				Lg		Lg	18 21 20.5	
	35nm,0.4s							
BTLS	**Baital**	**3.00**	**342**	*eP*		**Pb**	**18 20 42.6**	**+0.2**
	19nm,0.3s							
BTLS				*eS*		**Sb**	**18 21 20.5**	**+1.1**
	35nm,0.4s							
SHLS	**Shalkode**	**3.18**	**71**	Pg		**Pg**	**18 20 51.3**	**+2.1**
	6.1nm,0.2s							
SHLS				Lg		Lg	18 21 36.1	
	68nm,0.9s							
SHLS	**Shalkode**	**3.18**	**71**	*eP*		**Pg**	**18 20 51.3**	**+2.1**
	6.1nm,0.2s							
SHLS				*eS*		**Sg**	**18 21 36.1**	**+5.7**
	68nm,0.9s							
PDGK	**Podgornoye**	**3.25**	**68**	⇑Pn		**Pb**	**18 20 42.9**	**-3.8**
	7.8nm,0.5s							
PDGK				⇓Lg		Lg	18 21 28.0	
	53nm,0.6s							
KK31	**Karatay Array**	**3.69**	**286**	Pn		**Pb**	**18 20 52.6**	**-1.4**
	0.6nm,0.5s,baz=101,slow=13,SNR=87							
KK31				Pg		**Pg**	**18 20 58.8**	**-0.2**
	1.8nm,0.3s,baz=98,slow=16,SNR=30							
KK31				Lg		Lg	18 21 43.8	
	14nm,0.5s,baz=101,slow=29,SNR=11							
IUG	**luzhnay**	**3.96**	**271**	Pg		**Pg**	**18 21 03.2**	**-0.9**
	14nm,0.4s							
IUG				Lg		Lg	18 21 55.8	
	66nm,0.5s							
BRLS	**Borolday**	**4.16**	**283**	*eP*		**Pg**	**18 21 07.3**	**-0.7**
	1.9nm,0.1s							
BRLS				*eS*		**Sg**	**18 22 02.7**	**+0.8**
	9.8nm,0.1s							
GAR	**Garm**	**4.99**	**232**	⇓*eP*		**Pn**	**18 21 06.2**	**+2.1**
GAR				⇓*eS*		**Sn**	**18 22 02.6**	**+0.4**
MK31	**Makanchi Array**	**6.76**	**45**	Pn		**Pn**	**18 21 30.8**	**+2.4**
	3.0nm,0.6s,baz=221,slow=13,SNR=34							
MK31				⇓Sn		**Sn**	**18 22 47.4**	**+1.5**
	5.3nm,0.9s,baz=221,slow=27,SNR=4.1							

IDC 06 18:31:31.1±2.3, 18°.64S×174°.91W, h0km, mb4.2/4, mbtmp4.2/4, MS3.4/3, Error ellipse: s-maj=68.8km s-min=36.6km az=31.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.46**	**103**	LR		LR	18 38 36.0	
	comp=Z,96nm,21.3s,baz=232,slow=29							
PPT	**Papeete**	**24.10**	**91**	LR		LR	18 43 10.8	
	comp=Z,82nm,19.5s,baz=194,slow=29							
WRA	**Warramunga Arr**	**47.77**	**260**	P		P	18 40 10.2	-0.3
	1.9nm,0.9s,baz=96,slow=7.4,SNR=9.7							
	1.9nm,0.9s							
ASAR	**Alice Springs**	**47.80**	**255**	P		P	18 40 10.7	0.0
	4.1nm,0.9s,baz=84,slow=8.5,SNR=27							
	4.1nm,0.9s							
QSPA	**South Pole Qui**	**71.42**	**180**	P		P	18 42 53.9	+0.7
	4.1nm,1.0s,baz=44,slow=1.6,SNR=12							
	4.1nm,1.0s							
SNAA	**Sanae**	**89.76**	**177**	P		P	18 44 29.5	-1.7
	1.4nm,0.9s,baz=202,slow=4.4,SNR=4.4							
	1.4nm,0.9s							
SONM	**Songino Array**	**96.29**	**318**	LR		LR	19 21 41.5	
	comp=Z,30nm,20.5s,baz=228,slow=31							
BRTR	**Keskin Array B**	**147.63**	**316**	PKPbc		PKPbc	18 51 17.9	-0.1
	0.7nm,0.9s,baz=110,slow=1.7,SNR=4.0							

*NEIC **06** 18:37:06.0±2.4, 4°.16N±0°.09×124°.55E±0°.09, h331km±8km, mb4.2/56, Error ellipse: s-maj=14.1km s-min=10.7km az=223.0*
*DJA **06** 18:37:07.9±0.4, 4°.1N×4°×12°.5E±°, h305km±4km, M4.4/16, mb4.4/15, mB5.0/7, MLv4.5/16, Mw(mB)4.3/7*
*IDC **06** 18:37:10.0±2.1, 4°.10N×124°.39E, h378km±21km, mb3.5/16, mbtmp4.3/18, Error ellipse: s-maj=28.7km s-min=7.3km az=69.0*

ISC 06 18:37:06.4±0.3, 4°.14N±0".05×124°.51E±0".06, h339km, n130, σ1§32/136, mb4.1/39, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**114**	P		**Pn**	**18 37 49.4**	**-2.0**
KMSI	**Cibinong**	**3.58**	**189**	P		**Pn**	**18 38 08.7**	**-1.8**
KMSI				S		**S**	**18 38 58.9**	**-3.2**
TNTI	**Ternate**	**4.40**	**139**			**Pn**	**18 38 17.3**	**-1.6**
TNTI					Sn	**S**	**18 39 13.8**	**-3.6**
TNTI	**Ternate**	**4.40**	**139**	P		**Pn**	**18 38 18.0**	**-1.0**
TNTI	**Ternate**	**4.40**	**139**	S		**S**	**18 39 13.4**	**-4.1**
TNTI	**Ternate**	**4.40**	**139**	P		**Pn**	**18 38 17.8**	**-1.2**
MRSI	**Marisa**	**4.46**	**215**	P		**Pn**	**18 38 20.2**	**+0.6**
TOLI2	**Tolitoli**	**4.79**	**231**			**Pn**	**18 38 22.7**	**-0.5**
TOLI2	**Tolitoli**	**4.79**	**231**	P		**Pn**	**18 38 22.4**	**-0.8**
LUWI	**Luwuk**	**5.43**	**199**	P		**Pn**	**18 38 30.6**	**+0.2**
	0.5nm2µm50nm,1.0s							
APSI	**Ampana**	**5.78**	**210**	P		**Pn**	**18 38 35.6**	**+1.3**
	0.2nm54nm,0.9s							
MPSI	**Mapaga**	**5.96**	**231**	P		**Pn**	**18 38 36.2**	**-0.2**
MYLDM	**Lahad Datu**	**6.08**	**280**	Pn		**Pn**	**18 38 38.2**	**+0.5**
SANI	**Sanana**	**6.32**	**166**	P		**Pn**	**18 38 37.8**	**-2.8**
SANI	**Sanana**	**6.32**	**166**	P		**Pn**	**18 38 37.8**	**-2.8**
	1.5nm114nm,0.7s							
PCI	**Palu**	**6.85**	**223**	P		**Pn**	**18 38 48.1**	**+1.3**
	0.5nm2µm46nm,0.9s							
NLAI	**Namlea**	**7.77**	**161**	P		**Pn**	**18 38 59.2**	**+1.5**
KDI	**Kendari**	**8.26**	**193**	P		**Pn**	**18 39 04.6**	**+1.0**
SWI	**Sorong**	**8.38**	**126**	P		**Pn**	**18 39 04.8**	**-0.1**
	12nm,0.9s							
KKM	**Kota Kinabalu**	**8.48**	**283**	Pn		**Pn**	**18 39 05.8**	**-0.5**
AAI	**Ambon**	**8.60**	**155**	P		**Pn**	**18 39 07.8**	**+0.2**
	50nm,0.6s							
MSAI	**Masohi**	**8.65**	**149**	P		**Pn**	**18 39 09.1**	**+0.9**
SPSI	**Sidrap Palu**	**9.34**	**211**	P		**Pn**	**18 39 17.5**	**+1.0**
	36nm,0.7s							
BNSI	**Bone**	**9.56**	**207**	P		**Pn**	**18 39 21.2**	**+2.1**
	33nm,0.7s							
BNDI	**Bandanaira**	**10.15**	**148**	P		**Pn**	**18 39 26.2**	**-0.1**
KAPI	**Kappang**	**10.26**	**208**			**Pn**	**18 39 28.1**	**+0.5**
KAPI	**Kappang**	**10.26**	**208**	P		**Pn**	**18 39 27.7**	**+0.1**
	11nm,0.5s,baz=345,slow=7.8,SNR=7.7							
FAKI	**Fak Fak**	**10.44**	**132**	P		**Pn**	**18 39 30.0**	**+0.3**
FAKI	**Fak Fak**	**10.44**	**132**	P		**P**	**18 39 30.7**	**-0.5**
SBUM	**Sibu**	**12.38**	**263**			**P**	**18 39 53.2**	**+0.3**
SBUM	**Sibu**	**12.38**	**263**	P		**Pn**	**18 39 56.0**	**+3.0**
EDFI	**Ende, Flores**	**13.11**	**192**	P		**Pn**	**18 40 03.0**	**+1.4**
	41nm,0.9s							
SOEI	**Soe**	**13.81**	**181**			**P**	**18 40 09.8**	**+1.1**
SOEI	**Soe**	**13.81**	**181**	P		**Pn**	**18 40 10.8**	**+0.9**
	60nm,0.8s							
BATI	**Baumata**	**14.28**	**183**	P		**P**	**18 40 15.2**	**+1.5**
	49nm,0.4s,baz=7.2,slow=2.5,SNR=24							
BATI	**Baumata**	**14.28**	**183**	P		**P**	**18 40 14.9**	**+1.2**
KSM	**Kuching**	**14.43**	**260**			**P**	**18 40 16.2**	**+0.8**
KSM	**Kuching**	**14.43**	**260**	P		**Pn**	**18 40 17.4**	**+0.3**
PLAI	**Plampang**	**14.53**	**208**	P		**P**	**18 40 18.1**	**+1.7**
JAGI	**Jajag, Banyuwa**	**16.24**	**220**	P		**P**	**18 40 36.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**16.24**	**220**	P		**Pn**	**18 40 38.6**	**+0.5**
DRS	**Darwin Rock St**	**17.65**	**159**	P		**P**	**18 40 50.7**	**+0.5**
DLV	**Lat**	**17.65**	**297**	P		**P**	**18 40 49.9**	**-0.6**
SMRI	**Semarang**	**17.91**	**232**	P		**P**	**18 40 55.8**	**+2.7**
MTN	**Manton Dam**	**18.11**	**159**			**P**	**18 40 56.0**	**+0.8**
MTN					IAmb	IAmb	18 40 57.0	
	comp=Z,14nm,0.7s							
MTN	**Manton Dam**	**18.11**	**159**	P		**P**	**18 40 56.2**	**+1.0**
KDU	**Kakadu**	**18.50**	**155**	P		**P**	**18 40 59.8**	**+0.5**
TPUB	**Ta-pu**	**19.41**	**349**	P		**P**	**18 41 09.2**	**+0.2**
SSLB	**Suanglung**	**19.83**	**350**	P		P	18 41 04.2	-9.1
SSLB					IAmb	IAmb	18 41 41.6	
	comp=Z,31nm,1.3s							
KNRA	**Kununurra**	**20.14**	**168**	P		**P**	**18 41 15.2**	**-1.2**
KNRA					IAmb	IAmb	18 41 18.0	
	comp=Z,23nm,1.5s							
MYKOM	**Kota Tinggi**	**20.76**	**264**	P		**P**	**18 41 21.7**	**-0.6**
MYKOM					IAmb	IAmb	18 41 42.2	
	comp=Z,22nm,1.3s							
FITZ	**Fitzroy Crossi**	**22.13**	**177**	P		**P**	**18 41 35.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.13**	**177**	P		**P**	**18 41 35.1**	**+0.5**
	comp=Z,3.5nm,0.4s,baz=353,slow=5.7,SNR=63							
	comp=Z,3.5nm,0.4s							
SRIT	**Nakonsritamara**	**25.14**	**281**	P		**P**	**18 42 01.0**	**-1.0**
SRIT					IAmb	IAmb	18 42 02.6	
	comp=Z,11nm,1.0s							
MBWA	**Marble Bar**	**25.58**	**190**	P		**P**	**18 42 04.1**	**-1.7**
MBWA					IAmb	IAmb	18 42 31.9	
	comp=Z,26nm,1.4s							
WB0	**Warramunga Arr**	**25.67**	**158**	P		**P**	**18 42 05.7**	**-0.9**
WRAB	**Tennant Creek**	**25.80**	**158**	P		**P**	**18 42 07.2**	**-0.6**
WRAB					IAmb	IAmb	18 42 22.7	
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**25.81**	**158**	P		**P**	**18 42 06.3**	**-1.5**
WRA	**Warramunga Arr**	**25.81**	**158**	P		**P**	**18 42 07.8**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=340,slow=8.4,SNR=78							
WRA					PcP	**PcP**	**18 45 27.3**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=326,slow=2.3,SNR=4.9							
WRA					S	**S**	**18 46 09.2**	**-2.7**
	comp=Z,0.5nm,0.9s,baz=339,slow=15,SNR=2.7							
	comp=Z,0.8nm,0.3s							
WR8	**Warramunga Arr**	**25.88**	**158**	P		**P**	**18 42 07.9**	**-0.6**
PSA00	**Pilbara Seismi**	**25.96**	**190**	P		**P**	**18 42 08.4**	**-0.7**
PSA00					IAmb	IAmb	18 42 10.9	
	comp=Z,13nm,1.1s							
CMAR	**Chiang Mai Arr**	**28.76**	**302**	P		**P**	**18 42 35.0**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=126,slow=8.7,SNR=6.8							
	comp=Z,1.4nm,0.8s							
CHTO	**Chiang Mai**	**28.92**	**302**	P		**P**	**18 42 35.2**	**-0.3**
AS31	**Alice Springs**	**29.12**	**162**	P		**P**	**18 42 37.6**	**+0.4**
ASAR	**Alice Springs**	**29.12**	**162**	P		**P**	**18 42 37.5**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=342,slow=7.5,SNR=33							
ASAR					PcP	**PcP**	**18 45 35.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=346,slow=2.6,SNR=7.0							
ASAR					S	**S**	**18 47 02.1**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=346,slow=18,SNR=11							
	comp=Z,0.6nm,0.3s							
AS01	**Alice Springs**	**29.13**	**162**	P		**P**	**18 42 38.2**	**+1.0**
KSAR	**Wonju Array Be**	**33.29**	**5**	P		**P**	**18 43 12.2**	**-1.0**
MORW	**Morawa**	**34.01**	**193**	P		**P**	**18 43 17.6**	**-1.8**
FORT	**Forrest**	**34.89**	**175**	P		**P**	**18 43 26.7**	**-0.2**
FORT					IAmb	IAmb	18 43 54.6	
	comp=Z,11nm,1.1s							
INKA	**Innaminka**	**35.35**	**155**	P		**P**	**18 43 32.2**	**+1.3**
NWAO	**Narrogin (SRO)**	**37.51**	**190**	P		**P**	**18 43 48.6**	**-0.3**
SHL	**Shillong**	**37.86**	**307**			**P**	**18 43 51.9**	**-0.3**
SHL					IAmb	IAmb	18 43 53.2	
	comp=Z,9.7nm,0.5s							
BBOO	**Buckleboo**	**38.35**	**164**	P		**P**	**18 43 56.6**	**+0.7**
BBOO					IAmb	IAmb	18 44 15.2	
	comp=Z,16nm,1.4s							
BBOO	**Buckleboo**	**38.35**	**164**	P		**P**	**18 43 56.1**	**+0.3**
STKA	**Stephens Creek**	**39.34**	**157**	P		**P**	**18 44 05.0**	**+1.0**
STKA					IAmb	IAmb	18 44 06.1	
	comp=Z,22nm,1.2s							
STKA	**Stephens Creek**	**39.34**	**157**	P		**P**	**18 44 05.5**	**+1.5**
	comp=Z,3.0nm,0.8s,baz=323,slow=9.0,SNR=16							
STKA					PcP	**PcP**	**18 46 04.7**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=336,slow=5.7,SNR=2.8							
	comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**39.34**	**157**	P		**P**	**18 44 05.7**	**+1.7**
HTT	**Hallett**	**39.78**	**161**	P		**P**	**18 44 09.5**	**+1.8**
LSA	**Lhasa**	**40.52**	**313**	P		**P**	**18 44 15.7**	**+1.5**
JKA	**Kamikawa-asahi**	**42.89**	**19**	P		**P**	**18 44 32.6**	**+0.2**
JKA					IAmb	IAmb	18 45 09.2	
	comp=Z,22nm,1.5s							
SONM	**Songino Array**	**46.23**	**343**	P		**P**	**18 44 59.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=151,slow=9.5,SNR=6.2							
	comp=Z,1.0nm,0.7s							
PETK	**Petropavlovsk-**	**55.91**	**23**	P		**P**	**18 46 10.5**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=232,slow=8.4,SNR=3.7							
	comp=Z,3.9nm,0.9s							
MKAR	**Makanchi Array**	**55.97**	**326**			**P**	**18 46 09.7**	**-0.8**
MKAR	**Makanchi Array**	**55.97**	**326**	P		**P**	**18 46 10.3**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=121,slow=8.1,SNR=72							
MKAR					PcP	**PcP**	**18 47 03.2**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=112,slow=4.2,SNR=4.9							
	comp=Z,3.6nm,0.5s							
KDJ	**Kajisay**	**56.58**	**319**	P		**P**	**18 46 15.2**	**+0.2**
TAVE

comp=Z,1.3nm,0.7s
TXAR Lajitas Array 123.08 51 PKP **PKiKP 18 55 24.2 +0.2**
comp=Z,0.5nm,0.6s,baz=346,slow=3.4,SNR=3.6

*CATAC **06** 18:46:00.0±0.3, 10°N±1°×8°4W±°, h1km, M3.7/10, MLv3.7/10, Error ellipse: s-maj=4.0km s-min=2.4km az=60.7, confirmed*
*UCR **06** 18:46:01.0±1.5, 10°01N×83°57W, h13km±2km, MW3.7*
ISC 06 18:46:00.9±0.8, 9°99N±0°02×83°57W±0°02, h14km, n76, σ1§70/82, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RVSTA	**Santa Teresita**	**0.08**	**261**	*eP*	**Pg**	**18 46 04.5**	**+0.5**
RESJ	**San Isidro (Tu**	**0.09**	**299**	*eP*	**Pg**	**18 46 04.6**	**+0.6**
LCOCO	**El Coco**	**0.10**	**7**	*eP*	**Pg**	**18 46 04.5**	**+0.5**
LCOCO				*eS*	**Sg**	**18 46 07.5**	**+1.3**
RVLA	**Villa Bonita**	**0.12**	**351**	*eP*	**Pg**	**18 46 04.8**	**+0.4**
IRES	**Siquirres**	**0.12**	**30**	*eP*	**Pg**	**18 46 04.8**	**+0.4**
IRES				*eS*	**Sg**	**18 46 08.0**	**+1.3**
TURIB	**Turrialba**	**0.14**	**235**	*eP*	**Pg**	**18 46 05.0**	**+0.3**
VTCV	**VTCV, Calle Va**	**0.16**	**268**	*eP*	**Pg**	**18 46 05.5**	**+0.5**
CVTV	**Tajo**	**0.18**	**275**	*eP*	**Pg**	**18 46 06.0**	**+0.6**
CVTR	**Volcan Turrial**	**0.19**	**280**	*eP*	**Pg**	**18 46 05.9**	**+0.3**
VTR0	**Volcan Turrial**	**0.19**	**279**	*eP*	**Pg**	**18 46 06.2**	**+0.3**
VTR0				*eS*	**Sg**	**18 46 08.7**	**+0.8**
CVTQ	**Turrialba Volc**	**0.20**	**275**	*eP*	**Pg**	**18 46 06.1**	**+0.4**
VINA	**Juan Vinas**	**0.20**	**242**	*eP*	**Pg**	**18 46 05.9**	**+0.3**
VTLA	**Turrialba Volc**	**0.20**	**274**	*eP*	**Pg**	**18 46 06.2**	**+0.4**
RAFA	**San Farael, Vo**	**0.24**	**263**	*eP*	**Pg**	**18 46 06.7**	**+0.3**
PCAYA	**Pacayas**	**0.25**	**254**	*eP*	**Pg**	**18 46 06.8**	**+0.4**
PCAYA				*eS*	**Sg**	**18 46 11.2**	**+1.0**
VICA	**Volcano Irazu**	**0.27**	**269**	*eP*	**Pg**	**18 46 07.1**	**+0.1**
PILE	**Guapiles**	**0.31**	**316**	*eP*	**Pg**	**18 46 07.7**	**+0.3**
REPA	**Paraso**	**0.34**	**242**	*eP*	**Pg**	**18 46 08.0**	**+0.1**
VERH	**Veragua Rainfo**	**0.38**	**99**	*eP*	**Pg**	**18 46 08.7**	**0.0**
CARI	**Cariari**	**0.41**	**336**	*eP*	**Pg**	**18 46 09.1**	**0.0**
CARI				*eS*	**Sb**	**18 46 16.1**	**+0.1**
LCR2	**La Lucha 2**	**0.49**	**240**	*eP*	**Pg**	**18 46 10.5**	**-0.3**
LCR2	**La Lucha 2**	**0.49**	**240**	P	**Pg**	**18 46 10.6**	**-0.3**
LCR2	**La Lucha 2**	**0.49**	**240**	S	**Sg**	**18 46 17.5**	**0.0**
PIEC	**Cerro El Cedra**	**0.53**	**227**	*eP*	**Pg**	**18 46 11.1**	**-0.3**
HDC	**Heredia**	**0.54**	**271**	*eP*	**Pg**	**18 46 11.9**	**+0.3**
PITB	**Pirrs, San**	**0.55**	**234**	*eP*	**Pg**	**18 46 11.4**	**-0.5**
RAZU	**San Marcos de**	**0.56**	**234**	*eP*	**Pg**	**18 46 11.6**	**-0.4**
ACOS	**Acosta**	**0.62**	**252**	*eP*	**Pg**	**18 46 11.0**	**-2.1**
SAJE	**San Jernim**	**0.64**	**175**	*eP*	**Pg**	**18 46 12.7**	**-0.8**
PISJ	**San Jernim**	**0.65**	**237**	*eP*	**Pg**	**18 46 13.1**	**-0.6**
CEUA	**Cerro Uatsi, L**	**0.72**	**120**	*eP*	**Pb**	**18 46 15.4**	**+0.1**
TCS1	**Tacares**	**0.72**	**274**	*eP*	**Pg**	**18 46 14.9**	**-0.2**
TCS1	**Tacares**	**0.72**	**274**	P	**Pg**	**18 46 14.8**	**-0.3**
LLNJ	**Naranjito**	**0.73**	**226**	*eP*	**Pg**	**18 46 14.9**	**-0.3**
PAR1A	**Puntarenas Pro**	**0.78**	**240**	*eP*	**Pg**	**18 46 16.1**	**0.0**
DRK0	**Durika**	**0.79**	**156**	*eP*	**Pg**	**18 46 15.4**	**-0.9**
DRK0	**Durika**	**0.79**	**156**	P	**Pg**	**18 46 15.6**	**-0.7**
DRK0	**Durika**	**0.79**	**156**	S	**Sg**	**18 46 26.4**	**-0.3**
QUEP	**Quepos**	**0.81**	**227**	S	**Sg**	**18 46 27.5**	**+0.3**
EDPE	**Pejibaye, P**	**0.82**	**180**	*eP*	**Pg**	**18 46 16.3**	**-0.7**
OCHAL	**Ojochal**	**0.89**	**185**	P	**Pb**	**18 46 18.0**	**-0.1**
OCHAL	**Ojochal**	**0.89**	**185**	S	**Sb**	**18 46 31.0**	**+1.1**
FIMO	**Fila Mora**	**1.01**	**168**	*eP*	**Pb**	**18 46 20.5**	**+0.1**
PANP	**Palmar Norte**	**1.03**	**174**	*eP*	**Pb**	**18 46 20.6**	**+0.1**
EDP2	**Potrero Grande**	**1.04**	**158**	*eP*	**Pb**	**18 46 20.3**	**-0.5**
COVE	**Coope Vega, Sa**	**1.10**	**312**	P	**Pb**	**18 46 20.2**	**-1.5**
COVE	**Coope Vega, Sa**	**1.10**	**312**	S	**Sb**	**18 46 34.9**	**-1.0**
SOCE	**Pocosol**	**1.10**	**291**	P	**Pb**	**18 46 22.0**	**+0.1**
SOCE	**Pocosol**	**1.10**	**291**	S	**Sb**	**18 46 36.3**	**+0.1**
FORC	**Fortuna**	**1.18**	**294**	*eP*	**Pn**	**18 46 23.2**	**0.0**
CEDE	**Laguna Cedeo**	**1.22**	**294**	*eP*	**Pn**	**18 46 23.0**	**-0.7**
ALCO	**Alturas Coton,**	**1.26**	**145**	*eP*	**Pn**	**18 46 23.0**	**-1.3**
EDAD	**Golfito**	**1.39**	**163**	*eP*	**Pn**	**18 46 25.1**	**-0.8**
JTS	**Las Juntas de**	**1.40**	**283**	*eP*	**Pn**	**18 46 25.4**	**-0.7**
JTS	**Las Juntas de**	**1.40**	**283**	P	**Pn**	**18 46 25.3**	**-0.7**
JTS				S	**Sn**	**18 46 44.7**	**+0.4**
PTJ1	**Puerto Jimnez**	**1.47**	**170**	S	**Sb**	**18 46 47.9**	**+1.3**
BRU2	**Volcan**	**1.47**	**144**	*eP*	**Pn**	**18 46 27.1**	**-0.1**
BRU2	**Volcan**	**1.47**	**144**	S	**Sn**	**18 46 46.5**	**+0.2**
BRU2	**Volcan**	**1.47**	**144**	P	**Pn**	**18 46 27.2**	**0.0**
DMCAL	**E. de Neily**	**1.52**	**150**	*eP*	**Pn**	**18 46 28.5**	**+0.7**
LCHIL	**Los Chiles**	**1.54**	**313**	*eP*	**Pn**	**18 46 27.4**	**-0.6**
CBL1	**Cabuya**	**1.55**	**255**	*eP*	**Pn**	**18 46 28.5**	**+0.3**
CLLRA	**Cordillera,**	**1.55**	**143**	*eP*	**Pn**	**18 46 28.7**	**+0.3**
CDITO	**Canoas**	**1.56**	**154**	S	**Sb**	**18 46 50.1**	**+0.7**
BANCO	**falda S V. Bar**	**1.63**	**141**	*eP*	**Pn**	**18 46 29.2**	**-0.2**
BQTLY	**Boquete Panama**	**1.64**	**138**	*eP*	**Pn**	**18 46 29.3**	**-0.2**
DAP26	**falda E V. Bar**	**1.64**	**136**	*eP*	**Pn**	**18 46 29.1**	**-0.5**
PBNVO	**Pueblo Nuevo,**	**1.74**	**129**	*eP*	**Pn**	**18 46 30.0**	**-0.8**
COLC	**Colonia**	**1.74**	**293**	*eP*	**Pn**	**18 46 31.4**	**+0.5**
INDI	**Punta indio, G**	**1.91**	**267**	P	**Pn**	**18 46 34.7**	**+1.6**
INDI	**Punta indio, G**	**1.91**	**267**	S	**Sb**	**18 47 00.2**	**+0.9**
JUD3	**Juan Diaz 3**	**1.95**	**275**	*eP*	**Pn**	**18 46 34.5**	**+0.8**
LAPC	**Finca la Perla**	**1.99**	**293**	*eP*	**Pb**	**18 46 36.0**	**-1.1**
CARN	**Rivas**	**2.26**	**302**	S	**Sb**	**18 47 08.2**	**-1.2**
ESPN	**Las Esperanzas**	**2.31**	**342**	S	**Sb**	**18 47 09.2**	**-1.6**
ACON	**Acoyapa**	**2.52**	**321**	P	**Pb**	**18 46 45.6**	**-0.4**

*NEIC **06** 18:52:48.3±1.8, 0°61S±0°05×127°84E±0°07, h10km±1km, mb4.6/33, Error ellipse: s-maj=12.9km s-min=7.5km az=74.0*
*IDC **06** 18:52:48.3±0.7, 0°57S×127°77E, h0km, mb4.0/14, mbtmp4.1/16, ML4.3/2, MS3.2/7, Error ellipse: s-maj=28.2km s-min=14.0km az=78.0*
*DJA **06** 18:52:51.7±0.1, 1°S±1°×12°8E±°, h10km, M4.6/24, mB5.3/6, mb4.8/18, MLv4.5/24, Mw(mB)4.7/6*
ISC 06 18:52:52.6±0.4, 0°61S±0°04×127°72E±0°05, h35km, n100, σ1§82/104, mb4.5/34, MS3.2/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**346**		**Pn**	**18 53 15.9**	**0.0**
TNTI				Sn	**Sn**	**18 53 34.5**	**+1.2**
TNTI	**Ternate**	**1.41**	**346**	P	**Pn**	**18 53 15.7**	**-0.2**
TNTI				S	**Sn**	**18 53 36.7**	**+3.4**
SANI	**Sanana**	**2.25**	**230**	P	**Pn**	**18 53 26.4**	**-0.9**
SANI				S	**Sn**	**18 53 56.0**	**+2.1**
NLAI	**Namlea**	**2.69**	**193**	P	**Pn**	**18 53 34.4**	**+1.0**
NLAI				S	**Sn**	**18 54 07.4**	**+2.7**
MSAI	**Masohi**	**2.98**	**156**	P	**Pn**	**18 53 37.9**	**+0.5**
MSAI				S	**Sn**	**18 55.3**	**+3.3**
AAI	**Ambon**	**3.10**	**171**	P	**Pn**	**18 53 39.9**	**+0.8**
AAI				S	**Sn**	**18 54 17.7**	**+2.8**
SWI	**Sorong**	**3.55**	**94**	P	**Pn**	**18 53 46.7**	**+1.4**
SWI				S	**Sn**	**18 54 30.7**	**+4.6**
KMSI	**Cibinong**	**3.92**	**287**	P	**Pn**	**18 53 50.6**	**+0.3**
KMSI				S	**Sn**	**18 54 38.9**	**+3.8**
BNDI	**Bandanaira**	**4.46**	**151**	S	**Sn**	**18 54 52.0**	**+3.4**
SGSI	**Sangihe**	**4.79**	**333**	P	**Pn**	**18 54 03.8**	**+1.4**
SGSI				S	**Sn**	**18 54 59.3**	**+2.5**
LUWI	**Luwuk**	**4.96**	**265**	P	**Pn**	**18 54 03.2**	**-1.6**
FAKI	**Fak Fak**	**5.08**	**117**	Pn	**Pn**	**18 54 02.6**	**-3.8**
FAKI	**Fak Fak** 0.2nm34nm,0.7s	**5.08**	**117**	P	**Pn**	**18 54 06.4**	**+0.1**
MRSI	**Marisa** 0.2nm55nm,0.7s	**5.88**	**281**	P	**Pn**	**18 54 18.6**	**+1.3**
APSI	**Ampana** 3µm222nm,0.5s	**6.08**	**267**	P	**Pn**	**18 54 21.0**	**+1.0**
KDI	**Kendari**	**6.08**	**237**	P	**Pn**	**18 54 21.4**	**+1.2**
RKPI	**Ransiki, Papua** 0.2nm34nm,0.8s	**6.52**	**98**	P	**Pn**	**18 54 29.1**	**+2.9**
BBSI	**Bau Bau** 0.2nm81nm,0.8s	**7.07**	**227**	P	**Pn**	**18 54 36.4**	**+2.8**
TOLI2	**Tolitoli**	**7.14**	**284**		**Pn**	**18 54 33.5**	**-1.2**
TOLI2				Sn	**Sn**	**18 55 56.0**	**+1.3**
MPSI	**Mapaga**	**7.88**	**277**	P	**Pn**	**18 54 45.6**	**+0.8**
PCI	**Palu** 64nm,0.8s	**7.89**	**268**	P	**Pn**	**18 54 46.4**	**+1.5**
BNSI	**Bone** 81nm,0.6s	**8.48**	**244**	P	**Pn**	**18 54 54.4**	**+1.3**
SPSI	**Sidrap Palu**	**8.61**	**247**	P	**Pn**	**18 54 56.6**	**+1.7**
BKSI	**Bulukumba** 807nm95nm,1.0s	**8.91**	**238**	P	**Pn**	**18 55 01.1**	**+2.1**
BSSI	**Bau Bau, Buton** 823nm59nm,0.9s	**9.07**	**233**	P	**Pn**	**18 55 01.0**	**-0.2**
KAPI	**Kappang**	**9.08**	**241**	Pn	**Pn**	**18 55 01.8**	**+0.5**
KAPI	**Kappang** 12nm,0.3s,baz=61,slow=6.1,SNR=24	**9.08**	**241**	Pn	**Pn**	**18 55 03.3**	**+2.0**
KAPI				LR	LR	18 58 41.1	
	comp=Z,116nm,21.5s,baz=78,slow=39						
	64nm,0.6s						
MMRI	**Maumere**	**9.66**	**214**	Pn	**Pn**	**18 55 09.2**	**-0.1**
MMRI	**Maumere** 38nm,1.4s	**9.66**	**214**	P	**Pn**	**18 55 11.6**	**+2.3**
SOEI	**Soe**	**9.71**	**201**	Pn	**Pn**	**18 55 10.0**	**-0.2**
SOEI	**Soe** 34nm,1.6s	**9.71**	**201**	P	**Pn**	**18 55 12.9**	**+2.8**
EDFI	**Ende, Flores** 36nm,1.2s	**10.07**	**216**	P	**Pn**	**18 55 19.6**	**+4.6**
BATI	**Baumata**	**10.35**	**203**	P	**Pn**	**18 55 20.5**	**+1.7**
MYLDM	**Lahad Datu**	**10.85**	**302**		**Pn**	**18 55 24.7**	**-0.9**
MTN	**Manton Dam**	**12.62**	**165**	Pn	**Pn**	**18 55 46.6**	**-3.2**
KNRA	**Kununurra**	**15.01**	**176**	Pn	**Pn**	**18 56 20.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**17.50**	**187**	P	**Pn**	**18 56 54.7**	**+0.6**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=24,slow=8.3,SNR=9.2 7.2nm,1.0s	**17.50**	**187**	P	**P**	**18 56 55.5**	**+0.5**
WB0	**Warramunga Arr**	**20.13**	**161**	P	**P**	**18 57 23.1**	**-0.8**
WRA	**Warramunga Arr** 2.4nm,0.6s,baz=340,slow=11,SNR=19 2.4nm,0.6s	**20.28**	**162**	P	**P**	**18 57 25.9**	**+0.5**
GUMO	**Guam**	**22.09**	**50**	LR	LR	19 04 56.2	
	comp=Z,35nm,21.9s,baz=228,slow=33						
PSA00	**Pilbara Seismi**	**22.21**	**200**	P	**P**	**18 57 46.0**	**-0.2**
PSA00	**Pilbara Seismi**	**22.21**	**200**	P	**P**	**18 57 45.7**	**-0.5**
PSA00				IAmb	IAmb	18 58 12.1	
	comp=Z,26nm,1.3s						
DLV	**Lat**	**22.81**	**304**	P	**P**	**18 57 51.1**	**-1.8**
DLV				IAmb	IAmb	18 57 59.0	
	comp=Z,55nm,1.3s						
AS31	**Alice Springs**	**23.70**	**166**		**P**	**18 57 59.6**	**-1.9**
ASAR	**Alice Springs**	**23.70**	**166**		**P**	**18 58 00.4**	**-1.1**
ASAR	**Alice Springs**	**23.70**	**166**	P	**P**	**18 58 02.0**	**+0.6**
	comp=Z,7.4nm,0.9s,baz=343,slow=8.7,SNR=42						
ASAR				PcP	**PcP**	**19 01 45.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=354,slow=2.4,SNR=4.9 comp=Z,7.4nm,0.9s						
MYKOM	**Kota Tinggi**	**23.98**	**276**		**P**	**18 58 03.5**	**-0.7**
MYKOM				IAmb	IAmb	18 58 09.2	
	comp=Z,23nm,1.0s						
TPUB	**Tapu**	**24.74**	**344**	P	**P**	**18 58 08.7**	**-2.3**
YHNB	**Yeheng**	**25.87**	**347**	P	**P**	**18 58 20.4**	**-0.9**
IPM	**Ipoh**	**27.14**	**281**	P	**P**	**18 58 32.6**	**-0.3**
IPM				IAmb	IAmb	18 58 37.3	
	comp=Z,10nm,0.8s						
RPSI	**Rantau Prapat**	**28.97**	**277**		**P**	**18 58 48.6**	**-0.6**
RPSI				IAmb	IAmb	18 58 53.1	
	comp=Z,14nm,1.0s						
PSI	**Prapat**	**28.98**	**277**	LR	LR	19 13 31.8	
	comp=Z,85nm,18.6s,baz=326,slow=43						
FORT	**Forrest**	**30.01**	**179**	P	**P**	**18 58 56.7**	**-1.5**
FORT				IAmb	IAmb	18 59 08.5	
	comp=Z,6.7nm,0.9s						
GSI	**Gunungsitoli**	**30.20**	**274**	P	**P**	**18 58 59.0**	**-1.2**
MORW	**Morawa**	**30.42**	**200**	P	**P**	**18 59 01.4**	**-0.4**
BBOO	**Buckleboo**	**32.98**	**167**	P	**P**	**18 59 23.0**	**-1.4**
NJ2	**Nanjing**	**33.55**	**346**	*eP*	**P**	**18 59 30.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
JNU	**Nakatsue**	**33.68**	**5**	LR	LR	19 15 09.5	
	comp=Z,7.9nm,18.7s,baz=140,slow=40						
STKA	**Stephens Creek**	**33.76**	**158**		**P**	**18 59 30.0**	**-1.1**
STKA	**Stephens Creek** comp=Z,3.1nm,0.8s,baz=344,slow=9.0,SNR=6.3 comp=Z,3.1nm,0.8s	**33.76**	**158**	P	**P**	**18 59 32.2**	**+1.2**
CMAR	**Chiang Mai Arr** comp=Z,1.5nm,0.9s,baz=126,slow=5.9,SNR=8.0 comp=Z,1.5nm,0.9s	**34.04**	**305**	P	**P**	**18 59 36.2**	**+2.5**
CHTO	**Chiang Mai**	**34.22**	**306**	P	**P**	**18 59 34.1**	**-1.3**
CHTO				IAmb	IAmb	18 59 40.4	
	comp=Z,6.0nm,1.1s						
JHJ	**Hachijo jima 2** comp=Z,28nm,18.1s,baz=190,slow=40	**35.42**	**18**	LR	LR	19 16 06.3	
PZH	**PanZhiHua**	**36.79**	**319**	P	**P**	**18 59 58.6**	**+1.2**
INU	**Inuyama**	**36.81**	**13**	P	**P**	**18 59 55.2**	**-2.2**
INU				IAmb	IAmb	19 00 02.9	
	comp=Z,12nm,1.1s						
JGF	**Kuroka**	**37.13**	**13**	P	**P**	**18 59 57.4**	**-2.7**
JGF				IAmb	IAmb	19 00 25.6	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**37.35**	**145**	P	**P**	**19 00 00.6**	**-1.6**
ARMA				IAmb	IAmb	19 00 14.9	
	comp=Z,11nm,1.2s						
KSRS	**Korea Array** comp=Z,1.8nm,0.6s,baz=178,slow=9.4,SNR=8.9 comp=Z,1.8nm,0.6s	**37.87**	**0**	P	**P**	**19 00 07.6**	**+1.3**
MAJO	**Matsushiro**	**38.23**	**14**	P	**P**	**19 00 07.2**	**-2.1**
MAJO				IAmb	IAmb	19 00 08.7	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr** comp=Z,1.8nm,0.5s,baz=192,slow=8.7,SNR=8.3 comp=Z,1.8nm,0.5s	**38.23**	**14**	P	**P**	**19 00 09.8**	**+0.5**
MJB9	**Matsu-Tunnel**	**38.23**	**14**	P	**P**	**19 00 07.2**	**-2.1**
JMM	**Marumori**	**40.14**	**16**	P	**P**	**19 00 23.3**	**-2.0**
JMM				IAmb	IAmb	19 00 28.9	
	comp=Z,12nm,0.7s						
JTM	**Tenmabayashi**	**42.95**	**15**	P	**P**	**19 00 47.1**	**-1.2**
JTM				IAmb	IAmb	19 01 11.4	
	comp=Z,22nm,1.3s						
HHC	**Hu-ho-hao-te**	**43.80**	**342**	*eP*	**P**	**19 00 57.4**	**+2.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,71nm,4.8s						
USA0B	**Ussuriysk Arra**	**44.77**	**4**	P	**P**	**19 01 01.1**	**-1.8**
USA0B				IAmb	IAmb	19 01 25.0	
	comp=Z,4.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.77**	**4**	P	**P**	**19 01 01.0**	**-1.8**
USRK	**Ussuriysk Ar.** comp=Z,1.4nm,0.5s,baz=191,slow=7.0,SNR=2.7 comp=Z,1.4nm,0.5s	**44.77**	**4**	P	**P**	**19 01 04.3**	**+1.5**
LSA	**Lhasa**	**46.09**	**314**	P	**P**	**19 01 16.7**	**+2.6**
ASAJ	**Asahikawa** comp=Z,35nm,19.2s,baz=225,slow=36	**46.47**	**15**	LR	LR	19 20 20.2	
GTA	**Gaotai**	**47.32**	**330**	*eP*	**P**	**19 01 25.7**	**+2.5**
GTA				pP	pP	19 01 30.0	-3.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLR	**Kul'dur** comp=Z,123nm,19.9s,baz=345,slow=35	**49.76**	**3**	LR	LR	19 21 43.3	
ULN	**Ulaanbaatar**	**51.52**	**342**	P	**P**	**19 01 54.1**	**-1.1**
SONM	**Songino Array**	**51.70**	**342**	P	**P**	**19 01 54.3**	**-2.1**
SONM	**Songino Array** comp=Z,0.9nm,0.7s,baz=154,slow=8.0,SNR=5.3 comp=Z,0.9nm,0.7s	**51.70**	**342**	P	**P**	**19 01 57.6**	**+1.1**
PETK	**Petropavlovsk-** comp=Z,1.9nm,0.6s,baz=222,slow=7.3,SNR=2.0 comp=Z,1.9nm,0.6s	**59.08**	**21**	P	**P**	**19 02 51.2**	**+1.9**
MKAR	**Makanchi Array**	**61.67**	**326**	P	**P**	**19 03 04.9**	**-2.3**
MKAR	**Makanchi Array** comp=Z,2.3nm,0.5s,baz=117,slow=8.4,SNR=16 comp=Z,2.3nm,0.5s	**61.67**	**326**	P	**P**	**19 03 08.0**	**+0.8**
KSH	**Kashi**	**61.82**	**316**	P	**P**	**19 03 14.0**	**+5.5**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=136,slow=6.3,SNR=3.9 comp=Z,0.3nm,0.3s	**64.88**	**334**	P	**P**	**19 03 28.2**	**0.0**
GAR	**Garm**	**65.59**	**314**	P	**P**	**19 03 31.3**	**-2.1**
KURBB	**Kurchatov Arra** comp=Z,1.6nm,0.6s,baz=128,slow=6.2,SNR=11 comp=Z,1.6nm,0.6s	**65.91**	**328**	P	**P**	**19 03 35.0**	**+0.1**
KURK	**Kurchatov**	**65.91**	**328**	P	**P**	**19 03 33.3**	**-1.7**
KK31	**Karatay Array**	**67.08**	**318**	P	**P**	**19 03 41.3**	**-1.3**
KK31				IAmb	IAmb	19 03 48.3	
	comp=Z,4.1nm,0.9s						
KKAR	**Karatay Array**	**67.08**	**318**	P	**P**	**19 03 41.1**	**-1.6**
AB31	**Akbulak array**	**76.12**	**321**	P	**P**	**19 04 36.6**	**-0.4**
AB31				IAmb	IAmb	19 04 41.7	
	comp=Z,3.9nm,1.1s						
ABKAR	**Akbulak array**	**76.12**	**321**	P	**P**	**19 04 35.8**	**-1.2**
AKTO	**Aktyubinsk** comp=Z,2.8nm,0.9s,baz=121,slow=4.9,SNR=4.4 comp=Z,2.8nm,0.9s	**77.66**	**322**	P	**P**	**19 04 45.2**	**-0.4**
GEVA	**Gevas**	**86.17**	**308**	P	**P**	**19 05 31.2**	**+0.3**
GEVA				IAmb	IAmb	19 05 36.5	
	comp=Z,10.0nm,1.2s						
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=270,slow=5.2,SNR=2.2 comp=Z,0.2nm,0.7s	**88.57**	**25**	P	**P**	**19 05 41.3**	**-0.3**

*IDC **06** 19:24:02.0±1.5, 5°64S×107°49W, h0km, mb3.8/4, mbtmp3.8/4, MS3.6/18, Error ellipse: s-maj=169.8km s-min=29.5km az=87.0*

*NEIC **06** 19:24:04.6±1.4, 5°3S±0°2×106°8W±0°1, h10km±2km, mb4.4/36, Error ellipse: s-maj=33.9km s-min=6.0km az=220.0*
ISC 06 19:24:03.5±1.1, 5°3S±0°2×106°7W±0°2, h10km, n66, σ1§45/39, mb4.3/21, MS3.6/19, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**24.13**	**19**	P	**P**	**19 29 17.7**	**-2.2**
JTS	**Las Juntas de** comp=Z,267nm,18.2s,baz=204,slow=31	**26.67**	**54**	LR	LR	19 38 02.9	
LPIG	**La Paz** comp=Z,133nm,19.8s,baz=207,slow=30	**29.45**	**353**	LR	LR	19 39 08.6	
CZSB	**Cruzeiro do Su**	**33.90**	**96**	P	**P**	**19 30 46.6**	**-0.3**
833A	**Chaparral WMA,**	**34.19**	**12**	P	**P**	**19 30 49.3**	**+0.1**
TX31	**Lajitas Ar. Si**	**34.58**	**5**	P	**P**	**19 30 50.2**	**-2.5**
TXAR	**Lajitas Array** 0.9nm,1.0s,baz=181,slow=12,SNR=4.6 0.9nm,1.0s	**34.58**	**5**	P	**P**	**19 30 56.2**	**+3.5**
SAND	**Sanderson**	**35.35**	**7**	P	**P**	**19 30 59.8**	**+0.5**
ALPN	**Alpine**	**35.62**	**5**	P	**P**	**19 31 01.6**	**-0.1**
ALPN				IAmb	IAmb	19 31 10.8	
	comp=Z,2.2nm,0.6s						
VHRN	**Van Horn**	**35.94**	**3**	P	**P**	**19 31 04.7**	**+0.2**
BRDY	**Brady**	**37.14**	**11**	P	**P**	**19 31 14.0**	**-0.6**
121A	**Cookes Peak, D**	**37.66**	**359**	P	**P**	**19 31 18.3**	**-0.8**
DUN6	**Lazy B Ranch**	**37.73**	**357**	P	**P**	**19 31 21.0**	**+1.3**
DUN6				IAmb	IAmb	19 31 26.7	
	comp=Z,11nm,0.7s						
H03N2	**Juan Fernandez** baz=313,slow=77,SNR=23	**38.10**	**141**	T	T	20 11 17.2	
H03N1	**Juan Fernandez** baz=313,slow=77,SNR=24	**38.11**	**141**	T	T	20 11 18.6	
H03N3	**Juan Fernandez** baz=313,slow=77,SNR=26	**38.12**	**141**	T	T	20 11 17.9	
SDV	**Santo Domingo** comp=Z,95nm,20.5s,baz=250,slow=32	**38.67**	**69**	LR	LR	19 44 51.6	
HMBC	**Humberstone**	**38.77**	**116**	P	**P**	**19 31 29.6**	**+0.9**
PB11	**IPOC Station P**	**38.83**	**115**	P	**P**	**19 31 29.9**	**+0.7**
PB11				IAmb	IAmb	19 31 35.0	
	comp=Z,8.8nm,0.8s						
Y22A	**Socorro**	**39.04**	**360**	P	**P**	**19 31 30.9**	**+0.1**
Y22A				IAmb	IAmb	19 31 39.5	
	comp=Z,7.2nm,1.4s						
GO01	**Chusmiza**	**39.22**	**115**	P	**P**	**19 31 33.8**	**+1.0**
GO01				IAmb	IAmb	19 31 35.6	
	comp=Z,6.0nm,0.5s						
LENM	**Lemitar**	**39.27**	**360**	P	**P**	**19 31 33.0**	**+0.3**
PB01	**IPOC Station P**	**39.36**	**117**	P	**P**	**19 31 34.3**	**+0.7**
PB01				IAmb	IAmb	19 31 36.7	
	comp=Z,6.0nm,0.6s						
LPAZ	**La Paz** comp=Z,51nm,18.9s,baz=228,slow=30	**39.39**	**109**	LR	LR	19 43 52.9	
PFO	**Pinyon Flats O** comp=Z,60nm,18.7s,baz=196,slow=31	**39.80**	**347**	LR	LR	19 44 26.6	
ANMO	**Albuquerque** comp=Z,92nm,20.4s,baz=290,slow=33	**40.05**	**0**	LR	LR	19 46 17.3	
W18A	**Petrified Fore**	**40.32**	**356**	P	**P**	**19 31 41.3**	**-0.1**
W18A				IAmb	IAmb	19 31 52.4	
	comp=Z,7.0nm,1.3s						
WMOK	**Wichita Mounta**	**40.54**	**10**	P	**P**	**19 31 41.2**	**-1.9**
BAUV	**El Baul**	**41.10**	**70**	P	**P**	**19 31 48.8**	**+0.8**
BAUV				IAmb	IAmb	19 31 50.3	
	comp=Z,15nm,1.1s						
QSM	**Queen of Sheba**	**42.15**	**348**	P	**P**	**19 31 59.9**	**+3.7**
QSM				IAmb	IAmb	19 32 03.0	
	comp=Z,4.9nm,1.1s						
MVCO	**Mesa Verde**	**42.34**	**358**	P	**P**	**19 31 59.3**	**+1.3**
WCT	**Wildcat Mounta**	**42.90**	**348**	P	**P**	**19 32 05.6**	**+3.1**
WCT				IAmb	IAmb	19 32 13.7	
	comp=Z,6.3nm,1.4s						
PMPB	**Monarch Peak**	**43.37**	**343**	P	**P**	**19 32 06.4**	**+0.2**
PV18	**Skein Mesa, Pa**	**43.39**	**358**	P	**P**	**19 32 05.4**	**-1.1**
PV18				IAmb	IAmb	19 32 14.2	
	comp=Z,13nm,1.4s						
PPT	**Papeete** comp=Z,113nm,19.9s,baz=26,slow=29	**43.60**	**250**	LR	LR	19 44 31.6	
LCAR	**Lake Charles**	**43.69**	**18**	P	**P**	**19 32 08.9**	**+0.2**
LCAR				IAmb	IAmb	19 32 53.1	
	comp=Z,3.7nm,0.5s						
PCRV	**Puerto La Cruz** comp=Z,54nm,18.8s,baz=33	**44.68**	**70**	LR	LR	19 49 16.8	
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.8s,baz=172,slow=10.0,SNR=5.2 comp=Z,0.5nm,0.8s	**44.83**	**347**

NEIC 06 19:47:07.0±1.9, 35°09'N×0°09'×117°27'W±0°07, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=63.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.11**	**270**		Pg	19 47 10.1	+0.7
SRTC	**Snort**	**0.15**	**220**		Pg	19 47 10.7	+0.6
WVPM	**Volcano Peak E**	**0.21**	**312**		Pg	19 47 11.9	+0.7
WVPM					Sg	19 47 15.7	+1.7
JRC2	**Joshua Ridge**	**0.23**	**320**		Pg	19 47 12.1	+0.6
WNMM	**Nine Mile Cany**	**0.23**	**279**		Pg	19 47 12.2	+0.7
WSHM	**Spangler Hills**	**0.24**	**152**		Sg	19 47 16.1	+1.3
WSHM	**Spangler Hills**	**0.24**	**152**		Pg	19 47 11.8	+0.2
WSHM	1µm,0.4s			IAML		19 47 16.8	
WSHM	2µm,0.4s			IAML		19 47 16.8	
MPMC	**Manual Prospec**	**0.27**	**24**		Pg	19 47 12.6	+0.2
WRVM	**Rose V. Centra**	**0.29**	**313**		Pg	19 47 13.3	+0.5
LRMC	**Laurel Mtn Rad**	**0.33**	**188**		Sg	19 47 19.0	+1.1
LRMC	**Laurel Mtn Rad**	**0.33**	**188**		Pg	19 47 13.7	+0.2
LRMC	comp=E,2µm,0.6s			IAML		19 47 19.8	
LRMC	comp=N,848nm,0.4s			IAML		19 47 20.6	
CCCA	**Chr Cany lake**	**0.35**	**143**		Pg	19 47 14.9	+0.9
MFS	**McCloud Flat S**	**0.36**	**329**		Pg	19 47 14.7	+0.7
MFS					Sg	19 47 19.6	+0.8
WBSM	**Bird Springs**	**0.50**	**237**		Pg	19 47 16.9	+0.3
WBSM					Sg	19 47 24.1	+1.0
WORM	**Onyx Ranch**	**0.51**	**257**		Pn	19 47 24.4	+3.3
DTP	**Desert Tortois**	**0.57**	**198**		Pg	19 47 18.1	+0.2
DTP					Sg	19 47 26.5	+1.1
WHFM	**Hanning Flat**	**0.60**	**259**		Pg	19 47 18.8	+0.2
WHFM					Sg	19 47 27.2	+0.9
QSM	**Queen of Sheba**	**0.64**	**76**		Pg	19 47 19.3	0.0
QSM	comp=E,290nm,0.6s			IAML		19 47 34.2	
ISA	**Isabella, Lake**	**0.70**	**258**		Pg	19 47 20.7	+0.2
CCAC	**Calif City Air**	**0.73**	**206**		Pg	19 47 21.2	+0.2
CWC	**Cottonwood Cre**	**0.73**	**330**		Pg	19 47 21.2	+0.1
WASM	**Alta Sierra Ca**	**0.76**	**265**		Pn	19 47 32.8	+8.1
GSC	**Goldstone, Bar**	**0.84**	**127**		Pb	19 47 24.1	-0.1
GSC	**Goldstone, Bar**	**0.84**	**127**	IAML		19 47 38.9	
GSC	comp=E,518nm,0.6s			IAML		19 47 39.2	
GWY	**Greenwater Val**	**0.86**	**64**		Pg	19 47 24.0	+0.4
GWY	comp=N,228nm,0.8s			IAML		19 47 41.2	
GWY	comp=E,285nm,0.5s			IAML		19 47 43.8	
FURC	**Furnace Creek,**	**0.90**	**43**		Pg	19 47 24.5	+0.2
FURC	comp=N,383nm,1.1s			IAML		19 47 42.1	
FURC	comp=E,390nm,0.8s			IAML		19 47 49.6	
HYS	**Haystack Butte**	**0.94**	**177**		Pg	19 47 25.0	-0.1
EDW2	**Edwards Air Fo**	**0.97**	**198**		Pb	19 47 26.9	+0.4
SPG2	**Springville 2**	**1.00**	**293**		Pn	19 47 27.6	-0.2
SPG2					Sb	19 47 39.9	-0.5
TPO	**Tropico Hills**	**1.05**	**208**		Pg	19 47 26.9	-0.2
TPO	comp=N,377nm,1.1s			IAML		19 47 48.0	
TPO	comp=E,331nm,1.2s			IAML		19 47 51.2	
SHOC	**Shoshone, Teco**	**1.10**	**85**		Pg	19 47 28.3	+0.1
SBB	**Saddle Back Bu**	**1.13**	**188**		Pb	19 47 29.0	-0.1
VES	**Vestal, Richgr**	**1.19**	**272**		Pg	19 47 29.6	-0.1
SGV	**South Grapevin**	**1.26**	**22**		Pn	19 47 31.6	+0.1
AMDNV	**Amargosa**	**1.27**	**59**		Pg	19 47 30.9	-0.3
AMDNV					Sb	19 47 48.2	+0.3
TIN	**Tinemaha, Big**	**1.33**	**339**		Pn	19 47 32.5	0.0
HOLC	**Holcomb Ridge**	**1.36**	**188**		Pn	19 47 32.3	-0.5
JNH	**Juniper Hills**	**1.39**	**191**		Pn	19 47 31.6	-1.5
OSI	**Osito Audit: C**	**1.49**	**217**		Pb	19 47 35.0	-0.3
OSI	comp=N,110nm,0.6s			IAML		19 48 00.9	
OSI	comp=E,178nm,1.0s			IAML		19 48 07.5	
CHFC	**Chilao Flat St**	**1.51**	**193**		Pg	19 47 36.2	+0.2
GMN	**Gold Mountain**	**1.52**	**11**		Pn	19 47 35.2	+0.1
BFSC	**Mount Baldy Ra**	**1.57**	**181**		Pn	19 47 35.1	-0.5
BFSC	comp=E,88nm,0.7s			IAML		19 48 03.6	
BFSC	comp=N,108nm,0.7s			IAML		19 48 06.4	
DSP	**Deep Springs**	**1.58**	**350**		Pn	19 47 35.6	-0.1
DSP	comp=E,114nm,0.7s			IAML		19 48 03.5	
TPNV	**Topopah Spring**	**1.59**	**44**		Pn	19 47 35.7	-0.3
TPNV	comp=E,86nm,0.8s			IAML		19 48 07.3	
SSK	**Sunset Peak**	**1.60**	**182**		Pg	19 47 38.0	+0.4
MWC	**Mount Wilson**	**1.62**	**193**		Pn	19 47 36.4	-0.1
MWC	comp=N,183nm,0.5s			IAML		19 48 03.1	
MWC	comp=E,155nm,1.0s			IAML		19 48 09.6	
PASC	**Pasadena Art C**	**1.70**	**196**		Sb	19 48 00.9	+0.5
PASC	**Pasadena Art C**	**1.70**	**196**		Pn	19 47 37.1	-0.3
PASC	comp=N,71nm,1.1s			IAML		19 48 08.6	
PASC	comp=E,125nm,1.1s			IAML		19 48 08.9	
MTUM	**Tungsten Hills**	**1.72**	**334**		Pg	19 47 40.0	+0.1
MTPC	**Mountain Pass**	**1.72**	**100**		Pn	19 47 37.0	-0.8
MTPC	comp=N,76nm,0.8s			IAML		19 48 07.7	
GR2C	**Griffith Obs.**	**1.77**	**198**		Sb	19 48 02.9	+0.3
RHC	**Rose Hills Cem**	**1.83**	**190**		Sb	19 48 03.5	-0.7
MZP	**Montezuma Peak**	**1.90**	**6**		Pn	19 47 39.3	-1.0
SHPR	**Sheep Range**	**2.11**	**70**		Pn	19 47 42.5	-0.7
DANC	**Danby, Needles**	**2.18**	**122**		Pn	19 47 43.3	-0.7
POB	**Polly Butte**	**2.19**	**164**		Pn	19 47 44.7	+0.4
V12A	**Nelson**	**2.26**	**91**		Pn	19 47 44.3	-0.8
V12A	comp=E,36nm,0.7s			IAML		19 48 29.9	
V12A	comp=N,45nm,1.1s			IAML		19 48 33.5	
TPH	**Tonopah**	**2.29**	**8**		Pn	19 47 44.9	-0.7
S11A	**Rachel**	**2.37**	**39**	Pn	Pn	19 47 45.4	-1.3
PMD	**Palm Desert**	**2.39**	**154**		Pn	19 47 45.8	-1.0
PFO	**Pinyon Flats O**	**2.39**	**156**		Pn	19 47 45.7	-1.3
PFO	comp=N,30nm,0.8s			IAML		19 48 36.0	
LHV	**Little Huntoon**	**2.54**	**344**		Pn	19 47 48.1	-0.7
LHV	comp=E,43nm,1.0s			IAML		19 48 39.0	
LHV	comp=N,31nm,1.1s			IAML		19 48 41.6	
PMPB	**Monarch Peak**	**2.61**	**280**	Pn	Pn	19 47 49.8	-0.1
PRN	**Pahroc Range**	**2.62**	**52**		Pn	19 47 50.0	-0.1
PRN	comp=N,31nm,0.6s			IAML		19 48 40.7	
PRN	comp=E,39nm,0.9s			IAML		19 48 56.7	
IRM	**Iron Mountain**	**2.62**	**128**		Pn	19 47 48.9	-1.1
IRM	comp=E,36nm,1.0s			IAML		19 48 35.1	
IRM	comp=N,23nm,0.6s			IAML		19 48 36.8	
NV11	**Mina Array Sit**	**2.65**	**351**		Pn	19 47 50.1	-0.5
NVAR	**Mina Array Bea**	**2.67**	**349**		Pn	19 47 50.5	-0.5
BORC	**Borrego Spring**	**2.72**	**158**		Pn	19 47 51.0	-0.4
BORC	comp=E,55nm,0.9s			IAML		19 48 38.4	
BORC	comp=N,38nm,0.9s			IAML		19 48 40.8	
BC3	**Big Chuckawall**	**2.80**	**140**		Pn	19 47 51.8	-0.7
BC3	comp=E,30nm,1.1s			IAML		19 48 44.5	
BC3	comp=N,45nm,1.1s			IAML		19 48 48.5	
DPP	**Dos Picos Cty**	**2.86**	**168**		Pn	19 47 53.4	0.0
DPP	comp=N,27nm,0.1s			IAML		19 48 16.8	
DPP	comp=E,27nm,0.9s			IAML		19 48 42.0	
BBGB	**Big Mountain B**	**2.87**	**287**	Pn	Pn	19 47 52.7	-0.7
RYN	**Ryan**	**2.90**	**346**		Pn	19 47 52.6	-1.5
R11B	**Troy Canyon, C**	**3.02**	**32**		Pn	19 47 54.6	-1.0
WAKR	**Walker**	**3.05**	**332**		Pn	19 47 56.0	-0.2
CMB	**Columbia Colle**	**3.13**	**316**		Pn	19 47 56.5	-0.7
CMB	comp=N,18nm,0.7s			IAML		19 48 57.0	
CMB	comp=E,19nm,0.9s			IAML		19 48 57.1	
BLYC	**Blythe**	**3.28**	**128**		Pn	19 47 57.7	-1.3
BLYC	comp=N,22nm,1.1s			IAML		19 49 03.3	
BLYC	comp=E,21nm,1.1s			IAML		19 49 04.0	
YUH	**Yuha Desert**	**3.46**	**155**		Pn	19 48 01.0	-0.5
YUH	comp=E,12nm,2.1s			IAML		19 49 01.5	
ESJX	**Sierra Juarez**	**4.04**	**159**	Pn	Pn	19 48 09.2	-0.6
PSUT	**Pine Spring**	**4.06**	**47**		Pn	19 48 09.6	-0.4
PSUT	comp=E,7.9nm,0.8s			IAML		19 49 25.1	
PSUT	comp=N,9.7nm,1.0s			IAML		19 49 47.5	
AFDM	**Forest Hills D**	**4.11**	**321**		Pn	19 48 09.8	-0.8
AFDM	comp=E,14nm,0.7s			IAML		19 49 33.0	
AFDM	comp=N,12nm,0.8s			IAML		19 49 34.6	
SPR3	**Spring Creek 3**	**4.13**	**39**		Pn	19 48 09.4	-1.6
SPR3	comp=N,8.1nm,0.9s			IAML		19 49 27.3	
SPR3	comp=E,8.6nm,1.0s			IAML		19 49 28.9	
PAHR	**Pah Rah Range**	**4.13**	**341**		Pn	19 48 09.5	-1.4
BEKR	**Beckworth**	**4.59**	**333**		Pn	19 48 16.1	-1.1
BEKR	comp=N,6.5nm,0.8s			IAML		19 49 55.1	
VTX	**Valle De La Tr**	**4.67**	**160**		Pn	19 48 17.5	-0.7

IDC 06 19:56:02.0±1.9, 18°26N×121°60E, h0km, mb3.7/4, mbtmp3.7/4, MS3.1/2, Error ellipse: s-maj=157.6km s-min=27.4km az=65.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**10.53**	**35**	LR	LR	20 02 17.6	
SONM	comp=Z,88nm,21.2s,baz=110,slow=36 **Songino Array**	**32.01**	**341**	P	P	20 02 30.1	-0.1
	0.5nm,0.6s,baz=141,slow=9.6,SNR=4.1 0.5nm,0.6s						
WRA	**Warramunga Arr**	**39.97**	**161**	P	P	20 03 38.3	-0.2
	0.3nm,0.5s,baz=341,slow=8.2,SNR=1.9 0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**42.71**	**82**	T	T	20 49 26.2	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**42.72**	**82**	T	T	20 49 31.1	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**42.72**	**82**	T	T	20 49 30.6	
	baz=274						
MKAR	**Makanchi Array**	**42.99**	**320**	P	P	20 04 03.1	0.0
	1.5nm,0.7s,baz=117,slow=9.4,SNR=16 1.5nm,0.7s						
YAK	**Yakutsk**	**44.10**	**5**	LR	LR	20 24 25.5	
	comp=Z,26nm,18.8s,baz=72,slow=39						
KURBB	**Kurchatov Arra**	**46.98**	**323**	P	P	20 04 34.5	-0.2
	1.7nm,0.7s,baz=122,slow=7.9,SNR=11 1.7nm,0.7s						

*TAP **06** 20:21:42.8, 24°.47N×122°.88E, h82km±1km, ML2.5, C*
*JMA **06** 20:21:43.4±0.2, 24°N±3'×122°.9E±0°.5, h79km±1km,*
MV1.8/9, NW OFF ISHIGAKIJIMA IS

ISC 06 20:21:43.4±1.5, 24°53N±0°.06×122°88E±0°03, h81km±9km, n52, σ0°76/84, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.10**	**141**	*i* P	Pn	20 21 54.8	-0.2
JYNG				S	Sn	20 22 03.2	-0.3
YOJ	**Yonaguni jima**	**0.14**	**119**	P	Pn	20 21 54.8	-0.3
YOJ				S	Sn	20 22 03.4	-0.4
EOS3	**EOS3**	**0.56**	**245**	P	Pn	20 21 58.2	+0.6
EOS3				eS	Sn	20 22 09.6	+1.4
EOS2	**EOS2**	**0.60**	**259**	eP	Pn	20 21 58.0	0.0
EOS2				eS	Sn	20 22 09.9	+1.1
EOS4	**EOS4**	**0.65**	**231**	eP	Pn	20 21 58.9	+0.7
EOS4				eS	Sn	20 22 09.9	+0.6
IRIF	**Iriomote-Funau**	**0.80**	**104**	P	Pn	20 22 00.1	-0.1
IRIF				eS	Sn	20 22 13.0	+0.2
EGS		**0.91**	**290**	eP	Pn	20 22 00.5	-1.0
TWC	**Suao**	**0.94**	**275**	P	Pn	20 22 01.4	-0.3
TWC				eS	Sn	20 22 14.1	-1.4
ENA	**Nanau**	**1.04**	**265**	eP	Pn	20 22 03.3	+0.3
ENA				eS	Sn	20 22 17.7	+0.1
TIPB	**Shuangxi**	**1.05**	**295**	eP	Pn	20 22 04.7	+1.5
SXI1	**Grass Mountain**	**1.07**	**302**	eP	Pn	20 22 02.6	-0.8
SXI1				eS	Sn	20 22 18.4	0.0
JKRS	**Kuro-shima**	**1.07**	**106**	P	Pn	20 22 03.8	+0.4
JKRS				eS	Sn	20 22 19.2	+0.8
TWE	**Neicheng**	**1.12**	**280**	eP	Pn	20 22 03.4	-0.5
TWE				eS	Sn	20 22 18.6	-0.7
NWF	**Wu-fen Shan**	**1.13**	**299**	eP	Pn	20 22 04.6	+0.4
JIJ	**Ishigaki jima**	**1.17**	**98**	P	Pn	20 22 04.4	-0.1
JIJ				S	Sn	20 22 19.7	-0.7
TNOU	**National Taiwa**	**1.18**	**302**	eP	Pn	20 22 02.9	-1.8
FUSB	**Fushanzhiwuyua**	**1.20**	**281**	eP	Pn	20 22 05.1	+0.2
FUSB				eS	Sn	20 22 21.0	-0.1
ENTT	**Nioudou**	**1.20**	**276**	eP	Pn	20 22 05.4	+0.5
ENTT				eS	Sn	20 22 21.2	+0.1
ETL	**Fush Village**	**1.20**	**252**	eP	Pn	20 22 04.8	-0.2
NACB	**Ninganchiao**	**1.22**	**253**	*i* P	Pn	20 22 04.9	-0.3
NACB				S	Sn	20 22 21.2	-0.4
LATG	**Datong**	**1.23**	**271**	P	Pn	20 22 05.9	+0.5
LATG				S	Sn	20 22 22.6	+0.6
TWD	**Chiawan**	**1.25**	**249**	eP	Pn	20 22 04.8	-0.8
TWD				eS	Sn	20 22 21.5	-0.8
NWLT	**Wulai**	**1.27**	**281**	eP	Pn	20 22 06.3	+0.4
NWLT				eS	Sn	20 22 23.4	+0.5
ETLH	**Xiulin Townshi**	**1.31**	**256**	eP	Pn	20 22 06.3	-0.1
ETLH				eS	Sn	20 22 22.9	-0.8
TATO	**Taipei**	**1.34**	**290**	eP	Pn	20 22 06.7	0.0
NNSB	**Datong**	**1.36**	**266**	eP	Pn	20 22 07.5	+0.4
NNSB				eS	Sn	20 22 24.4	-0.7
YHNB	**Yeheng**	**1.37**	**276**	P	Pn	20 22 07.8	+0.6
YHNB				eS	Sn	20 22 25.4	+0.3
ETM	**Tongmen**	**1.38**	**246**	eP	Pn	20 22 06.9	-0.4
NSK	**Sanguang**	**1.39**	**276**	eP	Pn	20 22 07.7	+0.3
NSK				eS	Sn	20 22 25.4	-0.2
ESL	**Shilin**	**1.50**	**242**	eP	Pn	20 22 08.2	-0.5
WHF	**Hehuan Shan**	**1.52**	**256**	eP	Pn	20 22 09.5	+0.1
WHF				eS	Sn	20 22 28.5	-0.5
WARBT	**Fenglin Townsh**	**1.58**	**240**	P	Pn	20 22 09.2	-0.7
WARBT				eS	Sn	20 22 28.7	-1.2
OWD	**Renai**	**1.65**	**250**	eP	Pn	20 22 11.0	+0.1
OWD				eS	Sn	20 22 30.2	-1.5
HGSD	**Ruisui**	**1.68**	**232**	eP	Pn	20 22 10.8	-0.3
WUSB	**Renai**	**1.69**	**252**	P	Pn	20 22 11.8	+0.5
WUSB				eS	Sn	20 22 31.6	-1.0
EHY	**Hungye**	**1.75**	**235**	eP	Pn	20 22 11.7	-0.4
VWDT	**VWDT**	**1.76**	**244**	eP	Pn	20 22 12.3	+0.1
VWDT				eS	Sn	20 22 33.7	-0.4
WHP	**Taichung City**	**1.78**	**262**	eP	Pn	20 22 13.8	+1.3
WHP				eS	Sn	20 22 35.2	+0.7
YULB	**Yu-li**	**1.83**	**232**	eP	Pn	20 22 12.7	-0.5
YULB				eS	Sn	20 22 35.0	-0.8
TWF1	**Yuli**	**1.86**	**231**	eP	Pn	20 22 13.2	-0.3
TWF1				eS	Sn	20 22 35.9	-0.5
SSLB	**Suanglung**	**1.91**	**248**	eP	Pn	20 22 14.3	+0.2
SMLT	**Sun Moon Lake**	**1.92**	**251**	eP	Pn	20 22 15.1	+0.8
FULB	**Fuli**	**1.96**	**228**	P	Pn	20 22 14.6	-0.3
WHYT	**Xinyi Township**	**2.03**	**246**	eP	Pn	20 22 16.7	+1.0
EHD	**Haiduan**	**2.06**	**228**	eP	Pn	20 22 15.5	-0.6
ALS	**Alishan**	**2.15**	**242**	eP	Pn	20 22 18.5	+0.9
ELDTW	**Lidau**	**2.16**	**232**	P	Pn	20 22 17.5	-0.1
ELDTW				eS	Sn	20 22 42.7	-1.0
CHN5	**Tsauling**	**2.21**	**246**	eP	Pn	20 22 19.8	+1.5
STYH	**Taoyuan**	**2.35**	**235**	eP	Pn	20 22 21.2	+1.2
STYH				eS	Sn	20 22 48.3	+0.2
TWGBT	**Beinan**	**2.37**	**224**	eP	Pn	20 22 19.9	-0.4
TPUB	**Ta-pu**	**2.39**	**240**	eP	Pn	20 22 22.5	+1.9
CHN4	**Tsaushan**	**2.40**	**241**	eP	Pn	20 22 22.6	+2.0

IDC 06 20:37:57.0±2.0, 41°57N×113°33W, h0km, Error ellipse: s-maj=64.3km s-min=11.4km az=150.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**3.05**	**66**	Pg	Pb	20 38 52.5	+0.2
PDAR	1.3nm,0.3s,baz=242,slow=16,SNR=5.8 1.8nm,0.3s,baz=240,slow=26,SNR=6.9			Lg	Lg	20 39 34.1	
NVAR	**Mina Array Bea**	**4.94**	**232**	Pg	Pb	20 39 24.3	-0.2
I56US	0.1nm,1.0s,baz=50,slow=19,SNR=0.9 **NEWPORT INFRAS 7.21**	**339**		I		21 21 20.0	
	0.1nm,1.0s,baz=159,slow=310,SNR=1.6						

IDC 06 20:58:24.2±2.1, 4°24N×126°75E, h0km, mb3.4/4, mbtmp3.4/4, MS3.2/1, Error ellipse: s-maj=127.4km s-min=25.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.22**	**183**	P	P	21 03 22.5	0.0
	2.7nm,1.2s,baz=7.1,slow=8.1,SNR=1.2 2.7nm,1.2s						
WRA	**Warramunga Arr**	**25.16**	**163**	P	P	21 03 51.3	-0.1
	0.3nm,0.5s,baz=343,slow=9.1,SNR=12 0.3nm,0.5s						
ASAR	**Alice Springs**	**28.60**	**166**	P	P	21 04 22.6	+0.3
	0.2nm,0.4s,baz=346,slow=8.9,SNR=5.2 0.2nm,0.4s						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	21 08 12.6	-0.2
	0.2nm,0.4s,baz=124,slow=7.3,SNR=5.6 0.2nm,0.4s						
AAK	**Ala-Archa**	**59.99**	**318**	LR	LR	21 36 44.1	
	comp=Z,20nm,18.4s,baz=190,slow=38						

*AFAD **06** 21:07:21.8, 35°.08N×27°.75E, h9km±1km, ML3.2*
*IDC **06** 21:07:22.7±1.2, 35°.28N×27°.79E, h0km, mb3.6/8, mbtmp3.5/16, ML3.2/6, MS3.0/8, Error ellipse: s-maj=22.6km s-min=12.2km az=1.0*
*NIC **06** 21:07:23.2, 35°.13N×27°.81E, h6km±1km, Ml3.3/12*
*ISK **06** 21:07:24.9, 35°.25N×27°.88E, h8km, ML3.4/14*
*ATH **06** 21:07:25.4±0.3, 35°.25N×27°.97E, h5km, ML3.4/5, Manual Solution by S.Liakopoulos First location: 2019/08/06 21:08:17, This location: 2020/11/13 13:59:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*

ISC 06 21:07:24.8±1.3, 35°19N±0°03×27°84E±0°03, h10km±8km, n110, σ1°40/137, mb3.5/8, MS3.0/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.65**	**303**	Pg	**Pb**	**21 07 37.9**	**-0.4**
KARP				Sg	**Sb**	**21 07 47.9**	**+0.4**
KARP	**Karpathos**	**0.65**	**303**	P	**Pg**	**21 07 36.8**	**-0.7**
KARP	**Karpathos**	**0.65**	**303**	P	**Pg**	**21 07 36.7**	**-0.7**
KARP				S	**Sb**	**21 07 46.3**	**-1.2**
KARP	6.1nm,0.6s			AML	AML	21 07 52.9	
KARP	6.2nm,0.6s			AML	AML	21 08 00.9	
ARG	**Arkhangelos**	**1.05**	**13**	Pg	**Pg**	**21 07 44.4**	**-0.5**
ARG				Sg	**Sb**	**21 07 58.6**	**-0.2**
ARG	**Arkhangelos**	**1.05**	**13**	P	**Pg**	**21 07 43.7**	**-1.3**
ARG	**Arkhangelos**	**1.05**	**13**	P	**Pg**	**21 07 44.5**	**-0.4**
ARG				S	**Sn**	**21 08 00.7**	**+0.5**
ARG	2.4nm,1.0s			AML	AML	21 08 10.5	
ARG	2.4nm,0.8s			AML	AML	21 08 16.1	
ARG	**Arkhangelos**	**1.05**	**13**	P	**Pg**	**21 07 44.3**	**-0.6**
ARG				S	**Sg**	**21 07 57.1**	**-1.4**
ZKR	**Zakros**	**1.33**	**267**	Pn	**Pg**	**21 07 51.2**	**+0.9**
ZKR				Sn	**Sn**	**21 08 10.0**	**+2.8**
ZKR	**Zakros**	**1.33**	**267**	P	**Pb**	**21 07 50.1**	**+0.3**
ZKR	**Zakros**	**1.33**	**267**	P	**Pn**	**21 07 48.0**	**-1.4**
ZKR	1.0nm,0.5s			AML	AML	21 08 16.2	
ZKR	2.1nm,0.7s			AML	AML	21 08 18.9	
YAZI	**Mula-Dat§a-**	**1.52**	**348**	P	**Pg**	**21 07 52.8**	**-1.1**
YAZI				S	**Sg**	**21 08 15.2**	**+1.6**
YAZI	comp=N,240nm,0.5s			*i* IAML		21 08 22.0	
DAT	**Datca**	**1.55**	**352**	Pn	**Pn**	**21 07 52.8**	**+0.3**
DAT	**Datca**	**1.55**	**352**	P	**Pb**	**21 07 53.2**	**-0.4**
DAT				S	**Sg**	**21 08 15.1**	**+0.5**
DAT	comp=E,300nm,0.5s			*i* IAML		21 08 23.0	
DAT	comp=N,252nm,0.4s			*i* IAML		21 08 29.0	
TURN	**Turunc**	**1.61**	**12**	P	**Pg**	**21 07 54.9**	**-0.9**
TURN				S	**Sg**	**21 08 17.8**	**+1.1**
TURN	comp=N,250nm,0.5s			*i* IAML		21 08 28.0	
IZZE	**Mula-Seydike**	**1.68**	**42**	P	**Pn**	**21 07 54.9**	**+0.7**
KSL	**Kastellorizon**	**1.71**	**56**	P	**Pn**	**21 07 55.2**	**+0.5**
KSL	**Kastellorizon**	**1.71**	**56**	P	**Pn**	**21 07 54.8**	**+0.1**
KSL	0.7nm,1.5s			AML	AML	21 08 44.3	
KSL	0.5nm,1.2s			AML	AML	21 08 48.2	
NPS	**Neapolis**	**1.82**	**273**	P	**Pb**	**21 07 58.5**	**+0.3**
SABU	**Mula-Dalaman**	**1.87**	**29**	P	**Pb**	**21 07 59.4**	**+0.3**
SABU				S	**Sg**	**21 08 30.2**	**+5.3**
SABU	comp=N,170nm,0.8s			*i* IAML		21 08 44.0	
BDRM	**Kayabasi**	**1.89**	**350**	P	**Pn**	**21 07 57.4**	**+0.2**
BDRM				S	**Sb**	**21 08 22.9**	**-0.3**
BDRM	comp=E,203nm,0.9s			*i* IAML		21 08 37.0	
MULA	**Mugla, Merkez-**	**2.10**	**11**	P	**Pb**	**21 08 03.6**	**+0.6**
MULA				S	**Sg**	**21 08 32.7**	**+0.5**
MULA	comp=N,143nm,1.2s			*i* IAML		21 08 46.0	
MULA	comp=E,119nm,1.2s			*i* IAML		21 08 47.0	
CAME	**Cameli-Denizli**	**2.11**	**34**	Pn	**Pn**	**21 08 00.7**	**+0.4**
KNIK	**Mula-Seydike**	**2.17**	**40**	P	**Pn**	**21 08 02.7**	**+1.6**
THERA	**Ancient Thera,**	**2.25**	**302**	P	**Pn**	**21 08 03.0**	**+1.0**
CAEL	**Denizli, Camel**	**2.27**	**32**	P	**Pb**	**21 08 06.1**	**+0.2**
DNZT	**Denizli-Tavas-**	**2.29**	**24**	P	**Pn**	**21 08 04.0**	**+1.2**
DNZT				S	**Sg**	**21 08 41.0**	**+2.5**
DDIM	**Aydin, Didim**	**2.31**	**348**	P	**Pn**	**21 08 04.1**	**+1.2**
SNT5	**Nea Kammeni, S**	**2.32**	**302**	P	**Pb**	**21 08 04.9**	**-1.8**
AKUM	**Antalya-Kumluc**	**2.33**	**60**	P	**Pb**	**21 08 02.9**	**-0.2**
SAP3	**Santorini-Thir**	**2.37**	**302**	P	**Pb**	**21 08 06.2**	**-1.4**
IDI	**Anoyia**	**2.41**	**273**	Pn	**Pn**	**21 08 06.3**	**+1.9**
IDI	**Anoyia**	**2.41**	**273**	P	**Pb**	**21 08 07.1**	**-1.3**
IDI	**Anoyia**	**2.41**	**273**	Pn	**Pn**	**21 08 05.0**	**+0.6**
IDI	20nm,0.4s,baz=94,slow=12,SNR=30 9.4nm,0.3s,baz=244,slow=23,SNR=3.7			Lg	Lg	21 08 37.4	
IDI	**Anoyia**	**2.41**	**273**	P	**Pn**	**21 08 06.1**	**+1.7**
TAVA	**DENIZLI_Tavas**	**2.43**	**21**	P	**Pn**	**21 08 05.9**	**+1.3**
TAVA		

IZMR	**zmir-demi**	**2.94**	**2**	P		**Pn**	**21 08 12.3**	**+0.7**
IZMR				S		**Sn**	**21 08 46.0**	**-0.9**
IZMR				*i* IAML			21 09 18.0	
	comp=E,70nm,2.0s							
KIRA	**zmir-Kiraz**	**3.03**	**8**	P		**Pn**	**21 08 13.8**	**+0.9**
KIRA				S		**Sb**	**21 08 57.7**	**+1.7**
KIRA				*i* IAML			21 09 17.0	
	comp=N,57nm,1.8s							
BUCA	**Burdur, Bucak-**	**3.06**	**45**	P		**Pn**	**21 08 16.4**	**+3.1**
BRDR	**BURDUR-Merkez**	**3.08**	**35**	P		**Pn**	**21 08 17.1**	**+3.6**
ODEM	**Odemis-Izmir**	**3.08**	**4**	Pn		**Pn**	**21 08 14.4**	**+0.8**
BLCB	**Balcova**	**3.25**	**349**	Pn		**Pn**	**21 08 17.1**	**+1.3**
URLA	**Izmir**	**3.31**	**343**	P		**Pn**	**21 08 19.0**	**+2.3**
MANT	**Manisa**	**3.34**	**10**	P		**Pn**	**21 08 18.2**	**+0.9**
KULA	**Kula-Manisa**	**3.38**	**11**	Pn		**Pn**	**21 08 18.8**	**+1.1**
PASA	**Karahalli, USA**	**3.42**	**22**	P		**Pn**	**21 08 19.8**	**+1.6**
USAK	**Uak-Merkez**	**3.64**	**15**	P		**Pn**	**21 08 21.5**	**+0.2**
AKMS	**Akamas**	**3.69**	**91**	P		**Pn**	**21 08 21.5**	**-0.5**
AKMS				S		**Sn**	**21 09 06.9**	**+1.4**
AKMS				AML	AML		21 09 08.3	
	0.2nm,0.6s							
AKMS				AML	AML		21 09 09.9	
	0.2nm,0.6s							
AKMS	**Akamas**	**3.69**	**91**	P		**Pn**	**21 08 21.3**	**-0.6**
GORD	**Gordes-Manisa**	**3.72**	**4**	Pn		**Pn**	**21 08 23.4**	**+1.1**
ANKY	**Antikythira Is**	**3.76**	**282**	P		**Pn**	**21 08 26.3**	**+3.5**
ALFC	**Alefka**	**3.90**	**89**	P		**Pn**	**21 08 24.2**	**-0.7**
ALFC				S		**Sn**	**21 09 11.2**	**+0.5**
ALFC				AML	AML		21 09 11.7	
	0.2nm,0.7s							
ALFC				AML	AML		21 09 15.9	
	0.2nm,0.5s							
ALFC	**Alefka**	**3.90**	**89**	P		**Pn**	**21 08 24.6**	**-0.3**
DEMI	**Demirci**	**3.91**	**10**	P		**Pn**	**21 08 25.0**	**+0.1**
NATA	**Nata**	**3.91**	**95**	P		**Pn**	**21 08 24.8**	**-0.1**
NATA				S		**Sn**	**21 09 10.6**	**-0.2**
NATA				AML	AML		21 09 14.5	
	0.5nm,0.5s							
NATA				AML	AML		21 09 23.8	
	0.4nm,0.7s							
NATA	**Nata**	**3.91**	**95**	P		**Pn**	**21 08 24.8**	**-0.1**
TROD	**Troodos**	**4.13**	**92**	P		**Pn**	**21 08 27.1**	**-1.1**
TROD				S		**Sn**	**21 09 17.8**	**+1.1**
TROD				AML	AML		21 09 24.2	
	0.1nm,0.6s							
TROD				AML	AML		21 09 32.3	
	0.1nm,0.8s							
ATHU	**Athens Univers**	**4.28**	**312**	P		**Pn**	**21 08 31.9**	**+2.0**
XYLS	**Xyliatos**	**4.28**	**91**	P		**Pn**	**21 08 29.5**	**-0.6**
XYLS				S		**Sn**	**21 09 21.6**	**+1.6**
XYLS				AML	AML		21 09 24.6	
	0.1nm,0.4s							
XYLS				AML	AML		21 09 31.1	
	0.1nm,0.5s							
MET2	**Kameni Chora,**	**4.36**	**305**	P		**Pn**	**21 08 33.9**	**+2.8**
TVSB	**Tavsanli**	**4.44**	**16**	Pn		**Pn**	**21 08 32.6**	**+0.3**
ASGA	**Asgata**	**4.46**	**94**	P		**Pn**	**21 08 32.0**	**-0.5**
ASGA				S		**Sn**	**21 09 25.9**	**+1.4**
ASGA				AML	AML		21 09 28.9	
	0.2nm,0.5s							
ASGA				AML	AML		21 09 31.1	
	0.2nm,0.5s							
ASGA	**Asgata**	**4.46**	**94**	P		**Pn**	**21 08 32.1**	**-0.3**
CSS	**Mathiatis**	**4.51**	**91**	P		**Pn**	**21 08 32.5**	**-0.7**
CSS				S		**Sn**	**21 09 27.1**	**+1.4**
CSS				AML	AML		21 09 30.0	
	0.1nm,0.7s							
CSS				AML	AML		21 09 32.8	
	0.1nm,0.6s							
STFN	**Stefani**	**4.55**	**312**	P		**Pn**	**21 08 36.2**	**+2.4**
VIL2	**Platees**	**4.75**	**311**	P		**Pn**	**21 08 38.2**	**+1.7**
MVOU	**Mavrovouni**	**4.76**	**90**	P		**Pn**	**21 08 35.8**	**-0.7**
MVOU				S		**Sn**	**21 09 33.6**	**+1.9**
MVOU				AML	AML		21 09 38.7	
	0.1nm,0.6s							
MVOU				AML	AML		21 09 40.3	
	0.1nm,0.9s							
MVOU	**Mavrovouni**	**4.76**	**90**	P		**Pn**	**21 08 36.4**	**-0.2**
BRTR	**Keskin Array B**	**6.46**	**44**	Pn		**Pn**	**21 09 00.7**	**+0.6**
	0.2nm,0.3s,baz=218,slow=14,SNR=7.9							
BRTR				Sn		**Sn**	**21 10 13.3**	**-0.6**
	0.2nm,0.3s,baz=216,slow=24,SNR=5.0							
	1.1nm,0.7s							
MMAI	**Mount Meron Ar**	**6.64**	**107**	Pn		**Pn**	**21 09 00.7**	**-1.8**
	2.1nm,0.3s,baz=295,slow=12,SNR=8.8							
MMAI				Sn		**Sn**	**21 10 16.8**	**-1.6**
	1.9nm,0.3s,baz=285,slow=22,SNR=2.1							
	0.7nm,0.3s							
ASF	**Jabal al Asfar**	**8.13**	**109**	Pn		**Pn**	**21 09 22.1**	**-0.9**
	0.4nm,0.3s,baz=311,slow=11,SNR=2.5							
ASF				Sn		**Sn**	**21 10 55.0**	**0.0**
	0.2nm,0.3s,baz=122,slow=15,SNR=1.8							
	1.6nm,0.5s							
EIL	**Elat**	**8.15**	**131**	Pn		**Pn**	**21 09 22.2**	**-1.0**
	baz=324,slow=1.1							
EIL				Sn		Sn	21 10 49.4	-6.1
	285nm,0.3s,baz=150,slow=0.1,SNR=8.1							
MLR	**Muntele Rosu**	**10.38**	**353**	Pn		**Pn**	**21 09 52.6**	**-1.3**
	0.1nm,0.3s,baz=185,slow=11,SNR=1.7							
MLR				LR		LR	21 14 18.0	
	comp=Z,61nm,18.4s,baz=182,slow=40							
	0.8nm,0.6s							
VAE	**Valguarnera**	**11.06**	**286**	Pn		**Pn**	**21 10 02.1**	**-1.1**
	1.8nm,0.4s,baz=112,slow=16,SNR=1.6							
VAE				Sn		**Sn**	**21 12 09.0**	**+2.0**
	0.7nm,0.3s,baz=22,slow=19,SNR=2.1							
KVAR	**Kislovodsk Arr**	**14.40**	**48**	Pn		**P**	**21 10 56.8**	**+1.1**
	baz=241,slow=13							
KBZ	**Khabaz**	**14.41**	**49**	Pn		**P**	**21 10 57.8**	**+2.1**
	0.1nm,0.3s,baz=245,slow=11,SNR=4.3							
AKASG	**Malin Array Be**	**15.53**	**3**	Pn		**Pn**	**21 11 02.5**	**-1.3**
	0.2nm,0.3s,baz=194,slow=11,SNR=1.5							
	0.1nm,0.4s							
CONA	**Conrad Observa**	**15.54**	**329**	*e*Pn		**Pn**	**21 11 05.7**	**+1.8**
	1.5nm,1.0s							
KBA	**Koelnbreinsper**	**16.10**	**322**	*e*P		**P**	**21 11 14.2**	**-0.5**
	comp=Z,8.1nm,1.2s							
MOA	**Molln**	**16.19**	**325**	*e*Pn		**Pn**	**21 11 13.3**	**+1.0**
	1.3nm,0.5s							
ABTA	**Abfaltersbach**	**16.31**	**320**	*e*Pn		**Pn**	**21 11 15.2**	**+1.2**
	4.4nm,1.1s							
VRAC	**Vranov**	**16.35**	**333**	LR		LR	21 18 14.2	
	comp=Z,45nm,19.6s,baz=147,slow=40							
BIOA	**Bad Ischl, Aus**	**16.37**	**324**	*e*Pn		**Pn**	**21 11 15.5**	**+0.8**
	2.7nm,0.8s							
LESA	**Schwarzleotal**	**16.66**	**322**	*e*Pn		**Pn**	**21 11 18.9**	**+0.5**
	1.6nm,0.7s							
GERES	**GERESS Array B**	**17.17**	**327**	P		**Pn**	**21 11 24.4**	**-0.4**
	baz=136,slow=15,SNR=7.3							
	0.7nm,0.7s							
WATA	**Walderalm**	**17.18**	**320**	*e*Pn		**Pn**	**21 11 25.1**	**+0.1**
	5.9nm,1.3s							
FETA	**Feichten**	**17.44**	**318**	*e*Pn		**Pn**	**21 11 28.7**	**+0.4**
	5.4nm,1.2s							
RETA	**Reutte**	**17.70**	**319**	*e*Pn		**Pn**	**21 11 31.2**	**-0.3**
	3.0nm,1.2s							
DAVOX	**Davos/Dischmat**	**17.78**	**316**	LR		LR	21 19 31.8	
	comp=Z,39nm,19.7s,baz=89,slow=41							
DAVA	**Damuels**	**18.07**	**317**	*e*Pn		**Pn**	**21 11 35.3**	**-0.7**
	4.5nm,1.4s							
ESDC	**Sonseca Array**	**25.57**	**290**	P		**P**	**21 12 52.6**	**-1.3**
	0.9nm,0.6s,baz=90,slow=9.2,SNR=9.9							
	0.9nm,0.6s							
FINES	**FINESS Array B**	**26.29**	**358**	P		**P**	**21 12 57.1**	**-3.1**
	0.5nm,0.5s,baz=188,slow=8.2,SNR=4.3							
	0.5nm,0.5s							
HFS	**Hagfors**	**26.59**	**344**	P		**P**	**21 12 59.6**	**-3.3**
	1.0nm,0.6s,baz=168,slow=15,SNR=4.9							
HFS				LR		LR	21 25 39.5	
	comp=Z,48nm,20.6s,baz=158,slow=41							
	1.0nm,0.6s							
MDT	**Midelt**	**26.94**	**274**	LR		LR	21 25 42.9	
	comp=Z,40nm,18.7s,baz=115,slow=41							
NOA	**NORSAR Array B**	**27.97**	**343**	P		**P**	**21 13 14.4**	**-1.0**
	0.5nm,0.8s,baz=156,slow=7.3,SNR=2.0							
NOA				LR		LR	21 25 29.7	
	comp=Z,37nm,18.7s,baz=150,slow=39							
	0.5nm,0.8s							
ARTI	**Arti**	**29.64**	**35**	LR		LR	21 28 24.4	
	comp=Z,21nm,18.3s,baz=118,slow=43							
ARCES	**ARCESS Array B**	**34.42**	**359**	P		**P**	**21 14 10.5**	**-1.5**
	2.0nm,0.8s,baz=178,slow=11,SNR=2.2							
	2.0nm,0.8s							
BVAR	**Borovoye Array**	**34.74**	**46**	LR		LR	21 31 58.4	
	comp=Z,25nm,18.3s,baz=247,slow=42							
KURBB	**Kurchatov Arra**	**39.40**	**51**	P		**P**	**21 14 54.7**	**+0.2**
	0.6nm,0.7s,baz=275,slow=8.7,SNR=4.8							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**41.92**	**57**	P		**P**	**21 15 15.7**	**+0.2**
	0.4nm,0.7s,baz=269,slow=6.1,SNR=3.9							
	0.4nm,0.7s							
SONM	**Songino Array**	**57.76**	**51**	P		**P**	**21 17 16.8**	**+0.7**
	0.4nm,0.7s,baz=260,slow=8.0,SNR=2.6							
	0.4nm,0.7s							

*IDC **06** 21:14:09.7±0.3, 10°.46N×84°.38W, h108km±3km, mb4.1/17, mbtmp4.6/22, MS3.4/23, Error ellipse: s-maj=10.3km s-min=9.6km az=20.0*

*MOS **06** 21:14:09.2±1.0, 10°.43N×84°.21W, h108km, mb5.0/26, Error ellipse: s-maj=10.5km s-min=6.4km az=103.5*

*UCR **06** 21:14:09.8±0.8, 10°.37N×84°.28W, h110km±2km, MW5.4, Fault plane solution: NP1:φs256.18000°, δ11.17000°, λ26.30000°.*

*NEIC **06** 21:14:10.9±2.0, 10°.35N±0°.05×84°.26W±0°.06, h104km±4km, mb4.9/99, Error ellipse: s-maj=9.3km s-min=6.6km az=61.0*

*CATAC **06** 21:14:11.6±0.2, 10°.N±2°×8°.4W±°, h87km±3km, M4.9/40, MLv4.9/40, Error ellipse: s-maj=4.1km s-min=1.9km az=43.8, confirmed*

*GCMT **06** 21:14:12.9±0.3, 10°.29N±0°.01×84°.26W±0°.01, h113km±3km, MW4.9/105, Moment Tensor Solution. s42,c48; s105,c154; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.81±.09; Mθθ-1.25±.14; Mφφ0.44±.14; Mrθ2.64±.06; Mrφ0.32±.13; Mθφ-1.57±.06; Best double couple: M₀3.26700×10¹⁶ NP1:φs250.00000°, δ13.00000°, λ40.00000°. NP2:φs121.00000°, δ82.00000°, λ100.00000°. Principal axes: T 3.1180, Plg52.0000°, Azm43.0000°; N 0.2950, Plg10.0000°, Azm299.0000°; P -3.4150, Plg36.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SNET **06** 21:14:17.7±0.5, 10°.00N×85°.08W, h33km±999km, ML4.2*

ISC 06 21:14:10.2±0.3, 10°.33N±0°.03×84°.27W±0°.03, h109km±2km, h109km:pP-P, n803, σ0s96/849, mb4.8/90, 102C-48D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VPL2	**V. Platanar**	**0.12**	**260**	**ⁿeP**		**Pn**	**21 14 25.5**	**+0.1**
VPL1	**V. Platanar**	**0.12**	**234**	**ⁿeP**		**Pn**	**21 14 25.6**	**+0.1**
ITAL	**Pital**	**0.12**	**357**	**ⁿeP**		**Pn**	**21 14 25.4**	**+0.1**
ITAL				eS		**Sn**	**21 14 36.4**	**-0.2**
VPS5	**V. Poas**	**0.14**	**167**	**ⁿeP**		**Pn**	**21 14 25.5**	**-0.2**
VPS8	**V Poas**	**0.15**	**171**	**ⁿeP**		**Pn**	**21 14 25.9**	**+0.1**
QUEU	**Ciudad Quesada**	**0.17**	**268**	**ⁿeP**		**Pn**	**21 14 25.6**	**+0.2**
ZARE	**Zarcero**	**0.19**	**221**	**ⁿeP**		**Pn**	**21 14 26.0**	**+0.3**
ZARE				eS		**Sn**	**21 14 38.0**	**+0.7**
POAS	**San Pedro de P**	**0.25**	**175**	**ⁿeP**		**Pn**	**21 14 25.9**	**+0.1**
NARAN	**Naranjo de Ala**	**0.25**	**206**	**ⁿeP**		**Pn**	**21 14 25.9**	**+0.1**
GREC	**Grecia**	**0.26**	**190**	**ⁿeP**		**Pn**	**21 14 25.9**	**+0.1**
SARA	**Sarapiqu**	**0.27**	**63**	*e*P		**Pn**	**21 14 25.6**	**-0.1**
SARA				eS		**Sn**	**21 14 37.1**	**-0.2**
TCS1	**Tacares**	**0.29**	**187**	**ⁿeP**		**Pn**	**21 14 26.0**	**+0.1**
TCS1	**Tacares**	**0.29**	**187**	**ⁿP**		**Pn**	**21 14 26.0**	**+0.1**
RAMO	**San Ramon**	**0.31**	**220**	**ⁿeP**		**Pn**	**21 14 25.9**	**-0.1**
UELA	**Alajuela**	**0.31**	**170**	*e*P		**Pn**	**21 14 25.6**	**-0.5**
PALD	**Palmares**	**0.32**	**212**	**ⁿeP**		**Pn**	**21 14 25.8**	**-0.3**
SOCE	**Pocosol**	**0.35**	**279**	Pn		**Pn**	**21 14 26.2**	**+0.2**
SOCE				Sn		**Sn**	**21 14 37.8**	**-0.2**
SOCE	**Pocosol**	**0.35**	**279**	**ⁿeP**		**Pn**	**21 14 26.2**	**+0.2**
SOCE				eS		**Sn**	**21 14 38.0**	**0.0**
SOCE	**Pocosol**	**0.35**	**279**	S		**Sn**	**21 14 38.0**	**0.0**
SOCE	**Pocosol**	**0.35**	**279**	**ⁿP**		**Pn**	**21 14 26.3**	**+0.2**
HEME	**Heredia, Merce**	**0.35**	**159**	**ⁿeP**		**Pn**	**21 14 26.5**	**+0.2**
HDC	**Heredia**	**0.36**	**155**	Pn		**Pn**	**21 14 26.5**	**+0.3**
HDC				Sn		**Sn**	**21 14 38.6**	**+0.4**
HDC	**Heredia**	**0.36**	**155**	**ⁿeP**		**Pn**	**21 14 26.5**	**+0.3**
HDC				eS		**Sn**	**21 14 38.7**	**+0.4**
HDC	**Heredia**	**0.36**	**155**	*e*P		**Pn**	**21 14 26.6**	**+0.3**
HDC				eS		**Sn**	**21 14 38.0**	**-0.3**
BELE	**Belen**	**0.36**	**168**	**ⁿeP**		**Pn**	**21 14 26.2**	**0.0**
ATEO	**Atenas**	**0.37**	**198**	**ⁿeP**		**Pn**	**21 14 26.0**	**-0.2**
DOMI	**Santo Domingo**	**0.38**	**154**	**ⁿeP**		**Pn**	**21 14 26.7**	**+0.3**
DOMI				eS		**Sn**	**21 14 39.3**	**+0.8**
SANTA	**Santa Ana**	**0.40**	**169**	**ⁿeP**		**Pn**	**21 14 26.3**	**-0.1**
TIBA	**Tibas**	**0.41**	**152**	**ⁿeP**		**Pn**	**21 14 27.9**	**+1.3**
PAVB	**Pavas, San Jos**	**0.41**	**160**	**ⁿeP**		**Pn**	**21 14 26.7**	**+0.1**
COVE	**Coope Vega, Sa**	**0.41**	**341**	S		**Sn**	**21 14 38.4**	**-0.1**
COVE	**Coope Vega, Sa**	**0.41**	**341**	**ⁿP**		**Pn**	**21 14 26.8**	**+0.1**
FORC	**Fortuna**	**0.42**	**289**	**ⁿeP**		**Pn**	**21 14 26.7**	**+0.2**
MEXI	**Barrio Mexico**	**0.42**	**155**	**ⁿeP**		**Pn**	**21 14 26.8**	**+0.2**
LUPE	**Guadalupe**	**0.43**	**151**	**ⁿeP**		**Pn**	**21 14 26.9**	**+0.2**
VACR	**Volcan Arenal**	**0.43**	**290**	**ⁿeP**		**Pn**	**21 14 26.7**	**+0.2**
VACR				eS		**Sn**	**21 14 38.8**	**+0.1**
CENT	**San Jose**	**0.43**	**155**	**ⁿeP**		**Pn**	**21 14 26.9**	**+0.2**
CORON	**Coronado**	**0.44**	**144**	**ⁿeP**		**Pn**	**21 14 27.1**	**+0.3**
CVIMO	**Finca Echandi**	**0.44**	**134**	**ⁿeP**		**Pn**	**21 14 27.0**	**+0.2**
SJS	**Escuela Geolog**	**0.44**	**152**	**ⁿeP**		**Pn**	**21 14 26.8**	**+0.1**
ECI	**Escuela Centro**	**0.44**	**152**	**ⁿeP**		**Pn**	**21 14 26.9**	**+0.1**
SJS3	**Mercedes San J**	**0.44**	**152**	**ⁿeP**		**Pn**	**21 14 27.0**	**+0.3**
LUJA	**Lujan**	**0.44**	**155**	**ⁿeP**		**Pn**	**21 14 26.9**	**+0.1**
CEDE	**Laguna Cedeo**	**0.46**	**290**	**ⁿeP**		**Pn**	**21 14 27.0**	**+0.3**
VARE2	**V. Arenal**	**0.47**	**287**	**ⁿeP**		**Pn**	**21 14 27.0**	**+0.3**
REZ	**Monterrey de S**	**0.47**	**295**	**ⁿeP**		**Pn**	**21 14 27.2**	**+0.4**
AMPA	**Desamparados**	**0.47**	**155**	**ⁿeP**		**Pn**	**21 14 27.0**	**0.0**
CASO	**Castillo**	**0.47**	**283**	**ⁿeP**		**Pn**	**21 14 26.9**	**+0.2**
PURI	**Puriscal**	**0.48**	**185**	**ⁿeP**		**Pn**	**21 14 27.9**	**0.0**
PILE	**Guapiles**	**0.48**	**103**	**ⁿeP**		**Pn**	**21 14 27.2**	**+0.4**
OROT	**Orotina**	**0.49**	**212**	**ⁿeP**		**Pn**	**21 14 26.8**	**0.0**
TRIO	**Tres Rios**	**0.50**	**148**	**ⁿeP**		**Pn**	**21 14 27.1**	**+0.1**
ARZA	**Esparza**	**0.52**	**230**	**ⁿeP**		**Pn**	**21 14 26.9**	**-0.1**
CARI	**Cariari**	**0.52**	**86**	**ⁿeP**		**Pn**	**21 14 27.6**	**+0.6**
TABAC	**Tabacon**	**0.52**	**289**	**ⁿeP**		**Pn**	**21 14 27.4**	**+0.3**
VICA	**Volcano Irazu**	**0.54**	**129**	**ⁿeP**		**Pn**	**21 14 27.9**	**+0.2**
ACOS	**Acosta**	**0.54**	**169**	**ⁿeP**		**Pn**	**21 14 25.8**	**-1.6**
MTEVE	**Monteverde**	**0.55**	**269**	**ⁿeP**		**Pn**	**21 14 27.5**	**+0.1**
TAGO	**Cartago**	**0.57**	**144**	**ⁿeP**		**Pn**	**21 14 27.9**	**+0.3**
RAFA	**San Farael, Vo**	**0.58**	**129**	**ⁿeP**		**Pn**	**21 14 28.2**	**+0.4**
ROBF	**Roble, Puntare**	**0.58**	**233**	**ⁿeP**		**Pn**	**21 14 27.3**	**-0.1**
VTLA	**Turrialba Volc**	**0.58**	**124**	**ⁿeP**		**Pn**	**21 14 28.3**	**+0.5**
CVTR	**Volcan Turrial**	**0.58**	**122**	**ⁿeP**		**Pn**	**21 14 28.1**	**+0.1**
VTR0	**Volcan Turrial**	**0.58**	**122**	**ⁿeP**		**Pn**	**21 14 28.3**	**+0.3**
CVTQ	**Turrialba Volc**	**0.58**	**123**	**ⁿeP**		**Pn**	**21 14 28.3**	**+0.4**
CVTV	**Tajo**	**0.60**	**122**	**ⁿeP**		**Pn**	**21 14 28.0**	**+0.4**
PCAYA	**Pacayas**	**0.60**	**132**	**ⁿeP**		**Pn**	**21 14 28.5**	**+0.6**
REPA	**Paraso**	**0.63**	**142**	**ⁿeP**		**Pn**	**21 14 28.5**	**+0.4**
VTCV	**VTCV, Calle Va**	**0.63**	**123**	**ⁿeP**		**Pn**	**21 14 28.6**	**+0.5**
LCR2	**La Lucha 2**	**0.64**	**156**	Pn		**Pn**	**21 14 28.2**	**+0.1**
LCR2				Sn		**Sn**	**21 14 41.7**	**+0.1**
LCR2	**La Lucha 2**	**0.64**	**156**	**ⁿeP**		**Pn**	**21 14 28.2**	**+0.1**
LCR2	**La Lucha 2**	**0.64**	**156**	S		**Sn**	**21 14 42.2**	**+0.5**
LCR2	**La Lucha 2**	**0.64**	**156**	**ⁿP**		**Pn**	**21 14 28.3**	**+0.1**
CHIK	**Chiripa**	**0.64**	**280**	**ⁿeP**		**Pn**	**21 14 28.5**	**+0.4**
ENAS	**Puntarenas**	**0.66**	**238**	**ⁿeP**		**Pn**	**21 14 27.9**	**-0.1**
VINA	**Juan Vinas**	**0.67**	**130**	*e*P		**Pn**	**21 14 28.8**	**+0.5**
JTS	**Las Juntas de**	**0.68**	**267**			**Pn**	**21 14 27.9**	**-0.3**
JTS	**Las Juntas de**	**0.68**	**267**		Sn	**Sn**	**21 14 40.9**	**-1.0**
JTS	**Las Juntas de**	**0.68**	**267**	P		**Pn**	**21 14 28.1**	**-0.2**
	9µm,0.4s,baz=81,slow=2.8,SNR=5728							
JTS				S		**Sn**	**21 14 41.2**	**-0.6**
	21µm,0.7s,baz=60,slow=20,SNR=18							
JTS	**Las Juntas de**	**0.68**	**267**	**ⁿeP**		**Pn**	**21 14 28.1**	**-0.2**
JTS	**Las Juntas de**	**0.68**	**267**	**ⁿP**		**Pn**	**21 14 28.1**	**-0.2**
JTS				S		**Sn**	**21 14 41.1**	**-0.7**
JTS	**Las Juntas de**	**0.68**	**267**	P		**Pn**	**21 14 28.0**	**-0.3**
JTS				S		**Sn**	**21 14 40.2**	**-1.6**
RESJ	**San Isidro (Tu**	**0.68**	**116**	**ⁿeP**		**Pn**	**21 14 29.0**	**+0.6**
JUNT	**Juntas**	**0.69**	**266**	**ⁿeP**		**Pn**	**21 14 28.1**	**-0.2**
QUEB	**Quebradon, Cot**	**0.69**	**295**	**ⁿeP**		**Pn**	**21 14 28.3**	**-0.1**
PICV	**PH. Pirrs**	**0.70**	**174**	**ⁿeP**		**Pn**	**21 14 28.4**	**-0.1**
RVLA	**Villa Bonita**	**0.70**	**108**	**ⁿeP**		**Pn**	**21 14 29.2**	**+0.8**
RVSTA	**Santa Teresita**	**0.70**	**120**	**ⁿeP**		**Pn**	**21 14 29.2**	**+0.7**
PITB	**Pirrs, San**	**0.70**	**160**	**ⁿeP**		**Pn**	**21 14 28.6**	**-0.1**
PITB				eS		**Sn**	**21 14 43.3**	**+0.7**
PISJ	**San Jernim**	**0.70**	**169**	**ⁿeP**		**Pn**	**21 14 28.4**	**-0.3**
RAZU	**San Marcos de**	**0.71**	**160**	**ⁿeP**		**Pn**	**21 14 28.6**	**-0.1**
TURIB	**Turrialba**	**0.71**	**126**	**ⁿeP**		**Pn**	**21 14 28.8**	**+0.3**
TILA	**Tilaran**	**0.71**	**282**	**ⁿeP**		**Pn**	**21 14 28.7**	**+0.2**
PAR1A	**Puntarenas Pro**	**0.73**	**179**	**ⁿeP**		**Pn**	**21 14 29.2**	**+0.5**
LCOCO	**El Coco**	**0.74**	**109**	**ⁿeP**		**Pn**	**21 14 29.2**	**+0.5**
PIEC	**Cerro El Cedra**	**0.76**	**157**	**ⁿeP**		**Pn**	**21 14 29.2**	**-0.1**
IRES	**Siquirres**	**0.78**	**107**	**ⁿeP**		**Pn**	**21 14 29.7**	**+0.6**
TIMP	**Tierras Morena**	**0.78**	**289**	**ⁿeP**		**Pn**	**21 14 29.3**	**+0.1**

BITO	**Garabito Jaco**	**0.79**	**207**	**ⁿeP**		**Pn**	**21 14 29.6**	**+0.4**
BITO				eS		**Sn**	**21 14 44.5**	**+1.1**
TENO	**El Achiote**	**0.79**	**298**	**ⁿeP**		**Pn**	**21 14 29.7**	**+0.3**
INVE	**Universidad In**	**0.80**	**281**	**ⁿeP**		**Pn**	**21 14 29.6**	**+0.3**
CNAS	**Canas**	**0.82**	**277**	**ⁿeP**		**Pn**	**21 14 30.7**	**+1.3**
PAQE	**Paquera**	**0.83**	**233**	*e*P		**Pn**	**21 14 29.2**	**-0.4**
LCHIL	**Los Chiles**	**0.83**	**328**	**ⁿeP**		**Pn**	**21 14 29.9**	**+0.3**
LLNJ	**Naranjito**	**0.86**	**169**	**ⁿeP**		**Pn**	**21 14 30.1**	**+0.2**
MOTZ	**Rio Naranjo**	**0.87**	**294**	**ⁿeP**		**Pn**	**21 14 30.5**	**+0.5**
SVQ2	**Quepos**	**0.90**	**174**	*e*P		**Pn**	**21 14 30.2**	**0.0**
QUEP	**Quepos**	**0.90**	**174**	**ⁿeP**		**Pn**	**21 14 30.4**	**+0.1**
QUEP	**Quepos**	**0.90**	**174**	S		**Sn**	**21 14 45.6**	**+0.3**
QUEP	**Quepos**	**0.90**	**174**	P		**Pn**	**21 14 30.5**	**+0.2**
UPAL	**Upala**	**0.93**	**308**	*e*P		**Pn**	**21 14 30.7**	**+0.2**
UPAL	**Upala**	**0.93**	**308**	S		**Sn**	**21 14 45.9**	**0.0**
UPAL	**Upala**	**0.93**	**308**	**ⁿP**		**Pn**	**21 14 30.8**	**+0.2**
TAAN	**Batan**	**0.94**	**105**	**ⁿeP**		**Pn**	**21 14 31.3**	**+0.7**
CUI	**Cuipilapa**	**0.94**	**290**	**ⁿeP**		**Pn**	**21 14 31.1**	**+0.4**
HORNC	**Hornillas**	**0.98**	**293**	**ⁿeP**		**Pn**	**21 14 31.2**	**+0.1**
COLC	**Colonia**	**0.98**	**290**	**ⁿeP**		**Pn**	**21 14 31.3**	**+0.2**
BAGA	**Bagaces**	**1.00**	**282**	**ⁿeP**		**Pn**	**21 14 31.4**	**+0.1**
MESS	**Mesas**	**1.00**	**294**	**ⁿeP**		**Pn**	**21 14 31.6**	**+0.2**
NYURE	**Nandayure**	**1.03**	**251**	**ⁿeP**		**Pn**	**21 14 31.2**	**-0.3**
CBL1	**Cabuya**	**1.10**	**228**	**ⁿeP**		**Pn**	**21 14 31.3**	**-1.0**
VERH	**Veragua Rainfo**	**1.13**	**111**	**ⁿeP**		**Pn**	**21 14 33.1**	**+0.4**
GPS2	**Hotel Rincn d**	**1.15**	**292**	**ⁿeP**		**Pn**	**21 14 33.3**	**+0.4**
GPS3	**Bodega del ICE**	**1.16**	**292**	**ⁿeP**		**Pn**	**21 14 33.5**	**+0.4**
VORI	**VORI**	**1.17**	**295**	**ⁿeP**		**

MTO3 Montecristo 6.42 310 Pn **Pn** 21 15 43.7 +1.3
NUBE Las Nubes 6.46 304 *e*P **Pn** 21 15 45.3 +2.4
NUBE IAML 21 16 59.9
comp=Z,62nm,0.3s
ESQI Esquipulas 6.50 311 Pn **Pn** 21 15 43.4 0.0
APAC Apartado, Choc 7.96 107 P **Pn** 21 16 07.5 +4.3
DBBC Dabeiba 8.62 112 P **Pn** 21 16 14.8 +2.6
SJCC San Jacinto, C 8.96 92 P **Pn** 21 16 18.2 +1.4
comp=Z,1µmcomp=Z,122nm,0.9s
SJCC S **Sn** 21 17 53.9 -2.1
comp=Z,1µmcomp=Z,122nm,0.9s
UREC San Jos de Ur 9.00 106 P **Pn** 21 16 20.0 +2.7
comp=Z,24nm,0.6s
HELC Santa Helena 9.57 115 P **Pn** 21 16 28.8 +3.4
CCIG Comitan 9.68 309 Pn **Pn** 21 16 28.3 +1.6
ZARC Zaragoza, Cauc 9.71 106 P **Pn** 21 16 28.4 +1.4
comp=Z,949nmcomp=Z,39nm,0.8s
MCJ Malvern 9.88 39 ||*i*P **Pn** 21 16 33.7 +4.4
GUY2C Guyana, Caldas 10.17 119 P **Pn** 21 16 35.6 +2.0
comp=Z,51nm,0.8s
MTDJ Mount Denham 10.21 39 Pn **Pn** 21 16 35.1 +1.4
MTDJ Mount Denham 10.21 39 †*i*P **Pn** 21 16 37.4 +3.6
MTDJ Mount Denham 10.21 39 P **Pn** 21 16 37.1 +3.4
PTBC PUERTO BERRIO, 10.41 110 P **Pn** 21 16 38.1 +1.7
comp=Z,133nmcomp=Z,17nm,0.9s
HOJ Hope 10.55 43 *i* P **Pn** 21 16 42.5 +4.2
STH Stony Hill 10.56 42 *i* P **Pn** 21 16 42.8 +4.3
TEIG Tepich 10.57 339 Pn **Pn** 21 16 39.6 +0.9
POPC Popayan, Colom 10.80 135 P **Pn** 21 16 45.0 +3.0
comp=Z,16nm,1.0s
BBAC Balboa, Cauca 10.80 139 P **Pn** 21 16 44.9 +2.9
comp=Z,35nm,1.2s
OTAV Otavalo 11.57 150 Pn **Pn** 21 16 53.0 +0.5
OTAV Otavalo 11.57 150 P **Pn** 21 16 53.9 +0.5
OTAV Otavalo 11.57 150 *e*P **Pn** 21 16 53.9 +1.4
PAMC Pamplona, Colo 11.81 104 P **Pn** 21 16 58.2 +2.5
comp=Z,20nm,0.8s
RUSC La Rusia 11.91 111 Pn **Pn** 21 16 58.8 +1.7
FLOC Florencia 12.20 135 Pn **Pn** 21 17 01.1 +0.8
CHIV Chivirico 12.22 37 Pn **Pn** 21 17 01.8 +1.2
CMIG Matias Romero 12.31 304 P **Pn** 21 16 59.4 -2.5
comp=Z,7.9nm,0.3s,baz=143,slow=11,SNR=16
CMIG S **Sn** 21 19 13.0 -4.3
comp=Z,4.0nm,0.5s,baz=11,slow=16,SNR=2.1
PAYG Puerto Ayora 12.46 209 Pn **Pn** 21 17 05.8 +1.9
PIAT Ana Tenorio 12.74 152 P **P** 21 17 11.9 -2.8
comp=Z,22nm,1.4s
GTBY Guantanamo Bay 13.00 42 Pn **Pn** 21 17 12.1 +1.2
GTBY Guantanamo Bay 13.00 42 *i* P **P** 21 17 15.9 -1.3
SDV Santo Domingo 13.52 95 Pn **Pn** 21 17 18.2 +0.3
SDV Santo Domingo 13.52 95 P **Pn** 21 17 19.3 +1.4
comp=Z,23nm,1.0s,baz=276,slow=7.4,SNR=15
SDV S **Sn** 21 19 46.7 -0.2
comp=Z,7.2nm,0.5s,baz=10,slow=19,SNR=5.1
SDV LR LR 21 24 04.6
comp=Z,71nm,20.1s,baz=254,slow=44
SDV Santo Domingo 13.52 95 *e*P **Pn** 21 17 16.8 -1.1
SDV Santo Domingo 13.52 95 P **Pn** 21 17 20.2 +2.4
comp=Z,32nm,1.1s
NMDO Nuevo Mundo 13.54 40 Pn **Pn** 21 17 19.6 +1.7
COHC Cochancay 13.65 158 Pn **Pn** 21 17 20.8 +1.4
COHC Cochancay 13.65 158 P **Pn** 21 17 21.9 +2.5
comp=Z,717nmcomp=Z,48nm,1.1s
SDDR Presa de Saban 15.21 54 P **P** 21 17 41.1 -0.7
MCRA Macar, Loja 15.22 163 P **P** 21 17 42.0 +0.1
comp=Z,36nm,1.4s
TLIG Tlapa 15.63 299 P **P** 21 17 46.1 -0.4
BAUV El Baul 16.05 94 P **Pn** 21 17 50.5 +0.6
DR12 Loma Pena Alta 16.67 58 P **P** 21 17 58.7 +0.7
ATAH Atahualpa 18.31 161 P **Pn** 21 18 19.6 +2.0
comp=Z,12nm,0.9s,baz=51,slow=20,SNR=11
AGPR Aguadilla, PR 18.47 62 P **Pn** 21 18 19.3 +0.2
UUPR Utuado, UPR, P 18.73 63 P **P** 21 18 21.2 +0.7
CELP Cerrillos 18.78 64 P **P** 21 18 21.9 +0.7
SJG San Juan 19.18 64 P **P** 21 18 25.8 +0.4
SJG San Juan 19.18 64 P **P** 21 18 26.2 +0.8
comp=Z,52nm,0.9s,baz=263,slow=7.2,SNR=14
SJG San Juan 19.18 64 P **Pn** 21 18 26.8 -0.7
PCRV Puerto La Cruz 19.32 89 P **Pn** 21 18 29.1 -0.1
comp=Z,53nm,1.1s,baz=296,slow=5.9,SNR=14
SGC2 Sao Gabriel da 20.10 120 P **P** 21 18 36.5 +1.0
BRAL Brewton 20.90 353 P **P** 21 18 43.5 -0.3
CZSB Cruzeiro do Su 21.31 147 P **P** 21 18 49.2 +0.7
CZSB Cruzeiro do Su 21.31 147 *e*P **P** 21 18 51.5 +3.0
ZAIG Zacatecas 21.43 308 P **P** 21 18 49.7 -0.3
HBVL Hebbronville 21.49 323 P **P** 21 18 51.0 +0.8
250A Grady 21.62 355 P **P** 21 18 52.2 +0.6
154A Montrose 22.20 3 P **P** 21 18 58.2 +0.5
HKT Hockley 22.31 333 *c i*P **P** 21 18 59.7 +0.9
HKT pmax pmax
comp=Z,33nm,1.9s
VBMS Vicksburg 22.54 346 P **P** 21 19 01.2 +0.1
HNVL Huntsville, TX 22.84 334 P **P** 21 19 03.9 -0.3
GOGA Godfrey 22.99 2 P **P** 21 19 05.9 +0.3
GOGA Godfrey 22.99 7 P **P** 21 19 05.9 +0.3
BIM Bigot 23.02 77 P **P** 21 19 05.5 -0.6
MPOM Morne Pois Mar 23.22 77 P **P** 21 19 08.4 +0.4
GDSD La Dsirade Is 23.33 73 P **P** 21 19 07.2 -1.9
NNA Nana 23.36 161 *de*P **P** 21 19 11.2 +1.9
NNA pmax pmax
comp=Z,55nm,1.6s
HODGE Hodges 23.86 4 P **P** 21 19 14.1 +0.5
TEFE Tefe 23.90 124 *e*P **P** 21 19 15.7 +1.5
FPAL Fort Paine 24.13 357 P **P** 21 19 16.3 +0.2
Z41A Richland Creek 24.14 342 P **P** 21 19 16.1 +0.1
OXF Oxford 24.53 350 P **P** 21 19 19.6 0.0
OXF Oxford 24.53 350 P **P** 21 19 19.6 0.0
JCT Junction City 24.72 326 P **P** 21 19 20.8 -0.7
JCT Junction City 24.72 326 P **P** 21 19 20.8 -0.7
PLAL Pickwick Lake 24.79 353 P **P** 21 19 21.8 -0.1
BOAV Boa Vista 24.86 107 P **P** 21 19 22.2 -0.7
BOAV Boa Vista 24.86 107 *e*P **P** 21 19 24.0 +1.1
TKL Tuckaleechee C 25.22 1 P **P** 21 19 25.8 -0.2
TKL IAmb IAmb 21 19 53.3
comp=Z,38nm,1.1s
TKL Tuckaleechee C 25.22 1 P **P** 21 19 25.8 -0.2
TKL pmax pmax
comp=Z,39nm,1.2s
X40A Basin Creek Fa 25.29 343 P **P** 21 19 26.1 -0.5
MIAR Mount Ida 25.57 342 P **P** 21 19 28.1 -1.0
MIAR IAmb IAmb 21 19 56.7
comp=Z,21nm,0.9s
MIAR Mount Ida 25.57 342 P **P** 21 19 28.1 -1.0
MIAR pmax pmax
comp=Z,21nm,0.9s
HPIG 26.08 312 P **P** 21 19 34.9 +0.8
MACA Manacapuru-AM 27.04 119 P **P** 21 19 42.6 +0.1
WMOK Wichita Mounta 27.68 334 P **P** 21 19 47.8 -0.3
WMOK Wichita Mounta 27.68 334 P **P** 21 19 47.8 -0.3
WMOK pmax pmax
comp=Z,13nm,1.3s
WCI Wyandotte Cave 27.84 357 P **P** 21 19 49.3 -0.1
WCI IAmb IAmb 21 20 32.0
comp=Z,23nm,1.1s
WCI Wyandotte Cave 27.84 357 P **P** 21 19 49.3 -0.1
WCI pmax pmax
comp=Z,23nm,1.1s
CCM Cathedral Cave 28.31 348 P **P** 21 19 53.2 -0.4
CCM IAmb IAmb 21 19 55.7
comp=Z,18nm,0.8s
CCM Cathedral Cave 28.31 348 P **P** 21 19 53.2 -0.4
CCM pmax pmax
comp=Z,18nm,0.8s
LPIG La Paz 28.33 302 LR LR 21 29 39.7
comp=Z,47nm,21.9s,baz=256,slow=33
ACSO Alum Creek Sta 29.80 2 P **P** 21 20 07.4 +0.5
MVL Millersville 30.38 12 P **P** 21 20 12.9 +1.0
MVL IAmb IAmb 21 20 14.9
comp=Z,33nm,1.3s
SSPA Standing Stone 30.71 10 P **P** 21 20 15.4 +0.6
SSPA **pP** 21 20 39.3 +0.4
SSPA IAmb IAmb 21 20 41.7
comp=Z,35nm,1.4s
LPAZ La Paz 30.89 149 **P** 21 20 18.0 +0.7
LPAZ La Paz 30.89 149 P **P** 21 20 18.7 +1.4
comp=Z,3.1nm,0.9s,baz=340,slow=10,SNR=8.8
LPAZ **pP** **pP** 21 20 42.4 +0.4
comp=Z,1.5nm,0.7s,baz=198,slow=19,SNR=2.8
LPAZ LR LR 21 34 53.6
comp=Z,56nm,18.8s,baz=310,slow=40
comp=Z,3.1nm,0.9s
LPAZ La Paz 30.89 149 P **P** 21 20 18.0 +0.7
LPAZ pmax pmax
comp=Z,6.0nm,1.3s

LPAZ La Paz 30.89 149 *e*P **P** 21 20 19.5 +2.1
N38A Joes South For 31.36 347 P **P** 21 20 19.9 -0.7
N38A pP **pP** 21 20 44.6 -0.1
MDP Montagnes des 31.75 97 LR LR 21 33 55.5
comp=Z,68nm,19.5s,baz=277,slow=37
ANMO Albuquerque 31.78 324 LR LR 21 36 19.1
comp=Z,27nm,20.1s,baz=228,slow=42
ANMO Albuquerque 31.78 324 ||*e*P **P** 21 20 27.1 +2.5
ANMO pmax pmax
comp=Z,7.0nm,3.0s
ITTB Itaituba 31.94 116 *e*P **P** 21 20 27.1 +1.2
PB16 IPOC Station P 31.99 153 P **P** 21 20 29.3 +2.4
KSPA Keystone Colle 31.99 12 P **P** 21 20 26.9 +0.9
MAL2 Monte Alegre, 32.36 111 P **P** 21 20 30.5 +0.9
MAL2 IAmb IAmb 21 20 31.8
comp=Z,34nm,1.1s
BINY Binghamton 32.57 11 P **P** 21 20 31.6 +0.4
JFWS Jewell Farm 32.88 352 P **P** 21 20 32.4 -1.4
JFWS IAmb IAmb 21 20 59.4
comp=Z,14nm,0.8s
JFWS Jewell Farm 32.88 352 P **P** 21 20 32.4 -1.4
JFWS pmax pmax
comp=Z,14nm,0.8s
PB11 IPOC Station P 33.18 154 P **P** 21 20 37.6 +0.8
PB11 IAmb IAmb 21 20 40.2
comp=Z,17nm,0.9s
VILB Vilhena 33.25 134 **P** 21 20 37.7 +0.3
VILB IAmb IAmb 21 20 39.8
comp=Z,22nm,1.0s
VILB Vilhena 33.25 134 *e*P **P** 21 20 38.6 +1.2
GO01 Chusmiza 33.30 153 P **P** 21 20 40.1 +1.8
GO01 IAmb IAmb 21 20 42.4
comp=Z,17nm,0.9s
NPGB Novo Progresso 33.56 120 *e*P **P** 21 20 40.4 +0.3
TRY Troy 33.58 14 P **P** 21 20 39.9 0.0
PB08 IPOC Station P 33.73 154 P **P** 21 20 43.3 +1.4
OGNE Ogallala 34.30 336 P **P** 21 20 46.5 +0.3
OGNE pP **pP** 21 21 10.4 -0.1
PB01 IPOC Station P 34.39 155 P **P** 21 20 49.3 +2.0
PB01 IAmb IAmb 21 20 54.1
comp=Z,18nm,1.1s
ECSD EROS Data Cent 34.97 344 P **P** 21 20 50.6 -1.3
ECSD IAmb IAmb 21 20 52.4
comp=Z,17nm,1.1s
ECSD pP **pP** 21 21 15.6 -0.7
PDRB Porto dos Gac 34.98 128 *e*P **P** 21 20 52.6 +0.2
PB09 IPOC Station P 35.16 155 P **P** 21 20 56.2 +2.2
LONY Lake Ozonia 35.18 12 P **P** 21 20 53.6 -0.1
PB03 IPOC Station P 35.18 156 P **P** 21 20 56.2 +2.1
PB03 IAmb IAmb 21 20 58.0
comp=Z,21nm,1.0s
BUKO Buck Lake 35.24 6 **P** 21 20 53.9 -0.3
BUKO IAmb IAmb 21 20 55.2
comp=Z,23nm,1.2s
CLDB Colider 35.28 126 *e*P **P** 21 20 54.6 -0.3
WBO Williamsburg 35.41 11 P **P** 21 20 56.0 +0.5
WBO pP **pP** 21 21 20.4 +0.3
PTLB Pontes e Lacer 35.71 135 P **P** 21 20 58.5 0.0
PTLB Pontes e Lacer 35.71 135 *e*P **P** 21 20 59.4 +0.8
BBSD Serra de San D 35.98 139 *e*P **P** 21 21 01.7 +0.9
MNTQ Montreal, Queb 36.22 13 P **P** 21 21 02.9 +0.4
MNTQ pP **pP** 21 21 27.3 +0.3
MNTQ IAmb IAmb 21 21 29.2
comp=Z,21nm,1.1s
TRQ Mont Tremblant 36.72 11 **P** 21 21 07.2 +0.3
PKME Peaks-Kenny Pk 37.11 18 P **P** 21 21 11.4 +1.3
PFO Pinyon Flats O 37.53 313 LR LR 21 36 58.5
comp=Z,40nm,20.3s,baz=180,slow=37
PFO Pinyon Flats O 37.53 313 ||*e*P **P** 21 21 17.5 +3.5
PFO pmax pmax
comp=Z,15nm,1.3s
GO02 Mina Guanaco 38.06 158 P **P** 21 21 19.9 +1.2
GO02 IAmb IAmb 21 21 22.7
comp=Z,12nm,0.9s
VLDQ Val d'Or 38.09 7 P **P** 21 21 17.9 -0.4
VLDQ IAmb IAmb 21 21 19.4
comp=Z,25nm,1.5s
TMAB Tom-Au,PA,Br 38.15 107 *e*P **P** 21 21 20.8 +1.5
TBO Thunder Bay 38.44 355 P **P** 21 21 20.1 -1.2
TBO IAmb IAmb 21 21 47.1
comp=Z,15nm,1.0s
SALV Santo Antonio 38.46 132 *e*P **P** 21 21 22.2 +0.4
HAL Halifax 38.56 24 P **P** 21 21 22.8 +0.6
HAL IAmb IAmb 21 21 25.1
comp=Z,16nm,1.0s
HAL Halifax 38.56 24 P **P** 21 21 22.8 +0.6
HAL pmax pmax
comp=Z,16nm,1.0s
LMQ La Malbaie 38.92 15 P **P** 21 21 25.5 +0.2
LMQ IAmb IAmb 21 21 27.2
comp=Z,27nm,1.3s
LMQ pP **pP** 21 21 50.2 +0.2
LDAQ Lac Daran 39.08 14 **P** 21 21 27.0 +0.3
LDAQ IAmb IAmb 21 21 28.2
comp=Z,30nm,1.3s
LMN Caledonia Moun 39.12 22 **P** 21 21 27.4 +0.4
PDAR Pinedale Array 39.14 330 P **P** 21 21 28.5 +1.0
PDAR Pinedale Array 39.14 330 P **P** 21 21 27.0 -0.4
comp=Z,0.5nm,0.4s,baz=136,slow=8.1,SNR=2.0
comp=Z,0.5nm,0.4s
HWUT Hardware Ranch 39.33 327 P **P** 21 21 29.8 +0.8
SNDB Serra Nova Dou 39.55 123 *e*P **P** 21 21 31.4 +0.5
AC02 Maricunga 39.76 159 **P** 21 21 35.3 +2.3
AC02 IAmb IAmb 21 21 37.4
comp=Z,21nm,1.0s
BATG Bathurst New B 39.92 19 P **P** 21 21 34.9 +1.3
BATG pP **pP** 21 21 59.2 +0.7
TPH Tonopah 40.45 319 P **P** 21 21 39.5 +1.1
TPH IAmb IAmb 21 21 42.1
comp=Z,16nm,1.0s
TPH Tonopah 40.45 319 P **P** 21 21 39.5 +1.1
TPH pmax pmax
comp=Z,16nm,1.0s
RLMT Red Lodge 40.79 333 P **P** 21 21 41.8 +0.7
SMTB Santa Maria do 41.18 116 *e*P **P** 21 21 45.1 +0.7
ARAG Araguaiana, MT 41.25 128 *e*P **P** 21 21 45.4 +0.5
NVAR Mina Array Bea 41.35 318 P **P** 21 21 46.4 +0.7
NVAR Mina Array Bea 41.35 318 P **P** 21 21 44.7 -1.1
comp=Z,1.1nm,0.6s,baz=122,slow=5.6,SNR=10
NVAR pP **pP** 21 22 09.6 -1.1
comp=Z,0.6nm,0.7s,baz=99,slow=7.5,SNR=1.6
comp=Z,1.1nm,0.6s
AQDB Aquidauana 41.55 137 P **P** 21 21 47.3 -0.1
AQDB IAmb IAmb 21 21 49.1
comp=Z,18nm,1.2s
AQDB Aquidauana 41.55 137 *e*P **P** 21 21 48.1 +0.8
BOZ Bozeman (W) 42.23 331 P **P** 21 21 53.4 +0.6
BOZ Bozeman (W) 42.23 331 P **P** 21 21 53.4 +0.6
BOZ pmax pmax
comp=Z,10.0nm,1.6s
MCMT McKenzie Canyo 42.27 330 P **P** 21 21 54.0 +0.9
LRM Limekiln Ridge 42.79 331 P **P** 21 21 58.3 +0.9
RPRD Ribas do Rio P 42.91 136 *e*P **P** 21 21 59.5 +1.1
CO02 Combarbal 43.21 163 P **P** 21 22 02.1 +1.3
AMBA Amambai (Brazi 43.75 139 *e*P **P** 21 22 06.0 +0.9
WVOR Wild Horse Val 43.86 323 P **P** 21 22 05.9 0.0
WVOR Wild Horse Val 43.86 323 P **P** 21 22 05.9 0.0
WVOR pmax pmax
comp=Z,7.0nm,0.9s
BDFB Brasilia 44.21 125 P **P** 21 22 08.8 -0.2
BDFB Brasilia 44.21 125 P **P** 21 22 09.8 +0.8
comp=Z,23nm,0.9s,baz=288,slow=7.7,SNR=20
BDFB LR LR 21 42 44.6
comp=Z,83nm,20.4s,baz=344,slow=39
comp=Z,23nm,0.9s
BDFB Brasilia 44.21 125 P **P** 21 22 08.8 -0.2
BDFB pmax pmax
comp=Z,32nm,1.0s
ZON Zonda 44.23 161 P **P** 21 22 10.4 +1.5
ZON IAmb IAmb 21 22 14.8
comp=Z,46nm,1.6s
ZON Zonda 44.23 161 P **P** 21 22 10.4 +1.5
ZON pmax pmax
comp=Z,46nm,1.6s
SJPY San Joaquin 44.57 142 *e*P **P** 21 22 12.6 +0.9
CPUP Villa Florida 44.87 145 P **P** 21 22 14.3 +0.3
comp=Z,1.4nm,0.9s,baz=194,slow=8.9,SNR=5.9
comp=Z,1.4nm,0.9s
SDBA SAO DESIDERIO 45.15 119 *e*P **P** 21 22 16.5 0.0
PCMB Pacaembu 45.35 135 *e*P **P** 21 22 18.5 +0.6
IPMB Ipameri, GO 45.37 128 *e*P **P** 21 22 18.9 +0.8
MT08 Bocatoma Ro 45.59 163 P **P** 21 22 22.0 +2.2
LMEL Las Melosas 45.92 164 P **P** 21 22 23.7 +1.4
LMEL IAmb IAmb 21 22 25.9
comp=Z,14nm,1.0s
BO04 La Punta 45.94 164 P **P** 21 22 23.2 +0.9
BO04 IAmb IAmb 21 22 26.0
comp=Z,27nm,1.3s
SCHQ Schefferville 46.49 14 P **P** 21 22 25.7 -0.7
SCHQ IAmb IAmb 21 22 26.8
comp=Z,26nm,1.2s
SCHQ pP **pP** 21 22 51.1 -0.7
SCHQ Schefferville 46.49 14 P **P** 21 22 25.3 -1.0
comp=Z,12nm,1.0s,baz=224,slow=3.2,SNR=10
SCHQ pP **pP** 21 22 50.9 -0.9
comp=Z,7.0nm,0.9s,baz=225,slow=6.5,SNR=3.4
SCHQ PcP **PcP** 21 23 58.3 -0.8
comp=Z,1.8nm,0.3s,baz=238,slow=4.5,SNR=5.3
SCHQ LR LR 21 42 13.6
comp=Z,95nm,19.3s,baz=250,slow=36
comp=Z,12nm,1.0s
NEW Newport 46.78 330 LR LR 21 44 31.1
comp=Z,33nm,18.1s,baz=142,slow=39
JANB Januaria 46.94 122 *e*P **P** 21 22 30.9 +0.4
BB19B Bebedouro 46.97 132 *e*P **P** 21 22 31.4 +0.8
PMNB Patos De Minas 47.07 127 *e*P **P** 21 22 32.0 +0.6
I02E Swisshome, OR 47.95 322 P **P** 21 22 38.1 +0.4
DIAM Diamantina, MG 49.13 125 *e*P **P** 21 22 48.1 +0.7
LLLB Lillooet 50.66 330 P **P** 21 22 59.3 +0.9
LLLB IAmb IAmb 21 23 01.5
comp=Z,12nm,1.2s
RCBR Riachuelo 50.77 106 LR LR 21 46 22.8
comp=Z,13nm,21.6s,baz=262,slow=38
PLTB Pedras Altas 51.12 146 P **P** 21 23 02.5 +0.4
PLTB IAmb IAmb 21 23 30.7
comp=Z,20nm,1.1s
RIB01 Linhares ES 52.31 124 *e*P **P** 21 23 11.7 +0.6
PLCA Paso Flores 52.36 167 P **P** 21 23 12.4 +1.2
PLCA IAmb IAmb 21 23 13.8
comp=Z,16nm,1.1s
PLCA Paso Flores 52.36 167 P **P** 21 23 12.6 +1.4
comp=Z,9.1nm,0.9s,baz=342,slow=9.6,SNR=9.2
PLCA pP **pP** 21 23 37.5 -0.1
comp=Z,5.1nm,0.7s,baz=338,slow=9.0,SNR=3.8
comp=Z,9.1nm,0.9s
PLCA Paso Flores 52.36 167 P **P** 21 23 12.4 +1.2
PLCA pmax pmax
comp=Z,16nm,1.1s
PLCA Paso Flores 52.36 167 P **P** 21 23 13.2 +2.0
PLCA Paso Flores 52.36 167 *e*P **P** 21 23 13.1 +2.0
FRB Frobisher Bay 54.49 9 LR LR 21 46 00.2
comp=Z,103nm,21.4s,baz=192,slow=35
BBB Bella Bella 54.74 329 LR LR 21 49 58.3
comp=Z,64nm,18.4s,baz=126,slow=39
YKA Yellowknife Ar 56.49 344 P **P** 21 23 39.5 -1.2
comp=Z,4.7nm,0.9s,baz=134,slow=7.4,SNR=11
YKA pP **pP** 21 24 05.9 -1.1
comp=Z,2.4nm,0.8s,baz=138,slow=6.8,SNR=3.2
YKA LR LR 21 48 36.9
comp=Z,55nm,18.7s,baz=105,slow=37
comp=Z,4.7nm,0.9s
TOAD Toad River Com 57.43 336 P **P** 21 23 47.5 +0.1
baz=130
KOTAN Kotaneelee Air 57.81 338 P **P** 21 23 49.6 -0.4
baz=132
V35K Ketchikan 58.19 330 P **P** 21 23 52.0 -0.7
baz=122
T35M Bob Quinn 58.44 332 P **P** 21 23 54.7 +0.2
baz=124
CRAG Craig 59.00 330 P **P** 21 23 58.1 -0.2
baz=120
DLBC Dease Lake 59.16 334 P **P** 21 23 59.7 +0.2
baz=125
WTLY Watson Lake, Y 59.64 336 P **P** 21 24 03.0 +0.2
R33M Jennings River 60.11 335 P **P** 21 24 06.4 +0.3
baz=124
TGTN Hyland Airport 60.30 337 P **P** 21 24 07.6 +0.3
baz=128
Q32M Nakina River 60.43 334 P **P** 21 24 08.2 -0.2
baz=123
SFJD Kangerlussuaq 60.94 14 LR LR 21 50 25.9
comp=Z,82nm,19.8s,baz=222,slow=36
R32K Eaglecrest 61.08 332 P **P** 21 24 13.1 +0.6
baz=120
P33M Teslin, Yukon 61.34 335 P **P** 21 24 14.5 +0.1
baz=123
P32M Atlin 61.39 334 P **P** 21 24 14.9 +0.2
baz=122
S31K Pelican 61.72 332 P **P** 21 24 16.7 0.0
baz=118
N32M Quiet Lake 61.97 336 P **P** 21 24 18.8 +0.3
baz=123
MMPY Sheldon Lake, 62.08 338 P **P** 21 24 19.5 +0.2
baz=126
P30M Million Dollar 63.08 333 P **P** 21 24 26.1 +0.2
baz=119
P29M Windy Craggy 63.19 333 P **P** 21 24 26.6 0.0
baz=118
N31M Braeburn, Yuko 63.25 335 P **P** 21 24 27.4 +0.4
baz=120
N30M Aishikik Lake 63.78 335 P **P** 21 24 30.8 +0.2
baz=119
O29M Mount Kennedy 63.88 333 P **P** 21 24 31.6 +0.3
baz=117
PNL Peninsula 63.96 332 P **P** 21 24 31.9 +0.2
baz=116
M30M Minto, Yukon 64.21 336 P **P** 21 24 33.7 +0.4
baz=120
PINM Pinnacle 64.54 333 P **P** 21 24 35.2 -0.3
baz=115
RES Resolute Bay 64.61 357 LR LR 21 55 53.9
comp=Z,40nm,18.1s,baz=186,slow=39
M29M Somme Creek 64.83 335 P **P** 21 24 37.5 +0.1
baz=118
H31M Peel River 65.00 340 P **P** 21 24 38.8 +0.3
baz=124
L29M L29M 65.01 336 P **P** 21 24 38.6 +0.1
baz=119
J30M Hart River 65.05 338 P **P** 21 24 39.0 +0.2
baz=121
K29M Barlow Dome 65.13 337 P **P** 21 24 39.4 +0.1
baz=120
MESA MESA 65.34 332 P **P** 21 24 40.5 -0.4
baz=114
YUK3 Moose Creek 65.36 334 P **P** 21 24 41.1 +0.1
baz=116
CTG Chitna Glacier 65.39 333 P **P** 21 24 41.3 +0.2
baz=115
I30M Mount Dempster 65.41 339 P **P** 21 24 41.1 -0.1
baz=121,SNR=15
G31M Satah River 65.61 341 P **P** 21 24 42.3 +0.1
G31M IAmb IAmb 21 24 43.5
comp=Z,14nm,1.0s
G31M Satah River 65.61 341 P **P** 21 24 42.2 0.0
baz=124,SNR=6.1
F31M Tsiigehtchic 65.73 341 P **P** 21 24 43.2 +0.2
baz=125
BGLC Bering Glacier 65.93 332 P **P** 21 24 44.7 +0.3
baz=112
DAWY Dawson 65.96 337 P **P** 21 24 45.0 +0.4
DAWY Dawson 65.96 337 P **P** 21 24 44.5 -0.1
baz=118
EPYK Eagle Plains 66.13 340 P **P** 21 24 45.7 +0.1
baz=122,SNR=7.1
INK Inuvik 66.17 342 **P** 21 24 45.8 +0.1
INK IAmb IAmb 21 24 48.9
comp=Z,22nm,1.1s
INK Inuvik 66.17 342 LR LR 21 57 51.2
comp=Z,25nm,19.2s,baz=256,slow=40
INK Inuvik 66.17 342 P **P** 21 24 45.8 +0.1
INK pmax pmax
comp=Z,22nm,1.1s
INK Inuvik 66.17 342 P **P** 21 24 45.7 -0.1
baz=125,SNR=12
I29M Ogilvie Camp, 66.18 338 P **P** 21 24 45.8 -0.1
baz=120
M27K Edge Creek, AK 66.21 335 P **P** 21 24 46.4 0.0
baz=115
G30M tAoh Zrail Nji 66.28 340 P **P** 21 24 46.7 +0.1
baz=122
MCARA McCarthy VSAT 66.31 333 P **P** 21 24 46.1 -0.7
baz=113
A36M Sachs Harbour 66.40 347 P **P** 21 24 47.0 -0.1
baz=135
BCAR Beaver Creek A 66.47 335 P **P** 21 24 47.8 -0.1
F30M Barrier River 66.48 341 P **P** 21 24 47.6 -0.2
baz=123,SNR=12
L27K Beaver Creek, 66.49 335 P **P** 21 24 47.5 -0.5
baz=115
H29M Whitestone 66.62 339 P **P** 21 24 48.6 -0.2
baz=120,SNR=5.9

M26K Nabesna, AK 66.70 334 P P 21 24 48.9 -0.5
baz=114
TULEG Thule 66.71 4 P P 21 24 48.2 -0.9
TULEG IAmb IAmb 21 24 49.1
comp=Z,20nm,0.9s
I28M Miner Creek 66.82 338 P P 21 24 50.0 -0.2
baz=118
G29M Pine Creek 66.85 340 P P 21 24 50.5 +0.2
baz=120,SNR=11
BMRM Bremner River 66.86 333 P P 21 24 50.8 +0.4
baz=112
K27K Chicken 67.00 336 P P 21 24 50.9 -0.2
baz=115
N25K Chitina, Valde 67.09 333 P P 21 24 51.2 -0.7
baz=112
L26K Log Cabin Wild 67.10 335 P P 21 24 51.7 -0.1
baz=114
Q23K Middleton Isla 67.14 331 P P 21 24 51.8 -0.2
baz=109
EYAK Cordova Ski Ar 67.23 332 P P 21 24 52.6 0.0
baz=110
I27K Kandik River 67.51 338 P P 21 24 54.5 +0.1
baz=116,SNR=15
E29M Blow River 67.57 341 P P 21 24 54.7 0.0
baz=121
HARP HAARP 67.63 334 P P 21 24 54.8 -0.4
baz=112
KLU Klutina 67.64 333 P P 21 24 55.2 -0.2
baz=111
SCRK Sand Creek 67.75 336 P P 21 24 55.8 -0.2
baz=113
H27K Steamboat Moun 67.76 338 P P 21 24 56.2 +0.3
baz=117,SNR=13
J26L Joseph Creek 67.79 336 P P 21 24 56.1 -0.1
baz=114
F28M Old Crow 67.83 340 P P 21 24 56.2 -0.1
F28M Old Crow 67.83 340 P P 21 24 56.3 -0.1
baz=119
P23K Montague Islan 67.83 331 P P 21 24 56.1 -0.3
baz=109
SUMG Summit 67.89 13 P P 21 24 56.1 -1.0
SUMG Summit 67.89 13 P P 21 24 56.1 -1.0
SUMG pmax pmax
comp=Z,27nm,1.0s
I26K Coal Creek Min 67.96 337 P P 21 24 57.0 -0.2
baz=115
GLI Glacier Island 67.97 332 P P 21 24 57.5 +0.2
baz=109
M24K Tolsona, Glenn 67.97 333 P P 21 24 57.2 -0.2
baz=111
PAX Paxson 67.98 334 P P 21 24 57.6 +0.1
baz=112
RIDG Independent Ri 68.00 335 P P 21 24 57.1 -0.5
baz=112
G27K Doyon Strip 68.06 339 P P 21 24 57.5 -0.3
baz=117
E28M Babbage River 68.20 341 P P 21 24 58.2 -0.5
baz=120
SCM Sheep Creek Mo 68.39 333 P P 21 24 59.4 -0.6
baz=109
K24K Donnelly Dome 68.41 335 P P 21 24 59.6 -0.5
baz=112
PWL Port Wells 68.54 332 P P 21 25 00.2 -0.7
baz=108
J25K Salcha River, 68.55 336 P P 21 25 00.7 -0.3
J25K IAmb IAmb 21 25 02.6
comp=Z,17nm,1.5s
J25K Salcha River, 68.55 336 P P 21 25 00.7 -0.3
baz=112,SNR=8.1
E27K Coleen River 68.67 340 P P 21 25 01.2 -0.4
baz=117
KNK Knik Glacier 68.77 332 P P 21 25 01.8 -0.6
baz=108
SEW Seward 68.84 331 P P 21 25 02.1 -0.6
baz=107
G26K Porcupine Rive 68.88 339 P P 21 25 02.6 -0.3
baz=115
PRP Porcupine Dome 68.96 337 P P 21 25 02.8 -0.7
baz=112
D27M Malcolm River 68.96 341 P P 21 25 03.0 -0.4
baz=118
GHO Glory Hole Cre 69.09 333 P P 21 25 03.8 -0.5
HDA Harding Lake 69.11 336 P P 21 25 04.1 -0.2
HDA IAmb IAmb 21 25 06.1
comp=Z,23nm,1.4s
HDA Harding Lake 69.11 336 P P 21 25 04.0 -0.4
baz=111,SNR=6.0
IL31 69.22 336 P P 21 25 04.7 -0.2
ILAR Eielson Array 69.22 336 P P 21 25 04.7 -0.3
ILAR Eielson Array 69.22 336 P P 21 25 03.9 -1.2
comp=Z,3.3nm,1.1s,baz=118,slow=3.7,SNR=16
ILAR pP pP 21 25 30.8 -1.5
comp=Z,1.6nm,0.8s,baz=114,slow=5.1,SNR=4.6
comp=Z,3.3nm,1.1s
F26K Sheenjek River 69.32 339 P P 21 25 05.6 -0.1
baz=115,SNR=7.9
BORG Borgarnes 69.33 24 LR LR 21 52 57.2
comp=Z,33nm,19.2s,baz=291,slow=34
H25L Birch Creek 69.36 338 P P 21 25 05.6 -0.2
baz=112,SNR=6.5
BMAR Burnt Mountain 69.36 339 P P 21 25 05.8 -0.2
POKR Poker Plat Res 69.56 336 P P 21 25 07.2 +0.1
baz=110
RND Reindeer 69.57 334 P P 21 25 06.5 -0.8
RND pP pP 21 25 34.0 -0.5
G25K Bearman Lake 69.65 338 P P 21 25 07.7 +0.1
baz=112
MCK McKinley 69.71 335 P P 21 25 08.1 0.0
baz=108
F25K Christian Rive 69.81 339 P P 21 25 09.2 +0.5
F25K Christian Rive 69.81 339 P P 21 25 08.9 +0.2
baz=113,SNR=6.9
KDAK Kodiak Island 69.81 328 LR LR 21 56 37.7
comp=Z,46nm,20.4s,baz=130,slow=37
KDAK Kodiak Island 69.81 328 P P 21 25 08.3 -0.4
baz=103
SUA Susitna One 69.83 332 P P 21 25 09.2 +0.2
baz=106
H24K Noodor Dome 69.98 337 P P 21 25 09.8 +0.1
baz=110
C27K Jago River 70.00 341 P P 21 25 09.7 0.0
baz=116
NEA2 Nenana 70.04 335 P P 21 25 09.7 -0.4
NEA2 Nenana 70.04 335 P P 21 25 09.8 -0.2
baz=109
OHAK Old Harbor 70.06 327 P P 21 25 10.6 +0.3
baz=102
G24K Hadweenzic Riv 70.13 338 P P 21 25 10.9 +0.2
baz=111,SNR=8.0
TRF Thorofare Moun 70.20 334 P P 21 25 11.1 -0.1
baz=107
SKT Skwentna 70.33 332 P P 21 25 12.2 +0.3
baz=106
I23K Minto, Yukon-K 70.33 336 P P 21 25 11.9 +0.1
baz=109,SNR=9.2
SII Sitkinak Islan 70.41 326 P P 21 25 12.5 +0.1
baz=101
C26K Camden Bay 70.50 341 P P 21 25 12.6 -0.2
baz=114
P19K Oil Pt 70.56 330 P P 21 25 13.4 0.0
baz=103
F24K Squaw Lake 70.58 339 P P 21 25 13.2 -0.1
baz=111
Q19K Cape Douglas, 70.61 329 P P 21 25 13.5 -0.1
baz=102
H23K Yukon River 70.62 337 P P 21 25 13.6 -0.1
baz=109
BPAW Bear Paw Mtn. 70.68 335 P P 21 25 13.5 -0.6
BPAW Bear Paw Mtn. 70.68 335 P P 21 25 13.7 -0.3
baz=107
D25K Kavik River 70.73 341 P P 21 25 14.2 0.0
baz=113,SNR=15
R18K Karluk 70.75 328 P P 21 25 14.0 -0.4
baz=101
MLY Manley 70.85 336 P P 21 25 14.9 -0.2
baz=107,SNR=8.7
PPLA Purkeypile 70.87 333 P P 21 25 14.8 -0.5
PPLA IAmb IAmb 21 25 16.1
comp=Z,35nm,1.7s
PPLA Purkeypile 70.87 333 P P 21 25 14.8 -0.5
baz=105
CAST Castle Rocks 70.96 334 P P 21 25 15.0 -0.7
CAST Castle Rocks 70.96 334 P P 21 25 15.4 -0.3
baz=106
E24K Your Creek 70.99 339 P P 21 25 15.5 -0.3
baz=110
M20K Styx River 71.04 332 P P 21 25 16.4 +0.1
baz=104

G23K Bananza Creek 71.09 337 P P 21 25 16.1 -0.3
baz=108,SNR=6.0
Q18K Katmai Hardscr 71.25 329 P P 21 25 16.4 -1.3
baz=101
COLD Coldfoot 71.32 338 P P 21 25 17.7 -0.1
baz=108
H22K Ishtalitna Cre 71.36 336 P P 21 25 17.8 -0.3
baz=107
E23K Chandalar 71.38 339 P P 21 25 18.3 +0.1
baz=109,SNR=9.5
I21K Tanana 71.40 336 P P 21 25 18.0 -0.3
baz=106
N19K Bonanza Creek 71.43 331 P P 21 25 18.0 -0.7
baz=102
P18K Big Mountain, 71.50 329 P P 21 25 18.0 -1.0
baz=101
L20K Farewell, AK 71.52 333 P P 21 25 19.0 -0.2
baz=104
TOLK Toolik Lake Re 71.56 339 P P 21 25 18.8 -0.5
baz=110
M19K Big River Lodg 71.62 332 P P 21 25 19.3 -0.4
baz=103
Q17K Contact Creek 71.63 328 P P 21 25 19.1 -0.8
baz=100
C24K Franklin Bluff 71.64 341 P P 21 25 19.1 -0.5
baz=111
R17L Mt. Peulik Vol 71.77 327 P P 21 25 19.9 -0.8
baz=100
K20K Telida 71.81 334 P P 21 25 20.4 -0.4
baz=104
H21K Melozitna Rive 71.86 336 P P 21 25 20.6 -0.5
baz=106,SNR=5.5
L19K White Mountain 71.90 332 P P 21 25 20.8 -0.6
baz=102
J20K Nowinta River 72.04 334 P P 21 25 21.5 -0.6
baz=104
D23K Nanushuk River 72.05 340 P P 21 25 21.2 -1.0
baz=109
P17K Kvichak River 72.08 329 P P 21 25 21.9 -0.5
baz=100
N18K Kilae Creek 72.08 331 P P 21 25 21.5 -1.0
baz=101
PARRA Arraiolos 72.11 53 eP P 21 25 28.0 +4.9
F22K John River 72.14 338 P P 21 25 22.6 -0.1
baz=107,SNR=9.3
E22K Anaktuvuk Pass 72.19 339 P P 21 25 22.5 -0.5
baz=107,SNR=8.9
M18K Stony River 72.20 331 P P 21 25 22.6 -0.6
baz=101
C23K Itkillik River 72.31 341 P P 21 25 23.5 -0.1
baz=109
IMAR Indian Mountai 72.32 336 P P 21 25 23.3 -0.5
I20K Naaghedeneel 72.33 335 P P 21 25 23.2 -0.6
baz=104
G21K Allakaket 72.36 337 P P 21 25 23.6 -0.5
baz=105,SNR=10
MORF Marmelete 72.39 54 eP P 21 25 25.7 +0.9
O17K Koliganek Bris 72.51 330 P P 21 25 24.4 -0.6
baz=100
F21K Alatna River 72.54 338 P P 21 25 25.0 -0.1
baz=105,SNR=14
PCAS Casmilo, Conde 72.55 51 eP P 21 25 26.0 +0.3
PCAS epP pP 21 25 53.3 +0.2
J19K Poorman 72.63 334 P P 21 25 25.0 -0.6
baz=102
H20K Arneeega Mo 72.66 336 P P 21 25 25.3 -0.5
baz=104
N17K Nushagak Hills 72.68 330 P P 21 25 25.7 -0.3
baz=100
CHGN Chignik 72.68 326 P P 21 25 25.6 -0.4
baz=98
D22K Ayikyak River 72.71 339 P P 21 25 26.0 -0.1
baz=107
MESJ Messejana 72.74 54 eP P 21 25 27.1 +0.2
PMTG Montargil 72.75 52 epP pP 21 25 53.8 -0.5
L18K Granite Mounta 72.75 332 P P 21 25 25.8 -0.6
baz=101
M17K Holitna River 72.95 331 P P 21 25 26.3 -1.3
baz=100
O16K Kokwok River B 72.98 329 P P 21 25 26.5 -1.2
baz=99
J18K Innoko River 73.00 333 P P 21 25 26.8 -1.1
baz=101
E21K Killik River 73.04 339 P P 21 25 27.4 -0.7
baz=105
CHNA Chernabura Isl 73.17 324 P P 21 25 27.7 -1.2
baz=96
PESTR Estremoz 73.24 52 eP P 21 25 30.2 +0.4
H19K Roundabout Mou 73.30 336 P P 21 25 28.9 -0.7
baz=102,SNR=6.2
S14K Fog Glacier 73.31 326 P P 21 25 28.8 -1.1
baz=96
F20K Avaraart Lake 73.35 337 P P 21 25 29.4 -0.4
baz=103
B22K Teshekuk Lake 73.38 341 P P 21 25 29.8 -0.1
baz=106
PMRV Marv??o 73.40 52 eP P 21 25 30.2 -0.5
PMRV epP pP 21 25 58.6 +0.5
N16K Nishlik Lake 73.44 330 P P 21 25 29.8 -0.8
baz=98
L17K Donlin 73.48 332 P P 21 25 29.8 -0.9
baz=99
C21K Knifeblade Rid 73.52 339 P P 21 25 30.4 -0.4
baz=105
K17K Iditarod 73.57 332 P P 21 25 30.6 -0.6
baz=100
B21K Ikpikpuk River 73.58 340 P P 21 25 30.8 -0.3
baz=105
M16K Timber Creek 73.62 331 P P 21 25 31.0 -0.6
baz=98
PBAR Barrancos 73.67 53 eP P 21 25 32.4 +0.1
PBAR epP pP 21 25 59.6 -0.2
MVO Moncorvo 73.68 50 eP P 21 25 32.4 0.0
MVO epP pP 21 25 59.6 -0.2
G19K Purcell Mounta 73.69 336 P P 21 25 31.6 -0.2
baz=102,SNR=6.2
SDPT Sand Point 73.73 325 P P 21 25 31.3 -1.0
baz=95
E20K Nigu River 73.80 338 P P 21 25 32.3 -0.2
baz=103,SNR=8.5
PBRG Braganca 73.91 49 epP pP 21 26 00.9 -0.2
E19K Redstone River 74.01 337 P P 21 25 33.1 -0.6
baz=102
H18K Honhosa River 74.02 335 P P 21 25 33.2 -0.6
baz=100
J17K VABM Dome 74.03 333 P P 21 25 33.3 -0.6
baz=99
D20K Etivluk River 74.05 339 P P 21 25 33.4 -0.5
baz=103
A22K Sinclair Lake 74.05 341 P P 21 25 33.4 -0.5
baz=105
N15K Kwethluk River 74.06 330 P P 21 25 33.5 -0.6
baz=97
F19K Shaleruckik Mo 74.09 337 P P 21 25 34.2 0.0
baz=101,SNR=5.2
G18K Tagagawik 74.27 336 P P 21 25 35.1 -0.1
baz=100
M15K Kasigluk River 74.41 330 P P 21 25 35.7 -0.4
baz=97
B20K Meade River 74.53 340 P P 21 25 36.8 +0.2
baz=103
O14K Tigyukauivet M 74.54 329 P P 21 25 36.2 -0.7
baz=96
D19K Ikpikpuk River 74.55 338 P P 21 25 36.5 -0.4
baz=101
H17K Granite Mounta 74.63 335 P P 21 25 37.1 -0.2
baz=99
S12K Black Hills 74.66 325 P P 21 25 37.4 -0.3
baz=94
J16K Anvik River 74.70 333 P P 21 25 37.7 -0.1
baz=98
F18K Selawik 74.78 336 P P 21 25 38.1 0.0
baz=99
I17K Unalakleet 74.82 334 P P 21 25 37.8 -0.6
baz=98
N14K Kuskokwak Cree 74.82 329 P P 21 25 38.1 -0.4
baz=96
L15K Ungalak Mounta 74.91 331 P P 21 25 38.7 -0.3
baz=96
K15K Wolf Creek Mou 75.00 332 P P 21 25 39.4 -0.1
baz=96
G17K Kiwalik Mounta 75.02 335 P P 21 25 39.5 -0.1
baz=98
M14K Bethel 75.04 330 P P 21 25 39.8 +0.1
baz=96
C19K Lookout Ridge 75.19 339 P P 21 25 40.5 -0.1
baz=100
E18K Tukpahlearik C 75.28 337 P P 21 25 41.0 0.0

baz=99
F17K Baldwin Pennin 75.39 336 P P 21 25 41.5 -0.2
baz=98
L14K Kuka Creek 75.45 331 P P 21 25 41.5 -0.5
baz=95
H16K Elim 75.58 334 P P 21 25 42.4 -0.4
baz=96
C18K Utukok River 75.69 338 P P 21 25 42.8 -0.6
baz=98
M13K Dall Lake 75.69 330 P P 21 25 43.0 -0.4
baz=94
E17K Hotham Inlet 75.71 337 P P 21 25 43.5 +0.1
baz=97
G16K Koyuk River 75.71 335 P P 21 25 43.6 0.0
baz=96
MDT Midelt 75.83 59 LR LR 21 52 38.2
comp=Z,27nm,21.9s,baz=290,slow=30
A19K Wainwright 75.88 340 P P 21 25 44.4 +0.1
baz=99
J14K Nanvaranak Lak 75.98 332 P P 21 25 45.3 +0.3
baz=95
B18K Kokolik River 76.01 339 P P 21 25 45.4 +0.3
baz=98
ESDC Sonseca Array 76.04 52 P P 21 25 45.4 -0.6
ESDC pP pP 21 26 13.4 -0.2
ESDC Sonseca Array 76.04 52 P P 21 25 45.9 -0.1
comp=Z,3.5nm,0.9s,baz=280,slow=5.7,SNR=33
ESDC pP pP 21 26 12.8 -0.8
comp=Z,3.9nm,0.8s,baz=282,slow=5.7,SNR=8.5
ESDC LR LR 21 53 53.7
comp=Z,34nm,21.5s,baz=267,slow=31
comp=Z,3.5nm,0.9s
ESBB Sonseca Array 76.04 52 P P 21 25 45.7 -0.3
D17K Noatak River 76.26 337 P P 21 25 46.4 -0.2
baz=96
G15K Niukluk 76.38 335 P P 21 25 47.2 -0.1
baz=95
C17K DeLong Mountai 76.39 338 P P 21 25 47.5 +0.2
baz=96
K13K Kusilvak Mount 76.43 331 P P 21 25 47.3 -0.4
baz=94
ESK Eskdalemuir 76.49 36 P P 21 25 47.0 -1.2
ESK Eskdalemuir 76.49 36 P P 21 25 47.0 -1.2
ESK pmax pmax
comp=Z,73nm,2.0s
EKA Eskdalemuir Ar 76.52 35 P P 21 25 46.6 -1.6
comp=Z,3.5nm,0.7s,baz=263,slow=6.6,SNR=8.8
EKA pP pP 21 26 14.8 -1.1
comp=Z,1.9nm,0.7s,baz=258,slow=7.3,SNR=3.0
comp=Z,3.5nm,0.7s
F15K North Star Dit 76.69 335 P P 21 25 48.6 -0.5
baz=94
ANM Nome 76.92 334 P P 21 25 50.2 -0.2
baz=94
M11K Mekoryuk 77.11 330 P P 21 25 50.7 -0.8
baz=92
UNV Unalaska Valle 77.16 323 P P 21 25 51.1 -0.8
baz=90
C16K Lisburne Hills 77.17 338 P P 21 25 50.8 -0.9
baz=94
F14K Arctic Creek 77.38 335 P P 21 25 52.6 -0.3
baz=93
TNA Tin City 78.04 335 P P 21 25 56.1 -0.4
baz=92
DBIC Dimbokro 78.45 85 P P 21 25 59.5 -0.3
DBIC Dimbokro 78.45 85 P P 21 25 59.6 -0.3
comp=Z,31nm,1.0s,baz=315,slow=3.7,SNR=9.1
DBIC LR LR 21 59 16.6
comp=Z,11nm,20.4s,baz=287,slow=34
comp=Z,31nm,1.0s
DBIC Dimbokro 78.45 85 P P 21 25 59.5 -0.3
DBIC pmax pmax
comp=Z,74nm,1.3s
NIKH Nikolski High 78.58 322 P P 21 25 59.0 -0.8
baz=88
P08K Saint George I 78.86 326 P P 21 26 00.8 -0.4
baz=88
SPIA Saint Paul Isl 79.23 326 P P 21 26 03.0 -0.2
baz=88
GAMB Gambell 79.68 333 P P 21 26 05.3 -0.2
baz=88
CEST Esterri de Car 79.81 48 P P 21 26 07.1 +0.1
SPITS Spitsbergen Ar 82.14 12 LR LR 22 03 12.8
comp=Z,52nm,21.0s,baz=287,slow=36
ECH Echery 83.33 42 P 21 26 24.8 -0.4
ECH IAmb IAmb 21 26 25.8
comp=Z,11nm,1.2s
ECH Echery 83.33 42 P P 21 26 24.8 -0.4
ECH pmax pmax
comp=Z,11nm,1.2s
ADK Adak 83.45 321 P P 21 26 25.9 +0.3
ADK IAmb IAmb 21 26 27.2
comp=Z,15nm,0.7s
ADK Adak 83.45 321 P P 21 26 26.0 +0.3
ADK pmax pmax
comp=Z,15nm,0.7s
NBO00 NORSAR Array S 83.48 29 P P 21 26 25.6 -0.1
NBO00 IAmb IAmb 21 26 26.4
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 83.69 29 P P 21 26 25.9 -0.8
comp=Z,15nm,1.1s,baz=281,slow=5.6
NOA NORSAR Array B 83.69 29 P P 21 26 26.0 -0.8
comp=Z,6.3nm,1.0s,baz=278,slow=5.0,SNR=16
NOA LR LR 22 02 54.1
comp=Z,15nm,18.4s,baz=280,slow=35
comp=Z,6.3nm,1.0s
TORD Torodi Ar. Bea 83.81 78 P P 21 26 27.4 -0.8
STU Stuttgart 84.59 42 P P 21 26 31.2 -0.3
STU IAmb IAmb 21 26 32.1
comp=Z,12nm,1.0s
STU Stuttgart 84.59 42 P P 21 26 31.2 -0.3
STU pmax pmax
comp=Z,12nm,1.0s
HFS Hagfors 85.07 30 P P 21 26 32.5 -1.1
comp=Z,5.9nm,0.7s,baz=289,slow=4.4,SNR=19
HFS pP pP 21 27 00.8 -1.0
comp=Z,1.3nm,0.7s,baz=213,slow=19,SNR=1.4
comp=Z,5.9nm,0.7s
TUE Stuetta 85.07 44 P P 21 26 34.4 +0.1
DAVA Damuels 85.29 43 eP P 21 26 35.5 +0.2
comp=Z,9.8nm,1.0s
FUORN Ofenpass-Fuorn 85.67 44 P 21 26 37.1 -0.2
FUORN IAmb IAmb 21 26 38.3
comp=Z,9.2nm,1.1s
GRF Grafenberg Arr 85.74 40 eP P 21 26 36.2 -1.1
comp=Z,7.7nm,1.0s,baz=281,slow=5.2
RETA Reutte 85.85 43 eP P 21 26 38.0 +0.1
comp=Z,6.9nm,1.0s
TAM Tamanrasset 85.87 68 P 21 26 38.3 -0.4
TAM Tamanrasset 85.87 68 P P 21 26 38.3 -0.4
TAM pmax pmax
comp=Z,22nm,0.2s
FETA Feichten 85.91 43 eP P 21 26 38.2 -0.2
comp=Z,9.9nm,1.2s
MOTA Moosalm 86.10 43 eP P 21 26 38.8 -0.5
comp=Z,4.4nm,0.9s
SQTA Sankt Quirin 86.20 43 eP P 21 26 39.5 -0.2
comp=Z,3.8nm,0.8s
WATA Walderalm 86.42 43 eP P 21 26 40.4 -0.4
comp=Z,2.1nm,0.8s
CLL Collm 86.53 39 P P 21 26 40.5 -0.6
CLL IAmb IAmb 21 26 41.8
comp=Z,8.4nm,0.9s
CLL Collm 86.53 39 i P P 21 26 41.1 0.0
CLL e*PP pP 21 27 10.0 +0.7
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 86.53 39 i P P 21 26 41.1 0.0
comp=Z,11nm,1.0s
CLL epP pP 21 27 10.0 +0.7
CTI Castel Tesino 86.72 44 P 21 26 41.6 -0.7
CTI IAmb IAmb 21 26 42.6
comp=Z,8.8nm,1.2s
CTI Castel Tesino 86.72 44 P P 21 26 41.6 -0.7
CTI pmax pmax
comp=Z,9.0nm,1.2s
LESA Schwarzleotal 87.13 42 eP P 21 26 43.9 -0.3
comp=Z,5.5nm,1.3s
ARCES ARCESS Array B 87.15 19 P P 21 26 42.9 -0.9
ARCES IAmb IAmb 21 27 03.9
comp=Z,30nm,1.6s
ARCES ARCESS Array B 87.15 19 P P 21 26 42.5 -1.2
comp=Z,4.3nm,0.9s,baz=279,slow=3.8,SNR=16
ARCES pP pP 21 27 10.8 -1.2
comp=Z,3.8nm,0.8s,baz=24,slow=9.3,SNR=3.1
comp=Z,4.3nm,0.9s
ARCES ARCESS Array B 87.15 19 P P 21 26 42.9 -0.9

ARCES					pmax	pmax			
	comp=Z,30nm,1.7s								
ABTA	**Abfaltersbach**	**87.17**	**43**	*eP*	**P**		**21 26 44.3**	**-0.1**	
	comp=Z,7.6nm,1.0s								
BRG	**Berggiesshubel**	**87.20**	**39**	*eP*	**P**		**21 26 44.9**	**+0.5**	
BRG				Amp			21 26 45.9		
	comp=Z,8.9nm,1.2s								
KHC	**Kasperske Hory**	**87.36**	**41⇑**	*eP*	**P**		**21 26 44.8**	**-0.4**	
KHC					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KHC	**Kasperske Hory**	**87.36**	**41**	*eP*	**P**		**21 26 45.4**	**+0.2**	
GEC2	**GERESS Array S**	**87.50**	**41**		**P**		**21 26 45.5**	**-0.4**	
GEC2				IAmb	IAmb		21 26 47.4		
	comp=Z,7.6nm,1.2s								
GERES	**GERESS Array B**	**87.50**	**41**	P	**P**		**21 26 45.4**	**-0.6**	
GERES				pP	**pP**		**21 27 14.1**	**-0.1**	
	comp=Z,1.1nm,0.9s,baz=256,slow=5.4,SNR=2.2								
	comp=Z,2.1nm,0.9s								
BILL	**Bilibino**	**87.61**	**339**	*de*P	**P**		**21 26 45.9**	**-0.1**	
BILL				pmax	pmax				
	comp=Z,9.0nm,1.4s								
KBA	**Koelnbreinsper**	**87.65**	**43**	*eP*	**P**		**21 26 46.6**	**-0.2**	
	comp=Z,11nm,1.3s								
ZVC	**Zvikov**	**87.68**	**40**	*eP*	**P**		**21 26 47.1**	**+0.4**	
BIOA	**Bad Ischl, Aus**	**87.71**	**42**	*eP*	**P**		**21 26 46.1**	**-0.8**	
	comp=Z,2.8nm,0.9s								
MYKA	**Terra Mystica**	**87.95**	**43**	*eP*	**P**		**21 26 48.1**	**0.0**	
	comp=Z,9.2nm,1.1s								
MOA	**Molln**	**88.09**	**42**	*eP*	**P**		**21 26 48.1**	**-0.6**	
	comp=Z,2.9nm,1.0s								
CADS	**Cadrg**	**88.10**	**43**	*i* P	**P**		**21 26 48.0**	**-0.8**	
CHVC	**Chvalec**	**88.58**	**39**	*eP*	**P**		**21 26 51.0**	**+0.1**	
CHVC	**Chvalec**	**88.58**	**39**	*eP*	**P**		**21 26 51.0**	**+0.1**	
OBKA	**Obir**	**88.59**	**43**	*eP*	**P**		**21 26 50.5**	**-0.7**	
	comp=Z,5.1nm,1.7s								
OSTC	**Ostas**	**88.68**	**39**	*eP*	**P**		**21 26 51.9**	**+0.5**	
OSTC	**Ostas**	**88.68**	**39**	*eP*	**P**		**21 26 51.9**	**+0.5**	
VNDS	**Vrh nad Dolski**	**88.78**	**43**	*i* P	**P**		**21 26 51.3**	**-0.8**	
DPC	**Dobruska-Polom**	**88.80**	**39**	*eP*	**P**		**21 26 52.4**	**+0.4**	
DPC	**Dobruska-Polom**	**88.80**	**39**	*eP*	**P**		**21 26 52.4**	**+0.4**	
SOKA	**Soboth**	**88.87**	**43**	*eP*	**P**		**21 26 51.8**	**-0.7**	
	comp=Z,3.2nm,1.2s								
CONA	**Conrad Observa**	**89.11**	**41**	*eP*	**P**		**21 26 53.6**	**-0.1**	
	comp=Z,7.8nm,1.5s								
KRUC	**Moravsky**	**89.17**	**40**	*eP*	**P**		**21 26 53.6**	**-0.1**	
VRAC	**Vranov**	**89.24**	**40**	*eP*	**P**		**21 26 53.4**	**-0.7**	
RONA	**Rosalia, Austr**	**89.45**	**42**	*eP*	**P**		**21 26 55.0**	**-0.2**	
	comp=Z,4.3nm,1.1s								
MORC	**Moravsky Berou**	**89.71**	**39**	*eP*	**P**		**21 26 56.4**	**+0.1**	
MODS	**Modra-Piesok**	**89.92**	**41**	*eP*	**P**		**21 26 57.8**	**+0.5**	
MODS	**Modra-Piesok**	**89.92**	**41**	*eP*	**P**		**21 26 57.8**	**+0.5**	
FINES	**FINESS Array B**	**90.47**	**27**		**P**		**21 26 58.5**	**-1.0**	
	comp=Z,2.5nm,0.8s,baz=288,slow=3.9,SNR=6.9								
FINES				pP	**pP**		**21 27 26.6**	**-1.3**	
	comp=Z,0.6nm,0.6s,baz=270,slow=1.9,SNR=1.1								
	comp=Z,2.5nm,0.8s								
VYHS	**Vyhne**	**90.88**	**40**	*eP*	**P**		**21 27 02.5**	**+0.8**	
VYHS	**Vyhne**	**90.88**	**40**	*eP*	**P**		**21 27 02.5**	**+0.8**	
LANS	**Liptovska Anna**	**91.09**	**40**	*eP*	**P**		**21 27 04.1**	**+1.4**	
LANS	**Liptovska Anna**	**91.09**	**40**	*eP*	**P**		**21 27 04.1**	**+1.4**	
PSZ	**Piszkesteto**	**91.73**	**41**	P	**P**		**21 27 05.8**	**+0.1**	
PSZ				IAmb	IAmb		21 27 07.3		
	comp=Z,12nm,1.3s								
PSZ	**Piszkesteto**	**91.73**	**41**	P	**P**		**21 27 05.8**	**+0.1**	
PSZ				pmax	pmax				
	comp=Z,12nm,1.3s								
AKBB	**Malin Array Si**	**96.43**	**36⇓**	*eP*	**P**		**21 27 25.2**	**-1.9**	
AKBB				pmax	pmax				
	comp=Z,8.0nm,2.4s								
KLMR	**Klimovskoe**	**96.46**	**24**	*eP*	**P**		**21 27 24.8**	**-2.2**	
KLMR				pmax	pmax				
	comp=Z,11nm,1.5s								
OBN	**Obninsk**	**98.28**	**30**	*eP*	**P**		**21 27 34.3**	**-1.0**	
OBN				*e**PP	**pP**		**21 28 04.0**	**+0.2**	
OBN				*e**SP	**sP**		**21 28 16.2**	**+0.9**	
OBN				*e*			21 31 33.6		
OBN				*e*PPP	PPP		21 33 41.5		
OBN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KURK	**Kurchatov**	**117.41**	**12⇓**	*i* PKIKP	**PKPdf**		**21 32 42.4**	**-0.7**	
KURBB	**Kurchatov Arra**	**117.48**	**12**	PKP	**PKPdf**		**21 32 41.5**	**-1.8**	
	comp=Z,1.0nm,0.7s,baz=346,slow=2.2,SNR=9.6								
SONM	**Songino Array**	**121.33**	**352**	PKP	**PKPdf**		**21 32 50.0**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=24,slow=7.9,SNR=4.7								
MKAR	**Makanchi Array**	**121.88**	**11**	PKPdf	**PKPdf**		**21 32 50.8**	**-1.1**	
MKAR	**Makanchi Array**	**121.88**	**11**	PKP	**PKPdf**		**21 32 50.4**	**-1.6**	
	comp=Z,0.3nm,0.3s,baz=319,slow=2.2,SNR=7.3								
MKAR	**Makanchi Array**	**121.88**	**11**	PKIKP	**PKPdf**		**21 32 50.8**	**-1.1**	
KKAR	**Karatay Array**	**122.05**	**22**	PKPdf	**PKPdf**		**21 32 51.4**	**-0.9**	
KKAR	**Karatay Array**	**122.05**	**22**	PKIKP	**PKPdf**		**21 32 51.4**	**-0.9**	
KSRS	**Korea Array**	**123.70**	**329**	PKP	**PKPdf**		**21 32 54.2**	**-1.4**	
	comp=Z,1.8nm,0.8s,baz=46,slow=3.6,SNR=4.7								
AAK	**Ala-Archa**	**123.82**	**19⇑**	*e*PKIKP	**PKiKP**		**21 32 56.5**	**+0.3**	
KDJ	**Kajisay**	**125.09**	**17**	PKPdf	**PKPdf**		**21 32 58.0**	**-0.5**	
KDJ	**Kajisay**	**125.09**	**17**	PKIKP	**PKPdf**		**21 32 58.0**	**-0.5**	
HHC	**Hu-ho-hao-te**	**127.02**	**345**	*eP*	**PKPdf**		**21 33 02.3**	**+0.2**	
KSH	**Kashi**	**127.12**	**19**	PKP	**PKiKP**		**21 33 02.9**	**+0.1**	
GTA	**Gaotai**	**130.37**	**356**	*eP*	**PKPdf**		**21 33 08.0**	**-0.5**	
GTA				pP	PKiKP		21 33 12.5	+3.1	
GTA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
STKA	**Stephens Creek**	**132.58**	**236⇑**	*e*PKIKP	**PKiKP**		**21 33 13.7**	**-0.1**	
ASAR	**Alice Springs**	**141.30**	**245**	PKhKP	PKPpre		21 33 23.6		
	comp=Z,1.3nm,0.4s,baz=111,slow=3.6,SNR=17								
ASAR				PKP	**PKPdf**		**21 33 28.4**	**-0.7**	
	comp=Z,6.6nm,1.0s,baz=102,slow=1.9,SNR=13								
WRAB	**Tennant Creek**	**141.60**	**251⇓**	*e*PKIKP	**PKPdf**		**21 33 27.8**	**-1.9**	
WRA	**Warramunga Arr**	**141.61**	**251**	PKhKP	PKPpre		21 33 24.4		
	comp=Z,1.1nm,0.3s,baz=94,slow=3.1,SNR=29								
PZH	**PanZhiHua**	**142.93**	**351**	PKP	**PKPdf**		**21 33 32.3**	**+0.2**	
FORT	**Forrest**	**143.74**	**231**	PKPdf	PKPbc		21 33 31.1	+0.2	
MTN	**Manton Dam**	**145.25**	**262**	PKPbc	**PKPbc**		**21 33 35.9**	**-0.1**	
KNRA	**Kununurra**	**147.41**	**257**	PKPbc	**PKPbc**		**21 33 43.0**	**+0.6**	
FITZ	**Fitzroy Crossi**	**150.03**	**252**	PKPbc	**PKPbc**		**21 33 49.1**	**0.0**	
CMAR	**Chiang Mai Arr**	**151.22**	**354**	PKP	**PKPdf**		**21 33 44.6**	**-1.3**	
	comp=Z,1.0nm,0.8s,baz=33,slow=2.6,SNR=5.3								
CMAR				PKPbc	**PKPbc**		**21 33 50.8**	**-1.1**	
	comp=Z,3.1nm,0.8s,baz=13,slow=2.4,SNR=16								

RSNC 06 21:21:34.6±0.0, 7°N±1°×7°3W±°, h149km±2km, M3.0, mB4.7, mb3.5, ML2.9, MLv3.5, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**204**	P	Pn	21 21 54.7	-0.5
BARC				S	Sn	21 22 09.8	-1.0
PAMC	**Pamplona, Colo**	**0.66**	**36**	P	Pn	21 21 57.6	+0.3
PAMC				S	Sn	21 22 14.5	-0.1
BRJC	**Barrancabermej**	**0.67**	**285**	P	Pn	21 21 56.3	-0.5
BRJC				S	Sn	21 22 13.3	-0.4
RUSC	**La Rusia**	**0.90**	**180**	P	Pn	21 21 58.6	-0.5
RUSC				S	Sn	21 22 17.3	-0.4
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	P	Pn	21 22 01.1	-1.8
PTBC				S	Sn	21 22 22.5	-2.0
OCAC	**Ocana**	**1.45**	**351**	P	Pn	21 22 03.0	-0.7
OCAC				S	Sn	21 22 25.2	-0.9
ZARC	**Zaragoza, Cauc**	**1.88**	**292**	P	Pn	21 22 06.8	-1.6
ZARC				S	Sn	21 22 34.1	-0.1
NORC	**Norcasia**	**2.15**	**235**	P	Pn	21 22 10.2	-1.4
NORC				S	Sn	21 22 38.2	-1.8
ROSC	**El Rosal**	**2.30**	**212**	P	Pn	21 22 14.5	+0.8
ROSC				S	Sn	21 22 45.2	+1.5
CVER	**Cruz Verde, Cu**	**2.47**	**203**	P	Pn	21 22 16.1	+0.3
CVER				S	Sn	21 22 48.2	+0.8
HELC	**Santa Helena**	**2.50**	**256**	P	Pn	21 22 15.2	-0.8
HELC				S	Sn	21 22 45.5	-2.4
UREC	**San Jos de Ur**	**2.60**	**291**	P	Pn	21 22 14.5	-2.5
UREC				S	Sn	21 22 46.9	-2.7
VILC	**Villavicencio,**	**2.74**	**193**	P	Pn	21 22 18.3	-0.5
VILC				S	Sn	21 22 52.6	-0.3
GUY2C	**Guyana, Caldas**	**2.75**	**235**	P	Pn	21 22 19.0	-0.3
GUY2C				S	Sn	21 22 54.0	+0.3
PTGC	**Puerto Gaitan,**	**2.75**	**160**	P	Pn	21 22 17.9	-1.0
PTGC				S	Sn	21 22 51.5	-1.6
CBOC	**Ciudad Bolivar**	**3.05**	**252**	P	Pn	21 22 22.9	+0.2
CBOC				S	Sn	21 22 59.4	-0.5
DBBC	**Dabeiba**	**3.10**	**274**	P	Pn	21 22 22.1	-1.3
DBBC				S	Sn	21 22 58.5	-2.5
SDV	**Santo Domingo**	**3.20**	**49**	P	Pn	21 22 24.7	+0.1
SDV				S	Sn	21 23 01.8	-1.6
ARGC	**Ariguani, Magd**	**3.25**	**339**	P	Pn	21 22 26.2	+1.1
ARGC				S	Sn	21 23 04.1	-0.2
PRAC	**Prado**	**3.55**	**210**	P	Pn	21 22 28.7	-0.4
PRAC				S	Sn	21 23 10.9	-0.4
ORTC	**Ortega, Tolima**	**3.58**	**217**	P	Pn	21 22 28.9	-0.6
ORTC				S	Sn	21 23 12.6	+0.5
APAC	**Apartado, Choc**	**3.63**	**288**	P	Pn	21 22 28.7	-1.3
APAC				S	Sn	21 23 12.4	-0.6
PLMC	**San Jos del P**	**3.69**	**240**	P	Pn	21 22 30.5	-0.4
PLMC				S	Sn	21 23 14.7	+0.1
SJCC	**San Jacinto, C**	**3.71**	**326**	P	Pn	21 22 28.3	-2.8
SJCC				S	Sn	21 23 10.3	-4.7
URMC	**La Uribe, Meta**	**3.76**	**200**	P	Pn	21 22 31.8	0.0
URMC				S	Sn	21 23 15.6	-0.6
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	21 22 35.0	-2.5
CRJC				S	Sn	21 23 21.9	-4.6
GUVC	**San Jose del G**	**4.25**	**174**	P	Pn	21 22 39.2	+1.0
GUVC				S	Sn	21 23 24.7	-3.0
YOTC	**Yotoco, Valle**	**4.28**	**229**	P	Pn	21 22 38.1	-0.6
YOTC				S	Sn	21 23 28.9	+0.4
GARC	**Garzon, Huila**	**5.17**	**208**	P	Pn	21 22 48.8	-1.8
GARC				S	Sn	21 23 46.4	-3.4
FLOC	**Florencia**	**5.78**	**206**	P	Pn	21 22 57.5	-0.9
	8.5nm,0.9s						
SGC2	**Sao Gabriel da**	**9.21**	**138**	P	Pn	21 23 42.8	-1.5
SGC2				S	Sn	21 25 30.4	+3.9

NOU 06 21:26:28.8, 16.75S×167.77E, h25km, MLv4.1/16, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.72**	**332**	P	Pn	21 26 43.3	-0.1
VLAKA	**Lakatoro**	**0.72**	**332**	S	Sn	21 26 54.9	+1.2
DVP	**Devils Point**	**1.05**	**158**	P	Pb	21 26 48.2	-0.1
DVP	**Devils Point**	**1.05**	**158**	S	Sn	21 27 02.9	+1.1
SANVU	**Saraoutou**	**1.41**	**337**	P	Pn	21 26 51.9	-0.9
YATNC	**Mamie plateau,**	**5.35**	**189**	P	Pn	21 27 46.4	-0.7
ONTNC	**Ouen Toro**	**5.67**	**192**	P	Pn	21 27 51.0	-0.4
OUENC	**Ouen Island, N**	**5.71**	**189**	P	Pn	21 27 52.7	+0.7
OUENC	**Ouen Island, N**	**5.71**	**189**	S	Sn	21 28 56.5	-0.2

*CATAC **06** 21:35:03.3±0.6, 13°N±3°×8°9W±°, h21km±4km, M3.3/13, MLv3.3/13, Error ellipse: s-maj=6.9km s-min=3.8km az=21.4, confirmed*
*SNET **06** 21:35:05.0±0.9, 12°96N×89°09W, h33km±2km, ML3.2*
ISC 06 21:35:03.8±2.0, 12°88N±0°09×89°13W±0°05, h31km±12km, n50, σ0s48/58, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.63**	**343**	*eP*	**Pn**	**21 35 16.9**	**+0.3**
LALI				*eS*	**Sn**	**21 35 25.4**	**-0.3**
LALI	**Alcalda de L**	**0.63**	**343**	P	**Pn**	**21 35 16.8**	**+0.3**
TECO	**Alcaldia de Te**	**0.73**	**27**	S	**Sn**	**21 35 28.0**	**-0.2**
LFRS	**El Faro**	**0.74**	**5**	*eP*	**Pn**	**21 35 18.1**	**-0.1**
LOMA	**Loma Larga**	**0.76**	**357**	*eP*	**Pn**	**21 35 18.6**	**0.0**
LOMA				*eS*	**Sn**	**21 35 29.3**	**+0.3**
LOMA	**Loma Larga**	**0.76**	**357**	P	**Pn**	**21 35 18.5**	**0.0**
UESV	**Universidad de**	**0.82**	**24**	S	**Sb**	**21 35 30.5**	**+0.1**
UESV	**Universidad de**	**0.82**	**24**	P	**Pn**	**21 35 19.2**	**-0.1**
JAYA	**Jayaque - finc**	**0.83**	**338**	*eP*	**Pb**	**21 35 20.2**	**+0.3**
JAYA	**Jayaque - finc**	**0.83**	**338**	P	**Pn**	**21 35 18.5**	**-1.0**
JAYA	**Jayaque - finc**	**0.83**	**338**	S	**Sb**	**21 35 30.7**	**-0.1**
UEES	**Universidad Ev**	**0.84**	**353**	P	**Pn**	**21 35 19.7**	**+0.2**
UEES	**Universidad Ev**	**0.84**	**353**	S	**Sb**	**21 35 31.1**	**+0.1**
PMON	**Piamonte**	**0.85**	**348**	*eP*	**Pn**	**21 35 20.0**	**+0.3**
PMON				*eS*	**Sb**	**21 35 31.5**	**+0.3**
PMON	**Piamonte**	**0.85**	**348**	P	**Pn**	**21 35 20.0**	**+0.3**
PAVA	**Las Pavas**	**0.85**	**13**	S	**Sb**	**21 35 31.4**	**+0.1**
PAVA	**Las Pavas**	**0.85**	**13**	P	**Pb**	**21 35 19.9**	**-0.2**
BQOS	**Boqueron**	**0.86**	**350**	*eP*	**Pn**	**21 35 20.2**	**+0.2**
LFU	**La Fuente**	**0.86**	**1**	*eP*	**Pb**	**21 35 20.2**	**-0.2**
TECA	**Tecapa**	**0.86**	**45**	*eP*	**Pb**	**21 35 20.4**	**-0.1**
TECA				*eP*	**Pb**	**21 35 20.4**	**-0.1**
TECA				*eS*	**Sb**	**21 35 31.9**	**+0.1**
TECA				IAML		21 35 35.7	
	comp=Z,447nm,0.3s						
PIC2	**El Picacho**	**0.87**	**352**	*eP*	**Pb**	**21 35 20.6**	**+0.1**
PIC2				*eS*	**Sb**	**21 35 33.0**	**+1.1**
SCLA	**Alcaldia de Sa**	**0.90**	**26**	*eP*	**Pb**	**21 35 20.6**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.90**	**26**	P	**Pb**	**21 35 20.7**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.90**	**26**	S	**Sb**	**21 35 33.0**	**+0.2**
PQSS	**Presa 15 de Se**	**0.92**	**37**	*eP*	**Pn**	**21 35 20.8**	**+0.2**
PQSS	**Presa 15 de Se**	**0.92**	**37**	P	**Pn**	**21 35 20.9**	**+0.2**
PQSS	**Presa 15 de Se**	**0.92**	**37**	S	**Sb**	**21 35 33.7**	**+0.4**
CEDA	**San Andres**	**0.95**	**344**	S	**Sb**	**21 35 34.3**	**+0.2**
CEDA	**San Andres**	**0.95**	**344**	P	**Pn**	**21 35 21.1**	**+0.3**
LCY	**Lacayo**	**0.97**	**56**	*eP*	**Pn**	**21 35 21.7**	**+0.3**
PACA	**Pacayal**	**0.98**	**53**	*eP*	**Pb**	**21 35 22.1**	**-0.2**
PACA				*eS*	**Sb**	**21 35 35.3**	**+0.3**
PACA	**Pacayal**	**0.98**	**53**	P	**Pb**	**21 35 22.0**	**-0.2**
BLLM	**Bellamira**	**1.03**	**57**	*eP*	**Pn**	**21 35 22.6**	**+0.4**
SNJE	**San Jose**	**1.08**	**335**	*eP*	**Pn**	**21 35 23.5**	**+0.4**
NUBE	**Las Nubes**	**1.20**	**328**	*eP*	**Pn**	**21 35 24.8**	**+0.3**
NUBE				*eS*	**Sn**	**21 35 39.8**	**0.0**
NUBE	**Las Nubes**	**1.20**	**328**	P	**Pn**	**21 35 24.6**	**0.0**
NUBE	**Las Nubes**	**1.20**	**328**	S	**Sn**	**21 35 40.1**	**+0.3**
CAHU	**Cacacuatique**	**1.26**	**45**	*eP*	**Pn**	**21 35 26.0**	**+0.6**
CAHU				IAML		21 35 47.8	
	comp=Z,938nm,0.3s						
LCND	**La Caada**	**1.28**	**70**	*eP*	**Pn**	**21 35 25.7**	**+0.2**
LCND	**La Caada**	**1.28**	**70**	P	**Pn**	**21 35 25.9**	**+0.4**
FAME	**Alcaldia de Sa**	**1.29**	**318**	S	**Sn**	**21 35 41.4**	**-0.5**
CNCH	**Conchagua**	**1.32**	**73**	*eP*	**Pn**	**21 35 26.0**	**-0.2**
CNCH	**Conchagua**	**1.32**	**73**	S	**Sb**	**21 35 43.6**	**-1.1**
CNCH	**Conchagua**	**1.32**	**73**	P	**Pn**	**21 35 26.8**	**+0.6**
MTO3	**Montecristo**	**1.52**	**352**	*i* P	**Pn**	**21 35 29.6**	**+0.5**
MTO3	**Montecristo**	**1.52**	**352**	P	**Pn**	**21 35 29.6**	**+0.5**
MTO3	**Montecristo**	**1.52**	**352**	S	**Sb**	**21 35 48.6**	**-2.1**
CSGN	**Cosiguina Volc**	**1.53**	**86**	P	**Pn**	**21 35 29.7**	**+0.6**
MARCA	**Marcala la Paz**	**1.66**	**40**	S	**Sb**	**21 35 54.6**	**+0.3**
CHOHN	**Orocuina**	**2.01**	**73**	P	**Pn**	**21 35 35.7**	**0.0**

*IDC **06** 21:46:09.7±0.8, 6°79N×73°03W, h154km±11km, mb3.1/2, mbtmp4.0/5, MS2.5/1, Error ellipse: s-maj=38.2km s-min=7.3km az=133.0*
*RSNC **06** 21:46:10.7±0.0, 7°N±1°×7°3W±°, h151km±2km, M4.0, mB5.1, mb4.4, ML3.5, MLv4.3, Mw(mB)4.5*
*CATAC **06** 21:46:12.2±1.5, 7°N±5°×7°3W±1°0, h129km±20km, M4.2/5, MLv4.2/5, confirmed*
ISC 06 21:46:10.2±0.8, 6°85N±0°03×73°09W±0°04, h153km±6km, n53, σ1s38/86, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**199**	P	**Pn**	**21 46 31.3**	**0.0**
BARC				S	**Sn**	**21 46 46.4**	**-1.0**
PAMC	**Pamplona, Colo**	**0.62**	**39**	P	**Pn**	**21 46 34.0**	**+0.9**
PAMC				S	**Sn**	**21 46 51.1**	**+0.5**
BRJC	**Barrancabermej**	**0.66**	**280**	P	**Pn**	**21 46 33.0**	**+0.3**
BRJC				S	**Sn**	**21 46 49.9**	**0.0**
RUSC	**La Rusia**	**0.95**	**179**	P	**Pn**	**21 46 35.2**	**-0.3**
RUSC				S	**Sn**	**21 46 53.5**	**-1.2**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**21 46 37.8**	**-1.0**
PTBC				S	**Sn**	**21 46 58.9**	**-1.9**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**21 46 39.4**	**+0.3**
OCAC				S	**Sn**	**21 47 01.3**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	P	**Pn**	**21 46 43.8**	**-0.1**
ZARC				S	**Sn**	**21 47 09.7**	**-0.1**
NORC	**Norcasia**	**2.18**	**234**	P	**Pn**	**21 46 47.2**	**-0.5**
NORC				S	**Sn**	**21 47 14.9**	**-1.6**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**21 46 51.1**	**+1.2**
	310nm,0.3s,baz=77,slow=21,SNR=197						
ROSC				S	**Sn**	**21 47 19.9**	**-0.6**
	510nm,0.3s,baz=21,slow=22,SNR=20						
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**21 46 51.0**	**+1.1**
ROSC				S	**Sn**	**21 47 20.3**	**-0.3**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**21 46 52.0**	**+0.1**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**21 46 51.9**	**0.0**
HELC				S	**Sn**	**21 47 23.5**	**-0.5**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**21 46 52.7**	**+0.6**
CVER				S	**Sn**	**21 47 22.7**	**-1.7**
UREC	**San Jos de Ur**	**2.58**	**290**	P	**Pn**	**21 46 51.5**	**-0.9**
UREC				S	**Sn**	**21 47 22.3**	**-2.7**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P	**Pn**	**21 46 55.5**	**+0.1**
GUY2C				S	**Sn**	**21 47 29.5**	**-0.7**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**21 46 54.6**	**-0.6**
VILC				S	**Sn**	**21 47 27.2**	**-2.8**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	**Pn**	**21 46 54.3**	**-1.0**
PTGC				S	**Sn**	**21 47 27.4**	**-2.7**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**21 47 00.2**	**+2.9**
RECRC				S	**Sn**	**21 47 34.6**	**+0.9**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P	**Pn**	**21 46 59.0**	**+0.4**
CBOC				S	**Sn**	**21 47 35.4**	**-0.7**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**21 46 58.8**	**-0.2**
DBBC				S	**Sn**	**21 47 34.5**	**-2.2**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**21 47 00.8**	**+0.9**
	129nm,0.3s,baz=240,slow=13,SNR=52						
SDV				S	**Sn**	**21 47 37.7**	**-0.8**
	125nm,0.5s,baz=49,slow=20,SNR=23						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**21 47 00.6**	**+0.7**
SDV				S	**Sn**	**21 47 37.6**	**-0.8**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**21 47 01.2**	**+1.1**
ARGC				S	**Sn**	**21 47 40.0**	**+1.1**
ANIL	**Santa Ana**	**3.29**	**225**	P	**Pn**	**21 47 01.8**	**+0.2**
ANIL				S	**Sn**	**21 47 42.2**	**+0.8**
PRAC	**Prado**	**3.59**	**210**	S	**Sn**	**21 47 47.7**	**-0.4**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**21 47 04.5**	**-0.8**
PRAC				S	**Sn**	**21 47 46.9**	**-1.2**
APAC	**Apartado, Choc**	**3.61**	**287**	P	**Pn**	**21 47 05.3**	**-0.1**
APAC				S	**Sn**	**21 47 47.0**	**-1.4**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P	**Pn**	**21 47 05.6**	**-0.1**
ORTC				S	**Sn**	**21 47 48.8**	**-0.1**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**21 47 05.6**	**-0.6**
SJCC				S	**Sn**	**21 47 46.7**	**-3.0**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**21 47 07.0**	**+0.1**
PLMC				S	**Sn**	**21 47 47.2**	**-3.8**
LCBC	**Los crdobas,**	**3.81**	**302**	P	**Pn**	**21 47 09.3**	**+1.3**
LCBC				S	**Sn**	**21 47 52.1**	**-0.8**
URMC	**La Uribe, Meta**	**3.81**	**200**	P	**Pn**	**21 47 08.1**	**0.0**
URMC				S	**Sn**	**21 47 53.1**	**0.0**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**21 47 11.8**	**-0.7**
CRJC				S	**Sn**	**21 47 57.8**	**-3.2**
GUVC	**San Jose del G**	**4.31**	**174**	P	**Pn**	**21 47 13.5**	**-1.1**
GUVC				S	**Sn**	**21 48 02.6**	**-2.1**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**21 47 14.1**	**-0.6**
SMRC	**Santa Marta, M**	**4.42**	**345**	P	**Pn**	**21 47 16.4**	**+0.3**
SMRC				S	**Sn**	**21 48 04.3**	**-3.2**
PIZC	**Pizarro, Choco**	**4.64**	**246**	P	**Pn**	**21 47 20.1**	**+1.2**
PTAC	**Punta Ardita,**	**4.69**	**274**	P	**Pn**	**21 47 18.3**	**-1.2**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**21 47 18.5**	**-1.7**
**

GNL Ganaly 4.12 256 eP Pn 21 55 06.7 +1.0
KRMR Karymshinskiy 4.39 245 PN Pn 21 55 09.6 +0.5
KRMR Karymshinskiy 4.39 245 eP Pn 21 55 09.7 +0.5
KRMR eS Sn 21 55 57.4 -3.4
RUS Russkaya 4.42 239 PN Pn 21 55 09.5 +0.1
RUS Russkaya 4.42 239 eP Pn 21 55 09.5 +0.1
PEA0B Petropavlovsk- 4.49 249 Pn Pn 21 55 10.8 +0.4
PEA0B Petropavlovsk- 4.49 249 c iPN Pn 21 55 11.2 +0.7
PETK Petropavlovsk- 4.49 249 Pn 21 55 10.3 -0.1
PETK Petropavlovsk- 4.49 249 Pn Pn 21 55 10.5 +0.1
comp=Z,10nm,0.3s,baz=68,slow=16,SNR=83
PETK Sn Sn 21 56 00.9 -2.3
comp=Z,1.9nm,0.3s,baz=208,slow=30,SNR=5.1
comp=Z,14nm,0.3s
MTVR Mutnovka 4.55 241 PN Pn 21 55 11.7 +0.3
MTVR Mutnovka 4.55 241 eP Pn 21 55 11.8 +0.3
GRL Gorelyy 4.57 242 PN Pn 21 55 12.0 +0.3
GRL Gorelyy 4.57 242 eP Pn 21 55 12.0 +0.3
ASAK Asacha 4.75 241 PN Pn 21 55 15.4 +1.3
ASAK Asacha 4.75 241 eP Pn 21 55 15.4 +1.3
APC Apacha 4.86 249 PN Pn 21 55 17.8 +2.2
APC Apacha 4.86 249 eP Pn 21 55 17.8 +2.2
TILK Tilichiki 5.63 7 PN Pn 21 55 27.3 +1.3
TILK Tilichiki 5.63 7 eP Pn 21 55 27.4 +1.3
SKR Severo-Kuril's 6.68 234 c iPN Pn 21 55 42.4 +1.8
SKR Severo-Kuril's 6.68 234 eP Pn 21 55 41.5 +0.9
MA2 Magadan 8.88 308 LR LR 21 59 47.6
comp=Z,53nm,19.9s,baz=102,slow=39
SPIA Saint Paul Isl 14.18 70 P Pn 21 57 23.7 +0.7
baz=272
P08K Saint George I 14.59 73 P Pn 21 57 28.9 +0.2
baz=274
GAMB Gambell 14.89 44 P Pn 21 57 32.8 0.0
baz=245
NIKH Nikolski High 15.67 86 P Pn 21 57 43.7 +0.5
baz=288
M11K Mekoryuk 16.44 59 P Pn 21 57 52.7 -0.4
baz=264
TNA Tin City 17.13 41 P Pn 21 58 00.8 -0.9
baz=245
K13K Kusilvak Mount 17.41 54 P Pn 21 58 04.3 -0.9
baz=260
F14K Arctic Creek 17.70 42 P Pn 21 58 08.1 -0.8
baz=247
ANM Nome 17.76 45 P Pn 21 58 08.8 -0.8
baz=251
M13K Dall Lake 17.86 59 P Pn 21 58 10.4 -0.4
baz=266
JKA Kamikawa-asahi 17.86 242 Pn 21 58 10.0 -0.9
JKA IAmb IAmb 21 58 11.8
comp=Z,12nm,0.9s
ASAJ Asahikawa 17.86 242 P Pn 21 58 10.6 -0.4
comp=Z,0.6nm,0.3s,baz=91,slow=7.0,SNR=6.8
comp=Z,7.8nm,0.8s
ASAJ Asahikawa 17.86 242 P Pn 21 58 10.0 -0.9
ASAJ pmax pmax
comp=Z,12nm,0.9s
J14K Nanvaranak Lak 18.07 51 P Pn 21 58 12.8 -0.5
baz=259
L14K Kuka Creek 18.26 56 P Pn 21 58 14.9 -0.8
baz=264
G15K Niukluk 18.44 44 P Pn 21 58 17.1 -0.8
baz=252
F15K North Star Dit 18.44 42 P Pn 21 58 17.3 -0.7
baz=249
M14K Bethel 18.56 58 P P 21 58 18.9 -0.4
baz=267
N14K Kuskokwak Cree 18.67 61 P P 21 58 19.8 -0.7
baz=270
S12K Black Hills 18.86 74 P P 21 58 22.1 -0.5
baz=282
L15K Ungalak Mounta 18.86 55 P P 21 58 22.5 -0.1
baz=264
O14K Tigyukauivet M 18.89 63 P P 21 58 22.1 -0.8
baz=272
K15K Wolf Creek Mou 18.92 53 P Pn 21 58 24.8 +1.1
K15K IAmb IAmb 21 58 49.3
comp=Z,12nm,1.5s
K15K Wolf Creek Mou 18.92 53 P P 21 58 22.8 -0.4
baz=263
ERM Erimo 19.12 237 P P 21 58 21.9 -3.7
ERM IAmb IAmb 21 58 30.6
comp=Z,17nm,1.1s
ERM Erimo 19.12 237 P P 21 58 21.9 -3.7
ERM pmax pmax
comp=Z,17nm,1.1s
M15K Kasigluk River 19.18 58 P Pn 21 58 26.4 -0.6
baz=268
G16K Koyuk River 19.23 44 P P 21 58 25.8 -0.9
baz=253
C16K Lisburne Hills 19.29 34 P Pn 21 58 28.3 +0.1
C16K Lisburne Hills 19.29 34 P P 21 58 26.5 -0.7
baz=241
YAK Yakutsk 19.45 306 P P 21 58 28.2 -0.8
YAK Yakutsk 19.45 306 P P 21 58 27.5 -1.5
comp=Z,2.2nm,0.3s,baz=100,slow=1.7,SNR=2.4
comp=Z,7.2nm,0.4s
YAK Yakutsk 19.45 306 ⇓ eP P 21 58 27.8 -1.2
N15K Kwethluk River 19.47 60 P Pn 21 58 31.3 +0.9
N15K IAmb IAmb 21 58 44.1
comp=Z,10nm,1.2s
N15K Kwethluk River 19.47 60 P P 21 58 29.2 -0.1
baz=270
J16K Anvik River 19.49 51 P P 21 58 29.3 -0.1
baz=261
I17K Unalakleet 19.55 49 P P 21 58 29.8 -0.3
baz=259
D17K Noatak River 19.79 37 P P 21 58 32.5 -0.2
baz=246
SDPT Sand Point 19.81 74 P P 21 58 33.5 +0.5
baz=283
F17K Baldwin Pennin 19.99 41 P Pn 21 58 35.3 -1.2
baz=252
E17K Hotham Inlet 20.00 39 P P 21 58 35.0 0.0
baz=249
M16K Timber Creek 20.04 57 P Pn 21 58 37.4 +0.2
M16K IAmb IAmb 21 59 17.3
comp=Z,10nm,1.3s
M16K Timber Creek 20.04 57 P P 21 58 35.2 -0.3
baz=269
C17K DeLong Mountai 20.09 35 P P 21 58 35.2 -0.9
baz=244
H17K Granite Mounta 20.11 46 P Pn 21 58 38.1 +0.1
H17K Granite Mounta 20.11 46 P P 21 58 35.2 -1.0
baz=257
N16K Nishlik Lake 20.13 59 P P 21 58 35.7 -0.7
baz=270
S14K Fog Glacier 20.13 71 P P 21 58 36.8 +0.2
baz=281
J17K VABM Dome 20.18 50 P P 21 58 37.1 +0.1
baz=262
L17K Donlin 20.41 54 P P 21 58 39.6 +0.1
baz=266
CHNA Chernabura Isl 20.43 75 P P 21 58 40.4 +0.6
baz=285
K17K Iditarod 20.45 53 P Pn 21 58 41.7 -0.3
K17K IAmb IAmb 21 58 42.8
comp=Z,6.3nm,0.9s
K17K Iditarod 20.45 53 P P 21 58 40.2 +0.2
baz=265
O16K Kokwok River B 20.49 62 P P 21 58 40.1 -0.3
baz=273
E18K Tukpahlearik C 20.56 39 P P 21 58 40.9 -0.2
baz=250
F18K Selawik 20.65 41 P P 21 58 42.0 0.0
baz=253
M17K Holitna River 20.79 56 P Pn 21 58 45.4 -0.5
M17K IAmb IAmb 21 58 52.5
comp=Z,6.3nm,0.8s
M17K Holitna River 20.79 56 P P 21 58 43.7 +0.1
baz=269
H18K Honhosa River 20.80 46 P Pn 21 58 44.8 -1.2
H18K IAmb IAmb 21 58 46.3
comp=Z,6.0nm,0.8s
H18K Honhosa River 20.80 46 P P 21 58 43.4 -0.3
baz=258
C18K Utukok River 20.83 35 P P 21 58 43.7 -0.4
baz=246
G18K Tagagawik 20.85 44 P P 21 58 44.0 -0.2
baz=256
N17K Nushagak Hills 20.91 59 P P 21 58 45.7 +0.8
baz=272
B18K Kokolik River 20.94 33 P P 21 58 44.8 -0.3
baz=244
R16K Pilot Point 20.97 67 P P 21 58 46.4 +0.8
baz=279
O17K Koliganek Bris 20.99 61 P P 21 58 46.4 +0.7
baz=274
JTM Tenmabayashi 21.08 238 P P 21 58 46.0 -0.8
JTM IAmb IAmb 21 59 19.2
comp=Z,14nm,1.1s
L18K Granite Mounta 21.17 54 P P 21 58 48.0 +0.3
baz=268
J18K Innoko River 21.25 51 P P 21 58 50.0 +1.4
J18K Innoko River 21.25 51 P P 21 58 48.6 0.0
baz=264
P17K Kvichak River 21.36 62 P P 21 58 49.4 -0.4
baz=276
F19K Shaleruckik Mo 21.43 41 P P 21 58 52.0 +1.5
F19K Shaleruckik Mo 21.43 41 P P 21 58 50.2 -0.3
baz=255,SNR=5.7
G19K Purcell Mounta 21.53 43 P P 21 58 51.6 0.0
baz=257
N18K Kilae Creek 21.54 58 P P 21 58 51.5 -0.2
baz=272
C19K Lookout Ridge 21.55 35 P P 21 58 52.8 +1.1
C19K IAmb IAmb 21 58 55.9
comp=Z,9.1nm,1.1s
C19K Lookout Ridge 21.55 35 P P 21 58 51.5 -0.3
baz=247
M18K Stony River 21.56 56 P P 21 58 52.3 +0.4
baz=270
R17L Mt. Peulik Vol 21.61 67 P P 21 58 52.7 +0.3
baz=280
H19K Roundabout Mou 21.66 45 P P 21 58 53.1 +0.2
baz=260
Q17K Contact Creek 21.76 65 P P 21 58 53.4 -0.8
baz=278
J19K Poorman 21.79 49 P P 21 58 54.9 +0.6
J19K IAmb IAmb 21 58 57.6
comp=Z,4.0nm,0.8s
J19K Poorman 21.79 49 P P 21 58 55.0 +0.6
baz=264,SNR=6.1
E19K Redstone River 21.81 40 P P 21 58 53.5 -1.1
baz=254,SNR=6.3
D19K Kuna River 21.82 37 P P 21 58 54.1 -0.5
baz=250
O18K Koktuh Hills 21.93 61 P P 21 58 55.8 -0.1
baz=275
P18K Big Mountain, 21.96 62 P P 21 58 56.2 -0.1
baz=276
L19K White Mountain 22.02 54 P P 21 58 55.4 -1.5
baz=270
Q18K Katmai Hardscr 22.16 64 P P 21 58 57.1 -1.5
baz=278
N19K Bonanza Creek 22.23 58 P P 21 58 57.7 -1.5
baz=273
M19K Big River Lodg 22.24 55 P P 21 58 57.4 -1.8
baz=271
F20K Avaraart Lake 22.27 41 P P 21 58 58.1 -1.4
baz=257
H20K Anotleneega Mo 22.30 45 P P 21 58 58.5 -1.3
baz=261,SNR=6.6
CHIR Chiriof Islan 22.38 71 P P 21 58 59.5 -1.2
baz=284
D20K Etivluk River 22.41 37 P P 21 58 59.5 -1.5
baz=252
E20K Nigu River 22.42 38 P P 21 58 59.3 -1.8
baz=253
K20K Telida 22.43 51 P P 21 59 01.8 +0.6
K20K Telida 22.43 51 P P 21 59 00.8 -0.3
baz=267
J20K Nowinta River 22.45 49 P P 21 59 01.8 +0.4
J20K IAmb IAmb 21 59 04.3
comp=Z,6.7nm,1.1s
J20K Nowinta River 22.45 49 P P 21 59 00.4 -1.0
baz=265,SNR=6.5
L20K Farewell, AK 22.48 54 P P 21 59 02.3 +0.4
baz=270
B20K Meade River 22.68 33 P P 21 59 04.0 +0.2
baz=248
TIXI Tiksi 22.69 331 P P 21 59 03.8 -0.1
TIXI IAmb IAmb 21 59 27.1
comp=Z,4.6nm,0.8s
TIXI Tiksi 22.69 331 P P 21 59 03.8 -0.1
TIXI pmax pmax
comp=Z,5.0nm,0.9s
Q19K Cape Douglas, 22.83 63 P P 21 59 05.3 -0.2
baz=278
IMAR Indian Mountai 22.84 44 P P 21 59 05.6 +0.1
M20K Styx River 22.84 55 P P 21 59 06.2 +0.5
baz=272
P19K Oil Pt 22.95 61 P P 21 59 07.4 +0.6
baz=277
SII Sitkinak Islan 22.98 69 P P 21 59 07.6 +0.5
baz=284
G21K Allakaket 23.02 43 P P 21 59 08.1 +0.7
G21K Allakaket 23.02 43 P P 21 59 07.5 +0.1
baz=260,SNR=5.2
F21K Alatna River 23.16 41 P P 21 59 09.3 +0.4
baz=259
H21K Melozitna Rive 23.18 45 P P 21 59 10.0 +1.0
baz=263
C21K Knifeblade Rid 23.18 36 P P 21 59 09.5 +0.5
baz=253
O20K Slope Mountain 23.20 60 P P 21 59 10.1 +0.7
baz=276
CHUM Lake Minchumin 23.23 50 P P 21 59 10.2 +0.6
baz=268
E21K Killik River 23.26 38 P P 21 59 10.3 +0.3
baz=255
PPLA Purkeypile 23.27 52 P P 21 59 10.4 +0.2
baz=270
OHAK Old Harbor 23.32 67 P P 21 59 11.2 +0.7
baz=282
CAST Castle Rocks 23.32 51 P P 21 59 11.0 +0.4
CAST Castle Rocks 23.32 51 P P 21 59 10.9 +0.4
baz=269
B21K Ikpikpuk River 23.38 35 P P 21 59 11.3 +0.3
baz=252,SNR=6.8
I21K Tanana 23.47 47 P P 21 59 12.0 +0.1
baz=265
Q20K Shuyak Island 23.52 63 P P 21 59 13.3 +0.7
baz=280
KDAK Kodiak Island 23.58 65 P P 21 59 12.3 -0.8
KDAK Kodiak Island 23.58 65 P P 21 59 12.3 -0.8
KDAK pmax pmax
comp=Z,45nm,1.5s
KDAK Kodiak Island 23.58 65 P P 21 59 13.8 +0.8
baz=282
SKT Skwentna 23.59 55 P P 21 59 13.7 +0.4
baz=273
F22K John River 23.71 41 P P 21 59 14.9 +0.5
baz=260
A22K Sinclair Lake 23.74 32 P P 21 59 14.9 +0.3
baz=249
HOM Homer 23.75 61 P P 21 59 15.1 +0.3
baz=278
H22K Ishtalitna Cre 23.79 45 P P 21 59 15.4 +0.3
baz=264,SNR=5.1
BPAW Beaw Paw Mtn. 23.83 49 P P 21 59 15.8 +0.2
baz=268
D22K Ayikyak River 23.83 37 P P 21 59 15.3 -0.2
baz=256
CAPN Captain Cook N 23.86 58 P P 21 59 16.2 +0.4
baz=276
G22K Bettles 23.87 42 P P 21 59 16.2 +0.3
baz=262
E22K Anaktuvuk Pass 23.97 39 P P 21 59 16.9 -0.1
E22K IAmb IAmb 21 59 18.1
comp=Z,4.0nm,0.7s
E22K Anaktuvuk Pass 23.97 39 P P 21 59 16.8 -0.1
baz=258,SNR=5.9
MLY Manley 23.98 47 P P 21 59 16.9 -0.1
MLY Manley 23.98 47 P P 21 59 17.0 -0.1
baz=267
B22K Teshekpuk Lake 24.00 34 P P 21 59 16.7 -0.4
baz=252
SUA Susitna One 24.00 56 P P 21 59 17.3 0.0
baz=275
TRF Thorofare Moun 24.13 51 P P 21 59 18.3 -0.3
baz=270,SNR=5.2
COLD Coldfoot 24.42 42 P P 21 59 21.1 +0.1
baz=262
G23K Bananza Creek 24.43 43 P P 21 59 20.8 -0.3
baz=264
RC01 Rabbit Creek A 24.52 57 P P 21 59 22.1 +0.2
baz=276
H23K Yukon River 24.53 45 P P 21 59 22.1 0.0
baz=266,SNR=7.6
D23K Nanushuk River 24.55 38 P P 21 59 21.9 -0.3
baz=258
I23K Minto, Yukon-K 24.57 47 P P 21 59 22.8 +0.4
baz=268,SNR=8.6
NEA2 Nenana 24.67 48 P P 21 59 23.3 -0.1
baz=269,SNR=8.4
MCK McKinley 24.73 50 P P 21 59 23.7 -0.2
baz=271
E23K Chandalar 24.77 40 P P 21 59 23.6 -0.7
baz=261,SNR=5.8
C23K Itkillik River 24.78 36 P P 21 59 23.6 -0.6
baz=256
SEW Seward 24.78 59 P P 21 59 23.7 -0.5
baz=279
TOLK Toolik Lake Re 24.89 39 P P 21 59 25.0 -0.3
TOLK IAmb IAmb 21 59 27.2
comp=Z,4.0nm,0.8s
TOLK Toolik Lake Re 24.89 39 P P 21 59 24.5 -0.8
baz=260
E24K Your Creek 25.19 40 P P 21 59 27.6 -0.4
baz=262,SNR=8.1
COLA College 25.20 48 ⇑ iP P 21 59 28.6 +0.6
COLA pmax pmax
comp=Z,7.0nm,1.0s
H24K Noodor Dome 25.22 45 P P 21 59 28.2 -0.1
baz=268
CCB Clear Creek Bu 25.22 48 P P 21 59 28.1 -0.2
PWL Port Wells 25.22 57 P P 21 59 28.7 +0.3
baz=278
BNX BinXian 25.23 264 ⇑ P P 21 59 27.3 -1.2
BNX pmax pmax
comp=Z,2.0nm,0.6s
D24K Happy Valley 25.25 38 P P 21 59 28.4 0.0
baz=260
F24K Squaw Lake 25.35 41 P P 21 59 29.9 +0.5
baz=264
POKR Poker Plat Res 25.38 47 P P 21 59 29.7 0.0
baz=270
C24K Franklin Bluff 25.40 36 P P 21 59 29.8 0.0
baz=258
G24K Hadweenzic Riv 25.43 43 P P 21 59 30.2 0.0
baz=266,SNR=6.1
SCM Sheep Creek Mo 25.59 55 P P 21 59 31.0 -0.7
baz=276
HDA Harding Lake 25.59 49 P P 21 59 31.6 -0.1
baz=271
IL31 25.61 48 P P 21 59 30.8 -1.0
IL31 IAmb IAmb 21 59 34.9
comp=Z,5.2nm,0.8s
ILAR Eielson Array 25.61 48 P P 21 59 31.4 -0.4
ILAR Eielson Array 25.61 48 P P 21 59 31.8 0.0
comp=Z,3.5nm,0.8s,baz=259,slow=8.6,SNR=37
ILAR LR LR 22 08 51.9
comp=Z,36nm,19.9s,baz=298,slow=35
comp=Z,3.5nm,0.8s
MAJO Matsushiro 25.79 236 P P 21 59 33.9 +0.2
MAJO Matsushiro 25.79 236 ⇓ iP P 21 59 37.0 +3.3
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MJAR Matsushiro Arr 25.79 236 P P 21 59 35.0 +1.3
comp=Z,2.2nm,0.6s,baz=22,slow=8.0,SNR=9.1
comp=Z,2.2nm,0.6s
MJAR Matsushiro Arr 25.79 236 P P 21 59 35.0 +1.3
G25K Bearman Lake 25.98 43 P P 21 59 34.3 -0.8
baz=267
H25L Birch Creek 26.07 44 P P 21 59 35.1 -0.9
baz=269
M24K Tolsona, Glenn 26.10 54 P P 21 59 35.4 -0.9
baz=277
K24K Donnelly Dome 26.13 50 P P 21 59 35.4 -1.1
baz=274
D25K Kavik River 26.14 37 P P 21 59 35.5 -1.1
baz=262,SNR=5.9
PRP Porcupine Dome 26.18 46 P P 21 59 36.1 -1.1
baz=270,SNR=6.0
F25K Christian Rive 26.21 41 P P 21 59 36.6 -0.7
baz=266
J25K Salcha River, 26.27 48 P P 21 59 37.0 -0.9
baz=272
KLU Klutina 26.30 55 P P 21 59 37.1 -1.0
baz=278
PAX Paxson 26.33 52 P P 21 59 37.6 -0.8
baz=276
Q23K Middleton Isla 26.44 60 P P 21 59 38.7 -0.6
baz=282
HARP HAARP 26.54 53 P P 21 59 39.5 -0.7
baz=277
RIDG Independent Ri 26.55 50 P P 21 59 39.4 -0.9
baz=275
BMAR Burnt Mountain 26.61 42 P P 21 59 41.4 +0.5
C26K Camden Bay 26.73 36 P P 21 59 40.9 -0.9
baz=262
F26K Sheenjek River 26.79 41 P P 21 59 41.4 -1.1
baz=267
G26K Porcupine Rive 26.90 43 P P 21 59 42.8 -0.6
baz=269
N25K Chitina, Valde 26.91 55 P P 21 59 43.3 -0.3
baz=279
SCRK Sand Creek 26.91 50 P P 21 59 43.2 -0.5
baz=275
BMRM Bremner River 27.01 56 P P 21 59 44.0 -0.5
baz=280
C27K Jago River 27.11 37 P P 21 59 44.6 -0.7
baz=264
I26K Coal Creek Min 27.18 47 P P 21 59 45.9 -0.1
baz=273
L26K Log Cabin Wild 27.29 52 P P 21 59 46.8 -0.2
baz=277
M26K Nabesna, AK 27.53 53 P P 21 59 49.1 -0.1
baz=279
MCARA McCarthy VSAT 27.69 55 P P 21 59 49.5 -1.1
baz=281
K27K Chicken 27.74 49 P P 21 59 50.2 -0.8
baz=276
G27K Doyon Strip 27.74 43 P P 21 59 50.2 -0.8
baz=271
E27K Coleen River 27.77 40 P P 21 59 50.7 -0.6
baz=269
I27K Kandik River 27.81 46 P P 21 59 51.4 -0.3
baz=274
H27K Steamboat Moun 27.81 45 P P 21 59 51.5 -0.2
baz=273
L27K Beaver Creek, 27.97 51 P P 21 59 53.0 -0.2
baz=278,SNR=6.9
BCAR Beaver Creek A 27.99 51 P P 21 59 53.8 +0.5
D27M Malcolm River 28.04 38 P P 21 59 53.8 +0.1
baz=267
M27K Edge Creek, AK 28.06 53 P P 21 59 53.9 -0.1
baz=280
F28M Old Crow 28.42 42 P P 21 59 56.8 -0.3
baz=271
MESA MESA 28.45 57 P P 21 59 57.6 -0.1
baz=284
BVCY Beaver Creek 28.51 53 P P 21 59 58.3 +0.3
baz=280
I28M Miner Creek 28.52 46 P P 21 59 57.6 -0.4
baz=275
YUK3 Moose Creek 28.82 54 P P 22 00 00.2 -0.7
baz=282
D28M Stokes Point 28.84 38 P P 22 00 00.7 +0.1
baz=269
DAWY Dawson 28.91 49 P P 22 00 01.7 +0.2
baz=278
H29M Whitestone 29.09 44 P P 22 00 03.7 +0.7
H29M IAmb IAmb 22 00 05.4
comp=Z,2.8nm,0.8s
H29M Whitestone 29.09 44 P P 22 00 03.0 0.0
baz=275
E29M Blow River 29.15 40 P P 22 00 03.2 -0.3
baz=272
G29M Pine Creek 29.17 43 P P 22 00 03.5 -0.3
baz=274
I29M Ogilvie Camp, 29.20 46 P P 22 00 03.7 -0.4
baz=277
PINM Pinnacle 29.30 57 P P 22 00 04.5 -0.5
baz=285
M29M Somme Creek 29.60 52 P P 22 00 07.2 -0.5
baz=282
L29M L29M 29.62 51 P P 22 00 07.5 -0.3
baz=281,SNR=8.8
EPYK Eagle Plains 29.74 44 P P 22 00 08.4 -0.4
baz=276
K29M Barlow Dome 29.76 49 P P 22 00 08.3 -0.8
baz=280
PNL Peninsula 29.82 58 P P 22 00 09.4 -0.2
baz=286
G30M tAoh Zraii Nji 29.87 43 P P 22 00 08.8 -1.2
baz=276
F30M Barrier River 29.98 41 P P 22 00 10.3 -0.7
baz=275
I30M Mount Dempster 30.03 46 P P 22 00 10.7 -0.8
baz=279
J30M Hart River 30.15 47 P P 22 00 12.0 -0.5

	baz=280							
M30M	**Minto, Yukon**	**30.33**	**51**	P		**P**	**22 00 13.6**	**-0.5**
	baz=283							
KSRS	**Korea Array**	**30.39**	**250**	P		**P**	**22 00 16.5**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=44,slow=9.4,SNR=7.7							
	comp=Z,2.2nm,0.7s							
KSRS	**Korea Array**	**30.39**	**250**	*e*P		**P**	**22 00 16.9**	**+2.2**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
N30M	**Aishikik Lake**	**30.46**	**54**	P		**P**	**22 00 14.8**	**-0.5**
	baz=284							
P29M	**Windy Craggy**	**30.64**	**57**	P		**P**	**22 00 16.5**	**-0.4**
	baz=287							
G31M	**Satah River**	**30.64**	**43**	P		**P**	**22 00 16.5**	**-0.2**
	baz=278							
INK	**Inuvik**	**30.77**	**40**	P		**P**	**22 00 17.4**	**-0.4**
	baz=276							
H31M	**Peel River**	**30.77**	**45**	P		**P**	**22 00 17.3**	**-0.7**
	baz=279							
P30M	**Million Dollar**	**30.88**	**56**	P		**P**	**22 00 18.1**	**-0.8**
	baz=287							
WHY	**Whitehorse**	**31.71**	**55**	P		**P**	**22 00 26.3**	**0.0**
	baz=287							
S31K	**Pelican**	**31.92**	**60**	P		**P**	**22 00 27.9**	**-0.1**
	baz=291							
N32M	**Quiet Lake**	**32.40**	**53**	P		**P**	**22 00 32.3**	**0.0**
	baz=288							
P32M	**Atlin**	**32.60**	**56**	P		**P**	**22 00 34.4**	**+0.4**
	baz=290							
R32K	**Eaglecrest**	**32.66**	**59**	P		**P**	**22 00 35.1**	**+0.6**
	baz=291							
MMPY	**Sheldon Lake,**	**32.80**	**50**	P		**P**	**22 00 36.8**	**+1.0**
MMPY				IAmb		IAmb	22 00 38.2	
	comp=Z,3.1nm,0.8s							
MMPY	**Sheldon Lake,**	**32.80**	**50**	P		**P**	**22 00 36.6**	**+0.8**
	baz=287							
Q32M	**Nakina River**	**33.51**	**57**	P		**P**	**22 00 42.1**	**-0.2**
	baz=291							
R33M	**Jennings River**	**33.98**	**56**	P		**P**	**22 00 46.3**	**+0.1**
	baz=292							
U33K	**Whale Pass**	**34.20**	**62**	P		**P**	**22 00 48.1**	**+0.2**
	baz=295							
S34M	**Telegraph Cree**	**34.47**	**58**	P		**P**	**22 00 50.3**	**0.0**
	baz=293							
WRAK	**Wrangell Islan**	**34.47**	**61**	P		**P**	**22 00 50.7**	**+0.4**
	baz=295							
CRAG	**Craig**	**34.47**	**63**	P		**P**	**22 00 50.5**	**+0.1**
	baz=296							
TGTN	**Hyland Airport**	**34.48**	**51**	P		**P**	**22 00 49.8**	**-0.6**
	baz=290							
DLBC	**Dease Lake**	**34.80**	**57**	P		**P**	**22 00 54.1**	**+0.9**
	baz=293							
H11N2	**WAKE ISLAND Hy**	**35.14**	**176**	T		T	22 39 26.8	
	baz=359,slow=76,SNR=125							
H11N3	**WAKE ISLAND Hy**	**35.15**	**176**	T		T	22 39 22.2	
	baz=359,slow=76,SNR=120							
H11N1	**WAKE ISLAND Hy**	**35.16**	**176**	T		T	22 39 30.1	
	baz=359,slow=76,SNR=142							
T35M	**Bob Quinn**	**35.28**	**59**	P		**P**	**22 00 58.1**	**+0.8**
	baz=295							
V35K	**Ketchikan**	**35.31**	**62**	P		**P**	**22 00 58.3**	**+0.8**
	baz=296							
SONM	**Songino Array**	**36.12**	**284**	P		**P**	**22 01 06.2**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=46,slow=8.8,SNR=2.5							
SONM				PcP		**PcP**	**22 03 30.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=76,slow=3.0,SNR=2.8							
	comp=Z,0.3nm,0.5s							
H11S1	**WAKE ISLAND Hy**	**36.35**	**177**	T		T	22 40 46.5	
	baz=359							
H11S3	**WAKE ISLAND Hy**	**36.36**	**177**	T		T	22 40 52.2	
	baz=359							
H11S2	**WAKE ISLAND Hy**	**36.37**	**177**	T		T	22 40 55.9	
	baz=359							
TOAD	**Toad River Com**	**36.91**	**54**	P		**P**	**22 01 12.0**	**+0.7**
	baz=296							
HHC	**Hu-ho-hao-te**	**37.36**	**270**	*e*P		**P**	**22 01 14.2**	**-1.2**
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
HHC				pmax		pmax		
	comp=Z,85nm,6.4s							
GTA	**Gaotai**	**45.07**	**278**	*e*P		**P**	**22 02 19.9**	**+1.1**
GTA				pP		sP	22 02 23.8	+6.2
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
WMQ	**Urumqi**	**48.90**	**291**	*e*P		**P**	**22 02 51.2**	**+2.6**
WMQ				pmax		pmax		
	comp=Z,36nm,0.9s							
KURK	**Kurchatov**	**49.06**	**303**	P		**P**	**22 02 49.6**	**0.0**
KURK	**Kurchatov**	**49.06**	**303**‖	*e*P		**P**	**22 02 49.4**	**-0.2**
KURK				pmax		pmax		
	comp=Z,9.0nm,3.0s							
KURBB	**Kurchatov Arra**	**49.16**	**303**	P		**P**	**22 02 50.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=54,slow=8.0,SNR=9.2							
KURBB				PcP		**PcP**	**22 04 13.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=50,slow=3.7,SNR=1.9							
	comp=Z,0.8nm,0.4s							
MK31	**Makanchi Array**	**49.79**	**297**‖	*e*P		**P**	**22 02 55.7**	**+0.4**
MKAR	**Makanchi Array**	**49.79**	**297**	P		**P**	**22 02 54.8**	**-0.5**
MKAR	**Makanchi Array**	**49.79**	**297**	P		**P**	**22 02 55.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=59,slow=7.7,SNR=9.8							
	comp=Z,0.8nm,0.7s							
MKAR	**Makanchi Array**	**49.79**	**297**	*e*P		**P**	**22 02 55.6**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**51.36**	**310**	P		**P**	**22 03 07.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=49,slow=7.7,SNR=5.3							
BVAR				PcP		**PcP**	**22 04 21.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=9.5,slow=3.5,SNR=1.9							
	comp=Z,0.7nm,0.5s							
ARCES	**ARCESS Array B**	**52.39**	**343**	P		**P**	**22 03 14.0**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=28,slow=10,SNR=4.7							
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**52.39**	**343**	P		**P**	**22 03 14.0**	**-0.5**
PZH	**PanZhiHua**	**53.28**	**265**	P		**P**	**22 03 21.4**	**-0.4**
ARTI	**Arti**	**53.97**	**319***c*	*i*P		**P**	**22 03 26.0**	**-0.3**
ARTI							22 04 31.3	
ARTI				S		**S**	**22 11 01.5**	**-1.0**
ARTI				SS		**SKiKP**	**22 14 39.8**	**+0.1**
ARTI				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KIRV	**Kirov**	**55.52**	**325**‖	*e*P		**P**	**22 03 36.1**	**-1.4**
KK31	**Karatay Array**	**58.33**	**301**	P		**P**	**22 03 57.8**	**+0.1**
KK31				IAmb		IAmb	22 04 08.5	
	comp=Z,2.6nm,0.8s							
KK31	**Karatay Array**	**58.33**	**301**	P		**P**	**22 03 57.8**	**+0.1**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**58.33**	**301**	P		**P**	**22 03 57.8**	**+0.1**
KKAR	**Karatay Array**	**58.33**	**301**	P		**P**	**22 03 57.8**	**+0.1**
ABKAR	**Akbulak array**	**58.65**	**312**	P		**P**	**22 04 00.3**	**+0.5**
FIA1	**FINESS Array S**	**59.50**	**338**	P		**P**	**22 04 05.7**	**+0.3**
FINES	**FINESS Array B**	**59.50**	**338**	P		**P**	**22 04 05.5**	**+0.1**
FINES	**FINESS Array B**	**59.50**	**338**	P		**P**	**22 04 05.3**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=35,slow=10,SNR=9.0							
	comp=Z,1.4nm,0.6s							
FINES	**FINESS Array B**	**59.50**	**338**	*i*P		**P**	**22 04 05.5**	**+0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BORG	**Borgarnes**	**60.60**	**3**	*i*P		**P**	**22 04 12.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**61.17**	**261**	P		**P**	**22 04 18.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=30,slow=7.2,SNR=4.4							
	comp=Z,0.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**61.17**	**261**	*e*P		**P**	**22 04 20.9**	**+3.4**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NC204	**NORSAR Array S**	**62.36**	**346**	P		**P**	**22 04 24.4**	**-0.6**
OBN	**Obninsk**	**62.41**	**329**	*e*P		**P**	**22 04 24.9**	**-0.4**
OBN				*e*			22 05 07.6	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
NB2	**NORSAR Subarra**	**62.52**	**346**	P		**P**	**22 04 26.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=18,slow=6.9							
NOA	**NORSAR Array B**	**62.52**	**346**	P		**P**	**22 04 25.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=18,slow=6.8,SNR=11							
	comp=Z,1.3nm,0.6s							
HFS	**Hagfors**	**63.02**	**344**	P		**P**	**22 04 28.9**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=59,slow=7.1,SNR=12							
	comp=Z,1.9nm,0.5s							
TX31	**Lajitas Ar. Si**	**67.46**	**71**	P		**P**	**22 04 59.5**	**+0.8**
TXAR	**Lajitas Array**	**67.47**	**71**	P		**P**	**22 05 00.0**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=293,slow=4.3,SNR=13							
	comp=Z,1.3nm,0.7s							
AKASG	**Malin Array Be**	**68.40**	**331**	P		**P**	**22 05 03.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=29,slow=6.7,SNR=2.5							
	comp=Z,0.5nm,0.5s							
D62A	**Allapoint, All**	**68.76**	**36**	P		**P**	**22 05 06.4**	**-0.1**
BURAR	**Bucovina Array**	**72.31**	**333**	P		**P**	**22 05 28.7**	**+0.4**
BURAR	**Bucovina Array**	**72.31**	**333**	P		**P**	**22 05 28.7**	**+0.4**
BURAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**73.80**	**341**	P		**P**	**22 05 37.6**	**+0.5**
GERES	**GERESS Array B**	**73.80**	**341**	P		**P**	**22 05 37.9**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=29,slow=6.1,SNR=7.2							
	comp=Z,0.7nm,0.6s							
MLR	**Muntele Rosu**	**74.06**	**331**	P		**P**	**22 05 39.8**	**+1.0**
MLR				IAmb		IAmb	22 06 20.2	
	comp=Z,5.9nm,1.5s							
MLR	**Muntele Rosu**	**74.06**	**331**	P		**P**	**22 05 39.8**	**+1.0**
MLR				pmax		pmax		
	comp=Z,6.0nm,1.5s							
BRTR	**Keskin Array B**	**76.88**	**323**	P		**P**	**22 05 55.2**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=44,slow=4.4,SNR=2.8							
	comp=Z,0.4nm,0.6s							
WRA	**Warramunga Arr**	**78.91**	**209**	P		**P**	**22 06 06.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=16,slow=5.7,SNR=3.4							
	comp=Z,0.6nm,0.7s							
NRCA	**Norcia**	**79.68**	**339**	P		**P**	**22 06 11.1**	**+0.7**
ASAR	**Alice Springs**	**82.57**	**208**	P		**P**	**22 06 26.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=12,slow=6.1,SNR=4.7							
	comp=Z,0.7nm,0.7s							
ESDC	**Sonseca Array**	**85.31**	**351**	P		**P**	**22 06 40.4**	**+0.6**
ESDC				IAmb		IAmb	22 06 41.5	
	comp=Z,1.3nm,0.8s							
ESDC	**Sonseca Array**	**85.31**	**351**	P		**P**	**22 06 40.1**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=354,slow=5.2,SNR=16							
	comp=Z,1.3nm,0.8s							

PRU 06 21:57:46.1, 50.26N×18.83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OJC	**Ojcow**	**0.62**	**93**	*e*Pg	Pg		21 57 57.3	-0.7
OJC				*e*Sg	Sg		21 58 05.8	-0.3
STEB	**Steborice**	**0.76**	**245**	*e*PG	Pg		21 58 00.4	-0.1
STEB				*e*SG	Sg		21 58 10.6	+0.3
MORC	**Moravsky Berou**	**0.96**	**240**	*e*PG	Pg		21 58 04.4	-0.1
MORC				*e*SG	Sg		21 58 16.9	0.0
MAUC	**Maruska**	**1.11**	**216**	*e*SG	Sg		21 58 21.8	+0.2
LANS	**Liptovska Anna**	**1.19**	**159**	*e*PG	Pg		21 58 08.1	-0.7
LANS				*e*SG	Sb		21 58 25.7	+0.3
NIE	**Niedzica**	**1.27**	**131**	*e*Pg	Pg		21 58 09.6	-0.9
NIE				*e*Sg	Sb		21 58 27.4	-0.4
KRLC	**Kraliky**	**1.33**	**263**	*e*PG	Pg		21 58 10.1	-1.5
KRLC				*e*SG	Sg		21 58 27.7	-1.1
	2.2nm,0.4s							
DPC	**Dobruska-Polom**	**1.61**	**274**	*e*PG	Pn		21 58 15.8	0.0
DPC				*e*SG	Sn		21 58 36.7	-0.6
	3.1nm,0.7s							
OSTC	**Ostas**	**1.70**	**281**	*e*SG	Sb		21 58 39.9	-0.2
VRAC	**Vranov**	**1.73**	**238**	*e*PN	Pn		21 58 17.5	0.0
VRAC				*e*SG	Sn		21 58 39.9	-0.4
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	Pg		21 58 19.9	-0.1
STHS	**Stebnicka Huta**	**1.78**	**117**	*e*PN	Pn		21 58 17.8	-0.3
KRUC	**Moravsky**	**1.98**	**234**	*e*SG	Sb		21 58 48.6	+0.3
GOPC	**GO Pecny, Ondr**	**2.63**	**264**	*e*SG	Sb		21 59 08.2	+1.4
KHC	**Kasperske Hory**	**3.59**	**254**	*e*SG	Sg		21 59 38.7	-2.7

*TEH **06** 21:58:20.3, 34.30N×45.59E, h8km±94km*
*ISN **06** 21:58:20.1±0.5, 34.30N×45.59E, h14km±17km, ML2.7*
ISC 06 21:58:20.6±1.0, 34.30N±0.04×45.61E±0.04, h18km, n10, σ0.51/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**355**	Pg	**Pb**		**21 58 25.1**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.31**	**127**	Pg	**Pg**		**21 58 26.7**	**-0.6**
IDHR	**Dehrash**	**0.76**	**58**	Pg	**Pb**		**21 58 35.1**	**-0.2**
IGHG	**Ghaleghazi**	**0.79**	**87**	Pg	**Pb**		**21 58 36.3**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.83**	**143**	Pg	**Pb**		**21 58 35.7**	**-0.9**
ILBA				Sg	**Sn**		**21 58 49.9**	**+0.5**
IBDR	**Badra**	**1.21**	**167**	*e*Pg	**Pn**		**21 58 42.8**	**+0.2**
IBDR				*e*Sg	**Sn**		**21 58 59.0**	**+0.4**
IBDR				AML	AML		21 59 05.0	
	comp=N,128nm,0.4s							
IBDR				AML	AML		21 59 05.4	
	comp=E,171nm,0.8s							
BHD	**Baghdad**	**1.45**	**225**	*e*Pn	**Pb**		**21 58 47.2**	**+0.2**
BHD				*e*Sn	**Sg**		**21 59 07.5**	**+0.1**
IKRK	**Kirkuk**	**1.52**	**317**	*e*Pn	**Pb**		**21 58 48.5**	**+0.3**
IKRK				*e*Sn	**Sg**		**21 59 09.5**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.75**	**71**	Pg	**Pb**		**21 58 53.2**	**+0.7**
IBZA	**Bozab**	**1.87**	**84**	Pn	**Pg**		**21 58 56.2**	**-0.3**

IDC 06 22:00:24.9±2.2, 41.64N×113.28W, h0km, Error ellipse: s-maj=89.9km s-min=8.8km az=149.0, Utah

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PDAR	**Pinedale Array**	**2.98**	**67**	Pg	Pb		22 01 19.8	+0.7
	1.0nm,0.3s,baz=237,slow=16,SNR=9.7							
PDAR				Lg	Lg		22 01 59.3	
	1.2nm,0.3s,baz=235,slow=26,SNR=7.1							
NVAR	**Mina Array Bea**	**5.02**	**232**	Pg	Pb		22 01 53.3	-0.4
	0.1nm,0.3s,baz=52,slow=17,SNR=1.4							
NVAR				Lg	Lg		22 03 02.6	
	0.1nm,0.3s,baz=61,slow=38,SNR=2.7							
I56US	**NEWPORT INFRAS**	**7.17**	**339**	I	I		22 44 10.0	
	baz=159,slow=313,SNR=8.9							

*BJI **06** 22:14:14.4, 17.59S×168.54E, h153km, mB6.0/64, mb6.1/97*
*NEIC **06** 22:14:14.4, 17.98S×168.57E, h150km*
*NEIC **06** 22:14:14.4, 17.88S×168.57E, h150km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 1017Nm; Mrr7.47; Mθθ-4.73; Mϕϕ-2.74; Mrθ-2.09; Mθϕ3.17; Mϕr-2.52; Fault plane solution: M07.98000×1017 NP1: ϕs144.88000°, δ47.50000°, λ117.44000°. NP2: ϕs287.33000°, δ49.13000°, λ63.30000°. Principal axes: T 8.6517, Plg70.0000°, Azm128.0000°; N -1.5885, Plg20.0000°, Azm306.0000°; P -7.0632, Plg1.0000°, Azm36.0000°;*
*NEIC **06** 22:14:14.5, 17.96S×168.60E, h148km*
*NEIC **06** 22:14:14.9±1.9, 17.96S±0.05×168.58E±0.07, h150km±1km, mb6.1/198, Mwb5.9/31, Mww5.9/59, Error ellipse: s-maj=11.1km s-min=9.0km az=69.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr8.50; Mθθ-1.87; Mϕϕ-6.63; Mrθ-1.89; Mθϕ2.95; Mϕr-1.91; Fault plane solution: M08.71000×1017 NP1: ϕs320.59000°, δ43.61000°, λ68.62000°. NP2: ϕs168.99000°, δ50.03000°, λ109.15000°. Principal axes: T 9.2148, Plg75.0000°, Azm143.0000°; N -1.1186, Plg15.0000°, Azm336.0000°; P -8.0962, Plg3.0000°, Azm246.0000°;*
*IDC **06** 22:14:14.4±0.8, 18.00S×168.66E, h155km±6km, mb5.7/36, mbtmp6.2/39, MS4.6/32 Error ellipse: s-maj=9.2km s-min=6.6km az=82.0*
*IPGP **06** 22:14:14.0, 17.99S×168.63E, h154km, Mw5.9, Fault plane solution: NP1: ϕs315.00000°, δ45.00000°, λ69.00000°. NP2: ϕs163.00000°, δ49.00000°, λ110.00000°.*
*MOS **06** 22:14:15.4±0.9, 17.95S×168.55E, h172km, mb6.2/53, Error ellipse: s-maj=7.1km s-min=5.8km az=126.0*
*NOU **06** 22:14:15.0, 17.98S×168.53E, h152km, ML5.9/132, Vanuatu Islands*
*GCMT **06** 22:14:16.9±0.1, 18.03S×168.51E, h163km, MW5.9/166, Moment Tensor Solution. s157, c342; s166, c522; Duration: 2s2 Moment tensor: Scale 1018Nm; Mrr0.82±.01; Mθθ-0.45±.01; Mϕϕ-0.37±.01; Mrθ-0.22±.01; Mθϕ0.42±.01; Mϕr0.34±.00; Best double couple: M00.91200×1018 NP1: ϕs292.00000°, δ47.00000°, λ58.00000°. NP2: ϕs154.00000°, δ52.00000°, λ119.00000°. Principal axes: T 0.9870, Plg67.0000°, Azm127.0000°; N -0.1500, Plg22.0000°, Azm315.0000°; P -0.8370, Plg3.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 06 22:14:14.3±0.3, 17.98S±0.03×168.63E±0.03, h158km±2km, h158km:pP-P, n1744, σ1.926/1944, mb6.1/276, 159C-65D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DVP	**Devils Point**	**0.49**	**301**	P	**Pn**		**22 14 36.9**	**+0.5**
DVP	**Devils Point**	**0.49**	**301**	S	**Sn**		**22 14 54.0**	**+0.7**

INH	**Isangel**	**1.68**	**159**	P		**Pn**	**22 14 46.8**	**+0.5**
INH	**Isangel**	**1.68**	**159**	S		**Sn**	**22 15 11.5**	**+0.5**
VLAKA	**Lakatoro**	**2.19**	**328**	P		**Pn**	**22 14 52.7**	**+0.6**
VLAKA	**Lakatoro**	**2.19**	**328**	P		**Sn**	**22 15 20.9**	**-0.4**
SANVU	**Saraoutou**	**2.86**	**331**			**Pn**	**22 15 00.2**	**0.0**
SANVU	**Saraoutou**	**2.86**	**331**	P		**Pn**	**22 15 00.7**	**+0.4**
SANVU	**Saraoutou**	**2.86**	**331**	S		**Sn**	**22 15 35.4**	**-0.5**
YATNC	**Mamie plateau,**	**4.38**	**202**	P		**Pn**	**22 15 18.4**	**-1.2**
YATNC	**Mamie plateau,**	**4.38**	**202**	S		**Sn**	**22 16 09.4**	**-1.2**
DZM	**Mont Dzumac**	**4.56**	**206**	Pn		**Pn**	**22 15 21.7**	**-0.4**
DZM	**Mont Dzumac**	**4.56**	**206**	*e*Pn		**Pn**	**22 15 20.0**	**-2.1**
	32μm,1.2s							
DZM				*e*Sn		**Sn**	**22 16 22.3**	**+7.2**
	24μm,0.9s							
DZM	**Mont Dzumac**	**4.56**	**206**	P		**Pn**	**22 15 22.2**	**0.0**
	9μm,1.0s,baz=54,slow=17,SNR=869							
DZM				S		**Sn**	**22 16 14.4**	**-0.6**
	4μm,0.6s,baz=311,slow=22,SNR=9.6							
DZM				LR		LR	22 16 42.9	
	comp=Z,22μm,20.2s,baz=317,slow=33							
DZM	**Mont Dzumac**	**4.56**	**206**	P		**Pn**	**22 15 22.1**	**0.0**
DZM	**Mont Dzumac**	**4.56**	**206**	S		**Sn**	**22 16 14.7**	**-0.4**
OUENC	**Ouen Island, N**	**4.72**	**200**	P		**Pn**	**22 15 24.7**	**+0.5**
OUENC	**Ouen Island, N**	**4.72**	**200**	S		**Sn**	**22 16 18.8**	**0.0**
PINNC	**Pines Island,**	**4.74**	**193**	Pn		**Pn**	**22 15 24.1**	**-0.4**
PINNC	**Pines Island,**	**4.74**	**193**	P		**Pn**	**22 15 24.5**	**+0.1**
PINNC	**Pines Island,**	**4.74**	**193**	S		**Sn**	**22 16 18.8**	**-0.4**
ONTNC	**Ouen Toro**	**4.77**	**205**	Pn		**Pn**	**22 15 24.7**	**-0.1**
ONTNC	**Ouen Toro**	**4.77**	**205**	P		**Pn**	**22 15 25.3**	**+0.6**
ONTNC	**Ouen Toro**	**4.77**	**205**	S		**Sn**	**22 16 18.9**	**-0.9**
KOUNC	**Koumac, New Ca**	**4.83**	**237**	P		**Pn**	**22 15 26.3**	**+0.7**
LUES	**Luesalemba Tem**	**7.73**	**340**	P		**Pn**	**22 16 04.3**	**+0.1**
LUES	**Luesalemba Tem**	**7.73**	**340**	S		**Sn**	**22 17 31.1**	**+0.4**
YSA	**Yasawairara**	**8.64**	**83**	P		**Pn**	**22 16 18.9**	**+2.7**
MSVF	**Nonsavu**	**8.98**	**90**			**Pn**	**22 16 24.8**	**+4.1**
MSVF	**Nonsavu**	**8.98**	**90**	P		**Pn**	**22 16 24.8**	**+4.1**
HURO	**Huro Makira**	**9.91**	**318**	P		**Pn**	**22 16 33.8**	**+0.7**
NGOA	**Tingoa Renbel**	**10.46**	**306**	P		**Pn**	**22 16 40.4**	**+0.1**
DGTI	**Dogotuki**	**10.75**	**83**	P		**Pn**	**22 16 46.7**	**+2.6**
TAVE	**Taveuni**	**11.02**	**85**	P		**Pn**	**22 16 50.7**	**+3.0**
NFK	**Norfolk Island**	**11.03**	**183**	P		**Pn**	**22 16 48.9**	**+1.2**
	comp=Z,3μm,0.9s							
NFK				S		**Sn**	**22 18 51.1**	**+1.2**
LKBA	**Tubou, Lakemba**	**11.94**	**93**	P		**Pn**	**22 17 02.7**	**+3.0**
HNR	**Honiara**	**11.97**	**314**	P		**Pn**	**22 17 00.8**	**+0.8**
	comp=Z,291nm,0.7s,baz=191,slow=1.7,SNR=18							
HNR				S		**Sn**	**22 19 13.3**	**+0.8**
	comp=Z,89nm,0.5s,baz=110,slow=19,SNR=0.8							
HNR				LR		LR	22 20 59.6	
	comp=Z,3μm,20.4s,baz=139,slow=34							
HNR	**Honiara**	**11.97**	**314**	P		**Pn**	**22 16 59.7**	**-0.3**
ALEG	**Aligegeo Malai**	**11.98**	**319**	P		**Pn**	**22 17 00.8**	**+0.6**
TATA	**Tatamba Isabel**	**12.83**	**317**	P		**Pn**	**22 17 11.2**	**+0.1**
FUNA	**Funafuti**	**13.93**	**49**	Pn		**P**	**22 17 26.6**	**-1.5**
LHI	**Lord Howe Isla**	**16.02**	**211**	P		**P**	**22 17 52.1**	**+0.9**
LHI	**Lord Howe Isla**	**16.02**	**211**	P		**P**	**22 17 52.1**	**+0.9**
	comp=Z,0.0nmcomp=Z,530nm,1.2s							
RAO	**Raoul Island**	**16.65**	**135**	P		**Pn**	**22 17 59.7**	**+1.1**
RAO	**Raoul Island**	**16.65**	**135**	P		**Pn**	**22 17 59.0**	**+0.5**
	comp=Z,653nm,0.9s,baz=108,slow=18,SNR=8.5							
RAO				LR		LR	22 22 50.0	
	comp=Z,2μm,18.8s,baz=349,slow=31							
RAO	**Raoul Island**	**16.65**	**135**	P		**Pn**	**22 17 59.7**	**+1.1**
OUZ	**Omahuta**	**17.73**	**167**	P		**Pn**	**22 18 11.8**	**+0.4**
OUZ	**Omahuta**	**17.73**	**167**	P		**Pn**	**22 18 12.9**	**+1.5**
EIDS	**Eidsvold**	**17.88**	**243**	P		**Pn**	**22 18 13.6**	**+0.4**
EIDS	**Eidsvold**	**17.88**	**243**	P		**Pn**	**22 18 13.7**	**+0.4**
	comp=Z,0.0nmcomp=Z,458nm,0.9s							
EIDS	**Eidsvold**	**17.88**	**243**	P		**Pn**	**22 18 12.9**	**-0.4**
WCZ	**Waipu Caves**	**18.59**	**165**	P		**Pn**	**22 18 23.1**	**+1.6**
GRZ	**Great Barrier**	**19.18**	**163**	P		**Pn**	**22 18 28.9**	**+0.5**
AFI	**Afiamalu**	**19.27**	**81**	P		**Pn**	**22 18 28.5**	**-1.2**
AFI	**Afiamalu**	**19.27**	**81**	P		**Pn**	**22 18 28.5**	**-1.2**
ABAZ	**Army Bay**	**19.34**	**165**	P		**Pn**	**22 18 30.6**	**+0.3**
MBAZ	**Motutapu North**	**19.52**	**165**	P		**Pn**	**22 18 32.2**	**-0.2**
WTAZ	**Waiatarua**	**19.59**	**166**	P		**Pn**	**22 18 33.4**	**+0.2**
WIAZ	**Waiheke Island**	**19.60**	**164**	P

SNZO South Karori 23.83 169 P P 22 19 13.1 +0.3
SNZO IAmb IAmb 22 19 15.7
comp=Z,509nm,0.7s
SNZO South Karori 23.83 169 P P 22 19 14.0 +1.2
DSZ Denniston Nort 23.84 174 P P 22 19 15.4 +2.5
THZ Tophouse 23.99 172 P P 22 19 15.6 +1.3
MSWZ Moikau Station 24.04 168 P P 22 19 15.0 +0.3
QLP Quilpie 24.11 245 pP pP 22 19 44.1 -1.5
comp=Z,970nm,1.3s
QLP Quilpie 24.11 245 P P 22 19 16.1 +0.6
YNG Young 24.30 224 P P 22 19 18.6 +1.4
comp=Z,114nm,0.7s
CNB Canberra Magne 24.31 221 P P 22 19 18.5 +1.2
comp=Z,0.0nmcomp=Z,292nm,0.9s
CNB Canberra Magne 24.31 221 P P 22 19 18.6 +1.2
CAN Canberra 24.54 221 P P 22 19 20.0 +0.6
CAN Canberra 24.54 221 P P 22 19 20.3 +0.8
comp=Z,0.0nmcomp=Z,139nm,1.4s
CAN Canberra 24.54 221 P P 22 19 20.5 +1.1
CAN Canberra 24.54 221 P P 22 19 20.0 +0.6
CAN pmax pmax
comp=Z,195nm,0.9s
KHZ Kahutara 24.71 171 P P 22 19 21.3 +0.5
KHZ Kahutara 24.71 171 P P 22 19 21.1 +0.3
CMSA Cobar Meteorol 24.75 233 P P 22 19 21.9 +0.6
comp=Z,0.0nmcomp=Z,245nm,0.7s
CMSA Cobar Meteorol 24.75 233 P P 22 19 22.6 +1.3
INZ Inchbonnie 24.78 175 P 22 19 22.7 +1.2
INZ IAmb IAmb 22 19 24.2
comp=Z,581nm,0.9s
INZ Inchbonnie 24.78 175 P P 22 19 23.0 +1.6
COEN Coen 24.79 276 P P 22 19 22.0 +0.2
COEN IAmb IAmb 22 20 00.1
comp=Z,681nm,1.6s
COEN Coen 24.79 276 P P 22 19 22.4 +0.6
comp=Z,0.0nmcomp=Z,136nm,1.2s
COEN Coen 24.79 276 P P 22 19 22.0 +0.2
LTZ Lake Taylor 24.92 174 P P 22 19 23.9 +1.2
WVZ Waitaha Valley 25.08 176 P P 22 19 25.8 +1.7
GVZ Greta Valley S 25.19 172 P P 22 19 25.7 +0.6
OXZ Oxford 25.43 174 P P 22 19 29.4 +2.1
RPZ Rata Peaks 25.74 176 P P 22 19 31.4 +1.3
comp=Z,98nm,0.5s,baz=297,slow=3.4,SNR=75
RPZ PcP PcP 22 22 56.3 +0.4
comp=Z,24nm,0.5s,baz=326,slow=3.4,SNR=3.5
comp=Z,98nm,0.5s
RPZ Rata Peaks 25.74 176 P P 22 19 31.4 +1.3
MNZS Menzies Bay Ba 25.84 173 P P 22 19 31.9 +0.9
MQZ McQueen's Vall 25.87 173 P P 22 19 31.5 +0.3
MQZ PcP 22 22 56.9 +0.7
JCZ Jackson Bay 26.02 180 P P 22 19 33.9 +1.2
MANU Manus Island 26.19 305 P P 22 19 35.0 +0.5
MANU IAmb IAmb 22 19 36.1
comp=Z,333nm,1.1s
PATS Pohnpei 26.68 337 P P 22 19 38.4 -0.4
comp=Z,662nm,1.5s
WKZ Wanaka 26.77 179 PcP PcP 22 22 59.5 +1.2
ODZ Otahua Downs 27.04 177 P P 22 19 42.4 +0.7
QIS Mount Isa 27.50 260 P P 22 19 46.7 +0.6
comp=Z,0.0nmcomp=Z,86nm,1.2s
QIS Mount Isa 27.50 260 P P 22 19 46.6 +0.4
STKA Stephens Creek 28.05 235 P P 22 19 51.6 +0.7
STKA Stephens Creek 28.05 235 P P 22 19 51.7 +0.7
comp=Z,0.0nmcomp=Z,992nm,0.8s
STKA Stephens Creek 28.05 235 P P 22 19 51.9 +1.0
comp=Z,151nm,0.8s,baz=62,slow=8.4,SNR=261
STKA PcP PcP 22 23 02.4 +0.8
comp=Z,82nm,0.9s,baz=63,slow=2.3,SNR=6.0
STKA ScP ScP 22 26 28.8 +0.9
comp=Z,11nm,0.9s,baz=22,slow=5.4,SNR=2.9
comp=Z,151nm,0.8s
STKA Stephens Creek 28.05 235 P P 22 19 52.0 +1.0
STKA Stephens Creek 28.05 235 P P 22 19 51.6 +0.7
STKA pmax pmax
comp=Z,2μm,1.2s
TOO Toolangi 28.15 221 P P 22 19 52.3 +0.5
TOO Toolangi 28.15 221 P P 22 19 52.6 +0.8
comp=Z,0.0nmcomp=Z,33nm,0.8s
TOO Toolangi 28.15 221 P P 22 19 52.3 +0.5
TOO pmax pmax
comp=Z,135nm,1.7s
PYZ Puysegur Point 28.15 183 P P 22 19 52.7 +1.1
PYZ Puysegur Point 28.15 183 P P 22 19 52.2 +0.6
SYZ Scrubby Hill 28.48 179 P P 22 19 56.5 +2.0
CTZ Chatham Island 28.54 157 P P 22 19 56.5 +1.5
GLAD Gladstone 28.97 213 P P 22 20 00.4 +1.5
RAR Rarotonga 29.92 101 P P 22 20 07.9 +0.4
RAR IAmb IAmb 22 20 09.5
comp=Z,705nm,1.5s
RAR Rarotonga 29.92 101 P P 22 20 07.6 +0.1
comp=Z,155nm,1.1s,baz=166,slow=21,SNR=9.8
comp=Z,155nm,1.1s
RAR Rarotonga 29.92 101 P P 22 20 07.9 +0.4
RAR pmax pmax
comp=Z,705nm,1.5s
ARPS Mount Arapiles 30.11 226 P P 22 20 09.8 +0.8
comp=Z,63nm,1.2s
MOO Moorlands 30.45 212 P P 22 20 13.4 +1.4
comp=Z,180nm,1.3s
MOO Moorlands 30.45 212 P P 22 20 13.4 +1.4
TAU Tasmania Unive 30.73 211 P P 22 20 15.0 +0.6
TAU PcP PcP 22 23 10.1 +1.9
TAU Tasmania Unive 30.73 211 P P 22 20 15.0 +0.6
TAU 22 23 10.1
TAU pmax pmax
comp=Z,218nm,1.5s
HTT Hallett 30.73 234 P P 22 20 15.3 +0.7
comp=Z,33nm,0.8s
HTT Hallett 30.73 234 P P 22 20 15.5 +0.8
JAY Jayapura 31.40 296 PcP PcP 22 23 10.9 +0.3
comp=Z,109nm,1.2s,baz=199,slow=2.5,SNR=5.8
JAY Jayapura 31.40 296 P P 22 20 20.4 -0.3
GHSS Government Hou 31.57 232 P P 22 20 22.4 +0.5
WHYH Whyalla 31.64 236 P P 22 20 23.4 +0.9
GENI Genyem 31.82 295 P P 22 20 25.1 +0.8
comp=Z,10μmcomp=Z,832nm,1.3s
WRAB Tennant Creek 32.45 261 P P 22 20 28.9 -0.9
WRAB IAmb IAmb 22 20 33.3
comp=Z,155nm,0.8s
WRAB Tennant Creek 32.45 261 *c i* P P 22 20 28.9 -0.9
WRAB pmax pmax
comp=Z,166nm,0.8s
WRA Warramunga Arr 32.46 261 P P 22 20 27.6 -2.3
WRA Warramunga Arr 32.46 261 P P 22 20 29.1 -0.7
comp=Z,123nm,0.6s,baz=91,slow=9.1,SNR=259
WRA PcP PcP 22 23 13.6 +0.1
comp=Z,46nm,0.8s,baz=91,slow=2.6,SNR=9.9
WRA S S 22 25 27.8 -5.4
comp=Z,40nm,1.2s,baz=93,slow=16,SNR=17
WRA ScP ScP 22 26 43.9 +1.3
comp=Z,48nm,1.2s,baz=82,slow=3.1,SNR=8.6
WRA PKiKP PKiKP 22 30 39.5 -1.1
comp=Z,8.3nm,0.6s,baz=28,slow=0.4,SNR=37
WRA LR LR 22 33 49.7
comp=Z,3μm,18.6s,baz=94,slow=36
WRA P3KPbc 22 51 53.4
comp=Z,23nm,0.9s,baz=284,slow=3.2,SNR=82
comp=Z,123nm,0.6s
BBOO Buckleboo 32.76 237 P P 22 20 32.5 +0.2
BBOO IAmb IAmb 22 20 34.3
comp=Z,157nm,0.7s
BBOO Buckleboo 32.76 237 P P 22 20 32.6 +0.2
comp=Z,266nm,0.8s
BBOO Buckleboo 32.76 237 P P 22 20 32.8 +0.4
AS01 Alice Springs 32.85 254 P P 22 20 33.8 +0.5
AS31 Alice Springs 32.89 254 P 22 20 33.5 -0.2
AS31 IAmb IAmb 22 20 35.2
comp=Z,170nm,0.8s
AS31 Alice Springs 32.89 254 P P 22 20 33.1 -0.6
comp=Z,224nm,0.7s
ASAR Alice Springs 32.89 254 P P 22 20 33.2 -0.5
ASAR Alice Springs 32.89 254 P P 22 20 33.4 -0.3
comp=Z,471nm,0.7s,baz=79,slow=9.1,SNR=1897
ASAR PcP PcP 22 23 14.5 -0.1
comp=Z,32nm,0.8s,baz=109,slow=2.9,SNR=5.7
ASAR S S 22 25 38.3 -1.6
comp=Z,35nm,1.0s,baz=81,slow=18,SNR=12
ASAR ScP ScP 22 26 45.0 +1.0
comp=Z,23nm,1.1s,baz=95,slow=3.5,SNR=6.9
ASAR PKiKP PKiKP 22 30 39.8 -1.2
comp=Z,7.9nm,0.8s,baz=104,slow=1.1,SNR=21
ASAR P3KPbc 22 51 49.3
comp=Z,5.4nm,1.0s,baz=272,slow=3.9,SNR=16
ASAR P3KP 22 53 08.0
comp=Z,0.9nm,0.9s,baz=253,slow=1.0,SNR=4.2
comp=Z,471nm,0.7s
SMPI Sarmi 33.38 295 P P 22 20 38.4 +0.5
comp=Z,4μmcomp=Z,248nm,0.9s
KDU Kakadu 35.22 273 P P 22 20 53.5 -0.3
comp=Z,0.0nmcomp=Z,181nm,0.7s
KDU Kakadu 35.22 273 P P 22 20 53.9 +0.1
BAKI Biak 36.03 294 P P 22 21 02.5 +1.8
comp=Z,8μmcomp=Z,880nm,1.2s
MTN Manton Dam 36.46 273 P P 22 21 04.1 -0.2
MTN IAmb IAmb 22 21 05.6
comp=Z,196nm,0.8s
MTN Manton Dam 36.46 273 P P 22 21 04.3 0.0
comp=Z,0.0nmcomp=Z,272nm,1.1s
DRS Darwin Rock St 36.78 273 P P 22 21 07.4 +0.4
KMPI Kaimana, Papua 37.03 288 P P 22 21 10.4 +1.2
comp=Z,9μmcomp=Z,616nm,1.2s
WAKE Wake Island 37.08 357 P P 22 21 08.9 -0.5
RKPI Ransiki, Papua 37.57 292 P P 22 21 14.7 +1.0
WRKA Warakurna 38.07 252 P P 22 21 17.6 -0.3
comp=Z,193nm,0.8s
KNRA Kununurra 38.18 267 P 22 21 18.8 +0.1
KNRA IAmb IAmb 22 21 19.9
comp=Z,438nm,0.8s
KNRA Kununurra 38.18 267 P P 22 21 18.5 -0.2
comp=Z,697nm,0.8s
FAKI Fak Fak 38.66 289 P P 22 21 22.8 -0.1
FAKI PcP PcP 22 23 33.4 +1.5
FAKI Fak Fak 38.66 289 P P 22 21 23.0 +0.1
FAKI Fak Fak 38.66 289 P P 22 21 23.3 +0.4
comp=Z,3μmcomp=Z,8μmcomp=Z,876nm,1.1s
FORT Forrest 38.88 243 P P 22 21 24.3 -0.2
FORT IAmb IAmb 22 21 26.1
comp=Z,213nm,0.7s
FORT Forrest 38.88 243 P P 22 21 24.8 +0.3
comp=Z,0.0nmcomp=Z,335nm,0.7s
XMAS Kiritimati 38.89 63 P P 22 21 25.9 +1.2
XMAS IAmb IAmb 22 21 29.2
comp=Z,330nm,1.1s
TBI Tubuai 39.48 105 *e*S S 22 27 18.3 -1.7
comp=Z,4μm,29.2s
TBI *e*SS SS 22 30 15.7 -5.4
comp=Z,11μm,26.2s
TBI *e*LR LR 22 32 20.8
comp=Z,2μm,38.5s
TBI *e*LR LR 22 32 23.0
comp=Z,14μm,37.2s
PAE Paea 39.73 96 *e*P P 22 21 28.0 -3.6
comp=Z,54nm,1.1s
PAE *e*pP pwP 22 22 12.0 +4.0
comp=Z,55nm,1.2s
PPT2 Papeete2 39.74 96 *e*P P 22 21 29.2 -2.6
comp=Z,218nm,1.1s
PPT2 *e*pP pwP 22 22 12.4 +4.1
comp=Z,126nm,1.2s
PPT2 *e*S S 22 27 16.5 -7.7
comp=Z,1μm,28.0s
PPT2 *e*SS SS 22 30 30.3 +3.8
comp=Z,5μm,24.5s
PPT2 *e*LR LR 22 32 34.8
comp=Z,3μm,35.8s
PPT2 *e*LR LR 22 32 38.2
comp=Z,5μm,30.5s
PPT Papeete 39.74 96 P P 22 21 31.5 -0.3
comp=Z,237nm,0.9s,baz=323,slow=7.0,SNR=12
comp=Z,237nm,0.9s
PPTF Pamatai, Papee 39.75 96 P P 22 21 31.8 -0.2
PPTF IAmb IAmb 22 21 35.5
comp=Z,317nm,1.1s
TVO Taravao 40.02 96 *e*P P 22 21 33.7 -0.5
comp=Z,63nm,1.0s
SWI Sorong 40.45 291 P P 22 21 38.1 +0.4
comp=Z,8μmcomp=Z,836nm,1.3s
JOHN Johnston Islan 40.65 33 P P 22 21 39.8 +0.7
JOHN IAmb IAmb 22 21 41.3
comp=Z,614nm,1.2s
FITZ Fitzroy Crossi 40.80 263 P P 22 21 41.3 +0.8
FITZ Fitzroy Crossi 40.80 263 P P 22 21 40.9 +0.4
comp=Z,246nm,0.8s
FITZ Fitzroy Crossi 40.80 263 P P 22 21 41.0 +0.4
comp=Z,745nm,0.7s,baz=95,slow=5.9,SNR=1211
FITZ S S 22 27 38.2 -1.7
comp=Z,10nm,1.0s,baz=194,slow=17,SNR=4.0
FITZ LR LR 22 37 28.3
comp=Z,2μm,20.1s,baz=92,slow=34
comp=Z,745nm,0.7s
FITZ Fitzroy Crossi 40.80 263 P P 22 21 40.9 +0.4
MSAI Masohi 41.51 286 P P 22 21 46.0 -0.3
comp=Z,3μmcomp=Z,282nm,0.9s
PMOR Pomariorio Ree 41.73 93 *e*P P 22 21 47.5 -0.6
comp=Z,314nm,1.1s
PMOR *e*pP pP 22 22 27.4 +5.2
comp=Z,382nm,1.3s
VAH Vaihoa 41.94 93 *e*P P 22 21 48.9 -0.9
comp=Z,128nm,1.1s
VAH *e*pP pP 22 22 28.9 +4.9
comp=Z,104nm,1.1s
AAI Ambon 42.05 285 P P 22 21 50.9 +0.2
comp=Z,5μmcomp=Z,588nm,1.1s
NLAI Namlea 43.23 285 P P 22 22 01.1 +0.9
comp=Z,3μmcomp=Z,1μm,1.8s
SOEI Soe 43.75 275 P P 22 22 05.4 +0.9
SOEI Soe 43.75 275 P P 22 22 05.6 +1.1
comp=Z,3μmcomp=Z,4μmcomp=Z,232nm,0.8s
BATI Baumata 44.20 274 P P 22 22 09.8 +1.8
comp=Z,7μmcomp=Z,724nm,0.8s
KMBL Kambalda 44.21 243 P P 22 22 07.2 -0.7
comp=Z,184nm,0.7s
TNTI Ternate 44.66 290 P P 22 22 12.3 +0.7
TNTI Ternate 44.66 290 P P 22 22 12.4 +0.8
comp=Z,3μmcomp=Z,143nm,0.8s
SANI Sanana 44.72 286 P P 22 22 12.9 +0.8
SANI Sanana 44.72 286 P P 22 22 12.8 +0.7
comp=Z,11μmcomp=Z,834nm,1.0s
PSA00 Pilbara Seismi 45.90 257 P P 22 22 21.7 +0.4
PSA00 IAmb IAmb 22 22 23.2
comp=Z,310nm,0.9s
PSA00 Pilbara Seismi 45.90 257 P P 22 22 21.6 +0.3
comp=Z,769nm,1.3s
PSA00 Pilbara Seismi 45.90 257 P P 22 22 21.9 +0.5
MMRI Maumere 45.98 275 P P 22 22 22.2 +0.2
MMRI PcP PcP 22 23 56.6 +0.4
MMRI IAmb IAmb 22 23 58.0
comp=Z,817nm,1.3s
MMRI Maumere 45.98 275 P P 22 22 22.3 +0.2
comp=Z,5μmcomp=Z,348nm,0.9s
MBWA Marble Bar 46.04 258 P P 22 22 22.7 +0.3
MBWA IAmb IAmb 22 22 24.4
comp=Z,821nm,1.0s
MBWA Marble Bar 46.04 258 P P 22 22 22.8 +0.3
comp=Z,915nm,0.9s
MBWA Marble Bar 46.04 258 P P 22 22 22.7 +0.3
MBWA S S 22 28 53.0 -3.0
MBWA Marble Bar 46.04 258 P P 22 22 22.8 +0.3
MBWA Marble Bar 46.04 258 P P 22 22 23.0 +0.6
MBWA pP pP 22 22 55.7 -0.6
EDFI Ende, Flores 46.47 275 P P 22 22 25.7 -0.3
comp=Z,156nm,0.8s
BBSI Bau Bau 46.64 280 P P 22 22 27.8 +0.6
comp=Z,4μmcomp=Z,234nm,1.1s
MEEK Meekatharra 46.82 250 P P 22 22 28.5 0.0
comp=Z,1μm,0.9s
MEEK Meekatharra 46.82 250 P P 22 22 28.8 +0.3
BASI Baing, Sumba 47.13 273 P P 22 22 31.7 +0.7
comp=Z,7μmcomp=Z,494nm,1.4s
WSI Waingapu 47.54 273 P P 22 22 34.6 +0.5
comp=Z,3μmcomp=Z,7μmcomp=Z,445nm,0.7s
KMSI Cibinong 47.62 288 P P 22 22 35.3 +0.5
SGSI Sangihe 47.63 293 P P 22 22 35.3 +0.5
KLBR Kellerberrin 47.74 243 P P 22 22 35.1 -0.5
comp=Z,1μm,0.8s
KLBR Kellerberrin 47.74 243 P P 22 22 35.2 -0.3
MIDW Midway 47.88 17 P P 22 22 35.9 -0.5
MIDW IAmb IAmb 22 22 37.3
comp=Z,240nm,1.0s
MIDW PcP PcP 22 24 03.6 +1.1
LUWI Luwuk 48.06 285 P P 22 22 39.2 +1.0
comp=Z,4μmcomp=Z,11μmcomp=Z,901nm,1.5s
NWAO Narrogin (SRO) 48.28 242 P P 22 22 39.4 -0.3
NWAO IAmb IAmb 22 22 40.8
comp=Z,336nm,0.8s
NWAO Narrogin (SRO) 48.28 242 P P 22 22 39.6 -0.1
comp=Z,254nm,0.7s,baz=90,slow=6.0,SNR=133
NWAO LR LR 22 42 52.1
comp=Z,2μm,18.4s,baz=90,slow=36
comp=Z,254nm,0.7s
NWAO Narrogin (SRO) 48.28 242 P P 22 22 39.7 0.0
NWAO Narrogin (SRO) 48.28 242 P P 22 22 39.4 -0.3
NWAO pmax pmax
comp=Z,336nm,0.8s
NWAO Narrogin (SRO) 48.28 242 P P 22 22 39.7 0.0
NWAO pP pP 22 23 11.0 -2.7
NWAO PcP PcP 22 24 04.2 +0.1
BSSI Bau Bau, Buton 48.38 278 P P 22 22 40.8 +0.2
comp=Z,3μmcomp=Z,129nm,1.0s
WBSI Waikabubak, Su 48.41 273 P P 22 22 41.2 +0.3
comp=Z,4μmcomp=Z,334nm,0.8s
BLDU Ballidu 48.58 245 P P 22 22 41.5 -0.5
comp=Z,247nm,1.2s
BLDU Ballidu 48.58 245 P P 22 22 41.8 -0.2
RKGY Rocky Gully 48.66 239 P P 22 22 42.7 +0.2
comp=Z,297nm,1.6s
BKSI Bulukumba 48.99 279 P P 22 22 45.5 +0.2
MUN Mundaring 49.08 243 P P 22 22 45.5 -0.2
comp=Z,286nm,1.1s
MUN Mundaring 49.08 243 P P 22 22 46.1 +0.3
MORW Morawa 49.12 247 P P 22 22 46.1 0.0
MORW IAmb IAmb 22 22 47.6
comp=Z,584nm,1.4s
MORW Morawa 49.12 247 P P 22 22 45.9 -0.2
comp=Z,264nm,1.2s
MORW Morawa 49.12 247 P P 22 22 46.5 +0.4
APSI Ampana 49.15 285 P P 22 22 48.0 +1.5
comp=Z,11μmcomp=Z,869nm,1.6s
DAV Davao City (W) 49.25 297 LR LR 22 41 20.1
comp=Z,446nm,21.9s,baz=143,slow=33
BNSI Bone 49.31 280 P P 22 22 48.8 +1.1
comp=Z,2μmcomp=Z,6μmcomp=Z,360nm,1.6s
MRSI Marisa 49.43 287 P P 22 22 48.4 -0.2
comp=Z,3μmcomp=Z,355nm,1.0s
KAPI Kappang 49.44 279 P 22 22 49.3 +0.6
KAPI Kappang 49.44 279 P P 22 22 49.3 +0.6
KAPI pmax pmax
comp=Z,201nm,0.9s
KAPI Kappang 49.44 279 P P 22 22 49.9 +1.2
KAPI PcP PcP 22 24 08.2 -0.4
SPSI Sidrap Palu 49.78 280 P P 22 22 51.3 +0.1
comp=Z,2μmcomp=Z,2μmcomp=Z,187nm,1.0s
PLAI Plampang 50.16 279 P P 22 22 54.9 +0.8
PLAI Plampang 50.16 273 P P 22 22 54.6 +0.5
comp=Z,2μmcomp=Z,4μmcomp=Z,263nm,1.4s
TAOE Nuku Hiva Isla 50.51 87 P P 22 22 57.1 +0.2
TAOE Nuku Hiva Isla 50.51 87 *e*S S 22 29 54.5 -4.6
comp=Z,2μm,26.7s
TAOE *e*SS SS 22 33 39.6 +4.3
comp=Z,500nm,26.6s
TAOE *e*LQ LQ 22 35 25.7
comp=Z,4μm,27.6s
TAOE *e*LR LR 22 37 24.5
comp=Z,3μm,36.8s
TOLI2 Tolitoli 50.75 287 P P 22 22 58.4 -0.1
TOLI2 Tolitoli 50.75 287 P P 22 22 59.0 +0.5
PCI Palu 50.82 284 P P 22 23 01.5 +2.4
GIRL Giralia 51.00 255 P P 22 23 01.3 +1.0
GIRL IAmb IAmb 22 23 03.1
comp=Z,704nm,1.4s
GIRL Giralia 51.00 255 P P 22 23 01.6 +1.3
comp=Z,344nm,1.2s
H01W1 Cape Leeuwin H 51.00 239 P P 22 23 01.5 +1.6
baz=119,slow=7.6,SNR=4.4
KIP Kipapa 51.00 41 *ce* P P 22 23 00.5 +0.3
KIP pmax pmax
comp=Z,107nm,0.9s
H01W3 Cape Leeuwin H 51.01 239 P P 22 23 01.5 +1.5
baz=119,slow=7.6,SNR=7.7
H01W2 Cape Leeuwin H 51.02 239 P P 22 23 01.8 +1.8
baz=119,slow=7.6,SNR=4.9
MPSI Mapaga 51.24 285 P P 22 23 02.8 +0.6
comp=Z,3μmcomp=Z,8μmcomp=Z,947nm,1.4s
MLH Mauna Loa 51.34 46 P P 22 23 03.6 +0.6
POHA Pohakuloa 51.42 45 P P 22 23 03.9 +0.2
STCH Steam Cracks 51.44 46 P P 22 23 04.0 +0.4
STCH IAmb IAmb 22 23 05.5
comp=Z,226nm,0.9s
JCJ Chichijima 51.63 330 P P 22 23 04.7 -0.2
JCJ IAmb IAmb 22 23 05.8
comp=Z,180nm,0.8s
JCJ Chichijima 51.63 330 P P 22 23 04.6 -0.2
comp=Z,604nm,0.7s,baz=337,slow=1.5,SNR=13
comp=Z,604nm,0.7s
JCJ Chichijima 51.63 330 P P 22 23 05.4 +0.6
DRV Dumont d'Urvil 52.10 194 P P 22 23 08.2 +0.4
DRV PcP PcP 22 24 18.2 +0.7
DNP Denpasar 52.64 273 P P 22 23 13.6 +1.0
SRBI Singaraja 52.80 273 P P 22 23 14.1 +0.3
JAGI Jajag, Banyuwa 53.70 273 P P 22 23 19.7 -0.6
JAGI IAmb IAmb 22 23 20.9
comp=Z,230nm,1.0s
JAGI Jajag, Banyuwa 53.70 273 P P 22 23 20.7 +0.3
JAGI Jajag, Banyuwa 53.70 273 P P 22 23 19.8 -0.6
comp=Z,4μmcomp=Z,293nm,1.1s
KMMI Kalianget 54.28 274 P P 22 23 25.8 +1.3
comp=Z,4μmcomp=Z,233nm,1.7s
GMJI Gumukmas 54.43 273 P P 22 23 25.0 -0.6
comp=Z,178nm,1.4s
MYLDM Lahad Datu 54.54 290 P P 22 23 28.2 +1.8
MYLDM IAmb IAmb 22 23 39.5
comp=Z,357nm,1.1s
GRJI Gresik 55.73 274 P P 22 23 33.8 -1.2
comp=Z,196nm,1.1s
TBJI Tambak Boyo 56.36 274 P P 22 23 39.9 +0.5
comp=Z,3μmcomp=Z,8μmcomp=Z,837nm,1.0s
PCJI Pacitan 56.61 272 P P 22 23 41.9 +0.7
comp=Z,6μmcomp=Z,565nm,1.4s
TGY Tagaytay City 56.82 301 LR LR 22 46 08.2
comp=Z,313nm,20.9s,baz=118,slow=34
WOJI Wonogiri, Jawa 56.95 272 P P 22 23 44.2 +0.6
comp=Z,6μmcomp=Z,582nm,1.2s
KKM Kota Kinabalu 56.96 290 P P 22 23 44.3 +0.6
KKM Kota Kinabalu 56.96 290 P P 22 23 44.2 +0.5
UGM Wanagama 57.31 272 P P 22 23 46.0 -0.1
UGM IAmb IAmb 22 23 47.7
comp=Z,436nm,1.2s
UGM Wanagama 57.31 272 P P 22 23 46.5 +0.3
UGM Wanagama 57.31 272 P P 22 23 46.9 +0.7
comp=Z,4μmcomp=Z,339nm,1.0s
SMRI Semarang 57.63 273 P P 22 23 48.9 +0.5
SMRI Semarang 57.63 273 P P 22 23 48.7 +0.3
comp=Z,248nm,1.4s
JHJ2 Mitsune 57.78 331 P P 22 23 49.0 0.0
JHJ Hachijo jima 2 57.80 331 P P 22 23 48.5 -0.7
comp=Z,295nm,0.9s,baz=197,slow=12,SNR=8.3
JHJ PcP PcP 22 24 40.7 +0.7
comp=Z,542nm,0.8s,baz=193,slow=8.7,SNR=12
comp=Z,295nm,0.9s
STKI Sintang 58.94 281 P P 22 23 59.3 +1.8
comp=Z,6μmcomp=Z,400nm,1.4s
KPJI Karang Pucung 58.98 272 P P 22 23 58.5 +0.7
comp=Z,4μmcomp=Z,322nm,0.8s
SBUM Sibu 59.13 284 P P 22 23 59.5 +0.7
JOW Kunigami 59.31 318 P P 22 24 00.8 +1.0
JOW IAmb IAmb 22 24 02.5
comp=Z,220nm,0.8s
VNDA Vanda 59.67 182 P P 22 24 02.2 +0.8
VNDA IAmb IAmb 22 24 03.9
comp=Z,352nm,1.6s
VNDA Vanda 59.67 182 P P 22 24 01.9 +0.5
comp=Z,49nm,0.7s,baz=358,slow=7.9,SNR=213
VNDA PKP2ab 22 53 53.2
comp=Z,3.1nm,1.0s,baz=63,slow=4.2,SNR=3.1
comp=Z,49nm,0.7s
VNDA Vanda 59.67 182 P P 22 24 02.2 +0.8
VNDA pmax pmax
comp=Z,352nm,1.6s
VNDA Vanda 59.67 182 P P 22 24 02.0 +0.5
JSG Sagara 59.83 331 P P 22 24 04.0 +0.9
SBA Scott Base 59.91 180 P P 22 24 04.5 +1.4
SBA IAmb IAmb 22 24 05.8
comp=Z,369nm,0.8s
SBA Scott Base 59.91 180 P P 22 24 04.5 +1.4
SBA pmax pmax
comp=Z,369nm,0.9s
SBA Scott Base 59.91 180 P P 22 24 04.6 +1.5
BBJI Bungbulang 60.17 272 P P 22 24 06.0 0.0
LEM Lembang 60.38 272 P P 22 24 08.3 +0.8
comp=Z,7μmcomp=Z,752nm,1.0s
KSM Kuching 60.54 282 P P 22 24 08.9 +0.5
KSM Kuching 60.54 282 P P 22 24 09.2 +0.8
CNJI Cibinong 60.70 272 P P 22 24 09.4 -0.1
comp=Z,239nm,0.9s
INU Inuyama 60.93 331 P P 22 24 11.3 +0.8
INU Inuyama 60.93 331 P P 22 24 11.6 +1.0
INU Inuyama 60.93 331 ⇑P P 22 24 11.5 +1.0
JGF Kuroka 60.98 331 P P 22 24 11.4 +0.5

JGF IAmb IAmb 22 24 13.8
comp=Z,262nm,0.8s
JGF Kuroka 60.98 331 P P 22 24 12.1 +1.2
CASY Casey 61.05 203 P P 22 24 11.2 +0.3
CASY IAmb IAmb 22 24 12.3
comp=Z,119nm,0.8s
CASY Casey 61.05 203 P P 22 24 11.8 +0.8
JMN Monobe 61.17 327 P P 22 24 13.3 +1.0
JMN Monobe 61.17 327 P P 22 24 13.3 +1.0
DBJI Dramaga 61.28 272 P P 22 24 14.0 +0.6
comp=Z,4µmcomp=Z,10µmcomp=Z,986nm,1.2s
YOJ Yonaguni jima 61.29 312 P P 22 24 12.4 -0.8
YOJ IAmb IAmb 22 24 15.7
comp=Z,283nm,0.8s
YOJ Yonaguni jima 61.29 312 P P 22 24 14.2 +1.0
YOJ Yonaguni jima 61.29 312 P P 22 24 12.4 -0.8
YOJ pmax pmax
comp=Z,283nm,0.8s
SKJI Sukabumi 61.34 272 P P 22 24 13.5 -0.3
comp=Z,6µmcomp=Z,668nm,0.9s
MJAR Matsushiro Arr 61.37 332 P P 22 24 13.5 -0.1
MJAR IAmb IAmb 22 24 15.1
comp=Z,250nm,0.9s
MJAR Matsushiro Arr 61.37 332 P P 22 24 13.9 +0.4
comp=Z,291nm,0.9s,baz=163,slow=6.8,SNR=596
MJAR PKPPKP **P'P'df 22 53 22.3 -2.3**
comp=Z,2.1nm,0.8s,baz=321,slow=3.5,SNR=4.8
MJAR PKP2bc 22 53 31.4
comp=Z,16nm,1.2s,baz=326,slow=2.9,SNR=14
comp=Z,291nm,0.9s
MJAR Matsushiro Arr 61.37 332 P P 22 24 13.5 -0.1
MJAR pmax pmax
comp=Z,250nm,1.0s
MAJO Matsushiro 61.37 332 P P 22 24 13.8 +0.3
MAJO Matsushiro 61.37 332 P P 22 24 14.4 +0.8
MAJO Matsushiro 61.37 332*c i* **P P 22 24 13.6 0.0**
MAJO pmax pmax
comp=Z,588nm,1.1s
MAJO Matsushiro 61.37 332 P P 22 24 14.1 +0.5
JMM Marumori 61.41 335 P P 22 24 14.5 +0.8
JMM IAmb IAmb 22 24 16.2
comp=Z,285nm,0.8s
JMM Marumori 61.41 335 P P 22 24 15.3 +1.6
TPI Tanjungpandan 61.58 277 P P 22 24 16.4 +1.0
comp=Z,2µmcomp=Z,3µmcomp=Z,186nm,0.8s
YULB Yu-li 61.86 310 P P 22 24 16.7 -0.4
YULB Yu-li 61.86 310 P P 22 24 18.1 +1.0
SBJI Serang 62.00 273 P P 22 24 18.6 +0.4
comp=Z,9µmcomp=Z,974nm,1.1s
CCD Concordia, Ant 62.00 192 P P 22 24 18.1 +0.4
NACB Ninganchiao 62.12 311 P P 22 24 19.6 +0.8
CGJI Cibinong 62.27 272 P P 22 24 19.4 -0.6
comp=Z,7µmcomp=Z,679nm,1.0s
TPUB Ta-pu 62.30 309 P P 22 24 19.4 -0.6
TPUB IAmb IAmb 22 24 21.5
comp=Z,286nm,0.9s
TPUB Ta-pu 62.30 309 P P 22 24 20.8 +0.8
JNU Nakatsue 62.31 325 P P 22 24 20.2 +0.3
JNU Nakatsue 62.31 325 LR LR 22 50 27.7
comp=Z,99nm,20.0s,baz=134,slow=35
JNU Nakatsue 62.31 325 P P 22 24 21.5 +1.6
SSLB Suanglung 62.35 310 P P 22 24 19.7 -0.7
SSLB IAmb IAmb 22 24 21.9
comp=Z,142nm,0.9s
SSLB Suanglung 62.35 310 P P 22 24 20.7 +0.3
YHNB Yeheng 62.59 311 P P 22 24 22.5 +0.5
TATO Taipei 62.69 312 P P 22 24 22.7 +0.2
TATO IAmb IAmb 22 24 24.3
comp=Z,437nm,1.1s
TATO Taipei 62.69 312 P P 22 24 22.6 0.0
KASI Kota Agung 63.72 273 P P 22 24 29.0 -0.6
comp=Z,3µmcomp=Z,289nm,1.2s
JTM Tenmabayashi 63.83 337 P P 22 24 30.4 +0.7
JTM Tenmabayashi 63.83 337 P P 22 24 30.9 +1.2
ERM Erimo 64.17 339 P P 22 24 32.9 +1.0
ERM IAmb IAmb 22 24 35.3
comp=Z,147nm,0.8s
ERM Erimo 64.17 339 P P 22 24 33.3 +1.4
ERM Erimo 64.17 339*c i* **P P 22 24 33.0 +1.1**
ERM pmax pmax
comp=Z,172nm,0.8s
ERM Erimo 64.17 339 P P 22 24 32.9 +1.0
JTU Tsushima 64.17 325 P P 22 24 33.0 +0.9
PMBI Palembang 64.25 276 P P 22 24 33.4 +0.3
LWLI Liwa 64.29 273 P P 22 24 32.6 -0.9
comp=Z,6µmcomp=Z,348nm,1.3s
MDSI Maura Dua 64.33 274 P P 22 24 32.6 -1.0
QZH Quanzhou 64.77 310⇑*i* **P P 22 24 37.0 +0.9**
QZH PcP **PcP 22 25 09.6 +1.2**
QZH pP **pP 22 25 11.9 -1.3**
QZH S **S 22 33 06.6 +2.2**
QZH pmax pmax
comp=Z,210nm,1.5s
QZH pmax pmax
comp=Z,1µm,4.0s
YUK Yuzh-Kuril'sk 65.14 342*ce* **P P 22 24 39.2 +1.1**
LHSI Lahat 65.16 274 P P 22 24 38.0 -0.9
DSRI Dabo 65.23 278 P P 22 24 40.3 +0.9
comp=Z,3µmcomp=Z,224nm,1.5s
MNAI Manna 65.53 273 P P 22 24 40.2 -1.2
MNAI Manna 65.53 273 P P 22 24 42.0 +0.6
MNAI Manna 65.53 273 P P 22 24 41.7 +0.3
comp=Z,629nm,1.7s
KUR Kuril'sk 65.68 344*c i* **P P 22 24 42.2 +0.6**
KUR pmax pmax
comp=Z,1µm,1.2s
TPRI Tanjung Pinang 65.75 279 P P 22 24 43.3 +0.6
comp=Z,5µmcomp=Z,342nm,1.2s
KSI Kapahiang 66.09 274 P P 22 24 44.2 -0.8
comp=Z,5µmcomp=Z,297nm,1.2s
JKA Kamikawa-asahi 66.22 340 P P 22 24 46.8 +1.8
ASAJ Asahikawa 66.22 340 P P 22 24 46.7 +1.7
comp=Z,751nm,0.8s,baz=215,slow=9.2,SNR=493
ASAJ LR LR 22 48 41.7
comp=Z,273nm,21.8s,baz=140,slow=31
ASAJ PKPPKP **P'P'df 22 53 17.5 +1.4**
comp=Z,18nm,1.1s,baz=255,slow=7.6,SNR=7.4
comp=Z,751nm,0.8s
ASAJ Asahikawa 66.22 340 P P 22 24 46.8 +1.7
ASAJ pmax pmax
comp=Z,846nm,0.8s
DLV Lat 66.38 292 P P 22 24 47.5 +0.5
DLV IAmb IAmb 22 24 50.1
comp=Z,573nm,1.3s
TJN Taejon 66.66 325 P P 22 24 48.5 +0.5
TJN Taejon 66.66 325*c i* **P P 22 24 48.5 +0.5**
MYKOM Kota Tinggi 66.68 280 P P 22 24 49.3 +0.6
MYKOM IAmb IAmb 22 24 50.9
comp=Z,238nm,1.1s
SSE Sheshan 66.76 317 P P 22 24 49.2 +0.4
SSE S **S 22 33 29.1 +0.7**
SSE pmax pmax
comp=Z,110nm,1.1s
SSE pmax pmax
comp=Z,440nm,3.5s
SSE LR LR
comp=Z,230nm,18.9s
SSE LR LR
comp=Z,200nm,19.9s
KSRS Korea Array 67.14 326 P P 22 24 52.2 +1.1
comp=Z,85nm,0.9s,baz=140,slow=6.6,SNR=146
KSRS PKPPKP **P'P'df 22 53 13.0 -2.4**
comp=Z,5.2nm,1.0s,baz=286,slow=3.7,SNR=6.4
KSRS PKP2ab 22 53 22.6
comp=Z,7.1nm,1.0s,baz=314,slow=2.5,SNR=11
comp=Z,85nm,0.9s
KSAR Wonju Array Be 67.16 326 P P 22 24 52.2 +1.1
KSAR Wonju Array Be 67.16 326 P P 22 24 52.2 +1.1
KS19 Wonju Array Si 67.21 326 P P 22 24 52.4 +0.9
KS19 IAmb IAmb 22 24 53.9
comp=Z,223nm,1.1s
INCN Inchon 67.86 325 P P 22 24 56.8 +1.2
INCN Inchon 67.86 325 P P 22 24 57.0 +1.4
INCN Inchon 67.86 325 P P 22 24 56.8 +1.2
INCN pmax pmax
comp=Z,890nm,1.4s
SDSI Sungai Dareh 68.05 276 P P 22 24 56.4 -0.9
comp=Z,2µmcomp=Z,2µmcomp=Z,181nm,1.3s
QIZ Qiongzhong 68.46 300 P P 22 25 01.3 +1.6
QIZ pP **pP 22 25 33.4 -3.4**
QIZ S **S 22 33 51.9 +2.8**
QIZ pmax pmax
comp=Z,240nm,1.1s
QIZ pmax pmax
comp=Z,2µm,3.5s
QIZ LR LR
comp=Z,350nm,10.4s
QIZ LR LR
comp=Z,940nm,20.6s
YSS Yuzhno-Sakhali 68.71 341 P P 22 25 02.2 +1.6
YSS Yuzhno-Sakhali 68.71 341*ce* **P P 22 25 02.7 +2.1**
YSS *eS* **S 22 33 50.3 -0.6**
YSS *e* 22 34 47.9
YSS pmax pmax
comp=Z,2µm,3.5s
YSS pmax pmax
comp=N,1µm,3.7s
YSS pmax pmax
comp=E,600nm,3.1s
YSS pmax pmax
comp=N,240nm,1.0s
YSS pmax pmax
comp=Z,610nm,1.0s
YSS pmax pmax
comp=E,360nm,0.9s
YSS smax smax
comp=N,800nm,6.9s
YSS smax smax
comp=E,800nm,5.8s
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=E,300nm,18.0s
YSS Yuzhno-Sakhali 68.71 341 P P 22 25 02.7 +2.1
PPSI Pulau Pagai 68.82 274 P P 22 25 02.2 +0.1
comp=E,8µmcomp=E,449nm,0.9s
BKNI Bangkinang 68.83 278 P P 22 25 02.5 +0.3
BKNI Bangkinang 68.83 278 P P 22 25 02.5 +0.3
NJ2 Nanjing 68.90 316⇑⇑ **P P 22 25 03.2 +1.0**
NJ2 PcP **PcP 22 25 27.0 +1.5**
NJ2 pP **pP 22 25 39.4 -0.4**
NJ2 S **S 22 33 52.6 -1.2**
NJ2 SS **SS 22 38 19.5 -3.4**
NJ2 pmax pmax
comp=E,250nm,1.2s
NJ2 pmax pmax
comp=E,2µm,3.6s
PDSI Padang 68.97 276 P P **22 25 01.4 -1.7**
comp=E,201nm,0.9s
TEY Ternei 69.16 336⇓*eP* **P 22 25 04.3 +0.9**
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=N,30nm,1.1s
TEY pmax pmax
comp=Z,80nm,1.1s
SKR Severo-Kuril's 69.24 352 *eP* **P 22 25 04.1 +0.3**
SKR *eS* **S 22 33 48.8 -8.2**
SKR pmax pmax
comp=Z,252nm,0.9s
SKR pmax pmax
comp=Z,500nm,8.0s
MSHR Mys Shultsa 69.44 331*c i* **P P 22 25 06.8 +1.5**
MSHR pmax pmax
comp=Z,288nm,1.3s
VLA Vladivostok 69.54 332*d i* **P P 22 25 07.8 +2.0**
VLA pmax pmax
comp=Z,708nm,1.6s
PSTR Posyet 69.66 331*c i* **P P 22 25 08.4 +1.8**
AMKA Amchitka 69.69 7 P P 22 25 06.9 +0.4
IPM Ipoh 70.26 282 P P 22 25 11.2 +0.3
IPM IAmb IAmb 22 25 12.7
comp=Z,420nm,0.8s
IPM Ipoh 70.26 282 P P 22 25 11.8 +0.9
USA0B Ussuriysk Arra 70.36 333 P P 22 25 12.3 +1.5
USA0B IAmb IAmb 22 25 13.9
comp=Z,518nm,1.1s
USA0B Ussuriysk Arra 70.36 333 P P 22 25 12.3 +1.5
USA0B pmax pmax
comp=Z,518nm,1.1s
USRK Ussuriysk Ar. 70.36 333 P P 22 25 12.1 +1.3
USRK Ussuriysk Ar. 70.36 333 P P 22 25 12.4 +1.6
comp=Z,227nm,0.9s,baz=136,slow=4.8,SNR=368
USRK PKP2bc 22 53 05.8
comp=Z,3.7nm,0.7s,baz=61,slow=9.6,SNR=9.7
comp=Z,227nm,0.9s
MNSI Mandailing Nat 70.36 277 P P 22 25 11.8 +0.3
comp=Z,475nm,1.1s
SHEM Shemya Is, Ala 70.57 4 P P 22 25 11.9 0.0
comp=Z,206nm,0.9s,baz=232,slow=11,SNR=16
SHEM LR LR 22 51 13.1
comp=Z,567nm,20.6s,baz=170,slow=31
comp=Z,206nm,0.9s
ADK Adak 70.74 10 P P 22 25 12.7 -0.2
ADK IAmb IAmb 22 25 14.4
comp=Z,331nm,1.6s
ADK Adak 70.74 10 P P 22 25 13.2 +0.3
ADK Adak 70.74 10 P P 22 25 12.7 -0.2
ADK pmax pmax
comp=Z,331nm,1.6s
ADK Adak 70.74 10⇑⇑ **P P 22 25 12.7 -0.2**
ADK PcP **PcP 22 25 32.6 -0.1**
CNSH ChangSha 70.77 309 P P 22 25 13.8 +0.1
CNSH S **S 22 34 15.4 -0.4**
CNSH pmax pmax
comp=Z,290nm,1.0s
CNSH LR LR
comp=Z,470nm,18.2s
CNSH LR LR
comp=Z,280nm,14.4s
CNSH LR LR
comp=Z,650nm,30.9s
UGL Uglegorsk 70.81 342⇑*i* **P P 22 25 15.1 +1.7**
UGL *eS* **S 22 34 18.8 +3.4**
UGL pmax pmax
comp=Z,2µm,3.3s
UGL pmax pmax
comp=Z,600nm,0.9s
UGL smax smax
comp=E,900nm,3.9s
UGL smax smax
comp=N,2µm,8.4s
KULM Kulim 70.90 282 P P 22 25 15.2 +0.4
KULM IAmb IAmb 22 25 16.6
comp=Z,381nm,1.0s
KULM Kulim 70.90 282 P P 22 25 15.6 +0.8
WHN Wuhan 71.08 312⇑*i* **P P 22 25 16.5 +1.0**
WHN pP **pP 22 25 52.8 -0.7**
WHN S **S 22 34 19.2 0.0**
WHN pmax pmax
comp=Z,3µm,1.4s
GULI GuiLin 71.16 306 P P 22 25 13.6 -2.5
GULI pP **pP 22 25 48.9 -4.9**
GULI S **S 22 34 19.0 -1.5**
GULI SKS **SKSac 22 35 04.5 +0.2**
GULI SS **SS 22 39 00.8 +3.0**
GULI pmax pmax
comp=Z,540nm,1.1s
GULI pmax pmax
comp=Z,2µm,4.3s
GULI LR LR
comp=Z,440nm,18.4s
GULI LR LR
comp=Z,400nm,18.4s
GULI LR LR
comp=Z,580nm,19.5s
PET Petropavlovsk 71.23 354 P P 22 25 16.3 +0.5
PET IAmb IAmb 22 25 18.1
comp=Z,422nm,1.5s
PET Petropavlovsk 71.23 354 P P 22 25 16.8 +0.9
PET Petropavlovsk 71.23 354*c i* **P P 22 25 16.4 +0.5**
PET pmax pmax
comp=Z,338nm,1.6s
PET Petropavlovsk 71.23 354 P P 22 25 16.2 +0.3
comp=Z,3µmcomp=Z,207nm,1.4s
PBSI Pulau Batu 71.31 276 P P 22 25 18.3 +1.0
comp=Z,413nm,1.4s
PEA0B Petropavlovsk- 71.42 353 P P 22 25 17.9 +0.9
PEA0B Petropavlovsk- 71.42 353 P P 22 25 17.9 +0.9
PEA0B pmax pmax
comp=Z,1µm,1.7s
PETK Petropavlovsk- 71.42 353 P P 22 25 17.3 +0.3
PETK PcP **PcP 22 25 36.4 +0.8**
PETK Petropavlovsk- 71.42 353 P P 22 25 17.2 +0.2
comp=Z,126nm,0.7s,baz=131,slow=6.8,SNR=126
PETK PKiKP **PKiKP 22 31 21.3 -0.6**
comp=Z,4.6nm,0.7s,baz=156,slow=6.4,SNR=4.7
comp=Z,126nm,0.7s
PETK Petropavlovsk- 71.42 353 P P 22 25 17.3 +0.3
PETK 22 25 36.4
ATKA Atka Island 71.47 11 P P 22 25 16.9 -0.4
ATKA IAmb IAmb 22 25 18.3
comp=Z,222nm,1.0s
ATKA Atka Island 71.47 11 P P 22 25 17.4 +0.1
RPSI Rantau Prapat 71.61 279 P P 22 25 18.7 -0.3
RPSI IAmb IAmb 22 25 20.3
comp=Z,477nm,1.0s
PSI Prapat 71.65 279 P P 22 25 19.3 -0.1
PSI Prapat 71.65 279 P P 22 25 18.7 -0.7
PSI pmax pmax
comp=Z,477nm,1.0s
DL2 Dalian 71.67 323 P P 22 25 19.9 +1.1
DL2 pP **pP 22 25 54.7 -2.2**
DL2 sP **sP 22 26 13.8 +0.1**
DL2 S **S 22 34 27.0 +1.3**
DL2 SS **SS 22 38 59.0 -6.0**
DL2 pmax pmax
comp=Z,750nm,1.0s
DL2 pmax pmax
comp=Z,3µm,4.7s
MDJ Mudanjiang 71.75 332 P P 22 25 20.8 +1.6
MDJ S S 22 34 17.2 -9.2
MDJ pmax pmax
comp=Z,830nm,1.2s
MDJ pmax pmax
comp=Z,3µm,4.1s
MDJ LR LR
comp=Z,500nm,15.9s
MDJ LR LR
comp=Z,370nm,17.5s
MDJ LR LR
comp=Z,590nm,11.5s
QSPA South Pole Qui 72.07 180 P 22 25 22.4 +1.3
QSPA IAmb IAmb 22 25 23.9
comp=Z,678nm,0.9s
QSPA South Pole Qui 72.07 180 P P 22 25 22.3 +1.3
comp=Z,540nm,0.9s,baz=7.6,slow=1.2,SNR=1493
QSPA LR LR 22 52 33.3
comp=Z,251nm,20.1s,baz=40,slow=32
comp=Z,540nm,0.9s
TSI Tuntungan 72.22 280 P P 22 25 23.0 +0.3
TYV Tymovskoe 72.25 343 *eP* **P 22 25 23.9 +1.9**
TYV *eS* **S 22 34 32.8 +1.0**
TYV pmax pmax
comp=Z,2µm,4.6s
TYV pmax pmax
comp=Z,287nm,1.3s
TYV smax smax
comp=N,1µm,6.3s
TYV smax smax
comp=E,500nm,6.3s
GSI Gunungsitoli 72.42 277 P P 22 25 24.4 +0.4
GSI Gunungsitoli 72.42 277 P P 22 25 24.6 +0.6
GSI Gunungsitoli 72.42 277 P P 22 25 24.5 +0.6
comp=E,8µmcomp=E,809nm,1.0s
SNY Shenyang 72.62 326⇑⇑ **P P 22 25 25.2 +0.8**
SNY S **S 22 34 38.5 +2.1**
SNY pmax pmax
comp=E,85nm,1.5s
SNY pmax pmax
comp=E,430nm,9.9s
SNY LR LR
comp=E,310nm,17.9s
SNY LR LR
comp=E,320nm,18.5s
SNY LR LR
comp=E,410nm,19.2s
TIA Tai'an 72.62 318 P P 22 25 24.8 +0.2
TIA PcP **PcP 22 25 42.9 +1.7**
TIA pP **pP 22 26 00.7 -2.1**
TIA S **S 22 34 36.0 -0.7**
TIA pmax pmax
comp=E,440nm,1.0s
TIA pmax pmax
comp=E,2µm,4.4s
TIA LR LR
comp=E,500nm,14.5s
TIA LR LR
comp=E,420nm,16.5s
TIA LR LR
comp=E,890nm,24.9s
SRIT Nakonsritamara 73.06 285 P P 22 25 28.4 +0.7
SRIT IAmb IAmb 22 25 30.6
comp=Z,659nm,1.2s
CN2 Changchun 73.09 329 P P 22 25 27.6 +0.5
CN2 PcP **PcP 22 25 43.5 +0.5**
CN2 S **SKiKP 22 34 42.8 -0.7**
CN2 SKS **SKSac 22 35 15.4 -2.5**
CN2 pmax pmax
comp=Z,370nm,0.9s
CN2 LR LR
comp=Z,170nm,18.0s
CN2 LR LR
comp=Z,360nm,18.0s
CN2 LR LR
comp=Z,390nm,20.0s
NIKH Nikolski High 73.30 14 P P 22 25 28.0 -0.2
NIKH IAmb IAmb 22 25 29.2
comp=Z,559nm,0.8s
NIKH Nikolski High 73.30 14 P P 22 25 28.1 0.0
NIKH Nikolski High 73.30 14 P P 22 25 28.2 0.0
baz=202,SNR=23
BNX BinXian 73.60 331⇑⇑ **P P 22 25 30.9 +0.8**
BNX pP **pP 22 26 08.0 -0.3**
BNX S **S 22 34 49.4 +2.1**
BNX pmax pmax
comp=Z,470nm,0.8s
BNX pmax pmax
comp=Z,1µm,5.6s
BNX LR LR
comp=Z,340nm,17.6s
BNX LR LR
comp=Z,210nm,16.8s
BNX LR LR
comp=Z,330nm,20.6s
GRNR Gornyy 74.08 339⇑⇑*i* **P P 22 25 35.2 +2.4**
GRNR pmax pmax
comp=E,130nm,0.9s
GRNR pmax pmax
comp=N,140nm,1.0s
GRNR pmax pmax
comp=Z,570nm,1.0s
LHMI Lhok Sumawe 74.33 281 P P 22 25 35.4 +0.4
LHMI IAmb IAmb 22 25 37.1
comp=Z,461nm,0.9s
LHMI Lhok Sumawe 74.33 281 P P 22 25 35.4 +0.4
comp=Z,6µmcomp=Z,576nm,1.1s
SLVN Son La 74.46 299 P P 22 25 37.0 +1.3
SLVN Son La 74.46 299 P P 22 25 36.7 +1.0
MLSI Meulaboh, Aceh 74.51 280 P P 22 25 36.6 +0.5
GYA Guiyang 74.63 305⇑⇑ **P P 22 25 37.9 +1.2**
GYA pP pwP 22 26 16.9 0.0
GYA S **S 22 34 59.4 -0.5**
GYA pmax pmax
comp=Z,300nm,0.9s
GYA pmax pmax
comp=Z,1µm,6.0s
GYA LR LR
comp=Z,240nm,4.7s
GYA LR LR
comp=Z,160nm,5.5s
GYA LR LR
comp=Z,120nm,5.3s
UNV Unalaska Valle 74.66 15 P P 22 25 35.5 -0.6
baz=204,SNR=13
LYN LuoYang 74.68 315⇑⇑ **P P 22 25 38.2 +1.6**
LYN pP pP 22 26 15.1 +0.3
LYN S **S 22 34 56.6 -3.2**
LYN pmax pmax
comp=Z,1µm,1.1s
LYN pmax pmax
comp=Z,4µm,4.8s
NKL Nikolayevsk 74.84 343 *eP* **P 22 25 36.6 -0.5**
NKL *eS* **S 22 35 07.3 +6.5**
NKL smax smax
comp=N,563nm,2.5s
NKL smax smax
comp=E,550nm,2.5s
HNS HongShan 74.88 318⇑⇑ **P P 22 25 39.2 +1.5**
HNS pP **pP 22 26 15.0 -1.1**
HNS S **S 22 35 02.4 +0.5**
HNS ScS **ScS 22 35 35.6 +0.4**
HNS pmax pmax
comp=E,500nm,1.1s
HNS LR LR
comp=E,540nm,16.2s
HNS LR LR

HNS LR LR
comp=E,450nm,18.8s
RPN **Rapa Nui** 75.13 114 P **P** 22 25 40.4 +0.9
RPN IAmb IAmb 22 25 42.5
comp=Z,886nm,1.6s
RPN **Rapa Nui** 75.13 114 P **P** 22 25 40.4 +0.9
RPN pmax pmax
comp=Z,886nm,1.6s
BJI **Beijing** 75.60 321 P **P** 22 25 42.3 +0.6
BJI PcP **PcP** 22 25 53.3 -0.6
BJI pP **pP** 22 26 18.9 -1.2
BJI S **S** 22 35 10.1 +0.3
BJI pmax pmax
comp=Z,130nm,1.0s
BJI pmax pmax
comp=Z,980nm,4.3s
BJI LR LR
comp=Z,250nm,19.3s
BJI LR LR
comp=Z,260nm,17.8s
BJI LR LR
comp=Z,490nm,37.0s
FALS **False Pass** 76.36 16 P **P** 22 25 44.9 -0.8
baz=207
TIY **Taiyuan** 76.52 317 P **P** 22 25 48.8 +1.7
TIY pP **pP** 22 26 23.0 -2.8
TIY S **S** 22 35 21.5 +1.3
TIY pmax pmax
comp=Z,260nm,1.3s
TIY pmax pmax
comp=Z,2µm,4.6s
P08K **Saint George I** 76.52 12 P **P** 22 25 46.5 0.0
baz=201
XAN **Xi'an** 76.84 313 ⇑P **P** 22 25 50.4 +1.4
XAN pP pP 22 26 25.5 -1.8
XAN S **S** 22 35 22.9 -0.8
XAN pmax pmax
comp=Z,740nm,0.9s
XAN pmax pmax
comp=Z,3µm,5.5s
SPIA **Saint Paul Isl** 76.92 12 P **P** 22 25 48.8 0.0
SPIA **Saint Paul Isl** 76.92 12 P **P** 22 25 49.2 +0.5
baz=201,SNR=5.9
HEH **HeiHe** 77.03 334 ⇑P **P** 22 25 50.4 +0.8
HEH pP **pP** 22 26 27.0 -1.3
HEH PP **PP** 22 28 43.8 -1.7
HEH S **S** 22 35 27.0 +2.0
HEH pmax pmax
comp=Z,240nm,1.5s
HEH pmax pmax
comp=Z,2µm,4.9s
KMI **Kunming** 77.12 302 ⇑P **P** 22 25 53.1 +2.1
KMI pP pP 22 26 29.6 +0.5
KMI sP sP 22 26 46.8 +1.2
KMI S **S** 22 35 27.9 +0.4
KMI pmax pmax
comp=Z,780nm,0.9s
KMI LR LR
comp=Z,220nm,12.4s
KMI LR LR
comp=Z,310nm,16.7s
KMI LR LR
comp=Z,370nm,21.8s
CNBA **Chernabura Isl** 77.41 18 P **P** 22 25 51.2 -0.4
CHNA **Chernabura Isl** 77.42 18 P **P** 22 25 52.4 +0.8
CHNA **Chernabura Isl** 77.42 18 P **P** 22 25 51.5 -0.1
baz=211
CHNA S **S** 22 35 27.2 -1.7
baz=211
CM31 **Chiang Mai Arr** 77.46 294 P **P** 22 25 54.4 +1.6
CM31 IAmb IAmb 22 25 56.0
comp=Z,458nm,0.9s
CMAR **Chiang Mai Arr** 77.46 294 P **P** 22 25 54.1 +1.4
CMAR **Chiang Mai Arr** 77.46 294 P **P** 22 25 54.2 +1.5
comp=Z,211nm,0.8s,baz=131,slow=4.4,SNR=652
CMAR PKiKP **PKiKP** 22 31 32.0 +0.1
comp=Z,2.1nm,0.6s,baz=189,slow=1.1,SNR=6.0
CMAR PKPPKP **P'P'df** 22 52 56.9 -2.7
comp=Z,1.4nm,0.6s,baz=298,slow=4.5,SNR=5.0
comp=Z,211nm,0.8s
CMAR **Chiang Mai Arr** 77.46 294 *i*P **P** 22 25 54.2 +1.5
CMAR pmax pmax
comp=Z,223nm,0.8s
S12K **Black Hills** 77.47 16 P **P** 22 25 51.5 -0.4
baz=208
S12K S **S** 22 35 26.9 -2.6
baz=208
CHTO **Chiang Mai** 77.60 295 P **P** 22 25 55.0 +1.5
CHTO IAmb IAmb 22 25 56.4
comp=Z,446nm,1.0s
CHTO **Chiang Mai** 77.60 295 P **P** 22 25 55.1 +1.5
CHTO **Chiang Mai** 77.60 295 P **P** 22 25 55.0 +1.5
CHTO pmax pmax
comp=Z,446nm,1.0s
SDPT **Sand Point** 77.61 17 P **P** 22 25 52.0 -0.6
SDPT **Sand Point** 77.61 17 P **P** 22 25 52.0 -0.6
baz=210,SNR=6.5
SDPT S **S** 22 35 28.2 -2.7
baz=210
XLT **XiLinHaoTe** 78.09 324 *e*P **P** 22 25 57.2 +1.5
XLT pP pP 22 26 35.6 +1.1
XLT sP sP 22 26 52.2 +0.9
XLT S **S** 22 35 35.4 -1.5
XLT SS **SS** 22 40 44.0 +1.5
XLT pmax pmax
comp=Z,330nm,0.9s
XLT pmax pmax
comp=Z,2µm,3.6s
XLT LR LR
comp=Z,36nm,16.2s
XLT LR LR
comp=Z,190nm,12.0s
XLT LR LR
comp=Z,210nm,19.1s
PZH **PanZhiHua** 78.54 303 P **P** 22 25 59.6 +0.9
PZH pP **pP** 22 26 34.3 -3.1
PZH S **S** 22 35 42.0 -0.5
PZH pmax pmax
comp=Z,290nm,1.0s
PZH pmax pmax
comp=Z,190nm,3.6s
MA2 **Magadan** 78.64 351 P **P** 22 25 58.4 +0.2
MA2 IAmb IAmb 22 25 59.9
comp=Z,288nm,0.9s
MA2 **Magadan** 78.64 351 P **P** 22 25 58.9 +0.6
comp=Z,201nm,0.8s,baz=152,slow=7.4,SNR=42
MA2 LR LR 22 57 07.6
comp=Z,242nm,19.9s,baz=166,slow=33
comp=Z,201nm,0.8s
MA2 **Magadan** 78.64 351 P **P** 22 25 59.0 +0.7
MA2 **Magadan** 78.64 351 *c* *i*P **P** 22 25 58.5 +0.2
MA2 pmax pmax
comp=Z,277nm,0.8s
MA2 **Magadan** 78.64 351 P **P** 22 25 58.4 +0.2
comp=Z,5µmcomp=Z,434nm,0.9s
S14K **Fog Glacier** 78.68 17 P **P** 22 25 58.7 +0.1
baz=211,SNR=17
S14K S **S** 22 35 40.9 -1.7
baz=211
HHC **Hu-ho-hao-te** 78.89 320 *e*P **P** 22 26 02.0 +1.8
HHC pP pP 22 26 37.9 -1.2
HHC S **S** 22 35 45.4 -0.2
HHC ScS **ScS** 22 36 06.2 -1.6
HHC pmax pmax
comp=Z,300nm,1.2s
HHC pmax pmax
comp=Z,2µm,5.6s
CD2 **Chengdu** 79.01 308 P **P** 22 26 02.5 +1.4
CD2 PcP **PcP** 22 26 09.8 +0.8
CD2 pP pP 22 26 38.6 -1.2
CD2 S **S** 22 35 48.7 +1.5
CD2 SKS **SKSac** 22 36 00.8 -1.4
CD2 pmax pmax
comp=Z,560nm,1.1s
CHGN **Chignik** 79.02 18 P **P** 22 26 00.1 -0.3
baz=212,SNR=17
MAW **Mawson** 79.38 202 P **P** 22 26 03.6 +1.3
comp=Z,81nm,1.2s
MAW **Mawson** 79.38 202 P **P** 22 26 03.7 +1.3
comp=Z,252nm,0.9s,baz=111,slow=6.3,SNR=262
MAW LR LR 22 56 39.9
comp=Z,1µm,20.2s,baz=106,slow=32
comp=Z,252nm,0.9s
CHIR **Chirikof Islan** 79.47 20 P **P** 22 26 03.0 +0.1
baz=214

BTO **Baotou** 79.71 319 *e*P **P** 22 26 07.1 +2.4
BTO pP **pP** 22 26 45.2 +1.6
BTO sP **sP** 22 27 03.2 +2.9
BTO S **S** 22 35 56.0 +1.7
BTO pmax pmax
comp=Z,280nm,0.9s
BTO pmax pmax
comp=Z,810nm,4.4s
BTO LR LR
comp=Z,570nm,14.0s
BTO LR LR
comp=Z,830nm,13.9s
BTO LR LR
comp=Z,1µm,17.7s
R16K **Pilot Point** 80.34 18 P **P** 22 26 07.8 +0.4
baz=212
R16K S **S** 22 35 59.5 -0.3
baz=212
TNCH **TengChong** 80.52 300 P **P** 22 26 10.7 +1.2
TNCH pP pP 22 26 48.1 -0.3
TNCH S **S** 22 36 03.8 +0.3
TNCH sS sS 22 37 09.0 +0.9
TNCH SS **SS** 22 41 22.8 +3.1
TNCH pmax pmax
comp=Z,310nm,1.1s
TNCH pmax pmax
comp=Z,2µm,4.6s
SII **Sitkinak Islan** 80.54 20 P **P** 22 26 09.6 +0.9
SII IAmb IAmb 22 26 10.7
comp=Z,357nm,1.3s
SII **Sitkinak Islan** 80.54 20 P **P** 22 26 09.2 +0.6
baz=216
M11K **Mekoryuk** 80.70 12 P **P** 22 26 10.7 +1.4
baz=204
M11K S **S** 22 36 06.0 +2.6
baz=204
R17L **Mt. Peulik Vol** 80.75 18 P **P** 22 26 10.4 +0.7
baz=214,SNR=22
R17L S **S** 22 36 02.5 -1.7
baz=214
O14K **Tigyukauivet M** 80.80 15 P **P** 22 26 10.1 +0.2
baz=209
O14K S **S** 22 36 03.1 -1.4
baz=209
DGPR **DIGLIPUR** 80.82 287 *e*P **P** 22 26 11.9 +0.9
DGPR IAmb IAmb 22 26 14.4
comp=Z,469nm,1.5s
DGPR *e*S **S** 22 36 06.9 +0.3
R18K **Karluk** 81.28 19 P **P** 22 26 12.7 +0.3
baz=215
N14K **Kuskokwak Cree** 81.29 15 P **P** 22 26 13.2 +0.8
baz=208
N14K S **S** 22 36 10.5 +1.0
baz=208
M13K **Dall Lake** 81.34 14 P **P** 22 26 13.8 +1.1
baz=207
OHAK **Old Harbor** 81.37 20 P **P** 22 26 13.9 +1.0
OHAK **Old Harbor** 81.37 20 P **P** 22 26 13.7 +0.8
baz=216
OHAK S **S** 22 36 11.1 +0.7
baz=216
Q17K **Contact Creek** 81.42 18 P **P** 22 26 13.3 0.0
baz=214,SNR=78
Q17K S **S** 22 36 09.4 -1.8
baz=214
LZH **Lanzhou** 81.46 312 *e*P **P** 22 26 16.0 +1.8
LZH pP pP 22 26 52.8 -0.5
LZH S **S** 22 36 14.3 +1.6
LZH pmax pmax
comp=Z,570nm,1.1s
LZH pmax pmax
comp=Z,2µm,4.8s
P16K **Nushagak River** 81.47 17 P **P** 22 26 13.4 -0.1
baz=212
P16K S **S** 22 36 10.8 -0.6
baz=212
Q16K **King Salmon** 81.54 18 P **P** 22 26 14.2 +0.4
baz=213,SNR=15
Q16K S **S** 22 36 11.8 -0.4
baz=213
SEY **Seymchan** 81.65 353 P **P** 22 26 15.0 +0.7
comp=Z,251nm,0.9s,baz=153,slow=5.9,SNR=130
SEY LR LR 22 56 41.5
comp=Z,472nm,21.5s,baz=152,slow=31
comp=Z,251nm,0.9s
SEY **Seymchan** 81.65 353 *c* *i*P **P** 22 26 14.8 +0.5
SEY pmax pmax
comp=Z,460nm,1.0s
SEY MLR MLR
comp=Z,219nm,17.0s
PAF **Port-aux-Franc** 81.89 221 P **P** 22 26 17.1 +1.0
PAF **Port-aux-Franc** 81.89 221 P **P** 22 26 17.1 +1.0
PAF pmax pmax
comp=Z,2µm,1.5s
N15K **Kwethluk River** 81.89 15 P **P** 22 26 16.7 +1.0
baz=210,SNR=39
N15K S **S** 22 36 16.2 +0.3
baz=210
O16K **Kokwok River B** 81.92 16 P **P** 22 26 15.2 -0.6
baz=212,SNR=12
O16K S **S** 22 36 12.9 -3.1
baz=212
M14K **Bethel** 81.96 14 P **P** 22 26 16.7 +0.8
baz=208,SNR=22
M14K S **S** 22 36 17.1 +0.8
baz=208
Q18K **Katmai Hardscr** 82.00 18 P **P** 22 26 16.7 +0.3
baz=215,SNR=73
Q18K S **S** 22 36 16.1 -1.0
baz=215
P17K **Kvichak River** 82.04 17 P **P** 22 26 16.2 -0.1
baz=213,SNR=14
P17K S **S** 22 36 15.8 -1.5
baz=213
KDAK **Kodiak Island** 82.05 20 P **P** 22 26 17.7 +1.2
KDAK **Kodiak Island** 82.05 20 P **P** 22 26 17.2 +0.7
comp=Z,26nm,0.7s,baz=242,slow=3.9,SNR=20
comp=Z,26nm,0.7s
KDAK **Kodiak Island** 82.05 20 P **P** 22 26 17.7 +1.2
KDAK pmax pmax
comp=Z,345nm,1.9s
KDAK **Kodiak Island** 82.05 20 P **P** 22 26 17.4 +0.9
baz=217
KDAK S **S** 22 36 18.1 +0.7
baz=217
M15K **Kasigluk River** 82.21 15 P **P** 22 26 18.2 +1.0
baz=209,SNR=31
M15K S **S** 22 36 19.5 +0.6
baz=209
L14K **Kuka Creek** 82.32 14 P **P** 22 26 18.6 +0.9
baz=207,SNR=29
L14K S **S** 22 36 22.1 +2.1
baz=207
O17K **Koliganek Bris** 82.34 17 P **P** 22 26 18.0 +0.1
baz=213,SNR=16
O17K S **S** 22 36 18.5 -1.8
baz=213
K13K **Kusilvak Mount** 82.43 12 P **P** 22 26 19.7 +1.4
baz=206,SNR=33
K13K S **S** 22 36 22.1 +1.0
baz=206
N16K **Nishlik Lake** 82.49 16 P **P** 22 26 20.2 +1.4
baz=211,SNR=37
N16K S **S** 22 36 22.7 +0.7
baz=211
P18K **Big Mountain,** 82.55 18 P **P** 22 26 19.3 +0.2
baz=214,SNR=24
P18K S **S** 22 36 20.4 -2.2
baz=214
Q19K **Cape Douglas,** 82.64 19 P **P** 22 26 19.8 +0.2
baz=216
Q19K S **S** 22 36 23.7 +0.2
baz=216
Q20K **Shuyak Island** 82.77 19 P **P** 22 26 21.3 +1.1
baz=217
L15K **Ungalak Mounta** 82.88 14 P **P** 22 26 21.4 +0.6
baz=208,SNR=30
L15K S **S** 22 36 25.6 -0.2
baz=208
GAMB **Gambell** 82.92 9 P **P** 22 26 21.6 +0.7
GAMB **Gambell** 82.92 9 P **P** 22 26 21.9 +1.1
baz=199,SNR=26
GAMB S **S** 22 36 26.3 +0.3
baz=199
M16K **Timber Creek** 82.92 15 P **P** 22 26 22.5 +1.5
baz=211,SNR=47
M16K S **S** 22 36 27.1 +0.9
baz=211
O18K **Koktuh Hills** 82.94 17 P **P** 22 26 21.1 0.0
baz=214,SNR=24
O18K S **S** 22 36 24.4 -2.1
baz=214
N17K **Nushagak Hills** 82.95 16 P **P** 22 26 22.1 +1.0
baz=213,SNR=30
N17K S **S** 22 36 26.7 +0.2
baz=213
P19K **Oil Pt** 83.35 18 P **P** 22 26 23.6 +0.3
baz=216,SNR=27
J14K **Nanvaranak Lak** 83.39 12 P **P** 22 26 24.8 +1.5
baz=206
K15K **Wolf Creek Mou** 83.42 14 P **P** 22 26 24.9 +1.5
baz=208,SNR=61
N18K **Kilae Creek** 83.43 17 P **P** 22 26 24.2 +0.6
baz=214,SNR=21
O19K **Port Alsworth** 83.47 18 P **P** 22 26 23.7 -0.1
baz=215
M17K **Holitna River** 83.63 16 P **P** 22 26 26.2 +1.6
baz=212,SNR=49
HOM **Homer** 83.84 19 P **P** 22 26 27.1 +1.5
HOM **Homer** 83.84 19 P **P** 22 26 26.4 +0.7
baz=218
CNPM **China Poot** 83.86 19 P **P** 22 26 26.9 +1.1
CNPM IAmb IAmb 22 26 28.2
comp=Z,460nm,1.2s
O20K **Slope Mountain** 83.88 18 P **P** 22 26 26.2 +0.3
baz=217,SNR=9.0
N19K **Bonanza Creek** 83.93 17 P **P** 22 26 26.4 +0.2
baz=215,SNR=33
L17K **Donlin** 84.04 15 P **P** 22 26 28.6 +1.9
baz=211,SNR=111
M18K **Stony River** 84.12 16 P **P** 22 26 28.9 +1.8
baz=214,SNR=266
IMP **Imphal** 84.24 298 *e*P **P** 22 26 28.9 +0.2
IMP IAmb IAmb 22 26 30.4
comp=Z,959nm,1.2s
KOHI **KOHIMA** 84.45 299 *e*P **P** 22 26 30.0 +0.3
KOHI IAmb IAmb 22 26 32.2
comp=Z,999nm,0.8s
DIBR **DIBRUGARH** 84.47 301 *e*P P 22 26 13.6 -16
DIBR IAmb IAmb 22 26 15.6
comp=Z,997nm,1.2s
DIBR *e*S S 22 36 06.9 -36
J16K **Anvik River** 84.49 13 P **P** 22 26 30.6 +1.7
baz=209,SNR=160
L18K **Granite Mounta** 84.51 16 P **P** 22 26 30.6 +1.6
baz=213,SNR=139
K17K **Iditarod** 84.53 15 P **P** 22 26 30.7 +1.6
baz=211,SNR=107
ANM **Nome** 84.68 11 P **P** 22 26 31.2 +1.4
ANM IAmb IAmb 22 26 33.0
comp=Z,175nm,1.0s
ANM **Nome** 84.68 11 P **P** 22 26 31.2 +1.4
ANM pmax pmax
comp=Z,175nm,1.0s
ANM **Nome** 84.68 11 P **P** 22 26 31.4 +1.5
baz=205,SNR=26
JORH **JORHAT** 84.73 300 *e*P **P** 22 26 31.9 +1.0
JORH IAmb IAmb 22 26 33.5
comp=Z,749nm,1.2s
M19K **Big River Lodg** 84.85 17 P **P** 22 26 31.7 +0.9
baz=215,SNR=38
CAPN **Captain Cook N** 84.87 19 P **P** 22 26 32.1 +1.3
baz=218
SEW **Seward** 84.88 20 P **P** 22 26 30.5 -0.3
baz=220,SNR=11
AZL **Aizawl** 84.89 297 *e*P **P** 22 26 31.0 -1.0
AZL IAmb IAmb 22 26 34.4
comp=Z,518nm,2.0s
N20K **Mount Spurr** 84.90 18 P **P** 22 26 30.3 -0.8
baz=217
SPCR **Spurr Chakacha** 84.90 18 P **P** 22 26 30.3 -0.8
baz=217
J17K **VABM Dome** 84.94 14 P **P** 22 26 32.7 +1.6
baz=211,SNR=117
L19K **White Mountain** 84.96 16 P **P** 22 26 32.5 +1.2
baz=215,SNR=167
I17K **Unalakleet** 85.00 13 P **P** 22 26 33.2 +1.8
baz=209
MCCM **Marconi Confer** 85.04 47 P **P** 22 26 33.4 +1.2
MCCM IAmb IAmb 22 26 35.0
comp=Z,514nm,1.1s
O22K **Cooper Landing** 85.09 19 P **P** 22 26 32.0 +0.1
baz=219
TNA **Tin City** 85.17 10 P **P** 22 26 33.4 +1.2
TNA IAmb IAmb 22 26 35.1
comp=Z,388nm,1.1s
TNA **Tin City** 85.17 10 P **P** 22 26 33.3 +1.2
baz=202,SNR=33
M20K **Styx River** 85.18 17 P **P** 22 26 32.1 -0.4
baz=216,SNR=20
KCPM **Cahto Peak** 85.27 46 P **P** 22 26 34.4 +0.9
HOPS **Hopland Field** 85.30 47 P **P** 22 26 34.8 +1.2
HOPS IAmb IAmb 22 26 36.7
comp=Z,679nm,1.2s
G15K **Niukluk** 85.31 11 P **P** 22 26 34.3 +1.3
baz=206,SNR=90
G15K S **S** 22 36 52.2 +2.4
baz=206
H16K **Elim** 85.34 12 P **P** 22 26 34.5 +1.3
baz=208,SNR=98
H16K S **S** 22 36 53.0 +2.8
baz=208
F14K **Arctic Creek** 85.35 10 P **P** 22 26 34.6 +1.5
baz=204,SNR=91
F14K S **S** 22 36 53.8 +3.7
baz=204
ZIRO **ZIRO** 85.36 301 *e*P **P** 22 26 34.2 -0.1
ZIRO IAmb IAmb 22 26 36.9
comp=Z,982nm,2.0s
BRDH **Bariadhala** 85.39 295 P **P** 22 26 35.4 +1.0
comp=Z,792nm,0.9s,baz=69,slow=10,SNR=10
comp=Z,792nm,0.9s
Q23K **Middleton Isla** 85.40 21 P **P** 22 26 33.7 +0.3
baz=222
Q23K S **S** 22 36 52.9 +2.0
baz=222
Q23K S **S** 22 36 52.9 +2.0
baz=222
L20K **Farewell, AK** 85.46 16 P **P** 22 26 34.5 +0.7
baz=216,SNR=92
L20K S **S** 22 36 53.2 +1.7
baz=216
P23K **Montague Islan** 85.47 20 P **P** 22 26 33.5 -0.3
baz=222
P23K S **S** 22 36 52.9 +1.4
baz=222
YAK **Yakutsk** 85.50 343 P **P** 22 26 34.4 +0.5
YAK **Yakutsk** 85.50 343 P **P** 22 26 34.8 +0.9
comp=Z,1µm,0.9s,baz=104,slow=0.9,SNR=427
YAK LR LR 22 59 53.5
comp=Z,158nm,21.7s,baz=132,slow=32
comp=Z,1µm,0.9s
YAK **Yakutsk** 85.50 343 *c* *i*P **P** 22 26 34.9 +1.0
YAK *e* 22 29 52.7
YAK *e*PPP PPP 22 31 48.1
YAK *e*S **SKSac** 22 36 44.8 +0.9
YAK *e**SS **sS** 22 37 53.9 -6.3
YAK *e*SS **SS** 22 42 32.2 +0.7
YAK *e*SSS SSS 22 46 04.2
YAK pmax pmax
comp=Z,2µm,1.4s
YAK pmax pmax
comp=N,494nm,1.8s
YAK pmax pmax
comp=E,247nm,1.8s
YAK pmax pmax
comp=Z,211nm,3.7s
YAK pmax pmax
comp=N,276nm,4.1s
YAK pmax pmax
comp=E,44nm,1.6s
YAK smax smax
comp=E,733nm,3.5s
YAK smax smax
comp=N,344nm,3.2s
ULN **Ulaanbaatar** 85.51 324 P **P** 22 26 35.3 +0.7
ULN **Ulaanbaatar** 85.51 324 P **P** 22 26 35.6 +1.1
ULN **Ulaanbaatar** 85.51 324 *c* *i*P **P** 22 26 34.9 +0.3
ULN pmax pmax
comp=Z,656nm,1.0s
SUA **Susitna One** 85.54 18 P **P** 22 26 33.9 -0.4
baz=218
J18K **Innoko River** 85.55 15 P **P** 22 26 34.9 +0.7
baz=213,SNR=106

RC01 Rabbit Creek A 85.55 19 P **P** 22 26 34.0 -0.2
baz=219,SNR=14
RC01 S **S** 22 36 53.1 +0.7
baz=219
KRPM Rodgers 85.66 44 P **P** 22 26 36.5 +1.1
KRPM IAmb IAmb 22 26 39.0
comp=Z,440nm,1.1s
SKT Skwentna 85.72 18 P **P** 22 26 33.4 -1.6
baz=218,SNR=9.7
BILL Bilibino 85.79 359 P **P** 22 26 36.0 +0.8
BILL Bilibino 85.79 359*c* *i*P **P** 22 26 36.1 +0.8
BILL pmax pmax
comp=Z,1μm,1.7s
BILL MLR MLR
comp=Z,231nm,16.0s
PWL Port Wells 85.82 20 P **P** 22 26 35.2 -0.4
PWL Port Wells 85.82 20 P **P** 22 26 35.1 -0.4
baz=221,SNR=16
PWL S **S** 22 36 55.2 +0.2
baz=221
GTA Gaotai 85.84 314 P **P** 22 26 37.4 +1.0
GTA pP pP 22 27 17.0 +1.1
GTA SKS **SKSac** 22 36 46.5 -0.9
GTA S **S** 22 36 56.5 0.0
GTA SS **SS** 22 42 39.4 +1.6
GTA pmax pmax
comp=Z,610nm,1.0s
GTA pmax pmax
comp=Z,2μm,10.4s
GTA LR LR
comp=Z,260nm,15.5s
GTA LR LR
comp=Z,380nm,17.1s
GTA LR LR
comp=Z,440nm,19.1s
F15K North Star Dit 85.85 11 P **P** 22 26 36.7 +1.1
baz=205,SNR=50
F15K S **S** 22 36 57.1 +2.0
baz=205
SONM Songino Array 85.87 323 P **P** 22 26 37.2 +0.9
SONM IAmb IAmb 22 26 38.7
comp=Z,459nm,1.0s
SONM Songino Array 85.87 323 P **P** 22 26 37.1 +0.9
comp=Z,312nm,0.9s,baz=146,slow=5.7,SNR=891
SONM PKKPbc **PKKPbc** 22 44 37.1 -1.6
comp=Z,4.3nm,0.9s,baz=258,slow=2.5,SNR=7.9
SONM PKPPKP **P'P'df** 22 52 38.8 -3.6
comp=Z,2.5nm,0.9s,baz=232,slow=1.7,SNR=6.7
SONM LR LR 23 02 59.8
comp=Z,300nm,21.8s,baz=130,slow=34
comp=Z,312nm,0.9s
SONM Songino Array 85.87 323 P **P** 22 26 37.2 +0.9
SONM pmax pmax
comp=Z,459nm,1.0s
TEZP TEZPUR 85.88 300 *e*P **P** 22 26 36.2 -0.5
TEZP IAmb IAmb 22 26 38.7
comp=Z,410nm,1.2s
TEZP *e*S **SKSac** 22 36 45.5 -2.3
M22K Willow 85.95 18 P **P** 22 26 35.8 -0.4
baz=219
SYO Syowa Base 85.97 196⇑ *i*P **P** 22 26 37.2 +0.8
SYO Syowa Base 85.97 196⇑ *i*PcP **PcP** 22 26 39.6 +0.8
SYO Syowa Base 85.97 196⇑ *i*pP pP 22 27 14.5 -1.2
G16K Koyuk River 85.99 12 P **P** 22 26 37.8 +1.5
baz=208,SNR=134
G16K S **S** 22 36 59.5 +3.1
baz=208
HIN Hinchinbrook I 86.07 21 P **P** 22 26 36.8 0.0
H17K Granite Mounta 86.09 13 P **P** 22 26 37.9 +1.1
baz=210,SNR=135
H17K S **S** 22 36 59.7 +2.3
baz=210
PMR Palmer 86.13 19 P **P** 22 26 36.6 -0.4
baz=220,SNR=6.2
PMR S **S** 22 36 58.5 +0.5
baz=220
K20K Telida 86.13 16 P **P** 22 26 37.7 +0.6
baz=215,SNR=28
K20K S **S** 22 36 59.6 +1.6
baz=215
AGT Agartala 86.17 296 *e*P **P** 22 26 40.0 +1.9
AGT IAmb IAmb 22 26 41.9
comp=Z,897nm,1.6s
KNK Knik Glacier 86.20 19 P **P** 22 26 37.5 +0.1
KNK Knik Glacier 86.20 19 P **P** 22 26 36.8 -0.7
baz=220,SNR=8.6
KNK S **S** 22 36 59.9 +1.2
baz=220
GLI Glacier Island 86.23 20 P **P** 22 26 36.8 -0.8
baz=222,SNR=20
GLI S **S** 22 36 59.5 +0.5
baz=222
SHL Shillong 86.25 298 P **P** 22 26 38.9 +0.2
SHL IAmb IAmb 22 26 40.6
comp=Z,424nm,1.3s
SHL Shillong 86.25 298 *e*P **P** 22 26 39.3 +0.6
SHL IAmb IAmb 22 26 42.4
comp=Z,796nm,2.9s
SHL *e*S **SKSac** 22 36 49.6 -1.0
SHL Shillong 86.25 298 P **P** 22 26 38.9 +0.2
SHL pmax pmax
comp=Z,424nm,1.3s
PPLA Purkeypile 86.26 17 P **P** 22 26 36.6 -1.3
baz=217
J19K Poorman 86.26 15 P **P** 22 26 38.8 +1.1
baz=214,SNR=61
J19K S **S** 22 37 02.8 +3.6
baz=214
L02F Cave Junction 86.42 44 P **P** 22 26 40.4 +1.4
L02F IAmb IAmb 22 26 42.2
comp=Z,192nm,1.2s
CUT Chulitna 86.42 18 P **P** 22 26 37.3 -1.1
baz=219,SNR=8.1
G17K Kiwalik Mounta 86.43 12 P **P** 22 26 39.6 +1.1
baz=209,SNR=119
G17K S **S** 22 37 04.2 +3.5
baz=209
EYAK Cordova Ski Ar 86.43 21 P **P** 22 26 38.0 -0.6
baz=223,SNR=8.5
EYAK S **S** 22 37 02.7 +1.9
baz=223
GCSA Galena City Sc 86.60 14 P **P** 22 26 40.1 +0.9
baz=213,SNR=20
GCSA S **S** 22 37 05.0 +2.7
baz=213
H18K Honhosa River 86.61 13 P **P** 22 26 39.5 +0.2
baz=211,SNR=50
H18K S **S** 22 37 04.2 +1.7
baz=211
GUWA GUWAHATI 86.64 299 *e*P **P** 22 26 40.0 -0.4
GUWA IAmb IAmb 22 26 42.3
comp=Z,824nm,2.0s
GUWA *e*S **SKSac** 22 36 51.6 -0.9
CAST Castle Rocks 86.71 17 P **P** 22 26 38.8 -1.1
CAST Castle Rocks 86.71 17 P **P** 22 26 38.8 -1.1
baz=217,SNR=74
CAST S **S** 22 37 01.3 -2.3
baz=217
M23K Glacier View 86.72 19 S **S** 22 37 05.3 +1.5
baz=221
J20K Nowinta River 86.78 15 P **P** 22 26 40.5 +0.3
baz=215,SNR=42
J20K S **S** 22 37 06.5 +2.3
baz=215
YBH Yreka Blue Hor 86.80 44 LR LR 22 58 12.5
comp=Z,55nm,21.8s,baz=238,slow=30
SCM Sheep Creek Mo 86.87 19 P **P** 22 26 40.4 -0.4
baz=221,SNR=16
SCM S **S** 22 37 06.3 +1.0
baz=221
TJX Tijuana 86.95 55 P **P** 22 26 42.7 +0.9
CHUM Lake Minchumin 87.02 16 S **S** 22 37 05.6 -0.9
baz=217
KLU Klutina 87.07 20 P **P** 22 26 40.8 -0.9
baz=223,SNR=7.7
KLU S **S** 22 37 07.5 +0.3
baz=223
DIB Dawson Inlet, 87.09 31 P **P** 22 26 43.1 +1.2
DIB IAmb IAmb 22 26 44.5
comp=Z,242nm,1.5s
BMRM Bremner River 87.12 21 P **P** 22 26 41.4 -0.6
baz=224,SNR=11
BMRM S **S** 22 37 07.8 0.0
baz=224
F17K Baldwin Pennin 87.14 12 P **P** 22 26 42.9 +1.1
baz=208,SNR=38
F17K S **S** 22 37 09.3 +1.9
baz=208
G18K Tagagawik 87.18 13 P **P** 22 26 42.7 +0.6
baz=211,SNR=153
G18K S **S** 22 37 08.9 +0.9
baz=211
I20K Naaghedeneel 87.21 15 P **P** 22 26 43.0 +0.8
baz=215,SNR=8.5
I20K S **S** 22 37 10.2 +2.0
baz=215
HG4B Hotspring 87.21 32 P **P** 22 26 43.8 +1.3
HG4B IAmb IAmb 22 26 45.5
comp=Z,217nm,1.2s
TRF Thorofare Moun 87.23 17 P **P** 22 26 41.5 -1.2
baz=219,SNR=27
TRF S **S** 22 37 08.0 -0.9
baz=219
H19K Roundabout Mou 87.35 14 P **P** 22 26 43.8 +0.9
baz=213,SNR=83
H19K S **S** 22 37 12.6 +3.0
baz=213
BBOR Butler Butte 87.36 43 P **P** 22 26 44.8 +1.1
BBOR IAmb IAmb 22 26 46.7
comp=Z,216nm,1.3s
M24K Tolsona, Glenn 87.44 20 P **P** 22 26 43.2 -0.3
baz=222,SNR=14
M24K S **S** 22 37 13.2 +2.5
baz=222
CRQE Cirque 87.49 22 P **P** 22 26 43.2 -0.6
baz=225,SNR=10
MESA MESA 87.49 22 P **P** 22 26 43.5 -0.5
baz=226,SNR=5.8
MESA S **S** 22 37 13.2 +1.6
baz=226
BPAW Bear Paw Mtn. 87.55 17 P **P** 22 26 42.6 -1.4
baz=218
MPK Martis Peak 87.55 47 P **P** 22 26 46.5 +1.6
N25K Chitina, Valde 87.59 20 P **P** 22 26 44.0 -0.3
baz=224,SNR=37
N25K S **S** 22 37 12.5 +0.3
baz=224
F18K Selawik 87.59 12 P **P** 22 26 44.2 +0.3
baz=210,SNR=27
F18K S **S** 22 37 15.7 +4.0
baz=210
E17K Hotham Inlet 87.59 11 P **P** 22 26 44.9 +0.9
baz=208,SNR=56
E17K S **S** 22 37 15.2 +3.3
baz=208
H20K Anotleneega Mo 87.69 14 P **P** 22 26 45.4 +0.8
baz=214,SNR=37
H20K S **S** 22 37 16.1 +3.3
baz=214
G19K Purcell Mounta 87.73 13 P **P** 22 26 45.4 +0.6
baz=212,SNR=58
COR Corvallis 87.74 42 P **P** 22 26 46.3 +1.1
COR Corvallis 87.74 42 P **P** 22 26 46.3 +1.1
COR pmax pmax
comp=Z,741nm,1.8s
MCK McKinley 87.83 17 P **P** 22 26 44.5 -0.8
baz=220,SNR=14
MCK S **S** 22 37 13.1 -1.2
baz=220
PFO Pinyon Flats O 87.84 54 P **P** 22 26 47.0 +0.9
PFO IAmb IAmb 22 26 49.0
comp=Z,387nm,1.8s
PFO Pinyon Flats O 87.84 54 LR LR 22 57 04.6
comp=Z,386nm,21.3s,baz=216,slow=29
PFO Pinyon Flats O 87.84 54*c* *i*P **P** 22 26 47.4 +1.2
PFO pmax pmax
comp=Z,342nm,1.9s
D17K Noatak River 87.92 10 P **P** 22 26 47.0 +1.5
baz=207,SNR=59
D17K S **S** 22 37 17.5 +2.7
baz=207
BOD Bodaibo 87.95 334⇓ *i*P **P** 22 26 45.9 0.0
BOD pmax pmax
comp=Z,496nm,1.5s
MCARA McCarthy VSAT 87.96 21 P **P** 22 26 45.3 -0.6
baz=225,SNR=13
MCARA S **S** 22 37 17.4 +1.8
baz=225
HARP HAARP 87.98 20 P **P** 22 26 45.7 -0.3
baz=223
GOMU GeErMu 88.04 309 P **P** 22 26 48.6 +1.2
GOMU SS SS 22 43 09.5 -1.0
GOMU pmax pmax
comp=Z,43nm,1.0s
GOMU LR LR
comp=Z,150nm,13.7s
GOMU LR LR
comp=Z,110nm,13.2s
GOMU LR LR
comp=Z,160nm,13.6s
PCA Pinnacle 88.06 23 P **P** 22 26 46.0 -0.5
PINM Pinnacle 88.06 23 P **P** 22 26 46.0 -0.5
PINM baz=228,SNR=8.3 S **S** 22 37 17.3 +0.6
baz=228
C16K Lisburne Hills 88.07 9 P **P** 22 26 47.1 +0.8
baz=205,SNR=12
C16K S **S** 22 37 17.4 +1.1
baz=205
PNL Peninsula 88.10 24 P **P** 22 26 46.1 -0.5
baz=228,SNR=8.2
PNL S **S** 22 37 17.7 +0.7
baz=228
CRAG Craig 88.11 29 P **P** 22 26 47.7 +1.0
baz=234
CRAG S **S** 22 37 18.9 +1.7
baz=234
E18K Tukpahlearik C 88.12 11 P **P** 22 26 47.4 +0.9
baz=209,SNR=56
E18K S **S** 22 37 18.2 +1.4
baz=209
I21K Tanana 88.15 16 P **P** 22 26 46.9 +0.3
baz=217
I21K S **S** 22 37 18.3 +1.2
baz=217
F19K Shaleruckik Mo 88.17 13 P **P** 22 26 47.5 +0.7
baz=212,SNR=84
F19K S **S** 22 37 19.0 +1.7
baz=212
CTG Chitna Glacier 88.25 22 P **P** 22 26 46.9 -0.6
baz=227,SNR=17
S31K Pelican 88.26 26 P **P** 22 26 47.7 +0.4
baz=231,SNR=8.3
S31K S **S** 22 37 20.7 +2.3
baz=231
RDOG Red Dog Mine 88.27 10 P **P** 22 26 48.3 +1.1
baz=207
RDOG S **S** 22 37 19.7 +1.5
baz=207
PMSA Palmer Station 88.29 160 P **P** 22 26 47.6 +0.1
PMSA IAmb IAmb 22 26 49.3
comp=Z,260nm,0.9s
PMSA Palmer Station 88.29 160 *e*P **P** 22 26 48.0 +0.5
PAX Paxson 88.30 19 P **P** 22 26 46.8 -0.8
baz=223,SNR=25
PAX S **S** 22 37 19.0 +0.1
baz=223
H21K Melozitna Rive 88.32 15 P **P** 22 26 47.9 +0.4
baz=216,SNR=37
H21K S **S** 22 37 19.1 +0.3
baz=216
MLY Manley 88.35 16 P **P** 22 26 47.1 -0.6
baz=218,SNR=33
MLY S **S** 22 37 17.5 -1.7
baz=218
IMAR Indian Mountai 88.36 14 P **P** 22 26 47.8 +0.2
LSA Lhasa 88.38 302 P **P** 22 26 49.0 -0.2
LSA pmax pmax
comp=Z,90nm,0.9s
LSA LR LR
comp=Z,240nm,4.8s
LSA LR LR
comp=Z,180nm,4.5s
NVAR Mina Array Bea 88.41 49 P **P** 22 26 49.6 +0.7
NVAR Mina Array Bea 88.41 49 P **P** 22 26 50.2 +1.3
comp=Z,261nm,1.1s,baz=229,slow=6.2,SNR=339
NVAR PKKPbc **PKKPbc** 22 44 32.9 +0.8
comp=Z,8.5nm,0.7s,baz=67,slow=3.1,SNR=35
NVAR PKPPKP **P'P'df** 22 52 34.9 -3.7
comp=Z,6.6nm,1.0s,baz=105,slow=2.9,SNR=5.4
NVAR LR LR 22 58 38.3
comp=Z,574nm,21.2s,baz=246,slow=30
comp=Z,261nm,1.1s
NEA2 Nenana 88.46 17 P **P** 22 26 47.1 -1.1
baz=220,SNR=26
NEA2 S **S** 22 37 17.2 -3.0
baz=220
U33K Whale Pass 88.49 28 P **P** 22 26 49.2 +0.7
baz=234,SNR=7.5
U33K S **S** 22 37 23.2 +2.5
baz=234
NV11 Mina Array Sit 88.51 49 P **P** 22 26 50.0 +0.8
O28M Mount Upton 88.54 22 P **P** 22 26 48.6 -0.4
baz=228,SNR=6.6
O28M S **S** 22 37 22.6 +1.0
baz=228
C17K DeLong Mountai 88.60 10 P **P** 22 26 49.5 +0.8
baz=207,SNR=21
C17K S **S** 22 37 23.0 +1.6
baz=207
S32K Killisnoo 88.66 27 P **P** 22 26 49.5 +0.3
baz=233,SNR=11
M26K Nabesna, AK 88.69 20 P **P** 22 26 48.9 -0.5
baz=225,SNR=36
M26K S **S** 22 37 24.5 +2.0
baz=225
P29M Windy Craggy 88.71 24 P **P** 22 26 49.5 0.0
baz=230,SNR=16
P29M S **S** 22 37 24.6 +1.8
baz=230
NLWA Neilton Lookou 88.72 39 P **P** 22 26 51.4 +1.6
V35K Ketchikan 88.73 30 P **P** 22 26 50.6 +1.0
baz=235,SNR=12
V35K S **S** 22 37 26.0 +3.1
baz=235
BBB Bella Bella 88.74 33 LR LR 23 03 52.5
comp=Z,226nm,18.1s,baz=205,slow=34
F20K Avaraart Lake 88.79 13 P **P** 22 26 50.5 +0.9
baz=214,SNR=78
F20K S **S** 22 37 25.9 +2.8
baz=214
I23K Minto, Yukon-K 88.81 16 P **P** 22 26 48.7 -1.0
baz=220,SNR=19
I23K S **S** 22 37 22.2 -1.1
baz=220
K24K Donnelly Dome 88.81 18 P **P** 22 26 49.3 -0.6
baz=223,SNR=21
K24K S **S** 22 37 22.8 -0.8
baz=223
E19K Redstone River 88.82 12 P **P** 22 26 50.8 +1.0
baz=212,SNR=115
E19K S **S** 22 37 23.7 +0.3
baz=212
O29M Mount Kennedy 88.83 23 P **P** 22 26 49.7 -0.5
baz=229
O29M S **S** 22 37 23.4 -0.6
baz=229
G21K Allakaket 88.85 14 P **P** 22 26 50.5 +0.5
baz=216,SNR=81
G21K S **S** 22 37 24.7 +1.0
baz=216
H22K Ishtalitna Cre 88.87 15 P **P** 22 26 50.7 +0.6
baz=218,SNR=64
H22K S **S** 22 37 23.6 -0.3
baz=218
SRIG Santa Rosalia 88.88 61 P **P** 22 26 52.1 +1.1
HDA Harding Lake 88.92 18 P **P** 22 26 49.8 -0.5
baz=222,SNR=82
HDA S **S** 22 37 22.7 -1.7
baz=222
ZAK Zakamensk 88.94 324 *e*P **P** 22 26 51.0 +0.1
ZAK *e* 22 37 06.4
ZAK pmax pmax
comp=Z,191nm,1.4s
COLA College 89.01 17 P **P** 22 26 50.0 -0.8
COLA IAmb IAmb 22 26 52.4
comp=Z,239nm,1.4s
COLA College 89.01 17*c* *i*P **P** 22 26 49.5 -1.2
COLA pmax pmax
comp=Z,152nm,1.4s
COLA College 89.01 17 P **P** 22 26 49.9 -0.8
baz=221
COLA S **S** 22 37 24.3 -0.9
baz=221
L26K Log Cabin Wild 89.01 20 P **P** 22 26 50.6 -0.2
baz=225,SNR=15
L26K S **S** 22 37 25.1 -0.3
baz=225
WRAK Wrangell Islan 89.02 28 P **P** 22 26 51.4 +0.5
baz=235,SNR=15
WRAK S **S** 22 37 29.1 +3.5
baz=235
M27K Edge Creek, AK 89.03 21 P **P** 22 26 50.9 -0.2
baz=226,SNR=52
M27K S **S** 22 37 24.4 -1.5
baz=226
TPH Tonopah 89.04 49 P **P** 22 26 52.9 +1.1
TPH Tonopah 89.04 49 P **P** 22 26 52.9 +1.1
TPH pmax pmax
comp=Z,2μm,1.2s
RIDG Independent Ri 89.05 19 P **P** 22 26 50.6 -0.5
baz=224,SNR=35
C18K Utukok River 89.09 11 P **P** 22 26 52.0 +0.9
baz=209,SNR=51
C18K S **S** 22 37 26.4 +0.4
baz=209
YUK3 Moose Creek 89.12 22 P **P** 22 26 51.3 -0.3
baz=228,SNR=51
YUK3 S **S** 22 37 27.9 +1.0
baz=228
R32K Eaglecrest 89.17 26 P **P** 22 26 52.2 +0.6
baz=233
ILAR Eielson Array 89.21 17 P **P** 22 26 50.6 -1.0
comp=Z,30nm,0.7s,baz=237,slow=4.5,SNR=188
ILAR PKiKP **PKiKP** 22 31 48.4 -0.9
comp=Z,2.2nm,0.9s,baz=238,slow=3.1,SNR=5.5
ILAR SKiKP **SKiKP** 22 35 09.7 +0.7
comp=Z,0.7nm,0.6s,baz=34,slow=4.7,SNR=6.6
ILAR PKKP **PKKPdf** 22 44 26.6 +0.4
comp=Z,1.7nm,0.9s,baz=353,slow=2.8,SNR=10
ILAR PKPPKP **P'P'df** 22 52 30.6 -4.3
comp=Z,1.6nm,1.1s,baz=309,slow=2.1,SNR=6.7
ILAR LR LR 23 01 48.7
comp=Z,652nm,19.9s,baz=224,slow=32
comp=Z,30nm,0.7s
MTPC Mountain Pass 89.25 52 P **P** 22 26 54.2 +1.4
MTPC IAmb IAmb 22 26 55.9
comp=Z,318nm,1.3s
H23K Yukon River 89.28 16 P **P** 22 26 51.7 -0.3
baz=219,SNR=32
H23K S **S** 22 37 26.1 -1.7
baz=219
TPNV Topopah Spring 89.30 51 P **P** 22 26 53.9 +0.9
TPNV IAmb IAmb 22 26 56.1
comp=Z,362nm,1.1s
TPNV Topopah Spring 89.30 51 P **P** 22 26 53.9 +0.9
TPNV pmax pmax
comp=Z,362nm,1.2s
POKR Poker Plat Res 89.31 17 P **P** 22 26 51.0 -1.2
baz=221,SNR=9.5
POKR S **S** 22 37 28.0 -0.1
baz=221
P30M Million Dollar 89.33 24 P **P** 22 26 52.6 +0.1
baz=231
P30M S **S** 22 37 30.6 +2.0
baz=231
IRK Irkutsk 89.35 326 *e*P **P** 22 26 50.5 -2.2
IRK *e*S **SKSac** 22 37 04.9 -2.8
IRK *e* 22 38 39.3
IRK pmax pmax
comp=Z,227nm,1.6s
LPIG La Paz 89.40 65 LR LR 23 01 16.6
comp=Z,329nm,18.0s,baz=224,slow=32
PIX Pinacate 89.41 57 P **P** 22 26 54.3 +1.0
PIX IAmb IAmb 22 26 56.0
comp=Z,115nm,1.0s
BVCY Beaver Creek 89.41 21 P **P** 22 26 52.4 -0.3
baz=227,SNR=7.8
F21K Alatna River 89.43 14 P **P** 22 26 53.2 +0.5
baz=216,SNR=54
F21K S **S** 22 37 29.7 +0.5
baz=216
SCRK Sand Creek 89.49 19 P **P** 22 26 53.0 -0.1
baz=224,SNR=21
SCRK S **S** 22 37 29.3 -0.7
baz=224
D19K Kuna River 89.53 12 P **P** 22 26 53.9 +0.7
baz=211,SNR=61
D19K S **S** 22 37 31.6 +1.5
baz=211
J25K Salcha River, 89.53 18 P **P** 22 26 52.8 -0.5
baz=223,SNR=77
J25K S **S** 22 37 29.8 -0.5

baz=223
L27K Beaver Creek, 89.53 20 P **P** **22 26 53.0 -0.3**
baz=226,SNR=34
L27K S **S** **22 37 29.6 -0.8**

baz=226
BCAR Beaver Creek A 89.55 20 P **P** **22 26 52.7 -0.7**
SKAG Skagway 89.56 25 P **P** **22 26 53.6 +0.2**
baz=232
SLBS Sierra La Lagu 89.57 65 P **P** **22 26 56.5 +2.1**
113A Mohawk Valley, 89.61 55 P **P** **22 26 55.6 +1.3**
113A IAmb IAmb 22 26 57.5

comp=Z,241nm,1.2s
GTK Tadong 89.62 299 *e*P **P** **22 26 54.9 +0.2**
GTK IAmb IAmb 22 26 57.3

comp=Z,937nm,2.4s
GTK *e*S **SKSac** **22 37 14.0 +3.3**
B18K Kokolik River 89.62 10 P **P** **22 26 54.9 +1.4**
baz=208,SNR=20
B18K S **S** **22 37 31.7 +1.0**

baz=208
G22K Bettles 89.65 15 P **P** **22 26 54.9 +1.2**
baz=218
E20K Nigu River 89.71 12 P **P** **22 26 55.1 +1.1**
baz=213,SNR=118
E20K S **S** **22 37 33.2 +1.5**

baz=213
H24K Noodor Dome 89.74 16 P **P** **22 26 52.6 -1.6**
baz=221,SNR=12
H24K S **S** **22 37 30.2 -1.9**

baz=221
TROLL Troll, Antarti 89.74 184 ⇑P **P** **22 26 54.3 -0.2**
comp=Z,27µm,0.6s
TROLL ⇓S **S** **22 37 28.9 -3.7**
TROLL ⇓PKKPdf **PKKPdf** **22 44 23.4 +0.4**

comp=Z,91nm,0.6s
C19K Lookout Ridge 89.78 11 P **P** **22 26 55.8 +1.4**
baz=210,SNR=43
C19K S **S** **22 37 31.6 -0.8**

baz=210
WVOR Wild Horse Val 89.83 45 P **P** **22 26 56.6 +1.3**
WVOR Wild Horse Val 89.83 45 P **P** **22 26 56.6 +1.3**
WVOR pmax pmax

comp=Z,719nm,1.3s
G23K Bananza Creek 89.85 15 P **P** **22 26 55.3 +0.6**
baz=219,SNR=74
G23K S **S** **22 37 34.2 +1.1**

baz=219
F22K John River 89.96 14 P **P** **22 26 56.0 +0.9**
baz=217
F22K S **S** **22 37 35.0 +0.9**

baz=217
J26L Joseph Creek 89.99 19 P **P** **22 26 55.7 +0.3**
baz=225,SNR=27
J26L S **S** **22 37 36.2 +1.6**

baz=225
D20K Etivluk River 90.00 12 P **P** **22 26 56.5 +1.1**
baz=213,SNR=98
D20K S **S** **22 37 35.2 +0.8**

baz=213
K27K Chicken 90.12 19 P **P** **22 26 56.1 +0.1**
baz=226
K27K S **S** **22 37 38.6 +2.9**

baz=226
N30M Aishikik Lake 90.13 23 P **P** **22 26 55.7 -0.4**
baz=231,SNR=15
N30M S **S** **22 37 36.0 +0.1**

baz=231
PRP Porcupine Dome 90.15 17 P **P** **22 26 54.9 -1.3**
baz=223,SNR=15
PRP S **S** **22 37 35.0 -1.1**

baz=223
COLD Coldfoot 90.21 15 P **P** **22 26 56.9 +0.6**
COLD Coldfoot 90.21 15 P **P** **22 26 57.1 +0.8**
baz=219,SNR=59
COLD S **S** **22 37 38.7 +2.4**

baz=219
PALK Pallekele 90.25 278 P **P** **22 26 58.6 +0.8**
PALK IAmb IAmb 22 27 00.5

comp=Z,193nm,1.1s
PALK Pallekele 90.25 278 LR LR 23 11 08.2
comp=Z,429nm,18.5s,baz=110,slow=38
PALK Pallekele 90.25 278*c i*P **P** **22 26 59.0 +1.2**
PALK pmax pmax

comp=Z,267nm,1.1s
M29M Somme Creek 90.27 22 P **P** **22 26 56.5 -0.4**
baz=229,SNR=24
M29M S **S** **22 37 36.9 -0.3**

baz=229
T35M Bob Quinn 90.29 29 P **P** **22 26 57.6 +0.7**
baz=236,SNR=10
T35M S **S** **22 37 41.0 +3.5**

baz=236
P32M Atlin 90.29 25 P **P** **22 26 57.5 +0.5**
baz=234,SNR=17
P32M S **S** **22 37 40.4 +3.0**

baz=234
E21K Killik River 90.32 13 P **P** **22 26 57.7 +0.8**
baz=215
E21K S **S** **22 37 37.5 +0.2**

baz=215
SNAA Sanae 90.39 183 ⇑P **P** **22 26 56.9 -0.5**
comp=Z,4µm,0.7s
SNAA ⇓PKKPdf **PKKPdf** **22 44 22.0 +0.2**

comp=Z,102nm,0.8s
SNAA Sanae 90.39 183 P **P** **22 26 56.9 -0.5**
SNAA Sanae 90.39 183 P **P** **22 26 56.8 -0.5**
comp=Z,230nm,0.8s,baz=186,slow=4.2,SNR=1302
SNAA PKiKP **PKiKP** **22 31 51.3 0.0**
comp=Z,5.4nm,0.8s,baz=212,slow=4.4,SNR=2.9
SNAA PKKP **PKKPdf** **22 44 21.8 0.0**
comp=Z,5.8nm,1.0s,baz=0.8,slow=0.5,SNR=9.8
SNAA PKPPKP **P'P'df** **22 52 27.4 -7.4**
comp=Z,3.4nm,1.0s,baz=296,slow=3.6,SNR=6.0
comp=Z,230nm,0.8s
SNAA Sanae 90.39 183 P **P** **22 26 56.9 -0.5**
SNAA pmax pmax

comp=Z,1µm,1.6s
S34M Telegraph Cree 90.42 28 P **P** **22 26 58.6 +1.1**
baz=236,SNR=20
WHY Whitehorse 90.47 24 P **P** **22 26 57.4 -0.4**
WHY IAmb IAmb 22 26 59.3

comp=Z,204nm,1.8s
WHY Whitehorse 90.47 24 P **P** **22 26 57.7 -0.1**
baz=232,SNR=12
WHY S **S** **22 37 40.4 +1.2**

baz=232
A19K Wainwright 90.49 10 P **P** **22 26 58.6 +1.1**
baz=209
A19K S **S** **22 37 39.7 +1.1**

baz=209
G24K Hadweenzic Riv 90.50 16 P **P** **22 26 57.8 +0.1**
baz=221,SNR=47
G24K S **S** **22 37 40.6 +1.6**

baz=221
Q32M Nakina River 90.52 26 P **P** **22 26 58.9 +0.7**
baz=235,SNR=28
Q32M S **S** **22 37 42.3 +2.4**

baz=235
HSIG 90.54 60 P **P** **22 26 59.6 +0.9**
HSIG IAmb IAmb 22 27 01.6

comp=Z,288nm,1.3s
E22K Anaktuvuk Pass 90.55 14 P **P** **22 26 58.8 +0.9**
baz=217,SNR=74
E22K S **S** **22 37 41.7 +2.2**

baz=217
H25L Birch Creek 90.62 17 P **P** **22 26 58.6 +0.4**
baz=223
H25L S **S** **22 37 40.8 +0.9**

baz=223
N31M Braeburn, Yuko 90.64 23 P **P** **22 26 58.3 -0.2**
baz=232
N31M S **S** **22 37 41.4 +1.0**

baz=232
I26K Coal Creek Min 90.69 18 P **P** **22 26 58.6 0.0**
baz=225
I26K S **S** **22 37 43.2 +2.4**

baz=225
BOK Bokaro 90.74 295 *e*P **P** **22 27 00.5 +0.7**
BOK IAmb IAmb 22 27 03.9

comp=Z,587nm,2.3s
BOK *e*S **SKSac** **22 37 14.0 -3.0**
C21K Knifeblade Rid 90.74 12 P **P** **22 26 60.0 +1.2**
baz=214,SNR=84
C21K S **S** **22 37 42.6 +1.5**

baz=214
L29M L29M 90.82 21 P **P** **22 26 59.4 +0.1**
baz=230,SNR=38
L29M S **S** **22 37 43.2 +1.0**

baz=230
MOY Mondy 90.83 325 *e*P **P** **22 27 00.5 +0.8**
MOY pmax pmax

comp=Z,255nm,2.5s
G25K Bearman Lake 90.91 16 P **P** **22 26 59.3 -0.2**
baz=222,SNR=15
G25K S **S** **22 37 42.8 +0.1**

baz=222
HAWA Hanford 90.92 41 P **P** **22 27 01.4 +1.3**
M30M Minto, Yukon 90.95 22 P **P** **22 26 59.8 -0.1**
baz=231,SNR=24
M30M S **S** **22 37 43.7 +0.5**

baz=231
D22K Ayikyak River 90.96 13 P **P** **22 27 01.1 +1.4**
baz=216,SNR=63
D22K S **S** **22 37 45.5 +2.5**

baz=216
B20K Meade River 91.00 11 P **P** **22 27 01.1 +1.2**
baz=212,SNR=18
B20K S **S** **22 37 44.0 +0.7**

baz=212
E23K Chandalar 91.00 14 P **P** **22 27 01.0 +0.9**
baz=219,SNR=69
E23K S **S** **22 37 46.6 +2.9**

baz=219
VNA3 Neumayer Olymp 91.00 181 ⇑P **P** **22 26 59.4 -0.7**
comp=Z,626nm,0.8s
VNA3 ⇓PKKPdf **PKKPdf** **22 44 21.4 +0.7**

comp=Z,6.7nm,0.8s
F24K Squaw Lake 91.01 15 P **P** **22 27 01.1 +1.0**
baz=221,SNR=99
F24K S **S** **22 37 45.2 +1.5**

baz=221
DAWY Dawson 91.02 20 P **P** **22 26 59.9 -0.3**
DAWY Dawson 91.02 20 P **P** **22 27 00.1 -0.1**
baz=228,SNR=26
P33M Teslin, Yukon 91.03 25 P **P** **22 27 00.3 0.0**
baz=234,SNR=27
P33M S **S** **22 37 44.9 +0.8**

baz=234
B21K Ikpikpuk River 91.16 12 P **P** **22 27 01.9 +1.3**
baz=215,SNR=73
B21K S **S** **22 37 46.5 +1.7**

baz=215
DLBC Dease Lake 91.19 27 LR LR 22 58 01.8
comp=Z,36nm,21.6s,baz=242,slow=29
DLBC Dease Lake 91.19 27 P **P** **22 27 02.0 +0.8**
baz=237,SNR=34
DLBC S **S** **22 37 46.0 +0.2**

baz=237
E24K Your Creek 91.28 15 P **P** **22 27 02.0 +0.7**
baz=220,SNR=25
E24K S **S** **22 37 48.2 +2.0**

baz=220
R33M Jennings River 91.32 26 P **P** **22 27 02.5 +0.7**
baz=236,SNR=51
R33M S **S** **22 37 48.0 +1.0**

baz=236
I27K Kandik River 91.36 18 P **P** **22 27 01.8 +0.1**
baz=227,SNR=28
I27K S **S** **22 37 47.4 +0.4**

baz=227
TOLK Toolik Lake Re 91.46 14 P **P** **22 27 03.0 +0.8**
baz=219,SNR=26
TOLK S **S** **22 37 47.9 +0.1**

baz=219
D23K Nanushuk River 91.46 14 P **P** **22 27 03.6 +1.5**
baz=218,SNR=60
D23K S **S** **22 37 51.0 +3.4**

baz=218
N32M Quiet Lake 91.47 24 P **P** **22 27 02.6 +0.2**
baz=234
ESPZ Base Esperanza 91.47 161 P **P** **22 27 02.8 +0.4**
ELK Elko 91.50 48 P **P** **22 27 04.4 +1.2**
ELK IAmb IAmb 22 27 06.0

comp=Z,182nm,1.3s
ELK Elko 91.50 48 LR LR 22 59 05.4
comp=Z,431nm,21.2s,baz=230,slow=29
ELK Elko 91.50 48 P **P** **22 27 04.4 +1.2**
ELK pmax pmax

comp=Z,182nm,1.3s
K29M Barlow Dome 91.50 21 P **P** **22 27 02.1 -0.5**
baz=230,SNR=11
VNA1 Neumayer-Stat 91.58 181 ⇑P **P** **22 27 02.5 -0.3**
comp=Z,429nm,1.2s
VNA1 ⇓PKKPdf **PKKPdf** **22 44 17.8 -1.8**

comp=Z,11nm,0.9s
M31M Drury Creek, Y 91.60 23 P **P** **22 27 02.2 -0.7**
baz=233,SNR=6.3
F25K Christian Rive 91.64 16 P **P** **22 27 04.0 +0.9**
baz=223,SNR=30
F25K S **S** **22 37 51.2 +1.8**

baz=223
J29N Klondike Camp 91.66 20 P **P** **22 27 03.2 0.0**
baz=230
G26K Porcupine Rive 91.67 17 P **P** **22 27 03.8 +0.7**
baz=225,SNR=42
BMO Blue Mountains 91.71 43 P **P** **22 27 04.7 +0.8**
BMO IAmb IAmb 22 27 06.5

comp=Z,397nm,1.7s
BMO Blue Mountains 91.71 43 P **P** **22 27 04.7 +0.8**
BMO pmax pmax

comp=Z,397nm,1.7s
I28M Miner Creek 91.77 19 P **P** **22 27 03.5 -0.3**
baz=228,SNR=24
TUC Tucson 91.80 57 P **P** **22 27 06.1 +1.5**
TUC IAmb IAmb 22 27 08.0

comp=Z,237nm,1.3s
TUC Tucson 91.80 57 P **P** **22 27 06.1 +1.5**
TUC pmax pmax

comp=Z,237nm,1.3s
BMAR Burnt Mountain 91.80 16 P **P** **22 27 04.4 +0.6**
H27K Steamboat Moun 91.82 18 P **P** **22 27 04.2 +0.3**
baz=227,SNR=30
B22K Teshekpuk Lake 91.99 12 P **P** **22 27 05.6 +1.2**
baz=216,SNR=21
B22K S **S** **22 37 53.7 +1.5**

baz=216
D24K Happy Valley 92.03 14 P **P** **22 27 05.8 +1.1**
baz=220,SNR=18
D24K S **S** **22 37 54.8 +2.1**

baz=220
F26K Sheenjek River 92.11 16 P **P** **22 27 06.2 +1.0**
baz=224,SNR=19
F26K S **S** **22 37 54.5 +1.0**

baz=224
MFID Camas Ranch 92.12 45 P **P** **22 27 06.9 +1.0**
MFID IAmb IAmb 22 27 08.7

comp=Z,464nm,1.9s
C23K Itkillik River 92.17 13 P **P** **22 27 06.6 +1.3**
baz=218,SNR=44
C23K S **S** **22 37 55.9 +2.1**

baz=218
G27K Doyon Strip 92.18 18 P **P** **22 27 05.8 +0.3**
baz=227,SNR=21
G27K S **S** **22 37 54.3 +0.1**

baz=227
A21K Barrow 92.21 11 P **P** **22 27 05.8 +0.4**
baz=213
A21K S **S** **22 37 54.1 0.0**

baz=213
I29M Ogilvie Camp, 92.22 20 P **P** **22 27 05.1 -0.6**
baz=230,SNR=45
A22K Sinclair Lake 92.23 11 P **P** **22 27 06.7 +1.1**
baz=214,SNR=8.3
A22K S **S** **22 37 56.0 +1.6**

baz=214
J30M Hart River 92.37 21 P **P** **22 27 06.3 -0.2**
baz=231,SNR=15
PKCU Pink Cliffs 92.41 51 P **P** **22 27 09.4 +1.8**
MG03 Isla Dawson 92.44 149 P **P** **22 27 07.4 +0.3**
WUAZ Wupatki 92.44 54 P **P** **22 27 08.9 +1.3**
WUAZ IAmb IAmb 22 27 10.8

comp=Z,292nm,1.4s
MG04 Isla Riesco 92.46 148 P **P** **22 27 08.3 +1.1**
C24K Franklin Bluff 92.50 14 P **P** **22 27 07.9 +1.1**
baz=220
C24K S **S** **22 37 59.1 +2.4**

baz=220
GO10 Punta Arenas 92.55 149 P **P** **22 27 09.3 +1.6**
WTLY Watson Lake, Y 92.64 26 P **P** **22 27 08.2 +0.5**
baz=238
MG05 Puerto Natales 92.64 147 P **P** **22 27 08.7 +0.6**
MG05 IAmb IAmb 22 27 09.5

comp=Z,128nm,0.8s
D25K Kavik River 92.74 15 P **P** **22 27 08.3 +0.3**
baz=222,SNR=32

I30M Mount Dempster 92.76 20 P **P** **22 27 07.9 -0.4**
baz=231,SNR=54
I30M S **S** **22 37 57.8 -1.8**

baz=231
H29M Whitestone 92.76 19 P **P** **22 27 08.1 -0.1**
baz=230,SNR=22
H29M S **S** **22 37 56.9 -2.4**

baz=230
GO09 Cerro Castillo 92.95 147 P **P** **22 27 09.4 -0.1**
GO09 IAmb IAmb 22 27 11.2

comp=Z,91nm,1.1s
DUG Dugway, Tooele 93.02 49 P **P** **22 27 10.8 +0.7**
DUG Dugway, Tooele 93.02 49 P **P** **22 27 10.8 +0.7**
DUG pmax pmax

comp=Z,55nm,1.1s
MMPY Sheldon Lake, 93.02 24 P **P** **22 27 09.7 +0.2**
baz=236,SNR=16
HLID Hailey 93.13 45 P **P** **22 27 11.6 +1.0**
MG01 Puerto William 93.13 151 P **P** **22 27 10.8 +0.6**
E27K Coleen River 93.14 17 P **P** **22 27 10.8 +0.8**
baz=227,SNR=30
F28M Old Crow 93.24 17 P **P** **22 27 10.4 +0.1**
baz=228,SNR=10
G29M Pine Creek 93.32 18 P **P** **22 27 10.4 -0.4**
baz=230,SNR=22
EPYK Eagle Plains 93.37 19 P **P** **22 27 10.6 -0.4**
baz=231,SNR=34
TIXI Tiksi 93.40 348 **P** **22 27 10.1 -0.8**
TIXI IAmb IAmb 22 27 11.9

comp=Z,83nm,1.0s
TIXI Tiksi 93.40 348 P **P** **22 27 10.6 -0.3**
comp=Z,62nm,1.0s,baz=168,slow=5.6,SNR=33
TIXI PKiKP **PKiKP** **22 31 55.5 -0.6**

comp=Z,11nm,0.9s,baz=80,slow=2.9,SNR=4.3
TIXI LR LR 23 06 13.5
comp=Z,209nm,20.3s,baz=148,slow=33
comp=Z,62nm,1.0s
TIXI Tiksi 93.40 348 P **P** **22 27 10.1 -0.8**
TIXI pmax pmax

comp=Z,83nm,1.0s
C26K Camden Bay 93.52 15 P **P** **22 27 13.2 +1.6**
baz=224,SNR=22
TOAD Toad River Com 93.55 28 P **P** **22 27 12.5 +0.5**
baz=241,SNR=180
C27K Jago River 93.61 15 P **P** **22 27 12.5 +0.5**
baz=225,SNR=29
TGTN Hyland Airport 93.61 25 P **P** **22 27 12.9 +0.6**
baz=238,SNR=11
MG02 Cerro Sombrero 93.67 149 P **P** **22 27 13.5 +0.7**
H31M Peel River 93.79 20 P **P** **22 27 11.6 -1.3**
baz=233,SNR=20
G30M tAoh Zraii Nji 93.91 19 P **P** **22 27 13.1 -0.4**
baz=232,SNR=49
E28M Babbage River 93.99 17 P **P** **22 27 14.4 +0.6**
baz=229,SNR=38
D27M Malcolm River 94.04 16 P **P** **22 27 14.8 +0.7**
baz=227,SNR=18
HPIG 94.28 63 P **P** **22 27 16.8 +0.5**
E29M Blow River 94.31 17 P **P** **22 27 15.0 -0.2**
baz=230,SNR=15
F30M Barrier River 94.43 18 P **P** **22 27 15.4 -0.4**
baz=232,SNR=22
G31M Satah River 94.48 19 P **P** **22 27 15.8 -0.2**
baz=233,SNR=42
MSO Missoula 94.64 42 P **P** **22 27 17.1 -0.2**
D28M Stokes Point 94.69 16 P **P** **22 27 16.9 0.0**
baz=229
KOTAN Kotaneelee Air 94.70 28 P **P** **22 27 17.9 +0.7**
baz=242,SNR=12
BPMT Black Pine Rid 94.81 43 P **P** **22 27 18.6 +0.3**
F31M Tsiigehtchic 94.96 19 P **P** **22 27 17.6 -0.6**
baz=234
EPT El Paso 95.06 58 P **P** **22 27 20.4 +0.7**
EPT IAmb IAmb 22 27 22.3

comp=Z,94nm,1.3s
AHID Auburn Hatcher 95.11 47 P **P** **22 27 20.2 +0.5**
MVCO Mesa Verde 95.19 53 P **P** **22 27 20.6 +0.3**
HYB Hyderabad 95.31 286 *e*P **P** **22 27 21.3 +0.3**
HYB *e*PcP **PcP** **22 27 21.5 +0.3**
HYB *e*PP **PP** **22 31 13.4 -0.2**
HYB *e*SKSac **SKSac** **22 37 42.6 +0.2**
Y22A Socorro 95.36 56 P **P** **22 27 21.8 +0.7**
INK Inuvik 95.54 18 P **P** **22 27 20.8 0.0**
INK IAmb IAmb 22 27 23.0

comp=Z,136nm,1.4s
INK Inuvik 95.54 18 LR LR 23 05 56.9
comp=Z,502nm,20.0s,baz=229,slow=32
INK Inuvik 95.54 18 P **P** **22 27 20.8 0.0**
INK pmax pmax

comp=Z,136nm,1.5s
INK Inuvik 95.54 18 P **P** **22 27 20.2 -0.6**
baz=234,SNR=20
BOZ Bozeman (W) 95.71 44 P **P** **22 27 23.0 +0.7**
BOZ Bozeman (W) 95.71 44 P **P** **22 27 23.0 +0.7**
BOZ pmax pmax

comp=Z,35nm,1.1s
YHB Horse Butte 95.71 45 P **P** **22 27 23.7 +1.2**
ZAIG Zacatecas 95.72 68 P **P** **22 27 23.9 +0.8**
WMQ Urumqi 95.92 314 *e*P **P** **22 27 24.1 +0.9**
WMQ pP pP 22 27 59.8 -3.4
WMQ PP **PP** **22 31 17.2 -0.6**
WMQ SKS **SKSac** **22 37 43.2 -1.5**
WMQ pmax pmax

comp=Z,200nm,1.3s
WMQ pmax pmax

comp=Z,830nm,5.7s
WMQ LR LR

comp=Z,430nm,16.5s
WMQ LR LR

comp=Z,250nm,23.9s
VHRN Van Horn 96.01 60 P **P** **22 27 24.7 +0.7**
VHRN IAmb IAmb 22 27 26.8

comp=Z,115nm,1.3s
MOIG Morelia 96.06 71 P **P** **22 27 24.9 +0.3**
MOIG IAmb IAmb 22 27 27.3

comp=Z,172nm,1.4s
ANMO Albuquerque 96.06 55 P **P** **22 27 24.6 +0.4**
ANMO Albuquerque 96.06 55 LR LR 23 05 52.9
comp=Z,406nm,18.2s,baz=10.0,slow=32
ANMO Albuquerque 96.06 55*c i*P **P** **22 27 24.7 +0.4**
ANMO pmax pmax

comp=Z,42nm,1.3s
PDAR Pinedale Array 96.19 47 P **P** **22 27 24.6 -0.1**
PDAR Pinedale Array 96.19 47 P **P** **22 27 24.9 +0.1**
comp=Z,5.5nm,0.6s,baz=240,slow=2.8,SNR=45
PDAR PP **PP** **22 31 19.1 -1.0**

comp=Z,0.4nm,0.4s,baz=276,slow=5.9,SNR=4.2
PDAR PKiKP **PKiKP** **22 32 02.9 +0.6**
comp=Z,1.7nm,0.7s,baz=262,slow=4.0,SNR=4.0
PDAR PKKP **PKKPbc** **22 44 10.9 -1.3**
comp=Z,7.5nm,0.8s,baz=86,slow=5.2,SNR=24
PDAR PKPPKP **P'P'df** **22 52 19.9 -4.1**
comp=Z,1.8nm,0.9s,baz=94,slow=4.5,SNR=5.8
PDAR LR LR 23 01 57.6
comp=Z,143nm,21.4s,baz=256,slow=30
comp=Z,5.5nm,0.6s
COYC Coyhaique 96.24 142 P **P** **22 27 24.6 -0.1**
COYC IAmb IAmb 22 27 26.1

comp=Z,79nm,1.3s
WRGLY Wrigley 96.40 25 P **P** **22 27 24.9 0.0**
baz=242,SNR=5.5
TX31 Lajitas Ar. Si 96.67 61 P **P** **22 27 28.1 +1.0**
TXAR Lajitas Array 96.68 61 P **P** **22 27 28.4 +1.4**
comp=Z,21nm,0.9s,baz=235,slow=4.4,SNR=118
TXAR PKKPbc **PKKPbc** **22 44 10.5 +0.4**

comp=Z,2.5nm,0.7s,baz=72,slow=4.1,SNR=12
TXAR PKPPKP **P'P'df** **22 52 19.8 -4.1**
comp=Z,1.3nm,1.0s,baz=207,slow=0.6,SNR=6.3
TXAR LR LR 23 00 20.1
comp=Z,125nm,21.7s,baz=249,slow=29
comp=Z,21nm,0.9s
JRQG Juriquilla Cam 97.02 71 Pdif 22 27 29.6 +0.6
SDCO Great Sand Dun 97.62 53 P Pdif 22 27 31.6 +0.1
LL02 Futaleuf 97.69 140 P **P** **22 27 31.3 0.0**
TLIG Tlapa 97.84 74 P Pdif 22 27 33.5 +0.9
ISCO Idaho Springs 98.13 51 P **P** **22 27 33.4 -0.2**
ISCO Idaho Springs 98.13 51 P **P** **22 27 33.4 -0.2**
ISCO pmax pmax

comp=Z,11nm,1.1s
MSTX Muleshoe 98.70 57 P **P** **22 27 35.5 -0.6**
MSTX IAmb IAmb 22 27 37.8

comp=Z,60nm,1.4s
ZSN Zaisan 98.92 317 *e*P Pdif 22 27 37.1 +0.5
ZSN pmax pmax

comp=Z,35nm,1.0s
ZSN Zaisan 98.92 317 *e*P Pdif 22 27 37.1 +0.5

comp=Z,35nm,1.0s
OZNA Ozona 99.23 61 Pdif **Pdif** 22 27 38.6 +0.2
YKA Yellowknife Ar 99.82 27 P **Pdif** 22 27 40.9 +0.8
comp=Z,12nm,0.7s,baz=261,slow=4.5,SNR=39
YKA LR LR 23 09 13.4
comp=Z,295nm,18.2s,baz=276,slow=33
comp=Z,12nm,0.7s
PLCA Paso Flores 99.86 139 Pdif **Pdif** 22 27 41.3 +0.2
PLCA Paso Flores 99.86 139 P **Pdif** 22 27 41.1 0.0
comp=Z,9.3nm,0.9s,baz=214,slow=4.0,SNR=10
PLCA PKKPbc **PKKPbc** 22 44 00.9 -0.4
comp=Z,9.5nm,0.9s,baz=63,slow=2.4,SNR=13
comp=Z,9.3nm,0.9s
PLCA Paso Flores 99.86 139 P **Pdif** 22 27 41.3 +0.2
PLCA pmax pmax
comp=Z,29nm,1.2s
PLCA Paso Flores 99.86 139 *e*P **Pdif** 22 27 41.8 +0.7
YKAW1 Yellowknife Wh 99.87 27 **Pdif** 22 27 40.8 +0.4
YKAW1 IAmb IAmb 22 27 42.6
comp=Z,34nm,0.8s
A36M Sachs Harbour 99.89 17 P **Pdif** 22 27 40.4 +0.2
baz=242
SMLA Simla 100.29 299 *e*P **Pdif** 22 27 42.8 -0.2
SMLA IAmb IAmb 22 27 44.4
comp=Z,292nm,1.8s
SMLA *e*S **SKSac** 22 38 06.9 -0.2
MK31 Makanchi Array 100.44 316 Pdif **Pdif** 22 27 43.8 +0.4
MK31 Makanchi Array 100.44 316 *c* P **Pdif** 22 27 43.5 +0.1
MKAR Makanchi Array 100.44 316 Pdif **Pdif** 22 27 43.6 +0.2
MKAR Makanchi Array 100.44 316 P **Pdif** 22 27 43.9 +0.6
comp=Z,24nm,0.6s,baz=93,slow=6.4,SNR=157
MKAR PKiKP **PKiKP** 22 32 09.1 -0.2
comp=Z,5.7nm,0.7s,baz=121,slow=0.6,SNR=22
MKAR PKKPbc **PKKPbc** 22 43 57.7 -2.5
comp=Z,11nm,0.8s,baz=284,slow=2.4,SNR=31
MAKZ Makanchi 100.65 316 P **Pdif** 22 27 38.9 -5.4
ZAA0 Zalesovo Array 100.77 323 Pdif **Pdif** 22 27 44.4 -0.2
ZALV Zalesovo Beam 100.77 323 Pdif **Pdif** 22 27 44.2 -0.4
ZALV Zalesovo Beam 100.77 323 P **Pdif** 22 27 44.0 -0.6
comp=Z,23nm,0.8s,baz=108,slow=4.8,SNR=87
ZALV PKiKP **PKiKP** 22 32 09.1 -0.5
comp=Z,9.8nm,0.8s,baz=134,slow=1.6,SNR=9.9
ZALV PKKPbc **PKKPbc** 22 43 57.4 -2.1
comp=Z,4.7nm,0.5s,baz=286,slow=4.0,SNR=14
ZALV Zalesovo Beam 100.77 323 *i* P **Pdif** 22 27 44.4 -0.2
ZALV pmax pmax
comp=Z,23nm,0.8s
SHLS Shalkode 101.48 312 *e*P **Pdif** 22 27 47.0 -1.2
SHLS Shalkode 101.48 312 *e*P **Pdif** 22 27 47.0 -1.2
UZB Uzynbulak 101.79 312 *e*P **Pdif** 22 27 49.6 0.0
UZB Uzynbulak 101.79 312 *e*P **Pdif** 22 27 49.7 0.0
PRZ Przheval'sk 102.08 311 Pdif **Pdif** 22 27 51.5 +0.5
PRZ Przheval'sk 102.08 311 P **Pdif** 22 27 51.5 +0.5
KPKS Kokpek 102.10 312 *e*P **Pdif** 22 27 51.0 +0.1
KPKS Kokpek 102.10 312 *e*P **Pdif** 22 27 51.1 +0.1
SATY Saty 102.20 311 *e*P **Pdif** 22 27 51.5 0.0
SATY Saty 102.20 311 *e*P **Pdif** 22 27 51.5 0.0
TARG Taragay, Kyrgy 102.34 310 Pdif **Pdif** 22 27 52.5 +0.1
TARG Taragay, Kyrgy 102.34 310 P **Pdif** 22 27 52.5 +0.1
TDK Taldyqorghan 102.64 313 *e*P **Pdif** 22 27 53.3 +0.1
TDK Taldyqorghan 102.64 313 *e*Pdif **Pdif** 22 27 53.4 +0.1
TNSS Tian-Shan 103.24 311 *e*P **Pdif** 22 27 56.2 -0.2
TNSS Tian-Shan 103.24 311 *e*Pdif **Pdif** 22 27 56.2 -0.2
KURK Kurchatov 103.70 319 Pdif **Pdif** 22 27 57.4 -0.3
KURK Kurchatov 103.70 319 P **Pdif** 22 27 57.4 -0.3
KURBB Kurchatov Arra 103.74 319 Pdiff **Pdif** 22 27 58.0 +0.1
comp=Z,11nm,0.9s,baz=101,slow=4.0,SNR=43
KURBB PKiKP **PKiKP** 22 32 15.2 0.0
comp=Z,15nm,0.9s,baz=113,slow=1.7,SNR=20
KURBB PKKPbc **PKKPbc** 22 43 49.0 -1.6
comp=Z,12nm,0.8s,baz=284,slow=3.5,SNR=26
KURBB SKKP 22 47 20.0
comp=Z,0.7nm,0.2s,baz=263,slow=2.4,SNR=4.8
KURBB Kurchatov Arra 103.74 319 P **Pdif** 22 27 57.0 -0.9
AAK Ala-Archa 104.93 310 Pdif **Pdif** 22 28 03.9 +0.2
AAK Ala-Archa 104.93 310 P **Pdif** 22 28 03.9 +0.2
BTLS Baital 105.68 313 *e*P **Pdif** 22 28 06.7 0.0
BTLS Baital 105.68 313 *e*Pdif **Pdif** 22 28 06.7 0.0
KK31 Karatay Array 107.90 310 Pdif **Pdif** 22 28 15.7 -1.0
KK31 Karatay Array 107.90 310 *i* P **Pdif** 22 28 15.9 -0.7
IUG luzhnay 108.11 309 *e*P **Pdif** 22 28 17.6 -0.1
IUG luzhnay 108.11 309 *e*Pdif **Pdif** 22 28 17.7 0.0
BRLS Borolday 108.38 310 *e*P **Pdif** 22 28 19.0 +0.2
BRLS Borolday 108.38 310 *e*Pdif **Pdif** 22 28 19.0 +0.2
BVA0 Borovoye Array 109.08 321 *i* P **Pdif** 22 28 21.1 -0.5
BVAR Borovoye Array 109.08 321 Pdiff **Pdif** 22 28 21.9 +0.2
comp=Z,8.1nm,0.8s,baz=102,slow=5.0,SNR=25
BVAR PKiKP **PKiKP** 22 32 24.8 -0.3
comp=Z,15nm,0.6s,baz=104,slow=1.7,SNR=62
BVAR PKKPbc **PKKPbc** 22 43 31.1 -3.0
comp=Z,9.2nm,0.8s,baz=295,slow=3.8,SNR=15
BVAR PKKPab **PKKPab** 22 43 44.1 0.0
comp=Z,2.6nm,0.7s,baz=318,slow=2.0,SNR=5.0
BRVK Borovoye 109.15 321 Pdif **Pdif** 22 28 21.5 -0.4
BRVK Borovoye 109.15 321 P **Pdif** 22 28 21.5 -0.4
VOI Vohitsoka 110.64 237 Pdif **Pdif** 22 28 30.2 +0.7
OPO Ambohidratompo 111.95 241 PKiKP **PKiKP** 22 32 31.8 0.0
comp=Z,12nm,0.8s,baz=145,slow=2.2,SNR=13
OPO PKKPbc **PKKPbc** 22 43 24.0 0.0
comp=Z,2.3nm,0.8s,baz=207,slow=3.2,SNR=5.4
OPO PKKPab **PKKPab** 22 43 34.6 0.0
comp=Z,9.4nm,1.1s,baz=308,slow=6.0,SNR=6.9
LPAZ La Paz 114.55 118 PKPdif 22 32 36.6 -0.7
comp=Z,6.8nm,0.7s,baz=271,slow=1.3,SNR=13
LPAZ PP **PP** 22 33 35.0 -1.1
comp=Z,9.6nm,1.1s,baz=248,slow=1.5,SNR=6.5
LPAZ PKKPbc **PKKPbc** 22 43 14.8 -1.0
comp=Z,4.9nm,0.7s,baz=53,slow=1.2,SNR=14
SVE Sverdlovsk 114.70 325 *d* iPKiKP **PKiKP** 22 32 35.7 +0.1
SVE pmax pmax
comp=Z,83nm,1.3s
TULEG Thule 114.72 13 *i* P PKPdf 22 32 34.5 -0.6
MHTO MHTO 115.03 285 P **PKPdf** 22 32 37.0 -0.2
SNR=6.9
JMDO Jabal Madar 115.15 287 P **PKPdf** 22 32 37.2 -0.3
DQM DQM 115.22 284 P **PKiKP** 22 32 37.9 +0.2
ACSO Alum Creek Sta 115.29 53 **PKPdf** 22 32 35.9 -1.4
SMDO Samad 115.32 287 P **PKiKP** 22 32 38.0 0.0
BIDO Bidbid 115.32 288 P **PKiKP** 22 32 38.0 +0.2
AB31 Akbulak array 115.57 317 *i* P **Pdif** 22 28 49.7 -0.8
ABKAR Akbulak array 115.57 317 **PKPdf** 22 32 37.0 -0.5
ARTI Arti 115.98 325 **PKPdf** 22 32 37.7 -0.4
ARTI Arti 115.98 325 PKP **PKPdf** 22 32 38.0 0.0
comp=Z,140nm,0.8s,baz=108,slow=0.9,SNR=135
ARTI SKiKP **SKiKP** 22 35 59.5 +0.6
comp=Z,26nm,1.1s,baz=113,slow=0.8,SNR=6.5
ARTI Arti 115.98 325 *i* PKiKP **PKPdf** 22 32 37.4 -0.7
ARTI 22 33 43.1
ARTI 22 39 35.2
HOQ Hoqain 116.07 288 P **PKPdf** 22 32 38.7 -0.5
PLTB Pedras Altas 116.08 140 PKPdf **PKPdf** 22 32 38.5 -0.6
NOR Nord 116.28 1 *i* P **PKPdf** 22 32 33.0 -5.0
SHAO Shalim 116.63 282 P **PKPdf** 22 32 40.3 -0.1
ARQ Araqi 116.75 288 P **PKPdf** 22 32 40.0 -0.6
AKTO Aktyubinsk 116.75 318 PKP **PKiKP** 22 32 39.8 0.0
comp=Z,59nm,0.8s,baz=86,slow=2.1,SNR=89
AKTO SKiKP **SKiKP** 22 36 01.3 +0.6
comp=Z,8.7nm,1.0s,baz=112,slow=3.4,SNR=4.9
AKTO PKKPbc **PKKPbc** 22 43 06.7 -1.6
comp=Z,6.9nm,0.8s,baz=265,slow=3.5,SNR=12
SOHO SOHO 116.86 288 P **PKPdf** 22 32 40.4 -0.3
SOHO SOHO 116.86 288 *i* PKPdf **PKPdf** 22 32 40.2 -0.5
SNR=15
BIRD Birdtown, Kers 116.98 60 PKPdf **PKPdf** 22 32 39.7 -1.0
NHSC New Hope 117.10 62 **PKPdf** 22 32 40.7 -0.2
BLA Blacksburg 117.16 57 **PKPdf** 22 32 39.9 -1.1
BLA Blacksburg 117.16 57 PKiKP **PKPdf** 22 32 39.9 -1.1
ROSC El Rosal 117.20 94 PKP **PKPdf** 22 32 41.7 -0.5
comp=Z,8.7nm,0.4s,baz=156,slow=21,SNR=3.7
DMTO DMTO 117.20 281 P **PKPdf** 22 32 41.3 -0.2
MDH Madha 117.24 290 P **PKPdf** 22 32 40.7 -0.7
MDH Madha 117.24 290 PKPdf **PKPdf** 22 32 40.5 -1.0
UOSS Minazif 117.28 289 PKPdf **PKPdf** 22 32 40.1 -1.4
UOSS Minazif 117.28 289 *i* PKPdf **PKPdf** 22 32 40.7 -0.8
SNR=8.6
CPUP Villa Florida 117.29 133 PKPdf **PKPdf** 22 32 40.8 -0.8
CPUP Villa Florida 117.29 133 PKP **PKPdf** 22 32 41.1 -0.4
comp=Z,2.0nm,0.7s,baz=148,slow=1.3,SNR=13
CPUP PP **PP** 22 33 53.3 -0.6
comp=Z,2.1nm,1.1s,baz=89,slow=6.1,SNR=2.8
CPUP PKKPbc **PKKPbc** 22 43 05.9 0.0
comp=Z,3.7nm,1.0s,baz=286,slow=2.6,SNR=13
HATD Hatta, Dubai 117.32 289 P **PKPdf** 22 32 41.4 -0.2
SNR=7.3
HATD Hatta, Dubai 117.32 289 *i* PKPdf **PKPdf** 22 32 41.3 -0.4
SNR=20
NEEM North Greenlan 117.36 9 *i* P **PKPdf** 22 32 40.0 -0.6
ASHO Ashiyiah 117.37 289 P **PKPdf** 22 32 41.4 -0.3
SNR=6.5
ASHO Ashiyiah 117.37 289 *i* PKPdf **PKPdf** 22 32 41.3 -0.5
SNR=20
MSFE Esma-Masafi 117.37 290 *i* PKPdf **PKPdf** 22 32 41.4 -0.3
SNR=11
MASF Masafi 117.37 290 P **PKPdf** 22 32 41.4 -0.4
SHME Shamm 117.48 290 P **PKPdf** 22 32 41.6 -0.3
SHME Shamm 117.48 290 PKPdf **PKPdf** 22 32 41.6 -0.3
ALNE Al Ain 117.56 288 P **PKiKP** 22 32 42.2 +0.1
SNR=6.5
ALNE Al Ain 117.56 288 *i* PKPdf **PKPdf** 22 32 41.6 -0.5
SNR=28
GRHM Grahamstown, E 117.57 215 **PKiKP** 22 32 42.5 +0.5
NAZ Nazwa, Dubai 117.77 289 P **PKPdf** 22 32 42.4 -0.1
NAZ Nazwa, Dubai 117.77 289 PKPdf **PKPdf** 22 32 42.0 -0.4
FAQ Al Faqa, Dubai 117.80 289 P **PKPdf** 22 32 42.2 -0.3
FAQ Al Faqa, Dubai 117.80 289 *i* PKPdf **PKPdf** 22 32 42.0 -0.5
SNR=7.4
RBK Rabkut 117.86 281 P **PKPdf** 22 32 42.7 -0.2
UMZA Um Al Zommool 117.89 287 P **PKPdf** 22 32 42.6 -0.2
ASUD Al Ashush, Dub 118.02 289 P **PKiKP** 22 32 43.1 +0.1
ASUD Al Ashush, Dub 118.02 289 *i* PKPdf **PKPdf** 22 32 42.8 -0.1
SNR=13
KBS Kingsbay 118.03 355 PKPdf **PKPdf** 22 32 41.4 -0.1
KBS Kingsbay 118.03 355 PKiKP **PKPdf** 22 32 41.4 -0.1
KBS Kingsbay 118.03 355 *e*PKPdf **PKiKP** 22 32 41.8 +0.3
KBS Kingsbay 118.03 355 *i* P **PKPdf** 22 32 41.2 -0.2
DOK Doka 118.14 282 P **PKPdf** 22 32 43.3 0.0
SADO Sadowa 118.15 48 **PKPdf** 22 32 41.1 -1.5
KULLO Kullorsuaq 118.23 13 *i* P **PKPdf** 22 32 40.9 -1.0
SPA0 Spitsbergen Ar 118.29 354 *e*PKPdf **PKPdf** 22 32 42.0 0.0
SPITS Spitsbergen Ar 118.29 354 PKP **PKPdf** 22 32 41.8 -0.2
comp=Z,105nm,0.8s,baz=87,slow=7.0,SNR=52
SPITS PKKPbc **PKKPab** 22 43 01.3 -1.5
comp=Z,2.4nm,0.5s,baz=172,slow=6.7,SNR=8.1
AJN Ajban 118.32 289 P **PKPdf** 22 32 43.3 -0.2
WHFO Wadi Hawf 118.34 281 P **PKPdf** 22 32 43.4 -0.3
POGA Pongola 118.57 224 **PKiKP** 22 32 44.5 +0.5
ABTO Aybut 118.68 280 P **PKiKP** 22 32 44.8 +0.3
RUSC La Rusia 118.69 93 PKPdf **PKPdf** 22 32 43.6 -1.6
SMRC Santa Marta, M 119.03 87 **PKPdf** 22 32 44.6 -0.5
SSPA Standing Stone 119.19 53 **PKPdf** 22 32 43.6 -1.1
HSPB Hornsund (broa 119.40 353 *e*PKP **PKPdf** 22 32 43.0 -1.1
MZR Muzera 119.47 287 P **PKiKP** 22 32 46.6 +0.7
SNR=9.9
MZR Muzera 119.47 287 *i* PKiKP **PKiKP** 22 32 46.2 +0.3
SNR=67
CBN Corbin Frederi 119.60 56 PKPdf **PKPdf** 22 32 44.2 -1.3
UPNV Upernavik 119.61 14 *i* P **PKPdf** 22 32 44.0 -0.6
NMDO Nuevo Mundo 120.23 76 **PKPdf** 22 32 46.0 -1.3
BBSD Serra de San D 120.26 123 *e*P **PKPdf** 22 32 46.9 -0.6
JRN Qarnain Island 120.29 289 P **PKiKP** 22 32 47.5 +0.1
KIRV Kirov 120.31 328 PKP **PKiKP** 22 32 46.4 0.0
comp=Z,136nm,0.7s,baz=77,slow=0.5,SNR=54
KIRV PKKPab **PKKPab** 22 42 53.8 -0.6
comp=Z,27nm,0.5s,baz=284,slow=1.7,SNR=22
KIRV Kirov 120.31 328 *c* iPKiKP **PKPdf** 22 32 46.2 -0.1
WBO Williamsburg 120.88 48 **PKPdf** 22 32 46.6 -1.2
DAG Danmarks Havn 121.06 2 *i* P **PKPdf** 22 32 45.6 -1.7
NUUG Nuugaatsiaq 121.11 14 *i* P **PKPdf** 22 32 46.9 -0.6
SUR Sutherland 121.20 212 PKPdf **PKiKP** 22 32 49.8 +0.5
SLWR Sila 121.23 288 P **PKiKP** 22 32 49.5 +0.2
MOPA Mopani 121.31 227 *i* P **PKiKP** 22 32 50.0 +0.4
LONY Lake Ozonia 121.41 48 **PKPdf** 22 32 47.8 -1.1
BOSA Boshof 121.69 218 **PKiKP** 22 32 50.5 +0.1
BOSA Boshof 121.69 218 PKP **PKiKP** 22 32 50.7 +0.4
comp=Z,54nm,0.9s,baz=155,slow=1.6,SNR=91
BOSA PKKPbc **PKKPbc** 22 42 49.3 -0.8
comp=Z,15nm,0.8s,baz=328,slow=3.7,SNR=24
TRNA Turayna 121.75 288 P **PKiKP** 22 32 50.2 0.0
SDV Santo Domingo 121.86 91 PKPdf **PKPdf** 22 32 49.5 -1.4
SDV Santo Domingo 121.86 91 *e*P **PKPdf** 22 32 50.2 -0.7
PTGB Pitanga 121.92 136 *e*P **PKPdf** 22 32 50.2 -0.4
UMMG Uummannaq 121.96 15 *i* P **PKPdf** 22 32 48.5 -0.7
MNTQ Montreal, Queb 121.99 47 **PKPdf** 22 32 48.7 -1.2
SMRA Abu-Samra 122.10 288 P **PKiKP** 22 32 51.0 0.0
SNR=5.9
AQDB Aquidauana 122.12 129 PKPdf **PKPdf** 22 32 50.2 -0.8
AQDB Aquidauana 122.12 129 *e*P **PKPdf** 22 32 50.5 -0.5
LVZ Lovozero 122.28 341 PKPdf **PKPdf** 22 32 49.5 -0.5
LVZ Lovozero 122.28 341 *c* iPKiKP **PKPdf** 22 32 49.1 -0.8
VADS Vadso 122.34 345 *e*P **PKiKP** 22 32 50.2 +0.1
PTLB Pontes e Lacer 122.39 122 **PKPdf** 22 32 50.8 -0.8
PTLB Pontes e Lacer 122.39 122 *e*P **PKPdf** 22 32 51.0 -0.6
SAKB Bahrain 122.48 290 P **PKiKP** 22 32 51.7 +0.1
CHIPN CHIPINGE 122.50 231 *i* P **PKPdf** 22 32 49.0 -2.9
TRCB Terra Rica 122.82 134 PKPdf **PKPdf** 22 32 52.0 -0.4
TRCB Terra Rica 122.82 134 *e*P **PKPdf** 22 32 52.4 0.0
VILB Vilhena 122.86 119 *e*P **PKPdf** 22 32 52.7 +0.1
APA Apatity 122.86 341 *i* PKiKP **PKPdf** 22 32 49.2 -1.8
APA *e*SS SS 22 51 00.3 -1.3
APA MLR MLR
comp=Z,662nm,25.0s
BELG Belogornoye 122.88 321 *d e*PKiKP **PKPdf** 22 32 51.2 -0.2
MUSN Musina, Limpop 123.18 227 *i* P **PKiKP** 22 32 53.7 +0.4
KEV Kevo 123.18 345 PKPdf **PKPdf** 22 32 51.1 -0.4
KEV Kevo 123.18 345 PKiKP **PKPdf** 22 32 51.1 -0.4
SUMG Summit 123.22 9 PKPdf **PKPdf** 22 32 51.8 -0.3
SUMG Summit 123.22 9 PKiKP **PKPdf** 22 32 51.8 -0.3
SUMG Summit 123.22 9 *i* P **PKPdf** 22 32 52.0 0.0
ILULI Ilulissat 123.22 16 PKPdf **PKPdf** 22 32 50.9 -0.7
ILULI Ilulissat 123.22 16 PKiKP **PKPdf** 22 32 50.9 -0.7
ILULI Ilulissat 123.22 16 *i* P **PKPdf** 22 32 51.1 -0.5
HAMF Hammerfest 123.30 347 *e*P **PKPdf** 22 32 51.3 -0.4
LBNH Lisbon 123.34 49 **PKPdf** 22 32 51.9 -0.7
LBNH Lisbon 123.34 49 PKiKP **PKPdf** 22 32 51.9 -0.7
DBG Daneborg 123.45 3 *i* P **PKPdf** 22 32 51.2 -0.7
LDASE Londrina, Braz 123.45 135 *e*P **PKPdf** 22 32 53.2 -0.4
RPRD Ribas do Rio P 123.57 131 *e*P **PKPdf** 22 32 53.9 +0.1
ARA0 ARCESS Array S 123.71 345 *e*P **PKiKP** 22 32 52.8 -0.1
ARCES ARCESS Array B 123.71 345 PKPdf **PKPdf** 22 32 52.0 -0.6
ARCES ARCESS Array B 123.71 345 PKP **PKPdf** 22 32 52.3 -0.3
comp=Z,116nm,0.7s,baz=70,slow=1.9,SNR=424
ARCES PKKPab **PKKPab** 22 42 40.3 +0.8
comp=Z,8.9nm,0.7s,baz=201,slow=3.3,SNR=37
ARCES PKiKP **PKKPdf** 22 43 18.9 -2.7
comp=Z,5.9nm,0.6s,baz=204,slow=2.0,SNR=9.8
HRV Adam Dziewonsk 123.81 51 PKPdf **PKPdf** 22 32 52.9 -0.7
HRV Adam Dziewonsk 123.81 51 ⇑PKiKP **PKPdf** 22 32 53.0 -0.5
SC01 Santiago de lo 124.01 78 **PKPdf** 22 32 54.5 -0.1
LBTB Lobatse 124.12 221 **PKPdf** 22 32 55.0 +0.1
LBTB Lobatse 124.12 221 PKiKP **PKPdf** 22 32 55.0 +0.1
LBTB Lobatse 124.12 221 *i* P **PKiKP** 22 32 55.6 +0.4
KLMR Klimovskoe 124.15 333 *e*PKiKP **PKPdf** 22 32 51.2 -2.4
KLMR *e* 22 33 31.5
KLMR pmax pmax
comp=Z,332nm,1.2s
SCHQ Schefferville 124.22 35 PKP **PKPdf** 22 32 53.1 -0.9
comp=Z,30nm,0.7s,baz=318,slow=1.7,SNR=36
SCHQ PKKPbc **PKKPbc** 22 42 40.0 -0.5
comp=Z,11nm,0.5s,baz=106,slow=3.6,SNR=25
BAUV El Baul 124.34 91 **PKPdf** 22 32 54.3 -1.1
PCMB Pacaembu 124.56 134 *e*P **PKPdf** 22 32 55.7 0.0
M65A Busby, Falmout 124.59 52 P **PKPdf** 22 32 53.8 -1.3
baz=276
MREMI Moremi 124.64 225 *i* P **PKiKP** 22 32 56.2 0.0
MREMI Moremi 124.64 225 **PKPdf** 22 32 55.9 0.0
KTK1 Kautokeino 124.64 346 *e*P **PKPdf** 22 32 53.7 -0.7
MAK Makhachkala 124.71 310 *i* P **Pdif** 22 29 30.9 -0.4
MAK *i* 22 32 56.0
MAK *e* 22 34 44.3
MAK *e*PPP PPP 22 37 29.2
MAK *e* 22 39 42.6
MAK *e* 22 45 51.5
MAK pmax pmax
comp=Z,427nm,1.0s
JETT Jettan, Norway 124.86 347 *e*P **PKPdf** 22 32 54.5 -0.4
SALV Santo Antonio 124.87 125 *e*P **PKiKP** 22 32 56.6 -0.1
SFJD Kangerlussuaq 124.88 18 PKPdf **PKPdf** 22 32 54.2 -0.6
SFJD Kangerlussuaq 124.88 18 PKiKP **PKPdf** 22 32 54.2 -0.6
SFJD Kangerlussuaq 124.88 18 *i* P **PKPdf** 22 32 53.9 -0.9
TRO Tromso 125.11 348 *e*P **PKPdf** 22 32 54.8 -0.4
LPHEP Lephephe 125.13 223 *i* P **PKiKP** 22 32 57.2 0.0
LPHEP Lephephe 125.13 223 **PKiKP** 22 32 57.2 0.0
KBD Kabd 125.22 293 P **PKiKP** 22 32 57.2 +0.2
C2SB Chapadao do Su 125.28 130 *e*P **PKPdf** 22 32 56.1 -1.0
PET01 Itanhaem-SP 125.31 139 *e*P **PKPdf** 22 32 57.1 +0.1
PHPEN Phepeng 125.45 219 *i* P **PKiKP** 22 32 58.1 +0.3
PHPEN Phepeng 125.45 219 **PKPdf** 22 32 57.6 +0.2
BLWY Bulawayo 125.47 228 *i* P **PKiKP** 22 32 58.5 +0.5
SKOMA Sekoma 125.52 220 *i* P **PKiKP** 22 32 58.3 +0.4
BROLN Tlhalogang 125.71 226 *i* P **PKPdf** 22 32 58.2 +0.2
SPB Sao Paulo 125.72 138 **PKPdf** 22 32 57.5 -0.4
SPB Sao Paulo 125.72 138 *e*P **PKiKP** 22 32 58.1 -0.2
KDWAN Kaudwane 125.89 222 *i* P **PKiKP** 22 32 59.1 +0.4
NUUK Nuuk 126.40 21 *i* P **PKPdf** 22 32 58.0 +0.2
PDRB Porto dos Gac 126.44 120 *e*P **PKPdf** 22 32 59.0 -0.4
VAO Valinhos 126.44 138 PKPdf **PKPdf** 22 32 58.9 -0.5
VAO Valinhos 126.44 138 *e*P **PKPdf** 22 32 59.4 +0.1
ITRB Iturama 126.45 133 *e*P **PKPdf** 22 32 59.2 -0.2
RCLB Rio Claro- Sao 126.49 137 *e*P **PKPdf** 22 32 59.5 +0.1
VRH Novokhopyorsk 126.73 321 *e*PKiKP **PKPdf** 22 32 55.0 -3.8
VRH pmax pmax
comp=Z,240nm,0.9s
GGN Saint George 126.77 47 **PKPdf** 22 32 58.4 -0.7
BB19B Bebedouro 126.79 135 *e*P **PKPdf** 22 33 00.2 +0.1
RAYN Ar Rayn 126.81 286 PKPdf **PKPdf** 22 33 00.1 +0.2
RAYN Ar Rayn 126.81 286 ⇑PKiKP **PKiKP** 22 33 00.6 +0.2
RAYN Ar Rayn 126.81 286 *i* PKiKP **PKiKP** 22 33 00.4 -0.1
SNR=69
KRI Karoi 126.85 232 *i* P **PKPdf** 22 32 59.9 -0.5
MACA Manacapuru-AM 127.07 108 PKPdf **PKPdf** 22 32 59.4 -1.3
MACA Manacapuru-AM 127.07 108 *e*P **PKPdf** 22 33 00.6 -0.1
SCO Scoresbysund 127.11 4 PKPdf **PKiKP** 22 32 59.6 0.0
SCO Scoresbysund 127.11 4 PKiKP **PKiKP** 22 32 59.6 0.0
SCO Scoresbysund 127.11 4 *i* P **PKiKP** 22 32 59.9 0.0
GNI Garni 127.14 307 PKPdf **PKiKP** 22 33 01.2 +0.4
GNI Garni 127.14 307 *c* iPKiKP **PKiKP** 22 33 00.7 -0.1
GNI Garni 127.14 307 PKiKP **PKiKP** 22 33 01.2 +0.4
GNI Garni 127.14 307 PKP **PKiKP** 22 33 01.3 +0.5
STEI Steigen 127.27 348 *e*P **PKPdf** 22 32 59.1 -0.2
MOS Moscow 127.31 328 *i* PKiKP PKPpre 22 32 54.4
MOS *e*SS SS 22 51 50.7 -7.3
MOS pmax pmax
comp=Z,234nm,1.0s
MOS pmax pmax
comp=Z,500nm,1.6s
MOS pmax pmax
comp=N,137nm,1.3s
MOS pmax pmax
comp=N,77nm,1.1s
KIBK Kibwezi 127.32 253 PKPdf **PKiKP** 22 33 01.8 0.0
KIBK Kibwezi 127.32 253 P **PKiKP** 22 33 02.8 +1.0
SNR=18
ATD Arta Tunnel 127.33 271 PKPdf **PKiKP** 22 33 01.7 0.0
SLP01 Ubatuba-SP 127.33 140 *e*P **PKPdf** 22 32 60.0 -1.1
LOF Lofoten 127.43 349 *e* PKPpre 22 32 48.7
NCK Nalchik 127.45 311 *c e*PKiKP **PKiKP** 22 33 01.0 -0.1
GOF Gofitskoye 127.52 313 *c* iPKiKP **PKiKP** 22 33 01.0 -0.1
UUPR Utuado, UPR, P 127.57 81 **PKPdf** 22 32 59.8 -1.7
CLDB Colider 127.60 120 *e*P **PKPdf** 22 33 00.5 -1.2
OBIP Obispado Ponce 127.65 81 **PKPdf** 22 33 00.2 -1.4
FAUS Fauske 127.73 347 *e*P **PKPdf** 22 33 00.1 -0.2
KGCAE Kacgae 127.80 220 *i* P **PKiKP** 22 33 02.7 +0.1
KGCAE Kacgae 127.80 220 PKPdf **PKPdf** 22 33 01.9 -0.2
LPSR Galich'ya Gora 127.87 324 *e*PKiKP **PKPdf** 22 32 58.2 -2.8
LPSR pmax pmax
comp=Z,380nm,1.0s
KBZ Khabaz 127.90 312 PKP **PKPdf** 22 33 00.9 -0.4
comp=Z,36nm,1.0s,baz=88,slow=1.2,SNR=40
KBZ PP **PP** 22 35 06.8 +1.0
comp=Z,25nm,1.2s,baz=92,slow=4.6,SNR=5.8
KBZ Khabaz 127.90 312 *c* iPKiKP **PKPdf** 22 33 01.4 +0.1
ARAG Araguaiana, MT 127.96 128 *e*P **PKPdf** 22 33 01.1 -1.2
KIV Kislovodsk 128.00 312 PKPdf **PKPdf** 22 33 01.6 -0.1
KIV Kislovodsk 128.00 312 ⇓P **PKiKP** 22 33 02.3 +0.1
KIV Kislovodsk 128.00 312 *i* P **Pdif** 22 29 45.5 -0.6
KIV *i* 22 33 01.5
KIV *e* 22 35 02.8
KIV *e*SS SS 22 52 04.1 -3.7
KIV *e*SSS SSS 22 56 51.4
KIV pmax pmax
comp=Z,127nm,1.1s
KIV Kislovodsk 128.00 312 *i* PKPdf **PKiKP** 22 33 02.0 -0.3
SNR=31
KIV Kislovodsk 128.00 312 PKP **PKPdf** 22 33 01.8 +0.1
SHA1 Shidzhatmaz 128.07 312 *c* iPKiKP **PKiKP** 22 33 02.4 -0.2
SJG San Juan 128.09 81 PKPdf **PKPdf** 22 33 01.6 -0.8
SJG San Juan 128.09 81 PKiKP **PKiKP** 22 33 01.6 -0.8
OBN Obninsk 128.13 327 PKPdf **PKPdf** 22 33 01.1 -0.3
OBN Obninsk 128.13 327 PKP **PKiKP** 22 33 01.7 -0.3
comp=Z,104nm,0.6s,baz=359,slow=1.2,SNR=70
OBN Obninsk 128.13 327 ⇑P **PKPdf** 22 32 59.3 -2.1
OBN Obninsk 128.13 327 *c* iPKiKP **PKPdf** 22 33 01.0 -0.4
OBN *e* 22 33 43.7
OBN *e* 22 35 05.8
OBN *e*PPP PPP 22 37 58.6
OBN pmax pmax
comp=Z,185nm,1.0s
OBN Obninsk 128.13 327 PKP **PKiKP** 22 33 01.9 -0.1
SOEG Soedalen 128.21 9 *i* P **PKPdf** 22 33 00.5 -0.7
PHDHD Phuduhudu 128.23 225 *i* P **PKPdf** 22 33 03.4 -0.1
VSR Storozhevoye 128.24 322 *e*PKiKP **PKPdf** 22 32 58.5 -3.2
VSR pmax pmax
comp=Z,140nm,1.0s
VORD Divnogorie 128.25 321 *e*PKiKP **PKPdf** 22 32 58.2 -3.5
VORD pmax pmax
comp=Z,120nm,1.0s
HUMP Col San Antoni 128.38 81 **PKPdf** 22 33 02.4 -0.6
MAN01 Angra dos Reis 128.40 141 *e*P **PKPdf** 22 32 60.2 -1.0
KMBO Kilima Mbogo 128.54 254 PKhKP PKPpre 22 32 55.5
comp=Z,1.0nm,0.3s,baz=105,slow=3.1,SNR=3.7
KMBO PKP **PKiKP** 22 33 04.2 -0.2
comp=Z,63nm,1.1s,baz=102,slow=1.5,SNR=43
PUL Pulkovo 128.62 334 *d* iPKiKP **PKiKP** 22 33 03.2 +0.4
VAGH Vaagaholmen 128.70 348 *e*P **PKPdf** 22 33 01.9 -0.3
LSZ Lusaka 128.89 232 PKPdf **PKiKP** 22 33 04.7 -0.2
LSZ Lusaka 128.89 232 PKiKP **PKiKP** 22 33 04.7 -0.2
KOOLE Kule 128.91 218 *i* P **PKiKP** 22 33 05.0 +0.2
KONS Konsvik 128.93 348 *e*P **PKPdf** 22 33 02.5 0.0
MOR8 Moi Rana 128.94 347 *e*P **PKPdf** 22 33 01.9 -0.7
ISOG Isortoq, Green 129.05 14 *i* P **PKPdf** 22 33 01.7 -1.1
STOK Stokkvaagen 129.09 348 *e*P **PKPdf** 22 33 02.8 -0.1
ERBR Yeremizino-Bor 129.11 315 *i* PKiKP **PKPdf** 22 33 03.8 +0.2
ERBR *e* 22 33 43

comp=Z,117nm,1.1s
DIAM Diamantina, MG 131.96 137 *e*P **PKPdf 22 33 08.3 -1.7**
LODK Lodwar 132.02 258 PKPdf **PKiKP 22 33 11.1 -0.2**
LODK Lodwar 132.02 258 P **PKiKP 22 33 11.8 +0.5**
SNR=13
FDF Fort de France 132.24 86 PKPdf 22 33 10.1 -0.3
FDF Fort de France 132.24 86 PKIKP **PKPdf 22 33 10.1 -0.3**
SVN Savane Anatole 132.24 86 PKPdf 22 33 10.0 -0.4
MNK Minsk 132.77 330 *i* PKIKP **PKPdf 22 33 10.3 +0.1**
MNK *i* 22 35 36.4
MNK *i* 22 40 04.4
MNK *i* SS SS 22 53 06.8 +2.1
MNK *i* SSS SSS 22 58 03.5
MNK pmax pmax
comp=Z,188nm,0.9s
MNK pmax pmax
comp=E,45nm,0.9s
MNK pmax pmax
comp=N,35nm,0.9s
MNK MLR MLR
comp=N,253nm,21.0s
MNK MLR MLR
comp=E,277nm,22.0s
MNK MLR MLR
comp=Z,457nm,21.0s
SJMB Sao Joao De Ma 133.23 140 *e*P **PKPdf 22 33 12.0 -0.2**
RIB01 Linhares ES 133.25 141 *e*P **PKPdf 22 33 12.2 0.0**
TSUM Tsumeb 133.37 219 PKPdf **PKPdf 22 33 13.0 +0.4**
MAL2 Monte Alegre, 133.40 111 PKPdf **PKPdf 22 33 12.9 +0.2**
MOL Molde 133.54 348 *e*P **PKPdf 22 33 11.5 +0.1**
SIM Simferopol' 133.62 316 *e*PKIKP **PKPdf 22 33 12.4 +0.3**
SIM *e* 22 35 43.0
SIM pmax pmax
comp=Z,112nm,0.7s
PABE Paberze 133.95 333 PKiKP 22 33 13.1 -0.6
NB2 NORSAR Subarra 134.08 345 PKPdf PKPpre 22 33 04.9
comp=Z,116nm,1.4s,baz=31,slow=1.9
NB2 pPKP **SKPbc 22 36 27.4 +0.1**
comp=Z,128nm,1.4s,baz=27,slow=4.6
NB2 PKKP **PKKPdf 22 42 58.9 -2.6**
comp=Z,0.8nm,0.6s,baz=212,slow=1.9
NB2 P5KP 23 09 04.4
comp=Z,1.0nm,0.8s,baz=35,slow=4.8
NB2 NORSAR Subarra 134.08 345 PKPdf PKPpre 22 33 04.9
baz=31,slow=1.9
NOA NORSAR Array B 134.08 345 PKhKP PKPpre 22 33 00.0
comp=Z,5.3nm,0.8s,baz=329,slow=20,SNR=18
NOA PKP **PKiKP 22 33 13.3 -0.6**
comp=Z,32nm,0.9s,baz=36,slow=2.1,SNR=44
NOA PP **PP 22 35 46.0 +1.3**
comp=Z,8.8nm,0.9s,baz=32,slow=6.2,SNR=6.9
NOA SKPbc **SKPbc 22 36 27.3 0.0**
comp=Z,16nm,0.9s,baz=33,slow=2.7,SNR=10
AK03 Malin Array Si 134.12 325 PKP **PKPdf 22 33 12.7 -0.2**
AKASG Malin Array Be 134.13 325 PKPdf **PKPdf 22 33 12.0 -0.9**
AKASG Malin Array Be 134.13 325 PKhKP PKPpre 22 32 58.0
comp=Z,3.7nm,0.7s,baz=57,slow=2.9,SNR=15
AKASG PKP **PKPdf 22 33 13.0 +0.1**
comp=Z,32nm,0.6s,baz=57,slow=2.2,SNR=29
AKASG SKPbc **SKPbc 22 36 28.1 +0.4**
comp=Z,37nm,1.1s,baz=50,slow=3.2,SNR=20
AKASG Malin Array Be 134.13 325 PKIKP **PKPdf 22 33 13.0 +0.1**
AKBB Malin Array Si 134.13 325*c* PKIKP **PKPdf 22 33 12.6 -0.3**
AKBB Malin Array Si 134.13 325 PKP **PKPdf 22 33 12.4 -0.5**
BNN Bunyan 134.14 307 PKPdf **PKPdf 22 33 14.0 +0.5**
AK09 Malin Array Si 134.14 325 PKP **PKPdf 22 33 12.8 -0.1**
AK01 Malin Array Si 134.15 325 PKP **PKPdf 22 33 12.6 -0.3**
KIEV Kiev 134.15 325 ⇓P PKPpre 22 33 00.6
KIEV Kiev 134.15 325 ⇓PKHKP PKPpre 22 33 00.6
KIEV Kiev 134.15 325 *i* PKPdf **PKPdf 22 33 12.2 -0.7**
SNR=16
KIEV Kiev 134.15 325 PKP **PKPdf 22 33 12.4 -0.5**
AK08 Malin Array Si 134.15 325 PKP **PKPdf 22 33 12.8 -0.1**
HFS Hagfors 134.19 343 PKhKP PKPpre 22 32 58.4
comp=Z,5.7nm,0.6s,baz=62,slow=3.5,SNR=13
HFS PKP **PKPdf 22 33 12.8 +0.1**
comp=Z,4.2nm,0.5s,baz=126,slow=2.0,SNR=9.4
HFS SKPbc **SKPbc 22 36 27.3 -0.3**
comp=Z,10nm,0.7s,baz=66,slow=3.5,SNR=4.0
HFS PKKP **PKKPdf 22 42 57.5 -3.6**
comp=Z,2.6nm,0.6s,baz=197,slow=4.5,SNR=10
ASF Jabal al Asfar 134.41 298 SKPab **SKPab 22 36 31.8 -1.0**
comp=Z,24nm,1.1s,baz=76,slow=3.6,SNR=5.7
BZK Bozkurt 134.67 312 PKPdf **PKPdf 22 33 14.4 +0.2**
BZK Bozkurt 134.67 312 ⇑P **PKPdf 22 33 12.7 -1.5**
BEIL Beino 134.70 301 *e*P **PKPdf 22 33 14.3 -0.3**
FOO Floro 134.91 349 *e*P **PKPdf 22 33 14.4 +0.4**
HWQ Hawqa 134.93 301 *e*P **PKPdf 22 33 14.7 -0.4**
ZAHL Zahle 135.05 300 *e*P **PKPdf 22 33 13.6 +0.3**
PRPB Parauapebas 135.11 119 *e*P **PKPdf 22 33 16.1 +0.2**
RCY Rachaya 135.14 300 *e*P **PKPdf 22 33 15.6 +0.1**
SDBA SAO DESIDERIO 135.20 130 *e*P **PKPdf 22 33 14.8 -1.3**
BHL Bhannes 135.23 300 *e*P **PKPdf 22 33 15.1 -0.5**
SHBL Chebaa 135.24 299 *e*P **PKPdf 22 33 16.2 +0.5**
BAL3X Bal3x, Balta 135.26 321 PKP **PKPdf 22 33 14.7 -0.4**
SUW Suwalki 135.26 332 *e*PKP PKPpre 22 33 03.0
SUW *e*SKPdf **SKPbc 22 36 32.4 +1.2**
SMTB Santa Maria do 135.39 124 *e*P **PKPdf 22 33 16.7 +0.3**
CIDE Kastamonu/Cide 135.44 312 ⇑P **PKPdf 22 33 14.2 -1.4**
RNPP9 Sopachiv 135.53 327 PKP **PKPdf 22 33 15.6 +0.1**
KIRS Kirsehir-Merke 135.53 308 ⇓P PKPdf 22 33 06.3 -10
MMAI Mount Meron Ar 135.56 299 PKhKP PKPpre 22 33 03.8
comp=Z,7.6nm,0.8s,baz=144,slow=3.0,SNR=8.7
MMAI PKP **PKiKP 22 33 17.4 -0.4**
comp=Z,50nm,0.8s,baz=75,slow=3.5,SNR=35
MMAI SKP 22 36 35.6
comp=Z,31nm,1.0s,baz=68,slow=7.3,SNR=13
BR131 Keskin Array S 135.58 309*ce* PKIKP **PKPdf 22 33 15.9 -0.3**
BRTR Keskin Array B 135.58 309 PKhKP PKPpre 22 33 04.3
comp=Z,3.6nm,0.7s,baz=131,slow=5.6,SNR=12
BRTR PKP **PKiKP 22 33 17.4 -0.4**
comp=Z,7.7nm,0.8s,baz=127,slow=2.4,SNR=8.0
BRTR PP **PP 22 35 50.7 -4.7**
comp=Z,7.6nm,1.0s,baz=137,slow=3.2,SNR=4.6
BRTR SKP 22 36 34.5
comp=Z,8.3nm,1.0s,baz=122,slow=1.6,SNR=4.0
BRTR SKPab **SKPab 22 36 38.3 +0.6**
comp=Z,22nm,1.1s,baz=94,slow=1.9,SNR=7.4
BRTR PKKP **PKKPdf 22 42 56.7 -1.7**
comp=Z,0.4nm,0.7s,baz=225,slow=3.8,SNR=4.0
RNPP8 Varash 135.59 327 PKP **PKPdf 22 33 15.8 +0.2**
GHAJ Ghor Haditha 135.63 297 PKPdf **PKPdf 22 33 16.4 +0.1**
RNPP5 Staryi Chortor 135.63 327 PKP **PKPdf 22 33 15.9 +0.2**
GUA01 Guaratinga, BA 135.69 139 *e*P **PKPdf 22 33 17.4 +0.5**
KONO Kongsberg 135.69 345 PKPdf **PKiKP 22 33 16.6 -0.5**
KONO Kongsberg 135.69 345 PKIKP **PKiKP 22 33 16.7 -0.5**
KONO Kongsberg 135.69 345 *e* PKPpre 22 33 06.9
PURM Purcari 135.73 319 ⇑P PKPpre 22 33 08.8
PURM Purcari 135.73 319 PKP **PKPdf 22 33 16.2 +0.2**
SORM Soroca 135.90 322 ⇑P PKPpre 22 33 04.6
SORM Soroca 135.90 322 ⇑PKHKP PKPpre 22 33 04.6
ASK Askoy 135.91 348 *e*P **PKPdf 22 33 16.5 +0.6**
BER Bergen 135.98 348 *e*P **PKiKP 22 33 17.1 -0.6**
KIS Kishinev 136.16 320 *i* PKP **PKPdf 22 33 16.4 -0.4**
comp=Z,130nm,3.6s
KIS *i* pPKP **pPKPdf 22 33 57.0 -1.3**
KIS Kishinev 136.16 320 *i* PP PP 22 35 57.0 -1.4
KIS *i* SKP 22 36 32.0
KIS Kishinev 136.16 320 *i* PKIKP **PKPdf 22 33 16.4 -0.4**
KIS *i* 22 33 57.0
KIS *i* 22 35 57.0
KIS pmax pmax
comp=Z,130nm,3.6s
ANTO Ankara 136.16 309 ⇓P PKPpre 22 33 08.3
ANTO Ankara 136.16 309 ⇓PKHKP PKPpre 22 33 08.3
MILM Milestii Mici 136.20 320 ⇑*i* PKP **PKPdf 22 33 15.8 -1.1**
comp=Z,510nm,5.7s
MILM ⇓*i* pPKP **pPKPdf 22 33 54.0 -4.4**
MILM Milestii Mici 136.20 320 *i* PP PP 22 35 57.0 -1.7
MILM *i* SKP 22 36 33.0
MILM Milestii Mici 136.20 320 *i* PKS 22 36 49.0
MILM Milestii Mici 136.20 320 ⇑P PKPpre 22 33 06.9
MILM Milestii Mici 136.20 320*c* PKIKP **PKPdf 22 33 15.8 -1.1**
MILM *i* 22 33 57.0
MILM pmax pmax
comp=Z,510nm,5.7s
EIL Elat 136.31 294 PKhKP PKPpre 22 33 07.1
comp=Z,4.9nm,0.3s,baz=52,slow=0.1,SNR=0.7
EIL PKP **PKiKP 22 33 18.6 -0.8**
comp=Z,55nm,0.7s,baz=65,slow=2.4,SNR=5.0
BLS5 Blasjo 136.63 347 *e*P PKPpre 22 33 11.6
KMPD K-Podol'skiy 136.78 323 PKP **PKPdf 22 33 18.0 +0.1**
CMC01 Camacan, BA 136.79 138 *e*P **PKPdf 22 33 18.5 -0.4**
IASR Iasi 136.83 321 ⇓P PKPpre 22 33 09.8
DRBR Darabani 136.88 323 ⇑P **PKPdf 22 33 18.5 +0.4**
KMY Karmoy 137.07 348 *e*P PKPpre 22 33 12.2
VLDR Vladesti 137.15 319 ⇑P PKPpre 22 33 08.1
HOMB Homborsund 137.18 345 *e*P **PKPdf 22 33 19.0 +0.7**
VARL Varlezi 137.27 319 ⇑P PKPpre 22 33 10.9
SAHE Sakarya_HENDEK 137.27 311 ⇓P PKPpre 22 33 11.4
SCTR Scanteiesti 137.28 319 ⇑P PKPpre 22 33 12.1
R9F13 Warsaw-Wawer 137.36 331 *e*Pdiff PKPdf 22 32 47.3 -32
R9F13 *e*PKP **PKiKP 22 33 19.4 -1.4**
R9F13 *e*PP **PP 22 36 04.2 -1.3**
R9F13 *e* 22 36 39.3
R9F13 *e* 22 36 54.5
R9F13 *e*SKS **SKSac 22 40 21.8 +3.5**
TPGR Topolog 137.38 318 ⇑P PKPpre 22 33 07.9
CFR Carcaliu 137.41 318 ⇑P PKPpre 22 33 08.6
CFR Carcaliu 137.41 318 ⇑PKHKP PKPpre 22 33 08.6
SCHL Schela 137.46 319 ⇑P **PKPdf 22 33 20.2 +0.9**
GHRR 137.46 320 ⇑P PKPpre 22 33 09.6
SCHLR Schela 137.47 319 ⇑P **PKiKP 22 33 20.5 -0.7**
IZVR Izvoarele 137.48 319 ⇓P PKPpre 22 33 12.2
PRAR RASCA 137.53 322 ⇑P PKPpre 22 33 12.7
TIRR Tirgusor 137.55 317 ⇑P PKPpre 22 33 08.8
TIRR Tirgusor 137.55 317 ⇑PKHKP PKPpre 22 33 08.8
OVD Ostervraa, Den 137.55 343 *i* P **PKiKP 22 33 20.9 -0.1**
EFOR EFORIE 137.57 317 ⇓P **PKiKP 22 33 20.7 -0.7**
COSR Cosmesti PH 137.62 320 ⇓P PKPpre 22 33 15.0
MFTR Murfatlar 137.67 317 ⇓P PKPpre 22 33 09.7
TESR Tescani 137.71 321 ⇑P PKPpre 22 33 08.5
MANR Mangalia 137.71 316 ⇑P PKPpre 22 33 10.3
PANC Panciu 137.71 320 ⇓P PKPpre 22 33 09.8
TLBR Topalu 137.75 318 ⇓P PKPpre 22 33 10.2
HARR Harsova 137.76 318 ⇓P PKPpre 22 33 10.6
HARR Harsova 137.76 318 ⇓PKHKP PKPpre 22 33 10.6
BEL Belsk 137.78 331 *e*PKP PKPpre 22 33 12.5
BEL *e*PP **PP 22 36 08.2 +0.1**
BEL *e*SKPdf **SKPdf 22 36 40.3 +0.4**
BSD Bornholm Skovb 137.85 338 *i* P **PKPdf 22 33 19.4 -0.2**
ONER Baraj Valea Uz 137.95 321 ⇑P PKPpre 22 33 10.7
VRI Vrincioaia 137.97 320 ⇑P PKPpre 22 33 10.2
VRI Vrincioaia 137.97 320 ⇑PKHKP PKPpre 22 33 10.2
BURAR Bucovina Array 137.98 323 ⇑P PKPpre 22 33 10.9
BURAR Bucovina Array 137.98 323 ⇑PKHKP PKPpre 22 33 10.9
PLOR Plostina 138.03 320 ⇑P PKPpre 22 33 10.2
PLOR Plostina 138.03 320 ⇑PKHKP PKPpre 22 33 10.2
PSN Preselentsi 138.08 316 *e*P **PKPdf 22 33 21.0 +0.5**
ICOR Ion Corvin 138.10 317 ⇑P PKPpre 22 33 15.5
BISRR Bisoca 138.13 320 ⇑P PKPpre 22 33 11.2
KWP Kalwaria Pacla 138.22 327 *e*PKP PKPpre 22 33 13.1
KWP *e*PP **PP 22 36 13.1 +2.1**
KWP *e*SKPdf **SKPbc 22 36 40.5 +0.2**
COP Copenhagen 138.25 340 *i* P **PKPdf 22 33 21.3 +0.9**
TURR Turia 138.31 321 ⇑P PKPpre 22 33 10.8
GKP Gorka Klasztor 138.34 334 *e*PKP PKPpre 22 33 11.7
GKP *e*SKPdf **SKPdf 22 36 41.5 +0.7**
OZUR 138.43 321 ⇑P PKPpre 22 33 13.1
ISR Istrita 138.44 319 ⇑P PKPpre 22 33 10.7
ISR Istrita 138.44 319 ⇑PKHKP PKPpre 22 33 10.7
NEHR Nehoiu 138.45 320 ⇑P PKPpre 22 33 13.7
TMAB Tom-Au,PA,Br 138.56 115 *e*P **PKPdf 22 33 22.8 +0.5**
MUD Monsted U'grnd 138.59 343 *i* P **PKPdf 22 33 21.0 0.0**
MLR Muntele Rosu 138.63 320 PKhKP PKPpre 22 33 12.4
comp=Z,9.3nm,0.6s,baz=70,slow=3.2,SNR=19
MLR PKP **PKPdf 22 33 21.3 -0.3**
comp=Z,9.3nm,0.6s,baz=349,slow=2.6,SNR=25
MLR SKPbc **SKPbc 22 36 42.2 +0.5**
comp=Z,89nm,1.3s,baz=335,slow=2.4,SNR=12
MLR Muntele Rosu 138.63 320 ⇑P PKPpre 22 33 12.3
DOPR Dopca 138.74 321 ⇑P PKPpre 22 33 12.5
ARCR ARCALIA 138.76 323 ⇓P PKPpre 22 33 13.0
PRD Provadia 138.76 316 *e*P PKPpre 22 33 15.5
NEF NEVSHA 138.81 316 *e*P PKPpre 22 33 13.7
KOLS Kolonicke sedl 138.86 326 *e*PKHKP PKPpre 22 33 12.9
KOLS *e* 22 33 23.4
KOLS Kolonicke sedl 138.86 326 *e*PKP **PKiKP 22 33 23.4 -0.6**
KOLS *e* 22 36 43.6
BMR Baia Mare 138.93 324 ⇑P PKPpre 22 33 14.2
BMR Baia Mare 138.93 324 ⇑PKHKP PKPpre 22 33 14.2
STHS Stebnicka Huta 139.10 327 *e*PKHKP PKPpre 22 33 14.0
STHS *e* 22 33 22.0
STHS Stebnicka Huta 139.10 327 *e*PKP **PKPdf 22 33 22.0 -0.2**
STHS *e* 22 36 43.8
STHS Stebnicka Huta 139.10 327 *e* PKPpre 22 33 14.0
LOZB Loznitsa 139.21 317 ⇑P PKPpre 22 33 16.2
MDB Medias 139.25 322 ⇓P PKPpre 22 33 16.0
MDB Medias 139.25 322 ⇓PKHKP PKPpre 22 33 16.0
SSRD Sdr. Stenderup 139.29 342 *i* P PKPpre 22 33 16.3
OJC Ojcow 139.31 329 *e*PKP PKPpre 22 33 15.9
OJC *e*PP **PP 22 36 16.9 -0.8**
OJC *e*SKPdf **SKPbc 22 36 44.4 +1.2**
CBBR Cluj-Babes-Bol 139.40 323 ⇑P PKPpre 22 33 15.6
CJR Cluj-Napoca 139.40 323 ⇑P PKPpre 22 33 15.1
CJR Cluj-Napoca 139.40 323 ⇑PKHKP PKPpre 22 33 15.1
BAND Balkesir-Ban 139.41 312 ⇑P **PKiKP 22 33 25.9 +0.5**
ARR Arges 139.50 320 ⇑P PKPpre 22 33 15.1
MESR Meseseni 139.53 324 ⇓P PKPpre 22 33 17.2
TNR Turnu Rosu 139.57 321 ⇓P PKPpre 22 33 16.1
TNR Turnu Rosu 139.57 321 ⇓PKHKP PKPpre 22 33 16.1
NIE Niedzica 139.58 328 *e*PKP PKPpre 22 33 18.2
NIE *e*SKPdf **SKPbc 22 36 45.3 +1.3**
JMB Yambol 139.64 315 *e*P PKPpre 22 33 18.4
SZH Strazhitsa 139.66 317 *e*P PKPpre 22 33 15.5
MARR Marisel-Cluj 139.70 323 ⇓P PKPpre 22 33 15.8
HUMR Humele 139.70 319 ⇑P PKPpre 22 33 14.6
COPA Copaceanca 139.74 318 ⇑P PKPpre 22 33 15.8
DRGR 139.87 323 ⇓P PKPpre 22 33 15.1
DRGR 139.87 323 ⇓PKHKP PKPpre 22 33 15.1
ZIMR 139.88 318 ⇑P PKPpre 22 33 17.6
ZIMR 139.88 318 ⇑PKHKP PKPpre 22 33 17.6
ELND Elena 139.88 316 ⇑P PKPpre 22 33 16.5
LOT Lotru 139.98 321 ⇑P PKPpre 22 33 16.2
MCD Coleburn Disti 140.00 353 *e*P PKPpre 22 33 15.5
LANS Liptovska Anna 140.17 328 *e*PKHKP PKPpre 22 33 18.3
LANS *e* 22 36 23.9
LANS Liptovska Anna 140.17 328 *e*PKP **PKiKP 22 33 26.1 -0.6**
LANS *e*PP **PP 22 36 32.9 +0.9**
LANS *e* 22 36 47.7
LANS Liptovska Anna 140.17 328 *e* PKPpre 22 33 18.3
BORR Bors 140.22 324 ⇑P PKPpre 22 33 16.6
DEV Deva 140.26 322 ⇑P PKPpre 22 33 20.4
DEV Deva 140.26 322 ⇑PKIKP PKPpre 22 33 20.4
KPL Plockton 140.47 355 *e*P PKPpre 22 33 16.0
STEB Steborice 140.47 330 *e*PKP PKPpre 22 33 18.5
PLVB Pleven 140.48 318 ⇑P PKPpre 22 33 19.2
KSP Ksiaz 140.51 332 *e*PKP PKPpre 22 33 18.5
KSP *e*SKPdf **SKPbc 22 36 47.5 +1.1**
DRUM Mains of Drumt 140.56 352 *e*P PKPpre 22 33 17.3
GZR Gura Zlata 140.60 321 ⇑P PKPpre 22 33 18.4
GZR Gura Zlata 140.60 321 ⇑PKHKP PKPpre 22 33 18.4
CAVK Edirne/Enez-Ca 140.63 313 ⇓P PKPpre 22 33 16.6
MORC Moravsky Berou 140.69 330 *e*PKP PKPpre 22 33 19.8
MORC *e*SKP 22 36 48.0
MORC Moravsky Berou 140.69 330 ⇑P PKPpre 22 33 19.5
MORC Moravsky Berou 140.69 330 ⇑PKHKP PKPpre 22 33 19.5
SRE Strehaia 140.73 320 ⇑P PKPpre 22 33 20.8
SRE Strehaia 140.73 320 ⇑PKIKP PKPpre 22 33 20.8
PSZ Piszkesteto 140.74 327 ⇑P PKPpre 22 33 19.6
PSZ Piszkesteto 140.74 327 ⇑PKHKP PKPpre 22 33 19.6
SIRR Siria 140.76 323 ⇑P PKPpre 22 33 19.7
SURR Surduc 140.78 322 ⇑P PKPpre 22 33 12.1
CHVC Chvalec 140.79 332 *e*PKHKP PKPpre 22 33 19.7
CHVC Chvalec 140.79 332 *e*PKP PKPpre 22 33 19.7
KDZ Kurdzhali 140.81 315 *e*P PKPpre 22 33 19.3
KRLC Kraliky 140.83 331 *e*PKHKP PKPpre 22 33 19.5
KRLC Kraliky 140.83 331 *e*PKP PKPpre 22 33 19.5
MAUC Maruska 140.83 330 *e*PKP PKPpre 22 33 21.4
DPC Dobruska-Polom 140.85 332 *e*pPKP **pPKPdf 22 33 59.7 -7.4**
DPC *e*PP **PP 22 36 23.9 -3.1**
DPC AMS AMS 23 36 50.0
comp=Z,400nm,21.8s
EZN Ezine 140.87 312 ⇓P PKPpre 22 33 19.7
EZN Ezine 140.87 312 ⇓PKHKP PKPpre 22 33 19.7
UPC Upice 140.87 332 *e*PKHKP PKPpre 22 33 19.6
UPC Upice 140.87 332 *e*PKP PKPpre 22 33 19.6
VYHS Vyhne 140.91 328 *e*PKHKP PKPpre 22 33 19.0
VYHS *e* 22 33 24.9
VYHS Vyhne 140.91 328 *e*PKP **PKPdf 22 33 24.9 -0.6**
VYHS *e* 22 36 49.0
VYHS Vyhne 140.91 328 *e* PKPpre 22 33 19.0
BSZH Besenyszg 140.92 326 ⇓P PKPpre 22 33 19.9
PLD Plovdiv 140.97 316 *e*P PKPpre 22 33 21.1
MPEP Malo Peshtene 141.06 318 *e*P PKPpre 22 33 20.5
VALD Valchedram 141.08 319 *e*P PKPpre 22 33 20.8
HERR Herculane 141.09 321 ⇓P PKPpre 22 33 19.9
BZS Buzias 141.16 322 ⇓P PKPpre 22 33 20.2
BZS Buzias 141.16 322 ⇓PKHKP PKPpre 22 33 20.2
PGB Panagyurishte 141.18 317 *e*P PKPpre 22 33 20.6
RZN Rozhen 141.18 315 *e*P PKPpre 22 33 20.7
INVG Invergeldie, C 141.22 354 *e*P PKPpre 22 33 20.1
JAVC Velka Javorina 141.25 329 *e*PKP PKPpre 22 33 22.4
JAVC *e*PP **PP 22 36 32.3 +2.7**
JAVC *e*SKP 22 36 49.7
VRAC Vranov 141.46 330 PKhKP PKPpre 22 33 20.9
comp=Z,30nm,1.0s,baz=59,slow=3.6,SNR=23
VRAC SKPbc **SKPbc 22 36 49.7 +0.8**
comp=Z,22nm,1.1s,baz=105,slow=3.7,SNR=5.7
VRAC Vranov 141.46 330 *e*PKP PKPpre 22 33 21.1
VRAC *e*PP **PP 22 36 31.8 +1.1**
VRAC *e*SKP 22 36 49.4
VRAC Vranov 141.46 330 ⇑P PKPpre 22 33 21.3
VRAC Vranov 141.46 330 ⇑PKHKP PKPpre 22 33 21.3
PVCC Panska Ves 141.48 333 *e*PKHKP PKPpre 22 33 21.6
PVCC Panska Ves 141.48 333 *e*PKP PKPpre 22 33 21.6
PVCC *ex* x 22 34 00.1
BRG Berggiesshubel 141.49 334 *i* PKP PKPpre 22 33 21.8
BRG Amp 22 33 22.9
comp=Z,30nm,0.9s
BRG Berggiesshubel 141.49 334 P **PKPdf 22 33 25.8 -0.6**
BRG Amp 22 33 26.2
comp=Z,44nm,0.8s
BRG Berggiesshubel 141.49 334 P **PKiKP 22 33 30.6 +1.4**
BRG Amp 22 33 31.3
comp=Z,106nm,0.9s
BRG Berggiesshubel 141.49 334 PP PP 22 36 30.0 -0.8
BRG SKP 22 36 51.1
BRG Amp 22 36 52.9
comp=Z,49nm,1.1s
LAWE Loch Awe, Argy 141.52 355 *e*P PKPpre 22 33 21.2
CLL Collm 141.54 335 *i* PKHKP PKPpre 22 33 20.8
CLL *i* 22 33 26.5
CLL pmax pmax
comp=Z,39nm,0.9s
CLL pmax pmax
comp=Z,165nm,1.5s
MDVR Moldovita 141.56 321 ⇑P PKPpre 22 33 22.2
BANR Banloc 141.57 322 ⇑P PKPpre 22 33 22.7
SMOL Smolenice 141.60 329 *e*PKIKP **PKPdf 22 33 24.4 -2.3**
SMOL *e* 22 36 33.8
SRO Srobarova 141.62 327 *e*PKIKP PKPpre 22 33 23.4
SRO Srobarova 141.62 327 *e*PKP **PKiKP 22 33 28.7 -0.9**
SRO *e* 22 36 52.1
RICC Richard 141.67 334 *e*PKP **PKPdf 22 33 24.4 -2.4**
PLNA Plana 141.69 317 *e*P PKPpre 22 33 22.0
KRUC Moravsky 141.72 330 *e*PKP PKPpre 22 33 22.0
KRUC *e*PP **PP 22 36 34.0 +1.7**
KRUC *e*SKP 22 36 50.6
VTS Vitosha 141.74 317 *e*P PKPpre 22 33 22.9
MODS Modra-Piesok 141.77 329 *e*PKHKP PKPpre 22 33 20.9
MODS *e* 22 33 25.0
MODS *e* 22 36 32.3
MODS Modra-Piesok 141.77 329 *e*PKP **PKPdf 22 33 25.0 -2.1**
MODS *e*PP **PP 22 36 32.3 -0.4**
MODS *e* 22 36 48.9
GOPC GO Pecny, Ondr 141.84 333 *e*PKHKP PKPpre 22 33 21.6
GOPC GO Pecny, Ondr 141.84 333 *e*PKP PKPpre 22 33 21.6
PGBU Glenifferbraes 141.87 354 *e*P PKPpre 22 33 22.1
PRU Pruhonice 141.90 333 *e*PKHKP PKPpre 22 33 20.5
PRU MLR MLR
comp=Z,300nm,22.3s
PRU Pruhonice 141.90 333 *e*PKP PKPpre 22 33 20.5
PRU *ex* x 22 34 01.9
PRU *ex* x 22 46 05.3
PRU AMS AMS 23 34 40.0
comp=Z,300nm,22.3s
MMB Musomishta 141.91 316 *e*P PKPpre 22 33 23.5
TREC Trest 141.98 331 *e*PKHKP PKPpre 22 33 22.8
TREC Trest 141.98 331 *e*PKP PKPpre 22 33 22.8
TRAN Tran 142.01 318 *e*P PKPpre 22 33 20.5
KKB Krupnik 142.18 316 *e*P PKPpre 22 33 23.9
BOVS Bovan 142.19 320 ⇓P PKPpre 22 33 23.7
EKA Eskdalemuir Ar 142.19 352 PKhKP PKPpre 22 33 22.6
comp=Z,17nm,0.6s,baz=0.3,slow=2.5,SNR=67
EKA SKPbc **SKPbc 22 36 51.0 +0.5**
comp=Z,15nm,0.9s,baz=356,slow=2.2,SNR=6.7
EKA PKKP **PKKPdf 22 42 42.5 -3.0**
comp=Z,2.5nm,1.0s,baz=229,slow=3.2,SNR=4.5
ZVC Zvikov 142.46 332 *e*PKP PKPpre 22 33 24.9
MORH Mrgy, Hungar 142.47 325 ⇑*i* P PKPpre 22 33 23.3
MORH Mrgy, Hungar 142.47 325 ⇑P PKPpre 22 33 24.9
NEWG New Galloway 142.53 353 *e*P PKPpre 22 33 24.3
RONA Rosalia, Austr 142.71 329 *e*PKP PKPpre 22 33 25.4
comp=Z,178nm,1.2s,SNR=94
RONA *e*SKP 22 36 53.1
comp=Z,117nm,1.3s,SNR=6.9
RONA Rosalia, Austr 142.71 329 S **SKiKP 22 36 53.1 -0.3**
comp=Z,117nm,1.3s,SNR=6.9
CLGH Cloghs, Cushen 142.75 355 *e*P PKPpre 22 33 24.8
CONA Conrad Observa 142.77 329 *i* PKP PKPpre 22 33 25.8
comp=Z,196nm,1.2s,SNR=142
CONA *e*SKP 22 36 53.7
comp=Z,126nm,1.4s,SNR=4.1
CONA Conrad Observa 142.77 329 S **SKiKP 22 36 53.7 +0.1**
comp=Z,126nm,1.4s,SNR=4.1
GAL1 Galloway 142.83 354 *e*P PKPpre 22 33 25.4
IDGL Inch Island, C 142.86 356 PKP PKPpre 22 33 24.6
CKRC Cesky Krumlov 142.86 332 *e*PKIKP PKPpre 22 33 25.9
CKRC Cesky Krumlov 142.86 332 *e*PKP PKPpre 22 33 25.9
KHC Kasperske Hory 142.95 333 *e*PKIKP **PKPdf 22 33 26.4 -2.8**
KHC *e* 22 36 40.6
KHC MLR MLR
comp=Z,400nm,20.6s
KHC Kasperske Hory 142.95 333 *e*PKP **PKPdf 22 33 26.4 -2.8**
KHC *ex* x 22 34 01.4
KHC *e*PP **PP 22 36 40.6 +0.9**
KHC AMS AMS 23 35 50.0
comp=Z,400nm,20.6s
GERES GERESS Array B 143.11 332 PKhKP PKPpre 22 33 26.4
comp=Z,36nm,0.7s,baz=31,slow=3.6,SNR=178
GERES SKPbc **SKiKP 22 36 54.1 -0.2**
comp=Z,17nm,1.0s,baz=52,slow=2.2,SNR=8.6
NBAN Anadia - AL 143.13 136 *e*P PKPab 22 33 26.9 +0.6
BEHE Becsehely 143.30 327 ⇑*i* P PKPbc 22 33 27.1 -0.2
ARSA Arzberg 143.40 329 *e*PKP PKPbc 22 33 27.9 +0.3
comp=Z,177nm,1.0s,SNR=109
ARSA *e*SKP 22 36 55.0
comp=Z,48nm,1.6s
IOMK Kirk Michael 143.41 353 *e*P PKPbc 22 33 27.7 +0.4
GRF Grafenberg Arr 143.51 335 *e*PKP PKPbc 22 33 27.8 0.0
comp=Z,343nm,1.0s,baz=38,slow=3.2
GRFO Grafenberg 143.51 335 PKPdf PKPbc 22 33 28.2 +0.4
GRFO Grafenberg 143.51 335 PKIKP PKPbc 22 33 28.2 +0.4
IDI Anoyia 143.54 305 PKhKP PKPpre 22 33 28.5
comp=Z,147nm,0.7s,baz=26,slow=9.4,SNR=58
IDI SKPbc **SKPbc 22 36 55.0 +0.4**
comp=Z,59nm,1.0s,baz=129,slow=3.4,SNR=4.4
MOA Molln 143.58 331 *e*PKP PKPbc 22 33 28.4 +0.3
comp=Z,124nm,0.6s,SNR=133
MOA *e*SKP 22 36 54.9
comp=Z,82nm,1.5s
RUDO Rudo 143.61 321 *e*P PKPab 22 33 27.8 +0.4
NBPB Pedra_Branca-C 143.65 127 *e*P PKPab 22 33 28.2 -0.1
IVA Berane 143.71 320 ⇑*i* PKP PKPbc 22 33 29.4 +0.7
PLE Pljevlja 143.76 321 ⇑*i* PKP **PKPdf 22 33 29.9 -1.0**
ILTH Belurgan, Co L 143.81 355 PKP PKPbc 22 33 28.2 -0.3
ILTH Belurgan, Co L 143.81 355 *e*P PKPab 22 33 28.0 +0.3
MOSL Moslavina 143.87 326 ⇑*i* P PKPbc 22 33 29.0 0.0
KOME Kolasin 143.96 320 ⇑*i* PKP PKPbc 22 33 30.0 +0.5
BIOA Bad Ischl, Aus 143.99 331 *i* PKP PKPbc 22 33 29.5 +0.2
comp=Z,188nm,0.8s,SNR=124
BIOA *e*SKP 22 36 55.6
comp=Z,83nm,1.4s,SNR=4.3
BIOA Bad Ischl, Aus 143.99 331 S **SKPbc 22 36 55.6 +0.4**
comp=Z,83nm,1.4s,SNR=4.3
PERS Pernice 144.03 328 *i* PKPbc **PKPab 22 33 29.2 +0.2**
PERS *e*PP **PP 22 36 47.6 +1.3**
PERS *i* SKPbc **SKiKP 22 36 55.9 -0.3**
SOKA Soboth 144.04 329 *e*PKP **PKPab 22 33 29.1 +0.1**
comp=Z,352nm,0.7s,SNR=329
SOKA *e*SKP 22 36 55.9
comp=Z,113nm,1.3s
OHR Ohrid 144.07 317 *i* P PKPbc 22 33 30.1 +0.3
UPM Unac-Piva 144.13 321 ⇑*i* PKP PKPbc 22 33 30.2 +0.1
A051A Mrakovica 144.17 325 ⇑*i* P **PKPab 22 33 29.6 0.0**
BLY Banja Luka 144.19 324 ⇑*i* P **PKPdf 22 33 31.0

BLY	**Banja Luka**	**144.19 324**	⇓P		**PKPdf**	**22 33 31.0**	**-0.4**
STNC	**Stoke**	**144.24 351**	*e*P		**PKPab**	**22 33 28.7**	**-0.7**
WPS	**Cemaes, Angles**	**144.25 353**	*e*P		**PKPab**	**22 33 28.8**	**-0.6**
KLINJ	**Klinje**	**144.34 321**	⇑*i*P		PKPbc	22 33 30.9	+0.3
WLF1	**Llynfaes**	**144.34 353**	*e*P		PKPbc	22 33 30.3	+0.2
NKME	**Niksic**	**144.34 320**	⇑*i*PKP		PKPbc	22 33 31.2	+0.6
PDG	**Podgorica**	**144.35 320**			PKPbc	22 33 31.0	+0.5
PDG	**Podgorica**	**144.35 320**	⇑P		**PKPdf**	**22 33 31.3**	**-0.4**
PDG	**Podgorica**	**144.35 320**	⇑*i*PKP		PKPbc	22 33 31.0	+0.5
OBKA	**Obir**	**144.40 329**	*e*PKP		**PKPab**	**22 33 30.4**	**0.0**
	comp=Z,388nm,1.0s,SNR=146						
OBKA			*e*SKP			22 36 56.4	
	comp=Z,65nm,1.7s						
CWF	**Charnwood Fore**	**144.43 349**	*e*P		**PKPab**	**22 33 30.2**	**+0.1**
YLL	**Llanberis**	**144.46 353**	*e*P		PKPbc	22 33 30.8	+0.3
CEME	**Cevo**	**144.49 320**	⇑*i*PKP		PKPbc	22 33 31.4	+0.3
BRY	**Bratogost**	**144.52 321**	⇑*i*PKP		PKPbc	22 33 31.7	+0.5
DRME	**Dracevica, Mon**	**144.53 319**	⇑*i*PKP		**PKPdf**	**22 33 31.9**	**-0.2**
BEBN	**Eben Emael**	**144.54 341**	*d*PKPdf		**PKPab**	**22 33 30.6**	**0.0**
BEBN			*dp*PKPdf		**pPKPdf**	**22 34 10.8**	**-2.8**
OZLJ	**Ozalj**	**144.55 327**	⇑*i*P		PKPbc	22 33 31.4	+0.4
KBA	**Koelnbreinsper**	**144.57 330**	*e*PKP		**PKPab**	**22 33 30.9**	**-0.3**
	comp=Z,707nm,1.1s						
FOEL	**Foel Wylfa**	**144.58 351**	*e*P		PKPbc	22 33 30.9	0.0
BTNL	**Ternell**	**144.59 341**	*d*PKPdf		**PKPdf**	**22 33 31.7**	**-0.3**
DSB	**Dublin**	**144.59 355**			**PKPdf**	**22 33 31.6**	**-0.2**
DSB	**Dublin**	**144.59 355**	PKP		PKPbc	22 33 30.6	0.0
IGLA	**Glengowla, Co**	**144.60 358**	PKP		PKPbc	22 33 31.0	+0.1
IGLA	**Glengowla, Co**	**144.60 358**	*e*P		**PKPab**	**22 33 30.4**	**-0.3**
MEM	**Membach**	**144.61 341**	*d*PKPdf		PKPbc	22 33 31.2	+0.2
ULC	**Ulcinj**	**144.61 319**	⇑*i*PKP		PKPbc	22 33 31.7	+0.3
LESA	**Schwarzleotal**	**144.63 331**	*e*PKP		**PKPab**	**22 33 30.7**	**-0.5**
	comp=Z,842nm,0.6s,SNR=428						
LESA			*e*SKP			22 36 56.8	
	comp=Z,92nm,1.6s						
BUM	**Brajici-Budva**	**144.64 320**	⇑*i*PKP		**PKPdf**	**22 33 32.0**	**-0.4**
LLW	**Llanuwchllyn**	**144.68 352**	*e*P		PKPbc	22 33 31.3	+0.1
A050A	**Klekovaca**	**144.72 325**	⇑*i*P		PKPbc	22 33 31.8	+0.1
BOJS	**Bojanci**	**144.73 327**	*ep*PKPdf		**pPKPdf**	**22 34 13.2**	**-0.8**
BOJS			*i* SKPbc		**SKiKP**	**22 36 58.1**	**+0.5**
BOJS			*e*			22 37 20.6	
LJU	**Ljubljana**	**144.73 328**	*i* PKPbc		PKPbc	22 33 31.7	+0.1
LJU			*ep*PKPdf		pPKPdf	22 34 11.7	-2.3
LJU			*e*			22 34 24.4	
LJU			*i* PP		**PP**	**22 36 51.4**	**+1.0**
LJU			*i* SKPbc		**SKiKP**	**22 36 57.8**	**+0.2**
TREB	**Trebinje**	**144.74 321**	⇑*i*P		PKPbc	22 33 31.8	+0.1
MYKA	**Terra Mystica**	**144.76 330**	*e*PKP		**PKPab**	**22 33 31.2**	**-0.5**
	comp=Z,518nm,0.6s,SNR=297						
MYKA			*e*SKP			22 36 56.7	
	comp=Z,83nm,1.6s						
BSTI	**Sart Tilman**	**144.77 341**	*d*PKPdf		**PKPdf**	**22 33 31.9**	**-0.3**
HCY	**Herceg Novi**	**144.81 320**	⇑*i*PKP		**PKPdf**	**22 33 32.4**	**-0.2**
BHOU	**Houvegnez**	**144.83 341**	*d*PKPdf		PKPbc	22 33 31.9	+0.1
BHOU			*dp*PKPdf		pPKPdf	22 34 12.9	-1.1
UCC	**Uccle**	**144.93 343**			**PKPdf**	**22 33 32.5**	**0.0**
UCC	**Uccle**	**144.93 343**	PKIKP		**PKPdf**	**22 33 32.5**	**0.0**
UCC	**Uccle**	**144.93 343**	*d*PKP		PKPbc	22 33 32.0	-0.1
CEY	**Cerknica**	**145.00 328**	*i* PKPbc		**PKPab**	**22 33 32.6**	**0.0**
STON	**Ston**	**145.04 321**	⇑*i*P		**PKPbc**	**22 33 32.0**	**-0.6**
STU	**Stuttgart**	**145.04 336**	PKPbc		**PKPdf**	**22 33 32.9**	**+0.1**
STU	**Stuttgart**	**145.04 336**	PKIKP		**PKPdf**	**22 33 32.9**	**+0.1**
ITM	**Ithomi**	**145.08 310**			**PKPbc**	**22 33 32.9**	**-0.2**
BGES	**Gesves**	**145.09 342**	*d*PKP		**PKPdf**	**22 33 32.9**	**+0.1**
KIJV	**Kijevo**	**145.09 324**	⇑*i*P		**PKPbc**	**22 33 32.9**	**+0.1**
WATA	**Walderalm**	**145.19 332**	*i* PKP		**PKPbc**	**22 33 32.8**	**-0.4**
	comp=Z,321nm,0.7s,SNR=365						
WATA			*e*SKP			22 36 58.5	
	comp=Z,96nm,2.0s						
ABTA	**Abfaltersbach**	**145.20 331**	*e*PKP		**PKPbc**	**22 33 32.5**	**-0.7**
	comp=Z,1µm,0.8s,SNR=628						
ABTA			*e*SKP			22 36 58.1	
	comp=Z,74nm,1.3s						
WTTA	**Wattenberg**	**145.22 332**	*i* PKP		**PKPbc**	**22 33 33.0**	**-0.3**
	comp=Z,401nm,0.7s,SNR=405						
WTTA			*e*SKP			22 36 58.5	
	comp=Z,76nm,1.3s						
SABO	**M.te Sabotino**	**145.24 329**			**PKPdf**	**22 33 33.1**	**-0.1**
RCHB	**Rochefort**	**145.25 341**	*d*PKP		**PKPdf**	**22 33 32.3**	**-0.7**
RCHB			*dp*PKP		pPKPab	22 34 11.8	-1.9
BMRD	**Maredsous**	**145.25 342**	*d*PKPdf		**PKPbc**	**22 33 33.1**	**+0.1**
BMRD			*dp*PKP		pPKPbc	22 34 14.4	+0.3
WLF	**Walferdange**	**145.38 340**			**PKPab**	**22 33 33.7**	**-0.1**
WLF	**Walferdange**	**145.38 340**	PKP2		**PKPab**	**22 33 33.7**	**-0.1**
WLF	**Walferdange**	**145.38 340**	*d*PKPdf		**PKPbc**	**22 33 33.6**	**+0.1**
WLF			*dp*PKP		pPKPab	22 34 14.4	-0.1
MOTA	**Moosalm**	**145.39 333**	*e*PKP		**PKPdf**	**22 33 33.1**	**-0.5**
	comp=Z,1µm,0.9s,SNR=568						
MOTA			*e*SKP			22 36 59.0	
	comp=Z,54nm,1.1s						
MCH1	**Michaelchurch**	**145.42 351**	*e*P		**PKPdf**	**22 33 33.0**	**-0.3**
RETA	**Reutte**	**145.43 333**	*i* PKP		**PKPdf**	**22 33 33.1**	**-0.4**
	comp=Z,785nm,1.1s,SNR=328						
RETA			*e*SKP			22 36 58.6	
	comp=Z,18nm,1.5s						
SQTA	**Sankt Quirin**	**145.44 333**	*e*PKP		**PKPdf**	**22 33 33.3**	**-0.3**
	comp=Z,1µm,0.8s,SNR=696						
SQTA			*e*SKP			22 36 59.3	
	comp=Z,44nm,1.0s						
ELSH	**Elham, Standar**	**145.44 346**	*e*P		**PKPbc**	**22 33 33.6**	**0.0**
NBCL	**Cascavel-CE**	**145.48 127**	*e*P		**PKPdf**	**22 33 34.4**	**-0.2**
IWEX	**Carrickbyrne,**	**145.49 355**	PKP		**PKPdf**	**22 33 33.4**	**0.0**
IWEX	**Carrickbyrne,**	**145.49 355**	*e*P		**PKPdf**	**22 33 33.0**	**-0.4**
DOU	**Dourbes**	**145.49 342**	*d*PKPdf		**PKPbc**	**22 33 33.7**	**-0.1**
DOU			*d*PKiKP		**PKPab**	**22 33 34.8**	**+0.5**
DOU			*dp*PKP		pPKPab	22 34 12.9	-1.8
DOU			*dp*PKiKP		**pPKPdf**	**22 34 16.7**	**+1.5**
STRD	**Stroud**	**145.50 350**	*e*P		**PKPbc**	**22 33 33.8**	**0.0**
MONM	**Monmouth**	**145.54 351**	*e*P		**PKPdf**	**22 33 32.6**	**-0.8**
OLDB	**Oldbury-Upon-S**	**145.67 350**	*e*P		**PKPdf**	**22 33 33.4**	**-0.3**
SWN1	**Swindon**	**145.69 349**	*e*P		**PKPbc**	**22 33 34.1**	**-0.2**
WOL	**Wolverton**	**145.78 349**	*e*P		**PKPbc**	**22 33 34.5**	**-0.2**
FETA	**Feichten**	**145.80 333**	*e*PKP		**PKPdf**	**22 33 34.0**	**-0.3**
	comp=Z,566nm,0.7s,SNR=368						
FETA			*e*SKP			22 36 59.6	
	comp=Z,64nm,1.2s						
SHEL	**Horse Pasture**	**145.82 190**	PKPbc		**PKPab**	**22 33 36.6**	**+0.1**
SHEL	**Horse Pasture**	**145.82 190**	PKP2		**PKPab**	**22 33 36.6**	**+0.1**
HMNX	**Herstmonceux**	**145.88 347**	*e*P		**PKPab**	**22 33 35.3**	**-0.3**
BRJN	**Brijuni**	**145.92 327**	⇑*i*P		**PKPab**	**22 33 35.9**	**-0.1**
DAVA	**Damuels**	**145.96 334**	*i* PKP		**PKPdf**	**22 33 34.2**	**-0.4**
	comp=Z,291nm,0.8s,SNR=318						
DAVA			*e*SKP			22 36 56.6	
	comp=Z,52nm,1.3s						
VAL	**Valentia**	**146.10 359**	PKP		**PKPdf**	**22 33 34.5**	**+0.1**
RCBR	**Riachuelo**	**146.15 132**	PKPdf		**PKPdf**	**22 33 35.8**	**0.0**
RCBR	**Riachuelo**	**146.15 132**	PKIKP		**PKPdf**	**22 33 35.8**	**0.0**
RCBR	**Riachuelo**	**146.15 132**	*e*P		**PKPdf**	**22 33 36.3**	**+0.5**
ECH	**Echery**	**146.27 337**			**PKPdf**	**22 33 34.4**	**-0.5**
ECH	**Echery**	**146.27 337**	PKIKP		**PKPdf**	**22 33 34.4**	**-0.5**
DAVOX	**Davos/Dischmat**	**146.35 333**	PKPbc		**PKPbc**	**22 33 36.1**	**-0.7**
	comp=Z,543nm,0.6s,baz=5.1,slow=0.8,SNR=678						
DAVOX			SKPbc		**SKPbc**	**22 36 60.0**	**-0.9**
	comp=Z,50nm,1.1s,baz=350,slow=4.1,SNR=4.4						
SGRT	**San Giovanni R**	**146.87 321**			**PKPdf**	**22 33 35.7**	**-0.5**
SGRT			PKPbc		**PKPbc**	**22 33 38.9**	**+0.6**
MATE	**Matera**	**146.93 319**	⇑P		**PKPdf**	**22 33 36.8**	**+0.6**
DYA	**Yadsworthy**	**147.08 351**	*e*P		**PKPdf**	**22 33 35.0**	**-1.1**
CCA1	**Carnmenellis**	**147.49 353**	*e*P		**PKPdf**	**22 33 37.3**	**+0.4**
TIP	**Timpagrande**	**147.72 317**	⇑P		**PKPdf**	**22 33 38.6**	**+0.9**
JSA	**Saint Aubin**	**147.99 349**	*e*P		**PKPdf**	**22 33 37.5**	**-0.1**
CLF	**Chambon-Foret**	**148.03 343**			**PKPdf**	**22 33 38.0**	**+0.3**
SSB	**Saint Sauveur**	**149.71 337**	PKPdf		**PKPdf**	**22 33 40.5**	**-0.2**
SSB			PKPbc		**PKiKP**	**22 33 46.6**	**+0.1**
SSB	**Saint Sauveur**	**149.71 337**	PKHKP		PKPpre	22 33 40.5	
VAE	**Valguarnera**	**150.19 316**	PKP		**PKPdf**	**22 33 42.0**	**+0.3**
	comp=Z,9.1nm,0.9s,baz=0.2,slow=2.2,SNR=8.7						
VAE			PKPbc		**PKiKP**	**22 33 47.6**	**-0.1**
	comp=Z,211nm,1.2s,baz=40,slow=5.6,SNR=30						
CEST	**Esterri de Car**	**153.21 339**	PKPdf		**PKPdf**	**22 33 45.5**	**-0.7**
CEST			PKPbc		**PKiKP**	**22 33 54.7**	**+0.9**
CEST			PKPab		**PKPab**	**22 34 07.5**	**+1.5**
ASCN	**Ascension**	**154.09 173**	PKPdf		**PKPdf**	**22 33 48.5**	**+0.4**
ASCN			PKPbc		**PKiKP**	**22 33 57.0**	**+0.7**
CALA	**Caldeira**	**154.51 33**	*e*PKPdf		**PKPbc**	**22 33 53.5**	**-3.1**
KEST	**Kesra**	**154.51 318**	PKPdf		**PKPdf**	**22 33 47.7**	**-0.5**
KEST			PKPbc		**PKiKP**	**22 33 57.6**	**+0.9**
KEST			PKPab		**PKPab**	**22 34 13.4**	**+1.6**
KEST	**Kesra**	**154.51 318**	PKP		**PKPdf**	**22 33 48.3**	**+0.1**
	comp=Z,17nm,0.9s,baz=18,slow=2.7,SNR=14						
KEST			PKPbc		**PKiKP**	**22 33 57.5**	**+0.7**
	comp=Z,75nm,0.9s,baz=328,slow=3.5,SNR=30						
KEST			PKPab		**PKPab**	**22 34 12.7**	**+0.9**
	comp=Z,232nm,1.0s,baz=291,slow=1.0,SNR=23						
KEST	**Kesra**	**154.51 318**	P		**PKPdf**	**22 33 49.5**	**+1.3**
	SNR=15						
EDA	**Edea**	**154.63 239**			**PKPdf**	**22 33 47.7**	**-1.2**
ROSA	**Rosais**	**154.64 32**	*e*PKPdf		**PKPbc**	**22 33 56.0**	**-0.8**
ROSA			*e*PKPab		**PKPab**	**22 34 12.7**	**+0.6**
PMAN	**Manadas**	**154.78 32**	*e*PKPdf		**PKiKP**	**22 33 57.5**	**+0.4**
PMAN			*e*PKPab		**PKPab**	**22 34 13.4**	**+0.8**
PPNO	**Prainha do Nor**	**154.81 32**	*e*PKPdf		**PKiKP**	**22 33 58.2**	**+1.0**
PSBA	**Serra de Santa**	**155.05 31**	*e*PKPdf		PKPdf	22 33 57.5	+8.7
PSBA			*e*PKPab		**PKPab**	**22 34 14.6**	**+0.7**
PAGU	**Agualva, Azore**	**155.12 30**	*e*PKPdf		PKPdf	22 33 58.4	+10
PAGU			*e*PKPab		**PKPab**	**22 34 15.1**	**+1.0**
PSCM	**Serra do Cume**	**155.21 30**	*e*PKPab		**PKPab**	**22 34 15.7**	**+1.2**
PBRG	**Braganca**	**155.92 351**	*e*PKPdf		**PKPdf**	**22 33 49.6**	**-0.2**
PBRG			*e*PKPab		**PKPab**	**22 34 18.2**	**+0.7**
PGAV	**Gavieira, Arco**	**155.94 354**	*e*PKPdf		**PKPdf**	**22 33 50.1**	**+0.1**
PGAV			*e*PKPab		**PKPab**	**22 34 18.6**	**+1.0**
PCAB	**Cabril**	**156.17 354**	*e*PKPdf		**PKPdf**	**22 33 50.4**	**+0.3**
PCAB			*e*PKPab		**PKPab**	**22 34 19.6**	**+1.1**
POLO	**Lamas de Olo**	**156.48 353**	*e*PKPdf		**PKPdf**	**22 33 50.9**	**+0.2**
POLO			*e*PKPab		**PKPab**	**22 34 20.8**	**+0.8**
PSET	**Sete Cidades**	**156.57 30**	*e*PKPab		**PKPab**	**22 34 21.6**	**+1.2**
PVRL	**Vila Real**	**156.57 353**	*e*PKPdf		**PKPdf**	**22 33 50.8**	**+0.1**
PVRL			*e*PKPab		**PKPab**	**22 34 21.4**	**+1.2**
MVO	**Moncorvo**	**156.59 352**	*e*PKPdf		**PKPdf**	**22 33 51.4**	**+0.6**
MVO			*e*PKPab		**PKPab**	**22 34 21.3**	**+0.9**
CMLA	**Cha da Macela**	**156.71 29**	*e*PKPab		**PKPab**	**22 34 22.4**	**+1.5**
PGRON	**Lagoa das Cont**	**156.77 29**	*e*PKPab		**PKPab**	**22 34 22.3**	**+1.0**
BART	**Pico Bartolome**	**156.86 29**	*e*PKPdf		**PKPdf**	**22 33 52.4**	**+1.1**
BART			*e*PKPab		**PKPab**	**22 34 22.3**	**+0.6**
PVIS	**Viseu**	**157.14 353**	*e*PKPdf		**PKPdf**	**22 33 51.3**	**-0.2**
PVIS			*e*PKPab		**PKPab**	**22 34 23.7**	**+1.0**
ESBB	**Sonseca Array**	**157.44 345**			**PKPdf**	**22 33 51.2**	**-0.6**
ESDC	**Sonseca Array**	**157.45 345**	PKPdf		**PKPdf**	**22 33 51.1**	**-0.8**
ESDC	**Sonseca Array**	**157.45 345**	PKP		**PKPdf**	**22 33 51.8**	**-0.1**
	comp=Z,6.8nm,0.9s,baz=357,slow=2.7,SNR=51						
ESDC			PKPab		**PKPab**	**22 34 24.5**	**+0.4**
	comp=Z,36nm,0.8s,baz=13,slow=3.2,SNR=28						
ESDC			PP		PP	22 37 50.0	-13
	comp=Z,3.4nm,0.9s,baz=37,slow=6.1,SNR=4.8						
PSMA	**Santa Maria**	**157.51 30**	*e*PKPdf		**PKPdf**	**22 33 53.4**	**+1.4**
PSMA			*e*PKPab		**PKPab**	**22 34 23.3**	**-1.2**
PSMN	**Pico do Norte,**	**157.54 30**	*e*PKPdf		**PKPdf**	**22 33 52.6**	**+0.6**
PSMN			*e*PKPab		**PKPab**	**22 34 25.3**	**+0.8**
PAB	**San Pablo**	**157.66 346**	PKPdf		**PKPdf**	**22 33 51.7**	**-0.5**
PAB	**San Pablo**	**157.66 346**	PKIKP		**PKPdf**	**22 33 51.7**	**-0.5**
COI	**Coimbra**	**157.70 354**	PKPdf		**PKPdf**	**22 33 51.4**	**-0.7**
COI					**PKPab**	**22 34 25.4**	**+0.3**
COI	**Coimbra**	**157.70 354**	*e*PKPdf		**PKPdf**	**22 33 52.0**	**-0.1**
COI			*e*PKPab		**PKPab**	**22 34 25.9**	**+0.8**
COI	**Coimbra**	**157.70 354**	PKIKP		**PKPdf**	**22 33 51.4**	**-0.7**
COI						22 34 25.4	
PCAS	**Casmilo, Conde**	**157.86 354**	*e*PKPdf		**PKPdf**	**22 33 52.3**	**0.0**
PCAS			*e*PKPab		**PKPab**	**22 34 26.8**	**+1.0**
PCBR	**Castelo Branco**	**157.96 352**	*e*PKPdf		**PKPdf**	**22 33 52.6**	**+0.2**
PCBR			*e*PKPab		**PKPab**	**22 34 26.4**	**+0.8**
PSARD	**Sardoal**	**158.28 353**	*e*PKPdf		**PKPdf**	**22 33 53.0**	**+0.1**
PSARD			*e*PKPab		**PKPab**	**22 34 28.4**	**+0.8**
PMRV	**Marv??o**	**158.35 352**	*e*PKPdf		**PKPdf**	**22 33 52.8**	**-0.1**
PMRV			*e*PKPab		**PKPab**	**22 34 29.7**	**+1.8**
CART	**Cartagena**	**158.45 337**	PKPdf		**PKPdf**	**22 33 52.6**	**-0.5**
CART					**PKPab**	**22 34 28.8**	**+0.4**
PMTG	**Montargil**	**158.81 353**	*e*PKPdf		**PKPdf**	**22 33 53.4**	**-0.1**
PMTG			*e*PKPab		**PKPab**	**22 34 30.9**	**+1.0**
PESTR	**Estremoz**	**158.93 352**			**PKPdf**	**22 33 53.2**	**-0.5**
PESTR	**Estremoz**	**158.93 352**	*e*PKPdf		**PKPdf**	**22 33 53.5**	**-0.1**
PESTR			*e*PKPab		**PKPab**	**22 34 31.3**	**+0.8**
PMAFR	**Mafra**	**159.02 355**	*e*PKPdf		**PKPdf**	**22 33 53.9**	**+0.2**
PMAFR			*e*PKPab		**PKPab**	**22 34 32.0**	**+1.2**
PARRA	**Arraiolos**	**159.14 355**	*e*PKPdf		**PKPdf**	**22 33 53.8**	**-0.1**
PARRA			*e*PKPab		**PKPab**	**22 34 31.8**	**+0.5**
LIS	**Lisbon**	**159.25 355**	*e*PKPdf		**PKPdf**	**22 33 54.2**	**+0.2**
LIS			*e*PKPab		**PKPab**	**22 34 33.0**	**+1.2**
LIS			*e*PP		**PP**	**22 38 14.5**	**+2.3**
LIS	**Lisbon**	**159.25 355**	*e*PKPdf		**PKPdf**	**22 33 55.1**	**+1.2**
LIS			*e*PKPab		**PKPab**	**22 34 33.6**	**+1.9**
EVO	**Evora**	**159.31 353**	*e*PKPdf		**PKPdf**	**22 33 54.4**	**+0.3**
EVO			*e*PKPab		**PKPab**	**22 34 33.3**	**+1.2**
PBAR	**Barrancos**	**159.52 350**	*e*PKPdf		**PKPdf**	**22 33 54.6**	**+0.3**
PBAR			*e*PKPab		**PKPab**	**22 34 34.0**	**+0.9**
PBEJ	**Beja**	**159.79 352**	*e*PKPdf		**PKPdf**	**22 33 55.0**	**+0.3**
PBEJ			*e*PKPab		**pPKPdf**	**22 34 35.6**	**-0.7**
MESJ	**Messejana**	**160.02 353**	*e*PKPdf		**PKPdf**	**22 33 55.0**	**+0.1**
MESJ			*e*PKPab		**pPKPdf**	**22 34 36.4**	**-0.3**
MESJ			*e*PP		**PP**	**22 38 18.7**	**+2.2**
MESJ	**Messejana**	**160.02 353**			**PKPdf**	**22 33 54.6**	**-0.2**
MESJ	**Messejana**	**160.02 353**	*e*PKPdf		**PKPdf**	**22 33 55.1**	**+0.1**
MESJ			*e*PKPab		**pPKPdf**	**22 34 36.2**	**-0.4**
MESJ	**Messejana**	**160.02 353**	PKIKP		**PKPdf**	**22 33 54.7**	**-0.2**
PCVE	**Castro Verde**	**160.20 352**	*e*PKPdf		**PKPdf**	**22 33 55.5**	**+0.4**
PCVE			*e*PKPab		**pPKPdf**	**22 34 37.5**	**+0.7**
PTEO	**Sao Teotonio**	**160.37 354**	*e*PKPdf		**PKPdf**	**22 33 55.8**	**+0.2**
PTEO			*e*PKPab		**pPKPdf**	**22 34 38.4**	**+1.4**
PVAQ	**Vaqueiros**	**160.38 351**			**PKPdf**	**22 33 55.2**	**-0.1**
PVAQ					**pPKPdf**	**22 34 37.9**	**+0.9**
PVAQ	**Vaqueiros**	**160.38 351**	*e*PKPdf		**PKPdf**	**22 33 55.5**	**+0.1**
PVAQ			*e*PKPab		**pPKPdf**	**22 34 38.2**	**+1.1**
PBDV	**Barranco-do-Ve**	**160.57 352**	*e*PKPdf		**PKPdf**	**22 33 56.2**	**+0.6**
PBDV			*e*PKPab		**PKPab**	**22 34 39.3**	**+1.6**
MORF	**Marmelete**	**160.60 353**	*e*PKPdf		**PKPdf**	**22 33 55.9**	**+0.3**
MORF			*e*PKPab		**PKPab**	**22 34 38.9**	**+1.1**
MORF			*e*PP		**PP**	**22 38 21.9**	**+2.3**
MORF	**Marmelete**	**160.60 353**	*e*PKPdf		**PKPdf**	**22 33 56.2**	**+0.6**
MORF			*e*PKPab		**PKPab**	**22 34 39.2**	**+1.4**
PFVI	**Vila Bisbo**	**160.79 354**	*e*PKPdf		**PKPdf**	**22 33 56.9**	**+1.2**
PFVI			*e*PKPab		**PKPab**	**22 34 40.0**	**+1.4**
TAM	**Tamanrasset**	**163.46 290**			**PKPdf**	**22 33 59.1**	**0.0**
TAM	**Tamanrasset**	**163.46 290**	PKIKP		**PKPdf**	**22 33 59.1**	**0.0**
ACRG	**Accra**	**163.59 223**	PKPdf		**PKPdf**	**22 33 57.4**	**-1.8**
MDT	**Midelt**	**164.02 339**	PKP		**PKPdf**	**22 33 59.8**	**+0.5**
	comp=Z,69nm,1.1s,baz=45,slow=0.8,SNR=62						
MDT			PKPab		**PKPab**	**22 34 53.4**	**+0.4**
	comp=Z,29nm,0.9s,baz=36,slow=4.5,SNR=11						
MDT			PP		**PP**	**22 38 41.9**	**+3.8**
	comp=Z,6.8nm,0.9s,baz=64,slow=5.9,SNR=5.5						
PMOZ	**Porto Moniz, M**	**164.32 18**	PKPdf		**PKPdf**	**22 34 00.3**	**+0.7**
PMPST	**Porto Santo, M**	**164.32 16**	*e*PKPdf		**PKPdf**	**22 34 00.4**	**+1.0**
PMPS	**Porto Santo**	**164.34 16**	*e*PKPdf		**PKPdf**	**22 34 00.6**	**+1.2**
PMAR	**Madeira**	**164.49 18**	*e*PKPdf		**PKPdf**	**22 34 00.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**166.53 251**	PKPdf		**PKPdf**	**22 34 00.7**	**-1.0**
TORD			PKPab		**PKPab**	**22 35 04.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**166.53 251**	PKP		**PKPdf**	**22 34 01.6**	**-0.1**
	comp=Z,87nm,1.0s,baz=20,slow=2.8,SNR=87						
TORD			PKPab		**PKPab**	**22 35 05.0**	**+0.3**
	comp=Z,60nm,0.9s,baz=88,slow=4.5,SNR=17						
DBIC	**Dimbokro**	**167.09 210**			**PKPdf**	**22 34 00.6**	**-1.6**
DBIC			PKPab		**PKPab**	**22 35 07.2**	**+0.3**
DBIC	**Dimbokro**	**167.09 210**	PKP		**PKPdf**	**22 34 01.8**	**-0.4**
	comp=Z,114nm,1.1s,baz=177,slow=0.8,SNR=27						
DBIC			PKPab		**PKPab**	**22 35 07.2**	**+0.3**
	comp=Z,49nm,0.9s,baz=173,slow=4.5,SNR=15						
DBIC			PP		**PP**	**22 38 57.7**	**+3.6**
	comp=Z,27nm,1.0s,baz=178,slow=2.9,SNR=5.7						

*SOME **06** 22:31:24.1,44.10N×81.93E,h25km*
*NNC **06** 22:31:26.4±1.3,44.24N×81.62E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=14.7km s-min=6.5km az=131.0,
Suspected Mining explosion.
ISC 06 22:31:23.5±2.1,44.1N±0.1×81.7E±0.1,h0km,n12,
σ1§46/17,3C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.77**	**244**	⇓P	**Pg**	**22 31 59.3**	**+1.9**
	7.2nm,0.6s						
PDGK				⇑S	**Sg**	**22 32 23.3**	**+3.1**
	57nm,0.6s						
SHLS	**Shalkode**	**1.87**	**239**	P	**Pn**	**22 31 56.9**	**0.0**
	14nm,0.2s						
SHLS				S	**Sn**	**22 32 19.1**	**-2.2**
	49nm,0.2s						
SHLS	**Shalkode**	**1.87**	**239**	*e*P	**Pn**	**22 31 56.9**	**0.0**
	14nm,0.2s						
SHLS				*e*S	**Sn**	**22 32 19.1**	**-2.2**
	52nm,0.2s						
KPKS	**Kokpek**	**2.26**	**254**	Pg	**Pg**	**22 32 07.4**	**+0.7**
	0.3nm,0.2s						
KPKS				Lg	Lg	22 32 37.6	
	68nm,0.3s						
SATY	**Saty**	**2.60**	**247**	Pg	**Pg**	**22 32 13.5**	**+0.3**
	2.5nm,0.1s						
SATY				Lg	Lg	22 32 48.0	
	33nm,0.4s						
MK31	**Makanchi Array**	**2.69**	**9**	⇑Pn	**Pn**	**22 32 08.1**	**0.0**
	8.8nm,0.8s,baz=215,slow=23,SNR=43						
MK31				⇑Lg	Lg	22 32 52.4	
	1.8nm,0.3s,baz=281,slow=28,SNR=6.0						
ARXS	**Arharly**	**2.76**	**273**	Pg	**Pg**	**22 32 18.3**	**+1.9**
	4.3nm,0.3s						
ARXS				Lg	Lg	22 32 55.4	
	19nm,0.3s						
CHKK	**Chushkaly**	**3.38**	**267**	Pg	**Pg**	**22 32 29.0**	**+0.7**
	3.0nm,0.2s						
CHKK				Lg	Lg	22 33 13.0	
	13nm,0.3s						
CHKK	**Chushkaly**	**3.38**	**267**	*e*P	**Pg**	**22 32 28.4**	**+0.1**
	1.6nm,0.1s						
CHKK				*e*S	**Sg**	**22 33 12.4**	**+0.2**
	15nm,0.3s						
KTBS	**Karatobe**	**3.62**	**265**	Pg	**Pg**	**22 32 32.8**	**-0.1**
	0.9

CROK				IAML			22 56 56.5		
	comp=E,2µm,0.3s								
CROK				Sg	Sg		22 56 56.0	+0.5	
OK029	**Liberty Lake**	**0.47**	**175**	Pg	Pg		22 56 50.4	+0.5	
OK029				Sg	Sg		22 56 56.8	+0.8	
BLOK	**Blackwell**	**0.54**	**25**	Pg	Pg		22 56 51.5	+0.3	
BLOK				Sg	Sg		22 56 58.8	+0.6	
BLOK				IAML			22 56 59.2		
	comp=E,1µm,0.3s								
BLOK				IAML			22 57 04.7		
	comp=N,1µm,0.2s								
BCOK	**Bluff Creek, N**	**0.62**	**188**			Pg	22 56 53.0	+0.3	
BCOK						Sg	22 57 01.6	+1.0	
ADOK	**Arcadia Dam**	**0.62**	**170**	Pg		Pg	22 56 52.9	+0.1	
OK052	**Battle Ridge R**	**0.63**	**116**	Pg		Pg	22 56 53.1	+0.3	
OK052				Sg		Sg	22 57 01.7	+0.7	
OK052				IAML			22 57 02.1		
	comp=N,1µm,0.3s								
OK052				IAML			22 57 02.1		
	comp=N,647nm,0.4s								
GC02	**Grant County #**	**0.65**	**334**	Pg		Pg	22 56 53.1	-0.1	
GC02				Sg		Sg	22 57 02.0	+0.4	
QUOK	**Quay**	**0.65**	**98**	Pg		Pg	22 56 53.3	+0.1	
QUOK				Sg		Sg	22 57 02.4	+0.8	
QUOK				IAML			22 57 07.8		
	comp=E,653nm,0.2s								
OK004	**Okla Sci Mus**	**0.74**	**178**			Pg	22 56 55.4	+0.3	
OK004						Sb	22 57 05.8	-0.9	
KAN14	**Manchester OK**	**0.78**	**332**	Pg		Pg	22 56 55.6	-0.1	
KAN14						Sg	22 57 06.2	+0.3	
KAN14				IAML			22 57 07.2		
	comp=E,851nm,0.3s								
OKCFA	**Oklahoma City**	**0.85**	**177**			Pg	22 56 57.3	+0.1	
OKCFA						Sb	22 57 09.1	-0.8	
OKCSW	**OKLAHOMA CITY**	**0.86**	**177**	Pg		Pg	22 56 57.3	0.0	
OKCSW				Sg		Sg	22 57 09.2	+0.7	
OKCSW				IAML			22 57 12.1		
	comp=N,424nm,0.2s								
OKCSW				IAML			22 57 14.3		
	comp=E,585nm,0.5s								
DEOK	**Depew**	**0.92**	**117**	Pg		Pg	22 56 58.2	-0.2	
DEOK				Sg		Sg	22 57 10.7	+0.5	
DEOK				IAML			22 57 11.3		
	comp=N,585nm,0.4s								
DEOK				IAML			22 57 11.3		
	comp=E,395nm,0.1s								
FNO	**Franklin**	**1.01**	**175**	Pg		Pg	22 56 59.9	-0.3	
FNO				Sg		Sg	22 57 13.8	+0.5	
FNO				IAML			22 57 16.5		
	comp=E,411nm,0.1s								
OK038	**West end E0370**	**1.02**	**282**	Pg		Pg	22 56 59.9	-0.5	
OK038				Sg		Sg	22 57 13.6	-0.1	
T35A	**Sooner Cattle**	**1.02**	**51**	Pg		Pg	22 57 00.1	-0.4	
T35A				Sg		Sg	22 57 13.5	-0.2	
T35A				IAML			22 57 14.7		
	comp=E,346nm,0.3s								
T35A				IAML			22 57 15.4		
	comp=E,292nm,0.2s								
CSTR	**Hydro, Custer**	**1.15**	**237**	Pg		Pg	22 57 02.2	-0.6	
CSTR				Sg		Sb	22 57 18.4	+0.1	
NOKA	**Waynoka**	**1.21**	**288**	Pg		Pg	22 57 03.2	-0.7	
NOKA				IAML			22 57 23.4		
	comp=E,400nm,0.3s								
TUL3	**Leonard**	**1.43**	**104**			Pn	22 57 06.7	-0.7	
ELIS	**Ellis County**	**1.56**	**263**			Pn	22 57 09.5	+0.2	
WMOK	**Wichita Mounta**	**1.85**	**215**	Pn		Pn	22 57 13.8	+0.6	
RLO	**Rose Lookout**	**2.01**	**92**	Pn		Pn	22 57 16.4	+1.1	
R32A	**Long Quarter,**	**2.35**	**336**	Pn		Pn	22 57 20.8	+0.6	
SMWD	**Samnorwood**	**2.52**	**243**	Pn		Pn	22 57 22.5	+0.1	
HHAR	**Hobbs**	**2.88**	**89**	Pn		Pn	22 57 28.0	+0.7	
CBKS	**Cedar Bluff**	**3.10**	**326**	Pn		Pn	22 57 31.4	+1.1	
FW06	**Azle**	**3.29**	**181**	Pn		Pn	22 57 34.3	+1.4	
PLPT	**Palo Pinto**	**3.51**	**191**	Pn		Pn	22 57 37.2	+1.2	
MIAR	**Mount Ida**	**3.64**	**117**	Pn		Pn	22 57 38.8	+1.0	
APMT	**Aspermont**	**3.64**	**217**	Pn		Pn	22 57 39.0	+1.1	
DKNS	**Dickens**	**3.83**	**228**	Pn		Pn	22 57 41.6	+1.2	
DKNS				IAmb_Lg			22 58 42.2		
	comp=Z,16nm,0.9s								
ABTX	**Abilene, Hawle**	**4.04**	**207**	IAmb_Lg			22 58 53.0		
	comp=Z,25nm,0.8s								
X40A	**Basin Creek Fa**	**4.21**	**114**	Pn		Pn	22 57 47.2	+1.7	
X40A				IAmb_Lg			22 58 57.8		
	comp=Z,29nm,0.7s								
SN07	**Snyder 07**	**4.22**	**222**	IAmb_Lg			22 59 05.2		
	comp=Z,20nm,0.7s								
RTBA	**Rita Blanca**	**4.23**	**274**	Pn		Pn	22 57 46.4	+0.4	
WHTX	**Lake Whitney,**	**4.27**	**179**	Pn		Pn	22 57 46.5	+0.1	
MGMO	**Mountain Grove**	**4.30**	**77**	Pn		Pn	22 57 47.5	+0.7	
MGMO				IAmb_Lg			22 59 02.6		
	comp=Z,14nm,0.8s								
WHAR	**Wooly Hollow**	**4.35**	**101**	Pn		Pn	22 57 48.5	+1.0	
WHAR				IAmb_Lg			22 59 02.6		
	comp=Z,18nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.37**	**93**	Pn		Pn	22 57 48.9	+1.1	
WLAR	**White Oak Lake**	**4.43**	**124**	IAmb_Lg			22 59 03.9		
	comp=Z,21nm,0.8s								
UALR	**University of**	**4.46**	**108**	IAmb_Lg			22 59 14.5		
	comp=Z,22nm,0.9s								
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg			22 59 10.3		
	comp=Z,31nm,0.7s								
POST	**Post**	**4.59**	**227**	IAmb_Lg			22 59 16.8		
	comp=Z,15nm,0.9s								
R40A	**Maddies Statio**	**4.64**	**63**	Pn		Pn	22 57 51.6	+0.2	
NATX	**Nacogdoches**	**5.08**	**152**	IAmb_Lg			22 59 29.5		
	comp=Z,13nm,0.7s								
BRDY	**Brady**	**5.12**	**195**			Pn	22 57 58.0	-0.2	
BRDY				IAmb_Lg			22 59 28.0		
	comp=Z,13nm,0.8s								
LCAR	**Lake Charles**	**5.14**	**90**	IAmb_Lg			22 59 27.4		
	comp=Z,12nm,0.9s								
BGNE	**Belgrade**	**5.16**	**355**	IAmb_Lg			22 59 26.3		
	comp=Z,21nm,0.8s								
SGCY	**Sterling City**	**5.28**	**216**	IAmb_Lg			22 59 39.7		
	comp=Z,25nm,0.8s								
CCM	**Cathedral Cave**	**5.31**	**69**			Pn	22 58 01.1	+0.4	
P40A	**Paris**	**5.40**	**51**			Pn	22 58 02.2	+0.2	
P40A				IAmb_Lg			22 59 33.4		
	comp=Z,22nm,0.8s								
T25A	**Trinidad**	**5.62**	**281**	Pn		Pn	22 58 05.0	-0.1	
T25A				IAmb_Lg			22 59 42.8		
	comp=Z,12nm,0.9s								
OGNE	**Ogallala**	**5.86**	**324**	IAmb_Lg			22 59 53.6		
	comp=Z,13nm,0.8s								
FVM	**French Village**	**5.91**	**71**	IAmb_Lg			22 59 50.0		
	comp=Z,11nm,0.8s								
OZNA	**Ozona**	**6.13**	**211**	IAmb_Lg			22 59 55.6		
	comp=Z,10nm,0.8s								
CGM3	**Cape Girardeau**	**6.38**	**78**	IAmb_Lg			23 00 00.5		
	comp=Z,17nm,0.7s								
SCIA	**State Center**	**6.54**	**29**	IAmb_Lg			23 00 25.9		
	comp=Z,18nm,0.8s								
SDCO	**Great Sand Dun**	**6.57**	**285**	Pn		Pn	22 58 18.8	+0.5	
SDCO				IAmb_Lg			23 00 15.3		
	comp=Z,7.2nm,0.9s								
MNHN	**Monahans**	**6.58**	**223**	IAmb_Lg			23 00 25.7		
	comp=Z,8.1nm,0.8s								
Q24A	**Divide**	**6.64**	**296**	IAmb_Lg			23 00 21.6		
	comp=Z,11nm,0.9s								
S44A	**Carbondale**	**6.75**	**75**	IAmb_Lg			23 00 10.7		
	comp=Z,17nm,1.0s								
SIUC	**Southern Illin**	**6.79**	**75**	IAmb_Lg			23 00 15.2		
	comp=Z,19nm,0.7s								
HNDO	**Hondo**	**6.89**	**193**	IAmb_Lg			23 00 26.8		
	comp=Z,12nm,0.9s								
PECS	**Pecos**	**7.21**	**229**	IAmb_Lg			23 00 30.8		
	comp=Z,12nm,1.2s								
DRIO	**Del Rio**	**7.31**	**202**	IAmb_Lg			23 00 49.5		
	comp=Z,8.1nm,0.7s								
SAND	**Sanderson**	**7.39**	**213**	IAmb_Lg			23 00 39.8		
	comp=Z,10.0nm,0.8s								
ECSD	**EROS Data Cent**	**7.49**	**5**	Pn		Pn	22 58 30.6	0.0	
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg			23 00 51.1		
	comp=Z,11nm,0.7s								
ALPN	**Alpine**	**7.80**	**223**	IAmb_Lg			23 01 03.9		
	comp=Z,5.7nm,0.9s								
OLIL	**Olney**	**7.87**	**69**	IAmb_Lg			23 00 57.1		
	comp=Z,14nm,0.8s								
I37A	**Lemond, Waseca**	**8.35**	**21**	IAmb_Lg			23 01 12.3		
	comp=Z,12nm,0.7s								
TX31	**Lajitas Ar. Si**	**8.64**	**219**	Pn		Pn	22 58 46.7	+0.1	
I40A	**Norwalk**	**9.26**	**33**	IAmb_Lg			23 01 39.7		
	comp=Z,8.0nm,1.0s								
K22A	**Casper**	**9.45**	**315**	IAmb_Lg			23 01 49.8		
	comp=Z,8.9nm,0.8s								
SPMN	**Marine on St.**	**9.63**	**20**	IAmb_Lg			23 01 54.1		

comp=Z,6.6nm,1.0s

*ISK **06** 23:04:41.9,38˚.86N×25˚.97E,h10km, ML3.3/30*
*THE **06** 23:04:42.5,38˚.9N±0˚.9×2˚6E±˚, h6km±2km, M3.1/13, MLh3.1/13*
*AFAD **06** 23:04:43.2,38˚.88N×26˚.03E,h10km±4km, ML3.3*
ISC 06 23:04:42.5±1.0,**38˚.86N**±0˚.02×**25˚.97E**±0˚.02,**h11**km±8km,
n100,σ**0671**/129,**15C-7D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGR**	**0.36**	**346**	Pg	**Pg**	**23 04 49.6**	**-0.1**
SIGR				Sg	**Sg**	**23 04 55.2**	**+0.7**
SIGR	**SIGR**	**0.36**	**346**	P	**Pg**	**23 04 49.5**	**-0.2**
SIGR				S	**Sg**	**23 04 54.6**	**0.0**
KARB	**zmir-Karabur**	**0.40**	**119**	P	**Pg**	**23 04 50.7**	**+0.2**
KARB				S	**Sg**	**23 04 55.2**	**-0.5**
KARB				*i* IAML		23 04 57.0	
	comp=E,2µm,0.3s						
CHOS	**Chios island**	**0.48**	**172**	Pg	**Pg**	**23 04 51.9**	**0.0**
CHOS				Sg	**Sg**	**23 04 58.8**	**+0.5**
CHOS	**Chios island**	**0.48**	**172**	P	**Pg**	**23 04 51.9**	**0.0**
CHOS				S	**Sg**	**23 04 58.5**	**+0.2**
CESE	**eme**	**0.59**	**154**	Pg	**Pg**	**23 04 54.3**	**+0.3**
GPNR	**Gulpinar-Canak**	**0.61**	**12**	Pg	**Pg**	**23 04 54.4**	**0.0**
FOCM	**Foa**	**0.61**	**104**	Pg	**Pg**	**23 04 54.3**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.65**	**12**	P	**Pg**	**23 04 55.4**	**+0.2**
KOCA				S	**Sg**	**23 05 03.7**	**-0.1**
KOCA				*i* IAML		23 05 08.0	
	comp=E,2µm,0.6s						
KOCA				*i* IAML		23 05 11.0	
	comp=N,2µm,0.3s						
CAND	**Candarli**	**0.66**	**82**	Pg	**Pg**	**23 04 55.2**	**-0.1**
URLA	**Izmir**	**0.70**	**135**	P	**Pg**	**23 04 56.5**	**+0.3**
URLA				S	**Sb**	**23 05 06.6**	**+0.1**
URLA				*i* IAML		23 05 09.0	
	comp=E,3µm,0.4s						
URLA				*i* IAML		23 05 10.0	
	comp=N,2µm,0.2s						
AYVA	**Ayvalik**	**0.72**	**51**	P	**Pb**	**23 04 57.1**	**+0.1**
AYVA				S	**Sg**	**23 05 04.8**	**-1.1**
AYVA				*i* IAML		23 05 09.0	
	comp=E,2µm,0.4s						
AYVA				*i* IAML		23 05 10.0	
	comp=N,2µm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**0.75**	**146**	P	**Pb**	**23 04 58.2**	**+0.6**
ZEYE				S	**Sg**	**23 05 07.2**	**+0.4**
IZMD	**zmir-Dikili-**	**0.76**	**80**	P	**Pb**	**23 04 57.5**	**-0.3**
IZMD				S	**Sg**	**23 05 07.2**	**0.0**
ZEDA	**zmir-Bergama**	**0.87**	**83**	P	**Pb**	**23 04 59.8**	**+0.1**
ZEDA				S	**Sg**	**23 05 10.7**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.94**	**19**	Pg	**Pg**	**23 05 00.5**	**-0.3**
BLCB	**Balcova**	**0.97**	**119**	Pg	**Pg**	**23 05 01.2**	**0.0**
BLCB	**Balcova**	**0.97**	**119**	P	**Pg**	**23 05 00.5**	**-0.7**
BLCB				S	**Sb**	**23 05 15.1**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**0.99**	**27**	P	**Pb**	**23 05 01.8**	**+0.1**
BAYC				S	**Sb**	**23 05 14.7**	**0.0**
BAYC				*i* IAML		23 05 17.0	
	comp=E,953nm,0.2s						
BAYC				*i* IAML		23 05 18.0	
	comp=N,631nm,0.2s						
EZN	**Ezine**	**1.00**	**16**	Pg	**Pg**	**23 05 01.5**	**-0.3**
EZN	**Ezine**	**1.00**	**16**	P	**Pg**	**23 05 01.2**	**-0.7**
EZN				S	**Sb**	**23 05 15.2**	**+0.1**
BUHA	**Balikesir, Bur**	**1.07**	**53**	P	**Pg**	**23 05 03.1**	**-0.1**
BUHA				S	**Sg**	**23 05 16.9**	**-0.3**
BUHA				*i* IAML		23 05 21.0	
	comp=N,1µm,0.3s						
BUHA				*i* IAML		23 05 21.0	
	comp=E,2µm,0.5s						
GMLD	**Gumuldur**	**1.08**	**136**	Pg	**Pg**	**23 05 02.8**	**-0.5**
DGB	**zmir**	**1.08**	**138**	P	**Pg**	**23 05 03.3**	**-0.1**
DGB				S	**Sg**	**23 05 16.0**	**-1.4**
DGB				*i* IAML		23 05 19.0	
	comp=N,481nm,0.5s						
DGB				*i* IAML		23 05 20.0	
	comp=E,452nm,0.5s						
YAYO	**Edremit-Balk**	**1.14**	**49**	Pn	**Pb**	**23 05 04.1**	**-0.1**
LIA	**Limnos Island**	**1.20**	**330**	P	**Pb**	**23 05 04.6**	**-0.7**
LIA				S	**Sg**	**23 05 21.3**	**+0.1**
SOMA	**Soma-Manisa**	**1.26**	**76**	Pn	**Pn**	**23 05 05.8**	**-0.2**
GADA	**Gvkgeada**	**1.33**	**358**	Pn	**Pn**	**23 05 07.1**	**+0.1**
GADA	**Gvkgeada**	**1.33**	**358**	P	**Pn**	**23 05 06.8**	**-0.3**
GADA				S	**Sg**	**23 05 25.8**	**+0.5**
CANM	**Can-anakkale**	**1.42**	**36**	Pn	**Pn**	**23 05 08.3**	**0.0**
AKS	**Akhisar**	**1.44**	**89**	Pn	**Pn**	**23 05 08.5**	**-0.1**
AKHS	**Akhisar**	**1.44**	**89**	P	**Pb**	**23 05 09.4**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.46**	**69**	P	**Pn**	**23 05 09.2**	**+0.3**
STEP				S	**Sg**	**23 05 28.9**	**-0.5**
STEP				*i* IAML		23 05 32.0	
	comp=N,686nm,0.6s						
STEP				*i* IAML		23 05 34.0	
	comp=E,861nm,0.5s						
KARY	**Karystos**	**1.46**	**236**	P	**Pn**	**23 05 07.2**	**-1.7**
KARY				S	**Sn**	**23 05 28.3**	**+0.3**
YENI	**Yenice-Canakka**	**1.46**	**42**	Pn	**Pn**	**23 05 08.8**	**0.0**
KYMI	**Kymi, Euboea I**	**1.48**	**262**	P	**Pn**	**23 05 07.8**	**-1.2**
KYMI				S	**Sb**	**23 05 29.2**	**+0.5**
GCAM	**G?zelcaml?**	**1.53**	**139**	P	**Pg**	**23 05 11.6**	**-0.3**
GCAM				S	**Sg**	**23 05 32.2**	**+0.5**
GCAM				*i* IAML		23 05 35.0	
	comp=E,357nm,0.3s						
GCAM				*i* IAML		23 05 35.0	
	comp=N,509nm,0.3s						
GOMA	**Golmarmara-Man**	**1.53**	**95**	Pn	**Pn**	**23 05 09.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.58**	**14**	Pn	**Pn**	**23 05 10.7**	**+0.2**
SMTH	**Samothraki Isl**	**1.64**	**348**	P	**Pn**	**23 05 11.0**	**-0.4**
SMTH				S	**Sn**	**23 05 32.0**	**-0.5**
AOS	**Alonnisos**	**1.66**	**281**	P	**Pn**	**23 05 11.7**	**+0.2**
AOS				S	**Sb**	**23 05 34.4**	**+0.5**
IZMR	**zmir-demi**	**1.72**	**114**	P	**Pb**	**23 05 13.8**	**-0.2**
IZMR				S	**Sn**	**23 05 34.4**	**+0.1**
DDIM	**Aydin, Didim**	**1.73**	**144**	P	**Pg**	**23 05 15.8**	**+0.2**
DDIM				S	**Sb**	**23 05 36.2**	**+0.3**
DDIM				*i* IAML		23 05 44.0	
	comp=N,194nm,0.5s						
DDIM				*i* IAML		23 05 46.0	
	comp=E,428nm,1.0s						
GORD	**Gordes-Manisa**	**1.73**	**88**	Pn	**Pn**	**23 05 12.6**	**+0.1**
ENZZ	**Sultanice-Enez**	**1.75**	**4**	Pn	**Pn**	**23 05 13.0**	**+0.2**
ODEM	**Odemis-Izmir**	**1.75**	**109**	Pn	**Pn**	**23 05 13.1**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**121**	Pn	**Pn**	**23 05 13.3**	**+0.1**
DION	**Dionisos Attik**	**1.78**	**245**	P	**Pn**	**23 05 13.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.78**	**48**	Pn	**Pn**	**23 05 13.3**	**+0.1**
CAVK	**Edirne/Enez-Ca**	**1.83**	**5**	⇑P	**Pb**	**23 05 15.5**	**-0.5**
PTL	**Penteli**	**1.84**	**244**	P	**Pn**	**23 05 13.4**	**-0.7**
KRBG	**Karabiga-Canak**	**1.84**	**33**	Pn	**Pn**	**23 05 14.3**	**+0.2**
ERIK	**Erikli-Kesan**	**1.85**	**13**	Pn	**Pn**	**23 05 14.4**	**+0.1**
AYDN	**Tasoluk**	**1.92**	**128**	P	**Pn**	**23 05 15.1**	**-0.2**
AYDN				S	**Sn**	**23 05 37.7**	**-1.8**
AYDN				*i* IAML		23 05 49.0	
	comp=N,135nm,0.4s						
AYDN				*i* IAML		23 05 52.0	
	comp=E,131nm,0.4s						
PARN1	**Fyli,Attica,Gr**	**1.96**	**248**	P	**Pn**	**23 05 14.7**	**-0.9**
KIRA	**zmir-Kiraz**	**2.02**	**108**	P	**Pn**	**23 05 17.1**	**+0.4**
KIRA				S	**Sg**	**23 05 46.5**	**-1.0**
ALN	**Alexandroupoli**	**2.03**	**2**	Pn	**Pn**	**23 05 16.9**	**+0.2**
EDC	**Edincik**	**2.08**	**44**	Pn	**Pn**	**23 05 17.7**	**+0.3**
OUR	**Ouranopolis**	**2.12**	**314**	Pn	**Pn**	**23 05 17.9**	**-0.1**
BDRM	**Kayabasi**	**2.14**	**146**	P	**Pn**	**23 05 17.2**	**-1.0**
BDRM				S	**Sg**	**23 05 51.1**	**-0.2**
MRMT	**Marmara Adasi**	**2.15**	**35**	Pn	**Pn**	**23 05 18.6**	**+0.3**
DST	**Dursunbey**	**2.19**	**69**	Pn	**Pn**	**23 05 19.3**	**+0.4**
BAND	**Balkesir-Ban**	**2.22**	**47**	⇑P	**Pb**	**23 05 21.4**	**-1.3**
RDO	**Rodhopi**	**2.31**	**352**	Pn	**Pn**	**23 05 20.5**	**+0.1**
KCTX	**Karacabey (Bur**	**2.32**	**52**	Pn	**Pn**	**23 05 20.7**	**0.0**
UKOP	**Uzunkopru-Edir**	**2.32**	**13**	Pn	**Pn**	**23 05 21.1**	**+0.4**
KAVA	**Kavala**	**2.41**	**333**	P	**Pn**	**23 05 21.1**	**-0.7**
KDZ	**Kurdzhali**	**2.81**	**350**	⇓*i*P	**Pn**	**23 05 27.4**	**0.0**
HORT	**Hortiatis**	**2.81**	**309**	P	**Pn**	**23 05 27.4**	**-0.1**
RZN	**Rozhen**	**2.98**	**342**	*i*P	**Pn**	**23 05 30.2**	**+0.3**
MMB	**Musomishta**	**3.17**	**328**	*i*P	**Pn**	**23 05 32.9**	**+0.5**
DIM	**Dimitrovgrad**	**3.19**	**355**	*i*P	**Pn**	**23 05 33.1**	**+0.4**
PLD	**Plovdiv**	**3.41**	**345**	P	**Pn**	**23 05 36.1**	**+0.5**
JMB	**Yambol**	**3.65**	**7**	*e*P	**Pn**	**23 05 39.1**	**+0.2**
KKB	**Krupnik**	**3.68**	**325**	P	**Pn**	**23 05 40.3**	**+0.9**
PGB	**Panagyurishte**	**3.90**	**340**	P	**Pn**	**23 05 42.9**	**+0.6**
ELND	**Elena**	**4.06**	**359**	⇓P	**Pn**	**23 05 44.8**	**+0.2**
PLNA	**Plana**	**4.09**	**333**	P	**Pn**	**23 05 46.4**	**+1.2**
VTS	**Vitosha**	**4.29**	**332**	P	**Pn**	**23 05 49.1**	**+1.2**
SZH	**Strazhitsa**	**4.40**	**0**	*e*P	**Pn**	**23 05 49.7**	**+0.5**
PRD	**Provadia**	**4.43**	**14**	P	**Pn**	**23 05 50.2**	**+0.5**
LOZB	**Loznitsa**	**4.53**	**6**	⇓P	**Pn**	**23 05 51.9**	**+0.9**
PLVB	**Pleven**	**4.63**	**348**	⇑P	**Pn**	**23 05 53.0**	**+0.6**
MPEP	**Malo Peshtene**	**4.79**	**340**	P	**Pn**	**23 05 55.3**	**+0.6**
BOVS	**Bovan**	**5.75**	**327**	⇓P	**Pn**	**23 06 08.6**	**+0.9**
HARR	**Harsova**	**6.01**	**14**	⇑P	**Pn**	**23 06 12.2**	**+0.9**
CFR	**Carcaliu**	**6.51**	**14**	⇓P	**Pn**	**23 06 20.5**	**+2.3**
HERR	**Herculane**	**6.57**	**337**	⇓P	**Pn**	**23 06 18.5**	**-0.5**
MLR	**Muntele Rosu**	**6.62**	**360**	⇑P	**Pn**	**23 06 22.0**	**+2.1**
MDVR	**Moldovita**	**6.71**	**333**	⇑P	**Pn**	**23 06 20.8**	**-0.3**
LOT	**Lotru**	**6.78**	**347**	⇑P	**Pn**	**23 06 22.3**	**+0.2**
GZR	**Gura Zlata**	**6.94**	**341**	⇑P	**Pn**	**23 06 24.2**	**-0.1**
PLOR	**Plostina**	**7.00**	**4**	⇑P	**Pn**	**23 06 26.9**	**+1.9**
VRI	**Vrincioaia**	**7.02**	**4**	⇑P	**Pn**	**23 06 27.3**	**+2.0**
DOPR	**Dopca**	**7.11**	**357**	⇑P	**Pn**	**23 06 28.1**	**+1.6**
OZUR		**7.23**	**359**	⇑P	**Pn**	**23 06 29.5**	**+1.3**
BZS	**Buzias**	**7.48**	**336**	⇑P	**Pn**	**23 06 31.8**	**+0.3**
TESR	**Tescani**	**7.66**	**4**	⇓P	**Pn**	**23 06 35.3**	**+1.3**
MARR	**Marisel-Cluj**	**8.09**	**346**	⇑P	**Pn**	**23 06 40.8**	**+0.9**
BURAR	**Bucovina Array**	**8.77**	**357**	⇑P	**Pn**	**23 06 51.5**	**+2.3**

*NEIC **06** 23:05:31.2±0.6,36˚.279N±0˚.009×97˚.50W±0˚.01,h5km±2km, mb_Lg2.6/69,ML2.8/54,ML2.7/32, Error ellipse: s-maj=1.4km s-min=1.2km az=142.0*
NEIC 06 23:05:31.3±0.7,**36˚.278N**±0˚.007×**97˚.500W**±0˚.007,
h7km±4km,**Error ellipse: s-maj=1.3km s-min=0.3km az=216.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CROK	**Carrier**	**0.45**	**300**	Pg	Pg	23 05 40.3	+0.2
CROK				Sg	Sg	23 05 46.6	+0.6
CROK				IAML		23 05 46.9	
	comp=E,1µm,0.3s						
OK029	**Liberty Lake**	**0.48**	**176**	Pg	Pg	23 05 40.7	+0.1
OK029				Sg	Sg	23 05 47.6	+0.7
BLOK	**Blackwell**	**0.53**	**25**	Pg	Pg	23 05 41.9	+0.2
BLOK				Sg	Sg	23 05 49.4	+0.7
BLOK				IAML		23 05 49.7	
	comp=E,1µm,0.3s						
BLOK				IAML		23 05 59.9	
	comp=N,888nm,0.2s						
BCOK	**Bluff Creek, N**	**0.63**	**188**		Pg	23 05 43.5	+0.1
BCOK					Sg	23 05 52.0	+0.5
OK052	**Battle Ridge R**	**0.63**	**116**	Pg	Pg	23 05 43.6	+0.1
OK052				Sg	Sg	23 05 52.2	+0.5
OK052				IAML		23 05 52.6	
	comp=N,559nm,0.4s						
ADOK	**Arcadia Dam**	**0.63**	**170**	Pg	Pg	23 05 43.6	+0.1
GC02	**Grant County #**	**0.64**	**333**	Pg	Pg	23 05 43.6	-0.1
GC02				Sg	Sg	23 05 52.6	+0.5
QUOK	**Quay**	**0.65**	**99**	Pg	Pg	23 05 43.9	0.0
QUOK				Sg	Sg	23 05 52.6	+0.2
QUOK				IAML		23 05 56.6	
	comp=E,388nm,0.3s						
OK004	**Okla Sci Mus**	**0.75**	**178**		Pg	23 05 45.8	0.0
KAN14	**Manchester OK**	**0.77**	**331**	Pg	Pg	23 05 46.1	-0.2
KAN14				Sg	Sb	23 05 57.2	-0.6
KAN14				IAML		23 05 57.8	
	comp=N,680nm,0.1s						
OKCFA	**Oklahoma City**	**0.86**	**177**		Pg	23 05 47.7	-0.2
OKCSW	**OKLAHOMA CITY**	**0.87**	**177**	Pg	Pg	23 05 47.8	-0.3
OKCSW					Sb	23 06 00.7	0.0
OKCSW				IAML		23 06 04.8	
	comp=E,328nm,0.3s						
OKCSW				IAML		23 06 05.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISCO	Idaho Springs	7.30	301	IAmb_Lg		23 09 29.0	
	comp=Z,5.6nm,0.8s						
DRIO	Del Rio	7.32	202	IAmb_Lg		23 09 23.8	
	comp=Z,5.2nm,0.8s						
SAND	Sanderson	7.40	213	IAmb_Lg		23 09 33.7	
	comp=Z,6.6nm,0.8s						
L40A	Anamosa	7.56	38	IAmb_Lg		23 09 41.2	
	comp=Z,8.7nm,0.8s						
I37A	Lemond, Waseca	8.34	21	IAmb_Lg		23 10 10.9	
	comp=Z,9.9nm,0.8s						
JFWS	Jewell Farm	8.67	38	IAmb_Lg		23 10 16.4	
	comp=Z,7.8nm,0.7s						

DJA 06 23:34:04.7±0.5, 8°S±6°×12°4E±°, h241km±9km, M3.2/7, mB4.6/1, mb3.6/4, MLv3.0/7, Mw(mB)3.8/1, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.92	173	P	Pn	23 34 46.2	+0.4
BATI	Baumata	2.38	189	P	Pn	23 34 50.7	+0.6
EDFI	Ende, Flores	2.49	249	P	Pn	23 34 50.7	-0.6
PLAI	Plampang	6.26	261	P	Pn	23 35 35.9	-0.1
	19nm,1.4s						
LBMI	Labuha	7.95	26	P	Pn	23 35 57.1	-0.3
	0.0nm0.2nm,1.8s						

IDC 06 23:39:27.9±0.9, 3°.30S×131°.35E, h0km, mb4.0/10, mbtmp4.1/11, ML4.9/1, MS3.6/2, Error ellipse: s-maj=50.3km s-min=16.9km az=71.0
NEIC 06 23:39:30.4±2.1, 3°.6S±0°.1×131°.04E±0°.10, h10km±1km, mb4.4/19, Error ellipse: s-maj=21.3km s-min=11.0km az=136.0
DJA 06 23:39:33.0±0.7, 3°S±3°×13°1E±°, h24km±6km, M4.4/8, MLv4.4/8
ISC 06 23:39:32.7±0.5, 3°.47S±0°.05×131°.17E±0°.04, h30km, n63, σ1s.85/63, mb4.2/16, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.21	63		Pn	23 39 54.2	+0.5
FAKI				Sn	Sb	23 40 13.7	+3.4
FAKI	Fak Fak	1.21	63	P	Pb	23 39 54.4	-0.7
FAKI	Fak Fak	1.21	63	P	Pn	23 39 54.2	+0.5
FAKI				S	Sb	23 40 10.0	-0.3
BNDI	Bandanaira	1.64	230	P	Pn	23 40 00.8	+1.3
BNDI	Bandanaira	1.64	230	P	Pn	23 40 00.8	+1.3
BNDI				S	Sb	23 40 24.9	+2.3
MSAI	Masohi	2.24	273	P	Pn	23 40 07.6	-0.2
KMPI	Kaimana, Papua	2.54	94	P	Pn	23 40 13.0	+1.1
SWI	Sorong	2.59	2	P	Pn	23 40 10.7	-2.0
AAI	Ambon	2.98	266	P	Pn	23 40 19.9	+2.0
RKPI	Ransiki, Papua	3.58	57	P	Pn	23 40 27.1	+0.8
RKPI				S	Sn	23 41 07.6	0.0
NLAI	Namlea	4.07	273	P	Pn	23 40 33.0	0.0
SANI	Sanana	5.36	285	P	Pn	23 40 50.5	-0.3
DRS	Darwin Rock St	8.91	182	P	Pn	23 41 39.0	-0.5
DRS	Darwin Rock St	8.91	182	S	Sn	23 43 17.4	-1.4
KDU	Kakadu	9.25	172	P	Pn	23 41 42.4	-1.7
MTN	Manton Dam	9.31	180	P	Pn	23 41 44.1	-0.9
BATI	Baumata	10.01	228	Pn	Pn	23 41 57.3	+2.6
	8.8nm,0.3s,baz=76,slow=2.0,SNR=4.8						
	34nm,0.4s						
KAPI	Kappang	11.49	262	Pn	Pn	23 42 19.2	+4.3
	2.0nm,0.3s,baz=115,slow=11,SNR=4.7						
KNRA	Kununurra	12.36	191	Pn	Pn	23 42 22.7	-4.1
PLAI	Plampang	14.34	248	P	Pn	23 42 54.4	+0.6
FITZ	Fitzroy Crossi	15.51	200	Pn	Pn	23 43 06.3	-3.2
FITZ	Fitzroy Crossi	15.51	200	Pn	Pn	23 43 03.5	-6.0
	1.0nm,0.3s,baz=27,slow=12,SNR=31						
FITZ				Sn	Sn	23 45 46.5	-14
	0.3nm,0.3s,baz=315,slow=13,SNR=1.8						
FITZ				LR	LR	23 50 18.9	
	comp=Z,155nm,19.5s,baz=14,slow=41						
COEN	Coen	15.78	132	Pn	Pn	23 43 12.0	-1.0
COEN	Coen	15.78	132	P	Pn	23 43 12.7	-0.3
WB0	Warramunga Arr	16.50	169	Pn	Pn	23 43 16.7	-5.4
WB0				IAmb	IAmb	23 43 34.8	
	comp=Z,20nm,0.5s						
WRAB	Tennant Creek	16.65	170	Pn	Pn	23 43 20.8	-3.3
WRAB				IAmb	IAmb	23 43 36.4	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	16.66	170	Pn	Pn	23 43 19.4	-4.8
WRA	Warramunga Arr	16.66	170	Pn	Pn	23 43 17.9	-6.3
	comp=Z,0.6nm,0.3s,baz=351,slow=13,SNR=23						
WRA				Sn	Sn	23 46 13.3	-15
	comp=Z,1.5nm,0.3s,baz=354,slow=23,SNR=6.7						
WR8	Warramunga Arr	16.70	169	Pn	Pn	23 43 20.1	-4.6
WR8				IAmb	IAmb	23 43 35.1	
	comp=Z,16nm,0.9s						
QIS	Mount Isa	18.87	155	P	P	23 43 51.3	+0.6
AS31	Alice Springs	20.25	173	P	P	23 44 05.8	-0.1
AS31				IAmb	IAmb	23 44 15.4	
	comp=Z,7.4nm,0.6s						
ASAR	Alice Springs	20.25	173	P	P	23 44 06.3	+0.5
	comp=Z,5.5nm,0.3s,baz=350,slow=11,SNR=52						
ASAR				S	S	23 47 42.6	-9.0
	comp=Z,2.4nm,0.8s,baz=353,slow=23,SNR=6.4						
	comp=Z,5.5nm,0.3s						
AS01	Alice Springs	20.25	173	P	P	23 44 05.6	-0.3
MBWA	Marble Bar	20.81	211	P	P	23 44 09.3	-2.5
PSA00	Pilbara Seismi	21.09	211	P	P	23 44 12.1	-2.8
PSA00				IAmb	IAmb	23 44 20.4	
	comp=Z,13nm,1.3s						
PSA00	Pilbara Seismi	21.09	211	P	P	23 44 13.3	-1.6
LEM	Lembang	23.69	261	LR	LR	23 55 15.5	
	comp=Z,174nm,18.8s,baz=16,slow=40						
FORT	Forrest	27.32	186	P	P	23 45 14.3	-0.7
FORT				IAmb	IAmb	23 45 52.2	
	comp=Z,10nm,0.9s						
MORW	Morawa	29.23	208	P	P	23 45 30.5	-1.6
MORW	Morawa	29.23	208	P	P	23 45 32.2	+0.1
BBOO	Buckleboo	29.55	172	P	P	23 45 33.8	-1.0
BBOO				IAmb	IAmb	23 45 43.7	
	comp=Z,13nm,1.4s						
STKA	Stephens Creek	29.91	162	P	P	23 45 38.0	-0.1
	comp=Z,1.1nm,0.3s,baz=352,slow=7.1,SNR=3.1						
	comp=Z,1.1nm,0.3s						
KLBR	Kellerberrin	30.69	203	P	P	23 45 44.9	-0.1
CAN	Canberra	35.74	155	P	P	23 46 30.8	+1.7
CMAR	Chiang Mai Arr	38.50	306	P	P	23 46 52.1	-0.6
	comp=Z,1.3nm,0.3s,baz=121,slow=8.5,SNR=1.2						
	comp=Z,1.3nm,0.3s						
BNX	BinXian	49.11	357	⇑P	P	23 48 18.2	+0.7
BNX				pmax	pmax		
	comp=Z,3.0nm,0.4s						
SONM	Songino Array	55.52	340	P	P	23 49 03.7	-1.4
	comp=Z,0.2nm,0.3s,baz=140,slow=7.0,SNR=1.9						
	comp=Z,0.2nm,0.3s						
MKAR	Makanchi Array	65.96	325	P	P	23 50 15.4	-0.8
MKAR	Makanchi Array	65.96	325	P	P	23 50 15.9	-0.3
	comp=Z,0.9nm,0.7s,baz=121,slow=7.9,SNR=7.5						
	comp=Z,0.9nm,0.7s						
ZALV	Zalesovo Beam	68.98	333	P	P	23 50 34.4	-0.7
	comp=Z,0.6nm,0.4s,baz=128,slow=5.6,SNR=4.1						
	comp=Z,0.6nm,0.4s						
KURBB	Kurchatov Arra	70.16	327	P	P	23 50 42.0	-0.4
	comp=Z,1.3nm,0.6s,baz=128,slow=5.7,SNR=12						
	comp=Z,1.3nm,0.6s						
KURK	Kurchatov	70.16	328	P	P	23 50 42.8	+0.4
KURK				IAmb	IAmb	23 50 49.2	
	comp=Z,3.4nm,0.9s						
BVAR	Borovoye Array	75.73	327	P	P	23 51 15.5	+0.1
	comp=Z,1.4nm,0.7s,baz=93,slow=3.0,SNR=7.6						
	comp=Z,1.4nm,0.7s						
VNDA	Vanda	75.79	173	P	P	23 51 15.8	+0.4
VNDA	Vanda	75.79	173	P	P	23 51 15.8	+0.4
	comp=Z,1.1nm,0.8s,baz=296,slow=5.7,SNR=5.2						
	comp=Z,1.1nm,0.8s						
ABKAR	Akbulak array	80.50	321	P	P	23 51 44.0	+2.0
J16K	Anvik River	83.47	25	P	P	23 51 59.7	+2.5
D19K	Kuna River	86.24	20	P	P	23 52 11.0	-0.1
D19K				IAmb	IAmb	23 52 13.7	
	comp=Z,5.3nm,1.4s						
J20K	Nowinta River	86.48	25	P	P	23 52 13.6	+1.2
J20K				IAmb	IAmb	23 52 26.3	
	comp=Z,4.0nm,1.4s						
QSPA	South Pole Qui	86.48	180	P	P	23 52 13.7	+1.1
QSPA				IAmb	IAmb	23 52 56.6	
	comp=Z,3.6nm,1.4s						
QSPA	South Pole Qui	86.48	180	P	P	23 52 14.1	+1.5
	comp=Z,1.0nm,0.8s,baz=304,slow=0.8,SNR=2.5						
	comp=Z,1.0nm,0.8s						
GO02	Mina Guanaco	145.12	146	PKPbc	PKPdf	23 59 09.2	+0.6
LPAZ	La Paz	152.62	136	PKPbc	PKiKP	23 59 29.2	+0.7
	comp=Z,0.5nm,0.4s,baz=210,slow=6.6,SNR=3.6						

CATAC 06 23:43:08.0±0.4, 12°N±3°×8°7W±°, h132km±3km, M3.0/21, MLv3.0/21, Error ellipse: s-maj=7.3km s-min=3.8km az=44.8, confirmed
SNET 06 23:43:07.1±2.1, 12°.62N×87°.02W, h137km, ML3.1
ISC 06 23:43:06.8±1.6, 12°.52N±0°.05×87°.08W±0°.05, h148km±10km, n39, σ0s.72/47, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.18	9	S	Sn	23 43 43.0	+0.7
CRIN	San Cristobal	0.18	9	P	Pn	23 43 26.9	0.0
POLN	Al Sur del Vol	0.29	64	P	Pn	23 43 27.4	+0.3
POLN				S	Sn	23 43 42.5	0.0
CNGA	Al SSO del Vol	0.37	95	P	Pn	23 43 27.6	+0.2
CNGN	Cerro Negro	0.37	94	P	Pn	23 43 27.3	-0.1
MOMN	Momotombo	0.54	102	P	Pn	23 43 28.1	-0.1
MOMN				S	Sn	23 43 43.7	-0.7
COPN	Copaltepe	0.58	126	P	Pn	23 43 28.3	-0.1
MOM2	El Cardon	0.58	98	P	Pn	23 43 28.9	+0.5
MOM2				S	Sn	23 43 45.5	+0.8
POTN	Potosi Cosigui	0.63	319	P	Pn	23 43 28.4	-0.2
POTN				S	Sn	23 43 45.2	-0.1
CSGN	Cosiguina Volc	0.65	314	P	Pn	23 43 29.0	+0.1
CSGN				S	Sn	23 43 46.4	+0.8
APQ3	Volcan Apoyequ	0.74	110	P	Pn	23 43 29.7	+0.4
SAPS	Ciudad Sandino	0.75	118	P	Pn	23 43 29.6	+0.2
TISN	Laguna Tiscapa	0.88	116	P	Pn	23 43 30.5	+0.1
UNAN	Cigeo UNAN	0.89	117	P	Pn	23 43 30.5	0.0
CHOHN	Orocuina	0.95	355	P	Pn	23 43 31.1	0.0
CHOHN	Orocuina	0.95	355	S	Sn	23 43 49.4	-0.4
CNCH	Conchagua	1.05	315	i P	Pn	23 43 31.7	-0.3
CNCH	Conchagua	1.05	315	P	Pn	23 43 32.1	+0.2
NANN	Nandasmo	1.10	122	P	Pn	23 43 32.1	-0.2
LCND	La Caada	1.11	315	P	Pn	23 43 32.0	-0.4
MATN	Matagalpa	1.19	70	P	Pn	23 43 32.3	-1.0
MATN	Matagalpa	1.19	70	S	Sn	23 43 52.8	-0.6
RCVN	Varillal2	1.36	39	S	Sn	23 43 56.5	0.0
RCVN	Varillal2	1.36	39	P	Pn	23 43 35.2	+0.2
BOAB	BOACO BROADBAN	1.38	93	P	Pn	23 43 35.3	+0.3
BOAB	BOACO BROADBAN	1.38	93	S	Sn	23 43 56.8	+0.4
YUSH	Yuscaran	1.44	9	P	Pn	23 43 35.8	+0.1
YUSH	Yuscaran	1.44	9	S	Sn	23 43 57.4	-0.4
PACA	Pacayal	1.54	308	eP	Pn	23 43 37.1	+0.4
PACA	Pacayal	1.54	308	P	Pn	23 43 37.2	+0.4
TGUH	Tegucigalpa,Un	1.54	353	P	Pn	23 43 37.2	+0.4
TGUH				S	Sn	23 43 59.7	0.0
TECA	Tecapa	1.69	305	eP	Pn	23 43 38.9	+0.3
TECA				eP	Sn	23 43 39.5	-23
PQSS	Presa 15 de Se	1.81	307	eP	Pn	23 43 40.1	+0.4
PQSS	Presa 15 de Se	1.81	307	P	Pn	23 43 40.1	+0.4
CARN	Rivas	2.02	131	P	Pn	23 43 43.9	+1.8
CARN				S	Sn	23 44 08.5	-0.6
PMON	Piamonte	2.48	299	eS	Sn	23 44 18.1	-1.1
JTS	Las Juntas de	3.04	137	P	Pn	23 43 55.8	+1.1
JTS				S	Sn	23 44 30.9	-0.9
INDI	Punta indio, G	3.06	150	P	Pn	23 43 55.9	+0.9
INDI	Punta indio, G	3.06	150	S	Sn	23 44 29.2	-2.9

SDD 06 23:46:02.5±12.0, 19°.45N×74°.12W, h15km±67km, MD3.5, ML3.2, MW3.3
SSNC 06 23:46:07.5±1.1, 19°.56N×74°.14W, h15km±11km, MD3.1, ML2.9
OSPL 06 23:46:08.4±1.8, 19°.63N×74°.14W, h37km±29km, ML3.2
ISC 06 23:46:05.9±1.3, 19°.61N±0°.04×74°.16W±0°.03, h28km±13km, n34, σ1s.73/51, 9C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASC	Masc	0.56	353	eP	Pn	23 46 18.4	+0.4
MASC				eS	Sn	23 46 26.4	-0.1
MASC	Masc	0.56	353	i P	Pn	23 46 18.5	+0.4
MASC				eS	Sn	23 46 26.4	-0.1
QMBU	Quimbuelo	0.84	314	eP	Pb	23 46 22.2	+0.1
QMBU				eS	Sb	23 46 32.1	-1.0
QMBU				IAML		23 46 33.0	
	comp=E,503nm,0.2s						
QMBU				IAML		23 46 33.5	
	comp=N,553nm,0.2s						
QMBU	Quimbuelo	0.84	314	⇓ePg	Pn	23 46 22.4	+0.4
QMBU				⇑eSg	Sb	23 46 32.5	-0.6
QMBU				IAML		23 46 33.1	
	comp=N,654nm,0.3s						
GTBY	Guantanamo Bay	0.95	289	eP	Pn	23 46 24.6	+1.2
GTBY				eS	Sn	23 46 37.0	+1.1
GTBY				IAML		23 46 38.3	
	comp=N,171nm,0.1s						
GTBY				IAML		23 46 38.4	
	comp=N,162nm,0.3s						
GTBY	Guantanamo Bay	0.95	289	i P	Pn	23 46 24.6	+1.2
GTBY	Guantanamo Bay	0.95	289	i P	Pn	23 46 24.5	+1.2
GTBY				⇑eSg	Sb	23 46 35.2	-0.7
GTBY				IAML		23 46 48.5	
	comp=N,504nm,0.9s						
NMDO	Nuevo Mundo	1.22	321	eP	Pb	23 46 28.5	+0.1
NMDO				IAML		23 46 49.0	
	comp=E,108nm,0.1s						
NMDO				IAML		23 46 49.2	
	comp=N,123nm,0.2s						
MOAC	Moa	1.28	324	eP	Pb	23 46 30.2	+0.8
MOAC				IAML		23 46 50.5	
	comp=E,198nm,0.2s						
MOAC				IAML		23 46 51.2	
	comp=N,126nm,0.1s						
RCC	Rio Carpintero	1.49	285	eP	Pn	23 46 31.8	+0.9
RCC				eS	Sn	23 46 49.9	+0.5
RCC				IAML		23 46 51.9	
	comp=E,308nm,0.2s						
RCC				IAML		23 46 52.4	
	comp=N,285nm,0.1s						
MARVS	Santiago de Cu	1.68	284	eP	Pn	23 46 34.7	+1.2
MARVS				eS	Sn	23 46 54.6	+0.6
MARVS				IAML		23 46 56.7	
	comp=E,181nm,0.2s						
MARVS				IAML		23 46 57.0	
	comp=N,191nm,0.2s						
PINC	Pinares de May	1.76	300	eP	Pn	23 46 35.9	+1.3
PAPH	Port-au-Prince	2.07	121	i P	Pn	23 46 39.8	+1.0
CHIV	Chivirico	2.15	280	eP	Pn	23 46 40.6	+0.7
CHIV				eS	Sn	23 47 05.2	-0.5
CHIV				IAML		23 47 08.8	
	comp=E,45nm,0.1s						
CHIV				IAML		23 47 09.3	
	comp=N,62nm,0.2s						
HLGC	Holguin	2.19	306	eP	Pb	23 46 44.7	-0.2
LODA1	ITESIL, Dajabo	2.32	91	eS	Sn	23 47 07.4	-2.4
LODA1				IAML		23 47 09.6	
	comp=Z,1µm,2.1s						
MCDR	Montecristi	2.38	83	⇑ePg	Pn	23 46 44.3	+1.3
MCDR				IAML		23 47 24.4	
	comp=N,143nm,0.2s						
JIDR	Jimani	2.45	117	⇑ePg	Pn	23 46 45.2	+1.1
JIDR				⇑eSg	Sn	23 47 14.8	+1.6
JIDR				IAML		23 47 16.7	
	comp=N,104nm,0.8s						
REDR	Restauracion	2.65	99	i P	Pn	23 46 42.2	-4.6
REDR				eSg	Sn	23 47 10.4	-7.6
REDR				IAML		23 47 23.0	
	comp=N,152nm,0.2s						
LMGC	Las Mercedes	2.71	280	eP	Pn	23 46 48.1	+0.4
LMGC				eS	Sn	23 47 16.4	-3.2
SDDR	Presa de Saban	2.79	103	eP	Pn	23 46 49.3	+0.6
SDDR	Presa de Saban	2.79	103	i P	Pn	23 46 49.3	+0.6
SDDR				eS	Sn	23 47 18.7	-2.7
SDDR				IAML		23 47 24.8	
	comp=Z,40nm,0.6s						
SDDR	Presa de Saban	2.79	103	i P	Pn	23 46 46.4	-2.3
SDDR				eSg	Sn	23 47 22.8	+1.3
SDDR				IAML		23 47 24.5	
	comp=N,81nm,0.7s						
LOPP1	Punta Rusia, P	2.80	85	i P	Pn	23 46 50.4	+1.6
LOPP1				IAML		23 47 28.2	
	comp=Z,81nm,0.4s						
LODU1	El Espartillar	2.83	116	i P	Pn	23 46 51.4	+2.1
LODU1				IAML		23 47 37.6	
	comp=Z,88nm,0.6s						
LOBH	Bahia de las A	2.96	126	i P	Pn	23 46 52.5	+1.5
LOBH				IAML		23 47 41.9	
	comp=Z,61nm,1.1s						
LUDR	Luperon	3.04	84	⇑ePg	Pn	23 46 54.0	+1.9
GRTK	Grand Turk	3.41	56	eP	Pn	23 46 58.2	+0.9
GRTK	Grand Turk	3.41	56	i P	Pn	23 46 58.1	+0.9
GRTK				IAML		23 47 37.6	
	comp=Z,69nm,0.5s						
GRTK	Grand Turk	3.41	56	i P	Pn	23 46 58.1	+0.9
GRTK				⇑eSg	Sn	23 47 35.9	-0.9
GRTK				IAML		23 47 38.9	
	comp=N,64nm,0.2s						
MTDJ	Mount Denham	3.48	247	eP	Pn	23 46 59.1	+0.8
MTDJ	Mount Denham	3.48	247	i P	Pn	23 46 59.0	+0.7
MTDJ				eS	Sn	23 47 36.7	-1.9
MTDJ				IAML		23 47 46.2	
	comp=Z,37nm,1.4s						
MTDJ	Mount Denham	3.48	247	⇑ePg	Pn	23 46 59.1	+0.8
MTDJ				⇑eSg	Sn	23 47 37.0	-1.6
MTDJ				IAML		23 47 38.7	
	comp=N,50nm,1.5s						
HATOM	Hato Mayor del	4.59	100	i P	Pn	23 47 16.1	+2.5
HATOM				eSg	Sn	23 48 07.7	+1.7

DJA 07 00:05:34.3±1.4, 10°S±6°×11°5E±°, h12km±11km, M3.7/11, mb3.8/3, MLv3.6/11, South of Bali

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DNP	Denpasar	0.86	3	P	Pb	00 05 51.6	+0.4
DNP				S	Sb	00 06 03.0	+0.4
SRBI	Singaraja	1.45	2	P	Pn	00 05 59.4	-0.9
JAGI	Jajag, Banyuwa	1.46	317	P	Pn	00 05 59.3	-1.3
GMJI	Gumukmas	2.12	306	P	Pn	00 06 09.1	-0.5
PLAI	Plampang	2.67	75	P	Pn	00 06 17.8	+0.6
GRJI	Gresik	3.73	314	P	Pn	00 06 31.7	0.0
PCJI	Pacitan	4.17	288	P	Pn	00 06 37.8	+0.1
UGM	Wanagama	4.87	289	P	Pn	00 06 47.5	0.0
EDFI	Ende, Flores	6.49	84	P	Pn	00 07 09.9	+0.1
	0.0nm7.0nm,1.1s						

UPP 07 00:25:25.5±0.0, 67°.84N×20°.22E, h0km, ML2.3, Confirmed Induced event
HEL 07 00:25:25.7±0.1, 67°.83N×20°.17E, h0km, ML1.8, Suspected explosion
IDC 07 00:25:26.1±1.2, 67°.82N×20°.69E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=17.7km s-min=7.0km az=120.0
ISC 07 00:25:25.2±0.7, 67°.83N±0°.02×20°.26E±0°.02, h0km, n38, σ1s.14/65, Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	13	P	Pg	00 25 28.0	+0.4
KUA				S	Sg	00 25 29.9	+0.6
RATU	Laukkuluspa	0.25	268	P	Pg	00 25 30.3	+0.2
RATU				S	Sg	00 25 33.5	+0.2
KOVU	Salmi	0.39	355	P	Pg	00 25 32.9	+0.1
KOVU				S	Sg	00 25 37.9	+0.1
NIKU	Nikkaluokta	0.47	275	P	Pg	00 25 34.1	0.0
NIKU				S	Sg	00 25 40.3	+0.2
LANU	Lannavaara	0.69	71	P	Pg	00 25 38.8	+0.4
LANU				S	Sg	00 25 48.1	+0.8
LANU	Lannavaara	0.69	71	PG	Pg	00 25 38.8	+0.4
LANU				SG	Sg	00 25 47.8	+0.4
DUNU	Dundret	0.72	170	P	Pg	00 25 39.3	+0.3
DUNU				S	Sg	00 25 49.4	+1.0
MASU	Masugnsbyn	0.76	119	P	Pg	00 25 40.3	+0.5
SALU	Saltoluokta	0.81	237	P	Pg	00 25 40.6	-0.1
SALU	Saltoluokta	0.81	237	eP	Pg	00 25 40.6	-0.1
KIF	Kilpisjarvi	1.20	9	eP	Pg	00 25 48.4	+0.3
KIF	Kilpisjarvi	1.20	9	PG	Pg	00 25 48.0	-0.1
	baz=191						
KIF				MSG		00 26 03.0	
	comp=Z,12nm,0.2s						
KIF				SG	Sg	00 26 03.7	+0.1
PAJU	Pajala	1.37	125	P	Pg	00 25 51.0	-0.4
PAJU	Pajala	1.37	125	PG	Pg	00 25 50.7	-0.6
PAJU				SG	Sb	00 26 09.5	-0.2
HEF	Hetta	1.40	64	PG	Pn	00 25 51.4	-0.6
	baz=247						
HEF				MSG		00 26 08.7	
	comp=Z,5.0nm,0.2s						
HEF				SB	Sg	00 26 09.6	-0.5
ERTU	Ertsjaerv	1.49	149	P	Pn	00 25 53.0	-0.2
ERTU	Ertsjaerv	1.49	149	PG	Pn	00 25 52.7	-0.4
ERTU				SN	Sn	00 26 14.0	+0.7
KLF	Kolari	1.54	111	PG	Pn	00 25 53.9	0.0
KLF				MSG		00 26 12.9	
	comp=Z,6.1nm,0.2s						
KLF				SN	Sg	00 26 15.5	+0.8
KTK1	Kautokeino	1.62	42	PG	Pn	00 25 55.0	0.0
KTK1				SN	Sg	00 26 18.0	+0.9
HARU	Harads	1.70	170	P	Pn	00 25 56.6	+0.5
TRO	Tromso	1.87	346	PG	Pn	00 25 59.0	+0.6
TRO				SN	Sn	00 26 23.4	+0.6
KALU	Kalix	2.33	147	PB	Pn	00 26 06.1	+1.4
KALU				SG	Sb	00 26 37.2	-0.1
TOF	Tornio	2.38	136	PB	Pb	00 26 07.2	-1.6
TOF				MSG		00 26 36.7	
	comp=Z,5.5nm,0.2s						
TOF				SG	Sb	00 26 39.2	+0.5
RNF	Rovaniemi	2.55	116	PB	Pb	00 26 10.1	-1.7
RNF				SG	Sb	00 26 43.7	0.0
ARA0	ARCESS Array S	2.57	46	PB	Pn	00 26 09.2	+1.1
ARA0				SB	Sb	00 26 42.9	-1.3
ARCES	ARCESS Array B	2.57	46	Pn	Pn	00 26 08.5	+0.5
	comp=Z,0.7nm,0.3s,baz=225,slow=15,SNR=50						
ARCES				Lg	Lg	00 26 42.8	
	comp=Z,1.5nm,0.3s,baz=228,slow=26,SNR=17						
	comp=Z,1.3nm,0.3s						
RAJF	Raja-Jooseppi	3.08	74	PN	Pn	00 26 15.6	+0.6
RAJF				SB	Sb	00 26 58.4	-0.4
KEV	Kevo	3.12	49	PN	Pn	00 26 16.7	+1.1
KEV				SN	Sn	00 26 54.7	+1.2
RANF	Ranua	3.15	122	PN	Pn	00 26 17.8	+1.8
RANF				SG	Sb	00 27 03.6	+2.6
VRF	Varrio	3.55	87	PB	Pb	00 26 26.4	-2.4
VRF				SG	Sb	00 27 14.0	+1.6
OUL	Oulu	3.57	138	PG	Pb	00 26 30.4	+1.4
OUL				SG	Sb	00 27 14.7	+1.9
KU2	Taivalkoski	3.81	120	PN	Pn	00 26 26.9	+1.9
OLKF	Oulanka, Finla	3.88	109	PN	Pn	00 26 27.4	+1.3
OLKF				SG	Sg	00 27 28.3	-1.5
MSF	Maaselka	3.96	115	PN	Pn	00 26 28.9	+1.8
KU6	Riekki	4.20	111	PN	Pn	00 26 31.6	+1.2
	baz=299						
KU6				SG	Sg	00 27 37.3	-2.7
KU1	Kurvinen	4.34	117	PN	Pn	00 26 34.6	+2.3
FINES	FINESS Array B	6.88	156	Pn	Pn	00 27 08.3	+1.2
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=3.9						
FINES				Sn	Sn	00 28 23.8	-2.3
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=4.0						
FINES				Lg	Lg	00 28 58.8	
	comp=Z,0.3nm,0.3s,baz=341,slow=28,SNR=9.1						
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	7.85	214	Pn	Pn	00 27 20.1	-0.4
	baz=25,slow=11,SNR=1.3						
NOA				Sn	Sn	00 28 47.9	-2.1
	baz=18,slow=20,SNR=3.6						
NOA				Lg	Lg	00 29 33.6	
	baz=30,slow=22,SNR=5.4						
	comp=Z,0.2nm,0.6s						

GCG 07 00:37:52.0±0.5, 14°.14N×91°.19W, h74km±8km, MD3.2, ML3.5, MW2.5, Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STG2	El Palmar, Qui	0.34	329	i P	Pn	00 38 08.0	+3.8
STG2				i S	Sn	00 38 19.6	+6.5
ESSG	Sabana Grande	0.42	55	i P	Pn	00 38 04.7	0.0
ESSG				i S	Sn	00 38 14.6	+0.6
FG16	Alotenango, Sa	0.67	79	i P	Pn	00 38 05.4	-1.7
FG16				i S	Sn	00 38 16.1	-2.2
FG16				IAML		00 38 16.5	
	comp=N,6µm,0.2s						
SOKI	Kika Raxquin	0.71	343	i S	Sn	00 38 22.6	+3.3
NUBE	Las Nubes	1.39	100	i P	Pn	00 38 16.5	+0.6

*IDC **07** 00:43:00.5±7.0, 32°10S×179°64W, h137km±52km, mb3.9/4, mbtmp4.2/5, Error ellipse: s-maj=57.8km s-min=20.8km az=49.0*

*WEL **07** 00:43:01.5±0.8, 32°S±6°×17°9E±1°0, h12km, M4.4/7, mB4.8/6, ML5.0/9, MLv4.7/7, Mw(mB)4.0/6, Error ellipse: s-maj=15.0km s-min=3.8km az=115.7, confirmed*

ISC 07 00:43:04.5±1.0, 32°24S±0°08×179°5E±0°1, h150km, n40, σ2°75/54, mb4.1/6, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.73**	**38**	P	Pn	00 44 03.4	+2.2
GLKZ				S	Sn	00 44 45.6	+0.4
MXZ	**Matakaoa Point**	**5.39**	**190**	P	Pn	00 44 25.4	+2.3
MXZ				S	Sn	00 45 27.9	+3.5
WMGZ	**Waiomatatini S**	**5.63**	**189**	P	Pn	00 44 29.1	+2.9
WMGZ				S	Sn	00 45 34.3	+4.2
HAZ	**Te Kaha**	**5.67**	**194**	P	Pn	00 44 30.7	+3.9
PKGZ	**Pakihiroa**	**5.72**	**191**	P	Pn	00 44 30.7	+3.2
PKGZ				S	Sn	00 45 35.4	+3.0
RUGZ	**Raukumara Rang**	**5.89**	**194**	P	Pn	00 44 32.7	+2.9
TWGZ	**Tauwhareparae**	**6.04**	**191**	S	Sn	00 45 44.3	+4.2
URZ	**Urewera**	**6.30**	**197**	P	Pn	00 44 37.5	+2.3
	2.5nm,0.3s,baz=14,slow=8.3,SNR=17						
URZ				S	Sn	00 45 50.0	+3.8
	14nm,0.3s,baz=15,slow=23,SNR=19						
TKGZ	**Te Karaka**	**6.32**	**192**	S	Sn	00 45 49.2	+2.6
RAGZ	**Rawiri**	**6.46**	**194**	S	Sn	00 45 52.9	+2.8
RIGZ	**Rimuhau**	**6.60**	**192**	S	Sn	00 45 54.9	+1.6
MUGZ	**Murupara**	**6.60**	**199**	P	Pn	00 44 41.5	+2.3
MUGZ				S	Sn	00 45 57.2	+3.9
SNGZ	**Shannon Statio**	**6.75**	**194**	P	Pn	00 44 43.0	+1.8
SNGZ				S	Sn	00 46 00.1	+3.1
PRGZ	**Paritu Road**	**6.79**	**191**	P	Pn	00 44 39.6	-2.1
PRGZ				S	Sn	00 45 59.1	+1.2
MHGZ	**Mahia Peninsul**	**7.01**	**190**	P	Pn	00 44 44.5	-0.1
MHGZ				S	Sn	00 45 59.7	-3.4
BKZ	**Black Stump Fm**	**7.32**	**198**	P	Pn	00 44 50.1	+1.3
BKZ				S	Sn	00 46 13.0	+2.4
PXZ	**Pawanui**	**8.05**	**194**	S	Sn	00 46 25.8	-2.3
TSZ	**Takapari Road**	**8.30**	**199**	S	Sn	00 46 34.3	+0.2
POWZ	**Post Office Ro**	**8.66**	**199**	S	Sn	00 46 42.1	-0.7
BFZ	**Birch Farm**	**8.81**	**196**	P	Pn	00 45 06.6	-2.0
BFZ				S	Sn	00 46 45.4	-1.1
MRZ	**Mangatainoka R**	**8.96**	**199**	P	Pn	00 45 10.6	0.0
MRZ				S	Sn	00 46 45.8	-4.3
TIWZ	**Tintock**	**8.99**	**198**	S	Sn	00 46 49.6	-1.2
CPWZ	**Castlepoint**	**9.04**	**196**	S	Sn	00 46 50.5	-1.4
OGWZ	**Otaki Gorge**	**9.23**	**201**	S	Sn	00 46 55.0	-1.4
KIW	**Kapiti Island**	**9.35**	**202**	P	Pn	00 45 14.3	-1.4
KIW				S	Sn	00 46 56.5	-2.9
MTW	**Mount Morrison**	**9.45**	**199**	P	Pn	00 45 16.9	-0.2
MTW				S	Sn	00 46 57.5	-4.2
PAWZ	**Paruwai Farm**	**9.68**	**198**	P	Pn	00 45 18.8	-1.4
PAWZ				S	Sn	00 47 01.0	-6.3
TCW	**Tory Channel**	**9.87**	**203**	S	Sn	00 47 09.1	-2.8
TUWZ	**Tuamarina**	**10.18**	**204**	S	Sn	00 47 16.5	-2.9
NNZ	**Nelson**	**10.20**	**207**	S	Sn	00 47 18.6	-1.2
TKNZ	**Takaka Hill**	**10.21**	**209**	S	Sn	00 47 19.2	-0.9
ASAR	**Alice Springs**	**40.90**	**270**	P	P	00 50 35.6	+3.5
	1.6nm,0.5s,baz=108,slow=7.6,SNR=15 1.6nm,0.5s						
WRA	**Warramunga Arr**	**42.06**	**276**	P	P	00 50 45.0	+3.3
	4.3nm,0.3s,baz=114,slow=8.0,SNR=60 4.3nm,0.3s						
QSPA	**South Pole Qui**	**57.87**	**180**	P	P	00 52 39.8	-0.5
	2.8nm,0.5s,baz=56,slow=2.4,SNR=26 2.8nm,0.5s						
TROLL	**Troll, Antarti**	**76.01**	**181**	⇑P	P	00 54 32.9	-1.9
	comp=Z,45nm,0.7s						
SNAA	**Sanae**	**76.36**	**179**	⇑P	P	00 54 34.1	-2.6
	comp=Z,24nm,0.7s						
SNAA	**Sanae**	**76.36**	**179**	P	P	00 54 33.8	-2.9
	comp=Z,0.8nm,0.7s,baz=177,slow=5.8,SNR=11 comp=Z,0.8nm,0.7s						
VNA3	**Neumayer Olymp**	**76.60**	**177**	⇑P	P	00 54 34.9	-3.1
	comp=Z,2.8nm,0.4s						
VNA1	**Neumayer--Stat**	**77.25**	**177**	⇑P	P	00 54 39.1	-2.5
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**146.07**	**337**	PKPbc	**PKPdf**	**01 02 22.6**	**-2.3**
	comp=Z,2.3nm,1.0s,baz=46,slow=4.0,SNR=5.1						

*NEIC **07** 00:44:57.6±1.1, 5°2S±0°2×105°37W±0°04, h10km±2km, mb4.6/73, Error ellipse: s-maj=28.9km s-min=6.3km az=185.0*

*IDC **07** 00:45:01.5±1.5, 4°60S×106°58W, h0km, mb3.9/6, mbtmp3.9/6, MS3.8/30, Error ellipse: s-maj=179.0km s-min=29.1km az=90.0*

ISC 07 00:45:02.3±1.3, 4°5S±0°2×105°4W±0°3, h10km, n103, σ0°86/61, mb4.5/39, MS3.8/31, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**22.79**	**189**	LR	LR	00 56 33.2	
	comp=Z,58nm,20.3s,baz=20,slow=31						
MOIG	**Morelia**	**24.40**	**10**	P	**P**	**00 50 23.5**	**+2.2**
CCIG	**Comitan**	**24.47**	**32**	P	**P**	**00 50 20.5**	**-1.4**
MTO3	**Montecristo**	**24.61**	**40**	P	**P**	**00 50 22.9**	**-0.3**
MTO3				IAmb	IAmb	00 50 26.7	
	comp=Z,17nm,1.2s						
JTS	**Las Juntas de**	**25.10**	**54**	LR	LR	00 57 40.7	
	comp=Z,306nm,20.9s,baz=238,slow=29						
PETF	**Flores**	**26.24**	**35**	P	**P**	**00 50 37.4**	**-0.4**
ATAH	**Atahualpa**	**26.96**	**97**	LR	LR	00 59 03.4	
	comp=Z,288nm,19.5s,baz=263,slow=30						
LPIG	**La Paz**	**28.86**	**351**	LR	LR	00 59 12.2	
	comp=Z,124nm,21.8s,baz=184,slow=30						
NNA	**Nana**	**29.17**	**106**	LR	LR	00 59 29.1	
	comp=Z,340nm,21.6s,baz=259,slow=29						
TXAR	**Lajitas Array**	**33.70**	**3**	P	**P**	**00 51 45.0**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=184,slow=9.3,SNR=4.0						
TXAR				LR	LR	01 03 47.5	
	comp=Z,49nm,18.2s,baz=183,slow=33 comp=Z,0.3nm,0.4s						
DRIO	**Del Rio**	**34.06**	**7**	P	**P**	**00 51 46.9**	**0.0**
HNDO	**Hondo**	**34.36**	**9**	P	**P**	**00 51 50.4**	**+0.9**
HNDO				IAmb	IAmb	00 51 51.4	
	comp=Z,6.0nm,1.0s						
SAND	**Sanderson**	**34.42**	**5**		**P**	**00 51 50.4**	**+0.3**
SAND				IAmb	IAmb	00 52 00.3	
	comp=Z,4.5nm,0.8s						
435B	**Jarrell**	**35.89**	**11**	P	**P**	**00 52 04.2**	**+1.6**
BRDY	**Brady**	**36.13**	**9**	P	**P**	**00 52 04.6**	**-0.1**
SGCY	**Sterling City**	**36.46**	**6**	P	**P**	**00 52 07.3**	**-0.3**
SGCY				IAmb	IAmb	00 52 09.5	
	comp=Z,9.9nm,0.9s						
ODSA	**Odessa**	**36.54**	**4**	P	**P**	**00 52 09.6**	**+1.3**
ODSA				IAmb	IAmb	00 52 18.9	
	comp=Z,7.7nm,1.0s						
SDV	**Santo Domingo**	**37.11**	**69**	LR	LR	01 05 18.3	
	comp=Z,104nm,21.0s,baz=249,slow=32						
ABTX	**Abilene, Hawle**	**37.34**	**8**	P	**P**	**00 52 15.2**	**+0.2**
SN07	**Snyder 07**	**37.65**	**6**	P	**P**	**00 52 17.1**	**-0.6**
SN07				IAmb	IAmb	00 52 19.4	
	comp=Z,16nm,1.5s						
PLPT	**Palo Pinto**	**37.73**	**10**	P	**P**	**00 52 18.4**	**+0.1**
PLPT				IAmb	IAmb	00 52 20.7	
	comp=Z,12nm,1.0s						
H03N2	**Juan Fernandez**	**37.87**	**143**	T	T	01 32 34.2	
	baz=317,slow=77,SNR=7.2						
H03N1	**Juan Fernandez**	**37.88**	**143**	T	T	01 32 29.1	
	baz=317,slow=77,SNR=9.4						
H03N3	**Juan Fernandez**	**37.89**	**143**	T	T	01 32 33.7	
	baz=317,slow=77,SNR=9.4						
APMT	**Aspermont**	**37.97**	**7**	P	**P**	**00 52 20.0**	**-0.4**
DKNS	**Dickens**	**38.22**	**6**	P	**P**	**00 52 22.0**	**-0.5**
SBM	**South Baldy**	**38.33**	**358**	P	**P**	**00 52 24.4**	**+0.6**
MSTX	**Muleshoe**	**38.37**	**3**	P	**P**	**00 52 25.4**	**+1.6**
LPAZ	**La Paz**	**38.37**	**111**	LR	LR	01 07 15.8	
	comp=Z,80nm,19.2s,baz=272,slow=34						
WTFS	**Witchita Falls**	**38.64**	**9**	P	**P**	**00 52 26.1**	**+0.1**
WTFS				IAmb	IAmb	00 52 28.3	
	comp=Z,10nm,1.1s						
ANMO	**Albuquerque**	**39.27**	**359**	P	**P**	**00 52 34.5**	**+3.0**
	comp=Z,1.1nm,0.4s,baz=214,slow=13,SNR=6.3						
ANMO				LR	LR	01 05 11.6	
	comp=Z,53nm,20.3s,baz=278,slow=31 comp=Z,1.1nm,0.4s						
PFO	**Pinyon Flats O**	**39.35**	**345**	LR	LR	01 05 01.0	
	comp=Z,168nm,18.3s,baz=182,slow=31						
WMOK	**Wichita Mounta**	**39.54**	**9**	P	**P**	**00 52 33.6**	**0.0**
SMWD	**Samnorwood**	**39.71**	**7**	P	**P**	**00 52 35.2**	**+0.2**
FNO	**Franklin**	**40.27**	**10**	P	**P**	**00 52 40.4**	**+0.7**
MIAR	**Mount Ida**	**40.42**	**15**	P	**P**	**00 52 40.6**	**-0.2**
ELIS	**Ellis County**	**40.76**	**7**	P	**P**	**00 52 44.1**	**+0.5**
ELIS				IAmb	IAmb	00 52 46.5	
	comp=Z,19nm,1.0s						
OK029	**Liberty Lake**	**40.79**	**10**	P	**P**	**00 52 43.7**	**-0.2**
OK029				IAmb	IAmb	00 52 45.4	
	comp=Z,8.5nm,0.9s						
TUL3	**Leonard**	**41.21**	**12**	P	**P**	**00 52 47.0**	**-0.3**
TUL3				IAmb	IAmb	00 52 49.2	
	comp=Z,6.6nm,0.8s						
OK038	**West end E0370**	**41.26**	**8**	P	**P**	**00 52 47.0**	**-0.7**
OK038				IAmb	IAmb	00 52 48.8	
	comp=Z,8.8nm,0.7s						
WHAR	**Wooly Hollow**	**41.47**	**16**	P	**P**	**00 52 49.8**	**+0.3**
WHAR				IAmb	IAmb	00 52 51.4	
	comp=Z,8.0nm,1.0s						
152A	**Waverly Hall**	**41.87**	**26**	P	**P**	**00 52 52.6**	**-0.2**
152A				IAmb	IAmb	00 52 54.2	
	comp=Z,10nm,1.2s						
LCAR	**Lake Charles**	**42.52**	**17**	P	**P**	**00 52 57.6**	**-0.4**
PLAL	**Pickwick Lake**	**42.53**	**21**	P	**P**	**00 52 57.6**	**-0.5**
PLAL				IAmb	IAmb	00 53 00.0	
	comp=Z,12nm,0.8s						
HMU	**Henry Mountain**	**42.54**	**354**	P	**P**	**00 52 59.2**	**+0.7**
154A	**Montrose**	**42.56**	**28**	P	**P**	**00 52 58.4**	**0.0**
PV02	**Paradox Valley**	**42.63**	**356**	P	**P**	**00 52 58.9**	**-0.2**
PV02				IAmb	IAmb	00 53 01.8	
	comp=Z,14nm,1.5s						
FPAL	**Fort Paine**	**43.09**	**24**	P	**P**	**00 53 02.8**	**+0.1**
MGMO	**Mountain Grove**	**43.23**	**15**	P	**P**	**00 53 03.8**	**0.0**
MGMO				IAmb	IAmb	00 53 06.1	
	comp=Z,9.8nm,1.5s						
CGM3	**Cape Girardeau**	**44.11**	**18**	IAmb	IAmb	00 53 12.7	
	comp=Z,14nm,1.4s						
CPCT	**Cooper Cave**	**44.32**	**25**	P	**P**	**00 53 11.8**	**-0.8**
CPCT				IAmb	IAmb	00 53 14.6	
	comp=Z,9.5nm,1.0s						
CCM	**Cathedral Cave**	**44.35**	**16**	P	**P**	**00 53 11.9**	**-0.8**
CCM				IAmb	IAmb	00 53 14.6	
	comp=Z,8.1nm,1.1s						
O20A	**White River Ci**	**44.52**	**357**	P	**P**	**00 53 14.7**	**+0.4**
BG3	**Lake Jocassee**	**44.62**	**26**	P	**P**	**00 53 15.0**	**0.0**
BG3				IAmb	IAmb	00 53 17.3	
	comp=Z,9.1nm,0.8s						
U49A	**Red Boiling Sp**	**44.75**	**23**	IAmb	IAmb	00 53 17.7	
	comp=Z,8.0nm,1.1s						
TKL	**Tuckaleechee C**	**44.82**	**25**	IAmb	IAmb	00 53 18.4	
	comp=Z,9.9nm,1.1s						
SIV	**San Ignacio**	**44.95**	**108**	LR	LR	01 09 23.4	
	comp=Z,260nm,20.7s,baz=292,slow=32						
PPT	**Papeete**	**45.15**	**250**	LR	LR	01 06 40.2	
	comp=Z,84nm,18.4s,baz=352,slow=30						
V53A	**Saluda**	**45.24**	**26**	IAmb	IAmb	00 53 21.5	
	comp=Z,9.3nm,1.0s						
USIN	**University of**	**45.36**	**20**	P	**P**	**00 53 20.5**	**-0.3**
T50A	**Nancy**	**45.55**	**23**	IAmb	IAmb	00 53 24.7	
	comp=Z,6.7nm,1.1s						
ELK	**Elko**	**45.95**	**350**	LR	LR	01 09 52.2	
	comp=Z,128nm,19.8s,slow=32						
V55A	**Taylorsville**	**46.11**	**27**	P	**P**	**00 53 27.1**	**+0.3**
V55A				IAmb	IAmb	00 53 28.7	
	comp=Z,7.8nm,0.9s						
S51A	**Beattyville**	**46.59**	**24**	P	**P**	**00 53 30.3**	**-0.3**
S51A				IAmb	IAmb	00 53 31.4	
	comp=Z,5.3nm,0.8s						
R50A	**Paris**	**46.85**	**23**	IAmb	IAmb	00 53 33.6	
	comp=Z,7.8nm,0.9s						
PDAR	**Pinedale Array**	**47.22**	**356**	P	**P**	**00 53 36.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=174,slow=8.1,SNR=2.2						
PDAR				LR	LR	01 11 07.1	
	comp=Z,51nm,19.1s,baz=166,slow=33 comp=Z,0.2nm,0.3s						
HDIL	**Hopedale**	**47.23**	**17**	P	**P**	**00 53 35.6**	**+0.2**
PLCA	**Paso Flores**	**47.71**	**144**	LR	LR	01 08 26.2	
	comp=Z,308nm,20.9s,baz=270,slow=29						
YBH	**Yreka Blue Hor**	**48.68**	**343**	LR	LR	01 10 42.4	
	comp=Z,6.2nm,18.3s,baz=148,slow=32						
Q54A	**Coxs Mills**	**48.87**	**25**	P	**P**	**00 53 47.3**	**-0.9**
O53A	**New Philadelph**	**49.78**	**24**	P	**P**	**00 53 54.6**	**-0.5**
CPUP	**Villa Florida**	**50.75**	**120**	LR	LR	01 12 32.5	
	comp=Z,32nm,18.2s,baz=140,slow=32						
MDP	**Montagnes des**	**53.53**	**80**	LR	LR	01 14 14.2	
	comp=Z,64nm,19.8s,baz=258,slow=32						
NEW	**Newport**	**53.57**	**350**	LR	LR	01 14 15.2	
	comp=Z,170nm,18.4s,baz=169,slow=33						
EYMN	**Ely**	**53.65**	**12**	P	**P**	**00 54 23.4**	**-0.6**
EYMN				IAmb	IAmb	00 54 32.4	
	comp=Z,5.8nm,1.2s						
SADO	**Sadowa**	**54.41**	**23**	P	**P**	**00 54 28.6**	**-0.9**
SADO	**Sadowa**	**54.41**	**23**	LR	LR	01 21 28.6	
	comp=Z,24nm,18.1s,baz=252,slow=40						
BDFB	**Brasilia**	**57.38**	**106**	LR	LR	01 17 19.2	
	comp=Z,153nm,19.4s,baz=326,slow=33						
BBB	**Bella Bella**	**59.71**	**344**	LR	LR	01 17 45.7	
	comp=Z,41nm,18.3s,baz=20,slow=33						
DLBC	**Dease Lake**	**65.80**	**346**	LR	LR	01 21 17.8	
	comp=Z,6.3nm,18.0s,baz=79,slow=33						
PMSA	**Palmer Station**	**66.94**	**162**	LR	LR	01 18 20.2	
	comp=Z,230nm,18.6s,baz=299,slow=30						
YKA	**Yellowknife Ar**	**67.20**	**355**	P	**P**	**00 55 56.2**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=169,slow=7.8,SNR=2.6						
YKA				LR	LR	01 22 14.4	
	comp=Z,49nm,18.2s,baz=20,slow=33 comp=Z,1.1nm,0.9s						
L29M	**L29M**	**71.86**	**345**	P	**P**	**00 56 24.2**	**-1.0**
L29M				IAmb	IAmb	00 56 46.3	
	comp=Z,5.1nm,1.1s						
KDAK	**Kodiak Island**	**72.75**	**336**	LR	LR	01 21 27.4	
	comp=Z,150nm,18.1s,baz=141,slow=30						
BCAR	**Beaver Creek A**	**72.81**	**344**	P	**P**	**00 56 29.3**	**-1.6**
H27K	**Steamboat Moun**	**75.25**	**346**	P	**P**	**00 56 44.2**	**-0.9**
INK	**Inuvik**	**75.28**	**350**	LR	LR	01 27 43.1	
	comp=Z,121nm,18.4s,baz=170,slow=34						
ILAR	**Eielson Array**	**75.58**	**343**	P	**P**	**00 56 46.1**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=155,slow=5.8,SNR=9.8						
ILAR				LR	LR	01 26 14.8	
	comp=Z,64nm,18.0s,baz=68,slow=33 comp=Z,1.2nm,0.9s						
WRH	**Wood River Hil**	**75.72**	**342**	IAmb	IAmb	00 56 58.3	
	comp=Z,9.8nm,1.4s						
PRP	**Porcupine Dome**	**75.74**	**344**	P	**P**	**00 56 47.4**	**-0.6**
PRP				IAmb	IAmb	00 56 54.5	
	comp=Z,3.5nm,0.8s						
MLY	**Manley**	**76.92**	**342**	P	**P**	**00 56 53.5**	**-1.2**
MLY				IAmb	IAmb	00 57 05.8	
	comp=Z,3.6nm,1.0s						
F25K	**Christian Rive**	**77.34**	**345**	P	**P**	**00 56 57.0**	**+0.1**
IMAR	**Indian Mountai**	**78.49**	**342**	P	**P**	**00 57 01.7**	**-1.6**
SFJD	**Kangerlussuaq**	**81.14**	**19**	LR	LR	01 32 36.6	
	comp=Z,66nm,18.2s,baz=168,slow=35						
QSPA	**South Pole Qui**	**85.53**	**180**	P	**P**	**00 57 41.1**	**+0.6**
	comp=Z,1.7nm,1.0s,baz=128,slow=2.0,SNR=7.3 comp=Z,1.7nm,1.0s						
SHEM	**Shemya Is, Ala**	**87.85**	**323**	LR	LR	01 28 24.0	
	comp=Z,98nm,20.4s,baz=100,slow=30						
H11N3	**WAKE ISLAND Hy**	**89.36**	**290**	T	T	02 36 53.6	
	baz=96,slow=74,SNR=33						
H11N2	**WAKE ISLAND Hy**	**89.38**	**290**	T	T	02 36 52.8	
	baz=96,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**89.38**	**290**	T	T	02 36 54.8	
	baz=96,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**89.45**	**288**	T	T	02 37 03.8	
	baz=95,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**89.46**	**288**	T	T	02 36 52.6	
	baz=95,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**89.47**	**288**	T	T	02 36 56.7	
	baz=95,slow=75,SNR=8.8						
PETK	**Petropavlovsk-**	**97.76**	**323**	LR	LR	01 34 30.0	
	comp=Z,49nm,20.8s,baz=91,slow=31						

*ATH **07** 01:06:08.6, 38°84N×25°88E, h13km±2km, ML2.2/6, Manual Solution by K.Orfanogiannaki First location: 2019/08/07 01:06:46, This location: 2019/08/07 04:35:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 2 km*

*ISK **07** 01:06:08.4, 38°88N×25°94E, h6km, ML2.4/14*

*AFAD **07** 01:06:09.4, 38°87N×26°04E, h6km±4km, ML2.6*

ISC 07 01:06:08.4±1.0, 38°86N±0°02×25°92E±0°03, h13km±8km, n45, σ0°48/76, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG2	**Marmaro, Chios**	**0.35**	**155**	P	**Pg**	**01 06 15.6**	**+0.1**
EAG2				S	**Sg**	**01 06 20.6**	**+0.4**
SIGR	**SIGRI**	**0.35**	**351**	P	**Pg**	**01 06 15.8**	**+0.2**
SIGR				S	**Sb**	**01 06 21.3**	**-0.8**
KARB	**zmir-Karabur**	**0.43**	**117**	P	**Pg**	**01 06 16.9**	**-0.1**
KARB				S	**Sg**	**01 06 21.9**	**-0.8**
CHOS	**Chios island**	**0.48**	**168**	P	**Pg**	**01 06 18.3**	**+0.3**
CHOS				S	**Sg**	**01 06 24.5**	**0.0**
CESE	**eme**	**0.61**	**151**	Pg	**Pb**	**01 06 20.8**	**-0.1**
GPNR	**Gulpinar-Canak**	**0.62**	**15**	Pg	**Pg**	**01 06 20.4**	**-0.1**
GPNR				Sg	**Sb**	**01 06 29.3**	**-0.4**
FOCM	**Foa**	**0.65**	**103**	Pg	**Pg**	**01 06 21.1**	**0.0**
FOCM				Sg	**Sb**	**01 06 30.6**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.66**	**15**	P	**Pb**	**01 06 21.6**	**-0.2**
KOCA				S	**Sg**	**01 06 30.1**	**0.0**
KOCA				*i* IAML		01 06 34.0	
	comp=E,332nm,0.6s						
KOCA				*i* IAML		01 06 37.0	
	comp=N,243nm,0.3s						
URLA	**Izmir**	**0.73**	**133**	P	**Pg**	**01 06 22.7**	**+0.1**
URLA				S	**Sb**	**01 06 32.7**	**-0.1**
URLA				*i* IAML		01 06 36.0	
	comp=N,240nm,0.2s						
AYVA	**Ayvalik**	**0.74**	**53**	P	**Pb**	**01 06 23.6**	**+0.3**
AYVA				S	**Sg**	**01 06 31.8**	**-0.9**
AYVA				*i* IAML		01 06 35.0	
	comp=E,330nm,0.3s						
AYVA				*i* IAML		01 06 36.0	
	comp=N,263nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.77**	**144**	P	**Pb**	**01 06 24.2**	**+0.6**
ZEYE				S	**Sg**	**01 06 33.4**	**-0.1**
ZEYE				*i* IAML		01 06 36.0	
	comp=N,339nm,0.5s						
ZEYE				*i* IAML		01 06 36.0	
	comp=E,464nm,0.6s						
IZMD	**zmir-Dikili-**	**0.79**	**81**	P	**Pb**	**01 06 24.5**	**+0.3**
ZEDA	**zmir-Bergama**	**0.91**	**83**	P	**Pb**	**01 06 26.3**	**+0.3**
ZEDA				S	**Sg**	**01 06 36.8**	**-1.0**
EZNE	**Ezine-Canakkal**	**0.96**	**21**	Pg	**Pg**	**01 06 26.8**	**-0.1**
EZNE				Sg	**Sb**	**01 06 40.2**	**+0.7**
BOZC	**Bozcaada**	**0.98**	**6**	P	**Pg**	**01 06 27.3**	**-0.1**
BOZC				S	**Sg**	**01 06 40.0**	**-0.3**
BOZC				*i* IAML		01 06 42.0	
	comp=N,157nm,0.3s						
BOZC				*i* IAML		01 06 43.0	
	comp=E,217nm,0.4s						
BLCB	**Balcova**	**1.00**	**118**	Pg	**Pg**	**01 06 27.5**	**-0.2**
BLCB				Sg	**Sn**	**01 06 42.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.00**	**29**	P	**Pn**	**01 06 28.2**	**-0.1**
BAYC				S	**Sb**	**01 06 40.8**	**0.0**
BAYC				*i* IAML		01 06 44.0	
	comp=E,141nm,0.2s						
BAYC				*i* IAML		01 06 45.0	
	comp=N,106nm,0.2s						
EZN	**Ezine**	**1.01**	**18**	Pg	**Pb**	**01 06 27.7**	**-0.2**
EZN				Sg	**Sn**	**01 06 41.9**	**-0.6**
BUHA	**Balikesir, Bur**	**1.10**	**54**	P	**Pb**	**01 06 29.4**	**+0.1**
BUHA				S	**Sb**	**01 06 43.0**	**-0.6**
BUHA				*i* IAML		01 06 47.0	
	comp=N,142nm,0.3s						
BUHA				*i* IAML		01 06 47.0	
	comp=E,263nm,0.5s						
GMLD	**Gumuldur**	**1.10**	**135**	Pn	**Pg**	**01 06 29.7**	**0.0**
GMLD				Sn	**Sn**	**01 06 45.3**	**+0.6**
YAYO	**Edremit-Balk**	**1.17**	**50**	Pn	**Pn**	**01 06 30.6**	**+0.1**
YAYO				Sn	**Sn**	**01 06 46.5**	**+0.3**
LIA	**Limnos Island**	**1.18**	**331**	P	**Pb**	**01 06 30.9**	**+0.1**
LIA				S	**Sg**	**01 06 46.7**	**0.0**
ECEA	**Canakkale, Ece**	**1.20**	**9**	P	**Pg**	**01 06 31.4**	**-0.1**
ECEA				S	**Sb**	**01 06 45.5**	**-1.0**
ECEA				*i* IAML		01 06 49.0	
	comp=N,158nm,0.4s						
ECEA				*i* IAML		01 06 49.0	
	comp=E,184nm,0.4s						
CNKL	**anakkale-Mer**	**1.26**	**16**	P	**Pg**	**01 06 32.9**	**+0.3**
CNKL				S	**Sb**	**01 06 47.5**	**-0.5**
CNKL				*i* IAML		01 06 50.0	
	comp=E,97nm,0.4s						
CNKL				*i* IAML		01 06 52.0	
	comp=N,154nm,0.4s						
GOAD	**anakkale-G¶**	**1.30**	**360**	P	**Pg**	**01 06 33.4**	**0.0**
GOAD				S	**Sn**	**01 06 49.8**	**+0.2**
GOAD				*i* IAML		01 06 52.0	
	comp=N,102nm,0.3s						
GOAD				*i* IAML		01 06 52.0	
	comp=E,123nm,0.3s						
COMU	**Canakkale**	**1.31**	**19**	Pn	**Pb**	**01 06 33.2**	**+0.3**
COMU				Sn	**Sg**	**01 06 51.6**	**+1.0**
GADA	**Gvkgeada**	**1.33**	**359**	Pn	**Pb**	**01 06 33.4**	**+0.2**
GADA				Sn	**Sg**	**01 06 51.9**	**+0.6**
CANM	**Can-anakkale**	**1.44**	**37**	Pn	**Pb**	**01 06 35.2**	**0.0**
KYMI	**Kymi, Euboea I**	**1.44**	**262**	P	**Pn**	**01 06 34.1**	**-0.2**
YENI	**Yenice-Canakka**	**1.48**	**43**	Pn

LCND La Caada 1.31 7 P Pb 01 19 32.3 -0.6
LCND La Caada 1.31 7 S Sb 01 19 49.0 -0.4
TEL3 Telica 3 1.31 64 P Pn 01 19 31.6 +0.5
QUEN Al S del Volca 1.31 63 P Pn 01 19 31.8 +0.6
QUEN S Sb 01 19 49.3 -0.1
PACN Al O del Volca 1.33 68 P Pn 01 19 31.9 +0.6
PACN S Sb 01 19 50.7 +0.8
HOYN Al Sur del Vol 1.33 63 P Pn 01 19 32.1 +0.5
HOYN S Sb 01 19 50.2 0.0
HERN Volcan Telica 1.34 63 Pn Pn 01 19 31.5 0.0
HERN Volcan Telica 1.34 63 P Pn 01 19 31.8 +0.2
HERN Volcan Telica 1.34 63 S Sb 01 19 49.8 -0.4
POLN Al Sur del Vol 1.37 62 P Pn 01 19 32.2 +0.2
POLN S Sb 01 19 50.7 -0.5
ROCN Rota Cerro Neg 1.38 68 P Pn 01 19 32.5 +0.5
ROCN S Sb 01 19 51.0 -0.3
PLRN Geotermica Pol 1.38 65 P Pn 01 19 32.2 +0.1
PLRN S Sb 01 19 50.7 -0.7
CNGA Al SSO del Vol 1.41 69 P Pn 01 19 33.1 +0.6
CNGA S Sb 01 19 51.1 -1.1
CNGN Cerro Negro 1.41 69 Pn 01 19 32.7 +0.2
CNGN Cerro Negro 1.41 69 P Pn 01 19 33.0 +0.4
CNGN Cerro Negro 1.41 69 S Sn 01 19 50.8 +0.6
COPN Copaltepe 1.44 83 ⇑ *i*P Pn 01 19 33.6 +0.7
COPN *e*S Sn 01 19 50.6 -0.2
COPN Copaltepe 1.44 83 P Pn 01 19 33.5 +0.6
ILCN San Idelfonso 1.44 66 P Pn 01 19 33.3 +0.4
ILCN S Sb 01 19 55.1 +2.0
BLLM Bellamira 1.44 353 *i* P Pb 01 19 34.0 -1.3
CNRM Centro Naciona 1.47 355 *e*P Pb 01 19 34.3 -1.3
CNRM Centro Naciona 1.47 355 P Pb 01 19 34.5 -1.1
CNRM Centro Naciona 1.47 355 S Sb 01 19 54.8 +0.9
PAA Pacayal 1.48 350 P Pb 01 19 55.1 -0.8
PACA Pacayal 1.48 350 S Sb 01 19 55.3 +0.9
MOMN Momotombo 1.53 75 P Pn 01 19 34.7 +0.5
MOMN S Sb 01 19 54.8 -1.0
MOM2 El Cardon 1.59 74 P Pn 01 19 35.8 +0.8
MOM2 S Sb 01 19 56.6 -0.8
SAPS Ciudad Sandino 1.62 84 P Pn 01 19 35.9 +0.6
SAPS Ciudad Sandino 1.62 84 S Sb 01 19 57.7 -0.5
APQ3 Volcan Apoyequ 1.67 81 P Pn 01 19 36.7 +0.7
APQ3 S Sb 01 19 58.2 -1.3
TECO Alcaldia de Te 1.68 335 P Pn 01 19 37.0 +0.7
TECO Alcaldia de Te 1.68 335 S Sb 01 19 59.4 -0.7
PQSS Presa 15 de Se 1.69 343 P Pb 01 19 37.6 -1.7
PQSS Presa 15 de Se 1.69 343 S Sb 01 19 59.1 -1.1
APQ2 Apoyeque 1.70 83 P Pn 01 19 36.9 +0.5
APQ2 S Sn 01 19 57.8 +0.6
CHOHN Orocuina 1.71 31 P Pn 01 19 37.6 +0.9
CRUN El Crucero 1.71 90 P Pb 01 19 38.6 -1.6
USIM UNAN 1.74 86 Pn Pn 01 19 37.3 +0.2
ALLN Telcor Managua 1.75 85 P Pn 01 19 37.9 +0.8
ALLN Telcor Managua 1.75 85 S Sn 01 19 59.6 +1.3
UNAN Cigeo UNAN 1.75 86 P Pn 01 19 37.9 +0.8
UNAN S Sn 01 19 59.9 +1.5
TISN Laguna Tiscapa 1.75 85 P Pn 01 19 38.0 +0.9
CAHU Cacacuatique 1.77 355 *e*P Pb 01 19 39.0 -1.8
R4DEC Barrio San Lui 1.77 85 P Pn 01 19 38.1 +0.7
R4DEC Barrio San Lui 1.77 85 S Sn 01 20 00.2 +1.3
MGAN Managua 1.77 85 Pn 01 19 37.5 0.0
MGAN Managua 1.77 85 ⇑ *i*P Pn 01 19 37.8 +0.4
MGAN *e*S Sn 01 19 59.7 +0.8
MGAN Managua 1.77 85 P Pn 01 19 38.1 +0.7
MGAN Managua 1.77 85 S Sn 01 20 00.1 +1.1
UESV Universidad de 1.78 336 P Pn 01 19 38.7 +1.1
UESV Universidad de 1.78 336 S Sn 01 20 00.6 +1.4
SCLA Alcaldia de Sa 1.81 339 P Pn 01 19 38.4 +1.3
SCLA Alcaldia de Sa 1.81 339 S Sb 01 20 02.6 +1.2
WILN Americas 2 1.83 85 P Pn 01 19 38.8 +0.5
WILN S Sn 01 20 01.8 +1.4
SABN Sabanita 1.85 91 P Pn 01 19 39.2 +0.7
NANN Nandasmo 1.89 92 P Pn 01 19 40.7 +1.6
NANN Nandasmo 1.89 92 S Sn 01 20 03.8 +1.9
PAVA Las Pavas 1.91 333 P Pn 01 19 40.7 +1.2
PAVA Las Pavas 1.91 333 S Sb 01 20 05.9 -0.7
LALI Alcalda de L 1.93 320 *e*P Pb 01 19 42.3 -1.1
LALI Alcalda de L 1.93 320 P Pn 01 19 40.8 +1.2
LALI Alcalda de L 1.93 320 S Sn 01 20 03.3 +0.5
LOMA Loma Larga 1.96 326 P Pn 01 19 41.4 +1.1
LOMA Loma Larga 1.96 326 S Sb 01 20 07.7 -0.6
LBRS Las Brisas 1.98 331 *e*P Pn 01 19 41.9 +1.5
NADN Granada 1.99 97 *e*P Pn 01 19 40.6 +0.1
NADN *e*S Sn 01 20 04.1 -0.3
NADN Granada 1.99 97 P Pn 01 19 41.0 +0.5
NADN S Sn 01 20 04.8 +0.5
UDBS Universidad Do 2.02 328 P Pn 01 19 42.2 +1.3
UDBS Universidad Do 2.02 328 S Sn 01 20 06.1 +1.0
UEES Universidad Ev 2.06 326 P Pn 01 19 42.9 +1.3
BOQS Boqueron 2.10 325 *e*P Pn 01 19 43.7 +1.5
PMON Piamonte 2.10 324 P Pn 01 19 43.7 +1.6
JAYA Jayaque - finc 2.13 320 *i* P Pn 01 19 42.9 +0.3
JAYA *i* S Sn 01 20 07.7 -0.5
JAYA Jayaque - finc 2.13 320 P Pn 01 19 43.7 +1.1
JAYA Jayaque - finc 2.13 320 S Sn 01 20 08.6 +0.4
MARCA Marcala la Paz 2.14 0 *i* P Pn 01 19 44.6 +1.9
MARCA Marcala la Paz 2.14 0 P Pb 01 19 45.2 -2.0
MARCA Marcala la Paz 2.14 0 S Sb 01 20 11.9 -1.5
TGUH Tegucigalpa,Un 2.18 20 Pn 01 19 43.9 +0.7
TGUH Tegucigalpa,Un 2.18 20 P Pn 01 19 44.8 +1.6
OCON Estacion meteo 2.23 43 P Pn 01 19 45.0 +1.1
YUSH Yuscaran 2.27 31 P Pn 01 19 46.0 +1.5
MATN Matagalpa 2.27 66 P Pn 01 19 44.4 0.0
JAPN Al SSO del Vol 2.37 101 ⇓ *i*P Pn 01 19 46.2 +0.7
JAPN Al SSO del Vol 2.37 101 P Pn 01 19 46.4 +0.7
BOAB BOACO BROADBAN 2.37 79 Pn 01 19 45.8 0.0
BOAB BOACO BROADBAN 2.37 79 P Pn 01 19 46.3 +0.6
CEVE Cerro Verde 2.38 320 *e*P Pn 01 19 47.8 +1.7
CEVE Cerro Verde 2.38 320 P Pn 01 19 47.7 +1.7
MORN Al O del Volca 2.40 101 P Pn 01 19 46.5 +0.4
RCVN Varillal2 2.40 49 P Pn 01 19 47.6 +1.3
RCVN Varillal2 2.40 49 S Sn 01 20 17.5 +2.8
RCPN Sur Rio San Ju 2.44 51 P Pn 01 19 47.0 +0.2
NUBE Las Nubes 2.53 318 *i* P Pn 01 19 49.2 +1.1
NUBE *i* S Sn 01 20 18.5 +0.5
NUBE Las Nubes 2.53 318 P Pn 01 19 49.2 +1.1
NUBE Las Nubes 2.53 318 S Sn 01 20 19.1 +1.1
LCRUZ La Cruz 2.54 111 *e*P Pn 01 19 48.6 +0.5
CARN Rivas 2.61 108 *e*P Pn 01 19 48.6 -0.4
CARN Rivas 2.61 108 P Pn 01 19 49.9 +0.9
FAME Alcaldia de Sa 2.65 314 P Pn 01 19 51.6 +2.0
MTO3 Montecristo 2.70 332 Pn 01 19 51.7 +1.2
MTO3 Montecristo 2.70 332 *i* P Pn 01 19 52.1 +1.6
MTO3 Montecristo 2.70 332 P Pn 01 19 52.7 +2.2
ELI1 Hacienda Flor 2.80 119 *e*P Pn 01 19 53.3 +1.7
ELI1 Hacienda Flor 2.80 119 P Pn 01 19 53.1 +1.5
ACON Acoyapa 2.82 90 Pn 01 19 51.5 -0.3
ACON Acoyapa 2.82 90 *e*P Pn 01 19 51.1 -0.8
ACON Acoyapa 2.82 90 P Pn 01 19 53.4 +1.5
ALIBA Liberia Airpor 2.83 119 *e*P Pn 01 19 53.7 +1.6
ESQI Esquipulas 2.84 334 Pn 01 19 54.2 +2.0
ESQI Esquipulas 2.84 334 *e*P Pn 01 19 54.7 +2.4
ESQI Esquipulas 2.84 334 P Pn 01 19 54.6 +2.4
SARH Santa Rosa de 2.84 346 *i* P Pn 01 19 55.4 +3.1
SARH Santa Rosa de 2.84 346 P Pb 01 19 55.5 -3.5
LAPC Finca la Perla 2.85 115 *e*P Pn 01 19 53.0 +0.7
BUAI Buenos Aires 2.89 112 *e*P Pn 01 19 55.7 +2.8
VRLE La Escondida, 2.90 114 *e*P Pn 01 19 54.2 +1.2
GPS3 Bodega del ICE 2.91 115 *e*S Sn 01 20 28.5 +1.2
JUD3 Juan Diaz 3 3.07 126 *e*P Pn 01 19 56.0 +0.6
MESS Mesas 3.07 114 *e*P Pn 01 19 57.9 +2.5
COLC Colonia 3.09 115 *e*P Pn 01 19 57.6 +1.9
HORNC Hornillas 3.10 114 *e*P Pn 01 19 57.6 +1.8
CUI Cuipilapa 3.13 115 ‖ *e*P Pn 01 19 57.7 +1.5
UPAL Upala 3.17 110 P Pn 01 19 57.3 +0.5
MOTZ Rio Naranjo 3.20 114 *e*P Pn 01 19 59.0 +1.8
TENO El Achiote 3.28 113 *e*P Pn 01 19 58.8 +0.5
TIMP Tierras Morena 3.29 115 *e*P Pn 01 19 57.4 -1.1
INVE Universidad In 3.30 117 *e*P Pn 01 20 01.8 +3.3
QUEB Quebradon, Cot 3.38 114 *e*P Pn 01 20 00.4 +0.7
JTS Las Juntas de 3.48 119 Pn Pn 01 20 02.4 +1.4
JTS Las Juntas de 3.48 119 Pn Pn 01 19 59.5 -1.6
2.5nm,0.3s,baz=306,slow=16,SNR=10
JTS Sn Sn 01 20 39.1 -2.2
7.5nm,0.3s,baz=300,slow=20,SNR=5.8
JTS Lg Lg 01 20 50.2
6.8nm,0.3s,baz=276,slow=9.0,SNR=5.0
5.0nm,0.3s
JTS Las Juntas de 3.48 119 *e*P Pn 01 20 03.4 +2.3
JTS Las Juntas de 3.48 119 P Pb 01 20 08.5 -1.4
CASO Castillo 3.61 115 *e*P Pn 01 20 04.1 +1.3

VARE2 V. Arenal 3.61 115 *e*P Pn 01 20 04.4 +1.6
CEDE Laguna Cedeo 3.61 114 *e*P Pn 01 20 04.4 +1.6
SIUN Universidad Ur 3.62 62 Pn Pn 01 20 03.0 0.0
FORC Fortuna 3.65 114 *e*P Pn 01 20 05.0 +1.6
ESPN Las Esperanzas 3.67 87 Pn Pn 01 20 04.4 +0.8
SOCE Pocosol 3.73 115 Pn Pn 01 20 06.1 +1.6
RTAL Retalhuleu 4.34 306 Pn Pn 01 20 17.0 +4.1
HDC Heredia 4.35 117 Pn Pn 01 20 15.3 +2.2
PAR1A Puntarenas Pro 4.43 122 *e*P Pn 01 20 16.8 +2.7
PICV PH. Pirrs 4.46 122 *e*P Pn 01 20 17.3 +2.7
LCR2 La Lucha 2 4.56 119 Pn 01 20 18.4 +2.3
LCR2 La Lucha 2 4.56 119 *e*P Pn 01 20 18.5 +2.4
VICA Volcano Irazu 4.59 115 *e*P Pn 01 20 19.2 +2.6
LLNJ Naranjito 4.62 123 *e*P Pn 01 20 18.7 +2.0
VTLA Turrialba Volc 4.64 115 *e*P Pn 01 20 19.8 +2.4
PIEC Cerro El Cedra 4.67 120 *e*P Pn 01 20 19.8 +2.2
CVTV Tajo 4.67 115 *e*P Pn 01 20 22.9 +5.3
VTCV VTCV, Calle Va 4.70 115 *e*P Pn 01 20 22.2 +4.3
SAJE San Jernim 5.19 120 *e*P Pn 01 20 26.8 +2.2
VERH Veragua Rainfo 5.20 113 *e*P Pn 01 20 25.8 +1.1
EDPE Pejibaye, P 5.23 122 *e*P Pn 01 20 28.2 +3.1
DRK0 Durika 5.45 119 *e*P Pn 01 20 30.8 +2.5
ALCO Alturas Coton, 5.96 120 *e*P Pn 01 20 37.0 +1.7
BRU2 Volcan 6.16 121 Pn Pn 01 20 42.3 +4.3
BQTLY Boquete Panama 6.37 120 *e*P Pn 01 20 43.2 +2.3
CMIG Matias Romero 8.33 308 Pn Pn 01 21 08.7 +1.1
0.8nm,0.3s,baz=156,slow=8.7,SNR=10
1.9nm,0.3s
FLOC Florencia 16.07 129 P 01 22 56.1 +0.2
HBVL Hebbronville 18.00 328 P 01 23 18.5 +1.3
833A Chaparral WMA, 19.39 329 Pn 01 23 34.2 +0.5
HNDO Hondo 20.33 331 P P 01 23 43.1 +0.4
HNDO IAmb IAmb 01 23 44.7
comp=Z,21nm,0.7s
146A Union 20.56 358 Pn Pn 01 23 46.7 -0.8
146A IAmb IAmb 01 23 47.9
comp=Z,15nm,0.7s
435B Jarrell 20.67 336 Pn 01 23 51.3 +2.5
435B IAmb IAmb 01 23 52.8
comp=Z,20nm,0.8s
DRIO Del Rio 20.91 328 P 01 23 48.7 -0.3
154A Montrose 21.01 12 P P 01 23 49.5 -0.5
ATAH Atahualpa 21.30 153 LR LR 01 29 42.3
comp=Z,23nm,21.8s,baz=342,slow=30
JCT Junction City 21.37 331 P P 01 23 54.0 +0.1
JCT IAmb IAmb 01 23 58.9
comp=Z,16nm,0.8s
BRDY Brady 21.69 334 P 01 23 57.3 -0.1
BRDY IAmb IAmb 01 24 01.6
comp=Z,9.1nm,0.7s
GOGA Godfrey 21.72 10 P P 01 23 56.9 -0.7
GOGA IAmb IAmb 01 24 01.3
comp=Z,9.6nm,0.6s
Y49A Blount Mountai 21.81 4 P 01 23 59.4 +0.8
Y49A IAmb IAmb 01 24 00.5
comp=Z,7.5nm,0.6s
Y52A Lilburn 22.07 9 P P 01 24 02.6 +1.3
WLAR White Oak Lake 22.08 349 P P 01 24 03.5 +2.1
WLAR IAmb IAmb 01 24 06.1
comp=Z,17nm,0.8s
Z38A Mt. Pleasant 22.09 344 P P 01 24 03.0 +1.3
SAND Sanderson 22.14 326 P P 01 24 02.2 0.0
OZNA Ozona 22.38 329 P 01 24 05.7 +0.9
OZNA IAmb IAmb 01 24 08.5
comp=Z,14nm,0.8s
TXAR Lajitas Array 22.56 322 P P 01 24 06.6 -0.2
comp=Z,4.0nm,0.6s,baz=136,slow=10,SNR=35
comp=Z,4.0nm,0.6s
TX31 Lajitas Ar. Si 22.56 322 P P 01 24 08.3 +1.6
FW06 Azle 22.62 339 P P 01 24 09.7 +2.4
FW06 IAmb IAmb 01 24 11.7
comp=Z,7.5nm,0.6s
HODGE Hodges 22.75 12 P P 01 24 09.3 +0.6
PLPT Palo Pinto 22.75 337 P 01 24 10.1 +1.4
PLPT IAmb IAmb 01 24 11.5
comp=Z,13nm,0.6s
Z35A Perchaven, San 22.84 340 P P 01 24 11.2 +1.6
MIAR Mount Ida 23.00 348 P 01 24 12.3 +1.0
UALR University of 23.00 351 P P 01 24 12.4 +1.1
UALR IAmb IAmb 01 24 13.8
comp=Z,7.8nm,0.7s
PCRV Puerto La Cruz 23.05 92 P P 01 24 10.3 -1.7
comp=Z,9.3nm,0.9s,baz=190,slow=11,SNR=3.0
comp=Z,9.3nm,0.9s
ABTX Abilene, Hawle 23.12 334 P P 01 24 13.3 +0.7
ABTX IAmb IAmb 01 24 14.7
comp=Z,17nm,0.8s
SGCY Sterling City 23.19 331 P 01 24 12.7 -0.6
SGCY IAmb IAmb 01 24 15.8
comp=Z,13nm,0.8s
ALPN Alpine 23.30 324 P P 01 24 15.7 +1.2
BG3 Lake Jocassee 23.36 11 P P 01 24 15.1 +0.3
BG3 IAmb IAmb 01 24 16.9
comp=Z,15nm,1.2s
PAULI Pauline 23.41 13 P P 01 24 15.3 -0.1
MNHN Monahans 23.56 327 IAmb IAmb 01 24 19.6
comp=Z,8.5nm,0.7s
BIRD Birdtown, Kers 23.58 16 P P 01 24 17.3 +0.4
BIRD IAmb IAmb 01 24 18.0
comp=Z,7.1nm,0.6s
TKL Tuckaleechee C 23.87 9 IAmb IAmb 01 24 22.2
comp=Z,9.9nm,0.9s
TKL Tuckaleechee C 23.87 9 LR LR 01 34 35.3
comp=Z,53nm,19.6s,baz=171,slow=40
APMT Aspermont 23.93 334 P P 01 24 20.1 -0.3
APMT IAmb IAmb 01 24 22.8
comp=Z,11nm,0.8s
FCAR Ozark Folk Cen 24.07 352 P P 01 24 21.6 0.0
POST Post 24.32 332 IAmb IAmb 01 24 26.5
comp=Z,14nm,0.8s
HHAR Hobbs 24.75 349 P P 01 24 26.9 -1.0
TUL3 Leonard 24.81 345 IAmb IAmb 01 24 31.6
comp=Z,9.4nm,0.7s
T47A Sharon Grove 24.89 2 IAmb IAmb 01 24 29.4
comp=Z,9.0nm,0.8s
DEOK Depew 24.94 344 IAmb IAmb 01 24 29.9
comp=Z,10.0nm,0.7s
V58A Windy Hill, Pi 25.03 17 IAmb IAmb 01 24 31.5
comp=Z,7.6nm,0.7s
SMWD Samnorwood 25.52 336 P P 01 24 35.3 +0.4
CROK Carrier 25.99 342 IAmb IAmb 01 24 41.8
comp=Z,11nm,0.7s
ELIS Ellis County 26.07 339 IAmb IAmb 01 24 42.3
comp=Z,14nm,1.0s
CCM Cathedral Cave 26.10 354 P P 01 24 39.0 -1.1
CCM IAmb IAmb 01 24 40.4
comp=Z,5.6nm,0.7s
WCI Wyandotte Cave 26.17 3 P P 01 24 40.1 -0.5
WCI IAmb IAmb 01 24 49.0
comp=Z,5.5nm,0.7s
NOKA Waynoka 26.41 340 P P 01 24 43.5 +0.6
RTBA Rita Blanca 27.70 334 P P 01 24 55.8 +1.2
RTBA IAmb IAmb 01 24 59.2
comp=Z,6.6nm,0.8s
PV12 Saucer Basin, 32.08 328 IAmb IAmb 01 25 45.8
comp=Z,5.1nm,0.7s
PV18 Skein Mesa, Pa 32.08 328 P P 01 25 34.8 +1.3
PV18 IAmb IAmb 01 25 46.6
comp=Z,4.8nm,0.8s
L59A Walton 32.15 18 P P 01 25 32.4 -1.4
ECSD EROS Data Cent 32.47 348 IAmb IAmb 01 25 36.8
comp=Z,5.4nm,0.8s
O20A White River Ci 33.21 331 P P 01 25 46.3 +3.0
O20A IAmb IAmb 01 25 47.8
comp=Z,4.8nm,0.8s
SADO Sadowa 33.54 12 P P 01 25 45.1 -0.8
BUKO Buck Lake 34.14 11 P P 01 25 51.0 -0.1
BUKO IAmb IAmb 01 25 51.4
comp=Z,4.6nm,0.7s
F33A 5 Mile Ranch, 34.45 350 P P 01 25 52.5 -1.3
MNTQ Montreal, Queb 35.58 18 P P 01 26 02.8 -0.7
PDAR Pinedale Array 35.89 333 P P 01 26 06.1 -0.5
comp=Z,0.4nm,0.4s,baz=140,slow=8.2,SNR=2.8
comp=Z,0.4nm,0.4s
AGMN Agassiz Nation 36.77 351 P P 01 26 12.5 -1.2
NVAR Mina Array Bea 37.66 320 P P 01 26 22.7 +1.0
comp=Z,0.2nm,0.4s,baz=58,slow=6.6,SNR=2.4
comp=Z,0.2nm,0.4s
RLMT Red Lodge 37.66 335 IAmb IAmb 01 26 22.9
comp=Z,5.3nm,1.1s
YNE Yellowstone No 37.88 334 P P 01 26 23.5 +0.1
YNE IAmb IAmb 01 26 35.6
comp=Z,2.9nm,0.7s
YHH Holmes Hill 38.06 333 P P 01 26 27.3 +2.3

BOZ Bozeman (W) 39.04 334 P P 01 26 34.2 +1.1
BPMT Black Pine Rid 40.49 333 P P 01 26 46.4 +1.1
HOOD Mount Hood Mea 43.83 326 P P 01 27 13.7 +1.3
HOOD IAmb IAmb 01 27 56.8
comp=Z,4.3nm,0.8s
SCHQ Schefferville 45.88 17 P P 01 27 26.4 -1.9
comp=Z,5.1nm,0.5s,baz=193,slow=5.4,SNR=6.2
comp=Z,5.1nm,0.5s
YKA Yellowknife Ar 53.89 345 P P 01 28 26.0 -3.0
comp=Z,1.4nm,0.8s,baz=145,slow=6.4,SNR=5.5
comp=Z,1.4nm,0.8s
ILON Igloolik, Nuna 57.46 3 P P 01 28 53.6 -1.0
ILON IAmb IAmb 01 28 56.0
comp=Z,5.9nm,1.0s
MMPY Sheldon Lake, 59.14 338 P P 01 29 07.8 +1.3
MMPY IAmb IAmb 01 29 10.6
comp=Z,2.1nm,0.9s
SFJD Kangerlussuaq 60.31 16 LR LR 01 54 04.0
comp=Z,47nm,19.2s,baz=175,slow=35
M29M Somme Creek 61.78 336 P P 01 29 25.5 +0.8
M29M IAmb IAmb 01 30 01.5
comp=Z,1.6nm,0.6s
BCAR Beaver Creek A 63.42 336 P P 01 29 36.7 +1.3
K27K Chicken 63.99 337 P P 01 29 40.5 +1.3
F28M Old Crow 65.01 341 P P 01 29 46.6 +0.8
F28M IAmb IAmb 01 29 49.9
comp=Z,7.6nm,1.5s
ILAR Eielson Array 66.19 336 P P 01 29 51.3 -2.2
comp=Z,0.5nm,0.8s,baz=161,slow=4.5,SNR=5.2
comp=Z,0.5nm,0.8s
BMAR Burnt Mountain 66.49 339 P P 01 29 56.7 +1.3
F25K Christian Rive 66.93 339 P P 01 29 59.6 +1.4
F25K IAmb IAmb 01 30 20.1
comp=Z,4.1nm,1.4s
D25K Kavik River 67.94 341 P P 01 30 05.1 +0.6
D25K IAmb IAmb 01 30 05.9
comp=Z,2.3nm,0.7s
F21K Alatna River 69.59 338 P P 01 30 15.6 +0.8
D20K Etiviuk River 71.16 339 P P 01 30 24.5 +0.1
D20K IAmb IAmb 01 30 53.7
comp=Z,5.5nm,1.4s
D19K Kuna River 71.64 339 P P 01 30 27.3 0.0
D19K IAmb IAmb 01 30 28.1
comp=Z,6.1nm,1.5s
SPITS Spitsbergen Ar 81.26 12 LR LR 02 08 27.5
comp=Z,27nm,19.2s,baz=296,slow=37
ARCES ARCESS Array B 86.80 19 LR LR 02 10 28.1
comp=Z,10nm,18.2s,baz=204,slow=36
ASAR Alice Springs 138.56 248 PKP PKiKP 01 38 34.5 -0.1
comp=Z,0.2nm,0.3s,baz=80,slow=3.1,SNR=1.9
WRA Warramunga Arr 138.58 253 PKP PKPdf 01 38 33.7 +1.0
comp=Z,0.4nm,0.8s,baz=84,slow=1.5,SNR=4.6
CMAR Chiang Mai Arr 148.96 347 PKPbc PKPdf 01 38 52.8 +2.0
comp=Z,0.8nm,0.3s,baz=346,slow=4.4,SNR=4.0

NEIC ***07*** *01:23:46.4≤1.6,22.0°S≤0.1°×176.5°W≤0.1,h175km≤8km, mb4.2/23, Error ellipse: s-maj=21.0km s-min=16.5km az=170.0*
IDC ***07*** *01:23:54.2≤10.0,21.74°S×176.95°W,h244km≤95km, mb3.5/10,mbtmp4.1/10, Error ellipse: s-maj=27.1km s-min=25.7km az=92.0*

ISC 07 01:23:45.8±0.6,21.8°S±0.1°×176.7°W±0.1,h171km,n44, σ1°04/42,mb4.1/22,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	6.40	309		Pn	01 25 23.7	+5.6
NIUE	Niue	6.93	68	Pn	Pn	01 25 24.6	-0.4
BKZ	Black Stump Fm	18.22	197	P	P	01 27 45.9	-0.1
NNZ	Nelson	21.05	201	P	P	01 28 15.5	-0.9
CTAO	Charters Tower	34.58	266	P	P	01 30 19.9	+1.4
CTAO				IAmb	IAmb	01 30 20.8	
	comp=Z,6.5nm,0.9s						
STKA	Stephens Creek	38.31	246	P	P	01 30 49.0	-1.0
STKA	Stephens Creek	38.31	246	P	P	01 30 48.8	-1.2
	comp=Z,1.4nm,0.5s,baz=88,slow=12,SNR=4.4						
	comp=Z,1.4nm,0.5s						
BBOO	Buckleboo	43.05	245	P	P	01 31 28.6	-0.2
BBOO				IAmb	IAmb	01 31 45.8	
	comp=Z,6.7nm,1.1s						
AS31	Alice Springs	45.40	258	P	P	01 31 48.0	+0.4
AS31				IAmb	IAmb	01 31 48.9	
	comp=Z,2.1nm,0.5s						
ASAR	Alice Springs	45.40	258	P	P	01 31 47.6	0.0
	comp=Z,5.6nm,0.7s,baz=91,slow=8.0,SNR=42						
	comp=Z,5.6nm,0.7s						
WR8	Warramunga Arr	45.47	263	P	P	01 31 48.0	-0.2
WB0	Warramunga Arr	45.60	263	P	P	01 31 49.3	+0.1
WB0				IAmb	IAmb	01 31 50.1	
	comp=Z,4.6nm,0.6s						
WRA	Warramunga Arr	45.62	263	P	P	01 31 49.1	-0.3
WRA	Warramunga Arr	45.62	263	P	P	01 31 48.9	-0.5
	comp=Z,2.8nm,0.6s,baz=100,slow=5.2,SNR=37						
	comp=Z,2.8nm,0.6s						
FORT	Forrest	49.88	248	P	P	01 32 21.8	-0.3
FORT				IAmb	IAmb	01 32 45.8	
	comp=Z,6.4nm,0.9s						
FITZ	Fitzroy Crossi	54.05	263	P	P	01 32 53.5	+0.6
FITZ	Fitzroy Crossi	54.05	263	P	P	01 32 53.4	+0.4
	comp=Z,1.4nm,0.5s,baz=54,slow=6.9,SNR=6.9						
	comp=Z,1.4nm,0.5s						
MBWA	Marble Bar	58.74	258	P	P	01 33 25.3	-0.8
QSPA	South Pole Qui	68.24	180	P	P	01 34 30.0	+2.1
QSPA				IAmb	IAmb	01 34 30.8	
	comp=Z,4.3nm,0.8s						
QSPA	South Pole Qui	68.24	180	P	P	01 34 29.9	+2.1
	comp=Z,2.8nm,0.7s,baz=57,slow=0.4,SNR=9.2						
	comp=Z,2.8nm,0.7s						
NVAR	Mina Array Bea	81.18	43	P	P	01 35 44.5	+1.8
	comp=Z,0.6nm,0.7s,baz=238,slow=8.4,SNR=4.5						
	comp=Z,0.6nm,0.7s						
M16K	Timber Creek	83.81	9	P	P	01 35 57.4	+1.9
M16K				IAmb	IAmb	01 35 58.4	
	comp=Z,7.4nm,1.1s						
X18A	Snowflake	84.61	50	P	P	01 35 58.8	-1.6
X18A				IAmb	IAmb	01 36 09.5	
	comp=Z,1.9nm,0.7s						
K15K	Wolf Creek Mou	84.72	7	P	P	01 36 02.0	+2.0
L18K	Granite Mounta	85.28	9	P	P	01 36 04.1	+1.3
L18K				IAmb	IAmb	01 36 05.3	
	comp=Z,2.2nm,0.8s						
SNAA	Sanae	86.64	178	P	P	01 36 09.0	-0.7
SNAA	Sanae	86.64	178	P	P	01 36 09.2	-0.5
	comp=Z,0.8nm,1.0s,baz=168,slow=8.5,SNR=5.1						
	comp=Z,0.8nm,1.0s						
TXAR	Lajitas Array	86.77	57	P	P	01 36 11.2	+0.2
	comp=Z,1.1nm,0.9s,baz=237,slow=4.2,SNR=8.7						
	comp=Z,1.1nm,0.9s						
CCB	Clear Creek Bu	89.06	12	P	P	01 36 21.1	+0.1
PDAR	Pinedale Array	89.12	43	P	P	01 36 22.2	+0.2
	comp=Z,0.2nm,0.3s,baz=299,slow=8.6,SNR=1.8						
	comp=Z,0.2nm,0.3s						
IMAR	Indian Mountai	89.27	9	P	P	01 36 22.9	+1.0
ILAR	Eielson Array	89.35	12	P	P	01 36 21.7	-0.7
	comp=Z,0.6nm,0.8s,baz=225,slow=5.1,SNR=5.1						
	comp=Z,0.6nm,0.8s						
F19K	Shaleruckik Mo	89.54	7	P	P	01 36 23.5	+0.4
F19K				IAmb	IAmb	01 36 24.5	
	comp=Z,1.5nm,0.7s						
G21K	Allakaket	89.81	9	P	P	01 36 25.6	+1.2
G21K				IAmb	IAmb	01 36 25.8	
	comp=Z,1.7nm,0.8s						
E19K	Redstone River	90.20	7	P	P	01 36 26.9	+0.7
D19K	Kuna River	91.09	7	P	P	01 36 30.9	+0.5
D19K				IAmb	IAmb	01 36 47.3	
	comp=Z,3.1nm,1.1s						
C19K	Lookout Ridge	91.53	6	P	P	01 36 32.5	+0.1
C19K				IAmb	IAmb	01 36 52.7	
	comp=Z,2.7nm,1.1s						
KURBB	Kurchatov Arra	115.84	317	PKP	PKPdf	01 42 06.0	-1.8
	comp=Z,0.1nm,0.4s,baz=107,slow=2.5,SNR=3.2						
BVAR	Borovoye Array	120.87	320	PKP	PKPdf	01 42 16.0	-1.5
	comp=Z,0.6nm,0.3s,baz=110,slow=1.2,SNR=4.3						
ARCES	ARCESS Array B	130.45	350	PKP	PKPdf	01 42 35.4	+0.1
	comp=Z,4.2nm,1.0s,baz=71,slow=5.3,SNR=3.3						
HFS	Hagfors	141.04	352	PKiKP	PKPpre	01 42 47.8	
	comp=Z,1.0nm,0.8s,baz=85,slow=3.3,SNR=4.7						
AKASG	Malin Array Be	144.76	331	PKP	PKPab	01 43 00.8	-0.6
	comp=Z,1.1nm,0.6s,baz=46,slow=3.6,SNR=7.9						
BURAR	Bucovina Array	148.81	331	PKPbc	PKPbc	01 43 12.6	-0.6
GERES	GERESS Array B	151.80	345	PKPbc	PKPbc	01 43 20.4	+0.2
	comp=Z,0.6nm,0.7s,baz=5.7,slow=2.7,SNR=4.4						

*IDC **07** 01:35:52.2±1.9, 30.08S×177.46W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=45.0km s-min=24.6km az=80.0*
ISC 07 01:35:56.5±2.1, **30.17S**±0.09×**177.6W**±0.3, **h35**km, **n9, σ1.24/7, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.96**	**341**	Pn	**Pn**	**01 36 13.1**	**-0.5**
	496nm,0.3s,baz=91,slow=10,SNR=21						
RAO				Sn	**Sn**	**01 36 25.3**	**-0.8**
	1μm,0.3s,baz=90,slow=20,SNR=18						
URZ	**Urewera**	**9.20**	**207**	Sn	**Sn**	**01 39 47.5**	**-1.3**
	1.5nm,0.3s,baz=90,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**43.50**	**266**	P	**P**	**01 43 57.5**	**+0.7**
	0.2nm,0.3s,baz=111,slow=8.3,SNR=2.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.47**	**272**	P	**P**	**01 44 06.3**	**+1.8**
	0.7nm,0.3s,baz=111,slow=8.1,SNR=18						
	0.7nm,0.3s						
H03S2	**Juan Fernandez**	**80.28**	**123**	T	T	03 15 46.9	
	baz=242,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**80.29**	**123**	T	T	03 15 48.0	
	baz=242,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.29**	**123**	T	T	03 15 47.2	
	baz=242,slow=74,SNR=16						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	**PKPdf**	**01 55 29.2**	**-0.2**
	1.5nm,0.6s,baz=45,slow=4.7,SNR=12						
HFS	**Hagfors**	**149.09**	**349**	PKPbc	**PKPbc**	**01 55 40.5**	**+0.1**
	1.2nm,0.9s,baz=34,slow=3.1,SNR=5.0						

*TAP **07** 01:38:09.3, 23.70N×121.58E, h5km, ML3.5, B*
ISC 07 01:38:09.3±0.9, **23.68N**±0.01×**121.62E**±0.02, **h7**km±6km, **n115, σ0.94/183, 18C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.07**	**292**	⇓*i*P	**Pg**	**01 38 11.0**	**-0.2**
TEGC				S	**Sg**	**01 38 12.4**	**-0.1**
SHUL	**Shoufeng**	**0.12**	**335**	⇓P	**Pg**	**01 38 12.2**	**+0.3**
SHUL				*e*S	**Sg**	**01 38 14.3**	**+0.7**
EGFH	**Guangfu**	**0.17**	**266**	P	**Pg**	**01 38 12.9**	**+0.1**
EGFH				*e*S	**Sg**	**01 38 16.3**	**+1.1**
TEYL	**Yanliau Villag**	**0.19**	**355**	*e*P	**Pg**	**01 38 14.8**	**+1.7**
ESL	**Shilin**	**0.21**	**308**	⇑*i*P	**Pg**	**01 38 13.4**	**-0.2**
ESL				S	**Sg**	**01 38 16.5**	**0.0**
WARBT	**Fenglin Townsh**	**0.21**	**280**	⇑*i*P	**Pg**	**01 38 13.3**	**-0.3**
WARBT				*e*S	**Sg**	**01 38 16.6**	**+0.1**
HGSD	**Ruisui**	**0.26**	**223**	⇑*i*P	**Pg**	**01 38 15.2**	**+0.8**
HGSD				*i* S	**Sb**	**01 38 20.1**	**-0.9**
HWA	**Hwalien**	**0.29**	**358**	*e*P	**Pg**	**01 38 16.2**	**+1.1**
HWA				*e*S	**Sb**	**01 38 21.9**	**-0.2**
ETM	**Tongmen**	**0.30**	**338**	*e*P	**Pg**	**01 38 15.5**	**+0.2**
ETM				*i* S	**Sg**	**01 38 20.2**	**+0.8**
EHYH	**Wanrong**	**0.31**	**233**	*e*P	**Pg**	**01 38 16.1**	**+0.7**
EHYH				S	**Sb**	**01 38 21.9**	**-0.6**
EHY	**Hungye**	**0.32**	**237**	⇑*i*P	**Pg**	**01 38 15.8**	**+0.2**
EHY				*e*S	**Sg**	**01 38 21.5**	**+1.7**
ECBN	**Changbin**	**0.39**	**203**	*e*P	**Pg**	**01 38 17.8**	**+0.8**
ECBN				*i* S	**Sb**	**01 38 25.4**	**+0.5**
TWD	**Chiawan**	**0.40**	**357**	*e*P	**Pg**	**01 38 17.8**	**+0.7**
TWD				*e*S	**Sb**	**01 38 24.7**	**-0.3**
YULB	**Yu-li**	**0.41**	**226**	P	**Pg**	**01 38 18.2**	**+0.9**
YULB	**Yu-li**	**0.41**	**226**	⇑*i*P	**Pg**	**01 38 17.9**	**+0.6**
YULB				*e*S	**Sb**	**01 38 24.3**	**-1.1**
EYUL	**Yuli**	**0.43**	**219**	*e*P	**Pb**	**01 38 19.3**	**0.0**
TWF1	**Yuli**	**0.44**	**222**	⇑*i*P	**Pg**	**01 38 18.8**	**+0.9**
TWF1				*e*S	**Sb**	**01 38 26.2**	**-0.1**
VWDT	**VWDT**	**0.44**	**280**	⇑*i*P	**Pg**	**01 38 18.1**	**+0.2**
VWDT				*e*S	**Sg**	**01 38 23.9**	**+0.3**
ETL	**Fush Village**	**0.48**	**1**	*e*P	**Pg**	**01 38 19.3**	**+0.8**
OWD	**Renai**	**0.49**	**304**	*i* P	**Pg**	**01 38 18.8**	**0.0**
OWD				*i* S	**Sg**	**01 38 25.5**	**+0.3**
NACB	**Ninganchiao**	**0.49**	**358**	P	**Pg**	**01 38 19.2**	**+0.3**
NACB	**Ninganchiao**	**0.49**	**358**	⇑*i*P	**Pg**	**01 38 19.1**	**+0.2**
NACB				*e*S	**Sg**	**01 38 26.0**	**+0.7**
CHKH	**Chenggong**	**0.53**	**203**	*e*P	**Pg**	**01 38 19.9**	**+0.3**
CHKH				*e*S	**Sb**	**01 38 29.0**	**+0.2**
ETLH	**Xiulin Townshi**	**0.54**	**347**	*e*P	**Pg**	**01 38 20.3**	**+0.5**
WUSB	**Renai**	**0.55**	**304**	⇑*i*P	**Pg**	**01 38 20.3**	**+0.2**
WUSB				*i* S	**Sg**	**01 38 28.0**	**+0.7**
WHF	**Hehuan Shan**	**0.56**	**325**	⇑*i*P	**Pg**	**01 38 20.2**	**-0.1**
WHF				*e*S	**Sg**	**01 38 28.2**	**+0.5**
FULB	**Fuli**	**0.56**	**212**	*e*P	**Pb**	**01 38 22.1**	**+0.5**
FULB				*e*S	**Sn**	**01 38 31.9**	**-1.6**
SSLB	**Suanglung**	**0.62**	**280**	P	**Pg**	**01 38 21.2**	**0.0**
SSLB	**Suanglung**	**0.62**	**280**	⇑*i*P	**Pg**	**01 38 21.2**	**0.0**
SSLB				S	**Sg**	**01 38 30.1**	**+0.8**
CHKT	**Chengkung**	**0.62**	**202**	*e*P	**Pg**	**01 38 22.1**	**+0.8**
CHKT				*i* S	**Sb**	**01 38 32.0**	**+0.5**
EHD	**Haiduan**	**0.65**	**215**	*e*P	**Pg**	**01 38 22.1**	**+0.3**
EHD				*e*S	**Sn**	**01 38 33.9**	**-1.7**
EAHA	**Aohua**	**0.66**	**10**	*e*P	**Pg**	**01 38 22.3**	**+0.3**
EAHA				*e*S	**Sb**	**01 38 33.2**	**+0.7**
FUSS	**Fushou**	**0.66**	**329**	*e*P	**Pg**	**01 38 22.4**	**+0.3**
FUSS				*e*S	**Sg**	**01 38 31.6**	**+0.9**
SMLT	**Sun Moon Lake**	**0.69**	**287**	*i* P	**Pg**	**01 38 22.7**	**+0.1**
SMLT				*e*S	**Sb**	**01 38 32.4**	**-1.0**
ECS	**Chishang**	**0.69**	**212**	*e*P	**Pn**	**01 38 24.4**	**-1.2**
TWT	**Tachien**	**0.70**	**325**	*e*P	**Pg**	**01 38 23.1**	**+0.3**
TWT				*e*S	**Sg**	**01 38 32.6**	**+0.7**
WHYT	**Xinyi Township**	**0.70**	**271**	P	**Pg**	**01 38 23.3**	**+0.5**
WHYT				*i* S	**Sb**	**01 38 33.0**	**-0.8**
TDCB	**Techi**	**0.71**	**324**	*e*P	**Pg**	**01 38 22.9**	**-0.1**
TDCB				*e*S	**Sg**	**01 38 32.5**	**+0.3**
TYC	**Yuchr**	**0.73**	**288**	*e*P	**Pg**	**01 38 23.4**	**0.0**
ELDTW	**Lidau**	**0.74**	**228**	⇑*i*P	**Pg**	**01 38 23.2**	**-0.3**
ELDTW				*i* S	**Sb**	**01 38 34.2**	**-0.7**
WCS	**Beigang Elemen**	**0.74**	**300**	*i* P	**Pg**	**01 38 24.1**	**+0.4**
WCS				*e*S	**Sg**	**01 38 33.5**	**+0.1**
ENA	**Nanau**	**0.75**	**9**	*e*P	**Pg**	**01 38 24.3**	**+0.4**
EDH	**Donghe**	**0.76**	**202**	*e*P	**Pg**	**01 38 24.1**	**+0.1**
EDH				S	**Sb**	**01 38 36.1**	**+0.6**
ALS	**Alishan**	**0.76**	**257**	⇑*i*P	**Pg**	**01 38 24.6**	**+0.5**
ALS				*e*S	**Sb**	**01 38 35.8**	**0.0**
NNSB	**Datong**	**0.77**	**344**	⇑*i*P	**Pg**	**01 38 24.5**	**+0.2**
NNSB				*e*S	**Sb**	**01 38 35.4**	**-0.6**
WJS	**Zhushan**	**0.83**	**280**	*e*P	**Pn**	**01 38 26.9**	**-0.5**
WJS				*e*S	**Sg**	**01 38 37.4**	**+1.4**
WHP	**Taichung City**	**0.85**	**314**	*e*P	**Pb**	**01 38 26.3**	**-0.2**
WHP				*e*S	**Sb**	**01 38 37.0**	**-1.3**
LATG	**Datong**	**0.85**	**355**	*e*P	**Pb**	**01 38 25.9**	**-0.7**
LATG				*e*S	**Sg**	**01 38 38.3**	**+1.3**
CHN5	**Tsauling**	**0.86**	**265**	*i* P	**Pg**	**01 38 26.9**	**+1.0**
CHN5				*e*S	**Sg**	**01 38 38.5**	**+1.3**
WNT	**Mingjian**	**0.88**	**283**	*e*P	**Pn**	**01 38 27.5**	**-0.6**
WNT				*e*S	**Sn**	**01 38 39.8**	**-1.3**
LONT	**Longtian**	**0.89**	**210**	*e*P	**Pb**	**01 38 25.9**	**-1.2**
STYH	**Taoyuan**	**0.92**	**237**	*e*P	**Pb**	**01 38 26.9**	**-0.8**
EOS2	**EOS2**	**0.93**	**37**	*e*P	**Pb**	**01 38 26.7**	**-1.0**
TWC	**Suao**	**0.95**	**13**	*e*P	**Pb**	**01 38 28.1**	**0.0**
TWC				*e*S	**Sb**	**01 38 40.3**	**-0.6**
ENTT	**Nioudou**	**0.96**	**357**	*e*P	**Pg**	**01 38 28.4**	**+0.7**
ENTT				*e*S	**Sn**	**01 38 41.9**	**-1.3**
WCKO	**Fanlu**	**0.96**	**256**	*e*P	**Pn**	**01 38 29.1**	**-0.2**
WCKO				*e*S	**Sn**	**01 38 42.0**	**-1.2**
WGK	**Gukeng**	**0.97**	**271**	*e*P	**Pb**	**01 38 28.1**	**-0.3**
TCU	**Taichung**	**0.98**	**299**	*e*P	**Pn**	**01 38 29.2**	**-0.3**
TPUB	**Ta-pu**	**0.98**	**247**	P	**Pn**	**01 38 29.0**	**-0.6**
TPUB	**Ta-pu**	**0.98**	**247**	⇑P	**Pg**	**01 38 28.7**	**+0.5**
TPUB				*e*S	**Sn**	**01 38 43.0**	**-0.7**
WDL	**Douliou City**	**0.99**	**272**	*e*P	**Pn**	**01 38 29.9**	**+0.3**
WDL				*e*S	**Sn**	**01 38 44.8**	**+0.9**
WDLH	**Douliu**	**0.99**	**271**	*e*P	**Pn**	**01 38 29.2**	**-0.4**
WDLH				*e*S	**Sn**	**01 38 43.8**	**-0.1**
TWGBT	**Beinan**	**0.99**	**210**	P	**Pb**	**01 38 26.9**	**-1.9**
TWGBT	**Beinan**	**0.99**	**210**	*e*P	**Pb**	**01 38 26.6**	**-2.3**
TWG	**Pinlang**	**0.99**	**210**	*e*P	**Pb**	**01 38 27.4**	**-1.5**
CHN4	**Tsaushan**	**0.99**	**251**	⇑*i*P	**Pg**	**01 38 29.1**	**+0.7**
CHN4				*e*S	**Sn**	**01 38 43.5**	**-0.5**
YHNB	**Yeheng**	**1.01**	**347**	P	**Pb**	**01 38 29.2**	**0.0**
YHNB	**Yeheng**	**1.01**	**347**	*e*P	**Pb**	**01 38 28.9**	**-0.4**
YHNB				*e*S	**Sb**	**01 38 41.6**	**-1.1**
LDUT	**Ludao**	**1.01**	**188**	*e*P	**Pb**	**01 38 28.5**	**-0.7**
TWQ1	**Liyutan**	**1.02**	**311**	*e*P	**Pn**	**01 38 29.8**	**-0.3**
WTP	**Ta-pu**	**1.02**	**245**	⇑*i*P	**Pg**	**01 38 29.4**	**+0.5**
WTP				S	**Sn**	**01 38 43.4**	**-1.3**
NSK	**Sanguang**	**1.02**	**347**	⇑P	**Pb**	**01 38 29.2**	**-0.2**
NSK				*e*S	**Sg**	**01 38 43.1**	**+1.0**
TTN	**Taitung**	**1.02**	**205**	*e*P	**Pb**	**01 38 29.1**	**-0.2**
WCHH	**Zhanghua**	**1.05**	**292**	*e*P	**Pn**	**01 38 29.9**	**-0.6**
NFF	**Wufeng Townshi**	**1.05**	**334**	*e*P	**Pn**	**01 38 30.0**	**-0.6**
NFF				*e*S	**Sg**	**01 38 43.6**	**+0.4**
NSY	**Sanyi**	**1.07**	**313**	*e*P	**Pg**	**01 38 31.5**	**+1.6**
NSY				S	**Sn**	**01 38 46.3**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.07**	**359**	*e*P	**Pb**	**01 38 30.1**	**-0.2**
FUSB				*e*S	**Sg**	**01 38 44.7**	**+0.7**
NWLT	**Wulai**	**1.10**	**355**	*e*P	**Pb**	**01 38 30.4**	**-0.3**
NSTT	**Nanjuang**	**1.10**	**329**	*e*P	**Pg**	**01 38 31.6**	**+1.2**
NSTT				S	**Sn**	**01 38 45.5**	**-1.2**
LIOB	**Emei**	**1.11**	**330**	*e*P	**Pg**	**01 38 31.4**	**+0.8**
CHY	**Chiayi**	**1.11**	**261**	*e*P	**Pg**	**01 38 31.6**	**+0.9**
CHY				*e*S	**Sn**	**01 38 46.6**	**-0.2**
WDJ	**Dajia District**	**1.11**	**307**	*e*P	**Pg**	**01 38 31.4**	**+0.7**
TWK	**Hsinying**	**1.11**	**249**	*e*P	**Pg**	**01 38 31.2**	**+0.4**
TWK				*e*S	**Sn**	**01 38 48.3**	**+1.2**
SGST	**Jiashian**	**1.12**	**238**	P	**Pb**	**01 38 30.4**	**-0.6**
SGST				S	**Sg**	**01 38 47.3**	**+1.9**
SNST	**Tainan City**	**1.12**	**246**	*e*P	**Pg**	**01 38 31.3**	**+0.3**
SNST				S	**Sg**	**01 38 48.2**	**+2.6**
WTK	**Tuku**	**1.12**	**271**	*e*P	**Pg**	**01 38 32.6**	**+1.6**
KSHI	**Guanxi Townshi**	**1.16**	**340**	*e*P	**Pg**	**01 38 32.2**	**+0.5**
EGS		**1.19**	**14**	*e*P	**Pb**	**01 38 32.6**	**+0.2**
ECL	**Taimali**	**1.24**	**210**	*e*P	**Pn**	**01 38 30.9**	**-2.2**
ICHU	**Yijhu**	**1.27**	**256**	*e*P	**Pg**	**01 38 34.1**	**+0.4**
ICHU				*e*S	**Sg**	**01 38 52.9**	**+2.7**
WSL	**Shuilin Townsh**	**1.28**	**263**	*e*P	**Pg**	**01 38 34.4**	**+0.5**
WSL				*e*S	**Sg**	**01 38 53.1**	**+2.5**
TATO	**Taipei**	**1.29**	**355**	P	**Pb**	**01 38 34.4**	**+0.4**
CHN3	**Shinhua**	**1.30**	**243**	*e*S	**Sg**	**01 38 55.5**	**+4.4**
SSD	**Sandimen**	**1.30**	**224**	*e*P	**Pb**	**01 38 34.2**	**+0.1**
SSD				*e*S	**Sg**	**01 38 53.1**	**+1.9**
TIPB	**Shuangxi**	**1.30**	**8**	*e*P	**Pg**	**01 38 34.7**	**+0.4**
TIPB				*e*S	**Sg**	**01 38 51.4**	**+0.2**
SCST	**Cishan**	**1.30**	**233**	*e*P	**Pb**	**01 38 34.8**	**+0.5**
TSMG	**Majia**	**1.32**	**223**	*e*P	**Pb**	**01 38 34.6**	**+0.2**
TSMG				*e*S	**Sg**	**01 38 52.1**	**+0.3**
SHHT	**Tainan City**	**1.34**	**241**	*e*P	**Pg**	**01 38 36.0**	**+1.0**
TWB1	**Santiao Chiao**	**1.36**	**14**	*e*P	**Pg**	**01 38 36.3**	**+0.7**
TWB1				*e*S	**Sg**	**01 38 54.8**	**+1.6**
TWM1	**Shoushan**	**1.39**	**232**	*e*P	**Pg**	**01 38 37.1**	**+1.1**
MASBT	**Mashibuluo**	**1.40**	**221**	*e*P	**Pb**	**01 38 36.1**	**+0.3**
MASBT				*e*S	**Sg**	**01 38 55.2**	**+1.0**
SXI1	**Grass Mountain**	**1.43**	**9**	*e*P	**Pb**	**01 38 36.1**	**-0.3**
YM01	**YM01**	**1.46**	**358**	*e*P	**Pb**	**01 38 36.8**	**-0.1**
YM01				*e*S	**Sb**	**01 38 55.9**	**+0.2**
EAST	**Anshuo**	**1.47**	**209**	*e*P	**Pn**	**01 38 34.4**	**-1.9**
ZUZH	**Zhuzihu**	**1.48**	**358**	*e*P	**Pb**	**01 38 36.7**	**-0.4**
YOJ	**Yonaguni jima**	**1.49**	**58**	P	**Pg**	**01 38 39.7**	**+1.7**
TAWH	**Dawu Township**	**1.49**	**207**	*e*P	**Pn**	**01 38 35.1**	**-1.5**
TSCK	**Chigu Township**	**1.50**	**250**	*e*P	**Pn**	**01 38 37.9**	**+0.4**
TSCK				S	**Sg**	**01 38 59.1**	**+1.5**
SCZT	**Fangliau**	**1.59**	**215**	*e*P	**Pg**	**01 38 39.8**	**-0.1**
SCZT				*e*S	**Sg**	**01 39 01.0**	**+0.4**
WDGT	**Dungji**	**1.84**	**257**	*e*P	**Pn**	**01 38 41.4**	**-0.1**
PHUB	**P'eng-hu**	**1.88**	**265**	*e*P	**Pn**	**01 38 41.6**	**-0.3**
PNG	**Penghu**	**1.89**	**267**	*e*P	**Pn**	**01 38 42.5**	**+0.4**
KNM	**Kinmen**	**3.00**	**285**	*e*P	**Pn**	**01 38 58.6**	**+1.3**
KNMB	**Chin-men Tao**	**3.05**	**285**	*e*P	**Pn**	**01 38 57.5**	**-0.5**
AXDP	**Jialang**	**3.54**	**291**	*e*P	**Pn**	**01 39 04.5**	**-0.3**

*GCG **07** 01:49:05.8±1.2, 14.62N×92.61W, h79km±8km, MD3.7, ML4.0*
*CATAC **07** 01:49:06.3±0.5, 15°N±3°×93°W±°, h56km±5km, M4.0/13, MLv4.0/13, Error ellipse: s-maj=8.7km s-min=4.1km az=38.2, confirmed*
*MEX **07** 01:49:07.5±0.9, 14.53N×92.66W, h66km±19km, MD4.2*
ISC 07 01:49:05.0±1.3, **14.59N**±0.05×**92.65W**±0.03, **h84**km±8km, **n44, σ1.86/70, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.49**	**49**	*e*P	**Pn**	**01 49 19.0**	**-0.1**
THIG				*e*S	**Sn**	**01 49 29.4**	**-0.1**
THIG		**0.49**	**49**	*i* P	**Pn**	**01 49 19.0**	**-0.1**
THIG				*i* S	**Sn**	**01 49 28.9**	**-0.6**
SMCA	**Catarina**	**0.62**	**64**	*i* P	**Pn**	**01 49 20.0**	**-0.2**
SMCA				*i* S	**Sn**	**01 49 30.8**	**-0.7**
SMCA				IAML		01 49 31.4	
	comp=E,6μm,0.1s						
PATR	**El Naranjo**	**0.66**	**37**	*e*P	**Pn**	**01 49 20.4**	**-0.5**
PATR				*e*S	**Sn**	**01 49 31.3**	**-1.4**
PAVE	**Pavencul**	**0.76**	**37**	*e*P	**Pn**	**01 49 21.6**	**-0.2**
PAVE				*e*S	**Sn**	**01 49 33.0**	**-0.8**
RTAL	**Retalhuleu**	**0.93**	**94**	*e*P	**Pn**	**01 49 23.6**	**+0.1**
RTAL				*e*S	**Sn**	**01 49 36.2**	**-1.0**
RTAL	**Retalhuleu**	**0.93**	**94**	P	**Pn**	**01 49 23.7**	**+0.2**
RTAL	**Retalhuleu**	**0.93**	**94**	S	**Sn**	**01 49 35.8**	**-1.5**
QUEO	**Labor Ovalle**	**1.14**	**75**	*i* P	**Pn**	**01 49 26.8**	**+0.6**
QUEO				*i* S	**Sn**	**01 49 43.3**	**+1.2**
SOKI	**Kika Raxquin**	**1.23**	**79**	*i* P	**Pn**	**01 49 28.5**	**+1.0**
SOKI				*i* S	**Sn**	**01 49 45.8**	**+1.5**
SOKI				IAML		01 49 51.0	
	comp=N,1μm,0.3s						
PCIG		**1.24**	**334**	*e*P	**Pn**	**01 49 28.1**	**+0.9**
PCIG				*e*S	**Sn**	**01 49 44.5**	**+0.6**
HUEH	**Huehuetenango**	**1.33**	**57**	*e*P	**Pn**	**01 49 29.3**	**+0.8**
HUEH				*e*S	**Sn**	**01 49 47.1**	**+0.9**
HUEH	**Huehuetenango**	**1.33**	**57**	*i* P	**Pn**	**01 49 29.1**	**+1.0**
HUEH				*i* S	**Sn**	**01 49 46.0**	**+1.8**
HUEH	**Huehuetenango**	**1.33**	**57**	P	**Pn**	**01 49 29.6**	**+1.0**
CCIG	**Comitan**	**1.76**	**16**	*i* P	**Pn**	**01 49 35.6**	**+1.6**
CCIG				*i* S	**Sn**	**01 49 57.2**	**+1.3**
CCIG				IAML		01 50 04.9	
	comp=N,568nm,0.6s						
CCIG	**Comitan**	**1.76**	**16**	P	**Pn**	**01 49 35.8**	**+1.8**
ESSG	**Sabana Grande**	**1.77**	**96**	*i* P	**Pn**	**01 49 34.3**	**+0.2**
ESSG				*i* S	**Sn**	**01 49 55.6**	**-0.6**
ESSG				IAML		01 49 55.9	
	comp=N,1μm,0.3s						
FG16	**Alotenango, Sa**	**2.10**	**98**	*i* P	Pn	01 49 34.5	-4.0
FG16				IAML		01 50 00.2	
	comp=N,6μm,0.2s						
TGIG		**2.23**	**348**	*i* P	**Pn**	**01 49 40.5**	**+0.4**
TGIG				*i* S	**Sn**	**01 50 06.2**	**-0.7**
TGIG				IAML		01 50 20.5	
	comp=E,350nm,0.4s						
NILT	**Santiago Nilte**	**2.73**	**316**	*e*P	**Pn**	**01 49 49.0**	**+2.2**
NILT				*e*S	**Sn**	**01 50 20.0**	**+1.0**
NUBE	**Las Nubes**	**2.87**	**103**	*i* P	**Pn**	**01 49 50.0**	**+1.2**
NUBE	**Las Nubes**	**2.87**	**103**	P	**Pn**	**01 49 50.1**	**+1.3**
NUBE	**Las Nubes**	**2.87**	**103**	S	**Sn**	**01 50 20.6**	**-1.9**
CEVE	**Cerro Verde**	**3.03**	**104**	P	**Pn**	**01 49 53.4**	**+2.3**
UXUV	**UXUV**	**3.07**	**332**	*e*P	**Pn**	**01 49 53.2**	**+1.7**
UXUV				*e*S	**Sn**	**01 50 26.8**	**-0.4**
MTO3	**Montecristo**	**3.19**	**93**	P	**Pn**	**01 49 53.6**	**+0.4**
JAYA	**Jayaque - finc**	**3.24**	**106**	P	**Pn**	**01 49 54.7**	**+1.9**
CMIG	**Matias Romero**	**3.29**	**319**	*e*P	**Pn**	**01 49 55.9**	**+1.5**
CMIG				*e*S	**Sn**	**01 50 32.7**	**+0.3**
PMON	**Piamonte**	**3.35**	**105**	P	**Pn**	**01 49 56.6**	**+1.3**
HUIG	**Huatulco**	**3.54**	**290**	*e*P	**Pn**	**01 49 58.9**	**+1.1**
HUIG				*e*S	**Sn**	**01 50 33.5**	**-5.1**
PETF	**Flores**	**3.54**	**49**	*e*P	**Pn**	**01 49 58.1**	**+0.3**
PETF				*e*S	**Sn**	**01 50 36.3**	**-2.3**
PETF	**Flores**	**3.54**	**49**	*i* P	**Pn**	**01 49 58.3**	**+0.5**
PETF				IAML		01 50 38.5	
	comp=E,329nm,0.4s						
PETF	**Flores**	**3.54**	**49**	P	**Pn**	**01 49 58.1**	**+0.3**
PEIG	**Puerto Escondi**	**4.56**	**288**	*e*P	**Pn**	**01 50 12.8**	**+1.2**
PEIG				*e*S	**Sn**	**01 50 58.6**	**-4.9**
SCIG	**Sabancuy**	**4.58**	**18**	*e*P	**Pn**	**01 50 12.4**	**+0.6**
SCIG				*e*S	**Sn**	**01 50 58.2**	**-5.6**
PMUV	**Sontecomapan**	**4.59**	**329**	*e*S	**Sn**	**01 51 01.2**	**-3.2**
VHO	**Vista Hermosa**	**4.64**	**303**	*e*P	Pn	01 50 19.2	+5.3
VHO				*e*S	**Sn**	**01 51 04.9**	**-0.8**
YOIG	**Yosondua**	**5.23**	**296**	*e*P	**Pn**	**01 50 24.6**	**+3.7**
YOIG				*e*S	**Sn**	**01 51 19.0**	**-1.1**
TOIG	**Toxpalan**	**5.49**	**310**	*e*P	**Pn**	**01 50 26.2**	**+1.8**
TOIG				*e*S	**Sn**	**01 51 25.4**	**-0.8**
PNIG	**Pinotepa**	**5.58**	**289**	*e*P	**Pn**	**01 50 27.4**	**+1.9**
PNIG				*e*S	**Sn**	**01 51 24.2**	**-4.1**
TXIG	**Tlaxiaco**	**5.59**	**299**	*e*P	**Pn**	**01 50 29.6**	**+3.6**
TXIG				*e*S	**Sn**	**01 51 29.1**	**+0.1**
JAUV	**Jalcomulco**	**6.19**	**321**	*e*P	**Pn**	**01 50 33.2**	**-0.8**
JAUV				*e*S	**Sn**	**01 51 39.8**	**-3.6**
CRIG	**Cruz Grande**	**6.60**	**290**	*e*P	**Pn**	**01 50 41.9**	**+2.5**
CXUV	**Coxquihui**	**7.29**	**320**	*e*P	**Pn**	**01 50 48.8**	**-0.1**
CXUV				*e*S	**Sn**	**01 52 10.4**	**+0.3**

*SDD **07** 01:59:14.7±1.6, 17.77N×68.88W, h15km±17km, MD3.1, ML2.6, MW3.4*
*RSPR **07** 01:59:52.0, 18.16N×67.06W, h96km±1km*
ISC 07 01:59:16.9±1.6, **18.1N**±0.2×**68.90W**±0.05, **h94**km, **n16, σ4.61/16, 4C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.84**	**327**	*i* P	**Pn**	**01 59 35.3**	**+0.2**
HATOM				⇑*e*Sg	**Sn**	**01 59 48.8**	**0.0**
HATOM				IAML		01 59 55.1	
	comp=N,123nm,0.2s						
BANI	**BANI**	**1.42**	**283**	*i* P	**Pn**	**01 59 39.8**	**-2.1**
BANI				IAML		02 00 00.1	
	comp=N,99nm,3.0s						
BANI				⇑*e*Sg	**Sn**	**02 00 00.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.71**	**92**	⇓*e*P	Pn	02 00 05.1	+20
CRPR	**Cabo Rojo, PR**	**1.71**	**92**	*e*S	**Sn**	**02 00 15.1**	**+8.0**
LSP	**Las Mesas**	**1.73**	**87**	⇑*e*P	Pn	02 00 05.2	+19
LSP	**Las Mesas**	**1.73**	**87**	*e*S	**Sn**	**02 00 15.2**	**+7.4**
MLPR	**Magueyes Islan**	**1.77**	**93**	⇓*e*P	Pn	02 00 05.2	+19
MLPR	**Magueyes Islan**	**1.77**	**93**	*e*S	**Sn**	**02 00 15.7**	**+7.0**
ABDR	**Alto Bandera**	**1.79**	**294**	*i* P	**Pn**	**01 59 45.6**	**-1.2**
ABDR				⇑*e*Sg	**Sn**	**02 00 14.0**	**+4.4**
ABDR				IAML		02 00 20.1	
	comp=N,71nm,0.6s						
AOPR	**Arecibo Observ**	**2.06**	**82**	⇓*e*P	Pn	02 00 05.8	+16
AOPR	**Arecibo Observ**	**2.06**	**82**	*e*S	**Sn**	**02 00 16.5**	**+1.2**
AOPR	**Arecibo Observ**	**2.06**	**82**	*i* P	**Pn**	**01 59 48.6**	**-1.4**
AOPR				*e*Sg	**Sn**	**02 00 16.8**	**+1.5**
AOPR				IAML		02 00 17.8	
	comp=N,24nm,2.8s						
UUPR	**Utuado, UPR, P**	**2.08**	**85**	*e*S	**Sn**	**02 00 17.0**	**+1.1**
GCPR	**Guaynabo City**	**2.69**	**85**	*e*S	**Sn**	**02 00 25.0**	**-5.2**
PDPR	**Patillas Dam,**	**2.74**	**91**	*e*S	**Sn**	**02 00 26.9**	**-4.5**
HUMP	**Col San Antoni**	**2.90**	**88**	*e*S	**Sn**	**02 00 30.1**	**-5.2**

*SOME **07** 02:58:54.7, 41.17N×83.45E, h10km*
*NNC **07** 02:58:55.0±2.3, 41.28N×83.61E, h5km±7km, mb3.6, mpv3.3, Error ellipse: s-maj=17.2km s-min=11.1km az=162.0*
ISC 07 02:58:54.8±2.9, **41.2N**±0.1×**83.40E**±0.08, **h10**km, **n17, σ2.74/27, 9C-1D, Southern

JAY LR LR 03 26 21.0
comp=Z,70nm,21.3s,baz=172,slow=31
COEN Coen 11.40 199 Pn **Pn 03 25 52.4 +0.3**
HNR Honiara 14.24 117 LR LR 03 32 12.2
comp=Z,234nm,18.3s,baz=300,slow=38
GUMO Guam 16.77 353 LR LR 03 33 35.4
comp=Z,161nm,18.2s,baz=210,slow=37
WB0 Warramunga Arr 20.63 216 P 03 27 47.6 -0.7
WB0 IAmb IAmb 03 27 50.5
comp=Z,49nm,1.5s
WR0 Warramunga Arr 20.70 215 P **P 03 27 48.8 -0.2**
WR0 IAmb IAmb 03 27 49.6
comp=Z,24nm,0.9s
WR8 Warramunga Arr 20.72 215 P 03 27 48.6 -0.6
WR8 IAmb IAmb 03 27 49.9
comp=Z,21nm,1.0s
WB2 Warramunga Arr 20.79 216 P **P 03 27 49.3 -0.7**
WB2 IAmb IAmb 03 27 55.2
comp=Z,35nm,1.1s
WRA Warramunga Arr 20.80 216 P 03 27 49.1 -1.0
WRA Warramunga Arr 20.80 216 P **P 03 27 49.7 -0.4**
comp=Z,13nm,0.9s,baz=39,slow=11,SNR=65
WRA LR LR 03 37 24.6
comp=Z,147nm,18.2s,baz=16,slow=42
comp=Z,13nm,0.9s
KNRA Kununurra 21.89 234 P 03 27 59.9 -2.0
KNRA IAmb IAmb 03 28 03.3
comp=Z,36nm,1.2s
DAV Davao City (W) 23.72 295 LR LR 03 37 27.8
comp=Z,107nm,18.3s,baz=334,slow=36
AS31 Alice Springs 24.03 211 P 03 28 22.5 -1.1
ASAR Alice Springs 24.04 211 P 03 28 23.7 +0.1
ASAR Alice Springs 24.04 211 P **P 03 28 23.9 +0.3**
comp=Z,4.8nm,0.8s,baz=38,slow=8.8,SNR=37
ASAR LR LR 03 38 07.5
comp=Z,294nm,18.3s,baz=51,slow=38
comp=Z,4.8nm,0.8s
FITZ Fitzroy Crossi 25.71 233 P P 03 28 38.2 -0.7
FITZ Fitzroy Crossi 25.71 233 LR LR 03 39 29.5
comp=Z,284nm,19.6s,baz=48,slow=38
STKA Stephens Creek 29.03 190 P P 03 29 12.9 +4.4
comp=Z,1.4nm,0.7s,baz=0.0,slow=8.1,SNR=4.2
STKA LR LR 03 41 03.0
comp=Z,129nm,18.7s,baz=21,slow=37
JOW Kunigami 34.90 330 LR LR 03 41 20.1
comp=Z,249nm,20.3s,baz=150,slow=31
JNU Nakatsue 39.19 338 LR LR 03 43 38.3
comp=Z,80nm,20.6s,baz=160,slow=31
MJAR Matsushiro Arr 40.34 349 P P 03 30 51.0 +5.1
comp=Z,0.8nm,0.6s,baz=183,slow=9.6,SNR=1.7
comp=Z,0.8nm,0.6s
NWAO Narrogin (SRO) 40.70 220 LR LR 03 47 40.1
comp=Z,164nm,18.1s,baz=40,slow=36
MNAI Manna 44.02 267 P P 03 31 13.6 -2.7
KSRS Korea Array 44.14 338 P P 03 31 22.2 +5.3
comp=Z,0.6nm,0.5s,baz=146,slow=9.1,SNR=5.1
comp=Z,0.6nm,0.5s
URZ Urewera 44.43 146 LR LR 03 48 39.2
comp=Z,117nm,19.1s,baz=316,slow=34
CMAR Chiang Mai Arr 52.01 296 P P 03 32 20.0 +2.0
comp=Z,0.6nm,0.3s,baz=106,slow=8.4,SNR=1.7
CMAR LR LR 03 56 10.6
comp=Z,13nm,18.0s,baz=165,slow=38
comp=Z,0.6nm,0.3s
PETK Petropavlovsk- 56.77 8 LR LR 03 52 45.1
comp=Z,22nm,21.6s,baz=189,slow=31
SONM Songjino Array 61.97 330 P P 03 33 33.5 +5.3
comp=Z,0.8nm,0.7s,baz=134,slow=4.2,SNR=5.3
SONM LR LR 03 58 59.9
comp=Z,51nm,21.6s,baz=136,slow=35
comp=Z,0.8nm,0.7s
CASY Casey 68.00 195 P P 03 34 04.0 -3.0
CASY IAmb IAmb 03 34 15.3
comp=Z,12nm,1.1s
P08K Saint George I 69.16 24 P P 03 34 15.1 +0.8
GAMB Gambell 73.46 18 P P 03 34 40.0 -0.1
GAMB IAmb IAmb 03 34 51.2
comp=Z,11nm,0.9s
VNDA Vanda 74.73 177 LR LR 04 08 47.7
comp=Z,23nm,18.8s,baz=1.5,slow=37
MKAR Makanchi Array 75.36 320 P P 03 34 50.4 -1.2
MKAR Makanchi Array 75.36 320 P **P 03 34 55.0 +3.4**
comp=Z,1.6nm,1.2s,baz=93,slow=7.7,SNR=3.9
MKAR LR LR 04 07 31.1
comp=Z,41nm,20.0s,baz=12,slow=35
comp=Z,1.6nm,1.2s
ZALV Zalesovo Beam 76.65 327 P P 03 35 02.6 +3.8
comp=Z,0.3nm,0.3s,baz=71,slow=5.2,SNR=1.5
ZALV LR LR 04 09 57.6
comp=Z,23nm,18.6s,baz=118,slow=37
comp=Z,0.3nm,0.3s
G16K Koyuk River 77.54 19 P P 03 35 05.0 +1.5
G16K IAmb IAmb 03 35 12.4
comp=Z,5.4nm,1.1s
KURBB Kurchatov Arra 79.00 323 P P 03 35 15.6 +3.6
comp=Z,0.7nm,0.9s,baz=104,slow=4.6,SNR=5.1
comp=Z,0.7nm,0.9s
AAK Ala-Archa 79.40 314 LR LR 04 10 01.0
comp=Z,50nm,21.8s,baz=109,slow=35
BVAR Borovoye Array 84.52 324 P P 03 35 43.1 +2.1
comp=Z,0.3nm,0.4s,baz=108,slow=9.4,SNR=4.0
comp=Z,0.3nm,0.4s
MAW Mawson 84.88 203 P P 03 35 43.8 +1.3
comp=Z,1.9nm,0.6s,baz=17,slow=14,SNR=6.4
comp=Z,1.9nm,0.6s
QSPA South Pole Qui 86.80 180 P P 03 35 49.1 -3.2
QSPA IAmb IAmb 03 36 06.6
comp=Z,1.5nm,1.1s
F31M Tsiigehtchic 88.75 22 P P 03 36 01.0 -0.3
ABKAR Akbulak array 90.48 319 P P 03 36 08.2 -1.6
AKTO Aktyubinsk 91.79 320 LR LR 04 17 46.1
comp=Z,33nm,20.1s,baz=330,slow=36
ARTI Arti 91.86 326 LR LR 04 16 31.8
comp=Z,28nm,21.3s,baz=102,slow=35
KIRV Kirov 96.67 328 LR LR 04 20 29.4
comp=Z,68nm,21.0s,baz=81,slow=36
TORD Torodi Ar. Bea 144.35 288 PKP **PKPdf 03 42 46.2 +1.0**
comp=Z,1.8nm,1.0s,baz=44,slow=5.5,SNR=5.2

*IDC **07** 03:36:10.8±0.9, 16°.99S×174°.14W, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=39.8km s-min=21.1km az=139.0*

ISC 07 03:36:31.5±0.9, 17°.1S±0°.2×174°.3W±0°.2, h172km, n17, σ0s91/11, mb3.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**39.97**	**331**	T	T	04 26 18.7	
	baz=150,slow=76,SNR=280						
H11S3	**WAKE ISLAND Hy**	**39.98**	**331**	T	T	04 26 19.6	
	baz=150,slow=76,SNR=134						
H11S1	**WAKE ISLAND Hy**	**39.99**	**331**	T	T	04 26 20.0	
	baz=150,slow=76,SNR=191						
H11N3	**WAKE ISLAND Hy**	**40.95**	**332**	T	T	04 27 33.2	
	baz=151,slow=76,SNR=862						
H11N1	**WAKE ISLAND Hy**	**40.95**	**332**	T	T	04 27 31.8	
	baz=151,slow=76,SNR=1010						
H11N2	**WAKE ISLAND Hy**	**40.97**	**332**	T	T	04 27 32.9	
	baz=151,slow=76,SNR=1402						
STKA	**Stephens Creek**	**42.46**	**241**	P	**P**	**03 44 09.4**	**-0.3**
	3.6nm,0.9s,baz=109,slow=4.8,SNR=3.9						
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**48.63**	**258**	P	**P**	**03 44 57.4**	**-1.0**
	1.1nm,1.0s,baz=96,slow=6.5,SNR=4.9						
	1.1nm,1.0s						
ASAR	**Alice Springs**	**48.78**	**253**	P	**P**	**03 44 59.3**	**-0.2**
	4.1nm,0.7s,baz=86,slow=8.6,SNR=37						
	4.1nm,0.7s						
QSPA	**South Pole Qui**	**72.98**	**180**	P	**P**	**03 47 43.1**	**+1.0**
	4.7nm,1.1s,baz=25,slow=2.4,SNR=6.0						
	4.7nm,1.1s						
PETK	**Petropavlovsk-**	**73.95**	**343**	P	**P**	**03 47 49.4**	**+1.7**
	1.0nm,0.3s,baz=154,slow=6.2,SNR=2.3						
	1.0nm,0.3s						
NVAR	**Mina Array Bea**	**76.15**	**42**	P	**P**	**03 48 00.3**	**-0.6**
	0.3nm,0.7s,baz=213,slow=7.9,SNR=3.5						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**82.27**	**56**	P	**P**	**03 48 33.9**	**-0.2**
	0.4nm,0.8s,baz=298,slow=2.5,SNR=2.9						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**84.09**	**42**	P	**P**	**03 48 42.2**	**-1.1**
	0.2nm,0.3s,baz=222,slow=2.0,SNR=1.9						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**84.25**	**11**	P	**P**	**03 48 43.4**	**0.0**
	0.3nm,0.5s,baz=201,slow=5.2,SNR=6.3						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**146.86**	**319**	PKPbc	**PKPbc**	**03 55 53.6**	**-0.4**
	0.3nm,0.6s,baz=153,slow=8.3,SNR=4.8						
GERES	**GERESS Array B**	**147.64**	**350**	PKPbc	**PKPbc**	**03 55 55.9**	**+0.1**
	0.5nm,0.6s,baz=20,slow=6.6,SNR=4.1						

*WEL **07** 03:42:40.0±0.6, 33°.5S±5°.×17°.9W±1°.2, h257km±10km, M4.3/25, mB4.9/22, ML5.0/9, MLv4.9/25, Mw(mB)4.2/22, Error ellipse: s-maj=16.5km s-min=3.8km az=109.3, confirmed*

*IDC **07** 03:42:39.0±1.0, 32°.21S×179°.76E, h263km±10km, mb3.4/6, mbtmp4.2/8, Error ellipse: s-maj=18.7km s-min=11.9km az=112.0*

ISC 07 03:42:39.5±0.7, 32°.65S±0°.07×179°.2W±0°.1, h250km, n67, σ2s32/76, mb3.7/8, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.56**	**18**	P	**Pn**	**03 43 37.6**	**-0.6**
GLKZ				P	**S**	**03 44 25.1**	**+0.4**
RAO	**Raoul Island**	**3.57**	**18**	P	**Pn**	**03 43 38.3**	**0.0**
	168nm,0.3s,baz=310,slow=23,SNR=1.7						
RAO				S	**S**	**03 44 26.7**	**+1.7**
	258nm,0.3s,baz=107,slow=19,SNR=2.7						
RIZ	**Raoul Island**	**3.57**	**18**	P	**Pn**	**03 43 37.2**	**-1.1**
MXZ	**Matakaoa Point**	**5.30**	**202**	P	**Pn**	**03 44 00.1**	**+1.2**
MXZ				S	**S**	**03 45 04.0**	**+1.6**
WMGZ	**Waiomatatini S**	**5.51**	**200**	P	**Pn**	**03 44 04.8**	**+3.4**
PKGZ	**Pakihiroa**	**5.66**	**202**	P	**Pn**	**03 44 05.0**	**+1.8**
HAZ	**Te Kaha**	**5.66**	**205**	P	**Pn**	**03 44 05.8**	**+2.6**
HAZ				S	**S**	**03 45 11.4**	**+1.2**
GRZ	**Great Barrier**	**5.68**	**229**	P	**Pn**	**03 44 05.3**	**+1.7**
PUZ	**Puketiti**	**5.79**	**200**	P	**Pn**	**03 44 03.7**	**-1.2**
PUZ				S	**S**	**03 45 15.6**	**+2.3**
RUGZ	**Raukumara Rang**	**5.88**	**205**	P	**Pn**	**03 44 08.2**	**+2.0**
RUGZ				S	**S**	**03 45 14.5**	**-1.0**
TWGZ	**Tauwhareparae**	**5.97**	**202**	P	**Pn**	**03 44 08.7**	**+1.5**
TWGZ				S	**S**	**03 45 20.5**	**+3.2**
CNGZ	**Carnagh Statio**	**6.19**	**199**	P	**Pn**	**03 44 11.3**	**+1.5**
OPRZ	**Ohinepanea**	**6.23**	**213**	P	**Pn**	**03 44 15.1**	**+4.7**
TKGZ	**Te Karaka**	**6.25**	**202**	P	**Pn**	**03 44 11.4**	**+0.7**
TKGZ				S	**S**	**03 45 25.4**	**+1.7**
WCZ	**Waipu Caves**	**6.26**	**237**	P	**Pn**	**03 44 11.5**	**+0.7**
MWZ	**Matawai**	**6.26**	**204**	P	**Pn**	**03 44 13.2**	**+2.3**
MWZ				S	**S**	**03 45 25.6**	**+1.6**
MARZ	**Manawahe**	**6.29**	**211**	P	Pn	03 44 16.1	+4.8
URZ	**Urewera**	**6.35**	**207**	P	**Pn**	**03 44 11.3**	**-0.5**
	29nm,0.3s,baz=294,slow=20,SNR=71						
URZ				S	**S**	**03 45 26.6**	**+0.7**
	56nm,0.3s,baz=106,slow=20,SNR=21						
URZ	**Urewera**	**6.35**	**207**	P	**Pn**	**03 44 13.8**	**+1.9**
URZ				S	**S**	**03 45 25.4**	**-0.5**
MBAZ	**Motutapu North**	**6.36**	**228**	P	**Pn**	**03 44 14.9**	**+3.0**
EDRZ	**Edgecumbe**	**6.37**	**210**	P	**Pn**	**03 44 16.9**	**+4.7**
MKAZ	**Moumakai**	**6.41**	**225**	P	**Pn**	**03 44 14.0**	**+1.4**
RAGZ	**Rawiri**	**6.45**	**204**	P	**Pn**	**03 44 13.7**	**+0.5**
RAGZ				S	**S**	**03 45 29.6**	**+1.3**
ETAZ	**East Tamaki Re**	**6.46**	**227**	P	**Pn**	**03 44 15.2**	**+2.0**
OUZ	**Omahuta**	**6.51**	**245**	P	Pn	03 44 21.2	+7.4
RIGZ	**Rimuhau**	**6.52**	**201**	P	**Pn**	**03 44 16.3**	**+2.2**
RIGZ				S	**S**	**03 45 31.2**	**+1.3**
MUGZ	**Murupara**	**6.67**	**208**	P	**Pn**	**03 44 16.9**	**+1.0**
PRGZ	**Paritu Road**	**6.69**	**200**	P	**Pn**	**03 44 16.1**	**-0.1**
RTZ	**Ruatahuna**	**6.71**	**206**	P	**Pn**	**03 44 19.3**	**+2.9**
SNGZ	**Shannon Statio**	**6.73**	**204**	P	**Pn**	**03 44 18.9**	**+2.2**
SNGZ				S	**S**	**03 45 36.0**	**+1.4**
KNZ	**Kokohu**	**6.84**	**201**	P	**Pn**	**03 44 19.7**	**+1.7**
MHGZ	**Mahia Peninsul**	**6.89**	**199**	P	**Pn**	**03 44 20.0**	**+1.3**
MHGZ				S	**S**	**03 45 36.2**	**-2.2**
TLZ	**Tolley Road**	**7.10**	**216**	P	**Pn**	**03 44 25.2**	**+3.9**
BKZ	**Black Stump Fm**	**7.38**	**207**	P	**Pn**	**03 44 24.0**	**-0.8**
BKZ				S	**S**	**03 45 47.0**	**-2.5**
HIZ	**Hauiti**	**7.59**	**218**	P	**Pn**	**03 44 29.1**	**+1.7**
NGZ	**Ngauruhoe**	**7.75**	**211**	P	**Pn**	**03 44 30.5**	**+0.8**
PXZ	**Pawanui**	**8.02**	**202**	P	**Pn**	**03 44 30.8**	**-2.0**
PXZ				S	**S**	**03 46 00.6**	**-3.6**
VRZ	**Vera Road**	**8.10**	**215**	P	**Pn**	**03 44 35.7**	**+1.7**
TSZ	**Takapari Road**	**8.35**	**206**	P	**Pn**	**03 44 37.8**	**+0.7**
TSZ				S	**S**	**03 46 04.8**	**-7.3**
WAZ	**Wanganui**	**8.50**	**212**	P	**Pn**	**03 44 39.3**	**+0.3**
NEZ	**North Egmont**	**8.55**	**218**	P	**Pn**	**03 44 42.6**	**+2.9**
MRZ	**Mangatainoka R**	**9.02**	**206**	P	**Pn**	**03 44 43.0**	**-2.5**
NNZ	**Nelson**	**10.40**	**213**	P	**Pn**	**03 45 00.1**	**-2.8**
NNZ				S	S	03 46 48.4	-11
QRZ	**Quartz Range**	**10.51**	**217**	P	Pn	03 45 00.6	-3.7
QRZ				S	S	03 46 52.6	-9.5
THZ	**Tophouse**	**11.05**	**212**	P	**Pn**	**03 45 08.3**	**-2.8**
THZ				S	S	03 47 04.6	-10
KHZ	**Kahutara**	**11.31**	**208**	P	**Pn**	**03 45 11.3**	**-3.1**
KHZ				S	S	03 47 07.6	-13
DSZ	**Denniston Nort**	**11.56**	**216**	P	**Pn**	**03 45 14.4**	**-3.1**
DSZ				S	S	03 47 15.3	-11
GVZ	**Greta Valley S**	**11.98**	**209**	P	**Pn**	**03 45 19.8**	**-2.8**
GVZ				S	S	03 47 24.5	-12
LTZ	**Lake Taylor**	**12.15**	**211**	P	**Pn**	**03 45 21.2**	**-3.6**
LTZ				S	S	03 47 28.5	-14
MQZ	**McQueen's Vall**	**12.75**	**208**	P	Pn	03 47 27.4	-4.8
MQZ				S	S	03 47 40.6	-13
RPZ	**Rata Peaks**	**13.43**	**212**	P	Pn	03 45 36.3	-4.2
	6.8nm,0.4s,baz=315,slow=1.6,SNR=9.9						
RPZ	**Rata Peaks**	**13.43**	**212**	P	Pn	03 45 36.5	-4.0
FOZ	**Fox Glacier**	**13.87**	**215**	P	Pn	03 45 40.9	-4.9
TMZ	**Timaru**	**13.98**	**210**	P	**Pn**	**03 45 44.1**	**-3.1**
ASAR	**Alice Springs**	**42.02**	**270**	P	P	03 49 58.4	-8.4
	1.1nm,0.7s,baz=109,slow=7.8,SNR=8.8						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**43.21**	**275**	P	P	03 50 07.6	-8.8
	0.9nm,0.4s,baz=114,slow=7.9,SNR=22						
	0.9nm,0.4s						
QSPA	**South Pole Qui**	**57.46**	**180**	P	**P**	**03 52 04.6**	**+2.3**
	4.6nm,0.7s,baz=55,slow=1.6,SNR=30						
	4.6nm,0.7s						
TROLL	**Troll, Antarti**	**75.62**	**181**	⇑P	**P**	**03 53 56.3**	**-0.4**
	comp=Z,75nm,1.0s						
SNAA	**Sanae**	**75.94**	**179**	⇑P	**P**	**03 53 58.2**	**-0.1**
	comp=Z,19nm,0.7s						
SNAA	**Sanae**	**75.94**	**179**	P	**P**	**03 53 58.4**	**0.0**
	comp=Z,1.4nm,0.9s,baz=234,slow=3.7,SNR=4.6						
	comp=Z,1.4nm,0.9s						
VNA3	**Neumayer Olymp**	**76.13**	**177**	⇑P	**P**	**03 53 59.5**	**+0.1**
	comp=Z,6.5nm,0.7s						
VNA1	**Neumayer--Stat**	**76.79**	**177**	⇑P	**P**	**03 54 03.4**	**+0.4**
	comp=Z,3.3nm,1.0s						
PLCA	**Paso Flores**	**81.72**	**133**	P	**P**	**03 54 33.2**	**+2.9**
	comp=Z,1.4nm,0.9s,baz=232,slow=6.2,SNR=2.0						
	comp=Z,1.4nm,0.9s						
NVAR	**Mina Array Bea**	**90.58**	**43**	P	**P**	**03 55 13.0**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=244,slow=8.0,SNR=2.1						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**146.87**	**338**	PKPbc	**PKPdf**	**04 01 45.6**	**-3.6**
	comp=Z,0.7nm,0.4s,baz=50,slow=4.8,SNR=12						
HFS	**Hagfors**		**151.22**	**347**	PKPbc	**PKPdf**	**04 01 57.7**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=116,slow=3.4,SNR=4.1						
AKASG	**Malin Array Be**	**152.40**	**319**	PKP	**PKPdf**	**04 01 54.4**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=90,slow=0.9,SNR=2.5						

*IDC **07** 04:02:12.6±1.0, 6°.13S×107°.29W, h0km, mb3.9/8, mbtmp3.9/8, MS4.2/38, Error ellipse: s-maj=42.7km s-min=20.0km az=63.0*

*NEIC **07** 04:02:14.9±1.2, 6°.3S±0°.1×107°.3W±0°.2, h10km±1km, mb4.6/148, Error ellipse: s-maj=27.5km s-min=20.4km az=252.0*

*GCMT **07** 04:02:15.9±0.2, 6°.21S±0°.01×107°.36W±0°.01, h12km, MW5.0/115, Moment Tensor Solution. s43,c54; s115,c173; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.48±.09; Mθθ1.14±.08; Mϕϕ -1.62±.09; Mrθ1.33±.25; Mθϕ3.19±.07; Mϕr0.75±.24; Best double couple: M03.81600×10^16 NP1:ϕs9.00000°, δ72.00000°, λ164.00000°. NP2:ϕs104.00000°, δ74.00000°, λ19.00000°. Principal axes: T 3.9140, Plg24.0000°, Azm327.0000°; N -0.1930, Plg66.0000°, Azm143.0000°; P -3.7180, Plg1.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 04:02:13.9±0.5, 6°.29S±0°.09×107°.30W±0°.08, h10km, n218, σ0s84/177, mb4.6/81, MS4.2/38, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**20.81**	**185**	LR	LR	04 12 55.7	
	comp=Z,601nm,19.1s,baz=40,slow=31						
JTS	**Las Juntas de**	**27.68**	**54**	LR	LR	04 16 20.9	
	comp=Z,2µm,18.4s,baz=207,slow=31						
ATAH	**Atahualpa**	**28.71**	**93**	LR	LR	04 16 57.5	
	comp=Z,429nm,18.5s,baz=268,slow=31						
ZAIG	**Zacatecas**	**29.25**	**9**		**P**	**04 08 16.4**	**-0.2**
LPIG	**La Paz**	**30.35**	**355**	LR	LR	04 17 25.1	
	comp=Z,542nm,20.4s,baz=182,slow=30						
RKT	**Rikitea**	**31.47**	**235**	eLR	LR	04 16 47.8	
	4µm,26.2s						
TAOE	**Nuku Hiva Isla**	**32.66**	**263**	eLR	LR	04 17 06.0	
	824nm,25.5s						
CZSB	**Cruzeiro do Su**	**34.36**	**94**		**P**	**04 09 02.0**	**+0.7**
CZSB	**Cruzeiro do Su**	**34.36**	**94**	eP	**P**	**04 09 02.8**	**+1.4**
TX31	**Lajitas Ar. Si**	**35.59**	**5**		**P**	**04 09 12.5**	**+0.6**
TXAR	**Lajitas Array**	**35.59**	**5**	P	**P**	**04 09 10.8**	**-1.1**
	1.1nm,0.9s,baz=178,slow=13,SNR=9.9						
TXAR				LR	LR	04 21 02.0	
	comp=Z,130nm,20.6s,baz=191,slow=32						
	1.1nm,0.9s						
DRIO	**Del Rio**	**36.08**	**10**		**P**	**04 09 15.3**	**-0.7**
DRIO				IAmb	IAmb	04 09 21.1	
	comp=Z,7.0nm,0.8s						
SAND	**Sanderson**	**36.38**	**8**		**P**	**04 09 19.1**	**+0.5**
SAND				IAmb	IAmb	04 09 24.3	
	comp=Z,9.7nm,0.8s						
ALPN	**Alpine**	**36.62**	**5**	P	**P**	**04 09 20.2**	**-0.6**
VHRN	**Van Horn**	**36.93**	**3**		**P**	**04 09 23.2**	**-0.2**
TBTG	**Tabatinga, AM**	**37.28**	**89**	P	**P**	**04 09 26.9**	**+0.4**
H03N2	**Juan Fernandez**	**37.71**	**140**	T	T	04 49 38.0	
	baz=312,slow=77,SNR=81						
H03N1	**Juan Fernandez**	**37.72**	**139**	T	T	04 49 37.7	
	baz=312,slow=77,SNR=83						
H03N3	**Juan Fernandez**	**37.73**	**140**	T	T	04 49 38.4	
	baz=312,slow=77,SNR=78						
BRDY	**Brady**	**38.20**	**12**		**P**	**04 09 34.1**	**+0.1**
SGCY	**Sterling City**	**38.45**	**8**	P	**P**	**04 09 34.6**	**-1.5**
SGCY				IAmb	IAmb	04 09 41.8	
	comp=Z,18nm,1.3s						
DUN6	**Lazy B Ranch**	**38.67**	**358**		**P**	**04 09 37.5**	**-0.5**
PB16	**IPOC Station P**	**38.72**	**111**	P	**P**	**04 09 39.3**	**0.0**
PB16				IAmb	IAmb	04 09 54.5	
	comp=Z,16nm,1.3s						
113A	**Mohawk Valley,**	**39.33**	**351**	P	**P**	**04 09 44.9**	**+1.5**
PB08	**IPOC Station P**	**39.48**	**114**	P	**P**	**04 09 45.1**	**-0.3**
PB08				IAmb	IAmb	04 09 47.8	
	comp=Z,12nm,1.0s						
SDV	**Santo Domingo**	**39.53**	**68**	LR	LR	04 24 27.5	
	comp=Z,326nm,21.1s,baz=248,slow=34						
LPAZ	**La Paz**	**39.60**	**108**		**P**	**04 09 47.0**	**+0.3**
LPAZ	**La Paz**	**39.60**	**108**	P	**P**	**04 09 47.4**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=298,slow=5.9,SNR=11						
	comp=Z,2.2nm,0.8s						
SN07	**Snyder 07**	**39.63**	**8**	P	**P**	**04 09 47.7**	**+1.7**
PLPT	**Palo Pinto**	**39.81**	**12**		**P**	**04 09 47.6**	**+0.1**
Y22A	**Socorro**	**40.01**	**0**		**P**	**04 09 50.2**	**+0.9**
SBM	**South Baldy**	**40.05**	**0**	P	**P**	**04 09 50.7**	**+0.8**
BNM	**Barren Site**	**40.23**	**1**	P	**P**	**04 09 51.9**	**+0.8**
TREL	**Terrell**	**40.24**	**15**	P	**P**	**04 09 51.9**	**+0.9**
TREL				IAmb	IAmb	04 09 56.5	
	comp=Z,12nm,1.0s						
MSTX	**Muleshoe**	**40.27**	**6**		**P**	**04 09 53.0**	**+1.6**
MSTX				IAmb	IAmb	04 10 08.7	
	comp=Z,15nm,1.5s						
PFO	**Pinyon Flats O**	**40.62**	**348**	LR	LR	04 22 32.6	
	comp=Z,441nm,21.0s,baz=165,slow=30						
IRM	**Iron Mountain**	**40.91**	**350**	P	**P**	**04 09 58.0**	**+1.4**
ANMO	**Albuquerque**	**41.02**	**1**	LR	LR	04 24 14.1	
	comp=Z,416nm,19.0s,baz=276,slow=32						
WMOK	**Wichita Mounta**	**41.59**	**11**	P	**P**	**04 10 02.1**	**-0.1**
SMWD	**Samnorwood**	**41.71**	**9**		**P**	**04 10 03.2**	**+0.1**
SMWD				IAmb	IAmb	04 10 11.1	
	comp=Z,8.5nm,1.0s						
BAUV	**El Baul**	**41.95**	**69**		**P**	**04 10 04.6**	**-0.8**
TEFE	**Tefe**	**42.58**	**88**	eP	**P**	**04 10 10.4**	**-0.2**
MIAR	**Mount Ida**	**42.63**	**17**	P	**P**	**04 10 10.0**	**-0.6**
PPT	**Papeete**	**42.76**	**251**	LR	LR	04 23 46.4	
	comp=Z,342nm,19.6s,baz=94,slow=30						
PPT2	**Papeete2**	**42.76**	**251**	eP	**P**	**04 10 13.5**	**+1.4**
	comp=Z,33nm,21.5s						
PPT2				eS	**S**	**04 16 32.0**	**-4.3**
	comp=Z,135nm,27.2s						
PPT2				eSS	**SS**	**04 19 47.8**	**+0.6**
	comp=Z,975nm,28.5s						
PPT2				eLR	LR	04 21 57.1	
	comp=Z,1µm,26.2s						
PPT2				eLR	LR	04 22 03.9	
	comp=Z,890nm,26.8s						
SHPR	**Sheep Range**	**43.21**	**351**		**P**	**04 10 17.0**	**+1.6**
T25A	**Trinidad**	**43.29**	**3**	P	**P**	**04 10 16.4**	**+0.3**
MVCO	**Mesa Verde**	**43.29**	**359**		**P**	**04 10 15.3**	**-0.9**
MVCO				IAmb	IAmb	04 10 19.1	
	comp=Z,11nm,1.2s						
KNB	**Kanab**	**43.39**	**354**	P	**P**	**04 10 18.2**	**+1.2**
WHAR	**Wooly Hollow**	**43.71**	**18**		**P**	**04 10 19.8**	**+0.5**
PKCU	**Pink Cliffs**	**43.76**	**354**	P	**P**	**04 10 21.0**	**+0.9**
PKCU				IAmb	IAmb	04 10 30.4	
	comp=Z,20nm,1.4s						
S22A	**4UR Ranch, Cre**	**43.81**	**1**		**P**	**04 10 20.6**	**+0.1**
SDCO	**Great Sand Dun**	**43.84**	**2**	P	**P**	**04 10 21.0**	**+0.3**
TBI	**Tubuai**	**43.94**	**243**	eS	**S**	**04 16 52.4**	**-0.9**
	comp=Z,716nm,27.2s						
TBI				eSS	**SS**	**04 20 10.1**	**+0.1**
	comp=Z,715nm,36.5s						
TBI				eLR	LR	04 22 28.6	
	comp=Z,4µm,27.2s						
TBI				eLR	LR	04 22 30.0	
	comp=Z,1µm,30.0s						
CCUT	**Cedar City**	**43.98**	**353**	P	**P**	**04 10 22.0**	**+0.2**
PRN	**Pahroc Range**	**44.07**	**351**		**P**	**04 10 23.9**	**+1.5**
HHAR	**Hobbs**	**44.16**	**16**	P	**P**	**04 10 23.7**	**+0.7**
PV13	**Radium Mtn., P**	**44.24**	**358**	P	**P**	**04 10 24.3**	**+0.4**
PV13				IAmb	IAmb	04 10 26.6	
	comp=Z,9.3nm,1.3

R40A					IAmb	IAmb	04 10 57.6	
	comp=Z,6.9nm,1.1s							
CCM	**Cathedral Cave**	**46.58**	**17**		**P**	**P**	**04 10 41.1**	**-1.1**
CCM					IAmb	IAmb	04 10 53.1	
	comp=Z,5.7nm,0.8s							
W52A	**Murphy**	**46.69**	**27**	P	**P**	**P**	**04 10 43.7**	**+0.6**
BSUT	**Blindstream Ca**	**46.70**	**356**		**P**	**P**	**04 10 43.8**	**+0.3**
BSUT					IAmb	IAmb	04 11 14.0	
	comp=Z,6.5nm,1.5s							
CPCT	**Cooper Cave**	**46.73**	**26**	P	**P**	**P**	**04 10 43.0**	**-0.3**
CPCT					IAmb	IAmb	04 10 51.4	
	comp=Z,7.7nm,1.0s							
VILB	**Vilhena**	**46.84**	**102**	*eP*	**P**	**P**	**04 10 44.8**	**+0.2**
BBSD	**Serra de San D**	**46.86**	**108**	*eP*	**P**	**P**	**04 10 44.4**	**-0.3**
T47A	**Sharon Grove**	**47.01**	**22**		**P**	**P**	**04 10 45.9**	**+0.3**
T47A					IAmb	IAmb	04 10 47.4	
	comp=Z,6.3nm,0.8s							
BG3	**Lake Jocassee**	**47.05**	**28**	P	**P**	**P**	**04 10 46.3**	**+0.3**
TKL	**Tuckaleechee C**	**47.23**	**26**	LR	LR	LR	04 28 06.9	
	comp=Z,69nm,21.6s,baz=194,slow=33							
JSC	**Jenkinsville**	**47.27**	**30**	P	**P**	**P**	**04 10 47.1**	**-0.5**
BGU	**Big Grassy Mou**	**47.28**	**354**	P	**P**	**P**	**04 10 48.7**	**+1.0**
SJG	**San Juan**	**47.29**	**58**	LR	LR	LR	04 27 40.8	
	comp=Z,303nm,20.8s,baz=234,slow=32							
ELK	**Elko**	**47.37**	**352**			**P**	**04 10 48.9**	**+0.3**
ELK					IAmb	IAmb	04 10 55.3	
	comp=Z,5.9nm,1.5s							
ELK	**Elko**	**47.37**	**352**	LR	LR	LR	04 27 19.4	
	comp=Z,395nm,18.9s,baz=138,slow=32							
PLCA	**Paso Flores**	**47.46**	**142**	LR	LR	LR	04 25 57.2	
	comp=Z,612nm,19.0s,baz=283,slow=30							
V53A	**Saluda**	**47.67**	**27**	P	**P**	**P**	**04 10 50.7**	**0.0**
P40A	**Paris**	**47.72**	**16**		**P**	**P**	**04 10 50.7**	**-0.3**
P40A					IAmb	IAmb	04 11 00.3	
	comp=Z,6.8nm,0.9s							
HWUT	**Hardware Ranch**	**47.83**	**356**	P	**P**	**P**	**04 10 51.6**	**-0.5**
HWUT					IAmb	IAmb	04 11 12.5	
	comp=Z,4.4nm,1.1s							
Q44A	**Meyer Farm, Va**	**48.06**	**19**	P	**P**	**P**	**04 10 52.8**	**-0.8**
PTLB	**Pontes e Lacer**	**48.07**	**105**		**P**	**P**	**04 10 53.4**	**-0.7**
PTLB					IAmb	IAmb	04 10 54.6	
	comp=Z,5.5nm,1.0s							
PTLB	**Pontes e Lacer**	**48.07**	**105**	*eP*	**P**	**P**	**04 10 54.0**	**-0.1**
V55A	**Taylorsville**	**48.56**	**28**	P	**P**	**P**	**04 10 57.1**	**-0.5**
PDAR	**Pinedale Array**	**48.87**	**358**	P	**P**	**P**	**04 10 58.7**	**-1.4**
	comp=Z,1.2nm,1.0s,baz=149,slow=6.1,SNR=6.1							
PDAR					LR	LR	04 28 16.2	
	comp=Z,76nm,21.5s,baz=172,slow=32							
	comp=Z,1.2nm,1.0s							
P46A	**Rosedale**	**49.31**	**20**	P	**P**	**P**	**04 11 02.9**	**-0.3**
FXWY	**Fox Creek**	**49.81**	**356**	P	**P**	**P**	**04 11 07.2**	**-0.1**
FXWY					IAmb	IAmb	04 11 29.8	
	comp=Z,6.9nm,1.4s							
YBH	**Yreka Blue Hor**	**49.83**	**345**	LR	LR	LR	04 27 44.3	
	comp=Z,27nm,18.6s,baz=156,slow=31							
HLID	**Hailey**	**50.04**	**353**		**P**	**P**	**04 11 09.4**	**+0.4**
MFID	**Camas Ranch**	**50.07**	**352**		**P**	**P**	**04 11 09.4**	**+0.3**
MFID					IAmb	IAmb	04 11 16.1	
	comp=Z,6.7nm,1.0s							
PDRB	**Porto dos Gac**	**50.17**	**100**	*eP*	**P**	**P**	**04 11 09.6**	**-0.7**
MURT	**Porto Murtinho**	**50.34**	**113**	*eP*	**P**	**P**	**04 11 10.0**	**-1.5**
BDQN	**Bodoquena, MS**	**50.94**	**111**	*eP*	**P**	**P**	**04 11 15.9**	**-0.1**
J05D	**Fort Rock, OR**	**50.94**	**347**			**P**	**04 11 16.3**	**+0.6**
J05D					IAmb	IAmb	04 11 23.7	
	comp=Z,7.2nm,1.2s							
YHH	**Holmes Hill**	**50.95**	**357**	P	**P**	**P**	**04 11 17.0**	**+1.1**
YHL	**Hebgen Lake**	**51.03**	**356**	P	**P**	**P**	**04 11 17.2**	**+0.7**
YHL					IAmb	IAmb	04 11 19.5	
	comp=Z,7.4nm,1.1s							
CLDB	**Colider**	**51.08**	**99**	*eP*	**P**	**P**	**04 11 15.6**	**-1.5**
MCMT	**McKenzie Canyo**	**51.13**	**355**		**P**	**P**	**04 11 18.4**	**+1.2**
Q54A	**Coxs Mills**	**51.29**	**26**	P	**P**	**P**	**04 11 17.9**	**-0.4**
ITTB	**Itaituba**	**51.36**	**91**	*eP*	**P**	**P**	**04 11 18.2**	**-1.1**
JFWS	**Jewell Farm**	**51.37**	**16**		**P**	**P**	**04 11 18.6**	**-0.2**
JFWS					IAmb	IAmb	04 11 23.7	
	comp=Z,9.0nm,0.9s							
SALV	**Santo Antonio**	**51.41**	**105**	*eP*	**P**	**P**	**04 11 19.6**	**0.0**
P53A	**Whipple**	**51.46**	**26**		**P**	**P**	**04 11 18.6**	**-0.9**
CPUP	**Villa Florida**	**51.55**	**119**	P	**P**	**P**	**04 11 20.5**	**0.0**
	comp=Z,0.5nm,0.9s,baz=270,slow=19,SNR=3.6							
CPUP					LR	LR	04 29 31.9	
	comp=Z,60nm,20.7s,baz=138,slow=32							
	comp=Z,0.5nm,0.9s							
NPGB	**Novo Progresso**	**51.57**	**94**	*eP*	**P**	**P**	**04 11 19.5**	**-1.4**
AQDB	**Aquidauana**	**51.91**	**111**		**P**	**P**	**04 11 22.8**	**-0.5**
AQDB					IAmb	IAmb	04 11 24.0	
	comp=Z,12nm,1.1s							
AQDB	**Aquidauana**	**51.91**	**111**	*eP*	**P**	**P**	**04 11 23.2**	**-0.1**
O53A	**New Philadelph**	**52.17**	**25**	P	**P**	**P**	**04 11 23.9**	**-0.9**
O53A					IAmb	IAmb	04 11 27.6	
	comp=Z,12nm,1.0s							
I40A	**Norwalk**	**52.18**	**15**	P	**P**	**P**	**04 11 24.6**	**-0.2**
I40A					IAmb	IAmb	04 11 28.2	
	comp=Z,5.7nm,0.5s							
G08A	**Pilot Rock**	**52.40**	**350**			**P**	**04 11 26.8**	**+0.2**
I42A	**Draeger Farm,**	**52.64**	**17**			**P**	**04 11 28.3**	**+0.1**
I42A					IAmb	IAmb	04 11 33.0	
	comp=Z,5.8nm,1.0s							
N53A	**Lisbon**	**52.79**	**25**	P	**P**	**P**	**04 11 28.6**	**-0.9**
RAR	**Rarotonga**	**52.84**	**248**	LR	LR	LR	04 28 59.8	
	comp=Z,170nm,19.2s,baz=102,slow=30							
H43A	**Windswept, Lux**	**53.50**	**17**			**P**	**04 11 34.1**	**-0.5**
G40A	**Rib Lake**	**53.57**	**15**	P	**P**	**P**	**04 11 34.9**	**-0.2**
G40A					IAmb	IAmb	04 11 44.3	
	comp=Z,10nm,1.1s							
RPRD	**Ribas do Rio P**	**53.77**	**111**	*eP*	**P**	**P**	**04 11 37.5**	**+0.4**
COWI	**Conover**	**54.62**	**15**	P	**P**	**P**	**04 11 42.9**	**+0.1**
COWI					IAmb	IAmb	04 11 48.0	
	comp=Z,6.2nm,0.9s							
NEW	**Newport**	**55.01**	**352**	LR	LR	LR	04 31 19.0	
	comp=Z,218nm,21.1s,baz=172,slow=32							
L56A	**Greenwood**	**55.30**	**27**	P	**P**	**P**	**04 11 47.2**	**-0.7**
NLWA	**Neilton Lookou**	**55.43**	**346**	P	**P**	**P**	**04 11 48.9**	**+0.3**
NLWA					IAmb	IAmb	04 11 51.1	
	comp=Z,7.5nm,1.1s							
SNDB	**Serra Nova Dou**	**55.50**	**100**	*eP*	**P**	**P**	**04 11 49.3**	**-0.4**
MDP	**Montagnes des**	**55.72**	**80**	LR	LR	LR	04 33 57.0	
	comp=Z,252nm,18.3s,baz=274,slow=34							
EYMN	**Ely**	**55.77**	**13**			**P**	**04 11 51.0**	**-0.1**
EYMN					IAmb	IAmb	04 11 55.5	
	comp=Z,6.9nm,1.1s							
SADO	**Sadowa**	**56.78**	**24**	P	**P**	**P**	**04 11 57.0**	**-1.3**
SADO	**Sadowa**	**56.78**	**24**	LR	LR	LR	04 36 17.1	
	comp=Z,227nm,18.4s,baz=214,slow=36							
EPLO	**Experimental L**	**56.97**	**10**	P	**P**	**P**	**04 12 00.1**	**+0.5**
BUKO	**Buck Lake**	**57.23**	**23**		**P**	**P**	**04 12 01.3**	**-0.2**
FRNY	**Flat Rock**	**59.21**	**27**	P	**P**	**P**	**04 12 14.4**	**-0.9**
FRNY					IAmb	IAmb	04 12 20.2	
	comp=Z,6.1nm,1.0s							
TRQ	**Mont Tremblant**	**59.86**	**26**	P	**P**	**P**	**04 12 18.9**	**-1.0**
BBB	**Bella Bella**	**60.90**	**345**	LR	LR	LR	04 34 15.3	
	comp=Z,113nm,19.6s,baz=172,slow=32							
PMSA	**Palmer Station**	**65.88**	**161**	LR	LR	LR	04 34 59.2	
	comp=Z,448nm,19.0s,baz=280,slow=30							
DLBC	**Dease Lake**	**67.67**	**347**	LR	LR	LR	04 39 40.8	
	comp=Z,25nm,18.1s,baz=126,slow=34							
R33M	**Jennings River**	**68.14**	**347**			**P**	**04 13 15.2**	**+1.0**
YKA	**Yellowknife Ar**	**68.82**	**356**	P		**P**	**04 13 17.4**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=168,slow=5.8,SNR=7.0							
YKA					LR	LR	04 41 17.2	
	comp=Z,325nm,18.0s,baz=170,slow=34							
	comp=Z,2.7nm,1.0s							
RAO	**Raoul Island**	**70.05**	**241**	LR	LR	LR	04 35 45.4	
	comp=Z,283nm,19.3s,baz=93,slow=29							
HYT	**Haines Junctio**	**70.97**	**345**	P		**P**	**04 13 32.8**	**+1.1**
HYT					IAmb	IAmb	04 13 48.2	
	comp=Z,6.9nm,1.2s							
N31M	**Braeburn, Yuko**	**71.11**	**346**	P	**P**	**P**	**04 13 33.2**	**+0.8**
MMPY	**Sheldon Lake,**	**71.13**	**349**		**P**	**P**	**04 13 33.2**	**+0.8**
MMPY					IAmb	IAmb	04 13 35.1	
	comp=Z,10nm,1.3s							
M30M	**Minto, Yukon**	**72.30**	**346**	P	**P**	**P**	**04 13 40.9**	**+1.4**
M30M					IAmb	IAmb	04 13 41.8	
	comp=Z,6.1nm,1.3s							
L29M	**L29M**	**73.07**	**346**			**P**	**04 13 44.9**	**+0.8**
M27K	**Edge Creek, AK**	**73.42**	**344**	P	**P**	**P**	**04 13 46.5**	**+0.2**
M27K					IAmb	IAmb	04 13 50.3	
	comp=Z,5.3nm,1.2s							
K29M	**Barlow Dome**	**73.55**	**347**			**P**	**04 13 47.8**	**+0.8**
K29M					IAmb	IAmb	04 13 49.4	
	comp=Z,7.0nm,1.2s							
KDAK	**Kodiak Island**	**73.58**	**337**	LR	LR	LR	04 38 40.2	
	comp=Z,398nm,19.2s,baz=158,slow=30							
BCAR	**Beaver Creek A**	**73.97**	**344**	P	**P**	**P**	**04 13 49.7**	**+0.3**
L27K	**Beaver Creek,**	**73.97**	**344**			**P**	**04 13 50.0**	**+0.6**
L27K					IAmb	IAmb	04 13 51.5	
	comp=Z,5.9nm,1.3s							
DAWY	**Dawson**	**74.19**	**346**	P	**P**	**P**	**04 13 51.8**	**+1.1**
DAWY					IAmb	IAmb	04 14 06.3	
	comp=Z,6.8nm,1.2s							
I30M	**Mount Dempster**	**74.49**	**348**	P	**P**	**P**	**04 13 53.4**	**+0.9**
I30M					IAmb	IAmb	04 14 16.1	
	comp=Z,5.5nm,1.2s							
URZ	**Urewera**	**74.82**	**232**	LR	LR	LR	04 41 38.7	
	comp=Z,232nm,18.2s,baz=102,slow=32							
K27K	**Chicken**	**74.83**	**345**	P	**P**	**P**	**04 13 55.1**	**+0.8**
K27K					IAmb	IAmb	04 13 57.4	
	comp=Z,5.9nm,1.2s							
I29M	**Ogilvie Camp,**	**75.03**	**347**	P	**P**	**P**	**04 13 55.7**	**+0.2**
I29M					IAmb	IAmb	04 13 57.5	
	comp=Z,9.2nm,1.4s							
RIDG	**Independent Ri**	**75.34**	**344**			**P**	**04 13 58.1**	**+0.7**
RIDG					IAmb	IAmb	04 14 12.7	
	comp=Z,6.5nm,1.0s							
I28M	**Miner Creek**	**75.47**	**347**			**P**	**04 13 58.4**	**+0.3**
EPYK	**Eagle Plains**	**75.56**	**348**	P		**P**	**04 13 58.7**	**+0.2**
H29M	**Whitestone**	**75.77**	**348**			**P**	**04 14 00.4**	**+0.7**
I26K	**Coal Creek Min**	**76.13**	**345**	P		**P**	**04 14 02.1**	**+0.3**
I26K					IAmb	IAmb	04 14 17.7	
	comp=Z,8.3nm,1.4s							
RND	**Reindeer**	**76.26**	**342**	P		**P**	**04 14 03.2**	**+0.6**
H27K	**Steamboat Moun**	**76.49**	**346**			**P**	**04 14 04.5**	**+0.6**
H27K					IAmb	IAmb	04 14 05.7	
	comp=Z,5.7nm,1.1s							
INK	**Inuvik**	**76.68**	**350**	LR	LR	LR	04 44 22.7	
	comp=Z,262nm,20.8s,baz=134,slow=33							
ILAR	**Eielson Array**	**76.71**	**344**	P		**P**	**04 14 05.2**	**+0.2**
ILAR	**Eielson Array**	**76.71**	**344**	P		**P**	**04 14 03.4**	**-1.6**
	comp=Z,1.0nm,1.0s,baz=138,slow=6.4,SNR=7.0							
ILAR					LR	LR	04 41 39.2	
	comp=Z,124nm,18.7s,baz=145,slow=31							
	comp=Z,1.0nm,1.0s							
TRF	**Thorofare Moun**	**76.73**	**342**	P		**P**	**04 14 05.4**	**0.0**
WRH	**Wood River Hil**	**76.82**	**343**	P		**P**	**04 14 06.0**	**+0.3**
PRP	**Porcupine Dome**	**76.91**	**345**			**P**	**04 14 06.6**	**+0.2**
PRP					IAmb	IAmb	04 14 21.7	
	comp=Z,9.1nm,1.2s							
NEA2	**Nenana**	**77.20**	**343**	P		**P**	**04 14 07.8**	**0.0**
NEA2					IAmb	IAmb	04 14 26.0	
	comp=Z,9.4nm,1.4s							
FYU	**Fort Yukon**	**77.66**	**345**	P		**P**	**04 14 10.9**	**+0.6**
I23K	**Minto, Yukon-K**	**77.69**	**343**	P		**P**	**04 14 11.1**	**+0.6**
I23K					IAmb	IAmb	04 14 26.8	
	comp=Z,8.8nm,1.4s							
K20K	**Telida**	**77.89**	**340**			**P**	**04 14 11.8**	**+0.1**
K20K					IAmb	IAmb	04 14 27.1	
	comp=Z,9.5nm,1.3s							
MLY	**Manley**	**78.01**	**343**			**P**	**04 14 12.7**	**+0.4**
MLY					IAmb	IAmb	04 14 28.2	
	comp=Z,4.1nm,1.0s							
BMAR	**Burnt Mountain**	**78.18**	**346**	P		**P**	**04 14 13.8**	**+0.5**
G24K	**Hadweenzic Riv**	**78.33**	**345**	P		**P**	**04 14 14.2**	**+0.1**
G24K					IAmb	IAmb	04 14 17.0	
	comp=Z,12nm,1.5s							
F25K	**Christian Rive**	**78.56**	**346**	P		**P**	**04 14 15.9**	**+0.5**
F25K					IAmb	IAmb	04 14 44.1	
	comp=Z,6.4nm,1.4s							
H21K	**Melozitna Rive**	**79.07**	**342**	P		**P**	**04 14 18.9**	**+0.7**
H21K					IAmb	IAmb	04 14 33.3	
	comp=Z,5.9nm,1.3s							
E23K	**Chandalar**	**79.90**	**345**			**P**	**04 14 23.9**	**+1.1**
E23K					IAmb	IAmb	04 14 39.9	
	comp=Z,9.6nm,1.4s							
H19K	**Roundabout Mou**	**80.10**	**341**	P		**P**	**04 14 24.1**	**+0.4**
H19K					IAmb	IAmb	04 14 25.9	
	comp=Z,6.7nm,1.4s							
F21K	**Alatna River**	**80.35**	**343**			**P**	**04 14 24.9**	**-0.2**
F21K					IAmb	IAmb	04 14 27.0	
	comp=Z,8.5nm,1.5s							
H18K	**Honhosa River**	**80.49**	**341**	P		**P**	**04 14 27.1**	**+1.3**
H18K					IAmb	IAmb	04 14 28.9	
	comp=Z,11nm,1.3s							
F20K	**Avaraart Lake**	**80.88**	**343**	P		**P**	**04 14 28.0**	**+0.1**
G18K	**Tagagawik**	**81.04**	**341**	P		**P**	**04 14 30.0**	**+1.1**
G18K					IAmb	IAmb	04 14 56.8	
	comp=Z,5.1nm,1.1s							
RES	**Resolute Bay**	**81.19**	**3**	LR	LR	LR	04 48 20.7	
	comp=Z,101nm,18.5s,baz=68,slow=34							
E18K	**Tukpahlearik C**	**82.59**	**342**			**P**	**04 14 37.7**	**+0.8**
E18K					IAmb	IAmb	04 14 45.0	
	comp=Z,4.6nm,1.1s							
SBA	**Scott Base**	**83.03**	**192**	P		**P**	**04 14 39.2**	**+0.1**
SBA					IAmb	IAmb	04 14 51.1	
	comp=Z,5.1nm,1.4s							
QSPA	**South Pole Qui**	**83.77**	**180**	P		**P**	**04 14 45.1**	**+1.8**
QSPA	**South Pole Qui**	**83.77**	**180**	P		**P**	**04 14 45.2**	**+1.9**
	comp=Z,4.1nm,1.0s,baz=144,slow=2.2,SNR=6.3							
QSPA					LR	LR	04 44 35.7	
	comp=Z,156nm,21.9s,baz=106,slow=30							
	comp=Z,4.1nm,1.0s							
DZM	**Mont Dzumac**	**84.22**	**248**	*e*LR	LR	LR	04 41 20.0	
	comp=Z,174nm,26.2s							
SHEM	**Shemya Is, Ala**	**88.11**	**323**	LR	LR	LR	04 46 57.6	
	comp=Z,113nm,19.7s,baz=106,slow=30							
H11N3	**WAKE ISLAND Hy**	**88.16**	**290**	T	T	T	05 52 18.6	
	baz=98,slow=75,SNR=16							
H11N2	**WAKE ISLAND Hy**	**88.17**	**290**	T	T	T	05 52 20.6	
	baz=98,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**88.17**	**290**	T	T	T	05 52 19.6	
	baz=98,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**88.19**	**289**	T	T	T	05 52 26.2	
	baz=98,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**88.20**	**289**	T	T	T	05 52 22.9	
	baz=98,slow=75,SNR=20							
H11S3	**WAKE ISLAND Hy**	**88.21**	**289**	T	T	T	05 52 27.5	
	baz=98,slow=75,SNR=24							
SNAA	**Sanae**	**88.58**	**162**	LR	LR	LR	04 48 29.8	
	comp=Z,196nm,19.0s,baz=304,slow=31							
HNR	**Honiara**	**91.69**	**260**	LR	LR	LR	04 49 36.4	
	comp=Z,90nm,18.4s,baz=98,slow=31							
BORG	**Borgarnes**	**93.92**	**25**	LR	LR	LR	04 56 09.9	
	comp=Z,44nm,18.3s,baz=272,slow=34							
PETK	**Petropavlovsk-**	**98.00**	**323**	LR	LR	LR	04 51 12.0	
	comp=Z,84nm,21.5s,baz=94,slow=30							
KURBB	**Kurchatov Arra**	**135.55**	**355**	PKP		**PKPdf**	**04 21 33.2**	**-1.3**
	comp=Z,0.4nm,0.2s,baz=18,slow=1.9,SNR=7.5							
MKAR	**Makanchi Array**	**138.81**	**350**	PKP		**PKPdf**	**04 21 38.8**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=4.4,slow=1.9,SNR=1.1							
CMAR	**Chang Mai Arr**	**151.71**	**298**	PKPbc		**PKPbc**	**04 22 09.6**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=75,slow=1.6,SNR=6.2							

*SOME **07** 04:06:08.9,41°.48N×84°.32E,h5km*
*NNC **07** 04:06:32.0±4.5,41°.65N×83°.37E,h14km±24km,mb3.1, mpv2.8,Error ellipse: s-maj=34.3km s-min=31.3km az=26.0*

ISC 07 04:06:10.9±3.9,**41°.5N**±0°.2×**84°.2E**±0°.1,**h10**km,**n6,**
σ2≤**91**/10,**5C-3D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.89**	**297**	*eP*	**Pb**	**04 07 17.7**	**-2.0**
	3.3nm,0.2s						
SHLS				*eS*	**Sb**	**04 08 09.5**	**+2.6**
	130nm,0.4s						
PDGK	**Podgornoye**	**3.95**	**300**	⇑Pg	Pg	04 07 33.8	+7.3
	4.1nm,0.5s						
PDGK				⇑Lg	Lg	04 08 18.3	
	22nm,0.5s						
UZB	**Uzynbulak**	**4.18**	**295**	*eP*	**Pb**	**04 07 27.2**	**+2.5**
	1.1nm,0.2s						
UZB				*eS*	**Sg**	**04 08 24.9**	**-0.4**
	31nm,0.3s						
MK31	**Makanchi Array**	**5.50**	**346**	⇑Pn	**Pb**	**04 07 48.8**	**+1.9**
	0.3nm,0.5s,baz=172,slow=13,SNR=6.3						
MK31				⇑Sn	**Sb**	**04 08 50.3**	**-2.7**
	2.2nm,0.6s						
MK31				⇓Lg	Lg	04 09 15.3	
	5.2nm,0.8s,baz=174,slow=23						
MAKZ	**Makanchi**	**5.57**	**344**	⇓Pn	**Pb**	**04 07 49.0**	**+0.8**
	0.3nm,0.4s						
MAKZ				⇓Sn	**Sb**	**04 08 52.2**	**-2.9**
	1.4nm,0.6s						
MAKZ				⇑Lg	Lg	04 09 17.1	
	2.9nm,0.8s						
ZSN	**Zaisan**	**6.00**	**4**	*eP*	**Pg**	**04 08 03.8**	**-2.0**
	6.2nm,0.2s						
ZSN				*eS*	**Sg**	**04 09 27.8**	**+4.3**
	7.0nm,0.3s						

*RSNC **07** 04:12:24.0±0.0,4°.N±1°.×7°.9W±°,h32km±4km,M3.6,ML3.2*
*NEIC **07** 04:12:24.7±1.6,4°.00N±0°.07×78°.79W±0°.08,h10km±1km, mb4.5/64,Error ellipse: s-maj=14.2km s-min=10.5km az=246.0*
*VAO **07** 04:12:25.2±0.4,3°.79N×78°.68W,h10km,mb4.7*
*CATAC **07** 04:12:25.3±1.5,4°.N±3°.×7°.9W±°,h26km±15km,M4.0/13, mb4.3/5,mB4.5/5,MLv4.1/13,Mw(mB)3.7/5,Error ellipse: s-maj=7.8km s-min=6.7km az=86.6,confirmed*
*UPA **07** 04:12:26.7±3.0,4°.33N×79°.10W,h0km±434km*
*IDC **07** 04:12:29.0±1.9,3°.98N×78°.74W,h50km±18km,mb3.7/14, mbtmp4.0/19,ML3.6/5,MS3.6/12,Error ellipse: s-maj=16.6km s-min=13.8km az=61.0*

ISC 07 04:12:23.9±3.4,**3°.97N**±0°.03×**78°.85W**±0°.04,**h16**km±21km,
n179,σ2≤**01**/206,**mb4.4**/41,**MS3.7**/11,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GR1C	**Gorgona, Isla**	**1.18**	**145**	P	**Pn**	**04 12 43.2**	**-2.6**
GR1C				S	**Sb**	**04 12 55.7**	**-5.2**
PIZC	**Pizarro, Choco**	**1.78**	**56**	P	**Pn**	**04 12 51.8**	**-2.3**
PIZC				S	**Sn**	**04 13 12.5**	**-4.0**
TUMC	**Tumaco**	**2.13**	**177**	P	**Pn**	**04 12 58.5**	**-0.5**
TUMC	**Tumaco**	**2.13**	**177**	P	**Pn**	**04 12 57.3**	**-1.4**
TUMC				S	**Sn**	**04 13 23.3**	**-1.9**
YOTC	**Yotoco, Valle**	**2.50**	**90**	P	**Pn**	**04 13 02.4**	**-1.7**
YOTC				S	**Sn**	**04 13 31.1**	**-3.2**
BBAC	**Balboa, Cauca**	**2.51**	**140**	P	**Pn**	**04 13 02.3**	**-2.0**
BBAC				S	**Sn**	**04 13 29.2**	**-5.5**
POPC	**Popayan, Colom**	**2.59**	**123**	P	**Pn**	**04 13 03.6**	**-1.9**
POPC				S	**Sn**	**04 13 32.4**	**-4.4**
PLMC	**San Jos del P**	**2.72**	**70**	P	**Pn**	**04 13 04.8**	**-2.3**
PLMC				S	**Sn**	**04 13 34.1**	**-5.7**
MAPC	**Malpelo**	**2.75**	**271**	P	**Pn**	**04 13 05.5**	**-2.0**
MAPC				S	**Sn**	**04 13 35.8**	**-4.6**
CRUC	**La Cruz**	**3.05**	**141**	P	**Pn**	**04 13 11.4**	**-0.4**
CRUC				S	**Sn**	**04 13 46.6**	**-1.6**
CBOC	**Ciudad Bolivar**	**3.40**	**56**	P	**Pn**	**04 13 14.1**	**-2.4**
CBOC				S	**Sn**	**04 13 52.4**	**-4.2**
NIZA	**Niza - Manizal**	**3.54**	**72**	P	**Pn**	**04 13 19.1**	**+0.6**
NIZA				S	**Sn**	**04 14 00.1**	**-0.1**
ORTC	**Ortega, Tolima**	**3.59**	**91**	P	**Pn**	**04 13 19.9**	**+0.8**
ORTC				S	**Sn**	**04 14 01.9**	**+0.6**
BETC	**Betania**	**3.63**	**110**	P	**Pn**	**04 13 21.2**	**+1.5**
BETC				S	**Sn**	**04 14 03.9**	**+1.6**
PAC1	**Pacto, Paraso**	**3.68**	**179**	P	**Pn**	**04 13 17.9**	**-2.5**
PAC1				S	**Sn**	**04 13 59.2**	**-4.3**
GUY2C	**Guyana, Caldas**	**3.69**	**70**	P	**Pn**	**04 13 20.5**	**-0.3**
GUY2C				S	**Sn**	**04 14 02.8**	**-1.5**
OTAV	**Otavalo**	**3.73**	**174**	Pn	**Pn**	**04 13 19.5**	**-1.8**
OTAV	**Otavalo**	**3.73**	**174**	P	**Pn**	**04 13 20.1**	**-1.2**
OTAV				S	**Sn**	**04 14 00.5**	**-4.6**
OTAV	**Otavalo**	**3.73**	**174**	*eP*	**Pn**	**04 13 19.4**	**-1.9**
OTAV	**Otavalo**	**3.73**	**174**	P	**Pn**	**04 13 19.5**	**-1.8**
OTAV				S	**Sn**	**04 14 00.8**	**-4.3**
BONI	**La Bonita**	**3.73**	**159**	P	**Pn**	**04 13 22.2**	**+1.0**
BONI				S	**Sn**	**04 14 03.8**	**-1.2**
GARC	**Garzon, Huila**	**3.79**	**118**	P	**Pn**	**04 13 22.9**	**+0.9**
GARC				S	**Sn**	**04 14 07.0**	**+0.6**
CACAO	**El Cacao, Vera**	**3.91**	**329**	*eP*	**Pn**	**04 13 20.7**	**-2.7**
PRAC	**Prado**	**3.96**	**94**	P	**Pn**	**04 13 25.1**	**+1.0**
PRAC				S	**Sn**	**04 14 11.6**	**+1.3**
PRAC	**Prado**	**3.96**	**94**	P	**Pn**	**04 13 24.9**	**+0.7**
PRAC				S	**Sn**	**04 14 09.5**	**-0.9**
FLOC	**Florencia**	**3.98**	**126**		**P

LPAZ La Paz 22.75 152 eP **P** **04 17 25.9 -0.4**
PB18 Visviri 23.33 157 P **P** **04 17 34.2 +2.0**
PB16 IPOC Station P 24.00 158 P **P** **04 17 40.4 +1.6**
PB16 IAmb IAmb 04 17 43.9
comp=Z,11nm,0.7s
ITTB Itaituba 24.53 109 eP **P** **04 17 42.5 -0.7**
VILB Vilhena 25.01 133 **P** **04 17 48.7 +1.2**
VILB Vilhena 25.01 133 eP **P** **04 17 48.7 +1.2**
PB11 IPOC Station P 25.25 159 **P** **04 17 52.1 +2.4**
GO01 Chusmiza 25.33 158 P **P** **04 17 54.5 +3.6**
GO01 IAmb IAmb 04 17 55.8
comp=Z,9.8nm,0.8s
NPGB Novo Progresso 25.87 115 eP **P** **04 17 54.8 -0.5**
PDRB Porto dos Gac 26.90 125 eP **P** **04 18 04.1 -0.5**
CLDB Colider 27.27 123 eP **P** **04 18 06.8 -1.2**
PB03 IPOC Station P 27.34 161 P **P** **04 18 06.3 -2.4**
PTLB Pontes e Lacer 27.44 135 eP **P** **04 18 08.3 -1.1**
BBSD Serra de San D 27.68 140 eP **P** **04 18 12.3 +0.7**
SMTB Santa Maria do 33.67 112 eP **P** **04 19 04.5 0.0**
TXAR Lajitas Array 34.50 320 P **P** **04 19 12.8 +1.2**
comp=Z,0.4nm,0.8s,baz=132,slow=9.0,SNR=4.6
TXAR LR LR 04 34 04.5
comp=Z,22nm,19.3s,baz=137,slow=38
comp=Z,0.4nm,0.8s
FVM French Village 35.47 344 P **P** **04 19 20.3 +0.5**
FVM IAmb IAmb 04 19 23.7
comp=Z,5.8nm,0.6s
CCM Cathedral Cave 35.77 343 **P** **04 19 22.1 -0.2**
CCM IAmb IAmb 04 19 23.1
comp=Z,7.2nm,0.8s
OK052 Battle Ridge R 35.92 335 P **P** **04 19 23.5 -0.2**
VHRN Van Horn 36.32 320 **P** **04 19 29.4 +2.0**
LPIG La Paz 36.33 306 LR LR 04 31 03.5
comp=Z,58nm,18.3s,baz=83,slow=31
CROK Carrier 36.86 334 P **P** **04 19 32.9 +1.1**
IPMB Ipameri, GO 37.26 127 eP **P** **04 19 34.3 -1.1**
SDBA SAO DESIDERIO 37.45 116 eP **P** **04 19 36.6 -0.5**
PMNB Patos De Minas 38.98 126 eP **P** **04 19 48.6 -1.4**
121A Cookes Peak, D 39.26 320 P **P** **04 19 51.9 -0.3**
CRNM Carthage 39.54 322 P **P** **04 19 55.4 +0.8**
Y22A Socorro 39.67 322 **P** **04 19 56.0 +0.3**
SBM South Baldy 39.83 322 P **P** **04 19 58.0 +0.7**
ANMO Albuquerque 40.05 324 **P** **04 20 00.2 +1.3**
ANMO Albuquerque 40.05 324 LR LR 04 39 08.7
comp=Z,67nm,18.6s,baz=226,slow=40
JFWS Jewell Farm 40.09 347 **P** **04 19 58.2 -0.5**
JFWS IAmb IAmb 04 20 01.6
comp=Z,5.8nm,0.5s
SDCO Great Sand Dun 41.52 328 P **P** **04 20 11.7 +0.7**
S22A 4UR Ranch, Cre 42.24 326 P **P** **04 20 16.5 -0.4**
OGNE Ogallala 42.31 334 P **P** **04 20 18.3 +1.1**
ISCO Idaho Springs 43.11 329 **P** **04 20 26.4 +2.4**
PV01 Paradox Valley 43.49 325 P **P** **04 20 28.2 +1.2**
PV15 Paradox Valley 43.59 326 P **P** **04 20 29.0 +1.2**
PV15 IAmb IAmb 04 20 31.6
comp=Z,6.8nm,1.0s
PV13 Radium Mtn., P 43.65 325 P **P** **04 20 29.5 +1.2**
PV13 IAmb IAmb 04 20 31.7
comp=Z,7.2nm,0.9s
PV03 Paradox Valley 43.73 325 P **P** **04 20 30.3 +1.4**
PV12 Saucer Basin, 43.75 325 P **P** **04 20 29.8 +0.7**
PV12 IAmb IAmb 04 20 32.6
comp=Z,8.3nm,0.9s
PV18 Skein Mesa, Pa 43.76 325 **P** **04 20 30.8 +1.7**
PV18 IAmb IAmb 04 20 32.4
comp=Z,7.1nm,0.9s
PV16 Nyswonger Mesa 43.81 325 P **P** **04 20 30.3 +0.7**
PV19 Morning Glory 43.85 325 P **P** **04 20 31.2 +1.4**
PV19 IAmb IAmb 04 20 33.0
comp=Z,6.3nm,0.9s
PV20 West Nyswonger 43.86 325 P **P** **04 20 31.6 +1.7**
PV20 IAmb IAmb 04 20 33.1
comp=Z,5.3nm,0.9s
PV10 Paradox Valley 43.92 325 P **P** **04 20 31.0 +0.5**
PV10 IAmb IAmb 04 20 33.2
comp=Z,5.0nm,0.9s
HMU Henry Mountain 44.62 324 P **P** **04 20 37.3 +1.2**
HMU IAmb IAmb 04 20 41.3
comp=Z,9.9nm,1.4s
PLCA Paso Flores 45.13 171 P **P** **04 20 41.4 +1.5**
comp=Z,2.3nm,0.7s,baz=331,slow=8.2,SNR=8.0
comp=Z,2.3nm,0.7s
PLCA Paso Flores 45.13 171 eP **P** **04 20 40.3 +0.5**
SRU San Rafael Swe 45.27 325 P **P** **04 20 41.7 +0.5**
SRU IAmb IAmb 04 20 44.3
comp=Z,5.1nm,0.9s
P18A Preston Nutter 45.47 326 P **P** **04 20 43.5 +0.6**
BSUT Blindstream Ca 46.38 326 **P** **04 20 51.6 +1.5**
BSUT IAmb IAmb 04 20 53.9
comp=Z,5.1nm,1.2s
PD31 Pinedale Array 47.30 329 P **P** **04 20 57.7 +0.6**
PD31 IAmb IAmb 04 20 59.8
comp=Z,6.3nm,1.4s
PDAR Pinedale Array 47.30 329 P **P** **04 20 57.6 +0.5**
PDAR Pinedale Array 47.30 329 P **P** **04 20 58.4 +1.3**
comp=Z,0.5nm,0.6s,baz=134,slow=8.5,SNR=6.7
PDAR PcP **PcP** **04 22 27.6 -0.6**
comp=Z,0.4nm,0.7s,baz=133,slow=6.3,SNR=3.6
PDAR LR LR 04 43 37.0
comp=Z,19nm,18.5s,baz=153,slow=40
comp=Z,0.5nm,0.6s
BGU Big Grassy Mou 47.92 325 P **P** **04 21 03.3 +1.5**
LOHW Long Hollow 48.44 329 **P** **04 21 06.7 +0.7**
LOHW IAmb IAmb 04 21 08.7
comp=Z,4.9nm,1.3s
ELK Elko 49.09 323 **P** **04 21 12.0 +1.0**
ELK Elko 49.09 323 LR LR 04 44 49.9
comp=Z,35nm,18.6s,baz=129,slow=40
YHL Hebgen Lake 49.62 330 P **P** **04 21 17.4 +2.4**
YHL IAmb IAmb 04 21 18.6
comp=Z,4.3nm,0.9s
NVAR Mina Array Bea 49.64 319 P **P** **04 21 17.4 +2.1**
comp=Z,1.0nm,0.7s,baz=125,slow=7.1,SNR=8.4
NVAR PcP **PcP** **04 22 37.8 +1.2**
comp=Z,1.0nm,0.7s,baz=133,slow=4.7,SNR=6.4
comp=Z,1.0nm,0.7s
BOZ Bozeman (W) 50.37 330 P **P** **04 21 21.6 +1.0**
BOZ IAmb IAmb 04 21 23.4
comp=Z,6.1nm,1.3s
HLID Hailey 50.42 327 **P** **04 21 22.7 +1.6**
SCHQ Schefferville 51.64 9 P **P** **04 21 30.3 +0.5**
comp=Z,1.8nm,0.6s,baz=192,slow=7.3,SNR=4.1
comp=Z,1.8nm,0.6s
WVOR Wild Horse Val 52.14 323 P **P** **04 21 35.0 +1.1**
WVOR IAmb IAmb 04 21 36.6
comp=Z,6.6nm,0.9s
LNOR Lincton Mounta 54.02 327 P **P** **04 21 49.1 +1.5**
LNOR IAmb IAmb 04 21 50.3
comp=Z,4.0nm,1.3s
BBB Bella Bella 62.94 328 LR LR 04 55 45.6
comp=Z,46nm,18.2s,baz=15,slow=41
YKA Yellowknife Ar 64.10 342 P **P** **04 22 57.2 +0.1**
comp=Z,1.0nm,0.9s,baz=122,slow=8.0,SNR=4.2
comp=Z,1.0nm,0.9s
MMPY Sheldon Lake, 69.98 337 **P** **04 23 35.9 +1.3**
MMPY IAmb IAmb 04 23 37.5
comp=Z,4.3nm,0.9s
M30M Minto, Yukon 72.18 336 P **P** **04 23 49.5 +1.6**
M30M IAmb IAmb 04 23 50.3
comp=Z,4.3nm,0.8s
M29M Somme Creek 72.81 335 P **P** **04 23 53.5 +1.8**
M29M IAmb IAmb 04 23 54.0
comp=Z,3.2nm,0.9s
SUMG Summit 72.88 12 **P** **04 23 52.6 +0.3**
L29M L29M 72.97 336 **P** **04 23 53.8 +1.2**
K29M Barlow Dome 73.05 337 **P** **04 23 54.3 +1.1**
I30M Mount Dempster 73.26 338 **P** **04 23 55.5 +1.1**
I30M IAmb IAmb 04 23 56.9
comp=Z,3.3nm,0.8s
M27K Edge Creek, AK 74.23 334 P **P** **04 24 00.6 +0.5**
M27K IAmb IAmb 04 24 02.4
comp=Z,3.1nm,0.9s
BCAR Beaver Creek A 74.46 335 P **P** **04 24 02.7 +1.3**
L27K Beaver Creek, 74.48 335 **P** **04 24 02.8 +1.3**
I28M Miner Creek 74.69 338 **P** **04 24 04.0 +1.3**
I28M IAmb IAmb 04 24 05.2
comp=Z,3.4nm,0.9s
SCRK Sand Creek 75.72 336 **P** **04 24 09.5 +0.8**
SCRK IAmb IAmb 04 24 11.0
comp=Z,2.7nm,0.8s
ESDC Sonseca Array 75.85 50 P **P** **04 24 10.0 +0.1**
comp=Z,0.8nm,1.0s,baz=279,slow=6.5,SNR=4.9
comp=Z,0.8nm,1.0s
J25K Salcha River, 76.50 336 **P** **04 24 14.0 +0.9**
J25K IAmb IAmb 04 24 15.3
comp=Z,3.3nm,0.9s
ILAR Eielson Array 77.17 336 P **P** **04 24 17.2 +0.5**
comp=Z,1.0nm,0.8s,baz=109,slow=4.7,SNR=11
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 79.91 77 P **P** **04 24 32.6 -0.3**
comp=Z,0.5nm,0.4s,baz=287,slow=5.5,SNR=4.3
comp=Z,0.5nm,0.4s
DAVOX Davos/Dischmat 86.26 44 LR LR 05 01 21.1
comp=Z,54nm,20.7s,baz=264,slow=34
NOA NORSAR Array B 86.59 29 P **P** **04 25 07.1 +0.6**
comp=Z,0.6nm,0.7s,baz=273,slow=5.0,SNR=3.6
NOA LR LR 05 02 31.1
comp=Z,34nm,19.3s,baz=290,slow=35
comp=Z,0.6nm,0.7s
SPITS Spitsbergen Ar 87.22 12 LR LR 05 03 56.9
comp=Z,108nm,20.2s,baz=289,slow=35
SNAA Sanae 89.36 162 P **P** **04 25 19.4 -0.1**
comp=Z,0.8nm,0.6s,baz=262,slow=6.3,SNR=8.6
comp=Z,0.8nm,0.6s
VAE Valguarnera 90.20 53 LR LR 05 03 40.0
comp=Z,115nm,21.5s,baz=313,slow=34
VRAC Vranov 90.57 41 LR LR 05 02 59.6
comp=Z,34nm,21.4s,baz=282,slow=34
ARCES ARCESS Array B 91.30 20 P **P** **04 25 28.7 +0.2**
comp=Z,2.2nm,0.9s,baz=301,slow=2.6,SNR=4.8
comp=Z,2.2nm,0.9s
QSPA South Pole Qui 93.99 180 P **P** **04 25 42.4 +1.3**
comp=Z,1.0nm,0.7s,baz=135,slow=7.9,SNR=2.3
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 126.78 16 PKP **PKPdf** **04 31 27.0 -0.2**
comp=Z,0.2nm,0.5s,baz=350,slow=1.7,SNR=2.0
ASAR Alice Springs 142.82 235 PKHKP PKPpre 04 31 53.8
comp=Z,1.0nm,0.5s,baz=125,slow=4.4,SNR=8.9
WRA Warramunga Arr 143.97 241 PKP PKPbc 04 31 57.7 +0.1
comp=Z,5.8nm,0.8s,baz=112,slow=3.2,SNR=34
CMAR Chiang Mai Arr 157.61 6 PKPab **PKPab** **04 32 52.0 -0.4**
comp=Z,0.9nm,0.3s,baz=322,slow=4.7,SNR=4.3

*NEIC **07** 04:30:46.7±1.7, 13.°0S±0.°1×166.°8E±0.°2, h109km±10km, mb4.4/30, Error ellipse: s-maj=24.6km s-min=16.2km az=98.0*
*IDC **07** 04:30:46.5±1.1, 13.°00S×166.°70E, h109km±8km, mb3.9/12, mbtmp4.3/13, MS3.3/1, Error ellipse: s-maj=22.2km s-min=14.1km az=115.0*
*NOU **07** 04:30:47.5, 13.°05S×166.°58E, h94km, mb4.7/27, Vanuatu Islands*
ISC 07 04:30:46.1±0.6, 13.°00S±0.°05×166.°72E±0.°08, h100km, n77, σ1s29/82, mb4.4/28, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**2.46**	**341**	P	**Pn**	**04 31 26.2**	**+1.5**
LUES	**Luesalemba Tem**	**2.46**	**341**	S	**Sn**	**04 31 54.8**	**+0.6**
SANVU	**Saraoutou**	**2.48**	**169**		**Pn**	**04 31 25.7**	**+0.8**
SANVU				Sn	**Sn**	**04 31 55.0**	**+0.4**
SANVU	**Saraoutou**	**2.48**	**169**	P	**Pn**	**04 31 26.1**	**+1.2**
SANVU	**Saraoutou**	**2.48**	**169**	S	**Sn**	**04 31 55.3**	**+0.6**
VLAKA	**Lakatoro**	**3.16**	**168**	P	**Pn**	**04 31 36.6**	**+2.6**
VLAKA	**Lakatoro**	**3.16**	**168**	S	**Sn**	**04 32 13.5**	**+2.6**
HURO	**Huro Makira**	**5.35**	**298**	P	**Pn**	**04 32 04.5**	**+0.9**
HURO	**Huro Makira**	**5.35**	**298**	S	**Sn**	**04 33 03.1**	**-0.8**
HNR	**Honiara**	**7.53**	**297**	S	**Sn**	**04 33 58.7**	**+1.6**
	133nm,0.9s,baz=30,slow=20,SNR=1.4						
YATNC	**Mamie plateau,**	**9.01**	**179**	P	**Pn**	**04 32 53.4**	**+0.1**
YATNC	**Mamie plateau,**	**9.01**	**179**	S	**Sn**	**04 34 32.7**	**-0.3**
DZM	**Mont Dzumac**	**9.02**	**182**	P	**Pn**	**04 32 55.1**	**+1.4**
DZM	**Mont Dzumac**	**9.02**	**182**	P	**Pn**	**04 32 55.3**	**+1.6**
	59nm,0.3s,baz=331,slow=11,SNR=160						
DZM				S	**Sn**	**04 34 30.2**	**-3.4**
	26nm,0.7s,baz=319,slow=19,SNR=4.6						
DZM	**Mont Dzumac**	**9.02**	**182**	P	**Pn**	**04 32 55.2**	**+1.6**
DZM	**Mont Dzumac**	**9.02**	**182**	S	**Sn**	**04 34 32.6**	**-0.9**
ONTNC	**Ouen Toro**	**9.26**	**182**		**Pn**	**04 32 58.4**	**+1.7**
ONTNC	**Ouen Toro**	**9.26**	**182**	P	**Pn**	**04 32 59.0**	**+2.3**
ONTNC	**Ouen Toro**	**9.26**	**182**	S	**Sn**	**04 34 38.4**	**-0.7**
OUENC	**Ouen Island, N**	**9.37**	**179**	P	**Pn**	**04 33 00.3**	**+2.1**
OUENC	**Ouen Island, N**	**9.37**	**179**	S	**Sn**	**04 34 43.3**	**+1.6**
PINNC	**Pines Island,**	**9.58**	**176**		**Pn**	**04 33 02.6**	**+1.5**
EIDS	**Eidsvold**	**19.20**	**228**	P	**P**	**04 35 02.6**	**+0.5**
EIDS	**Eidsvold**	**19.20**	**228**	P	**P**	**04 35 03.6**	**+1.5**
EIDS	**Eidsvold**	**19.20**	**228**	S	**S**	**04 38 33.5**	**-0.9**
CTA	**Charters Tower**	**20.83**	**248**	P	**P**	**04 35 20.6**	**+0.7**
CTAO	**Charters Tower**	**20.83**	**248**		**P**	**04 35 20.5**	**+0.7**
CTAO				IAmb	IAmb	04 35 21.4	
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**20.83**	**248**	P	**P**	**04 35 20.6**	**+0.7**
PATS	**Pohnpei**	**21.41**	**337**	P	**P**	**04 35 26.7**	**+0.7**
MTSU	**Mount Surprise**	**22.17**	**254**	P	**P**	**04 35 35.1**	**+1.0**
ARMA	**Armidale**	**22.25**	**216**		**P**	**04 35 35.2**	**+0.2**
ARMA				IAmb	IAmb	04 35 37.2	
	comp=Z,20nm,0.9s						
ARMA	**Armidale**	**22.25**	**216**	P	**P**	**04 35 35.5**	**+0.5**
COEN	**Coen**	**22.91**	**265**		**P**	**04 35 41.8**	**0.0**
COEN				IAmb	IAmb	04 35 43.5	
	comp=Z,19nm,0.8s						
COEN	**Coen**	**22.91**	**265**	P	**P**	**04 35 41.8**	**0.0**
QIS	**Mount Isa**	**27.00**	**250**	P	**P**	**04 36 19.6**	**+0.7**
STKA	**Stephens Creek**	**29.74**	**227**	P	**P**	**04 36 43.2**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=35,slow=9.2,SNR=7.9						
	comp=Z,4.6nm,0.7s						
WB0	**Warramunga Arr**	**31.70**	**253**		**P**	**04 36 59.1**	**-1.3**
WRAB	**Tennant Creek**	**31.76**	**253**	P	**P**	**04 36 59.8**	**-1.2**
WRAB				IAmb	IAmb	04 37 00.0	
	comp=Z,5.2nm,0.7s						
WRA	**Warramunga Arr**	**31.77**	**253**	P	**P**	**04 36 59.6**	**-1.6**
WRA	**Warramunga Arr**	**31.77**	**253**	P	**P**	**04 36 59.7**	**-1.4**
	comp=Z,5.1nm,0.6s,baz=85,slow=9.3,SNR=51						
WRA				pP	**pP**	**04 37 24.6**	**+2.8**
	comp=Z,2.4nm,0.9s,baz=85,slow=9.4,SNR=3.9						
	comp=Z,5.1nm,0.6s						
AS31	**Alice Springs**	**32.83**	**246**		**P**	**04 37 08.4**	**-2.0**
ASAR	**Alice Springs**	**32.83**	**246**	P	**P**	**04 37 09.0**	**-1.4**
	comp=Z,7.2nm,0.8s,baz=74,slow=9.7,SNR=54						
ASAR				pP	**pP**	**04 37 33.6**	**+2.6**
	comp=Z,1.4nm,0.6s,baz=72,slow=9.5,SNR=2.6						
	comp=Z,7.2nm,0.8s						
MTN	**Manton Dam**	**34.67**	**266**		**P**	**04 37 25.9**	**-0.4**
KNRA	**Kununurra**	**36.84**	**261**		**P**	**04 37 43.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**39.84**	**257**	P	**P**	**04 38 09.3**	**-0.8**
	comp=Z,3.6nm,0.7s,baz=98,slow=5.0,SNR=9.6						
	comp=Z,3.6nm,0.7s						
BATI	**Baumata**	**42.23**	**269**	P	**P**	**04 38 30.2**	**+0.4**
	comp=Z,55nm,0.5s,baz=133,slow=1.8,SNR=5.8						
MJAR	**Matsushiro Arr**	**56.13**	**332**	P	**P**	**04 40 14.5**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=162,slow=8.4,SNR=4.9						
	comp=Z,1.8nm,0.7s						
JNU	**Nakatsue**	**57.22**	**324**	LR	LR	05 00 56.8	
	comp=Z,26nm,21.7s,baz=182,slow=32						
VNDA	**Vanda**	**64.57**	**181**	P	**P**	**04 41 11.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=42,slow=4.1,SNR=2.4						
	comp=Z,0.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**65.11**	**333**	P	**P**	**04 41 16.0**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=156,slow=14,SNR=4.7						
	comp=Z,3.0nm,0.8s						
PETK	**Petropavlovsk-**	**66.30**	**354**	P	**P**	**04 41 23.6**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=157,slow=8.0,SNR=6.5						
	comp=Z,4.5nm,0.7s						
QSPA	**South Pole Qui**	**77.01**	**180**	P	**P**	**04 42 28.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=297,slow=2.3,SNR=7.2						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**80.80**	**324**	P	**P**	**04 42 48.2**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=119,slow=5.8,SNR=5.1						
	comp=Z,0.5nm,0.5s						
CAST	**Castle Rocks**	**82.52**	**17**		**P**	**04 42 57.2**	**-0.2**
CAST				IAmb	IAmb	04 42 57.4	
	comp=Z,3.2nm,0.7s						
SCM	**Sheep Creek Mo**	**82.83**	**20**	P	**P**	**04 42 59.3**	**+0.1**
G19K	**Purcell Mounta**	**83.36**	**14**		**P**	**04 43 01.3**	**-0.4**
G19K				IAmb	IAmb	04 43 03.2	
	comp=Z,3.4nm,0.8s						
F19K	**Shaleruckih Mo**	**83.77**	**13**		**P**	**04 43 03.2**	**-0.5**
I21K	**Tanana**	**83.89**	**16**	P	**P**	**04 43 04.0**	**-0.3**
E19K	**Redstone River**	**84.40**	**13**	P	**P**	**04 43 07.2**	**+0.3**
WRH	**Wood River Hil**	**84.48**	**18**	P	**P**	**04 43 06.3**	**-1.1**
WRH				IAmb	IAmb	04 43 06.8	
	comp=Z,7.6nm,1.2s						
CCB	**Clear Creek Bu**	**84.69**	**18**	P	**P**	**04 43 06.7**	**-1.8**
CCB				IAmb	IAmb	04 43 07.7	
	comp=Z,5.7nm,1.4s						
HDA	**Harding Lake**	**84.78**	**18**	P	**P**	**04 43 07.7**	**-1.3**
H23K	**Yukon River**	**85.05**	**17**	P	**P**	**04 43 09.7**	**-0.6**
H23K				IAmb	IAmb	04 43 10.5	
	comp=Z,7.7nm,1.2s						
IL31		**85.06**	**18**	P	**P**	**04 43 08.9**	**-1.3**
ILAR	**Eielson Array**	**85.06**	**18**	P	**P**	**04 43 08.5**	**-1.8**
ILAR	**Eielson Array**	**85.06**	**18**	P	**P**	**04 43 08.8**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=234,slow=6.1,SNR=25						
ILAR				pP	**pwP**	**04 43 38.0**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=246,slow=5.2,SNR=3.2						
	comp=Z,1.6nm,0.6s						
J25K	**Salcha River,**	**85.42**	**19**		**P**	**04 43 10.7**	**-1.5**
J25K				IAmb	IAmb	04 43 13.2	
	comp=Z,4.1nm,0.9s						
D20K	**Etivluk River**	**85.56**	**13**	P	**P**	**04 43 12.5**	**-0.2**
D20K				IAmb	IAmb	04 43 13.8	
	comp=Z,6.7nm,1.1s						
G23K	**Bananza Creek**	**85.58**	**16**		**P**	**04 43 11.8**	**-1.1**
G23K				IAmb	IAmb	04 43 13.8	
	comp=Z,3.8nm,1.0s						
COLD	**Coldfoot**	**85.92**	**15**	P	**P**	**04 43 13.7**	**-0.8**
E21K	**Killik River**	**85.93**	**14**	P	**P**	**04 43 14.1**	**-0.5**
E21K				IAmb	IAmb	04 43 15.4	
	comp=Z,4.0nm,0.8s						
G24K	**Hadweenzic Riv**	**86.26**	**17**	P	**P**	**04 43 15.4**	**-0.8**
G24K				IAmb	IAmb	04 43 16.8	
	comp=Z,4.1nm,1.0s						
D22K	**Ayikyak River**	**86.57**	**14**	P	**P**	**04 43 17.2**	**-0.5**
D22K				IAmb	IAmb	04 43 19.1	
	comp=Z,5.8nm,1.0s						
D23K	**Nanushuk River**	**87.10**	**14**	P	**P**	**04 43 19.5**	**-0.8**
D23K				IAmb	IAmb	04 43 21.8	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**95.59**	**317**	P	**P**	**04 43 59.9**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=111,slow=4.9,SNR=7.6						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**118.46**	**345**	PKP	**PKPdf**	**04 49 19.4**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=50,slow=2.3,SNR=8.6						
ESDC	**Sonseca Array**	**152.19**	**344**	PKPbc	**PKPbc**	**04 50 28.7**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=22,slow=3.0,SNR=7.1						
ESDC				PKPab	**PKPab**	**04 50 40.6**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=12,slow=3.8,SNR=16						

*NEIC **07** 04:42:30.2±0.8, 19.°28N±0.°01×155.°10W±0.°01, h10km±1km, Error ellipse: s-maj=2.8km s-min=2.5km az=328.0*
HVO 07 04:42:30.8±1.2, 19.°33N±0.°02×155.°116W±0.°006, h7km±2km, ML2.9/41, ML3.0/42(NEIC), Error ellipse: s-maj=2.6km s-min=0.3km az=162.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.05**	**15**		Pg	04 42 32.9	+0.3
JCUZ					Sg	04 42 34.4	+0.7
STCH	**Steam Cracks**	**0.05**	**351**		Pg	04 42 32.9	+0.3
STCH					Sg	04 42 34.4	+0.6
STCH	**Steam Cracks**	**0.05**	**351**	IAML		04 42 34.6	
	comp=N,24μm,0.4s						
STCH				IAML		04 42 34.6	
	comp=E,16μm,0.3s						
NPOC	**North of Pu'u**	**0.06**	**6**		Pg	04 42 33.0	+0.4
NPOC					Sg	04 42 34.6	+0.6
KNHH	**Kane Nui o Ham**	**0.07**	**314**		Pg	04 42 33.1	+0.4
PUH	**Pauahi**	**0.10**	**294**		Pg	04 42 33.6	+0.3
PUH					Sg	04 42 35.8	+0.8
PUH	**Pauahi**	**0.10**	**294**	IAML		04 42 35.9	
	comp=E,3μm,0.1s						
PUH				IAML		04 42 37.2	
	comp=N,6μm,0.4s						
JOKA	**Jonika Flow**	**0.15**	**46**		Pg	04 42 34.1	+0.2
JOKA					Sg	04 42 36.7	+0.7
JOKA	**Jonika Flow**	**0.15**	**46**	IAML		04 42 37.2	
	comp=E,982nm,0.7s						
JOKA				IAML		04 42 37.6	
	comp=N,2μm,0.9s						
KKO	**Keanakako'i**	**0.16**	**295**		Pg	04 42 34.4	+0.3
KKO					Sg	04 42 37.4	+1.0
BYL	**Byron's Ledge**	**0.16**	**301**		Pg	04 42 34.4	+0.3
BYL					Sg	04 42 36.9	+0.5
BYL	**Byron's Ledge**	**0.16**	**301**	IAML		04 42 37.4	
	comp=N,2μm,0.4s						
BYL				IAML		04 42 37.7	
	comp=E,3μm,0.4s						
RIM	**Rim**	**0.16**	**293**		Pg	04 42 34.5	+0.3
RIM					Sg	04 42 37.5	+1.0
HATHI	**Halema'uma'u T**	**0.16**	**304**		Pg	04 42 34.5	+0.3
HATHI					Sg	04 42 37.3	+0.7
HATHI	**Halema'uma'u T**	**0.16**	**304**	IAML		04 42 38.6	
	comp=E,2μm,0.4s						
HATHI				IAML		04 42 38.8	
	comp=N,2μm,0.2s						
SBLHI	**Steaming Bluff**	**0.17**	**304**		Pg	04 42 34.5	+0.2
SBLHI					Sg	04 42 37.6	+0.8
SDHHI	**Sand Hill**	**0.18**	**289**		Pg	04 42 34.7	+0.2
UWB	**Uwekahuna Bluf**	**0.18**	**301**		Pg	04 42 34.7	+0.2
UWB					Sg	04 42 37.5	+0.5
OBL	**Observatory Le**	**0.18**	**298**		Pg	04 42 34.8	+0.3
OBL					Sg	04 42 38.1	+1.1
HLP	**Hilina Pali**	**0.18**	**259**		Pg	04 42 35.1	+0.5
HLP					Sg	04 42 38.4	+1.2
HLP	**Hilina Pali**	**0.18**	**259**	IAML		04 42 39.4	
	comp=N,4μm,0.3s						
HLP				IAML		04 42 39.6	
	comp=E,3μm,0.2s						
UWE	**Uwekahuna**	**0.19**	**298**		Pg	04 42 35.0	+0.3
UWE					Sg	04 42 38.3	+1.0
UWE	**Uwekahuna**	**0.19**	**298**	IAML		04 42 40.3	
	comp=N,1μm,0.3s						
UWE				IAML		04 42 41.0	
	comp=E,1μm,0.2s						
WRMHI	**West Rim**	**0.19**	**293**		Pg	04 42 34.9	+0.2
WRMHI					Sg	04 42 38.4	+1.1
RSD	**Rainshed**	**0.20**	**311**		Pg	04 42 35.1	+0.2
RSD					Sg	04 42 38.6	+0.9
HTC	**Hot Caves**	**0.28**	**251**		Pg	04 42 36.9	+0.5
MLH	**Mauna Loa**	**0.30**	**302**		Pg	04 42 37.0	+0.1
MLH					Sg	04 42 41.7	+0.8
MLH	**Mauna Loa**	**0.30**	**302**	IAML		04 42 44.9	
	comp=E,1μm,0.2s						
MLH				IAML		04 42 46.6	
	comp=N,2μm,0.2s						
AIN	**Ainahou**	**0.33**	**277**		Pg	04 42 37.4	+0.2
AIN					Sg	04 42 42.7	+1.1
AIN	**Ainahou**	**0.33**	**277**	IAML		04 42 44.4	
	comp=N,15μm,0.3s						
AIN				IAML		04 42 44.5	
	comp=E,15μm,0.2s						
HMH	**Humu'ula Sheep**	**0.44**	**308**		Pg	04 42 39.3	-0.2
HMH					Sg	04 42 45.8	+0.6
HMH	**Humu'ula Sheep**	**0.44**	**308**	IAML		04 42 47.1	
	comp=E,6μm,0.4s						
HMH				IAML		04 42 53.8	
	comp=N,5μm,0.6s						
KHU	**Kahuku**	**0.48**	**260**		Pg	04 42 39.8	-0.4
KHU					Sg	04 42 46.8	+0.4
MWH	**Mokuaweoweo**	**0.48**	**289**		Pg	04 42

	comp=E,23µm,0.3s							
JCUZ	**Jacuzzi**	**0.05**	**32**		Pg	04 42 56.0	+0.3	
JCUZ					Sg	04 42 57.6	+0.8	
KNHH	**Kane Nui o Ham**	**0.05**	**316**		Pg	04 42 56.3	+0.5	
NPOC	**North of Pu'u**	**0.06**	**20**		Pg	04 42 56.1	+0.4	
NPOC					Sg	04 42 57.6	+0.7	
PUH	**Pauahi**	**0.09**	**292**		Pg	04 42 56.7	+0.5	
PUH					Sg	04 42 58.3	+0.6	
PUH	**Pauahi**	**0.09**	**292**	IAML		04 42 59.0		
	comp=E,5µm,0.1s							
PUH				IAML		04 42 59.2		
	comp=N,7µm,0.5s							
KKO	**Keanakako'i**	**0.14**	**294**		Pg	04 42 57.5	+0.4	
KKO					Sg	04 42 60.0	+0.9	
BYL	**Byron's Ledge**	**0.14**	**300**		Pg	04 42 57.5	+0.4	
BYL					Sg	04 42 59.7	+0.5	
BYL	**Byron's Ledge**	**0.14**	**300**	IAML		04 43 00.5		
	comp=N,3µm,0.4s							
BYL				IAML		04 43 00.8		
	comp=E,4µm,0.4s							
RIM	**Rim**	**0.15**	**292**		Pg	04 42 57.7	+0.5	
RIM					Sg	04 43 00.1	+0.8	
HATHI	**Halema'uma'u T**	**0.15**	**303**		Pg	04 42 57.6	+0.4	
HATHI					Sg	04 43 00.1	+0.8	
HATHI	**Halema'uma'u T**	**0.15**	**303**	IAML		04 43 01.2		
	comp=E,2µm,0.6s							
HATHI				IAML		04 43 01.9		
	comp=N,2µm,0.2s							
JOKA	**Jonika Flow**	**0.15**	**52**		Pg	04 42 57.3	+0.1	
JOKA					Sg	04 42 59.8	+0.5	
JOKA	**Jonika Flow**	**0.15**	**52**	IAML		04 43 00.3		
	comp=E,1µm,0.6s							
JOKA				IAML		04 43 00.4		
	comp=N,3µm,0.7s							
SBLHI	**Steaming Bluff**	**0.16**	**303**		Pg	04 42 57.7	+0.3	
SBLHI					Sg	04 43 00.3	+0.8	
SDHHI	**Sand Hill**	**0.16**	**287**		Pg	04 42 57.9	+0.4	
SDHHI					Sg	04 43 00.6	+0.9	
UWB	**Uwekahuna Bluf**	**0.16**	**301**		Pg	04 42 57.8	+0.3	
OBL	**Observatory Le**	**0.16**	**298**		Pg	04 42 58.1	+0.6	
OBL					Sg	04 43 00.3	+0.6	
UWE	**Uwekahuna**	**0.17**	**297**		Pg	04 42 58.0	+0.4	
UWE					Sg	04 43 00.7	+0.6	
UWE	**Uwekahuna**	**0.17**	**297**	IAML		04 43 03.1		
	comp=N,2µm,0.7s							
UWE				IAML		04 43 03.8		
	comp=E,2µm,0.6s							
WRMHI	**West Rim**	**0.17**	**292**		Pg	04 42 58.0	+0.3	
WRMHI					Sg	04 43 00.8	+0.8	
HLP	**Hilina Pali**	**0.17**	**255**		Pg	04 42 58.3	+0.7	
HLP					Sg	04 43 01.4	+1.3	
HLP	**Hilina Pali**	**0.17**	**255**	IAML		04 43 02.5		
	comp=N,5µm,0.5s							
HLP				IAML		04 43 03.3		
	comp=E,4µm,0.5s							
RSD	**Rainshed**	**0.18**	**311**		Pg	04 42 58.3	+0.4	
RSD					Sg	04 43 01.1	+0.6	
HTC	**Hot Caves**	**0.27**	**248**		Pg	04 42 59.9	+0.4	
MLH	**Mauna Loa**	**0.29**	**302**		Pg	04 43 00.1	+0.2	
MLH					Sg	04 43 04.3	+0.7	
MLH	**Mauna Loa**	**0.29**	**302**	IAML		04 43 06.7		
	comp=E,2µm,0.3s							
MLH				IAML		04 43 09.7		
	comp=N,2µm,0.2s							
HMH	**Humu'ula Sheep**	**0.42**	**308**		Pg	04 43 02.2	-0.2	
HMH					Sg	04 43 08.3	+0.3	
HMH	**Humu'ula Sheep**	**0.42**	**308**	IAML		04 43 10.2		
	comp=E,6µm,0.4s							
HMH				IAML		04 43 16.9		
	comp=N,5µm,0.4s							
MWH	**Mokuaweoweo**	**0.46**	**288**		Pg	04 43 03.4	+0.2	
MWH					Sg	04 43 10.0	+0.7	
KHU	**Kahuku**	**0.47**	**258**		Pg	04 43 03.1	-0.1	
KHU					Sg	04 43 09.4	0.0	
HPO	**Honuapo**	**0.47**	**238**		Pg	04 43 02.8	-0.4	
HPO					Sg	04 43 09.7	+0.2	
ALEP	**Alea Permanent**	**0.52**	**292**		Pg	04 43 04.2	-0.1	
ALEP					Sg	04 43 11.4	+0.2	
POHA	**Pohakuloa**	**0.56**	**318**		Pg	04 43 04.6	-0.4	
POHA					Sg	04 43 12.1	-0.3	
POHA	**Pohakuloa**	**0.56**	**318**	IAML		04 43 14.2		
	comp=N,1µm,0.4s							
POHA				IAML		04 43 17.2		
	comp=N,1µm,0.5s							
HPAH	**Hawaii Prepara**	**0.87**	**322**		Sg	04 43 22.4	+0.2	

SOME ***07*** *04:50:26.9, 39.70N × 76.00E, h10km*
KRNET ***07*** *04:50:29.8±0.1, 39.71N × 76.04E, mb3.5*
ISC 07 04:50:27.7±2.0, 39.74N±0.08 × 75.95E±0.04, h10km, n21, σ1↟96/41, 12C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**1.34**	**350**	⇓*iP*	**Pg**	**04 50 55.7**	**+2.3**
JNKS				⇓*iS*	**Sg**	**04 51 14.9**	**+4.1**
SALK	**Salom-Alik**	**1.99**	**306**	⇑*iP*	**Pg**	**04 51 07.6**	**+1.7**
SALK				⇑*iS*	**Sg**	**04 51 35.1**	**+3.4**
TARG	**Taragay, Kyrgy**	**2.44**	**35**	⇓*iP*	**Pb**	**04 51 12.5**	**+0.7**
TARG				⇓*iS*	**Sg**	**04 51 43.7**	**-2.3**
ULHL	**Ulahol**	**2.52**	**5**	⇓*iP*	**Pb**	**04 51 14.1**	**+1.0**
ULHL				⇓*iS*	**Sb**	**04 51 46.3**	**+2.1**
OHH	**Osh**	**2.55**	**289**	⇑*iP*	**Pg**	**04 51 15.4**	**-1.2**
OHH				⇑*iS*	**Sg**	**04 51 48.6**	**-1.1**
UCH	**Uchtor**	**2.72**	**337**	⇓*iP*	**Pb**	**04 51 17.4**	**+0.8**
UCH				⇓*iS*	**Sb**	**04 51 52.2**	**+2.0**
KBK	**Karagaybulak**	**3.01**	**346**	⇑*iP*	**Pb**	**04 51 21.2**	**-0.3**
KBK				⇑*iS*	**Sb**	**04 51 58.8**	**+0.3**
AAK	**Ala-Archa**	**3.10**	**340**	⇑Pn	**Pg**	**04 51 25.7**	**-1.3**
	3.8nm,0.4s						
AAK				⇑Sn	**Sg**	**04 52 09.4**	**+2.2**
	30nm,0.9s						
AAK	**Ala-Archa**	**3.10**	**340**	⇑*eP*	**Pb**	**04 51 22.5**	**-0.5**
AAK				⇑*iS*	**Sb**	**04 52 01.1**	**+0.2**
TKM2	**Tokmak 2**	**3.19**	**355**	⇓*iP*	**Pb**	**04 51 23.6**	**-1.0**
TKM2				⇓*iS*	**Sb**	**04 52 02.8**	**-0.8**
KST	**Kastek**	**3.30**	**0**	*eP*	**Pg**	**04 51 29.4**	**-1.6**
	10nm,0.4s						
KST				*eS*	**Sg**	**04 52 14.1**	**+0.3**
	29nm,0.6s						
EKS2	**Erkin-Say**	**3.35**	**331**	⇓*iP*	**Pb**	**04 51 26.1**	**-1.1**
EKS2				⇓*iS*	**Sb**	**04 52 07.2**	**-0.9**
TNSS	**Tian-Shan**	**3.38**	**12**	*eP*	**Pg**	**04 51 30.7**	**-1.8**
	2.9nm,0.4s						
TNSS				*eS*	**Sg**	**04 52 16.4**	**+0.1**
	12nm,0.6s						
CHMS	**Chumysh**	**3.38**	**345**	⇓*iP*	**Pb**	**04 51 26.2**	**-1.5**
CHMS				⇓*iS*	**Sb**	**04 52 07.4**	**-1.5**
MRKS	**Merke**	**3.64**	**327**	*eP*	**Pg**	**04 51 36.5**	**-0.9**
	4.6nm,0.2s						
MRKS				*eS*	**Sg**	**04 52 26.6**	**+2.0**
	31nm,0.5s						
USP	**Ospenovka**	**3.69**	**343**	⇑*iP*	**Pb**	**04 51 30.5**	**-2.5**
USP				⇑*iS*	**Sb**	**04 52 15.0**	**-2.8**
UZB	**Uzynbulak**	**4.12**	**33**	*eP*	**Pb**	**04 51 42.6**	**+2.3**
	2.2nm,0.4s						
UZB				*eS*	**Sg**	**04 52 36.8**	**-3.0**
	20nm,0.7s						
KUU	**Kurty**	**4.16**	**4**	*eP*	**Pg**	**04 51 44.9**	**-2.5**
	2.5nm,0.1s						
KUU				*eS*	**Sg**	**04 52 40.9**	**-0.4**
	18nm,0.5s						
CHKK	**Chushkaly**	**4.19**	**10**	*eP*	**Pg**	**04 51 45.4**	**-2.4**
	22nm,0.5s						
CHKK				*eS*	**Sg**	**04 52 42.6**	**+0.6**
	13nm,0.5s						
SHLS	**Shalkode**	**4.32**	**37**	*eP*	**Pg**	**04 51 50.8**	**+0.5**
	6.3nm,0.3s						
SHLS				*eS*	**Sg**	**04 52 50.9**	**+4.7**
	28nm,0.6s						
KK31	**Karatay Array**	**5.29**	**311**	⇓Pg	**Pg**	**04 52 07.9**	**-1.2**
	0.5nm,0.3s,baz=126,slow=18,SNR=6.1						
KK31				Lg	Lg	04 53 19.8	
	3.1nm,0.5s,baz=129,slow=27,SNR=9.1						

NEIC ***07*** *04:51:38.7±1.7, 35.652N±0.009 × 117.485W±0.005, h10km±1km, Error ellipse: s-maj=2.8km s-min=1.5km az=125.0*
PAS 07 04:51:39.4±1.6, 35.651N±0.007 × 117.50W±0.01, h10km±4km, ML3.3/164, ML3.0/173(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=109.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.05**	**174**		Pg	04 51 41.5	0.0
WSHM					Sg	04 51 43.2	+0.1
WSHM	**Spangler Hills**	**0.05**	**174**	IAML		04 51 43.4	
	16µm,0.3s						
WSHM				IAML		04 51 43.5	
	11µm,0.3s						
CCCA	**Chr Cany lake**	**0.17**	**139**		Pg	04 51 43.4	+0.3
CCCA					Sg	04 51 46.6	+0.9
CCCA	**Chr Cany lake**	**0.17**	**139**	IAML		04 51 46.8	
	comp=E,23µm,0.5s						
CCCA				IAML		04 51 48.4	
	comp=N,21µm,0.3s						
SRTC	**Snort**	**0.21**	**281**		Pg	04 51 44.1	+0.3
SRTC					Sg	04 51 48.1	+1.3
LRMC	**Laurel Mtn Rad**	**0.23**	**221**		Pg	04 51 43.9	-0.3
LRMC	**Laurel Mtn Rad**	**0.23**	**221**		Sg	04 51 47.5	+0.1
TOW	**Tower One**	**0.27**	**306**		Pg	04 51 45.1	+0.2
TOW					Sg	04 51 49.7	+1.1
WNMM	**Nine Mile Cany**	**0.38**	**300**		Pg	04 51 46.8	-0.2
WNMM					Sg	04 51 52.5	+0.5
WVPM	**Volcano Peak E**	**0.39**	**319**		Pg	04 51 46.9	-0.3
WVPM					Sg	04 51 52.5	0.0
MPMC	**Manual Prospec**	**0.41**	**1**		Pg	04 51 47.1	-0.4
MPMC				IAML		04 51 53.3	
	comp=N,2µm,0.5s						
MPMC				IAML		04 51 53.4	
	comp=E,2µm,0.6s						
MPMC	**Manual Prospec**	**0.41**	**1**		Sg	04 51 52.8	-0.1
JRC2	**Joshua Ridge**	**0.41**	**323**		Pg	04 51 47.4	-0.3
JRC2					Sg	04 51 53.3	+0.1
WCSM	**Coso Springs S**	**0.43**	**330**		Pg	04 51 47.7	-0.3
WCSM					Sg	04 51 53.6	-0.1
DTP	**Desert Tortois**	**0.48**	**216**		Pg	04 51 48.1	-0.6
DTP					Sg	04 51 54.6	-0.4
WRVM	**Rose V. Centra**	**0.48**	**318**		Pg	04 51 48.3	-0.4
WRVM					Sg	04 51 54.8	-0.3
WBSM	**Bird Springs**	**0.53**	**258**		Pg	04 51 49.4	-0.4
WBSM					Sg	04 51 56.8	-0.2
MFS	**McCloud Flat S**	**0.55**	**328**		Pg	04 51 49.5	-0.6
MFS					Sg	04 51 57.3	-0.1
QSM	**Queen of Sheba**	**0.60**	**58**		Pg	04 51 50.7	-0.4
QSM					Sg	04 51 58.8	-0.2
QSM	**Queen of Sheba**	**0.60**	**58**	IAML		04 51 59.4	
	comp=E,3µm,0.2s						
QSM				IAML		04 52 03.0	
	comp=N,3µm,0.6s						
WORM	**Onyx Ranch**	**0.61**	**274**		Pg	04 51 50.6	-0.6
WORM					Sg	04 51 58.6	-0.6
CCAC	**Calif City Air**	**0.65**	**220**		Pg	04 51 51.5	-0.5
CCAC					Sg	04 52 00.5	-0.1
GSC	**Goldstone, Bar**	**0.67**	**121**		Pg	04 51 51.8	-0.5
GSC				IAML		04 52 01.0	
	comp=E,850nm,0.6s						
GSC				IAML		04 52 04.2	
	comp=N,763nm,0.3s						
GSC	**Goldstone, Bar**	**0.67**	**121**		Sg	04 52 00.6	-0.4
WHFM	**Hanning Flat**	**0.69**	**274**		Pg	04 51 52.2	-0.6
WHFM					Sg	04 52 01.2	-0.7
HYS	**Haystack Butte**	**0.79**	**184**		Pg	04 51 53.8	-0.8
HYS					Sg	04 52 04.0	-0.9
ISA	**Isabella, Lake**	**0.79**	**271**		Pg	04 51 54.0	-0.8
ISA				IAML		04 52 05.0	
	comp=N,752nm,0.3s						
ISA				IAML		04 52 06.8	
	comp=E,627nm,0.2s						
ISA	**Isabella, Lake**	**0.79**	**271**		Sg	04 52 04.4	-0.7
GWY	**Greenwater Val**	**0.86**	**51**		Pg	04 51 55.3	-0.8
GWY					Pn	04 52 06.7	+9.0
WASM	**Alta Sierra Ca**	**0.86**	**276**		Pg	04 51 55.3	-0.8
WASM					Pn	04 52 06.8	+9.0
EDW2	**Edwards Air Fo**	**0.87**	**208**		Pg	04 51 55.1	-1.0
EDW2					Sg	04 52 07.2	-0.3
RRX	**Edison Barstow**	**0.88**	**152**		Pg	04 51 55.9	-0.4
RRX					Pn	04 52 07.2	+9.5
CWC	**Cottonwood Cre**	**0.92**	**329**		Pg	04 51 56.6	-0.5
CWC					Sg	04 52 08.4	-0.7
CWC	**Cottonwood Cre**	**0.92**	**329**	IAML		04 52 10.7	
	comp=N,360nm,0.1s						
CWC				IAML		04 52 12.4	
	comp=E,399nm,0.2s						
CGO	**Cerro Gordo**	**0.93**	**345**		Pg	04 51 56.5	-0.9
CGO					Sg	04 52 09.4	-0.2
FURC	**Furnace Creek,**	**0.96**	**32**		Pg	04 51 57.7	-0.3
FURC	**Furnace Creek,**	**0.96**	**32**	IAML		04 52 15.1	
	comp=N,766nm,0.4s						
TPO	**Tropico Hills**	**0.97**	**218**		Pg	04 51 57.2	-1.0
TPO					Sg	04 52 10.5	-0.3
TPO	**Tropico Hills**	**0.97**	**218**	IAML		04 52 17.5	
	comp=N,622nm,0.8s						
TPO				IAML		04 52 18.0	
	comp=E,765nm,0.7s						
SBB	**Saddle Back Bu**	**1.00**	**196**		Pg	04 51 57.5	-1.1
SBB					Sg	04 52 10.8	-0.8
SHOC	**Shoshone, Teco**	**1.03**	**76**		Pg	04 51 58.1	-1.1
SHOC					Sg	04 52 12.3	-0.2
TEJ	**El Tejon**	**1.06**	**247**		Pg	04 51 58.3	-1.5
TEJ					Sg	04 52 12.4	-1.1
VTV	**Victorville**	**1.10**	**173**		Pb	04 51 59.1	-1.4
VTV					Sb	04 52 15.0	+0.2
SPG2	**Springville 2**	**1.17**	**298**		Pb	04 52 00.8	-0.9
SPG2					Sb	04 52 16.4	-0.4
LRRC	**Littlerock Res**	**1.20**	**201**		Pn	04 52 02.0	-0.3
THC	**Tehachapi Micr**	**1.21**	**232**		Pn	04 52 01.6	-0.8
ARVC	**Arvin**	**1.21**	**245**		Pn	04 52 01.6	-0.7
ARVC					Sb	04 52 18.1	+0.1
LEOC	**Leona Valley**	**1.21**	**213**		Pn	04 52 01.5	-1.0
HOLC	**Holcomb Ridge**	**1.22**	**194**		Pn	04 52 01.2	-1.4
HOLC					Sg	04 52 19.0	+0.2
DSCC	**Desert Studies**	**1.25**	**114**		Pn	04 52 00.9	-2.0
DSCC					Sb	04 52 19.1	0.0
HEC	**Hector,Ludlow**	**1.26**	**130**		Pn	04 52 01.5	-1.6
HEC					Sb	04 52 19.7	+0.2
JNH	**Juniper Hills**	**1.26**	**197**		Pn	04 52 01.9	-1.2
AMDNV	**Amargosa**	**1.27**	**51**		Pn	04 52 01.6	-1.6
TUQ	**Turquoise Moun**	**1.30**	**99**		Pn	04 52 02.0	-1.7
VES	**Vestal, Richgr**	**1.30**	**279**		Pn	04 52 02.8	-0.8
VES				IAML		04 52 24.4	
	comp=N,398nm,0.4s						
VES				IAML		04 52 29.5	
	comp=E,291nm,0.6s						
WCT	**Wildcat Mounta**	**1.34**	**32**		Pn	04 52 02.9	-1.3
WCT				IAML		04 52 23.5	
	comp=E,202nm,0.8s						
GRAC	**Grapevine Rang**	**1.35**	**5**		Pn	04 52 03.5	-0.7
GRAC				IAML		04 52 26.6	
	comp=E,327nm,0.5s						
GRAC				IAML		04 52 28.8	
	comp=N,328nm,0.8s						
SGV	**South Grapevin**	**1.38**	**16**		Pn	04 52 03.8	-1.0
CHFC	**Chilao Flat St**	**1.38**	**198**		Pn	04 52 05.1	+0.2
CHFC					Sg	04 52 23.6	-0.3
SIL	**Silver Peak**	**1.41**	**157**		Pg	04 52 06.4	-0.1
BFSC	**Mount Baldy Ra**	**1.42**	**185**		Pn	04 52 04.0	-1.3
BFSC				IAML		04 52 25.3	
	comp=E,169nm,0.5s						
BFSC				IAML		04 52 25.7	
	comp=N,202nm,0.7s						
SS2	**San Sevaine**	**1.44**	**180**		Pb	04 52 05.9	-0.3
OSI	**Osito Audit: C**	**1.44**	**224**		Pn	04 52 04.7	-0.9
OSI				IAML		04 52 28.1	
	comp=N,225nm,0.9s						
OSI				IAML		04 52 30.1	
	comp=E,250nm,0.8s						
OSI	**Osito Audit: C**	**1.44**	**224**		Sb	04 52 24.9	+0.1
SSK	**Sunset Peak**	**1.45**	**186**		Pb	04 52 06.6	+0.1
BBRC	**Big Bear Solar**	**1.47**	**161**		Sg	04 52 26.2	-0.4
MWC	**Mount Wilson**	**1.50**	**198**		Pn	04 52 06.0	-0.5
MWC				IAML		04 52 28.6	
	comp=N,290nm,0.3s						
MWC				IAML		04 52 31.2	
	comp=E,195nm,0.3s						
TIN	**Tinemaha, Big**	**1.52**	**337**		Pn	04 52 06.4	-0.3
TIN				IAML		04 52 33.1	
	comp=E,264nm,0.6s						
PSRC	**Puddingstone R**	**1.58**	**189**		Pb	04 52 08.4	-0.2
SVD	**Seven Oaks Dam**	**1.58**	**168**		Sg	04 52 29.4	-0.7
PASC	**Pasadena Art C**	**1.58**	**201**		Sb	04 52 29.4	+0.7
PASC	**Pasadena Art C**	**1.58**	**201**	Pn	Pn	04 52 06.8	-0.6
PASC				IAML		04 52 32.2	
	comp=E,122nm,0.3s						
PASC				IAML		04 52 34.6	
	comp=N,114nm,0.4s						
LCH	**Last Change Ra**	**1.58**	**356**		Pn	04 52 06.9	-0.8
MPI	**Mount Pinos, F**	**1.59**	**239**		Pb	04 52 08.6	-0.4
MTPC	**Mountain Pass**	**1.59**	**95**		Pn	04 52 07.0	-0.8
MTPC				IAML		04 52 31.2	
	comp=N,170nm,0.4s						
MTPC				IAML		04 52 33.5	
	comp=E,159nm,0.3s						
TPNV	**Topopah Spring**	**1.64**	**38**		Pn	04 52 07.6	-0.9
TPNV				IAML		04 52 34.0	
	comp=E,219nm,0.5s						
TPNV				IAML		04 52 34.5	
	comp=E,202nm,0.4s						
GTM	**Goat Mountain**	**1.65**	**145**		Pb	04 52 09.8	-0.1
GMN	**Gold Mountain**	**1.66**	**7**		Pn	04 52 08.0	-0.7
VOG	**Valley Oaks Go**	**1.67**	**294**		Pb	04 52 09.7	-0.5
BCW	**Bitter Crk WRg**	**1.72**	**246**		Pb	04 52 10.5	-0.6
GMRC	**Granite Mounta**	**1.74**	**119**		Pn	04 52 07.4	-2.3
GMRC					Sb	04 52 33.8	+0.5
DSP	**Deep Springs**	**1.76**	**348**		Sb	04 52 34.5	+0.8
DSP	**Deep Springs**	**1.76**	**348**	Pn	Pn	04 52 09.3	-0.5
BLAC	**Blackrock camp**	**1.82**	**150**		Pb	04 52 13.5	+0.6
CRGC	**Crocker Grade**	**1.86**	**258**		Pb	04 52 13.6	+0.1
MTUM	**Tungsten Hills**	**1.90**	**334**		Pb	04 52 14.7	+0.4
TPC	**Twentynine Pal**	**1.95**	**142**		Pn	04 52 11.3	-1.3
HMTC	**Hemet**	**1.98**	**168**		Pn	04 52 12.4	-0.6
ELS	**Elsinore Mount**	**2.00**	**178**		Pn	04 52 12.5	-0.8
ELS				IAML		04 52 43.8	
	comp=E,89nm,0.3s						
ELS				IAML		04 52 50.1	
	comp=N,80nm,0.5s						
DANC	**Danby, Needles**	**2.01**	**120**	Pn	Pn	04 52 13.1	-0.2
POB	**Polly Butte**	**2.02**	**166**		Pn	04 52 13.0	-0.5
PKM	**Mcpherson Peak**	**2.04**	**249**		Pb	04 52 16.4	-0.3
MZP	**Montezuma Peak**	**2.05**	**3**	Pn	Pn	04 52 13.3	-0.8
BELC	**Belle Mtn. Jos**	**2.06**	**143**		Pn	04 52 12.6	-1.5
BELC				IAML		04 52 47.0	
	comp=E,166nm,0.5s						
BELC				IAML		04 52 47.7	
	comp=N,181nm,0.6s						
SHPR	**Sheep Range**	**2.08**	**65**		Pn	04 52 13.8	-0.7
SHPR				IAML		04 52 46.6	
	comp=N,85nm,0.6s						
V12A	**Nelson**	**2.16**	**87**		Pn	04 52 14.4	-1.1
PMD	**Palm Desert**	**2.20**	**155**	Pn	Pn	04 52 14.5	-1.5
PMD				IAML		04 52 50.7	
	comp=N,75nm,0.4s						
PMD				IAML		04 52 50.9	
	comp=E,73nm,0.6s						
PFO	**Pinyon Flats O**	**2.21**	**157**	Pn	Pn	04 52 14.8	-1.3
PFO				IAML		04 52 51.9	
	comp=E,61nm,0.8s						
TPH	**Tonopah**	**2.43**	**5**		Pn	04 52 18.9	-0.4
S11A	**Rachel**	**2.44**	**35**	Pn	Pn	04 52 19.1	-0.2
S11A				IAML		04 53 02.9	
	comp=N,95nm,1.0s						
S11A				IAML		04 53 16.0	
	comp=E,99nm,0.8s						
IRM	**Iron Mountain**	**2.44**	**127**		Pn	04 52 17.3	-2.0
IRM				IAML		04 52 57.0	
	comp=N,106nm,0.4s						
PKD	**Bear Valley Ra**	**2.49**	**278**		Pb	04 52 22.8	-1.5
NEE2	**Needles Airpor**	**2.52**	**110**	Pn	Pn	04 52 20.7	+0.4
NEE2				IAML		04 53 07.6	
	comp=E,119nm,0.6s						
NEE2				IAML		04 53 09.6	
	comp=N,125nm,0.8s						
BORC	**Borrego Spring**	**2.54**	**159**	Pn	Pn	04 52 20.1	-0.6
BORC				IAML		04 53 00.6	
	comp=E,80nm,0.9s						
BORC				IAML		04 53 03.8	
	comp=N,64nm,1.0s						
BC3	**Big Chuckawall**	**2.61**	**139**		Pn	04 52 19.8	-1.9
BC3				IAML		04 53 03.2	
	comp=E,65nm,0.6s						
BC3				IAML		04 53 04.8	
	comp=N,106nm,0.5s						
PRN	**Pahroc Range**	**2.64**	**48**		Pn	04 52 21.4	-0.7
PRN				IAML		04 53 12.5	
	comp=E,101nm,0.8s						
PRN				IAML		04 53 13.8	
	comp=N,94nm,0.9s						
JUEM	**Julian Eagle M**	**2.67**	**164**		Pb	04 52 27.4	0.0
SALN	**Salton City**	**2.67**	**152**	Pn	Pn	04 52 21.8	-0.6
DPP	**Dos Picos Cty**	**2.69**	**170**	Pn	Pn	04 52 22.1	-0.6
DPP				IAML		04 53 03.4	
	comp=E,96nm,0.4s						
LHV	**Little Huntoon**	**2.72**	**343**		Pn	04 52 23.2	+0.1
LHV				IAML		04 53 11.9	
	comp=N,40nm,0.6s						
LHV				IAML		04 53 13.7	
	comp=E,48nm,0.7s						
PMPB	**Monarch Peak**	**2.74**	**283**	Pn	Pn	04 52 22.9	-0.5
PMPB				IAML		04 53 12.0	
	comp=N,68nm,0.8s						
PMPB				IAML		04 53 18.2	
	comp=E,72nm,1.0s						
RAMR	**Ramage Ranch**	**2.75**	**271**		Pn	04 52 25.7	+2.2
RAMR	**Ramage Ranch**	**2.75**	**271**	IAML		04 53 11.2	
	comp=N,84nm,0.6s						
RAMR				IAML		04 53 15.7	
	comp=E,103nm,0.8s						
NV11	**Mina Array Sit**	**2.83**	**349**		Pn	04 52 24.7	0.0
NVAR	**Mina Array Bea**	**2.85**	**347**		Pn	04 52 24.7	-0.3
W13A	**Hualapai Mount**	**3.00**	**100**	Pn	Pn	04 52 25.9	-1.4
BBGB	**Big Mountain B**	**3.01**	**289**	Pn	Pn	04 52 27.3	+0.1
RYN	**Ryan**	**3.08**	**345**	Pn	Pn	04 52 28.2	-0.1
R11B	**Troy Canyon, C**	**3.10**	**29**		Pn	04 52 27.4	-1.1
WAKR	**Walker**	**3.24**	**332**	Pn	Pn	04 52 30.6	+0.1
YUH	**Yuha Desert**	**3.27**	**156**	Pn	Pn	04 52 30.3	-0.4
CBX	**Cerro Bola**	**3.40**	**168**

ELK	Elko	5.39	19	Pn	Pn	04 53 00.1	+0.1		
X18A	Snowflake	6.29	98	Pn	Pn	04 53 11.8	-0.5		

*NEIC **07** 05:11:13.9±1.9,5°.14N±0°.09×124°.0E±0°.1,h486km±8km, mb4.5/46,Error ellipse: s-maj=16.7km s-min=13.1km az=68.0*

*DJA **07** 05:11:13.1±0.2,5°.N±.3°×12°.4E±°,h475km±3km,M4.5/32, mb4.7/32,mB5.0/18,MLv5.2/13,Mw(mB)4.3/18, MwMwp5.2/1,Mwp5.5/1*

*IDC **07** 05:11:13.9±0.6,5°.10N×123°.95E,h494km±6km,mb3.9/27, mbtmp4.8/31,Error ellipse: s-maj=15.1km s-min=6.1km az=73.0*

ISC 07 05:11:13.7±0.5,5°.08N±0°.04×123°.97E±0°.06,h494km±5km, n144,σ0.98/160,mb4.4/58,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	2.08	132	P	P	05 12 16.2	-2.4
DAV	Davao City (W)	2.54	39		P	05 12 20.4	-0.8
DAV	Davao City (W)	2.54	39	P	P	05 12 21.0	-0.3
	1μm,0.5s,baz=250,slow=1.4,SNR=12						
DAV				S	S	05 13 16.3	+0.2
	794nm,0.5s,baz=316,slow=23,SNR=9.5						
DAV	Davao City (W)	2.54	39	P	P	05 12 22.0	+0.8
DAV	Davao City (W)	2.54	39	S	S	05 13 17.4	+1.3
MRSI	Marisa	5.00	204	P	P	05 12 39.0	-1.4
	134nm,0.9s						
TOLI2	Tolitoli	5.07	219		P	05 12 39.9	-1.1
TOLI2	Tolitoli	5.07	219	P	P	05 12 40.2	-0.8
MYLDM	Lahad Datu	5.45	271		P	05 12 44.4	-0.1
MYLDM	Lahad Datu	5.45	271	P	P	05 12 45.4	+0.9
TNTI	Ternate	5.46	142	P	P	05 12 43.5	-1.1
TNTI	Ternate	5.46	142	P	P	05 12 43.2	-1.4
MPSI	Mapaga	6.22	221	P	P	05 12 50.2	-1.8
	0.5nm2μm140nm,1.3s						
APSI	Ampana	6.39	201	P	P	05 12 53.1	-0.5
	1.3nm3μm395nm,0.7s						
PCI	Palu	7.24	215	P	P	05 13 00.2	-2.0
	1.4nm4μm420nm,1.1s						
SANI	Sanana	7.36	164	P	P	05 12 59.6	-3.8
	2μm125nm,0.7s						
KKM	Kota Kinabalu	7.78	277		P	05 13 06.6	-1.3
KKM	Kota Kinabalu	7.78	277	P	P	05 13 07.2	-0.6
SMKI	Samarinda	8.71	231	P	P	05 13 17.9	+0.5
BKB	Balikpapan	9.47	228		P	05 13 25.3	-0.1
BKB	Balikpapan	9.47	228	P	P	05 13 24.7	-0.7
SPSI	Sidrap Palu	9.92	205	P	P	05 13 30.9	+0.7
	1μm55nm,0.6s						
BNSI	Bone	10.18	202	P	P	05 13 33.7	+0.8
	1μm94nm,1.0s						
KAPI	Kappang	10.88	203	P	P	05 13 40.1	-0.3
	41nm,0.9s,baz=13,slow=7.6,SNR=10						
KAPI				S	S	05 15 42.7	+1.6
	11nm,0.9s,baz=61,slow=19,SNR=7.0						
BKSI	Bulukumba	11.02	200	P	P	05 13 41.6	-0.3
	46nm,0.9s						
SBUM	Sibu	12.02	258		P	05 13 53.2	+0.7
SBUM	Sibu	12.02	258	P	P	05 13 52.5	0.0
SBUM	Sibu	12.02	258	S	S	05 16 04.3	+0.9
BAKI	Biak	13.63	117	P	P	05 14 10.5	+0.9
	192nm,0.9s						
MMRI	Maumere	13.73	187	P	P	05 14 11.4	+0.6
EDFI	Ende, Flores	13.92	189	P	P	05 14 13.8	+0.9
	47nm,0.7s						
SOEI	Soe	14.74	179	P	P	05 14 22.0	+0.5
SOEI	Soe	14.74	179	P	P	05 14 21.2	-0.3
SOEI	Soe	14.74	179	S	S	05 16 55.9	-0.4
PLAI	Plampang	15.13	204	P	P	05 14 25.2	-0.3
PLAI	Plampang	15.13	204	P	P	05 14 22.6	-2.9
	1μm60nm,0.7s						
BATI	Baumata	15.19	181	P	P	05 14 26.4	+0.3
	147nm,0.5s,baz=281,slow=1.1,SNR=11						
BATI				S	S	05 17 05.2	+0.4
	15nm,0.5s,baz=60,slow=21,SNR=1.0						
BATI	Baumata	15.19	181	P	P	05 14 26.3	+0.2
SMPI	Sarmi	16.31	115	P	P	05 14 39.2	+1.4
	103nm,1.1s						
GMJI	Gumukmas	16.92	218	P	P	05 14 43.9	-0.2
TWG	Pinlang	17.86	351	P	P	05 14 51.4	-1.7
GENI	Genyem	17.88	115	P	P	05 14 54.3	+0.9
	181nm,1.0s						
JAY	Jayapura	18.34	114	P	P	05 14 59.1	+1.4
	21nm,0.6s,baz=267,slow=8.9,SNR=18						
JAY	Jayapura	18.34	114	P	P	05 14 59.3	+1.6
YULB	Yu-li	18.39	352	P	P	05 14 57.4	-0.6
TPUB	Ta-pu	18.40	350	P	P	05 14 57.2	-0.9
TPUB	Ta-pu	18.40	350	P	P	05 14 58.4	+0.3
SSLB	Suanglung	18.83	351	P	P	05 15 01.5	-0.5
NACB	Ninganchiao	19.12	353	P	P	05 15 05.0	+0.3
MTN	Manton Dam	19.17	158		P	05 15 06.5	+1.3
MTN	Manton Dam	19.17	158	P	P	05 15 05.1	-0.1
QIZ	Qiongzhong	19.55	316	P	P	05 15 08.5	-0.1
QIZ				sP	sP	05 17 15.6	0.0
QIZ				S	S	05 18 21.6	+1.7
QIZ				pmax	pmax		
	comp=Z,50nm,0.9s						
QIZ				LR	LR		
	comp=E,130nm,6.3s						
QIZ				LR	LR		
	comp=Z,330nm,8.4s						
KDU	Kakadu	19.57	154	P	P	05 15 09.0	+0.2
KNRA	Kununurra	21.16	167		P	05 15 23.6	+0.4
KNRA				IAmb	IAmb	05 15 28.7	
	comp=Z,17nm,0.8s						
FITZ	Fitzroy Crossi	23.09	176		P	05 15 40.9	+0.3
FITZ	Fitzroy Crossi	23.09	176	P	P	05 15 40.9	+0.3
	comp=Z,18nm,0.8s,baz=7.0,slow=9.5,SNR=71						
FITZ				PcP	PcP	05 19 12.3	+0.2
	comp=Z,2.1nm,0.6s,baz=45,slow=2.9,SNR=1.8						
FITZ				ScP	ScP	05 22 03.2	-0.1
	comp=Z,2.1nm,0.7s,baz=346,slow=4.2,SNR=2.5						
	comp=Z,18nm,0.8s						
FITZ	Fitzroy Crossi	23.09	176	P	P	05 15 40.4	-0.2
MANU	Manus Island	24.42	106	P	P	05 15 53.7	+1.2
MANU				IAmb	IAmb	05 15 55.9	
	comp=Z,21nm,1.0s						
MBWA	Marble Bar	26.40	189	P	P	05 16 09.1	-0.9
MBWA				IAmb	IAmb	05 16 10.2	
	comp=Z,16nm,0.8s						
MBWA	Marble Bar	26.40	189	P	P	05 16 09.5	-0.5
PSA00	Pilbara Seismi	26.79	189	P	P	05 16 12.9	-0.5
PSA00	Pilbara Seismi	26.79	189	P	P	05 16 13.0	-0.5
COEN	Coen	26.85	135	P	P	05 16 14.0	0.0
WRAB	Tennant Creek	26.87	158	P	P	05 16 14.1	-0.1
WRAB				IAmb	IAmb	05 16 15.0	
	comp=Z,16nm,1.3s						
WRA	Warramunga Arr	26.87	158	P	P	05 16 14.3	+0.1
	comp=Z,5.8nm,0.5s,baz=333,slow=10,SNR=108						
WRA				PcP	PcP	05 19 21.3	+0.4
	comp=Z,2.1nm,0.7s,baz=328,slow=3.5,SNR=5.3						
WRA				S	S	05 20 13.4	-2.2
	comp=Z,2.2nm,0.9s,baz=334,slow=15,SNR=1.6						
WRA				ScP	ScP	05 22 14.3	+0.2
	comp=Z,2.2nm,0.9s,baz=344,slow=3.5,SNR=7.4						
	comp=Z,5.8nm,0.5s						
WR8	Warramunga Arr	26.94	158	P	P	05 16 14.7	-0.1
NJ2	Nanjing	27.26	350	eP	P	05 16 18.9	+1.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CMAR	Chiang Mai Arr	27.82	301		P	05 16 22.3	-0.3
CMAR	Chiang Mai Arr	27.82	301	P	P	05 16 23.4	+0.7
	comp=Z,5.6nm,0.8s,baz=115,slow=7.0,SNR=27						
CMAR				PcP	PcP	05 19 24.2	+0.9
	comp=Z,1.8nm,0.3s,baz=144,slow=1.2,SNR=8.0						
CMAR				ScP	ScP	05 22 18.1	+1.0
	comp=Z,1.7nm,0.3s,baz=148,slow=1.9,SNR=16						
	comp=Z,5.6nm,0.8s						
CHTO	Chiang Mai	27.98	301		P	05 16 24.0	0.0
QIS	Mount Isa	29.75	149	P	P	05 16 39.5	+0.2
ASAR	Alice Springs	30.17	162		P	05 16 43.7	+0.7
ASAR	Alice Springs	30.17	162	P	P	05 16 43.9	+0.9
	comp=Z,13nm,0.5s,baz=341,slow=7.3,SNR=135						
ASAR				PcP	PcP	05 19 29.1	-0.1
	comp=Z,3.0nm,0.7s,baz=343,slow=3.3,SNR=9.5						
ASAR				S	S	05 21 06.0	-0.9
	comp=Z,4.7nm,0.9s,baz=350,slow=21,SNR=14						
ASAR				ScP	ScP	05 22 24.8	+0.2
	comp=Z,2.4nm,0.8s,baz=353,slow=3.3,SNR=8.9						
	comp=Z,13nm,0.5s						
AS01	Alice Springs	30.18	162	P	P	05 16 43.7	+0.6
MEEK	Meekatharra	31.95	189	P	P	05 16 57.9	-0.4
CD2	Chengdu	31.97	326	P	P	05 16 58.1	-0.3
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
KSRS	Korea Array	32.43	6	P	P	05 17 03.2	+1.1
	comp=Z,1.7nm,0.6s,baz=185,slow=9.7,SNR=6.8						
	comp=Z,1.7nm,0.6s						
MJAR	Matsushiro Arr	33.93	21	P	P	05 17 14.0	-1.0
MJAR	Matsushiro Arr	33.93	21	P	P	05 17 14.6	-0.3
	comp=Z,8.0nm,0.8s,baz=195,slow=8.9,SNR=14						
	comp=Z,8.0nm,0.8s						
BJI	Beijing	35.51	350	P	P	05 17 28.7	+0.6
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LZH	Lanzhou	35.99	332	eP	P	05 17 33.4	+1.0
LZH				sP	PcP	05 19 46.5	+0.7
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
JMM	Marumori	36.06	23	P	P	05 17 32.8	+0.1
JMM				IAmb	IAmb	05 17 34.8	
	comp=Z,22nm,0.9s						
HHC	Hu-ho-hao-te	37.32	344	eP	P	05 17 45.1	+1.9
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
XLT	XiLinHaoTe	39.28	351	eP	P	05 17 59.7	+0.5
XLT				pP	pP	05 19 30.9	+2.6
XLT				pmax	pmax		
	comp=Z,14nm,0.7s						
BBOO	Buckleboo	39.39	164	IAmb	IAmb	05 18 02.1	
	comp=Z,23nm,0.8s						
USRK	Ussuriysk Ar.	39.60	9	P	P	05 18 02.1	+0.5
	comp=Z,6.6nm,0.7s,baz=191,slow=8.7,SNR=4.5						
	comp=Z,2.6nm,0.7s						
STKA	Stephens Creek	40.40	157		P	05 18 09.8	+1.5
STKA	Stephens Creek	40.40	157	P	P	05 18 10.0	+1.8
	comp=Z,13nm,0.4s,baz=333,slow=8.6,SNR=27						
	comp=Z,13nm,0.4s						
GTA	Gaotai	40.56	331	eP	P	05 18 10.7	+1.1
GTA				pP	pwP	05 19 42.6	-1.8
GTA				PcP	PcP	05 20 01.5	+1.3
GTA				pmax	pmax		
	comp=Z,12nm,0.9s						
BNX	BinXian	40.61	4	⇑P	P	05 18 10.4	+0.7
BNX				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EVN	Everest	41.99	307		P	05 18 21.8	0.0
EVN				IAmb	IAmb	05 18 23.0	
	comp=Z,13nm,0.7s						
SONM	Songino Array	45.19	343		P	05 18 46.0	+0.2
SONM	Songino Array	45.19	343	P	P	05 18 46.3	+0.5
	comp=Z,7.6nm,0.9s,baz=161,slow=8.6,SNR=27						
SONM				PcP	PcP	05 20 15.7	-0.1
	comp=Z,1.8nm,0.6s,baz=153,slow=3.4,SNR=5.0						
SONM				ScP	ScP	05 23 21.1	0.0
	comp=Z,3.2nm,1.2s,baz=158,slow=3.8,SNR=4.3						
	comp=Z,7.6nm,0.9s						
CAN	Canberra	46.57	152		P	05 18 58.7	+2.3
CAN				IAmb	IAmb	05 18 59.7	
	comp=Z,8.8nm,0.7s						
MKAR	Makanchi Array	54.90	326		P	05 19 57.2	+0.1
MKAR	Makanchi Array	54.90	326	P	P	05 19 57.4	+0.3
	comp=Z,9.1nm,0.5s,baz=122,slow=8.4,SNR=92						
MKAR				PcP	PcP	05 20 51.7	-0.1
	comp=Z,8.0nm,0.7s,baz=114,slow=4.3,SNR=18						
MKAR				ScP	ScP	05 24 02.6	-0.2
	comp=Z,1.4nm,0.8s,baz=122,slow=4.6,SNR=4.9						
MKAR				S	S	05 27 02.2	+1.5
	comp=Z,0.9nm,0.8s,baz=124,slow=15,SNR=5.6						
	comp=Z,9.1nm,0.5s						
KSH	Kashi	55.16	316	P	P	05 20 01.0	+1.8
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KDJ	Kajisay	55.52	319	IAmb	IAmb	05 20 03.4	
	comp=Z,13nm,0.6s						
ZALV	Zalesovo Beam	58.16	334		P	05 20 18.6	-0.8
ZALV	Zalesovo Beam	58.16	334	P	P	05 20 18.9	-0.5
	comp=Z,6.0nm,0.7s,baz=116,slow=6.8,SNR=19						
ZALV				S	S	05 27 41.6	-0.9
	comp=Z,0.8nm,0.5s,baz=124,slow=9.6,SNR=4.0						
	comp=Z,6.0nm,0.7s						
KBL	Kabul	58.53	308	P	P	05 20 22.6	0.0
KBL				IAmb	IAmb	05 20 23.2	
	comp=Z,11nm,0.7s						
GAR	Garm	59.00	313		P	05 20 25.8	+0.3
GAR				IAmb	IAmb	05 20 26.4	
	comp=Z,29nm,0.9s						
KURBB	Kurchatov Arra	59.14	328	P	P	05 20 26.4	+0.4
	comp=Z,24nm,0.7s,baz=127,slow=6.2,SNR=79						
	comp=Z,24nm,0.7s						
KURK	Kurchatov	59.14	328		P	05 20 26.3	+0.2
KK31	Karatay Array	60.38	317		P	05 20 34.8	+0.2
KK31				IAmb	IAmb	05 20 35.6	
	comp=Z,14nm,0.9s						
KKAR	Karatay Array	60.38	317		P	05 20 34.5	-0.1
BVAR	Borovoye Array	64.71	327	P	P	05 21 02.5	+0.1
	comp=Z,13nm,0.9s,baz=126,slow=7.5,SNR=35						
BVAR				S	S	05 29 03.5	-0.1
	comp=Z,0.8nm,0.7s,baz=105,slow=22,SNR=1.9						
	comp=Z,13nm,0.9s						
BRVK	Borovoye	64.78	327		P	05 21 02.9	+0.1
BRVK				IAmb	IAmb	05 21 03.8	
	comp=Z,16nm,0.9s						
AB31	Akbulak array	69.38	321	IAmb	IAmb	05 21 32.0	
	comp=Z,12nm,0.8s						
ABKAR	Akbulak array	69.38	321		P	05 21 30.9	-0.4
ARTI	Arti	72.42	328		P	05 21 47.9	-1.3
RAYN	Ar Rayn	77.43	293		P	05 22 17.5	-0.6
RAYN				IAmb	IAmb	05 22 18.1	
	comp=Z,11nm,0.8s						
ABPO	Ambohimpanom	79.19	250		P	05 22 27.3	-0.4
GEVA	Gevas	79.75	308		P	05 22 30.9	+0.6
GEVA				IAmb	IAmb	05 22 31.6	
	comp=Z,21nm,0.7s						
VOI	Vohitsoka	80.06	247		P	05 22 31.5	-0.7
VOI				IAmb	IAmb	05 22 32.1	
	comp=Z,22nm,0.7s						
KBZ	Khabaz	80.06	313	P	P	05 22 31.4	-0.2
	comp=Z,4.7nm,1.0s,baz=149,slow=3.9,SNR=6.0						
	comp=Z,4.7nm,1.0s						
MAW	Mawson	84.07	200	P	P	05 22 52.0	+0.6
	comp=Z,5.3nm,0.9s,baz=38,slow=6.5,SNR=3.9						
	comp=Z,5.3nm,0.9s						
ILAR	Eielson Array	85.08	25	P	P	05 22 56.0	-0.5
	comp=Z,0.2nm,0.7s,baz=259,slow=4.9,SNR=1.7						
VNDA	Vanda	85.11	172		P	05 22 57.1	+0.7
VNDA	Vanda	85.11	172	P	P	05 22 56.8	+0.4
	comp=Z,4.0nm,0.9s,baz=316,slow=6.4,SNR=16						
	comp=Z,4.0nm,0.9s						
BNN	Bunyan	85.39	308	IAmb	IAmb	05 22 59.6	
	comp=Z,10.0nm,0.9s						
MMAI	Mount Meron Ar	86.07	303	P	P	05 23 01.9	-0.3
	comp=Z,1.0nm,0.3s,baz=81,slow=12,SNR=4.8						
	comp=Z,1.0nm,0.3s						
KMBO	Kilima Mbogo	86.83	269	P	P	05 23 06.4	+0.1
	comp=Z,3.8nm,0.6s,baz=59,slow=3.1,SNR=5.7						
	comp=Z,3.8nm,0.6s						
BR131	Keskin Array S	87.05	309	IAmb	IAmb	05 23 07.1	
	comp=Z,6.7nm,0.8s						
BRTR	Keskin Array B	87.05	309	P	P	05 23 05.7	-1.0
	comp=Z,5.0nm,0.8s,baz=93,slow=5.7,SNR=29						
	comp=Z,5.0nm,0.8s						
ARCES	ARCESS Array B	88.24	340	P	P	05 23 10.3	-1.1
	comp=Z,3.1nm,0.8s,baz=76,slow=6.9,SNR=9.2						
	comp=Z,3.1nm,0.8s						
SPITS	Spitsbergen Ar	88.63	349	P	P	05 23 12.9	-0.2
	comp=Z,4.1nm,0.5s,baz=87,slow=4.8,SNR=15						
	comp=Z,4.1nm,0.5s						
AKASG	Malin Array Be	89.12	321	P	P	05 23 14.7	-1.2
	comp=Z,3.2nm,0.7s,baz=70,slow=4.6,SNR=9.7						
	comp=Z,3.2nm,0.7s						
AKBB	Malin Array Si	89.12	321	IAmb	IAmb	05 23 15.3	
	comp=Z,7.8nm,1.1s						
KIEV	Kiev	89.13	321		P	05 23 14.8	-1.2
KIEV				IAmb	IAmb	05 23 15.3	
	comp=Z,7.0nm,1.1s						
FINES	FINESS Array B	89.35	332	P	P	05 23 15.8	-1.0
	comp=Z,5.1nm,0.7s,baz=83,slow=7.9,SNR=16						
	comp=Z,5.1nm,0.7s						
MLR	Muntele Rosu	92.03	316	IAmb	IAmb	05 23 29.8	
	comp=Z,5.1nm,0.7s						
BURAR	Bucovina Array	92.17	318		P	05 23 29.4	-0.8
BURAR				IAmb	IAmb	05 23 31.0	
	comp=Z,6.6nm,0.8s						
QSPA	South Pole Qui	94.98	180	P	P	05 23 43.7	+1.1
	comp=Z,2.4nm,1.0s,baz=280,slow=1.6,SNR=5.5						
	comp=Z,2.4nm,1.0s						
HFS	Hagfors	95.55	332	P	P	05 23 43.7	-1.5
	comp=Z,1.5nm,0.5s,baz=86,slow=4.6,SNR=8.0						
	comp=Z,1.5nm,0.5s						
NB2	NORSAR Subarra	96.36	333	P	P	05 23 47.4	-1.5
	comp=Z,2.1nm,0.7s,baz=68,slow=4.4						
	baz=68,slow=4.4						
NB2	NORSAR Subarra	96.36	333	P	P	05 23 47.4	-1.5
NOA	NORSAR Array B	96.36	333	P	P	05 23 47.4	-1.5
	comp=Z,1.1nm,0.7s,baz=69,slow=4.5,SNR=4.8						
	comp=Z,1.1nm,0.7s						
GERES	GERESS Array B	99.32	321	P	Pdif	05 24 02.3	-0.2
	comp=Z,0.4nm,0.3s,baz=72,slow=4.3,SNR=5.6						
	comp=Z,0.4nm,0.3s						
TORD	Torodi Ar. Bea	119.89	288		PKPdf	05 29 08.3	-0.3
TORD	Torodi Ar. Bea	119.89	288	PKP	PKPdf	05 29 07.9	-0.6
	comp=Z,2.3nm,0.6s,baz=74,slow=2.1,SNR=4.9						
TXAR	Lajitas Array	122.90	50	PKP	PKPdf	05 29 14.9	+0.8
	comp=Z,0.2nm,0.8s,baz=187,slow=3.9,SNR=3.9						
DBIC	Dimbokro	127.61	282	PKP	PKPdf	05 29 22.4	-1.0
	comp=Z,3.4nm,0.8s,baz=90,slow=5.1,SNR=1.5						
PLCA	Paso Flores	142.18	162	PKP	PKPdf	05 29 47.2	-2.6
	comp=Z,2.0nm,0.8s,baz=180,slow=20,SNR=4.1						

IDC 07 05:22:25.3±2.1,16°.84S×177°.70W,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=135.9km s-min=25.5km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	45.50	258	P	P	05 30 46.8	-0.1
	0.7nm,0.4s,baz=95,slow=7.0,SNR=15						
	0.7nm,0.4s						
ASAR	Alice Springs	45.73	253	P	P	05 30 48.5	-0.2
	2.0nm,0.5s,baz=85,slow=8.2,SNR=19						
	2.0nm,0.5s						
ILAR	Eielson Array	84.70	13	P	P	05 35 00.6	-0.1
	0.2nm,0.5s,baz=204,slow=4.0,SNR=4.2						
	0.2nm,0.5s						
TXAR	Lajitas Array	84.86	57	P	P	05 35 02.9	+0.4
	0.3nm,0.6s,baz=210,slow=7.2,SNR=4.3						
	0.3nm,0.6s						
PDAR	Pinedale Array	86.12	43	P	P	05 35 08.2	-0.4
	0.2nm,0.5s,baz=236,slow=4.8,SNR=2.2						
	0.2nm,0.5s						

*MDD **07** 05:30:32.7±0.6,35°.95N×10°.82W,h25km,Mb4.0/12, M_mb3.3/12,Error ellipse: s-maj=5.0km s-min=3.5km az=78.0*

*IGIL **07** 05:30:35.8,36°.00N×10°.71W,h26km,ML2.6*

*INMG **07** 05:30:36.3±1.4,35°.98N×10°.70W,h35km,ML2.6,Error ellipse: s-maj=5.6km s-min=4.0km az=89.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos*

ISC 07 05:30:32.4±2.3,36°.00N±0°.08×10°.77W±0°.10,h35km,n64, σ2.905/114,14C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	Vila Bisbo	1.93	54	Pn	Pn	05 31 04.9	+2.3
PFVI				Sn	Sn	05 31 26.3	+0.6
PFVI	Vila Bisbo	1.93	54	eP	Pn	05 31 04.9	+2.3
PFVI				eS	Sn	05 31 26.3	+0.6
PFVI				i IAML		05 31 27.0	
PFVI				i IAML		05 31 27.1	
PFVI				i IAML		05 31 27.2	
MORF	Marmelete	2.14	52	eP	Pn	05 31 08.0	+2.4
MORF				eS	Sn	05 31 31.5	+0.5
MORF				IAML		05 31 33.1	
	comp=E,68nm,0.1s						
MORF	Marmelete	2.14	52	eP	Pn	05 31 08.0	+2.4
MORF				eS	Sn	05 31 31.6	+0.7
MORF				i IAML		05 31 33.2	
MORF				i IAML		05 31 33.3	
MORF				i IAML		05 31 34.7	
PTEO	Sao Teotonio	2.25	46	eP	Pn	05 31 09.8	+2.7
PTEO				eS	Sn	05 31 34.5	+0.9
PTEO				i IAML		05 31 35.0	
PTEO				i IAML		05 31 35.0	
PTEO				i IAML		05 31 36.7	
PBDV	Barranco-do-Ve	2.59	61	Pn	Pn	05 31 14.2	+2.3
PBDV				Sn	Sn	05 31 42.2	-0.1
PBDV	Barranco-do-Ve	2.59	61	eP	Pn	05 31 14.2	+2.3
PBDV				eS	Sn	05 31 42.1	-0.1
PBDV				i IAML		05 31 43.8	
PBDV				i IAML		05 31 44.4	
PBDV				i IAML		05 31 48.7	
PCVE	Castro Verde	2.73	53	Pn	Pn	05 31 16.2	+2.6
PCVE				Sn	Sn	05 31 46.3	+0.9
PCVE	Castro Verde	2.73	53	eP	Pn	05 31 16.2	+2.6
PCVE				eS	Sn	05 31 46.2	+0.9
PCVE				i IAML		05 31 47.1	
PCVE				i IAML		05 31 47.4	
PCVE				i IAML		05 31 47.9	
MESJ	Messejana	2.74	47	eP	Pn	05 31 16.3	+2.4
MESJ				eS	Sn	05 31 45.9	0.0
MESJ				IAML		05 31 47.8	
	comp=E,18nm,0.1s						
MESJ	Messejana	2.74	47	eP	Pn	05 31 16.3	+2.4
MESJ				eS	Sn	05 31 46.2	+0.4
MESJ				i IAML		05 31 48.4	
MESJ				i IAML		05 31 49.1	
MESJ				i IAML		05 31 49.2	
PVAQ	Vaqueiros	2.82	59	Pn	Pn	05 31 17.2	+2.2
PVAQ	Vaqueiros	2.82	59	⇑eP	Pn	05 31 17.2	+2.2
PVAQ				eS	Sn	05 31 47.4	-0.3
PVAQ				i IAML		05 31 47.8	
PVAQ				i IAML		05 31 48.6	
PVAQ				i IAML		05 31 49.7	
EGRO	El Granado	3.05	59	Pn	Pn	05 31 20.2	+2.2
EGRO				Sn	Sn	05 31 52.9	-0.4
EGRO	El Granado	3.05	59	P	Pn	05 31 20.1	+2.0
EGRO				⇑iVmb_VC		05 31 22.9	
	comp=E,218nm,SNR=4.5						
EGRO				S	Sn	05 31 52.3	-1.0
PBEJ	Beja	3.08	48	eP	Pn	05 31 15.0	-3.4
PBEJ				eS	Sn	05 31 54.0	0.0
PBEJ				i IAML		05 31 55.

ESPR	**Espera**	**4.05**	**76**	P		**Pn**	**05 31 34.1**	**+2.2**
ESPR				⇑*i*Vmb_VC			05 31 34.7	
	comp=E,218nm,SNR=3.9							
ESPR				S		**Sn**	**05 32 17.8**	**-0.3**
EBAD	**Badajoz**	**4.06**	**46**	Pn		**Pn**	**05 31 34.2**	**+2.2**
EBAD				Sn		**Sn**	**05 32 17.3**	**-1.0**
EBAD	**Badajoz**	**4.06**	**46**	P		**Pn**	**05 31 33.4**	**+1.5**
EBAD				⇑*i*Vmb_VC			05 31 43.4	
	comp=E,134nm,SNR=4.1							
EBAD				S		**Sn**	**05 32 17.4**	**-0.9**
PSARD	**Sardoal**	**4.14**	**29**	*e*P		**Pn**	**05 31 35.4**	**+2.2**
PSARD				*e*S		**Sn**	**05 32 19.6**	**-0.7**
PSARD				*i* IAML			05 32 21.8	
PSARD				*i* IAML			05 32 23.1	
PSARD				*i* IAML			05 32 23.7	
PMRV	**Marv??o**	**4.34**	**37**	*e*P		**Pn**	**05 31 38.1**	**+2.2**
PMRV				*e*S		**Sn**	**05 32 24.4**	**-0.9**
PMRV				*i* IAML			05 32 25.4	
PMRV				*i* IAML			05 32 25.6	
PMRV				*i* IAML			05 32 26.5	
PCAS	**Casmilo, Conde**	**4.42**	**23**	*e*P		**Pn**	**05 31 40.0**	**+3.1**
PCAS				*e*S		**Sn**	**05 32 26.6**	**-0.6**
PCAS				*i* IAML			05 32 27.8	
PCAS				*i* IAML			05 32 28.0	
PCAS				*i* IAML			05 32 30.4	
COI	**Coimbra**	**4.59**	**23**	*e*P		**Pn**	**05 31 42.5**	**+3.2**
COI				*e*S		**Sn**	**05 32 30.8**	**-0.6**
PCBR	**Castelo Branco**	**4.63**	**33**	*e*S		**Sn**	**05 32 31.1**	**-1.2**
PCBR				*i* IAML			05 32 33.1	
PCBR				*i* IAML			05 32 34.0	
PCBR				*i* IAML			05 32 35.0	
ECAB	**El Cabril**	**4.75**	**63**	Pn		**Pn**	**05 31 43.5**	**+2.0**
ECAB				Sn		**Sn**	**05 32 33.5**	**-1.9**
ECAB	**El Cabril**	**4.75**	**63**	P		**Pn**	**05 31 43.5**	**+2.0**
ECAB				S		**Sn**	**05 32 32.8**	**-2.5**
PVIS	**Viseu**	**5.22**	**25**	*e*P		**Pn**	**05 31 50.1**	**+2.2**
PVIS				*e*S		**Sn**	**05 32 45.5**	**-1.4**
EADA	**Adamuz**	**5.40**	**65**	Pn		**Pn**	**05 31 52.2**	**+1.7**
EADA				Sn		**Sn**	**05 32 48.5**	**-2.8**
EADA	**Adamuz**	**5.40**	**65**	P		**Pn**	**05 31 52.4**	**+1.9**
EADA				⇑*i*Vmb_VC			05 31 54.6	
	comp=E,71nm,SNR=2.3							
EADA				S		**Sn**	**05 32 49.6**	**-1.8**
EGOR	**Sierra Gorda,**	**5.47**	**76**	S		**Sn**	**05 32 52.0**	**-1.2**
EPLA	**Plasencia**	**5.49**	**41**	P		**Pn**	**05 31 53.0**	**+1.4**
EPLA				⇑*i*Vmb_VC			05 32 02.6	
	comp=E,49nm,SNR=1.4							
EPLA				S		**Sn**	**05 32 52.3**	**-1.2**
ELGU	**Los Guajares,**	**5.82**	**79**	S		**Sn**	**05 33 00.8**	**-1.0**
POLO	**Lamas de Olo**	**5.84**	**23**	*e*P		**Pn**	**05 31 59.7**	**+3.2**
POLO				*e*S		**Sn**	**05 32 59.6**	**-2.8**
POLO				*i* IAML			05 33 01.9	
POLO				*i* IAML			05 33 03.5	
POLO				*i* IAML			05 33 07.0	
TIO	**Tiouine**	**5.85**	**149**	Pn		**Pn**	**05 31 56.6**	**-0.1**
TIO				Sn		Sn	05 32 56.3	-6.3
MVO	**Moncorvo**	**5.93**	**28**	*e*S		**Sn**	**05 33 01.6**	**-2.8**
MVO				*i* IAML			05 33 05.0	
MVO				*i* IAML			05 33 05.8	
MVO				*i* IAML			05 33 06.6	
PCAB	**Cabril**	**6.09**	**20**	*e*P		**Pn**	**05 32 02.1**	**+2.2**
PCAB				*e*S		**Sn**	**05 33 06.4**	**-1.9**
PCAB				*i* IAML			05 33 09.2	
PCAB				*i* IAML			05 33 22.0	
PCAB				*i* IAML			05 33 22.5	
PAB	**San Pablo**	**6.19**	**53**	⇑*i*Vmb_VC			05 32 02.1	
	comp=E,43nm,SNR=2.1							
PAB				P		**Pn**	**05 32 02.2**	**+0.9**
PAB				S		**Sn**	**05 33 07.6**	**-3.3**
ELOB	**Lobios**	**6.22**	**19**	P		**Pn**	**05 32 02.9**	**+1.1**
ELOB				⇑*i*Vmb_VC			05 32 09.2	
	comp=E,70nm,SNR=1.5							
ELOB				S		**Sn**	**05 33 08.9**	**-2.8**
PSIM	**Granatula de C**	**6.25**	**61**	P		**Pn**	**05 32 03.0**	**+0.9**
PSIM				S		**Sn**	**05 33 08.9**	**-3.4**
PGAV	**Gavieira, Arco**	**6.26**	**17**	*e*P		**Pn**	**05 32 04.6**	**+2.3**
PGAV				*e*S		**Sn**	**05 33 10.0**	**-2.7**
PGAV				*i* IAML			05 33 16.4	
PGAV				*i* IAML			05 33 16.5	
PGAV				*i* IAML			05 33 20.6	
EZAM	**Zamans**	**6.34**	**14**	P		**Pn**	**05 32 04.2**	**+0.9**
EZAM				S		**Sn**	**05 33 10.9**	**-3.7**
EQES	**Quesada**	**6.42**	**71**	S		**Sn**	**05 33 13.8**	**-2.9**
PBRG	**Braganca**	**6.59**	**27**	*e*S		**Sn**	**05 33 17.6**	**-3.0**
PBRG				*i* IAML			05 33 20.0	
PBRG				*i* IAML			05 33 20.8	
PBRG				*i* IAML			05 33 21.3	
ECAL	**Calabor**	**6.71**	**27**	P		**Pn**	**05 32 10.0**	**+1.6**
ECAL				⇑*i*Vmb_VC			05 32 12.4	
	comp=E,78nm,SNR=1.4							
ECAL				S		**Sn**	**05 33 21.4**	**-2.3**
GUD	**Guadarrama**	**6.96**	**46**	S		**Sn**	**05 33 27.2**	**-2.7**
EMAZ	**Mazaricos**	**7.07**	**11**	P		**Pn**	**05 32 14.0**	**+0.7**
EMAZ				S		Sn	05 33 27.4	-5.1
EAGO	**Agolada(Pontev**	**7.10**	**16**	P		**Pn**	**05 32 14.4**	**+0.6**
EAGO				⇑*i*Vmb_VC			05 32 21.0	
	comp=E,98nm,SNR=1.4							
EAGO				S		**Sn**	**05 33 30.6**	**-2.5**
EPON	**Pontenova**	**7.83**	**20**	P		**Pn**	**05 32 23.3**	**-0.4**
EPON				⇑*i*Vmb_VC			05 32 23.8	
	comp=E,110nm,SNR=1.6							
EPON				S		**Sn**	**05 33 47.4**	**-3.6**
ETOR	**Torete**	**8.36**	**52**	P		**Pn**	**05 32 31.1**	**0.0**
ETOR				⇑*i*Vmb_VC			05 32 37.1	
	comp=E,39nm,SNR=1.0							
ETOR				S		**Sn**	**05 33 59.1**	**-5.1**
EARI	**Arriondas**	**8.45**	**29**	S		**Sn**	**05 34 02.3**	**-4.1**

*IDC **07** 05:32:39.9±0.7, 15°.53S×167°.75E, h127km±5km, mb5.0/27, mbtmp5.4/28, MS4.7/35, Error ellipse: s-maj=12.5km s-min=8.4km az=84.0*

*NEIC **07** 05:32:40.6, 15°.54S×167°.66E, h130km*

*NEIC **07** 05:32:40.7, 15°.53S×167°.65E, h123km*

*NEIC **07** 05:32:40.6, 15°.54S×167°.66E, h130km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10^17^Nm; Mrr7.23; Mθθ-0.02; Mφφ-7.21; Mrθ-1.16; Mθφ-0.78; Mφr-3.31; Fault plane solution: M0 8.06000×10^17^ NP1: φs0.39000°, δ32.66000°, λ80.33000°. NP2:φs191.83000°, δ57.86000°, λ96.14000°. Principal axes: T 8.0706, Plg76.0000°, Azm120.0000°; N -0.0113, Plg5.0000°, Azm9.0000°; P -8.0593, Plg13.0000°, Azm277.0000°;*

*IPGP **07** 05:32:40.0, 15°.51S×167°.71E, h132km, Mw5.8, Fault plane solution: NP1:φs2.00000°, δ31.00000°, λ79.00000°. NP2:φs195.00000°, δ60.00000°, λ96.00000°.*

*NEIC **07** 05:32:40.6±1.6, 15°.50S±0°.03×167°.66E±0°.08, h124km±1km, mb5.2/277, Mwb5.9/46, Mww5.9/50, Error ellipse: s-maj=13.0km s-min=5.0km az=259.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr8.04; Mθθ-0.30; Mφφ-7.75; Mrθ-1.29; Mθφ-1.54; Mφr-3.10; Fault plane solution: M0 8.72000×10^17^ NP1:φs6.98000°, δ34.04000°, λ82.87000°. NP2:φs195.56000°, δ56.26000°, λ94.80000°. Principal axes: T 8.7372, Plg78.0000°, Azm122.0000°; N -0.0339, Plg4.0000°, Azm13.0000°; P -8.7033, Plg11.0000°, Azm282.0000°;*

*ISC-PP **07** 05:32:40, 15°.50S×167°.66E, h141km±1km, Mwppsm6.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^18^Nm; Mrr0.58±.11; Mθθ-0.63±.14; Mφφ0.04±.14; Mrθ0.33±.17; Mθφ0.10±.14; Mφr0.12±.22; Fault plane solution: M0 1.05000×10^18^ NP1:φs294.00000°, δ33.30000°, λ113.90000°. NP2:φs86.10000°, δ59.90000°, λ75.10000°.*

*NOU **07** 05:32:41.1, 15°.52S×167°.54E, h121km, ML5.4/136, Vanuatu Islands*

*BJI **07** 05:32:41.2, 14°.93S×167°.65E, h129km, mB5.4/58, mb5.3/84*

*MOS **07** 05:32:42.2±1.1, 15°.49S×167°.56E, h153km, mb5.3/31, MS4.9/8, Error ellipse: s-maj=8.0km s-min=6.3km az=128.2*

*GCMT **07** 05:32:42.6±0.1, 15°.60S±0°.01×167°.57E, h136km, MW5.9/166, Moment Tensor Solution. s151,c320; s166,c512; Duration: 2s2 Moment tensor: Scale 10^18^ Nm; Mrr0.77±.01; Mθθ0.04±.01; Mφφ-0.80±.01; Mrθ-0.18±.01; Mθφ-0.17±.01; Mφr-0.40±.01; Best double couple: M0 0.91500×10^18^ NP1:φs3.00000°, δ31.00000°, λ78.00000°. NP2:φs197.00000°, δ59.00000°, λ97.00000°.*

Principal axes: T 0.8880, Plg74.0000°, Azm127.0000°; N 0.0560, Plg6.0000°, Azm14.0000°; P -0.9430, Plg14.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 07 05:32:40.8±0.3, 15°.52S±0.03×167°.73E±0.03, h138km±2km, h138km:pP-P, n1279, σ1°27/1307, mb5.2/271, 113C-76D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.52**	**278**			**Pn**	**05 32 58.8**	**-2.1**
SANVU	**Saraoutou**	**0.52**	**278**	P		**Pn**	**05 32 58.3**	**-2.5**
SANVU	**Saraoutou**	**0.52**	**278**	S		**Sn**	**05 33 13.7**	**-2.3**
SANVU	**Saraoutou**	**0.52**	**278**	⇑P		**Pn**	**05 32 57.8**	**-3.0**
DVP	**Devils Point**	**2.24**	**169**	P		**Pn**	**05 33 17.8**	**-0.3**
DVP	**Devils Point**	**2.24**	**169**	S		**Sn**	**05 33 46.8**	**0.0**
INH	**Isangel**	**4.27**	**160**	P		**Pn**	**05 33 44.2**	**-0.1**
INH	**Isangel**	**4.27**	**160**	S		**Sn**	**05 34 35.2**	**+1.6**
LUES	**Luesalemba Tem**	**5.14**	**340**	P		**Pn**	**05 33 55.2**	**-0.8**
LUES	**Luesalemba Tem**	**5.14**	**340**	S		**Sn**	**05 34 53.5**	**-1.1**
KOUNC	**Koumac, New Ca**	**5.98**	**213**	P		**Pn**	**05 34 06.7**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.98**	**213**	S		**Sn**	**05 35 13.0**	**-1.6**
KOUNC	**Koumac, New Ca**	**5.98**	**213**	⇓P		**Pn**	**05 34 06.5**	**-0.6**
YATNC	**Mamie plateau,**	**6.55**	**187**	P		**Pn**	**05 34 14.1**	**-0.7**
YATNC	**Mamie plateau,**	**6.55**	**187**	S		**Sn**	**05 35 26.5**	**-1.9**
DZM	**Mont Dzumac**	**6.63**	**190**			**Pn**	**05 34 15.2**	**-0.7**
DZM	**Mont Dzumac**	**6.63**	**190**	*e*Pn		**Pn**	**05 34 14.5**	**-1.4**
	3μm,1.0s							
DZM				*e*Sn		**Sn**	**05 35 27.6**	**-2.7**
	6μm,1.2s							
DZM	**Mont Dzumac**	**6.63**	**190**	P		**Pn**	**05 34 16.7**	**+0.8**
	baz=0.0,slow=20							
DZM				S		**Sn**	**05 35 27.9**	**-2.5**
	837nm,0.5s,baz=292,slow=22,SNR=13							
DZM	**Mont Dzumac**	**6.63**	**190**	P		**Pn**	**05 34 16.6**	**+0.7**
DZM	**Mont Dzumac**	**6.63**	**190**	S		**Sn**	**05 35 29.4**	**-0.9**
ONTNC	**Ouen Toro**	**6.86**	**190**			**Pn**	**05 34 19.1**	**+0.2**
ONTNC	**Ouen Toro**	**6.86**	**190**	P		**Pn**	**05 34 19.9**	**+1.0**
ONTNC	**Ouen Toro**	**6.86**	**190**	S		**Sn**	**05 35 32.**	**-1.5**
OUENC	**Ouen Island, N**	**6.91**	**187**	P		**Pn**	**05 34 20.6**	**+1.0**
OUENC	**Ouen Island, N**	**6.91**	**187**	S		**Sn**	**05 35 36.7**	**-0.3**
PINNC	**Pines Island,**	**7.06**	**182**			**Pn**	**05 34 20.9**	**-0.7**
PINNC	**Pines Island,**	**7.06**	**182**	P		**Pn**	**05 34 21.8**	**+0.2**
PINNC	**Pines Island,**	**7.06**	**182**	S		**Sn**	**05 35 41.5**	**+0.9**
HURO	**Huro Makira**	**7.58**	**311**	P		**Pn**	**05 34 28.1**	**-0.6**
HURO	**Huro Makira**	**7.58**	**311**	S		**Sn**	**05 35 50.4**	**-2.9**
NGOA	**Tingoa Renbel**	**8.44**	**297**	P		**Pn**	**05 34 39.9**	**-0.2**
ALEG	**Aligegeo Malai**	**9.62**	**314**	P		**Pn**	**05 34 55.3**	**-0.7**
HNR	**Honiara**	**9.71**	**308**			**Pn**	**05 34 56.8**	**-0.5**
HNR	**Honiara**	**9.71**	**308**	P		**Pn**	**05 34 57.2**	**-0.1**
	865nm,0.4s,baz=186,slow=4.2,SNR=34							
HNR				S		**Sn**	**05 36 44.0**	**-0.8**
	317nm,0.7s,baz=97,slow=16,SNR=1.6							
HNR				LR		LR	05 38 31.5	
	comp=Z,14μm,21.7s,baz=142,slow=36							
HNR	**Honiara**	**9.71**	**308**	P		**Pn**	**05 34 57.4**	**+0.1**
HNR	**Honiara**	**9.71**	**308**	⇓P		**Pn**	**05 34 57.0**	**-0.2**
SAVO	**Savo Central**	**9.99**	**308**	P		**Pn**	**05 35 01.4**	**+0.3**
MSVF	**Nonsavu**	**10.13**	**104**			**Pn**	**05 35 06.5**	**+3.6**
MSVF	**Nonsavu**	**10.13**	**104**	P		Pn	05 35 08.4	+5.5
MSVF	**Nonsavu**	**10.13**	**104**	P		**Pn**	**05 35 06.5**	**+3.6**
TATA	**Tatamba Isabel**	**10.51**	**312**	P		**Pn**	**05 35 07.3**	**-0.5**
DGTI	**Dogotuki**	**11.57**	**95**	P		**P**	**05 35 26.2**	**-3.6**
TAVE	**Taveuni**	**11.94**	**97**	P		**P**	**05 35 31.8**	**-2.1**
LKBA	**Tubou, Lakemba**	**13.16**	**104**	P		**P**	**05 35 46.5**	**-0.9**
FUNA	**Funafuti**	**13.19**	**60**			**Pn**	**05 35 42.0**	**-0.9**
FUNA	**Funafuti**	**13.19**	**60**	P		**P**	**05 35 47.5**	**-0.3**
NFK	**Norfolk Island**	**13.46**	**179**	P		**P**	**05 35 51.9**	**+1.2**
NFK	**Norfolk Island**	**13.46**	**179**	⇑P		**P**	**05 35 52.4**	**+1.7**
FUTU	**Fugetoga**	**13.73**	**87**	P		**P**	**05 35 54.2**	**+0.4**
GD1S	**Gladstone Soft**	**17.64**	**239**	P		**Pn**	**05 36 39.0**	**+0.9**
LHI	**Lord Howe Isla**	**17.79**	**205**	P		**P**	**05 36 37.7**	**-0.9**
LHI	**Lord Howe Isla**	**17.79**	**205**	P		**Pn**	**05 36 40.6**	**+0.8**
	comp=Z,0.0nmcomp=Z,83nm,0.9s							
GC1S	**Gold Coast 1 S**	**18.21**	**224**	P		**Pn**	**05 36 45.3**	**+0.5**
EIDS	**Eidsvold**	**18.41**	**235**			**Pn**	**05 36 46.5**	**-0.7**
EIDS	**Eidsvold**	**18.41**	**235**	P		**Pn**	**05 36 46.9**	**-0.3**
	comp=Z,0.0nmcomp=Z,414nm,1.0s							
EIDS	**Eidsvold**	**18.41**	**235**	P		**Pn**	**05 36 46.7**	**-0.5**
EIDS	**Eidsvold**	**18.41**	**235**	⇓P		**Pn**	**05 36 47.1**	**0.0**
RABL	**Rabaul**	**19.01**	**305**	P		**P**	**05 36 52.6**	**+0.5**
RAO	**Raoul Island**	**19.02**	**138**	P		**Pn**	**05 36 54.3**	**0.0**
RAO	**Raoul Island**	**19.02**	**138**	P		**Pn**	**05 36 57.1**	**+2.8**
RAO	**Raoul Island**	**19.02**	**138**	P		**Pn**	**05 36 54.3**	**+0.0**
AFI	**Afiamalu**	**19.89**	**88**			**P**	**05 37 00.4**	**-1.2**
AFI	**Afiamalu**	**19.89**	**88**	P		**Pn**	**05 37 07.0**	**+2.4**
AFI	**Afiamalu**	**19.89**	**88**	P		**P**	**05 37 00.4**	**-1.2**
OUZ	**Omahuta**	**20.31**	**166**	P		Pn	05 37 07.8	-1.6
OUZ	**Omahuta**	**20.31**	**166**	⇑P		Pn	05 37 07.8	-1.6
RMQ	**Roma**	**20.77**	**235**	P		**P**	**05 37 11.4**	**+0.3**
ARMA	**Armidale**	**20.93**	**222**	P		**P**	**05 37 13.1**	**+0.3**
ARMA	**Armidale**	**20.93**	**222**	P		**P**	**05 37 13.3**	**+0.5**
	comp=Z,0.0nmcomp=Z,98nm,1.5s							
ARMA	**Armidale**	**20.93**	**222**	P		**P**	**05 37 14.0**	**+1.3**
ARMA	**Armidale**	**20.93**	**222**	⇓P		**P**	**05 37 13.8**	**+1.1**
CTA	**Charters Tower**	**20.94**	**254**	P		**P**	**05 37 13.2**	**+0.2**
	comp=Z,8.0nm,1.0s							
CTA	**Charters Tower**	**20.94**	**254**	P		**P**	**05 37 13.1**	**+0.2**
CTA	**Charters Tower**	**20.94**	**254**	P		**P**	**05 37 13.7**	**+0.8**
CTAO	**Charters Tower**	**20.94**	**254**			**P**	**05 37 12.9**	**+0.1**
CTAO	**Charters Tower**	**20.94**	**254**	P		**P**	**05 37 13.0**	**+0.1**
CTAO	**Charters Tower**	**20.94**	**254**	P		**P**	**05 37 12.9**	**+0.1**
CTAO	**Charters Tower**	**20.94**	**254**	⇓P		**P**	**05 37 13.5**	**+0.6**
PMG	**Port Moresby**	**20.98**	**284**	P		**P**	**05 37 13.9**	**+0.6**
	comp=Z,255nm,1.0s,baz=121,slow=4.3,SNR=24							
	comp=Z,255nm,1.0s							
PMG	**Port Moresby**	**20.98**	**284**	P		**P**	**05 37 13.4**	**+0.1**
PMG	**Port Moresby**	**20.98**	**284**	*i*P		**P**	**05 37 13.7**	**+0.4**
PMG				pmax		pmax		
	comp=Z,355nm,1.4s							
PMG	**Port Moresby**	**20.98**	**284**	⇓P		**P**	**05 37 14.0**	**+0.7**
WCZ	**Waipu Caves**	**21.18**	**165**	P		**P**	**05 37 17.3**	**+2.1**
NIUE	**Niue**	**21.62**	**103**	P		**P**	**05 37 20.1**	**0.0**
NIUE	**Niue**	**21.62**	**103**	P		**P**	**05 37 19.3**	**-0.8**
	comp=Z,421nm,1.2s							
NIUE	**Niue**	**21.62**	**103**	P		**P**	**05 37 24.1**	**+4.0**
GRZ	**Great Barrier**	**21.77**	**163**	P		**P**	**05 37 22.7**	**+1.2**
KUZ	**Kuaotunu**	**22.30**	**163**	P		**P**	**05 37 29.1**	**+2.2**
KUZ	**Kuaotunu**	**22.30**	**163**	P		**P**	**05 37 27.8**	**+0.8**
MTSU	**Mount Surprise**	**22.56**	**260**	P		**P**	**05 37 30.3**	**+0.6**
	comp=Z,196nm,0.8s							
MTSU	**Mount Surprise**	**22.56**	**260**	P		**P**	**05 37 29.7**	**0.0**
NTLH	**Newcastle Hard**	**22.60**	**217**	P		**P**	**05 37 31.9**	**+2.1**
MGCD	**Mangrove Creek**	**23.17**	**218**	P		**P**	**05 37 36.0**	**+0.8**
	comp=Z,157nm,0.7s							
MGCD	**Mangrove Creek**	**23.17**	**218**	P		**P**	**05 37 36.3**	**+1.1**
TOZ	**Tahuroa Road**	**23.17**	**164**	P		**P**	**05 37 36.2**	**+1.1**
TOZ	**Tahuroa Road**	**23.17**	**164**	P		**P**	**05 37 36.8**	**+1.7**
WIZ	**White Island**	**23.47**	**161**	P		**P**	**05 37 39.4**	**+1.6**
OPRZ	**Ohinepanea**	**23.57**	**162**	P		**P**	**05 37 40.5**	**+1.7**
RIV	**Riverview**	**23.59**	**216**	P		**P**	**05 37 40.1**	**+1.2**
	comp=Z,211nm,0.9s							
RIV	**Riverview**	**23.59**	**216**	P		**P**	**05 37 40.2**	**+1.2**
RIV	**Riverview**	**23.59**	**216**	⇑P		**P**	**05 37 40.9**	**+1.9**
TLZ	**Tolley Road**	**23.74**	**165**	P		**P**	**05 37 42.4**	**+2.0**
HIZ	**Hauiti**	**23.75**	**166**	P		**P**	**05 37 41.9**	**+1.5**
HIZ	**Hauiti**	**23.75**	**166**	P		**P**	**05 37 41.7**	**+1.3**
OMRZ	**Omania**	**23.76**	**163**	P		**P**	**05 37 41.4**	**+0.9**
SYDH	**Sydney Hard Ro**	**23.78**	**217**	P		**P**	**05 37 42.2**	**+1.5**
COEN	**Coen**	**23.80**	**271**	P		**P**	**05 37 41.1**	**0.0**
COEN	**Coen**	**23.80**	**271**	P		**P**	**05 37 41.5**	**+0.3**
	comp=Z,0.0nmcomp=Z,222nm,1.0s							
COEN	**Coen**	**23.80**	**271**	P		**P**	**05 37 41.2**	**0.0**
COEN	**Coen**	**23.80**	**271**	⇑P		**P**	**05 37 40.1**	**-1.1**
HAZ	**Te Kaha**	**23.87**	**160**	P		**P**	**05 37 42.3**	**+0.8**
MXZ	**Matakaoa Point**	**23.87**	**159**	P		**P**	**05 37 42.4**	**+0.9**
MXZ	**Matakaoa Point**	**23.87**	**159**	P		**P**	**05 37 43.6**	**+2.1**
MXZ	**Matakaoa Point**	**23.87**	**159**	P		**P**	**05 37 41.1**	**-0.4**
PATS	**Pohnpei**	**24.09**	**337**	P		**P**	**05 37 45.9**	**+2.2**
URZ	**Urewera**	**24.11**	**162**	P		**P**	**05 37 44.3**	**+0.6**
	comp=Z,62nm,0.5s,baz=267,slow=1.9,SNR=49							
URZ				S		**S**	**05 41 51.8**	**+0.4**
	comp=Z,92nm,1.0s,baz=25,slow=17,SNR=12							
URZ				LR		LR	05 45 32.1	
	comp=Z,2μm,21.4s,baz=338,slow=32							
	comp=Z,62nm,0.5s							
URZ	**Urewera**	**24.11**	**162**	P		**P**	**05 37 44.9**	**+1.1**
URZ	**Urewera**	**24.11**	**162**	P		**P**	**05 37 44.8**	**+1.1**
PRRZ	**Plateau Road**	**24.13**	**163**	P		**P**	**05 37 45.3**	**+1.5**
MANU	**Manus Island**	**24.14**	**302**	P		**P**	**05 37 44.3**	**+0.1**
MANU				IAmb		IAmb	05 37 46.1	

	comp=Z,70nm,0.8s							
WOLH	**Wollongong Har**	**24.17**	**216**	P		**P**	**05 37 44.1**	**-0.1**
ALRZ	**Allen Road**	**24.17**	**163**	P		**P**	**05 37 45.5**	**+1.2**
RATZ	**Rangitukua**	**24.31**	**165**	P		**P**	**05 37 47.8**	**+2.2**
PUZ	**Puketiti**	**24.31**	**160**	P		**P**	**05 37 46.4**	**+0.9**
VRZ	**Vera Road**	**24.31**	**167**	P		**P**	**05 37 47.4**	**+1.9**
MWZ	**Matawai**	**24.31**	**161**	P		**P**	**05 37 46.4**	**+0.8**
KHEZ	**Kahui Hut**	**24.32**	**168**	P		**P**	**05 37 48.8**	**+3.1**
KATZ	**Kakaramea**	**24.39**	**165**	P		**P**	**05 37 47.0**	**+0.6**
RTZ	**Ruatahuna**	**24.41**	**162**	P		**P**	**05 37 46.4**	**0.0**
RTZ	**Ruatahuna**	**24.41**	**162**	P		**P**	**05 37 47.5**	**+1.0**
TWVZ	**Taurewa**	**24.42**	**165**	P		**P**	**05 37 48.4**	**+1.8**
RAGZ	**Rawiri**	**24.43**	**161**	P		**P**	**05 37 46.8**	**+0.2**
RITZ	**Rihia Road**	**24.43**	**165**	P		**P**	**05 37 48.9**	**+2.3**
MRHZ	**Matea Rd**	**24.45**	**163**	P		**P**	**05 37 47.8**	**+0.9**
KRVZ	**Karewarewa**	**24.49**	**165**	P		**P**	**05 37 48.6**	**+1.3**
QLP	**Quilpie**	**24.49**	**239**	P		**P**	**05 37 48.0**	**+0.7**
	comp=Z,0.0nmcomp=Z,424nm,0.7s							
QLP	**Quilpie**	**24.49**	**239**	P		**P**	**05 37 47.7**	**+0.4**
QLP	**Quilpie**	**24.49**	**239**	⇓P		**P**	**05 37 48.0**	**+0.7**
WTVZ	**West Tongariro**	**24.50**	**165**	P		**P**	**05 37 49.3**	**+2.0**
TKGZ	**Te Karaka**	**24.51**	**161**	P		**P**	**05 37 47.0**	**-0.3**
NNVZ	**North Ngauruho**	**24.52**	**165**	P		**P**	**05 37 49.7**	**+2.1**
TMVZ	**Te Maari**	**24.53**	**165**	P		**P**	**05 37 50.0**	**+2.4**
ETVZ	**East Tongariro**	**24.55**	**165**	P		**P**	**05 37 50.0**	**+2.2**
NGZ	**Ngauruhoe**	**24.56**	**165**	P		**P**	**05 37 50.0**	**+2.1**
COVZ	**Chateau Observ**	**24.57**	**165**	P		**P**	**05 37 50.0**	**+2.1**
SNVZ	**South Ngauruho**	**24.58**	**165**	P		**P**	**05 37 50.5**	**+2.3**
PKVZ	**Pokaka**	**24.60**	**166**	P		**P**	**05 37 50.5**	**+2.2**
FWVZ	**Far West T-bar**	**24.62**	**165**	P		**P**	**05 37 50.5**	**+1.9**
WHVZ	**Whangaehu Hut**	**24.66**	**165**	P		**P**	**05 37 50.5**	**+1.6**
TUVZ	**Tukino**	**24.66**	**165**	P		**P**	**05 37 50.4**	**+1.6**
TRVZ	**Turoa**	**24.66**	**165**	P		**P**	**05 37 51.2**	**+2.3**
SNGZ	**Shannon Statio**	**24.67**	**162**	P		**P**	**05 37 49.5**	**+0.7**
CNGZ	**Carnagh Statio**	**24.67**	**160**	P		**P**	**05 37 49.3**	**+0.6**
WNVZ	**Wahianoa**	**24.70**	**165**	P		**P**	**05 37 50.4**	**+1.2**
RAHZ	**Arahi**	**24.71**	**162**	P		**P**	**05 37 50.5**	**+1.3**
RIGZ	**Rimuhau**	**24.73**	**161**	P		**P**	**05 37 49.9**	**+0.6**
BKZ	**Black Stump Fm**	**24.78**	**164**	P		**P**	**05 37 49.8**	**0.0**
BKZ	**Black Stump Fm**	**24.78**	**164**	P		**P**	**05 37 50.4**	**+0.6**
BKZ	**Black Stump Fm**	**24.78**	**164**	P		**P**	**05 37 50.7**	**+0.9**
NMHZ	**Naumai**	**24.80**	**163**	P		**P**	**05 37 51.6**	**+1.5**
MOVZ	**Moawhango**	**24.81**	**165**	P		**P**	**05 37 50.6**	**+0.5**
PRGZ	**Paritu Road**	**24.96**	**161**	P		**P**	**05 37 52.3**	**+0.8**
KNZ	**Kokohu**	**24.99**	**161**	P		**P**	**05 37 52.1**	**+0.4**
KWHZ	**Kaweka Forest**	**25.00**	**164**	P		**P**	**05 37 52.8**	**+1.0**
MCHZ	**McNeill Hill**	**25.10**	**163**	P	

WRAB Tennant Creek 32.06 257 P **P** 05 38 53.5 -1.3
WRAB IAmb IAmb 05 38 54.4
comp=Z,42nm,0.8s
WRAB Tennant Creek 32.06 257 P **P** 05 38 53.5 -1.3
WRAB pmax pmax
comp=Z,42nm,0.8s
WRA Warramunga Arr 32.08 257 P **P** 05 38 53.1 -1.8
WRA Warramunga Arr 32.08 257 P **P** 05 38 53.6 -1.3
comp=Z,44nm,0.7s,baz=86,slow=8.8,SNR=244
WRA PcP **PcP** 05 41 41.5 +0.2
comp=Z,16nm,0.7s,baz=87,slow=2.8,SNR=9.0
WRA S **S** 05 43 49.9 -7.2
comp=Z,11nm,0.9s,baz=85,slow=14,SNR=12
WRA ScP **ScP** 05 45 14.3 +2.1
comp=Z,18nm,1.2s,baz=81,slow=3.7,SNR=6.2
WRA PKiKP **PKiKP** 05 49 07.8 -1.5
comp=Z,1.3nm,0.5s,baz=25,slow=0.4,SNR=15
WRA LR LR 05 52 00.5
comp=Z,5μm,18.3s,baz=86,slow=36
comp=Z,44nm,0.7s
WRA Warramunga Arr 32.08 257 P **P** 05 38 53.1 -1.8
MOO Moorlands 32.11 209 P **P** 05 38 55.9 +0.9
comp=Z,298nm,1.4s
MOO Moorlands 32.11 209 P **P** 05 38 56.6 +1.6
WHYH Whyalla 32.39 232 P **P** 05 38 58.2 +0.8
TAU Tasmania Unive 32.42 209 P **P** 05 38 57.3 -0.2
TAU Tasmania Unive 32.42 209 P **P** 05 38 59.9 +2.3
TAU Tasmania Unive 32.42 209 P **P** 05 38 57.3 -0.2
TAU pmax pmax
comp=Z,69nm,0.9s
AS01 Alice Springs 32.78 250 P **P** 05 39 00.3 -0.7
AS31 Alice Springs 32.82 250 P **P** 05 39 00.3 -1.1
AS31 IAmb IAmb 05 39 01.9
comp=Z,34nm,0.9s
AS31 Alice Springs 32.82 250 P **P** 05 39 00.7 -0.7
comp=Z,29nm,0.4s
ASAR Alice Springs 32.82 250 P **P** 05 39 00.1 -1.3
ASAR Alice Springs 32.82 250 P **P** 05 39 00.7 -0.8
comp=Z,78nm,0.8s,baz=76,slow=9.2,SNR=525
ASAR PcP **PcP** 05 41 43.5 +0.2
comp=Z,27nm,0.7s,baz=95,slow=2.6,SNR=12
ASAR S **S** 05 44 01.3 -7.4
comp=Z,1.7nm,0.9s,baz=123,slow=4.6,SNR=4.2
ASAR ScP **ScP** 05 45 17.5 +2.8
comp=Z,17nm,0.9s,baz=92,slow=3.2,SNR=16
ASAR PKiKP **PKiKP** 05 49 08.1 -1.8
comp=Z,0.6nm,0.4s,baz=104,slow=1.2,SNR=6.4
ASAR LR LR 05 52 21.9
comp=Z,2μm,18.9s,baz=81,slow=36
comp=Z,78nm,0.8s
BBOO Buckleboo 33.46 233 P **P** 05 39 07.0 +0.1
BBOO Buckleboo 33.46 233 P **P** 05 39 07.3 +0.5
comp=Z,123nm,0.7s
BBOO Buckleboo 33.46 233 P **P** 05 39 07.6 +0.8
KDU Kakadu 34.29 270 P **P** 05 39 13.2 -0.9
comp=Z,0.0nmcomp=Z,52nm,0.9s
KDU Kakadu 34.29 270 P **P** 05 39 13.5 -0.7
KDU Kakadu 34.29 270 ⇓P **P** 05 39 13.4 -0.8
BAKI Biak 34.29 291 P **P** 05 39 15.2 +1.0
comp=Z,3μmcomp=Z,74nm,1.3s
MTN Manton Dam 35.56 270 P **P** 05 39 24.3 -0.7
MTN IAmb IAmb 05 39 32.5
comp=Z,27nm,0.7s
MTN Manton Dam 35.56 270 P **P** 05 39 24.3 -0.7
comp=Z,0.0nmcomp=Z,41nm,1.4s
MTN Manton Dam 35.56 270 P **P** 05 39 24.8 -0.3
MTN Manton Dam 35.56 270 ⇑P **P** 05 39 24.6 -0.5
DRS Darwin Rock St 35.85 270 P **P** 05 39 27.3 -0.2
RKPI Ransiki, Papua 35.90 290 P **P** 05 39 28.2 +0.2
SAUI Saumlaki 36.40 278 P **P** 05 39 32.5 +0.2
comp=Z,186nm,1.0s
GUMO Guam 36.71 321 LR LR 05 52 44.8
comp=Z,2μm,21.3s,baz=132,slow=33
FAKI Fak Fak 37.12 286 P **P** 05 39 37.7 -0.6
FAKI Fak Fak 37.12 286 P **P** 05 39 39.0 +0.7
FAKI Fak Fak 37.12 286 P **P** 05 39 38.6 +0.3
comp=Z,5μmcomp=Z,167nm,1.0s
FAKI Fak Fak 37.12 286 ⇑P **P** 05 39 38.4 +0.1
KNRA Kununurra 37.50 264 P **P** 05 39 40.7 -0.8
WRKA Warakurna 38.07 249 P **P** 05 39 45.5 -0.8
comp=Z,33nm,0.7s
BNDI Bandanaira 38.75 282 P **P** 05 39 52.8 +0.8
comp=Z,287nm,1.1s
SWI Sorong 38.82 289 P **P** 05 39 53.4 +0.8
comp=Z,4μmcomp=Z,213nm,0.7s
JOHN Johnston Islan 39.12 36 P **P** 05 39 55.7 +0.7
FORT Forrest 39.29 240 P **P** 05 39 56.2 -0.1
FORT Forrest 39.29 240 P **P** 05 39 56.9 +0.6
comp=Z,110nm,0.7s
FITZ Fitzroy Crossi 40.31 260 LR LR 05 57 12.9
comp=Z,6μm,18.4s,baz=89,slow=36
PPT2 Papeete2 40.91 99 *e*P **P** 05 40 12.3 +2.3
comp=Z,60nm,1.2s
PPT2 *e*S **S** 05 46 06.1 -5.5
comp=Z,2μm,26.5s
PPT2 *e*SS **SS** 05 49 15.2 -3.7
comp=Z,5μm,26.5s
PPT2 *e*LR LR 05 51 34.6
comp=Z,5μm,35.5s
PPT2 *e*LR LR 05 51 35.0
comp=Z,8μm,31.5s
PPT Papeete 40.91 99 P **P** 05 40 11.6 +1.7
comp=Z,40nm,0.6s,baz=226,slow=22,SNR=3.2
comp=Z,40nm,0.6s
TBI Tubuai 40.99 108 *e*S **S** 05 46 14.0 +1.5
comp=Z,6μm,26.8s
TBI *e*LQ LQ 05 49 57.9
comp=Z,18μm,40.5s
TBI *e*LR LR 05 51 38.3
comp=Z,5μm,35.8s
TBI *e*LR LR 05 51 40.7
comp=Z,34μm,36.2s
NLAI Namlea 41.81 283 P **P** 05 40 17.7 +0.5
comp=Z,4μmcomp=Z,3μmcomp=Z,131nm,0.9s
SOEI Soe 42.74 272 P **P** 05 40 24.8 -0.1
SOEI Soe 42.74 272 P **P** 05 40 25.9 +1.0
SOEI Soe 42.74 272 P **P** 05 40 26.8 +1.9
comp=Z,2μmcomp=Z,88nm,0.8s
PMOR Pomariorio Ree 42.75 95 *e*P **P** 05 40 21.0 -3.9
comp=Z,376nm,1.4s
BATI Baumata 43.23 272 LR LR 05 58 42.1
comp=Z,3μm,18.5s,baz=148,slow=36
BATI Baumata 43.23 272 P **P** 05 40 30.5 +1.8
comp=Z,1μmcomp=Z,148nm,0.7s
SANI Sanana 43.26 284 P **P** 05 40 29.8 +0.8
SANI Sanana 43.26 284 P **P** 05 40 29.8 +0.8
comp=Z,2μmcomp=Z,92nm,0.7s
SANI Sanana 43.26 284 ⇑P **P** 05 40 29.5 +0.5
KMBL Kambalda 44.59 241 P **P** 05 40 39.3 -0.1
comp=Z,59nm,0.6s
EDFI Ende, Flores 45.44 273 P **P** 05 40 46.4 0.0
comp=Z,709nmcomp=Z,70nm,0.7s
PSA00 Pilbara Seismi 45.66 255 P **P** 05 40 48.4 +0.4
PSA00 IAmb IAmb 05 41 52.0
comp=Z,86nm,1.7s
PSA00 Pilbara Seismi 45.66 255 P **P** 05 40 48.2 +0.3
comp=Z,47nm,1.1s
PSA00 Pilbara Seismi 45.66 255 P **P** 05 40 48.7 +0.7
PSAC1 Pilbara Seismi 45.69 255 P **P** 05 40 48.5 +0.3
comp=Z,55nm,1.6s
MBWA Marble Bar 45.77 255 P **P** 05 40 48.6 -0.3
MBWA IAmb IAmb 05 40 51.5
comp=Z,43nm,0.8s
MBWA Marble Bar 45.77 255 P **P** 05 40 49.2 +0.3
comp=Z,48nm,0.6s
MBWA Marble Bar 45.77 255 P **P** 05 40 49.5 +0.6
MBWA Marble Bar 45.77 255 ⇓P **P** 05 40 48.9 0.0
MBWA Marble Bar 45.77 255 P **P** 05 40 49.1 +0.3
MEEK Meekatharra 46.90 248 P **P** 05 40 57.9 +0.3
comp=Z,127nm,0.7s
MEEK Meekatharra 46.90 248 P **P** 05 40 58.4 +0.8
WBSI Waikabubak, Su 47.46 271 P **P** 05 41 02.1 0.0
comp=Z,109nm,0.8s
BKSI Bulukumba 47.81 277 P **P** 05 41 06.5 +1.8
MRSI Marisa 47.94 285 P **P** 05 41 06.8 +1.1
comp=Z,44nm,0.6s
BNSI Bone 48.08 278 P **P** 05 41 08.8 +1.9
comp=Z,2μmcomp=Z,57nm,1.0s
KLBR Kellerberrin 48.11 241 P **P** 05 41 06.4 -0.5
comp=Z,160nm,0.6s
KLBR Kellerberrin 48.11 241 P **P** 05 41 06.8 -0.1
KAPI Kappang 48.25 277 P **P** 05 41 08.5 +0.3
KAPI Kappang 48.25 277 P **P** 05 41 08.8 +0.7
KAPI Kappang 48.25 277 P **P** 05 41 08.5 +0.3
KAPI pmax pmax
comp=Z,362nm,1.8s
KAPI Kappang 48.25 277 P **P** 05 41 08.9 +0.8
KAPI pP **pP** 05 41 38.9 -1.0
KAPI ScP **ScP** 05 46 17.3 +2.2
NWAO Narrogin (SRO) 48.73 240 P **P** 05 41 10.4 -1.2
NWAO Narrogin (SRO) 48.73 240 P **P** 05 41 11.5 -0.1
comp=Z,232nm,1.1s
NWAO Narrogin (SRO) 48.73 240 P **P** 05 41 12.5 +0.8
NWAO Narrogin (SRO) 48.73 240 P **P** 05 41 12.4 +0.8
NWAO Narrogin (SRO) 48.73 240 P **P** 05 41 10.4 -1.2
NWAO pmax pmax
comp=Z,109nm,1.0s
NWAO Narrogin (SRO) 48.73 240 P **P** 05 41 11.5 -0.1
BLDU Ballidu 48.89 243 P **P** 05 41 12.3 -0.6
comp=Z,37nm,1.2s
KEKH Kekaha 49.07 41 P **P** 05 41 15.5 +1.3
JCJ Chichijima 49.09 329 LR LR 06 02 14.1
comp=Z,491nm,19.6s,baz=136,slow=36
PLAI Plampang 49.19 272 P **P** 05 41 16.1 +0.7
PLAI Plampang 49.19 272 P **P** 05 41 17.3 +1.9
comp=Z,2μmcomp=Z,64nm,0.6s
RKGY Rocky Gully 49.20 238 P **P** 05 41 15.9 +0.7
comp=Z,144nm,1.0s
TOLI2 Tolitoli 49.25 285 P **P** 05 41 15.3 -0.5
TOLI2 IAmb IAmb 05 41 20.7
comp=Z,23nm,0.6s
TOLI2 Tolitoli 49.25 285 P **P** 05 41 15.9 +0.1
MORW Morawa 49.33 245 P **P** 05 41 16.3 0.0
comp=Z,97nm,0.8s
MORW Morawa 49.33 245 P **P** 05 41 16.7 +0.4
MORW Morawa 49.33 245 ⇓P **P** 05 41 16.4 +0.1
PCI Palu 49.42 282 P **P** 05 41 18.4 +1.2
comp=Z,3μmcomp=Z,150nm,0.7s
MUN Mundaring 49.47 241 P **P** 05 41 17.3 +0.1
comp=Z,89nm,1.5s
MUN Mundaring 49.47 241 P **P** 05 41 17.9 +0.7
KIP Kipapa 49.77 43 P **P** 05 41 19.8 +0.2
KIP Kipapa 49.77 43 *ce*P **P** 05 41 20.1 +0.5
KIP pmax pmax
comp=Z,66nm,0.9s
MPSI Mapaga 49.79 284 P **P** 05 41 20.2 +0.3
comp=Z,2μmcomp=Z,129nm,0.7s
POHA Pohakuloa 50.34 47 P **P** 05 41 26.3 +2.1
POHA Pohakuloa 50.34 47 ⇑P **P** 05 41 26.0 +1.8
TAOE Nuku Hiva Isla 51.27 89 P **P** 05 41 32.2 +1.1
TAOE Nuku Hiva Isla 51.27 89 *e*P **P** 05 41 29.1 -2.1
comp=Z,528nm,1.2s
TAOE *e*S **S** 05 48 34.0 -5.9
comp=Z,1μm,26.2s
TAOE *e*SS **SS** 05 52 10.7 -6.6
comp=Z,870nm,25.8s
TAOE *e*LQ LQ 05 54 05.2
comp=Z,3μm,31.0s
TAOE *e*LR LR 05 56 06.8
comp=Z,4μm,37.3s
TAOE Nuku Hiva Isla 51.27 89 P **P** 05 41 33.8 +2.6
DRV Dumont d'Urvil 54.28 193 ⇑P **P** 05 41 52.5 +0.2
DRV pP **pP** 05 42 23.4 -1.1
RKT Rikitea 54.31 107 *e*S **S** 05 49 14.4 -6.3
comp=Z,3μm,24.5s
RKT *e*S S 05 49 23.5 +2.8
comp=Z,2μm,24.2s
RKT *e*SS **SKiKP** 05 52 56.4 +6.7
comp=Z,5μm,36.0s
RKT *e*LQ LQ 05 55 35.7
comp=Z,10μm,28.8s
KKM Kota Kinabalu 55.34 289 P **P** 05 42 01.8 +1.0
PCJI Pacitan 55.70 271 P **P** 05 42 04.5 +1.2
comp=Z,172nm,1.0s
WOJI Wonogiri, Jawa 56.02 271 P **P** 05 42 07.1 +1.5
comp=Z,149nm,0.7s
UGM Wanagama 56.39 271 P **P** 05 42 08.2 -0.1
UGM Wanagama 56.39 271 P **P** 05 42 09.0 +0.7
JOW Kunigami 56.93 317 P **P** 05 42 12.3 +0.5
JOW Kunigami 56.93 317 P **P** 05 42 12.5 +0.7
comp=Z,69nm,0.6s,baz=169,slow=7.3,SNR=9.2
JOW LR LR 06 05 07.6
comp=Z,586nm,21.2s,baz=164,slow=34
comp=Z,69nm,0.6s
JOW Kunigami 56.93 317 P **P** 05 42 13.5 +1.7
STKI Sintang 57.64 280 P **P** 05 42 19.4 +2.3
comp=Z,2μmcomp=Z,75nm,0.6s
KPJI Karang Pucung 58.06 271 P **P** 05 42 21.7 +1.7
INU Inuyama 58.38 331 P **P** 05 42 22.0 +0.3
INU IAmb IAmb 05 42 24.4
comp=Z,22nm,0.9s
INU Inuyama 58.38 331 P **P** 05 42 23.0 +1.3
JGF Kuroka 58.42 331 P **P** 05 42 21.3 -0.8
JGF IAmb IAmb 05 42 23.8
comp=Z,22nm,0.6s
JGF Kuroka 58.42 331 P **P** 05 42 22.1 0.0
JGF Kuroka 58.42 331 ⇓P **P** 05 42 22.1 0.0
JMN Monobe 58.65 327 P **P** 05 42 25.0 +1.3
JMN Monobe 58.65 327 ⇓P **P** 05 42 24.6 +0.9
MJAR Matsushiro Arr 58.81 332 P **P** 05 42 24.3 -0.5
comp=Z,25nm,1.0s,baz=163,slow=7.6,SNR=33
MJAR pP **pP** 05 42 54.5 -2.4
comp=Z,11nm,0.8s,baz=163,slow=7.7,SNR=3.1
comp=Z,25nm,1.0s
MAJO Matsushiro 58.81 332 P **P** 05 42 24.6 -0.2
MAJO Matsushiro 58.81 332 P **P** 05 42 24.5 -0.2
MAJO Matsushiro 58.81 332 P **P** 05 42 24.6 -0.2
MAJO pmax pmax
comp=Z,42nm,1.1s
MAJO Matsushiro 58.81 332 ⇓P **P** 05 42 24.7 0.0
MAJO Matsushiro 58.81 332 P **P** 05 42 24.7 0.0
MAJO PcP **PcP** 05 43 12.2 -0.6
MJB9 Matsu-Tunnel 58.81 332 P **P** 05 42 24.7 -0.1
MJB9 IAmb IAmb 05 42 30.9
comp=Z,41nm,1.1s
JMM Marumori 58.83 335 P **P** 05 42 25.6 +0.8
KSM Kusiro 59.20 281 P **P** 05 42 28.8 +0.9
BBJI Bungbulang 59.26 270 P **P** 05 42 28.4 0.0
CNJI Cibinong 59.80 271 P **P** 05 42 32.7 +0.7
comp=Z,91nm,0.8s
JNU Nakatsue 59.82 324 P **P** 05 42 32.0 +0.2
comp=Z,46nm,0.6s,baz=61,slow=3.7,SNR=37
comp=Z,46nm,0.6s
JNU Nakatsue 59.82 324 P **P** 05 42 32.1 +0.3
JNU Nakatsue 59.82 324 ⇑P **P** 05 42 32.1 +0.3
NACB Ninganchiao 59.88 310 P **P** 05 42 32.8 +0.5
JSD Sado 60.03 333 P **P** 05 42 33.6 +0.6
JSD Sado 60.03 333 ⇑P **P** 05 42 33.6 +0.6
TPUB Ta-pu 60.09 309 P **P** 05 42 33.1 -0.6
TPUB Ta-pu 60.09 309 P **P** 05 42 33.6 -0.2
SSLB Suanglung 60.13 310 P **P** 05 42 34.0 -0.1
YHNB Yeheng 60.34 311 P **P** 05 42 36.2 +0.7
DBJI Dramaga 60.35 271 P **P** 05 42 37.0 +1.2
comp=Z,80nm,0.5s
SKJI Sukabumi 60.42 271 P **P** 05 42 37.0 +0.7
TPI Tanjungpandan 60.46 276 P **P** 05 42 38.1 +1.6
comp=Z,81nm,0.6s
JTM Tenmabayashi 61.24 337 P **P** 05 42 41.9 +0.7
JTM Tenmabayashi 61.24 337 ⇑P **P** 05 42 41.6 +0.4
CGJI Cibinong 61.35 271 P **P** 05 42 41.7 -0.8
ERM Erimo 61.58 339 P **P** 05 42 43.9 +0.5
ERM IAmb IAmb 05 42 48.5
comp=Z,22nm,0.7s
ERM Erimo 61.58 339 P **P** 05 42 45.3 +1.9
ERM Erimo 61.58 339 *c*P **P** 05 42 44.6 +1.2
ERM pmax pmax
comp=Z,71nm,1.8s
ERM Erimo 61.58 339 ⇓P **P** 05 42 45.0 +1.6
VNDA Vanda 62.09 181 P **P** 05 42 47.1 +0.7
VNDA Vanda 62.09 181 P **P** 05 42 47.0 +0.7
comp=Z,21nm,0.5s,baz=355,slow=7.7,SNR=68
VNDA LR LR 06 06 03.5
comp=Z,235nm,21.9s,baz=39,slow=32
comp=Z,21nm,0.5s
VNDA Vanda 62.09 181 P **P** 05 42 46.9 +0.5
SBA Scott Base 62.35 180 P **P** 05 42 49.9 +1.7
SBA Scott Base 62.35 180 P **P** 05 42 49.9 +1.7
SBA pmax pmax
comp=Z,236nm,1.2s
SBA Scott Base 62.35 180 P **P** 05 42 49.7 +1.5
SBA PcP **pP** 05 43 23.2 +2.1
KASI Kota Agung 62.77 272 P **P** 05 42 51.5 -0.5
comp=Z,879nmcomp=Z,92nm,1.0s
CASY Casey 62.97 202 ⇑P **P** 05 42 52.7 +0.3
CASY Casey 62.97 202 ⇑P **P** 05 42 52.8 +0.3
LWLI Liwa 63.32 272 P **P** 05 42 55.0 -0.8
MDSI Maura Dua 63.34 273 P **P** 05 42 54.3 -1.5
comp=Z,958nmcomp=Z,93nm,0.7s
ASAJ Asahikawa 63.63 340 P **P** 05 42 58.6 +1.6
comp=Z,62nm,0.7s,baz=210,slow=9.0,SNR=39
ASAJ LR LR 06 06 31.9
comp=Z,672nm,21.1s,baz=150,slow=32
comp=Z,62nm,0.7s
LHSI Lahat 64.14 273 P **P** 05 43 01.2 +0.2
comp=Z,3μmcomp=Z,48nm,0.7s
TJN Taejon 64.17 324 P **P** 05 43 01.8 +1.1
TJN Taejon 64.17 324 *de*P **P** 05 43 01.4 +0.7
CCD Concordia, Ant 64.22 192 ⇑P **P** 05 43 01.3 +0.3
SSE Sheshan 64.40 316 P **P** 05 43 04.8 +2.5
SSE S **S** 05 51 30.8 +0.8
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,150nm,4.3s
SSE LR LR
comp=Z,270nm,15.2s
SSE LR LR
comp=Z,410nm,15.1s
KSRS Korea Array 64.64 326 P **P** 05 43 04.2 +0.5
comp=Z,8.6nm,0.7s,baz=143,slow=7.5,SNR=21
comp=Z,8.6nm,0.7s
KSAR Wonju Array Be 64.65 326 P **P** 05 43 04.2 +0.4
KSAR Wonju Array Be 64.65 326 P **P** 05 43 04.2 +0.4
KSI Kapahiang 65.08 273 P **P** 05 43 08.2 +1.0
comp=Z,130nm,0.6s
INCN Inchon 65.37 325 P **P** 05 43 10.7 +2.1
INCN IAmb IAmb 05 43 12.5
comp=Z,31nm,0.7s
INCN Inchon 65.37 325 P **P** 05 43 10.6 +2.1
INCN Inchon 65.37 325 P **P** 05 43 10.7 +2.1
INCN pmax pmax
comp=Z,31nm,0.7s
MYKOM Kota Tinggi 65.42 279 P **P** 05 43 09.3 0.0
MYKOM IAmb IAmb 05 43 11.2
comp=Z,17nm,0.7s
YSS Yuzhno-Sakhali 66.12 342 P **P** 05 43 13.4 +0.4
YSS Yuzhno-Sakhali 66.12 342 P **P** 05 43 14.8 +1.8
YSS Yuzhno-Sakhali 66.12 342 *de*P **P** 05 43 14.6 +1.6
YSS *e* 05 43 41.0
YSS *e**PP **pwP** 05 43 47.5 -2.0
YSS *e**SP **sP** 05 44 04.3 +4.3
YSS *e*S **S** 05 51 52.7 +2.4
YSS *e**SS **SKSac** 05 52 54.0 -1.8
YSS *e*SS **SS** 05 56 05.2 -3.9
YSS pmax pmax
comp=Z,600nm,3.8s
YSS pmax pmax
comp=N,300nm,3.1s
YSS pmax pmax
comp=E,100nm,3.0s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS smax smax
comp=N,700nm,6.6s
YSS smax smax
comp=E,500nm,6.5s
QIZ Qiongzhong 66.51 299 P **P** 05 43 17.2 +1.0
QIZ pP **PcP** 05 43 45.1 +0.5
QIZ S **S** 05 51 56.0 -0.2
QIZ SS **SS** 05 56 17.4 +1.2
QIZ pmax pmax
comp=E,37nm,1.8s
QIZ pmax pmax
comp=E,450nm,5.4s
QIZ LR LR
comp=E,430nm,26.0s
QIZ LR LR
comp=E,3μm,27.5s
NJ2 Nanjing 66.55 316 ⇓P **P** 05 43 17.0 +0.9
NJ2 S **S** 05 51 57.9 +1.7
NJ2 pmax pmax
comp=E,18nm,0.8s
NJ2 pmax pmax
comp=E,310nm,3.5s
TEY Ternei 66.57 336 ⇓*e*P **P** 05 43 16.0 0.0
TEY *e* 05 56 15.6
TEY pmax pmax
comp=Z,10.0nm,1.1s
MSHR Mys Shultsa 66.89 331 *ce*P **P** 05 43 19.0 +1.0
MSHR pmax pmax
comp=Z,29nm,0.9s
SDSI Sungai Dareh 66.94 276 P **P** 05 43 18.8 -0.2
VLA Vladivostok 66.98 332 ⇓*e*P **P** 05 43 18.9 +0.3
VLA pmax pmax
comp=Z,72nm,1.1s
PSTR Posyet 67.11 331 *d*iP **P** 05 43 20.8 +1.4
USA0B Ussuriysk Arra 67.79 333 *d*iP **P** 05 43 24.2 +0.5
USRK Ussuriysk Ar. 67.79 333 P **P** 05 43 24.8 +1.1
comp=Z,39nm,0.7s,baz=140,slow=6.1,SNR=49
comp=Z,39nm,0.7s
SHEM Shemya Is, Ala 68.19 4 LR LR 06 07 36.7
comp=Z,878nm,21.2s,baz=186,slow=31
KIWB Kanaga Island 68.37 10 P **P** 05 43 27.4 +0.2
KIWB IAmb IAmb 05 44 11.0
comp=Z,24nm,0.9s
CNSH ChangSha 68.56 309 P **P** 05 43 32.0 +3.2
CNSH S **S** 05 52 23.1 +2.8
CNSH LR LR
comp=Z,880nm,20.6s
CNSH LR LR
comp=Z,880nm,20.0s
CNSH LR LR
comp=Z,950nm,19.9s
PET Petropavlovsk 68.71 354 *e*P **P** 05 43 28.3 -0.9
PET *e**PP **pP** 05 44 00.5 -1.3
PET *e*S **S** 05 52 21.4 +0.3
PET pmax pmax
comp=Z,400nm,9.9s
PET pmax pmax
comp=Z,300nm,14.5s
WHN Wuhan 68.80 312 P **P** 05 43 30.6 +0.3
WHN S **S** 05 52 22.5 -0.6
WHN pmax pmax
comp=Z,68nm,0.8s
WHN LR LR
comp=Z,3μm,18.1s
PEA0B Petropavlovsk- 68.89 354 IAmb IAmb 05 44 25.2
comp=Z,74nm,1.4s
PEA0B Petropavlovsk- 68.89 354 *ce*P **P** 05 43 30.7 +0.3
PETK Petropavlovsk- 68.89 354 P **P** 05 43 30.5 +0.1
PETK Petropavlovsk- 68.89 354 P **P** 05 43 30.9 +0.5
comp=Z,7.8nm,0.7s,baz=118,slow=8.5,SNR=13
comp=Z,7.8nm,0.7s
IPM Ipoh 68.94 281 P **P** 05 43 31.0 -0.5
IPM IAmb IAmb 05 43 33.2
comp=Z,28nm,1.0s
IPM Ipoh 68.94 281 P **P** 05 43 31.8 +0.3
MDJ Mudanjiang 69.19 332 P **P** 05 43 33.5 +1.1
MDJ S **S** 05 52 28.8 +1.7
MDJ pmax pmax
comp=Z,89nm,0.9s
MDJ pmax pmax
comp=Z,710nm,9.1s
DL2 Dalian 69.20 323 P **P** 05 43 31.7 -0.8
DL2 pP **pP** 05 44 03.7 -2.0
DL2 sP **sP** 05 44 15.2 -5.1
DL2 S **S** 05 52 25.7 -1.7
DL2 pmax pmax
comp=Z,58nm,0.8s
DL2 pmax pmax
comp=Z,400nm,6.0s
KULM Kulim 69.55 282 IAmb IAmb 05 43 36.9
comp=Z,21nm,0.9s
KULM Kulim 69.55 282 P **P** 05 43 36.1 +0.8
TYV Tymovskoe 69.66 343 *e*P **P** 05 43 36.2 +1.1
TYV *e*S **S** 05 52 32.3 -0.1
TYV pmax pmax
comp=Z,300nm,2.9s
TYV pmax pmax
comp=Z,24nm,1.5s
TYV smax smax
comp=N,500nm,9.2s
TYV smax smax
comp=E,600nm,9.2s
SNY Shenyang 70.11 326 ⇑P **P** 05 43 38.4 +0.3
SNY S **S** 05 52 39.9 +1.9
SNY pmax pmax
comp=E,14nm,0.6s
SNY pmax pmax
comp=E,280nm,6.0s
SNY LR LR
comp=E,670nm,21.5s
SNY LR LR
comp=E,560nm,26.3s
SNY LR LR

comp=E,820nm,39.6s
TIA Tai'an 70.22 318 P **P** **05 43 39.0 +0.1**
TIA S **S** **05 52 37.9 -1.7**
TIA pmax pmax
comp=E,29nm,0.7s
TIA LR LR
comp=E,510nm,15.8s
TIA LR LR
comp=E,270nm,16.5s
TIA LR LR
comp=E,690nm,16.5s
RPSI Rantau Prapat 70.39 279 P **P** **05 43 39.6 -0.8**
RPSI IAmb IAmb 05 44 15.1
comp=Z,28nm,0.9s
PSI Prapat 70.42 279 P **P** **05 43 40.0 -0.8**
PSI Prapat 70.42 279 P **P** **05 43 39.6 -1.2**
PSI pmax pmax
comp=Z,28nm,0.9s
CN2 Changchun 70.55 329 P **P** **05 43 41.4 +0.7**
CN2 pP pP 05 44 14.1 +0.5
CN2 S **S** **05 52 44.1 +1.0**
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 pmax pmax
comp=Z,500nm,3.0s
BNX BinXian 71.04 331 ⇑P **P** **05 43 44.1 +0.4**
BNX PcP **PcP** **05 44 03.1 0.0**
BNX pP **pP** **05 44 16.2 -0.5**
BNX sP **sP** **05 44 30.9 -0.3**
BNX S **S** **05 52 51.6 +2.9**
BNX pmax pmax
comp=Z,61nm,0.7s
BNX LR LR
comp=Z,180nm,18.4s
BNX LR LR
comp=Z,200nm,19.0s
BNX LR LR
comp=Z,290nm,20.6s
NIKH Nikolski High 71.14 15 P **P** **05 43 43.8 -0.3**
baz=204
GRNR Gornyy 71.48 340 ⇑*i*P **P** **05 43 48.0 +1.8**
GRNR pmax pmax
comp=E,20nm,0.6s
GRNR pmax pmax
comp=Z,90nm,0.6s
GRNR pmax pmax
comp=N,20nm,0.9s
SRIT Nakonsritamara 71.60 285 P **P** **05 43 46.9 -0.8**
SRIT IAmb IAmb 05 43 51.0
comp=Z,79nm,1.4s
SRIT Nakonsritamara 71.60 285 P **P** **05 43 49.4 +1.7**
LYN LuoYang 72.35 315 ⇑*i*P **P** **05 43 52.6 +0.9**
LYN pP pP 05 44 25.9 +0.4
LYN sP sP 05 44 42.7 +2.5
LYN S **S** **05 53 05.4 +1.3**
LYN pmax pmax
comp=Z,130nm,0.8s
LYN pmax pmax
comp=Z,580nm,6.8s
HNS HongShan 72.49 318 ⇑P **P** **05 43 53.5 +1.0**
HNS pP **pP** **05 44 25.4 -0.4**
HNS S **S** **05 53 02.3 -3.2**
HNS pmax pmax
comp=Z,60nm,0.7s
HNS LR LR
comp=Z,580nm,18.8s
HNS LR LR
comp=Z,980nm,18.2s
HNS LR LR
comp=Z,800nm,16.7s
SLVN Son La 72.53 299 P **P** **05 43 52.9 -0.2**
SLVN IAmb IAmb 05 43 58.1
comp=Z,42nm,1.5s
SLVN Son La 72.53 299 P **P** **05 43 54.9 +1.7**
GYA Guiyang 72.53 305 ⇓P **P** **05 43 55.4 +2.2**
GYA pP pP 05 44 27.6 +0.5
GYA PP **PP** **05 46 37.1 +0.6**
GYA S **S** **05 53 07.3 +0.5**
GYA pmax pmax
comp=Z,85nm,0.6s
GYA pmax pmax
comp=Z,310nm,3.1s
GYA LR LR
comp=Z,460nm,15.8s
GYA LR LR
comp=Z,700nm,19.4s
GYA LR LR
comp=Z,850nm,21.9s
UNV Unalaska Valle 72.53 16 P **P** **05 43 52.7 +0.4**
baz=206
BJI Beijing 73.16 321 P **P** **05 43 57.0 +0.6**
BJI S **SKiKP** **05 53 15.1 +0.5**
BJI SS **SS** **05 57 52.1 -5.6**
BJI pmax pmax
comp=Z,21nm,0.6s
BJI pmax pmax
comp=Z,240nm,3.7s
BJI LR LR
comp=Z,310nm,15.6s
BJI LR LR
comp=Z,280nm,14.0s
BJI LR LR
comp=Z,580nm,20.5s
MLSI Meulaboh, Aceh 73.25 279 P **P** **05 43 58.3 +0.8**
comp=Z,70nm,0.8s
TIY Taiyuan 74.14 317 *e*P **P** **05 44 03.5 +1.2**
TIY pP **pP** **05 44 36.1 +0.3**
TIY S **S** **05 53 25.0 +0.6**
TIY SKS **SKSac** **05 53 55.3 -1.8**
TIY pmax pmax
comp=Z,62nm,0.7s
TIY pmax pmax
comp=Z,180nm,4.1s
P08K Saint George I 74.32 13 P **P** **05 44 03.6 +0.8**
baz=203
HEH HeiHe 74.46 334 *e*P **P** **05 44 04.1 +0.4**
HEH pP **pP** **05 44 36.2 -1.0**
HEH S **S** **05 53 25.9 -1.3**
HEH SS **SS** **05 58 14.1 -3.0**
HEH pmax pmax
comp=Z,42nm,0.8s
HEH pmax pmax
comp=Z,540nm,4.1s
QSPA South Pole Qui 74.51 180 P **P** **05 44 05.5 +1.4**
QSPA South Pole Qui 74.51 180 P **P** **05 44 05.3 +1.2**
comp=Z,213nm,0.7s,baz=339,slow=0.5,SNR=635
QSPA PKiKP **PKiKP** **05 49 55.7 +0.5**
comp=Z,1.9nm,0.7s,baz=86,slow=1.6,SNR=2.1
comp=Z,213nm,0.7s
XAN Xi'an 74.55 313 ⇑P **P** **05 44 05.4 +0.7**
XAN S **S** **05 53 28.4 -0.7**
XAN pmax pmax
comp=Z,71nm,0.8s
XAN pmax pmax
comp=Z,490nm,4.0s
XAN LR LR
comp=Z,800nm,22.8s
XAN LR LR
comp=Z,960nm,21.5s
XAN LR LR
comp=Z,2μm,23.4s
SPIA Saint Paul Isl 74.71 12 P **P** **05 44 05.0 0.0**
baz=202
KMI Kunming 75.10 302 ⇑P **P** **05 44 09.9 +1.6**
KMI pP pP 05 44 43.8 +1.4
KMI S **S** **05 53 39.7 +3.8**
KMI sS sS 05 54 29.6 -3.3
KMI SS **SS** **05 58 20.5 -7.8**
KMI pmax pmax
comp=Z,46nm,1.8s
KMI pmax pmax
comp=Z,360nm,3.9s
KMI LR LR
comp=Z,500nm,24.0s
KMI LR LR
comp=Z,350nm,24.6s
KMI LR LR
comp=Z,960nm,23.4s
CHNA Chernabura Isl 75.37 19 P **P** **05 44 09.1 +0.3**
baz=212
S12K Black Hills 75.38 17 P **P** **05 44 08.6 -0.3**
baz=210
SDPT Sand Point 75.54 18 P **P** **05 44 09.5 -0.3**
baz=212
XLT XiLinHaoTe 75.60 324 *e*P **P** **05 44 11.6 +1.0**
XLT PcP **PcP** **05 44 24.5 +1.7**
XLT pP pP 05 44 46.5 +2.1
XLT S **S** **05 53 41.6 +1.2**
XLT pmax pmax
comp=Z,64nm,0.7s
XLT pmax pmax
comp=Z,570nm,2.6s
XLT LR LR
comp=Z,42nm,19.6s
XLT LR LR
comp=Z,230nm,15.3s
XLT LR LR
comp=Z,800nm,33.2s
CM31 Chiang Mai Arr 75.68 294 IAmb IAmb 05 44 15.5
comp=Z,33nm,0.8s
CMAR Chiang Mai Arr 75.68 294 P **P** **05 44 12.5 +1.1**
CMAR Chiang Mai Arr 75.68 294 P **P** **05 44 12.8 +1.3**
comp=Z,19nm,0.7s,baz=131,slow=4.8,SNR=56
CMAR pP **pP** **05 44 45.1 -0.5**
comp=Z,19nm,1.1s,baz=116,slow=4.0,SNR=3.7
comp=Z,19nm,0.7s
CMAR Chiang Mai Arr 75.68 294 *i* P **P** **05 44 12.8 +1.3**
CMAR pmax pmax
comp=Z,21nm,0.7s
CHTO Chiang Mai 75.81 294 P **P** **05 44 12.9 +0.8**
CHTO IAmb IAmb 05 44 15.9
comp=Z,32nm,0.8s
CHTO Chiang Mai 75.81 294 P **P** **05 44 13.4 +1.2**
CHTO Chiang Mai 75.81 294 P **P** **05 44 13.0 +0.8**
CHTO pmax pmax
comp=Z,32nm,0.9s
CHTO Chiang Mai 75.81 294 ⇑P **P** **05 44 13.2 +1.0**
MA2 Magadan 76.09 351 ⇑*e*P **P** **05 44 13.8 +0.9**
MA2 pmax pmax
comp=Z,51nm,2.0s
HHC Hu-ho-hao-te 76.47 320 ⇑*i*P **P** **05 44 16.8 +1.2**
HHC pP pP 05 44 49.3 -0.1
HHC S **S** **05 53 51.2 +1.1**
HHC pmax pmax
comp=Z,50nm,1.2s
HHC pmax pmax
comp=Z,340nm,9.3s
PZH PanZhiHua 76.50 303 P **P** **05 44 16.5 +0.4**
PZH S **S** **05 53 50.3 -0.7**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,400nm,5.1s
PZH LR LR
comp=Z,580nm,24.7s
PZH LR LR
comp=Z,700nm,20.8s
PZH LR LR
comp=Z,500nm,17.3s
S14K Fog Glacier 76.61 18 P **P** **05 44 16.5 +0.5**
baz=212
CD2 Chengdu 76.84 308 P **P** **05 44 18.3 +0.5**
CD2 PcP **PcP** **05 44 29.4 +0.9**
CD2 pP pP 05 44 52.3 +0.4
CD2 S **S** **05 53 55.6 +1.2**
CD2 pmax pmax
comp=Z,60nm,0.5s
CD2 pmax pmax
comp=Z,690nm,3.8s
CD2 LR LR
comp=Z,890nm,22.0s
CD2 LR LR
comp=Z,980nm,22.7s
CD2 LR LR
comp=Z,1μm,22.7s
RPN Rapa Nui 76.92 115 LR LR 06 16 15.5
comp=Z,100nm,18.7s,baz=277,slow=34
CHGN Chignik 76.97 19 P **P** **05 44 18.8 +0.9**
baz=213
ZEA Zeya 77.19 337 *e*P **P** **05 44 20.6 +1.4**
ZEA *e*S **S** **05 54 00.9 +3.8**
ZEA pmax pmax
comp=Z,300nm,2.4s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,70nm,0.8s
ZEA smax smax
comp=E,300nm,11.1s
ZEA smax smax
comp=N,600nm,11.7s
BTO Baotou 77.31 319 *e*P **P** **05 44 22.3 +2.0**
BTO pP **pP** **05 44 55.5 +1.3**
BTO PP **PP** **05 47 18.7 +2.1**
BTO S **S** **05 54 00.1 +0.9**
BTO pmax pmax
comp=N,35nm,0.8s
BTO pmax pmax
comp=N,250nm,5.0s
BTO LR LR
comp=N,820nm,10.2s
BTO LR LR
comp=N,470nm,8.0s
BTO LR LR
comp=N,1μm,16.9s
M11K Mekoryuk 78.50 13 P **P** **05 44 27.1 +0.8**
baz=206
TNCH TengChong 78.55 300 ⇑P **P** **05 44 28.5 +0.9**
TNCH PcP **PcP** **05 44 36.2 0.0**
TNCH pP pP 05 44 56.8 -5.0
TNCH sP sP 05 45 12.3 -4.1
TNCH S **S** **05 54 10.7 -2.6**
TNCH sS sS 05 55 09.3 -2.7
TNCH SS **SS** **05 59 21.6 +1.3**
TNCH pmax pmax
comp=N,67nm,2.0s
TNCH LR LR
comp=N,410nm,14.6s
TNCH LR LR
comp=N,730nm,21.7s
O14K Tigyukauivet M 78.67 16 P **P** **05 44 27.1 -0.1**
baz=210
R17L Mt. Peulik Vol 78.71 19 P **P** **05 44 27.5 0.0**
baz=215
PLK4 Peulik 4 78.71 19 P **P** **05 44 28.1 +0.5**
PLK4 IAmb IAmb 05 44 32.2
comp=Z,36nm,0.9s
O15K Ungalikthiuk R 78.99 16 P **P** **05 44 29.2 +0.2**
baz=212
SEY Seymchan 79.12 353 LR LR 06 16 36.4
comp=Z,664nm,20.3s,baz=154,slow=33
SEY Seymchan 79.12 353 ⇓*e*P **P** **05 44 30.3 +0.7**
SEY pmax pmax
comp=Z,45nm,1.8s
N14K Kuskokwak Cree 79.15 15 P **P** **05 44 30.3 +0.5**
baz=210
M13K Dall Lake 79.17 14 P **P** **05 44 30.2 +0.3**
baz=208
LZH Lanzhou 79.18 312 ⇑*i*P **P** **05 44 32.5 +1.7**
LZH pP pP 05 45 01.5 -3.2
LZH sP sP 05 45 23.5 +4.4
LZH S **S** **05 54 21.8 +2.3**
LZH pmax pmax
comp=Z,83nm,1.0s
LZH pmax pmax
comp=Z,550nm,4.5s
LZH LR LR
comp=Z,500nm,18.2s
LZH LR LR
comp=Z,600nm,19.8s
LZH LR LR
comp=Z,910nm,20.4s
R18K Karluk 79.26 20 P **P** **05 44 31.1 +0.7**
baz=217
OHAK Old Harbor 79.37 20 P **P** **05 44 31.2 +0.2**
baz=218
Q17K Contact Creek 79.37 19 P **P** **05 44 30.6 -0.6**
baz=216
P16K Nushagak River 79.38 17 P **P** **05 44 31.0 0.0**
baz=214
Q16K King Salmon 79.47 18 P **P** **05 44 31.2 -0.4**
baz=215
N15K Kwethluk River 79.77 16 P **P** **05 44 34.9 +1.7**
N15K Kwethluk River 79.77 16 P **P** **05 44 33.8 +0.6**
baz=211
M14K Bethel 79.80 15 IAmb IAmb 05 45 26.2
comp=Z,28nm,1.1s
M14K Bethel 79.80 15 P **P** **05 44 33.9 +0.6**
baz=210
O16K Kokwok River B 79.82 17 P **P** **05 44 32.7 -0.7**
baz=213
Q18K Katmai Hardscr 79.95 19 P **P** **05 44 34.2 -0.2**
baz=216
P17K Kvichak River 79.97 18 P **P** **05 44 32.9 -1.3**
baz=215
KDAK Kodiak Island 80.05 20 P **P** **05 44 35.7 +1.0**
comp=Z,9.9nm,0.9s,baz=206,slow=4.2,SNR=7.5
KDAK LR LR 06 15 24.7
comp=Z,367nm,19.6s,baz=214,slow=32
comp=Z,9.9nm,0.9s
KDAK Kodiak Island 80.05 20 P **P** **05 44 34.9 +0.2**
baz=219
M15K Kasigluk River 80.07 15 P **P** **05 44 35.1 +0.3**
baz=211
L14K Kuka Creek 80.15 14 P **P** **05 44 35.9 +0.7**
baz=209
K13K Kusilvak Mount 80.23 13 IAmb IAmb 05 44 53.0
comp=Z,63nm,2.0s
K13K Kusilvak Mount 80.23 13 P **P** **05 44 36.2 +0.6**
baz=207
O17K Koliganek Bris 80.25 17 P **P** **05 44 36.3 +0.6**
baz=214
N16K Nishlik Lake 80.38 16 P **P** **05 44 37.0 +0.5**
baz=213
P18K Big Mountain, 80.49 18 P **P** **05 44 36.3 -0.8**
baz=216
Q19K Cape Douglas, 80.60 19 P **P** **05 44 37.4 -0.3**
baz=218
GAMB Gambell 80.63 9 P **P** **05 44 37.8 +0.1**
baz=200
L15K Ungalak Mounta 80.72 14 P **P** **05 44 38.0 -0.2**
baz=210
Q20K Shuyak Island 80.75 20 P **P** **05 44 38.5 0.0**
baz=219
M16K Timber Creek 80.79 16 P **P** **05 44 39.2 +0.6**
baz=212
N17K Nushagak Hills 80.85 17 P **P** **05 44 39.9 +0.9**
baz=214
O18K Koktuh Hills 80.87 18 P **P** **05 44 38.2 -0.9**
baz=216
J14K Nanvaranak Lak 81.19 13 IAmb IAmb 05 44 55.5
comp=Z,90nm,2.0s
J14K Nanvaranak Lak 81.19 13 P **P** **05 44 41.1 +0.5**
baz=208
K15K Wolf Creek Mou 81.25 14 P **P** **05 44 41.6 +0.6**
baz=210
P19K Oil Pt 81.31 19 P **P** **05 44 41.7 +0.3**
baz=218
MAW Mawson 81.32 202 P **P** **05 44 42.0 +0.5**
comp=Z,49nm,1.0s,baz=102,slow=7.1,SNR=32
MAW LR LR 06 15 34.9
comp=Z,375nm,21.1s,baz=87,slow=32
comp=Z,49nm,1.0s
N18K Kilae Creek 81.34 17 P **P** **05 44 42.0 +0.4**
baz=215
O19K Port Alsworth 81.41 18 P **P** **05 44 41.4 -0.5**
baz=217
M17K Holitna River 81.51 16 P **P** **05 44 43.3 +0.8**
baz=214
HOM Homer 81.82 20 P **P** **05 44 44.6 +0.6**
baz=219
O20K Slope Mountain 81.84 19 P **P** **05 44 44.3 0.0**
baz=218
N19K Bonanza Creek 81.86 18 P **P** **05 44 44.0 -0.4**
baz=217
L17K Donlin 81.90 15 P **P** **05 44 45.5 +1.0**
baz=213
M18K Stony River 82.03 17 P **P** **05 44 46.2 +1.1**
baz=215
J16K Anvik River 82.32 14 P **P** **05 44 47.8 +1.2**
baz=211
IMP Imphal 82.33 298 *e*P **P** **05 44 47.7 +0.1**
IMP IAmb IAmb 05 44 51.0
comp=Z,88nm,2.1s
IMP *e*S **S** **05 54 53.3 +0.9**
K17K Iditarod 82.39 15 P **P** **05 44 47.9 +0.9**
baz=213
L18K Granite Mounta 82.39 16 P **P** **05 44 47.8 +0.8**
baz=214
ANM Nome 82.45 11 P **P** **05 44 47.4 +0.1**
baz=206
KOHI KOHIMA 82.51 299 *e*P **P** **05 44 48.9 +0.2**
KOHI IAmb IAmb 05 44 51.8
comp=Z,74nm,2.7s
M19K Big River Lodg 82.76 17 IAmb IAmb 05 44 53.3
comp=Z,28nm,1.3s
M19K Big River Lodg 82.76 17 P **P** **05 44 49.2 +0.3**
baz=217
J17K VABM Dome 82.78 14 P **P** **05 44 49.9 +0.9**
baz=212
I17K Unalakleet 82.82 14 P **P** **05 44 50.1 +0.9**
baz=211
N20K Mount Spurr 82.84 18 P **P** **05 44 48.7 -0.8**
baz=219
SPCR Spurr Chakacha 82.84 18 P **P** **05 44 48.6 -0.9**
baz=219
L19K White Mountain 82.86 17 IAmb IAmb 05 44 54.1
comp=Z,50nm,1.4s
L19K White Mountain 82.86 17 P **P** **05 44 49.9 +0.4**
baz=216
SEW Seward 82.87 20 P **P** **05 44 49.3 -0.2**
baz=221
TNA Tin City 82.90 10 P **P** **05 44 50.2 +0.6**
baz=204
YAK Yakutsk 82.91 343 P **P** **05 44 50.1 +0.4**
comp=Z,70nm,0.6s,baz=96,slow=1.9,SNR=14
YAK LR LR 06 17 17.6
comp=Z,351nm,21.4s,baz=138,slow=32
comp=Z,70nm,0.6s
YAK Yakutsk 82.91 343 *c i*P **P** **05 44 49.8 +0.1**
YAK *e* 05 48 00.5
YAK *e*S **S** **05 54 56.9 +0.3**
YAK *e**SS **pS** **05 55 46.8 +6.9**
YAK *e*SS **SS** **06 00 21.3 -2.1**
YAK pmax pmax
comp=Z,66nm,0.7s
YAK pmax pmax
comp=N,33nm,1.8s
YAK pmax pmax
comp=E,24nm,1.9s
YAK pmax pmax
comp=Z,128nm,4.1s
YAK pmax pmax
comp=N,122nm,3.8s
YAK pmax pmax
comp=E,89nm,6.3s
YAK smax smax
comp=N,80nm,2.3s
YAK smax smax
comp=E,105nm,5.8s
AZL Aizawl 83.02 297 *e*P **P** **05 44 51.8 +0.5**
AZL IAmb IAmb 05 44 54.4
comp=Z,99nm,2.7s
AZL *e*S **S** **05 55 01.4 +1.9**
ULN Ulaanbaatar 83.03 324 *c i*P **P** **05 44 51.6 +0.7**
ULN pmax pmax
comp=Z,244nm,1.6s
ULN Ulaanbaatar 83.03 324 ⇑P **P** **05 44 51.8 +0.9**
O22K Cooper Landing 83.07 20 P **P** **05 44 50.2 -0.3**
baz=221
G15K Niukluk 83.09 12 P **P** **05 44 50.9 +0.3**
baz=207
F14K Arctic Creek 83.10 11 P **P** **05 44 50.7 +0.1**
baz=205
M20K Styx River 83.11 18 P **P** **05 44 50.7 -0.1**
baz=218
H16K Elim 83.14 13 P **P** **05 44 51.4 +0.6**
baz=209
BILL Bilibino 83.33 359 *c*e**P** **P** **05 44 51.8 0.0**
BILL pmax pmax
comp=Z,15nm,0.8s
L20K Farewell, AK 83.37 17 P **P** **05 44 52.2 +0.1**
baz=217
SONM Songino Array 83.39 323 P **P** **05 44 53.7 +1.0**
SONM Songino Array 83.39 323 P **P** **05 44 53.3 +0.6**
comp=Z,25nm,0.6s,baz=134,slow=4.6,SNR=116
comp=Z,25nm,0.6s
SONM Songino Array 83.39 323 P **P** **05 44 53.7 +1.0**
SONM pmax pmax
comp=Z,166nm,1.5s
J18K Innoko River 83.42 15 P **P** **05 44 53.1 +0.8**
baz=214
Q23K Middleton Isla 83.44 22 P **P** **05 44 52.3 -0.1**
baz=224
P23K Montague Islan 83.48 21 P **P** **05 44 52.3 -0.4**
baz=223
SUA Susitna One 83.49 19 IAmb IAmb 05 45 54.2
comp=Z,30nm,1.1s
SUA Susitna One 83.49 19 P **P** **05 44 52.4 -0.5**
baz=220

RC01	Rabbit Creek A	83.52	19	P	P	05 44 52.3	-0.6
	baz=221						
GTA	Gaotai	83.53	314	⇑P	P	05 44 54.8	+1.2
GTA				pP	pP	05 45 27.2	-0.8
GTA				S	SKSac	05 55 06.0	+2.5
GTA				pmax	pmax		
	comp=Z,59nm,1.0s						
GTA				pmax	pmax		
	comp=Z,450nm,10.0s						
GTA				LR	LR		
	comp=Z,380nm,17.1s						
GTA				LR	LR		
	comp=Z,430nm,20.3s						
GTA				LR	LR		
	comp=Z,560nm,19.5s						
F15K	North Star Dit	83.61	11	P	P	05 44 53.9	+0.6
	baz=207						
SKT	Skwentna	83.65	18	P	P	05 44 51.6	-1.9
	baz=219						
G16K	Koyuk River	83.78	12	P	P	05 44 54.6	+0.5
	baz=209						
PWL	Port Wells	83.81	20	IAmb	IAmb	05 44 57.6	
	comp=Z,73nm,1.5s						
PWL	Port Wells	83.81	20	P	P	05 44 54.0	-0.4
	baz=222						
H17K	Granite Mounta	83.90	13	P	P	05 44 55.1	+0.3
	baz=211						
M22K	Willow	83.91	19	P	P	05 44 54.5	-0.3
	baz=221						
TEZP	TEZPUR	83.92	300	eP	P	05 44 55.7	0.0
TEZP				IAmb	IAmb	05 44 59.6	
	comp=Z,94nm,2.7s						
K20K	Telida	84.02	16	IAmb	IAmb	05 44 59.5	
	comp=Z,56nm,1.6s						
K20K	Telida	84.02	16	P	P	05 44 55.5	+0.2
	baz=217						
PMR	Palmer	84.10	19	IAmb	IAmb	05 44 59.2	
	comp=Z,69nm,1.6s						
PMR	Palmer	84.10	19	P	P	05 44 56.0	+0.2
PMR	Palmer	84.10	19	P	P	05 44 56.0	+0.2
	baz=222,SNR=8.6						
J19K	Poorman	84.13	15	IAmb	IAmb	05 45 00.6	
	comp=Z,70nm,1.9s						
J19K	Poorman	84.13	15	P	P	05 44 56.4	+0.5
	baz=215						
PPLA	Purkeypile	84.18	17	P	P	05 44 55.1	-1.3
	baz=219						
KNK	Knik Glacier	84.18	20	P	P	05 44 55.8	-0.4
	baz=222						
G17K	Kiwalik Mounta	84.23	13	P	P	05 44 57.1	+0.8
	baz=210						
GLI	Glacier Island	84.23	20	IAmb	IAmb	05 45 51.9	
	comp=Z,22nm,1.1s						
GLI	Glacier Island	84.23	20	P	P	05 44 55.5	-1.0
	baz=223,SNR=8.1						
GHO	Glory Hole Cre	84.30	19	IAmb	IAmb	05 45 02.7	
	comp=Z,43nm,1.6s						
SHL	Shillong	84.33	298	eP	P	05 44 58.3	+0.3
SHL				IAmb	IAmb	05 45 02.2	
	comp=Z,83nm,3.0s						
SHL	Shillong	84.33	298	P	P	05 44 58.4	+0.3
SHL				pmax	pmax		
	comp=Z,119nm,1.0s						
CUT	Chulitna	84.36	18	P	P	05 44 56.3	-0.8
	baz=220						
H18K	Honhosa River	84.43	14	P	P	05 44 57.2	-0.2
	baz=213						
GCSA	Galena City Sc	84.44	14	P	P	05 44 57.8	+0.4
	baz=214						
EYAK	Cordova Ski Ar	84.45	21	P	P	05 44 57.2	-0.4
	baz=225						
KHMM	Horse Mountain	84.60	45	IAmb	IAmb	05 45 03.0	
	comp=Z,71nm,1.8s						
CAST	Castle Rocks	84.62	17	P	P	05 44 57.9	-0.5
CAST				IAmb	IAmb	05 45 58.2	
	comp=Z,23nm,0.9s						
CAST	Castle Rocks	84.62	17	P	P	05 44 57.3	-1.1
	baz=219,SNR=30						
J20K	Nowinta River	84.66	16	IAmb	IAmb	05 45 01.7	
	comp=Z,38nm,1.4s						
J20K	Nowinta River	84.66	16	P	P	05 44 59.0	+0.5
	baz=217,SNR=18						
M23K	Glacier View	84.69	20	P	P	05 44 58.4	-0.4
	baz=223						
SCM	Sheep Creek Mo	84.85	20	P	P	05 44 58.8	-0.9
	baz=223						
CHUM	Lake Minchumin	84.92	17	P	P	05 44 59.2	-0.7
	baz=218						
F17K	Baldwin Pennin	84.92	12	IAmb	IAmb	05 45 13.1	
	comp=Z,19nm,0.7s						
F17K	Baldwin Pennin	84.92	12	P	P	05 45 00.4	+0.6
	baz=210						
G18K	Tagagawik	84.99	13	IAmb	IAmb	05 45 03.0	
	comp=Z,60nm,1.9s						
G18K	Tagagawik	84.99	13	P	P	05 45 00.7	+0.4
	baz=212						
KLU	Klutina	85.07	20	P	P	05 45 00.8	0.0
	baz=224						
I20K	Naaghedeneel	85.07	15	IAmb	IAmb	05 46 15.2	
	comp=Z,47nm,1.2s						
I20K	Naaghedeneel	85.07	15	P	P	05 45 01.1	+0.5
	baz=216,SNR=7.6						
BMRM	Bremner River	85.15	21	P	P	05 45 00.7	-0.5
	baz=226						
TRF	Thorofare Moun	85.15	18	P	P	05 45 00.3	-0.9
	baz=220						
H19K	Roundabout Mou	85.19	14	P	P	05 45 01.4	+0.3
	baz=214,SNR=12						
E17K	Hotham Inlet	85.36	11	P	P	05 45 02.6	+0.6
	baz=209,SNR=8.2						
BOD	Bodaibo	85.38	334	eP	P	05 45 01.7	-0.6
BOD				pmax	pmax		
	comp=Z,101nm,1.6s						
F18K	Selawik	85.38	12	P	P	05 45 02.6	+0.5
	baz=211,SNR=5.5						
WAX	Waxell Ridge	85.42	22	IAmb	IAmb	05 45 06.0	
	comp=Z,74nm,1.6s						
M24K	Tolsona, Glenn	85.43	20	P	P	05 45 02.8	+0.3
	baz=224						
BPAW	Bear Paw Mtn.	85.45	17	P	P	05 45 01.4	-1.1
	baz=220						
CRQE	Cirque	85.53	22	P	P	05 45 02.1	-1.1
	baz=227						
H20K	Anotleneega Mo	85.54	15	P	P	05 45 03.3	+0.3
	baz=216,SNR=16						
G19K	Purcell Mounta	85.55	14	IAmb	IAmb	05 45 15.5	
	comp=Z,19nm,0.6s						
G19K	Purcell Mounta	85.55	14	P	P	05 45 03.7	+0.7
	baz=214,SNR=25						
MESA	MESA	85.56	23	P	P	05 45 02.6	-0.8
	baz=228						
N25K	Chitina, Valde	85.60	21	P	P	05 45 03.2	-0.3
	baz=226						
YBH	Yreka Blue Hor	85.66	45	IAmb	IAmb	05 45 42.0	
	comp=Z,41nm,1.8s						
YBH	Yreka Blue Hor	85.66	45	LR	LR	06 18 24.0	
	comp=Z,17nm,18.2s,baz=254,slow=32						
D17K	Noatak River	85.67	11	P	P	05 45 04.5	+1.0
	baz=208,SNR=6.3						
MCK	McKinley	85.77	18	P	P	05 45 03.3	-0.8
	baz=222						
C16K	Lisburne Hills	85.80	10	P	P	05 45 04.3	+0.2
	baz=206						
GOMU	GeErMu	85.83	309	P	P	05 45 08.4	+2.9
GOMU				S	SKSac	05 55 17.1	-1.7
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GOMU				LR	LR		
	comp=Z,300nm,19.3s						
GOMU				LR	LR		
	comp=Z,270nm,19.7s						
GOMU				LR	LR		
	comp=Z,420nm,19.0s						
E18K	Tukpahlearik C	85.90	12	P	P	05 45 05.5	+0.9
	baz=210,SNR=9.2						
HARP	HAARP	85.97	20	P	P	05 45 04.6	-0.5
	baz=225						
F19K	Shaleruckik Mo	85.98	13	P	P	05 45 05.3	+0.3
	baz=213,SNR=20						
MCARA	McCarthy VSAT	85.99	21	P	P	05 45 05.3	0.0
	baz=227						
RDOG	Red Dog Mine	86.02	11	P	P	05 45 06.2	+1.0
	baz=208						
I21K	Tanana	86.03	16	P	P	05 45 05.7	+0.4
	baz=219						
HATC	Hat Creek Radi	86.14	46	IAmb	IAmb	05 45 54.5	
	comp=Z,35nm,1.2s						
PINM	Pinnacle	86.15	23	P	P	05 45 06.0	-0.1
	baz=230						
H21K	Melozitna Rive	86.19	15	P	P	05 45 06.9	+0.8
	baz=218,SNR=9.8						
PNL	Peninsula	86.20	24	P	P	05 45 06.3	-0.1
	baz=230						
MLY	Manley	86.24	16	P	P	05 45 06.1	-0.3
	baz=220						
PAX	Paxson	86.28	19	P	P	05 45 05.8	-0.9
	baz=225						
ISA	Isabella, Lake	86.29	52	IAmb	IAmb	05 45 45.2	
	comp=Z,42nm,1.5s						
CTG	Chitna Glacier	86.31	22	P	P	05 45 07.0	0.0
	baz=229						
C17K	DeLong Mountai	86.35	10	P	P	05 45 07.2	+0.3
	baz=208						
LSA	Lhasa	86.36	302	P	P	05 45 06.1	-2.3
LSA				LR	LR		
	comp=Z,510nm,12.0s						
LSA				LR	LR		
	comp=Z,190nm,5.4s						
NEA2	Nenana	86.37	17	P	P	05 45 06.0	-1.0
	baz=221						
BFSC	Mount Baldy Ra	86.39	53	IAmb	IAmb	05 45 45.4	
	comp=Z,30nm,1.3s						
CRAG	Craig	86.39	29	P	P	05 45 07.5	+0.2
	baz=236						
S31K	Pelican	86.44	26	P	P	05 45 06.4	-1.1
	baz=233						
ZAK	Zakamensk	86.45	325	eP	P	05 45 07.4	-0.5
ZAK				pmax	pmax		
	comp=Z,47nm,1.7s						
BEKR	Beckworth	86.53	47	IAmb	IAmb	05 45 11.8	
	comp=Z,31nm,1.5s						
F20K	Avaraart Lake	86.61	14	IAmb	IAmb	05 45 22.1	
	comp=Z,25nm,1.5s						
F20K	Avaraart Lake	86.61	14	P	P	05 45 08.6	+0.5
	baz=215						
O28M	Mount Upton	86.61	23	P	P	05 45 08.6	-0.1
	baz=230						
E19K	Redstone River	86.62	13	IAmb	IAmb	05 45 21.2	
	comp=Z,25nm,0.6s						
E19K	Redstone River	86.62	13	P	P	05 45 08.9	+0.7
	baz=214,SNR=31						
WAKR	Walker	86.65	49	IAmb	IAmb	05 45 47.2	
	comp=Z,52nm,1.5s						
M26K	Nabesna, AK	86.70	21	P	P	05 45 08.5	-0.3
	baz=227						
G21K	Allakaket	86.70	15	P	P	05 45 09.0	+0.4
	baz=217,SNR=13						
J04A	Umpqua Nationa	86.70	44	IAmb	IAmb	05 45 46.9	
	comp=Z,37nm,1.3s						
I23K	Minto, Yukon-K	86.71	17	P	P	05 45 08.3	-0.3
	baz=221						
H22K	Ishtalitna Cre	86.74	16	P	P	05 45 09.5	+0.6
	baz=219						
U33K	Whale Pass	86.75	29	P	P	05 45 09.8	+0.8
	baz=236						
K24K	Donnelly Dome	86.77	19	P	P	05 45 08.5	-0.6
	baz=224						
LRMC	Laurel Mtn Rad	86.82	52	IAmb	IAmb	05 45 47.9	
	comp=Z,47nm,1.4s						
MENT	Mentasta	86.82	20	P	P	05 45 12.6	+3.3
H04D	Lebanon	86.83	42	IAmb	IAmb	05 45 47.4	
	comp=Z,53nm,1.8s						
P29M	Windy Craggy	86.84	24	IAmb	IAmb	05 45 13.2	
	comp=Z,33nm,1.6s						
P29M	Windy Craggy	86.84	24	P	P	05 45 08.7	-0.8
	baz=232						
C18K	Utukok River	86.85	11	IAmb	IAmb	05 46 08.9	
	comp=Z,45nm,1.6s						
C18K	Utukok River	86.85	11	P	P	05 45 09.5	+0.2
	baz=210,SNR=6.5						
HDA	Harding Lake	86.86	18	IAmb	IAmb	05 46 09.9	
	comp=Z,22nm,0.9s						
HDA	Harding Lake	86.86	18	P	P	05 45 08.6	-0.8
	baz=223,SNR=11						
S32K	Killisnoo	86.87	27	P	P	05 45 09.7	+0.1
	baz=235						
CWC	Cottonwood Cre	86.87	51	IAmb	IAmb	05 45 48.0	
	comp=Z,33nm,1.5s						
O29M	Mount Kennedy	86.93	24	P	P	05 45 09.1	-0.9
	baz=231						
COLA	College	86.93	17	P	P	05 45 09.4	-0.3
COLA	College	86.93	17	*c iP*	P	05 45 08.9	-0.8
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
COLA	College	86.93	17	⇑P	P	05 45 09.1	-0.7
COLA	College	86.93	17	P	P	05 45 08.7	-1.0
	baz=222						
BORC	Borrego Spring	87.01	54	IAmb	IAmb	05 45 48.6	
	comp=Z,38nm,1.3s						
L26K	Log Cabin Wild	87.01	20	P	P	05 45 10.5	+0.3
	baz=227						
RIDG	Independent Ri	87.02	19	P	P	05 45 10.1	-0.2
	baz=225						
V35K	Ketchikan	87.03	30	P	P	05 45 10.5	+0.1
	baz=237						
M27K	Edge Creek, AK	87.05	21	P	P	05 45 11.1	+0.5
	baz=228						
PFO	Pinyon Flats O	87.09	54	LR	LR	06 18 30.4	
	comp=Z,525nm,19.1s,baz=252,slow=32						
PFO	Pinyon Flats O	87.09	54	*ceP*	P	05 45 12.7	+1.2
PFO				pmax	pmax		
	comp=Z,23nm,1.8s						
ILAR	Eielson Array	87.14	18	P	P	05 45 09.2	-1.5
	comp=Z,7.4nm,0.6s,baz=238,slow=5.0,SNR=101						
ILAR				PKKP	PKKPdf	06 02 59.0	+0.2
	comp=Z,0.7nm,0.6s,baz=353,slow=2.7,SNR=8.0						
ILAR				LR	LR	06 19 45.4	
	comp=Z,327nm,20.1s,baz=229,slow=32						
	comp=Z,7.4nm,0.6s						
PAHR	Pah Range	87.15	48	IAmb	IAmb	05 45 15.0	
	comp=Z,35nm,1.5s						
YUK3	Moose Creek	87.17	22	P	P	05 45 10.5	-0.8
	baz=229						
H23K	Yukon River	87.17	16	P	P	05 45 10.5	-0.4
	baz=221						
E03A	Lebam	87.18	40	IAmb	IAmb	05 45 47.6	
	comp=Z,23nm,1.1s						
BBB	Bella Bella	87.18	34	LR	LR	06 20 38.3	
	comp=Z,387nm,18.6s,baz=240,slow=33						
POKR	Poker Plat Res	87.23	17	P	P	05 45 10.1	-1.1
	baz=223						
LHV	Little Huntoon	87.23	49	IAmb	IAmb	05 45 49.8	
	comp=Z,50nm,1.7s						
F21K	Alatna River	87.27	14	P	P	05 45 11.8	+0.4
	baz=217,SNR=9.9						
WRAK	Wrangell Islan	87.28	29	P	P	05 45 11.9	+0.3
	baz=237						
G04A	Muno	87.29	42	IAmb	IAmb	05 46 23.4	
	comp=Z,27nm,1.0s						
DSP	Deep Springs	87.30	50	IAmb	IAmb	05 45 50.1	
	comp=Z,22nm,1.2s						
J05D	Fort Rock, OR	87.30	44	IAmb	IAmb	05 45 50.0	
	comp=Z,45nm,1.6s						
K05A	Summer Lake	87.30	44	IAmb	IAmb	05 45 50.1	
	comp=Z,70nm,1.9s						
D19K	Kuna River	87.31	12	P	P	05 45 12.0	+0.5
	baz=213,SNR=7.6						
R32K	Eaglecrest	87.36	27	P	P	05 45 12.1	+0.1
	baz=235						
B18K	Kokolik River	87.37	10	P	P	05 45 12.7	+0.9
	baz=209						
GSC	Goldstone, Bar	87.42	52	IAmb	IAmb	05 45 50.7	
	comp=Z,55nm,1.9s						
BVCY	Beaver Creek	87.44	21	P	P	05 45 12.1	-0.2
	baz=229						
NVAR	Mina Array Bea	87.45	49	P	P	05 45 14.1	+0.9
NVAR	Mina Array Bea	87.45	49	P	P	05 45 14.3	+1.1
	comp=Z,2.4nm,0.6s,baz=230,slow=8.1,SNR=14						
NVAR				PKKPbc	PKKPbc	06 03 03.7	+0.3
	comp=Z,2.7nm,0.6s,baz=81,slow=3.4,SNR=23						
NVAR				PKPPKP	P'P'df	06 11 04.6	-4.9
	comp=Z,1.4nm,0.8s,baz=49,slow=5.0,SNR=7.7						
NVAR				LR	LR	06 17 57.0	
	comp=Z,513nm,19.9s,baz=260,slow=31						
	comp=Z,2.4nm,0.6s						
P30M	Million Dollar	87.45	24	P	P	05 45 11.6	-0.8
	baz=232						
SCRK	Sand Creek	87.46	19	P	P	05 45 12.3	-0.2
	baz=226						
J25K	Salcha River,	87.48	18	P	P	05 45 12.2	-0.3
	baz=225						
E20K	Nigu River	87.51	13	P	P	05 45 13.0	+0.5
	baz=215						
G22K	Bettles	87.51	15	P	P	05 45 12.6	+0.1
	baz=219						
L27K	Beaver Creek,	87.54	21	P	P	05 45 12.6	-0.2
	baz=228						
C19K	Lookout Ridge	87.54	11	IAmb	IAmb	05 46 17.7	
	comp=Z,59nm,1.9s						
C19K	Lookout Ridge	87.54	11	P	P	05 45 13.1	+0.4
	baz=211,SNR=5.3						
NV11	Mina Array Sit	87.56	49	IAmb	IAmb	05 45 52.4	
	comp=Z,49nm,1.8s						
YUK4	Talbot Arm	87.56	23	P	P	05 45 12.8	-0.3
	baz=231						
GRAC	Grapevine Rang	87.61	51	IAmb	IAmb	05 45 51.6	
	comp=Z,42nm,1.3s						
QSM	Queen of Sheba	87.61	52	IAmb	IAmb	05 45 51.3	
	comp=Z,23nm,1.3s						
H24K	Noodor Dome	87.64	17	P	P	05 45 12.5	-0.7
	baz=222						
I05D	Terrebonne, OR	87.66	43	IAmb	IAmb	05 45 49.8	
	comp=Z,45nm,1.9s						
HYT	Haines Junctio	87.67	24	P	P	05 45 13.4	-0.1
	baz=232						
GTK	Tadong	87.69	299	eP	P	05 45 15.1	+0.6
GTK				IAmb	IAmb	05 45 18.6	
	comp=Z,76nm,2.6s						
GTK				eS	SKSac	05 55 29.9	-0.3
PINE	Pine Mountain	87.70	43	IAmb	IAmb	05 45 51.9	
	comp=Z,45nm,1.7s						
SKAG	Skagway	87.71	25	P	P	05 45 16.2	+2.6
SKAG	Skagway	87.71	25	P	P	05 45 14.2	+0.6
	baz=234						
G23K	Bananza Creek	87.72	16	P	P	05 45 14.3	+0.7
	baz=220						
D20K	Etivluk River	87.80	12	IAmb	IAmb	05 45 16.1	
	comp=Z,40nm,1.5s						
D20K	Etivluk River	87.80	12	P	P	05 45 15.3	+1.4
	baz=214,SNR=19						
FURC	Furnace Creek,	87.80	51	IAmb	IAmb	05 45 52.4	
	comp=Z,40nm,1.4s						
F22K	John River	87.80	14	P	P	05 45 14.5	+0.6
	baz=218						
GWY	Greenwater Val	87.84	52	IAmb	IAmb	05 45 52.5	
	comp=Z,21nm,1.4s						
J26L	Joseph Creek	87.96	19	P	P	05 45 15.6	+0.8
	baz=226						
SHOC	Shoshone, Teco	88.04	52	IAmb	IAmb	05 45 53.5	
	comp=Z,49nm,1.3s						
COLD	Coldfoot	88.07	15	P	P	05 45 16.2	+1.1
	baz=220						
GNW	Green Mountain	88.08	39	IAmb	IAmb	05 45 20.1	
	comp=Z,39nm,1.9s						
PRP	Porcupine Dome	88.08	18	P	P	05 45 14.8	-0.6
	baz=225						
SYO	Syowa Base	88.08	196	⇑*i*P	P	05 45 15.3	0.0
SYO	Syowa Base	88.08	196	⇓*i*PcP	PcP	05 45 16.8	-0.2
SYO	Syowa Base	88.08	196	⇓*ep*P	pP	05 45 48.0	-2.0
WCT	Wildcat Mounta	88.09	51	IAmb	IAmb	05 45 53.9	
	comp=Z,46nm,1.5s						
K27K	Chicken	88.11	20	IAmb	IAmb	05 45 20.1	
	comp=Z,23nm,1.7s						
K27K	Chicken	88.11	20	P	P	05 45 15.3	-0.1
	baz=228						
E21K	Killik River	88.14	13	P	P	05 45 15.8	+0.3
	baz=217						
N30M	Aishikik Lake	88.22	23	P	P	05 45 15.9	-0.2
	baz=232						
A19K	Wainwright	88.23	10	P	P	05 45 16.0	+0.3
	baz=210						
DANC	Danby, Needles	88.29	53	IAmb	IAmb	05 45 55.0	
	comp=Z,32nm,1.3s						
IRM	Iron Mountain	88.31	54	IAmb	IAmb	05 45 55.2	
	comp=Z,39nm,1.2s						
M29M	Somme Creek	88.32	22	P	P	05 45 15.9	-0.7
	baz=231						
E22K	Anaktuvuk Pass	88.38	14	IAmb	IAmb	05 46 21.7	
	comp=Z,34nm,1.8s						
E22K	Anaktuvuk Pass	88.38	14	P	P	05 45 17.1	+0.5
	baz=219						
G24K	Hadweenzic Riv	88.39	16	P	P	05 45 16.0	-0.6
	baz=223						
TPNV	Topopah Spring	88.43	51	IAmb	IAmb	05 45 55.6	
	comp=Z,46nm,1.5s						
D05A	Enumclaw	88.43	40	IAmb	IAmb	05 46 09.1	
	comp=Z,36nm,1.2s						
P32M	Atlin	88.46	26	P	P	05 45 16.2	-1.0
	baz=235						
G06A	Carlson Farm,	88.48	42	IAmb	IAmb	05 45 20.7	
	comp=Z,40nm,1.9s						
H25L	Birch Creek	88.53	17	P	P	05 45 16.1	-1.2
	baz=224						
C21K	Knifeblade Rid	88.54	13	P	P	05 45 18.0	+0.7
	baz=216,SNR=9.3						
T35M	Bob Quinn	88.56	29	P	P	05 45 17.7	0.0
	baz=238						
WHY	Whitehorse	88.60	25	P	P	05 45 17.5	-0.4
	baz=234						
I26K	Coal Creek Min	88.64	19	IAmb	IAmb	05 45 22.0	
	comp=Z,36nm,1.8s						
I26K	Coal Creek Min	88.64	19	P	P	05 45 17.3	-0.6
	baz=227						
S34M	Telegraph Cree	88.65	28	P	P	05 45 18.0	-0.1
	baz=238						
WVOR	Wild Horse Val	88.72	45	IAmb	IAmb	05 45 58.9	
	comp=Z,36nm,1.6s						
WVOR	Wild Horse Val	88.72	45	⇑P	P	05 45 19.8	+0.9
Q32M	Nakina River	88.72	27	P	P	05 45 18.1	-0.5
	baz=237						
N31M	Braeburn, Yuko	88.73	24	P	P	05 45 17.4	-1.0
	baz=234						
B20K	Meade River	88.77	11	IAmb	IAmb	05 45 23.4	
	comp=Z,40nm,1.9s						
B20K	Meade River	88.77	11	P	P	05 45 17.8	-0.5
	baz=214						
D22K	Ayikyak River	88.77	13	IAmb	IAmb	05 46 40.4	
	comp=Z,37nm,1.6s						
D22K	Ayikyak River	88.77	13	P	P	05 45 19.2	+0.8
	baz=218,SNR=13						
G25K	Bearman Lake	88.81	17	P	P	05 45 18.4	-0.2
	baz=224						
E23K	Chandalar	88.85	15	P	P	05 45 19.4	+0.5
	baz=221						
L29M	L29M	88.86	22	P	P	05 45 19.0	0.0
	baz=231						
F24K	Squaw Lake	88.88	16	P	P	05 45 19.2	+0.1
	baz=222						
B21K	Ikpikpuk River	88.95	12	P	P	05 45 18.9	-0.3
	baz=216						
M30M	Minto, Yukon	89.01	22	P	P	05 45 19.3	-0.4
	baz=233						
DAWY	Dawson	89.03	21	P	P	05 45 19.9	+0.1
	baz=230						
V12A	Nelson	89.07	53	IAmb	IAmb	05 45 58.7	
	comp=Z,32nm,1.4s						
PALK	Pallekele	89.08	278	LR	LR	06 23 48.0	
	comp=Z,336nm,21.4s,baz=100,slow=34						
SHPR	Sheep Range	89.10	52	IAmb	IAmb	05 45 59.0	
	comp=Z,21nm,1.3s						
LPIG	La Paz	89.13	65	LR	LR	06 14 53.2	
	comp=Z,312nm,21.8s,baz=242,slow=28						
E24K	Your Creek	89.14	15	P	P	05 45 21.0	+0.8
	baz=222						
J08A	Circle Bar Ran	89.18	44	IAmb	IAmb	05 45 58.6	
	comp=Z,54nm,1.9s						
P33M	Teslin, Yukon	89.18	25	P	P	05 45 20.7	+0.1
	baz=236						
LTY	Liberty	89.28	40	IAmb	IAmb	05 45 24.3	
	comp=Z,34nm,1.7s						
D23K	Nanushuk River	89.29	14	IAmb	IAmb	05 46 22.7	
	comp=Z,13nm,1.1s						
D23K	Nanushuk River	89.29	14	P	P	05 45 21.5	+0.6
	baz=220						
TOLK	Toolik Lake Re	89.31	14	P	P	05 45 21.3	+0.3
	baz=221						
I27K	Kandik River	89.31	19	P	P	05 45 21.7	+0.6
	baz=228						
R11B	Troy Canyon, C	89.41	50	IAmb	IAmb	05 46 00.0	
	comp=Z,22nm,1.4s						
DLBC	Dease Lake	89.43	28	LR	LR	06 22 21.7	
	comp=Z,31nm,18.3s,baz=224,slow=33						
DLBC	Dease Lake	89.43	28	P	P	05 45 21.4	-0.4
	baz=238						
E07A	Sunnyside	89.51	41	IAmb	IAmb	05 45 24.7	
	comp=Z,12nm,0.8s						
R33M	Jennings River	89.52	27	IAmb	IAmb	05 45 26.6	
	comp=Z,30nm,1.9s						
R33M	Jennings River	89.52	27	P	P	05 45 22.1	-0.2
	baz=238						
K29M	Barlow Dome	89.53	21	P	P	05 45 21.8	-0.4
	baz=232						

G26K Porcupine Rive 89.59 17 IAmb IAmb 05 45 27.0
comp=Z,9.2nm,0.7s
G26K Porcupine Rive 89.59 17 P **P** **05 45 23.2 +0.9**
baz=226
W13A Hualapai Mount 89.60 53 IAmb IAmb 05 46 01.4
comp=Z,18nm,1.1s
J29N Klondike Camp 89.67 21 P **P** **05 45 23.8 +1.0**
baz=231
M31M Drury Creek, Y 89.69 23 P **P** **05 45 22.8 -0.1**
baz=235
BMAR Burnt Mountain 89.70 17 P **P** **05 45 23.4 +0.6**
I28M Miner Creek 89.74 19 P **P** **05 45 23.6 +0.5**
baz=230
H27K Steamboat Moun 89.76 18 P **P** **05 45 23.6 +0.5**
baz=228
B22K Teshekpuk Lake 89.78 12 P **P** **05 45 24.2 +1.1**
baz=217
D24K Happy Valley 89.87 14 P **P** **05 45 24.6 +1.1**
baz=222
MAYO Mayo, Yukon 89.95 22 P **P** **05 45 23.8 -0.2**
baz=233
A21K Barrow 89.96 11 P **P** **05 45 24.8 +0.9**
baz=214
C23K Itkillik River 89.98 13 IAmb IAmb 05 46 13.5
comp=Z,17nm,1.2s
C23K Itkillik River 89.98 13 P **P** **05 45 24.9 +0.9**
baz=220
A22K Sinclair Lake 90.01 11 P **P** **05 45 24.4 +0.4**
baz=216
F26K Sheenjek River 90.01 17 P **P** **05 45 25.0 +0.7**
baz=226
G27K Doyon Strip 90.11 18 P **P** **05 45 25.0 +0.3**
baz=228
I29M Ogilvie Camp, 90.21 20 P **P** **05 45 24.8 -0.4**
baz=231
D08A Wollman Farm, 90.30 41 IAmb IAmb 05 46 02.0
comp=Z,16nm,1.4s
C24K Franklin Bluff 90.33 14 IAmb IAmb 05 46 43.8
comp=Z,10nm,0.9s
C24K Franklin Bluff 90.33 14 P **P** **05 45 26.1 +0.5**
baz=222
J30M Hart River 90.39 21 P **P** **05 45 25.6 -0.7**
baz=233
ELK Elko 90.49 48 IAmb IAmb 05 46 05.0
comp=Z,22nm,1.4s
ELK Elko 90.49 48 P **P** **05 45 28.2 +0.8**
B08A Colville Reser 90.54 40 IAmb IAmb 05 46 05.1
comp=Z,30nm,1.7s
SPR3 Spring Creek 3 90.56 50 IAmb IAmb 05 46 05.4
comp=Z,30nm,1.2s
E09A Wood Farm, Sta 90.58 42 IAmb IAmb 05 46 19.2
comp=Z,16nm,1.3s
D25K Kavik River 90.59 15 P **P** **05 45 26.7 -0.3**
baz=224
LCMT Little Creek M 90.72 52 IAmb IAmb 05 46 06.4
comp=Z,32nm,1.2s
H29M Whitestone 90.73 19 P **P** **05 45 27.2 -0.5**
baz=231
PSUT Pine Spring 90.75 50 IAmb IAmb 05 46 06.4
comp=Z,32nm,1.8s
I30M Mount Dempster 90.77 20 P **P** **05 45 28.0 +0.1**
baz=233
CCUT Cedar City 90.80 51 IAmb IAmb 05 46 07.2
comp=Z,20nm,1.3s
TIXI Tiksi 90.83 349 LR LR 06 24 37.5
comp=Z,344nm,19.9s,baz=158,slow=34
TIXI Tiksi 90.83 349 *de*P **P** **05 45 29.5 +1.6**
TIXI pmax pmax
comp=Z,43nm,1.4s
WTLY Watson Lake, Y 90.83 27 P **P** **05 45 28.3 +0.1**
baz=240
PMSA Palmer Station 90.88 160 LR LR 06 23 42.1
comp=Z,173nm,18.2s,baz=228,slow=34
PMSA Palmer Station 90.88 160 ||P **P** **05 45 29.1 +0.7**
PMSA Palmer Station 90.88 160 *e*P **P** **05 45 29.2 +0.8**
MFID Camas Ranch 91.00 45 IAmb IAmb 05 46 07.1
comp=Z,36nm,1.8s
KNB Kanab 91.04 52 IAmb IAmb 05 46 08.1
comp=Z,30nm,1.3s
E27K Coleen River 91.05 17 P **P** **05 45 29.6 +0.5**
baz=228
MMPY Sheldon Lake, 91.13 24 P **P** **05 45 29.9 +0.3**
baz=238
F28M Old Crow 91.16 18 P **P** **05 45 29.3 -0.3**
baz=230
TUC Tucson 91.18 57 P **P** **05 45 31.3 +0.7**
U15A North Rim 91.25 53 IAmb IAmb 05 46 09.4
comp=Z,27nm,1.1s
G29M Pine Creek 91.27 19 P **P** **05 45 29.7 -0.4**
baz=232
X16A Lo Mia Camp, P 91.29 55 IAmb IAmb 05 46 09.5
comp=Z,14nm,1.1s
EPYK Eagle Plains 91.35 19 P **P** **05 45 30.1 -0.4**
baz=233
C26K Camden Bay 91.37 15 P **P** **05 45 31.6 +1.2**
baz=225
PLID Pearl Lake 91.47 44 IAmb IAmb 05 46 08.8
comp=Z,19nm,1.6s
C27K Jago River 91.47 15 P **P** **05 45 31.6 +0.6**
baz=226
WUAZ Wupatki 91.68 54 P **P** **05 45 33.9 +0.9**
WUAZ IAmb IAmb 05 46 11.1
comp=Z,21nm,1.1s
TGTN Hyland Airport 91.77 26 P **P** **05 45 32.5 -0.1**
baz=240
H31M Peel River 91.79 20 P **P** **05 45 32.0 -0.6**
baz=235
TOAD Toad River Com 91.81 29 P **P** **05 45 32.5 -0.4**
baz=243
MTPU Mount Pierson 91.84 51 IAmb IAmb 05 46 34.4
comp=Z,13nm,1.4s
G30M tAoh Zrail Nji 91.88 19 P **P** **05 45 32.1 -0.8**
baz=233
E28M Babbage River 91.90 17 P **P** **05 45 33.2 +0.2**
baz=230
D27M Malcolm River 91.92 16 P **P** **05 45 33.7 +0.5**
baz=229
TROLL Troll, Antarti 92.11 185 ⇑P **P** **05 45 34.2 -0.1**
comp=Z,6µm,0.5s
BGU Big Grassy Mou 92.13 48 IAmb IAmb 05 46 12.5
comp=Z,22nm,1.7s
E29M Blow River 92.23 18 P **P** **05 45 34.2 -0.4**
baz=232
F30M Barrier River 92.39 19 P **P** **05 45 33.7 -1.6**
baz=234
G31M Satah River 92.46 20 P **P** **05 45 34.4 -1.2**
baz=235
HVU Hansel Valley 92.58 47 IAmb IAmb 05 46 14.5
comp=Z,16nm,1.4s
D28M Stokes Point 92.59 17 P **P** **05 45 35.6 -0.5**
baz=231
SNAA Sanae 92.79 183 ⇑P **P** **05 45 36.8 -0.6**
comp=Z,2µm,0.8s
SNAA pP **pP** **05 46 10.6 -1.4**
SNAA sP **sP** **05 46 29.3 +2.9**
SNAA Sanae 92.79 183 P **P** **05 45 36.9 -0.4**
SNAA Sanae 92.79 183 P **P** **05 45 36.7 -0.6**
comp=Z,57nm,0.6s,baz=203,slow=6.9,SNR=342
SNAA pP **pP** **05 46 10.3 -1.7**
comp=Z,32nm,1.1s,baz=186,slow=6.1,SNR=2.8
SNAA PKKP **PKKPdf** **06 02 45.8 -1.0**
comp=Z,0.7nm,0.8s,baz=164,slow=7.5,SNR=2.0
SNAA LR LR 06 23 48.0
comp=Z,301nm,21.7s,baz=108,slow=33
comp=Z,57nm,0.6s
SNAA Sanae 92.79 183 P **P** **05 45 36.9 -0.4**
SNAA pmax pmax
comp=Z,68nm,0.8s
F31M Tsiigehtchic 92.93 19 P **P** **05 45 36.2 -1.5**
baz=235
KOTAN Kotanelee Air 92.93 28 P **P** **05 45 37.2 -0.7**
baz=244
DGAR Diego Garcia 93.09 261 ⇑*e*P **P** **05 45 37.7 -2.0**
DGAR pmax pmax
comp=Z,569nm,1.5s
VNA3 Neumayer Olymp 93.44 181 ⇑P **P** **05 45 39.4 -0.8**
comp=Z,94nm,0.6s
INK Inuvik 93.49 19 LR LR 06 23 15.3
comp=Z,350nm,20.9s,baz=239,slow=32
INK Inuvik 93.49 19 P **P** **05 45 38.9 -1.4**
baz=236
WMQ Urumqi 93.60 314 *e*P **P** **05 45 44.3 +2.8**
WMQ PP **PP** **05 49 26.1 -2.2**
WMQ SKS **SKSac** **05 56 02.4 -0.8**
WMQ S **S** **05 56 35.8 -2.6**
WMQ pmax pmax
comp=Z,40nm,1.5s
WMQ LR LR
comp=Z,400nm,19.3s
WMQ LR LR
comp=Z,530nm,19.3s
WMQ LR LR
comp=Z,470nm,24.1s
HYB Hyderabad 93.78 287 *e*P **P** **05 45 43.1 +0.2**
HYB *e*PP **PP** **05 49 30.2 -0.1**
HYB *e*SKSac **SKSac** **05 56 05.7 +0.6**
HYB *e*SKKSac **SKKSac** **05 56 25.4 -0.4**
VNA1 Neumayer--Stat 94.00 181 ⇑P **P** **05 45 42.3 -0.5**
comp=Z,26nm,0.4s
PDAR Pinedale Array 95.15 47 P **P** **05 45 48.8 0.0**
comp=Z,0.3nm,0.5s,baz=223,slow=2.6,SNR=5.3
PDAR PP **PP** **05 49 36.9 -3.8**
comp=Z,0.3nm,0.5s,baz=242,slow=3.2,SNR=3.8
PDAR PKKP **PKKPbc** **06 02 39.8 -4.2**
comp=Z,1.4nm,0.7s,baz=93,slow=4.2,SNR=11
PDAR PKPPKP **P'P'df** **06 10 53.1 -1.8**
comp=Z,0.3nm,0.4s,baz=211,slow=1.7,SNR=3.6
PDAR LR LR 06 25 32.6
comp=Z,231nm,18.3s,baz=258,slow=33
ANMO Albuquerque 95.38 55 LR LR 06 23 12.0
comp=Z,422nm,19.3s,baz=352,slow=32
TX31 Lajitas Ar. Si 96.26 61 IAmb IAmb 05 46 32.1
comp=Z,7.0nm,1.4s
TXAR Lajitas Array 96.26 61 P **P** **05 45 54.2 +0.1**
comp=Z,0.5nm,0.5s,baz=206,slow=6.2,SNR=9.4
TXAR PP **PP** **05 49 45.8 -3.6**
comp=Z,1.8nm,1.1s,baz=213,slow=9.0,SNR=5.2
TXAR PKKPbc **PKKPbc** **06 02 40.5 +0.2**
comp=Z,1.1nm,0.6s,baz=94,slow=3.9,SNR=12
TXAR PKPPKP **P'P'df** **06 10 46.9 -6.8**
comp=Z,0.3nm,0.6s,baz=90,slow=2.0,SNR=3.9
TXAR LR LR 06 24 13.5
comp=Z,173nm,18.2s,baz=249,slow=32
comp=Z,0.5nm,0.5s
A36M Sachs Harbour 97.80 17 P **P** **05 45 58.7 -1.1**
baz=244
YKA Yellowknife Ar 98.04 27 P **P** **05 46 00.5 -0.7**
comp=Z,3.6nm,0.8s,baz=262,slow=4.8,SNR=15
YKA PKKPbc **PKKPbc** **06 02 33.1 -3.5**
comp=Z,1.1nm,0.8s,baz=59,slow=2.5,SNR=7.2
YKA LR LR 06 29 55.9
comp=Z,161nm,18.1s,baz=261,slow=35
comp=Z,3.6nm,0.8s
MK31 Makanchi Array 98.08 316 *ce*P **P** **05 46 01.6 -0.1**
MKAR Makanchi Array 98.08 316 P Pdif 05 46 01.9 +0.1
comp=Z,7.5nm,0.7s,baz=97,slow=6.3,SNR=40
MKAR pP pP 05 46 35.1 -1.2
comp=Z,2.1nm,0.6s,baz=96,slow=6.7,SNR=2.1
MKAR PKiKP **PKiKP** **05 50 33.9 -0.3**
comp=Z,4.0nm,0.5s,baz=202,slow=0.8,SNR=40
MKAR PKKPbc **PKKPbc** **06 02 32.8 -3.1**
comp=Z,0.4nm,0.4s,baz=265,slow=2.0,SNR=6.3
MKAR LR LR 06 29 37.8
comp=Z,244nm,21.4s,baz=91,slow=35
comp=Z,7.5nm,0.7s
ZAA0 Zalesovo Array 98.29 324 P **P** **05 46 02.0 -0.4**
ZALV Zalesovo Beam 98.29 324 P **P** **05 46 01.8 -0.7**
comp=Z,11nm,0.7s,baz=116,slow=4.9,SNR=43
ZALV PKiKP **PKiKP** **05 50 33.7 -0.5**
comp=Z,3.0nm,0.5s,baz=131,slow=1.3,SNR=7.4
ZALV LR LR 06 29 34.8
comp=Z,231nm,20.2s,baz=94,slow=35
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 98.29 324 *i* P **P** **05 46 01.7 -0.7**
ZALV pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 101.29 320 *ce*P **Pdif** **05 46 16.3 +0.4**
KURK pmax pmax
comp=Z,13nm,1.7s
KURBB Kurchatov Arra 101.33 319 P **Pdif** **05 46 15.7 -0.4**
comp=Z,1.6nm,0.3s,baz=97,slow=3.2,SNR=9.3
KURBB PKiKP **PKiKP** **05 50 39.6 -0.1**
comp=Z,3.8nm,0.5s,baz=108,slow=1.7,SNR=18
AAK Ala-Archa 102.69 311 *ce*P **Pdif** **05 46 22.7 +0.2**
AAK pmax pmax
comp=Z,7.0nm,1.9s
BVAR Borovoye Array 106.64 321 Pdiff **Pdif** **05 46 39.6 0.0**
comp=Z,2.5nm,0.5s,baz=99,slow=4.7,SNR=14
BVAR PKiKP **PKiKP** **05 50 49.3 -0.2**
comp=Z,8.9nm,0.7s,baz=81,slow=1.0,SNR=21
NNA Nana 110.49 109 *i* PKiKP **PKiKP** **05 50 59.0 +1.1**
TULEG Thule 112.52 12 *i* P **PKiKP** **05 50 57.0 -2.9**
ARTI Arti 113.49 325 *i* PKiKP **PKiKP** **05 51 02.3 0.0**
ARTI 05 51 56.8
ARTI 05 58 01.0
ARTI SP SP 06 01 25.4 +8.5
ARTI SS **SS** **06 07 37.8 +6.1**
NOR Nord 113.85 1 *i* P **PKiKP** **05 51 02.1 -0.3**
NEEM North Greenlan 115.08 9 *i* P **PKiKP** **05 51 04.9 -0.3**
SOHO SOHO 115.25 290 *i* PKPdf **PKPdf** **05 51 06.0 -0.6**
SNR=18
KBS Kingsbay 115.52 355 *i* P **PKPdf** **05 51 05.9 +0.3**
UOSS Minazif 115.64 291 **PKPdf** **05 51 07.0 -0.4**
UOSS Minazif 115.64 291 *i* PKPdf **PKPdf** **05 51 06.4 -1.0**
SNR=9.3
HATD Hatta, Dubai 115.69 290 *i* PKPdf **PKPdf** **05 51 06.8 -0.7**
SNR=11
MSFE Esma-Masafi 115.72 291 *i* PKiKP **PKiKP** **05 51 07.5 0.0**
SNR=6.3
ASHO Ashiyiah 115.74 290 *i* PKiKP **PKPdf** **05 51 07.3 -0.3**
SNR=7.8
SPA0 Spitsbergen Ar 115.76 354 *e*PKPdf **PKiKP** **05 51 06.0 -0.1**
SPITS Spitsbergen Ar 115.76 354 PKP **PKiKP** **05 51 05.7 -0.4**
comp=Z,8.0nm,0.5s,baz=83,slow=6.8,SNR=34
SPITS PKKPbc **PKKPbc** **06 01 39.7 -1.8**
comp=Z,4.0nm,0.7s,baz=144,slow=7.2,SNR=4.7
SHME Shamm 115.80 292 PKPdf **PKPdf** **05 51 07.4 -0.3**
KULLO Kullorsuaq 116.02 12 *i* P **PKPdf** **05 51 05.8 -0.9**
NAZ Nazwa, Dubai 116.13 290 PKPdf **PKPdf** **05 51 07.8 -0.5**
FAQ Al Faqa, Dubai 116.17 290 PKPdf **PKPdf** **05 51 07.7 -0.7**
LPAZ La Paz 116.45 117 PKP **PKPdf** **05 51 09.4 -0.6**
comp=Z,0.9nm,0.5s,baz=27,slow=3.4,SNR=8.8
LPAZ PKKPbc **PKKPbc** **06 01 37.5 -0.8**
comp=Z,1.1nm,0.6s,baz=357,slow=8.3,SNR=3.6
UPNV Upernavik 117.44 13 *i* P **PKPdf** **05 51 09.0 -0.4**
KIRV Kirov 117.78 329 *ci* PKiKP **PKPdf** **05 51 10.2 -0.2**
MZR Muzera 117.92 288 *i* PKiKP **PKiKP** **05 51 12.2 +0.4**
SNR=9.3
ROSC El Rosal 118.20 93 PKP **PKPdf** **05 51 12.4 -0.7**
comp=Z,6.2nm,0.6s,baz=134,slow=23,SNR=4.4
DAG Danmarks Havn 118.65 2 *i* P **PKPdf** **05 51 10.7 -0.9**
NUUG Nuugaatsiaq 118.95 14 *i* P **PKPdf** **05 51 12.2 -0.2**
CPUP Villa Florida 119.59 133 PKP **PKPdf** **05 51 13.9 -1.1**
comp=Z,0.4nm,0.5s,baz=141,slow=2.9,SNR=3.9
CPUP PKKPbc **PKKPbc** **06 01 26.3 -0.2**
comp=Z,0.4nm,0.7s,baz=261,slow=9.4,SNR=3.2
CPUP PKKP **PKKPdf** **06 01 57.0 -0.1**
comp=Z,0.5nm,0.5s,baz=328,slow=4.5,SNR=6.7
LVZ Lovozero 119.69 341 ||*i* PKiKP **PKPdf** **05 51 13.2 -0.7**
POGA Pongola 119.71 225 **PKiKP** **05 51 15.2 -0.1**
UMMG Uummannaq 119.81 14 *i* P **PKPdf** **05 51 13.8 -0.2**
APA Apatity 120.27 341 *i* PKiKP **PKPdf** **05 51 14.1 -0.9**
APA *e*SS SS 06 08 57.8 -1.0
APA MLR MLR
comp=Z,674nm,21.7s
BELG Belogornoye 120.43 322 *ci* PKiKP **PKiKP** **05 51 15.8 0.0**
HAMF Hammerfest 120.72 347 *e*PKPdf **PKPdf** **05 51 15.0 -0.8**
SUMG Summit 120.94 9 *i* P **PKiKP** **05 51 17.1 +0.3**
DBG Daneborg 121.05 3 *i* P **PKPdf** **05 51 15.8 -0.5**
ILULI Ilulissat 121.09 15 *i* P **PKPdf** **05 51 16.0 -0.5**
ARA0 ARCESS Array S 121.13 345 *e*PKPdf **PKPdf** **05 51 16.5 -0.1**
ARCES ARCESS Array B 121.13 345 PKP **PKPdf** **05 51 16.4 -0.2**
comp=Z,31nm,0.5s,baz=64,slow=1.3,SNR=356
ARCES PKKPbc **PKKPab** **06 01 18.6 -1.1**
comp=Z,7.9nm,1.2s,baz=230,slow=3.0,SNR=7.8
KLMR Klimovskoe 121.59 333 *e*PKiKP **PKPdf** **05 51 16.3 -1.4**
KLMR SP SP 06 02 25.7 -3.8
KLMR pmax pmax
comp=Z,58nm,1.3s
KLMR MLR MLR
comp=Z,414nm,20.0s
CNLB Canela 121.91 140 *e*P **PKPdf** **05 51 19.1 -0.4**
KTK1 Kautokeino 122.06 346 *e*P **PKPdf** **05 51 17.8 -0.6**
MURT Porto Murtinho 122.19 129 *e*P **PKPdf** **05 51 19.1 -1.0**
JETT Jettan, Norway 122.28 347 *e*P **PKPdf** **05 51 18.2 -0.7**
BBSD Serra de San D 122.30 122 *e*P **PKPdf** **05 51 19.5 -1.0**
MAK Makhachkala 122.47 311 *i* P **Pdif** **05 47 47.6 -2.6**
MAK *i* 05 51 20.2
MAK *e* 05 52 59.5
MAK *e* 05 58 06.4
MAK *e*SP SP 06 02 34.5 -4.1
MAK *e*SS **SS** **06 09 27.2 -1.4**
MAK *e*SSS SSS 06 14 01.7
MAK pmax pmax
comp=Z,83nm,0.5s
TRO Tromso 122.53 348 *e*P **PKPdf** **05 51 18.7 -0.6**
MSF Maaselka 122.66 341 PKiKP **PKPdf** **05 51 19.4 -0.2**
SCHQ Schefferville 122.70 34 PKP **PKPdf** **05 51 19.1 -1.0**
comp=Z,3.5nm,0.5s,baz=231,slow=5.0,SNR=12
SCHQ PKKPbc **PKKPab** **06 01 13.1 -0.2**
comp=Z,7.0nm,0.6s,baz=125,slow=2.4,SNR=7.0
SDV Santo Domingo 122.71 89 *e*P **PKiKP** **05 51 22.0 +0.3**
SFJD Kangerlussuaq 122.80 17 *i* P **PKPdf** **05 51 17.7 -2.2**
BOSA Boshof 123.06 220 **PKPdf** **05 51 22.1 +0.1**
BOSA Boshof 123.06 220 PKP **PKPdf** **05 51 21.6 -0.2**
comp=Z,14nm,0.7s,baz=135,slow=1.8,SNR=25
BOSA Boshof 123.06 220 PKiKP **PKiKP** **05 51 22.1 +0.1**
AMBA Amambai (Brazi 123.36 132 *e*P **PKPdf** **05 51 21.8 -0.6**
BDQN Bodoquena, MS 123.55 128 *e*P **PKPdf** **05 51 21.8 -1.0**
PTGB Pitanga 124.27 135 *e*P **PKPdf** **05 51 23.5 -0.6**
VRH Novokhopyorsk 124.28 322 *e*PKiKP **PKPdf** **05 51 22.6 -0.5**
VRH pmax pmax
comp=Z,140nm,0.6s
AQDB Aquidauana 124.33 129 *e*P **PKPdf** **05 51 23.6 -0.6**
NUUK Nuuk 124.40 20 *i* P **PKiKP** **05 51 23.2 -0.1**
PTLB Pontes e Lacer 124.41 121 *e*P **PKPdf** **05 51 23.6 -0.8**
STEI Steigen 124.70 348 *e*P **PKPdf** **05 51 23.1 -0.3**
SCO Scoresbysund 124.74 4 *i* P **PKiKP** **05 51 24.1 +0.3**
VILB Vilhena 124.78 118 *e*P **PKPdf** **05 51 24.4 -0.8**
MOS Moscow 124.79 328 *i* PKiKP **PKPdf** **05 51 23.4 -0.6**
MOS pmax pmax
comp=Z,72nm,0.7s
TEFE Tefe 124.85 106 *e*P **PKPdf** **05 51 24.4 -0.9**
TRCB Terra Rica 125.12 133 *e*P **PKPdf** **05 51 25.1 -0.7**
FAUS Fauske 125.16 347 *e*P **PKPdf** **05 51 24.1 -0.2**
NCK Nalchik 125.17 313 ||*e*PKiKP **PKPdf** **05 51 25.0 -0.2**
GOF Gofitskoye 125.20 315 *ce*PKiKP **PKiKP** **05 51 25.3 -0.2**
BAUV El Baul 125.22 90 **PKPdf** **05 51 25.2 -0.8**
RAYN Ar Rayn 125.27 288 ⇑PKiKP **PKiKP** **05 51 26.3 -0.1**
RAYN Ar Rayn 125.27 288 *i* PKiKP **PKiKP** **05 51 26.2 -0.1**
SNR=25
LPSR Galich'ya Gora 125.39 324 *e*PKiKP **PKiKP** **05 51 25.6 0.0**
LPSR pmax pmax
comp=Z,80nm,0.8s
OBN Obninsk 125.61 328 ||*i* PKiKP **PKiKP** **05 51 25.9 0.0**
OBN *e* 05 52 01.6
OBN *e* 05 53 16.1
OBN *e* 05 58 16.6
OBN pmax pmax
comp=Z,35nm,0.6s
KBZ Khabaz 125.62 313 PKP **PKiKP** **05 51 26.3 0.0**
comp=Z,19nm,0.8s,baz=114,slow=2.9,SNR=40
KBZ Khabaz 125.62 313 *ci* PKiKP **PKPdf** **05 51 25.8 -0.1**
KIV Kislovodsk 125.71 313 ⇑P **PKPdf** **05 51 24.3 -2.0**
KIV Kislovodsk 125.71 313 *i* PKiKP **PKiKP** **05 51 26.6 -0.1**
KIV *e* 05 53 18.8
KIV *e*SS SS 06 10 08.4 -1.2
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,149nm,23.0s
KIV Kislovodsk 125.71 313 *i* PKiKP **PKiKP** **05 51 26.9 +0.2**
SNR=6.4
MREMI Moremi 125.73 227 *i* P **PKiKP** **05 51 27.6 +0.3**
VSR Storozhevoye 125.78 323 *e*PKiKP **PKPdf** **05 51 25.0 -1.0**
VSR pmax pmax
comp=Z,60nm,0.6s
SHA1 Shidzhatmaz 125.78 313 *ci* PKiKP **PKiKP** **05 51 26.9 -0.1**
LDASE Londrina, Braz 125.79 135 *e*P **PKPdf** **05 51 26.6 -0.4**
VORD Divnogorie 125.80 322 *e*PKiKP **PKPdf** **05 51 25.2 -0.9**
VORD pmax pmax
comp=Z,40nm,0.9s
RPRD Ribas do Rio P 125.81 130 *e*P **PKPdf** **05 51 26.8 -0.3**
VAGH Vaagaholmen 126.13 348 *e*P **PKPdf** **05 51 24.5 -1.7**
LPHEP Lephephe 126.30 225 *i* P **PKiKP** **05 51 28.3 -0.2**
KONS Konsvik 126.36 348 *e*P **PKPdf** **05 51 26.6 0.0**
MOR8 Moi Rana 126.36 347 *e*P **PKPdf** **05 51 26.1 -0.6**
STOK Stokkvaagen 126.52 348 *e*P **PKPdf** **05 51 26.8 -0.2**
FINES FINESS Array B 126.62 338 PKhKP PKPpre 05 51 12.1
comp=Z,2.4nm,0.8s,baz=64,slow=4.4,SNR=6.2
FINES PKP **PKPdf** **05 51 27.4 +0.1**
comp=Z,11nm,0.5s,baz=48,slow=2.8,SNR=4.8
LEIR Leirfjorden 126.69 347 *e*P **PKPdf** **05 51 27.4 +0.1**
BROLN Tlhalogang 126.75 228 *i* P **PKPdf** **05 51 29.0 0.0**
ERBR Yeremizino-Bor 126.77 316 *i* PKiKP **PKPdf** **05 51 27.1 -1.0**
ERBR *e* 05 52 04.2
ERBR *e* 05 53 26.4
ERBR *e* 05 58 24.1
ERBR pmax pmax
comp=Z,74nm,1.1s
SKOMA Sekoma 126.79 222 *i* P **PKiKP** **05 51 29.5 0.0**
PCMB Pacaembu 126.86 133 *e*P **PKPdf** **05 51 28.5 -0.6**
ISOG Isortoq, Green 126.89 14 *i* P **PKPdf** **05 51 27.7 0.0**
SALV Santo Antonio 126.96 124 *e*P **PKPdf** **05 51 29.1 -0.2**
KDWAN Kaudwane 127.09 224 *i* P **PKiKP** **05 51 30.5 +0.4**
ANGG Ammassalik, Gr 127.12 13 *i* P **PKPdf** **05 51 27.7 -0.4**
IVI Ivigtut 127.64 21 *i* P **PKPdf** **05 51 28.9 -0.4**
VSLR Vesyoloye 127.70 313 *di* PKiKP **PKPdf** **05 51 30.2 +0.2**
SOC Sochi 127.89 313 *i* PKiKP **PKPdf** **05 51 29.7 -0.6**
SOC *e* 05 53 31.0
SOC *e*PPP PPP 05 56 17.4
SOC *e* 05 58 13.7
SOC *e*PS **SP** **06 03 22.5 -3.5**
SOC *e*SS **SS** **06 10 34.7 -1.7**
SOC *e*SSS SSS 06 15 23.6
SOC pmax pmax
comp=Z,35nm,1.0s
NSS Namsos 128.31 347 *e*P **PKPdf** **05 51 30.1 -0.3**
VSU Vasula 128.31 335 *di* PKiKP **PKPdf** **05 51 30.3 -0.3**
KMBO Kilima Mbogo 128.35 256 PKP **PKiKP** **05 51 33.1 +0.1**
comp=Z,16nm,1.1s,baz=33,slow=1.5,SNR=11
NRS Narsarsuaq 128.60 20 *i* P **PKPdf** **05 51 30.6 -0.5**
KGCAE Kacgae 129.08 222 *i* P **PKiKP** **05 51 34.5 +0.4**
ANN Anapa 129.10 316 *i* PKiKP **PKPdf** **05 51 30.9 -1.6**
ANN *e* 05 52 12.0
ANN pmax pmax
comp=Z,29nm,0.8s
CLDB Colider 129.55 119 *e*P **PKPdf** **05 51 33.7 -0.6**
LSZ Lusaka 129.66 234 PKiKP **PKiKP** **05 51 35.2 -0.2**
ARAG Araguaiana, MT 130.12 127 *e*P **PKPdf** **05 51 34.8 -0.6**
MNK Minsk 130.22 330 *i* PKiKP **PKPdf** **05 51 33.4 -1.0**
MNK *i* 05 52 10.7
MNK *i* 05 53 48.1
MNK *i* PPP PPP 05 56 36.8
MNK *i* 05 58 31.6
MNK *i* SS SS 06 11 04.1 +0.1
MNK *i* SSS SSS 06 15 54.3
MNK pmax pmax
comp=N,7.0nm,0.5s
MNK pmax pmax
comp=Z,42nm,0.9s
MNK pmax pmax
comp=E,15nm,1.0s
MNK MLR MLR
comp=Z,416nm,21.0s
MNK MLR MLR
comp=E,277nm,17.0s
MNK MLR MLR
comp=N,378nm,21.0s
KSANE Kasane 130.43 230 *i* P **PKiKP** **05 51 37.0 +0.1**
BOAV Boa Vista 130.72 100 *e*P **PKPdf** **05 51 36.4 -0.2**
SIM Simferopol' 131.26 317 *e*PKiKP **PKPdf** **05 51 36.7 0.0**
SIM *e* 05 54 03.3
SIM pmax pmax
comp=Z,41nm,0.7s
SIM pmax pmax
comp=Z,78nm,15.2s
IPMB Ipameri, GO 131.39 132 *e*P **PKiKP** **05 51 38.5 -0.3**
NB2 NORSAR Subarra 131.50 345 PKPdf **PKiKP** **05 51 37.3 -0.4**
comp=Z,8.2nm,0.7s,baz=31,slow=1.9
NB2 pPKP **SKPbc** **05 54 51.1 +1.7**
comp=Z,252nm,3.3s,baz=38,slow=3.8
NB2 NORSAR Subarra 131.50 345 PKPdf **PKiKP** **05 51 37.3 -0.4**
baz=31,slow=1.9
NOA NORSAR Array B 131.50 345 PKhKP PKPpre 05 51 23.7
comp=Z,0.9nm,0.6s,baz=48,slow=1.8,SNR=5.8
NOA PKP **PKiKP** **05 51 37.3 -0.4**
comp=Z,7.6nm,0.6s,baz=31,slow=2.0,SNR=43
NOA SKPbc **SKPab** **05 54 50.4 +0.4**
comp=Z,3.2nm,0.7s,baz=32,slow=2.7,SNR=7.7
HFS Hagfors 131.61 343 PKhKP PKPpre 05 51 21.4
comp=Z,1.0nm,0.6s,baz=62,slow=6.7,SNR=5.0
HFS PKP **PKPdf** **05 51 37.2 +0.4**
comp=Z,12nm,0.6s,baz=92,slow=4.5,SNR=34
HFS SKPbc **SKPab** **05 54 50.4 0.0**
comp=Z,5.0nm,0.7s,baz=42,slow=3.4,SNR=5.5
AKASG Malin Array Be 131.64 326 PKhKP PKPpre 05 51 21.1

comp=Z,0.4nm,0.3s,baz=48,slow=3.4,SNR=6.0
AKASG PKP **PKPdf** 05 51 37.1 -0.1
comp=Z,9.6nm,0.4s,baz=47,slow=2.9,SNR=61
AKASG SKPbc **SKPab** 05 54 51.0 +0.1
comp=Z,5.4nm,0.7s,baz=48,slow=4.7,SNR=14
AKBB Malin Array Si 131.64 326*c i*PKIKP **PKPdf** 05 51 37.6 +0.4
KIEV Kiev 131.65 326 ⇓P **PKPdf** 05 51 37.3 +0.2
KIEV Kiev 131.65 326 ⇓P **PKPdf** 05 51 37.4 +0.2
KIEV Kiev 131.65 326 ⇓PKIKP **PKPdf** 05 51 37.4 +0.2
KIEV Kiev 131.65 326 *i* PKPdf **PKPdf** 05 51 37.1 -0.1
SNR=16
NC602 NORSAR Array S 131.68 345 *eP* **PKiKP** 05 51 37.5 -0.5
NPGB Novo Progresso 131.79 115 *eP* **PKPdf** 05 51 37.6 -1.0
PMNB Patos De Minas 132.28 134 *eP* **PKiKP** 05 51 40.6 0.0
BZK Bozkurt 132.39 313 ⇓P **PKPdf** 05 51 38.0 -0.9
SNDB Serra Nova Dou 132.69 123 *eP* **PKPdf** 05 51 39.7 -0.6
BDFB Brasilia 133.04 130 PKP **PKPdf** 05 51 40.4 -0.7
comp=Z,2.7nm,0.6s,baz=195,slow=3.8,SNR=4.9
CIDE Kastamonu/Cide 133.15 313 ⇓P **PKPdf** 05 51 40.7 +0.4
STRU Stroemstad 133.23 344 *i* P **PKiKP** 05 51 41.0 -0.1
KIRS Kirsehir-Merke 133.33 310 ⇑P **PKPdf** 05 51 40.3 -0.6
BR131 Keskin Array S 133.36 310*d i*PKIKP **PKPdf** 05 51 40.8 -0.2
BRTR Keskin Array B 133.36 310 PKhKP PKPpre 05 51 28.2
comp=Z,0.7nm,0.6s,baz=48,slow=1.6,SNR=4.5
BRTR PKP **PKPdf** 05 51 41.1 +0.1
comp=Z,11nm,0.6s,baz=136,slow=3.7,SNR=42
BRTR SKPbc **SKPbc** 05 54 57.1 +0.5
comp=Z,2.2nm,0.8s,baz=101,slow=2.9,SNR=5.4
SORM Soroca 133.44 323 ⇑P **PKPdf** 05 51 40.0 -0.6
SORM Soroca 133.44 323 ⇑PKIKP **PKPdf** 05 51 40.0 -0.6
ODD1 Odda 133.57 347 *eP* **PKiKP** 05 51 42.3 +0.4
MMAI Mount Meron Ar 133.60 301 PKhKP PKPpre 05 51 30.1
comp=Z,0.6nm,0.3s,baz=81,slow=9.2,SNR=1.5
MMAI PKP **PKPdf** 05 51 42.1 +0.6
comp=Z,10nm,0.5s,baz=74,slow=3.8,SNR=15
MMAI SKPbc **SKPab** 05 54 59.2 -0.9
comp=Z,1.8nm,0.4s,baz=95,slow=3.4,SNR=6.5
MILM Milestii Mici 133.77 321 ⇑*i*PKP **PKPdf** 05 51 41.0 -0.3
comp=Z,200nm,8.0s
MILM Milestii Mici 133.77 321 ⇓*i*PKS 05 55 14.0
MILM Milestii Mici 133.77 321 ⇑P **PKPdf** 05 51 40.9 -0.3
MILM Milestii Mici 133.77 321*c i*PKIKP **PKPdf** 05 51 41.0 -0.3
MILM pmax pmax
comp=Z,200nm,8.0s
ANTO Ankara 133.93 311 ⇓P **PKPdf** 05 51 41.6 -0.4
ANTO Ankara 133.93 311 ⇓PKIKP **PKPdf** 05 51 41.6 -0.4
BORU Boraas 133.94 342 *i* P **PKiKP** 05 51 42.6 -0.1
BLEU Blekinge 134.01 339 *i* P **PKPdf** 05 51 41.7 +0.2
BLS5 Blasjo 134.05 347 *eP* **PKiKP** 05 51 43.3 +0.4
DIAM Diamantina, MG 134.32 136 *eP* **PKiKP** 05 51 44.5 -0.4
ONAU Onsala 134.40 342 *i* P **PKiKP** 05 51 43.2 -0.4
FABU Falkenberg 134.48 341 *i* P **PKiKP** 05 51 43.1 -0.6
DEL Delary 134.54 340 *i* P **PKPdf** 05 51 42.8 +0.3
TLCR 134.58 319 ⇓P **PKPdf** 05 51 42.4 -0.5
TLCR 134.58 319 ⇓PKIKP **PKPdf** 05 51 42.4 -0.5
VLDR Vladesti 134.72 320 ⇓P **PKPdf** 05 51 42.7 -0.5
SCTR Scanteiesti 134.86 320 ⇑P **PKiKP** 05 51 44.8 -0.1
TPGR Topolog 134.98 319 ⇑P **PKiKP** 05 51 44.8 -0.4
SAHE Sakarya_HENDEK 134.99 313 ⇑P **PKPdf** 05 51 42.9 -1.0
CFR Carcaliu 135.01 320 ⇑P **PKPdf** 05 51 44.0 +0.3
CFR Carcaliu 135.01 320 ⇑PKIKP **PKPdf** 05 51 44.0 +0.3
GHRR 135.03 321 ⇑P **PKPdf** 05 51 44.4 -0.3
BJUU Bjuv 135.15 340 *i* P **PKPdf** 05 51 43.9 +0.3
TIRR Tirgusor 135.16 319 ⇓P **PKPdf** 05 51 44.6 +0.6
TIRR Tirgusor 135.16 319 ⇓PKIKP **PKPdf** 05 51 44.6 +0.6
BEL Belsk 135.22 331 *eP* **PKiKP** 05 51 46.8 +1.3
BSD Bornholm Skovb 135.26 338 *i* P **PKiKP** 05 51 45.4 0.0
TESR Tescani 135.26 322 ⇓P **PKPdf** 05 51 44.7 +0.5
MFTR Murfatlar 135.28 318 ⇓P **PKiKP** 05 51 45.2 -0.6
MANR Mangalia 135.34 318 ⇓P **PKPdf** 05 51 43.7 -0.7
TLBR Topalu 135.36 319 ⇑P **PKiKP** 05 51 45.6 -0.3
LUNU Lund 135.36 340 *i* P **PKiKP** 05 51 45.6 0.0
HARR Harsova 135.36 319 ⇑P **PKiKP** 05 51 45.5 -0.5
HARR Harsova 135.36 319 ⇑PKIKP **PKiKP** 05 51 45.5 -0.5
BUR08 Bucovina Ar. S 135.50 324 **PKiKP** 05 51 46.5 +0.2
ONER Baraj Valea Uz 135.50 322 ⇑P **PKPdf** 05 51 44.5 -0.1
BURAR Bucovina Array 135.51 324 ⇑P **PKPdf** 05 51 44.3 -0.5
BURAR Bucovina Array 135.51 324 ⇑PKIKP **PKPdf** 05 51 44.3 -0.5
VRI Vrincioaia 135.54 321 ⇑P **PKPdf** 05 51 45.2 +0.5
VRI Vrincioaia 135.54 321 ⇑PKIKP **PKPdf** 05 51 45.2 +0.5
PLOR Plostina 135.59 321 ⇑P **PKPdf** 05 51 45.3 +0.4
PLOR Plostina 135.59 321 ⇑PKIKP **PKPdf** 05 51 45.3 +0.4
KALB Balgarevo 135.63 317 ⇑P **PKiKP** 05 51 46.4 -0.1
SJMB Sao Joao De Ma 135.65 139 *eP* **PKPdf** 05 51 46.4 +0.6
BISRR Bisoca 135.71 321 ⇑P **PKiKP** 05 51 45.9 -0.8
PSN Preselentsi 135.71 318 *eP* **PKiKP** 05 51 47.5 +0.8
SILT Sile 135.73 314 ⇑P **PKPdf** 05 51 45.9 +0.7
GKP Gorka Klasztor 135.77 335 *e*PKP **PKiKP** 05 51 47.0 +0.5
OZUR 135.99 322 ⇑P **PKiKP** 05 51 46.6 -0.6
MUD Monsted U'grnd 136.00 343 *i* P **PKiKP** 05 51 46.9 0.0
NEHR Nehoiu 136.02 321 ⇓P **PKPdf** 05 51 46.1 +0.4
ISR Istrita 136.02 320 ⇑P **PKPdf** 05 51 46.3 +0.6
ISR Istrita 136.02 320 ⇑PKIKP **PKPdf** 05 51 46.3 +0.6
JANB Januaria 136.12 132 *eP* **PKPdf** 05 51 47.4 +0.7
MLR Muntele Rosu 136.20 321 ⇓P **PKPdf** 05 51 46.0 -0.1
MLR Muntele Rosu 136.20 321 ⇓PKIKP **PKPdf** 05 51 46.0 -0.1
DOPR Dopca 136.29 322 ⇓P **PKiKP** 05 51 47.5 -0.3
KOLS Kolonicke sedl 136.35 327 *e*PKIKP **PKiKP** 05 51 47.6 -0.3
KOLS Kolonicke sedl 136.35 327 *e*PKP **PKiKP** 05 51 47.6 -0.3
KOLS *e*PP **SKPdf** 05 55 09.6 +1.2
PRD Provadia 136.40 317 *eP* **PKiKP** 05 51 48.8 +0.7
NEF NEVSHA 136.44 318 *eP* **PKiKP** 05 51 48.9 +0.7
STHS Stebnicka Huta 136.58 328 *e*PKIKP **PKPdf** 05 51 46.9 +0.3
STHS Stebnicka Huta 136.58 328 *e*PKP **PKPdf** 05 51 46.9 +0.3
STHS *e*PP **SKPdf** 05 55 09.8 +1.0
SSRD Sdr. Stenderup 136.70 342 *i* P **PKiKP** 05 51 47.6 -0.7
OJC Ojcow 136.77 330 *e*PKP **PKPdf** 05 51 46.8 0.0
OJC Ojcow 136.77 330 PKIKP **PKPdf** 05 51 47.3 +0.4
LOZB Loznitsa 136.83 318 ⇑P **PKPdf** 05 51 48.0 +0.8
CJR Cluj-Napoca 136.93 324 ⇓P **PKiKP** 05 51 48.4 -0.8
CJR Cluj-Napoca 136.93 324 ⇓PKIKP **PKiKP** 05 51 48.4 -0.8
NIE Niedzica 137.05 329 *e*PKP **PKPdf** 05 51 48.3 +0.9
ARR Arges 137.06 322 ⇓P **PKiKP** 05 51 48.7 -0.8
BAND Balkesir-Ban 137.17 323 ⇓P **PKiKP** 05 51 46.8 -1.1
MARR Marisel-Cluj 137.22 324 ⇑P **PKPdf** 05 51 40.6 -7.3
SZH Strazhitsa 137.28 318 *eP* **PKPdf** 05 51 48.7 +0.7
COPA Copaceanca 137.33 320 ⇑P **PKPdf** 05 51 48.6 +0.5
DRGR 137.38 324 ⇑P **PKPdf** 05 51 47.8 -0.4
DRGR 137.38 324 ⇑PKIKP **PKPdf** 05 51 47.8 -0.4
SMTB Santa Maria do 137.44 122 *eP* **PKPdf** 05 51 49.0 -0.2
ELND Elena 137.50 318 ⇓P **PKPdf** 05 51 49.1 +0.7
LOT Lotru 137.53 322 ⇑P **PKPdf** 05 51 47.0 -1.6
LANS Liptovska Anna 137.64 329 *e*PKIKP **PKiKP** 05 51 50.3 -0.2
LANS Liptovska Anna 137.64 329 *e*PKP **PKiKP** 05 51 50.3 -0.2
LANS *e*PP **SKPdf** 05 55 13.3 +2.5
STEB Steborice 137.92 331 *e*PKPDF **PKPdf** 05 51 48.8 -0.2
KSP Ksiaz 137.94 333 *e*PKP **PKPdf** 05 51 49.2 +0.2
KSP Ksiaz 137.94 333 PKIKP **PKPdf** 05 51 45.9 -3.1
PLVB Pleven 138.08 319 ⇑P **PKPdf** 05 51 49.2 -0.3
MORC Moravsky Berou 138.13 331 *e*PKP **PKPdf** 05 51 49.4 -0.1
MORC *e* 05 55 13.8
MORC Moravsky Berou 138.13 331 ⇑P **PKiKP** 05 51 50.8 -0.7
MORC Moravsky Berou 138.13 331 ⇑PKIKP **PKiKP** 05 51 50.8 -0.7
GZR Gura Zlata 138.14 323 ⇑P **PKPdf** 05 51 50.1 +0.5
GZR Gura Zlata 138.14 323 ⇑PKIKP **PKPdf** 05 51 50.1 +0.5
OSTC Ostas 138.18 333 *e*PKHKP PKPpre 05 51 43.0
OSTC *e* 05 51 50.4
OSTC Ostas 138.18 333 *e*PKPpre PKPpre 05 51 43.0
OSTC *e*PKPDF **PKPdf** 05 51 50.4 +0.9
PSZ Piszkesteto 138.22 327 ⇑P **PKPdf** 05 51 49.1 -0.6
PSZ Piszkesteto 138.22 327 ⇑PKIKP **PKPdf** 05 51 49.1 -0.6
KRLC Kraliky 138.27 332 *e*PKIKP **PKiKP** 05 51 50.9 -0.9
KRLC Kraliky 138.27 332 *e*PKPDF **PKiKP** 05 51 50.9 -0.9
SIRR Siria 138.28 324 ⇑P **PKPdf** 05 51 50.6 +0.8
DPC Dobruska-Polom 138.28 333 *e*PKIKP **PKiKP** 05 51 51.0 -0.8
DPC MLR MLR
comp=Z,400nm,23.5s
DPC Dobruska-Polom 138.28 333 *e*PKPDF **PKiKP** 05 51 51.0 -0.8
DPC AMS AMS 06 52 30.0
comp=Z,400nm,23.5s
MAUC Maruska 138.29 330 *e*PKPDF **PKiKP** 05 51 50.9 -0.9
SRE Strehaia 138.29 322 ⇓P **PKiKP** 05 51 51.0 -0.9
SRE Strehaia 138.29 322 ⇓PKIKP **PKiKP** 05 51 51.0 -0.9
SURR Surduc 138.31 324 ⇑P **PKPpre** 05 51 43.7
VYHS Vyhne 138.38 329 *e*PKIKP **PKiKP** 05 51 51.1 -0.9
VYHS Vyhne 138.38 329 *e*PKP **PKiKP** 05 51 51.1 -0.9
VYHS *e*PP **SKPdf** 05 55 14.8 +2.7
KDZ Kurdzhali 138.46 316 *eP* **PKPdf** 05 51 49.8 -0.4
EZN Ezine 138.58 313 ⇑P **PKPdf** 05 51 51.0 +0.5
EZN Ezine 138.58 313 ⇑PKIKP **PKPdf** 05 51 51.0 +0.5
HERR Herculane 138.64 322 ⇑P **PKPdf** 05 51 51.0 +0.6

MPEP Malo Peshtene 138.65 320 *eP* **PKPdf** 05 51 50.2 -0.3
VALD Valchedram 138.67 320 *eP* **PKiKP** 05 51 53.2 +0.5
BZS Buzias 138.69 324 ⇓P **PKPdf** 05 51 51.0 +0.5
BZS Buzias 138.69 324 ⇓PKIKP **PKPdf** 05 51 51.0 +0.5
JAVC Velka Javorina 138.71 330 *e*PKP **PKiKP** 05 51 51.7 -1.0
JAVC *e* 05 55 16.8
RZN Rozhen 138.83 317 *eP* **PKPdf** 05 51 51.4 +0.2
VRAC Vranov 138.91 331 *e*PKP **PKPdf** 05 51 51.2 +0.4
VRAC *e* 05 55 16.3
VRAC Vranov 138.91 331 PKIKP **PKPdf** 05 51 51.4 +0.6
BRG Berggiesshubel 138.91 335 *e*PKP PKPpre 05 51 46.4
BRG Amp 05 51 47.0
comp=Z,6.8nm,0.7s
BRG Berggiesshubel 138.91 335 P **PKiKP** 05 51 53.8 +0.8
BRG Amp 05 51 55.1
comp=Z,12nm,0.7s
BRG Berggiesshubel 138.91 335 PP PP 05 54 47.0 +3.3
BRG SKP 05 55 16.5
BRG Amp 05 55 17.2
comp=Z,7.8nm,0.7s
CLL Collm 138.96 336 *e*PKHKP PKPpre 05 51 42.0
CLL *i* 05 51 51.4
CLL *e* 05 52 33.0
CLL pmax pmax
comp=Z,6.0nm,0.6s
MDVR Moldovita 139.11 323 ⇑P **PKPdf** 05 51 52.2 +0.8
KRUC Moravsky 139.17 331 *e*PKP **PKPdf** 05 51 51.5 +0.2
KRUC *e* 05 55 16.6
MODS Modra-Piesok 139.23 330 *e*PKIKP PKPpre 05 51 46.8
MODS Modra-Piesok 139.23 330 *e*PKP PKPpre 05 51 46.8
MODS *e*PP **SKPbc** 05 55 14.0 0.0
GOPC GO Pecny, Ondr 139.28 333 *e*PKIKP **PKPdf** 05 51 52.4 +0.9
GOPC GO Pecny, Ondr 139.28 333 *e*PKPDF **PKPdf** 05 51 52.4 +0.9
PLNA Plana 139.30 319 *eP* **PKPdf** 05 51 52.7 +0.8
PRU Pruhonice 139.33 333 *e*PKIKP **PKiKP** 05 51 53.5 -0.4
PRU MLR MLR
comp=Z,400nm,21.6s
PRU Pruhonice 139.33 333 *e*PKPDF **PKiKP** 05 51 53.5 -0.4
PRU AMS AMS 06 58 00.0
comp=Z,400nm,21.6s
VTS Vitosha 139.35 319 *eP* **PKiKP** 05 51 53.7 -0.7
MMB Musomishta 139.55 317 *eP* **PKPdf** 05 51 52.3 0.0
EKA Eskdalemuir Ar 139.65 352 PKhKP PKPpre 05 51 43.3
comp=Z,2.3nm,0.5s,baz=350,slow=2.2,SNR=17
EKA PKP **PKPdf** 05 51 53.1 +1.1
comp=Z,3.2nm,0.6s,baz=16,slow=2.8,SNR=7.1
EKA SKPbc **SKPbc** 05 55 15.2 +0.3
comp=Z,1.7nm,0.7s,baz=339,slow=2.1,SNR=3.6
BOVS Bovan 139.75 321 ⇑P **PKPdf** 05 51 52.1 -0.5
KKB Krupnik 139.81 318 *eP* **PKPdf** 05 51 52.8 +0.1
ZVC Zvikov 139.89 333 *e*PKPDF **PKPdf** 05 51 53.5 +0.9
MORH Mrgy. Hungar 139.97 326 ⇓P **PKPdf** 05 51 52.4 -0.4
RONA Rosalia, Austr 140.17 330 *e*PKiKP **PKiKP** 05 51 56.2 +0.5
comp=Z,28nm,1.4s
RONA *e*SKP **SKPbc** 05 55 19.1 +2.5
comp=Z,12nm,0.9s
CONA Conrad Observa 140.22 330 PKiKP **PKiKP** 05 51 56.2 +0.3
comp=Z,0.1nm,0.3s,SNR=6.9
CONA *e*SKP **SKPbc** 05 55 19.9 +3.1
comp=Z,6.7nm,0.8s
TMAB Tom-Au,PA,Br 140.35 114 *eP* **PKPdf** 05 51 54.0 -0.6
KHC Kasperske Hory 140.39 333 *e*PKHKP PKPpre 05 51 46.1
KHC *e* 05 51 54.3
KHC *e* 05 54 54.2
KHC *e* 06 06 53.2
KHC MLR MLR
comp=Z,400nm,20.6s
KHC Kasperske Hory 140.39 333 *e*PKPpre PKPpre 05 51 46.1
KHC *e*PKPDF **PKPdf** 05 51 54.3 +0.7
KHC *e*PP **PP** 05 54 54.2 +1.4
KHC *e*PKKP **PKKPdf** 06 01 18.2 +0.1
KHC *ex* x 06 06 53.2
KHC AMS AMS 06 52 10.0
comp=Z,400nm,20.6s
GERES GERESS Array B 140.55 333 PKhKP PKPpre 05 51 47.0
comp=Z,1.9nm,0.5s,baz=33,slow=3.2,SNR=9.8
GERES PKP **PKPdf** 05 51 54.2 +0.3
comp=Z,11nm,0.8s,baz=48,slow=2.0,SNR=24
GERES SKPbc **SKiKP** 05 55 19.7 -0.3
comp=Z,6.8nm,1.0s,baz=20,slow=1.6,SNR=9.8
SKO Skopje 140.82 319 *i* P PKPpre 05 51 48.7
ARSA Arzberg 140.86 330 PKiKP **PKiKP** 05 51 57.2 +0.1
comp=Z,7.8nm,1.2s
GRF Grafenberg Arr 140.93 336 *e*PKPdf **PKPdf** 05 51 51.9 -2.6
baz=38,slow=1.3
MOA Molln 141.03 331 *e*PKiKP **PKiKP** 05 51 57.6 +0.1
comp=Z,4.6nm,0.6s
MOA *e*SKP **SKPbc** 05 55 21.6 +2.8
comp=Z,3.5nm,0.7s
KOGS Kog 141.06 328 *e*PKPdf **PKPdf** 05 51 54.3 -0.5
SOKA Soboth 141.50 330 *e*PKiKP **PKiKP** 05 51 58.6 0.0
comp=Z,0.3nm,0.3s
SOKA *e*SKP **SKPbc** 05 55 22.2 +2.0
comp=Z,10nm,1.3s
OHR Ohrid 141.69 318 *i* P PKPpre 05 51 51.5
BLY Banja Luka 141.69 326 ⇓P PKPpre 05 51 51.9
OBKA Obir 141.86 330 PKiKP **PKiKP** 05 51 59.6 +0.2
comp=Z,5.7nm,0.8s
BTNL Ternell 142.00 341 *d*PKPdf PKPpre 05 51 51.9
MEM Membach 142.02 341 *d*PKPdf **PKPdf** 05 51 56.7 +0.3
KBA Koelnbreinsper 142.02 331 *e*PKiKP **PKiKP** 05 51 59.7 0.0
comp=Z,12nm,1.4s
KBA *e*SKP **SKPbc** 05 55 23.3 +1.7
comp=Z,7.2nm,1.1s
LESA Schwarzleotal 142.07 332 *e*PKiKP **PKiKP** 05 51 59.7 0.0
comp=Z,21nm,0.7s,SNR=19
LESA *e*SKP **SKPbc** 05 55 24.1 +2.5
comp=Z,5.5nm,0.7s
BSTI Sart Tilman 142.18 341 *d*PKPdf PKPpre 05 51 53.7
LJU Ljubljana 142.20 329 *e*PKPdf **PKPdf** 05 51 56.3 -0.6
MYKA Terra Mystica 142.21 331 *e*PKiKP **PKiKP** 05 52 00.3 +0.3
comp=Z,4.4nm,0.5s
BHOU Houvegnez 142.24 341 *d*PKP **PKiKP** 05 51 59.5 -0.3
CADS Cadrg 142.45 330 *e*PKPdf PKPpre 05 51 51.3
BGES Gesves 142.50 342 *d*PKPdf **PKPdf** 05 51 55.8 -1.5
WATA Walderalm 142.62 333 *e*PKiKP **PKiKP** 05 52 00.9 0.0
ABTA Abfaltersbach 142.65 332 PKiKP **PKiKP** 05 52 00.5 -0.4
comp=Z,27nm,0.8s,SNR=13
ABTA *e*SKP **SKPbc** 05 55 24.1 +1.1
comp=Z,3.9nm,0.6s
WTTA Wattenberg 142.65 333 PKP PKPpre 05 51 55.6
comp=Z,28nm,1.3s,SNR=15
WTTA *e*SKP **SKPbc** 05 55 25.5 +2.3
comp=Z,12nm,0.9s
RCHB Rochefort 142.66 341 *d*PKPdf PKPpre 05 51 54.3
BMRD Maredsous 142.66 342 *d*PKPdf PKPpre 05 51 54.6
WLF Walferdange 142.79 340 PKiKP PKPpre 05 51 55.2
WLF Walferdange 142.79 340 *d*PKPdf PKPpre 05 51 54.6
MOTA Moosalm 142.82 333 PKP PKPpre 05 51 55.6
comp=Z,26nm,0.9s,SNR=15
MOTA *e*SKP **SKPbc** 05 55 24.9 +1.4
comp=Z,14nm,1.0s
RETA Reutte 142.85 334 PKP PKPpre 05 51 55.8
comp=Z,0.5nm,0.3s,SNR=9.9
RETA *e*SKP **SKPbc** 05 55 25.2 +1.7
comp=Z,3.9nm,0.7s
SQTA Sankt Quirin 142.87 333 PKP PKPpre 05 51 55.9
comp=Z,36nm,1.1s,SNR=13
DOU Dourbes 142.90 342 *d*PKPdf PKPpre 05 51 54.0
DOU *dp*PKPdf pPKPdf 05 52 30.8 -4.0
FETA Feichten 143.23 333 *e*PKP PKPbc 05 51 56.9 +0.6
comp=Z,23nm,0.8s,SNR=25
DAVA Damuels 143.38 335 *e*PKP PKPbc 05 51 57.3 +0.6
comp=Z,33nm,0.6s,SNR=16
ECH Echery 143.68 338 PKIKP PKPbc 05 51 57.5 +0.2
FUORN Ofenpass-Fuorn 143.75 333 **PKPdf** 05 51 59.3 -0.6
MATE Matera 144.51 321 ⇓P PKPbc 05 52 00.1 +0.1
TIP Timpagrande 145.33 318 ⇑P **PKPab** 05 52 03.6 +0.6
NBAN Anadia - AL 145.48 135 *eP* **PKPdf** 05 52 02.7 -0.9
NBPB Pedra_Branca-C 145.79 126 *eP* **PKPdf** 05 52 03.2 -1.0
ISO Isola 147.06 334 PKP2 **PKPbc** 05 52 08.1 +0.4
SSB Saint Sauveur 147.12 338 PKP2 **PKPbc** 05 52 08.2 +0.4
NBCL Cascavel-CE 147.62 125 *eP* **PKPbc** 05 52 08.6 -1.4
RCBR Riachuelo 148.41 130 *eP* **PKPdf** 05 52 10.0 +1.5
KEST Kesra 152.10 320 PKPbc **PKiKP** 05 52 20.8 0.0
comp=Z,96nm,0.7s,baz=18,slow=3.5,SNR=4.4
PBRG Braganca 153.38 351 *e*PKPdf **PKPdf** 05 52 14.8 -0.6
PBRG *e*PKPbc **PKiKP** 05 52 23.4 +0.2
PBRG *e*PKPab **PKPab** 05 52 36.4 +1.0
PGAV Gavieira, Arco 153.42 353 *e*PKPdf **PKPdf** 05 52 15.7 +0.2
PGAV *e*PKPbc **PKiKP** 05 52 23.6 +0.3
PCAB Cabril 153.65 353 *e*PKPdf **PKPdf** 05 52 16.2 +0.5
PCAB *e*PKPbc **PKiKP** 05 52 24.1 +0.5
POLO Lamas de Olo 153.95 352 *e*PKPdf **PKPdf** 05 52 17.0 +0.8

POLO *e*PKPbc **PKiKP** 05 52 25.0 +0.6
POLO *e*PKPab **PKPab** 05 52 39.3 +1.3
PVRL Vila Real 154.03 352 *e*PKPbc **PKiKP** 05 52 25.0 +0.5
PVRL *e*PKPab **PKPab** 05 52 39.7 +1.4
MVO Moncorvo 154.05 351 *e*PKPdf **PKPdf** 05 52 16.5 +0.2
MVO *e*PKPbc **PKiKP** 05 52 25.3 +0.7
MVO *e*PKPab **PKPab** 05 52 40.0 +1.6
PVIS Viseu 154.61 352 *e*PKPdf **PKPdf** 05 52 16.7 -0.4
PVIS *e*PKPab **PKPab** 05 52 42.0 +1.3
ESDC Sonseca Array 154.86 345 PKP **PKPdf** 05 52 17.4 -0.1
comp=Z,1.0nm,1.0s,baz=358,slow=3.4,SNR=9.9
ESDC PKPbc **PKiKP** 05 52 26.7 +0.5
comp=Z,3.6nm,0.8s,baz=13,slow=2.8,SNR=14
ESDC PKPab **PKPab** 05 52 42.6 +0.7
comp=Z,9.9nm,0.9s,baz=7.0,slow=3.6,SNR=20
PAB San Pablo 155.08 345 PKIKP **PKPdf** 05 52 18.2 +0.4
COI Coimbra 155.17 353 *e*PKPab **PKPab** 05 52 45.0 +1.9
PCAS Casmilo, Conde 155.34 353 *e*PKPbc PKPbc 05 52 27.5
PCAS *e*PKPab **PKPab** 05 52 44.9 +1.1
PCBR Castelo Branco 155.41 351 *e*PKPdf **PKPdf** 05 52 18.6 +0.4
PCBR *e*PKPbc PKPbc 05 52 27.8
PCBR *e*PKPab **PKPab** 05 52 45.3 +1.2
PSARD Sardoal 155.74 352 *e*PKPdf **PKPdf** 05 52 18.6 -0.1
PSARD *e*PKPbc PKPbc 05 52 28.6
PMRV Marv??o 155.80 351 *e*PKPdf **PKPdf** 05 52 19.4 +0.6
PMRV *e*PKPbc PKPbc 05 52 28.8
PMRV *e*PKPab PKPab 05 52 34.9 -11
PMTG Montargil 156.27 352 *e*PKPdf **PKPdf** 05 52 22.0 +2.7
PMTG *e*PKPbc PKPbc 05 52 29.4
PMTG *e*PKPab PKPab 05 52 38.6 -9.2
PESTR Estremoz 156.38 351 *e*PKPdf **PKPdf** 05 52 19.2 -0.3
PESTR *e*PKPbc PKPbc 05 52 35.0
PESTR *e*PKPab **PKPab** 05 52 49.4 +1.1
PMAFR Mafra 156.51 354 *e*PKPab **PKPab** 05 52 51.0 +2.1
PARRA Arraiolos 156.62 354 *e*PKPdf **PKPdf** 05 52 19.3 -0.5
PARRA *e*PKPbc PKPbc 05 52 30.9
PARRA *e*PKPab **PKPab** 05 52 49.5 +0.2
LIS Lisbon 156.73 354 *e*PKPdf **PKPdf** 05 52 20.1 +0.2
LIS *e*PKPab **PKPab** 05 52 50.7 +0.9
EVO Evora 156.77 352 *e*PKPdf PKPdf 05 52 30.2 +10
EVO *e*PKPab **PKPab** 05 52 51.1 +1.1
PBAR Barrancos 156.97 349 *e*PKPdf **PKPdf** 05 52 20.0 -0.3
PBAR *e*PKPab **PKPab** 05 52 51.3 +0.4
PBEJ Beja 157.25 351 *e*PKPab **PKPab** 05 52 53.3 +1.2
MESJ Messejana 157.48 352 *e*PKPdf **PKPdf** 05 52 20.9 0.0
MESJ *e*PKPab **PKPab** 05 52 54.1 +1.0
PCVE Castro Verde 157.66 351 *e*PKPab **PKPab** 05 52 55.3 +1.5
PVAQ Vaqueiros 157.83 350 *e*PKPab **PKPab** 05 52 56.1 +1.5
PTEO Sao Teotonio 157.84 353 *e*PKPdf **PKPdf** 05 52 23.4 +2.1
PTEO *e*PKPbc PKPbc 05 52 31.6
PTEO *e*PKPab **pPKPdf** 05 52 57.0 -1.0
PBDV Barranco-do-Ve 158.02 351 *e*PKPdf **PKPdf** 05 52 22.4 +0.7
PBDV *e*PKPab **PKPab** 05 52 56.4 +1.0
MORF Marmelete 158.07 352 *e*PKPdf **PKPdf** 05 52 21.6 -0.1
MORF *e*PKPab **PKPab** 05 52 56.5 +0.8
MORF *e*PP **PP** 05 56 36.8 +2.1
MORF Marmelete 158.07 352 *e*PKPdf **PKPdf** 05 52 21.1 -0.6
MORF *e*PKPab **pPKPdf** 05 52 57.1 -1.2
PFVI Vila Bisbo 158.26 353 *e*PKPdf **PKPdf** 05 52 19.9 -1.9
PFVI *e*PKPab **pPKPdf** 05 52 57.9 -0.6
TAM Tamanrasset 161.71 296 PKIKP **PKPdf** 05 52 27.1 +0.7
TORD Torodi Ar. Bea 166.26 262 PKP **PKPdf** 05 52 29.9 -0.6
comp=Z,5.4nm,0.8s,baz=104,slow=1.2,SNR=7.2
TORD PKPab **PKPab** 05 53 32.6 +0.2
comp=Z,6.7nm,0.6s,baz=87,slow=5.0,SNR=7.4
DBIC Dimbokro 168.59 220 PKP **PKPdf** 05 52 31.4 -0.8
comp=Z,14nm,1.0s,baz=49,slow=1.9,SNR=5.2
DBIC PKPab **PKPab** 05 53 42.6 +0.2
comp=Z,13nm,0.6s,baz=163,slow=4.8,SNR=11

NEIC **07** *05:46:22.3±0.6, 19°.20N±0°.03×155°.49W±0°.02, h40km±5km, Error ellipse: s-maj=4.6km s-min=1.9km az=149.0*
HVO 07 05:46:23.9±1.0,**19°19N**±0°.04×**155°47W**±0°.05,**h32**km±8km,
ML2.5/35,**ML2.6**/42(NEIC),**Error ellipse: s-maj=8.6km**
s-min=3.0km az=131.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**57**			Pb	05 46 29.2	-0.3
HPO	**Honuapo**	**0.13**	**217**			Pb	05 46 29.2	-0.4
HPO						Sn	05 46 33.1	-0.1
KHU	**Kahuku**	**0.14**	**292**			Pb	05 46 29.4	-0.7
KHU						Sn	05 46 33.3	-0.7
AIN	**Ainahou**	**0.18**	**5**			Pb	05 46 29.9	-0.5
AIN						Sb	05 46 34.2	-0.6
AIN	**Ainahou**	**0.18**	**5**	IAML			05 46 34.7	
	comp=E,2μm,0.3s							
AIN				IAML			05 46 35.0	
	comp=N,3μm,0.3s							
HLP	**Hilina Pali**	**0.19**	**56**			Pb	05 46 29.9	-0.5
HLP						Sb	05 46 34.3	-0.3
HLP	**Hilina Pali**	**0.19**	**56**	IAML			05 46 39.4	
	comp=E,746nm,0.2s							
HLP				IAML			05 46 42.0	
	comp=N,762nm,0.5s							
SDHHI	**Sand Hill**	**0.26**	**41**			Pb	05 46 30.3	-0.9
SDHHI						Sb	05 46 35.1	-1.0
WRMHI	**West Rim**	**0.27**	**37**			Pb	05 46 30.3	-1.0
WRMHI						Sb	05 46 35.2	-1.1
RIM	**Rim**	**0.28**	**43**			Pb	05 46 30.4	-1.0
RIM						Sb	05 46 35.1	-1.3
KKO	**Keanakako'i**	**0.28**	**44**			Pb	05 46 30.5	-0.9
KKO						Sb	05 46 35.3	-1.3
UWE	**Uwekahuna**	**0.28**	**37**			Pb	05 46 30.5	-1.0
UWE						Sb	05 46 35.6	-1.0
UWE	**Uwekahuna**	**0.28**	**37**	IAML			05 46 36.0	
	comp=N,1μm,0.7s							
UWE				IAML			05 46 36.2	
	comp=E,863nm,0.4s							
OBL	**Observatory Le**	**0.29**	**38**			Pb	05 46 30.5	-1.0
OBL						Sb	05 46 35.3	-1.4
UWB	**Uwekahuna Bluf**	**0.30**	**38**			Pb	05 46 30.5	-1.2
UWB						Sb	05 46 35.4	-1.4
BYL	**Byron's Ledge**	**0.30**	**43**			Pb	05 46 30.6	-1.1
BYL						Sb	05 46 35.7	-1.2
BYL	**Byron's Ledge**	**0.30**	**43**

HMH					Sb	05 46 38.6	-1.2	
HMH	**Humu'ula Sheep**	**0.41**	**359**	IAML		05 46 39.1		
	comp=N,697nm,0.2s							
HMH				IAML		05 46 39.4		
	comp=E,497nm,0.1s							
JOKA	**Jonika Flow**	**0.50**	**61**		Pb	05 46 32.9	-1.6	
JOKA	**Jonika Flow**	**0.50**	**61**	IAML		05 46 45.7		
	comp=N,407nm,0.4s							
CPH	**Captain Cook**	**0.51**	**305**		Pb	05 46 32.8	-1.9	
POHA	**Pohakuloa**	**0.57**	**354**		Pb	05 46 33.7	-1.9	
HUH	**Hualalai**	**0.60**	**325**		Pb	05 46 34.5	-1.7	
HUH					Sb	05 46 42.2	-2.4	
HUH	**Hualalai**	**0.60**	**325**	IAML		05 46 47.7		
	comp=E,425nm,0.3s							
HUH				IAML		05 46 48.5		
	comp=N,389nm,0.2s							
HPAH	**Hawaii Prepara**	**0.86**	**346**		Pn	05 46 37.5	-2.4	
HPAH					Sn	05 46 47.2	-4.2	
HPAH	**Hawaii Prepara**	**0.86**	**346**	IAML		05 46 48.2		
	comp=N,227nm,0.2s							
MHA	**Mahukona**	**1.07**	**338**		Pn	05 46 40.5	-2.2	
MHA					Sn	05 46 52.5	-4.0	
MHA	**Mahukona**	**1.07**	**338**	Pn	Pn	05 46 40.3	-2.4	
HLK	**Haleakala**	**1.72**	**335**		Pn	05 46 49.2	-2.8	
HLK					Sn	05 47 07.8	-5.2	
WMR	**Waimanalo Ridg**	**2.96**	**316**		Pn	05 47 05.8	-3.0	

*IDC **07** 06:01:37.6±1.2,53˚20S×9˚30E,h0km,mb4.1/8, mbtmp4.2/9,ML4.2/1,MS4.2/6,Error ellipse: s-maj=37.4km s-min=20.1km az=60.0*

*NEIC **07** 06:01:40.5±1.1,53˚32S±0˚10×8˚9E±0˚2,h10km±1km, mb4.6/14,Error ellipse: s-maj=21.7km s-min=11.3km az=49.0*

ISC 07 06:01:40.2±0.6,53˚35S±0˚07×9˚0E±0˚1,h10km,n41, σ0892/31,mb4.4/10,MS4.2/6,2C-3D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti**	**18.94**	**186**	P	**P**	**06 06 01.4**	**+0.3**
VNA1	**Neumayer--Stat**	**19.01**	**198**	⇓P	**Pn**	**06 06 02.7**	**+0.2**
	comp=Z,37nm,0.8s						
SNAA	**Sanae**	**19.11**	**191**	⇓P	**Pn**	**06 06 03.4**	**-0.3**
	comp=Z,658nm,0.8s						
SNAA				S	**Sn**	06 09 35.6	-1.9
SNAA	**Sanae**	**19.11**	**191**	P	**Pn**	**06 06 03.4**	**-0.3**
SNAA				IAmb	IAmb	06 06 05.9	
	comp=Z,47nm,0.9s						
SNAA	**Sanae**	**19.11**	**191**	P	**Pn**	**06 06 03.8**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=19,slow=10,SNR=62						
SNAA				S	Sn	06 09 26.1	-11
	comp=Z,0.9nm,0.7s,baz=284,slow=22,SNR=1.6						
	comp=Z,37nm,0.9s						
VNA3	**Neumayer Olymp**	**19.77**	**198**	⇓P	**P**	**06 06 09.9**	**-0.1**
	comp=Z,20nm,0.8s						
SYO	**Syowa Base**	**21.18**	**149**	⇑eP	**P**	**06 06 24.2**	**-1.0**
SYO	**Syowa Base**	**21.18**	**149**	⇑iP	**P**	**06 06 27.2**	**+2.0**
SUR	**Sutherland**	**22.62**	**27**	P	**P**	**06 06 41.5**	**+0.3**
GRHM	**Grahamstown, E**	**23.61**	**39**	P	**P**	**06 06 51.1**	**0.0**
BOSA	**Boshof**	**27.47**	**32**	P	**P**	**06 07 25.7**	**-0.8**
BOSA				IAmb	IAmb	06 07 58.4	
	comp=Z,8.8nm,1.2s						
H04S2	**CROZET ISLANDS**	**27.95**	**94**	T	T	06 37 03.4	
	baz=242,slow=75,SNR=54						
H04S3	**CROZET ISLANDS**	**27.95**	**94**	T	T	06 37 00.1	
	baz=242,slow=75,SNR=86						
H04S1	**CROZET ISLANDS**	**27.96**	**94**	T	T	06 37 03.2	
	baz=242,slow=75,SNR=104						
MAW	**Mawson**	**29.00**	**140**	P	**P**	**06 07 39.1**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=265,slow=12,SNR=1.9						
	comp=Z,2.9nm,0.9s						
TSUM	**Tsumeb**	**34.73**	**14**		**P**	**06 08 31.1**	**+0.7**
TSUM				IAmb	IAmb	06 08 31.8	
	comp=Z,7.2nm,0.9s						
TSUM	**Tsumeb**	**34.73**	**14**	LR	LR	06 20 44.2	
	comp=Z,130nm,18.1s,baz=144,slow=33						
QSPA	**South Pole Qui**	**36.89**	**180**	P	**P**	**06 08 49.2**	**+0.5**
QSPA				IAmb	IAmb	06 08 54.4	
	comp=Z,10nm,1.2s						
QSPA	**South Pole Qui**	**36.89**	**180**	P	**P**	**06 08 48.5**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=242,slow=2.6,SNR=14						
QSPA				LR	LR	06 23 33.7	
	comp=Z,202nm,18.8s,baz=321,slow=36						
	comp=Z,1.9nm,0.7s						
OPO	**Ambohidratompo**	**45.56**	**55**	LR	LR	06 25 50.6	
	comp=Z,234nm,21.3s,baz=45,slow=32						
VNDA	**Vanda**	**48.31**	**172**	P	**P**	**06 10 21.4**	**+0.4**
VNDA				IAmb	IAmb	06 10 22.1	
	comp=Z,7.9nm,1.1s						
VNDA	**Vanda**	**48.31**	**172**	P	**P**	**06 10 20.9**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=228,slow=7.6,SNR=17						
	comp=Z,3.9nm,0.9s						
SBA	**Scott Base**	**48.35**	**174**	P	**P**	**06 10 22.1**	**+0.9**
PLCA	**Paso Flores**	**52.91**	**250**	P	**P**	**06 10 56.0**	**-0.2**
PLCA	**Paso Flores**	**52.91**	**250**	P	**P**	**06 10 56.2**	**0.0**
	comp=Z,1.8nm,1.0s,baz=90,slow=24,SNR=3.2						
	comp=Z,1.8nm,1.0s						
CPUP	**Villa Florida**	**55.29**	**272**	P	**P**	**06 11 13.9**	**+0.3**
CPUP	**Villa Florida**	**55.29**	**272**	P	**P**	**06 11 14.0**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=61,slow=18,SNR=3.5						
	comp=Z,0.3nm,0.4s						
BDFB	**Brasilia**	**58.05**	**288**	P	**P**	**06 11 34.3**	**+0.7**
	comp=Z,9.4nm,1.3s,baz=150,slow=9.9,SNR=4.2						
	comp=Z,9.4nm,1.3s						
DBIC	**Dimbokro**	**60.92**	**344**	P	**P**	**06 11 51.8**	**-1.4**
SIV	**San Ignacio**	**65.42**	**276**	LR	LR	06 35 32.0	
	comp=Z,262nm,20.7s,baz=291,slow=31						
TORD	**Torodi Ar. Bea**	**66.52**	**352**	P	**P**	**06 12 29.0**	**-1.0**
TORD				IAmb	IAmb	06 12 34.1	
	comp=Z,4.6nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.52**	**352**	P	**P**	**06 12 28.5**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=173,slow=3.8,SNR=1.7						
	comp=Z,0.8nm,0.3s						
TA02	**Huaiquique**	**67.54**	**266**	P	**P**	**06 12 35.9**	**-0.7**
LPAZ	**La Paz**	**69.41**	**270**	P	**P**	**06 12 49.1**	**0.0**
LPAZ				IAmb	IAmb	06 13 10.8	
	comp=Z,6.2nm,1.1s						
LPAZ	**La Paz**	**69.41**	**270**	P	**P**	**06 12 50.1**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=156,slow=5.3,SNR=5.6						
	comp=Z,2.3nm,0.9s						
H01W2	**Cape Leeuwin H**	**70.92**	**123**	T	T	07 31 07.0	
	baz=218,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**70.93**	**123**	T	T	07 31 06.5	
	baz=218,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**70.94**	**123**	T	T	07 31 09.1	
	baz=218,slow=75,SNR=20						
MDP	**Montagnes des**	**77.69**	**296**	LR	LR	06 44 01.0	
	comp=Z,182nm,21.0s,baz=258,slow=33						
DAVOX	**Davos/Dischmat**	**99.75**	**1**	LR	LR	06 57 29.8	
	comp=Z,266nm,21.6s,baz=48,slow=34						
YKA	**Yellowknife Ar**	**149.63**	**310**	PKPbc	**PKPdf**	**06 21 26.1**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=107,slow=3.2,SNR=5.7						

*AFAD **07** 06:02:30.8,39˚28N×27˚72E,h12km,ML3.6*

*ISK **07** 06:02:30.6,39˚31N×27˚70E,h7km,ML3.7/61*

*THE **07** 06:02:31.7,39˚N±2˚×2˚8E±˚,h12km±20km,M3.3/14, MLh3.3/14*

*SOF **07** 06:02:32.6,39˚54N±0˚03×27˚64E±0˚02,h5km±6km, MD3.8/9*

ISC 07 06:02:31.1±0.8,39˚30N±0˚02×27˚70E±0˚02,h13km±5km, n139,σ0868/170,15C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEP	**BALIKESIR_Sava**	**0.08**	**8**	P	**Pg**	**06 02 33.8**	**0.0**
STEP				S	**Sg**	**06 02 35.8**	**-0.1**
STEP				*i* IAML		06 02 36.0	
	comp=N,5μm,0.5s						
STEP				*i* IAML		06 02 36.0	
	comp=E,5μm,0.4s						
SOMA	**Soma-Manisa**	**0.20**	**223**	Pg	**Pg**	**06 02 35.2**	**-0.3**
SOMA				Sg	**Sg**	**06 02 38.4**	**0.0**
AKS	**Akhisar**	**0.43**	**169**	Pg	**Pg**	**06 02 39.6**	**0.0**
AKS				Sg	**Sg**	**06 02 46.1**	**+0.7**
AKHS	**Akhisar**	**0.43**	**168**	P	**Pg**	**06 02 39.6**	**-0.1**
BALY	**Balya**	**0.45**	**352**	P	**Pg**	**06 02 40.3**	**+0.3**
BALY				S	**Sg**	**06 02 46.1**	**+0.1**
BALY				*i* IAML		06 02 47.0	
	comp=E,1μm,0.4s						
BALY				*i* IAML		06 02 47.0	
	comp=N,8μm,0.7s						
BKES	**Balkesir-Mer**	**0.47**	**22**	P	**Pg**	**06 02 40.3**	**-0.1**
BKES				S	**Sg**	**06 02 47.4**	**+0.8**
BUHA	**Balikesir, Bur**	**0.53**	**293**	P	**Pg**	**06 02 41.6**	**+0.1**
GORD	**Gordes-Manisa**	**0.54**	**137**	Pg	**Pg**	**06 02 41.5**	**-0.2**
YAYO	**Edremit-Balk**	**0.58**	**303**	Pg	**Pg**	**06 02 42.3**	**-0.2**
ZEDA	**zmir-Bergama**	**0.59**	**236**	P	**Pg**	**06 02 42.6**	**-0.1**
BLKS	**Balkesir-Sus**	**0.61**	**19**	P	**Pg**	**06 02 42.8**	**-0.3**
BLKS				P	**Pb**	**06 02 43.0**	**-0.7**
GOMA	**Golmarmara-Man**	**0.61**	**164**	Pg	**Pg**	**06 02 43.1**	**0.0**
GOMA				Sg	**Sg**	**06 02 52.2**	**+1.0**
DURS	**Dursunbey**	**0.67**	**63**	P	**Pg**	**06 02 43.6**	**-0.6**
DURS				S	**Sg**	**06 02 53.0**	**0.0**
DURS				*i* IAML		06 02 54.0	
	comp=E,3μm,0.3s						
DURS				*i* IAML		06 02 54.0	
	comp=N,2μm,0.5s						
IZMD	**zmir-Dikili-**	**0.68**	**243**	P	**Pg**	**06 02 44.1**	**-0.3**
IZMD				P	**Pb**	**06 02 44.4**	**-0.6**
YENI	**Yenice-Canakka**	**0.73**	**331**	Pg	**Pg**	**06 02 44.9**	**-0.4**
GONE	**Gonen-Balikesi**	**0.75**	**359**	Pg	**Pg**	**06 02 45.5**	**-0.1**
DST	**Dursunbey**	**0.77**	**66**	Pg	**Pg**	**06 02 45.4**	**-0.7**
AYVA	**Ayvalik**	**0.79**	**271**	P	**Pg**	**06 02 46.4**	**0.0**
AYVA				S	**Sg**	**06 02 56.9**	**+0.2**
AYVA				*i* IAML		06 03 00.0	
	comp=N,3μm,0.7s						
DEMI	**Demirci**	**0.83**	**108**	P	**Pg**	**06 02 46.9**	**-0.2**
DEMI				S	**Sg**	**06 02 57.5**	**-0.5**
CANM	**Can-anakkale**	**0.87**	**325**	Pg	**Pg**	**06 02 47.9**	**-0.1**
FOCM	**Foa**	**0.96**	**233**	Pg	**Pg**	**06 02 49.4**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.00**	**297**	P	**Pb**	**06 02 50.0**	**-0.4**
BAYC				S	**Sg**	**06 03 03.5**	**+0.1**
BAYC				*i* IAML		06 03 05.0	
	comp=N,2μm,0.2s						
SMAA	**Simav-Kutahya**	**1.01**	**101**	Pg	**Pb**	**06 02 50.5**	**-0.1**
SIMA	**Simav-Kutahya**	**1.02**	**102**	Pg	**Pb**	**06 02 50.6**	**-0.1**
MANT	**Manisa**	**1.05**	**140**	P	**Pb**	**06 02 50.8**	**-0.5**
BLCB	**Balcova**	**1.05**	**210**	Pg	**Pb**	**06 02 50.8**	**-0.4**
BLCB	**Balcova**	**1.05**	**210**	P	**Pb**	**06 02 50.6**	**-0.6**
BLCB				S	**Sb**	**06 03 05.0**	**+0.1**
EDC	**Edincik**	**1.05**	**7**	Pg	**Pb**	**06 02 51.1**	**-0.2**
ODEM	**Odemis-Izmir**	**1.06**	**164**	Pg	**Pb**	**06 02 51.5**	**+0.1**
KULA	**Kula-Manisa**	**1.08**	**136**	Pn	**Pb**	**06 02 51.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.09**	**27**	Pg	**Pb**	**06 02 51.7**	**-0.2**
BAND	**Balkesir-Ban**	**1.10**	**16**	P	**Pb**	**06 02 51.7**	**-0.3**
BAND	**Balkesir-Ban**	**1.10**	**16**	⇑P	**Pb**	**06 02 51.7**	**-0.3**
EZNE	**Ezine-Canakkal**	**1.13**	**294**	Pn	**Pb**	**06 02 52.7**	**+0.1**
KRBG	**Karabiga-Canak**	**1.14**	**344**	Pn	**Pb**	**06 02 52.6**	**-0.1**
IZMR	**zmir-demi**	**1.18**	**170**	P	**Pb**	**06 02 52.8**	**-0.5**
IZMR				P	**Pb**	**06 02 53.5**	**+0.1**
ORLT	**Orhaneli**	**1.18**	**51**	Pn	**Pb**	**06 02 53.7**	**+0.2**
EZN	**Ezine**	**1.19**	**297**	Pn	**Pn**	**06 02 53.6**	**+0.1**
EZN	**Ezine**	**1.19**	**297**	P	**Pn**	**06 02 53.4**	**-0.1**
EZN				S	**Sn**	**06 03 10.2**	**+0.7**
EZN	**Ezine**	**1.19**	**297**	⇑P	**Pn**	**06 02 53.3**	**-0.1**
KARB	**zmir-Karabur**	**1.19**	**238**	P	**Pn**	**06 02 52.9**	**-0.6**
SHAP	**Saphane-Kutahy**	**1.21**	**103**	Pn	**Pn**	**06 02 54.4**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.23**	**278**	Pn	**Pn**	**06 02 54.4**	**+0.4**
KIRA	**zmir-Kiraz**	**1.23**	**153**	P	**Pn**	**06 02 53.6**	**-0.6**
KOCA	**Canakkale, Ayv**	**1.23**	**280**	P	**Pn**	**06 02 54.2**	**+0.1**
COMU	**Canakkale**	**1.24**	**310**	Pn	**Pn**	**06 02 54.7**	**+0.4**
EMET	**Ktahya-Emet**	**1.26**	**86**	P	**Pn**	**06 02 54.9**	**+0.4**
CNKL	**anakkale-Mer**	**1.27**	**307**	P	**Pn**	**06 02 54.9**	**+0.2**
CNKL				P	**Pb**	**06 02 54.9**	**-0.1**
URLA	**Izmir**	**1.28**	**223**	P	**Pn**	**06 02 54.0**	**-0.8**
MRMT	**Marmara Adasi**	**1.30**	**356**	Pn	**Pn**	**06 02 55.4**	**+0.2**
GEDZ	**Gediz**	**1.35**	**100**	Pn	**Pn**	**06 02 56.3**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**174**	Pn	**Pn**	**06 02 56.4**	**+0.4**
GMLD	**Gumuldur**	**1.37**	**207**	Pn	**Pn**	**06 02 56.7**	**+0.7**
TVSB	**Tavsanli**	**1.37**	**83**	Pn	**Pn**	**06 02 56.7**	**+0.6**
ULDT	**Uludag**	**1.39**	**52**	P	**Pn**	**06 02 56.4**	**0.0**
ECEA	**Canakkale, Ece**	**1.40**	**303**	P	**Pn**	**06 02 57.0**	**+0.7**
GDZ	**Gediz**	**1.40**	**98**	P	**Pn**	**06 02 56.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.40**	**40**	Pn	**Pn**	**06 02 56.6**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.41**	**161**	Pn	**Pn**	**06 02 57.4**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**1.42**	**222**	P	**Pn**	**06 02 55.1**	**-1.6**
SIGR	**SIGRI**	**1.44**	**267**	Pn	**Pn**	**06 02 57.6**	**+0.7**
SIGR	**SIGRI**	**1.44**	**267**	P	**Pn**	**06 02 56.7**	**-0.2**
SIGR				S	**Sn**	**06 03 16.4**	**+0.7**
SART	**Tekirdag**	**1.45**	**344**	P	**Pn**	**06 02 57.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.45**	**320**	Pn	**Pn**	**06 02 57.7**	**+0.6**
CESE	**eme**	**1.46**	**229**	Pn	**Pn**	**06 02 58.0**	**+0.7**
AVDN	**Avdancik/Bursa**	**1.50**	**48**	P	**Pn**	**06 02 57.8**	**0.0**
ARMT	**Armutlu**	**1.55**	**35**	Pn	**Pn**	**06 02 58.7**	**+0.2**
CHOS	**Chios island**	**1.58**	**235**	Pn	**Pn**	**06 02 59.7**	**+0.8**
CHOS	**Chios island**	**1.58**	**235**	P	**Pn**	**06 02 58.3**	**-0.6**
CHOS				S	**Sn**	**06 03 19.4**	**+0.2**
KRSK	**Karsak**	**1.63**	**47**	P	**Pn**	**06 02 59.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.65**	**327**	Pn	**Pn**	**06 03 00.5**	**+0.7**
GADA	**Gvkgeada**	**1.65**	**303**	Pn	**Pn**	**06 03 00.7**	**+0.8**
GADA	**Gvkgeada**	**1.65**	**303**	P	**Pn**	**06 03 00.3**	**+0.4**
GADA				S	**Sb**	**06 03 22.5**	**+0.3**
TKR	**Tekirdag**	**1.69**	**356**	Pn	**Pn**	**06 03 01.4**	**+0.9**
KHL	**Karahalli**	**1.72**	**124**	Pn	**Pn**	**06 03 01.8**	**+0.8**
SMG	**Samos**	**1.73**	**203**	P	**Pn**	**06 03 00.1**	**-0.9**
SMG				S	**Sn**	**06 03 22.7**	**-0.2**
ENZZ	**Sultanice-Enez**	**1.77**	**318**	Pn	**Pn**	**06 03 02.4**	**+0.8**
YLY	**Yalova**	**1.80**	**45**	Pn	**Pn**	**06 03 02.2**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.82**	**320**	⇑P	**Pn**	**06 03 02.6**	**+0.3**
ADVT	**Abdulvahap**	**1.93**	**53**	Pn	**Pn**	**06 03 04.6**	**+0.9**
SLVT	**Silivri**	**1.97**	**11**	Pn	**Pn**	**06 03 04.4**	**+0.2**
UKOP	**Uzunkopru-Edir**	**2.00**	**336**	Pn	**Pn**	**06 03 05.5**	**+0.8**
OSMT	**Osmaniye**	**2.01**	**49**	Pn	**Pn**	**06 03 05.9**	**+1.0**
CTKS	**Kestanelik-??a**	**2.03**	**17**	Pn	**Pn**	**06 03 05.9**	**+0.8**
LIA	**Limnos Island**	**2.04**	**288**	P	**Pn**	**06 03 05.8**	**+0.6**
LIA				S	**Sn**	**06 03 32.0**	**+1.5**
ALN	**Alexandroupoli**	**2.04**	**322**	Pn	**Pn**	**06 03 06.0**	**+0.7**
ALN	**Alexandroupoli**	**2.04**	**322**	P	**Pn**	**06 03 05.9**	**+0.7**
ALN				S	**Sn**	**06 03 32.3**	**+1.7**
SMTH	**Samothraki Isl**	**2.04**	**306**	P	**Pn**	**06 03 05.4**	**+0.2**
SMTH				S	**Sb**	**06 03 33.0**	**-0.4**
KAVV	**Kandilli-Istan**	**2.05**	**30**	Pn	**Pn**	**06 03 06.1**	**+0.8**
ISK	**Istanbul-Kandi**	**2.05**	**30**	Pn	**Pn**	**06 03 06.4**	**+1.1**
BGKT	**Bogazkoy**	**2.05**	**23**	Pn	**Pn**	**06 03 06.4**	**+1.1**
KLYT	**Kilyos**	**2.20**	**27**	Pn	**Pn**	**06 03 08.3**	**+0.8**
KLYT	**Kilyos**	**2.20**	**27**	⇑P	**Pn**	**06 03 07.6**	**+0.1**
APMY	**Acipayam-Deniz**	**2.21**	**145**	Pn	**Pn**	**06 03 07.6**	**-0.1**
CTYL	**Yalikoy Yolu**	**2.22**	**11**	Pn	**Pn**	**06 03 08.6**	**+0.9**
CTYL	**Yalikoy Yolu**	**2.22**	**11**	⇑P	**Pn**	**06 03 08.4**	**+0.7**
GPA	**Golpazari**	**2.24**	**63**	Pn	**Pn**	**06 03 08.9**	**+0.9**
BASM	**Basmaki-Afyon**	**2.30**	**126**	Pn	**Pn**	**06 03 09.6**	**+0.8**
PHSR	**Pinarhisar**	**2.33**	**357**	Pn	**Pn**	**06 03 10.2**	**+0.9**
PHSR	**Pinarhisar**	**2.33**	**357**	⇑P	**Pn**	**06 03 08.7**	**-0.5**
SILT	**Sile**	**2.37**	**38**	Pn	**Pn**	**06 03 10.5**	**+0.7**
SILT	**Sile**	**2.37**	**38**	⇑P	**Pn**	**06 03 10.8**	**+1.0**
GULT	**Gulveren**	**2.44**	**61**	Pn	**Pn**	**06 03 11.8**	**+1.0**
RDO	**Rodhopi**	**2.48**	**319**	Pn	**Pn**	**06 03 12.1**	**+0.8**
RDO	**Rodhopi**	**2.48**	**319**	P	**Pn**	**06 03 12.2**	**+1.0**
DAT	**Datca**	**2.57**	**182**	Pn	**Pn**	**06 03 13.7**	**+1.1**
CIFT	**Cifteler, Eski**	**2.60**	**88**	Pn	**Pn**	**06 03 14.2**	**+1.1**
THAS	**Thassos island**	**2.64**	**301**	P	**Pn**	**06 03 13.5**	**+0.1**
EDRB	**Edirne**	**2.65**	**344**	Pn	**Pn**	**06 03 13.8**	**+0.2**
SDAG	**Sultandagi-AFY**	**2.65**	**108**	Pn	**Pn**	**06 03 14.8**	**+1.1**
CAME	**Cameli-Denizli**	**2.67**	**151**	Pn	**Pn**	**06 03 14.8**	**+0.8**
BLVD	**Bolvadin-AFYON**	**2.69**	**100**	Pn	**Pn**	**06 03 15.2**	**+0.9**
SAHE	**Sakarya_HENDEK**	**2.87**	**56**	⇓P	**Pn**	**06 03 17.8**	**+1.1**
KDZ	**Kurdzhali**	**2.94**	**323**	*i* P	**Pn**	**06 03 18.4**	**+0.7**
KDZ				*e*S	**Sn**	**06 03 52.7**	**-0.2**
KDZ	**Kurdzhali**	**2.94**	**323**	P	**Pn**	**06 03 18.3**	**+0.7**
KAVA	**Kavala**	**2.98**	**306**	P	**Pn**	**06 03 18.3**	**+0.2**
OUR	**Ouranopolis**	**3.05**	**291**	P	**Pn**	**06 03 19.2**	**+0.2**
RZN	**Rozhen**	**3.29**	**318**	*i* P	**Pn**	**06 03 23.7**	**+1.1**
RZN				*e*S	**Sn**	**06 04 01.1**	**-0.6**
JMB	**Yambol**	**3.31**	**345**	*e*P	**Pn**	**06 03 22.4**	**-0.3**
JMB				*e*S	**Sn**	**06 04 00.8**	**-1.1**
PLD	**Plovdiv**	**3.62**	**323**	P	**Pn**	**06 03 28.0**	**+1.0**
PLD				S	**Sn**	**06 04 08.6**	**-1.1**
PRD	**Provadia**	**3.86**	**357**	*e*P	**Pn**	**06 03 30.3**	**0.0**
PRD				*e*S	**Sb**	**06 04 23.9**	**-1.9**
ELND	**Elena**	**3.88**	**340**	⇓P	**Pn**	**06 03 31.2**	**+0.7**
ANTO	**Ankara**	**3.97**	**80**	⇑P	**Pn**	**06 03 32.2**	**+1.3**
NEVS	**NEVSHA**	**3.98**	**355**	*e*P	**Pn**	**06 03 32.3**	**+0.5**
SZH	**Strazhitsa**	**4.17**	**342**	P	**Pn**	**06 03 35.2**	**+0.7**
SZH				*e*S	**Sn**	**06 04 21.6**	**-1.5**
PGB	**Panagyurishte**	**4.18**	**321**	*e*P	**Pn**	**06 03 35.8**	**+1.1**
PLNA	**Plana**	**4.54**	**316**	*i* P	**Pn**	**06 03 41.4**	**+1.7**
PLNA				S	**Sn**	**06 04 32.3**	**-0.1**
VTS	**Vitosha**	**4.74**	**316**	P	**Pn**	**06 03 43.8**	**+1.4**
MPEP	**Malo Peshtene**	**5.03**	**325**	P	**Pn**	**06 03 47.5**	**+1.1**
MPEP				*e*S	**Sn**	**06 04 43.6**	**-0.8**
TIRR	**Tirgusor**	**5.18**	**6**	⇓P	**Pn**	**06 03 49.3**	**+1.0**
TPGR	**Topolog**	**5.58**	**5**	⇓P	**Pn**	**06 03 54.1**	**+0.2**
CFR	**Carcaliu**	**5.88**	**3**	⇑P	**Pn**	**06 03 57.9**	**-0.1**
BOVS	**Bovan**	**6.25**	**316**	⇑P	**Pn**	**06 04 03.6**	**+0.5**
MLR	**Muntele Rosu**	**6.32**	**349**	⇑P	**Pn**	**06 04 04.0**	**-0.2**
PLOR	**Plostina**	**6.59**	**354**	⇑P	**Pn**	**06 04 08.8**	**+1.0**
HERR	**Herculane**	**6.82**	**327**	⇑P	**Pn**	**06 04 10.9**	**0.0**
GZR	**Gura Zlata**	**7.10**	**331**	⇑P	**Pn**	**06 04 14.8**	**+0.1**
TESR	**Tescani**	**7.25**	**354**	⇑P	**Pn**	**06 04 17.4**	**+0.6**
BURAR	**Bucovina Array**	**8.51**	**349**	⇓P	**Pn**	**06 04 35.6**	**+1.5**

*SJA **07** 06:16:33.9±0.6,20˚65S×66˚77W,h245km±6km,ML4.1, MW3.8*

*SCB **07** 06:16:34.9±1.2,20˚71S×66˚78W,h232km±9km,ML4.6/3, MW3.4,Error ellipse: s-maj=4.0km s-min=3.3km az=0.0*

*NEIC **07** 06:16:35.5±1.1,20˚69S±0˚07×66˚84W±0˚10, h239km±11km,mb4.3/9,Error ellipse: s-maj=13.4km s-min=10.1km az=97.0*

*VAO **07** 06:16:36.3±0.6,20˚60S×66˚69W,h228km±6km,mb4.1*

*IDC **07** 06:16:37.6±1.3,20˚37S×66˚59W,h247km±14km,mb3.2/8, mbtmp3.9/12,Error ellipse: s-maj=19.5km s-min=14.3km az=62.0*

ISC 07 06:16:35.1±0.6,20˚70S±0˚04×66˚84W±0˚04,h235km±6km, n130,σ1823/165,mb3.7/7,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.25**	**116**	Pg	**Pn**	**06 17 10.7**	**0.0**
MOCB				Sg	**S**	**06 17 36.6**	**-1.9**
MOCB				IAML		06 17 37.3	
	2μm,0.4s						
YJA	**Yavi**	**1.92**	**140**	*e*P	**Pn**	**06 17 16.7**	**+0.6**
YJA				*e*S	**S**	**06 17 47.2**	**-1.0**
YJA	**Yavi**	**1.92**	**140**	Pg	**Pn**	**06 17 16.0**	**-0.1**
PB08	**IPOC Station P**	**2.24**	**284**		**Pn**	**06 17 20.0**	**+0.9**
PB08				Sn	**S**	**06 17 54.5**	**+0.9**
PB08	**IPOC Station P**	**2.24**	**284**	*e*P	**Pn**	**06 17 20.1**	**+0.9**
PB08				*i* S	**S**	**06 17 54.6**	**+1.0**
PB08				IAML		06 17 57.6	
	comp=E,295nm,0.2s						
PB08	**IPOC Station P**	**2.24**	**284**	*e*P	**Pn**	**06 17 19.9**	**+0.7**
PB08				*e*S	**S**	**06 17 55.5**	**+1.9**
PB08	**IPOC Station P**	**2.24**	**284**	Pg	**Pn**	**06 17 20.0**	**+0.9**
SOEO	**Opoqueri**	**2.35**	**335**	Pg	**Pn**	**06 17 21.1**	**+0.7**
GO01	**Chusmiza**	**2.44**	**295**		**Pn**	**06 17 21.9**	**+0.6**
GO01	**Chusmiza**	**2.44**	**295**	*e*P	**Pn**	**06 17 22.1**	**+0.8**
GO01				*i* S	**S**	**06 17 58.0**	**+0.6**
GO01	**Chusmiza**	**2.44**	**295**	*e*P	**Pn**	**06 17 21.4

PB10	**IPOC Station P**	**4.44**	**230**	Pg		**Pn**	**06 17 43.9**	**+0.4**
LPAZ	**La Paz**	**4.56**	**344**	P		**Pn**	**06 17 46.2**	**+0.4**
	comp=Z,24nm,0.5s,baz=146,slow=6.8,SNR=18							
LPAZ				S		**S**	**06 18 39.4**	**-2.2**
	comp=Z,24nm,0.8s,baz=195,slow=12,SNR=8.9							
LPAZ	**La Paz**	**4.56**	**344**	*eP*		**Pn**	**06 17 46.1**	**+0.4**
LPAZ				*eS*		**S**	**06 18 42.4**	**+0.8**
LPAZ	**La Paz**	**4.56**	**344**	Pg		**Pn**	**06 17 46.3**	**+0.6**
LPAZ	**La Paz**	**4.56**	**344**	*eP*		**Pn**	**06 17 46.3**	**+0.6**
LPAZ				*eS*		**S**	**06 18 40.1**	**-1.4**
BBOB	**La Paz, Bander**	**4.70**	**345**	Pg		**Pn**	**06 17 47.7**	**+0.3**
GO02	**Mina Guanaco**	**5.11**	**209**			**Pn**	**06 17 52.8**	**+0.6**
GO02	**Mina Guanaco**	**5.11**	**209**	*eP*		**Pn**	**06 17 52.7**	**+0.6**
GO02				*eS*		**S**	**06 18 51.5**	**-1.8**
AC02	**Maricunga**	**6.46**	**199**			**Pn**	**06 18 09.6**	**+0.4**
BBSD	**Serra de San D**	**6.85**	**60**	*eP*		**Pn**	**06 18 11.3**	**-2.5**
SIV	**San Ignacio**	**7.21**	**50**	P		**Pn**	**06 18 15.9**	**-2.4**
	comp=Z,49nm,0.5s,baz=234,slow=9.9,SNR=382							
MURT	**Porto Murtinho**	**8.66**	**98**	*eP*		**Pn**	**06 18 35.0**	**-1.8**
LCO	**Las Campanas**	**8.98**	**202**	Pn		**Pn**	**06 18 40.0**	**-1.1**
PTLB	**Pontes e Lacer**	**8.99**	**56**			**Pn**	**06 18 39.1**	**-2.0**
PTLB	**Pontes e Lacer**	**8.99**	**56**	*eP*		**Pn**	**06 18 39.1**	**-2.0**
VILB	**Vilhena**	**9.98**	**41**			**Pn**	**06 18 53.9**	**+0.1**
VILB	**Vilhena**	**9.98**	**41**	*eP*		**Pn**	**06 18 53.6**	**-0.2**
CPUP	**Villa Florida**	**10.37**	**125**	P		**Pn**	**06 19 01.7**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=270,slow=1.0,SNR=3.6							
AQDB	**Aquidauana**	**10.44**	**91**	*eP*		**Pn**	**06 18 59.9**	**+0.5**
SJPY	**San Joaquin**	**10.78**	**115**	*eP*		**Pn**	**06 19 05.5**	**+1.7**
CFA	**Coronel Fontan**	**10.93**	**186**	*eP*		**Pn**	**06 19 05.4**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=307,slow=0.4,SNR=17							
CFA				S		**S**	**06 21 03.0**	**-5.0**
	comp=Z,16nm,0.8s,baz=289,slow=20,SNR=11							
AMBA	**Amambai (Brazi**	**11.22**	**104**	*eP*		**Pn**	**06 19 09.4**	**0.0**
SALV	**Santo Antonio**	**11.61**	**68**	*eP*		**Pn**	**06 19 14.0**	**-0.3**
PDRB	**Porto dos Gac**	**13.26**	**49**	*eP*		**Pn**	**06 19 33.7**	**-1.1**
TRCB	**Terra Rica**	**13.36**	**102**	P		**Pn**	**06 19 36.5**	**+0.5**
TRCB	**Terra Rica**	**13.36**	**102**	*eP*		**Pn**	**06 19 37.4**	**-0.4**
PTGB	**Pitanga**	**14.20**	**109**	*eP*		**Pn**	**06 19 46.5**	**+0.2**
CLDB	**Colider**	**14.43**	**49**	*eP*		**P**	**06 19 49.2**	**-0.5**
PCMB	**Pacaembu**	**14.56**	**96**	*eP*		**P**	**06 19 51.5**	**+0.5**
LDASE	**Londrina, Braz**	**14.82**	**103**	*eP*		**P**	**06 19 54.5**	**+0.5**
ITAB	**Concordia**	**14.93**	**119**	P		**Pn**	**06 19 56.0**	**+1.0**
ITAB	**Concordia**	**14.93**	**119**	*eP*		**Pn**	**06 19 55.9**	**+1.0**
ARAG	**Araguaiana, MT**	**15.11**	**73**	*eP*		**P**	**06 19 56.6**	**-0.6**
CPSB	**Cacapava Do Su**	**15.46**	**131**	*eP*		**Pn**	**06 20 01.7**	**+0.2**
PLTB	**Pedras Altas**	**16.18**	**136**	P		**P**	**06 20 08.7**	**-0.1**
PLTB				IAmb		IAmb	06 20 11.2	
	comp=Z,13nm,1.1s							
PLTB	**Pedras Altas**	**16.18**	**136**	*eP*		**P**	**06 20 08.6**	**-0.2**
FRTB	**Fartura**	**16.23**	**102**	*eP*		**P**	**06 20 09.3**	**-0.2**
CNLB	**Canela**	**16.82**	**124**	*eP*		**P**	**06 20 15.7**	**-0.3**
BB19B	**Bebedouro**	**17.11**	**94**	*eP*		**P**	**06 20 19.3**	**+0.1**
TEFE	**Tefe**	**17.22**	**7**	*eP*		**Pn**	**06 20 21.9**	**-0.5**
SNDB	**Serra Nova Dou**	**17.24**	**62**	*eP*		**P**	**06 20 19.9**	**-0.7**
IPMB	**Ipameri, GO**	**17.78**	**84**	*eP*		**P**	**06 20 26.6**	**+0.1**
TRQA	**Tornquist**	**17.80**	**167**	P		**P**	**06 20 26.6**	**+0.1**
TRQA				IAmb		IAmb	06 20 57.4	
	comp=Z,18nm,1.5s							
RCLB	**Rio Claro- Sao**	**18.04**	**99**	*eP*		**P**	**06 20 28.7**	**-0.5**
MACA	**Manacapuru-AM**	**18.44**	**20**	P		**P**	**06 20 32.1**	**-1.4**
BDFB	**Brasilia**	**18.57**	**77**	P		**P**	**06 20 35.2**	**+0.1**
BDFB				IAmb		IAmb	06 20 38.2	
	comp=Z,6.3nm,0.6s							
BDFB	**Brasilia**	**18.57**	**77**	P		**P**	**06 20 34.9**	**-0.2**
	comp=Z,6.4nm,0.5s,baz=244,slow=11,SNR=11							
VAO	**Valinhos**	**18.59**	**109**	P		**P**	**06 20 34.5**	**-0.7**
ITTB	**Itaituba**	**19.50**	**35**	*eP*		**P**	**06 20 43.3**	**-1.6**
PLCA	**Paso Flores**	**20.22**	**188**	P		**P**	**06 20 51.1**	**-1.3**
PLCA	**Paso Flores**	**20.22**	**188**	P		Pn	06 20 58.4	+0.8
	comp=Z,1.5nm,0.8s,baz=270,slow=24,SNR=3.9							
	comp=Z,1.5nm,0.8s							
MAL2	**Monte Alegre,**	**22.30**	**35**	P		**P**	**06 21 12.2**	**-1.1**
MAL2				IAmb		IAmb	06 21 13.3	
	comp=Z,9.7nm,0.8s							
TXAR	**Lajitas Array**	**61.12**	**323**	P		**P**	**06 26 25.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=143,slow=8.6,SNR=2.6							
	comp=Z,0.2nm,0.6s							
SNAA	**Sanae**	**62.40**	**161**	P		**P**	**06 26 34.3**	**+1.5**
SNAA	**Sanae**	**62.40**	**161**	P		**P**	**06 26 34.7**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=4.5,slow=8.6,SNR=2.9							
	comp=Z,1.0nm,0.6s							
QSPA	**South Pole Qui**	**69.49**	**180**	P		**P**	**06 27 17.6**	**-0.3**
QSPA				IAmb		IAmb	06 27 29.8	
	comp=Z,4.0nm,1.3s							
QSPA	**South Pole Qui**	**69.49**	**180**	P		**P**	**06 27 21.1**	**+3.1**
	comp=Z,0.7nm,0.8s,baz=213,slow=11,SNR=1.0							
	comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**75.27**	**70**	P		**P**	**06 27 51.6**	**-1.1**
	comp=Z,3.3nm,0.4s,baz=254,slow=5.3,SNR=3.9							
	comp=Z,3.3nm,0.4s							
NVAR	**Mina Array Bea**	**76.08**	**321**	P		**P**	**06 27 58.9**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=132,slow=6.3,SNR=2.3							
	comp=Z,0.2nm,0.5s							
BOSA	**Boshof**	**82.10**	**117**	P		**P**	**06 28 30.3**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=251,slow=2.2,SNR=4.1							
	comp=Z,2.6nm,1.0s							
ESDC	**Sonseca Array**	**83.92**	**44**	P		**P**	**06 28 38.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=255,slow=6.3,SNR=5.7							
	comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**131.49**	**206**	SKPbc		**SKPbc**	**06 38 21.6**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=146,slow=3.4,SNR=5.2							
WRA	**Warramunga Arr**	**134.60**	**209**	PKP		**PKiKP**	**06 35 28.7**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=148,slow=1.9,SNR=0.9							
MKAR	**Makanchi Array**	**143.85**	**37**	PKP		PKPbc	06 35 40.5	-0.2
	comp=Z,0.1nm,0.3s,baz=296,slow=1.7,SNR=4.0							

*IDC **07** 06:23:31.8±3.1,54°.37N×86°.75E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=24.2km s-min=16.4km az=54.0*

ASRS 07 06:23:30.0±0.5, 54°.35N×86°.79E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**252**	I	I	06 31 10.0	
	baz=70,slow=314,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.23**	**252**	Pg	Pg	06 23 53.4	-0.1
	2.7nm,0.3s,baz=66,slow=13,SNR=10						
ZALV				Lg	Lg	06 24 11.3	
	1.5nm,0.3s,baz=65,slow=29,SNR=4.4						
KURBB	**Kurchatov Arra**	**6.28**	**237**	Pn	Pn	06 25 06.4	+2.7
	0.2nm,0.3s,baz=53,slow=13,SNR=5.7						
KURBB				Sn	Sn	06 26 18.2	+2.2
	0.1nm,0.3s,baz=56,slow=33,SNR=1.0						
KURBB				Lg	Lg	06 26 50.8	
	baz=45,slow=31						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**8.09**	**203**	Pn	Pn	06 25 31.9	+3.3
	0.2nm,0.3s,baz=21,slow=13,SNR=5.1						
MKAR				Sn	Sn	06 27 00.5	-0.2
	0.2nm,0.3s,baz=22,slow=23,SNR=3.6						
MKAR				Lg	Lg	06 27 48.9	
	0.1nm,0.3s,baz=20,slow=31,SNR=4.0						
	0.2nm,0.3s						

*ASRS **07** 06:59:59.0±0.6,55°.66N×86°.24E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 07 07:00:03.9±2.9, 55°.56N×86°.17E, h0km, mbtmp3.3/3, ML2.6/2, Error ellipse: s-maj=25.8km s-min=18.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**206**	I	I	07 11 50.6	
	baz=24,slow=318,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.80**	**206**	Pg	Pn	07 00 35.2	-0.8
	5.2nm,0.3s,baz=26,slow=18,SNR=40						
ZALV				Lg	Lg	07 01 01.3	
	2.9nm,0.3s,baz=24,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.75**	**226**	Pn	Pn	07 01 44.5	+0.4
	0.1nm,0.3s,baz=44,slow=14,SNR=5.5						
KURBB				Lg	Lg	07 03 39.9	
	baz=41,slow=29,SNR=5.5						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**9.11**	**197**	Pn	Pn	07 02 16.7	+0.2
	0.1nm,0.3s,baz=14,slow=14,SNR=4.9						
MKAR				Lg	Lg	07 04 50.6	
	baz=16,slow=31						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**9.57**	**261**	Pn	Pn	07 02 21.4	-1.3
	2.0nm,0.6s,baz=74,slow=15,SNR=2.6						

2019 AUG

*MOS **07** 07:06:38.9±0.8,25°.06S×179°.81E, h485km, mb5.0/16, Error ellipse: s-maj=10.3km s-min=9.9km az=121.2*

*IDC **07** 07:06:39.7±0.5,25°.10S×179°.84E, h488km±4km, mb4.4/17, mbtmp5.2/21, Error ellipse: s-maj=8.9km s-min=7.8km az=130.0*

*NOU **07** 07:06:39.8,25°.17S×179°.97W, h503km, mb5.2/99, South of Fiji Islands*

*NEIC **07** 07:06:39.6±2.4,25°.12S±0°.09×179°.9E±0°.1, h478km±5km, mb4.7/210, Error ellipse: s-maj=14.0km s-min=12.1km az=131.0*

*GCMT **07** 07:06:40.6±0.6,24°.93S±0°.05×179°.75E±0°.05, h496km±4km, MW5.5/52, Moment Tensor Solution. s52,c63; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.09±.09; $M_{\theta\theta}$0.42±.17; $M_{\phi\phi}$0.67±.14; $M_{r\theta}$0.06±.17; $M_{r\phi}$1.00±.12; $M_{\theta\phi}$-1.29±.14; Best double couple: $M_0$1.89000×10^{17} NP1:ϕ250.00000°, δ35.00000°, λ-38.00000°. NP2: ϕ12.00000°, δ69.00000°, λ-119.00000°. Principal axes: T 1.8800, Plg19.0000°, Azm124.0000°; N 0.0220, Plg27.0000°, Azm23.0000°; P -1.9000, Plg56.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 07 07:06:40.1±0.3, 25°.18S±0°.04×179°.95E±0°.04, h498km±3km, h499km:pP-P, n653, σ1s14/610, mb4.8/179, 45C-43D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.47**	**156**	P	**P**	**07 08 03.4**	**+1.2**
RAO	**Raoul Island**	**4.48**	**155**	P	**P**	**07 08 02.4**	**+0.1**
RAO					**S**	**07 09 09.9**	**+0.5**
RAO	**Raoul Island**	**4.48**	**155**	P	**P**	**07 08 03.2**	**+0.9**
	1μm,0.4s,baz=63,slow=19,SNR=14						
RAO				S	**S**	**07 09 10.2**	**+0.8**
	758nm,0.3s,baz=288,slow=23,SNR=5.0						
RAO	**Raoul Island**	**4.48**	**155**	P	**P**	**07 08 03.8**	**+1.5**
RAO	**Raoul Island**	**4.48**	**155**	S	**S**	**07 09 10.4**	**+1.0**
GLKZ	**Green Lake**	**4.49**	**156**	P	**P**	**07 08 03.4**	**+1.1**
GLKZ				S	**S**	**07 09 08.4**	**-1.1**
LKBA	**Tubou, Lakemba**	**7.00**	**10**	P	**P**	**07 08 31.5**	**-0.9**
LKBA	**Tubou, Lakemba**	**7.00**	**10**	S	**S**	**07 09 52.9**	**-0.4**
MSVF	**Nonsavu**	**7.61**	**346**	P	**P**	**07 08 31.2**	**-1.5**
MSVF	**Nonsavu**	**7.61**	**346**	P	**P**	**07 08 31.4**	**-1.3**
MSVF	**Nonsavu**	**7.61**	**346**	P	**P**	**07 08 31.2**	**-1.5**
TAVE	**Taveuni**	**8.43**	**1**	P	**P**	**07 08 40.9**	**-0.1**
YSA	**Yasawairara**	**8.72**	**345**	P	**P**	**07 08 43.2**	**-0.9**
YSA	**Yasawairara**	**8.72**	**345**	S	**S**	**07 10 25.8**	**0.0**
DGTI	**Dogotuki**	**8.83**	**359**	P	**P**	**07 08 44.9**	**-0.4**
NIUE	**Niue**	**11.17**	**59**	P	**P**	**07 09 09.4**	**-0.6**
NIUE					**S**	**07 11 13.9**	**+0.6**
NIUE	**Niue**	**11.17**	**59**	P	**P**	**07 09 08.6**	**-1.4**
	comp=Z,566nm,0.7s						
NIUE	**Niue**	**11.17**	**59**	P	**P**	**07 09 09.0**	**-1.0**
NIUE	**Niue**	**11.17**	**59**	S	**S**	**07 11 11.7**	**-1.6**
NIUE	**Niue**	**11.17**	**59**	P	**P**	**07 09 08.9**	**-1.0**
NIUE				S	**S**	**07 11 15.8**	**+2.5**
INH	**Isangel**	**11.36**	**297**	P	**P**	**07 09 12.3**	**+0.4**
OUZ	**Omahuta**	**11.42**	**207**	P	**P**	**07 09 14.1**	**+1.8**
GRZ	**Great Barrier**	**11.69**	**198**	P	**P**	**07 09 16.5**	**+1.2**
PINNC	**Pines Island,**	**11.72**	**280**		**P**	**07 09 16.3**	**+0.5**
PINNC	**Pines Island,**	**11.72**	**280**	P	**P**	**07 09 17.0**	**+1.2**
PINNC	**Pines Island,**	**11.72**	**280**	S	**S**	**07 11 27.0**	**+3.0**
WCZ	**Waipu Caves**	**11.76**	**203**	P	**P**	**07 09 18.5**	**+2.5**
KUZ	**Kuaotunu**	**12.09**	**196**	P	**P**	**07 09 20.4**	**+1.0**
KUZ	**Kuaotunu**	**12.09**	**196**	P	**P**	**07 09 20.6**	**+1.2**
YATNC	**Mamie plateau,**	**12.37**	**282**	P	**P**	**07 09 23.6**	**+0.9**
YATNC	**Mamie plateau,**	**12.37**	**282**	S	**S**	**07 11 37.8**	**+1.1**
MXZ	**Matakaoa Point**	**12.43**	**186**	S	**S**	**07 11 34.3**	**-3.1**
WMGZ	**Waiomatatini S**	**12.67**	**186**	P	**P**	**07 09 24.8**	**-0.8**
WMGZ				S	**S**	**07 11 37.4**	**-4.7**
HAZ	**Te Kaha**	**12.68**	**188**	P	**P**	**07 09 24.6**	**-1.0**
ONTNC	**Ouen Toro**	**12.69**	**280**	P	**P**	**07 09 27.2**	**+1.1**
PKGZ	**Pakihiroa**	**12.75**	**187**	P	**P**	**07 09 25.5**	**-1.2**
PKGZ				S	**S**	**07 11 40.4**	**-3.3**
DZM	**Mont Dzumac**	**12.76**	**281**		**P**	**07 09 27.1**	**+0.1**
DZM	**Mont Dzumac**	**12.76**	**281**	*eP*	**P**	**07 09 27.1**	**+0.1**
	comp=Z,134nm,1.6s						
DZM				*eS*	**S**	**07 11 45.6**	**+1.2**
	comp=Z,152nm,1.4s						
DZM	**Mont Dzumac**	**12.76**	**281**	P	**P**	**07 09 26.9**	**-0.1**
	comp=Z,24nm,0.5s,baz=78,slow=17,SNR=32						
DZM	**Mont Dzumac**	**12.76**	**281**	P	**P**	**07 09 27.8**	**+0.9**
RUGZ	**Raukumara Rang**	**12.90**	**188**	P	**P**	**07 09 27.2**	**-0.9**
PUZ	**Puketiti**	**12.94**	**186**	P	**P**	**07 09 27.0**	**-1.4**
OPRZ	**Ohinepanea**	**12.96**	**192**	P	**P**	**07 09 29.1**	**+0.4**
TWGZ	**Tauwhareparae**	**13.07**	**187**	P	**P**	**07 09 30.5**	**+0.6**
TOZ	**Tahuroa Road**	**13.08**	**196**		**P**	**07 09 29.3**	**-0.6**
TOZ	**Tahuroa Road**	**13.08**	**196**	P	**P**	**07 09 30.6**	**+0.6**
KMRZ	**Kaimai**	**13.08**	**194**	P	**P**	**07 09 31.1**	**+1.1**
KARZ	**Kaharoa**	**13.19**	**193**	P	**P**	**07 09 32.1**	**+1.0**
OMRZ	**Omania**	**13.24**	**192**	P	**P**	**07 09 33.2**	**+1.4**
URZ	**Urewera**	**13.27**	**190**	P	**P**	**07 09 28.4**	**-3.5**
	comp=Z,52nm,0.6s,baz=328,slow=2.1,SNR=40						
URZ	**Urewera**	**13.27**	**190**	P	**P**	**07 09 30.0**	**-1.9**
URZ	**Urewera**	**13.27**	**190**	S	**S**	**07 11 52.5**	**-1.1**
URZ	**Urewera**	**13.27**	**190**	P	**P**	**07 09 28.6**	**-3.3**
MWZ	**Matawai**	**13.28**	**188**	P	**P**	**07 09 30.2**	**-1.9**
CNGZ	**Carnagh Statio**	**13.35**	**186**	P	**P**	**07 09 31.7**	**-1.1**
RAGZ	**Rawiri**	**13.45**	**189**	P	**P**	**07 09 32.5**	**-1.5**
MUGZ	**Murupara**	**13.53**	**191**	P	**P**	**07 09 31.6**	**-3.2**
PRRZ	**Plateau Road**	**13.62**	**192**	P	**P**	**07 09 36.6**	**+0.9**
RTZ	**Ruatahuna**	**13.63**	**190**		**P**	**07 09 33.9**	**-2.0**
AFI	**Afiamalu**	**13.64**	**36**		**P**	**07 09 34.0**	**-2.3**
AFI	**Afiamalu**	**13.64**	**36**	P	**P**	**07 09 34.0**	**-2.3**
HIZ	**Hauiti**	**13.98**	**197**	P	**P**	**07 09 39.5**	**+0.1**
HIZ	**Hauiti**	**13.98**	**197**	P	**P**	**07 09 40.8**	**+1.3**
BKZ	**Black Stump Fm**	**14.25**	**191**		**P**	**07 09 41.3**	**-1.1**
BKZ	**Black Stump Fm**	**14.25**	**191**	P	**P**	**07 09 41.3**	**-1.1**
BFZ	**Birch Farm**	**15.77**	**190**	P	**P**	**07 09 56.2**	**-2.0**
BFZ	**Birch Farm**	**15.77**	**190**	P	**P**	**07 09 56.3**	**-1.9**
BFZ	**Birch Farm**	**15.77**	**190**	S	**S**	**07 12 40.7**	**-1.0**
MRZ	**Mangatainoka R**	**15.87**	**192**		**P**	**07 09 56.7**	**-2.5**
MSWZ	**Moikau Station**	**16.66**	**192**	P	**P**	**07 10 05.0**	**-2.5**
SNZO	**South Karori**	**16.67**	**194**	P	**P**	**07 10 05.9**	**-1.7**
SNZO	**South Karori**	**16.67**	**194**	P	**P**	**07 10 05.4**	**-2.2**
TCW	**Tory Channel**	**16.68**	**195**	P	**P**	**07 10 05.8**	**-1.9**
BHW	**Baring Head**	**16.73**	**193**	P	**P**	**07 10 05.6**	**-2.6**
QRZ	**Quartz Range**	**16.79**	**200**	P	**P**	**07 10 07.9**	**-1.0**
QRZ	**Quartz Range**	**16.79**	**200**	P	**P**	**07 10 07.5**	**-1.4**
QRZ	**Quartz Range**	**16.79**	**200**	S	**S**	**07 13 00.3**	**+0.1**
PLWZ	**Palliser**	**16.81**	**192**		**P**	**07 10 06.8**	**-2.3**
TKNZ	**Takaka Hill**	**16.85**	**199**	P	**P**	**07 10 08.2**	**-1.3**
THZ	**Tophouse**	**17.55**	**198**		**P**	**07 10 15.0**	**-1.2**
DSZ	**Denniston Nort**	**17.85**	**200**	P	**P**	**07 10 18.1**	**-0.9**
KHZ	**Kahutara**	**17.99**	**196**		**P**	**07 10 18.7**	**-1.6**
GVZ	**Greta Valley S**	**18.64**	**196**	P	**P**	**07 10 24.3**	**-2.0**
LTZ	**Lake Taylor**	**18.66**	**198**		**P**	**07 10 24.5**	**-2.1**
INZ	**Inchbonnie**	**18.86**	**200**		**P**	**07 10 26.9**	**-1.3**
AMCZ	**Amberley**	**18.93**	**197**	P	**P**	**07 10 27.5**	**-1.4**
RAR	**Rarotonga**	**19.05**	**82**	P	**P**	**07 10 31.9**	**+1.7**
RAR	**Rarotonga**	**19.05**	**82**	P	**P**	**07 10 29.8**	**-0.5**
	comp=Z,56nm,0.6s,baz=232,slow=5.2,SNR=8.0						
RAR	**Rarotonga**	**19.05**	**82**	P	**P**	**07 10 30.2**	**-0.1**
RAR	**Rarotonga**	**19.05**	**82**	P	**P**	**07 10 31.9**	**+1.7**
RAR				pmax	pmax		
	comp=Z,65nm,0.7s						
OXZ	**Oxford**	**19.23**	**198**	P	**P**	**07 10 29.6**	**-2.1**
MQZ	**McQueen's Vall**	**19.43**	**196**	P	**P**	**07 10 31.9**	**-1.5**
LHI	**Lord Howe Isla**	**19.43**	**246**		**P**	**07 10 35.7**	**+2.1**
LHI	**Lord Howe Isla**	**19.43**	**246**	P	**P**	**07 10 35.2**	**+1.6**
	comp=Z,902nm,0.7s						
RPZ	**Rata Peaks**	**19.87**	**199**		**P**	**07 10 36.5**	**-1.1**
RPZ	**Rata Peaks**	**19.87**	**199**	P	**P**	**07 10 36.1**	**-1.4**
	comp=Z,30nm,0.4s,baz=316,slow=1.8,SNR=24						
RPZ				S	**S**	**07 13 52.6**	**+2.0**
	comp=Z,18nm,0.9s,baz=48,slow=22,SNR=4.5						
RPZ	**Rata Peaks**	**19.87**	**199**	P	**P**	**07 10 35.9**	**-1.6**
FOZ	**Fox Glacier**	**20.10**	**202**	P	**P**	**07 10 37.9**	**-1.6**
LBZ	**Lake Benmore**	**20.75**	**200**		**P**	**07 10 43.0**	**-2.4**
LBZ				IAmb	IAmb	07 10 47.9	
	comp=Z,26nm,0.6s						
JCZ	**Jackson Bay**	**20.93**	**203**	P	**P**	**07 10 46.2**	**-1.1**
ODZ	**Otahua Downs**	**21.21**	**198**	P	**P**	**07 10 48.1**	**-1.4**
ODZ				IAmb	IAmb	07 10 49.4	
	comp=Z,20nm,0.7s						
ODZ	**Otahua Downs**	**21.21**	**198**	P	**P**	**07 10 48.0**	**-1.6**
WKZ	**Wanaka**	**21.52**	**202**	IAmb	IAmb	07 11 02.8	
	comp=Z,40nm,0.7s						
MLZ	**Mavora Lakes**	**22.30**	**202**		**P**	**07 10 58.7**	**-0.8**

GC1S	**Gold Coast 1 S**	**23.80**	**257**	P		**P**	**07 11 14.2**	**+1.1**
ALEG	**Aligegeo Malai**	**24.56**	**308**	P		**P**	**07 11 18.4**	**-1.6**
HNR	**Honiara**	**24.64**	**306**	P		**P**	**07 11 19.4**	**-1.3**
ARMA	**Armidale**	**25.56**	**252**	P		**P**	**07 11 30.1**	**+1.2**
ARMA	**Armidale**	**25.56**	**252**	P		**P**	**07 11 29.9**	**+1.0**
	comp=Z,188nm,0.9s							
ARMA	**Armidale**	**25.56**	**252**	P		**P**	**07 11 29.8**	**+1.0**
NTLH	**Newcastle Hard**	**25.82**	**246**	P		**P**	**07 11 32.6**	**+1.7**
EIDS	**Eidsvold**	**26.09**	**263**	P		**P**	**07 11 33.6**	**+0.1**
EIDS	**Eidsvold**	**26.09**	**263**	P		**P**	**07 11 33.5**	**+0.1**
	comp=Z,192nm,1.0s							
EIDS	**Eidsvold**	**26.09**	**263**	P		**P**	**07 11 33.6**	**+0.1**
MGCD	**Mangrove Creek**	**26.36**	**246**	P		**P**	**07 11 37.1**	**+1.4**
	comp=Z,316nm,0.6s							
MGCD	**Mangrove Creek**	**26.36**	**246**	P		**P**	**07 11 37.3**	**+1.6**
RIV	**Riverview**	**26.44**	**244**	P		**P**	**07 11 37.2**	**+0.9**
	comp=Z,140nm,1.2s							
RIV	**Riverview**	**26.44**	**244**	P		**P**	**07 11 37.5**	**+1.1**
SYDH	**Sydney Hard Ro**	**26.76**	**245**	P		**P**	**07 11 40.3**	**+1.0**
WOLH	**Wollongong Har**	**26.79**	**243**	P		**P**	**07 11 38.8**	**-0.6**
TBI	**Tubuai**	**27.92**	**93**	*eP*		**P**	**07 11 50.4**	**+0.9**
	comp=Z,133nm,0.8s							
TBI				*es*S		**sS**	**07 18 34.4**	**+0.9**
	comp=Z,3μm,36.2s							
RMQ	**Roma**	**28.07**	**261**	P		**P**	**07 11 51.8**	**+0.8**
	comp=Z,170nm,1.2s							
RMQ	**Roma**	**28.07**	**261**	P		**P**	**07 11 51.6**	**+0.7**
CNB	**Canberra Magne**	**28.19**	**242**	P		**P**	**07 11 52.7**	**+0.8**
	comp=Z,96nm,0.9s							
CNB	**Canberra Magne**	**28.19**	**242**	P		**P**	**07 11 52.9**	**+1.0**
CAN	**Canberra**	**28.48**	**242**	P		**P**	**07 11 55.0**	**+0.6**
	comp=Z,83nm,1.2s							
CAN	**Canberra**	**28.48**	**242**	P		**P**	**07 11 55.3**	**+0.9**
CAN	**Canberra**	**28.48**	**242**	P		**P**	**07 11 55.4**	**+1.0**
CAN				pmax		pmax		
	comp=Z,83nm,1.2s							
YNG	**Young**	**28.77**	**244**	P		**P**	**07 11 57.5**	**+0.5**
	comp=Z,111nm,1.2s							
PAE	**Paea**	**29.28**	**81**	*eP*		**P**	**07 12 01.9**	**+0.4**
	comp=Z,33nm,1.2s							
PPT2	**Papeete2**	**29.31**	**81**	*es*		**S**	**07 16 16.6**	**-3.2**
	comp=Z,223nm,26.2s							
PPT2				*es*S		sS	07 18 53.5	-2.9
	comp=Z,558nm,29.0s							
PPT2				*es*S		sS	07 18 59.5	+3.1
	comp=Z,736nm,25.8s							
PPT	**Papeete**	**29.32**	**81**	P		**P**	**07

WRA pmax pmax
comp=Z,11nm,0.9s
GENI Genyem 44.39 294 P **P** **07 14 05.7 -0.3**
GENI Genyem 44.39 294 P **P** **07 14 05.5 -0.5**
FORT Forrest 45.84 251 **P** **07 14 15.8 -1.2**
FORT Forrest 45.84 251 P **P** **07 14 15.4 -1.6**
comp=Z,112nm,0.7s
KDU Kakadu 46.37 276 P **P** **07 14 19.8 -1.4**
comp=Z,102nm,1.3s
KDU Kakadu 46.37 276 P **P** **07 14 19.9 -1.4**
WRKA Warakurna 46.53 259 P **P** **07 14 21.2 -1.2**
comp=Z,92nm,0.7s
MTN Manton Dam 47.52 276 IAmb IAmb 07 14 32.3
comp=Z,18nm,0.6s
MTN Manton Dam 47.52 276 P **P** **07 14 28.1 -1.8**
comp=Z,28nm,0.6s
MTN Manton Dam 47.52 276 P **P** **07 14 28.6 -1.3**
DRS Darwin Rock St 47.89 276 P **P** **07 14 31.4 -1.3**
BAKI Biak 48.54 292 P **P** **07 14 36.6 -1.0**
KNRA Kununurra 48.65 271 P **P** **07 14 38.2 -0.2**
comp=Z,325nm,0.9s
HMH Humu'ula Sheep 50.52 31 P **P** **07 14 53.4 +1.0**
FITZ Fitzroy Crossi 50.70 267 **P** **07 14 53.2 -0.4**
FITZ IAmb IAmb 07 14 54.3
comp=Z,24nm,0.7s
FITZ Fitzroy Crossi 50.70 267 P **P** **07 14 52.9 -0.6**
comp=Z,35nm,0.7s
FITZ Fitzroy Crossi 50.70 267 P **P** **07 14 53.1 -0.4**
HPAH Hawaii Prepara 50.79 30 P **P** **07 14 54.8 +0.7**
KMBL Kambalda 51.02 249 P **P** **07 14 53.6 -2.1**
comp=Z,21nm,1.5s
SWI Sorong 52.82 289 P **P** **07 15 08.0 -0.8**
SBA Scott Base 53.11 183 P **P** **07 15 12.7 +2.8**
SBA IAmb IAmb 07 15 13.9
comp=Z,50nm,0.9s
SBA Scott Base 53.11 183 P **P** **07 15 12.7 +2.8**
SBA pmax pmax
comp=Z,50nm,1.0s
VNDA Vanda 53.11 185 **P** **07 15 11.7 +1.7**
VNDA Vanda 53.11 185 P **P** **07 15 11.2 +1.3**
comp=Z,9.9nm,0.7s,baz=3.9,slow=8.1,SNR=58
VNDA ScP **ScP** **07 19 21.8 +2.0**
comp=Z,1.7nm,0.7s,baz=28,slow=1.7,SNR=3.5
comp=Z,9.9nm,0.7s
VNDA Vanda 53.11 185 P **P** **07 15 11.7 +1.7**
VNDA pmax pmax
comp=Z,11nm,0.7s
KLBR Kellerberrin 54.47 248 P **P** **07 15 19.5 -0.9**
comp=Z,399nm,0.7s
KLBR Kellerberrin 54.47 248 P **P** **07 15 19.3 -1.1**
NWAO Narrogin (SRO) 54.68 246 P **P** **07 15 20.3 -1.6**
MEEK Meekatharra 54.72 254 P **P** **07 15 20.4 -1.8**
comp=Z,45nm,1.1s
MEEK Meekatharra 54.72 254 P **P** **07 15 20.9 -1.3**
PSAC2 Pilbara Seismi 54.85 261 P **P** **07 15 21.7 -1.6**
comp=Z,49nm,0.8s
PSA00 Pilbara Seismi 54.90 261 P **P** **07 15 22.2 -1.3**
PSA00 IAmb IAmb 07 15 22.7
comp=Z,15nm,0.6s
PSA00 Pilbara Seismi 54.90 261 IAmb IAmb 07 15 22.8
comp=Z,38nm,0.5s
PSA00 Pilbara Seismi 54.90 261 P **P** **07 15 22.1 -1.5**
comp=Z,62nm,0.6s
PSA00 Pilbara Seismi 54.90 261 P **P** **07 15 22.3 -1.3**
SOEI Soe 54.92 276 P **P** **07 15 24.1 +0.2**
SOEI Soe 54.92 276 P **P** **07 15 24.6 +0.7**
comp=Z,2µmcomp=Z,111nm,1.2s
MBWA Marble Bar 55.12 261 P **P** **07 15 24.0 -1.1**
MBWA IAmb IAmb 07 15 24.4
comp=Z,33nm,0.6s
MBWA Marble Bar 55.12 261 P **P** **07 15 23.2 -1.9**
comp=Z,47nm,1.7s
MBWA Marble Bar 55.12 261 P **P** **07 15 24.1 -1.0**
NLAI Namlea 55.25 284 P **P** **07 15 26.5 +0.5**
BLDU Ballidu 55.52 249 P **P** **07 15 26.7 -1.1**
comp=Z,117nm,0.9s
BLDU Ballidu 55.52 249 P **P** **07 15 26.5 -1.3**
MUN Mundaring 55.69 247 P **P** **07 15 28.1 -0.9**
comp=Z,75nm,2.0s
MUN Mundaring 55.69 247 P **P** **07 15 28.4 -0.5**
MORW Morawa 56.41 251 **P** **07 15 33.2 -0.7**
MORW Morawa 56.41 251 P **P** **07 15 33.0 -1.0**
comp=Z,103nm,1.3s
MORW Morawa 56.41 251 P **P** **07 15 32.9 -1.0**
SANI Sanana 56.79 285 P **P** **07 15 35.6 -1.2**
SANI Sanana 56.79 285 P **P** **07 15 35.5 -1.2**
EDFI Ende, Flores 57.65 276 P **P** **07 15 41.6 -1.2**
WSI Waingapu 58.54 274 P **P** **07 15 48.6 -0.1**
CASY Casey 58.95 206 P **P** **07 15 50.7 +0.1**
WBSI Waikabubak, Su 59.37 274 P **P** **07 15 54.2 -0.1**
comp=Z,116nm,1.1s
GIRL Giralia 59.59 258 P **P** **07 15 55.9 +0.2**
comp=Z,65nm,0.8s
BSSI Bau Bau, Buton 59.82 278 P **P** **07 15 55.5 -1.8**
comp=Z,76nm,0.7s
BKSI Bulukumba 60.50 278 P **P** **07 16 00.5 -1.3**
BNSI Bone 60.92 279 P **P** **07 16 04.2 -0.4**
comp=Z,997nmcomp=Z,80nm,1.3s
KAPI Kappang 60.97 279 P **P** **07 16 04.5 -0.4**
APSI Ampana 61.14 284 P **P** **07 16 06.8 +0.8**
comp=Z,89nm,0.8s
PLAI Plampang 61.15 274 P **P** **07 16 05.1 -1.0**
PLAI Plampang 61.15 274 P **P** **07 16 05.1 -1.0**
SPSI Sidrap Palu 61.41 280 P **P** **07 16 06.1 -1.7**
comp=Z,54nm,0.9s
TWSI Taliwang, Sumb 62.00 273 P **P** **07 16 11.0 -0.7**
comp=Z,1µmcomp=Z,127nm,1.2s
TOLI2 Tolitoli 62.86 285 P **P** **07 16 15.8 -1.5**
MPSI Mapaga 63.27 284 P **P** **07 16 18.7 -1.2**
comp=Z,1µmcomp=Z,57nm,0.6s
JAGI Jajag, Banyuwa 64.57 272 **P** **07 16 26.5 -1.7**
JAGI Jajag, Banyuwa 64.57 272 P **P** **07 16 27.1 -1.2**
JAGI Jajag, Banyuwa 64.57 272 P **P** **07 16 26.6 -1.7**
QSPA South Pole Qui 64.91 180 P **P** **07 16 31.4 +1.7**
comp=Z,51nm,0.7s,baz=24,slow=1.2,SNR=278
comp=Z,51nm,0.7s
GMJI Gumukmas 65.29 272 P **P** **07 16 31.5 -1.3**
GRJI Gresik 66.72 273 P **P** **07 16 41.7 0.0**
PCJI Pacitan 67.38 271 P **P** **07 16 45.3 -0.5**
WOJI Wonogiri, Jawa 67.75 272 P **P** **07 16 48.0 -0.1**
comp=Z,104nm,1.1s
KPJI Karang Pucung 69.76 271 P **P** **07 16 59.4 -0.8**
comp=Z,56nm,1.4s
STKI Sintang 70.61 280 P **P** **07 17 05.4 +0.1**
BBJI Bungbulang 70.87 271 P **P** **07 17 05.9 -1.0**
SBUM Sibu 71.03 282 P **P** **07 17 08.1 +0.4**
JOW Kunigami 71.81 312 P **P** **07 17 12.2 +0.2**
DBJI Dramaga 72.05 271 P **P** **07 17 13.4 -0.4**
KSM Kuching 72.28 280 P **P** **07 17 15.1 0.0**
JGF Kuroka 72.64 325 IAmb IAmb 07 17 18.2
comp=Z,16nm,1.0s
JGF Kuroka 72.64 325 P **P** **07 17 16.4 -0.3**
MJAR Matsushiro Arr 72.92 326 P **P** **07 17 17.9 -0.4**
MJAR IAmb IAmb 07 17 18.7
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 72.92 326 P **P** **07 17 17.3 -1.0**
comp=Z,17nm,0.8s,baz=156,slow=5.6,SNR=42
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 72.92 326 P **P** **07 17 17.9 -0.4**
MJAR pmax pmax
comp=Z,13nm,0.8s
MAJO Matsushiro 72.92 326 **P** **07 17 17.8 -0.5**
MAJO IAmb IAmb 07 17 18.9
comp=Z,20nm,0.8s
MAJO Matsushiro 72.92 326 P **P** **07 17 18.0 -0.3**
MAJO Matsushiro 72.92 326 P **P** **07 17 17.8 -0.5**
MAJO pmax pmax
comp=Z,20nm,0.8s
MJB9 Matsu-Tunnel 72.93 326 IAmb IAmb 07 17 19.9
comp=Z,20nm,0.8s
CGJI Cibinong 72.99 271 P **P** **07 17 17.6 -1.5**
JSD Sado 74.06 327 P **P** **07 17 24.7 0.0**
JNU Nakatsue 74.45 319 P **P** **07 17 27.0 -0.1**
KASI Kota Agung 74.52 271 P **P** **07 17 26.8 -1.1**
comp=Z,79nm,1.0s
TPUB Ta-pu 75.01 305 IAmb IAmb 07 17 29.3
comp=Z,42nm,0.7s
TPUB Ta-pu 75.01 305 P **P** **07 17 28.5 -1.9**
SSLB Suanglung 75.06 306 IAmb IAmb 07 17 29.6
comp=Z,24nm,0.8s
SSLB Suanglung 75.06 306 P **P** **07 17 29.3 -1.4**
LWLI Liwa 75.12 271 P **P** **07 17 30.8 -0.6**
MDSI Maura Dua 75.23 272 P **P** **07 17 29.9 -2.0**
MAW Mawson 76.55 201 P **P** **07 17 38.8 +0.7**
comp=Z,17nm,0.8s

MAW Mawson 76.55 201 P **P** **07 17 39.0 +0.9**
comp=Z,46nm,0.6s,baz=131,slow=6.4,SNR=67
comp=Z,46nm,0.6s
KSI Kapahiang 77.02 272 P **P** **07 17 40.7 -1.2**
MYKOM Kota Tinggi 78.20 278 IAmb IAmb 07 17 48.5
comp=Z,30nm,0.7s
TJN Taejon 78.79 319 P **P** **07 17 51.0 +0.2**
TJN Taejon 78.79 319 P **P** **07 17 51.7 +0.9**
TJN Taejon 78.79 319 P **P** **07 17 51.0 +0.2**
TJN pmax pmax
comp=Z,128nm,0.7s
KSRS Korea Array 79.19 320 P **P** **07 17 53.3 +0.4**
comp=Z,9.3nm,0.7s,baz=134,slow=5.9,SNR=37
comp=Z,9.3nm,0.7s
KSAR Wonju Array Be 79.21 320 P **P** **07 17 53.0 0.0**
KSAR Wonju Array Be 79.21 320 P **P** **07 17 53.0 0.0**
KS19 Wonju Array Si 79.26 320 IAmb IAmb 07 17 55.7
comp=Z,14nm,1.0s
YSS Yuzhno-Sakhali 79.27 335 **P** **07 17 54.3 +1.3**
YSS IAmb IAmb 07 17 54.8
comp=Z,21nm,0.7s
YSS Yuzhno-Sakhali 79.27 335 P **P** **07 17 54.1 +1.1**
YSS Yuzhno-Sakhali 79.27 335 *e*P **P** **07 17 54.4 +1.3**
YSS *e**PP **pP** **07 19 40.8 +1.1**
YSS *e**SP **sP** **07 20 33.1 +2.6**
YSS *e* 07 21 03.2
YSS *e*S **S** **07 27 15.2 +3.3**
YSS *e* 07 27 25.7
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,100nm,5.3s
PEA0B Petropavlovsk- **80.33 347** IAmb IAmb 07 17 59.7
comp=Z,56nm,1.5s
PEA0B Petropavlovsk- **80.33 347** *ce*P **P** **07 17 58.7 +0.2**
PETK Petropavlovsk- **80.33 347** **P** **07 17 58.1 -0.4**
PETK Petropavlovsk- **80.33 347** P **P** **07 17 58.5 0.0**
comp=Z,11nm,0.7s,baz=119,slow=6.9,SNR=23
comp=Z,11nm,0.7s
ESPZ Base Esperanza 81.07 158 P **P** **07 18 03.9 +1.5**
ESPZ IAmb IAmb 07 18 04.0
comp=Z,23nm,1.0s
NJ2 Nanjing 81.46 311 *e*P **P** **07 18 05.8 +0.9**
NJ2 pmax pmax
comp=Z,21nm,0.5s
SYO Syowa Base 81.77 193 ⇓*i*P **P** **07 18 05.8 -0.1**
USRK Ussuriysk Ar. 81.81 327 **P** **07 18 07.2 +0.8**
USRK Ussuriysk Ar. 81.81 327 P **P** **07 18 07.0 +0.6**
comp=Z,6.2nm,0.5s,baz=128,slow=4.6,SNR=9.6
comp=Z,6.2nm,0.5s
USRK Ussuriysk Ar. 81.81 327 P **P** **07 18 07.2 +0.8**
IPM Ipoh 81.91 279 **P** **07 18 07.2 -0.5**
IPM IAmb IAmb 07 18 07.8
comp=Z,30nm,0.8s
IPM Ipoh 81.91 279 P **P** **07 18 07.3 -0.4**
TYV Tymovskoe 82.56 337 *e*P **P** **07 18 10.8 +0.8**
TYV *e*S **SKSac** **07 27 38.2 -4.8**
TYV pmax pmax
comp=Z,12nm,1.5s
TYV pmax pmax
comp=Z,200nm,5.2s
TYV smax smax
comp=N,300nm,5.5s
TYV smax smax
comp=E,200nm,5.5s
KULM Kulim 82.60 279 **P** **07 18 10.7 -0.4**
KULM IAmb IAmb 07 18 11.5
comp=Z,16nm,0.8s
TROLL Troll, Antarti 83.06 181 ⇓P **P** **07 18 12.9 +0.3**
comp=Z,5µm,0.7s
PSI Prapat 83.07 276 P **P** **07 18 12.5 -1.2**
VTX Valle De La Tr 83.27 51 IAmb IAmb 07 18 16.8
comp=Z,13nm,1.0s
MDJ Mudanjiang 83.30 326 P **P** **07 18 14.9 +1.0**
MDJ pmax pmax
comp=Z,20nm,0.9s
DPP Dos Picos Cty 83.39 49 IAmb IAmb 07 18 17.2
comp=Z,20nm,0.9s
SNAA Sanae 83.40 179 ⇓P **P** **07 18 14.2 0.0**
comp=Z,224nm,0.6s
SNAA PKiKP **PKiKP** **07 23 21.2 -6.0**
SNAA Sanae 83.40 179 **P** **07 18 14.4 +0.2**
SNAA IAmb IAmb 07 18 15.4
comp=Z,33nm,1.4s
SNAA Sanae 83.40 179 P **P** **07 18 14.2 0.0**
comp=Z,8.1nm,0.5s,baz=205,slow=7.9,SNR=69
comp=Z,8.1nm,0.5s
SNAA Sanae 83.40 179 P **P** **07 18 14.4 +0.2**
SNAA pmax pmax
comp=Z,33nm,1.4s
SLBS Sierra La Lagu 83.47 60 **P** **07 18 17.3 +1.9**
SLBS IAmb IAmb 07 18 18.0
comp=Z,17nm,0.7s
ESJX Sierra Juarez 83.50 50 IAmb IAmb 07 18 18.2
comp=Z,12nm,0.9s
VNA3 Neumayer Olymp 83.61 177 ⇓P **P** **07 18 15.0 -0.2**
comp=Z,71nm,0.6s
VNA3 S **S** **07 27 56.0 +0.6**
TPO Tropico Hills 83.63 47 IAmb IAmb 07 18 18.8
comp=Z,26nm,1.2s
VES Vestal, Richgr 83.64 46 IAmb IAmb 07 18 18.1
comp=Z,18nm,1.0s
WHN Wuhan 83.74 308 P **P** **07 18 16.9 +0.5**
WHN pmax pmax
comp=Z,70nm,1.0s
YUH Yuha Desert 83.89 50 IAmb IAmb 07 18 19.6
comp=Z,10nm,0.9s
BORC Borrego Spring 83.90 49 IAmb IAmb 07 18 20.2
comp=Z,23nm,1.0s
ISA Isabella, Lake 83.93 46 IAmb IAmb 07 18 20.2
comp=Z,14nm,0.9s
O02D Mt. Diablo Mer 84.05 40 IAmb IAmb 07 18 21.4
comp=Z,23nm,1.1s
PFO Pinyon Flats O 84.07 49 P **P** **07 18 19.5 +1.3**
PFO IAmb IAmb 07 18 21.1
comp=Z,13nm,1.2s
PFO Pinyon Flats O 84.07 49 P **P** **07 18 19.5 +1.3**
PFO pmax pmax
comp=Z,13nm,1.3s
VNA1 Neumayer--Stat 84.26 177 ⇓P **P** **07 18 18.7 +0.3**
comp=Z,34nm,1.0s
VNA1 sP sP 07 20 45.4 -12
LRMC Laurel Mtn Rad 84.34 47 IAmb IAmb 07 18 22.2
comp=Z,13nm,1.1s
WSHM Spangler Hills 84.54 47 IAmb IAmb 07 18 22.5
comp=Z,13nm,0.6s
BELC Belle Mtn. Jos 84.61 49 IAmb IAmb 07 18 23.8
comp=Z,26nm,1.2s
BC3 Big Chuckawall 84.78 49 IAmb IAmb 07 18 24.4
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 84.82 47 IAmb IAmb 07 18 24.4
comp=Z,19nm,1.3s
GLA Glamis 84.88 50 IAmb IAmb 07 18 25.5
comp=Z,22nm,0.9s
CN2 Changchun 84.89 324 P **P** **07 18 22.5 +0.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
SRIT Nakonsritamara 84.99 282 IAmb IAmb 07 18 24.6
comp=Z,18nm,0.9s
SRIT Nakonsritamara 84.99 282 P **P** **07 18 23.4 +0.4**
TIA Tai'an 85.08 314 P **P** **07 18 23.4 +0.5**
TIA pmax pmax
comp=Z,51nm,0.9s
BNX BinXian 85.19 326 ⇑P **P** **07 18 23.5 +0.3**
BNX pmax pmax
comp=Z,14nm,1.2s
HATC Hat Creek Radi 85.24 41 IAmb IAmb 07 18 25.9
comp=Z,24nm,1.5s
IRM Iron Mountain 85.28 49 IAmb IAmb 07 18 27.3
comp=Z,22nm,1.2s
GRAC Grapevine Rang 85.44 46 IAmb IAmb 07 18 26.9
comp=Z,7.2nm,0.8s
113A Mohawk Valley, 85.46 51 IAmb IAmb 07 18 28.0
comp=Z,9.0nm,1.1s
BLYC Blythe 85.48 50 IAmb IAmb 07 18 27.4
comp=Z,8.1nm,0.9s
214A Organ Pipe Nat 85.69 52 IAmb IAmb 07 18 28.8
comp=Z,7.4nm,0.8s
NVAR Mina Array Bea 85.70 44 P **P** **07 18 27.2 +1.1**
comp=Z,3.9nm,0.8s,baz=222,slow=8.5,SNR=30
NVAR pP **pP** **07 20 15.7 +0.3**
comp=Z,1.9nm,1.0s,baz=226,slow=6.5,SNR=5.2
comp=Z,3.9nm,0.8s
TPNV Topopah Spring 86.14 46 IAmb IAmb 07 18 30.3
comp=Z,7.2nm,0.7s
J04A Umpqua Nationa 86.41 38 IAmb IAmb 07 18 32.2

comp=Z,22nm,1.0s
K05A Summer Lake 86.77 39 IAmb IAmb 07 18 33.5
comp=Z,7.2nm,0.8s
J05D Fort Rock, OR 86.93 39 IAmb IAmb 07 18 34.7
comp=Z,14nm,1.1s
SLVN Son La 87.09 295 IAmb IAmb 07 18 34.5
comp=Z,6.1nm,0.6s
SLVN Son La 87.09 295 P **P** **07 18 33.9 +0.9**
PRN Pahroc Range 87.19 46 IAmb IAmb 07 18 35.7
comp=Z,6.5nm,0.9s
LYN LuoYang 87.27 310 ⇑P **P** **07 18 35.2 +1.8**
LYN pmax pmax
comp=Z,51nm,0.9s
H04A Detroit Lake 87.28 37 IAmb IAmb 07 18 35.0
comp=Z,6.5nm,0.8s
TUC Tucson 87.33 52 **P** **07 18 35.8 +2.0**
TUC IAmb IAmb 07 18 37.5
comp=Z,14nm,1.1s
TUC Tucson 87.33 52 P **P** **07 18 35.8 +2.0**
TUC pmax pmax
comp=Z,14nm,1.1s
HNS HongShan 87.35 314 ⇓P **P** **07 18 34.9 +1.2**
HNS pmax pmax
comp=Z,24nm,1.2s
PLCA Paso Flores 87.41 134 PKKPbc PKKPbc 07 36 20.6 -0.6
comp=Z,2.5nm,1.1s,baz=39,slow=3.3,SNR=3.4
PINE Pine Mountain 87.41 38 IAmb IAmb 07 18 37.1
comp=Z,25nm,1.2s
I05D Terrebonne, OR 87.53 38 IAmb IAmb 07 18 37.1
comp=Z,9.3nm,0.9s
WVOR Wild Horse Val 87.90 41 IAmb IAmb 07 18 39.0
comp=Z,11nm,1.1s
BJI Beijing 87.92 316 P **P** **07 18 36.7 +0.4**
BJI pmax pmax
comp=Z,5.0nm,1.4s
319A Douglas 87.93 54 IAmb IAmb 07 18 40.5
comp=Z,38nm,1.3s
X16A Lo Mia Camp, P IAmb IAmb 07 18 40.3
comp=Z,8.4nm,1.0s
HEH HeiHe 88.32 329 *e*P **P** **07 18 38.2 +0.3**
HEH pmax pmax
comp=Z,9.0nm,0.9s
HPIG 88.44 59 IAmb IAmb 07 18 41.8
comp=Z,8.0nm,0.7s
U15A North Rim 88.48 48 IAmb IAmb 07 18 42.6
comp=Z,21nm,1.4s
J08A Circle Bar Ran 88.56 40 IAmb IAmb 07 18 42.0
comp=Z,18nm,1.2s
WUAZ Wupatki 88.62 49 IAmb IAmb 07 18 42.9
comp=Z,6.6nm,1.0s
DUN6 Lazy B Ranch 88.68 53 IAmb IAmb 07 18 46.4
comp=Z,18nm,0.8s
LON Longmire 88.81 36 P **P** **07 18 41.7 +1.3**
LON Longmire 88.81 36 P **P** **07 18 41.7 +1.3**
LON pmax pmax
comp=Z,3.0nm,0.7s
ELK Elko 88.97 43 IAmb IAmb 07 18 44.0
comp=Z,9.4nm,1.4s
PKCU Pink Cliffs 89.02 47 IAmb IAmb 07 18 45.5
comp=Z,11nm,0.9s
X18A Snowflake 89.09 51 IAmb IAmb 07 18 44.6
comp=Z,5.4nm,0.6s
MTPU Mount Pierson 89.43 47 IAmb IAmb 07 18 46.8
comp=Z,8.0nm,0.7s
G08A Pilot Rock 89.45 38 **P** **07 18 45.2 +1.7**
G08A IAmb IAmb 07 18 46.1
comp=Z,15nm,1.4s
TCRU Three Creeks R 89.56 46 IAmb IAmb 07 19 05.1
comp=Z,5.1nm,0.5s
KMI Kunming 89.82 298 P **P** **07 18 47.1 +1.3**
KMI pmax pmax
comp=Z,25nm,1.0s
CMAR Chiang Mai Arr 89.93 290 **P** **07 18 46.4 +0.3**
CMAR Chiang Mai Arr 89.93 290 P **P** **07 18 47.5 +1.4**
comp=Z,11nm,0.8s,baz=138,slow=3.5,SNR=52
CMAR pP **pP** **07 20 35.4 -0.4**
comp=Z,1.0nm,0.3s,baz=130,slow=2.3,SNR=1.6
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 89.93 290 *ce*P **P** **07 18 48.0 +1.8**
CMAR pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 90.08 291 **P** **07 18 47.5 +0.6**
CHTO Chiang Mai 90.08 291 P **P** **07 18 46.6 -0.3**
CHTO Chiang Mai 90.08 291 P **P** **07 18 47.5 +0.6**
CHTO pmax pmax
comp=Z,24nm,0.8s
MFID Camas Ranch 90.15 41 IAmb IAmb 07 18 49.2
comp=Z,7.6nm,1.0s
XLT XiLinHaoTe 90.22 320 *e*P **P** **07 18 47.3 +0.3**
XLT pP pwP 07 20 43.2 +1.2
XLT pmax pmax
comp=Z,15nm,0.6s
SEY Seymchan 90.50 348 *ce*P **P** **07 18 48.2 +0.5**
SEY pmax pmax
comp=Z,10.0nm,0.7s
Q16A Castle Valley 90.57 47 IAmb IAmb 07 18 52.3
comp=Z,5.2nm,0.8s
TMUT Trail Mountain 90.75 46 IAmb IAmb 07 18 52.8
comp=Z,13nm,0.7s
VHRN Van Horn 90.83 56 IAmb IAmb 07 18 52.6
comp=Z,5.8nm,1.1s
MPU Maple Canyon 90.86 46 IAmb IAmb 07 18 52.8
comp=Z,5.2nm,0.8s
PLID Pearl Lake 91.01 40 P **P** **07 18 52.0 +1.1**
HVU Hansel Valley 91.09 44 IAmb IAmb 07 18 53.1
comp=Z,5.6nm,0.7s
SRU San Rafael Swe 91.10 47 IAmb IAmb 07 18 53.6
comp=Z,7.0nm,0.7s
TX31 Lajitas Ar. Si 91.14 58 IAmb IAmb 07 18 54.6
comp=Z,7.5nm,0.9s
TXAR Lajitas Array 91.14 58 P **P** **07 18 53.5 +1.8**
comp=Z,5.9nm,0.8s,baz=223,slow=5.1,SNR=56
TXAR pP **pP** **07 20 42.4 +0.4**
comp=Z,2.5nm,1.1s,baz=216,slow=4.0,SNR=7.9
TXAR PKKPbc **PKKPbc** **07 36 12.5 +0.5**
comp=Z,0.6nm,0.6s,baz=78,slow=3.9,SNR=7.1
comp=Z,5.9nm,0.8s
P17A Butcher Ranch, 91.15 46 IAmb IAmb 07 18 54.2
comp=Z,5.0nm,0.9s
PZH PanZhiHua 91.25 299 P **P** **07 18 52.6 +0.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.1s
HHC Hu-ho-hao-te 91.29 315 *e*P **P** **07 18 54.1 +2.0**
HHC pmax pmax
comp=Z,16nm,0.7s
TCUT Toone Canyon 91.59 45 IAmb IAmb 07 18 55.7
comp=Z,6.6nm,0.7s
ALPN Alpine 91.65 57 IAmb IAmb 07 18 56.5
comp=Z,7.3nm,0.8s
BSUT Blindstream Ca 91.70 45 IAmb IAmb 07 18 56.8
comp=Z,11nm,0.8s
PV10 Paradox Valley 91.71 48 IAmb IAmb 07 18 57.0
comp=Z,4.3nm,0.7s
HWUT Hardware Ranch 91.75 44 IAmb IAmb 07 18 55.7
comp=Z,3.5nm,0.7s
PV23 Carpenter Ridg 91.77 48 IAmb IAmb 07 18 57.9
comp=Z,6.7nm,0.9s
ANMO Albuquerque 91.77 52 **P** **07 18 55.7 +1.1**
ANMO Albuquerque 91.77 52 P **P** **07 18 55.7 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
SAND Sanderson 92.62 58 IAmb IAmb 07 19 00.3
comp=Z,4.5nm,0.7s
S22A 4UR Ranch, Cre 92.89 49 IAmb IAmb 07 19 01.8
comp=Z,3.4nm,0.8s
ILAR Eielson Array 93.28 14 P **P** **07 18 59.9 -0.6**
comp=Z,0.4nm,0.6s,baz=226,slow=5.0,SNR=12
ILAR pP **pP** **07 20 49.8 -1.4**
comp=Z,0.9nm,0.9s,baz=213,slow=4.3,SNR=7.0
ILAR PKiKP **PKiKP** **07 23 42.7 -0.9**
comp=Z,0.3nm,0.7s,baz=223,slow=1.4,SNR=4.7
ILAR PKKPbc **PKKPdf** **07 36 04.8 -1.6**
comp=Z,0.3nm,0.5s,baz=0.2,slow=1.7,SNR=5.1
BILL Bilibino 93.49 355 *ce*P **P** **07 19 01.3 -0.1**
BILL pmax pmax
comp=Z,9.0nm,2.0s
DRIO Del Rio 93.54 59 IAmb IAmb 07 19 04.6
comp=Z,7.5nm,0.8s
PDAR Pinedale Array 93.63 44 P **PKiKP** **07 23 45.8 +0.7**
PDAR Pinedale Array 93.63 44 P **P** **07 19 03.2 +0.3**
comp=Z,0.8nm,0.6s,baz=247,slow=5.1,SNR=12
PDAR pP **pP** **07 20 53.9 0.0**
comp=Z,1.8nm,1.0s,baz=242,slow=3.2,SNR=5.7
PDAR PP **PP** **07 22 54.6 -2.1**
comp=Z,0.4nm,0.7s,baz=225,slow=6.1,SNR=4.4

PDAR PKiKP **PKiKP** 07 23 45.7 +0.5
comp=Z,1.0nm,0.9s,baz=182,slow=4.5,SNR=8.3
comp=Z,0.8nm,0.6s
OZNA Ozona 93.82 58 IAmb IAmb 07 19 05.2
comp=Z,3.5nm,0.7s
LZH Lanzhou 94.12 308 *eP* **P** 07 19 05.0 -0.3
LZH pP pwP 07 21 01.8 +1.1
LZH pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 95.74 339 *i* P **P** 07 19 11.3 -0.4
YAK pmax pmax
comp=Z,17nm,0.8s
SONM Songino Array 98.04 319 P **P** 07 19 22.7 +0.2
comp=Z,0.6nm,0.4s,baz=139,slow=5.3,SNR=2.6
comp=Z,0.6nm,0.4s
GTA Gaotai 98.47 309 *eP* **P** 07 19 25.9 +1.1
GTA pmax pmax
comp=Z,5.0nm,1.7s
YKA Yellowknife Ar 101.53 26 PKKPbc PKKPbc 07 35 42.9 -2.2
comp=Z,0.6nm,0.6s,baz=25,slow=3.0,SNR=9.9
TIXI Tiksi 102.77 345 *i* P **Pdif** 07 19 43.0 +0.2
TIXI pmax pmax
comp=Z,6.0nm,1.0s
ZALV Zalesovo Beam 112.90 320 PKiKP **PKiKP** 07 24 18.5 -1.2
comp=Z,1.2nm,0.5s,baz=116,slow=3.4,SNR=4.9
MKAR Makanchi Array 112.98 312 Pdiff **Pdif** 07 20 29.2 +0.3
comp=Z,0.3nm,0.6s,baz=81,slow=12,SNR=1.8
MKAR PKiKP **PKiKP** 07 24 19.4 -0.7
comp=Z,2.2nm,0.6s,baz=90,slow=1.6,SNR=5.6
MKAR SKP 07 27 09.5
comp=Z,1.0nm,0.7s,baz=82,slow=2.6,SNR=4.5
MKAR PKKPbc **PKKPbc** 07 35 09.1 0.0
comp=Z,0.4nm,0.6s,baz=298,slow=2.6,SNR=4.6
VOI Vohitsoka 114.75 228 PKPdf 07 24 24.2 -0.3
KURK Kurchatov 116.09 316 *c i* PKiKP **PKiKP** 07 24 26.1 +0.2
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Array 116.13 316 PKP **PKPdf** 07 24 24.9 -1.1
comp=Z,5.2nm,0.8s,baz=95,slow=1.7,SNR=10
KURBB SKP 07 27 14.7
comp=Z,0.9nm,0.7s,baz=106,slow=2.3,SNR=6.0
AAK Ala-Archa 117.63 307 *c i* PKiKP **PKiKP** 07 24 29.7 +0.3
AAK pmax pmax
comp=Z,6.0nm,2.5s
SJG San Juan 118.67 82 **PKPdf** 07 24 31.6 -0.2
SJG San Juan 118.67 82 PKiKP **PKPdf** 07 24 31.6 -0.2
KBL Kabul 120.38 297 **PKiKP** 07 24 35.4 +0.3
KBL Kabul 120.38 297 PKiKP **PKiKP** 07 24 35.4 +0.3
KKAR Karatay Array 120.59 307 **PKPdf** 07 24 34.8 0.0
KKAR Karatay Array 120.59 307 PKiKP **PKPdf** 07 24 34.8 0.0
BOSA Boshof 121.24 206 PKP **PKiKP** 07 24 36.9 -0.1
comp=Z,4.8nm,0.7s,baz=163,slow=3.1,SNR=12
BVAR Borovoye Array 121.36 318 PKP **PKPdf** 07 24 35.4 -0.6
comp=Z,9.4nm,0.5s,baz=89,slow=1.9,SNR=42
BRVK Borovoye 121.42 318 **PKPdf** 07 24 35.8 -0.2
BRVK Borovoye 121.42 318 *c i* PKiKP **PKPdf** 07 24 35.7 -0.4
BRVK pmax pmax
comp=Z,10.0nm,1.3s
SPITS Spitsbergen Ar 126.38 356 PKP **PKPdf** 07 24 44.7 -0.3
comp=Z,4.4nm,0.5s,baz=98,slow=6.0,SNR=16
SPITS SKP 07 27 33.4
comp=Z,4.0nm,0.6s,baz=321,slow=13,SNR=5.1
KGCAE Kacgae 127.60 206 **PKiKP** 07 24 49.5 -0.2
ARTI Arti 127.98 323 **PKPdf** 07 24 48.7 +0.1
ARTI Arti 127.98 323 PKP **PKPdf** 07 24 48.4 -0.1
comp=Z,14nm,0.5s,baz=114,slow=0.8,SNR=22
ARTI Arti 127.98 323 *i* PKiKP **PKiKP** 07 24 49.2 0.0
ARTI 07 26 58.6
ARTI 07 31 12.0
ARTI SS SS 07 43 26.9 -6.6
ABKAR Akbulak array 128.06 314 **PKPdf** 07 24 48.8 -0.2
AKTO Aktyubinsk 129.18 316 PKP **PKPdf** 07 24 51.2 +0.2
comp=Z,5.3nm,0.6s,baz=79,slow=3.1,SNR=13
GRTLG Ghanzi 129.34 206 **PKiKP** 07 24 53.2 0.0
HAMF Hammerfest 132.49 350 *eP* **PKPdf** 07 24 57.2 +0.6
ARA0 ARCESS Array S 133.12 348 *eP* **PKPdf** 07 24 58.0 0.0
ARCES ARCESS Array B 133.12 348 **PKPdf** 07 24 57.8 -0.1
ARCES ARCESS Array B 133.12 348 PKhKP PKPpre 07 24 50.8
comp=Z,0.7nm,0.5s,baz=64,slow=2.1,SNR=8.3
ARCES PKP **PKPdf** 07 24 56.9 -1.0
comp=Z,4.2nm,0.5s,baz=43,slow=1.4,SNR=27
ARCES SKPbc **SKPab** 07 27 40.8 -0.8
comp=Z,14nm,0.7s,baz=46,slow=3.5,SNR=28
KLMR Klimovskoe 135.30 334 *e* PKiKP **PKPdf** 07 25 00.8 -1.4
KLMR *e* 07 27 46.0
KLMR PPP PPP 07 30 48.4
KLMR pmax pmax
comp=Z,9.0nm,0.5s
FINES FINESS Array B 139.63 341 PKhKP PKPpre 07 25 01.2
comp=Z,2.4nm,0.6s,baz=57,slow=2.9,SNR=14
FINES SKPbc **SKPbc** 07 27 59.7 +1.1
comp=Z,12nm,0.8s,baz=66,slow=4.8,SNR=19
OBN Obninsk 139.83 328 ‖ *e* PKiKP **PKPdf** 07 25 11.4 +0.8
OBN *e* 07 28 09.4
OBN *e* SSS SSS 07 51 11.8
OBN pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 140.56 309 PKhKP PKPpre 07 25 09.0
comp=Z,1.3nm,0.8s,baz=99,slow=4.5,SNR=6.6
KBZ Khabaz 140.56 309 *c i* PKiKP **PKiKP** 07 25 15.0 -0.1
KIV Kislovodsk 140.65 309 *e* PKiKP **PKPdf** 07 25 13.3 +0.6
KIV pmax pmax
comp=Z,10.0nm,1.1s
SHA1 Shidzhatmaz 140.72 309 *i* PKiKP **PKPdf** 07 25 12.6 -0.4
MARD Mardin 143.32 299 PKPbc 07 25 16.2 +0.2
NB2 NORSAR Subarra1 143.33 351 PKP PKPab 07 25 14.2 -0.6
comp=Z,13nm,0.9s,baz=16,slow=3.2
NB2 pPKP sPKPdf 07 28 10.0 +7.2
comp=Z,1.4nm,0.6s,baz=15,slow=2.5
NB2 NORSAR Subarra1 143.33 351 PKP PKPab 07 25 14.2 -0.6
baz=16,slow=3.2
NOA NORSAR Array B 143.33 351 PKP PKPab 07 25 14.4 -0.4
comp=Z,7.4nm,0.9s,baz=12,slow=4.1,SNR=42
NOA SKPbc **SKiKP** 07 28 09.2 +0.2
comp=Z,2.1nm,0.6s,baz=14,slow=4.1,SNR=7.8
NC602 NORSAR Array S 143.57 350 *eP* PKPab 07 25 15.2 -0.4
HFS Hagfors 143.78 348 PKP PKPab 07 25 15.8 -0.7
comp=Z,47nm,0.6s,baz=42,slow=3.8,SNR=155
ANN Anapa 144.00 313 *d i* PKiKP PKPbc 07 25 17.3 -0.3
ANN pmax pmax
comp=Z,82nm,0.6s
MNK Minsk 144.15 332 *i* PKiKP **PKPdf** 07 25 18.3 -0.1
MNK *i* 07 28 39.8
MNK *i* 07 31 39.7
MNK *i* PPP PPP 07 32 02.5
MNK *i* SS SS 07 46 45.6 +2.1
MNK *i* SSS SSS 07 52 19.5
ASK Askoy 144.52 356 *eP* PKPbc 07 25 18.6 -0.1
BER Bergen 144.61 355 *eP* PKPbc 07 25 19.3 +0.2
KONO Kongsberg 144.89 351 PKPbc 07 25 19.9 0.0
KONO Kongsberg 144.89 351 PKiKP PKPbc 07 25 19.9 -0.1
KONO Kongsberg 144.89 351 *eP* PKPbc 07 25 20.0 0.0
STRU Stroemstad 145.25 350 *i* P **PKPbc** 07 25 20.6 -0.4
BLS5 Blasjo 145.47 354 *eP* **PKPbc** 07 25 21.8 +0.1
KMY Karmoy 145.78 355 *eP* **PKPbc** 07 25 22.8 +0.2
AKASG Malin Array Be 146.01 326 **PKPbc** 07 25 22.6 -0.9
AKASG Malin Array Be 146.01 326 PKPbc **PKPbc** 07 25 22.8 -0.7
comp=Z,18nm,0.6s,baz=46,slow=4.4,SNR=107
AKASG pPKP pPKPbc 07 27 18.9 +0.3
comp=Z,1.0nm,0.5s,baz=48,slow=2.9,SNR=2.0
KIEV Kiev 146.02 326 **PKPbc** 07 25 22.9 -0.6
KIEV Kiev 146.02 326 ‖ P **PKPbc** 07 25 22.9 -0.6
KIEV Kiev 146.02 326 PKiKP **PKPbc** 07 25 22.9 -0.6
SIM Simferopol' 146.13 314 *e* PKiKP **PKPbc** 07 25 23.5 -0.5
SIM *e* 07 25 27.4
SIM pmax pmax
comp=Z,33nm,0.9s
SIM pmax pmax
comp=Z,27nm,1.2s
BORU Boraas 146.29 348 *i* P **PKPbc** 07 25 23.3 -0.8
HOMB Homborsund 146.38 352 *eP* **PKPbc** 07 25 24.5 +0.2
HOMB Homborsund 146.38 352 *i* P **PKPbc** 07 25 23.9 -0.4
SUW Suwalki 146.40 335 *e* PKP **PKPbc** 07 25 24.2 -0.3
ONAU Onsala 146.68 348 *i* P **PKPbc** 07 25 24.1 -1.0
BLEU Blekinge 146.83 344 *i* P **PKPbc** 07 25 24.6 -1.0
FABU Falkenberg 146.89 347 *i* P **PKPbc** 07 25 24.9 -0.8
OVD Ostervraa, Den 147.05 350 *i* P **PKPdf** 07 25 24.2 +1.0
DEL Delary 147.14 346 *i* P **PKPbc** 07 25 26.0 -0.4
RNPP9 Sopachiv 147.15 330 PKP **PKPdf** 07 25 22.8 -0.7
BZK Bozkurt 147.32 309 ‖ P **PKPbc** 07 25 27.9 +0.6
BEIL Beino 147.36 295 *eP* **PKPbc** 07 25 28.6 +0.8
HWQ Hawqa 147.59 295 *eP* **PKPbc** 07 25 28.8 +0.4
BJUU Bjuv 147.69 346 *i* P **PKPbc** 07 25 27.5 -0.3
BHL Bhannes 147.87 294 *eP* **PKiKP** 07 25 29.9 -0.7

DQRL Deir Qamar 147.96 294 *eP* **PKiKP** 07 25 30.5 -0.3
SORM Soroca 148.00 323 ‖ P **PKPbc** 07 25 28.6 -0.3
SORM Soroca 148.00 323 ‖ PKP2 **PKPbc** 07 25 28.6 -0.3
LUNU Lund 148.01 346 *i* P **PKPbc** 07 25 28.3 -0.4
MUD Monsted U'grnd 148.04 350 *i* P **PKPbc** 07 25 28.7 0.0
CIDE Kastamonu/Cide 148.09 310 ‖ P **PKPbc** 07 25 29.0 -0.3
BSD Bornholm Skovb 148.12 344 *i* P **PKPbc** 07 25 28.7 -0.3
MMAI Mount Meron Ar 148.17 292 PKPbc **PKiKP** 07 25 31.0 -0.3
comp=Z,44nm,0.5s,baz=69,slow=4.6,SNR=61
KIRS Kirsehir-Merke 148.26 304 ‖ P **PKPbc** 07 25 30.3 +0.3
BRTR Keskin Array B 148.29 306 **PKPdf** 07 25 25.6 -0.5
BRTR PKPbc **PKPbc** 07 25 30.3 +0.2
BRTR PKPab **PKPab** 07 25 35.6 +0.4
BRTR Keskin Array B 148.29 306 PKPbc **PKPbc** 07 25 29.4 -0.7
comp=Z,9.3nm,0.7s,baz=219,slow=1.6,SNR=34
BRTR Keskin Array B 148.29 306 PKHKP PKPpre 07 25 25.6
BRTR 07 25 35.6
MILM Milestii Mici 148.43 321 ‖ P **PKPbc** 07 25 29.2 -0.8
MILM Milestii Mici 148.43 321 ‖ PKHKP PKPpre 07 25 29.2
KMPD K-Podol'skiy 148.74 325 PKP **PKPdf** 07 25 25.3 -0.9
ANTO Ankara 148.87 306 **PKPbc** 07 25 31.8 +0.4
ANTO Ankara 148.87 306 ‖ P **PKPbc** 07 25 31.9 +0.4
ANTO Ankara 148.87 306 ‖ PKP2 **PKPbc** 07 25 31.9 +0.4
BEL Belsk 149.01 335 *e* PKP **PKiKP** 07 25 32.2 0.0
GKP Gorka Klasztor 149.08 340 *e* PKP **PKiKP** 07 25 32.2 -0.2
TLCR 149.35 318 ‖ P **PKPbc** 07 25 31.8 -0.5
TLCR 149.35 318 ‖ PKHKP PKPpre 07 25 31.8
VLDR Vladesti 149.44 320 ‖ P **PKPbc** 07 25 31.8 -0.7
SCTR Scanteiesti 149.58 319 ‖ P **PKPbc** 07 25 32.0 -0.9
TPGR Topolog 149.76 318 ‖ P **PKPbc** 07 25 33.5 +0.2
EKA Eskdalemuir Ar 149.79 4 PKPbc **PKPbc** 07 25 32.0 -1.0
comp=Z,2.3nm,0.5s,baz=341,slow=2.5,SNR=14
KWP Kalwaria Pacla 149.85 330 *e* PKP **PKiKP** 07 25 33.8 -0.3
TESR Tescani 149.89 322 ‖ P **PKPbc** 07 25 33.8 +0.2
SAHE Sakarya_HENDEK 149.93 309 ‖ P **PKPbc** 07 25 33.6 -0.3
BURAR Bucovina Array 149.99 325 **PKPdf** 07 25 28.8 +0.4
BURAR **PKiKP** 07 25 34.5 0.0
BURAR PKPab **PKPab** 07 25 42.4 +0.6
BURAR Bucovina Array 149.99 325 ‖ P **PKiKP** 07 25 34.6 0.0
BURAR Bucovina Array 149.99 325 ‖ PKHKP PKPpre 07 25 34.6
MFTR Murfatlar 150.10 317 ‖ P **PKiKP** 07 25 34.8 0.0
ONER Baraj Valea Uz 150.13 322 ‖ P **PKiKP** 07 25 35.0 +0.2
HARR Harsova 150.14 318 ‖ P **PKiKP** 07 25 34.9 +0.1
HARR Harsova 150.14 318 ‖ PKHKP PKPpre 07 25 34.9
TLBR Topalu 150.15 317 ‖ P **PKiKP** 07 25 34.9 +0.1
MANR Mangalia 150.18 316 ‖ P **PKiKP** 07 25 34.7 -0.1
VRI Vrincioaia 150.22 321 ‖ P **PKPbc** 07 25 34.3 -0.1
VRI Vrincioaia 150.22 321 ‖ PKiKP **PKPbc** 07 25 34.3 -0.1
PLOR Plostina 150.27 321 ‖ P **PKPbc** 07 25 33.6 -1.0
BISRR Bisoca 150.41 320 ‖ P **PKiKP** 07 25 35.9 +0.4
ICOR Ion Corvin 150.52 317 ‖ P **PKiKP** 07 25 35.7 +0.1
KOLS Kolonicke sedl 150.55 329 *e* PKiKP **PKiKP** 07 25 36.4 +0.8
KOLS Kolonicke sedl 150.55 329 *e* PKP **PKiKP** 07 25 36.4 +0.8
OZUR 150.62 322 ‖ P **PKiKP** 07 25 35.6 -0.2
OJC Ojcow 150.66 334 *e* PKP **PKPbc** 07 25 35.5 +0.2
STHS Stebnicka Huta 150.66 331 *e* PKiKP **PKPbc** 07 25 35.1 -0.2
STHS Stebnicka Huta 150.66 331 *e* PKP **PKPbc** 07 25 35.1 -0.2
SILT Sile 150.66 310 ‖ P **PKiKP** 07 25 35.9 0.0
ISR Istrita 150.74 320 ‖ P **PKiKP** 07 25 36.4 +0.3
ISR Istrita 150.74 320 ‖ PKiKP **PKiKP** 07 25 36.4 +0.3
MLR Muntele Rosu 150.88 321 ‖ P **PKiKP** 07 25 36.3 -0.2
MLR Muntele Rosu 150.88 321 ‖ PKiKP **PKiKP** 07 25 36.3 -0.2
DOPR Dopca 150.91 322 ‖ P **PKiKP** 07 25 36.8 +0.4
NIE Niedzica 151.07 332 *e* PKP **PKiKP** 07 25 37.2 +0.5
CJR Cluj-Napoca 151.41 325 ‖ P **PKiKP** 07 25 37.5 0.0
CJR Cluj-Napoca 151.41 325 ‖ PKiKP **PKiKP** 07 25 37.5 0.0
KSP Ksiaz 151.45 338 *e* PKP **PKiKP** 07 25 37.8 +0.4
LANS Liptovska Anna 151.62 333 *e* PKiKP **PKiKP** 07 25 39.2 +1.4
LANS Liptovska Anna 151.62 333 *e* PKP **PKiKP** 07 25 39.2 +1.4
STEB Steborice 151.68 335 ‖ *e* PKP **PKiKP** 07 25 38.1 +0.3
MARR Marisel-Cluj 151.69 325 ‖ P **PKPbc** 07 25 37.9 0.0
ARR Arges 151.70 322 ‖ P **PKPbc** 07 25 36.6 -1.3
OSTC Ostas 151.72 338 *e* PKiKP **PKiKP** 07 25 38.9 +1.0
OSTC Ostas 151.72 338 ‖ *e* PKP **PKiKP** 07 25 38.9 +1.0
CHVC Chvalec 151.75 338 *e* PKiKP **PKiKP** 07 25 38.1 +0.1
CHVC Chvalec 151.75 338 ‖ *e* PKP **PKiKP** 07 25 38.1 +0.1
DRGR 151.82 326 ‖ P **PKiKP** 07 25 38.2 -0.1
DRGR 151.82 326 ‖ PKiKP **PKiKP** 07 25 38.2 -0.1
UPC Upice 151.83 338 *e* PKiKP **PKiKP** 07 25 38.7 +0.6
UPC Upice 151.83 338 ‖ *e* PKP **PKiKP** 07 25 38.7 +0.6
DPC Dobruska-Polom 151.86 337 *e* PKiKP **PKiKP** 07 25 38.7 +0.4
DPC Dobruska-Polom 151.86 337 ‖ *e* PKP **PKiKP** 07 25 38.7 +0.4
MORC Moravsky Berou 151.89 335 *e* PKP **PKPbc** 07 25 38.2 +0.1
MORC Moravsky Berou 151.89 335 ‖ P **PKiKP** 07 25 38.7 +0.3
MORC Moravsky Berou 151.89 335 ‖ PKiKP **PKiKP** 07 25 38.7 +0.3
KRLC Kraliky 151.93 337 *e* PKiKP **PKiKP** 07 25 38.6 +0.2
KRLC Kraliky 151.93 337 ‖ *e* PKP **PKiKP** 07 25 38.6 +0.2
CLL Collm 152.06 342 ‖ *i* PKiKP **PKiKP** 07 25 38.6 +0.1
CLL *i* 07 25 50.3
CLL pmax pmax
comp=Z,33nm,0.7s
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 152.06 342 ‖ *i* PKPbc **PKiKP** 07 25 38.6 +0.1
comp=Z,33nm,0.7s
CLL *i* PKiKP **PKPbc** 07 25 40.3 +2.0
CLL ‖ *i* PKPab **PKPab** 07 25 50.3 +0.1
comp=Z,15nm,0.8s
CLL *i* pPKPab **pPKPab** 07 27 38.9 -3.1
CLL *ex* x 07 27 46.0
MAUC Maruska 152.12 335 ‖ *e* PKP **PKiKP** 07 25 39.6 +0.8
LOT Lotru 152.13 323 ‖ P **PKPbc** 07 25 38.5 -0.4
PVCC Panska Ves 152.29 340 *e* PKiKP **PKiKP** 07 25 39.2 +0.1
PVCC Panska Ves 152.29 340 *e* PKP **PKiKP** 07 25 39.2 +0.1
PSZ Piszkesteto 152.37 330 ‖ P **PKiKP** 07 25 39.5 +0.1
PSZ Piszkesteto 152.37 330 ‖ PKiKP **PKiKP** 07 25 39.5 +0.1
VYHS Vyhne 152.40 332 *e* PKiKP **PKiKP** 07 25 39.3 -0.1
VYHS *e* 07 25 51.5
VYHS Vyhne 152.40 332 *e* PKP **PKiKP** 07 25 39.3 -0.1
VYHS *e* 07 25 51.5
VRAC Vranov 152.63 336 *e* PKP **PKPbc** 07 25 39.6 -0.1
GZR Gura Zlata 152.71 323 ‖ P **PKPbc** 07 25 39.7 -0.4
GZR Gura Zlata 152.71 323 ‖ PKiKP **PKPbc** 07 25 39.7 -0.4
PLVB Pleven 152.86 318 ‖ P **PKPbc** 07 25 39.1 -1.3
KRUC Moravsky 152.91 336 *e* PKP **PKPbc** 07 25 40.2 -0.1
MODS Modra-Piesok 153.13 334 *e* PKiKP **PKPbc** 07 25 38.6 -2.2
MODS Modra-Piesok 153.13 334 *e* PKP **PKPbc** 07 25 38.6 -2.2
BZS Buzias 153.17 325 ‖ P **PKiKP** 07 25 41.3 +0.3
BZS Buzias 153.17 325 ‖ PKiKP **PKiKP** 07 25 41.3 +0.3
HERR Herculane 153.23 323 ‖ P **PKPbc** 07 25 39.4 -1.8
RDO Rodhopi 153.44 313 PKPdf **PKPdf** 07 25 36.0 +2.5
EZN Ezine 153.51 310 ‖ P **PKPbc** 07 25 38.4 -3.5
EZN Ezine 153.51 310 ‖ PKiKP **PKPbc** 07 25 38.4 -3.5
KHC Kasperske Hory 153.82 339 *e* PKiKP **PKiKP** 07 25 42.6 +0.3
KHC Kasperske Hory 153.82 339 ‖ *e* PKP **PKiKP** 07 25 42.6 +0.3
CKRC Cesky Krumlov 153.85 338 *e* PKiKP **PKiKP** 07 25 42.9 +0.5
CKRC Cesky Krumlov 153.85 338 ‖ *e* PKP **PKiKP** 07 25 42.9 +0.5
GRF Grafenberg Arr 154.00 343 *e* PKPab **PKPab** 07 25 58.7 +0.2
baz=24,slow=3.7
GERES GERESS Array B 154.03 339 PKP **PKPdf** 07 25 33.8 -0.5
comp=Z,0.5nm,0.4s,baz=173,slow=1.1,SNR=6.8
GERES PKPbc **PKPbc** 07 25 42.3 -0.6
comp=Z,2.1nm,0.7s,baz=50,slow=2.1,SNR=11
GERES PKPab **PKPab** 07 25 59.0 +0.2
comp=Z,1.8nm,0.6s,baz=46,slow=4.4,SNR=9.1
GERES GERESS Array B 154.03 339 PKiKP **PKPdf** 07 25 33.9 -0.4
GERES 07 25 58.7
CONA Conrad Observa 154.04 335 *e* PKP **PKPab** 07 25 59.4 +0.5
comp=Z,6.2nm,0.9s
RONA Rosalia, Austr 154.06 334 *e* PKP **PKPab** 07 25 59.4 +0.4
comp=Z,7.3nm,0.9s
MORH Mrgy, Hungar 154.21 329 ‖ P **PKPbc** 07 25 41.5 -1.6
ARSA Arzberg 154.73 335 *e* P **PKPab** 07 26 00.5 -1.3
BIOA Bad Ischl, Aus 155.05 338 *e* PKP **PKPab** 07 26 03.4 +0.2
comp=Z,8.8nm,1.0s
SOKA Soboth 155.40 335 *e* PKP **PKPab** 07 26 04.8 0.0
comp=Z,7.0nm,1.3s
LESA Schwarzleotal 155.61 339 *e* PKP **PKPab** 07 26 05.9 +0.3
comp=Z,5.6nm,1.0s
KBA Koelnbreinsper 155.68 337 *e* PKP **PKPab** 07 26 05.6 -0.4
comp=Z,6.8nm,1.1s
OBKA Obir 155.72 335 *eP* **PKPab** 07 26 05.0 -1.2
MYKA Terra Mystica 155.96 336 *e* PKP **PKPab** 07 26 06.6 -0.6
comp=Z,8.1nm,0.8s
WTTA Wattenberg 156.08 340 *e* PKP **PKPab** 07 26 07.8 0.0
comp=Z,8.4nm,0.6s
RETA Reutte 156.14 342 *e* PKP **PKPab** 07 26 08.1 +0.3
comp=Z,11nm,0.9s
MOTA Moosalm 156.17 341 *e* PKP **PKPab** 07 26 08.2 +0.1
comp=Z,7.0nm,0.7s
SQTA Sankt Quirin 156.25 341 *e* PKP **PKPab** 07 26 08.4 0.0
comp=Z,4.4nm,0.5s

ABTA Abfaltersbach 156.25 338 *e* PKP **PKPab** 07 26 07.7 -0.7
comp=Z,4.7nm,0.7s
DAVA Damuels 156.56 343 *e* PKP **PKPab** 07 26 09.8 0.0
comp=Z,8.2nm,0.7s
FETA Feichten 156.57 341 *eP* **PKPab** 07 26 08.0 -1.9
EDA Edea 156.57 206 **PKPab** 07 26 09.5 -1.0
DBIC Dimbokro 161.03 165 PKP **PKPdf** 07 25 43.4 -0.4
comp=Z,9.2nm,1.1s,baz=198,slow=3.2,SNR=2.1
DBIC PKPab **PKPab** 07 26 30.6 +0.8
comp=Z,5.0nm,0.7s,baz=188,slow=5.6,SNR=5.3
PGAV Gavieira, Arco 161.92 20 *e* PKPdf **PKPdf** 07 25 44.4 +0.4
PVRL Vila Real 162.72 20 *e* PKPdf PKPdf 07 25 35.9 -8.9
MVO Moncorvo 163.03 18 *e* PKPdf **PKPdf** 07 25 45.9 +0.7
PCBR Castelo Branco 164.10 21 *e* PKPdf **PKPdf** 07 25 47.2 +1.1
PARRA Arraiolos 164.42 27 *e* PKPdf **PKPdf** 07 25 47.8 +1.5
PESTR Estremoz 164.93 23 *e* PKPdf **PKPdf** 07 25 47.0 +0.2
EVO Evora 165.07 25 *e* PKPdf **PKPdf** 07 25 48.0 +1.1
ESDC Sonseca Array 165.17 12 PKP **PKPdf** 07 25 47.0 -0.1
comp=Z,0.2nm,0.3s,baz=340,slow=3.0,SNR=1.9
ESDC PKPab **PKPab** 07 26 47.3 -0.3
comp=Z,0.4nm,0.5s,baz=347,slow=4.1,SNR=6.8
MESJ Messejana 165.59 27 *e* PKPdf **PKPdf** 07 25 48.6 +1.2
PBAR Barrancos 165.75 23 *e* PKPdf **PKPdf** 07 25 48.4 +0.9
PCVE Castro Verde 165.84 27 *e* PKPdf **PKPdf** 07 25 48.7 +1.1
MORF Marmelete 165.85 29 *e* PKPdf **PKPdf** 07 25 49.0 +1.3
TORD Torodi Ar. Bea 167.92 188 **PKPdf** 07 25 48.8 -0.9
TORD **PKPab** 07 26 60.0 -0.1
TORD Torodi Ar. Bea 167.92 188 PKP **PKPdf** 07 25 49.1 -0.6
comp=Z,1.1nm,0.2s,baz=318,slow=2.0,SNR=3.7
TORD PKPab **PKPab** 07 27 00.0 -0.1
comp=Z,7.3nm,0.6s,baz=161,slow=2.7,SNR=9.1

NEIC ***07*** *07:11:05.8±1.2, 41°.8S±0°.2×90°.4W±0°.2, h10km±2km, mb4.7/71, Error ellipse: s-maj=32.3km s-min=22.5km az=141.0*
IDC ***07*** *07:11:09.9±4.1, 40°.91S×90°.67W, h0km, mb4.2/5, mbtmp4.1/6, ML3.5/1, MS3.9/14, Error ellipse: s-maj=100.9km s-min=33.4km az=14.0*
ISC 07 07:11:06.2±1.3, 41°.6S±0°.2×90°.3W±0°.1, h10km, n80, σ0°.73/34, mb4.7/40, MS3.9/14, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.92**	**53**	T	T	T	07 25 50.6	
	baz=226,slow=73,SNR=100							
H03S1	**Juan Fernandez**	**11.93**	**53**	T	T	T	07 25 46.8	
	baz=226,slow=73,SNR=174							
H03S3	**Juan Fernandez**	**11.94**	**53**	T	T	T	07 25 51.0	
	baz=226,slow=73,SNR=94							
VA04	**Juan Fernndez**	**12.12**	**52**	Pn	**Pn**	**Pn**	**07 13 59.0**	**+0.1**
H03N3	**Juan Fernandez**	**12.19**	**52**	T	T	T	07 26 04.7	
	baz=227,slow=71,SNR=188							
H03N2	**Juan Fernandez**	**12.20**	**52**	T	T	T	07 26 03.5	
	baz=227,slow=71,SNR=272							
H03N1	**Juan Fernandez**	**12.21**	**52**	T	T	T	07 26 03.7	
	baz=227,slow=71,SNR=203							
PLCA	**Paso Flores**	**14.93**	**93**	Pn	**Pn**	**Pn**	**07 14 36.7**	**-0.7**
PLCA	**Paso Flores**	**14.93**	**93**	Pn	**P**	**P**	**07 14 44.6**	**+1.6**
	baz=259,slow=12,SNR=4.2							
PLCA				LR	LR	LR	07 19 03.8	
	comp=Z,393nm,21.2s,baz=266,slow=31							
	3.8nm,1.0s							
GO09	**Cerro Castillo**	**15.66**	**134**	Pn	**Pn**	**Pn**	**07 14 46.5**	**-0.4**
GO09				IAmb	IAmb	IAmb	07 14 59.4	
	comp=Z,68nm,1.4s							
MT09	**Talagante**	**17.19**	**69**	Pn	**Pn**	**Pn**	**07 15 05.4**	**-1.1**
AC02	**Maricunga**	**22.84**	**56**		**P**	**P**	**07 16 10.2**	**+0.1**
CPUP	**Villa Florida**	**31.12**	**71**	P	P	P	07 17 31.1	+6.2
	comp=Z,1.2nm,0.9s,baz=126,slow=6.3,SNR=5.5							
CPUP				LR	LR	LR	07 28 30.9	
	comp=Z,76nm,20.3s,baz=137,slow=33							
	comp=Z,1.2nm,0.9s							
LPAZ	**La Paz**	**31.69**	**44**		**P**	**P**	**07 17 30.6**	**-0.1**
LPAZ	**La Paz**	**31.69**	**44**	P	**P**	**P**	**07 17 31.6**	**+1.0**
	comp=Z,3.5nm,1.2s,baz=239,slow=4.9,SNR=5.0							
LPAZ				LR	LR	LR	07 27 13.9	
	comp=Z,346nm,21.7s,baz=132,slow=31							
	comp=Z,3.5nm,1.2s							
NNA	**Nana**	**31.82**	**26**	LR	LR	LR	07 25 49.5	
	comp=Z,86nm,21.3s,baz=130,slow=28							
SIV	**San Ignacio**	**35.90**	**53**	LR	LR	LR	07 30 59.6	
	comp=Z,205nm,20.8s,baz=299,slow=33							
ATAH	**Atahualpa**	**35.97**	**20**	LR	LR	LR	07 29 02.8	
	comp=Z,276nm,19.3s,baz=179,slow=30							
AQDB	**Aquidauana**	**36.06**	**65**		**P**	**P**	**07 18 07.6**	**-0.4**
AQDB				IAmb	IAmb	IAmb	07 18 10.8	
	comp=Z,16nm,1.1s							
PTLB	**Pontes e Lacer**	**37.49**	**55**		**P**	**P**	**07 18 20.0**	**-0.2**
COHC	**Cochancay**	**40.26**	**17**	P	**P**	**P**	**07 18 43.6**	**+0.3**
OTAV	**Otavalo**	**43.06**	**18**		**P**	**P**	**07 19 06.4**	**-0.4**
BDFB	**Brasilia**	**44.66**	**67**	LR	LR	LR	07 37 14.0	
	comp=Z,264nm,18.3s,baz=311,slow=35							
FLOC	**Florencia**	**45.04**	**21**	P	**P**	**P**	**07 19 22.3**	**0.0**
FLOC				IAmb	IAmb	IAmb	07 19 26.5	
	comp=Z,20nm,1.5s							
ROSC	**El Rosal**	**48.52**	**22**	P	**P**	**P**	**07 19 50.1**	**+0.3**
ROSC	**El Rosal**	**48.52**	**22**	P	**P**	**P**	**07 19 51.5**	**+1.6**
	comp=Z,3.6nm,0.3s,baz=116,slow=18,SNR=3.9							
	comp=Z,3.6nm,0.3s							
QSPA	**South Pole Qui**	**48.59**	**180**	LR	LR	LR	07 37 53.3	
	comp=Z,86nm,20.3s,baz=160,slow=32							
BOAV	**Boa Vista**	**51.52**	**39**	P	**P**	**P**	**07 20 11.2**	**-1.1**
TBI	**Tubuai**	**52.09**	**271**	*e*LR	LR	LR	07 35 13.5	
	comp=Z,990nm,28.5s							
VNDA	**Vanda**	**53.40**	**195**	LR	LR	LR	07 38 17.2	
	comp=Z,74nm,21.9s,baz=123,slow=30							
SDV	**Santo Domingo**	**53.44**	**25**	LR	LR	LR	07 40 26.9	
	comp=Z,164nm,19.6s,baz=70,slow=33							
PPT2	**Papeete2**		**55.63**	**277**	*e*LR	LR	07 36 49.2	
	comp=Z,153nm,27.2s							
PPT2				*e*LR	LR	LR	07 36 53.4	
	comp=Z,123nm,31.2s							
PPT	**

U38A	**Gravette**	**77.80**	**357**	IAmb	IAmb	07 23 04.0	
	comp=Z,7.7nm,1.1s						
U49A	**Red Boiling Sp**	**77.89**	**4**	IAmb	IAmb	07 23 05.0	
	comp=Z,8.2nm,0.9s						
PBMO	**Poplar Bluff**	**78.05**	**360**	IAmb	IAmb	07 23 05.3	
	comp=Z,6.6nm,0.9s						
T47A	**Sharon Grove**	**78.31**	**3**	IAmb	IAmb	07 23 07.0	
	comp=Z,1.4nm,1.3s						
MGMO	**Mountain Grove**	**78.44**	**358**	IAmb	IAmb	07 23 07.6	
	comp=Z,8.7nm,1.1s						
CCM	**Cathedral Cave**	**79.33**	**359**	P	**P**	**07 23 10.8**	**-0.9**
CCM				IAmb	IAmb	07 23 12.4	
	comp=Z,14nm,1.1s						
R50A	**Paris**	**79.74**	**5**	IAmb	IAmb	07 23 14.3	
	comp=Z,10nm,1.1s						
S22A	**4UR Ranch, Cre**	**80.44**	**347**	IAmb	IAmb	07 23 21.4	
	comp=Z,9.2nm,1.5s						
P40A	**Paris**	**80.81**	**359**	IAmb	IAmb	07 23 20.2	
	comp=Z,11nm,1.2s						
P38A	**Dawn**	**80.94**	**358**	IAmb	IAmb	07 23 20.8	
	comp=Z,8.5nm,1.0s						
PV13	**Radium Mtn., P**	**81.20**	**345**	IAmb	IAmb	07 23 24.9	
	comp=Z,7.1nm,1.3s						
PV02	**Paradox Valley**	**81.23**	**345**	P	**P**	**07 23 22.0**	**-0.3**
PV02				IAmb	IAmb	07 23 24.5	
	comp=Z,13nm,1.2s						
PV12	**Saucer Basin,**	**81.35**	**345**	IAmb	IAmb	07 23 40.8	
	comp=Z,15nm,1.4s						
Q16A	**Castle Valley**	**82.40**	**344**	IAmb	IAmb	07 23 31.0	
	comp=Z,6.7nm,1.3s						
TMUT	**Trail Mountain**	**82.77**	**344**	IAmb	IAmb	07 23 32.9	
	comp=Z,4.2nm,1.1s						
MPU	**Maple Canyon**	**83.55**	**344**	IAmb	IAmb	07 23 37.3	
	comp=Z,6.4nm,1.4s						
NVAR	**Mina Array Bea**	**83.68**	**338**	P	**P**	**07 23 36.6**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=176,slow=6.7,SNR=5.7						
	comp=Z,1.2nm,0.9s						
DUG	**Dugway, Tooele**	**83.98**	**343**	IAmb	IAmb	07 23 39.0	
	comp=Z,11nm,1.4s						
JFWS	**Jewell Farm**	**84.17**	**0**	IAmb	IAmb	07 23 37.7	
	comp=Z,6.3nm,0.8s						
DZM	**Mont Dzumac**	**84.93**	**245**	*e*LR	LR	07 50 26.9	
	comp=Z,204nm,24.2s						
DZM	**Mont Dzumac**	**84.93**	**245**	LR	LR	07 55 04.2	
	comp=Z,892nm,19.1s,baz=354,slow=31						
ECSD	**EROS Data Cent**	**85.18**	**355**	IAmb	IAmb	07 23 43.4	
	comp=Z,7.4nm,1.1s						
DELO	**Deloro Mine**	**86.53**	**9**	P	**P**	**07 23 48.8**	**-0.1**
TRQ	**Mont Tremblant**	**88.61**	**11**	P	**P**	**07 23 58.8**	**-0.2**

*IDC **07** 07:11:24.9±1.1,38°.72N×71°.06E,h0km,mb3.7/7, mbtmp3.8/14,ML3.4/7,MS3.6/1,Error ellipse: s-maj=16.4km s-min=13.7km az=128.0*
*NNC **07** 07:11:26.2±6.7,38°.48N×71°.30E,h242km±68km,mb2.9, mpv3.9,Error ellipse: s-maj=72.9km s-min=41.5km az=25.0*

ISC 07 07:11:32.5±1.1,38°.96N±0°.09×70°.75E±0°.09,h50km,n27, σ1§98/32,mb3.6/7,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.14**	**358**	⇑P	**Pn**	**07 12 34.8**	**+1.6**
	22nm,0.5s,baz=176,slow=12,SNR=7.1						
KK31				⇑S	Sn	07 13 35.9	+16
	89nm,0.7s,baz=169,slow=31,SNR=3.7						
UCH	**Uchtor**	**4.34**	**40**	P	**Pn**	**07 12 37.7**	**+1.4**
	SNR=10						
EKS2	**Erkin-Say**	**4.35**	**31**	P	**Pn**	**07 12 36.9**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**4.64**	**37**	Pn	**Pn**	**07 12 40.5**	**+0.3**
	4.8nm,0.3s,baz=220,slow=5.5,SNR=16						
AAK				Sn	**Sn**	**07 13 35.3**	**+2.4**
	2.9nm,0.3s,baz=207,slow=18,SNR=4.0						
	22nm,0.4s						
AAK	**Ala-Archa**	**4.64**	**37**	P	**Pn**	**07 12 41.1**	**+0.8**
	SNR=13						
AAK	**Ala-Archa**	**4.64**	**37**	⇑P	**Pn**	**07 12 41.0**	**+0.8**
	5.3nm,0.5s						
AAK				⇓S	**Sn**	**07 13 37.5**	**+4.6**
	12nm,0.6s						
KBK	**Karagaybulak**	**4.88**	**39**	P	**Pn**	**07 12 45.3**	**+1.9**
	SNR=6.0						
CHMS	**Chumysh**	**5.04**	**36**	P	**Pn**	**07 12 46.3**	**+0.8**
	SNR=5.4						
USP	**Ospenovka**	**5.15**	**32**	P	**Pn**	**07 12 47.3**	**+0.2**
	SNR=22						
ULHL	**Ulahol**	**5.31**	**50**	P	**Pn**	**07 12 50.8**	**+1.4**
	SNR=12						
TKM2	**Tokmak 2**	**5.40**	**41**	P	**Pn**	**07 12 51.3**	**+0.8**
	SNR=20						
MKAR	**Makanchi Array**	**11.52**	**43**	Pn	**Pn**	**07 14 13.7**	**-0.5**
	baz=233,slow=12,SNR=12						
MKAR				Lg	Lg	07 17 32.0	
	0.1nm,0.3s,baz=231,slow=32,SNR=2.2						
	2.0nm,0.9s						
AB31	**Akbulak array**	**12.88**	**327**	⇓P	**Pn**	**07 14 30.8**	**-1.9**
	2.8nm,0.5s,baz=152,slow=9.5,SNR=83						
AB31				⇑S	**Sn**	**07 16 55.7**	**+1.4**
	9.0nm,0.7s,baz=138,slow=23,SNR=12						
KURBB	**Kurchatov Arra**	**12.89**	**23**	Pn	**Pn**	**07 14 28.8**	**-4.0**
	0.1nm,0.3s,baz=218,slow=13,SNR=5.4						
KURBB				Sn	**Sn**	**07 16 51.0**	**-3.6**
	0.1nm,0.3s,baz=80,slow=21,SNR=4.8						
KURBB				Lg	Lg	07 18 14.3	
	0.1nm,0.3s,baz=219,slow=28,SNR=5.5						
	1.7nm,0.2s						
BVAR	**Borovoye Array**	**14.07**	**359**	Pn	**Pn**	**07 14 46.6**	**-2.3**
	baz=155,slow=14,SNR=4.7						
BVAR				Sn	**Sn**	**07 17 19.4**	**-3.9**
	baz=229,slow=41,SNR=2.6						
BVAR				Lg	Lg	07 18 49.0	
	baz=181,slow=27,SNR=5.8						
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**14.59**	**326**	Pn	**Pn**	**07 14 55.1**	**-0.6**
	0.5nm,0.3s,baz=135,slow=14,SNR=5.5						
AKTO				Sn	**Sn**	**07 17 35.0**	**-1.0**
	0.4nm,0.3s,baz=189,slow=9.7,SNR=6.2						
	1.7nm,0.4s						
AKTO	**Aktyubinsk**	**14.59**	**326**	⇑P	Pn	07 14 50.5	-5.2
	4.9nm,0.8s						
AKTO				⇓S	**Sn**	**07 17 37.1**	**+1.1**
	6.1nm,1.1s						
ZALV	**Zalesovo Beam**	**17.80**	**28**	P	**Pn**	**07 15 33.8**	**-2.5**
	0.5nm,0.3s,baz=213,slow=13,SNR=8.7						
	2.6nm,0.6s						
ARTI	**Arti**	**19.27**	**339**	P	**Pn**	**07 15 54.3**	**+0.3**
	0.3nm,0.3s,baz=156,slow=10.0,SNR=3.5						
	1.5nm,0.5s						
ARCES	**ARCESS Array B**	**38.80**	**337**	P	**P**	**07 18 52.6**	**+0.7**
	1.8nm,0.9s,baz=110,slow=6.9,SNR=3.6						
	1.8nm,0.9s						
HFS	**Hagfors**	**41.03**	**320**	P	**P**	**07 19 11.6**	**+1.1**
	2.4nm,0.6s,baz=94,slow=9.7,SNR=7.8						
	2.4nm,0.6s						
NOA	**NORSAR Array B**	**42.31**	**321**	P	**P**	**07 19 21.9**	**+0.9**
	0.3nm,0.5s,baz=119,slow=5.5,SNR=1.8						
	0.3nm,0.5s						
JMIC	**Jan Mayen**	**50.26**	**335**	LR	LR	07 40 04.6	
	comp=Z,62nm,18.9s,baz=90,slow=34						
ILAR	**Eielson Array**	**72.47**	**16**	P	**P**	**07 22 52.7**	**-0.6**
	0.3nm,0.8s,baz=315,slow=5.8,SNR=3.6						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**78.80**	**3**	P	**P**	**07 23 30.4**	**+0.9**
	0.5nm,0.7s,baz=358,slow=6.1,SNR=4.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**83.46**	**122**	P	**P**	**07 23 53.0**	**-1.8**
	0.6nm,0.9s,baz=297,slow=3.7,SNR=2.3						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**85.82**	**125**	P	**P**	**07 24 05.5**	**-1.2**
	0.4nm,0.8s,baz=293,slow=4.2,SNR=2.2						
	0.4nm,0.8s						

*IDC **07** 07:34:58.8±1.2,27°.35N×67°.47E,h0km,mb3.9/11, mbtmp3.9/11,ML1.8/1,MS3.7/1,Error ellipse: s-maj=26.0km s-min=24.2km az=59.0*

ISC 07 07:35:03.9±1.1,27°.4N±0°.2×67°.4E±0°.2,h35km,n14, σ0§77/13,mb3.9/11,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**8.95**	**245**	Pn	**Pn**	**07 37 10.5**	**-0.3**
	baz=108,slow=24,SNR=7.4						
WSAR				Sn	Sn	07 38 41.6	-8.8
	baz=204,slow=24,SNR=2.0						
MKAR	**Makanchi Array**	**22.67**	**27**	P	**P**	**07 40 01.3**	**-0.8**
	1.5nm,0.8s,baz=202,slow=8.8,SNR=12						
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**24.73**	**17**	P	**P**	**07 40 22.1**	**+0.3**
	3.8nm,0.7s,baz=209,slow=8.9,SNR=36						
	3.8nm,0.7s						
BVAR	**Borovoye Array**	**25.74**	**4**	P	**P**	**07 40 31.9**	**+1.0**
	3.6nm,0.6s,baz=174,slow=9.2,SNR=19						
	3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**29.50**	**21**	P	**P**	**07 41 03.3**	**-1.3**
	1.0nm,0.4s,baz=237,slow=9.1,SNR=4.7						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**43.81**	**333**	P	**P**	**07 43 06.3**	**+0.2**
	1.7nm,0.8s,baz=131,slow=17,SNR=1.8						
	1.7nm,0.8s						
GERES	**GERESS Array B**	**46.31**	**313**	P	**P**	**07 43 26.5**	**+0.2**
	0.2nm,0.3s,baz=94,slow=6.8,SNR=3.5						
	0.2nm,0.3s						
ARCES	**ARCESS Array B**	**48.66**	**342**	P	**P**	**07 43 44.2**	**+0.2**
	2.0nm,0.7s,baz=133,slow=8.7,SNR=7.5						
	2.0nm,0.7s						
HFS	**Hagfors**	**48.78**	**328**	P	**P**	**07 43 45.1**	**0.0**
	1.4nm,0.5s,baz=114,slow=9.9,SNR=8.6						
	1.4nm,0.5s						
NB2	**NORSAR Subarra**	**50.21**	**328**	P	**P**	**07 43 55.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=104,slow=7.9						
NOA	**NORSAR Array B**	**50.21**	**328**	P	**P**	**07 43 55.7**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=111,slow=7.3,SNR=5.6						
	comp=Z,0.9nm,0.6s						
ESDC	**Sonseca Array**	**59.36**	**302**	LR	LR	08 14 41.3	
	comp=Z,58nm,18.2s,baz=230,slow=40						
WRA	**Warramunga Arr**	**80.02**	**119**	P	**P**	**07 47 11.4**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=302,slow=5.0,SNR=1.6						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs**	**81.77**	**122**	P	**P**	**07 47 18.7**	**-0.7**
	comp=Z,0.5nm,1.0s,baz=314,slow=5.2,SNR=1.7						
	comp=Z,0.5nm,1.0s						

*IDC **07** 07:45:11.4±1.1,30°.71S×177°.44W,h0km,mb4.0/5, mbtmp4.1/7,ML3.7/2,Error ellipse: s-maj=28.4km s-min=20.2km az=89.0*
*NEIC **07** 07:45:13.7±1.1,30°.67S±0°.06×177°.4W±0°.2,h10km±2km, mb4.4/8,Error ellipse: s-maj=36.3km s-min=4.9km az=74.0*

ISC 07 07:45:16.4±0.9,30°.75S±0°.06×177°.7W±0°.1,h33km,n22, σ1§39/25,mb4.2/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**352**	Pn	**Pn**	**07 45 40.3**	**-0.7**
RAO	**Raoul Island**	**1.50**	**352**	Pn	**Pn**	**07 45 40.1**	**-1.0**
	282nm,0.3s,baz=82,slow=12,SNR=7.4						
RAO				Sn	**Sb**	**07 46 00.9**	**-1.6**
	298nm,0.3s,baz=111,slow=20,SNR=7.3						
URZ	**Urewera**	**8.63**	**208**	Pn	Pn	07 47 14.1	-4.9
	1.1nm,0.3s,baz=261,slow=5.3,SNR=18						
URZ				Sn	**Sn**	**07 48 52.5**	**-2.7**
	1.9nm,0.3s,baz=199,slow=21,SNR=11						
RTZ	**Ruatahuna**	**8.99**	**208**	Pn	**Pn**	**07 47 22.8**	**-1.2**
BKZ	**Black Stump Fm**	**9.66**	**208**	Pn	**Pn**	**07 47 31.1**	**-2.0**
RPZ	**Rata Peaks**	**15.72**	**212**	Pn	**Pn**	**07 48 54.7**	**-0.7**
	0.4nm,0.3s,baz=43,slow=14,SNR=1.4						
	4.5nm,0.7s						
DZM	**Mont Dzumac**	**16.62**	**298**	Pn	**Pn**	**07 49 06.9**	**-0.2**
	0.2nm,0.3s,baz=78,slow=19,SNR=1.4						
	6.5nm,1.0s						
STKA	**Stephens Creek**	**34.67**	**257**	P	**P**	**07 52 05.0**	**+2.1**
STKA	**Stephens Creek**	**34.67**	**257**	P	**P**	**07 52 04.9**	**+1.9**
	4.1nm,0.9s,baz=90,slow=10,SNR=4.4						
	4.1nm,0.9s						
BBOO	**Buckleboo**	**39.14**	**255**	P	**P**	**07 52 40.7**	**-0.3**
ASAR	**Alice Springs**	**43.36**	**267**	P	**P**	**07 53 17.6**	**+1.8**
	1.1nm,0.6s,baz=103,slow=7.3,SNR=14						
ASAR				PcP	**PcP**	**07 55 04.5**	**+0.4**
	0.3nm,0.5s,baz=120,slow=3.7,SNR=4.6						
	1.1nm,0.6s						
WR8	**Warramunga Arr**	**44.24**	**272**	P	**P**	**07 53 23.9**	**+1.0**
WR8				IAmb	IAmb	07 53 27.5	
	comp=Z,3.5nm,0.9s						
WRAB	**Tennant Creek**	**44.38**	**272**	P	**P**	**07 53 25.2**	**+1.2**
WRAB				IAmb	IAmb	07 53 52.8	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**07 53 25.8**	**+1.8**
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**07 53 25.5**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=112,slow=7.9,SNR=15						
WRA				PcP	**PP**	**07 55 07.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=111,slow=2.8,SNR=2.1						
	comp=Z,2.5nm,0.6s						
WB0	**Warramunga Arr**	**44.41**	**273**	P	**P**	**07 53 25.7**	**+1.5**
WB0				IAmb	IAmb	07 53 27.1	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**07 55 16.9**	**+1.8**
QSPA				IAmb	IAmb	07 55 35.0	
	comp=Z,3.7nm,1.0s						
QSPA	**South Pole Qui**	**59.36**	**180**	P	**P**	**07 55 15.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=14,slow=0.8,SNR=6.6						
	comp=Z,0.8nm,0.7s						
SNAA	**Sanae**	**77.80**	**178**	P	**P**	**07 57 10.4**	**+0.4**
SNAA				IAmb	IAmb	07 57 25.4	
	comp=Z,7.6nm,1.5s						
NVAR	**Mina Array Bea**	**88.31**	**43**	P	**P**	**07 58 04.3**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=221,slow=8.8,SNR=4.1						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	**PKPdf**	**08 04 50.4**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=55,slow=4.2,SNR=34						
AKASG	**Malin Array Be**	**151.74**	**323**	PKPbc	**PKPbc**	**08 05 07.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=54,slow=2.1,SNR=5.1						

*IDC **07** 07:45:39.4±0.9,2°.17N×127°.07E,h0km,mb3.7/8, mbtmp3.8/8,Error ellipse: s-maj=59.4km s-min=16.2km az=77.0*
*DJA **07** 07:45:47.7±1.5,2°.N±3°×12°.7E±°,h25km±16km,M4.1/11, mb4.5/2,MLv4.0/11*

ISC 07 07:45:47.5±0.8,2°.18N±0°.07×126°.98E±0°.10,h63km,n14, σ1§00/15,mb3.8/7,Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.46**	**164**	P	**Pn**	**07 46 12.0**	**+0.3**
TNTI				S	**Sn**	**07 46 30.9**	**+1.0**
SGSI	**Sangihe**	**2.08**	**316**	P	**Pn**	**07 46 20.5**	**+0.4**
KMSI	**Cibinong**	**3.39**	**242**	P	**Pn**	**07 46 38.5**	**+0.4**
SANI	**Sanana**	**4.32**	**193**	P	**Pn**	**07 46 51.3**	**+0.6**
SWI	**Sorong**	**5.24**	**125**	P	**Pn**	**07 47 04.7**	**+1.3**
MRSI	**Marisa**	**5.31**	**251**	P	**Pn**	**07 47 04.8**	**+0.5**
	0.1nm25nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.20**	**184**	P	**P**	**07 50 16.4**	**-0.8**
	1.4nm,0.5s,baz=11,slow=10,SNR=7.8						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**23.15**	**162**	P	**P**	**07 50 46.7**	**-1.9**
	1.9nm,0.4s,baz=340,slow=11,SNR=43						
	1.9nm,0.4s						
ASAR	**Alice Springs**	**26.57**	**166**	P	**P**	**07 51 18.6**	**-1.2**
	0.4nm,0.3s,baz=346,slow=12,SNR=13						
	0.4nm,0.3s						
KSRS	**Korea Array**	**35.11**	**1**	P	**P**	**07 52 33.8**	**-1.1**
	0.5nm,0.5s,baz=190,slow=11,SNR=1.6						
	0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**35.73**	**16**	P	**P**	**07 52 40.6**	**+0.3**
	0.5nm,0.3s,baz=180,slow=8.5,SNR=2.2						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**36.61**	**159**	P	**P**	**07 52 47.5**	**-0.3**
	1.7nm,0.6s,baz=340,slow=9.1,SNR=3.9						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**58.96**	**326**	P	**P**	**07 55 41.2**	**+0.7**
	0.2nm,0.5s,baz=117,slow=7.3,SNR=4.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.17**	**328**	P	**P**	**07 56 09.6**	**+0.7**
	0.4nm,0.5s,baz=129,slow=6.3,SNR=4.8						
	0.4nm,0.5s						

*ASRS **07** 07:55:01.0±1.5,54°.98N×88°.60E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 07 07:55:05.0±4.0,54°.99N×88°.24E,h0km,mbtmp2.7/3, ML2.0/3,Error ellipse: s-maj=37.4km s-min=27.1km az=24.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.25**	**244**	I	I	08 09 44.4	
	baz=61,slow=317,SNR=4.7						
ZALV	**Zalesovo Beam**	**2.25**	**244**	Pn	Pb	07 55 45.4	-1.0
	0.8nm,0.3s,baz=58,slow=16,SNR=9.0						
ZALV				Lg	Lg	07 56 16.6	
	2.3nm,0.3s,baz=64,slow=28,SNR=13						
	1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**7.33**	**237**	Pn	Pn	07 56 51.4	-1.7
	baz=54,slow=14,SNR=2.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**9.02**	**207**	Pn	Pn	07 57 17.5	+1.1
	0.1nm,0.3s,baz=29,slow=14,SNR=5.0						
	0.1nm,0.2s						

*IDC **07** 07:59:57.2±3.6,53°.67N×88°.08E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=32.9km s-min=19.4km az=47.0*

ASRS 07 07:59:55.0±1.7,53°.65N×88°.20E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**280**	I	I	08 12 20.0	
	0.2nm,0.9s,baz=95,slow=313,SNR=7.2						
ZALV	**Zalesovo Beam**	**2.03**	**280**	Pg	Pb	08 00 32.4	-0.3
	0.7nm,0.3s,baz=102,slow=12,SNR=13						
ZALV				Lg	Lg	08 00 58.8	
	1.6nm,0.3s,baz=97,slow=26,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.68**	**247**	Pn	Pn	08 01 37.2	+2.9
	baz=59,slow=14,SNR=2.4						
KURBB				Lg	Lg	08 03 26.6	
	baz=63,slow=31,SNR=2.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.84**	**211**	Pn	Pn	08 01 52.5	+2.3
	0.1nm,0.3s,baz=25,slow=18,SNR=1.9						
	0.2nm,0.6s						

IDC 07 08:16:50.8±1.9,1°.85N×126°.71E,h0km,mb3.3/4, mbtmp3.4/4,Error ellipse: s-maj=179.6km s-min=22.6km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.92**	**161**	P	P	08 21 55.9	-0.7
	0.5nm,0.5s,baz=340,slow=11,SNR=9.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.32**	**165**	P	P	08 22 29.0	+0.6
	0.2nm,0.5s,baz=340,slow=6.7,SNR=4.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.08**	**326**	P	P	08 26 52.2	-0.7
	0.2nm,0.4s,baz=116,slow=6.6,SNR=4.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.30**	**328**	P	P	08 27 22.1	+0.7
	0.3nm,0.4s,baz=118,slow=6.9,SNR=4.4						
	0.3nm,0.4s						

*WEL **07** 08:47:15.0±0.4,44°.S±3°×16°.9E±°,h1km±2km,M3.5/12, ML3.7/12,MLv3.5/12,Error ellipse: s-maj=3.7km s-min=2.9km az=154.8,confirmed*
*WEL **07** 08:47:15.2,43°.89S×169°.06E,h2km,ML3.6,Mw3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴ Nm; Mrr=0.15; Mθθ 1.04; Mϕϕ=0.89; Mrθ 0.28; Mϕθ=0.51; Mϕr 0.10; Fault plane solution: M₀1.13000×10¹⁴ NP1: ϕs239.00000°,δ90.00000°,λ-165.00000°. NP2: ϕs149.00000°,δ75.00000°,λ0.00000°. Principal axes: T 1.2150, Plg11.0000°, Azm13.0000°; N -1.0480, Plg75.0000°, Azm239.0000°; P -0.1670, Plg11.0000°, Azm105.0000°; Stations used: JCZ WKZ LBZ STRIKE-SLIP FAULTING*
*NOU **07** 08:47:15.1,43°.87S×168°.98E,h0km,MLv4.0/11,Off W. Coast of S. Island, N.Z.*

ISC 07 08:47:14.9±1.0,43°.87S±0°.03×169°.04E±0°.03,h3km±6km, n74,σ0§92/84,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HDWS	**Haast DOC Work**	**0.01**	**161**	P	**Pg**	**08 47 15.5**	**-0.1**
HDWS				S	**Sg**	**08 47 16.2**	**+0.2**
JCZ	**Jackson Bay**	**0.27**	**222**	P	**Pg**	**08 47 19.7**	**-0.4**
JCZ	**Jackson Bay**	**0.27**	**222**	P	**Pg**	**08 47 20.1**	**0.0**
JCZ				S	**Sg**	**08 47 23.9**	**+0.2**
NSBS	**Neils Beach**	**0.30**	**246**	P	**Pg**	**08 47 21.0**	**+0.4**
NSBS				S	**Sg**	**08 47 25.4**	**+0.9**
MECS	**Makarora Emerg**	**0.38**	**159**	P	**Pg**	**08 47 22.1**	**-0.2**
MECS				S	**Sg**	**08 47 26.5**	**-0.8**
FOZ	**Fox Glacier**	**0.66**	**59**	P	**Pg**	**08 47 27.4**	**0.0**
MCNS	**Mount Cook Ann**	**0.78**	**80**	P	**Pg**	**08 47 29.5**	**-0.2**
MCNS				S	**Sg**	**08 47 39.3**	**-0.5**
FGPS	**Fox Glacier Pa**	**0.82**	**60**	P	**Pg**	**08 47 29.1**	**-1.5**
FGPS				S	**Sg**	**08 47 42.1**	**+0.8**
TWAS	**Twizel Area Sc**	**0.85**	**117**	P	**Pg**	**08 47 31.3**	**+0.1**
WKZ	**Wanaka**	**0.95**	**181**	P	**Pg**	**08 47 32.4**	**-0.8**
FJDS	**Franz Josef DO**	**0.96**	**60**	P	**Pg**	**08 47 32.6**	**-0.7**
FJDS				S	**Sg**	**08 47 45.2**	**-0.5**
LBZ	**Lake Benmore**	**0.97**	**122**	P	**Pg**	**08 47 33.4**	**-0.1**
LBZ				S	**Sg**	**08 47 45.5**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**1.09**	**60**	P	**Pg**	**08 47 35.4**	**-0.3**
GCSZ				S	**Sg**	**08 47 49.5**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**1.09**	**60**	P	**Pg**	**08 47 35.4**	**-0.3**
MSZ	**Milford Sound**	**1.13**	**225**	P	**Pg**	**08 47 34.8**	**-1.8**
WHFS	**Whataroa Fire**	**1.14**	**58**	P	**Pg**	**08 47 36.4**	**-0.3**
QTPS	**Queenstown Pol**	**1.19**	**193**	P	**Pg**	**08 47 37.0**	**-0.7**
FDCS	**Fairlie Distri**	**1.31**	**101**	P	**Pg**	**08 47 39.8**	**-0.1**
EAZ	**Earnscleugh**	**1.37**	**172**	P	**Pg**	**08 47 39.9**	**-1.3**
RPZ	**Rata Peaks**	**1.47**	**85**	P	**Pn**	**08 47 42.5**	**+0.4**
RPZ	**Rata Peaks**	**1.47**	**85**	P	**Pn**	**08 47 42.6**	**+0.4**

IDC 07 08:52:59.2±2.3, 0°30N×133°18E, h0km, mb3.2/3, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=108.7km s-min=27.8km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.73**	**202**	P	P	08 57 30.6	-0.1
	baz=27,slow=14,SNR=1.6 2.0nm,1.1s						
WRA	**Warramunga Arr**	**20.15**	**177**	P	P	08 57 34.6	-0.6
	0.3nm,0.5s,baz=356,slow=11,SNR=5.1 0.3nm,0.5s						
ASAR	**Alice Springs**	**23.84**	**178**	P	P	08 58 14.8	+0.5
	0.3nm,0.4s,baz=359,slow=11,SNR=7.0 0.3nm,0.4s						
SONM	**Songino Array**	**52.75**	**338**	P	P	09 02 15.9	-0.2
	0.4nm,0.5s,baz=139,slow=6.8,SNR=1.9 0.4nm,0.5s						

HEL 07 09:00:22.3±0.2, 61°52N×24°05E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.76**	**31**	*eP*	Pg	09 00 36.1	-0.8
KEF	**Keuruu**	**0.76**	**31**	Pg	Pg	09 00 36.0	-0.9
KEF				SG	Sg	09 00 45.0	-1.7
KEF				MSG		09 00 45.9	
	comp=Z,2.2nm,0.2s						
FIA0	**FINESS Array S**	**0.98**	**93**	PG	Pg	09 00 40.0	-1.0
FIA0				MSG		09 00 52.1	
	comp=Z,1.9nm,0.2s						
FIA0				SB	Sb	09 00 56.2	+0.7
KPF	**Kankaanpaa**	**0.99**	**289**	PG	Pg	09 00 40.8	-0.6
	baz=109						
KPF				MSG		09 00 52.6	
	comp=Z,1.0nm,0.2s						
RAF	**Rauma**	**1.21**	**247**	*eP*	Pg	09 00 43.6	-1.8
RAF	**Rauma**	**1.21**	**247**	PN	Pg	09 00 45.7	+0.3
	baz=64						
RAF				MSG		09 00 58.9	
	comp=Z,1.2nm,0.2s						
KAF	**Kangasniemi**	**1.23**	**60**	PG	Pg	09 00 44.7	-1.1
KAF				MSG		09 00 59.4	
	comp=Z,1.9nm,0.2s						
KAF				SB	Sg	09 01 00.8	-0.9
SUF	**Sumiainen**	**1.56**	**38**	PG	Pn	09 00 50.4	-0.8
	baz=218						
SUF				MSG		09 01 09.0	
	comp=Z,0.7nm,0.2s						
SUF				SN	Sn	09 01 11.7	-0.4
RUF	**Ruokolahti**	**2.35**	**90**	PG	Pb	09 01 04.4	-1.1
	baz=278						
RUF				MSG		09 01 32.0	
	comp=Z,1.0nm,0.2s						
RUF				SG	Sb	09 01 35.5	+0.4
NIF	**Nilsia**	**2.57**	**41**	MSG		09 01 38.0	
	comp=Z,1.1nm,0.2s						
HEMU	**Hemsoen**	**3.06**	**295**	PB	Pn	09 01 14.3	+2.5
HEMU				SG	Sb	09 01 53.5	-1.7
SJUU	**Sjulsmark**	**4.15**	**346**	*eP*	Pn	09 01 01.1	-26
KU2	**Taivalkoski**	**4.60**	**22**	PG	Pb	09 01 45.8	+2.0

*UPP **07** 09:00:24.9±0.2, 67°42N×23°34E, h0km, ML1.7, Unknown Suspected explosion*
*HEL **07** 09:00:24.4±0.4, 67°56N×24°09E, h0km, ML1.4, Explosion*
*IDC **07** 09:00:25.3±1.6, 67°46N×23°68E, h0km, mbtmp2.5/2, ML1.4/1, Error ellipse: s-maj=33.1km s-min=8.9km az=96.0*

ISC 07 09:00:24.5±0.8, 67°44N±0°02×23°30E±0°03, h0km, n29, σ1§19/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.33**	**128**	PG	**Pg**	**09 00 31.1**	**+0.4**
KLF				SG	**Sg**	**09 00 35.1**	**+0.2**
PAJU	**Pajala**	**0.42**	**190**	P	**Pg**	**09 00 32.8**	**+0.3**
PAJU				S	**Sg**	**09 00 38.4**	**+0.5**
PAJU	**Pajala**	**0.42**	**190**	PB	**Pn**	**09 00 37.3**	**-0.5**
MASU	**Masugnsbyn**	**0.50**	**273**	P	**Pg**	**09 00 34.8**	**+0.7**
MASU				S	**Sb**	**09 00 41.9**	**-2.2**
LANU	**Lannavaara**	**0.79**	**322**	P	**Pg**	**09 00 40.1**	**+0.5**
LANU	**Lannavaara**	**0.79**	**322**	PG	**Pg**	**09 00 40.2**	**-0.9**
LANU				SG	**Sb**	**09 00 52.9**	**+0.6**
HEF	**Hetta**	**0.99**	**8**	*eP*	**Pg**	**09 00 44.0**	**+0.6**
HEF	**Hetta**	**0.99**	**8**	PB	**Pg**	**09 00 43.7**	**+0.4**
HEF				MSG		09 00 51.1	
	comp=Z,3.2nm,0.2s						
HEF				SG	**Sg**	**09 00 52.8**	**-3.3**
ERTU	**Ertsjaerv**	**0.99**	**207**	P	**Pg**	**09 00 43.3**	**0.0**
DUNU	**Dundret**	**1.11**	**255**	P	**Pb**	**09 00 45.8**	**-0.7**
KUA	**Kurravaara**	**1.25**	**296**	P	**Pb**	**09 00 48.5**	**-0.3**
RNF	**Rovaniemi**	**1.35**	**127**	PG	Pg	09 00 45.3	-5.0
RNF				SN	**Sg**	**09 01 07.6**	**-0.1**
TOF	**Tornio**	**1.42**	**163**	PG	**Pn**	**09 00 51.0**	**-0.5**
TOF				MSG		09 01 09.2	
	comp=Z,2.2nm,0.2s						
TOF				SG	**Sg**	**09 01 09.7**	**-0.3**
KOVU	**Salmi**	**1.43**	**305**	P	**Pb**	**09 00 52.0**	**0.0**
RATU	**Laukkuluspa**	**1.47**	**287**	P	**Pg**	**09 00 52.4**	**-0.3**
HARU	**Harads**	**1.58**	**217**	P	**Pn**	**09 00 53.7**	**+0.1**
KALU	**Kalix**	**1.58**	**179**	P	**Pn**	**09 00 53.9**	**+0.2**
KALU	**Kalix**	**1.58**	**179**	PG	**Pn**	**09 00 53.9**	**+0.2**
KALU				SN	**Sg**	**09 01 17.7**	**+2.5**
KTK1	**Kautokeino**	**1.58**	**359**	*eP*	**Pn**	**09 00 53.8**	**0.0**
KTK1	**Kautokeino**	**1.58**	**359**	PN	**Pn**	**09 00 54.0**	**+0.2**
KTK1				SN	**Sg**	**09 01 16.1**	**+0.8**
NIKU	**Nikkaluokta**	**1.69**	**287**	P	**Pb**	**09 00 56.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.83**	**331**	PG	**Pg**	**09 00 59.3**	**-0.2**
	baz=140						
KIF				MSG		09 01 21.7	
	comp=Z,3.7nm,0.2s						
KIF				SG	**Sg**	**09 01 24.0**	**+0.8**
ARCES	**ARCESS Array B**	**2.26**	**20**	Pn	**Pn**	**09 01 04.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=199,slow=14,SNR=15						
ARCES				Lg	Lg	09 01 33.4	
	comp=Z,0.3nm,0.3s,baz=200,slow=29,SNR=11 comp=Z,0.6nm,0.4s						
I37NO	**I37NO**	**2.40**	**315**	I	I	09 15 22.8	
	baz=132,slow=317,SNR=5.4						
KU6	**Riekki**	**2.97**	**115**	PG	**Pn**	**09 01 14.1**	**+1.3**
KU6				MSG		09 01 46.0	
	comp=Z,1.0nm,0.2s						
KU1	**Kurvinen**	**3.13**	**124**	PG	**Pn**	**09 01 16.2**	**+1.2**
KU1				SG	**Sn**	**09 01 54.0**	**+0.9**
OUF	**Merijarvi**	**3.14**	**169**	SG	**Sb**	**09 02 01.0**	**+1.3**
NIF	**Nilsia**	**4.48**	**153**	PB	**Pb**	**09 01 40.2**	**-3.6**
FINES	**FINESS Array B**	**6.13**	**167**	Pn	**Pn**	**09 01 57.6**	**+1.4**
	comp=Z,1.3nm,1.0s,baz=348,slow=12,SNR=1.0						
FINES				Lg	Lg	09 03 35.9	
	comp=Z,0.1nm,0.3s,baz=337,slow=35,SNR=1.9						

*IDC **07** 09:05:12.1±1.6, 51°59N×82°47E, h0km, mbtmp2.6/3, ML2.3/3, Error ellipse: s-maj=16.9km s-min=15.0km az=168.0*
*NNC **07** 09:05:14.2±4.1, 51°53N×82°78E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=40.8km s-min=18.3km az=19.0, Suspected Mining explosion.*

ISC 07 09:05:12.7±1.2, 51°68N±0°08×82°39E±0°08, h0km, n8, σ0§75/11, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.56**	**249**	⇓Pn	**Pb**	**09 05 59.1**	**-0.4**
	1.3nm,0.5s						
KURK				⇓Sn	**Sb**	**09 06 32.9**	**+1.5**
	5.6nm,0.5s						
KURBB	**Kurchatov Arra**	**2.65**	**248**	Pn	**Pn**	**09 05 56.0**	**-0.7**
	0.1nm,0.3s,baz=73,slow=16,SNR=1.9						
KURBB				Pg	**Pb**	**09 06 00.3**	**-0.7**
	0.2nm,0.3s,baz=71,slow=17,SNR=4.8						
KURBB				Lg	Lg	09 06 35.7	
	0.5nm,0.3s,baz=70,slow=33,SNR=5.5 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**2.65**	**248**	⇑Pn	**Pb**	**09 06 00.4**	**-0.6**
	1.8nm,0.4s						
KURBB				⇑Sn	**Sg**	**09 06 38.1**	**+0.3**
	10nm,0.5s						
I46RU	**ZALESOVO INFRA**	**2.71**	**32**	I	I	09 24 40.0	
	0.1nm,1.3s,baz=215,slow=307,SNR=1.7						
ZALV	**Zalesovo Beam**	**2.71**	**32**	Pn	**Pn**	**09 05 57.3**	**-0.1**
	2.8nm,0.3s,baz=217,slow=16,SNR=22						
ZALV				Sn	**Sn**	**09 06 31.1**	**+0.3**
	2.1nm,0.3s,baz=220,slow=22,SNR=7.5 6.7nm,0.3s						
MAKZ	**Makanchi**	**4.89**	**183**	Pn	**Pn**	**09 06 27.8**	**+0.4**
	0.8nm,0.4s						
MAKZ				Lg	Lg	09 07 41.8	
	2.7nm,0.5s						
MK31	**Makanchi Array**	**4.89**	**181**	⇓Pn	**Pn**	**09 06 27.4**	**0.0**
	0.3nm,0.3s,baz=10,slow=12,SNR=15						
MK31				⇑Lg	Lg	09 07 44.0	
	2.5nm,0.6s,baz=16,slow=25,SNR=9.7						
MKAR	**Makanchi Array**	**4.89**	**181**	Pn	**Pn**	**09 06 26.7**	**-0.7**
	0.6nm,0.3s,baz=9.6,slow=11,SNR=12						
MKAR				Lg	Lg	09 07 42.2	
	0.9nm,0.3s,baz=7.2,slow=28,SNR=14 0.8nm,0.4s						

*NIED **07** 09:22:40.9, 33°88N×132°77E, h42km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.97; $M_{\theta\theta}$=0.55; $M_{\phi\phi}$1.53; $M_{r\theta}$0.60; $M_{\theta\phi}$-0.94; $M_{r\theta}$0.65; Fault plane solution: $M_0$1.85000×10^{14} NP1: ϕ_s304.00000°, δ52.00000°, λ-148.00000°. NP2: ϕ_s193.00000°, δ66.00000°, λ-42.00000°.*

JMA 07 09:22:40.9±0.0, 33°9N±0°1×132°8E±0°1, h42km, MV3.6/40, 8D, NE EHIME PREF, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JET	**Tanbara**	**0.26**	**113**	*i* P	Pn	09 22 48.9	0.0
JET				S	Sn	09 22 54.4	-0.1
JNA	**Nagahama**	**0.40**	**217**	*i* P	Pn	09 22 50.2	-0.2
JNA				S	Sn	09 22 56.8	-0.3
JKU	**Kubokawa**	**0.62**	**156**	⇓*i* P	Pn	09 22 53.1	-0.2
JKU				⇓S	Sn	09 23 02.1	-0.1
UWA2	**Uwa jima 2**	**0.68**	**190**	⇓*i* P	Pn	09 22 54.1	+0.1
UWA2				⇓S	Sn	09 23 03.4	0.0
JHT	**Toyohira**	**0.83**	**340**	⇓*i* P	Pn	09 22 56.1	0.0
JHT				⇓S	Sn	09 23 07.8	+0.5
JMN	**Monobe**	**0.94**	**99**	*i* P	Pn	09 22 57.5	-0.2
JMN				S	Sn	09 23 10.1	+0.2
JTO	**Tosashimizu**	**1.02**	**178**	⇓*i* P	Pn	09 22 58.7	0.0
JTO				⇓S	Sn	09 23 11.5	-0.3
JJS	**Sakaide**	**1.08**	**63**	*i* P	Pn	09 22 59.3	-0.3
JJS				S	Sn	09 23 13.3	-0.2
JHS	**Saijyo**	**1.15**	**14**	*i* P	Pn	09 23 00.8	+0.2
JHS				S	Sn	09 23 15.6	+0.5
JGT2	**ShimaneMisato**	**1.20**	**350**	*i* P	Pn	09 23 01.3	+0.1
JGT2				*eS*	Sn	09 23 16.4	+0.1

*DJA **07** 09:25:18.7±0.4, 6°N±3°×12°6E±°, h10km, M4.7/12, mB5.7/1, mb4.6/7, MLv4.7/12, Mw(mB)5.2/1*
*IDC **07** 09:25:18.2±2.7, 6°16N×126°47E, h71km±24km, mb3.6/7, mbtmp4.0/8, MS3.0/2, Error ellipse: s-maj=60.8km s-min=14.7km az=70.0*

ISC 07 09:25:18.5±0.7, 6°14N±0°06×126°5E±0°1, h71km, n21, σ0§92/21, mb3.9/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.27**	**317**	P	**Pn**	**09 25 40.1**	**-0.4**
	386nm,0.5s,baz=77,slow=7.7,SNR=5.9						
DAV				S	**Sn**	**09 25 56.6**	**-0.4**
	611nm,0.3s,baz=290,slow=22,SNR=6.1						
DAV				LR	LR	09 26 26.4	
	comp=Z,292nm,21.4s,baz=116,slow=54						
SGSI	**Sangihe**	**2.61**	**201**	P	**Pn**	**09 25 58.7**	**+0.2**
SGSI				S	**Sn**	**09 26 29.2**	**+0.1**
KMSI	**Cibinong**	**6.06**	**204**	P	**Pn**	**09 26 45.9**	**+0.3**
MRSI	**Marisa**	**7.21**	**219**	P	**Pn**	**09 27 00.9**	**-0.4**
	54nm,0.5s						
LUWI	**Luwuk**	**8.03**	**207**	P	**Pn**	**09 27 13.3**	**+0.8**
	4µm81nm,1.0s						
SANI	**Sanana**	**8.15**	**183**	P	**Pn**	**09 27 13.7**	**-0.5**
KAPI	**Kappang**	**12.95**	**211**	P	**Pn**	**09 28 19.5**	**-0.2**
	7.0nm,0.4s,baz=24,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**27.06**	**164**	P	**P**	**09 30 54.0**	**-0.5**
	1.3nm,0.6s,baz=339,slow=10,SNR=25						
WRA				PcP	**PcP**	**09 34 13.9**	**-0.5**
	0.6nm,0.9s,baz=330,slow=2.7,SNR=2.8 1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.48**	**297**	LR	LR	09 42 40.9	
	comp=Z,11nm,21.5s,baz=195,slow=35						
ASAR	**Alice Springs**	**30.51**	**166**	P	**P**	**09 31 25.0**	**-0.2**
	2.4nm,0.6s,baz=342,slow=7.0,SNR=46						
ASAR				PcP	**PcP**	**09 34 20.9**	**-2.1**
	0.7nm,0.6s,baz=335,slow=2.2,SNR=6.8 2.4nm,0.6s						
BNX	**BinXian**	**39.45**	**1**	⇓P	**P**	**09 32 42.4**	**+0.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,2.1s						
STKA	**Stephens Creek**	**40.47**	**160**	P	**P**	**09 32 50.6**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=336,slow=7.6,SNR=9.3						
STKA				PcP	**PcP**	**09 34 52.4**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=312,slow=9.1,SNR=3.5 comp=Z,5.0nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**41.07**	**69**	T	T	10 16 54.8	
	baz=258,slow=74						
H11S1	**WAKE ISLAND Hy**	**41.09**	**69**	T	T	10 16 53.7	
	baz=258						
H11S2	**WAKE ISLAND Hy**	**41.09**	**69**	T	T	10 16 54.2	
	baz=258,slow=74						
HEH	**HeiHe**	**43.97**	**1**	*eP*	**P**	**09 33 20.8**	**+2.2**
MKAR	**Makanchi Array**	**55.44**	**324**	P	**P**	**09 34 47.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=122,slow=8.7,SNR=4.0 comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**59.58**	**327**	P	**P**	**09 35 13.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=125,slow=6.2,SNR=4.2 comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**83.06**	**26**	P	**P**	**09 37 35.5**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=272,slow=8.2,SNR=2.9 comp=Z,0.4nm,1.0s						
VNDA	**Vanda**	**85.84**	**173**	P	**P**	**09 37 49.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=313,slow=4.0,SNR=4.6 comp=Z,0.7nm,0.6s						
INK	**Inuvik**	**88.03**	**21**	LR	LR	10 25 22.9	
	comp=Z,20nm,18.1s,baz=270,slow=41						

*JMA **07** 09:27:09.5±0.4, 23°N±2°×12°3E±°, h56km, MV2.7/10, FAR S OFF ISHIGAKIJIMA*
*TAP **07** 09:27:10.0, 22°95N×122°64E, h43km±1km, ML3.2, D*

ISC 07 09:27:06.5±1.2, 22°94N±0°03×122°59E±0°03, h13km±9km, n97, σ0§91/186, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.07**	**256**	*eP*	**Pg**	**09 27 27.7**	**+0.5**
LDUT				*eS*	**Sg**	**09 27 41.1**	**0.0**
ECBN	**Changbin**	**1.11**	**290**	P	**Pg**	**09 27 28.9**	**+0.9**
ECBN				*eS*	**Sb**	**09 27 41.6**	**-0.5**
CHKH	**Chenggong**	**1.13**	**283**	*eP*	**Pg**	**09 27 28.6**	**+0.3**
CHKH				*eS*	**Sb**	**09 27 41.0**	**-1.6**
CHKT	**Chengkung**	**1.14**	**278**	P	**Pg**	**09 27 28.8**	**+0.3**
CHKT				S	**Sn**	**09 27 42.5**	**-1.2**
EDH	**Donghe**	**1.19**	**272**	*i* P	**Pg**	**09 27 29.9**	**+0.5**
EDH				*eS*	**Sn**	**09 27 44.0**	**-0.8**
EOS4	**EOS4**	**1.20**	**348**	*i* P	**Pg**	**09 27 30.0**	**+0.4**
EOS4				S	**Sn**	**09 27 44.8**	**+0.1**
HGSD	**Ruisui**	**1.21**	**297**	P	**Pg**	**09 27 29.6**	**-0.1**
HGSD				*eS*	**Sb**	**09 27 44.2**	**-0.5**
FULB	**Fuli**	**1.22**	**282**	P	**Pg**	**09 27 30.0**	**-0.1**
FULB				*eS*	**Sn**	**09 27 45.3**	**-0.5**
TWF1	**Yuli**	**1.26**	**289**	*i* P	**Pg**	**09 27 30.9**	**+0.1**
TWF1				*eS*	**Sg**	**09 27 46.9**	**-0.4**
SHUL	**Shoufeng**	**1.27**	**312**	P	**Pg**	**09 27 31.1**	**+0.2**
SHUL				*eS*	**Sn**	**09 27 46.6**	**-0.2**
EHYH	**Wanrong**	**1.27**	**296**	*eP*	**Pg**	**09 27 32.5**	**+1.4**
EHYH				*eS*	**Sg**	**09 27 47.7**	**0.0**
YULB	**Yu-li**	**1.27**	**291**	*eP*	**Pg**	**09 27 31.3**	**+0.3**
YULB				*eS*	**Sg**	**09 27 47.8**	**+0.1**
ECS	**Chishang**	**1.27**	**277**	P	**Pg**	**09 27 32.7**	**+1.6**
ECS				S	**Sg**	**09 27 47.7**	**0.0**
EGFH	**Guangfu**	**1.29**	**304**	*eS*	**Sb**	**09 27 46.9**	**-0.3**
EHD	**Haiduan**	**1.29**	**279**	*eP*	**Pg**	**09 27 31.4**	**-0.1**
EHD				*eS*	**Sb**	**09 27 46.4**	**-0.9**
EHY	**Hungye**	**1.30**	**296**	*eP*	**Pn**	**09 27 30.0**	**-0.4**
EHY				*eS*	**Sn**	**09 27 46.6**	**-1.0**
LYUB	**Lan-yu**	**1.32**	**225**	*eP*	**Pg**	**09 27 33.5**	**+1.6**
LYUB				*eS*	**Sn**	**09 27 46.0**	**-2.1**
TTN	**Taitung**	**1.35**	**262**	*eP*	**Pg**	**09 27 34.3**	**+1.9**
TTN				*eS*	**Sg**	**09 27 49.0**	**-0.9**
LONT	**Longtian**	**1.35**	**269**	*i* P	**Pg**	**09 27 33.1**	**+0.6**
LONT				*i* S	**Sg**	**09 27 49.7**	**-0.3**
WARBT	**Fenglin Townsh**	**1.35**	**305**	*eP*	**Pg**	**09 27 32.4**	**-0.2**
WARBT				*eS*	**Sb**	**09 27 48.6**	**-0.4**
EOS3	**EOS3**	**1.36**	**349**	P	**Pg**	**09 27 32.8**	**0.0**
EOS3				*eS*	**Sb**	**09 27 49.5**	**+0.4**
ESL	**Shilin**	**1.38**	**309**	P	**Pb**	**09 27 32.0**	**-0.1**
ESL				*eS*	**Sn**	**09 27 48.0**	**-1.5**
TWGBT	**Beinan**	**1.40**	**265**	*eP*	**Pg**	**09 27 33.6**	**+0.1**
TWGBT				S	**Sb**	**09 27 50.1**	**-0.2**
TWG	**Pinlang**	**1.41**	**265**	P	**Pb**	**09 27 33.0**	**+0.3**
TWG				*i* S	**Sb**	**09 27 50.1**	**-0.4**
ETM	**Tongmen**	**1.44**	**315**	*i* P	**Pb**	**09 27 33.2**	**+0.1**
ETM				S	**Sn**	**09 27 50.0**	**-1.0**
TWD	**Chiawan**	**1.46**	**321**	*i* P	**Pb**	**09 27 33.4**	**-0.1**
TWD				S	**Sn**	**09 27 49.7**	**-1.8**
ELDTW	**Lidau**	**1.47**	**280**	*eP*	**Pb**	**09 27 33.5**	**-0.4**
ELDTW				*eS*	**Sn**	**09 27 51.1**	**-1.0**
EOS2	**EOS2**	**1.51**	**347**	*eP*	**Pg**	**09 27 35.4**	**-0.1**
EOS2				S	**Sb**	**09 27 54.1**	**+0.8**
NACB	**Ninganchiao**	**1.53**	**323**	*i* P	**Pb**	**09 27 34.6**	**-0.2**
NACB				*i* S	**Sn**	**09 27 52.6**	**-0.8**
JYNG	**Yonagunijimaku**	**1.54**	**12**	P	**Pb**	**09 27 35.4**	**+0.5**
JYNG				S	**Sb**	**09 27 54.1**	**-0.2**
ECL	**Taimali**	**1.55**	**258**	*eP*	**Pb**	**09 27 34.9**	**-0.2**
ECL				*eS*	**Sn**	**09 27 53.2**	**-0.6**
VWDT	**VWDT**	**1.56**	**302**	*eP*	**Pb**	**09 27 36.0**	**+0.7**
VWDT				*i* S	**Sb**	**09 27 54.6**	**-0.3**
YOJ	**Yonaguni jima**	**1.56**	**14**	*eP*	**Pb**	**09 27 35.9**	**+0.6**
YOJ				S	**Sn**	**09 27 54.4**	**+0.3**
YOJ	**Yonaguni jima**	**1.56**	**14**	P	**Pg**	**09 27 35.9**	**+0.6**
EAHA	**Aohua**	**1.59**	**331**	*eS*	**Sb**	**09 27 56.1**	**-0.4**
YUS	**Yu-Shan**	**1.60**	**290**	*eP*	**Pb**	**09 27 36.8**	**+0.5**
YUS				*eS*	**Sb**	**09 27 56.7**	**0.0**
ETLH	**Xiulin Townshi**	**1.62**	**321**	*eP*	**Pb**	**09 27 36.2**	**-0.2**
ETLH				*i* S	**Sn**	**09 27 55.1**	**-0.6**
OWD	**Renai**	**1.65**	**308**	P	**Pb**	**09 27 36.9**	**0.0**
OWD				S	**Sn**	**09 27 55.9**	**-0.5**
ENA	**Nanau**	**1.67**	**332**	*eP*	**Pb**	**09 27 37.2**	**0.0**
ENA				*eS*	**Sb**	**09 27 58.1**	**-0.1**
EWUT	**Wuta**	**1.67**	**334**	*eP*	**Pb**	**09 27 37.5**	**+0.3**
EWUT				*i* S	**Sn**	**09 27 57.2**	**+0.4**
TAWH	**Dawu Township**	**1.69**	**250**	P	**Pb**	**09 27 37.7**	**+0.3**
TAWH				S	**Sb**	**09 27 58.9**	**+0.4**
STYH	**Taoyuan**	**1.69**	**278**	*eP*	**Pb**	**09 27 37.9**	**+0.4**
STYT	**Tauyuan**	**1.71**	**278**	P	**Pb**	**09 27 37.9**	**+0.1**
STYT				*i* S	**Sb**	**09 27 58.3**	**-0.9**
WHF	**Hehuan Shan**	**1.71**	**315**	*eP*	**Pb**	**09 27 38.0**	**-0.1**
WHF				*eS*	**Sn**	**09 27 58.1**	**-0.2**
WUSB	**Renai**	**1.71**	**308**	*eP*	**Pn**	**09 27 36.9**	**+0.7**
WUSB				*eS*	**Sb**	**09 27 58.6**	**-0.8**
SSLB	**Suanglung**	**1.73**	**300**	P	**Pb**	**09 27 38.3**	**+0.2**
SSLB				*eS*	**Sb**	**09 27 58.8**	**-0.9**
IRIF	**Iriomote-Funau**	**1.73**	**37**	P	**Pn**	**09 27 37.5**	**+1.1**
IRIF				S	**Sn**	**09 27 57.7**	**-0.7**
ALS	**Alishan**	**1.74**	**289**	P	**Pg**	**09 27 39.4**	**-0.6**
ALS				S	**Sb**	**09 28 00.6**	**+0.1**
WHYT	**Xinyi Township**	**1.77**	**296**	*eP*	**Pb**	**09 27 39.5**	**+0.7**
WHYT				*eS*	**Sb**	**09 28 00.8**	**-0.1**
FUSS	**Fushou**	**1.79**	**317**	*eP*	**Pb**	**09 27 39.7**	**+0.3**
FUSS				*eS*	**Sn**	**09 28 00.3**	**+0.1**
TWC	**Suao**	**1.79**	**338**	P	**Pb**	**09 27 39.4**	**+0.1**
TWC				*eS*	**Sb**	**09 28 01.3**	**-0.4**
SMLT	**Sun Moon Lake**	**1.82**	**301**	P	**Pb**	**09 27 40.0**	**+0.3**
SMLT				*eS*	**Sb**	**09 28 02.5**	**0.0**
SSD	**Sandimen**	**1.82**	**264**	P	**Pb**	**09 27 39.1**	**-0.6**
SSD				S	**Sb**	**09 28 02.0**	**-0.4**
JKRS	**Kuro-shima**	**1.83**	**45**	S	**Sn**	**09 27 59.7**	**-1.1**
MASBT	**Mashibuluo**	**1.84**	**260**	P	**Pb**	**09 27 39.5**	**-0.5**
MASBT				*eS*	**Sg**	**09 28 03.9**	**-1.8**
TPUB	**Ta-pu**	**1.84**	**282**	*eP*	**Pg**	**09 27 41.1**	**-0.8**
TPUB				*eS*	**Sg**	**09 28 04.2**	**-1.6**
TWT	**Tachien**	**1.84**	**315**	*eS*	**Sb**	**09 28 02.3**	**-1.0**
WTP	**Ta-pu**	**1.85**	**280**	P	**Pg**	**09 27 41.4**	**-0.6**
WTP				*eS*	**Sg**	**09 28 04.5**	**-1.5**
NNSB	**Datong**	**1.85**	**323**	*eP*	**Pb**	**09 27 40.1**	**-0.2**
NNSB				*eS*	**Sn**	**09 28 01.7**	**+0.3**
SGST	**Jiashian**	**1.86**	**275**	*eP*	**Pb**	**09 27 40.5**	**+0.1**
SGST				*eS*	**Sb**	**09 28 04.4**	**+0.9**
TYC	**Yuchr**	**1.86**	**301**	P	**Pb**	**09 27 41.1**	**+0.7**
TYC				*eS*	**Sb**	**09 28 03.4**	**-0.1**
LATG	**Datong**	**1.86**	**329**	*eP*	**Pb**	**09 27 40.2**	**-0.4**
LATG				*i* S	**Sn**	**09 28 01.9**	**+0.2**
NDJ	**Dongshan**	**1.87**	**335**	*eP*	**Pn**	**09 27 39.7**	**-0.3**
NDS				*eS*	**Sn**	**09 28 00.4**	**-1.3**
CHN5	**Tsauling**	**1.88**	**291**	P	**Pg**	**09 27 41.8**	**-0.9**
CHN5				*eS*	**Sb**	**09 28 05.3**	**+1.1**
CHN4	**Tsaushan**	**1.89**	**283**	*eP*	**Pg**	**09 27 42.1**	**-0.7**
CHN4				*eS*	**Sg**	**09 28 06.2**	**-1.1**
WCKO	**Fanlu**	**1.90**	**286**	*eP*	**Pg**	**09 27 42.3**	**-0.6**
WCKO	

ML2.4/2, Error ellipse: s-maj=26.4km s-min=15.3km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**283**	I	I	09 39 03.1	
	baz=101,slow=318,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.20**	**283**	Pg	Pg	09 31 20.6	-1.0
	0.7nm,0.3s,baz=105,slow=12,SNR=12						
ZALV				Lg	Lg	09 31 38.0	
	0.8nm,0.3s,baz=102,slow=28,SNR=5.9						
KURBB	**Kurchatov Arra**	**5.95**	**242**	Pn	Pn	09 32 29.2	+1.3
	0.1nm,0.3s,baz=58,slow=14,SNR=2.2						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.50**	**204**	Pn	Pn	09 32 50.3	+1.1
	0.1nm,0.3s,baz=25,slow=14,SNR=2.8						
	0.2nm,0.4s						

*IDC **07** 09:45:43.4±3.5,54.5°N×87.0°E,h0km,mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=32.2km s-min=21.7km az=43.0*

ASRS 07 09:45:42.0±0.9,54.42N×86.86E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**249**	I	I	09 54 00.0	
	baz=68,slow=310,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.29**	**249**	Pg	Pn	09 46 08.6	+1.3
	0.9nm,0.3s,baz=66,slow=16,SNR=12						
ZALV				Lg	Lg	09 46 30.3	
	1.6nm,0.3s,baz=66,slow=35,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.35**	**237**	Pn	Pn	09 47 20.8	+4.1
	0.1nm,0.3s,baz=54,slow=14,SNR=8.9						
KURBB				Sn	Sn	09 48 27.9	-1.9
	0.1nm,0.3s,baz=53,slow=16,SNR=4.7						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	Pn	09 47 47.1	+5.3
	0.1nm,0.3s,baz=22,slow=12,SNR=4.0						
	0.2nm,0.3s						

*ASRS **07** 10:21:33.0±0.7,53.81N×91.16E,h0km,M2.9,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 07 10:21:38.5±3.6,53.65N×90.85E,h0km,mbtmp2.8/3, ML3.0/1,Error ellipse: s-maj=32.4km s-min=24.5km az=36.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.59**	**277**	I	I	10 43 35.0	
	0.1nm,1.1s,baz=91,slow=313,SNR=7.3						
ZALV	**Zalesovo Beam**	**3.59**	**277**	Pn	Pn	10 22 34.3	-1.0
	0.2nm,0.3s,baz=92,slow=15,SNR=0.7						
ZALV				Pg	Pb	10 22 42.2	-0.6
	1.3nm,0.3s,baz=96,slow=15,SNR=12						
ZALV				Lg	Lg	10 23 31.6	
	0.5nm,0.3s,baz=94,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**8.16**	**253**	Pn	Pn	10 23 38.2	+0.1
	0.5nm,0.3s,baz=62,slow=14,SNR=0.9						
KURBB				Sn	Sn	10 25 10.0	-0.9
	baz=69,slow=27						
KURBB				Lg	Lg	10 25 58.9	
	baz=70,slow=33						
MKAR	**Makanchi Array**	**8.78**	**222**	Pn	Pn	10 23 47.4	+0.8
	0.2nm,0.3s,baz=39,slow=12,SNR=4.8						
MKAR				Lg	Lg	10 26 15.1	
	baz=31,slow=28						
	0.3nm,0.5s						

*JMA **07** 10:55:32.5±0.2,24.1°N×122.5°E±0.7,h22km,MV2.7/9, NW OFF ISHIGAKIJIMA IS*
*TAP **07** 10:55:33.2,23.80N×122.49E,h28km,ML3.4,C*

ISC 07 10:55:30.6±1.0,23.68N±0.02×122.49E±0.02,h13km±8km, n131,σ0§85/246,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.47**	**340**	P	**Pg**	**10 55 40.6**	**+0.8**
EOS4				S	**Sg**	**10 55 47.0**	**+0.9**
EOS3	**EOS3**	**0.63**	**345**	⇑P	**Pg**	**10 55 43.7**	**+0.8**
EOS3				*e*S	**Sg**	**10 55 51.9**	**+0.6**
EOS2	**EOS2**	**0.78**	**342**	P	**Pg**	**10 55 46.8**	**+1.1**
EOS2				S	**Sg**	**10 55 56.8**	**+0.9**
TEYL	**Yanliau Villag**	**0.84**	**283**	*e*P	**Pg**	**10 55 45.6**	**-1.2**
TEYL				*e*S	**Sn**	**10 56 00.7**	**+0.4**
SHUL	**Shoufeng**	**0.86**	**278**	*e*P	**Pn**	**10 55 48.7**	**+0.3**
SHUL				*e*S	**Sn**	**10 56 00.9**	**+0.1**
HWA	**Hwalien**	**0.87**	**290**	P	**Pb**	**10 55 48.4**	**+1.0**
HWA				S	**Sb**	**10 55 58.7**	**-0.3**
TEGC	**Jichi Village**	**0.88**	**272**	P	**Pn**	**10 55 48.5**	**0.0**
TEGC				S	**Sn**	**10 56 01.1**	**0.0**
JYNG	**Yonagunijimaku**	**0.88**	**28**	*e*P	**Pg**	**10 55 47.3**	**-0.3**
JYNG				*e*S	**Sg**	**10 55 56.7**	**-2.3**
YOJ	**Yonaguni jima**	**0.92**	**31**	P	**Pb**	**10 55 48.1**	**-0.2**
YOJ				*e*S	**Sg**	**10 55 58.6**	**-1.7**
YOJ	**Yonaguni jima**	**0.92**	**31**	*e*P	**Pb**	**10 55 47.9**	**-0.4**
YOJ				*e*S	**Sg**	**10 55 58.1**	**-2.1**
TWD	**Chiawan**	**0.92**	**296**	*e*P	**Pg**	**10 55 48.5**	**+0.2**
TWD				*i* S	**Sg**	**10 55 59.6**	**-0.7**
ETL	**Fush Village**	**0.93**	**301**	*e*P	**Pg**	**10 55 48.9**	**+0.3**
ETL				*e*S	**Sb**	**10 56 01.4**	**+0.5**
EAHA	**Aohua**	**0.95**	**314**	*e*P	**Pg**	**10 55 49.6**	**+0.6**
EAHA				*e*S	**Sg**	**10 56 00.8**	**-0.6**
NACB	**Ninganchiao**	**0.96**	**301**	*i* P	**Pg**	**10 55 49.2**	**0.0**
NACB				*e*S	**Sg**	**10 56 01.5**	**-0.2**
ETM	**Tongmen**	**0.96**	**288**	P	**Pg**	**10 55 49.2**	**0.0**
EGFH	**Guangfu**	**0.98**	**270**	*e*P	**Pn**	**10 55 51.0**	**+1.1**
EGFH				S	**Sn**	**10 56 03.4**	**-0.3**
ESL	**Shilin**	**0.98**	**278**	*i* P	**Pg**	**10 55 49.7**	**+0.1**
ESL				*e*S	**Sg**	**10 56 01.4**	**-1.0**
HGSD	**Ruisui**	**1.00**	**260**	P	**Pn**	**10 55 50.8**	**+0.6**
HGSD				*e*S	**Sn**	**10 56 03.4**	**-0.8**
EWUT	**Wuta**	**1.01**	**320**	*e*P	**Pb**	**10 55 50.2**	**+0.3**
EWUT				S	**Sg**	**10 56 03.2**	**-0.1**
WARBT	**Fenglin Townsh**	**1.02**	**273**	*e*P	**Pb**	**10 55 50.6**	**+0.5**
WARBT				S	**Sb**	**10 56 03.1**	**-0.2**
ENA	**Nanau**	**1.02**	**318**	*e*P	**Pb**	**10 55 50.4**	**+0.3**
ENA				S	**Sg**	**10 56 02.8**	**-0.7**
ECBN	**Changbin**	**1.02**	**250**	*e*P	**Pn**	**10 55 51.7**	**+1.1**
ECBN				*i* S	**Sn**	**10 56 05.0**	**+0.3**
ETLH	**Xiulin Townshi**	**1.07**	**300**	*e*P	**Pb**	**10 55 50.9**	**0.0**
ETLH				*e*S	**Sb**	**10 56 04.2**	**-0.6**
EHYH	**Wanrong**	**1.07**	**261**	P	**Pn**	**10 55 52.5**	**+1.3**
EHYH				S	**Sn**	**10 56 06.4**	**+0.5**
ESAO	**Su ao**	**1.08**	**327**	P	**Pb**	**10 55 51.3**	**+0.2**
ESAO				*i* S	**Sb**	**10 56 05.7**	**+0.7**
EHY	**Hungye**	**1.09**	**261**	*e*P	**Pn**	**10 55 52.4**	**+0.9**
EHY				S	**Sn**	**10 56 05.5**	**-0.9**
TWC	**Suao**	**1.10**	**328**	P	**Pb**	**10 55 51.2**	**-0.3**
TWC				*e*S	**Sb**	**10 56 05.6**	**-0.1**
CHKH	**Chenggong**	**1.12**	**245**	P	**Pn**	**10 55 52.6**	**+0.7**
CHKH				*e*S	**Sn**	**10 56 06.9**	**-0.2**
EYUL	**Yuli**	**1.13**	**253**	P	**Pn**	**10 55 53.0**	**+0.9**
EYUL				S	**Sn**	**10 56 07.9**	**+0.6**
YULB	**Yu-li**	**1.13**	**256**	*i* P	**Pn**	**10 55 53.4**	**+1.3**
YULB				*e*S	**Sb**	**10 56 05.3**	**-1.3**
TWF1	**Yuli**	**1.15**	**254**	*e*P	**Pn**	**10 55 53.5**	**+1.2**
TWF1				*e*S	**Sn**	**10 56 08.6**	**+0.8**
CHKT	**Chengkung**	**1.19**	**241**	P	**Pg**	**10 55 53.5**	**+0.1**
CHKT				*e*S	**Sg**	**10 56 07.9**	**-0.9**
NDS	**Dongshan**	**1.19**	**323**	*e*P	**Pb**	**10 55 50.9**	**-2.1**
NDS				*e*S	**Sb**	**10 56 07.2**	**-1.1**
FULB	**Fuli**	**1.20**	**247**	*e*P	**Pg**	**10 55 54.1**	**+0.4**
FULB				*e*S	**Sn**	**10 56 09.0**	**-0.2**
WHF	**Hehuan Shan**	**1.22**	**293**	*i* P	**Pb**	**10 55 53.8**	**0.0**
WHF				S	**Sb**	**10 56 09.1**	**-0.4**
LATG	**Datong**	**1.23**	**314**	*e*P	**Pn**	**10 55 53.9**	**+0.3**
LATG				*e*S	**Sn**	**10 56 11.9**	**+1.9**
OWD	**Renai**	**1.24**	**283**	P	**Pb**	**10 55 54.0**	**+0.1**
OWD				S	**Sb**	**10 56 09.2**	**-0.6**
VWDT	**VWDT**	**1.24**	**274**	S	**Sg**	**10 56 09.8**	**-0.9**
NNSB	**Datong**	**1.26**	**307**	*e*P	**Pn**	**10 55 54.2**	**+0.1**
NNSB				S	**Sb**	**10 56 10.0**	**-0.5**
EGS		**1.27**	**336**	*e*P	**Pb**	**10 55 55.9**	**+1.5**
EGS				*e*S	**Sb**	**10 56 11.8**	**+1.1**
FUSS	**Fushou**	**1.28**	**297**	P	**Pn**	**10 55 54.3**	**0.0**
FUSS				*e*S	**Sb**	**10 56 10.5**	**-0.6**
ENTT	**Nioudou**	**1.28**	**319**	*e*P	**Pn**	**10 55 54.7**	**+0.5**
ENTT				S	**Sb**	**10 56 10.1**	**-0.8**
ILA	**Ilan**	**1.28**	**328**	*e*P	**Pg**	**10 55 56.2**	**+0.9**
TWE	**Neicheng**	**1.29**	**324**	*e*P	**Pn**	**10 55 54.6**	**+0.4**
TWE				S	**Sb**	**10 56 10.5**	**-0.6**
EHD	**Haiduan**	**1.29**	**246**	*e*P	**Pg**	**10 55 55.6**	**+0.1**
EHD				*e*S	**Sb**	**10 56 10.8**	**-0.5**
EDH	**Donghe**	**1.30**	**238**	*e*P	**Pg**	**10 55 55.3**	**-0.3**
EDH				*i* S	**Sg**	**10 56 11.5**	**-1.0**
WUSB	**Renai**	**1.30**	**284**	P	**Pn**	**10 55 55.0**	**+0.5**
WUSB				S	**Sb**	**10 56 11.0**	**-0.5**
ECS	**Chishang**	**1.31**	**244**	P	**Pg**	**10 55 55.7**	**0.0**
ECS				S	**Sg**	**10 56 12.4**	**-0.3**
IRIF	**Iriomote-Funau**	**1.31**	**60**	*e*P	**Pn**	**10 55 55.5**	**+1.0**
IRIF				*e*S	**Sn**	**10 56 12.0**	**+0.2**
TWT	**Tachien**	**1.34**	**296**	P	**Pn**	**10 55 55.7**	**+0.7**
TWT				*e*S	**Sb**	**10 56 10.8**	**-1.9**
TDCB	**Techi**	**1.35**	**296**	P	**Pn**	**10 55 56.0**	**+0.8**
TDCB				S	**Sb**	**10 56 11.4**	**-1.7**
FUSB	**Fushanzhiwuyua**	**1.36**	**323**	*e*P	**Pn**	**10 55 56.3**	**+1.0**
FUSB				*e*S	**Sb**	**10 56 11.9**	**-1.4**
LDUT	**Ludao**	**1.37**	**224**	P	**Pb**	**10 55 56.5**	**+0.5**
LDUT				S	**Sn**	**10 56 13.5**	**+0.1**
TWB1	**Santiao Chiao**	**1.41**	**341**	P	**Pn**	**10 55 55.6**	**-0.2**
TWB1				S	**Sn**	**10 56 13.9**	**-0.3**
SSLB	**Suanglung**	**1.42**	**275**	P	**Pn**	**10 55 56.8**	**+0.8**
SSLB				S	**Sb**	**10 56 14.0**	**-0.8**
NWLT	**Wulai**	**1.42**	**321**	P	**Pn**	**10 55 57.0**	**+0.9**
NWLT				S	**Sn**	**10 56 13.9**	**-0.8**
YHNB	**Yeheng**	**1.42**	**314**	P	**Pn**	**10 55 56.6**	**+0.5**
YHNB				S	**Sn**	**10 56 13.9**	**-0.9**
YUS	**Yu-Shan**	**1.43**	**263**	P	**Pg**	**10 55 58.0**	**-0.1**
YUS				*e*S	**Sb**	**10 56 14.0**	**-1.6**
TIPB	**Shuangxi**	**1.43**	**335**	*e*P	**Pn**	**10 55 57.1**	**+0.9**
TIPB				*e*S	**Sn**	**10 56 15.1**	**+0.2**
NSK	**Sanguang**	**1.44**	**314**	P	**Pn**	**10 55 56.8**	**+0.4**
NSK				S	**Sn**	**10 56 13.8**	**-1.4**
ELDTW	**Lidau**	**1.44**	**251**	*e*P	**Pb**	**10 55 57.5**	**+0.2**
ELDTW				S	**Sb**	**10 56 14.3**	**-1.2**
LONT	**Longtian**	**1.47**	**239**	*e*P	**Pg**	**10 55 59.3**	**+0.5**
LONT				S	**Sb**	**10 56 16.0**	**-0.3**
SMLT	**Sun Moon Lake**	**1.48**	**278**	P	**Pb**	**10 55 58.1**	**+0.2**
SMLT				S	**Sn**	**10 56 15.6**	**-0.5**
WCS	**Beigang Elemen**	**1.50**	**285**	P	**Pb**	**10 55 58.3**	**+0.1**
WHYT	**Xinyi Township**	**1.50**	**271**	P	**Pb**	**10 55 58.8**	**+0.4**
WHYT				*e*S	**Sn**	**10 56 16.0**	**-0.7**
TYC	**Yuchr**	**1.52**	**279**	*e*P	**Pg**	**10 55 59.8**	**0.0**
TYC				S	**Sb**	**10 56 17.5**	**-0.2**
SXI1	**Grass Mountain**	**1.52**	**338**	*e*P	**Pn**	**10 55 57.5**	**0.0**
SXI1				S	**Sn**	**10 56 16.4**	**-0.8**
NWF	**Wu-fen Shan**	**1.54**	**335**	*e*P	**Pn**	**10 55 57.9**	**+0.1**
NWF				*e*S	**Sn**	**10 56 18.4**	**+0.9**
WFSB	**Wu-fen Shan**	**1.54**	**335**	*e*P	**Pn**	**10 55 58.0**	**+0.4**
WFSB				*e*S	**Sn**	**10 56 18.6**	**+1.2**
WHP	**Taichung City**	**1.54**	**293**	*e*P	**Pg**	**10 56 00.1**	**0.0**
WHP				*e*S	**Sg**	**10 56 19.2**	**-0.9**
TWA	**Mucha**	**1.54**	**328**	P	**Pn**	**10 55 59.0**	**+1.2**
TWGBT	**Beinan**	**1.56**	**237**	*e*P	**Pb**	**10 55 59.5**	**+0.2**
TWGBT				S	**Sb**	**10 56 18.1**	**-0.7**
ALS	**Alishan**	**1.56**	**264**	P	**Pg**	**10 56 00.1**	**-0.4**
ALS				*e*S	**Sg**	**10 56 20.2**	**-0.7**
TWG	**Pinlang**	**1.56**	**237**	*e*P	**Pb**	**10 55 59.3**	**0.0**
TWG				S	**Sb**	**10 56 18.6**	**-0.3**
NFF	**Wufeng Townshi**	**1.58**	**307**	P	**Pb**	**10 55 59.9**	**+0.2**
NFF				*e*S	**Sb**	**10 56 19.5**	**0.0**
TNOU	**National Taiwa**	**1.61**	**336**	*e*P	**Pn**	**10 55 59.8**	**+1.1**
TNOU				*e*S	**Sn**	**10 56 19.4**	**+0.2**
WJS	**Zhushan**	**1.62**	**276**	P	**Pg**	**10 56 01.6**	**-0.2**
WJS				S	**Sg**	**10 56 21.7**	**-1.2**
KSHI	**Guanxi Townshi**	**1.63**	**313**	P	**Pb**	**10 56 00.7**	**+0.2**
KSHI				*e*S	**Sn**	**10 56 18.6**	**-1.2**
JIJ	**Ishigaki jima**	**1.66**	**65**	*e*P	**Pn**	**10 56 00.2**	**+0.9**
STYH	**Taoyuan**	**1.66**	**253**	*e*P	**Pn**	**10 55 60.0**	**+0.7**
STYH				*e*S	**Sn**	**10 56 20.3**	**-0.1**
LIOB	**Emei**	**1.66**	**306**	P	**Pb**	**10 56 01.4**	**+0.4**
LIOB				*e*S	**Sn**	**10 56 20.5**	**0.0**
NSTT	**Nanjuang**	**1.66**	**305**	P	**Pn**	**10 56 01.0**	**+1.6**
NSTT				S	**Sn**	**10 56 21.2**	**+0.6**
CHN5	**Tsauling**	**1.67**	**268**	P	**Pb**	**10 56 02.0**	**+0.8**
CHN5				*e*S	**Sg**	**10 56 23.7**	**-0.6**
WNT	**Mingjian**	**1.67**	**277**	P	**Sg**	**10 56 02.7**	**0.0**
WNT				S	**Sg**	**10 56 23.6**	**-0.8**
STYT	**Tauyuan**	**1.68**	**253**	*e*P	**Pb**	**10 56 01.5**	**+0.2**
STYT				*e*S	**Sg**	**10 56 23.5**	**-1.1**
WNT1	**Nantou City**	**1.68**	**278**	P	**Pg**	**10 56 02.5**	**-0.3**
WNT1				*e*S	**Sg**	**10 56 25.0**	**-0.4**
WWF	**Wufeng**	**1.68**	**283**	P	**Pg**	**10 56 03.0**	**-0.1**
WWF				*e*S	**Sg**	**10 56 26.1**	**+1.3**
YM01	**YM01**	**1.69**	**330**	*e*P	**Pn**	**10 56 01.0**	**+1.2**
YM01				S	**Sn**	**10 56 20.7**	**-0.6**
TWQ1	**Liyutan**	**1.71**	**293**	P	**Pb**	**10 56 02.7**	**+0.9**
TWQ1				*e*S	**Sb**	**10 56 23.8**	**+0.5**
NTY	**Taoyuan**	**1.71**	**321**	P	**Pn**	**10 56 00.6**	**+0.5**
NTY				*e*S	**Sn**	**10 56 20.7**	**-1.1**
ZUZH	**Zhuzihu**	**1.71**	**330**	*e*P	**Pn**	**10 56 01.2**	**+1.1**
ZUZH				S	**Sn**	**10 56 21.3**	**-0.7**
YM08	**YM08**	**1.72**	**332**	*e*P	**Pn**	**10 56 01.0**	**+0.9**
YM08				S	**Sn**	**10 56 21.5**	**-0.4**
TCU	**Taichung**	**1.73**	**286**	P	**Pb**	**10 56 03.1**	**+0.9**
TCU				*e*S	**Sg**	**10 56 26.1**	**-0.1**
NSY	**Sanyi**	**1.75**	**295**	P	**Pb**	**10 56 02.9**	**+0.4**
NSY				*e*S	**Sb**	**10 56 24.9**	**+0.6**
WCKO	**Fanlu**	**1.75**	**263**	P	**Pg**	**10 56 03.8**	**-0.4**
WCKO				S	**Sg**	**10 56 26.9**	**-0.8**
TPUB	**Ta-pu**	**1.75**	**258**	P	**Pg**	**10 56 03.7**	**-0.6**
TPUB				*e*S	**Sg**	**10 56 26.7**	**-0.3**
NTST	**Danshui**	**1.76**	**328**	P	**Pn**	**10 56 01.5**	**+0.8**
NTST				*e*S	**Sn**	**10 56 22.3**	**-0.8**
CHN4	**Tsaushan**	**1.77**	**260**	P	**Pg**	**10 56 03.9**	**-0.7**
CHN4				*e*S	**Sg**	**10 56 28.2**	**+0.5**
NMLH	**Miaoli**	**1.78**	**299**	P	**Pb**	**10 56 03.1**	**+0.1**
ECL	**Taimali**	**1.78**	**233**	*e*P	**Pb**	**10 56 03.8**	**+0.8**
ECL				*e*S	**Sn**	**10 56 23.8**	**+0.4**
WTP	**Ta-pu**	**1.78**	**256**	P	**Pb**	**10 56 03.7**	**+0.6**
WTP				*e*S	**Sg**	**10 56 27.8**	**0.0**
TWY	**Chenhua**	**1.79**	**333**	*e*P	**Pn**	**10 56 03.1**	**+2.0**
TWY				*e*S	**Sn**	**10 56 25.3**	**+1.6**
WDLH	**Douliu**	**1.79**	**271**	P	**Pg**	**10 56 04.4**	**-0.6**
WDLH				*e*S	**Sg**	**10 56 27.3**	**-1.1**
WCHH	**Zhanghua**	**1.82**	**283**	P	**Pb**	**10 56 03.8**	**+0.2**
WCHH				S	**Sb**	**10 56 25.9**	**-0.5**
SGST	**Jiashian**	**1.85**	**252**	P	**Pb**	**10 56 05.1**	**+0.8**
SGST				S	**Sg**	**10 56 28.8**	**-1.4**
LYUB	**Lan-yu**	**1.86**	**207**	*e*P	**Pb**	**10 56 05.6**	**+1.1**
LYUB				*e*S	**Sb**	**10 56 27.8**	**+0.1**
CHN1	**Nanshi**	**1.87**	**255**	P	**Pg**	**10 56 05.7**	**-0.8**
CHN1				*e*S	**Sg**	**10 56 30.5**	**-0.3**
TWK	**Hsinying**	**1.89**	**258**	P	**Pb**	**10 56 05.5**	**+0.6**
TWK				*e*S	**Sg**	**10 56 30.9**	**-0.4**
SNST	**Tainan City**	**1.89**	**257**	P	**Pb**	**10 56 05.8**	**+0.9**
SNST				*e*S	**Sg**	**10 56 30.9**	**-0.5**
CHY	**Chiayi**	**1.91**	**265**	P	**Pb**	**10 56 05.7**	**+0.5**
CHY				S	**Sg**	**10 56 30.1**	**-1.9**
WTK	**Tuku**	**1.93**	**271**	P	**Pb**	**10 56 06.5**	**+0.9**
WTK				*e*S	**Sg**	**10 56 31.1**	**-1.6**
SSD	**Sandimen**	**1.95**	**242**	*e*P	**Pg**	**10 56 07.2**	**-0.7**
TSMG	**Majia**	**1.96**	**241**	*e*P	**Pg**	**10 56 07.4**	**-0.7**
RLNB	**Erlin**	**1.97**	**277**	P	**Pb**	**10 56 06.6**	**+0.4**
RLNB				*e*S	**Sg**	**10 56 32.5**	**-1.4**
TAWH	**Dawu Township**	**1.99**	**228**	P	**Pb**	**10 56 06.0**	**-0.5**
TAWH				S	**Sn**	**10 56 29.5**	**+0.9**
SCST	**Cishan**	**2.00**	**247**	*e*P	**Pg**	**10 56 08.9**	**-0.1**
SCST				S	**Sg**	**10 56 34.1**	**-0.9**
MASBT	**Mashibuluo**	**2.01**	**239**	P	**Pb**	**10 56 06.6**	**-0.4**
WTCT	**Ta-ch'eng**	**2.04**	**276**	P	**Pn**	**10 56 06.2**	**+1.7**
ICHU	**Yijhu**	**2.06**	**262**	*e*P	**Pg**	**10 56 09.4**	**-0.7**
ICHU				S	**Sb**	**10 56 34.1**	**+0.9**
WSL	**Shuilin Townsh**	**2.08**	**266**	P	**Pb**	**10 56 08.4**	**+0.1**
WSL				S	**Sb**	**10 56 34.2**	**+0.1**
CHN8	**Yiju**	**2.12**	**262**	*e*S	**Sb**	**10 56 36.0**	**+0.9**
SLIU	**Shizi**	**2.13**	**227**	P	**Pb**	**10 56 08.3**	**-0.8**
SCZT	**Fangliau**	**2.16**	**233**	*e*P	**Pb**	**10 56 10.3**	**+0.8**
TWKBT	**Hengchun**	**2.32**	**222**	P	**Pb**	**10 56 11.6**	**-0.7**
TWKBT				*e*S	**Sn**	**10 56 38.2**	**+1.4**
PHUB	**P'eng-hu**	**2.69**	**267**	P	**Pn**	**10 56 15.4**	**+2.0**
PHUB				S	**Sn**	**10 56 46.7**	**+0.9**
VWUC	**VWUC**	**3.07**	**296**	*e*P	**Pn**	**10 56 19.3**	**+0.6**
VWUC				*e*S	**Sn**	**10 56 53.9**	**-1.4**
PTMZ	**Houxiangcun**	**3.36**	**295**	P	**Pn**	**10 56 23.6**	**+0.8**
PTMZ				*e*S	**Sn**	**10 57 01.0**	**-1.6**
MATB	**Ma-tsu**	**3.38**	**317**	P	**Pn**	**10 56 24.2**	**+1.2**
MATB				*e*S	**Sn**	**10 57 01.2**	**-1.8**
MHZQ	**Yeshan**	**3.97**	**308**	*e*P	**Pn**	**10 56 31.2**	**+0.2**
MHZQ				*e*S	**Sn**	**10 57 15.3**	**-2.1**
AXDP	**Jialang**	**4.30**	**287**	*e*P	**Pn**	**10 56 36.8**	**+1.0**
ZPLA	**Ao Xicun**	**4.35**	**274**	*e*P	**Pn**	**10 56 37.5**	**+1.1**

IDC 07 10:57:54.1±1.7,0.42N×125.79E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=178.7km s-min=21.9km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**158**	P	P	11 02 47.9	-1.1
	1.2nm,0.6s,baz=336,slow=11,SNR=28						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**25.20**	**162**	P	P	11 03 22.5	+0.8
	0.7nm,0.4s,baz=344,slow=11,SNR=17						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**59.76**	**327**	P	P	11 08 00.7	-0.2
	0.3nm,0.4s,baz=132,slow=6.6,SNR=5.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.03**	**329**	P	P	11 08 29.7	+0.1
	0.2nm,0.3s,baz=136,slow=5.3,SNR=1.4						
	0.2nm,0.3s						

*FUNV **07** 11:09:54.0,10.60N×72.59W,h13km,MW3.5*
*RSNC **07** 11:09:55.2±0.0,11.1°N×7.3°W±°,h26km±2km,M2.7,mb3.4, ML2.4*

ISC 07 11:09:52.9±1.2,10.65N±0.03×72.63W±0.03,h24km±13km, n22,σ2§01/40,1C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.45**	**326**	P	**Pb**	**11 10 02.4**	**+0.2**
CRJC				S	**Sn**	**11 10 09.4**	**-1.8**
MCQV	**Machiques**	**0.60**	**171**	⇑*i*P	**Pb**	**11 10 03.9**	**-0.9**
MCQV				*e*S	**Sb**	**11 10 12.3**	**-0.5**
URIC	**Uribia, Colomb**	**1.22**	**31**	P	**Pb**	**11 10 16.1**	**+0.8**
URIC				S	**Sb**	**11 10 34.0**	**+3.3**
SMRC	**Santa Marta, M**	**1.65**	**288**	P	**Pn**	**11 10 19.1**	**-1.2**
SMRC				S	**Sn**	**11 10 37.3**	**-3.4**
ARGC	**Ariguani, Magd**	**1.77**	**244**	P	**Pn**	**11 10 21.2**	**-0.8**
ARGC				S	**Sn**	**11 10 42.6**	**-1.2**
OCAC	**Ocana**	**2.49**	**196**	P	**Pn**	**11 10 31.9**	**-0.1**
OCAC				S	**Sn**	**11 11 01.9**	**+0.2**
SJCC	**San Jacinto, C**	**2.62**	**254**	P	**Pn**	**11 10 34.7**	**+1.0**
SJCC				S	**Sn**	**11 11 06.5**	**+1.7**
SDV	**Santo Domingo**	**2.63**	**131**	P	**Pb**	**11 10 39.0**	**-0.5**
SDV				S	**Sb**	**11 11 10.1**	**-1.4**
CAPV	**Capacho**	**2.78**	**174**	*e*P	**Pn**	**11 10 37.2**	**+1.0**
CAPV				*e*S	**Sn**	**11 11 08.9**	**-0.2**
PAMC	**Pamplona, Colo**	**3.29**	**181**	P	**Pn**	**11 10 46.9**	**+3.6**
PAMC				S	**Sb**	**11 11 28.7**	**-1.9**
BRJC	**Barrancabermej**	**3.81**	**197**	P	**Pn**	**11 10 49.8**	**-0.3**
BRJC				S	**Sn**	**11 11 34.8**	**+0.6**
ZARC	**Zaragoza, Cauc**	**3.83**	**215**	P	**Pn**	**11 10 51.5**	**+1.2**
ZARC				S	**Sn**	**11 11 35.1**	**+0.5**
UREC	**San Jos de Ur**	**4.06**	**225**	P	Pb	11 10 59.7	-4.0
UREC				S	**Sn**	**11 11 40.5**	**+0.2**
BARC	**Barichara**	**4.07**	**188**	P	**Pn**	**11 10 55.6**	**+1.8**
PTBC	**PUERTO BERRIO,**	**4.46**	**204**	P	**Pn**	**11 10 59.3**	**+0.2**
PTBC				S	**Sn**	**11 11 49.0**	**-1.3**
RUSC	**La Rusia**	**4.75**	**185**	P	**Pn**	**11 11 00.5**	**-2.9**
RUSC				S	**Sn**	**11 12 00.0**	**+2.1**
BAUV	**El Baul**	**4.83**	**110**	*e*

comp=N,8.0nm,3.2s,comp=E,7.0nm,2.2s
JHO Hitachi 0.87 229 ⇓P **Pg** **12 10 57.6 -1.4**
JOTO OTAMA OYAMA 0.92 294 P **Pg** **12 10 59.2 -0.8**
JOTO *e*S **Sg** **12 11 11.3 -0.6**
JOTO OTAMA OYAMA 0.92 294 A A 12 10 59.2
comp=N,19nm,0.5s,comp=E,18nm,1.0s
JSB Shiboa 1.19 260 ⇓*i*P **Pb** **12 11 04.3 -0.8**
JSB ⇓S **Sg** **12 11 20.5 -0.1**
JSB Shiboa 1.19 260 A A 12 11 04.3
comp=N,16nm,1.0s,comp=E,20nm,1.4s
JYAR Yonezawaarcadi 1.23 307 A A 12 11 03.9
comp=N,22nm,0.7s,comp=E,24nm,1.0s
JOU Okura 1.31 334 A A 12 11 05.6
comp=N,14nm,0.7s,comp=E,17nm,2.0s
JIHU Itakohorinouch 1.40 210 A A 12 11 07.1
comp=N,18nm,4.8s,comp=E,18nm,5.1s
JOFO Osakifurukawao 1.47 345 A A 12 11 08.0
comp=N,40nm,0.9s,comp=E,73nm,1.0s
JYS Shirataka 1.48 315 A A 12 11 07.8
comp=N,15nm,0.7s,comp=E,16nm,0.9s
JYA Atsumi 1.93 317 A A 12 11 14.7
comp=N,21nm,0.9s,comp=E,23nm,0.8s
MJAR Matsushiro Arr 2.63 257 Pn **Pn** **12 11 24.4 -0.6**
MJAR Matsushiro Arr 2.63 257 Pn **Pn** **12 11 23.9 -1.0**
comp=E,1.4nm,0.3s,baz=77,slow=16,SNR=54
MJAR Sn **Sn** **12 11 55.9 -1.1**
comp=E,1.9nm,0.3s,baz=83,slow=27,SNR=7.3
MJAR LR LR 12 12 13.6
comp=E,73nm,18.3s,baz=103,slow=37
comp=E,16nm,0.5s
MAJO Matsushiro 2.63 257 **Pn** **12 11 25.8 +0.8**
MAJO Matsushiro 2.63 257 P **Pn** **12 11 25.4 +0.4**
MAJO Matsushiro 2.63 257 P **Pn** **12 11 25.8 +0.8**
MJB9 Matsu-Tunnel 2.63 257 **Pn** **12 11 26.1 +1.1**
JSG Sagara 3.61 227 Pn **Pn** **12 11 39.9 +1.5**
JTM Tenmabayashi 3.61 356 **Pn** **12 11 38.7 +0.4**
JTM Tenmabayashi 3.61 356 P **Pn** **12 11 38.8 +0.4**
JGF Kuroka 3.62 245 **Pn** **12 11 38.8 +0.3**
JGF Kuroka 3.62 245 P **Pn** **12 11 39.1 +0.6**
INU Inuyama 3.98 244 **Pn** **12 11 44.1 +0.6**
INU Inuyama 3.98 244 P **Pn** **12 11 44.9 +1.4**
JHJ2 Mitsune 4.26 198 Pn **Pn** **12 11 49.8 +2.5**
JHJ2 Mitsune 4.26 198 P **Pn** **12 11 47.8 +0.5**
JHJ Hachijo jima 2 4.26 198 Pn **Pn** **12 11 46.5 -0.9**
comp=E,11nm,0.3s,baz=54,slow=15,SNR=9.0
JHJ Sn **Sn** **12 12 36.3 -1.0**
comp=E,9.1nm,0.3s,baz=68,slow=22,SNR=1.3
comp=E,35nm,0.3s
ERM Erimo 5.02 15 Pn **Pn** **12 11 57.4 -0.3**
ERM Erimo 5.02 15 P **Pn** **12 11 57.1 -0.6**
ERM Erimo 5.02 15 *i*P **Pn** **12 11 57.5 -0.2**
ASAJ Asahikawa 6.99 7 Pn **Pn** **12 12 24.3 -0.5**
comp=E,1.2nm,0.3s,baz=224,slow=9.3,SNR=13
ASAJ Sn **Sn** **12 13 41.1 -3.2**
comp=E,0.6nm,0.3s,baz=166,slow=24,SNR=1.2
comp=E,5.7nm,0.6s
JKA Kamikawa-asahi 6.99 7 Pn **Pn** **12 12 24.3 -0.5**
JMN Monobe 7.03 243 Pn **Pn** **12 12 25.3 -0.1**
TEY Ternei 8.64 337⇑*e*P Pn 12 12 58.5 +11
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,10.0nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.4s
JNU Nakatsue 9.51 248 Pn **Pn** **12 12 59.7 +0.2**
baz=285,slow=13,SNR=1.9
comp=N,6.5nm,1.0s
YSS Yuzhno-Sakhali 9.82 5 Pn **Pn** **12 13 02.0 -1.5**
YSS Yuzhno-Sakhali 9.82 5 *e*P **Pn** **12 13 04.3 +0.7**
YSS *e*S **Sn** **12 14 56.1 +2.2**
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=E,200nm,18.0s
USA0B Ussuriysk Arra 10.00 317 Pn **Pn** **12 13 04.8 -1.3**
USA0B Ussuriysk Arra 10.00 317 P **Pn** **12 13 04.8 -1.3**
USRK Ussuriysk Ar. 10.00 317 Pn **Pn** **12 13 10.2 +4.2**
comp=E,0.2nm,0.3s,baz=122,slow=14,SNR=5.8
USRK LR LR 12 16 38.8
comp=E,147nm,18.4s,baz=154,slow=36
KSRS Korea Array 10.73 276 Pn **Pn** **12 13 19.4 +3.3**
comp=E,0.1nm,0.3s,baz=83,slow=13,SNR=4.4
BNX BinXian 13.52 314 ⇓P Pn 12 13 46.0 -8.1
BNX pmax pmax
comp=Z,6.0nm,1.8s
NJ2 Nanjing 19.23 261 *e*P **Pn** **12 15 07.2 -0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
ZEA Zeya 19.24 334 *e*P **Pn** **12 15 07.3 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
XLT XiLinHaoTe 20.32 297 *e*P Pn 12 15 22.9 +2.1
XLT sP sP 12 15 30.2 +8.0
XLT PP **PnPn** **12 15 45.3 +10**
MA2 Magadan 23.21 12 P **P** **12 15 47.6 -1.8**
MA2 Magadan 23.21 12 LR LR 12 27 01.0
comp=Z,19nm,18.8s,baz=220,slow=42
MA2 Magadan 23.21 12 P **P** **12 15 47.6 -1.8**
MA2 pmax pmax
comp=Z,33nm,1.3s
HHC Hu-ho-hao-te 23.41 288 *e*P **P** **12 15 50.8 -0.8**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,130nm,6.7s
YAK Yakutsk 25.92 347 P **P** **12 16 13.8 -0.7**
YAK IAmb IAmb 12 16 25.7
comp=Z,13nm,0.8s
YAK Yakutsk 25.92 347 *i*P **P** **12 16 13.9 -0.6**
YAK pmax pmax
comp=Z,3.0nm,0.6s
SEY Seymchan 26.65 11 *i*P **P** **12 16 21.9 +0.8**
SEY pmax pmax
comp=Z,10.0nm,1.4s
SONM Songino Array 27.69 304 P **P** **12 16 30.2 -0.6**
SONM Songino Array 27.69 304 P **P** **12 16 29.8 -1.0**
comp=Z,2.0nm,0.6s,baz=105,slow=9.4,SNR=9.5
SONM LR LR 12 26 54.2
comp=Z,46nm,18.5s,baz=90,slow=35
comp=Z,2.0nm,0.6s
SONM Songino Array 27.69 304 P **P** **12 16 30.2 -0.6**
SONM pmax pmax
comp=Z,1.0nm,0.6s
H11N2 WAKE ISLAND Hy 28.24 121 T T 12 46 05.9
baz=314,slow=75,SNR=2048
H11N1 WAKE ISLAND Hy 28.25 121 T T 12 46 11.3
baz=314,slow=75,SNR=1253
H11N3 WAKE ISLAND Hy 28.26 121 T T 12 46 09.1
baz=314,slow=75,SNR=1056
H11S1 WAKE ISLAND Hy 28.96 123 T T 12 47 00.5
baz=316,slow=76,SNR=327
H11S3 WAKE ISLAND Hy 28.96 123 T T 12 47 00.6
baz=316,slow=76,SNR=232
H11S2 WAKE ISLAND Hy 28.97 123 T T 12 47 04.1
baz=316,slow=76,SNR=249
QIZ Qiongzhong 32.97 245 P **P** **12 17 17.7 +0.1**
QIZ S **S** **12 22 35.1 -0.9**
QIZ LR LR
comp=Z,360nm,11.5s
BILL Bilibino 33.89 16 *i*P **P** **12 17 27.4 +2.3**
BILL pmax pmax
comp=Z,1.0nm,1.1s
PZH PanZhiHua 35.10 264 P **P** **12 17 37.4 +1.3**
CMAR Chiang Mai Arr 41.52 255 LR LR 12 36 18.1
comp=Z,9.8nm,18.4s,baz=295,slow=37
ZAA0 Zalesovo Array 41.80 312 P **P** **12 18 30.8 -1.2**
ZALV Zalesovo Beam 41.80 312 P **P** **12 18 31.3 -0.7**
ZALV Zalesovo Beam 41.80 312 P **P** **12 18 31.1 -0.9**
comp=Z,1.9nm,0.6s,baz=93,slow=7.6,SNR=9.8
comp=Z,1.9nm,0.6s
C16K Lisburne Hills 42.58 26 P **P** **12 18 39.5 +1.4**
C16K IAmb IAmb 12 19 03.9
comp=Z,7.0nm,1.1s
MK31 Makanchi Array 44.02 302*ce*P **P** **12 18 49.4 -0.8**
MKAR Makanchi Array 44.02 302 P **P** **12 18 49.8 -0.4**
MKAR Makanchi Array 44.02 302 P **P** **12 18 49.4 -0.8**
comp=Z,2.0nm,0.8s,baz=89,slow=9.1,SNR=17
MKAR LR LR 12 37 46.2
comp=Z,28nm,19.3s,baz=86,slow=37
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 44.02 302 P **P** **12 18 49.8 -0.4**
C18K Utukok River 44.15 26 P **P** **12 18 52.2 +1.3**
C18K IAmb IAmb 12 18 53.1
comp=Z,6.9nm,1.1s
C19K Lookout Ridge 44.83 26 P **P** **12 18 57.9 +1.6**
C19K IAmb IAmb 12 18 58.9
comp=Z,8.5nm,1.1s
D20K Etivluk River 45.80 27 P **P** **12 19 04.5 +0.4**
D20K IAmb IAmb 12 19 18.9
comp=Z,5.3nm,0.8s
KURK Kurchatov 45.83 308 **P** **12 19 03.9 -0.5**
KURK Kurchatov 45.83 308 P **P** **12 19 03.9 -0.5**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURBB Kurchatov Arra 45.89 308 P **P** **12 19 03.6 -1.4**
comp=Z,3.3nm,0.6s,baz=83,slow=8.2,SNR=22
comp=Z,3.3nm,0.6s
B21K Ikpikpuk River 46.66 26 P **P** **12 19 12.6 +1.9**
E21K Killik River 46.72 27 P **P** **12 19 12.8 +1.5**
E21K IAmb IAmb 12 19 25.8
comp=Z,3.2nm,0.8s
KDAK Kodiak Island 47.00 42 P **P** **12 19 12.7 -0.8**
KDAK Kodiak Island 47.00 42 P **P** **12 19 12.7 -0.8**
KDAK pmax pmax
comp=Z,16nm,1.2s
SYI Shuyak Island 47.05 41 P **P** **12 19 13.5 -0.4**
D22K Ayikyak River 47.24 27 P **P** **12 19 17.2 +1.9**
D22K IAmb IAmb 12 19 17.5
comp=Z,3.6nm,0.6s
SRIT Nakonsritamara 47.29 244 P **P** **12 19 16.8 +0.5**
E22K Anaktuvuk Pass 47.48 28 **P** **12 19 19.0 +1.7**
E22K IAmb IAmb 12 19 19.7
comp=Z,6.7nm,1.2s
E23K Chandalar 48.30 28 **P** **12 19 25.9 +2.3**
E23K IAmb IAmb 12 19 38.7
comp=Z,4.3nm,0.8s
CCB Clear Creek Bu 48.99 33 P **P** **12 19 31.3 +2.5**
G24K Hadweenzic Riv 49.09 30 P **P** **12 19 29.6 0.0**
G24K IAmb IAmb 12 19 46.1
comp=Z,6.4nm,1.5s
ILAR Eielson Array 49.38 32 P **P** **12 19 32.5 +0.7**
comp=Z,1.6nm,0.8s,baz=273,slow=6.4,SNR=23
comp=Z,1.6nm,0.8s
AAK Ala-Archa 50.40 298 LR LR 12 41 58.2
comp=Z,6nm,18.0s,baz=115,slow=37
BVAR Borovoye Array 50.46 312 P **P** **12 19 40.3 +0.1**
comp=Z,0.8nm,0.5s,baz=89,slow=9.4,SNR=3.0
BVAR LR LR 12 42 06.7
comp=Z,33nm,18.5s,baz=81,slow=38
comp=Z,0.8nm,0.5s
I28M Miner Creek 52.25 31 **P** **12 19 55.2 +1.6**
L29M L29M 53.41 34 IAmb IAmb 12 20 05.5
comp=Z,3.9nm,0.8s
INK Inuvik 54.26 27 P **P** **12 20 08.2 0.0**
comp=Z,1.7nm,0.9s,baz=344,slow=3.9,SNR=2.2
comp=Z,1.7nm,0.9s
H31M Peel River 54.47 30 **P** **12 20 11.7 +1.9**
ARTI Arti 56.34 318*d i*P **P** **12 20 22.3 -1.1**
ARTI 12 22 23.9
ARTI S **S** **12 28 14.6 +1.0**
ARTI SS **SS** **12 31 57.0 -2.9**
ARTI pmax pmax
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 57.20 188 P **P** **12 20 29.2 -0.6**
comp=Z,2.3nm,0.7s,baz=5.2,slow=7.3,SNR=11
comp=Z,2.3nm,0.7s
AB31 Akbulak array 57.83 310 **P** **12 20 33.5 -0.5**
KIRV Kirov 60.12 323*ce*P **P** **12 20 49.7 0.0**
ASAR Alice Springs 60.93 188 P **P** **12 20 55.3 -0.4**
comp=Z,0.8nm,0.7s,baz=8.4,slow=9.2,SNR=6.8
comp=Z,0.8nm,0.7s
YKA Yellowknife Ar 63.69 30 P **P** **12 21 13.8 +0.2**
comp=Z,0.5nm,0.8s,baz=307,slow=7.3,SNR=3.8
comp=Z,0.5nm,0.8s
ARCES ARCESS Array B 63.85 339 P **P** **12 21 14.0 -0.7**
comp=Z,2.3nm,0.8s,baz=51,slow=8.4,SNR=12
comp=Z,2.3nm,0.8s
OBN Obninsk 67.97 323⇑*e*P **P** **12 21 42.2 +0.9**
OBN *e* 12 22 08.8
OBN *e* 12 24 07.5
OBN *e*S sS 12 30 54.8 +10
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,20nm,16.0s
FINES FINESS Array B 68.67 332 P **P** **12 21 45.2 -0.5**
comp=Z,3.1nm,0.7s,baz=38,slow=9.6,SNR=9.5
comp=Z,3.1nm,0.7s
STKA Stephens Creek 68.70 180 P **P** **12 21 46.9 +0.8**
comp=Z,2.4nm,0.8s,baz=333,slow=6.8,SNR=3.1
comp=Z,2.4nm,0.8s
PINE Pine Mountain 70.26 50 **P** **12 21 55.4 -0.7**
PINE IAmb IAmb 12 21 59.0
comp=Z,4.5nm,0.9s
KBZ Khabaz 70.79 311 P **P** **12 21 58.1 -0.9**
comp=Z,2.8nm,1.0s,baz=106,slow=3.7,SNR=4.0
comp=Z,2.8nm,1.0s
KBZ Khabaz 70.79 311*ce*P **P** **12 21 59.3 +0.3**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 70.79 311 *e*P **P** **12 21 59.4 +0.2**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,20nm,18.0s
MNK Minsk 72.36 326 *i*P **P** **12 22 06.1 -2.2**
MNK *i* 12 22 23.9
MNK *i* 12 24 46.5
MNK *i*PPP PPP 12 26 30.5
MNK *i*S **S** **12 31 29.9 -1.8**
MNK *i* 12 32 12.5
MNK *i*SS **SS** **12 36 08.8 -0.1**
MNK pmax pmax
comp=N,22nm,1.0s
MNK pmax pmax
comp=Z,15nm,0.6s
MNK MLR MLR
comp=E,164nm,24.0s
MNK MLR MLR
comp=Z,18nm,16.0s
MNK MLR MLR
comp=N,61nm,18.0s
HFS Hagfors 73.94 336 P **P** **12 22 16.9 -0.7**
comp=N,1.0nm,0.6s,baz=52,slow=7.7,SNR=2.8
comp=N,1.0nm,0.6s
NB2 NORSAR Subarra 74.04 337 P **P** **12 22 17.8 -0.4**
comp=Z,1.9nm,0.7s,baz=40,slow=6.5
NOA NORSAR Array B 74.04 337 P **P** **12 22 17.9 -0.3**
comp=Z,1.8nm,0.8s,baz=39,slow=6.0,SNR=6.1
comp=Z,1.8nm,0.8s
AKASG Malin Array Be 74.17 322 P **P** **12 22 18.2 -0.8**
comp=Z,1.3nm,0.5s,baz=46,slow=5.8,SNR=8.3
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 74.17 322 *i*P **P** **12 22 18.5 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 74.17 322 P **P** **12 22 18.2 -0.9**
AKBB IAmb IAmb 12 22 19.0
comp=Z,4.5nm,0.8s
AKBB Malin Array Si 74.17 322*ce*P **P** **12 22 18.4 -0.7**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 74.18 322 P **P** **12 22 18.1 -0.9**
KIEV IAmb IAmb 12 22 18.9
comp=Z,4.0nm,0.7s
KIEV Kiev 74.18 322 P **P** **12 22 18.2 -0.9**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
NVAR Mina Array Bea 74.92 53 P **P** **12 22 25.4 +1.5**
comp=Z,0.9nm,0.8s,baz=293,slow=4.8,SNR=5.3
comp=Z,0.9nm,0.8s
PDAR Pinedale Array 77.58 45 P **P** **12 22 40.1 +1.1**
comp=Z,0.5nm,0.6s,baz=253,slow=2.5,SNR=4.2
comp=Z,0.5nm,0.6s
CLL Collm 80.96 330 *i*P **P** **12 22 56.7 -0.3**
CLL *i**SP **PcP** **12 23 03.8 +0.3**
CLL Collm 80.96 330 *i*P **P** **12 22 56.7 -0.3**
KHC Kasperske Hory 82.41 328*ce*P **P** **12 23 05.1 +0.3**
KHC pmax pmax
comp=Z,6.0nm,2.5s
GERES GERESS Array B 82.58 328 P **P** **12 23 05.0 -0.7**
comp=Z,0.6nm,0.4s,baz=37,slow=4.9,SNR=4.1
comp=Z,0.6nm,0.4s
LPIG La Paz 89.13 60 LR LR 12 56 06.4
comp=Z,113nm,20.8s,baz=178,slow=30
TXAR Lajitas Array 90.05 52 P **P** **12 23 43.8 +0.9**
comp=Z,0.4nm,0.6s,baz=308,slow=3.0,SNR=4.0
comp=Z,0.4nm,0.6s
LPAZ La Paz 146.63 59 PKPbc **PKPbc** **12 30 26.1 +0.5**
comp=Z,1.4nm,0.5s,baz=349,slow=6.5,SNR=5.1

*SJA **07** 12:17:48.6±0.8, 32.°00S×71.°82W, h13km±2km, ML3.4, MW3.5*
*GUC **07** 12:17:52.4±0.8, 32.°01S×71.°60W, h40km±3km, ML3.5*
ISC 07 12:17:50.8±1.5,**32.°02S**±0.°02×**71.°81W**±0.°05,**h17**km±10km,
n47,σ1s**32**/81,**1C-8D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.69**	**141**⇓	*e*P		**Pb**		**12 18 04.6**	**+0.3**
VA06				*e*S		**Sg**		**12 18 13.2**	**-0.3**
VA06				IAML				12 18 14.7	
	comp=E,5μm,0.5s								
VA01	**Torpederas**	**1.01**	**172**	*e*P		**Pn**		**12 18 10.9**	**+0.9**
VA01				*e*S		**Sg**		**12 18 24.1**	**+0.5**
VA01	**Torpederas**	**1.01**	**172**	*e*P		**Pb**		**12 18 06.4**	**-3.3**
CO02	**Combarbal**	**1.07**	**40**⇓	*e*P		**Pb**		**12 18 09.9**	**-1.0**
CO02				*e*S		**Sb**		**12 18 22.7**	**-1.9**
CO02	**Combarbal**	**1.07**	**40**	*e*P		**Pb**		**12 18 09.2**	**-1.7**
CO02				*e*S		**Sb**		**12 18 23.8**	**-0.9**
CO02				IAML				12 18 25.1	
	comp=Z,2μm,0.6s								
ROCH	**El Roble**	**1.16**	**145**⇓	*e*P		**Pb**		**12 18 11.7**	**-0.8**
ROCH				*e*S		**Sb**		**12 18 26.6**	**-0.8**
ROCH				IAML				12 18 30.1	
	comp=N,3μm,0.4s								
ROC1	**El Roble**	**1.16**	**145**	*e*P		**Pb**		**12 18 11.7**	**-0.8**
ROC1				*e*S		**Sb**		**12 18 27.0**	**-0.4**
VA03	**San Esteban**	**1.30**	**125**	*e*P		**Pn**		**12 18 13.2**	**-1.0**
VA03				*e*S		**Sb**		**12 18 28.6**	**-2.5**
VA03				IAML				12 18 32.1	
	comp=E,3μm,0.5s								
VA03	**San Esteban**	**1.30**	**125**	*e*P		Pn		12 17 55.4	-19
VA03				*e*S		**Sb**		**12 18 29.4**	**-1.7**
VA03				IAML				12 18 30.8	
	comp=Z,1μm,0.4s								
CO06	**Fray Jorge**	**1.35**	**6**⇓	*e*P		**Pn**		**12 18 15.1**	**+0.2**
CO06				*e*S		**Sb**		**12 18 32.9**	**+0.2**
CO06				IAML				12 18 36.9	
	comp=N,847nm,0.4s								
MT02	**Curacav**	**1.36**	**155**⇑	*e*P		**Pn**		**12 18 14.9**	**0.0**
MT02				*e*S		**Sb**		**12 18 31.9**	**-0.9**
MT02	**Curacav**	**1.36**	**155**	*e*P		**Pn**		**12 18 14.2**	**-0.7**
MT02				*e*S		**Sn**		**12 18 33.9**	**+1.3**
MT02				IAML				12 18 35.9	
	comp=Z,326nm,0.5s								
PEL	**Peldehue**	**1.47**	**140**	*e*P		Pn		12 18 10.8	-5.7
PEL				*e*S		**Sn**		**12 18 34.8**	**-0.5**
CO03	**El Pedregal**	**1.52**	**39**⇓	*e*P		**Pn**		**12 18 16.9**	**-0.3**
CO03				*e*S		**Sn**		**12 18 34.9**	**-1.8**
CO03				IAML				12 18 37.3	
	comp=E,2μm,0.3s								
CO03	**El Pedregal**	**1.52**	**39**	*e*P		**Pn**		**12 18 17.1**	**-0.2**
CO03				*e*S		**Sn**		**12 18 35.6**	**-1.0**
CO03				IAML				12 18 36.9	
	comp=Z,890nm,0.7s								
MT05	**Renca**	**1.64**	**147**	*e*P		**Pn**		**12 18 19.1**	**+0.2**
MT05				*e*S		**Sn**		**12 18 39.0**	**-0.5**
MT05				IAML				12 18 48.0	
	comp=E,2μm,0.4s								
MT05	**Renca**	**1.64**	**147**	*e*P		**Pn**		**12 18 19.2**	**+0.4**
MT05				*e*S		**Sg**		**12 18 42.4**	**-1.2**
MT05				IAML				12 18 42.7	
	comp=Z,394nm,0.6s								
MT10	**Hacienda Santa**	**1.65**	**140**	*e*P		**Pn**		**12 18 19.0**	**0.0**
MT10				*e*S		**Sn**		**12 18 38.9**	**-1.0**
MT14	**Cerro Cal¡n**	**1.74**	**142**⇓	*e*P		**Pn**		**12 18 20.7**	**+0.5**
MT14				*e*S		**Sn**		**12 18 41.4**	**-0.7**
MT14				IAML				12 18 44.6	
	comp=E,2μm,0.7s								
FCH	**Farellones**	**1.83**	**136**⇓	*e*P		**Pn**		**12 18 21.6**	**0.0**
FCH				*e*S		**Sn**		**12 18 43.2**	**-1.3**
FCH				IAML				12 18 45.7	
	comp=N,377nm,0.3s								
MT09	**Talagante**	**1.88**	**159**	*e*P		**Pn**		**12 18 23.2**	**+0.9**
MT09				*e*S		**Sn**		**12 18 46.7**	**+1.1**
MT09				IAML				12 18 51.2	
	comp=N,588nm,0.5s								
MT01	**Popeta**	**1.90**	**166**	*e*P		**Pn**		**12 18 23.0**	**+0.7**
MT01				*e*S		**Sn**		**12 18 47.5**	**+1.7**
MT01				IAML				12 18 53.3	
	comp=E,438nm,0.7s								
MT01	**Popeta**	**1.90**	**166**	*e*P		**Pn**		**12 18 22.7**	**+0.3**
MT01				*e*S		**Sb**		**12 18 49.0**	**+0.7**
MT01				IAML				12 18 59.1	
	comp=Z,173nm,0.4s								
MT15	**Las Vizcachas**	**1.92**	**145**	*e*P		**Pn**		**12 18 23.3**	**+0.6**
MT15				*e*S		**Sn**		**12 18 45.8**	**-0.6**
MT15				IAML				12 18 56.7	
	comp=E,984nm,0.4s								
MT04	**Ro Olivares**	**1.97**	**135**	*e*P		**Pn**		**12 18 24.0**	**+0.4**
MT04				*e*S		**Sn**		**12 18 47.4**	**-0.7**
MT04				IAML				12 18 49.6	
	comp=E,357nm,0.4s								
MT04	**Ro Olivares**	**1.97**	**135**	*e*P		**Pn**		**12 18 24.1**	**+0.6**
MT04				*e*S		Sn		12 18 32.5	-16
MT04				IAML				12 18 54.8	
	comp=Z,186nm,0.3s								
GO04	**Tololo Observa**	**2.04**	**25**	*e*P		**Pn**		**12 18 24.9**	**+0.4**
GO04				*e*S		**Sb**		**12 18 51.5**	**-1.2**
MT08	**Bocatoma Ro**	**2.07**	**134**⇓	*e*P		**Pn**		**12 18 26.1**	**+1.1**
MT08				*e*S		**Sn**		**12 18 49.9**	**-0.6**
MT08				IAML				12 18 58.3	
	comp=N,418nm,0.4s								
MT08	**Bocatoma Ro**	**2.07**	**134**	*e*P		**Pn**		**12 18 26.2**	**+1.2**
MT08				*e*S		**Sb**		**12 18 53.2**	**-0.4**
MT08				IAML				12 19 06.2	
	comp=Z,188nm,0.5s								
RTLS	**Leoncito**	**2.15**	**85**	*e*P		**Pn**		**12 18 27.4**	**+1.4**
RTLS				*e*S		**Sb**		**12 18 55.7**	**-0.2**
RTLS				IAML				12 18 59.6	
	comp=Z,506nm,0.3s								
LMEL	**Las Melosas**	**2.27**	**144**	*e*P		**Pn**		**12 18 29.0**	**+1.4**
LMEL				*e*S		**Sn**		**12 18 56.8**	**+1.6**
BO01	**Tunca**	**2.44**	**166**	*e*P		**Pn**		**12 18 30.3**	**+0.5**
BO01				*e*S		**Sn**		**12 19 00.8**	**+1.5**
BO01				IAML				12 19 10.3	
	comp=Z,102nm,1.1s								
CO01	**Juntas del Tor**	**2.52**	**36**	*e*P		**Pn**		**12 18 32.3**	**+1.2**
CO01				*e*S		**Sn**		**12 19 03.9**	**+2.4**
CO01				IAML				12 19 07.2	
	comp=Z,189nm,0.2s								
ARCO	**CERRO ARCO**	**2.57**	**109**	*e*P		**Pb**		**12 18 35.2**	**-1.3**
ARCO				*e*S		Sn		12 18 45.7	-17
ARCO				IAML				12 18 47.7	
	comp=Z,172nm,0.4s								
ASAL	**Salagasta**	**2.58**	**103**	*e*P		**Pb**		**12 18 35.0**	**-1.7**
ASAL				*e*S		**Sb**		**12 19 09.3**	**+1.1**
ZON	**Zonda**	**2.71**	**81**	*e*P		**Pn**		**12 18 33.5**	**-0.1**
ZON				IAML				12 19 21.9	
	comp=Z,137nm,0.7s								
AROD	**Rodeo**	**2.73**	**48**	*e*P		**Pn**		**12 18 36.5**	**+2.4**
AROD				*e*S		**Sb**		**12 19 12.7**	**+0.1**
AAGR	**Agrelo**	**2.73**	**114**	*e*P		**Pn**		**12 18 33.7**	**-0.2**
AAGR				IAML				12 19 24.2	
	comp=Z,155nm,0.8s								
ACCO	**Cerro Coronel**	**2.75**	**59**	*e*P		**Pn**		**12 18 36.9**	**+2.5**
ACCO				*e*S		**Sn**		**12 19 09.4**	**+2.0**
SJA	**San Juan**	**2.81**	**81**	*e*P		**Pg**		**12 18 46.0**	**+1.4**
SJA				IAML				12 19 32.7	
	comp=Z,86nm,1.1s								
BO02	**Sierra Bellavi**	**2.89**	**163**	*e*P		**Pn**		**12 18 37.5**	**+1.4**
BO02				*e*S		**Sn**		**12 19 12.7**	**+2.2**
BO02				IAML				12 19 24.2	
	comp=Z,164nm,0.3s								
RTLL	**Cerro Villicun**	**2.93**	**77**	*e*P		**Pn**		**12 18 34.8**	**-1.8**
RTLL				*e*P		Pb		12 18 35.2	-7.3
RTLL				IAML				12 19 12.7	
	comp=Z,60nm,1.0s								
RTLL				*e*S		**Sb**		**12 19 17.1**	**-1.0**
CFA	**Coronel Fontan**	**3.07**	**83**	*e*P		**Pn**		**12 18 40.5**	**+2.0**
AVIZ	**Vizcacheras**	**3.13**	**118**	*e*P		**Pn**		**12 18 42.3**	**+2.9**
LCO	**Las Campanas**	**3.15**	**18**	*e*S		**Sn**		**12 19 16.7**	**-0.4**
AGUA	**GUANDACOL**	**3.81**	**49**	*e*P		**Pn**		**12 18 52.1**	**+3.3**
AC04	**Llanos de Chal**	**3.86**	**10**	*e*P		**Pn**		**12 18 49.4**	**0.0**
AC04				IAML				12 19 54.2	
	comp=Z,92nm,0.8s								
AC04				IAML				12 19 54.2	
	comp=Z,92nm,0.8s								

*IDC **07** 12:26:46.1±0.5, 34.°90S×108.°27W, h0km, mb4.7/12, mbtmp4.6/12, MS4.6/38, Error ellipse: s-maj=19.5km*

s-min=15.5km az=80.0
MOS ***07*** *12:26:47.2±1.0,34°.88S×108°.11W,h10km,mb5.1/17, Error ellipse: s-maj=15.0km s-min=11.5km az=76.7*
BJI ***07*** *12:26:47.4,35°.29S×107°.18W,h10km,Ms5.3/5,Ms7 5.0/6*
NEIC ***07*** *12:26:49.1±1.7,34°.9S±0°.1×108°.22W±0°.09,h10km±1km, mb5.0/273,Mwb5.3/16,Mww5.3/20,Error ellipse: s-maj=19.4km s-min=9.9km az=203.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$0.41; $M_{r\theta}$0.15; $M_{\theta\phi}$-1.19; $M_{\phi r}$-0.01; Fault plane solution: $M_0$1.26000×10^{17} NP1:ϕ_s188.97000°, δ82.87000°,λ-1.06000°. NP2:ϕ_s279.10000°,δ88.95000°, λ-172.87000°. Principal axes: T 1.2827, Plg4.0000°, Azm54.0000°; N -0.0502, Plg83.0000°, Azm287.0000°; P -1.2325, Plg6.0000°, Azm144.0000°;*
NEIC ***07*** *12:26:49.3,34°.89S×108°.22W,h18km*
NEIC ***07*** *12:26:49.3,34°.99S×108°.10W,h18km,Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$0.25; $M_{r\theta}$-0.13; $M_{\theta\phi}$-1.29; $M_{\phi r}$-0.12; Fault plane solution: $M_0$1.32000×10^{17} NP1: ϕ_s94.40000°,δ83.50000°,λ-173.85000°. NP2:ϕ_s3.70000°, δ83.88000°,λ-6.54000°. Principal axes: T 1.3662, Plg0.0000°, Azm49.0000°; N -0.1062, Plg81.0000°, Azm141.0000°; P -1.2600, Plg9.0000°, Azm319.0000°;*
NEIC ***07*** *12:26:49.1,34°.90S×108°.24W,h10km*
GCMT ***07*** *12:26:51.5±0.1,34°.98S±0°.01×108°.22W±0°.01,h12km, MW5.4/143,Moment Tensor Solution. s126,c208; s143,c272; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.20±.01; $M_{\theta\theta}$-0.37±.01; $M_{\phi\phi}$0.56±.02; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$-1.29±.01; $M_{\phi r}$-0.58±.04; Best double couple: $M_0$1.48500×10^{17} NP1:ϕ_s99.00000°,δ68.00000°, λ-180.00000°. NP2:ϕ_s9.00000°,δ90.00000°,λ-22.00000°. Principal axes: T 1.6110, Plg16.0000°, Azm57.0000°; N -0.2520, Plg68.0000°, Azm189.0000°; P -1.3590, Plg16.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC ***07*** **12:26:49.5±0.7,34°.91S±0°.06×108°.23W±0°.05,h19km±2km, h17km:pP-P,n372,σ1§49/249,mb5.0/144,MS4.7/42, 20C-3D,Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.82**	**353**	Pn	**Pn**	**12 28 43.4**	**+1.2**
	baz=225,slow=18						
RPN				Sn	**Sn**	**12 30 11.9**	**+1.7**
	5.2nm,0.3s,baz=72,slow=20,SNR=1.4						
RPN				LR	LR	12 31 02.7	
	comp=Z,4μm,20.3s,slow=33						
GO07	**Milladeo Hill,**	**27.92**	**117**	P	**P**	**12 32 38.1**	**-0.3**
LL05	**Los Muermos**	**27.95**	**114**	P	**P**	**12 32 38.8**	**0.0**
LL01	**San Ignacio de**	**28.79**	**116**	P	**P**	**12 32 47.5**	**+1.3**
LL01				IAmb	IAmb	12 32 56.4	
	comp=Z,43nm,1.5s						
LR03	**Panguipulli**	**28.82**	**110**	P	**P**	**12 32 47.9**	**+1.4**
LR05	**Currie**	**29.06**	**111**	P	**P**	**12 32 49.5**	**+0.9**
LR05				IAmb	IAmb	12 32 51.6	
	comp=Z,48nm,1.4s						
LL02	**Futaleuf**	**29.25**	**117**	P	**P**	**12 32 51.7**	**+1.4**
AY03	**Cochrane**	**29.30**	**126**	P	**P**	**12 32 51.1**	**+0.4**
COYC	**Coyhaique**	**29.35**	**122**		**P**	**12 32 51.8**	**+0.7**
PLCA	**Paso Flores**	**30.16**	**112**		**P**	**12 32 59.3**	**+0.9**
PLCA	**Paso Flores**	**30.16**	**112**	P	**P**	**12 32 58.5**	**+0.1**
	comp=Z,24nm,1.0s,baz=268,slow=8.4,SNR=25						
PLCA				LR	LR	12 41 19.9	
	comp=Z,753nm,20.7s,baz=274,slow=29						
	comp=Z,24nm,1.0s						
PLCA	**Paso Flores**	**30.16**	**112**	P	**P**	**12 32 59.3**	**+0.9**
PLCA				pmax	pmax		
	comp=Z,44nm,1.1s						
PLCA	**Paso Flores**	**30.16**	**112**	*e*P	**P**	**12 32 59.1**	**+0.7**
BO01	**Tunca**	**30.45**	**100**	P	**P**	**12 33 02.1**	**+1.2**
BO01				IAmb	IAmb	12 33 04.8	
	comp=Z,41nm,1.4s						
GO09	**Cerro Castillo**	**30.51**	**134**	P	**P**	**12 33 02.6**	**+1.3**
MG05	**Puerto Natales**	**30.55**	**134**		**P**	**12 33 02.7**	**+1.2**
VA06	**Catapilco**	**30.69**	**96**	P	**P**	**12 33 04.0**	**+0.9**
LMEL	**Las Melosas**	**31.28**	**99**	P	**P**	**12 33 08.9**	**+0.4**
LMEL				IAmb	IAmb	12 33 11.3	
	comp=Z,31nm,1.0s						
GO04	**Tololo Observa**	**31.78**	**92**	P	**P**	**12 33 12.6**	**-0.4**
CO01	**Juntas del Tor**	**32.42**	**92**	P	**P**	**12 33 19.3**	**+0.6**
CO01				IAmb	IAmb	12 33 40.4	
	comp=Z,25nm,1.4s						
ZON	**Zonda**	**33.11**	**96**	P	**P**	**12 33 25.4**	**+1.0**
ZON				IAmb	IAmb	12 33 27.6	
	comp=Z,25nm,1.3s						
ZON	**Zonda**	**33.11**	**96**	P	**P**	**12 33 25.4**	**+1.0**
ZON				pmax	pmax		
	comp=Z,25nm,1.3s						
AC02	**Maricunga**	**34.34**	**87**		**P**	**12 33 35.7**	**0.0**
AC02				IAmb	IAmb	12 33 45.1	
	comp=Z,35nm,1.3s						
GO02	**Mina Guanaco**	**34.65**	**84**		**P**	**12 33 38.5**	**+0.3**
GO02				IAmb	IAmb	12 33 41.5	
	comp=Z,16nm,1.1s						
PB06	**IPOC Station P**	**35.78**	**81**	P	**P**	**12 33 48.1**	**+0.3**
PB06				IAmb	IAmb	12 33 48.9	
	comp=Z,22nm,1.0s						
NNA	**Nana**	**36.48**	**59**		**P**	**12 33 53.0**	**-0.7**
NNA	**Nana**	**36.48**	**59**	LR	LR	12 45 17.0	
	comp=Z,2μm,18.4s,baz=228,slow=30						
NNA	**Nana**	**36.48**	**59**	*i* P	**P**	**12 33 53.7**	**0.0**
NNA				pmax	pmax		
	comp=Z,53nm,1.0s						
PB09	**IPOC Station P**	**36.48**	**80**	P	**P**	**12 33 54.8**	**+1.0**
PB01	**IPOC Station P**	**36.66**	**78**	P	**P**	**12 33 55.7**	**+0.5**
PB01				IAmb	IAmb	12 33 57.9	
	comp=Z,32nm,1.2s						
TRQA	**Tornquist**	**37.02**	**109**		**P**	**12 33 58.8**	**+0.7**
TRQA				IAmb	IAmb	12 34 00.2	
	comp=Z,20nm,1.1s						
TRQA	**Tornquist**	**37.02**	**109**	P	**P**	**12 33 58.8**	**+0.7**
TRQA				pmax	pmax		
	comp=Z,20nm,1.1s						
PB11	**IPOC Station P**	**37.19**	**76**	P	**P**	**12 34 00.0**	**+0.2**
PB11				IAmb	IAmb	12 34 00.9	
	comp=Z,42nm,1.2s						
TBI	**Tubuai**	**37.58**	**277**	*e*S	**S**	**12 39 46.1**	**-5.3**
TBI				*e*SS	**SS**	**12 42 45.5**	**+9.1**
	comp=Z,15μm,33.5s						
TBI				*e*LR	LR	12 44 06.1	
	comp=Z,2μm,25.2s						
TBI				*e*LR	LR	12 44 09.9	
	comp=Z,9μm,25.0s						
GO01	**Chusmiza**	**37.61**	**77**	P	**P**	**12 34 03.3**	**-0.5**
PB18	**Visviri**	**38.51**	**73**	IAmb	IAmb	12 34 33.1	
	comp=Z,67nm,1.4s						
ATAH	**Atahualpa**	**38.94**	**52**	LR	LR	12 46 58.2	
	comp=Z,2μm,18.0s,baz=245,slow=31						
TAOE	**Nuku Hiva Isla**	**39.06**	**304**	*e*S	**S**	**12 40 08.2**	**-5.9**
	comp=Z,397nm,27.4s						
TAOE				*e*SS	**SS**	**12 43 10.0**	**+3.3**
	comp=Z,361nm,27.0s						
TAOE				*e*LR	LR	12 45 03.7	
	comp=Z,2μm,27.9s						
EFI	**East Falkland**	**39.32**	**131**	*i* P	**P**	**12 34 18.0**	**+0.8**
EFI				pmax	pmax		
	comp=Z,84nm,1.1s						
PMSA	**Palmer Station**	**39.89**	**152**	LR	LR	12 46 27.3	
	comp=Z,2μm,19.2s,baz=294,slow=30						
LPAZ	**La Paz**	**40.31**	**73**	P	**P**	**12 34 26.9**	**+0.4**
LPAZ				IAmb	IAmb	12 34 28.6	
	comp=Z,52nm,1.3s						
LPAZ	**La Paz**	**40.31**	**73**	P	**P**	**12 34 26.3**	**-0.2**
	comp=Z,15nm,0.9s,baz=234,slow=5.5,SNR=33						
LPAZ				LR	LR	12 47 15.0	
	comp=Z,680nm,18.5s,baz=232,slow=30						
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**40.31**	**73**	P	**P**	**12 34 26.9**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,52nm,1.3s						
LPAZ	**La Paz**	**40.31**	**73**	*e*P	**P**	**12 34 25.3**	**-1.2**
PPT2	**Papeete2**	**40.57**	**284**	*e*S	**S**	**12 40 33.3**	**-3.5**
	comp=Z,148nm,28.8s						
PPT2				*e*SS	**SnSn**	**12 43 46.1**	**+3.4**
	comp=Z,5μm,28.8s						
PPT2				*e*LR	LR	12 45 32.1	
	comp=Z,847nm,23.2s						
PPT2				*e*LR	LR	12 45 37.7	
	comp=Z,836nm,21.5s						
PPT	**Papeete**	**40.58**	**284**	LR	LR	12 47 03.0	
	comp=Z,962nm,18.5s,baz=120,slow=30						
COHC	**Cochancay**	**42.04**	**46**	P	**P**	**12 34 39.6**	**-0.4**
ESPZ	**Base Esperanza**	**42.24**	**149**	P	**P**	**12 34 41.6**	**+0.5**
ESPZ				IAmb	IAmb	12 35 01.1	
	comp=Z,34nm,1.3s						
CZSB	**Cruzeiro do Su**	**42.35**	**59**	P	**P**	**12 34 42.2**	**-0.4**
CZSB				IAmb	IAmb	12 34 43.5	
	comp=Z,43nm,0.9s						
CZSB	**Cruzeiro do Su**	**42.35**	**59**	*e*P	**P**	**12 34 42.5**	**-0.1**
CPUP	**Villa Florida**	**44.23**	**93**	P	**P**	**12 34 57.5**	**-0.2**
CPUP	**Villa Florida**	**44.23**	**93**	P	**P**	**12 34 56.4**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=123,slow=9.0,SNR=3.4						
CPUP				LR	LR	12 50 59.5	
	comp=Z,202nm,18.1s,baz=109,slow=33						
CPUP	**Villa Florida**	**44.23**	**93**	P	**P**	**12 34 57.5**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,5.0nm,1.4s						
CPUP	**Villa Florida**	**44.23**	**93**	*e*P	**P**	**12 34 56.9**	**-0.8**
OTAV	**Otavalo**	**44.69**	**45**	P	**P**	**12 35 01.5**	**-0.4**
OTAV				IAmb	IAmb	12 35 02.4	
	comp=Z,19nm,1.4s						
OTAV	**Otavalo**	**44.69**	**45**	P	**P**	**12 35 01.5**	**-0.4**
OTAV				pmax	pmax		
	comp=Z,19nm,1.4s						
OTAV	**Otavalo**	**44.69**	**45**	*e*P	**P**	**12 35 01.2**	**-0.7**
PLTB	**Pedras Altas**	**45.27**	**102**	P	**P**	**12 35 06.3**	**+0.3**
PLTB	**Pedras Altas**	**45.27**	**102**	*e*P	**P**	**12 35 06.5**	**+0.5**
SJPY	**San Joaquin**	**45.79**	**92**	*e*P	**P**	**12 35 09.5**	**-0.6**
BBSD	**Serra de San D**	**45.82**	**80**	*e*P	**P**	**12 35 09.0**	**-1.5**
CPSB	**Cacapava Do Su**	**45.87**	**100**	*e*P	**P**	**12 35 11.2**	**+0.5**
MURT	**Porto Murtinho**	**46.04**	**87**	*e*P	**P**	**12 35 11.3**	**-0.8**
SIV	**San Ignacio**	**46.09**	**78**	LR	LR	12 52 06.8	
	comp=Z,487nm,19.9s,baz=281,slow=33						
TBTG	**Tabatinga, AM**	**46.81**	**58**	P	**P**	**12 35 17.1**	**-1.1**
BDQN	**Bodoquena, MS**	**47.32**	**86**	*e*P	**P**	**12 35 21.1**	**-1.1**
FLOC	**Florencia**	**47.42**	**47**	IAmb	IAmb	12 35 37.8	
	comp=Z,21nm,1.2s						
AMBA	**Amambai (Brazi**	**47.61**	**90**	*e*P	**P**	**12 35 24.8**	**+0.3**
PTLB	**Pontes e Lacer**	**47.95**	**79**	P	**P**	**12 35 26.4**	**-0.7**
PTLB				IAmb	IAmb	12 35 28.7	
	comp=Z,25nm,1.5s						
PTLB	**Pontes e Lacer**	**47.95**	**79**	*e*P	**P**	**12 35 26.9**	**-0.2**
AQDB	**Aquidauana**	**48.17**	**87**	P	**P**	**12 35 27.5**	**-1.3**
AQDB				IAmb	IAmb	12 35 36.8	
	comp=Z,12nm,0.7s						
AQDB	**Aquidauana**	**48.17**	**87**	*e*P	**P**	**12 35 28.5**	**-0.3**
VILB	**Vilhena**	**48.49**	**75**	P	**P**	**12 35 31.2**	**-0.1**
VILB	**Vilhena**	**48.49**	**75**	*e*P	**P**	**12 35 31.8**	**+0.5**
PTGB	**Pitanga**	**49.23**	**94**	*e*P	**P**	**12 35 37.0**	**+0.1**
TRCB	**Terra Rica**	**49.61**	**91**	P	**P**	**12 35 39.6**	**-0.3**
TRCB	**Terra Rica**	**49.61**	**91**	*e*P	**P**	**12 35 40.0**	**+0.2**
RPRD	**Ribas do Rio P**	**49.81**	**88**	*e*P	**P**	**12 35 42.1**	**+0.8**
JTS	**Las Juntas de**	**50.07**	**30**	LR	LR	12 51 39.3	
	comp=Z,2μm,19.9s,baz=196,slow=30						
SALV	**Santo Antonio**	**50.49**	**82**	*e*P	**P**	**12 35 46.3**	**-0.2**
LDASE	**Londrina, Braz**	**50.58**	**93**	*e*P	**P**	**12 35 47.6**	**+0.3**
ROSC	**El Rosal**	**50.81**	**46**	P	**P**	**12 35 50.4**	**+1.1**
ROSC	**El Rosal**	**50.81**	**46**	P	**P**	**12 35 50.0**	**+0.6**
	comp=Z,51nm,0.9s,baz=164,slow=4.0,SNR=21						
ROSC				LR	LR	12 53 18.0	
	comp=Z,1μm,21.6s,baz=239,slow=31						
	comp=Z,51nm,0.9s						
ROSC	**El Rosal**	**50.81**	**46**	P	**P**	**12 35 50.4**	**+1.1**
ROSC				pmax	pmax		
	comp=Z,79nm,1.0s						
TEFE	**Tefe**	**51.04**	**62**	*e*P	**P**	**12 35 50.0**	**-0.7**
C2SB	**Chapadao do Su**	**51.36**	**87**	*e*P	**P**	**12 35 53.3**	**+0.3**
PDRB	**Porto dos Gac**	**52.03**	**77**	*e*P	**P**	**12 35 58.5**	**+0.3**
ITRB	**Iturama**	**52.93**	**89**	*e*P	**P**	**12 36 05.4**	**+0.6**
TLIG	**Tiapa**	**52.98**	**12**	P	**P**	**12 36 05.7**	**+0.5**
CLDB	**Colider**	**53.20**	**76**	*e*P	**P**	**12 36 06.6**	**-0.2**
SIUN	**Universidad Ur**	**53.24**	**29**	P	**P**	**12 36 06.4**	**-0.6**
SIUN				IAmb	IAmb	12 36 07.2	
	comp=Z,12nm,1.3s						
CMIG	**Matias Romero**	**53.25**	**16**	LR	LR	12 53 09.1	
	comp=Z,546nm,20.9s,baz=188,slow=30						
ARAG	**Araguaiana, MT**	**53.76**	**84**	*e*P	**P**	**12 36 11.2**	**+0.3**
BB19B	**Bebedouro**	**53.78**	**92**	*e*P	**P**	**12 36 11.5**	**+0.4**
SBA	**Scott Base**	**55.12**	**195**	P	**P**	**12 36 20.5**	**+0.6**
SBA	**Scott Base**	**55.12**	**195**	P	**P**	**12 36 20.5**	**+0.6**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
QSPA	**South Pole Qui**	**55.29**	**180**	P	**P**	**12 36 22.0**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=133,slow=2.0,SNR=10.0						
QSPA				PcP	**PcP**	**12 37 22.5**	**+0.4**
	comp=Z,9.3nm,1.0s,baz=151,slow=4.0,SNR=4.0						
QSPA				LR	LR	12 56 51.9	
	comp=Z,532nm,18.3s,baz=112,slow=33						
	comp=Z,5.9nm,0.9s						
IPMB	**Ipameri, GO**	**55.55**	**89**	*e*P	**P**	**12 36 23.1**	**-0.9**
NPGB	**Novo Progresso**	**55.82**	**73**	*e*P	**P**	**12 36 25.1**	**-0.7**
VNDA	**Vanda**	**56.20**	**195**	P	**P**	**12 36 28.3**	**+0.6**
VNDA	**Vanda**	**56.20**	**195**	P	**P**	**12 36 28.1**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=101,slow=6.7,SNR=5.6						
VNDA				LR	LR	12 55 21.2	
	comp=Z,283nm,20.4s,baz=100,slow=30						
	comp=Z,1.8nm,0.9s						
VNDA	**Vanda**	**56.20**	**195**	P	**P**	**12 36 28.3**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SNDB	**Serra Nova Dou**	**56.20**	**81**	*e*P	**P**	**12 36 28.0**	**-0.6**
SDV	**Santo Domingo**	**56.22**	**46**	P	**P**	**12 36 29.6**	**-1.9**
SDV				IAmb	IAmb	12 36 29.5	
	comp=Z,16nm,0.8s						
SDV	**Santo Domingo**	**56.22**	**46**	LR	LR	12 56 58.4	
	comp=Z,820nm,19.8s,baz=240,slow=32						
SDV	**Santo Domingo**	**56.22**	**46**	*e*P	**P**	**12 36 26.8**	**-2.1**
PMNB	**Patos De Minas**	**56.73**	**90**	*e*P	**P**	**12 36 32.5**	**+0.1**
BSCB	**Bom Sucesso**	**56.90**	**94**	*e*P	**P**	**12 36 34.7**	**+1.1**
BDFB	**Brasilia**	**56.91**	**86**	P	**P**	**12 36 33.7**	**0.0**
BDFB	**Brasilia**	**56.91**	**86**	P	**P**	**12 36 33.5**	**-0.2**
	comp=Z,13nm,1.0s,baz=196,slow=5.5,SNR=8.3						
BDFB				LR	LR	12 59 06.7	
	comp=Z,662nm,18.0s,baz=242,slow=34						
	comp=Z,13nm,1.0s						
BDFB	**Brasilia**	**56.91**	**86**	P	**P**	**12 36 33.7**	**0.0**
BDFB				pmax	pmax		
	comp=Z,32nm,1.3s						
ITTB	**Itaituba**	**57.18**	**70**	*e*P	**P**	**12 36 33.2**	**-2.3**
ZAIG	**Zacatecas**	**57.61**	**6**	P	**P**	**12 36 39.5**	**+0.9**
BAUV	**El Baul**	**57.84**	**49**	P	**P**	**12 36 39.1**	**-1.0**
BOAV	**Boa Vista**	**58.07**	**61**	IAmb	IAmb	12 36 47.5	
	comp=Z,12nm,1.1s						
BOAV	**Boa Vista**	**58.07**	**61**	*e*P	**P**	**12 36 40.3**	**-1.5**
RAO	**Raoul Island**	**58.25**	**255**	LR	LR	12 55 27.8	
	comp=Z,442nm,22.0s,baz=120,slow=30						
DUB01	**Friburgo-RJ**	**58.35**	**96**	*e*P	**P**	**12 36 44.5**	**+0.8**
URZ	**Urewera**	**58.50**	**243**	LR	LR	12 55 55.2	
	comp=Z,1μm,20.9s,baz=108,slow=30						
VNA3	**Neumayer Olymp**	**60.03**	**158**	⇑P	**P**	**12 36 53.4**	**-1.2**
	comp=Z,19nm,0.7s						
VNA3				sP	**sP**	**12 37 01.5**	**+0.1**
JANB	**Januaria**	**60.25**	**88**	*e*P	**P**	**12 36 57.6**	**+0.6**
VNA1	**Neumayer--Stat**	**60.68**	**158**	⇑P	**P**	**12 36 58.5**	**-0.5**
	comp=Z,11nm,0.9s						
VNA1				sP	**sP**	**12 37 06.6**	**+0.9**
PRPB	**Paraupebas**	**60.73**	**76**	*e*P	**P**	**12 37 00.1**	**-0.1**
RPZ	**Rata Peaks**	**60.76**	**235**	LR	LR	12 56 36.4	
	comp=Z,798nm,20.7s,baz=138,slow=30						
PCRV	**Puerto La Cruz**	**60.92**	**51**	LR	LR	13 00 34.1	
	comp=Z,1μm,20.8s,slow=33						
SJMB	**Sao Joao De Ma**	**60.96**	**93**	*e*P	**P**	**12 37 03.6**	**+1.8**
SMTB	**Santa Maria do**	**60.96**	**80**	*e*P	**P**	**12 37 02.3**	**+0.5**
SDBA	**SAO DESIDERIO**	**61.18**	**85**	*e*P	**P**	**12 37 03.8**	**+0.5**
SNAA	**Sanae**	**61.87**	**160**	⇑P	**P**	**12 37 06.1**	**-1.0**
	comp=Z,117nm,0.7s						
SNAA				sP	**sP**	**12 37 14.2**	**+0.2**
SNAA	**Sanae**	**61.87**	**160**	P	**P**	**12 37 06.7**	**-0.5**
SNAA				IAmb	IAmb	12 37 14.7	
	comp=Z,14nm,1.0s						
SNAA	**Sanae**	**61.87**	**160**	P	**P**	**12 37 05.9**	**-1.3**
	comp=Z,5.6nm,0.8s,baz=244,slow=5.6,SNR=22						
SNAA				LR	LR	13 00 09.2	
	comp=Z,467nm,19.8s,baz=289,slow=32						
	comp=Z,5.6nm,0.8s						
SNAA	**Sanae**	**61.87**	**160**	*i* P	**P**	**12 37 07.5**	**+0.3**
SNAA				pmax	pmax		
	comp=Z,35nm,1.9s						
TROLL	**Troll, Antarti**	**63.19**	**161**	⇓P	**P**	**12 37 14.9**	**-1.2**
	comp=Z,488nm,0.7s						
TROLL				sP	**sP**	**12 37 23.6**	**+0.7**
TXAR	**Lajitas Array**	**64.04**	**4**	P	**P**	**12 37 22.5**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=183,slow=9.1,SNR=16						
	comp=Z,3.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**64.05**	**4**		**P**	**12 37 23.0**	**+0.9**
SAND	**Sanderson**	**64.78**	**6**	IAmb	IAmb	12 37 30.6	
	comp=Z,8.3nm,0.9s						
ALPN	**Alpine**	**65.08**	**4**	IAmb	IAmb	12 37 32.2	
	comp=Z,9.4nm,1.0s						
JCT	**Junction City**	**65.52**	**8**	P	**P**	**12 37 31.7**	**+0.1**
MDP	**Montagnes des**	**65.65**	**64**	LR	LR	13 03 03.5	
	comp=Z,2μm,19.8s,baz=239,slow=33						
319A	**Douglas**	**65.94**	**359**	IAmb	IAmb	12 37 50.9	
	comp=Z,10nm,0.9s						
MNHN	**Monahans**	**66.10**	**5**	IAmb	IAmb	12 37 53.0	
	comp=Z,8.6nm,1.1s						
PDPR	**Patillas Dam,**	**66.16**	**44**		**P**	**12 37 34.3**	**-1.6**
SJG	**San Juan**	**66.16**	**44**	LR	LR	13 04 59.8	
	comp=Z,319nm,18.7s,baz=207,slow=35						
BRDY	**Brady**	**66.42**	**9**	IAmb	IAmb	12 37 56.0	
	comp=Z,7.4nm,0.9s						
TUC	**Tucson**	**66.91**	**358**	P	**P**	**12 37 40.7**	**+0.2**
TUC	**Tucson**	**66.91**	**358**	P	**P**	**12 37 40.7**	**+0.2**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YUH	**Yuha Desert**	**67.59**	**353**	IAmb	IAmb	12 37 55.6	
	comp=Z,18nm,1.4s						
PLPT	**Palo Pinto**	**68.01**	**9**	IAmb	IAmb	12 37 56.9	
	comp=Z,10nm,0.9s						
DPP	**Dos Picos Cty**	**68.05**	**352**	IAmb	IAmb	12 37 51.3	
	comp=Z,13nm,1.0s						
BORC	**Borrego Spring**	**68.25**	**353**	IAmb	IAmb	12 37 53.0	
	comp=Z,15nm,1.1s						
APMT	**Aspermont**	**68.30**	**7**	IAmb	IAmb	12 38 06.3	
	comp=Z,22nm,1.4s						
Y22A	**Socorro**	**68.50**	**1**	IAmb	IAmb	12 37 58.1	
	comp=Z,7.4nm,1.1s						
PFO	**Pinyon Flats O**	**68.60**	**353**	LR	LR	13 01 27.4	
	comp=Z,162nm,19.3s,baz=166,slow=30						
PFO	**Pinyon Flats O**	**68.60**	**353**	*i* P	**P**	**12 37 53.7**	**+2.5**
PFO				pmax	pmax		
	comp=Z,14nm,1.0s						
MSTX	**Muleshoe**	**68.71**	**5**	P	**P**	**12 37 52.1**	**+0.3**
MSTX				IAmb	IAmb	12 37 53.4	
	comp=Z,16nm,1.1s						
BNM	**Barren Site**	**68.72**	**1**	P	**P**	**12 37 53.5**	**+1.4**
X18A	**Snowflake**	**69.10**	**358**	IAmb	IAmb	12 38 04.5	
	comp=Z,10.0nm,0.9s						
NBPB	**Pedra_Branca-C**	**69.36**	**82**	*e*P	**P**	**12 37 56.5**	**+0.2**
ANMO	**Albuquerque**	**69.52**	**2**	LR	LR	13 04 34.8	
	comp=Z,233nm,19.6s,baz=263,slow=33						
ANMO	**Albuquerque**	**69.52**	**2**	*i* P	**P**	**12 37 58.0**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GSC	**Goldstone, Bar**	**70.31**	**353**	IAmb	IAmb	12 38 05.8	
	comp=Z,10nm,0.9s						
MIAR	**Mount Ida**	**70.44**	**13**	IAmb	IAmb	12 38 16.9	
	comp=Z,9.5nm,1.1s						
SHOC	**Shoshone, Teco**	**70.85**	**353**	IAmb	IAmb	12 38 08.7	
	comp=Z,10nm,0.9s						
ISA	**Isabella, Lake**	**70.86**	**351**	IAmb	IAmb	12 38 09.1	
	comp=Z,12nm,0.9s						
QSM	**Queen of Sheba**	**70.97**	**353**	IAmb	IAmb	12 38 17.1	
	comp=Z,7.7nm,0.7s						
U15A	**North Rim**	**71.08**	**357**	IAmb	IAmb	12 38 14.1	
	comp=Z,13nm,1.4s						
GWY	**Greenwater Val**	**71.17**	**353**	IAmb	IAmb	12 38 10.7	
	comp=Z,9.4nm,1.1s						
TUL3	**Leonard**	**71.41**	**11**	IAmb	IAmb	12 38 10.5	
	comp=Z,16nm,0.8s						
FURC	**Furnace Creek,**	**71.47**	**353**	IAmb	IAmb	12 38 19.1	
	comp=Z,11nm,1.1s						
CWC	**Cottonwood Cre**	**71.58**	**352**	IAmb	IAmb	12 38 13.6	
	comp=Z,16nm,1.3s						
MVCO	**Mesa Verde**	**71.75**	**360**	IAmb	IAmb	12 38 14.1	
	comp=Z,10nm,1.1s						
TPNV	**Topopah Spring**	**71.88**	**353**	IAmb	IAmb	12 38 15.7	
	comp=Z,9.8nm,0.9s						
HHAR	**Hobbs**	**72.07**	**12**	IAmb	IAmb	12 38 12.6	
	comp=Z,14nm,1.0s						
U38A	**Gravette**	**72.15**	**12**	IAmb	IAmb	12 38 15.3	
	comp=Z,9.5nm,0.8s						
RCBR	**Riachuelo**	**72.20**	**85**	LR	LR	13 10 07.3	
	comp=Z,126nm,18.5s,baz=240,slow=36						
TIN	**Tinemaha, Big**	**72.20**	**352**	P	**P**	**12 38 14.9**	**+1.7**
TIN	**Tinemaha, Big**	**72.20**	**352**	P	**P**	**12 38 14.9**	**+1.7**
TIN				pmax	pmax		
	comp=Z,55nm,1.0s						
**P

comp=Z,13nm,1.0s
ISCO Idaho Springs 74.38 2 P **P** **12 38 28.0 +1.8**
SIUC Southern Illin 74.39 16 IAmb IAmb 12 38 26.1
comp=Z,11nm,0.7s
O20A White River Ci 74.67 360 IAmb IAmb 12 38 49.2
comp=Z,18nm,1.5s
PAHR Pah Rah Range 74.96 351 IAmb IAmb 12 38 33.5
comp=Z,16nm,1.2s
BSUT Blindstream Ca 75.11 358 IAmb IAmb 12 38 34.0
comp=Z,11nm,0.9s
JLU Jordanelle 75.20 357 IAmb IAmb 12 38 47.1
comp=Z,13nm,1.3s
BEKR Beckworth 75.25 350 IAmb IAmb 12 38 35.0
comp=Z,14nm,1.2s
P38A Dawn 75.40 12 IAmb IAmb 12 38 38.5
comp=Z,11nm,1.1s
P46A Rosedale 76.66 17 IAmb IAmb 12 38 55.9
comp=Z,12nm,0.7s
K22A Casper 77.20 1 IAmb IAmb 12 39 05.2
comp=Z,20nm,1.1s
PDAR Pinedale Array 77.31 359 P **P** **12 38 43.1 +0.4**
PDAR Pinedale Array 77.31 359 P **P** **12 38 41.9 -0.9**
comp=Z,3.3nm,0.8s,baz=164,slow=5.9,SNR=20
comp=Z,3.3nm,0.8s
AHID Auburn Hatcher 77.35 358 P **P** **12 38 44.3 +1.3**
YBH Yreka Blue Hor 77.42 349 LR LR 13 06 38.0
comp=Z,10nm,18.1s,baz=171,slow=31
WVOR Wild Horse Val 77.56 352 IAmb IAmb 12 38 48.2
comp=Z,23nm,1.2s
MAW Mawson 77.58 177 LR LR 13 10 38.7
comp=Z,264nm,19.2s,baz=202,slow=34
L02F Cave Junction 77.94 348 IAmb IAmb 12 38 53.7
comp=Z,13nm,0.9s
TPAW Teton Pass 78.07 358 IAmb IAmb 12 38 59.2
comp=Z,11nm,1.1s
L40A Anamosa 78.17 13 IAmb IAmb 12 38 55.0
comp=Z,21nm,1.1s
FXWY Fox Creek 78.22 358 IAmb IAmb 12 38 51.1
comp=Z,16nm,1.4s
HLID Hailey 78.30 355 IAmb IAmb 12 38 56.0
comp=Z,15nm,0.9s
J08A Circle Bar Ran 78.45 352 IAmb IAmb 12 38 53.2
comp=Z,21nm,1.2s
K02D Willamette Mer 78.51 348 IAmb IAmb 12 38 53.1
comp=Z,24nm,1.2s
N49A Columbus Grove 78.64 18 IAmb IAmb 12 38 58.4
comp=Z,20nm,1.2s
RSSD Black Hills 78.75 3 **P** **12 38 51.2 +0.5**
RSSD IAmb IAmb 12 39 01.2
comp=Z,9.9nm,1.0s
RSSD Black Hills 78.75 3 P **P** **12 38 51.2 +0.5**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
ECSD EROS Data Cent 78.98 9 IAmb IAmb 12 38 59.1
comp=Z,12nm,1.1s
PINE Pine Mountain 79.18 351 IAmb IAmb 12 39 01.6
comp=Z,20nm,0.9s
I03D Drain, OR 79.44 349 IAmb IAmb 12 38 56.4
comp=Z,10nm,0.9s
I37A Lemond, Waseca 79.70 11 IAmb IAmb 12 39 03.6
comp=Z,16nm,0.9s
I05D Terrebonne, OR 79.77 350 IAmb IAmb 12 38 60.0
comp=Z,16nm,1.0s
BUCK Buck Mountain 79.87 349 IAmb IAmb 12 39 00.3
comp=Z,20nm,1.2s
MVL Millersville 80.13 24 IAmb IAmb 12 39 00.6
comp=Z,20nm,1.2s
SSPA Standing Stone 80.20 23 P **P** **12 39 02.4 +4.0**
H04A Detroit Lake 80.23 350 IAmb IAmb 12 39 01.5
comp=Z,20nm,1.2s
I42A Draeger Farm, 80.38 14 IAmb IAmb 12 39 07.1
comp=Z,28nm,1.2s
G08A Pilot Rock 80.42 352 IAmb IAmb 12 39 07.6
comp=Z,13nm,1.0s
G06A Carlson Farm, 80.56 351 IAmb IAmb 12 39 04.2
comp=Z,17nm,1.3s
H43A Windswept, Lux 81.17 15 IAmb IAmb 12 39 11.4
comp=Z,19nm,0.9s
G40A Rib Lake 81.46 13 IAmb IAmb 12 39 12.4
comp=Z,17nm,1.1s
HAWA Hanford 81.57 352 IAmb IAmb 12 39 09.4
comp=Z,18nm,1.4s
L56A Greenwood 81.66 23 IAmb IAmb 12 39 13.1
comp=Z,18nm,1.0s
E03A Lebam 82.25 349 IAmb IAmb 12 39 11.8
comp=Z,19nm,1.0s
COWI Conover 82.46 13 IAmb IAmb 12 39 17.7
comp=Z,14nm,1.1s
LTY Liberty 82.56 351 IAmb IAmb 12 39 17.9
comp=Z,9.6nm,1.2s
EGMT Eagleton 82.57 359 IAmb IAmb 12 39 19.0
comp=Z,9.2nm,1.1s
NLWA Neilton Lookou 83.12 349 IAmb IAmb 12 39 16.6
comp=Z,14nm,1.1s
GNW Green Mountain 83.14 350 IAmb IAmb 12 39 16.9
comp=Z,17nm,1.4s
NEW Newport 83.18 354 LR LR 13 10 52.2
comp=Z,168nm,18.7s,baz=180,slow=32
AGMN Agassiz Nation 83.57 8 IAmb IAmb 12 39 18.8
comp=Z,7.1nm,1.1s
SADO Sadowa 83.58 20 LR LR 13 14 02.7
comp=Z,331nm,18.3s,baz=171,slow=34
DELO Deloro Mine 83.80 21 IAmb IAmb 12 39 24.5
comp=Z,14nm,1.0s
EYMN Ely 83.83 11 IAmb IAmb 12 39 26.0
comp=Z,16nm,1.4s
BUKO Buck Lake 84.13 20 IAmb IAmb 12 39 26.0
comp=Z,12nm,1.0s
TBO Thunder Bay 84.86 12 IAmb IAmb 12 39 29.5
comp=Z,14nm,1.0s
HNR Honiara 86.16 261 LR LR 13 09 43.8
comp=Z,311nm,21.9s,baz=184,slow=30
STKA Stephens Creek 86.66 233 LR LR 13 11 47.3
comp=Z,503nm,19.3s,baz=159,slow=31
STKA Stephens Creek 86.66 233 *i* P **P** **12 39 33.8 +1.6**
BBB Bella Bella 88.46 348 LR LR 13 10 19.5
comp=Z,86nm,20.5s,baz=188,slow=30
DLBC Dease Lake 94.77 349 LR LR 13 15 46.2
comp=Z,14nm,19.0s,baz=127,slow=31
SCHQ Schefferville 96.20 23 LR LR 13 18 19.4
comp=Z,183nm,20.0s,baz=212,slow=32
PMG Port Moresby 96.44 254 LR LR 13 20 03.1
comp=Z,74nm,18.1s,baz=148,slow=33
ASAR Alice Springs 97.17 235 LR LR 13 17 13.0
comp=Z,412nm,21.7s,baz=140,slow=31
YKA Yellowknife Ar 97.20 357 P **P** **12 40 18.4 -1.7**
comp=Z,1.2nm,1.0s,baz=169,slow=4.0,SNR=7.7
YKA LR LR 13 19 40.4
comp=Z,208nm,18.3s,baz=145,slow=33
comp=Z,1.2nm,1.0s
WRAB Tennant Creek 99.38 238 *i* P **Pdif** **12 40 32.5 +1.4**
WRAB pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 99.38 238 P **Pdif** **12 40 28.8 -2.3**
comp=Z,0.9nm,1.2s,baz=132,slow=4.2,SNR=2.1
WRA LR LR 13 20 56.8
comp=Z,680nm,18.5s,baz=164,slow=33
comp=Z,0.9nm,1.2s
H01W1 Cape Leeuwin H 100.06 214 T T 14 32 50.3
baz=144,slow=75,SNR=31
H01W2 Cape Leeuwin H 100.06 214 T T 14 32 45.3
baz=144,slow=75,SNR=26
H01W3 Cape Leeuwin H 100.07 214 T T 14 32 55.7
baz=144,slow=75,SNR=24
ILAR Eielson Array 103.87 344 PP **PP** **12 45 05.7 -1.9**
comp=Z,0.6nm,1.0s,baz=153,slow=6.2,SNR=5.8
PMOZ Porto Moniz, M 108.65 63 eLR LR 13 18 25.7
PMOZ *i* IAMs_20 IAMs_20 13 24 13.0
comp=Z,243nm,22.0s
PVAQ Vaqueiros 117.64 62 *e*SS SS 13 03 23.8 +25
PVAQ eLR LR 13 23 11.7
PVAQ *i* IAMs_20 IAMs_20 13 27 55.3
comp=Z,297nm,22.0s
PMRV Marv??o 118.69 60 *e*LR LR 13 23 52.5
PMRV *i* IAMs_20 IAMs_20 13 29 55.9
comp=Z,209nm,20.0s
PGAV Gavieira, Arco 119.05 57 eLR LR 13 23 30.6
PGAV *i* IAMs_20 IAMs_20 13 29 25.5
comp=Z,234nm,20.0s
MVO Moncorvo 119.61 58 eLR LR 13 22 54.7
MVO *i* IAMs_20 IAMs_20 13 29 28.4
comp=Z,284nm,22.0s
BILL Bilibino 120.24 334 *i* PKIKP **PKiKP** **12 45 41.1 +2.8**
BILL pmax pmax
comp=Z,2.0nm,1.4s
ESDC Sonseca Array 121.23 61 PKP **PKPdf** **12 45 39.2 -2.0**
comp=Z,1.2nm,0.9s,baz=296,slow=2.1,SNR=7.3
EKA Eskdalemuir Ar 126.13 43 PKP **PKPdf** **12 45 48.9 -1.1**
comp=Z,0.5nm,0.6s,baz=270,slow=4.1,SNR=1.8
FETA Feichten 133.45 56 *e*PKP **PKiKP** **12 46 05.2 -0.3**
comp=Z,5.1nm,1.0s
USRK Ussuriysk Ar. 133.59 300 PKP **PKPdf** **12 46 04.7 +0.3**
comp=Z,1.1nm,0.6s,baz=85,slow=9.0,SNR=2.3
MOTA Moosalm 133.75 55 *e*PKP **PKPdf** **12 46 04.7 -0.2**
comp=Z,7.9nm,0.8s
NOA NORSAR Array B 133.97 36 PKP **PKPdf** **12 46 05.0 +0.3**
comp=Z,0.2nm,0.4s,baz=283,slow=1.8,SNR=1.8
NOA NORSAR Array B 133.97 36 PKiKP **PKPdf** **12 46 05.0 +0.3**
WTTA Wattenberg 134.10 55 *e*PKP **PKPdf** **12 46 05.2 -0.3**
comp=Z,7.2nm,1.2s
YAK Yakutsk 135.09 326 *i* PKiKP **PKiKP** **12 46 08.6 +0.4**
HFS Hagfors 135.29 37 PKP **PKPdf** **12 46 06.4 -0.7**
comp=Z,3.7nm,0.8s,baz=191,slow=1.5,SNR=4.1
CLL Collm 135.31 50 *e*SKPdf **SKiKP** **12 49 44.0 0.0**
CLL *e*PS PS 12 59 07.0 +0.2
CLL *e*PPS PPS 13 00 51.0
CLL *e*SS **SS** **13 06 42.0 +2.9**
CLL *ex* x 13 08 12.0
CLL *e*SSS SSS 13 11 18.0
CLL *e*SSSS 13 15 36.0
CLL *ex* x 13 18 12.0
KHC Kasperske Hory 135.57 53 *i* PKiKP **PKPdf** **12 46 07.1 -1.0**
GERES GERESS Array B 135.63 53 PKP **PKPdf** **12 46 07.4 -0.8**
comp=Z,0.5nm,0.3s,baz=233,slow=1.0,SNR=7.0
ARCES ARCESS Array B 137.15 22 PKP **PKPdf** **12 46 09.9 -0.5**
comp=Z,1.3nm,0.7s,baz=84,slow=2.8,SNR=1.6
HEH HeiHe 137.27 309 *e*PKP **PKiKP** **12 46 18.9 +5.9**
MODS Modra-Piesok 137.97 54 *e*P **Pdif** **12 43 22.9 +1.0**
VYHS Vyhne 139.01 54 *e*PKiKP **PKiKP** **12 46 16.8 +0.2**
VYHS Vyhne 139.01 54 *e*PKP **PKiKP** **12 46 16.8 +0.2**
FINES FINESS Array B 140.85 33 PKiKP PKPpre 12 46 11.6
comp=Z,0.9nm,0.5s,baz=291,slow=5.3,SNR=4.9
NJ2 Nanjing 140.91 280 *e*PKP **PKiKP** **12 46 20.3 -0.7**
QIZ Qiongzhong 142.82 255 PKP **PKPdf** **12 46 23.7 +1.5**
QIZ PP **PP** **12 49 32.7 +1.5**
QIZ SS SS 13 08 12.3 +3.9
QIZ LR LR
comp=Z,240nm,15.5s
QIZ LR LR
comp=Z,670nm,26.9s
BURAR Bucovina Array 143.31 55 ⇑P PKPbc 12 46 20.0 +0.6
BOD Bodaibo 143.80 322 *e*PKHKP PKPpre 12 46 18.4
BOD pmax pmax
comp=Z,18nm,1.7s
MLR Muntele Rosu 143.88 59 ⇑P PKPab 12 46 19.9 -0.6
MNK Minsk 143.92 43 *i* PKiKP **PKPdf** **12 46 22.0 -1.0**
MNK *i* 12 49 35.7
MNK *i* PPP PPP 12 52 46.0
MNK *i* 12 53 24.7
MNK *i* SS SS 13 08 20.4 +0.6
MNK *i* SSS SSS 13 13 46.0
MNK pmax pmax
comp=Z,34nm,0.7s
MNK pmax pmax
comp=N,17nm,0.7s
MNK pmax pmax
comp=E,18nm,0.9s
MNK MLR MLR
comp=E,129nm,21.0s
MNK MLR MLR
comp=Z,65nm,17.0s
MNK MLR MLR
comp=N,109nm,20.0s
TESR Tescani 144.34 57 ⇑P **PKPab** **12 46 20.8 -1.3**
PLOR Plostina 144.37 58 ⇑P **PKPab** **12 46 22.2 -0.1**
VRI Vrincioaia 144.42 58 ⇑P **PKPab** **12 46 22.2 -0.2**
XLT XiLinHaoTe 144.96 298 *e*PKPbc **PKPab** **12 46 24.4 -0.2**
XLT PKPab **pPKPdf** **12 46 30.1 -0.3**
BAND Balkesir-Ban 145.26 68 ⇑P **PKPbc** **12 46 24.3 -1.2**
HARR Harsova 145.30 60 ⇑P **PKPbc** **12 46 24.9 -0.6**
SORM Soroca 145.37 54 ⇑P **PKPbc** **12 46 24.4 -1.2**
TLBR Topalu 145.38 60 ⇑P **PKPbc** **12 46 25.5 -0.3**
CFR Carcaliu 145.43 59 ⇑P **PKPdf** **12 46 23.9 -2.0**
HNS HongShan 145.46 287 ⇑PKPbc **PKiKP** **12 46 29.9 -0.3**
KIEV Kiev 145.55 50 **PKPdf** **12 46 24.0 -1.9**
KIEV Kiev 145.55 50 ⇑P **PKPdf** **12 46 24.4 -1.5**
KIEV Kiev 145.55 50 PKP2 **PKPdf** **12 46 24.0 -1.9**
AKASG Malin Array Be 145.56 49 PKPbc **PKPdf** **12 46 24.4 -1.5**
comp=N,9.3nm,0.9s,baz=277,slow=3.7,SNR=38
AKBB Malin Array Si 145.56 49 **PKPdf** **12 46 24.1 -1.8**
AKBB Malin Array Si 145.56 49 *i* PKP2 **PKPdf** **12 46 24.0 -1.9**
TPGR Topolog 145.64 60 ⇑P **PKPdf** **12 46 25.8 -0.6**
TIRR Tirgusor 145.64 61 **PKPdf** **12 46 25.8 -0.5**
TIRR Tirgusor 145.64 61 ⇑P **PKPdf** **12 46 26.1 -0.2**
TIRR Tirgusor 145.64 61 PKiKP **PKPdf** **12 46 25.8 -0.5**
LYN LuoYang 146.71 281 *e*PKPbc **PKPab** **12 46 31.2 -0.2**
KLMR Klimovskoe 146.83 29 *e*PKiKP **PKPdf** **12 46 26.0 -1.8**
KLMR pmax pmax
comp=Z,39nm,1.1s
HHC Hu-ho-hao-te 148.24 293 *e*PKPbc **PKPdf** **12 46 31.0 +0.1**
OBN Obninsk 148.44 39 *de*PKP2 **PKPbc** **12 46 32.8 -1.4**
OBN *e* 12 50 03.7
OBN *e*SS SS 13 09 52.9 +42
OBN pmax pmax
comp=Z,26nm,1.0s
OBN MLR MLR
comp=Z,135nm,19.0s
MOS Moscow 148.71 38 *i* PKHKP PKPpre 12 46 28.0
ANTO Ankara 148.81 69 ⇑P **PKPbc** **12 46 35.7 -0.1**
BRTR Keskin Array B 149.45 70 PKP **PKPdf** **12 46 32.0 -1.0**
comp=Z,2.8nm,1.0s,baz=169,slow=1.5,SNR=12
BRTR PKPbc **PKPbc** **12 46 36.9 -0.6**
comp=Z,5.2nm,1.0s,baz=204,slow=2.7,SNR=22
XAN Xi'an 149.47 279 PKPbc **PKPbc** **12 46 38.1 +0.5**
KIRS Kirsehir-Merke 149.63 71 ⇑P **PKPbc** **12 46 37.9 +0.1**
SIM Simferopol' 149.67 59 *e*PKP2 **PKPbc** **12 46 36.4 -1.2**
SIM pmax pmax
comp=Z,22nm,1.1s
MMAI Mount Meron Ar 149.88 83 PKPbc **PKPbc** **12 46 38.0 -0.7**
comp=Z,1.0nm,0.2s,baz=84,slow=8.5,SNR=4.5
LPSR Galich'ya Gora 150.76 43 *e*PKiKP **PKPbc** **12 46 37.4 -2.6**
LPSR pmax pmax
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 150.84 243 PKPbc **PKPbc** **12 46 40.6 -0.6**
comp=Z,9.3nm,0.9s,baz=172,slow=1.7,SNR=24
SONM Songino Array 151.24 307 PKP **PKPdf** **12 46 35.7 +0.2**
comp=Z,11nm,0.9s,baz=158,slow=2.3,SNR=34
SONM PKPbc **pPKPdf** **12 46 39.9 -0.7**
comp=Z,12nm,0.9s,baz=119,slow=1.3,SNR=9.9
VSR Storozhevoye 151.44 45 *e*PKiKP **PKPbc** **12 46 38.8 -2.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 151.61 46 *e*PKiKP **PKPbc** **12 46 39.3 -2.7**
VORD pmax pmax
comp=Z,10.0nm,0.9s
ANN Anapa 152.03 59 *e*PKiKP **PKPdf** **12 46 35.8 -0.8**
ANN *i* 12 46 41.4
ANN pmax pmax
comp=Z,26nm,0.8s
ZAK Zakamensk 152.40 314 *e*PKiKP **PKPbc** **12 46 43.6 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
VRH Novokhopyorsk 152.92 44 *e*PKiKP **PKPbc** **12 46 41.9 -3.0**
VRH pmax pmax
comp=Z,10.0nm,0.9s
PZH PanZhiHua 152.98 260 PKPbc **PKPdf** **12 46 40.4 +1.6**
LZH Lanzhou 153.92 282 *e*PKPbc **PKPdf** **12 46 39.0 -0.9**
LZH pPKP sPKPdf 12 46 46.7 -0.1
ERBR Yeremizino-Bor 153.97 56 *i* PKiKP **PKPbc** **12 46 46.2 -1.2**
ERBR pmax pmax
comp=Z,17nm,0.5s
KBZ Khabaz 156.08 60 PKP **PKPdf** **12 46 42.7 +0.4**
comp=Z,2.9nm,0.8s,baz=236,slow=3.6,SNR=4.7
ARTI Arti 156.65 19 **PKPab** **12 47 12.1 +0.2**
ARTI Arti 156.65 19 *i* PKiKP **PKPdf** **12 46 41.7 -1.0**
ZAA0 Zalesovo Array 158.87 338 **PKPab** **12 47 22.3 +0.8**
ZALV Zalesovo Beam 158.87 338 **PKPab** **12 47 21.9 +0.4**
ZALV Zalesovo Beam 158.87 338 PKP **PKPdf** **12 46 44.6 -0.9**
comp=Z,1.8nm,0.9s,baz=162,slow=0.5,SNR=4.4
ZALV PKPab **PKPab** **12 47 20.2 -1.4**
comp=Z,5.9nm,1.0s,baz=31,slow=4.0,SNR=11
BRVK Borovoye 161.83 3 **PKPab** **12 47 34.6 +0.2**
BRVK Borovoye 161.83 3 PKP2 **PKPab** **12 47 34.6 +0.2**
BVAR Borovoye Array 161.86 3 PKP **PKPdf** **12 46 48.5 -0.3**
comp=Z,1.1nm,0.8s,baz=242,slow=3.1,SNR=4.8
BVAR PKPab **PKPab** **12 47 32.6 -2.0**
comp=Z,2.7nm,0.9s,baz=350,slow=3.5,SNR=6.8
KURK Kurchatov 163.44 345 PKiKP **PKPdf** **12 46 50.6 +0.2**
KURK 12 47 40.7
KURBB Kurchatov Arra 163.54 345 PKP **PKPdf** **12 46 50.6 0.0**
comp=Z,0.2nm,0.4s,baz=54,slow=1.4,SNR=2.4
KURBB PKPab **PKPab** **12 47 40.6 -1.4**
comp=Z,2.5nm,1.0s,baz=12,slow=4.4,SNR=8.4
KURBB PP **PP** **12 51 27.5 +0.5**
comp=Z,0.2nm,0.3s,baz=351,slow=4.7,SNR=1.7
WMQ Urumqi 164.83 311 *e*PKP **PKPdf** **12 46 54.2 +2.1**
WMQ LR LR
comp=Z,220nm,23.9s
MKAR Makanchi Array 165.72 329 **PKPab** **12 47 52.6 +0.8**
MKAR Makanchi Array 165.72 329 PKP **PKPdf** **12 46 52.8 +0.1**
comp=Z,0.1nm,0.4s,baz=48,slow=2.1,SNR=1.7
MKAR PKPab **PKPab** **12 47 52.0 +0.1**
comp=Z,2.3nm,1.0s,baz=41,slow=4.0,SNR=9.0

*MDD **07** 12:54:28.6±2.0, 41.°82N×11.°21W, h0km, mb_Lg2.8/4, Error ellipse: s-maj=19.6km s-min=15.3km az=45.0*
*INMG **07** 12:54:29.9±1.1, 32.°35N×7.°60W, h17km, ML2.4, Error ellipse: s-maj=12.5km s-min=2.5km az=87.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Morocco*
*SFS **07** 12:54:29.3, 32.°33N×7.°77W, h15km, mb3.6/6, ML3.6/7, ML3.3/11, MLv3.1/11*
*IGIL **07** 12:54:30.4, 32.°34N×7.°67W, h14km*
ISC 07 12:54:26.7±1.4, 32.°37N±0.°04×7.°6W±0.°1, h10km, n25, σ2.°37, 43, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVE	**Averroes**	**0.93**	**8**	Pn	**Pn**	**12 54 48.3**	**+2.4**
AVE				Sg	**Sn**	**12 55 00.7**	**+1.3**
TIO	**Tiouine**	**1.47**	**170**	**Sn**	**Sn**	**12 55 12.5**	**-0.2**
TIO				Pn	**Pn**	**12 54 53.6**	**+0.2**
PFVI	**Vila Bisbo**	**4.86**	**348**	Pn	**Pn**	**12 55 41.6**	**+1.7**
PBDV	**Barranco-do-Ve**	**4.87**	**357**	*e*P	**Pn**	**12 55 42.5**	**+2.5**
PBDV				*e*S	**Sn**	**12 56 36.8**	**+0.3**
PBDV				*i* IAML		12 56 43.4	
PBDV				*i* IAML		12 56 44.2	
PBDV				*i* IAML		12 56 53.4	
MORF	**Marmelete**	**5.00**	**350**	*e*P	**Pn**	**12 55 43.4**	**+1.5**
MORF	**Marmelete**	**5.00**	**350**	*e*P	**Pn**	**12 55 43.4**	**+1.5**
MORF				*e*S	**Sn**	**12 56 39.5**	**-0.2**
MORF				*i* IAML		12 56 43.0	
MORF				*i* IAML		12 56 44.4	
MORF				*i* IAML		12 56 54.7	
PVAQ	**Vaqueiros**	**5.02**	**359**	Pn	**Pn**	**12 55 43.7**	**+1.6**
PVAQ	**Vaqueiros**	**5.02**	**359**	*e*P	**Pn**	**12 55 43.8**	**+1.6**
PVAQ				*e*S	**Sn**	**12 56 39.6**	**-0.5**
PVAQ				*i* IAML		12 56 41.2	
PVAQ				*i* IAML		12 56 41.5	
PVAQ				*i* IAML		12 56 56.2	
EGRO	**El Granado**	**5.15**	**1**	Pn	**Pn**	**12 55 45.8**	**+1.9**
EGRO				Sn	**Sn**	**12 56 41.7**	**-1.6**
EGRO	**El Granado**	**5.15**	**1**	Pn	**Pn**	**12 55 45.4**	**+1.5**
EGRO				Sn	**Sn**	**12 56 42.1**	**-1.3**
EGRO				*i* lVmb_Lg		12 56 52.8	
PCVE	**Castro Verde**	**5.26**	**356**	Sn	**Sn**	**12 56 44.7**	**-1.4**
PCVE				Pn	**Pn**	**12 55 47.2**	**+1.8**
PCVE	**Castro Verde**	**5.26**	**356**	*e*P	**Pn**	**12 55 47.6**	**+2.2**
PCVE				*e*S	**Sn**	**12 56 45.2**	**-0.9**
PCVE				*i* IAML		12 56 47.0	
PCVE				*i* IAML		12 56 47.5	
PCVE				*i* IAML		12 57 03.5	
EMIN	**Mina Concepcio**	**5.43**	**8**	Sn	**Sn**	**12 56 48.8**	**-1.5**
EMIN				Pn	**Pn**	**12 55 49.5**	**+1.8**
EMIN	**Mina Concepcio**	**5.43**	**8**	Pn	**Pn**	**12 55 48.1**	**+0.3**
EMIN				Sn	**Sn**	**12 56 46.1**	**-4.3**
EMIN				*i* lVmb_Lg		12 56 53.2	
MESJ	**Messejana**	**5.48**	**355**	*e*P	**Pn**	**12 55 50.4**	**+2.0**
MESJ				*e*S	**Sn**	**12 56 51.0**	**-0.5**
PBAR	**Barrancos**	**5.80**	**4**	*e*P	**Pn**	**12 55 55.6**	**+2.7**
PBAR				*e*S	**Sn**	**12 56 58.2**	**-1.4**
PBAR				*i* IAML		12 57 03.2	
PBAR				*i* IAML		12 57 15.5	
PBAR				*i* IAML		12 57 17.3	
ECAB	**El Cabril**	**5.96**	**17**	Pn	**Pn**	**12 55 57.0**	**+2.0**
ECAB	**El Cabril**	**5.96**	**17**	Pn	**Pn**	**12 55 55.6**	**+0.6**
ECAB				Sn	**Sn**	**12 56 56.9**	**-6.4**
ECAB				*i* lVmb_Lg		12 57 05.8	
EVO	**Evora**	**6.16**	**357**	Sn	**Sn**	**12 57 02.8**	**-5.3**
EADA	**Adamuz**	**6.28**	**22**	Pn	**Pn**	**12 56 01.9**	**+2.4**
EADA				Sn	**Sn**	**12 57 10.2**	**-1.0**
EADA	**Adamuz**	**6.28**	**22**	Pn	**Pn**	**12 56 01.0**	**+1.6**
EADA				Sn	**Sn**	**12 57 09.7**	**-1.5**
EADA				*i* lVmb_Lg		12 57 15.4	
EBAD	**Badajoz**	**6.38**	**4**	Pn	**Pn**	**12 56 02.9**	**+2.1**
PARRA	**Arraiolos**	**6.54**	**350**	*e*P	**Pn**	**12 56 03.3**	**+0.3**
PARRA				*e*S	**Sn**	**12 57 11.2**	**-6.4**
PMTG	**Montargil**	**6.70**	**356**	*e*P	**Pn**	**12 56 07.2**	**+1.9**
PMRV	**Marv??o**	**7.04**	**1**	*e*P	**Pn**	**12 56 11.9**	**+2.0**
PMRV				*e*S	**Sn**	**12 57 28.9**	**-1.1**

*IDC **07** 12:58:05.3±1.5, 47.°11N×155.°78E, h0km, mb3.6/9, mbtmp3.6/11, ML3.1/2, MS4.0/9, Error ellipse: s-maj=39.3km s-min=20.1km az=172.0*
*SKHL **07** 12:58:06.7±0.4, 47.°10N×155.°70E, h38km±7km, mb4.6/3*
ISC 07 12:58:07.6±0.9, 47.°2N±0.°1×155.°55E±0.°10, h18km, n30, σ1°64/24, mb3.6/9, MS4.2/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.56**	**6**	*e*P	**Pn**	**12 59 00.8**	**-1.1**
SKR				*e*S	**Sn**	**12 59 41.0**	**-2.4**
SKR				A	A	12 59 46.9	
	70nm,0.4s						
SKR				A	A	12 59 46.9	
	50nm,0.4s						
PAU	**Pauzhetka**	**4.40**	**10**	*e*S	**Sn**	**13 00 01.5**	**-2.7**
PAU				*e*P	**Pn**	**12 59 12.5**	**-1.0**
PAU				A	A	13 00 03.5	
	110nm,0.3s						
PAU				A	A	13 00 03.5	
	80nm,0.3s						
KUR	**Kuril'sk**	**5.67**	**253**	*e*S	**Sn**	**13 00 33.5**	**-2.0**
KUR				*e*P	**Pn**	**12 59 31.4**	**+0.5**
KUR				AMB	AMB	12 59 35.9	
	20nm,0.5s						
KUR				A	A	13 00 36.5	
	60nm,0.5s						
KUR				A	A	13 00 36.5	
	30nm,0.5s						
PETK	**Petropavlovsk-**	**6.12**	**12**	Pn	**Pn**	**12 59 36.1**	**-1.0**
	0.5nm,0.3s,baz=203,slow=14,SNR=20						
PETK				Sn	**Sn**	**13 00 49.3**	**+2.6**
	0.5nm,0.3s,baz=214,slow=28,SNR=5.2						
	1.3nm,0.5s						
SHO	**Shikotan**	**6.95**	**245**	*e*S	**Sn**	**13 01 05.6**	**-1.4**
SHO				*e*P	**Pn**	**12 59 49.2**	**+0.7**
SHO				AMB	AMB	12 59 51.1	
	20nm,0.3s						
SHO				A	A	13 01 09.5	
	30nm,0.3s						
SHO				A	A	13 01 09.5	
	30nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.48**	**249**	*e*S	**Sn**	**13 01 18.2**	**-1.8**
YUK				*e*P	**Pn**	**12 59 56.2**	**+0.5**
YUK				AMB	AMB	12 59 57.6	
	30nm,0.4s						
YUK				A	A	13 01 27.4	
	60nm,0.4s						
YUK				A	A	13 01 27.4	
	90nm,0.4s						
NMR	**Nemuro--Hokkai**	**7.89**	**245**	*e*P	**Pn**	**12 59 59.2**	**-2.2**
AKK	**Akkeshi**	**8.63**	**245**	*e*P	**Pn**	**13 00 09.4**	**-2.1**
ASAJ	**Asahikawa**	**9.57**	**256**	Pn	**Pn**	**13 00 25.9**	**+1.5**
	0.4nm,0.3s,baz=71,slow=10,SNR=5.0						
	1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**16.68**	**237**	LR	LR	13 09 57.6	
	comp=Z,11nm,19.7s,baz=358,slow=42						
H11S1	**WAKE ISLAND Hy**	**29.99**	**158**	T	T	13 35 32.1	
	baz=346						
H11S3	**WAKE ISLAND Hy**	**30.00**	**159**	T	T	13 35 20.3	
	baz=346						
H11S2	**WAKE ISLAND Hy**	**30.01**	**158**	T	T	13 35 26.0	
	baz=346						
ILAR	**Eielson Array**	**35.19**	**39**	P	**P**	**13 05 00.2**	**0.0**
	0.4nm,0.9s,baz=265,slow=8.6,SNR=3.5						
ILAR				LR	LR	13 18 19.4	
	comp=Z,268nm,21.1s,baz=113,slow=35						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**48.24**	**298**	P	**P**	**13 06 49.2**	**+2.1**
	0.3nm,0.7s,baz=57,slow=8.8,SNR=2.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**48.62**	**304**	P	**P**	**13 06 51.9**	**+2.0**
	0.8nm,0.6s,baz=67,slow=8.4,SNR=6.5						

0.8nm,0.6s
YKA Yellowknife Ar 49.60 38 P **P** 13 06 57.9 +0.7
0.4nm,0.7s,baz=297,slow=6.7,SNR=3.1
0.4nm,0.7s
BVAR Borovoye Array 51.89 310 P **P** 13 07 15.9 +1.2
0.8nm,0.4s,baz=52,slow=8.1,SNR=4.6
0.8nm,0.4s
NVAR Mina Array Bea 60.76 64 P **P** 13 08 18.1 -0.4
0.3nm,0.7s,baz=282,slow=4.7,SNR=4.9
0.3nm,0.7s
KAPI Kappang 60.79 222 LR LR 13 32 37.9
comp=Z,299nm,21.1s,baz=115,slow=34
JMIC Jan Mayen 61.62 354 LR LR 13 34 25.4
comp=Z,80nm,20.4s,baz=60,slow=35
PDAR Pinedale Array 63.15 55 P **P** 13 08 35.0 +0.5
0.4nm,0.8s,baz=325,slow=8.0,SNR=2.6
0.4nm,0.8s
FINES FINESS Array B 64.38 336 P **P** 13 08 42.6 +0.7
2.8nm,1.1s,baz=46,slow=4.0,SNR=2.4
2.8nm,1.1s
NOA NORSAR Array B 68.38 342 LR LR 13 43 29.4
comp=Z,21nm,19.1s,baz=225,slow=40
HFS Hagfors 68.65 341 LR LR 13 42 02.0
comp=Z,81nm,19.6s,baz=256,slow=38
AKASG Malin Array Be 72.13 327 LR LR 13 44 05.6
comp=Z,137nm,21.2s,baz=248,slow=38
PALK Pallekele 74.40 264 LR LR 13 48 38.1
comp=Z,145nm,18.2s,baz=167,slow=41
TXAR Lajitas Array 75.83 62 P **P** 13 09 52.1 -0.8
0.8nm,0.9s,baz=246,slow=1.5,SNR=4.9
0.8nm,0.9s
ASF Jabal al Asfar 83.70 312 LR LR 13 51 46.1
comp=Z,151nm,21.1s,baz=279,slow=38
MMAI Mount Meron Ar 83.78 313 LR LR 13 52 26.4
comp=Z,118nm,22.0s,baz=254,slow=39

TIR ***07*** *13:12:59.0, 40.48N×20.78E, h18km, Ml3.0/3*
THE ***07*** *13:13:00.0, 41.5±2.1E±., h2km±4km, M2.3/6, MLh2.3/6*
ISC 07 13:13:00.3±0.9, 40.51N±0.03×20.81E±0.03, h11km±6km, n12, σ1.901/21, 5C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.11**	**351**	⇑	Pg		**Pg**	**13 13 03.2**	**-0.1**
KBN					Sg		**Sg**	**13 13 05.7**	**+0.4**
NEST	**Nestorio**	**0.21**	**118**	⇑	Pg		**Pg**	**13 13 04.5**	**-0.2**
NEST					Sg		**Sg**	**13 13 08.2**	**+0.4**
NEST					AML	AML		13 13 08.7	
	9.4nm,0.2s								
NEST	**Nestorio**	**0.21**	**118**		P		**Pg**	**13 13 04.5**	**-0.2**
NEST					S		**Sg**	**13 13 08.1**	**+0.4**
FNA	**Florina**	**0.51**	**58**	⇑	Pg		**Pg**	**13 13 10.5**	**+0.3**
FNA					Sg		**Sb**	**13 13 18.7**	**-0.1**
FNA	**Florina**	**0.51**	**58**		P		**Pg**	**13 13 10.4**	**+0.1**
FNA					S		**Sb**	**13 13 18.2**	**-0.6**
KZN	**Kozani**	**0.76**	**105**		P		**Pg**	**13 13 14.8**	**-0.2**
KZN					S		**Sb**	**13 13 25.9**	**-0.2**
SRN	**Sarande**	**0.89**	**225**	⇑	Pg		**Pg**	**13 13 15.7**	**-1.7**
SRN					Sg		**Sb**	**13 13 29.0**	**-0.6**
KEK	**Kerkira**	**1.11**	**224**	⇓	Pn		**Pn**	**13 13 23.3**	**+1.3**
KEK					Sn		**Sn**	**13 13 40.3**	**+3.0**
KEK					AML	AML		13 13 43.0	
	685nm,0.4s								
PHP	**Peshkopia**	**1.20**	**347**	⇑	Pn		**Pn**	**13 13 22.3**	**-1.0**
PHP					Sn		**Sn**	**13 13 39.8**	**+0.2**
PHP					AML	AML		13 13 50.3	
	0.3nm,0.7s								
THL	**Klokotos Trika**	**1.32**	**135**		P		**Pn**	**13 13 24.1**	**-0.6**
LIT	**Litokhoron**	**1.35**	**107**		P		**Pb**	**13 13 25.2**	**-0.4**
TYRN	**Tyrnavos**	**1.35**	**126**		P		**Pg**	**13 13 25.4**	**-0.9**

IDC ***07*** *13:12:59.6±3.2, 25.68N×123.69E, h0km, mb3.6/6, mbtmp3.6/6, MS3.8/1, Error ellipse: s-maj=225.2km s-min=20.5km az=63.0*
JMA ***07*** *13:13:21.9±0.2, 26.3N±3.1×124.0E±0.9, h193km±4km, MV3.8/14, NW OFF ISHIGAKIJIMA IS*
ISC 07 13:13:20.1±1.1, 25.8N±0.1×123.99E±0.08, h194km±11km, n19, σ0.971/27, mb3.2/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**1.24**	**167**	*eP*			**Pn**	**13 13 51.4**	**+0.3**
JISG				*eS*			**Sn**	**13 14 14.5**	**-0.7**
JTJ	**Tarama**	**1.32**	**151**	*eP*			**Pn**	**13 13 52.4**	**+0.6**
JTJ				S			**Sn**	**13 14 15.9**	**-0.4**
JIKM	**Ikemajima**	**1.43**	**127**	*eP*			**Pn**	**13 13 53.4**	**+0.7**
JIKM				*eS*			**Sn**	**13 14 17.4**	**-0.5**
JIJ	**Ishigaki jima**	**1.43**	**175**	P			**Pn**	**13 13 52.8**	**0.0**
JIJ				S			**Sn**	**13 14 16.5**	**-1.6**
JIRB	**Irabujima**	**1.44**	**132**	*eP*			**Pn**	**13 13 53.4**	**+0.6**
IRIF	**Iriomote-Funau**	**1.48**	**189**	P			**Pn**	**13 13 53.5**	**+0.3**
IRIF				S			**Sn**	**13 14 18.7**	**0.0**
JKRS	**Kuro-shima**	**1.55**	**179**	P			**Pn**	**13 13 54.2**	**+0.3**
JKRS				S			**Sn**	**13 14 19.2**	**-0.8**
YOJ	**Yonaguni jima**	**1.60**	**214**	P			**Pn**	**13 13 55.2**	**+0.9**
YOJ				*eS*			**Sn**	**13 14 20.6**	**-0.1**
JMJ2	**Miyako jima3**	**1.60**	**131**	*i*	P		**Pn**	**13 13 55.2**	**+0.9**
JYNG	**Yonagunijimaku**	**1.64**	**216**	*eP*			**Pn**	**13 13 55.6**	**+0.9**
JYNG				*eS*			**Sn**	**13 14 21.8**	**+0.3**
JOGS	**Gusukube**	**1.64**	**129**	*eP*			**Pn**	**13 13 55.8**	**+1.1**
JOGS				*eS*			**Sn**	**13 14 21.2**	**-0.2**
HATJ	**Hateruma jima**	**1.74**	**186**	S			**Sn**	**13 14 22.6**	**-0.6**
YAK	**Yakutsk**	**36.43**	**5**	LR		LR		13 38 19.2	
	comp=Z,126nm,18.7s,baz=63,slow=42								
MKAR	**Makanchi Array**	**39.02**	**313**	P		**P**		**13 20 27.9**	**+0.1**
	0.4nm,0.5s,baz=106,slow=9.4,SNR=6.4								
	0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**40.34**	**325**	P		**P**		**13 20 37.7**	**-0.9**
	1.3nm,0.5s,baz=118,slow=9.5,SNR=5.8								
	1.3nm,0.5s								
KURBB	**Kurchatov Arra**	**42.58**	**318**	P		**P**		**13 20 56.4**	**-0.3**
	0.3nm,0.4s,baz=90,slow=6.8,SNR=4.8								
	0.3nm,0.4s								
WRA	**Warramunga Arr**	**46.56**	**167**	P		**P**		**13 21 28.6**	**+0.1**
	0.2nm,0.4s,baz=346,slow=8.0,SNR=7.5								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**48.09**	**319**	P		**P**		**13 21 39.3**	**-0.7**
	0.5nm,0.5s,baz=99,slow=8.9,SNR=2.8								
	0.5nm,0.5s								
ASAR	**Alice Springs**	**50.10**	**168**	P		**P**		**13 21 56.1**	**+0.6**
	0.3nm,0.8s,baz=351,slow=7.3,SNR=2.3								
	0.3nm,0.8s								

LVSN ***07*** *13:17:35.5±3.4, 58.12N×22.70E, h0km±39km, ML1.9*
HEL 07 13:17:34.6±0.3, 60.94N×29.11E, h0km, ML1.5, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.49**	**351**		PG		Pg	13 17 43.6	-0.4
	baz=172								
RUF					SG		Sg	13 17 49.3	-1.0
RUF					MSG			13 17 50.4	
	comp=Z,2.9nm,0.2s								
VJF	**Virojoki**	**0.86**	**243**		PG		Pg	13 17 49.3	-1.8
VJF					MSG			13 18 01.3	
	comp=Z,6.3nm,0.2s								
VJF					SG		Sg	13 18 02.0	-0.3
FIA0	**FINESS Array S**	**1.55**	**290**		PG		Pn	13 18 02.7	-0.7
	baz=106								
FIA0					MSG			13 18 21.3	
	comp=Z,3.7nm,0.2s								
FIA0					SN		Sn	13 18 23.8	-0.4
PVF	**Pernaja**	**1.64**	**257**		PG		Pn	13 18 03.5	-1.2
PVF					MSG			13 18 23.9	
	comp=Z,3.0nm,0.2s								
PVF					SN		Sg	13 18 27.5	+0.1
KAF	**Kangasniemi**	**1.78**	**312**		PG		Pn	13 18 06.8	+0.1
KAF					MSG			13 18 27.7	
	comp=Z,2.9nm,0.2s								
KAF					SN		Sb	13 18 30.6	-0.4
ARBE	**Arbavere**	**2.17**	**227**	*eP*			Pb	13 18 13.7	-1.0
ARBE				*eS*			Sg	13 18 43.4	-0.9
ARBE					AML	AML		13 18 44.0	
	comp=Z,24nm,0.5s								
ARBE					AML	AML		13 19 02.1	
	comp=N,36nm,0.6s								
ARBE					AML	AML		13 19 10.2	
	comp=E,39nm,0.4s								
ARBE	**Arbavere**	**2.17**	**227**		PG		Pb	13 18 13.8	-0.9
HEL1	**Helsinki**	**2.22**	**252**		MSG			13 18 40.4	
	comp=Z,19nm,0.2s								
HEL1					SN		Sn	13 18 40.7	-0.1
NUR	**Nurmijarvi**	**2.23**	**261**		PG		Pb	13 18 14.4	-1.3
NUR					MSG			13 18 40.7	
	comp=Z,1.4nm,0.2s								
JOF	**Joensuu**	**2.24**	**27**		PG		Pb	13 18 14.9	-1.0
	baz=204								
JOF					SG		Sb	13 18 43.4	-0.8
KEF	**Keuruu**	**2.37**	**303**		PG		Pn	13 18 16.3	+1.6
	baz=123								
KEF					MSG			13 18 44.8	
	comp=Z,1.0nm,0.2s								
KEF					SG		Sb	13 18 47.1	-0.8
MEF	**Metsahovi**	**2.44**	**255**	*eP*			Pb	13 18 17.8	-1.4
MEF				*eS*			Sn	13 18 47.4	+1.4
MEF					AML	AML		13 18 51.9	
	comp=N,5.1nm,0.5s								
MEF					AML	AML		13 19 05.7	
	comp=Z,8.2nm,1.0s								
MEF					AML	AML		13 19 06.0	
	comp=E,5.7nm,0.9s								
MEF	**Metsahovi**	**2.44**	**255**		PG		Pb	13 18 17.7	-1.6
MEF					MSG			13 18 46.6	
	comp=Z,1.6nm,0.2s								
MEF					SG		Sb	13 18 50.8	+1.0
NIF	**Nilsia**	**2.53**	**347**		PG		Pb	13 18 19.0	-1.8
NIF					MSG			13 18 49.2	
	comp=Z,1.3nm,0.2s								
NIF					SG		Sb	13 18 51.2	-1.2
VSU	**Vasula**	**2.76**	**207**	*eS*			Sn	13 18 44.7	-9.4
VSU					AML	AML		13 18 59.9	
	comp=E,17nm,0.4s								
VSU					AML	AML		13 19 01.2	
	comp=Z,11nm,0.1s								
VSU					AML	AML		13 20 04.7	
	comp=N,14nm,0.5s								
VSU	**Vasula**	**2.76**	**207**		SB		Sb	13 18 58.3	-0.8
KU1	**Kurvinen**	**4.64**	**2**		PN		Pn	13 18 45.7	-0.2

CATAC ***07*** *13:22:15.8±0.9, 14.16N×9.2W±., h31km±10km, M3.3/6, MLv3.3/6, Error ellipse: s-maj=14.0km s-min=8.5km az=35.9, confirmed*
GCG ***07*** *13:22:16.1±0.7, 14.06N×91.57W, h73km±9km, MD3.5, ML3.7*
ISC 07 13:22:15.4±2.2, 13.9N±0.2×91.60W±0.09, h65km±26km, n18, σ2.918/24, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STG2	**El Palmar, Qui**	**0.59**	**21**	*i*	P		**Pn**	**13 22 30.8**	**+1.9**
STG2				*i*	S		**Sn**	**13 22 43.1**	**+4.3**
RTAL	**Retalhuleu**	**0.64**	**351**		P		**Pn**	**13 22 28.8**	**-0.6**
RTAL					S		**Sn**	**13 22 39.0**	**-0.5**
ESSG	**Sabana Grande**	**0.89**	**56**	*i*	P		**Pn**	**13 22 32.3**	**-0.1**
ESSG				*i*	S		**Sn**	**13 22 45.0**	**0.0**
SOKI	**Kika Raxquin**	**0.95**	**11**	*i*	S		**Sn**	**13 22 46.5**	**-0.2**
SOKI					IAML			13 22 53.1	
	comp=N,2μm,0.3s								
FG8	**Yepocapa, Chim**	**1.07**	**69**	*i*	P		**Pn**	**13 22 32.0**	**-2.6**
FG8				*i*	S		**Sn**	**13 22 44.2**	**-4.9**
SMCA	**Catarina**	**1.07**	**334**	*i*	P		**Pn**	**13 22 33.8**	**-0.8**
FG16	**Alotenango, Sa**	**1.12**	**70**	*i*	P		**Pn**	**13 22 32.8**	**-2.6**
FG16				*i*	S		**Sn**	**13 22 46.5**	**-3.8**
FG16					IAML			13 22 49.9	
	comp=N,10μm,0.2s								
THIG		**1.21**	**328**	*i*	P		**Pn**	**13 22 35.8**	**-0.5**
THIG				*i*	S		**Sn**	**13 22 51.7**	**-0.2**
THIG					IAML			13 22 52.6	
	comp=E,737nm,0.5s								
FAME	**Alcaldia de Sa**	**1.54**	**91**		P		**Pn**	**13 22 40.5**	**-0.2**
FAME	**Alcaldia de Sa**	**1.54**	**91**		S		**Sn**	**13 22 59.4**	**-0.3**
NUBE	**Las Nubes**	**1.76**	**89**	*i*	P		**Pn**	**13 22 44.6**	**+0.7**
NUBE				*i*	S		**Sn**	**13 23 05.8**	**+0.3**
NUBE	**Las Nubes**	**1.76**	**89**		S		**Sn**	**13 23 06.1**	**+0.6**
NUBE	**Las Nubes**	**1.76**	**89**		P		**Pn**	**13 22 44.7**	**+0.8**
JAYA	**Jayaque - finc**	**2.10**	**96**		P		Pn	13 22 49.5	+1.1
JAYA	**Jayaque - finc**	**2.10**	**96**		S		**Sn**	**13 23 14.2**	**+0.6**
MTO3	**Montecristo**	**2.23**	**76**	*i*	P		**Pn**	**13 22 51.6**	**+1.3**
MTO3	**Montecristo**	**2.23**	**76**		S		**Sn**	**13 23 20.2**	**+3.4**
MTO3	**Montecristo**	**2.23**	**76**		P		**Pn**	**13 22 52.2**	**+1.9**

IDC ***07*** *13:38:01.9±0.8, 37.16N×141.31E, h0km, mb3.8/12, mbtmp3.7/16, ML3.0/4, Error ellipse: s-maj=20.8km s-min=16.0km az=103.0*
JMA ***07*** *13:38:03.9±0.2, 37.2N±0.3×141.3E±0.8, h21km±1km, MV3.5/39, E OFF FUKUSHIMA PREF*
NIED ***07*** *13:38:03.9, 37.20N×141.33E, h21km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=3.08; Mθθ=2.41; Mφφ=0.67; Mrθ=-1.59; Mθφ=1.28; Mφr=-1.90; Fault plane solution: M0=3.96000×10^14 NP1: φs=254.00000°, δ=28.00000°, λ=-67.00000°. NP2:φs=49.00000°, δ=65.00000°, λ=-102.00000°.*
ISC 07 13:38:03.0±1.8, 37.19N±0.04×141.31E±0.06, h8km±11km, n31, σ0.979/36, mb3.8/12, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.39**	**298**	⇓	P		**Pb**	**13 38 11.8**	**-0.5**
JFK				⇓	S		**Sb**	**13 38 17.8**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.42**	**259**	⇓	P		**Pb**	**13 38 12.4**	**-0.3**
ONAJ				⇓	S		**Sb**	**13 38 18.9**	**-0.3**
JFFD	**Fukushimafurud**	**0.60**	**261**	⇓	P		**Pb**	**13 38 15.7**	**-0.2**
JFFD				⇓	S		**Sb**	**13 38 24.4**	**-0.2**
JMST	**Minamisoumatoc**	**0.63**	**328**	⇓	P		**Pb**	**13 38 15.9**	**-0.5**
JMST				⇓	S		**Sb**	**13 38 25.1**	**-0.3**
JMM	**Marumori**	**0.79**	**329**	⇓	P		**Pg**	**13 38 18.6**	**+0.3**
JMM				⇓	S		**Sb**	**13 38 29.8**	**-0.2**
JHO	**Hitachi**	**0.82**	**226**	⇓	P		**Pg**	**13 38 18.9**	**0.0**
JOTO	**OTAMA OYAMA**	**0.86**	**296**	*i*	P		**Pb**	**13 38 20.4**	**+0.1**
JOTO					S		**Sb**	**13 38 32.6**	**+0.6**
JSB	**Shiboa**	**1.13**	**259**	⇓	P		**Pn**	**13 38 25.5**	**+0.3**
JSB				⇓	S		**Sn**	**13 38 41.1**	**+0.1**
JIO	**Ouri**	**1.27**	**1**	*i*	P		**Pn**	**13 38 26.3**	**-0.8**
JIO					S		**Sb**	**13 38 42.9**	**-0.8**
MJAR	**Matsushiro Arr**	**2.57**	**256**		Pn		**Pn**	**13 38 45.9**	**+1.0**
	0.7nm,0.3s,baz=78,slow=16,SNR=35								
MJAR					Sn		**Sb**	**13 39 18.3**	**-2.8**
	0.9nm,0.3s,baz=77,slow=23,SNR=6.6								
	7.2nm,0.5s								
JHJ	**Hachijo jima 2**	**4.25**	**198**		Pn		**Pn**	**13 39 07.7**	**-0.4**
	5.5nm,0.3s,baz=87,slow=17,SNR=1.8								
JHJ					Sn		**Sn**	**13 39 56.9**	**-0.9**
	3.4nm,0.3s,baz=72,slow=22,SNR=1.4								
	24nm,0.3s								
ASAJ	**Asahikawa**	**6.99**	**8**		Pn		**Pn**	**13 39 45.4**	**-0.3**
	0.5nm,0.3s,baz=208,slow=17,SNR=5.8								
ASAJ					Sn		**Sn**	**13 41 04.4**	**-1.0**
	baz=232,slow=19,SNR=1.4								
	2.5nm,0.5s								
USRK	**Ussuriysk Ar.**	**9.95**	**318**		Pn		**Pn**	**13 40 27.1**	**+0.8**
	0.1nm,0.3s,baz=133,slow=13,SNR=4.0								
	0.6nm,0.6s								
SONM	**Songino Array**	**27.63**	**304**		P		**P**	**13 43 51.8**	**+0.6**
	0.7nm,0.4s,baz=106,slow=9.3,SNR=2.6								
	0.7nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.30**	**121**		T		T	14 13 30.6	
	baz=314,slow=75,SNR=633								
H11N1	**WAKE ISLAND Hy**	**28.30**	**121**		T		T	14 13 31.2	
	baz=314,slow=75,SNR=458								
H11N3	**WAKE ISLAND Hy**	**28.32**	**121**		T		T	14 13 30.7	
	baz=314,slow=75,SNR=518								
H11S1	**WAKE ISLAND Hy**	**29.01**	**123**		T		T	14 14 24.9	
	baz=316,slow=76,SNR=178								
H11S3	**WAKE ISLAND Hy**	**29.01**	**123**		T		T	14 14 26.8	
	baz=316,slow=76,SNR=99								
H11S2	**WAKE ISLAND Hy**	**29.03**	**123**		T		T	14 14 26.1	
	baz=316,slow=76,SNR=64								
MKAR	**Makanchi Array**	**43.97**	**302**		P		**P**	**13 46 10.6**	**0.0**
	0.9nm,0.7s,baz=91,slow=9.7,SNR=8.1								
	0.9nm,0.7s								
KURBB	**Kurchatov Arra**	**45.84**	**308**		P		**P**	**13 46 25.3**	**-0.1**
	1.5nm,0.6s,baz=81,slow=8.1,SNR=13								
	1.5nm,0.6s								
ILAR	**Eielson Array**	**49.41**	**32**		P		**P**	**13 46 53.7**	**+0.7**
	0.5nm,0.8s,baz=281,slow=6.5,SNR=8.5								
	0.5nm,0.8s								
WRA	**Warramunga Arr**	**57.20**	**188**		P		**P**	**13 47 50.0**	**-0.6**
	0.4nm,0.5s,baz=4.6,slow=7.3,SNR=6.7								
	0.4nm,0.5s								
SPITS	**Spitsbergen Ar**	**60.36**	**349**		P		**P**	**13 48 11.1**	**-0.9**
	4.0nm,0.9s,baz=77,slow=9.0,SNR=1.8								
	4.0nm,0.9s								
ASAR	**Alice Springs**	**60.93**	**188**		P		**P**	**13 48 16.0**	**-0.5**
	0.2nm,0.7s,baz=352,slow=4.3,SNR=4.7								
	0.2nm,0.7s								
ARCES	**ARCESS Array B**	**63.83**	**339**		P		**P**	**13 48 35.2**	**-0.2**
	1.0nm,0.7s,baz=60,slow=9.9,SNR=6.1								
	1.0nm,0.7s								
FINES	**FINESS Array B**	**68.64**	**332**		P		**P**	**13 49 06.3**	**-0.1**
	1.1nm,0.7s,baz=53,slow=5.4,SNR=4.6								
	1.1nm,0.7s								
NOA	**NORSAR Array B**	**74.02**	**337**		P		**P**	**13 49 39.0**	**0.0**
	0.5nm,0.5s,baz=38,slow=6.0,SNR=2.6								
	0.5nm,0.5s								
PDAR	**Pinedale Array**	**77.62**	**45**		P		**P**	**13 50 01.1**	**+1.0**
	0.2nm,0.5s,baz=276,slow=7.8,SNR=1.7								
	0.2nm,0.5s								
TXAR	**Lajitas Array**	**90.09**	**52**		P		**P**	**13 51 05.3**	**+1.4**
	0.2nm,0.4s,baz=265,slow=5.9,SNR=1.7								
	0.2nm,0.4s								

IDC ***07*** *13:38:08.8±3.1, 23.79N×122.00E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=245.9km s-min=22.3km az=62.0*
JMA ***07*** *13:38:14.9±0.2, 24.1N±1.1×122.2E±., h39km±3km, MV3.3/11, TAIWAN REGION*
TAP ***07*** *13:38:15.7, 23.55N×121.53E, h31km, ML3.9, B*
ISC 07 13:38:14.4±0.8, 23.51N±0.01×121.65E±0.02, h30km±5km, n156, σ0.999/259, mb3.6/4, 7C-36D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.21**	**265**	⇑	*i*	P	**Pn**	**13 38 21.6**	**+0.1**
HGSD					*i*	S	**Sb**	**13 38 25.8**	**+0.7**
TEGC	**Jichi Village**	**0.22**	**332**		P		**Pn**	**13 38 22.0**	**+0.3**
TEGC					S		**Sn**	**13 38 27.2**	**+0.9**
EGFH	**Guangfu**	**0.26**	**307**	*i*	P		**Pb**	**13 38 21.7**	**+0.4**
EGFH				*eS*			**Sb**	**13 38 26.1**	**+0.1**
ECBN	**Changbin**	**0.27**	**224**	⇑	*i*	P	**Pn**	**13 38 22.8**	**+0.4**
ECBN					S		**Sn**	**13 38 28.1**	**+0.6**
EHYH	**Wanrong**	**0.28**	**266**	⇓	*i*	P	**Pb**	**13 38 21.9**	**+0.3**
EHYH				*eS*			**Sb**	**13 38 26.0**	**-0.6**
SHUL	**Shoufeng**	**0.29**	**343**	⇑	*i*	P	**Pn**	**13 38 22.9**	**+0.3**
SHUL				*eS*			**Sn**	**13 38 28.5**	**+0.6**
EHY	**Hungye**	**0.30**	**269**	⇓	*i*	P	**Pb**	**13 38 21.9**	**-0.1**
EHY				*eS*			**Sb**	**13 38 25.9**	**-1.2**
WARBT	**Fenglin Townsh**	**0.32**	**310**	⇓	*i*	P	**Pb**	**13 38 22.0**	**-0.2**
WARBT					S		**Sb**	**13 38 26.4**	**-1.0**
EYUL	**Yuli**	**0.35**	**242**	⇓	*i*	P	**Pb**	**13 38 23.2**	**+0.6**
EYUL				*eS*			**Sb**	**13 38 28.7**	**+0.6**
YULB	**Yu-li**	**0.35**	**250**	⇓	*i*	P	**Pb**	**13 38 22.7**	**+0.1**
YULB				*eS*			**Sb**	**13 38 27.3**	**-0.8**
TEYL	**Yanliau Villag**	**0.36**	**352**	*eP*			**Pn**	**13 38 24.6**	**+0.9**
TEYL				*eS*			**Sn**	**13 38 31.4**	**+1.7**
ESL	**Shilin**	**0.36**	**326**	⇓	*i*	P	**Pb**	**13 38 22.8**	**0.0**
ESL				*eS*			**Sb**	**13 38 26.8**	**-1.7**
TWF1	**Yuli**	**0.36**	**244**	⇓	*i*	P	**Pb**	**13 38 23.0**	**+0.2**
TWF1				*eS*			**Sb**	**13 38 28.0**	**-0.5**
CHKH	**Chenggong**	**0.40**	**217**	⇑	*eP*		**Pn**	**13 38 24.4**	**+0.2**
CHKH				*eS*			**Sn**	**13 38 31.4**	**+0.8**
FULB	**Fuli**	**0.45**	**227**	*i*	P		**Pn**	**13 38 25.3**	**+0.4**
FULB					S		**Sn**	**13 38 33.1**	**+1.1**
HWA	**Hwalien**	**0.47**	**355**	*eP*			**Pn**	**13 38 25.5**	**+0.4**
HWA				*eS*			**Sn**	**13 38 32.8**	**+0.5**
ETM	**Tongmen**	**0.47**	**342**	*eP*			**Pb**	**13 38 24.6**	**+0.1**
CHKT	**Chengkung**	**0.49**	**213**	⇓	*i*	P	**Pn**	**13 38 25.7**	**+0.3**
CHKT					*i*	S	**Sn**	**13 38 33.1**	**+0.3**
EHD	**Haiduan**	**0.55**	**229**	⇑	P		**Pb**	**13 38 25.2**	**-0.5**
TWD	**Chiawan**	**0.57**	**355**	⇓	*i*	P	**Pb**	**13 38 26.5**	**+0.5**
TWD				*eS*			**Sb**	**13 38 33.8**	**-0.1**
ECS	**Chishang**	**0.57**	**224**	*eP*			**Pb**	**13 38 26.3**	**+0.2**
OWD	**Renai**	**0.62**	**315**	⇓	*i*	P	**Pb**	**13 38 26.4**	**-0.5**
OWD				*eS*			**Sb**	**13 38 33.8**	**-1.7**
EDH	**Donghe**	**0.62**	**211**		P		**Pn**	**13 38 27.4**	**+0.2**
EDH				*eS*			**Sn**	**13 38 36.7**	**+0.4**
ETL	**Fush Village**	**0.65**	**358**	*eP*			**Pb**	**13 38 27.4**	**0.0**
NACB	**Ninganchiao**	**0.66**	**355**	⇓	*i*	P	**Pb**	**13 38 27.4**	**-0.1**
NACB				*eS*			**Sb**	**13 38 35.8**	**-0.6**
ELDTW	**Lidau**	**0.67**	**241**	⇓	*i*	P	**Pb**	**13 38 26.9**	**-0.8**
ELDTW					S		**Sb**	**13 38 35.1**	**-1.7**
WUSB	**Renai**	**0.69**	**314**	⇓	*i*	P	**Pb**	**13 38 27.6**	**-0.5**
WUSB				*eS*			**Sb**	**13 38 35.8**	**-1.5**
SSLB	**Suanglung**	**0.70**	**293**	⇓	*i*	P	**Pb**	**13 38 27.2**	**-0.9**
SSLB				*eS*			**Sb**	**13 38 35.5**	**-2.0**
ETLH	**Xiulin Townshi**	**0.71**	**347**	⇓	*i*	P	**Pb**	**13 38 28.0**	**-0.5**
ETLH				*eS*			**Sb**	**13 38 36.6**	**-1.3**
WHF	**Hehuan Shan**	**0.72**	**331**	⇓	*i*	P

ENTT	**Nioudou**	**1.13 356**	P		**Pn**	**13 38 34.7 +0.5**
CHY	**Chiayi**	**1.13 270**	*e*P		**Pb**	**13 38 35.6 +0.2**
CHY			*i* S		**Sn**	**13 38 49.6 +0.9**
WCHH	**Zhanghua**	**1.15 300**	P		**Pn**	**13 38 35.7 +1.2**
WCHH			S		**Sn**	**13 38 50.3 +1.1**
WCH1	**Changhua City**	**1.16 299**	*e*P		**Pb**	**13 38 36.1 +0.3**
WCH1			*e*S		**Sn**	**13 38 49.5 +0.2**
TWQ1	**Liyutan**	**1.16 316** ⇓	*i*P		**Pb**	**13 38 36.2 +0.3**
TWQ1			*e*S		**Sn**	**13 38 51.2 +1.7**
WTK	**Tuku**	**1.17 279**	*e*P		**Pn**	**13 38 35.9 +1.1**
WTK			*e*S		**Sn**	**13 38 51.0 +1.3**
YHNB	**Yeheng**	**1.18 348** ⇓	*i*P		**Pn**	**13 38 35.8 +0.8**
YHNB			S		**Sn**	**13 38 50.1 0.0**
NSK	**Sanguang**	**1.19 347** ⇓	*i*P		**Pn**	**13 38 35.8 +0.7**
NSK			*i* S		**Sn**	**13 38 50.2 -0.1**
TWE	**Neicheng**	**1.20 1**	*e*P		**Pn**	**13 38 36.3 +1.0**
TWE			*e*S		**Sn**	**13 38 49.7 -0.9**
SSD	**Sandimen**	**1.21 231**	*e*P		**Pn**	**13 38 35.6 +0.3**
SSD			*e*S		**Sn**	**13 38 51.6 +0.9**
NSY	**Sanyi**	**1.22 318**	P		**Pb**	**13 38 38.0 +1.1**
NSY			*e*S		**Sn**	**13 38 52.1 +1.3**
NFF	**Wufeng Townshi**	**1.22 336**	P		**Pn**	**13 38 36.7 +1.2**
NFF			*i* S		**Sn**	**13 38 51.8 +0.8**
TSMG	**Majia**	**1.23 229**	*e*P		**Pn**	**13 38 36.5 +1.0**
TSMG			*e*S		**Sn**	**13 38 51.8 +0.6**
SCST	**Cishan**	**1.23 240**	*i* P		**Pb**	**13 38 38.0 +0.9**
SCST			S		**Sb**	**13 38 54.9 +2.2**
FUSB	**Fushanzhiwuyua**	**1.24 357**	*e*P		**Pn**	**13 38 36.4 +0.5**
WDJ	**Dajia District**	**1.25 312**	*e*P		**Pb**	**13 38 37.4 +0.1**
WDJ			S		**Sb**	**13 38 54.1 +1.1**
CHN3	**Shinhua**	**1.26 250**	*e*P		**Pb**	**13 38 38.7 +1.1**
CHN3			*e*S		**Sb**	**13 38 54.4 +1.0**
NSTT	**Nanjuang**	**1.26 332**	P		**Pb**	**13 38 37.8 +0.1**
NSTT			*e*S		**Sn**	**13 38 52.2 +0.1**
NWLT	**Wulai**	**1.27 354**	*e*P		**Pn**	**13 38 37.1 +0.9**
ICHU	**Yijhu**	**1.27 263**	*e*P		**Pn**	**13 38 37.3 +1.1**
ICHU			*e*S		**Sn**	**13 38 52.5 +0.4**
LIOB	**Emei**	**1.27 333**	*i* P		**Pb**	**13 38 38.0 +0.3**
LIOB			*e*S		**Sn**	**13 38 53.3 +1.0**
NMLH	**Miaoli**	**1.29 323**	*i* P		**Pb**	**13 38 38.1 0.0**
NMLH			*i* S		**Sn**	**13 38 54.4 +1.7**
SHHT	**Tainan City**	**1.29 248**	*e*P		**Pb**	**13 38 39.6 +1.4**
SHHT			*e*S		**Sb**	**13 38 56.0 +1.6**
MASBT	**Mashibuluo**	**1.30 227**	*e*P		**Pn**	**13 38 36.9 +0.4**
WTCT	**Ta-ch'eng**	**1.30 286**	*e*P		**Pn**	**13 38 37.9 +1.2**
WTCT			S		**Sn**	**13 38 54.2 +1.1**
WSL	**Shuilin Townsh**	**1.31 271**	*e*P		**Pn**	**13 38 37.9 +1.2**
WSL			*i* S		**Sn**	**13 38 54.2 +1.1**
WSF	**Szhu**	**1.32 276**	*e*P		**Pn**	**13 38 37.7 +0.9**
WSF			S		**Sn**	**13 38 54.1 +0.7**
TWM1	**Shoushan**	**1.32 239**	*i* P		**Pb**	**13 38 40.3 +1.6**
TWM1			S		**Sb**	**13 38 58.6 +3.3**
SGLT	**Jiouru**	**1.32 234**	*e*P		**Pb**	**13 38 40.6 +1.9**
SGLT			*e*S		**Sb**	**13 38 57.4 +2.1**
KSHI	**Guanxi Townshi**	**1.33 341**	P		**Pb**	**13 38 39.4 +0.6**
KSHI			*e*S		**Sn**	**13 38 54.4 +0.6**
CHN8	**Yiju**	**1.33 263**	*e*P		**Pn**	**13 38 38.1 +1.1**
CHN8			S		**Sn**	**13 38 54.7 +0.9**
EAST	**Anshuo**	**1.35 214**	*e*P		**Pn**	**13 38 36.5 -0.7**
EGS		**1.35 11**	*e*P		**Pb**	**13 38 39.3 +0.2**
TAWH	**Dawu Township**	**1.36 211**	*e*P		**Pb**	**13 38 39.0 -0.3**
SCLT	**Jiali**	**1.38 256**	*e*P		**Pb**	**13 38 39.3 -0.3**
SCLT			*i* S		**Sb**	**13 38 57.0 +0.1**
HSN	**Hsinchu**	**1.43 334**	*e*P		**Pb**	**13 38 41.1 +0.6**
HSN			*e*S		**Sn**	**13 38 58.1 +2.0**
NHDH	**Xindian Distri**	**1.45 355**	*e*P		**Pn**	**13 38 39.4 +0.8**
TIPB	**Shuangxi**	**1.46 6**	*e*P		**Pb**	**13 38 40.4 -0.6**
TIPB			*e*S		**Sn**	**13 38 56.5 -0.5**
TWA	**Mucha**	**1.46 358**	*e*P		**Pb**	**13 38 40.6 -0.5**
TWA			*e*S		**Sn**	**13 38 57.9 +0.9**
LAY	**Lan-yu**	**1.47 184**	*e*P		**Pn**	**13 38 39.6 +0.7**
LAY			*e*S		**Sb**	**13 38 59.2 -0.3**
SCZT	**Fangliau**	**1.48 220**	*i* P		**Pb**	**13 38 40.9 -0.4**
SCZT			*i* S		**Sb**	**13 39 00.5 +0.7**
TSCK	**Chigu Township**	**1.48 256**	P		**Pb**	**13 38 41.2 -0.2**
TSCK			*e*S		**Sn**	**13 38 59.0 +1.5**
LYUB	**Lan-yu**	**1.50 182**	*e*P		**Pn**	**13 38 39.9 +0.6**
LYUB			*e*S		**Sn**	**13 38 58.5 +0.6**
JYNG	**Yonagunijimaku**	**1.51 51**	*e*P		**Pb**	**13 38 42.4 +0.7**
JYNG			S		**Sb**	**13 39 01.9 +1.3**
NCUH	**Zhongli**	**1.51 344**	*e*P		**Pb**	**13 38 41.8 -0.1**
NCUH			S		**Sb**	**13 39 01.6 +1.0**
SLIU	**Shizi**	**1.51 212**	*e*P		**Pn**	**13 38 40.6 +1.2**
TWB1	**Santiao Chiao**	**1.52 12**	*e*P		**Pb**	**13 38 41.4 -0.6**
TWB1			*e*S		**Sn**	**13 38 59.9 +1.5**
NWF	**Wu-fen Shan**	**1.56 4**	*e*P		**Pb**	**13 38 42.0 +0.7**
NWF			*e*S		**Sn**	**13 39 00.7 +1.3**
WFSB	**Wu-fen Shan**	**1.56 4**	*e*P		**Pb**	**13 38 41.9 -0.7**
WFSB			*e*S		**Sn**	**13 39 00.5 +1.3**
YOJ	**Yonaguni jima**	**1.56 52**	*e*P		**Pb**	**13 38 41.6 -1.1**
YOJ			*i* S		**Sb**	**13 39 03.1 +1.1**
YOJ	**Yonaguni jima**	**1.56 52**	*e*S		**Sb**	**13 39 02.8 +0.7**
SXI1	**Grass Mountain**	**1.59 7**	*e*P		**Pb**	**13 38 42.7 -0.5**
TWS1	**Kuangyinshan**	**1.60 352**	*e*P		**Pn**	**13 38 42.2 +1.5**
TWS1			*e*S		**Sb**	**13 39 03.0 -0.1**
YM01	**YM01**	**1.63 357**	*e*P		**Pn**	**13 38 42.6 +1.5**
YM01			*e*S		**Sn**	**13 39 01.4 +0.2**
TNOU	**National Taiwa**	**1.64 4**	*e*P		**Pn**	**13 38 42.5 +1.3**
TNOU			*e*S		**Sn**	**13 39 02.6 +1.4**
ZUZH	**Zhuzihu**	**1.65 357**	P		**Pn**	**13 38 42.6 +1.3**
ZUZH			*i* S		**Sn**	**13 39 02.1 +0.5**
NTST	**Danshui**	**1.66 354**	*e*P		**Pn**	**13 38 43.0 +1.5**
NTST			*e*S		**Sn**	**13 39 04.3 +2.6**
SMST	**Manzhou Townsh**	**1.66 207**	*e*P		**Pn**	**13 38 42.9 +1.3**
YM08	**YM08**	**1.67 358**	*e*P		**Pn**	**13 38 42.5 +0.8**
YM08			*e*S		**Sn**	**13 39 02.3 +0.2**
HEN	**Hengchun**	**1.72 210**	*e*P		**Pb**	**13 38 44.2 -1.2**
TWK1	**Hengchun**	**1.75 207**	*e*P		**Pb**	**13 38 45.0 -0.9**
TWK1			*e*S		**Sn**	**13 39 04.5 +0.5**
TWKBT	**Hengchun**	**1.75 207**	*e*P		**Pn**	**13 38 43.6 +1.0**
TWKBT			*e*S		**Sn**	**13 39 04.8 +0.8**
WDGT	**Dungji**	**1.85 263**	*e*P		**Pn**	**13 38 44.8 +0.7**
PHUB	**P'eng-hu**	**1.91 270**	*e*P		**Pn**	**13 38 45.8 +0.8**
PNG	**Penghu**	**1.93 272**	*e*P		**Pn**	**13 38 45.7 +0.6**
VCHM	**Qimei**	**2.06 262**	*e*P		**Pn**	**13 38 47.4 +0.3**
IRIF	**Iriomote-Funau**	**2.07 66**	*e*P		**Pb**	**13 38 50.1 -1.3**
IRIF			S		**Sb**	**13 39 15.9 -0.8**
JKRS	**Kuro-shima**	**2.27 71**	S		**Sb**	**13 39 20.6 -2.0**
JIJ	**Ishigaki jima**	**2.43 69**	P		**Pb**	**13 38 54.6 -2.9**
JIJ			*e*S		**Sn**	**13 39 23.8 +2.5**
VWUC	**VWUC**	**2.49 307**	*e*P		**Pn**	**13 38 53.0 0.0**
PTMZ	**Houxiangcun**	**2.77 304**	*e*P		**Pn**	**13 38 56.7 0.0**
MATB	**Ma-tsu**	**3.05 330**	*e*P		**Pn**	**13 39 00.3 -0.4**
KNM	**Kinmen**	**3.08 288**	*e*P		**Pn**	**13 39 02.8 +1.7**
MHZQ	**Yeshan**	**3.51 318**	*e*P		**Pn**	**13 39 06.9 0.0**
AXDP	**Jialang**	**3.63 293**	*e*P		**Pn**	**13 39 09.1 +0.4**
SXFK	**Yanhouchang**	**4.64 309**	*e*P		**Pn**	**13 39 22.4 -0.1**
MKAR	**Makanchi Array**	**39.12 316**	P		**P**	**13 45 38.5 -0.7**
	0.9nm,0.7s,baz=118,slow=8.3,SNR=9.3 0.9nm,0.7s					
ZALV	**Zalesovo Beam**	**41.04 327**	P		**P**	**13 45 52.7 -2.2**
	0.6nm,0.5s,baz=115,slow=9.7,SNR=2.3 0.6nm,0.5s					
H11N1	**WAKE ISLAND Hy**	**42.10 86**	T		T	14 31 07.3
	baz=283,slow=75,SNR=14					
H11N2	**WAKE ISLAND Hy**	**42.10 86**	T		T	14 31 07.5
	baz=283,slow=75,SNR=18					
H11N3	**WAKE ISLAND Hy**	**42.12 86**	T		T	14 31 08.6
	baz=283,slow=75,SNR=17					
H11S3	**WAKE ISLAND Hy**	**42.21 88**	T		T	14 31 17.8
	baz=285,slow=75,SNR=16					
H11S1	**WAKE ISLAND Hy**	**42.22 88**	T		T	14 31 27.2
	baz=285,slow=75,SNR=8.5					
H11S2	**WAKE ISLAND Hy**	**42.23 88**	T		T	14 31 21.4
	baz=285,slow=75,SNR=13					
WRA	**Warramunga Arr**	**44.93 163**	P		**P**	**13 46 26.6 -0.2**
	0.4nm,0.5s,baz=343,slow=8.0,SNR=7.2 0.4nm,0.5s					
ASAR	**Alice Springs**	**48.38 165**	P		**P**	**13 46 54.2 +0.4**
	0.3nm,0.7s,baz=344,slow=8.2,SNR=7.1 0.3nm,0.7s					

*IDC **07** 13:38:40.6±2.6, 1.°63N×99.°06E, h111km±11km, mb3.5/5, mbtmp3.8/6, Error ellipse: s-maj=76.8km s-min=17.5km az=61.0*
*DJA **07** 13:38:41.6±0.4, 2.°N±2.°×9.°9E±.°, h113km±5km, M3.8/13, MLv3.8/13*
ISC 07 13:38:40.6±0.8, **1.°74N**±0.°05×**99.°01E**±0.°08, **h100km, n15, σ1°78/17, mb4.0/5, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.06**	**355**	P	**Pn**	**13 39 03.2**	**+1.4**
	50nm,0.3s,baz=185,slow=11,SNR=30						
PSI				S	**Sn**	**13 39 19.6**	**+1.8**
	101nm,0.7s,baz=16,slow=18,SNR=30						
MNSI	**Mandailing Nat**	**1.09**	**149**	P	**Pn**	**13 39 05.5**	**+3.4**
GSI	**Gunungsitoli**	**1.50**	**253**	P	**Pn**	**13 39 08.8**	**+1.9**
PBSI	**Pulau Batu**	**1.93**	**202**	P	**Pn**	**13 39 13.7**	**+1.5**
PBSI				S	**Sn**	**13 39 38.2**	**+1.8**
PPI	**Padang Panjang**	**2.58**	**148**	P	**Pn**	**13 39 21.6**	**+0.8**
PDSI	**Padang**	**3.00**	**151**	P	**Pn**	**13 39 27.9**	**+1.4**
SISI	**Saibi**	**3.04**	**179**	P	**Pn**	**13 39 25.3**	**-1.7**
MLSI	**Meulaboh, Aceh**	**3.62**	**314**	P	**Pn**	**13 39 34.1**	**-0.6**
PPSI	**Pulau Pagai**	**4.58**	**167**	P	**Pn**	**13 39 47.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.62**	**360**	P	**Pn**	**13 42 29.1**	**+1.5**
	0.6nm,0.3s,baz=193,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**40.80**	**124**	P	**P**	**13 46 10.6**	**-1.9**
	2.0nm,0.5s,baz=302,slow=9.1,SNR=24 2.0nm,0.5s						
ASAR	**Alice Springs**	**42.29**	**129**	P	**P**	**13 46 22.4**	**-2.3**
	0.6nm,0.7s,baz=302,slow=8.1,SNR=12 0.6nm,0.7s						
MKAR	**Makanchi Array**	**47.19**	**344**	P	**P**	**13 47 02.8**	**-0.4**
	0.4nm,0.4s,baz=156,slow=9.3,SNR=6.3 0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**51.39**	**30**	P	**P**	**13 47 34.6**	**-0.5**
	1.1nm,0.7s,baz=226,slow=5.8,SNR=2.2 1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**53.34**	**350**	P	**P**	**13 47 48.8**	**-0.6**
	1.3nm,0.5s,baz=164,slow=6.3,SNR=5.2 1.3nm,0.5s						

IDC 07 13:39:32.9±880.0, **53.°55N×158.°52E, h0km, Error ellipse: s-maj=310.4km s-min=14.9km az=48.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**0.66**	**228**	I	I	13 43 01.6	
	0.2nm,0.9s,baz=47,slow=318,SNR=12						
I45RU	**USSURIYSK INFR**	**19.70**	**252**	I	I	15 40 00.0	
	baz=49,slow=325,SNR=1.4						
I30JP	**ISUMI INFRASON**	**22.28**	**222**	I	I	15 53 10.0	
	baz=25,slow=318,SNR=0.8						

*NIED **07** 14:06:38.8, 28.°10N×128.°16E, h9km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}-0.37; $M_{\theta\theta}$7.52; $M_{\phi\phi}$-7.14; $M_{r\theta}$1.89; $M_{\theta\phi}$5.02; $M_{\phi r}$-0.91; Fault plane solution: $M_0$9.13000×10¹⁴ NP1:ϕ_s28.00000°, δ77.00000°, λ-180.00000°. NP2:ϕ_s298.00000°, δ90.00000°, λ-13.00000°.*
*JMA **07** 14:06:38.8±0.3, 28.°1N±0.°4×128.°2E±0.°6, h9km±2km, MD4.1/15, MV3.5/15, NW OFF OKINAWAJIMA IS*
JMA Felt I J1 at NW OFF OKINAWAJIMA IS .
*IDC **07** 14:06:39.0±1.1, 27.°91N×127.°90E, h0km, mb3.4/5, mbtmp3.5/7, ML3.3/2, MS3.3/3, Error ellipse: s-maj=45.6km s-min=14.4km az=71.0*
ISC 07 14:06:39.6±1.6, **28.°06N**±0.°05×**128.°19E**±0.°06, **h9**km±11km, **n24,** σ0°66/26, **mb3.3/5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.72**	**112**	*i* P	**Pg**	**14 06 53.6**	**+0.1**
JTK				S	**Sg**	**14 07 03.5**	**+0.5**
JTK	**Tokunoshima**	**0.72**	**112**	A	A	14 06 53.6	
	comp=N,24nm,0.6s,comp=E,23nm,0.6s						
JOKE	**Okinoerabujima**	**0.77**	**154**	*e*P	**Pg**	**14 06 54.2**	**-0.2**
JOKE				*e*S	**Sg**	**14 07 05.4**	**+0.9**
JAMN	**Amaminishikomi**	**0.89**	**78**	*i* P	**Pg**	**14 06 56.2**	**-0.5**
JAMN				S	**Sg**	**14 07 08.3**	**+0.2**
JAMN	**Amaminishikomi**	**0.89**	**78**	A	A	14 06 56.2	
	comp=N,6.0nm,0.3s,comp=E,5.0nm,0.3s						
JIH	**Iheya**	**1.04**	**191**	P	**Pg**	**14 06 58.8**	**-0.8**
JIH				S	**Sg**	**14 07 13.4**	**+0.3**
JYRO	**Yoronjima**	**1.06**	**167**	P	**Pg**	**14 06 59.7**	**-0.1**
JYRO				S	**Sb**	**14 07 14.3**	**+0.4**
JOW	**Kunigami**	**1.23**	**177**	Pn	**Pn**	**14 07 01.9**	**-1.0**
	comp=E,168nm,0.3s,baz=354,slow=15,SNR=37						
JOW				Sn	**Sb**	**14 07 17.8**	**-1.1**
	comp=E,75nm,0.3s,baz=108,slow=21,SNR=5.9						
JOW	**Kunigami**	**1.23**	**177**	*e*P	**Pn**	**14 07 02.3**	**-0.6**
JOW				*e*S	**Sb**	**14 07 18.6**	**-0.2**
JAM	**Amami Oshima**	**1.29**	**74**	P	**Pn**	**14 07 03.1**	**-0.7**
JAM				S	**Sb**	**14 07 20.4**	**-0.4**
JTAJ	**Takarajima**	**1.41**	**39**	P	**Pn**	**14 07 04.2**	**-1.2**
JNTH	**Nagotoyohara**	**1.54**	**186**	P	**Pn**	**14 07 07.4**	**+0.2**
JAGN	**Agunijima**	**1.69**	**210**	P	**Pn**	**14 07 08.9**	**-0.4**
JYAK	**Yakushimahirau**	**2.97**	**42**	*e*S	**Sn**	**14 08 02.6**	**0.0**
JNU	**Nakatsue**	**5.55**	**24**	Pn	**Pn**	14 08 07.0	+4.6
	comp=E,1.8nm,0.3s,baz=172,slow=4.3,SNR=17 comp=E,30nm,0.8s						
KSRS	**Korea Array**	**9.37**	**359**	Pn	**Pn**	**14 08 56.0**	**+1.2**
	comp=E,0.1nm,0.3s,baz=176,slow=14,SNR=2.2 comp=E,0.6nm,0.6s						
JHJ	**Hachijo jima 2**	**11.19**	**60**	LR	LR	14 13 32.4	
	comp=E,56nm,18.7s,baz=276,slow=36						
ASAJ	**Asahikawa**	**19.76**	**32**	LR	LR	14 18 17.1	
	comp=E,52nm,19.8s,baz=290,slow=35						
SONM	**Songino Array**	**26.02**	**325**	P	**P**	**14 12 13.6**	**+0.6**
	comp=E,0.6nm,0.5s,baz=132,slow=11,SNR=4.9 comp=E,0.6nm,0.5s						
MKAR	**Makanchi Array**	**40.31**	**310**	P	**P**	**14 14 17.1**	**-0.2**
	comp=E,0.5nm,0.8s,baz=94,slow=9.9,SNR=4.2 comp=E,0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**43.52**	**315**	P	**P**	**14 14 43.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=104,slow=8.6,SNR=1.7 comp=E,0.1nm,0.3s						
WRA	**Warramunga Arr**	**48.09**	**172**	P	**P**	**14 15 19.4**	**-0.3**
	comp=E,0.4nm,0.8s,baz=352,slow=8.0,SNR=1.9 comp=E,0.4nm,0.8s						
BVAR	**Borovoye Array**	**48.90**	**317**	LR	LR	14 37 44.1	
	comp=E,85nm,18.3s,baz=96,slow=38						
ASAR	**Alice Springs**	**51.72**	**173**	P	**P**	**14 15 48.2**	**+0.9**
	comp=E,0.4nm,0.9s,baz=356,slow=8.2,SNR=1.8 comp=E,0.4nm,0.9s						

*AFAD **07** 14:10:36.0, 34.°95N×27.°07E, h9km±11km, ML2.7*
*IDC **07** 14:10:41.6±1.1, 35.°23N×27.°93E, h0km, mb3.5/3, mbtmp3.4/9, ML3.1/5, Error ellipse: s-maj=25.7km s-min=12.8km az=180.0*
ISC 07 14:10:43.5±1.5, **35.°09N**±0.°05×**27.°79E**±0.°05, **h20**km±7km, **n19,** σ1°87/30, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**1.61**	**350**	P	**Pb**	**14 11 11.9**	**-0.6**
YAZI				S	**Sg**	**14 11 33.8**	**-1.7**
DAT	**Datca**	**1.64**	**354**	P	**Pg**	**14 11 13.8**	**-1.3**
DAT				S	**Sg**	**14 11 37.4**	**+0.7**
TURN	**Turunc**	**1.72**	**12**	P	**Pb**	**14 11 13.4**	**-1.0**
TURN				S	**Sg**	**14 11 40.2**	**+1.2**
TURN				*i* IAML		14 11 46.0	
	comp=E,101nm,0.7s						
TURN				*i* IAML		14 11 52.0	
	comp=N,106nm,0.6s						
SABU	**Mula-Dalaman**	**1.98**	**29**	P	**Pn**	**14 11 16.3**	**+0.5**
SABU				S	**Sg**	**14 11 52.2**	**+5.1**
BDRM	**Kayabasi**	**1.99**	**352**	P	**Pb**	**14 11 17.2**	**-1.8**
BDRM				S	**Sb**	**14 11 43.8**	**+0.4**
MULA	**Mugla, Merkez-**	**2.20**	**11**	S	**Sg**	**14 11 55.2**	**+0.7**
IDI	**Anoyia**	**2.38**	**276**	Pn	**Pb**	**14 11 25.1**	**-0.7**
	12nm,0.4s,baz=102,slow=14,SNR=21						
IDI				Lg	Lg	14 12 01.9	
	6.5nm,0.3s,baz=210,slow=15,SNR=3.6						
DNZT	**Denizli-Tavas-**	**2.40**	**24**	P	**Pb**	**14 11 23.5**	**-2.6**
DNZT				*i* IAML		14 12 11.0	
	comp=E,28nm,1.1s						
DNZT				*i* IAML		14 12 16.0	
	comp=N,34nm,0.9s						
TAVA	**DENIZLI_Tavas**	**2.54**	**21**	P	**Pn**	**14 11 24.6**	**+1.0**
TAVA				*i* IAML		14 12 16.0	
	comp=N,45nm,1.1s						
TAVA				*i* IAML		14 12 19.0	
	comp=E,47nm,0.9s						
AYDN	**Tasoluk**	**2.57**	**2**	P	**Pn**	**14 11 24.8**	**+0.8**
AYDN				S	**Sb**	**14 12 01.8**	**+1.8**
AYDN				*i* IAML		14 12 10.0	
	comp=E,39nm,1.0s						
AYDN				*i* IAML		14 12 13.0	
	comp=N,44nm,0.7s						

ESEN	**Aydn-Nazilli**	**2.74**	**9**	P		**Pb**	**14 11 28.8**	**-3.0**
ESEN				S		**Sb**	**14 12 06.5**	**+1.6**
ESEN				*i* IAML			14 12 28.0	
	comp=E,26nm,1.4s							
BRTR	**Keskin Array B**	**6.56**	**43**	Pn		**Pn**	**14 12 20.0**	**+1.1**
	0.1nm,0.3s,baz=224,slow=10,SNR=2.0							
BRTR				Sn		**Sn**	**14 13 33.2**	**0.0**
	0.1nm,0.3s,baz=208,slow=27,SNR=1.3 0.5nm,0.6s							
MMAI	**Mount Meron Ar**	**6.65**	**106**	Pn		**Pn**	**14 12 19.5**	**-0.6**
	0.9nm,0.3s,baz=299,slow=15,SNR=1.5							
MMAI				Sn		**Sn**	**14 13 36.1**	**+0.8**
	3.0nm,0.3s,baz=293,slow=26,SNR=2.3 0.5nm,0.3s							
EIL	**Elat**	**8.11**	**130**	Pn		**Pn**	**14 12 42.9**	**+2.7**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=2.0							
EIL				Sn		**Sn**	**14 14 07.8**	**-3.6**
	0.4nm,0.3s,baz=0.2,slow=24,SNR=6.9 1.8nm,0.4s							
ASF	**Jabal al Asfar**	**8.13**	**108**	Pn		**Pn**	**14 12 40.1**	**-0.3**
	0.3nm,0.3s,baz=244,slow=9.0,SNR=1.7							
ASF				Sn		**Sn**	**14 14 12.3**	**+0.4**
	0.3nm,0.3s,baz=160,slow=15,SNR=1.3 1.7nm,0.7s							
GERES	**GERESS Array B**	**17.24**	**327**	P		**P**	**14 14 43.2**	**-1.3**
	baz=119,slow=11,SNR=3.5 0.3nm,0.4s							
ESDC	**Sonseca Array**	**25.57**	**290**	P		**P**	**14 16 11.4**	**+0.3**
	0.4nm,0.5s,baz=85,slow=9.5,SNR=5.1 0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**32.14**	**234**	P		**P**	**14 17 12.0**	**+2.2**
	0.8nm,0.6s,baz=26,slow=8.7,SNR=7.4 0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**39.49**	**51**	P		**P**	**14 18 11.6**	**-0.8**
	0.4nm,0.7s,baz=272,slow=8.6,SNR=4.2 0.4nm,0.7s							

*SNET **07** 14:40:10.7±1.0, 12.°70N×88.°22W, h32km±7km, ML3.3*
CATAC 07 14:40:09.4±0.5, **13.°N±3.°×8.°8W±.°, h33**km±5km, **M3.1**/12, **MLv3.1**/12, **Error ellipse: s-maj=7.1km s-min=2.4km az=33.2, confirmed, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.72**	**58**	P	Pb	14 40 24.1	+0.5
CSGN				S	Sb	14 40 34.7	+1.4
CNCH	**Conchagua**	**0.76**	**26**	*e*P	Pn	14 40 23.9	0.0
CNCH	**Conchagua**	**0.76**	**26**	S	Sb	14 40 35.1	+0.6
CNCH	**Conchagua**	**0.76**	**26**	P	Pb	14 40 24.2	-0.2
LCND	**La Caada**	**0.77**	**22**	*e*P	Pn	14 40 23.3	-0.6
LCND				IAML		14 40 38.2	
	comp=Z,719nm,0.3s						
LCND	**La Caada**	**0.77**	**22**	P	Pn	14 40 24.0	+0.1
POTN	**Potosi Cosigui**	**0.77**	**58**	P	Pb	14 40 24.4	-0.1
POTN				S	Sb	14 40 35.7	+1.0
LCY	**Lacayo**	**0.84**	**352**	*e*P	Pn	14 40 25.0	+0.1
BLLM	**Bellamira**	**0.85**	**356**	*e*P	Pn	14 40 25.1	+0.1
PACA	**Pacayal**	**0.89**	**351**	*e*P	Pn	14 40 25.9	+0.3
PACA				*e*S	Sb	14 40 37.7	-0.3
PACA				IAML		14 40 40.9	
	comp=Z,4µm,0.3s						
PACA	**Pacayal**	**0.89**	**351**	P	Pn	14 40 26.0	+0.4
TECA	**Tecapa**	**0.95**	**341**	*e*P	Pn	14 40 26.4	-0.2
TECA				*e*P	Pb	14 40 26.6	-0.9
PQSS	**Presa 15 de Se**	**1.09**	**340**	*e*P	Pn	14 40 28.5	+0.2
PQSS	**Presa 15 de Se**	**1.09**	**340**	P	Pn	14 40 28.9	+0.5
PQSS	**Presa 15 de Se**	**1.09**	**340**	S	Sb	14 40 43.4	-0.3
CRIN	**San Cristobal**	**1.11**	**84**	P	Pb	14 40 30.0	-0.1
TECO	**Alcaldia de Te**	**1.11**	**328**	*e*P	Pn	14 40 28.2	-0.4
TECO	**Alcaldia de Te**	**1.11**	**328**	S	Sn	14 40 42.9	+0.1
UESV	**Universidad de**	**1.20**	**330**	S	Sn	14 40 45.2	+0.2
SCLA	**Alcaldia de Sa**	**1.23**	**334**	*e*P	Pn	14 40 30.5	+0.3
SCLA	**Alcaldia de Sa**	**1.23**	**334**	P	Pn	14 40 30.9	+0.6
SCLA	**Alcaldia de Sa**	**1.23**	**334**	S	Sn	14 40 46.6	+0.8
POLN	**Al Sur del Vol**	**1.34**	**87**	P	Pn

n166, σ0.93/224, **mb3.7**/6, **74C-45D, Romania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NEHR	**Nehoiu**	**0.17**	**221**	⇑P	**Pn**		**14 46 57.0**	**-0.1**
NEHR				⇑S	**Sn**		**14 47 09.6**	**-0.8**
BISRR	**Bisoca**	**0.18**	**93**	⇑P	**Pn**		**14 46 57.2**	**+0.1**
BISRR				⇓S	**Sn**		**14 47 10.1**	**-0.4**
PLOR	**Plostina**	**0.32**	**25**	⇑P	**Pn**		**14 46 57.2**	**-0.3**
PLOR				⇑S	**Sn**		**14 47 10.5**	**-0.8**
VRI	**Vrincioaia**	**0.36**	**32**	⇑P	**Pn**		**14 46 57.6**	**-0.1**
VRI				⇑S	**Sn**		**14 47 10.6**	**-0.9**
MLR	**Muntele Rosu**	**0.36**	**260**	⇑P	**Pn**		**14 46 57.6**	**-0.2**
MLR				⇑S	**Sn**		**14 47 10.9**	**-0.8**
MLR	**Muntele Rosu** comp=Z,20nm,18.9s,baz=26,slow=33	**0.36**	**260**	LR	LR		14 46 50.6	
MLR				P	**Pn**		**14 46 57.6**	**-0.2**
	904nm,0.4s,baz=63,slow=3.9,SNR=1102							
MLR				S	**Sn**		**14 47 10.4**	**-1.3**
	162nm,0.3s,baz=159,slow=18,SNR=7.9							
MLR	**Muntele Rosu**	**0.36**	**260**	*e*Pg	**Pn**		**14 46 57.5**	**-0.4**
MLR				*e*Sg	**Sn**		**14 47 10.1**	**-1.6**
ISR	**Istrita**	**0.44**	**172**	⇑P	**Pn**		**14 46 58.0**	**-0.1**
PANC	**Panciu**	**0.58**	**57**	⇑P	**Pn**		**14 46 59.0**	**+0.2**
PANC				⇓S	**Sn**		**14 47 13.4**	**0.0**
TURR	**Turia**	**0.58**	**328**	⇑P	**Pn**		**14 46 58.8**	**-0.2**
TURR				⇑S	**Sn**		**14 47 12.5**	**-1.1**
COSR	**Cosmesti PH**	**0.67**	**63**	⇑P	**Pn**		**14 46 59.3**	**-0.2**
COSR				⇑S	**Sn**		**14 47 14.3**	**-0.2**
PLAR	**PLOIESTI**	**0.71**	**205**	⇓P	**Pn**		**14 46 59.9**	**+0.1**
OZUR		**0.71**	**319**	⇑P	**Pn**		**14 46 59.3**	**-0.5**
OZUR				⇑S	**Sn**		**14 47 13.9**	**-1.4**
PGOR	**Pogoanele**	**0.75**	**150**	⇓P	**Pn**		**14 47 00.1**	**+0.1**
ONER	**Baraj Valea Uz**	**0.78**	**357**	⇑P	**Pn**		**14 47 00.3**	**-0.1**
ONER				⇓S	**Sn**		**14 47 15.2**	**-1.0**
GHRR		**0.83**	**53**	⇑P	**Pn**		**14 47 01.0**	**+0.2**
GHRR				⇑S	**Sn**		**14 47 16.6**	**-0.3**
DOPR	**Dopca**	**0.85**	**299**	⇑P	**Pn**		**14 47 00.6**	**-0.3**
DOPR				⇓S	**Sn**		**14 47 16.2**	**-0.9**
TUDR		**0.85**	**87**	⇑P	**Pn**		**14 47 00.3**	**-0.6**
TUDR				⇑S	**Sn**		**14 47 15.9**	**-1.2**
SULR		**0.89**	**189**	⇑P	**Pn**		**14 47 01.4**	**+0.1**
SULR				⇑S	**Sn**		**14 47 17.3**	**-0.4**
IZVR	**Izvoarele**	**0.92**	**90**	⇑P	**Pn**		**14 47 00.7**	**-0.8**
TESR	**Tescani**	**0.96**	**8**	⇑P	**Pn**		**14 47 01.6**	**-0.3**
SCHL	**Schela**	**0.97**	**93**	⇑P	**Pn**		**14 47 01.3**	**-0.6**
SCHL				⇑S	**Sn**		**14 47 17.1**	**-1.8**
VOIR		**0.99**	**264**	⇑P	**Pn**		**14 47 02.0**	**-0.3**
VOIR				⇓S	**Sn**		**14 47 17.7**	**-1.9**
NEGRR	**Negrea**	**1.00**	**91**	⇑P	**Pn**		**14 47 02.0**	**-0.2**
NEGRR				⇓S	**Sn**		**14 47 18.0**	**-1.4**
VARL	**Varlezi**	**1.03**	**70**	⇑P	**Pn**		**14 47 02.5**	**-0.1**
BIR	**Birlad**	**1.08**	**49**	⇑P	**Pn**		**14 47 03.1**	**+0.1**
BIR				⇑S	**Sn**		**14 47 20.2**	**-0.7**
SCTR	**Scanteiesti**	**1.09**	**83**	⇓P	**Pn**		**14 47 03.4**	**+0.3**
SCTR				⇑S	**Sn**		**14 47 20.5**	**-0.5**
LEHL	**Lehliu**	**1.11**	**166**	⇓P	**Pn**		**14 47 03.3**	**-0.1**
LEHL				⇑S	**Sn**		**14 47 20.9**	**-0.5**
TATR	**Tatarca**	**1.12**	**87**	⇓P	**Pn**		**14 47 03.4**	**+0.1**
TATR				⇑S	**Sn**		**14 47 20.8**	**-0.7**
GISR	**Galati**	**1.13**	**95**	⇑P	**Pn**		**14 47 02.7**	**-0.7**
GISR				⇑S	**Sn**		**14 47 20.8**	**-0.9**
AMRR	**Amara**	**1.14**	**146**	⇓P	**Pn**		**14 47 03.5**	**-0.1**
AMRR				⇑S	**Sn**		**14 47 21.4**	**-0.4**
VLDR	**Vladesti**	**1.18**	**75**	⇑P	**Pn**		**14 47 04.0**	**+0.1**
VLDR				⇑S	**Sn**		**14 47 21.9**	**-0.6**
CIOR	**Ciorogarla**	**1.18**	**200**	⇓P	**Pn**		**14 47 03.9**	**-0.2**
CIOR				⇑S	**Sn**		**14 47 21.8**	**-0.8**
GIUM	**Giurgiulesti**	**1.23**	**93**	⇑P	**Pn**		**14 47 04.6**	**0.0**
GIUM				⇑S	**Sn**		**14 47 23.2**	**-0.4**
CFR	**Carcaliu**	**1.25**	**107**	⇓P	**Pn**		**14 47 03.8**	**-0.8**
BUC1	**Bucharest**	**1.25**	**194**	⇑P	**Pn**		**14 47 04.7**	**0.0**
BUC1				⇑S	**Sn**		**14 47 23.0**	**-0.9**
ARR	**Arges**	**1.30**	**262**	⇑P	**Pn**		**14 47 05.3**	**0.0**
ARR				⇑S	**Sn**		**14 47 24.0**	**-0.9**
HARR	**Harsova**	**1.36**	**129**	⇓P	**Pn**		**14 47 05.5**	**-0.3**
SGRR	**Singureni**	**1.38**	**195**	⇓P	**Pn**		**14 47 05.8**	**-0.3**
SGRR				⇑S	**Sn**		**14 47 24.4**	**-1.9**
BIZ	**Bicaz**	**1.40**	**350**	⇑S	**Sn**		**14 47 27.2**	**+0.3**
CICN	**Ciocanesti**	**1.42**	**163**	⇓P	**Pn**		**14 47 06.2**	**-0.4**
CICN				⇑S	**Sn**		**14 47 25.7**	**-1.4**
VASR	**Vaslui**	**1.43**	**40**	⇑P	**Pn**		**14 47 06.7**	**+0.1**
HUMR	**Humele**	**1.47**	**226**	⇑P	**Pn**		**14 47 06.8**	**-0.3**
HUMR				⇓S	**Sn**		**14 47 27.0**	**-1.1**
TLBR	**Topalu**	**1.52**	**131**	⇓P	**Pn**		**14 47 07.3**	**-0.3**
TLBR				⇑S	**Sn**		**14 47 27.3**	**-1.7**
TNR	**Turnu Rosu**	**1.53**	**274**	⇓P	**Pn**		**14 47 07.6**	**-0.3**
TNR				⇓S	**Sn**		**14 47 28.4**	**-1.1**
TPGR	**Topolog**	**1.56**	**116**	⇓P	**Pn**		**14 47 07.4**	**-0.7**
MDB	**Medias**	**1.56**	**293**	⇑P	**Pn**		**14 47 08.6**	**+0.4**
MDB				⇑S	**Sn**		**14 47 31.0**	**+0.9**
CVDA	**Cernavoda**	**1.66**	**137**	⇓P	**Pn**		**14 47 09.2**	**-0.1**
CVDA				⇑S	**Sn**		**14 47 30.4**	**-1.6**
COPA	**Copaceanca**	**1.67**	**212**	⇓P	**Pn**		**14 47 09.1**	**-0.4**
COPA				⇑S	**Sn**		**14 47 30.9**	**-1.4**
TLCR		**1.71**	**102**	⇓P	**Pn**		**14 47 09.6**	**-0.2**
TLCR				⇑S	**Sn**		**14 47 32.4**	**-0.5**
ICOR	**Ion Corvin**	**1.73**	**146**	⇓P	**Pn**		**14 47 10.1**	**-0.1**
ICOR				⇓S	**Sn**		**14 47 32.2**	**-1.2**
TIRR	**Tirgusor**	**1.77**	**128**	⇓P	**Pn**		**14 47 10.3**	**-0.3**
TIRR				⇑S	**Sn**		**14 47 32.9**	**-1.4**
IASR	**Iasi**	**1.80**	**25**	⇑P	**Pn**		**14 47 10.7**	**-0.1**
PRAR	**RASCA**	**1.81**	**355**	⇑P	**Pn**		**14 47 11.8**	**+0.7**
JURR	**Jurilovca**	**1.89**	**114**	⇑P	**Pn**		**14 47 11.9**	**-0.1**
LOT	**Lotru**	**1.89**	**268**	⇑P	**Pn**		**14 47 12.5**	**+0.3**
MFTR	**Murfatlar**	**1.96**	**134**	⇓P	**Pn**		**14 47 12.6**	**-0.3**
RAZG	**Razgrad**	**1.99**	**179**	⇓P	**Pn**		**14 47 12.8**	**-0.5**
ZIMR		**2.05**	**203**	⇓P	**Pn**		**14 47 13.6**	**-0.4**
TSCT	**Constanta Port**	**2.10**	**131**	⇑P	**Pn**		**14 47 14.3**	**-0.2**
MILM	**Milestii Mici**	**2.13**	**49**	⇑P	**Pn**		**14 47 14.3**	**-0.6**
MILM	**Milestii Mici** 68nm,0.1s	**2.13**	**49**	⇑*i*P	**Pn**		**14 47 14.3**	**-0.6**
MILM				*e*S	**Sn**		**14 47 39.0**	**-3.1**
	530nm,0.1s							
MILM	**Milestii Mici**	**2.13**	**49**	P	**Pn**		**14 47 14.3**	**-0.6**
MILM				Pm			14 47 14.6	
MILM				S	**Sn**		**14 47 41.0**	**-1.1**
MILM				m			14 47 41.0	
MILM				Sm			14 47 41.1	
VLAD	**Vladila**	**2.14**	**224**	⇓P	**Pn**		**14 47 14.5**	**-0.5**
EFOR	**EFORIE**	**2.14**	**133**	⇓P	**Pn**		**14 47 14.9**	**-0.2**
KIS	**Kishinev**	**2.18**	**48**	⇑P	**Pn**		**14 47 15.6**	**0.0**
KIS	**Kishinev** 620nm,0.3s	**2.18**	**48**	⇑*i*P	**Pn**		**14 47 15.5**	**0.0**
KIS				*e*S	**Sn**		**14 47 40.6**	**-2.6**
	640nm,0.2s							
KIS	**Kishinev**	**2.18**	**48**	P	**Pn**		**14 47 15.5**	**0.0**
KIS				Pm			14 47 18.8	
KIS				S	**Sn**		**14 47 40.6**	**-2.6**
KIS				Sm			14 47 40.7	
KIS				m			14 47 43.0	
LOZB	**Loznitsa**	**2.19**	**177**	⇓P	**Pn**		**14 47 15.3**	**-0.4**
BURAR	**Bucovina Array**	**2.23**	**338**	⇓P	**Pn**		**14 47 17.6**	**+1.4**
PSN	**Preselentsi**	**2.27**	**147**	*i*P	**Pn**		**14 47 16.5**	**-0.1**
MANR	**Mangalia**	**2.31**	**138**	⇓P	**Pn**		**14 47 16.9**	**-0.3**
SZH	**Strazhitsa**	**2.32**	**189**	⇓*i*P	**Pn**		**14 47 17.0**	**-0.4**
SZH	**Strazhitsa**	**2.32**	**189**	P	**Pn**		**14 47 16.9**	**-0.4**
SZH				S	**Sn**		**14 47 43.1**	**-3.3**
NEF	**NEVSHA**	**2.37**	**165**	*i*P	**Pn**		**14 47 17.8**	**-0.2**
SRE	**Strehaia**	**2.47**	**250**	⇓P	**Pn**		**14 47 18.9**	**-0.3**
PRD	**Provadia**	**2.49**	**164**	*i*P	**Pn**		**14 47 19.4**	**-0.1**
PLVB	**Pleven**	**2.54**	**212**	⇓P	**Pn**		**14 47 19.7**	**-0.4**
ROIA	**ROIAK**	**2.55**	**165**	P	**Pn**		**14 47 20.4**	**+0.1**
KALB	**Balgarevo**	**2.57**	**146**	⇓P	**Pn**		**14 47 20.7**	**+0.2**
MARR	**Marisel-Cluj**	**2.58**	**297**	⇑P	**Pn**		**14 47 21.1**	**+0.4**
GZR	**Gura Zlata**	**2.59**	**268**	⇑P	**Pn**		**14 47 21.1**	**+0.2**
GZR				⇓S	**Sn**		**14 47 52.3**	**-0.4**
GZR	**Gura Zlata**	**2.59**	**268**	*e*Pn	**Pn**		**14 47 19.4**	**-1.4**
GZR				*e*Sn	Sn		14 47 41.2	-11
PVL	**Pavlikeni**	**2.60**	**201**	P	**Pn**		**14 47 20.6**	**-0.3**
ELND	**Elena**	**2.66**	**189**	⇓P	**Pn**		**14 47 21.5**	**-0.2**
VALD	**Valchedram**	**2.85**	**230**	P	**Pn**		**14 47 23.5**	**-0.6**
DRGR		**2.88**	**297**	⇑P	**Pn**		**14 47 24.2**	**-0.3**
DRGR		**2.88**	**297**	*e*Pn	**Pn**		**14 47 23.2**	**-1.3**
KSV	**Kosov**	**2.92**	**341**	*e*Pn	**Pn**		**14 47 24.5**	**-0.4**
KSV				Pm			14 47 26.2	
KSV				*e*Sn	**Sn**		**14 47 58.7**	**-1.3**
KSV				Sm			14 48 26.2	
RAKU	**Rahkiv**	**2.93**	**328**	*e*Pn	**Pn**		**14 47 24.6**	**-0.5**
HERR	**Herculane**	**2.93**	**258**	⇑P	**Pn**		**14 47 24.5**	**-0.6**
MPEP	**Malo Peshtene**	**2.94**	**222**	P	**Pn**		**14 47 25.0**	**-0.2**
NSLU	**Nyzhne Selyshc**	**2.98**	**333**	*e*Pn	**Pn**		14 47 30.2	+4.5
SURR	**Surduc**	**3.04**	**275**	⇑P	**Pn**		**14 47 26.6**	**0.0**
JMB	**Yambol**	**3.07**	**179**	*i*P	**Pn**		**14 47 26.6**	**-0.3**
JMB	**Yambol**	**3.07**	**179**	P	**Pn**		**14 47 26.6**	**-0.3**
NDNU	**Novodnistrovsk**	**3.10**	**11**	*e*Pn	**Pn**		**14 47 26.3**	**-1.0**
NDNU				Pm			14 47 27.7	
NDNU				*e*Sn	**Sn**		**14 48 02.4**	**-1.8**
NDNU				Sm			14 48 02.6	
BLKB	**Belogradchik**	**3.32**	**236**	*e*Pn	**Pn**		**14 47 29.2**	**-1.1**
BLKB				*e*Sn	Sn		14 47 59.4	-10
BZS	**Buzias**	**3.40**	**273**	*e*Pn	**Pn**		**14 47 30.6**	**-0.6**
BZS				*e*Sn	Sn		14 48 00.0	-11
SIRR	**Siria**	**3.42**	**284**	⇑P	**Pn**		**14 47 31.6**	**+0.1**
SIRR	**Siria**	**3.42**	**284**	*e*Pn	**Pn**		**14 47 30.5**	**-1.0**
SIRR				*e*Sn	Sn		14 48 01.3	-10
STNU	**Starunia**	**3.42**	**338**	*e*P	**Pn**		**14 47 31.4**	**-0.1**
STNU				*e*Pn	**Pn**		**14 47 31.4**	**-0.1**
MDVR	**Moldovita**	**3.44**	**259**	⇓P	**Pn**		**14 47 30.9**	**-0.9**
MDVR	**Moldovita**	**3.44**	**259**	*e*Pn	**Pn**		**14 47 31.2**	**-0.7**
PGB	**Panagyurishte**	**3.46**	**209**	*e*P	**Pn**		**14 47 32.3**	**+0.2**
ZAGS	**Zajecar**	**3.48**	**241**	*e*Pn	**Pn**		**14 47 31.8**	**-0.5**
ZAGS				*e*Sn	Sn		14 48 02.1	-11
DIM	**Dimitrovgrad**	**3.57**	**191**	P	**Pn**		**14 47 33.3**	**-0.2**
MEZ	**Mezhgor'ye**	**3.58**	**327**	*e*Pn	**Pn**		**14 47 33.9**	**+0.4**
PLD	**Plovdiv**	**3.63**	**201**	P	**Pn**		**14 47 33.3**	**-0.9**
BRIU	**Brid**	**3.64**	**321**	*e*Pn	**Pn**		**14 47 34.6**	**+0.2**
VRSS	**Vrsac**	**3.64**	**265**	*e*Pn	**Pn**		**14 47 33.6**	**-0.8**
VRSS				*e*Sn	Sn		14 48 04.6	-12
HORU	**Horodok**	**3.66**	**360**	*e*Pn	**Pn**		**14 47 34.7**	**+0.1**
HORU				Pm			14 47 35.1	
HORU				*e*Sn	**Sn**		**14 48 15.6**	**-1.7**
HORU				Sm			14 48 17.9	
VTS	**Vitosha**	**3.74**	**219**	*e*P	**Pn**		**14 47 36.8**	**+0.8**
VTS	**Vitosha**	**3.74**	**219**	P	**Pn**		**14 47 35.4**	**-0.5**
VTS	**Vitosha**	**3.74**	**219**	*e*Pn	**Pn**		**14 47 36.1**	**+0.1**
VTS				*e*Sn	Sn		14 47 58.3	-21
PLNA	**Plana**	**3.78**	**216**	*e*P	**Pn**		**14 47 37.1**	**+0.7**
MUKU	**Mukachevo**	**3.88**	**320**	*e*Pn	**Pn**		**14 47 37.4**	**-0.1**
BOVS	**Bovan**	**3.90**	**242**	*e*Pn	**Pn**		**14 47 36.9**	**-0.9**
BOVS				*e*Sn	Sn		14 48 13.4	-10
MORS	**Morshin**	**3.98**	**335**	*e*Pn	**Pn**		**14 47 38.4**	**-0.4**
KDZ	**Kurdzhali**	**4.01**	**192**	P	**Pn**		**14 47 38.8**	**-0.5**
KDZ	**Kurdzhali**	**4.01**	**192**	P	**Pn**		**14 47 38.4**	**-0.9**
RZN	**Rozhen**	**4.06**	**198**	P	**Pn**		**14 47 40.0**	**-0.2**
RZN	**Rozhen**	**4.06**	**198**	P	**Pn**		**14 47 39.6**	**-0.6**
HOLU	**Holmets**	**4.07**	**318**	*e*Pn	**Pn**		**14 47 40.3**	**+0.3**
BOSS	**Bosilegrad**	**4.19**	**225**	*e*Pn	**Pn**		**14 47 42.1**	**+0.3**
BOSS				*e*Sn	Sn		14 48 18.6	-11
TARU	**Tarkhankut**	**4.28**	**90**	*e*P	**Pn**		**14 47 43.0**	**+0.2**
TARU				Pm			14 47 43.2	
	comp=Z,21nm,0.3s							
TARU				*e*S	**Sn**		**14 48 30.6**	**-1.4**
TARU				Sm			14 48 35.9	
	comp=N,44nm,0.7s,comp=E,52nm,0.7s							
BARS	**Barje**	**4.32**	**232**	*e*Pn	**Pn**		**14 47 43.3**	**-0.1**
STZU	**Stuzhytsa**	**4.33**	**324**	*e*Pn	**Pn**		**14 47 43.9**	**+0.3**
GRUS	**Gruza**	**4.42**	**250**	*e*Pn	**Pn**		**14 47 43.8**	**-0.9**
GRUS				*e*Sn	Sn		14 48 23.8	-12
KKB	**Krupnik**	**4.43**	**214**	P	**Pn**		**14 47 45.1**	**+0.2**
GOCS	**Kraljevo Serbi**	**4.46**	**245**	*e*Pn	**Pn**		**14 47 44.6**	**-0.8**
GOCS				*e*Sn	Sn		14 48 26.5	-10
RDO	**Rodhopi**	**4.46**	**189**	P	**Pn**		**14 47 44.3**	**-1.0**
MMB	**Musomishta**	**4.46**	**207**	*e*P	**Pn**		**14 47 45.7**	**+0.3**
MMB	**Musomishta**	**4.46**	**207**	P	**Pn**		**14 47 45.1**	**-0.4**
TRUS	**Trudelj**	**4.50**	**255**	*e*Pn	**Pn**		**14 47 44.3**	**-1.5**
TRUS				*e*Sn	Sn		14 48 25.8	-12
ALN	**Alexandroupoli**	**4.67**	**184**	P	**Pn**		**14 47 47.5**	**-0.6**
DNZ2	**Donuzlav2**	**4.76**	**90**	*e*P	**Pn**		**14 47 49.0**	**-0.2**
DNZ2				Pm			14 47 49.2	
	comp=Z,35nm,0.4s							
DNZ2				*e*S	**Sn**		**14 48 40.9**	**-2.6**
DNZ2				Sm			14 48 42.5	
	comp=N,57nm,0.5s,comp=E,75nm,0.5s							
KAVA	**Kavala**	**4.77**	**198**	P	**Pn**		**14 47 48.9**	**-0.7**
SRS	**Serrai**	**4.91**	**206**	P	**Pn**		**14 47 50.9**	**-0.4**
IVAS	**Ivanjica**	**4.92**	**248**	*e*Pn	**Pn**		**14 47 50.5**	**-1.0**
IVAS				*e*Sn	Sn		14 48 36.6	-11
TEKS	**Tekeris**	**5.01**	**261**	*e*Pn	**Pn**		**14 47 51.7**	**-1.0**
THAS	**Thassos island**	**5.11**	**195**	P	**Pn**		**14 47 53.7**	**-0.3**
SMTH	**Samothraki Isl**	**5.13**	**188**	P	**Pn**		**14 47 54.3**	**0.0**
SJES	**Sjenica**	**5.18**	**246**	*e*Sn	Sn		14 48 44.1	-10
SEV	**Sevastopol'**	**5.21**	**99**	P	**Pn**		**14 47 55.0**	**-0.3**
SEV				Pm			14 47 56.3	
SEV				S	**Sn**		**14 48 53.0**	**-1.3**
SEV				Sm			14 48 53.2	
SEV	**Sevastopol'**	**5.21**	**99**	*e*P	**Pn**		**14 47 55.0**	**-0.3**
SEV				Pm			14 47 56.3	
	comp=Z,16nm,0.4s							
SEV				*e*S	**Sn**		**14 48 52.5**	**-1.8**
SEV				Sm			14 48 54.9	
	comp=E,19nm,0.4s							
SOH	**Sokhos**	**5.25**	**207**	P	**Pn**		**14 47 55.5**	**-0.5**
BBLS	**Lazi&#263i**	**5.30**	**254**	*e*Pn	**Pn**		**14 47 56.2**	**-0.4**
AKASG	**Malin Array Be**	**5.47**	**19**	P	**Pn**		**14 47 57.4**	**-1.3**
	comp=E,1.1nm,0.3s,baz=206,slow=11,SNR=11							
AKASG				S	**Sn**		**14 48 55.9**	**-4.6**
	comp=E,6.2nm,0.5s,baz=200,slow=22,SNR=9.5							
YAL	**Yalta**	**5.56**	**98**	P	**Pn**		**14 48 00.9**	**+0.9**
YAL				S	**Sn**		**14 49 03.3**	**+0.5**
YAL	**Yalta**	**5.56**	**98**	*e*P	**Pn**		**14 48 00.9**	**+0.9**
YAL				Pm			14 48 03.6	
	comp=Z,40nm,0.7s							
YAL				*e*S	**Sn**		**14 49 03.3**	**+0.5**
SUDU	**Sudak**	**6.07**	**93**	P	**Pn**		**14 48 05.5**	**-1.4**
SUDU				Pm			14 48 08.9	
SUDU				S	**Sn**		**14 49 14.1**	**-1.0**
SUDU				Sm			14 49 17.3	
SUDU	**Sudak**	**6.07**	**93**	*e*P	**Pn**		**14 48 05.5**	**-1.4**
SUDU				Pm			14 48 08.9	
	comp=Z,5.0nm,0.2s							
SUDU				Sm			14 48 17.3	
	comp=N,30nm,0.6s							
SUDU				Sm			14 48 17.3	
	comp=E,17nm,0.4s							
SUDU				*e*S	**Sn**		**14 49 14.1**	**-1.0**
VRAC	**Vranov**	**7.67**	**303**	P	**Pn**		**14 48 28.3**	**0.0**
	comp=E,2.4nm,0.5s,baz=120,slow=12,SNR=5.0							
BRTR	**Keskin Array B**	**7.87**	**135**	P	**Pn**		**14 48 30.2**	**-1.1**
	comp=E,1.2nm,0.6s,baz=322,slow=11,SNR=7.2							
FINES	**FINESS Array B**	**15.92**	**359**	P	**Pn**		**14 50 13.3**	**-2.6**
	comp=E,0.5nm,0.4s,baz=170,slow=12,SNR=5.1							
HFS	**Hagfors**	**16.46**	**337**	P	**Pn**		**14 50 22.3**	**-0.3**
	comp=E,1.5nm,0.6s,baz=140,slow=12,SNR=6.8							
NB2	**NORSAR Subarra**	**17.91**	**335**	P	**Pn**		**14 50 40.1**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=143,slow=11							
NOA	**NORSAR Array B**	**17.91**	**335**	P	**P**		**14 50 39.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=146,slow=10.0,SNR=4.9							
ESDC	**Sonseca Array**	**23.06**	**266**	P	**P**		**14 51 33.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=77,slow=11,SNR=2.2							
	comp=Z,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**24.05**	**359**	P	**P**		**14 51 42.8**	**+0.5**
	comp=Z,3.2nm,1.1s,baz=179,slow=11,SNR=3.8							
	comp=Z,3.2nm,1.1s							
KURBB	**Kurchatov Arra**	**34.55**	**62**	P	**P**		**14 53 16.6**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=284,slow=9.6,SNR=3.2							
	comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**37.65**	**55**	P	**P**		**14 53 43.6**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=277,slow=12,SNR=3.0							
	comp=Z,0.6nm,0.4s							
MKAR	**Makanchi Array**	**37.99**	**67**	P	**P**		**14 53 46.6**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=273,slow=7.2,SNR=7.0							
	comp=Z,0.5nm,0.4s							
TORD	**Torodi Ar. Bea**	**38.53**	**221**	P	**P**		**14 53 49.8**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=27,slow=8.6,SNR=11							
	comp=Z,1.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**64.88**	**89**	P	**P**		**14 57 06.3**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=311,slow=6.8,SNR=4.4							
	comp=Z,0.6nm,0.5s							

WEL 07 14:58:09.0±2.1, 34°S±48′×18°0E±6°0, h334km±50km, M3.7/3, mB4.2/1, ML4.2/5, MLv3.7/3, Mw(mB)3.3/1, Error ellipse: s-maj=94.2km s-min=33.4km az=127.3, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
WMGZ	**Waiomatatini S**	**4.25**	**195**	P	Pn		14 59 19.6	+0.1
HAZ	**Te Kaha**	**4.35**	**202**	P	Pn		14 59 20.8	+0.1
PKGZ	**Pakihiroa**	**4.37**	**198**	P	Pn		14 59 20.8	-0.1
PUZ	**Puketiti**	**4.53**	**196**	P	Pn		14 59 22.7	+0.2
PUZ				S	S		15 00 22.4	+0.4
MWZ	**Matawai**	**4.96**	**201**	P	Pn		14 59 27.6	+0.2
URZ	**Urewera**	**5.03**	**205**	S	S		15 00 32.7	+0.7
MUGZ	**Murupara**	**5.35**	**206**	P	Pn		14 59 31.9	+0.2
RAHZ	**Arahi**	**5.63**	**202**	P	Pn		14 59 35.1	+0.1
BKZ	**Black Stump Fm**	**6.06**	**205**	P	Pn		14 59 39.9	0.0
KAHZ	**Kahuranaki**	**6.51**	**200**	P	Pn		14 59 45.7	+0.6
PNHZ	**Pukenui**	**6.83**	**204**	P	Pn		14 59 48.3	-0.6

IDC 07 15:10:58.3±999.0, 39.86N×110.72E, h0km, Error ellipse: s-maj=950.5km s-min=189.0km az=153.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
I34MN	**SONGINO INFRAS** baz=158,slow=264,SNR=0.5	**8.52**	**340**	I	I		15 58 00.0	
I46RU	**ZALESOVO INFRA** baz=120,slow=321,SNR=1.9	**22.45**	**317**	I	I		17 17 20.0	
I31KZ	**AKTYUBINSK INF** baz=86,slow=329,SNR=0.7	**37.89**	**304**	I	I		19 04 40.0	
I43RU	**DUBNA INFRASON** baz=76,slow=316,SNR=2.7	**49.22**	**316**	I	I		20 14 10.0	

*SNET **07** 15:21:06.1±0.6, 13°.21N×90°.34W, h13km±999km, ML3.1*
*GCG **07** 15:21:07.0±0.4, 13°.43N×90°.47W, h26km±5km, MD3.5, ML3.4*

ISC 07 15:21:06.5±3.5, 13°.2N±0°.2×90°.3W±0°.1, h24km, n9, σ0.45/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NUBE	**Las Nubes**	**0.86**	**34**	*i*P	**Pb**		**15 21 22.4**	**-0.5**
NUBE				*i*S	**Sn**		**15 21 34.9**	**-0.4**
CEVE	**Cerro Verde**	**0.90**	**44**	*e*P	**Pb**		**15 21 23.8**	**+0.1**
CEVE				IAML			15 21 42.3	
	comp=Z,610nm,0.2s							
RTR	**El Retiro**	**0.94**	**41**	*e*P	**Pb**		**15 21 24.0**	**-0.3**
RTR				*e*S	**Sn**		**15 21 38.2**	**+1.0**
SNJE	**San Jose**	**0.94**	**43**	*e*P	**Pb**		**15 21 24.1**	**-0.2**
PMON	**Pi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.86**	**281**	P	**Pn**	**15 34 03.6**	**-0.8**
	13nm,0.2s						
SHLS				S	**Sn**	**15 34 24.6**	**-4.1**
	40nm,0.3s						
SHLS	**Shalkode**	**1.86**	**281**	*e*P	**Pn**	**15 34 03.6**	**-0.8**
	13nm,0.2s						
SHLS				*e*S	**Sn**	**15 34 24.6**	**-4.1**
	40nm,0.3s						
PDGK	**Podgornoye**	**1.88**	**286**	⇓Pn	**Pg**	**15 34 07.5**	**+0.4**
	24nm,0.4s						
PDGK				⇓Sn	**Sg**	**15 34 33.3**	**+1.9**
	76nm,0.6s						
UZB	**Uzynbulak**	**2.18**	**279**	Pg	**Pg**	**15 34 14.2**	**+1.4**
	22nm,0.2s						
UZB				Lg	Lg	15 34 42.5	
	28nm,0.3s						
UZB	**Uzynbulak**	**2.18**	**279**	*e*P	**Pg**	**15 34 14.2**	**+1.4**
	22nm,0.2s						
UZB				*e*S	**Sg**	**15 34 42.5**	**+1.4**
	28nm,0.3s						
KPKS	**Kokpek**	**2.48**	**286**	Pg	**Pg**	**15 34 18.7**	**+0.1**
	0.5nm,0.2s						
KPKS				Lg	Lg	15 34 50.1	
	42nm,0.4s						
SATY	**Saty**	**2.62**	**276**	Pg	**Pg**	**15 34 21.8**	**+0.5**
	14nm,0.3s						
SATY				Lg	Lg	15 34 56.6	
	40nm,0.4s						
KURS	**Kuram**	**2.85**	**285**	Pg	**Pg**	**15 34 24.8**	**-0.9**
	3.9nm,0.3s						
KURS				Lg	Lg	15 35 01.0	
	8.0nm,0.4s						
ARXS	**Arharly**	**3.31**	**296**	Pg	**Pb**	**15 34 30.2**	**-0.5**
	2.0nm,0.3s						
ARXS				Lg	Lg	15 35 09.9	
	4.9nm,0.4s						
TNSS	**Tian-Shan**	**3.69**	**275**	Pg	**Pg**	**15 34 42.0**	**+0.3**
	0.1nm,0.0s						
TNSS				Lg	Lg	15 35 30.0	
	1.5nm,0.2s						
TNSS	**Tian-Shan**	**3.69**	**275**	*e*P	**Pg**	**15 34 42.0**	**+0.3**
	0.1nm,0.0s						
TNSS				*e*S	**Sg**	**15 35 30.0**	**+0.4**
	1.5nm,0.2s						
CHKK	**Chushkaly**	**3.77**	**287**	Pg	**Pb**	**15 34 40.3**	**+1.8**
	8.8nm,0.1s						
CHKK				Lg	Lg	15 35 27.2	
	5.1nm,0.1s						
CHKK	**Chushkaly**	**3.77**	**287**	*e*P	**Pb**	**15 34 40.3**	**+1.8**
	8.8nm,0.1s						
CHKK				*e*S	**Sb**	**15 35 27.2**	**+2.5**
	5.1nm,0.1s						
KTBS	**Karatobe**	**3.95**	**285**	Pg	**Pg**	**15 34 45.7**	**-1.1**
	1.3nm,0.3s						
KTBS				Lg	Lg	15 35 36.5	
	0.4nm,0.4s						
MK31	**Makanchi Array**	**3.97**	**3**	⇑Pn	**Pn**	**15 34 33.4**	**+0.1**
	0.2nm,0.3s,baz=183,slow=13,SNR=5.8						
MK31				⇑Pg	**Pb**	**15 34 42.0**	**+0.1**
	0.8nm,0.4s,baz=182,slow=16,SNR=11						
MK31				⇑Sn	**Sn**	**15 35 20.6**	**0.0**
	1.8nm,0.4s						
MK31				Lg	Lg	15 35 34.2	
	4.0nm,0.7s,baz=182,slow=33,SNR=6.2						
MAKZ	**Makanchi**	**3.98**	**0**	Pn	**Pn**	**15 34 32.8**	**-0.6**
	1.7nm,0.6s						
MAKZ				Pg	**Pb**	**15 34 42.1**	**+0.1**
	1.9nm,0.6s						
MAKZ				Sn	**Sn**	**15 35 17.7**	**-3.0**
	1.5nm,0.7s						
MAKZ				Lg	Lg	15 35 31.9	
	1.2nm,0.5s						
KST	**Kastek**	**4.41**	**275**	Pg	**Pg**	**15 34 55.6**	**+0.1**
	6.0nm,0.5s						
KST				Lg	Lg	15 35 53.1	
	4.5nm,0.5s						
KST	**Kastek**	**4.41**	**275**	*e*P	**Pg**	**15 34 55.6**	**+0.1**
	6.0nm,0.5s						
KST				*e*S	**Sg**	**15 35 53.1**	**+0.4**
	4.5nm,0.5s						
DGS	**Degeres**	**4.55**	**277**	Pg	**Pg**	**15 34 57.2**	**-1.2**
	5.6nm,0.5s						
DGS				Lg	Lg	15 35 55.9	
	3.0nm,0.4s						
ZSN	**Zaisan**	**5.05**	**23**	*e*P	**Pb**	**15 35 01.3**	**+0.8**
	1.3nm,0.1s						
ZSN				*e*S	**Sb**	**15 36 02.9**	**+1.1**
	4.0nm,0.1s						

*IDC **07** 15:41:33.1±1.3,30.72S×177.58W,h0km,mb4.0/4, mbtmp4.0/5,ML3.4/1,Error ellipse: s-maj=35.7km s-min=21.6km az=103.0*
*NEIC **07** 15:41:40.3±0.9,30.48S±0.08×177.9W±0.2,h35km±2km, mb4.2/9,Error ellipse: s-maj=33.0km s-min=12.8km az=85.0*
ISC 07 15:41:38.1±1.1,30.54S±0.06×177.7W±0.2,h33km,n25, σ1§17/29,mb4.1/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.29**	**353**	Pn	**Pn**	**15 42 00.9**	**+1.1**
RAO				Sn	**Sn**	**15 42 15.3**	**-0.8**
RAO	**Raoul Island**	**1.29**	**353**	Pn	**Pn**	**15 42 01.3**	**+1.4**
	133nm,0.3s,baz=149,slow=19,SNR=12						
RAO				Sn	**Sn**	**15 42 15.1**	**-0.9**
	364nm,0.3s,baz=114,slow=22,SNR=8.6						
URZ	**Urewera**	**8.79**	**208**	Pn	**Pn**	**15 43 41.6**	**-1.2**
	0.5nm,0.3s,baz=49,slow=9.3,SNR=9.4						
URZ				Sn	**Sn**	**15 45 19.1**	**-1.7**
	1.2nm,0.3s,baz=209,slow=22,SNR=12						
	13nm,1.0s						
RTZ	**Ruatahuna**	**9.15**	**207**	Pn	**Pn**	**15 43 48.8**	**+1.0**
BKZ	**Black Stump Fm**	**9.82**	**207**	Pn	**Pn**	**15 43 55.2**	**-1.7**
MSVF	**Nonsavu**	**13.32**	**342**		**Pn**	**15 44 41.9**	**-3.0**
CTAO	**Charters Tower**	**34.05**	**279**	P	**P**	**15 48 20.6**	**+1.2**
STKA	**Stephens Creek**	**34.67**	**257**	P	**P**	**15 48 25.6**	**+0.9**
	2.2nm,0.5s,baz=111,slow=10,SNR=5.4						
	2.2nm,0.5s						
AS31	**Alice Springs**	**43.33**	**267**	P	**P**	**15 49 37.5**	**+0.2**
ASAR	**Alice Springs**	**43.33**	**267**	P	**P**	**15 49 38.0**	**+0.7**
ASAR	**Alice Springs**	**43.33**	**267**	P	**P**	**15 49 38.2**	**+1.0**
	0.6nm,0.6s,baz=105,slow=7.1,SNR=24						
ASAR				PcP	**PcP**	**15 51 25.9**	**+0.2**
	0.7nm,1.1s,baz=103,slow=3.9,SNR=1.1						
	0.6nm,0.6s						
WR8	**Warramunga Arr**	**44.19**	**272**	P	**P**	**15 49 44.2**	**+0.1**
WR8				IAmb	IAmb	15 49 45.7	
	comp=Z,2.8nm,0.8s						
WRAB	**Tennant Creek**	**44.32**	**272**	P	**P**	**15 49 45.5**	**+0.3**
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**15 49 44.6**	**-0.6**
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**15 49 45.8**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=111,slow=8.1,SNR=34						
	comp=Z,1.1nm,0.3s						
WB0	**Warramunga Arr**	**44.35**	**272**	P	**P**	**15 49 45.8**	**+0.3**
WB0				IAmb	IAmb	15 50 01.0	
	comp=Z,5.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.59**	**270**	P	**P**	**15 50 48.1**	**-0.7**
FITZ				IAmb	IAmb	15 50 54.9	
	comp=Z,2.5nm,1.5s						
CASY	**Casey**	**55.12**	**208**	P	**P**	**15 51 08.5**	**+1.8**
CASY				IAmb	IAmb	15 51 15.6	
	comp=Z,2.8nm,1.1s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**15 51 37.2**	**-1.1**
QSPA				IAmb	IAmb	15 51 50.0	
	comp=Z,2.6nm,0.8s						
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P**	**15 51 36.7**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=111,slow=3.2,SNR=2.9						
	comp=Z,0.8nm,0.9s						
BVAR	**Borovoye Array**	**126.66**	**316**	PKP	**PKiKP**	**16 00 38.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=67,slow=2.0,SNR=2.5						
FIA1	**FINESS Array S**	**145.35**	**340**		**PKPab**	**16 01 12.3**	**+0.5**
FINES	**FINESS Array B**	**145.36**	**340**		**PKPab**	**16 01 12.4**	**+0.5**
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc	**PKPbc**	**16 01 11.8**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=46,slow=4.0,SNR=30						
HFS	**Hagfors**	**149.43**	**349**	PKPbc	**PKPbc**	**16 01 23.8**	**+0.7**
	comp=Z,2.5nm,1.0s,baz=33,slow=3.5,SNR=4.1						

*KOLA **07** 15:51:14.2,78.31N×7.70E,h0km,ML2.0,Error ellipse: s-maj=18.0km s-min=13.0km az=110.0,Greenland sea,Knipovich ridge, middle*
*BER **07** 15:51:15.2±2.3,78.41N×6.70E,h10km,Mw3.3, Confirmed Earthquake*

*DNK **07** 15:51:15.4±2.3,78.25N×7.11E,h36km±22km,ML2.2*
ISC 07 15:51:13.1±1.7,78.27N±0.07×6.55E±0.04,h26km±17km, n13,σ2§11/22,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.26**	**56**	P	**Pb**	**15 51 35.6**	**-0.5**
KBS				S	**Sn**	**15 51 48.7**	**-2.2**
KBS	**Kingsbay**	**1.26**	**56**	*e*P	**Pb**	**15 51 35.9**	**-0.2**
KBS				*e*S	**Sn**	**15 51 49.0**	**-1.9**
KBS				IAML		15 51 55.0	
	comp=Z,74nm,0.6s						
KBS	**Kingsbay**	**1.26**	**56**	*i* P	**Pn**	**15 51 34.8**	**-0.1**
KBS				*i* S	**Sn**	**15 51 49.4**	**-1.5**
BRBA	**Barentsburg A**	**1.60**	**94**	*e*P	**Pb**	**15 51 41.7**	**-0.1**
SPA0	**Spitsbergen Ar**	**2.02**	**88**	*e*P	**Pb**	**15 51 47.9**	**-1.1**
SPA0				*e*S	**Sn**	**15 52 11.4**	**+1.8**
SPA0				IAML		15 52 13.9	
	comp=Z,25nm,0.4s						
SPITS	**Spitsbergen Ar**	**2.02**	**88**	P	**Pb**	**15 51 47.5**	**-1.4**
SPITS				S	**Sn**	**15 52 11.0**	**+1.4**
HSPB	**Hornsund (broa**	**2.32**	**119**	P	**Pn**	**15 51 50.7**	**+1.3**
HSPB				S	**Sn**	**15 52 16.3**	**-0.7**
HSPB	**Hornsund (broa**	**2.32**	**119**	*e*P	**Pn**	**15 51 51.0**	**+1.6**
NOR	**Nord**	**5.22**	**320**	*e*P	**Pn**	**15 52 32.5**	**+3.2**
NOR	**Nord**	**5.22**	**320**	*i* P	**Pn**	**15 52 31.9**	**+2.7**
DAG	**Danmarks Havn**	**5.63**	**267**	*e*P	**Pn**	**15 52 37.6**	**+2.7**
DAG				*e*S	**Sn**	**15 53 35.8**	**-2.9**
DAG	**Danmarks Havn**	**5.63**	**267**	*i* P	**Pn**	**15 52 37.0**	**+2.1**
DAG				*i* S	**Sn**	**15 53 35.8**	**-2.9**
DAG				IAML		15 53 39.1	
	comp=Z,9.5nm,0.2s						
DBG	**Daneborg**	**7.43**	**252**	*e*P	**Pn**	**15 52 59.9**	**+0.4**
DBG				*i* S	**Sn**	**15 54 19.6**	**-3.1**

*IDC **07** 15:53:03.3±2.0,5.49S×102.94E,h0km,mb3.7/9, mbtmp3.7/9,Error ellipse: s-maj=70.3km s-min=20.3km az=54.0*
*DJA **07** 15:53:09.0±0.3,6.3S±3.0×10.3E±,h57km±7km,M4.2/17, mB4.8/1,mb4.4/12,MLv4.1/17,Mw(mB)4.0/1*
ISC 07 15:53:08.1±0.9,5.65S±0.09×102.92E±0.07,h38km,n41, σ1§12/35,mb3.8/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.28**	**1**	P	**Pn**	**15 53 30.6**	**+1.1**
LWLI	**Liwa**	**1.29**	**61**	P	**Pn**	**15 53 30.1**	**+0.3**
LWLI				S	**Sn**	**15 53 46.0**	**+0.1**
KASI	**Kota Agung**	**1.57**	**86**	P	**Pn**	**15 53 34.1**	**+0.6**
KASI				S	**Sn**	**15 53 52.4**	**-0.2**
MDSI	**Maura Dua**	**1.70**	**47**	P	**Pn**	**15 53 36.4**	**+1.1**
MDSI				S	**Sn**	**15 53 55.6**	**-0.2**
LHSI	**Lahat**	**1.91**	**18**	P	**Pn**	**15 53 39.8**	**+1.7**
KSI	**Kapahiang**	**2.01**	**351**	P	**Pn**	**15 53 40.8**	**+1.2**
BLSI	**Bandar Lampung**	**2.33**	**83**	P	**Pn**	**15 53 46.3**	**+2.4**
CGJI	**Cibinong**	**2.92**	**109**	P	**Pn**	**15 53 52.6**	**+0.6**
PPSI	**Pulau Pagai**	**4.08**	**314**	P	**Pn**	**15 54 09.4**	**+1.4**
CNJI	**Cibinong**	**4.49**	**112**	P	**Pn**	**15 54 14.0**	**+0.3**
SDSI	**Sungai Dareh**	**4.92**	**342**	P	**Pn**	**15 54 20.7**	**+1.2**
PDSI	**Padang**	**5.31**	**332**	P	**Pn**	**15 54 25.5**	**+0.6**
	0.2nm902nm26nm,0.5s						
TPI	**Tanjungpandan**	**5.52**	**59**	P	**Pn**	**15 54 28.7**	**+0.8**
SISI	**Saibi**	**5.75**	**318**	P	**Pn**	**15 54 31.6**	**+0.6**
PBSI	**Pulau Batu**	**7.24**	**320**	P	**Pn**	**15 54 51.4**	**0.0**
UGM	**Wanagama**	**7.88**	**107**	P	**Pn**	**15 55 00.8**	**+0.6**
	46nm,1.5s						
PCJI	**Pacitan**	**8.58**	**108**	P	**Pn**	**15 55 11.1**	**+1.3**
	25nm,1.2s						
GMJI	**Gumukmas**	**10.76**	**105**	P	**Pn**	**15 55 40.5**	**+0.7**
	24nm,1.4s						
JAGI	**Jajag, Banyuwa**	**11.49**	**105**	P	**Pn**	**15 55 50.2**	**+0.4**
	29nm,1.4s						
SRBI	**Singaraja**	**12.44**	**102**	P	**Pn**	**15 56 03.0**	**+0.3**
	33nm,1.2s						
PLAI	**Plampang**	**15.07**	**103**	P	**Pn**	**15 56 37.4**	**-1.1**
	26nm,1.0s						
WBSI	**Waikabubak, Su**	**16.79**	**105**	P	**Pn**	**15 56 57.0**	**-3.7**
CMAR	**Chiang Mai Arr**	**24.27**	**351**	P	**P**	**15 58 21.9**	**-0.1**
	0.8nm,0.4s,baz=152,slow=9.5,SNR=2.5						
	0.8nm,0.4s						
H08S2	**Diego Garcia H**	**30.29**	**265**	T	T	16 30 37.9	
	baz=87,slow=74						
H08S3	**Diego Garcia H**	**30.30**	**265**	T	T	16 30 47.3	
	baz=87,slow=74						
H08S1	**Diego Garcia H**	**30.31**	**265**	T	T	16 30 48.4	
	baz=87						
WRA	**Warramunga Arr**	**33.68**	**118**	P	**P**	**15 59 46.8**	**+1.0**
	0.4nm,0.8s,baz=308,slow=8.7,SNR=6.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**34.78**	**124**	P	**P**	**15 59 56.3**	**+0.9**
	0.2nm,0.6s,baz=303,slow=8.0,SNR=6.6						
	0.2nm,0.6s						
KSRS	**Korea Array**	**48.81**	**27**	P	**P**	**16 01 48.9**	**-0.7**
	0.6nm,0.6s,baz=228,slow=7.2,SNR=4.9						
	0.6nm,0.6s						
SONM	**Songino Array**	**53.34**	**3**	P	**P**	**16 02 23.6**	**-0.1**
	0.5nm,0.4s,baz=175,slow=7.2,SNR=2.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**55.33**	**343**	P	**P**	**16 02 37.7**	**-0.3**
	0.9nm,0.6s,baz=157,slow=8.2,SNR=8.4						
	0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**56.10**	**25**	P	**P**	**16 02 42.6**	**-1.0**
	1.4nm,0.6s,baz=222,slow=6.0,SNR=4.5						
	1.4nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.71**	**219**	T	T	17 07 41.3	
	baz=64,slow=75,SNR=35						
H04N1	**CROZET ISLANDS**	**59.72**	**219**	T	T	17 07 43.1	
	baz=64,slow=75,SNR=39						
H04N3	**CROZET ISLANDS**	**59.72**	**219**	T	T	17 07 40.8	
	baz=64,slow=75,SNR=38						
H04S1	**CROZET ISLANDS**	**59.94**	**218**	T	T	17 08 08.1	
	baz=64,slow=75,SNR=12						
H04S3	**CROZET ISLANDS**	**59.95**	**218**	T	T	17 08 04.7	
	baz=64,slow=75,SNR=24						
H04S2	**CROZET ISLANDS**	**59.96**	**218**	T	T	17 08 10.7	
	baz=64,slow=75,SNR=16						
ZALV	**Zalesovo Beam**	**61.30**	**348**	P	**P**	**16 03 18.7**	**-0.8**
	1.0nm,0.4s,baz=157,slow=4.8,SNR=6.9						
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**64.60**	**339**	P	**P**	**16 03 41.2**	**-0.4**
	0.4nm,0.4s,baz=140,slow=9.4,SNR=3.7						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**145.56**	**44**	PKPbc	**PKPdf**	**16 12 44.0**	**+0.8**
	1.5nm,0.5s,baz=275,slow=0.9,SNR=18						

*HEL **07** 16:28:58.8±0.0,60.42N×26.91E,h0km,ML1.5,Explosion*
*IDC **07** 16:29:04.1±2.2,60.77N×27.20E,h0km,mbtmp3.1/2, ML2.5/2,Error ellipse: s-maj=16.8km s-min=12.6km az=68.0*
ISC 07 16:28:57.8±1.2,60.44N±0.03×26.86E±0.03,h2km±11km, n21,σ0§68/32,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.36**	**74**	*e*P	**Pg**	**16 29 04.9**	**+0.3**
VJF				*e*S	**Sg**	**16 29 09.3**	**+0.1**
PVF	**Pernaja**	**0.51**	**282**	*e*P	**Pg**	**16 29 08.3**	**+0.9**
PVF				*e*S	**Sg**	**16 29 15.3**	**+1.4**
HEL1	**Helsinki**	**1.02**	**256**	*e*P	**Pg**	**16 29 17.5**	**+0.2**
HEL1				*e*S	**Sg**	**16 29 30.3**	**-0.1**
FIA0	**FINESS Array S**	**1.08**	**339**	*e*P	**Pg**	**16 29 18.4**	**+0.1**
FIA0				*e*S	**Sb**	**16 29 33.1**	**-0.4**
FINES	**FINESS Array B**	**1.08**	**339**	Pg	**Pg**	**16 29 18.5**	**+0.1**
	0.4nm,0.3s,baz=140,slow=18,SNR=18						
FINES				Lg	Lg	16 29 32.2	
	2.7nm,0.3s,baz=143,slow=26,SNR=23						
NUR	**Nurmijarvi**	**1.10**	**274**	*e*P	**Pg**	**16 29 18.7**	**-0.1**
NUR				*e*S	**Sg**	**16 29 33.2**	**+0.3**
ARBE	**Arbavere**	**1.10**	**204**	*e*P	**Pg**	**16 29 18.5**	**-0.3**
ARBE				*e*S	**Sg**	**16 29 32.4**	**-0.7**
HEL5	**Espoo, Suvisaa**	**1.11**	**254**	*e*P	**Pg**	**16 29 18.8**	**-0.1**
HEL5				*e*S	**Sg**	**16 29 33.3**	**+0.1**
MEF	**Metsahovi**	**1.25**	**261**	*e*P	**Pg**	**16 29 21.7**	**0.0**
MEF	**Metsahovi**	**1.25**	**261**	*e*P	**Pg**	**16 29 21.5**	**-0.1**
MEF				*e*S	**Sg**	**16 29 37.9**	**+0.1**
RUF	**Ruokolahti**	**1.42**	**45**	*e*P	**Pn**	**16 29 24.4**	**-0.1**
RUF				*e*S	**Sb**	**16 29 42.5**	**-0.9**
KAF	**Kangasniemi**	**1.70**	**351**	*e*P	**Pb**	**16 29 29.2**	**-0.5**
KAF				*e*S	**Sg**	**16 29 51.8**	**-0.4**
KAF				MSG		16 29 54.1	
	comp=Z,3.4nm,0.1s						
TVF	**Tvarminne**	**1.90**	**253**	*e*P	**Pb**	**16 29 32.9**	**-0.2**
TVF				*e*S	**Sb**	**16 29 57.5**	**+0.2**
TVF				MSG		16 29 59.3	
	comp=Z,1.6nm,0.1s						
KEF	**Keuruu**	**1.98**	**332**	*e*P	**Pb**	**16 29 34.0**	**-0.4**
KEF	**Keuruu**	**1.98**	**332**	*e*P	**Pb**	**16 29 34.0**	**-0.4**
KEF				MSG		16 30 03.1	
	comp=Z,2.9nm,0.1s						
VSU	**Vasula**	**1.99**	**182**	*e*P	**Pn**	**16 29 33.2**	**+0.9**
VSU				*e*S	**Sn**	**16 29 58.4**	**+0.7**
RAF	**Rauma**	**2.57**	**285**	*e*P	**Pb**	**16 29 42.4**	**-2.1**
JOF	**Joensuu**	**3.27**	**39**	*e*P	**Pn**	**16 29 51.3**	**+1.4**
HFS	**Hagfors**	**6.56**	**273**	Sn	**Sn**	**16 31 50.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=84,slow=26,SNR=1.6						
HFS				Lg	Lg	16 32 22.9	
	comp=Z,0.3nm,0.3s,baz=81,slow=30,SNR=5.7						
NOA	**NORSAR Array B**	**7.69**	**281**	Pn	Pn	16 30 57.2	+6.5
	baz=92,slow=10,SNR=7.3						
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**9.15**	**357**	Pn	**Pn**	**16 31 10.7**	**+0.1**
	baz=171,slow=12,SNR=1.7						
	comp=Z,1.0nm,0.8s						

*IDC **07** 16:42:53.4±1.2,14.34N×121.87E,h0km,mb3.6/5, mbtmp3.6/5,MS3.2/3,Error ellipse: s-maj=22.2km s-min=13.1km az=173.0*
ISC 07 16:42:54.9±1.4,14.3N±0.2×121.8E±0.2,h10km,n8, σ1§67/6,mb3.6/5,MS3.3/3,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.86**	**258**	Pg	**Pb**	**16 43 11.7**	**-0.3**
	1μm,0.3s,baz=61,slow=1.8,SNR=52						
TGY				Lg	Lg	16 43 23.9	
	2μm,0.3s,baz=120,slow=20,SNR=5.6						
CMAR	**Chiang Mai Arr**	**22.32**	**284**	P	**P**	**16 47 53.4**	**+0.5**
	1.4nm,0.6s,baz=99,slow=7.9,SNR=10.0						
CMAR				LR	LR	16 56 07.8	
	comp=Z,25nm,21.6s,baz=70,slow=36						
	1.4nm,0.6s						
SONM	**Songino Array**	**35.82**	**342**	LR	LR	17 04 56.5	
	comp=Z,55nm,19.0s,baz=182,slow=37						
WRA	**Warramunga Arr**	**36.18**	**160**	P	**P**	**16 49 57.2**	**-0.6**
	0.3nm,0.6s,baz=338,slow=8.8,SNR=1.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**39.53**	**162**	P	**P**	**16 50 26.9**	**+0.8**
	0.5nm,0.6s,baz=347,slow=10,SNR=8.4						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**46.21**	**323**	P	**P**	**16 51 21.9**	**+1.8**
	1.0nm,0.9s,baz=122,slow=7.1,SNR=6.6						
	1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**50.31**	**325**	P	**P**	**16 51 49.6**	**-2.0**
	1.2nm,0.9s,baz=121,slow=8.3,SNR=7.5						
	1.2nm,0.9s						
AKTO	**Aktyubinsk**	**62.46**	**320**	LR	LR	17 21 55.8	
	comp=Z,25nm,18.3s,baz=242,slow=38						

*IDC **07** 16:54:30.5±2.1,34.66N×45.16E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=47.8km s-min=26.7km az=159.0*
*TEH **07** 16:54:32.7,34.61N×45.45E,h9km±39km*
*ISN **07** 16:54:32.1±0.3,34.58N×45.37E,h14km±2km,ML3.3*
ISC 07 16:54:32.7±1.4,34.58N±0.04×45.39E±0.04,h12km±9km, n32,σ1§64/36,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**113**	Pg	**Pg**	**16 54 36.8**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.63**	**137**	Pg	**Pg**	**16 54 44.7**	**-0.2**
IDHR	**Dehrash**	**0.83**	**81**	Pg	**Pg**	**16 54 47.6**	**-1.2**
IGHG	**Ghaleghazi**	**1.00**	**104**	Pg	**Pg**	**16 54 51.4**	**-0.7**
IKRK	**Kirkuk**	**1.19**	**314**	*e*Pn	**Pg**	**16 54 56.0**	**+0.4**
IKRK				*e*Sn	**Sn**	**16 55 13.5**	**+2.2**
IKRK				AML	AML	16 55 15.6	
	comp=N,701nm,0.6s						
IKRK				AML	AML	16 55 16.5	
	comp=E,909nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.40**	**102**	Pg	**Pn**	**16 54 58.9**	**+0.7**
IBDR	**Badra**	**1.53**	**163**	*e*Pn	**Pn**	**16 55 01.0**	**+1.2**
IBDR				*e*Sn	**Sn**	**16 55 22.0**	**+2.4**
IBDR				AML	AML	16 55 34.8	
	comp=E,337nm,0.5s						
IBDR				AML	AML	16 55 38.6	
	comp=N,280nm,0.6s						
BHD	**Baghdad**	**1.55**	**213**	*e*Pn	**Pn**	**16 55 01.0**	**+0.9**
BHD				*e*Sn	**Sn**	**16 55 22.0**	**+1.9**
BHD				AML	AML	16 55 26.1	
	comp=E,929nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.86**	**81**	Pn	**Pn**	**16 55 06.5**	**+1.8**
IBZA	**Bozab**	**2.04**	**92**	Pn	**Pn**	**16 55 09.3**	**+2.2**
MAHB	**Mahabad**	**2.20**	**7**	Pn	**Pn**	**16 55 10.7**	**+1.5**
IDOB	**Doab**	**2.44**	**108**	Pn	**Pn**	**16 55 13.7**	**+1.1**
RAFI	**Al-Rafai**	**2.91**	**168**	*e*Pn	**Pn**	**16 55 20.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**16 55 55.0**	**+1.4**
RAFI				AML	AML	16 56 20.0	
	comp=N,267nm,0.1s						
RAFI				AML	AML	16 56 30.0	
	comp=E,172nm,0.6s						
BDRS	**Dareh Seyedi**	**2.96**	**101**	Pn	**Pn**	**16 55 21.3**	**+1.6**
HGHA	**Hamedan- Ghaye**	**2.99**	**71**	Pn	**Pn**	**16 55 21.7**	**+1.7**
HAGD	**Aghdareh**	**3.10**	**84**	Pn	**Pn**	**16 55 22.9**	**+1.2**
IAZR	**Azarshahr**	**3.13**	**9**	Pn	**Pn**	**16 55 24.1**	**+2.0**
GRMI	**Germi**	**4.68**	**25**	Pn	**Pn**	**16 55 44.9**	**+1.7**
IQOM	**Qom**	**4.69**	**85**	Pn	**

RAO Raoul Island 14.14 147 LR LR 17 03 23.0
comp=Z,654nm,21.7s,baz=297,slow=32
HNR Honiara 15.35 300 LR LR 17 04 32.6
comp=Z,241nm,19.5s,baz=86,slow=34
URZ Urewera 20.93 172 LR LR 17 06 51.3
comp=Z,1µm,21.6s,baz=12,slow=32
RTZ Ruatahuna 21.27 172 P **P** **17 00 38.7 0.0**
RTZ IAmb IAmb 17 00 59.5
comp=Z,38nm,1.2s
BKZ Black Stump Fm 21.75 174 P **P** **17 00 45.7 +1.8**
BKZ IAmb IAmb 17 01 22.6
comp=Z,18nm,1.2s
BFZ Birch Farm 23.23 175 P **P** **17 00 60.0 +0.6**
TKNZ Takaka Hill 23.46 181 P **P** **17 01 04.2 +2.5**
TCW Tory Channel 23.64 178 P **P** **17 01 04.1 +0.6**
THZ Tophouse 24.18 181 P **P** **17 01 09.7 +1.0**
LTZ Lake Taylor 25.22 182 P **P** **17 01 20.0 +1.9**
LTZ IAmb IAmb 17 01 32.4
comp=Z,21nm,1.2s
RAR Rarotonga 25.55 103 LR LR 17 09 06.9
comp=Z,196nm,21.2s,baz=281,slow=31
CTAO Charters Tower 25.83 260 P **P** **17 01 24.4 +0.6**
CTAO IAmb IAmb 17 01 26.5
comp=Z,10nm,1.1s
RPZ Rata Peaks 26.21 184 LR LR 17 11 09.0
comp=Z,867nm,18.3s,baz=320,slow=35
PMG Port Moresby 26.74 284 LR LR 17 10 48.5
comp=Z,410nm,19.1s,baz=104,slow=34
STKA Stephens Creek 32.12 238 P **P** **17 02 20.0 +0.3**
STKA Stephens Creek 32.12 238 P **P** **17 02 19.8 +0.1**
comp=Z,7.9nm,0.8s,baz=61,slow=10,SNR=9.4
STKA LR LR 17 15 51.1
comp=Z,87nm,18.9s,baz=56,slow=37
comp=Z,7.9nm,0.8s
PPT Papeete 35.26 96 LR LR 17 13 47.3
comp=Z,203nm,20.8s,baz=303,slow=30
JAY Jayapura 35.39 291 LR LR 17 16 24.3
comp=Z,116nm,20.3s,baz=144,slow=35
WR8 Warramunga Arr 36.88 260 P **P** **17 03 00.5 -0.6**
WB0 Warramunga Ar 36.99 260 P **P** **17 03 00.1 -1.9**
WB0 IAmb IAmb 17 03 09.8
comp=Z,6.5nm,0.9s
WRAB Tennant Creek 37.02 260 P **P** **17 03 00.3 -2.0**
WRAB IAmb IAmb 17 03 02.8
comp=Z,7.8nm,1.1s
WRA Warramunga Arr 37.03 260 P **P** **17 02 59.6 -2.8**
WRA Warramunga Arr 37.03 260 P **P** **17 03 00.8 -1.6**
comp=Z,3.7nm,0.9s,baz=92,slow=8.4,SNR=22
WRA LR LR 17 17 09.7
comp=Z,259nm,19.5s,baz=158,slow=35
comp=Z,3.7nm,0.9s
AS31 Alice Springs 37.40 254 P **P** **17 03 04.7 -0.9**
ASAR Alice Springs 37.40 254 P **P** **17 03 04.5 -1.0**
ASAR Alice Springs 37.40 254 P **P** **17 03 04.7 -0.9**
comp=Z,6.0nm,0.8s,baz=87,slow=8.2,SNR=37
ASAR LR LR 17 17 32.8
comp=Z,385nm,20.5s,baz=102,slow=35
comp=Z,6.0nm,0.8s
GUMO Guam 41.81 316 LR LR 17 19 13.9
comp=Z,126nm,21.8s,baz=137,slow=34
FITZ Fitzroy Crossi 45.39 262 LR LR 17 22 27.2
comp=Z,423nm,18.9s,baz=106,slow=35
BATI Baumata 48.73 272 LR LR 17 24 19.8
comp=Z,123nm,20.5s,baz=108,slow=35
JHJ Hachijo jima 2 59.72 327 LR LR 17 26 25.1
comp=Z,55nm,21.4s,baz=114,slow=31
VNDA Vanda 60.32 183 LR LR 17 27 26.4
comp=Z,298nm,21.6s,baz=18,slow=31
SBA Scott Base 60.47 182 P **P** **17 06 01.0 -0.6**
SBA IAmb IAmb 17 06 08.6
comp=Z,4.8nm,0.8s
TGY Tagaytay City 60.55 298 P **P** **17 06 02.7 -0.5**
comp=Z,3µm,0.6s,baz=173,slow=5.5,SNR=42
MJAR Matsushiro Arr 63.20 329 LR LR 17 27 48.1
comp=Z,50nm,21.6s,baz=130,slow=30
JNU Nakatsue 64.69 321 LR LR 17 28 58.2
comp=Z,61nm,21.2s,baz=100,slow=31
LEM Lembang 64.92 271 LR LR 17 35 31.9
comp=Z,68nm,20.7s,baz=186,slow=37
ASAJ Asahikawa 67.48 336 LR LR 17 30 32.7
comp=Z,143nm,21.8s,baz=168,slow=31
SHEM Shemya Is, Ala 69.94 0 LR LR 17 30 26.3
comp=Z,54nm,21.5s,baz=293,slow=30
USRK Ussuriysk Ar. 72.12 330 LR LR 17 34 21.1
comp=Z,56nm,20.5s,baz=83,slow=32
QSPA South Pole Qui 72.55 180 P **P** **17 07 18.6 -0.7**
QSPA South Pole Qui 72.55 180 P **P** **17 07 18.4 -0.8**
comp=Z,2.2nm,0.9s,baz=17,slow=3.8,SNR=10
QSPA LR LR 17 35 02.1
comp=Z,117nm,20.1s,baz=55,slow=32
comp=Z,2.2nm,0.9s
PSI Prapat 76.09 277 LR LR 17 43 04.9
comp=Z,72nm,19.0s,baz=158,slow=37
MA2 Magadan 78.99 348 LR LR 17 37 35.7
comp=Z,135nm,20.7s,baz=145,slow=32
KDAK Kodiak Island 80.13 18 LR LR 17 37 02.4
comp=Z,178nm,20.5s,baz=210,slow=31
CMAR Chiang Mai Arr 81.46 292 P **P** **17 08 10.1 +0.1**
comp=Z,0.5nm,0.3s,baz=118,slow=5.5,SNR=14
CMAR LR LR 17 46 22.1
comp=Z,12nm,18.1s,baz=170,slow=37
comp=Z,0.5nm,0.3s
MAW Mawson 81.50 201 LR LR 17 41 12.7
comp=Z,68nm,18.2s,baz=98,slow=33
L19K White Mountain 83.29 14 P **P** **17 08 19.4 +0.7**
J18K Innoko River 83.99 13 P **P** **17 08 23.0 +0.8**
J18K IAmb IAmb 17 08 23.9
comp=Z,4.5nm,0.9s
BBB Bella Bella 85.89 32 LR LR 17 43 03.3
comp=Z,68nm,18.0s,baz=212,slow=33
YAK Yakutsk 86.47 341 LR LR 17 41 05.6
comp=Z,122nm,22.0s,baz=124,slow=31
ILAR Eielson Array 87.44 16 P **P** **17 08 38.1 -1.2**
comp=Z,0.6nm,0.9s,baz=234,slow=6.3,SNR=5.1
comp=Z,0.6nm,0.9s
SONM Songino Array 88.27 322 P **P** **17 08 44.1 +0.2**
comp=Z,0.2nm,0.3s,baz=116,slow=3.4,SNR=1.4
SONM LR LR 17 48 17.8
comp=Z,32nm,18.9s,baz=113,slow=36
comp=Z,0.2nm,0.3s
DLBC Dease Lake 88.72 26 LR LR 17 39 32.1
comp=Z,6.7nm,21.9s,baz=206,slow=30
K29M Barlow Dome 89.47 20 P **P** **17 08 51.1 +1.9**
TROLL Troll, Antarti 90.50 183 ⇓P **P** **17 08 52.1 -1.9**
comp=Z,171nm,0.7s
VNA3 Neumayer Olymp 91.46 179 ⇓P **P** **17 08 55.7 -2.6**
comp=Z,1.6nm,0.8s
VNA1 Neumayer--Stat 92.07 179 ⇓P **P** **17 09 00.5 -0.6**
comp=Z,2.5nm,0.7s
TXAR Lajitas Array 92.46 60 P **P** **17 09 04.9 +1.1**
comp=Z,0.4nm,0.7s,baz=273,slow=5.9,SNR=3.2
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 92.55 46 P **P** **17 09 04.7 +0.7**
comp=Z,0.1nm,0.4s,baz=284,slow=4.9,SNR=1.5
comp=Z,0.1nm,0.4s
INK Inuvik 93.68 17 LR LR 17 45 50.4
comp=Z,107nm,20.0s,baz=244,slow=32
TIXI Tiksi 93.90 347 LR LR 17 50 24.5
comp=Z,81nm,18.0s,baz=171,slow=35
H03S2 Juan Fernandez 94.32 127 T T 18 53 05.5
baz=242,slow=74,SNR=41
H03S1 Juan Fernandez 94.33 127 T T 18 53 06.8
baz=242,slow=74,SNR=45
H03S3 Juan Fernandez 94.34 127 T T 18 53 05.4
baz=242,slow=74,SNR=40
H03N2 Juan Fernandez 94.48 127 T T 18 53 17.8
baz=240,slow=74,SNR=5.8
H03N3 Juan Fernandez 94.48 127 T T 18 53 21.5
baz=240,slow=74,SNR=5.2
H03N1 Juan Fernandez 94.49 127 T T 18 53 17.2
baz=240,slow=74,SNR=10
PALK Pallekele 94.72 276 LR LR 17 53 33.0
comp=Z,43nm,19.6s,baz=134,slow=37
YKA Yellowknife Ar 97.33 26 LR LR 17 47 34.8
comp=Z,95nm,20.6s,baz=252,slow=32
GERES GERESS Array B 144.65 337 PKP PKPbc 17 15 28.4 +0.5
comp=Z,0.7nm,0.9s,baz=7.6,slow=1.5,SNR=4.7
H10S2 ASCENSION HYDR 152.53 163 T T 20 08 08.2
baz=16,slow=74,SNR=5.6
H10S3 ASCENSION HYDR 152.53 162 T T 20 08 04.9
baz=204,slow=74,SNR=6.9
H10N3 ASCENSION HYDR 153.63 162 T T 20 09 20.1
baz=203,slow=75,SNR=9.5
H10N1 ASCENSION HYDR 153.64 162 T T 20 09 22.0
baz=203,slow=75,SNR=9.9
H10N2 ASCENSION HYDR 153.65 162 T T 20 09 19.4
baz=203,slow=75,SNR=10

*VAO **07** 17:00:16.8±2.4,23°.34S×70°.72W,h10km,mb4.4*
*SJA **07** 17:01:02.8±0.6,20°.46S×68°.84W,h109km±6km, ML4.3, MW4.1*
*NEIC **07** 17:01:03.5±0.8,20°.53S±0°.06×68°.86W±0°.09,h113km±6km, mb3.9/1, ML4.1(GUC), Error ellipse: s-maj=12.8km s-min=7.9km az=105.0*
*GUC **07** 17:01:05.4±0.8,20°.50S×68°.91W,h102km±5km, ML4.1*
*IDC **07** 17:01:05.2±0.8,20°.47S×68°.65W,h113km±7km, mb3.6/5, mbtmp3.9/8, MS2.5/1, Error ellipse: s-maj=30.1km s-min=12.3km az=94.0*

ISC 07 17:01:03.5±0.6, 20°.47S±0°.03×68°.84W±0°.06, h108km±5km, n69, σ1§15/86, mb4.0/3, 6C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.44**	**318**			**Pn**	**17 01 20.8**	**+0.6**
PB08	**IPOC Station P**	**0.44**	**318**	*i*	P	**Pn**	**17 01 21.1**	**+0.8**
PB08				*i*	S	**Sn**	**17 01 33.2**	**+0.4**
PB08					IAML		17 01 34.4	
	comp=E,10µm,0.3s							
PB08	**IPOC Station P**	**0.44**	**318**	*e*	P	**Pn**	**17 01 20.3**	**+0.1**
PX03	**IPOC Station P**	**0.75**	**275**	*i*	P	**Pn**	**17 01 21.6**	**-0.6**
PX03				*i*	S	**Sn**	**17 01 35.7**	**-0.5**
PB01	**IPOC Station P**	**0.83**	**227**			**Pn**	**17 01 22.9**	**-0.1**
PB01	**IPOC Station P**	**0.83**	**227**	⇑	P	**Pn**	**17 01 23.3**	**+0.2**
PB01				*i*	S	**Sn**	**17 01 37.6**	**-0.1**
PB01					IAML		17 01 39.0	
	comp=E,7µm,0.2s							
PB01	**IPOC Station P**	**0.83**	**227**	*e*	P	**Pn**	**17 01 23.0**	**-0.1**
PB01				*e*	S	**Sn**	**17 01 38.0**	**+0.3**
PB01					IAML		17 01 38.8	
	comp=Z,4µm,0.4s							
GO01	**Chusmiza**	**0.86**	**337**			**Pn**	**17 01 24.5**	**+0.8**
GO01	**Chusmiza**	**0.86**	**337**	⇓	P	**Pn**	**17 01 24.8**	**+1.1**
GO01				*i*	S	**Sn**	**17 01 40.0**	**+1.1**
HMBC	**Humberstone**	**1.00**	**281**			**Pn**	**17 01 24.7**	**-0.1**
HMBC	**Humberstone**	**1.00**	**281**	⇑	P	**Pn**	**17 01 24.6**	**-0.1**
HMBC				*i*	S	**Sn**	**17 01 40.0**	**-0.7**
HMBC	**Humberstone**	**1.00**	**281**	*e*	P	**Pn**	**17 01 24.6**	**-0.1**
HMBC				*e*	S	**Sn**	**17 01 40.9**	**+0.2**
HMBC					IAML		17 01 44.1	
	comp=Z,6µm,0.4s							
PB11	**IPOC Station P**	**1.04**	**312**			**Pn**	**17 01 25.5**	**+0.3**
PB11	**IPOC Station P**	**1.04**	**312**	⇓	P	**Pn**	**17 01 25.8**	**+0.6**
PB11				*i*	S	**Sn**	**17 01 42.0**	**+0.5**
PB11	**IPOC Station P**	**1.04**	**312**	*e*	P	**Pn**	**17 01 25.5**	**+0.3**
PB11				*e*	S	**Sn**	**17 01 42.2**	**+0.7**
PB11					IAML		17 01 42.7	
	comp=Z,10µm,0.2s							
TA02	**Huaiquique**	**1.23**	**279**			**Pn**	**17 01 27.2**	**+0.2**
TA02	**Huaiquique**	**1.23**	**279**	*e*	P	**Pn**	**17 01 27.2**	**+0.2**
TA02				*i*	S	**Sn**	**17 01 44.2**	**-0.7**
TA01	**Diego Aracena**	**1.26**	**265**			**Pn**	**17 01 27.1**	**-0.3**
TA01	**Diego Aracena**	**1.26**	**265**	⇑	P	**Pn**	**17 01 27.2**	**-0.2**
TA01				*i*	S	**Sn**	**17 01 44.4**	**-1.1**
TA01					IAML		17 01 45.3	
	comp=E,4µm,0.4s							
PATCX	**Punta Patache**	**1.28**	**254**			**Pn**	**17 01 27.5**	**-0.2**
PATCX	**Punta Patache**	**1.28**	**254**	⇑	P	**Pn**	**17 01 27.6**	**0.0**
PATCX				*i*	S	**Sn**	**17 01 44.8**	**-1.3**
PATCX					IAML		17 01 50.8	
	comp=E,5µm,0.5s							
PATCX	**Punta Patache**	**1.28**	**254**	*e*	P	**Pn**	**17 01 27.7**	**0.0**
PATCX				*e*	S	**Sn**	**17 01 46.7**	**+0.6**
PATCX					IAML		17 01 51.5	
	comp=Z,2µm,0.3s							
PB02	**IPOC Station P**	**1.30**	**229**			**Pn**	**17 01 27.9**	**-0.1**
PB02	**IPOC Station P**	**1.30**	**229**	⇑	P	**Pn**	**17 01 28.2**	**+0.2**
PB02				*i*	S	**Sn**	**17 01 46.1**	**-0.4**
PB02					IAML		17 01 51.1	
	comp=E,4µm,0.3s							
PB02	**IPOC Station P**	**1.30**	**229**	*e*	P	**Pn**	**17 01 28.2**	**+0.2**
PB02				*e*	S	**Sn**	**17 01 47.4**	**+0.9**
PB02					IAML		17 01 48.7	
	comp=Z,3µm,0.2s							
PB09	**IPOC Station P**	**1.38**	**196**			**Pn**	**17 01 29.2**	**+0.2**
PB09	**IPOC Station P**	**1.38**	**196**	⇑	P	**Pn**	**17 01 29.8**	**+0.9**
PB09				*i*	S	**Sn**	**17 01 49.0**	**+0.9**
PB09	**IPOC Station P**	**1.38**	**196**	*e*	P	**Pn**	**17 01 29.1**	**+0.2**
PX02	**IPOC Station P**	**1.97**	**319**	*i*	P	**Pn**	**17 01 35.9**	**-0.3**
PB06	**IPOC Station P**	**2.33**	**197**			**Pn**	**17 01 41.5**	**+0.7**
PB06	**IPOC Station P**	**2.33**	**197**	*e*	P	**Pn**	**17 01 41.5**	**+0.7**
PB06	**IPOC Station P**	**2.33**	**197**	*e*	P	**Pn**	**17 01 41.7**	**+0.8**
PB06				*e*	S	**Sn**	**17 02 10.6**	**+1.2**
PB06					IAML		17 02 15.3	
	comp=Z,635nm,0.4s							
PB05	**IPOC Station P**	**2.69**	**208**			**Pn**	**17 01 44.8**	**-0.7**
PB05	**IPOC Station P**	**2.69**	**208**	*e*	P	**Pn**	**17 01 45.5**	**-0.1**
PB05				*i*	S	**Sn**	**17 02 18.9**	**+1.1**
PB05					IAML		17 02 27.1	
	comp=E,750nm,0.7s							
PB05	**IPOC Station P**	**2.69**	**208**	*e*	P	**Pn**	**17 01 45.1**	**-0.4**
PB05				*e*	S	Sn	17 02 04.5	-13
PB18	**Visviri**	**2.93**	**348**			**Pn**	**17 01 49.9**	**+0.9**
PB10	**IPOC Station P**	**3.42**	**207**			**Pn**	**17 01 54.1**	**-1.0**
PB10	**IPOC Station P**	**3.42**	**207**	⇓	P	**Pn**	**17 01 54.0**	**-1.1**
PB10					IAML		17 02 48.9	
	comp=N,240nm,0.2s							
PB10	**IPOC Station P**	**3.42**	**207**	*e*	P	**Pn**	**17 01 54.6**	**-0.5**
LPAZ	**La Paz**	**4.21**	**9**	P		**Pn**	**17 02 09.7**	**+3.4**
	comp=N,28nm,0.4s,baz=189,slow=5.8,SNR=97							
LPAZ				S		**Sn**	**17 02 56.6**	**+1.7**
	comp=N,12nm,0.6s,baz=219,slow=13,SNR=3.6							
LPAZ				LR		LR	17 04 00.2	
	comp=N,63nm,21.8s,baz=210,slow=42							
LPAZ	**La Paz**	**4.21**	**9**	*e*	P	**Pn**	**17 02 06.0**	**-0.2**
GO02	**Mina Guanaco**	**4.72**	**188**			**Pn**	**17 02 12.0**	**-0.9**
AZAP	**Zapla**	**5.12**	**138**	*e*	P	**Pn**	**17 02 20.4**	**+2.3**
AC01	**Pan de Azucar**	**5.88**	**196**	Pn		**Pn**	**17 02 25.8**	**-2.4**
AC02	**Maricunga**	**6.34**	**182**			**Pn**	**17 02 34.4**	**-0.6**
BBSD	**Serra de San D**	**8.45**	**69**	*e*	P	**Pn**	**17 02 59.0**	**-4.2**
SIV	**San Ignacio**	**8.62**	**60**	P		**Pn**	**17 03 04.5**	**-0.9**
	comp=N,13nm,0.5s,baz=248,slow=10,SNR=70							
PTLB	**Pontes e Lacer**	**10.49**	**63**	*e*	P	**Pn**	**17 03 27.9**	**-3.0**
VILB	**Vilhena**	**11.15**	**49**		P	**Pn**	**17 03 39.1**	**-0.7**
VILB	**Vilhena**	**11.15**	**49**	*e*	P	**Pn**	**17 03 39.0**	**-0.8**
CPUP	**Villa Florida**	**12.07**	**121**	P		**Pn**	**17 03 50.8**	**-1.2**
	comp=N,0.2nm,0.3s,baz=240,slow=19,SNR=1.9							
CLDB	**Colider**	**15.76**	**55**	*e*	P	**Pn**	**17 04 37.4**	**-2.1**
TRQA	**Tornquist**	**18.51**	**163**	P		**P**	**17 05 11.0**	**-0.3**
TRQA				IAmb		IAmb	17 05 13.2	
	comp=Z,5.1nm,0.7s							
PLCA	**Paso Flores**	**20.25**	**184**	P		**P**	**17 05 30.1**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=357,slow=13,SNR=4.7							
	comp=Z,2.6nm,0.8s							
ITTB	**Itatiuba**	**20.46**	**40**	*e*	P	**P**	**17 05 29.2**	**-3.5**
SNAA	**Sanae**	**63.23**	**161**	P		**P**	**17 11 20.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=295,slow=8.1,SNR=8.9							
SNAA				pP		**pP**	**17 11 48.8**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=345,slow=16,SNR=1.5							
	comp=Z,1.3nm,0.7s							
QSPA	**South Pole Qui**	**69.72**	**180**	P		**P**	**17 12 04.2**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=111,slow=8.6,SNR=6.2							
QSPA				pP		**pP**	**17 12 31.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=173,slow=1.9,SNR=1.7							
	comp=Z,1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**76.95**	**71**	P		**P**	**17 12 45.1**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=245,slow=5.4,SNR=1.7							
TORD				pP		**pP**	**17 13 13.6**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=257,slow=4.6,SNR=3.2							
	comp=Z,0.5nm,0.3s							
YKA	**Yellowknife Ar**	**90.24**	**341**	P		**P**	**17 13 52.2**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=117,slow=4.9,SNR=3.6							
YKA				pP		**pP**	**17 14 21.2**	**0.0**
	comp=Z,1.2nm,0.9s,baz=130,slow=4.7,SNR=5.7							
	comp=Z,0.8nm,0.9s							
VYHS	**Vyhne**	**103.55**	**43**	*e*	PDIFF	**Pdif**	**17 14 53.5**	**+1.3**
H11S2	**WAKE ISLAND Hyl**	**27.81**	**278**		T	T	19 39 56.9	
	baz=102,slow=75,SNR=42							
H11S1	**WAKE ISLAND Hyl**	**27.82**	**278**		T	T	19 39 54.3	
	baz=102,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hyl**	**27.83**	**278**		T	T	19 39 55.4	
	baz=102,slow=75,SNR=27							
H11N3	**WAKE ISLAND Hyl**	**27.86**	**279**		T	T	19 40 04.7	
	baz=102,slow=74,SNR=17							
H11N2	**WAKE ISLAND Hyl**	**27.88**	**280**		T	T	19 40 05.1	
	baz=102,slow=74,SNR=17							
H11N1	**WAKE ISLAND Hyl**	**27.88**	**279**		T	T	19 39 59.9	
	baz=102,slow=74,SNR=14							
ASAR	**Alice Springs**	**130.85**	**208**	PKP		**PKPdf**	**17 20 03.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=109,slow=1.8,SNR=5.9							
WRA	**Warramunga Arr**	**133.87**	**211**	PKP		**PKiKP**	**17 20 09.5**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=149,slow=1.8,SNR=4.7							
MKAR	**Makanchi Array**	**144.76**	**35**	PKP		**PKPdf**	**17 20 28.1**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=321,slow=4.8,SNR=6.9							

*IDC **07** 17:02:14.2±1.2, 40°.93N×142°.77E, h0km, mb3.5/9, mbtmp3.5/13, ML2.8/4, MS3.0/1, Error ellipse: s-maj=29.3km s-min=19.0km az=92.0*
*NIED **07** 17:02:17.7, 41°.01N×142°.90E, h16km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.59; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-0.36; $M_{r\theta}$1.18; $M_{\theta\phi}$-0.75; $M_{\phi r}$1.22; Fault plane solution: $M_0$1.88000×10^{14} NP1: ϕ_s219.00000°, δ13.00000°, λ84.00000°. NP2:ϕ_s44.00000°, δ77.00000°, λ91.00000°.*
*JMA **07** 17:02:17.7±0.3, 41°.0N±0°.4×142°.9E±0°.8, h16km±4km, MV3.5/37, E OFF AOMORI PREF*

ISC 07 17:02:15.6±1.5, 40°.96N±0°.05×142°.88E±0°.06, h11km±9km, n37, σ1§03/38, mb3.6/9, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.08**	**11**	*i*	P	**Pg**	**17 02 36.6**	**+0.3**
JEM				*e*	S	**Sg**	**17 02 50.6**	**+0.2**
JARK	**Aomorirokkasho**	**1.14**	**273**		P	**Pn**	**17 02 38.8**	**+1.3**
JKEN	**Kujiedanarisaw**	**1.16**	**230**		P	**Pn**	**17 02 39.5**	**+1.7**
JANG	**Nango**	**1.19**	**241**	*i*	P	**Pn**	**17 02 40.0**	**+1.8**
JAHD	**Aomorihigashid**	**1.20**	**285**	⇓	iP	**Pn**	**17 02 39.6**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.32**	**356**	*i*	P	**Pb**	**17 02 40.8**	**+0.4**
JTM	**Tenmabayashi**	**1.38**	**263**	*i*	P	**Pg**	**17 02 43.1**	**+1.0**
JTM					S	**Sg**	**17 03 01.5**	**+1.4**
JOT	**Ohata**	**1.44**	**288**	⇓	iP	**Pg**	**17 02 43.2**	**-0.2**
JKB	**Kayabe**	**1.67**	**304**	⇓	iP	**Pb**	**17 02 46.0**	**-0.3**
JCH	**Churui**	**1.69**	**12**	P		**Pn**	**17 02 45.3**	**+0.2**
JCH				*e*	S	**Sn**	**17 03 05.6**	**-1.1**
JIAM	**Iburiatsuma**	**1.81**	**337**	P		**Pb**	**17 02 49.2**	**+0.5**
JBT2	**Biratori 2**	**1.86**	**348**	*e*	P	**Pb**	**17 02 49.1**	**-0.4**
JAH	**Hinai**	**1.87**	**246**	*i*	P	**Pg**	**17 02 50.8**	**-0.7**
JAH				*e*	S	**Sg**	**17 03 14.8**	**-1.0**
JOM	**Ohasama**	**1.92**	**220**	*e*	P	**Pg**	**17 02 51.7**	**-0.7**
JSR	**Shiriuchi**	**1.94**	**288**	*e*	P	**Pb**	**17 02 51.3**	**+0.4**
JSR					S	**Sg**	**17 03 16.1**	**-1.9**
JEW	**Eniwo**	**2.16**	**331**	P		**Pb**	**17 02 54.0**	**-0.7**
JOMM	**Oshimamatsumae**	**2.24**	**286**	*e*	P	**Pb**	**17 02 54.9**	**-1.1**
JAR	**Ashorobuto**	**2.43**	**16**	*i*	P	**Pn**	**17 02 55.2**	**-0.1**
JAR				*e*	S	**Sn**	**17 03 22.9**	**-2.0**
ASAJ	**Asahikawa**	**3.16**	**356**	Pn		**Pn**	**17 03 07.0**	**+1.7**
	2.5nm,0.3s,baz=199,slow=17,SNR=18							
ASAJ						Sn	**Sn**	**17 03 43.9**	**+0.9**
	1.8nm,0.3s,baz=195,slow=16,SNR=5.2							
	8.1nm,0.3s							
MJAR	**Matsushiro Arr**	**5.72**	**221**	Pn		**Pn**	**17 03 41.0**	**+0.5**
	baz=25,slow=9.8,SNR=1.4							
	1.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**8.66**	**296**	Pn		**Pn**	**17 04 21.6**	**+0.8**
	0.1nm,0.3s,baz=133,slow=13,SNR=4.5							
	1.2nm,0.7s							
KSRS	**Korea Array**	**12.12**	**258**	Pn		**Pn**	**17 05 07.1**	**-1.0**
	baz=76,slow=15,SNR=2.3							
	0.7nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**29.45**	**129**	T		T	17 39 23.9	
	baz=322,slow=74							
H11N1	**WAKE ISLAND Hy**	**29.46**	**129**	T		T	17 39 28.7	
	baz=322,slow=74							
H11N3	**WAKE ISLAND Hy**	**29.47**	**129**	T		T	17 39 20.7	
	baz=322							
H11S1	**WAKE ISLAND Hy**	**30.29**	**131**	T		T	17 40 50.8	
	baz=324							
H11S3	**WAKE ISLAND Hy**	**30.30**	**131**	T		T	17 40 55.5	
	baz=324							
H11S2	**WAKE ISLAND Hy**	**30.31**	**131**	T		T	17 40 59.9	
	baz=324							
ZALV	**Zalesovo Beam**	**40.22**	**309**	P		**P**	**17 09 51.2**	**-0.7**
	0.3nm,0.3s,baz=84,slow=8.6,SNR=3.5							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**43.11**	**299**	P		**P**	**17 10 15.8**	**0.0**
	0.2nm,0.6s,baz=82,slow=10,SNR=2.2							
MKAR				LR		LR	17 28 54.4	
	comp=Z,20nm,21.7s,baz=236,slow=37							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**44.58**	**305**	P		**P**	**17 10 27.2**	**-0.2**
	0.5nm,0.4s,baz=82,slow=8.9,SNR=4.3							
	0.5nm,0.4s							
ILAR	**Eielson Array**	**45.59**	**34**	P		**P**	**17 10 37.2**	**+1.8**
	0.2nm,0.6s,baz=263,slow=6.7,SNR=1.5							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**48.85**	**310**	P		**P**	**17 11 00.5**	**-0.4**
	0.5nm,0.6s,baz=79,slow=9.1,SNR=4.7							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**61.11**	**189**	P		**P**	**17 12 29.6**	**-0.2**
	0.5nm,1.1s,baz=6.8,slow=6.5,SNR=2.1							
	0.5nm,1.1s							
ASAR	**Alice Springs**	**64.83**	**189**	P		**P**	**17 12 54.2**	**-0.3**
	0.3nm,0.9s,baz=6.2,slow=7.3,SNR=1.7							
	0.3nm,0.9s							
FINES	**FINESS Array B**	**65.88**	**332**	P		**P**	**17 13 00.0**	**-0.8**
	0.8nm,0.7s,baz=17,slow=7.0,SNR=4.7							
	0.8nm,0.7s							
HFS	**Hagfors**	**70.98**	**336**	P		**P**	**17 13 32.9**	**+0.1**
	1.8nm,1.0s,baz=27,slow=9.7,SNR=2.1							
	1.8nm,1.0s							

*IDC **07** 17:22:01.6±1.5, 20°.27N×109°.07W, h0km, mb3.7/4, mbtmp3.8/9, ML3.5/5, MS3.7/17, Error ellipse: s-maj=41.8km s-min=27.9km az=83.0*

ISC 07 17:22:07.3±1.4, 20°.5N±0°.1×109°.2W±0°.1, h35km, n27, σ2§01/12, mb3.7/3, MS3.7/13, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.38**	**224**		T	T	17 25 09.5	
	SNR=40							
LPIG	**La Paz**	**3.74**	**344**	Pn		**Pn**	**17 23 03.6**

comp=Z,163nm,20.1s,baz=302,slow=36
H03N2 Juan Fernandez 60.91 151 T T 18 38 22.2
baz=329,slow=77,SNR=9.2
H03N1 Juan Fernandez 60.92 151 T T 18 38 22.3
baz=329,slow=77,SNR=8.7
H03N3 Juan Fernandez 60.92 151 T T 18 38 21.1
baz=329,slow=77,SNR=8.1
BORG Borgarnes 70.75 27 LR LR 18 03 52.0
comp=Z,120nm,19.3s,baz=304,slow=35
SPITS Spitsbergen Ar 76.80 10 LR LR 18 08 01.1
comp=Z,83nm,18.5s,baz=320,slow=36
FINES FINESS Array B 90.83 20 P **P 17 35 05.6 -1.2**
2.0nm,0.9s,baz=334,slow=12,SNR=3.1
2.0nm,0.9s
GERES GERESS Array B 94.28 34 LR LR 18 17 13.6
comp=Z,72nm,19.6s,baz=86,slow=35
JHJ Hachijo jima 2 95.35 308 LR LR 18 12 52.9
comp=Z,26nm,19.4s,baz=85,slow=32
VRAC Vranov 95.47 32 LR LR 18 17 38.4
comp=Z,53nm,19.1s,baz=30,slow=35
WRA Warramunga Arr 120.76 258 PKP **PKiKP 17 40 56.4 -0.2**
0.5nm,1.1s,baz=74,slow=2.5,SNR=1.9
ASAR Alice Springs 121.89 254 PKP **PKiKP 17 40 58.6 0.0**
0.2nm,0.5s,baz=95,slow=2.3,SNR=5.3

*NEIC **07** 17:32:37.2±1.8,35.12°N±0.02°×95.36°W±0.02,h5km±1km, mb_Lg2.2/15,ML2.4/7,ML2.5/12, Error ellipse: s-maj=3.8km s-min=2.9km az=129.0*
NEIC 07 17:32:38.0±2.9,35.13N±0.02°×95.40W±0.02,h7km±1km, Error ellipse: s-maj=3.5km s-min=2.9km az=137.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.84**	**338**		Pg	17 32 53.3	-0.9
TUL3					Sb	17 33 05.9	-0.6
RLO	**Rose Lookout**	**1.08**	**17**		Pb	17 32 58.9	-0.1
RLO					Sg	17 33 12.8	0.0
DEOK	**Depew**	**1.14**	**309**		Pg	17 32 59.2	-0.7
DEOK					Sg	17 33 14.8	-0.1
DEOK				IAML		17 33 21.6	
	comp=E,62nm,0.3s						
OK052	**Battle Ridge R**	**1.43**	**307**		Pn	17 33 04.0	-0.4
OK052					Sn	17 33 23.7	+0.2
QUOK	**Quay**	**1.49**	**315**		Pn	17 33 04.6	-0.6
QUOK					Pb	17 33 05.2	-0.8
U38A	**Gravette**	**1.55**	**32**		Pn	17 33 04.8	-1.2
MIAR	**Mount Ida**	**1.61**	**111**		Pn	17 33 06.4	-0.5
MIAR					Sg	17 33 29.2	-0.5
FNO	**Franklin**	**1.64**	**275**		Pn	17 33 07.6	+0.3
FNO					Sg	17 33 30.6	-0.1
HHAR	**Hobbs**	**1.66**	**46**		Sg	17 33 30.9	-0.3
OK029	**Liberty Lake**	**1.80**	**292**		Pn	17 33 10.2	+0.7
OK029					Sg	17 33 35.6	-0.4
T35A	**Sooner Cattle**	**2.00**	**334**	Pn	Pn	17 33 12.8	+0.6
WLAR	**White Oak Lake**	**2.38**	**127**	IAmb_Lg		17 33 57.5	
	comp=Z,9.9nm,0.8s						
UALR	**University of**	**2.54**	**97**	IAmb_Lg		17 33 57.2	
	comp=Z,20nm,1.1s						
FCAR	**Ozark Folk Cen**	**2.78**	**73**		Pb	17 33 26.1	-1.9
FCAR				IAmb_Lg		17 34 04.5	
	comp=Z,5.5nm,0.7s						
MGMO	**Mountain Grove**	**3.24**	**51**	IAmb_Lg		17 34 24.0	
	comp=Z,4.5nm,0.8s						
SMWD	**Samnorwood**	**3.97**	**271**	IAmb_Lg		17 34 54.1	
	comp=Z,5.0nm,0.7s						
R40A	**Maddies Statio**	**4.04**	**38**	IAmb_Lg		17 34 49.9	
	comp=Z,4.9nm,0.7s						
CCM	**Cathedral Cave**	**4.44**	**48**	IAmb_Lg		17 35 06.4	
	comp=Z,3.1nm,0.8s						
P38A	**Dawn**	**4.73**	**18**	IAmb_Lg		17 35 05.4	
	comp=Z,5.2nm,0.8s						

DJA 07 18:05:37.4±0.3,1°S±2°×12°8E±°,h10km,M3.8/12,mb4.2/4, MLv3.6/12,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**334**	P	Pn	18 06 07.9	-0.4
TNTI				S	Sb	18 06 32.4	-0.2
SANI	**Sanana**	**2.47**	**241**	P	Pn	18 06 16.8	-1.0
SANI				S	Sn	18 06 48.2	+0.1
NLAI	**Namlea**	**2.60**	**204**	P	Pn	18 06 19.8	+0.2
NLAI				S	Sn	18 06 51.2	-0.1
MSAI	**Masohi**	**2.61**	**163**	P	Pn	18 06 20.8	+1.1
AAI	**Ambon**	**2.83**	**179**	P	Pn	18 06 23.6	+0.9
SWI	**Sorong**	**3.11**	**90**	P	Pn	18 06 25.6	-0.9
FAKI	**Fak Fak**	**4.59**	**117**	P	Pn	18 06 46.2	-0.7
LUWI	**Luwuk**	**5.38**	**268**	P	Pn	18 06 57.5	-0.3
	0.1nm24nm,1.2s						
APSI	**Ampana**	**6.50**	**269**	P	Pn	18 07 13.7	+0.5
	42nm,1.1s						

*IDC **07** 18:08:20.5±8.7,18.34°S×177.79°W,h626km±79km,mb3.2/6, mbtmp4.3/6,Error ellipse: s-maj=92.5km s-min=33.3km az=49.0*
*NEIC **07** 18:08:20.4±1.0,18.5°S±0.2°×177.64°W±0.10,h625km±12km, mb4.4/19,Error ellipse: s-maj=24.7km s-min=13.6km az=172.0*
ISC 07 18:08:19.7±0.7,18.4S±0.1°×177.58W±0.10,h625km,n28, σ1§08/30,mb4.2/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.21**	**279**	P	**P**	**18 09 49.9**	**+1.3**
AFI	**Afiamalu**	**7.15**	**52**	P	**P**	**18 10 12.7**	**+0.3**
NIUE	**Niue**	**7.28**	**96**	P	**P**	**18 10 13.0**	**-0.4**
RAR	**Rarotonga**	**16.99**	**102**	P	**P**	**18 11 43.9**	**-1.1**
URZ	**Urewera**	**20.31**	**192**	P	**P**	**18 12 15.9**	**+0.9**
	5.7nm,0.9s,baz=41,slow=9.3,SNR=1.2						
	5.7nm,0.9s						
HNR	**Honiara**	**23.55**	**289**	P	**P**	**18 12 43.4**	**-0.7**
THZ	**Tophouse**	**24.66**	**197**	P	**P**	**18 12 52.9**	**-0.7**
THZ				IAmb	IAmb	18 13 28.0	
	comp=Z,21nm,1.3s						
KHZ	**Kahutara**	**25.09**	**196**	P	**P**	**18 12 58.9**	**+1.6**
KHZ				IAmb	IAmb	18 13 22.8	
	comp=Z,21nm,1.3s						
GVZ	**Greta Valley S**	**25.74**	**196**	P	**P**	**18 13 04.4**	**+1.4**
INZ	**Inchbonnie**	**25.97**	**199**	P	**P**	**18 13 06.6**	**+1.6**
CTAO	**Charters Tower**	**34.15**	**261**	P	**P**	**18 14 14.7**	**-0.6**
CTAO				IAmb	IAmb	18 14 53.8	
	comp=Z,7.0nm,1.4s						
COEN	**Coen**	**37.90**	**271**	P	**P**	**18 14 46.2**	**+0.1**
COEN				IAmb	IAmb	18 14 55.7	
	comp=Z,11nm,1.2s						
MANU	**Manus Island**	**38.01**	**291**	P	**P**	**18 14 47.1**	**0.0**
MANU				IAmb	IAmb	18 15 02.9	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**39.09**	**242**	P	**P**	**18 14 56.2**	**+0.8**
	comp=Z,4.6nm,1.0s,baz=81,slow=13,SNR=2.7						
	comp=Z,4.6nm,1.0s						
JAY	**Jayapura**	**43.80**	**286**	P	**P**	**18 15 31.9**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=102,slow=8.2,SNR=4.6						
	comp=Z,6.8nm,0.8s						
BBOO	**Buckleboo**	**43.86**	**242**	P	**P**	**18 15 33.2**	**+0.3**
BBOO				IAmb	IAmb	18 16 12.1	
	comp=Z,30nm,1.1s						
WR8	**Warramunga Arr**	**45.17**	**260**	P	**P**	**18 15 42.2**	**-0.8**
WRAB	**Tennant Creek**	**45.31**	**260**	P	**P**	**18 15 43.1**	**-1.0**
WRAB				IAmb	IAmb	18 15 43.7	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**45.32**	**260**	P	**P**	**18 15 43.0**	**-1.2**
WRA	**Warramunga Arr**	**45.32**	**260**	P	**P**	**18 15 43.0**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=97,slow=7.2,SNR=90						
WRA				PcP	**PcP**	**18 17 09.8**	**-0.4**
	comp=Z,1.7nm,1.3s,baz=92,slow=3.2,SNR=2.9						
	comp=Z,1.4nm,0.3s						
AS31	**Alice Springs**	**45.42**	**255**	P	**P**	**18 15 44.5**	**-0.4**
ASAR	**Alice Springs**	**45.42**	**255**	P	**P**	**18 15 44.0**	**-0.9**
ASAR	**Alice Springs**	**45.42**	**255**	P	**P**	**18 15 44.2**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=92,slow=7.7,SNR=95						
ASAR				PcP	**PcP**	**18 17 10.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=102,slow=4.2,SNR=6.0						
	comp=Z,3.3nm,0.6s						
KNRA	**Kununurra**	**51.22**	**264**	P	**P**	**18 16 27.5**	**-0.3**
KNRA				IAmb	IAmb	18 16 38.1	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.73**	**261**	P	**P**	**18 16 42.4**	**-3.2**
FITZ	**Fitzroy Crossi**	**53.73**	**261**	P	**P**	**18 16 44.9**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=127,slow=5.1,SNR=6.4						
	comp=Z,2.9nm,1.0s						

SOEI	**Soe**	**56.86**	**270**	P	**P**	**18 17 07.4**	**-0.1**
SOEI				IAmb	IAmb	18 17 22.6	
	comp=Z,32nm,1.3s						
LVA	**Lava Point**	**72.95**	**7**	P	**P**	**18 18 47.9**	**+0.9**
LVA				IAmb	IAmb	18 19 04.9	
	comp=Z,43nm,1.2s						

*NEIC **07** 18:15:23.2±2.3,0.04°S±0.07°×123.89°E±0.07,h94km±5km, mb4.2/15,Error ellipse: s-maj=10.8km s-min=10.4km az=185.0*
*IDC **07** 18:15:23.6±4.1,0.01°S×123.86E,h103km±39km,mb3.5/7, mbtmp3.9/9,Error ellipse: s-maj=34.5km s-min=15.1km az=66.0*
*DJA **07** 18:15:24.8±0.2,0°S±2°×12°4E±°,h78km±6km,M4.3/25, mB4.6/2,mb4.3/12,MLv4.2/25,Mw(mB)3.8/2*
ISC 07 18:15:23.8±0.6,0.05S±0.05×123.95E±0.05,h110km,n50, σ1§39/57,mb4.0/15,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.62**	**3**	P	**Pn**	**18 15 40.9**	**-0.6**
KMSI				S	**Sn**	**18 15 54.2**	**-0.6**
LUWI	**Luwuk**	**1.54**	**230**	P	**Pn**	**18 15 49.6**	**-1.4**
LUWI				S	**Sn**	**18 16 11.4**	**-0.4**
MRSI	**Marisa**	**2.07**	**284**	P	**Pn**	**18 15 55.3**	**-2.4**
APSI	**Ampana**	**2.45**	**249**	P	**Pn**	**18 16 01.5**	**-1.1**
SANI	**Sanana**	**2.85**	**134**	P	**Pn**	**18 16 06.0**	**-1.9**
SANI				S	**Sn**	**18 16 38.1**	**-3.7**
TOLI2	**Tolitoli**	**3.37**	**290**		**Pn**	**18 16 12.8**	**-1.9**
TNTI	**Ternate**	**3.52**	**77**	Pn	**Pn**	**18 16 16.5**	**-0.2**
TNTI					**Sn**	**18 16 56.8**	**-0.8**
TNTI	**Ternate**	**3.52**	**77**	P	**Pn**	**18 16 17.2**	**+0.5**
MPSI	**Mapaga**	**4.07**	**275**	P	**Pn**	**18 16 25.1**	**+1.0**
KDI	**Kendari**	**4.11**	**199**	P	**Pn**	**18 16 24.1**	**-0.5**
PCI	**Palu**	**4.20**	**258**	P	**Pn**	**18 16 26.8**	**+1.0**
NLAI	**Namlea**	**4.47**	**135**	P	**Pn**	**18 16 29.7**	**+0.2**
AAI	**Ambon**	**5.58**	**130**	P	**Pn**	**18 16 44.8**	**+0.3**
	0.2nm40nm,0.8s						
BBSI	**Bau Bau**	**5.58**	**194**	P	**Pn**	**18 16 44.3**	**-0.2**
	0.2nm18nm,0.9s						
SPSI	**Sidrap Palu**	**5.71**	**227**	P	**Pn**	**18 16 46.0**	**-0.2**
BNSI	**Bone**	**5.78**	**222**	P	**Pn**	**18 16 45.9**	**-1.3**
	0.1nm20nm,0.5s						
MSAI	**Masohi**	**5.96**	**123**	P	**Pn**	**18 16 50.6**	**+0.9**
	0.3nm47nm,0.8s						
KAPI	**Kappang**	**6.47**	**220**	Pn	**Pn**	**18 16 54.5**	**-2.2**
KAPI	**Kappang**	**6.47**	**220**	P	**Pn**	**18 16 57.2**	**+0.6**
	13nm,0.3s,baz=60,slow=1.0,SNR=5.5						
KAPI				S	**Sn**	**18 18 06.1**	**-3.0**
	8.0nm,0.5s,baz=90,slow=19,SNR=1.2						
BKSI	**Bulukumba**	**6.49**	**216**	P	**Pn**	**18 16 56.5**	**-0.3**
BSSI	**Bau Bau, Buton**	**6.97**	**210**	P	**Pn**	**18 17 04.2**	**+0.8**
SWI	**Sorong**	**7.36**	**96**	P	**Pn**	**18 17 11.8**	**+3.2**
	0.1nm20nm,0.9s						
MYLDM	**Lahad Datu**	**7.52**	**314**	Pn	**Pn**	**18 17 10.6**	**-0.2**
FAKI	**Fak Fak**	**8.78**	**109**	Pn	**Pn**	**18 17 26.5**	**-1.4**
FAKI	**Fak Fak**	**8.78**	**109**	P	**Pn**	**18 17 27.6**	**-0.3**
KNRA	**Kununurra**	**16.24**	**163**	Pn	**Pn**	**18 19 02.5**	**-3.2**
KNRA				IAmb	IAmb	18 19 33.5	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.02**	**175**	P	**P**	**18 19 27.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.02**	**175**	P	**P**	**18 19 27.8**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=0.2,slow=11,SNR=9.5						
WB0	**Warramunga Arr**	**22.11**	**153**	P	**P**	**18 20 09.9**	**-0.6**
WB0				IAmb	IAmb	18 20 14.3	
	comp=Z,8.3nm,1.2s						
WRAB	**Tennant Creek**	**22.24**	**153**	P	**P**	**18 20 12.0**	**+0.3**
WRAB				IAmb	IAmb	18 20 15.4	
	comp=Z,8.5nm,1.2s						
WRA	**Warramunga Arr**	**22.24**	**153**	P	**P**	**18 20 12.2**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=337,slow=10.0,SNR=30						
WRA				PcP	**PcP**	**18 24 05.2**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=313,slow=2.9,SNR=2.9						
	comp=Z,2.2nm,0.6s						
WR8	**Warramunga Arr**	**22.33**	**153**	P	**P**	**18 20 12.3**	**-0.3**
WR8				IAmb	IAmb	18 20 33.4	
	comp=Z,12nm,1.4s						
YULB	**Yu-li**	**23.44**	**354**	P	**P**	**18 20 21.7**	**-1.7**
YULB				IAmb	IAmb	18 20 38.5	
	comp=Z,27nm,1.1s						
COEN	**Coen**	**23.53**	**127**	P	**P**	**18 20 23.0**	**-1.2**
COEN				IAmb	IAmb	18 20 42.7	
	comp=Z,10nm,1.1s						
KULM	**Kulim**	**23.86**	**283**	P	**P**	**18 20 27.0**	**-0.3**
KULM				IAmb	IAmb	18 21 10.5	
	comp=Z,19nm,1.5s						
AS31	**Alice Springs**	**25.39**	**158**	P	**P**	**18 20 42.5**	**+1.4**
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**18 20 43.5**	**+2.3**
ASAR	**Alice Springs**	**25.39**	**158**	P	**P**	**18 20 42.6**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=332,slow=9.0,SNR=24						
ASAR				PcP	**PcP**	**18 24 12.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=342,slow=2.3,SNR=7.4						
	comp=Z,1.1nm,0.9s						
STKA	**Stephens Creek**	**35.79**	**154**	P	**P**	**18 22 12.1**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=347,slow=8.8,SNR=7.0						
	comp=Z,1.7nm,0.4s						
ARMA	**Armidale**	**40.06**	**141**	P	**P**	**18 22 49.8**	**+1.2**
ARMA				IAmb	IAmb	18 23 32.8	
	comp=Z,10nm,1.2s						
CAN	**Canberra**	**42.16**	**149**	P	**P**	**18 23 06.0**	**+0.3**
JTM	**Tenmabayashi**	**43.52**	**19**	P	**P**	**18 23 17.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**44.63**	**8**	P	**P**	**18 23 25.5**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=192,slow=6.4,SNR=5.6						
	comp=Z,0.8nm,0.4s						
JKA	**Kamikawa-asahi**	**47.01**	**18**	P	**P**	**18 23 45.5**	**+1.5**
MKAR	**Makanchi Array**	**59.15**	**328**	P	**P**	**18 25 13.4**	**+0.3**
MKAR	**Makanchi Array**	**59.15**	**328**	P	**P**	**18 25 13.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.9,SNR=8.4						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.48**	**330**	P	**P**	**18 25 41.2**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=114,slow=8.4,SNR=6.3						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**63.49**	**330**	P	**P**	**18 25 41.6**	**-0.6**
TIXI	**Tiksi**	**71.65**	**2**	P	**P**	**18 26 33.1**	**0.0**
TIXI				IAmb	IAmb	18 26 35.7	
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**89.89**	**180**	P	**P**	**18 28 12.4**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=324,slow=3.0,SNR=6.5						
	comp=Z,0.8nm,0.8s						

*SDD **07** 18:26:56.3±1.4,18.63N×71.68W,h23km±10km,MD3.1, ML2.1,MW2.9*
*OSPL **07** 18:26:56.5±2.0,18.65N×71.60W,h20km±15km,ML1.9*
ISC 07 18:26:54.8±1.3,18.67N±0.04°×71.65W±0.04,h17km±10km, n14,σ0§75/23,4C-2D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.26**	**227**	↑*e*Pg	**Pb**	**18 27 00.8**	**-0.2**
JIDR				↑*e*Sg	**Sb**	**18 27 05.6**	**+0.4**
JIDR				IAML		18 27 05.8	
	comp=E,929nm,0.2s						
JIDR				IAML		18 27 06.7	
	comp=N,603nm,0.5s						
NEDR	**Neiba UASD**	**0.29**	**130**	*e*Pg	**Pb**	**18 27 01.8**	**+0.3**
NEDR				↓*e*Sg	**Sb**	**18 27 06.3**	**+0.4**
NEDR				IAML		18 27 06.5	
	comp=N,138nm,0.3s						
NEDR				IAML		18 27 09.2	
	comp=E,157nm,0.4s						
LODU1	**El Espartillar**	**0.36**	**152**	*i* P	**Pg**	**18 27 01.9**	**-0.3**
LODU1				*e*S	**Sg**	**18 27 07.6**	**+0.3**
LODU1				IAML		18 27 11.4	
	comp=Z,109nm,0.3s						
SDDR	**Presa de Saban**	**0.46**	**48**	*i* P	**Pn**	**18 27 05.1**	**-1.5**
SDDR				*e*S	**Sb**	**18 27 11.5**	**+0.4**
SDDR				IAML		18 27 17.6	
	comp=Z,34nm,0.5s						
SDDR	**Presa de Saban**	**0.46**	**48**	*e*Pg	**Pb**	**18 27 04.7**	**+0.2**
SDDR				↑*e*Sg	**Sn**	**18 27 12.7**	**-1.9**
SDDR				IAML		18 27 16.7	
	comp=E,30nm,0.9s						
SDDR				IAML		18 27 20.8	
	comp=N,42nm,0.4s						
REDR	**Restauracion**	**0.55**	**26**	↓*e*Pg	**Pn**	**18 27 08.1**	**+0.2**
REDR				*e*Sg	**Sn**	**18 27 17.7**	**+1.1**
REDR				IAML		18 27 18.2	
	comp=E,121nm,0.1s						
REDR				IAML		18 28 03.0	
	comp=N,74nm,3.5s						
PODR	**Polo**	**0.61**	**145**	*i* P	**Pb**	**18 27 07.0**	**-0.1**
PODR				*e*S	**Sb**	**18 27 16.4**	**+0.9**
PODR	**Polo**	**0.61**	**145**	*e*Pg	**Pb**	**18 27 07.0**	**-0.1**
PODR				↑*e*Sg	**Sb**	**18 27 16.4**	**+0.9**
PODR				IAML		18 27 16.8	
	comp=N,142nm,0.2s						
PODR				IAML		18 27 17.0	
	comp=E,164nm,0.2s						
PAPH	**Port-au-Prince**	**0.63**	**257**	*i* P	**Pb**	**18 27 07.9**	**+0.5**
PAPH				*e*S	**Sn**	**18 27 18.4**	**-0.2**
LOBH	**Bahia de las A**	**0.80**	**179**	*i* P	**Pb**	**18 27 10.3**	**0.0**
LOBH				IAML		18 27 23.6	
	comp=Z,50nm,1.3s						
LOVI	**El Cajuil, Ovi**	**0.91**	**163**	*i* P	**Pb**	**18 27 12.1**	**0.0**
LOVI				IAML		18 27 31.3	
	comp=Z,60nm,1.6s						
ABDR	**Alto Bandera**	**0.98**	**82**	*e*Pg	**Pn**	**18 27 14.2**	**+0.2**
ABDR				IAML		18 27 29.3	
	comp=N,22nm,0.4s						
BANI	**BANI**	**1.26**	**103**	*e*Pg	**Pg**	**18 27 18.7**	**-0.3**
BANI				IAML		18 27 40.8	
	comp=E,42nm,0.8s						
BANI				IAML		18 27 43.0	
	comp=N,46nm,1.6s						
HATOM	**Hato Mayor del**	**2.15**	**87**	*e*Pg	**Pb**	**18 27 33.9**	**+0.6**
HATOM				IAML		18 28 49.0	
	comp=N,19nm,1.9s						

IDC 07 18:28:46.8±5.5,16.86S×174.56W,h0km,mb4.3/4, mbtmp4.3/4,Error ellipse: s-maj=169.2km s-min=110.0km az=156.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.35**	**241**	P	P	18 36 43.8	+0.9
	3.1nm,0.8s,baz=94,slow=15,SNR=2.2						
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**48.44**	**258**	P	P	18 37 31.1	-0.2
	1.7nm,0.4s,baz=97,slow=7.2,SNR=17						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**48.61**	**253**	P	P	18 37 32.3	-0.4
	3.7nm,0.7s,baz=90,slow=8.0,SNR=26						
ASAR				PcP	PcP	18 38 58.3	-0.1
	0.4nm,0.8s,baz=96,slow=3.7,SNR=1.7						
	3.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.83**	**259**	P	P	18 38 32.9	-0.7
	3.1nm,1.1s,baz=92,slow=9.7,SNR=1.2						
	3.1nm,1.1s						

*IDC **07** 18:31:24.6±0.6,2.23S×138.98E,h0km,mb3.9/12, mbtmp4.0/14,ML4.1/2,MS3.3/5,Error ellipse: s-maj=16.3km s-min=11.9km az=23.0*
*DJA **07** 18:31:27.9±0.4,2.5°S±5°×13°9E±°,h21km±3km,M4.4/12, mb4.3/12,MLv4.5/10*
ISC 07 18:31:28.9±0.6,2.16S±0.06°×139.01E±0.04,h29km,n31, σ1§03/34,mb4.0/11,MS3.2/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.34**	**300**	P	**Pb**	**18 31 35.7**	**-1.1**
SMPI				S	**Sb**	**18 31 42.2**	**0.0**
GENI	**Genyem**	**1.24**	**110**	P	**Pn**	**18 31 50.1**	**-0.1**
GENI				S	**Sn**	**18 32 05.6**	**-0.4**
JAY	**Jayapura**	**1.73**	**102**	Pg	**Pn**	**18 31 57.1**	**0.0**
	14nm,0.3s,baz=251,slow=11,SNR=142						
JAY				Lg	Lg	18 32 19.5	
	22nm,0.3s,baz=319,slow=20,SNR=6.2						
JAY				LR	LR	18 32 58.3	
	comp=Z,597nm,19.5s,baz=196,slow=54						
JAY	**Jayapura**	**1.73**	**102**	P	**Pn**	**18 31 56.8**	**-0.3**
JAY				S	**Sn**	**18 32 18.9**	**+0.6**
WAMI	**Wamena**	**1.74**	**190**	P	**Pb**	**18 32 01.3**	**+1.1**
SRPI	**Serui, Papua**	**2.78**	**276**	P	**Pn**	**18 32 10.7**	**-0.8**
SRPI				S	**Sn**	**18 32 44.0**	**-0.1**
BAKI	**Biak**	**3.05**	**288**	P	**Pn**	**18 32 15.6**	**+0.3**
BAKI				S	**Sn**	**18 32 50.4**	**-0.5**
RKPI	**Ransiki, Papua**	**4.87**	**278**	P	**Pn**	**18 32 41.9**	**+1.6**
KMPI	**Kaimana, Papua**	**5.50**	**254**	P	**Pn**	**18 32 49.3**	**+0.4**
FAKI	**Fak Fak**	**6.79**	**263**	P	**Pn**	**18 33 06.7**	**0.0**
	0.1nm39nm,1.1s						
SWI	**Sorong**	**7.85**	**279**	P	**Pn**	**18 33 23.0**	**+1.8**
	0.1nm21nm,0.8s						
PMG	**Port Moresby**	**10.84**	**132**	LR	LR	18 39 48.8	
	comp=Z,140nm,19.1s,baz=346,slow=47						
SOEI	**Soe**	**16.48**	**242**	P	**Pn**	**18 35 20.0**	**+1.7**
	21nm,1.1s						
GUMO	**Guam**	**16.69**	**20**	Pn	**Pn**	**18 35 20.9**	**+0.1**
	26nm,0.3s,baz=184,slow=16,SNR=4.0						
BATI	**Baumata**	**17.21**	**242**	Pn	**Pn**	**18 35 25.1**	**-2.4**
	2.7nm,0.3s,baz=95,slow=11,SNR=4.2						
	14nm,0.7s						
WRA	**Warramunga Arr**	**18.25**	**194**	P	**Pn**	**18 35 37.7**	**-2.5**
	0.4nm,0.3s,baz=14,slow=12,SNR=21						
WRA				S	Sn	18 38 49.5	-14
	0.7nm,0.8s,baz=6.8,slow=23,SNR=2.5						
WRA				LR	LR	18 43 21.7	
	comp=Z,138nm,18.1s,baz=338,slow=40						
	1.2nm,0.7s						
BKSI	**Bulukumba**	**19.10**	**260**	P	**P**	**18 35 50.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.56**	**219**	P	**P**	**18 36 05.4**	**0.0**
	1.7nm,0.9s,baz=49,slow=9.3,SNR=9.1						
FITZ				S	S	18 39 42.3	-12
	1.6nm,0.5s,baz=324,slow=16,SNR=2.2						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**21.94**	**193**	P	**P**	**18 36 18.5**	**-1.9**
	0.5nm,0.4s,baz=16,slow=9.6,SNR=16						
ASAR				LR	LR	18 45 36.2	
	comp=Z,156nm,18.2s,baz=314,slow=39						
	0.5nm,0.4s						
JHJ	**Hachijo jima 2**	**35.10**	**1**	LR	LR	18 49 47.9	
	comp=Z,39nm,18.7s,baz=88,slow=31						
MJAR	**Matsushiro Arr**	**38.51**	**359**	P	**P**	**18 38 49.3**	**+0.6**
	1.1nm,0.6s,baz=189,slow=9.3,SNR=2

MTHZ	**Maungataniwha**	**5.40**	**209**	P	Pn	18 40 02.3 +0.2
TLZ	**Tolley Road**	**5.60**	**221**	P	Pn	18 40 05.7 +1.1
NMHZ	**Naumai**	**5.62**	**208**	P	Pn	18 40 04.5 -0.2
ARHZ	**Aropaoanui**	**5.70**	**206**	P	Pn	18 40 06.0 +0.5
BKZ	**Black Stump Fm**	**5.80**	**210**	P	Pn	18 40 07.0 +0.2
HIZ	**Hauiti**	**6.11**	**223**	P	Pn	18 40 11.3 +0.9
TMVZ	**Te Maari**	**6.11**	**215**	P	Pn	18 40 10.2 -0.3
ETVZ	**East Tongariro**	**6.13**	**215**	P	Pn	18 40 10.1 -0.6
SNVZ	**South Ngauruho**	**6.20**	**215**	P	Pn	18 40 11.1 -0.4
KAHZ	**Kahuranaki**	**6.21**	**204**	P	Pn	18 40 12.2 +0.7
FWVZ	**Far West T-bar**	**6.30**	**215**	P	Pn	18 40 12.7 0.0
MOVZ	**Moawhango**	**6.33**	**213**	P	Pn	18 40 11.8 -1.1
PXZ	**Pawanui**	**6.43**	**204**	P	Pn	18 40 14.4 +0.4

*NEIC **07** 18:44:55.8±1.0, 6°.8S±0°.1×125°.2E±0°.2, h533km±11km, mb4.4/15, Error ellipse: s-maj=21.9km s-min=14.4km az=80.0*
*IDC **07** 18:44:56.0±1.3, 6°.96S×125°.01E, h546km±16km, mb3.0/6, mbtmp4.1/11, Error ellipse: s-maj=44.6km s-min=11.3km az=64.0*
ISC 07 18:44:55.5±0.6, 6°.90S±0°.06×125°.13E±0°.09, h543km, n52, σ0°93/58, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.96**	**197**	P		**P**		**18 46 09.7**	**-0.3**
SOEI						**S**		**18 47 08.1**	**-2.4**
SOEI	**Soe**	**2.96**	**197**	P		**P**		**18 46 10.1**	**+0.2**
MMRI	**Maumere**	**3.35**	**239**	P		**P**		**18 46 12.5**	**+0.2**
MMRI	**Maumere**	**3.35**	**239**	P		**P**		**18 46 12.1**	**-0.2**
BATI	**Baumata**	**3.59**	**204**	P		**P**		**18 46 14.2**	**+0.2**
	99nm,0.4s,baz=71,slow=2.3,SNR=45								
BATI				S		**S**		**18 47 17.8**	**-0.1**
	19nm,0.3s,baz=110,slow=20,SNR=3.7								
SANI	**Sanana**	**4.89**	**10**	P		**P**		**18 46 24.2**	**+0.1**
KAPI	**Kappang**	**5.67**	**289**	P		**P**		**18 46 31.1**	**+0.3**
KAPI	**Kappang**	**5.67**	**289**	P		**P**		**18 46 30.8**	**-0.1**
	11nm,0.4s,baz=137,slow=7.3,SNR=6.7								
PLAI	**Plampang**	**7.53**	**255**	P		**P**		**18 46 48.1**	**-0.4**
DRS	**Darwin Rock St**	**7.91**	**134**	P		**P**		**18 46 53.0**	**+0.8**
FAKI	**Fak Fak**	**8.12**	**61**	P		**P**		**18 46 52.2**	**-2.2**
FAKI	**Fak Fak**	**8.12**	**61**	P		**P**		**18 46 55.4**	**+1.1**
MTN	**Manton Dam**	**8.36**	**135**	P		**P**		**18 46 56.4**	**-0.3**
MTN	**Manton Dam**	**8.36**	**135**	P		**P**		**18 46 56.7**	**0.0**
TOLI2	**Tolitoli**	**9.06**	**331**	P		**P**		**18 47 04.1**	**+0.2**
TOLI2	**Tolitoli**	**9.06**	**331**	P		**P**		**18 47 04.2**	**+0.3**
KDU	**Kakadu**	**9.24**	**129**	P		**P**		**18 47 05.4**	**-0.2**
KNRA	**Kununurra**	**9.42**	**158**	P		**P**		**18 47 07.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.14**	**177**	P		**P**		**18 47 25.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.14**	**177**	P		**P**		**18 47 25.1**	**0.0**
	3.9nm,0.3s,baz=356,slow=8.2,SNR=118								
FITZ				S		**S**		**18 49 24.9**	**-3.4**
	1.3nm,0.6s,baz=343,slow=17,SNR=5.1								
FITZ	**Fitzroy Crossi**	**11.14**	**177**	P		**P**		**18 47 25.2**	**0.0**
PSA00	**Pilbara Seismi**	**15.46**	**199**	P		**P**		**18 48 10.8**	**+0.9**
PSA00				IAmb		IAmb		18 48 24.3	
	comp=Z,30nm,1.4s								
WB0	**Warramunga Arr**	**15.64**	**146**	P		**P**		**18 48 10.4**	**-1.3**
WB0				IAmb		IAmb		18 48 12.9	
	comp=Z,5.1nm,0.7s								
WRA	**Warramunga Arr**	**15.75**	**146**	P		**P**		**18 48 10.9**	**-2.0**
WRA	**Warramunga Arr**	**15.75**	**146**	P		**P**		**18 48 12.2**	**-0.7**
	comp=Z,3.9nm,0.6s,baz=337,slow=9.3,SNR=132								
WRA				S		**S**		**18 50 53.7**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=320,slow=19,SNR=2.8								
WR8	**Warramunga Arr**	**15.85**	**146**	P		**P**		**18 48 13.0**	**-0.9**
WR8				IAmb		IAmb		18 48 14.8	
	comp=Z,19nm,1.1s								
AS31	**Alice Springs**	**18.68**	**154**	P		**P**		**18 48 40.8**	**+0.7**
AS31				IAmb		IAmb		18 48 42.7	
	comp=Z,3.4nm,0.4s								
ASAR	**Alice Springs**	**18.68**	**154**	P		**P**		**18 48 40.7**	**+0.7**
ASAR	**Alice Springs**	**18.68**	**154**	P		**P**		**18 48 40.6**	**+0.5**
	comp=Z,4.8nm,0.5s,baz=346,slow=15,SNR=132								
ASAR				S		**S**		**18 51 43.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=331,slow=16,SNR=2.0								
ASAR				ScP		**ScP**		**18 55 24.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=333,slow=2.0,SNR=5.1								
AS01	**Alice Springs**	**18.70**	**154**	P		**P**		**18 48 41.0**	**+0.8**
COEN	**Coen**	**19.07**	**113**	P		**P**		**18 48 43.3**	**-0.4**
COEN				IAmb		IAmb		18 49 14.3	
	comp=Z,8.6nm,1.1s								
COEN	**Coen**	**19.07**	**113**	P		**P**		**18 48 43.6**	**-0.1**
QIS	**Mount Isa**	**19.52**	**135**	P		**P**		**18 48 48.2**	**+0.5**
MEEK	**Meekatharra**	**20.59**	**197**	P		**P**		**18 48 57.9**	**+0.6**
FORT	**Forrest**	**23.91**	**174**	P		**P**		**18 49 27.9**	**+0.8**
FORT				IAmb		IAmb		18 49 36.0	
	comp=Z,12nm,0.9s								
BLDU	**Ballidu**	**24.88**	**197**	P		**P**		**18 49 36.2**	**+0.6**
NWAO	**Narrogin (SRO)**	**26.92**	**195**	P		**P**		**18 49 54.2**	**+0.7**
NWAO				IAmb		IAmb		18 50 32.2	
	comp=Z,53nm,1.5s								
BBOO	**Buckleboo**	**27.71**	**160**	P		**P**		**18 50 01.1**	**+0.7**
BBOO	**Buckleboo**	**27.71**	**160**	P		**P**		**18 50 00.9**	**+0.4**
STKA	**Stephens Creek**	**29.22**	**150**	P		**P**		**18 50 14.3**	**+0.7**
STKA	**Stephens Creek**	**29.22**	**150**	P		**P**		**18 50 14.1**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=327,slow=10,SNR=6.6								
	comp=Z,2.6nm,0.4s								
TPUB	**Ta-pu**	**30.34**	**352**	P		**P**		**18 50 22.3**	**-1.0**
TOO	**Toolangi**	**35.70**	**152**	P		**P**		**18 51 08.3**	**-0.3**
CAN	**Canberra**	**35.79**	**146**	P		**P**		**18 51 11.2**	**+1.8**
CAN				IAmb		IAmb		18 51 43.9	
	comp=Z,19nm,1.3s								
MKAR	**Makanchi Array**	**65.58**	**329**	P		**P**		**18 54 46.1**	**+0.3**
MKAR	**Makanchi Array**	**65.58**	**329**	P		**P**		**18 54 46.3**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=125,slow=8.7,SNR=7.2								
	comp=Z,0.5nm,0.4s								
PETK	**Petropavlovsk-**	**65.84**	**21**	P		**P**		**18 54 48.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=249,slow=4.0,SNR=1.8								
	comp=Z,1.5nm,0.8s								
YAK	**Yakutsk**	**68.81**	**2**	P		**P**		**18 55 05.3**	**0.0**
YAK				IAmb		IAmb		18 55 05.9	
	comp=Z,4.4nm,0.7s								
ZALV	**Zalesovo Beam**	**69.44**	**336**	P		**P**		**18 55 08.4**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=143,slow=5.6,SNR=3.1								
	comp=Z,0.6nm,0.4s								
KURBB	**Kurchatov Array**	**69.97**	**330**	P		**P**		**18 55 12.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=141,slow=5.1,SNR=6.7								
	comp=Z,0.4nm,0.6s								
VNDA	**Vanda**	**73.17**	**172**	P		**P**		**18 55 31.9**	**+1.3**
VNDA	**Vanda**	**73.17**	**172**	P		**P**		**18 55 31.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=310,slow=4.7,SNR=1.8								
	comp=Z,0.2nm,0.4s								

*IDC **07** 18:52:39.7±0.9, 0°.44N×126°.02E, h0km, mb3.9/8, mbtmp3.9/8, MS3.2/1, Error ellipse: s-maj=58.5km s-min=18.3km az=71.0*
*NEIC **07** 18:52:51.9±2.5, 0°.36N±0°.09×127°.0E±0°.2, h76km±3km, mb4.1/10, Error ellipse: s-maj=25.7km s-min=8.6km az=113.0*
ISC 07 18:52:46.2±0.8, 0°.5N±0°.1×126°.4E±0°.1, h47km, n23, σ1°33/21, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**71**			**Pn**		**18 53 02.6**	**-1.0**
TNTI					Sn	**Sn**		**18 53 16.4**	**-0.1**
DAV	**Davao City (W)**	**6.63**	**353**			Pn		18 54 30.4	+9.1
FAKI	**Fak Fak**	**6.70**	**120**		Pn	Pn		18 54 12.3	-10
JAY	**Jayapura**	**14.56**	**102**		LR	LR		19 03 38.4	
	comp=Z,87nm,18.6s,baz=76,slow=44								
KNRA	**Kununurra**	**16.18**	**172**		Pn	**P**		**18 56 31.6**	**-1.4**
KNRA					IAmb	IAmb		18 56 37.5	
	comp=Z,5.1nm,0.8s								
WB0	**Warramunga Arr**	**21.55**	**159**	P		**P**		**18 57 31.4**	**-0.3**
WB0					IAmb	IAmb		18 57 40.6	
	comp=Z,6.2nm,1.1s								
WRAB	**Tennant Creek**	**21.69**	**159**	P		**P**		**18 57 32.9**	**-0.3**
WRA	**Warramunga Arr**	**21.69**	**160**	P		**P**		**18 57 32.6**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=336,slow=11,SNR=14								
	comp=Z,2.0nm,0.5s								
AS31	**Alice Springs**	**25.04**	**164**	P		**P**		**18 58 07.3**	**+1.1**
ASAR	**Alice Springs**	**25.04**	**164**	P		**P**		**18 58 07.7**	**+1.4**
ASAR	**Alice Springs**	**25.04**	**164**	P		**P**		**18 58 07.8**	**+1.6**
	comp=Z,3.5nm,0.8s,baz=344,slow=11,SNR=24								
	comp=Z,3.5nm,0.8s								
USRK	**Ussuriysk Ar.**	**43.84**	**6**	P		**P**		**19 00 47.8**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=216,slow=7.1,SNR=2.3								
	comp=Z,1.2nm,0.7s								
SONM	**Songino Array**	**50.31**	**343**	P		**P**		**19 01 38.8**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=156,slow=7.3,SNR=2.4								
	comp=Z,0.5nm,0.7s								
PETK	**Petropavlovsk-**	**58.57**	**22**	P		**P**		**19 02 38.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=224,slow=6.7,SNR=2.5								
	comp=Z,1.1nm,0.6s								
MKAR	**Makanchi Array**	**60.09**	**326**	P		**P**		**19 02 46.9**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=121,slow=7.1,SNR=14								
	comp=Z,0.9nm,0.5s								
KURBB	**Kurchatov Array**	**64.35**	**328**	P		**P**		**19 03 15.2**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=130,slow=6.1,SNR=9.0								
	comp=Z,1.0nm,0.7s								
BVAR	**Borovoye Array**	**69.91**	**328**	P		**P**		**19 03 51.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=120,slow=7.3,SNR=2.7								
	comp=Z,0.7nm,0.7s								
K13K	**Kusilvak Mount**	**79.80**	**27**	P		**P**		**19 04 51.4**	**+2.1**
K13K					IAmb	IAmb		19 05 06.2	
	comp=Z,7.3nm,1.4s								
K15K	**Wolf Creek Mou**	**81.31**	**27**	P		**P**		**19 04 58.2**	**+0.8**
CHGN	**Chignik**	**81.41**	**33**	P		**P**		**19 04 57.9**	**-0.2**
J17K	**VABM Dome**	**82.68**	**26**	P		**P**		**19 05 05.3**	**+0.7**
J17K					IAmb	IAmb		19 05 07.1	
	comp=Z,3.0nm,0.9s								
H17K	**Granite Mounta**	**82.71**	**24**	P		**P**		**19 05 06.6**	**+1.9**
H17K					IAmb	IAmb		19 05 50.2	
	comp=Z,2.4nm,1.1s								
K17K	**Iditarod**	**82.87**	**27**	P		**P**		**19 05 07.8**	**+2.2**
K17K					IAmb	IAmb		19 05 08.6	
	comp=Z,4.1nm,0.9s								

*AZER **07** 19:13:17.6, 38°.72N×48°.58E, h24km, ml3.0*
*TEH **07** 19:13:18.6, 38°.67N×48°.62E, h27km±32km*
ISC 07 19:13:18.8±1.0, 38°.75N±0°.02×48°.63E±0°.02, h16km±9km, n39, σ1°14/71, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.12**	**108**	P		**Pb**		**19 13 23.8**	**+1.0**
LKRN				S		**Sb**		**19 13 28.2**	**+2.8**
ASTR	**Astara**	**0.23**	**146**	P		**Pb**		**19 13 24.7**	**+0.2**
ASTR				S		**Sb**		**19 13 30.2**	**+1.9**
LRK	**Lerik**	**0.25**	**245**	P		**Pb**		**19 13 25.9**	**+0.8**
LRK				S		**Sb**		**19 13 31.9**	**+2.7**
YRD	**Yardimli**	**0.35**	**299**	P		**Pb**		**19 13 26.8**	**+0.1**
YRD				S		**Sb**		**19 13 33.6**	**+1.5**
GAS1	**Astara - Iran**	**0.40**	**155**	Pg		**Pg**		**19 13 26.7**	**-0.2**
GLBA	**Clilabad**	**0.53**	**340**	P		**Pg**		**19 13 29.2**	**0.0**
GLBA				S		**Sb**		**19 13 38.2**	**+1.1**
GRMI	**Germi**	**0.58**	**276**	Pg		**Pg**		**19 13 30.2**	**-0.1**
SAAT	**Saatly**	**1.12**	**352**	P		**Pb**		**19 13 39.8**	**0.0**
SAAT				S		**Sg**		**19 13 55.7**	**+0.5**
CSN1	**Caspian**	**1.24**	**163**	Pg		**Pn**		**19 13 39.9**	**-1.5**
ALIB	**&Aumlli-Bayram**	**1.24**	**13**	Pn		**Pb**		**19 13 41.9**	**0.0**
ALIB				Sn		**Sg**		**19 13 59.6**	**+0.6**
QRD	**Qoradiz**	**1.24**	**305**	P		**Pn**		**19 13 40.0**	**-1.6**
QRD				S		**Sb**		**19 13 56.1**	**-1.6**
BLQ	**Beylaqan**	**1.28**	**320**	P		**Pn**		**19 13 41.1**	**-0.9**
BLQ				S		**Sb**		**19 13 58.4**	**-0.4**
IHRS	**Heris**	**1.32**	**252**	Pg		**Pn**		**19 13 42.2**	**-0.5**
IHRS				Sg		**Sg**		**19 14 00.7**	**-0.7**
KDMR	**Kurdemir**	**1.66**	**348**	Pn		**Pn**		**19 13 46.9**	**-0.4**
KDMR				Sn		**Sb**		**19 14 09.1**	**-0.6**
ZRD	**Zardab**	**1.70**	**335**	Pn		**Pn**		**19 13 47.8**	**0.0**
ZRD				Sn		**Sb**		**19 14 11.8**	**+1.1**
AGDM	**Agdam**	**1.80**	**320**	Pn		**Pn**		**19 13 48.5**	**-0.7**
AGDM				Sn		**Sn**		**19 14 11.6**	**-0.1**
IHSH	**Hashtrud**	**1.80**	**217**	Pg		**Pn**		**19 13 48.3**	**-1.2**
GBS	**Qobustan**	**1.80**	**8**	Pg		**Pb**		**19 13 51.3**	**-0.1**
GBS				Sg		**Sg**		**19 14 16.9**	**+0.1**
BRDA	**Brd**	**1.88**	**324**	Pn		**Pn**		**19 13 50.4**	**+0.1**
BRDA				Sn		**Sb**		**19 14 16.5**	**+0.4**
PQL	**Pirkuli**	**2.04**	**359**	Pn		**Pn**		**19 13 54.0**	**+1.3**
PQL				Sn		**Sb**		**19 14 20.8**	**0.0**
ORD	**Ordubad**	**2.07**	**276**	Pn		**Pn**		**19 13 53.2**	**+0.3**
ORD				Sn		**Sb**		**19 14 20.2**	**-1.2**
IML	**Ismayilli**	**2.07**	**351**	Pn		**Pn**		**19 13 53.2**	**+0.2**
IML				Sn		**Sn**		**19 14 19.6**	**+1.1**
ATGJ	**Altiaghaj**	**2.12**	**6**	Pg		**Pb**		**19 13 56.5**	**-0.5**
ATGJ				Sg		**Sb**		**19 14 24.2**	**+1.0**
QBL	**Gabala**	**2.28**	**345**	Pn		**Pn**		**19 13 54.5**	**-1.3**
QBL				Sn		**Sn**		**19 14 23.0**	**-0.6**
SIZA	**Siyzn**	**2.33**	**5**	Pg		**Pb**		**19 13 59.5**	**-1.0**
SIZA				Sg		**Sg**		**19 14 35.0**	**+1.1**
MNGR	**Mingechevir, A**	**2.35**	**330**	Pn		**Pn**		**19 13 56.9**	**+0.2**
MNGR				Sn		**Sb**		**19 14 27.6**	**-1.9**
ISHB	**Shabestar**	**2.41**	**260**	Pn		**Pn**		**19 13 58.3**	**+0.5**
XNQ	**Khinaliq**	**2.45**	**351**	Pn		**Pn**		**19 13 57.7**	**-0.7**
XNQ				Sn		**Sn**		**19 14 27.0**	**-1.1**
NAX	**Nakhchivan**	**2.48**	**281**	Pn		**Pn**		**19 13 58.6**	**-0.1**
NAX				Sn		**Sn**		**19 14 28.9**	**+0.3**
SBZ	**Shahbuz**	**2.48**	**286**	Pg		**Pn**		**19 14 00.6**	**+1.9**
SBZ				Sg		**Sb**		**19 14 33.5**	**0.0**
GANJ	**Ganja**	**2.60**	**318**	Pn		**Pn**		**19 13 59.8**	**-0.4**
GANJ				Sn		**Sn**		**19 14 31.2**	**-0.3**
QUBA	**Quba, Azerbaij**	**2.61**	**358**	Pn		**Pn**		**19 13 59.9**	**-0.5**
QUBA				Sn		**Sn**		**19 14 33.0**	**+1.3**
IGZV	**Ghazvin**	**2.67**	**151**	Pn		**Pn**		**19 13 58.9**	**-2.5**
SEKA	**Sheki**	**2.69**	**336**	Pn		**Pn**		**19 14 00.7**	**-0.8**
SEKA				Sn		**Sn**		**19 14 32.1**	**-1.7**
QSAR	**Qusar**	**2.78**	**354**	Pn		**Pn**		**19 14 03.7**	**+1.0**
QSAR				Sn		**Sn**		**19 14 38.6**	**+2.7**
GDB	**GEDABAY**	**2.97**	**313**	Pn		**Pn**		**19 14 06.0**	**+0.6**
GDB				Sn		**Sn**		**19 14 40.3**	**-0.5**
ZKTA	**Zakatala**	**3.27**	**333**	Pn		**Pn**		**19 14 09.1**	**-0.4**
ZKTA				Sn		**Sn**		**19 14 47.6**	**-0.5**
QZX	**Qazax, Azerbai**	**3.41**	**314**	Pn		**Pn**		**19 14 11.7**	**+0.4**
QZX				Sn		**Sn**		**19 14 52.7**	**+1.3**
IGLO	**Ghaloghah**	**4.70**	**117**	Pn		**Pn**		**19 14 26.5**	**-2.7**

DJA 07 19:22:12.1±0.4, 8°S±4°×10°5E±°, h10km, M4.0/18, mb4.3/6, MLv3.9/18, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.55**	**18**	P		Pn		19 22 39.8	0.0
CGJI				S		Sn		19 23 00.0	0.0
SKJI	**Sukabumi**	**1.72**	**51**	P		Pn		19 22 41.1	-1.1
CNJI	**Cibinong**	**2.06**	**68**	P		Pn		19 22 46.1	-0.7
CNJI				S		Sn		19 23 10.7	-1.8
DBJI	**Dramaga**	**2.17**	**45**	P		Pn		19 22 49.4	+1.1
SBJI	**Serang**	**2.17**	**25**	P		Pn		19 22 48.8	+0.5
KASI	**Kota Agung**	**2.66**	**344**	P		Pn		19 22 54.6	-0.4
LEM	**Lembang**	**2.70**	**62**	P		Pn		19 22 57.4	+1.6
LWLI	**Liwa**	**3.27**	**339**	P		Pn		19 23 04.2	+0.6
MDSI	**Maura Dua**	**3.73**	**344**	P		Pn		19 23 10.1	+0.3
KPJI	**Karang Pucung**	**3.77**	**79**	P		Pn		19 23 11.7	+1.4
MNAI	**Manna**	**4.34**	**329**	P		Pn		19 23 17.8	-0.4
UGM	**Wanagama**	**5.26**	**88**	P		Pn		19 23 31.5	+0.6
	86nm,2.1s								
TPI	**Tanjungpandan**	**5.84**	**25**	P		Pn		19 23 39.2	+0.4
	0.1nm18nm,1.0s								
PCJI	**Pacitan**	**5.91**	**91**	P		Pn		19 23 40.0	+0.2
	0.3nm37nm,1.2s								
GMJI	**Gumukmas**	**8.15**	**92**	P		Pn		19 24 11.2	+0.6
	28nm,2.6s								
JAGI	**Jajag, Banyuwa**	**8.86**	**93**	P		Pn		19 24 19.8	-0.5
	15nm,0.6s								

IDC 07 19:50:11.7±5.7, 7°.70S×129°.32E, h185km±59km, mb2.8/1, mbtmp3.5/5, Error ellipse: s-maj=54.5km s-min=22.0km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.12**	**246**	P		Pn		19 51 39.3	-1.1
	6.2nm,0.3s,baz=108,slow=0.9,SNR=1.4								
BATI				S		Sn		19 52 52.0	+1.6
	13nm,0.4s,baz=49,slow=20,SNR=6.0								
FITZ	**Fitzroy Crossi**	**10.94**	**199**	P		Pn		19 52 43.2	-0.2
	2.6nm,0.8s,baz=18,slow=12,SNR=12								
FITZ				S		Sn		19 54 42.7	-2.6
	2.2nm,0.6s,baz=56,slow=18,SNR=7.9								
WRA	**Warramunga Arr**	**13.11**	**159**	P		Pn		19 53 12.1	+1.0
	0.3nm,0.4s,baz=345,slow=13,SNR=8.3								
WRA				S		Sn		19 55 31.6	-5.5
	0.8nm,0.4s,baz=336,slow=23,SNR=9.7								
ASAR	**Alice Springs**	**16.48**	**165**	P		Pn		19 53 53.5	+0.9
	0.6nm,0.7s,baz=341,slow=9.4,SNR=8.1								
ASAR				S		S		19 56 53.9	-0.6
	0.2nm,0.4s,baz=328,slow=16,SNR=5.5								
MKAR	**Makanchi Array**	**68.44**	**327**	P		P		20 00 53.5	-0.1
	0.1nm,0.3s,baz=118,slow=7.6,SNR=1.8								
	0.1nm,0.3s								

*IDC **07** 19:53:25.6±0.8, 5°.95N×125°.91E, h86km±6km, mb3.9/22, mbtmp4.3/24, MS3.2/11, Error ellipse: s-maj=20.0km s-min=9.0km az=75.0*
*NEIC **07** 19:53:26.1±1.9, 5°.96N±0°.06×125°.9E±0°.1, h85km±8km, mb4.6/90, Error ellipse: s-maj=18.4km s-min=8.6km az=77.0*
*DJA **07** 19:53:26.9±0.3, 6°N±2°×12°6E±°, h56km±6km, M4.7/23, mb4.7/23, mB5.2/9, MLv5.0/12, Mw(mB)4.6/9*
ISC 07 19:53:27.2±0.3, 5°.94N±0°.04×125°.96E±0°.07, h100km, n348, σ1°06/306, mb4.5/75, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.18**	**342**			**Pn**		**19 53 47.1**	**-2.6**
DAV					Sn	**Sn**		**19 54 01.2**	**-5.4**
DAV	**Davao City (W)**	**1.18**	**342**	P		**Pn**		**19 53 47.4**	**-2.3**
	490nm,0.3s,baz=225,slow=6.3,SNR=13								
DAV					S	**Sn**		**19 54 02.9**	**-3.6**
	928nm,0.4s,baz=107,slow=19,SNR=7.1								
DAV					LR	LR		19 54 22.4	
	comp=Z,466nm,18.6s,baz=222,slow=49								
SGSI	**Sangihe**	**2.28**	**191**	P		**Pn**		**19 54 02.3**	**-1.1**
SGSI					S	**Sn**		**19 54 30.0**	**-1.2**
TNTI	**Ternate**	**5.33**	**165**			**Pn**		**19 54 43.7**	**-0.7**
TNTI	**Ternate**	**5.33**	**165**	P		**Pn**		**19 54 43.1**	**-1.2**
	75nm,0.4s								
TNTI					S	**Sn**		**19 55 41.5**	**-3.0**
	75nm,0.4s								
KMSI	**Cibinong**	**5.69**	**200**	P		**Pn**		**19 54 48.2**	**-1.0**
KMSI					S	**Sn**		**19 55 49.3**	**-3.9**
MRSI	**Marisa**	**6.75**	**217**	P		**Pn**		**19 55 03.4**	**-0.3**
TOLI2	**Tolitoli**	**7.05**	**227**			**Pn**		**19 55 05.2**	**-2.6**
MYLDM	**Lahad Datu**	**7.46**	**265**	Pn		**Pn**		**19 55 15.2**	**+1.9**
LUWI	**Luwuk**	**7.63**	**205**	P		**Pn**		**19 55 17.2**	**+1.5**
SANI	**Sanana**	**7.94**	**180**	P		**Pn**		**19 55 16.7**	**-3.2**
	0.3nm1μm72nm,1.0s								
APSI	**Ampana**	**8.05**	**212**	P		**Pn**		**19 55 23.1**	**+1.7**
	1μm53nm,1.0s								
MPSI	**Mapaga**	**8.22**	**228**	P		**Pn**		**19 55 21.2**	**-2.5**
	12nm,0.5s								
SWI	**Sorong**	**8.59**	**142**	P		**Pn**		**19 55 27.1**	**-1.6**
	31nm,0.6s								
NLAI	**Namlea**	**9.19**	**173**	P		**Pn**		**19 55 33.9**	**-3.0**
MSAI	**Masohi**	**9.69**	**162**	P		**Pn**		**19 55 45.8**	**+2.0**
	35nm,0.4s								
AAI	**Ambon**	**9.82**	**167**	P		**Pn**		**19 55 43.4**	**-2.1**
	38nm,0.8s								
FAKI	**Fak Fak**	**10.82**	**144**	P		**Pn**		**19 55 58.5**	**-0.6**
	40nm,1.4s								
KAPI	**Kappang**	**12.52**	**210**	P		**Pn**		**19 56 22.1**	**+0.2**
	5.2nm,0.3s,baz=16,slow=12,SNR=4.9								
BSSI	**Bau Bau, Buton**	**13.19**	**205**	P		**Pn**		**19 56 32.4**	**+1.8**
SBUM	**Sibu**	**14.13**	**256**			**P**		**19 56 48.4**	**+1.1**
MMRI	**Maumere**	**14.95**	**194**	P		**P**		**19 56 56.4**	**0.0**
	30nm,0.9s								
EDFI	**Ende, Flores**	**15.20**	**196**	P		**P**		**19 56 58.2**	**-1.2**
**SOEI

BNX	**BinXian**	**39.66**	**2**	‖P	**P**	**20 00 50.8**	**+1.5**
BNX				pmax	pmax		
	comp=Z,8.0nm,2.6s						
STKA	**Stephens Creek**	**40.46**	**159**	P	**P**	**20 00 56.9**	**+0.9**
	comp=Z,6.5nm,0.8s,baz=344,slow=7.7,SNR=8.1						
	comp=Z,6.5nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**41.61**	**69**	T	T	20 45 17.5	
	baz=258,slow=70,SNR=12						
H11S1	**WAKE ISLAND Hy**	**41.62**	**69**	T	T	20 45 11.6	
	baz=258,slow=70,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.62**	**69**	T	T	20 45 09.6	
	baz=258,slow=70,SNR=16						
H11N1	**WAKE ISLAND Hy**	**42.06**	**67**	T	T	20 45 51.1	
	baz=255,slow=75,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**42.07**	**67**	T	T	20 45 59.1	
	baz=255,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**42.08**	**67**	T	T	20 45 58.8	
	baz=255,slow=75,SNR=6.6						
HEH	**HeiHe**	**44.18**	**1**	eP	**P**	**20 01 26.5**	**+0.6**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SONM	**Songino Array**	**44.97**	**341**	P	**P**	**20 01 32.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=131,slow=6.5,SNR=6.2						
SONM				PcP	**PcP**	**20 03 12.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=162,slow=3.5,SNR=8.5						
SONM				ScP	**ScP**	**20 06 57.5**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=116,slow=3.4,SNR=2.4						
PETK	**Petropavlovsk-**	**53.70**	**23**	P	**P**	**20 02 39.4**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=191,slow=5.6,SNR=4.4						
	comp=Z,4.5nm,0.9s						
MKAR	**Makanchi Array**	**55.31**	**325**	P	**P**	**20 02 50.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=111,slow=7.6,SNR=8.0						
MKAR				PcP	**PcP**	**20 03 49.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=120,slow=3.5,SNR=6.3						
	comp=Z,0.6nm,0.6s						
YAK	**Yakutsk**	**56.04**	**2**		**P**	**20 02 55.5**	**+0.2**
ZALV	**Zalesovo Beam**	**58.28**	**333**	P	**P**	**20 03 10.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=124,slow=6.0,SNR=3.7						
ZALV				LR	LR	20 33 08.9	
	comp=Z,21nm,18.2s,baz=64,slow=41						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**59.47**	**327**	P	**P**	**20 03 19.0**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=126,slow=6.7,SNR=18						
	comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**59.47**	**327**		**P**	**20 03 18.6**	**-1.0**
BVAR	**Borovoye Array**	**65.06**	**327**	P	**P**	**20 03 57.0**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=145,slow=7.3,SNR=5.0						
	comp=Z,0.7nm,0.5s						
TIXI	**Tiksi**	**65.66**	**1**	P	**P**	**20 04 00.6**	**+0.3**
AB31	**Akbulak array**	**69.96**	**320**		**P**	**20 04 27.1**	**-0.7**
SPIA	**Saint Paul Isl**	**71.01**	**31**	P	**P**	**20 04 34.2**	**+0.3**
	baz=251						
P08K	**Saint George I**	**71.18**	**32**	P	**P**	**20 04 34.5**	**-0.5**
	baz=252						
AKTO	**Aktyubinsk**	**71.46**	**321**	LR	LR	20 37 38.0	
	comp=Z,25nm,18.1s,baz=116,slow=37						
TNA	**Tin City**	**74.87**	**23**	P	**P**	**20 04 54.8**	**-1.7**
	baz=250						
S12K	**Black Hills**	**74.99**	**34**	P	**P**	**20 04 56.5**	**-1.0**
	baz=258						
K13K	**Kusilvak Mount**	**75.15**	**27**	P	**P**	**20 04 58.1**	**-0.2**
	baz=254						
F14K	**Arctic Creek**	**75.47**	**24**	P	**P**	**20 04 59.4**	**-0.6**
	baz=252						
ANM	**Nome**	**75.58**	**25**	P	**P**	**20 05 00.4**	**-0.3**
	baz=253						
SDPT	**Sand Point**	**75.81**	**34**	P	**P**	**20 05 02.1**	**-0.1**
	baz=260						
J14K	**Nanvaranak Lak**	**75.86**	**27**	P	**P**	**20 05 02.2**	**-0.1**
	baz=255						
L14K	**Kuka Creek**	**75.92**	**28**	P	**P**	**20 05 02.9**	**+0.2**
	baz=256						
N14K	**Kuskokwak Cree**	**76.07**	**30**	P	**P**	**20 05 03.0**	**-0.6**
	baz=258						
M14K	**Bethel**	**76.12**	**29**	P	**P**	**20 05 03.7**	**-0.1**
	baz=257						
F15K	**North Star Dit**	**76.21**	**23**	P	**P**	**20 05 04.5**	**+0.2**
	baz=254						
CHNA	**Chernabura Isl**	**76.22**	**35**	P	**P**	**20 05 04.0**	**-0.5**
	baz=261						
G15K	**Niukluk**	**76.25**	**24**	P	**P**	**20 05 03.7**	**-0.8**
	baz=254						
L15K	**Ungalak Mounta**	**76.55**	**28**	P	**P**	**20 05 05.7**	**-0.6**
	baz=257						
K15K	**Wolf Creek Mou**	**76.67**	**27**	P	**P**	**20 05 06.8**	**-0.2**
	baz=257						
C16K	**Lisburne Hills**	**76.70**	**21**	P	**P**	**20 05 06.8**	**-0.2**
	baz=252						
M15K	**Kasigluk River**	**76.72**	**29**	P	**P**	**20 05 07.1**	**-0.2**
	baz=258						
H16K	**Elim**	**76.90**	**25**	P	**P**	**20 05 08.3**	**+0.1**
	baz=256						
N15K	**Kwethluk River**	**76.91**	**30**	P	**P**	**20 05 08.7**	**+0.4**
	baz=259						
G16K	**Koyuk River**	**77.04**	**24**	P	**P**	**20 05 09.5**	**+0.6**
	baz=256						
J16K	**Anvik River**	**77.30**	**26**		**P**	**20 05 12.3**	**+1.9**
J16K				IAmb	IAmb	20 05 14.9	
	comp=Z,8.7nm,1.3s						
J16K	**Anvik River**	**77.30**	**26**	P	**P**	**20 05 10.8**	**+0.3**
	baz=258						
D17K	**Noatak River**	**77.36**	**22**	P	**P**	**20 05 10.6**	**-0.1**
	baz=255						
I17K	**Unalakleet**	**77.39**	**26**	P	**P**	**20 05 10.9**	**0.0**
	baz=258						
RDOG	**Red Dog Mine**	**77.52**	**21**	P	**P**	**20 05 11.5**	**-0.1**
	baz=255						
C17K	**DeLong Mountai**	**77.53**	**21**	P	**P**	**20 05 11.4**	**-0.3**
	baz=254						
N16K	**Nishlik Lake**	**77.61**	**29**	P	**P**	**20 05 12.3**	**0.0**
	baz=260						
M16K	**Timber Creek**	**77.61**	**29**	P	**P**	**20 05 12.9**	**+0.6**
	baz=260						
E17K	**Hotham Inlet**	**77.67**	**22**	P	**P**	**20 05 12.8**	**+0.3**
	baz=256						
F17K	**Baldwin Pennin**	**77.73**	**23**	P	**P**	**20 05 13.0**	**+0.2**
	baz=257						
R16K	**Pilot Point**	**77.76**	**32**	P	**P**	**20 05 13.1**	**0.0**
	baz=262						
G17K	**Kiwalik Mounta**	**77.76**	**24**	P	**P**	**20 05 13.1**	**+0.1**
	baz=257						
P16K	**Nushagak River**	**77.76**	**31**	P	**P**	**20 05 13.7**	**+0.7**
	baz=261						
O16K	**Kokwok River B**	**77.80**	**30**	P	**P**	**20 05 13.9**	**+0.6**
	baz=261						
H17K	**Granite Mounta**	**77.94**	**25**	IAmb	IAmb	20 05 16.9	
	comp=Z,8.2nm,1.3s						
H17K	**Granite Mounta**	**77.94**	**25**	P	**P**	**20 05 14.8**	**+0.7**
	baz=258						
J17K	**VABM Dome**	**78.00**	**26**	P	**P**	**20 05 15.1**	**+0.7**
	baz=259						
L17K	**Donlin**	**78.12**	**28**	P	**P**	**20 05 15.4**	**+0.4**
	baz=260						
E18K	**Tukpahlearik C**	**78.21**	**22**	IAmb	IAmb	20 05 19.0	
	comp=Z,4.8nm,0.8s						
E18K	**Tukpahlearik C**	**78.21**	**22**	P	**P**	**20 05 16.2**	**+0.8**
	baz=257						
K17K	**Iditarod**	**78.22**	**27**	IAmb	IAmb	20 05 21.4	
	comp=Z,6.7nm,1.0s						
K17K	**Iditarod**	**78.22**	**27**	P	**P**	**20 05 16.7**	**+1.2**
	baz=260						
B18K	**Kokolik River**	**78.25**	**20**	P	**P**	**20 05 16.2**	**+0.6**
	baz=256						
C18K	**Utukok River**	**78.28**	**21**	P	**P**	**20 05 16.2**	**+0.4**
	baz=256						
N17K	**Nushagak Hills**	**78.39**	**29**	P	**P**	**20 05 16.8**	**+0.2**
	baz=262						
F18K	**Selawik**	**78.39**	**23**	P	**P**	**20 05 16.8**	**+0.3**
	baz=258						
M17K	**Holitna River**	**78.40**	**29**	P	**P**	**20 05 17.2**	**+0.6**
	baz=261						
R17L	**Mt. Peulik Vol**	**78.42**	**32**	P	**P**	**20 05 17.1**	**+0.3**
	baz=263						
P17K	**Kvichak River**	**78.58**	**31**	P	**P**	**20 05 17.1**	**-0.4**
	baz=262						
H18K	**Honhosa River**	**78.63**	**25**	IAmb	IAmb	20 05 21.7	
	comp=Z,9.9nm,1.4s						
H18K	**Honhosa River**	**78.63**	**25**	P	**P**	**20 05 18.2**	**+0.4**
	baz=260						
G18K	**Tagagawik**	**78.65**	**24**	P	**P**	**20 05 18.7**	**+0.8**
	baz=259						
Q17K	**Contact Creek**	**78.74**	**32**	P	**P**	**20 05 18.8**	**+0.2**
	baz=263						
L18K	**Granite Mounta**	**78.88**	**28**	P	**P**	**20 05 20.4**	**+1.2**
L18K	**Granite Mounta**	**78.88**	**28**	P	**P**	**20 05 20.0**	**+0.8**
	baz=262						
C19K	**Lookout Ridge**	**78.95**	**21**	P	**P**	**20 05 19.8**	**+0.2**
	baz=258						
N18K	**Kilae Creek**	**79.05**	**29**	P	**P**	**20 05 20.4**	**+0.2**
	baz=263						
J18K	**Innoko River**	**79.05**	**27**	P	**P**	**20 05 20.3**	**+0.1**
	baz=261						
F19K	**Shaleruckik Mo**	**79.17**	**23**	P	**P**	**20 05 21.3**	**+0.6**
	baz=260						
M18K	**Stony River**	**79.18**	**29**	P	**P**	**20 05 21.3**	**+0.5**
	baz=263						
Q18K	**Katmai Hardscr**	**79.25**	**31**	P	**P**	**20 05 21.5**	**0.0**
	baz=264						
O18K	**Koktuh Hills**	**79.28**	**30**	P	**P**	**20 05 21.6**	**+0.2**
	baz=263						
G19K	**Purcell Mounta**	**79.32**	**24**	P	**P**	**20 05 21.5**	**-0.1**
	baz=260						
D19K	**Kuna River**	**79.35**	**21**	IAmb	IAmb	20 05 25.1	
	comp=Z,5.9nm,0.8s						
D19K	**Kuna River**	**79.35**	**21**	P	**P**	**20 05 21.6**	**-0.1**
	baz=259						
R18K	**Karluk**	**79.43**	**33**	P	**P**	**20 05 22.4**	**+0.1**
	baz=264						
GNI	**Garni**	**79.48**	**310**	LR	LR	20 45 32.1	
	comp=Z,11nm,18.1s,baz=114,slow=39						
H19K	**Roundabout Mou**	**79.48**	**24**	IAmb	IAmb	20 05 26.2	
	comp=Z,6.9nm,0.8s						
H19K	**Roundabout Mou**	**79.48**	**24**	P	**P**	**20 05 23.2**	**+0.7**
	baz=261,SNR=8.8						
E19K	**Redstone River**	**79.49**	**22**	IAmb	IAmb	20 05 27.8	
	comp=Z,5.9nm,0.8s						
E19K	**Redstone River**	**79.49**	**22**	P	**P**	**20 05 23.0**	**+0.5**
	baz=260						
J19K	**Poorman**	**79.61**	**26**	IAmb	IAmb	20 05 26.6	
	comp=Z,9.0nm,1.4s						
J19K	**Poorman**	**79.61**	**26**	P	**P**	**20 05 24.0**	**+0.8**
	baz=262						
L19K	**White Mountain**	**79.73**	**28**	P	**P**	**20 05 23.2**	**-0.6**
	baz=263						
N19K	**Bonanza Creek**	**79.75**	**29**	P	**P**	**20 05 23.9**	**-0.2**
	baz=264						
M19K	**Big River Lodg**	**79.91**	**28**	P	**P**	**20 05 24.7**	**-0.2**
	baz=264						
D20K	**Etivluk River**	**79.93**	**21**	IAmb	IAmb	20 05 27.4	
	comp=Z,9.3nm,0.9s						
D20K	**Etivluk River**	**79.93**	**21**	P	**P**	**20 05 25.2**	**+0.3**
	baz=260						
B20K	**Meade River**	**79.97**	**20**	P	**P**	**20 05 25.4**	**+0.4**
	baz=260						
F20K	**Avaraart Lake**	**80.00**	**23**	P	**P**	**20 05 26.0**	**+0.9**
	baz=262,SNR=6.4						
E20K	**Nigu River**	**80.02**	**22**	P	**P**	**20 05 26.0**	**+0.6**
	baz=261						
H20K	**Anotleneega Mo**	**80.13**	**25**	P	**P**	**20 05 25.7**	**-0.2**
	baz=263,SNR=8.4						
I20K	**Naaghedeneel**	**80.21**	**25**	P	**P**	**20 05 26.9**	**+0.6**
	baz=263						
L20K	**Farewell, AK**	**80.21**	**28**	P	**P**	**20 05 26.6**	**+0.1**
	baz=264						
K20K	**Telida**	**80.22**	**27**	P	**P**	**20 05 26.5**	**+0.1**
	baz=264						
P19K	**Oil Pt**	**80.26**	**31**	P	**P**	**20 05 26.3**	**-0.5**
	baz=265						
J20K	**Nowinta River**	**80.28**	**26**	P	**P**	**20 05 27.2**	**+0.4**
	baz=264,SNR=7.5						
KDAK	**Kodiak Island**	**80.45**	**32**	P	**P**	**20 05 28.3**	**+0.5**
	baz=266						
M20K	**Styx River**	**80.50**	**28**	P	**P**	**20 05 28.3**	**+0.2**
	baz=265						
O20K	**Slope Mountain**	**80.60**	**30**	P	**P**	**20 05 28.6**	**-0.1**
	baz=266						
IMAR	**Indian Mountai**	**80.65**	**24**		**P**	**20 05 29.2**	**+0.4**
C21K	**Knifeblade Rid**	**80.66**	**21**	P	**P**	**20 05 29.1**	**+0.4**
	baz=262						
B21K	**Ikpikpuk River**	**80.78**	**20**	P	**P**	**20 05 29.4**	**+0.1**
	baz=262,SNR=5.3						
G21K	**Allakaket**	**80.81**	**24**	IAmb	IAmb	20 05 33.6	
	comp=Z,12nm,1.4s						
G21K	**Allakaket**	**80.81**	**24**	P	**P**	**20 05 29.4**	**-0.1**
	baz=264,SNR=8.7						
E21K	**Killik River**	**80.86**	**22**	P	**P**	**20 05 29.9**	**+0.1**
	baz=263						
F21K	**Alatna River**	**80.90**	**23**	P	**P**	**20 05 30.3**	**+0.3**
	baz=264						
H21K	**Melozitna Rive**	**81.00**	**25**	P	**P**	**20 05 30.7**	**+0.1**
	baz=265,SNR=7.2						
PPLA	**Purkeypile**	**81.03**	**27**	P	**P**	**20 05 30.8**	**-0.1**
	baz=266						
CHUM	**Lake Minchumin**	**81.05**	**26**	P	**P**	**20 05 31.2**	**+0.3**
	baz=265						
CAST	**Castle Rocks**	**81.12**	**27**	P	**P**	**20 05 31.4**	**+0.1**
	baz=266						
SKT	**Skwentna**	**81.27**	**28**	P	**P**	**20 05 32.8**	**+0.7**
	baz=265						
B22K	**Teshekpuk Lake**	**81.28**	**20**	P	**P**	**20 05 32.5**	**+0.5**
	baz=263						
I21K	**Tanana**	**81.30**	**25**	IAmb	IAmb	20 05 35.0	
	comp=Z,7.3nm,0.9s						
I21K	**Tanana**	**81.30**	**25**	P	**P**	**20 05 33.2**	**+1.0**
	baz=265						
D22K	**Ayikyak River**	**81.37**	**21**	IAmb	IAmb	20 05 36.2	
	comp=Z,4.5nm,0.7s						
D22K	**Ayikyak River**	**81.37**	**21**	P	**P**	**20 05 33.2**	**+0.6**
	baz=264						
F22K	**John River**	**81.43**	**23**	P	**P**	**20 05 33.9**	**+1.1**
	baz=265,SNR=8.1						
SUA	**Susitna One**	**81.61**	**29**	P	**P**	**20 05 34.2**	**+0.2**
	baz=267						
H22K	**Ishtalitna Cre**	**81.61**	**24**	P	**P**	**20 05 35.1**	**+1.3**
	baz=266,SNR=8.3						
E22K	**Anaktuvuk Pass**	**81.62**	**22**	P	**P**	**20 05 34.5**	**+0.6**
	baz=265,SNR=11						
G22K	**Bettles**	**81.64**	**23**	P	**P**	**20 05 34.6**	**+0.7**
	baz=266						
BPAW	**Bear Paw Mtn.**	**81.65**	**26**	IAmb	IAmb	20 05 38.0	
	comp=Z,12nm,1.2s						
BPAW	**Bear Paw Mtn.**	**81.65**	**26**	P	**P**	**20 05 34.6**	**+0.5**
	baz=266,SNR=9.1						
MLY	**Manley**	**81.82**	**25**	IAmb	IAmb	20 05 38.4	
	comp=Z,6.6nm,0.8s						
MLY	**Manley**	**81.82**	**25**	P	**P**	**20 05 36.1**	**+1.1**
	baz=266,SNR=17						
TRF	**Thorofare Moun**	**81.92**	**27**	IAmb	IAmb	20 05 39.1	
	comp=Z,14nm,1.5s						
TRF	**Thorofare Moun**	**81.92**	**27**	P	**P**	**20 05 36.4**	**+0.7**
	baz=267						
RC01	**Rabbit Creek A**	**82.08**	**29**	P	**P**	**20 05 36.8**	**+0.5**
	baz=268						
D23K	**Nanushuk River**	**82.10**	**21**	IAmb	IAmb	20 05 39.5	
	comp=Z,7.5nm,0.8s						
D23K	**Nanuk River**	**82.10**	**21**	P	**P**	**20 05 37.1**	**+0.8**
	baz=266,SNR=8.0						
COLD	**Coldfoot**	**82.17**	**23**	IAmb	IAmb	20 05 39.6	
	comp=Z,6.5nm,0.7s						
COLD	**Coldfoot**	**82.17**	**23**	P	**P**	**20 05 37.2**	**+0.5**
	baz=267,SNR=7.0						
SEW	**Seward**	**82.19**	**30**	P	**P**	**20 05 37.2**	**+0.3**
	baz=268						
C23K	**Itkillik River**	**82.19**	**20**	P	**P**	**20 05 37.2**	**+0.5**
	baz=266,SNR=11						
G23K	**Bananza Creek**	**82.21**	**24**	P	**P**	**20 05 37.9**	**+0.9**
	baz=267,SNR=9.6						
H23K	**Yukon River**	**82.36**	**24**	P	**P**	**20 05 38.0**	**+0.2**
	baz=268,SNR=17						
PMR	**Palmer**	**82.39**	**29**	P	**P**	**20 05 38.9**	**+1.0**
	baz=268						
I23K	**Minto, Yukon-K**	**82.41**	**25**	IAmb	IAmb	20 05 42.2	
	comp=Z,5.7nm,0.7s						
I23K	**Minto, Yukon-K**	**82.41**	**25**	P	**P**	**20 05 38.4**	**+0.4**
	baz=268,SNR=11						
E23K	**Chandalar**	**82.44**	**22**	IAmb	IAmb	20 05 41.4	
	comp=Z,7.5nm,0.9s						
E23K	**Chandalar**	**82.44**	**22**	P	**P**	**20 05 38.8**	**+0.6**
	baz=267,SNR=7.8						
TOLK	**Toolik Lake Re**	**82.48**	**22**	P	**P**	**20 05 38.5**	**+0.1**
	baz=267,SNR=11						
NEA2	**Nenana**	**82.51**	**26**	P	**P**	**20 05 38.8**	**+0.2**
	baz=268						
MCK	**McKinley**	**82.54**	**27**	P	**P**	**20 05 39.4**	**+0.7**
	baz=268						
KNK	**Knik Glacier**	**82.70**	**29**	P	**P**	**20 05 39.4**	**-0.2**
	baz=269						
PWL	**Port Wells**	**82.76**	**29**	P	**P**	**20 05 39.2**	**-0.7**
	baz=269						
D24K	**Happy Valley**	**82.78**	**21**	P	**P**	**20 05 39.3**	**-0.5**
	baz=268,SNR=7.2						
C24K	**Franklin Bluff**	**82.85**	**21**	IAmb	IAmb	20 05 42.7	
	comp=Z,7.5nm,0.8s						
C24K	**Franklin Bluff**	**82.85**	**21**	P	**P**	**20 05 40.0**	**-0.1**
	baz=268						
E24K	**Your Creek**	**82.86**	**22**	P	**P**	**20 05 40.1**	**-0.3**
	baz=268,SNR=7.4						
WRH	**Wood River Hil**	**82.93**	**26**	IAmb	IAmb	20 05 42.3	
	comp=Z,9.2nm,1.1s						
H24K	**Noodor Dome**	**83.05**	**24**	IAmb	IAmb	20 05 44.6	
	comp=Z,7.4nm,0.8s						
H24K	**Noodor Dome**	**83.05**	**24**	P	**P**	**20 05 41.1**	**-0.3**
	baz=269,SNR=10						
CCB	**Clear Creek Bu**	**83.06**	**26**	IAmb	IAmb	20 05 43.4	
	comp=Z,11nm,1.2s						
F24K	**Squaw Lake**	**83.08**	**23**	IAmb	IAmb	20 05 45.6	
	comp=Z,6.6nm,0.8s						
F24K	**Squaw Lake**	**83.08**	**23**	P	**P**	**20 05 41.0**	**-0.5**
	baz=269,SNR=13						
P23K	**Montague Islan**	**83.21**	**30**	P	**P**	**20 05 42.3**	**0.0**
	baz=270						
POKR	**Poker Flat Res**	**83.22**	**25**	P	**P**	**20 05 42.8**	**+0.6**
	baz=270						
G24K	**Hadweenzic Riv**	**83.22**	**24**	P	**P**	**20 05 42.0**	**-0.2**
	baz=269,SNR=14						
SCM	**Sheep Creek Mo**	**83.25**	**28**	P	**P**	**20 05 42.2**	**-0.3**
	baz=270						
GLI	**Glacier Island**	**83.36**	**29**	P	**P**	**20 05 43.7**	**+0.7**
	baz=270						
HDA	**Harding Lake**	**83.42**	**26**	IAmb	IAmb	20 05 44.1	
	comp=Z,5.8nm,0.8s						
HDA	**Harding Lake**	**83.42**	**26**	P	**P**	**20 05 42.9**	**-0.4**
	baz=270						
IL31		**83.45**	**26**	IAmb	IAmb	20 05 44.7	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**83.45**	**26**		**P**	**20 05 42.4**	**-1.0**
ILAR	**Eielson Array**	**83.45**	**26**	P	**P**	**20 05 42.6**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=238,slow=5.4,SNR=30						
	comp=Z,2.6nm,0.8s						
D25K	**Kavik River**	**83.66**	**21**	P	**P**	**20 05 45.2**	**+0.8**
	baz=270,SNR=8.8						
G25K	**Bearman Lake**	**83.77**	**24**	P	**P**	**20 05 45.9**	**+1.0**
	baz=271,SNR=9.2						
M24K	**Tolsona, Glenn**	**83.79**	**28**	P	**P**	**20 05 46.3**	**+1.0**
	baz=271						
H25L	**Birch Creek**	**83.89**	**24**	P	**P**	**20 05 46.3**	**+0.7**
	baz=271,SNR=12						
KLU	**Klutina**	**83.92**	**29**	P	**P**	**20 05 46.3**	**+0.3**
	baz=271						
F25K	**Christian Rive**	**83.94**	**23**	IAmb	IAmb	20 05 49.2	
	comp=Z,7.3nm,1.0s						
F25K	**Christian Rive**	**83.94**	**23**	P	**P**	**20 05 46.1**	**+0.2**
	baz=271,SNR=8.6						
K24K	**Donnelly Dome**	**83.94**	**26**	P	**P**	**20 05 46.8**	**+0.9**
	baz=271						
EYAK	**Cordova Ski Ar**	**84.03**	**30**	P	**P**	**20 05 46.8**	**+0.5**
	baz=272						
PAX	**Paxson**	**84.10**	**27**	IAmb	IAmb	20 05 49.0	
	comp=Z,6.4nm,1.1s						
PAX	**Paxson**	**84.10**	**27**	P	**P**	**20 05 47.2**	**+0.3**
	baz=272						
J25K	**Salcha River,**	**84.11**	**26**	IAmb	IAmb	20 05 48.6	
	comp=Z,4.8nm,0.8s						
J25K	**Salcha River,**	**84.11**	**26**	P	**P**	**20 05 46.6**	**-0.2**
	baz=271,SNR=9.7						
C26K	**Camden Bay**	**84.16**	**20**	P	**P**	**20 05 47.4**	**+0.6**
	baz=271						
HARP	**HAARP**	**84.26**	**28**	P	**P**	**20 05 47.8**	**+0.2**
	baz=272						
BMAR	**Burnt Mountain**	**84.35**	**23**		**P**	**20 05 49.7**	**+1.7**
RIDG	**Independent Ri**	**84.36**	**27**	P	**P**	**20 05 48.6**	**+0.4**
	baz=272,SNR=7.8						
F26K	**Sheenjek River**	**84.51**	**23**	IAmb	IAmb	20 05 52.0	
	comp=Z,5.8nm,0.9s						
F26K	**Sheenjek River**	**84.51**	**23**	P	**P**	**20 05 49.4**	**+0.6**
	baz=272,SNR=8.9						
N25K	**Chitina, Valde**	**84.55**	**29**	IAmb	IAmb	20 05 51.6	
	comp=Z,6.8nm,1.1s						
N25K	**Chitina, Valde**	**84.55**	**29**	P	**P**	**20 05 49.9**	**+0.7**
	baz=272						
BMRM	**Bremner River**	**84.58**	**29**	P	**P**	**20 05 50.3**	**+1.0**
	baz=272						
G26K	**Porcupine Rive**	**84.68**	**23**	P	**P**	**20 05 49.8**	**+0.2**
	baz=273,SNR=14						
SCRK	**Sand Creek**	**84.73**	**26**	IAmb	IAmb	20 05 52.1	
	comp=Z,9.4nm,1.5s						
SCRK	**Sand Creek**	**84.73**	**26**	P	**P**	**20 05 50.4**	**+0.3**
	baz=273,SNR=5.7						
J26L	**Joseph Creek**	**84.89**	**26**	IAmb	IAmb	20 05 52.6	
	comp=Z,5.3nm,0.8s						
J26L	**Joseph Creek**	**84.89**	**26**	P	**P**	**20 05 51.3**	**+0.5**
	baz=273,SNR=9.9						
GLB	**Gilahina Butte**	**84.94**	**29**	IAmb	IAmb	20 05 53.3	
	comp=Z,7.6nm,0.9s						
I26K	**Coal Creek Min**	**85.02**	**25**	P	**P**	**20 05 52.7**	**+1.4**
	baz=273						
M26K	**Nabesna, AK**	**85.27**	**28**	P	**P**	**20 05 54.1**	**+1.5**
	baz=274						
MCARA	**McCarthy VSAT**	**85.32**	**29**	P	**P**	**20 05 53.7**	**+0.8**
	baz=274						
CRQE	**Cirque**	**85.33**	**30**	P	**P**	**20 05 54.0**	**+0.9**
	baz=274						
E27K	**Coleen River**	**85.44**	**22**	IAmb	IAmb	20 05 56.3	
	comp=Z,6.8nm,0.9s						
E27K	**Coleen River**	**85.44**	**22**	P	**P**	**20 05 54.5**	**+1.1**
	baz=275,SNR=5.3						
G27K	**Doyon Strip**	**85.53**	**23**	IAmb	IAmb	20 05 57.0	
	comp=Z,7.3nm,1.4s						
G27K	**Doyon Strip**	**85.53**	**23**	P	**P**	**20 05 54.7**	**+0.8**
	baz=275,SNR=7.0						
D27M	**Malcolm River**	**85.58**	**21**	IAmb	IAmb	20 06 39.8	
	comp=Z,4.9nm,0.8s						
D27M	**Malcolm River**	**85.58**	**21**	P	**P**	**20 05 54.7**	**+0.6**
	baz=275						
H27K	**Steamboat Moun**	**85.62**	**24**	IAmb	IAmb	20 05 57.6	
	comp=Z,5.1nm,0.8s						
H27K	**Steamboat Moun**	**85.62**	**24**	P	**P**	**20 05 55.4**	**+1.0**
	baz=275,SNR=7.7						
I27K	**Kandik River**	**85.64**	**25**	P	**P**	**20 05 55.4**	**+0.9**
	baz=275,SNR=12						
VNDA	**Vanda**	**85.70**	**173**	P	**P**	**20 05 54.5**	**0.0**
	comp=Z,0.5nm,0.9s,baz=290,slow=6.7,SNR=2.4						
	comp=Z,0.5nm,0.9s						
L27K	**Beaver Creek,**	**85.75**	**27**	P	**P**	**20 05 55.4**	**+0.3**
	baz=275						
BCAR	**Beaver Creek A**	**85.77**	**27**		**P**	**20 05 56.4**	**+1.2**
M27K	**Edge Creek, AK**	**85.79**	**28**	P	**P**	**20 05 56.0**	**+0.6**
	baz=275						
MESA	**MESA**	**85.93**	**30**	P	**P**	**20 05 56.3**	**+0.1**
	baz=275						
F28M	**Old Crow**	**86.14**	**23**	P	**P**	**20 05 56.9**	**0.0**
	baz=276						
E28M	**Babbage River**	**86.16**	**22**	P	**P**	**20 05 57.2**	**+0.3**
	ba

I30M	**Mount Dempster** baz=280	**87.86**	**25**	P	**P**	**20 06 04.7**	**-0.7**
J30M	**Hart River** baz=280	**87.99**	**25**	P	**P**	**20 06 05.5**	**-0.4**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,baz=122,slow=5.4,SNR=3.2 comp=Z,0.4nm,0.6s	**88.03**	**310**	P	**P**	**20 06 04.8**	**-1.9**
P29M	**Windy Craggy** baz=278	**88.11**	**30**	P	**P**	**20 06 06.6**	**+0.1**
M30M	**Minto, Yukon** baz=279	**88.11**	**27**	P	**P**	**20 06 06.6**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,1.2nm,0.5s,baz=86,slow=6.2,SNR=13 comp=Z,1.2nm,0.5s	**88.12**	**340**	P	**P**	**20 06 05.4**	**-1.0**
N30M	**Aishikik Lake** baz=279	**88.15**	**28**	P	**P**	**20 06 06.2**	**-0.5**
SPITS	**Spitsbergen Ar** comp=Z,3.2nm,0.6s,baz=90,slow=10.0,SNR=9.1 comp=Z,3.2nm,0.6s	**88.17**	**349**	P	**P**	**20 06 06.4**	**0.0**
INK	**Inuvik** baz=282	**88.40**	**21**	P	**P**	**20 06 07.8**	**+0.2**
G31M	**Satah River** baz=281	**88.40**	**23**	P	**P**	**20 06 07.4**	**-0.2**
P30M	**Million Dollar** baz=279	**88.42**	**30**	P	**P**	**20 06 07.5**	**-0.5**
F31M	**Tsiigehtchic** baz=282	**88.50**	**22**	P	**P**	**20 06 07.3**	**-0.8**
H31M	**Peel River** baz=281	**88.59**	**24**	P	**P**	**20 06 07.8**	**-0.9**
S31K	**Pelican** baz=280	**89.14**	**32**	P	**P**	**20 06 11.0**	**-0.4**
M31M	**Drury Creek, Y** baz=281	**89.28**	**28**	P	**P**	**20 06 12.2**	**+0.2**
WHY	**Whitehorse** baz=281	**89.34**	**29**	P	**P**	**20 06 11.6**	**-0.8**
FINES	**FINESS Array B** comp=Z,1.5nm,0.6s,baz=48,slow=5.9,SNR=13 comp=Z,1.5nm,0.6s	**89.53**	**332**	P	**P**	**20 06 12.0**	**-1.1**
SIT	**Sitka** baz=281	**89.79**	**33**	P	**P**	**20 06 13.7**	**-0.7**
R32K	**Eaglecrest** baz=281	**89.98**	**31**	P	**P**	**20 06 14.2**	**-1.1**
S32K	**Killisnoo** baz=281	**90.11**	**32**	P	**P**	**20 06 14.9**	**-0.9**
P32M	**Atlin** baz=282	**90.13**	**30**	P	**P**	**20 06 15.2**	**-0.8**
P33M	**Teslin, Yukon** baz=283	**90.44**	**29**	P	**P**	**20 06 16.8**	**-0.7**
Q32M	**Nakina River** baz=283	**90.99**	**30**	P	**P**	**20 06 19.0**	**-1.2**
U33K	**Whale Pass** baz=282	**91.17**	**33**	P	**P**	**20 06 20.3**	**-0.5**
CRAG	**Craig** baz=282	**91.31**	**34**	P	**P**	**20 06 20.4**	**-1.1**
WRAK	**Wrangell Islan** baz=283	**91.52**	**33**	P	**P**	**20 06 21.3**	**-1.1**
R33M	**Jennings River** baz=284	**91.54**	**30**	P	**P**	**20 06 21.1**	**-1.6**
V35K	**Ketchikan** baz=284	**92.17**	**34**	P	**P**	**20 06 25.7**	**+0.2**
TGTN	**Hyland Airport** baz=287	**92.25**	**27**	P	**P**	**20 06 25.9**	**+0.1**
HFS	**Hagfors** comp=Z,1.1nm,0.6s,baz=108,slow=4.7,SNR=7.2 comp=Z,1.1nm,0.6s	**95.71**	**332**	P	**P**	**20 06 40.1**	**-1.6**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.6s,baz=67,slow=4.4	**96.47**	**334**	P	**P**	**20 06 43.6**	**-1.5**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.5s,baz=66,slow=4.6,SNR=3.9	**96.47**	**334**	P	**P**	**20 06 43.6**	**-1.5**
NOA	comp=Z,10nm,18.6s,baz=220,slow=38 comp=Z,0.3nm,0.5s			LR	LR	20 54 49.5	
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.8s,baz=307,slow=5.2,SNR=4.4 comp=Z,0.8nm,0.8s	**97.81**	**24**	P	Pdif	20 06 51.0	-0.1
TXAR	**Lajitas Array** comp=Z,0.2nm,0.4s,baz=13,slow=5.9,SNR=2.0	**120.83**	**51**	PKP	**PKiKP**	**20 12 08.8**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.3s,baz=48,slow=2.1,SNR=2.6	**121.48**	**289**	PKP	**PKiKP**	**20 12 09.6**	**-0.5**
PLCA	**Paso Flores** comp=Z,1.4nm,0.7s,baz=162,slow=6.4,SNR=3.5	**142.33**	**159**	PKP	**PKPdf**	**20 12 46.6**	**-2.0**

*KRNET **07** 20:21:06.5±0.1, 40.81N×74.90E, h14km, mb2.5*
*SOME **07** 20:21:07.1, 40.77N×75.07E, h20km*
*NNC **07** 20:21:08.6±1.7, 40.90N×75.02E, h0km, mb3.8, mpv3.2, Error ellipse: s-maj=15.9km s-min=7.0km az=147.0*

ISC 07 20:21:06.0±1.8, 40.7N±0.1×74.91E±0.04, h10km, n19, σ1=9.00/31, 6C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNKS	**Jany-Kuch**	**0.67**	**57**	↑*iP*	**Pg**	**20 21 18.4**	**-0.7**
JNKS				↑*iS*	**Sg**	**20 21 26.9**	**-1.0**
SALK	**Salom-Alik**	**0.85**	**283**	↑*iP*	**Pg**	**20 21 22.2**	**-0.2**
SALK				↑*iS*	**Sg**	**20 21 33.6**	**+0.2**
ULHL	**Ulahol**	**1.84**	**33**	↓*iP*	**Pb**	**20 21 39.0**	**-0.9**
ULHL				↓*iS*	**Sb**	**20 22 02.7**	**-0.5**
KBK	**Karagaybulak**	**1.96**	**1**	↓*iP*	**Pb**	**20 21 40.7**	**-1.2**
KBK				↓*iS*	**Sb**	**20 22 05.5**	**-0.9**
KDJ	**Kajisay**	**2.23**	**49**	↓*iP*	**Pb**	**20 21 45.3**	**-1.2**
KDJ				↓*iS*	**Sb**	**20 22 13.8**	**-0.4**
TKM2	**Tokmak 2**	**2.28**	**13**	↓*iP*	**Pn**	**20 21 45.5**	**+1.6**
TKM2				↓*iS*	**Sb**	**20 22 14.0**	**-1.7**
CHMS	**Chumysh**	**2.30**	**357**	↑*iP*	**Pn**	**20 21 45.5**	**+1.4**
CHMS				↑*iS*	**Sb**	**20 22 14.1**	**-2.1**
KST	**Kastek** 1.0nm,0.1s	**2.47**	**18**	Pg	**Pb**	**20 21 50.3**	**-0.3**
KST	5.4nm,0.3s			Lg	Lg	20 22 21.9	
KST	**Kastek** 1.0nm,0.1s	**2.47**	**18**	*eP*	**Pb**	**20 21 50.3**	**-0.3**
KST	5.4nm,0.3s			*eS*	**Sb**	**20 22 21.9**	**+0.7**
USP	**Ospenovka**	**2.58**	**353**	↓*iP*	**Pn**	**20 21 49.6**	**+1.6**
USP				↓*iS*	**Sn**	**20 22 20.9**	**+1.4**
DGS	**Degeres** 1.6nm,0.2s	**2.62**	**14**	Pg	**Pb**	**20 21 52.7**	**-0.5**
DGS	3.3nm,0.3s			Lg	Lg	20 22 25.7	
TNSS	**Tian-Shan** 0.2nm,0.1s	**2.79**	**32**	Pg	**Pb**	**20 21 56.1**	**-0.1**
TNSS	0.4nm,0.2s			Lg	Lg	20 22 31.7	
TNSS	**Tian-Shan** 0.2nm,0.1s	**2.79**	**32**	*eP*	**Pb**	**20 21 56.1**	**-0.1**
TNSS	0.4nm,0.2s			*eS*	**Sb**	**20 22 31.7**	**+1.1**
KTBS	**Karatobe** 1.2nm,0.2s	**3.29**	**23**	Pg	**Pb**	**20 22 04.4**	**-0.1**
KTBS	4.4nm,0.4s			Lg	Lg	20 22 45.9	
KUU	**Kurty** 1.3nm,0.0s	**3.36**	**18**	Pg	**Pb**	**20 22 05.6**	**-0.2**
KUU	25nm,0.4s			Lg	Lg	20 22 47.1	
KUU	**Kurty** 1.3nm,0.0s	**3.36**	**18**	*eP*	**Pb**	**20 22 05.6**	**-0.2**
KUU	25nm,0.4s			*eS*	**Sb**	**20 22 47.1**	**+0.4**
CHKK	**Chushkaly** 17nm,0.3s	**3.51**	**25**	Pg	**Pb**	**20 22 07.8**	**-0.5**
CHKK	2.1nm,0.1s			Lg	Lg	20 22 51.4	
CHKK	**Chushkaly** 17nm,0.3s	**3.51**	**25**	*eP*	**Pb**	**20 22 07.8**	**-0.5**
CHKK	2.1nm,0.1s			*eS*	**Sb**	**20 22 51.4**	**+0.4**
IUG	**Iuzhnay** 1.1nm,0.2s	**3.94**	**293**	Pg	**Pg**	**20 22 20.0**	**-1.5**
IUG	2.4nm,0.3s			Lg	Lg	20 23 13.5	

*DJA **07** 20:27:24.7±0.4, 8°S±4°×10°4E±°, h10km, M4.7/23, mB5.4/3, mb4.8/20, MLv4.6/23, Mw(mB)4.8/3*
*NEIC **07** 20:27:28.3±1.5, 7.8S±0.1°×104.31E±0.09, h10km±2km, mb4.5/26, Error ellipse: s-maj=23.2km s-min=11.5km az=211.0*
*IDC **07** 20:27:33.4±4.4, 7.68S×104.40E, h48km±39km, mb3.9/15, mbtmp4.2/17, ML4.4/2, MS3.1/3, Error ellipse: s-maj=35.1km s-min=14.5km az=58.0*

ISC 07 20:27:30.1±0.6, 7.72S±0.08×104.44E±0.06, h27km, n94, σ1=9.31/87, mb4.4/30, 1C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**1.66**	**48**	P	**Pn**	**20 27 57.7**	**+0.3**
KASI	**Kota Agung**	**2.19**	**1**	P	**Pn**	**20 28 04.5**	**-0.2**
SKJI	**Sukabumi**	**2.21**	**71**	P	**Pn**	**20 28 05.2**	**+0.1**
SBJI	**Serang**	**2.31**	**47**	P	**Pn**	**20 28 07.6**	**+1.2**
BLSI	**Bandar Lampung**	**2.47**	**19**	P	**Pn**	**20 28 09.0**	**+0.3**
DBJI	**Dramaga**	**2.56**	**63**	P	**Pn**	**20 28 11.7**	**+1.7**
CNJI	**Cibinong**	**2.69**	**81**	P	**Pn**	**20 28 11.5**	**-0.2**
LWLI	**Liwa**	**2.71**	**352**	P	**Pn**	**20 28 11.8**	**-0.3**
KLI	**Kotabumi**	**2.87**	**8**	P	**Pn**	**20 28 14.6**	**+0.5**
MDSI	**Maura Dua**	**3.23**	**355**	P	**Pn**	**20 28 19.2**	**+0.2**
LEM	**Lembang** 25nm,0.3s,baz=343,slow=16,SNR=6.5	**3.27**	**74**	P	**Pb**	**20 28 23.4**	**-4.2**
LEM	280nm,0.7s,baz=283,slow=1.3,SNR=5.2			S	**Sn**	**20 28 56.9**	**-1.1**
LEM	comp=Z,164nm,19.6s,baz=128,slow=50 122nm,0.6s			LR	LR	20 30 17.8	
LEM	**Lembang**	**3.27**	**74**	P	**Pn**	**20 28 22.0**	**+2.2**
MNAI	**Manna**	**3.65**	**336**	Pn	**Pn**	**20 28 24.1**	**-0.8**
MNAI	**Manna**	**3.65**	**336**	P	**Pn**	**20 28 23.7**	**-1.2**
LHSI	**Lahat**	**3.98**	**347**	P	**Pn**	**20 28 29.8**	**+0.4**
KSI	**Kapahiang**	**4.44**	**335**	P	**Pn**	**20 28 34.0**	**-1.9**
KPJI	**Karang Pucung**	**4.46**	**85**	P	**Pn**	**20 28 37.1**	**+1.0**
UGM	**Wanagama**	**6.03**	**92**		**Pn**	**20 28 58.0**	**+0.5**
UGM	**Wanagama**	**6.03**	**92**	P	**Pn**	**20 28 58.4**	**+0.8**
WOJI	**Wonogiri, Jawa** 0.5nm66nm,0.5s	**6.42**	**91**	P	**Pn**	**20 29 03.2**	**+0.2**
PPSI	**Pulau Pagai** 108nm,1.0s	**6.62**	**318**	P	**Pn**	**20 29 03.0**	**-2.7**
PCJI	**Pacitan**	**6.69**	**94**	P	**Pn**	**20 29 07.2**	**+0.6**
PDSI	**Padang** 0.1nm18nm,0.8s	**7.84**	**329**	P	**Pn**	**20 29 19.2**	**-3.4**
GMJI	**Gumukmas**	**8.93**	**94**	P	**Pn**	**20 29 38.0**	**+0.6**
KMMI	**Kalianget** 3nm76nm,1.5s	**9.47**	**87**	P	**Pn**	**20 29 44.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**9.64**	**95**		**Pn**	**20 29 46.5**	**-0.7**
JAGI	**Jajag, Banyuwa** 44nm,0.6s	**9.64**	**95**	P	**Pn**	**20 29 46.7**	**-0.5**
SRBI	**Singaraja** 42nm,0.6s	**10.67**	**93**	P	**Pn**	**20 30 01.6**	**+0.2**
GSI	**Gunungsitoli**	**11.28**	**322**	Pn	Pn	20 30 04.8	-4.9
GSI	**Gunungsitoli** 31nm,1.1s	**11.28**	**322**	P	**Pn**	**20 30 05.8**	**-3.9**
PLAI	**Plampang** 48nm,0.9s	**13.24**	**96**	P	**Pn**	**20 30 34.7**	**-1.8**
WBSI	**Waikabubak, Su** 44nm,1.1s	**14.90**	**98**	P	**Pn**	**20 30 56.9**	**-2.2**
KAPI	**Kappang** comp=Z,69nm,18.8s,baz=276,slow=39	**15.45**	**81**	LR	LR	20 37 37.4	
BSSI	**Bau Bau, Buton**	**16.01**	**85**	P	**Pn**	**20 31 14.0**	**+0.4**
MPSI	**Mapaga** 47nm,1.1s	**17.36**	**63**	P	**P**	**20 31 32.6**	**+0.7**
GIRL	**Giralia**	**17.57**	**149**	Pn	**Pn**	**20 31 29.8**	**-3.5**
MMRI	**Maumere**	**17.64**	**94**	Pn	**Pn**	**20 31 31.5**	**-2.6**
MMRI	comp=Z,53nm,0.8s			IAmb	IAmb	20 31 44.1	
MMRI	**Maumere** comp=Z,83nm,1.1s	**17.64**	**94**	P	**Pn**	**20 31 32.7**	**-1.4**
TOLI2	**Tolitoli**	**18.51**	**62**	P	**Pn**	**20 31 45.7**	**+0.9**
MYLDM	**Lahad Datu**	**19.00**	**48**	P	**Pn**	**20 31 51.4**	**+0.7**
BATI	**Baumata** comp=Z,2.2nm,0.3s,baz=298,slow=15,SNR=2.3	**19.14**	**99**	P	**Pn**	**20 31 53.7**	**+1.2**
BATI	comp=Z,9.7nm,0.5s,baz=90,slow=18,SNR=1.4 comp=Z,14nm,0.6s			S	**Sn**	**20 35 25.9**	**-0.6**
BATI	**Baumata** comp=Z,25nm,0.8s	**19.14**	**99**	P	**P**	**20 31 50.5**	**-1.0**
MRSI	**Marisa**	**19.25**	**66**	P	**Pn**	**20 31 53.7**	**-0.1**
MBWA	**Marble Bar**	**19.91**	**134**	P	**Pn**	**20 32 01.2**	**-0.4**
MBWA	comp=Z,67nm,1.5s			IAmb	IAmb	20 32 24.8	
PSA00	**Pilbara Seismi**	**20.26**	**134**	P	Pn	20 32 04.5	-1.2
FITZ	**Fitzroy Crossi**	**23.06**	**119**	P	**P**	**20 32 34.3**	**+0.6**
KNRA	**Kununurra**	**25.07**	**111**	P	**P**	**20 32 53.4**	**+0.8**
KNRA	comp=Z,12nm,1.1s			IAmb	IAmb	20 33 32.3	
CM31	**Chiang Mai Arr**	**26.57**	**348**	P	**P**	**20 33 05.7**	**-0.5**
CM31	comp=Z,9.9nm,0.8s			IAmb	IAmb	20 33 07.7	
CMAR	**Chiang Mai Arr**	**26.57**	**348**		**P**	**20 33 06.5**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,7.7nm,0.9s,baz=182,slow=8.4,SNR=41 comp=Z,7.7nm,0.9s	**26.57**	**348**	P	**P**	**20 33 06.1**	**-0.1**
CHTO	**Chiang Mai**	**26.92**	**348**		**P**	**20 33 09.5**	**+0.2**
CHTO	comp=Z,12nm,0.7s			IAmb	IAmb	20 33 10.6	
SLVN	**Son La**	**28.88**	**359**		**P**	**20 33 27.8**	**+0.9**
WRA	**Warramunga Arr**	**31.40**	**116**	P	**P**	**20 33 49.4**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.9nm,0.5s,baz=287,slow=11,SNR=18	**31.40**	**116**	P	**P**	**20 33 49.5**	**+0.3**
WRA	comp=Z,0.6nm,1.0s,baz=296,slow=2.6,SNR=1.4 comp=Z,0.9nm,0.5s			PcP	**PcP**	**20 36 43.3**	**+0.7**
H08S2	**Diego Garcia H** baz=91,slow=74,SNR=17	**31.66**	**268**	T	T	21 07 31.8	
H08S3	**Diego Garcia H** baz=91,slow=74,SNR=19	**31.67**	**268**	T	T	21 07 31.7	
H08S1	**Diego Garcia H** baz=91,SNR=12	**31.68**	**268**	T	T	21 07 29.3	
ASAR	**Alice Springs** comp=Z,1.0nm,1.0s,baz=303,slow=7.2,SNR=5.1	**32.38**	**123**	P	**P**	**20 33 60.0**	**+2.1**
ASAR	comp=Z,0.2nm,0.5s,baz=309,slow=2.9,SNR=2.1 comp=Z,1.0nm,1.0s			PcP	**PcP**	**20 36 46.3**	**+1.0**
BRDH	**Bariadhala** comp=Z,41nm,20.3s,baz=166,slow=38	**32.71**	**338**	LR	LR	20 48 30.9	
LSA	**Lhasa**	**39.34**	**342**	P	**P**	**20 34 57.1**	**-0.7**
STKA	**Stephens Creek** comp=Z,2.8nm,0.8s,baz=307,slow=11,SNR=2.1 comp=Z,2.8nm,0.8s	**42.08**	**130**	P	**P**	**20 35 20.5**	**+0.5**
MANU	**Manus Island**	**43.11**	**85**	P	**P**	**20 35 29.5**	**+0.9**
MANU	comp=Z,11nm,0.7s			IAmb	IAmb	20 35 39.3	
GTA	**Gaotai**	**47.09**	**355**	*eP*	**P**	**20 36 01.7**	**+1.8**
GTA				sP	pwP	20 36 10.1	-1.8
GTA	comp=Z,4.0nm,1.4s			pmax	pmax		
KSRS	**Korea Array** comp=Z,1.1nm,0.6s,baz=216,slow=8.1,SNR=5.3 comp=Z,1.1nm,0.6s	**50.02**	**24**	P	**P**	**20 36 23.3**	**+1.0**
XLT	**XiLinHaoTe**	**52.45**	**11**	*eP*	**P**	**20 36 43.3**	**+2.7**
XLT				pP	pwP	20 36 55.5	+2.8
XLT	comp=Z,6.0nm,0.9s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,0.5nm,0.5s,baz=214,slow=7.7,SNR=2.3 comp=Z,0.5nm,0.5s	**54.24**	**33**	P	**P**	**20 36 52.6**	**-1.2**
CN2	**Changchun**	**54.70**	**19**	P	**P**	**20 36 57.8**	**+0.8**
CN2	comp=Z,10.0nm,0.5s			pmax	pmax		
SONM	**Songino Array**	**55.34**	**2**	P	**P**	**20 37 02.4**	**+0.7**
SONM	comp=Z,3.8nm,1.1s			IAmb	IAmb	20 37 14.9	
SONM	**Songino Array** comp=Z,2.1nm,0.8s,baz=178,slow=8.7,SNR=11 comp=Z,2.1nm,0.8s	**55.34**	**2**	P	**P**	**20 37 03.1**	**+1.4**
KDJ	**Kajisay**	**55.52**	**336**		**P**	**20 37 03.2**	**+0.1**
KDJ	comp=Z,4.6nm,0.7s			IAmb	IAmb	20 37 04.9	
ARSB	**Arslanbob**	**56.71**	**332**	P	**P**	**20 37 10.9**	**-0.7**
ARSB	comp=Z,6.1nm,1.3s			IAmb	IAmb	20 37 29.6	
BNX	**BinXian**	**57.06**	**19**	↑P	**P**	**20 37 13.2**	**-0.6**
BNX	comp=Z,8.0nm,3.0s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**57.37**	**23**	P	**P**	**20 37 16.5**	**+0.5**
USRK	**Ussuriysk Ar.** comp=Z,2.1nm,0.6s,baz=205,slow=9.5,SNR=4.2 comp=Z,2.1nm,0.6s	**57.37**	**23**	P	**P**	**20 37 17.2**	**+1.2**
MKAR	**Makanchi Array**	**57.75**	**342**		**P**	**20 37 18.6**	**-0.1**
MKAR	**Makanchi Array** comp=Z,2.3nm,0.8s,baz=143,slow=7.7,SNR=19 comp=Z,2.3nm,0.8s	**57.75**	**342**	P	**P**	**20 37 19.1**	**+0.4**
H04N2	**CROZET ISLANDS** baz=67,slow=75,SNR=6.6	**59.07**	**220**	T	T	21 41 48.9	
H04N1	**CROZET ISLANDS** baz=67,slow=75,SNR=5.3	**59.09**	**220**	T	T	21 41 38.7	
H04N3	**CROZET ISLANDS** baz=67,slow=75,SNR=7.0	**59.09**	**220**	T	T	21 41 42.2	
KURBB	**Kurchatov Arra** comp=Z,1.9nm,0.6s,baz=163,slow=5.9,SNR=4.6 comp=Z,1.9nm,0.6s	**62.30**	**342**	P	**P**	**20 37 50.3**	**+0.5**
KURK	**Kurchatov**	**62.35**	**342**		**P**	**20 37 49.6**	**-0.5**
KURK				IAmb	IAmb	20 38 02.5	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**63.63**	**347**		**P**	**20 37 58.5**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,5.2nm,0.7s,baz=152,slow=5.6,SNR=13 comp=Z,5.2nm,0.7s	**63.63**	**347**	P	**P**	**20 37 58.9**	**+0.3**
BVAR	**Borovoye Array** comp=Z,1.9nm,0.6s,baz=150,slow=9.3,SNR=12 comp=Z,1.9nm,0.6s	**67.07**	**338**	P	**P**	**20 38 21.2**	**+0.3**
BRVK	**Borovoye**	**67.14**	**338**	P	**P**	**20 38 21.4**	**+0.1**
BRVK	comp=Z,1.5nm,0.7s			IAmb	IAmb	20 38 49.2	
AB31	**Akbulak array** comp=Z,3.2nm,0.8s	**68.76**	**330**	IAmb	IAmb	20 38 32.9	
YAK	**Yakutsk** comp=Z,22nm,0.7s,baz=9.6,slow=1.0,SNR=12	**72.25**	**12**	P	**P**	**20 38 53.1**	**+0.5**
ARTI	**Arti**	**74.25**	**335**		**P**	**20 39 04.9**	**+0.4**
PETK	**Petropavlovsk-** comp=Z,1.5nm,0.6s,baz=252,slow=2.9,SNR=3.0 comp=Z,1.5nm,0.6s	**75.47**	**30**	P	**P**	**20 39 11.9**	**+0.2**
BRTR	**Keskin Array B**	**80.43**	**312**		**P**	**20 39 39.5**	**-0.3**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.6s,baz=123,slow=4.6,SNR=4.0 comp=Z,0.7nm,0.6s	**80.43**	**312**	P	**P**	**20 39 38.9**	**-0.9**
SNAA	**Sanae** comp=Z,0.8nm,0.8s,baz=135,slow=2.1,SNR=2.2 comp=Z,0.8nm,0.8s	**88.08**	**198**	P	**P**	**20 40 19.4**	**+1.5**
BURAR	**Bucovina Array**	**88.45**	**318**	P	**P**	**20 40 21.5**	**+1.4**
BUR08	**Bucovina Ar. S**	**88.47**	**318**	P	**P**	**20 40 22.0**	**+1.7**
BUR08	comp=Z,1.8nm,0.9s			IAmb	IAmb	20 40 30.6	

KRSC 07 20:34:33.0±1.7, 53.88N×166.34E, h38km±28km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.34**	**351**	*eP*	Pn	20 34 55.3	+0.1
BKI				*eS*	Sn	20 35 12.3	+0.5
MKZ	**Mys Kozlova**	**2.79**	**286**	*eP*	Pn	20 35 19.1	+4.0
MKZ				*eS*	Sn	20 35 51.6	+4.1
KBTR	**Krutoberegovo**	**3.09**	**320**	*eP*	Pn	20 35 21.2	+2.0
KBTR				*eS*	Sn	20 35 57.5	+2.7
KBG	**Krutoberegovo**	**3.17**	**320**	*eS*	Sn	20 36 00.3	+3.6
TUMD	**Tumrok D**	**3.71**	**293**	*eP*	Pn	20 35 32.3	+4.6
TUMD				*eS*	Sn	20 36 16.4	+6.3
SPN	**Mys Shipunski**	**3.86**	**261**	*eP*	Pn	20 35 33.6	+3.8
SPN				*eS*	Sn	20 36 16.4	+2.6
BZGR	**Bezymyannyi-Gr**	**3.86**	**305**	*eP*	Pn	20 35 35.4	+5.5
BZGR				*eS*	Sn	20 36 20.4	+6.5
SMKR	**Semkarok**	**3.89**	**316**	*eP*	Pn	20 35 35.9	+5.6
SMKR				*eS*	Sn	20 36 20.2	+5.6
KMNR	**Kamenistaya**	**4.00**	**300**	*eP*	Pn	20 35 36.3	+4.5
KMNR				*eS*	Sn	20 36 23.2	+5.8
KII	**Karymskiy**	**4.08**	**275**	*eP*	Pn	20 35 37.1	+4.3
KII				*eS*	Sn	20 36 23.6	+4.4
KPT	**Kopyto**	**4.10**	**303**	*eP*	Pn	20 35 38.2	+5.0
NLC	**Nalytchevo**	**4.24**	**263**	*eP*	Pn	20 35 39.2	+4.2
NLC				*eS*	Sn	20 36 26.0	+2.9
SDLR	**Sedlovina**	**4.49**	**265**	*eP*	Pn	20 35 43.0	+4.5
SDLR				*eS*	Sn	20 36 34.1	+4.6
UGLR	**Uglovaya**	**4.54**	**264**	*eP*	Pn	20 35 44.0	+4.8
SMAR	**Somma**	**4.54**	**265**	*eP*	Pn	20 35 44.0	+4.7
SMAR				*eS*	Sn	20 36 35.2	+4.3
KRER	**Koryakskii**	**4.56**	**266**	*eP*	Pn	20 35 44.0	+4.4
KRER				*eS*	Sn	20 36 36.5	+5.1
AVH	**Avacha**	**4.58**	**265**	*eP*	Pn	20 35 44.8	+5.1
AVH				*eS*	Sn	20 36 37.7	+6.2
KRX	**Arik**	**4.61**	**267**	*eP*	Pn	20 35 44.8	+4.6
KRX				*eS*	Sn	20 36 37.0	+4.5
DALK	**Dalny**	**4.62**	**262**	*eS*	Sn	20 36 38.2	+5.8
KOK	**Koryaka**	**4.63**	**266**	*eP*	Pn	20 35 45.2	+4.7
RUS	**Russkaya**	**4.93**	**256**	*eP*	Pn	20 35 48.6	+4.1
KRMR	**Karymshinskiy**	**5.03**	**261**	*eP*	Pn	20 35 50.7	+4.8
KRMR				*eS*	Sn	20 36 47.0	+4.3
MTVR	**Mutnovka**	**5.10**	**257**	*eP*	Pn	20 35 51.3	+4.2
MTVR				*eS*	Sn	20 36 47.2	+2.5
GRL	**Gorelyy**	**5.15**	**258**	*eP*	Pn	20 35 52.7	+5.1
ASAK	**Asacha**	**5.30**	**257**	*eP*	Pn	20 35 54.5	+4.9
ASAK				*eS*	Sn	20 36 53.9	+4.5

*IDC **07** 20:39:05.6±0.8, 6.70N×72.95W, h164km±10km, mb3.1/1, mbtmp4.0/4, Error ellipse: s-maj=36.8km s-min=7.5km az=133.0*
*NEIC **07** 20:39:05.2±1.8, 6.83N±0.07°×73.00W±0.10, h154km±7km, mb4.3/1, Error ellipse: s-maj=15.1km s-min=9.5km az=113.0*
*CATAC **07** 20:39:05.8±0.8, 7°N±3°×7°3W±°, h155km±6km, M4.1/7, MLv4.1/7, Error ellipse: s-maj=12.2km s-min=6.6km az=90.0, confirmed*
*RSNC **07** 20:39:06.0±0.0, 7°N±1°×7°3W±°, h154km±2km, M3.8, mB4.7, mb4.3, ML3.4, MLv4.1, Mw(mB)3.9*

ISC 07 20:39:03.9±0.7, 6.86N±0.03×73.08W±0.04, h162km±6km, n71, σ1=9.65/121, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**202**	P	**Pn**	**20 39 27.2**	**+1.0**
BARC	**Barichara**	**0.29**	**202**	P	Pn	**20 39 27.0**	**+0.8**
BARC				S	**Sn**	**20 39 42.5**	**-0.7**
PAMC	**Pamplona, Colo**	**0.60**	**38**	P	**Pn**	**20 39 29.8**	**+2.0**
PAMC				S	**Sn**	**20 39 47.0**	**+1.0**
BRJC	**Barrancabermej**	**0.67**	**280**	P	**Pn**	**20 39 28.7**	**+1.1**
BRJC				S	**Sn**	**20 39 46.3**	**+0.7**
RUSC	**La Rusia**	**0.96**	**180**		**Pn**	**20 39 30.6**	**+0.4**
RUSC				Sn	**Sn**	**20 39 48.7**	**-1.5**
RUSC	**La Rusia**	**0.96**	**180**	P	**Pn**	**20 39 31.0**	**+0.9**
RUSC				S	**Sn**	**20 39 49.8**	**-0.4**
RUSC	**La Rusia**	**0.96**	**180**	P	**Pn**	**20 39 30.9**	**+0.7**
RUSC				S	**Sn**	**20 39 49.3**	**-1.0**
OCAC	**Ocana**	**1.39**	**350**	P	**Pn**	**20 39 35.3**	**+1.8**
OCAC	**Ocana**	**1.39**	**350**	P	**Pn**	**20 39 35.1**	**+1.6**
OCAC				S	**Sn**	**20 39 57.2**	**+0.8**
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P	**Pn**	**20 39 33.6**	**0.0**
PTBC				P	Pn	**20 39 33.6**	**0.0**
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P	**Pn**	**20 39 33.5**	**0.0**
PTBC				S	**Sn**	**20 39 55.0**	**-1.3**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	P	**Pn**	**20 39 39.8**	**+1.4**
ZARC				P	**Pn**	**20 39 39.8**	**+1.4**
ZARC	**Zaragoza, Cauc**

DBBC	**Dabeiba**	**3.12**	**273**	P		**Pn**	**20 39 54.4**	**+1.1**
DBBC				S		**Sn**	**20 40 28.6**	**-3.0**
SDV	**Santo Domingo**	**3.15**	**50**			**Pn**	**20 39 56.2**	**+2.4**
SDV	**Santo Domingo**	**3.15**	**50**	P		**Pn**	**20 39 56.5**	**+2.6**
	114nm,0.3s,baz=239,slow=14,SNR=62							
SDV				S		**Sn**	**20 40 34.8**	**+2.3**
	66nm,0.3s,baz=248,slow=21,SNR=13							
SDV	**Santo Domingo**	**3.15**	**50**	P		**Pn**	**20 39 56.4**	**+2.6**
SDV				S		**Sn**	**20 40 33.1**	**+0.5**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P		**Pn**	**20 39 57.0**	**+2.7**
ARGC				S		**Sn**	**20 40 34.9**	**+1.5**
PRAC	**Prado**	**3.61**	**210**	P		**Pn**	**20 40 00.5**	**+1.0**
PRAC	**Prado**	**3.61**	**210**	P		**Pn**	**20 40 00.1**	**+0.5**
PRAC				S		**Sn**	**20 40 42.8**	**-0.1**
APAC	**Apartado, Choc**	**3.63**	**287**	P		**Pn**	**20 40 00.8**	**+1.1**
APAC				S		**Sn**	**20 40 40.5**	**-2.6**
ORTC	**Ortega, Tolima**	**3.64**	**217**	P		**Pn**	**20 40 00.9**	**+0.9**
ORTC				S		**Sn**	**20 40 43.7**	**+0.1**
SJCC	**San Jacinto, C**	**3.67**	**326**	P		**Pn**	**20 40 00.7**	**+0.3**
SJCC				S		**Sn**	**20 40 42.6**	**-1.6**
SJCC	**San Jacinto, C**	**3.67**	**326**	P		**Pn**	**20 40 00.6**	**+0.3**
SJCC				S		**Sn**	**20 40 42.3**	**-1.9**
PLMC	**San Jos del P**	**3.73**	**239**	P		**Pn**	**20 40 02.3**	**+1.1**
PLMC				S		**Sn**	**20 40 45.5**	**-0.3**
URMC	**La Uribe, Meta**	**3.82**	**200**	P		**Pn**	**20 40 03.6**	**+1.3**
URMC				S		**Sn**	**20 40 47.3**	**-0.4**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P		**Pn**	**20 40 07.3**	**+0.9**
CRJC				S		**Sn**	**20 40 52.7**	**-2.5**
GUVC	**San Jose del G**	**4.31**	**174**	P		**Pn**	**20 40 09.5**	**+0.9**
GUVC				S		**Sn**	**20 40 59.0**	**-0.1**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P		**Pn**	**20 40 09.2**	**+0.2**
YOTC				S		**Sn**	**20 40 59.6**	**-0.1**
SMRC	**Santa Marta, M**	**4.42**	**345**	Pn		**Pn**	**20 40 11.6**	**+1.5**
SMRC				Sn		**Sn**	**20 41 00.7**	**-1.0**
SMRC	**Santa Marta, M**	**4.42**	**345**	P		**Pn**	**20 40 12.1**	**+2.0**
SMRC				S		**Sn**	**20 41 00.7**	**-1.0**
MACC	**Macarena, Meta**	**4.75**	**189**	P		**Pn**	**20 40 13.7**	**-0.6**
MACC				S		**Sn**	**20 41 04.8**	**-4.5**
BETC	**Betania**	**4.77**	**210**	P		**Pn**	**20 40 14.9**	**+0.2**
BETC				S		**Sn**	**20 41 07.7**	**-2.3**
URIC	**Uribia, Colomb**	**4.93**	**12**	P		**Pn**	**20 40 17.2**	**+0.5**
URIC				S		**Sn**	**20 41 11.2**	**-2.3**
JAMC	**Jamundi, Valle**	**5.09**	**225**	P		**Pn**	**20 40 19.4**	**+0.3**
	0.1nm989nm24nm,0.4s							
JAMC				S		**Sn**	**20 41 18.7**	**+0.9**
	0.1nm989nm24nm,0.4s							
GARC	**Garzon, Huila**	**5.23**	**208**	P		**Pn**	**20 40 20.7**	**-0.2**
GARC				S		**Sn**	**20 41 17.2**	**-3.9**
BAUV	**El Baul**	**5.40**	**67**			**Pn**	**20 40 22.9**	**0.0**
POPC	**Popayan, Colom**	**5.59**	**220**	P		**Pn**	**20 40 26.3**	**+0.6**
	273nm17nm,0.5s							
POPC				S		**Sn**	**20 41 29.8**	**+0.2**
	273nm17nm,0.5s							
FLOC	**Florencia**	**5.84**	**206**			**Pn**	**20 40 28.9**	**+0.2**
FLOC	**Florencia**	**5.84**	**206**	P		**Pn**	**20 40 29.4**	**+0.7**
	20nm,0.8s							
FLOC				S		**Sn**	**20 41 33.3**	**-1.9**
	20nm,0.8s							
BBAC	**Balboa, Cauca**	**6.36**	**221**	P		**Pn**	**20 40 37.4**	**+1.7**
BBAC				S		**Sn**	**20 41 47.5**	**-0.2**
PCRV	**Puerto La Cruz**	**8.97**	**68**	P		**Pn**	**20 41 10.7**	**+0.4**
	3.5nm,0.5s,baz=349,slow=1.7,SNR=9.6							
PCRV				S		**Sn**	**20 42 47.6**	**-2.6**
	1.6nm,0.4s,baz=249,slow=15,SNR=1.2							
PRVC	**Isla de Provid**	**10.41**	**309**	P		**Pn**	**20 41 29.5**	**+0.2**
PRVC				S		**Sn**	**20 43 18.1**	**-6.7**
MTDJ	**Mount Denham**	**12.11**	**339**	P		**P**	**20 41 56.1**	**-1.2**
PDPR	**Patillas Dam,**	**13.05**	**31**			**P**	**20 42 04.4**	**-3.4**
GTBY	**Guantanamo Bay**	**13.14**	**352**			**P**	**20 42 10.5**	**+1.8**
TEIG	**Tepich**	**19.85**	**314**	P		**Pn**	**20 43 26.5**	**+0.6**
TEIG				IAmb		IAmb	20 43 55.4	
	comp=Z,18nm,1.4s							
TXAR	**Lajitas Array**	**36.47**	**312**	P		**P**	**20 45 56.5**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=122,slow=8.0,SNR=5.9							
	comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc		**PKiKP**	**20 58 34.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=128,slow=3.4,SNR=1.4							
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc		**PKiKP**	**20 58 37.8**	**-0.1**
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc		**PKiKP**	**20 58 38.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=106,slow=3.0,SNR=9.3							
WB0	**Warramunga Arr**	**150.41**	**242**	PKPbc		**PKiKP**	**20 58 36.6**	**-1.4**

KRNET ***07*** *20:41:25.2±0.1, 40.˙98N×78.˙06E, h19km, mb2.5*
SOME ***07*** *20:41:26.1, 41.˙00N×77.˙90E, h10km*
NNC ***07*** *20:41:27.4±1.4, 41.˙00N×77.˙94E, h0km, mb3.4, mpv3.0,*
Error ellipse: s-maj=9.3km s-min=6.4km az=175.0

ISC 07 20:41:27.8±2.0, 41.˙04N±0.˙08×77.˙83E±0.˙05, h10km±14km, n19, σ1§57/28, 2C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.20**	**336**	⇓*i*P	**Pb**	**20 41 49.9**	**-0.8**
KDJ				⇓*i*S	**Sn**	**20 42 07.8**	**+0.6**
JNKS	**Jany-Kuch**	**1.65**	**271**	⇓*i*P	**Pg**	**20 41 58.7**	**-0.7**
JNKS				⇓*i*S	**Sg**	**20 42 23.2**	**+2.4**
ULHL	**Ulahol**	**1.70**	**316**	⇑*i*P	**Pg**	**20 41 59.5**	**-0.8**
ULHL				⇑*i*S	**Sg**	**20 42 24.3**	**+1.9**
SATY	**Saty**	**2.06**	**12**	Pg	**Pg**	**20 42 06.0**	**-1.4**
	2.8nm,0.2s						
SATY				Lg	Lg	20 42 34.6	
	13nm,0.1s						
TNSS	**Tian-Shan**	**2.10**	**342**	Pg	**Pg**	**20 42 08.0**	**-0.1**
	1.1nm,0.2s						
TNSS				Lg	Lg	20 42 38.7	
	1.5nm,0.3s						
TNSS	**Tian-Shan**	**2.10**	**342**	*e*P	**Pg**	**20 42 08.1**	**-0.1**
	1.1nm,0.2s						
TNSS				*e*S	**Sg**	**20 42 38.0**	**+2.5**
	1.5nm,0.3s						
UZB	**Uzynbulak**	**2.28**	**22**	Pg	**Pg**	**20 42 09.3**	**-2.3**
	1.9nm,0.2s						
UZB				Lg	Lg	20 42 40.2	
	4.9nm,0.2s						
UZB	**Uzynbulak**	**2.28**	**22**	*e*P	**Pg**	**20 42 09.3**	**-2.3**
	1.9nm,0.2s						
UZB				*e*S	**Sg**	**20 42 40.2**	**-1.0**
	4.9nm,0.2s						
SHLS	**Shalkode**	**2.44**	**29**	Pg	**Pg**	**20 42 14.6**	**0.0**
	2.8nm,0.3s						
SHLS				Lg	Lg	20 42 49.6	
	23nm,0.4s						
SHLS	**Shalkode**	**2.44**	**29**	*e*P	**Pg**	**20 42 14.6**	**0.0**
	2.8nm,0.3s						
SHLS				*e*S	**Sg**	**20 42 49.6**	**+3.4**
	23nm,0.4s						
KST	**Kastek**	**2.44**	**326**	Pg	**Pg**	**20 42 13.5**	**-1.0**
	1.0nm,0.2s						
KST				Lg	Lg	20 42 47.1	
	3.0nm,0.3s						
KST	**Kastek**	**2.44**	**326**	*e*P	**Pg**	**20 42 13.1**	**-1.4**
	1.0nm,0.2s						
KST				*e*S	**Sg**	**20 42 47.1**	**+1.0**
	3.0nm,0.3s						
KURS	**Kuram**	**2.46**	**6**	Pg	**Pb**	**20 42 12.4**	**+0.2**
	3.9nm,0.3s						
KURS				Lg	Lg	20 42 45.8	
	13nm,0.6s						
KPKS	**Kokpek**	**2.51**	**14**	Pg	**Pb**	**20 42 12.8**	**-0.1**
	0.2nm,0.1s						
KPKS				Lg	Lg	20 42 46.6	
	17nm,0.4s						
TKM2	**Tokmak 2**	**2.51**	**319**	⇓*i*P	**Pb**	**20 42 10.7**	**-2.5**
TKM2				⇓*i*S	**Sb**	**20 42 44.2**	**0.0**
DGS	**Degeres**	**2.68**	**326**	Pg	**Pg**	**20 42 17.7**	**-1.5**
	2.2nm,0.3s						
DGS				Lg	Lg	20 42 54.3	
	2.8nm,0.5s						
KTBS	**Karatobe**	**2.80**	**343**	Pg	**Pb**	**20 42 18.8**	**+0.8**
	3.0nm,0.4s						
KTBS				Lg	Lg	20 42 57.5	
	4.8nm,0.2s						
CHKK	**Chushkaly**	**2.88**	**348**	Pg	**Pb**	**20 42 20.1**	**+0.8**
	4.7nm,0.1s						
CHKK				Lg	Lg	20 42 59.0	
	6.4nm,0.4s						
CHKK	**Chushkaly**	**2.88**	**348**	*e*P	**Pb**	**20 42 20.1**	**+0.8**
	4.7nm,0.1s						
CHKK				*e*S	**Sg**	**20 42 59.0**	**-1.3**
	6.4nm,0.4s						

NEIC ***07*** *20:46:20.9±1.5, 36.˙08N±0.˙03×114.˙64W±0.˙03, h10km±10km, Error ellipse: s-maj=4.3km s-min=3.2km az=126.0*

REN 07 20:46:21.7±2.2, 36.˙07N±0.˙01×114.˙64W±0.˙03, h8km±7km, ML2.2/1, ML2.8/134(NEIC), Error ellipse: s-maj=3.2km s-min=1.6km az=102.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
V12A	**Nelson**	**0.39**	**207**		Pg	20 46 29.3	0.0
V12A					Sg	20 46 34.8	+0.4
V12A	**Nelson**	**0.39**	**207**	IAML		20 46 34.9	
	comp=N,905nm,0.3s						
V12A				IAML		20 46 35.0	
	comp=E,979nm,0.5s						
SHPR	**Sheep Range**	**0.61**	**316**		Pg	20 46 32.5	-1.0
MTPC	**Mountain Pass**	**0.95**	**232**		Pg	20 46 39.3	-0.7
MTPC	**Mountain Pass**	**0.95**	**232**	IAML		20 46 55.0	
	comp=E,256nm,0.3s						
MTPC				IAML		20 46 55.3	
	comp=N,204nm,0.2s						
W13A	**Hualapai Mount**	**1.15**	**148**		Pg	20 46 43.5	-0.3
W13A				IAML		20 47 01.3	
	comp=E,303nm,0.5s						
W13A				IAML		20 47 01.3	
	comp=N,201nm,0.4s						
ICU	**Indian Springs**	**1.22**	**28**		Pb	20 46 44.1	-1.1
MCY	**Mercury**	**1.22**	**299**		Pb	20 46 44.2	-1.0
TUQ	**Turquoise Moun**	**1.22**	**239**		Pb	20 46 44.3	-0.9
NEE2	**Needles Airpor**	**1.30**	**179**		Pn	20 46 46.2	0.0
SHOC	**Shoshone, Teco**	**1.34**	**263**		Pn	20 46 46.4	-0.3
PRN	**Pahroc Range**	**1.37**	**346**		Pn	20 46 47.5	+0.2
AMDNV	**Amargosa**	**1.38**	**286**		Pn	20 46 46.9	-0.4
LCMT	**Little Creek M**	**1.46**	**50**		Pn	20 46 48.4	-0.2
LCMT				IAML		20 47 09.8	
	comp=E,92nm,0.6s						
LCMT				IAML		20 47 13.0	
	comp=N,82nm,0.4s						
SDH	**Striped Hills**	**1.49**	**293**		Pn	20 46 48.9	0.0
DANC	**Danby, Needles**	**1.56**	**203**		Pn	20 46 49.5	-0.2
TPNV	**Topopah Spring**	**1.57**	**304**		Pn	20 46 50.0	0.0
TPNV				IAML		20 47 15.2	
	comp=N,90nm,0.4s						
TPNV				IAML		20 47 16.9	
	comp=N,83nm,0.4s						
GWY	**Greenwater Val**	**1.65**	**275**		Pb	20 46 52.0	-0.4
KNB	**Kanab**	**1.74**	**57**		Pn	20 46 52.5	+0.1
KNB				IAML		20 47 20.2	
	comp=E,69nm,0.8s						
WCT	**Wildcat Mounta**	**1.76**	**295**		Pn	20 46 52.4	-0.1
WCT				IAML		20 47 22.4	
	comp=E,71nm,0.6s						
CCUT	**Cedar City**	**1.80**	**34**		Pn	20 46 53.3	+0.1
S11A	**Rachel**	**1.81**	**331**		Pn	20 46 52.5	-0.8
S11A				IAML		20 47 24.3	
	comp=N,84nm,0.6s						
S11A				IAML		20 47 27.3	
	comp=E,86nm,1.4s						
QSM	**Queen of Sheba**	**1.81**	**267**		Pb	20 46 55.1	0.0
QSM	**Queen of Sheba**	**1.81**	**267**	IAML		20 47 19.7	
	comp=N,115nm,0.4s						
QSM				IAML		20 47 20.9	
	comp=E,110nm,0.5s						
GSC	**Goldstone, Bar**	**1.93**	**247**		Pn	20 46 54.7	-0.1
GSC				IAML		20 47 24.9	
	comp=N,67nm,0.4s						
GSC				IAML		20 47 27.4	
	comp=E,79nm,0.5s						
U15A	**North Rim**	**1.93**	**79**		Pb	20 46 57.5	+0.2
U15A				IAML		20 47 23.6	
	comp=N,81nm,0.5s						
U15A				IAML		20 47 26.1	
	comp=E,52nm,0.5s						
IRM	**Iron Mountain**	**1.95**	**192**		Pn	20 46 54.9	-0.3
IRM				IAML		20 47 27.9	
	comp=N,84nm,0.2s						
SZCU	**Shurtz Canyon**	**1.96**	**39**		Pn	20 46 55.1	-0.4
SZCU				IAML		20 47 24.7	
	comp=E,117nm,0.3s						
SZCU				IAML		20 47 28.1	
	comp=N,83nm,0.3s						
SGV	**South Grapevin**	**2.13**	**296**		Pn	20 46 59.1	+1.3
PKCU	**Pink Cliffs**	**2.32**	**53**		Pn	20 47 00.3	-0.1
PKCU				IAML		20 47 37.7	
	comp=N,59nm,0.7s						
BELC	**Belle Mtn. Jos**	**2.35**	**209**		Pb	20 47 05.1	+0.7
BELC				IAML		20 47 40.2	
	comp=N,76nm,0.3s						
BELC				IAML		20 47 40.2	
	comp=E,81nm,0.4s						
WSHM	**Spangler Hills**	**2.37**	**259**	IAML		20 47 30.8	
	comp=E,69nm,0.2s						
WSHM				IAML		20 47 36.8	
	comp=E,54nm,0.4s						
GRAC	**Grapevine Rang**	**2.38**	**294**	IAML		20 47 40.0	
	comp=N,55nm,0.6s						
GRAC				IAML		20 47 46.2	
	comp=E,54nm,0.8s						
R11B	**Troy Canyon, C**	**2.40**	**342**		Pn	20 47 00.9	-0.5
CLC	**China Lake**	**2.42**	**265**		Pb	20 47 06.5	+1.1
CLC				IAML		20 47 27.0	
	comp=E,75nm,0.1s						
GMN	**Gold Mountain**	**2.44**	**301**		Pn	20 47 01.5	-0.5
GMN				IAML		20 47 47.9	
	comp=N,30nm,0.6s						
BC3	**Big Chuckawall**	**2.50**	**196**		Pn	20 47 02.0	-0.8
BC3				IAML		20 47 46.9	
	comp=E,50nm,0.4s						
Y14A	**Wickenburg**	**2.51**	**147**		Pb	20 47 08.5	+1.4
Y14A				IAML		20 47 43.1	
	comp=E,55nm,0.3s						
PSUT	**Pine Spring**	**2.54**	**14**		Pb	20 47 07.5	-0.2
PSUT				IAML		20 47 43.1	
	comp=E,45nm,0.7s						
PSUT				IAML		20 47 44.2	
	comp=N,39nm,0.7s						
LRMC	**Laurel Mtn Rad**	**2.55**	**257**	IAML		20 47 46.0	
	comp=E,33nm,0.4s						
LRMC				IAML		20 47 54.5	
	comp=N,29nm,0.1s						
WUAZ	**Wupatki**	**2.71**	**101**		Pb	20 47 11.7	+1.1
WUAZ				IAML		20 47 49.7	
	comp=N,54nm,0.8s						
MZP	**Montezuma Peak**	**2.74**	**307**		Pn	20 47 06.0	-0.1
MTPU	**Mount Pierson**	**2.78**	**44**		Pn	20 47 06.7	-0.1
CWC	**Cottonwood Cre**	**2.81**	**279**	IAML		20 47 55.0	
	comp=N,22nm,0.1s						
PMD	**Palm Desert**	**2.81**	**211**		Pn	20 47 06.7	-0.2
PFO	**Pinyon Flats O**	**2.88**	**212**		Pn	20 47 07.4	-0.6
TPH	**Tonopah**	**2.88**	**315**	IAML		20 47 56.8	
	comp=N,22nm,0.8s						
SPR3	**Spring Creek 3**	**2.93**	**5**		Pn	20 47 08.3	-0.6
SPR3				IAML		20 47 56.2	
	comp=E,21nm,0.9s						
DSP	**Deep Springs**	**2.98**	**297**		Pn	20 47 09.3	+0.1
GLA	**Glamis**	**3.02**	**183**	Pn	Pn	20 47 08.8	-1.0
GLA				IAML		20 48 03.5	
	comp=N,41nm,0.7s						
TCRU	**Three Creeks R**	**3.08**	**34**	IAML		20 47 58.7	
	comp=E,20nm,0.5s						
TCRU				IAML		20 47 59.1	
	comp=N,16nm,0.5s						
BFSC	**Mount Baldy Ra**	**3.08**	**234**	IAML		20 48 50.5	
	comp=E,17nm,0.1s						
X16A	**Lo Mia Camp, P**	**3.09**	**121**		Pg	20 47 19.5	-1.5
MSU	**Marysvale**	**3.13**	**38**		Pn	20 47 10.9	-0.6
TPO	**Tropico Hills**	**3.16**	**249**	IAML		20 48 05.0	
	comp=E,24nm,0.7s						
TPO				IAML		20 48 05.6	
	comp=N,35nm,0.5s						
NV08	**Mina Array Sit**	**3.75**	**309**		Pn	20 47 20.6	+0.5
NVAR	**Mina Array Bea**	**3.75**	**310**		Pn	20 47 18.7	-1.5
LHV	**Little Huntoon**	**3.78**	**306**		Pn	20 47 18.3	-1.9
LHV				IAML		20 48 32.5	
	comp=N,17nm,0.9s						
LHV				IAML		20 48 35.4	
	comp=E,15nm,1.4s						
NV09	**Mina Array Sit**	**3.78**	**310**		Pn	20 47 21.2	+0.8
SRU	**San Rafael Swe**	**4.46**	**46**	IAML		20 48 50.0	
	comp=E,9.8nm,0.8s						
PV20	**West Nyswonger**	**5.06**	**62**		Pn	20 47 36.5	-1.6

NNC 07 21:24:03.7±3.4, 37.˙85N×69.˙08E, h8km±14km, mb4.0, mpv3.8, 4C-2D, Error ellipse: s-maj=25.4km s-min=21.2km az=66.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.35**	**9**	Pg	Pb	21 25 22.7	+2.2
	42nm,0.4s						
IUG				Lg	Lg	21 26 21.9	
	46nm,0.3s						
BRLS	**Borolday**	**5.21**	**6**	Pg	Pb	21 25 35.2	+0.2
	2.6nm,0.1s						
BRLS				Lg	Lg	21 26 42.9	
	0.2nm,0.1s						
KK31	**Karatay Array**	**5.36**	**11**	⇑Pn	Pn	21 25 23.6	-0.4
	1.9nm,0.6s,baz=202,slow=14,SNR=31						
KK31				⇑Pg	Pb	21 25 40.3	+2.8
	8.8nm,0.8s,baz=187,slow=13,SNR=17						
KK31				⇑Lg	Lg	21 26 54.0	
	18nm,0.6s,baz=193,slow=29,SNR=3.9						
AAK	**Ala-Archa**	**6.33**	**39**	⇑Pn	Pn	21 25 37.9	+0.5
	2.6nm,0.6s						
AAK				⇓Pg	Pg	21 25 59.6	-5.2
	9.3nm,0.8s						
AAK				⇓Lg	Lg	21 27 23.0	
	53nm,1.3s						
KST	**Kastek**	**7.38**	**43**	Pg	Pb	21 26 10.7	-1.3
	5.2nm,0.5s						
KST				Lg	Lg	21 27 44.4	
	4.4nm,0.5s						
DGS	**Degeres**	**7.41**	**41**	Pg	Pb	21 26 11.2	-1.4
	3.6nm,0.7s						
DGS				Lg	Lg	21 27 44.2	
	5.5nm,1.0s						
TNSS	**Tian-Shan**	**7.92**	**47**	Pg	Pb	21 26 20.2	-1.3
	0.5nm,0.3s						
TNSS				Lg	Lg	21 28 00.5	
	3.4nm,1.0s						
BTLS	**Baital**	**8.09**	**26**	Pg	Pb	21 26 27.7	+3.6
	1.6nm,0.5s						
BTLS				Lg	Lg	21 28 12.5	
	1.3nm,0.3s						
KTBS	**Karatobe**	**8.22**	**42**	Pg	Pb	21 26 27.1	+0.8
	1.3nm,0.6s						
KTBS				Lg	Lg	21 28 11.3	
	4.8nm,0.4s						

IPGP ***07*** *21:28:02.0, 24.˙48N×121.˙95E, h26km, Mw5.9, Fault plane solution: NP1:φs85.00000°, δ43.00000°, λ,-8.00000°. NP2:φs181.00000°, δ84.00000°, λ,-133.00000°.*
MOS ***07*** *21:28:02.0±1.0, 24.˙52N×122.˙05E, h23km, mb6.1/116, MS5.7/104, Error ellipse: s-maj=5.0km s-min=3.4km az=111.8*
NEIC ***07*** *21:28:03.7±1.7, 24.˙48N±0.˙05×121.˙93E±0.˙05, h21km±2km, mb5.9/258, Ms_20 5.6/1012, Mwb5.8/59, Mww5.8/21, Error ellipse: s-maj=7.7km s-min=6.3km az=129.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.55; $M_{\theta\theta}$=0.43; $M_{\phi\phi}$=0.98; $M_{r\theta}$=0.15; $M_{\theta\phi}$=6.00; $M_{\phi r}$=2.88; Fault plane solution: M_0=6.71000×10^{17} NP1: φs177.55000°, δ87.46000°, λ-154.23000°. NP2: φs86.32000°, δ64.26000°, λ-2.82000°. Principal axes: T 6.9072, Plg16.0000°, Azm309.0000°; N -0.4090, Plg64.0000°, Azm183.0000°; P -6.4982, Plg20.0000°, Azm45.0000°;*
NEIC ***07*** *21:28:03.6, 24.˙48N×121.˙94E, h24km*
NEIC ***07*** *21:28:03.6, 24.˙68N×121.˙94E, h24km, Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.73; $M_{\theta\theta}$=0.44; $M_{\phi\phi}$=-0.29; $M_{r\theta}$=-0.04; $M_{\theta\phi}$=3.39; $M_{\phi r}$=4.13; Fault plane solution: M_0=5.38000×10^{17} NP1:φs92.18000°, δ39.10000°, λ7.91000°. NP2:φs356.03000°, δ85.02000°, λ128.83000°. Principal axes: T 5.3467, Plg38.0000°, Azm300.0000°; N 0.0658, Plg39.0000°, Azm172.0000°; P -5.4126, Plg29.0000°, Azm56.0000°;*
NEIC ***07*** *21:28:03.6, 24.˙46N×121.˙93E, h20km*
TAP ***07*** *21:28:03.6, 24.˙44N×121.˙91E, h24km, ML6.2, B*
ISC-PP ***07*** *21:28:03, 24.˙48N×121.˙93E, h23km, Mwppsm6.2, Moment Tensor Solution. s43 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.21±.12; $M_{\theta\theta}$=0.30±.17; $M_{\phi\phi}$=0.43±.16; $M_{r\theta}$=0.27±.17; $M_{\theta\phi}$=0.52±.13; $M_{\phi r}$=0.04±.13; Fault plane solution: M_0=2.48000×10^{18} NP1:φs322.20000°, δ26.70000°, λ203.60000°. NP2:φs210.90000°, δ79.60000°, λ-65.20000°.*
NIED ***07*** *21:28:03.4, 24.˙37N×121.˙87E, h38km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.31; $M_{\theta\theta}$=0.45; $M_{\phi\phi}$=0.14; $M_{r\theta}$=0.26; $M_{\theta\phi}$=0.83; $M_{\phi r}$=0.38; Fault plane solution: M_0=1.03000×10^{18} NP1:φs85.00000°, δ67.00000°, λ24.00000°. NP2:φs345.00000°, δ68.00000°, λ155.00000°.*
JMA ***07*** *21:28:03.4±0.1, 24.˙4N±0.˙4×121.˙9E±0.˙6, h38km±1km, MD6.4/17, MW5.9/17, TAIWAN REGION*
JMA Felt II J1 at TAIWAN REGION .
BJI ***07*** *21:28:03.8, 24.˙52N×121.˙90E, h30km, mB6.1/61, mb5.8/83, ML6.2/12, Ms6.2/96, Ms7 6.2/90*
ASIES ***07*** *21:28:03.7, 24.˙43N×121.˙91E, h22km, Mw5.8, Fault plane solution: NP1:φs89.00000°, δ53.00000°, λ,-6.00000°. NP2:φs182.00000°, δ85.00000°, λ,-143.00000°.*
GCMT ***07*** *21:28:04.6±0.1, 24.˙59N×121.˙82E, h32km, MW5.9/160, Moment Tensor Solution. s152, c329; s160, c469; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.29±.05; $M_{\theta\theta}$=0.22±.05; $M_{\phi\phi}$=0.51±.05; $M_{r\theta}$=0.04±.08; $M_{\theta\phi}$=6.37±.04; $M_{\phi r}$=5.73±.12; Best double couple: M_0=8.57600×10^{17} NP1:φs88.00000°, δ48.00000°, λ-1.00000°. NP2:φs179.00000°, δ89.00000°, λ-138.00000°. Principal axes: T 8.7270, Plg27.0000°, Azm306.0000°; N -0.3020, Plg48.0000°, Azm180.0000°; P -8.4250, Plg29.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
IDC ***07*** *21:28:05.8±1.3, 24.˙51N×122.˙03E, h35km±9km, mb5.4/34, mbtmp5.6/41, ML5.2/6, MS5.5/75 Error ellipse: s-maj=11.1km s-min=9.6km az=54.0*

ISC 07 21:28:04.5±0.3, 24.˙45N±0.˙01×121.˙94E±0.˙01, h27km±1km, h27km:pP-P, n2285, σ1§59/2369, mb5.8/341, MS5.7/642, 149C-157D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.15**	**268**	⇓*i*P	**Pb**	**21 28 08.3**	**-1.5**
EWUT				*i* S	**Sb**	**21 28 11.7**	**-1.9**
ESAO	**Su ao**	**0.15**	**324**	⇓*i*P	**Pb**	**21 28 08.6**	**-1.3**
ESAO

NNSB Datong 0.51 268⇓*iP* Pb 21 28 13.8 -1.3
NNSB S Sb 21 28 20.8 -1.6
NNSH Datong 0.51 268 ⇓P Pb 21 28 13.8 -1.3
NNSH *eS* Sb 21 28 20.8 -1.5
NWLT Wulai 0.52 309⇑*iP* Pb 21 28 14.3 -0.8
NWLT S Sb 21 28 21.1 -1.3
TIPB Shuangxi 0.53 348⇑*iP* Pb 21 28 14.8 -0.5
TIPB S Sb 21 28 22.0 -0.7
TWB1 Santiao Chiao 0.56 4 ⇓P Pb 21 28 15.5 -0.3
TWB1 S Sb 21 28 22.8 -0.6
YHNB Yeheng 0.56 293 Pg Pb 21 28 14.8 -1.0
YHNB Sg Sb 21 28 21.7 -1.9
YHNB Yeheng 0.56 293 P Pb 21 28 15.3 -0.6
YHNB Yeheng 0.56 293 S Sb 21 28 22.5 -1.1
YHNB Yeheng 0.56 293⇑*iP* Pb 21 28 14.9 -1.0
YHNB S Sb 21 28 21.7 -1.9
HWA Hwalien 0.56 213 ⇓P Pb 21 28 15.1 -0.8
TWA Mucha 0.62 328⇑*iP* Pb 21 28 16.5 -0.4
TWA *i* S Sb 21 28 24.9 -0.3
NWF Wu-fen Shan 0.63 347 ⇑P Pb 21 28 17.0 -0.2
NWF *i* S Sb 21 28 25.7 0.0
WFSB Wu-fen Shan 0.63 347⇑*iP* Pb 21 28 17.0 -0.1
WFSB S Sb 21 28 25.2 -0.4
ETM Tongmen 0.64 221⇓*iP* Pb 21 28 15.5 -1.5
ETM S Sb 21 28 25.6 0.0
NHDH Xindian Distri 0.64 323⇑*iP* Pb 21 28 16.7 -0.4
NHDH *eS* Sb 21 28 25.1 -0.6
SXI1 Grass Mountain 0.64 354 ⇑P Pb 21 28 17.1 -0.2
SXI1 *eS* Sb 21 28 25.4 -0.5
TEYL Yanliau Villag 0.66 209⇓*iP* Pb 21 28 16.6 -0.9
TEYL *eS* Sn 21 28 27.6 +0.1
TATO Taipei 0.67 322 Pb 21 28 16.5 -0.6
TATO Taipei 0.67 322 P Pb 21 28 17.6 0.0
TATO Taipei 0.67 322 S Sb 21 28 26.0 -0.5
TATO Taipei 0.67 322⇑*iP* Pb 21 28 17.2 -0.3
TATO *eS* Sb 21 28 26.0 -0.5
FUSS Fushou 0.67 253⇓*iP* Pb 21 28 16.5 -1.3
FUSS S Sb 21 28 26.2 -0.6
WHF Hehuan Shan 0.69 244⇓*iP* Pb 21 28 16.8 -1.5
WHF *eS* Sb 21 28 26.3 -1.3
TAP Taipei 0.71 326⇑*iP* Pb 21 28 18.5 +0.2
TAP *i* S Sb 21 28 28.2 +0.5
BACT New Taipei Cit 0.71 320⇑*iP* Pb 21 28 18.5 +0.2
BACT S Sb 21 28 27.9 +0.2
TNOU National Taiwa 0.71 347⇑*eP* Pb 21 28 18.2 -0.2
TNOU *i* S Sb 21 28 27.3 -0.5
TWT Tachien 0.73 254⇓*iP* Pb 21 28 17.8 -0.9
TWT S Sb 21 28 27.8 -0.7
TDCB Techi 0.74 255⇓*iP* Pb 21 28 17.8 -1.2
TDCB S Sb 21 28 27.6 -1.6
SHUL Shoufeng 0.75 208 ⇓P Pb 21 28 18.4 -0.5
SHUL *eS* Sb 21 28 29.2 +0.4
KSHI Guanxi Townshi 0.77 295⇑*iP* Pb 21 28 19.3 0.0
KSHI *eS* Sb 21 28 29.2 -0.3
YM01 YM01 0.77 334⇑*iP* Pb 21 28 19.3 -0.1
NFF Wufeng Townshi 0.77 284 ⇑P Pb 21 28 18.5 -0.9
NFF *eS* Sb 21 28 28.2 -1.4
ESL Shilin 0.79 216⇓*iP* Pb 21 28 18.1 -1.5
ESL *eS* Sb 21 28 29.9 -0.1
NWRT Kuosheng 0.79 341 ⇑P Pb 21 28 19.4 -0.3
NWRT S Sb 21 28 29.9 -0.1
ZUZH Zhuzihu 0.80 333⇑*iP* Pb 21 28 19.5 -0.3
ZUZH *i* S Sb 21 28 29.9 -0.3
YM08 YM08 0.80 336⇑*iP* Pb 21 28 19.4 -0.4
YM08 *eS* Sb 21 28 30.1 -0.3
NTY Taoyuan 0.80 313⇑*iP* Pn 21 28 20.0 0.0
NTY *eS* Sb 21 28 30.4 +0.1
TWS1 Kuangyinshan 0.80 324⇑*iP* Pb 21 28 19.9 0.0
TWS1 *i* S Sn 21 28 31.8 +0.7
TEGC Jichi Village 0.83 207 *eP* Pb 21 28 19.7 -0.6
NTST Danshui 0.84 328⇑*iP* Pb 21 28 20.5 0.0
NTST *eS* Sn 21 28 32.3 +0.3
OWD Renai 0.86 235⇓*iP* Pb 21 28 19.7 -1.2
OWD *eS* Sb 21 28 32.2 +0.1
NCUH Zhongli 0.86 307⇑*iP* Pb 21 28 21.0 +0.1
NCUH S Sn 21 28 33.4 +0.8
LIOB Emei 0.87 283⇑*iP* Pn 21 28 20.6 -0.4
LIOB *eS* Sb 21 28 32.4 +0.1
NSTT Nanjuang 0.88 282 ⇑P Pn 21 28 20.5 -0.6
NSTT *eS* Sb 21 28 32.8 +0.3
TWY Chenhua 0.88 339⇑*iP* Pn 21 28 21.1 0.0
TWY *i* S Sn 21 28 33.0 0.0
WUSB Renai 0.88 239⇓*iP* Pn 21 28 20.3 -0.9
WUSB S Sb 21 28 31.9 -0.9
WARBT Fenglin Townsh 0.89 215⇓*iP* Pb 21 28 19.5 -1.8
WARBT S Sb 21 28 32.2 -0.7
NSM Shimen 0.89 339⇑*iP* Pb 21 28 21.5 +0.1
NSM S Sb 21 28 33.1 +0.1
HSN1 Hsinchu 0.90 291⇑*iP* Pb 21 28 21.8 +0.3
HSN1 S Sn 21 28 34.3 +0.8
EGFH Guangfu 0.91 211⇓*eP* Pn 21 28 20.3 -1.3
EGFH *eS* Sb 21 28 33.5 0.0
JYNG Yonagunijimaku 0.91 90 ⇓P Pn 21 28 21.1 -0.4
JYNG ⇓*eS* Sn 21 28 34.3 +0.6
JYNG Yonagunijimaku 0.91 90 A A 21 28 21.1
comp=N,2µm,2.7s,comp=E,1µm,1.7s
WHP Taichung City 0.93 259⇓*eP* Pn 21 28 21.4 -0.4
SBCB Hsinchu 0.94 291⇑*iP* Pb 21 28 22.4 +0.2
SBCB *eS* Sb 21 28 34.2 +0.1
HSN Hsinchu 0.95 292⇑*iP* Pn 21 28 22.1 0.0
HSN *eS* Sb 21 28 34.4 -0.3
YOJ Yonaguni jima 0.97 89 Pn 21 28 22.0 -0.3
YOJ Yonaguni jima 0.97 89 P Pb 21 28 22.7 0.0
YOJ Yonaguni jima 0.97 89 S Sn 21 28 36.6 +1.4
YOJ Yonaguni jima 0.97 89 P Pn 21 28 21.0 -1.3
YOJ S Sb 21 28 34.5 -0.7
YOJ Yonaguni jima 0.97 89⇓*iP* Pn 21 28 22.2 -0.2
YOJ *eS* Sb 21 28 34.8 -0.4
YOJ Yonaguni jima 0.97 89 ⇓P Pn 21 28 22.0 -0.3
YOJ ⇓*eS* Sn 21 28 35.6 +0.4
YOJ Yonaguni jima 0.97 89 A A 21 28 22.0
comp=N,2µm,2.5s,comp=E,927nm,2.2s
NHW Xinwu Township 0.98 304⇑*iP* Pn 21 28 22.6 0.0
NHW *eS* Sb 21 28 36.0 +0.4
WPL Puli Township 1.00 244 ⇓P Pn 21 28 22.5 -0.3
WPL *eS* Sn 21 28 35.6 -0.4
NJN Zhunan 1.00 284⇑*iP* Sb 21 28 23.6 +0.3
NJN S Sb 21 28 37.4 +1.3
VWDT VWDT 1.01 227⇓*iP* Pn 21 28 22.2 -0.6
VWDT S Sn 21 28 36.2 0.0
DPDB Guoxing 1.02 246 ⇓P Pn 21 28 23.0 -0.1
DPDB *eS* Sn 21 28 35.5 -1.0
WCS Beigang Elemen 1.02 248 ⇓P Pn 21 28 22.9 -0.2
WCS S Sb 21 28 36.6 +0.1
NMLH Miaoli 1.05 275⇑*iP* Pb 21 28 24.4 +0.2
NMLH *eS* Sb 21 28 38.9 +1.4
HGSD Ruisui 1.07 207⇓*iP* Pn 21 28 23.2 -0.5
HGSD S Sb 21 28 38.3 +0.4
NSY Sanyi 1.08 268⇑*eP* Pb 21 28 25.7 +1.1
EHY Hungye 1.10 211⇓*eP* Pn 21 28 22.2 -2.0
EHYH Wanrong 1.10 210 *eP* Pn 21 28 22.8 -1.3
SMLT Sun Moon Lake 1.11 240⇓*iP* Pn 21 28 24.1 -0.3
SMLT *eS* Sn 21 28 38.6 -0.2
SSLB Suanglung 1.12 234 Pn 21 28 24.0 -0.5
SSLB Sn 21 28 39.0 0.0
SSLB Suanglung 1.12 234 P Pn 21 28 24.5 +0.1
SSLB Suanglung 1.12 234 S Sb 21 28 40.4 +0.9
SSLB Suanglung 1.12 234⇓*iP* Pn 21 28 23.9 -0.6
SSLB S Sn 21 28 38.3 -0.6
TYC Yuchr 1.13 241 ⇓P Pn 21 28 24.5 -0.1
PCYT Pengchaiyu 1.18 6⇓*iP* Pn 21 28 24.8 -0.4
PCYT S Sb 21 28 41.0 -0.1
WDJ Dajia District 1.19 265⇑*eP* Pb 21 28 26.2 -0.2
TCU Taichung 1.20 256 P Pb 21 28 27.1 +0.6
TCU Taichung 1.20 256⇑*eP* Pb 21 28 26.6 +0.1
TCU *eS* Sb 21 28 42.8 +1.2
WWF Wufeng 1.21 251 *eP* Pb 21 28 26.9 +0.2
WWF *eS* Sb 21 28 43.8 +1.9
YULB Yu-li 1.21 209 Pn Pn 21 28 25.4 -0.2
YULB Yu-li 1.21 209 P Pb 21 28 26.9 +0.1
YULB Yu-li 1.21 209 ⇓P Pn 21 28 23.9 -1.8
YULB *eS* Sn 21 28 39.7 -0.5
ECBN Changbin 1.22 202 *eP* Pn 21 28 25.1 -0.7
ECBN *eS* Sb 21 28 42.3 +0.1
EYUL Yuli 1.24 208 *eP* Pn 21 28 26.1 0.0
EYUL *eS* Sn 21 28 41.0 -0.9
TWF1 Yuli 1.24 209 *eP* Pn 21 28 24.3 -1.8
WHYT Xinyi Township 1.25 233 ⇓P Pn 21 28 26.5 +0.3
WHYT *eS* Sb 21 28 44.0 +0.9

WJS Zhushan 1.28 241⇓*eP* Pb 21 28 27.6 -0.3
WJS *eS* Sb 21 28 45.7 +1.8
WNT1 Nantou City 1.28 245 *eP* Pb 21 28 28.1 +0.2
WNT1 S Sb 21 28 46.0 +2.2
WNT Mingjian 1.28 244 ⇓P Pb 21 28 28.1 0.0
WNT *eS* Sb 21 28 46.2 +2.1
WCHH Zhanghua 1.32 254 ⇑P Pb 21 28 28.2 -0.4
WCHH *eS* Sb 21 28 45.4 +0.3
YUS Yu-Shan 1.32 224 ⇓P Pn 21 28 27.3 -0.3
WCH1 Changhua City 1.33 254 *eP* Pb 21 28 28.1 -0.7
WCH1 *eS* Sn 21 28 43.8 -0.3
CHKH Chenggong 1.35 202 *eP* Pn 21 28 27.1 -0.5
FULB Fuli 1.38 206⇓*eP* Pn 21 28 27.5 -0.6
ALIS Alishan 1.40 226⇓*iP* Pn 21 28 28.8 +0.3
ALS *eS* Sb 21 28 48.5 +0.7
CHN5 Tsauling 1.44 234⇓*eP* Pb 21 28 29.9 -0.8
CHN5 *eS* Sb 21 28 50.0 +1.5
CHKT Chengkung 1.45 202 *eP* Pn 21 28 28.0 -0.9
CHKT *eS* Sn 21 28 47.5 +0.5
EHD Haiduan 1.46 208 *eP* Pn 21 28 28.1 -1.0
WGK Gukeng 1.48 239⇓*eP* Pb 21 28 30.9 -0.4
WDL Douliou City 1.48 241 *eP* Pb 21 28 30.9 -0.4
WDLH Douliu 1.49 240⇓*eP* Pb 21 28 31.3 -0.3
WDLH *eS* Sb 21 28 51.0 +0.9
ECS Chishang 1.50 206 *eP* Pn 21 28 29.5 -0.2
ECS *eS* Sb 21 28 50.1 -0.4
ELDTW Lidau 1.52 214 ⇓P Pn 21 28 28.8 -1.2
WRL Guolierlin Hig 1.53 249 *eP* Pn 21 28 30.9 +0.9
WRL *eS* Sn 21 28 51.4 +0.2
RLNB Erlin 1.55 249 ⇑P Pn 21 28 31.1 +0.8
RLNB *eS* Sb 21 28 51.2 -0.6
EDH Donghe 1.58 202 *eP* Pn 21 28 29.9 -0.9
EDH *eS* Sn 21 28 50.6 +0.2
WCKO Fanlu 1.59 231⇓*eP* Pb 21 28 32.4 -0.8
WCKO *eS* Sb 21 28 53.3 +0.5
WTK Tuku 1.61 242 *eP* Pn 21 28 32.2 +1.1
WTK *eS* Sb 21 28 53.3 -0.2
CHN2 Minshiung 1.63 236 *eP* Pb 21 28 33.3 -0.5
CHN2 *eS* Sb 21 28 55.1 +1.2
WTCT Ta-ch'eng 1.63 249 *eP* Pn 21 28 31.2 -0.1
WTCT *eS* Sb 21 28 53.1 -0.8
IRIF Iriomote-Funau 1.63 94 ⇓P Pn 21 28 31.4 0.0
IRIF ⇓*eS* Sn 21 28 52.8 +1.2
IRIF Iriomote-Funau 1.63 94 A A 21 28 31.4
comp=N,960nm,1.9s,comp=E,641nm,4.5s
CHN4 Tsaushan 1.65 229 ⇓P Pb 21 28 33.1 -1.1
CHN4 *eS* Sb 21 28 56.0 +1.3
TPUB Ta-pu 1.66 227 Pn 21 28 32.7 +0.9
TPUB Sn 21 28 52.9 +0.6
TPUB Ta-pu 1.66 227 P Pb 21 28 34.4 -0.1
TPUB Ta-pu 1.66 227 S Sb 21 28 56.6 +1.6
TPUB Ta-pu 1.66 227⇓*iP* Pn 21 28 33.0 +1.1
TPUB *eS* Sb 21 28 53.9 -1.1
STYH Taoyuan 1.67 220 ⇓P Pn 21 28 32.5 +0.6
STYH *eS* Sb 21 28 54.4 -0.7
STYT Tauyuan 1.68 221 ⇓P Pn 21 28 32.8 +0.6
CHY Chiayi 1.68 236⇓*eP* Pb 21 28 33.9 -0.9
CHY *eS* Sb 21 28 54.7 -0.9
LONT Longtian 1.71 206 *eP* Pn 21 28 31.6 -1.0
WTP Ta-pu 1.71 226⇓*iP* Pn 21 28 33.7 +1.1
WTP *eS* Sb 21 28 56.9 +0.5
HATJ Hateruma jima 1.74 103 *eP* Pn 21 28 33.2 +0.3
HATJ *eS* Sb 21 28 56.3 -1.0
HATJ Hateruma jima 1.74 103 A A 21 28 33.2
comp=N,2µm,3.6s,comp=E,2µm,3.5s
WSF Szhu 1.77 243 *eP* Pn 21 28 34.5 +1.2
WSF *eS* Sb 21 28 58.2 +0.1
TWK Hsinying 1.78 229⇓*eP* Pn 21 28 34.8 +1.3
TWK *eS* Sb 21 28 58.0 -0.5
SNST Tainan City 1.81 228⇓*eP* Pb 21 28 35.6 -1.3
SNST *eS* Sb 21 28 59.1 0.0
CHN1 Nanshi 1.81 226⇓*eP* Pn 21 28 34.8 +0.9
TWGBT Beinan 1.81 206 P Pb 21 28 36.1 -0.9
TWGBT Beinan 1.81 206 S Sb 21 29 00.7 +1.5
TWGBT Beinan 1.81 206 *eP* Pn 21 28 32.6 -1.3
TWGBT *eS* Sn 21 28 56.2 +0.3
TWG Pinlang 1.81 206 Pn Pn 21 28 32.7 -1.2
TWG Pinlang 1.81 206 *eP* Pn 21 28 32.4 -1.5
WSL Shuilin Townsh 1.82 240 *eP* Pn 21 28 35.5 +1.4
WSL *eS* Sb 21 28 58.9 -0.6
LDUT Ludao 1.82 194 *eP* Pn 21 28 32.3 -1.8
TTN Taitung 1.84 204 *eP* Pn 21 28 35.1 +0.8
SGST Jiashian 1.85 223⇓*eP* Pn 21 28 35.0 +0.6
SGST *eS* Sb 21 29 00.3 -0.1
ICHU Yijhu 1.87 235 *eP* Pn 21 28 36.4 +1.7
ICHU *eS* Sb 21 29 01.9 +0.9
JKRS Kuro-shima 1.90 96 *eP* Pn 21 28 35.8 +0.7
JKRS *eS* Sn 21 28 59.1 +1.1
JKRS Kuro-shima 1.90 96 A A 21 28 35.8
comp=N,2µm,2.3s,comp=E,1µm,4.2s
CHN8 Yiju 1.93 236 *eP* Pn 21 28 36.9 +1.3
CHN8 *eS* Sb 21 29 03.1 +0.4
CHN3 Shinhua 1.99 227 *eP* Pb 21 28 38.4 -1.7
CHN3 *eS* Sb 21 29 05.5 +1.0
JIJ Ishigaki jima 2.01 92 ⇓P Pn 21 28 36.0 -0.6
JIJ ⇓*eS* Sn 21 29 00.8 0.0
JIJ Ishigaki jima 2.01 92 A A 21 28 36.0
comp=N,523nm,3.4s,comp=E,193nm,3.5s
SCLT Jiali 2.04 232 *eP* Pn 21 28 38.6 +1.5
SCLT *eS* Sb 21 29 06.2 +0.2
SCST Cishan 2.05 221⇓*eP* Pn 21 28 39.0 +1.9
SCST *eS* Sb 21 29 06.1 0.0
ECL Taimali 2.06 206 *eP* Pn 21 28 36.0 -1.3
SSD Sandimen 2.08 216 *eP* Pn 21 28 38.5 +0.8
SSD *eS* Sb 21 29 05.3 -1.8
TSMG Majia 2.11 215⇓*eP* Pn 21 28 39.5 +1.5
TSMG *eS* Sb 21 29 06.2 -1.6
TAI1 Yung-k'ang 2.11 229 *eP* Pn 21 28 39.9 +1.9
TWM1 Shoushan 2.14 221 *eP* Pb 21 28 40.6 -2.0
TSCK Chigu Township 2.14 233 *eP* Pb 21 28 40.6 -2.0
TSCK *eS* Sb 21 29 07.5 -1.2
JISG Ishigakijimahi 2.16 86 A A 21 28 39.2
comp=N,405nm,4.9s,comp=E,137nm,4.7s
JISG Ishigakijimahi 2.16 86 ⇓P Pn 21 28 38.4 -0.3
TAI Tainan 2.16 228 *eP* Pn 21 28 40.7 +2.0
SGLT Jiouru 2.17 218 *eP* Pn 21 28 41.1 +2.2
MASBT Mashibuluo 2.19 214⇓*eP* Pn 21 28 40.8 +1.6
TSPT Pingtung City 2.21 217 *eP* Pb 21 28 42.0 -1.8
SNJT Kaohsiung City 2.24 221 *eP* Pb 21 28 42.5 -1.9
EAST Anshuo 2.29 206 *eP* Pn 21 28 39.9 -0.7
TAW Tawu 2.30 205 *eP* Pn 21 28 40.3 -0.2
TAWH Dawu Township 2.31 205 *eP* Pn 21 28 40.9 0.0
TAWH *eS* Sn 21 29 07.9 -0.5
VWUC VWUC 2.33 284⇑*eP* Pn 21 28 40.6 -0.4
PNG Penghu 2.35 249 *eP* Pn 21 28 41.4 0.0
PNG *eS* Sn 21 29 08.9 -0.5
PHUB P'eng-hu 2.36 247 *eP* Pn 21 28 41.3 -0.1
PHUB *eS* Sn 21 29 08.8 -0.8
SCZT Fangliau 2.40 211 *eP* Pn 21 28 43.4 +1.4
KAU Kaohsiung 2.40 219 *eP* Pn 21 28 43.6 +1.6
WDGT Dungji 2.40 241 *iP* Pn 21 28 42.6 +0.6
WDGT *eS* Sn 21 29 10.5 -0.1
LAY Lan-yu 2.43 189 *eP* Pn 21 28 40.7 -1.7
LAY *eS* Sn 21 29 09.8 -1.4
LYUB Lan-yu 2.46 188 *eP* Pn 21 28 40.8 -2.0
SLIU Shizi 2.46 206 *eP* Pn 21 28 43.3 +0.4
MATB Ma-tsu 2.48 314⇑*eP* Pn 21 28 42.0 -1.1
MSUT Lienchiang 2.50 314⇑*eP* Pn 21 28 42.6 -0.8
JTJ Tarama 2.52 85 *eP* Pn 21 28 44.9 +1.3
JTJ *eS* Sn 21 29 15.4 +2.0
JTJ Tarama 2.52 85 A A 21 28 44.9
comp=N,539nm,3.9s,comp=E,619nm,3.8s
WLCH Liuqiu 2.54 215 *eP* Pn 21 28 46.5 +2.6
TWP Hsiaoliuchiu 2.55 215 *eP* Pn 21 28 46.5 +2.4
VCHM Qimei 2.61 242 *eP* Pn 21 28 45.0 0.0
SMST Manzhou Townsh 2.62 203 *eP* Pn 21 28 45.6 +0.5
PTMZ Houxiangcun 2.63 283⇑*eP* Pn 21 28 44.8 -0.5
HEN Hengchun 2.67 205 *eP* Pn 21 28 48.5 +2.7
TWK1 Hengchun 2.71 203 *eP* Pn 21 28 46.3 +0.1
TWKBT Hengchun 2.71 203 *eP* Pn 21 28 46.9 +0.6
TSEB Hengchuen, Pin 2.71 201 *eP* Pn 21 28 47.4 +1.0
XPSS Dashiqiu 2.93 328⇑*eP* Pn 21 28 48.5 -0.8
JIRB Irabujima 2.96 82 P Pn 21 28 50.8 +1.0
JIRB *eS* Sn 21 29 26.5 +2.1
JIRB Irabujima 2.96 82 A A 21 28 50.8
comp=N,351nm,3.4s,comp=E,331nm,3.9s
JIKM Ikemajima 3.04 80 *eP* Pn 21 28 52.1 +1.3
JIKM *eS* Sn 21 29 28.2 +1.9
JIKM Ikemajima 3.04 80 A A 21 28 52.1
comp=N,370nm,6.5s,comp=E,387nm,4.7s

JMJ Miyako jima 2 3.07 83 P Pn 21 28 54.0 +2.8
JMJ Miyako jima 2 3.07 83 *eP* Pn 21 28 53.3 +2.1
QZH Quanzhou 3.09 280⇑*iPn* Pn 21 28 50.7 -0.8
QZH Sn Sn 21 29 25.3 -2.2
QZH smax smax
comp=E,92µm,1.1s
QZH smax smax
comp=E,54µm,1.1s
JMJ2 Miyako jima3 3.09 84 *eP* Pn 21 28 52.5 +1.0
JMJ2 *eS* Sn 21 29 29.7 +2.0
JMJ2 Miyako jima3 3.09 84 A A 21 28 52.5
comp=N,549nm,5.2s,comp=E,674nm,4.4s
MHZQ Yeshan 3.11 303⇑*eP* Pn 21 28 50.7 -1.0
JOGS Gusukube 3.17 84 *eP* Pn 21 28 54.5 +2.0
JOGS Gusukube 3.17 84 A A 21 28 54.5
comp=N,642nm,4.0s,comp=E,747nm,3.9s
KNM Kinmen 3.20 270⇑*eP* Pn 21 28 54.3 +1.3
AXDP Jialang 3.64 278⇑*eP* Pn 21 28 59.1 0.0
ZPLA Ao Xicun 3.87 263⇑*eP* Pn 21 29 02.1 -0.1
DSXP Dongshan 4.20 261⇑*eP* Pn 21 29 06.7 0.0
SXFK Yanhouchang 4.34 297⇑*eP* Pn 21 29 07.8 -1.0
JKE Kume jima 2 4.76 66 A A 21 29 16.2
comp=N,72nm,4.5s,comp=E,89nm,6.2s
JKE Kume jima 2 4.76 66 ⇓P Pn 21 29 16.7 +2.2
JAGN Aguni-jima 5.24 65 A A 21 29 23.0
comp=N,123nm,7.6s,comp=E,183nm,5.1s
JJT3 Tamagusuku3 5.55 71 A A 21 29 27.2
comp=N,330nm,6.5s,comp=E,199nm,3.7s
JNTH Nagotoyohara 5.87 68 A A 21 29 31.7
comp=N,54nm,10.3s,comp=E,45nm,6.7s
JIH Iheya 6.01 63 A A 21 29 33.7
comp=N,53nm,4.4s,comp=E,69nm,6.1s
VDOS Pratas Island 6.09 233⇓*eP* Pn 21 29 35.1 +2.3
JOW Kunigami 6.18 66 Pn Pn 21 29 34.2 +0.2
JOW Kunigami 6.18 66 Pn Pn 21 29 35.4 +1.4
comp=E,104nm,0.3s,baz=206,slow=9.7,SNR=33
JOW Sn Sn 21 30 43.0 -1.0
baz=296,slow=29
comp=E,248nm,0.3s
JOW Kunigami 6.18 66 P Pn 21 29 35.3 +1.2
JOW Kunigami 6.18 66⇓*eP* Pn 21 29 35.0 +1.0
JOW Kunigami 6.18 66 A A 21 29 36.2
comp=N,49nm,3.7s,comp=E,45nm,4.8s
SSE Sheshan 6.65 354 Pn Pn 21 29 40.2 -0.2
SSE Sn Sn 21 30 56.3 +0.9
SSE smax smax
comp=E,2µm,1.3s
SSE smax smax
comp=E,3µm,1.2s
SSE LR LR
comp=E,4µm,5.5s
SSE LR LR
comp=E,1µm,5.6s
HKC Hong Kong Obse 7.45 255 ⇑P Pn 21 29 52.0 +0.5
HKPS Hong Kong Po S 7.49 255 Pn Pn 21 29 51.2 -0.8
HKPS Hong Kong Po S 7.49 255 P Pn 21 29 52.8 +0.8
HKPS Hong Kong Po S 7.49 255 *eP* Pn 21 29 52.3 +0.3
GZH Guangzhou 7.99 262 Pn Pn 21 29 53.7 -5.2
GZH Sn Sn 21 31 15.9 -13
GZH smax smax
comp=E,18µm,1.6s
GZH smax smax
comp=E,12µm,1.2s
NJ2 Nanjing 8.05 341 P Pn 21 29 58.0 -1.6
NJ2 S Sn 21 31 31.9 +2.2
NJ2 smax smax
comp=E,7µm,0.9s
NJ2 smax smax
comp=E,8µm,1.1s
NJ2 LR LR
comp=E,104µm,5.7s
NJ2 LR LR
comp=E,247µm,5.0s
NJ2 LR LR
comp=E,99µm,14.2s
CNSH ChangSha 8.90 297 P Pn 21 30 11.6 +0.3
CNSH S Sn 21 31 55.9 +5.2
CNSH smax smax
comp=E,16µm,1.4s
CNSH smax smax
comp=E,20µm,1.3s
WHN Wuhan 9.07 314⇑*iP* Pn 21 30 11.4 -2.2
WHN pmax pmax
comp=E,580nm,0.7s
WHN pmax pmax
comp=E,7µm,4.7s
WHN LR LR
comp=E,426µm,11.2s
TGY Tagaytay City 10.34 185 Pn Pn 21 30 34.8 +3.7
comp=E,38nm,0.3s,baz=153,slow=4.3,SNR=6.9
TGY LR LR 21 35 23.4
comp=E,12µm,18.6s,baz=190,slow=42
comp=E,55nm,0.3s
TGY Tagaytay City 10.34 185 P Pn 21 30 34.8 +3.7
GULI GuiLin 10.55 277 P Pn 21 30 34.8 +0.9
GULI pmax pmax
comp=E,330nm,1.3s
GULI pmax pmax
comp=E,3µm,9.8s
GULI LR LR
comp=E,50µm,9.2s
GULI LR LR
comp=E,87µm,10.8s
GULI LR LR
comp=E,110µm,10.8s
JNU Nakatsue 11.66 40 Pn Pn 21 30 49.7 +0.6
JNU Nakatsue 11.66 40 Pn Pn 21 30 49.9 +0.8
comp=E,5.8nm,0.3s,baz=221,slow=8.9,SNR=184
JNU LR LR 21 36 22.4
comp=E,33µm,18.1s,baz=200,slow=43
comp=E,313nm,1.2s
JNU Nakatsue 11.66 40 P Pn 21 30 50.5 +1.4
JTU Tsushima 11.95 31 P Pn 21 30 56.7 +3.7
TIA Tai'an 12.44 342 P Pn 21 30 58.5 -1.2
TIA pmax pmax
comp=E,130nm,0.5s
TIA pmax pmax
comp=E,2µm,5.8s
TIA LR LR
comp=E,61µm,13.1s
TIA LR LR
comp=E,60µm,12.4s
TIA LR LR
comp=E,98µm,11.7s
QIZ Qiongzhong 12.47 247 P Pn 21 31 02.1 +1.8
QIZ S Sn 21 33 19.5 +1.2
QIZ pmax pmax
comp=E,77nm,1.3s
QIZ pmax pmax
comp=E,5µm,6.8s
QIZ LR LR
comp=E,48µm,15.5s
QIZ LR LR
comp=E,81µm,13.8s
TJN Taejon 12.77 20 Pn 21 31 04.5 +0.3
TJN Taejon 12.77 20 P Pn 21 31 05.3 +1.1
TJN Taejon 12.77 20 P Pn 21 31 04.5 +0.3
LYN LuoYang 13.01 323 ⇑P Pn 21 31 05.4 -2.1
LYN PP PnPn 21 31 15.6 +0.1
LYN S Sn 21 33 36.5 +5.2
LYN pmax pmax
comp=E,220nm,0.7s
LYN pmax pmax
comp=E,4µm,5.0s
LYN LR LR
comp=E,152µm,14.6s
LYN LR LR
comp=E,69µm,8.7s
LYN LR LR
comp=E,194µm,12.9s
INCN Inchon 13.60 16 Pn Pn 21 31 16.2 +0.7
INCN Inchon 13.60 16 P Pn 21 31 16.3 +0.7
INCN Inchon 13.60 16 P Pn 21 31 16.2 +0.7
KSAR Wonju Array Be 13.91 20 Pn Pn 21 31 20.3 +0.5
KSAR Wonju Array Be 13.91 20 P Pn 21 31 20.3 +0.5
JMN Monobe 13.93 46 Pn Pn 21 31 17.1 -3.1
KSRS Korea Array 13.93 20 Pn Pn 21 31 21.3 +1.2
comp=E,7.2nm,0.3s,baz=205,slow=14,SNR=114
KSRS LR LR 21 37 36.9
comp=E,16654µm,19.1s,baz=220,slow=41
KSRS ScP **ScP** 21 40 12.7 -0.1
comp=E,9.0nm,0.8s,baz=205,slow=1.8,SNR=5.2
comp=E,59nm,0.7s
KSRS Korea Array 13.93 20 P Pn 21 31 21.3 +1.2
GYA Guiyang 13.95 281 ⇑P Pn 21 31 21.1 +0.6
GYA S Sn 21 33 55.2 +0.6

GYA pmax pmax
comp=E,170nm,1.0s
GYA pmax pmax
comp=E,4μm,5.0s
GYA LR LR
comp=E,24μm,3.9s
GYA LR LR
comp=E,58μm,6.7s
GYA LR LR
comp=E,135μm,11.6s
KS19 Wonju Array Si 13.96 20 Pn **Pn 21 31 19.8 -0.7**
HNS HongShan 14.31 336 ⇓P **Pn 21 31 24.1 -1.2**
HNS PP **PnPn 21 31 34.7 +1.3**
HNS S **Sn 21 34 05.1 +1.9**
HNS pmax pmax
comp=E,570nm,1.4s
HNS LR LR
comp=E,69μm,14.2s
HNS LR LR
comp=E,45μm,14.3s
HNS LR LR
comp=E,86μm,13.7s
DL2 Dalian 14.41 359 P **Pn 21 31 26.6 -0.1**
DL2 S **Sn 21 34 05.2 -0.4**
DL2 pmax pmax
comp=E,170nm,0.6s
DL2 pmax pmax
comp=E,3μm,7.7s
DL2 LR LR
comp=E,17μm,13.3s
DL2 LR LR
comp=E,72μm,14.5s
DL2 LR LR
comp=E,29μm,18.4s
XAN Xi'an 14.84 313 ⇓P **Pn 21 31 31.0 -1.5**
XAN pP P 21 31 40.8 +2.7
XAN S **Sn 21 34 19.2 +3.2**
XAN pmax pmax
comp=E,220nm,1.8s
XAN pmax pmax
comp=E,9μm,6.8s
XAN LR LR
comp=E,50μm,6.9s
XAN LR LR
comp=E,111μm,11.3s
XAN LR LR
comp=E,143μm,12.4s
TIY Taiyuan 15.51 331 *e*P **Pn 21 31 42.7 +1.2**
TIY PP **pP 21 31 54.1 +1.2**
TIY S **Sn 21 34 33.0 +0.5**
TIY SS **S 21 34 48.0 +0.3**
TIY pmax pmax
comp=E,190nm,0.8s
TIY pmax pmax
comp=E,9μm,4.1s
TIY LR LR
comp=E,62μm,13.8s
TIY LR LR
comp=E,27μm,15.6s
TIY LR LR
comp=E,55μm,14.4s
BJI Beijing 16.29 344 P **P 21 31 53.3 -0.7**
BJI pmax pmax
comp=E,330nm,1.4s
BJI pmax pmax
comp=E,3μm,6.7s
BJI LR LR
comp=E,8μm,17.7s
BJI LR LR
comp=E,27μm,16.3s
BJI LR LR
comp=E,18μm,13.0s
SLVN Son La 16.91 263 **Pn 21 31 59.8 +0.4**
SLVN Son La 16.91 263 P **P 21 32 03.2 +2.0**
INU Inuyama 16.97 47 Pn **Pn 21 31 58.1 -1.9**
INU Inuyama 16.97 47 P **P 21 32 01.4 -0.3**
CD2 Chengdu 17.34 296 P **Pn 21 32 04.0 -0.6**
CD2 PcP **PcP 21 36 43.6 -2.6**
CD2 pmax pmax
comp=E,540nm,1.5s
CD2 pmax pmax
comp=E,9μm,8.6s
CD2 LR LR
comp=E,70μm,9.0s
CD2 LR LR
comp=E,102μm,15.0s
CD2 LR LR
comp=E,130μm,12.2s
JGF Kuroka 17.34 47 P **P 21 32 05.7 -0.2**
SNY Shenyang 17.38 4 ⇓P **P 21 32 07.4 +1.2**
SNY S **Sn 21 35 20.0 +2.3**
SNY pmax pmax
comp=E,430nm,2.1s
SNY pmax pmax
comp=E,6μm,6.2s
SNY LR LR
comp=E,15μm,19.6s
SNY LR LR
comp=E,83μm,14.5s
SNY LR LR
comp=E,22μm,12.0s
JSG Sagara 17.40 50 Pn **Pn 21 32 02.9 -2.4**
JSG IAmb IAmb 21 32 14.0
comp=E,816nm,1.5s
JSG Sagara 17.40 50 P **P 21 32 09.1 +2.7**
KMI Kunming 17.45 276 ⇑P **Pn 21 32 06.8 +0.5**
KMI S **Sn 21 35 21.8 +1.8**
KMI pmax pmax
comp=Z,240nm,1.7s
KMI pmax pmax
comp=Z,4μm,7.7s
KMI LR LR
comp=Z,29μm,8.9s
KMI LR LR
comp=Z,70μm,9.1s
KMI LR LR
comp=Z,85μm,14.5s
DAV Davao City (W) 17.63 168 LR LR 21 38 31.6
comp=Z,19μm,21.0s,baz=2.5,slow=35
DLV Lat 17.82 228 **P 21 32 12.2 +0.8**
DLV Lat 17.82 228 P **P 21 32 14.1 +2.7**
JHJ Hachijo jima 2 17.84 57 P **P 21 32 12.1 +0.7**
comp=Z,43nm,0.3s,baz=209,slow=5.5,SNR=52
JHJ LR LR 21 38 30.7
comp=Z,14μm,22.0s,baz=269,slow=35
comp=Z,3μm,1.1s
JHJ2 Mitsune 17.87 57 P **P 21 32 15.2 +3.6**
PZH PanZhiHua 18.36 281 ⇑P **Pn 21 32 17.3 0.0**
PZH pP **pP 21 32 23.4 -1.4**
PZH S **Sn 21 35 36.3 -5.4**
PZH sS **S 21 35 50.4 +4.7**
PZH pmax pmax
comp=Z,330nm,1.9s
PZH pmax pmax
comp=Z,5μm,8.2s
PZH LR LR
comp=Z,99μm,17.1s
PZH LR LR
comp=Z,54μm,15.3s
PZH LR LR
comp=Z,71μm,15.9s
JCJ Chichijima 18.42 77 **P 21 32 17.8 +0.1**
JCJ Chichijima 18.42 77 P **Pn 21 32 18.6 +0.7**
comp=Z,27nm,0.3s,baz=278,slow=13,SNR=11
JCJ LR LR 21 38 45.9
comp=Z,15μm,21.0s,baz=251,slow=35
comp=Z,307nm,0.8s
JCJ Chichijima 18.42 77 P **Pn 21 32 20.2 +2.3**
MJB9 Matsu-Tunnel 18.45 45 **P 21 32 17.5 -0.6**
MAJO Matsushiro 18.45 45 P **Pn 21 32 16.2 -1.9**
MAJO Matsushiro 18.45 45 P **Pn 21 32 20.8 +2.5**
MAJO Matsushiro 18.45 45 *i*P **P 21 32 17.2 -0.9**
MAJO pmax pmax
comp=Z,149nm,1.0s
MAJO MLR MLR
comp=Z,20μm,22.0s
MJAR Matsushiro Arr 18.45 45 P **P 21 32 15.9 -2.2**
MJAR Matsushiro Arr 18.45 45 P **P 21 32 18.1 +0.1**
comp=Z,39nm,0.9s,baz=238,slow=11,SNR=42
MJAR LR LR 21 39 59.1
comp=Z,16μm,20.8s,baz=222,slow=39
MJAR ScP **ScP 21 40 21.4 -0.1**
comp=Z,20nm,1.0s,baz=241,slow=1.9,SNR=20
MJAR Matsushiro Arr 18.45 45 P **P 21 32 15.9 -2.2**
MJAR pmax pmax
comp=Z,131nm,1.1s

HHC Hu-ho-hao-te 18.52 335 ⇑*i*P **Pn 21 32 21.8 +2.7**
HHC sS sS 21 35 56.8 -3.7
HHC pmax pmax
comp=Z,950nm,1.7s
HHC pmax pmax
comp=Z,10μm,7.7s
HHC LR LR
comp=Z,51μm,13.4s
HHC LR LR
comp=Z,21μm,15.4s
HHC LR LR
comp=Z,52μm,14.8s
BTO Baotou 18.96 331 *e*P **Pn 21 32 27.4 +2.9**
BTO sP **sP 21 32 37.4 +2.8**
BTO PP **PnPn 21 32 45.7 +8.5**
BTO pmax pmax
comp=Z,990nm,1.3s
BTO pmax pmax
comp=Z,11μm,3.6s
BTO LR LR
comp=Z,136μm,12.7s
BTO LR LR
comp=Z,53μm,10.7s
BTO LR LR
comp=Z,160μm,12.1s
KKM Kota Kinabalu 19.11 198 P **P 21 32 25.4 -0.1**
KKM Kota Kinabalu 19.11 198 P **Pn 21 32 29.1 +2.6**
JSD Sado 19.40 42 P **Pn 21 32 31.6 +1.9**
LZH Lanzhou 19.43 311 ⇑P **Pn 21 32 31.6 +1.4**
LZH pP sP 21 32 40.3 +0.5
LZH sP pP 21 32 45.6 +9.1
LZH SS Sn 21 36 30.3 +23
LZH pmax pmax
comp=Z,940nm,1.1s
LZH pmax pmax
comp=Z,16μm,4.1s
LZH LR LR
comp=Z,54μm,10.3s
LZH LR LR
comp=Z,75μm,10.5s
LZH LR LR
comp=Z,110μm,13.2s
MYLDM Lahad Datu 19.45 190 **Pn 21 32 30.2 -0.2**
MYLDM Lahad Datu 19.45 190 P **Pn 21 32 33.6 +3.2**
CN2 Changchun 19.52 8 ⇓*i*P **Pn 21 32 30.7 -0.3**
CN2 S **S 21 36 03.0 -5.5**
CN2 PcP **PcP 21 36 49.0 -0.5**
CN2 pmax pmax
comp=Z,650nm,1.1s
CN2 pmax pmax
comp=Z,4μm,3.0s
CN2 LR LR
comp=Z,25μm,12.0s
CN2 LR LR
comp=Z,72μm,12.0s
CN2 LR LR
comp=Z,22μm,12.0s
PSTR Posyet 19.57 20 *i* P **P 21 32 30.5 +0.2**
MSHR Mys Shultsa 19.62 21 *d* P **P 21 32 31.5 +0.7**
MSHR pmax pmax
comp=Z,705nm,1.0s
MSHR MLR MLR
comp=Z,9μm,15.0s
XLT XiLinHaoTe 19.99 348 *e*P **Pn 21 32 36.4 -0.3**
XLT sP sP 21 32 45.1 -0.4
XLT PP pP 21 32 57.0 +15
XLT sS sS 21 36 31.3 +1.2
XLT pmax pmax
comp=Z,2μm,1.1s
XLT LR LR
comp=Z,67μm,17.0s
XLT LR LR
comp=Z,36μm,13.2s
VLA Vladivostok 20.34 21 *c i*P **P 21 32 38.0 -0.6**
VLA pmax pmax
comp=Z,2μm,1.0s
VLA MLR MLR
comp=Z,30μm,15.0s
JMM Marumori 20.90 46 P **P 21 32 41.0 -3.7**
MDJ Mudanjiang 21.06 15 IAMs_20 IAMs_20 21 42 08.7
comp=Z,33μm,18.0s
MDJ Mudanjiang 21.06 15 P **P 21 32 48.1 +1.7**
MDJ sS Sn 21 36 47.8 +1.4
MDJ pmax pmax
comp=Z,420nm,1.3s
MDJ LR LR
comp=Z,46μm,15.7s
MDJ LR LR
comp=Z,26μm,13.6s
MDJ LR LR
comp=Z,65μm,14.3s
TNCH TengChong 21.28 276 ⇑*i*P **P 21 32 50.5 +1.3**
TNCH pP pP 21 32 54.0 -2.6
TNCH sP sP 21 32 57.2 -2.5
TNCH sS Sn 21 36 52.2 -0.1
TNCH SS **SnSn 21 37 14.5 +7.1**
TNCH pmax pmax
comp=Z,560nm,1.4s
TNCH LR LR
comp=Z,34μm,9.1s
TNCH LR LR
comp=Z,72μm,9.3s
TNCH LR LR
comp=Z,94μm,12.3s
USA0B Ussuriysk Arra 21.34 20 P **P 21 32 49.2 -0.2**
USA0B IAmb IAmb 21 32 57.8
comp=Z,370nm,0.9s
USA0B Ussuriysk Arra 21.34 20 P **P 21 32 49.2 -0.2**
USA0B pmax pmax
comp=Z,370nm,1.0s
USRK Ussuriysk Ar. 21.34 20 P **P 21 32 49.0 -0.4**
USRK Ussuriysk Ar. 21.34 20 P **P 21 32 50.1 +0.7**
comp=Z,203nm,1.0s,baz=212,slow=11,SNR=77
USRK ScP **ScP 21 40 26.9 -1.2**
comp=Z,34nm,1.2s,baz=234,slow=2.4,SNR=4.8
USRK LR LR 21 41 39.9
comp=Z,8μm,18.1s,baz=196,slow=38
comp=Z,203nm,1.0s
USRK Ussuriysk Ar. 21.34 20 P **P 21 32 50.2 +0.7**
BNX BinXian 21.69 10 ⇓P **P 21 32 52.6 -0.6**
BNX sP **pP 21 33 01.2 +0.6**
BNX S **S 21 36 51.8 -0.1**
BNX pmax pmax
comp=Z,190nm,1.4s
BNX pmax pmax
comp=Z,2μm,4.7s
BNX LR LR
comp=Z,6μm,14.6s
BNX LR LR
comp=Z,7μm,15.7s
BNX LR LR
comp=Z,6μm,15.1s
CHTO Chiang Mai 22.09 260 P **P 21 32 58.3 +0.6**
CHTO IAMs_20 IAMs_20 21 41 08.0
comp=Z,21μm,19.0s
CHTO Chiang Mai 22.09 260 P **P 21 32 59.8 +2.1**
CHTO Chiang Mai 22.09 260 P **P 21 32 59.5 +1.8**
CHTO Chiang Mai 22.09 260 P **P 21 32 58.3 +0.6**
CHTO pmax pmax
comp=Z,213nm,1.1s
CHTO MLR MLR
comp=Z,21μm,19.0s
CM31 Chiang Mai Arr 22.21 259 P **P 21 32 59.6 +0.7**
CMAR Chiang Mai Arr 22.21 259 P **P 21 32 59.3 +0.3**
CMAR Chiang Mai Arr 22.21 259 P **P 21 33 00.6 +1.6**
comp=Z,52nm,0.9s,baz=60,slow=8.3,SNR=70
CMAR PcP **PcP 21 36 56.4 +1.2**
comp=Z,18nm,0.8s,baz=72,slow=2.5,SNR=11
CMAR LR LR 21 41 46.0
comp=Z,13μm,18.3s,baz=75,slow=37
comp=Z,52nm,0.9s
CMAR Chiang Mai Arr 22.21 259 *i* P **P 21 33 00.6 +1.6**
CMAR pmax pmax
comp=Z,58nm,0.9s
TOLI2 Tolitoli 23.23 183 P **P 21 33 09.0 -0.6**
TOLI2 IAmb IAmb 21 33 28.9
comp=Z,688nm,1.7s
TOLI2 Tolitoli 23.23 183 P **P 21 33 12.7 +3.1**
TEY Ternei 23.74 26 ⇑*e*P **P 21 33 11.9 -2.4**
TEY MLR MLR
comp=N,600nm,11.0s
TEY MLR MLR
comp=E,200nm,11.0s
TEY MLR MLR
comp=Z,700nm,15.0s
SBUM Sibu 23.80 205 P **P 21 33 14.2 -1.0**

SBUM IAmb IAmb 21 33 27.1
comp=Z,421nm,1.9s
SBUM Sibu 23.80 205 P **P 21 33 15.7 +0.5**
MRSI Marisa 23.83 180 P P 21 33 23.0 +7.5
comp=Z,4μmcomp=Z,4μmcomp=Z,224nm,1.6s
GTA Gaotai 23.89 314 ⇑P **P 21 33 17.1 +1.0**
GTA sP pP 21 33 24.0 +0.1
GTA S **S 21 37 31.5 +0.7**
GTA pmax pmax
comp=Z,440nm,1.7s
GTA pmax pmax
comp=Z,6μm,7.6s
GTA LR LR
comp=Z,15μm,13.9s
GTA LR LR
comp=Z,57μm,13.5s
GTA LR LR
comp=Z,60μm,15.1s
MPSI Mapaga 24.05 185 P **P 21 33 19.6 +2.0**
comp=Z,3μmcomp=Z,131nm,1.0s
TNTI Ternate 24.12 167 P **P 21 33 18.2 0.0**
TNTI IAmb IAmb 21 33 37.4
comp=Z,446nm,1.3s
TNTI Ternate 24.12 167 P **P 21 33 22.7 +4.5**
TNTI Ternate 24.12 167 P **P 21 33 22.0 +3.8**
comp=Z,3μmcomp=Z,5μmcomp=Z,224nm,1.0s
GUMO Guam 24.18 112 P **P 21 33 19.0 +0.2**
GUMO Guam 24.18 112 IAMs_20 IAMs_20 21 42 21.1
comp=Z,19μm,19.0s
GUMO Guam 24.18 112 P **P 21 33 18.8 +0.1**
comp=Z,618nm,1.1s,baz=151,slow=1.7,SNR=10.0
GUMO LR LR 21 42 32.6
comp=Z,16μm,19.3s,baz=263,slow=36
comp=Z,618nm,1.1s
GUMO Guam 24.18 112 P **P 21 33 21.9 +3.1**
GUMO Guam 24.18 112 P **P 21 33 19.0 +0.2**
GUMO pmax pmax
comp=Z,1μm,1.2s
GUMO MLR MLR
comp=Z,19μm,19.0s
ERM Erimo 24.82 40 P **P 21 33 21.2 -3.2**
ERM IAmb IAmb 21 33 30.0
comp=Z,276nm,0.9s
ERM Erimo 24.82 40 IAMs_20 IAMs_20 21 43 26.4
comp=Z,18μm,21.0s
ERM Erimo 24.82 40 P **P 21 33 21.2 -3.2**
ERM pmax pmax
comp=Z,276nm,1.0s
ERM MLR MLR
comp=Z,18μm,21.0s
JORH JORHAT 25.06 281 *e*P **P 21 33 26.7 -0.1**
JORH IAmb IAmb 21 33 31.7
comp=Z,461nm,2.2s
JORH *e*S **S 21 37 52.3 +2.8**
SMKI Samarinda 25.17 191 P **P 21 33 34.4 +6.7**
comp=Z,6μmcomp=Z,356nm,1.4s
APSI Ampana 25.21 181 P **P 21 33 31.5 +3.4**
comp=Z,4μmcomp=Z,376nm,1.1s
KOHI KOHIMA 25.23 279 *e*P **P 21 33 26.7 -1.7**
KOHI IAmb IAmb 21 33 31.1
comp=Z,297nm,2.2s
KOHI *e*S **S 21 37 50.3 -2.2**
PCI Palu 25.29 185 P **P 21 33 31.3 +2.5**
comp=Z,7μmcomp=Z,315nm,1.4s
LUWI Luwuk 25.35 178 P **P 21 33 30.9 +1.5**
comp=Z,7μmcomp=Z,400nm,1.2s
ZIRO ZIRO 25.42 283 *e*P **P 21 33 30.7 +0.5**
ZIRO IAmb IAmb 21 33 35.4
comp=Z,576nm,3.0s
IMP Imphal 25.44 277 *e*P **P 21 33 30.7 +0.5**
IMP IAmb IAmb 21 33 33.7
comp=Z,197nm,2.7s
KSM Kuching 25.46 208 **P 21 33 30.1 -0.3**
KSM Kuching 25.46 208 P **P 21 33 31.5 +1.1**
ITAN ITANAGAR 25.53 282 *e*P **P 21 33 29.1 -1.9**
ITAN IAmb IAmb 21 33 36.5
comp=Z,547nm,2.6s
ITAN *e*S **S 21 37 56.4 -0.6**
ASAJ Asahikawa 25.87 36 PcP **PcP 21 37 02.9 +0.3**
comp=Z,14nm,1.0s,baz=180,slow=2.0,SNR=2.2
ASAJ ScP **ScP 21 40 39.5 -0.8**
comp=Z,13nm,0.9s,baz=139,slow=4.8,SNR=4.8
ASAJ LR LR 21 44 26.4
comp=Z,22μm,19.7s,baz=246,slow=38
ASAJ Asahikawa 25.87 36 P **P 21 33 32.4 -1.5**
ASAJ pmax pmax
comp=Z,150nm,0.9s
ASAJ MLR MLR
comp=Z,22μm,20.0s
JKA Kamikawa-asahi 25.87 36 P **P 21 33 32.4 -1.5**
JKA IAmb IAmb 21 33 44.2
comp=Z,150nm,0.9s
JKA IAMs_20 IAMs_20 21 44 05.2
comp=Z,22μm,20.0s
GOMU GeErMu 26.09 303 P **P 21 33 37.5 +1.1**
GOMU pP pP 21 33 41.1 -3.5
GOMU sP sP 21 33 44.8 -2.5
GOMU pmax pmax
comp=Z,94nm,1.2s
GOMU LR LR
comp=Z,9μm,10.6s
GOMU LR LR
comp=Z,12μm,10.7s
GOMU LR LR
comp=Z,17μm,10.2s
HEH HeiHe 26.11 8 *e*P **P 21 33 34.8 -1.1**
HEH sP **sP 21 33 47.4 +0.3**
HEH S **S 21 38 06.2 +0.6**
HEH sS **sS 21 38 16.6 -2.2**
HEH pmax pmax
comp=Z,430nm,1.6s
HEH pmax pmax
comp=Z,3μm,4.0s
HEH LR LR
comp=Z,23μm,14.0s
HEH LR LR
comp=Z,30μm,14.4s
HEH LR LR
comp=Z,22μm,14.2s
ULN Ulaanbaatar 26.18 337 P **P 21 33 36.8 -0.1**
ULN Ulaanbaatar 26.18 337 S **S 21 38 12.7 +5.4**
ULN Ulaanbaatar 26.18 337 P **P 21 33 36.8 -0.1**
ULN pmax pmax
comp=Z,793nm,1.0s
ULN MLR MLR
comp=Z,30μm,21.0s
STKI Sintang 26.28 204 P **P 21 33 38.9 +1.1**
comp=Z,4μmcomp=Z,7μmcomp=Z,274nm,1.5s
TEZP TEZPUR 26.36 281 *e*P **P 21 33 39.2 +0.7**
TEZP IAmb IAmb 21 33 41.3
comp=Z,938nm,1.5s
TEZP *e*S **S 21 38 10.7 +0.5**
SONM Songino Array 26.40 336 P **P 21 33 39.0 +0.2**
SONM Songino Array 26.40 336 P **P 21 33 39.5 +0.7**
comp=Z,1μm,1.0s,baz=157,slow=7.0,SNR=426
SONM PcP **PcP 21 37 04.6 +0.7**
comp=Z,21nm,0.9s,baz=154,slow=3.3,SNR=4.3
SONM ScP **ScP 21 40 41.5 -0.5**
comp=Z,31nm,1.1s,baz=181,slow=1.6,SNR=9.9
SONM LR LR 21 45 03.1
comp=Z,21μm,20.3s,baz=144,slow=39
SONM Songino Array 26.40 336 P **P 21 33 39.0 +0.2**
SONM pmax pmax
comp=Z,1μm,1.0s
SRIT Nakonsritamara 26.53 237 P **P 21 33 40.7 +0.6**
SRIT IAmb IAmb 21 34 00.1
comp=Z,251nm,1.4s
SRIT Nakonsritamara 26.53 237 P **P 21 33 43.2 +3.1**
SANI Sanana 26.63 171 P **P 21 33 44.1 +3.1**
SANI Sanana 26.63 171 P **P 21 33 43.1 +2.1**
comp=Z,2μmcomp=Z,120nm,1.1s
AZL Aizawl 26.70 275 *e*P **P 21 33 42.3 +0.6**
AZL IAmb IAmb 21 33 43.9
comp=Z,289nm,1.5s
AZL *e*S **S 21 38 14.8 -0.9**
SWI Sorong 26.74 159 P **P 21 33 42.7 +0.8**
comp=Z,5μmcomp=Z,2μmcomp=Z,98nm,1.1s
SHL Shillong 27.24 279 **P 21 33 46.8 +0.1**
SHL IAMs_20 IAMs_20 21 45 32.7
comp=Z,20μm,20.0s
SHL Shillong 27.24 279 P **P 21 33 48.0 +1.4**
SNR=116
SHL Shillong 27.24 279 *e*P **P 21 33 45.8 -0.9**
SHL IAmb IAmb 21 33 50.3
comp=Z,290nm,2.3s
SHL *e*S **S 21 38 22.9 -1.5**

SHL	**Shillong**	**27.24**	**279**		P	**P**	**21 33 46.8**	**+0.1**
SHL					pmax	pmax		
	comp=Z,1μm,1.2s							
SHL					MLR	MLR		
	comp=Z,20μm,20.0s							
GUWA	**GUWAHATI**	**27.37**	**280**	*e*	P	**P**	**21 33 47.5**	**-0.2**
GUWA					IAmb	IAmb	21 33 50.1	
	comp=Z,616nm,2.2s							
GUWA				*e*	S	**S**	**21 38 29.0**	**+2.9**
YUK	**Yuzh-Kuril'sk**	**27.63**	**39**	*e*	P	**P**	**21 33 47.8**	**-1.9**
YUK				*e*			21 37 03.3	
YUK				*e*	S	**S**	**21 38 26.0**	**-3.7**
YUK					pmax	pmax		
	comp=Z,1μm,1.6s							
YUK					pmax	pmax		
	comp=N,607nm,0.9s							
YUK					pmax	pmax		
	comp=E,1μm,1.0s							
YUK					MLR	MLR		
	comp=Z,16μm,21.0s							
YUK					MLR	MLR		
	comp=N,15μm,20.0s							
BRDH	**Bariadhala**	**27.81**	**273**		LR	LR	21 46 11.1	
	comp=N,11μm,18.4s,baz=98,slow=39							
LSA	**Lhasa**	**27.86**	**288**		P	**P**	**21 33 53.1**	**+0.5**
LSA					S	**S**	**21 38 30.8**	**-3.9**
LSA					pmax	pmax		
	comp=N,99nm,1.3s							
LSA					LR	LR		
	comp=N,6μm,10.3s							
LSA					LR	LR		
	comp=N,43μm,16.3s							
YSS	**Yuzhno-Sakhali**	**27.94**	**31**		P	**P**	**21 33 50.9**	**-1.6**
YSS	**Yuzhno-Sakhali**	**27.94**	**31**		P	**P**	**21 33 55.2**	**+2.8**
YSS	**Yuzhno-Sakhali**	**27.94**	**31**	*e*	P	**P**	**21 33 51.2**	**-1.2**
YSS				*e*			21 34 47.3	
YSS				*e*			21 37 08.3	
YSS				*e*	S	**S**	**21 38 32.4**	**-2.2**
YSS				*e*			21 44 36.6	
YSS					pmax	pmax		
	comp=Z,1μm,5.4s							
YSS					pmax	pmax		
	comp=N,500nm,7.3s							
YSS					pmax	pmax		
	comp=E,700nm,6.4s							
YSS					pmax	pmax		
	comp=Z,500nm,1.1s							
YSS					MLR	MLR		
	comp=Z,15μm,15.0s							
YSS					MLR	MLR		
	comp=N,8μm,16.0s							
YSS					MLR	MLR		
	comp=E,10μm,16.0s							
KULM	**Kulim**	**27.96**	**230**		P	**P**	**21 33 52.7**	**-0.2**
KULM					IAMs_20	IAMs_20	21 44 38.8	
	comp=Z,21μm,20.0s							
KULM	**Kulim**	**27.96**	**230**		P	**P**	**21 33 55.0**	**+2.0**
NLAI	**Namlea**	**27.98**	**169**		P	**P**	**21 33 54.4**	**+1.4**
IPM	**Ipoh**	**28.28**	**229**			**P**	**21 33 55.5**	**-0.3**
IPM					IAmb	IAmb	21 34 06.0	
	comp=Z,155nm,1.1s							
IPM					IAMs_20	IAMs_20	21 44 24.3	
	comp=Z,16μm,21.0s							
IPM	**Ipoh**	**28.28**	**229**		P	**P**	**21 33 56.7**	**+0.9**
RKPI	**Ransiki, Papua**	**28.41**	**154**		P	**P**	**21 33 58.2**	**+1.3**
	comp=Z,4μmcomp=Z,8μmcomp=Z,243nm,1.6s							
MYKOM	**Kota Tinggi**	**28.52**	**221**		P	**P**	**21 33 58.7**	**+0.8**
MYKOM	**Kota Tinggi**	**28.52**	**221**		P	**P**	**21 34 00.7**	**+2.8**
GRNR	**Gornyy**	**28.56**	**19**	⇑*i*	P	**P**	**21 33 57.6**	**-0.4**
GRNR				*e*			21 35 06.3	
GRNR					pmax	pmax		
	comp=Z,20nm,0.9s							
GRNR					MLR	MLR		
	comp=E,5μm,12.0s							
GRNR					MLR	MLR		
	comp=N,6μm,11.0s							
GRNR					MLR	MLR		
	comp=Z,8μm,11.0s							
FAKI	**Fak Fak**	**28.99**	**158**		P	**P**	**21 34 00.6**	**-1.5**
FAKI					IAmb	IAmb	21 34 30.1	
	comp=Z,149nm,1.0s							
FAKI	**Fak Fak**	**28.99**	**158**		P	**P**	**21 34 05.0**	**+2.9**
FAKI	**Fak Fak**	**28.99**	**158**		P	**P**	**21 34 00.2**	**-1.9**
	comp=Z,4μmcomp=Z,2μmcomp=Z,141nm,1.4s							
UGL	**Uglegorsk**	**29.21**	**28**	*e*	P	**P**	**21 34 05.5**	**+1.8**
UGL				*e*			21 34 57.0	
UGL				*e*	S	**S**	**21 38 59.0**	**+4.4**
UGL				*e*	SS	**ScP**	**21 40 42.5**	**-7.8**
UGL					pmax	pmax		
	comp=Z,300nm,1.2s							
UGL					smax	smax		
	comp=N,3μm,15.0s							
UGL					smax	smax		
	comp=E,2μm,15.0s							
UGL					MLR	MLR		
	comp=E,10μm,15.0s							
UGL					MLR	MLR		
	comp=N,8μm,13.0s							
UGL					MLR	MLR		
	comp=Z,12μm,14.0s							
KAPI	**Kappang**	**29.36**	**184**		P	**P**	**21 34 06.1**	**+0.7**
KAPI	**Kappang**	**29.36**	**184**		LR	LR	21 46 08.9	
	comp=Z,4μm,21.9s,baz=354,slow=37							
KAPI	**Kappang**	**29.36**	**184**		P	**P**	**21 34 03.6**	**-1.8**
KAPI					S	**S**	**21 38 54.3**	**-3.2**
KAPI	**Kappang**	**29.36**	**184**		P	**P**	**21 34 08.3**	**+2.9**
KAPI	**Kappang**	**29.36**	**184**		P	**P**	**21 34 06.1**	**+0.7**
KAPI					pmax	pmax		
	comp=Z,150nm,1.5s							
KAPI					MLR	MLR		
	comp=Z,4μm,21.0s							
KUR	**Kuril'sk**	**29.49**	**39**	*e*	P		21 34 14.1	+7.9
KUR				*e*	SSS	SSS	21 40 51.1	
KUR					pmax	pmax		
	comp=Z,523nm,1.1s							
KUR					pmax	pmax		
	comp=Z,2μm,8.8s							
KUR					MLR	MLR		
	comp=Z,10μm,17.0s							
KUR					MLR	MLR		
	comp=E,11μm,16.0s							
KUR					MLR	MLR		
	comp=N,5μm,12.0s							
ZEA	**Zeya**	**29.52**	**6**	*e*	P	**P**	**21 34 06.9**	**+0.5**
ZEA				*e*	S	**S**	**21 38 57.4**	**-1.9**
ZEA					pmax	pmax		
	comp=E,110nm,0.8s							
ZEA					pmax	pmax		
	comp=N,110nm,1.3s							
ZEA					pmax	pmax		
	comp=Z,330nm,0.9s							
ZEA					pmax	pmax		
	comp=Z,800nm,2.8s							
ZEA					smax	smax		
	comp=N,1μm,10.2s							
ZEA					smax	smax		
	comp=E,2μm,14.8s							
ZEA					MLR	MLR		
	comp=Z,9μm,16.0s							
ZEA					MLR	MLR		
	comp=N,8μm,14.0s							
SRPI	**Serui, Papua**	**29.62**	**150**		P	**P**	**21 34 08.7**	**+1.0**
ZAK	**Zakamensk**	**29.66**	**336**	*e*	P	**P**	**21 34 07.1**	**-0.7**
ZAK					pmax	pmax		
	comp=Z,118nm,1.2s							
GTK	**Tadong**	**30.08**	**283**	*e*	P	**P**	**21 34 12.7**	**+0.8**
GTK					IAmb	IAmb	21 34 15.1	
	comp=Z,512nm,1.9s							
GTK				*e*	S	**S**	**21 39 13.9**	**+4.9**
LHMI	**Lhok Sumawe**	**30.70**	**236**		P	**P**	**21 34 16.6**	**-0.6**
LHMI					IAmb	IAmb	21 34 28.8	
	comp=Z,216nm,1.0s							
LHMI					IAMs_20	IAMs_20	21 47 00.3	
	comp=Z,15μm,20.0s							
LHMI	**Lhok Sumawe**	**30.70**	**236**		P	**P**	**21 34 19.8**	**+2.6**
TYV	**Tymovskoe**	**30.84**	**26**	*e*	P	**P**	**21 34 22.5**	**+4.4**
TYV				*e*	S	**S**	**21 39 26.9**	**+6.9**
TYV					pmax	pmax		
	comp=Z,130nm,1.4s							
TYV					pmax	pmax		
	comp=Z,800nm,4.6s							
TYV					smax	smax		
	comp=N,1μm,7.6s							
TYV					smax	smax		
	comp=E,900nm,7.6s							
TYV					MLR	MLR		
	comp=Z,13μm,15.0s							
TYV					MLR	MLR		
	comp=E,13μm,13.0s							
IRK	**Irkutsk**	**30.85**	**339**	⇓*i*	P	**P**	**21 34 18.1**	**-0.1**
IRK				*e*	S	**S**	**21 39 17.6**	**-2.6**
IRK				*e*			21 44 47.6	
IRK					pmax	pmax		
	comp=Z,1μm,1.1s							
PSI	**Prapat**	**30.93**	**229**		LR	LR	21 46 24.6	
	comp=Z,15μm,21.9s,baz=77,slow=35							
PSI	**Prapat**	**30.93**	**229**		P	**P**	**21 34 21.2**	**+1.7**
PSI	**Prapat**	**30.93**	**229**		P	**P**	**21 34 19.8**	**+0.3**
PSI					pmax	pmax		
	comp=Z,132nm,1.0s							
PSI					MLR	MLR		
	comp=Z,16μm,22.0s							
RPSI	**Rantau Prapat**	**31.01**	**229**			**P**	**21 34 19.8**	**-0.1**
RPSI					IAmb	IAmb	21 34 30.2	
	comp=Z,132nm,1.0s							
RPSI					IAMs_20	IAMs_20	21 45 50.6	
	comp=Z,16μm,22.0s							
BKNI	**Bangkinang**	**31.39**	**223**		P	**P**	**21 34 24.1**	**+0.8**
BKNI					IAmb	IAmb	21 34 31.3	
	comp=Z,163nm,1.0s							
BKNI					IAMs_20	IAMs_20	21 46 37.6	
	comp=Z,12μm,20.0s							
BKNI	**Bangkinang**	**31.39**	**223**		P	**P**	**21 34 26.7**	**+3.4**
MOY	**Mondy**	**31.56**	**335**	*e*	P	**P**	**21 34 24.8**	**+0.2**
MOY				*e*			21 44 50.8	
MOY					pmax	pmax		
	comp=Z,372nm,1.3s							
PMBI	**Palembang**	**31.93**	**214**		P	**P**	**21 34 28.2**	**+0.2**
NKL	**Nikolayevsk**	**31.96**	**21**	*e*	P	**P**	**21 34 24.5**	**-3.4**
NKL				*e*	S	**S**	**21 39 36.5**	**-1.0**
NKL					smax	smax		
	comp=N,279nm,3.5s							
NKL					smax	smax		
	comp=E,1μm,3.5s							
NKL					MLR	MLR		
	comp=N,42μm,12.0s							
NKL					MLR	MLR		
	comp=E,21μm,12.0s							
NKL					MLR	MLR		
	comp=Z,67μm,14.0s							
GENI	**Genyem**	**32.19**	**144**		P	**P**	**21 34 33.7**	**+3.3**
JAY	**Jayapura**	**32.42**	**143**		LR	LR	21 45 03.3	
	comp=Z,9μm,21.5s,baz=330,slow=31							
BOK	**Bokaro**	**32.86**	**276**	*e*	P	**P**	**21 34 38.4**	**+2.2**
BOK					IAmb	IAmb	21 34 45.2	
	comp=Z,286nm,2.5s							
BOK				*e*	S	**S**	**21 39 54.7**	**+2.5**
MMRI	**Maumere**	**32.89**	**179**		P	**P**	**21 34 35.5**	**-0.9**
MMRI	**Maumere**	**32.89**	**179**		P	**P**	**21 34 39.6**	**+3.2**
GSI	**Gunungsitoli**	**32.94**	**229**		P	**P**	**21 34 36.5**	**-0.5**
GSI					IAMs_20	IAMs_20	21 47 47.7	
	comp=Z,19μm,21.0s							
GSI	**Gunungsitoli**	**32.94**	**229**		P	**P**	**21 34 39.8**	**+2.9**
SMRI	**Semarang**	**33.26**	**201**		P	**P**	**21 34 39.1**	**-0.6**
SMRI					IAmb	IAmb	21 35 47.0	
	comp=Z,120nm,1.0s							
SMRI	**Semarang**	**33.26**	**201**		P	**P**	**21 34 43.2**	**+3.5**
PLAI	**Plampang**	**33.33**	**188**		P	**P**	**21 34 41.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**33.59**	**194**		P	**P**	**21 34 42.6**	**0.0**
JAGI					IAmb	IAmb	21 34 55.2	
	comp=Z,97nm,1.1s							
JAGI	**Jajag, Banyuwa**	**33.59**	**194**		P	**P**	**21 34 45.9**	**+3.3**
BOD	**Bodaibo**	**33.82**	**352**	*e*	P	**P**	**21 34 43.4**	**-0.8**
BOD					pmax	pmax		
	comp=Z,165nm,1.7s							
WMQ	**Urumqi**	**33.97**	**313**	⇑	P	**P**	**21 34 46.7**	**+0.9**
WMQ					PP	**PnPn**	**21 35 58.4**	**-0.8**
WMQ					S	**S**	**21 40 10.9**	**+1.7**
WMQ					ScP	**ScP**	**21 41 06.5**	**-0.1**
WMQ					pmax	pmax		
	comp=Z,200nm,1.3s							
WMQ					pmax	pmax		
	comp=Z,1μm,3.8s							
WMQ					LR	LR		
	comp=Z,19μm,13.3s							
WMQ					LR	LR		
	comp=Z,30μm,14.1s							
WMQ					LR	LR		
	comp=Z,12μm,16.1s							
UGM	**Wanagama**	**34.04**	**201**		P	**P**	**21 34 46.5**	**-0.1**
UGM	**Wanagama**	**34.04**	**201**		P	**P**	**21 34 49.8**	**+3.3**
SOEI	**Soe**	**34.07**	**176**			**P**	**21 34 45.7**	**-1.2**
SOEI					IAmb	IAmb	21 35 44.2	
	comp=Z,145nm,1.0s							
SOEI	**Soe**	**34.07**	**176**		P	**P**	**21 34 49.5**	**+2.6**
LEM	**Lembang**	**34.08**	**206**		LR	LR	21 50 26.8	
	comp=Z,5μm,18.0s,baz=18,slow=39							
BBJI	**Bungbulang**	**34.65**	**206**		P	**P**	**21 34 54.4**	**+2.6**
MANU	**Manus Island**	**36.10**	**133**		P	**P**	**21 35 04.1**	**-0.2**
VIS	**Vishakhapatnam**	**36.56**	**267**	*e*	P	**P**	**21 35 09.1**	**+0.9**
VIS					IAmb	IAmb	21 35 11.9	
	comp=Z,134nm,1.0s							
VIS				*e*	S	**S**	**21 40 48.8**	**-0.5**
SKR	**Severo-Kuril's**	**37.13**	**36**	*e*	P	**P**	**21 35 09.9**	**-2.8**
SKR				*i*			21 36 34.5	
SKR				*e*	S	**S**	**21 40 56.7**	**-0.6**
SKR					pmax	pmax		
	comp=Z,217nm,0.9s							
SKR					pmax	pmax		
	comp=Z,700nm,10.9s							
SKR					MLR	MLR		
	comp=Z,12μm,15.0s							
ZSN	**Zaisan**	**37.27**	**317**	*c i*	P	**P**	**21 35 14.0**	**0.0**
ZSN				*e*	S	**S**	**21 41 02.4**	**+2.8**
ZSN	**Zaisan**	**37.27**	**317**	⇑*i*	P	**P**	**21 35 14.0**	**0.0**
ZSN				*e*	S	**S**	**21 41 02.5**	**+2.8**
DRS	**Darwin Rock St**	**37.69**	**166**		P	**P**	**21 35 20.1**	**+2.4**
YAK	**Yakutsk**	**37.93**	**6**		P	**P**	**21 35 18.1**	**-1.2**
YAK	**Yakutsk**	**37.93**	**6**		PcP	**PcP**	**21 37 33.9**	**-0.8**
	comp=Z,84nm,0.9s,baz=215,slow=2.1,SNR=3.9							
YAK					ScP	**ScP**	**21 41 18.3**	**-2.3**
	comp=Z,24nm,0.7s,baz=37,slow=5.1,SNR=6.2							
YAK	**Yakutsk**	**37.93**	**6**	*d i*	P	**P**	**21 35 17.2**	**-2.1**
YAK				*e*	*PP	***pP***	**21 35 24.8**	**-2.4**
YAK				*e*			21 36 45.9	
YAK				*e*			21 37 35.1	
YAK				*e*	S	**S**	**21 41 06.9**	**-2.2**
YAK				*e*	SS	**SnSn**	**21 43 45.9**	**-5.8**
YAK				*e*			21 45 30.8	
YAK					pmax	pmax		
	comp=Z,109nm,0.9s							
YAK					pmax	pmax		
	comp=N,97nm,1.5s							
YAK					pmax	pmax		
	comp=E,48nm,0.9s							
YAK					pmax	pmax		
	comp=Z,496nm,1.7s							
YAK					pmax	pmax		
	comp=N,1μm,2.7s							
YAK					pmax	pmax		
	comp=E,276nm,1.8s							
YAK					smax	smax		
	comp=E,371nm,4.9s							
YAK					smax	smax		
	comp=N,723nm,3.9s							
YAK					MLR	MLR		
	comp=N,5μm,14.0s							
YAK					MLR	MLR		
	comp=Z,10μm,18.0s							
YAK					MLR	MLR		
	comp=E,5μm,21.0s							
MTN	**Manton Dam**	**38.14**	**165**			**P**	**21 35 19.7**	**-1.9**
MTN					IAmb	IAmb	21 35 33.3	
	comp=Z,117nm,0.9s							
MTN	**Manton Dam**	**38.14**	**165**		P	**P**	**21 35 19.3**	**-2.2**
MTN	**Manton Dam**	**38.14**	**165**		P	**P**	**21 35 22.7**	**+1.2**
KDU	**Kakadu**	**38.32**	**163**		P	**P**	**21 35 21.6**	**-1.5**
	comp=Z,64nm,1.1s							
KDU	**Kakadu**	**38.32**	**163**		P	**P**	**21 35 24.4**	**+1.4**
MK31	**Makanchi Array**	**38.63**	**315**	*ce*	P	**P**	**21 35 25.6**	**+0.1**
MKAR	**Makanchi Array**	**38.63**	**315**		P	**P**	**21 35 25.4**	**-0.1**
MKAR	**Makanchi Array**	**38.63**	**315**		P	**P**	**21 35 25.8**	**+0.3**
	comp=Z,223nm,0.7s,baz=103,slow=10.0,SNR=539							
MKAR					ScP	**S**	**21 41 21.9**	**+1.6**
	comp=Z,23nm,0.9s,baz=97,slow=6.3,SNR=14							
MKAR					LR	LR	21 52 29.3	
	comp=Z,13μm,18.5s,baz=102,slow=38							
	comp=Z,223nm,0.7s							
MKAR	**Makanchi Array**	**38.63**	**315**		P	**P**	**21 35 25.8**	**+0.3**
MKAR							21 41 21.9	
MAKZ	**Makanchi**	**38.84**	**315**		P	**P**	**21 35 28.2**	**+1.0**
PATS	**Pohnpei**	**38.98**	**111**		P	**P**	**21 35 28.4**	**-0.3**
	comp=Z,230nm,1.5s							
PATS	**Pohnpei**	**38.98**	**111**		P	**P**	**21 35 31.5**	**+2.8**
DDI	**Dehra Dun**	**39.22**	**289**	*e*	P	**P**	**21 35 29.5**	**-1.2**
DDI					IAmb	IAmb	21 35 32.6	
	comp=Z,291nm,2.0s							
DDI				*e*	S	**S**	**21 41 35.3**	**+5.7**
PEA0B	**Petropavlovsk-**	**39.26**	**34**			**P**	**21 35 28.8**	**-1.8**
PEA0B	**Petropavlovsk-**	**39.26**	**34**		P	**P**	**21 35 28.8**	**-1.8**
PEA0B					pmax	pmax		
	comp=Z,49nm,1.2s							
PETK	**Petropavlovsk-**	**39.26**	**34**		P	**P**	**21 35 28.3**	**-2.3**
PETK	**Petropavlovsk-**	**39.26**	**34**		P	**P**	**21 35 29.1**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=231,slow=6.9,SNR=5.4							
PETK					PcP	**PcP**	**21 37 38.5**	**-0.7**
	comp=Z,12nm,0.8s,baz=216,slow=6.9,SNR=4.9							
PETK					ScP	**ScP**	**21 41 23.4**	**-2.5**
	comp=Z,4.2nm,0.8s,baz=227,slow=6.9,SNR=3.9							
PETK					LR	LR	21 51 30.8	
	comp=Z,11μm,20.9s,baz=233,slow=36							
PETK	**Petropavlovsk-**	**39.26**	**34**		P	**P**	**21 35 29.1**	**-1.5**
PETK							21 37 38.5	
PETK							21 41 23.4	
SHLS	**Shalkode**	**39.43**	**309**	*e*	P	**P**	**21 35 29.8**	**-2.6**
SHLS				*e*	S	**S**	**21 41 30.7**	**-1.9**
SHLS					pmax	pmax		
	comp=Z,192nm,1.1s							
SHLS	**Shalkode**	**39.43**	**309**	*e*	P	**P**	**21 35 29.8**	**-2.6**
	comp=Z,192nm,1.1s							
SHLS				*e*	S	**S**	**21 41 30.8**	**-1.9**
PET	**Petropavlovsk**	**39.70**	**34**		P	**P**	**21 35 32.2**	**-2.1**
PET					IAmb	IAmb	21 35 40.4	
	comp=Z,154nm,1.0s							
PET					IAMs_20	IAMs_20	21 51 43.9	
	comp=Z,13μm,22.0s							
PET	**Petropavlovsk**	**39.70**	**34**		P	**P**	**21 35 33.5**	**-0.8**
PET	**Petropavlovsk**	**39.70**	**34**	*d i*	P	**P**	**21 35 31.1**	**-3.2**
PET				*e*			21 37 40.8	
PET				*e*	S	**S**	**21 41 30.9**	**-5.2**
PET					pmax	pmax		
	comp=Z,300nm,8.3s							
PET					pmax	pmax		
	comp=Z,600nm,7.0s							
PET					pmax	pmax		
	comp=Z,181nm,1.1s							
PET	**Petropavlovsk**	**39.70**	**34**		P	**P**	**21 35 32.1**	**-2.1**
	comp=Z,2μmcomp=Z,164nm,1.3s							
UZB	**Uzynbulak**	**39.74**	**309**	*e*	P	**P**	**21 35 34.9**	**-0.1**
UZB					pmax	pmax		
	comp=Z,273nm,1.1s							
UZB	**Uzynbulak**	**39.74**	**309**	*e*	P	**P**	**21 35 35.0**	**-0.1**
	comp=Z,273nm,1.1s							
SMLA	**Simla**	**39.96**	**290**	*e*	P	**P**	**21 35 37.1**	**+0.4**
SMLA					IAmb	IAmb	21 35 39.8	
	comp=Z,457nm,2.8s							
SMLA				*e*	S	**S**	**21 41 40.8**	**+0.3**
PRZ	**Przheval'sk**	**40.04**	**308**		P	**P**	**21 35 38.5**	**+1.0**
PRZ					IAmb	IAmb	21 35 43.5	
	comp=Z,363nm,1.0s							
PRZ	**Przheval'sk**	**40.04**	**308**		P	**P**	**21 35 38.5**	**+1.0**
PRZ					pmax	pmax		
	comp=Z,363nm,1.0s							
KPKS	**Kokpek**	**40.06**	**309**	*e*	P	**P**	**21 35 37.6**	**+0.1**
KPKS				*e*	S	**S**	**21 41 44.6**	**+2.7**
KPKS	**Kokpek**	**40.06**	**309**	*e*	P	**P**	**21 35 37.6**	**+0.1**
KPKS				*e*	S	**S**	**21 41 44.6**	**+2.7**
SATY	**Saty**	**40.16**	**308**	*e*	P	**P**	**21 35 38.4**	**0.0**
SATY				*e*	S	**S**	**21 41 46.2**	**+2.7**
SATY					pmax	pmax		
	comp=Z,190nm,1.2s							
SATY	**Saty**	**40.16**	**308**	*e*	P	**P**	**21 35 38.5**	**0.0**
	comp=Z,190nm,1.2s							
SATY				*e*	S	**S**	**21 41 46.3**	**+2.7**
TARG	**Taragay, Kyrgy**	**40.31**	**306**		P	**P**	**21 35 40.8**	**+0.7**
TARG					IAmb	IAmb	21 35 45.9	
	comp=Z,294nm,1.2s							
TARG	**Taragay, Kyrgy**	**40.31**	**306**		P	**P**	**21 35 40.8**	**+0.7**
TARG					pmax	pmax		
	comp=Z,294nm,1.2s							
ZAA0	**Zalesovo Array**	**40.40**	**327**		P	**P**	**21 35 39.1**	**-1.0**
ZALV	**Zalesovo Beam**	**40.40**	**327**		P	**P**	**21 35 38.7**	**-1.4**
ZALV	**Zalesovo Beam**	**40.40**	**327**		P	**P**	**21 35 39.5**	**-0.6**
	comp=Z,319nm,0.8s,baz=113,slow=8.0,SNR=432							
ZALV					ScP	**ScP**	**21 41 28.6**	**-1.7**
	comp=Z,9.8nm,0.8s,baz=120,slow=3.4,SNR=7.1							
ZALV					LR	LR	21 53 46.3	
	comp=Z,13μm,18.9s,baz=124,slow=38							
	comp=Z,319nm,0.8s							
ZALV	**Zalesovo Beam**	**40.40**	**327**	*i*	P	**P**	**21 35 39.5**	**-0.6**
ZALV					pmax	pmax		
	comp=Z,320nm,0.8s							
KNRA	**Kununurra**	**40.44**	**170**		P	**P**	**21 35 39.3**	**-1.4**
KNRA	**Kununurra**	**40.44**	**170**		P	**P**	**21 35 39.3**	**-1.4**
	comp=Z,46nm,1.1s							
MA2	**Magadan**	**40.48**	**22**		P	**P**	**21 35 39.0**	**-1.6**
MA2					IAMs_20	IAMs_20	21 52 40.2	
	comp=Z,9μm,19.0s							
MA2	**Magadan**	**40.48**	**22**		PcP	**PcP**	**21 37 41.7**	**-1.2**
	comp=Z,45nm,0.9s,baz=191,slow=5.0,SNR=5.0							
MA2					ScP	**ScP**	**21 41 29.2**	**-1.3**
	comp=Z,11nm,0.7s,baz=183,slow=8.4,SNR=4.2							
MA2					LR	LR	21 52 51.6	
	comp=Z,8μm,19.1s,baz=222,slow=37							
MA2	**Magadan**	**40.48**	**22**		P	**P**	**21 35 40.8**	**+0.2**
MA2	**Magadan**	**40.48**	**22**	*ce*	P	**P**	**21 35 37.8**	**-2.8**
MA2					pmax	pmax		
	comp=Z,184nm,1.7s							
MA2					MLR	MLR		
	comp=Z,9μm,17.0s							
MA2	**Magadan**	**40.48**	**22**		P	**P**	**21 35 39.3**	**-1.3**
	comp=Z,2μmcomp=Z,122nm,1.0s							
BHPL	**Bhopal**	**40.61**	**278**	*e*	P	**P**	**21 35 41.2**	**-1.1**
BHPL					IAmb	IAmb	21 35 44.3	
	comp=Z,108nm,1.5s							
BHPL				*e*	S	**S**	**21 41 53.5**	**+3.1**
TDK	**Taldyqorghan**	**40.64**	**311**	*e*	P	**P**	**21 35 42.4**	**+0.2**
TDK					pmax	pmax		
	comp=Z,317nm,1.2s							
TDK					MLR	MLR		
	comp=Z,9μm,14.0s							
TDK	**Taldyqorghan**	**40.64**	**311**	*e*	P	**P**	**21 35 42.4**	**+0.2**
	comp=Z,317nm,1.2s							
TDK					LR	LR	21 52 57.6	
	comp=Z,9μm,14.3s							
DHRM	**DHARAMSHALA**	**40.67**	**292**	*e*	P	**P**	**21 35 43.2**	**+0.3**
DHRM					IAmb	IAmb	21 35 46.5	
	comp=Z,846nm,2.0s							
DHRM				*e*	S	**S**	**21 41 55.6**	**+4.0**
KDJ	**Kajisay**	**40.85**	**307**		P	**P**	**21 35 44.5**	**+0.4**
KDJ					IAmb	IAmb	21 35 49.0	
	comp=Z,357nm,1.1s							
KDJ					IAMs_20	IAMs_20	21 53 32.3	
	comp=Z,12μm,20.0s							
KDJ	**Kajisay**	**40.85**	**307**		P	**P**	**21 35 44.6**	**+0.4**
KDJ					pmax	pmax		
	comp=Z,357nm,1.1s							
KDJ					MLR	MLR		
	comp=Z,12μm,20.0s							
RABL	**Rabaul**	**40.93**	**130**		P	**P**	**21 35 45.5**	**+0.6**
RABL					IAmb	IAmb	21 35 48.7	
	comp=Z,178nm,0.8s							
HYB	**Hyderabad**

ULHL Ulahol 41.56 307 P **P** 21 35 52.4 +2.4
SNR=9.5
PMG Port Moresby 41.69 141 P **P** 21 35 51.6 +0.5
PMG IAmb IAmb 21 35 56.9
comp=Z,145nm,0.8s
PMG Port Moresby 41.69 141 LR LR 21 50 56.9
comp=Z,4µm,21.2s,baz=320,slow=33
PMG Port Moresby 41.69 141 P **P** 21 35 52.9 +1.8
PMG Port Moresby 41.69 141 P **P** 21 35 53.1 +2.0
PMG Port Moresby 41.69 141 P **P** 21 35 51.6 +0.5
PMG pmax pmax
comp=Z,145nm,0.8s
PMG MLR MLR
comp=Z,6µm,22.0s
KUU Kurty 41.81 309 *e*P **P** 21 35 52.0 +0.1
KUU *e*S **S** 21 42 10.7 +2.8
KUU pmax pmax
comp=Z,186nm,1.0s
KUU MLR MLR
comp=Z,7µm,12.0s
KUU Kurty 41.81 309 *e*P **P** 21 35 52.1 +0.1
comp=Z,186nm,1.0s
KUU *e*S **S** 21 42 10.7 +2.8
KUU LR LR 21 53 31.8
comp=Z,7µm,12.2s
TKM2 Tokmak 2 42.15 308 P **P** 21 35 56.3 +1.4
SNR=387
KURK Kurchatov 42.34 320 P **P** 21 35 55.7 -0.3
KURK IAmb IAmb 21 35 59.0
comp=Z,301nm,0.9s
KURK Kurchatov 42.34 320 P **P** 21 35 55.7 -0.3
KURK pmax pmax
comp=Z,301nm,1.0s
KURK MLR MLR
comp=Z,4µm,19.0s
KURBB Kurchatov Arra 42.35 319 P **P** 21 35 56.0 -0.1
comp=Z,151nm,0.8s,baz=114,slow=7.8,SNR=243
KURBB ScP **ScP** 21 41 37.1 -1.1
comp=Z,3.6nm,0.8s,baz=116,slow=4.2,SNR=4.0
KURBB LR LR 21 55 48.8
comp=Z,4µm,18.3s,baz=130,slow=39
comp=Z,151nm,0.8s
FITZ Fitzroy Crossi 42.45 175 P **P** 21 35 55.8 -1.3
FITZ Fitzroy Crossi 42.45 175 P **P** 21 35 55.8 -1.3
comp=Z,10nm,1.3s
FITZ Fitzroy Crossi 42.45 175 P **P** 21 35 58.0 +0.9
KBK Karagaybulak 42.57 307 P **P** 21 35 59.9 +1.6
SNR=102
CHMS Chumysh 42.77 308 P **P** 21 36 00.6 +0.9
SNR=156
UCH Uchtor 42.82 306 P **P** 21 36 02.7 +2.1
SNR=42
FRU1 Bishkek 42.83 307 P **P** 21 36 01.3 +1.1
FRU1 IAmb IAmb 21 36 05.4
comp=Z,265nm,1.0s
FRU1 Bishkek 42.83 307 P **P** 21 36 01.3 +1.1
FRU1 pmax pmax
comp=Z,265nm,1.0s
FRU1 MLR MLR
comp=Z,18µm,18.0s
AAK Ala-Archa 42.90 307 P **P** 21 36 01.3 +0.4
AAK Ala-Archa 42.90 307 LR LR 21 56 26.9
comp=Z,17µm,19.1s,baz=95,slow=40
AAK Ala-Archa 42.90 307 P **P** 21 36 02.1 +1.2
SNR=33
AAK Ala-Archa 42.90 307 P **P** 21 36 01.3 +0.4
AAK pmax pmax
comp=Z,126nm,1.1s
AAK MLR MLR
comp=Z,18µm,18.0s
AAK Ala-Archa 42.90 307 *i* P **P** 21 36 02.1 +1.2
SNR=33
SGDS Sogindy 42.94 308 *e*P **P** 21 36 01.1 0.0
PALK Pallekele 42.98 254 P **P** 21 36 00.8 -0.9
PALK Pallekele 42.98 254 LR LR 21 55 46.9
comp=Z,5µm,18.8s,baz=58,slow=39
PALK Pallekele 42.98 254 P **P** 21 36 03.2 +1.5
PALK Pallekele 42.98 254 P **P** 21 36 00.9 -0.9
PALK pmax pmax
comp=Z,122nm,1.5s
PALK MLR MLR
comp=Z,6µm,21.0s
USP Ospenovka 43.00 308 P **P** 21 36 02.6 +1.0
SNR=155
NIL Nilore 43.21 294 P **P** 21 36 03.2 -0.2
NIL Nilore 43.21 294 IAMs_20 IAMs_20 21 56 03.1
comp=Z,11µm,20.0s
NIL Nilore 43.21 294 P **P** 21 36 03.2 -0.2
NIL pmax pmax
comp=Z,788nm,1.7s
NIL MLR MLR
comp=Z,11µm,20.0s
EKS2 Erkin-Say 43.42 307 P **P** 21 36 06.2 +1.1
SNR=114
COEN Coen 43.44 149 P **P** 21 36 05.7 +0.4
COEN IAmb IAmb 21 36 14.7
comp=Z,194nm,0.9s
COEN IAMs_20 IAMs_20 21 51 42.4
comp=Z,8µm,22.0s
COEN Coen 43.44 149 P **P** 21 36 07.1 +1.8
comp=Z,0.0nmcomp=Z,245nm,1.2s
COEN Coen 43.44 149 P **P** 21 36 07.6 +2.3
SEY Seymchan 43.49 20 PcP **PcP** 21 37 51.8 -1.0
comp=Z,68nm,0.9s,baz=213,slow=3.5,SNR=8.9
SEY ScP **ScP** 21 41 40.3 -2.2
comp=Z,12nm,1.0s,baz=207,slow=2.3,SNR=5.5
SEY LR LR 21 55 16.5
comp=Z,9µm,19.0s,baz=218,slow=38
SEY Seymchan 43.49 20 *ce*P **P** 21 36 03.6 -1.6
SEY pmax pmax
comp=Z,34nm,0.8s
SEY MLR MLR
comp=Z,8µm,18.0s
BTLS Baital 43.66 310 *e*P **P** 21 36 07.0 +0.2
BTLS *e*S **S** 21 42 37.8 +2.9
BTLS pmax pmax
comp=Z,87nm,0.8s
BTLS Baital 43.66 310 *e*P **P** 21 36 07.1 +0.2
comp=Z,87nm,0.8s
BTLS *e*S **S** 21 42 37.9 +2.9
ARSB Arslanbob 43.83 305 P **P** 21 36 08.7 +0.3
ARSB IAmb IAmb 21 36 13.1
comp=Z,395nm,1.4s
ARSB Arslanbob 43.83 305 P **P** 21 36 08.7 +0.3
ARSB pmax pmax
comp=Z,395nm,1.4s
ARSB MLR MLR
comp=Z,16µm,21.0s
POO Poona 44.96 272 *e*P **P** 21 36 19.6 +2.0
POO IAmb IAmb 21 36 24.1
comp=Z,235nm,2.3s
DZA Taraz 45.24 307 *e*P **P** 21 36 19.6 +0.1
DZA pmax pmax
comp=Z,340nm,2.2s
DZA Taraz 45.24 307 *e*P **P** 21 36 19.7 +0.1
comp=Z,340nm,2.2s
MBWA Marble Bar 45.39 183 P **P** 21 36 19.6 -1.2
MBWA Marble Bar 45.39 183 P **P** 21 36 19.4 -1.4
comp=Z,87nm,1.2s
MBWA Marble Bar 45.39 183 P **P** 21 36 19.5 -1.2
MBWA Marble Bar 45.39 183 P **P** 21 36 23.9 +3.1
WB0 Warramunga Arr 45.59 163 P **P** 21 36 21.4 -1.0
WB0 IAmb IAmb 21 36 35.0
comp=Z,184nm,1.1s
GAR Garm 45.67 301 P **P** 21 36 23.6 +0.5
BRZS Berezniki 45.71 317 *i* P **P** 21 36 23.7 +0.6
BRZS pmax pmax
comp=Z,20nm,1.1s
BRZS Berezniki 45.71 317 *e*P **P** 21 36 23.2 +0.1
WRAB Tennant Creek 45.74 164 *e*P **P** 21 36 23.7 +0.1
WRAB pmax pmax
comp=Z,85nm,1.5s
WRA Warramunga Arr 45.75 164 P **P** 21 36 22.6 -1.0
WRA Warramunga Arr 45.75 164 P **P** 21 36 22.6 -1.0
comp=Z,36nm,0.9s,baz=346,slow=8.8,SNR=102
WRA PcP **PcP** 21 38 01.4 +0.2
comp=Z,18nm,0.8s,baz=344,slow=3.8,SNR=3.1
WRA LR LR 21 55 30.4
comp=Z,2µm,21.9s,baz=344,slow=36
comp=Z,36nm,0.9s
WRA Warramunga Arr 45.75 164 *i* P **P** 21 36 22.6 -1.0
WRA pmax pmax
comp=Z,35nm,0.9s
PSA00 Pilbara Seismi 45.79 183 P **P** 21 36 22.3 -1.7
PSA00 Pilbara Seismi 45.79 183 P **P** 21 36 28.1 +4.1
KK31 Karatay Array 45.86 307 P **P** 21 36 24.7 +0.2
KK31 IAmb IAmb 21 36 28.7
comp=Z,375nm,1.5s
KK31 Karatay Array 45.86 307 P **P** 21 36 24.7 +0.2
KK31 pmax pmax
comp=Z,375nm,1.5s
KKAR Karatay Array 45.86 307 P **P** 21 36 24.4 0.0
KKAR Karatay Array 45.86 307 P **P** 21 36 24.5 0.0
IUG luzhnay 46.11 306 *e*P **P** 21 36 26.5 0.0
IUG pmax pmax
comp=Z,207nm,1.5s
IUG luzhnay 46.11 306 *e*P **P** 21 36 26.6 0.0
comp=Z,208nm,1.5s
BRLS Borolday 46.34 307 *e*P **P** 21 36 29.0 +0.8
BRLS pmax pmax
comp=Z,82nm,1.5s
BRLS Borolday 46.34 307 *e*P **P** 21 36 29.1 +0.8
comp=Z,82nm,1.5s
KBL Kabul 46.68 295 P **P** 21 36 31.9 +0.7
KBL Kabul 46.68 295 P **P** 21 36 32.6 +1.4
SNR=95
KBL S **S** 21 43 19.4 +0.2
KBL Kabul 46.68 295 P **P** 21 36 31.9 +0.7
KBL pmax pmax
comp=Z,515nm,1.2s
SIMJ Simiganj 46.68 301 P **P** 21 36 30.7 -0.4
TIXI Tiksi 47.39 3 P **P** 21 36 34.2 -1.7
TIXI Tiksi 47.39 3 LR LR 21 59 21.4
comp=Z,11µm,18.2s,baz=199,slow=40
TIXI Tiksi 47.39 3 *ce*P **P** 21 36 34.1 -1.8
TIXI pmax pmax
comp=Z,704nm,1.3s
TIXI MLR MLR
comp=Z,11µm,16.0s
GIRL Giralia 47.41 190 P **P** 21 36 38.8 +2.1
comp=Z,227nm,1.1s
MTSU Mount Surprise 47.62 151 P **P** 21 36 39.4 +1.0
comp=Z,96nm,0.9s
MTSU Mount Surprise 47.62 151 P **P** 21 36 40.9 +2.5
BVAR Borovoye Array 47.91 320 P **P** 21 36 40.3 0.0
comp=Z,96nm,0.6s,baz=106,slow=9.4,SNR=224
BVAR PcP **PcP** 21 38 07.8 -0.6
comp=Z,36nm,0.9s,baz=110,slow=2.9,SNR=2.4
BVAR ScP **ScP** 21 42 00.6 -0.5
comp=Z,17nm,0.8s,baz=95,slow=4.9,SNR=8.8
BVAR LR LR 21 56 50.2
comp=Z,4µm,21.9s,baz=112,slow=36
comp=Z,96nm,0.6s
BVAR Borovoye Array 47.91 320 P **P** 21 36 40.3 0.0
BVAR 21 38 07.8
QIS Mount Isa 47.93 157 P **P** 21 36 41.4 +0.7
comp=Z,0.0nmcomp=Z,204nm,1.2s
QIS Mount Isa 47.93 157 P **P** 21 36 42.0 +1.3
BRVK Borovoye 47.98 320 P **P** 21 36 40.5 -0.3
BRVK Borovoye 47.98 320 IAMs_20 IAMs_20 21 59 44.9
comp=Z,5µm,18.0s
BRVK Borovoye 47.98 320 P **P** 21 36 41.4 +0.6
BRVK S **S** 21 43 37.6 +0.8
BRVK Borovoye 47.98 320 P **P** 21 36 40.5 -0.3
BRVK pmax pmax
comp=Z,280nm,1.0s
BRVK MLR MLR
comp=Z,5µm,18.0s
SHEM Shemya Is, Ala 48.18 40 LR LR 21 58 35.2
comp=Z,2µm,19.0s,baz=264,slow=38
SMY Shemya 48.18 40 P **P** 21 36 41.7 -0.6
SMY Shemya 48.18 40 P **P** 21 36 44.3 +2.0
SMY Shemya 48.18 40 P **P** 21 36 41.7 -0.6
SMY pmax pmax
comp=Z,58nm,0.9s
SMY MLR MLR
comp=Z,3µm,21.0s
AS15 Alice Springs 49.19 165 P **P** 21 36 50.5 0.0
comp=Z,69nm,0.8s
AS31 Alice Springs 49.22 165 P **P** 21 36 50.2 -0.4
AS31 Alice Springs 49.22 165 P **P** 21 36 50.4 -0.2
comp=Z,26nm,0.9s
ASAR Alice Springs 49.22 165 P **P** 21 36 50.1 -0.5
ASAR Alice Springs 49.22 165 P **P** 21 36 50.9 +0.2
comp=Z,14nm,0.7s,baz=347,slow=6.4,SNR=44
ASAR PcP **PcP** 21 38 13.4 -0.1
comp=Z,8.9nm,0.8s,baz=348,slow=4.5,SNR=1.1
ASAR ScP **ScP** 21 42 07.0 +0.1
comp=Z,4.1nm,0.8s,baz=348,slow=5.2,SNR=4.5
ASAR LR LR 21 57 44.0
comp=Z,3µm,21.1s,baz=353,slow=36
ASAR P4KPbc 22 14 25.8
comp=Z,0.7nm,0.7s,baz=345,slow=3.9,SNR=6.6
comp=Z,14nm,0.7s
ASAR Alice Springs 49.22 165 P **P** 21 36 50.9 +0.2
ASAR 21 38 13.4
AS01 Alice Springs 49.23 165 P **P** 21 36 53.6 +2.9
TATA Tatamba Isabel 49.29 127 P **P** 21 36 54.0 +2.7
WRKA Warakurna 49.58 172 P **P** 21 36 52.5 -0.9
comp=Z,18nm,1.1s
SAVO Savo Central 49.81 127 P **P** 21 36 58.7 +3.4
HNR Honiara 50.09 128 IAMs_20 IAMs_20 21 55 56.7
comp=Z,5µm,20.0s
HNR Honiara 50.09 128 LR LR 21 56 38.8
comp=Z,4µm,20.6s,baz=288,slow=34
ALEG Aligegeo Malai 50.18 126 P **P** 21 37 01.0 +2.9
CTA Charters Tower 50.20 150 P **P** 21 36 59.3 +1.2
comp=Z,2.9nm,1.1s
CTA Charters Tower 50.20 150 P **P** 21 36 59.8 +1.6
CTA Charters Tower 50.20 150 P **P** 21 36 59.3 +1.2
CTAO Charters Tower 50.20 150 P **P** 21 36 58.0 -0.2
CTAO IAmb IAmb 21 37 18.2
comp=Z,115nm,1.1s
CTAO Charters Tower 50.20 150 IAMs_20 IAMs_20 21 55 51.5
comp=Z,6µm,22.0s
CTAO Charters Tower 50.20 150 P **P** 21 36 59.9 +1.7
CTAO Charters Tower 50.20 150 P **P** 21 36 58.0 -0.2
CTAO pmax pmax
comp=Z,115nm,1.1s
CTAO MLR MLR
comp=Z,6µm,22.0s
MEEK Meekatharra 50.89 184 P **P** 21 37 01.8 -1.4
comp=Z,65nm,1.0s
MEEK Meekatharra 50.89 184 P **P** 21 37 06.5 +3.2
AMKA Amchitka 51.04 43 P **P** 21 37 02.7 -1.4
BILL Bilibino 51.20 20 P **P** 21 37 04.0 -1.1
BILL IAmb IAmb 21 37 10.2
comp=Z,92nm,0.8s
BILL PcP **PcP** 21 38 20.6 +0.5
BILL Bilibino 51.20 20 *ce*P **P** 21 37 03.4 -1.7
BILL pmax pmax
comp=Z,115nm,1.6s
BILL MLR MLR
comp=Z,9µm,18.0s
NGOA Tingoa Renbel 51.63 130 P **P** 21 37 11.9 +2.9
MORW Morawa 53.51 186 P **P** 21 37 22.2 -0.5
MORW Morawa 53.51 186 P **P** 21 37 21.5 -1.2
comp=Z,53nm,1.2s
MORW Morawa 53.51 186 P **P** 21 37 26.2 +3.5
ADK Adak 53.58 43 P **P** 21 37 22.1 -0.9
ADK IAmb IAmb 21 37 28.6
comp=Z,121nm,1.4s
ADK Adak 53.58 43 P **P** 21 37 25.2 +2.2
ADK Adak 53.58 43 P **P** 21 37 22.1 -0.9
ADK pmax pmax
comp=Z,121nm,1.4s
ADK MLR MLR
comp=Z,3µm,21.0s
AB31 Akbulak array 53.75 314 P **P** 21 37 24.7 +0.4
ABKAR Akbulak array 53.75 314 P **P** 21 37 24.4 +0.1
GSTR Great Sitkin T 53.99 42 P **P** 21 37 25.2 -0.9
GSTR IAmb IAmb 21 37 35.1
comp=Z,81nm,0.8s
MIDW Midway 54.03 72 P **P** 21 37 25.9 -0.7
MIDW IAmb IAmb 21 37 32.8
comp=Z,287nm,1.4s
MIDW Midway 54.03 72 P **P** 21 37 30.2 +3.6
SVE Sverdlovsk 54.24 324 *di* P **P** 21 37 27.9 +0.2
SVE *e*S **S** 21 45 02.4 -0.9
SVE *e*SS **SS** 21 48 51.3 +6.2
SVE pmax pmax
comp=Z,403nm,1.4s
SVE MLR MLR
comp=E,8µm,17.0s
SVE MLR MLR
comp=Z,11µm,16.0s
NGCH Negor - Chabah 54.73 285 P **P** 21 37 32.7 +1.0
BLDU Balildu 54.98 186 P **P** 21 37 32.7 -0.7
comp=Z,42nm,1.5s
AKTO Aktyubinsk 55.07 316 LR LR 22 02 51.2
comp=Z,10µm,18.5s,baz=101,slow=38
QLP Quilpie 55.12 156 P **P** 21 37 37.5 +3.1
ATKA Atka Island 55.14 42 P **P** 21 37 33.3 -1.0
ATKA Atka Island 55.14 42 P **P** 21 37 37.8 +3.5
FORT Forrest 55.23 174 P **P** 21 37 34.2 -0.9
FORT IAmb IAmb 21 37 55.0
comp=Z,109nm,1.3s
FORT Forrest 55.23 174 P **P** 21 37 35.5 +0.3
comp=Z,64nm,1.1s
LUES Luesalemba Tem 55.31 124 P **P** 21 37 39.6 +3.5
ARTI Arti 55.41 323 P **P** 21 37 35.2 -1.0
ARTI IAmb IAmb 21 37 37.0
comp=Z,135nm,0.8s
ARTI IAMs_20 IAMs_20 22 02 33.2
comp=Z,5µm,21.0s
ARTI Arti 55.41 323 LR LR 22 02 35.0
comp=Z,5µm,18.5s,baz=104,slow=37
ARTI Arti 55.41 323 *c* *i* P **P** 21 37 35.1 -1.1
ARTI PPP PPP 21 40 53.3
ARTI S **S** 21 45 22.8 +3.8
ARTI 21 47 15.6
ARTI pmax pmax
comp=Z,196nm,1.0s
ARTI MLR MLR
comp=Z,4µm,18.0s
KMBL Kambalda 55.50 180 P **P** 21 37 36.2 -0.9
comp=Z,23nm,2.0s
KLBR Kellerberrin 55.87 184 P **P** 21 37 39.3 -0.4
comp=Z,71nm,0.9s
KLBR Kellerberrin 55.87 184 P **P** 21 37 42.6 +2.9
EIDS Eidsvold 56.99 148 P **P** 21 37 47.9 +0.1
EIDS IAmb IAmb 21 37 56.5
comp=Z,190nm,1.8s
EIDS Eidsvold 56.99 148 P **P** 21 37 48.2 +0.3
comp=Z,37nm,0.9s
EIDS Eidsvold 56.99 148 P **P** 21 37 49.9 +2.0
JLN Jalan Bani Buh 57.04 281 P **P** 21 37 48.3 -0.1
NWAO Narrogin (SRO) 57.23 185 P **P** 21 37 48.7 -0.7
NWAO IAmb IAmb 21 38 00.3
comp=Z,292nm,1.7s
NWAO Narrogin (SRO) 57.23 185 P **P** 21 37 49.0 -0.4
comp=Z,147nm,2.2s
NWAO Narrogin (SRO) 57.23 185 LR LR 22 04 25.1
comp=Z,896nm,20.0s,baz=354,slow=38
NWAO Narrogin (SRO) 57.23 185 P **P** 21 37 51.9 +2.5
NWAO Narrogin (SRO) 57.23 185 P **P** 21 37 54.2 +4.8
NWAO Narrogin (SRO) 57.23 185 P **P** 21 37 48.7 -0.7
NWAO pmax pmax
comp=Z,292nm,1.7s
WSAR Wadi Sarin 57.45 283 LR LR 22 04 43.7
comp=Z,38nm,20.0s,baz=106,slow=38
DGAR Diego Garcia 57.70 243 IAMs_20 IAMs_20 22 04 57.8
comp=Z,6µm,19.0s
SPIA Saint Paul Isl 57.81 37 P **P** 21 37 51.8 -1.5
baz=266
BIDO Bidbid 57.83 283 P **P** 21 37 53.8 -0.2
BIDO S **S** 21 45 51.2 -0.8
GAMB Gambell 57.91 29 P **P** 21 37 53.3 -0.6
GAMB IAMs_20 IAMs_20 22 05 56.9
comp=Z,4µm,19.0s
GAMB Gambell 57.91 29 P **P** 21 37 52.7 -1.2
baz=260
GAMB S **S** 21 45 51.8 -0.1
baz=260
SMDO Samad 58.02 283 P **P** 21 37 56.3 +0.9
JMDO Jabal Madar 58.15 282 P **P** 21 37 56.1 -0.2
P08K Saint George I 58.16 37 P **P** 21 37 54.0 -1.7
baz=267
NIKH Nikolski High 58.43 42 P **P** 21 37 57.7 0.0
NIKH IAmb IAmb 21 38 49.3
comp=Z,136nm,0.8s
NIKH Nikolski High 58.43 42 P **P** 21 37 54.7 -2.9
baz=269
NIKH S **S** 21 46 02.3 +3.3
baz=269
BBOO Buckleboo 58.51 166 P **P** 21 37 57.8 -0.6
BBOO IAmb IAmb 21 38 22.6
comp=Z,118nm,1.1s
BBOO Buckleboo 58.51 166 P **P** 21 37 58.6 +0.2
comp=Z,105nm,1.2s
BBOO Buckleboo 58.51 166 P **P** 21 38 02.4 +4.0
HOQ Hoqain 58.54 284 P **P** 21 37 59.6 +0.7
HOQ S **S** 21 46 01.9 +0.6
MHTO MHTO 58.65 281 P **P** 21 37 59.7 -0.1
SNR=5.4
SHME Shamm 58.95 287 P **P** 21 38 01.5 -0.2
SNR=8.3
SHME S **S** 21 46 06.9 +0.3
SHME Shamm 58.95 287 *i* P **P** 21 38 02.9 +1.1
SNR=6.2
MDH Madha 58.99 286 P **P** 21 38 02.6 +0.5
MDH S **S** 21 46 08.2 +1.1
WHYH Whyalla 59.07 165 P **P** 21 38 05.1 +2.8
STKA Stephens Creek 59.08 161 P **P** 21 38 01.9 -0.4
STKA Stephens Creek 59.08 161 P **P** 21 38 02.5 +0.1
comp=Z,219nm,1.2s
STKA Stephens Creek 59.08 161 P **P** 21 38 02.5 +0.1
comp=Z,36nm,0.9s,baz=346,slow=5.8,SNR=15
comp=Z,36nm,0.9s
STKA Stephens Creek 59.08 161 P **P** 21 38 06.7 +4.4
STKA Stephens Creek 59.08 161 P **P** 21 38 01.9 -0.4
STKA pmax pmax
comp=Z,189nm,0.9s
SOHO SOHO 59.08 284 *i* P **P** 21 38 02.6 -0.1
SNR=23
MASF Masafi 59.10 286 P **P** 21 38 04.0 +1.2
SNR=6.3
MSFE Esma-Masafi 59.10 286 *i* P **P** 21 38 03.4 +0.5
SNR=8.6
UOSS Minazif 59.16 285 P **P** 21 38 02.8 -0.5
UOSS Minazif 59.16 285 IAMs_20 IAMs_20 22 08 02.3
comp=Z,4µm,22.0s
UOSS Minazif 59.16 285 P **P** 21 38 03.1 -0.1
HATD Hatta, Dubai 59.26 285 P **P** 21 38 04.2 +0.3
HATD S **S** 21 46 09.9 -0.8
HATD Hatta, Dubai 59.26 285 *i* P **P** 21 38 04.1 +0.3
SNR=16
ARQ Araqi 59.30 284 P **P** 21 38 04.4 +0.1
DQM DQM 59.34 279 P **P** 21 38 04.9 +0.4
SANVU Saraoutou 59.36 127 P **P** 21 38 04.5 -0.1
SANVU Saraoutou 59.36 127 P **P** 21 38 07.2 +2.6
ASHO Ashiyiah 59.36 285 P **P** 21 38 04.9 +0.3
SNR=17
ASHO S **S** 21 46 12.6 +0.6
ASHO Ashiyiah 59.36 285 *i* P **P** 21 38 05.4 +0.7
SNR=35
NAZ Nazwa, Dubai 59.63 286 P **P** 21 38 07.5 +1.1
SNR=12
NAZ S **S** 21 46 15.3 0.0
NAZ Nazwa, Dubai 59.63 286 *i* P **P** 21 38 07.1 +0.6
SNR=12
FAQ Al Faqa, Dubai 59.75 285 P **P** 21 38 08.6 +1.2
SNR=7.0
FAQ Al Faqa, Dubai 59.75 285 *i* P **P** 21 38 07.9 +0.6
SNR=13
HTT Hallett 59.79 164 P **P** 21 38 08.3 +1.0
comp=Z,19nm,1.5s
HTT Hallett 59.79 164 P **P** 21 38 10.3 +3.0
TNA Tin City 59.79 27 IAMs_20 IAMs_20 22 04 28.8
comp=Z,6µm,19.0s
TNA Tin City 59.79 27 P **P** 21 38 05.3 -1.5
baz=263
TNA S **S** 21 46 15.8 -0.4
baz=263
ALNE Al Ain 59.79 285 P **P** 21 38 08.8 +1.2
SNR=19
ALNE S **S** 21 46 18.6 +1.1
ALNE Al Ain 59.79 285 *i* P **P** 21 38 08.2 +0.5
SNR=28
UNV Unalaska Valle 59.84 41 P **P** 21 38 11.0 +3.6
UNV Unalaska Valle 59.84 41 P **P** 21 38 06.5 -0.9
baz=271
VLAKA Lakatoro 59.95 128 P **P** 21 38 12.6 +4.0
ASUD Al Ashush, Dub 60.02 285 P **P** 21 38 10.0 +0.9
SNR=8.6
ASUD S **S** 21 46 20.7 +0.3
ASUD Al Ashush, Dub 60.02 285 *i* P **P** 21 38 11.0 +1.8
SNR=19
M11K Mekoryuk 60.12 33 P **P** 21 38 09.0 -0.2
M11K IAmb IAmb 21 38 14.7
comp=Z,124nm,1.1s
M11K Mekoryuk 60.12 33 P **P** 21 38 08.8 -0.3
baz=267,SNR=12
M11K S **S** 21 46 20.8 +0.3
baz=267
CMSA Cobar Meteorol 60.13 157 P **P** 21 38 11.0 +1.4
comp=Z,103nm,1.3s

CMSA Cobar Meteorol 60.13 157 P **P** **21 38 12.3 +2.7**
AJN Ajban 60.33 285 P **P** **21 38 12.0 +0.7**
AJN S **S** **21 46 25.0 +0.6**
AJN Ajban 60.33 285 *i* P **P** **21 38 11.4 +0.2**
SNR=6.3
KIRV Kirov 60.40 325 LR LR 22 06 06.7
comp=Z,10µm,18.9s,baz=93,slow=38
KIRV Kirov 60.40 325 *de*P **P** **21 38 09.7 -1.4**
F14K Arctic Creek 60.44 27 P **P** **21 38 11.0 -0.4**
baz=264
F14K S **S** **21 46 24.5 0.0**
baz=264
UMZA Um Al Zommool 60.67 283 P **P** **21 38 14.2 +0.6**
ANM Nome 60.76 28 P **P** **21 38 13.2 -0.4**
ANM IAmb IAmb 21 38 18.8
comp=Z,47nm,0.8s
ANM IAMs_20 IAMs_20 22 07 25.6
comp=Z,3µm,18.0s
ANM Nome 60.76 28 P **P** **21 38 13.2 -0.4**
ANM pmax pmax
comp=Z,47nm,0.8s
ANM MLR MLR
comp=Z,3µm,18.0s
ANM Nome 60.76 28 P **P** **21 38 13.2 -0.4**
baz=266,SNR=12
ANM S **S** **21 46 29.9 +1.1**
baz=266
K13K Kusilvak Mount 60.93 31 IAMs_20 IAMs_20 22 05 00.2
comp=Z,4µm,19.0s
K13K Kusilvak Mount 60.93 31 P **P** **21 38 14.0 -0.8**
baz=268,SNR=36
K13K S **S** **21 46 30.6 -0.3**
baz=268
C16K Lisburne Hills 61.13 24 P **P** **21 38 15.5 -0.4**
C16K IAmb IAmb 21 38 20.2
comp=Z,126nm,1.0s
C16K IAMs_20 IAMs_20 22 04 36.1
comp=Z,6µm,19.0s
C16K Lisburne Hills 61.13 24 P **P** **21 38 14.3 -1.7**
baz=264,SNR=20
C16K S **S** **21 46 31.2 -2.1**
baz=264
F15K North Star Dit 61.16 27 IAMs_20 IAMs_20 22 05 55.0
comp=Z,5µm,21.0s
F15K North Star Dit 61.16 27 P **P** **21 38 15.5 -0.7**
baz=266,SNR=39
F15K S **S** **21 46 32.1 -1.6**
baz=266
G15K Niukluk 61.36 28 P **P** **21 38 16.9 -0.7**
baz=267,SNR=39
G15K S **S** **21 46 35.9 -0.4**
baz=267
J14K Nanvaranak Lak 61.48 30 P **P** **21 38 17.4 -1.0**
baz=268
J14K S **S** **21 46 37.5 -0.3**
baz=268
MZWR Madinat Zayed 61.52 285 P **P** **21 38 19.9 +0.5**
MZWR S **S** **21 46 39.1 -0.5**
M13K Dall Lake 61.53 33 P **P** **21 38 18.7 -0.1**
M13K IAmb IAmb 21 38 23.4
comp=Z,94nm,1.1s
M13K Dall Lake 61.53 33 P **P** **21 38 18.5 -0.4**
baz=270,SNR=18
ARMA Armidale 61.54 151 P **P** **21 38 19.8 +0.4**
ARMA IAMs_20 IAMs_20 22 03 10.8
comp=Z,4µm,21.0s
ARMA Armidale 61.54 151 P **P** **21 38 21.1 +1.7**
comp=Z,50nm,1.3s
ARMA Armidale 61.54 151 P **P** **21 38 21.8 +2.4**
BELG Belogornoye 61.56 318 *e*P **P** **21 38 18.2 -0.9**
BELG pmax pmax
comp=Z,129nm,1.1s
FALS False Pass 61.61 39 P **P** **21 38 19.1 -0.3**
FALS IAmb IAmb 21 38 41.3
comp=Z,48nm,0.6s
FALS False Pass 61.61 39 P **P** **21 38 22.8 +3.3**
FALS False Pass 61.61 39 P **P** **21 38 18.9 -0.5**
baz=273
L14K Kuka Creek 61.86 32 P **P** **21 38 21.0 0.0**
L14K IAmb IAmb 21 38 26.8
comp=Z,111nm,0.8s
L14K Kuka Creek 61.86 32 P **P** **21 38 20.7 -0.3**
baz=270
L14K S **S** **21 46 42.0 -0.7**
baz=270
D17K Noatak River 61.92 25 P **P** **21 38 20.7 -0.7**
baz=266,SNR=88
D17K S **S** **21 46 41.6 -1.7**
baz=266
C17K DeLong Mountai 61.95 24 P **P** **21 38 20.7 -0.8**
baz=266,SNR=8.5
C17K S **S** **21 46 41.4 -2.3**
baz=266
RDOG Red Dog Mine 62.02 24 P **P** **21 38 21.9 -0.1**
RDOG IAmb IAmb 21 38 22.9
comp=Z,144nm,1.7s
RDOG Red Dog Mine 62.02 24 P **P** **21 38 21.0 -1.0**
baz=266
MZR Muzera 62.08 284 P **P** **21 38 23.8 +0.6**
SNR=14
MZR S **S** **21 46 46.1 -0.7**
MZR Muzera 62.08 284 *i* P **P** **21 38 23.4 +0.2**
SNR=6.4
G16K Koyuk River 62.09 27 IAMs_20 IAMs_20 22 06 00.4
comp=Z,4µm,20.0s
G16K Koyuk River 62.09 27 P **P** **21 38 21.6 -1.0**
baz=268
G16K S **S** **21 46 44.3 -1.2**
baz=268
JRN Qarnain Island 62.11 286 P **P** **21 38 23.9 +0.6**
SNR=6.6
JRN S **S** **21 46 45.7 -1.3**
H16K Elim 62.12 28 P **P** **21 38 21.7 -1.0**
baz=268,SNR=37
H16K S **S** **21 46 46.5 +0.6**
baz=268
M14K Bethel 62.22 33 P **P** **21 38 22.6 -0.8**
baz=271,SNR=24
M14K S **S** **21 46 46.0 -1.2**
baz=271
S12K Black Hills 62.34 38 P **P** **21 38 21.9 -2.5**
baz=273
S12K S **S** **21 46 46.0 -3.0**
baz=273
N14K Kuskokwak Cree 62.37 34 P **P** **21 38 23.7 -0.8**
baz=271,SNR=20
E17K Hotham Inlet 62.37 25 P **P** **21 38 24.0 -0.4**
baz=268,SNR=42
E17K S **S** **21 46 49.8 +0.7**
baz=268
K15K Wolf Creek Mou 62.41 31 P **P** **21 38 24.3 -0.5**
baz=270,SNR=31
K15K S **S** **21 46 50.4 +0.7**
baz=270
LKRN Lenkeran, Azer 62.43 302 P **P** **21 38 26.4 +1.2**
L15K Ungalak Mounta 62.44 32 P **P** **21 38 24.0 -0.9**
baz=271,SNR=9.0
L15K S **S** **21 46 50.2 +0.2**
baz=271
B18K Kokolik River 62.51 23 P **P** **21 38 24.4 -0.8**
baz=266,SNR=19
B18K S **S** **21 46 49.5 -1.2**
baz=266
F17K Baldwin Pennin 62.58 26 IAMs_20 IAMs_20 22 06 50.0
comp=Z,4µm,19.0s
F17K Baldwin Pennin 62.58 26 P **P** **21 38 25.3 -0.4**
baz=268
F17K S **S** **21 46 51.1 -0.5**
baz=268
O14K Tigyukauivet M 62.60 34 P **P** **21 38 24.8 -1.3**
baz=272,SNR=5.6
O14K S **S** **21 46 50.9 -1.2**
baz=272
MAK Makhachkala 62.68 307 *c i* P **P** **21 38 25.6 -1.2**
MAK *e* 21 40 45.3
MAK *e*SS **S** **21 46 53.7 +0.1**
MAK *e*SS **SS** **21 51 01.2 +3.1**
MAK pmax pmax
comp=Z,245nm,1.2s
MAK MLR MLR
comp=Z,5µm,16.0s
C18K Utukok River 62.69 24 P **P** **21 38 25.5 -1.0**
baz=267,SNR=23
C18K S **S** **21 46 50.6 -2.4**
baz=267
I17K Unalakleet 62.78 29 IAMs_20 IAMs_20 22 07 43.0
comp=Z,4µm,18.0s
I17K Unalakleet 62.78 29 P **P** **21 38 26.6 -0.5**
baz=270,SNR=27
I17K S **S** **21 46 55.6 +1.4**
baz=270
G17K Kiwalik Mounta 62.81 27 P **P** **21 38 26.9 -0.4**
baz=269,SNR=111
G17K S **S** **21 46 54.6 0.0**
baz=269
DOK Doka 62.81 279 P **P** **21 38 28.5 +0.4**
A19K Wainwright 62.81 22 P **P** **21 38 27.0 -0.2**
baz=267
A19K S **S** **21 46 53.1 -1.4**
baz=267
J16K Anvik River 62.83 30 IAMs_20 IAMs_20 22 06 14.6
comp=Z,4µm,20.0s
J16K Anvik River 62.83 30 P **P** **21 38 26.5 -1.0**
baz=271,SNR=24
J16K S **S** **21 46 55.9 +1.0**
baz=271
M15K Kasigluk River 62.84 33 P **P** **21 38 26.6 -1.0**
baz=272,SNR=19
M15K S **S** **21 46 54.5 -0.7**
baz=272
E18K Tukpahlearik C 62.86 25 IAMs_20 IAMs_20 22 04 54.0
comp=Z,3µm,19.0s
E18K Tukpahlearik C 62.86 25 P **P** **21 38 27.0 -0.7**
baz=268,SNR=52
E18K S **S** **21 46 53.8 -1.4**
baz=268
RBK Rabkut 63.10 278 P **P** **21 38 30.6 +0.5**
SNR=5.2
H17K Granite Mounta 63.12 28 IAMs_20 IAMs_20 22 08 02.8
comp=Z,4µm,20.0s
H17K Granite Mounta 63.12 28 P **P** **21 38 28.7 -0.7**
baz=270,SNR=86
H17K S **S** **21 46 59.0 +0.5**
baz=270
N15K Kwethluk River 63.16 33 P **P** **21 38 28.8 -1.0**
baz=273,SNR=36
N15K S **S** **21 46 58.5 -0.6**
baz=273
SEKA Sheki 63.19 305 P **P** **21 38 31.0 +0.6**
F18K Selawik 63.22 26 P **P** **21 38 29.5 -0.5**
baz=270,SNR=97
SDPT Sand Point 63.27 39 P **P** **21 38 29.6 -0.9**
SDPT IAmb IAmb 21 39 08.6
comp=Z,154nm,1.0s
SDPT Sand Point 63.27 39 P **P** **21 38 32.2 +1.7**
SDPT Sand Point 63.27 39 P **P** **21 38 29.3 -1.2**
baz=275
C19K Lookout Ridge 63.28 23 P **P** **21 38 29.7 -0.8**
baz=269,SNR=25
C19K S **S** **21 46 58.9 -1.6**
baz=269
DZM Mont Dzumac 63.31 133 P **P** **21 38 31.3 0.0**
DZM IAmb IAmb 21 38 47.3
comp=Z,68nm,1.1s
DZM IAMs_20 IAMs_20 22 01 01.4
comp=Z,4µm,22.0s
DZM Mont Dzumac 63.31 133 *e*P **P** **21 38 29.7 -1.6**
comp=Z,134nm,1.1s
DZM Mont Dzumac 63.31 133 *e*PP **PP** **21 40 54.8 +3.8**
comp=Z,204nm,28.4s
DZM *e*S **S** **21 47 05.5 +3.4**
comp=Z,3µm,27.7s
DZM *e*SS **SS** **21 51 06.3 -3.0**
comp=Z,2µm,27.2s
DZM *e*LQ LQ 21 54 36.2
comp=Z,5µm,26.6s
DZM *e*LR LR 21 57 17.4
comp=Z,11µm,24.8s
DZM Mont Dzumac 63.31 133 LR LR 22 01 35.0
comp=Z,3µm,21.8s,baz=328,slow=32
DZM Mont Dzumac 63.31 133 P **P** **21 38 33.8 +2.5**
MNGR Mingechevir, A 63.35 305 P **P** **21 38 32.9 +1.6**
O15K Ungalikthiuk R 63.35 34 P **P** **21 38 29.8 -1.2**
baz=273,SNR=22
O15K S **S** **21 47 01.0 -0.6**
baz=273
WHFO Wadi Hawf 63.35 279 P **P** **21 38 32.4 +0.6**
L16K Owhat River 63.39 31 IAMs_20 IAMs_20 22 07 03.7
comp=Z,4µm,19.0s
L16K Owhat River 63.39 31 P **P** **21 38 30.3 -0.9**
baz=272
L16K S **S** **21 47 00.9 -1.1**
baz=272
ONTNC Ouen Toro 63.48 133 P **P** **21 38 31.6 -0.7**
ONTNC IAmb IAmb 21 38 45.0
comp=Z,54nm,1.0s
ONTNC Ouen Toro 63.48 133 P **P** **21 38 36.8 +4.5**
J17K VABM Dome 63.51 30 IAMs_20 IAMs_20 22 06 46.7
comp=Z,4µm,20.0s
J17K VABM Dome 63.51 30 P **P** **21 38 31.6 -0.4**
baz=272,SNR=111
J17K S **S** **21 47 02.0 -1.4**
baz=272
TRNA Turayna 63.59 287 P **P** **21 38 34.0 +0.8**
SNR=7.1
YATNC Mamie plateau, 63.60 133 P **P** **21 38 36.0 +2.9**
YNG Young 63.60 156 P **P** **21 38 35.5 +2.6**
comp=Z,42nm,0.9s
G18K Tagagawik 63.63 27 IAMs_20 IAMs_20 22 11 26.4
comp=Z,4µm,18.0s
G18K Tagagawik 63.63 27 P **P** **21 38 31.6 -1.2**
baz=271,SNR=65
G18K S **S** **21 47 03.6 -1.3**
baz=271
M16K Timber Creek 63.67 32 P **P** **21 38 32.2 -1.0**
baz=273,SNR=40
M16K S **S** **21 47 03.5 -2.0**
baz=273
NTLH Newcastle Hard 63.70 152 P **P** **21 38 36.7 +3.1**
S14K Fog Glacier 63.71 38 P **P** **21 38 31.2 -2.4**
baz=275
ARPS Mount Arapiles 63.72 162 P **P** **21 38 34.0 +0.4**
comp=Z,34nm,1.1s
H18K Honhosa River 63.77 28 IAMs_20 IAMs_20 22 08 13.4
comp=Z,4µm,19.0s
H18K Honhosa River 63.77 28 P **P** **21 38 33.0 -0.7**
baz=272,SNR=50
H18K S **S** **21 47 07.3 +0.6**
baz=272
N16K Nishlik Lake 63.80 33 P **P** **21 38 33.1 -0.9**
baz=274
N16K S **S** **21 47 04.7 -2.5**
baz=274
D19K Kuna River 63.81 24 IAMs_20 IAMs_20 22 06 34.0
comp=Z,4µm,22.0s
D19K Kuna River 63.81 24 P **P** **21 38 33.3 -0.7**
baz=270,SNR=99
D19K S **S** **21 47 04.8 -2.3**
baz=270
OUENC Ouen Island, N 63.81 133 P **P** **21 38 37.9 +3.4**
CHNA Chernabura Isl 63.82 39 P **P** **21 38 34.7 +0.5**
CHNA Chernabura Isl 63.82 39 P **P** **21 38 31.8 -2.4**
baz=276,SNR=16
CHNA S **S** **21 47 03.3 -4.2**
baz=276
CNBA Chernabura Isl 63.82 39 P **P** **21 38 32.9 -1.3**
CNBA IAmb IAmb 21 38 37.2
comp=Z,84nm,0.9s
K17K Iditarod 63.90 30 IAMs_20 IAMs_20 22 06 26.5
comp=Z,3µm,20.0s
K17K Iditarod 63.90 30 P **P** **21 38 34.3 -0.2**
baz=273,SNR=58
K17K S **S** **21 47 09.3 +1.0**
baz=273
L17K Donlin 63.93 31 P **P** **21 38 34.4 -0.4**
baz=273,SNR=52
L17K S **S** **21 47 08.7 0.0**
baz=273
SMRA Abu-Samra 63.93 287 P **P** **21 38 36.1 +0.6**
SNR=15
GANJ Ganja 63.94 305 P **P** **21 38 36.4 +1.1**
ABTO Aybut 63.96 278 P **P** **21 38 36.3 +0.5**
F19K Shaleruckik Mo 63.97 26 IAMs_20 IAMs_20 22 07 34.6
comp=Z,4µm,19.0s
F19K Shaleruckik Mo 63.97 26 P **P** **21 38 33.8 -1.2**
baz=271
F19K S **S** **21 47 07.4 -1.6**
baz=271
SYDH Sydney Hard Ro 64.05 153 P **P** **21 38 39.5 +3.7**
JOHN Johnston Islan 64.06 83 IAMs_20 IAMs_20 22 01 35.4
comp=Z,6µm,20.0s
B20K Meade River 64.14 22 IAMs_20 IAMs_20 22 07 28.8
comp=Z,4µm,18.0s
B20K Meade River 64.14 22 P **P** **21 38 35.6 -0.4**
baz=270,SNR=40
B20K S **S** **21 47 08.1 -2.9**
baz=270
E19K Redstone River 64.16 25 IAMs_20 IAMs_20 22 08 34.3
comp=Z,3µm,18.0s
E19K Redstone River 64.16 25 P **P** **21 38 35.5 -0.8**
baz=272,SNR=211
E19K S **S** **21 47 09.0 -2.4**
baz=272
O16K Kokwok River B 64.20 34 P **P** **21 38 35.7 -1.0**
baz=275,SNR=21
O16K S **S** **21 47 11.7 -0.4**
baz=275
G19K Purcell Mounta 64.26 26 IAMs_20 IAMs_20 22 07 30.1
comp=Z,5µm,20.0s
G19K Purcell Mounta 64.26 26 P **P** **21 38 36.3 -0.7**
baz=272,SNR=60
G19K S **S** **21 47 10.9 -1.8**
baz=272
P16K Nushagak River 64.30 34 P **P** **21 38 36.1 -1.2**
baz=275
A21K Barrow 64.32 21 P **P** **21 38 36.1 -1.0**
baz=270
A21K S **S** **21 47 11.1 -2.1**
baz=270
CHGN Chignik 64.34 37 P **P** **21 38 36.5 -1.0**
CHGN Chignik 64.34 37 P **P** **21 38 36.7 -0.8**
baz=276
PINNC Pines Island, 64.35 133 P **P** **21 38 38.1 +0.1**
PINNC IAmb IAmb 21 38 52.6
comp=Z,133nm,1.3s
PINNC Pines Island, 64.35 133 P **P** **21 38 42.4 +4.3**
D20K Etivluk River 64.36 24 IAMs_20 IAMs_20 22 06 14.8
comp=Z,5µm,22.0s
D20K Etivluk River 64.36 24 P **P** **21 38 36.8 -0.7**
baz=272,SNR=104
D20K S **S** **21 47 11.9 -2.0**
baz=272
M17K Holitna River 64.39 32 IAMs_20 IAMs_20 22 07 36.5
comp=Z,3µm,19.0s
M17K Holitna River 64.39 32 P **P** **21 38 37.4 -0.4**
baz=274,SNR=34
M17K S **S** **21 47 14.4 +0.1**
baz=274
GCSA Galena City Sc 64.42 28 P **P** **21 38 37.1 -0.9**
baz=273,SNR=9.4
GCSA S **S** **21 47 15.8 +1.3**
baz=273
E20K Nigu River 64.53 24 P **P** **21 38 38.2 -0.5**
baz=272,SNR=227
E20K S **S** **21 47 13.8 -2.3**
baz=272
H19K Roundabout Mou 64.56 27 IAMs_20 IAMs_20 22 06 00.8
comp=Z,3µm,20.0s
H19K Roundabout Mou 64.56 27 P **P** **21 38 38.2 -0.6**
baz=273,SNR=334
H19K S **S** **21 47 15.9 -0.3**
baz=273
J18K Innoko River 64.57 29 P **P** **21 38 38.3 -0.7**
J18K IAmb IAmb 21 38 45.6
comp=Z,57nm,0.8s
J18K IAMs_20 IAMs_20 22 07 08.3
comp=Z,3µm,20.0s
J18K Innoko River 64.57 29 P **P** **21 38 38.1 -0.9**
baz=274,SNR=92
J18K S **S** **21 47 15.3 -1.3**
baz=274
N17K Nushagak Hills 64.58 33 P **P** **21 38 38.6 -0.4**
baz=275,SNR=32
N17K S **S** **21 47 17.7 +0.9**
baz=275
WOLH Wollongong Har 64.66 154 P **P** **21 38 43.2 +3.4**
L18K Granite Mounta 64.68 31 IAMs_20 IAMs_20 22 07 18.1
comp=Z,3µm,18.0s
L18K Granite Mounta 64.68 31 P **P** **21 38 39.4 -0.3**
baz=275,SNR=43
L18K S **S** **21 47 19.1 +1.2**
baz=275
O17K Koliganek Bris 64.69 34 P **P** **21 38 39.0 -0.8**
baz=275,SNR=15
O17K S **S** **21 47 18.0 -0.1**
baz=275
CAN Canberra 64.74 156 P **P** **21 38 40.7 +0.3**
CAN IAmb IAmb 21 38 45.3
comp=Z,181nm,1.8s
CAN Canberra 64.74 156 P **P** **21 38 42.7 +2.3**
comp=Z,55nm,1.3s
CAN Canberra 64.74 156 P **P** **21 38 43.6 +3.2**
CAN Canberra 64.74 156 P **P** **21 38 40.7 +0.3**
CAN pmax pmax
comp=Z,181nm,1.8s
CAN MLR MLR
comp=Z,2µm,18.0s
F20K Avaraart Lake 64.76 25 IAMs_20 IAMs_20 22 07 59.3
comp=Z,5µm,19.0s
F20K Avaraart Lake 64.76 25 P **P** **21 38 39.3 -0.9**
baz=273,SNR=64
F20K S **S** **21 47 16.1 -2.7**
baz=273
NAX Nakhchivan 64.85 303 P **P** **21 38 42.5 +1.1**
A22K Sinclair Lake 64.86 21 P **P** **21 38 40.0 -0.7**
baz=272,SNR=16
A22K S **S** **21 47 17.9 -1.9**
baz=272
CNB Canberra Magne 64.87 155 P **P** **21 38 42.5 +1.2**
comp=Z,87nm,0.9s
CNB Canberra Magne 64.87 155 P **P** **21 38 44.3 +3.0**
C21K Knifeblade Rid 65.00 23 P **P** **21 38 41.4 -0.3**
baz=273,SNR=67
C21K S **S** **21 47 19.2 -2.5**
baz=273
J19K Poorman 65.02 29 IAMs_20 IAMs_20 22 07 24.0
comp=Z,3µm,20.0s
J19K Poorman 65.02 29 P **P** **21 38 41.5 -0.4**
baz=275,SNR=160
J19K S **S** **21 47 21.3 -0.7**
baz=275
Q16K King Salmon 65.03 35 P **P** **21 38 41.2 -0.8**
baz=276,SNR=10
B21K Ikpikpuk River 65.04 23 IAMs_20 IAMs_20 22 09 16.4
comp=Z,5µm,18.0s
B21K Ikpikpuk River 65.04 23 P **P** **21 38 41.7 -0.2**
baz=273,SNR=167
B21K S **S** **21 47 21.4 -0.7**
baz=273
BRAT Ballarat 65.05 161 P **P** **21 38 45.9 +3.6**
P17K Kvichak River 65.08 34 P **P** **21 38 41.3 -1.1**
baz=276,SNR=16
P17K S **S** **21 47 22.1 -0.8**
baz=276
M18K Stony River 65.15 32 P **P** **21 38 42.1 -0.7**
baz=276,SNR=42
M18K S **S** **21 47 23.7 0.0**
baz=276
N18K Kilae Creek 65.20 32 P **P** **21 38 42.5 -0.7**
baz=276,SNR=9.2
N18K S **S** **21 47 24.9 +0.4**
baz=276
H20K Anotleneega Mo 65.21 27 P **P** **21 38 42.6 -0.6**
baz=275,SNR=97
H20K S **S** **21 47 24.1 -0.3**
baz=275
GNI Garni 65.22 305 P **P** **21 38 44.1 +0.2**
GNI Garni 65.22 305 LR LR 22 12 05.4
comp=Z,2µm,18.4s,baz=100,slow=40
GNI Garni 65.22 305 P **P** **21 38 45.2 +1.4**
GNI Garni 65.22 305 *c i* P **P** **21 38 44.2 +0.3**
GNI pmax pmax
comp=Z,211nm,1.8s
GNI MLR MLR
comp=Z,2µm,22.0s
GNI Garni 65.22 305 P **P** **21 38 44.7 +0.8**
R17L Mt. Peulik Vol 65.30 36 P **P** **21 38 42.3 -1.6**
baz=277
KLMR Klimovskoe 65.31 328 *c i* P **P** **21 38 40.5 -3.3**
KLMR *e* 21 39 12.8
KLMR S **S** **21 47 23.6 -2.1**
KLMR SS **SS** **21 51 41.7 +3.4**
KLMR pmax pmax
comp=Z,439nm,1.3s
KLMR MLR MLR
comp=Z,14µm,16.0s
VRH Novokhopyorsk 65.33 317 *e*P **P** **21 38 40.5 -3.6**
VRH pmax pmax
comp=Z,430nm,1.0s
E21K Killik River 65.34 24 IAMs_20 IAMs_20 22 07 19.9
comp=Z,5µm,20.0s

E21K	**Killik River**	**65.34**	**24**	P	**P**	**21 38 42.9**	**-1.0**
	baz=274								
E21K				S	**S**	**21 47 23.0**	**-3.0**
	baz=274								
NCK	**Nalchik**	**65.40**	**308**	*e*P	**P**	**21 38 44.8**	**0.0**
NCK				pmax	pmax		
	comp=Z,44nm,1.1s						
B22K	**Teshekpuk Lake**	**65.41**	**22**	IAMs_20	IAMs_20	22 07 49.5	
	comp=Z,4µm,19.0s						
B22K	**Teshekpuk Lake**	**65.41**	**22**	P	**P**	**21 38 43.4**	**-0.8**
	baz=274								
B22K				S	**S**	**21 47 24.6**	**-2.0**
	baz=274								
TRLG	**Trialeti**	**65.42**	**306**	P	**P**	**21 38 46.0**	**+0.9**
KBD	**Kabd**	**65.42**	**292**	P	**P**	**21 38 45.5**	**+0.4**
I20K	**Naaghedeneel**	**65.44**	**28**	IAMs_20	IAMs_20	22 11 07.6	
	comp=Z,4µm,19.0s						
I20K	**Naaghedeneel**	**65.44**	**28**	P	**P**	**21 38 44.4**	**-0.2**
	baz=275,SNR=68								
I20K				S	**S**	**21 47 28.0**	**+0.8**
	baz=275								
Q17K	**Contact Creek**	**65.48**	**35**	P	**P**	**21 38 42.9**	**-2.2**
	baz=277,SNR=8.6								
Q17K				S	**S**	**21 47 24.7**	**-3.4**
	baz=277								
GOF	**Gofitskoye**	**65.50**	**310**	*c i*P	**P**	**21 38 45.8**	**+0.5**
GOF				*e*S	**S**	**21 47 30.9**	**+2.3**
L19K	**White Mountain**	**65.54**	**31**	IAMs_20	IAMs_20	22 11 20.9	
	comp=Z,3µm,18.0s						
L19K	**White Mountain**	**65.54**	**31**	P	**P**	**21 38 44.5**	**-0.8**
	baz=276,SNR=76								
L19K				S	**S**	**21 47 29.0**	**+0.5**
	baz=276								
TOO	**Toolangi**	**65.55**	**160**	P	**P**	**21 38 45.5**	**0.0**
TOO	**Toolangi**	**65.55**	**160**	P	**P**	**21 38 45.7**	**0.0**
	comp=Z,24nm,1.1s						
TOO	**Toolangi**	**65.55**	**160**	P	**P**	**21 38 45.6**	**0.0**
TOO				pmax	pmax		
	comp=Z,20nm,0.9s						
TOO				MLR	MLR		
	comp=Z,700nm,19.0s						
F21K	**Alatna River**	**65.63**	**25**	IAMs_20	IAMs_20	22 07 09.0	
	comp=Z,4µm,19.0s						
F21K	**Alatna River**	**65.63**	**25**	P	**P**	**21 38 45.0**	**-0.8**
	baz=275,SNR=79								
F21K				S	**S**	**21 47 26.8**	**-2.7**
	baz=275								
O18K	**Koktuh Hills**	**65.63**	**33**	P	**P**	**21 38 45.2**	**-0.7**
	baz=277,SNR=12								
O18K				S	**S**	**21 47 27.6**	**-2.1**
	baz=277								
IMAR	**Indian Mountai**	**65.63**	**27**	P	**P**	**21 38 45.1**	**-0.8**
J20K	**Nowinta River**	**65.64**	**29**	IAMs_20	IAMs_20	22 09 42.6	
	comp=Z,5µm,19.0s						
J20K	**Nowinta River**	**65.64**	**29**	P	**P**	**21 38 45.4**	**-0.6**
	baz=276,SNR=103								
J20K				S	**S**	**21 47 32.0**	**+2.3**
	baz=276								
P18K	**Big Mountain,**	**65.68**	**34**	P	**P**	**21 38 45.2**	**-1.0**
	baz=277,SNR=8.9								
P18K				S	**S**	**21 47 28.3**	**-2.0**
	baz=277								
G21K	**Allakaket**	**65.68**	**26**	IAMs_20	IAMs_20	22 08 47.5	
	comp=Z,5µm,20.0s						
G21K	**Allakaket**	**65.68**	**26**	P	**P**	**21 38 45.7**	**-0.5**
	baz=275,SNR=179								
G21K				S	**S**	**21 47 30.7**	**+0.6**
	baz=275								
K20K	**Telida**	**65.77**	**29**	IAMs_20	IAMs_20	22 08 17.2	
	comp=Z,4µm,18.0s						
K20K	**Telida**	**65.77**	**29**	P	**P**	**21 38 46.3**	**-0.5**
	baz=276,SNR=69								
K20K				S	**S**	**21 47 32.0**	**+0.8**
	baz=276								
D22K	**Ayikyak River**	**65.78**	**23**	P	**P**	**21 38 46.4**	**-0.3**
	baz=275,SNR=219								
D22K				S	**S**	**21 47 29.7**	**-1.5**
	baz=275								
M19K	**Big River Lodg**	**65.78**	**31**	IAMs_20	IAMs_20	22 08 39.4	
	comp=Z,3µm,18.0s						
M19K	**Big River Lodg**	**65.78**	**31**	P	**P**	**21 38 46.4**	**-0.5**
	baz=277,SNR=33								
M19K				S	**S**	**21 47 32.6**	**+1.0**
	baz=277								
KBZ	**Khabaz**	**65.85**	**309**	P	**P**	**21 38 48.1**	**+0.5**
	comp=Z,117nm,0.9s,baz=74,slow=6.2,SNR=129						
KBZ				LR	LR	22 11 04.9	
	comp=Z,7µm,18.4s,baz=86,slow=39						
	comp=Z,117nm,0.9s						
KBZ	**Khabaz**	**65.85**	**309**	*ce*P	**P**	**21 38 48.0**	**+0.4**
KBZ				pmax	pmax		
	comp=Z,131nm,1.2s						
N19K	**Bonanza Creek**	**65.87**	**32**	IAMs_20	IAMs_20	22 08 21.8	
	comp=Z,3µm,20.0s						
N19K	**Bonanza Creek**	**65.87**	**32**	P	**P**	**21 38 47.0**	**-0.6**
	baz=277,SNR=24								
N19K				S	**S**	**21 47 30.8**	**-2.0**
	baz=277								
Q18K	**Katmai Hardscr**	**65.89**	**35**	P	**P**	**21 38 45.7**	**-2.1**
	baz=278,SNR=11								
Q18K				S	**S**	**21 47 28.9**	**-4.2**
	baz=278								
KVAR	**Kislovodsk Arr**	**65.95**	**309**	LR	LR	22 11 01.7	
	comp=Z,4µm,18.4s,baz=256,slow=39						
L20K	**Farewell, AK**	**65.95**	**30**	P	**P**	**21 38 47.4**	**-0.6**
	baz=277,SNR=55								
L20K				S	**S**	**21 47 34.0**	**+0.4**
	baz=277								
KIV	**Kislovodsk**	**65.96**	**309**	P	**P**	**21 38 48.7**	**+0.2**
KIV	**Kislovodsk**	**65.96**	**309**	P	**P**	**21 38 49.2**	**+0.8**
KIV	**Kislovodsk**	**65.96**	**309**	⇑P	**P**	**21 38 49.5**	**+1.0**
KIV	**Kislovodsk**	**65.96**	**309**	*e*P	**P**	**21 38 48.3**	**-0.2**
KIV				*e*		21 41 13.6	
KIV				*e*PPP	PPP	21 42 48.4	
KIV				*e*S	**S**	**21 47 36.8**	**+2.4**
KIV				*e*SS	**SS**	**21 51 53.2**	**+3.8**
KIV				pmax	pmax		
	comp=Z,68nm,3.2s						
KIV				pmax	pmax		
	comp=Z,390nm,1.1s						
KIV				MLR	MLR		
	comp=Z,4µm,17.0s						
KIV	**Kislovodsk**	**65.96**	**309**	*i* P	**P**	**21 38 48.6**	**+0.2**
	SNR=103								
LHI	**Lord Howe Isla**	**66.02**	**146**	P	**P**	**21 38 51.1**	**+2.4**
	comp=Z,117nm,1.6s						
SHA1	**Shidzhatmaz**	**66.02**	**309**	*c i*P	**P**	**21 38 49.3**	**+0.2**
O19K	**Port Alsworth**	**66.03**	**33**	S	**S**	**21 47 34.4**	**-0.1**
	baz=278								
H21K	**Melozitna Rive**	**66.05**	**27**	IAMs_20	IAMs_20	22 12 04.4	
	comp=Z,3µm,19.0s						
H21K	**Melozitna Rive**	**66.05**	**27**	P	**P**	**21 38 48.2**	**-0.4**
	baz=276,SNR=195								
H21K				S	**S**	**21 47 35.1**	**+0.3**
	baz=276								
F22K	**John River**	**66.10**	**25**	P	**P**	**21 38 48.5**	**-0.4**
	baz=276,SNR=225								
F22K				S	**S**	**21 47 34.2**	**-1.1**
	baz=276								
E22K	**Anaktuvuk Pass**	**66.17**	**24**	P	**P**	**21 38 48.9**	**-0.4**
E22K				IAMs_20	IAMs_20	22 08 43.4	
	comp=Z,5µm,19.0s						
E22K	**Anaktuvuk Pass**	**66.17**	**24**	P	**P**	**21 38 49.0**	**-0.4**
	baz=276,SNR=191								
E22K				S	**S**	**21 47 34.6**	**-1.5**
	baz=276								
R18K	**Karluk**	**66.33**	**36**	P	**P**	**21 38 50.1**	**-0.3**
	baz=279								
M20K	**Styx River**	**66.38**	**31**	P	**P**	**21 38 50.4**	**-0.4**
	baz=278,SNR=42								
M20K				S	**S**	**21 47 41.1**	**+2.2**
	baz=278								
C23K	**Itkillik River**	**66.41**	**22**	IAMs_20	IAMs_20	22 09 39.7	
	comp=Z,4µm,19.0s						
C23K	**Itkillik River**	**66.41**	**22**	P	**P**	**21 38 50.1**	**-0.6**
	baz=277,SNR=88								
C23K				S	**S**	**21 47 38.9**	**+0.1**
	baz=277								
G22K	**Bettles**	**66.43**	**25**	P	**P**	**21 38 50.0**	**-0.9**
	baz=277								
G22K				S	**S**	**21 47 39.0**	**-0.1**
	baz=277								
I21K	**Tanana**	**66.45**	**27**	P	**P**	**21 38 50.8**	**-0.3**
	baz=277,SNR=58								
I21K				S	**S**	**21 47 40.4**	**+0.9**
	baz=277								
CHUM	**Lake Minchumin**	**66.48**	**29**	P	**P**	**21 38 50.8**	**-0.5**
	baz=278,SNR=95								
CHUM				S	**S**	**21 47 40.5**	**+0.7**
	baz=278								
D23K	**Nanushuk River**	**66.49**	**23**	P	**P**	**21 38 51.1**	**-0.2**
	baz=277,SNR=167								
D23K				S	**S**	**21 47 39.0**	**-0.9**
	baz=277								
Q19K	**Cape Douglas,**	**66.55**	**34**	P	**P**	**21 38 50.0**	**-1.9**
	baz=279								
LVZ	**Lovozero**	**66.59**	**336**	P	**P**	**21 38 52.2**	**+0.2**
LVZ				IAmb	IAmb	21 39 00.7	
	comp=Z,97nm,1.0s						
LVZ	**Lovozero**	**66.59**	**336**	*ce*P	**P**	**21 38 49.5**	**-2.5**
LVZ				pmax	pmax		
	comp=Z,133nm,1.6s						
LVZ				MLR	MLR		
	comp=Z,6µm,16.0s						
H22K	**Ishtalitna Cre**	**66.61**	**27**	P	**P**	**21 38 51.9**	**-0.3**
	baz=278,SNR=283								
H22K				S	**S**	**21 47 42.9**	**+1.5**
	baz=278								
CAST	**Castle Rocks**	**66.64**	**29**	P	**P**	**21 38 51.6**	**-0.8**
CAST				IAmb	IAmb	21 38 57.5	
	comp=Z,87nm,0.9s						
CAST				IAMs_20	IAMs_20	22 08 44.6	
	comp=Z,4µm,20.0s						
CAST	**Castle Rocks**	**66.64**	**29**	P	**P**	**21 38 51.6**	**-0.8**
	baz=278,SNR=101								
CAST				S	**S**	**21 47 42.4**	**+0.4**
	baz=278								
P19K	**Oil Pt**	**66.65**	**33**	P	**P**	**21 38 50.7**	**-1.8**
	baz=279								
PPLA	**Purkeypile**	**66.67**	**30**	IAMs_20	IAMs_20	22 08 54.9	
	comp=Z,4µm,20.0s						
PPLA	**Purkeypile**	**66.67**	**30**	P	**P**	**21 38 52.2**	**-0.6**
	baz=278,SNR=41								
PPLA				S	**S**	**21 47 43.0**	**+0.4**
	baz=278								
RED	**Redoubt Volcan**	**66.76**	**33**	IAMs_20	IAMs_20	22 08 59.3	
	comp=Z,3µm,20.0s						
LPSR	**Galich'ya Gora**	**66.81**	**319**	*e*P	**P**	**21 38 50.3**	**-3.3**
LPSR				pmax	pmax		
	comp=Z,600nm,1.0s						
LPSR				MLR	MLR		
	comp=Z,4µm,16.0s						
VORD	**Divnogorie**	**66.88**	**317**	*e*P	**P**	**21 38 51.3**	**-2.8**
VORD				pmax	pmax		
	comp=Z,170nm,1.0s						
O20K	**Slope Mountain**	**66.89**	**33**	P	**P**	**21 38 52.6**	**-1.4**
	baz=279,SNR=12								
COLD	**Coldfoot**	**66.89**	**25**	IAMs_20	IAMs_20	22 07 51.5	
	comp=Z,3µm,20.0s						
COLD	**Coldfoot**	**66.89**	**25**	P	**P**	**21 38 53.3**	**-0.6**
	baz=278,SNR=50								
COLD				S	**S**	**21 47 44.7**	**-0.1**
	baz=278								
GEVA	**Gevas**	**66.90**	**303**	P	**P**	**21 38 54.7**	**0.0**
GEVA				IAMs_20	IAMs_20	22 12 48.4	
	comp=Z,4µm,19.0s						
N20K	**Mount Spurr**	**66.92**	**32**	P	**P**	**21 38 52.9**	**-1.3**
	baz=279								
N20K				S	**S**	**21 47 44.1**	**-1.3**
	baz=279								
SPCR	**Spurr Chakacha**	**66.92**	**32**	P	**P**	**21 38 53.3**	**-0.9**
	baz=279,SNR=16								
SPCR				S	**S**	**21 47 44.5**	**-0.9**
	baz=279								
VSR	**Storozhevoye**	**66.92**	**317**	*e*P	**P**	**21 38 50.6**	**-3.7**
VSR				pmax	pmax		
	comp=Z,380nm,1.1s						
VSR				MLR	MLR		
	comp=Z,2µm,13.0s						
TOLK	**Toolik Lake Re**	**66.93**	**23**	P	**P**	**21 38 53.4**	**-0.7**
	baz=278,SNR=160								
TOLK				S	**S**	**21 47 43.8**	**-1.5**
	baz=278								
MLY	**Manley**	**67.00**	**27**	IAMs_20	IAMs_20	22 13 24.2	
	comp=Z,3µm,18.0s						
MLY	**Manley**	**67.00**	**27**	P	**P**	**21 38 54.1**	**-0.6**
	baz=278,SNR=230								
MLY				S	**S**	**21 47 45.8**	**-0.4**
	baz=278								
E23K	**Chandalar**	**67.00**	**24**	IAMs_20	IAMs_20	22 08 35.2	
	comp=Z,4µm,18.0s						
E23K	**Chandalar**	**67.00**	**24**	P	**P**	**21 38 54.1**	**-0.6**
	baz=278,SNR=314								
E23K				S	**S**	**21 47 46.2**	**-0.1**
	baz=278								
OHAK	**Old Harbor**	**67.01**	**36**	P	**P**	**21 38 54.8**	**0.0**
OHAK	**Old Harbor**	**67.01**	**36**	P	**P**	**21 38 53.0**	**-1.8**
	baz=280,SNR=9.2								
MOS	**Moscow**	**67.02**	**322**	*e*P	**P**	**21 38 51.6**	**-3.2**
MOS				*e*		21 39 18.5	
MOS				*e*		21 41 18.0	
MOS				*e*PPP	PPP	21 42 57.4	
MOS				*e*S	**S**	**21 47 43.5**	**-3.1**
MOS				*e*		21 48 44.4	
MOS				*e*SS	**SS**	**21 52 07.9**	**+2.9**
MOS				pmax	pmax		
	comp=Z,442nm,1.2s						
MOS				pmax	pmax		
	comp=N,136nm,1.1s						
MOS				pmax	pmax		
	comp=E,233nm,1.3s						
MOS				pmax	pmax		
	comp=Z,800nm,1.4s						
MOS				pmax	pmax		
	comp=N,100nm,1.0s						
MOS				smax	smax		
	comp=N,2µm,3.1s						
MOS				smax	smax		
	comp=E,800nm,2.8s						
MOS				MLR	MLR		
	comp=E,5µm,15.0s						
MOS				MLR	MLR		
	comp=Z,5µm,15.0s						
BPAW	**Bear Paw Mtn.**	**67.03**	**28**	P	**P**	**21 38 54.4**	**-0.5**
BPAW				IAmb	IAmb	21 38 56.8	
	comp=Z,103nm,1.1s						
BPAW				IAMs_20	IAMs_20	22 10 36.2	
	comp=Z,4µm,19.0s						
BPAW	**Bear Paw Mtn.**	**67.03**	**28**	P	**P**	**21 38 53.9**	**-1.0**
	baz=279,SNR=77								
BPAW				S	**S**	**21 47 46.4**	**-0.2**
	baz=279								
G23K	**Bananza Creek**	**67.04**	**26**	IAMs_20	IAMs_20	22 09 38.3	
	comp=Z,4µm,18.0s						
G23K	**Bananza Creek**	**67.04**	**26**	P	**P**	**21 38 54.5**	**-0.4**
	baz=278,SNR=133								
G23K				S	**S**	**21 47 46.8**	**+0.2**
	baz=278								
C24K	**Franklin Bluff**	**67.08**	**22**	IAMs_20	IAMs_20	22 10 18.9	
	comp=Z,4µm,20.0s						
C24K	**Franklin Bluff**	**67.08**	**22**	P	**P**	**21 38 54.2**	**-0.8**
	baz=278								
C24K				S	**S**	**21 47 45.2**	**-1.8**
	baz=278								
APA	**Apatity**	**67.11**	**335**	*e*P	**P**	**21 38 53.5**	**-1.7**
APA				*e*		21 39 21.6	
APA				*e*S	**S**	**21 47 45.1**	**-2.2**
APA				*e*		21 48 49.2	
APA				*e*SS	**SS**	**21 52 00.3**	**-5.7**
APA				MLR	MLR		
	comp=Z,9µm,16.0s						
SKT	**Skwentna**	**67.11**	**31**	P	**P**	**21 38 54.1**	**-1.3**
SKT				IAmb	IAmb	21 39 01.2	
	comp=Z,51nm,0.9s						
SKT				IAMs_20	IAMs_20	22 08 27.1	
	comp=Z,3µm,21.0s						
SKT	**Skwentna**	**67.11**	**31**	P	**P**	**21 38 53.5**	**-1.9**
	baz=279,SNR=28								
SKT				S	**S**	**21 47 45.0**	**-2.7**
	baz=279								
D24K	**Happy Valley**	**67.12**	**23**	P	**P**	**21 38 54.6**	**-0.8**
	baz=278,SNR=111								
D24K				S	**S**	**21 47 45.8**	**-1.7**
	baz=278								
ERBR	**Yeremizino-Bor**	**67.14**	**311**	*c i*P	**P**	**21 38 56.2**	**+0.4**
ERBR				*e*		21 41 23.8	
ERBR				*e*S	**S**	**21 47 49.0**	**+0.6**
ERBR				*e*SS	**SS**	**21 52 04.2**	**-3.2**
ERBR				pmax	pmax		
	comp=Z,524nm,1.2s						
ERBR				pmax	pmax		
	comp=N,29nm,0.9s						
ERBR				pmax	pmax		
	comp=E,61nm,1.3s						
ERBR				MLR	MLR		
	comp=Z,4µm,15.0s						
KTH	**Kantishna Hill**	**67.14**	**29**	P	**P**	**21 38 55.3**	**-0.3**
KTH				IAMs_20	IAMs_20	22 08 49.7	
	comp=Z,3µm,20.0s						
Q20K	**Shuyak Island**	**67.24**	**34**	P	**P**	**21 38 54.0**	**-2.2**
	baz=280								
KDAK	**Kodiak Island**	**67.29**	**35**	P	**P**	**21 38 55.5**	**-1.0**
KDAK				IAmb	IAmb	21 39 02.3	
	comp=Z,144nm,1.2s						
KDAK	**Kodiak Island**	**67.29**	**35**	P	**P**	**21 38 55.5**	**-1.0**
	comp=Z,58nm,0.9s,baz=70,slow=0.5,SNR=18						
KDAK				LR	LR	22 08 32.9	
	comp=Z,3µm,21.6s,baz=260,slow=36						
	comp=Z,58nm,0.9s						
KDAK	**Kodiak Island**	**67.29**	**35**	P	**P**	**21 38 55.5**	**-1.0**
KDAK	**Kodiak Island**	**67.29**	**35**	P	**P**	**21 38 55.1**	**-1.5**
	baz=280								
KDAK				S	**S**	**21 47 52.0**	**+2.2**
	baz=280								
H23K	**Yukon River**	**67.37**	**26**	IAMs_20	IAMs_20	22 11 43.4	
	comp=Z,3µm,18.0s						
H23K	**Yukon River**	**67.37**	**26**	P	**P**	**21 38 56.8**	**-0.2**
	baz=279,SNR=406								
H23K				S	**S**	**21 47 51.3**	**+0.7**
	baz=279								
E24K	**Your Creek**	**67.41**	**24**	IAMs_20	IAMs_20	22 11 26.2	
	comp=Z,5µm,19.0s						
E24K	**Your Creek**	**67.41**	**24**	P	**P**	**21 38 56.6**	**-0.6**
	baz=279,SNR=242								
E24K				S	**S**	**21 47 52.0**	**+0.8**
	baz=279								
TRF	**Thorofare Moun**	**67.44**	**29**	IAMs_20	IAMs_20	22 11 01.1	
	comp=Z,3µm,19.0s						
TRF	**Thorofare Moun**	**67.44**	**29**	P	**P**	**21 38 56.3**	**-1.3**
	baz=280,SNR=30								
TRF				S	**S**	**21 47 50.2**	**-1.7**
	baz=280								
HOM	**Homer**	**67.44**	**33**	P	**P**	**21 38 56.0**	**-1.5**
	baz=280								
CAPN	**Captain Cook N**	**67.49**	**32**	P	**P**	**21 38 57.3**	**-0.5**
	baz=280								
I23K	**Minto, Yukon-K**	**67.55**	**27**	IAMs_20	IAMs_20	22 12 14.0	
	comp=Z,3µm,18.0s						
I23K	**Minto, Yukon-K**	**67.55**	**27**	P	**P**	**21 38 57.3**	**-0.8**
	baz=280,SNR=51								
I23K				S	**S**	**21 47 53.2**	**+0.5**
	baz=280								
SUA	**Susitna One**	**67.57**	**31**	IAMs_20	IAMs_20	22 09 28.0	
	comp=Z,3µm,19.0s						
SUA	**Susitna One**	**67.57**	**31**	P	**P**	**21 38 56.4**	**-2.1**
	baz=280								
SUA				S	**S**	**21 47 51.4**	**-2.0**
	baz=280								
CUT	**Chulitna**	**67.63**	**30**	IAMs_20	IAMs_20	22 09 03.7	
	comp=Z,3µm,20.0s						
CUT	**Chulitna**	**67.63**	**30**	P	**P**	**21 38 56.8**	**-1.8**
	baz=280,SNR=16								
GURO	**Guroymak-BITLI**	**67.63**	**303**	P	**P**	**21 38 59.5**	**+0.2**
GURO				IAmb	IAmb	21 39 04.4	
	comp=Z,122nm,0.8s						
BWN	**Browne**	**67.68**	**28**	IAMs_20	IAMs_20	22 11 08.7	
	comp=Z,4µm,19.0s						
OBN	**Obninsk**	**67.72**	**322**	P	**P**	**21 38 57.9**	**-1.3**
OBN	**Obninsk**	**67.72**	**322**	LR	LR	22 11 16.4	
	comp=Z,4µm,19.1s,baz=16,slow=38						
OBN	**Obninsk**	**67.72**	**322**	⇓P	**P**	**21 38 59.1**	**-0.2**
OBN	**Obninsk**	**67.72**	**322**	*d i*P	**P**	**21 38 58.0**	**-1.3**
OBN				*e*		21 39 26.2	
OBN				*e*PPP	PPP	21 43 05.5	
OBN				*i* S	**S**	**21 47 50.2**	**-4.8**
OBN				pmax	pmax		
	comp=Z,221nm,1.1s						
OBN				MLR	MLR		
	comp=Z,6µm,18.0s						
F24K	**Squaw Lake**	**67.73**	**25**	P	**P**	**21 38 59.1**	**-0.2**
	baz=280,SNR=601								
F24K				S	**S**	**21 47 55.1**	**+0.2**
	baz=280								
NEA2	**Nenana**	**67.77**	**28**	IAMs_20	IAMs_20	22 10 13.3	
	comp=Z,3µm,19.0s						
NEA2	**Nenana**	**67.77**	**28**	P	**P**	**21 38 58.8**	**-0.8**
	baz=280,SNR=165								
NEA2				S	**S**	**21 47 55.0**	**-0.5**
	baz=280								
BRLK	**Bradley Lake**	**67.80**	**33**	P	**P**	**21 38 59.4**	**-0.5**
BRLK				IAmb	IAmb	21 39 27.7	
	comp=Z,104nm,1.0s						
M22K	**Willow**	**67.81**	**31**	P	**P**	**21 38 58.1**	**-1.7**
	baz=280,SNR=7.5								
VSLR	**Vesyoloye**	**67.94**	**309**	*c i*P	**P**	**21 39 01.0**	**0.0**
VSLR				pmax	pmax		
	comp=Z,325nm,1.0s						
D25K	**Kavik River**	**67.96**	**23**	IAMs_20	IAMs_20	22 08 09.6	
	comp=Z,5µm,22.0s						
D25K	**Kavik River**	**67.96**	**23**	P	**P**	**21 38 59.9**	**-0.7**
	baz=281,SNR=211								
D25K				S	**S**	**21 47 56.2**	**-1.5**
	baz=281								
MCK	**McKinley**	**67.98**	**29**	P	**P**	**21 38 59.8**	**-1.1**
MCK				IAmb	IAmb	21 39 02.1	
	comp=Z,201nm,1.4s						
MCK				IAMs_20	IAMs_20	22 09 49.0	
	comp=Z,4µm,19.0s						
MCK	**McKinley**	**67.98**	**29**	P	**P**	**21 38 59.8**	**-1.1**
MCK				pmax	pmax		
	comp=Z,201nm,1.4s						
MCK				MLR	MLR		
	comp=Z,4µm,19.0s						
MCK	**McKinley**	**67.98**	**29**	P	**P**	**21 38 59.3**	**-1.6**
	baz=281,SNR=33								
MCK				S	**S**	**21 47 54.4**	**-3.7**
	baz=281								
HOPEN	**Hopen**	**68.02**	**345**	*e*P	**P**	**21 39 02.0**	**+1.2**
G24K	**Hadweenzic Riv**	**68.04**	**25**	IAMs_20	IAMs_20	22 10 10.8	
	comp=Z,4µm,18.0s						
G24K	**Hadweenzic Riv**	**68.04**	**25**	P	**P**	**21 39 00.8**	**-0.4**
	baz=281,SNR=190								
G24K				S	**S**	**21 47 58.6**	**0.0**
	baz=281								
H24K	**Noodor Dome**	**68.04**	**26**	IAMs_20	IAMs_20	22 10 30.2	
	comp=Z,3µm,18.0s						
H24K	**Noodor Dome**	**68.04**	**26**	P	**P**	**21 39 00.9**	**-0.3**
	baz=281,SNR=156								
H24K				S	**S**	**21 47 59.4**	**+0.7**
	baz=281								
RND	**Reindeer**	**68.08**	**29**	IAMs_20	IAMs_20	22 09 10.0	
	comp=Z,3µm,21.0s						
RC01	**Rabbit Creek A**	**68.11**	**32**	P	**P**	**21 38 59.8**	**-1.9**
	baz=281,SNR=10								
RC01				S	**S**	**21 47 56.0**	**-3.7**
	baz=281								
VADS	**Vadso**	**68.11**	**338**	*e*P	**P**	**21 39 02.6**	**+1.1**
SOC	**Sochi**	**68.14**	**309**	*e*P	**P**	**21 38 58.1**	**-4.1**
SOC				*e*		21 41 30.5	
SOC				*e*PPP	PPP	21 43 08.2	
SOC				*e*S	**S**	**21 47 57.5**	**-3.0**
SOC				pmax	pmax		
	comp=Z,188nm,1.1s						
SOC				MLR	MLR		
	comp=Z,6µm,21.0s						
WRH	**Wood River Hil**	**68.21**	**28**	IAMs_20	IAMs_20	22 12 44.4	
	comp=Z,4µm,18.0s						
COLA	**College**	**68.23**	**27**	P	**P**	**21 39 01.7**	**-0.7**
COLA				IAmb	IAmb	21 39 07.3	
	comp=Z,61nm,0.7s						
COLA	**College**	**68.23**	**27**	P	**P**	**21 39 03.1**	**+0.7**
COLA	**College**	**68.23**	**27**	P	**P**	**21 39 01.7**	**-0.7**
COLA				pmax	pmax		
	comp=Z,61nm,0.7s						
COLA				MLR	MLR		
	comp=Z,3µm,19.0s						
COLA	**College**	**68.23**	**27**	P	**P**	**21 39 01.1**	**-1.3**
	baz=281								
COLA				S	**S**	**21 48 00.8**	**-0.1**
	baz=281								
**

C26K S **S** **21 48 00.9 -1.1**
baz=282
POKR Poker Plat Res 68.36 27 IAMs_20 IAMs_20 22 13 27.7
comp=Z,4μm,19.0s
POKR Poker Plat Res 68.36 27 P **P** **21 39 02.2 -1.0**
baz=281,SNR=72
POKR S **S** **21 48 01.4 -1.0**
baz=281
GHO Glory Hole Cre 68.36 31 IAMs_20 IAMs_20 22 12 40.6
comp=Z,3μm,20.0s
KOPT Kop Dagi 68.42 305 P **P** **21 39 04.9 +0.4**
KOPT IAMs_20 IAMs_20 22 12 21.6
comp=Z,4μm,20.0s
SEW Seward 68.45 33 P **P** **21 39 01.4 -2.3**
baz=282,SNR=13
SEW S **S** **21 48 00.0 -3.5**
baz=282
G25K Bearman Lake 68.56 25 P **P** **21 39 04.3 -0.1**
baz=282,SNR=122
G25K S **S** **21 48 04.7 -0.1**
baz=282
F25K Christian Rive 68.56 24 IAMs_20 IAMs_20 22 09 36.6
comp=Z,5μm,20.0s
F25K Christian Rive 68.56 24 P **P** **21 39 04.0 -0.6**
baz=282,SNR=230
F25K S **S** **21 48 06.6 +1.7**
baz=282
KNK Knik Glacier 68.66 31 P **P** **21 39 03.7 -1.5**
baz=282,SNR=28
KNK S **S** **21 48 04.5 -1.7**
baz=282
IL31 68.66 27 P **P** **21 39 03.6 -1.4**
ILAR Eielson Array 68.66 27 P **P** **21 39 03.5 -1.5**
comp=Z,24nm,0.9s,baz=276,slow=4.5,SNR=61
ILAR PKPPKP **P'P'df** **22 07 19.2 -5.1**
comp=Z,0.9nm,0.9s,baz=192,slow=2.4,SNR=5.1
ILAR LR LR 22 10 30.3
comp=Z,1μm,20.9s,baz=276,slow=37
comp=Z,24nm,0.9s
ILAR Eielson Array 68.66 27 P **P** **21 39 03.6 -1.5**
HDA Harding Lake 68.71 28 IAMs_20 IAMs_20 22 12 51.1
comp=Z,2μm,18.0s
HDA Harding Lake 68.71 28 P **P** **21 39 03.2 -2.2**
baz=282,SNR=62
HDA S **S** **21 48 03.6 -3.0**
baz=282
H25L Birch Creek 68.78 26 P **P** **21 39 05.4 -0.3**
baz=282,SNR=61
H25L S **S** **21 48 09.5 +2.2**
baz=282
C27K Jago River 68.81 22 IAMs_20 IAMs_20 22 09 27.2
comp=Z,4μm,20.0s
C27K Jago River 68.81 22 P **P** **21 39 05.4 -0.6**
baz=283,SNR=123
C27K S **S** **21 48 07.0 -0.7**
baz=283
JOF Joensuu 68.81 331 *e*P **P** **21 39 05.6 -0.4**
PWL Port Wells 68.83 32 IAMs_20 IAMs_20 22 10 36.6
comp=Z,3μm,19.0s
PWL Port Wells 68.83 32 P **P** **21 39 04.4 -1.8**
baz=282,SNR=18
PWL S **S** **21 48 05.6 -2.6**
baz=282
MARD Mardin 68.90 302 IAMs_20 IAMs_20 22 14 15.3
comp=Z,4μm,19.0s
MSVF Nonsavu 68.91 122 P **P** **21 39 07.5 +0.1**
MSVF IAmb IAmb 21 39 11.6
comp=Z,107nm,1.0s
MSVF Nonsavu 68.91 122 IAMs_20 IAMs_20 22 05 24.2
comp=Z,3μm,20.0s
MSVF Nonsavu 68.91 122 P **P** **21 39 10.2 +2.8**
MSVF Nonsavu 68.91 122 P **P** **21 39 07.5 +0.1**
MSVF pmax pmax
comp=Z,107nm,1.0s
MSVF MLR MLR
comp=Z,3μm,20.0s
M23K Glacier View 68.92 31 P **P** **21 39 05.0 -1.7**
baz=282,SNR=35
RAYN Ar Rayn 68.93 287 P **P** **21 39 07.3 -0.3**
RAYN IAmb IAmb 21 39 09.9
comp=Z,175nm,1.2s
RAYN Ar Rayn 68.93 287 IAMs_20 IAMs_20 22 14 25.1
comp=Z,4μm,19.0s
RAYN Ar Rayn 68.93 287 P **P** **21 39 07.7 +0.1**
RAYN Ar Rayn 68.93 287 P **P** **21 39 07.3 -0.3**
RAYN pmax pmax
comp=Z,175nm,1.3s
RAYN MLR MLR
comp=Z,4μm,19.0s
RAYN Ar Rayn 68.93 287 *i* P **P** **21 39 08.2 +0.7**
SNR=22
FYU Fort Yukon 68.94 25 IAMs_20 IAMs_20 22 10 47.1
comp=Z,4μm,19.0s
KEV Kevo 68.99 338 P **P** **21 39 06.3 -0.7**
KEV IAMs_20 IAMs_20 22 12 32.8
comp=Z,4μm,19.0s
KEV Kevo 68.99 338 P **P** **21 39 06.3 -0.7**
KEV pmax pmax
comp=Z,195nm,1.0s
KEV MLR MLR
comp=Z,4μm,19.0s
KHAM Kharkiv 68.99 316 P **P** **21 39 06.8 -0.6**
BMAR Burnt Mountain 69.00 24 P **P** **21 39 07.9 +0.7**
PRP Porcupine Dome 69.06 26 P **P** **21 39 06.6 -1.1**
baz=283,SNR=62
PRP S **S** **21 48 10.5 -0.5**
baz=283
SCM Sheep Creek Mo 69.09 31 IAMs_20 IAMs_20 22 13 03.4
comp=Z,3μm,19.0s
SCM Sheep Creek Mo 69.09 31 P **P** **21 39 06.6 -1.3**
baz=283,SNR=65
SCM S **S** **21 48 10.7 -0.7**
baz=283
F26K Sheenjek River 69.10 24 P **P** **21 39 07.9 0.0**
baz=283,SNR=183
F26K S **S** **21 48 13.1 +1.9**
baz=283
J25K Salcha River, 69.33 27 IAMs_20 IAMs_20 22 13 44.0
comp=Z,3μm,18.0s
J25K Salcha River, 69.33 27 P **P** **21 39 06.8 -2.5**
baz=283,SNR=34
J25K S **S** **21 48 11.8 -2.3**
baz=283
K24K Donnelly Dome 69.34 28 IAMs_20 IAMs_20 22 13 29.7
comp=Z,3μm,18.0s
K24K Donnelly Dome 69.34 28 P **P** **21 39 07.7 -1.7**
baz=283,SNR=67
K24K S **S** **21 48 11.9 -2.3**
baz=283
SPB2 Spitsbergen Ar 69.37 348 P **P** **21 39 08.4 -0.9**
SPA0 Spitsbergen Ar 69.37 348 *e*P **P** **21 39 09.6 +0.3**
SPITS Spitsbergen Ar 69.37 348 P **P** **21 39 09.7 +0.4**
comp=Z,116nm,0.6s,baz=84,slow=7.6,SNR=86
SPITS LR LR 22 13 44.1
comp=Z,6μm,18.4s,baz=48,slow=40
comp=Z,116nm,0.6s
SPITS Spitsbergen Ar 69.37 348 P **P** **21 39 08.0 -1.3**
SPITS pmax pmax
comp=Z,317nm,1.0s
DGTI Dogotuki 69.41 120 P **P** **21 39 14.0 +3.6**
G26K Porcupine Rive 69.41 25 IAMs_20 IAMs_20 22 08 39.1
comp=Z,3μm,22.0s
G26K Porcupine Rive 69.41 25 P **P** **21 39 09.4 -0.2**
baz=284,SNR=284
G26K S **S** **21 48 16.2 +1.4**
baz=284
GLI Glacier Island 69.42 31 P **P** **21 39 07.9 -1.9**
baz=283,SNR=19
GLI S **S** **21 48 14.7 -0.4**
baz=283
ANN Anapa 69.44 311 *c i* P **P** **21 39 09.7 -0.6**
ANN *e*PPP PPP 21 43 22.2
ANN *i* S **S** **21 48 15.4 -0.5**
ANN *e*SS **SS** **21 52 45.0 +2.0**
ANN pmax pmax
comp=N,156nm,0.9s
ANN pmax pmax
comp=Z,430nm,0.9s
ANN pmax pmax
comp=E,119nm,1.0s
GLAD Gladstone 69.46 159 P **P** **21 39 13.2 +3.0**
P23K Montague Islan 69.47 32 P **P** **21 39 09.0 -1.2**
baz=283
P23K S **S** **21 48 15.1 -0.7**
baz=283
ARA0 ARCESS Array S 69.55 338 *e*P **P** **21 39 11.2 +0.7**
ARCES ARCESS Array B 69.55 338 P **P** **21 39 10.2 -0.3**
comp=E,116nm,1.0s,baz=71,slow=7.8,SNR=64
ARCES LR LR 22 14 34.5
comp=E,3μm,18.4s,baz=82,slow=40
comp=E,116nm,1.0s
ARCES ARCESS Array B 69.55 338 P **P** **21 39 10.2 -0.3**
ARCES pmax pmax
comp=Z,239nm,1.3s
M24K Tolsona, Glenn 69.56 30 IAMs_20 IAMs_20 22 10 27.3
comp=Z,3μm,18.0s
M24K Tolsona, Glenn 69.56 30 P **P** **21 39 10.1 -0.7**
baz=284,SNR=44
M24K S **S** **21 48 17.6 +0.7**
baz=284
PAX Paxson 69.67 29 IAMs_20 IAMs_20 22 10 41.7
comp=Z,4μm,21.0s
PAX Paxson 69.67 29 P **P** **21 39 10.4 -1.1**
baz=284,SNR=65
PAX S **S** **21 48 17.1 -1.2**
baz=284
FID Port Fidalgo 69.74 32 IAMs_20 IAMs_20 22 11 06.3
comp=Z,3μm,18.0s
RIDG Independent Ri 69.76 28 IAMs_20 IAMs_20 22 14 40.9
comp=Z,3μm,18.0s
RIDG Independent Ri 69.76 28 P **P** **21 39 10.2 -1.7**
baz=284,SNR=58
RIDG S **S** **21 48 16.4 -2.8**
baz=284
HIN Hinchinbrook I 69.82 32 IAMs_20 IAMs_20 22 09 40.1
comp=Z,3μm,21.0s
KLU Klutina 69.83 31 P **P** **21 39 11.4 -1.0**
KLU IAmb IAmb 21 39 15.7
comp=Z,109nm,1.2s
KLU IAMs_20 IAMs_20 22 10 04.3
comp=Z,4μm,19.0s
KLU Klutina 69.83 31 P **P** **21 39 11.4 -1.0**
baz=284,SNR=49
KLU S **S** **21 48 16.8 -3.2**
baz=284
D27M Malcolm River 69.85 22 IAMs_20 IAMs_20 22 09 13.6
comp=Z,5μm,21.0s
D27M Malcolm River 69.85 22 P **P** **21 39 12.0 -0.5**
baz=286,SNR=97
D27M S **S** **21 48 18.9 -1.2**
baz=286
HAMF Hammerfest 69.85 339 *e*P **P** **21 39 13.4 +1.1**
KBS Kingsbay 69.90 349 P **P** **21 39 12.1 -0.5**
KBS IAmb IAmb 21 39 15.6
comp=Z,99nm,1.0s
KBS Kingsbay 69.90 349 P **P** **21 39 12.1 -0.5**
KBS pmax pmax
comp=Z,99nm,1.0s
KBS MLR MLR
comp=Z,6μm,18.0s
KBS Kingsbay 69.90 349 *e*P **P** **21 39 12.5 0.0**
KBS Kingsbay 69.90 349 *i* P **P** **21 39 12.9 +0.4**
E27K Coleen River 69.91 23 P **P** **21 39 12.2 -0.6**
baz=285,SNR=97
E27K S **S** **21 48 20.9 +0.1**
baz=285
HARP HAARP 69.95 30 P **P** **21 39 12.3 -0.8**
baz=284,SNR=10
HARP S **S** **21 48 20.8 -0.7**
baz=284
HSPB Hornsund (broa 69.96 347 *e*P **P** **21 39 12.3 -0.6**
HSPB *e*L L 22 13 15.4
comp=Z,9μm,19.6s
DIV Divide 69.98 31 P **P** **21 39 12.8 -0.6**
DIV IAmb IAmb 21 39 14.9
comp=Z,132nm,1.0s
DIV IAMs_20 IAMs_20 22 13 34.5
comp=Z,3μm,19.0s
PUL Pulkovo 70.00 327 *c e*P **P** **21 39 13.5 +0.1**
PUL pmax pmax
comp=Z,219nm,0.7s
PUL MLR MLR
comp=Z,11μm,17.0s
BJO1 Bjornoya 70.03 344 *e*P **P** **21 39 14.1 +0.7**
FUTU Fugatoga 70.03 117 IAMs_20 IAMs_20 22 07 25.5
comp=Z,3μm,18.0s
SCRK Sand Creek 70.07 28 IAMs_20 IAMs_20 22 14 08.5
comp=Z,3μm,18.0s
SCRK Sand Creek 70.07 28 P **P** **21 39 12.5 -1.5**
baz=285,SNR=82
SCRK S **S** **21 48 20.3 -2.7**
baz=285
I26K Coal Creek Min 70.07 26 IAMs_20 IAMs_20 22 13 26.1
comp=Z,4μm,19.0s
I26K Coal Creek Min 70.07 26 P **P** **21 39 12.6 -1.2**
baz=285
I26K S **S** **21 48 21.9 -0.8**
baz=285
J26L Joseph Creek 70.11 27 P **P** **21 39 12.6 -1.6**
baz=285,SNR=165
J26L S **S** **21 48 21.3 -2.1**
baz=285
DOT Dot Lake 70.12 28 IAMs_20 IAMs_20 22 13 53.9
comp=Z,3μm,19.0s
Q23K Middleton Isla 70.13 33 P **P** **21 39 12.9 -1.3**
baz=284
EYAK Cordova Ski Ar 70.14 32 IAMs_20 IAMs_20 22 12 10.2
comp=Z,4μm,18.0s
EYAK Cordova Ski Ar 70.14 32 P **P** **21 39 16.6 +2.3**
EYAK Cordova Ski Ar 70.14 32 P **P** **21 39 13.3 -1.0**
baz=284,SNR=15
EYAK S **S** **21 48 23.1 -0.4**
baz=284
G27K Doyon Strip 70.26 25 IAMs_20 IAMs_20 22 08 53.5
comp=Z,3μm,20.0s
G27K Doyon Strip 70.26 25 P **P** **21 39 14.7 -0.3**
baz=286,SNR=193
G27K S **S** **21 48 26.1 +1.2**
baz=286
N25K Chitina, Valde 70.41 30 IAMs_20 IAMs_20 22 10 02.7
comp=Z,3μm,18.0s
N25K Chitina, Valde 70.41 30 P **P** **21 39 15.1 -0.9**
baz=285,SNR=55
N25K S **S** **21 48 24.5 -2.4**
baz=285
MENT Mentasta 70.46 29 IAMs_20 IAMs_20 22 11 04.9
comp=Z,5μm,21.0s
MENT Mentasta 70.46 29 P **P** **21 39 18.1 +1.9**
H27K Steamboat Moun 70.47 25 IAMs_20 IAMs_20 22 11 14.4
comp=Z,4μm,21.0s
H27K Steamboat Moun 70.47 25 P **P** **21 39 16.0 -0.3**
baz=286,SNR=141
H27K S **S** **21 48 29.9 +2.4**
baz=286
KTK1 Kautokeino 70.47 338 *e*P **P** **21 39 16.9 +0.7**
E28M Babbage River 70.53 23 IAMs_20 IAMs_20 22 09 50.8
comp=Z,5μm,20.0s
E28M Babbage River 70.53 23 P **P** **21 39 15.9 -0.6**
baz=287,SNR=167
E28M S **S** **21 48 27.7 -0.2**
baz=287
BMRM Bremner River 70.58 31 IAMs_20 IAMs_20 22 14 12.1
comp=Z,3μm,19.0s
BMRM Bremner River 70.58 31 P **P** **21 39 16.0 -1.0**
baz=285,SNR=43
BMRM S **S** **21 48 27.7 -1.1**
baz=285
D28M Stokes Point 70.59 22 P **P** **21 39 16.1 -0.7**
baz=288
D28M S **S** **21 48 29.4 +1.0**
baz=288
L26K Log Cabin Wild 70.60 29 IAMs_20 IAMs_20 22 11 19.9
comp=Z,4μm,21.0s
L26K Log Cabin Wild 70.60 29 P **P** **21 39 16.3 -0.8**
baz=286,SNR=11
L26K S **S** **21 48 28.4 -0.5**
baz=286
I27K Kandik River 70.61 26 P **P** **21 39 16.7 -0.5**
baz=286,SNR=198
I27K S **S** **21 48 31.3 +2.2**
baz=286
RAGM Ragged Mountai 70.70 32 P **P** **21 39 17.3 -0.4**
RAGM IAMs_20 IAMs_20 22 11 40.8
comp=Z,4μm,19.0s
F28M Old Crow 70.70 24 P **P** **21 39 17.2 -0.4**
baz=287,SNR=54
F28M S **S** **21 48 30.1 +0.2**
baz=287
MSEY Mahe Island 70.77 255 IAMs_20 IAMs_20 22 07 31.0
comp=Z,3μm,21.0s
GLB Gilahina Butte 70.82 30 IAMs_20 IAMs_20 22 11 17.5
comp=Z,3μm,20.0s
K27K Chicken 70.87 28 IAMs_20 IAMs_20 22 11 36.1
comp=Z,3μm,20.0s
K27K Chicken 70.87 28 P **P** **21 39 18.2 -0.5**
baz=286
K27K S **S** **21 48 31.4 -0.5**
baz=286
HMT Hamilton 70.91 32 P **P** **21 39 18.7 -0.3**
HMT IAmb IAmb 21 39 20.0
comp=Z,240nm,1.6s
HMT IAMs_20 IAMs_20 22 11 56.5
comp=Z,4μm,18.0s
M26K Nabesna, AK 70.92 29 IAMs_20 IAMs_20 22 16 00.2
comp=Z,3μm,18.0s
M26K Nabesna, AK 70.92 29 P **P** **21 39 18.2 -0.9**
baz=286,SNR=137
M26K S **S** **21 48 32.3 -0.5**
baz=286
TAU Tasmania Unive 70.99 161 P **P** **21 39 20.0 +0.5**
TAU IAmb IAmb 21 39 39.7
comp=Z,138nm,1.4s
TAU Tasmania Unive 70.99 161 IAMs_20 IAMs_20 22 10 37.7
comp=Z,3μm,20.0s
TAU Tasmania Unive 70.99 161 P **P** **21 39 22.8 +3.3**
TAU Tasmania Unive 70.99 161 P **P** **21 39 20.0 +0.5**
TAU pmax pmax
comp=Z,138nm,1.4s
TAU MLR MLR
comp=Z,3μm,20.0s
EGAK Eagle 71.03 27 IAMs_20 IAMs_20 22 11 54.1
comp=Z,3μm,19.0s
KEKH Kekaha 71.09 74 P **P** **21 39 19.7 -1.0**
KEKH IAMs_20 IAMs_20 22 06 56.2
comp=Z,3μm,20.0s
E29M Blow River 71.17 23 IAMs_20 IAMs_20 22 12 22.7
comp=Z,4μm,20.0s
E29M Blow River 71.17 23 P **P** **21 39 19.6 -0.8**
baz=289,SNR=76
E29M S **S** **21 48 34.1 -1.3**
baz=289
MCARA McCarthy VSAT 71.20 30 IAMs_20 IAMs_20 22 11 29.1
comp=Z,3μm,20.0s
MCARA McCarthy VSAT 71.20 30 P **P** **21 39 19.9 -0.8**
baz=286,SNR=28
MCARA S **S** **21 48 34.6 -1.3**
baz=286
SUCK Suckling Hills 71.21 32 IAMs_20 IAMs_20 22 11 54.5
comp=Z,3μm,19.0s
L27K Beaver Creek, 71.25 29 IAMs_20 IAMs_20 22 11 50.8
comp=Z,4μm,19.0s
L27K Beaver Creek, 71.25 29 P **P** **21 39 20.8 -0.3**
baz=287,SNR=149
L27K S **S** **21 48 37.1 +0.5**
baz=287
JETT Jettan, Norway 71.26 339 *e*P **P** **21 39 22.1 +1.2**
BCAR Beaver Creek A 71.27 29 P **P** **21 39 20.6 -0.6**
CRQM Cirque 71.32 31 IAMs_20 IAMs_20 22 10 53.5
comp=Z,4μm,19.0s
I28M Miner Creek 71.33 26 P **P** **21 39 21.0 -0.6**
baz=288,SNR=176
I28M S **S** **21 48 39.5 +2.0**
baz=288
CRQE Cirque 71.35 31 P **P** **21 39 20.6 -1.2**
baz=287,SNR=16
M27K Edge Creek, AK 71.44 29 IAMs_20 IAMs_20 22 11 38.1
comp=Z,4μm,21.0s
M27K Edge Creek, AK 71.44 29 P **P** **21 39 21.6 -0.8**
baz=287,SNR=62
M27K S **S** **21 48 38.8 -0.2**
baz=287
BGLC Bering Glacier 71.44 32 P **P** **21 39 22.1 -0.1**
baz=287
TGL Tana Glacier 71.47 31 IAMs_20 IAMs_20 22 10 47.3
comp=Z,4μm,20.0s
FIA1 FINESS Array S 71.56 330 P **P** **21 39 22.0 -0.9**
FINES FINESS Array B 71.56 330 P **P** **21 39 21.8 -1.1**
FINES FINESS Array B 71.56 330 P **P** **21 39 23.2 +0.3**
comp=Z,134nm,0.7s,baz=57,slow=5.8,SNR=155
FINES LR LR 22 13 52.8
comp=Z,16μm,18.2s,baz=74,slow=38
comp=Z,134nm,0.7s
FINES FINESS Array B 71.56 330 *i* P **P** **21 39 22.1 -0.8**
FINES pmax pmax
comp=Z,134nm,0.7s
G29M Pine Creek 71.60 24 IAMs_20 IAMs_20 22 13 03.2
comp=Z,4μm,19.0s
G29M Pine Creek 71.60 24 P **P** **21 39 22.5 -0.5**
baz=289,SNR=208
G29M S **S** **21 48 40.0 -0.4**
baz=289
GAZ Gaziantep 71.67 303 P **P** **21 39 24.3 +0.2**
GAZ IAMs_20 IAMs_20 22 15 49.7
comp=Z,4μm,18.0s
SIM Simferopol' 71.68 312 *e*P **P** **21 39 24.5 +0.6**
SIM *e*S **S** **21 48 40.5 -1.5**
SIM pmax pmax
comp=Z,417nm,0.8s
H29M Whitestone 71.69 25 IAMs_20 IAMs_20 22 09 46.7
comp=Z,3μm,22.0s
H29M Whitestone 71.69 25 P **P** **21 39 23.1 -0.5**
baz=289,SNR=152
H29M S **S** **21 48 42.0 +0.5**
baz=289
TRO Tromso 71.72 339 *e*P **P** **21 39 24.3 +0.6**
ISLE Juniper Island 71.75 31 IAMs_20 IAMs_20 22 11 16.1
comp=Z,3μm,20.0s
BVCY Beaver Creek 71.87 29 P **P** **21 39 24.4 -0.4**
baz=288,SNR=44
KEF Keuruu 71.89 331 *e*P **P** **21 39 24.3 -0.6**
GRNC Granite Creek 71.98 31 IAMs_20 IAMs_20 22 11 13.2
comp=Z,3μm,20.0s
DAWY Dawson 71.98 27 P **P** **21 39 24.6 -0.9**
DAWY IAmb IAmb 21 39 29.8
comp=Z,179nm,1.1s
DAWY Dawson 71.98 27 P **P** **21 39 24.8 -0.7**
baz=289,SNR=155
DAWY S **S** **21 48 45.1 +0.1**
baz=289
I29M Ogilvie Camp, 72.00 26 IAMs_20 IAMs_20 22 12 20.5
comp=Z,4μm,19.0s
I29M Ogilvie Camp, 72.00 26 P **P** **21 39 24.9 -0.6**
baz=289,SNR=136
MESA MESA 72.06 31 IAMs_20 IAMs_20 22 15 10.8
comp=Z,4μm,18.0s
MESA MESA 72.06 31 P **P** **21 39 25.6 -0.6**
baz=288,SNR=12
MESA S **S** **21 48 44.7 -1.5**
baz=288
YAH Yahtse 72.10 31 IAMs_20 IAMs_20 22 15 17.7
comp=Z,3μm,18.0s
CTG Chitna Glacier 72.10 31 P **P** **21 39 25.8 -0.5**
baz=288,SNR=48
CTGM Chitina Glacie 72.11 31 IAMs_20 IAMs_20 22 10 58.0
comp=Z,2μm,18.0s
VSU Vasula 72.14 327 *c e*P **P** **21 39 24.7 -1.7**
VSU pmax pmax
comp=Z,536nm,1.0s
VSU MLR MLR
comp=Z,10μm,14.0s
VSU Vasula 72.14 327 *e*P **P** **21 39 25.9 -0.5**
NOR Nord 72.15 354 *i* P **P** **21 39 26.0 -0.1**
NOR IAmb IAmb 21 39 29.2
comp=Z,86nm,0.8s
F30M Barrier River 72.18 23 IAMs_20 IAMs_20 22 12 29.2
comp=Z,4μm,20.0s
F30M Barrier River 72.18 23 P **P** **21 39 25.6 -1.0**
baz=291,SNR=136
F30M S **S** **21 48 46.0 -1.1**
baz=291
SJUU Sjulsmark 72.18 334 *e*P **P** **21 39 27.0 +0.5**
BNN Bunyan 72.21 305 P **P** **21 39 27.4 0.0**
BNN IAMs_20 IAMs_20 22 15 38.7
comp=Z,4μm,20.0s
ARBE Arbavere 72.21 328 *e*P **P** **21 39 27.2 +0.4**
G30M tAoh Zraii Nji 72.25 24 IAMs_20 IAMs_20 22 13 31.2
comp=Z,4μm,19.0s
G30M tAoh Zraii Nji 72.25 24 P **P** **21 39 25.5 -1.5**
baz=290,SNR=239
G30M S **S** **21 48 45.5 -2.4**
baz=290
YUK3 Moose Creek 72.25 30 P **P** **21 39 26.7 -0.6**
baz=288,SNR=66
YUK3 S **S** **21 48 48.6 +0.2**
baz=288
EPYK Eagle Plains 72.27 25 IAMs_20 IAMs_20 22 14 37.0
comp=Z,3μm,18.0s
EPYK Eagle Plains 72.27 25 P **P** **21 39 25.8 -1.4**
baz=290,SNR=198
EPYK S **S** **21 48 46.3 -2.0**
baz=290

J29N Klondike Camp 72.34 27 IAMs_20 IAMs_20 22 16 55.5
comp=Z,4µm,18.0s
J29N Klondike Camp 72.34 27 P **P** **21 39 27.2 -0.4**
baz=290,SNR=29
J29N S **S** **21 48 50.5 +1.4**
baz=290
TABL Table Mountain 72.36 31 IAMs_20 IAMs_20 22 11 44.4
comp=Z,3µm,20.0s
BZK Bozkurt 72.62 309 ⇑P **P** **21 39 30.1 +0.4**
O28M Mount Upton 72.70 31 IAMs_20 IAMs_20 22 12 12.2
comp=Z,3µm,19.0s
O28M Mount Upton 72.70 31 P **P** **21 39 29.7 -0.4**
baz=289,SNR=31
O28M S **S** **21 48 53.0 -0.8**
baz=289
INK Inuvik 72.72 22 P **P** **21 39 28.7 -1.0**
INK Inuvik 72.72 22 P **P** **21 39 29.1 -0.6**
comp=Z,183nm,1.0s,baz=304,slow=6.1,SNR=73
INK LR LR 22 13 47.1
comp=Z,3µm,20.7s,baz=314,slow=38
comp=Z,183nm,1.0s
INK Inuvik 72.72 22 P **P** **21 39 28.7 -1.0**
INK pmax pmax
comp=Z,215nm,1.1s
INK Inuvik 72.72 22 P **P** **21 39 28.4 -1.3**
baz=292,SNR=105
INK S **S** **21 48 50.8 -2.2**
baz=292
MEF Metsahovi 72.73 329 *e*P **P** **21 39 29.6 -0.3**
MNK Minsk 72.74 322 *i* P **P** **21 39 30.1 0.0**
MNK *i* 21 42 11.9
MNK *i* PPP PPP 21 43 56.3
MNK *i* S **S** **21 48 56.9 +3.1**
MNK *i* 21 49 37.6
MNK *i* SS **SS** **21 53 37.9 +4.8**
MNK pmax pmax
comp=N,197nm,1.1s
MNK pmax pmax
comp=E,96nm,1.1s
MNK pmax pmax
comp=Z,250nm,0.9s
MNK MLR MLR
comp=Z,6µm,16.0s
MNK MLR MLR
comp=N,4µm,16.0s
MNK MLR MLR
comp=E,3µm,18.0s
KIP Kipapa 72.76 74 P **P** **21 39 29.5 -1.3**
KIP IAmb IAmb 21 39 33.6
comp=Z,116nm,1.0s
KIP Kipapa 72.76 74 IAMs_20 IAMs_20 22 07 52.7
comp=Z,3µm,20.0s
KIP Kipapa 72.76 74 P **P** **21 39 33.6 +2.8**
KIP Kipapa 72.76 74 P **P** **21 39 29.5 -1.3**
KIP pmax pmax
comp=Z,116nm,1.0s
KIP MLR MLR
comp=Z,3µm,20.0s
HON Honolulu 72.81 74 IAMs_20 IAMs_20 22 07 42.9
comp=Z,3µm,20.0s
I30M Mount Dempster 72.81 26 IAMs_20 IAMs_20 22 12 24.9
comp=Z,4µm,21.0s
I30M Mount Dempster 72.81 26 P **P** **21 39 29.5 -0.9**
baz=291,SNR=226
I30M S **S** **21 48 53.6 -1.0**
baz=291
L29M L29M 72.83 28 IAMs_20 IAMs_20 22 17 22.6
comp=Z,3µm,18.0s
L29M L29M 72.83 28 P **P** **21 39 30.6 0.0**
baz=290,SNR=213
L29M S **S** **21 48 56.2 +1.5**
baz=290
K29M Barlow Dome 72.83 27 IAMs_20 IAMs_20 22 14 05.6
comp=Z,4µm,19.0s
K29M Barlow Dome 72.83 27 P **P** **21 39 30.3 -0.4**
baz=290,SNR=188
K29M S **S** **21 48 55.4 +0.5**
baz=290
PCA Pinnacle 72.89 31 P **P** **21 39 30.4 -0.5**
PCA IAmb IAmb 21 39 33.0
comp=Z,164nm,1.0s
PINM Pinnacle 72.89 31 P **P** **21 39 30.5 -0.5**
baz=289,SNR=35
PINM S **S** **21 48 54.7 -0.8**
baz=289
M29M Somme Creek 72.92 29 IAMs_20 IAMs_20 22 12 53.2
comp=Z,4µm,20.0s
M29M Somme Creek 72.92 29 P **P** **21 39 31.0 -0.2**
baz=290,SNR=127
M29M S **S** **21 48 57.6 +1.7**
baz=290
F31M Tsiigehtchic 72.97 23 IAMs_20 IAMs_20 22 13 03.4
comp=Z,4µm,20.0s
F31M Tsiigehtchic 72.97 23 P **P** **21 39 29.7 -1.5**
baz=293,SNR=102
F31M S **S** **21 48 53.5 -2.5**
baz=293
G31M Satah River 72.98 24 IAMs_20 IAMs_20 22 17 35.4
comp=Z,3µm,18.0s
G31M Satah River 72.98 24 P **P** **21 39 29.5 -1.7**
baz=292,SNR=89
G31M S **S** **21 48 52.1 -4.0**
baz=292
J30M Hart River 73.06 26 IAMs_20 IAMs_20 22 13 29.6
comp=Z,3µm,18.0s
J30M Hart River 73.06 26 P **P** **21 39 31.3 -0.7**
baz=291,SNR=64
J30M S **S** **21 48 56.8 -0.7**
baz=291
IDID Didziasalis 73.11 323 *e*P **P** **21 39 31.4 -0.9**
AKASG Malin Array Be 73.13 318 P **P** **21 39 30.9 -1.5**
AKASG Malin Array Be 73.13 318 P **P** **21 39 32.4 -0.1**
comp=Z,111nm,0.8s,baz=60,slow=6.2,SNR=166
AKASG LR LR 22 15 21.4
comp=Z,5µm,19.0s,baz=91,slow=39
comp=Z,111nm,0.8s
AKASG Malin Array Be 73.13 318 *i* P **P** **21 39 31.3 -1.2**
AKASG pmax pmax
comp=Z,140nm,0.8s
AKBB Malin Array Si 73.13 318 P **P** **21 39 31.1 -1.4**
AKBB IAmb IAmb 21 39 35.9
comp=Z,180nm,0.9s
AKBB Malin Array Si 73.13 318*c**e*P **P** **21 39 31.2 -1.3**
AKBB pmax pmax
comp=Z,137nm,1.0s
AKBB MLR MLR
comp=Z,6µm,15.0s
KIEV Kiev 73.14 318 P **P** **21 39 31.2 -1.3**
KIEV IAmb IAmb 21 39 35.9
comp=Z,162nm,0.9s
KIEV Kiev 73.14 318 ⇓P **P** **21 39 32.2 -0.4**
KIEV Kiev 73.14 318 P **P** **21 39 31.2 -1.3**
KIEV pmax pmax
comp=Z,162nm,0.9s
KIEV MLR MLR
comp=Z,5µm,19.0s
KIEV Kiev 73.14 318 *i* P **P** **21 39 31.9 -0.6**
SNR=53
FKH Fakeheh 73.18 300 *e*P **P** **21 39 33.7 +0.4**
BCPM Bancas Point 73.23 31 IAMs_20 IAMs_20 22 12 41.8
comp=Z,3µm,20.0s
BEIL Beino 73.26 301 *e*P **P** **21 39 33.7 +0.1**
ISAL Salakas 73.36 324 *e*P **P** **21 39 34.2 +0.4**
H31M Peel River 73.38 25 IAMs_20 IAMs_20 22 13 08.3
comp=Z,3µm,18.0s
H31M Peel River 73.38 25 P **P** **21 39 32.3 -1.4**
baz=292,SNR=132
H31M S **S** **21 48 58.4 -2.5**
baz=292
CIDE Kastamonu/Cide 73.40 309 ⇑P **P** **21 39 34.3 +0.1**
PNL Peninsula 73.44 32 P **P** **21 39 35.1 +0.9**
PNL Peninsula 73.44 32 P **P** **21 39 33.8 -0.3**
baz=290,SNR=20
PNL S **S** **21 49 02.1 +0.4**
baz=290
ASF Jabal al Asfar 73.45 298 LR LR 22 17 42.4
comp=Z,3µm,18.1s,baz=106,slow=40
HWQ Hawqa 73.53 301 *e*P **P** **21 39 34.1 -1.2**
KIRS Kirsehir-Merke 73.55 306 ⇓P **P** **21 39 35.8 +0.5**
BR131 Keskin Array S 73.57 307 *e*P **P** **21 39 34.6 -0.9**
BRTR Keskin Array B 73.57 307 P **P** **21 39 35.0 -0.5**
BRTR Keskin Array B 73.57 307 P **P** **21 39 36.6 +1.1**
comp=Z,160nm,0.9s,baz=105,slow=2.8,SNR=192
BRTR LR LR 22 16 52.9
comp=Z,2µm,19.3s,baz=82,slow=40
comp=Z,160nm,0.9s
BRTR Keskin Array B 73.57 307 *i* P **P** **21 39 35.4 -0.1**
BRTR pmax pmax
comp=Z,143nm,0.9s
M30M Minto, Yukon 73.59 28 IAMs_20 IAMs_20 22 12 53.1
comp=Z,3µm,20.0s
M30M Minto, Yukon 73.59 28 P **P** **21 39 34.6 -0.5**
baz=291,SNR=226
M30M S **S** **21 49 04.6 +1.2**
baz=291
MAYO Mayo, Yukon 73.60 27 IAMs_20 IAMs_20 22 17 35.9
comp=Z,4µm,18.0s
MAYO Mayo, Yukon 73.60 27 P **P** **21 39 34.3 -0.7**
baz=292
MAYO S **S** **21 49 03.8 +0.5**
baz=292
O29M Mount Kennedy 73.61 31 IAMs_20 IAMs_20 22 16 34.2
comp=Z,4µm,19.0s
O29M Mount Kennedy 73.61 31 P **P** **21 39 35.1 -0.1**
baz=290,SNR=14
O29M S **S** **21 49 05.3 +1.5**
baz=290
STEI Steigen 73.61 338 *e*P **P** **21 39 35.8 +0.9**
A36M Sachs Harbour 73.66 17 IAMs_20 IAMs_20 22 14 18.2
comp=Z,4µm,20.0s
A36M Sachs Harbour 73.66 17 P **P** **21 39 33.6 -1.6**
baz=299,SNR=19
A36M S **SKiKP** **21 49 00.3 -2.8**
baz=299
RAF Rauma 73.67 330 *e*P **P** **21 39 35.2 -0.3**
FAUS Fauske 73.83 337 *e*P **P** **21 39 37.3 +1.1**
RCY Rachaya 73.87 300 *e*P **P** **21 39 37.7 +0.3**
N30M Aishikik Lake 73.87 29 IAMs_20 IAMs_20 22 13 02.2
comp=Z,4µm,20.0s
N30M Aishikik Lake 73.87 29 P **P** **21 39 36.5 -0.2**
baz=291,SNR=42
N30M S **S** **21 49 07.4 +0.8**
baz=291
BHL Bhannes 73.88 300 *e*P **P** **21 39 36.8 -0.6**
HYT Haines Junctio 73.92 30 P **P** **21 39 36.7 -0.4**
QRWL Qaraoun 73.98 300 *e*P **P** **21 39 38.3 +0.4**
SHBL Chebaa 73.99 300 *e*P **P** **21 39 38.5 +0.4**
DQRL Deir Qamar 74.01 300 *e*P **P** **21 39 38.5 +0.3**
PURM Purcari 74.04 314 ⇑P **P** **21 39 38.5 +0.6**
LOF Lofoten 74.11 338 *e*P **P** **21 39 38.3 +0.5**
ANTO Ankara 74.14 307 P **P** **21 39 38.6 -0.2**
ANTO Ankara 74.14 307 P **P** **21 39 38.8 +0.1**
ANTO Ankara 74.14 307 ⇓P **P** **21 39 39.5 +0.8**
ANTO Ankara 74.14 307 P **P** **21 39 38.6 -0.2**
ANTO pmax pmax
comp=Z,248nm,0.8s
ANTO MLR MLR
comp=Z,2µm,18.0s
P29M Windy Craggy 74.24 31 IAMs_20 IAMs_20 22 13 53.4
comp=Z,3µm,20.0s
P29M Windy Craggy 74.24 31 P **P** **21 39 38.8 -0.1**
baz=291,SNR=25
P29M S **S** **21 49 12.3 +1.6**
baz=291
KHLH Kahului Airpor 74.33 74 IAMs_20 IAMs_20 22 08 05.2
comp=Z,3µm,20.0s
MMAI Mount Meron Ar 74.37 299 P **P** **21 39 41.6 +1.4**
comp=Z,127nm,1.0s,baz=67,slow=7.6,SNR=36
MMAI LR LR 22 18 33.2
comp=Z,7µm,19.0s,baz=70,slow=41
comp=Z,127nm,1.0s
VSVD Vaisvydziai 74.39 325 *e*P **P** **21 39 40.7 +1.0**
P30M Million Dollar 74.42 31 P **P** **21 39 39.7 -0.2**
baz=292
P30M S **S** **21 49 13.4 +0.5**
baz=292
N31M Braeburn, Yuko 74.45 29 IAMs_20 IAMs_20 22 13 31.6
comp=Z,3µm,20.0s
N31M Braeburn, Yuko 74.45 29 P **P** **21 39 39.6 -0.4**
baz=292,SNR=12
N31M S **S** **21 49 14.3 +1.4**
baz=292
BALJ Balqa 74.49 298 P **P** **21 39 41.1 +0.3**
BALJ IAMs_20 IAMs_20 22 18 11.5
comp=Z,4µm,19.0s
SORM Soroca 74.49 316 ⇑P **P** **21 39 40.6 0.0**
SORM Soroca 74.49 316 P **P** **21 39 40.5 0.0**
HLK Haleakala 74.54 74 IAMs_20 IAMs_20 22 08 52.6
comp=Z,4µm,20.0s
PABE Paberze 74.54 324 P **P** **21 39 39.9 -0.7**
PABE Paberze 74.54 324 *e*P **P** **21 39 41.5 +0.9**
KIS Kishinev 74.57 315 *e*P **P** **21 39 40.0 -1.0**
comp=Z,160nm,1.7s
KIS Kishinev 74.57 315 *e*PP PP 21 42 24.0 -3.5
KIS *i* S **S** **21 49 10.0 -4.7**
KIS *e*L L 22 12 25.0
KIS LRM MLR 22 16 39.0
comp=Z,1µm,17.5s
KIS Kishinev 74.57 315*c**e*P **P** **21 39 40.0 -1.0**
KIS *e* 21 42 24.0
KIS *i* S **S** **21 49 10.0 -4.7**
KIS pmax pmax
comp=Z,160nm,1.7s
KIS pmax pmax
comp=Z,1µm,17.5s
MILM Milestii Mici 74.60 315 ⇑*i* P **P** **21 39 39.0 -2.1**
comp=Z,290nm,1.8s
MILM Milestii Mici 74.60 315 *e*PP PP 21 42 25.0 -2.7
MILM *i* S **SKiKP** **21 49 10.0 +4.8**
comp=Z,660nm,4.5s
MILM Milestii Mici 74.60 315 LRM MLR 22 16 23.0
comp=Z,4µm,17.5s
MILM Milestii Mici 74.60 315 ⇑P **P** **21 39 40.9 -0.2**
MILM Milestii Mici 74.60 315*c* *i* P **P** **21 39 39.2 -1.9**
MILM *i* 21 39 43.0
MILM *e* 21 42 25.0
MILM *i* S **SKiKP** **21 49 10.0 +4.8**
MILM *i* PS **PnS** **21 49 44.0 -7.3**
MILM pmax pmax
comp=Z,290nm,1.8s
MILM smax smax
comp=N,660nm,4.5s
MILM MLR MLR
comp=Z,4µm,11.5s
MILM Milestii Mici 74.60 315 *i* PS 21 49 44.0
MILM Milestii Mici 74.60 315 *e*L L 22 12 09.0
MOR8 Moi Rana 74.65 336 *e*P **P** **21 39 40.9 -0.2**
SLIT Slitere, Latvi 74.65 327 *e*P **P** **21 39 40.7 -0.4**
M31M Drury Creek, Y 74.77 28 IAMs_20 IAMs_20 22 13 59.9
comp=Z,3µm,19.0s
M31M Drury Creek, Y 74.77 28 P **P** **21 39 41.4 -0.5**
baz=293,SNR=30
M31M S **S** **21 49 16.8 +0.2**
baz=293
GHAJ Ghor Haditha 74.81 298 P **P** **21 39 42.8 +0.2**
VAGH Vaagaholmen 74.82 337 *e*P **P** **21 39 42.6 +0.6**
RNPP9 Sopachiv 74.89 320 P **P** **21 39 42.1 -0.6**
RNPP5 Staryi Chortor 74.95 320 P **P** **21 39 42.6 -0.5**
KONS Konsvik 74.98 337 *e*P **P** **21 39 44.0 +1.0**
AFI Afiamalu 75.07 113 IAMs_20 IAMs_20 22 08 52.9
comp=Z,4µm,20.0s
STOK Stokkvaagen 75.09 337 *e*P **P** **21 39 44.3 +0.8**
LEIR Leirfjorden 75.16 336 *e*P **P** **21 39 44.8 +0.8**
WHY Whitehorse 75.17 30 P **P** **21 39 44.1 -0.3**
WHY Whitehorse 75.17 30 P **P** **21 39 44.0 -0.3**
baz=293,SNR=51
WHY S **S** **21 49 21.6 +0.3**
baz=293
TLCR 75.18 313 ⇑P **P** **21 39 45.8 +1.2**
TLCR 75.18 313 P **P** **21 39 45.7 +1.2**
SAHE Sakarya_HENDEK 75.22 308 ⇑P **P** **21 39 45.5 +0.6**
JURR Jurilovca 75.28 313 ⇓P **P** **21 39 46.3 +1.2**
HUH Hualalai 75.28 75 IAMs_20 IAMs_20 22 07 55.3
comp=Z,2µm,20.0s
IASR Iasi 75.31 315 ⇓P **P** **21 39 46.2 +1.0**
CSS Mathiatis 75.35 302 P **P** **21 39 45.2 -0.5**
CSS IAMs_20 IAMs_20 22 19 25.1
comp=Z,3µm,21.0s
VASR Vaslui 75.35 315 ⇑P **P** **21 39 46.9 +1.4**
PBUR Paburge 75.42 325 *e*P **P** **21 39 45.5 -0.2**
VLDR Vladesti 75.44 314 ⇑P **P** **21 39 46.9 +0.9**
SKAG Skagway 75.44 31 IAMs_20 IAMs_20 22 16 12.7
comp=Z,3µm,18.0s
SKAG Skagway 75.44 31 P **P** **21 39 46.5 +0.8**
SKAG Skagway 75.44 31 P **P** **21 39 45.6 -0.1**
baz=293,SNR=18
SKAG S **S** **21 49 25.1 +1.1**
baz=293
ATD Arta Tunnel 75.48 276 P **P** **21 39 45.9 -0.9**
ATD Arta Tunnel 75.48 276 LR LR 22 12 12.4
comp=Z,112nm,21.6s,baz=70,slow=35
SUW Suwalki 75.50 323 *e*P **P** **21 39 45.6 -0.6**
SUW *e*S **S** **21 49 20.1 -4.8**
SUW *e*L L 22 15 36.2
comp=Z,8µm,17.5s
SUW Suwalki 75.50 323 P **P** **21 39 45.2 -1.0**
SUW Suwalki 75.50 323 P **P** **21 39 45.2 -1.0**
SUW MLR MLR
comp=Z,7µm,19.0s
SUW Suwalki 75.50 323 *e*P **P** **21 39 46.3 +0.1**
POHA Pohakuloa 75.52 75 IAMs_20 IAMs_20 22 08 13.7
comp=Z,3µm,21.0s
POHA Pohakuloa 75.52 75 P **P** **21 39 50.8 +3.6**
KMPD K-Podol'skiy 75.53 317 P **P** **21 39 45.0 -1.5**
TATR Tatarca 75.54 314 ⇑P **P** **21 39 47.4 +0.8**
TPGR Topolog 75.55 313 ⇓P **P** **21 39 47.1 +0.4**
SCTR Scanteiesti 75.55 314 ⇑P **P** **21 39 48.2 +1.5**
MWH Mokuaweoweo 75.56 75 IAMs_20 IAMs_20 22 08 02.8
comp=Z,3µm,20.0s
S31K Pelican 75.60 33 IAMs_20 IAMs_20 22 17 45.0
comp=Z,3µm,20.0s
S31K Pelican 75.60 33 P **P** **21 39 46.3 -0.4**
baz=293,SNR=6.3
S31K S **S** **21 49 27.1 +1.4**
baz=293
HMH Humu'ula Sheep 75.62 75 P **P** **21 39 47.4 -0.5**
HMH IAmb IAmb 21 39 51.0
comp=Z,154nm,1.1s
HMH IAMs_20 IAMs_20 22 06 03.3
comp=Z,3µm,22.0s
CFR Carcaliu 75.63 313 ⇑P **P** **21 39 47.6 +0.4**
CFR Carcaliu 75.63 313 P **P** **21 39 47.5 +0.4**
R31K City Hall, Gus 75.66 32 P **P** **21 39 46.7 -0.3**
baz=293
EFOR EFORIE 75.68 312 ⇓P **P** **21 39 49.0 +1.6**
NEGRR Negrea 75.68 314 ⇓P **P** **21 39 48.7 +1.3**
TIRR Tirgusor 75.69 312 P **P** **21 39 47.1 -0.4**
TIRR IAmb IAmb 21 39 51.9
comp=Z,105nm,0.8s
TIRR IAMs_20 IAMs_20 22 16 57.5
comp=Z,4µm,20.0s
TIRR Tirgusor 75.69 312 ⇑P **P** **21 39 48.4 +1.0**
TIRR Tirgusor 75.69 312 P **P** **21 39 47.1 -0.4**
TIRR pmax pmax
comp=Z,105nm,0.8s
TIRR MLR MLR
comp=Z,4µm,20.0s
AIN Ainahou 75.73 75 IAMs_20 IAMs_20 22 08 18.1
comp=Z,3µm,21.0s
MLH Mauna Loa 75.75 75 P **P** **21 39 47.2 -1.4**
MLH IAmb IAmb 21 39 51.5
comp=Z,154nm,1.0s
MLH IAMs_20 IAMs_20 22 06 17.6
comp=Z,3µm,22.0s
IZVR Izvoarele 75.75 314 ⇑P **P** **21 39 49.1 +1.4**
N32M Quiet Lake 75.77 29 IAMs_20 IAMs_20 22 14 21.1
comp=Z,3µm,20.0s
N32M Quiet Lake 75.77 29 P **P** **21 39 47.0 -0.7**
baz=295
N32M S **S** **21 49 27.2 -0.5**
baz=295
MFTR Murfatlar 75.78 312 ⇑P **P** **21 39 49.2 +1.2**
TUDR 75.80 314 ⇓P **P** **21 39 49.0 +1.0**
MANR Mangalia 75.80 312 ⇓P **P** **21 39 48.6 +0.5**
GHRR 75.80 314 ⇑P **P** **21 39 49.0 +0.9**
UWE Uwekahuna 75.85 75 IAMs_20 IAMs_20 22 08 32.5
comp=Z,2µm,20.0s
HLP Hilina Pali 75.89 75 IAMs_20 IAMs_20 22 05 56.3
comp=Z,3µm,22.0s
TLBR Topalu 75.91 313 ⇓P **P** **21 39 50.3 +1.5**
MMPY Sheldon Lake, 75.92 27 P **P** **21 39 48.1 -0.5**
MMPY Sheldon Lake, 75.92 27 P **P** **21 39 48.1 -0.5**
baz=296,SNR=68
MMPY S **S** **21 49 28.6 -0.8**
baz=296
HARR Harsova 75.94 313 ⇓P **P** **21 39 50.4 +1.6**
HARR Harsova 75.94 313 P **P** **21 39 50.4 +1.6**
PUH Pauahi 75.94 75 IAMs_20 IAMs_20 22 08 33.7
comp=Z,2µm,20.0s
STCH Steam Cracks 76.01 75 IAMs_20 IAMs_20 22 09 43.7
comp=Z,2µm,21.0s
BESE Bessie Mountai 76.02 32 IAMs_20 IAMs_20 22 16 49.6
comp=Z,4µm,19.0s
UPP Uppsala 76.02 330 *e*P **P** **21 39 49.3 +0.2**
PANC Panciu 76.04 314 ⇑P **P** **21 39 50.3 +0.8**
JOKA Jonika Flow 76.10 75 P **P** **21 39 49.6 -0.7**
JOKA IAmb IAmb 21 39 53.0
comp=Z,204nm,1.1s
JOKA IAMs_20 IAMs_20 22 08 16.1
comp=Z,3µm,21.0s
PRAR RASCA 76.10 316 ⇑P **P** **21 39 50.6 +0.8**
TESR Tescani 76.14 315 ⇓P **P** **21 39 50.0 0.0**
ODBI Odobesti 76.14 314 ⇓P **P** **21 39 51.7 +1.7**
P32M Atlin 76.14 31 IAMs_20 IAMs_20 22 14 26.2
comp=Z,4µm,20.0s
P32M Atlin 76.14 31 P **P** **21 39 49.6 -0.2**
baz=295,SNR=23
P32M S **S** **21 49 33.2 +1.4**
baz=295
PSN Preselentsi 76.17 312 P **P** **21 39 50.2 0.0**
DAG Danmarks Havn 76.21 351 *i* P **P** **21 39 48.0 -1.8**
DAG IAmb IAmb 21 39 52.7
comp=Z,64nm,0.9s
ICOR Ion Corvin 76.22 312 ⇓P **P** **21 39 51.4 +0.8**
P33M Teslin, Yukon 76.29 30 IAMs_20 IAMs_20 22 14 19.4
comp=Z,2µm,20.0s
P33M Teslin, Yukon 76.29 30 P **P** **21 39 50.4 -0.3**
baz=295,SNR=41
P33M S **S** **21 49 33.8 +0.2**
baz=295
R32K Eaglecrest 76.31 32 IAMs_20 IAMs_20 22 16 58.0
comp=Z,3µm,19.0s
R32K Eaglecrest 76.31 32 P **P** **21 39 50.7 -0.1**
baz=294,SNR=18
VRI Vrincioaia 76.32 314 ⇓P **P** **21 39 51.8 +0.8**
VRI Vrincioaia 76.32 314 P **P** **21 39 51.8 +0.8**
NSS Namsos 76.32 335 *e*P **P** **21 39 51.2 +0.6**
AMRR Amara 76.36 313 ⇑P **P** **21 39 51.9 +0.6**
AMRR Amara 76.36 313 P **P** **21 39 51.9 +0.6**
ONER Baraj Valea Uz 76.36 315 ⇓P **P** **21 39 51.8 +0.5**
JIS Juneau Island 76.37 32 P **P** **21 39 54.6 +3.6**
PLOR Plostina 76.37 314 ⇓P **P** **21 39 52.3 +0.8**
PLOR Plostina 76.37 314 P **P** **21 39 52.2 +0.8**
KLYT Kilyos 76.37 309 ⇑P **P** **21 39 52.6 +1.2**
SIT Sitka 76.41 33 IAMs_20 IAMs_20 22 19 11.4
comp=Z,2µm,20.0s
SIT Sitka 76.41 33 P **P** **21 39 53.7 +2.4**
SIT Sitka 76.41 33 P **P** **21 39 50.9 -0.4**
baz=294,SNR=9.3
SIT S **S** **21 49 36.7 +2.0**
baz=294
BISRR Bisoca 76.44 314 ⇓P **P** **21 39 52.7 +0.9**
PGOR Pogoanele 76.49 313 ⇑P **P** **21 39 53.5 +1.5**
ISP Isparta 76.50 305 P **P** **21 39 51.4 -1.0**
ISP IAMs_20 IAMs_20 22 18 56.4
comp=Z,3µm,21.0s
ISP Isparta 76.50 305 P **P** **21 39 51.4 -1.0**
ISP pmax pmax
comp=Z,302nm,0.8s
ISP MLR MLR
comp=Z,3µm,21.0s
ISP Isparta 76.50 305 *e*P **P** **21 39 52.0 -0.3**
S32K Killisnoo 76.61 33 IAMs_20 IAMs_20 22 16 25.7
comp=Z,3µm,19.0s
S32K Killisnoo 76.61 33 P **P** **21 39 52.2 -0.3**
baz=294,SNR=14
BUR08 Bucovina Ar. S 76.65 316 P **P** **21 39 52.4 -0.6**
BUR08 IAmb IAmb 21 39 58.2
comp=Z,107nm,1.1s
BURAR Bucovina Array 76.65 316 P **P** **21 39 52.2 -0.8**
BURAR IAmb IAmb 21 39 58.5
comp=Z,88nm,0.9s
BURAR Bucovina Array 76.65 316 ⇓P **P** **21 39 53.2 +0.2**
BURAR Bucovina Array 76.65 316 P **P** **21 39 53.2 +0.2**
ISR Istrita 76.71 314 ⇓P **P** **21 39 54.7 +1.4**
ISR Istrita 76.71 314 P **P** **21 39 54.7 +1.4**
TURR Turia 76.71 315 ⇓P **P** **21 39 54.2 +0.8**
LEHL Lehliu 76.75 313 ⇑P **P** **21 39 54.3 +0.8**
NEHR Nehoiu 76.76 314 ⇓P **P** **21 39 54.7 +1.1**
CTYL Yalikoy Yolu 76.83 310 ⇓P **P** **21 39 54.6 +0.7**
PRD Provadia 76.83 311 P **P** **21 39 54.3 +0.3**
OZUR 76.84 315 ⇑P **P** **21 39 54.6 +0.5**
NEF NEVSHA 76.88 312 P **P** **21 39 54.3 0.0**
OUZ Omahuta 76.90 139 IAMs_20 IAMs_20 22 08 44.4
comp=Z,3µm,22.0s
MLR Muntele Rosu 76.96 314 P **P** **21 39 54.4 -0.5**
MLR IAmb IAmb 21 40 00.1

comp=Z,120nm,0.9s
MLR IAMs_20 IAMs_20 22 19 11.0
comp=Z,4µm,21.0s
MLR Muntele Rosu 76.96 314 LR LR 22 18 01.6
comp=Z,4µm,20.1s,baz=62,slow=39
MLR Muntele Rosu 76.96 314 ⇓P P **21 39 55.3 +0.4**
MLR Muntele Rosu 76.96 314 P P **21 39 54.4 -0.5**
MLR pmax pmax
comp=Z,120nm,0.9s
MLR MLR MLR
comp=Z,4µm,21.0s
SULR 77.06 313 ⇓P P **21 39 56.2 +1.0**
Q32M Nakina River 77.08 31 IAMs_20 IAMs_20 22 20 24.1
comp=Z,3µm,18.0s
Q32M Nakina River 77.08 31 P P **21 39 55.2 -0.1**
baz=296,SNR=26
Q32M S S **21 49 43.8 +1.3**
baz=296
DOPR Dopca 77.15 315 ⇓P P **21 39 56.6 +0.8**
RAZG Razgrad 77.30 312 ⇑P P **21 39 57.2 +0.6**
PHSR Pinarhisar 77.30 310 ⇓P P **21 39 57.9 +1.2**
LOZB Loznitsa 77.31 312 ⇓P P **21 39 57.2 +0.5**
R9F13 Warsaw-Wawer 77.32 322 *e*P P **21 39 55.8 -0.8**
comp=Z,3.0nm,0.7s
R9F13 *e*PP PP **21 42 50.1 -0.4**
R9F13 *e*S S **21 49 46.5 +1.6**
BAND Balkesir-Ban 77.36 309 ⇑P P **21 39 56.9 -0.2**
ARCR ARCALIA 77.39 316 ⇑P P **21 39 57.9 +0.8**
SGRR Singureni 77.41 313 ⇑P P **21 39 58.3 +1.1**
KWP Kalwaria Pacla 77.43 319 *e*P P **21 39 57.1 -0.1**
KWP *e*S S **21 49 44.0 -2.2**
KWP *e*L L 22 17 48.4
comp=Z,5µm,18.8s
R33M Jennings River 77.49 30 IAMs_20 IAMs_20 22 15 17.8
comp=Z,4µm,20.0s
R33M Jennings River 77.49 30 P P **21 39 57.0 -0.6**
baz=297,SNR=66
R33M S S **21 49 47.7 +1.0**
baz=297
TGMR Targu Mures 77.50 315 ⇓P P **21 39 58.7 +1.0**
VOIR 77.57 314 ⇑P P **21 39 59.0 +0.7**
VOIR 77.57 314 P P **21 39 58.9 +0.7**
MTUR Matau 77.64 314 ⇑P P **21 40 00.2 +1.5**
MTUR Matau 77.64 314 P P **21 40 00.1 +1.5**
HFS Hagfors 77.67 331 P P **21 39 58.7 +0.3**
comp=Z,49nm,0.7s,baz=75,slow=6.3,SNR=105
HFS PP PP **21 42 54.3 +1.1**
comp=Z,18nm,0.8s,baz=81,slow=9.6,SNR=5.5
HFS LR LR 22 16 48.8
comp=Z,11µm,19.3s,baz=62,slow=38
comp=Z,49nm,0.7s
HFS Hagfors 77.67 331 P P **21 39 58.7 +0.3**
TGTN Hyland Airport 77.67 27 P P **21 39 58.0 -0.5**
baz=299,SNR=27
TGTN S S **21 49 45.7 -2.8**
baz=299
BEL Belsk 77.68 321 *e*P P **21 39 58.6 0.0**
BEL *e*S S **21 49 48.1 -0.6**
BEL *e*L L 22 17 35.6
comp=Z,128µm,17.8s
BMR Baia Mare 77.71 317 ⇓P P **21 39 58.9 0.0**
BMR Baia Mare 77.71 317 P P **21 39 58.8 0.0**
SZH Strazhitsa 77.77 312 P P **21 39 59.1 -0.2**
ARR Arges 77.87 314 ⇓P P **21 40 00.1 +0.3**
U33K Whale Pass 77.91 34 IAMs_20 IAMs_20 22 19 09.2
comp=Z,2µm,18.0s
U33K Whale Pass 77.91 34 P P **21 39 59.3 -0.4**
baz=296,SNR=12
U33K S S **21 49 50.7 -0.4**
baz=296
COPA Copaceanca 77.95 313 ⇑P P **21 39 60.0 -0.2**
HUMR Humele 77.96 313 ⇓P P **21 40 01.5 +1.2**
ELND Elena 77.96 312 ⇓P P **21 40 00.8 +0.5**
KOLS Kolonicke sedl 77.97 318 *e*P P **21 40 02.3 +2.0**
KOLS pmax pmax
comp=Z,27nm,0.7s
KOLS Kolonicke sedl 77.97 318 *e*P P **21 40 02.3 +2.0**
KOLS *e*PP PP **21 42 58.5 +2.5**
TNR Turnu Rosu 77.99 315 ⇑P P **21 40 00.9 +0.3**
TNR Turnu Rosu 77.99 315 P P **21 40 00.8 +0.3**
CJR Cluj-Napoca 78.02 316 ⇑P P **21 40 01.3 +0.6**
CJR Cluj-Napoca 78.02 316 P P **21 40 01.2 +0.6**
CBBR Cluj-Babes-Bol 78.02 316 ⇓P P **21 40 01.6 +1.0**
UZHM Uzhgorod 78.08 318 P P **21 40 00.3 -0.5**
S34M Telegraph Cree 78.08 31 IAMs_20 IAMs_20 22 21 19.7
comp=Z,3µm,18.0s
S34M Telegraph Cree 78.08 31 P P **21 40 00.5 -0.2**
baz=297,SNR=38
S34M S S **21 49 53.8 +0.9**
baz=297
WTLY Watson Lake, Y 78.13 29 IAMs_20 IAMs_20 22 16 14.6
comp=Z,3µm,19.0s
WTLY Watson Lake, Y 78.13 29 P P **21 40 00.2 -0.8**
baz=298
WTLY S S **21 49 52.9 -0.5**
baz=298
NC303 NORSAR Array S 78.16 332 P P **21 40 00.7 -0.4**
NC303 IAmb IAmb 21 40 04.5
comp=Z,136nm,1.1s
WRAK Wrangell Islan 78.17 33 P P **21 40 00.5 -0.6**
baz=296
WRAK S S **21 49 55.1 +1.3**
baz=296
CRAG Craig 78.19 34 P P **21 40 04.2 +2.9**
CRAG Craig 78.19 34 P P **21 40 00.9 -0.4**
baz=296,SNR=7.6
CRAG S S **21 49 55.0 +0.9**
baz=296
NEEM North Greenlan 78.24 358 *i* P P **21 40 01.9 +0.2**
NEEM IAmb IAmb 21 40 05.5
comp=Z,249nm,1.0s
MESR Meseseni 78.25 316 ⇓P P **21 40 02.8 +0.9**
RES Resolute Bay 78.29 9 P P **21 40 00.5 -1.0**
RES Resolute Bay 78.29 9 P P **21 40 00.5 -1.0**
comp=Z,47nm,1.1s,baz=315,slow=6.3,SNR=19
comp=Z,47nm,1.1s
RES Resolute Bay 78.29 9 P P **21 40 00.5 -1.0**
NB2 NORSAR Subarra 78.31 332 P P **21 40 01.3 -0.7**
comp=Z,107nm,1.0s,baz=60,slow=5.6
NB2 NORSAR Subarra 78.31 332 P P **21 40 01.3 -0.7**
baz=60,slow=5.6
NOA NORSAR Array B 78.31 332 P P **21 40 01.8 -0.2**
comp=Z,54nm,0.8s,baz=58,slow=5.6,SNR=270
NOA PP PP **21 42 58.4 -0.3**
comp=Z,9.9nm,1.1s,baz=58,slow=8.1,SNR=3.6
NOA LR LR 22 17 56.3
comp=Z,12µm,18.9s,baz=55,slow=38
comp=Z,54nm,0.8s
NOA NORSAR Array B 78.31 332 P P **21 40 01.8 -0.2**
NC602 NORSAR Array S 78.32 332 *e*P P **21 40 02.2 +0.2**
MARR Marisel-Cluj 78.33 316 ⇓P P **21 40 03.2 +0.8**
DLBC Dease Lake 78.36 31 P P **21 40 02.4 0.0**
comp=Z,4.1nm,1.1s,baz=286,slow=4.8,SNR=38
DLBC LR LR 22 15 48.3
comp=Z,232nm,20.4s,baz=302,slow=37
DLBC Dease Lake 78.36 31 P P **21 40 02.5 +0.1**
baz=298,SNR=61
DLBC S S **21 49 58.1 +2.0**
baz=298
STHS Stebnicka Huta 78.39 319 *e*P P **21 40 03.6 +1.0**
STHS pmax pmax
comp=Z,27nm,1.0s
STHS Stebnicka Huta 78.39 319 *e*P P **21 40 03.6 +1.0**
STHS *e*PP PP **21 43 03.1 +3.5**
LOT Lotru 78.40 315 ⇓P P **21 40 03.2 +0.4**
DBG Daneborg 78.45 350 *i* P P **21 40 02.9 +0.4**
DBG IAmb IAmb 21 40 05.7
comp=Z,50nm,0.9s
DIM Dimitrovgrad 78.50 311 P P **21 40 03.8 +0.5**
VLAD Vladila 78.54 313 ⇑P P **21 40 04.5 +1.0**
DRGR 78.55 316 ⇓P P **21 40 04.0 +0.4**
DRGR 78.55 316 P P **21 40 03.9 +0.4**
CAVK Edirne/Enez-Ca 78.60 309 ⇑P P **21 40 03.8 -0.2**
ALN Alexandroupoli 78.61 310 P P **21 40 03.2 -0.8**
ALN IAmb IAmb 21 40 05.9
comp=Z,113nm,1.1s
ALN Alexandroupoli 78.61 310 P P **21 40 03.2 -0.8**
PLVB Pleven 78.64 312 ⇓P P **21 40 04.5 +0.5**
RAO Raoul Island 78.67 129 LR LR 22 09 06.5
comp=Z,1µm,21.5s,baz=336,slow=31
JNW Jan Mayen West 78.70 345 *e*P P **21 40 05.6 +1.7**
WRGLY Wrigley 78.74 25 P P **21 40 03.8 -0.4**
WRGLY IAmb IAmb 21 40 08.3
comp=Z,61nm,0.9s
WRGLY IAMs_20 IAMs_20 22 20 51.7
comp=Z,3µm,18.0s
WRGLY Wrigley 78.74 25 P P **21 40 03.5 -0.8**
baz=302
WRGLY S S **21 49 56.8 -2.9**
baz=302
JMIC Jan Mayen 78.75 345 LR LR 22 18 56.7
comp=Z,2µm,18.4s,baz=43,slow=39
EZN Ezine 78.82 309 ⇓P P **21 40 05.0 -0.1**
EZN Ezine 78.82 309 P P **21 40 05.0 -0.1**
KDZ Kurdzhali 78.82 311 P P **21 40 04.5 -0.6**
RDO Rodhopi 78.87 310 P P **21 40 04.9 -0.5**
RDO IAmb IAmb 21 40 07.3
comp=Z,120nm,1.1s
OJC Ojcow 78.91 320 *e*P P **21 40 04.7 -0.7**
OJC *e*S S **21 50 00.2 -1.9**
OJC *e*L L 22 17 49.3
comp=Z,6µm,17.3s
OJC Ojcow 78.91 320 P P **21 40 04.7 -0.7**
OJC Ojcow 78.91 320 P P **21 40 04.7 -0.7**
T35M Bob Quinn 78.94 32 IAMs_20 IAMs_20 22 18 45.3
comp=Z,2µm,19.0s
T35M Bob Quinn 78.94 32 P P **21 40 05.3 -0.2**
baz=298,SNR=18
T35M S S **21 50 03.5 +1.3**
baz=298
NIE Niedzica 78.95 319 *e*P P **21 40 06.1 +0.4**
NIE *e*S S **21 49 59.8 -2.8**
NIE *e*L L 22 20 01.9
comp=Z,3µm,18.1s
BORR Bors 79.01 317 ⇑P P **21 40 06.5 +0.5**
MOL Molde 79.02 335 *e*P P **21 40 07.2 +1.5**
TULEG Thule 79.02 3 P P **21 40 04.5 -1.1**
TULEG IAmb IAmb 21 40 14.8
comp=Z,109nm,1.5s
TULEG IAMs_20 IAMs_20 22 19 37.5
comp=Z,4µm,19.0s
TULEG Thule 79.02 3 *e*P P **21 40 03.6 -2.0**
TULEG IAmb IAmb 21 40 09.4
comp=Z,47nm,1.0s
V35K Ketchikan 79.03 34 P P **21 40 05.6 -0.3**
V35K IAMs_20 IAMs_20 22 17 47.7
comp=Z,2µm,19.0s
V35K Ketchikan 79.03 34 P P **21 40 04.8 -1.1**
baz=297
V35K S S **21 50 03.2 +0.2**
baz=297
GKP Gorka Klasztor 79.04 324 *e*P P **21 40 05.7 -0.4**
GKP *e*S S **21 49 54.5 -8.7**
GKP *e*L L 22 18 39.4
comp=Z,9µm,17.4s
GKP Gorka Klasztor 79.04 324 *e*P P **21 40 06.1 +0.1**
GZR Gura Zlata 79.06 315 ⇑P P **21 40 06.4 0.0**
GZR Gura Zlata 79.06 315 P P **21 40 06.4 0.0**
OSL Oslo 79.07 331 *e*P P **21 40 07.3 +1.3**
SRE Strehaia 79.07 314 ⇑P P **21 40 07.8 +1.3**
SRE Strehaia 79.07 314 P P **21 40 07.7 +1.3**
KUZ Kuaotunu 79.20 139 P P **21 40 11.0 +4.0**
RZN Rozhen 79.21 311 P P **21 40 07.6 +0.1**
MPEP Malo Peshtene 79.24 313 P P **21 40 07.6 +0.2**
STRU Stroemstad 79.32 331 *e*P P **21 40 08.5 +1.0**
SURR Surduc 79.33 315 ⇑P P **21 40 07.8 0.0**
SIRR Siria 79.42 316 ⇑P P **21 40 08.5 +0.2**
BSD Bornholm Skovb 79.42 326 *e*P P **21 40 07.9 -0.2**
BSD Bornholm Skovb 79.42 326 *i* P P **21 40 07.7 -0.4**
BSD IAmb IAmb 21 40 10.1
comp=Z,51nm,1.0s
HERR Herculane 79.50 315 ⇓P P **21 40 09.0 +0.3**
DJES Djerdap 79.52 314 ⇓P P **21 40 09.5 +0.6**
U35K Hyder 79.55 33 IAMs_20 IAMs_20 22 21 34.5
comp=Z,2µm,19.0s
U35K Hyder 79.55 33 P P **21 40 08.0 -0.8**
baz=298
U35K S S **21 50 07.4 -1.1**
baz=298
LANS Liptovska Anna 79.56 319 *e*P P **21 40 10.8 +1.7**
LANS pmax pmax
comp=Z,15nm,0.8s
LANS Liptovska Anna 79.56 319 *e*P P **21 40 10.8 +1.7**
LIRD Liard River Hi 79.66 29 P P **21 40 08.7 -0.7**
baz=301
LIRD S S **21 50 08.3 -1.5**
baz=301
KONO Kongsberg 79.71 331 P P **21 40 09.0 -0.6**
KONO Kongsberg 79.71 331 P P **21 40 09.0 -0.6**
KONO pmax pmax
comp=Z,42nm,1.2s
KONO MLR MLR
comp=Z,13µm,18.0s
KONO Kongsberg 79.71 331 *e*P P **21 40 10.2 +0.6**
BZS Buzias 79.72 315 ⇓P P **21 40 09.7 -0.2**
BZS Buzias 79.72 315 P P **21 40 09.7 -0.2**
SKAR Skarslia 79.72 333 *e*P P **21 40 11.3 +1.6**
TOZ Tahuroa Road 79.72 140 IAMs_20 IAMs_20 22 11 30.1
comp=Z,3µm,21.0s
PLNA Plana 79.80 312 P P **21 40 10.9 +0.3**
PSZ Piszkesteto 79.83 318 P P **21 40 09.7 -0.9**
PSZ IAmb IAmb 21 40 15.2
comp=Z,90nm,1.1s
PSZ Piszkesteto 79.83 318 ⇑P P **21 40 10.5 -0.1**
PSZ Piszkesteto 79.83 318 P P **21 40 09.7 -0.9**
PSZ pmax pmax
comp=Z,90nm,1.1s
PSZ Piszkesteto 79.83 318 *e*P P **21 40 10.3 -0.3**
MOBC Moresby Island 79.84 36 P P **21 40 10.2 -0.3**
KARP Karpathos 79.85 304 P P **21 40 10.3 -0.5**
KARP Karpathos 79.85 304 *e*P P **21 40 11.5 +0.6**
BSZH Besenyszg 79.86 317 ⇓P P **21 40 10.6 -0.1**
HIZ Hauiti 79.87 141 IAMs_20 IAMs_20 22 10 26.9
comp=Z,3µm,22.0s
VTS Vitosha 79.87 312 P P **21 40 10.9 -0.1**
RAC Raciborz 79.91 321 *e*P P **21 40 10.8 0.0**
RAC AMS AMS 22 19 17.0
comp=Z,8.0nm,17.5s
RAC Raciborz 79.91 321 *e*P P **21 40 10.8 0.0**
RAC MLR MLR
comp=Z,8µm,17.5s
KHEZ Kahui Hut 79.92 142 P P **21 40 14.1 +3.1**
MDVR Moldovita 80.00 315 ⇑P P **21 40 11.4 -0.1**
OKC Ostrava-Krasne 80.04 320 *e*P P **21 40 13.2 +1.6**
OKC MLR MLR
comp=Z,5µm,14.6s
OKC Ostrava-Krasne 80.04 320 *e*P P **21 40 13.2 +1.6**
OKC AMS AMS 22 19 20.0
comp=Z,5µm,14.6s
QRZ Quartz Range 80.15 143 P P **21 40 11.4 -0.8**
KOTAN Kotaneelee Air 80.17 28 P P **21 40 11.2 -0.9**
baz=302
KOTAN S S **21 50 13.5 -1.5**
baz=302
TRAN Tran 80.18 313 P P **21 40 09.4 -3.1**
STEB Steborice 80.21 321 *e*P P **21 40 13.4 +0.9**
FURI Furi 80.28 275 P P **21 40 12.9 -1.0**
FURI Furi 80.28 275 IAMs_20 IAMs_20 22 18 00.2
comp=Z,2µm,20.0s
HYA Hoyanger 80.33 334 *e*P P **21 40 14.1 +1.2**
TOAD Toad River Com 80.33 29 P P **21 40 12.1 -1.0**
baz=302
TOAD S S **21 50 15.2 -1.7**
baz=302
COP Copenhagen 80.39 327 *i* P P **21 40 14.4 +1.1**
COP IAmb IAmb 21 40 15.4
comp=Z,101nm,0.8s
DSZ Denniston Nort 80.41 145 IAMs_20 IAMs_20 22 12 02.1
comp=Z,3µm,22.0s
MORC Moravsky Berou 80.42 320 P P **21 40 13.3 -0.4**
MORC IAmb IAmb 21 40 32.2
comp=Z,154nm,1.7s
MORC Moravsky Berou 80.42 320 *e*P P **21 40 12.9 -0.8**
MORC Moravsky Berou 80.42 320 *e*S S **21 50 15.7 -2.4**
MORC Moravsky Berou 80.42 320 ⇓P P **21 40 14.0 +0.3**
MORC Moravsky Berou 80.42 320 P P **21 40 13.3 -0.4**
MORC pmax pmax
comp=Z,154nm,1.7s
MORC MLR MLR
comp=Z,5µm,18.0s
MAUC Maruska 80.44 320 *e*P P **21 40 15.4 +1.6**
MAUC *e*S S **21 50 16.2 -2.1**
BOVS Bovan 80.48 314 ⇑P P **21 40 13.9 -0.1**
TKNZ Takaka Hill 80.53 143 P P **21 40 13.4 -0.8**
FOO Floro 80.54 334 *e*P P **21 40 15.1 +1.2**
XMAS Kiritimati 80.61 92 IAMs_20 IAMs_20 22 11 36.3
comp=Z,3µm,21.0s
XMAS Kiritimati 80.61 92 P P **21 40 19.3 +4.0**
KSP Ksiaz 80.65 322 *e*P P **21 40 14.6 -0.2**
KSP *e*S S **21 50 22.0 +1.6**
KSP *e*L L 22 19 14.1
comp=Z,6µm,20.4s
KRLC Kraliky 80.72 321 *e*P P **21 40 16.1 +0.8**
KRLC *e*S S **21 50 17.5 -3.8**
KRLC MLR MLR
comp=Z,5µm,16.9s
KRLC Kraliky 80.72 321 *e*P P **21 40 16.1 +0.8**
KRLC *e*S S **21 50 17.5 -3.8**
KRLC AMS AMS 22 19 30.0
comp=Z,5µm,16.9s
JAVC Velka Javorina 80.75 320 *e*P P **21 40 15.9 +0.4**
JAVC Velka Javorina 80.75 320 *e*S S **21 50 20.8 -0.9**
OSTC Ostas 80.83 322 *e*P P **21 40 17.0 +1.2**
OSTC *e*S S **21 50 19.3 -3.0**
OSTC MLR MLR
comp=Z,5µm,20.9s
OSTC Ostas 80.83 322 *e*P P **21 40 17.0 +1.2**
OSTC *e*S S **21 50 19.3 -3.0**
OSTC AMS AMS 22 19 10.0
comp=Z,5µm,20.9s
DCZ Deep Cove 80.83 150 IAMs_20 IAMs_20 22 14 03.1
comp=Z,2µm,18.0s
SRO Srobarova 80.83 318 *e*P P **21 40 18.9 +3.0**
SRO pmax pmax
comp=Z,15nm,0.8s
SRO Srobarova 80.83 318 *e*P P **21 40 18.9 +3.0**
ODD1 Odda 80.84 333 *e*P P **21 40 16.9 +1.2**
VAY Valandovo 80.85 311 *i* P P **21 40 15.8 -0.3**
DPC Dobruska-Polom 80.86 321 *e*P P **21 40 17.3 +1.2**
DPC *e*S S **21 50 19.7 -3.0**
DPC MLR MLR
comp=Z,4µm,15.7s
DPC Dobruska-Polom 80.86 321 *e*P P **21 40 17.3 +1.2**
DPC *e*S S **21 50 19.7 -3.0**
DPC AMS AMS 22 19 30.0
comp=Z,4µm,15.7s
CHVC Chvalec 80.90 322 *e*P P **21 40 17.3 +1.0**
CHVC MLR MLR
comp=Z,5µm,19.5s
CHVC Chvalec 80.90 322 *e*P P **21 40 17.3 +1.0**
CHVC AMS AMS 22 19 20.0
comp=Z,5µm,19.5s
SUE Sulen 80.96 334 *e*P P **21 40 17.7 +1.5**
UPC Upice 80.96 322 *e*P P **21 40 17.8 +1.2**
UPC *e*S S **21 50 21.0 -2.7**
UPC MLR MLR
comp=Z,5µm,20.3s
UPC Upice 80.96 322 *e*P P **21 40 17.8 +1.2**
UPC *e*S S **21 50 21.0 -2.7**
UPC AMS AMS 22 19 20.0
comp=Z,5µm,20.3s
URZ Urewera 81.03 139 LR LR 22 15 40.2
comp=Z,2µm,19.2s,baz=310,slow=35
BER Bergen 81.11 333 *e*P P **21 40 18.5 +1.4**
ASK Askoy 81.11 333 *e*P P **21 40 18.2 +1.1**
VRAC Vranov 81.18 320 LR LR 22 20 18.1
comp=Z,6µm,18.1s,baz=53,slow=39
VRAC Vranov 81.18 320 *e*P P **21 40 17.6 -0.1**
VRAC Vranov 81.18 320 *e*S S **21 50 22.8 -3.3**
VRAC Vranov 81.18 320 ⇑P P **21 40 17.8 +0.1**
VRAC Vranov 81.18 320 P P **21 40 17.8 +0.1**
RTZ Ruatahuna 81.18 139 IAMs_20 IAMs_20 22 12 44.7
comp=Z,3µm,22.0s
BLS5 Blasjo 81.18 332 *e*P P **21 40 19.0 +1.5**
MLZ Mavora Lakes 81.20 149 IAMs_20 IAMs_20 22 15 25.1
comp=Z,3µm,21.0s
MODS Modra-Piesok 81.20 319 *e*P P **21 40 15.6 -2.3**
MODS pmax pmax
comp=Z,201nm,1.8s
MODS Modra-Piesok 81.20 319 *e*P P **21 40 15.6 -2.3**
MODS *e*PP PP **21 43 23.4 +0.4**
KULLO Kullorsuaq 81.21 360 *i* P P **21 40 17.3 -0.1**
KULLO IAmb IAmb 21 40 19.7
comp=Z,68nm,1.0s
WKZ Wanaka 81.23 148 IAMs_20 IAMs_20 22 17 22.8
comp=Z,2µm,19.0s
BKZ Black Stump Fm 81.26 140 IAMs_20 IAMs_20 22 12 35.7
comp=Z,3µm,22.0s
BKZ Black Stump Fm 81.26 140 P P **21 40 19.6 +1.4**
RUE Ruedersdorf 81.26 324 *e*P P **21 40 17.8 -0.2**
MORH Mrgy, Hungar 81.34 317 *e*P P **21 40 17.6 -1.0**
MORH Mrgy, Hungar 81.34 317 ⇑P P **21 40 18.4 -0.2**
SKO Skopje 81.35 312 *i* P P **21 40 19.9 +1.1**
LTZ Lake Taylor 81.39 145 IAMs_20 IAMs_20 22 13 04.0
comp=Z,2µm,21.0s
KRUC Moravsky 81.41 320 *e*P P **21 40 18.4 -0.5**
KRUC Moravsky 81.41 320 *e*S S **21 50 25.4 -3.0**
RPZ Rata Peaks 81.42 146 LR LR 22 17 19.5
comp=Z,1µm,18.4s,baz=322,slow=36
WHZ Wether Hill Ro 81.52 149 P P **21 40 19.3 0.0**
MUD Monsted U'grnd 81.57 329 *i* P P **21 40 21.3 +1.7**
MUD IAmb IAmb 21 40 23.7
comp=Z,51nm,0.8s
IDI Anoyia 81.65 305 LR LR 22 22 10.8
comp=Z,1µm,20.3s,baz=83,slow=40
MRZ Mangatainoka R 81.72 142 IAMs_20 IAMs_20 22 13 24.0
comp=Z,3µm,21.0s
PVCC Panska Ves 81.77 322 *e*P P **21 40 21.9 +1.1**
PVCC *e*S S **21 50 29.0 -3.0**
PVCC Panska Ves 81.77 322 *e*P P **21 40 21.9 +1.1**
PVCC *e*S S **21 50 29.0 -3.0**
KHZ Kahutara 81.80 144 IAMs_20 IAMs_20 22 12 49.0
comp=Z,3µm,22.0s
KMY Karmoy 81.81 332 *e*P P **21 40 20.9 0.0**
TREC Trest 81.83 321 *e*P P **21 40 21.9 +0.7**
TREC MLR MLR
comp=Z,8µm,17.5s
TREC Trest 81.83 321 *e*P P **21 40 21.9 +0.7**
TREC AMS AMS 22 20 00.0
comp=Z,8µm,17.5s
SSRD Sdr. Stenderup 81.87 328 *i* P P **21 40 22.9 +1.7**
SSRD IAmb IAmb 21 40 25.7
comp=Z,86nm,0.8s
GVZ Greta Valley S 81.92 145 IAMs_20 IAMs_20 22 13 21.0
comp=Z,2µm,21.0s
GOPC GO Pecny, Ondr 81.94 321 *e*P P **21 40 23.1 +1.4**
GOPC MLR MLR
comp=Z,5µm,18.2s
GOPC GO Pecny, Ondr 81.94 321 *e*P P **21 40 23.1 +1.4**
GOPC AMS AMS 22 21 20.0
comp=Z,5µm,18.2s
SCO Scoresbysund 81.94 348 P P **21 40 21.6 +0.4**
SCO IAMs_20 IAMs_20 22 20 26.7
comp=Z,3µm,18.0s
SCO Scoresbysund 81.94 348 P P **21 40 21.7 +0.4**
SCO pmax pmax
comp=Z,72nm,1.3s
SCO MLR MLR
comp=Z,3µm,18.0s
BRG Berggiesshubel 81.95 323 *e*P P **21 40 22.4 +0.7**
BRG Amp 21 40 24.7
comp=Z,22nm,0.9s
BRG Berggiesshubel 81.95 323 P P 21 40 26.6 +4.9
BRG Amp 21 40 27.2
comp=Z,16nm,0.8s
BRG Berggiesshubel 81.95 323 P P 21 40 30.3 +8.6
BRG Amp 21 40 32.7
comp=Z,24nm,1.0s
BRG Berggiesshubel 81.95 323 PP PP 21 43 30.0 +1.0
BRG Berggiesshubel 81.95 323 S S **21 50 33.0 -0.9**
BRG Berggiesshubel 81.95 323 SS SS 21 55 51.0 -1.0
BRG PKKP 21 58 53.5
BRG Amp 21 58 54.5
comp=Z,3.5nm,1.0s
RUDO Rudo 82.02 314 *e*P P **21 40 22.1 -0.2**
RICC Richard 82.02 322 AMS AMS 22 21 30.0
comp=Z,8µm,17.2s
PRU Pruhonice 82.04 322 *e*P P **21 40 22.7 +0.5**
PRU *e*S S **21 50 30.8 -4.1**
PRU Pruhonice 82.04 322 *e*P P **21 40 22.7 +0.5**
PRU *e*S S **21 50 30.8 -4.1**
RONA Rosalia, Austr 82.10 319 *e*P P **21 40 22.0 -0.7**
comp=Z,122nm,2.0s,SNR=11
BFZ Birch Farm 82.12 141 IAMs_20 IAMs_20 22 12 24.4
comp=Z,3µm,21.0s
BFZ Birch Farm 82.12 141 P P **21 40 23.9 +1.3**
OHR Ohrid 82.15 312 *i* P P **21 40 23.0 -0.1**
POIN Pond Inlet 82.16 6 P P **21 40 21.6 -0.8**
CONA Conrad Observa 82.25 319 *i* P P **21 40 23.1 -0.4**
comp=Z,152nm,1.9s,SNR=27
CONA *e*PP PP **21 43 34.4 +2.7**
comp=Z,230nm,3.6s
CLL Collm 82.26 323 P P **21 40 22.7 -0.6**

CLL Collm 82.26 323 *i* P **P** **21 40 22.0 -1.3**
CLL *i* 21 40 27.2
CLL *eS* **S** **21 50 35.0 -2.0**
CLL pmax pmax
comp=Z,48nm,0.8s
CLL MLR MLR
comp=Z,8µm,18.4s
SUMG Summit 82.31 354 P **P** **21 40 22.5 -1.2**
SUMG IAmb IAmb 21 40 31.3
comp=Z,74nm,0.9s
SUMG IAMs_20 IAMs_20 22 23 14.4
comp=Z,3µm,19.0s
SUMG Summit 82.31 354 P **P** **21 40 22.5 -1.2**
SUMG pmax pmax
comp=Z,74nm,0.9s
SUMG MLR MLR
comp=Z,3µm,19.0s
SUMG Summit 82.31 354 *i* P **P** **21 40 22.0 -1.7**
SUMG IAmb IAmb 21 40 28.0
comp=Z,64nm,0.9s
BBB Bella Bella 82.36 36 P **P** **21 40 23.4 -0.4**
BBB Bella Bella 82.36 36 P **P** **21 40 23.4 -0.4**
comp=Z,49nm,1.3s,baz=281,slow=2.8,SNR=7.6
comp=Z,49nm,1.3s
BEHE Becsehely 82.38 318 P **P** **21 40 23.2 -0.9**
BEHE Becsehely 82.38 318 *eP* **P** **21 40 25.1 +1.0**
YKA Yellowknife Ar 82.45 23 P **P** **21 40 22.6 -1.5**
YKA Yellowknife Ar 82.45 23 P **P** **21 40 23.1 -1.1**
comp=Z,35nm,0.8s,baz=319,slow=5.3,SNR=88
YKA PKKPbc **PKKPbc** **21 58 48.2 -3.3**
comp=Z,1.2nm,0.8s,baz=111,slow=2.1,SNR=5.7
YKA LR LR 22 20 28.6
comp=Z,3µm,18.0s,baz=325,slow=38
comp=Z,35nm,0.8s
YKA Yellowknife Ar 82.45 23 *i* P **P** **21 40 23.1 -1.1**
YKA pmax pmax
comp=Z,39nm,0.8s
ZVC Zvikov 82.50 321 *eP* **P** **21 40 25.9 +1.2**
ZVC AMS AMS 22 20 10.0
comp=Z,5µm,15.7s
PDG Podgorica 82.62 313 IAMs_20 IAMs_20 22 20 56.6
comp=Z,3µm,20.0s
KOGS Kog 82.71 318 *i* P **P** **21 40 24.8 -1.0**
KOGS *eS* SKSac **S** **21 50 38.6 -3.2**
KLINJ Klinje 82.73 314 *eP* **P** **21 40 29.7 +3.6**
CKRC Cesky Krumlov 82.74 321 *eP* **P** **21 40 27.1 +1.2**
CKRC *eS* **S** **21 50 40.1 -2.0**
CKRC MLR MLR
comp=Z,6µm,16.0s
CKRC Cesky Krumlov 82.74 321 *eP* **P** **21 40 27.1 +1.2**
CKRC *eS* **S** **21 50 40.1 -2.0**
CKRC AMS AMS 22 20 40.0
comp=Z,6µm,16.0s
ARSA Arzberg 82.77 319 P **P** **21 40 25.5 -0.7**
ARSA Arzberg 82.77 319 *i* P **P** **21 40 25.7 -0.5**
comp=Z,95nm,1.9s,SNR=8.0
MOSL Moslavina 82.78 317 *eP* **P** **21 40 25.0 -1.3**
BLY Banja Luka 82.91 316 *eP* **P** **21 40 25.8 -1.1**
BLY Banja Luka 82.91 316 ⇑P **P** **21 40 26.8 -0.1**
A051A Mrakovica 82.97 316 *eP* **P** **21 40 26.7 -0.6**
KHC Kasperske Hory 83.01 321 *eP* **P** **21 40 27.6 +0.2**
KHC *e* 21 40 41.0
KHC *eS* **S** **21 50 41.8 -3.1**
KHC MLR MLR
comp=Z,6µm,16.8s
KHC Kasperske Hory 83.01 321 *eP* **P** **21 40 27.6 +0.2**
KHC *ex* x 21 40 41.0
KHC *eS* **S** **21 50 41.8 -3.1**
KHC AMS AMS 22 22 00.0
comp=Z,6µm,16.8s
UPNV Upernavik 83.01 359 *i* P **P** **21 40 25.9 -0.9**
UPNV IAmb IAmb 21 40 31.4
comp=Z,52nm,0.7s
GEC2 GERESS Array S 83.08 321 P **P** **21 40 27.0 -0.8**
GERES GERESS Array B 83.08 321 P **P** **21 40 26.7 -1.1**
GERES GERESS Array B 83.08 321 P **P** **21 40 27.3 -0.5**
comp=Z,16nm,0.8s,baz=54,slow=5.3,SNR=43
GERES PP **PP** **21 43 38.6 +0.2**
comp=Z,5.2nm,0.8s,baz=51,slow=7.7,SNR=4.2
GERES PKKPbc **PKKPbc** **21 58 49.3 -0.5**
comp=Z,2.3nm,1.0s,baz=225,slow=0.4,SNR=6.8
GERES LR LR 22 20 49.7
comp=Z,6µm,18.6s,baz=48,slow=38
comp=Z,16nm,0.8s
GERES GERESS Array B 83.08 321 P **P** **21 40 26.7 -1.1**
TREB Trebinje 83.09 314 *eP* **P** **21 40 28.5 +0.6**
HOLB Holberg 83.13 37 P **P** **21 40 27.2 -0.8**
HOLB IAmb IAmb 21 40 33.4
comp=Z,77nm,0.9s
MOA Molln 83.23 320 *eP* **P** **21 40 27.8 -0.7**
comp=Z,173nm,2.1s,SNR=32
SOKA Soboth 83.34 318 *i* P **P** **21 40 28.2 -1.0**
comp=Z,91nm,2.0s,SNR=24
SOKA PP **PP** **21 43 41.8 +1.1**
comp=Z,87nm,1.9s
MOX Moxa 83.35 323 *eL* L 22 21 49.8
comp=Z,9µm,19.1s
STON Ston 83.44 314 *eP* **P** **21 40 28.1 -1.5**
A050A Klekovaca 83.45 316 *eP* **P** **21 40 29.2 -0.6**
OZLJ Ozalj 83.58 317 *eP* **P** **21 40 29.8 -0.5**
BIOA Bad Ischl, Aus 83.68 320 *i* P **P** **21 40 29.9 -1.0**
comp=Z,124nm,1.9s,SNR=23
BIOA *eP* PP **PP** **21 43 44.6 +1.3**
comp=Z,172nm,2.7s
OBKA Obir 83.71 318 *eP* **P** **21 40 30.3 -0.8**
comp=Z,65nm,2.0s,SNR=15
KIJV Kijevo 83.75 316 *eP* **P** **21 40 28.9 -2.4**
LRW Lerwick 83.85 335 *eP* **P** **21 40 31.7 +0.3**
LRW IAMs_20 IAMs_20 22 21 57.4
comp=Z,6µm,14.0s
LJU Ljubljana 83.95 318 *i* P **P** **21 40 31.6 -0.7**
LJU *i* pP **sP** **21 40 48.0 +3.9**
LJU *e* 21 40 55.1
LJU *eP* PP **PP** **21 43 45.9 +0.4**
LJU *eS* SKSac **SKSac** **21 50 49.9 -3.8**
LJU *e* 21 51 40.2
GRA1 Grafenberg Arr 84.05 322 P **P** **21 40 32.2 -0.4**
GRA1 IAmb IAmb 21 40 50.8
comp=Z,90nm,1.2s
GRF Grafenberg Arr 84.05 322 P **P** **21 40 32.3 -0.4**
GRF pmax pmax
comp=Z,90nm,1.2s
GRF MLR MLR
comp=Z,9µm,20.0s
GRF Grafenberg Arr 84.05 322 *eP* **P** **21 40 32.0 -0.7**
comp=Z,41nm,0.9s,baz=59,slow=4.8
GRF *eL* L 22 22 06.4
comp=Z,8µm,20.4s
GRFO Grafenberg 84.06 322 P **P** **21 40 32.0 -0.7**
GRFO IAmb IAmb 21 40 50.7
comp=Z,94nm,1.2s
GRFO Grafenberg 84.06 322 P **P** **21 40 32.0 -0.7**
GRFO pmax pmax
comp=Z,94nm,1.2s
GRFO MLR MLR
comp=Z,9µm,20.0s
KBA Koelnbreinsper 84.16 319 *eP* **P** **21 40 32.0 -1.5**
comp=Z,31nm,0.6s
MYKA Terra Mystica 84.20 319 *i* P **P** **21 40 32.5 -1.1**
comp=Z,24nm,0.7s,SNR=5.7
NUUG Nuugaatsiaq 84.21 358 *eP* **P** **21 40 34.4 +1.4**
NUUG IAmb IAmb 21 40 40.4
comp=Z,73nm,1.1s
CADS Cadrg 84.34 318 *i* P **P** **21 40 32.4 -1.9**
CADS *i* pP **sP** **21 40 49.6 +3.5**
LESA Schwarzleotal 84.38 320 *i* P **P** **21 40 33.3 -1.1**
comp=Z,102nm,1.1s,SNR=38
LESA *i* PP **PP** **21 43 51.6 +2.6**
comp=Z,132nm,1.5s
SABO M.te Sabotino 84.55 318 P **P** **21 40 34.5 -0.8**
TRI Trieste 84.58 318 P **P** **21 40 34.3 -1.1**
TRI IAmb IAmb 21 40 52.2
comp=Z,113nm,1.5s
TRI Trieste 84.58 318 P **P** **21 40 34.3 -1.1**
TRI pmax pmax
comp=Z,113nm,1.5s
TRI MLR MLR
comp=Z,5µm,19.0s
ABPO Ambohimpanom 84.61 246 P **P** **21 40 35.6 -0.5**
ABPO IAmb IAmb 21 40 38.7
comp=Z,52nm,1.0s
ABPO Ambohimpanom 84.61 246 IAMs_20 IAMs_20 22 14 40.3
comp=Z,3µm,21.0s
ABPO Ambohimpanom 84.61 246 P **P** **21 40 35.6 -0.5**
ABPO pmax pmax
comp=Z,52nm,1.0s
ABPO MLR MLR
comp=Z,3µm,21.0s
ABTA Abfaltersbach 84.82 319 *i* P **P** **21 40 34.5 -2.2**
comp=Z,62nm,0.8s,SNR=32
ILON Igloolik, Nuna 84.88 8 P **P** **21 40 34.8 -1.6**
ILON IAmb IAmb 21 40 40.1
comp=Z,113nm,0.9s
CBB Campbell River 84.96 37 P **P** **21 40 36.4 -0.8**
CBB IAmb IAmb 21 40 42.8
comp=Z,53nm,1.0s
WATA Walderalm 85.07 320 *eP* **P** **21 40 36.4 -1.6**
comp=Z,46nm,0.9s,SNR=22
WATA *e*PP **PP** **21 43 53.9 -0.9**
comp=Z,217nm,2.4s
WTTA Wattenberg 85.07 320 *eP* **P** **21 40 36.7 -1.4**
comp=Z,143nm,1.2s,SNR=50
WTTA *i* PP **PP** **21 43 56.8 +2.0**
comp=Z,124nm,1.6s
MATE Matera 85.13 313 ⇓P **P** **21 40 38.3 +0.1**
MATE Matera 85.13 313 *eP* **P** **21 40 36.7 -1.6**
SGRT San Giovanni R 85.25 314 IAMs_20 IAMs_20 22 20 43.2
comp=Z,2µm,22.0s
MOTA Moosalm 85.34 320 *i* P **P** **21 40 37.7 -1.7**
comp=Z,53nm,1.1s,SNR=24
MOTA *e*PP **PP** **21 43 55.9 -1.1**
comp=Z,164nm,1.8s
SQTA Sankt Quirin 85.34 320 *eP* **P** **21 40 38.4 -1.0**
comp=Z,102nm,1.3s,SNR=30
SQTA *e*PP **PP** **21 43 56.1 -0.9**
comp=Z,118nm,1.6s
KIBK Kibwezi 85.41 265 P **P** **21 40 40.1 -0.1**
KIBK IAmb IAmb 21 40 46.1
comp=Z,54nm,1.0s
KIBK IAMs_20 IAMs_20 22 18 04.3
comp=Z,3µm,20.0s
KIBK Kibwezi 85.41 265 P **P** **21 40 40.4 +0.1**
SNR=19
RETA Reutte 85.46 321 *eP* **P** **21 40 39.0 -0.9**
comp=Z,110nm,2.0s,SNR=8.7
RETA PP **PP** **21 43 56.8 -1.0**
comp=Z,129nm,1.6s
LODK Lodwar 85.49 272 P **P** **21 40 40.0 -0.6**
LODK IAMs_20 IAMs_20 22 18 03.0
comp=Z,3µm,21.0s
LODK Lodwar 85.49 272 P **P** **21 40 41.4 +0.7**
SNR=6.1
SOEG Soedalen 85.54 350 *i* P **P** **21 40 40.0 +0.2**
SOEG IAmb IAmb 21 40 43.6
comp=Z,52nm,1.1s
ACER Acerenza 85.58 313 P **P** **21 40 40.1 -0.5**
ACER IAmb IAmb 21 40 45.7
comp=Z,89nm,1.1s
KMBO Kilima Mbogo 85.63 267 P **P** **21 40 41.4 -0.1**
comp=Z,30nm,1.0s,baz=54,slow=7.5,SNR=35
KMBO LR LR 22 19 00.3
comp=Z,2µm,20.0s,baz=74,slow=36
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 85.63 267 P **P** **21 40 41.4 -0.1**
STU Stuttgart 85.67 322 P **P** **21 40 39.9 -0.9**
STU Stuttgart 85.67 322 P **P** **21 40 39.9 -0.9**
STU pmax pmax
comp=Z,33nm,1.0s
STU MLR MLR
comp=Z,8µm,19.0s
STU Stuttgart 85.67 322 *eP* **P** **21 40 40.6 -0.2**
FETA Feichten 85.72 320 *eP* **P** **21 40 39.4 -1.9**
comp=Z,77nm,1.2s,SNR=29
FETA *e*PP **PP** **21 44 00.1 0.0**
comp=Z,112nm,2.0s
TIP Timpagrande 85.79 311 IAMs_20 IAMs_20 22 25 09.9
comp=Z,2µm,20.0s
TIP Timpagrande 85.79 311 ⇓P **P** **21 40 41.8 +0.1**
CUC Castrocucco 86.04 312 IAMs_20 IAMs_20 22 24 26.6
comp=Z,3µm,20.0s
DAVA Damuels 86.08 321 *eP* **P** **21 40 42.4 -0.7**
comp=Z,134nm,2.2s,SNR=15
DAVA *e*PP **PP** **21 44 02.0 -1.0**
comp=Z,83nm,1.2s
FUORN Ofenpass-Fuorn 86.21 320 P **P** **21 40 42.9 -0.9**
FUORN IAmb IAmb 21 40 48.8
comp=Z,58nm,0.9s
CLRS Cowichan Lake 86.29 37 P **P** **21 40 43.4 -0.5**
CLRS IAmb IAmb 21 40 49.3
comp=Z,153nm,1.5s
VOI Vohitsoka 86.32 244 P **P** **21 40 43.3 -1.2**
VOI IAmb IAmb 21 40 50.5
comp=Z,58nm,1.2s
VOI IAMs_20 IAMs_20 22 17 46.6
comp=Z,2µm,20.0s
VOI Vohitsoka 86.32 244 P **P** **21 40 44.9 +0.3**
SNR=6.2
BTNL Ternell 86.32 325 *dP* **P** **21 40 43.9 -0.1**
comp=Z,16nm,1.5s
INTR Introdacqua 86.32 315 IAMs_20 IAMs_20 22 24 21.8
comp=Z,3µm,19.0s
MCD Coleburn Disti 86.34 334 *eP* **P** **21 40 44.4 +0.5**
MCD IAmb IAmb 21 40 45.5
comp=Z,74nm,1.4s
MCD IAMs_20 IAMs_20 22 23 26.7
comp=Z,15µm,16.2s
DAVOX Davos/Dischmat 86.34 320 LR LR 22 23 50.0
comp=Z,5µm,18.6s,baz=40,slow=39
MEM Membach 86.37 325 *dP* **P** **21 40 43.4 -0.8**
comp=Z,18nm,1.5s
MEM *dx* x 21 40 59.8
PAOL Paolisi 86.37 314 IAMs_20 IAMs_20 22 23 40.2
comp=Z,2µm,20.0s
CAMP Campotosto 86.38 315 IAMs_20 IAMs_20 22 26 32.2
comp=Z,2µm,19.0s
BFO Black Forest 86.39 322 P **P** **21 40 43.6 -0.8**
BFO Black Forest 86.39 322 P **P** **21 40 43.6 -0.8**
BFO pmax pmax
comp=Z,50nm,1.3s
BFO MLR MLR
comp=Z,7µm,18.0s
BEBN Eben Emael 86.44 325 *dP* **P** **21 40 44.2 -0.3**
BEBN *d*PcP **PcP** **21 40 46.8 -0.2**
ILULI Ilulissat 86.47 358 P **P** **21 40 43.2 -1.1**
ILULI IAMs_20 IAMs_20 22 24 14.6
comp=Z,3µm,19.0s
ILULI Ilulissat 86.47 358 P **P** **21 40 43.2 -1.1**
ILULI pmax pmax
comp=Z,47nm,1.1s
ILULI MLR MLR
comp=Z,2µm,19.0s
LLLB Lillooet 86.50 35 P **P** **21 40 44.0 -0.9**
LLLB IAmb IAmb 21 40 50.8
comp=Z,102nm,1.1s
BHOU Houvegnez 86.52 325 *dP* **P** **21 40 45.0 0.0**
comp=Z,16nm,1.6s
BHOU *dx* x 21 41 00.3
C03A Quillayute Air 86.53 38 P **P** **21 40 44.9 -0.2**
C03A IAmb IAmb 21 40 51.8
comp=Z,108nm,1.1s
C03A IAMs_20 IAMs_20 22 23 11.1
comp=Z,2µm,19.0s
BSTI Sart Tilman 86.62 325 *dP* **P** **21 40 45.9 +0.5**
comp=Z,5.5nm,1.0s
BSTI *dx* x 21 40 58.6
BLKN Baker Lake 86.71 16 P **P** **21 40 43.5 -2.1**
BLKN IAmb IAmb 21 40 47.5
comp=Z,99nm,1.4s
PGC Sidney 86.76 37 P **P** **21 40 45.3 -0.9**
PGC IAmb IAmb 21 40 52.0
comp=Z,84nm,0.9s
CEL Celeste 86.82 311 IAMs_20 IAMs_20 22 24 47.3
comp=Z,2µm,20.0s
WLF Walferdange 86.83 324 P **P** **21 40 46.1 -0.4**
WLF IAmb IAmb 21 40 49.5
comp=Z,89nm,1.0s
WLF Walferdange 86.83 324 P **P** **21 40 46.1 -0.4**
WLF pmax pmax
comp=Z,89nm,1.0s
WLF MLR MLR
comp=Z,8µm,18.0s
WLF Walferdange 86.83 324 *dP* **P** **21 40 46.3 -0.2**
comp=Z,54nm,1.0s
CESX Cesi 86.87 316 IAMs_20 IAMs_20 22 25 16.1
comp=Z,4µm,20.0s
BGES Gesves 86.98 325 *dP* **P** **21 40 47.5 +0.3**
comp=Z,14nm,1.5s
BGES *dx* x 21 41 03.1
RCHB Rochefort 87.04 325 *dP* **P** **21 40 46.8 -0.7**
comp=Z,30nm,1.0s
ECH Echery 87.11 323 P **P** **21 40 46.7 -1.2**
ECH IAmb IAmb 21 41 05.3
comp=Z,85nm,1.7s
ECH Echery 87.11 323 P **P** **21 40 46.7 -1.2**
ECH pmax pmax
comp=Z,85nm,1.7s
ECH MLR MLR
comp=Z,5µm,20.0s
UCC Uccle 87.12 326 P **P** **21 40 47.5 -0.3**
UCC IAmb IAmb 21 41 05.3
comp=Z,76nm,1.4s
UCC Uccle 87.12 326 P **P** **21 40 47.5 -0.3**
UCC pmax pmax
comp=Z,76nm,1.4s
UCC MLR MLR
comp=Z,6µm,19.0s
UCC Uccle 87.12 326 *dP* **P** **21 40 47.0 -0.9**
comp=Z,21nm,1.0s
BMRD Maredsous 87.20 325 *dP* **P** **21 40 47.3 -1.0**
comp=Z,28nm,1.0s
BMRD *dx* x 21 41 02.6
NLWA Neilton Lookou 87.23 38 P **P** **21 40 47.9 -0.7**
NLWA IAMs_20 IAMs_20 22 23 02.6
comp=Z,2µm,18.0s
DOU Dourbes 87.41 325 *dP* **P** **21 40 48.1 -1.1**
comp=Z,28nm,0.9s
FOMA Nahampoana Res 87.61 241 IAMs_20 IAMs_20 22 18 30.8
comp=Z,3µm,20.0s
EDMD Edmundbyers 87.62 331 *eP* **P** **21 40 50.7 +0.5**
EDMD IAMs_20 IAMs_20 22 24 48.9
comp=Z,13µm,15.3s
GNW Green Mountain 87.72 38 P **P** **21 40 50.4 -0.5**
LMK Market Rasen 87.77 330 *eP* **P** **21 40 50.2 -0.7**
LMK IAmb IAmb 21 40 50.6
comp=Z,246nm,1.0s
LMK IAMs_20 IAMs_20 22 24 08.0
comp=Z,15µm,18.4s
EKA Eskdalemuir Ar 87.80 332 P **P** **21 40 51.0 0.0**
comp=Z,8.1nm,0.6s,baz=37,slow=2.3,SNR=37
EKA PP **PP** **21 44 16.5 +0.2**
comp=Z,6.0nm,0.9s,baz=64,slow=7.5,SNR=5.2
EKA PKKPbc **PKKPbc** **21 58 38.0 -0.8**
comp=Z,1.0nm,0.7s,baz=225,slow=1.9,SNR=3.8
comp=Z,8.1nm,0.6s
EKA Eskdalemuir Ar 87.80 332 P **P** **21 40 50.6 -0.5**
EKA pmax pmax
comp=Z,121nm,1.7s
EKB Eskdalemuir 87.81 332 P **P** **21 40 51.1 -0.1**
EKB IAmb IAmb 21 41 08.7
comp=Z,162nm,1.7s
ESK Eskdalemuir 87.83 332 P **P** **21 40 50.9 -0.3**
ESK Eskdalemuir 87.83 332 *eP* **P** **21 40 52.2 +1.0**
ESK IAMs_20 IAMs_20 22 24 29.4
comp=Z,10µm,17.7s
ESK Eskdalemuir 87.83 332 P **P** **21 40 50.9 -0.3**
ESK pmax pmax
comp=Z,215nm,1.9s
ESK MLR MLR
comp=Z,10µm,18.0s
E03A Lebam 87.88 39 P **P** **21 40 51.3 -0.3**
SENIN Lac Senin/Sane 88.06 321 P **P** **21 40 52.1 -0.7**
NEWG New Galloway 88.40 332 *eP* **P** **21 40 55.0 +1.1**
NEWG IAMs_20 IAMs_20 22 24 46.0
comp=Z,12µm,16.7s
RAR Rarotonga 88.59 114 LR LR 22 15 21.0
comp=Z,2µm,19.9s,baz=296,slow=32
SFJD Kangerlussuaq 88.66 357 P **P** **21 40 54.3 -0.6**
SFJD IAmb IAmb 21 40 58.9
comp=Z,49nm,1.1s
SFJD Kangerlussuaq 88.66 357 IAMs_20 IAMs_20 22 28 19.5
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 88.66 357 P **P** **21 40 54.1 -0.8**
comp=Z,22nm,0.7s,baz=30,slow=6.7,SNR=5.2
SFJD LR LR 22 20 59.3
comp=Z,2µm,19.6s,baz=358,slow=36
comp=Z,22nm,0.7s
SFJD Kangerlussuaq 88.66 357 P **P** **21 40 54.3 -0.6**
SFJD pmax pmax
comp=Z,49nm,1.2s
SFJD MLR MLR
comp=Z,2µm,19.0s
ANGG Ammassalik, Gr 88.86 352 P **P** **21 40 55.4 -0.5**
ANGG IAmb IAmb 21 40 59.5
comp=Z,38nm,1.0s
ANGG IAMs_20 IAMs_20 22 19 19.8
comp=Z,3µm,22.0s
ANGG Ammassalik, Gr 88.86 352 *eP* **P** **21 40 55.1 -0.7**
ANGG IAmb IAmb 21 40 59.1
comp=Z,36nm,1.0s
STNC Stoke 88.87 330 *eP* **P** **21 40 57.2 +1.0**
STNC IAMs_20 IAMs_20 22 25 20.3
comp=Z,9µm,18.0s
LTY Liberty 89.09 37 IAMs_20 IAMs_20 22 26 58.9
comp=Z,2µm,18.0s
COR Corvallis 89.12 40 P **P** **21 40 57.3 -0.2**
COR Corvallis 89.12 40 P **P** **21 40 57.3 -0.2**
COR pmax pmax
comp=Z,252nm,1.0s
COR MLR MLR
comp=Z,2µm,21.0s
KEBM Edson Butte 89.45 42 P **P** **21 40 59.5 +0.2**
LLW Llanuwychllyn 89.69 330 *eP* **P** **21 41 01.5 +1.5**
STRD Stroud 89.71 329 *eP* **P** **21 41 00.7 +0.6**
STRD IAMs_20 IAMs_20 22 25 20.5
comp=Z,14µm,18.8s
WLF1 Llynfaes 89.72 331 *eP* **P** **21 41 00.9 +0.8**
WLF1 IAmb IAmb 21 41 01.9
comp=Z,69nm,0.9s
WLF1 IAMs_20 IAMs_20 22 26 11.0
comp=Z,25µm,15.7s
IDGL Inch Island, C 89.79 334 P **P** **21 41 01.3 +0.9**
IDGL Inch Island, C 89.79 334 *eP* **P** **21 41 01.2 +0.9**
IDGL IAmb IAmb 21 41 01.5
comp=Z,56nm,1.2s
CLF Chambon-Foret 89.88 324 P **P** **21 41 00.4 -0.5**
CLF IAmb IAmb 21 41 26.4
comp=Z,81nm,1.5s
KBO Bosley Butte 89.89 43 P **P** **21 41 01.3 0.0**
MCH1 Michaelchurch 89.95 330 *eP* **P** **21 41 01.6 +0.3**
MCH1 IAmb IAmb 21 41 02.4
comp=Z,35nm,1.1s
MCH1 IAMs_20 IAMs_20 22 25 27.4
comp=Z,12µm,18.2s
E07A Sunnyside 89.96 37 IAMs_20 IAMs_20 22 27 42.7
comp=Z,2µm,20.0s
ILTH Belurgan, Co L 90.04 332 P **P** **21 41 02.2 +0.6**
D08A Wollman Farm, 90.17 37 IAMs_20 IAMs_20 22 29 42.3
comp=Z,2µm,18.0s
HAWA Hanford 90.24 37 P **P** **21 41 02.6 -0.1**
HAWA IAMs_20 IAMs_20 22 27 49.0
comp=Z,2µm,19.0s
SSB Saint Sauveur 90.27 321 P **P** **21 41 01.9 -1.0**
SSB Saint Sauveur 90.27 321 P **P** **21 41 01.9 -1.0**
SSB pmax pmax
comp=Z,41nm,1.4s
SSB MLR MLR
comp=Z,5µm,20.0s
F07A Phinny Hill Vi 90.31 38 IAMs_20 IAMs_20 22 28 01.1
comp=Z,2µm,19.0s
NEW Newport 90.39 35 P **P** **21 41 02.7 -0.8**
NEW IAmb IAmb 21 41 06.7
comp=Z,126nm,1.1s
NEW Newport 90.39 35 IAMs_20 IAMs_20 22 23 38.9
comp=Z,2µm,21.0s
NEW Newport 90.39 35 LR LR 22 24 09.6
comp=Z,1µm,18.8s,baz=336,slow=37
NEW Newport 90.39 35 P **P** **21 41 02.7 -0.8**
NEW pmax pmax
comp=Z,126nm,1.2s
NEW MLR MLR
comp=Z,2µm,21.0s
VSL Villasalto 90.56 314 P **P** **21 41 03.6 -0.8**
VSL IAmb IAmb 21 41 09.3
comp=Z,53nm,1.0s
VSL IAMs_20 IAMs_20 22 29 00.1
comp=Z,2µm,20.0s
DSB Dublin 90.61 332 P **P** **21 41 04.3 0.0**
DSB Dublin 90.61 332 P **P** **21 41 05.3 +1.0**
JCC Jacoby Creek, 90.78 44 P **P** **21 41 05.1 -0.2**
CASY Casey 90.86 185 P **P** **21 41 04.6 -0.3**
CASY IAmb IAmb 21 44 01.3
comp=Z,34nm,0.6s
KMPM Mount Pierce 90.94 44 IAMs_20 IAMs_20 22 26 55.4
comp=Z,2µm,18.0s
PINE Pine Mountain 90.97 40 IAMs_20 IAMs_20 22 24 57.7
comp=Z,2µm,19.0s
YBH Yreka Blue Hor 91.09 43 LR LR 22 23 40.2
comp=Z,37nm,18.9s,baz=296,slow=37

J05D Fort Rock, OR 91.09 41 IAMs_20 IAMs_20 22 28 11.0
comp=Z,2µm,20.0s
K04D Chiloquin, OR 91.16 41 IAMs_20 IAMs_20 22 30 23.0
comp=Z,2µm,19.0s
KMRM Mail Ridge 91.31 44 IAMs_20 IAMs_20 22 27 06.5
comp=Z,2µm,19.0s
IWEX Carrickbyrne, 91.39 331 P **P** **21 41 09.5 +1.6**
NUUK Nuuk 91.53 357 *e*P **P** **21 41 08.4 +0.1**
NUUK IAmb IAmb 21 41 14.6
comp=Z,31nm,1.2s
K05A Summer Lake 91.62 41 IAMs_20 IAMs_20 22 29 15.0
comp=Z,2µm,19.0s
FRB Frobisher Bay 91.71 5 P **P** **21 41 09.0 -0.2**
comp=Z,53nm,1.1s,baz=322,slow=5.1,SNR=7.9
FRB LR LR 22 26 17.5
comp=Z,3µm,20.1s,baz=351,slow=38
comp=Z,53nm,1.1s
FRB Frobisher Bay 91.71 5 P **P** **21 41 09.0 -0.2**
IGLA Glengowla, Co 91.74 333 P **P** **21 41 10.4 +0.9**
O02D Mt. Diablo Mer 91.92 44 IAMs_20 IAMs_20 22 27 57.3
comp=Z,2µm,19.0s
JTMT Jette 92.19 34 P **P** **21 41 11.8 -0.2**
BMO Blue Mountains 92.41 38 P **P** **21 41 12.0 -1.0**
BMO IAmb IAmb 21 41 15.3
comp=Z,79nm,1.1s
BMO Blue Mountains 92.41 38 P **P** **21 41 12.0 -1.0**
BMO pmax pmax
comp=Z,79nm,1.1s
BMO MLR MLR
comp=Z,1µm,19.0s
FFC Flin Flon 92.61 24 P **P** **21 41 12.0 -1.6**
FFC Flin Flon 92.61 24 IAMs_20 IAMs_20 22 25 13.7
comp=Z,3µm,20.0s
FFC Flin Flon 92.61 24 P **P** **21 41 12.0 -1.6**
FFC pmax pmax
comp=Z,111nm,1.0s
FFC MLR MLR
comp=Z,3µm,20.0s
KEST Kesra 92.61 311 P **P** **21 41 13.4 -0.6**
KEST IAmb IAmb 21 41 39.3
comp=Z,58nm,1.3s
KEST Kesra 92.61 311 P **P** **21 41 14.0 -0.1**
comp=Z,13nm,0.9s,baz=3.3,slow=2.0,SNR=8.8
KEST LR LR 22 30 55.1
comp=Z,2µm,18.2s,baz=15,slow=41
comp=Z,13nm,0.9s
GDXM Geysers 92.69 45 IAMs_20 IAMs_20 22 30 08.7
comp=Z,2µm,20.0s
MSO Missoula 92.96 35 P **P** **21 41 14.4 -1.2**
MSO IAmb IAmb 21 41 18.1
comp=Z,78nm,1.2s
MSO IAMs_20 IAMs_20 22 24 60.0
comp=Z,2µm,20.0s
PLID Pearl Lake 92.99 37 P **P** **21 41 14.7 -1.1**
PLID IAmb IAmb 21 41 19.6
comp=Z,35nm,0.8s
VAL Valentia 93.19 333 P **P** **21 41 16.7 +0.5**
MAHO Mahon 93.59 317 IAMs_20 IAMs_20 22 28 07.1
comp=Z,3µm,19.0s
EGMT Eagleton 94.25 32 IAMs_20 IAMs_20 22 24 45.7
comp=Z,2µm,20.0s
IVI Ivigtut 94.27 355 P **P** **21 41 20.5 -0.5**
IVI IAmb IAmb 21 45 05.4
comp=Z,35nm,1.0s
IVI Ivigtut 94.27 355 *i* P **P** **21 41 21.0 0.0**
IVI IAmb IAmb 21 41 26.7
comp=Z,13nm,0.8s
PAHR Pah Rah Range 94.32 43 P **P** **21 41 21.4 -0.6**
DLMT Dillon 94.64 35 IAMs_20 IAMs_20 22 24 58.2
comp=Z,2µm,20.0s
HLID Hailey 94.84 37 IAMs_20 IAMs_20 22 26 10.8
comp=Z,2µm,21.0s
BOZ Bozeman (W) 94.98 35 P **P** **21 41 23.6 -1.2**
BOZ IAmb IAmb 21 41 28.9
comp=Z,28nm,1.0s
BOZ IAMs_20 IAMs_20 22 27 46.3
comp=Z,2µm,18.0s
BOZ Bozeman (W) 94.98 35 P **P** **21 41 23.6 -1.2**
BOZ pmax pmax
comp=Z,28nm,1.0s
BOZ MLR MLR
comp=Z,2µm,18.0s
YHL Hebgen Lake 95.72 35 P **P** **21 41 27.9 -0.5**
YHL IAmb IAmb 21 41 34.2
comp=Z,39nm,1.0s
NVAR Mina Array Bea 95.76 43 P **P** **21 41 27.7 -1.0**
NVAR Mina Array Bea 95.76 43 P **P** **21 41 28.4 -0.3**
comp=Z,43nm,0.9s,baz=300,slow=4.5,SNR=154
NVAR LR LR 22 26 44.2
comp=Z,371nm,18.3s,baz=316,slow=37
comp=Z,43nm,0.9s
RAMR Ramage Ranch 95.76 47 IAMs_20 IAMs_20 22 30 40.7
comp=Z,2µm,19.0s
PPT Papeete 95.76 107 LR LR 22 16 37.2
comp=Z,4µm,21.8s,baz=278,slow=30
PPT2 Papeete2 95.77 107 *e*PKIKP **P** **21 41 30.3 +1.5**
comp=Z,220nm,29.0s
PPT2 Papeete2 95.77 107 *e*PP PP 21 45 11.0 -10
comp=Z,208nm,27.2s
PPT2 *e*S **S** **21 52 42.4 -2.8**
comp=Z,1µm,29.8s
PPT2 Papeete2 95.77 107 *e*LQ LQ 22 08 07.4
comp=Z,2µm,26.2s
PPT2 *e*LR LR 22 12 14.8
comp=Z,9µm,22.8s
PPT2 *e*LR LR 22 12 25.2
comp=Z,7µm,23.0s
ELK Elko 96.18 40 P **P** **21 41 29.7 -0.8**
ELK IAmb IAmb 21 41 33.5
comp=Z,103nm,1.9s
ELK Elko 96.18 40 LR LR 22 20 52.3
comp=Z,614nm,21.6s,baz=322,slow=33
ELK Elko 96.18 40 P **P** **21 41 29.7 -0.8**
ELK pmax pmax
comp=Z,103nm,1.9s
ELK MLR MLR
comp=Z,1µm,20.0s
RLMT Red Lodge 96.52 34 IAMs_20 IAMs_20 22 26 45.9
comp=Z,2µm,19.0s
FXWY Fox Creek 96.63 36 IAMs_20 IAMs_20 22 29 59.0
comp=Z,1µm,19.0s
LOHW Long Hollow 96.87 36 IAMs_20 IAMs_20 22 31 15.4
comp=Z,2µm,20.0s
LAO LASA Array 96.89 31 IAMs_20 IAMs_20 22 27 02.4
comp=Z,2µm,20.0s
SNOW Snow King Moun 96.89 36 IAMs_20 IAMs_20 22 31 18.1
comp=Z,2µm,18.0s
HVU Hansel Valley 96.92 38 P **P** **21 41 32.6 -1.1**
HVU Hansel Valley 96.92 38 P **P** **21 41 32.7 -1.1**
HVU pmax pmax
comp=Z,15nm,1.1s
GRAC Grapevine Rang 97.22 44 IAMs_20 IAMs_20 22 30 25.6
comp=Z,1µm,18.0s
HWUT Hardware Ranch 97.71 37 IAMs_20 IAMs_20 22 28 51.8
comp=Z,1µm,18.0s
FURC Furnace Creek, 97.87 44 IAMs_20 IAMs_20 22 30 37.7
comp=Z,1µm,19.0s
DUG Dugway, Tooele 97.94 39 IAMs_20 IAMs_20 22 33 46.2
comp=Z,2µm,19.0s
LRMC Laurel Mtn Rad 97.95 45 IAMs_20 IAMs_20 22 31 16.9
comp=Z,1µm,18.0s
TPO Tropico Hills 97.95 46 IAMs_20 IAMs_20 22 32 46.1
comp=Z,2µm,18.0s
PD31 Pinedale Array 98.01 36 P **P** **21 41 37.4 -1.3**
PDAR Pinedale Array 98.01 36 P **P** **21 41 37.0 -1.8**
PDAR Pinedale Array 98.01 36 P **P** **21 41 38.3 -0.4**
comp=Z,5.6nm,0.9s,baz=325,slow=1.8,SNR=19
PDAR PP **PP** **21 45 39.2 +2.3**
comp=Z,5.6nm,1.1s,baz=311,slow=6.8,SNR=4.7
PDAR LR LR 22 27 35.5
comp=Z,493nm,19.6s,baz=332,slow=36
comp=Z,5.6nm,0.9s
TBI Tubuai 98.14 112 *e*P Pdif 21 41 45.6 +6.3
comp=Z,682nm,30.5s
TBI Tubuai 98.14 112 *e*PP **PP** **21 45 35.5 -3.6**
comp=Z,1µm,30.2s
TBI *e*S **S** **21 53 06.0 +0.8**
comp=Z,4µm,30.2s
TBI *e*SS **SS** **21 59 48.3 -0.5**
comp=Z,2µm,29.2s
TBI *e*LQ LQ 22 09 09.9
comp=Z,7µm,33.5s
TBI *e*LR LR 22 13 22.4
comp=Z,4µm,24.5s
TBI *e*LR LR 22 13 25.8
comp=Z,15µm,24.0s
CART Cartagena 98.26 318 IAMs_20 IAMs_20 22 30 53.6
comp=Z,2µm,18.0s
PASC Pasadena Art C 98.41 47 IAMs_20 IAMs_20 22 27 25.2
comp=Z,2µm,19.0s
MWC Mount Wilson 98.46 47 IAMs_20 IAMs_20 22 31 56.6
comp=Z,2µm,18.0s
SHOC Shoshone, Teco 98.59 44 IAMs_20 IAMs_20 22 31 07.9
comp=Z,2µm,19.0s
ESDC Sonseca Array 98.67 321 P **P** **21 41 39.9 -1.7**
ESDC Sonseca Array 98.67 321 P Pdif 21 41 41.9 +0.3
comp=Z,5.0nm,1.3s,baz=28,slow=4.0,SNR=7.8
ESDC PKKP **PKKPbc** **21 58 05.8 -4.6**
comp=Z,2.6nm,1.1s,baz=251,slow=3.3,SNR=8.5
ESDC LR LR 22 31 23.0
comp=Z,2µm,18.8s,baz=21,slow=38
comp=Z,5.0nm,1.3s
BFSC Mount Baldy Ra 98.71 46 IAMs_20 IAMs_20 22 35 36.3
comp=Z,1µm,19.0s
PBRG Braganca 98.77 324 *e*Pdif **P** **21 41 41.9 0.0**
PBRG *e*PP **PP** **21 45 43.2 +0.6**
PAB San Pablo 98.98 321 IAMs_20 IAMs_20 22 33 49.2
comp=Z,2µm,18.0s
MVO Moncorvo 99.37 323 *e*Pdif **Pdif** **21 41 45.3 +0.7**
MVO *e*PP **PP** **21 45 47.9 +0.7**
MVO *e*S SKSac 21 52 02.4 -19
MVO *e*SS SKKPbc 22 00 58.8 -46
MVO *e*LR LR 22 21 16.5
MVO *i* IAMs_20 IAMs_20 22 33 14.4
comp=Z,3µm,18.0s
E28A Huff 99.47 28 IAMs_20 IAMs_20 22 33 48.5
comp=Z,2µm,19.0s
PGAV Gavieira, Arco 99.47 325 *e*PP **PP** **21 45 50.5 +2.5**
PGAV *e*LR LR 22 20 25.9
PGAV *i* IAMs_20 IAMs_20 22 32 11.5
comp=Z,4µm,20.0s
LSZ Lusaka 99.52 258 P **Pdif** **21 41 44.5 -1.3**
LSZ Lusaka 99.52 258 IAMs_20 IAMs_20 22 23 50.3
comp=Z,2µm,20.0s
LSZ Lusaka 99.52 258 LR LR 22 27 05.1
comp=Z,2µm,18.1s,baz=78,slow=36
LSZ Lusaka 99.52 258 P **Pdif** **21 41 45.1 -0.7**
LSZ Lusaka 99.52 258 P **Pdif** **21 41 44.5 -1.3**
LSZ pmax pmax
comp=Z,17nm,0.9s
LSZ MLR MLR
comp=Z,2µm,20.0s
PCAB Cabril 99.53 324 *e*PP **PP** **21 45 49.9 +1.6**
POLO Lamas de Olo 99.64 324 *e*PP **PP** **21 45 46.1 -3.2**
PVRL Vila Real 99.67 324 *e*PP **PP** **21 45 44.2 -5.3**
RSSD Black Hills 99.82 32 IAMs_20 IAMs_20 22 33 27.1
comp=Z,2µm,18.0s
PFO Pinyon Flats O 99.89 46 LR LR 22 21 46.6
comp=Z,876nm,21.0s,baz=317,slow=32
BELC Belle Mtn. Jos 99.95 46 IAMs_20 IAMs_20 22 35 27.6
comp=Z,2µm,19.0s
AGMN Agassiz Nation 100.04 25 IAMs_20 IAMs_20 22 30 28.4
comp=Z,3µm,21.0s
PVIS Viseu 100.16 324 *e*PP **PP** **21 45 58.2 +5.0**
O20A White River Ci 100.55 37 IAMs_20 IAMs_20 22 28 52.9
comp=Z,1µm,20.0s
SCHQ Schefferville 100.68 5 P **Pdif** **21 41 50.6 +0.5**
comp=Z,4.6nm,0.8s,baz=315,slow=1.4,SNR=4.2
U15A North Rim 100.73 42 IAMs_20 IAMs_20 22 36 08.3
comp=Z,2µm,19.0s
TAOE Nuku Hiva Isla 100.77 95 *e*PKIKP **Pdif** **21 41 51.8 +0.5**
comp=Z,175nm,34.4s
TAOE Nuku Hiva Isla 100.77 95 *e*PP **PP** **21 46 02.3 +3.0**
comp=Z,246nm,28.2s
TAOE *e*S **Sdif** **21 53 34.1 +6.2**
comp=Z,557nm,30.9s
TAOE *e*SS **SS** **22 00 28.9 +3.0**
comp=Z,560nm,26.4s
TAOE *e*LQ LQ 22 10 18.7
comp=Z,9µm,42.0s
TAOE *e*LR LR 22 14 47.4
comp=Z,3µm,22.9s
PMRV Marv??o 100.78 322 *e*PP **PP** **21 46 02.8 +4.9**
PMRV *i* x x 21 50 09.0
PMRV *e*LR LR 22 24 03.0
PMRV *i* IAMs_20 IAMs_20 22 34 23.5
comp=Z,4µm,18.0s
POGA Pongola 101.04 245 IAMs_20 IAMs_20 22 22 32.5
comp=Z,2µm,22.0s
PSARD Sardoal 101.08 323 *e*PP **PP** **21 46 06.3 +6.1**
PESTR Estremoz 101.28 322 *e*PP **PP** **21 46 07.4 +5.7**
PV10 Paradox Valley 101.33 39 IAMs_20 IAMs_20 22 36 53.3
comp=Z,2µm,18.0s
PV22 Blue Mesa, Par 101.36 38 IAMs_20 IAMs_20 22 31 20.6
comp=Z,2µm,21.0s
PV04 Paradox Valley 101.39 38 IAMs_20 IAMs_20 22 30 30.5
comp=Z,2µm,19.0s
PV20 West Nyswonger 101.39 39 IAMs_20 IAMs_20 22 29 29.5
comp=Z,2µm,22.0s
PBAR Barrancos 101.45 321 *e*PP **PP** **21 46 02.8 -0.1**
PMTG Montargil 101.49 323 *e*PP **PP** **21 46 08.2 +4.9**
PV05 Paradox Valley 101.50 39 IAMs_20 IAMs_20 22 36 60.0
comp=Z,1µm,19.0s
MAW Mawson 101.58 200 PKKPbc PKKPbc 21 58 01.4 -1.9
comp=Z,4.8nm,0.9s,baz=223,slow=2.1,SNR=5.4
PV13 Radium Mtn., P 101.60 39 IAMs_20 IAMs_20 22 37 09.0
comp=Z,2µm,18.0s
PV02 Paradox Valley 101.62 38 IAMs_20 IAMs_20 22 37 16.4
comp=Z,3µm,20.0s
PV01 Paradox Valley 101.76 38 IAMs_20 IAMs_20 22 37 11.2
comp=Z,2µm,18.0s
WUAZ Wupatki 101.89 42 IAMs_20 IAMs_20 22 37 31.0
comp=Z,2µm,19.0s
SUSD Miller 101.90 29 IAMs_20 IAMs_20 22 33 47.9
comp=Z,3µm,18.0s
Y14A Wickenburg 101.91 44 IAMs_20 IAMs_20 22 33 38.7
comp=Z,1µm,20.0s
EYMN Ely 101.92 22 IAMs_20 IAMs_20 22 33 39.9
comp=Z,2µm,19.0s
PMAFR Mafra 102.16 323 *e*PP **PP** **21 46 12.4 +4.2**
ISCO Idaho Springs 102.20 36 IAMs_20 IAMs_20 22 31 21.6
comp=Z,3µm,20.0s
MESJ Messejana 102.35 322 *e*Pdif **Pdif** **21 41 48.2 -10**
MESJ *e*PP **PP** **21 46 08.5 -1.2**
PVAQ Vaqueiros 102.37 321 *e*PP **PP** **21 46 08.4 -1.5**
PVAQ *e*S **SKSac** **21 52 36.1 +0.1**
PVAQ *e*SS **SKKPbc** **22 01 29.9 -7.1**
PVAQ *e*LR LR 22 25 22.9
PVAQ *i* IAMs_20 IAMs_20 22 35 34.4
comp=Z,2µm,16.0s
PCVE Castro Verde 102.39 321 *e*PP **PP** **21 46 08.9 -1.2**
TAM Tamanrasset 102.45 302 IAMs_20 IAMs_20 22 37 18.0
comp=Z,2µm,19.0s
PBDV Barranco-do-Ve 102.61 321 *e*PP **PP** **21 46 04.4 -7.3**
PTEO Sao Teotonio 102.84 322 *e*PP **PP** **21 46 11.8 -1.6**
MREMI Moremi 102.89 251 IAMs_20 IAMs_20 22 24 25.7
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 103.02 38 IAMs_20 IAMs_20 22 37 47.3
comp=Z,2µm,18.0s
Q24A Divide 103.06 36 IAMs_20 IAMs_20 22 29 13.1
comp=Z,2µm,21.0s
W18A Petrified Fore 103.15 41 IAMs_20 IAMs_20 22 36 44.3
comp=Z,1µm,19.0s
KSANE Kasane 103.16 256 IAMs_20 IAMs_20 22 30 53.7
comp=Z,2µm,19.0s
OGNE Ogallala 103.18 33 IAMs_20 IAMs_20 22 33 17.2
comp=Z,2µm,19.0s
PFVI Vila Bisbo 103.19 322 *e*PP PP 21 46 06.9 -9.1
214A Organ Pipe Nat 103.31 46 IAMs_20 IAMs_20 22 38 35.4
comp=Z,1µm,19.0s
SDCO Great Sand Dun 103.75 37 IAMs_20 IAMs_20 22 31 54.6
comp=Z,2µm,19.0s
SPMN Marine on St. 103.77 25 IAMs_20 IAMs_20 22 30 34.0
comp=Z,2µm,20.0s
COWI Conover 104.33 22 IAMs_20 IAMs_20 22 38 19.5
comp=Z,2µm,19.0s
KSCO Kaye Shedlock' 104.34 34 IAMs_20 IAMs_20 22 33 53.1
comp=Z,2µm,19.0s
VNDA Vanda 104.46 172 PKKPbc PKKPbc 21 57 53.5 -1.4
comp=Z,1.6nm,0.8s,baz=161,slow=1.3,SNR=8.2
LPHEP Lephephe 104.54 251 IAMs_20 IAMs_20 22 28 15.4
comp=Z,3µm,21.0s
I37A Lemond, Waseca 104.56 26 IAMs_20 IAMs_20 22 31 38.9
comp=Z,2µm,20.0s
PHDHD Phuduhudu 104.57 254 IAMs_20 IAMs_20 22 30 37.2
comp=Z,2µm,20.0s
BGNE Belgrade 104.67 30 IAMs_20 IAMs_20 22 32 12.2
comp=Z,3µm,20.0s
G40A Rib Lake 104.68 23 IAMs_20 IAMs_20 22 31 27.0
comp=Z,2µm,20.0s
T25A Trinidad 104.78 37 IAMs_20 IAMs_20 22 33 01.0
comp=Z,2µm,19.0s
F42A Maple Grove Fa 104.96 21 IAMs_20 IAMs_20 22 34 56.3
comp=Z,2µm,19.0s
L34A Svendsen Farm, 105.01 29 IAMs_20 IAMs_20 22 34 44.5
comp=Z,2µm,20.0s
AVE Averroes 105.02 318 IAMs_20 IAMs_20 22 34 27.3
comp=Z,3µm,20.0s
ANMO Albuquerque 105.21 40 IAMs_20 IAMs_20 22 33 12.5
comp=Z,2µm,21.0s
E46A Sault Ste Mari 105.61 19 IAMs_20 IAMs_20 22 32 10.2
comp=Z,3µm,20.0s
Y22A Socorro 105.62 41 IAMs_20 IAMs_20 22 34 29.5
comp=Z,1µm,19.0s
I40A Norwalk 105.72 24 IAMs_20 IAMs_20 22 36 45.6
comp=Z,2µm,19.0s
CBKS Cedar Bluff 105.95 33 IAMs_20 IAMs_20 22 38 22.4
comp=Z,2µm,19.0s
319A Douglas 105.96 44 IAMs_20 IAMs_20 22 34 47.8
comp=Z,2µm,21.0s
121A Cookes Peak, D 106.10 42 IAMs_20 IAMs_20 22 36 57.4
comp=Z,2µm,20.0s
H43A Windswept, Lux 106.22 22 IAMs_20 IAMs_20 22 35 27.6
comp=Z,2µm,19.0s
N35A Tabor 106.23 29 IAMs_20 IAMs_20 22 38 13.5
comp=Z,2µm,18.0s
I42A Draeger Farm, 106.33 23 IAMs_20 IAMs_20 22 34 04.7
comp=Z,2µm,20.0s
GMARE Gumare 106.38 256 IAMs_20 IAMs_20 22 32 19.3
comp=Z,2µm,18.0s
SCIA State Center 106.39 27 IAMs_20 IAMs_20 22 34 35.7
comp=Z,2µm,19.0s
HSIG 106.43 47 IAMs_20 IAMs_20 22 26 03.2
comp=Z,2µm,21.0s
SRIG Santa Rosalia 106.65 49 IAMs_20 IAMs_20 22 27 56.7
comp=Z,1µm,19.0s
JFWS Jewell Farm 106.70 24 IAMs_20 IAMs_20 22 35 00.5
comp=Z,2µm,20.0s
R32A Long Quarter, 106.76 32 IAMs_20 IAMs_20 22 36 08.8
comp=Z,2µm,19.0s
BOSA Boshof 106.82 246 PKKPab PKKPab 21 57 56.8 -3.7
comp=Z,4.6nm,1.1s,baz=284,slow=11,SNR=4.0
I45A Fountain 107.11 21 IAMs_20 IAMs_20 22 37 27.6
comp=Z,2µm,20.0s
EPT El Paso 107.41 42 IAMs_20 IAMs_20 22 39 00.5
comp=Z,1µm,18.0s
K43A Burlington 107.58 23 IAMs_20 IAMs_20 22 30 21.1
comp=Z,3µm,22.0s
L42A Oliver, Polo 107.70 24 IAMs_20 IAMs_20 22 35 39.4
comp=Z,2µm,20.0s
AMTX Amarillo 107.94 37 IAMs_20 IAMs_20 22 39 25.1
comp=Z,2µm,18.0s
MSTX Muleshoe 108.02 38 IAMs_20 IAMs_20 22 34 03.1
comp=Z,2µm,20.0s
MNTX Cornudas Mount 108.14 41 IAMs_20 IAMs_20 22 38 28.9
comp=Z,2µm,21.0s
I49A Point Hope 108.25 19 IAMs_20 IAMs_20 22 33 39.5
comp=Z,2µm,20.0s
OK038 West end E0370 108.26 34 IAMs_20 IAMs_20 22 37 11.1
comp=Z,2µm,18.0s
N41A Harden Midland 108.36 26 IAMs_20 IAMs_20 22 35 13.9
comp=Z,2µm,20.0s
HQIL Hanson Quary C 108.54 23 IAMs_20 IAMs_20 22 31 12.5
comp=Z,2µm,22.0s
M44A Midewin, Midew 108.83 23 IAMs_20 IAMs_20 22 34 34.3
comp=Z,2µm,20.0s
P40A Paris 108.87 27 IAMs_20 IAMs_20 22 37 40.5
comp=Z,2µm,19.0s
T35A Sooner Cattle 109.01 32 IAMs_20 IAMs_20 22 34 32.7
comp=Z,2µm,19.0s
HDIL Hopedale 109.09 25 IAMs_20 IAMs_20 22 32 10.3
comp=Z,2µm,21.0s
KOOLE Kule 109.32 253 IAMs_20 IAMs_20 22 29 11.3
comp=Z,2µm,22.0s
K50A Casco 109.38 19 IAMs_20 IAMs_20 22 34 15.4
comp=Z,2µm,20.0s
OK029 Liberty Lake 109.44 33 IAMs_20 IAMs_20 22 37 12.1
comp=Z,2µm,19.0s
WMOK Wichita Mounta 109.59 35 IAMs_20 IAMs_20 22 31 55.2
comp=Z,2µm,21.0s
OK052 Battle Ridge R 109.61 33 IAMs_20 IAMs_20 22 41 46.5
comp=Z,2µm,18.0s
G62A West of Eustis 109.74 9 IAMs_20 IAMs_20 22 36 33.6
comp=Z,2µm,21.0s
SYO Syowa Base 109.89 202 *e*PKiKP **PKiKP** **21 46 38.4 +6.0**
SYO Syowa Base 109.89 202 *e*PP **PP** **21 47 07.4 +1.9**
SFIN Lafayette 110.06 23 IAMs_20 IAMs_20 22 33 29.8
comp=Z,2µm,22.0s
MEDO Medina 110.15 16 IAMs_20 IAMs_20 22 34 04.4
comp=Z,2µm,20.0s
H62A Milan 110.27 10 IAMs_20 IAMs_20 22 33 31.7
comp=Z,2µm,20.0s
SLM Saint Louis 110.37 26 IAMs_20 IAMs_20 22 34 58.3
comp=Z,2µm,22.0s
CCM Cathedral Cave 110.45 27 IAMs_20 IAMs_20 22 38 47.3
comp=Z,2µm,19.0s
RKT Rikitea 110.53 107 *e*S Sdif 21 54 10.0 -39
comp=Z,3µm,40.5s
RKT *e*SS **SS** **22 02 40.3 +1.5**
comp=Z,5µm,37.0s
RKT Rikitea 110.53 107 *e*LQ LQ 22 14 29.8
comp=Z,8µm,38.5s
RKT *e*LR LR 22 19 07.1
comp=Z,14µm,24.2s
Q44A Meyer Farm, Va 110.63 25 IAMs_20 IAMs_20 22 34 45.9
comp=Z,2µm,20.0s
P46A Rosedale 110.69 24 IAMs_20 IAMs_20 22 35 02.4
comp=Z,2µm,20.0s
ERPA Erie 110.73 17 IAMs_20 IAMs_20 22 33 54.9
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 110.74 296 PKiKP **PKiKP** **21 46 35.0 -0.7**
comp=Z,2.9nm,0.6s,baz=26,slow=4.5,SNR=3.6
TORD PKKPab **PKKPab** **21 57 45.7 +0.2**
comp=Z,5.4nm,1.1s,baz=274,slow=4.0,SNR=5.9
O48B Farmland 110.85 22 IAMs_20 IAMs_20 22 37 55.4
comp=Z,2µm,20.0s
FVM French Village 110.85 27 IAMs_20 IAMs_20 22 35 54.9
comp=Z,2µm,19.0s
TXAR Lajitas Array 110.86 42 *i* PKiKP **PKiKP** **21 46 35.8 +0.1**
TXAR Lajitas Array 110.86 42 Pdiff **Pdif** **21 42 37.9 +1.8**
comp=Z,1.3nm,0.6s,baz=305,slow=5.0,SNR=7.7
TXAR PKiKP **PKiKP** **21 46 35.8 +0.1**
comp=Z,2.0nm,0.5s,baz=332,slow=0.9,SNR=16
I62A Tamworth 110.93 10 IAMs_20 IAMs_20 22 31 05.8
comp=Z,3µm,22.0s
OLIL Olney 111.13 25 IAMs_20 IAMs_20 22 35 52.1
comp=Z,2µm,20.0s
HPIG 111.29 45 IAMs_20 IAMs_20 22 32 27.8
comp=Z,2µm,20.0s
BLO Bloomington 111.33 23 IAMs_20 IAMs_20 22 33 21.4
comp=Z,2µm,22.0s
P48A Milroy 111.47 22 IAMs_20 IAMs_20 22 39 18.8
comp=Z,2µm,19.0s
Z35A Perchaven, San 111.48 35 IAMs_20 IAMs_20 22 37 15.2
comp=Z,1µm,19.0s
SIUC Southern Illin 111.58 26 IAMs_20 IAMs_20 22 37 22.9
comp=Z,2µm,20.0s
S44A Carbondale 111.58 26 IAMs_20 IAMs_20 22 37 33.0
comp=Z,2µm,19.0s
PBMO Poplar Bluff 111.88 28 IAMs_20 IAMs_20 22 39 31.6
comp=Z,2µm,18.0s
FCAR Ozark Folk Cen 111.89 29 IAMs_20 IAMs_20 22 39 06.0
comp=Z,2µm,20.0s
LCAR Lake Charles 112.16 29 IAMs_20 IAMs_20 22 34 26.4
comp=Z,2µm,22.0s
M57A Sunshine Farm, 112.19 15 IAMs_20 IAMs_20 22 38 27.1
comp=Z,2µm,20.0s
WCI Wyandotte Cave 112.25 24 IAMs_20 IAMs_20 22 35 18.3
comp=Z,2µm,20.0s
JCT Junction City 112.29 38 IAMs_20 IAMs_20 22 35 41.6
comp=Z,2µm,22.0s
WHTX Lake Whitney, 112.42 36 IAMs_20 IAMs_20 22 40 28.8
comp=Z,1µm,18.0s
PVMO Portageville 112.49 27 IAMs_20 IAMs_20 22 36 27.0
comp=Z,2µm,21.0s
R49A Shelbyville 112.60 23 IAMs_20 IAMs_20 22 38 23.5
comp=Z,2µm,18.0s
Z38A Mt. Pleasant 112.69 33 IAMs_20 IAMs_20 22 37 02.9
comp=Z,2µm,20.0s
HBAR Harrisburg 112.81 28 IAMs_20 IAMs_20 22 36 26.8
comp=Z,1µm,21.0s
LNXT Lenox 112.85 27 IAMs_20 IAMs_20 22 36 47.5
comp=Z,2µm,21.0s
R50A Paris 112.90 22 IAMs_20 IAMs_20 22 34 05.6
comp=Z,2µm,22.0s
T47A Sharon Grove 113.04 25 IAMs_20 IAMs_20 22 35 34.2
comp=Z,2µm,20.0s
HALT Halls 113.07 27 IAMs_20 IAMs_20 22 37 05.0
comp=Z,2µm,20.0s
N62A Caumsett State 113.39 13 IAMs_20 IAMs_20 22 34 57.5
comp=Z,2µm,20.0s
HDBT Hernando Brdge 113.41 28 IAMs_20 IAMs_20 22 42 19.0

	comp=Z,2µm,18.0s							
MET	**Memphis--Engin**	**113.49**	**28**	IAMs_20	IAMs_20	22 37 15.2		
	comp=Z,2µm,20.0s							
MVL	**Millersville**	**113.65**	**15**	IAMs_20	IAMs_20	22 33 31.5		
	comp=Z,2µm,22.0s							
P57A	**Homestead Farm**	**113.72**	**17**	IAMs_20	IAMs_20	22 35 12.4		
	comp=Z,3µm,22.0s							
S51A	**Beattyville**	**113.73**	**22**	IAMs_20	IAMs_20	22 37 48.1		
	comp=Z,2µm,20.0s							
WUPA	**West Chester U**	**113.89**	**15**	IAMs_20	IAMs_20	22 43 32.6		
	comp=Z,2µm,18.0s							
U49A	**Red Boiling Sp**	**113.96**	**24**	IAMs_20	IAMs_20	22 40 35.2		
	comp=Z,2µm,20.0s							
NATX	**Nacogdoches**	**114.05**	**34**	IAMs_20	IAMs_20	22 37 39.5		
	comp=Z,2µm,21.0s							
MACI	**Morro de la Ar**	**114.07**	**320**	IAMs_20	IAMs_20	22 36 47.6		
	comp=Z,2µm,21.0s							
SDMD	**Soldier's Deli**	**114.09**	**16**	IAMs_20	IAMs_20	22 38 45.9		
	comp=Z,1µm,19.0s							
CLTN	**Cedars of Leba**	**114.12**	**25**	IAMs_20	IAMs_20	22 39 39.4		
	comp=Z,1µm,20.0s							
QSPA	**South Pole Qui**	**114.24**	**180**	PKP	**PKiKP**	**21 46 41.0**		**+0.2**
	comp=Z,4.8nm,0.9s,baz=73,slow=0.2,SNR=10							
QSPA				PKKPbc	**PKKPbc**	**21 57 20.8**		**-3.0**
	comp=Z,1.6nm,0.8s,baz=124,slow=2.3,SNR=4.0							
R55A	**Marlinton**	**114.25**	**19**	IAMs_20	IAMs_20	22 43 16.4		
	comp=Z,2µm,18.0s							
PLAL	**Pickwick Lake**	**114.39**	**27**	IAMs_20	IAMs_20	22 39 26.8		
	comp=Z,2µm,19.0s							
735A	**Kenedy**	**114.64**	**38**	IAMs_20	IAMs_20	22 38 57.6		
	comp=Z,2µm,20.0s							
Y45A	**Yeager Farm, C**	**114.73**	**29**	IAMs_20	IAMs_20	22 42 45.9		
	comp=Z,2µm,18.0s							
HKT	**Hockley**	**114.88**	**36**	IAMs_20	IAMs_20	22 39 05.2		
	comp=Z,2µm,19.0s							
SWET	**Sewanee**	**115.05**	**25**	IAMs_20	IAMs_20	22 40 17.9		
	comp=Z,2µm,20.0s							
X48A	**Hartselle**	**115.28**	**26**	IAMs_20	IAMs_20	22 35 53.1		
	comp=Z,2µm,22.0s							
W50A	**Signal Mountai**	**115.30**	**25**	IAMs_20	IAMs_20	22 37 24.5		
	comp=Z,2µm,20.0s							
TKL	**Tuckaleechee C**	**115.45**	**23**		**PKiKP**	**21 46 42.9**		**-1.3**
TKL	**Tuckaleechee C**	**115.45**	**23**	PKIKP	**PKiKP**	**21 46 42.9**		**-1.3**
KVTX	**Kingsville**	**115.59**	**39**	IAMs_20	IAMs_20	22 43 08.8		
	comp=Z,2µm,19.0s							
VBMS	**Vicksburg**	**115.68**	**30**	IAMs_20	IAMs_20	22 36 33.7		
	comp=Z,2µm,22.0s							
V53A	**Saluda**	**115.78**	**22**		**PKiKP**	**21 46 43.2**		**-1.7**
W52A	**Murphy**	**115.90**	**23**	IAMs_20	IAMs_20	22 39 15.5		
	comp=Z,2µm,20.0s							
Y49A	**Blount Mountai**	**116.05**	**26**	IAMs_20	IAMs_20	22 38 38.5		
	comp=Z,2µm,20.0s							
ZAIG	**Zacatecas**	**116.20**	**46**		**PKPdf**	**21 46 44.8**		**-1.5**
346A	**Big Creek Wild**	**116.86**	**30**	IAMs_20	IAMs_20	22 39 22.9		
	comp=Z,2µm,18.0s							
GOGA	**Godfrey**	**117.58**	**24**	IAMs_20	IAMs_20	22 40 18.3		
	comp=Z,2µm,20.0s							
250A	**Grady**	**117.75**	**27**	IAMs_20	IAMs_20	22 38 17.0		
	comp=Z,2µm,21.0s							
152A	**Waverly Hall**	**117.76**	**25**	IAMs_20	IAMs_20	22 41 53.3		
	comp=Z,2µm,20.0s							
BRAL	**Brewton**	**118.12**	**28**	IAMs_20	IAMs_20	22 38 05.0		
	comp=Z,2µm,22.0s							
JRQG	**Juriquilla Cam**	**119.04**	**46**	PKPdf	**PKPdf**	**21 46 49.1**		**-2.7**
MOIG	**Morelia**	**119.27**	**48**	IAMs_20	IAMs_20	22 48 37.5		
	comp=Z,1µm,19.0s							
DBIC	**Dimbokro**	**119.66**	**294**	PKPdf	**PKPdf**	**21 46 51.5**		**-1.3**
DBIC	**Dimbokro**	**119.66**	**294**	PKP	**PKPdf**	**21 46 52.8**		**0.0**
	comp=Z,8.1nm,0.7s,baz=58,slow=2.7,SNR=10.0							
DBIC				PKKPab	**PKKPab**	**21 57 04.8**		**-1.2**
	comp=Z,5.6nm,0.7s,baz=257,slow=3.3,SNR=7.8							
DBIC	**Dimbokro**	**119.66**	**294**	PKIKP	**PKPdf**	**21 46 51.5**		**-1.3**
UNM	**Universidad Na**	**120.86**	**46**	IAMs_20	IAMs_20	22 42 08.5		
	comp=Z,1µm,21.0s							
TROLL	**Troll, Antarti**	**122.03**	**199**	⇑P	**PKPdf**	**21 46 55.4**		**-0.4**
	comp=Z,899nm,0.6s							
TROLL	**Troll, Antarti**	**122.03**	**199**	⇓P	**PKKPbc**	**21 56 49.9**		**-5.2**
	comp=Z,327nm,0.8s							
TLIG	**Tlapa**	**122.52**	**47**		**PKPdf**	**21 46 57.8**		**-0.5**
SNAA	**Sanae**	**123.71**	**198**	⇑P	**PKPdf**	**21 46 56.3**		**-2.7**
	comp=Z,136nm,0.8s							
SNAA	**Sanae**	**123.71**	**198**	⇓P	**PKKPbc**	**21 56 44.5**		**-3.9**
	comp=Z,145nm,1.0s							
SNAA	**Sanae**	**123.71**	**198**	PKPdf	**PKPdf**	**21 46 58.4**		**-0.6**
SNAA				IAMs_20	IAMs_20	22 43 53.1		
	comp=Z,1µm,20.0s							
SNAA	**Sanae**	**123.71**	**198**	PKP	**PKiKP**	**21 46 59.2**		**0.0**
	comp=Z,15nm,1.2s,baz=196,slow=4.4,SNR=6.0							
SNAA				PKKPbc	**PKKPab**	**21 56 46.0**		**+1.4**
	comp=Z,7.3nm,1.0s,baz=274,slow=3.8,SNR=14							
SNAA	**Sanae**	**123.71**	**198**	PKIKP	**PKPdf**	**21 46 58.4**		**-0.6**
SNAA				MLR	MLR			
	comp=Z,1µm,20.0s							
VNA2	**Neumayer--Watz**	**125.36**	**198**	⇑P	**PKPdf**	**21 47 01.9**		**-0.1**
	comp=Z,44nm,0.8s,baz=99,slow=2.0							
VNA2	**Neumayer--Watz**	**125.36**	**198**	⇓P	**PKKPbc**	**21 56 39.1**		**-2.7**
	comp=Z,1.6nm,0.5s,baz=341,slow=12							
BELA	**Belgrano 2**	**125.39**	**186**	IAMs_20	IAMs_20	22 40 09.1		
	comp=Z,1µm,19.0s							
VNA1	**Neumayer--Stat**	**125.75**	**198**	⇑P	**PKPdf**	**21 47 02.4**		**-0.3**
	comp=Z,38nm,1.0s							
VNA1	**Neumayer--Stat**	**125.75**	**198**	⇓P	**PKKPbc**	**21 56 39.1**		**-1.2**
	comp=Z,5.7nm,1.0s							
VNA3	**Neumayer Olymp**	**125.82**	**197**	⇑P	**PKPdf**	**21 47 02.1**		**-0.8**
	comp=Z,255nm,0.7s							
VNA3	**Neumayer Olymp**	**125.82**	**197**	⇓P	**PKKPbc**	**21 56 37.8**		**-2.2**
	comp=Z,1.6nm,0.8s							
TEIG	**Tepich**	**126.73**	**36**	IAMs_20	IAMs_20	22 52 45.9		
	comp=Z,1µm,20.0s							
CCIG	**Comitan**	**127.61**	**43**	IAMs_20	IAMs_20	22 47 02.9		
	comp=Z,2µm,21.0s							
CAMR	**Camarioca**	**127.63**	**27**	IAMs_20	IAMs_20	22 46 20.7		
	comp=Z,7µm,20.0s							
PETF	**Flores**	**128.49**	**40**	IAMs_20	IAMs_20	22 50 01.9		
	comp=Z,2µm,20.0s							
HUEH	**Huehuetenango**	**128.73**	**43**	IAMs_20	IAMs_20	22 56 10.8		
	comp=Z,2µm,20.0s							
ESQI	**Esquipulas**	**130.64**	**42**	IAMs_20	IAMs_20	22 49 00.2		
	comp=Z,2µm,22.0s							
MTO3	**Montecristo**	**130.75**	**42**	IAMs_20	IAMs_20	22 50 57.2		
	comp=Z,2µm,20.0s							
TGUH	**Tegucigalpa,Un**	**132.26**	**40**	IAMs_20	IAMs_20	22 47 43.0		
	comp=Z,1µm,21.0s							
NMDO	**Nuevo Mundo**	**132.32**	**22**	IAMs_20	IAMs_20	22 49 21.6		
	comp=Z,2µm,20.0s							
CHIV	**Chivirico**	**132.36**	**24**	IAMs_20	IAMs_20	22 49 18.7		
	comp=Z,2µm,21.0s							
GRTK	**Grand Turk**	**132.58**	**17**	IAMs_20	IAMs_20	22 49 27.9		
	comp=Z,2µm,22.0s							
GTBY	**Guantanamo Bay**	**132.87**	**22**	IAMs_20	IAMs_20	22 49 40.1		
	comp=Z,2µm,21.0s							
MTDJ	**Mount Denham**	**133.52**	**26**	IAMs_20	IAMs_20	22 48 00.8		
	comp=Z,2µm,22.0s							
HERN	**Volcan Telica**	**133.67**	**41**	IAMs_20	IAMs_20	22 50 36.3		
	comp=Z,1µm,20.0s							
SIUN	**Universidad Ur**	**133.96**	**37**	IAMs_20	IAMs_20	22 48 50.6		
	comp=Z,607nm,20.0s							
BILN	**Bilwi Airport**	**134.44**	**36**	IAMs_20	IAMs_20	22 55 47.2		
	comp=Z,802nm,19.0s							
BOAB	**BOACO BROADBA**	**134.48**	**39**		**PKPdf**	**21 47 20.5**		**-0.5**
SC01	**Santiago de lo**	**134.67**	**17**	IAMs_20	IAMs_20	22 51 19.5		
	comp=Z,2µm,19.0s							
ACON	**Acoyapa**	**135.15**	**39**		**PKPdf**	**21 47 22.0**		**-0.3**
ESPN	**Las Esperanzas**	**135.46**	**38**	IAMs_20	IAMs_20	22 56 39.6		
	comp=Z,1µm,20.0s							
PRVC	**Isla de Provid**	**136.05**	**34**	IAMs_20	IAMs_20	22 51 41.6		
	comp=Z,1µm,21.0s							
PRSN	**Puerto Rico Se**	**136.67**	**13**	IAMs_20	IAMs_20	22 53 01.3		
	comp=Z,1µm,21.0s							
GCPR	**Guaynabo City**	**136.78**	**11**	IAMs_20	IAMs_20	22 50 15.1		
	comp=Z,998nm,20.0s							
CRPR	**Cabo Rojo, PR**	**136.89**	**13**	IAMs_20	IAMs_20	22 51 43.9		
	comp=Z,1µm,21.0s							
CELP	**Cerrillos**	**136.92**	**12**	IAMs_20	IAMs_20	22 52 26.8		
	comp=Z,1µm,21.0s							
OBIP	**Obispado Ponce**	**136.95**	**12**	IAMs_20	IAMs_20	22 52 28.5		
	comp=Z,1µm,20.0s							
SJG	**San Juan**	**136.97**	**11**	IAMs_20	IAMs_20	22 47 55.0		
	comp=Z,1µm,22.0s							
HUMP	**Col San Antoni**	**136.99**	**11**	IAMs_20	IAMs_20	22 50 20.5		
	comp=Z,1µm,20.0s							
PDPR	**Patillas Dam,**	**137.08**	**11**	PKPdf	**PKPdf**	**21 47 24.2**		**-1.6**
PDPR				IAMs_20	IAMs_20	22 46 28.9		
	comp=Z,1µm,22.0s							
HDC	**Heredia**	**137.34**	**40**	IAMs_20	IAMs_20	23 01 58.5		
	comp=Z,1µm,20.0s							
SABA	**Saba**	**137.88**	**7**	IAMs_20	IAMs_20	22 49 16.9		
	comp=Z,2µm,20.0s							
ANWB	**Willy Bob**	**137.98**	**5**	IAMs_20	IAMs_20	22 45 18.5		
	comp=Z,2µm,22.0s							
SEUS	**St. Eustatius**	**138.03**	**7**	IAMs_20	IAMs_20	22 53 58.1		
	comp=Z,1µm,19.0s							
BRU2	**Volcan**	**139.14**	**39**	IAMs_20	IAMs_20	22 51 18.2		
	comp=Z,1µm,21.0s							
GDHS	**Morne Mazeau,**	**139.36**	**5**	IAMs_20	IAMs_20	22 50 28.8		
	comp=Z,1µm,21.0s							
GDSD	**La Dsirade Is**	**139.38**	**4**	IAMs_20	IAMs_20	22 50 38.6		
	comp=Z,1µm,22.0s							
MAGL	**Barre de l'ile**	**139.72**	**5**	IAMs_20	IAMs_20	22 50 37.7		
	comp=Z,1µm,21.0s							
TDBA	**Terre de Bas,**	**139.79**	**5**	IAMs_20	IAMs_20	22 49 05.4		
	comp=Z,1µm,22.0s							
BCIP	**Isla Barro Col**	**140.40**	**35**	IAMs_20	IAMs_20	22 54 17.0		
	comp=Z,1µm,21.0s							
SVN	**Savane Anatole**	**140.83**	**5**	IAMs_20	IAMs_20	22 46 40.0		
	comp=Z,1µm,22.0s							
FDF	**Fort de France**	**140.94**	**5**	IAMs_20	IAMs_20	22 46 42.9		
	comp=Z,1µm,22.0s							
BIM	**Bigot**	**141.16**	**5**	IAMs_20	IAMs_20	22 51 22.7		
	comp=Z,2µm,22.0s							
SMRC	**Santa Marta, M**	**141.24**	**26**	IAMs_20	IAMs_20	22 56 17.3		
	comp=Z,1µm,20.0s							
SDV	**Santo Domingo**	**144.66**	**22**	PKPdf	**PKPab**	**21 47 36.9**		**-1.6**
SDV				IAMs_20	IAMs_20	22 52 42.7		
	comp=Z,1µm,21.0s							
SDV	**Santo Domingo**	**144.66**	**22**	*eP*	**PKPab**	**21 47 36.8**		**-1.6**
BAUV	**El Baul**	**145.41**	**18**		**PKPbc**	**21 47 38.5**		**-2.1**
HOPE	**Hope Point**	**146.14**	**203**		**PKPdf**	**21 47 41.0**		**+0.2**
HOPE	**Hope Point**	**146.14**	**203**	PKP2	**PKPdf**	**21 47 41.0**		**+0.2**
RUSC	**La Rusia**	**146.47**	**28**		**PKPdf**	**21 47 42.4**		**-0.9**
RUSC				IAMs_20	IAMs_20	22 54 57.2		
	comp=Z,1µm,20.0s							
ROSC	**El Rosal**	**146.86**	**31**		**PKPdf**	**21 47 43.0**		**-0.8**
ROSC	**El Rosal**	**146.86**	**31**	PKPbc	**PKPbc**	**21 47 45.2**		**-0.4**
	comp=Z,115nm,0.7s,baz=130,slow=7.0,SNR=27							
ROSC	**El Rosal**	**146.86**	**31**	PKP2	**PKPdf**	**21 47 43.0**		**-0.8**
OTAV	**Otavalo**	**148.49**	**42**	PKPdf	**PKPdf**	**21 47 44.8**		**-1.8**
OTAV	**Otavalo**	**148.49**	**42**	PKIKP	**PKPdf**	**21 47 44.8**		**-1.8**
OTAV	**Otavalo**	**148.49**	**42**	*eP*	**PKPdf**	**21 47 43.5**		**-2.1**
FLOC	**Florencia**	**148.99**	**36**		**PKPdf**	**21 47 45.9**		**-1.0**
FLOC				IAMs_20	IAMs_20	23 01 42.9		
	comp=Z,1µm,20.0s							
COHC	**Cochancay**	**150.06**	**46**	PKPdf	**PKPdf**	**21 47 47.3**		**-1.2**
MG05	**Puerto Natales**	**150.65**	**162**	PKPbc	**PKPbc**	**21 47 52.8**		**-0.9**
GO09	**Cerro Castillo**	**151.06**	**161**	PKPbc	**PKPbc**	**21 47 54.2**		**-0.5**
RCBR	**Riachuelo**	**151.80**	**307**		**PKPbc**	**21 47 56.0**		**-1.7**
RCBR	**Riachuelo**	**151.80**	**307**	PKIKP	**PKPbc**	**21 47 56.0**		**-1.7**
RCBR				MLR	MLR			
	comp=Z,2µm,22.0s							
RCBR	**Riachuelo**	**151.80**	**307**	*eP*	**PKPdf**	**21 47 50.3**		**-1.0**
NBCL	**Cascavel-CE**	**152.31**	**313**	*eP*	**PKPdf**	**21 47 50.6**		**-1.3**
BOAV	**Boa Vista**	**153.21**	**5**	PKPdf	**PKPdf**	**21 47 51.5**		**-1.8**
BOAV	**Boa Vista**	**153.21**	**5**	*eP*	**PKPdf**	**21 47 52.0**		**-1.3**
NBPB	**Pedra_Branca-C**	**154.15**	**314**	*eP*	**PKPdf**	**21 47 52.6**		**-2.0**
TMAB	**Tom-Âu,PA,Br**	**156.03**	**335**	*eP*	**PKPdf**	**21 47 55.2**		**-2.0**
TBTG	**Tabatinga, AM**	**156.84**	**31**	PKPdf	**PKPdf**	**21 47 56.3**		**-2.0**
TBTG					**PKPab**	**21 48 25.9**		**-1.9**
TBTG	**Tabatinga, AM**	**156.84**	**31**	*eP*	**PKPdf**	**21 47 55.7**		**-2.5**
MAL2	**Monte Alegre,**	**157.39**	**350**	PKPdf	**PKPdf**	**21 47 57.2**		**-1.8**
TEFE	**Tefe**	**158.23**	**18**	*eP*	**PKPdf**	**21 47 57.8**		**-2.2**
CZSB	**Cruzeiro do Su**	**158.25**	**43**	PKPdf	**PKPdf**	**21 47 57.8**		**-2.2**
CZSB				PKPab	**PKPab**	**21 48 31.8**		**-2.1**
CZSB	**Cruzeiro do Su**	**158.25**	**43**	*eP*	**PKPdf**	**21 47 58.7**		**-1.3**
NNA	**Nana**	**158.31**	**58**	IAMs_20	IAMs_20	23 05 07.6		
	comp=Z,1µm,21.0s							
NNA	**Nana**	**158.31**	**58**	PKP	**PKPdf**	**21 48 01.4**		**+1.3**
	comp=Z,6.7nm,0.4s,baz=353,slow=1.2,SNR=1.9							
NNA				PKPab	**PKPab**	**21 48 32.7**		**-1.6**
	comp=Z,16nm,0.6s,baz=265,slow=5.5,SNR=5.1							
NNA	**Nana**	**158.31**	**58**	PKIKP	**PKPdf**	**21 48 01.4**		**+1.3**
NNA						21 48 32.7		
LL01	**San Ignacio de**	**158.53**	**150**	PKPdf	**PKPdf**	**21 47 59.3**		**-0.2**
ITTB	**Itaituba**	**159.91**	**353**	*eP*	**PKPdf**	**21 48 01.4**		**-0.5**
PRPB	**Paraupebas**	**160.18**	**335**	*eP*	**PKPdf**	**21 48 00.1**		**-2.1**
CMC01	**Camacan, BA**	**160.38**	**294**	*eP*	**PKPdf**	**21 48 04.0**		**+1.6**
PLCA	**Paso Flores**	**160.69**	**150**	PKP	**PKPdf**	**21 48 02.8**		**+0.7**
	comp=Z,5.2nm,1.0s,baz=181,slow=8.3,SNR=4.5							
PLCA				PKPab	**PKPab**	**21 48 42.8**		**-1.2**
	comp=Z,11nm,0.9s,baz=199,slow=7.1,SNR=3.7							
PLCA	**Paso Flores**	**160.69**	**150**	PKIKP	**PKPdf**	**21 48 02.8**		**+0.7**
PLCA						21 48 42.8		
PLCA	**Paso Flores**	**160.69**	**150**	*eP*	**PKPdf**	**21 48 02.5**		**+0.4**
GUA01	**Guaratinga, BA**	**161.21**	**291**	*eP*	**PKPdf**	**21 48 04.5**		**+1.3**
SMTB	**Santa Maria do**	**161.56**	**325**	*eP*	**PKPdf**	**21 48 03.1**		**-0.7**
NPGB	**Novo Progresso**	**162.50**	**351**	*eP*	**PKPdf**	**21 48 03.4**		**-1.3**
SDBA	**SAO DESIDERIO**	**162.72**	**312**	*eP*	**PKPdf**	**21 48 04.8**		**-0.1**
SJMB	**Sao Joao De Ma**	**163.30**	**287**	*eP*	**PKPdf**	**21 48 05.4**		**+0.1**
JANB	**Januaria**	**164.05**	**303**	*eP*	**PKPdf**	**21 48 06.0**		**-0.2**
SNDB	**Serra Nova Dou**	**166.03**	**331**	*eP*	**PKPdf**	**21 48 07.4**		**-0.4**
CLDB	**Colider**	**166.33**	**351**	*eP*	**PKPdf**	**21 48 07.7**		**-0.4**
VAS01	**Vassouras-RJ**	**166.41**	**276**	*eP*	**PKPdf**	**21 48 09.5**		**+1.6**
BDFB	**Brasilia**	**167.13**	**311**	PKPdf	**PKPdf**	**21 48 07.0**		**-1.8**
BDFB	**Brasilia**	**167.13**	**311**	PKP	**PKPdf**	**21 48 09.4**		**+0.7**
	comp=Z,12nm,0.8s,baz=44,slow=2.6,SNR=11							
BDFB				PKPab	**PKPab**	**21 49 12.7**		**-0.2**
	comp=Z,7.5nm,0.9s,baz=40,slow=7.6,SNR=3.9							
BDFB	**Brasilia**	**167.13**	**311**	PKIKP	**PKPdf**	**21 48 09.5**		**+0.7**
BDFB						21 49 12.7		
PDRB	**Porto dos Gac**	**167.17**	**354**	*eP*	**PKPdf**	**21 48 08.2**		**-0.5**
LPAZ	**La Paz**	**167.55**	**51**	PKPdf	**PKPdf**	**21 48 08.9**		**-0.7**
LPAZ	**La Paz**	**167.55**	**51**	PKP	**PKPdf**	**21 48 10.4**		**+0.7**
	comp=Z,26nm,1.0s,baz=10.0,slow=2.5,SNR=36							
LPAZ				PKPab	**PKPab**	**21 49 14.8**		**-0.6**
	comp=Z,32nm,0.9s,baz=345,slow=7.2,SNR=13							
LPAZ	**La Paz**	**167.55**	**51**	PKIKP	**PKPdf**	**21 48 10.4**		**+0.7**
LPAZ	**La Paz**	**167.55**	**51**	*eP*	**PKPdf**	**21 48 06.8**		**-2.8**
PMNB	**Patos De Minas**	**167.69**	**296**	*eP*	**PKPdf**	**21 48 07.2**		**-1.8**
PB11	**IPOC Station P**	**168.28**	**69**	PKPdf	**PKPdf**	**21 48 08.1**		**-1.5**
VILB	**Vilhena**	**168.38**	**10**	*eP*	**PKPdf**	**21 48 10.1**		**+0.6**
CFA	**Coronel Fontan**	**168.53**	**131**	PKP	**PKPdf**	**21 48 09.8**		**+0.6**
	comp=Z,5.7nm,0.9s,baz=312,slow=1.9,SNR=6.3							
CFA				PKPab	**PKPab**	**21 49 18.6**		**-0.1**
	comp=Z,4.1nm,0.8s,baz=287,slow=4.0,SNR=6.3							
GO01	**Chusmiza**	**168.63**	**67**	PKPdf	**PKPdf**	**21 48 08.8**		**-1.3**
IPMB	**Ipameri, GO**	**168.79**	**303**	*eP*	**PKPdf**	**21 48 09.8**		**+0.1**
PB01	**IPOC Station P**	**168.92**	**74**		**PKPdf**	**21 48 07.5**		**-2.3**
PB06	**IPOC Station P**	**169.30**	**83**	PKPdf	**PKPdf**	**21 48 08.2**		**-1.9**
ARAG	**Araguaiana, MT**	**169.51**	**325**	*eP*	**PKPdf**	**21 48 10.1**		**-0.1**
VAO	**Valinhos**	**169.74**	**276**	*eP*	**PKPdf**	**21 48 11.5**		**+1.2**
RCLB	**Rio Claro- Sao**	**170.13**	**280**	*eP*	**PKPdf**	**21 48 11.6**		**+1.1**
PET01	**Itanhaem-SP**	**170.17**	**269**	*eP*	**PKPdf**	**21 48 11.7**		**+1.3**
SPB	**Sao Paulo**	**170.25**	**273**	*eP*	**PKPdf**	**21 48 11.7**		**+1.2**
BB19B	**Bebedouro**	**170.59**	**289**	*eP*	**PKPdf**	**21 48 11.9**		**+1.2**
PTLB	**Pontes e Lacer**	**170.99**	**7**	*eP*	**PKPdf**	**21 48 10.6**		**-0.4**
SIV	**San Ignacio**	**171.12**	**19**	PKP	**PKPdf**	**21 48 10.7**		**-0.4**
	comp=Z,24nm,0.8s,baz=118,slow=1.0,SNR=72							
SIV				PKPab	**PKPab**	**21 49 29.4**		**-0.9**
	comp=Z,19nm,1.0s,baz=345,slow=3.0,SNR=7.5							
SALV	**Santo Antonio**	**171.21**	**345**	*eP*	**PKPdf**	**21 48 09.3**		**-1.8**
ITRB	**Iturama**	**171.44**	**302**	*eP*	**PKPdf**	**21 48 10.9**		**-0.3**
PLTB	**Pedras Altas**	**171.72**	**207**	PKPdf	**PKPdf**	**21 48 10.7**		**-0.3**
PLTB	**Pedras Altas**	**171.72**	**207**	*eP*	**PKPdf**	**21 48 12.5**		**+1.5**
BBSD	**Serra de San D**	**172.39**	**19**	*eP*	**PKPdf**	**21 48 11.4**		**-0.3**
CPSB	**Capapava Do Su**	**172.79**	**214**	*eP*	**PKPdf**	**21 48 12.7**		**+1.2**
PCMB	**Pacaembu**	**173.13**	**293**	*eP*	**PKPdf**	**21 48 12.8**		**+0.9**
LDASE	**Londrina, Braz**	**173.56**	**278**	*eP*	**PKPdf**	**21 48 12.2**		**+0.2**
RPRD	**Ribas do Rio P**	**174.36**	**314**	*eP*	**PKPdf**	**21 48 13.6**		**+1.2**
PTGB	**Pitanga**	**174.54**	**266**	*eP*	**PKPdf**	**21 48 12.8**		**+0.4**
TRCB	**Terra Rica**	**174.76**	**287**	*eP*	**PKPdf**	**21 48 13.1**		**+0.6**
AQDB	**Aquidauana**	**175.48**	**331**	*eP*	**PKPdf**	**21 48 13.2**		**+0.6**
BDQN	**Bodoquena, MS**	**175.84**	**343**	*eP*	**PKPdf**	**21 48 11.0**		**-1.7**
AMBA	**Amambai (Brazi**	**176.81**	**298**	*eP*	**PKPdf**	**21 48 12.8**		**-0.1**
MURT	**Porto Murtinho**	**177.19**	**352**	*eP*	**PKPdf**	**21 48 11.3**		**-1.7**
CPUP	**Villa Florida**	**178.02**	**199**	PKPdf	**PKPdf**	**21 48 11.2**		**-1.8**
CPUP	**Villa Florida**	**178.02**	**199**	PKP	**PKPdf**	**21 48 12.2**		**-0.7**
	comp=Z,0.8nm,0.5s,baz=274,slow=1.3,SNR=5.6							
CPUP				PKPab	**pPKPab**	**21 50 00.7**		**-7.9**
	comp=Z,2.5nm,0.9s,baz=14,slow=4.3,SNR=6.2							
CPUP	**Villa Florida**	**178.02**	**199**	PKIKP	**PKPdf**	**21 48 11.2**		**-1.8**
CPUP	**Villa Florida**	**178.02**	**199**	*eP*	**PKPdf**	**21 48 12.8**		**-0.2**
SJPY	**San Joaquin**	**178.14**	**253**	*eP*	**PKPdf**	**21 48 13.8**		**+0.7**

*ISK **07** 21:47:40.5,38°.06N×26°.94E,h5km,ML2.4/12*
AFAD 07 21:47:39.5,38°.04N×26°.91E,h7km±4km,ML2.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMLD	**Gumuldur**	**0.04**	**2**	Pg	Pg	21 47 42.2	+1.2
GMLD				Sg	Sg	21 47 43.5	+1.5
BLCB	**Balcova**	**0.36**	**16**	Pg	Pb	21 47 47.6	-0.7
BLCB				Sg	Sg	21 47 52.7	+1.3
ZEYE	**Izmir, Urla-Ze**	**0.38**	**302**	P	Pg	21 47 47.2	+0.2
ZEYE				S	Sg	21 47 52.6	+0.6
URLA	**Izmir**	**0.41**	**322**	P	Pg	21 47 47.8	+0.3
URLA				S	Sg	21 47 53.9	+1.0
GCAM	**G?zelcaml?**	**0.42**	**143**	P	Pb	21 47 49.1	-0.1
GCAM				S	Sb	21 47 54.5	-1.3
GCAM				*i* IAML		21 47 55.0	
	comp=E,179nm,0.2s						
GCAM				*i* IAML		21 47 57.0	
	comp=N,290nm,0.2s						
DDIM	**Aydin, Didim**	**0.63**	**156**	P	Pg	21 47 51.1	-0.6
DDIM				S	Sg	21 48 00.8	+0.9
DDIM				*i* IAML		21 48 03.0	
	comp=E,89nm,0.6s						
DDIM				*i* IAML		21 48 10.0	
	comp=N,75nm,0.4s						
FOCM	**Foa**	**0.69**	**348**	Pg	Pb	21 47 53.9	0.0
FOCM

DEL				*e*S		**Sn**	**21 53 58.4**	**-2.2**
SOKA	**Soboth**	**5.06**	**188**	*e*Sg		**Sg**	**21 54 28.7**	**-0.8**
	comp=Z,0.9nm,0.4s							
OBKA	**Obir**	**5.27**	**191**	*e*Sg		**Sg**	**21 54 39.8**	**+3.4**
	comp=Z,3.1nm,0.6s							

WEL 07 22:00:08.4±1.9, 32°S±22″×18°0W±2″6, h437km±45km, M3.9/8, mB4.3/6, MLv4.4/5, Mw(mB)3.5/8, Error ellipse: s-maj=36.9km s-min=23.3km az=56.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.66**	**195**	P	P	22 01 38.8	+0.3
WMGZ	**Waiomatatini S**	**5.88**	**194**	P	P	22 01 41.6	+0.8
HAZ	**Te Kaha**	**5.97**	**198**	P	P	22 01 40.8	-0.9
HAZ				S	S	22 02 59.4	+1.3
PKGZ	**Pakihiroa**	**6.00**	**196**	P	P	22 01 42.2	+0.2
WCZ	**Waipu Caves**	**6.16**	**230**	P	P	22 01 42.1	-1.5
RUGZ	**Raukumara Rang**	**6.20**	**198**	P	P	22 01 42.6	-1.6
RUGZ				S	S	22 03 02.2	-0.4
OUZ	**Omahuta**	**6.29**	**239**	P	P	22 01 46.9	+1.8
MWZ	**Matawai**	**6.58**	**198**	P	P	22 01 49.1	+0.8
RIGZ	**Rimuhau**	**6.88**	**196**	P	P	22 01 52.2	+0.7
MUGZ	**Murupara**	**6.94**	**203**	P	P	22 01 52.3	+0.2
SNGZ	**Shannon Statio**	**7.05**	**198**	P	P	22 01 53.6	+0.2
ARHZ	**Aropaoanui**	**7.60**	**199**	P	P	22 01 59.7	+0.6
BKZ	**Black Stump Fm**	**7.66**	**202**	P	P	22 01 59.2	-0.7
KWHZ	**Kaweka Forest**	**7.91**	**201**	P	P	22 02 02.5	-0.2
OTVZ	**Oturere**	**7.94**	**206**	P	P	22 02 02.9	-0.1
PXZ	**Pawanui**	**8.35**	**198**	P	P	22 02 07.4	+0.1

IDC 07 22:06:34.3±1.7, 5°76S×148°35E, h0km, mb3.8/2, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=93.0km s-min=25.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**198**	Pn	Pn	22 07 36.1	+1.8
	19nm,0.3s,baz=15,slow=8.1,SNR=12						
PMG				Sn	Sn	22 08 15.9	-4.0
	12nm,0.3s,baz=12,slow=11,SNR=20						
WRA	**Warramunga Arr**	**19.60**	**223**	P	P	22 11 04.0	-0.4
	0.6nm,0.3s,baz=50,slow=11,SNR=29						
	3.5nm,0.6s						
ASAR	**Alice Springs**	**22.59**	**217**	P	P	22 11 36.3	-0.4
	2.0nm,0.6s,baz=49,slow=9.5,SNR=32						
	2.0nm,0.6s						
ILAR	**Eielson Array**	**84.74**	**23**	P	P	22 19 10.1	0.0
	0.7nm,0.6s,baz=250,slow=4.9,SNR=7.8						
	0.7nm,0.6s						

*IDC **07** 22:16:59.0±1.1, 0°.69N×125°.68E, h0km, mb3.8/5, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=76.7km s-min=18.4km az=72.0*
*DJA **07** 22:17:03.2±0.3, 1°N±4′×12°6E±°, h10km, M4.0/11, mb4.2/3, MLv4.0/11*
ISC 07 22:17:04.9±0.9, 0°.85N±0°.10×126°.20E±0°.07, h44km, n12, σ1§44/12, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.17**	**94**	P	**Pn**	**22 17 24.2**	**-0.6**
KMSI	**Cibinong**	**2.24**	**263**	P	**Pn**	**22 17 37.4**	**-2.1**
SGSI	**Sangihe**	**2.90**	**347**	P	**Pn**	**22 17 49.5**	**+0.8**
LUWI	**Luwuk**	**3.91**	**241**	P	**Pn**	**22 18 01.8**	**-0.7**
APSI	**Ampana**	**4.88**	**249**	P	**Pn**	**22 18 17.5**	**+1.7**
SPSI	**Sidrap Palu**	**8.01**	**233**	P	**Pn**	**22 19 00.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**18.83**	**182**	P	**P**	**22 21 20.2**	**-1.0**
	0.1nm,0.3s,baz=0.0,slow=11,SNR=1.9						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**22.15**	**159**	P	**P**	**22 21 56.5**	**-0.7**
	6.2nm,0.9s,baz=336,slow=12,SNR=22						
	6.2nm,0.9s						
ASAR	**Alice Springs**	**25.49**	**163**	P	**P**	**22 22 29.2**	**-0.1**
	1.1nm,0.5s,baz=344,slow=9.3,SNR=20						
	1.1nm,0.5s						
KSRS	**Korea Array**	**36.46**	**2**	P	**P**	**22 24 07.4**	**+1.7**
	0.5nm,0.5s,baz=170,slow=8.2,SNR=1.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.63**	**326**	P	**P**	**22 27 03.1**	**-1.5**
	0.7nm,0.7s,baz=116,slow=7.4,SNR=6.8						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**63.88**	**328**	P	**P**	**22 27 33.2**	**+0.1**
	0.5nm,0.5s,baz=128,slow=6.3,SNR=4.7						
	0.5nm,0.5s						

IDC 07 22:36:58.1±2.0, 1°.68N×124°.65E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=198.8km s-min=28.2km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**157**	P	P	22 42 10.1	+0.3
	0.9nm,0.3s,baz=335,slow=10,SNR=10						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**26.75**	**161**	P	P	22 42 39.3	-0.4
	0.2nm,0.4s,baz=341,slow=8.0,SNR=1.6						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.09**	**327**	P	P	22 46 53.4	0.0
	0.1nm,0.5s,baz=123,slow=7.1,SNR=1.6						
	0.1nm,0.5s						

*IDC **07** 22:43:24.2±3.1, 4°.91N×125°.06E, h49km±33km, mb3.6/6, mbtmp3.9/7, ML4.1/1, MS3.4/1, Error ellipse: s-maj=41.1km s-min=16.5km az=73.0*
ISC 07 22:43:22.7±1.1, 4°.9N±0°.1×125°.0E±0°.2, h35km, n11, σ0§63/8, mb3.8/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.29**	**15**	P	**Pn**	**22 43 58.0**	**+0.1**
	49nm,0.3s,baz=216,slow=23,SNR=2.0						
DAV				S	**Sn**	**22 44 25.3**	**+0.4**
	295nm,0.5s,baz=272,slow=21,SNR=3.7						
	94nm,0.3s						
GUMO	**Guam**	**21.45**	**65**	LR	LR	22 55 43.0	
	comp=Z,108nm,19.6s,baz=330,slow=35						
WRA	**Warramunga Arr**	**26.30**	**160**	P	**P**	**22 48 56.1**	**+0.9**
	1.9nm,0.7s,baz=339,slow=10,SNR=14						
	1.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.80**	**300**	P	**P**	**22 49 17.8**	**+0.1**
	0.6nm,0.3s,baz=97,slow=9.9,SNR=1.8						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**29.65**	**163**	P	**P**	**22 49 25.2**	**+0.1**
	0.4nm,0.4s,baz=340,slow=6.9,SNR=7.0						
	0.4nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**43.39**	**66**	T	T	23 36 60.0	
	baz=255,slow=75,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**43.40**	**66**	T	T	23 37 01.5	
	baz=255,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**43.41**	**66**	T	T	23 37 02.5	
	baz=255,slow=75,SNR=5.1						
MKAR	**Makanchi Array**	**55.65**	**326**	P	**P**	**22 52 55.6**	**+0.3**
	1.2nm,0.5s,baz=117,slow=8.0,SNR=9.9						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**59.86**	**328**	P	**P**	**22 53 24.5**	**-0.2**
	0.9nm,0.7s,baz=126,slow=6.2,SNR=5.2						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**84.85**	**25**	P	**P**	**22 55 52.6**	**-0.9**
	0.3nm,0.5s,baz=278,slow=5.8,SNR=5.1						
	0.3nm,0.5s						

*IDC **07** 22:47:25.0±1.0, 32°.09N×76°.94E, h0km, mb3.6/12, mbtmp3.6/14, ML3.2/2, Error ellipse: s-maj=31.5km s-min=17.2km az=51.0*
ISC 07 22:47:27.5±0.9, 32°.31N±0°.09×77°.2E±0°.1, h10km, n26, σ1§67/38, mb3.6/12, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**6.54**	**128**	Pn	**Pn**	**22 49 05.5**	**+1.5**
	baz=127,slow=0.0						
PYUN				Sn	**Sn**	**22 50 18.3**	**-0.4**
	54nm,0.4s,baz=127,slow=0.0						
DANN	**Dangsing**	**6.91**	**123**	Pn	**Pn**	**22 49 10.8**	**+1.6**
	baz=122,slow=0.0						
DANN				Sn	**Sn**	**22 50 27.8**	**-0.3**
	37nm,0.3s,baz=122,slow=0.0						
KOLN	**Koldanda**	**7.16**	**127**	Pg	**Pn**	**22 49 14.5**	**+2.0**
	baz=126,slow=0.0						
KOLN				Sg	**Sn**	**22 50 33.4**	**-0.7**
	16nm,0.3s,baz=126,slow=0.0						
GKN	**Gorkha**	**7.74**	**122**	Pn	**Pn**	**22 49 21.8**	**+1.3**
	baz=121,slow=0.0						
GKN				Sn	**Sn**	**22 50 46.9**	**-1.4**
	41nm,0.3s,baz=121,slow=0.0						
DMN	**Daman**	**8.31**	**122**	Pn	**Pn**	**22 49 29.8**	**+1.5**
	baz=122,slow=0.0						
DMN				Sn	**Sn**	**22 51 00.8**	**-1.6**
	14nm,0.3s,baz=122,slow=0.0						
KKN	**Kakani**	**8.33**	**121**	Pg	**Pn**	**22 49 30.2**	**+1.6**
	baz=120,slow=0.0						
KKN				Sg	**Sn**	**22 51 01.2**	**-1.7**
	25nm,0.3s,baz=120,slow=0.0						
PKIN	**Phulchoki**	**8.54**	**121**	Pn	**Pn**	**22 49 32.8**	**+1.3**
	baz=121,slow=0.0						
PKIN				Sn	**Sn**	**22 51 06.2**	**-1.8**
	42nm,0.3s,baz=121,slow=0.0						
PKI	**Pulchoki**	**8.55**	**121**	Pn	**Pn**	**22 49 33.1**	**+1.4**
	baz=121,slow=0.0						
PKI				Sn	**Sn**	**22 51 06.7**	**-1.7**
	30nm,0.3s,baz=121,slow=0.0						
GUN	**Gumba**	**8.71**	**118**	Pn	**Pn**	**22 49 35.8**	**+1.9**
	baz=118,slow=0.0						
GUN				Sn	**Sn**	**22 51 10.9**	**-1.4**
	10nm,0.3s,baz=118,slow=0.0						
RAMN	**Ramite**	**9.77**	**121**	Pn	**Pn**	**22 49 49.8**	**+1.4**
	baz=120,slow=0.0						
RAMN				Sn	**Sn**	**22 51 35.1**	**-3.2**
	54nm,0.4s,baz=120,slow=0.0						
ODAN	**Odare**	**10.40**	**119**	Pg	**Pn**	**22 49 58.3**	**+1.3**
	baz=118,slow=0.0						
ODAN				Sg	**Sn**	**22 51 51.2**	**-2.6**
	25nm,0.4s,baz=118,slow=0.0						
MKAR	**Makanchi Array**	**14.99**	**14**	Pn	**Pn**	**22 51 01.8**	**+2.4**
	0.1nm,0.3s,baz=203,slow=14,SNR=7.8						
MKAR				Sn	**Sn**	**22 53 41.8**	**-3.7**
	0.1nm,0.3s,baz=200,slow=25,SNR=5.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**18.33**	**3**	P	**Pn**	**22 51 41.8**	**0.0**
	0.1nm,0.3s,baz=198,slow=10,SNR=2.2						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**21.28**	**349**	P	**P**	**22 52 14.8**	**+0.8**
	1.3nm,0.6s,baz=158,slow=12,SNR=8.6						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**22.31**	**12**	P	**P**	**22 52 27.4**	**+2.3**
	0.8nm,0.4s,baz=202,slow=12,SNR=6.7						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**23.95**	**120**	P	**P**	**22 52 42.7**	**+0.7**
	0.7nm,0.3s,baz=317,slow=9.8,SNR=4.3						
	0.7nm,0.3s						
SONM	**Songino Array**	**27.00**	**46**	P	**P**	**22 53 11.4**	**+1.8**
	0.2nm,0.3s,baz=243,slow=6.3,SNR=2.4						
	0.2nm,0.3s						
BRTR	**Keskin Array B**	**35.72**	**294**	P	**P**	**22 54 25.6**	**-0.9**
	0.5nm,0.8s,baz=81,slow=8.9,SNR=2.9						
	0.5nm,0.8s						
FINES	**FINESS Array B**	**43.79**	**327**	P	**P**	**22 55 31.4**	**-1.7**
	0.7nm,0.7s,baz=109,slow=10,SNR=4.2						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**46.96**	**338**	P	**P**	**22 55 58.5**	**+0.3**
	1.5nm,0.7s,baz=116,slow=8.3,SNR=6.3						
	1.5nm,0.7s						
HFS	**Hagfors**	**49.49**	**324**	P	**P**	**22 56 18.0**	**+0.2**
	1.0nm,0.6s,baz=83,slow=12,SNR=2.9						
	1.0nm,0.6s						
NB2	**NORAR Subarra**	**50.77**	**325**	P	**P**	**22 56 26.4**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**50.77**	**325**	P	**P**	**22 56 26.2**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=94,slow=7.6,SNR=4.4						
	comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr**	**75.42**	**125**	P	**P**	**22 59 10.7**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=318,slow=5.2,SNR=5.4						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**77.30**	**18**	P	**P**	**22 59 21.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=325,slow=5.9,SNR=3.0						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**77.65**	**128**	P	**P**	**22 59 23.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=322,slow=5.9,SNR=5.0						
	comp=Z,0.3nm,0.6s						

*IDC **07** 23:02:13.0±1.1, 24°.70N×122°.17E, h0km, mb3.9/10, mbtmp3.9/10, MS4.0/3, Error ellipse: s-maj=97.0km s-min=15.9km az=64.0*
*NEIC **07** 23:02:22.7±1.7, 24°.54N±0°.04×121°.87E±0°.04, h64km±6km, mb4.0/9, Error ellipse: s-maj=5.4km s-min=5.2km az=152.0*
*TAP **07** 23:02:22.9, 24°.61N×121°.82E, h68km, ML4.7, B*
*JMA **07** 23:02:22.5±0.2, 24°.6N±0°.5×121°.8E±0°.6, h72km±2km, MV4.3/13, TAIWAN REGION*
ISC 07 23:02:23.0±0.6, 24°.62N±0°.02×121°.83E±0°.02, h72km±4km, n210, σ0§85/309, mb4.0/15, 44C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.02**	**117**	⇑*i*P	**Pn**	**23 02 33.5**	**+0.2**
TWC				*i* S	**Sn**	**23 02 41.0**	**+0.2**
ESAO	**Su ao**	**0.04**	**165**	⇑*i*P	**Pn**	**23 02 33.3**	**-0.1**
ESAO				S	**Sn**	**23 02 40.7**	**-0.2**
ILA	**Ilan**	**0.17**	**333**	⇑*i*P	**Pn**	**23 02 34.1**	**+0.5**
ILA				S	**Sn**	**23 02 42.6**	**+1.1**
EWUT	**Wuta**	**0.18**	**196**	⇑*e*P	**Pn**	**23 02 33.7**	**0.0**
TWE	**Neicheng**	**0.18**	**305**	⇑*i*P	**Pn**	**23 02 33.9**	**+0.2**
TWE				*i* S	**Sn**	**23 02 42.0**	**+0.5**
ENA	**Nanau**	**0.21**	**204**	⇑*i*P	**Pn**	**23 02 33.9**	**0.0**
ENA				S	**Sn**	**23 02 42.4**	**+0.7**
NTC	**Toucheng**	**0.24**	**360**	*e*P	**Pn**	**23 02 34.2**	**+0.2**
ENTT	**Nioudou**	**0.24**	**275**	⇑*i*P	**Pn**	**23 02 34.1**	**0.0**
ENTT				*i* S	**Sn**	**23 02 42.3**	**+0.1**
EGS		**0.24**	**22**	⇑*i*P	**Pn**	**23 02 34.3**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.26**	**303**	⇑*i*P	**Pn**	**23 02 34.3**	**+0.1**
FUSB				*i* S	**Sn**	**23 02 42.0**	**-0.5**
LATG	**Datong**	**0.29**	**254**	⇑*i*P	**Pn**	**23 02 34.5**	**0.0**
LATG				*i* S	**Sn**	**23 02 42.3**	**-0.5**
EAHA	**Aohua**	**0.30**	**196**	⇑*e*P	**Pn**	**23 02 34.0**	**-0.3**
EHP	**Heping Village**	**0.32**	**195**	*e*P	**Pn**	**23 02 33.9**	**-0.6**
NWLT	**Wulai**	**0.34**	**298**	⇑*e*P	**Pn**	**23 02 34.5**	**-0.1**
NWLT				*e*S	**Sn**	**23 02 42.3**	**-0.9**
TIPB	**Shuangxi**	**0.35**	**359**	⇑*i*P	**Pn**	**23 02 34.9**	**+0.1**
TIPB				S	**Sn**	**23 02 43.1**	**-0.3**
EOS2	**EOS2**	**0.41**	**118**	‖*e*P	**Pn**	**23 02 35.9**	**+0.8**
TWB1	**Santiao Chiao**	**0.41**	**20**	⇑*i*P	**Pn**	**23 02 35.1**	**-0.1**
TWB1				*i* S	**Sn**	**23 02 43.4**	**-0.8**
YHNB	**Yeheng**	**0.42**	**277**	Pn	**Pn**	**23 02 34.9**	**-0.4**
YHNB				Sn	**Sn**	**23 02 43.5**	**-0.9**
YHNB	**Yeheng**	**0.42**	**277**	P	**Pn**	**23 02 35.4**	**+0.1**
YHNB	**Yeheng**	**0.42**	**277**	⇑*i*P	**Pn**	**23 02 35.1**	**-0.2**
YHNB				*i* S	**Sn**	**23 02 43.5**	**-0.9**
TWA	**Mucha**	**0.43**	**328**	⇑*i*P	**Pn**	**23 02 35.4**	**0.0**
TWA				*i* S	**Sn**	**23 02 44.3**	**-0.1**
NHDH	**Xindian Distri**	**0.44**	**321**	⇑*i*P	**Pn**	**23 02 35.5**	**0.0**
NHDH				*i* S	**Sn**	**23 02 44.4**	**-0.2**
NNSB	**Datong**	**0.45**	**245**	⇑*i*P	**Pn**	**23 02 35.8**	**+0.2**
NNSB				*i* S	**Sn**	**23 02 44.3**	**-0.7**
NNSH	**Datong**	**0.45**	**245**	⇑*i*P	**Pn**	**23 02 35.7**	**+0.1**
NNSH				S	**Sn**	**23 02 44.4**	**-0.5**
NWF	**Wu-fen Shan**	**0.45**	**354**	⇑*i*P	**Pn**	**23 02 35.7**	**+0.1**
NWF				S	**Sn**	**23 02 45.1**	**+0.2**
WFSB	**Wu-fen Shan**	**0.45**	**354**	P	**Pn**	**23 02 35.7**	**+0.1**
WFSB				S	**Sn**	**23 02 44.6**	**-0.1**
TATO	**Taipei**	**0.47**	**319**	Pn	**Pn**	**23 02 35.6**	**-0.1**
TATO				Sn	**Sn**	**23 02 44.4**	**-0.7**
TATO	**Taipei**	**0.47**	**319**	P	**Pn**	**23 02 35.6**	**-0.1**
TATO	**Taipei**	**0.47**	**319**	⇑*i*P	**Pn**	**23 02 35.6**	**-0.1**
TATO				*i* S	**Sn**	**23 02 44.2**	**-0.9**
SXI1	**Grass Mountain**	**0.48**	**5**	⇑P	**Pn**	**23 02 35.6**	**-0.2**
SXI1				*e*S	**Sn**	**23 02 44.7**	**-0.6**
NACB	**Ninganchiao**	**0.49**	**206**	Pn	**Pn**	**23 02 35.0**	**-0.8**
NACB	**Ninganchiao**	**0.49**	**206**	P	**Pn**	**23 02 35.2**	**-0.7**
NACB	**Ninganchiao**	**0.49**	**206**	⇑*i*P	**Pn**	**23 02 35.2**	**-0.7**
NACB				S	**Sn**	**23 02 44.5**	**-0.9**
ETL	**Fush Village**	**0.49**	**203**	*e*P	**Pn**	**23 02 35.3**	**-0.7**
TAP	**Taipei**	**0.51**	**325**	⇑*i*P	**Pn**	**23 02 36.0**	**0.0**
TAP				S	**Sn**	**23 02 45.4**	**-0.3**
ETLH	**Xiulin Townshi**	**0.52**	**218**	⇑*i*P	**Pn**	**23 02 35.9**	**-0.4**
ETLH				*e*S	**Sn**	**23 02 44.9**	**-1.1**
BACT	**New Taipei Cit**	**0.52**	**317**	P	**Pn**	**23 02 36.2**	**+0.1**
BACT				S	**Sn**	**23 02 45.7**	**0.0**
TNOU	**National Taiwa**	**0.53**	**354**	⇑P	**Pn**	**23 02 36.1**	**-0.2**
TNOU				S	**Sn**	**23 02 45.5**	**-0.6**
EOS3	**EOS3**	**0.55**	**127**	⇑*e*P	**Pn**	**23 02 37.0**	**+0.7**
TWD	**Chiawan**	**0.58**	**202**	⇑P	**Pn**	**23 02 36.0**	**-0.7**
TWD				*e*S	**Sn**	**23 02 45.8**	**-1.0**
YM01	**YM01**	**0.58**	**336**	⇑*i*P	**Pn**	**23 02 36.7**	**-0.1**
YM01				S	**Sn**	**23 02 46.8**	**-0.1**
ZUZH	**Zhuzihu**	**0.60**	**334**	⇑*i*P	**Pn**	**23 02 37.0**	**0.0**
ZUZH				*i* S	**Sn**	**23 02 47.0**	**-0.4**
NWRT	**Kuosheng**	**0.60**	**345**	*e*P	**Pn**	**23 02 37.1**	**+0.2**
NWRT				*e*S	**Sn**	**23 02 46.8**	**-0.5**
YM08	**YM08**	**0.61**	**339**	⇑*i*P	**Pn**	**23 02 36.9**	**-0.2**
YM08				*i* S	**Sn**	**23 02 46.4**	**-1.0**
TWS1	**Kuangyinshan**	**0.61**	**322**	‖*i*P	**Pn**	**23 02 37.3**	**+0.2**
TWS1				S	**Sn**	**23 02 47.5**	**0.0**
KSHI	**Guanxi Townshi**	**0.62**	**285**	*e*P	**Pn**	**23 02 37.3**	**+0.2**
KSHI				S	**Sn**	**23 02 47.7**	**+0.1**
NTY	**Taoyuan**	**0.62**	**308**	‖P	**Pn**	**23 02 37.2**	**0.0**
NTY				S	**Sn**	**23 02 47.7**	**+0.1**
NTST	**Danshui**	**0.65**	**328**	⇑*e*P	**Pn**	**23 02 37.6**	**+0.2**
NTST				*e*S	**Sn**	**23 02 48.6**	**+0.5**
FUSS	**Fushou**	**0.65**	**236**	⇑*i*P	**Pn**	**23 02 38.1**	**+0.4**
FUSS				*i* S	**Sn**	**23 02 48.5**	**-0.1**
NFF	**Wufeng Townshi**	**0.65**	**271**	‖P	**Pn**	**23 02 37.5**	**0.0**
NFF				*i* S	**Sn**	**23 02 47.6**	**-0.7**
EOS4	**EOS4**	**0.66**	**138**	‖*i*P	**Pn**	**23 02 37.2**	**0.0**
HWA	**Hwalien**	**0.67**	**198**	*e*P	**Pn**	**23 02 37.4**	**-0.3**
NCUH	**Zhongli**	**0.68**	**301**	‖*i*P	**Pn**	**23 02 37.9**	**+0.1**
NCUH				*i* S	**Sn**	**23 02 48.7**	**-0.1**
NJD	**Zhudong**	**0.69**	**280**	*e*P	**Pn**	**23 02 38.4**	**+0.5**
NJD				*e*S	**Sn**	**23 02 48.6**	**-0.3**
TWY	**Chenhua**	**0.69**	**342**	⇑*i*P	**Pn**	**23 02 38.2**	**+0.3**
TWY				*i* S	**Sn**	**23 02 49.5**	**+0.7**
TWT	**Tachien**	**0.70**	**239**	⇑*i*P	**Pn**	**23 02 39.0**	**+0.8**
TWT				S	**Sn**	**23 02 49.9**	**+0.4**
WHF	**Hehuan Shan**	**0.70**	**228**	⇑*i*P	**Pn**	**23 02 38.4**	**-0.1**
WHF				S	**Sn**	**23 02 49.2**	**-0.7**
NSM	**Shimen**	**0.70**	**342**	P	**Pn**	**23 02 38.2**	**+0.2**
NSM				S	**Sn**	**23 02 49.9**	**+0.7**
TDCB	**Techi**	**0.71**	**240**	⇑*i*P	**Pn**	**23 02 38.9**	**+0.6**
TDCB				S	**Sn**	**23 02 49.0**	**-0.7**
ETM	**Tongmen**	**0.72**	**206**	⇑P	**Pn**	**23 02 37.3**	**-1.0**
LIOB	**Emei**	**0.74**	**272**	*e*P	**Pn**	**23 02 38.5**	**0.0**
LIOB				*e*S	**Sn**	**23 02 49.8**	**-0.2**
NSTT	**Nanjuang**	**0.76**	**271**	‖*i*P	**Pn**	**23 02 38.6**	**0.0**
NSTT				S	**Sn**	**23 02 49.6**	**-0.6**
HSN1	**Hsinchu**	**0.76**	**282**	P	**Pn**	**23 02 38.7**	**+0.1**
HSN1				S	**Sn**	**23 02 50.1**	**-0.1**
TEYL	**Yanliau Villag**	**0.78**	**196**	*e*P	**Pn**	**23 02 38.9**	**0.0**
TEYL				*e*S	**Sn**	**23 02 51.4**	**+0.8**
SBCB	**Hsinchu**	**0.79**	**283**	‖P	**Pn**	**23 02 39.1**	**0.0**
SBCB				S	**Sn**	**23 02 50.8**	**-0.1**
HSN	**Hsinchu**	**0.81**	**283**	P	**Pn**	**23 02 38.8**	**-0.4**
HSN				S	**Sn**	**23 02 50.4**	**-0.8**
NHW	**Xinwu Township**	**0.81**	**299**	‖P	**Pn**	**23 02 39.3**	**0.0**
NHW				S	**Sn**	**23 02 51.5**	**+0.1**
SHUL	**Shoufeng**	**0.86**	**197**	*e*P	**Pn**	**23 02 39.7**	**-0.2**
WHP	**Taichung City**	**0.88**	**247**	‖*i*P	**Pn**	**23 02 41.0**	**+0.9**
WHP				S	**Sn**	**23 02 53.8**	**+0.9**
NJN	**Zhunan**	**0.88**	**275**	*e*P	**Pn**	**23 02 39.8**	**-0.2**
NJN				*e*S	**Sn**	**23 02 52.8**	**+0.1**
ESL	**Shilin**	**0.88**	**205**	⇑*i*P	**Pn**	**23 02 38.9**	**-1.3**
OWD	**Renai**	**0.89**	**222**	⇑*i*P	**Pn**	**23 02 40.5**	**+0.2**
OWD				*e*S	**Sn**	**23 02 52.8**	**-0.5**
WUSB	**Renai**	**0.90**	**226**	⇑*i*P	**Pn**	**23 02 41.0**	**+0.5**
WUSB				*i* S	**Sn**	**23 02 53.4**	**-0.1**
TEGC	**Jichi Village**	**0.94**	**196**	*e*P	**Pn**	**23 02 40.3**	**-0.5**
NMLH	**Miaoli**	**0.95**	**265**	‖*i*P	**Pn**	**23 02 41.2**	**+0.2**
NMLH				*i* S	**Sn**	**23 02 54.3**	**0.0**
WARBT	**Fenglin Townsh**	**0.98**	**205**	⇑P	**Pn**	**23 02 40.0**	**-1.4**
NSY	**Sanyi**	**1.00**	**259**	‖*i*P	**Pn**	**23 02 42.7**	**+1.2**
NSY				*i* S	**Sn**	**23 02 56.1**	**+1.3**
WPL	**Puli Township**	**1.00**	**233**	*e*P	**Pn**	**23 02 42.0**	**+0.5**
WPL				*e*S	**Sn**	**23 02 55.7**	**+0.3**
TWQ1	**Liyutan**	**1.00**	**255**	*e*P	**Pn**	**23 02 41.9**	**+0.3**
TWQ1				S	**Sn**	**23 02 55.2**	**-0.2**
WCS	**Beigang Elemen**	**1.01**	**237**	*e*P	**Pn**	**23 02 42.5**	**+0.9**
DPDB	**Guoxing**	**1.01**	**235**	*e*P	**Pn**	**23 02 42.7**	**+0.9**
**JYNG

TWK				eS		Sn	23 03 16.7	+2.1			
WSL	**Shuilin Townsh**	**1.83**	**234**	*e*P		**Pn**	**23 02 52.1**	**-0.3**			
WSL				eS		Sn	23 03 15.6	+1.0			
SNST	**Tainan City**	**1.85**	**222**	*e*P		**Pn**	**23 02 53.7**	**+1.0**			
CHN1	**Nanshi**	**1.86**	**220**	*e*P		**Pn**	**23 02 53.4**	**+0.6**			
SGST	**Jiashian**	**1.91**	**217**⇑	*e*P		**Pn**	**23 02 53.7**	**+0.3**			
TWG	**Pinlang**	**1.92**	**201**			**Pn**	**23 02 52.3**	**-1.3**			
TWG	**Pinlang**	**1.92**	**201**	*e*P		**Pn**	**23 02 53.1**	**-0.5**			
TWGBT	**Beinan**	**1.92**	**201**	*e*P		**Pn**	**23 02 53.4**	**-0.2**			
TWGBT				eS		Sn	23 03 15.2	-1.7			
CHN8	**Yiju**	**1.95**	**230**	*e*P		**Pn**	**23 02 55.2**	**+1.2**			
LDUT	**Ludao**	**1.96**	**190**	*e*P		**Pn**	**23 02 52.3**	**-1.9**			
JKRS	**Kuro-shima**	**2.02**	**100**	*i*P		**Pn**	**23 02 55.2**	**+0.2**			
JKRS				S		Sn	23 03 19.1	-0.2			
SCST	**Cishan**	**2.12**	**216**	*e*P		**Pn**	**23 02 58.0**	**+1.7**			
JIJ	**Ishigaki jima**	**2.12**	**96**	P		**Pn**	**23 02 55.9**	**-0.4**			
JIJ				S		Sn	23 03 20.1	-1.6			
SSD	**Sandimen**	**2.16**	**211**	*e*P		**Pn**	**23 02 58.6**	**+1.7**			
ECL	**Taimali**	**2.17**	**202**	*e*P		**Pn**	**23 02 57.5**	**+0.6**			
TSCK	**Chigu Township**	**2.17**	**228**	*e*P		**Pn**	**23 02 57.4**	**+0.5**			
TSMG	**Majia**	**2.19**	**210**	*e*P		**Pn**	**23 02 59.0**	**+1.7**			
VWUC	**VWUC**	**2.20**	**280**⇓	*i*P		**Pn**	**23 02 56.7**	**-0.6**			
TWM1	**Shoushan**	**2.20**	**216**	*e*P		**Pn**	**23 02 57.5**	**+0.1**			
MASBT	**Mashibuluo**	**2.28**	**209**	*e*P		**Pn**	**23 03 00.2**	**+1.7**			
MASBT				eS		Sn	23 03 28.1	+2.5			
MATB	**Ma-tsu**	**2.29**	**312**⇓	*e*P		**Pn**	**23 02 57.8**	**-0.8**			
PNG	**Penghu**	**2.33**	**244**	*e*P		**Pn**	**23 02 58.2**	**-0.9**			
PNG				eS		Sn	23 03 24.1	-2.6			
PHUB	**P'eng-hu**	**2.34**	**242**	⇓P		**Pn**	**23 02 58.4**	**-0.9**			
PHUB				eS		Sn	23 03 24.3	-2.7			
EAST	**Anshuo**	**2.40**	**202**	*e*P		**Pn**	**23 03 01.7**	**+1.5**			
WDGT	**Dungji**	**2.40**	**236**	*e*P		**Pn**	**23 02 59.6**	**-0.4**			
WDGT				eS		Sn	23 03 26.9	-1.7			
TAWH	**Dawu Township**	**2.43**	**201**	*e*P		**Pn**	**23 03 02.4**	**+2.0**			
SCZT	**Fangliau**	**2.50**	**207**	*e*P		**Pn**	**23 02 62.6**	**+1.2**			
PTMZ	**Houxiangcun**	**2.50**	**280**⇓	*e*P		**Pn**	**23 03 00.7**	**-0.7**			
LAY	**Lan-yu**	**2.58**	**186**	*e*P		**Pn**	**23 03 00.8**	**-1.8**			
VCHM	**Qimei**	**2.61**	**238**	*e*P		**Pn**	**23 03 01.7**	**-1.2**			
VCHM				eS		Sn	23 03 30.4	-3.1			
JTJ	**Tarama**	**2.61**	**89**	*e*P		**Pn**	**23 03 03.7**	**+0.8**			
JTJ				eS		Sn	23 03 34.2	+0.6			
LYUB	**Lan-yu**	**2.61**	**185**	*e*P		**Pn**	**23 03 01.5**	**-1.5**			
XPSS	**Dashiqiu**	**2.74**	**328**⇓	*e*P		**Pn**	**23 03 04.0**	**-0.6**			
TWK1	**Hengchun**	**2.82**	**200**	*e*P		**Pn**	**23 03 07.7**	**+1.8**			
TWKBT	**Hengchun**	**2.82**	**200**	*e*P		**Pn**	**23 03 06.4**	**+0.5**			
MHZQ	**Yeshan**	**2.93**	**301**⇓	*e*P		**Pn**	**23 03 06.3**	**-0.9**			
JIRB	**Irabujima**	**3.05**	**85**	*e*P		**Pn**	**23 03 10.3**	**+1.5**			
JIRB				eS		Sn	23 03 44.9	+0.8			
KNM	**Kinmen**	**3.10**	**267**⇓	*e*P		**Pn**	**23 03 10.5**	**+0.9**			
JIKM	**Ikemajima**	**3.12**	**84**	eS		**Sn**	**23 03 47.0**	**+1.0**			
JMJ	**Miyako jima 2**	**3.15**	**86**	*e*P		**Pn**	**23 03 11.6**	**+1.3**			
AXDP	**Jialang**	**3.52**	**275**⇓	*e*P		**Pn**	**23 03 14.9**	**-0.4**			
ZPLA	**Ao Xicun**	**3.79**	**260**⇓	*e*P		**Pn**	**23 03 18.3**	**-0.6**			
DSXP	**Dongshan**	**4.12**	**258**⇓	*e*P		**Pn**	**23 03 22.9**	**-0.6**			
SXFK	**Yanhouchang**	**4.18**	**296**⇓	*e*P		**Pn**	**23 03 23.3**	**-1.0**			
KSRS	**Korea Array**	**13.81**	**21**	Pn		**Pn**	**23 05 38.4**	**+2.9**			
	0.5nm,0.3s,baz=201,slow=12,SNR=19										
DAV	**Davao City (W)**	**17.81**	**168**	LR		LR	23 13 16.3				
	comp=Z,194nm,19.0s,baz=134,slow=37										
XLT	**XiLinHaoTe**	**19.80**	**348**	*e*P		**Pn**	**23 06 49.9**	**+0.1**			
XLT				pP		pP	23 07 05.5	+3.1			
SBUM	**Sibu**	**23.91**	**204**	P		**P**	**23 07 28.8**	**-1.5**			
SBUM				IAmb		IAmb	23 07 30.6				
	comp=Z,3.5nm,0.6s										
ULN	**Ulaanbaatar**	**25.99**	**337**	P		**P**	**23 07 48.9**	**-0.3**			
ULN				IAmb		IAmb	23 07 50.5				
	comp=Z,3.8nm,0.9s										
SONM	**Songino Array**	**26.21**	**336**	P		**P**	**23 07 51.2**	**+0.2**			
SONM	**Songino Array**	**26.21**	**336**	P		**P**	**23 07 51.4**	**+0.3**			
	comp=Z,0.8nm,0.4s,baz=152,slow=8.8,SNR=6.9										
	comp=Z,0.8nm,0.4s										
MKAR	**Makanchi Array**	**38.44**	**315**	P		**P**	**23 09 37.9**	**+0.1**			
MKAR	**Makanchi Array**	**38.44**	**315**	P		**P**	**23 09 38.2**	**+0.5**			
	comp=Z,1.0nm,0.8s,baz=102,slow=9.7,SNR=14										
	comp=Z,1.0nm,0.6s										
ZAA0	**Zalesovo Array**	**40.21**	**327**	P		**P**	**23 09 51.1**	**-1.1**			
ZAA0				IAmb		IAmb	23 10 18.5				
	comp=Z,1.8nm,0.7s										
ZALV	**Zalesovo Beam**	**40.21**	**327**	P		**P**	**23 09 51.1**	**-1.1**			
ZALV	**Zalesovo Beam**	**40.21**	**327**	P		**P**	**23 09 51.7**	**-0.5**			
	comp=Z,1.4nm,0.5s,baz=117,slow=7.8,SNR=8.1										
	comp=Z,1.4nm,0.5s										
KURK	**Kurchatov**	**42.14**	**320**	P		**P**	**23 10 07.7**	**-0.5**			
KURK				IAmb		IAmb	23 10 08.9				
	comp=Z,2.4nm,1.1s										
KURBB	**Kurchatov Arra**	**42.16**	**319**	P		**P**	**23 10 08.1**	**-0.2**			
	comp=Z,0.4nm,0.3s,baz=111,slow=9.7,SNR=4.9										
	comp=Z,0.4nm,0.3s										
KK31	**Karatay Array**	**45.68**	**307**	P		**P**	**23 10 37.3**	**+0.6**			
KK31				IAmb		IAmb	23 10 44.1				
	comp=Z,3.5nm,1.4s										
KKAR	**Karatay Array**	**45.68**	**307**	P		**P**	**23 10 37.4**	**+0.7**			
WB0	**Warramunga Arr**	**45.78**	**163**	P		**P**	**23 10 36.2**	**-1.4**			
WRA	**Warramunga Arr**	**45.94**	**164**	P		**P**	**23 10 38.3**	**-0.6**			
WRA	**Warramunga Arr**	**45.94**	**164**	P		**P**	**23 10 37.5**	**-1.3**			
	comp=Z,0.9nm,0.4s,baz=346,slow=8.7,SNR=12										
WRA				PcP		**PcP**	**23 12 14.0**	**-0.7**			
	comp=Z,0.4nm,0.5s,baz=352,slow=3.8,SNR=2.8										
	comp=Z,0.9nm,0.4s										
BVAR	**Borovoye Array**	**47.72**	**320**	P		**P**	**23 10 52.6**	**+0.2**			
	comp=Z,0.9nm,0.5s,baz=107,slow=9.6,SNR=6.4										
	comp=Z,0.9nm,0.5s										
ASAR	**Alice Springs**	**49.41**	**165**	P		**P**	**23 11 05.4**	**-0.3**			
	comp=Z,0.4nm,0.4s,baz=352,slow=7.5,SNR=8.3										
ASAR				PcP		**PcP**	**23 12 26.3**	**-0.8**			
	comp=Z,0.3nm,0.5s,baz=329,slow=4.2,SNR=2.1										
	comp=Z,0.4nm,0.4s										
AB31	**Akbulak array**	**53.56**	**314**	P		**P**	**23 11 36.7**	**+0.2**			
ABKAR	**Akbulak array**	**53.56**	**314**	P		**P**	**23 11 36.8**	**+0.3**			
ARCES	**ARCESS Array B**	**69.36**	**338**	P		**P**	**23 13 22.1**	**-0.6**			
	comp=Z,1.6nm,0.9s,baz=72,slow=4.7,SNR=4.1										
	comp=Z,1.6nm,0.9s										
FINES	**FINESS Array B**	**71.37**	**330**	P		**P**	**23 13 34.6**	**-0.4**			
	comp=Z,1.3nm,0.4s,baz=52,slow=5.9,SNR=30										
	comp=Z,1.3nm,0.4s										
BRTR	**Keskin Array B**	**73.39**	**306**	P		**P**	**23 13 47.8**	**+0.1**			
	comp=Z,1.1nm,0.8s,baz=72,slow=4.0,SNR=5.1										
	comp=Z,1.1nm,0.8s										
VRAC	**Vranov**	**80.99**	**320**	LR		LR	23 52 24.5				
	comp=Z,151nm,21.1s,baz=249,slow=37										
BBB	**Bella Bella**	**82.28**	**36**	LR		LR	23 49 37.5				
	comp=Z,128nm,20.3s,baz=126,slow=35										

WEL 07 23:03:23.4,39°S±24″×17°6E±2°0, h191km±28km, M2.7/31, mB3.8/2, MLv2.7/31, Mw(mB)2.8/2, Error ellipse: s-maj=41.1km s-min=23.7km az=143.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMVZ	**Te Maari**	**0.36**	**187**	P	Pn	23 03 49.7	+0.7
ETVZ	**East Tongariro**	**0.38**	**185**	P	Pn	23 03 49.7	+0.6
SNVZ	**South Ngauruho**	**0.44**	**192**	P	Pn	23 03 50.5	+1.1
TLZ	**Tolley Road**	**0.46**	**338**	P	Pn	23 03 46.9	-2.4
FWVZ	**Far West T-bar**	**0.52**	**198**	P	Pn	23 03 50.6	+0.8
MRHZ	**Matea Rd**	**0.52**	**98**	P	Pn	23 03 48.1	-1.5
WHVZ	**Whangaehu Hut**	**0.54**	**194**	P	Pn	23 03 50.8	+1.0
WNVZ	**Wahianoa**	**0.58**	**192**	P	Pn	23 03 50.9	+1.0
PKVZ	**Pokaka**	**0.62**	**211**	P	Pn	23 03 50.8	+0.8
MOVZ	**Moawhango**	**0.65**	**180**	P	Pn	23 03 51.0	+0.9
BKZ	**Black Stump Fm**	**0.70**	**126**	P	Pn	23 03 50.2	-0.1
MUGZ	**Murupara**	**0.84**	**71**	P	Pn	23 03 47.4	-3.7
VRZ	**Vera Road**	**0.86**	**245**	P	Pn	23 03 51.7	+0.5
NMHZ	**Naumai**	**0.89**	**113**	P	Pn	23 03 51.4	0.0
KRHZ	**Kereru**	**1.00**	**152**	P	Pn	23 03 53.0	+0.9
ARHZ	**Aropaoanui**	**1.09**	**118**	P	Pn	23 03 52.3	-0.4
WAZ	**Wanganui**	**1.16**	**211**	P	Pn	23 03 54.6	+1.3
PNHZ	**Pukenui**	**1.20**	**164**	P	Pn	23 03 54.7	+1.0
TSZ	**Takapari Road**	**1.31**	**173**	P	Pn	23 03 55.8	+1.2
RAGZ	**Rawiri**	**1.33**	**79**	P	Pn	23 03 50.1	-4.6
KAHZ	**Kahuranaki**	**1.35**	**140**	P	Pn	23 03 55.5	+0.6
CKHZ	**Cape Kidnapper**	**1.36**	**132**	P	Pn	23 03 55.0	0.0
NEZ	**North Egmont**	**1.39**	**248**	P	Pn	23 03 55.5	+0.2
WPHZ	**Waipukurau**	**1.41**	**158**	P	Pn	23 03 56.5	+1.1
PKE	**Pukeiti**	**1.45**	**252**	P	Pn	23 03 55.6	-0.2
KHEZ	**Kahui Hut**	**1.46**	**248**	P	Pn	23 03 55.9	0.0
PXZ	**Pawanui**	**1.53**	**146**	P	Pn	23 03 57.0	+0.5
RIGZ	**Rimuhau**	**1.57**	**89**	P	Pn	23 03 52.7	-4.2
PRHZ	**Porangahau**	**1.65**	**156**	P	Pn	23 03 58.4	+0.8
RUGZ	**Raukumara Rang**	**1.71**	**63**	P	Pn	23 03 49.4	-8.9
MKAZ	**Moumakai**	**1.72**	**344**	P	Pn	23 03 48.1	-10
MHGZ	**Mahia Peninsul**	**1.72**	**104**	P	Pn	23 03 55.1	-3.2
ANWZ	**Angora Road**	**1.79**	**162**	P	Pn	23 03 60.0	+1.0
PRWZ	**Pori Road**	**1.80**	**175**	P	Pn	23 04 00.2	+1.1
MRZ	**Mangatainoka R**	**1.90**	**184**	P	Pn	23 04 00.6	+0.4
BFZ	**Birch Farm**	**1.96**	**169**	P	Pn	23 04 01.3	+0.6
OGWZ	**Otaki Gorge**	**2.10**	**192**	P	Pn	23 04 02.7	+0.4
HOWZ	**Holdsworth Sta**	**2.14**	**185**	P	Pn	23 04 02.9	+0.2
KIW	**Kapiti Island**	**2.20**	**197**	P	Pn	23 04 03.3	0.0
WMGZ	**Waiomatatini S**	**2.29**	**67**	P	Pn	23 03 54.4	-10
MTW	**Mount Morrison**	**2.40**	**185**	P	Pn	23 04 05.5	-0.1
CAW	**Cannon Point**	**2.41**	**193**	P	Pn	23 04 05.3	-0.3
DUWZ	**D'Urville Isla**	**2.48**	**214**	P	Pn	23 04 05.4	-1.1
TRWZ	**Traveller**	**2.64**	**181**	P	Pn	23 04 08.1	-0.1
MSWZ	**Moikau Station**	**2.68**	**188**	P	Pn	23 04 08.1	-0.6
TCW	**Tory Channel**	**2.70**	**204**	P	Pn	23 04 08.1	-0.8
PLWZ	**Palliser**	**2.83**	**188**	P	Pn	23 04 09.8	-0.7
TUWZ	**Tuamarina**	**3.01**	**207**	P	Pn	23 04 12.1	-0.5
WCZ	**Waipu Caves**	**3.03**	**338**	P	Pn	23 03 56.9	-16
NNZ	**Nelson**	**3.06**	**216**	P	Pn	23 04 10.7	-2.4
TKNZ	**Takaka Hill**	**3.13**	**223**	P	Pn	23 04 11.5	-2.5
BSWZ	**Blackbirch Sta**	**3.29**	**205**	P	Pn	23 04 14.8	-1.1
MRNZ	**Matariki Terra**	**3.50**	**220**	P	Pn	23 04 15.0	-3.5
THZ	**Tophouse**	**3.71**	**215**	P	Pn	23 04 18.1	-3.1
KHZ	**Kahutara**	**4.02**	**204**	P	Pn	23 04 22.6	-2.4
DSZ	**Denniston Nort**	**4.25**	**224**	P	Pn	23 04 22.9	-5.0
GVZ	**Greta Valley S**	**4.68**	**205**	P	Pn	23 04 29.8	-3.6
LTZ	**Lake Taylor**	**4.81**	**212**	P	Pn	23 04 31.1	-4.0
OKCZ	**Okains Bay**	**5.36**	**201**	P	Pn	23 04 38.2	-3.9
MQZ	**McQueen's Vall**	**5.47**	**204**	P	Pn	23 04 38.2	-5.3
MHCZ	**Mount Hutt**	**5.72**	**212**	P	Pn	23 04 41.3	-5.5
GCSZ	**Gaunt Creek Bo**	**6.13**	**220**	P	Pn	23 04 45.9	-6.1
TMZ	**Timaru**	**6.65**	**211**	P	Pn	23 04 53.2	-5.7

IDC 07 23:17:34.1±2.3, 3°16N×128°44E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=187.9km s-min=21.3km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.68**	**166**	P	P	23 22 45.8	-1.9
	0.8nm,0.4s,baz=344,slow=10.0,SNR=9.0						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**27.19**	**169**	P	P	23 23 20.8	+1.1
	0.4nm,0.8s,baz=350,slow=10,SNR=1.7						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**59.00**	**325**	P	P	23 27 36.2	+0.5
	0.6nm,0.4s,baz=114,slow=8.0,SNR=9.7						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**63.14**	**327**	P	P	23 28 03.7	0.0
	1.8nm,0.2s,baz=126,slow=6.7,SNR=5.9						
	1.8nm,0.2s						

ISN 07 23:26:50.1±0.4, 35.2°34N×45.5°77E, h18km±32km, ML3.0
TEH 07 23:26:50.2, 35.2°28N×45.2°80E, h10km±46km
ISC 07 23:26:48.7±1.3, 35°41N±0°03×45°79E±0°04, h4km±13km, n14, σ0°78/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.86**	**145**	Pg	**Pg**	**23 27 04.7**	**-0.5**
IDHR				Sg	**Sg**	**23 27 16.9**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.91**	**190**	Pg	**Pg**	**23 27 05.9**	**-0.3**
IKRK	**Kirkuk**	**1.18**	**270**	*e*Pg	**Pb**	**23 27 11.5**	**-0.2**
IKRK				*e*Sg	**Sb**	**23 27 27.0**	**-0.3**
IGHG	**Ghaleghazi**	**1.25**	**149**	Pg	**Pg**	**23 27 12.1**	**-0.6**
GLG1	**Gilan-e-Gharb**	**1.29**	**176**	Pg	**Pg**	**23 27 12.4**	**-1.1**
KCHF	**Cheshme Sefid,**	**1.53**	**137**	Pg	**Pb**	**23 27 17.4**	**-0.3**
KCHF				Sg	**Sg**	**23 27 38.8**	**+1.0**
SNQR	**Sonqor, Kerman**	**1.60**	**109**	Pg	**Pg**	**23 27 19.8**	**+0.4**
IHSH	**Hashtrud**	**2.24**	**32**	Pn	**Pg**	**23 27 31.2**	**-0.4**
IAZR	**Azarshahr**	**2.27**	**4**	Pn	**Pg**	**23 27 32.2**	**0.0**
IBDR	**Badra**	**2.29**	**177**	*e*Pn	**Pn**	**23 27 28.0**	**+0.8**
IBDR				*e*Sn	**Sn**	**23 27 56.0**	**+0.1**
IBDR				AML	AML	23 28 07.5	
	comp=E,119nm,0.6s						
IBDR				AML	AML	23 28 10.7	
	comp=N,65nm,0.4s						
BHD	**Baghdad**	**2.43**	**209**	*e*Pn	**Pn**	**23 27 30.0**	**+0.9**
BHD				*e*Sn	**Sn**	**23 27 59.0**	**-0.2**
BHD				AML	AML	23 28 07.4	
	comp=E,248nm,0.5s						
HGHA	**Hamedan- Ghaye**	**2.51**	**87**	Pn	**Pb**	**23 27 33.2**	**-1.2**
ISHB	**Shabestar**	**2.87**	**357**	Pn	**Pb**	**23 27 40.0**	**-0.7**
RAFI	**Al-Rafai**	**3.68**	**176**	*e*Pn	**Pn**	**23 27 47.5**	**+1.2**
RAFI				*e*Sn	**Sn**	**23 28 29.0**	**-1.2**

KRNET 07 23:31:43.7±0.1, 40.2°99N×77.2°96E, h18km, mb2.6
SOME 07 23:31:45.0, 41.2°03N×77.2°83E, h10km
ISC 07 23:31:43.0±2.2, 40°95N±0°07×77°89E±0°07, h2km±16km, n10, σ1°89/20, 6C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.30**	**336**⇑	*i*P	**Pb**	**23 32 07.8**	**-0.4**
KDJ			⇑	*i*S	**Sg**	**23 32 25.4**	**+0.8**
JNKS	**Jany-Kuch**	**1.70**	**274**⇑	*i*P	**Pg**	**23 32 16.3**	**+0.8**
JNKS			⇑	*i*S	**Sg**	**23 32 39.9**	**+2.4**
ULHL	**Ulahol**	**1.79**	**317**⇓	*i*P	**Pg**	**23 32 17.2**	**-0.1**
ULHL			⇓	*i*S	**Sg**	**23 32 41.6**	**+1.0**
TNSS	**Tian-Shan**	**2.20**	**342**	*e*P	**Pb**	**23 32 24.3**	**+0.5**
	1.1nm,0.3s						
TNSS				*e*S	**Sg**	**23 32 52.5**	**-1.2**
	1.8nm,0.3s						
UZB	**Uzynbulak**	**2.35**	**21**	*e*P	**Pg**	**23 32 27.2**	**-0.8**
	2.8nm,0.2s						
UZB				*e*S	**Sg**	**23 32 57.4**	**-1.1**
	12nm,0.4s						
KST	**Kastek**	**2.54**	**326**	*e*P	**Pg**	**23 32 31.3**	**-0.4**
	1.7nm,0.2s						
KST				*e*S	**Sg**	**23 33 04.8**	**+0.2**
	9.2nm,0.5s						
TKM2	**Tokmak 2**	**2.61**	**320**⇑	*i*P	**Pb**	**23 32 29.2**	**-1.5**
TKM2			⇑	*i*S	**Sb**	**23 33 02.4**	**-0.9**
CHKK	**Chushkaly**	**2.98**	**347**	*e*P	**Pb**	**23 32 37.4**	**+0.6**
	24nm,0.2s						
CHKK				*e*S	**Sb**	**23 33 14.9**	**+1.2**
	13nm,0.4s						
SALK	**Salom-Alik**	**3.09**	**270**⇓	*i*P	**Pb**	**23 32 36.3**	**-2.4**
SALK			⇓	*i*S	**Sb**	**23 33 14.8**	**-2.1**
USP	**Ospenovka**	**3.43**	**314**⇓	*i*P	**Pn**	**23 32 40.3**	**+2.8**
USP			⇓	*i*S	**Sb**	**23 33 21.9**	**-4.7**

NEIC 07 23:38:24.5±1.2, 35.2°831N×0.0°008×98.2°09W±0.0°01, h7km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=351.0
NEIC 07 23:38:24.5±1.1, 35°828N±0°008×98°10W±0°01, h5km±4km, mb_Lg3.3/107, ML3.5/54, MS3.5/36, Error ellipse: s-maj=1.3km s-min=1.1km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**113**		Pg	23 38 33.1	+0.3
BCOK					Sg	23 38 39.3	+0.9
CSTR	**Hydro, Custer**	**0.52**	**249**	Pg	Pg	23 38 34.4	0.0
CSTR				Sg	Sg	23 38 42.1	+1.0
OK029	**Liberty Lake**	**0.52**	**93**	Pg	Pg	23 38 34.4	-0.1
OK029				IAmb_Lg		23 38 41.7	
	comp=Z,279nm,1.0s						
OK029				Sg	Sg	23 38 42.0	+0.7
OK004	**Okla Sci Mus**	**0.59**	**121**		Pg	23 38 35.9	+0.1
OK004					Sg	23 38 44.4	+0.9
OK009	**Oakdale Elemen**	**0.60**	**114**		Pg	23 38 36.2	+0.2
ADOK	**Arcadia Dam**	**0.61**	**106**	Pg	Pg	23 38 36.4	+0.1
ADOK				Sg	Sg	23 38 45.0	+0.7
OKCFA	**Oklahoma City**	**0.67**	**128**		Pg	23 38 37.2	-0.1
OKCFA					Sg	23 38 46.6	+0.6
CROK	**Carrier**	**0.68**	**8**	Pg	Pg	23 38 37.6	0.0
CROK				Sg	Sg	23 38 47.0	+0.6
CROK				IAML		23 38 47.6	
	comp=E,2μm,0.4s						
CROK				IAML		23 38 53.8	
	comp=N,2μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**128**	Pg	Pg	23 38 37.3	-0.2
OKCSW				Sg	Sg	23 38 46.8	+0.4
OKCSW				IAML		23 38 47.2	
	comp=E,3μm,0.3s						
FNO	**Franklin**	**0.80**	**135**	Pg	Pg	23 38 39.5	-0.4
FNO				Sg	Sg	23 38 50.7	+0.4
FNO				IAML		23 38 54.0	
	comp=E,2μm,0.5s						
OK038	**West end E0370**	**0.83**	**321**	Pg	Pg	23 38 40.0	-0.5
OK038				Sg	Sg	23 38 51.7	+0.4

GC02	**Grant County #**	**1.04**	**11**	Pg	Pg	23 38 43.6	-0.8				
GC02				Sg	Sg	23 38 57.9	0.0				
NOKA	**Waynoka**	**1.05**	**320**	Pg	Pg	23 38 44.0	-0.6				
NOKA				Sg	Sg	23 38 58.2	0.0				
OK052	**Battle Ridge R**	**1.06**	**81**	Pg	Pg	23 38 44.3	-0.6				
OK052				Sg	Sg	23 38 58.7	+0.1				
OK052				IAML		23 39 00.7					
	comp=E,867nm,0.3s										
OK052				IAML		23 39 05.0					
	comp=E,977nm,0.3s										
ELIS	**Ellis County**	**1.10**	**283**	Pg	Pg	23 38 44.9	-0.6				
ELIS				Sg	Sg	23 39 00.1	+0.3				
ELIS				IAML		23 39 05.0					
	comp=E,1μm,0.2s										
ELIS				IAML		23 39 11.0					
	comp=N,1μm,0.3s										
KAN14	**Manchester OK**	**1.13**	**5**	Pg	Pg	23 38 45.2	-1.0				
KAN14				IAML		23 39 06.0					
	comp=N,867nm,0.3s										
KAN14				IAML		23 39 07.3					
	comp=E,986nm,0.2s										
BLOK	**Blackwell**	**1.17**	**37**	Pg	Pg	23 38 46.3	-0.6				
BLOK				Sg	Sg	23 39 02.1	0.0				
QUOK	**Quay**	**1.18**	**73**	Pg	Pg	23 38 46.1	-0.9				
QUOK					Sg	23 39 01.8	-0.5				
QUOK				IAML		23 39 07.8					
	comp=E,1μm,0.2s										
WMOK	**Wichita Mounta**	**1.22**	**207**	Pg	Pg	23 38 46.8	-1.1				
DEOK	**Depew**	**1.30**	**89**		Pn	23 38 48.0	-1.3				
DEOK				Sg	Sg	23 39 05.8	-0.4				
DEOK				IAML		23 39 11.1					
	comp=E,659nm,0.3s										
DEOK				IAML		23 39 11.2					
	comp=N,842nm,0.3s										
T35A	**Sooner Cattle**	**1.68**	**49**		Pn	23 38 54.5	-0.1				
TUL3	**Leonard**	**1.87**	**87**	Pn	Pn	23 38 57.4	+0.2				
SMWD	**Samnorwood**	**1.90**	**248**	Pn	Pn	23 38 57.5	-0.1				
SMWD					Sb	23 39 24.0	+0.4				
LOOK	**Love County**	**1.98**	**157**	Pn	Pn	23 38 59.1	+0.4				
WTFS	**Witchita Falls**	**2.08**	**188**	Pn	Pn	23 39 00.8	+0.8				
WTFS					Sb	23 39 29.3	+0.5				
RLO	**Rose Lookout**	**2.51**	**81**	Pn

HAYD	**Hayden**	**8.60**	**306**	IAmb_Lg	23 43 13.1	
	comp=Z,21nm,1.0s					
K22A	**Casper**	**9.44**	**319**	IAmb_Lg	23 43 39.4	
	comp=Z,23nm,0.8s					
RSSD	**Black Hills**	**9.45**	**333**	IAmb_Lg	23 43 34.9	
	comp=Z,16nm,0.8s					
I40A	**Norwalk**	**9.89**	**33**	IAmb_Lg	23 43 42.4	
	comp=Z,24nm,0.8s					

IDC 07 23:55:43.6±11.0,**6°.49S**×**129°.39E,h200**km±126km, **mb3.0**/1,**mbtmp3.9**/4,**Error ellipse: s-maj=78.2km s-min=44.7km az=37.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.10**	**197**	P	Pn	23 58 30.8	+0.9
	2.8nm,0.3s,baz=32,slow=11,SNR=26						
FITZ				S	Sn	00 00 44.5	-0.4
	0.5nm,0.3s,baz=209,slow=21,SNR=1.1						
WRA	**Warramunga Arr**	**14.21**	**161**	P	Pn	23 58 55.1	-1.2
	0.5nm,0.3s,baz=341,slow=12,SNR=17						
WRA				S	S	00 01 31.9	-2.6
	1.3nm,0.6s,baz=338,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**17.62**	**166**	P	Pn	23 59 36.6	-0.7
	3.8nm,0.7s,baz=347,slow=11,SNR=29						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	00 06 17.8	-0.2
	0.5nm,0.9s,baz=123,slow=5.3,SNR=2.5						
	0.5nm,0.9s						

*IDC **07** 23:58:09.0±6.7,34°.66N×22°.67E,h0km,mb3.8/3, mbtmp3.5/5,ML3.3/2,Error ellipse: s-maj=113.3km s-min=79.2km az=62.0*

*THE **07** 23:58:18.0,35°.N±7°×2°.3E±°,h79km±11km,M3.0/38, MLh3.0/38*

*AFAD **07** 23:58:21.0,35°.18N×23°.52E,h7km±5km,ML2.8*

ISC 07 23:58:16.4±1.8,**34°.8N**±0°.1×**22°.81E**±0°.07,**h38**km,**n57,** σ1**°77**/68,**mb3.6**/3,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.84**	**59**	P	**Pn**	**23 58 32.7**	**+1.0**
KNDR				S	**Sn**	**23 58 46.3**	**+3.5**
GVD	**Gavdhos**	**1.05**	**87**	P	**Pn**	**23 58 36.4**	**+1.8**
GVD				S	**Sn**	**23 58 52.0**	**+4.0**
ANKY	**Antikythira Is**	**1.14**	**20**	P	**Pn**	**23 58 37.6**	**+1.8**
CHAN	**Chania**	**1.24**	**54**	P	**Pn**	**23 58 38.9**	**+1.8**
KTHA	**Kythira Island**	**1.47**	**8**	P	**Pn**	**23 58 42.1**	**+1.7**
PRNS	**Prines Rethymn**	**1.50**	**67**	P	**Pn**	**23 58 41.6**	**+0.9**
IDI	**Anoyia**	**1.77**	**73**	P	**Pn**	**23 58 46.7**	**+2.1**
VLI	**Veliai**	**1.92**	**3**	P	**Pn**	**23 58 48.9**	**+2.4**
MHLO	**Agia Marina, M**	**2.29**	**34**	P	**Pn**	**23 58 52.8**	**+1.1**
MHLO				S	**Sn**	**23 59 20.4**	**+1.9**
NPS	**Neapolis**	**2.34**	**78**	P	**Pn**	**23 58 54.3**	**+1.9**
ITM	**Ithomi**	**2.48**	**343**	P	**Pn**	**23 58 56.1**	**+1.8**
THR6	**Thira Island,**	**2.62**	**53**	P	**Pn**	**23 58 58.0**	**+1.9**
THR5	**Thira Island,**	**2.62**	**51**	P	**Pn**	**23 58 57.3**	**+1.1**
SNT3	**Nea Kammeni, S**	**2.62**	**52**	P	**Pn**	**23 58 57.3**	**+0.8**
THR3	**Thira Island,**	**2.65**	**52**	P	**Pn**	**23 58 57.7**	**+1.1**
THERA	**Ancient Thera,**	**2.68**	**53**	P	**Pn**	**23 58 58.3**	**+1.3**
GUR	**Goura**	**3.15**	**353**	P	**Pn**	**23 59 05.7**	**+2.1**
LTK	**Loutraki**	**3.22**	**2**	P	**Pn**	**23 59 05.6**	**+1.1**
ATH	**Athens Observa**	**3.25**	**13**	P	**Pn**	**23 59 05.9**	**+1.1**
ATHU	**Athens Univers**	**3.26**	**14**	P	**Pn**	**23 59 05.8**	**+0.9**
KLV	**Kalavryta, Ach**	**3.28**	**351**	P	**Pn**	**23 59 07.2**	**+1.8**
PTL	**Penteli**	**3.35**	**14**	P	**Pn**	**23 59 07.3**	**+1.0**
PARN1	**Fyli,Attica,Gr**	**3.37**	**12**	P	**Pn**	**23 59 07.6**	**+1.1**
FILI	**Fyli**	**3.38**	**12**	P	**Pn**	**23 59 07.8**	**+1.1**
VILL	**Villia**	**3.38**	**7**	P	**Pn**	**23 59 07.5**	**+0.8**
DION	**Dionisos Attik**	**3.40**	**15**	P	**Pn**	**23 59 08.0**	**+1.1**
DION				S	**Sn**	**23 59 46.3**	**+0.4**
PARN2	**Moni Osiou Mel**	**3.43**	**9**	P	**Pn**	**23 59 08.2**	**+0.9**
RLS	**Riolos of Patr**	**3.43**	**342**	P	**Pn**	**23 59 09.0**	**+1.7**
KARY	**Karystos**	**3.48**	**22**	P	**Pn**	**23 59 09.0**	**+0.9**
KALE	**Kalithea**	**3.63**	**352**	P	**Pn**	**23 59 11.1**	**+1.0**
SERG	**Sergoula**	**3.66**	**351**	P	**Pn**	**23 59 11.4**	**+0.9**
VLS	**Valsamata**	**3.82**	**333**	P	**Pn**	**23 59 12.1**	**-0.6**
LKR	**Lokris**	**3.85**	**2**	P	**Pn**	**23 59 13.9**	**+0.8**
ANX	**Ano Chora**	**3.85**	**350**	P	**Pn**	**23 59 14.4**	**+1.2**
PVO	**Paravola**	**3.95**	**345**	P	**Pn**	**23 59 17.2**	**+2.8**
AXAR	**Agios Charalam**	**3.96**	**358**	P	**Pn**	**23 59 15.5**	**+0.9**
KYMI	**Kymi, Euboea I**	**3.96**	**15**	P	**Pn**	**23 59 15.4**	**+0.7**
FSK	**Fiskardo**	**4.08**	**334**	P	**Pn**	**23 59 16.5**	**+0.3**
MAKR	**Makrakomi, Fth**	**4.24**	**353**	P	**Pn**	**23 59 20.6**	**+2.1**
AMPL	**Ampelaki**	**4.31**	**343**	P	**Pn**	**23 59 20.6**	**+1.2**
AOS	**Alonnisos**	**4.45**	**11**	P	**Pn**	**23 59 21.4**	**+0.2**
TETR	**Tetrakomo, Epi**	**4.70**	**345**	P	**Pn**	**23 59 25.9**	**+1.0**
THL	**Klokotos Trika**	**4.80**	**353**	P	**Pn**	**23 59 26.6**	**+0.5**
TURN	**Turunc**	**4.84**	**64**	P	**Pn**	**23 59 27.6**	**+1.0**
TURN				*i* IAML		00 00 21.0	
	comp=E,12nm,0.9s						
TURN				*i* IAML		00 00 56.0	
	comp=N,15nm,0.9s						
PRMD	**Pramanda**	**4.92**	**344**	P	**Pn**	**23 59 28.7**	**+0.9**
SABU	**Mula-Dalaman**	**5.40**	**66**	P	**Pn**	**23 59 35.7**	**+1.3**
SABU				S	**Sn**	**00 00 33.3**	**-1.9**
SABU				*i* IAML		00 00 49.0	
	comp=N,13nm,0.6s						
SABU				*i* IAML		00 00 52.0	
	comp=E,16nm,1.1s						
IZZE	**Mula-Seydike**	**5.47**	**71**	P	**Pn**	**23 59 36.6**	**+1.2**
IZZE				S	**Sn**	**00 00 32.5**	**-4.6**
IZZE				*i* IAML		00 00 41.0	
	comp=N,32nm,0.6s						
IZZE				*i* IAML		00 00 41.0	
	comp=E,31nm,0.3s						
DNZT	**Denizli-Tavas-**	**5.61**	**62**	P	**Pn**	**23 59 39.2**	**+1.9**
DNZT				S	**Sn**	**00 00 40.0**	**-0.6**
DNZT				*i* IAML		00 00 51.0	
	comp=N,6.7nm,0.6s						
DNZT				*i* IAML		00 01 16.0	
	comp=E,4.4nm,2.3s						
TAVA	**DENIZLI_Tavas**	**5.61**	**60**	P	**Pn**	**23 59 39.9**	**+2.5**
TAVA				S	**Sn**	**00 00 41.5**	**+1.0**
TAVA				*i* IAML		00 00 53.0	
	comp=N,5.1nm,1.0s						
TAVA				*i* IAML		00 00 54.0	
	comp=E,7.6nm,1.6s						
KNIK	**Mula-Seydike**	**5.86**	**68**	P	**Pn**	**23 59 42.8**	**+2.0**
KNIK				S	**Sn**	**00 00 42.6**	**-4.2**
KNIK				*i* IAML		00 00 52.0	
	comp=E,11nm,0.6s						
KNIK				*i* IAML		00 01 18.0	
	comp=N,6.3nm,1.1s						
GOLH	**Golhisar**	**5.99**	**64**	P	**Pn**	**23 59 43.6**	**+1.1**
GOLH				S	**Sn**	**00 00 45.9**	**-4.0**
GOLH				*i* IAML		00 00 51.0	
	comp=E,10nm,1.0s						
GOLH				*i* IAML		00 01 21.0	
	comp=N,7.8nm,0.9s						
AKUM	**Antalya-Kumluc**	**6.32**	**74**	P	**Pn**	**23 59 47.4**	**+0.4**
AKUM				S	**Sn**	**00 00 55.8**	**-2.2**
AKUM				*i* IAML		00 00 58.0	
	comp=E,8.7nm,0.4s						
AKUM				*i* IAML		00 01 44.0	
	comp=N,9.4nm,1.3s						
BRTR	**Keskin Array B**	**9.93**	**57**	Pn	**Pn**	**00 00 38.4**	**+1.7**
	0.1nm,0.3s,baz=240,slow=17,SNR=4.7						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**16.57**	**14**	Pn	**Pn**	**00 02 04.3**	**-1.3**
	0.3nm,0.3s,baz=196,slow=9.8,SNR=1.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**42.84**	**51**	P	**P**	**00 06 10.1**	**-0.5**
	0.6nm,0.4s,baz=275,slow=8.8,SNR=9.3						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**45.58**	**56**	P	**P**	**00 06 32.3**	**-0.3**
	0.3nm,0.3s,baz=272,slow=7.9,SNR=11						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**46.64**	**46**	P	**P**	**00 06 39.8**	**-1.0**
	0.9nm,0.4s,baz=272,slow=9.5,SNR=5.3						
	0.9nm,0.4s						

*NNC **08** 00:45:16.3±4.8,36°.73N×69°.46E,h0km,mb6.9,mpv6.5, Error ellipse: s-maj=39.9km s-min=29.6km az=3.0*

*MOS **08** 00:45:25.1±0.8,36°.51N×70°.19E,h230km,mb6.2/93,Error ellipse: s-maj=3.7km s-min=2.9km az=101.0*

*BJI **08** 00:45:25.7,36°.57N×70°.21E,h228km,mB5.8/48,mb6.1/93*

*NEIC **08** 00:45:26.4,36°.54N×70°.20E,h230km,Moment Tension Solution. Duration: 4±1 Moment tensor: Scale 10¹⁷Nm; Mrr3.21; Mθθ-2.18; Mφφ-1.03; Mrθ6.02; Mθφ0.02; Mφr-0.17;*

Fault plane solution: M0 6.66000×10¹⁷ NP1: φs 271.25000°, δ 12.07000°, λ 89.66000°. NP2: φs 91.59000°, δ 77.93000°, λ 90.07000°. Principal axes: T 7.1082, Plg57.0000°, Azm2.0000°; N -1.0253, Plg0.0000°, Azm272.0000°; P -6.0830, Plg33.0000°, Azm182.0000°;

*NEIC **08** 00:45:26.8,36°.54N×70°.09E,h226km*

*ISC-PP **08** 00:45:26,36°.53N×70°.06E,h248km,Mwppsm6.2,Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr0.58±.16; Mθθ-0.49±.21; Mφφ-0.08±.16; Mrθ-0.04±.16; Mθφ-0.29±.15; Mφr0.35±.25; Fault plane solution: M0 2.16000×10¹⁸ NP1: φs 141.90000°, δ 54.60000°, λ 119.60000°. NP2: φs 277.50000°, δ 44.90000°, λ 55.20000°.*

*NEIC **08** 00:45:26.7±1.5,36°.53N±0°.06×70°.06E±0°.07,h226km±1km, mb6.2/251,Mwb5.8/51,Mww5.8/34 Error ellipse: s-maj=9.6km s-min=9.3km az=221.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.57; Mθθ-3.31; Mφφ-1.26; Mrθ5.73; Mθφ0.98; Mφr-0.37; Fault plane solution: M0 7.12000×10¹⁷ NP1: φs 297.40000°, δ 18.71000°, λ 108.79000°. NP2: φs 97.65000°, δ 72.32000°, λ 83.78000°. Principal axes: T 7.5880, Plg62.0000°, Azm358.0000°; N -1.0595, Plg6.0000°, Azm100.0000°; P -6.5285, Plg27.0000°, Azm193.0000°;*

*NEIC **08** 00:45:26.4,36°.54N×70°.08E,h230km*

*GCMT **08** 00:45:26.7±0.1,36°.50N×70°.03E,h228km,MW5.9/161, Moment Tensor Solution. s147,c313; s161,c491; Duration: 2±1 Moment tensor: Scale 10¹⁷Nm; Mrr3.11±.05; Mθθ-3.09±.05; Mφφ-0.01±.05; Mrθ7.39±.04; Mθφ0.65±.05; Mφr-0.28±.04; Best double couple: M0 8.04500×10¹⁷ NP1: φs 290.00000°, δ 12.00000°, λ 107.00000°. NP2: φs 93.00000°, δ 79.00000°, λ 86.00000°. Principal axes: T 8.0260, Plg56.0000°, Azm358.0000°; N 0.0430, Plg4.0000°, Azm94.0000°; P -8.0640, Plg33.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*IPGP **08** 00:45:26.0,36°.55N×70°.05E,h232km,Mw5.8, Fault plane solution: NP1: φs 277.00000°, δ 11.00000°, λ 97.00000°. NP2: φs 90.00000°, δ 79.00000°, λ 89.00000°.*

*IDC **08** 00:45:28.6±0.7,36°.48N×70°.20E,h253km±5km,mb5.8/34, mbtmp6.5/38,Error ellipse: s-maj=5.7km s-min=4.5km az=14.0*

ISC 08 00:45:25.5±0.2,**36°.49N**±0°.02×**70°.13E**±0°.02,**h226**km±1km, **h226**km:**pP-P,n2027,**σ1**°71**/2883,**mb6.1**/426,**387C-85D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.14**	**205**		**Pn**	**00 46 07.7**	**0.0**
KBL	**Kabul**	**2.14**	**205**	P	**Pn**	**00 46 07.9**	**+0.3**
	SNR=6407						
KBL				S	**S**	**00 46 38.9**	**-1.6**
KBL	**Kabul**	**2.14**	**205**	PN	**Pn**	**00 46 07.7**	**0.0**
KBL				S	**S**	**00 46 39.2**	**-1.3**
SIMJ	**Simiganj**	**2.34**	**338**		**Pn**	**00 46 09.5**	**0.0**
GAR	**Garm**	**2.51**	**3**		**Pn**	**00 46 11.7**	**+0.5**
NIL	**Nilore**	**3.82**	**137**		**Pn**	**00 46 27.8**	**+1.6**
NIL	**Nilore**	**3.82**	**137**	P	**Pn**	**00 46 28.1**	**+1.9**
NIL	**Nilore**	**3.82**	**137**	PN	**Pn**	**00 46 27.8**	**+1.6**
NIL				S	**S**	**00 47 12.7**	**-1.1**
OHH	**Osh**	**4.53**	**27**	PN	**Pn**	**00 46 35.5**	**+0.7**
TRKS	**Terek-Say**	**5.09**	**9**	PN	**Pn**	**00 46 41.5**	**-0.3**
ARSB	**Arslanbob**	**5.31**	**24**		**Pn**	**00 46 44.5**	**-0.1**
ARSB	**Arslanbob**	**5.31**	**24**	PN	**Pn**	**00 46 44.5**	**-0.1**
KSH	**Kashi**	**5.51**	**55**	P	**Pn**	**00 46 43.1**	**-4.0**
KSH				S	S	00 47 41.1	-11
IUG	**Iuzhnay**	**5.65**	**359**	*e*PN	**Pn**	**00 46 49.3**	**+0.6**
IUG	**Iuzhnay**	**5.65**	**359**	*e*P	**Pn**	**00 46 49.3**	**+0.6**
CHM	**Chimkent**	**5.83**	**356**	*d i*PN	**Pn**	**00 46 51.7**	**+0.7**
CHM	**Chimkent**	**5.83**	**356**	⇓*i*P	**Pn**	**00 46 51.7**	**+0.7**
ALCI	**Alchi Leh**	**6.20**	**109**	*e*P	Pn	00 47 01.8	+5.7
ALCI				IAML		00 48 07.9	
	comp=N,11μm,0.7s						
ALCI				IAML		00 48 07.9	
	comp=E,13μm,0.5s						
ALCI	**Alchi Leh**	**6.20**	**109**	*e*P	**Pn**	**00 46 56.7**	**+0.7**
ALCI				*e*S	**S**	**00 48 07.4**	**-0.6**
ALCI				IAML		00 48 07.9	
	comp=N,11μm,0.7s						
ALCI				IAML		00 48 07.9	
	comp=E,13μm,0.5s						
DZA	**Taraz**	**6.46**	**8**	*e*PN	**Pn**	**00 46 59.3**	**+0.4**
DZA	**Taraz**	**6.46**	**8**	*e*P	**Pn**	**00 46 59.3**	**+0.4**
BRLS	**Boroldaу**	**6.54**	**358**	*d i*PN	**Pn**	**00 46 56.5**	**-3.4**
BRLS	**Boroldaу**	**6.54**	**358**	⇓*i*P	**Pn**	**00 46 56.5**	**-3.4**
KK31	**Karatay Array**	**6.61**	**2**		**Pn**	**00 47 00.6**	**-0.2**
KK31	**Karatay Array**	**6.61**	**2**	P	Pn	00 46 54.2	-6.7
	comp=E,712nm,0.5s,baz=196,slow=13,SNR=8940						
KK31				⇑S	**S**	**00 48 10.4**	**-6.5**
	comp=E,2μm,0.7s,baz=193,slow=27						
KK31	**Karatay Array**	**6.61**	**2**	*e*PN	**Pn**	**00 47 00.3**	**-0.6**
KKAR	**Karatay Array**	**6.61**	**2**		**Pn**	**00 47 00.5**	**-0.3**
KKAR	**Karatay Array**	**6.61**	**2**	PN	**Pn**	**00 47 00.5**	**-0.3**
UCH	**Uchtor**	**6.66**	**29**	P	**Pn**	**00 47 02.1**	**+0.2**
	SNR=818						
EKS2	**Erkin-Say**	**6.78**	**23**	P	**Pn**	**00 47 03.5**	**+0.5**
	SNR=2560						
AAK	**Ala-Archa**	**7.00**	**27**	P	**Pn**	**00 47 06.5**	**+0.5**
	comp=E,3μm,0.4s,baz=212,slow=13,SNR=1648						
AAK				S	**S**	**00 48 24.3**	**-2.0**
	comp=E,2μm,0.6s,baz=205,slow=14,SNR=7.1						
AAK	**Ala-Archa**	**7.00**	**27**	P	**Pn**	**00 47 06.4**	**+0.5**
	SNR=496						
AAK	**Ala-Archa**	**7.00**	**27**	⇑P	**Pn**	**00 47 02.9**	**-3.1**
	comp=E,886nm,0.6s						
AAK				⇑S	**S**	**00 48 22.5**	**-3.8**
	comp=E,2μm,0.8s						
AAK	**Ala-Archa**	**7.00**	**27**	PN	**Pn**	**00 47 02.9**	**-3.1**
AAK				S	**S**	**00 48 22.5**	**-3.8**
AAK	**Ala-Archa**	**7.00**	**27**	*i* P	**Pn**	**00 47 06.5**	**+0.5**
	SNR=701						
KBK	**Karagaybulak**	**7.19**	**30**	P	**Pn**	**00 47 09.1**	**+0.6**
	SNR=351						
FRU1	**Bishkek**	**7.20**	**27**		**Pn**	**00 47 09.3**	**+0.8**
FRU1	**Bishkek**	**7.20**	**27**	PN	**Pn**	**00 47 09.3**	**+0.8**
BHK	**Bhakra**	**7.27**	**132**	*e*P	Pn	00 47 22.4	+13
BHK	**Bhakra**	**7.27**	**132**	*e*P	Pn	00 47 17.8	+8.3
BHK				IAML		00 48 31.4	
	comp=N,38μm,0.7s						
CHMS	**Chumysh**	**7.41**	**27**	P	**Pn**	**00 47 11.0**	**-0.1**
	SNR=488						
ULHL	**Ulahol**	**7.44**	**38**	P	**Pn**	**00 47 11.9**	**+0.2**
	SNR=680						
USP	**Ospenovka**	**7.55**	**25**	P	**Pn**	**00 47 12.5**	**-0.5**
	SNR=3279						
TKM2	**Tokmak 2**	**7.68**	**32**	P	**Pn**	**00 47 14.9**	**+0.2**
	SNR=490						
SGDS	**Sogindy**	**7.76**	**25**	⇓*i*P	**Pn**	**00 47 15.3**	**-0.4**
KDJ	**Kajisay**	**7.85**	**42**		**Pn**	**00 47 16.7**	**-0.1**
KDJ	**Kajisay**	**7.85**	**42**	PN	**Pn**	**00 47 16.7**	**-0.1**
SMLA	**Simla**	**7.93**	**130**	*e*P	Pn	00 47 24.5	+6.6
SMLA				IAML		00 48 47.0	
	comp=N,14μm,0.5s						
SMLA				IAML		00 48 47.2	
	comp=E,15μm,0.3s						
SMLA				*e*S	**S**	**00 48 49.5**	**+1.7**
SMLA	**Simla**	**7.93**	**130**	*e*P	**Pn**	**00 47 20.3**	**+2.4**
SMLA				IAML		00 48 47.0	
	comp=N,14μm,0.5s						
SMLA				IAML		00 48 47.2	
	comp=E,15μm,0.3s						
SMLA				*e*S	**S**	**00 48 50.1**	**+2.2**
TARG	**Taragay, Kyrgy**	**7.93**	**46**		**Pn**	**00 47 18.0**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.93**	**46**	PN	**Pn**	**00 47 18.0**	**-0.2**
KLP	**Kalpa**	**8.36**	**124**	*e*P	Pn	00 47 28.6	+4.9
KLP				IAML		00 48 57.8	
	comp=N,14μm,0.8s						
KLP				*e*S	**S**	**00 48 59.9**	**+1.4**
KLP				IAML		00 49 00.7	
	comp=E,13μm,0.8s						
KLP	**Kalpa**	**8.36**	**124**	*e*P	**Pn**	**00 47 24.0**	**+0.3**
KLP				*e*S	**S**	**00 48 51.9**	**-6.5**
KLP				IAML		00 48 57.8	
	comp=N,14μm,0.8s						
KLP				*i* S	S	00 48 58.8	+0.4
KLP				IAML		00 49 00.7	
	comp=E,13μm,0.8s						
TNSS	**Tian-Shan**	**8.38**	**37**	*e*PN	**Pn**	**00 47 24.0**	**+0.1**
TNSS	**Tian-Shan**	**8.38**	**37**	*e*P	**Pn**	**00 47 24.1**	**+0.1**
AAA	**Alma-Ata**	**8.50**	**36**	*e*PN	**Pn**	**00 47 25.6**	**+0.5**
AAA				*e*S	**S**	**00 49 01.2**	**+0.1**
AAA	**Alma-Ata**	**8.50**	**36**	*e*P	**Pn**	**00 47 25.7**	**+0.5**
AAA				*e*S	**S**	**00 49 01.2**	**+0.1**
KNDC	**Almaty**	**8.53**	**36**	⇓P	**Pn**	**00 47 26.1**	**+0.6**
	comp=E,14μm,1.4s						
KNDC				⇑S	**S**	**00 48 59.8**	**-2.0**
	comp=E,2μm,1.6s						
KNDC	**Almaty**	**8.53**	**36**	PN	**Pn**	**00 47 26.0**	**+0.6**
KNDC				S	**S**	**00 49 02.0**	**+0.2**
KKR	**Kurukshetra**	**8.59**	**137**	*e*P	Pn	00 47 32.8	+6.4
KKR	**Kurukshetra**	**8.59**	**137**	*e*P	**Pn**	**00 47 28.6**	**+2.3**
KKR				IAML		00 49 01.2	
	comp=N,31μm,1.4s						
KKR				IAML		00 49 03.7	
	comp=E,28μm,0.9s						
PRZ	**Przheval'sk**	**8.76**	**44**		**Pn**	**00 47 29.2**	**+0.7**
PRZ	**Przheval'sk**	**8.76**	**44**	PN	**Pn**	**00 47 29.2**	**+0.7**
KUU	**Kurty**	**8.79**	**31**	*e*PN	**Pn**	**00 47 28.1**	**-0.6**
KUU	**Kurty**	**8.79**	**31**	*e*P	**Pn**	**00 47 28.1**	**-0.6**
CHKK	**Chushkaly**	**9.03**	**33**	*e*P	**Pn**	**00 47 31.2**	**-0.7**
CHKK	**Chushkaly**	**9.03**	**33**	*e*P	**Pn**	**00 47 31.2**	**-0.7**
DDI	**Dehra Dun**	**9.04**	**131**	*e*P	**P**	**00 47 38.9**	**-1.6**
DDI				*e*S	**S**	**00 49 16.0**	**+1.9**
DDI				IAML		00 49 18.5	
	comp=N,11μm,0.2s						
DDI				IAML		00 49 20.3	
	comp=E,17μm,1.2s						
DDI	**Dehra Dun**	**9.04**	**131**	*e*P	**Pn**	**00 47 35.0**	**+2.8**
DDI				*e*S	**S**	**00 49 16.9**	**+2.8**
DDI				IAML		00 49 18.5	
	comp=N,11μm,0.2s						
DDI				IAML		00 49 20.3	
	comp=E,17μm,1.2s						
BTLS	**Baital**	**9.04**	**18**	*d i*P	**Pn**	**00 47 32.0**	**+0.1**
BTLS	**Baital**	**9.04**	**18**	⇓*i*P	**Pn**	**00 47 32.1**	**+0.1**
SATY	**Saty**	**9.14**	**42**	*d i*P	**Pn**	**00 47 33.2**	**-0.2**
SATY				*e*S	**S**	**00 49 16.3**	**-0.1**
SATY	**Saty**	**9.14**	**42**	⇓*i*P	**Pn**	**00 47 33.3**	**-0.2**
SATY				*e*S	**S**	**00 49 16.3**	**-0.1**
UZB	**Uzynbulak**	**9.54**	**43**	*d i*P	**Pn**	**00 47 38.2**	**-0.2**
UZB	**Uzynbulak**	**9.54**	**43**	⇓*i*P	**Pn**	**00 47 38.3**	**-0.2**
KPKS	**Kokpek**	**9.57**	**41**	*e*P	**Pn**	**00 47 38.6**	**-0.2**
KPKS				*e*S	**S**	**00 49 25.9**	**-0.4**
KPKS	**Kokpek**	**9.57**	**41**	*e*P	**Pn**	**00 47 38.6**	**-0.2**
KPKS				*e*S	**S**	**00 49 26.0**	**-0.4**
NRLA	**Narela**	**9.67**	**141**	*e*P	**P**	**00 47 47.2**	**-0.3**
NRLA	**Narela**	**9.67**	**141**	*e*P	**Pn**	**00 47 43.8**	**+3.6**
NRLA				IAML		00 49 22.3	
	comp=E,24μm,0.8s						
NRLA				IAML		00 49 25.5	
	comp=N,14μm,0.8s						
ARXS	**Arharly**	**9.69**	**35**	P	**Pn**	**00 47 39.5**	**-0.9**
UJWA	**Ujwa (Najafgar**	**9.75**	**142**	*e*P	**P**	**00 47 50.1**	**+1.7**
UJWA				IAML		00 49 25.8	
	comp=N,15μm,0.7s						
UJWA	**Ujwa (Najafgar**	**9.75**	**142**	*e*P	**P**	**00 47 45.2**	**-3.1**
UJWA				IAML		00 49 25.8	
	comp=N,15μm,0.7s						
SHLS	**Shalkode**	**9.79**	**44**	*d i*P	**Pn**	**00 47 44.6**	**+3.0**
SHLS	**Shalkode**	**9.79**	**44**	⇓*i*P	**Pn**	**00 47 44.7**	**+3.0**
NPLP	**NPLP New Delhi**	**9.82**	**141**	*e*P	**P**	**00 47 49.3**	**0.0**
NPLP				IAML		00 49 26.0	
	comp=E,8μm,0.5s						
NPLP				IAML		00 49 26.2	
	comp=N,9μm,0.6s						
NPLP	**NPLP New Delhi**	**9.82**	**141**	*e*P	**P**	**00 47 46.6**	**-2.6**
NPLP				IAML		00 49 26.0	
	comp=E,8μm,0.5s						
NPLP				IAML		00 49 26.2	
	comp=N,9μm,0.6s						
PDGK	**Podgornoye**	**9.91**	**44**	⇓P	**Pn**	**00 47 42.5**	**-0.7**
	comp=N,853nm,0.6s						
PDGK				⇓S	**S**	**00 49 36.4**	**+1.9**
	comp=N,3μm,1.3s						
PDGK	**Podgornoye**	**9.91**	**44**	P	**Pn**	**00 47 43.1**	**-0.2**
PDGK				S	**S**	**00 49 30.3**	**-4.2**
SONA	**Sohna**	**10.10**	**142**	*e*P	**P**	**00 47 55.5**	**+3.1**
SONA				IAML		00 49 33.6	
	comp=N,6μm,1.2s						
SONA				IAML		00 49 33.9	
	comp=E,10μm,1.0s						
SONA				*e*S	**S**	**00 49 41.4**	**+2.3**
SONA	**Sohna**	**10.10**	**142**	*e*P	**Pn**	**00 47 48.5**	**+2.9**
SONA				IAML		00 49 33.6	
	comp=N,6μm,1.2s						
SONA				IAML		00 49 33.9	
	comp=E,10μm,1.0s						
SONA				*e*S	**S**	**00 49 42.9**	**+3.8**
TDK	**Taldyqorghan**	**10.56**	**34**	*e*P	**Pn**	**00 47 50.9**	**-0.5**
TDK	**Taldyqorghan**	**10.56**	**34**	*e*P	**Pn**	**00 47 51.0**	**-0.5**
UDPR	**Udaipur**	**12.27**	**164**	*e*P	P	00 48 24.4	+7.8
UDPR	**Udaipur**	**12.27**	**164**	*e*P	**P**	**00 48 17.2**	**+0.6**
UDPR				IAML		00 50 26.6	
	comp=N,3μm,0.7s						
UDPR				IAML		00 50 28.2	
	comp=E,5μm,

KURK **Kurchatov** 15.48 21 ⇓P P 00 48 51.8 +0.1
comp=Z,988nm,1.0s
KURK **Kurchatov** 15.48 21 P P 00 48 50.4 -1.4
KURK S S 00 51 35.7 -6.9
SHME **Shamm** 15.84 233 P P 00 48 56.1 +0.1
SNR=64
SHME P P 00 48 56.1 +0.1
SNR=64
SHME S S 00 51 45.8 -5.1
SHME S S 00 51 45.8 -5.1
SHME **Shamm** 15.84 233 *i* P P 00 48 56.1 +0.1
SNR=253
MDH **Madha** 16.27 231 P P 00 48 59.5 -1.3
SNR=143
MDH P P 00 48 59.5 -1.3
SNR=143
MDH P Pn 00 48 59.7 -2.2
MDH P Pn 00 48 59.7 -2.2
MDH S S 00 51 53.6 -6.3
MDH S S 00 51 53.6 -6.3
MDH **Madha** 16.27 231 *i* P P 00 48 59.4 -1.4
SNR=39
MASF **Masafi** 16.30 231 P Pn 00 49 01.9 -0.4
SNR=29
MASF P Pn 00 49 01.9 -0.4
SNR=29
MASF S S 00 51 57.6 -3.0
MASF S S 00 51 57.6 -3.0
MSFE **Esma-Masafi** 16.31 231 *i* P P 00 49 00.4 -0.9
SNR=697
I31KZ **AKTYUBINSK INF** 16.42 332 P Pn 00 49 03.7 +0.3
baz=137,slow=9.9
AKTO **Aktyubinsk** 16.45 332 P Pn 00 49 03.8 +0.1
comp=Z,4μm,0.9s,baz=141,slow=10,SNR=2568
AKTO S S 00 51 59.8 -3.1
comp=Z,122nm,0.7s,baz=156,slow=20,SNR=8.8
AKTO **Aktyubinsk** 16.45 332 ⇓P Pn 00 49 03.5 -0.3
comp=Z,3μm,0.9s
UMQ **Umm Al-Quwin** 16.51 233 P Pn 00 49 04.6 -0.1
SNR=39
UMQ P Pn 00 49 04.6 -0.1
SNR=39
UMQ **Umm Al-Quwin** 16.51 233 *i* P Pn 00 49 04.5 -0.2
SNR=49
WSAR **Wadi Sarin** 16.53 220 P Pn 00 49 04.8 -0.2
comp=Z,18nm,0.5s,baz=52,slow=20,SNR=759
WSAR PcP PcP 00 53 41.0 -0.3
comp=Z,0.4nm,0.9s,baz=73,slow=19,SNR=1.6
BVA0 **Borovoye Array** 16.53 1 ⇑P Pn 00 49 04.5 -0.2
comp=Z,2μm,1.3s,baz=170,slow=9.7,SNR=5631
BVA0 ⇓S S 00 52 06.8 +2.2
comp=Z,3μm,1.2s,baz=168,slow=26,SNR=26
BVA0 **Borovoye Array** 16.53 1 P Pn 00 49 04.6 -0.2
BVA0 S S 00 52 06.8 +2.2
BVAR **Borovoye Array** 16.53 1 P Pn 00 49 04.6 -0.1
comp=Z,820nm,0.6s,baz=175,slow=7.0,SNR=2079
BVAR S S 00 52 01.6 -3.0
comp=Z,2μm,1.0s,baz=172,slow=13,SNR=17
BVAR PcP PcP 00 53 41.3 +0.6
comp=Z,147nm,0.7s,baz=177,slow=2.5,SNR=5.7
BVAR ScP ScP 00 56 51.8 -1.8
comp=Z,65nm,1.0s,baz=132,slow=2.1,SNR=3.7
BVAR PKiKP PKiKP 01 01 33.0 -0.6
comp=Z,14nm,0.5s,baz=85,slow=1.6,SNR=15
BVAR P3KPbc 01 23 49.2
comp=Z,0.5nm,0.3s,baz=35,slow=5.3,SNR=2.4
BIDO **Bidbid** 16.57 222 P Pn 00 49 05.1 -0.3
SNR=153
BIDO P Pn 00 49 05.1 -0.3
SNR=153
BIDO S S 00 52 02.5 -3.3
BIDO S S 00 52 02.5 -3.3
BRVK **Borovoye** 16.57 0 P Pn 00 49 04.7 -0.4
BRVK **Borovoye** 16.57 0 P Pn 00 49 05.2 +0.1
BRVK S S 00 52 07.1 +1.8
BRVK **Borovoye** 16.57 0 P Pn 00 49 05.2 +0.1
BRVK S S 00 52 07.5 +2.3
UOSS **Minazif** 16.59 230 P P 00 49 03.1 -1.2
UOSS **Minazif** 16.59 230 P P 00 49 03.4 -0.9
UOSS S S 00 52 03.8 -2.3
UOSS **Minazif** 16.59 230 *i* P P 00 49 03.1 -1.2
SNR=190
HATD **Hatta, Dubai** 16.72 230 P P 00 49 06.2 +0.6
SNR=26
HATD P P 00 49 06.2 +0.6
SNR=26
HATD S S 00 52 04.4 -4.4
HATD S S 00 52 04.4 -4.4
HATD **Hatta, Dubai** 16.72 230 *i* P P 00 49 04.8 -0.9
SNR=193
ASHO **Ashiyiah** 16.87 230 P Pn 00 49 08.6 -0.4
SNR=1059
ASHO P Pn 00 49 08.6 -0.4
SNR=1059
ASHO S S 00 52 08.8 -3.0
ASHO S S 00 52 08.8 -3.0
ASHO **Ashiyiah** 16.87 230 *i* P P 00 49 08.0 +0.6
SNR=2218
NAZ **Nazwa, Dubai** 16.89 231 P P 00 49 08.2 +0.6
SNR=467
NAZ S S 00 52 09.9 -2.3
NAZ **Nazwa, Dubai** 16.89 231 *i* P P 00 49 08.1 +0.6
SNR=886
HOQ **Hoqain** 16.97 224 P P 00 49 08.6 +0.2
SNR=57
HOQ P P 00 49 08.6 +0.2
SNR=57
HOQ S S 00 52 09.9 -3.9
HOQ S S 00 52 09.9 -3.9
SMDO **Samad** 16.98 221 P Pn 00 49 09.7 -0.8
SNR=104
SMDO P Pn 00 49 09.7 -0.8
SNR=104
SMDO S S 00 52 10.9 -3.3
SMDO S S 00 52 10.9 -3.3
SOHO **SOHO** 16.99 227 *i* P P 00 49 07.5 -1.2
SNR=286
LKRN **Lenkeran, Azer** 17.06 284 P Pn 00 49 11.4 +0.3
FAQ **Al Faqa, Dubai** 17.11 231 P P 00 49 10.5 +0.6
SNR=37
FAQ P P 00 49 10.5 +0.6
SNR=37
FAQ S S 00 52 13.1 -3.4
FAQ S S 00 52 13.1 -3.4
FAQ **Al Faqa, Dubai** 17.11 231 *i* P P 00 49 10.3 +0.3
SNR=364
ASUD **Al Ashush, Dub** 17.36 231 P P 00 49 13.6 +0.9
SNR=216
ASUD P P 00 49 13.6 +0.9
SNR=216
ASUD S S 00 52 19.0 -2.5
ASUD S S 00 52 19.0 -2.5
ASUD **Al Ashush, Dub** 17.36 231 *i* P Pn 00 49 13.8 -0.9
SNR=350
ALNE **Al Ain** 17.52 229 P P 00 49 15.5 +1.0
SNR=599
ALNE P P 00 49 15.5 +1.0
SNR=599
ALNE S S 00 52 21.4 -3.3
ALNE S S 00 52 21.4 -3.3
ALNE **Al Ain** 17.52 229 *i* P P 00 49 15.5 +1.0
SNR=255
JMDO **Jabal Madar** 17.52 220 P Pn 00 49 15.8 -0.8
SNR=167
JMDO P Pn 00 49 15.8 -0.8
SNR=167
JMDO S S 00 52 21.6 -3.2
JMDO S S 00 52 21.6 -3.2
ARQ **Araqi** 17.61 226 P Pn 00 49 16.8 -0.9
SNR=277
ARQ P Pn 00 49 16.8 -0.9
SNR=277
ARQ S S 00 52 25.0 -1.5
ARQ S S 00 52 25.0 -1.5
AJN **Ajban** 17.62 232 P P 00 49 16.1 +0.6
SNR=280
AJN S S 00 52 22.7 -4.0
AJN **Ajban** 17.62 232 *i* P P 00 49 16.2 +0.6
SNR=775
GTK **Tadong** 18.13 115 *eP* Pn 00 49 27.5 +3.6
GTK **Tadong** 18.13 115 *eP* Pn 00 49 32.3 +8.4
POO **Poona** 18.19 169 IAmb IAmb 00 49 27.7
comp=Z,5μm,0.6s
POO *eP* Pn 00 49 31.1 +6.5
SEKA **Sheki** 18.45 292 P Pn 00 49 26.0 +1.5
MNGR **Mingechevir, A** 18.49 290 P Pn 00 49 27.0 -0.8

MAK **Makhachkala** 18.54 297 *c i* P P 00 49 26.4 +1.2
MAK *eS* S 00 52 46.3 +1.8
MAK pmax pmax
comp=Z,1μm,0.9s
BOK **Bokaro** 18.56 129 *eP* Pn 00 49 33.2 +4.3
BOK IAmb IAmb 00 49 45.4
comp=Z,3μm,1.1s
BOK *eS* S 00 52 57.5 +12
BOK **Bokaro** 18.56 129 *eP* Pn 00 49 37.2 +8.4
BOK IAmb IAmb 00 49 45.4
comp=Z,3μm,1.1s
BOK *eS* S 00 53 05.2 +20
MHTO **MHTO** 18.74 218 P Pn 00 49 29.5 -1.5
SNR=305
MHTO P Pn 00 49 29.5 -1.5
SNR=305
JRN **Qarnain Island** 18.76 237 P P 00 49 27.2 -0.7
SNR=142
JRN P P 00 49 27.2 -0.7
SNR=142
JRN S S 00 52 43.5 -5.7
JRN S S 00 52 43.5 -5.7
LSA **Lhasa** 18.85 105 P Pn 00 49 31.5 -1.2
LSA S S 00 52 42.4 -9.4
LSA pmax pmax
comp=Z,1μm,0.8s
UMZA **Um Al Zommool** 18.88 227 P P 00 49 29.7 +0.5
UMZA P P 00 49 29.7 +0.5
UMZA S S 00 52 47.4 -4.3
UMZA S S 00 52 47.4 -4.3
MZWR **Madinat Zayed** 18.90 232 P P 00 49 29.0 -0.3
MZWR S S 00 52 48.0 -4.0
GANJ **Ganja** 19.05 290 P P 00 49 32.7 +1.8
GHWR **Ruwais** 19.41 235 P P 00 49 34.1 -0.7
GHWR P P 00 49 34.1 -0.7
GHWR S S 00 52 55.9 -6.1
GHWR S S 00 52 55.9 -6.1
SHMA **Al-Shehemyia** 19.49 242 P P 00 49 35.8 +0.1
SNR=109
SHMA S S 00 53 00.5 -3.1
NAX **Nakhchivan** 19.63 285 P P 00 49 38.5 +1.4
MZR **Muzera** 19.70 232 P P 00 49 37.3 -0.7
SNR=162
MZR P P 00 49 37.3 -0.7
SNR=162
MZR S S 00 53 02.7 -5.1
MZR S S 00 53 02.7 -5.1
MZR **Muzera** 19.70 232 *i* P P 00 49 37.3 -0.7
SNR=56
SAKB **Bahrain** 19.73 243 P P 00 49 38.0 -0.1
SAKB S S 00 53 04.5 -3.7
DQM **DQM** 19.85 217 P P 00 49 40.7 +1.1
SNR=77
DQM P P 00 49 40.7 +1.1
SNR=77
GOMU **GeErMu** 19.88 83 P P 00 49 42.0 +1.9
GOMU pP Pn 00 49 45.4 +0.6
GOMU S S 00 53 11.4 -0.2
GOMU pmax pmax
comp=Z,700nm,1.1s
GOMU LR LR
comp=Z,740nm,10.4s
GOMU LR LR
comp=Z,700nm,10.3s
GOMU LR LR
comp=Z,1μm,10.5s
TRNA **Turayna** 20.02 239 P P 00 49 40.5 -0.9
SNR=72
TRNA S S 00 53 08.4 -5.4
SLWR **Sila** 20.13 237 P P 00 49 42.2 -0.3
SLWR P P 00 49 42.2 -0.3
SLWR S S 00 53 10.6 -5.3
SLWR S S 00 53 10.6 -5.3
I46RU **ZALESOVO INFRA** 20.22 26 P P 00 49 43.9 +0.7
baz=216,slow=10,SNR=6.4
ZAA0 **Zalesovo Array** 20.22 26 P 00 49 44.0 +0.8
ZALV **Zalesovo Beam** 20.22 26 P 00 49 44.0 +0.9
ZALV **Zalesovo Beam** 20.22 26 P P 00 49 43.9 +0.7
comp=Z,3μm,0.6s,baz=218,slow=9.2,SNR=6653
ZALV S S 00 53 16.7 -0.3
comp=Z,848nm,1.0s,baz=210,slow=14,SNR=7.3
ZALV PcP PcP 00 53 46.2 -0.8
comp=Z,53nm,0.8s,baz=219,slow=2.4,SNR=0.9
ZALV PKiKP PKiKP 01 01 33.1 -2.0
comp=Z,21nm,0.3s,baz=185,slow=2.1,SNR=35
ZALV P3KPbc 01 23 37.9
comp=Z,0.7nm,0.4s,baz=61,slow=2.8,SNR=3.1
ZALV P3KP 01 24 29.0
comp=Z,3.3nm,0.7s,baz=25,slow=5.3,SNR=5.3
comp=Z,3μm,0.6s
ZALV **Zalesovo Beam** 20.22 26 *i* P P 00 49 43.9 +0.7
ZALV pmax pmax
comp=Z,3μm,0.6s
GNI **Garni** 20.23 288 P P 00 49 46.1 +2.5
GNI **Garni** 20.23 288 P Pn 00 49 46.6 -2.2
comp=Z,2μm,0.7s,baz=69,slow=2.9,SNR=500
GNI S S 00 53 22.8 +4.9
comp=Z,43nm,0.8s,baz=24,slow=19,SNR=1.1
GNI PcP PcP 00 53 49.0 +1.5
comp=Z,83nm,0.8s,baz=90,slow=3.0,SNR=2.6
comp=Z,2μm,0.7s
GNI **Garni** 20.23 288 P Pn 00 49 46.8 -1.9
GNI **Garni** 20.23 288 P P 00 49 43.4 -0.2
comp=Z,38μmcomp=Z,4μm,1.2s
SMRA **Abu-Samra** 20.28 240 P P 00 49 43.7 -0.5
SNR=147
SMRA S S 00 53 15.5 -3.3
HYB **Hyderabad** 20.41 156 *eP* Pn 00 49 55.6 +4.6
HYB IAmb IAmb 00 50 01.1
comp=Z,656nm,1.0s
HYB *eS* S 00 53 34.0 +13
HYB **Hyderabad** 20.41 156 IAmb IAmb 00 49 49.3
comp=Z,4μm,0.7s
HYB *eP* Pn 00 49 55.6 +4.6
HYB *eS* S 00 53 40.3 +19
HYB **Hyderabad** 20.41 156 *eP* P 00 49 44.2 -1.4
HYB IVmB_BB 00 49 49.0
comp=Z,43μm,0.9s
HYB *eS* S 00 53 24.3 +3.0
HYB IVMs_BB IVMs_BB 00 56 10.8
comp=Z,10μm,3.5s
TRLG **Trialeti** 20.81 292 P P 00 49 51.1 +1.3
GUWA **GUWAHATI** 21.04 113 *eP* P 00 50 02.4 +10
GOA **Goa** 21.17 170 *eP* P 00 50 03.5 +10
GOA IAML 00 50 05.8
comp=Z,270nm,0.3s
GOA **Goa** 21.17 170 IAmb IAmb 00 49 57.5
comp=Z,5μm,0.8s
GOA *eP* P 00 50 03.5 +10
BWNR **Bhubaneshwar** 21.18 135 *eP* P 00 50 04.2 +11
SVE **Sverdlovsk** 21.32 346 *d i* P P 00 49 55.5 +0.9
SVE *i* S S 00 53 39.5 +3.2
SVE pmax pmax
comp=Z,4μm,1.3s
ARTI **Arti** 21.43 342 P P 00 49 56.7 +1.0
ARTI **Arti** 21.43 342 P P 00 49 56.2 +0.4
comp=Z,3μm,0.8s,baz=152,slow=8.5,SNR=1228
ARTI S S 00 53 38.8 +0.8
comp=Z,98nm,0.9s,baz=105,slow=20,SNR=1.2
ARTI PcP PcP 00 53 49.8 +0.6
comp=Z,122nm,0.7s,baz=153,slow=9.0,SNR=1.8
ARTI PKiKP PKiKP 01 01 34.4 -1.2
comp=Z,13nm,0.6s,baz=195,slow=2.8,SNR=3.6
comp=Z,3μm,0.8s
ARTI **Arti** 21.43 342 *c i* P P 00 49 56.1 +0.4
ARTI S S 00 53 40.5 +2.5
ARTI pmax pmax
comp=Z,7μm,1.2s
NCK **Nalchik** 21.44 297 *c i* P P 00 49 56.5 +0.4
NCK pmax pmax
comp=Z,2μm,1.0s
SHL **Shillong** 21.54 114 P 00 49 57.8 +0.4
SHL **Shillong** 21.54 114 P P 00 49 57.9 +0.5
SNR=236
SHL **Shillong** 21.54 114 *eP* P 00 50 10.2 +13
SHL IAmb IAmb 00 51 08.0
comp=Z,972nm,1.3s
SHL **Shillong** 21.54 114 P P 00 49 57.8 +0.5
GEVA **Gevas** 21.56 283 P P 00 49 58.6 +1.2
KBZ **Khabaz** 21.98 298 P P 00 50 01.6 +0.4
comp=Z,425nm,0.9s,baz=106,slow=11,SNR=674
KBZ S S 00 53 47.6 +0.5
comp=Z,34nm,0.8s,baz=72,slow=18,SNR=1.3
KBZ PKiKP PKiKP 01 01 35.4 -0.8
comp=Z,4.4nm,0.5s,baz=0.0,slow=3.0,SNR=4.7

KBZ P3KPbc 01 23 31.5
comp=Z,1.0nm,0.6s,baz=225,slow=2.9,SNR=2.1
comp=Z,425nm,0.9s
VIS **Vishakhapatnam** 22.04 145 *eP* P 00 50 12.9 +11
GOF **Gofitskoye** 22.15 301 *c i* P P 00 50 04.2 +1.5
GOF *eS* S 00 53 56.3 +6.5
SHA1 **Shidzhatmaz** 22.16 298 *c i* P P 00 50 03.9 +0.8
KIV **Kislovodsk** 22.17 298 P 00 50 03.7 +0.6
KIV **Kislovodsk** 22.17 298 *eP* P 00 50 03.2 +0.1
KIV *eS* S 00 53 52.1 +1.7
KIV pmax pmax
comp=Z,701nm,4.0s
KIV pmax pmax
comp=Z,568nm,1.0s
KIV MLR MLR
comp=Z,966nm,14.0s
KIV **Kislovodsk** 22.17 298 *i* P P 00 50 03.9 +0.8
SNR=40
KIV **Kislovodsk** 22.17 298 P P 00 50 03.1 0.0
comp=Z,7μmcomp=Z,755nm,1.2s
GURO **Guroymak-BITLI** 22.35 284 P P 00 50 07.3 +2.5
SHAO **Shalim** 22.41 219 P P 00 50 06.8 +1.4
SNR=17
SHAO **Shalim** 22.41 219 *i* P P 00 50 06.4 +1.0
SNR=59
BELG **Belogornoye** 22.46 322 *c i* P P 00 50 06.2 +0.8
BELG pmax pmax
comp=Z,1μm,0.8s
DOK **Doka** 22.71 223 P P 00 50 08.7 +0.7
SNR=83
DOK P P 00 50 08.7 +0.7
SNR=83
DOK S S 00 53 57.2 -2.1
DOK S S 00 53 57.2 -2.1
DMTO **DMTO** 23.02 220 P P 00 50 11.3 +0.4
SNR=19
DMTO P P 00 50 11.3 +0.4
SNR=19
DMTO S S 00 54 02.1 -2.2
DMTO S S 00 54 02.1 -2.2
KOHI **KOHIMA** 23.11 111 *eP* P 00 50 18.8 +7.0
KOHI **KOHIMA** 23.11 111 *eP* P 00 50 23.6 +12
AZL **Aizawl** 23.22 117 *eP* P 00 50 18.0 +5.2
AZL **Aizawl** 23.22 117 *eP* P 00 50 26.1 +13
MARD **Mardin** 23.45 281 P 00 50 16.7 +2.0
WHFO **Wadi Hawf** 23.47 222 P P 00 50 15.3 +0.3
SNR=92
WHFO P P 00 50 15.3 +0.3
SNR=92
KOPT **Kop Dagi** 23.48 288 P 00 50 17.8 +2.6
GTA **Gaotai** 23.54 74 ⇑P P 00 50 17.1 +1.5
GTA sP sP 00 51 26.4 -0.6
GTA PcP PcP 00 53 54.8 +0.7
GTA S S 00 54 13.2 +0.6
GTA ScS ScS 01 00 56.0 -1.5
GTA pmax pmax
comp=Z,600nm,1.0s
GTA pmax pmax
comp=Z,3μm,9.2s
GTA LR LR
comp=Z,1μm,11.5s
GTA LR LR
comp=Z,2μm,10.8s
GTA LR LR
comp=Z,2μm,13.1s
RBK **Rabkut** 23.58 221 P P 00 50 16.2 +0.2
SNR=48
RBK P P 00 50 16.2 +0.2
SNR=48
VSLR **Vesyoloye** 24.00 296 *i* P P 00 50 20.4 +0.8
VSLR pmax pmax
comp=Z,367nm,1.1s
ERBR **Yeremizino-Bor** 24.05 302 *eP* P 00 50 21.1 +1.1
ERBR *e*PP pP 00 51 04.0 +2.0
ERBR *eS* S 00 54 23.3 +3.0
ERBR *e*SS sS 00 55 37.0 -1.7
ERBR pmax pmax
comp=Z,1μm,0.9s
SOC **Sochi** 24.25 296 *eP* P 00 50 19.6 -2.2
SOC *eS* S 00 54 21.4 -2.0
SOC pmax pmax
comp=Z,522nm,0.9s
RAYN **Ar Rayn** 24.85 246 P P 00 50 28.1 +0.6
RAYN **Ar Rayn** 24.85 246 P P 00 50 28.1 +0.6
RAYN pmax pmax
comp=Z,750nm,0.6s
RAYN **Ar Rayn** 24.85 246 *i* P P 00 50 28.2 +0.7
SNR=117
VRH **Novokhopyorsk** 25.02 315 *eP* P 00 50 26.5 -2.1
VRH *e*PP pP 00 51 10.5 -1.7
VRH *eS* S 00 54 34.3 -1.1
VRH pmax pmax
comp=Z,660nm,1.0s
MDRS **Chennai** 25.03 156 *eP* P 00 50 41.7 +13
MDRS IAmb IAmb 00 50 43.5
comp=Z,221nm,0.7s
MDRS **Chennai** 25.03 156 *eP* P 00 50 41.7 +13
MDRS IAmb IAmb 00 51 17.2
comp=Z,3μm,1.5s
ARPR **Arapgir-MALATY** 25.19 286 P P 00 50 33.6 +3.0
ARPR IAmb IAmb 00 50 35.1
comp=Z,1μm,1.2s
KIRV **Kirov** 25.95 335 *c eP* P 00 50 38.2 +1.4
ANN **Anapa** 26.02 299 *c i* P P 00 50 38.2 +0.5
ANN *e*PP pP 00 51 22.9 +0.3
ANN *eS* S 00 54 52.7 +1.3
ANN *e*SS sS 00 56 12.0 -1.6
ANN pmax pmax
comp=Z,640nm,0.6s
GAZ **Gaziantep** 26.29 281 P P 00 50 42.5 +2.2
GAZ IAmb IAmb 00 50 43.9
comp=Z,446nm,1.0s
GAZ PcP 00 54 01.6 +1.4
VORD **Divnogorie** 26.33 313 *eP* P 00 50 38.7 -1.7
VORD *e*PP pP 00 51 21.9 -3.4
VORD pmax pmax
comp=Z,400nm,1.0s
VSR **Storozhevoye** 26.50 314 *eP* P 00 50 40.3 -1.6
VSR *e*PP pP 00 51 21.9 -5.0
VSR *eS* S 00 54 55.2 -3.6
VSR pmax pmax
comp=Z,640nm,0.9s
TOKA **Tokat** 26.55 289 P P 00 50 44.7 +2.1
TOKA IAmb IAmb 00 50 46.2
comp=Z,747nm,1.6s
MOY **Mondy** 26.61 46 *eP* P 00 50 45.8 +2.7
MOY pmax pmax
comp=Z,1μm,1.5s
TNCH **TengChong** 26.84 107 ⇓P P 00 50 47.4 +1.9
TNCH pP pP 00 51 32.0 +0.3
TNCH PP PP 00 51 48.1 -2.8
TNCH sP sP 00 51 58.3 0.0
TNCH S S 00 55 03.0 -2.1
TNCH sS sS 00 56 20.1 -7.5
TNCH SS SS 00 56 42.6 -25
TNCH ScS ScS 01 01 11.9 +0.1
TNCH pmax pmax
comp=Z,610nm,0.8s
LZH **Lanzhou** 27.10 81 ⇑*i* P P 00 50 49.7 +2.0
LZH pP pP 00 51 37.5 +3.4
LZH sP sP 00 52 00.8 0.0
LZH PcP PcP 00 54 03.2 +0.9
LZH S S 00 55 10.9 +1.9
LZH sS sS 00 56 34.0 +2.4
LZH ScP ScP 00 57 20.8 -0.1
LZH ScS ScS 01 01 11.1 -1.6
LZH pmax pmax
comp=Z,380nm,1.1s
LZH pmax pmax
comp=Z,1μm,5.2s
BNN **Bunyan** 27.15 285 P P 00 50 50.0 +2.0
LPSR **Galich'ya Gora** 27.17 316 *eP* P 00 50 46.2 -1.7
LPSR *e*PP pP 00 51 31.4 -1.5
LPSR *eS* S 00 55 05.7 -3.6
LPSR *e*SS sS 00 56 25.7 -6.2
LPSR pmax pmax
comp=Z,1μm,0.9s
FKH **Fakeheh** 27.51 275 *eP* P 00 50 53.6 +2.3
ZAK **Zakamensk** 27.53 49 *eP* P 00 50 53.2 +2.0
ZAK pmax pmax
comp=Z,464nm,1.4s
BEIL **Beino** 27.62 276 *eP* P 00 50 54.3 +2.1
KHAM **Kharkiv** 27.86 310 P P 00 50 54.0 -0.1
HWQ **Hawqa** 27.87 276 *eP* P 00 50 56.8 +2.3

ZAHL **Zahle** 28.03 275 *e*P P **00 50 58.3 +2.4**
RCY **Rachaya** 28.17 274 *e*P P **00 50 59.5 +2.3**
BHL **Bhannes** 28.20 275 *e*P P **00 50 59.7 +2.3**
QRWL **Qaraoun** 28.28 274 *e*P P **00 51 00.3 +2.3**
SHBL **Chebaa** 28.28 274 *e*P P **00 51 00.4 +2.2**
DQRL **Deir Qamar** 28.32 275 *e*P P **00 51 00.8 +2.4**
BZK **Bozkurt** 28.37 292 P P **00 51 00.1 +1.4**
BZK IAmb IAmb 00 51 01.1
comp=Z,395nm,0.8s
BZK Bozkurt 28.37 292 ⇑P P **00 51 00.8 +2.2**
SIM Simferopol' 28.38 299 *e*P P **00 50 59.6 +0.9**
SIM *e**PP **pP** **00 51 44.6 +0.6**
SIM pmax pmax
comp=Z,363nm,1.3s
CD2 Chengdu 28.43 91 P P **00 51 01.0 +1.6**
CD2 pP pP 00 51 45.4 -0.1
CD2 PcP **PcP** **00 54 05.5 0.0**
CD2 S **S** **00 55 31.2 +1.4**
CD2 sS sS 00 56 50.4 -2.1
CD2 ScP **ScP** **00 57 23.2 -1.8**
CD2 ScS **ScS** **01 01 16.1 -2.5**
CD2 pmax pmax
comp=Z,840nm,1.0s
CD2 pmax pmax
comp=Z,1μm,3.5s
TRD Trivandrum 28.54 166 *e*P P 00 51 12.1 +12
TRD IAmb IAmb 00 51 58.4
comp=Z,1μm,1.7s
KIRS Kirsehir-Merke 28.61 286 ⇑P P **00 51 03.1 +2.1**
PZH PanZhiHua 28.62 101 P P **00 51 02.8 +1.6**
PZH pP **pP** **00 51 46.4 -1.4**
PZH PcP **PcP** **00 54 06.6 +0.4**
PZH S **S** **00 55 33.6 +0.6**
PZH sS **sS** **00 56 57.9 +2.2**
PZH ScS **ScS** **01 01 16.0 -3.8**
PZH pmax pmax
comp=Z,210nm,0.9s
PZH pmax pmax
comp=Z,370nm,4.3s
PZH LR LR
comp=Z,980nm,15.8s
PZH LR LR
comp=Z,960nm,16.9s
PZH LR LR
comp=Z,1μm,15.7s
MMAI Mount Meron Ar 28.65 273 P P **00 51 03.6 +2.3**
comp=Z,77nm,0.6s,baz=71,slow=9.3,SNR=234
MMAI PcP **PcP** **00 54 07.0 +0.9**
comp=Z,66nm,0.5s,baz=68,slow=5.1,SNR=28
MMAI S **S** **00 55 34.6 +1.4**
comp=Z,5.8nm,0.8s,baz=78,slow=15,SNR=1.1
MMAI ScP **ScP** **00 57 24.2 -1.4**
comp=Z,41nm,0.9s,baz=79,slow=3.1,SNR=9.8
MMAI PKiKP **PKiKP** **01 01 39.5 -0.9**
comp=Z,1.6nm,0.4s,baz=50,slow=2.5,SNR=9.2
MMAI P3KPbc 01 23 06.0
comp=Z,3.4nm,0.6s,baz=243,slow=6.3,SNR=13
comp=Z,77nm,0.6s
IRK Irkutsk 28.71 46 *e*P P **00 51 02.5 +0.9**
IRK pmax pmax
comp=Z,1μm,1.6s
BR104 Keskin Array S 28.77 288 P P **00 51 02.6 +0.2**
comp=Z,2μmcomp=Z,243nm,0.7s
BR131 Keskin Array S 28.77 288 P P **00 51 03.8 +1.4**
BR131 IAmb IAmb 00 51 04.5
comp=Z,247nm,0.7s
BR131 Keskin Array S 28.77 288 P P **00 51 03.8 +1.4**
BR131 pmax pmax
comp=Z,247nm,0.7s
BRTR Keskin Array B 28.77 288 P P **00 51 03.9 +1.4**
BRTR Keskin Array B 28.77 288 P P **00 51 03.6 +1.2**
comp=Z,169nm,0.7s,baz=97,slow=9.6,SNR=1176
BRTR PcP **PcP** **00 54 07.0 +0.6**
comp=Z,61nm,0.5s,baz=93,slow=3.8,SNR=27
BRTR S **S** **00 55 37.8 +2.8**
comp=Z,3.8nm,0.8s,baz=77,slow=6.4,SNR=1.0
BRTR ScP **ScP** **00 57 24.8 -1.2**
comp=Z,13nm,1.0s,baz=85,slow=4.6,SNR=4.0
BRTR PKiKP **PKiKP** **01 01 37.2 -3.2**
comp=Z,1.1nm,0.6s,baz=160,slow=2.9,SNR=5.9
BRTR P3KPbc 01 23 05.3
comp=Z,3.7nm,0.9s,baz=266,slow=1.5,SNR=13
comp=Z,169nm,0.7s
BR106 Keskin Array S 28.78 288 P P **00 51 02.7 +0.2**
comp=Z,3μmcomp=Z,311nm,0.7s
BR105 Keskin Array S 28.79 288 P P **00 51 02.7 +0.2**
comp=Z,3μmcomp=Z,315nm,0.7s
SONM Songino Array 28.92 56 P P **00 51 06.0 +2.4**
SONM Songino Array 28.92 56 P P **00 51 05.8 +2.2**
comp=Z,978nm,0.8s,baz=262,slow=9.0,SNR=2367
SONM PcP **PcP** **00 54 07.3 +0.7**
comp=Z,66nm,0.7s,baz=260,slow=3.6,SNR=6.9
SONM S **S** **00 55 38.4 +1.2**
comp=Z,16nm,1.1s,baz=259,slow=19,SNR=1.2
SONM PKiKP **PKiKP** **01 01 39.3 -0.9**
comp=Z,3.2nm,0.6s,baz=216,slow=1.9,SNR=8.3
SONM P3KPbc 01 23 07.4
comp=Z,24nm,0.7s,baz=95,slow=3.2,SNR=54
comp=Z,978nm,0.8s
GHAJ Ghor Haditha 29.05 270 P P **00 51 06.9 +2.1**
CIDE Kastamonu/Cide 29.16 292 ⇑P P **00 51 07.2 +1.6**
MOS Moscow 29.23 322 *e*P P **00 51 03.5 -2.5**
MOS *e**PP **pP** **00 51 48.0 -3.4**
MOS *e**SP **PP** **00 52 15.0 -1.7**
MOS *e*S **S** **00 55 37.0 -4.5**
MOS *e* 01 01 19.6
MOS pmax pmax
comp=Z,4μm,1.6s
MOS pmax pmax
comp=Z,2μm,1.3s
MOS pmax pmax
comp=E,1μm,1.1s
MOS pmax pmax
comp=N,446nm,0.9s
MOS pmax pmax
comp=E,1μm,1.1s
MOS pmax pmax
comp=N,700nm,1.1s
ULN Ulaanbaatar 29.36 56 P P **00 51 09.5 +2.0**
ULN Ulaanbaatar 29.36 56*c* *i*P P **00 51 09.5 +2.0**
ANTO Ankara 29.40 288 P P **00 51 09.3 +1.4**
ANTO IAmb IAmb 00 51 10.9
comp=Z,968nm,1.7s
ANTO Ankara 29.40 288 ⇑P P **00 51 09.8 +1.9**
ANTO Ankara 29.40 288 P P **00 51 09.3 +1.4**
ANTO pmax pmax
comp=Z,968nm,1.7s
ANTO Ankara 29.40 288 P P **00 51 08.2 +0.3**
comp=Z,2μmcomp=Z,157nm,1.7s
OBN Obninsk 29.49 320 P P **00 51 09.0 +0.7**
OBN Obninsk 29.49 320 ⇑P P **00 51 09.6 +1.3**
OBN Obninsk 29.49 320*c* *i*P P **00 51 09.1 +0.7**
OBN *e**PP **pP** **00 51 55.0 +1.3**
OBN *e**SP **PP** **00 52 17.0 -2.6**
OBN *i* 00 54 07.6
OBN *i* S **S** **00 55 45.5 -0.1**
OBN *e**SS **sS** **00 57 05.1 -3.3**
OBN pmax pmax
comp=Z,4μm,1.7s
OBN Obninsk 29.49 320 P P **00 51 08.6 +0.3**
comp=Z,25μmcomp=Z,3μm,1.2s
HMDM Hanimaadhoo 29.71 174 P P **00 51 13.2 +2.5**
HMDM Hanimaadhoo 29.71 174 P P **00 51 13.2 +2.5**
SNR=9.7
CSS Mathiatis 29.80 278 P P **00 51 12.2 +0.8**
CSS Mathiatis 29.80 278 P P **00 51 11.8 +0.4**
comp=Z,1μmcomp=Z,180nm,0.8s
KMI Kunming 30.08 103 ⇑P P **00 51 15.8 +1.6**
KMI pP pP 00 52 01.2 +0.4
KMI sP sP 00 52 27.6 +0.4
KMI PcP **PcP** **00 54 11.9 +1.9**
KMI S **S** **00 55 55.8 -0.1**
KMI sS sS 00 57 15.7 -3.1
KMI ScP **ScP** **00 57 29.5 -1.0**
KMI ScS **ScS** **01 01 23.6 -3.3**
KMI pmax pmax
comp=Z,170nm,0.7s
KMI LR LR
comp=Z,2μm,12.7s
KMI LR LR
comp=Z,1μm,12.8s
KMI LR LR
comp=Z,960nm,9.8s
MDUB Mudurnu 30.57 289 P P **00 51 19.6 +1.5**
MDUB **PcP** **00 54 11.6 +0.6**

PALK Pallekele 30.64 159 P P **00 51 20.3 +1.3**
PALK IAmb IAmb 00 51 21.6
comp=Z,651nm,0.9s
PALK Pallekele 30.64 159*d* *i*P P **00 51 20.3 +1.3**
PALK Pallekele 30.64 159 ⇓P P **00 51 20.5 +1.5**
NE56 Odesa 30.77 302 P P **00 51 19.5 -0.2**
SAHE Sakarya_HENDEK 30.79 290 ⇑P P **00 51 21.6 +1.6**
CHTO Chiang Mai 30.84 117 P P **00 51 21.0 +0.4**
CHTO IAmb IAmb 00 51 23.3
comp=Z,208nm,0.6s
CHTO Chiang Mai 30.84 117 P P **00 51 21.1 +0.5**
CHTO Chiang Mai 30.84 117 P P **00 51 21.0 +0.4**
CHTO pmax pmax
comp=Z,208nm,0.6s
CHTO Chiang Mai 30.84 117 P P **00 51 21.0 +0.4**
CHTO PcP **PcP** **00 54 13.2 +1.4**
CHTO ScP **ScP** **00 57 33.7 +0.8**
CM31 Chiang Mai Arr 31.07 118 P P **00 51 23.4 +0.7**
CM31 IAmb IAmb 00 51 25.7
comp=Z,475nm,0.8s
CMAR Chiang Mai Arr 31.07 118 P P **00 51 23.6 +1.0**
CMAR Chiang Mai Arr 31.07 118 P P **00 51 23.4 +0.8**
comp=Z,270nm,0.8s,baz=313,slow=7.7,SNR=645
CMAR PcP **PcP** **00 54 13.3 +0.8**
comp=Z,203nm,0.8s,baz=308,slow=2.4,SNR=24
CMAR S **S** **00 56 09.6 -1.5**
comp=Z,20nm,0.9s,baz=301,slow=13,SNR=4.7
CMAR ScP **ScP** **00 57 32.2 -1.4**
comp=Z,74nm,1.1s,baz=304,slow=3.0,SNR=11
CMAR PKiKP **PKiKP** **01 01 41.3 -0.9**
comp=Z,5.7nm,0.5s,baz=301,slow=0.5,SNR=8.2
CMAR P3KPbc 01 23 00.6
comp=Z,10nm,0.7s,baz=126,slow=4.6,SNR=36
comp=Z,270nm,0.8s
BTO Baotou 31.28 70 *e*P P **00 51 25.4 +1.0**
BTO pP **pP** **00 52 11.9 +0.5**
BTO PP **PnPn** **00 52 35.9 -1.2**
BTO S **S** **00 56 15.5 +1.3**
BTO pmax pmax
comp=Z,1μm,0.7s
BTO pmax pmax
comp=Z,3μm,4.4s
BTO LR LR
comp=Z,4μm,6.1s
BTO LR LR
comp=Z,2μm,5.7s
BTO LR LR
comp=Z,2μm,5.7s
ISP Isparta 31.43 285 P P **00 51 26.5 +0.7**
ISP PcP **PcP** **00 54 13.2 -0.1**
ISP Isparta 31.43 285 P P **00 51 26.5 +0.7**
ISP 00 54 13.2
ISP pmax pmax
comp=Z,245nm,1.1s
PURM Purcari 31.47 301 ⇑P P **00 51 27.4 +1.6**
XAN Xi'an 31.63 83 ⇑P P **00 51 28.3 +0.8**
XAN S **S** **00 56 18.6 -1.0**
XAN pmax pmax
comp=Z,960nm,0.9s
XAN pmax pmax
comp=Z,1μm,4.0s
SILT Sile 31.68 291 ⇑P P **00 51 29.2 +1.5**
BAL3X Bal3x, Balta 31.77 304 P P **00 51 28.4 -0.1**
PBA Port Blair 32.05 135 P P **00 51 33.1 +1.9**
PBA **PcP** **00 54 17.1 +1.9**
PBA Port Blair 32.05 135 P P **00 51 32.7 +1.6**
SNR=7.6
JURR Jurilovca 32.10 298 ⇑P P **00 51 32.6 +1.2**
KLYT Kilyos 32.12 291 ⇑P P **00 51 33.2 +1.6**
TLCR 32.15 299 ⇑P P **00 51 32.8 +1.0**
TLCR 32.15 299 P P **00 51 32.7 +1.0**
MILM Milestii Mici 32.22 302 ⇑*i*P P **00 51 32.4 0.0**
comp=Z,2μm,1.3s
MILM *i* sP **sP** **00 52 43.0 -1.4**
MILM *i* S **S** **00 56 28.0 -0.3**
comp=Z,2μm,11.1s
MILM Milestii Mici 32.22 302*c* *i*P P **00 51 32.4 0.0**
MILM *i* *PP **pP** **00 52 22.0 +3.8**
MILM *i* *SP **sP** **00 52 43.0 -1.4**
MILM *i* S **S** **00 56 28.0 -0.3**
MILM pmax pmax
comp=Z,2μm,1.3s
MILM smax smax
comp=N,2μm,11.1s
KIS Kishinev 32.22 302 ⇑*i*P P **00 51 33.0 +0.6**
comp=N,800nm,1.2s
KIS *i* sP **sP** **00 52 45.0 +0.6**
KIS *e*S **S** **00 56 28.0 -0.4**
KIS *i* SS **ScP** **00 57 47.0 +10**
KIS Kishinev 32.22 302 ⇑P P **00 51 33.4 +1.0**
KIS Kishinev 32.22 302*c* *i*P P **00 51 33.0 +0.6**
KIS *i* *SP **sP** **00 52 45.0 +0.6**
KIS *i* 00 52 50.0
KIS *e*S **S** **00 56 28.0 -0.4**
KIS *i* SS **ScP** **00 57 47.0 +10**
KIS pmax pmax
comp=Z,800nm,1.2s
EFOR EFORIE 32.28 297 ⇑P P **00 51 35.0 +2.1**
MANR Mangalia 32.31 296 ⇑P P **00 51 35.0 +1.8**
AKASG Malin Array Be 32.41 309 P P **00 51 34.3 +0.3**
AKASG IAmb IAmb 00 51 35.7
comp=Z,1μm,1.1s
AKASG Malin Array Be 32.41 309 P P **00 51 34.3 +0.3**
comp=Z,146nm,0.5s,baz=86,slow=7.1,SNR=1180
AKASG PP **PP** **00 52 51.5 -0.5**
comp=Z,386nm,1.0s,baz=94,slow=10,SNR=11
AKASG PcP **PcP** **00 54 14.7 -0.9**
comp=Z,63nm,0.5s,baz=76,slow=3.5,SNR=11
AKASG S **S** **00 56 29.0 -2.1**
comp=Z,1.7nm,0.4s,baz=81,slow=12,SNR=1.3
AKASG ScP **ScP** **00 57 35.1 -2.5**
comp=Z,78nm,1.1s,baz=76,slow=4.1,SNR=16
AKASG ScS **ScS** **01 01 34.4 -2.8**
comp=Z,8.3nm,1.0s,baz=90,slow=4.6,SNR=5.6
AKASG PKiKP **PKiKP** **01 01 40.7 -1.5**
comp=Z,2.2nm,0.4s,baz=65,slow=2.1,SNR=8.4
AKASG P3KPbc 01 22 52.5
comp=Z,1.8nm,0.6s,baz=271,slow=3.9,SNR=10
comp=Z,146nm,0.5s
AKBB Malin Array Si 32.41 309 P **00 51 34.1 +0.2**
AKBB IAmb IAmb 00 51 35.8
comp=Z,1μm,1.4s
AKBB Malin Array Si 32.41 309 P P **00 51 34.1 +0.2**
AKBB pmax pmax
comp=Z,1μm,1.5s
KIEV Kiev 32.41 309 P **00 51 34.1 +0.1**
KIEV IAmb IAmb 00 51 35.8
comp=Z,1μm,1.4s
KIEV Kiev 32.41 309 ⇑P P **00 51 34.6 +0.6**
KIEV Kiev 32.41 309 P P **00 51 34.1 +0.1**
KIEV pmax pmax
comp=Z,1μm,1.4s
KIEV Kiev 32.41 309 *i* P P **00 51 34.5 +0.5**
SNR=87
KIEV Kiev 32.41 309 P P **00 51 34.0 0.0**
comp=Z,37μmcomp=Z,3μm,1.5s
KIEV Kiev 32.41 309 ⇑P P **00 51 34.5 +0.5**
KIEV PcP **PcP** **00 54 15.0 -0.6**
KIEV ScP **ScP** **00 57 33.9 -3.7**
HHC Hu-ho-hao-te 32.42 69 ⇑*i*P P **00 51 36.4 +2.0**
HHC PP **PnPn** **00 52 49.8 -1.4**
HHC S **S** **00 56 33.3 +1.4**
HHC sS sS 00 57 57.3 +2.1
HHC SS SS 00 58 40.5 -17
HHC pmax pmax
comp=Z,250nm,1.0s
HHC pmax pmax
comp=Z,480nm,5.5s
TPGR Topolog 32.42 298 ⇑P P **00 51 35.6 +1.4**
MFTR Murfatlar 32.43 297 ⇑P P **00 51 35.8 +1.6**
TIRR Tirgusor 32.43 297 P **00 51 35.2 +1.0**
TIRR Tirgusor 32.43 297 ⇑P P **00 51 35.4 +1.2**
TIRR Tirgusor 32.43 297 P P **00 51 35.2 +1.0**
TIRR pmax pmax
comp=Z,234nm,1.3s
TIRR Tirgusor 32.43 297 P P **00 51 34.3 +0.1**
comp=Z,3μmcomp=Z,148nm,2.4s
GYA Guiyang 32.56 97 ⇑P P **00 51 37.1 +1.4**
GYA pP pP 00 52 22.8 +0.4
GYA PP **PP** **00 52 54.2 0.0**
GYA S **S** **00 56 32.8 -1.5**
GYA ScP **ScP** **00 57 41.9 +3.2**
GYA pmax pmax
comp=Z,760nm,0.7s
GYA pmax pmax
comp=Z,1μm,3.1s
GYA LR LR
comp=Z,1μm,10.0s
GYA LR LR
comp=Z,820nm,10.6s
GYA LR LR
comp=Z,950nm,9.2s
GIUM Giurgiulesti 32.58 299 ⇑P P **00 51 37.0 +1.5**
CFR Carcaliu 32.63 299 ⇑P P **00 51 37.2 +1.3**
CFR Carcaliu 32.63 299 P P **00 51 37.2 +1.3**
PSN Preselentsi 32.65 296 P P **00 51 37.2 +1.1**
CTYL Yalikoy Yolu 32.67 292 ⇑P P **00 51 38.9 +2.6**
VLDR Vladesti 32.68 300 ⇑P P **00 51 38.2 +1.9**
GISR Galati 32.69 299 ⇑P P **00 51 38.5 +2.0**
TLBR Topalu 32.69 297 ⇑P P **00 51 37.8 +1.3**
TATR Tatarca 32.69 299 ⇑P P **00 51 38.3 +1.8**
SCTR Scanteiesti 32.73 300 ⇑P P **00 51 38.9 +2.1**
HARR Harsova 32.77 298 ⇑P P **00 51 38.4 +1.1**
HARR Harsova 32.77 298 P P **00 51 38.3 +1.1**
NEGRR Negrea 32.81 299 ⇑P P **00 51 39.1 +1.6**
VARL Variezi 32.84 300 ⇓P P **00 51 39.7 +1.9**
SCHLR Schela 32.84 299 ⇑P P **00 51 39.3 +1.5**
MANT Manisa 32.85 286 P **00 51 38.6 +0.4**
MANT IAmb IAmb 00 51 40.6
comp=Z,369nm,0.8s
ICOR Ion Corvin 32.88 297 ⇑P P **00 51 40.0 +1.9**
IZVR Izvoarele 32.89 299 ⇑P P **00 51 40.0 +1.8**
VASR Vaslui 32.91 301 ⇑P P **00 51 39.9 +1.5**
BAND Balkesir-Ban 32.93 290 ⇑P P **00 51 40.2 +1.5**
TUDR 32.96 299 ⇑P P **00 51 41.0 +2.2**
SLVN Son La 33.00 108 P **00 51 41.1 +1.6**
SLVN IAmb IAmb 00 51 42.5
comp=Z,312nm,0.7s
SLVN Son La 33.00 108 P P **00 51 41.5 +2.0**
BIR Birlad 33.01 301 ⇑P P **00 51 41.3 +2.0**
BIR Birlad 33.01 301 P P **00 51 41.2 +2.0**
IASR Iasi 33.08 302 ⇑P P **00 51 40.8 +0.9**
GHRR 33.15 300 ⇑P P **00 51 42.7 +2.2**
PRD Provadia 33.20 295 P P **00 51 42.6 +1.7**
AMRR Amara 33.20 298 ⇑P P **00 51 42.9 +2.0**
AMRR Amara 33.20 298 P P **00 51 42.9 +2.0**
COSR Cosmesti PH 33.22 300 ⇑P P **00 51 43.7 +2.7**
PHSR Pinarhisar 33.23 292 ⇑P P **00 51 42.4 +1.2**
NEF NEVSHA 33.29 295 P P **00 51 43.3 +1.6**
NDNU Novodnistrovsk 33.32 305 P P **00 51 42.0 +0.1**
PANC Panciu 33.33 300 ⇑P P **00 51 44.5 +2.4**
ODBI Odobesti 33.39 300 ⇑P P **00 51 45.4 +2.9**
CICN Ciocanesti 33.43 297 ⇑P P **00 51 44.6 +1.8**
PGOR Pogoanele 33.44 298 ⇑P P **00 51 45.6 +2.6**
GRER 33.45 299 ⇑P P **00 51 45.9 +2.9**
TIY Taiyuan 33.56 75 *e*P P **00 51 45.9 +1.7**
TIY sP **sP** **00 52 54.6 -2.8**
TIY PP **PnPn** **00 53 08.3 +3.3**
TIY S **S** **00 56 54.3 +4.9**
TIY sS **sS** **00 58 15.3 +2.4**
TIY pmax pmax
comp=Z,680nm,0.7s
TIY pmax pmax
comp=Z,270nm,4.5s
LEHL Lehliu 33.57 297 ⇑P P **00 51 46.3 +2.2**
VRI Vrincioaia 33.62 300 ⇑P P **00 51 46.6 +2.0**
VRI Vrincioaia 33.62 300 P P **00 51 46.6 +2.0**
ARG Arkhangelos 33.64 282 P **00 51 45.3 +0.5**
ARG Arkhangelos 33.64 282 P P **00 51 45.3 +0.5**
ARG pmax pmax
comp=Z,1μm,0.9s
PLOR Plostina 33.68 300 ⇑P P **00 51 47.4 +2.3**
PLOR Plostina 33.68 300 P P **00 51 47.4 +2.3**
TESR Tescani 33.69 301 ⇑P P **00 51 46.5 +1.4**
ISR Istrita 33.76 299 ⇓P P **00 51 48.4 +2.6**
ISR Istrita 33.76 299 P P **00 51 48.4 +2.6**
LOZB Loznitsa 33.78 295 ⇑P P **00 51 47.6 +1.6**
RAZG Razgrad 33.83 296 ⇑P P **00 51 48.2 +1.8**
ONER Baraj Valea Uz 33.86 301 ⇑P P **00 51 48.5 +1.9**
JMB Yambol 33.89 294 P P **00 51 48.2 +1.3**
KMPD K-Podol'skiy 33.92 305 P P **00 51 47.1 0.0**
KMPD P P **00 51 47.1 0.0**
NEHR Nehoiu 33.93 299 ⇑P P **00 51 50.0 +2.7**
SULR 33.97 298 ⇑P P **00 51 50.0 +2.5**
PRAR RASCA 34.01 303 ⇑P P **00 51 49.1 +1.2**
MNK Minsk 34.01 315 *i* P P **00 51 48.7 +0.9**
comp=E,40nm,0.8s
MNK *i* P P **00 51 48.7 +0.9**
comp=N,302nm,0.7s
MNK *i* P P **00 51 48.7 +0.9**
comp=Z,237nm,0.5s,baz=104
MNK *i* pP **pP** **00 52 34.4 +0.5**
MNK *i* PP **PP** **00 53 09.1 -0.6**
MNK *i* S **S** **00 56 57.9 +2.0**
MNK *i* sS **sS** **00 58 20.2 +0.8**
MNK *i* SS **SS** **00 59 38.4 +7.6**
MNK *i* LR LR 01 05 46.3
MNK *i* LRM MLR 01 07 23.2
comp=E,1μm,17.6s
MNK *i* LRM MLR 01 08 38.2
comp=N,1μm,17.1s
MNK *i* LRM MLR 01 08 43.3
comp=Z,1μm,17.8s
MNK Minsk 34.01 315 *i* P P **00 51 48.6 +0.9**
MNK *i* *PP **pP** **00 52 34.3 +0.5**
MNK *i* 00 53 09.0
MNK *i* S **S** **00 56 57.8 +2.0**
MNK *i* *SS **sS** **00 58 20.1 +0.8**
MNK pmax pmax
comp=Z,237nm,0.5s
MNK pmax pmax
comp=E,40nm,0.8s
MNK pmax pmax
comp=N,302nm,0.7s
MNK MLR MLR
comp=E,1μm,18.0s
MNK MLR MLR
comp=N,1μm,17.0s
MNK MLR MLR
comp=Z,1μm,18.0s
INCR INCERC-Sediu C 34.04 297 ⇑P P **00 51 50.2 +2.0**
TURR Turia 34.12 300 ⇑P P **00 51 51.0 +2.1**
PLAR PLOIESTI 34.12 298 ⇑P P **00 51 51.5 +2.7**
BUC1 Bucharest 34.14 297 ⇓P P **00 51 51.2 +2.1**
BUC1 Bucharest 34.14 297 P P **00 51 51.1 +2.1**
MLR Muntele Rosu 34.17 299 P **00 51 51.6 +2.2**
MLR Muntele Rosu 34.17 299 ⇑P P **00 51 52.1 +2.7**
MLR Muntele Rosu 34.17 299 P P **00 51 51.6 +2.2**
MLR pmax pmax
comp=Z,918nm,0.8s
SGRR Singureni 34.19 297 ⇓P P **00 51 51.1 +1.7**
SZH Strazhitsa 34.24 295 P P **00 51 51.0 +1.1**
CHRU Chernivtsi 34.26 304 P P **00 51 50.0 0.0**
comp=Z,3μmcomp=Z,279nm,0.7s
OZUR 34.28 300 ⇑P P **00 51 51.8 +1.5**
LYN LuoYang 34.32 80 ⇑*i*P P **00 51 52.8 +2.1**
LYN pP pP 00 52 36.0 -1.9
LYN PP **PP** **00 53 19.0 +5.7**
LYN PcP **PcP** **00 54 21.6 +0.3**
LYN S **S** **00 57 00.8 -0.1**
LYN ScP **ScP** **00 57 43.3 -1.3**
LYN PcS **PcS** **00 58 11.7 +3.8**
LYN sS sS 00 58 26.8 +2.2
LYN SS **SS** **00 59 27.9 -11**
LYN ScS **ScS** **01 01 44.2 -3.6**
LYN pmax pmax
comp=Z,1μm,1.3s
LYN pmax pmax
comp=Z,810nm,3.8s
ELND Elena 34.33 295 ⇑P P **00 51 52.4 +1.6**
CAVK Edirne/Enez-Ca 34.35 291 ⇓P P **00 51 52.5 +1.7**
EZN Ezine 34.35 289 ⇑P P **00 51 52.4 +1.6**
EZN Ezine 34.35 289 P P **00 51 52.4 +1.6**
ALN Alexandroupoli 34.41 291 P **00 51 52.5 +1.2**
ALN IAmb IAmb 00 51 54.2
comp=Z,816nm,1.6s
ALN Alexandroupoli 34.41 291 P P **00 51 52.6 +1.2**
ALN pmax pmax
comp=Z,816nm,1.6s
PUL Pulkovo 34.52 325*c* *e*P P **00 51 53.0 +1.0**
PUL pmax pmax
comp=Z,4μm,1.3s
KARP Karpathos 34.56 282 P **00 51 53.7 +1.0**
KARP Karpathos 34.56 282 *e*P P **00 51 52.8 +0.1**
KARP Karpathos 34.56 282 P P **00 51 52.8 +0.1**
comp=Z,32μmcomp=Z,5μm,0.9s

DOPR	**Dopca**	**34.56**	**300**	⇑P		**P**	**00 51 54.6**	**+2.0**
RNPP5	**Staryi Chortor**	**34.57**	**309**	P		**P**	**00 51 52.6**	**0.0**
RNPP2	**Kostyukhnivka**	**34.58**	**310**	P		**P**	**00 51 52.7**	**0.0**
ZIMR		**34.65**	**296**	⇑P		**P**	**00 51 55.1**	**+1.6**
ZIMR		**34.65**	**296**	P		**P**	**00 51 55.0**	**+1.6**
BURAR	**Bucovina Array**	**34.70**	**303**			**P**	**00 51 55.1**	**+1.2**
BURAR				IAmb		IAmb	00 51 56.0	
	comp=Z,270nm,0.6s							
BURAR	**Bucovina Array**	**34.70**	**303**	⇑P		**P**	**00 51 55.3**	**+1.4**
BURAR	**Bucovina Array**	**34.70**	**303**	P		**P**	**00 51 55.3**	**+1.4**
BUR08	**Bucovina Ar. S**	**34.71**	**303**			**P**	**00 51 55.1**	**+1.1**
NACGM	**Naroch**	**34.73**	**316**	*e*P		**P**	**00 51 54.7**	**+0.8**
	comp=E,657nm,1.1s							
COPA	**Copaceanca**	**34.73**	**297**	⇑P		**P**	**00 51 55.8**	**+1.7**
MTUR	**Matau**	**34.80**	**299**	⇓P		**P**	**00 51 56.7**	**+1.9**
MTUR	**Matau**	**34.80**	**299**	P		**P**	**00 51 56.6**	**+1.9**
VOIR		**34.80**	**299**	⇑P		**P**	**00 51 56.3**	**+1.5**
VOIR		**34.80**	**299**	P		**P**	**00 51 56.2**	**+1.5**
KDZ	**Kurdzhali**	**34.85**	**292**	P		**P**	**00 51 55.9**	**+0.7**
IDID	**Didziasalis**	**34.86**	**317**	*e*P		**P**	**00 51 53.8**	**-1.1**
HUMR	**Humele**	**34.88**	**298**	⇑P		**P**	**00 51 57.2**	**+1.8**
ATD	**Arta Tunnel**	**34.96**	**232**			**P**	**00 51 58.7**	**+2.2**
ATD				IAmb		IAmb	00 51 59.9	
	comp=Z,1μm,1.2s							
ATD	**Arta Tunnel**	**34.96**	**232**	⇓P		**P**	**00 51 58.6**	**+2.2**
ATD				PcP		**PcP**	**00 54 26.7**	**+3.2**
ARR	**Arges**	**35.10**	**299**	⇑P		**P**	**00 51 59.1**	**+1.8**
TGMR	**Targu Mures**	**35.16**	**301**	⇑P		**P**	**00 52 00.2**	**+2.5**
PLVB	**Pleven**	**35.21**	**296**	⇑P		**P**	**00 51 59.7**	**+1.5**
ISAL	**Salakas**	**35.26**	**317**	*e*P		**P**	**00 51 57.9**	**-0.5**
MDB	**Medias**	**35.26**	**300**	⇑P		**P**	**00 52 01.0**	**+2.4**
MDB	**Medias**	**35.26**	**300**	P		**P**	**00 52 01.0**	**+2.4**
ARCR	**ARCALIA**	**35.28**	**302**	⇑P		**P**	**00 52 01.0**	**+2.3**
RZN	**Rozhen**	**35.29**	**293**	P		**P**	**00 52 00.5**	**+1.4**
VLAD	**Vladila**	**35.33**	**297**	⇑P		**P**	**00 52 00.8**	**+1.7**
TNR	**Turnu Rosu**	**35.34**	**300**	⇑P		**P**	**00 52 01.1**	**+1.7**
TNR	**Turnu Rosu**	**35.34**	**300**	P		**P**	**00 52 01.0**	**+1.7**
HNS	**HongShan**	**35.39**	**75**	⇑P		**P**	**00 52 01.5**	**+1.7**
HNS				sP		**sP**	**00 53 13.8**	**+0.4**
HNS				PcP		**PcP**	**00 54 25.3**	**+0.9**
HNS				S		**S**	**00 57 18.7**	**+1.5**
HNS				ScP		**ScP**	**00 57 49.1**	**+0.7**
HNS				pmax	pmax			
	comp=Z,460nm,1.0s							
HNS				LR	LR			
	comp=Z,2μm,11.8s							
HNS				LR	LR			
	comp=Z,1μm,10.1s							
HNS				LR	LR			
	comp=Z,1μm,12.2s							
XLT	**XiLinHaoTe**	**35.50**	**63**	*e*P		**P**	**00 52 02.1**	**+1.4**
XLT				sP		sP	00 53 15.4	+0.9
XLT				S		**S**	**00 57 18.5**	**-0.5**
XLT				pmax	pmax			
	comp=Z,200nm,1.1s							
XLT				pmax	pmax			
	comp=Z,1μm,3.8s							
JOF	**Joensuu**	**35.53**	**330**	*e*P		**P**	**00 52 01.3**	**+0.7**
PGB	**Panagyurishte**	**35.62**	**294**	P		**P**	**00 52 03.6**	**+1.9**
LOT	**Lotru**	**35.70**	**299**	⇑P		**P**	**00 52 04.0**	**+1.5**
VSU	**Vasula**	**35.76**	**322**	*ce*P		**P**	**00 52 02.1**	**-0.5**
VSU				pmax	pmax			
	comp=Z,2μm,1.0s							
VSU	**Vasula**	**35.76**	**322**	*e*P		**P**	**00 52 02.0**	**-0.6**
CJR	**Cluj-Napoca**	**35.79**	**301**	⇑P		**P**	**00 52 05.5**	**+2.3**
CJR	**Cluj-Napoca**	**35.79**	**301**	P		**P**	**00 52 05.4**	**+2.3**
BOD	**Bodaibo**	**35.80**	**39**	⇓*i*P		**P**	**00 52 04.0**	**+1.0**
BOD				pmax	pmax			
	comp=Z,165nm,1.3s							
CBBR	**Cluj-Babes-Bol**	**35.83**	**301**	⇑P		**P**	**00 52 05.5**	**+2.1**
MPEP	**Malo Peshtene**	**35.86**	**296**	P		**P**	**00 52 05.6**	**+1.9**
BMR	**Baia Mare**	**35.87**	**303**	⇑P		**P**	**00 52 05.8**	**+2.0**
BMR	**Baia Mare**	**35.87**	**303**	P		**P**	**00 52 05.7**	**+2.0**
KAAM	**Kaadhehdhoo**	**35.92**	**175**	P		**P**	**00 52 06.3**	**+1.9**
KAAM	**Kaadhehdhoo**	**35.92**	**175**	P		**P**	**00 52 06.7**	**+2.3**
	SNR=12							
BJI	**Beijing**	**36.02**	**70**	P		**P**	**00 52 06.6**	**+1.5**
BJI				pP		**pP**	**00 52 52.0**	**-0.8**
BJI				sP		**sP**	**00 53 18.9**	**-0.4**
BJI				PP		**PP**	**00 53 34.9**	**+3.0**
BJI				PcP		**PcP**	**00 54 26.7**	**+0.5**
BJI				S		**S**	**00 57 29.8**	**+3.0**
BJI				ScP		**ScP**	**00 57 50.1**	**-0.6**
BJI				PcS		**PcS**	**00 58 13.5**	**-0.4**
BJI				sS		**sS**	**00 58 53.0**	**+2.1**
BJI				ScS		**ScS**	**01 01 55.5**	**-1.3**
BJI				pmax	pmax			
	comp=Z,230nm,0.7s							
BJI				pmax	pmax			
	comp=Z,490nm,3.7s							
MMB	**Musomishta**	**36.05**	**293**	P		**P**	**00 52 06.9**	**+1.5**
GULI	**GuiLin**	**36.05**	**97**	P		**P**	**00 52 07.9**	**+2.3**
GULI				pmax	pmax			
	comp=Z,280nm,1.0s							
GULI				LR	LR			
	comp=Z,1μm,15.7s							
GULI				LR	LR			
	comp=Z,800nm,15.7s							
GULI				LR	LR			
	comp=Z,1μm,13.5s							
MARR	**Marisel-Cluj**	**36.12**	**301**	⇑P		**P**	**00 52 08.1**	**+2.0**
SRE	**Strehaia**	**36.14**	**298**	⇑P		**P**	**00 52 07.4**	**+1.3**
SRE	**Strehaia**	**36.14**	**298**	P		**P**	**00 52 07.3**	**+1.3**
MESR	**Meseseni**	**36.23**	**302**	⇑P		**P**	**00 52 09.1**	**+2.3**
DEV	**Deva**	**36.30**	**300**	⇓P		**P**	**00 52 09.3**	**+2.0**
DEV	**Deva**	**36.30**	**300**	P		**P**	**00 52 09.3**	**+2.0**
VTS	**Vitosha**	**36.30**	**294**	P		**P**	**00 52 09.2**	**+1.6**
PUNG	**Punghina**	**36.36**	**297**	⇑P		**P**	**00 52 09.5**	**+1.5**
DRGR		**36.40**	**302**	⇑P		**P**	**00 52 10.4**	**+2.0**
DRGR		**36.40**	**302**	P		**P**	**00 52 10.3**	**+2.0**
GZR	**Gura Zlata**	**36.41**	**299**	⇑P		**P**	**00 52 09.4**	**+1.0**
GZR	**Gura Zlata**	**36.41**	**299**	P		**P**	**00 52 09.3**	**+1.0**
IDI	**Anoyia**	**36.41**	**282**	P		**P**	**00 52 08.8**	**+0.2**
IDI				S		**S**	**00 57 31.7**	**-1.3**
IDI	**Anoyia**	**36.41**	**282**			**P**	**00 52 08.6**	**0.0**
IDI				IAmb		IAmb	00 52 10.7	
	comp=Z,428nm,0.7s							
PABE	**Paberze**	**36.44**	**316**			**P**	**00 52 09.3**	**+0.9**
PABE				IAmb		IAmb	00 52 10.7	
	comp=Z,2μm,1.6s							
PABE	**Paberze**	**36.44**	**316**	*e*P		**P**	**00 52 08.8**	**+0.4**
ARBE	**Arbavere**	**36.44**	**323**	*e*P		**P**	**00 52 08.8**	**+0.4**
KWP	**Kalwaria Pacla**	**36.45**	**306**	*e*P		**P**	**00 52 10.0**	**+1.3**
KWP				*e*PP		**PnPn**	**00 53 39.1**	**-0.3**
KWP				*e*S		**S**	**00 57 34.4**	**+1.2**
KWP				*e*SS		**SS**	**01 00 25.4**	**+2.9**
KWP				*e*ScS		**ScS**	**01 01 57.4**	**-1.6**
KKB	**Krupnik**	**36.47**	**293**	P		**P**	**00 52 10.2**	**+1.3**
VSVD	**Vaisvydziai**	**36.56**	**317**	*e*P		**P**	**00 52 09.8**	**+0.4**
CEI	**Carei**	**36.57**	**303**	⇑P		**P**	**00 52 11.6**	**+2.0**
CEI	**Carei**	**36.57**	**303**	P		**P**	**00 52 11.6**	**+2.0**
SUW	**Suwalki**	**36.61**	**314**	*e*P		**P**	**00 52 10.2**	**+0.2**
SUW				*e*PP		**PP**	**00 53 38.7**	**+0.6**
SUW				*e*S		**S**	**00 57 34.7**	**-0.8**
SUW	**Suwalki**	**36.61**	**314**	P		**P**	**00 52 09.9**	**0.0**
SUW	**Suwalki**	**36.61**	**314**	P		**P**	**00 52 09.9**	**0.0**
SUW	**Suwalki**	**36.61**	**314**	*e*P		**P**	**00 52 09.4**	**-0.5**
UZHM	**Uzhgorod**	**36.69**	**305**	P		**P**	**00 52 10.7**	**+0.1**
HERR	**Herculane**	**36.69**	**298**	⇑P		**P**	**00 52 11.2**	**+0.5**
KOLS	**Kolonicke sedl**	**36.71**	**305**	*e*P		**P**	**00 52 12.2**	**+1.4**
KOLS				pmax	pmax			
	comp=Z,300nm,0.7s							
KOLS	**Kolonicke sedl**	**36.71**	**305**	*e*P		**P**	**00 52 12.2**	**+1.4**
KOLS				*e*PP		**PnPn**	**00 53 41.6**	**-0.9**
SURR	**Surduc**	**36.84**	**300**	⇑P		**P**	**00 52 14.3**	**+2.3**
CNSH	**ChangSha**	**36.86**	**90**	P		**P**	**00 52 13.1**	**+0.8**
CNSH				S		**S**	**00 57 37.8**	**-1.9**
CNSH				pmax	pmax			
	comp=Z,450nm,1.1s							
CNSH				LR	LR			
	comp=Z,2μm,11.9s							
CNSH				LR	LR			
	comp=Z,1μm,10.8s							
CNSH				LR	LR			
	comp=Z,1μm,14.6s							
VAY	**Valandovo**	**36.96**	**292**	*i* P		**P**	**00 52 13.9**	**+0.9**
BORR	**Bors**	**37.03**	**302**	⇓P		**P**	**00 52 15.9**	**+2.4**
WHN	**Wuhan**	**37.09**	**86**	P		**P**	**00 52 15.5**	**+1.2**
WHN				PcP		**PcP**	**00 54 29.9**	**+0.3**
WHN				S		**S**	**00 57 41.7**	**-1.5**
WHN				ScP		**ScP**	**00 57 53.7**	**-1.2**
WHN				PcS		**PcS**	**00 58 17.3**	**-1.0**
WHN				sS		**sS**	**00 59 05.3**	**-2.3**
WHN				ScS		**ScS**	**01 01 59.7**	**-3.5**
WHN				pmax	pmax			
	comp=Z,620nm,1.2s							
FIA1	**FINESS Array S**	**37.10**	**326**	P		**P**	**00 52 14.9**	**+1.0**
FINES	**FINESS Array B**	**37.10**	**326**	P		**P**	**00 52 14.8**	**+0.9**
	comp=Z,623nm,0.6s,baz=111,slow=8.5,SNR=1938							
FINES				PP		**PP**	**00 53 43.2**	**-0.2**
	comp=Z,285nm,0.9s,baz=110,slow=9.6,SNR=8.5							
FINES				PcP		**PcP**	**00 54 29.4**	**+0.3**
	comp=Z,198nm,0.7s,baz=113,slow=3.5,SNR=6.2							
FINES				S		**S**	**00 57 42.3**	**-0.3**
	comp=Z,28nm,0.9s,baz=101,slow=22,SNR=1.7							
FINES				P3KPbc			01 22 33.3	
	comp=Z,4.8nm,0.7s,baz=289,slow=4.3,SNR=14							
FINES				PKP2ab			01 26 25.3	
	comp=Z,1.8nm,0.5s,baz=316,slow=3.8,SNR=16							
	comp=Z,623nm,0.6s							
SIRR	**Siria**	**37.14**	**301**	⇑P		**P**	**00 52 16.9**	**+2.4**
MDVR	**Moldovita**	**37.20**	**298**	⇑P		**P**	**00 52 16.7**	**+1.7**
BZS	**Buzias**	**37.21**	**300**	⇑P		**P**	**00 52 16.8**	**+1.8**
BZS	**Buzias**	**37.21**	**300**	P		**P**	**00 52 16.8**	**+1.8**
LVZ	**Lovozero**	**37.21**	**339**	P		**P**	**00 52 15.6**	**+0.7**
LVZ	**Lovozero**	**37.21**	**339**	*ce*P		**P**	**00 52 15.5**	**+0.7**
LVZ				pmax	pmax			
	comp=Z,2μm,1.0s							
LVZ	**Lovozero**	**37.21**	**339**	⇑P		**P**	**00 52 15.7**	**+0.9**
LVZ				PcP		**PcP**	**00 54 30.1**	**+0.7**
BOVS	**Bovan**	**37.30**	**296**	⇑P		**P**	**00 52 17.5**	**+1.6**
APA	**Apatity**	**37.38**	**338**	*e*P		**P**	**00 52 15.7**	**-0.4**
APA				*e*PP		**pP**	**00 53 01.1**	**-1.8**
APA				*e*S		**S**	**00 57 46.5**	**-0.1**
APA				MLR	MLR			
	comp=Z,2μm,20.2s							
STHS	**Stebnicka Huta**	**37.40**	**306**	*e*P		**P**	**00 52 16.4**	**-0.2**
STHS				*e*			00 57 55.0	
STHS				pmax	pmax			
	comp=Z,117nm,0.7s							
STHS	**Stebnicka Huta**	**37.40**	**306**	*e*P		**P**	**00 52 16.4**	**-0.2**
STHS				*e*			00 57 55.0	
MEF	**Metsahovi**	**37.45**	**324**	*e*P		**P**	**00 52 17.2**	**+0.4**
TIM	**Timisoara**	**37.48**	**300**	⇑P		**P**	**00 52 19.7**	**+2.4**
TIM	**Timisoara**	**37.48**	**300**	P		**P**	**00 52 19.6**	**+2.4**
TIA	**Tai'an**	**37.55**	**76**	P		**P**	**00 52 19.7**	**+1.6**
TIA				sP		**sP**	**00 53 33.0**	**+0.7**
TIA				PcP		**PcP**	**00 54 31.6**	**+0.6**
TIA				S		**S**	**00 57 50.6**	**+0.5**
TIA				ScP		**ScP**	**00 57 55.3**	**-1.2**
TIA				sS		**sS**	**00 59 19.2**	**+4.6**
TIA				ScS		**ScS**	**01 02 03.6**	**-2.1**
TIA				pmax	pmax			
	comp=Z,930nm,0.9s							
TIA				pmax	pmax			
	comp=Z,2μm,3.7s							
TIA				LR	LR			
	comp=Z,1μm,11.3s							
TIA				LR	LR			
	comp=Z,1μm,12.7s							
TIA				LR	LR			
	comp=Z,1μm,11.2s							
BANR	**Banloc**	**37.56**	**299**	⇑P		**P**	**00 52 20.5**	**+2.5**
R9F13	**Warsaw-Wawer**	**37.62**	**310**	*i* P		**P**	**00 52 19.2**	**+0.9**
	comp=Z,26nm,0.7s							
R9F13				*e*PP		**PP**	**00 53 48.3**	**-0.8**
R9F13				*e*S		**S**	**00 57 52.1**	**+1.5**
R9F13				*e*SS		**SS**	**01 00 49.1**	**+3.5**
PBUR	**Paburge**	**37.67**	**317**	*e*P		**P**	**00 52 19.3**	**+0.5**
SKO	**Skopje**	**37.70**	**294**	*i* P		**P**	**00 52 20.2**	**+1.0**
BEL	**Belsk**	**37.80**	**310**	*e*P		**P**	**00 52 20.7**	**+0.8**
BEL				*e*PP		**PP**	**00 53 50.1**	**-1.1**
BEL				*e*S		**S**	**00 57 52.9**	**-0.5**
BEL				*e*SS		**SS**	**01 00 46.0**	**-3.4**
SLIT	**Slitere, Latvi**	**37.80**	**319**	*e*P		**P**	**00 52 18.9**	**-0.9**
KECS	**Kecovo**	**37.89**	**304**	*e*P		**P**	**00 52 22.2**	**+1.5**
KECS				pmax	pmax			
	comp=Z,132nm,0.6s							
KECS	**Kecovo**	**37.89**	**304**	*e*P		**P**	**00 52 22.2**	**+1.5**
KECS				*e*PP		**PP**	**00 53 54.6**	**+2.4**
KEF	**Keuruu**	**37.90**	**327**	*e*P		**P**	**00 52 21.0**	**+0.4**
FNA	**Florina**	**37.93**	**292**			**P**	**00 52 21.9**	**+0.6**
FNA	**Florina**	**37.93**	**292**	P		**P**	**00 52 21.9**	**+0.6**
FNA				pmax	pmax			
	comp=Z,205nm,0.7s							
NIE	**Niedzica**	**38.01**	**306**	*e*P		**P**	**00 52 23.7**	**+2.0**
NIE				*e*PP		**PP**	**00 53 55.6**	**+2.1**
NIE				*e*S		**S**	**00 58 01.7**	**+4.9**
NIE				*e*SS		**SS**	**01 00 50.3**	**-3.4**
BSZH	**Besenyszg**	**38.06**	**302**	⇓P		**P**	**00 52 24.7**	**+2.6**
PSZ	**Piszkesteto**	**38.29**	**303**			**P**	**00 52 25.5**	**+1.3**
PSZ	**Piszkesteto**	**38.29**	**303**	⇑P		**P**	**00 52 26.0**	**+1.8**
PSZ	**Piszkesteto**	**38.29**	**303**	P		**P**	**00 52 25.5**	**+1.3**
PSZ				pmax	pmax			
	comp=Z,156nm,0.8s							
PSZ	**Piszkesteto**	**38.29**	**303**	*e*P		**P**	**00 52 24.7**	**+0.5**
OHR	**Ohrid**	**38.31**	**292**	*i* P		**P**	**00 52 24.4**	**0.0**
OJC	**Ojcow**	**38.35**	**307**	*e*P		**P**	**00 52 25.4**	**+0.8**
OJC				*e*PP		**PP**	**00 53 59.8**	**+2.6**
OJC				*e*S		**S**	**00 58 02.0**	**+0.3**
OJC				*e*SS		**SS**	**01 01 02.2**	**+1.9**
OJC	**Ojcow**	**38.35**	**307**			**P**	**00 52 25.4**	**+0.8**
OJC	**Ojcow**	**38.35**	**307**	P		**P**	**00 52 25.4**	**+0.8**
LANS	**Liptovska Anna**	**38.55**	**305**	*e*P		**P**	**00 52 28.2**	**+1.9**
LANS				pmax	pmax			
	comp=Z,59nm,0.6s							
LANS	**Liptovska Anna**	**38.55**	**305**	*e*P		**P**	**00 52 28.2**	**+1.9**
LANS				*e*PP		**PP**	**00 53 58.4**	**-1.1**
SRIT	**Nakonsritamara**	**38.58**	**129**			**P**	**00 52 27.9**	**+1.1**
SRIT				IAmb		IAmb	00 52 28.8	
	comp=Z,487nm,0.6s							
SRIT	**Nakonsritamara**	**38.58**	**129**	P		**P**	**00 52 28.0**	**+1.1**
IVA	**Berane**	**38.71**	**295**	⇑*i*P		**P**	**00 52 29.3**	**+1.6**
QIZ	**Qiongzhong**	**38.89**	**106**	P		**P**	**00 52 29.9**	**+0.5**
QIZ				pP		**pP**	**00 53 14.6**	**-2.6**
QIZ				sP		**sP**	**00 53 42.8**	**-0.5**
QIZ				PP		**PP**	**00 54 05.8**	**+2.3**
QIZ				PcP		**PcP**	**00 54 37.2**	**+1.8**
QIZ				ScP		**ScP**	**00 58 01.8**	**-0.1**
QIZ				S		**S**	**00 58 07.9**	**-2.6**
QIZ				pmax	pmax			
	comp=Z,210nm,0.7s							
QIZ				pmax	pmax			
	comp=Z,630nm,5.4s							
RAF	**Rauma**	**38.93**	**325**	*e*P		**P**	**00 52 29.1**	**-0.1**
VYHS	**Vyhne**	**38.98**	**304**	*e*P		**P**	**00 52 31.1**	**+1.3**
VYHS				pmax	pmax			
	comp=Z,374nm,1.5s							
VYHS	**Vyhne**	**38.98**	**304**	*e*P		**P**	**00 52 31.1**	**+1.3**
VYHS				*e*PP		**PP**	**00 54 03.1**	**-1.0**
VYHS				*e*			00 58 00.4	
KOME	**Kolasin**	**38.99**	**295**	⇑*i*P		**P**	**00 52 31.0**	**+1.0**
RUDO	**Rudo**	**38.99**	**297**	⇑*i*P		**P**	**00 52 30.4**	**+0.5**
PLE	**Pljevlja**	**39.01**	**296**	⇑*i*P		**P**	**00 52 31.1**	**+0.8**
MORH	**Mrgy, Hungar**	**39.24**	**301**	⇑*i*P		**P**	**00 52 32.7**	**+0.8**
MORH	**Mrgy, Hungar**	**39.24**	**301**	⇑P		**P**	**00 52 33.3**	**+1.4**
PDG	**Podgorica**	**39.24**	**295**			**P**	**00 52 32.3**	**+0.3**
PDG	**Podgorica**	**39.24**	**295**	⇑P		**P**	**00 52 32.6**	**+0.6**
PDG	**Podgorica**	**39.24**	**295**	⇑*i*P		**P**	**00 52 32.3**	**+0.3**
ULC	**Ulcinj**	**39.32**	**294**	⇑*i*P		**P**	**00 52 32.4**	**-0.3**
DRME	**Dracevica, Mon**	**39.33**	**294**	⇑*i*P		**P**	**00 52 32.9**	**+0.1**
SRO	**Srobarova**	**39.36**	**303**	*e*P		**P**	**00 52 36.0**	**+3.1**
SRO				pmax	pmax			
	comp=Z,2μm,1.8s							
SRO	**Srobarova**	**39.36**	**303**	*e*P		**P**	**00 52 36.0**	**+3.1**
SRO				*e*			00 58 04.0	
RAC	**Raciborz**	**39.38**	**307**	*e*P		**P**	**00 52 34.4**	**+1.4**
RAC	**Raciborz**	**39.38**	**307**	*e*P		**P**	**00 52 34.4**	**+1.4**
UPM	**Unac-Piva**	**39.38**	**296**	⇑*i*P		**P**	**00 52 34.2**	**+0.8**
NKME	**Niksic**	**39.41**	**295**	⇑*i*P		**P**	**00 52 33.3**	**-0.2**
OKC	**Ostrava-Krasne**	**39.41**	**307**	*e*P		**P**	**00 52 34.7**	**+1.4**
OKC				*e*S		**S**	**00 58 19.2**	**+1.6**
OKC	**Ostrava-Krasne**	**39.41**	**307**	⇑*e*P		**P**	**00 52 34.7**	**+1.4**
OKC				*e*S		**S**	**00 58 19.2**	**+1.6**
CEME	**Cevo**	**39.47**	**295**	⇑*i*P		**P**	**00 52 34.2**	**+0.2**
GZH	**Guangzhou**	**39.49**	**98**	P		**P**	**00 52 35.2**	**+0.9**
GZH				pP		**pP**	**00 53 22.3**	**0.0**
GZH				PP		**PP**	**00 54 11.6**	**+1.6**
GZH				S		**S**	**00 58 19.3**	**-0.1**
GZH				pmax	pmax			
	comp=Z,590nm,0.6s							
BUM	**Brajici-Budva**	**39.52**	**295**	⇑*i*P		**P**	**00 52 34.7**	**+0.3**
KLINJ	**Klinje**	**39.62**	**296**	*e*P		**P**	**00 52 36.0**	**+0.8**
FURI	**Furi**	**39.62**	**234**	P		**P**	**00 52 39.0**	**+3.2**
FURI				IAmb		IAmb	00 52 40.3	
	comp=Z,2μm,1.6s							
FURI	**Furi**	**39.62**	**234**	⇑P		**P**	**00 52 39.0**	**+3.2**
MAUC	**Maruska**	**39.63**	**306**	⇑*i*P		**P**	**00 52 36.8**	**+1.7**
MAUC				*e*S		**S**	**00 58 23.1**	**+2.2**
STEB	**Steborice**	**39.65**	**307**	⇑*i*P		**P**	**00 52 36.5**	**+1.2**
LHMI	**Lhok Sumawe**	**39.66**	**135**			**P**	**00 52 36.1**	**+0.4**
LHMI	**Lhok Sumawe**	**39.66**	**135**	P		**P**	**00 52 37.0**	**+1.3**
LHMI	**Lhok Sumawe**	**39.66**	**135**	P		**P**	**00 52 36.3**	**+0.6**
	comp=Z,11μmcomp=Z,1μm,0.7s							
BRY	**Bratogost**	**39.69**	**296**	⇑*i*P		**P**	**00 52 36.3**	**+0.4**
JAVC	**Velka Javorina**	**39.74**	**305**	⇑*i*P		**P**	**00 52 38.3**	**+2.1**
JAVC				*e*PP		**PP**	**00 54 14.2**	**+1.8**
JAVC				*e*SCP		**ScP**	**00 58 04.8**	**0.0**
JAVC				*e*			01 01 33.6	
DOB	**Doboj**	**39.76**	**299**	*e*P		**P**	**00 52 37.0**	**+0.7**
HCY	**Herceg Novi**	**39.79**	**295**	⇑*i*P		**P**	**00 52 36.8**	**+0.2**
MORC	**Moravsky Berou**	**39.80**	**306**			**P**	**00 52 37.8**	**+1.2**
MORC	**Moravsky Berou**	**39.80**	**306**	⇑*i*P		**P**	**00 52 37.9**	**+1.3**
MORC				*e*PP		**PP**	**00 54 14.5**	**+1.5**
MORC				*e*SCP		**ScP**	**00 58 04.5**	**-0.5**
MORC				*e*			01 01 27.6	
MORC	**Moravsky Berou**	**39.80**	**306**	⇑P		**P**	**00 52 38.1**	**+1.5**
MORC	**Moravsky Berou**	**39.80**	**306**	P		**P**	**00 52 37.8**	**+1.2**
MORC				pmax	pmax			
	comp=Z,238nm,0.7s							
TREB	**Trebinje**	**39.86**	**295**	⇑*i*P		**P**	**00 52 37.2**	**+0.1**
SMOL	**Smolenice**	**39.92**	**304**	*e*P		**P**	**00 52 38.9**	**+1.4**
SMOL				pmax	pmax			
	comp=Z,77nm,0.7s							
MODS	**Modra-Piesok**	**40.03**	**304**	*e*P		**P**	**00 52 36.7**	**-1.7**
MODS				pmax	pmax			
	comp=Z,640nm,1.5s							
MODS	**Modra-Piesok**	**40.03**	**304**	*e*P		**P**	**00 52 36.7**	**-1.7**
MODS				*e*PP		**PP**	**00 54 14.1**	**-1.2**
MODS				*e*			00 58 02.3	
GKP	**Gorka Klasztor**	**40.05**	**312**	*e*P		**P**	**00 52 39.3**	**+0.8**
GKP				*e*PP		**PP**	**00 54 11.6**	**-3.9**
GKP				*e*S		**S**	**00 58 27.2**	**+0.2**
GKP				*e*SS		**SS**	**01 01 38.7**	**+4.8**
GKP	**Gorka Klasztor**	**40.05**	**312**	*e*P		**P**	**00 52 38.3**	**-0.3**
VADS	**Vadso**	**40.08**	**340**	⇑*i*P		**P**	**00 52 39.9**	**+1.4**
MLSI	**Meulaboh, Aceh**	**40.15**	**137**	P		**P**	**00 52 37.9**	**-1.8**
	comp=Z,17μmcomp=Z,2μm,0.7s							
NJ2	**Nanjing**	**40.17**	**82**	⇑P		**P**	**00 52 41.2**	**+1.4**
NJ2				sP		**sP**	**00 53 54.6**	**+0.2**
NJ2				PcP		**PcP**	**00 54 39.2**	**-0.1**
NJ2				ScP		**ScP**	**00 58 05.3**	**-1.4**
NJ2				S		**S**	**00 58 29.9**	**+0.7**
NJ2				ScS		**ScS**	**01 02 18.0**	**-3.1**
NJ2				pmax	pmax			
	comp=Z,380nm,1.0s							
NJ2				pmax	pmax			
	comp=Z,560nm,3.7s							
KRLC	**Kraliky**	**40.29**	**307**	⇑*i*P		**P**	**00 52 42.0**	**+1.4**
KRLC	**Kraliky**	**40.29**	**307**	⇑*i*P		**P**	**00 52 42.0**	**+1.4**
STON	**Ston**	**40.30**	**296**	⇑*i*P		**P**	**00 52 40.6**	**-0.1**
DL2	**Dalian**	**40.38**	**70**	⇑*i*P		**P**	**00 52 43.1**	**+1.7**
DL2				pP		**pP**	**00 53 28.4**	**-1.5**
DL2				PcP		**PcP**	**00 54 39.4**	**-0.4**
DL2				ScP		**ScP**	**00 58 05.4**	**-1.9**
DL2				S		**S**	**00 58 34.3**	**+2.1**
DL2				sS		**sS**	**01 00 02.8**	**+5.3**
DL2				ScS		**ScS**	**01

SNY pmax pmax
comp=Z,330nm,4.3s
SNY LR LR
comp=Z,750nm,7.2s
SNY LR LR
comp=Z,870nm,10.0s
SNY LR LR
comp=Z,690nm,8.9s
ARSA Arzberg 41.29 303 P 00 52 49.2 +0.5
ARSA Arzberg 41.29 303 *i* P **P 00 52 49.8 +1.0**
comp=Z,553nm,1.8s,SNR=69
ARSA *e*PP **PP 00 54 31.4 +2.5**
comp=Z,105nm,1.3s
ARSA *e*ScP **ScP 00 58 09.0 -1.8**
comp=Z,78nm,1.2s
KTK1 Kautokeino 41.34 337⇑*i*P **P 00 52 49.7 +0.8**
MATE Matera 41.45 293⇑P **P 00 52 50.5 +0.5**
MATE Matera 41.45 293 *e*P **P 00 52 49.5 -0.6**
OZLJ Ozalj 41.50 300⇑*i*P **P 00 52 51.7 +1.3**
BSD Bornholm Skovb 41.52 315 *e*P **P 00 52 49.1 -1.3**
BSD Bornholm Skovb 41.52 315⇑*i*P **P 00 52 49.8 -0.6**
BSD IAmb IAmb 00 52 50.9
comp=Z,1μm,1.4s
GOPC GO Pecny, Ondr 41.58 307⇑*i*P **P 00 52 52.3 +1.2**
GOPC *e*S **S 00 58 52.9 +3.2**
GOPC GO Pecny, Ondr 41.58 307⇑*i*P **P 00 52 52.3 +1.2**
GOPC *e*S **S 00 58 52.9 +3.2**
SNSI Sinabang, Aceh 41.65 138 P **P 00 52 52.7 +0.7**
SOKA Soboth 41.68 302 *i* P **P 00 52 53.3 +1.3**
comp=Z,543nm,1.1s,SNR=166
SOKA *e*PP **PP 00 54 35.9 +2.7**
comp=Z,679nm,2.7s
SOKA *e*ScP **ScP 00 58 11.5 -1.0**
comp=Z,137nm,1.8s
PVCC Panska Ves 41.70 308⇑*i*P **P 00 52 53.4 +1.5**
PVCC Panska Ves 41.70 308⇑*i*P **P 00 52 53.4 +1.5**
TIP Timpagrande 41.73 290⇑P **P 00 52 52.9 +0.4**
PRU Pruhonice 41.74 307⇑*i*P **P 00 52 53.7 +1.4**
PRU *e* 00 53 39.4
PRU *e*S **S 00 58 50.7 -1.2**
PRU Pruhonice 41.74 307⇑*i*P **P 00 52 53.7 +1.4**
PRU *ex* x 00 53 39.4
PRU *e*S **S 00 58 50.7 -1.2**
KULM Kulim 41.80 131 P **P 00 52 53.8 +0.6**
KULM Kulim 41.80 131 P **P 00 52 53.8 +0.6**
SGRT San Giovanni R 41.93 294 **P 00 52 54.2 +0.1**
SGRT IAmb IAmb 00 52 56.5
comp=Z,821nm,1.2s
CKRC Cesky Krumlov 41.96 305⇑*i*P **P 00 52 55.3 +1.1**
CKRC *e*S **S 00 58 56.6 +1.3**
CKRC Cesky Krumlov 41.96 305⇑*i*P **P 00 52 55.3 +1.1**
CKRC *e*S **S 00 58 56.6 +1.3**
HAMF Hammerfest 41.98 339⇑*i*P **P 00 52 55.6 +1.7**
TSI Tuntungan 41.99 135 P **P 00 52 53.1 -1.6**
comp=Z,880nm,0.8s
RICC Richard 41.99 308⇑*e*P **P 00 52 56.0 +1.6**
ZVC Zvikov 42.00 306⇑*i*P **P 00 52 55.9 +1.5**
ZVC *e*S **S 00 58 58.6 +2.8**
OBKA Obir 42.03 302 *i* P **P 00 52 56.1 +1.3**
comp=Z,1μm,2.0s,SNR=58
OBKA *e*PP **PP 00 54 36.4 -0.6**
comp=Z,692nm,2.6s
OBKA *i* ScP **ScP 00 58 12.9 -1.0**
comp=Z,70nm,1.2s,SNR=4.5
OBKA Obir 42.03 302 *e*S **ScP 00 58 12.9 -1.0**
comp=Z,70nm,1.2s,SNR=4.5
MOA Molln 42.08 304 *i* P **P 00 52 56.0 +0.9**
comp=Z,1μm,2.0s,SNR=168
MOA *e*PP **PP 00 54 38.1 +0.8**
comp=Z,558nm,1.9s
MOA *e*ScP **ScP 00 58 12.7 -1.3**
comp=Z,270nm,2.9s
BRG Berggiesshubel 42.08 308⇑*i*P **P 00 52 56.9 +1.8**
BRG Amp 00 52 57.6
comp=Z,262nm,0.7s
BRG Berggiesshubel 42.08 308 P P 00 53 03.1 +8.1
BRG Amp 00 53 04.4
comp=Z,80nm,0.7s
BRG Berggiesshubel 42.08 308 sP **sP 00 54 10.0 +1.6**
BRG PP **PP 00 54 35.8 -1.5**
BRG Amp 00 54 40.4
comp=Z,111nm,1.1s
BRG ⇑PP **PcP 00 54 46.1 +0.8**
BRG Amp 00 54 46.5
comp=Z,106nm,0.8s
BRG Berggiesshubel 42.08 308 S **S 00 59 01.0 +4.1**
BRG Berggiesshubel 42.08 308 sS sS 01 00 26.0 +3.3
BRG Berggiesshubel 42.08 308 SS SS 01 02 21.0 +7.5
LJU Ljubljana 42.10 301 *i* P **P 00 52 56.6 +1.3**
LJU *e*pP **pP 00 53 44.9 +1.9**
LJU *e*sP **sP 00 54 09.6 +1.0**
LJU *i* PP **PP 00 54 40.0 +2.4**
LJU *i* PcP **PcP 00 54 45.7 +0.3**
LJU *e*ScP **ScP 00 58 13.2 -0.9**
LJU *e*S **S 00 58 58.3 +0.9**
LJU *e* 00 59 00.9
LJU *e*sS **sS 01 00 21.1 -2.1**
LJU *i* ScS **ScS 01 02 29.9 -2.6**
RUE Ruedersdorf 42.13 311 *e*P **P 00 52 55.5 +0.1**
DEL Delary 42.19 317⇑*i*P **P 00 52 56.2 +0.4**
CN2 Changchun 42.23 62 *e*P **P 00 52 57.0 +0.6**
CN2 *e*sP sP 00 54 07.8 -3.5
CN2 PP **PcP 00 54 45.0 -0.9**
CN2 *e*S **S 00 58 59.9 +0.5**
CN2 *e*sS sS 01 00 24.0 -1.2
CN2 pmax pmax
comp=Z,100nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,900nm,11.0s
DLV Lat 42.26 115 P **P 00 52 58.1 +1.0**
DLV Lat 42.26 115 P **P 00 52 58.5 +1.4**
GEC2 GERESS Array S 42.36 305 P **P 00 52 58.4 +0.9**
GERES GERESS Array B 42.36 305 P **P 00 52 58.2 +0.8**
GERES GERESS Array B 42.36 305 P **P 00 52 58.1 +0.6**
comp=Z,38nm,0.7s,baz=82,slow=7.7,SNR=289
GERES PP **PP 00 54 38.3 -2.1**
comp=Z,63nm,1.0s,baz=76,slow=7.9,SNR=3.7
GERES PcP **PcP 00 54 45.4 -1.0**
comp=Z,74nm,0.7s,baz=84,slow=4.5,SNR=11
GERES ScP **ScP 00 58 13.9 -1.3**
comp=Z,32nm,1.0s,baz=86,slow=5.2,SNR=9.2
GERES PKiKP **PKiKP 01 01 48.7 -1.9**
comp=Z,1.6nm,0.7s,baz=90,slow=2.0,SNR=5.2
GERES P4KPbc 01 30 53.5
comp=Z,0.2nm,0.5s,baz=70,slow=4.4,SNR=3.7
SSE Sheshan 42.37 82 P **P 00 52 57.5 -0.1**
SSE S **S 00 59 00.9 -0.7**
SSE pmax pmax
comp=Z,310nm,1.0s
SSE pmax pmax
comp=Z,690nm,3.5s
SSE LR LR
comp=Z,620nm,17.5s
SSE LR LR
comp=Z,700nm,17.2s
LUNU Lund 42.38 315⇑*i*P **P 00 52 58.1 +0.7**
RGN Rugen 42.42 314 P **P 00 52 58.9 +1.2**
KHC Kasperske Hory 42.42 306*ce*P **P 00 52 58.7 +0.9**
KHC pmax pmax
comp=Z,268nm,1.7s
KHC Kasperske Hory 42.42 306⇑*i*P **P 00 52 58.8 +0.9**
KHC *ex* x 00 53 54.0
KHC *ex* x 00 54 37.0
KHC *e*S **S 00 59 03.8 +1.8**
KHC AMS AMS 01 09 20.0
comp=Z,800nm,19.0s
JETT Jettan, Norway 42.49 337⇑*i*P **P 00 52 59.2 +1.0**
BIOA Bad Ischl, Aus 42.51 304 *i* P **P 00 52 59.4 +0.7**
comp=Z,339nm,1.2s,SNR=149
BIOA *i* PP **PP 00 54 43.0 +1.0**
comp=Z,388nm,1.6s
BIOA *i* ScP **ScP 00 58 14.3 -1.5**
comp=Z,244nm,2.6s
BIOA *e*S **S 00 59 04.5 +1.0**
comp=Z,487nm,4.7s
ZEA Zeya 42.59 47 *e*P **P 00 53 01.8 +2.7**
ZEA *e**PP **pP 00 53 50.2 +2.5**
ZEA *e**SP **sP 00 54 14.9 +1.1**
ZEA *e* 00 54 50.4
ZEA *e*S **S 00 59 08.7 +4.4**
ZEA pmax pmax
comp=E,390nm,0.8s
ZEA pmax pmax
comp=N,200nm,0.7s
ZEA pmax pmax
comp=Z,800nm,0.9s
ZEA smax smax
comp=E,400nm,7.5s
ZEA smax smax
comp=N,900nm,5.0s
CADS Cadrg 42.62 301 *i* P **P 00 53 00.2 +0.7**
CADS *i* PP **PP 00 54 44.7 +1.5**
CADS *e*PcP **PcP 00 54 46.7 -0.5**
CADS *i* ScP **ScP 00 58 14.5 -1.7**
CADS *e*S **S 00 59 05.3 +0.3**
CADS *i* sS **sS 01 00 28.2 -2.8**
CADS *i* ScS **ScS 01 02 32.4 -3.4**
BJUU Bjuv 42.64 316⇑*i*P **P 00 52 59.9 +0.5**
MYKA Terra Mystica 42.64 302 *i* P **P 00 53 00.5 +0.8**
comp=N,582nm,2.0s,SNR=59
MYKA *e*PP **PP 00 54 44.8 +1.4**
comp=N,423nm,2.2s
MYKA *i* ScP **ScP 00 58 14.6 -1.8**
comp=N,129nm,2.4s
HFS Hagfors 42.64 322 P **P 00 52 59.9 +0.4**
comp=N,726nm,0.6s,baz=98,slow=10,SNR=3922
HFS PP **PP 00 54 39.8 -3.2**
comp=N,167nm,0.7s,baz=97,slow=12,SNR=5.6
HFS PcP **PcP 00 54 47.1 +0.1**
comp=N,88nm,0.4s,baz=108,slow=4.7,SNR=7.6
HFS S **S 00 59 04.1 -0.8**
comp=N,31nm,1.0s,baz=108,slow=9.3,SNR=2.2
HFS P3KPbc 01 22 08.0
comp=N,1.3nm,0.7s,baz=297,slow=6.3,SNR=4.9
HFS P4KPbc 01 30 47.9
comp=N,0.9nm,0.5s,baz=117,slow=5.2,SNR=9.0
comp=N,726nm,0.6s
CLL Collm 42.65 309 **P 00 53 00.2 +0.6**
CLL Collm 42.65 309⇑*i*P **P 00 53 00.3 +0.6**
comp=Z,547nm,1.6s
CLL Collm 42.65 309⇑*i*P **P 00 53 00.3 +0.6**
comp=Z,547nm,1.6s
CLL *e*PIp 00 53 01.0
comp=Z,400nm,21.9s
CLL *ex* x 00 53 38.0
CLL *e*pP **pP 00 53 48.0 +0.6**
CLL *e*sP **sP 00 54 16.0 +3.0**
CLL *e*S **S 00 59 06.0 +0.8**
CLL *e**SS **sS 01 00 31.0 -0.2**
CLL pmax pmax
comp=Z,547nm,1.6s
CLL Collm 42.65 309⇑*i*P **P 00 53 00.3 +0.6**
comp=Z,547nm,1.6s
CLL *e*PIp 00 53 01.0
comp=Z,400nm,21.9s
CLL *ex* x 00 53 38.0
CLL *e*pP **pP 00 53 48.0 +0.6**
CLL *e*sP **sP 00 54 16.0 +3.0**
CLL *ex* x 00 54 35.0
CLL *e*PP **PP 00 54 43.0 -0.3**
CLL *i* pPP 00 55 21.0
CLL *e*PPP PPP 00 55 26.0
CLL *e*sPP 00 55 50.0
CLL *i* ScP **ScP 00 58 14.5 -1.7**
comp=Z,101nm,1.3s
CLL *e*PcS **PcS 00 58 41.0 +1.6**
CLL *e*S **S 00 59 06.0 +0.8**
comp=N,700nm,27.9s
CLL *e*S **S 00 59 06.0 +0.8**
comp=E,400nm,22.1s
CLL *e*sS **sS 01 00 31.0 -0.2**
CLL *e*SS **SS 01 02 18.0 -6.8**
CLL *e*SSS SSS 01 04 06.0
IPM Ipoh 42.66 131 P **P 00 53 00.7 +0.5**
IPM IAmb IAmb 00 53 04.9
comp=Z,1μm,0.7s
IPM Ipoh 42.66 131 P **P 00 53 00.1 -0.1**
SABO M.te Sabotino 42.75 301 P **P 00 53 01.4 +0.8**
SABO IAmb IAmb 00 53 02.8
comp=Z,3μm,1.9s
PSI Prapat 42.77 135 ScS ScS 01 02 33.1 -4.5
comp=Z,29nm,1.0s,baz=324,slow=19,SNR=23
PSI Prapat 42.77 135 P **P 00 53 00.6 -0.5**
PSI Prapat 42.77 135 P **P 00 53 00.8 -0.3**
PSI pmax pmax
comp=Z,521nm,0.8s
KBA Koelnbreinsper 42.78 303 *i* P **P 00 53 01.8 +0.8**
comp=Z,321nm,1.3s
KBA *i* PP **PP 00 54 46.4 +1.4**
comp=Z,322nm,1.3s
KBA *e*ScP **ScP 00 58 15.2 -1.8**
comp=Z,78nm,1.5s
KBA *e*S **S 00 59 09.1 +1.5**
comp=Z,254nm,3.0s
HEH HeiHe 42.81 53 *e*P **P 00 53 02.3 +1.4**
HEH PcP **PcP 00 54 47.1 -0.6**
HEH ScP **ScP 00 58 14.6 -2.3**
HEH S **S 00 59 05.9 -1.7**
HEH sS **sS 01 00 30.1 -3.5**
HEH SS **SS 01 02 25.5 -2.4**
QZH Quanzhou 42.83 92⇑*i*P **P 00 53 01.7 +0.3**
QZH PcP **PcP 00 54 48.0 -0.2**
QZH ScP **ScP 00 58 15.6 -1.7**
QZH S **S 00 59 07.4 -1.0**
QZH sS **sS 01 00 31.8 -2.6**
QZH ScS **ScS 01 02 34.0 -3.5**
QZH pmax pmax
comp=Z,190nm,0.7s
FABU Falkenberg 42.85 317⇑*i*P **P 00 53 01.3 +0.2**
RPSI Rantau Prapat 42.85 135 P **P 00 53 00.8 -0.8**
RPSI IAmb IAmb 00 53 06.3
comp=Z,521nm,0.8s
BORU Boraas 42.87 318⇑*i*P **P 00 53 01.4 +0.2**
PAOL Paolisi 42.95 294 P **P 00 53 02.8 +0.6**
PAOL IAmb IAmb 00 53 04.4
comp=Z,1μm,1.7s
COP Copenhagen 42.95 315⇑*i*P **P 00 53 03.0 +1.1**
COP IAmb IAmb 00 53 04.2
comp=Z,2μm,1.2s
TRO Tromso 42.99 336⇑*i*P **P 00 53 03.0 +1.0**
MSEY Mahe Island 43.18 202 **P 00 53 05.6 +1.3**
MSEY IAmb IAmb 00 53 06.5
comp=Z,776nm,0.8s
MSEY Mahe Island 43.18 202 P **P 00 53 05.6 +1.3**
MSEY S **S 00 59 15.3 +1.6**
MSEY Mahe Island 43.18 202 P **P 00 53 05.6 +1.3**
MSEY pmax pmax
comp=Z,776nm,0.9s
MSEY Mahe Island 43.18 202 *i* P **P 00 53 05.5 +1.3**
SNR=34
MSEY Mahe Island 43.18 202⇓P **P 00 53 05.4 +1.1**
LESA Schwarzleotal 43.19 303 *i* P **P 00 53 04.7 +0.6**
comp=Z,461nm,1.1s,SNR=247
LESA *i* PP **PP 00 54 48.6 -0.6**
comp=Z,108nm,0.6s
LESA *e*ScP **ScP 00 58 16.7 -1.9**
comp=Z,125nm,1.5s,SNR=4.2
LESA Schwarzleotal 43.19 303 *e*S **ScP 00 58 16.7 -1.9**
comp=Z,125nm,1.5s,SNR=4.2
GSI Gunungsitoli 43.25 138 **P 00 53 06.2 +1.4**
GSI Gunungsitoli 43.25 138 P **P 00 53 06.3 +1.4**
GSI Gunungsitoli 43.25 138 P **P 00 53 05.9 +1.0**
BNX BinXian 43.30 59⇑P **P 00 53 06.4 +1.5**
BNX sP **sP 00 54 18.5 -1.6**
BNX PcP **PP 00 54 51.4 +1.1**
BNX S **S 00 59 14.0 -0.8**
BNX sS **sS 01 00 37.4 -3.6**
BNX pmax pmax
comp=Z,350nm,1.0s
BNX pmax pmax
comp=Z,380nm,3.9s
BNX LR LR
comp=Z,1μm,14.1s
BNX LR LR
comp=Z,890nm,15.7s
BNX LR LR
comp=Z,900nm,14.6s
ONAU Onsala 43.31 318⇑*i*P **P 00 53 04.6 -0.2**
ABTA Abfaltersbach 43.39 302 *i* P **P 00 53 05.8 0.0**
comp=Z,371nm,1.9s,SNR=41
ABTA *i* PcP **PcP 00 54 49.1 -0.8**
comp=Z,145nm,1.0s
ABTA *i* ScP **ScP 00 58 17.4 -2.0**
comp=Z,83nm,1.4s
MOR8 Moi Rana 43.48 331⇑*i*P **P 00 53 06.2 +0.1**
FAUS Fauske 43.49 333⇑*i*P **P 00 53 07.0 +0.9**
AQU L'Aquila 43.52 296 P **P 00 53 07.9 +1.1**
AQU S **S 00 59 19.6 +1.4**
STEI Steigen 43.67 333⇑*i*P **P 00 53 08.4 +1.0**
DGAR Diego Garcia 43.72 177 P **P 00 53 09.7 +1.2**
DGAR Diego Garcia 43.72 177*de*P **P 00 53 09.9 +1.4**
DGAR pmax pmax
comp=Z,2μm,1.0s
NC405 NORSAR Array S 43.73 323 P **P 00 53 08.6 +0.4**
NC405 IAmb IAmb 00 53 09.9
comp=Z,2μm,1.1s
NC602 NORSAR Array S 43.77 323⇑*i*P **P 00 53 08.5 +0.1**
STRU Stroemstad 43.80 320 *e*P **P 00 53 08.1 -0.6**
STRU Stroemstad 43.80 320⇑*i*P **P 00 53 08.5 -0.2**
GRA1 Grafenberg Arr 43.90 307 P **P 00 53 11.1 +1.4**
GRA1 IAmb IAmb 00 53 13.9
comp=Z,1μm,1.6s
GRF Grafenberg Arr 43.90 307 P **P 00 53 11.1 +1.4**
GRF pmax pmax
comp=Z,1μm,1.6s
GRF Grafenberg Arr 43.90 307 *e*P **P 00 53 11.3 +1.6**
comp=Z,833nm,1.4s,baz=84,slow=7.2
GRFO Grafenberg 43.90 307 P **P 00 53 11.3 +1.6**
GRFO IAmb IAmb 00 53 13.8
comp=Z,1μm,1.6s
GRFO Grafenberg 43.90 307 P **P 00 53 11.3 +1.6**
GRFO pmax pmax
comp=Z,1μm,1.6s
WTTA Wattenberg 43.91 303 *i* P **P 00 53 10.1 +0.1**
comp=Z,636nm,1.3s,SNR=106
WTTA *i* PcP **PcP 00 54 51.3 -0.4**
comp=Z,274nm,1.0s
WTTA *i* ScP **ScP 00 58 20.2 -1.5**
comp=Z,217nm,1.4s,SNR=5.5
WTTA *e*S **S 00 59 24.3 +0.2**
comp=Z,154nm,2.6s
WTTA *ep*PKiKP **pPKiKP 01 02 42.4 -8.8**
comp=Z,48nm,1.5s
WTTA Wattenberg 43.91 303 *e*S **ScP 00 58 20.2 -1.5**
comp=Z,217nm,1.4s,SNR=5.5
H08S3 Diego Garcia H 43.94 177 P **P 00 53 11.4 +1.4**
baz=352,slow=13,SNR=763
WATA Walderalm 43.95 303 *i* P **P 00 53 10.0 -0.2**
comp=Z,701nm,1.9s,SNR=108
WATA *i* PcP **PcP 00 54 51.2 -0.6**
comp=Z,251nm,1.1s
WATA *i* ScP **ScP 00 58 20.1 -1.7**
comp=Z,162nm,1.3s,SNR=5.3
WATA Walderalm 43.95 303 *e*S **ScP 00 58 20.1 -1.7**
comp=Z,162nm,1.3s,SNR=5.3
H08S1 Diego Carcia H 43.96 177 P **P 00 53 11.5 +1.4**
baz=352,slow=13,SNR=167
H08S2 Diego Garcia H 43.96 177 P **P 00 53 11.5 +1.4**
baz=352,slow=13,SNR=277
NB2 NORSAR Subarra 43.97 323 P **P 00 53 10.1 +0.1**
comp=Z,256nm,0.5s,baz=95,slow=8.6
NB2 PP **PcP 00 54 53.6 +2.1**
comp=Z,509nm,1.1s,baz=94,slow=10
NB2 NORSAR Subarra 43.97 323 P **P 00 53 10.1 +0.1**
baz=95,slow=8.6
NOA NORSAR Array B 43.97 323 P **P 00 53 09.9 -0.1**
comp=Z,367nm,0.6s,baz=95,slow=7.9,SNR=2352
NOA PcP **PcP 00 54 51.9 +0.5**
comp=Z,59nm,0.8s,baz=94,slow=2.3,SNR=6.6
NOA S **S 00 59 21.9 -2.2**
comp=Z,3.0nm,0.8s,baz=96,slow=14,SNR=1.3
NOA P4KPbc 01 31 01.1
comp=Z,0.6nm,1.0s,baz=96,slow=8.1,SNR=3.6
comp=Z,367nm,0.6s
LEIR Leirfjorden 43.99 331⇑*i*P **P 00 53 10.8 +0.7**
VAGH Vaagaholmen 44.08 331⇑*i*P **P 00 53 11.4 +0.7**
KONS Konsvik 44.08 331⇑*i*P **P 00 53 11.4 +0.7**
STOK Stokkvaagen 44.08 331⇑*i*P **P 00 53 11.2 +0.5**
OSL Oslo 44.10 321⇑*i*P **P 00 53 11.3 +0.2**
NSS Namsos 44.13 328⇑*i*P **P 00 53 11.2 0.0**
SQTA Sankt Quirin 44.21 303 *i* P **P 00 53 12.0 -0.2**
comp=Z,293nm,1.1s,SNR=123
SQTA *i* PcP **PcP 00 54 52.6 -0.1**
comp=Z,117nm,0.6s
SQTA *i* ScP **ScP 00 58 21.3 -1.5**
comp=Z,124nm,1.3s,SNR=7.6
SQTA *ep*PKiKP **pPKiKP 01 02 42.2 -9.3**
comp=Z,19nm,1.2s
SQTA Sankt Quirin 44.21 303 *e*S **ScP 00 58 21.3 -1.5**
comp=Z,124nm,1.3s,SNR=7.6
MOTA Moosalm 44.26 303 *i* P **P 00 53 12.4 -0.3**
comp=Z,245nm,0.8s,SNR=116
MOTA *i* PcP **PcP 00 54 52.6 -0.3**
comp=Z,340nm,1.1s
MOTA *i* ScP **ScP 00 58 21.4 -1.6**
comp=Z,187nm,1.2s
LOF Lofoten 44.34 333⇑*i*P **P 00 53 12.8 0.0**
YAK Yakutsk 44.38 36 *i* P **P 00 53 14.1 +0.8**
YAK Yakutsk 44.38 36*c i*P **P 00 53 13.8 +0.6**
YAK *e**PP **pP 00 54 03.0 +0.6**
YAK *e* 00 54 52.4
YAK *e* 00 55 02.2
YAK *e*S **S 00 59 31.8 +1.8**
YAK *e**SS **sS 01 00 55.2 -1.3**
YAK *e* 01 02 47.0
YAK pmax pmax
comp=Z,2μm,0.9s
YAK pmax pmax
comp=N,138nm,1.1s
YAK pmax pmax
comp=E,383nm,1.3s
YAK pmax pmax
comp=Z,554nm,1.5s
YAK pmax pmax
comp=N,260nm,1.8s
YAK pmax pmax
comp=E,475nm,1.6s
YAK smax smax
comp=E,3μm,1.6s
YAK smax smax
comp=N,2μm,1.6s
YAK Yakutsk 44.38 36 P **P 00 53 14.0 +0.8**
YAK PcP **PcP 00 54 50.4 -2.4**
RETA Reutte 44.47 304 *i* P **P 00 53 14.2 0.0**
comp=N,268nm,1.4s,SNR=62
RETA *i* PcP **PcP 00 54 53.1 -0.4**
comp=N,173nm,1.1s
RETA *i* ScP **ScP 00 58 22.5 -1.3**
comp=N,289nm,2.8s
SSRD Sdr. Stenderup 44.54 315⇑*i*P **P 00 53 15.9 +1.3**
SSRD IAmb IAmb 00 53 17.1
comp=Z,1μm,1.2s
INCN Inchon 44.55 71 **P 00 53 15.6 +0.6**
INCN Inchon 44.55 71 P **P 00 53 16.1 +1.1**
INCN Inchon 44.55 71 P **P 00 53 15.6 +0.6**
INCN pmax pmax
comp=Z,293nm,0.8s
INCN Inchon 44.55 71 P **P 00 53 16.4 +1.3**
INCN PcP **PcP 00 54 52.7 -1.2**
FETA Feichten 44.56 303 *i* P **P 00 53 15.0 -0.1**
comp=Z,363nm,1.3s,SNR=98
FETA *i* PcP **PcP 00 54 53.9 -0.1**
comp=Z,501nm,1.1s
FETA *i* ScP **ScP 00 58 23.1 -1.2**
comp=Z,109nm,1.1s,SNR=5.1
FETA *e*S **S 00 59 31.4 -2.0**
comp=Z,431nm,5.1s
FETA *ep*PKiKP **pPKiKP 01 02 45.1 -6.8**
comp=Z,72nm,1.6s
FETA Feichten 44.56 303 *e*S **ScP 00 58 23.1 -1.2**
comp=Z,109nm,1.1s,SNR=5.1
KONO Kongsberg 44.65 321 **P 00 53 15.7 +0.3**
KONO IAmb IAmb 00 53 16.9
comp=Z,757nm,1.1s
KONO Kongsberg 44.65 321 P **P 00 53 15.7 +0.3**
KONO pmax pmax
comp=Z,757nm,1.1s
KONO Kongsberg 44.65 321⇑*i*P **P 00 53 15.6 +0.2**
KONO Kongsberg 44.65 321⇑P **P 00 53 15.6 +0.3**
KONO PcP **PcP 00 54 53.8 0.0**
PBSI Pulau Batu 44.77 138 P **P 00 53 18.2 +1.3**
comp=Z,13μmcomp=Z,1μm,1.0s
MNSI Mandailing Nat 44.78 136 P **P 00 53 17.2 +0.2**
comp=Z,1μm,0.7s
MUD Monsted U'grnd 44.79 316⇑*i*P **P 00 53 17.4 +0.9**
MUD IAmb IAmb 00 53 18.8
comp=Z,657nm,1.1s
HOPEN Hopen 44.84 346⇑*i*P **P 00 53 19.0 +2.3**
FUORN Ofenpass-Fuorn 44.94 302 P **P 00 53 18.2 0.0**
MDJ Mudanjiang 45.02 60 P **P 00 53 19.6 +1.1**
MDJ S **S 00 59 40.0 +0.3**
MDJ sS sS 01 01 08.3 +2.0
MDJ pmax pmax
comp=Z,190nm,0.8s
MDJ pmax pmax

comp=Z,2µm,3.6s
BJO1 Bjornoya 45.07 343⇑ *i*P **P** **00 53 19.8 +1.3**
DAVA Damuels 45.09 303 *i* P **P** **00 53 19.5 +0.2**
comp=Z,682nm,0.7s,SNR=396
DAVA *i* PcP **PcP** **00 54 55.7 -0.1**
comp=Z,468nm,1.1s
DAVA *i* ScP **ScP** **00 58 24.2 -2.3**
comp=Z,165nm,1.2s
TATO Taipei 45.14 90 **P** **00 53 20.8 +1.0**
TATO Taipei 45.14 90 P **P** **00 53 22.5 +2.7**
HOMB Homborsund 45.16 319⇑ *i*P **P** **00 53 19.8 +0.4**
HOMB Homborsund 45.16 319⇑ *i*P **P** **00 53 19.8 +0.4**
YHNB Yeheng 45.19 90 P **P** **00 53 21.4 +1.1**
YHNB Yeheng 45.19 90 P **P** **00 53 22.0 +1.7**
TPUB Ta-pu 45.24 92 P **P** **00 53 22.6 +2.0**
SSLB Suanglung 45.27 92 P **P** **00 53 22.4 +1.6**
SSLB Suanglung 45.27 92 P **P** **00 53 23.0 +2.2**
VLC Villacollemand 45.31 299 P **P** **00 53 21.5 +0.6**
STU Stuttgart 45.33 306 **P** **00 53 21.6 +0.7**
STU Stuttgart 45.33 306 P **P** **00 53 21.6 +0.7**
STU pmax pmax
comp=Z,203nm,0.9s
STU Stuttgart 45.33 306 *e*P **P** **00 53 22.0 +1.1**
SKAR Skarsila 45.36 322⇑ *i*P **P** **00 53 22.0 +1.0**
TJN Taejon 45.44 72 P **P** **00 53 22.1 +0.1**
TJN Taejon 45.44 72 P **P** **00 53 22.2 +0.2**
TJN Taejon 45.44 72 P **P** **00 53 22.1 +0.1**
TJN pmax pmax
comp=Z,1µm,0.6s
KS19 Wonju Array Si 45.49 71 P **P** **00 53 22.9 +0.6**
KS19 PcP **PcP** **00 54 57.5 +0.3**
KSAR Wonju Array Be 45.52 71 P **P** **00 53 23.2 +0.6**
KSAR Wonju Array Be 45.52 71 P **P** **00 53 23.2 +0.6**
KSRS Korea Array 45.55 71 P **P** **00 53 23.0 +0.2**
comp=Z,640nm,1.0s,baz=284,slow=6.6,SNR=87
KSRS PcP **PcP** **00 54 57.0 -0.3**
comp=Z,79nm,0.8s,baz=289,slow=3.4,SNR=5.0
KSRS ScP **ScP** **00 58 24.9 -3.4**
comp=Z,27nm,0.7s,baz=268,slow=4.6,SNR=5.4
KSRS S **S** **00 59 44.9 -2.4**
comp=Z,2.0nm,0.8s,baz=286,slow=8.7,SNR=1.2
KSRS P4KPbc 01 31 06.6
comp=Z,0.8nm,0.4s,baz=268,slow=3.8,SNR=5.2
comp=Z,640nm,1.0s
NACB Ninganchiao 45.60 91 P **P** **00 53 25.1 +1.7**
YULB Yu-li 45.73 92 P **P** **00 53 26.7 +2.3**
TWGBT Beinan 45.84 93 P **P** **00 53 27.8 +2.6**
MOL Molde 45.84 325⇑ *i*P **P** **00 53 25.4 +0.8**
LODK Lodwar 45.90 232 P **P** **00 53 27.8 +2.0**
LODK Lodwar 45.90 232 P **P** **00 53 27.2 +1.4**
SNR=81
BFO Black Forest 45.96 305 P **P** **00 53 26.2 +0.3**
BFO Black Forest 45.96 305 P **P** **00 53 26.2 +0.3**
BFO pmax pmax
comp=Z,103nm,0.8s
BFO Black Forest 45.96 305 ⇑P **P** **00 53 26.2 +0.3**
BFO PcP **PcP** **00 54 58.0 -0.7**
BFO ScP **ScP** **00 58 28.6 -1.3**
BKNI Bangkinang 45.99 134 S **S** **00 59 47.4 -6.7**
BKNI Bangkinang 45.99 134 P **P** **00 53 26.6 +0.1**
BKNI Bangkinang 45.99 134 P **P** **00 53 26.6 +0.1**
BKNI Bangkinang 45.99 134 P **P** **00 53 26.3 -0.2**
TIXI Tiksi 46.05 22 P **P** **00 53 27.2 +1.1**
TIXI IAmb IAmb 00 53 28.2
comp=Z,2µm,1.0s
TIXI Tiksi 46.05 22*ce*P **P** **00 53 26.9 +0.8**
TIXI pmax pmax
comp=Z,1µm,0.9s
TIXI Tiksi 46.05 22 ⇓P **P** **00 53 27.2 +1.1**
TIXI PcP **PcP** **00 54 57.5 -1.0**
ODD1 Odda 46.16 321⇑ *i*P **P** **00 53 28.3 +1.0**
BLS5 Blasjo 46.24 321⇑ *i*P **P** **00 53 29.2 +1.3**
PPI Padang Panjang 46.27 136 P **P** **00 53 28.4 -0.2**
comp=Z,3µmcomp=Z,18µmcomp=Z,2µm,0.9s
SISI Saibi 46.27 138 P **P** **00 53 29.6 +1.0**
comp=Z,11µmcomp=Z,1µm,1.1s
PSTR Posyet 46.30 63*c i*P **P** **00 53 30.7 +2.2**
HYA Hoyanger 46.41 323⇑ *i*P **P** **00 53 29.9 +0.8**
MYKOM Kota Tinggi 46.50 130 P **P** **00 53 31.4 +1.0**
MYKOM IAmb IAmb 00 53 35.2
comp=Z,927nm,0.6s
MYKOM Kota Tinggi 46.50 130 P **P** **00 53 30.8 +0.4**
MSHR Mys Shultsa 46.57 63*ce*P **P** **00 53 32.5 +1.9**
MSHR pmax pmax
comp=Z,111nm,0.8s
YOJ Yonaguni jima 46.61 90 P **P** **00 53 31.5 +0.3**
YOJ Yonaguni jima 46.61 90 P **P** **00 53 31.5 +0.3**
YOJ pmax pmax
comp=Z,233nm,0.6s
PDSI Padang 46.68 136 P **P** **00 53 31.2 -0.6**
ECH Echery 46.76 305 P **P** **00 53 32.4 +0.3**
ECH Echery 46.76 305 P **P** **00 53 32.4 +0.3**
ECH pmax pmax
comp=Z,173nm,1.1s
ECH Echery 46.76 305 ⇑P **P** **00 53 32.3 +0.3**
ECH PcP **PcP** **00 55 01.0 -0.5**
USA0B Ussuriysk Arra 46.78 60 P **P** **00 53 32.9 +0.6**
USA0B Ussuriysk Arra 46.78 60 P **P** **00 53 32.9 +0.6**
USA0B pmax pmax
comp=Z,263nm,1.0s
USRK Ussuriysk Ar. 46.78 60 P **P** **00 53 32.9 +0.6**
USRK Ussuriysk Ar. 46.78 60 P **P** **00 53 32.8 +0.5**
comp=Z,173nm,0.7s,baz=282,slow=6.8,SNR=209
USRK PcP **PcP** **00 55 00.6 -1.0**
comp=Z,59nm,0.5s,baz=288,slow=3.3,SNR=12
comp=Z,173nm,0.7s
BER Bergen 46.81 322⇑ *i*P **P** **00 53 33.1 +0.8**
KMY Karmoy 46.87 320⇑ *i*P **P** **00 53 33.5 +0.8**
ASK Askoy 46.88 322⇑ *i*P **P** **00 53 33.5 +0.7**
VLA Vladivostok 46.96 62*d i*P **P** **00 53 34.9 +1.2**
VLA pmax pmax
comp=Z,987nm,0.9s
HSPB Hornsund (broa 46.97 345 *e*P **P** **00 53 35.1 +1.9**
HSPB *e*S **S** **01 00 10.2 +3.7**
HSPB *e*SS SS 01 04 00.8 +25
FOO Floro 46.97 324⇑ *i*P **P** **00 53 34.2 +0.8**
SENIN Lac Senin/Sane 47.00 303 P **P** **00 53 34.5 +0.3**
BTNL Ternell 47.05 308 *d*P **P** **00 53 35.2 +1.0**
comp=Z,202nm,1.0s
BTNL *d*PcP **PcP** **00 55 02.5 +0.1**
BTNL *d*PP **PP** **00 55 28.6 +1.7**
BTNL *d*ScP **ScP** **00 58 31.5 -2.9**
SUE Sulen 47.10 323⇑ *i*P **P** **00 53 34.9 +0.4**
MEM Membach 47.12 309 *d*P **P** **00 53 35.5 +0.7**
MEM *d*PcP **PcP** **00 55 02.4 -0.2**
MEM *d*ScP **ScP** **00 58 33.5 -1.2**
BHOU Houvegnez 47.16 308 *d*P **P** **00 53 36.2 +1.1**
BHOU *d*pP **pP** **00 54 24.8 +0.9**
BHOU *d*PcP **PcP** **00 55 02.5 -0.3**
BHOU *d*PP **PP** **00 55 30.3 +2.3**
BHOU *d*ScP **ScP** **00 58 32.1 -2.7**
WLF Walferdange 47.17 307 P **P** **00 53 36.7 +1.4**
WLF S **S** **01 00 10.8 +0.7**
WLF Walferdange 47.17 307 P **P** **00 53 36.5 +1.3**
WLF IAmb IAmb 00 53 38.0
comp=Z,626nm,1.0s
WLF Walferdange 47.17 307 P **P** **00 53 36.5 +1.3**
WLF pmax pmax
comp=Z,626nm,1.0s
WLF Walferdange 47.17 307 *d*P **P** **00 53 36.5 +1.3**
comp=Z,349nm,1.0s
WLF *d*ScP **ScP** **00 58 34.1 -0.8**
SDSI Sungai Dareh 47.24 135 P **P** **00 53 34.4 -1.7**
comp=Z,5µmcomp=Z,471nm,0.6s
BEBN Eben Emael 47.30 309 *d*P **P** **00 53 36.7 +0.6**
BEBN *d*pP **pP** **00 54 25.6 +0.8**
BEBN *d*PcP **PcP** **00 55 03.0 -0.2**
BEBN *d*PP **PP** **00 55 31.2 +2.0**
BEBN *d*ScP **ScP** **00 58 34.2 -1.2**
SPB2 Spitsbergen Ar 47.34 347 P **P** **00 53 37.9 +1.8**
SPB2 IAmb IAmb 00 53 39.1
comp=Z,1µm,0.8s
SPA0 Spitsbergen Ar 47.34 347⇑ *i*P **P** **00 53 38.0 +1.8**
SPITS Spitsbergen Ar 47.34 347 P **P** **00 53 38.0 +1.8**
comp=Z,741nm,0.7s,baz=119,slow=12,SNR=602
SPITS PcP **PcP** **00 55 03.9 +0.9**
comp=Z,267nm,0.6s,baz=100,slow=1.8,SNR=13
SPITS P4KPbc 01 31 15.4
comp=Z,5.3nm,0.6s,baz=102,slow=7.8,SNR=10
comp=Z,741nm,0.7s
BSTI Sart Tilman 47.40 309 *d*P **P** **00 53 38.0 +1.0**
comp=Z,26nm,0.8s
BSTI *d*PcP **PcP** **00 55 03.5 -0.1**
BSTI *d*ScP **ScP** **00 58 35.2 -0.7**
BCLA Clavier 47.59 308 *d*P **P** **00 53 39.2 +0.7**
comp=Z,85nm,1.0s
BCLA *d*PcP **PcP** **00 55 04.6 +0.3**
BCLA *d*ScP **ScP** **00 58 35.4 -1.2**
TPRI Tanjung Pinang 47.60 130 P **P** **00 53 39.6 +0.7**
comp=Z,17µmcomp=Z,2µm,0.7s
JTU Tsushima 47.62 74 P **P** **00 53 39.7 +0.8**
RCHB Rochefort 47.68 308 *d*P **P** **00 53 39.8 +0.7**
comp=Z,114nm,0.9s
RCHB *d*PcP **PcP** **00 55 04.5 -0.2**
RCHB *d*ScP **ScP** **00 58 36.1 -0.9**
BMRD Maredsous 47.95 308 *d*P **P** **00 53 42.1 +0.9**
BMRD *d*PcP **PcP** **00 55 05.3 -0.3**
BMRD *d*PP **PP** **00 55 37.5 +2.4**
BMRD *d*ScP **ScP** **00 58 37.1 -1.1**
PPSI Pulau Pagai 47.97 138 P **P** **00 53 42.8 +1.1**
comp=Z,16µmcomp=Z,2µm,0.7s
DOU Dourbes 48.09 308 *d*P **P** **00 53 42.9 +0.6**
comp=Z,205nm,1.1s
DOU *d*pP **pP** **00 54 31.9 +0.7**
DOU *d*PcP **PcP** **00 55 05.3 -0.8**
DOU *d*ScP **ScP** **00 58 37.4 -1.4**
UCC Uccle 48.13 309 P **P** **00 53 42.6 +0.1**
UCC Uccle 48.13 309 P **P** **00 53 42.6 +0.1**
UCC pmax pmax
comp=Z,564nm,1.8s
UCC Uccle 48.13 309 *d*P **P** **00 53 42.9 +0.4**
comp=Z,82nm,1.1s
UCC *d*ScP **ScP** **00 58 37.6 -1.3**
KMBO Kilima Mbogo 48.31 227 P **P** **00 53 46.2 +1.6**
comp=Z,534nm,0.6s,baz=41,slow=12,SNR=909
KMBO PcP **PcP** **00 55 09.9 +2.2**
comp=Z,27nm,0.6s,baz=5.4,slow=7.6,SNR=2.1
KMBO S **S** **01 00 26.5 -0.8**
comp=Z,3.1nm,0.7s,baz=77,slow=18,SNR=7.7
comp=Z,534nm,0.6s
KEST Kesra 48.37 288 P **P** **00 53 46.1 +1.4**
KEST IAmb IAmb 00 53 48.3
comp=Z,800nm,1.1s
KEST Kesra 48.37 288 P **P** **00 53 46.2 +1.5**
comp=Z,192nm,0.5s,baz=75,slow=3.3,SNR=343
KEST PcP **PcP** **00 55 08.5 +0.9**
comp=Z,106nm,0.9s,baz=18,slow=3.2,SNR=3.6
KEST S **S** **01 00 29.4 +1.8**
comp=Z,4.9nm,0.8s,baz=68,slow=19,SNR=1.2
comp=Z,192nm,0.5s
GRNR Gornyy 48.46 51⇑ *i*P **P** **00 53 47.0 +1.9**
GRNR *e* 00 55 00.9
GRNR pmax pmax
comp=E,380nm,1.0s
GRNR pmax pmax
comp=Z,860nm,1.0s
GRNR pmax pmax
comp=N,50nm,0.5s
KBS Kingsbay 48.47 347 P **P** **00 53 46.4 +1.7**
KBS Kingsbay 48.47 347 P **P** **00 53 46.4 +1.7**
KBS pmax pmax
comp=Z,2µm,1.0s
KBS Kingsbay 48.47 347⇑ *i*P **P** **00 53 46.5 +1.7**
KBS Kingsbay 48.47 347⇑ *i*P **P** **00 53 46.4 +1.7**
KBS Kingsbay 48.47 347⇑P **P** **00 53 46.5 +1.8**
DSRI Dabo 48.73 131 P **P** **00 53 47.9 +0.4**
comp=Z,17µmcomp=Z,2µm,0.8s
KIBK Kibwezi 48.84 225 P **P** **00 53 50.0 +1.5**
KIBK IAmb IAmb 00 53 51.1
comp=Z,920nm,0.6s
KIBK Kibwezi 48.84 225 P **P** **00 53 49.7 +1.3**
SNR=155
SSB Saint Sauveur 49.12 302 P **P** **00 53 50.8 +0.6**
SSB Saint Sauveur 49.12 302 P **P** **00 53 50.8 +0.6**
SSB pmax pmax
comp=Z,200nm,0.8s
SSB Saint Sauveur 49.12 302 P **P** **00 53 51.0 +0.8**
SSB PcP **PcP** **00 55 10.2 +0.1**
JNU Nakatsue 49.27 75 P **P** **00 53 52.4 +0.9**
JNU IAmb IAmb 00 53 53.9
comp=Z,798nm,0.9s
JNU Nakatsue 49.27 75 P **P** **00 53 52.7 +1.2**
JOW Kunigami 49.77 84 P **P** **00 53 55.2 -0.1**
JOW Kunigami 49.77 84 P **P** **00 53 56.2 +0.9**
TEY Ternei 49.79 58⇑ *e*P **P** **00 53 55.3 +0.1**
TEY *e* 00 55 12.3
TEY *e* 01 00 45.3
TEY pmax pmax
comp=N,80nm,1.0s
TEY pmax pmax
comp=E,180nm,1.0s
TEY pmax pmax
comp=Z,410nm,1.0s
CLF Chambon-Foret 50.01 306 P **P** **00 53 56.8 0.0**
CLF IAmb IAmb 00 53 58.5
comp=Z,575nm,1.1s
CLF Chambon-Foret 50.01 306 ⇑P **P** **00 53 57.1 +0.3**
CLF PcP **PcP** **00 55 13.6 +0.4**
CLF ScP **ScP** **00 58 46.5 -0.5**
LRW Lerwick 50.07 322⇑ *e*P **P** **00 53 57.5 +0.4**
LRW IAmb IAmb 00 53 58.3
comp=Z,302nm,0.8s
KSI Kapahiang 50.13 136 P **P** **00 53 57.0 -1.1**
NKL Nikolayevsk 50.63 47 *e*P **P** **00 54 01.5 +0.2**
NKL *e*S **S** **01 00 59.1 +0.9**
NKL smax smax
comp=E,936nm,5.8s
NKL smax smax
comp=N,1µm,3.1s
GDLE Glaisdale, N Y 50.64 314⇑ *e*P **P** **00 54 01.6 +0.3**
GDLE IAmb IAmb 00 54 02.6
comp=Z,190nm,0.8s
PMBI Palembang 50.80 133 P **P** **00 54 02.5 -0.6**
PMBI Palembang 50.80 133 P **P** **00 54 03.9 +0.9**
PMBI Palembang 50.80 133 P **P** **00 54 03.1 +0.1**
LHSI Lahat 50.80 135 P **P** **00 54 00.6 -2.4**
comp=Z,5µmcomp=Z,651nm,1.0s
MAHO Mahon 50.82 295 P **P** **00 54 02.9 -0.1**
MAHO S **S** **01 01 01.9 +0.8**
MAHO Mahon 50.82 295 P **P** **00 54 02.6 -0.3**
MAHO PcP **PcP** **00 55 16.8 +0.4**
KSM Kuching 50.90 124 P **P** **00 54 04.7 +0.8**
KSM IAmb IAmb 00 54 08.1
comp=Z,360nm,0.7s
KSM Kuching 50.90 124 P **P** **00 54 04.6 +0.7**
MNAI Manna 50.91 136 P **P** **00 54 02.7 -1.2**
MNAI Manna 50.91 136 P **P** **00 54 02.8 -1.2**
MNAI Manna 50.91 136 P **P** **00 54 02.7 -1.2**
PPBI Pangkal Pinang 51.01 131 P **P** **00 54 04.8 +0.2**
EJON La Jonquera 51.03 299 P **P** **00 54 04.7 +0.1**
DRUM Mains of Drumt 51.16 318⇑ *e*P **P** **00 54 05.5 +0.2**
DRUM IAmb IAmb 00 54 06.4
comp=Z,244nm,0.8s
EDMD Edmundbyers 51.22 315⇑ *e*P **P** **00 54 06.1 +0.3**
EDMD IAmb IAmb 00 54 06.9
comp=Z,543nm,0.6s
LBWR Ladybower, Pea 51.35 313⇑ *e*P **P** **00 54 06.7 0.0**
LBWR IAmb IAmb 00 54 07.7
comp=Z,241nm,0.8s
JMN Monobe 51.37 73 P **P** **00 54 08.2 +1.0**
JMN Monobe 51.37 73 P **P** **00 54 08.2 +1.0**
ESY Stoneypath 51.40 317⇑ *e*P **P** **00 54 07.1 +0.1**
MCD Coleburn Disti 51.46 319⇑ *e*P **P** **00 54 08.0 +0.5**
MCD IAmb IAmb 00 54 08.8
comp=Z,854nm,0.7s
BUW Bucklebury Wes 51.47 311⇑ *e*P **P** **00 54 08.0 +0.5**
WOL Wolverton 51.49 311⇑ *e*P **P** **00 54 08.1 +0.4**
WOL IAmb IAmb 00 54 09.4
comp=Z,560nm,0.7s
SBUM Sibu 51.49 121 P **P** **00 54 09.5 +1.2**
SBUM Sibu 51.49 121 P **P** **00 54 09.5 +1.2**
CFON Fontmartina 51.56 298 *e*P **P** **00 54 09.2 +0.7**
CFON *e*sP **sP** **00 55 22.8 -0.4**
CFON *e*PP PP 00 56 16.8 +8.6
CFON *e*ScP **ScP** **00 58 53.6 -0.4**
CFON *e*S **S** **01 01 12.9 +1.5**
CFON *e*ScS **ScS** **01 03 37.7 +2.6**
CFON *e*SS **SKiKP** **01 05 16.2 +5.5**
BIGH Upper Bighouse 51.66 320⇑ *e*P **P** **00 54 09.3 +0.4**
BIGH IAmb IAmb 00 54 10.3
comp=Z,783nm,1.3s
STNC Stoke 51.70 313⇑ *e*P **P** **00 54 09.7 +0.4**
STNC IAmb IAmb 00 54 10.6
comp=Z,1µm,1.6s
MDSI Maura Dua 51.71 135 P **P** **00 54 06.2 -3.6**
comp=Z,4µmcomp=Z,425nm,0.9s
SWN1 Swindon 51.80 311⇑ *e*P **P** **00 54 10.4 +0.4**
SWN1 IAmb IAmb 00 54 11.4
comp=Z,1µm,0.8s
EKA Eskdalemuir Ar 51.80 316 P **P** **00 54 09.9 -0.1**
comp=Z,408nm,0.8s,baz=80,slow=7.3,SNR=661
EKA PcP **PcP** **00 55 19.9 +0.2**
comp=Z,65nm,0.7s,baz=91,slow=4.2,SNR=7.9
EKA PP **PP** **00 56 06.7 -3.2**
comp=Z,49nm,0.8s,baz=85,slow=9.1,SNR=4.9
EKA ScP **ScP** **00 58 52.8 -1.8**
comp=Z,34nm,1.1s,baz=98,slow=5.1,SNR=4.6
EKA S **S** **01 01 12.1 -2.1**
comp=Z,3.8nm,0.9s,baz=85,slow=8.8,SNR=2.0
EKA PKP2bc 01 25 00.6
comp=Z,0.7nm,0.7s,baz=262,slow=3.5,SNR=3.6
EKA P4KPbc 01 31 35.3
comp=Z,0.7nm,0.4s,baz=91,slow=4.7,SNR=6.1
comp=Z,408nm,0.8s
EKA Eskdalemuir Ar 51.80 316 P **P** **00 54 10.0 -0.1**
EKA 00 55 19.9
EKA pmax pmax
comp=Z,576nm,0.9s
ESK Eskdalemuir 51.83 316 P **P** **00 54 10.3 +0.1**
ESK IAmb IAmb 00 54 11.5
comp=Z,514nm,1.0s
ESK Eskdalemuir 51.83 316⇑ *e*P **P** **00 54 10.3 +0.1**
ESK IAmb IAmb 00 54 11.2
comp=Z,454nm,1.1s
ESK Eskdalemuir 51.83 316 P **P** **00 54 10.3 +0.1**
ESK pmax pmax
comp=Z,514nm,1.0s
ESK Eskdalemuir 51.83 316 ⇑P **P** **00 54 10.4 +0.1**
ESK PcP **PcP** **00 55 19.0 -0.9**
ESK ScP **ScP** **00 58 53.7 -1.0**
KKM Kota Kinabalu 51.84 114 P **P** **00 54 12.2 +1.3**
KKM IAmb IAmb 00 54 14.7
comp=Z,438nm,0.8s
KKM Kota Kinabalu 51.84 114 P **P** **00 54 13.0 +2.0**
ETOS Mallorca 51.92 295 P **P** **00 54 11.9 +0.8**
ETOS S **S** **01 01 16.8 +0.6**
KESW Keswick, Cumbr 51.92 315⇑ *e*P **P** **00 54 11.4 +0.5**
KESW IAmb IAmb 00 54 12.2
comp=Z,409nm,0.7s
LWLI Liwa 52.07 135 P **P** **00 54 09.8 -2.8**
INVG Invergeldie, C 52.09 317⇑ *e*P **P** **00 54 12.1 0.0**
INVG IAmb IAmb 00 54 13.1
comp=Z,294nm,0.9s
CEST Esterri de Car 52.14 299 P **P** **00 54 13.1 +0.2**
CEST Esterri de Car 52.14 299 *e*P **P** **00 54 13.1 +0.2**
CEST *e*sP **sP** **00 55 26.4 -1.3**
CEST *e*PP **PP** **00 56 17.0 +3.6**
CEST *e*ScP **ScP** **00 58 55.1 -1.4**
CEST *e*S **S** **01 01 20.1 +0.7**
CEST *e*ScS **ScS** **01 03 40.3 +1.1**
CEST *e*SS **SKiKP** **01 05 07.5 -3.8**
CORG Organya 52.21 299 *e*P **P** **00 54 13.4 +0.1**
CORG *e*sP **sP** **00 55 27.9 -0.2**
CORG *e*PP **PP** **00 56 18.3 +4.4**
CORG *e*ScP **ScP** **00 58 56.3 -0.4**
CORG *e*S **S** **01 01 23.1 +2.9**
CORG *e*ScS **ScS** **01 03 41.0 +1.5**
CORG *e*SS **SS** **01 05 02.2 +1.8**
OLDB Oldbury-Upon-S 52.22 311⇑ *e*P **P** **00 54 12.9 -0.2**
OLDB IAmb IAmb 00 54 14.1
comp=Z,321nm,0.8s
JNE Jan Mayen East 52.24 336⇑ *i*P **P** **00 54 15.0 +2.1**
JNW Jan Mayen West 52.28 336⇑ *i*P **P** **00 54 15.3 +2.1**
TYV Tymovskoe 52.31 50 *e*P **P** **00 54 15.9 +2.1**
TYV *e*S **S** **01 01 25.3 +4.1**
TYV pmax pmax
comp=Z,720nm,0.7s
TYV pmax pmax
comp=Z,2µm,2.3s
TYV smax smax
comp=N,1µm,7.9s
TYV smax smax
comp=E,1µm,7.9s
TYV smax smax
comp=N,26nm,1.6s
TYV smax smax
comp=E,21nm,1.6s
FOEL Foel Wylfa 52.33 313⇑ *e*P **P** **00 54 14.3 +0.3**
FOEL IAmb IAmb 00 54 15.3
comp=Z,442nm,1.1s
MONM Monmouth 52.33 311⇑ *e*P **P** **00 54 13.8 -0.1**
MONM IAmb IAmb 00 54 15.5
comp=Z,700nm,1.1s
UGL Uglegorsk 52.38 52⇑ *i*P **P** **00 54 16.0 +1.7**
UGL *e*S **S** **01 01 23.3 +1.2**
UGL *e* 01 02 51.3
UGL pmax pmax
comp=Z,4µm,1.3s
UGL pmax pmax
comp=Z,3µm,1.0s
UGL smax smax
comp=N,3µm,6.0s
UGL smax smax
comp=E,1µm,3.3s
LINV Loch Inver, As 52.39 320⇑ *e*P **P** **00 54 14.8 +0.5**
KLI Kotabumi 52.40 134 P **P** **00 54 11.9 -3.0**
comp=E,9µmcomp=E,1µm,0.8s
TPI Tanjungpandan 52.40 130 P **P** **00 54 14.9 0.0**
comp=E,12µmcomp=E,1µm,0.7s
CARA Val d'Aran 52.41 300 *e*P **P** **00 54 15.3 +0.4**
CARA *e*sP **sP** **00 55 28.5 -1.3**
CARA *e*PP **PP** **00 56 22.4 +6.5**
CARA *e*ScP **ScP** **00 58 56.9 -0.8**
CARA *e*S **S** **01 01 24.1 +0.9**
CARA *e*ScS **ScS** **01 03 39.5 -1.7**
CARA *e*SS **SKiKP** **01 05 10.2 -1.5**
MCH1 Michaelchurch 52.41 312⇑ *e*P **P** **00 54 14.6 +0.1**
MCH1 IAmb IAmb 00 54 15.5
comp=Z,1µm,0.8s
NEWG New Galloway 52.45 316⇑ *e*P **P** **00 54 15.2 +0.4**
NEWG IAmb IAmb 00 54 16.1
comp=Z,780nm,0.7s
PGBU Glenifferbraes 52.45 317⇑ *e*P **P** **00 54 15.2 +0.4**
PGBU IAmb IAmb 00 54 16.0
comp=Z,1µm,1.1s
JLP Les Platons 52.53 308 *e*P **P** **00 54 15.4 0.0**
LLW Llanuwchllyn 52.61 313⇑ *e*P **P** **00 54 16.3 +0.3**
CAVN Les Avellanes 52.72 299 *e*P **P** **00 54 17.2 +0.2**
CAVN *e*pP **pP** **00 55 08.6 +1.8**
CAVN *e*sP **sP** **00 55 32.2 +0.3**
CAVN *e*ScP **ScP** **00 58 58.6 -0.3**
CAVN *e*S **S** **01 01 26.2 -0.8**
CAVN *e*ScS **ScS** **01 03 40.9 -2.2**
CAVN *e*SS **SKiKP** **01 05 13.8 +1.8**
STKI Sintang 52.73 124 P **P** **00 54 18.4 +1.1**
comp=Z,1µm,0.8s
KASI Kota Agung 52.73 135 P **P** **00 54 14.2 -3.1**
comp=Z,10µmcomp=Z,1µm,0.6s
GAL1 Galloway 52.77 316⇑ *e*P **P** **00 54 17.3 +0.2**
GAL1 IAmb IAmb 00 54 18.3
comp=Z,277nm,0.9s
KPL Plockton 52.78 319⇑ *e*P **P** **00 54 17.3 +0.2**
KPL IAmb IAmb 00 54 18.3
comp=Z,616nm,0.8s
IOMK Kirk Michael 52.82 315⇑ *e*P **P** **00 54 17.9 +0.4**
IOMK IAmb IAmb 00 54 18.9
comp=Z,332nm,0.7s
YLL Llanberis 52.84 313⇑ *e*P **P** **00 54 17.7 +0.1**
LAWE Loch Awe, Argy 52.86 317⇑ *e*P **P** **00 54 18.0 +0.2**
LAWE IAmb IAmb 00 54 19.1
comp=Z,398nm,0.7s
WME Myndd Eilian 52.86 314⇑ *e*P **P** **00 54 17.8 -0.1**
WLF1 Llynfaes 52.94 314⇑ *e*P **P** **00 54 18.6 +0.3**
WLF1 IAmb IAmb 00 54 19.1
comp=Z,450nm,0.8s
WPS Cemaes, Angles 52.98 314⇑ *e*P **P** **00 54 18.3 -0.4**
WPS IAmb IAmb 00 54 19.3
comp=Z,217nm,0.9s
BLSI Bandar Lampung 53.04 134 P **P** **00 54 16.2 -3.4**
comp=Z,7µmcomp=Z,835nm,0.7s
JSD Sado 53.11 66 P **P** **00 54 19.6 -0.2**
INU Inuyama 53.16 70 P **P** **00 54 21.2 +0.9**
SBV Sambava 53.22 205 P **P** **00 54 21.7 +1.0**
SNR=20
EIBI Ibiza 53.24 295 P **P** **00 54 21.9 +1.1**
LEWI Lewis, Hebride 53.26 320⇑ *e*P **P** **00 54 21.0 +0.4**
LEWI IAmb IAmb 00 54 22.2
comp=Z,490nm,1.0s
YSS Yuzhno-Sakhali 53.40 55 P **P** **00 54 22.8 +1.0**
YSS Yuzhno-Sakhali 53.40 55 P **P** **00 54 22.3 +0.5**
YSS Yuzhno-Sakhali 53.40 55α *i*P **P** **00 54 23.0 +1.1**

YSS e*PP **pP** **00 55 11.0 -1.7**
YSS e*SP **sP** **00 55 35.6 -2.5**
YSS e 00 56 25.2
YSS ePPP PPP 00 57 39.6
YSS i S **S** **01 01 35.1 -0.9**
YSS e*SS **sS** **01 03 02.7 -2.5**
YSS e 01 03 43.0
YSS eSS **SS** **01 05 24.2 +5.3**
YSS pmax pmax
comp=Z,3µm,0.9s
YSS pmax pmax
comp=Z,2µm,5.0s
YSS smax smax
comp=N,2µm,12.4s
YSS smax smax
comp=E,500nm,13.1s
YSS Yuzhno-Sakhali 53.40 55 ⇑P **P** **00 54 22.9 +1.1**
RSBS Rosebush, Pemb 53.47 312⇑eP **P** **00 54 22.3 0.0**
RSBS IAmb IAmb 00 54 23.1
comp=Z,337nm,0.6s
CLGH Cloghs, Cushen 53.51 316⇑eP **P** **00 54 22.4 -0.1**
MJB9 Matsu-Tunnel 53.60 68 P **P** **00 54 24.2 +0.7**
MJB9 IAmb IAmb 00 54 25.8
comp=Z,418nm,0.8s
MAJO Matsushiro 53.61 68 P **P** **00 54 23.6 0.0**
MAJO Matsushiro 53.61 68c iP **P** **00 54 23.3 -0.2**
MAJO pmax pmax
comp=Z,345nm,0.8s
MAJO Matsushiro 53.61 68 ⇑P **P** **00 54 23.6 0.0**
MJAR Matsushiro Arr 53.61 68 P **P** **00 54 23.8 +0.2**
comp=Z,243nm,0.9s,baz=292,slow=9.8,SNR=417
MJAR PcP **PcP** **00 55 26.5 -0.5**
comp=Z,40nm,0.7s,baz=294,slow=5.1,SNR=6.2
MJAR ScP **ScP** **00 59 00.6 -2.3**
comp=Z,11nm,0.9s,baz=294,slow=4.1,SNR=4.2
MJAR S **S** **01 01 39.0 -0.2**
comp=Z,1.2nm,0.5s,baz=291,slow=24,SNR=2.1
MJAR PKP2bc 01 24 53.6
comp=Z,0.6nm,0.3s,baz=123,slow=4.5,SNR=4.4
MJAR P4KPbc 01 31 43.1
comp=Z,3.9nm,0.8s,baz=304,slow=5.0,SNR=10
comp=Z,243nm,0.9s
NOR Nord 53.68 350⇑iP **P** **00 54 24.6 +1.2**
NOR IAmb IAmb 00 54 25.7
comp=Z,404nm,1.0s
SBD Saint Breward 53.79 310⇑eP **P** **00 54 24.6 -0.1**
ILTH Belurgan, Co L 53.89 315 P **P** **00 54 25.1 -0.1**
ILTH Belurgan, Co L 53.89 315⇑eP **P** **00 54 25.1 -0.1**
ILTH IAmb IAmb 00 54 25.9
comp=Z,197nm,0.6s
MYLDM Lahad Datu 54.11 113 P **P** **00 54 29.4 +2.0**
MYLDM IAmb IAmb 00 54 33.1
comp=Z,619nm,1.3s
MYLDM Lahad Datu 54.11 113 P **P** **00 54 29.8 +2.4**
DSB Dublin 54.11 314 P **P** **00 54 27.2 +0.3**
DSB S **S** **01 01 46.7 +1.4**
DSB Dublin 54.11 314 P **P** **00 54 26.9 +0.1**
DSB Dublin 54.11 314⇑P **P** **00 54 26.9 +0.1**
DSB Dublin 54.11 314⇑eP **P** **00 54 26.9 +0.1**
DSB IAmb IAmb 00 54 27.4
comp=Z,112nm,0.7s
ASAJ Asahikawa 54.16 58 P **P** **00 54 27.6 +0.3**
ASAJ pmax pmax
comp=Z,340nm,0.9s
JKA Kamikawa-asahi 54.16 58 P **P** **00 54 27.6 +0.2**
SBJI Serang 54.16 134 P **P** **00 54 26.4 -1.3**
comp=Z,9µmcomp=Z,438nm,0.8s
JTM Tenmabayashi 54.19 62 P **P** **00 54 27.9 +0.3**
JTM IAmb IAmb 00 54 29.2
comp=Z,2µm,1.3s
JTM Tenmabayashi 54.19 62 P **P** **00 54 28.1 +0.5**
CCA1 Carnmenellis 54.23 310⇑eP **P** **00 54 27.8 0.0**
CCA1 IAmb IAmb 00 54 28.6
comp=Z,720nm,0.7s
IDGL Inch Island, C 54.30 316 P **P** **00 54 28.6 +0.5**
IDGL Inch Island, C 54.30 316⇑eP **P** **00 54 28.7 +0.5**
IDGL IAmb IAmb 00 54 29.7
comp=Z,690nm,0.7s
JSG Sagara 54.30 70 P **P** **00 54 29.2 +0.7**
JSG IAmb IAmb 00 54 30.9
comp=Z,1µm,1.8s
JSG Sagara 54.30 70 P **P** **00 54 29.4 +0.9**
CGJI Cibinong 54.30 135 P **P** **00 54 25.2 -3.5**
DAG Danmarks Havn 54.54 344 P **P** **00 54 29.7 +0.1**
DAG S **S** **01 01 54.1 +3.6**
DAG Danmarks Havn 54.54 344 P **P** **00 54 30.8 +1.2**
DAG Danmarks Havn 54.54 344⇑iP **P** **00 54 30.6 +0.9**
DAG IAmb IAmb 00 54 31.7
comp=Z,956nm,0.9s
IWEX Carrickbyrne, 54.57 313 P **P** **00 54 30.3 +0.1**
IWEX Carrickbyrne, 54.57 313⇑eP **P** **00 54 30.3 +0.1**
IWEX IAmb IAmb 00 54 31.4
comp=Z,337nm,0.8s
COCO West Island 54.57 147 P **P** **00 54 31.7 +1.1**
COCO West Island 54.57 147 P **P** **00 54 32.6 +2.0**
COCO West Island 54.57 147 P **P** **00 54 31.7 +1.1**
COCO pmax pmax
comp=Z,1µm,0.7s
COCO West Island 54.57 147 P **P** **00 54 31.4 +0.8**
ECHE Chera 54.72 296 P **P** **00 54 32.7 +1.1**
MA2 Magadan 54.80 38 P **P** **00 54 32.5 +0.8**
MA2 IAmb IAmb 00 54 34.2
comp=Z,2µm,1.6s
MA2 Magadan 54.80 38 P **P** **00 54 33.0 +1.3**
MA2 Magadan 54.80 38ceP **P** **00 54 32.8 +1.1**
MA2 pmax pmax
comp=Z,582nm,1.1s
MA2 Magadan 54.80 38 P **P** **00 54 32.9 +1.1**
MA2 PcP **PcP** **00 55 31.3 +0.2**
SEY Seymchan 54.81 34ceP **P** **00 54 33.1 +1.3**
SEY pmax pmax
comp=Z,497nm,1.0s
DBJI Dramaga 54.87 134 P **P** **00 54 30.2 -2.6**
comp=Z,694nm,0.7s
SKJI Sukabumi 55.12 134 P **P** **00 54 31.0 -3.6**
comp=Z,11µmcomp=Z,945nm,0.7s
ERM Erimo 55.24 60 P **P** **00 54 35.6 +0.4**
ERM Erimo 55.24 60 P **P** **00 54 35.7 +0.6**
ERM Erimo 55.24 60ceP **P** **00 54 35.6 +0.4**
ERM pmax pmax
comp=Z,292nm,1.2s
ERM Erimo 55.24 60 ⇑P **P** **00 54 35.6 +0.4**
ERM PcP **PcP** **00 55 31.7 -1.4**
JEM Erimo 55.24 60 P **P** **00 54 35.9 +0.8**
DBG Daneborg 55.36 341⇑iP **P** **00 54 36.9 +1.4**
DBG IAmb IAmb 00 54 37.7
comp=Z,409nm,1.1s
CART Cartagena 55.48 294 P **P** **00 54 36.9 0.0**
CART Cartagena 55.48 294 P **P** **00 54 36.9 0.0**
CART IAmb IAmb 00 54 38.4
comp=Z,550nm,1.0s
LEM Lembang 55.59 133 P **P** **00 54 37.3 -0.9**
CNJI Cibinong 55.70 134 P **P** **00 54 35.8 -2.9**
comp=Z,137nm,0.4s
JCJI Jatiwangi 55.72 132 P **P** **00 54 40.9 +2.1**
comp=Z,613nm,0.9s
IGLA Glengowla, Co 55.79 315 P **P** **00 54 38.8 0.0**
IGLA Glengowla, Co 55.79 315⇑eP **P** **00 54 39.1 +0.2**
IGLA IAmb IAmb 00 54 39.6
comp=Z,182nm,0.7s
TLOR Lorca, Murcia 55.96 294 P **P** **00 54 41.2 +0.8**
UCM Universidad Co 56.09 298 P **P** **00 54 41.7 +0.4**
BBJI Bungbulang 56.12 133 P **P** **00 54 39.9 -1.9**
ROCAM Rodrigues Isla 56.30 188 P **P** **00 54 44.1 +1.3**
YUK Yuzh-Kuril'sk 56.40 57c iP **P** **00 54 43.7 +0.4**
YUK e 00 55 37.6
YUK e 00 56 51.3
YUK iPPP PPP 00 58 10.4
YUK eS **S** **01 02 16.2 +0.3**
YUK e 01 04 05.8
YUK eSS **SS** **01 06 10.2 +4.1**
YUK pmax pmax
comp=Z,3µm,0.9s
ENIJ Nijar 56.60 294 P **P** **00 54 45.3 +0.3**
VAL Valentia 56.74 313 P **P** **00 54 45.9 +0.3**
VAL Valentia 56.74 313 P **P** **00 54 45.7 +0.1**
KPJI Karang Pucung 56.78 132 P **P** **00 54 43.6 -2.7**
comp=Z,4µmcomp=Z,5µmcomp=Z,534nm,0.6s
SCO Scoresbysund 56.78 336 P **P** **00 54 46.9 +1.3**
SCO IAmb IAmb 00 54 48.8
comp=Z,673nm,1.6s
SCO Scoresbysund 56.78 336 P **P** **00 54 46.9 +1.3**
SCO pmax pmax
comp=Z,673nm,1.6s
SCO Scoresbysund 56.78 336⇑iP **P** **00 54 47.6 +2.0**
SCO IAmb IAmb 00 54 48.0
comp=Z,232nm,1.0s
ESBB Sonseca Array 56.84 298 P **P** **00 54 46.9 +0.3**
TAM Tamanrasset 56.84 275 P **P** **00 54 47.3 +0.4**
TAM IAmb IAmb 00 54 50.5
comp=Z,322nm,0.5s
TAM Tamanrasset 56.84 275 P **P** **00 54 47.3 +0.4**
TAM pmax pmax
comp=Z,322nm,0.5s
TAM Tamanrasset 56.84 275 ⇑P **P** **00 54 47.5 +0.6**
ESDC Sonseca Array 56.84 298 P **P** **00 54 46.8 +0.2**
ESDC Sonseca Array 56.84 298 P **P** **00 54 46.8 +0.2**
comp=Z,176nm,1.0s,baz=69,slow=7.0,SNR=894
ESDC PcP **PcP** **00 55 38.9 -0.6**
comp=Z,46nm,0.9s,baz=71,slow=4.2,SNR=7.9
ESDC ScP **ScP** **00 59 13.1 -4.0**
comp=Z,9.9nm,0.9s,baz=66,slow=4.5,SNR=4.2
ESDC S **S** **01 02 22.5 +0.5**
comp=Z,1.3nm,1.0s,baz=70,slow=6.0,SNR=1.5
ESDC PKPPKP **P'P'df** **01 24 36.3 -1.7**
comp=Z,4.7nm,0.9s,baz=260,slow=1.9,SNR=9.4
ESDC P4KPbc 01 31 58.3
comp=Z,4.7nm,0.8s,baz=64,slow=4.9,SNR=48
comp=Z,176nm,1.0s
SMKI Samarinda 57.03 119 P **P** **00 54 50.3 +2.2**
comp=Z,10µmcomp=Z,715nm,0.9s
PAB San Pablo 57.16 298 P **P** **00 54 49.1 +0.2**
PAB San Pablo 57.16 298 P **P** **00 54 49.1 +0.2**
PAB pmax pmax
comp=Z,238nm,1.0s
PAB San Pablo 57.16 298 ⇑P **P** **00 54 49.4 +0.5**
PAB PcP **PcP** **00 55 40.5 -0.3**
KUR Kuril'sk 57.32 55c iP **P** **00 54 48.8 -1.0**
KUR S **S** **01 02 27.4 -0.5**
KUR pmax pmax
comp=Z,702nm,1.2s
KUR pmax pmax
comp=Z,2µm,2.4s
BKB Balikpapan 57.39 120 P **P** **00 54 51.3 +0.7**
BKB IAmb IAmb 00 54 54.7
comp=Z,769nm,0.8s
BKB Balikpapan 57.39 120 P **P** **00 54 52.4 +1.8**
BKB Balikpapan 57.39 120 P **P** **00 54 52.5 +1.8**
comp=Z,1µm,0.8s
EQTA Presa de Quent 57.42 295 P **P** **00 54 50.5 -0.3**
XMI Christmas Isla 57.44 137 P **P** **00 54 49.3 -1.7**
SMRI Semarang 57.47 130 P **P** **00 54 50.6 -0.6**
SMRI IAmb IAmb 00 54 54.7
comp=Z,551nm,0.7s
SMRI Semarang 57.47 130 P **P** **00 54 50.4 -0.8**
SMRI Semarang 57.47 130 P **P** **00 54 50.9 -0.3**
comp=Z,7µmcomp=Z,793nm,0.7s
EALB Alboran 57.63 293 P **P** **00 54 51.6 -0.4**
ELGU Los Guajares, 57.69 294 P **P** **00 54 52.3 -0.3**
WMELI Melilla 57.82 292 P **P** **00 54 53.6 +0.2**
EADA Adamuz 57.87 296 P **P** **00 54 54.0 +0.3**
ECAL Calabor 57.94 301 P **P** **00 54 54.8 +0.5**
BWJI Bawean 57.94 127 P **P** **00 54 55.7 +1.3**
comp=Z,2µm,0.9s
EGOR Sierra Gorda, 57.95 295 P **P** **00 54 53.4 -1.1**
PBRG Braganca 57.99 301⇑iP **P** **00 54 55.0 +0.4**
PBRG IAmb IAmb 00 54 57.4
comp=Z,208nm,1.9s
TBJI Tambak Boyo 58.16 129 P **P** **00 54 58.1 +2.1**
comp=Z,12µmcomp=Z,1µm,0.7s
UGM Wanagama 58.20 131 P **P** **00 54 55.1 -1.1**
UGM Wanagama 58.20 131 P **P** **00 54 56.3 +0.1**
UGM Wanagama 58.20 131 P **P** **00 54 53.9 -2.3**
BORG Borgarnes 58.26 330 P **P** **00 54 58.1 +2.2**
BORG IAmb IAmb 00 54 59.7
comp=Z,277nm,0.7s
BORG Borgarnes 58.26 330 P **P** **00 54 58.1 +2.2**
BORG pmax pmax
comp=Z,277nm,0.7s
BORG Borgarnes 58.26 330 ⇑P **P** **00 54 58.5 +2.5**
BORG PcP **pP** **00 55 46.8 0.0**
EMAL Malaga-Limoner 58.32 295 P **P** **00 54 56.1 -0.8**
NGJI Ngawi 58.35 130 P **P** **00 54 59.0 +1.8**
comp=Z,376nm,1.0s
WOJI Wonogiri, Jawa 58.38 131 P **P** **00 54 55.9 -1.6**
MPSI Mapaga 58.40 116 P **P** **00 54 58.8 +1.1**
comp=Z,6µmcomp=Z,693nm,0.8s
MVO Moncorvo 58.43 300⇑iP **P** **00 54 58.2 +0.6**
MVO IAmb IAmb 00 54 59.7
comp=Z,312nm,1.3s
MVO ePcP **PcP** **00 55 45.8 0.0**
MVO ePP **PP** **00 57 09.1 -0.4**
ECAB El Cabril 58.51 296 P **P** **00 54 58.5 +0.3**
TOLI2 Tolitoli 58.52 115 P **P** **00 54 59.1 +0.6**
TOLI2 Tolitoli 58.52 115 P **P** **00 54 59.0 +0.6**
GRJI Gresik 58.64 128 P **P** **00 55 01.0 +1.8**
comp=Z,6µmcomp=Z,667nm,0.7s
EMIJ Mijas 58.65 294 P **P** **00 54 57.9 -1.4**
PCJI Pacitan 58.82 131 P **P** **00 54 58.7 -1.8**
comp=Z,3µmcomp=Z,281nm,0.9s
PVRL Vila Real 58.87 301⇑iP **P** **00 55 01.1 +0.5**
PVRL IAmb IAmb 00 55 02.6
comp=Z,266nm,1.5s
PVRL ePcP **PcP** **00 55 47.7 +0.2**
PVRL epP **pP** **00 55 54.5 +3.0**
POLO Lamas de Olo 58.88 301⇑iP **P** **00 55 01.2 +0.5**
POLO IAmb IAmb 00 55 02.8
comp=Z,82nm,1.5s
POLO ePcP **PcP** **00 55 47.6 0.0**
PCAB Cabril 58.91 301⇑iP **P** **00 55 01.6 +0.7**
PCAB IAmb IAmb 00 55 03.2
comp=Z,594nm,1.2s
PCAB Cabril 58.91 301 eP PKPPKPdf 01 24 41.2
BILL Bilibino 58.92 26 P **P** **00 55 02.1 +1.6**
BILL Bilibino 58.92 26ceP **P** **00 55 01.9 +1.4**
BILL pmax pmax
comp=Z,738nm,0.9s
BILL Bilibino 58.92 26 ⇑P **P** **00 55 02.1 +1.6**
BILL PcP **PcP** **00 55 48.2 +1.1**
RER Riviere de l'E 58.93 196 P **P** **00 55 02.6 +1.4**
RER Riviere de l'E 58.93 196 ⇑P **P** **00 55 02.6 +1.4**
RER P PcP 00 55 02.7 -45
ALE Alert 58.97 354 ⇑P **P** **00 55 02.2 +1.5**
PGAV Gavieira, Arco 58.98 302⇑iP **P** **00 55 02.2 +0.7**
PGAV IAmb IAmb 00 55 04.7
comp=Z,375nm,1.7s
PVIS Viseu 59.21 300⇑iP **P** **00 55 03.9 +0.9**
PVIS ePcP **PcP** **00 55 49.1 +0.2**
PVIS epP **pP** **00 55 56.4 +2.4**
PCI Palu 59.22 117 P **P** **00 55 04.1 +0.8**
comp=Z,6µmcomp=Z,555nm,0.9s
PCBR Castelo Branco 59.27 299⇑iP **P** **00 55 03.7 +0.4**
PCBR IAmb IAmb 00 55 05.6
comp=Z,207nm,1.3s
PCBR ePcP **PcP** **00 55 49.2 +0.2**
PCBR epP **pP** **00 55 57.7 +3.4**
PCBR Castelo Branco 59.27 299 iAmb IAmb 01 24 43.9
comp=Z,26nm,1.3s
PCBR Castelo Branco 59.27 299 eP PKPPKPdf 01 24 40.3
ABPO Ambohimpanom 59.30 205 P **P** **00 55 05.4 +1.5**
ABPO IAmb IAmb 00 55 06.3
comp=Z,631nm,0.8s
ABPO Ambohimpanom 59.30 205 P **P** **00 55 05.4 +1.5**
ABPO pmax pmax
comp=Z,631nm,0.8s
ABPO Ambohimpanom 59.30 205 eP **P** **00 55 05.2 +1.4**
ABPO Ambohimpanom 59.30 205 ||P **P** **00 55 05.3 +1.4**
ESPR Espera 59.32 295 P **P** **00 55 03.2 -0.5**
CEU Ceuta 59.37 294 P **P** **00 55 02.3 -1.8**
PMRV Marv??o 59.38 299⇑iP **P** **00 55 04.6 +0.5**
PMRV iAmb IAmb 00 55 06.9
comp=Z,334nm,1.9s
PMRV ePcP **PcP** **00 55 49.5 0.0**
PMRV epP **pP** **00 55 58.7 +3.6**
ECEU Ceuta 59.38 294 P **P** **00 55 03.3 -0.9**
EBAD Badajoz 59.38 298 P **P** **00 55 04.6 +0.5**
PTO Porto 59.54 301 etx tx 00 55 04.0
PTO eP **P** **00 55 04.0 -1.1**
PTO iAmb IAmb 00 55 10.4
comp=Z,141nm,1.4s
EMIN Mina Concepcio 59.54 296 P **P** **00 55 05.4 +0.2**
PBAR Barrancos 59.64 297⇑iP **P** **00 55 06.3 +0.4**
PBAR iAmb IAmb 00 55 07.9
comp=Z,563nm,1.5s
PBAR epP **pP** **00 56 00.3 +3.4**
KMMI Kalianget 59.69 127 P **P** **00 55 06.3 -0.1**
comp=Z,2µmcomp=Z,3µmcomp=Z,409nm,0.7s
PESTR Estremoz 59.74 298⇑iP **P** **00 55 06.9 +0.3**
PESTR iAmb IAmb 00 55 08.6
comp=Z,415nm,1.2s
PESTR epP **pP** **00 56 01.3 +3.6**
PESTR Estremoz 59.74 298 iAmb IAmb 01 24 41.7
comp=Z,27nm,1.2s
PESTR Estremoz 59.74 298 eP PKPPKPdf 01 24 40.2
SFS San Fernando 59.74 295 P **P** **00 55 06.5 -0.1**
COI Coimbra 59.78 300 P **P** **00 55 07.4 +0.6**
COI IAmb IAmb 00 55 08.5
comp=Z,565nm,0.8s
COI Coimbra 59.78 300⇑iP **P** **00 55 07.4 +0.6**
COI iAmb IAmb 00 55 08.3
comp=Z,701nm,0.8s
COI Coimbra 59.78 300 P **P** **00 55 07.4 +0.6**
COI pmax pmax
comp=Z,565nm,0.8s
MRSI Marisa 59.79 115 P **P** **00 55 07.7 +0.5**
PSARD Sardoal 59.85 299⇑iP **P** **00 55 08.1 +0.8**
PSARD iAmb IAmb 00 55 09.6
comp=Z,372nm,1.6s
PSARD ePcP **PcP** **00 55 51.7 +0.3**
PSARD epP **pP** **00 55 59.7 +1.2**
PSARD Sardoal 59.85 299 eP PKPPKPdf 01 24 38.4
ARNO Arenosillo 59.86 296 P **P** **00 55 08.0 +0.6**
PCAS Casmilo, Conde 59.90 300⇑iP **P** **00 55 08.3 +0.7**
PCAS iAmb IAmb 00 55 10.6
comp=Z,259nm,1.9s
PCAS epP **pP** **00 56 00.8 +2.1**
PCAS Casmilo, Conde 59.90 300 eP PKPPKPdf 01 24 35.6
PMTG Montargil 60.11 298⇑iP **P** **00 55 09.2 +0.1**
PMTG iAmb IAmb 00 55 11.8
comp=Z,255nm,1.5s
PMTG ePcP **PcP** **00 55 52.4 0.0**
PMTG epP **pP** **00 56 02.7 +2.5**
PMTG Montargil 60.11 298 P PKPPKPdf 01 24 41.7
EVO Evora 60.18 298 P **P** **00 55 10.3 +0.7**
EVO Evora 60.18 298⇑iP **P** **00 55 10.2 +0.7**
EVO iAmb IAmb 00 55 11.8
comp=Z,437nm,1.3s
EVO ePcP **PcP** **00 55 53.0 +0.3**
EVO epP **pP** **00 56 03.8 +3.1**
EVO Evora 60.18 298 eP PKPPKPdf 01 24 38.3
EGRO El Granado 60.22 297 P **P** **00 55 10.2 +0.3**
GMJI Gumukmas 60.29 129 P **P** **00 55 08.2 -2.3**
comp=Z,252nm,0.8s
PBEJ Beja 60.29 297⇑iP **P** **00 55 10.8 +0.5**
PBEJ iAmb IAmb 00 55 12.5
comp=Z,392nm,1.6s
PBEJ ePcP **PcP** **00 55 53.5 +0.3**
PBEJ epP **pP** **00 56 04.8 +3.3**
SGSI Sangihe 60.36 109 P **P** **00 55 14.2 +3.1**
ABJI Asem Bagus 60.42 128 P **P** **00 55 11.2 -0.2**
comp=Z,7µmcomp=Z,805nm,0.7s
PVAQ Vaqueiros 60.45 297⇑iP **P** **00 55 11.8 +0.5**
PVAQ iAmb IAmb 00 55 13.3
comp=Z,550nm,1.5s
PVAQ ePcP **PcP** **00 55 54.0 +0.2**
PVAQ epP **pP** **00 56 05.2 +2.6**
PEA0B Petropavlovsk- 60.46 44 P **P** **00 55 11.7 +0.5**
PEA0B IAmb IAmb 00 55 12.4
comp=Z,503nm,0.8s
PEA0B Petropavlovsk- 60.46 44 P **P** **00 55 11.7 +0.5**
PEA0B pmax pmax
comp=Z,503nm,0.8s
PETK Petropavlovsk- 60.46 44 P **P** **00 55 10.8 -0.4**
PETK Petropavlovsk- 60.46 44 P **P** **00 55 10.0 -1.2**
comp=Z,273nm,0.7s,baz=297,slow=1.8,SNR=307
PETK S **S** **01 03 08.7 +0.6**
comp=Z,6.7nm,1.0s,baz=286,slow=5.8,SNR=2.7
PETK PKPPKP P'P'df 01 24 15.8 -17
comp=Z,4.2nm,0.9s,baz=143,slow=5.2,SNR=4.5
comp=Z,273nm,0.7s
SKR Severo-Kuril's 60.48 47 eP **P** **00 55 10.3 -1.0**
SKR e 00 55 47.7
SKR ePPP PPP 00 56 26.8
SKR pmax pmax
comp=Z,400nm,8.4s
SKR pmax pmax
comp=Z,2µm,0.8s
SKR MLR MLR
comp=Z,500nm,16.0s
APSI Ampana 60.53 116 P **P** **00 55 12.6 +0.4**
comp=Z,9µmcomp=Z,982nm,0.8s
PCVE Castro Verde 60.58 297⇑iP **P** **00 55 12.5 +0.2**
PCVE iAmb IAmb 00 55 15.3
comp=Z,257nm,2.0s
PCVE epP **pP** **00 56 05.4 +1.8**
PCVE Castro Verde 60.58 297 iAmb IAmb 01 24 42.6
comp=Z,30nm,1.6s
PCVE Castro Verde 60.58 297 eP PKPPKPdf 01 24 28.0
MESJ Messejana 60.62 297 eP **P** **00 55 13.2 +0.6**
MESJ IAmb IAmb 00 55 14.8
comp=Z,269nm,0.9s
MESJ eS **S** **01 03 11.9 +1.3**
MESJ Messejana 60.62 297 P **P** **00 55 13.3 +0.8**
MESJ IAmb IAmb 00 55 14.6
comp=Z,277nm,0.9s
MESJ Messejana 60.62 297⇑iP **P** **00 55 13.2 +0.6**
MESJ iAmb IAmb 00 55 14.8
comp=Z,412nm,1.4s
MESJ ePcP **PcP** **00 55 54.8 +0.3**
MESJ epP **pP** **00 56 07.0 +3.2**
MESJ Messejana 60.62 297 iAmb IAmb 01 24 41.9
comp=Z,16nm,1.5s
MESJ Messejana 60.62 297 eP **P** **00 55 13.2 +0.6**
MESJ eS **S** **01 03 11.9 +1.3**
MESJ Messejana 60.62 297 eP PKPPKPdf 01 24 36.3
PBDV Barranco-do-Ve 60.67 296⇑iP **P** **00 55 13.6 +0.7**
PBDV iAmb IAmb 00 55 15.2
comp=Z,669nm,1.2s
PBDV ePcP **PcP** **00 55 55.1 +0.4**
PBDV epP **pP** **00 56 07.4 +3.2**
PBDV Barranco-do-Ve 60.67 296 P PKPPKPdf 01 24 38.2
PARRA Arraiolos 60.80 298⇑iP **P** **00 55 09.0 -4.8**
PARRA iAmb IAmb 00 55 10.9
comp=Z,166nm,1.1s
PARRA ePcP **PcP** **00 55 52.5 -2.7**
PARRA epP **pP** **00 56 03.7 -1.3**
PARRA Arraiolos 60.80 298 iAmb IAmb 01 24 43.6
comp=Z,22nm,1.6s
PARRA Arraiolos 60.80 298 eP PKPPKPdf 01 24 37.4
SUMG Summit 60.84 341 P **P** **00 55 15.1 +1.2**
SUMG Summit 60.84 341 P **P** **00 55 15.1 +1.2**
SUMG pmax pmax
comp=Z,2µm,1.2s
SUMG Summit 60.84 341⇑iP **P** **00 55 15.3 +1.4**
SUMG IAmb IAmb 00 55 16.6
comp=Z,2µm,1.2s
JAGI Jajag, Banyuwa 60.88 128 P **P** **00 55 12.4 -2.1**
JAGI IAmb IAmb 00 55 16.1
comp=Z,410nm,0.7s
JAGI Jajag, Banyuwa 60.88 128 P **P** **00 55 11.9 -2.6**
JAGI Jajag, Banyuwa 60.88 128 P **P** **00 55 12.1 -2.4**
comp=Z,4µmcomp=Z,573nm,0.7s
NEEM North Greenlan 60.89 348⇑iP **P** **00 55 15.3 +1.2**
NEEM IAmb IAmb 00 55 16.2
comp=Z,734nm,0.9s
PMAFR Mafra 60.91 299⇑iP **P** **00 55 15.3 +0.8**
PMAFR iAmb IAmb 00 55 16.2
comp=Z,602nm,0.9s
LIS Lisbon 60.91 298 eP **P** **00 55 15.2 +0.7**
LIS IAmb IAmb 00 55 16.5
comp=Z,518nm,1.1s
LIS eS **S** **01 03 15.3 +1.1**
LIS Lisbon 60.91 298⇑iP **P** **00 55 15.6 +1.1**
LIS iAmb IAmb 00 55 17.0
comp=Z,592nm,1.3s
LIS Lisbon 60.91 298 eP **P** **00 55 15.2 +0.7**
LIS eS **S** **01 03 15.3 +1.1**
PET Petropavlovsk 61.03 44 P **P** **00 55 14.2 -0.8**
PET IAmb IAmb 00 55 15.3
comp=Z,896nm,1.1s
PET Petropavlovsk 61.03 44 P **P** **00 55 14.2 -0.8**
PET Petropavlovsk 61.03 44α iP **P** **00 55 13.8 -1.2**
PET e 00 55 54.5
PET e*SP **sP** **00 56 27.7 -4.7**
PET e 00 57 32.0
PET e 00 59 07.6
PET eS **S** **01 03 11.4 -3.7**
PET e*SS **SKKSac** **01 04 37.4 -5.7**
PET pmax pmax
comp=Z,873nm,1.0s
PET pmax pmax
comp=Z,500nm,12.6s

PET pmax pmax
comp=Z,300nm,14.6s
PET Petropavlovsk 61.03 44 P **P 00 55 13.8 -1.2**
PTEO Sao Teotonio 61.11 297⇑ *i*P **P 00 55 16.7 +0.9**
PTEO *i* IAmb IAmb 00 55 18.2
comp=Z,554nm,1.6s
PTEO *e*PcP **PcP 00 55 57.0 +0.6**
PTEO *e*pP **pP 00 56 10.8 +3.7**
PTEO Sao Teotonio 61.11 297 P PKPPKPdf 01 24 38.9
MORF Marmelete 61.16 297 *e*P **P 00 55 16.6 +0.3**
MORF IAmb IAmb 00 55 18.1
comp=Z,453nm,1.6s
MORF *e*S **S 01 03 18.8 +1.3**
MORF Marmelete 61.16 297 P **P 00 55 17.0 +0.7**
MORF IAmb IAmb 00 55 18.5
comp=Z,606nm,1.8s
MORF Marmelete 61.16 297⇑ *i*P **P 00 55 16.4 +0.2**
MORF *i* IAmb IAmb 00 55 19.3
comp=Z,306nm,1.8s
MORF *e*PcP **PcP 00 55 56.7 0.0**
MORF *e*pP **pP 00 56 10.7 +3.1**
MORF Marmelete 61.16 297 *i* IAmb IAmb 01 24 39.6
comp=Z,20nm,1.2s
MORF Marmelete 61.16 297 *e*P **P 00 55 16.6 +0.3**
MORF *e*S **S 01 03 18.8 +1.3**
MORF Marmelete 61.16 297 *e*P PKPPKPdf 01 24 30.9
KMSI Cibinong 61.23 113 P **P 00 55 17.7 +0.8**
comp=Z,10µmcomp=Z,1µm,0.8s
SRBI Singaraja 61.27 127 P **P 00 55 17.0 -0.1**
comp=Z,6µmcomp=Z,656nm,0.7s
RTC Rabat Centre 61.30 293 P **P 00 55 17.5 +0.4**
SPSI Sidrap Palu 61.32 120 P **P 00 55 17.2 -0.3**
comp=Z,5µmcomp=Z,279nm,0.8s
PFVI Vila Bisbo 61.36 297 P **P 00 55 18.5 +0.9**
PFVI Vila Bisbo 61.36 297⇑ *i*P **P 00 55 18.3 +0.7**
PFVI *i* IAmb IAmb 00 55 20.6
comp=Z,574nm,1.4s
PFVI *e*PcP **PcP 00 55 57.8 +0.3**
PFVI *e*pP **pP 00 56 12.3 +3.5**
PFVI Vila Bisbo 61.36 297 *i* IAmb IAmb 01 24 38.0
comp=Z,36nm,1.5s
PFVI Vila Bisbo 61.36 297 *e*P PKPPKPdf 01 24 34.4
LUWI Luwuk 61.43 115 P **P 00 55 18.4 +0.2**
comp=Z,4µmcomp=Z,343nm,0.6s
DNP Denpasar 61.72 127 P **P 00 55 19.8 -0.3**
comp=Z,692nm,0.9s
BNSI Bone 61.86 120 P **P 00 55 20.4 -0.7**
comp=Z,194nm,0.7s
AVE Averroes 62.02 292 P **P 00 55 22.0 0.0**
AVE Averroes 62.02 292 P **P 00 55 22.3 +0.3**
AVE IAmb IAmb 00 55 24.9
comp=Z,307nm,0.6s
KAPI Kappang 62.05 121 P **P 00 55 21.8 -0.6**
KAPI Kappang 62.05 121 S **S 01 03 24.1 -4.9**
comp=Z,5.6nm,0.8s,baz=9.0,slow=19,SNR=6.2
KAPI PKPPKP 01 24 17.2
comp=Z,2.0nm,0.3s,baz=114,slow=2.2,SNR=2.0
KAPI Kappang 62.05 121 P **P 00 55 21.9 -0.5**
KAPI Kappang 62.05 121 P **P 00 55 21.8 -0.6**
KAPI pmax pmax
comp=Z,194nm,0.8s
KAPI Kappang 62.05 121 P **P 00 55 21.5 -0.8**
VOI Vohitsoka 62.13 205 P **P 00 55 24.1 +1.3**
VOI Vohitsoka 62.13 205 P **P 00 55 24.3 +1.5**
SNR=101
EUNU Eureka 62.96 356 P **P 00 55 29.1 +1.5**
EUNU IAmb IAmb 00 55 30.0
comp=Z,326nm,1.1s
TIO Tiouine 63.00 290 P **P 00 55 29.3 +0.6**
KDI Kendari 63.32 118 P **P 00 55 30.6 -0.2**
BSSI Bau Bau, Buton 63.37 121 P **P 00 55 30.2 -0.8**
comp=Z,7µmcomp=Z,614nm,0.7s
PLAI Plampang 63.49 125 P **P 00 55 29.0 -2.8**
PLAI Plampang 63.49 125 P **P 00 55 29.2 -2.6**
comp=Z,3µmcomp=Z,366nm,0.9s
TNTI Ternate 63.64 110 P **P 00 55 33.2 +0.4**
TNTI IAmb IAmb 00 55 35.3
comp=Z,597nm,1.0s
TNTI Ternate 63.64 110 P **P 00 55 33.1 +0.2**
TNTI Ternate 63.64 110 P **P 00 55 33.0 +0.2**
comp=Z,2µmcomp=Z,6µmcomp=Z,623nm,0.9s
EDA Edea 63.82 254 P **P 00 55 34.2 +0.1**
EDA IAmb IAmb 00 55 36.0
comp=Z,247nm,0.7s
EDA Edea 63.82 254 P **P 00 55 34.0 -0.1**
EDA PcP **PcP 00 56 08.6 +0.7**
KULLO Kullorsuaq 63.91 346⇑ *i*P **P 00 55 34.2 +0.5**
KULLO IAmb IAmb 00 55 35.6
comp=Z,2µm,1.3s
ANGG Ammassalik, Gr 64.11 334 P **P 00 55 36.4 +1.2**
ANGG Ammassalik, Gr 64.11 334⇑ *i*P **P 00 55 35.4 +0.3**
ANGG IAmb IAmb 00 55 37.1
comp=Z,1µm,1.1s
TULEG Thule 64.33 350 P **P 00 55 37.2 +0.9**
TULEG Thule 64.33 350⇑ *i*P **P 00 55 36.6 +0.3**
TULEG IAmb IAmb 00 55 38.1
comp=Z,2µm,1.3s
BBSI Bau Bau 64.36 119 P **P 00 55 38.8 +1.3**
comp=Z,6µmcomp=Z,809nm,0.8s
SANI Sanana 64.47 114 P **P 00 55 38.1 -0.1**
SANI Sanana 64.47 114 P **P 00 55 37.8 -0.4**
comp=Z,6µmcomp=Z,866nm,0.7s
ISOG Isortoq, Green 64.62 334⇑ *i*P **P 00 55 38.7 +0.3**
ISOG IAmb IAmb 00 55 39.6
comp=Z,417nm,1.1s
FOMA Nahampoana Res 64.92 203 P **P 00 55 42.4 +1.5**
FOMA Nahampoana Res 64.92 203 ⇓P **P 00 55 42.3 +1.5**
LSZ Lusaka 64.95 225 P **P 00 55 41.9 +0.6**
LSZ IAmb IAmb 00 55 45.5
comp=Z,181nm,0.7s
LSZ Lusaka 64.95 225 P **P 00 55 41.9 +0.6**
LSZ Lusaka 64.95 225 P **P 00 55 41.9 +0.6**
LSZ pmax pmax
comp=Z,181nm,0.7s
LSZ Lusaka 64.95 225 *e*P **P 00 55 41.5 +0.1**
LSZ Lusaka 64.95 225 *i*P **P 00 55 42.0 +0.6**
LSZ Lusaka 64.95 225 ⇓P **P 00 55 41.9 +0.6**
UPNV Upernavik 64.96 345⇑ *i*P **P 00 55 41.2 +0.7**
UPNV IAmb IAmb 00 55 42.5
comp=Z,1µm,1.1s
TORD Torodi Ar. Bea 65.02 268 P **P 00 55 40.9 -0.9**
TORD IAmb IAmb 00 55 42.7
comp=Z,355nm,0.7s
TORD Torodi Ar. Bea 65.02 268 P **P 00 55 40.9 -0.9**
comp=Z,368nm,0.6s,baz=50,slow=6.2,SNR=838
TORD S **S 01 04 00.3 -5.4**
comp=Z,3.5nm,1.0s,baz=62,slow=3.4,SNR=3.6
TORD PKPPKP P'P'df 01 24 09.7 -14
comp=Z,1.5nm,0.9s,baz=360,slow=2.4,SNR=3.8
comp=Z,368nm,0.6s
NUUG Nuugaatsiaq 65.15 343⇑ *i*P **P 00 55 42.2 +0.4**
NUUG IAmb IAmb 00 55 43.7
comp=Z,436nm,1.1s
WBSI Waikabubak, Su 65.16 125 P **P 00 55 40.0 -2.7**
KRI Karoi 65.40 223 *i*P **P 00 55 44.8 +0.5**
UMMG Ummannaq 65.47 342⇑ *i*P **P 00 55 44.0 +0.3**
UMMG IAmb IAmb 00 55 45.5
comp=Z,546nm,0.9s
WSI Waingapu 65.79 124 P **P 00 55 44.3 -2.3**
EDFI Ende, Flores 66.06 122 P **P 00 55 45.5 -3.0**
comp=Z,230nm,0.6s
NLAI Namlea 66.09 114 P **P 00 55 48.6 0.0**
comp=Z,5µmcomp=Z,662nm,0.7s
ILULI Ilulissat 66.18 341 P **P 00 55 49.6 +1.3**
ILULI Ilulissat 66.18 341 P **P 00 55 49.6 +1.3**
ILULI pmax pmax
comp=Z,2µm,1.0s
ILULI Ilulissat 66.18 341⇑ *i*P **P 00 55 49.4 +1.1**
ILULI IAmb IAmb 00 55 50.3
comp=Z,2µm,1.0s
MMRI Maumere 66.36 122 P **P 00 55 49.6 -0.7**
MMRI Maumere 66.36 122 P **P 00 55 49.9 -0.4**
comp=Z,9µmcomp=Z,563nm,0.6s
BASI Baing, Sumba 66.38 124 P **P 00 55 49.1 -1.3**
CHIPN CHIPINGE 66.61 219 *i*P **P 00 55 50.7 -1.2**
AAI Ambon 67.20 113 P **P 00 55 55.4 -0.2**
comp=Z,3µmcomp=Z,281nm,0.5s
A19K Wainwright 67.38 17 P **P 00 55 57.8 +1.9**
baz=317,SNR=26
A19K S **S 01 04 35.2 +2.8**
baz=317
A21K Barrow 67.50 15 P **P 00 55 58.1 +1.5**
baz=321,SNR=15
A21K S **S 01 04 36.7 +2.8**
baz=321
SFJD Kangerlussuaq 67.51 339 P **P 00 55 57.5 +0.8**
SFJD IAmb IAmb 00 55 58.5
comp=Z,574nm,0.9s
SFJD Kangerlussuaq 67.51 339 P **P 00 55 57.5 +0.8**
SFJD pmax pmax
comp=Z,574nm,0.9s
SFJD Kangerlussuaq 67.51 339⇑ *i*P **P 00 55 57.0 +0.2**
SFJD IAmb IAmb 00 55 58.3
comp=Z,529nm,0.8s
SFJD Kangerlussuaq 67.51 339⇑ P **P 00 55 57.2 +0.4**
SFJD PcP **PcP 00 56 23.1 +0.8**
MSAI Masohi 67.52 112 P **P 00 55 57.5 -0.1**
comp=Z,7µmcomp=Z,937nm,0.7s
SWI Sorong 67.66 109 P **P 00 55 58.0 -0.5**
C16K Lisburne Hills 67.70 19 P **P 00 55 59.0 +1.1**
baz=314,SNR=206
C16K S **S 01 04 38.4 +2.1**
baz=314
B18K Kokolik River 67.82 18 P **P 00 56 00.7 +2.0**
baz=317,SNR=171
B18K S **S 01 04 39.5 +1.7**
baz=317
A22K Sinclair Lake 68.09 14 P **P 00 56 01.9 +1.7**
baz=322,SNR=48
A22K S **S 01 04 43.0 +2.2**
baz=322
C17K DeLong Mountai 68.12 19 P **P 00 56 01.9 +1.2**
baz=316,SNR=299
C17K S **S 01 04 42.7 +1.2**
baz=316
B20K Meade River 68.41 16 P **P 00 56 03.7 +1.4**
baz=321
B20K S **S 01 04 46.0 +1.3**
baz=321
BATI Baumata 68.45 122 S **S 01 04 38.5 -8.3**
comp=Z,96nm,1.0s,baz=248,slow=19,SNR=6.8
BATI Baumata 68.45 122 P **P 00 56 02.5 -0.9**
comp=Z,11µmcomp=Z,1µm,0.6s
C18K Utukok River 68.50 18 P **P 00 56 04.0 +1.0**
baz=318,SNR=267
C18K S **S 01 04 46.6 +0.6**
baz=318
RDOG Red Dog Mine 68.50 19 P **P 00 56 03.6 +0.8**
RDOG IAmb IAmb 00 56 05.0
comp=Z,1µm,1.4s
RDOG Red Dog Mine 68.50 19 P **P 00 56 03.7 +0.8**
baz=316,SNR=79
RDOG S **S 01 04 46.5 +0.6**
baz=316
C19K Lookout Ridge 68.55 17 P **P 00 56 04.8 +1.5**
baz=319,SNR=328
C19K S **S 01 04 48.1 +1.6**
baz=319
SOEI Soe 68.55 121 P **P 00 56 02.8 -1.4**
SOEI IAmb IAmb 00 56 14.5
comp=Z,590nm,0.8s
SOEI Soe 68.55 121 P **P 00 56 03.5 -0.6**
SOEI Soe 68.55 121 P **P 00 56 03.7 -0.4**
comp=Z,6µmcomp=Z,766nm,0.8s
BLWY Bulawayo 68.64 222 *i*P **P 00 56 04.9 +0.4**
RES Resolute Bay 68.66 356 P **P 00 56 04.8 +1.0**
RES Resolute Bay 68.66 356 P **P 00 56 04.7 +0.9**
comp=Z,120nm,0.8s,baz=18,slow=7.6,SNR=153
comp=Z,120nm,0.8s
RES Resolute Bay 68.66 356 P **P 00 56 04.8 +1.0**
RES pmax pmax
comp=Z,242nm,1.1s
PMPST Porto Santo, M 68.69 296⇑ *i*P **P 00 56 05.1 +0.4**
PMPST *i* IAmb IAmb 00 56 06.7
comp=Z,674nm,1.1s
PMPST *e*pP **pP 00 57 00.8 +3.5**
KSANE Kasane 68.70 226 *i*P **P 00 56 06.1 +1.2**
KSANE Kasane 68.70 226 P **P 00 56 05.7 +0.8**
PMPS Porto Santo 68.70 296⇑ *i*P **P 00 56 05.3 +0.5**
PMPS *i* IAmb IAmb 00 56 06.7
comp=Z,294nm,1.1s
D17K Noatak River 68.71 19 P **P 00 56 05.2 +1.0**
baz=316,SNR=812
D17K S **S 01 04 49.8 +1.5**
baz=316
GAMB Gambell 68.81 25 P **P 00 56 05.8 +0.9**
GAMB IAmb IAmb 00 56 07.1
comp=Z,573nm,1.2s
GAMB Gambell 68.81 25 P **P 00 56 05.9 +1.1**
baz=310,SNR=45
GAMB S **S 01 04 51.8 +2.2**
baz=310
TNA Tin City 68.84 22 P **P 00 56 06.3 +1.3**
baz=313,SNR=47
TNA S **S 01 04 51.5 +1.7**
baz=313
POIN Pond Inlet 68.88 350 P **P 00 56 06.3 +1.2**
POIN IAmb IAmb 00 56 07.6
comp=Z,468nm,1.0s
B22K Teshekpuk Lake 68.93 14 P **P 00 56 07.0 +1.5**
baz=324,SNR=111
B22K S **S 01 04 53.3 +2.5**
baz=324
BNDI Bandanaira 69.02 113 P **P 00 56 05.8 -1.1**
BNDI Bandanaira 69.02 113 P **P 00 56 06.2 -0.7**
B21K Ikpikpuk River 69.26 15 P **P 00 56 09.1 +1.5**
baz=323,SNR=475
B21K S **S 01 04 55.8 +1.1**
baz=323
PMAR Madeira 69.29 296⇑ *i*P **P 00 56 09.4 +0.7**
PMAR *i* IAmb IAmb 00 56 11.5
comp=Z,2µm,1.4s
PMAR *e*pP **pP 00 57 04.2 +2.9**
FUL Funchal 69.31 296⇑ *e*P **P 00 56 09.1 +0.6**
FUL *i* IAmb IAmb 00 56 12.2
comp=Z,608nm,1.4s
D19K Kuna River 69.36 17 P **P 00 56 09.3 +1.1**
baz=320,SNR=931
D19K S **S 01 04 56.2 +0.2**
baz=320
F14K Arctic Creek 69.38 22 P **P 00 56 10.1 +1.7**
baz=314
F14K S **S 01 04 58.9 +2.6**
baz=314
SMY Shemya 69.41 39 P **P 00 56 08.9 +0.2**
SMY Shemya 69.41 39 P **P 00 56 08.3 -0.4**
SMY Shemya 69.41 39 P **P 00 56 08.9 +0.2**
SMY pmax pmax
comp=Z,871nm,1.0s
PMOZ Porto Moniz, M 69.45 296 P **P 00 56 10.2 +0.7**
PMOZ Porto Moniz, M 69.45 296⇑ *i*P **P 00 56 10.2 +0.7**
PMOZ *i* IAmb IAmb 00 56 11.9
comp=Z,774nm,1.1s
E17K Hotham Inlet 69.49 19 P **P 00 56 10.0 +1.0**
baz=318,SNR=296
E17K S **S 01 04 58.0 +0.5**
baz=318
D20K Etivluk River 69.54 16 P **P 00 56 10.5 +1.2**
baz=321,SNR=523
D20K S **S 01 04 58.7 +0.6**
baz=321
NRS Narsarsuaq 69.55 332 P **P 00 56 10.2 +0.7**
NRS IAmb IAmb 00 56 11.3
comp=Z,505nm,0.8s
NRS Narsarsuaq 69.55 332 P **P 00 56 10.2 +0.7**
NRS pmax pmax
comp=Z,505nm,0.8s
NRS Narsarsuaq 69.55 332⇑ *i*P **P 00 56 09.9 +0.5**
NRS IAmb IAmb 00 56 11.1
comp=Z,556nm,0.9s
E18K Tukpahlearik C 69.56 19 P **P 00 56 10.7 +1.2**
baz=318,SNR=826
E18K S **S 01 04 58.1 -0.2**
baz=318
C21K Knifeblade Rid 69.60 16 P **P 00 56 11.1 +1.4**
baz=323,SNR=489
C21K S **S 01 05 00.2 +1.5**
baz=323
F15K North Star Dit 69.71 21 P **P 00 56 11.8 +1.5**
baz=316,SNR=798
F15K S **S 01 05 02.1 +2.0**
baz=316
FAKI Fak Fak 69.73 110 P **P 00 56 11.3 -0.1**
FAKI IAmb IAmb 00 56 12.9
comp=Z,256nm,0.9s
FAKI Fak Fak 69.73 110 P **P 00 56 11.4 +0.1**
FAKI Fak Fak 69.73 110 P **P 00 56 11.2 -0.1**
comp=Z,3µmcomp=Z,316nm,0.8s
MUSN Musina, Limpop 69.74 220 *i*P **P 00 56 12.2 +1.0**
NUUK Nuuk 69.75 337⇑ *i*P **P 00 56 10.9 +0.3**
NUUK IAmb IAmb 00 56 12.2
comp=Z,624nm,1.0s
C23K Itkillik River 69.90 14 P **P 00 56 13.3 +1.8**
baz=326,SNR=1000
C23K S **S 01 05 04.2 +2.0**
baz=326
E20K Nigu River 70.00 17 P **P 00 56 13.3 +1.1**
baz=322,SNR=764
E20K S **S 01 05 03.6 +0.1**
baz=322
MOPA Mopani 70.00 218 *e*P **P 00 56 13.9 +1.2**
MOPA Mopani 70.00 218 *i*P **P 00 56 13.7 +1.0**
BROLN Tlhalogang 70.11 222 *i*P **P 00 56 13.9 +0.4**
F17K Baldwin Pennin 70.12 20 P **P 00 56 14.3 +1.5**
baz=318
F17K S **S 01 05 07.3 +2.5**
baz=318
D22K Ayikyak River 70.27 15 P **P 00 56 15.2 +1.4**
baz=324,SNR=616
D22K S **S 01 05 08.1 +1.6**
baz=324
ANM Nome 70.31 22 P **P 00 56 15.8 +1.8**
baz=315,SNR=146
ANM S **S 01 05 10.4 +3.3**
baz=315
E21K Killik River 70.35 16 P **P 00 56 15.3 +1.0**
baz=324
E21K S **S 01 05 07.5 0.0**
baz=324
C24K Franklin Bluff 70.36 13 P **P 00 56 16.0 +1.8**
baz=328
C24K S **S 01 05 10.2 +2.7**
baz=328
E19K Redstone River 70.38 18 P **P 00 56 15.3 +0.9**
baz=321,SNR=767
E19K S **S 01 05 07.9 +0.1**
baz=321
G15K Niukluk 70.40 21 P **P 00 56 15.8 +1.3**
baz=316
G15K S **S 01 05 10.6 +2.5**
baz=316
F18K Selawik 70.43 19 P **P 00 56 15.5 +0.9**
baz=319,SNR=984
F18K S **S 01 05 10.3 +2.0**
baz=319
IVI Ivigtut 70.54 333 P **P 00 56 15.9 +0.5**
IVI Ivigtut 70.54 333⇑ *i*P **P 00 56 15.7 +0.2**
IVI IAmb IAmb 00 56 16.9
comp=Z,184nm,1.0s
IVI Ivigtut 70.54 333⇑ P **P 00 56 15.8 +0.3**
G16K Koyuk River 70.60 21 P **P 00 56 17.1 +1.4**
baz=318,SNR=350
G16K S **S 01 05 13.1 +2.8**
baz=318
D23K Nanushuk River 70.61 14 P **P 00 56 17.2 +1.4**
baz=326,SNR=682
D23K S **S 01 05 12.1 +1.7**
baz=326
EOSO Osorio 70.68 291 P **P 00 56 17.7 +0.7**
F19K Shaleruckik Mo 70.73 18 P **P 00 56 16.8 +0.3**
baz=321
F19K S **S 01 05 12.3 +0.5**
baz=321
D24K Happy Valley 70.82 14 P **P 00 56 18.3 +1.3**
baz=328,SNR=337
D24K S **S 01 05 14.7 +1.9**
baz=328
C26K Camden Bay 70.87 12 P **P 00 56 19.3 +2.0**
baz=331,SNR=86
C26K S **S 01 05 16.9 +3.6**
baz=331
ACRG Accra 70.87 263 P **P 00 56 17.9 -0.4**
ACRG IAmb IAmb 00 56 18.9
comp=Z,286nm,0.8s
PHDHD Phuduhudu 70.95 225 *i*P **P 00 56 19.5 +1.0**
PHDHD Phuduhudu 70.95 225 P **P 00 56 19.3 +0.7**
G17K Kiwalik Mounta 70.99 20 P **P 00 56 19.2 +1.1**
baz=319,SNR=1000
G17K S **S 01 05 17.0 +2.1**
baz=319
F20K Avaraart Lake 71.06 17 P **P 00 56 19.2 +0.7**
baz=322
F20K S **S 01 05 16.2 +0.6**
baz=322
E22K Anaktuvuk Pass 71.07 15 P **P 00 56 19.6 +1.0**
baz=325,SNR=1000
E22K S **S 01 05 16.0 +0.2**
baz=325
TOLK Toolik Lake Re 71.11 14 P **P 00 56 20.2 +1.4**
TOLK Toolik Lake Re 71.11 14 P **P 00 56 20.3 +1.4**
baz=327,SNR=1000
TOLK S **S 01 05 16.5 +0.2**
baz=327
D25K Kavik River 71.13 13 P **P 00 56 20.5 +1.6**
baz=330,SNR=1000
D25K S **S 01 05 18.7 +2.2**
baz=330
H16K Elim 71.19 21 P **P 00 56 20.6 +1.3**
baz=318,SNR=240
H16K S **S 01 05 19.9 +2.8**
baz=318
G18K Tagagawik 71.23 19 P **P 00 56 19.9 +0.4**
baz=320,SNR=504
G18K S **S 01 05 18.2 +0.5**
baz=320
MREMI Moremi 71.24 221 *i*P **P 00 56 20.8 +0.5**
MREMI Moremi 71.24 221 P **P 00 56 20.8 +0.5**
MREMI IAmb IAmb 00 56 24.7
comp=Z,704nm,1.3s
A36M Sachs Harbour 71.28 5 P **P 00 56 21.0 +1.3**
A36M Sachs Harbour 71.28 5 P **P 00 56 20.9 +1.3**
baz=347,SNR=827
A36M S **S 01 05 20.3 +2.3**
baz=347
MACI Morro de la Ar 71.31 292 P **P 00 56 21.1 +0.1**
KMPI Kaimana, Papua 71.32 109 P **P 00 56 21.2 +0.3**
comp=Z,5µmcomp=Z,364nm,0.6s
C27K Jago River 71.33 12 P **P 00 56 22.2 +2.2**
baz=332,SNR=1000
C27K S **S 01 05 20.8 +2.2**
baz=332
G19K Purcell Mounta 71.44 18 P **P 00 56 21.6 +0.8**
baz=322,SNR=1000
G19K S **S 01 05 20.1 0.0**
baz=322
F21K Alatna River 71.45 16 P **P 00 56 21.5 +0.7**
baz=324,SNR=1000
F21K S **S 01 05 20.3 +0.1**
baz=324
F22K John River 71.50 16 P **P 00 56 22.7 +1.5**
baz=325
F22K S **S 01 05 22.1 +1.3**
baz=325
E23K Chandalar 71.59 15 P **P 00 56 23.0 +1.2**
baz=327,SNR=845
E23K S **S 01 05 22.6 +0.7**
baz=327
BAKI Biak 71.59 106 P **P 00 56 23.8 +1.3**
comp=Z,369nm,0.8s
H17K Granite Mounta 71.62 20 P **P 00 56 23.1 +1.2**
baz=320,SNR=666
H17K S **S 01 05 24.1 +1.9**
baz=320
GMARE Gumare 71.70 228 *i*P **P 00 56 24.3 +1.2**
GMARE Gumare 71.70 228 P **P 00 56 23.6 +0.5**
E24K Your Creek 71.80 14 P **P 00 56 24.4 +1.4**
baz=328
E24K S **S 01 05 25.8 +1.6**
baz=328
H18K Honhosa River 71.88 19 P **P 00 56 24.5 +1.0**
baz=321,SNR=508
H18K S **S 01 05 25.4 +0.2**
baz=321
G21K Allakaket 72.02 17 P **P 00 56 24.8 +0.5**
baz=324,SNR=778
G21K S **S 01 05 26.2 -0.5**
baz=324
GIRL Giralia 72.06 137 P **P 00 56 26.4 +1.3**
GIRL IAmb IAmb 00 56 29.9
comp=Z,338nm,0.7s
H19K Roundabout Mou 72.09 19 P **P 00 56 25.8 +1.2**
baz=322,SNR=914
H19K S **S 01 05 28.5 +1.1**
baz=322
LEPH Lephalale, Lim 72.11 220 *e*P **P 00 56 26.0 +0.6**
D27M Malcolm River 72.11 11 P **P 00 56 26.6 +1.7**
baz=334,SNR=262
D27M S **S 01 05 30.3 +2.6**

baz=334
SRPI Serui, Papua 72.12 106 P P 00 56 26.4 +0.7
comp=Z,264nm,0.6s
G22K Bettles 72.14 16 P P 00 56 26.0 +1.1
baz=326
G22K S S 01 05 27.6 -0.3
baz=326
COLD Coldfoot 72.17 15 P P 00 56 26.2 +1.1
COLD Coldfoot 72.17 15 P P 00 56 26.5 +1.4
baz=327,SNR=733
COLD S S 01 05 28.4 +0.1
baz=327
J14K Nanvaranak Lak 72.19 23 P P 00 56 26.9 +1.6
baz=317,SNR=799
J14K S S 01 05 31.7 +3.1
baz=317
I17K Unalakleet 72.20 21 P P 00 56 27.0 +1.7
baz=319,SNR=279
I17K S S 01 05 31.0 +2.3
baz=319
SAUI Saumlaki 72.35 114 P P 00 56 27.9 +0.9
SAUI Saumlaki 72.35 114 P P 00 56 27.9 +0.9
SAUI Saumlaki 72.35 114 P P 00 56 28.1 +1.1
D28M Stokes Point 72.37 10 P P 00 56 28.4 +2.2
baz=336,SNR=54
D28M S SKiKP 01 05 34.5 -2.8
baz=336
IMAR Indian Mountai 72.39 17 P P 00 56 26.9 +0.4
F24K Squaw Lake 72.40 14 P P 00 56 27.8 +1.2
baz=329,SNR=487
F24K S S 01 05 32.4 +1.4
baz=329
K13K Kusilvak Mount 72.43 24 P P 00 56 28.0 +1.3
baz=316,SNR=460
K13K S S 01 05 33.5 +2.2
baz=316
H20K Anotleneega Mo 72.51 18 P P 00 56 27.9 +0.7
baz=323,SNR=1000
H20K S S 01 05 32.4 +0.1
baz=323
GCSA Galena City Sc 72.59 19 P P 00 56 28.8 +1.2
baz=322,SNR=221
GCSA S S 01 05 34.2 +1.1
baz=322
G23K Bananza Creek 72.64 16 P P 00 56 28.9 +1.0
baz=327,SNR=855
G23K S SKiKP 01 05 36.2 -1.8
baz=327
J16K Anvik River 72.68 22 P P 00 56 29.8 +1.5
baz=319,SNR=1000
J16K S SKiKP 01 05 36.5 -1.5
baz=319
LPHEP Lephephe 72.73 222 *i* P P 00 56 29.8 +0.6
LPHEP Lephephe 72.73 222 P P 00 56 29.8 +0.6
LPHEP IAmb IAmb 00 56 33.8
comp=Z,391nm,1.1s
CRLN Carolina, Mapu 72.75 217 *e*P P 00 56 30.5 +1.3
F25K Christian Rive 72.77 14 P P 00 56 30.5 +1.8
baz=331,SNR=1000
F25K S SKiKP 01 05 38.3 +0.1
baz=331
AMKA Amchitka 72.81 38 P P 00 56 29.6 +0.4
H21K Melozitna Rive 72.89 17 P P 00 56 30.4 +1.0
baz=325,SNR=1000
H21K S S 01 05 36.5 0.0
baz=325
E28M Babbage River 72.91 11 P P 00 56 31.2 +1.8
baz=335,SNR=819
E28M S SKiKP 01 05 39.5 +1.2
baz=335
F26K Sheenjek River 72.96 13 P P 00 56 31.3 +1.5
baz=332,SNR=851
F26K S SKiKP 01 05 39.8 +1.4
baz=332
E27K Coleen River 72.96 12 P P 00 56 31.4 +1.5
baz=334,SNR=1000
E27K S SKiKP 01 05 40.4 +2.0
baz=334
M11K Mekoryuk 73.02 26 P P 00 56 32.4 +2.2
baz=316,SNR=40
M11K S SKiKP 01 05 42.3 +3.7
baz=316
H22K Ishtalitna Cre 73.02 17 P P 00 56 31.5 +1.3
baz=326,SNR=523
H22K S SKiKP 01 05 39.0 +0.5
baz=326
J17K VABM Dome 73.04 21 P P 00 56 31.6 +1.3
baz=320,SNR=514
J17K S SKiKP 01 05 39.4 +0.8
baz=320
POGA Pongola 73.08 215 P P 00 56 31.8 +0.9
POGA IAmb IAmb 00 56 35.9
comp=Z,577nm,0.7s
BMAR Burnt Mountain 73.11 13 P P 00 56 32.4 +1.7
K15K Wolf Creek Mou 73.15 23 P P 00 56 32.9 +1.9
baz=319,SNR=504
K15K S S 01 05 42.2 +2.6
baz=319
I20K Naaghedeneel 73.18 18 P P 00 56 32.4 +1.4
baz=324,SNR=437
I20K S S 01 05 41.3 +1.6
baz=324
G24K Hadweenzic Riv 73.19 15 P P 00 56 32.8 +1.7
baz=329,SNR=1000
G24K S S 01 05 42.3 +2.4
baz=329
E29M Blow River 73.35 10 P P 00 56 33.8 +1.8
baz=337,SNR=1000
E29M S S 01 05 44.0 +2.3
baz=337
KDWAN Kaudwane 73.40 223 *i* P P 00 56 33.5 +0.5
G25K Bearman Lake 73.40 14 P P 00 56 34.4 +2.0
baz=330,SNR=818
G25K S S 01 05 45.7 +3.5
baz=330
I21K Tanana 73.47 17 P P 00 56 34.1 +1.3
baz=326,SNR=313
I21K S S 01 05 43.8 +0.7
baz=326
H23K Yukon River 73.49 16 P P 00 56 34.8 +1.8
baz=328,SNR=1000
H23K S S 01 05 44.7 +1.3
baz=328
L14K Kuka Creek 73.50 24 P P 00 56 34.8 +1.9
baz=318,SNR=754
L14K S S 01 05 46.4 +2.9
baz=318
J19K Poorman 73.53 19 P P 00 56 34.5 +1.4
baz=323,SNR=1000
J19K S S 01 05 44.5 +0.8
baz=323
L15K Ungalak Mounta 73.63 23 P P 00 56 35.4 +1.6
baz=319,SNR=360
L15K S S 01 05 47.9 +3.0
baz=319
J18K Innoko River 73.65 20 P P 00 56 35.1 +1.2
baz=322,SNR=1000
J18K S S 01 05 46.0 +0.9
baz=322
G26K Porcupine Rive 73.68 13 P P 00 56 35.7 +1.7
baz=332,SNR=644
G26K S S 01 05 48.1 +2.7
baz=332
FYU Fort Yukon 73.75 14 P P 00 56 35.7 +1.3
SPIA Saint Paul Isl 73.76 30 P P 00 56 35.9 +1.3
SPIA IAmb IAmb 00 56 36.7
comp=Z,449nm,0.8s
SPIA Saint Paul Isl 73.76 30 P P 00 56 35.8 +1.3
SPIA Saint Paul Isl 73.76 30 P P 00 56 36.1 +1.6
baz=313,SNR=26
SPIA S S 01 05 50.7 +4.2
baz=313
F28M Old Crow 73.76 12 P P 00 56 35.9 +1.5
baz=335,SNR=835
F28M S S 01 05 48.9 +2.6
baz=335
J20K Nowinta River 73.76 19 P P 00 56 35.9 +1.4
baz=324,SNR=1000
J20K S S 01 05 47.2 +0.9
baz=324
GRTLG Ghanzi 73.78 227 *i* P P 00 56 36.5 +1.2
GRTLG Ghanzi 73.78 227 P P 00 56 36.3 +0.9
GRTLG IAmb IAmb 00 56 40.4
comp=Z,420nm,1.1s
K17K Iditarod 73.80 21 P P 00 56 36.2 +1.5
baz=321,SNR=1000
K17K S S 01 05 48.8 +2.1
baz=321

HRAO HartRAO 73.83 219 *e*P P 00 56 36.1 +0.6
H24K Noodor Dome 73.84 15 P P 00 56 36.6 +1.6
baz=329,SNR=1000
H24K S S 01 05 48.8 +1.5
baz=329
MLY Manley 73.89 17 P P 00 56 36.3 +1.0
baz=327,SNR=1000
MLY S S 01 05 48.1 +0.3
baz=327
H25L Birch Creek 73.89 14 P P 00 56 37.0 +1.8
baz=331,SNR=540
H25L S S 01 05 49.7 +2.0
baz=331
M13K Dall Lake 73.97 25 P P 00 56 38.2 +2.4
baz=318,SNR=155
M13K S S 01 05 53.6 +4.9
baz=318
DBIC Dimbokro 74.00 266 P P 00 56 36.2 -0.5
DBIC IAmb IAmb 00 56 37.0
comp=Z,249nm,0.6s
DBIC Dimbokro 74.00 266 P P 00 56 36.1 -0.5
comp=Z,240nm,0.6s,baz=64,slow=7.5,SNR=435
DBIC S S 01 05 47.1 -3.4
comp=Z,9.3nm,1.0s,baz=329,slow=18,SNR=8.9
comp=Z,240nm,0.6s
DBIC Dimbokro 74.00 266 *e*P P 00 56 36.1 -0.6
INK Inuvik 74.02 9 P P 00 56 37.2 +1.3
INK Inuvik 74.02 9 S S 01 05 49.6 +0.6
comp=Z,4.9nm,0.9s,baz=336,slow=20,SNR=16
INK Inuvik 74.02 9 P P 00 56 37.2 +1.3
INK pmax pmax
comp=Z,2µm,0.9s
INK Inuvik 74.02 9 P P 00 56 37.3 +1.4
baz=340,SNR=1000
INK S S 01 05 50.6 +1.5
baz=340
MBWA Marble Bar 74.04 132 P P 00 56 36.8 +0.2
MBWA IAmb IAmb 00 56 39.5
comp=Z,381nm,0.8s
MBWA Marble Bar 74.04 132 P P 00 56 39.0 +2.4
MBWA Marble Bar 74.04 132 P P 00 56 37.5 +0.9
I23K Minto, Yukon-K 74.11 16 P P 00 56 37.8 +1.4
baz=328,SNR=1000
I23K S S 01 05 51.5 +1.4
baz=328
SMPI Sarmi 74.12 105 P P 00 56 37.7 +0.4
comp=Z,5µmcomp=Z,570nm,0.5s
M14K Bethel 74.18 24 P P 00 56 38.7 +1.8
baz=319,SNR=1000
M14K S S 01 05 54.4 +3.4
baz=319
G27K Doyon Strip 74.19 13 P P 00 56 38.8 +1.8
baz=334,SNR=1000
G27K S S 01 05 53.5 +2.4
baz=334
LBTB Lobatse 74.20 221 P P 00 56 38.7 +1.0
LBTB IAmb IAmb 00 56 42.5
comp=Z,556nm,0.7s
LBTB Lobatse 74.20 221 P P 00 56 38.7 +1.0
LBTB pmax pmax
comp=Z,556nm,0.7s
LBTB Lobatse 74.20 221 *e*P P 00 56 38.9 +1.2
LBTB Lobatse 74.20 221 *i* P P 00 56 38.2 +0.6
L16K Owhat River 74.23 22 P P 00 56 39.1 +1.9
baz=320
L16K S S 01 05 54.2 +2.7
baz=320
AIS Amsterdam Isla 74.24 174 P P 00 56 38.5 +1.1
AIS IAmb IAmb 00 56 43.5
comp=Z,420nm,0.9s
L17K Donlin 74.25 21 P P 00 56 39.0 +1.6
baz=321,SNR=584
L17K S S 01 05 53.8 +1.9
baz=321
TSUM Tsumeb 74.36 231 P P 00 56 39.2 +0.5
TSUM IAmb IAmb 00 56 42.5
comp=Z,364nm,0.7s
TSUM Tsumeb 74.36 231 *i* P P 00 56 39.8 +1.1
F30M Barrier River 74.38 10 P P 00 56 39.5 +1.5
baz=339,SNR=913
F30M S S 01 05 55.1 +2.0
baz=339
PSA00 Pilbara Seismi 74.42 133 P P 00 56 38.7 -0.2
PSA00 IAmb IAmb 00 56 41.6
comp=Z,346nm,0.8s
PSA00 Pilbara Seismi 74.42 133 P P 00 56 38.7 -0.2
PSA00 IAmb IAmb 00 56 41.6
comp=Z,351nm,0.8s
PSA00 Pilbara Seismi 74.42 133 P P 00 56 39.5 +0.6
P08K Saint George I 74.44 30 P P 00 56 40.4 +2.0
baz=314,SNR=39
K20K Telida 74.45 19 P P 00 56 39.8 +1.3
baz=324,SNR=1000
K20K S S 01 05 54.7 +0.6
baz=324
ADK Adak 74.46 36 P P 00 56 37.5 -1.2
ADK Adak 74.46 36 P P 00 56 37.4 -1.2
CHUM Lake Minchumin 74.47 18 P P 00 56 39.9 +1.4
baz=326,SNR=928
CHUM S S 01 05 54.0 -0.2
baz=326
POKR Poker Plat Res 74.56 16 P P 00 56 40.5 +1.4
baz=330,SNR=494
POKR S S 01 05 56.2 +1.0
baz=330
PRP Porcupine Dome 74.61 15 P P 00 56 41.1 +1.5
baz=331,SNR=689
PRP S S 01 05 57.5 +1.4
baz=331
BPAW Bear Paw Mtn. 74.61 17 P P 00 56 40.0 +0.6
baz=327,SNR=964
BPAW S S 01 05 54.4 -1.4
baz=327
M15K Kasigluk River 74.63 23 P P 00 56 41.2 +1.6
baz=320,SNR=665
M15K S S 01 05 58.9 +2.8
baz=320
NEA2 Nenana 74.65 16 P P 00 56 40.3 +0.7
baz=328,SNR=1000
NEA2 S S 01 05 55.8 -0.4
baz=328
L18K Granite Mounta 74.65 21 P P 00 56 41.0 +1.3
baz=323,SNR=413
L18K S S 01 05 57.4 +1.2
baz=323
COLA College 74.68 16 P P 00 56 40.8 +1.1
COLA College 74.68 16 *c* *i*P P 00 56 40.4 +0.7
COLA pmax pmax
comp=Z,2µm,0.9s
COLA College 74.68 16 P P 00 56 40.8 +1.1
baz=329
COLA S S 01 05 57.7 +1.3
baz=329
G29M Pine Creek 74.70 11 P P 00 56 41.2 +1.4
baz=337,SNR=741
G29M S S 01 05 59.7 +3.0
baz=337
SKOMA Sekoma 74.70 223 *i* P P 00 56 41.4 +0.8
H27K Steamboat Moun 74.74 13 P P 00 56 41.8 +1.7
baz=334,SNR=1000
H27K S S 01 05 59.3 +2.1
baz=334
F31M Tsiigehtchic 74.82 9 P P 00 56 41.7 +1.2
baz=340,SNR=637
F31M S S 01 05 59.4 +1.5
baz=340
N14K Kuskokwak Cree 74.89 24 P P 00 56 42.8 +1.7
baz=319,SNR=116
N14K S S 01 06 02.2 +3.2
baz=319
G30M tAoh Zraii Nji 74.91 10 P P 00 56 42.0 +0.9
baz=338,SNR=1000
G30M S S 01 06 00.1 +1.0
baz=338
CAST Castle Rocks 74.91 18 P P 00 56 42.1 +1.0
baz=326,SNR=1000
CAST S S 01 05 59.4 +0.3
baz=326
BWN Browne 74.92 17 P P 00 56 41.7 +0.6
M16K Timber Creek 74.92 22 P P 00 56 43.0 +1.8
baz=321,SNR=366
M16K S S 01 06 01.9 +2.6
baz=321
ILAR Eielson Array 74.98 15 P P 00 56 41.5 0.0
comp=Z,506nm,0.9s,baz=326,slow=5.8,SNR=1940
PP PP
ILAR 00 59 33.0 +1.3
comp=Z,41nm,0.9s,baz=328,slow=7.3,SNR=4.7

ILAR S S 01 05 57.7 -2.1
comp=Z,0.3nm,0.4s,baz=312,slow=9.5,SNR=4.6
ILAR PKPPKP P'P'df 01 24 03.6 -4.9
comp=Z,2.6nm,0.8s,baz=180,slow=2.4,SNR=6.8
comp=Z,506nm,0.9s
M17K Holitna River 75.08 22 P P 00 56 44.0 +1.9
baz=322,SNR=738
M17K S S 01 06 03.8 +2.7
baz=322
L19K White Mountain 75.20 20 P P 00 56 44.0 +1.2
baz=324,SNR=435
L19K S S 01 06 03.4 +1.1
baz=324
L20K Farewell, AK 75.22 19 P P 00 56 44.1 +1.2
baz=325,SNR=491
L20K S S 01 06 03.0 +0.3
baz=325
N15K Kwethluk River 75.23 23 P P 00 56 44.9 +1.9
baz=320,SNR=330
N15K S S 01 06 06.3 +3.6
baz=320
G31M Satah River 75.23 10 P P 00 56 43.9 +1.1
baz=340,SNR=781
G31M S S 01 06 03.7 +1.2
baz=340
I26K Coal Creek Min 75.27 14 P P 00 56 44.5 +1.4
baz=333
I26K S S 01 06 05.7 +2.7
baz=333
MAKGR Makgori 75.27 222 P P 00 56 44.3 +0.6
HDA Harding Lake 75.28 16 P P 00 56 42.9 -0.3
baz=330,SNR=330
HDA S S 01 06 00.5 -2.6
baz=330
H29M Whitestone 75.28 12 P P 00 56 44.7 +1.5
baz=337,SNR=1000
H29M S S 01 06 05.5 +2.4
baz=337
I27K Kandik River 75.29 13 P P 00 56 44.5 +1.2
baz=334,SNR=968
I27K S S 01 06 04.6 +1.3
baz=334
PPLA Purkeypile 75.32 19 P P 00 56 44.1 +0.5
baz=326,SNR=362
PPLA S S 01 06 02.7 -1.2
baz=326
TRF Thorofare Moun 75.33 18 P P 00 56 43.7 0.0
baz=327,SNR=290
TRF S S 01 06 01.8 -2.3
baz=327
EPYK Eagle Plains 75.40 11 P P 00 56 44.5 +0.6
EPYK Eagle Plains 75.40 11 P P 00 56 44.6 +0.7
baz=338,SNR=264
EPYK S S 01 06 04.5 0.0
baz=338
N16K Nishlik Lake 75.41 23 P P 00 56 46.0 +2.0
baz=321,SNR=464
N16K S S 01 06 07.4 +2.7
baz=321
MCK McKinley 75.41 17 P P 00 56 43.9 -0.1
baz=328,SNR=300
MCK S S 01 06 01.9 -2.8
baz=328
ATKA Atka Island 75.42 35 P P 00 56 44.4 +0.2
J25K Salcha River, 75.44 15 P P 00 56 44.7 +0.5
baz=331,SNR=1000
J25K S S 01 06 03.4 -1.7
baz=331
H07S1 FLORES T-PHASE 75.44 308 P P 00 56 45.7 +1.1
SNR=7.9
FITZ Fitzroy Crossi 75.45 126 P P 00 56 44.8 +0.1
FITZ Fitzroy Crossi 75.45 126 P P 00 56 44.9 +0.1
comp=Z,119nm,0.4s,baz=320,slow=6.7,SNR=199
FITZ S S 01 06 01.1 -5.1
comp=Z,33nm,0.4s,baz=17,slow=14,SNR=3.5
comp=Z,119nm,0.4s
FITZ Fitzroy Crossi 75.45 126 P P 00 56 45.3 +0.5
M18K Stony River 75.48 21 P P 00 56 45.7 +1.4
baz=323,SNR=296
M18K S S 01 06 06.4 +1.0
baz=323
O14K Tigyukauivet M 75.54 24 P P 00 56 46.5 +1.7
baz=320,SNR=196
O14K S S 01 06 08.6 +2.4
baz=320
M19K Big River Lodg 75.55 20 P P 00 56 46.3 +1.5
baz=324,SNR=213
M19K S S 01 06 07.9 +1.7
baz=324
GENI Genyem 75.63 104 P P 00 56 47.2 +1.2
GENI Genyem 75.63 104 P P 00 56 46.4 +0.4
comp=Z,5µmcomp=Z,581nm,1.0s
KOOLE Kule 75.64 227 *i* P P 00 56 47.1 +1.1
KOOLE Kule 75.64 227 P P 00 56 46.6 +0.7
KOOLE IAmb IAmb 00 56 50.6
comp=Z,444nm,0.8s
I28M Miner Creek 75.73 12 P P 00 56 46.8 +1.0
baz=336,SNR=1000
I28M S S 01 06 09.4 +1.2
baz=336
KNRA Kununurra 75.81 122 P P 00 56 46.8 -0.1
N17K Nushagak Hills 75.85 22 P P 00 56 48.4 +1.9
baz=322,SNR=223
N17K S S 01 06 12.8 +3.3
baz=322
J26L Joseph Creek 75.90 14 P P 00 56 47.9 +1.0
baz=333,SNR=1000
J26L S S 01 06 10.8 +0.6
baz=333
M20K Styx River 75.91 20 P P 00 56 47.4 +0.4
baz=325
M20K S S 01 06 09.4 -0.9
baz=325
JAY Jayapura 76.00 104 P P 00 56 48.5 +0.4
PHPEN Phepeng 76.06 223 *i* P P 00 56 48.7 +0.4
PHPEN Phepeng 76.06 223 P P 00 56 48.7 +0.4
PHPEN IAmb IAmb 00 56 52.5
comp=Z,622nm,0.9s
K24K Donnelly Dome 76.06 16 P P 00 56 48.0 +0.3
baz=331,SNR=1000
K24K S S 01 06 09.2 -2.6
baz=331
O15K Ungalikthiuk R 76.08 24 P P 00 56 49.3 +1.5
baz=321,SNR=152
O15K S S 01 06 13.7 +1.7
baz=321
I29M Ogilvie Camp, 76.08 12 P P 00 56 48.4 +0.6
baz=337,SNR=1000
I29M S S 01 06 11.8 -0.2
baz=337
N18K Kilae Creek 76.11 21 P P 00 56 49.5 +1.5
baz=323,SNR=97
N18K S S 01 06 14.6 +2.2
baz=323
CUT Chulitna 76.22 18 P P 00 56 48.6 +0.1
baz=328,SNR=95
CUT S S 01 06 10.0 -3.5
baz=328
SKT Skwentna 76.25 19 P P 00 56 49.1 +0.3
SKT Skwentna 76.25 19 P P 00 56 48.8 0.0
baz=327,SNR=1000
SKT S S 01 06 10.9 -3.0
baz=327
H31M Peel River 76.28 10 P P 00 56 49.8 +0.9
baz=340,SNR=1000
H31M S S 01 06 14.6 +0.5
baz=340
SCRK Sand Creek 76.29 15 P P 00 56 50.2 +1.1
baz=332,SNR=1000
SCRK S S 01 06 13.7 -0.7
baz=332
O16K Kokwok River B 76.31 23 P P 00 56 51.0 +2.0
baz=322,SNR=502
O16K S S 01 06 18.3 +3.8
baz=322
RIDG Independent Ri 76.32 15 P P 00 56 49.5 +0.4
baz=332,SNR=592
RIDG S S 01 06 12.6 -2.0
baz=332
KDU Kakadu 76.36 117 P P 00 56 49.7 -0.3
N19K Bonanza Creek 76.41 21 P P 00 56 51.0 +1.3
baz=324,SNR=224
N19K S S 01 06 15.7 -0.1
baz=324
O17K Koliganek Bris 76.48 22 P P 00 56 51.6 +1.6
baz=323,SNR=177
O17K S S 01 06 18.4 +2.1
baz=323

I30M **Mount Dempster** **76.52 11** P **P** **00 56 51.4 +1.0**
baz=338,SNR=1000
I30M S **S** **01 06 17.5 +0.6**
baz=338
K27K **Chicken** **76.62 14** P **P** **00 56 52.3 +1.5**
baz=334,SNR=1000
K27K S **S** **01 06 19.7 +1.9**
baz=334
N20K **Mount Spurr** **76.73 20** P **P** **00 56 51.7 +0.2**
baz=326
N20K S **S** **01 06 16.9 -2.3**
baz=326
SPCR **Spurr Chakacha** **76.73 20** P **P** **00 56 51.7 +0.2**
baz=326,SNR=32
P16K **Nushagak River** **76.78 23** P **P** **00 56 53.3 +1.6**
baz=322,SNR=44
M22K **Willow** **76.81 18** P **P** **00 56 51.9 +0.1**
baz=328,SNR=122
M22K S **S** **01 06 17.3 -2.5**
baz=328
PAX **Paxson** **76.86 16** P **P** **00 56 52.8 +0.5**
baz=331,SNR=1000
PAX S **S** **01 06 19.1 -1.5**
baz=331
SUA **Susitna One** **76.89 19** P **P** **00 56 52.8 +0.3**
baz=327
SUA S **S** **01 06 18.4 -2.7**
baz=327
J29N **Klondike Camp** **76.94 12** P **P** **00 56 54.0 +1.4**
baz=337,SNR=130
J29N S **S** **01 06 22.8 +1.4**
baz=337
KSTD **Kokstad** **76.96 215** *e*P **P** **00 56 55.1 +1.9**
O19K **Port Alsworth** **76.97 21** P **P** **00 56 53.5 +0.8**
baz=325,SNR=13
O19K S **S** **01 06 22.7 +1.1**
baz=325
O18K **Koktuh Hills** **76.98 22** P **P** **00 56 54.4 +1.5**
baz=324,SNR=269
O18K S **S** **01 06 23.9 +2.1**
baz=324
DAWY **Dawson** **77.09 13** P **P** **00 56 54.3 +0.9**
DAWY **Dawson** **77.09 13** P **P** **00 56 54.5 +1.1**
baz=336,SNR=838
DAWY S **S** **01 06 23.6 +0.7**
baz=336
J30M **Hart River** **77.13 11** P **P** **00 56 55.1 +1.3**
baz=338,SNR=1000
J30M S **S** **01 06 24.4 +0.8**
baz=338
P17K **Kvichak River** **77.14 23** P **P** **00 56 55.5 +1.8**
baz=323,SNR=457
P17K S **S** **01 06 26.4 +2.9**
baz=323
WIN **Windhoek** **77.17 229** P **P** **00 56 55.7 +1.1**
WIN IAmb IAmb 00 56 58.9
comp=Z,248nm,0.8s
WIN **Windhoek** **77.17 229** P **P** **00 56 55.7 +1.1**
WIN pmax pmax
comp=Z,248nm,0.8s
PMR **Palmer** **77.20 18** P **P** **00 56 54.4 +0.4**
PMR **Palmer** **77.20 18** P **P** **00 56 54.4 +0.4**
baz=329,SNR=172
PMR S **S** **01 06 22.2 -1.8**
baz=329
L26K **Log Cabin Wild** **77.27 15** P **P** **00 56 55.6 +1.2**
baz=333,SNR=151
MENT **Mentasta** **77.27 15** P **P** **00 56 55.6 +1.2**
NIKH **Nikolski High** **77.27 32** P **P** **00 56 53.9 -0.6**
NIKH **Nikolski High** **77.27 32** P **P** **00 56 53.5 -1.0**
baz=315,SNR=17
BOSA **Boshof** **77.29 219** P **P** **00 56 55.6 +0.5**
BOSA IAmb IAmb 00 56 59.4
comp=Z,842nm,1.0s
BOSA **Boshof** **77.29 219** P **P** **00 56 55.6 +0.5**
comp=Z,454nm,0.5s,baz=36,slow=7.4,SNR=389
BOSA S **S** **01 06 24.5 -1.6**
comp=Z,11nm,1.1s,baz=131,slow=20,SNR=16
BOSA PKKPbc **PKKPbc** **01 15 60.0 +0.5**
comp=Z,1.6nm,0.3s,baz=236,slow=1.6,SNR=8.6
comp=Z,454nm,0.5s
BOSA **Boshof** **77.29 219** *e*P **P** **00 56 55.9 +0.8**
BOSA **Boshof** **77.29 219** *i* P **P** **00 56 55.8 +0.7**
P18K **Big Mountain,** **77.35 22** P **P** **00 56 56.0 +1.0**
baz=324,SNR=199
P18K S **S** **01 06 27.3 +1.5**
baz=324
M23K **Glacier View** **77.37 17** P **P** **00 56 55.5 +0.5**
baz=330,SNR=806
M23K S **S** **01 06 24.1 -1.9**
baz=330
CAPN **Captain Cook N** **77.37 19** P **P** **00 56 55.9 +1.0**
baz=327,SNR=5.8
SCM **Sheep Creek Mo** **77.43 17** P **P** **00 56 56.0 +0.6**
baz=330,SNR=533
SCM S **S** **01 06 25.4 -1.3**
baz=330
HARP **HAARP** **77.43 16** P **P** **00 56 57.0 +1.7**
baz=332,SNR=519
HARP S **S** **01 06 28.5 +1.8**
baz=332
M24K **Tolsona, Glenn** **77.46 17** P **P** **00 56 57.2 +1.6**
baz=331,SNR=773
M24K S **S** **01 06 27.3 +0.3**
baz=331
RC01 **Rabbit Creek A** **77.47 19** P **P** **00 56 56.1 +0.5**
RC01 **Rabbit Creek A** **77.47 19** P **P** **00 56 55.8 +0.3**
baz=328,SNR=230
RC01 S **S** **01 06 25.0 -2.0**
baz=328
Q16K **King Salmon** **77.49 23** P **P** **00 56 57.2 +1.5**
baz=323,SNR=245
Q16K S **S** **01 06 29.3 +2.1**
baz=323
KNK **Knik Glacier** **77.52 18** P **P** **00 56 56.7 +0.9**
baz=329,SNR=331
KNK S **S** **01 06 26.4 -1.1**
baz=329
L27K **Beaver Creek,** **77.54 14** P **P** **00 56 57.5 +1.6**
baz=334,SNR=933
L27K S **S** **01 06 28.7 +0.8**
baz=334
O20K **Slope Mountain** **77.54 20** P **P** **00 56 56.1 +0.1**
baz=326,SNR=80
BCAR **Beaver Creek A** **77.55 14** P **P** **00 56 57.4 +1.4**
K29M **Barlow Dome** **77.62 12** P **P** **00 56 57.8 +1.3**
baz=338,SNR=1000
K29M S **S** **01 06 30.2 +1.4**
baz=338
UNV **Unalaska Valle** **77.62 30** P **P** **00 56 56.0 -0.5**
UNV **Unalaska Valle** **77.62 30** P **P** **00 56 55.8 -0.7**
baz=317,SNR=63
UNV S **S** **01 06 27.7 -1.2**
baz=317
MEEK **Meekatharra** **77.64 137** P **P** **00 56 57.5 +0.6**
AKUT **Akutan** **77.71 30** P **P** **00 56 56.5 -0.4**
P19K **Oil Pt** **77.73 21** P **P** **00 56 56.9 -0.2**
baz=326,SNR=54
M26K **Nabesna, AK** **77.90 15** P **P** **00 56 59.0 +1.0**
baz=333,SNR=397
M26K S **S** **01 06 32.8 +1.1**
baz=333
S12K **Black Hills** **77.97 27** P **P** **00 56 58.2 -0.2**
baz=320,SNR=96
S12K S **S** **01 06 32.2 -0.4**
baz=320
O22K **Cooper Landing** **77.99 19** P **P** **00 56 58.6 +0.2**
baz=328,SNR=23
Q18K **Katmai Hardscr** **78.02 22** P **P** **00 56 58.5 -0.3**
baz=324,SNR=137
Q18K S **S** **01 06 33.2 -0.1**
baz=324
PWL **Port Wells** **78.02 18** P **P** **00 56 59.1 +0.4**
baz=329,SNR=174
PWL S **S** **01 06 32.0 -1.0**
baz=329
KLU **Klutina** **78.06 17** P **P** **00 57 00.1 +1.2**
baz=331,SNR=678
KLU S **S** **01 06 32.7 -0.8**
baz=331
Q17K **Contact Creek** **78.06 23** P **P** **00 56 59.0 0.0**
baz=324,SNR=212
Q17K S **S** **01 06 32.8 -0.8**
baz=324
R16K **Pilot Point** **78.08 24** P **P** **00 57 00.3 +1.4**
baz=323
FALS **False Pass** **78.10 28** P **P** **00 56 58.3 -0.8**
FALS IAmb IAmb 00 57 01.0
comp=Z,359nm,0.8s
FALS **False Pass** **78.10 28** P **P** **00 56 58.7 -0.4**
FALS **False Pass** **78.10 28** P **P** **00 56 58.2 -0.8**
baz=319,SNR=16
MAYO **Mayo, Yukon** **78.12 12** P **P** **00 57 00.5 +1.4**
baz=339,SNR=36
M27K **Edge Creek, AK** **78.17 15** P **P** **00 57 01.1 +1.5**
baz=334,SNR=1000
M27K S **S** **01 06 35.6 +0.8**
baz=334
HOM **Homer** **78.17 20** P **P** **00 56 59.2 -0.2**
baz=327,SNR=9.8
MORW **Morawa** **78.19 140** P **P** **00 56 59.9 0.0**
MORW **Morawa** **78.19 140** P **P** **00 56 59.5 -0.4**
L29M **L29M** **78.19 13** P **P** **00 57 00.8 +1.2**
baz=337,SNR=764
L29M S **S** **01 06 34.9 +0.1**
baz=337
Q19K **Cape Douglas,** **78.20 22** P **P** **00 56 59.0 -0.7**
baz=325,SNR=17
N25K **Chitina, Valde** **78.26 16** P **P** **00 57 01.1 +1.1**
baz=332,SNR=328
N25K S **S** **01 06 36.5 +0.9**
baz=332
GLI **Glacier Island** **78.31 18** P **P** **00 57 00.7 +0.5**
baz=330,SNR=367
GLI S **S** **01 06 35.7 -0.4**
baz=330
BVCY **Beaver Creek** **78.32 14** P **P** **00 57 02.0 +1.7**
baz=335,SNR=509
BVCY S **S** **01 06 37.6 +1.4**
baz=335
SEW **Seward** **78.39 19** P **P** **00 57 00.9 +0.4**
baz=328,SNR=71
SEW S **S** **01 06 35.1 -1.6**
baz=328
S14K **Fog Glacier** **78.42 26** P **P** **00 57 01.0 0.0**
baz=321,SNR=27
S14K S **S** **01 06 37.3 -0.2**
baz=321
R17L **Mt. Peulik Vol** **78.42 23** P **P** **00 57 01.1 +0.2**
baz=324,SNR=57
R17L S **S** **01 06 36.7 -0.6**
baz=324
FID **Port Fidalgo** **78.58 17** P **P** **00 57 02.5 +0.9**
M29M **Somme Creek** **78.75 13** P **P** **00 57 04.4 +1.7**
baz=337,SNR=725
M29M S **S** **01 06 42.0 +1.2**
baz=337
CHGN **Chignik** **78.80 25** P **P** **00 57 02.5 -0.4**
baz=322,SNR=26
MCARA **McCarthy VSAT** **78.80 16** P **P** **00 57 03.7 +0.8**
MCARA IAmb IAmb 00 57 05.1
comp=Z,534nm,0.9s
MCARA **McCarthy VSAT** **78.80 16** P **P** **00 57 04.0 +1.1**
baz=333,SNR=114
MCARA S **S** **01 06 41.6 +0.4**
baz=333
SDPT **Sand Point** **78.82 27** P **P** **00 57 02.2 -0.8**
SDPT **Sand Point** **78.82 27** P **P** **00 57 02.0 -1.0**
baz=321,SNR=24
SDPT S **S** **01 06 44.0 +2.5**
baz=321
BMRM **Bremner River** **78.82 16** P **P** **00 57 04.1 +1.1**
baz=332,SNR=387
BMRM S **S** **01 06 41.5 0.0**
baz=332
Q20K **Shuyak Island** **78.83 21** P **P** **00 57 02.9 -0.2**
baz=326,SNR=42
VRDI **Verde Repeater** **78.85 16** P **P** **00 57 04.2 +0.8**
VRDI IAmb IAmb 00 57 05.5
comp=Z,834nm,1.1s
M30M **Minto, Yukon** **78.92 12** P **P** **00 57 04.4 +0.9**
baz=338,SNR=348
M30M S **S** **01 06 43.3 +0.8**
baz=338
EYAK **Cordova Ski Ar** **78.93 17** P **P** **00 57 04.4 +0.9**
EYAK **Cordova Ski Ar** **78.93 17** P **P** **00 57 04.8 +1.3**
baz=331,SNR=302
EYAK S **S** **01 06 43.6 +1.2**
baz=331
BLKN **Baker Lake** **78.93 354** P **P** **00 57 04.1 +0.7**
YUK3 **Moose Creek** **78.98 14** P **P** **00 57 05.3 +1.2**
baz=335,SNR=629
YUK3 S **S** **01 06 45.6 +2.1**
baz=335
P23K **Montague Islan** **79.00 18** P **P** **00 57 05.0 +1.1**
baz=330,SNR=132
P23K S **S** **01 06 43.3 -0.1**
baz=330
R18K **Karluk** **79.08 23** P **P** **00 57 04.0 -0.4**
baz=325,SNR=27
R18K S **S** **01 06 43.2 -1.0**
baz=325
MBO **M'Bour** **79.28 280** P **P** **00 57 06.7 +0.5**
MBO IAmb IAmb 00 57 08.4
comp=Z,626nm,1.0s
CRQE **Cirque** **79.36 16** P **P** **00 57 07.0 +1.0**
baz=333,SNR=253
KDAK **Kodiak Island** **79.47 22** P **P** **00 57 07.1 +0.6**
KDAK **Kodiak Island** **79.47 22** P **P** **00 57 07.1 +0.6**
KDAK pmax pmax
comp=Z,2μm,0.9s
KDAK **Kodiak Island** **79.47 22** P **P** **00 57 07.3 +0.8**
baz=326
KDAK S **S** **01 06 47.8 -0.5**
baz=326
CTG **Chitna Glacier** **79.54 15** P **P** **00 57 08.3 +1.3**
baz=335,SNR=285
CHNA **Chernabura Isl** **79.54 27** P **P** **00 57 07.1 +0.2**
CHNA **Chernabura Isl** **79.54 27** P **P** **00 57 06.8 -0.1**
baz=322,SNR=162
CHNA S **S** **01 06 47.9 -1.2**
baz=322
M31M **Drury Creek, Y** **79.67 11** P **P** **00 57 08.5 +0.9**
baz=340,SNR=591
M31M S **S** **01 06 51.0 +0.7**
baz=340
OHAK **Old Harbor** **79.72 22** P **P** **00 57 08.5 +0.7**
OHAK **Old Harbor** **79.72 22** P **P** **00 57 08.6 +0.8**
baz=326,SNR=181
MMPY **Sheldon Lake,** **79.74 10** P **P** **00 57 09.5 +1.5**
baz=343,SNR=492
MMPY S **S** **01 06 54.3 +3.1**
baz=343
Q23K **Middleton Isla** **79.76 18** P **P** **00 57 09.4 +1.4**
baz=331,SNR=25
BLDU **Ballidu** **79.78 140** P **P** **00 57 08.0 -0.4**
BGLC **Bering Glacier** **79.88 16** P **P** **00 57 11.0 +2.4**
baz=333,SNR=22
AUGR **Augrabies** **79.89 223** *e*P **P** **00 57 10.0 +0.8**
N30M **Aishikik Lake** **79.91 13** P **P** **00 57 10.4 +1.5**
baz=338,SNR=638
N30M S **S** **01 06 52.9 -0.1**
baz=338
ALKP **Alkanpan, Nort** **79.92 221** *e*P **P** **00 57 10.8 +1.4**
O28M **Mount Upton** **79.95 15** P **P** **00 57 10.4 +1.0**
baz=336,SNR=225
O28M S **S** **01 06 53.9 0.0**
baz=336
WRGLY **Wrigley** **80.03 6** P **P** **00 57 11.0 +1.6**
baz=349,SNR=71
N31M **Braeburn, Yuko** **80.12 12** P **P** **00 57 10.9 +0.9**
baz=339,SNR=413
N31M S **S** **01 06 56.2 +1.1**
baz=339
MESA **MESA** **80.12 16** P **P** **00 57 11.6 +1.4**
baz=334,SNR=61
MESA S **S** **01 06 52.9 -2.6**
baz=334
MTKN **Mount Kenneth** **80.37 142** P **P** **00 57 12.8 +1.3**
HYT **Haines Junctio** **80.42 13** P **P** **00 57 13.3 +1.5**
baz=338
GRHM **Grahamstown, E** **80.55 216** P **P** **00 57 13.6 +1.1**
GRHM IAmb IAmb 00 57 17.2
comp=Z,348nm,0.7s
GRHM **Grahamstown, E** **80.55 216** *e*P **P** **00 57 13.8 +1.3**
PINM **Pinnacle** **80.56 15** P **P** **00 57 13.8 +1.4**
baz=336,SNR=275
PINM S **S** **01 07 00.4 +0.7**
baz=336
MUN **Mundaring** **80.62 142** P **P** **00 57 14.1 +1.2**
GRAF **Camdeboo Natio** **80.64 218** *e*P **P** **00 57 14.7 +1.6**
BFON **Badsfontein, M** **80.66 219** *e*P **P** **00 57 15.0 +1.8**
O29M **Mount Kennedy** **80.70 14** P **P** **00 57 14.0 +0.8**
baz=337,SNR=81
O29M S **S** **01 07 01.5 +0.1**
baz=337
AUSN **Aus** **80.75 227** *e*P **P** **00 57 15.3 +1.4**
N32M **Quiet Lake** **80.87 11** P **P** **00 57 14.4 +0.4**
baz=341
N32M S **S** **01 07 03.1 +0.1**
baz=341
MANU **Manus Island** **80.97 99** P **P** **00 57 15.8 +0.5**
BRAK **Brakfontein** **81.05 219** *e*P **P** **00 57 16.8 +1.6**
WHY **Whitehorse** **81.05 12** P **P** **00 57 15.4 +0.3**
WHY **Whitehorse** **81.05 12** P **P** **00 57 15.3 +0.3**
baz=340,SNR=510
WHY S **S** **01 07 03.8 -1.0**
baz=340
KLBR **Kellerberrin** **81.09 140** P **P** **00 57 14.7 -0.7**
PNL **Peninsula** **81.12 15** P **P** **00 57 17.1 +1.8**
PNL **Peninsula** **81.12 15** P **P** **00 57 16.7 +1.4**
baz=336,SNR=200
PNL S **S** **01 07 07.6 +2.1**
baz=336
P30M **Million Dollar** **81.18 13** P **P** **00 57 17.0 +1.3**
baz=338
P30M S **S** **01 07 07.5 +1.4**
baz=338
TGTN **Hyland Airport** **81.19 9** P **P** **00 57 17.4 +1.7**
baz=345,SNR=350
TGTN S **S** **01 07 09.4 +3.2**
baz=345
YKU2 **Yakutat** **81.21 15** P **P** **00 57 18.2 +2.5**
YKA **Yellowknife Ar** **81.28 2** P **P** **00 57 16.8 +0.7**
YKA **Yellowknife Ar** **81.28 2** P **P** **00 57 16.5 +0.4**
comp=Z,443nm,0.7s,baz=355,slow=5.7,SNR=1881
YKA PP **PP** **01 00 23.9 -0.2**
comp=Z,92nm,0.9s,baz=354,slow=8.8,SNR=9.3
YKA S **S** **01 07 04.6 -2.4**
comp=Z,8.8nm,1.1s,baz=354,slow=12,SNR=6.4
YKA PKKPbc **PKKPbc** **01 15 47.5 -2.0**
comp=Z,1.6nm,0.4s,baz=178,slow=1.8,SNR=24
YKA PKPPKP **P'P'df** **01 23 49.6 -7.4**
comp=Z,0.6nm,0.6s,baz=154,slow=1.7,SNR=4.5
comp=Z,443nm,0.7s
P29M **Windy Craggy** **81.49 14** P **P** **00 57 18.1 +0.9**
baz=338,SNR=179
P29M S **S** **01 07 10.5 +1.2**
baz=338
P33M **Teslin, Yukon** **81.81 11** P **P** **00 57 19.6 +0.6**
baz=342,SNR=1000
P33M S **S** **01 07 13.3 +0.6**
baz=342
SCHQ **Schefferville** **81.83 336** P **P** **00 57 19.5 +0.4**
comp=Z,444nm,0.8s,baz=33,slow=7.0,SNR=384
SCHQ PP **PP** **01 00 25.7 -3.1**
comp=Z,33nm,0.6s,baz=29,slow=8.3,SNR=3.8
SCHQ S **S** **01 07 13.5 +0.6**
comp=Z,13nm,1.0s,baz=73,slow=20,SNR=4.1
SCHQ PKKPbc **PKKPbc** **01 15 47.0 -1.1**
comp=Z,17nm,0.7s,baz=212,slow=2.0,SNR=17
comp=Z,444nm,0.8s
GRAN **Grantham** **81.83 219** *e*P **P** **00 57 20.8 +1.4**
NWAO **Narrogin (SRO)** **81.89 142** P **P** **00 57 19.1 -0.5**
NWAO IAmb IAmb 00 57 21.6
comp=Z,477nm,0.6s
NWAO **Narrogin (SRO)** **81.89 142** P **P** **00 57 18.8 -0.8**
comp=Z,443nm,0.5s,baz=305,slow=5.7,SNR=150
NWAO PKKPbc **PKKPbc** **01 15 47.9 -1.2**
comp=Z,8.7nm,0.5s,baz=148,slow=4.4,SNR=9.3
comp=Z,443nm,0.5s
NWAO **Narrogin (SRO)** **81.89 142** P **P** **00 57 19.5 -0.1**
NWAO **Narrogin (SRO)** **81.89 142** P **P** **00 57 19.3 -0.3**
NWAO **Narrogin (SRO)** **81.89 142** P **P** **00 57 19.1 -0.5**
NWAO pmax pmax
comp=Z,477nm,0.6s
FRAZ **Fraserburg** **81.93 220** *e*P **P** **00 57 21.4 +1.5**
H01W3 **Cape Leeuwin H** **81.99 145** P **P** **00 57 19.2 -0.5**
baz=308,slow=2.5,SNR=14
H01W2 **Cape Leeuwin H** **82.00 145** P **P** **00 57 19.3 -0.5**
baz=308,slow=2.5,SNR=8.2
H01W1 **Cape Leeuwin H** **82.00 145** P **P** **00 57 19.3 -0.5**
baz=308,slow=2.5,SNR=9.7
BUFB **Buffelsbos** **82.04 217** *e*P **P** **00 57 23.4 +3.1**
SKAG **Skagway** **82.10 13** P **P** **00 57 22.0 +1.6**
SKAG **Skagway** **82.10 13** P **P** **00 57 21.9 +1.6**
baz=340,SNR=123
SKAG S **S** **01 07 16.8 +1.5**
baz=340
P32M **Atlin** **82.25 12** P **P** **00 57 22.0 +0.8**
baz=341,SNR=204
P32M S **S** **01 07 17.5 +0.4**
baz=341
MERW **Merweville** **82.46 220** *e*P **P** **00 57 24.2 +1.6**
WTLY **Watson Lake, Y** **82.49 9** P **P** **00 57 23.5 +1.0**
baz=345,SNR=55
WB0 **Warramunga Arr** **82.50 121** P **P** **00 57 22.1 -0.9**
WB0 IAmb IAmb 00 57 24.4
comp=Z,284nm,0.8s
WRA **Warramunga Arr** **82.58 121** P **P** **00 57 22.8 -0.7**
WRA **Warramunga Arr** **82.58 121** P **P** **00 57 22.5 -1.0**
comp=Z,284nm,0.7s,baz=313,slow=5.3,SNR=1155
WRA PP **PP** **01 00 35.6 -1.0**
comp=Z,20nm,1.0s,baz=314,slow=8.8,SNR=6.5
WRA PKiKP **PKiKP** **01 02 41.5 -0.9**
comp=Z,3.8nm,0.4s,baz=310,slow=1.9,SNR=4.7
WRA S **S** **01 07 15.0 -6.5**
comp=Z,28nm,1.2s,baz=313,slow=9.0,SNR=12
WRA PKKP **PKKPdf** **01 15 39.1 +1.1**
comp=Z,2.6nm,0.7s,baz=120,slow=1.8,SNR=8.7
WRA PKKPbc **PKKPbc** **01 15 47.8 +1.1**
comp=Z,43nm,0.5s,baz=132,slow=2.2,SNR=120
WRA PKPPKP **P'P'df** **01 23 47.8 -3.4**
comp=Z,5.2nm,1.1s,baz=113,slow=1.9,SNR=6.7
comp=Z,284nm,0.7s
WRAB **Tennant Creek** **82.58 121** *c i* P **P** **00 57 22.6 -0.9**
WRAB pmax pmax
comp=Z,303nm,0.9s
SUR **Sutherland** **82.59 220** P **P** **00 57 25.1 +1.6**
SUR IAmb IAmb 00 57 28.4
comp=Z,278nm,0.8s
R33M **Jennings River** **82.87 11** P **P** **00 57 25.4 +0.9**
baz=343,SNR=634
R33M S **S** **01 07 23.4 -0.2**
baz=343
R31K **City Hall, Gus** **83.00 13** P **P** **00 57 26.1 +1.1**
baz=339
KOTAN **Kotaneelee Air** **83.02 7** P **P** **00 57 26.3 +1.2**
baz=349,SNR=34
KOTAN S **S** **01 07 24.3 -0.5**
baz=349
Q32M **Nakina River** **83.09 11** P **P** **00 57 26.8 +1.1**
baz=342,SNR=435
Q32M S **SKSac** **01 07 25.7 -0.1**
baz=342
S31K **Pelican** **83.33 14** P **P** **00 57 28.1 +1.4**
baz=339,SNR=49
S31K S **SKSac** **01 07 27.6 +0.7**
baz=339
R32K **Eaglecrest** **83.36 13** P **P** **00 57 28.6 +1.7**
baz=340,SNR=128
JIS **Juneau Island** **83.38 13** P **P** **00 57 28.6 +1.7**
MATJ **Matjiesfontein** **83.41 220** *e*P **P** **00 57 29.3 +1.8**
LIRD **Liard River Hi** **83.51 8** P **P** **00 57 28.8 +1.2**
baz=347,SNR=67
LIRD S **S** **01 07 31.1 +1.5**
baz=347
H11N2 **WAKE ISLAND Hy** **83.73 70** P **P** **00 57 29.7 +0.5**
baz=251,slow=74,SNR=12
H11N1 **WAKE ISLAND Hy** **83.73 70** P **P** **00 57 29.7 +0.5**
H11N3 **WAKE ISLAND Hy** **83.75 70** P **P** **00 57 29.7 +0.5**
baz=23,slow=74,SNR=12
WAKE **Wake Island** **83.81 71** P **P** **00 57 29.8 0.0**
WAKE **Wake Island** **83.81 71** P **P** **00 57 30.3 +0.5**
H04N2 **CROZET ISLANDS** **83.92 193** P **P** **00 57 32.1 +2.8**
baz=34,slow=2.8,SNR=3.7
H04N1 **CROZET ISLANDS** **83.92 193** P **P** **00 57 32.1 +2.8**
baz=34,slow=2.8,SNR=6.7
DLBC **Dease Lake** **83.93 11** S **SKSac** **01 07 30.3 -0.7**
comp=Z,0.3nm,1.0s,baz=28,slow=18,SNR=5.0
DLBC PKKPbc PKKPbc 01 15 43.1 -0.5
comp=Z,0.7nm,0.6s,baz=174,slow=2.4,SNR=13
DLBC **Dease Lake** **83.93 11** P **P** **00 57 31.2 +1.3**
baz=344,SNR=392
DLBC S **SKSac** **01 07 32.3 +1.2**
baz=344
H04N3 **CROZET ISLANDS** **83.93 193** P **P** **00 57 32.1 +2.7**
baz=34,slow=2.8,SNR=4.7
S32K **Killisnoo** **84.11 13** P **P** **00 57 32.0 +1.4**
baz=340,SNR=168
TOAD **Toad River Com** **84.15 8** P **P** **00 57 31.9 +0.9**
baz=348,SNR=921

CER Ceres 84.16 221 eP P 00 57 32.9 +1.7
CRZF Crozet Islands 84.17 193 P P 00 57 32.0 +1.1
CRZF IAmb IAmb 00 57 34.3
comp=Z,452nm,1.5s
SACV Santiago Islan 84.19 284 P P 00 57 32.6 +0.7
SACV IAmb IAmb 00 57 34.1
comp=Z,225nm,0.8s
S34M Telegraph Cree 84.27 11 P P 00 57 33.1 +1.6
baz=343,SNR=952
S34M S SKSac 01 07 34.4 +1.4
baz=343
H11S3 WAKE ISLAND Hy 84.30 71 P P 00 57 32.0 -0.1
baz=233,slow=76,SNR=6.7
H11S1 WAKE ISLAND Hy 84.30 71 P P 00 57 32.0 -0.1
baz=233,slow=76,SNR=1.3
H11S2 WAKE ISLAND Hy 84.31 71 P P 00 57 32.0 -0.1
baz=233,slow=76,SNR=5.2
SIT Sitka 84.36 14 P P 00 57 33.5 +1.7
SIT Sitka 84.36 14 P P 00 57 33.6 +1.7
baz=340,SNR=68
PATS Pohnpei 84.53 86 P P 00 57 34.5 +1.0
AS31 Alice Springs 84.83 124 P P 00 57 34.2 -0.6
AS31 IAmb IAmb 00 57 36.5
comp=Z,190nm,0.6s
ASAR Alice Springs 84.83 124 P P 00 57 34.2 -0.6
ASAR Alice Springs 84.83 124 P P 00 57 34.0 -0.8
comp=Z,420nm,0.5s,baz=314,slow=5.0,SNR=1038
ASAR PKiKP PKiKP 01 02 45.2 -0.7
comp=Z,9.3nm,0.6s,baz=313,slow=1.4,SNR=6.6
ASAR S SKSac 01 07 32.0 -5.4
comp=Z,5.9nm,0.8s,baz=319,slow=7.1,SNR=6.4
ASAR PKKPbc PKKPbc 01 15 41.7 +0.1
comp=Z,21nm,0.5s,baz=126,slow=2.7,SNR=65
ASAR PKPPKP P'P'df 01 23 43.4 -3.5
comp=Z,3.1nm,0.7s,baz=123,slow=3.5,SNR=12
comp=Z,420nm,0.5s
AS01 Alice Springs 84.86 124 P P 00 57 34.4 -0.5
T33K Petersburg 85.02 12 P P 00 57 36.7 +1.5
baz=342,SNR=5.3
COEN Coen 85.05 111 P P 00 57 35.4 -0.7
COEN Coen 85.05 111 P P 00 57 35.2 -0.8
PMG Port Moresby 85.28 105 P P 00 57 36.7 -0.5
PMG Port Moresby 85.28 105 P P 00 57 36.9 -0.3
PMG Port Moresby 85.28 105 P P 00 57 36.7 -0.5
PMG pmax pmax
comp=Z,158nm,0.8s
T35M Bob Quinn 85.30 11 P P 00 57 38.4 +1.7
baz=344,SNR=209
PAF Port-aux-Franc 85.47 180 P P 00 57 38.4 +1.2
PAF IAmb IAmb 00 59 21.1
comp=Z,691nm,1.6s
PAF Port-aux-Franc 85.47 180 P P 00 57 38.4 +1.2
WRAK Wrangell Islan 85.50 12 P P 00 57 39.0 +1.4
baz=342,SNR=156
U33K Whale Pass 85.65 13 P P 00 57 39.8 +1.4
baz=342,SNR=48
U33K S S 01 07 53.7 +2.9
baz=342
RABL Rabaul 86.08 98 P P 00 57 40.9 -0.3
RABL IAmb IAmb 00 57 45.0
comp=Z,190nm,0.5s
FORT Forrest 86.17 133 P P 00 57 41.2 +0.1
CRAG Craig 86.27 13 P P 00 57 41.8 +0.4
CRAG Craig 86.27 13 P P 00 57 42.5 +1.2
baz=342,SNR=21
U35K Hyder 86.36 11 P P 00 57 42.9 +1.1
baz=344,SNR=6.8
V35K Ketchikan 86.67 12 P P 00 57 43.8 +0.5
baz=343,SNR=16
V35K S S 01 08 00.3 -0.3
baz=343
BATG Bathurst New B 87.84 332 P P 00 57 49.8 +0.7
BATG IAmb IAmb 00 57 52.9
comp=Z,210nm,0.8s
SHEL Horse Pasture 88.43 249 P P 00 57 52.6 +0.3
SHEL IAmb IAmb 00 57 55.6
comp=Z,176nm,0.8s
SHEL Horse Pasture 88.43 249 P P 00 57 52.6 +0.3
SHEL pmax pmax
comp=Z,176nm,0.8s
MTSU Mount Surprise 88.53 114 P P 00 57 53.8 +1.1
H02S2 DAWSON INLET T 88.54 13 P P 00 57 52.3 0.0
SNR=50
MOBC Moresby Island 88.69 13 P P 00 57 54.1 +1.1
MOBC IAmb IAmb 00 57 55.0
comp=Z,300nm,0.8s
FFC Flin Flon 88.90 355 P P 00 57 54.7 +0.8
FFC Flin Flon 88.90 355 P P 00 57 54.7 +0.8
FFC pmax pmax
comp=Z,705nm,1.1s
HG4B Hotspring 89.64 13 P P 00 57 58.0 +0.6
ASCN Ascension 90.26 260 P P 00 58 01.5 +0.5
ASCN IAmb IAmb 00 58 05.1
comp=Z,200nm,0.8s
PKME Peaks-Kenny Pk 90.75 333 P P 00 58 03.9 +1.2
PKME IAmb IAmb 00 58 05.7
comp=Z,191nm,0.7s
CTA Charters Tower 91.18 114 P P 00 58 04.3 -0.7
CTAO Charters Tower 91.18 114 P P 00 58 04.4 -0.7
CTAO IAmb IAmb 00 58 06.6
comp=Z,236nm,0.7s
CTAO Charters Tower 91.18 114 P P 00 58 04.4 -0.7
CTAO Charters Tower 91.18 114 P P 00 58 04.4 -0.7
CTAO pmax pmax
comp=Z,236nm,0.7s
BBOO Buckleboo 92.44 130 P P 00 58 09.6 -1.0
BBOO IAmb IAmb 00 58 11.8
comp=Z,124nm,0.7s
BBOO Buckleboo 92.44 130 P P 00 58 10.3 -0.3
LBNH Lisbon 92.58 334 P P 00 58 12.3 +1.0
LBNH Lisbon 92.58 334 P P 00 58 12.3 +1.0
LBNH pmax pmax
comp=Z,136nm,1.1s
FRNY Flat Rock 92.64 335 P P 00 58 11.7 +0.2
WHYH Whyalla 93.53 129 P P 00 58 14.6 -0.9
J61A Chester 93.59 334 P P 00 58 16.9 +1.0
J61A IAmb IAmb 00 58 18.1
comp=Z,274nm,0.8s
QLP Quilpie 93.78 120 P P 00 58 16.1 -0.8
BUKO Buck Lake 93.93 339 P P 00 58 18.0 +0.7
HRV Adam Dziewonsk 93.95 333 P P 00 58 18.2 +0.6
HRV IAmb IAmb 00 58 19.2
comp=Z,99nm,0.8s
HRV Adam Dziewonsk 93.95 333 P P 00 58 18.2 +0.6
HRV pmax pmax
comp=Z,99nm,0.9s
A04D Lummi Island 94.40 8 P P 00 58 20.2 +0.8
A04D IAmb IAmb 00 58 21.4
comp=Z,233nm,0.8s
M65A Busby, Falmout 94.42 332 P P 00 58 20.6 +0.9
baz=31
SADO Sadowa 94.47 339 P P 00 58 19.8 0.0
SADO IAmb IAmb 00 58 21.1
comp=Z,114nm,0.7s
HTT Hallett 94.64 129 P P 00 58 20.1 -0.6
TATA Tatamba Isabel 94.66 97 P P 00 58 20.5 -0.7
AGMN Agassiz Nation 94.67 351 P P 00 58 20.7 0.0
STKA Stephens Creek 95.35 126 P P 00 58 22.7 -1.3
comp=Z,46nm,0.6s,baz=323,slow=9.4,SNR=51
STKA PP PP 01 02 18.3 +0.3
comp=Z,24nm,0.9s,baz=313,slow=7.2,SNR=4.9
STKA PKiKP PKiKP 01 03 02.9 -0.4
comp=Z,15nm,0.6s,baz=307,slow=1.1,SNR=4.7
STKA PKKPbc PKKPbc 01 15 14.7 -0.7
comp=Z,5.7nm,0.4s,baz=101,slow=5.2,SNR=8.3
comp=Z,46nm,0.6s
STKA Stephens Creek 95.35 126 P P 00 58 23.7 -0.2
NEW Newport 95.37 5 P P 00 58 24.8 +0.8
NEW IAmb IAmb 00 58 25.9
comp=Z,126nm,0.8s
NEW Newport 95.37 5 P P 00 58 24.8 +0.8
NEW pmax pmax
comp=Z,126nm,0.8s
NLWA Neilton Lookou 95.56 10 P P 00 58 26.1 +1.3
NLWA IAmb IAmb 00 58 27.5
comp=Z,127nm,0.9s
ALEG Aligegeo Malai 95.59 97 P P 00 58 27.3 +1.9
EGMT Eagleton 95.86 360 P P 00 58 26.6 +0.4
JTMT Jette 96.05 3 P P 00 58 27.8 +0.6
SSPA Standing Stone 97.82 336 P P 00 58 35.0 -0.2
SSPA IAmb IAmb 00 58 36.0
comp=Z,57nm,0.7s
CMSA Cobar Meteorol 97.85 123 P P 00 58 34.3 -0.9
EIDS Eidsvold 97.91 116 P P 00 58 34.4 -1.3
EIDS Eidsvold 97.91 116 P Pdif 00 58 36.1 +0.4

AAM Ann Arbor 98.01 341 P Pdif 00 58 36.0 +0.1
AAM IAmb IAmb 00 58 36.8
comp=Z,79nm,0.7s
AAM Ann Arbor 98.01 341 P Pdif 00 58 36.0 +0.1
AAM pmax pmax
comp=Z,79nm,0.7s
COR Corvallis 98.39 10 P Pdif 00 58 38.3 +0.8
COR IAmb IAmb 00 58 42.7
comp=Z,74nm,0.8s
COR Corvallis 98.39 10 P Pdif 00 58 38.3 +0.8
COR pmax pmax
comp=Z,74nm,0.8s
BMO Blue Mountains 98.75 5 P Pdif 00 58 38.6 -0.7
BMO Blue Mountains 98.75 5 P Pdif 00 58 38.6 -0.7
BMO pmax pmax
comp=Z,55nm,1.3s
BRAT Ballarat 100.41 129 P Pdif 00 58 48.1 +1.7
PDAR Pinedale Array 101.12 360 P Pdif 00 58 49.9 -0.2
comp=Z,16nm,0.4s,baz=353,slow=4.4,SNR=4.2
PDAR PKiKP PKiKP 01 03 13.6 -0.2
comp=Z,10nm,0.6s,baz=6.4,slow=3.4,SNR=2.7
PDAR S SKSac 01 09 04.8 -2.7
comp=Z,0.4nm,0.5s,baz=69,slow=0.6,SNR=1.1
PDAR PKKPbc PKKPbc 01 14 58.5 -1.2
comp=Z,5.0nm,0.6s,baz=163,slow=2.2,SNR=6.8
PDAR PKPPKP P'P'df 01 23 13.8 -6.3
comp=Z,0.9nm,0.6s,baz=239,slow=1.7,SNR=4.4
TOO Toolangi 101.40 128 Pdif Pdif 00 58 50.3 -0.7
TOO Toolangi 101.40 128 P Pdif 00 58 50.3 -0.7
MAW Mawson 103.92 183 Pdiff Pdif 00 59 03.2 +1.9
comp=Z,16nm,0.9s,baz=12,slow=5.5,SNR=17
MAW PKiKP PKiKP 01 03 18.1 +0.7
comp=Z,10.0nm,0.7s,baz=46,slow=3.2,SNR=9.3
MAW PKKPbc PKKPbc 01 14 51.8 -0.6
comp=Z,13nm,0.6s,baz=188,slow=5.1,SNR=18
NVAR Mina Array Bea 105.05 7 Pdiff Pdif 00 59 08.4 +0.8
comp=Z,15nm,0.9s,baz=356,slow=5.8,SNR=38
NVAR PKiKP PKiKP 01 03 21.4 +0.4
comp=Z,18nm,0.7s,baz=332,slow=2.0,SNR=13
NVAR PKKPbc PKKPbc 01 14 47.2 -0.9
comp=Z,14nm,0.6s,baz=188,slow=2.3,SNR=21
NVAR PKPPKP P'P'df 01 23 04.0 -8.5
comp=Z,1.3nm,0.6s,baz=187,slow=3.0,SNR=5.9
SYO Syowa Base 107.59 191 ⇑eP PKiKP PKiKP 01 03 24.1 -0.1
DZM Mont Dzumac 107.66 105 PKKPbc PKKPbc 01 14 41.0 +1.6
comp=Z,10nm,0.6s,baz=194,slow=4.2,SNR=20
TXAR Lajitas Array 114.26 354 Pdiff Pdif 00 59 50.3 +1.6
comp=Z,2.6nm,0.8s,baz=29,slow=2.9,SNR=18
TXAR PKP PKiKP 01 03 38.2 -0.2
comp=Z,8.0nm,0.7s,baz=340,slow=3.1,SNR=25
TXAR PKKPbc PKKPbc 01 14 17.9 -0.6
comp=Z,14nm,0.6s,baz=193,slow=3.1,SNR=35
TXAR PKKPab PKKPab 01 14 28.2 -1.2
comp=Z,2.6nm,0.8s,baz=177,slow=8.5,SNR=4.2
TXAR PKPPKP P'P'df 01 22 47.2 -7.4
comp=Z,1.5nm,0.8s,baz=169,slow=2.4,SNR=6.9
CHIV Chivirico 115.55 325 PKPdf 01 03 40.1 -0.9
HPIG 116.79 356 PKPdf 01 03 43.2 -0.3
MTDJ Mount Denham 117.59 325 PKPdf 01 03 44.7 -0.4
TROLL Troll, Antarti 117.86 199 ⇑PKPdf PKiKP 01 03 44.1 +0.1
comp=Z,8μm,0.5s
TROLL ⇓SKSac SKSac 01 10 11.8 -3.6
MAL2 Monte Alegre, 118.34 290 PKPdf 01 03 46.1 -0.4
SNAA Sanae 119.14 200 ⇑PKPdf PKPdf 01 03 45.7 -0.6
comp=Z,868nm,0.5s
SNAA Sanae 119.14 200 PKP PKPdf 01 03 45.7 -0.6
comp=Z,57nm,0.7s,baz=49,slow=4.9,SNR=84
SNAA PKKPbc PKKPab 01 14 00.5 -0.1
comp=Z,26nm,0.9s,baz=230,slow=3.7,SNR=5.9
DCZ Deep Cove 119.34 127 PKiKP 01 03 47.5 +0.1
MSZ Milford Sound 119.53 126 P PKiKP 01 03 49.1 +1.3
JCZ Jackson Bay 119.86 125 P PKiKP 01 03 49.4 +0.7
JCZ Jackson Bay 119.86 125 P PKiKP 01 03 48.9 +0.2
MLZ Mavora Lakes 119.93 126 PKiKP 01 03 48.8 +0.1
BOAV Boa Vista 120.00 299 PKPdf 01 03 49.4 -0.3
TEIG Tepich 120.01 336 PKPdf 01 03 49.0 -0.5
WHZ Wether Hill Ro 120.02 127 P PKiKP 01 03 48.9 +0.1
BAUV El Baul 120.12 310 PKPdf PKPdf 01 03 49.0 -1.0
VNA2 Neumayer--Watz 120.13 202 ⇑PKPdf PKPdf 01 03 47.7 -0.5
comp=Z,265nm,0.7s,baz=32,slow=3.2
VNA1 Neumayer--Stat 120.28 202 ⇑PKPdf PKPdf 01 03 48.2 -0.3
comp=Z,111nm,0.7s
WKZ Wanaka 120.31 125 P PKiKP 01 03 50.8 +1.3
DUB01 Friburgo-RJ 120.49 264 eP PKPdf 01 03 49.8 -0.6
GCSZ Gaunt Creek Bo 120.59 123 P PKiKP 01 03 50.3 +0.3
EAZ Earnscleugh 120.65 126 P PKiKP 01 03 50.9 +0.9
ZAIG Zacatecas 120.66 352 PKPdf PKiKP 01 03 51.6 +0.4
AFI Afiamalu 120.66 85 PKPdf 01 03 50.9 0.0
AFI Afiamalu 120.66 85 P PKiKP 01 03 51.7 +0.7
AFI Afiamalu 120.66 85 PKIKP PKPdf 01 03 50.9 0.0
WVZ Waitaha Valley 120.77 123 P PKPdf 01 03 48.9 -1.3
LBZ Lake Benmore 120.91 125 P PKiKP 01 03 50.9 +0.3
VNA3 Neumayer Olymp 120.94 202 ⇑PKPdf PKPdf 01 03 49.1 -0.7
comp=Z,99nm,0.4s
SYZ Scrubby Hill 121.03 127 P PKiKP 01 03 51.7 +1.0
QRZ Quartz Range 121.13 120 P PKPdf 01 03 50.3 -0.7
RPZ Rata Peaks 121.23 124 P PKiKP 01 03 52.0 +0.7
RPZ Rata Peaks 121.23 124 P PKPdf 01 03 50.7 -0.4
RPZ Rata Peaks 121.23 124 P PKPdf 01 03 50.7 -0.4
VAS01 Vassouras-RJ 121.44 264 eP PKiKP 01 03 52.7 +0.3
ODZ Otahua Downs 121.46 125 P PKiKP 01 03 53.4 +1.8
ODZ Otahua Downs 121.46 125 P PKiKP 01 03 52.3 +0.7
ODZ Otahua Downs 121.46 125 P PKiKP 01 03 52.0 +0.3
KHEZ Kahui Hut 121.57 118 P PKiKP 01 03 52.9 +0.7
KHEZ Kahui Hut 121.57 118 P PKiKP 01 03 52.4 +0.2
BDFB Brasilia 121.66 274 PKP PKPdf 01 03 52.8 -0.1
comp=Z,28nm,0.4s,baz=122,slow=0.6,SNR=61
BDFB PP PP 01 05 28.7 -0.1
comp=Z,14nm,0.6s,baz=59,slow=8.5,SNR=3.5
BDFB PKKPab PKKPab 01 13 53.1 -0.5
comp=Z,34nm,0.8s,baz=265,slow=3.1,SNR=24
SDV Santo Domingo 121.73 313 PKPdf 01 03 52.0 -1.3
KUZ Kuaotunu 121.78 114 P PKiKP 01 03 52.9 +0.4
KUZ Kuaotunu 121.78 114 P PKPdf 01 03 52.0 -0.4
WACZ Wakanui South 121.84 124 P PKiKP 01 03 53.5 +1.1
HIZ Hauiti 121.86 117 P PKiKP 01 03 52.6 -0.1
BSCB Bom Sucesso 121.87 266 eP PKPdf 01 03 52.9 -0.3
PMNB Patos De Minas 121.94 270 eP PKiKP 01 03 53.5 -0.1
MAN01 Angra dos Reis 122.15 264 eP PKPdf 01 03 53.5 0.0
SNDB Serra Nova Dou 122.22 279 eP PKPdf 01 03 53.1 -0.7
JRQG Juriquilla Cam 122.42 350 PKPdf 01 03 54.6 +0.1
KHZ Kahutara 122.43 121 P PKPdf 01 03 52.9 -0.5
KHZ Kahutara 122.43 121 P PKPdf 01 03 52.8 -0.6
NPGB Novo Progresso 122.44 287 eP PKPdf 01 03 54.1 -0.3
SNZO South Karori 122.83 120 PKPdf 01 03 53.1 -1.1
SNZO South Karori 122.83 120 P PKiKP 01 03 54.5 +0.1
SNZO South Karori 122.83 120 P PKPdf 01 03 53.8 -0.4
IPMB Ipameri, GO 123.08 271 eP PKPdf 01 03 55.0 -0.5
BKZ Black Stump Fm 123.29 117 P PKPdf 01 03 53.6 -1.7
BKZ Black Stump Fm 123.29 117 P PKiKP 01 03 54.6 +1.6
SLP01 Ubatuba-SP 123.33 264 eP PKiKP 01 03 56.1 -0.1
URZ Urewera 123.39 116 P PKPdf 01 03 54.3 -1.1
URZ Urewera 123.39 116 P PKPdf 01 03 53.3 -2.1
MOIG Morelia 123.54 350 PKPdf 01 03 56.2 -0.5
PRVC Isla de Provid 123.58 326 PKPdf 01 03 55.8 -0.8
PETF Flores 123.62 337 PKPdf 01 03 56.0 -0.6
BFZ Birch Farm 123.68 119 P PKPdf 01 03 55.5 -0.4
PARB Paraibuna 123.71 264 eP PKiKP 01 03 57.0 +0.2
BILN Bilwi Airport 123.86 329 PKPdf PKPdf 01 03 55.8 -1.3
VAO Valinhos 124.63 265 PKPdf 01 03 58.5 +0.2
VAO Valinhos 124.63 265 eP PKiKP 01 03 58.9 +0.2
ARAG Araguaiana, MT 124.74 276 eP PKPdf 01 03 58.6 0.0
RCLB Rio Claro- Sao 124.80 266 eP PKiKP 01 03 59.4 +0.3
CMIG Matias Romero 124.86 342 PKhKP PKPpre 01 03 48.9
comp=Z,3.4nm,0.8s,baz=0.0,slow=3.0,SNR=4.9
CMIG PKP PKPdf 01 03 58.0 -0.9
comp=Z,61nm,0.7s,baz=12,slow=3.2,SNR=73
CMIG PKKPbc PKKPbc 01 13 39.9 +0.3
comp=Z,27nm,0.7s,baz=197,slow=1.8,SNR=31
BB19B Bebedouro 124.93 268 eP PKiKP 01 03 59.6 +0.3
H06E1 SOCORRO T-PHAS 125.02 1 PKP PKPdf 01 03 59.1 -0.2
SNR=9.0
TLIG Tlapa 125.19 347 PKPdf 01 03 59.8 +0.1
SPB Sao Paulo 125.29 265 PKPdf 01 03 59.6 +0.1
SPB Sao Paulo 125.29 265 eP PKiKP 01 04 00.1 +0.2
TGUH Tegucigalpa,Un 125.39 333 PKPdf 01 04 00.3 +0.1
PET01 Itanhaem-SP 125.50 264 eP PKiKP 01 04 00.5 +0.2
VNDA Vanda 125.68 164 PKPdf PKPdf 01 03 58.4 -0.2
VNDA Vanda 125.68 164 PKhKP PKPpre 01 03 43.8
comp=Z,2.0nm,0.6s,baz=310,slow=3.4,SNR=3.6
VNDA PKP PKPdf 01 03 58.1 -0.5
comp=Z,60nm,0.9s,baz=286,slow=5.7,SNR=38
VNDA PKKPbc PKKPbc 01 13 37.0 -0.2
comp=Z,12nm,0.9s,baz=90,slow=1.7,SNR=20

VNDA PKKP PKKPdf 01 14 18.2 -1.6
comp=Z,3.1nm,0.7s,baz=45,slow=1.4,SNR=2.3
VNDA SKKPbc SKKPbc 01 17 05.3 -3.1
comp=Z,4.0nm,0.9s,baz=79,slow=1.8,SNR=3.2
VNDA Vanda 125.68 164 PKiKP PKPdf 01 03 58.4 -0.2
ITRB Iturama 125.71 271 eP PKPdf 01 04 00.6 +0.2
ESPN Las Esperanzas 125.91 329 eP PKPdf 01 04 00.1 -0.9
BOAB BOACO BROADBA 126.24 330 PKPdf PKPdf 01 04 00.7 -0.9
CAZU Cerro Azul, Pa 126.25 322 ⇑iP PKPdf 01 04 00.8 -1.0
QSPA South Pole Qui 126.29 180 PKPdf PKiKP 01 04 00.6 -0.1
QSPA South Pole Qui 126.29 180 PKhKP PKPpre 01 03 45.0
comp=Z,2.5nm,0.6s,baz=273,slow=0.9,SNR=2.8
QSPA PKP PKPdf 01 04 00.2 0.0
comp=Z,279nm,0.8s,baz=265,slow=1.0,SNR=89
QSPA PP PP 01 05 54.5 -4.2
comp=Z,37nm,0.9s,baz=297,slow=6.8,SNR=3.3
QSPA PKKPbc PKKPbc 01 13 35.3 -0.1
comp=Z,5.9nm,0.8s,baz=104,slow=4.2,SNR=9.7
QSPA PKKP PKKPdf 01 14 18.8 -0.4
comp=Z,8.3nm,0.8s,baz=99,slow=1.1,SNR=3.0
QSPA SKKPbc SKKPbc 01 17 04.7 -2.2
comp=Z,13nm,0.7s,baz=122,slow=0.7,SNR=7.0
ACON Acoyapa 126.47 329 PKPdf 01 04 00.9 -1.2
BCIP Isla Barro Col 126.52 322 PKPdf PKPdf 01 04 01.1 -1.1
BCIP Isla Barro Col 126.52 322 PKiKP PKPdf 01 04 01.1 -1.1
BCIP Isla Barro Col 126.52 322 ⇑iP PKPdf 01 04 01.3 -0.9
CNGN Cerro Negro 126.60 331 PKPdf 01 04 02.1 -0.3
ZANG Zanguenga, Cho 126.72 322 eP PKPdf 01 04 00.6 -2.0
SBA Scott Base 126.75 165 PKPdf PKiKP 01 04 01.5 +0.3
SBA Scott Base 126.75 165 PKiKP PKiKP 01 04 01.5 +0.3
ROSC El Rosal 127.14 313 PKiKP PKPdf 01 04 04.1 +0.2
ROSC El Rosal 127.14 313 PKhKP PKPpre 01 03 50.2
comp=Z,9.3nm,0.5s,baz=79,slow=10,SNR=6.4
ROSC PKP PKPdf 01 04 03.4 -0.5
comp=Z,380nm,0.6s,baz=49,slow=7.3,SNR=65
ROSC SKKPbc SKKPbc 01 16 52.6 -5.4
comp=Z,4.3nm,0.4s,baz=218,slow=19,SNR=1.7
ROSC El Rosal 127.14 313 PKiKP PKPdf 01 04 04.1 +0.2
C2SB Chapadao do Su 127.22 273 eP PKiKP 01 04 04.1 +0.2
PILE Guapiles 127.45 327 eP PKPdf 01 04 02.9 -1.1
RESJ San Isidro (Tu 127.56 327 eP PKPdf 01 04 03.1 -1.2
RVSTA Santa Teresita 127.61 327 eP PKPdf 01 04 03.4 -1.0
CVTR Volcan Turrial 127.62 327 eP PKPdf 01 04 03.2 -1.6
CVTV Tajo 127.63 327 eP PKPdf 01 04 03.6 -1.1
CVTQ Turrialba Volc 127.63 327 eP PKPdf 01 04 03.9 -0.8
VICA Volcano Irazu 127.69 327 eP PKPdf 01 04 03.9 -1.0
CVIMO Finca Echandi 127.69 327 eP PKPdf 01 04 03.4 -1.3
RAFA San Farael, Vo 127.69 327 eP PKPdf 01 04 03.2 -1.6
HDC Heredia 127.79 327 eP PKPdf 01 04 04.9 +0.1
JTS Las Juntas de 127.89 328 PKhKP PKPpre 01 04 01.8
comp=Z,9.6nm,0.4s,baz=346,slow=4.2,SNR=12
RBALA Bur 127.89 324 eP PKPdf 01 04 03.1 -1.8
PBNVO Pueblo Nuevo, 127.90 324 eP PKPdf 01 04 02.4 -2.5
HOPE Hope Point 127.94 225 PKPdf PKPdf 01 04 03.7 +0.1
HOPE Hope Point 127.94 225 PKiKP PKPdf 01 04 03.7 +0.1
LCR2 La Lucha 2 127.97 327 eP PKPdf 01 04 03.1 -2.2
ACOS Acosta 127.99 327 eP PKPdf 01 04 02.2 -3.0
DRK0 Durika 128.06 326 eP PKPdf 01 04 04.6 -0.7
PIEC Cerro El Cedra 128.06 327 eP PKPdf 01 04 04.3 -1.2
SAJE San Jernim 128.10 326 eP PKPdf 01 04 03.8 -1.7
PISJ San Jernim 128.12 327 eP PKiKP 01 04 06.4 +0.3
BQTLY Boquete Panama 128.14 325 eP PKPdf 01 04 04.3 -1.2
ALCO Alturas Coton, 128.15 325 eP PKPdf 01 04 03.4 -2.1
CVEJO Cerro Viej 128.16 323 eP PKPdf 01 04 04.8 -0.6
BANCO falda S V. Bar 128.21 325 ⇓iP PKPdf 01 04 05.5 -0.2
BRU2 Volcan 128.22 325 eP PKPdf 01 04 04.1 -1.5
CLLRA Cordillera, 128.22 325 eP PKPdf 01 04 04.3 -1.4
FIMO Fila Mora 128.35 326 eP PKPdf 01 04 05.0 -0.9
DMCAL E. de Neily 128.37 325 eP PKPdf 01 04 05.7 -0.1
BELA Belgrano 2 128.47 195 PKPdf 01 04 03.7 -0.3
EDAD Golfito 128.56 325 eP PKPdf 01 04 05.7 -0.5
RPRD Ribas do Rio P 128.80 272 eP PKiKP 01 04 06.7 -0.3
TRCB Terra Rica 129.09 269 PKPdf PKPdf 01 04 06.8 -0.1
CTZ Chatham Island 129.68 120 P PKiKP 01 04 08.9 +0.9
VILB Vilhena 129.81 285 PKPdf 01 04 08.3 -0.1
AQDB Aquidauana 130.41 273 eP PKPdf 01 04 08.9 -0.5
PTLB Pontes e Lacer 130.44 281 PKPdf 01 04 08.8 -0.7
TBTG Tabatinga, AM 131.22 302 PKPdf 01 04 10.3 -0.8
BDQN Bodoquena, MS 131.24 274 eP PKPdf 01 04 10.2 -0.7
SIV San Ignacio 132.27 282 PKhKP PKPpre 01 03 59.1
comp=Z,2.5nm,0.5s,baz=67,slow=3.2,SNR=9.7
SIV PKP PKPdf 01 04 12.5 -0.5
comp=Z,54nm,0.7s,baz=49,slow=1.2,SNR=36
SIV PP PP 01 06 35.3 -3.1
comp=Z,22nm,0.7s,baz=64,slow=10,SNR=11
SIV SKPab SKPbc 01 07 17.3 -0.9
comp=Z,14nm,0.9s,baz=76,slow=8.3,SNR=3.6
PLTB Pedras Altas 133.74 259 PKPdf 01 04 15.7 +0.4
CPUP Villa Florida 134.51 267 PKPdf 01 04 16.0 -0.9
CPUP Villa Florida 134.51 267 PKPdf PKPpre 01 04 02.9
comp=Z,1.9nm,0.5s,baz=19,slow=6.6,SNR=29
CPUP PKP PKPdf 01 04 16.4 -0.5
comp=Z,30nm,0.8s,baz=83,slow=0.8,SNR=44
CPUP PP PP 01 06 51.7 -1.1
comp=Z,6.6nm,1.0s,baz=60,slow=11,SNR=3.5
CPUP SKKPbc SKKPbc 01 16 32.2 -1.0
comp=Z,2.8nm,1.1s,baz=222,slow=9.6,SNR=3.1
ITQB Itaqui 135.34 263 PKPdf PKPdf 01 04 18.0 -0.4
LPAZ La Paz 137.95 287 PKPdf PKPdf 01 04 23.5 -0.8
LPAZ La Paz 137.95 287 PKhKP PKPpre 01 04 12.4
comp=Z,6.5nm,0.5s,baz=17,slow=7.8,SNR=10
LPAZ PKP PKPdf 01 04 23.3 -1.0
comp=Z,60nm,0.7s,baz=25,slow=3.1,SNR=45
LPAZ PP PP 01 07 12.8 -2.0
comp=Z,21nm,1.0s,baz=57,slow=7.0,SNR=6.0
LPAZ La Paz 137.95 287 PKiKP PKPdf 01 04 23.5 -0.8
ATAH Atahualpa 139.03 308 PKhKP PKPpre 01 04 17.2
comp=Z,12nm,0.9s,baz=72,slow=4.4,SNR=8.4
ATAH PKP PKPdf 01 04 26.1 -0.1
comp=Z,69nm,0.7s,baz=36,slow=0.9,SNR=23
ATAH SKP SKPdf 01 07 36.4 -2.9
comp=Z,27nm,0.9s,baz=49,slow=4.0,SNR=6.0
ATAH SKKPbc SKKPbc 01 16 08.8 -6.4
comp=Z,4.3nm,0.8s,baz=225,slow=11,SNR=3.7
YJA Yavi 139.14 278 iP PKPpre 01 04 19.0
AZAP Zapla 139.78 275 iP PKPpre 01 04 18.3
PPT Papeete 140.27 72 PKhKP PKPpre 01 04 23.5
comp=Z,144nm,0.8s,baz=281,slow=5.2,SNR=8.1
PPT2 Papeete2 140.28 72 eP PKiKP 01 04 31.4 +1.0
comp=Z,148nm,1.0s
PAE Paea 140.32 73 eP PKPdf 01 04 26.2 -1.6
comp=Z,57nm,1.5s
VAH Vaihoa 140.32 68 eP PKPdf 01 04 31.1 +0.6
comp=Z,63nm,0.9s
TVO Taravao 140.65 72 eP PKPpre 01 04 23.2
comp=Z,58nm,1.0s
TVO Taravao 140.65 72 eLR LR 01 50 29.2
comp=Z,740nm,26.3s
SALTA 140.81 276 iP PKPpre 01 04 24.5
TAOE Nuku Hiva Isla 141.10 53 eP PKPpre 01 04 23.2
comp=Z,717nm,1.5s
TAOE Nuku Hiva Isla 141.10 53 eLR LR 01 50 48.3
comp=Z,346nm,27.6s
FSA Cafayete 141.38 273 iP PKPpre 01 04 23.5
NNA Nana 141.56 301 PKhKP PKPpre 01 04 24.8
comp=Z,36nm,0.5s,baz=0.0,slow=4.0,SNR=20
NNA SKP SKPdf 01 07 40.5 -2.7
comp=Z,9.4nm,0.5s,baz=56,slow=1.3,SNR=3.5
TRQA Tornquist 142.19 253 PKPdf PKPdf 01 04 31.1 +0.4
TRQA Tornquist 142.19 253 PKiKP PKPdf 01 04 31.1 +0.4
CYA Choya 142.23 269 iP PKPpre 01 04 25.4
AANI Anillaco 143.29 269 iP PKPab 01 04 29.6 0.0
TBI Tubuai 143.52 80 eP PKPbc 01 04 30.9 -0.5
comp=Z,567nm,0.9s
TBI Tubuai 143.52 80 eLR LR 01 51 57.8
comp=Z,972nm,32.2s
ACLC CERRO LA CRUZ 143.54 268 iP PKPab 01 04 30.9 +0.4
APLL PUNTA DE LOS L 143.56 267 ⇓iP PKPab 01 04 30.9 +0.5
PB10 IPOC Station P 143.82 280 PKPdf PKPbc 01 04 32.0 -0.3
GO02 Mina Guanaco 143.85 277 PKPab 01 04 32.3 +0.3
ACHE Chepes 143.94 266 iP PKPab 01 04 32.2 +0.1
AC02 Maricunga 144.24 274 iP PKPbc 01 04 34.4 +0.3
VCA Vinchina 144.28 270 iP PKPbc 01 04 34.0 +0.3
AVFE Valle Fertil 144.40 267 iP PKPbc 01 04 33.9 0.0
CFA Coronel Fontan 145.36 266 PKPbc PKPdf 01 04 36.5 +0.1
comp=Z,248nm,0.7s,baz=62,slow=4.7,SNR=182
CFA SKPbc SKPbc 01 07 52.3 -2.2
comp=Z,11nm,0.9s,baz=48,slow=4.7,SNR=3.0
CFA SKKPbc SKKPbc 01 15 49.0 -2.0
comp=Z,4.0nm,0.9s,baz=295,slow=4.8,SNR=3.4
RTLL Cerro Villicun 145.45 266 iP PKPdf 01 04 36.7 0.0
ACDV Cuesta del Vie 145.56 269 iP PKPab 01 04 38.4 +0.1
ACCO Cerro Coronel 145.67 268 iP PKPdf 01 04 37.8 +0.4
ZON Zonda 145.69 266 PKPdf 01 04 37.3 +0.3

ZON	**Zonda**	**145.69**	**266**	PKP2		**PKPdf**	**01 04 37.3**	**+0.3**
AROD	**Rodeo**	**145.85**	**269**	*i* P		**PKPab**	**01 04 39.3**	**-0.3**
MG01	**Puerto William**	**145.88**	**224**			**PKPbc**	**01 04 37.5**	**-0.1**
ASAL	**Salagasta**	**146.16**	**264**	*i* P		**PKPbc**	**01 04 39.4**	**+0.1**
RTLS	**Leoncito**	**146.27**	**266**	*i* P		**PKPbc**	**01 04 39.8**	**-0.1**
AAGR	**Agrelo**	**146.30**	**263**	*i* P		**PKPbc**	**01 04 39.3**	**-0.4**
ARCO	**CERRO ARCO**	**146.31**	**264**	*i* P		**PKPbc**	**01 04 39.6**	**-0.2**
AUSP	**Uspallata**	**146.48**	**265**	*i* P		**PKPbc**	**01 04 40.1**	**-0.3**
RFA	**San Rafael**	**146.48**	**260**	ǁ *i*P		**PKPbc**	**01 04 39.5**	**-0.6**
MG02	**Cerro Sombrero**	**147.33**	**227**			**PKPdf**	**01 04 39.5**	**+0.6**
MT08	**Bocatoma Ro**	**147.36**	**263**			**PKPdf**	**01 04 40.9**	**+0.8**
ROC1	**El Roble**	**148.02**	**265**	*i* P		**PKPdf**	**01 04 41.0**	**-0.1**
MT09	**Talagante**	**148.23**	**263**			**PKPdf**	**01 04 41.1**	**-0.2**
GO10	**Punta Arenas**	**148.30**	**226**			**PKPdf**	**01 04 41.7**	**+1.0**
BO02	**Sierra Bellavi**	**148.33**	**261**	*i* P		**PKPdf**	**01 04 42.1**	**+0.8**
MG04	**Isla Riesco**	**148.68**	**226**	PKPdf		**PKPdf**	**01 04 41.3**	**+0.1**
PLCA	**Paso Flores**	**149.16**	**250**			**PKPdf**	**01 04 42.9**	**+0.4**
PLCA				PKPbc		**PKiKP**	**01 04 47.8**	**-0.3**
PLCA	**Paso Flores**	**149.16**	**250**	PKP		**PKPdf**	**01 04 43.0**	**+0.5**
	comp=Z,63nm,0.9s,baz=70,slow=1.9,SNR=69							
PLCA				PKPbc		**PKPbc**	**01 04 47.5**	**+0.5**
	comp=Z,555nm,1.0s,baz=79,slow=4.1,SNR=80							
PLCA	**Paso Flores**	**149.16**	**250**	PKHKP		PKPpre	01 04 42.9	
PLCA	**Paso Flores**	**149.16**	**250**	*e*P		**PKPdf**	**01 04 42.6**	**+0.1**
CANA	**Caviahue**	**149.20**	**256**	*i* P		**PKPdf**	**01 04 43.0**	**+0.2**
MG05	**Puerto Natales**	**149.55**	**228**			**PKPdf**	**01 04 42.8**	**+0.2**
GO09	**Cerro Castillo**	**149.56**	**229**			**PKPdf**	**01 04 42.8**	**+0.1**
LL02	**Futaleuf**	**150.24**	**245**			**PKPdf**	**01 04 43.7**	**-0.3**
BI05	**Punta Hualpn**	**150.67**	**258**			**PKPdf**	**01 04 44.8**	**-0.1**
RKT	**Rikitea**	**154.56**	**65**	*e*P		**PKiKP**	**01 05 00.7**	**+1.1**
	comp=Z,129nm,1.0s							

*ISK **08** 00:49:14.5,39˚.50N×25˚.83E,h7km,ML2.6/23*
*ATH **08** 00:49:14.7,39˚.50N×25˚.91E,h9km±1km,ML2.3/7,Manual Solution by F.Xalaris First location: 2019/08/08 01:10:19, This location: 2019/08/08 03:21:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **08** 00:49:15.2,39˚.5N±0˚.7×2˚.6E±˚,h6km±2km,M2.3/7, MLh2.3/7*
*AFAD **08** 00:49:15.5,39˚.46N×25˚.88E,h7km±1km,ML2.4*

ISC 08 00:49:15.2±0.9,39˚.49N±0˚.02×25˚.85E±0˚.02,h12km±7km, n52,σ0s37/74,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.22**	**98**	Pg		**Pg**	**00 49 19.8**	**-0.1**
GPNR				Sg		**Sg**	**00 49 23.4**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.22**	**86**	P		**Pg**	**00 49 19.8**	**-0.1**
KOCA				S		**Sg**	**00 49 23.3**	**+0.1**
KOCA				*i* IAML			00 49 24.0	
	comp=N,650nm,0.2s							
KOCA				*i* IAML			00 49 26.0	
	comp=E,636nm,0.1s							
SIGR	**SIGRI**	**0.28**	**179**	Pg		**Pg**	**00 49 20.7**	**-0.2**
SIGR				Sg		**Sg**	**00 49 25.4**	**+0.7**
SIGR	**SIGRI**	**0.28**	**179**	P		**Pg**	**00 49 20.6**	**-0.2**
SIGR				S		**Sg**	**00 49 24.4**	**-0.3**
SIGR	**SIGRI**	**0.28**	**179**	P		**Pg**	**00 49 20.5**	**-0.4**
SIGR				S		**Sg**	**00 49 24.6**	**-0.1**
EZNE	**Ezine-Canakkal**	**0.48**	**56**	Pg		**Pg**	**00 49 24.5**	**-0.1**
EZNE				Sg		**Sg**	**00 49 31.6**	**+0.6**
EZN	**Ezine**	**0.50**	**47**	Pg		**Pg**	**00 49 24.7**	**-0.2**
EZN				Sg		**Sg**	**00 49 32.1**	**+0.5**
EZN	**Ezine**	**0.50**	**47**	P		**Pg**	**00 49 24.7**	**-0.2**
EZN				S		**Sg**	**00 49 31.6**	**+0.0**
BAYC	**CANAKKALE_Bayr**	**0.59**	**65**	P		**Pg**	**00 49 26.7**	**-0.1**
BAYC				S		**Sg**	**00 49 34.6**	**0.0**
BAYC				*i* IAML			00 49 36.0	
	comp=N,183nm,0.2s							
BAYC				*i* IAML			00 49 36.0	
	comp=E,210nm,0.1s							
LIA	**Limnos Island**	**0.66**	**309**	P		**Pg**	**00 49 28.1**	**+0.1**
LIA				S		**Sg**	**00 49 37.0**	**+0.3**
LIA	**Limnos Island**	**0.66**	**309**	P		**Pg**	**00 49 28.0**	**+0.1**
LIA				S		**Sb**	**00 49 37.5**	**-0.1**
AYVA	**Ayvalik**	**0.68**	**105**	P		**Pg**	**00 49 28.1**	**-0.1**
AYVA				S		**Sg**	**00 49 37.4**	**+0.3**
GADA	**Gvkgeada**	**0.70**	**3**	Pg		**Pg**	**00 49 28.1**	**-0.7**
GADA				Sg		**Sg**	**00 49 38.4**	**+0.4**
GADA	**Gvkgeada**	**0.70**	**3**	P		**Pg**	**00 49 28.4**	**-0.4**
GADA				S		**Sg**	**00 49 38.5**	**+0.4**
GOKC	**Gokceada-Canak**	**0.71**	**4**	Pg		**Pg**	**00 49 28.7**	**-0.3**
COMU	**Canakkale**	**0.78**	**38**	Pg		**Pg**	**00 49 30.1**	**-0.1**
BUHA	**Balikesir, Bur**	**0.95**	**89**	P		**Pg**	**00 49 33.4**	**-0.1**
BUHA				S		**Sn**	**00 49 47.2**	**-0.5**
BUHA				*i* IAML			00 49 48.0	
	comp=E,149nm,0.3s							
YAYO	**Edremit-Balk**	**0.95**	**82**	Pg		**Pb**	**00 49 33.7**	**+0.1**
IZMD	**zmir-Dikili-**	**0.98**	**121**	P		**Pg**	**00 49 33.5**	**-0.5**
IZMD				S		**Sb**	**00 49 46.9**	**0.0**
SMTH	**Samothraki Isl**	**1.01**	**346**	P		**Pb**	**00 49 34.3**	**-0.3**
SMTH				S		**Sg**	**00 49 48.5**	**+0.6**
SMTH	**Samothraki Isl**	**1.01**	**346**	P		**Pb**	**00 49 34.3**	**-0.3**
SMTH				S		**Sg**	**00 49 48.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.03**	**28**	Pg		**Pb**	**00 49 34.2**	**-0.7**
FOCM	**Foa**	**1.03**	**138**	Pg		**Pb**	**00 49 34.9**	**-0.1**
CANM	**Can-anakkale**	**1.06**	**60**	Pg		**Pb**	**00 49 35.3**	**-0.2**
ZEDA	**zmir-Bergama**	**1.08**	**118**	P		**Pb**	**00 49 35.8**	**0.0**
ZEDA				S		**Sn**	**00 49 51.0**	**-0.1**
ZEDA				*i* IAML			00 49 52.0	
	comp=N,183nm,0.2s							
CHOS	**Chios island**	**1.11**	**172**	P		**Pb**	**00 49 35.8**	**-0.5**
CHOS				S		**Sn**	**00 49 52.1**	**+0.2**
CHOS	**Chios island**	**1.11**	**172**	P		**Pb**	**00 49 35.9**	**-0.5**
CHOS				S		**Sg**	**00 49 51.3**	**+0.2**
ERIK	**Erikli-Kesan**	**1.28**	**23**	Pn		**Pn**	**00 49 38.9**	**0.0**
SOMA	**Soma-Manisa**	**1.35**	**104**	Pn		**Pb**	**00 49 40.2**	**-0.1**
ALN	**Alexandroupoli**	**1.42**	**6**	Pn		**Pn**	**00 49 40.6**	**-0.1**
ALN	**Alexandroupoli**	**1.42**	**6**	P		**Pn**	**00 49 40.5**	**-0.2**
ALN	**Alexandroupoli**	**1.42**	**6**	P		**Pn**	**00 49 40.5**	**-0.2**
ALN				S		**Sg**	**00 50 01.0**	**+0.2**
THAS	**Thassos island**	**1.42**	**322**	P		**Pn**	**00 49 40.9**	**+0.2**
KRBG	**Karabiga-Canak**	**1.43**	**50**	Pn		**Pn**	**00 49 40.9**	**0.0**
BLCB	**Balcova**	**1.44**	**140**	Pn		**Pb**	**00 49 41.9**	**0.0**
GONE	**Gonen-Balikesi**	**1.52**	**68**	Pn		**Pb**	**00 49 42.8**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.61**	**238**	P		**Pn**	**00 49 44.0**	**+0.6**
GMLD	**Gumuldur**	**1.64**	**149**	Pn		**Pn**	**00 49 44.4**	**+0.7**
OUR	**Ouranopolis**	**1.67**	**301**	Pn		**Pn**	**00 49 44.2**	**0.0**
OUR	**Ouranopolis**	**1.67**	**301**	P		**Pn**	**00 49 44.5**	**+0.3**
RDO	**Rodhopi**	**1.67**	**352**	Pn		**Pn**	**00 49 44.6**	**+0.3**
RDO	**Rodhopi**	**1.67**	**352**	P		**Pn**	**00 49 44.5**	**+0.3**
SFL1	**Soufli**	**1.73**	**11**	P		**Pn**	**00 49 45.2**	**+0.2**
MRMT	**Marmara Adasi**	**1.74**	**50**	Pn		**Pn**	**00 49 45.9**	**+0.6**
UKOP	**Uzunkopru-Edir**	**1.74**	**20**	Pn		**Pn**	**00 49 45.7**	**+0.5**
EDC	**Edincik**	**1.77**	**60**	Pn		**Pn**	**00 49 46.2**	**+0.6**
SUSR	**Susurluk-Balik**	**1.79**	**74**	Pn		**Pn**	**00 49 46.2**	**+0.4**
KAVA	**Kavala**	**1.82**	**326**	P		**Pn**	**00 49 47.2**	**+0.9**
GORD	**Gordes-Manisa**	**1.90**	**107**	Pn		**Pn**	**00 49 47.8**	**+0.4**
SMG	**Samos**	**1.94**	**156**	P		**Pn**	**00 49 47.5**	**-0.5**
SMG	**Samos**	**1.94**	**156**	P		**Pn**	**00 49 48.3**	**+0.4**
KDZ	**Kurdzhali**	**2.17**	**350**	Pn		**Pn**	**00 49 51.3**	**+0.1**

*NEIC **08** 00:49:48.8±2.4,18˚.66N±0˚.03×147˚.5E±0˚.2,h10km±2km, mb5.0/11,Error ellipse: s-maj=32.3km s-min=4.4km az=86.0*
*IDC **08** 00:49:51.9±11.0,17˚.36N×144˚.98E,h0km,mb4.6/6, mbtmp4.6/6,MS4.4/3,Error ellipse: s-maj=448.7km s-min=162.0km az=76.0*

ISC 08 00:49:52.4±0.8,18˚.62N±0˚.08×147˚.5E±0˚.2,h35km,n51, σ1s24/38,mb4.9/12,MS4.5/3,1C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.62**	**207**	Pn		**Pn**	**00 51 12.7**	**-0.8**
JCJ	**Chichijima**	**9.76**	**331**	Pn		**Pn**	**00 52 09.1**	**-1.3**
PATS	**Pohnpei**	**15.73**	**137**	P		**P**	**00 53 35.6**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**18.17**	**87**	T		T	01 17 21.9	
	baz=274,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**18.18**	**87**	T		T	01 17 22.6	
	baz=274,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**18.18**	**87**	T		T	01 17 26.8	
	baz=274,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**18.32**	**83**	T		T	01 17 46.8	
	baz=270							
H11N2	**WAKE ISLAND Hy**	**18.33**	**83**	T		T	01 17 46.7	
	baz=270							
H11N3	**WAKE ISLAND Hy**	**18.34**	**83**	T		T	01 17 49.8	
	baz=270							
JGF	**Kuroka**	**19.16**	**334**	P		Pn	00 54 21.8	+7.9
JMM	**Marumori**	**20.06**	**344**	P		Pn	00 54 33.7	+9.2
MANU	**Manus Island**	**20.54**	**180**	P		**P**	**00 54 26.0**	**-1.9**
MANU				IAmb		IAmb	00 54 31.8	
	comp=Z,85nm,0.8s							
GENI	**Genyem**	**22.29**	**200**	P		**P**	**00 54 47.4**	**+0.6**
TABU	**Tabubil**	**24.54**	**195**	P		**P**	**00 55 08.4**	**-0.6**
KSRS	**Korea Array**	**25.43**	**322**	P		**P**	**00 55 18.1**	**+1.3**
KSRS	**Korea Array**	**25.43**	**322**	P		**P**	**00 55 18.1**	**+1.3**
	comp=Z,6.3nm,0.6s,baz=146,slow=10.0,SNR=1.6							
	comp=Z,6.3nm,0.6s							
FAKI	**Fak Fak**	**26.16**	**217**	P		**P**	**00 55 23.5**	**-0.2**
FAKI				IAmb		IAmb	00 55 24.1	
	comp=Z,29nm,1.0s							
PMG	**Port Moresby**	**27.85**	**181**			**P**	**00 55 37.6**	**-1.2**
PMG	**Port Moresby**	**27.85**	**181**	P		**P**	**00 55 39.2**	**+0.5**
PMG	**Port Moresby**	**27.85**	**181**	P		**P**	**00 55 39.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**28.64**	**336**	LR		LR	01 06 24.1	
	comp=Z,497nm,21.0s,baz=318,slow=34							
COEN	**Coen**	**32.66**	**188**			**P**	**00 56 20.3**	**-0.9**
COEN				IAmb		IAmb	00 56 21.8	
	comp=Z,28nm,0.8s							
COEN	**Coen**	**32.66**	**188**	P		**P**	**00 56 20.9**	**-0.4**
DRS	**Darwin Rock St**	**34.94**	**209**	P		**P**	**00 56 42.5**	**+1.3**
MTN	**Manton Dam**	**35.20**	**209**	P		**P**	**00 56 44.9**	**+1.5**
MTSU	**Mount Surprise**	**36.66**	**185**	P		**P**	**00 56 55.5**	**-0.4**
HIA	**Hailar**	**37.87**	**330**	P		**P**	**00 57 03.6**	**-2.3**
CTAO	**Charters Tower**	**38.49**	**182**	P		**P**	**00 57 10.1**	**-1.3**
CTAO				IAmb		IAmb	00 57 11.7	
	comp=Z,22nm,0.9s							
CTAO	**Charters Tower**	**38.49**	**182**	P		**P**	**00 57 11.6**	**+0.3**
QIS	**Mount Isa**	**39.70**	**192**	P		**P**	**00 57 20.7**	**-0.8**
SONM	**Songino Array**	**44.29**	**321**	P		**P**	**00 57 58.5**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=132,slow=6.3,SNR=1.6							
	comp=Z,4.8nm,0.7s							
DZM	**Mont Dzumac**	**44.48**	**155**	P		**P**	**00 57 59.5**	**-1.0**
DZM	**Mont Dzumac**	**44.48**	**155**	P		**P**	**00 58 01.0**	**+0.5**
QLP	**Quilpie**	**45.05**	**184**	P		**P**	**00 58 04.8**	**-0.1**
IPM	**Ipoh**	**47.52**	**259**	P		P	00 58 16.0	-8.6
KULM	**Kulim**	**47.58**	**260**	P		P	00 58 15.8	-9.3
ARMA	**Armidale**	**48.92**	**175**	P		**P**	**00 58 34.5**	**-0.7**
ARMA				IAmb		IAmb	00 58 35.8	
	comp=Z,14nm,1.0s							
ZALV	**Zalesovo Beam**	**59.13**	**322**	P		**P**	**00 59 51.5**	**+2.1**
	comp=Z,3.9nm,0.6s,baz=103,slow=5.0,SNR=2.0							
	comp=Z,3.9nm,0.6s							
MKAR	**Makanchi Array**	**59.77**	**314**	P		**P**	**00 59 53.4**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=87,slow=8.4,SNR=2.2							
	comp=Z,5.7nm,0.8s							
KURBB	**Kurchatov Arra**	**62.54**	**318**	P		**P**	**01 00 12.7**	**+0.2**
	comp=Z,13nm,0.8s,baz=93,slow=6.8,SNR=8.3							
	comp=Z,13nm,0.8s							
HYB	**Hyderabad**	**65.21**	**281**	*e*P		**P**	**01 00 30.5**	**-0.3**
BVAR	**Borovoye Array**	**67.64**	**320**	P		**P**	**01 00 46.9**	**+1.2**
	comp=Z,7.1nm,0.6s,baz=87,slow=7.1,SNR=4.7							
	comp=Z,7.1nm,0.6s							
KK31	**Karatay Array**	**68.15**	**310**	P		**P**	**01 00 49.8**	**+0.6**
KK31				IAmb		IAmb	01 00 54.7	
	comp=Z,16nm,0.9s							
KKAR	**Karatay Array**	**68.15**	**310**	P		**P**	**01 00 49.6**	**+0.4**
ARTI	**Arti**	**74.23**	**325**	P		**P**	**01 01 26.6**	**+0.9**
AB31	**Akbulak array**	**74.58**	**317**	P		**P**	**01 01 28.2**	**+0.5**
AB31				IAmb		IAmb	01 01 32.5	
	comp=Z,9.4nm,0.9s							
ABKAR	**Akbulak array**	**74.58**	**317**	P		**P**	**01 01 28.2**	**+0.4**
YKA	**Yellowknife Ar**	**77.24**	**28**	LR		LR	01 35 57.8	
	comp=Z,324nm,21.0s,baz=358,slow=35							
NVAR	**Mina Array Bea**	**81.82**	**52**	LR		LR	01 33 25.0	
	comp=Z,199nm,20.9s,baz=337,slow=31							
SYO	**Syowa Base**	**113.66**	**202**	ǁ *e*Pdiff		**Pdif**	**01 04 35.8**	**+1.7**
SYO	**Syowa Base**	**113.66**	**202**	ǁ *e*pPdiff		**Pdif**	**01 04 38.1**	**+4.0**

AUST 08 01:03:15.5±0.4,19˚S±3˚×12˚0E±˚,h10km,ML3.5/8,Error ellipse: s-maj=8.4km s-min=3.6km az=142.4,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.82**	**70**	P		Pb	01 03 47.9	-1.0
AUBRM				S		Sg	01 04 13.4	-0.6
MBWA	**Marble Bar**	**2.65**	**194**	P		Pn	01 04 00.6	+2.3
MBWA				S		Sb	01 04 33.7	-2.0
PSA00	**Pilbara Seismi**	**3.03**	**190**	P		Pn	01 04 05.7	+2.2
PSA00				S		Sn	01 04 42.8	+2.9
PSAB1	**Pilbara Seismi**	**3.03**	**191**	P		Pn	01 04 05.7	+2.1
FITZ	**Fitzroy Crossi**	**4.97**	**85**	P		Pn	01 04 30.2	0.0
FITZ	**Fitzroy Crossi**	**4.97**	**85**	S		Sn	01 05 27.6	-0.2
GIRL	**Giralia**	**7.07**	**234**	P		Pn	01 04 58.4	-0.8
GIRL				S		Sn	01 06 14.0	-5.6
MEEK	**Meekatharra**	**8.19**	**192**	P		Pn	01 05 15.7	+1.1
MEEK	**Meekatharra**	**8.19**	**192**	S		Sn	01 06 45.5	-1.7
CVQOZ	**Cooralya Stati**	**8.31**	**224**	P		Pn	01 05 15.9	-0.2
KNRA	**Kununurra**	**8.47**	**71**	P		Pn	01 05 17.0	-1.3
KNRA				S		Sn	01 06 47.3	-6.8
WRKA	**Warakurna**	**9.72**	**133**	P		Pn	01 05 37.0	+1.4
WRKA				S		Sn	01 07 25.5	+0.5
MORW	**Morawa**	**11.19**	**200**	P		Pn	01 05 54.4	-1.1
MORW	**Morawa**	**11.19**	**200**	S		Sn	01 07 52.2	-8.5
BLDU	**Ballidu**	**12.45**	**195**	S		Sn	01 08 23.3	-8.4
BLDU	**Ballidu**	**12.45**	**195**	P		Pn	01 06 11.8	-1.0
KMBL	**Kambalda**	**12.80**	**174**	P		Pn	01 06 15.9	-1.7
KMBL				S		Sn	01 08 33.3	-6.9
KDU	**Kakadu**	**12.99**	**65**	P		Pn	01 06 18.4	-1.8
KLBR	**Kellerberrin**	**13.18**	**190**	P		Pn	01 06 22.2	-0.6
KLBR	**Kellerberrin**	**13.18**	**190**	S		Sn	01 08 40.9	-8.6
WC1	**Warramunga Arr**	**13.20**	**98**	P		Pn	01 06 22.6	-0.6
AS31	**Alice Springs**	**13.55**	**114**	P		Pn	01 06 30.6	+2.6
AS31	**Alice Springs**	**13.55**	**114**	S		Sn	01 08 58.0	-0.6
MUN	**Mundaring**	**13.88**	**195**	P		Pn	01 06 31.2	-1.0
MUN	**Mundaring**	**13.88**	**195**	S		Sn	01 08 57.4	-9.1
FORT	**Forrest**	**13.98**	**152**	P		Pn	01 06 32.9	-0.8
FORT				S		Sn	01 09 03.7	-5.3
DNDOZ	**Balladonia**	**14.16**	**168**	P		Pn	01 06 35.3	-0.9
NWAO	**Narrogin (SRO)**	**14.57**	**191**	P		Pn	01 06 39.8	-2.1
RKGY	**Rocky Gully**	**16.26**	**190**	P		Pn	01 07 03.1	-0.9
RKGY				S		Sn	01 09 54.9	-10

*NEIC **08** 01:12:51.6±1.1,35˚.831N±0˚.009×98˚.09W±0˚.01,h7km±4km, Error ellipse: s-maj=1.4km s-min=1.3km az=55.0*

NEIC 08 01:12:51.4±0.9,35˚.825N±0˚.009×98˚.10W±0˚.01,h5km±1km, mb_Lg2.4/22,ML2.5/52,ML2.6/26,Error ellipse: s-maj=2.8km s-min=1.6km az=268.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.43**	**113**			Pg	01 13 00.1	+0.4
BCOK						Sg	01 13 06.2	+0.9
CSTR	**Hydro, Custer**	**0.52**	**250**			Pg	01 13 01.7	+0.4
OK029	**Liberty Lake**	**0.52**	**93**			Pg	01 13 01.7	+0.3
OK029						Sg	01 13 09.2	+1.0
OK029				IAML			01 13 09.5	
	334nm,0.1s							
OK004	**Okla Sci Mus**	**0.59**	**121**			Pg	01 13 02.7	0.0
OK004						Sg	01 13 11.4	+1.1
OKCFA	**Oklahoma City**	**0.67**	**128**			Pg	01 13 04.3	+0.1
OKCFA						Sg	01 13 13.6	+0.8
OKCSW	**OKLAHOMA CITY**	**0.68**	**128**	Pg		Pg	01 13 04.5	+0.1
CROK	**Carrier**	**0.68**	**8**			Pg	01 13 04.7	+0.1
CROK						Sg	01 13 14.2	+0.7
CROK				IAML			01 13 20.8	
	comp=N,183nm,0.3s							
CROK				IAML			01 13 20.9	
	comp=E,168nm,0.2s							
FNO	**Franklin**	**0.80**	**135**			Pg	01 13 07.1	+0.3
FNO						Sg	01 13 17.8	+0.6
FNO				IAML			01 13 20.8	
	comp=E,149nm,0.5s							
OK038	**West end E0370**	**0.84**	**321**			Pg	01 13 07.4	0.0
OK038						Sg	01 13 18.8	+0.5
GC02	**Grant County #**	**1.04**	**10**			Pg	01 13 11.0	-0.5
GC02						Sg	01 13 25.1	+0.2
NOKA	**Waynoka**	**1.05**	**320**			Pg	01 13 11.4	-0.3
NOKA						Sg	01 13 25.5	+0.1
OK052	**Battle Ridge R**	**1.06**	**81**			Pg	01 13 11.5	-0.3
OK052						Sb	01 13 26.1	-0.4
OK052				IAML			01 13 27.7	
	comp=E,91nm,0.1s							
OK052				IAML			01 13 31.9	
	comp=E,96nm,0.2s							
ELIS	**Ellis County**	**1.10**	**283**			Pg	01 13 12.5	-0.1
ELIS				IAML			01 13 32.8	
	comp=E,117nm,0.2s							
ELIS				IAML			01 13 38.1	
	comp=N,135nm,0.2s							
KAN14	**Manchester OK**	**1.13**	**5**			Pg	01 13 12.7	-0.5
KAN14				IAML			01 13 32.8	
	comp=E,130nm,0.1s							
KAN14				IAML			01 13 33.0	
	comp=N,90nm,0.2s							
BLOK	**Blackwell**	**1.17**	**37**			Pg	01 13 13.4	-0.5
QUOK	**Quay**	**1.18**	**73**			Pg	01 13 13.3	-0.7
QUOK						Sb	01 13 29.7	-0.1
QUOK				IAML			01 13 34.8	
	comp=E,117nm,0.2s							
WMOK	**Wichita Mounta**	**1.22**	**208**			Pg	01 13 14.0	-0.9
DEOK	**Depew**	**1.30**	**89**			Pn	01 13 15.2	-1.1
DEOK						Sg	01 13 33.2	+0.1
DEOK				IAML			01 13 36.4	
	comp=E,81nm,0.2s							
DEOK				IAML			01 13 38.3	
	comp=N,80nm,0.2s							
T35A	**Sooner Cattle**	**1.68**	**49**			Pn	01 13 21.4	0.0
TUL3	**Leonard**	**1.87**	**87**	Pn		Pn	01 13 23.8	-0.3
SMWD	**Samnorwood**	**1.90**	**248**			Pn	01 13 24.2	-0.2
SMWD						Sn	01 13 46.5	-2.3
LOOK	**Love County**	**1.98**	**157**	Pn		Pn	01 13 24.7	-0.8
LOOK				IAmb_Lg			01 13 58.3	
	comp=Z,16nm,0.9s							
WTFS	**Witchita Falls**	**2.08**	**189**	Pn		Pn	01 13 26.7	-0.2
WTFS						Sb	01 13 56.3	+0.7
RLO	**Rose Lookout**	**2.51**	**81**	Pn		Pn	01 13 31.7	-1.3
APMT	**Aspermont**	**3.00**	**214**	IAmb_Lg			01 14 35.7	
	comp=Z,14nm,0.7s							
KSU1	**Kansas State U**	**3.48**	**19**	IAmb_Lg			01 14 45.0	
	comp=Z,9.6nm,0.8s							
SN07	**Snyder 07**	**3.58**	**221**	IAmb_Lg			01 14 45.3	
	comp=Z,14nm,0.9s							
Z38A	**Mt. Pleasant**	**3.62**	**134**	IAmb_Lg			01 14 53.5	
	comp=Z,18nm,0.8s							
RTBA	**Rita Blanca**	**3.81**	**281**	IAmb_Lg			01 14 54.6	
	comp=Z,12nm,1.2s							
MIAR	**Mount Ida**	**3.91**	**108**	IAmb_Lg			01 15 05.5	
	comp=Z,10nm,1.0s							
POST	**Post**	**3.94**	**227**	IAmb_Lg			01 14 53.6	
	comp=Z,9.9nm,1.0s							
X40A	**Basin Creek Fa**	**4.51**	**106**	IAmb_Lg			01 15 15.8	
	comp=Z,6.8nm,0.8s							
BRDY	**Brady**	**4.59**	**190**	IAmb_Lg			01 15 29.1	
	comp=Z,6.0nm,1.1s							
P38A	**Dawn**	**5.24**	**42**	IAmb_Lg			01 15 36.3	
	comp=Z,5.1nm,0.8s							

*SJA **08** 01:15:42.1±0.7,28˚.35S×69˚.62W,h127km±3km,ML3.5, MW3.3*
*GUC **08** 01:15:44.5±0.8,28˚.39S×69˚.72W,h122km±7km,ML3.2*

ISC 08 01:15:43.1±1.4,28˚.37S±0˚.03×69˚.63W±0˚.04, h127km±11km,n44,σ1s13/72,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO03	**Copiapo**	**0.94**	**325**	*e*P		**Pn**	**01 16 05.5**	**+0.2**
GO03				*e*S		**Sn**	**01 16 21.4**	**-0.6**
GO03				IAML			01 16 22.3	
	comp=N,1μm,0.1s							
GO03	**Copiapo**	**0.94**	**325**	*e*P		**Pn**	**01 16 04.8**	**-0

MT08	**Bocatoma Ro**	**5.07**	**184**	*e*P	**Pn**	**01 16 57.6**	**+0.3**
MT08				IAML		01 18 04.7	
	comp=Z,24nm,2.5s						
MT05	**Renca**	**5.10**	**191**	*e*P	**Pn**	**01 16 56.8**	**-0.7**
MT05				IAML		01 18 32.1	
	comp=Z,41nm,1.9s						
MRA	**San Martin**	**5.26**	**141**	*e*P	**Pn**	**01 16 59.5**	**-0.3**
MRA				*e*S	**Sn**	**01 17 57.4**	**-2.1**
MRA				IAML		01 17 58.0	
	comp=Z,20nm,4.2s						

DJA 08 01:16:22.6±0.6, 1°S±2°×12°8E±°, h126km±10km, M4.0/9, mB5.1/1, mb4.4/1, MLv3.9/9, Mw(mB)4.5/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.76**	**335**	P	Pn	01 16 53.4	-0.1
TNTI				S	Sn	01 17 18.0	+0.9
SANI	**Sanana**	**2.45**	**240**	P	Pn	01 17 01.9	-0.1
SANI				S	Sn	01 17 32.1	-0.2
NLAI	**Namlea**	**2.60**	**203**	P	Pn	01 17 04.3	+0.4
NLAI				S	Sn	01 17 35.8	0.0
MSAI	**Masohi**	**2.63**	**162**	P	Pn	01 17 05.6	+1.3
MSAI				S	Sn	01 17 37.8	+1.4
AAI	**Ambon**	**2.84**	**178**	P	Pn	01 17 07.2	+0.2
AAI				S	Sn	01 17 41.8	+0.5
SWI	**Sorong**	**3.14**	**91**	P	Pn	01 17 10.3	-0.6
FAKI	**Fak Fak**	**4.62**	**117**	P	Pn	01 17 29.6	-1.0
LUWI	**Luwuk**	**5.35**	**268**	P	Pn	01 17 41.0	+0.6

RSNC 08 01:27:21.2±0.0, 9°N±1°×77°4W±°, h74km±3km, M1.8, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGCC	**Aguachica**	**0.62**	**127**	P	Pn	01 27 34.2	-1.4
AGCC				S	Sn	01 27 45.1	-1.1
ARGC	**Ariguani, Magd**	**0.98**	**350**	P	Pn	01 27 39.1	-0.6
ARGC				S	Sn	01 27 52.9	-0.5
OCAC	**Ocana**	**0.99**	**131**	P	Pn	01 27 39.0	-1.0
EZNC	**La Esperanza**	**1.47**	**149**	P	Pn	01 27 45.1	-0.8
EZNC				S	Sn	01 28 02.7	-1.8
SJCC	**San Jacinto, C**	**1.48**	**313**	P	Pn	01 27 44.9	-1.2
SJCC				S	Sn	01 28 03.3	-1.5
VMM07	**Puerto Wilches**	**1.54**	**172**	P	Pn	01 27 46.0	-0.8
VMM07				S	Sn	01 28 05.4	-0.7
ZARC	**Zaragoza, Cauc**	**1.59**	**209**	P	Pn	01 27 47.0	-0.5
ZARC				S	Sn	01 28 06.8	-0.6
CRJC	**Cerrejon, Guaj**	**2.42**	**29**	P	Pn	01 27 57.0	-1.8
CRJC				S	Sn	01 28 24.9	-2.6
HELC	**Santa Helena**	**3.04**	**208**	P	Pn	01 28 04.1	-3.3
URIC	**Uribia, Colomb**	**3.47**	**36**	P	Pn	01 28 11.0	-1.9
URIC				S	Sn	01 28 50.1	-2.7

*IDC **08** 01:50:47.5±4.8, 20°.94S×178°.24W, h430km±45km, mb3.5/5, mbtmp4.3/7, Error ellipse: s-maj=35.1km s-min=17.3km az=61.0*
ISC 08 01:50:51.4±1.2, 21°.2S±0°.1×178°.5W±0°.2, h450km, n13, σ1§64/13, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.99**	**264**	P	**P**	**01 53 52.2**	**+0.2**
	3.0nm,0.7s,baz=80,slow=19,SNR=2.3						
URZ	**Urewera**	**17.44**	**191**	P	**P**	**01 54 26.1**	**-2.0**
	5.1nm,0.4s,baz=9.5,slow=18,SNR=6.3						
URZ				S	**S**	**01 57 28.3**	**+1.5**
	9.9nm,0.8s,baz=0.0,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**43.88**	**257**	P	**P**	**01 58 17.0**	**+0.3**
	4.6nm,0.5s,baz=96,slow=7.9,SNR=55						
ASAR				PcP	**PcP**	**01 59 52.3**	**-1.2**
	1.4nm,1.1s,baz=106,slow=3.8,SNR=4.1						
	4.6nm,0.5s						
WRA	**Warramunga Arr**	**44.01**	**263**	P	**P**	**01 58 17.6**	**-0.2**
	1.9nm,0.3s,baz=99,slow=8.0,SNR=41						
	1.9nm,0.3s						
VNDA	**Vanda**	**57.20**	**185**	P	**P**	**01 59 54.5**	**+0.8**
	0.9nm,0.8s,baz=12,slow=8.4,SNR=3.7						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**68.90**	**180**	P	**P**	**02 01 10.0**	**+0.3**
	4.8nm,0.7s,baz=21,slow=1.9,SNR=20						
	4.8nm,0.7s						
SNAA	**Sanae**	**87.36**	**179**	P	P	02 02 46.7	-2.4
	0.4nm,0.6s,baz=192,slow=14,SNR=6.9						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**119.26**	**320**	PKP	**PKPdf**	**02 08 45.7**	**-2.5**
	0.8nm,0.6s,baz=90,slow=2.9,SNR=4.3						
AKASG	**Malin Array Be**	**143.35**	**330**	PKhKP	PKPpre	02 09 27.0	
	0.8nm,0.5s,baz=45,slow=4.1,SNR=7.3						
BRTR	**Keskin Array B**	**146.91**	**311**	PKPbc	**PKPdf**	**02 09 40.1**	**+0.1**
	0.4nm,0.6s,baz=100,slow=3.5,SNR=2.7						
MMAI	**Mount Meron Ar**	**147.70**	**299**	PKPbc	**PKPdf**	**02 09 43.8**	**+2.3**
	0.7nm,0.4s,baz=64,slow=3.4,SNR=3.8						
GERES	**GERESS Array B**	**150.70**	**343**	PKPbc	**PKPdf**	**02 09 47.9**	**+2.2**
	0.7nm,1.0s,baz=29,slow=2.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**172.02**	**182**	PKPab	**PKPab**	**02 11 32.9**	**-1.3**
	0.5nm,0.7s,baz=166,slow=2.4,SNR=3.0						

*IDC **08** 02:01:26.8±1.8, 32°.74N×140°.62E, h53km±14km, mb3.5/11, mbtmp3.7/12, ML3.0/1, Error ellipse: s-maj=24.9km s-min=16.1km az=80.0*
*JMA **08** 02:01:28.2±0.2, 32°.9N±0°.4×140°.7E±0°.9, h58km, MV4.1/34, E OFF HACHIJOJIMA ISLAND*
ISC 08 02:01:27.0±1.2, 32°.84N±0°.06×140°.80E±0°.08, h56km±11km, n43, σ1§09/43, mb3.8/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.87**	**289**	P	**Pn**	**02 01 43.9**	**+0.7**
JHJ2	**Mitsune**	**0.87**	**289**	P	**Pn**	**02 01 43.8**	**+0.6**
JHJ2				*e*S	**Sn**	**02 01 54.5**	**-0.6**
JHCJ	**Hachijojimakas**	**0.87**	**286**	*e*P	**Pn**	**02 01 43.5**	**+0.3**
JHCJ				*e*S	**Sn**	**02 01 54.2**	**-0.9**
JHJ	**Hachijo jima 2**	**0.90**	**289**	P	**Pn**	**02 01 43.7**	**+0.1**
	3µm,0.2s,baz=60,slow=20,SNR=253						
JHJ				S	**Sn**	**02 01 53.1**	**-2.7**
	baz=73,slow=19						
JAOM	**Aogashimamukai**	**0.95**	**247**	*e*P	**Pn**	**02 01 45.2**	**+0.9**
JAOM				*e*S	**Sn**	**02 01 57.5**	**+0.5**
JMKN	**Mikurajimanish**	**1.46**	**317**	P	**Pn**	**02 01 51.5**	**+0.4**
JMKN				*e*S	**Sn**	**02 02 08.7**	**-0.5**
JMYK	**Miyake Tsubota**	**1.61**	**320**	*e*S	**Sn**	**02 02 12.0**	**-0.7**
BSO1	**Boso 1**	**1.82**	**5**	*e*P	**Pn**	**02 01 55.9**	**+0.5**
BSO1				*e*S	**Sn**	**02 02 18.1**	**+1.0**
JKO	**Kozu shima**	**1.93**	**315**	P	**Pn**	**02 01 58.5**	**+1.0**
BSO3	**Boso 3**	**1.98**	**353**	P	**Pn**	**02 01 58.6**	**+0.7**
BSO4	**Boso 4**	**2.18**	**350**	P	**Pn**	**02 02 01.9**	**+1.1**
BSO4				*e*S	**Sn**	**02 02 27.8**	**+1.1**
JIM2	**Oshima 3**	**2.19**	**329**	P	**Pn**	**02 02 01.8**	**+0.7**
JIM2				*e*S	**Sn**	**02 02 26.0**	**-1.2**
JIZS	**Izushimoda**	**2.46**	**320**	P	**Pn**	**02 02 06.2**	**+1.4**
TK02	**Tokai 2**	**2.77**	**294**	P	**Pn**	**02 02 10.4**	**+1.6**
JOD2	**Odawara 2**	**2.81**	**330**	P	**Pn**	**02 02 10.3**	**+0.9**
JGF	**Kuroka**	**3.96**	**315**	P	Pn	02 02 28.2	+2.8
INU	**Inuyama**	**4.01**	**310**	P	Pn	02 02 28.4	+2.4
MJAR	**Matsushiro Arr**	**4.27**	**331**	P	**Pn**	**02 02 29.8**	**+0.3**
	0.8nm,0.3s,baz=153,slow=12,SNR=23						
MJAR				S	**Sn**	**02 03 19.4**	**+1.4**
	7.4nm,0.4s,baz=155,slow=28,SNR=4.3						
	14nm,0.6s						
MAJO	**Matsushiro**	**4.27**	**331**	P	Pn	02 02 31.8	+2.3
JMM	**Marumori**	**5.02**	**360**	P	**Pn**	**02 02 39.9**	**+0.2**
JMN	**Monobe**	**5.86**	**281**	P	**Pn**	**02 02 53.3**	**+1.9**
JNU	**Nakatsue**	**8.34**	**275**	P	**Pn**	**02 03 26.4**	**+1.1**
	8.3nm,0.6s,baz=96,slow=5.3,SNR=6.7						
JNU	**Nakatsue**	**8.34**	**275**	P	Pn	02 03 28.2	+2.9
ERM	**Erimo**	**9.35**	**11**	P	**Pn**	**02 03 36.8**	**-2.2**
ASAJ	**Asahikawa**	**11.35**	**7**	P	**Pn**	**02 04 04.3**	**-2.0**
	6.5nm,0.5s,baz=185,slow=16,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**26.71**	**113**	T	T	02 36 06.2	
	baz=304,slow=75,SNR=96						
H11N1	**WAKE ISLAND Hy**	**26.71**	**113**	T	T	02 36 03.8	
	baz=304,slow=75,SNR=96						
H11N3	**WAKE ISLAND Hy**	**26.73**	**113**	T	T	02 36 07.6	
	baz=304,slow=75,SNR=95						
H11S3	**WAKE ISLAND Hy**	**27.26**	**115**	T	T	02 36 30.1	
	baz=305,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.27**	**115**	T	T	02 36 34.6	
	baz=305,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.28**	**115**	T	T	02 36 25.1	
	baz=305,slow=75,SNR=13						
MKAR	**Makanchi Array**	**46.03**	**306**	P	**P**	**02 09 44.7**	**-0.3**
	0.6nm,0.5s,baz=88,slow=8.9,SNR=8.0						
MKAR				PcP	**PcP**	**02 11 20.6**	**-0.1**
	0.3nm,0.7s,baz=97,slow=5.8,SNR=1.8						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**48.27**	**311**	P	**P**	**02 10 01.7**	**-0.7**
	0.3nm,0.4s,baz=86,slow=7.8,SNR=6.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**52.84**	**188**	P	**P**	**02 10 36.5**	**-0.6**
	0.2nm,0.3s,baz=6.6,slow=7.5,SNR=6.0						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**53.09**	**315**	P	**P**	**02 10 39.3**	**+0.8**
	0.5nm,0.5s,baz=79,slow=7.8,SNR=4.2						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**53.33**	**31**	P	**P**	**02 10 40.8**	**+0.6**
	0.8nm,0.7s,baz=272,slow=8.1,SNR=12						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**56.57**	**188**	P	**P**	**02 11 03.4**	**-0.6**
	0.2nm,0.5s,baz=5.3,slow=6.2,SNR=2.2						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**72.30**	**333**	P	**P**	**02 12 45.9**	**-0.4**
	2.4nm,0.9s,baz=62,slow=5.5,SNR=3.9						
	2.4nm,0.9s						
HFS	**Hagfors**	**77.70**	**336**	P	**P**	**02 13 17.9**	**+0.4**
	0.5nm,0.5s,baz=66,slow=5.0,SNR=4.9						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**77.94**	**52**	P	**P**	**02 13 19.6**	**+0.1**
	0.1nm,0.3s,baz=308,slow=8.4,SNR=2.0						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**81.26**	**312**	P	**P**	**02 13 35.9**	**-1.5**
	0.6nm,0.9s,baz=72,slow=4.7,SNR=1.5						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**93.09**	**52**	P	**P**	**02 14 36.3**	**+1.0**
	0.6nm,0.6s,baz=321,slow=5.4,SNR=5.1						
	0.6nm,0.6s						
LPAZ	**La Paz**	**149.10**	**65**	PKPbc	**PKPbc**	**02 21 10.8**	**+0.4**
	baz=36,slow=7.5,SNR=3.7						

GCG 08 02:09:31.2±0.6, 14°.31N×92°.35W, h26km±4km, MD3.7, ML2.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMCA	**Catarina**	**0.60**	**26**	*i* P	Pb	02 09 43.2	0.0
SMCA				IAML		02 09 53.6	
	comp=E,123nm,0.1s						
STG2	**El Palmar, Qui**	**0.95**	**83**	*i* P	Pn	02 09 46.8	-2.3
STG2				*i* S	Sb	02 09 59.2	-2.3
QUEO	**Labor Ovalle**	**0.98**	**56**	*i* P	Pn	02 09 49.6	0.0
QUEO				*e*S	Sn	02 10 04.1	+1.3
QUEO				IAML		02 10 06.1	
	comp=N,480nm,0.1s						
ESSG	**Sabana Grande**	**1.48**	**87**	*i* P	Pn	02 09 56.5	+0.3
ESSG				IAML		02 10 18.3	
	comp=N,107nm,0.1s						
FG8	**Yepocapa, Chim**	**1.74**	**92**	*i* P	Pn	02 09 55.2	-4.6
CCIG	**Comitan**	**1.97**	**6**	*i* P	Pn	02 10 03.2	+0.2
CCIG				*i* S	Sb	02 10 28.9	-1.8
CCIG				IAML		02 10 31.4	
	comp=N,62nm,0.3s						

*IDC **08** 02:13:57.5±0.8, 42°.61N×145°.20E, h0km, mb3.6/14, mbtmp3.6/16, ML3.7/2, Error ellipse: s-maj=21.8km s-min=17.9km az=49.0*
*MOS **08** 02:14:03.4±1.0, 42°.54N×144°.93E, h54km, mb4.2/6, Error ellipse: s-maj=12.4km s-min=7.1km az=79.7*
*SKHL **08** 02:14:03.6±0.2, 42°.50N×145°.00E, h54km±4km, mb5.1/8*
*NIED **08** 02:14:04.4, 42°.62N×144°.94E, h51km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=5.48; Mθθ=5.42; Mφφ=0.06; Mrθ=1.87; Mθφ=2.08; Mφr=-1.74; Fault plane solution: M₀6.36000×10¹⁴ NP1:φ=51.00000°, δ43.00000°, λ-121.00000°. NP2:φ=271.00000°, δ55.00000°, λ-64.00000°.*
*JMA **08** 02:14:04.4±0.1, 42°.6N±0°.2×144°.9E±0°.5, h51km±1km, MV3.9/36, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
ISC 08 02:14:05.1±0.8, 42°.63N±0°.06×144°.98E±0°.04, h49km±6km, n66, σ1§33/81, mb3.7/19, 4C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKK	**Akkeshi**	**0.40**	**346**	*i* P	**Pn**	**02 14 14.6**	**-0.6**
AKK				AMB	AMB	02 14 14.9	
	3µm,0.3s						
AKK				*i* S	**Sn**	**02 14 22.0**	**-0.4**
AKK				A	A	02 14 23.4	
	36µm,0.4s						
AKK				A	A	02 14 23.4	
	53µm,0.4s						
JAK	**Akkeshi**	**0.42**	**331**	P	**Pn**	**02 14 14.5**	**-0.9**
JAK				*e*S	**Sn**	**02 14 22.1**	**-0.6**
JKHN	**Kushirohamanak**	**0.47**	**16**	*i* P	**Pn**	**02 14 15.8**	**-0.2**
JKHN				*e*S	**Sn**	**02 14 23.8**	**0.0**
JOB	**Onbets**	**0.89**	**289**	*e*P	**Pn**	**02 14 20.6**	**-0.7**
JOB				*e*S	**Sn**	**02 14 32.6**	**-0.4**
NMR	**Nemuro--Hokkai**	**0.92**	**36**	*i*PN	**Pn**	**02 14 21.4**	**-0.3**
NMR				*e*S	**Sn**	**02 14 33.7**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.92**	**36**	*i* P	**Pn**	**02 14 21.4**	**-0.3**
NMR				*e*S	**Sn**	**02 14 33.7**	**-0.3**
NEM2	**Nemuro 2**	**0.93**	**37**	*e*P	**Pn**	**02 14 21.4**	**-0.4**
NEM2				*e*S	**Sn**	**02 14 33.8**	**-0.3**
JNK	**Nakash**	**0.98**	**349**	P	**Pn**	**02 14 21.8**	**-0.7**
JNK				*e*S	**Sn**	**02 14 34.2**	**-1.1**
JAR	**Ashorobuto**	**1.11**	**307**	P	**Pn**	**02 14 23.5**	**-0.8**
GLVR	**Golovnino**	**1.18**	**19**	*e*PN	**Pn**	**02 14 25.2**	**0.0**
GLVR				*e*S	**Sn**	**02 14 39.1**	**-1.0**
GLVR				pmax	pmax		
	comp=N,112nm,0.1s						
GLVR				pmax	pmax		
	comp=E,150nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,646nm,0.1s						
GLVR				smax	smax		
	comp=N,4µm,0.3s						
GLVR				smax	smax		
	comp=E,8µm,0.3s						
GLVR	**Golovnino**	**1.18**	**19**	*e*P	**Pn**	**02 14 25.2**	**0.0**
GLVR				AMB	AMB	02 14 25.8	
	comp=E,650nm,0.2s						
GLVR				*e*S	**Sn**	**02 14 39.1**	**-1.0**
GLVR				A	A	02 14 41.3	
	comp=E,4µm,0.4s						
GLVR				A	A	02 14 41.3	
	comp=E,8µm,0.4s						
JCH	**Churui**	**1.19**	**270**	P	**Pn**	**02 14 24.9**	**-0.5**
JRA	**Rausu**	**1.31**	**5**	P	**Pn**	**02 14 26.5**	**-0.5**
ERM	**Erimo**	**1.48**	**246**	*i* PN	**Pn**	**02 14 29.8**	**+0.5**
RUSJ	**Misakicho**	**1.49**	**8**	*e*PN	**Pn**	**02 14 29.5**	**+0.1**
RUSJ				*e*S	**Sn**	**02 14 47.5**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.55**	**24**	*c i*PN	**Pn**	**02 14 30.0**	**-0.2**
YUK				*i* S	**Sn**	**02 14 48.9**	**-0.2**
YUK				pmax	pmax		
	comp=N,195nm,0.2s						
YUK				pmax	pmax		
	comp=E,123nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1µm,0.2s						
YUK				smax	smax		
	comp=N,3µm,0.4s						
YUK				smax	smax		
	comp=E,2µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.55**	**24**	*i* P	**Pn**	**02 14 30.1**	**-0.2**
YUK				AMB	AMB	02 14 30.4	
	comp=E,1µm,0.2s						
YUK				*e*S	**Sn**	**02 14 48.8**	**-0.3**
YUK				A	A	02 14 50.9	
	comp=E,3µm,0.4s						
YUK				A	A	02 14 50.9	
	comp=E,2µm,0.4s						
JTKR	**Abashiri--Toko**	**1.55**	**330**	P	**Pn**	**02 14 30.4**	**+0.1**
SHO	**Shikotan**	**1.84**	**47**	*e*PN	**Pn**	**02 14 36.5**	**+2.3**
SHO				*e*S	**Sn**	**02 14 58.4**	**+2.2**
SHO				pmax	pmax		
	comp=N,64nm,0.2s						
SHO				pmax	pmax		
	comp=E,51nm,0.2s						
SHO				pmax	pmax		
	comp=Z,102nm,0.2s						
SHO				smax	smax		
	comp=N,888nm,0.3s						
SHO				smax	smax		
	comp=E,907nm,0.4s						
SHO	**Shikotan**	**1.84**	**47**	*e*P	**Pn**	**02 14 33.8**	**-0.4**
SHO				AMB	AMB	02 14 39.6	
	comp=E,120nm,0.2s						
SHO				*e*S	**Sn**	**02 14 56.4**	**+0.2**
SHO				A	A	02 15 02.4	
	comp=E,870nm,0.3s						
SHO				A	A	02 15 02.4	
	comp=E,900nm,0.3s						
JKA	**Kamikawa-asahi**	**2.29**	**311**	*e*P	**Pn**	**02 14 40.2**	**-0.1**
ASAJ	**Asahikawa**	**2.29**	**311**	Pn	**Pn**	**02 14 40.2**	**-0.1**
	comp=E,30nm,0.3s,baz=132,slow=11,SNR=60						
ASAJ				Sn	**Sn**	**02 15 11.7**	**+4.4**
	comp=E,61nm,0.3s,baz=204,slow=20,SNR=18						
	comp=E,76nm,0.4s						
KUR	**Kuril'sk**	**3.34**	**38**	*i*PN	**Pn**	**02 14 56.7**	**+2.0**
KUR				*e*S	**Sn**	**02 15 36.1**	**+3.0**
KUR				pmax	pmax		
	comp=Z,83nm,0.4s						
KUR				smax	smax		
	comp=N,82nm,0.5s						
KUR				smax	smax		
	comp=E,162nm,0.5s						
KUR	**Kuril'sk**	**3.34**	**38**	*e*P	**Pn**	**02 14 55.7**	**+1.0**
KUR				AMB	AMB	02 14 56.9	
	comp=E,80nm,0.4s						
KUR				*e*S	**Sn**	**02 15 33.8**	**+0.7**
KUR				A	A	02 15 40.5	
	comp=E,130nm,0.4s						
KUR				A	A	02 15 40.5	
	comp=E,210nm,0.4s						
YSS	**Yuzhno-Sakhali**	**4.61**	**341**	*e*PN	**Pn**	**02 15 13.1**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS	**Yuzhno-Sakhali**	**4.61**	**341**	*e*P	**Pn**	**02 15 13.1**	**+1.0**
YSS				AMB	AMB	02 15 13.7	
	comp=Z,20nm,0.5s						
YSS				*e*S	**Sn**	**02 16 05.1**	**+0.8**
YSS				A	A	02 16 07.7	
	comp=Z,10.0nm,0.4s						
YSS				A	A	02 16 07.7	
	comp=Z,10.0nm,0.4s						
TEY	**Ternei**	**6.52**	**295**	*e*P	**Pn**	**02 15 40.3**	**+2.0**
MJA0	**Matsu Arr-Jizo**	**7.99**	**223**	*e*PN	**Pn**	**02 15 58.1**	**-0.5**
MJAR	**Matsushiro Arr**	**8.01**	**223**	Pn	**Pn**	**02 15 56.1**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=6.5						
	comp=Z,0.9nm,0.3s						
SKR	**Severo-Kuril's**	**11.10**	**40**	*e*P	**Pn**	**02 16 41.4**	**+0.4**
SKR				AMB	AMB	02 16 49.7	
	comp=Z,40nm,0.8s						
ZEA	**Zeya**	**16.18**	**320**	*e*P	Pn	02 17 34.7	-14
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA	**Zeya**	**16.18**	**320**	*e*P	**Pn**	**02 17 46.9**	**-1.9**
SONM	**Songino Array**	**27.46**	**294**	P	**P**	**02 19 46.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=90,slow=8.6,SNR=7.1						
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**27.46**	**294**	*e*P	**P**	**02 19 48.6**	**+2.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BILL	**Bilibino**	**27.89**	**17**	*i* P	**P**	**02 19 51.5**	**+1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL	**Bilibino**	**27.89**	**17**	*e*P	**P**	**02 19 53.6**	**+3.7**
H11N2	**WAKE ISLAND Hy**	**29.38**	**134**	T	T	02 51 10.7	
	baz=327,slow=76,SNR=246						
H11N1	**WAKE ISLAND Hy**	**29.38**	**134**	T	T	02 51 11.8	
	baz=327,slow=76,SNR=219						
H11N3	**WAKE ISLAND Hy**	**29.39**	**134**	T	T	02 51 11.0	
	baz=327,slow=76,SNR=224						
H11S1	**WAKE ISLAND Hy**	**30.29**	**136**	T	T	02 52 18.8	
	baz=328,slow=76,SNR=286						
H11S3	**WAKE ISLAND Hy**	**30.29**	**136**	T	T	02 52 26.5	
	baz=328,slow=76,SNR=195						
H11S2	**WAKE ISLAND Hy**	**30.30**	**136**	T	T	02 52 21.4	
	baz=328,slow=76,SNR=188						
ZALV	**Zalesovo Beam**	**40.42**	**308**	P	**P**	**02 21 37.0**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=79,slow=11,SNR=2.4						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**43.33**	**35**	P	**P**	**02 22 01.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=275,slow=7.3,SNR=4.0						
	comp=Z,0.3nm,0.6s						
MK31	**Makanchi Array**	**43.70**	**298**	*i* P	**P**	**02 22 04.9**	**-0.2**
MKAR	**Makanchi Array**	**43.70**	**298**	P	**P**	**02 22 05.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=78,slow=9.0,SNR=5.5						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**43.70**	**298**	*e*P	**P**	**02 22 05.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**44.84**	**304**	*i* P	**P**	**02 22 13.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**44.84**	**304**	*e*P	**P**	**02 22 13.8**	**-0.3**
KURBB	**Kurchatov Arra**	**44.93**	**304**	P	**P**	**02 22 14.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=73,slow=8.7,SNR=7.6						
	comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**48.99**	**309**	P	**P**	**02 22 46.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=70,slow=8.6,SNR=4.3						
	comp=Z,0.5nm,0.3s						
AAK	**Ala-Archa**	**50.41**	**296**	*i* P	**P**	**02 22 57.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**50.41**	**296**	*e*P	**P**	**02 22 57.8**	**+0.2**
ARTI	**Arti**	**54.19**	**317**	*c i*P	**P**	**02 23 24.6**	**-0.6**
ARTI						02 24 29.8	
ARTI						02 25 22.1	
ARTI				S	**S**	**02 30 55.8**	**-2.6**
ARTI				SS	**SKiKP**	**02 34 34.2**	**+2.5**
ARTI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**63.02**	**191**	P	**P**	**02 24 26.3**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=8.2,slow=6.6,SNR=2.7						
	comp=Z,0.5n

*AZER **08** 02:43:15.3,38.˚85N×48.˚48E,h13km,ml3.0*
*TEH **08** 02:43:17.6,38.˚65N×48.˚46E,h19km*
ISC 08 02:43:17.6±0.9,**38.˚82N**±0.˚02×**48.˚51E**±0.˚03,**h25**km±7km,
n38,σ1§**10**/70,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRK	**Lerik**	**0.23**	**217**	P	**Pb**	**02 43 23.7**	**0.0**
LRK				S	**Sb**	**02 43 29.5**	**+1.6**
YRD	**Yardimli**	**0.23**	**294**	P	**Pb**	**02 43 23.1**	**-0.8**
YRD				S	**Sb**	**02 43 28.1**	**-0.1**
LKRN	**Lenkeran, Azer**	**0.24**	**118**	P	**Pb**	**02 43 23.0**	**-0.7**
LKRN				S	**Sb**	**02 43 28.2**	**+0.4**
ASTR	**Astara**	**0.34**	**140**	P	**Pb**	**02 43 24.5**	**-0.7**
ASTR				S	**Sn**	**02 43 31.0**	**-2.1**
GLBA	**Clilabad**	**0.43**	**347**	P	**Pb**	**02 43 25.1**	**-1.6**
GLBA				S	**Sb**	**02 43 32.3**	**-0.5**
GRMI	**Germi**	**0.48**	**269**	Pg	**Pb**	**02 43 26.8**	**-0.9**
GAS1	**Astara - Iran**	**0.51**	**149**	Pg	**Pb**	**02 43 27.0**	**-0.9**
SAAT	**Saatly**	**1.04**	**356**	P	**Pb**	**02 43 37.0**	**+0.1**
SAAT				S	**Sn**	**02 43 50.2**	**-0.2**
QRD	**Qoradiz**	**1.13**	**305**	P	**Pn**	**02 43 35.8**	**-2.1**
QRD				S	**Sn**	**02 43 51.5**	**-1.1**
BLQ	**Beylaqan**	**1.16**	**321**	P	**Pn**	**02 43 36.4**	**-2.0**
BLQ				S	**Sn**	**02 43 52.4**	**-1.1**
ALIB	**&Aumlli-Bayram**	**1.20**	**18**	P	**Pb**	**02 43 39.0**	**-0.6**
ALIB				S	**Sb**	**02 43 56.9**	**+2.3**
IHRS	**Heris**	**1.26**	**247**	Pg	**Pn**	**02 43 39.5**	**-0.4**
IHRS				Sg	**Sb**	**02 43 57.2**	**+0.5**
CSN1	**Caspian**	**1.34**	**160**	Pg	**Pn**	**02 43 39.6**	**-1.1**
KDMR	**Kurdemir**	**1.57**	**351**	Pn	**Pn**	**02 43 43.1**	**-0.9**
KDMR				Sn	**Sn**	**02 44 04.3**	**+0.8**
ZRD	**Zardab**	**1.59**	**336**	Pn	**Pn**	**02 43 43.9**	**-0.3**
ZRD				Sn	**Sb**	**02 44 06.1**	**+0.1**
AGDM	**Agdam**	**1.68**	**320**	Pn	**Pn**	**02 43 44.5**	**-1.0**
AGDM				Sn	**Sn**	**02 44 07.0**	**+0.7**
GBS	**Qobustan**	**1.74**	**11**	Pn	**Pn**	**02 43 46.5**	**+0.1**
GBS				Sn	**Sb**	**02 44 11.3**	**+0.8**
BRDA	**Brd**	**1.77**	**325**	Pn	**Pn**	**02 43 46.3**	**-0.3**
BRDA				Sn	**Sb**	**02 44 11.5**	**+0.4**
IHSH	**Hashtrud**	**1.81**	**213**	Pn	**Pn**	**02 43 47.9**	**+0.4**
ITBZ	**Tabriz**	**1.95**	**253**	Pn	**Pn**	**02 43 50.3**	**+1.0**
PQL	**Pirkuli**	**1.96**	**2**	Pn	**Pn**	**02 43 50.0**	**+0.5**
PQL				Sn	**Sb**	**02 44 17.4**	**+0.4**
ORD	**Ordubad**	**1.97**	**274**	Pn	**Pn**	**02 43 49.8**	**+0.3**
ORD				Sn	**Sn**	**02 44 15.8**	**+2.4**
IML	**Ismayilli**	**1.98**	**353**	Pn	**Pn**	**02 43 49.7**	**0.0**
IML				Sn	**Sb**	**02 44 16.1**	**-1.3**
ATGJ	**Altiaghaj**	**2.06**	**9**	Pn	**Pn**	**02 43 52.0**	**+1.2**
ATGJ				Sn	**Sb**	**02 44 19.4**	**-0.2**
QBL	**Gabala**	**2.18**	**346**	Pn	**Pn**	**02 43 53.5**	**+1.1**
QBL				Sn	**Sn**	**02 44 18.9**	**+0.2**
SIZA	**Siyzn**	**2.27**	**7**	Pn	**Pn**	**02 43 55.3**	**+1.7**
SIZA				Sn	**Sb**	**02 44 25.4**	**-0.3**
ISHB	**Shabestar**	**2.33**	**258**	Pn	**Pn**	**02 43 56.4**	**+1.8**
XNQ	**Khinaliq**	**2.37**	**353**	Pn	**Pn**	**02 43 56.4**	**+1.3**
XNQ				Sn	**Sn**	**02 44 25.2**	**+1.8**
SBZ	**Shahbuz**	**2.37**	**285**	Pn	**Pn**	**02 43 55.1**	**0.0**
SBZ				Sg	**Sb**	**02 44 27.8**	**+0.9**
NAX	**Nakhchivan**	**2.38**	**279**	Pn	**Pn**	**02 43 56.6**	**+1.5**
NAX				Sg	**Sb**	**02 44 28.1**	**-0.7**
GANJ	**Ganja**	**2.48**	**318**	Pn	**Pn**	**02 43 56.1**	**-0.4**
GANJ				Sn	**Sn**	**02 44 26.8**	**+0.8**
QUBA	**Quba, Azerbaij**	**2.53**	**360**	Pn	**Pn**	**02 43 57.4**	**+0.2**
QUBA				Sn	**Sn**	**02 44 28.9**	**+1.6**
SEKA	**Sheki**	**2.59**	**337**	Pn	**Pn**	**02 43 57.0**	**-1.0**
SEKA				Sn	**Sn**	**02 44 28.3**	**-0.4**
QSAR	**Qusar**	**2.70**	**356**	Pn	**Pn**	**02 44 00.6**	**+1.1**
QSAR				Sn	**Sn**	**02 44 31.9**	**+0.5**
GDB	**GEDABAY**	**2.85**	**313**	Pn	**Pn**	**02 44 01.3**	**-0.4**
GDB				Sn	**Sn**	**02 44 37.0**	**+1.7**
HYR	**Heyderabad**	**2.98**	**289**	Pn	**Pn**	**02 44 01.9**	**-1.4**
HYR				Sn	**Sn**	**02 44 40.2**	**+1.8**
ZKTA	**Zakatala**	**3.16**	**333**	Pn	**Pn**	**02 44 05.7**	**-0.2**
ZKTA				Sn	**Sn**	**02 44 42.7**	**-0.1**
QZX	**Qazax, Azerbai**	**3.29**	**314**	Pn	**Pn**	**02 44 06.3**	**-1.3**
QZX				Sn	**Sn**	**02 44 47.3**	**+1.3**

DJA 08 03:05:11.4±0.5,**9˚S**±5˚×**11˚9E**±˚,**h131**km±8km,**M3.7**/10,
mb3.8/2,**MLv3.6**/10,**Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.14**	**164**	P	Pn	03 05 36.0	+0.2
WBSI				S	Sn	03 05 54.8	+0.4
PLAI	**Plampang**	**1.31**	**257**	P	Pn	03 05 38.2	+0.7
PLAI				S	Sn	03 05 58.2	+0.9
WSI	**Waingapu**	**1.65**	**133**	P	Pn	03 05 41.3	0.0
TWSI	**Taliwang, Sumb**	**2.17**	**265**	P	Pn	03 05 48.0	+0.5
BASI	**Baing, Sumba**	**2.23**	**138**	P	Pn	03 05 48.6	+0.3
BASI				S	Sn	03 06 17.3	+0.6
EDFI	**Ende, Flores**	**2.60**	**95**	P	Pn	03 05 53.4	+0.4
EDFI				S	Sn	03 06 24.7	-0.3
BSSI	**Bau Bau, Buton**	**2.77**	**31**	P	Pn	03 05 55.2	+0.1
BKSI	**Bulukumba**	**3.36**	**18**	P	Pn	03 06 03.0	+0.2
JAGI	**Jajag, Banyuwa**	**4.87**	**270**	P	Pn	03 06 23.3	+0.6
SOEI	**Soe**	**5.27**	**104**	P	Pn	03 06 28.3	0.0
	0.1nm22nm,1.4s						
GMJI	**Gumukmas**	**5.57**	**272**	P	Pn	03 06 31.3	-0.9

*NEIC **08** 03:14:38.4±2.5,35.˚14N±0.˚01×95.˚36W±0.˚02,h7km±1km,*
Error ellipse: s-maj=3.0km s-min=2.7km az=119.0
NEIC 08 03:14:38.3±2.2,**35.˚13N**±0.˚02×**95.˚35W**±0.˚02,**h5**km±1km,
mb_Lg2.3/24,**ML2.5**/12,**ML2.3**/7,**Error ellipse:**
s-maj=3.1km s-min=2.9km az=144.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.85**	**335**		Pg	03 14 54.6	-0.1
TUL3				Sg	Sg	03 15 05.8	0.0
RLO	**Rose Lookout**	**1.06**	**14**		Pg	03 14 58.3	-0.4
RLO				Sg	Sg	03 15 12.2	-0.3
RLO				IAML		03 15 19.5	
	comp=N,96nm,0.2s						
RLO				IAML		03 15 21.5	
	comp=E,128nm,0.2s						
DEOK	**Depew**	**1.17**	**307**		Pg	03 15 00.3	-0.5
DEOK					Sg	03 15 15.8	-0.2
DEOK				IAML		03 15 18.4	
	comp=E,94nm,0.2s						
DEOK				IAML		03 15 18.6	
	comp=N,113nm,0.1s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	03 15 05.2	-0.2
OK052					Sn	03 15 25.0	+0.2
QUOK	**Quay**	**1.51**	**314**		Pn	03 15 06.0	-0.1
QUOK					Sg	03 15 26.8	-0.2
U38A	**Gravette**	**1.52**	**31**		Pn	03 15 06.2	0.0
U38A					Sn	03 15 26.4	0.0
MIAR	**Mount Ida**	**1.57**	**111**		Pn	03 15 07.2	+0.3
MIAR					Sg	03 15 28.8	-0.1
HHAR	**Hobbs**	**1.62**	**45**		Pn	03 15 07.7	+0.2
HHAR					Sb	03 15 29.8	+0.2
FNO	**Franklin**	**1.68**	**275**		Pn	03 15 08.8	+0.4
FNO					Sg	03 15 32.0	-0.4
ADOK	**Arcadia Dam**	**1.73**	**288**		Pn	03 15 09.2	+0.1
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pn	03 15 08.9	-0.1
OKCSW				IAmb_Lg		03 15 38.0	
	comp=Z,29nm,0.8s						
OK029	**Liberty Lake**	**1.84**	**292**		Pb	03 15 11.5	-0.9
OK029					Sg	03 15 36.7	-0.7
LOOK	**Love County**	**1.89**	**233**	Pn	Pn	03 15 10.7	-0.6
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	03 15 12.1	+0.8
Z38A					Sg	03 15 39.1	0.0
Z38A				IAmb_Lg		03 15 42.2	
	comp=Z,18nm,1.0s						
T35A	**Sooner Cattle**	**2.01**	**332**		Pn	03 15 13.6	+0.7
T35A					Sb	03 15 41.5	+0.8
X40A	**Basin Creek Fa**	**2.17**	**107**		Pn	03 15 15.5	+0.5
X40A				IAmb_Lg		03 15 50.0	
	comp=Z,15nm,0.8s						
WLAR	**White Oak Lake**	**2.35**	**127**	IAmb_Lg		03 15 53.2	
	comp=Z,12nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	03 15 17.4	-0.7
WHAR	**Wooly Hollow**	**2.51**	**86**	Pn	Pn	03 15 18.6	-1.2
CROK	**Carrier**	**2.54**	**303**		Pn	03 15 18.1	-2.1
FCAR	**Ozark Folk Cen**	**2.74**	**73**		Pn	03 15 21.9	-1.0
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	03 15 23.8	-0.6
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		03 16 27.4	
	comp=Z,8.4nm,0.8s						
LCAR	**Lake Charles**	**3.54**	**74**	IAmb_Lg		03 16 32.7	
	comp=Z,7.7nm,1.1s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		03 16 47.6	
	comp=Z,13nm,1.1s						
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		03 16 52.4	
	comp=Z,5.2nm,0.7s						
ABTX	**Abilene, Hawle**	**4.36**	**236**	IAmb_Lg		03 17 07.0	
	comp=Z,3.9nm,0.9s						
SN07	**Snyder 07**	**5.03**	**248**	IAmb_Lg		03 17 15.6	
	comp=Z,2.6nm,0.8s						

*BGR **08** 03:37:07.0,24.˚22S×178.˚79W,h33km*
*NEIC **08** 03:38:03.7±1.9,23.˚9S±0.˚1×179.˚6W±0.˚1,h510km±6km,*
mb4.5/228,Error ellipse: s-maj=16.4km s-min=13.8km
az=126.0
*IDC **08** 03:38:03.2±1.1,23.˚86S×179.˚71W,h505km±11km,*
mb3.8/21,mbtmp4.6/22,Error ellipse: s-maj=13.3km
s-min=10.2km az=105.0
*NOU **08** 03:38:04.7,23.˚84S×179.˚53W,h535km,mb4.8/42,South*
of Fiji Islands
ISC 08 03:38:03.5±0.3,**23.˚90S**±0.˚05×**179.˚67W**±0.˚06,**h512**km,
n592,σ1§**02**/527,**mb4.5**/141,**12C-7D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.56**	**164**		**P**	**03 39 37.3**	**+1.2**
RAO	**Raoul Island**	**5.56**	**164**	P	**P**	**03 39 34.6**	**-1.5**
	322nm,0.3s,baz=287,slow=19,SNR=6.9						
RAO				S	**S**	**03 40 50.1**	**-1.7**
	273nm,0.3s,baz=86,slow=23,SNR=5.0						
RAO	**Raoul Island**	**5.56**	**164**	P	**P**	**03 39 39.5**	**+3.4**
GLKZ	**Green Lake**	**5.56**	**164**	P	**P**	**03 39 36.9**	**+0.8**
LKBA	**Tubou, Lakemba**	**5.69**	**8**	P	**P**	**03 39 39.2**	**+1.6**
MSVF	**Nonsavu**	**6.50**	**340**		**P**	**03 39 46.4**	**+1.0**
MSVF	**Nonsavu**	**6.50**	**340**	P	**P**	**03 39 46.4**	**+1.0**
TAVE	**Taveuni**	**7.16**	**358**	P	**P**	**03 39 53.4**	**+1.6**
DGTI	**Dogotuki**	**7.58**	**356**	P	**P**	**03 39 57.2**	**+1.1**
YSA	**Yasawairara**	**7.62**	**340**	P	**P**	**03 39 57.9**	**+1.5**
NIUE	**Niue**	**10.26**	**64**		**P**	**03 40 22.9**	**-0.9**
NIUE	**Niue**	**10.26**	**64**	P	**P**	**03 40 24.0**	**+0.2**
PINNC	**Pines Island,**	**11.92**	**274**		**P**	**03 40 43.3**	**+2.1**
PINNC	**Pines Island,**	**11.92**	**274**	P	**P**	**03 40 44.4**	**+3.2**
AFI	**Afiamalu**	**12.42**	**38**		**P**	**03 40 43.2**	**-3.5**
AFI	**Afiamalu**	**12.42**	**38**	P	**P**	**03 40 46.8**	**+0.1**
OUENC	**Ouen Island, N**	**12.50**	**274**	P	**P**	**03 40 50.4**	**+3.0**
OUZ	**Omahuta**	**12.71**	**206**	P	**P**	**03 40 51.8**	**+2.4**
ONTNC	**Ouen Toro**	**12.87**	**274**	P	**P**	**03 40 54.0**	**+2.7**
DZM	**Mont Dzumac**	**12.92**	**275**		**P**	**03 40 53.6**	**+1.6**
DZM	**Mont Dzumac**	**12.92**	**275**	P	**P**	**03 40 52.5**	**+0.6**
	36nm,1.0s,baz=99,slow=13,SNR=11						
DZM	**Mont Dzumac**	**12.92**	**275**	P	**P**	**03 40 54.3**	**+2.3**
KUZ	**Kuaotunu**	**13.41**	**196**	P	**P**	**03 40 57.6**	**+0.9**
RUGZ	**Raukumara Rang**	**14.20**	**189**	P	**P**	**03 41 07.6**	**+2.4**
TWGZ	**Tauwhareparae**	**14.37**	**187**	P	**P**	**03 41 09.3**	**+2.4**
TOZ	**Tahuroa Road**	**14.39**	**196**		**P**	**03 41 07.7**	**+0.7**
TOZ	**Tahuroa Road**	**14.39**	**196**	P	**P**	**03 41 11.9**	**+4.9**
KMRZ	**Kaimai**	**14.40**	**194**	P	**P**	**03 41 10.6**	**+3.4**
KARZ	**Kaharoa**	**14.50**	**193**	P	**P**	**03 41 09.2**	**+1.0**
URZ	**Urewera**	**14.58**	**190**	P	**P**	**03 41 06.2**	**-2.7**
	63nm,0.8s,baz=350,slow=2.6,SNR=26						
URZ				S	**S**	**03 43 38.3**	**-3.6**
	21nm,0.5s,baz=78,slow=20,SNR=9.4						
URZ	**Urewera**	**14.58**	**190**	P	**P**	**03 41 06.9**	**-2.0**
MWZ	**Matawai**	**14.59**	**189**	P	**P**	**03 41 08.9**	**-0.3**
MWZ				S	**S**	**03 43 40.6**	**-1.5**
TKGZ	**Te Karaka**	**14.65**	**188**	P	**P**	**03 41 12.3**	**+2.6**
CNGZ	**Carnagh Station**	**14.65**	**187**	P	**P**	**03 41 12.6**	**+2.8**
RAGZ	**Rawiri'**	**14.76**	**189**	P	**P**	**03 41 12.3**	**+1.3**
RIGZ	**Rimuhau**	**14.92**	**188**	P	**P**	**03 41 15.1**	**+2.5**
RTZ	**Ruatahuna**	**14.95**	**192**		**P**	**03 41 12.4**	**-0.5**
TLZ	**Tolley Road**	**14.96**	**195**	P	**P**	**03 41 14.1**	**+1.1**
SNGZ	**Shanon Statio**	**15.05**	**189**	P	**P**	**03 41 15.7**	**+1.8**
MRHZ	**Matea Rd**	**15.26**	**192**	P	**P**	**03 41 16.9**	**+0.7**
HIZ	**Hauiti**	**15.30**	**196**	P	**P**	**03 41 19.9**	**+3.4**
HIZ	**Hauiti**	**15.30**	**196**	P	**P**	**03 41 18.7**	**+2.2**
HIZ	**Hauiti**	**15.30**	**196**	P	**P**	**03 41 20.8**	**+4.3**
RATZ	**Rangitukua**	**15.42**	**194**	P	**P**	**03 41 19.0**	**+1.2**
NMHZ	**Naumai**	**15.45**	**190**	P	**P**	**03 41 19.9**	**+1.8**
BKZ	**Black Stump Fm**	**15.56**	**191**	P	**P**	**03 41 17.9**	**-1.4**
BKZ	**Black Stump Fm**	**15.56**	**191**	P	**P**	**03 41 20.6**	**+1.3**
BKZ	**Black Stump Fm**	**15.56**	**191**	P	**P**	**03 41 18.3**	**-1.1**
TMVZ	**Te Maari**	**15.67**	**193**	P	**P**	**03 41 21.2**	**+0.7**
TWVZ	**Taurewa**	**15.69**	**194**	P	**P**	**03 41 21.9**	**+1.3**
ETVZ	**East Tongariro**	**15.69**	**193**	P	**P**	**03 41 21.5**	**+0.8**
NNVZ	**North Ngauruho**	**15.71**	**194**	P	**P**	**03 41 22.7**	**+1.8**
NGZ	**Ngauruhoe**	**15.75**	**194**	P	**P**	**03 41 22.9**	**+1.5**
MCHZ	**McNeill Hill**	**15.80**	**190**	P	**P**	**03 41 22.1**	**+0.4**
TUVZ	**Tukino**	**15.83**	**193**	P	**P**	**03 41 22.6**	**+0.4**
KWHZ	**Kaweka Forest**	**15.83**	**191**	P	**P**	**03 41 22.0**	**-0.1**
FWVZ	**Far West T-bar**	**15.84**	**194**	P	**P**	**03 41 23.0**	**+0.7**
WHVZ	**Whangaehu Hut**	**15.86**	**194**	P	**P**	**03 41 22.6**	**0.0**
WNVZ	**Wahianoa**	**15.90**	**194**	P	**P**	**03 41 23.2**	**+0.3**
VRZ	**Vera Road**	**15.90**	**196**	P	**P**	**03 41 25.4**	**+2.7**
MOVZ	**Moawhango**	**15.94**	**193**	P	**P**	**03 41 22.5**	**-0.7**
KRHZ	**Kereru**	**16.05**	**191**	P	**P**	**03 41 23.9**	**-0.4**
KAHZ	**Kahuranaki**	**16.11**	**190**	P	**P**	**03 41 25.1**	**+0.1**
NEZ	**North Egmont**	**16.21**	**198**	P	**P**	**03 41 30.6**	**+4.5**
PNHZ	**Pukenui**	**16.34**	**191**	P	**P**	**03 41 25.7**	**-1.6**
PXZ	**Pawanui**	**16.35**	**190**	P	**P**	**03 41 27.0**	**-0.4**
PRHZ	**Porangahau**	**16.61**	**190**	P	**P**	**03 41 30.0**	**-0.1**
DVHZ	**Dannevirke**	**16.72**	**191**	P	**P**	**03 41 31.2**	**0.0**
ANWZ	**Angora Road**	**16.83**	**190**	P	**P**	**03 41 31.2**	**-0.9**
BFZ	**Birch Farm**	**17.08**	**191**	P	**P**	**03 41 32.5**	**-2.1**
BFZ	**Birch Farm**	**17.08**	**191**	P	**P**	**03 41 33.8**	**-0.8**
MRZ	**Mangatainoka R**	**17.18**	**192**		**P**	**03 41 32.6**	**-3.0**
MRZ	**Mangatainoka R**	**17.18**	**192**	P	**P**	**03 41 33.3**	**-2.3**
OGWZ	**Otaki Gorge**	**17.42**	**193**	P	**P**	**03 41 36.0**	**-1.8**
HOWZ	**Holdsworth Sta**	**17.43**	**192**	P	**P**	**03 41 37.7**	**-0.2**
KIW	**Kapiti Island**	**17.52**	**194**	P	**P**	**03 41 37.3**	**-1.4**
TMWZ	**Te Maipa**	**17.56**	**191**	P	**P**	**03 41 38.9**	**-0.2**
MTW	**Mount Morrison**	**17.68**	**192**	P	**P**	**03 41 39.4**	**-0.8**
CAW	**Cannon Point**	**17.72**	**193**	P	**P**	**03 41 39.7**	**-0.9**
MSWZ	**Moikau Station**	**17.98**	**192**	P	**P**	**03 41 40.9**	**-2.1**
TCW	**Tory Channel**	**17.99**	**195**	P	**P**	**03 41 41.9**	**-1.2**
BHW	**Baring Head**	**18.05**	**193**	P	**P**	**03 41 41.8**	**-1.7**
QRZ	**Quartz Range**	**18.11**	**199**		**P**	**03 41 44.2**	**+0.2**
QRZ	**Quartz Range**	**18.11**	**199**	P	**P**	**03 41 43.8**	**-0.3**
PLWZ	**Palliser**	**18.12**	**192**	P	**P**	**03 41 43.1**	**-1.2**
TKNZ	**Takaka Hill**	**18.17**	**198**	P	**P**	**03 41 44.0**	**-0.7**
NNZ	**Nelson**	**18.22**	**197**	P	**P**	**03 41 44.1**	**-1.0**
TUWZ	**Tuamarina**	**18.28**	**195**	P	**P**	**03 41 45.1**	**-0.5**
THZ	**Tophouse**	**18.86**	**197**		**P**	**03 41 50.0**	**-1.0**
DSZ	**Denniston Nort**	**19.17**	**200**		**P**	**03 41 50.4**	**-0.4**
KHZ	**Kahutara**	**19.31**	**195**		**P**	**03 41 54.0**	**-1.0**
KHZ	**Kahutara**	**19.31**	**195**	P	**P**	**03 41 54.6**	**-0.4**
GVZ	**Greta Valley S**	**19.95**	**196**	P	**P**	**03 42 00.1**	**-0.8**
INZ	**Inchbonnie**	**20.17**	**199**		**P**	**03 42 02.1**	**-0.7**
RPZ	**Rata Peaks**	**21.19**	**199**	P	**P**	**03 42 11.2**	**-0.9**
RPZ	**Rata Peaks**	**21.19**	**199**	P	**P**	**03 42 10.8**	**-1.3**
	24nm,0.5s,baz=338,slow=1.1,SNR=16						
RPZ				S	**S**	**03 45 30.9**	**-2.6**
	7.9nm,0.7s,baz=66,slow=20,SNR=1.5						
	24nm,0.5s						
ODZ	**Otahua Downs**	**22.52**	**198**	P	**P**	**03 42 22.6**	**-1.4**
ODZ				IAmb	IAmb	03 42 29.1	
	comp=Z,19nm,1.3s						
WHZ	**Wether Hill Ro**	**24.12**	**202**	P	**P**	**03 42 38.7**	**+0.4**
WHZ				IAmb	IAmb	03 42 40.1	
	comp=Z,26nm,1.0s						
ARMA	**Armidale**	**26.31**	**249**		**P**	**03 42 59.4**	**+1.3**
ARMA	**Armidale**	**26.31**	**249**	P	**P**	**03 42 59.7**	**+1.6**
EIDS	**Eidsvold**	**26.61**	**261**		**P**	**03 43 01.4**	**+0.8**
EIDS	**Eidsvold**	**26.61**	**261**	P	**P**	**03 43 01.5**	**+0.8**
SYDH	**Sydney Hard Ro**	**27.64**	**242**	P	**P**	**03 43 11.2**	**+1.6**
CNB	**Canberra Magne**	**29.12**	**240**	P	**P**	**03 43 23.8**	**+1.2**
CAN	**Canberra**	**29.41**	**240**	P	**P**	**03 43 26.1**	**+1.0**
CAN	**Canberra**	**29.41**	**240**	P	**P**	**03 43 26.2**	**+1.1**
TVTH	**Townsville Har**	**31.48**	**272**	P	**P**	**03 43 43.7**	**+0.6**
CMSA	**Cobar Meteorol**	**31.50**	**248**	P	**P**	**03 43 44.0**	**+0.9**
CTA	**Charters Tower**	**31.78**	**270**	P	**P**	**03 43 46.4**	**+0.7**
CTAO	**Charters Tower**	**31.78**	**270**		**P**	**03 43 46.3**	**+0.7**
CTAO	**Charters Tower**	**31.78**	**270**	P	**P**	**03 43 46.5**	**+0.8**
QLP	**Quilpie**	**32.70**	**258**	P	**P**	**03 43 54.4**	**+1.0**
TOO	**Toolangi**	**32.70**	**237**	P	**P**	**03 43 54.2**	**+0.8**
TOO				IAmb	IAmb	03 43 55.0	
	comp=Z,20nm,1.4s						
TAU	**Tasmania Unive**	**33.16**	**227**	P	**P**	**03 43 57.9**	**+0.8**
BRAT	**Ballarat**	**33.90**	**238**	P	**P**	**03 44 04.8**	**+1.4**
MTSU	**Mount Surprise**	**34.04**	**273**	P	**P**	**03 44 05.5**	**+0.6**
PMG	**Port Moresby**	**34.78**	**289**		**P**	**03 44 11.0**	**-0.1**
PMG	**Port Moresby**	**34.78**	**289**	P	**P**	**03 44 11.4**	**+0.3**
STKA	**Stephens Creek**	**35.01**	**248**		**P**	**03 44 13.4**	**+0.7**
STKA	**Stephens Creek**	**35.01**	**248**	P	**P**	**03 44 12.5**	**-0.3**
	comp=Z,13nm,0.7s,baz=94,slow=9.3,SNR=14						
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**35.01**	**248**	P	**P**	**03 44 13.5**	**+0.7**
COEN	**Coen**	**36.42**	**279**		**P**	**03 44 25.2**	**+0.5**
COEN				IAmb	IAmb	03 44 26.3	
	comp=Z,31nm,1.1s						
COEN	**Coen**	**36.42**	**279**	P	**P**	**03 44 24.9**	**+0.2**
HTT	**Hallett**	**37.35**	**246**	P	**P**	**03 44 32.9**	**+0.7**
QIS	**Mount Isa**	**37.76**	**267**	P	**P**	**03 44 35.3**	**-0.4**
BBOO	**Buckleboo**	**39.73**	**247**	P	**P**	**03 44 50.9**	**-0.5**
AS01	**Alice Springs**	**42.29**	**261**	P	**P**	**03 45 12.2**	**+0.1**
AS31	**Alice Springs**	**42.34**	**261**		**P**	**03 45 12.2**	**-0.2**
AS31				IAmb	IAmb	03 45 13.2	
	comp=Z,9.8nm,0.8s						
ASAR	**Alice Springs**	**42.34**	**261**		**P**	**03 45 12.2**	**-0.2**
ASAR	**Alice Springs**	**42.34**	**261**	P	**P**	**03 45 12.3**	**-0.1**
	comp=Z,36nm,0.8s,baz=94,slow=8.1,SNR=202						
ASAR				ScP	**ScP**	**03 49 57.0**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=102,slow=4.4,SNR=7.2						
ASAR				S	**S**	**03 50 53.1**	**-3.3**
	comp=Z,1.0nm,0.8s,baz=104,slow=14,SNR=4.3						
	comp=Z,36nm,0.8s						
WR8	**Warramunga Arr**	**42.56**	**266**		**P**	**03 45 13.6**	**-0.6**
WRAB	**Tennant Creek**	**42.70**	**266**	P	**P**	**03 45 14.7**	**-0.6**
WB0	**Warramunga Arr**	**42.70**	**266**		**P**	**03 45 14.8**	**-0.6**
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**03 45 13.2**	**-2.2**
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**03 45 14.5**	**-0.9**
	comp=Z,51nm,0.7s,baz=96,slow=8.4,SNR=274						
WRA				ScP	**ScP**	**03 49 59.2**	**+1.5**
	comp=Z,2.5nm,0.9s,baz=109,slow=4.0,SNR=4.5						
WRA				S	**S**	**03 50 56.0**	**-5.8**
	comp=Z,4.4nm,1.2s,baz=101,slow=14,SNR=5.0						
	comp=Z,51nm,0.7s						
JAY	**Jayapura**	**43.80**	**293**	P	**P**	**03 45 23.5**	**-0.4**
	comp=Z,20nm,1.2s						
GENI	**Genyem**	**44.21**	**292**	P	**P**	**03 45 26.9**	**-0.2**
	comp=Z,63nm,0.8s						
KDU	**Kakadu**	**46.59**	**275**	P	**P**	**03 45 44.6**	**-0.7**
FORT	**Forrest**	**46.60**	**250**		**P**	**03 45 44.5**	**-0.7**
KNRA	**Kununurra**	**48.99**	**270**		**P**	**03 46 03.3**	**0.0**
HMH	**Humu'ula Sheep**	**49.25**	**31**	P	**P**	**03 46 05.5**	**+0.1**
HPAH	**Hawaii Prepara**	**49.52**	**30**	P	**P**	**03 46 04.9**	**-2.2**
FITZ	**Fitzroy Crossi**	**51.13**	**265**		**P**	**03 46 19.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.13**	**265**	P	**P**

WAKR **Walker** 83.87 43 P P 03 49 39.0 -0.4
WAKR IAmb IAmb 03 49 41.4
comp=Z,12nm,1.1s
YBH **Yreka Blue Hor** 83.89 39 P 03 49 39.1 -0.2
YBH **Yreka Blue Hor** 83.89 39 P P 03 49 40.7 +1.5
comp=Z,0.3nm,0.8s,baz=197,slow=0.5,SNR=18
PIX **Pinacate** 83.95 52 P P 03 49 40.2 +0.6
PIX IAmb IAmb 03 49 41.6
comp=Z,9.5nm,1.0s
K02D **Willamette Mer** 83.97 38 P P 03 49 39.7 +0.2
K02D IAmb IAmb 03 49 41.9
comp=Z,13nm,1.2s
HATC **Hat Creek Radi** 84.05 40 P 03 49 39.6 -0.4
HATC IAmb IAmb 03 49 42.0
comp=Z,20nm,1.0s
J01E **Myrtle Point** 84.12 37 P P 03 49 40.7 +0.5
J01E IAmb IAmb 03 49 42.4
comp=Z,15nm,0.9s
DSP **Deep Springs** 84.13 45 P 03 49 40.2 -0.1
IRM **Iron Mountain** 84.18 49 P 03 49 41.4 +0.6
IRM IAmb IAmb 03 49 43.2
comp=Z,17nm,1.2s
Q17K **Contact Creek** 84.22 12 P P 03 49 40.2 -0.3
baz=202
GRAC **Grapevine Rang** 84.31 45 P P 03 49 41.5 +0.2
GRAC IAmb IAmb 03 49 43.4
comp=Z,8.6nm,0.9s
LHV **Little Huntoon** 84.31 44 ⇑P P 03 49 41.3 +0.1
BNX **BinXian** 84.33 326 ⇑P P 03 49 42.6 +1.5
BNX pmax pmax
comp=Z,15nm,3.7s
TROLL **Troll, Antarti** 84.34 181 ⇓P P 03 49 40.8 -0.2
comp=Z,119nm,0.3s
TROLL ⇓x x 03 51 35.1
comp=Z,189nm,0.9s
BLYC **Blythe** 84.39 49 P P 03 49 42.6 +0.8
BLYC IAmb IAmb 03 49 44.0
comp=Z,12nm,1.2s
L04D **Klamath Falls** 84.44 39 IAmb IAmb 03 49 43.9
comp=Z,16nm,1.2s
NVAR **Mina Array Bea** 84.54 44 P 03 49 42.1 -0.6
NVAR **Mina Array Bea** 84.54 44 P P 03 49 43.1 +0.5
comp=Z,2.5nm,0.8s,baz=223,slow=7.6,SNR=18
comp=Z,2.5nm,0.8s
P16K **Nushagak River** 84.55 11 P P 03 49 42.5 +0.7
baz=200
GMN **Gold Mountain** 84.55 45 P P 03 49 42.4 -0.3
PAHR **Pah Rah Range** 84.62 42 P 03 49 42.3 -0.7
NV11 **Mina Array Sit** 84.64 44 P 03 49 42.3 -0.7
BBOR **Butler Butte** 84.64 38 P P 03 49 43.8 +0.8
SNAA **Sanae** 84.66 179 ⇓P P 03 49 41.9 -0.7
comp=Z,17nm,0.6s
SNAA ⇓x x 03 51 37.7
comp=Z,36nm,1.0s
SNAA **Sanae** 84.66 179 P P 03 49 41.8 -0.7
comp=Z,0.5nm,0.5s,baz=203,slow=9.7,SNR=12
comp=Z,0.5nm,0.5s
WCT **Wildcat Mounta** 84.67 46 P P 03 49 43.4 +0.2
M11K **Mekoryuk** 84.70 7 P P 03 49 42.8 +0.3
baz=192
Q18K **Katmai Hardscr** 84.75 13 P P 03 49 42.5 -0.5
baz=202,SNR=5.3
I03D **Drain, OR** 84.79 37 P P 03 49 43.6 +0.1
I03D IAmb IAmb 03 49 45.0
comp=Z,8.9nm,0.8s
N14K **Kuskokwak Cree** 84.81 9 P P 03 49 43.5 +0.4
baz=196
VNA3 **Neumayer Olymp** 84.86 177 ⇑P P 03 49 43.1 -0.4
comp=Z,0.1nm,0.2s
VNA3 ⇓x x 03 51 34.4
comp=Z,2.6nm,0.7s
P17K **Kvichak River** 84.98 12 P P 03 49 44.1 +0.1
baz=201
K04D **Chiloquin, OR** 85.01 39 P P 03 49 42.4 -2.3
TPH **Tonopah** 85.02 45 P P 03 49 44.9 -0.1
O16K **Kokwok River B** 85.06 11 P P 03 49 44.1 -0.2
baz=200
J04A **Umpqua Nationa** 85.19 38 P 03 49 46.4 +0.7
V12A **Nelson** 85.26 48 P P 03 49 46.2 +0.1
Q20K **Shuyak Island** 85.27 14 P P 03 49 45.4 0.0
baz=205
N15K **Kwethluk River** 85.28 10 P P 03 49 45.7 +0.3
baz=198
Q19K **Cape Douglas,** 85.29 13 P P 03 49 45.1 -0.5
baz=204
BUCK **Buck Mountain** 85.31 37 P 03 49 47.5 +1.4
BUCK IAmb IAmb 03 49 48.4
comp=Z,23nm,1.2s
P18K **Big Mountain,** 85.40 12 P P 03 49 45.3 -0.8
baz=202
O17K **Koliganek Bris** 85.41 11 P P 03 49 45.9 -0.1
baz=200
VNA1 **Neumayer--Stat** 85.52 177 ⇓P P 03 49 46.3 -0.3
comp=Z,1.1nm,0.6s
VNA1 ⇓x x 03 51 38.6
comp=Z,4.3nm,1.0s
Y14A **Wickenburg** 85.55 50 P 03 49 46.7 -0.8
K05A **Summer Lake** 85.57 39 P P 03 49 47.6 0.0
K05A IAmb IAmb 03 49 49.7
comp=Z,11nm,0.9s
W13A **Hualapai Mount** 85.57 49 P 03 49 48.1 +0.4
M14K **Bethel** 85.57 9 P P 03 49 46.8 0.0
baz=196
H04D **Lebanon** 85.66 37 P P 03 49 47.3 -0.3
H04D IAmb IAmb 03 49 49.3
comp=Z,7.2nm,0.7s
M15K **Kasigluk River** 85.69 9 P P 03 49 47.4 0.0
baz=197
J05D **Fort Rock, OR** 85.72 39 P 03 49 47.9 -0.3
J05D IAmb IAmb 03 49 50.3
comp=Z,13nm,0.9s
N16K **Nishlik Lake** 85.78 10 P P 03 49 48.1 +0.3
baz=199
O18K **Koktuh Hills** 85.83 12 P P 03 49 47.5 -0.6
O18K **Koktuh Hills** 85.83 12 P P 03 49 47.5 -0.6
baz=202,SNR=5.9
P19K **Oil Pt** 86.04 13 P P 03 49 48.2 -1.0
baz=204
L14K **Kuka Creek** 86.04 8 P P 03 49 49.1 +0.1
baz=195
PRN **Pahroc Range** 86.06 46 P P 03 49 49.4 -0.5
H04A **Detroit Lake** 86.06 37 P 03 49 49.5 -0.1
H04A IAmb IAmb 03 49 50.6
comp=Z,6.2nm,0.7s
N17K **Nushagak Hills** 86.10 11 P P 03 49 49.6 +0.3
baz=200
PINE **Pine Mountain** 86.20 38 P 03 49 51.3 +0.7
PINE IAmb IAmb 03 49 52.8
comp=Z,14nm,1.0s
M16K **Timber Creek** 86.27 10 P P 03 49 50.7 +0.5
baz=199
TUC **Tucson** 86.28 52 P P 03 49 50.8 -0.2
TUC IAmb IAmb 03 49 53.7
comp=Z,11nm,0.9s
I05D **Terrebonne, OR** 86.32 38 IAmb IAmb 03 49 52.2
comp=Z,7.8nm,0.8s
K13K **Kusilvak Mount** 86.38 7 P P 03 49 51.0 +0.3
baz=194
HOM **Homer** 86.38 14 P P 03 49 50.8 +0.1
baz=205
N18K **Kilae Creek** 86.47 11 P P 03 49 51.4 +0.3
baz=202
E03A **Lebam** 86.52 35 IAmb IAmb 03 49 53.8
comp=Z,14nm,1.0s
L15K **Ungalak Mounta** 86.53 9 P P 03 49 51.0 -0.4
baz=196
N19K **Bonanza Creek** 86.86 12 P P 03 49 52.2 -0.9
baz=203
M17K **Holitna River** 86.88 11 IAmb IAmb 03 49 54.2
comp=Z,7.4nm,0.8s
M17K **Holitna River** 86.88 11 P P 03 49 53.4 +0.4
baz=200
LCMT **Little Creek M** 87.04 47 P P 03 49 53.5 -1.1
K15K **Wolf Creek Mou** 87.11 8 IAmb IAmb 03 49 55.5
comp=Z,12nm,0.9s
K15K **Wolf Creek Mou** 87.11 8 P P 03 49 54.6 +0.5
baz=196
M18K **Stony River** 87.24 11 P P 03 49 54.9 +0.2
baz=202
CCUT **Cedar City** 87.26 47 P 03 49 54.4 -1.3
G06A **Carlson Farm,** 87.27 37 IAmb IAmb 03 49 57.0
comp=Z,17nm,1.1s
SEW **Seward** 87.28 15 P P 03 49 55.3 +0.4
baz=207
J14K **Nanvaranak Lak** 87.30 7 P P 03 49 55.4 +0.5
baz=195

KNB **Kanab** 87.33 47 IAmb IAmb 03 49 58.2
comp=Z,9.8nm,1.2s
U15A **North Rim** 87.38 48 IAmb IAmb 03 49 58.6
comp=Z,10nm,1.0s
SPR3 **Spring Creek 3** 87.41 45 P 03 49 55.4 -1.1
L17K **Donlin** 87.43 10 P P 03 49 56.1 +0.5
baz=199
Q23K **Middleton Isla** 87.44 16 P P 03 49 56.0 +0.4
baz=210
WUAZ **Wupatki** 87.53 49 IAmb IAmb 03 49 59.1
comp=Z,9.4nm,1.4s
GNW **Green Mountain** 87.56 35 IAmb IAmb 03 49 58.5
comp=Z,13nm,1.2s
GAMB **Gambell** 87.61 4 P P 03 49 56.6 +0.3
baz=187
N20K **Mount Spurr** 87.66 13 P P 03 49 56.1 -0.8
baz=205
SPCR **Spurr Chakacha** 87.66 13 P P 03 49 56.3 -0.5
baz=205
P23K **Montague Islan** 87.67 16 P P 03 49 56.8 0.0
baz=209
SPU **Mount Spurr** 87.68 13 IAmb IAmb 03 49 58.0
comp=Z,5.5nm,0.8s
L18K **Granite Mounta** 87.77 11 IAmb IAmb 03 49 58.4
comp=Z,19nm,1.4s
L18K **Granite Mounta** 87.77 11 P P 03 49 57.1 -0.1
baz=201
ELK **Elko** 87.81 43 P P 03 49 58.8 +0.5
comp=Z,1.7nm,0.7s,baz=254,slow=4.4,SNR=10
comp=Z,1.7nm,0.7s
M19K **Big River Lodg** 87.88 12 P P 03 49 57.1 -0.7
baz=203
PKCU **Pink Cliffs** 87.90 47 IAmb IAmb 03 50 01.6
comp=Z,12nm,1.0s
CBB **Campbell River** 87.91 32 IAmb IAmb 03 50 00.2
comp=Z,12nm,1.1s
K17K **Iditarod** 87.98 10 IAmb IAmb 03 49 58.9
comp=Z,7.0nm,1.1s
K17K **Iditarod** 87.98 10 P P 03 49 58.1 -0.1
baz=199
STLK **Strandline Lak** 88.01 13 IAmb IAmb 03 50 32.1
comp=Z,8.6nm,0.8s
L19K **White Mountain** 88.05 11 P P 03 49 58.5 -0.1
baz=202,SNR=14
F07A **Phinny Hill Vi** 88.06 37 IAmb IAmb 03 50 00.8
comp=Z,10nm,0.9s
RC01 **Rabbit Creek A** 88.09 14 P P 03 49 58.5 -0.2
baz=207
M20K **Styx River** 88.10 12 P P 03 49 58.6 -0.2
baz=204
BBB **Bella Bella** 88.11 29 P P 03 49 59.5 +0.5
comp=Z,8.2nm,0.8s,baz=186,slow=2.8,SNR=4.5
comp=Z,8.2nm,0.8s
J16K **Anvik River** 88.19 8 IAmb IAmb 03 50 00.2
comp=Z,6.2nm,1.0s
J16K **Anvik River** 88.19 8 P P 03 49 59.2 +0.1
baz=197
PWL **Port Wells** 88.20 15 P P 03 49 58.9 -0.4
baz=208
SUA **Susitna One** 88.20 13 P P 03 49 58.7 -0.7
baz=206
MXC **Moxie City** 88.28 36 IAmb IAmb 03 50 01.8
comp=Z,11nm,0.8s
MTPU **Mount Pierson** 88.31 47 IAmb IAmb 03 50 03.4
comp=Z,5.7nm,0.9s
L20K **Farewell, AK** 88.51 12 P P 03 49 59.9 -0.8
baz=203,SNR=5.1
J17K **VABM Dome** 88.51 9 IAmb IAmb 03 50 01.6
comp=Z,4.8nm,0.8s
J17K **VABM Dome** 88.51 9 P P 03 50 00.6 0.0
baz=199
SKT **Skwentna** 88.51 13 P P 03 49 59.1 -1.5
baz=205
GLI **Glacier Island** 88.52 15 P P 03 50 00.1 -0.6
baz=209
EYAK **Cordova Ski Ar** 88.56 16 P P 03 50 00.5 -0.4
baz=211
HAWA **Hanford** 88.58 37 IAmb IAmb 03 50 03.3
comp=Z,14nm,1.0s
M22K **Willow** 88.60 14 P P 03 50 00.6 -0.4
baz=207
KNK **Knik Glacier** 88.66 14 P P 03 50 01.0 -0.4
baz=208
PMR **Palmer** 88.67 14 IAmb IAmb 03 50 01.9
comp=Z,10nm,1.0s
PMR **Palmer** 88.67 14 P P 03 50 00.2 -1.2
PMR **Palmer** 88.67 14 P P 03 50 01.4 0.0
baz=208
I17K **Unalakleet** 88.75 8 P P 03 50 02.1 +0.4
baz=197
BGLC **Bering Glacier** 88.84 17 P P 03 50 01.6 -0.6
baz=213
ANM **Nome** 88.87 6 P P 03 50 02.6 +0.3
baz=193
V35K **Ketchikan** 88.91 25 P P 03 50 02.2 -0.4
baz=223
U33K **Whale Pass** 88.92 24 P P 03 50 02.5 -0.1
baz=221
J18K **Innoko River** 88.93 10 IAmb IAmb 03 50 03.5
comp=Z,10nm,0.9s
J18K **Innoko River** 88.93 10 P P 03 50 02.5 -0.2
baz=201
MFID **Camas Ranch** 88.96 41 IAmb IAmb 03 50 05.1
comp=Z,12nm,0.9s
DIV **Divide** 89.06 16 IAmb IAmb 03 50 05.1
comp=Z,16nm,1.2s
CUT **Chulitna** 89.15 13 P P 03 50 02.9 -0.8
baz=206
PPLA **Purkeypile** 89.21 12 P P 03 50 04.3 +0.2
baz=205
BMRM **Bremner River** 89.21 16 IAmb IAmb 03 50 05.0
comp=Z,11nm,0.9s
BMRM **Bremner River** 89.21 16 P P 03 50 03.9 -0.2
baz=212
S31K **Pelican** 89.23 22 P P 03 50 04.0 -0.1
baz=219
MESA **MESA** 89.26 18 P P 03 50 04.6 +0.2
baz=214
K20K **Telida** 89.28 11 IAmb IAmb 03 50 04.8
comp=Z,6.2nm,0.8s
K20K **Telida** 89.28 11 P P 03 50 03.8 -0.4
baz=203
H16K **Elim** 89.28 7 P P 03 50 04.1 -0.1
baz=196
SCM **Sheep Creek Mo** 89.29 15 P P 03 50 04.1 -0.3
baz=209
D08A **Wollman Farm,** 89.32 37 IAmb IAmb 03 50 06.6
comp=Z,8.6nm,0.9s
KLU **Klutina** 89.33 15 P P 03 50 04.5 -0.1
baz=210
SEY **Seymchan** 89.33 348 P P 03 50 04.6 +0.2
comp=Z,5.2nm,0.8s,baz=163,slow=9.1,SNR=6.3
comp=Z,5.2nm,0.8s
E09A **Wood Farm, Sta** 89.42 37 IAmb IAmb 03 50 06.7
comp=Z,6.2nm,1.0s
CRQE **Cirque** 89.42 17 P P 03 50 05.3 +0.2
baz=213
G15K **Niukluk** 89.43 7 P P 03 50 04.6 -0.2
baz=194
WRAK **Wrangell Islan** 89.44 24 IAmb IAmb 03 50 07.3
comp=Z,9.0nm,0.9s
WRAK **Wrangell Islan** 89.44 24 P P 03 50 05.1 +0.1
baz=222
PNL **Peninsula** 89.58 19 P P 03 50 05.6 -0.1
baz=216
J19K **Poorman** 89.61 10 P P 03 50 05.8 +0.1
baz=202
F10A **Beach Ranch, E** 89.62 38 IAmb IAmb 03 50 07.3
comp=Z,6.6nm,0.8s
PINM **Pinnacle** 89.67 19 P P 03 50 06.2 -0.1
baz=215
CAST **Castle Rocks** 89.70 12 P P 03 50 04.6 -1.6
baz=205,SNR=17
MPU **Maple Canyon** 89.72 45 IAmb IAmb 03 50 08.9
comp=Z,5.6nm,0.9s
N25K **Chitina, Valde** 89.76 16 IAmb IAmb 03 50 07.7
comp=Z,7.4nm,0.9s
N25K **Chitina, Valde** 89.76 16 P P 03 50 06.1 -0.5
baz=212
PLID **Pearl Lake** 89.81 39 IAmb IAmb 03 50 08.8
comp=Z,10nm,1.4s
CMAR **Chiang Mai Arr** 89.81 290 P P 03 50 08.6 +0.8
comp=Z,0.7nm,0.3s,baz=120,slow=3.1,SNR=4.5
comp=Z,0.7nm,0.3s
VHRN **Van Horn** 89.83 56 IAmb IAmb 03 50 09.9
comp=Z,5.0nm,1.0s
Y22A **Socorro** 89.86 53 IAmb IAmb 03 50 09.8
comp=Z,7.4nm,1.1s
B08A **Colville Reser** 89.89 35 IAmb IAmb 03 50 08.3
comp=Z,7.3nm,1.3s
HLID **Hailey** 89.89 41 IAmb IAmb 03 50 09.7
comp=Z,5.8nm,0.9s
MCARA **McCarthy VSAT** 89.97 17 P P 03 50 07.5 0.0
baz=213
SRU **San Rafael Swe** 89.98 47 IAmb IAmb 03 50 09.9
comp=Z,10nm,0.9s
P17A **Butcher Ranch,** 90.02 46 IAmb IAmb 03 50 11.0
comp=Z,8.0nm,1.1s
J20K **Nowinta River** 90.02 11 IAmb IAmb 03 50 08.4
comp=Z,8.3nm,1.2s
J20K **Nowinta River** 90.02 11 P P 03 50 07.5 -0.2
baz=203
KTH **Kantishna Hill** 90.05 12 IAmb IAmb 03 50 07.4
comp=Z,8.2nm,0.9s
R32K **Eaglecrest** 90.05 22 P P 03 50 08.2 +0.3
baz=220
P29M **Windy Craggy** 90.06 20 P P 03 50 07.8 -0.1
baz=218
LOGN **Logan Glacier** 90.06 18 IAmb IAmb 03 50 09.2
comp=Z,10.0nm,1.0s
BARN **Barnard Glacie** 90.07 17 IAmb IAmb 03 50 09.4
comp=Z,12nm,1.1s
CTG **Chitna Glacier** 90.08 18 P P 03 50 08.0 -0.2
baz=214
CTGM **Chitina Glacie** 90.08 18 IAmb IAmb 03 50 09.2
comp=Z,9.1nm,0.9s
CHUM **Lake Minchumin** 90.08 12 P P 03 50 07.4 -0.5
baz=205
TRF **Thorofare Moun** 90.08 13 P P 03 50 06.9 -1.3
baz=206,SNR=11
GCSA **Galena City Sc** 90.11 10 P P 03 50 08.2 +0.2
baz=201
TX31 **Lajitas Ar. Si** 90.17 58 IAmb IAmb 03 50 11.4
comp=Z,4.7nm,0.8s
TXAR **Lajitas Array** 90.17 58 P P 03 50 10.4 +1.1
comp=Z,3.6nm,0.7s,baz=222,slow=5.0,SNR=34
comp=Z,3.6nm,0.7s
O28M **Mount Upton** 90.25 18 P P 03 50 08.9 -0.2
baz=215
HARP **HAARP** 90.30 15 P P 03 50 09.0 0.0
baz=211
G17K **Kiwalik Mounta** 90.31 8 P P 03 50 08.9 0.0
baz=197
RND **Reindeer** 90.34 13 IAmb IAmb 03 50 09.6
comp=Z,10nm,1.0s
PV05 **Paradox Valley** 90.41 48 IAmb IAmb 03 50 12.2
comp=Z,5.5nm,1.1s
P18A **Preston Nutter** 90.43 46 IAmb IAmb 03 50 12.1
comp=Z,6.1nm,1.0s
BPAW **Bear Paw Mtn.** 90.53 12 P P 03 50 10.0 -0.1
baz=206
I20K **Naaghedeneel** 90.54 10 P P 03 50 10.1 +0.1
baz=203
HWUT **Hardware Ranch** 90.60 44 IAmb IAmb 03 50 12.2
comp=Z,4.1nm,0.7s
MCK **McKinley** 90.61 13 P P 03 50 10.9 +0.4
baz=208
HHC **Hu-ho-hao-te** 90.63 315 eP P 03 50 11.6 +0.4
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,140nm,3.9s
PV23 **Carpenter Ridg** 90.66 48 IAmb IAmb 03 50 12.9
comp=Z,5.6nm,0.8s
ALPN **Alpine** 90.67 57 IAmb IAmb 03 50 13.3
comp=Z,4.8nm,1.0s
P30M **Million Dollar** 90.69 20 P P 03 50 11.1 +0.2
baz=218
SKAG **Skagway** 90.69 21 P P 03 50 10.8 0.0
baz=220
PAX **Paxson** 90.72 15 P P 03 50 11.1 +0.1
baz=211
ANMO **Albuquerque** 90.72 52 P P 03 50 11.1 -0.7
M26K **Nabesna, AK** 90.84 16 P P 03 50 11.7 +0.1
baz=213
H19K **Roundabout Mou** 90.91 9 P P 03 50 11.9 +0.2
baz=201
G18K **Tagagawik** 90.94 8 P P 03 50 12.2 +0.3
baz=199
PZH **PanZhiHua** 90.95 299 P P 03 50 13.3 +0.3
S34M **Telegraph Cree** 90.98 24 IAmb IAmb 03 50 14.2
comp=Z,5.8nm,0.8s
S34M **Telegraph Cree** 90.98 24 P P 03 50 12.4 +0.2
baz=223
YUK3 **Moose Creek** 90.99 17 P P 03 50 12.4 -0.1
baz=215
HYT **Haines Junctio** 91.08 19 P P 03 50 12.8 +0.1
baz=218
M27K **Edge Creek, AK** 91.09 17 IAmb IAmb 03 50 14.1
comp=Z,6.0nm,0.9s
M27K **Edge Creek, AK** 91.09 17 P P 03 50 13.1 +0.3
baz=214
H20K **Anotleneega Mo** 91.12 10 P P 03 50 12.7 0.0
baz=202
F17K **Baldwin Pennin** 91.14 7 P P 03 50 12.8 +0.1
baz=197
L26K **Log Cabin Wild** 91.27 16 P P 03 50 13.5 0.0
baz=213
I21K **Tanana** 91.32 11 P P 03 50 13.2 -0.4
baz=205
P32M **Atlin** 91.32 21 P P 03 50 13.9 0.0
baz=221
Q32M **Nakina River** 91.35 22 P P 03 50 13.7 -0.5
baz=222
NEA2 **Nenana** 91.35 13 P P 03 50 13.1 -0.6
baz=208
K24K **Donnelly Dome** 91.36 14 P P 03 50 13.5 -0.4
baz=210
G19K **Purcell Mounta** 91.39 9 P P 03 50 13.8 -0.2
baz=200
BVCY **Beaver Creek** 91.41 17 P P 03 50 14.0 -0.1
baz=215
MLY **Manley** 91.42 12 P P 03 50 13.1 -1.0
baz=206
WRH **Wood River Hil** 91.44 13 P P 03 50 13.0 -1.2
WRH IAmb IAmb 03 50 14.2
comp=Z,4.9nm,0.8s
F18K **Selawik** 91.48 8 P P 03 50 13.5 -0.8
baz=198
H21K **Melozitna Rive** 91.61 11 P P 03 50 14.6 -0.4
baz=204
HDA **Harding Lake** 91.63 14 IAmb IAmb 03 50 16.1
comp=Z,3.6nm,0.6s
HDA **Harding Lake** 91.63 14 P P 03 50 14.5 -0.6
baz=210
SAND **Sanderson** 91.65 58 IAmb IAmb 03 50 17.2
comp=Z,4.4nm,1.0s
CCB **Clear Creek Bu** 91.66 13 IAmb IAmb 03 50 14.4
comp=Z,3.0nm,0.8s
L27K **Beaver Creek,** 91.69 16 P P 03 50 14.9 -0.5
baz=214
E17K **Hotham Inlet** 91.69 7 P P 03 50 15.1 -0.2
baz=196
BCAR **Beaver Creek A** 91.70 16 P 03 50 14.5 -1.0
N30M **Aishikik Lake** 91.70 19 P P 03 50 14.9 -0.7
baz=218
WHY **Whitehorse** 91.76 20 P P 03 50 15.8 -0.1
baz=220
DLBC **Dease Lake** 91.77 24 P P 03 50 15.8 -0.1
baz=224
I23K **Minto, Yukon-K** 91.79 12 P P 03 50 15.7 0.0
baz=207
S22A **4UR Ranch, Cre** 91.80 49 IAmb IAmb 03 50 18.7
comp=Z,5.0nm,1.0s
COLA **College** 91.85 13 P P 03 50 16.0 0.0
baz=209
SCRK **Sand Creek** 91.92 15 P P 03 50 16.7 +0.1
baz=212
IL31 91.96 13 IAmb IAmb 03 50 16.4
comp=Z,7.4nm,1.5s
ILAR **Eielson Array** 91.96 13 P P 03 50 15.3 -1.3
comp=Z,1.2nm,0.7s,baz=225,slow=5.4,SNR=21
comp=Z,1.2nm,0.7s
FXWY **Fox Creek** 92.01 43 IAmb IAmb 03 50 20.1
comp=Z,4.5nm,1.2s
H22K **Ishtalitna Cre** 92.08 11 P P 03 50 17.0 -0.2
baz=206
M29M **Somme Creek** 92.08 18 P P 03 50 17.6 +0.2
M29M IAmb IAmb 03 50 17.9
comp=Z,3.1nm,0.8s
M29M **Somme Creek** 92.08 18 P P 03 50 17.3 0.0
baz=217
N31M **Braeburn, Yuko** 92.12 19 P P 03 50 17.1 -0.3
baz=219
R33M **Jennings River** 92.12 23 P P 03 50 17.3 -0.3
baz=223
POKR **Poker Plat Res** 92.15 13 P P 03 50 17.0 -0.4

baz=209
J25K Salcha River, 92.15 14 P P 03 50 16.9 -0.7
J25K IAmb IAmb 03 50 17.9
comp=Z,5.3nm,1.4s
J25K Salcha River, 92.15 14 P P 03 50 16.8 -0.7
baz=211
D17K Noatak River 92.15 6 P P 03 50 17.2 -0.1
baz=195
E18K Tukpahlearik C 92.15 7 P P 03 50 17.2 -0.2
baz=197
G21K Allakaket 92.28 10 P P 03 50 17.7 -0.4
baz=204
H23K Yukon River 92.36 12 P P 03 50 17.9 -0.5
baz=207
K27K Chicken 92.43 16 P P 03 50 19.1 +0.3
K27K IAmb IAmb 03 50 20.0
comp=Z,4.6nm,0.9s
K27K Chicken 92.43 16 P P 03 50 18.3 -0.4
baz=214
F20K Avaraart Lake 92.44 9 P P 03 50 18.5 -0.2
baz=202
J26L Joseph Creek 92.47 15 P 03 50 19.3 +0.2
J26L IAmb IAmb 03 50 20.1
comp=Z,6.5nm,0.8s
J26L Joseph Creek 92.47 15 P P 03 50 19.0 -0.1
baz=212,SNR=9.8
PDAR Pinedale Array 92.48 44 P P 03 50 19.8 0.0
comp=Z,1.7nm,0.7s,baz=215,slow=4.0,SNR=18
comp=Z,1.7nm,0.7s
DRIO Del Rio 92.59 59 P 03 50 20.8 +0.4
E19K Redstone River 92.61 8 P P 03 50 19.3 -0.2
baz=200
M30M Minto, Yukon 92.67 18 P P 03 50 19.9 0.0
M30M IAmb IAmb 03 50 20.7
comp=Z,2.6nm,0.7s
M30M Minto, Yukon 92.67 18 P P 03 50 19.6 -0.4
baz=218,SNR=5.2
H24K Noodor Dome 92.69 13 P P 03 50 20.5 +0.6
baz=209
N32M Quiet Lake 92.71 21 P P 03 50 19.8 -0.4
baz=222
L29M L29M 92.71 18 IAmb IAmb 03 50 21.5
comp=Z,5.7nm,0.9s
L29M L29M 92.71 18 P P 03 50 20.3 +0.2
baz=217,SNR=6.4
C17K DeLong Mountai 92.90 6 P P 03 50 21.2 +0.4
baz=195
PRP Porcupine Dome 92.90 14 P P 03 50 21.0 -0.1
baz=211
G23K Bananza Creek 93.06 11 P P 03 50 21.6 0.0
baz=207
M31M Drury Creek, Y 93.09 19 P P 03 50 21.5 -0.3
baz=220
DAWY Dawson 93.14 17 IAmb IAmb 03 50 22.9
comp=Z,5.0nm,0.8s
DAWY Dawson 93.14 17 P P 03 50 22.0 -0.1
baz=216
I26K Coal Creek Min 93.24 14 P P 03 50 22.4 0.0
baz=213
C18K Utukok River 93.27 7 P P 03 50 22.6 +0.1
baz=197
F22K John River 93.41 10 P P 03 50 23.2 0.0
baz=205
K29M Barlow Dome 93.46 17 IAmb IAmb 03 50 24.3
comp=Z,3.4nm,0.9s
K29M Barlow Dome 93.46 17 P P 03 50 23.4 -0.3
baz=218
D19K Kuna River 93.47 8 P P 03 50 23.2 -0.3
baz=200
H25L Birch Creek 93.48 13 P P 03 50 23.4 -0.1
baz=211
E20K Nigu River 93.50 9 P P 03 50 23.3 -0.4
baz=201
LZH Lanzhou 93.61 308 eP P 03 50 23.4 -1.7
LZH pP pwP 03 52 21.9 -0.9
LZH sP sP 03 53 12.6 +3.5
LZH pmax pmax
comp=Z,12nm,1.0s
I27K Kandik River 93.85 15 P P 03 50 24.8 -0.5
baz=214
G25K Bearman Lake 93.86 13 P P 03 50 24.9 -0.3
baz=210
D20K Etivluk River 93.87 8 P P 03 50 25.2 -0.1
baz=201
E21K Killik River 93.99 9 P P 03 50 25.6 -0.2
baz=203
I28M Miner Creek 94.12 16 IAmb IAmb 03 50 26.9
comp=Z,2.7nm,0.9s
I28M Miner Creek 94.12 16 P P 03 50 26.0 -0.6
baz=216
F24K Squaw Lake 94.17 12 P P 03 50 26.4 -0.3
baz=209
E23K Chandalar 94.33 11 P P 03 50 27.3 -0.2
baz=207
J30M Hart River 94.36 17 P P 03 50 27.7 0.0
baz=219
MMPY Sheldon Lake, 94.38 20 P P 03 50 27.8 0.0
baz=223
H27K Steamboat Moun 94.39 15 P P 03 50 27.8 +0.1
baz=214
G26K Porcupine Rive 94.49 13 P P 03 50 28.2 +0.1
baz=212
C21K Knifeblade Rid 94.53 9 P P 03 50 28.7 +0.5
baz=203
F25K Christian Rive 94.66 12 P P 03 50 29.1 +0.1
baz=211
A19K Wainwright 94.77 6 P P 03 50 29.5 +0.2
baz=197
G27K Doyon Strip 94.84 14 P P 03 50 29.9 +0.2
baz=214
I30M Mount Dempster 94.85 17 IAmb IAmb 03 50 30.5
comp=Z,3.2nm,1.0s
I30M Mount Dempster 94.85 17 P P 03 50 29.7 -0.3
baz=219
TOLK Toolik Lake Re 94.86 11 P P 03 50 30.4 +0.6
baz=207
D23K Nanushuk River 94.97 10 P P 03 50 30.7 +0.4
baz=206
B21K Ikpikpuk River 94.98 9 P P 03 50 30.8 +0.5
baz=203
B20K Meade River 95.02 8 P P 03 50 30.8 +0.4
baz=200
F26K Sheenjek River 95.05 13 P P 03 50 31.0 +0.3
baz=212
H29M Whitestone 95.13 16 P P 03 50 30.9 -0.1
baz=217
EPYK Eagle Plains 95.66 16 P P 03 50 33.3 -0.1
baz=219
C23K Itkillik River 95.76 10 P P 03 50 34.2 +0.5
baz=206
G29M Pine Creek 95.77 15 P P 03 50 34.3 +0.3
baz=218
H31M Peel River 95.84 17 P P 03 50 34.6 +0.3
baz=221
F28M Old Crow 95.90 14 P P 03 50 34.8 +0.3
baz=216
E27K Coleen River 95.99 13 P P 03 50 35.0 +0.1
baz=214
G30M tAoh Zraii Nji 96.26 16 P P 03 50 36.1 -0.1
baz=219
G31M Satah River 96.71 16 P P 03 50 38.1 0.0
baz=221
C27K Jago River 96.77 12 P P 03 50 38.7 +0.4
baz=213
E28M Babbage River 96.78 14 P P 03 50 38.6 +0.2
baz=216
C26K Camden Bay 96.80 11 P P 03 50 38.7 +0.3
baz=212
F30M Barrier River 96.86 16 P P 03 50 38.9 +0.2
baz=220
E29M Blow River 96.97 14 P P 03 50 39.5 +0.2
baz=218
D27M Malcolm River 96.99 13 P P 03 50 39.5 +0.1
baz=215
MKAR Makanchi Array 112.38 313 PKiKP PKiKP 03 55 39.5 -1.4
comp=Z,0.6nm,0.7s,baz=60,slow=3.3,SNR=4.4
BVAR Borovoye Array 120.64 319 PKP PKPdf 03 55 55.8 -0.8
comp=Z,0.8nm,0.4s,baz=64,slow=3.4,SNR=5.5
SPITS Spitsbergen Ar 125.14 356 PKP PKPdf 03 56 03.5 -1.1
comp=Z,4.4nm,0.7s,baz=11,slow=2.9,SNR=2.4
ARCES ARCESS Array B 131.95 348 PKP PKPdf 03 56 17.1 -0.6
comp=Z,1.5nm,0.6s,baz=51,slow=1.4,SNR=9.3
ARCES SKPbc SKPbc 03 58 55.6 -0.3
comp=Z,6.2nm,0.9s,baz=12,slow=6.2,SNR=6.9
FINES FINESS Array B 138.54 342 PKP PKPdf 03 56 31.2 +1.0
comp=Z,1.0nm,0.8s,baz=45,slow=1.9,SNR=4.4
FINES SKPbc SKPbc 03 59 16.1 -0.4
comp=Z,4.0nm,0.8s,baz=57,slow=7.0,SNR=7.5

NB2 NORSAR Subarra 142.13 351 PKP PKPpre 03 56 32.3
comp=Z,1.0nm,0.7s,baz=16,slow=3.2
NB2 NORSAR Subarra 142.13 351 PKP PKPpre 03 56 32.3
baz=16,slow=3.2
NOA NORSAR Array B 142.13 351 PKhKP PKPpre 03 56 32.2
comp=Z,3.5nm,0.9s,baz=16,slow=4.7,SNR=13
NOA SKPbc SKPbc **03 59 24.9 -1.0**
comp=Z,0.9nm,0.9s,baz=15,slow=4.2,SNR=3.5
NC602 NORSAR Array S 142.37 351 eP PKPpre 03 56 33.1
HFS Hagfors 142.60 349 PKhKP PKPpre 03 56 33.6
comp=Z,4.4nm,0.4s,baz=64,slow=3.4,SNR=56
HFS SKPbc **SKPbc 03 59 26.0 -1.0**
comp=Z,1.8nm,0.8s,baz=17,slow=2.0,SNR=3.5
MNK Minsk 143.18 333 i PKP PKPab 03 56 36.4 0.0
comp=E,7.0nm,0.8s
MNK *i* PKP PKPab 03 56 36.4 0.0
comp=N,6.0nm,0.8s
MNK *i* PKP PKPab 03 56 36.4 0.0
comp=Z,20nm,0.9s,baz=45
MNK *j* pPKP pPKPdf 03 58 41.4 +2.5
MNK *i* SKP 03 59 21.6
MNK *i* PKS sPKPdf 03 59 26.8 -1.9
MNK *i* sPKP 03 59 31.8
MNK *i* PP **PP 03 59 55.8 +0.2**
MNK *i* PPP PPP 04 02 31.1
MNK *i* SKS **SKSdf 04 03 02.8 +3.4**
MNK *i* SS SS 04 19 23.1 +89
MNK *i* SSS SSS 04 24 45.3
ASK Askov 143.28 356 eP PKPab 03 56 36.6 +0.1
NACGM Naroch 143.34 334 ePKP PKPbc 03 56 37.2 -0.1
comp=Z,11nm,1.0s,baz=42
BER Bergen 143.37 356 eP PKPbc 03 56 37.2 0.0
KONO Kongsberg 143.69 352 PKPab 03 56 37.4 -0.7
KONO Kongsberg 143.69 352 eP PKPab 03 56 37.7 -0.5
ODD1 Odda 143.74 355 eP PKPab 03 56 38.0 -0.5
KMY Karmoy 144.54 356 eP PKPdf 03 56 40.6 -0.3
AKASG Malin Array Be 145.13 327 PKPdf 03 56 42.1 0.0
AKASG Malin Array Be 145.13 327 PKPbc PKPdf 03 56 42.0 -0.2
comp=Z,5.3nm,0.7s,baz=44,slow=4.1,SNR=24
AKASG SKPbc **SKPbc 03 59 32.4 -0.8**
comp=Z,0.2nm,0.3s,baz=49,slow=2.3,SNR=6.5
KIEV Kiev 145.15 327 PKPdf 03 56 41.5 -0.7
KIEV Kiev 145.15 327 PKP PKPdf 03 56 40.9 -1.3
SUW Suwalki 145.39 336 ePKP PKPdf 03 56 43.0 +0.5
BRTR Keskin Array B 147.82 307 PKPbc PKPbc 03 56 50.1 -0.9
comp=Z,0.8nm,0.7s,baz=95,slow=3.4,SNR=5.0
KMPD K-Podol'skiy 147.89 327 PKP PKPdf 03 56 45.6 -1.3
MMAI Mount Meron Ar 147.98 294 PKPbc PKiKP 03 56 52.6 -0.2
comp=Z,2.0nm,0.5s,baz=84,slow=2.9,SNR=5.4
EKA Eskdalemuir Ar 148.50 4 PKPbc PKPbc 03 56 51.1 -0.8
comp=Z,1.9nm,0.6s,baz=334,slow=2.8,SNR=8.4
KWP Kalwaria Pacla 148.91 331 ePKP PKPbc 03 56 53.2 +0.1
BURAR Bucovina Array 149.14 326 PKPbc 03 56 54.2 +0.3
KOLS Kolonicke sedl 149.62 331 ePKP PKiKP 03 56 55.7 0.0
OJC Ojcow 149.67 335 ePKP PKPbc 03 56 54.9 -0.1
OJC Ojcow 149.67 335 PKPbc 03 56 54.2 -0.7
RUE Ruedersdorf 149.67 344 ePKPbc PKPbc 03 56 55.1 +0.3
comp=Z,14nm,0.6s,baz=21,slow=2.2
STHS Stebnicka Huta 149.71 332 ePKP PKPbc 03 56 54.5 -0.6
GORT1 Trebel 149.78 347 ePKPbc PKPbc 03 56 55.1 +0.1
comp=Z,26nm,1.3s,baz=21,slow=2.2
NIE Niedzica 150.10 333 ePKP PKiKP 03 56 57.0 +0.3
KSP Ksiaz 150.40 339 ePKP PKPbc 03 56 56.8 +0.2
FLTG Flechtingen 150.41 346 ePKPbc PKPbc 03 56 56.3 -0.3
comp=Z,9.3nm,1.0s,baz=21,slow=2.2
NRDL Niedersach Rie 150.49 348 ePKPbc PKPbc 03 56 56.8 +0.1
comp=Z,6.4nm,0.8s,baz=21,slow=2.2
LANS Lipovska Anna 150.65 334 ePKP PKiKP 03 56 58.5 +0.7
STEB Steborice 150.66 337⇑ePKP PKPbc 03 56 57.5 +0.2
STEB ePKPAB **PKPab 03 57 06.4 -0.1**
OSTC Ostas 150.67 339⇑ePKP PKiKP 03 56 57.8 0.0
CHVC Chvalec 150.69 339⇑ePKP PKPbc 03 56 57.4 0.0
ASSE Asse, Remlinge 150.72 347 ePKPbc PKPbc 03 56 57.2 0.0
comp=Z,8.5nm,1.1s,baz=21,slow=2.2
UPC Upice 150.78 339⇑ePKP PKiKP 03 56 57.8 -0.2
DPC Dobruska-Polom 150.81 339⇑ePKP PKiKP 03 56 58.0 -0.1
MORC Moravsky Berou 150.87 337 ePKP PKPbc 03 56 57.5 -0.3
CLL Collm 150.94 344 ePKPbc PKPbc 03 56 57.6 -0.3
comp=Z,12nm,0.8s,baz=21,slow=2.2
CLL Collm 150.94 344⇑i PKPbc PKPbc 03 56 57.5 -0.4
comp=Z,13nm,0.8s
CLL *i* PKPab **PKPab 03 57 07.1 -0.5**
comp=Z,5.0nm,0.8s
CLZ Clausthal 151.06 347 ePKPbc PKPbc 03 56 58.2 +0.1
comp=Z,7.8nm,0.8s,baz=21,slow=2.2
BRG Berggiesshubel 151.08 342 ePKPbc PKPbc 03 56 58.3 0.0
comp=Z,6.9nm,0.7s,baz=21,slow=2.2
BRG Berggiesshubel 151.08 342 P PKPab 03 57 08.8 +0.6
BRG Amp 03 57 09.5
comp=Z,5.1nm,1.1s
MAUC Matuska 151.11 336⇑ePKP PKiKP 03 56 58.9 +0.2
VYHS Vyhne 151.42 334 ePKP PKPbc 03 56 58.9 -0.2
GOPC GO Pecny, Ondr 151.68 340⇑ePKP PKPbc 03 56 58.5 -1.1
KRUC Moravsky 151.88 337 ePKP PKPbc 03 56 59.8 -0.3
MODS Modra-Piesok 152.13 335 ePKP PKPab 03 57 11.0 -1.8
KHC Kasperske Hory 152.74 341⇑ePKP PKPbc 03 57 01.8 -0.2
KHC ePKPAB **PKPab 03 57 15.5 +0.2**
CKRC Cesky Krumlov 152.79 340⇑ePKP PKPbc 03 57 01.9 -0.2
GERES GERESS Array B 152.96 340 PKPbc PKPbc 03 57 01.6 -1.0
comp=Z,0.8nm,0.7s,baz=42,slow=2.2,SNR=5.6
CONA Conrad Observa 153.03 337 ePKP PKPab 03 57 17.2 +0.5
comp=Z,5.2nm,0.9s
RONA Rosalia, Austr 153.06 336 ePKP PKPab 03 57 17.8 +1.0
comp=Z,7.7nm,0.9s
MOA Molln 153.65 339 ePKP PKPab 03 57 21.1 +1.9
comp=Z,6.4nm,1.6s
LESA Schwarzleotal 154.54 340 ePKP PKPab 03 57 25.3 +2.2
comp=Z,7.2nm,1.3s
RETA Reutte 155.03 343 ePKP PKPab 03 57 25.5 +0.3
comp=Z,5.1nm,1.0s
DAVA Damuels 155.44 344 ePKP PKPab 03 57 27.5 +0.4
comp=Z,4.6nm,0.8s
ESDC Sonseca Array 163.86 12 PKPab PKPab 03 58 03.5 -0.4
ESDC Sonseca Array 163.86 12 PKPab PKPab 03 58 02.6 -1.3
comp=Z,3.1nm,1.1s,baz=349,slow=4.7,SNR=13
KEST Kesra 165.86 329 PKPab PKPab 03 58 13.1 +0.1
comp=Z,3.1nm,0.8s,baz=71,slow=11,SNR=3.8
TORD Torodi Ar. Bea 169.23 187 PKPab PKPab 03 58 27.5 -0.5
comp=Z,0.8nm,0.7s,baz=160,slow=2.7,SNR=5.8

*IDC **08** 03:41:15.2±0.7, 30.67S×177.90W, h0km, mb4.3/6, mbtmp4.3/7, ML3.8/1, MS3.5/4, Error ellipse: s-maj=25.7km s-min=18.4km az=101.0*

*NEIC **08** 03:41:21.3±1.9, 30.55S±0.06×177.9W±0.2, h35km±2km, mb4.5/20, Error ellipse: s-maj=24.9km s-min=10.0km az=94.0*

ISC 08 03:41:21.5±0.6, 30.66S±0.05×177.9W±0.1, h46km, n71, σ2s10/69, mb4.5/19, MS3.6/3, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.40**	**358**	P	**Pn**	**03 41 43.6**	**-1.0**
GLKZ				S	**Sn**	**03 41 59.1**	**-2.8**
RAO	**Raoul Island**	**1.41**	**358**		**Pn**	**03 41 43.5**	**-1.3**
RAO				Sn	**Sn**	**03 41 57.5**	**-4.6**
RAO	**Raoul Island**	**1.41**	**358**	Pn	**Pn**	**03 41 43.4**	**-1.3**
	253nm,0.3s,baz=81,slow=12,SNR=11						
RAO				Sn	**Sn**	**03 42 00.1**	**-2.0**
	1µm,0.3s,baz=203,slow=23,SNR=8.7						
RIZ	**Raoul Island**	**1.42**	**358**	P	**Pn**	**03 41 44.0**	**-0.8**
RIZ				S	**Sn**	**03 41 59.8**	**-2.5**
WMGZ	**Waiomatatini S**	**7.77**	**202**	P	**Pn**	**03 43 08.9**	**-3.1**
HAZ	**Te Kaha**	**7.94**	**206**	P	**Pn**	**03 43 11.3**	**-3.1**
HAZ				S	**Sn**	**03 44 41.2**	**-1.6**
RUGZ	**Raukumara Rang**	**8.16**	**206**	P	**Pn**	**03 43 14.9**	**-2.6**
RUGZ				S	**Sn**	**03 44 43.8**	**-4.6**
TWGZ	**Tauwhareparae**	**8.24**	**203**	P	**Pn**	**03 43 14.9**	**-3.6**
TWGZ				S	**Sn**	**03 44 47.4**	**-3.0**
WCZ	**Waipu Caves**	**8.38**	**229**	P	Pn	03 43 25.7	+5.4
CNGZ	**Carnagh Statio**	**8.45**	**201**	P	**Pn**	**03 43 17.6**	**-3.7**
OUZ	**Omahuta**	**8.49**	**235**	P	**Pn**	**03 43 26.3**	**+4.4**
MWZ	**Matawai**	**8.54**	**205**	P	Pn	03 43 17.9	-4.7
MWZ				S	**Sn**	**03 44 54.0**	**-3.7**
URZ	**Urewera**	**8.64**	**207**	Pn	**Pn**	**03 43 20.6**	**-3.3**
	1.0nm,0.3s,baz=37,slow=20,SNR=7.2						
URZ				Sn	**Sn**	**03 44 56.0**	**-3.9**
	7.1nm,0.3s,baz=249,slow=3.3,SNR=8.7 3.2nm,0.3s						
TOZ	**Tahuroa Road**	**8.94**	**216**		**Pn**	**03 43 30.6**	**+2.6**
RTZ	**Ruatahuna**	**9.00**	**207**	Pn	**Pn**	**03 43 29.5**	**+0.6**
SNGZ	**Shannon Statio**	**9.01**	**205**	S	**Sn**	**03 45 04.8**	**-4.3**
BKZ	**Black Stump Fm**	**9.66**	**207**		**Pn**	**03 43 40.2**	**+2.2**
TUWZ	**Tuamarina**	**12.62**	**209**	Pn	**Pn**	**03 44 19.7**	**+1.4**

CTZ Chatham Island 13.09 176 P Pn 03 44 23.5 -1.2
RPZ Rata Peaks 15.72 211 Pn Pn 03 44 55.0 -4.7
0.7nm,0.3s,baz=74,slow=16,SNR=1.2
RPZ Sn Sn 03 47 35.7 -17
0.9nm,0.3s,baz=9.6,slow=20,SNR=1.4
DZM Mont Dzumac 16.45 298 LR LR 03 50 02.3
comp=Z,167nm,18.4s,baz=192,slow=32
ARMA Armidale 26.24 263 P P 03 46 51.7 -0.8
ARMA IAmb IAmb 03 46 51.9
comp=Z,21nm,1.5s
EIDS Eidsvold 27.87 273 P P 03 47 07.7 +0.7
EIDS IAmb IAmb 03 47 08.3
comp=Z,14nm,1.5s
TOO Toolangi 30.97 247 P P 03 47 35.2 +0.8
CTAO Charters Tower 33.96 280 P P 03 48 02.2 +1.5
CTAO IAmb IAmb 03 48 02.7
comp=Z,7.0nm,0.7s
STKA Stephens Creek 34.53 257 P P 03 48 07.0 +1.4
STKA Stephens Creek 34.53 257 P P 03 48 06.4 +0.8
comp=Z,15nm,0.7s,baz=98,slow=11,SNR=15
comp=Z,15nm,0.7s
BBOO Buckleboo 39.01 254 P P 03 48 43.3 -0.4
COEN Coen 39.46 286 P P 03 48 47.8 +0.2
COEN IAmb IAmb 03 48 50.8
comp=Z,7.7nm,1.0s
AS31 Alice Springs 43.21 267 P P 03 49 17.9 -0.5
ASAR Alice Springs 43.21 267 P 03 49 19.2 +0.8
ASAR Alice Springs 43.21 267 P P 03 49 17.7 -0.7
comp=Z,1.4nm,0.3s,baz=104,slow=7.5,SNR=6.8
ASAR LR LR 04 05 10.1
comp=Z,31nm,18.7s,baz=136,slow=33
comp=Z,1.4nm,0.3s
WR0 Warramunga Arr 44.05 272 P P 03 49 24.6 -0.4
WR8 Warramunga Arr 44.08 272 P P 03 49 24.7 -0.7
WR8 IAmb IAmb 03 49 26.2
comp=Z,4.0nm,0.6s
WB2 Warramunga Arr 44.22 272 P P 03 49 25.9 -0.5
WB2 IAmb IAmb 03 49 26.5
comp=Z,5.2nm,0.6s
WRA Warramunga Arr 44.23 272 P P 03 49 26.1 -0.5
WRA Warramunga Arr 44.23 272 P P 03 49 26.1 -0.5
comp=Z,3.9nm,0.4s,baz=111,slow=8.0,SNR=22
comp=Z,3.9nm,0.4s
WB0 Warramunga Arr 44.25 273 P P 03 49 26.1 -0.7
WB0 IAmb IAmb 03 49 27.1
comp=Z,7.7nm,0.9s
FORT Forrest 46.09 255 P P 03 49 41.5 +0.2
SBA Scott Base 47.78 184 P P 03 49 56.7 +3.0
SBA IAmb IAmb 03 50 10.1
comp=Z,5.7nm,1.4s
VNDA Vanda 47.85 186 P P 03 49 56.4 +2.2
CASY Casey 54.96 208 P P 03 50 47.0 -0.6
CASY IAmb IAmb 03 50 47.7
comp=Z,4.2nm,0.8s
RPN Rapa Nui 59.25 105 LR LR 04 11 34.4
comp=Z,79nm,21.1s,baz=18,slow=31
QSPA South Pole Qui 59.45 180 P P 03 51 22.3 +2.9
QSPA South Pole Qui 59.45 180 P P 03 51 20.5 +1.1
comp=Z,2.0nm,0.7s,baz=60,slow=0.8,SNR=6.3
comp=Z,2.0nm,0.7s
BELA Belgrano 2 69.51 172 P P 03 52 25.5 +0.7
BELA IAmb IAmb 03 52 35.8
comp=Z,8.1nm,1.5s
PMSA Palmer Station 71.98 156 P P 03 52 41.0 +1.1
JHJ Hachijo jima 2 75.02 324 P P 03 52 59.3 +1.1
comp=Z,135nm,0.9s,baz=107,slow=19,SNR=3.5
TROLL Troll, Antarti 77.61 180 ⇑P P 03 53 13.7 +1.1
comp=Z,166nm,0.8s
SNAA Sanae 77.89 178 ⇑P P 03 53 14.8 +0.7
comp=Z,26nm,0.5s
SNAA Sanae 77.89 178 P P 03 53 14.4 +0.3
comp=Z,0.4nm,0.3s,baz=222,slow=3.7,SNR=7.6
comp=Z,0.4nm,0.3s
VNA3 Neumayer Olymp 78.03 176 ⇑P P 03 53 15.5 +0.7
comp=Z,4.4nm,0.6s
VNA1 Neumayer--Stat 78.70 176 ⇑P P 03 53 18.1 -0.3
comp=Z,2.1nm,0.8s
H03S2 Juan Fernandez 80.22 123 T T 05 22 45.0
baz=238,slow=74,SNR=9.1
H03S1 Juan Fernandez 80.23 123 T T 05 22 45.6
baz=238,slow=74,SNR=7.2
H03S3 Juan Fernandez 80.24 123 T T 05 22 43.0
baz=238,slow=74,SNR=8.5
H03N3 Juan Fernandez 80.41 123 T T 05 22 54.6
baz=242,slow=72,SNR=8.7
H03N2 Juan Fernandez 80.42 123 T T 05 22 54.5
baz=242,slow=72,SNR=16
H03N1 Juan Fernandez 80.43 123 T T 05 22 52.8
baz=242,slow=72,SNR=17
SHEM Shemya Is, Ala 83.34 355 LR LR 04 23 52.2
comp=Z,25nm,21.8s,baz=343,slow=31
NVAR Mina Array Bea 88.35 43 P P 03 54 10.4 +1.9
comp=Z,0.8nm,0.7s,baz=221,slow=8.1,SNR=8.0
comp=Z,0.8nm,0.7s
KURBB Kurchatov Arra 121.35 314 PKP PKPdf 04 00 08.3 -0.9
comp=Z,0.5nm,0.3s,baz=102,slow=2.5,SNR=4.3
BVAR Borovoye Array 126.68 316 PKP PKPdf 04 00 18.9 -0.4
comp=Z,0.7nm,0.4s,baz=90,slow=2.3,SNR=3.9
FINES FINESS Array B 145.43 340 PKPbc PKPbc 04 00 53.1 -0.7
comp=Z,7.4nm,0.6s,baz=58,slow=4.2,SNR=55
NB2 NORSAR Subarra 149.03 351 PKP PKPbc 04 01 03.9 0.0
comp=Z,0.9nm,0.5s,baz=12,slow=2.6
NOA NORSAR Array B 149.03 351 PKPbc PKPbc 04 01 04.0 0.0
comp=Z,1.3nm,0.6s,baz=15,slow=4.2,SNR=8.5
HFS Hagfors 149.53 349 PKPbc PKPbc 04 01 04.7 -0.4
comp=Z,2.9nm,0.7s,baz=48,slow=2.2,SNR=7.7
AKASG Malin Array Be 151.58 323 PKPbc PKPbc 04 01 09.8 -0.5
comp=Z,1.9nm,0.6s,baz=50,slow=2.8,SNR=8.4
MMAI Mount Meron Ar 151.71 284 PKPbc PKiKP 04 01 12.2 +0.6
comp=Z,1.5nm,0.4s,baz=102,slow=2.6,SNR=5.9
BRTR Keskin Array B 152.83 298 PKPbc PKPbc 04 01 12.8 -0.8
comp=Z,0.5nm,0.5s,baz=90,slow=2.6,SNR=3.8
TORD Torodi Ar. Bea 162.56 179 PKPab PKPab 04 02 07.6 +0.6
comp=Z,0.3nm,0.4s,baz=179,slow=4.6,SNR=7.0

NEIC 08 04:03:59.1±1.1, 37.39N±0.03×97.92W±0.02, h5km±2km, mb_Lg2.2/17, ML2.6/18, Error ellipse: s-maj=4.9km s-min=3.4km az=359.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN14	**Manchester OK**	**0.43**	**185**		Pg	04 04 07.9	+0.5
KAN14				Sg	Sg	04 04 12.8	-0.2
GC02	**Grant County #**	**0.54**	**175**		Pg	04 04 09.8	+0.4
GC02				Sg	Sg	04 04 16.3	-0.1
BLOK	**Blackwell**	**0.84**	**138**		Pb	04 04 16.2	0.0
BLOK				Sg	Sg	04 04 26.9	+0.8
CROK	**Carrier**	**0.88**	**183**		Pg	04 04 16.0	0.0
CROK				Sg	Sb	04 04 28.4	-0.6
NOKA	**Waynoka**	**1.10**	**228**	Pg	Pg	04 04 20.4	+0.1
NOKA				Sg	Sg	04 04 34.3	-0.3
NOKA				IAML		04 04 34.4	
	comp=E,114nm,0.3s						
NOKA				IAML		04 04 43.0	
	comp=N,144nm,0.3s						
OK038	**West end E0370**	**1.12**	**216**		Pg	04 04 20.8	+0.1
R32A	**Long Quarter,**	**1.21**	**329**		Pn	04 04 23.6	+0.9
R32A				IAML		04 04 44.9	
	comp=N,93nm,0.3s						
R32A				IAML		04 04 45.0	
	comp=N,97nm,0.3s						
T35A	**Sooner Cattle**	**1.22**	**112**		Pn	04 04 23.6	+0.7
T35A				IAML		04 04 43.9	
	comp=N,180nm,0.2s						
T35A				IAML		04 04 44.9	
	comp=N,150nm,0.1s						
QUOK	**Quay**	**1.55**	**141**		Pg	04 04 28.7	-0.2
OK029	**Liberty Lake**	**1.63**	**167**		Pb	04 04 30.0	+0.3
OK029				IAmb_Lg		04 04 54.6	
	comp=Z,17nm,0.9s						
OK052	**Battle Ridge R**	**1.66**	**147**		Pb	04 04 29.9	-0.2
ELIS	**Ellis County**	**1.79**	**223**	Pn	Pb	04 04 32.2	-0.2
CSTR	**Hydro, Custer**	**1.84**	**200**	Pn	Pn	04 04 32.1	+0.6
DEOK	**Depew**	**1.92**	**143**	Pn	Pn	04 04 32.8	+0.4
DEOK				IAmb_Lg		04 05 00.1	
	comp=Z,9.5nm,1.1s						
OKCSW	**OKLAHOMA CITY**	**2.02**	**169**	Pn	Pn	04 04 34.5	+0.7
CBKS	**Cedar Bluff**	**2.02**	**315**	Pn	Pb	04 04 35.2	-1.2
FNO	**Franklin**	**2.17**	**169**	Pn	Pn	04 04 36.7	+0.9
TUL3	**Leonard**	**2.26**	**130**	Pn	Pn	04 04 38.6	+1.5
RLO	**Rose Lookout**	**2.63**	**117**	Pn	Pn	04 04 43.0	+0.9
WMOK	**Wichita Mounta**	**2.73**	**195**	Pn	Pn	04 04 44.5	+0.8
SMWD	**Samnorwood**	**2.95**	**220**	IAmb_Lg		04 05 38.7	
	comp=Z,7.0nm,1.1s						
HHAR	**Hobbs**	**3.38**	**108**	IAmb_Lg		04 05 55.0	

comp=Z,5.3nm,0.8s
RTBA Rita Blanca 3.98 258 IAmb_Lg 04 06 15.6
comp=Z,4.1nm,1.2s
FCAR Ozark Folk Cen 4.89 106 IAmb_Lg 04 06 35.0
comp=Z,3.6nm,0.7s
N38A Joes South For 4.99 46 IAmb_Lg 04 06 45.4
comp=Z,6.6nm,0.7s
T25A Trinidad 5.18 269 IAmb_Lg 04 06 54.2
comp=Z,3.4nm,0.7s
CCM Cathedral Cave 5.33 81 IAmb_Lg 04 06 56.5
comp=Z,5.8nm,1.1s

---

*AFAD **08** 04:30:42.5, 35°.18N × 27°.89E, h24km ± 3km, MW3.9*
*ISK **08** 04:30:43.7, 35°.26N × 27°.80E, h10km, ML2.9/9*
ISC 08 04:30:42.2 ± 1.8, 35°.18N ± 0°.06 × 27°.88E ± 0°.05, h3km ± 15km, n22, σ1°66/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.69**	**302**	Pg	**Pg**	**04 30 55.4**	**-0.1**
KARP				Sg	**Sg**	**04 31 04.5**	**0.0**
ARG	**Arkhangelos**	**1.05**	**11**	Pg	**Pg**	**04 31 03.4**	**+1.0**
ZKR	**Zakros**	**1.36**	**268**	Pn	**Pg**	**04 31 08.6**	**+0.3**
ZKR				Sn	**Sg**	**04 31 26.8**	**+0.8**
YAZI	**Mula-Dat§a-**	**1.54**	**347**	P	**Pb**	**04 31 11.0**	**-0.3**
YAZI				S	**Sg**	**04 31 31.6**	**0.0**
DAT	**Datca**	**1.56**	**351**	Pn	**Pb**	**04 31 11.0**	**-0.9**
TURN	**Turunc**	**1.62**	**10**	P	**Pg**	**04 31 12.8**	**-0.4**
IZZE	**Mula-Seydike**	**1.66**	**41**	P	**Pb**	**04 31 12.6**	**-0.8**
SABU	**Mula-Dalaman**	**1.86**	**28**	P	**Pb**	**04 31 15.4**	**-1.5**
BDRM	**Kayabasi**	**1.92**	**349**	P	**Pb**	**04 31 16.5**	**-1.3**
BDRM				S	**Sg**	**04 31 42.3**	**-1.4**
MULA	**Mugla, Merkez-**	**2.10**	**10**	P	**Pb**	**04 31 20.9**	**-0.1**
CAME	**Cameli-Denizli**	**2.10**	**33**	Pn	**Pb**	**04 31 19.6**	**-1.4**
KNIK	**Mula-Seydike**	**2.15**	**39**	P	**Pn**	**04 31 18.7**	**-0.4**
DNZT	**Denizli-Tavas-**	**2.29**	**23**	P	**Pn**	**04 31 21.3**	**+0.3**
DNZT				S	**Sg**	**04 32 00.2**	**+4.4**
IDI	**Anoyia**	**2.45**	**273**	Pn	**Pn**	**04 31 23.9**	**+0.8**
GOLH	**Golhisar**	**2.46**	**33**	P	**Pb**	**04 31 25.3**	**-1.8**
AYDN	**Tasoluk**	**2.48**	**360**	P	**Pn**	**04 31 23.3**	**-0.2**
AYDN				S	**Sg**	**04 31 59.0**	**-2.8**
APMY	**Acipayam-Deniz**	**2.56**	**26**	Pn	**Pn**	**04 31 25.8**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.76**	**0**	Pn	**Pn**	**04 31 27.9**	**+0.4**
ODEM	**Odemis-Izmir**	**3.09**	**3**	Pn	**Pn**	**04 31 33.1**	**+1.1**
GAZI	**Gazipasa**	**3.76**	**72**	P	**Pn**	**04 31 40.0**	**-1.0**
GAZI				S	**Sn**	**04 32 22.4**	**-3.5**
SEDI	**Konya, Seydise**	**3.86**	**53**	P	**Pn**	**04 31 44.1**	**+1.5**
SEDI				S	**Sn**	**04 32 31.9**	**+3.3**
ERMK	**Ermenek**	**4.34**	**69**	P	**Pn**	**04 31 50.7**	**+1.5**
ERMK				S	**Sn**	**04 32 40.7**	**+0.4**

DJA 08 04:36:01.1 ± 0.6, 10°S ± 6° × 11°1E °, h10km, M4.1/18, mB5.2/1, mb4.3/4, MLv4.0/18, Mw(mB)4.5/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**2.09**	**360**	P	Pn	04 36 35.7	-0.5
WOJI	**Wonogiri, Jawa**	**2.46**	**354**	P	Pn	04 36 41.2	-0.1
UGM	**Wanagama**	**2.46**	**344**	P	Pn	04 36 41.7	+0.3
NGJI	**Ngawi**	**2.93**	**5**	P	Pn	04 36 48.7	+1.0
GMJI	**Gumukmas**	**3.00**	**48**	P	Pn	04 36 48.3	-0.4
SMRI	**Semarang**	**3.31**	**347**	P	Pn	04 36 53.1	0.0
JAGI	**Jajag, Banyuwa**	**3.44**	**58**	P	Pn	04 36 54.9	+0.1
KPJI	**Karang Pucung**	**3.70**	**323**	P	Pn	04 36 59.4	+1.1
ABJI	**Asem Bagus**	**3.90**	**51**	P	Pn	04 37 01.2	0.0
SRBI	**Singaraja**	**4.54**	**61**	P	Pn	04 37 10.3	+0.4
TWSI	**Taliwang, Sumb** 0.2nm16nm,1.1s	**5.83**	**75**	P	Pn	04 37 27.4	-0.2
PLAI	**Plampang**	**6.66**	**78**	P	Pn	04 37 39.5	+0.4

---

*IDC **08** 04:39:20.0 ± 0.5, 14°.75S × 75°.90W, h0km, mb4.7/17, mbtmp4.7/21, ML3.8/5, MS4.2/45, Error ellipse: s-maj=19.9km s-min=11.0km az=66.0*
*NEIC **08** 04:39:21.2, 14°.89S × 76°.11W, h24km*
*NEIC **08** 04:39:21.2, 14°.79S × 75°.90W, h24km, Moment Tensor Solution. Duration: 1§3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.77; $M_{\theta\theta}$-2.00; $M_{\phi\phi}$-0.77; $M_{r\theta}$0.19; $M_{\theta\phi}$1.19; $M_{\phi r}$-0.64; Fault plane solution: $M_0$2.83000 × 10^{16} NP1: ϕ_s292.74000°, δ40.55000°, λ76.66000°. NP2: ϕ_s130.08000°, δ50.76000°, λ101.17000°. Principal axes: T 2.8807, Plg80.0000°, Azm92.0000°; N -0.1092, Plg9.0000°, Azm303.0000°; P -2.7714, Plg5.0000°, Azm212.0000°;*
*MOS **08** 04:39:22.2 ± 1.4, 14°.81S × 76°.06W, h23km, mb5.1/27 Error ellipse: s-maj=14.0km s-min=7.9km az=113.4*
*NEIC **08** 04:39:23.1 ± 1.6, 14°.89S ± 0°.07 × 76°.09W ± 0°.09, h19km ± 4km, mb5.1/412, Mww4.9/13, Error ellipse: s-maj=14.0km s-min=8.1km az=64.0*
*VAO **08** 04:39:26.8 ± 0.9, 14°.80S × 75°.81W, h40km ± 6km, mb4.7*
*GCMT **08** 04:39:28.2 ± 0.3, 14°.98S ± 0°.01 × 75°.97W ± 0°.02, h27km, MW5.0/89, Moment Tensor Solution. s57,c65; s89,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.75 ± .16; $M_{\theta\theta}$-2.44 ± .10; $M_{\phi\phi}$-1.31 ± .12; $M_{r\theta}$0.99 ± .15; $M_{\theta\phi}$1.66 ± .06; $M_{\phi r}$-1.37 ± .24; Best double couple: M_o4.05700 × 10^{16} NP1: ϕ_b299.00000°, δ34.00000°, λ78.00000°. NP2: ϕ_s133.00000°, δ57.00000°, λ98.00000°. Principal axes: T 4.1490, Plg76.0000°, Azm67.0000°; N -0.1830, Plg7.0000°, Azm309.0000°; P -3.9660, Plg12.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 04:39:24.1 ± 0.3, 14°.89S ± 0°.05 × 76°.02W ± 0°.06, h29km, n698, σ1§04/479, mb5.0/217, MS4.3/45, 8C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.00**	**344**	Pn	**Pn**	**04 40 08.0**	**-1.8**
	21nm,0.3s,baz=174,slow=12,SNR=41						
NNA				Sn	**Sn**	**04 40 43.6**	**-1.2**
	168nm,0.3s,baz=126,slow=19,SNR=8.0						
	54nm,0.3s						
AP01	**Chacalluta**	**6.45**	**123**	Pn	**Pn**	**04 40 57.9**	**+0.7**
PB18	**Visviri**	**6.83**	**114**		**Pn**	**04 41 05.0**	**+2.1**
LPAZ	**La Paz**	**7.73**	**101**	Pn	**Pn**	**04 41 18.1**	**+2.8**
	9.0nm,0.3s,baz=286,slow=8.0,SNR=227						
LPAZ				LR	LR	04 44 33.5	
	comp=Z,2μm,19.2s,baz=256,slow=41						
LPAZ	**La Paz**	**7.73**	**101**	*eP*	**Pn**	**04 41 14.6**	**-0.7**
TA02	**Huaiquique**	**7.75**	**134**		**Pn**	**04 41 14.9**	**-0.2**
PB11	**IPOC Station P**	**7.77**	**129**		**Pn**	**04 41 14.6**	**-0.9**
CZSB	**Cruzeiro do Su**	**7.83**	**25**		**Pn**	**04 41 17.2**	**+1.1**
CZSB	**Cruzeiro do Su**	**7.83**	**25**	*eP*	**Pn**	**04 41 16.8**	**+0.7**
CZSB	**Cruzeiro do Su**	**7.83**	**25**	P	**Pn**	**04 41 17.8**	**+1.7**
	4μm3μm193nm,0.7s						
TA01	**Diego Aracena**	**7.92**	**136**		**Pn**	**04 41 16.9**	**-0.5**
ATAH	**Atahualpa**	**8.05**	**343**	Pn	**Pn**	**04 41 18.6**	**-1.1**
	3.1nm,0.3s,baz=184,slow=5.7,SNR=17						
ATAH				Sn	**Sn**	**04 42 49.3**	**-0.7**
	7.6nm,0.3s,baz=120,slow=12,SNR=4.0						
ATAH				LR	LR	04 44 12.7	
	comp=Z,791nm,19.7s,baz=188,slow=37						
GO01	**Chusmiza**	**8.06**	**127**		**Pn**	**04 41 19.8**	**0.0**
PATCX	**Punta Patache**	**8.12**	**137**		**Pn**	**04 41 20.1**	**-0.2**
PB08	**IPOC Station P**	**8.37**	**130**		**Pn**	**04 41 24.0**	**+0.1**
PB02	**IPOC Station P**	**8.64**	**139**		**Pn**	**04 41 27.2**	**-0.2**
PB01	**IPOC Station P**	**8.72**	**135**		**Pn**	**04 41 28.3**	**-0.1**
PB03	**IPOC Station P**	**9.27**	**141**		**Pn**	**04 41 35.5**	**-0.6**
PB09	**IPOC Station P**	**9.41**	**138**		**Pn**	**04 41 38.9**	**+0.9**
PB05	**IPOC Station P**	**9.64**	**146**		**Pn**	**04 41 40.0**	**-1.1**
PB06	**IPOC Station P**	**9.88**	**143**		**Pn**	**04 41 43.7**	**-0.8**
PB10	**IPOC Station P**	**10.01**	**150**		**Pn**	**04 41 45.1**	**-1.0**
AF01	**San Pedro de A**	**10.92**	**138**		**Pn**	**04 42 00.6**	**+1.8**
PB14	**IPOC Station P**	**11.03**	**152**	Pn	**Pn**	**04 41 58.0**	**-2.3**
GO02	**Mina Guanaco**	**11.87**	**150**		**Pn**	**04 42 11.9**	**+0.1**
TBTG	**Tabatinga, AM**	**12.22**	**30**		**Pn**	**04 42 15.7**	**-0.7**
TBTG	**Tabatinga, AM**	**12.22**	**30**	*eP*	**Pn**	**04 42 16.0**	**-0.4**
TBTG	**Tabatinga, AM**	**12.22**	**30**	P	**Pn**	**04 42 16.0**	**-0.4**
	2μm236nm,1.1s						
AC01	**Pan de Azucar**	**12.29**	**156**	Pn	**Pn**	**04 42 17.2**	**-0.1**
COHC	**Cochancay**	**12.75**	**345**		**Pn**	**04 42 23.2**	**-0.5**
COHC	**Cochancay**	**12.75**	**345**	P	**Pn**	**04 42 27.3**	**+3.6**
	809nm58nm,0.9s						
AC06	**Mina Casimiro**	**13.48**	**158**	Pn	**Pn**	**04 42 33.5**	**-0.1**
AC02	**Maricunga**	**13.51**	**153**		**Pn**	**04 42 35.1**	**+0.7**
GO03	**Copiapo**	**13.74**	**158**	Pn	**Pn**	**04 42 37.4**	**+0.3**
PIAT	**Ana Tenorio**	**13.98**	**351**	P	**Pn**	**04 42 43.7**	**+2.9**
	826nm59nm,0.8s						
SIV	**San Ignacio**	**14.45**	**96**	Pn	**Pn**	**04 42 43.3**	**-3.6**
	0.1nm,0.3s,baz=275,slow=13,SNR=32						
SIV				Lg	Lg	04 46 56.5	
	baz=315,slow=20,SNR=2.3						
SIV				LR	LR	04 49 05.3	
	comp=Z,3μm,18.6s,baz=292,slow=41						
	4.5nm,0.5s						
BBSD	**Serra de San D**	**14.99**	**101**	*eP*	**Pn**	**04 42 49.9**	**-4.2**
OTAV	**Otavalo**	**15.22**	**351**		**P**	**04 43 04.2**	**+1.8**
OTAV	**Otavalo**	**15.22**	**351**	P	**P**	**04 43 04.2**	**+1.8**
OTAV				pmax	pmax		
	comp=Z,21nm,1.9s						
OTAV	**Otavalo**	**15.22**	**351**	*eP*	**Pn**	**04 42 58.7**	**+1.0**
OTAV	**Otavalo**	**15.22**	**351**	P	**P**	**04 43 04.9**	**+2.5**
VILB	**Vilhena**	**15.48**	**85**		**Pn**	**04 42 57.0**	**-3.6**
VILB	**Vilhena**	**15.48**	**85**	*eP*	**Pn**	**04 42 57.4**	**-3.2**
CO05	**La Serena**	**15.59**	**164**	P	**P**	**04 43 04.2**	**-1.7**
CO05				IAmb	IAmb	04 43 09.4	
	comp=Z,130nm,1.1s						
TULM	**Tulcn-Chalpat**	**15.61**	**353**	P	**P**	**04 43 07.7**	**+1.0**
	comp=Z,650nmcomp=Z,64nm,0.8s						
TEFE	**Tefe**	**15.93**	**46**	*eP*	**Pn**	**04 43 06.9**	**+0.5**
GO04	**Tololo Observa**	**15.95**	**163**		**P**	**04 43 09.1**	**-1.0**
GO04				IAmb	IAmb	04 43 13.5	
	comp=Z,91nm,0.9s						
CO01	**Juntas del Tor**	**15.97**	**161**	P	**P**	**04 43 09.3**	**-1.1**
PTLB	**Pontes e Lacer**	**16.31**	**94**		**Pn**	**04 43 09.6**	**-1.6**
PTLB	**Pontes e Lacer**	**16.31**	**94**	*eP*	**Pn**	**04 43 11.6**	**+0.4**
FLOC	**Florencia**	**16.37**	**1**	P	**Pn**	**04 43 11.8**	**-0.3**
MACC	**Macarena, Meta**	**17.06**	**7**	P	**P**	**04 43 24.1**	**+1.8**
	comp=Z,68nm,0.9s						
SGC2	**Sao Gabriel da**	**17.16**	**32**	P	**Pn**	**04 43 20.3**	**-1.7**
	comp=Z,46nm,1.0s						
POPC	**Popayan, Colom**	**17.33**	**358**	P	**P**	**04 43 27.9**	**+2.4**
	comp=Z,557nmcomp=Z,31nm,1.7s						
CFA	**Coronel Fontan**	**18.09**	**158**	P	**P**	**04 43 34.1**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=339,slow=12,SNR=27						
CFA				LR	LR	04 49 34.8	
	comp=Z,389nm,18.4s,baz=13,slow=34						
	comp=Z,19nm,0.7s						
VA03	**San Esteban**	**18.47**	**165**	IAmb	IAmb	04 43 48.9	
	comp=Z,185nm,1.7s						
H03N1	**Juan Fernandez**	**18.65**	**188**	T	T	05 03 04.5	
	baz=9.0,slow=74,SNR=1474						
H03N2	**Juan Fernandez**	**18.65**	**188**	T	T	05 03 01.1	
	baz=9.0,slow=74,SNR=1018						
H03N3	**Juan Fernandez**	**18.67**	**188**	T	T	05 03 00.6	
	baz=9.0,slow=74,SNR=1257						
ORTC	**Ortega, Tolima**	**18.70**	**2**	P	Pn	04 43 49.6	+8.7
MURT	**Porto Murtinho**	**18.72**	**114**	*eP*	**P**	**04 43 40.2**	**-0.4**
VILC	**Villavicencio,**	**19.02**	**7**	P	Pn	04 43 54.1	+9.2
PDRB	**Porto dos Gac**	**19.06**	**82**	*eP*	**P**	**04 43 43.8**	**-0.5**
BDQN	**Bodoquena, MS**	**19.17**	**110**	*eP*	**P**	**04 43 45.1**	**-0.4**
LMEL	**Las Melosas**	**19.59**	**165**	IAmb	IAmb	04 43 59.8	
	comp=Z,104nm,1.5s						
SALV	**Santo Antonio**	**19.62**	**96**	*eP*	**P**	**04 43 50.1**	**-0.5**
ROSC	**El Rosal**	**19.68**	**5**	P	**P**	**04 43 51.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=241,slow=8.2,SNR=4.7						
ROSC				LR	LR	04 52 56.7	
	comp=Z,2μm,20.1s,baz=220,slow=42						
	comp=Z,2.6nm,0.4s						
GUY2C	**Guyana, Caldas**	**20.00**	**2**	P	**Pn**	**04 43 58.3**	**+1.4**
	comp=Z,617nmcomp=Z,42nm,1.0s						
CLDB	**Colider**	**20.11**	**81**	*eP*	**P**	**04 43 54.9**	**-1.0**
AQDB	**Aquidauana**	**20.13**	**109**	P	**P**	**04 43 57.0**	**+1.0**
AQDB	**Aquidauana**	**20.13**	**109**	*eP*	**P**	**04 43 56.8**	**+0.8**
BO02	**Sierra Bellavi**	**20.37**	**168**	P	Pn	04 44 00.5	-0.2
CPUP	**Villa Florida**	**20.84**	**126**	P	**P**	**04 44 04.4**	**+0.8**
CPUP	**Villa Florida**	**20.84**	**126**	P	**P**		
	comp=Z,8.9nm,1.0s,baz=199,slow=8.7,SNR=29						
CPUP				LR	LR	04 53 25.3	
	comp=Z,204nm,19.2s,baz=158,slow=41						
	comp=Z,8.9nm,1.0s						
CPUP	**Villa Florida**	**20.84**	**126**	P	**P**	**04 44 04.4**	**+0.8**
CPUP				pmax	pmax		
	comp=Z,21nm,1.4s						
CPUP	**Villa Florida**	**20.84**	**126**	*eP*	**P**	**04 44 04.2**	**+0.6**
RUSC	**La Rusia**	**20.86**	**8**	P	Pn	04 44 05.7	-1.2
RUSC				IAmb	IAmb	04 44 18.7	
	comp=Z,60nm,1.1s						
ML02	**Panimavida**	**21.19**	**170**	IAmb	IAmb	04 44 23.2	
	comp=Z,71nm,1.2s						
SJPY	**San Joaquin**	**21.22**	**121**	*eP*	**P**	**04 44 08.8**	**+0.9**
NPGB	**Novo Progresso**	**21.72**	**71**	*eP*	**P**	**04 44 11.2**	**-2.0**
DBBC	**Dabeiba**	**21.77**	**359**	P	**P**	**04 44 15.9**	**+2.1**
RPRD	**Ribas do Rio P**	**21.97**	**108**	*eP*	**P**	**04 44 16.6**	**+0.7**
C2SB	**Chapadao do Su**	**22.52**	**103**	*eP*	**P**	**04 44 23.4**	**+1.6**
ITTB	**Itaituba**	**22.54**	**64**	*eP*	**P**	**04 44 20.0**	**-2.0**
APAC	**Apartado, Choc**	**22.65**	**359**	P	**P**	**04 44 26.1**	**+2.9**
	comp=Z,1μmcomp=Z,45nm,1.1s						
BOAV	**Boa Vista**	**23.03**	**43**	P	**P**	**04 44 26.2**	**-0.9**
BOAV	**Boa Vista**	**23.03**	**43**	*eP*	**P**	**04 44 26.6**	**-0.6**
GMAL	**Guarumal, Vera**	**23.09**	**347**	P	**P**	**04 44 30.0**	**+2.2**
	comp=Z,27nm,1.2s						
ITQB	**Itaqui**	**23.15**	**133**	*eP*	**P**	**04 44 29.5**	**+1.2**
ARAG	**Araguaiana, MT**	**23.36**	**95**	*eP*	**P**	**04 44 29.2**	**-1.3**
TRCB	**Terra Rica**	**23.46**	**113**	*eP*	**P**	**04 44 30.6**	**-0.9**
SNDB	**Serra Nova Dou**	**24.22**	**86**	*eP*	**P**	**04 44 38.0**	**-0.6**
SDV	**Santo Domingo**	**24.22**	**13**	P	**P**	**04 44 38.0**	**-0.8**
SDV				IAmb	IAmb	04 45 07.6	
	comp=Z,31nm,0.9s						
SDV	**Santo Domingo**	**24.22**	**13**	LR	LR	04 55 10.4	
	comp=Z,2μm,18.2s,baz=168,slow=40						
SDV	**Santo Domingo**	**24.22**	**13**	*eP*	**P**	**04 44 38.6**	**-0.2**
SDV	**Santo Domingo**	**24.22**	**13**	P	**P**	**04 44 39.1**	**+0.3**
PCMB	**Pacaembu**	**24.42**	**110**	*eP*	**P**	**04 44 40.6**	**+0.1**
BRU2	**Volcan**	**24.45**	**344**	P	**P**	**04 44 42.1**	**+1.3**
BRU2				IAmb	IAmb	04 44 44.0	
	comp=Z,40nm,1.0s						
PTGB	**Pitanga**	**24.53**	**117**	*eP*	**P**	**04 44 41.7**	**+0.3**
ITRB	**Iturama**	**24.95**	**105**	*eP*	**P**	**04 44 45.5**	**+0.3**
LDASE	**Londrina, Braz**	**24.97**	**114**	*eP*	**P**	**04 44 45.2**	**-0.2**
BAUV	**El Baul**	**24.97**	**19**	P	**P**	**04 44 44.6**	**-0.7**
ITAB	**Concordia**	**25.39**	**123**	IAmb	IAmb	04 44 51.7	
	comp=Z,61nm,1.0s						
ITAB	**Concordia**	**25.39**	**123**	*eP*	**P**	**04 44 49.2**	**0.0**
LR05	**Currie**	**25.49**	**173**	P	**P**	**04 44 49.7**	**-0.2**
LR05				IAmb	IAmb	04 45 18.7	
	comp=Z,50nm,1.2s						
LCR2	**La Lucha 2**	**25.72**	**342**	P	**P**	**04 44 53.2**	**+0.8**
LCR2				IAmb	IAmb	04 45 05.0	
	comp=Z,39nm,1.1s						
CPSB	**Cacapava Do Su**	**25.86**	**130**	*eP*	**P**	**04 44 53.0**	**-0.4**
PLCA	**Paso Flores**	**26.18**	**171**	P	**P**	**04 44 56.4**	**+0.1**
PLCA				IAmb	IAmb	04 44 58.2	
	comp=Z,62nm,1.6s						
PLCA	**Paso Flores**	**26.18**	**171**	P	**P**	**04 44 56.8**	**+0.5**
	comp=Z,9.8nm,0.8s,baz=342,slow=9.9,SNR=35						
PLCA				PcP	**PcP**	**04 48 23.5**	**+0.6**
	comp=Z,5.4nm,1.0s,baz=355,slow=2.6,SNR=4.5						
PLCA				LR	LR	04 53 30.7	
	comp=Z,396nm,18.3s,baz=332,slow=32						
	comp=Z,9.8nm,0.8s						
PLCA	**Paso Flores**	**26.18**	**171**	P	**P**	**04 44 56.4**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,62nm,1.6s						
PLCA	**Paso Flores**	**26.18**	**171**	*eP*	**P**	**04 44 57.2**	**+1.0**
TRQA	**Tornquist**	**26.21**	**154**	P	**P**	**04 44 56.1**	**-0.4**
TRQA	**Tornquist**	**26.21**	**154**	P	**P**	**04 44 56.1**	**-0.4**
TRQA				pmax	pmax		
	comp=Z,32nm,1.3s						
FRTB	**Fartura**	**26.34**	**113**	*eP*	**P**	**04 44 57.8**	**0.0**
PLTB	**Pedras Altas**	**26.48**	**133**	P	**P**	**04 44 59.0**	**0.0**
PLTB	**Pedras Altas**	**26.48**	**133**	*eP*	**P**	**04 44 59.5**	**+0.6**
JTS	**Las Juntas de**	**26.54**	**340**	LR	LR	04 55 25.0	
	comp=Z,722nm,18.3s,baz=164,slow=36						
IPMB	**Ipameri, GO**	**26.84**	**100**	*eP*	**P**	**04 45 02.0**	**-0.5**
BB19B	**Bebedouro**	**26.84**	**107**	*eP*	**P**	**04 45 02.8**	**+0.4**
BDFB	**Brasilia**	**27.02**	**95**	P	**P**	**04 45 03.8**	**-0.4**
BDFB	**Brasilia**	**27.02**	**95**	P	**P**	**04 45 03.6**	**-0.5**
	comp=Z,10nm,1.0s,baz=242,slow=9.1,SNR=9.1						
BDFB				LR	LR	04 56 47.3	
	comp=Z,2μm,18.2s,baz=272,slow=39						
	comp=Z,10nm,1.0s						
BDFB	**Brasilia**	**27.02**	**95**	P	**P**	**04 45 03.8**	**-0.4**
BDFB				pmax	pmax		
	comp=Z,24nm,1.2s						
PRPB	**Parauapebas**	**27.15**	**74**	*eP*	**P**	**04 45 04.8**	**-0.5**
CNLB	**Canela**	**27.30**	**126**	*eP*	**P**	**04 45 06.8**	**+0.4**
PCRV	**Puerto La Cruz**	**27.34**	**25**	LR	LR	04 56 42.0	
	comp=Z,1μm,18.6s,slow=38						
RCLB	**Rio Claro- Sao**	**27.98**	**110**	*eP*	**P**	**04 45 13.0**	**+0.4**
SPB	**Sao Paulo**	**28.30**	**112**	*eP*	**P**	**04 45 15.7**	**+0.3**
SMTB	**Santa Maria do**	**28.44**	**81**	*eP*	**P**	**04 45 15.7**	**-1.1**
PMNB	**Patos De Minas**	**28.55**	**101**	*eP*	**P**	**04 45 17.7**	**-0.1**
PET01	**Itanhaem-SP**	**28.60**	**114**	*eP*	**P**	**04 45 18.6**	**+0.6**
VAO	**Valinhos**	**28.60**	**111**	*eP*	**P**	**04 45 20.2**	**+2.1**
MDP	**Montagnes des**	**30.52**	**51**	LR	LR	04 58 38.2	
	comp=Z,1μm,19.3s,baz=242,slow=38						
JANB	**Januaria**	**30.62**	**94**	*eP*	**P**	**04 45 35.1**	**-1.0**
DIAM	**Diamantina, MG**	**31.16**	**101**	*eP*	**P**	**04 45 40.7**	**-0.3**
CAM01	**Campos-RJ**	**33.28**	**107**	*eP*	**P**	**04 45 59.4**	**0.0**
RPN	**Rapa Nui**	**33.29**	**243**	LR	LR	04 56 27.2	
	comp=Z,441nm,18.0s,baz=16,slow=31						
SJMB	**Sao Joao De Ma**	**33.53**	**101**	*eP*	**P**	**04 46 01.1**	**-0.5**
SJG	**San Juan**	**34.21**	**17**	LR	LR	05 01 35.6	
	comp=Z,599nm,18.8s,baz=193,slow=39						
RIB01	**Linhares ES**	**34.29**	**102**	*eP*	**P**	**04 46 07.7**	**-0.5**
GUA01	**Guaratinga, BA**	**34.87**	**98**	*eP*	**P**	**04 46 12.0**	**-1.3**
CMIG	**Matias Romero**	**36.83**	**329**	LR	LR	04 59 18.8	
	comp=Z,376nm,21.1s,baz=144,slow=33						
NBPB	**Pedra_Branca-C**	**36.99**	**79**	*eP*	**P**	**04 46 31.3**	**-0.2**
NBCL	**Cascavel-CE**	**38.62**	**78**	*eP*	**P**	**04 46 46.1**	**+0.9**
NBAN	**Anadia - AL**	**39.14**	**87**	*eP*	**P**	**04 46 48.6**	**-1.0**
EFI	**East Falkland**	**39.42**	**162**	*i P*	**P**	**04 46 50.4**	**-0.9**
EFI				pmax	pmax		
	comp=Z,108nm,1.3s						
RCBR	**Riachuelo**	**40.42**	**81**	LR	LR	05 04 59.8	
	comp=Z,254nm,19.3s,baz=256,slow=38						
152A	**Waverly Hall**	**48.02**	**350**	IAmb	IAmb	04 48 00.8	
	comp=Z,22nm,1.4s						
HKT	**Hockley**	**48.50**	**337**	P	**P**	**04 48 05.5**	**+1.1**
HKT				IAmb	IAmb	04 48 06.3	
	comp=Z,18nm,1.3s						
HKT	**Hockley**	**48.50**	**337**	P	**P**	**04 48 05.6**	**+1.1**
HKT				pmax	pmax		
	comp=Z,18nm,1.3s						
GOGA	**Godfrey**	**48.55**	**352**	IAmb	IAmb	04 48 05.0	
	comp=Z,31nm,1.6s						
833A	**Chaparral WMA,**	**48.56**	**332**	IAmb	IAmb	04 48 06.6	
	comp=Z,26nm,1.2s						
Z47A	**Carrollton**	**49.19**	**347**	IAmb	IAmb	04 48 09.9	
	comp=Z,25nm,1.1s						
DRIO	**Del Rio**	**50.05**	**332**	IAmb	IAmb	04 48 17.4	
	comp=Z,20nm,1.2s						
X48A	**Hartselle**	**50.18**	**348**	IAmb	IAmb	04 48 17.2	
	comp=Z,18nm,1.3s						
W52A	**Murphy**	**50.27**	**352**	IAmb	IAmb	04 48 18.2	
	comp=Z,28nm,1.4s						
Z41A	**Richland Creek**	**50.49**	**342**	IAmb	IAmb	04 48 21.1	
	comp=Z,28nm,1.1s						
JCT	**Junction City**	**50.59**	**333**	IAmb	IAmb	04 49 39.6	
	comp=Z,22nm,1.4s						
TKL	**Tuckaleechee C**	**50.81**	**352**	IAmb	IAmb	04 48 22.6	
	comp=Z,21nm,1.3s						
TKL	**Tuckaleechee C**	**50.81**	**352**	LR	LR	05 10 49.5	
	comp=Z,183nm,18.1s,baz=168,slow=37						
WHTX	**Lake Whitney,**	**50.95**	**336**	IAmb	IAmb	04 48 24.2	
	comp=Z,36nm,1.2s						
Z38A	**Mt. Pleasant**	**51.19**	**340**	IAmb	IAmb	04 48 26.5	
	comp=Z,33nm,1.1s						
SAND	**Sanderson**	**51.20**	**331**	IAmb	IAmb	04 48 26.7	
	comp=Z,20nm,1.1s						
LPIG	**La Paz**	**51.23**	**319**	LR	LR	05 05 46.9	
	comp=Z,114nm,19.6s,baz=130,slow=31						
U54A

Y22A Socorro 56.81 329 IAmb IAmb 04 49 08.0
comp=Z,25nm,1.6s
N41A Harden Midland 57.01 347 IAmb IAmb 04 49 06.6
comp=Z,25nm,1.1s
ANMO Albuquerque 57.37 330 P **P** **04 49 10.4 +0.2**
ANMO IAmb IAmb 04 49 11.6
comp=Z,16nm,1.3s
ANMO Albuquerque 57.37 330 LR LR 05 12 30.5
comp=Z,251nm,18.7s,baz=227,slow=35
ANMO Albuquerque 57.37 330 P **P** **04 49 10.4 +0.2**
ANMO pmax pmax
comp=Z,17nm,1.3s
TUC Tucson 57.54 325 P **P** **04 49 10.9 -0.4**
TUC Tucson 57.54 325 P **P** **04 49 10.9 -0.4**
TUC pmax pmax
comp=Z,10.0nm,1.2s
J55A Hilton 57.90 358 IAmb IAmb 04 49 12.9
comp=Z,18nm,1.0s
ACCN Adirondack Com 58.03 2 IAmb IAmb 04 49 15.8
comp=Z,31nm,1.2s
214A Organ Pipe Nat 58.42 323 IAmb IAmb 04 49 19.5
comp=Z,12nm,1.1s
SDCO Great Sand Dun 59.24 333 IAmb IAmb 04 49 24.5
comp=Z,20nm,1.1s
LONY Lake Ozonia 59.24 1 P **P** **04 49 22.4 -0.4**
SADO Sadowa 59.44 357 LR LR 05 16 57.9
comp=Z,113nm,19.2s,baz=184,slow=38
X16A Lo Mia Camp, P 59.49 326 IAmb IAmb 04 49 27.1
comp=Z,12nm,1.1s
WBO Williamsburg 59.61 1 P **P** **04 49 25.1 -0.2**
WBO IAmb IAmb 04 49 26.1
comp=Z,25nm,1.3s
Y14A Wickenburg 59.99 325 IAmb IAmb 04 49 30.3
comp=Z,13nm,1.3s
Q24A Divide 60.10 334 IAmb IAmb 04 49 30.4
comp=Z,17nm,1.2s
BLYC Blythe 60.72 324 IAmb IAmb 04 49 35.3
comp=Z,17nm,1.4s
TRQ Mont Tremblant 60.84 1 P **P** **04 49 33.2 -0.6**
TRQ IAmb IAmb 04 49 34.4
comp=Z,20nm,1.2s
PV01 Paradox Valley 60.95 331 IAmb IAmb 04 49 36.7
comp=Z,14nm,1.2s
PV02 Paradox Valley 61.09 331 IAmb IAmb 04 49 37.5
comp=Z,31nm,1.4s
PV13 Radium Mtn., P 61.09 331 IAmb IAmb 04 49 37.4
comp=Z,26nm,1.5s
BC3 Big Chuckawall 61.19 323 IAmb IAmb 04 49 38.8
comp=Z,20nm,1.6s
PV18 Skein Mesa, Pa 61.20 331 IAmb IAmb 04 49 55.2
comp=Z,7.3nm,0.8s
PV12 Saucer Basin, 61.20 331 IAmb IAmb 04 49 39.2
comp=Z,19nm,1.3s
PV19 Morning Glory 61.28 331 IAmb IAmb 04 49 39.6
comp=Z,20nm,1.6s
PV04 Paradox Valley 61.31 331 IAmb IAmb 04 50 45.1
comp=Z,16nm,1.8s
IRM Iron Mountain, 61.37 323 IAmb IAmb 04 49 39.9
comp=Z,20nm,1.4s
BORC Borrego Spring 61.48 322 IAmb IAmb 04 49 40.8
comp=Z,20nm,1.5s
PMD Palm Desert 61.73 322 IAmb IAmb 04 49 42.3
comp=Z,11nm,1.1s
PFO Pinyon Flats O 61.75 322 P **P** **04 49 41.0 +0.7**
PFO Pinyon Flats O 61.75 322 LR LR 05 12 08.5
comp=Z,150nm,19.2s,baz=138,slow=32
PFO Pinyon Flats O 61.75 322 P **P** **04 49 41.0 +0.7**
PFO pmax pmax
comp=Z,9.0nm,1.2s
BELC Belle Mtn. Jos 61.75 323 IAmb IAmb 04 49 42.8
comp=Z,23nm,1.6s
HMU Henry Mountain 61.84 329 IAmb IAmb 04 49 43.1
comp=Z,18nm,1.4s
D62A Allapoint, All 62.00 5 P **P** **04 49 41.9 +0.4**
KNB Kanab 62.19 327 IAmb IAmb 04 49 45.7
comp=Z,18nm,1.2s
HAYD Hayden 62.30 333 IAmb IAmb 04 49 45.8
comp=Z,16nm,1.2s
O20A White River Ci 62.41 333 IAmb IAmb 04 49 46.1
comp=Z,17nm,1.1s
BATG Bathurst New B 62.52 8 P **P** **04 49 45.4 +0.4**
SRU San Rafael Swe 62.65 330 IAmb IAmb 04 50 55.4
comp=Z,12nm,0.7s
Q16A Castle Valley 62.81 330 IAmb IAmb 04 49 50.2
comp=Z,19nm,1.5s
TAOE Nuku Hiva Isla 62.87 268 *e*LR LR 05 08 22.6
comp=Z,347nm,23.5s
BFSC Mount Baldy Ra 62.90 322 IAmb IAmb 04 49 50.2
comp=Z,14nm,1.3s
P18A Preston Nutter 62.93 331 IAmb IAmb 04 50 41.3
comp=Z,10nm,0.8s
F33A 5 Mile Ranch, 63.17 344 IAmb IAmb 04 49 48.9
comp=Z,12nm,0.7s
PSUT Pine Spring 63.87 328 IAmb IAmb 04 50 31.6
comp=Z,9.4nm,1.0s
BSUT Blindstream Ca 63.89 331 IAmb IAmb 04 49 56.6
comp=Z,22nm,1.2s
FURC Furnace Creek, 63.99 324 IAmb IAmb 04 49 57.3
comp=Z,14nm,1.2s
RSSD Black Hills 64.05 338 P **P** **04 49 55.4 -0.1**
RSSD IAmb IAmb 04 49 56.7
comp=Z,22nm,1.4s
RSSD Black Hills 64.05 338 P **P** **04 49 55.4 -0.1**
RSSD pmax pmax
comp=Z,22nm,1.4s
EYMN Ely 64.06 348 IAmb IAmb 04 49 55.2
comp=Z,14nm,1.2s
WCT Wildcat Mounta 64.09 324 IAmb IAmb 04 49 58.3
comp=Z,15nm,1.3s
S11A Rachel 64.22 326 IAmb IAmb 04 49 59.4
comp=Z,13nm,1.2s
SPR3 Spring Creek 3 64.47 328 IAmb IAmb 04 50 00.2
comp=Z,17nm,1.2s
HWUT Hardware Ranch 65.10 331 IAmb IAmb 04 50 03.6
comp=Z,22nm,1.1s
PDAR Pinedale Array 65.12 333 P **P** **04 50 01.9 -0.6**
PDAR Pinedale Array 65.12 333 P **P** **04 50 02.2 -0.3**
comp=Z,6.3nm,1.2s,baz=146,slow=6.8,SNR=22
PDAR LR LR 05 18 03.7
comp=Z,56nm,21.6s,baz=128,slow=36
comp=Z,6.3nm,1.2s
BGU Big Grassy Mou 65.27 330 IAmb IAmb 04 50 04.9
comp=Z,14nm,1.4s
TPH Tonopah 65.34 325 IAmb IAmb 04 50 06.2
comp=Z,15nm,1.3s
AGMN Agassiz Nation 65.34 346 IAmb IAmb 04 50 03.5
comp=Z,12nm,0.8s
AHID Auburn Hatcher 65.80 332 IAmb IAmb 04 50 08.0
comp=Z,17nm,1.3s
HVU Hansel Valley 65.81 331 IAmb IAmb 04 50 08.1
comp=Z,16nm,1.1s
LHV Little Huntoon 66.18 324 IAmb IAmb 04 50 11.8
comp=Z,18nm,1.4s
NVAR Mina Array Bea 66.19 325 P **P** **04 50 10.2 +0.6**
NVAR Mina Array Bea 66.19 325 P **P** **04 50 10.5 +0.9**
comp=Z,2.0nm,0.8s,baz=145,slow=6.8,SNR=15
comp=Z,2.0nm,0.8s
BELA Belgrano 2 66.24 171 IAmb IAmb 04 50 11.8
comp=Z,25nm,1.3s
FXWY Fox Creek 66.47 333 IAmb IAmb 04 50 12.5
comp=Z,13nm,1.2s
RLMT Red Lodge 66.92 335 IAmb IAmb 04 50 15.3
comp=Z,11nm,0.9s
LAO LASA Array 67.05 338 IAmb IAmb 04 50 15.7
comp=Z,16nm,1.2s
YHB Horse Butte 67.42 334 IAmb IAmb 04 50 19.3
comp=Z,13nm,1.0s
PAHR Pah Rah Range 67.68 325 IAmb IAmb 04 50 21.4
comp=Z,20nm,1.2s
BOZ Bozeman (W) 68.28 334 IAmb IAmb 04 50 24.1
comp=Z,18nm,1.4s
VNA3 Neumayer Olymp 68.46 161 ⇑P **P** **04 50 23.8 +0.6**
comp=Z,12nm,1.0s
MFID Camas Ranch 68.51 330 IAmb IAmb 04 50 26.1
comp=Z,21nm,1.1s
DLMT Dillon 68.52 333 IAmb IAmb 04 50 25.7
comp=Z,17nm,1.2s
VNA1 Neumayer--Stat 68.73 161 ⇑P **P** **04 50 26.4 +1.6**
comp=Z,18nm,1.0s
ORV Oroville 68.77 324 IAmb IAmb 04 50 28.1
comp=Z,23nm,1.1s
TBI Tubuai 69.28 250 *e*S **S** **04 59 33.7 -0.3**
comp=Z,337nm,25.0s
TBI *e*SS **SS** **05 04 00.0 -1.0**
comp=Z,290nm,28.8s
TBI *e*LR LR 05 11 25.4
comp=Z,1µm,24.8s
EGMT Eagleton 69.49 337 IAmb IAmb 04 50 31.0
comp=Z,12nm,1.1s
PLID Pearl Lake 69.85 331 **P** **04 50 31.4 -1.0**
SCHQ Schefferville 69.89 6 P **P** **04 50 30.9 -1.3**
SCHQ IAmb IAmb 04 50 32.7
comp=Z,12nm,1.1s
SCHQ Schefferville 69.89 6 P **P** **04 50 31.4 -0.8**
comp=Z,8.5nm,0.9s,baz=200,slow=7.8,SNR=5.8
SCHQ LR LR 05 23 07.1
comp=Z,111nm,19.2s,baz=210,slow=38
comp=Z,8.5nm,0.9s
OVMT Ovando 70.03 334 P **P** **04 50 33.1 -0.2**
MSO Missoula 70.25 333 **P** **04 50 32.3 -2.4**
MSO IAmb IAmb 04 50 36.8
comp=Z,20nm,1.2s
PPT Papeete 70.26 256 LR LR 05 11 57.7
comp=Z,54nm,21.2s,baz=130,slow=28
BMO Blue Mountains 70.29 330 **P** **04 50 33.2 -1.8**
BMO IAmb IAmb 04 50 36.2
comp=Z,18nm,1.8s
BMO Blue Mountains 70.29 330 P **P** **04 50 33.2 -1.8**
BMO pmax pmax
comp=Z,18nm,1.8s
K05A Summer Lake 70.60 327 P **P** **04 50 37.0 0.0**
SNAA Sanae 70.68 161 ⇑P **P** **04 50 38.0 +1.1**
comp=Z,453nm,0.8s
SNAA Sanae 70.68 161 P **P** **04 50 37.0 +0.1**
SNAA Sanae 70.68 161 P **P** **04 50 38.1 +1.1**
comp=Z,20nm,0.8s,baz=276,slow=6.8,SNR=111
SNAA LR LR 05 17 42.6
comp=Z,169nm,21.8s,baz=282,slow=32
comp=Z,20nm,0.8s
SNAA Sanae 70.68 161 *i* P **P** **04 50 37.5 +0.5**
SNAA pmax pmax
comp=Z,33nm,1.0s
YBH Yreka Blue Hor 70.91 325 **P** **04 50 37.3 -1.5**
YBH Yreka Blue Hor 70.91 325 LR LR 05 21 00.3
comp=Z,9.3nm,19.2s,baz=122,slow=35
YBH Yreka Blue Hor 70.91 325 P **P** **04 50 37.3 -1.5**
YBH pmax pmax
comp=Z,3.0nm,0.9s
F10A Beach Ranch, E 71.08 331 P **P** **04 50 39.2 -0.6**
JTMT Jette 71.10 334 **P** **04 50 39.7 -0.2**
PINE Pine Mountain 71.36 327 **P** **04 50 41.9 +0.3**
G08A Pilot Rock 71.42 330 **P** **04 50 42.0 +0.2**
J04A Umpqua Nationa 71.60 326 **P** **04 50 42.0 -1.1**
J04A IAmb IAmb 04 50 44.8
comp=Z,14nm,0.9s
KSXB Camp Six Broad 71.63 324 P **P** **04 50 43.0 -0.1**
KSXB IAmb IAmb 04 50 45.5
comp=Z,18nm,1.4s
L02F Cave Junction 71.65 325 P **P** **04 50 42.6 -0.6**
BBOR Butler Butte 71.67 326 P **P** **04 50 41.4 -2.1**
I05D Terrebonne, OR 71.94 328 P **P** **04 50 44.2 -0.7**
I05D IAmb IAmb 04 50 47.3
comp=Z,20nm,1.3s
K02D Willamette Mer 72.08 325 P **P** **04 50 44.4 -1.5**
K02D IAmb IAmb 04 50 48.1
comp=Z,16nm,1.3s
TROLL Troll, Antarti 72.40 161 ⇑P **P** **04 50 48.6 +1.2**
comp=Z,703nm,1.4s
HAWA Hanford 72.48 330 P **P** **04 50 47.7 -0.3**
KEBM Edson Butte 72.57 325 P **P** **04 50 48.4 -0.3**
KEBM IAmb IAmb 04 50 51.3
comp=Z,19nm,1.2s
H04A Detroit Lake 72.62 327 **P** **04 50 48.4 -0.5**
NEW Newport 72.74 333 **P** **04 50 49.4 -0.2**
NEW Newport 72.74 333 LR LR 05 23 22.1
comp=Z,128nm,19.1s,baz=139,slow=36
NEW Newport 72.74 333 P **P** **04 50 49.4 -0.2**
NEW pmax pmax
comp=Z,9.0nm,1.2s
PMOZ Porto Moniz, M 73.52 49 *e*LR LR 05 18 44.2
PMOZ *i* IAMs_20 IAMs_20 05 21 50.9
comp=Z,114nm,18.0s
LTY Liberty 73.65 330 P **P** **04 50 55.0 0.0**
DBIC Dimbokro 73.70 78 **P** **04 50 55.4 -0.5**
DBIC IAmb IAmb 04 50 56.3
comp=Z,22nm,1.1s
DBIC Dimbokro 73.70 78 P **P** **04 50 55.2 -0.7**
comp=Z,14nm,1.0s,baz=254,slow=4.5,SNR=6.2
DBIC LR LR 05 21 57.6
comp=Z,493nm,19.1s,baz=280,slow=35
comp=Z,14nm,1.0s
DBIC Dimbokro 73.70 78 P **P** **04 50 55.4 -0.5**
DBIC pmax pmax
comp=Z,22nm,1.1s
B08A Colville Reser 73.81 332 **P** **04 50 55.2 -0.7**
D05A Enumclaw 74.24 329 IAmb IAmb 04 51 00.2
comp=Z,18nm,1.1s
QSPA South Pole Qui 75.26 180 P **P** **04 51 06.5 +2.3**
QSPA South Pole Qui 75.26 180 P **P** **04 51 06.7 +2.5**
comp=Z,19nm,0.9s,baz=157,slow=1.3,SNR=56
comp=Z,19nm,0.9s
NLWA Neilton Lookou 75.32 329 P **P** **04 51 04.5 -0.2**
NLWA IAmb IAmb 04 51 07.3
comp=Z,23nm,1.2s
CBB Campbell River 77.82 330 **P** **04 51 18.0 -0.7**
FRB Frobisher Bay 78.61 3 LR LR 05 26 17.7
comp=Z,153nm,21.9s,baz=180,slow=36
IVI Ivigtut 79.02 13 **P** **04 51 24.1 -0.9**
IVI IAmb IAmb 04 51 26.1
comp=Z,23nm,1.1s
SBA Scott Base 81.03 191 P **P** **04 51 37.9 +2.0**
SBA IAmb IAmb 04 51 39.4
comp=Z,12nm,1.0s
SBA Scott Base 81.03 191 P **P** **04 51 37.9 +2.0**
SBA pmax pmax
comp=Z,12nm,1.0s
PFVI Vila Bisbo 81.60 48 *e*P **P** **04 51 41.4 +1.9**
PFVI *i* IAmb IAmb 04 51 43.5
comp=Z,40nm,1.6s
TORD Torodi Ar. Bea 81.80 74 **P** **04 51 40.9 -0.1**
TORD IAmb IAmb 04 51 44.1
comp=Z,26nm,1.1s
TORD Torodi Ar. Bea 81.80 74 P **P** **04 51 41.2 +0.2**
comp=Z,24nm,0.9s,baz=243,slow=4.4,SNR=66
TORD LR LR 05 27 35.2
comp=Z,211nm,18.1s,baz=278,slow=36
comp=Z,24nm,0.9s
MORF Marmelete 81.80 48 *e*P **P** **04 51 41.6 +0.9**
MORF IAmb IAmb 04 51 43.5
comp=Z,34nm,1.0s
MORF Marmelete 81.80 48 *e*P **P** **04 51 42.5 +1.8**
MORF *i* IAmb IAmb 04 51 44.0
comp=Z,50nm,1.2s
MORF Marmelete 81.80 48 *e*P **P** **04 51 41.6 +0.9**
PTEO Sao Teotonio 81.86 48 *e*P **P** **04 51 43.0 +2.2**
PTEO *i* IAmb IAmb 04 51 44.3
comp=Z,51nm,1.2s
VNDA Vanda 82.10 191 P **P** **04 51 43.6 +2.1**
VNDA IAmb IAmb 04 51 44.9
comp=Z,13nm,1.1s
VNDA Vanda 82.10 191 P **P** **04 51 43.7 +2.2**
comp=Z,7.9nm,0.9s,baz=129,slow=3.9,SNR=22
VNDA LR LR 05 22 45.7
comp=Z,138nm,18.0s,baz=125,slow=32
comp=Z,7.9nm,0.9s
VNDA Vanda 82.10 191 P **P** **04 51 43.6 +2.1**
VNDA pmax pmax
comp=Z,13nm,1.1s
PARRA Arraiolos 82.19 47 *e*P P 04 51 47.6 +5.1
PARRA *i* IAmb IAmb 04 51 49.8
comp=Z,35nm,1.6s
PBDV Barranco-do-Ve 82.30 48 *e*P **P** **04 51 45.7 +2.4**
PBDV *i* IAmb IAmb 04 51 47.2
comp=Z,26nm,1.3s
MESJ Messejana 82.34 48 *e*P **P** **04 51 44.4 +1.0**
MESJ IAmb IAmb 04 51 46.5
comp=Z,20nm,1.1s
MESJ Messejana 82.34 48 *e*P **P** **04 51 45.1 +1.6**
MESJ *i* IAmb IAmb 04 51 47.8
comp=Z,26nm,2.0s
MESJ Messejana 82.34 48 *e*P **P** **04 51 44.4 +1.0**
PCVE Castro Verde 82.39 48 *e*P **P** **04 51 45.5 +1.8**
PCVE *i* IAmb IAmb 04 51 46.8
comp=Z,36nm,1.2s
PVAQ Vaqueiros 82.52 48 *e*P **P** **04 51 46.2 +1.9**
PVAQ *i* IAmb IAmb 04 51 50.3
comp=Z,22nm,1.4s
PVAQ *e*LR LR 05 22 32.3
PVAQ *i* IAMs_20 IAMs_20 05 26 58.7
comp=Z,142nm,20.0s
PBEJ Beja 82.68 48 *e*P **P** **04 51 46.7 +1.6**
PBEJ *i* IAmb IAmb 04 51 48.1
comp=Z,30nm,1.3s
EVO Evora 82.79 47 *e*P **P** **04 51 46.6 +0.8**
EVO *i* IAmb IAmb 04 51 49.1
comp=Z,21nm,1.6s
YKAW1 Yellowknife Wh 82.79 343 IAmb IAmb 04 51 46.1
comp=Z,14nm,1.2s
YKA Yellowknife Ar 82.84 343 P **P** **04 51 45.6 +0.2**
YKA Yellowknife Ar 82.84 343 P **P** **04 51 45.0 -0.4**
comp=Z,7.8nm,1.1s,baz=136,slow=4.9,SNR=24
YKA LR LR 05 30 27.1
comp=Z,133nm,18.8s,baz=112,slow=37
comp=Z,7.8nm,1.1s
PMTG Montargil 82.87 47 *e*P **P** **04 51 47.6 +1.5**
PMTG *i* IAmb IAmb 04 51 49.4
comp=Z,47nm,1.6s
YKAW3 Yellowknife Wh 82.89 343 IAmb IAmb 04 51 46.6
comp=Z,21nm,1.2s
MD31 MD31 82.91 53 IAmb IAmb 04 51 49.4
comp=Z,15nm,1.2s
PCAS Casmilo, Conde 83.11 46 *e*P **P** **04 51 49.0 +1.6**
PSARD Sardoal 83.14 46 *e*P **P** **04 51 48.4 +0.8**
PSARD *i* IAmb IAmb 04 51 49.8
comp=Z,42nm,1.2s
PESTR Estremoz 83.23 47 *e*P **P** **04 51 47.7 -0.3**
PESTR *i* IAmb IAmb 04 51 52.3
comp=Z,36nm,1.7s
COI Coimbra 83.23 45 *e*P **P** **04 51 49.5 +1.5**
PBAR Barrancos 83.33 48 *e*P **P** **04 51 49.7 +1.1**
PBAR *i* IAmb IAmb 04 51 52.8
comp=Z,26nm,1.8s
PMRV Marv??o 83.61 47 *e*LR LR 05 23 21.1
PMRV *i* IAMs_20 IAMs_20 05 26 45.0
comp=Z,284nm,18.0s
TOAD Toad River Com 83.68 337 P **P** **04 51 49.9 +0.1**
baz=133
PCBR Castelo Branco 83.72 46 *e*P **P** **04 51 51.7 +1.2**
PCBR *i* IAmb IAmb 04 51 55.0
comp=Z,26nm,1.7s
SFJD Kangerlussuaq 83.78 10 LR LR 05 31 27.4
comp=Z,129nm,18.4s,baz=208,slow=37
PVIS Viseu 83.81 45 *e*P **P** **04 51 50.1 -0.9**
PGAV Gavieira, Arco 84.09 44 *e*LR LR 05 23 08.7
PGAV *i* IAMs_20 IAMs_20 05 25 57.2
comp=Z,205nm,20.0s
V35K Ketchikan 84.11 332 P **P** **04 51 52.9 +0.8**
baz=127
KOTAN Kotaneelee Air 84.12 338 P **P** **04 51 52.9 +0.8**
baz=134
T35M Bob Quinn 84.51 333 IAmb IAmb 04 51 55.8
comp=Z,7.4nm,0.9s
T35M Bob Quinn 84.51 333 P **P** **04 51 55.3 +1.2**
baz=128
MVO Moncorvo 84.59 45 *e*LR LR 05 22 53.9
MVO *i* IAMs_20 IAMs_20 05 26 35.5
comp=Z,210nm,18.0s
CRAG Craig 84.89 331 P **P** **04 51 57.0 +0.9**
baz=126
SYO Syowa Base 84.97 161⇑ *e*PcP **P** **04 51 57.0 +0.7**
SYO Syowa Base 84.97 161⇓ *e*pP pP 04 52 01.8 -3.7
PBRG Braganca 85.06 45 *e*P **P** **04 51 58.0 +0.7**
WRAK Wrangell Islan 85.09 332 P **P** **04 51 57.7 +0.7**
baz=126
U33K Whale Pass 85.27 332 P **P** **04 51 59.5 +1.7**
baz=126
DLBC Dease Lake 85.32 335 LR LR 05 33 54.2
comp=Z,9.5nm,18.3s,baz=113,slow=38
DLBC Dease Lake 85.32 335 P **P** **04 51 59.1 +0.8**
baz=128,SNR=9.5
S34M Telegraph Cree 85.46 334 IAmb IAmb 04 52 01.0
comp=Z,10nm,1.2s
S34M Telegraph Cree 85.46 334 P **P** **04 51 59.9 +1.1**
baz=127
PAB San Pablo 85.81 47 P **P** **04 52 01.8 +0.7**
PAB IAmb IAmb 04 52 02.8
comp=Z,10nm,1.1s
PAB San Pablo 85.81 47 P **P** **04 52 01.8 +0.7**
PAB pmax pmax
comp=Z,10.0nm,1.2s
WTLY Watson Lake, Y 85.88 336 IAmb IAmb 04 52 02.8
comp=Z,19nm,1.2s
WTLY Watson Lake, Y 85.88 336 P **P** **04 52 01.7 +0.7**
baz=130
WRGLY Wrigley 86.08 340 P **P** **04 52 03.1 +1.3**
baz=134
ESDC Sonseca Array 86.13 47 **P** **04 52 03.7 +1.0**
ESDC Sonseca Array 86.13 47 P **P** **04 52 02.6 -0.1**
comp=Z,2.9nm,0.9s,baz=259,slow=5.1,SNR=15
ESDC LR LR 05 28 19.7
comp=Z,233nm,18.6s,baz=240,slow=34
comp=Z,2.9nm,0.9s
R33M Jennings River 86.29 335 **P** **04 52 03.5 +0.4**
R33M IAmb IAmb 04 52 05.2
comp=Z,18nm,1.3s
R33M Jennings River 86.29 335 P **P** **04 52 04.1 +0.9**
baz=128,SNR=9.3
Q32M Nakina River 86.57 334 P **P** **04 52 05.6 +1.0**
baz=126
TGTN Hyland Airport 86.59 338 P **P** **04 52 05.6 +1.1**
baz=130
S32K Killisnoo 86.70 332 P **P** **04 52 05.5 +0.6**
baz=124
SIT Sitka 86.80 332 P **P** **04 52 06.4 +0.9**
baz=124
P33M Teslin, Yukon 87.53 335 **P** **04 52 09.2 +0.1**
P33M Teslin, Yukon 87.53 335 P **P** **04 52 09.7 +0.6**
baz=126,SNR=12
P32M Atlin 87.54 335 P **P** **04 52 10.0 +0.9**
P32M IAmb IAmb 04 52 11.0
comp=Z,14nm,1.2s
P32M Atlin 87.54 335 P **P** **04 52 09.7 +0.6**
baz=125
TAM Tamanrasset 88.12 66 **P** **04 52 13.6 +0.8**
TAM Tamanrasset 88.12 66 P **P** **04 52 13.6 +0.8**
TAM pmax pmax
comp=Z,23nm,0.3s
SKAG Skagway 88.14 334 P **P** **04 52 12.5 +0.7**
baz=124
N32M Quiet Lake 88.19 336 P **P** **04 52 12.7 +0.6**
baz=126
MMPY Sheldon Lake, 88.37 338 P **P** **04 52 13.8 +0.8**
baz=127
WHY Whitehorse 88.63 335 P **P** **04 52 14.9 +0.6**
baz=124
P30M Million Dollar 89.20 334 P **P** **04 52 17.8 +0.9**
baz=122
P29M Windy Craggy 89.27 333 P **P** **04 52 17.8 +0.5**
baz=122
M31M Drury Creek, Y 89.31 336 IAmb IAmb 04 52 18.7
comp=Z,6.1nm,0.9s
M31M Drury Creek, Y 89.31 336 P **P** **04 52 17.9 +0.5**
baz=125,SNR=5.7
N31M Braeburn, Yuko 89.45 336 P **P** **04 52 18.7 +0.6**
baz=123,SNR=14
BORG Borgarnes 89.48 20 LR LR 05 30 38.1
comp=Z,74nm,19.6s,baz=241,slow=34
HYT Haines Junctio 89.80 334 IAmb IAmb 04 52 22.1
comp=Z,18nm,1.5s
HYT Haines Junctio 89.80 334 P **P** **04 52 20.8 +0.9**
baz=122
N30M Aishikik Lake 89.97 335 IAmb IAmb 04 52 22.8
comp=Z,22nm,1.4s
N30M Aishikik Lake 89.97 335 P **P** **04 52 21.5 +1.0**
baz=122,SNR=7.8
O29M Mount Kennedy 89.98 334 P **P** **04 52 21.1 +0.4**
baz=121
PNL Peninsula 90.01 333 P **P** **04 52 21.2 +0.5**
baz=120
RES Resolute Bay 90.18 355 LR LR 05 36 40.4
comp=Z,78nm,18.0s,baz=353,slow=38
M30M Minto, Yukon 90.45 336 IAmb IAmb 04 52 24.2
comp=Z,10nm,1.1s
M30M Minto, Yukon 90.45 336 P **P** **04 52 23.0 +0.3**
baz=122,SNR=8.4
YUK4 Talbot Arm 90.54 335 P **P** **04 52 24.2 +0.8**
baz=121
PINM Pinnacle 90.60 333 P **P** **04 52 24.0 +0.4**
baz=120
O28M Mount Upton 90.91 334 P **P** **04 52 25.5 +0.3**
baz=120
M29M Somme Creek 91.04 336 P **P** **04 52 26.2 +0.7**
baz=121,SNR=28
L29M L29M 91.25 336 P **P** **04 52 27.0 +0.5**
baz=121,SNR=29
H31M Peel River 91.34 339 P **P** **04 52 27.1 +0.3**
baz=125,SNR=12
J30M Hart River 91.36 338 P **P** **04 52 27.6 +0.6**
baz=123,SNR=13
MESA MESA 91.38 333 P **P** **04 52 28.4 +1.1**
baz=118

K29M	**Barlow Dome**	91.40	337	IAmb	IAmb	04 52 28.7			
	comp=Z,14nm,1.1s								
K29M	**Barlow Dome**	91.40	337	P	P	04 52 27.4	+0.2		
	baz=122,SNR=12								
CTG	**Chitna Glacier**	91.49	334	P	P	04 52 28.1	+0.3		
	baz=118								
YUK3	**Moose Creek**	91.51	335	P	P	04 52 28.2	+0.3		
	baz=119								
I30M	**Mount Dempster**	91.72	339	P	P	04 52 29.0	+0.3		
	baz=123,SNR=15								
G31M	**Satah River**	91.96	340	P	P	04 52 29.4	-0.1		
	baz=125								
J29N	**Klondike Camp**	91.98	337	P	P	04 52 30.0	+0.1		
	baz=121								
BVCY	**Beaver Creek**	91.99	335	P	P	04 52 30.1	+0.2		
	baz=119								
F31M	**Tsiigehtchic**	92.09	341	P	P	04 52 29.9	-0.2		
	baz=125								
CRQE	**Cirque**	92.15	333	P	P	04 52 30.7	-0.1		
	baz=117								
DAWY	**Dawson**	92.23	337	IAmb	IAmb	04 52 31.9			
	comp=Z,8.3nm,1.2s								
DAWY	**Dawson**	92.23	337	P	P	04 52 30.9	-0.1		
	baz=120,SNR=8.0								
M27K	**Edge Creek, AK**	92.38	335	IAmb	IAmb	04 52 33.0			
	comp=Z,7.5nm,1.1s								
M27K	**Edge Creek, AK**	92.38	335	P	P	04 52 31.8	0.0		
	baz=118								
MCARA	**McCarthy VSAT**	92.41	334	P	P	04 52 31.9	+0.2		
	baz=117								
EPYK	**Eagle Plains**	92.47	339	IAmb	IAmb	04 52 32.6			
	comp=Z,9.9nm,1.2s								
EPYK	**Eagle Plains**	92.47	339	P	P	04 52 32.0	0.0		
	baz=122								
MAW	**Mawson**	92.48	165	P	P	04 52 32.6	+0.5		
	comp=Z,10nm,1.0s,baz=212,slow=5.1,SNR=13								
MAW				LR	LR	05 31 09.3			
	comp=Z,239nm,21.4s,baz=244,slow=34								
	comp=Z,10nm,1.0s								
I29M	**Ogilvie Camp,**	92.49	338	P	P	04 52 31.6	-0.4		
	baz=121,SNR=13								
INK	**Inuvik**	92.52	342	LR	LR	05 37 42.2			
	comp=Z,230nm,19.3s,baz=90,slow=38								
INK	**Inuvik**	92.52	342	P	P	04 52 31.9	-0.2		
	baz=125								
BOSA	**Boshof**	92.55	120	P	P	04 52 33.0	-0.5		
	comp=Z,5.9nm,1.1s,baz=211,slow=5.9,SNR=2.8								
BOSA				LR	LR	05 32 21.3			
	comp=Z,227nm,18.2s,baz=210,slow=34								
	comp=Z,5.9nm,1.1s								
BOSA	**Boshof**	92.55	120	P	P	04 52 33.0	-0.5		
G30M	**tAoh Zraii Nji**	92.63	340	P	P	04 52 32.9	+0.2		
	baz=123								
A36M	**Sachs Harbour**	92.65	346	P	P	04 52 32.1	-0.5		
	baz=133								
BCAR	**Beaver Creek A**	92.67	335	P	P	04 52 33.0	0.0		
L27K	**Beaver Creek,**	92.69	335	IAmb	IAmb	04 52 34.3			
	comp=Z,7.9nm,1.1s								
L27K	**Beaver Creek,**	92.69	335	P	P	04 52 33.1	0.0		
	baz=118								
F30M	**Barrier River**	92.83	341	IAmb	IAmb	04 52 34.5			
	comp=Z,9.1nm,1.0s								
F30M	**Barrier River**	92.83	341	P	P	04 52 33.2	-0.4		
	baz=123								
M26K	**Nabesna, AK**	92.86	335	IAmb	IAmb	04 52 34.6			
	comp=Z,11nm,1.5s								
M26K	**Nabesna, AK**	92.86	335	P	P	04 52 33.4	-0.5		
	baz=117								
BMRM	**Bremner River**	92.91	333	P	P	04 52 33.7	-0.5		
	baz=116								
H29M	**Whitestone**	92.95	339	IAmb	IAmb	04 52 35.2			
	comp=Z,9.7nm,0.9s								
H29M	**Whitestone**	92.95	339	P	P	04 52 34.1	-0.1		
	baz=121,SNR=6.4								
Q23K	**Middleton Isla**	93.05	331	P	P	04 52 34.7	0.0		
	baz=114								
I28M	**Miner Creek**	93.12	338	IAmb	IAmb	04 52 40.5			
	comp=Z,9.9nm,1.2s								
I28M	**Miner Creek**	93.12	338	P	P	04 52 34.8	-0.3		
	baz=120								
N25K	**Chitina, Valde**	93.18	334	P	P	04 52 35.1	-0.4		
	baz=116								
G29M	**Pine Creek**	93.19	340	IAmb	IAmb	04 52 36.2			
	comp=Z,11nm,1.1s								
G29M	**Pine Creek**	93.19	340	P	P	04 52 35.2	-0.1		
	baz=121,SNR=6.4								
EYAK	**Cordova Ski Ar**	93.24	332	P	P	04 52 35.2	-0.4		
	baz=115								
K27K	**Chicken**	93.24	336	IAmb	IAmb	04 52 38.2			
	comp=Z,7.0nm,1.2s								
K27K	**Chicken**	93.24	336	P	P	04 52 36.0	+0.4		
	baz=118								
L26K	**Log Cabin Wild**	93.29	335	P	P	04 52 35.7	-0.1		
	baz=117								
KLU	**Klutina**	93.71	333	IAmb	IAmb	04 52 38.6			
	comp=Z,8.6nm,1.0s								
KLU	**Klutina**	93.71	333	P	P	04 52 37.4	-0.5		
	baz=114								
I27K	**Kandik River**	93.81	338	P	P	04 52 37.6	-0.6		
	baz=118								
E29M	**Blow River**	93.92	341	P	P	04 52 38.1	-0.5		
	baz=121,SNR=16								
LBTB	**Lobatse**	93.97	117	LR	LR	05 32 44.0			
	comp=Z,99nm,19.1s,baz=243,slow=34								
SCRK	**Sand Creek**	93.97	336	P	P	04 52 38.7	-0.3		
	baz=116								
J26L	**Joseph Creek**	94.04	336	P	P	04 52 38.9	-0.4		
	baz=116								
H27K	**Steamboat Moun**	94.07	338	IAmb	IAmb	04 52 41.1			
	comp=Z,7.3nm,1.4s								
H27K	**Steamboat Moun**	94.07	338	P	P	04 52 39.1	-0.3		
	baz=118								
M24K	**Tolsona, Glenn**	94.07	334	P	P	04 52 39.1	-0.4		
	baz=114								
PAX	**Paxson**	94.14	335	IAmb	IAmb	04 52 40.2			
	comp=Z,9.9nm,1.2s								
PAX	**Paxson**	94.14	335	P	P	04 52 39.1	-0.8		
	baz=115								
F28M	**Old Crow**	94.17	340	P	P	04 52 39.3	-0.5		
	baz=120								
RIDG	**Independent Ri**	94.21	335	P	P	04 52 39.7	-0.4		
	baz=115								
I26K	**Coal Creek Min**	94.24	337	IAmb	IAmb	04 52 41.5			
	comp=Z,7.5nm,1.2s								
I26K	**Coal Creek Min**	94.24	337	P	P	04 52 39.4	-0.7		
	baz=117								
G27K	**Doyon Strip**	94.39	339	P	P	04 52 40.2	-0.6		
	baz=118,SNR=5.3								
SCM	**Sheep Creek Mo**	94.46	333	P	P	04 52 40.6	-0.8		
	baz=113								
E28M	**Babbage River**	94.55	341	P	P	04 52 40.7	-0.8		
	baz=120								
J25K	**Salcha River,**	94.79	336	P	P	04 52 42.3	-0.4		
	baz=115								
E27K	**Coleen River**	95.02	340	P	P	04 52 43.4	-0.3		
	baz=118								
G26K	**Porcupine Rive**	95.20	339	P	P	04 52 44.2	-0.3		
	baz=116								
PRP	**Porcupine Dome**	95.23	337	IAmb	IAmb	04 52 45.8			
	comp=Z,12nm,1.7s								
PRP	**Porcupine Dome**	95.23	337	P	P	04 52 44.6	-0.2		
	baz=115								
D27M	**Malcolm River**	95.32	341	IAmb	IAmb	04 52 46.1			
	comp=Z,7.8nm,1.0s								
D27M	**Malcolm River**	95.32	341	P	P	04 52 45.1	0.0		
	baz=118								
ILAR	**Eielson Array**	95.45	336	P	P	04 52 45.1	-0.5		
	comp=Z,1.1nm,1.0s,baz=108,slow=4.9,SNR=7.2								
ILAR				LR	LR	05 37 48.4			
	comp=Z,56nm,20.2s,baz=89,slow=37								
	comp=Z,1.1nm,1.0s								
RPZ	**Rata Peaks**	95.58	222	LR	LR	05 26 42.6			
	comp=Z,320nm,21.0s,baz=143,slow=30								
H25L	**Birch Creek**	95.65	338	P	P	04 52 47.1	+0.6		
	baz=114								
Q20K	**Shuyak Island**	95.65	329	P	P	04 52 46.7	+0.1		
	baz=109								
F26K	**Sheenjek River**	95.66	339	IAmb	IAmb	04 52 48.0			
	comp=Z,6.3nm,1.1s								
F26K	**Sheenjek River**	95.66	339	P	P	04 52 47.0	+0.4		
	baz=116,SNR=5.6								
BMAR	**Burnt Mountain**	95.69	339	P	P	04 52 47.0	+0.2		
RND	**Reindeer**	95.72	334	IAmb	IAmb	04 52 48.0			
	comp=Z,14nm,1.4s								
CAPN	**Captain Cook N**	95.78	332	P	P	04 52 47.5	+0.2		
	baz=110								
POKR	**Poker Plat Res**	95.80	336	P	P	04 52 47.1	-0.2		
	baz=113								
SUA	**Susitna One**	95.84	332	P	P	04 52 47.6	-0.1		
	baz=110								
COLA	**College**	95.87	336	*i* P	P	04 52 46.5	-1.0		
COLA				pmax	pmax				
	comp=Z,7.0nm,1.0s								
G25K	**Bearman Lake**	95.96	338	P	P	04 52 48.4	+0.5		
	baz=114								
CUT	**Chulitna**	95.96	333	P	P	04 52 48.5	+0.5		
	baz=111								
F25K	**Christian Rive**	96.13	339	IAmb	IAmb	04 52 50.4			
	comp=Z,5.5nm,1.2s								
F25K	**Christian Rive**	96.13	339	P	P	04 52 49.3	+0.5		
	baz=114								
O20K	**Slope Mountain**	96.24	331	P	P	04 52 50.3	+0.9		
	baz=109								
NEA2	**Nenana**	96.25	335	IAmb	IAmb	04 52 51.6			
	comp=Z,5.7nm,0.6s								
H24K	**Noodor Dome**	96.25	337	P	P	04 52 49.2	-0.2		
	baz=112								
C27K	**Jago River**	96.36	341	IAmb	IAmb	04 52 51.0			
	comp=Z,8.3nm,1.1s								
C27K	**Jago River**	96.36	341	P	P	04 52 49.9	+0.2		
	baz=116,SNR=5.4								
SKT	**Skwentna**	96.37	333	IAmb	IAmb	04 52 52.9			
	comp=Z,3.4nm,0.7s								
SKT	**Skwentna**	96.37	333	P	P	04 52 49.6	-0.4		
	baz=110								
G24K	**Hadweenzic Riv**	96.43	338	IAmb	IAmb	04 52 51.4			
	comp=Z,7.8nm,1.3s								
G24K	**Hadweenzic Riv**	96.43	338	P	P	04 52 50.3	+0.1		
	baz=113								
BPAW	**Bear Paw Mtn.**	96.85	335	IAmb	IAmb	04 52 52.5			
	comp=Z,13nm,1.6s								
BPAW	**Bear Paw Mtn.**	96.85	335	P	P	04 52 51.3	-0.8		
	baz=110								
C26K	**Camden Bay**	96.86	341	P	P	04 52 51.3	-0.7		
	baz=115								
F24K	**Squaw Lake**	96.89	338	P	P	04 52 52.2	-0.1		
	baz=112								
JMIC	**Jan Mayen**	96.90	18	LR	LR	05 35 07.2			
	comp=Z,71nm,19.4s,baz=220,slow=35								
PPLA	**Purkeypile**	96.96	333	P	P	04 52 52.0	-0.8		
	baz=109								
M20K	**Styx River**	97.05	332	P	P	04 52 52.7	-0.5		
	baz=108								
MLY	**Manley**	97.07	336	P	P	04 52 53.0	-0.2		
	baz=110								
D25K	**Kavik River**	97.08	340	IAmb	IAmb	04 52 53.9			
	comp=Z,4.4nm,0.9s								
D25K	**Kavik River**	97.08	340	P	P	04 52 52.7	-0.4		
	baz=114								
CAST	**Castle Rocks**	97.09	334	IAmb	IAmb	04 52 53.2			
	comp=Z,5.6nm,1.0s								
CAST	**Castle Rocks**	97.09	334	P	P	04 52 52.2	-1.0		
	baz=105								
P18K	**Big Mountain,**	97.29	330	P	P	04 52 53.7	-0.5		
	baz=107								
E24K	**Your Creek**	97.31	339	IAmb	IAmb	04 52 54.9			
	comp=Z,4.7nm,1.1s								
E24K	**Your Creek**	97.31	339	P	P	04 52 54.2	0.0		
	baz=112								
N19K	**Bonanza Creek**	97.34	331	P	P	04 52 54.5	0.0		
	baz=107								
G23K	**Banaza Creek**	97.38	337	IAmb	IAmb	04 52 55.8			
	comp=Z,3.8nm,1.1s								
G23K	**Bananza Creek**	97.38	337	P	P	04 52 54.5	+0.1		
	baz=110								
O18K	**Koktuh Hills**	97.41	330	P	P	04 52 54.5	-0.2		
	baz=107								
L20K	**Farewell, AK**	97.57	333	P	P	04 52 54.1	-1.3		
	baz=108								
COLD	**Coldfoot**	97.62	338	P	Pdif	04 52 55.8	+0.2		
	baz=110								
M19K	**Big River Lodg**	97.63	332	P	P	04 52 55.2	-0.5		
	baz=107								
E23K	**Chandalar**	97.70	339	P	Pdif	04 52 56.3	+0.3		
	baz=111								
Q16K	**King Salmon**	97.79	329	P	Pdif	04 52 56.6	+0.1		
	baz=106								
TOLK	**Toolik Lake Re**	97.90	339	P	Pdif	04 52 57.2	+0.4		
	baz=111								
K20K	**Telida**	97.92	334	P	Pdif	04 52 57.3	+0.3		
	baz=107								
L19K	**White Mountain**	97.92	332	P	P	04 52 56.9	-0.1		
	baz=107								
N18K	**Kilae Creek**	97.97	331	P	P	04 52 56.6	-0.6		
	baz=106								
R16K	**Pilot Point**	97.97	327	P	P	04 52 57.1	-0.1		
	baz=105								
MATP	**Matopo**	97.97	114	LR	LR	05 33 43.6			
	comp=Z,29nm,20.9s,baz=226,slow=33								
C24K	**Franklin Bluff**	97.99	340	P	P	04 52 57.0	-0.1		
	baz=111								
DAVA	**Damuels**	98.05	43	*e*P	Pdif	04 52 58.4	+0.2		
	comp=Z,13nm,1.3s								
CHGN	**Chignik**	98.09	326	P	Pdif	04 52 58.0	+0.2		
	baz=105								
H21K	**Melozitna Rive**	98.09	336	P	Pdif	04 52 58.1	+0.4		
	baz=108								
M18K	**Stony River**	98.16	332	P	Pdif	04 52 58.1	0.0		
	baz=106								
J20K	**Nowinta River**	98.19	334	P	P	04 52 58.1	0.0		
	baz=107								
O17K	**Koliganek Bris**	98.30	330	P	Pdif	04 52 58.7	0.0		
	baz=105								
D23K	**Nanushuk River**	98.39	339	P	Pdif	04 52 59.1	+0.2		
	baz=110								
F22K	**John River**	98.44	338	P	P	04 52 59.2	0.0		
	baz=108								
E22K	**Anaktuvuk Pass**	98.51	338	P	P	04 52 59.5	0.0		
	baz=109								
N17K	**Nushagak Hills**	98.54	330	P	Pdif	04 52 59.9	+0.1		
	baz=105								
FETA	**Feichten**	98.55	44	*e*Pdiff	Pdif	04 53 00.9	+0.5		
	comp=Z,5.8nm,1.2s								
P16K	**Nushagak River**	98.56	329	P	P	04 52 59.8	-0.1		
	baz=104								
G21K	**Allakaket**	98.63	337	P	P	04 52 59.9	-0.2		
	baz=107								
C23K	**Itkillik River**	98.66	340	P	Pdif	04 53 00.4	+0.4		
	baz=110								
RETA	**Reutte**	98.68	43	*i* Pdiff	Pdif	04 53 01.6	+0.8		
	comp=Z,8.7nm,1.2s								
S14K	**Fog Glacier**	98.70	326	P	P	04 53 00.3	-0.4		
	baz=104								
O16K	**Kokwok River B**	98.75	329	P	P	04 53 00.6	-0.1		
	baz=104								
L18K	**Granite Mounta**	98.75	332	P	Pdif	04 53 00.7	+0.1		
	baz=105								
J19K	**Poorman**	98.76	334	P	Pdif	04 53 00.8	+0.1		
	baz=106								
F21K	**Alatna River**	98.83	337	P	Pdif	04 53 01.2	+0.2		
	baz=107								
H20K	**Anotleneega Mo**	98.87	336	P	Pdif	04 53 01.3	+0.1		
	baz=106								
MOTA	**Moosalm**	98.87	43	*e*Pdiff	Pdif	04 53 02.0	+0.2		
	comp=Z,21nm,1.2s								
M17K	**Holitna River**	98.89	331	P	P	04 53 01.2	-0.1		
	baz=105								
SQTA	**Sankt Quirin**	98.92	44	*e*Pdiff	Pdif	04 53 03.1	+1.2		
	comp=Z,18nm,1.3s								
SDPT	**Sand Point**	98.99	325	P	P	04 53 01.7	-0.2		
	baz=103								
D22K	**Ayikyak River**	99.05	339	P	Pdif	04 53 01.8	0.0		
	baz=108								
J18K	**Innoko River**	99.09	333	P	Pdif	04 53 01.9	-0.2		
	baz=105								
WATA	**Walderalm**	99.19	44	*i* Pdiff	Pdif	04 53 03.3	+0.2		
	comp=Z,2.6nm,0.5s								
WTTA	**Wattenberg**	99.21	44	*i* Pdiff	Pdif	04 53 04.0	+0.6		
	comp=Z,10nm,1.1s								
N16K	**Nishlik Lake**	99.29	330	P	Pdif	04 53 03.0	-0.1		
	baz=104								
LSZ	**Lusaka**	99.33	109	LR	LR	05 37 20.7			
	comp=Z,132nm,18.0s,baz=264,slow=35								
E21K	**Killik River**	99.37	339	P	Pdif	04 53 03.1	-0.2		
	baz=107								
L17K	**Donlin**	99.46	332	P	Pdif	04 53 03.7	-0.1		
	baz=104								
M16K	**Timber Creek**	99.51	331	P	Pdif	04 53 04.2	+0.1		
	baz=103								
O15K	**Ungalikthiuk R**	99.51	329	P	Pdif	04 53 04.0	-0.1		
	baz=103								
H19K	**Roundabout Mou**	99.51	335	P	Pdif	04 53 04.2	+0.3		
	baz=105								
F20K	**Avaraart Lake**	99.62	337	P	Pdif	04 53 04.8	+0.4		
	baz=105								
ABTA	**Abfaltersbach**	99.69	44	*i* Pdiff	Pdif	04 53 05.7	+0.3		
	comp=Z,6.1nm,1.2s								
B22K	**Teshekpuk Lake**	99.73	340	P	Pdif	04 53 05.2	+0.4		
	baz=107								
C21K	**Knifeblade Rid**	99.85	339	P	Pdif	04 53 05.3	-0.1		
	baz=106								
N15K	**Kwethluk River**	99.86	330	P	Pdif	04 53 05.9	+0.3		
	baz=103								
B21K	**Ikpikpuk River**	99.92	340	P	Pdif	04 53 05.8	+0.1		
	baz=106								
G19K	**Purcell Mounta**	99.92	336	P	Pdif	04 53 05.8	0.0		
	baz=104								
LESA	**Schwarzleotal**	99.94	44	*e*Pdiff	Pdif	04 53 07.0	+0.6		
	comp=Z,8.5nm,1.5s								
S12K	**Black Hills**	99.95	325	P	Pdif	04 53 05.8	-0.4		
	baz=102								
J17K	**VABM Dome**	100.11	333	P	Pdif	04 53 06.5	-0.2		
	baz=103								
E20K	**Nigu River**	100.11	338	P	Pdif	04 53 06.2	-0.4		
	baz=105								
H18K	**Honhosa River**	100.20	335	P	Pdif	04 53 06.7	-0.3		
	baz=103								
O14K	**Tigyukauivet M**	100.25	329	P	Pdif	04 53 06.5	-0.8		
	baz=102								
M15K	**Kasigluk River**	100.26	330	P	Pdif	04 53 07.0	-0.4		
	baz=102								
E19K	**Redstone River**	100.29	337	P	Pdif	04 53 07.3	-0.2		
	baz=104								
D20K	**Etivluk River**	100.37	339	P	Pdif	04 53 07.9	+0.1		
	baz=104								
G18K	**Tagagawik**	100.48	336	P	Pdif	04 53 08.4	+0.1		
	baz=103								
N14K	**Kuskokwak Cree**	100.59	329	P	Pdif	04 53 08.8	-0.1		
	baz=101								
J16K	**Anvik River**	100.75	333	P	Pdif	04 53 09.8	+0.2		
	baz=102								
H17K	**Granite Mounta**	100.79	334	P	Pdif	04 53 09.8	+0.1		
	baz=102								
L15K	**Ungalak Mounta**	100.84	331	P	Pdif	04 53 10.5	+0.5		
	baz=101								
D19K	**Kuna River**	100.86	338	P	Pdif	04 53 10.2	+0.2		
	baz=103								
CLL	**Collm**	100.86	40	*i* P	Pdif	04 53 11.1	+0.8		
CLL				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CLL	**Collm**	100.86	40	*i* Pdif	Pdif	04 53 11.1	+0.8		
	comp=Z,4.0nm,0.8s								
CLL				*e*Pdif	pPdif	04 53 16.0	-3.6		
CLL				LmV		05 37 00.0			
	comp=Z,100nm,19.2s								
B20K	**Meade River**	100.87	340	P	Pdif	04 53 10.2	+0.3		
	baz=103								
GERES	**GERESS Array B**	100.87	42	P	Pdif	04 53 10.0	-0.6		
	comp=Z,1.7nm,1.0s,baz=254,slow=5.0,SNR=8.2								
M14K	**Bethel**	100.89	330	P	Pdif	04 53 08.2	-1.9		
	baz=101								
I17K	**Unalakleet**	100.91	333	P	Pdif	04 53 08.6	-1.6		
	baz=101								
K15K	**Wolf Creek Mou**	100.98	332	P	Pdif	04 53 10.6	0.0		
	baz=101								
A21K	**Barrow**	101.00	341	P	Pdif	04 53 11.1	+0.7		
	baz=104								
F18K	**Selawik**	101.03	336	P	Pdif	04 53 10.7	0.0		
	baz=102								
G17K	**Kiwalik Mounta**	101.21	335	P	Pdif	04 53 11.4	-0.1		
	baz=101								
L14K	**Kuka Creek**	101.34	331	P	Pdif	04 53 12.2	0.0		
	baz=100								
M13K	**Dall Lake**	101.50	330	P	Pdif	04 53 12.4	-0.5		
	baz=100								
C19K	**Lookout Ridge**	101.51	339	P	Pdif	04 53 13.0	+0.2		
	baz=101								
E18K	**Tukpahlearik C**	101.56	337	P	Pdif	04 53 13.5	+0.4		
	baz=100								
F17K	**Baldwin Pennin**	101.63	336	P	Pdif	04 53 13.4	+0.1		
	baz=100								
E17K	**Hotham Inlet**	101.97	336	P	Pdif	04 53 14.8	0.0		
	baz=100								
J14K	**Nanvaranak Lak**	101.98	332	P	Pdif	04 53 15.2	+0.2		
	baz=99								
C18K	**Utukok River**	102.00	338	P	Pdif	04 53 14.8	-0.2		
	baz=100								
UNV	**Unalaska Valle**	102.16	323	P	Pdif	04 53 15.7	-0.2		
	baz=98								
A19K	**Wainwright**	102.22	340	P	Pdif	04 53 16.0	+0.1		
	baz=100								
B18K	**Kokolik River**	102.33	339	P	Pdif	04 53 16.5	0.0		
	baz=99								
G15K	**Niukluk**	102.53	334	P	Pdif	04 53 17.0	-0.4		
	baz=98								
D17K	**Noatak River**	102.54	337	P	Pdif	04 53 17.2	-0.2		
	baz=100								
C17K	**DeLong Mountai**	102.69	338	P	Pdif	04 53 18.3	+0.2		
	baz=98								
F15K	**North Star Dit**	102.88	335	P	Pdif	04 53 18.8	-0.1		
	baz=98								
M11K	**Mekoryuk**	102.90	329	P	Pdif	04 53 18.7	-0.4		
	baz=97								
NIKH	**Nikolski High**	103.43	322	P	Pdif	04 53 21.5	-0.2		
	baz=97								
C16K	**Lisburne Hills**	103.46	337	P	Pdif	04 53 21.3	-0.1		
	baz=96								
F14K	**Arctic Creek**	103.55	335	P	Pdif	04 53 21.7	-0.3		
	baz=96								
TNA	**Tin City**	104.22	335	P	Pdif	04 53 25.0	+0.1		
	baz=95								
P08K	**Saint George I**	104.22	325	P	Pdif	04 53 25.1	0.0		
	baz=95								
SPIA	**Saint Paul Isl**	104.66	326	P	Pdif	04 53 27.9	+0.9		
	baz=95								
GAMB	**Gambell**	105.75	333	P	PKiKP	04 57 44.3	0.0		
	baz=92								
DZM	**Mont Dzumac**	108.61	240	*e*LR	LR	05 29 41.7			
	comp=Z,282nm,25.9s								
MNK	**Minsk**	110.06	37	*i* P	Pdif	04 53 54.4	+3.3		
MNK				*i*		04 58 30.6			
MNK				*i* PS	PS	05 07 54.2	-1.7		
MNK				pmax	pmax				
	comp=N,21nm,0.9s								
MNK				pmax	pmax				
	comp=E,7.0nm,1.0s								
MNK				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MNK				MLR	MLR				
	comp=N,203nm,19.0s								
MNK

ARTI							05 05 36.0	
ARTI					SS	SS	05 17 18.1	+1.2
YAK	**Yakutsk**	**129.49**	**345**	*e*PKIKP		**PKPdf**	**04 58 29.9**	**+0.2**
YAK				*e*			04 58 32.9	
YAK				*e*			05 00 39.6	
YAK				*e*			05 05 40.3	
YAK				*e*SS		SS	05 18 06.6	+7.7
YAK					pmax	pmax		
	comp=Z,15nm,0.9s							
YAK					pmax	pmax		
	comp=Z,100nm,4.3s							
YAK					pmax	pmax		
	comp=N,64nm,4.0s							
ASAR	**Alice Springs**	**131.79**	**218**	PKP		**PKPdf**	**04 58 35.7**	**+0.3**
	comp=N,2.8nm,0.9s,baz=127,slow=1.9,SNR=7.5							
BRVK	**Borovoye**	**133.56**	**28***c*	*i*PKIKP		**PKiKP**	**04 58 39.7**	**+0.7**
BRVK					pmax	pmax		
	comp=Z,8.0nm,2.5s							
BVAR	**Borovoye Array**	**133.63**	**28**	PKP		**PKPdf**	**04 58 37.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=326,slow=1.0,SNR=9.9							
WRA	**Warramunga Arr**	**134.29**	**222**	PKP		**PKPdf**	**04 58 40.6**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=133,slow=1.9,SNR=25							
ZALV	**Zalesovo Beam**	**138.23**	**17**	PKP		**PKPdf**	**04 58 46.3**	**-0.1**
	comp=Z,10nm,0.9s,baz=326,slow=1.0,SNR=23							
ZALV	**Zalesovo Beam**	**138.23**	**17**	*e*PKIKP		**PKPdf**	**04 58 47.1**	**+0.7**
ZALV					pmax	pmax		
	comp=Z,10.0nm,0.9s							
KURK	**Kurchatov**	**138.81**	**24***c*	*i*PKIKP		**PKiKP**	**04 58 49.2**	**-0.5**
KURK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KURBB	**Kurchatov Arra**	**138.85**	**25**	PKP		**PKPdf**	**04 58 48.1**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=310,slow=2.5,SNR=16							
MJA0	**Matsu Arr-Jizo**	**142.64**	**312**	*e*PKIKP		**PKPdf**	**04 58 52.7**	**-2.3**
MJA0					pmax	pmax		
	comp=Z,3.0nm,0.9s							
MJAR	**Matsushiro Arr**	**142.67**	**312**	PKhKP		PKPpre	04 58 52.8	
	comp=Z,3.4nm,0.9s,baz=70,slow=1.8,SNR=6.6							
MKAR	**Makanchi Array**	**143.40**	**25**	PKhKP		PKPpre	04 58 52.4	
	comp=Z,3.4nm,1.0s,baz=340,slow=1.7,SNR=13							
MKAR	**Makanchi Array**	**143.40**	**25**	*e*PKIKP		PKPbc	04 58 53.9	+0.7
MKAR					pmax	pmax		
	comp=Z,3.0nm,1.0s							
ZAK	**Zakamensk**	**144.60**	**1**	*e*PKIKP		**PKPab**	**04 58 56.3**	**-0.3**
ZAK					pmax	pmax		
	comp=Z,16nm,1.2s							
KSH	**Kashi**	**145.30**	**40**	PKPbc		**PKPdf**	**04 59 00.6**	**+0.9**
SONM	**Songino Array**	**147.09**	**357**	PKPbc		**PKPbc**	**04 59 04.5**	**-0.1**
SONM	**Songino Array**	**147.09**	**357**	PKPbc		**PKPbc**	**04 59 03.6**	**-1.0**
	comp=Z,12nm,0.9s,baz=18,slow=2.7,SNR=30							
WMQ	**Urumqi**	**147.99**	**23**	*e*PKPbc		**PKPdf**	**04 59 04.4**	**+0.4**
WMQ					LR	LR		
	comp=Z,160nm,21.1s							
SOEI	**Soe**	**148.31**	**221**			**PKPdf**	**04 59 05.9**	**+0.5**
KSRS	**Korea Array**	**149.08**	**321**	PKPbc		**PKPdf**	**04 59 07.7**	**+1.9**
	comp=Z,9.8nm,1.1s,baz=50,slow=2.8,SNR=13							
XLT	**XiLinHaoTe**	**149.30**	**343**	*e*PKPbc		**PKPbc**	**04 59 10.4**	**0.0**
XLT				PKPab		**pPKPbc**	**04 59 20.2**	**+0.5**
XLT				sPKP			04 59 24.2	
HHC	**Hu-ho-hao-te**	**153.31**	**347**	*e*P		**PKPdf**	**04 59 08.9**	**-3.5**
GTA	**Gaotai**	**155.30**	**8**	*e*P		**PKPdf**	**04 59 16.1**	**+0.9**
GTA				pP		pPKPdf	04 59 21.1	-3.5
GTA				pmax	pmax			
	comp=Z,8.0nm,1.3s							
LZH	**Lanzhou**	**158.89**	**0**	*e*PKP		**PKPdf**	**04 59 22.5**	**+2.6**
LZH				pPKP		sPKPdf	04 59 31.3	-1.2
PZH	**PanZhiHua**	**168.26**	**10**	PKP		**PKPdf**	**04 59 28.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**174.01**	**53**	PKP		**PKPdf**	**04 59 31.9**	**0.0**
	comp=Z,0.8nm,0.2s,baz=327,slow=2.5,SNR=8.0							

*FUNV **08** 04:48:27.6, 10˚.30N×63˚.01W, h23km, MW3.0*
ISC 08 04:48:23.2±1.7, 9˚.7N±0˚.1×62˚.94W±0˚.08, h16km, n4, σ2§64/7, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCRV	**Puerto La Cruz**	**1.75**	**287**	*e*P	**Pn**	**04 48 54.2**	**+1.4**
PCRV				*e*S	**Sn**	**04 49 12.4**	**-2.4**
TRN	**Trinidad (W)**	**1.79**	**57**	*e*P	**Pn**	**04 48 54.1**	**+0.7**
TRN				*e*S	Sn	04 49 13.0	-2.9
CACV	**CAICARA DEL OR**	**4.13**	**240**	*e*P	**Pn**	**04 49 26.9**	**+1.2**
CACV				*e*S	**Sn**	**04 50 10.8**	**-2.9**
BAUV	**El Baul**	**5.09**	**262**	*e*P	**Pn**	**04 49 41.5**	**+2.7**
BAUV				*e*S	**Sn**	**04 50 35.8**	**-1.5**

*IDC **08** 04:49:46.3±2.2, 32˚.04S×177˚.41W, h0km, mb3.6/3, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=52.2km s-min=39.7km az=62.0*
ISC 08 04:49:48.5±1.6, 31˚.94S±0˚.10×177˚.7W±0˚.3, h18km, n6, σ3§03/7, mb3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.69**	**356**	Sn	**Sn**	**04 50 59.6**	**-3.2**
	105nm,0.3s,baz=143,slow=20,SNR=5.6						
URZ	**Urewera**	**7.60**	**213**	Pn	**Pn**	**04 51 37.1**	**-1.1**
	0.3nm,0.3s,baz=105,slow=11,SNR=1.5						
URZ				Sn	**Sn**	**04 53 01.1**	**-2.8**
	1.8nm,0.3s,baz=117,slow=16,SNR=7.3						
	4.2nm,0.6s						
ASAR	**Alice Springs**	**43.30**	**268**	P	**P**	**04 57 52.4**	**+3.0**
	0.5nm,0.9s,baz=107,slow=8.1,SNR=4.3						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**44.42**	**274**	P	**P**	**04 58 01.3**	**+2.8**
	0.4nm,0.4s,baz=114,slow=7.9,SNR=7.5						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**58.17**	**180**	P	**P**	**04 59 41.6**	**+0.4**
	1.2nm,1.0s,baz=49,slow=9.3,SNR=2.0						
	1.2nm,1.0s						
FINES	**FINESS Array B**	**146.67**	**339**	PKPbc	**PKPbc**	**05 09 28.3**	**0.0**
	1.1nm,0.7s,baz=63,slow=5.2,SNR=2.3						

*NEIC **08** 04:59:47.7±1.2, 21˚.9S±0˚.1×174˚.0W±0˚.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=26.0km s-min=15.3km az=126.0*
*IDC **08** 04:59:50.2±2.3, 21˚.88S×174˚.49W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=101.2km s-min=28.7km az=145.0*
ISC 08 04:59:52.2±0.7, 22˚.1S±0˚.1×174˚.3W±0˚.1, h27km, n24, σ1§78/25, mb4.4/13, 2C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.08**	**55**	Pn	Pn	05 00 58.5	-8.2
SANVU	**Saraoutou**	**18.67**	**287**	P	**P**	**05 04 06.5**	**-1.8**
SANVU				IAmb	IAmb	05 04 07.7	
	comp=Z,20nm,0.9s						
CTAO	**Charters Tower**	**36.76**	**266**	P	**P**	**05 06 58.2**	**+0.4**
ASAR	**Alice Springs**	**47.51**	**258**	P	**P**	**05 08 26.4**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=105,slow=7.8,SNR=7.6						
ASAR				PcP	**PcP**	**05 09 57.9**	**+2.5**
	comp=Z,0.6nm,1.0s,baz=104,slow=4.0,SNR=1.6						
	comp=Z,0.9nm,0.7s						
WR8	**Warramunga Arr**	**47.63**	**263**	P	**P**	**05 08 26.7**	**+0.3**
WR8				IAmb	IAmb	05 08 29.3	
	comp=Z,6.4nm,1.4s						
WB0	**Warramunga Arr**	**47.77**	**263**	P	**P**	**05 08 27.4**	**-0.1**
WB0				IAmb	IAmb	05 08 35.8	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**47.78**	**263**	P	**P**	**05 08 27.4**	**-0.2**
WRA	**Warramunga Arr**	**47.78**	**263**	P	**P**	**05 08 27.7**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=93,slow=7.9,SNR=9.4						
WRA				PcP	**PcP**	**05 09 59.0**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=103,slow=3.1,SNR=2.0						
	comp=Z,2.0nm,1.0s						
FORT	**Forrest**	**51.84**	**248**	P	**P**	**05 08 59.4**	**+1.1**
FORT				IAmb	IAmb	05 09 03.1	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**52.59**	**270**	P	**P**	**05 09 04.2**	**+0.2**
MTN				IAmb	IAmb	05 09 07.7	
	comp=Z,20nm,1.5s						
FITZ	**Fitzroy Crossi**	**56.21**	**262**	P	**P**	**05 09 28.4**	**-1.9**
VNDA	**Vanda**	**56.70**	**186**	P	**P**	**05 09 31.8**	**-1.1**
VNDA				IAmb	IAmb	05 09 40.0	
	comp=Z,4.1nm,1.5s						
MBWA	**Marble Bar**	**60.85**	**257**	P	**P**	**05 10 03.3**	**+0.6**
MBWA				IAmb	IAmb	05 10 07.2	
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**68.02**	**180**	P	**P**	**05 10 47.9**	**-1.2**
QSPA				IAmb	IAmb	05 10 52.7	
	comp=Z,8.5nm,1.4s						
JAGI	**Jajag, Banyuwa**	**69.78**	**269**	P	**P**	**05 10 59.5**	**-1.2**
INU	**Inuyama**	**73.38**	**320**	P	**P**	**05 11 20.9**	**-0.9**
ATKA	**Atka Island**	**73.94**	**0**	P	**P**	**05 11 20.9**	**-3.8**
ATKA				IAmb	IAmb	05 11 25.5	
	comp=Z,40nm,1.3s						
NIKH	**Nikolski High**	**74.86**	**3**	P	**P**	**05 11 27.4**	**-2.6**
PETK	**Petropavlovsk-**	**78.69**	**343**	P	**P**	**05 11 53.1**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=156,slow=5.8,SNR=4.7						
	comp=Z,2.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.86**	**41**	P	**P**	**05 11 59.9**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=245,slow=4.4,SNR=2.5						
	comp=Z,0.2nm,0.4s						
SYO	**Syowa Base**	**85.94**	**192**⇑	*e*P	**P**	**05 12 27.0**	**-2.5**
SYO	**Syowa Base**	**85.94**	**192**⇑	*e*pP	**P**	**05 12 32.1**	**+2.6**
ILAR	**Eielson Array**	**89.11**	**11**	P	**P**	**05 12 46.2**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=196,slow=5.6,SNR=4.2						
	comp=Z,0.5nm,0.9s						
AKASG	**Malin Array Be**	**145.98**	**333**	PKPbc	**PKPab**	**05 19 31.1**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=54,slow=1.6,SNR=2.3						

*IDC **08** 05:00:18.9±3.8, 54˚.23N×87˚.46E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=33.6km s-min=20.6km az=42.0*
ASRS 08 05:00:18.0±1.2, 54˚.14N×87˚.20E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**263**	I	I	05 10 00.0	
	baz=79,slow=311,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.42**	**263**	Pg	Pb	05 00 46.6	+1.3
	1.3nm,0.3s,baz=78,slow=14,SNR=13						
ZALV				Lg	Lg	05 01 09.3	
	1.7nm,0.3s,baz=80,slow=24,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	05 01 57.3	+4.3
	0.1nm,0.3s,baz=56,slow=14,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.99**	**205**	Pn	Pn	05 02 19.3	+4.0
	0.1nm,0.3s,baz=26,slow=14,SNR=2.2						
	0.3nm,0.7s						

*IDC **08** 05:10:03.6±6.3, 36˚.24N×140˚.54E, h53km±50km, mb3.4/3, mbtmp3.7/3, MS4.0/3, Error ellipse: s-maj=47.2km s-min=24.8km az=72.0*
*JMA **08** 05:10:08.3±0.1, 36.0N±0˚.3×140˚.1E±0˚.4, h61km, MV3.3/39, SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .
ISC 08 05:10:07.2±1.1, 36˚.01N±0˚.05×140˚.12E±0˚.06, h70km±8km, n24, σ0§79/22, mb3.6/3, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.23**	**16**	*i*P	**Pn**	**05 10 18.0**	**+0.1**
JYT				S	**Sn**	**05 10 25.2**	**-0.6**
JIHU	**Itakohorinouch**	**0.33**	**97**	*i*P	**Pn**	**05 10 19.4**	**+0.8**
JAG	**Ashikaga**	**0.68**	**308**⇓	*i*P	**Pn**	**05 10 22.2**	**+0.3**
JAG				⇓S	**Sn**	**05 10 32.4**	**-0.3**
JRY	**Ryogami san**	**0.99**	**271**⇓	*i*P	**Pn**	**05 10 26.1**	**+0.5**
JRY				⇓S	**Sn**	**05 10 39.5**	**+0.3**
JKT	**Katashina**	**1.03**	**318**	P	**Pn**	**05 10 26.6**	**+0.4**
JKT				S	**Sn**	**05 10 40.7**	**+0.4**
JOD2	**Odawara 2**	**1.12**	**229**⇓	*i*P	**Pn**	**05 10 27.5**	**+0.3**
JOD2				⇓S	**Sn**	**05 10 41.3**	**-0.9**
BSO3	**Boso 3**	**1.25**	**165**	P	**Pn**	**05 10 30.1**	**+1.6**
JYN	**Shimob**	**1.38**	**249**⇓	P	**Pn**	**05 10 31.5**	**+0.9**
JYN				⇓*e*S	**Sn**	**05 10 48.6**	**+0.4**
JIM2	**Oshima 3**	**1.40**	**204**	S	**Sn**	**05 10 48.0**	**-0.7**
JFY	**Yanaizu**	**1.44**	**347**	P	**Pn**	**05 10 32.2**	**+0.8**
JUON	**Uonuma**	**1.47**	**325**	P	**Pn**	**05 10 32.4**	**+0.6**
MJAR	**Matsushiro Arr**	**1.63**	**290**	P	**Pn**	**05 10 34.2**	**+0.2**
	50nm,0.3s,baz=90,slow=9.3,SNR=138						
MJAR				S	**Sn**	**05 10 55.7**	**+1.5**
	16nm,0.3s,baz=94,slow=27,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**28.56**	**117**	T	T	05 46 16.2	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**28.57**	**117**	T	T	05 46 17.1	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**28.58**	**117**	T	T	05 46 15.2	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.22**	**120**	T	T	05 47 07.7	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**29.22**	**120**	T	T	05 47 06.7	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**29.24**	**120**	T	T	05 47 04.5	
	baz=319						
JAY	**Jayapura**	**38.33**	**179**	LR	LR	05 31 51.2	
	comp=Z,151nm,18.5s,baz=334,slow=34						
MKAR	**Makanchi Array**	**43.79**	**303**	P	**P**	**05 18 06.2**	**+0.3**
	0.9nm,0.8s,baz=82,slow=9.9,SNR=3.7						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**45.82**	**309**	P	**P**	**05 18 21.1**	**-0.8**
	1.5nm,0.9s,baz=85,slow=8.1,SNR=8.2						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**05 19 37.2**	**-0.7**
	0.3nm,0.4s,baz=2.6,slow=7.3,SNR=6.5						
	0.3nm,0.4s						
KIRV	**Kirov**	**60.44**	**323**	LR	LR	05 48 59.6	
	comp=Z,123nm,20.2s,baz=297,slow=39						
KVAR	**Kirovsvodsk Arr**	**70.78**	**311**	LR	LR	05 53 05.2	
	comp=Z,175nm,21.5s,baz=269,slow=36						

*NEIC **08** 05:22:16.8±1.2, 4.01S±0.09×152.53E±0.06, h15km±5km, mb4.2/13, Error ellipse: s-maj=14.6km s-min=6.5km az=157.0*
*IDC **08** 05:22:24.7±2.4, 4.13S×152.55E, h87km±22km, mb3.7/15, mbtmp4.2/18, MS3.6/16, Error ellipse: s-maj=16.7km s-min=14.6km az=63.0*
ISC 08 05:22:19.5±0.6, 3.99S±0.07×152.44E±0.08, h35km, n50, σ1§30/36, mb4.0/19, MS3.7/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.34**	**235**		**Pn**	**05 22 25.1**	**-3.0**
MANU	**Manus Island**	**5.43**	**291**	Pn	**Pn**	**05 23 38.0**	**0.0**
PMG	**Port Moresby**	**7.51**	**224**		**Pn**	**05 24 06.1**	**-0.5**
PMG	**Port Moresby**	**7.51**	**224**	P	Pn	05 24 11.8	+5.2
	28nm,0.9s,baz=24,slow=11,SNR=11						
PMG				S	**Sn**	**05 25 35.4**	**+4.8**
	5.4nm,0.4s,baz=143,slow=20,SNR=1.0						
PMG				LR	LR	05 27 04.9	
	comp=Z,359nm,18.9s,baz=36,slow=37						
HNR	**Honiara**	**9.20**	**126**	P	**Pn**	**05 24 31.0**	**+1.2**
	35nm,0.4s,baz=260,slow=8.5,SNR=3.8						
HNR				S	**Sn**	**05 26 14.5**	**+2.2**
	37nm,0.4s,baz=327,slow=19,SNR=6						
HNR				LR	LR	05 28 19.3	
	comp=Z,581nm,19.6s,baz=292,slow=39						
JAY	**Jayapura**	**11.81**	**277**	P	Pn	05 25 12.8	+7.2
	30nm,1.1s,baz=103,slow=18,SNR=4.9						
CTAO	**Charters Tower**	**17.10**	**200**	P	**P**	**05 26 15.9**	**-1.5**
CTAO				IAmb	IAmb	05 26 21.1	
	comp=Z,12nm,1.1s						
GUMO	**Guam**	**19.02**	**337**	LR	LR	05 34 24.9	
	comp=Z,45nm,18.9s,baz=146,slow=38						
DZM	**Mont Dzumac**	**22.52**	**144**	P	**P**	**05 27 16.1**	**-0.5**
	comp=Z,5.8nm,1.0s,baz=255,slow=8.3,SNR=3.4						
	comp=Z,5.8nm,1.0s						
WB0	**Warramunga Arr**	**23.57**	**227**		**P**	**05 27 27.0**	**-0.1**
WR8	**Warramunga Arr**	**23.61**	**226**		**P**	**05 27 27.0**	**-0.6**
WR8				IAmb	IAmb	05 27 34.8	
	comp=Z,10.0nm,0.9s						
WRAB	**Tennant Creek**	**23.71**	**227**	P	**P**	**05 27 27.1**	**-1.3**
WRA	**Warramunga Arr**	**23.72**	**227**		**P**	**05 27 27.9**	**-0.7**
WRA	**Warramunga Arr**	**23.72**	**227**	P	**P**	**05 27 28.4**	**-0.1**
	comp=Z,4.9nm,0.8s,baz=53,slow=9.8,SNR=39						
WRA				LR	LR	05 36 23.0	
	comp=Z,122nm,18.3s,baz=174,slow=35						
	comp=Z,4.9nm,0.8s						
KNRA	**Kununurra**	**26.02**	**242**	P	**P**	**05 27 50.2**	**+0.6**
KNRA				IAmb	IAmb	05 28 18.6	
	comp=Z,6.4nm,0.8s						
INKA	**Innaminka**	**26.12**	**204**	P	**P**	**05 27 50.9**	**+0.5**
INKA				IAmb	IAmb	05 28 12.9	
	comp=Z,4.0nm,1.1s						
AS31	**Alice Springs**	**26.51**	**221**	P	**P**	**05 27 54.3**	**+0.3**
ASAR	**Alice Springs**	**26.51**	**221**	P	**P**	**05 27 53.9**	**-0.1**
ASAR	**Alice Springs**	**26.51**	**221**	P	**P**	**05 27 54.1**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=54,slow=8.9,SNR=40						
	comp=Z,2.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**27.51**	**31**	T	T	05 57 00.4	
	baz=206,slow=76,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**27.52**	**31**	T	T	05 57 08.5	
	baz=206,slow=76,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**27.53**	**31**	T	T	05 57 21.0	
	baz=206,slow=76,SNR=6.1						
BATI	**Baumata**	**29.20**	**256**	LR	LR	05 43 35.5	
	comp=Z,129nm,19.3s,baz=84,slow=43						
STKA	**Stephens Creek**	**29.55**	**199**	P	**P**	**05 28 19.8**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=33,slow=15,SNR=3.6						
STKA				LR	LR	05 41 08.2	
	comp=Z,83nm,18.3s,baz=4.2,slow=38						
	comp=Z,1.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.74**	**240**	P	**P**	**05 28 21.7**	**-1.1**
KAPI	**Kappang**	**32.60**	**267**	LR	LR	05 44 21.4	
	comp=Z,34nm,18.2s,baz=94,slow=40						
PSA00	**Pilbara Seismi**	**36.14**	**238**	P	**P**	**05 29 18.9**	**+0.2**
PSA00				IAmb	IAmb	05 29 45.9	
	comp=Z,4.7nm,1.1s						
KSRS	**Korea Array**	**47.12**	**333**	P	**P**	**05 30 49.1**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=146,slow=10,SNR=4.2						
	comp=Z,1.2nm,0.7s						
ASAJ	**Asahikawa**	**48.70**	**351**	LR	LR	05 53 33.8	
	comp=Z,27nm,18.1s,baz=178,slow=38						
RAR	**Rarotonga**	**49.44**	**115**	LR	LR	05 49 06.0	
	comp=Z,123nm,18.2s,baz=290,slow=32						
PETK	**Petropavlovsk-**	**57.06**	**4**	P	**P**	**05 32 02.5**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=172,slow=5.7,SNR=6.0						
	comp=Z,5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.21**	**295**	P	**P**	**05 32 04.5**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=104,slow=5.0,SNR=4.3						
	comp=Z,0.9nm,0.3s						
SHEM	**Shemya Is, Ala**	**59.41**	**15**	LR	LR	05 53 04.5	
	comp=Z,66nm,20.4s,baz=127,slow=31						
MA2	**Magadan**	**63.39**	**359**	LR	LR	05 58 47.2	
	comp=Z,62nm,20.8s,baz=83,slow=34						
SONM	**Songino Array**	**65.46**	**328**	P	**P**	**05 32 59.1**	**-0.1**
SONM				IAmb	IAmb	05 33 08.0	
	comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**65.46**	**328**	P	**P**	**05 32 59.7**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=131,slow=6.4,SNR=3.7						
	comp=Z,0.6nm,0.5s						
YAK	**Yakutsk**	**68.12**	**349**	LR	LR	06 01 11.3	
	comp=Z,80nm,21.1s,baz=9.0,slow=34						
PALK	**Pallekele**	**72.46**	**279**	LR	LR	06 07 24.2	
	comp=Z,72nm,18.4s,baz=268,slow=37						
VNDA	**Vanda**	**73.64**	**178**	P	**P**	**05 33 49.1**	**+0.1**
VNDA				IAmb	IAmb	05 34 00.5	
	comp=Z,2.8nm,1.1s						
VNDA	**Vanda**	**73.64**	**178**	P	**P**	**05 33 47.1**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=66,slow=10,SNR=1.9						
	comp=Z,0.5nm,0.6s						
KDAK	**Kodiak Island**	**75.62**	**27**	LR	LR	06 00 24.5	
	comp=Z,44nm,21.2s,baz=227,slow=30						
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**05 34 22.9**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=102,slow=5.9,SNR=6.9						
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**80.29**	**326**	P	**P**	**05 34 26.4**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=117,slow=5.7,SNR=3.9						
	comp=Z,1.2nm,0.6s						
ILAR	**Eielson Array**	**81.55**	**22**	P	**P**	**05 34 32.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=244,slow=5.5,SNR=6.0						
ILAR				LR	LR	06 09 55.8	
	comp=Z,30nm,18.4s,baz=239,slow=35						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**82.95**	**322**	P	**P**	**05 34 41.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=101,slow=3.9,SNR=4.4						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**85.96**	**180**	P	**P**	**05 34 56.7**	**+0.6**
QSPA	**South Pole Qui**	**85.96**	**180**	P	**P**	**05 34 54.6**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=302,slow=0.8,SNR=6.8						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**88.39**	**323**	P	**P**	**05 35 07.5**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=116,slow=3.4,SNR=5.3						
	comp=Z,0.6nm,0.4s						
PFO	**Pinyon Flats O**	**93.10**	**57**	LR	LR	06 10 56.5	
	comp=Z,29nm,18.6s,baz=232,slow=31						
BDFB	**Brasilia**	**151.88**	**134**	PKPbc	**PKPbc**	**05 42 11.1**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=162,slow=3.0,SNR=4.5						

*THE **08** 05:25:37.8, 35˚.N±16˚×2˚.9E±1˚.5, h34km±17km, M2.9/4, MLh2.9/4*
*NIC **08** 05:25:38.0, 35˚.36N×28˚.64E, h27km±1km, MI3.0/11*
*AFAD **08** 05:25:40.8, 35˚.66N×28˚.35E, h7km±3km, ML2.6*
*ISK **08** 05:25:40.9, 35˚.75N×28˚.26E, h14km, ML2.9/13*
ISC 08 05:25:39.3±1.4, 35˚.42N±0˚.04×28˚.64E±0˚.03, h31km±13km, n37, σ1§07/57, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.90**	**332**	Pg	**Pn**	**05 25 55.2**	**-0.6**
ARG	**Ark

IDI	**Anoyia**	**3.07**	**269**	Pn	**Pn**	**Pn**	**05 26 26.4**	**+0.7**
KULA	**Kula-Manisa**	**3.09**	**0**	Pn	**Pn**	**Pn**	**05 26 26.4**	**+0.4**
ALFC	**Alefka**	**3.25**	**93**	P	**Pn**	**Pn**	**05 26 27.5**	**-0.6**
ALFC				S	**Sn**	**Sn**	**05 27 06.1**	**+0.4**
ALFC				AML	AML	AML	05 27 08.8	
	0.1nm,0.3s							
ALFC				AML	AML	AML	05 27 11.1	
	0.2nm,0.4s							
NATA	**Nata**	**3.28**	**100**	P	**Pn**	**Pn**	**05 26 28.1**	**-0.4**
NATA				AML	AML	AML	05 27 13.1	
	0.4nm,0.4s							
NATA				AML	AML	AML	05 27 14.7	
	0.3nm,0.5s							
TROD	**Troodos**	**3.49**	**96**	P	**Pn**	**Pn**	**05 26 30.2**	**-1.4**
TROD				S	**Sn**	**Sn**	**05 27 13.1**	**+1.2**
TROD				AML	AML	AML	05 27 21.4	
	0.1nm,0.5s							
TROD				AML	AML	AML	05 27 27.5	
	0.1nm,0.5s							
GORD	**Gordes-Manisa**	**3.51**	**354**	Pn	**Pn**	**Pn**	**05 26 31.9**	**+0.3**
CHOS	**Chios island**	**3.62**	**326**	Pn	**Pn**	**Pn**	**05 26 31.8**	**-1.4**
XYLS	**Xyliatos**	**3.63**	**95**	P	**Pn**	**Pn**	**05 26 32.6**	**-0.7**
XYLS				S	**Sn**	**Sn**	**05 27 16.5**	**+1.3**
XYLS				AML	AML	AML	05 27 17.0	
	0.1nm,0.3s							
XYLS				AML	AML	AML	05 27 18.9	
	0.1nm,0.4s							
ASGA	**Asgata**	**3.83**	**98**	P	**Pn**	**Pn**	**05 26 35.7**	**-0.3**
ASGA				AML	AML	AML	05 27 25.8	
	0.1nm,0.3s							
ASGA				AML	AML	AML	05 27 28.1	
	0.1nm,0.5s							
CSS	**Mathiatis**	**3.87**	**95**	P	**Pn**	**Pn**	**05 26 36.0**	**-0.6**
CSS				S	**Sn**	**Sn**	**05 27 21.4**	**+0.5**
CSS				AML	AML	AML	05 27 32.7	
	0.1nm,0.4s							
CSS				AML	AML	AML	05 27 35.0	
	0.1nm,0.6s							
MVOU	**Mavrovouni**	**4.11**	**94**	P	**Pn**	**Pn**	**05 26 40.0**	**+0.2**
MVOU				AML	AML	AML	05 27 35.0	
	0.1nm,0.4s							
MVOU				AML	AML	AML	05 27 35.8	
	0.1nm,0.4s							

NEIC ***08*** *05:30:31.8±1.7, 14.°5S±0.°1×167.°5E±0.°1, h135km±8km, mb4.3/15, Error ellipse: s-maj=19.5km s-min=15.0km az=108.0*

IDC ***08*** *05:30:31.3±6.6, 14.°56S×167.°37E, h128km±46km, mb3.9/7, mbtmp4.3/8, Error ellipse: s-maj=55.3km s-min=25.6km az=28.0*

NOU ***08*** *05:30:35.3, 14.°78S×167.°35E, h117km, MLv4.7/17, Vanuatu Islands*

ISC 08 05:30:33.2±0.7, 14.°67S±0.°08×167.°43E±0.°09, h150km, n45, σ1ˢ76/46, mb4.2/16, 3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.80**	**196**		**Pn**	**05 30 54.7**	**-1.7**
SANVU	**Saraoutou**	**0.80**	**196**	P	**Pn**	**05 30 54.3**	**-2.1**
SANVU	**Saraoutou**	**0.80**	**196**	S	**Sn**	**05 31 10.3**	**-3.9**
VLAKA	**Lakatoro**	**1.43**	**180**	P	**Pn**	**05 31 00.5**	**-1.5**
VLAKA	**Lakatoro**	**1.43**	**180**	P	**Sn**	**05 31 21.0**	**-3.1**
DVP	**Devils Point**	**3.12**	**167**	P	**Pn**	**05 31 22.6**	**+0.5**
LUES	**Luesalemba Tem**	**4.25**	**339**	P	**Pn**	**05 31 39.1**	**+2.3**
KOUNC	**Koumac, New Ca**	**6.57**	**207**	P	**Pn**	**05 32 08.3**	**+0.8**
HURO	**Huro Makira**	**6.83**	**307**	P	**Pn**	**05 32 13.1**	**+2.1**
DZM	**Mont Dzumac**	**7.42**	**187**		**Pn**	**05 32 18.7**	**-0.2**
DZM	**Mont Dzumac**	**7.42**	**187**	P	**Pn**	**05 32 18.2**	**-0.7**
	6.9nm,0.3s,baz=23,slow=14,SNR=34						
DZM				S	**Sn**	**05 33 37.6**	**-4.4**
	21nm,0.5s,baz=128,slow=19,SNR=10						
DZM	**Mont Dzumac**	**7.42**	**187**	P	**Pn**	**05 32 18.2**	**-0.7**
ONTNC	**Ouen Toro**	**7.65**	**187**	Pn	**Pn**	**05 32 22.1**	**+0.2**
ONTNC	**Ouen Toro**	**7.65**	**187**	P	**Pn**	**05 32 22.8**	**+0.9**
OUENC	**Ouen Island, N**	**7.73**	**184**	P	**Pn**	**05 32 24.0**	**+1.1**
PINNC	**Pines Island,**	**7.90**	**180**	Pn	**Pn**	**05 32 25.6**	**+0.3**
HNR	**Honiara**	**8.98**	**305**	Pn	**Pn**	**05 32 35.3**	**-4.4**
FUNA	**Funafuti**	**13.04**	**63**	Pn	**Pn**	**05 33 30.1**	**-2.9**
ARMA	**Armidale**	**21.38**	**220**	P	**P**	**05 35 07.6**	**-1.4**
ARMA				IAmb	IAmb	05 35 12.3	
	comp=Z,5.5nm,0.9s						
CAN	**Canberra**	**26.40**	**216**	P	**P**	**05 35 57.1**	**+1.2**
CAN				IAmb	IAmb	05 36 20.5	
	comp=Z,6.4nm,1.0s						
STKA	**Stephens Creek**	**29.15**	**230**	P	**P**	**05 36 22.0**	**+1.7**
STKA	**Stephens Creek**	**29.15**	**230**	P	**P**	**05 36 21.4**	**+1.2**
	comp=Z,5.1nm,0.4s,baz=55,slow=11,SNR=13						
	comp=Z,5.1nm,0.4s						
WB0	**Warramunga Arr**	**31.93**	**256**	P	**P**	**05 36 44.8**	**-0.1**
WB0				IAmb	IAmb	05 37 04.6	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**31.99**	**256**	P	**P**	**05 36 44.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=85,slow=9.1,SNR=9.3						
	comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**32.84**	**249**	P	**P**	**05 36 52.9**	**0.0**
AS31				IAmb	IAmb	05 36 53.7	
	comp=Z,1.8nm,1.1s						
ASAR	**Alice Springs**	**32.84**	**249**	P	**P**	**05 36 52.9**	**+0.1**
ASAR	**Alice Springs**	**32.84**	**249**	P	**P**	**05 36 52.5**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=77,slow=8.9,SNR=26						
	comp=Z,2.1nm,0.5s						
BBOO	**Buckleboo**	**33.74**	**232**	P	**P**	**05 37 01.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**40.18**	**259**	P	**P**	**05 37 55.9**	**+0.9**
PSA00	**Pilbara Seismi**	**45.61**	**254**	P	**P**	**05 38 35.9**	**-2.8**
PSA00				IAmb	IAmb	05 38 49.1	
	comp=Z,15nm,1.1s						
MBWA	**Marble Bar**	**45.71**	**255**	P	**P**	**05 38 40.5**	**+1.0**
MORW	**Morawa**	**49.44**	**244**	P	**P**	**05 39 08.8**	**+0.6**
MORW				IAmb	IAmb	05 39 23.5	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**62.92**	**181**	P	**P**	**05 40 44.1**	**+1.1**
VNDA	**Vanda**	**62.92**	**181**	P	**P**	**05 40 44.3**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=356,slow=8.9,SNR=11						
	comp=Z,1.2nm,0.5s						
SBA	**Scott Base**	**63.19**	**180**	P	**P**	**05 40 47.4**	**+2.6**
SBA				IAmb	IAmb	05 40 47.8	
	comp=Z,5.8nm,0.9s						
CASY	**Casey**	**63.64**	**202**	P	**P**	**05 40 49.2**	**+1.3**
CASY				IAmb	IAmb	05 40 49.6	
	comp=Z,3.8nm,0.6s						
QSPA	**South Pole Qui**	**75.36**	**180**	P	**P**	**05 42 01.8**	**+1.8**
QSPA				IAmb	IAmb	05 42 02.5	
	comp=Z,7.0nm,1.1s						
QSPA	**South Pole Qui**	**75.36**	**180**	P	**P**	**05 42 01.3**	**+1.4**
	comp=Z,3.5nm,0.8s,baz=328,slow=0.9,SNR=18						
	comp=Z,3.5nm,0.8s						
MAW	**Mawson**	**82.00**	**202**	P	**P**	**05 42 37.0**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=20,slow=11,SNR=2.4						
	comp=Z,1.0nm,0.5s						
BELA	**Belgrano 2**	**86.77**	**175**	P	**P**	**05 43 01.0**	**+1.0**
TROLL	**Troll, Antarti**	**92.93**	**185**	⇓P	**P**	**05 43 29.2**	**+0.2**
	comp=Z,121nm,0.6s						
SNAA	**Sanae**	**93.61**	**183**	⇓P	**P**	**05 43 32.1**	**0.0**
	comp=Z,16nm,0.7s						
SNAA	**Sanae**	**93.61**	**183**	P	**P**	**05 43 31.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=209,slow=8.6,SNR=9.7						
	comp=Z,0.8nm,0.7s						
VNA3	**Neumayer Olymp**	**94.27**	**181**	⇓P	**P**	**05 43 35.1**	**0.0**
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**120.24**	**345**	PKP	**PKiKP**	**05 49 06.8**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=59,slow=2.3,SNR=5.4						

ROM ***08*** *05:36:35.7±0.0, 45.°769N±0.°003×11.°067E±0.°003, h11km, ML3.4/317, Error ellipse: s-maj=0.2km s-min=0.2km az=302.0*

GEN ***08*** *05:36:35.3, 45.°78N×11.°06E, h12km, Ml3.5*

VIE ***08*** *05:36:36.4±0.4, 45.°84N×11.°16E, h13km, mb2.9/23, ml3.5/23, Error ellipse: s-maj=2.5km s-min=1.5km az=17.0 25 km S of Trento*

LDG ***08*** *05:36:36.2±0.1, 45.°70N×11.°14E, h2km, Ml3.4/32, Error ellipse: s-maj=2.7km s-min=2.4km az=124.0*

BGR ***08*** *05:36:39.0±0.4, 45.°90N×11.°10E, h10km, ML3.5/14, Error ellipse: s-maj=4.4km s-min=2.2km az=8.0*

PRU ***08*** *05:36:39.1, 45.°92N×11.°18E, h10km*

ISC 08 05:36:35.3±0.8, 45.°79N±0.°01×11.°09E±0.°01, h18km±2km, n181, σ1ˢ35/302, 17C-13D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOSS	**Dosso del Somm**	**0.11**	**37**	⇓*e*Pg	**Pg**	**05 36 39.6**	**+0.3**
DOSS				*e*Sg	**Sg**	**05 36 41.7**	**-0.3**
DOSS	**Dosso del Somm**	**0.11**	**37**	P	**Pg**	**05 36 39.6**	**+0.3**
DOSS				S	**Sg**	**05 36 42.0**	**-0.1**
DOSS	**Dosso del Somm**	**0.11**	**37**	⇓P	**Pg**	**05 36 39.6**	**+0.3**
DOSS				S	**Sg**	**05 36 41.9**	**-0.1**
DOSS				AML	AML		
DOSS				AML	AML		
DOSS				AML	AML		
	comp=N,86150μm,0.1s						
DOSS				AML	AML		
	comp=E,78150μm,0.1s						
DOSS				AML	AML		
DOSS				AML	AML		
	comp=E,78155μm,0.1s						
DOSS				AML	AML		
	comp=N,69633μm,0.1s						
DOSS				AML	AML		
	comp=N,86170μm,0.1s						
DOSS				AML	AML		
	comp=E,73634μm,0.1s						
VARA	**Varagna**	**0.14**	**285**	⇑P	**Pg**	**05 36 39.6**	**+0.1**
VARA				S	**Sg**	**05 36 42.1**	**-0.4**
VARA				AML	AML		
	comp=E,79850μm,1.4s						
VARA				AML	AML		
	comp=N,77500μm,0.3s						
VARA				AML	AML		
VARA				AML	AML		
	comp=E,79900μm,1.4s						
VARA				AML	AML		
VARA				AML	AML		
VARA				AML	AML		
	comp=E,70685μm,0.1s						
VARA				AML	AML		
	comp=N,71456μm,0.1s						
VARA				AML	AML		
VARA				AML	AML		
ROVR	**Rover Verones**	**0.14**	**186**	P	**Pb**	**05 36 39.2**	**+0.4**
ROVR				S	**Sb**	**05 36 41.3**	**+0.2**
MARN	**Marana (Italy)**	**0.17**	**152**	⇑*e*Pg	**Pb**	**05 36 39.7**	**+0.2**
MARN				*e*Sg	**Sb**	**05 36 42.2**	**0.0**
MARN	**Marana (Italy)**	**0.17**	**152**	P	**Pb**	**05 36 39.7**	**+0.2**
MARN				S	**Sb**	**05 36 42.2**	**0.0**
MBAL	**Monte Baldo -**	**0.19**	**241**	P	**Pb**	**05 36 39.9**	**0.0**
MBAL				S	**Sb**	**05 36 42.7**	**-0.2**
MBAL				AML	AML		
	comp=E,49200μm,0.1s						
MBAL				AML	AML		
	comp=N,42900μm,1.4s						
MBAL				AML	AML		
	comp=E,47950μm,1.4s						
MBAL				AML	AML		
	comp=E,47900μm,1.4s						
MBAL				AML	AML		
	comp=N,43450μm,0.1s						
MBAL				AML	AML		
	comp=E,49250μm,0.1s						
MBAL				AML	AML		
	comp=N,43400μm,0.1s						
MBAL				AML	AML		
	comp=E,42679μm,0.2s						
MBAL				AML	AML		
	comp=N,37656μm,0.1s						
MBAL				AML	AML		
	comp=E,42679μm,1.8s						
MBAL				AML	AML		
	comp=N,43434μm,0.1s						
MBAL				AML	AML		
	comp=E,49212μm,0.1s						
LUSI	**Trento, Gardas**	**0.20**	**329**	⇓P	**Pg**	**05 36 40.7**	**+0.4**
LUSI				S	**Sg**	**05 36 44.0**	**+0.3**
LUSI				AML	AML		
	comp=N,81850μm,0.3s						
LUSI				AML	AML		
	comp=E,43150μm,1.4s						
LUSI				AML	AML		
	comp=N,81800μm,0.3s						
LUSI				AML	AML		
	comp=E,37479μm,0.2s						
LUSI				AML	AML		
	comp=E,37479μm,1.8s						
LUSI				AML	AML		
	comp=N,81821μm,0.3s						
BALD	**Monte Baldo**	**0.22**	**241**	⇑*e*Pg	**Pb**	**05 36 40.5**	**-0.1**
BALD				*e*Sg	**Sb**	**05 36 43.9**	**-0.3**
BALD	**Monte Baldo**	**0.22**	**241**	P	**Pb**	**05 36 40.5**	**-0.1**
BALD				S	**Sb**	**05 36 43.7**	**-0.6**
BALD	**Monte Baldo**	**0.22**	**241**	P	**Pb**	**05 36 40.5**	**-0.1**
BALD				S	**Sb**	**05 36 43.6**	**-0.6**
TREG	**Tregnago**	**0.27**	**170**	⇓P	**Pg**	**05 36 41.3**	**0.0**
TREG				S	**Sg**	**05 36 45.2**	**-0.2**
TREG				AML	AML		
	comp=N,53400μm,1.0s						
TREG				AML	AML		
	comp=E,41850μm,0.2s						
TREG				AML	AML		
	comp=N,48230μm,0.1s						
TREG				AML	AML		
	comp=E,41836μm,0.2s						
ZEN8	**San Zeno di Mo**	**0.29**	**239**	P	**Pg**	**05 36 41.5**	**-0.2**
ZEN8				S	**Sg**	**05 36 45.3**	**-0.8**
GAGG	**Gaggia**	**0.31**	**342**	⇓*e*Pg	**Pb**	**05 36 42.8**	**+0.4**
GAGG				*e*Sg	**Sb**	**05 36 47.6**	**+0.6**
GAGG	**Gaggia**	**0.31**	**342**	P	**Pb**	**05 36 42.7**	**+0.4**
GAGG				S	**Sb**	**05 36 47.6**	**+0.6**
GAGG	**Gaggia**	**0.31**	**342**	⇓P	**Pb**	**05 36 42.7**	**+0.4**
GAGG				S	**Sb**	**05 36 47.4**	**+0.4**
GAGG				AML	AML		
	comp=E,13150μm,0.5s						
GAGG				AML	AML		
	comp=E,10265μm,0.2s						
GAGG				AML	AML		
	comp=N,13600μm,0.5s						
GAGG				AML	AML		
	comp=N,9440μm,0.2s						
GAGG				AML	AML		
	comp=E,10265μm,0.2s						
GAGG				AML	AML		
	comp=N,11342μm,0.4s						
GAGG				AML	AML		
	comp=N,9437μm,0.2s						
GAGG				AML	AML		
	comp=E,10941μm,0.4s						
MAGA	**Magasa**	**0.33**	**268**	⇑P	**Pg**	**05 36 42.3**	**+0.1**
MAGA				S	**Sg**	**05 36 47.5**	**+0.4**
MAGA				AML	AML		
	comp=N,16200μm,0.7s						
MAGA				AML	AML		
	comp=E,26550μm,0.3s						
MAGA				AML	AML		
	comp=E,26538μm,0.3s						
MAGA				AML	AML		
	comp=N,15979μm,0.2s						
CEKR	**Cima Ekar Asia**	**0.34**	**80**	⇑*e*Pg	**Pb**	**05 36 42.9**	**+0.1**
CEKR				*e*Sg	**Sb**	**05 36 47.7**	**-0.3**
RONC	**Roncone**	**0.38**	**300**	⇑*e*Pg	**Pg**	**05 36 43.5**	**+0.3**
RONC				*e*Sg	**Sb**	**05 36 49.2**	**0.0**
RONC	**Roncone**	**0.38**	**300**	⇑P	**Pg**	**05 36 43.5**	**+0.3**
RONC				S	**Sg**	**05 36 48.7**	**0.0**
RONC				AML	AML		
	comp=N,12500μm,0.6s						
RONC				AML	AML		
	comp=N,17000μm,0.6s						
RONC				AML	AML		
	comp=E,12800μm,0.6s						
RONC				AML	AML		
	comp=E,13550μm,1.3s						
RONC				AML	AML		
	comp=E,12762μm,0.2s						
RONC				AML	AML		
	comp=E,12106μm,0.2s						
RONC				AML	AML		
	comp=N,16194μm,0.2s						
RONC				AML	AML		
	comp=N,10261μm,0.2s						
SANR	**Sandrigo**	**0.39**	**112**	P	**Pb**	**05 36 43.9**	**+0.2**
SANR				S	**Sb**	**05 36 49.6**	**+0.2**
ZOVE	**Zovencedo**	**0.44**	**140**	⇑P	**Pg**	**05 36 44.4**	**+0.2**
ZOVE				AML	AML		
	comp=E,15300μm,0.5s						
ZOVE				AML	AML		
	comp=N,13800μm,0.2s						
ZOVE				AML	AML		
	comp=E,14290μm,0.2s						
ZOVE				AML	AML		
	comp=N,13797μm,0.2s						
VOBA	**Vobarno**	**0.44**	**251**	⇓P	**Pg**	**05 36 44.2**	**0.0**
VOBA				S	**Sg**	**05 36 50.4**	**+0.2**
VOBA				AML	AML		
	comp=N,13900μm,1.6s						
VOBA				AML	AML		
	comp=E,14250μm,0.2s						
VOBA				AML	AML		
	comp=E,14275μm,0.2s						
VOBA				AML	AML		
	comp=N,12472μm,0.3s						
BAG8	**Bagolino**	**0.44**	**274**	P	**Pg**	**05 36 44.2**	**0.0**
BAG8				S	**Sg**	**05 36 49.9**	**-0.4**
BAG8	**Bagolino**	**0.44**	**274**	⇑P	**Pg**	**05 36 44.3**	**0.0**
BAG8				S	**Sg**	**05 36 50.1**	**-0.2**
BAG8				AML	AML		
	comp=E,7945μm,0.5s						
BAG8				AML	AML		
	comp=E,7950μm,0.5s						
BAG8				AML	AML		
	comp=N,5920μm,1.4s						
BAG8				AML	AML		
	comp=N,5473μm,0.2s						
BAG8				AML	AML		
	comp=E,7460μm,0.2s						
GAVI	**Passo Gaver BS**	**0.46**	**287**	⇑*e*Pg	**Pg**	**05 36 44.8**	**+0.1**
MABI	**Malga Bissina**	**0.48**	**303**	P	**Pg**	**05 36 45.3**	**+0.2**
MABI				S	**Sg**	**05 36 51.8**	**+0.1**
MABI				AML	AML		
	comp=E,2000μm,0.3s						
MABI				AML	AML		
	comp=N,2165μm,0.2s						
MABI				AML	AML		
	comp=E,2002μm,0.3s						
MABI				AML	AML		
	comp=N,2164μm,0.2s						
MABI				AML	AML		
	comp=E,2002μm,1.7s						
OPPE	**Oppeano**	**0.48**	**173**	P	**Pg**	**05 36 45.2**	**+0.2**
OPPE				S	**Sg**	**05 36 51.9**	**+0.3**
OPPE	**Oppeano**	**0.48**	**173**	⇓P	**Pg**	**05 36 45.2**	**+0.2**
OPPE				S	**Sb**	**05 36 52.2**	**+0.2**
OPPE				AML	AML		
	comp=E,8015μm,0.3s						
OPPE				AML	AML		
	comp=N,7260μm,0.7s						
OPPE				AML	AML		
	comp=E,8021μm,0.3s						
OPPE				AML	AML		
	comp=N,6851μm,0.4s						
OPPE				AML	AML		
	comp=E,8021μm,1.7s						
CGRP	**Cima Grappa**	**0.50**	**79**	⇑*e*Pg	**Pb**	**05 36 46.0**	**+0.3**
CGRP				*e*Sg	**Sb**	**05 36 53.0**	**+0.3**
CGRP	**Cima Grappa**	**0.50**	**79**	⇑P	**Pb**	**05 36 46.0**	**+0.3**
CGRP				S	**Sb**	**05 36 52.9**	**+0.2**
CGRP				AML	AML		
	comp=E,9450μm,0.3s						
CGRP				AML	AML		
	comp=N,8055μm,0.2s						
CGRP				AML	AML		
	comp=N,8240μm,0.2s						
CGRP				AML	AML		
	comp=E,9690μm,0.3s						
CGRP				AML	AML		
	comp=E,9694μm,0.3s						
CGRP				AML	AML		
	comp=N,8243μm,0.2s						
CGRP				AML	AML		
	comp=N,8054μm,0.2s						
CGRP				AML	AML		
	comp=E,9452μm,0.3s						
ASOL	**Asolo**	**0.57**	**89**	⇑P	**Pn**	**05 36 47.5**	**-0.9**
ASOL				S	**Sn**	**05 36 56.1**	**-1.2**
ASOL				AML	AML		
	comp=E,8025μm,0.2s						
ASOL				AML	AML		
	comp=E,8026μm,0.2s						
ASOL				AML	AML		
	comp=N,5380μm,0.2s						
ASOL				AML	AML		
	comp=N,5383μm,0.2s						
ZIAN	**Ziano**	**0.59**	**34**	⇓*e*Pg	**Pg**	**05 36 47.7**	**+0.7**
ZIAN	**Ziano**	**0.59**	**34**	⇓P	**Pg**	**05 36 47.7**	**+0.7**
ZIAN				S	**Sb**	**05 36 55.6**	**+0.6**
ZIAN				AML	AML		
	comp=E,9130μm,0.3s						
ZIAN				AML	AML		
	comp=N,7990μm,0.3s						
ZIAN				AML	AML		
	comp=E,8105μm,0.3s						
ZIAN				AML	AML		
	comp=N,9095μm,0.3s						
ZIAN				AML	AML		
	comp=E,9135μm,0.3s						
ZIAN				AML	AML		
	comp=N,7995μm,0.3s						
ZIAN				AML	AML		
	comp=E,8100μm,0.3s						
ZIAN				AML	AML		
	comp=N,9095μm,0.3s						
ZIAN				AML	AML		
	comp=E,9134μm,0.3s						
ZIAN				AML	AML		
	comp=N,5039μm,0.1s						
ZIAN				AML	AML		
	comp=E,5148μm,0.2s						
OZOL	**Ozolo**	**0.61**	**357**	⇓*e*Pg	**Pg**	**05 36 48.2**	**+0.7**
OZOL				*e*Sg	**Sn**	**05 36 57.8**	**-1.0**
OZOL	**Ozolo**	**0.61**	**357**	P	**Pg**	**05 36 48.2**	**+0.7**
OZOL				AML	AML		
	comp=E,5585μm,0.4s						
OZOL				AML	AML		
	comp=E,5185μm,0.4s						
OZOL				AML	AML		
	comp=N,3840μm,1.5s						
OZOL				AML	AML		
	comp=N,3715μm,0.8s						
OZOL				AML	AML		
	comp=E,4994μm,0.3s						
OZOL				AML	AML		
	comp=N,3546μm,0.2s						
OZOL				AML	AML		
	comp=E,5412μm,0.2s						
OZOL				AML	AML		
	comp=N,3301μm,0.2s						
OZOL				AML	AML		
	comp=E,4994μm,1.7s						
CNCS	**Concesio**	**0.64**	**254**	P	**Pb**	**05 36 47.6**	**-0.3**
MNTV	**Mantova**	**0.68**	**198**	P	**Pg**	**05 36 49.1**	**+0.6**
MNTV				S	**Sn**	**05 36 59.3**	**-0.6**
MNTV	**Mantova**	**0.68**	**198**	P	**Pg**	**05 36 49.2**	**+0.6**
MNTV				AML	AML		
	comp=E,6915μm,0.3s						
MNTV				AML	AML		
	comp=E,6910μm,0.3s						
MNTV				AML	AML		
	comp=N,6883μm,0.2s						
MNTV				AML	AML		
	comp=N,6885μm,0.2s						
MNTV				AML	AML		
	comp=E,6913μm,0.3s						
GAZZ	**Gazzo Veronese**	**0.68**	**180**	⇓*e*Pg	**Pg**	**05 36 49.1**	**+0.5**
ZONE	**Zone**	**0.68**	**268**	P	**Pb**	**05 36 48.3**	**-0.3**
ZONE				AML	AML		
	comp=E,1075μm,0.2s						
ZONE				AML	AML		
	comp=N,1190μm,0.7s						
ZONE				AML	AML		
	comp=N,4940μm,0.7s						
ZONE				AML	AML		
	comp=E,4535μm,0.2s						
ZONE				AML	AML		
	comp=N,1033μm,0.2s						
ZONE				AML	AML		
	comp=E,4533μm,0.2s						
ZONE				AML	AML		
	comp=E,1076μm,0.2s						
ZONE				AML	AML		
	comp=N,4370μm,0.2s						
CARE	**Lago del Cares**	**0.69**	**337**	⇓*e*Pg	**Pg**	**05 36 49.7**	**+0.7**
CARE	**Lago del Cares**	**0.69**	**337**	P	**Pg**	**05 36 49.6**	**+0.7**
CARE				AML	AML		
	comp=E,1300μm,0.1s						
CARE				AML	AML		
	comp=N,1715μm,1.3s						
CARE				AML	AML		
	comp=E,1395μm,0.1s						

CARE AML AML
comp=N,1835µm,0.2s
CARE AML AML
comp=N,1836µm,0.2s
CARE AML AML
comp=E,1301µm,0.1s
CARE AML AML
comp=N,1662µm,0.2s
CARE AML AML
comp=E,1393µm,0.1s
APPI Appiano 0.69 8 P **Pn** 05 36 49.7 -0.6
APPI AML AML
comp=E,3990µm,1.3s
APPI AML AML
comp=N,3695µm,1.2s
APPI AML AML
comp=E,3485µm,0.2s
APPI AML AML
comp=N,3484µm,0.2s
KOSI Kohlern 0.70 16 P **Pn** 05 36 50.0 -0.4
MTLO Montello 0.70 88 *e*Pg **Pn** 05 36 49.7 -0.6
MTLO *e*Sg **Sn** 05 36 59.9 -0.8
BOSI Bolzano 0.72 12 P **Pn** 05 36 50.4 -0.2
BOSI AML AML
comp=E,3885µm,0.3s
BOSI AML AML
comp=N,4765µm,0.4s
BOSI AML AML
comp=E,3884µm,0.3s
BOSI AML AML
comp=N,4764µm,0.4s
BOSI AML AML
comp=E,3884µm,1.7s
VARN Col Varnada, M 0.74 74↑ *e*Pg **Pg** 05 36 49.8 +0.1
VARN Col Varnada, M 0.74 74 P **Pg** 05 36 49.7 +0.1
VARN AML AML
comp=E,7115µm,0.9s
VARN AML AML
comp=N,6420µm,0.4s
VARN AML AML
comp=E,7470µm,0.9s
VARN AML AML
comp=N,6655µm,1.1s
VARN AML AML
comp=N,6043µm,0.3s
VARN AML AML
comp=N,6043µm,1.7s
VARN AML AML
comp=E,6768µm,0.4s
VARN AML AML
comp=E,6453µm,0.4s
VARN AML AML
comp=N,6166µm,0.2s
SBPO S.Benedetto Po 0.75 189 P **Pg** 05 36 50.7 +0.7
SBPO AML AML
comp=E,12335µm,0.8s
SBPO AML AML
comp=N,7545µm,0.5s
SBPO AML AML
comp=E,12320µm,0.8s
SBPO AML AML
comp=N,7540µm,0.5s
SBPO AML AML
comp=E,11171µm,0.2s
SBPO AML AML
comp=N,6906µm,0.1s
CADC Capriano del C 0.75 244 P **Pn** 05 36 51.1 +0.1
CADC AML AML
comp=E,20050µm,0.4s
CADC AML AML
comp=N,10180µm,0.5s
CADC AML AML
comp=E,20057µm,0.4s
CADC AML AML
comp=N,9089µm,0.3s
CADC AML AML
comp=E,20057µm,1.6s
CADC AML AML
comp=N,9089µm,1.7s
FAU Forcella Aurin 0.76 54↑ *e*Pg **Pg** 05 36 50.3 +0.1
ED06 Collalto TV 0.78 85↑ *e*Pg **Pn** 05 36 51.0 -0.4
SERM Sermide 0.79 170 P **Pg** 05 36 51.2 +0.4
SERM S **Sn** 05 37 02.5 -0.3
SERM Sermide 0.79 170 P **Pg** 05 36 51.1 +0.4
SERM AML AML
comp=E,9020µm,0.5s
SERM AML AML
comp=N,6110µm,0.6s
SERM AML AML
comp=N,2685µm,0.9s
SERM AML AML
comp=E,3350µm,0.7s
SERM AML AML
comp=N,2690µm,0.9s
SERM AML AML
comp=E,9400µm,0.5s
SERM AML AML
comp=N,23496µm,2.5s
SERM AML AML
comp=E,2852µm,0.2s
SERM AML AML
comp=N,2452µm,0.3s
SERM AML AML
comp=E,2852µm,1.8s
SERM AML AML
comp=N,23496µm,0.5s
CAPR Capriolo 0.82 260 P **Pb** 05 36 51.1 +0.1
BORM Bormio 0.84 324 P **Pn** 05 36 52.2 -0.1
BRMO Bormio 0.85 324 P **Pn** 05 36 52.3 -0.2
BRMO S **Sg** 05 37 03.2 +0.1
BRMO Bormio 0.85 324 P **Pn** 05 36 52.3 -0.2
BRMO AML AML
comp=E,3510µm,0.5s
BRMO AML AML
comp=N,2530µm,0.3s
BRMO AML AML
comp=E,3231µm,0.2s
BRMO AML AML
comp=N,2442µm,0.1s
MOSI Grossmontoni 0.91 336 P **Pn** 05 36 53.8 +0.4
MOSI AML AML
comp=E,2995µm,1.0s
MOSI AML AML
comp=N,4395µm,0.4s
MOSI AML AML
comp=E,2230µm,0.3s
MOSI AML AML
comp=N,4392µm,0.4s
MOSI AML AML
comp=N,4392µm,1.6s
MOSI AML AML
comp=E,2230µm,1.7s
FRE8 Fregona 0.91 75 P **Pg** 05 36 53.0 0.0
NDIM Novi di Modena 0.91 189 P **Pn** 05 36 53.5 +0.3
NDIM AML AML
comp=E,13100µm,1.2s
NDIM AML AML
comp=N,13450µm,0.4s
NDIM AML AML
comp=E,15300µm,1.2s
NDIM AML AML
comp=N,14600µm,0.6s
NDIM AML AML
comp=E,12811µm,0.4s
NDIM AML AML
comp=N,14000µm,0.5s
NDIM AML AML
comp=N,13481µm,0.4s
NDIM AML AML
comp=E,13514µm,0.3s
NDIM AML AML
comp=N,14000µm,1.5s
CAVE Cavezzo 0.93 184 P **Pg** 05 36 53.8 +0.5
CAVE S **Sn** 05 37 07.7 +1.6
CAVE Cavezzo 0.93 184 P **Pg** 05 36 53.7 +0.5
CAVE AML AML
comp=E,6840µm,0.4s
CAVE AML AML
comp=N,7510µm,0.9s
CAVE AML AML
comp=N,6514µm,0.2s
CAVE AML AML
comp=E,5900µm,0.3s
FERS Ferrara-Casagl 0.94 160 P **Pn** 05 36 53.6 +0.1
FERS AML AML
comp=E,7545µm,0.3s
FERS AML AML
comp=N,9010µm,0.4s
FERS AML AML
comp=N,9009µm,0.4s
FERS AML AML
comp=E,7543µm,0.3s
APGO Alpago 0.96 67↑ *e*Pg **Pg** 05 36 53.9 0.0
CAE Caneva 0.96 77 *e*Pg **Pg** 05 36 54.0 0.0
CAE *e*Sg **Sn** 05 37 09.0 +1.8
CAE Caneva 0.96 77 P **Pg** 05 36 54.0 0.0
MDI Monti di Nese 0.97 270 P **Pb** 05 36 53.7 +0.1
MDI Monti di Nese 0.97 270 P **Pb** 05 36 53.6 +0.1
MDI AML AML
comp=E,2426µm,1.5s
MDI AML AML
comp=N,1715µm,0.7s
MDI AML AML
comp=N,1815µm,0.7s
MDI AML AML
comp=E,2428µm,1.5s
MDI AML AML
comp=E,2400µm,1.5s
MDI AML AML
comp=E,2074µm,0.2s
MDI AML AML
comp=N,1738µm,0.3s
MDI AML AML
comp=N,1545µm,0.3s
MDI AML AML
comp=N,1738µm,1.7s
MDI AML AML
comp=N,1545µm,1.7s
MDI AML AML
comp=E,2039µm,0.3s
BERNI Berninapass 0.97 310 P **Pg** 05 36 54.5 +0.3
BERNI S **Sg** 05 37 07.0 0.0
BERNI Berninapass 0.97 310 P **Pg** 05 36 54.5 +0.3
BERNI AML AML
comp=E,1435µm,0.4s
BERNI AML AML
comp=N,1425µm,1.4s
BERNI AML AML
comp=E,1436µm,0.4s
BERNI AML AML
comp=N,1222µm,0.3s
BERNI AML AML
comp=E,1436µm,1.6s
VENL Venezia Lido 0.98 112 P **Pg** 05 36 55.2 +1.0
CSO Casso 0.98 60 *e*Pg **Pg** 05 36 54.6 +0.2
FUORN Ofenpass-Fuorn 1.01 326 P **Pg** 05 36 55.2 +0.2
FUORN AML AML
comp=E,2080µm,0.4s
FUORN AML AML
comp=N,1320µm,1.2s
FUORN AML AML
comp=E,2080µm,0.3s
FUORN AML AML
comp=N,1320µm,1.2s
FUORN AML AML
comp=E,2083µm,0.3s
FUORN AML AML
comp=N,1168µm,0.4s
POLC Polcenigo 1.01 76 P **Pg** 05 36 54.9 0.0
BRES Bressanone 1.01 26 P **Pg** 05 36 55.5 +0.5
BRES AML AML
comp=E,4095µm,0.4s
BRES AML AML
comp=N,4920µm,0.4s
BRES AML AML
comp=E,3821µm,0.1s
BRES AML AML
comp=N,4164µm,0.2s
RAVA Ravarino 1.03 179 P **Pg** 05 36 56.0 +0.7
RAVA S **Sg** 05 37 11.3 +2.4
RAVA Ravarino 1.03 179 P **Pg** 05 36 55.9 +0.6
RAVA AML AML
comp=E,21340µm,0.6s
RAVA AML AML
comp=N,10650µm,0.6s
RAVA AML AML
comp=E,7647µm,0.3s
RAVA AML AML
comp=E,7647µm,1.7s
RAVA AML AML
comp=N,8095µm,0.2s
PRMA PARMA 1.17 208 P **Pg** 05 36 58.5 +0.8
FETA Feichten 1.26 349 *i* Pg **Pg** 05 36 59.9 +0.3
comp=N,28nm,0.1s,SNR=35
FETA *i* Sg **Sg** 05 37 16.6 +0.5
comp=N,38nm,0.1s
VDL Val di Lei 1.34 302 P **Pb** 05 37 00.5 +0.6
ABTA Abfaltersbach 1.37 45 *i* Pg **Pg** 05 37 01.9 +0.2
comp=N,20nm,0.1s,SNR=71
ABTA *i* Sg **Sg** 05 37 20.4 +0.7
comp=N,172nm,0.3s
SQTA Sankt Quirin 1.43 3 *e*Pg **Pg** 05 37 02.7 -0.2
comp=N,255nm,0.1s,SNR=192
SQTA *i* Sg **Sg** 05 37 21.9 +0.3
comp=N,469nm,0.4s
ZCCA Zocca 1.44 183 P **Pg** 05 37 03.2 +0.1
GSCL Gusciola 1.48 194 P **Pb** 05 37 02.8 +0.5
GRAM Graiana 1.49 210 P **Pb** 05 37 02.6 +0.2
IMOL Imola, Italy 1.50 162 P **Pg** 05 37 06.0 +1.8
WTTA Wattenberg 1.52 14 *i* Pg **Pg** 05 37 04.2 -0.3
comp=N,73nm,0.2s,SNR=67
WTTA *e*Sg **Sg** 05 37 24.6 +0.2
comp=N,240nm,0.2s
WTTA Wattenberg 1.52 14 *e*Pn **Pg** 05 37 04.3 -0.3
WTTA *e*Sg **Sg** 05 37 24.2 -0.2
MOTA Moosalm 1.56 0 *e*Pg **Pg** 05 37 05.2 0.0
comp=N,63nm,0.2s,SNR=57
MOTA *e*Sg **Sg** 05 37 25.8 +0.3
comp=N,64nm,0.2s
WATA Walderalm 1.58 12 *e*Pg **Pg** 05 37 05.1 -0.7
comp=N,29nm,0.1s,SNR=30
WATA *i* Sg **Sg** 05 37 27.0 +0.7
comp=N,322nm,0.2s
OBER Oberstdorf 1.71 341 *e*Pn **Pg** 05 37 07.6 -0.5
OBER *e*Pg **Pb** 05 37 09.3 +3.1
RETA Reutte 1.71 352 *e*Pg **Pg** 05 37 08.1 -0.1
comp=N,11nm,0.2s,SNR=26
RETA *e*Sg **Sg** 05 37 32.1 +1.6
comp=N,49nm,0.2s
DAVA Damuels 1.71 331 *e*Pg **Pg** 05 37 08.2 -0.1
comp=N,18nm,0.3s,SNR=18
DAVA *e*Sg **Sg** 05 37 31.7 +1.1
comp=N,120nm,0.3s
DAVA Damuels 1.71 331 *e*Pn **Pg** 05 37 08.1 -0.1
DAVA *e*Sg **Sg** 05 37 31.2 +0.7
PLONS Plons/SG 1.73 317 *e*Pn **Pg** 05 37 08.4 -0.1
PLONS *e*Sg **Sg** 05 37 30.9 -0.1
MYKA Terra Mystica 1.96 64 *e*Pg **Pg** 05 37 11.8 -1.1
comp=N,96nm,0.4s,SNR=34
MYKA *e*Sg **Sg** 05 37 39.4 +1.0
comp=N,166nm,0.4s
LESA Schwarzleotal 1.97 33 *i* Pg **Pg** 05 37 12.4 -0.6
comp=N,128nm,0.2s,SNR=44
LESA *e*Sg **Sg** 05 37 37.7 -0.9
comp=N,225nm,0.2s
KBA Koelnbreinsper 2.02 50 *e*Pg **Pb** 05 37 12.5 +1.0
comp=N,47nm,0.3s
KBA *e*Sg **Sg** 05 37 40.3 -0.1
comp=N,200nm,0.6s
KBA Koelnbreinsper 2.02 50 *e*Pn **Pb** 05 37 12.5 +1.0
KBA *e*Pg **Pg** 05 37 15.1 +1.0
KBA *e*Sg **Sg** 05 37 39.9 -0.4
SKDS Skadanscina 2.06 96 *i* Pn **Pn** 05 37 10.0 +1.0
SKDS *i* 05 37 13.4
SKDS *i* Sn **Sn** 05 37 32.7 -1.6
SKDS *i* 05 37 41.9
SKDS IAML 05 37 43.3
comp=Z,119nm,0.1s
WILA Wila 2.22 318 *e*Pg **Sg** 05 37 18.4 +0.6
WILA *e*Sg **Sg** 05 37 46.2 -0.3
RJOB Jochberg 2.27 30 *e*Sg **Sg** 05 37 48.0 -0.4
FUR Furstenfeldbru 2.38 3 *e*Pn **Pb** 05 37 15.8 -1.8
FUR *e*Pg **Pg** 05 37 20.2 -0.7
WALHA Wallhausen, DE 2.38 326 *e*Pn **Pb** 05 37 16.8 -0.8
WALHA *e*Pg **Pg** 05 37 21.8 +0.8
OBKA Obir 2.51 72 *e*Pn **Pb** 05 37 17.5 -2.3
comp=Z,0.9nm,0.2s
OBKA *e*Pg **Pg** 05 37 22.1 -1.2
comp=N,Z,20nm,0.2s,SNR=19
OBKA *e*Sg **Sg** 05 37 56.7 +0.8
comp=Z,89nm,0.3s
OBKA Obir 2.51 72 *e*Pn **Pb** 05 37 17.8 -2.0
OBKA *e*Sg **Sg** 05 37 56.4 +0.5

BIOA Bad Ischl, Aus 2.58 42 Pg **Pg** 05 37 23.8 -1.0
comp=Z,42nm,0.3s,SNR=12
BIOA *e*Sg **Sg** 05 37 58.2 -0.1
comp=Z,300nm,0.6s
EMING Emmingen-Lipti 2.61 325 *e*Pn **Pb** 05 37 19.7 -1.8
EMING *e*Pg **Pg** 05 37 26.1 +0.8
EMING *e*Sg **Sg** 05 37 59.5 +0.4
SLE Schleitheim 2.66 319 *e*Pn **Pb** 05 37 19.9 -2.5
SLE *e*Sg **Sg** 05 38 01.2 +0.3
SULZ Cheisacher 2.69 311 *e*Pn **Pb** 05 37 20.7 -2.1
SULZ *e*Pg **Pg** 05 37 27.3 +0.5
SULZ *e*Sg **Sg** 05 38 02.1 +0.5
METMA Mettma DE 2.74 316 *e*Pg **Pg** 05 37 28.2 +0.4
METMA *e*Sg **Sg** 05 38 03.1 -0.1
BALST Balsthal 2.81 305 *e*Pn **Pn** 05 37 21.9 +2.6
BALST *e*Pg **Pg** 05 37 29.3 +0.2
BALST *e*Sg **Sg** 05 38 05.1 -0.4
SOKA Soboth 2.88 71 *e*Pg **Pg** 05 37 28.3 -2.1
comp=Z,8.3nm,0.2s,SNR=9.5
SOKA *e*Sg **Sg** 05 38 07.7 +0.1
comp=Z,13nm,0.2s
BERGE Lenzkirch (DE) 2.89 317 *e*Pn **Pb** 05 37 23.4 -2.9
BERGE *e*Sg **Sg** 05 38 07.1 -0.9
NORI Noerdlinger Ri 2.95 354 *e*Pg **Pg** 05 37 31.5 -0.2
NORI *e*Sg **Sg** 05 38 10.6 +0.6
MOA Molln 3.00 45 *e*Pn **Pb** 05 37 25.3 -2.8
comp=Z,2.8nm,0.1s,SNR=8.8
LPG La Plagne 3.06 266 *e*Pn **Pn** 05 37 24.0 +1.1
LPG *e*Sg **Sg** 05 38 13.5 0.0
comp=Z,39nm,0.3s
LPL La Plagne 3.07 266 *e*Pn **Pn** 05 37 22.9 -0.1
LPL La Plagne 3.07 266 *e*P **Pb** 05 37 26.7 -2.7
LPL *e*Sg **Sg** 05 38 14.8 +0.9
comp=Z,38nm,0.4s
BFO Black Forest 3.17 324 *e*Pn **Pn** 05 37 26.8 +2.7
MBDF Montbardon 3.23 252 *e*Pn **Pn** 05 37 24.8 -0.4
SBF Sospel 3.24 235 *e*Pn **Pn** 05 37 26.3 +1.1
SBF *e*Sn **Sn** 05 38 02.4 -0.9
comp=Z,69nm,0.3s
ARSA Arzberg 3.39 63 *i* Pn **Pn** 05 37 29.9 +2.6
comp=Z,0.4nm,0.1s
ARSA Sg **Sg** 05 38 23.3 -0.8
comp=Z,16nm,0.5s
ARSA Arzberg 3.39 63 *e*Pn **Pn** 05 37 29.8 +2.5
GEC2 GERESS Array S 3.53 29 *e*Pn **Pn** 05 37 31.3 +2.0
HINF Hinteralfeld 3.55 306 *e*Pn **Pn** 05 37 31.5 +2.1
HINF *e*Sn **Sn** 05 38 11.4 +0.5
HINF *e*Sg **Sg** 05 38 28.9 -0.2
comp=Z,26nm,0.3s
WET Wettzell 3.57 19 *e*Pn **Pn** 05 37 31.5 +1.8
CABF La Chapelle 3.57 285 *e*Pn **Pn** 05 37 31.4 +1.6
CABF La Chapelle 3.57 285 *e*Pg **Pg** 05 37 42.7 -0.9
PGF Pioggiola 3.57 206 *e*Pn **Pn** 05 37 30.3 +0.4
PGF *e*Sn **Sn** 05 38 09.3 -2.4
comp=Z,9.8nm,0.2s
ECH Echery 3.62 313 *e*Pn **Pn** 05 37 32.8 +2.3
CDF Champ du Feu 3.70 317 *e*Pn **Pn** 05 37 34.0 +2.5
CDF *e*Sg **Sg** 05 38 34.0 0.0
comp=Z,44nm,0.5s
CKRC Cesky Krumlov 3.74 35 *e*PN **Pn** 05 37 34.0 +2.0
CKRC *e*SN **Sn** 05 38 17.6 +2.0
CKRC *e*SG **Sg** 05 38 32.4 -2.9
comp=Z,62nm,0.4s
KHC Kasperske Hory 3.74 26 *e*PN **Pn** 05 37 34.0 +1.9
KHC *e*PG **Pb** 05 37 43.5 +2.7
KHC *e*SN **Sn** 05 38 17.4 +1.7
KHC *e*SG **Sg** 05 38 33.0 -2.4
comp=Z,57nm,0.6s
ORIF Oris-en-Rattie 3.78 259 *e*Sn **Sn** 05 38 17.3 +0.7
ORIF *e*Sg **Sg** 05 38 35.0 -1.5
comp=Z,17nm,0.3s
GRFO Grafenberg 3.90 1 *e*Pg **Pg** 05 37 49.3 -0.7
CONA Conrad Observa 3.91 55 *i* Pn **Pn** 05 37 38.4 +4.0
comp=Z,0.8nm,0.1s
CONA Sg **Sg** 05 38 43.6 +2.9
comp=Z,14nm,0.4s
HAU Haudompre 3.94 306 *e*Pn **Pn** 05 37 36.8 +2.0
HAU *e*Sn **Sn** 05 38 23.0 +2.5
HAU *e*Sg **Sg** 05 38 42.7 +1.1
comp=Z,47nm,0.4s
RONA Rosalia, Austr 4.05 60 *i* Pn **Pn** 05 37 38.7 +2.3
comp=Z,0.8nm,0.1s
LMR La Mourre 4.09 235 *e*Pn **Pn** 05 37 37.1 +0.2
LMR *e*Sn **Sn** 05 38 23.6 -0.7
comp=Z,28nm,0.3s
ZVC Zvikov 4.21 29 *e*PN **Pn** 05 37 41.0 +2.5
ZVC *e*PG **Pg** 05 37 52.7 -3.1
ZVC *e*SN **Sn** 05 38 29.0 +1.8
SMRF Simiane la Rot 4.32 247 *e*Pn **Pn** 05 37 40.9 +0.8
SMRF *e*Sn **Sn** 05 38 29.3 -0.7
comp=Z,13nm,0.3s
PAGF Fort de Pagny 4.59 309 *e*Pn **Pn** 05 37 47.8 +4.1
baz=126
TREC Trest 4.60 39 *e*SG **Sg** 05 38 59.9 -2.9
VIVF Saint-Julien-l 4.62 261 *e*Pn **Pn** 05 37 44.9 +0.7
VIVF *e*Sn **Sn** 05 38 36.6 -0.8
comp=Z,8.4nm,0.3s
SFTF Sexfontaines 4.79 302 *e*Pn **Pn** 05 37 48.6 +2.1
baz=124
SFTF *e*Sn **Sn** 05 38 43.5 +1.9
comp=Z,5.0nm,0.2s
PRU Pruhonice 4.80 28 *e*SG **Sg** 05 39 05.3 -3.9
comp=Z,19nm,0.4s
GOPC GO Pecny, Ondr 4.82 30 *e*SG **Sg** 05 39 07.5 -2.3
comp=Z,32nm,0.4s
KRUC Moravsky 4.86 46 *e*PN **Pn** 05 37 49.4 +1.9
KRUC *e*SN **Sn** 05 38 45.4 +2.1
MODS Modra-Piesok 4.95 56 *e*PN **Pn** 05 37 48.9 +0.2
MODS *e*PG **Pg** 05 38 07.7 -2.3
MODS *e*SG **Sg** 05 39 08.7 -5.4
SAVF Savonnieres en 4.95 307 *e*Pn **Pn** 05 37 49.1 +0.4
SMF Signal de Mont 5.11 282 *e*Pn **Pn** 05 37 51.8 +1.0
SMF *e*Sn **Sn** 05 38 49.0 -0.3
comp=Z,17nm,0.3s
VRAC Vranov 5.12 45 *e*SN **Sn** 05 38 51.1 +1.4
LOR Lormes 5.21 289 *e*Pn **Pn** 05 37 53.4 +1.2
baz=110
LOR *e*Sn **Sn** 05 38 50.9 -0.9
comp=Z,14nm,0.3s
SSF Saint Saulge 5.40 286 *e*Pn **Pn** 05 37 55.9 +1.1
SSF *e*Sn **Sn** 05 38 56.2 -0.2
comp=Z,10nm,0.4s
LASF Ste Croix 5.42 254 *e*Pn **Pn** 05 37 54.7 -0.4
LASF *e*Sn **Sn** 05 38 55.1 -1.8
comp=Z,6.7nm,0.3s
BRG Berggiesshubel 5.43 19 Pn **Pn** 05 37 57.5 +2.3
BRG Pg **Pg** 05 38 18.5 -0.6
BRG Sn **Sn** 05 38 57.9 +0.7
BRG Sg **Sg** 05 39 29.6 +0.2
BRG Amp 05 39 38.5
comp=Z,19nm,0.5s
AVF Avril sur Loir 5.46 283 *e*Pn **Pn** 05 37 56.6 +1.0
AVF *e*Sn **Sn** 05 38 57.4 -0.5
comp=Z,7.1nm,0.4s
CLL Collm 5.67 12 *e*Pn **Pn** 05 38 00.0 +1.5
CLL *e*Pg **Pg** 05 38 23.0 -0.6
CLL *ex* x 05 39 09.0
CLL *e*Sg **Sg** 05 39 37.0 +0.1
comp=Z,19nm,0.6s
BGF Bois d'Agland 5.78 281 *e*Pn **Pn** 05 38 01.1 +1.1
BGF *e*Sn **Sn** 05 39 05.1 -0.7
comp=Z,12nm,0.3s
MORC Moravsky Berou 5.90 45 *e*SN **Sn** 05 39 11.0 +2.2
VYHS Vyhne 5.93 60 *e*PN Pn 05 38 08.9 +6.7
VYHS *e*SG **Sg** 05 39 46.5 +0.9
HYF Humbligny 6.02 287 *e*Pn **Pn** 05 38 05.6 +2.3
TCF Toulx Ste Croi 6.20 278 *e*Pn **Pn** 05 38 07.0 +1.1
TCF *e*Sn **Sn** 05 39 14.3 -2.1
comp=Z,5.9nm,0.3s
CAF Calviac 6.42 265 *e*Pn **Pn** 05 38 10.1 +1.2
CAF *e*Sn **Sn** 05 39 19.0 -2.7
comp=Z,1.3nm,0.3s
RJF Les Rejaudoux 6.74 269 *e*Pn **Pn** 05 38 14.6 +1.3
MTLF Montolieu 6.79 252 *e*Pn **Pn** 05 38 13.9 -0.1
MTLF *e*Sn **Sn** 05 39 27.5 -3.4
comp=Z,2.5nm,0.3s
MFF Saint Martin d 7.84 280 *e*Pn **Pn** 05 38 29.3 +1.0
MFF Saint Martin d 7.84 280 *e*Pn **Pn** 05 38 29.4 +1.1
LDF La Druitiere 8.14 294 *e*Pn **Pn** 05 38 33.2 +0.8
LDF *e*Sn **Sn** 05 40 00.3 -3.5
comp=Z,0.9nm,0.3s
EPF Esparros 8.18 254 *e*Pn **Pn** 05 38 34.8 +1.8
FLN La Foliniere 8.41 295 *e*Pn **Pn** 05 38 38.1 +1.9
baz=112

GRR	**Gorron**	**8.56**	**292**	*e*Pn	**Pn**	**05**	**38**	**39.6 +1.4**
GRR				*e*Sn	**Sn**	**05**	**40**	**11.7 -2.5**
	comp=Z,3.1nm,0.4s							
ETSF	**Etsaut**	**8.84**	**255**	*e*P	**Pn**	**05**	**38**	**46.6 +4.5**
SJPF	**Ste Jean**	**9.21**	**257**	*e*Pn	**Pn**	**05**	**38**	**47.0 -0.1**
SGMF	**Saint Gilles**	**9.64**	**290**	*e*Pn	**Pn**	**05**	**38**	**54.3 +1.3**
SGMF				*e*Sn	**Sn**	**05**	**40**	**36.6 -4.2**
	comp=Z,2.3nm,0.4s							
QUIF	**Quistinic**	**10.00**	**287**	*e*Pn	**Pn**	**05**	**38**	**59.6 +1.7**
QUIF				*e*Sn	**Sn**	**05**	**40**	**45.2 -4.3**
	comp=Z,1.4nm,0.3s							
ROSF	**Rostrenen**	**10.13**	**290**	*e*Pn	**Pn**	**05**	**39**	**01.8 +2.1**

*JMA **08** 05:59:59.6±0.2,24°.5N±0°.2×121°.9E±0°.3,h3km±3km, MV3.5/10,TAIWAN REGION*
*TAP **08** 06:00:00.5,24°.47N×121°.85E,h19km,ML3.8,B*
ISC 08 06:00:00.1±0.8,**24°.46N**±0°.01×**121°.92E**±0°.01,**h18**km±5km, **n127,**σ0**82**/220,**6C-13D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
EWUT	**Wuta**	**0.13**	**265**	⇓*i*P		**Pb**	**06 00 04.3**	**+0.7**
EWUT				S		**Sg**	**06 00 06.4**	**-0.4**
ESAO	**Su ao**	**0.14**	**328**	⇓*i*P		**Pb**	**06 00 04.3**	**+0.6**
ESAO				S		**Sg**	**06 00 07.0**	**0.0**
TWC	**Suao**	**0.17**	**336**	⇓*i*P		**Pb**	**06 00 04.7**	**+0.3**
TWC				*i* S		**Sg**	**06 00 07.8**	**+0.2**
ENA	**Nanau**	**0.17**	**260**	⇓*i*P		**Pb**	**06 00 04.6**	**+0.2**
ENA				S		**Sg**	**06 00 07.8**	**+0.2**
EAHA	**Aohua**	**0.21**	**233**	⇓*i*P		**Pb**	**06 00 05.0**	**-0.3**
EAHA				*e*S		**Sg**	**06 00 08.5**	**-0.1**
EHP	**Heping Village**	**0.22**	**229**	*i* P		**Pb**	**06 00 05.2**	**-0.3**
EHP				S		**Sg**	**06 00 09.1**	**+0.1**
EOS2	**EOS2**	**0.28**	**98**	⇑*i*P		**Pb**	**06 00 07.2**	**+0.6**
EOS2				*e*S		**Sb**	**06 00 11.8**	**+0.9**
ILA	**Ilan**	**0.35**	**332**	P		**Pb**	**06 00 07.6**	**-0.2**
ILA				*i* S		**Sb**	**06 00 13.0**	**0.0**
TWE	**Neicheng**	**0.35**	**318**	⇓*i*P		**Pb**	**06 00 07.4**	**-0.5**
TWE				*e*S		**Sg**	**06 00 11.5**	**-1.1**
LATG	**Datong**	**0.37**	**282**	⇓*i*P		**Pb**	**06 00 07.7**	**-0.6**
LATG				*e*S		**Sg**	**06 00 12.2**	**-1.0**
ENTT	**Nioudou**	**0.37**	**299**	⇓*i*P		**Pb**	**06 00 07.8**	**-0.5**
ENTT				*e*S		**Sg**	**06 00 12.5**	**-0.7**
EGS		**0.39**	**1**	*e*P		**Pg**	**06 00 08.2**	**+0.1**
EGS				*e*S		**Sg**	**06 00 13.5**	**-0.1**
EOS3	**EOS3**	**0.40**	**115**	⇑*i*P		**Pb**	**06 00 09.0**	**+0.4**
EOS3				*i* S		**Sb**	**06 00 15.2**	**+0.9**
NTC	**Toucheng**	**0.40**	**348**	*e*P		**Pg**	**06 00 08.3**	**-0.1**
NTC				*e*S		**Sg**	**06 00 14.1**	**0.0**
ETL	**Fush Village**	**0.41**	**223**	*i* P		**Pg**	**06 00 08.0**	**-0.5**
NACB	**Ninganchiao**	**0.41**	**227**	⇓*i*P		**Pg**	**06 00 07.9**	**-0.7**
NACB				*e*S		**Sg**	**06 00 13.2**	**-1.2**
FUSB	**Fushanzhiwuyua**	**0.43**	**315**	⇓*i*P		**Pb**	**06 00 08.7**	**-0.5**
FUSB				S		**Sg**	**06 00 14.1**	**-0.8**
ETLH	**Xiulin Townshi**	**0.47**	**238**	*i* P		**Pg**	**06 00 09.2**	**-0.6**
ETLH				*e*S		**Sg**	**06 00 15.3**	**-1.0**
TWD	**Chiawan**	**0.48**	**219**	P		**Pg**	**06 00 09.3**	**-0.3**
TWD				*e*S		**Sg**	**06 00 15.7**	**-0.7**
EOS4	**EOS4**	**0.49**	**133**	*e*P		**Pg**	**06 00 10.2**	**+0.4**
NNSB	**Datong**	**0.49**	**267**	⇓*i*P		**Pg**	**06 00 09.6**	**-0.5**
NNSB				*e*S		**Sg**	**06 00 15.1**	**-1.8**
NWLT	**Wulai**	**0.50**	**310**	⇓*i*P		**Pg**	**06 00 09.8**	**-0.4**
NWLT				*e*S		**Sg**	**06 00 15.9**	**-1.0**
TIPB	**Shuangxi**	**0.52**	**350**	⇑P		**Pg**	**06 00 10.2**	**-0.4**
TIPB				S		**Sg**	**06 00 17.1**	**-0.6**
YHNB	**Yeheng**	**0.54**	**293**	⇓*i*P		**Pg**	**06 00 10.6**	**-0.4**
YHNB				*e*S		**Sg**	**06 00 16.9**	**-1.4**
TWB1	**Santiao Chiao**	**0.55**	**6**	⇑*i*P		**Pg**	**06 00 10.8**	**-0.4**
TWB1				*e*S		**Sg**	**06 00 18.0**	**-0.6**
HWA	**Hwalien**	**0.56**	**211**	*e*P		**Pb**	**06 00 11.5**	**+0.2**
HWA				*e*S		**Sb**	**06 00 19.3**	**+0.2**
TWA	**Mucha**	**0.61**	**329**	*e*P		**Pg**	**06 00 11.9**	**-0.3**
TWA				*e*S		**Sg**	**06 00 19.8**	**-0.4**
NHDH	**Xindian Distri**	**0.62**	**324**	*e*P		**Pb**	**06 00 12.3**	**-0.1**
NHDH				*e*S		**Sg**	**06 00 20.3**	**-0.5**
NWF	**Wu-fen Shan**	**0.62**	**348**	P		**Pb**	**06 00 12.5**	**-0.1**
NWF				*e*S		**Sb**	**06 00 21.0**	**0.0**
WFSB	**Wu-fen Shan**	**0.62**	**348**	P		**Pg**	**06 00 12.4**	**-0.1**
WFSB				S		**Sg**	**06 00 19.4**	**-1.5**
ETM	**Tongmen**	**0.63**	**219**	*e*P		**Pg**	**06 00 11.7**	**-0.9**
ETM				*e*S		**Sb**	**06 00 22.5**	**+1.4**
SXI1	**Grass Mountain**	**0.64**	**356**	⇑*i*P		**Pg**	**06 00 12.5**	**-0.2**
FUSS	**Fushou**	**0.66**	**252**	*e*P		**Pg**	**06 00 12.7**	**-0.5**
FUSS				*e*S		**Sg**	**06 00 21.3**	**-0.6**
TEYL	**Yanliau Villag**	**0.66**	**207**	*e*P		**Pb**	**06 00 13.2**	**+0.1**
TEYL				*e*S		**Sg**	**06 00 21.7**	**-0.2**
WHF	**Hehuan Shan**	**0.68**	**243**	⇑P		**Pg**	**06 00 12.9**	**-0.6**
WHF				*e*S		**Sb**	**06 00 22.3**	**-0.5**
TAP	**Taipei**	**0.69**	**327**	*e*P		**Pb**	**06 00 14.2**	**+0.5**
TAP				*e*S		**Sb**	**06 00 22.8**	**-0.1**
TNOU	**National Taiwa**	**0.70**	**349**	*e*P		**Pg**	**06 00 13.8**	**-0.1**
TNOU				*e*S		**Sg**	**06 00 22.5**	**-0.8**
TWT	**Tachien**	**0.71**	**254**	*e*P		**Pb**	**06 00 14.0**	**-0.1**
TWT				*e*S		**Sb**	**06 00 24.9**	**+1.3**
TDCB	**Techi**	**0.73**	**254**	*e*P		**Pb**	**06 00 14.1**	**-0.3**
TDCB				*e*S		**Sg**	**06 00 22.0**	**-2.2**
SHUL	**Shoufeng**	**0.74**	**206**	P		**Pb**	**06 00 15.1**	**+0.6**
SHUL				*e*S		**Sn**	**06 00 28.4**	**+1.8**
KSHI	**Guanxi Townshi**	**0.75**	**295**	P		**Pb**	**06 00 15.0**	**+0.3**
KSHI				*e*S		**Sg**	**06 00 23.4**	**-1.5**
NFF	**Wufeng Townshi**	**0.76**	**283**	P		**Pb**	**06 00 14.5**	**-0.3**
NFF				*e*S		**Sg**	**06 00 23.6**	**-1.3**
YM01	**YM01**	**0.76**	**335**	*e*P		**Pb**	**06 00 14.9**	**+0.1**
YM01				*e*S		**Sg**	**06 00 24.7**	**-0.4**
ESL	**Shilin**	**0.78**	**215**	P		**Pg**	**06 00 14.8**	**-0.7**
ESL				*e*S		**Sb**	**06 00 26.7**	**+1.2**
ZUZH	**Zhuzihu**	**0.78**	**334**	*e*P		**Pb**	**06 00 15.4**	**+0.2**
ZUZH				*e*S		**Sb**	**06 00 27.0**	**+1.5**
YM08	**YM08**	**0.79**	**337**	P		**Pg**	**06 00 14.9**	**-0.6**
YM08				*e*S		**Sg**	**06 00 25.6**	**-0.4**
TWS1	**Kuangyinshan**	**0.79**	**324**	P		**Pb**	**06 00 15.5**	**+0.2**
TWS1				*e*S		**Sb**	**06 00 26.1**	**+0.4**
NTST	**Danshui**	**0.83**	**329**	*e*P		**Pb**	**06 00 16.5**	**+0.5**
NTST				*e*S		**Sn**	**06 00 28.3**	**-0.3**
NCUH	**Zhongli**	**0.84**	**307**	*e*P		**Pb**	**06 00 16.8**	**+0.5**
NCUH				*e*S		**Sn**	**06 00 28.6**	**-0.4**
OWD	**Renai**	**0.85**	**234**	*e*P		**Pg**	**06 00 16.0**	**-0.7**
OWD				*e*S		**Sb**	**06 00 28.6**	**+1.1**
LIOB	**Emei**	**0.85**	**283**	*e*P		**Pb**	**06 00 16.6**	**+0.3**
LIOB				*e*S		**Sb**	**06 00 28.2**	**+0.8**
NSTT	**Nanjuang**	**0.86**	**282**	*e*P		**Pb**	**06 00 16.5**	**0.0**
NSTT				*e*S		**Sg**	**06 00 27.3**	**-0.9**
TWY	**Chenhua**	**0.87**	**340**	P		**Pb**	**06 00 17.1**	**+0.5**
TWY				*e*S		**Sb**	**06 00 28.5**	**+0.6**
WUSB	**Renai**	**0.87**	**238**	P		**Pg**	**06 00 16.5**	**-0.7**
WUSB				*e*S		**Sb**	**06 00 28.9**	**+0.7**
WARBT	**Fenglin Townsh**	**0.89**	**214**	*e*P		**Pg**	**06 00 16.0**	**-1.3**
WARBT				*e*S		**Sg**	**06 00 28.3**	**-0.8**
EGFH	**Guangfu**	**0.91**	**210**	*e*P		**Pg**	**06 00 17.2**	**-0.6**
EGFH				*e*S		**Sb**	**06 00 30.2**	**+1.1**
WHP	**Taichung City**	**0.91**	**259**	*e*P		**Pn**	**06 00 18.0**	**-0.1**
SBCB	**Hsinchu**	**0.92**	**292**	*e*P		**Pn**	**06 00 18.1**	**0.0**
SBCB				*e*S		**Sb**	**06 00 29.7**	**+0.3**
JYNG	**Yonagunijimaku**	**0.93**	**90**	P		**Pg**	**06 00 17.4**	**-0.8**
JYNG				*e*S		**Sg**	**06 00 30.5**	**0.0**
HSN	**Hsinchu**	**0.93**	**292**	*e*P		**Pn**	**06 00 18.5**	**+0.2**
HSN				*e*S		**Sb**	**06 00 30.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.99**	**90**	*e*P		**Pg**	**06 00 18.2**	**-1.1**
YOJ				*e*S		**Sg**	**06 00 31.5**	**-0.9**
WCS	**Beigang Elemen**	**1.01**	**247**	*e*P		**Pg**	**06 00 18.7**	**-1.0**
WCS				*e*S		**Sg**	**06 00 30.6**	**-2.3**
NMLH	**Miaoli**	**1.04**	**275**	P		**Pn**	**06 00 20.6**	**+0.8**
TWQ1	**Liyutan**	**1.05**	**264**	P		**Pn**	**06 00 20.8**	**+0.8**
TWQ1				*e*S		**Sn**	**06 00 35.1**	**+0.8**
NSY	**Sanyi**	**1.06**	**268**	P		**Pn**	**06 00 21.9**	**+1.8**
NSY				*e*S		**Sb**	**06 00 34.0**	**+0.4**
HGSD	**Ruisui**	**1.06**	**206**	P		**Pb**	**06 00 19.6**	**-0.4**
HGSD				*e*S		**Sn**	**06 00 37.1**	**+2.6**
EHY	**Hungye**	**1.10**	**210**	*e*P		**Pb**	**06 00 18.9**	**-1.6**
EHYH	**Wanrong**	**1.10**	**209**	*e*P		**Pb**	**06 00 19.0**	**-1.6**
EHYH				*e*S		**Sb**	**06 00 34.8**	**+0.3**
SMLT	**Sun Moon Lake**	**1.10**	**239**	P		**Pg**	**06 00 20.8**	**-0.6**
SSLB	**Suanglung**	**1.11**	**233**	*i* P		**Pb**	**06 00 20.7**	**-0.1**
TYC	**Yuchr**	**1.12**	**241**	P		**Pb**	**06 00 21.0**	**+0.1**
WDJ	**Dajia District**	**1.18**	**265**	*e*P		**Pg**	**06 00 23.1**	**+0.2**
WDJ				*e*S		**Sg**	**06 00 37.4**	**-0.9**
TCU	**Taichung**	**1.18**	**255**	*e*P		**Pg**	**06 00 23.1**	**+0.1**
YULB	**Yu-li**	**1.21**	**209**	*e*P		**Pn**	**06 00 20.2**	**-1.9**
WHYT	**Xinyi Township**	**1.24**	**232**	*e*P		**Pn**	**06 00 23.1**	**+0.5**
TWF1	**Yuli**	**1.24**	**208**	*e*P		**Pn**	**06 00 21.1**	**-1.5**
WJS	**Zhushan**	**1.26**	**240**	P		**Pg**	**06 00 24.7**	**+0.1**
WJS				*e*S		**Sn**	**06 00 40.8**	**+1.4**
WNT	**Mingjian**	**1.27**	**243**	*e*P		**Pg**	**06 00 24.5**	**-0.1**
WCHH	**Zhanghua**	**1.30**	**253**	P		**Pg**	**06 00 24.8**	**-0.5**
WCHH				*e*S		**Sb**	**06 00 40.4**	**0.0**
FULB	**Fuli**	**1.38**	**205**	*e*P		**Pn**	**06 00 24.3**	**-0.2**
FULB				*e*S		**Sb**	**06 00 42.8**	**+0.1**
ALS	**Alishan**	**1.39**	**228**	*e*P		**Pn**	**06 00 25.5**	**+0.6**
ALS				*e*S		**Sn**	**06 00 44.0**	**+1.0**
CHN5	**Tsauling**	**1.43**	**233**	*i* P		**Pg**	**06 00 26.8**	**-0.9**
CHN5				*e*S		**Sg**	**06 00 47.3**	**+1.1**
CHKT	**Chengkung**	**1.45**	**201**	*e*P		**Pb**	**06 00 26.6**	**+0.1**
CHKT				S		**Sg**	**06 00 46.2**	**-0.6**
EHD	**Haiduan**	**1.46**	**207**	*e*P		**Pn**	**06 00 25.4**	**-0.2**
WGK	**Gukeng**	**1.46**	**239**	*e*P		**Pg**	**06 00 27.6**	**-0.8**
WGK				*e*S		**Sg**	**06 00 49.1**	**+1.7**
WDLH	**Douliu**	**1.48**	**239**	*e*P		**Pg**	**06 00 27.9**	**-0.7**
WDLH				*e*S		**Sg**	**06 00 47.9**	**-0.1**
ECS	**Chishang**	**1.50**	**206**	*e*P		**Pn**	**06 00 25.4**	**-0.7**
ELDTW	**Lidau**	**1.51**	**214**	*e*P		**Pn**	**06 00 25.9**	**-0.5**
WCKO	**Fanlu**	**1.58**	**230**	*e*P		**Pb**	**06 00 28.7**	**-0.1**
WCKO				*e*S		**Sg**	**06 00 50.6**	**-0.4**
WTK	**Tuku**	**1.60**	**242**	*e*P		**Pb**	**06 00 28.7**	**-0.4**
WTK				*e*S		**Sg**	**06 00 52.0**	**+0.3**
CHN2	**Minshiung**	**1.61**	**235**	*e*P		**Pb**	**06 00 29.7**	**+0.3**
CHN4	**Tsaushan**	**1.64**	**228**	*e*P		**Pb**	**06 00 30.0**	**+0.1**
CHN4				*e*S		**Sb**	**06 00 50.1**	**-0.1**
IRIF	**Iriomote-Funau**	**1.65**	**94**	P		**Pn**	**06 00 27.4**	**-0.8**
IRIF				*e*S		**Sn**	**06 00 48.8**	**-0.1**
TPUB	**Ta-pu**	**1.65**	**226**	P		**Pb**	**06 00 29.6**	**-0.5**
TPUB				*e*S		**Sb**	**06 00 51.8**	**+1.2**
STYH	**Taoyuan**	**1.66**	**220**	*e*P		**Pn**	**06 00 29.2**	**+0.9**
STYH				*e*S		**Sb**	**06 00 51.4**	**+0.7**
CHY	**Chiayi**	**1.67**	**235**	*e*P		**Pb**	**06 00 30.0**	**-0.4**
CHY				*e*S		**Sg**	**06 00 52.8**	**-1.3**
LONT	**Longtian**	**1.71**	**205**	*e*P		**Pn**	**06 00 27.9**	**-1.1**
WSF	**Szhu**	**1.76**	**243**	*e*P		**Pb**	**06 00 31.0**	**-0.8**
WSF				*e*S		**Sg**	**06 00 55.8**	**-1.0**
TWK	**Hsinying**	**1.77**	**228**	*e*P		**Pb**	**06 00 31.6**	**-0.5**
TWK				*e*S		**Sg**	**06 00 57.1**	**-0.1**
SNST	**Tainan City**	**1.80**	**227**	*e*P		**Pb**	**06 00 31.9**	**-0.6**
SNST				*e*S		**Sg**	**06 00 57.4**	**-0.6**
CHN1	**Nanshi**	**1.80**	**226**	*e*P		**Pb**	**06 00 32.3**	**-0.3**
CHN1				*e*S		**Sg**	**06 00 57.1**	**-1.1**
TWG	**Pinlang**	**1.81**	**206**	*e*P		**Pn**	**06 00 30.0**	**-0.4**
TWGBT	**Beinan**	**1.81**	**206**	*e*P		**Pn**	**06 00 29.2**	**-1.2**
WSL	**Shuilin Townsh**	**1.81**	**239**	*e*P		**Pn**	**06 00 31.7**	**+1.3**
ICHU	**Yijhu**	**1.86**	**234**	*e*P		**Pb**	**06 00 33.0**	**-0.6**
JKRS	**Kuro-shima**	**1.91**	**96**	*e*P		**Pn**	**06 00 32.1**	**+0.3**
CHN8	**Yiju**	**1.92**	**235**	*e*P		**Pb**	**06 00 33.9**	**-0.7**
CHN8				*e*S		**Sg**	**06 01 00.4**	**-1.5**
JIJ	**Ishigaki jima**	**2.02**	**92**	P		**Pn**	**06 00 32.8**	**-0.6**
JIJ				*e*S		**Sn**	**06 00 56.2**	**-2.0**
SCST	**Cishan**	**2.04**	**220**	*e*P		**Pb**	**06 00 35.7**	**-1.0**
SCST				*e*S		**Sb**	**06 01 03.6**	**+1.9**
ECL	**Taimali**	**2.06**	**206**	*e*P		**Pn**	**06 00 32.8**	**-1.0**
ECL				*e*S		**Sn**	**06 01 00.0**	**+1.0**
SSD	**Sandimen**	**2.08**	**215**	*e*P		**Pb**	**06 00 36.4**	**-0.8**
SSD				*e*S		**Sb**	**06 01 03.5**	**+0.8**
TSMG	**Majia**	**2.10**	**214**	*e*P		**Pb**	**06 00 36.8**	**-0.9**
TSCK	**Chigu Township**	**2.13**	**233**	*e*P		**Pb**	**06 00 37.5**	**-0.7**
TSCK				S		**Sb**	**06 01 05.5**	**+1.2**
SGLT	**Jiouru**	**2.17**	**218**	*e*P		**Pb**	**06 00 39.5**	**+0.7**
MASBT	**Mashibuluo**	**2.19**	**213**	*e*P		**Pn**	**06 00 36.1**	**+0.5**
MASBT				*i* S		**Sb**	**06 01 06.8**	**+0.8**
EAST	**Anshuo**	**2.29**	**206**	*e*P		**Pn**	**06 00 37.8**	**+0.7**
VWUC	**VWUC**	**2.31**	**284**	*e*P		**Pn**	**06 00 36.6**	**-0.7**
PNG	**Penghu**	**2.34**	**248**	*e*P		**Pn**	**06 00 38.0**	**+0.3**
PNG				*e*S		**Sn**	**06 01 06.5**	**+0.5**
PHUB	**P'eng-hu**	**2.35**	**247**	*e*P		**Pn**	**06 00 37.7**	**-0.1**
PHUB				*i* S		**Sn**	**06 01 07.4**	**+1.2**
WDGT	**Dungji**	**2.39**	**241**	*e*P		**Pn**	**06 00 38.9**	**+0.5**
SCZT	**Fangliau**	**2.40**	**210**	*e*P		**Pn**	**06 00 39.9**	**+1.4**
SLIU	**Shizi**	**2.46**	**205**	*e*P		**Pn**	**06 00 40.2**	**+0.8**
MATB	**Ma-tsu**	**2.46**	**314**	*e*P		**Pn**	**06 00 40.1**	**+0.8**
VCHM	**Qimei**	**2.60**	**242**	*e*P		**Pn**	**06 00 41.5**	**+0.2**
VCHM				S		**Sn**	**06 01 14.2**	**+1.7**
PTMZ	**Houxiangcun**	**2.62**	**283**	*e*P		**Pn**	**06 00 41.3**	**-0.1**
PTMZ				*e*S		**Sn**	**06 01 12.3**	**-0.5**
MHZQ	**Yeshan**	**3.09**	**303**	*e*P		**Pn**	**06 00 48.2**	**+0.2**
KNM	**Kinmen**	**3.18**	**270**	*e*P		**Pn**	**06 00 50.0**	**+0.8**

*IDC **08** 06:00:27.2±4.0,64°.79N×39°.23E,h0km,mbtmp3.4/3, ML2.3/3,Error ellipse: s-maj=43.4km s-min=16.5km az=103.0*
*HEL **08** 06:00:28.3±0.7,64°.73N×38°.87E,h0km,ML2.8,Explosion*
ISC 08 06:00:26.4±3.1,**64°.79N**±0°.07×**38°.9E**±0°.2,**h0**km,**n28,** σ2°**06**/30,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LVZ	**Lovozero**	**3.57**	**333**	*e*P		**Pn**	**06 01 26.2**	**+3.2**
JOF	**Joensuu**	**3.86**	**244**	*e*P		**Pn**	**06 01 27.1**	**+0.2**
JOF				MPN			06 01 29.2	
	comp=Z,1.1nm,0.2s							
JOF				*e*S		**Sn**	**06 02 11.3**	**-1.5**
RMF	**Romuvaara**	**3.93**	**266**	*e*P		**Pn**	**06 01 29.9**	**+2.0**
RMF				MPN			06 01 31.6	
	comp=Z,3.7nm,0.1s							
RMF				*e*S		**Sn**	**06 02 15.4**	**+0.7**
KU6	**Riekki**	**3.98**	**292**	*e*P		**Pn**	**06 01 31.0**	**+2.5**
KU6				MPN			06 01 31.3	
	comp=Z,1.4nm,0.1s							
KU1	**Kurvinen**	**4.03**	**285**	*e*P		**Pn**	**06 01 31.3**	**+2.0**
OLKF	**Oulanka, Finla**	**4.25**	**296**	*e*P		**Pn**	**06 01 34.3**	**+2.0**
OLKF				MPN			06 01 35.5	
	comp=Z,1.5nm,0.1s							
MSF	**Maaselka**	**4.29**	**290**	MPN			06 01 35.5	
	comp=Z,2.3nm,0.1s							
KU2	**Taivalkoski**	**4.59**	**286**	*e*P		**Pn**	**06 01 38.8**	**+1.9**
VRF	**Varrio**	**4.80**	**312**	*e*P		**Pn**	**06 01 42.0**	**+2.3**
VRF				MPN			06 01 42.9	
	comp=Z,0.8nm,0.1s							
NIF	**Nilsia**	**5.08**	**259**	*e*P		**Pn**	**06 01 45.4**	**+1.9**
NIF				MPN			06 01 46.1	
	comp=Z,2.2nm,0.1s							
RANF	**Ranua**	**5.22**	**289**	*e*P		**Pn**	**06 01 47.8**	**+2.2**
OUL	**Oulu**	**5.55**	**279**	MPN			06 01 55.4	
	comp=Z,1.5nm,0.1s							
RAJF	**Raja-Jooseppi**	**5.62**	**316**	*e*P		**Pn**	**06 01 53.3**	**+2.3**
RNF	**Rovaniemi**	**5.64**	**295**	MPN			06 01 55.7	
	comp=Z,0.9nm,0.1s							
RUF	**Ruokolahti**	**5.65**	**238**	*e*P		**Pn**	**06 01 50.6**	**-0.8**
RUF				MPN			06 01 52.6	
	comp=Z,0.7nm,0.1s							
SGF	**Sodankyl**	**5.70**	**303**	MPN			06 01 54.9	
	comp=Z,0.4nm,0.1s							
SUF	**Sumiainen**	**6.04**	**256**	*e*P		**Pn**	**06 01 59.1**	**+2.4**
SUF				*e*S		**Sn**	**06 03 08.6**	**+2.1**
TOF	**Tornio**	**6.23**	**289**	*e*P		**Pn**	**06 01 59.9**	**+0.5**
KAF	**Kangasniemi**	**6.26**	**250**	*e*P		**Pn**	**06 02 01.8**	**+1.9**
FIA1	**FINESS Array S**	**6.72**	**246**	*e*P		**Pn**	**06 02 07.1**	**+1.0**
FIA1				MPN			06 02 08.8	
	comp=Z,0.8nm,0.1s							
FIA1				*e*S		**Sn**	**06 03 20.3**	**-3.0**
FINES	**FINESS Array B**	**6.72**	**246**	Pn		**Pn**	**06 02 05.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=58,slow=12,SNR=9.0							
FINES				Sn		**Sn**	**06 03 23.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=65,slow=20,SNR=2.2							
	comp=Z,0.5nm,0.4s							
KEV	**Kevo**	**6.79**	**323**	*e*P		**Pn**	**06 02 08.2**	**+1.1**
KEF	**Keuruu**	**6.82**	**254**	*e*P		**Pn**	**06 02 08.8**	**+1.3**
KEF				MPN			06 02 11.4	
	comp=Z,1.4nm,0.1s							
KEF				*e*S		**Sn**	**06 03 25.6**	**-0.1**
ARCES	**ARCESS Array B**	**7.06**	**318**	Pn		**Pn**	**06 02 10.7**	**-0.1**
	baz=130,slow=14,SNR=9.8							
ARCES				Sn		**Sn**	**06 03 27.8**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=131,slow=23,SNR=2.0							
ARCES				Lg		Lg	06 04 06.3	
	comp=Z,0.1nm,0.3s,baz=128,slow=30,SNR=1.6							
	comp=Z,4.0nm,1.0s							
HEF	**Hetta**	**7.08**	**308**	*e*P		**Pn**	**06 02 11.0**	**0.0**
HEF				MPN			06 02 12.8	
	comp=Z,0.4nm,0.1s							
HEF				*e*S		**Sn**	**06 03 28.5**	**-3.5**
KPF	**Kankaanpaa**	**8.14**	**256**	MPN			06 02 28.4	
	comp=Z,0.5nm,0.1s							
I37NO	**I37NO**	**9.03**	**307**	I		I	06 57 52.0	
	baz=109,slow=321							
HFS	**Hagfors**	**12.52**	**260**	Pn		**Pn**	**06 03 23.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=1.9							
	comp=Z,1.2nm,0.8s							

*SDD **08** 06:01:19.8±1.4, 18°.65N×71°.74W,h27km±10km,MD3.5, ML2.5,MW3.0*
*OSPL **08** 06:01:21.4±2.2, 18°.63N×71°.63W,h5km±22km,ML2.1*
ISC 08 06:01:20.5±1.0,**18°.63N**±0°.03×**71°.63W**±0°.03,**h13**km±9km, **n14,**σ0°**78**/27,**5C-8D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
NEDR	**Neiba UASD**	**0.25**	**126**	⇓*e*Pg		**Pg**	**06 01 25.5**	**-0.2**
NEDR				⇓*e*Sg		**Sb**	**06 01 30.8**	**-0.2**
NEDR				IAML			06 01 32.3	
	comp=N,544nm,0.2s							
JIDR	**Jimani**	**0.25**	**237**	⇑*e*Pg		**Pg**	**06 01 25.2**	**-0.6**
JIDR				⇓*e*Sg		**Sg**	**06 01 29.6**	**+0.2**
JIDR				IAML			06 01 30.0	
	comp=N,1μm,0.3s							
LODU1	**El Espartillar**	**0.31**	**152**	*i* P		**Pg**	**06 01 26.3**	**-0.6**
LODU1				*e*S		**Sg**	**06 01 31.9**	**+0.7**
LODU1				IAML			06 01 34.3	
	comp=Z,273nm,0.3s							
SDDR	**Presa de Saban**	**0.48**	**43**	*i* P		**Pg**	**06 01 29.6**	**-0.3**
SDDR				*e*S		**Sg**	**06 01 36.9**	**+0.5**
SDDR				IAML			06 01 41.7	
	comp=Z,98nm,0.3s							
SDDR	**Presa de Saban**	**0.48**	**43**	⇑*e*Pg		**Pg**	**06 01 29.9**	**0.0**
SDDR				⇓*e*Sg		**Sb**	**06 01 37.2**	**-0.5**
SDDR				IAML			06 01 45.2	
	comp=N,122nm,0.4s							
PODR	**Polo**	**0.57**	**144**	*i* P		**Pg**	**06 01 31.3**	**-0.3**
PODR				*e*S		**Sb**	**06 01 40.8**	**+0.4**
PODR	**Polo**	**0.57**	**144**	⇓*e*Pg		**Pg**	**06 01 31.4**	**-0.3**
PODR				*e*Sg		**Sb**	**06 01 41.0**	**+0.6**
PODR				IAML			06 01 41.4	
	comp=N,598nm,0.1s

OBIP	**Obispado Ponce**	**2.47**	**118**			**Pb**	**06 06 14.2**	**-1.1**
OBIP				IAML			06 06 58.9	
	comp=N,21nm,2.4s							
OBIP	**Obispado Ponce**	**2.47**	**118**⇑	*eP*		**Pb**	**06 06 15.5**	**+0.1**
OBIP	**Obispado Ponce**	**2.47**	**118**	*eS*		**Sb**	**06 06 45.2**	**-0.2**
CELP	**Cerrillos**	**2.48**	**117**			**Pb**	**06 06 14.8**	**-0.7**
CELP						**Pb**	**06 06 15.6**	**0.0**
CELP				IAML			06 06 51.2	
	comp=E,19nm,0.4s							
CELP				IAML			06 06 53.8	
	comp=N,29nm,0.6s							
CELP	**Cerrillos**	**2.48**	**117**⇓	*eP*		**Pb**	**06 06 15.6**	**0.0**
CELP	**Cerrillos**	**2.48**	**117**	*eS*		**Sb**	**06 06 45.0**	**-0.6**
PODR	**Polo**	**2.50**	**245**⇓	*eP*g		**Pb**	**06 06 14.7**	**-1.4**
PODR				⇑*e*Sg		**Sb**	**06 06 44.8**	**-1.8**
PODR				IAML			06 06 55.8	
	comp=N,28nm,2.0s							
ECPR	**Experimental S**	**2.56**	**110**⇑	*eP*		**Pb**	**06 06 17.1**	**+0.1**
ECPR	**Experimental S**	**2.56**	**110**	*eS*		**Sb**	**06 06 48.1**	**0.0**
LODU1	**El Espartillar**	**2.60**	**251**	*i* P		**Pb**	**06 06 16.1**	**-1.5**
GCPR	**Guaynabo City**	**2.81**	**109**	Pn		**Pb**	**06 06 19.6**	**-1.7**
IGPR	**InterUniversit**	**2.93**	**115**			**Pb**	**06 06 22.5**	**-0.7**
IGPR	**InterUniversit**	**2.93**	**115**⇑	*eP*		**Pb**	**06 06 22.5**	**-0.7**
PDPR	**Patillas Dam,**	**2.98**	**114**	Pn		**Pb**	**06 06 22.6**	**-1.5**
PDPR				IAML			06 07 05.1	
	comp=N,13nm,0.1s							
PDPR	**Patillas Dam,**	**2.98**	**114**⇑	*eP*		**Pb**	**06 06 23.7**	**-0.3**
PDPR	**Patillas Dam,**	**2.98**	**114**	*eS*		**Sb**	**06 06 56.8**	**-3.3**
HUMP	**Col San Antoni**	**3.08**	**110**			**Pn**	**06 06 22.5**	**+3.2**
HUMP						**Pb**	**06 06 24.2**	**-1.6**
HUMP				IAML			06 07 05.2	
	comp=E,16nm,0.2s							
HUMP				IAML			06 07 13.1	
	comp=N,11nm,0.4s							
HUMP	**Col San Antoni**	**3.08**	**110**⇑	*eP*		**Pb**	**06 06 23.5**	**-2.3**
HUMP	**Col San Antoni**	**3.08**	**110**	*eS*		**Sb**	**06 06 59.7**	**-3.4**

*NEIC **08** 06:07:50.9±1.8, 3.9N±0.1×126.3E±0.0, 6, h99km±10km, mb4.1/14, Error ellipse: s-maj=17.1km s-min=5.6km az=207.0*
*DJA **08** 06:07:51.6±0.8, 4.7N±6.2×12.6E±.7, h103km±6km, M4.8/13, mB5.4/5, mb4.7/7, MLv4.8/13, Mw(mB)4.9/5*
*IDC **08** 06:08:03.2±11.0, 3.9N×126.3E, h230km±119km, mb3.5/10, mbtmp4.0/10, MS3.4/2, Error ellipse: s-maj=81.2km s-min=18.7km az=76.0*

ISC 08 06:07:50.1±0.6, 3.94N±0.07×126.38E±0.08, h100km, n41, σ1§53/41, mb4.1/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.88**	**254**	P	**Pn**	**06 08 11.7**	**+2.4**
SGSI				S	**Sn**	**06 08 26.9**	**+3.2**
TNTI	**Ternate**	**3.30**	**163**		**Pn**	**06 08 40.4**	**+0.6**
TNTI	**Ternate**	**3.30**	**163**	P	**Pn**	**06 08 40.2**	**+0.4**
KMSI	**Cibinong**	**4.11**	**216**	P	**Pn**	**06 08 51.4**	**+0.6**
MRSI	**Marisa**	**5.61**	**232**	P	**Pn**	**06 09 13.8**	**+2.7**
SANI	**Sanana**	**5.96**	**184**	P	**Pn**	**06 09 13.9**	**-2.0**
	0.8nm4µm47nm,0.5s						
TOLI2	**Tolitoli**	**6.26**	**243**		**Pn**	**06 09 20.8**	**+0.9**
TOLI2				Sn	**Sn**	**06 10 27.4**	**-2.6**
NLAI	**Namlea**	**7.17**	**174**	P	**Pn**	**06 09 31.6**	**-0.7**
	257nm,0.6s						
MPSI	**Mapaga**	**7.40**	**241**	P	**Pn**	**06 09 37.6**	**+2.2**
FAKI	**Fak Fak**	**8.99**	**139**	Pn	**Pn**	**06 09 57.9**	**+0.8**
SBUM	**Sibu**	**14.21**	**264**	Pn	**Pn**	**06 11 06.3**	**-0.6**
TPUB	**Ta-pu**	**20.04**	**344**	P	**P**	**06 12 14.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.91**	**182**	P	**P**	**06 12 34.0**	**-1.3**
WB0	**Warramunga Arr**	**24.84**	**162**	P	**P**	**06 13 02.8**	**-0.5**
WB0				IAmb	IAmb	06 13 27.5	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**24.99**	**162**	P	**P**	**06 13 02.3**	**-2.4**
WRA	**Warramunga Arr**	**24.99**	**162**	P	**P**	**06 13 05.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=341,slow=10.0,SNR=6.1						
	comp=Z,0.5nm,0.8s						
WB2	**Warramunga Arr**	**24.99**	**162**	P	**P**	**06 13 05.1**	**+0.4**
WB2				IAmb	IAmb	06 13 33.5	
	comp=Z,3.6nm,0.8s						
WR8	**Warramunga Arr**	**25.05**	**162**	P	**P**	**06 13 05.1**	**-0.1**
WR8				IAmb	IAmb	06 13 29.4	
	comp=Z,6.0nm,1.1s						
ASAR	**Alice Springs**	**28.40**	**165**	P	**P**	**06 13 37.9**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=350,slow=8.9,SNR=2.3						
	comp=Z,0.3nm,0.6s						
KSRS	**Korea Array**	**33.39**	**2**	P	**P**	**06 14 20.3**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=186,slow=9.7,SNR=2.2						
	comp=Z,0.6nm,0.5s						
STKA	**Stephens Creek**	**38.45**	**159**	LR	LR	06 34 41.5	
	comp=Z,80nm,18.3s,baz=205,slow=42						
EVN	**Everest**	**44.59**	**307**	P	**P**	**06 15 52.4**	**-0.8**
EVN				IAmb	IAmb	06 15 54.5	
	comp=Z,3.7nm,0.6s						
SONM	**Songino Array**	**46.99**	**342**	P	**P**	**06 16 11.8**	**+0.5**
SONM	**Songino Array**	**46.99**	**342**	P	**P**	**06 16 11.8**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=161,slow=9.6,SNR=5.7						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**06 17 26.3**	**-0.5**
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**06 17 26.4**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=117,slow=7.6,SNR=19						
	comp=Z,1.8nm,0.4s						
YAK	**Yakutsk**	**58.01**	**2**	LR	LR	06 44 37.6	
	comp=Z,19nm,19.7s,baz=284,slow=38						
ZALV	**Zalesovo Beam**	**60.24**	**333**	P	**P**	**06 17 45.8**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=123,slow=8.3,SNR=2.5						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	**P**	**06 17 55.1**	**-0.4**
	comp=Z,6.3nm,0.7s,baz=126,slow=6.3,SNR=25						
	comp=Z,6.3nm,0.7s						
KURK	**Kurchatov**	**61.38**	**328**	P	**P**	**06 17 55.5**	**+0.1**
KKAR	**Karatay Array**	**62.84**	**317**	P	**P**	**06 18 05.8**	**+0.3**
BVAR	**Borovoye Array**	**66.96**	**327**	P	**P**	**06 18 31.3**	**-0.6**
	comp=Z,4.0nm,0.9s,baz=126,slow=7.5,SNR=9.5						
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**67.03**	**327**	P	**P**	**06 18 32.1**	**-0.2**
BRVK				IAmb	IAmb	06 18 34.6	
	comp=Z,4.6nm,0.9s						
AB31	**Akbulak array**	**71.77**	**321**	P	**P**	**06 19 00.6**	**-1.1**
AB31				IAmb	IAmb	06 19 02.4	
	comp=Z,1.5nm,0.9s						
ABKAR	**Akbulak array**	**71.77**	**321**	P	**P**	**06 19 00.8**	**-0.8**
D19K	**Kuna River**	**81.06**	**21**	P	**P**	**06 19 55.5**	**+1.7**
D19K				IAmb	IAmb	06 19 55.5	
	comp=Z,4.2nm,1.1s						
H19K	**Roundabout Mou**	**81.12**	**24**	P	**P**	**06 19 56.4**	**+2.3**
H19K				IAmb	IAmb	06 19 57.1	
	comp=Z,4.0nm,1.1s						
C23K	**Itkillik River**	**83.91**	**20**	P	**P**	**06 20 10.4**	**+1.9**
BMAR	**Burnt Mountain**	**86.02**	**23**	P	**P**	**06 20 20.8**	**+1.6**
ARCES	**ARCESS Array B**	**90.13**	**340**	P	**P**	**06 20 37.5**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=77,slow=5.2,SNR=4.2						
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**91.51**	**321**	P	**P**	**06 20 43.2**	**-2.3**
	comp=Z,0.9nm,0.6s,baz=76,slow=4.2,SNR=4.1						
	comp=Z,0.9nm,0.6s						

*FUNV **08** 06:29:55.7, 8.34N×71.54W, h9km, MW3.0*
*RSNC **08** 06:29:56.4±1.1, 9.1N±2.2×7.2W±.7, h7km±8km, M2.1, ML1.9, MLv2.6*

ISC 08 06:29:53.7±1.6, 8.53N±0.04×71.52W±0.04, h7km±13km, n9, σ1§53/18, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.02**	**230**	*eP*	**Pb**	**06 30 12.3**	**-1.6**
CAPV				*eS*	**Sb**	**06 30 24.5**	**-3.2**
PAMC	**Pamplona, Colo**	**1.66**	**225**	P	**Pb**	**06 30 25.0**	**+0.1**
PAMC				S	**Sg**	**06 30 46.7**	**-0.5**
OCAC	**Ocana**	**1.80**	**261**	P	**Pb**	**06 30 25.6**	**-1.5**
OCAC				S	**Sb**	**06 30 49.6**	**-0.4**
MCQV	**Machiques**	**1.81**	**327**	*eP*	**Pg**	**06 30 28.8**	**+0.4**
MCQV				*eS*	**Sg**	**06 30 52.9**	**+0.9**
BARC	**Barichara**	**2.53**	**221**	P	**Pb**	**06 30 39.7**	**0.0**
BARC				S	**Sb**	**06 31 10.8**	**-0.3**
URIC	**Uribia, Colomb**	**3.19**	**352**	P	**Pb**	**06 30 48.5**	**-2.2**
URIC				S	**Sn**	**06 31 22.1**	**-0.4**
BAUV	**El Baul**	**3.47**	**83**	*eP*	**Pn**	**06 30 50.0**	**+1.9**
BAUV				*eS*	**Sn**	**06 31 28.9**	**-0.5**
SJCC	**San Jacinto, C**	**3.86**	**291**	P	**Pn**	**06 30 55.2**	**+1.6**
SJCC				S	**Sn**	**06 31 40.8**	**+1.6**
BENV	**Beln**	**4.13**	**70**	*eP*	**Pn**	**06 30 58.7**	**+1.4**
BENV				*eS*	**Sn**	**06 31 45.4**	**-0.5**

*SJA **08** 06:37:34.8±0.8, 30.30S×71.40W, h24km±2km, ML3.7, MW3.8*
*GUC **08** 06:37:38.4±0.7, 30.33S×71.18W, h60km±2km, ML4.0*

ISC 08 06:37:38.7±1.8, 30.34S±0.02×71.25W±0.04, h31km±16km, n49, σ1§99/80, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.42**	**1**⇑	*eP*	**Pn**	**06 37 49.3**	**+0.7**
CO05				*eS*	**Sn**	**06 37 57.1**	**+1.9**
CO05				IAML		06 37 57.5	
	comp=N,22µm,0.1s						
GO04	**Tololo Observa**	**0.42**	**67**	*eP*	**Pn**	**06 37 48.9**	**+0.1**
GO04				*eS*	**Sn**	**06 37 57.1**	**+1.4**
GO04	**Tololo Observa**	**0.42**	**67**	*eP*	Pn	06 37 57.3	+8.4
CO06	**Fray Jorge**	**0.47**	**225**⇑	*eP*	**Pn**	**06 37 50.1**	**+0.7**
CO03	**El Pedregal**	**0.70**	**136**⇑	*eP*	**Pn**	**06 37 52.0**	**-0.6**
CO03				*eS*	**Sn**	**06 38 02.2**	**-0.1**
CO03				IAML		06 38 03.0	
	comp=E,7µm,0.5s						
CO03	**El Pedregal**	**0.70**	**136**	*eP*	**Pn**	**06 37 51.2**	**-1.3**
CO03				*eS*	**Sb**	**06 38 02.6**	**+0.8**
CO03				IAML		06 38 03.5	
	comp=Z,2µm,0.2s						
CO02	**Combarbal**	**0.89**	**166**	*eP*	**Pn**	**06 37 54.7**	**-0.5**
CO02				*eS*	**Sn**	**06 38 07.0**	**-0.2**
CO02				IAML		06 38 08.4	
	comp=N,8µm,0.4s						
CO02	**Combarbal**	**0.89**	**166**	*eP*	**Pn**	**06 37 54.1**	**-1.2**
CO02				*eS*	**Sn**	**06 38 06.5**	**-0.6**
CO02				IAML		06 38 12.9	
	comp=Z,1µm,0.3s						
CO01	**Juntas del Tor**	**1.06**	**71**	*eP*	**Pn**	**06 37 57.1**	**-0.6**
CO01				*eS*	**Sn**	**06 38 10.8**	**-0.8**
CO01				IAML		06 38 11.6	
	comp=N,3µm,0.2s						
CO01	**Juntas del Tor**	**1.06**	**71**	*eP*	**Pn**	**06 37 57.2**	**-0.6**
CO01				*eS*	**Sn**	**06 38 11.1**	**-0.5**
CO01				IAML		06 38 11.7	
	comp=Z,1µm,0.1s						
LCO	**Las Campanas**	**1.41**	**20**	*eP*	**Pn**	**06 38 01.3**	**-1.1**
LCO	**Las Campanas**	**1.41**	**20**	*eP*	**Pn**	**06 38 01.7**	**-0.8**
LCO				*eS*	**Sn**	**06 38 19.7**	**-0.4**
LCO				IAML		06 38 23.7	
	comp=Z,2µm,0.4s						
AROD	**Rodeo**	**1.55**	**84**	*eP*	**Pn**	**06 38 05.1**	**+0.7**
ACDV	**Cuesta del Vie**	**1.85**	**85**	*eP*	**Pn**	**06 38 09.7**	**+1.2**
ACDV				*eS*	**Sb**	**06 38 35.1**	**+0.4**
ACCO	**Cerro Coronel**	**1.90**	**98**	*eP*	**Pn**	**06 38 10.6**	**+1.2**
ACCO				*eS*	**Sn**	**06 38 26.7**	**-5.7**
AC04	**Llanos de Chal**	**2.13**	**4**	*eP*	**Pn**	**06 38 11.7**	**-0.5**
AC04				*eS*	**Sn**	**06 38 30.8**	**+0.4**
AC04				IAML		06 38 44.4	
	comp=E,784nm,0.4s						
AC04	**Llanos de Chal**	**2.13**	**4**	*eP*	**Pn**	**06 38 11.5**	**-0.7**
AC04				*eS*	**Sn**	**06 38 34.9**	**-2.7**
AC04				IAML		06 38 46.0	
	comp=Z,712nm,0.6s						
VA06	**Catapilco**	**2.22**	**181**	*eP*	**Pn**	**06 38 13.3**	**-0.1**
VA06				IAML		06 38 47.0	
	comp=E,1µm,0.5s						
VA03	**San Esteban**	**2.49**	**166**	*eP*	**Pn**	**06 38 17.1**	**-0.2**
VA03				*eS*	**Sn**	**06 38 46.1**	**-0.6**
VA03				IAML		06 38 54.1	
	comp=E,1µm,0.2s						
VA03	**San Esteban**	**2.49**	**166**	*eP*	**Pn**	**06 38 17.2**	**0.0**
VA03				*eS*	**Sn**	**06 38 49.5**	**+2.9**
VA03				IAML		06 38 56.8	
	comp=Z,336nm,0.6s						
ZON	**Zonda**	**2.52**	**119**	*eP*	**Pn**	**06 38 18.6**	**+1.0**
ZON				*eS*	**Sn**	**06 38 39.4**	**-7.8**
AGUA	**GUANDACOL**	**2.54**	**71**	*eP*	**Pn**	**06 38 20.0**	**+2.1**
AGUA				*eS*	**Sb**	**06 38 58.3**	**+3.8**
AGUA				IAML		06 38 58.6	
	comp=Z,495nm,0.3s						
ROCH	**El Roble**	**2.63**	**176**	*eP*	**Pn**	**06 38 19.5**	**+0.2**
ROCH				IAML		06 39 02.5	
	comp=N,818nm,0.5s						
PEL	**Peldehue**	**2.84**	**170**	*eP*	**Pn**	**06 38 22.1**	**+0.1**
PEL				IAML		06 39 05.9	
	comp=N,319nm,0.3s						
GO03	**Copiapo**	**2.87**	**18**	*eP*	**Pn**	**06 38 22.2**	**-0.3**
GO03				IAML		06 39 05.3	
	comp=E,455nm,0.4s						
GO03	**Copiapo**	**2.87**	**18**	*eP*	**Pn**	**06 38 22.4**	**-0.1**
GO03				*eS*	**Sn**	**06 38 56.9**	**+0.9**
CFA	**Coronel Fontan**	**2.88**	**117**	*eP*	**Pn**	**06 38 23.0**	**+0.5**
CFA				*eS*	**Sb**	**06 39 01.3**	**-2.9**
MT02	**Curacav**	**2.92**	**178**	*eP*	**Pn**	**06 38 22.6**	**-0.3**
MT02				*eS*	**Sn**	**06 38 56.7**	**-0.2**
MT02	**Curacav**	**2.92**	**178**	*eP*	**Pn**	**06 38 23.0**	**0.0**
MT02				*eS*	**Sn**	**06 38 57.4**	**+0.5**
MT02				IAML		06 39 04.5	
	comp=Z,246nm,0.5s						
MT10	**Hacienda Santa**	**2.99**	**168**	*eP*	**Pn**	**06 38 24.2**	**+0.1**
MT10				IAML		06 39 13.8	
	comp=N,834nm,0.2s						
AC06	**Mina Casimiro**	**3.07**	**15**	*eP*	**Pn**	**06 38 24.6**	**-0.5**
AC06				*eS*	**Sn**	**06 38 60.0**	**-0.9**
AC06				IAML		06 39 10.5	
	comp=E,419nm,0.4s						
MT05	**Renca**	**3.08**	**172**	*eP*	**Pn**	**06 38 25.6**	**+0.4**
MT05				IAML		06 39 22.0	
	comp=E,721nm,0.4s						
MT05	**Renca**	**3.08**	**172**	*eP*	**Pn**	**06 38 25.7**	**+0.4**
MT05				*eS*	**Sn**	**06 39 02.4**	**+1.4**
MT05				IAML		06 39 17.7	
	comp=Z,208nm,0.6s						
VCA	**Vinchina**	**3.10**	**60**	*eP*	**Pn**	**06 38 26.8**	**+1.2**
VCA				*eS*	**Sb**	**06 39 15.9**	**+5.4**
VCA				IAML		06 39 16.9	
	comp=Z,569nm,0.3s						
MT14	**Cerro Cal¡n**	**3.11**	**169**	*eP*	**Pn**	**06 38 26.2**	**+0.5**
MT14				IAML		06 39 24.7	
	comp=E,566nm,0.7s						
MT04	**Ro Olivares**	**3.20**	**163**	*eP*	**Pn**	**06 38 28.1**	**+1.0**
MT04				*eS*	**Sn**	**06 39 06.9**	**+2.6**
MT04				IAML		06 39 17.5	
	comp=Z,115nm,0.5s						
MT08	**Bocatoma Ro**	**3.27**	**162**	*eP*	Pn	06 38 16.9	-11
MT08				*eP*		06 38 31.7	
MT08				IAML		06 39 27.7	
	comp=Z,109nm,0.3s						
AVFE	**Valle Fertil**	**3.29**	**97**	*eP*	**Pn**	**06 38 28.1**	**0.0**
AVFE				*eP*		06 38 28.3	
AVFE				*eS*	**Sb**	**06 39 11.8**	**-4.3**
AVFE				IAML		06 39 16.6	
	comp=Z,148nm,0.5s						
MT15	**Las Vizcachas**	**3.31**	**169**	*eP*	**Pn**	**06 38 28.6**	**+0.1**
MT15				*eS*	**Sn**	**06 39 06.8**	**0.0**
MT15				IAML		06 39 18.2	
	comp=N,552nm,0.5s						
AAGR	**Agrelo**	**3.43**	**144**	*eP*	**Pn**	**06 38 30.4**	**+0.3**
AAGR				*eS*	Sn	06 38 58.0	-12
AAGR				IAML		06 39 42.5	
	comp=Z,131nm,1.3s						
MT09	**Talagante**	**3.44**	**176**	*eP*	**Pn**	**06 38 30.4**	**+0.1**
MT09				*eS*	**Sn**	**06 39 09.9**	**-0.1**
MT09				IAML		06 39 24.2	
	comp=E,308nm,0.6s						
MT01	**Popeta**	**3.52**	**180**	*eP*	**Pn**	**06 38 30.9**	**-0.4**
MT01				*eS*	**Sn**	**06 39 11.0**	**-0.8**
MT01				IAML		06 39 25.4	
	comp=E,265nm,0.4s						
MT01	**Popeta**	**3.52**	**180**	*eP*	**Pn**	**06 38 31.1**	**-0.2**
MT01				*eS*	**Sn**	**06 39 14.0**	**+2.2**
MT01				IAML		06 39 25.0	
	comp=Z,215nm,0.5s						
LMEL	**Las Melosas**	**3.61**	**166**	*eP*	**Pn**	**06 38 33.8**	**+1.2**
LMEL				*eS*	**Sn**	**06 39 16.9**	**+2.6**
ACLC	**CERRO LA CRUZ**	**3.84**	**77**	*eP*	Pn	06 38 30.4	-5.4
ACLC				*eP*		06 38 36.0	
ACLC				*eS*	**Sn**	**06 39 24.3**	**+4.2**
ACLC				IAML		06 39 30.7	
	comp=Z,169nm,0.4s						
AC02	**Maricunga**	**3.96**	**29**	*eP*	**Pn**	**06 38 37.6**	**-0.1**
AC02				*eS*	**Sb**	**06 39 30.4**	**-5.2**
AC02				*eS*		06 39 35.1	
AC02				IAML		06 39 44.7	
	comp=Z,111nm,0.4s						
BO01	**Tunca**	**4.05**	**178**	*eP*	**Pn**	**06 38 38.3**	**-0.2**
BO01				*eS*	**Sn**	**06 39 25.6**	**+0.8**
BO01				IAML		06 39 38.1	
	comp=Z,54nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.08**	**92**	*eS*	**Sn**	**06 39 30.5**	**+4.7**
MRA	**San Martin**	**5.17**	**115**	*eP*	**Pn**	**06 38 53.1**	**-0.9**
MRA				IAML		06 40 28.2	
	comp=Z,39nm,0.5s						

*MOS **08** 06:42:44.8±1.0, 36.54N×70.79E, h195km, mb4.3/17, Error ellipse: s-maj=11.1km s-min=5.6km az=92.6*
*IDC **08** 06:42:44.9±3.5, 36.35N×70.91E, h190km±33km, mb3.7/13, mbtmp4.2/18, Error ellipse: s-maj=25.4km s-min=11.9km az=33.0*
*NEIC **08** 06:42:46.0±1.4, 36.53N±0.05×70.79E±0.05, h193km±7km, mb4.3/22, Error ellipse: s-maj=8.3km s-min=4.6km az=151.0*
*NNC **08** 06:42:47.7±4.6, 37.26N×70.20E, h0km, mb4.6, mpv4.1, Error ellipse: s-maj=38.0km s-min=28.7km az=160.0*

ISC 08 06:42:45.5±0.5, 36.54N±0.05×70.80E±0.05, h194km±4km, h193km; pP-P, n115, σ2§20/136, mb4.2/28, 12C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.45**	**216**		**Pn**	**06 43 28.9**	**+0.1**
KBL	**Kabul**	**2.45**	**216**	PN	**Pn**	**06 43 28.9**	**+0.1**
GAR	**Garm**	**2.49**	**351**		**Pn**	**06 43 29.5**	**+0.5**
SIMJ	**Simiganj**	**2.55**	**327**		**Pn**	**06 43 30.1**	**+0.4**
SIMJ				Sn	**Sn**	**06 44 02.6**	**-1.7**
NIL	**Nilore**	**3.51**	**144**		**Pn**	**06 43 41.7**	**+0.6**
NIL				Sn	**Sn**	**06 44 22.8**	**-1.7**
NIL	**Nilore**	**3.51**	**144**	PN	**Pn**	**06 43 41.4**	**+0.3**
KSH	**Kashi**	**5.05**	**52**	Pn	**Pn**	**06 43 56.4**	**-4.1**
KSH				Sn	Sn	06 44 48.4	-11
KSH				smax	smax		
	comp=N,220nm,0.6s						
KSH				smax	smax		
	comp=E,130nm,0.6s						
ARSB	**Arslanbob**	**5.07**	**19**		**Pn**	**06 44 00.8**	**0.0**
ARSB	**Arslanbob**	**5.07**	**19**	PN	**Pn**	**06 44 00.8**	**0.0**
DHRM	**DHARAMSHALA**	**6.24**	**132**	*eP*	**Pn**	**06 44 14.4**	**-1.6**
DHRM				*eS*	**Sn**	**06 45 19.1**	**-8.4**
DHRM				IAML		06 45 24.3	
	comp=N,230nm,0.4s						
DHRM				IAML		06 45 24.4	
	comp=E,353nm,0.3s						
DHRM	**DHARAMSHALA**	**6.24**	**132**	*eP*	Pn	06 44 29.6	+14
DHRM				*eS*	**Sn**	**06 45 34.0**	**+6.5**
UCH	**Uchtor**	**6.37**	**26**	P	**Pn**	**06 44 18.1**	**+0.2**
	SNR=9.2						
EKS2	**Erkin-Say**	**6.53**	**20**	P	**Pn**	**06 44 20.0**	**+0.3**
	SNR=46						
KK31	**Karatay Array**	**6.56**	**358**		**Pn**	**06 44 20.1**	**+0.2**
KK31	**Karatay Array**	**6.56**	**358**	P	**Pn**	**06 44 17.2**	**-2.8**
	comp=E,9.1nm,0.2s,baz=191,slow=18,SNR=232						
KK31				⇑S	Sn	06 45 25.1	-10
	comp=E,96nm,0.6s,baz=162,slow=14,SNR=3.8						
KK31	**Karatay Array**	**6.56**	**358**	PN	**Pn**	**06 44 17.2**	**-2.8**
KKAR	**Karatay Array**	**6.56**	**358**		**Pn**	**06 44 20.1**	**+0.2**
KKAR	**Karatay Array**	**6.56**	**358**	PN	**Pn**	**06 44 20.1**	**+0.2**
AAK	**Ala-Archa**	**6.73**	**24**	P	**Pn**	**06 44 22.8**	**+0.5**
	comp=E,20nm,0.3s,baz=170,slow=5.6,SNR=22						
AAK				S	**Sn**	**06 45 37.5**	**-1.3**
	comp=E,24nm,0.4s,baz=172,slow=24,SNR=13						
AAK	**Ala-Archa**	**6.73**	**24**	P	**Pn**	**06 44 22.6**	**+0.4**
	SNR=15						
AAK	**Ala-Archa**	**6.73**	**24**	⇑P	**Pn**	**06 44 21.9**	**-0.3**
	comp=E,3.5nm,0.4s						
AAK				⇓S	**Sn**	**06 45 35.2**	**-3.7**
	comp=E,8.0nm,0.4s						
AAK	**Ala-Archa**	**6.73**	**24**	PN	**Pn**	**06 44 21.9**	**-0.3**
BHK	**Bhakra**	**6.91**	**136**	*eP*	**Pn**	**06 44 27.4**	**+2.7**
BHK				*e*Sn	**Sn**	**06 45 39.1**	**-4.0**
BHK				IAML		06 45 41.6	
	comp=N,287nm,0.6s						
BHK				IAML		06 45 42.1	
	comp=E,311nm,0.5s						
FRU1	**Bishkek**	**6.93**	**24**	Pn	**Pn**	**06 44 24.6**	**-0.2**
FRU1	**Bishkek**	**6.93**	**24**	PN	**Pn**	**06 44 24.6**	**-0.2**
CHMS	**Chumysh**	**7.13**	**24**	P	**Pn**	**06 44 27.3**	**-0.1**
	SNR=15						
USP	**Ospenovka**	**7.30**	**22**	P	**Pn**	**06 44 29.1**	**-0.4**
	SNR=34						
TKM2	**Tokmak 2**	**7.37**	**29**	P	**Pn**	**06 44 30.6**	**-0.1**
	SNR=81						
TARG	**Taragay, Kyrgy**	**7.51**	**44**		**Pn**	**06 44 32.6**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.51**	**44**	PN	**Pn**	**06 44 32.6**	**-0.2**
SMLA	**Simla**	**7.56**	**134**	*eP*	**Pn**	**06 44 31.6**	**-1.4**
SMLA				*eS*	**Sn**	**06 45 49.6**	**-8.7**
SMLA				IAML		06 45 53.1	
	comp=N,150nm,0.3s						
SMLA				IAML		06 45 53.3	
	comp=E,114nm,0.4s						
SMLA	**Simla**	**7.56**	**134**	*eP*	Pn	06 44 46.1	+13
SMLA				*eS*	**Sn**	**06 46 04.6**	**+6.3**
KLP	**Kalpa**	**7.94**	**127**	*eP*	**Pn**	**06 44 36.6**	**-1.7

KBZ	**Khabaz**	**22.44**	**297**	⇓	*eP*		**P**	**06 47 29.1**	**+0.9**
KBZ						pmax	pmax		
	comp=Z,12nm,3.2s								
KIV	**Kislovodsk**	**22.63**	**298**		*eP*		**P**	**06 47 30.1**	**0.0**
KIV						pmax	pmax		
	comp=Z,8.0nm,1.0s								
RAYN	**Ar Rayn**	**25.37**	**246**		P		**P**	**06 47 54.6**	**-0.4**
RAYN	**Ar Rayn**	**25.37**	**246**		P		**P**	**06 47 54.6**	**-0.4**
RAYN						pmax	pmax		
	comp=Z,4.0nm,1.0s								
PZH	**PanZhiHua**	**28.10**	**102**		P		**P**	**06 48 21.7**	**+2.2**
OBN	**Obninsk**	**29.81**	**319**	⇑	*eP*		**P**	**06 48 35.0**	**+1.0**
OBN						*PP	**pP**	**06 49 17.0**	**+3.2**
OBN						*SP	**PP**	**06 49 40.0**	**-5.2**
OBN						S	**S**	**06 53 12.0**	**-4.0**
OBN						pmax	pmax		
	comp=Z,9.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**30.61**	**118**		P		**P**	**06 48 41.0**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=316,slow=9.1,SNR=5.7								
	comp=Z,1.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**30.61**	**118**		*ceP*		**P**	**06 48 44.2**	**+2.6**
CMAR						pmax	pmax		
	comp=Z,1.0nm,0.3s								
KLMR	**Klimovskoe**	**31.37**	**331**		*eP*		**P**	**06 48 47.4**	**-0.3**
KLMR						pmax	pmax		
	comp=Z,6.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**31.90**	**70**		*eP*		**P**	**06 48 55.0**	**+2.2**
HHC						pmax	pmax		
	comp=Z,10.0nm,0.7s								
HHC						pmax	pmax		
	comp=Z,120nm,5.1s								
AKASG	**Malin Array Be**	**32.80**	**309**		P		**P**	**06 49 01.8**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=84,slow=6.9,SNR=16								
	comp=Z,1.5nm,0.5s								
AKASG	**Malin Array Be**	**32.80**	**309**		*ceP*		**P**	**06 49 01.7**	**+1.4**
AKASG						pmax	pmax		
	comp=Z,3.0nm,0.6s								
AKBB	**Malin Array Si**	**32.80**	**309**		P		**P**	**06 49 00.3**	**0.0**
AKBB						IAmb	IAmb	06 49 02.2	
	comp=Z,4.2nm,0.8s								
AKBB	**Malin Array Si**	**32.80**	**309**		P		**P**	**06 49 00.3**	**0.0**
AKBB						pmax	pmax		
	comp=Z,4.0nm,0.8s								
KIEV	**Kiev**	**32.81**	**309**		P		**P**	**06 49 00.1**	**-0.3**
KIEV						IAmb	IAmb	06 49 02.3	
	comp=Z,3.7nm,0.8s								
KIEV	**Kiev**	**32.81**	**309**		P		**P**	**06 49 00.1**	**-0.3**
KIEV						pmax	pmax		
	comp=Z,4.0nm,0.8s								
MNK	**Minsk**	**34.36**	**315**		*i* P		**P**	**06 49 09.9**	**-3.8**
	comp=E,3.0nm,0.7s								
MNK					*i* P		**P**	**06 49 09.9**	**-3.8**
	comp=N,11nm,0.8s								
MNK					*i* P		**P**	**06 49 09.9**	**-3.8**
	comp=Z,12nm,0.8s,baz=104								
MNK					*i* pP		**pP**	**06 49 51.4**	**-2.7**
MNK					*i* sP		**sP**	**06 50 18.7**	**+2.4**
MNK					*i* PP		**PnPn**	**06 50 37.1**	**+1.2**
MNK					*i* S		**S**	**06 54 21.0**	**-5.7**
MNK					*i* sS		**sS**	**06 55 37.9**	**-1.3**
MNK					*i* SS		**SnSn**	**06 57 00.6**	**-1.0**
MNK	**Minsk**	**34.36**	**315**		*i* P		**P**	**06 49 09.9**	**-3.8**
MNK					*i* *PP		**pP**	**06 49 51.3**	**-2.7**
MNK					*i*			06 50 37.0	
MNK					*i*			06 51 40.2	
MNK					*i* S		**S**	**06 54 20.9**	**-5.7**
MNK						pmax	pmax		
	comp=N,11nm,0.8s								
MNK						pmax	pmax		
	comp=Z,12nm,0.8s								
MNK						pmax	pmax		
	comp=E,3.0nm,0.7s								
FIA1	**FINESS Array S**	**37.37**	**326**		P		**P**	**06 49 39.9**	**+0.8**
FINES	**FINESS Array B**	**37.37**	**326**		P		**P**	**06 49 39.5**	**+0.4**
FINES	**FINESS Array B**	**37.37**	**326**		P		**P**	**06 49 40.8**	**+1.7**
	comp=E,3.5nm,0.7s,baz=120,slow=11,SNR=12								
	comp=E,3.5nm,0.7s								
FINES	**FINESS Array B**	**37.37**	**326**		*i* P		**P**	**06 49 40.7**	**+1.6**
FINES						pmax	pmax		
	comp=Z,4.0nm,0.6s								
LVZ	**Lovozero**	**37.37**	**338**		P		**P**	**06 49 39.4**	**+0.3**
LVZ						IAmb	IAmb	06 49 57.5	
	comp=Z,18nm,1.4s								
LVZ	**Lovozero**	**37.37**	**338**		P		**P**	**06 49 39.4**	**+0.3**
LVZ						pmax	pmax		
	comp=Z,18nm,1.4s								
KEV	**Kevo**	**40.71**	**338**		P		**P**	**06 50 07.4**	**+0.7**
KEV						IAmb	IAmb	06 50 51.9	
	comp=Z,13nm,1.2s								
KEV	**Kevo**	**40.71**	**338**		P		**P**	**06 50 07.4**	**+0.7**
KEV						pmax	pmax		
	comp=Z,13nm,1.2s								
ARCES	**ARCESS Array B**	**41.05**	**338**		P		**P**	**06 50 11.2**	**+1.7**
ARCES						IAmb	IAmb	06 50 45.6	
	comp=Z,14nm,1.4s								
ARCES	**ARCESS Array B**	**41.05**	**338**		P		**P**	**06 50 11.2**	**+1.7**
	comp=Z,6.1nm,0.7s,baz=112,slow=8.1,SNR=22								
	comp=Z,6.1nm,0.7s								
HFS	**Hagfors**	**42.94**	**322**		P		**P**	**06 50 26.2**	**+1.3**
	comp=Z,6.0nm,0.7s,baz=88,slow=10,SNR=14								
	comp=Z,6.0nm,0.7s								
NC303	**NORSAR Array S**	**44.20**	**323**		P		**P**	**06 50 36.6**	**+1.7**
NC303						IAmb	IAmb	06 50 37.0	
	comp=Z,8.1nm,0.8s								
NB201	**NORSAR Array S**	**44.22**	**323**		P		**P**	**06 50 36.8**	**+1.6**
NB201						IAmb	IAmb	06 50 48.7	
	comp=Z,7.7nm,1.2s								
NB2	**NORSAR Subarra**	**44.26**	**323**		P		**P**	**06 50 36.1**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=96,slow=7.9								
NOA	**NORSAR Array B**	**44.26**	**323**		P		**P**	**06 50 36.4**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=96,slow=7.8,SNR=19								
	comp=Z,3.9nm,0.7s								
TIXI	**Tiksi**	**45.80**	**22**	⇑	*eP*		**P**	**06 50 48.1**	**+0.7**
TIXI						pmax	pmax		
	comp=Z,2.0nm,0.8s								
SPITS	**Spitsbergen Ar**	**47.42**	**347**		P		**P**	**06 51 02.2**	**+2.2**
SPITS						pmax	pmax		
	comp=Z,23nm,1.4s								
SENIN	**Lac Senin/Sane**	**47.43**	**303**		P		**P**	**06 51 01.9**	**+1.1**
TORD	**Torodi Ar. Bea**	**65.56**	**268**		P		**P**	**06 53 08.0**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=46,slow=6.4,SNR=5.1								
	comp=Z,2.2nm,0.5s								
C19K	**Lookout Ridge**	**68.34**	**17**		P		**P**	**06 53 27.1**	**+1.6**
D19K	**Kuna River**	**69.16**	**17**		P		**P**	**06 53 31.9**	**+1.4**
E18K	**Tukpahlearik C**	**69.34**	**19**		P		**P**	**06 53 32.8**	**+1.2**
E18K						IAmb	IAmb	06 53 33.0	
	comp=Z,12nm,1.5s								
E19K	**Redstone River**	**70.17**	**18**		P		**P**	**06 53 37.4**	**+0.7**
TOLK	**Toolik Lake Re**	**70.93**	**15**		P		**P**	**06 53 42.8**	**+1.5**
TOLK						IAmb	IAmb	06 53 43.2	
	comp=Z,3.7nm,0.5s								
IMAR	**Indian Mountai**	**72.19**	**18**		P		**P**	**06 53 49.4**	**+0.6**
COLA	**College**	**74.49**	**16**	⇑	*eP*		**P**	**06 54 02.4**	**+0.2**
COLA						pmax	pmax		
	comp=Z,2.0nm,0.7s								
ILAR	**Eielson Array**	**74.79**	**16**		P		**P**	**06 54 04.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=295,slow=4.7,SNR=6.2								
	comp=Z,0.3nm,0.5s								
YKA	**Yellowknife Ar**	**81.22**	**3**		*i* P		**P**	**06 54 40.0**	**+0.7**
WRA	**Warramunga Arr**	**82.14**	**122**		P		**P**	**06 54 43.3**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=324,slow=5.0,SNR=14								
	comp=Z,0.5nm,0.5s								
WRA	**Warramunga Arr**	**82.14**	**122**		*i* P		**P**	**06 54 42.4**	**-2.4**
ASAR	**Alice Springs**	**84.41**	**125**		P		**P**	**06 54 55.0**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=308,slow=5.0,SNR=12								
	comp=Z,0.9nm,0.7s								
ASAR	**Alice Springs**	**84.41**	**125**		P		**P**	**06 54 55.0**	**-1.3**
PLCA	**Paso Flores**	**149.69**	**250**		PKPbc		**PKPbc**	**07 02 11.7**	**-0.5**
	comp=Z,3.6nm,1.2s,baz=59,slow=6.7,SNR=4.6								

*IDC **08** 06:46:41.0±2.7, 42.°26N×143.°55E, h0km, mb3.6/4, mbtmp3.6/6, ML2.7/2, Error ellipse: s-maj=64.2km s-min=29.9km az=74.0*

*JMA **08** 06:46:52.5±0.2, 41.°9N±0.°7×142.°5E±0.°7, h65km±2km, MV3.3/40, S OFF URAKAWA*

ISC 08 06:46:53.1±0.9, 41.°93N±0.°04×142.°45E±0.°03, h62km±8km, n31, σ0.°75/42, mb3.6/4, 12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.41**	**33**	*i* P		**Pn**	**06 47 03.9**	**-0.6**
JNBK				*e*S		**Sn**	**06 47 12.4**	**-0.1**
JSHD	**Hidakashinhida**	**0.48**	**2**	⇓P		**Pn**	**06 47 05.0**	**+0.1**
JSHD				⇓*e*S		**Sn**	**06 47 14.5**	**+0.9**
JEM	**Erimo**	**0.54**	**81**	*i* P		**Pn**	**06 47 05.3**	**-0.3**
JEM				*e*S		**Sn**	**06 47 15.2**	**+0.5**
JTHR	**Tokachihiroo**	**0.73**	**60**	P		**Pn**	**06 47 07.6**	**-0.2**
JTHR				*e*S		**Sn**	**06 47 19.0**	**+0.4**
JIAM	**Iburiatsuma**	**0.79**	**331**	P		**Pn**	**06 47 09.4**	**+0.8**
JIAM				*e*S		**Sn**	**06 47 22.1**	**+2.1**
JBT2	**Biratori 2**	**0.85**	**356**	⇓P		**Pn**	**06 47 09.0**	**-0.3**
JBT2				⇓*e*S		**Sn**	**06 47 21.7**	**+0.5**
JCH	**Churui**	**0.96**	**45**	P		**Pn**	**06 47 10.7**	**-0.1**
JCH				*e*S		**Sn**	**06 47 24.4**	**+0.6**
JKB	**Kayabe**	**1.06**	**268**	⇓*i* P		**Pn**	**06 47 11.6**	**-0.3**
JKB				⇓*e*S		**Sn**	**06 47 25.8**	**-0.1**
JEW	**Eniwo**	**1.17**	**321**	⇓P		**Pn**	**06 47 13.7**	**+0.3**
JEW				⇓*e*S		**Sn**	**06 47 29.6**	**+1.0**
JNB	**Noboribetsu**	**1.17**	**298**	⇓*i* P		**Pn**	**06 47 12.9**	**-0.6**
JNB				⇓*e*S		**Sn**	**06 47 28.5**	**-0.2**
JOT	**Ohata**	**1.18**	**243**	⇓P		**Pn**	**06 47 13.4**	**-0.2**
JOT				⇓*e*S		**Sn**	**06 47 28.5**	**-0.4**
JFR	**Furan**	**1.23**	**5**	*e*P		**Pn**	**06 47 14.3**	**-0.1**
JFR				*e*S		**Sn**	**06 47 30.8**	**+0.6**
JOB	**Onbets**	**1.41**	**46**	P		**Pn**	**06 47 17.7**	**+1.1**
JOB				*e*S		**Sn**	**06 47 35.6**	**+1.2**
JISS	**Ishikarishitsu**	**1.54**	**331**	*e*P		**Pn**	**06 47 18.7**	**+0.3**
JISS				*e*S		**Sn**	**06 47 38.3**	**+0.9**
JTM	**Tenmabayashi**	**1.54**	**223**	*e*P		**Pn**	**06 47 19.0**	**+0.5**
JTM				*e*S		**Sn**	**06 47 39.2**	**+1.6**
JYM2	**Yakumo 2**	**1.56**	**277**	*e*P		**Pn**	**06 47 18.6**	**0.0**
JYM2				*e*S		**Sn**	**06 47 38.5**	**+0.7**
JSR	**Shiriuchi**	**1.57**	**256**	*e*P		**Pn**	**06 47 19.1**	**+0.3**
JSR				*e*S		**Sn**	**06 47 38.9**	**+0.8**
JAR	**Ashorobuto**	**1.68**	**35**	*e*P		**Pn**	**06 47 20.4**	**+0.2**
JAR				*e*S		**Sn**	**06 47 41.6**	**+0.9**
JANG	**Nango**	**1.71**	**205**	*e*P		**Pn**	**06 47 20.7**	**0.0**
MJAR	**Matsushiro Arr**	**6.31**	**213**	Pn		**Pn**	**06 48 25.0**	**+1.4**
	0.1nm,0.3s,baz=15,slow=12,SNR=2.0								
	0.8nm,0.3s								
KSRS	**Korea Array**	**12.05**	**253**	Pn		Pn	06 49 47.9	+6.0
	baz=65,slow=14,SNR=2.2								
	0.5nm,0.3s								
H11N2	**WAKE ISLAND Hy**	**30.31**	**129**	T		T	07 24 28.2		
	baz=323,slow=76								
H11N1	**WAKE ISLAND Hy**	**30.32**	**129**	T		T	07 24 21.0		
	baz=323,slow=76								
H11N3	**WAKE ISLAND Hy**	**30.33**	**129**	T		T	07 24 22.3		
	baz=323,slow=76								
H11S1	**WAKE ISLAND Hy**	**31.17**	**131**	T		T	07 25 31.6		
	baz=325,slow=76								
H11S3	**WAKE ISLAND Hy**	**31.18**	**131**	T		T	07 25 29.6		
	baz=325,slow=76								
H11S2	**WAKE ISLAND Hy**	**31.19**	**131**	T		T	07 25 32.3		
	baz=325,slow=76								
MKAR	**Makanchi Array**	**42.36**	**298**	P		**P**	**06 54 40.3**	**-0.8**
	0.7nm,0.8s,baz=85,slow=9.0,SNR=3.9								
	0.7nm,0.8s								
KURBB	**Kurchatov Arra**	**43.76**	**304**	P		**P**	**06 54 51.9**	**-0.4**
	0.6nm,0.5s,baz=77,slow=9.0,SNR=3.4								
	0.6nm,0.5s								
BVAR	**Borovoye Array**	**47.98**	**309**	P		**P**	**06 55 25.4**	**-0.1**
	0.4nm,0.3s,baz=74,slow=11,SNR=2.8								
	0.4nm,0.3s								
WRA	**Warramunga Arr**	**62.02**	**189**	P		**P**	**06 57 06.2**	**-0.8**
	0.6nm,1.1s,baz=6.3,slow=6.8,SNR=4.7								
	0.6nm,1.1s								

*SJA **08** 07:12:47.0±0.9, 22.°38S×69.°95W, h37km±3km, ML3.4, MW3.5*

*GUC **08** 07:12:47.8±0.8, 22.°40S×69.°91W, h49km±5km, ML3.4*

ISC 08 07:12:48.1±1.1, 22.°42S±0.°02×69.°88W±0.°04, h32km±12km, n25, σ1.°39/49, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**0.40**	**135**	*e*P		**Pn**	**07 12 58.8**	**+0.9**
PB06				*i* S		**Sn**	**07 13 06.7**	**+2.2**
PB06				IAML			07 13 07.1	
	comp=N,10μm,0.2s							
PB06	**IPOC Station P**	**0.40**	**135**	*e*P		**Pn**	**07 12 58.1**	**+0.2**
PB06				IAML			07 13 07.3	
	comp=Z,5μm,0.1s							
PB05	**IPOC Station P**	**0.52**	**214**	*e*P		**Pn**	**07 13 00.2**	**+0.8**
PB05				*i* S		**Sn**	**07 13 09.0**	**+1.7**
PB05				IAML			07 13 09.5	
	comp=E,4μm,0.1s							
PB05	**IPOC Station P**	**0.52**	**214**	*e*P		**Pn**	**07 12 59.5**	**0.0**
PB05				IAML			07 13 09.5	
	comp=Z,2μm,0.4s							
PB09	**IPOC Station P**	**0.86**	**44**	*e*P		**Pb**	**07 13 04.8**	**+0.1**
PB09				*i* S		**Sn**	**07 13 16.9**	**+1.2**
PB09				IAML			07 13 18.3	
	comp=N,1μm,0.2s							
PB09	**IPOC Station P**	**0.86**	**44**	*e*P		**Pb**	**07 13 04.9**	**+0.1**
PB09				*e*S		**Sn**	**07 13 17.3**	**+1.6**
PB09				IAML		**Sb**	**07 13 17.5**	**+1.4**
	comp=Z,1μm,0.4s							
PB09				*e*S		**Sb**	**07 13 17.5**	**+1.4**
PB02	**IPOC Station P**	**1.10**	**359**	*e*P		**Pn**	**07 13 07.3**	**-0.1**
PB02				*i* S		**Sn**	**07 13 21.5**	**0.0**
PB02				IAML			07 13 24.3	
	comp=E,2μm,0.3s							
PB02	**IPOC Station P**	**1.10**	**359**	*e*P		**Pn**	**07 13 07.3**	**-0.1**
PB02				*e*S		**Sn**	**07 13 22.2**	**+0.7**
PB02				IAML			07 13 27.1	
	comp=Z,2μm,0.3s							
PB10	**IPOC Station P**	**1.25**	**210**	*e*P		**Pn**	**07 13 09.5**	**+0.1**
PB10				*i* S		**Sb**	**07 13 25.7**	**-1.3**
PB10				IAML			07 13 31.7	
	comp=N,500nm,0.6s							
PB10	**IPOC Station P**	**1.25**	**210**	*e*P		**Pn**	**07 13 09.6**	**+0.1**
PB10				*e*S		**Sb**	**07 13 26.9**	**-0.1**
PB10				*e*S			07 13 29.1	
PB01	**IPOC Station P**	**1.42**	**15**	*e*P		**Pn**	**07 13 12.2**	**+0.3**
PB01				*i* S		**Sn**	**07 13 29.7**	**+0.3**
PB01				IAML			07 13 31.9	
	comp=E,935nm,0.1s							
PB01	**IPOC Station P**	**1.42**	**15**	*e*P		**Pn**	**07 13 12.1**	**+0.3**
PB01				*e*S		**Sn**	**07 13 30.6**	**+1.1**
PB01				IAML			07 13 34.2	
	comp=Z,584nm,0.2s							
PATCX	**Punta Patache**	**1.61**	**351**	*e*P		**Pn**	**07 13 14.6**	**+0.1**
PATCX				*i* S		**Sn**	**07 13 34.6**	**+0.4**
PATCX	**Punta Patache**	**1.61**	**351**	*e*P		**Pn**	**07 13 13.9**	**-0.5**
PATCX				*e*S		**Sb**	**07 13 37.8**	**+0.4**
PATCX				IAML			07 13 43.1	
	comp=Z,274nm,0.2s							
AF01	**San Pedro de A**	**1.66**	**109**	*e*P		**Pb**	**07 13 17.9**	**-0.5**
AF01				*e*S		**Sn**	**07 13 29.1**	**-6.6**
AF01				IAML			07 13 51.8	
	comp=Z,711nm,0.3s							
TA01	**Diego Aracena**	**1.87**	**351**	*e*P		**Pn**	**07 13 17.4**	**-0.5**
TA01				*i* S		**Sn**	**07 13 40.4**	**+0.1**
TA01				IAML			07 13 46.1	
	comp=N,371nm,0.6s							
TA01	**Diego Aracena**	**1.87**	**351**	*e*P		**Pn**	**07 13 17.3**	**-0.5**
TA01				*e*P			07 13 17.5	
TA01				*e*S		**Sb**	**07 13 43.6**	**-1.0**
TA01				IAML			07 13 46.4	
	comp=Z,230nm,0.4s							
TA02	**Huaiquique**	**2.15**	**354**	*e*P		**Pn**	**07 13 21.2**	**-0.6**
TA02				*e*S		Sn	07 13 30.3	-17
TA02				IAML			07 13 54.2	
	comp=Z,188nm,0.1s							
PB08	**IPOC Station P**	**2.37**	**17**	*e*P		**Pn**	**07 13 25.6**	**+0.4**
PB08				*e*S		**Sn**	**07 13 52.6**	**-0.7**
PB08				IAML			07 13 59.8	
	comp=Z,115nm,0.3s							
PB11	**IPOC Station P**	**2.66**	**5**	*e*P		**Pn**	**07 13 28.5**	**-0.3**
PB11				*i* S		**Sn**	**07 14 01.0**	**+1.0**
PB11	**IPOC Station P**	**2.66**	**5**	*e*P		**Pn**	**07 13 28.6**	**-0.3**
PB11				*e*S		**Sn**	**07 13 58.6**	**-1.5**
PB11				IAML			07 14 14.7	
	comp=Z,118nm,0.7s							
GO02	**Mina Guanaco**	**2.74**	**174**	*e*P		**Pn**	**07 13 31.5**	**+1.3**
GO02				*e*S		**Sb**	**07 14 10.6**	**+0.6**
GO01	**Chusmiza**	**2.81**	**13**	*e*P		**Pn**	**07 13 31.8**	**+0.5**
GO01				*i* S		**Sn**	**07 14 25.4**	**+1.0**
GO01	**Chusmiza**	**2.81**	**13**	*e*P		**Pn**	**07 13 32.0**	**+0.7**
GO01				*e*S		**Sb**	**07 14 10.6**	**-1.7**
AC02	**Maricunga**	**4.45**	**171**	*e*P		**Pn**	**07 13 55.6**	**+1.7**
AC02				*e*S		**Sb**	**07 14 56.6**	**-2.7**

*JMA **08** 07:17:32.3±0.2, 35.°7N±0.°6×140.°8E±0.°9, h48km±1km,*

MV3.0/34, NEAR CHOSHI CITY

*IDC **08** 07:17:34.4±1.9, 34.°62N×138.°28E, h0km, mb3.5/3, mbtmp3.5/3, MS3.4/1, Error ellipse: s-maj=63.4km s-min=21.8km az=85.0*

ISC 08 07:17:31.4±1.3, 35.°68N±0.°07×140.°9E±0.°1, h33km, n11, σ2.°33/13, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.34**	**263**	*i* P		**Pn**	**07 17 41.1**	**+1.1**
JSMT				S		**Sb**	**07 17 48.5**	**+3.2**
JIHU	**Itakohorinouch**	**0.40**	**316**	*i* P		**Pn**	**07 17 42.5**	**+1.7**
JIHU				*e*S		**Sn**	**07 17 49.8**	**+2.7**
JYT	**Yasato**	**0.77**	**315**	*e*S		**Sb**	**07 17 56.2**	**-0.4**
BSO4	**Boso 4**	**0.81**	**212**	*e*P		**Pb**	**07 17 47.0**	**-0.1**
BSO3	**Boso 3**	**0.93**	**198**	P		**Pb**	**07 17 48.9**	**+0.1**
BSO1	**Boso 1**	**1.03**	**175**	*e*P		**Pb**	**07 17 50.4**	**0.0**
MJAR	**Matsushiro Arr**	**2.32**	**292**	Pn		**Pn**	**07 18 07.8**	**+0.6**
	1.0nm,0.3s,baz=99,slow=14,SNR=23							
MJAR				Sn		**Sb**	**07 18 35.2**	**-5.5**
	0.8nm,0.3s,baz=148,slow=14,SNR=3.4							
MJAR				LR		LR	07 18 37.9	
	comp=Z,38nm,19.4s,baz=181,slow=33							
MKAR	**Makanchi Array**	**44.48**	**303**	P		**P**	**07 25 38.7**	**-0.6**
	0.3nm,0.5s,baz=79,slow=8.1,SNR=2.6							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**46.49**	**309**	P		**P**	**07 25 54.7**	**-0.5**
	0.3nm,0.5s,baz=83,slow=7.8,SNR=4.8							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**55.66**	**187**	P		**P**	**07 27 03.1**	**-1.2**
	0.4nm,0.3s,baz=1.8,slow=7.4,SNR=10							
	0.4nm,0.3s							
GNI	**Garni**	**72.16**	**307**	LR		LR	08 00 42.0	
	comp=Z,23nm,18.4s,baz=186,slow=36							

*SOF **08** 07:49:44.5, 45.°69N±0.°02×26.°76E±0.°02, h140km±6km, MD3.7/4*

*BUC **08** 07:49:46.6±0.2, 45.°64N×26.°70E, h119km±1km, ml3.6/53, Error ellipse: s-maj=1.4km s-min=1.3km az=152.0*

ISC 08 07:49:46.0±1.5, 45.°66N±0.°03×26.°71E±0.°03, h126km±7km, n63, σ0.°50/103, 58C-38D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.11**	**178**	⇑P		**Pn**	**07 50 03.8**	**+0.5**
BISRR				⇓S		**Sn**	**07 50 16.4**	**+0.1**
PLOR	**Plostina**	**0.20**	**349**	⇑P		**Pn**	**07 50 03.5**	**+0.1**
PLOR				⇑S		**Sn**	**07 50 15.9**	**-0.7**
VRI	**Vrincioaia**	**0.21**	**4**	⇑P		**Pn**	**07 50 03.7**	**+0.3**
VRI				⇑S		**Sn**	**07 50 16.4**	**-0.2**
ODBI	**Odobesti**	**0.27**	**66**	⇑S		**Sn**	**07 50 16.8**	**0.0**
NEHR	**Nehoiu**	**0.37**	**232**	⇑P		**Pn**	**07 50 04.4**	**+0.4**
NEHR				⇑S		**Sn**	**07 50 17.6**	**0.0**
PANC	**Panciu**	**0.38**	**55**	⇓P		**Pn**	**07 50 04.5**	**+0.6**
PANC				⇑S		**Sn**	**07 50 17.8**	**+0.2**
COSR	**Cosmesti PH**	**0.47**	**65**	⇑P		**Pn**	**07 50 05.0**	**+0.6**
COSR				⇑S		**Sn**	**07 50 18.4**	**+0.1**
ISR	**Istrita**	**0.55**	**192**	⇓P		**Pn**	**07 50 05.7**	**+0.7**
ISR				⇓S		**Sn**	**07 50 18.3**	**-1.0**
MLR	**Muntele Rosu**	**0.56**	**253**	⇑P		**Pn**	**07 50 05.4**	**+0.3**
MLR				⇑S		**Sn**	**07 50 19.3**	**-0.3**
TURR	**Turia**	**0.63**	**310**	⇑P		**Pn**	**07 50 05.6**	**+0.1**
TURR				⇑S		**Sn**	**07 50 19.6**	**-0.6**
GHRR		**0.64**	**50**	⇑P		**Pn**	**07 50 06.0**	**+0.5**
GHRR				⇑S		**Sn**	**07 50 20.6**	**+0.3**
TUDR		**0.68**	**95**	⇑P		**Pn**	**07 50 06.0**	**+0.3**
TUDR				⇑S		**Sn**	**07 50 20.4**	**-0.3**
ONER	**Baraj Valea Uz**	**0.71**	**342**	⇑P		**Pn**	**07 50 06.3**	**+0.2**
ONER				⇓S		**Sn**	**07 50 20.6**	**-0.7**
IZVR	**Izvoarele**	**0.75**	**98**	⇓P		**Pn**	**07 50 06.0**	**-0.3**
IZVR				⇓S		**Sn**	**07 50 21.1**	**-0.6**
OZUR		**0.78**	**305**	⇑P		**Pn**	**07 50 06.3**	**-0.3**
SCHL	**Schela**	**0.81**	**101**	⇑S		**Sn**	**07 50 22.5**	**0.0**
SCHLR	**Schela**	**0.81**	**103**	⇑P		**Pn**	**07 50 06.8**	**0.0**
SCHLR				⇑S		**Sn**	**07 50 22.3**	**-0.3**
SCHLR	**Schela**	**0.81**	**103**	⇑P		**Pn**	**07 50 06.8**	**0.0**
SCHLR				⇑S		**Sn**	**07 50 22.3**	**-0.3**
NEGRR	**Negrea**

ZALV	**Zalesovo Beam**	**0.95**	**258**	Pg	Pg	07 59 45.4	-1.2		
	0.7nm,0.3s,baz=75,slow=17,SNR=8.5								
ZALV				Lg	Lg	08 00 00.2			
	2.2nm,0.3s,baz=78,slow=29,SNR=10								
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	08 00 58.5	+0.5		
	0.1nm,0.3s,baz=53,slow=13,SNR=5.6								
KURBB				Lg	Lg	08 02 38.8			
	baz=59,slow=32								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	08 01 24.7	+1.4		
	0.1nm,0.3s,baz=25,slow=14,SNR=7.5								
MKAR				Lg	Lg	08 03 37.1			
	0.1nm,0.3s,baz=23,slow=30,SNR=2.6								
	0.3nm,0.2s								

*IDC **08** 08:12:07.0±2.9,53°.06N×163°.79E, h0km, mb3.4/3, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=121.4km s-min=31.5km az=170.0*

*KRSC **08** 08:12:22.4±1.2,54°.68N×158°.50E, h290km±12km, Ml3.6*

ISC 08 08:12:23.8±1.1,54°.56N±0°.10×158°.6E±0°.1, h300km, n22, σ1§88/31, mb3.1/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.94**	**204**	*eP*		**Pn**		**08 13 02.6**	**-1.5**
GNL				*eS*		**S**		**08 13 33.3**	**-2.9**
KRX	**Arik**	**1.20**	**178**	*eP*		**Pn**		**08 13 04.9**	**-0.5**
KOK	**Koryaka**	**1.27**	**179**	*eP*		**Pn**		**08 13 05.4**	**-0.3**
SDLR	**Sedlovina**	**1.29**	**172**	*eP*		**Pn**		**08 13 04.7**	**-1.2**
SDLR				*eS*		**S**		**08 13 37.2**	**-2.2**
AVH	**Avacha**	**1.30**	**176**	*eP*		**Pn**		**08 13 05.6**	**-0.3**
SMAR	**Somma**	**1.30**	**174**	*eP*		**Pn**		**08 13 05.5**	**-0.6**
UGLR	**Uglovaya**	**1.36**	**174**	*eP*		**Pn**		**08 13 05.9**	**-0.3**
NLC	**Nalytchevo**	**1.46**	**162**	*eS*		**S**		**08 13 39.8**	**-1.0**
PETK	**Petropavlovsk-**	**1.54**	**200**	Pn		**Pn**		**08 13 05.2**	**-2.1**
	2.7nm,0.3s,baz=61,slow=7.0,SNR=76								
PETK				Sn		**S**		**08 13 40.3**	**-1.6**
	baz=126,slow=16								
	9.3nm,0.6s								
SPN	**Mys Shipunski**	**1.69**	**149**	*eP*		**Pn**		**08 13 06.9**	**-1.4**
SPN				*eS*		**S**		**08 13 40.4**	**-3.3**
KPT	**Kopyto**	**1.70**	**33**	*eP*		**Pn**		**08 13 06.3**	**-2.0**
KRMR	**Karymshinskiy**	**1.75**	**189**	*eP*		**Pn**		**08 13 07.4**	**-1.3**
KRMR				*eS*		**S**		**08 13 42.2**	**-2.2**
MKZ	**Mys Kozlova**	**1.83**	**89**	*eP*		**Pn**		**08 13 07.8**	**-1.3**
MKZ				*eS*		**S**		**08 13 42.5**	**-2.8**
GRL	**Gorelyy**	**2.03**	**189**	*eP*		**Pn**		**08 13 10.2**	**-0.8**
MTVR	**Mutnovka**	**2.09**	**187**	*eP*		**Pn**		**08 13 11.1**	**-0.4**
MTVR				*eS*		**S**		**08 13 48.9**	**-0.6**
RUS	**Russkaya**	**2.13**	**181**	*eP*		**Pn**		**08 13 10.5**	**-1.1**
RUS				*eS*		**S**		**08 13 46.9**	**-2.8**
ASAK	**Asacha**	**2.21**	**191**	*eP*		**Pn**		**08 13 11.9**	**-0.6**
KBTR	**Krutoberegovo**	**2.93**	**54**	*eP*		**Pn**		**08 13 17.4**	**-1.4**
KBTR				*eS*		**S**		**08 13 58.6**	**-4.0**
BKI	**Bering**	**4.32**	**78**	*eS*		**S**		**08 14 28.7**	**-0.5**
ILAR	**Eielson Array**	**28.45**	**47**	P		**P**		**08 17 52.0**	**+1.0**
	0.3nm,0.4s,baz=261,slow=7.5,SNR=6.6								
	0.3nm,0.4s								
PDAR	**Pinedale Array**	**57.59**	**61**	P		**P**		**08 21 45.5**	**+2.7**
	0.3nm,0.5s,baz=319,slow=2.8,SNR=5.8								
	0.3nm,0.5s								
TXAR	**Lajitas Array**	**70.88**	**66**	P		**P**		**08 23 10.4**	**+1.8**
	0.2nm,0.6s,baz=324,slow=6.1,SNR=3.0								
	0.2nm,0.6s								

AUST 08 08:16:54.1±0.7,19°S±5°×12°0E±°, h10km, mb4.5/1, ML2.8/4, ML4.9/1, Error ellipse: s-maj=14.2km s-min=6.3km az=132.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.92**	**74**	S		Sn		08 17 51.6	+0.4
MBWA	**Marble Bar**	**2.70**	**191**	P		Pn		08 17 38.8	+1.2
MBWA				S		Sn		08 18 11.3	+1.0
PSAC2	**Pilbara Seismi**	**3.07**	**187**	P		Pn		08 17 43.7	+1.0
PSAC2				S		Sn		08 18 20.3	+0.8
PSAA2	**Pilbara Seismi**	**3.08**	**188**	P		Pn		08 17 43.7	+0.9
PSAA2				S		Sn		08 18 19.8	+0.1
PSA00	**Pilbara Seismi**	**3.08**	**188**	P		Pn		08 17 43.8	+0.9
PSA00				S		Sn		08 18 20.3	+0.4
GIRL	**Giralia**	**7.01**	**233**	P		Pn		08 18 36.3	-0.6
	comp=N,376µmcomp=Z,0.2nmcomp=Z,69nm,2.1s								
GIRL				S		Sn		08 19 52.9	-3.8
MEEK	**Meekatharra**	**8.24**	**191**	S		Sn		08 20 23.0	-4.1
MEEK	**Meekatharra**	**8.24**	**191**	P		Pn		08 18 54.0	+0.1
MORW	**Morawa**	**11.21**	**199**	P		Pn		08 19 33.9	-0.6
BLDU	**Ballidu**	**12.49**	**194**	P		Pn		08 19 50.5	-1.5
KLBR	**Kellerberrin**	**13.23**	**189**	P		Pn		08 20 01.7	-0.5

IDC 08 08:22:20.6±999.0, 56°.05N×163°.68E, h0km, Error ellipse: s-maj=1362.0km s-min=99.4km az=53.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**4.55**	**232**	I		I		08 52 20.0	
	0.8nm,1.0s,baz=47,slow=318,SNR=23								
I45RU	**USSURIYSK INFR**	**23.30**	**253**	I		I		10 45 45.0	
	baz=50,slow=314,SNR=2.0								
I30JP	**ISUMI INFRASON**	**26.16**	**227**	I		I		11 00 40.0	
	baz=31,slow=310,SNR=1.3								

*KRSC **08** 08:25:28.0±2.3,51°.84N×153°.65E, h549km±20km, Ml4.2*

*SKHL **08** 08:25:28.7±0.2,52°.10N×152°.10E, h494km±5km, mb4.6/5, msha4.8/2*

*MOS **08** 08:25:29.1±0.8,52°.31N×152°.57E, h493km, mb4.0/13, Error ellipse: s-maj=10.4km s-min=8.2km az=92.6*

*NEIC **08** 08:25:30.5±1.1,52°.4N±0°.1×152°.5E±0°.2, h488km±14km, mb4.1/24, Error ellipse: s-maj=28.3km s-min=9.8km az=135.0*

*IDC **08** 08:25:30.2±0.9,52°.33N×152°.62E, h494km±11km, mb3.3/19, mbtmp4.2/22, Error ellipse: s-maj=15.9km s-min=11.7km az=90.0*

ISC 08 08:25:29.1±0.5,52°.13N±0°.06×152°.81E±0°.06, h500km, n151, σ1§63/202, mb4.0/35, 8C-7D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**2.44**	**85**	PN		**P**		**08 26 37.5**	**+1.1**
MIPR				S		**S**		**08 27 31.0**	**-0.4**
MIPR	**Malaya Ipel'ka**	**2.44**	**85**	*eP*		**P**		**08 26 37.5**	**+1.1**
MIPR				*eS*		**S**		**08 27 31.0**	**-0.4**
SKR	**Severo-Kuril's**	**2.53**	**124**	*ce*PN		**P**		**08 26 36.4**	**-0.6**
SKR	**Severo-Kuril's**	**2.53**	**124**	*i* P		**P**		**08 26 36.4**	**-0.6**
SKR				AMB		AMB		08 26 38.0	
	20nm,0.3s								
PAU	**Pauzhetka**	**2.57**	**103**	PN		**P**		**08 26 38.2**	**+1.0**
PAU				S		**S**		**08 27 33.7**	**+0.9**
PAU	**Pauzhetka**	**2.57**	**103**	*eP*		**P**		**08 26 38.3**	**+1.0**
PAU				*eS*		**S**		**08 27 33.8**	**+0.9**
PAU	**Pauzhetka**	**2.57**	**103**	*i* P		**P**		**08 26 37.9**	**+0.6**
PAU				AMB		AMB		08 26 39.7	
	140nm,0.6s								
PAU				*eS*		**S**		**08 27 32.1**	**-0.7**
PAU				A		A		08 27 35.9	
	50nm,0.5s								
PAU				A		A		08 27 35.9	
	30nm,0.5s								
PEA0B	**Petropavlovsk-**	**3.14**	**70**			**P**		**08 26 41.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**3.14**	**70**	PN		**P**		**08 26 41.8**	**+0.9**
PEA0B				S		**S**		**08 27 39.5**	**-0.1**
PETK	**Petropavlovsk-**	**3.14**	**70**			**P**		**08 26 41.0**	**+0.1**
PETK	**Petropavlovsk-**	**3.14**	**70**	P		**P**		**08 26 41.2**	**+0.3**
	30nm,0.6s,baz=240,slow=2.9,SNR=62								
PETK				S		**S**		**08 27 40.9**	**+1.4**
	1.3nm,0.4s,baz=313,slow=20,SNR=1.6								
ASAK	**Asacha**	**3.14**	**83**	PN		**P**		**08 26 41.9**	**+0.9**
ASAK				S		**S**		**08 27 41.5**	**+1.8**
ASAK	**Asacha**	**3.14**	**83**	*eP*		**P**		**08 26 41.9**	**+0.9**
ASAK				*eS*		**S**		**08 27 41.5**	**+1.8**
GRL	**Gorelyy**	**3.26**	**80**	PN		**P**		**08 26 43.3**	**+1.4**
GRL				S		**S**		**08 27 42.3**	**+1.0**
GRL	**Gorelyy**	**3.26**	**80**	*eP*		**P**		**08 26 43.3**	**+1.4**
GRL				*eS*		**S**		**08 27 42.4**	**+1.0**
MTVR	**Mutnovka**	**3.32**	**82**	PN		**P**		**08 26 43.0**	**+0.7**
MTVR				S		**S**		**08 27 43.5**	**+1.4**
MTVR	**Mutnovka**	**3.32**	**82**	*eP*		**P**		**08 26 43.0**	**+0.7**
MTVR				*eS*		**S**		**08 27 43.5**	**+1.4**
KRMR	**Karymshinskiy**	**3.33**	**76**	PN		**P**		**08 26 43.0**	**+0.8**
KRMR				S		**S**		**08 27 40.9**	**-1.0**
KRMR	**Karymshinskiy**	**3.33**	**76**	*eP*		**P**		**08 26 43.0**	**+0.8**
KRMR				*eS*		**S**		**08 27 40.9**	**-1.0**
GNL	**Ganaly**	**3.48**	**61**	PN		**P**		**08 26 45.0**	**+1.5**
GNL				S		**S**		**08 27 44.4**	**+0.1**
GNL	**Ganaly**	**3.48**	**61**	*eP*		**P**		**08 26 45.0**	**+1.5**
GNL				*eS*		**S**		**08 27 44.4**	**+0.1**
RUS	**Russkaya**	**3.52**	**83**	PN		**P**		**08 26 43.9**	**+0.3**
RUS				S		**S**		**08 27 43.3**	**-1.1**
RUS	**Russkaya**	**3.52**	**83**	*eP*		**P**		**08 26 43.9**	**+0.3**
RUS				*eS*		**S**		**08 27 43.4**	**-1.1**
RUS	**Russkaya**	**3.52**	**83**	*eP*		**P**		**08 26 43.9**	**+0.3**
RUS				*eS*		**S**		**08 27 43.3**	**-1.1**
PET	**Petropavlovsk**	**3.68**	**74**	P		**P**		**08 26 45.9**	**+1.1**
PET	**Petropavlovsk**	**3.68**	**74**	*i*PN		**P**		**08 26 46.6**	**+1.8**
PET				*eS*		**S**		**08 27 46.4**	**-0.3**
PET				pmax	pmax				
	comp=Z,67nm,0.9s								
PET				smax	smax				
	comp=E,56nm,0.6s								
PET				smax	smax				
	comp=N,54nm,0.6s								
PET	**Petropavlovsk**	**3.68**	**74**	*eP*		**P**		**08 26 46.5**	**+1.7**
PET				*eS*		**S**		**08 27 46.2**	**-0.4**
PET	**Petropavlovsk**	**3.68**	**74**	*i* P		**P**		**08 26 46.6**	**+1.8**
PET				AMB		AMB		08 26 47.0	
	comp=N,70nm,0.7s								
PET				*eS*		**S**		**08 27 47.2**	**+0.5**
PET				A		A		08 27 48.9	
	comp=N,50nm,0.6s								
PET				A		A		08 27 48.9	
	comp=N,60nm,0.6s								
KOK	**Koryaka**	**3.73**	**70**	PN		**P**		**08 26 46.9**	**+1.6**
KOK	**Koryaka**	**3.73**	**70**	*eP*		**P**		**08 26 46.9**	**+1.6**
KOK	**Koryaka**	**3.73**	**70**	*eP*		**P**		**08 26 46.9**	**+1.6**
KRX	**Arik**	**3.76**	**69**	PN		**P**		**08 26 46.8**	**+1.2**
KRX				S		**S**		**08 27 47.5**	**-0.6**
KRX	**Arik**	**3.76**	**69**	*eP*		**P**		**08 26 46.8**	**+1.2**
KRX				*eS*		**S**		**08 27 47.6**	**-0.6**
AVH	**Avacha**	**3.78**	**70**	PN		**P**		**08 26 47.9**	**+2.2**
AVH				S		**S**		**08 27 49.7**	**+1.4**
AVH	**Avacha**	**3.78**	**70**	*eP*		**P**		**08 26 47.9**	**+2.2**
AVH				*eS*		**S**		**08 27 49.8**	**+1.4**
AVH	**Avacha**	**3.78**	**70**	*eP*		**P**		**08 26 47.9**	**+2.2**
KRER	**Koryakskii**	**3.80**	**70**	PN		**P**		**08 26 47.8**	**+1.8**
KRER				S		**S**		**08 27 48.3**	**-0.5**
KRER	**Koryakskii**	**3.80**	**70**	*eP*		**P**		**08 26 47.8**	**+1.8**
KRER				*eS*		**S**		**08 27 48.4**	**-0.5**
SMAR	**Somma**	**3.82**	**70**	PN		**P**		**08 26 47.3**	**+1.2**
SMAR				S		**S**		**08 27 50.4**	**+1.3**
SMAR	**Somma**	**3.82**	**70**	*eP*		**P**		**08 26 47.4**	**+1.2**
SMAR				*eS*		**S**		**08 27 50.5**	**+1.3**
UGLR	**Uglovaya**	**3.82**	**71**	PN		**P**		**08 26 47.3**	**+1.3**
UGLR				S		**S**		**08 27 50.4**	**+1.5**
UGLR	**Uglovaya**	**3.82**	**71**	*eP*		**P**		**08 26 47.4**	**+1.3**
UGLR				*eS*		**S**		**08 27 50.4**	**+1.5**
SDLR	**Sedlovina**	**3.87**	**70**	PN		**P**		**08 26 47.6**	**+1.1**
SDLR				S		**S**		**08 27 50.8**	**+1.1**
SDLR	**Sedlovina**	**3.87**	**70**	*eP*		**P**		**08 26 47.6**	**+1.1**
SDLR				*eS*		**S**		**08 27 50.8**	**+1.1**
NLC	**Nalytchevo**	**4.12**	**73**	*eS*		**S**		**08 27 53.2**	**+0.2**
KII	**Karymskiy**	**4.43**	**62**	PN		**P**		**08 26 53.1**	**+2.1**
KII				S		**S**		**08 27 56.9**	**-1.1**
KII	**Karymskiy**	**4.43**	**62**	*eP*		**P**		**08 26 53.1**	**+2.1**
KII				*eS*		**S**		**08 27 57.0**	**-1.1**
SPN	**Mys Shipunski**	**4.50**	**75**	PN		**P**		**08 26 51.1**	**-0.4**
SPN				S		**S**		**08 27 53.8**	**-5.1**
SPN	**Mys Shipunski**	**4.50**	**75**	*eP*		**P**		**08 26 51.2**	**-0.4**
SPN				*eS*		**S**		**08 27 53.9**	**-5.1**
TUMD	**Tumrok D**	**5.46**	**53**	PN		**P**		**08 27 01.7**	**+1.6**
TUMD				S		**S**		**08 28 14.1**	**-0.6**
TUMD	**Tumrok D**	**5.46**	**53**	*eP*		**P**		**08 27 01.8**	**+1.6**
TUMD				*eS*		**S**		**08 28 14.1**	**-0.6**
KMNR	**Kamenistaya**	**5.70**	**47**	PN		**P**		**08 27 03.9**	**+1.5**
KMNR				S		**S**		**08 28 19.5**	**+0.7**
KMNR	**Kamenistaya**	**5.70**	**47**	*eP*		**P**		**08 27 03.9**	**+1.5**
KMNR				*eS*		**S**		**08 28 19.5**	**+0.7**
KIRR	**Kirishev**	**5.86**	**46**	*eS*		**S**		**08 28 21.8**	**0.0**
MKZ	**Mys Kozlova**	**5.87**	**62**	PN		**P**		**08 27 03.9**	**0.0**
MKZ				S		**S**		**08 28 16.2**	**-5.4**
MKZ	**Mys Kozlova**	**5.87**	**62**	*eP*		**P**		**08 27 04.0**	**0.0**
MKZ				*eS*		**S**		**08 28 16.3**	**-5.4**
MKZ	**Mys Kozlova**	**5.87**	**62**	*eP*		**P**		**08 27 03.9**	**0.0**
BZMR	**Bezymyannaya**	**5.92**	**47**	*eS*		**S**		**08 28 23.4**	**+0.6**
KBG	**Krutoberegovo**	**7.12**	**51**	*eS*		**S**		**08 28 40.2**	**-4.1**
KBTR	**Krutoberegovo**	**7.16**	**51**	PN		**P**		**08 27 15.7**	**-0.9**
KBTR				S		**S**		**08 28 39.2**	**-5.6**
KBTR	**Krutoberegovo**	**7.16**	**51**	*eP*		**P**		**08 27 15.8**	**-0.9**
KBTR				*eS*		**S**		**08 28 39.3**	**-5.6**
MA2	**Magadan**	**7.55**	**352**	P		**P**		**08 27 20.1**	**-0.5**
MA2	**Magadan**	**7.55**	**352**	P		**P**		**08 27 20.4**	**-0.2**
	comp=N,21nm,0.6s,baz=162,slow=10.0,SNR=13								
MA2	**Magadan**	**7.55**	**352**	*c iP*N		**P**		**08 27 20.3**	**-0.2**
MA2				pmax	pmax				
	comp=Z,20nm,0.9s								
MA2	**Magadan**	**7.55**	**352**	*i* P		**P**		**08 27 20.3**	**-0.2**
MA2				AMB		AMB		08 27 22.0	
	comp=Z,20nm,0.8s								
KUR	**Kuril'sk**	**7.64**	**207**	*eP*		**P**		**08 27 19.1**	**-2.6**
KUR				AMB		AMB		08 27 25.1	
	comp=Z,20nm,0.3s								
BKI	**Bering**	**8.40**	**63**	*eS*		**S**		**08 29 04.0**	**-4.3**
SHO	**Shikotan**	**9.18**	**208**	*eP*		**P**		**08 27 34.5**	**-3.3**
SHO				AMB		AMB		08 27 40.9	
	comp=Z,20nm,0.3s								
NMR	**Nemuro--Hokkai**	**9.97**	**211**	*eP*		**P**		**08 27 44.0**	**-2.1**
NMR				*eS*		**S**		**08 29 32.3**	**-6.6**
TEY	**Ternei**	**12.85**	**243**	*e*PN		P		08 28 30.0	+13
TEY	**Ternei**	**12.85**	**243**	*eP*		**P**		**08 28 15.0**	**-1.5**
YAK	**Yakutsk**	**15.91**	**318**	*e*P		**P**		**08 28 47.8**	**-0.6**
YAK				pmax	pmax				
	comp=Z,12nm,0.7s								
YAK	**Yakutsk**	**15.91**	**318**	*eP*		**P**		**08 28 46.0**	**-2.4**
MJB9	**Matsu-Tunnel**	**18.70**	**219**	P		**P**		**08 29 18.6**	**+2.7**
MAJO	**Matsushiro**	**18.70**	**219**	P		**P**		**08 29 17.9**	**+2.0**
MAJO	**Matsushiro**	**18.70**	**219**	*e*P		**P**		**08 29 16.9**	**+1.0**
MAJO				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MJAR	**Matsushiro Arr**	**18.70**	**219**	P		**P**		**08 29 17.3**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=17,slow=10.0,SNR=7.1								
TIXI	**Tiksi**	**22.28**	**340**	P		**P**		**08 29 47.8**	**0.0**
TIXI				AMB		AMB		08 29 48.3	
	comp=Z,4.0nm,0.5s								
TIXI	**Tiksi**	**22.28**	**340**	P		**P**		**08 29 47.8**	**0.0**
TIXI				pmax	pmax				
	comp=Z,4.0nm,0.5s								
TIXI	**Tiksi**	**22.28**	**340**	*eP*		**P**		**08 29 47.8**	**0.0**
E18K	**Tukpahlearik C**	**27.14**	**38**	P		**P**		**08 30 32.2**	**+1.2**
E18K				AMB		AMB		08 30 52.0	
	comp=Z,11nm,1.4s								
C18K	**Utukok River**	**27.19**	**35**	P		**P**		**08 30 31.7**	**+0.3**
C18K				AMB		AMB		08 31 01.1	
	comp=Z,9.2nm,1.2s								
G18K	**Tagagawik**	**27.68**	**41**	P		**P**		**08 30 37.1**	**+1.4**
H18K	**Honhosa River**	**27.73**	**43**	P		**P**		**08 30 38.0**	**+1.8**
D19K	**Kuna River**	**28.26**	**36**	P		**P**		**08 30 41.7**	**+0.9**
D19K				AMB		AMB		08 30 47.4	
	comp=Z,9.0nm,1.4s								
H19K	**Roundabout Mou**	**28.56**	**42**	P		**P**		**08 30 45.6**	**+2.3**
B20K	**Meade River**	**28.89**	**33**	P		**P**		**08 30 47.7**	**+1.5**
ULN	**Ulaanbaatar**	**29.34**	**280**	*e*P		**P**		**08 30 50.0**	**-0.6**
ULN				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ULN	**Ulaanbaatar**	**29.34**	**280**	*eP*		**P**		**08 30 50.0**	**-0.6**
D22K	**Ayikyak River**	**30.28**	**36**	P		**P**		**08 30 60.0**	**+1.6**
D22K				AMB		AMB		08 31 20.8	
	comp=Z,7.4nm,1.3s								
COLD	**Coldfoot**	**31.13**	**39**	P		**P**		**08 31 07.0**	**+1.4**
E24K	**Your Creek**	**31.79**	**38**	P		**P**		**08 31 13.2**	**+1.9**
E24K				AMB		AMB		08 31 14.2	
	comp=Z,3.0nm,0.6s								
G24K	**Hadweenzic Riv**	**32.21**	**40**	P		**P**		**08 31 16.9**	**+2.0**
ILAR	**Eielson Array**	**32.62**	**44**	P		**P**		**08 31 19.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=261,slow=5.8,SNR=9.4								
	comp=Z,0.5nm,0.8s								
ILAR	**Eielson Array**	**32.62**	**44**	*eP*		**P**		**08 31 20.7**	**+2.3**
ZALV	**Zalesovo Beam**	**39.49**	**300**	P		**P**		**08 32 15.0**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=58,slow=5.9,SNR=7.8								
	comp=Z,1.5nm,0.4s								
ZALV	**Zalesovo Beam**	**39.49**	**300**	*eP*		**P**		**08 32 15.2**	**-0.3**
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KURK	**Kurchatov**	**44.39**	**299**			**P**		**08 32 54.0**	**-0.1**
KURK	**Kurchatov**	**44.39**	**299**	*d iP*		**P**		**08 32 54.3**	**+0.1**
KURK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KURBB	**Kurchatov Arra**	**44.49**	**299**	P		**P**		**08 32 55.1**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=62,slow=7.6,SNR=17								
KURBB				PcP		**pwP**		**08 34 27.7**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=81,slow=2.9,SNR=4.4								
	comp=Z,3.0nm,0.5s								
MK31	**Makanchi Array**	**44.49**	**292**	*de*P		**P**		**08 32 55.2**	**+0.1**
MKAR	**Makanchi Array**	**44.49**	**292**	P		**P**		**08 32 55.0**	**-0.1**
MKAR	**Makanchi Array**	**44.49**	**292**	P		**P**		**08 32 55.2**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=61,slow=6.6,SNR=26								
	comp=Z,1.7nm,0.4s								
KBS	**Kingsbay**	**47.15**	**350**	P		**P**		**08 33 15.4**	**+0.5**
KBS				IAmb		IAmb		08 33 58.2	
	comp=Z,13nm,1.2s								
KBS	**Kingsbay**	**47.15**	**350**	P		**P**		**08 33 15.4**	**+0.5**
KBS				pmax	pmax				
	comp=Z,13nm,1.2s								
SPITS	**Spitsbergen Ar**	**47.28**	**349**	P		**P**		**08 33 15.8**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=62,slow=7.9,SNR=5.7								
	comp=Z,1.8nm,0.5s								
SPITS	**Spitsbergen Ar**	**47.28**	**349**	P		**P**		**08 33 15.4**	**-0.5**
SPITS				pmax	pmax				
	comp=Z,22nm,1.4s								
BVAR	**Borovoye Array**	**47.42**	**306**	P		**P**		**08 33 17.5**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=60,slow=8.8,SNR=21								
	comp=Z,4.6nm,0.6s								
BRVK	**Borovoye**	**47.45**	**306**			**P**		**08 33 17.5**	**+0.1**
BRVK				IAmb		IAmb		08 33 18.5	
	comp=Z,5.3nm,0.8s								
BRVK	**Borovoye**	**47.45**	**306**	*de*P		**P**		**08 33 17.6**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BRVK	**Borovoye**	**47.45**	**306**	*eP*		**P**		**08 33 17.6**	**+0.1**
KDJ	**Kajisay**	**50.20**	**290**	P		**P**		**08 33 38.7**	**+0.3**
KDJ				IAmb		IAmb		08 33 39.8	
	comp=Z,3.9nm,0.7s								
KDJ	**Kajisay**	**50.20**	**290**	P		**P**		**08 33 38.7**	**+0.3**
KDJ				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ARTI	**Arti**	**51.10**	**315**	*d iP*		**P**		**08 33 44.4**	**0.0**
ARTI				*PP		**pP**		**08 35 18.0**	**-2.3**
ARTI								08 35 43.9	
ARTI				S		**S**		**08 40 26.8**	**+2.8**
ARTI				SS		**SS**		**08 44 05.9**	**-1.0**
ARTI				pmax	pmax				
	comp=Z,5.0nm,0.7s								
AAK	**Ala-Archa**	**51.42**	**292**	*eP*		**P**		**08 33 47.0**	**-0.2**
AAK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
AAK	**Ala-Archa**	**51.42**	**292**	*eP*		**P**		**08 33 47.0**	**-0.2**
ILON	**Igloolik, Nuna**	**52.42**	**21**	P		**P**		**08 33 53.8**	**0.0**
ILON				IAmb		IAmb		08 33 55.7	
	comp=Z,12nm,1.1s								
ARCES	**ARCESS Array B**	**52.72**	**339**	P		**P**		**08 33 55.2**	**-0.8**
ARCES				IAmb		IAmb		08 34 19.1	
	comp=Z,9.9nm,1.2s								
ARCES	**ARCESS Array B**	**52.72**	**339**	P		**P**		**08 33 55.5**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=34,slow=7.8,SNR=12								
	comp=Z,0.7nm,0.4s								
ARCES	**ARCESS Array B**	**52.72**	**339**	P		**P**		**08 33 55.2**	**-0.8**
ARCES				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KKAR	**Karatay Array**	**53.37**	**295**	P		**P**		**08 34 01.0**	**0.0**
KKAR	**Karatay Array**	**53.37**	**295**	P		**P**		**08 34 01.0**	**0.0**
AB31	**Akbulak array**	**54.92**	**307**			**P**		**08 34 11.8**	**0.0**
AB31			

KRHZ	**Kereru**	**8.94**	**196**	P	Pn
KRHZ				S	S
PXZ	**Pawanui**	**9.20**	**193**	P	Pn
PXZ				S	S
PNHZ	**Pukenui**	**9.23**	**196**	P	Pn
ANWZ	**Angora Road**	**9.69**	**194**	P	P
BFZ	**Birch Farm**	**9.96**	**194**	P	P

IDC ***08*** *08:39:07.3±0.5, 38.02N×26.85E, h0km, mb4.4/23, mbtmp4.4/34, ML4.2/9, MS3.9/65, Error ellipse: s-maj=11.4km s-min=9.0km az=129.0*

MOS ***08*** *08:39:07.5±0.9, 38.08N×26.90E, h12km, mb4.8/17, Error ellipse: s-maj=5.5km s-min=3.1km az=95.4*

ISK ***08*** *08:39:07.6, 38.02N×26.86E, h13km, ML5.0/76*

MED_RC ***08*** *08:39:08.0±0.2, 37.96N×26.86E, h14km±1km, MW4.8/17, Moment Tensor Solution. Mantle waves: s17,c27; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-1.00±.13; Mθθ 1.74±.13; Mϕϕ-0.74±.05; Mrθ-0.03±.11; Mθϕ-1.26±.07; Mϕr-0.62±.14; Best double couple: M○2.01000×10^16 NP1:ϕs74.00000°, δ61.00000°, λ-153.00000°. NP2:ϕs330.00000°, δ67.00000°, λ-32.00000°. Principal axes: T 2.2800, Plg4.0000°, Azm23.0000°; N -0.5400, Plg51.0000°, Azm118.0000°; P -1.7300, Plg39.0000°, Azm290.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

THE ***08*** *08:39:08.8, 38.1N±1.1×26.7E±.1, h8km±2km, M4.7/22, MLh4.7/22*

NEIC ***08*** *08:39:08.7±1.4, 37.99N±0.05×26.89E±0.04, h10km±1km, mb4.7/65, Error ellipse: s-maj=8.3km s-min=5.0km az=180.0*

ATH ***08*** *08:39:08.5, 38.02N×26.91E, h15km, Mw4.7, Moment Tensor Solution. s8 Moment tensor: Mrr0.15; Mθθ 1.17; Mϕϕ-1.32; Mrθ-0.33; Mθϕ-0.94; Mϕr-0.18; Fault plane solution: NP1:ϕs243.00000°, δ89.00000°, λ166.00000°. NP2:ϕs334.00000°, δ76.00000°, λ1.00000°.*

AFAD ***08*** *08:39:08.9, 37.97N×26.95E, h18km±1km, MW4.8*

NAO ***08*** *08:39:09.0, 38.02N×26.90E, h10km, mb4.7*

CFUSG ***08*** *08:39:10.9, 38.10N×27.00E, h10km, mb3.5/3, MD3.6/2, Western Turkey Magtype MSH 3.6 from 2 stations*

GCMT ***08*** *08:39:11.7±0.4, 38.01N±0.03×26.71E±0.02, h28km±1km, MW4.9/87, Moment Tensor Solution. s10,c11; s87,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.73±.18; Mθθ 2.30±.13; Mϕϕ-1.57±.11; Mrθ-1.00±.20; Mϕϕ-1.97±.10; Mϕr-0.05±.17; Best double couple: M○2.92000×10^16 NP1:ϕs338.00000°, δ70.00000°, λ-2.00000°. NP2: ϕs69.00000°, δ88.00000°, λ-160.00000°. Principal axes: T 3.3290, Plg13.0000°, Azm202.0000°; N -0.8190, Plg70.0000°, Azm73.0000°; P -2.5110, Plg15.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BEO ***08*** *08:39:11.4±0.6, 38.36N×27.15E, h0km, ML4.8/7*

HLW ***08*** *08:39:13.7, 37.61N×27.10E, h26km±4km, Md4.9, Ml4.4*

GII ***08*** *08:39:13.2±0.0, 37.572N±0.005×26.924E±0.002, h30km, Mws4.8, confirmed*

ISC **08 08:39:08.9**±0.5, **38.02N**±0.02×**26.90E**±0.02, **h13**km±3km, **n950**, σ1**s39**/971, **mb4.6**/74, **MS3.9**/57, **43C-43D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.06**	**14**	Pg		**Pg**	**08 39 10.7**	**-0.8**
GMLD				Sg		**Sg**	**08 39 12.1**	**-1.2**
KRL1	**Karlovasi Samo**	**0.27**	**214**	P		**Pg**	**08 39 14.4**	**0.0**
KRL1				S		**Sg**	**08 39 19.1**	**+0.8**
SMG	**Samos**	**0.31**	**189**	P		**Pg**	**08 39 15.2**	**0.0**
SMG				S		**Sg**	**08 39 20.1**	**+0.5**
SMG	**Samos**	**0.31**	**189**	P		**Pg**	**08 39 15.2**	**0.0**
SMG				S		**Sg**	**08 39 20.0**	**+0.5**
BLCB	**Balcova**	**0.39**	**17**	Pg		**Pg**	**08 39 16.2**	**-0.4**
BLCB				Sg		**Sg**	**08 39 21.7**	**-0.2**
BLCB	**Balcova**	**0.39**	**17**	P		**Pg**	**08 39 16.2**	**-0.4**
BLCB				S		**Sg**	**08 39 21.3**	**-0.6**
CESE	**eme**	**0.56**	**304**	Pg		**Pg**	**08 39 18.7**	**-1.2**
DIDI	**Didim-Aydin**	**0.69**	**157**	Pg		**Pg**	**08 39 22.1**	**-0.3**
FOCM	**Foa**	**0.71**	**349**	Pg		**Pg**	**08 39 21.7**	**-0.9**
CHOS	**Chios island**	**0.76**	**299**	Pg		**Pg**	**08 39 22.7**	**-0.9**
CHOS				Sg		**Sg**	**08 39 33.3**	**-0.3**
CHOS	**Chios island**	**0.76**	**299**	P		**Pg**	**08 39 22.6**	**-0.9**
CHOS				S		**Sg**	**08 39 33.2**	**-0.5**
CHOS	**Chios island**	**0.76**	**299**	P		**Pg**	**08 39 22.6**	**-1.0**
CHOS				S		**Sg**	**08 39 33.8**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**95**	Pg		**Pb**	**08 39 24.0**	**-0.5**
AYDB				Sg		**Sb**	**08 39 35.3**	**+0.2**
EAG2	**Marmaro, Chios**	**0.81**	**311**	P		**Pb**	**08 39 23.6**	**-1.3**
EAG2				S		**Sb**	**08 39 35.5**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.94**	**161**	Pg		**Pb**	**08 39 26.6**	**-0.4**
ODEM	**Odemis-Izmir**	**0.96**	**74**	Pg		**Pb**	**08 39 27.1**	**-0.4**
GOMA	**Golmarmara-Man**	**1.06**	**49**	Pn		**Pb**	**08 39 28.9**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.10**	**92**	Pn		**Pb**	**08 39 29.6**	**-0.2**
AKS	**Akhisar**	**1.12**	**40**	Pn		**Pb**	**08 39 29.5**	**-0.6**
SOMA	**Soma-Manisa**	**1.24**	**24**	Pn		**Pn**	**08 39 31.4**	**-0.5**
SOMA				Sn		**Sn**	**08 39 49.9**	**+0.4**
GORD	**Gordes-Manisa**	**1.34**	**48**	Pn		**Pn**	**08 39 33.1**	**-0.2**
MANT	**Manisa**	**1.39**	**70**			**Pn**	**08 39 33.5**	**-0.7**
MANT				Sn		**Sn**	**08 39 52.1**	**-0.4**
MANT	**Manisa**	**1.39**	**70**	P		**Pn**	**08 39 34.6**	**+0.5**
MANT				S		**Sb**	**08 39 52.8**	**+0.2**
MANT				*i*	IAML		08 39 55.0	
	comp=E,10μm,0.6s							
MANT				*i*	IAML		08 39 57.0	
	comp=N,1μm,0.7s							
DATC	**Datca-Mugla**	**1.40**	**154**	Pn		**Pn**	**08 39 33.9**	**-0.1**
DAT	**Datca**	**1.40**	**157**	Pn		**Pn**	**08 39 33.6**	**-0.5**
DAT	**Datca**	**1.40**	**157**	S		**Sg**	**08 39 54.1**	**+0.2**
NISR	**Nisiros**	**1.42**	**172**	P		**Pn**	**08 39 34.0**	**-0.2**
NISR	**Nisiros**	**1.42**	**172**	P		**Pn**	**08 39 34.2**	**0.0**
APE	**Apeiranthos**	**1.44**	**229**	Pn		**Pn**	**08 39 33.4**	**-1.3**
APE	**Apeiranthos**	**1.44**	**229**	P		**Pn**	**08 39 33.2**	**-1.4**
APE				S		**Sn**	**08 39 53.1**	**-0.3**
APE	**Apeiranthos**	**1.44**	**229**	⇑P		**Pn**	**08 39 33.3**	**-1.3**
APE				⇓S		**Sn**	**08 39 53.2**	**-0.3**
APE	**Apeiranthos**	**1.44**	**229**	P		**Pn**	**08 39 33.2**	**-1.4**
APE				S		**Sn**	**08 39 53.1**	**-0.3**
APE	**Apeiranthos**	**1.44**	**229**	P		**Pn**	**08 39 33.5**	**-1.1**
APE				S		**Sb**	**08 39 53.8**	**+0.1**
APE	**Apeiranthos**	**1.44**	**229**	P		**Pn**	**08 39 33.2**	**-1.4**
SIGR	**SIGRI**	**1.45**	**326**	Pn		**Pn**	**08 39 34.0**	**-0.7**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pn**	**08 39 34.0**	**-0.7**
SIGR				S		**Sn**	**08 39 51.2**	**-2.2**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pn**	**08 39 33.8**	**-0.9**
SIGR				S		**Sn**	**08 39 52.1**	**-1.4**
KULA	**Kula-Manisa**	**1.48**	**70**	Pn		**Pn**	**08 39 34.9**	**-0.3**
GPNR	**Gulpinar-Canak**	**1.56**	**338**	Pn		**Pn**	**08 39 35.7**	**-0.5**
YAYO	**Edremit-Balk**	**1.60**	**5**	Pn		**Pn**	**08 39 36.3**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.69**	**108**	P		**Pn**	**08 39 38.7**	**+0.5**
TAVA				S		**Sg**	**08 40 06.2**	**+2.9**
TAVA				*i*	IAML		08 40 14.0	
	comp=N,4μm,0.8s							
TAVA				*i*	IAML		08 40 16.0	
	comp=E,2μm,1.1s							
EZNE	**Ezine-Canakkal**	**1.79**	**347**	Pn		**Pn**	**08 39 39.0**	**-0.3**
USAK	**Uak-Merkez**	**1.81**	**67**	P		**Pb**	**08 39 41.4**	**-0.5**
USAK				S		**Sg**	**08 40 06.2**	**-0.8**
USAK				*i*	IAML		08 40 09.0	
	comp=N,7μm,1.0s							
USAK				*i*	IAML		08 40 13.0	
	comp=E,5μm,1.1s							
EZN	**Ezine**	**1.86**	**346**	Pn		**Pn**	**08 39 39.7**	**-0.6**
EZN	**Ezine**	**1.86**	**346**	P		**Pn**	**08 39 40.8**	**+0.4**
EZN	**Ezine**	**1.86**	**346**	⇓P		**Pn**	**08 39 39.9**	**-0.5**
EZN	**Ezine**	**1.86**	**346**	P		**Pn**	**08 39 39.8**	**-0.6**
YENI	**Yenice-Canakka**	**1.94**	**8**	Pn		**Pn**	**08 39 41.3**	**-0.1**
KARY	**Karystos**	**1.94**	**271**	P		**Pn**	**08 39 40.9**	**-0.6**
KARY	**Karystos**	**1.94**	**271**	P		**Pn**	**08 39 40.5**	**-1.0**
SIMA	**Simav-Kutahya**	**1.95**	**56**	Pn		**Pn**	**08 39 41.6**	**-0.1**
SMAA	**Simav-Kutahya**	**1.96**	**56**	Pn		**Pn**	**08 39 42.1**	**+0.3**
APMY	**Acipayam-Deniz**	**1.98**	**105**	Pn		**Pn**	**08 39 42.5**	**+0.3**
CANM	**Can-anakkale**	**2.00**	**3**	Pn		**Pn**	**08 39 42.2**	**0.0**
THERA	**Ancient Thera,**	**2.00**	**215**	P		**Pn**	**08 39 41.8**	**-0.5**
THERA	**Ancient Thera,**	**2.00**	**215**	P		**Pn**	**08 39 40.7**	**-1.6**
DURS	**Dursunbey**	**2.01**	**37**	P		**Pb**	**08 39 44.5**	**-0.7**
DURS				S		**Sg**	**08 40 12.2**	**-1.2**
DURS				*i*	IAML		08 40 17.0	
	comp=E,9μm,0.5s							
DURS				*i*	IAML		08 40 22.0	
	comp=N,7μm,0.8s							
SAP3	**Santorini-Thir**	**2.01**	**219**	P		**Pn**	**08 39 41.3**	**-1.1**
SNT5	**Nea Kammeni, S**	**2.01**	**217**	P		**Pn**	**08 39 42.7**	**+0.3**
SKY	**Skiros Island**	**2.03**	**296**	P		**Pn**	**08 39 42.6**	**-0.2**
SKY	**Skiros Island**	**2.03**	**296**	P		**Pn**	**08 39 42.3**	**-0.5**
SKY1	**Skyros Island**	**2.03**	**297**	P		**Pn**	**08 39 42.7**	**-0.1**
ARG	**Arkhangelos**	**2.05**	**151**			**Pn**	**08 39 42.4**	**-0.6**
ARG	**Arkhangelos**	**2.05**	**151**	Pn		**Pn**	**08 39 42.9**	**-0.1**
ARG	**Arkhangelos**	**2.05**	**151**	P		**Pn**	**08 39 43.0**	**+0.1**
ARG	**Arkhangelos**	**2.05**	**151**	P		**Pn**	**08 39 42.4**	**-0.6**
ARG				S		**Sn**	**08 40 08.9**	**+0.5**
ARG	**Arkhangelos**	**2.05**	**151**	P		**Pn**	**08 39 42.7**	**-0.3**
DST	**Dursunbey**	**2.08**	**40**	Pn		**Pn**	**08 39 43.7**	**+0.2**
SHAP	**Saphane-Kutahy**	**2.08**	**60**	Pn		**Pn**	**08 39 43.9**	**+0.4**
KHL	**Karahalli**	**2.09**	**81**	Pn		**Pn**	**08 39 44.2**	**+0.5**
ECEA	**Canakkale, Ece**	**2.10**	**345**	P		**Pn**	**08 39 44.0**	**+0.4**
ECEA				S		**Sb**	**08 40 15.0**	**+2.2**
ECEA				*i*	IAML		08 40 19.0	
	comp=E,2μm,0.6s							
ECEA				*i*	IAML		08 40 27.0	
	comp=N,2μm,0.7s							
GONE	**Gonen-Balikesi**	**2.12**	**17**	Pn		**Pn**	**08 39 43.9**	**0.0**
INCE	**Denizli-Bozkur**	**2.14**	**97**	S		**Sg**	**08 40 21.7**	**+3.9**
RGE1	**Gennadi, Rhode**	**2.15**	**157**	P		**Pn**	**08 39 44.3**	**0.0**
CAME	**Cameli-Denizli**	**2.19**	**119**	Pn		**Pn**	**08 39 45.9**	**+0.8**
GEDZ	**Gediz**	**2.22**	**62**	Pn		**Pn**	**08 39 45.9**	**+0.4**
KYMI	**Kymi, Euboea I**	**2.28**	**286**	P		**Pn**	**08 39 45.4**	**-0.8**
KYMI	**Kymi, Euboea I**	**2.28**	**286**	P		**Pn**	**08 39 45.8**	**-0.4**
LIA	**Limnos Island**	**2.31**	**325**	P		**Pn**	**08 39 46.4**	**-0.1**
LIA	**Limnos Island**	**2.31**	**325**	P		**Pn**	**08 39 46.1**	**-0.4**
GADA	**Gvkgeada**	**2.31**	**341**	Pn		**Pn**	**08 39 46.0**	**-0.5**
GADA	**Gvkgeada**	**2.31**	**341**	P		**Pn**	**08 39 46.2**	**-0.3**
GOKC	**Gokceada-Canak**	**2.31**	**341**	Pn		**Pn**	**08 39 46.4**	**-0.1**
DION	**Dionisos Attik**	**2.34**	**272**	P		**Pn**	**08 39 46.6**	**-0.4**
DION	**Dionisos Attik**	**2.34**	**272**	P		**Pn**	**08 39 46.3**	**-0.7**
MHLO	**Agia Marina, M**	**2.39**	**237**	P		**Pn**	**08 39 46.9**	**-0.7**
MHLO	**Agia Marina, M**	**2.39**	**237**	P		**Pn**	**08 39 46.3**	**-1.3**
KRBG	**Karabiga-Canak**	**2.39**	**7**	Pn		**Pn**	**08 39 47.0**	**-0.7**
PTL	**Penteli**	**2.39**	**272**	P		**Pn**	**08 39 47.2**	**-0.6**
PTL	**Penteli**	**2.39**	**272**	P		**Pn**	**08 39 47.1**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.40**	**352**	Pn		**Pn**	**08 39 47.7**	**-0.1**
BNAZ	**Uak-Banaz**	**2.44**	**73**	P		**Pb**	**08 39 54.1**	**+1.5**
BNAZ				*i*	IAML		08 40 34.0	
	comp=E,2μm,0.9s							
BNAZ				*i*	IAML		08 40 35.0	
	comp=N,1μm,0.8s							
EDC	**Edincik**	**2.44**	**18**	Pn		**Pn**	**08 39 48.7**	**+0.3**
ATHU	**Athens Univers**	**2.46**	**270**	P		**Pn**	**08 39 48.2**	**-0.4**
TVSB	**Tavsanli**	**2.46**	**54**	Pn		**Pn**	**08 39 49.4**	**+0.6**
KARP	**Karpathos**	**2.47**	**175**			**Pn**	**08 39 47.8**	**-1.1**
KARP	**Karpathos**	**2.47**	**175**	Pn		**Pn**	**08 39 48.8**	**-0.1**
KARP	**Karpathos**	**2.47**	**175**	P		**Pn**	**08 39 48.7**	**-0.2**
KARP	**Karpathos**	**2.47**	**175**	P		**Pn**	**08 39 48.0**	**-0.9**
BASM	**Basmaki-Afyon**	**2.49**	**91**	Pn		**Pn**	**08 39 48.7**	**+0.5**
ATHS	**Athens Parliam**	**2.50**	**270**	P		**Pn**	**08 39 48.0**	**-1.1**
ATH	**Athens Observa**	**2.51**	**270**	P		**Pn**	**08 39 49.0**	**-0.3**
ATH	**Athens Observa**	**2.51**	**270**	P		**Pn**	**08 39 49.1**	**-0.2**
BAND	**Balkesir-Ban**	**2.52**	**21**	⇑P		**Pn**	**08 39 51.1**	**+1.7**
KCTX	**Karacabey (Bur**	**2.52**	**26**	Pn		**Pn**	**08 39 49.8**	**+0.4**
FILI	**Fyli**	**2.54**	**273**	P		**Pn**	**08 39 49.6**	**-0.2**
PARN1	**Fyli,Attica,Gr**	**2.55**	**273**	P		**Pn**	**08 39 49.4**	**-0.5**
ORLT	**Orhaneli**	**2.56**	**37**	Pn		**Pn**	**08 39 50.5**	**+0.5**
AOS	**Alonnisos**	**2.63**	**297**	P		**Pn**	**08 39 50.9**	**-0.1**
MRMT	**Marmara Adasi**	**2.64**	**12**	Pn		**Pn**	**08 39 50.5**	**-0.7**
STFN	**Stefani**	**2.65**	**274**	P		**Pn**	**08 39 51.3**	**0.0**
ENZZ	**Sultanice-Enez**	**2.65**	**347**	Pn		**Pn**	**08 39 51.7**	**+0.4**
ERIK	**Erikli-Kesan**	**2.67**	**354**	Pn		**Pn**	**08 39 51.3**	**-0.2**
SMTH	**Samothraki Isl**	**2.67**	**337**	P		**Pn**	**08 39 50.5**	**-1.0**
MAGU	**Magoula**	**2.67**	**272**	P		**Pn**	**08 39 51.3**	**-0.2**
PARN2	**Moni Osiou Mel**	**2.72**	**275**	P		**Pn**	**08 39 52.1**	**-0.1**
YYLC	**Yaylacik**	**2.73**	**33**	P		**Pn**	**08 39 53.5**	**+1.1**
YYLC				*i*	IAML		08 40 43.0	
	comp=E,14nm,1.0s							
YYLC				*i*	IAML		08 40 45.0	
	comp=N,3μm,1.0s							
CAVK	**Edirne/Enez-Ca**	**2.73**	**348**	⇓P		**Pn**	**08 39 52.4**	**0.0**
MET4	**Agioi Theodoro**	**2.80**	**263**	P		**Pn**	**08 39 52.8**	**-0.5**
DOMA	**Ktahya-Doman**	**2.81**	**50**	P		**Pg**	**08 40 01.6**	**-1.1**
DOMA				S		**Sb**	**08 40 35.9**	**+2.6**
DOMA				*i*	IAML		08 40 42.0	
	comp=E,5μm,0.9s							
DOMA				*i*	IAML		08 40 43.0	
	comp=N,3μm,1.1s							
MDNY	**Mudanya-Bursa**	**2.81**	**33**	Pn		**Pn**	**08 39 52.6**	**-0.8**
MET5	**Makryloggos,Me**	**2.83**	**263**	P		**Pn**	**08 39 53.2**	**-0.5**
MET6	**Megalochori,Me**	**2.84**	**262**	P		**Pn**	**08 39 53.3**	**-0.4**
KSL	**Kastellorizon**	**2.84**	**130**	P		**Pn**	**08 39 55.8**	**+1.9**
KSL	**Kastellorizon**	**2.84**	**130**	P		**Pn**	**08 39 54.9**	**+1.0**
MET2	**Kameni Chora,**	**2.85**	**263**	P		**Pn**	**08 39 53.3**	**-0.8**
AFYN	**Afyon-Dinar-K**	**2.85**	**84**	P		**Pn**	**08 39 55.5**	**+1.3**
AFYN				*i*	IAML		08 40 45.0	
	comp=N,4μm,1.1s							
AFYN				*i*	IAML		08 40 53.0	
	comp=E,7μm,1.2s							
VIL2	**Platees**	**2.87**	**275**	P		**Pn**	**08 39 53.6**	**-0.7**
ISP	**Isparta**	**2.87**	**93**			**Pn**	**08 39 54.2**	**-0.2**
ISP	**Isparta**	**2.87**	**93**	Pn		**Pn**	**08 39 54.9**	**+0.5**
ISP	**Isparta**	**2.87**	**93**	*d*	iP	**Pn**	**08 39 54.7**	**+0.3**
ISP					pmax	pmax		
	comp=Z,166nm,1.0s							
ISP	**Isparta**	**2.87**	**93**	P		**Pn**	**08 39 54.4**	**0.0**
ISP	**Isparta**	**2.87**	**93**	P		**Pn**	**08 39 54.9**	**+0.5**
AVDN	**Avdancik/Bursa**	**2.88**	**37**	P		**Pn**	**08 39 54.8**	**+0.4**
AVDN				S		**Sg**	**08 40 40.5**	**-0.8**
AVDN				*i*	IAML		08 40 46.0	
	comp=Z,5μm,0.5s							
AVDN				*i*	IAML		08 40 54.0	
	comp=Z,6μm,1.1s							
NPS	**Neapolis**	**2.94**	**201**	P		**Pn**	**08 39 54.1**	**-1.1**
ZKR	**Zakros**	**2.95**	**191**	Pn		**Pn**	**08 39 55.2**	**-0.1**
ZKR	**Zakros**	**2.95**	**191**	P		**Pn**	**08 39 56.0**	**+0.6**
ZKR	**Zakros**	**2.95**	**191**	P		**Pn**	**08 39 54.8**	**-0.6**
ALN	**Alexandroupoli**	**2.95**	**347**			**Pn**	**08 39 55.2**	**-0.1**
ALN	**Alexandroupoli**	**2.95**	**347**	Pn		**Pn**	**08 39 55.1**	**-0.3**
ALN	**Alexandroupoli**	**2.95**	**347**	P		**Pn**	**08 39 54.9**	**-0.4**
ALN	**Alexandroupoli**	**2.95**	**347**	P		**Pn**	**08 39 55.0**	**-0.3**
ALN				S		**Sn**	**08 40 32.8**	**+2.2**
ALN	**Alexandroupoli**	**2.95**	**347**	P		**Pn**	**08 39 54.7**	**-0.6**
ARMT	**Armutlu**	**2.97**	**30**	Pn		**Pn**	**08 39 56.2**	**+0.6**
DEMR	**Demre-Antalya**	**2.99**	**126**	Pn		**Pn**	**08 39 56.9**	**+1.0**
TKR	**Tekirdag**	**3.01**	**9**	Pn		**Pn**	**08 39 56.7**	**+0.5**
ESNK	**Esenkŧjy**	**3.06**	**31**	S		**Sg**	**08 40 47.9**	**+0.6**
THAS	**Thassos island**	**3.09**	**328**	P		**Pn**	**08 39 56.6**	**-0.7**
THAS	**Thassos island**	**3.09**	**328**	P		**Pn**	**08 39 56.5**	**-0.7**
LOUT	**Loutraki**	**3.10**	**271**	P		**Pn**	**08 39 56.7**	**-0.7**
LTK	**Loutraki**	**3.10**	**271**	P		**Pn**	**08 39 57.2**	**-0.3**
UKOP	**Uzunkopru-Edir**	**3.12**	**356**	Pn		**Pn**	**08 39 57.9**	**+0.3**
LKR	**Lokris**	**3.13**	**283**	P		**Pn**	**08 39 57.5**	**-0.4**
KURT	**Yalova, Merkez**	**3.13**	**34**	P		**Pg**	**08 40 07.3**	**-1.6**
KURT				S		**Sg**	**08 40 49.7**	**+0.2**
KURT				*i*	IAML		08 40 52.0	
	comp=Z,3μm,1.4s							
KURT				*i*	IAML		08 42 10.0	
NEO	**Neokhori**	**3.15**	**295**	P		**Pn**	**08 39 58.3**	**+0.1**
IDI	**Anoyia**	**3.17**	**211**			**Pn**	**08 39 57.1**	**-1.2**
IDI	**Anoyia**	**3.17**	**211**	Pn		**Pn**	**08 39 57.8**	**-0.6**
IDI	**Anoyia**	**3.17**	**211**	Pn		**Pn**	**08 39 57.6**	**-0.8**
	comp=Z,83nm,0.8s,baz=32,slow=12,SNR=52							
IDI					Pg	**Pb**	**08 40 06.2**	**+1.2**
	comp=Z,62nm,0.3s,baz=34,slow=15,SNR=30							
IDI					Lg	Lg	08 40 47.8	
	comp=Z,58nm,0.3s,baz=118,slow=23,SNR=4.7							
IDI					LR	LR	08 41 21.5	
	comp=Z,2μm,20.0s,baz=40,slow=42							
IDI	**Anoyia**	**3.17**	**211**	P		**Pn**	**08 39 57.2**	**-1.2**
YLV	**Yalova**	**3.19**	**36**	Pn		**Pn**	**08 39 59.4**	**+0.7**
ANTB	**Antalya**	**3.19**	**109**	Pn		**Pn**	**08 40 00.8**	**+2.1**
SDAG	**Sultandagi-AFY**	**3.19**	**81**	Pn		**Pn**	**08 39 59.8**	**+1.0**
OUR	**Ouranopolis**	**3.24**	**317**	Pn		**Pn**	**08 39 59.3**	**0.0**
OUR	**Ouranopolis**	**3.24**	**317**	P		**Pn**	**08 39 59.1**	**-0.2**
ADVT	**Abdulvahap**	**3.27**	**42**	Pn		**Pn**	**08 40 01.3**	**+1.5**
RDO	**Rodhopi**	**3.30**	**342**			**Pn**	**08 40 00.1**	**0.0**
RDO	**Rodhopi**	**3.30**	**342**	Pn		**Pn**	**08 40 00.1**	**0.0**
RDO	**Rodhopi**	**3.30**	**342**	P		**Pn**	**08 39 59.8**	**-0.4**
SLVT	**Silivri**	**3.37**	**17**	Pn		**Pn**	**08 40 01.4**	**+0.3**
OSMT	**Osmaniye**	**3.38**	**39**	Pn		**Pn**	**08 40 02.2**	**+0.9**
BLVD	**Bolvadin-AFYON**	**3.39**	**75**	Pn		**Pn**	**08 40 02.5**	**+1.0**
HISA	**Bilecik-Osmane**	**3.39**	**43**	P		**Pn**	**08 40 01.6**	**+0.1**
HISA				S		**Sb**	**08 40 53.8**	**+3.8**
HISA				*i*	IAML		08 41 06.0	
	comp=Z,5μm,0.9s							
HISA				*i*	IAML		08 41 07.0	
	comp=Z,4μm,1.7s							
VLI	**Velíai**	**3.41**	**249**	P		**Pn**	**08 40 00.5**	**-1.2**
AXAR	**Agios Charalam**	**3.41**	**284**	P		**Pn**	**08 40 02.4**	**+0.7**
CTKS	**Kestanelik-??a**	**3.45**	**21**	Pn		**Pn**	**08 40 03.0**	**+0.8**
KAVV	**Kandilli-Istan**	**3.47**	**28**	Pn		**Pn**	**08 40 01.8**	**-0.7**
ISK	**Istanbul-Kandi**	**3.47**	**28**	Pn		**Pn**	**08 40 01.9**	**-0.7**
BGKT	**Bogazkoy**	**3.48**	**24**	Pn		**Pn**	**08 40 03.4**	**+0.8**
GPA	**Golpazari**	**3.49**	**48**	Pn		**Pn**	**08 40 04.2**	**+1.4**
KAVA	**Kavala**	**3.50**	**329**	P		**Pn**	**08 40 02.6**	**-0.3**
CIFT	**Ciftеler, Eski**	**3.53**	**66**	Pn		**Pn**	**08 40 04.2**	**+0.8**
PLG	**Polygyros**	**3.57**	**312**	P		**Pn**	**08 40 03.5**	**-0.4**
ANKY	**Antikythira Is**	**3.59**	**234**	P		**Pn**	**08 40 03.0**	**-1.2**
GUR	**Goura**	**3.60**	**270**	P		**Pn**	**08 40 04.7**	**+0.3**
SEMS	**Kocaeli-K¶rfe**	**3.60**	**37**	P		**Pn**	**08 40 04.1**	**-0.3**
SEMS				S		**Sb**	**08 40 57.1**	**+1.1**
SEMS				*i*	IAML		08 41 14.0	
	comp=Z,1μm,1.2s							
SEMS				*i*	IAML		08 41 15.0	
	comp=Z,2μm,1.0s							
CTYL	**Yalikoy Yolu**	**3.62**	**17**	Pn		**Pn**	**08 40 05.3**	**+0.8**
KLYT	**Kilyos**	**3.63**	**26**	Pn		**Pn**	**08 40 05.2**	**+0.5**
KLYT	**Kilyos**	**3.63**	**26**	⇓P		**Pn**	**08 40 05.3**	**+0.6**
VLX	**Vlachokerasia**	**3.64**	**261**	P		**Pn**	**08 40 05.5**	**+0.5**
PHSR	**Pinarhisar**	**3.64**	**7**	Pn		**Pn**	**08 40 05.4**	**+0.5**
PHSR	**Pinarhisar**	**3.64**	**7**	⇑P		**Pn**	**08 40 06.0**	**+1.1**
GULT	**Gulveren**	**3.70**	**48**	Pn		**Pn**	**08 40 07.2**	**+1.4**
AGG	**Agios Georgios**	**3.72**	**287**	P		**Pn**	**08 40 06.3**	**+0.3**
AGG				S		**Sn**	**08 40 52.5**	**+2.9**
AGG	**Agios Georgios**	**3.72**	**287**	P		**Pn**	**08 40 06.3**	**+0.3**
KLV	**Kalavryta, Ach**	**3.75**	**272**	P		**Pn**	**08 40 06.4**	**0.0**
KALE	**Kalithea**	**3.77**	**277**	P		**Pn**	**08 40 06.8**	**+0.2**
SILT	**Sile**	**3.78**	**33**	Pn		**Pn**	**08 40 08.2**	**+1.4**
KDZ	**Kurdzhali**	**3.80**	**342**	Pn		**Pn**	**08 40 06.9**	**-0.2**
KDZ	**Kurdzhali**	**3.80**	**342**	P		**Pn**	**08 40 06.9**	**-0.2**
SAUV	**Serdivan-Sakar**	**3.80**	**43**	Pn		**Pn**	**08 40 08.2**	**+1.1**
EDRB	**Edirne**	**3.83**	**358**	Pn		**Pn**	**08 40 06.9**	**-0.5**
SERG

MLR **Muntele Rosu** 7.50 355 Pn 08 40 58.2 +0.2
MLR **Muntele Rosu** 7.50 355 Pn Pn 08 40 58.4 +0.4
comp=Z,3.1nm,0.3s,baz=202,slow=3.5,SNR=36
MLR Lg Lg 08 43 04.1
comp=Z,1.9nm,0.3s,baz=130,slow=19,SNR=3.1
MLR LR LR 08 44 15.4
comp=Z,1µm,18.8s,baz=174,slow=41
comp=Z,33nm,0.6s
MLR Muntele Rosu 7.50 355 ⇑P Pn 08 40 59.6 +1.6
MLR Muntele Rosu 7.50 355 P Pn 08 40 59.6 +1.6
MLR Muntele Rosu 7.50 355 *e*Pn Pn 08 40 58.3 +0.2
ARR Arges 7.54 348 ⇑P Pn 08 40 59.9 +1.4
VOIR 7.54 350 ⇑P Pn 08 40 58.7 +0.1
VOIR 7.54 350 P Pn 08 40 58.6 +0.1
IVAS Ivanjica 7.55 319 *e*Pn Pn 08 40 59.4 +0.8
HERR Herculane 7.64 335 ⇓P Pn 08 40 59.6 -0.1
LOT Lotru 7.78 344 ⇓P Pn 08 41 02.1 +0.2
MDVR Moldovita 7.80 332 ⇓P Pn 08 41 02.2 +0.3
MDVR Moldovita 7.80 332 *e*Pn Pn 08 41 02.3 +0.3
PLOR Plostina 7.83 359 ⇓P Pn 08 41 03.4 +1.0
PLOR Plostina 7.83 359 P Pn 08 41 03.4 +1.0
VRI Vrincioaia 7.84 359 ⇑P Pn 08 41 03.0 +0.4
VRI Vrincioaia 7.84 359 P Pn 08 41 03.0 +0.4
VLDR Vladesti 7.87 6 ⇓P Pn 08 41 03.5 +0.6
VARL Varlezi 7.91 5 ⇓P Pn 08 41 04.9 +1.5
GZR Gura Zlata 7.99 339 ⇑P Pn 08 41 04.4 -0.2
GZR Gura Zlata 7.99 339 P Pn 08 41 04.4 -0.2
GZR Gura Zlata 7.99 339 *e*Pn Pn 08 41 04.1 -0.5
GZR *e*Sn **Sn** 08 42 27.8 -7.0
RUDO Rudo 7.99 317⇑*i*P Pn 08 41 05.6 +1.0
DOPR Dopca 8.02 352 ⇓P Pn 08 41 06.1 +1.0
TIP Timpagrande 8.02 281 Pn 08 41 05.7 +0.6
TREB Trebinje 8.04 308⇑*i*P Pn 08 41 06.9 +1.7
TURR Turia 8.06 356 ⇓P Pn 08 41 07.0 +1.4
OZUR 8.12 355 ⇓P Pn 08 41 07.6 +1.3
BBLS Lazi&#263i 8.14 318 *e*Pn Pn 08 41 08.3 +1.6
KLINJ Klinje 8.15 312 *e*P Pn 08 41 09.4 +2.5
HWQ Hawqa 8.21 114 *e*P Pn 08 41 07.5 -0.3
GAZ Gaziantep 8.23 93 Pn 08 41 09.2 +1.2
VRSS Vrsac 8.23 331 *e*Pn Pn 08 41 07.9 0.0
BEIL Beino 8.26 112 *e*P Pn 08 41 04.8 -3.6
SEV Sevastopol' 8.28 36 *e*P Pn 08 41 08.7 +0.2
SEV *e*S **Sn** 08 42 40.6 -1.1
SEV Sevastopol' 8.28 36 *e*P Pn 08 41 08.7 +0.2
SEV Pm 08 41 23.7
comp=Z,23nm,0.4s
SEV *e*S **Sn** 08 42 40.6 -1.1
SEV Sm 08 42 42.8
comp=N,14nm,0.4s
SEV Sm 08 42 42.8
comp=E,24nm,0.3s
MATE Matera 8.32 292 ⇓P Pn 08 41 09.4 +0.2
MDB Medias 8.33 348 ⇑P Pn 08 41 10.4 +1.1
MDB Medias 8.33 348 P Pn 08 41 10.3 +1.1
HNTI Hanita 8.35 124 P Pn 08 41 08.5 -1.1
DEV Deva 8.40 341 ⇓P Pn 08 41 11.8 +1.5
DEV Deva 8.40 341 P Pn 08 41 11.7 +1.5
QRWL Qaraoun 8.42 119 *e*P Pn 08 41 09.3 -1.2
YAL Yalta 8.46 38 *e*P Pn 08 41 14.4 +3.4
YAL *e*S **Sn** 08 42 48.8 +2.5
YAL Yalta 8.46 38 *e*P Pn 08 41 14.4 +3.4
YAL Pm 08 41 23.7
comp=Z,24nm,0.6s
YAL *e*S **Sn** 08 42 48.8 +2.5
YAL Sm 08 42 51.3
comp=N,23nm,0.5s
YAL Sm 08 42 51.3
comp=E,21nm,0.4s
TESR Tescani 8.49 359 ⇑P Pn 08 41 12.4 +0.9
SURR Surduc 8.51 337 ⇓P Pn 08 41 12.1 +0.4
STON Ston 8.52 308 *e*P Pn 08 41 12.5 +0.6
MMA0B Mount Meron ar 8.54 123 P Pn 08 41 11.1 -1.1
MMA0B Mount Meron ar 8.54 123 S Sn 08 42 43.9 -4.6
MMAI Mount Meron Ar 8.54 123 Pn Pn 08 41 11.1 -1.1
comp=E,19nm,0.3s,baz=303,slow=14,SNR=36
MMAI Sn **Sn** 08 42 42.9 -5.6
comp=E,34nm,0.3s,baz=307,slow=24,SNR=13
MMAI LR LR 08 45 17.0
comp=E,714nm,20.3s,baz=312,slow=43
RCY Rachaya 8.55 119 *e*P Pn 08 41 10.8 -1.7
BZS Buzias 8.55 334 ⇑P Pn 08 41 11.8 -0.5
BZS Buzias 8.55 334 P Pn 08 41 11.8 -0.5
BZS Buzias 8.55 334 *e*Pn Pn 08 41 11.9 -0.5
TEKS Tekeris 8.56 322 *e*Pn Pn 08 41 12.9 +0.5
SHBL Chebaa 8.57 120 *e*P Pn 08 41 11.9 -0.8
GEM Giv'at Ha'Em 8.60 121 P Pn 08 41 12.1 -0.9
GEM Giv'at Ha'Em 8.60 121 S Sn 08 42 45.9 -3.8
NATI Neve Ativ 8.62 121 P Pn 08 41 12.0 -1.2
NATI Neve Ativ 8.62 121 S Sn 08 42 46.7 -3.5
CEL Celeste 8.67 275 Pn 08 41 14.2 +0.1
ALU Alushta 8.73 38 *e*P Pn 08 41 17.0 +2.3
ALU *e*S **Sn** 08 42 54.2 +1.4
ALU Alushta 8.73 38 *e*P Pn 08 41 17.0 +2.3
ALU Pm 08 41 18.5
comp=Z,20nm,0.4s
ALU *e*S **Sn** 08 42 54.2 +1.4
ALU Sm 08 42 54.3
comp=N,14nm,0.2s
ALU Sm 08 42 54.3
comp=E,17nm,0.5s
SIM Simferopol' 8.79 36 *e*P Pn 08 41 21.2 +5.7
SIM *e*S **Sn** **08 42 48.1 -6.3**
SIM pmax pmax
comp=Z,65nm,0.7s
SIM smax smax
comp=E,300nm,1.1s
SIM smax smax
comp=N,137nm,0.9s
SIM MLR MLR
comp=Z,477nm,16.0s
KSHT Keshet 8.83 122 P Pn 08 41 15.9 -0.4
KSHT Keshet 8.83 122 S Sn 08 42 52.0 -3.7
SWA2 8.83 188 P Pn 08 41 14.9 -1.3
SWA2 S Sn 08 42 46.1 -9.5
CUC Castrocucco 8.85 286 Pn 08 41 17.5 +1.0
HNAT Natroun 8.91 159 P Pn 08 41 15.8 -1.5
HNAT S Sn 08 42 46.9 -11
ACER Acerenza 8.92 291 Pn 08 41 18.0 +0.7
MILM Milestii Mici 9.01 8⇓*i*P Pn 08 41 18.0 -0.5
comp=Z,160nm,0.8s
MILM *e*S **Sn** 08 43 01.0 +1.3
MILM *e*L L 08 43 32.0
MILM LgM 08 44 41.0
comp=Z,2µm,10.8s
MILM Milestii Mici 9.01 8*d i*P Pn 08 41 18.0 -0.5
MILM *e*S **Sn** 08 43 01.0 +1.3
MILM pmax pmax
comp=Z,160nm,0.8s
CJR Cluj-Napoca 9.03 345 ⇑P Pn 08 41 20.6 +1.7
CJR Cluj-Napoca 9.03 345 P Pn 08 41 20.5 +1.7
KOT Kottamia 9.05 152 P Pn 08 41 17.3 -1.9
KIS Kishinev 9.09 8 *e*P Pn 08 41 18.5 -1.1
comp=Z,80nm,0.8s
KIS *e*S **Sn** 08 43 02.0 +0.3
KIS *e*L L 08 43 34.0
KIS LgM 08 44 32.0
comp=Z,1µm,14.5s
KIS LRM MLR 08 45 37.0
comp=Z,400nm,8.0s
MARR Marisel-Cluj 9.09 343 ⇓P Pn 08 41 20.6 +0.9
HMDT Nahal Hemdat 9.11 127 P Pn 08 41 20.1 +0.1
HMDT Nahal Hemdat 9.11 127 S Sn 08 42 58.5 -3.9
SIRR Siria 9.11 336 ⇑P Pn 08 41 20.1 +0.1
SIRR Siria 9.11 336 *e*Pn Pn 08 41 19.6 -0.4
HHAG Hagoal 9.13 150 P Pn 08 41 18.3 -2.0
RYAN Fayoum 9.35 161 P Pn 08 41 21.4 -1.8
SGRT San Giovanni R 9.35 297 Pn 08 41 23.0 -0.3
KZIT Kziot 9.41 137 P Pn 08 41 23.1 -1.0
KZIT Kziot 9.41 137 S Sn 08 43 03.2 -6.6
YTIR Yattir 9.48 132 P Pn 08 41 24.8 -0.3
YTIR Yattir 9.48 132 S Sn 08 43 05.2 -6.3
DSI Dead Sea 9.48 130 P Pn 08 41 24.8 -0.3
DSI Dead Sea 9.48 130 S Sn 08 43 07.0 -4.6
MSBI Mazada 9.65 131 P Pn 08 41 26.9 -0.5
BURAR Bucovina Array 9.67 353 Pn 08 41 28.3 +0.5
BURAR Bucovina Array 9.67 353 ⇑P Pn 08 41 29.7 +1.9
BURAR Bucovina Array 9.67 353 P Pn 08 41 29.6 +1.9
BUR08 Bucovina Ar. S 9.70 353 Pn 08 41 28.9 +0.8
GHAJ Ghor Haditha 9.79 131 Pn 08 41 30.9 +1.7
VAE Valguarnera 9.80 271 Pn Pn 08 41 30.4 -0.5
comp=Z,23nm,0.7s,baz=134,slow=0.8,SNR=5.0
BLY Banja Luka 9.92 316⇑*i*P Pn 08 41 33.3 +2.3

BLY Banja Luka 9.92 316 *e*Pn Pn 08 41 33.6 +2.6
KIJV Kijevo 9.93 310⇑*i*P Pn 08 41 32.3 +1.1
RAFF Raffo Rosso 9.98 269 Pn 08 41 31.4 -0.4
PAOL Paolisi 9.99 291 Pn 08 41 33.0 +0.9
ASF Jabal al Asfar 10.05 122 Pn Pn 08 41 33.1 +0.1
comp=Z,1.9nm,0.3s,baz=306,slow=6.8,SNR=5.9
ASF Sn **Sn** **08 43 23.1 -2.5**
comp=Z,0.9nm,0.3s,baz=185,slow=17,SNR=1.4
ASF LR LR 08 46 15.3
comp=Z,662nm,19.4s,baz=334,slow=42
comp=Z,13nm,0.5s
A050A Klekovaca 10.12 313⇑*i*P Pn 08 41 35.8 +1.9
PRNI Paran 10.17 136 P Pn 08 41 33.2 -1.4
PRNI Paran 10.17 136 S Sn 08 43 22.5 -6.0
KRMI Paran Flat 10.21 138 P Pn 08 41 34.0 -1.1
KRMI Paran Flat 10.21 138 S Sn 08 43 23.5 -5.8
MORH Mrgy, Hungar 10.23 326⇑*i*P Pn 08 41 34.8 -0.4
MORH Mrgy, Hungar 10.23 326 ⇓P Pn 08 41 35.6 +0.4
A051A Mrakovica 10.24 316⇑*i*P Pn 08 41 37.1 +1.6
ANN Anapa 10.41 46 *e*P Pn 08 41 37.3 -0.5
ANN *e*S **Sn** **08 43 31.1 -3.1**
ANN pmax pmax
comp=Z,12nm,0.6s
ANN MLR MLR
comp=Z,223nm,11.0s
HRFI Mount Harif 10.44 137 P Pn 08 41 36.9 -1.3
HRFI Mount Harif 10.44 137 S Sn 08 43 28.2 -6.7
EIL Elat 10.68 139 Pn Pn 08 41 40.9 -0.6
comp=Z,3.1nm,0.3s,baz=184,slow=20,SNR=8.8
EIL Sn **Sn** **08 43 33.8 -7.1**
comp=Z,8.2nm,0.3s,baz=4.3,slow=16,SNR=7.5
comp=Z,9.0nm,0.4s
EIL Elat 10.68 139 P Pn 08 41 39.5 -2.0
MOSL Moslavina 10.71 318⇑*i*P Pn 08 41 42.4 +0.5
INTR Introdacqua 10.73 296 Pn 08 41 43.0 +0.8
MARD Mardin 11.03 89 Pn Pn 08 41 48.9 +2.5
PSZ Piszkesteto 11.14 335 Pn 08 41 48.5 +0.7
PSZ Piszkesteto 11.14 335 ⇓P Pn 08 41 47.3 -0.5
PSZ Piszkesteto 11.14 335 P Pn 08 41 48.5 +0.7
SOC Sochi 11.19 56 *e*P Pn 08 41 46.8 -1.6
SOC *e* 08 43 52.6
SOC MLR MLR
comp=Z,428nm,18.0s
AQU L'Aquila 11.19 297 P Pn 08 41 51.9 +3.4
CAMP Campotosto 11.25 298 Pn 08 41 49.1 -0.2
OZLJ Ozalj 11.41 315⇑*i*P Pn 08 41 52.9 +1.5
KOLS Kolonicke sedl 11.41 344 P Pn 08 41 54.8 +3.3
KOGS Kog 11.53 320 *i* Pn Pn 08 41 53.9 +0.8
NRCA Norcia 11.55 299 Pn 08 41 53.0 -0.4
FDMO Fiordimonte 11.64 300 Pn 08 41 53.6 -1.1
CESX Cesi 11.85 297 Pn 08 41 59.2 +1.8
VYHS Vyhne 12.00 333 *e*P Pn 08 42 00.0 +0.5
VYHS Vyhne 12.00 333 *e*PN Pn 08 42 00.0 +0.5
STHS Stebnicka Huta 12.10 342 *e*P Pn 08 42 00.7 -0.2
STHS Stebnicka Huta 12.10 342 *e*PN Pn 08 42 00.7 -0.2
LJU Ljubljana 12.19 315 *e*Pn Pn 08 42 02.0 -0.1
SOKA Soboth 12.31 318 Pn Pn 08 42 04.0 +0.2
comp=Z,5.5nm,0.5s
SOKA *e*Sn **Sn** **08 44 21.6 +0.7**
comp=Z,5.4nm,0.6s
NIE Niedzica 12.35 339 *e*P Pn 08 42 06.7 +2.4
RONA Rosalia, Austr 12.40 325 *e*Pn Pn 08 42 05.3 +0.3
comp=Z,14nm,0.9s
ARSA Arzberg 12.45 321 Pn 08 42 05.5 -0.1
ARSA Arzberg 12.45 321 *e*Pn Pn 08 42 06.2 +0.6
comp=Z,11nm,0.8s
OBKA Obir 12.46 317 Pn Pn 08 42 06.5 +0.6
comp=Z,8.8nm,0.5s
MODS Modra-Piesok 12.49 329 *e*P Pn 08 42 06.6 +0.3
MODS Modra-Piesok 12.49 329 *e*PN Pn 08 42 06.6 +0.3
SABO M.te Sabotino 12.68 313 Pn 08 42 07.9 -0.9
ERBR Yeremizino-Bor 12.71 48 *e*P Pn 08 42 10.1 +1.0
ERBR pmax pmax
comp=Z,21nm,0.6s
JAVC Velka Javorina 12.73 331 *e*PN Pn 08 42 09.9 +0.4
CONA Conrad Observa 12.77 324 Pn Pn 08 42 10.5 +0.4
comp=Z,9.9nm,0.9s
CONA *e*Sn **Sn** **08 44 33.3 +1.2**
comp=Z,3.9nm,0.7s
KIEV Kiev 12.78 7 Pn 08 42 10.4 +0.3
KIEV Kiev 12.78 7 P Pn 08 42 10.4 +0.3
AKASG Malin Array Be 12.79 7 Pn Pn 08 42 09.3 -0.9
comp=Z,1.4nm,0.3s,baz=200,slow=13,SNR=7.8
AKASG Sn **Sn** **08 44 25.4 -7.0**
comp=Z,1.5nm,0.3s,baz=201,slow=21,SNR=3.3
AKASG LR LR 08 47 22.5
comp=Z,395nm,19.1s,baz=188,slow=39
AKBB Malin Array Si 12.79 7 Pn 08 42 09.7 -0.6
AKBB Malin Array Si 12.79 7⇑*e*P Pn 08 42 11.1 +0.9
MYKA Terra Mystica 13.03 316 *e*Pn Pn 08 42 14.5 +0.9
comp=Z,12nm,0.6s
OJC Ojcow 13.21 340 *e*P P 08 42 29.2 +3.2
SHA1 Shidzhatmaz 13.22 59⇑*e*P Pn 08 42 18.6 +2.2
KIV Kislovodsk 13.31 59 Pn Pn 08 42 17.0 -0.5
KIV Kislovodsk 13.31 59 *e*P Pn 08 42 18.2 +0.7
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,319nm,13.0s
KBZ Khabaz 13.38 60 Pn Pn 08 42 20.8 +2.5
comp=Z,0.1nm,0.3s,baz=224,slow=17,SNR=3.9
KBZ LR LR 08 48 18.7
comp=Z,596nm,18.6s,baz=252,slow=41
comp=Z,0.7nm,0.5s
OKC Ostrava-Krasne 13.38 335 AMS AMS 08 48 20.0
comp=Z,2µm,11.8s
KRUC Moravsky 13.40 329 *e*PN Pn **08 42 18.1 -0.4**
KRUC *e* 08 42 30.3
KBA Koelnbreinsper 13.47 317 *e*Pn Pn **08 42 20.5 +0.8**
comp=Z,66nm,1.5s
MOA Molln 13.48 321 *e*Pn Pn **08 42 20.8 +1.1**
comp=Z,16nm,1.1s
VRAC Vranov 13.51 330 LR LR 08 47 15.4
comp=Z,255nm,21.0s,baz=108,slow=36
MORC Moravsky Berou 13.54 333 Pn **08 42 20.8 +0.3**
MORC Moravsky Berou 13.54 333 P Pn **08 42 20.8 +0.3**
VSL Villasalto 13.75 282 Pn **08 42 21.7 -1.8**
TREC Trest 13.96 328 AMS AMS 08 48 40.0
comp=Z,1µm,11.4s
GNI Garni 14.03 76 LR LR 08 47 51.7
comp=Z,758nm,18.1s,baz=290,slow=37
LESA Schwarzleotal 14.04 317 *e*Pn Pn **08 42 27.9 +0.5**
comp=Z,5.4nm,0.5s
LESA *e*Sn **Sn** **08 45 05.1 +2.1**
comp=Z,3.3nm,0.5s
KRLC Kraliky 14.06 332 AMS AMS 08 49 00.0
comp=Z,1µm,11.2s
CKRC Cesky Krumlov 14.13 324 AMS AMS 08 48 30.0
comp=Z,1µm,10.8s
PRMA PARMA 14.14 304 Pn Pn **08 42 29.4 +0.6**
KEST Kesra 14.23 266 Pn **08 42 31.7 +1.6**
KEST Kesra 14.23 266 Pn Pn **08 42 30.7 +0.5**
comp=Z,0.3nm,0.3s,baz=10,slow=3.5,SNR=7.8
KEST LR LR 08 49 20.5
comp=Z,207nm,19.5s,baz=48,slow=43
comp=Z,7.9nm,0.9s
GEC2 GERESS Array S 14.43 323 Pn **08 42 32.2 -0.6**
GERES GERESS Array B 14.43 323 Pn **08 42 32.2 -0.6**
GERES GERESS Array B 14.43 323 LR LR 08 47 40.3
comp=Z,175nm,19.1s,baz=139,slow=36
GERES GERESS Array B 14.43 323 *e*P Pn **08 42 32.2 -0.6**
DPC Dobruska-Polom 14.46 332 *e*P Pn **08 42 36.4 +3.3**
DPC MLR MLR
comp=Z,1µm,10.5s
DPC Dobruska-Polom 14.46 332 *e*P Pn **08 42 36.4 +3.3**
DPC AMS AMS 08 49 00.0
comp=Z,1µm,10.5s
BEL Belsk 14.47 345 *e*P P **08 42 38.2 -1.8**
WTTA Wattenberg 14.52 314 *e*Pn Pn **08 42 35.1 +1.0**
comp=Z,9.5nm,0.6s
WATA Walderalm 14.60 315 *e*Pn Pn **08 42 36.8 +1.7**
comp=Z,26nm,1.0s
ZVC Zvikov 14.63 325 *e*P Pn **08 42 34.8 -0.6**
ZVC AMS AMS 08 49 00.0
comp=Z,1µm,10.0s
OSTC Ostas 14.66 332 AMS AMS 08 49 20.0
comp=Z,1µm,9.8s
KHC Kasperske Hory 14.69 323*de*P Pn **08 42 36.8 +0.5**
KHC pmax pmax
comp=Z,6.0nm,1.2s
KHC Kasperske Hory 14.69 323 *e*P Pn 08 42 21.0 -15
KHC *ex* x 08 42 43.5
KHC AMS AMS 08 48 50.0
comp=Z,800nm,11.6s
UPC Upice 14.70 332 AMS AMS 08 48 40.0

comp=Z,900nm,14.1s
GOPC GO Pecny, Ondr 14.72 328 AMS AMS 08 49 00.0
comp=Z,1µm,10.6s
SQTA Sankt Quirin 14.74 314 *e*Pn Pn **08 42 37.5 +0.5**
comp=Z,16nm,1.0s
CHVC Chvalec 14.75 332 AMS AMS 08 48 50.0
comp=Z,900nm,13.1s
MOTA Moosalm 14.87 314 *e*P Pn **08 42 39.4 +0.6**
comp=Z,24nm,1.2s
KSP Ksiaz 14.87 333 *e*P Pn **08 42 36.1 -2.6**
PRU Pruhonice 14.88 327 AMS AMS 08 49 20.0
comp=Z,1µm,10.6s
FETA Feichten 14.91 312 *e*Pn Pn **08 42 40.0 +0.6**
comp=Z,31nm,1.0s
FUORN Ofenpass-Fuorn 14.99 310 Pn **08 42 40.3 -0.2**
FUORN IAmb IAmb 08 42 49.8
comp=Z,17nm,0.7s
RETA Reutte 15.14 314 *e*Pn Pn **08 42 41.8 -0.6**
comp=Z,8.4nm,1.0s
PVCC Panska Ves 15.28 329 AMS AMS 08 49 50.0
comp=Z,1µm,9.4s
DAVOX Davos/Dischmat 15.30 310 Pn Pn **08 42 44.3 -0.3**
comp=Z,0.5nm,0.3s,baz=124,slow=15,SNR=14
comp=Z,15nm,0.8s
TUE Stuetta 15.48 309 Pn Pn **08 42 46.5 -0.4**
DAVA Damuels 15.55 312 *e*Pn Pn **08 42 48.9 +1.2**
comp=Z,22nm,1.1s
VORD Divnogorie 15.65 30 *e*P Pn **08 42 46.0 -2.9**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 15.79 29 *e*P Pn **08 42 45.4 -5.4**
VSR pmax pmax
comp=Z,20nm,1.0s
BRG Berggiesshubel 15.80 329 *e*P P **08 42 57.2 +2.5**
BRG Amp 08 42 58.2
comp=Z,10nm,0.9s
BRG PP **sP** **08 43 07.2 +7.0**
BRG Amp 08 43 07.7
comp=Z,14nm,1.1s
BRG Berggiesshubel 15.80 329 S Sn **08 45 53.0 +7.2**
ISO Isola 16.16 299 P P **08 43 00.9 +2.0**
ISO pmax pmax
comp=Z,12nm,1.2s
SUW Suwalki 16.20 352 *e*P Pn **08 42 54.5 -1.5**
SUW Suwalki 16.20 352 Pn Pn **08 42 54.8 -1.2**
SUW Suwalki 16.20 352 P Pn **08 42 54.8 -1.2**
GRF Grafenberg Arr 16.21 321 *e*P P **08 43 00.4 +1.1**
comp=Z,47nm,1.4s,baz=130,slow=11
GRF *e*L L 08 51 20.9
comp=Z,245nm,19.6s
MNK Minsk 16.50 2 *i* P Pn **08 42 58.4 -1.4**
comp=E,20nm,0.8s
MNK *i* P Pn **08 42 58.4 -1.4**
comp=N,14nm,0.7s
MNK *i* P Pn **08 42 58.4 -1.4**
comp=Z,14nm,0.7s,baz=182
MNK *i* PP **pP** **08 43 04.9 -1.4**
MNK *i* S **Sn** **08 46 00.8 -1.9**
MNK *i* SS **SnSn** **08 46 15.2 -0.7**
MNK *i* LQ LQ 08 48 17.0
MNK *i* LR LR 08 48 45.0
MNK *i* LRM MLR 08 49 20.6
comp=N,948nm,14.3s
MNK *i* LRM MLR 08 49 33.4
comp=Z,294nm,14.9s
MNK *i* LRM MLR 08 49 47.8
comp=E,1µm,14.8s
MNK Minsk 16.50 2 *i* P Pn **08 42 58.4 -1.4**
MNK *i* S **Sn** **08 46 00.8 -1.9**
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=E,20nm,0.8s
MNK pmax pmax
comp=N,14nm,0.7s
MNK MLR MLR
comp=N,948nm,14.0s
MNK MLR MLR
comp=Z,294nm,15.0s
MNK MLR MLR
comp=E,1µm,15.0s
CLL Collm 16.52 328 Pn Pn **08 43 00.7 +0.6**
CLL Collm 16.52 328 *e*P P **08 43 02.0 -0.7**
CLL MLR MLR
comp=Z,400nm,19.5s
CLL Collm 16.52 328 *e*P P **08 43 02.0 -0.7**
CLL *ep*P **pP** **08 43 04.0 -2.5**
CLL *es*P **sP** **08 43 06.0 -2.1**
CLL *ex* x 08 43 08.0
CLL *i* sPP 08 43 13.9
CLL *e*S **Sn** **08 46 00.0 -3.2**
CLL LmV 08 49 00.0
comp=Z,400nm,19.5s
CLL Lmax 08 50 00.0
MOX Moxa 16.66 324 P P **08 43 04.8 +0.6**
MOX pmax pmax
comp=Z,37nm,1.2s
MOX Moxa 16.66 324 *e*L L 08 49 19.6
comp=Z,153nm,19.0s
BNI Bardonecchia 16.67 301 Pn Pn **08 43 02.6 +0.4**
BNI IAmb IAmb 08 43 14.7
comp=Z,42nm,1.1s
BNI Bardonecchia 16.67 301 P Pn **08 43 02.6 +0.4**
BNI pmax pmax
comp=Z,42nm,1.2s
SENIN Lac Senin/Sane 16.72 306 P Pn **08 43 04.0 +1.1**
SENIN IAmb IAmb 08 43 15.3
comp=Z,69nm,1.5s
LPSR Galich'ya Gora 16.82 26 *e*P Pn **08 42 59.1 -4.8**
LPSR pmax pmax
comp=Z,20nm,0.9s
NACGM Naroch 16.89 360 *e*P Pn **08 43 02.3 -2.4**
BFO Black Forest 16.98 313 P P **08 43 07.2 -0.5**
BFO Black Forest 16.98 313 P P **08 43 07.3 -0.5**
BFO pmax pmax
comp=Z,13nm,0.7s
ECH Echery 17.60 312 P Pn **08 43 14.0 +0.3**
ECH Echery 17.60 312 P Pn **08 43 14.0 +0.3**
MAHO Mahon 17.70 283 P Pn **08 43 14.5 -0.4**
OBN Obninsk 18.32 18 P P **08 43 22.8 +0.4**
comp=Z,7.5nm,0.3s,baz=146,slow=21,SNR=6.0
comp=Z,25nm,0.4s
OBN Obninsk 18.32 18*de*P Pn **08 43 20.8 -1.6**
OBN pmax pmax
comp=Z,90nm,2.5s
OBN MLR MLR
comp=Z,503nm,19.0s
WLF Walferdange 18.89 315 *d*P Pn **08 43 30.9 +1.5**
MOS Moscow 19.14 19 *e*P P **08 43 29.1 -2.4**
MEM Membach 19.46 317 *d*P Pn **08 43 37.6 +1.3**
BCLA Clavier 19.74 316 *d*P Pn **08 43 40.5 +0.8**
DOU Dourbes 19.98 314 *d*P P **08 43 41.1 +0.4**
comp=Z,9.8nm,1.0s
BMRD Maredsous 19.98 315 *d*P Pn **08 43 42.8 +0.3**
CEST Esterri de Car 20.05 291 P P **08 43 41.9 +0.1**
CEST IAmb IAmb 08 43 47.9
comp=Z,33nm,1.1s
UCC Uccle 20.45 316 P P **08 43 46.1 +0.2**
UCC IAmb IAmb 08 43 51.2
comp=Z,30nm,1.1s
UCC Uccle 20.45 316 P P **08 43 46.1 +0.2**
UCC pmax pmax
comp=Z,30nm,1.1s
VSU Vasula 20.46 360⇓*e*P P **08 43 45.2 -0.7**
VSU pmax pmax
comp=Z,38nm,1.0s
RAYN Ar Rayn 21.49 127 P P **08 43 58.6 +1.2**
RAYN Ar Rayn 21.49 127 P P **08 43 58.6 +1.2**
RAYN pmax pmax
comp=Z,14nm,1.0s
FINES FINESS Array B 23.46 359 P P **08 44 17.6 0.0**
FINES FINESS Array B 23.46 359 P P **08 44 17.4 -0.2**
comp=Z,7.8nm,0.9s,baz=157,slow=10,SNR=12
FINES LR LR 08 53 50.6
comp=Z,553nm,18.2s,baz=171,slow=38
comp=Z,7.8nm,0.9s
FINES FINESS Array B 23.46 359 P P **08 44 17.6 0.0**
FIA1 FINESS Array S 23.46 359 P P **08 44 17.7 0.0**
HFS Hagfors 23.68 343 P P **08 44 18.4 -1.5**
comp=Z,10nm,0.9s,baz=154,slow=11,SNR=12
HFS LR LR 08 54 17.1
comp=Z,599nm,18.3s,baz=160,slow=38
comp=Z,10nm,0.9s
TAM Tamanrasset 23.79 236 P P **08 44 22.3 +0.8**
TAM Tamanrasset 23.79 236 P P **08 44 22.3 +0.8**

TAM pmax pmax
comp=Z,42nm,0.7s
ESBB Sonseca Array 24.04 284 P **P** **08 44 23.4 -0.2**
ESBB IAmb IAmb 08 44 56.0
comp=Z,14nm,1.0s
ESDC Sonseca Array 24.04 284 P **P** **08 44 23.0 -0.6**
ESDC Sonseca Array 24.04 284 P **P** **08 44 23.5 -0.1**
comp=Z,5.4nm,0.8s,baz=74,slow=9.5,SNR=30
ESDC LR LR 08 53 53.9
comp=Z,149nm,21.8s,baz=74,slow=37
comp=Z,5.4nm,0.8s
KLMR Klimovskoe 24.20 15 *e*P **P** **08 44 23.9 -0.9**
KLMR pmax pmax
comp=Z,55nm,1.3s
KLMR MLR MLR
comp=Z,365nm,14.0s
KONO Kongsberg 24.31 338 P **P** **08 44 25.5 -0.3**
KONO IAmb IAmb 08 44 26.7
comp=Z,34nm,1.1s
KONO Kongsberg 24.31 338⇑ *e*P **P** **08 44 25.5 -0.3**
KONO pmax pmax
comp=Z,81nm,2.6s
PAB San Pablo 24.35 283 P **P** **08 44 26.1 -0.4**
PAB IAmb IAmb 08 44 31.2
comp=Z,18nm,1.1s
PAB San Pablo 24.35 283 P **P** **08 44 26.1 -0.4**
PAB pmax pmax
comp=Z,18nm,1.1s
NC602 NORSAR Array S 24.71 342 P **P** **08 44 29.4 0.0**
NC602 IAmb IAmb 08 44 30.1
comp=Z,14nm,0.8s
NAO01 NORSAR Array S 24.97 341 P **P** **08 44 31.7 -0.1**
NB2 NORSAR Subarra 25.06 342 P **P** **08 44 32.3 -0.3**
comp=Z,19nm,1.2s,baz=150,slow=9.3
NOA NORSAR Array B 25.06 342 P **P** **08 44 32.6 0.0**
comp=Z,2.6nm,0.8s,baz=146,slow=9.6,SNR=14
NOA LR LR 08 55 26.7
comp=Z,504nm,18.2s,baz=160,slow=39
comp=Z,2.6nm,0.8s
NBO00 NORSAR Array S 25.16 341 P **P** **08 44 33.8 +0.3**
KIRV Kirov 25.23 28 LR LR 08 55 48.2
comp=Z,379nm,19.1s,baz=233,slow=40
AKTO Aktyubinsk 25.32 51 LR LR 08 56 28.6
comp=Z,216nm,20.2s,baz=263,slow=41
PBRG Braganca 25.98 289 *e*P **P** **08 44 42.1 +0.9**
PBRG *i* IAmb IAmb 08 44 45.6
comp=Z,45nm,1.4s
MDT Midelt 26.12 268 LR LR 08 56 57.0
comp=Z,115nm,19.0s,baz=96,slow=41
AB31 Akbulak array 26.22 54 P **P** **08 44 44.2 +1.0**
ABKAR Akbulak array 26.22 54 P **P** **08 44 44.0 +0.8**
MVO Moncorvo 26.24 288 *e*P **P** **08 44 46.3 +2.8**
MVO *i* IAmb IAmb 08 44 48.5
comp=Z,48nm,1.9s
MVO *e*S **S** **08 49 22.4 +7.0**
EKA Eskdalemuir Ar 26.62 320 P **P** **08 44 47.5 +0.6**
comp=Z,3.9nm,0.6s,baz=117,slow=8.8,SNR=19
comp=Z,3.9nm,0.6s
PBAR Barrancos 26.62 281 *e*P **P** **08 44 48.8 +1.8**
PBAR *i* IAmb IAmb 08 44 51.9
comp=Z,27nm,1.9s
PMRV Marv??o 26.70 284 *e*P **P** **08 44 48.2 +0.5**
PMRV *e*S S 08 49 35.3 +13
PCBR Castelo Branco 26.71 285 *e*P **P** **08 44 49.3 +1.6**
PCBR *i* IAmb IAmb 08 44 52.1
comp=Z,22nm,1.7s
POLO Lamas de Olo 26.80 288 *e*P **P** **08 44 49.6 +1.0**
PESTR Estremoz 26.93 283 *e*P **P** **08 44 51.1 +1.3**
PESTR *i* IAmb IAmb 08 45 16.5
comp=Z,23nm,1.3s
PCAB Cabril 26.95 289 *e*P **P** **08 44 51.9 +2.0**
PCAB *i* IAmb IAmb 08 45 35.3
comp=Z,43nm,1.6s
PGAV Gavieira, Arco 27.11 290 *e*P **P** **08 44 51.8 +0.3**
PSARD Sardoal 27.26 284 *e*P **P** **08 44 55.5 +2.7**
PBEJ Beja 27.29 281 *e*P **P** **08 44 56.6 +3.6**
PBEJ *i* IAmb IAmb 08 44 58.3
comp=Z,22nm,1.9s
PVAQ Vaqueiros 27.30 280 P **P** **08 44 52.9 -0.2**
PVAQ Vaqueiros 27.30 280 *e*P **P** **08 44 53.9 +0.8**
PVAQ *i* IAmb IAmb 08 45 20.5
comp=Z,31nm,1.3s
PVAQ *e*S **S** **08 49 37.1 +4.9**
PBDV Barranco-do-Ve 27.50 279 *e*P **P** **08 44 55.9 +1.0**
PBDV *i* IAmb IAmb 08 45 09.8
comp=Z,30nm,1.9s
PCVE Castro Verde 27.50 280 *e*P **P** **08 44 56.0 +1.1**
PCVE *i* IAmb IAmb 08 45 29.5
comp=Z,30nm,1.7s
MESJ Messejana 27.60 281 P **P** **08 44 57.3 +1.5**
MESJ IAmb IAmb 08 45 27.0
comp=Z,17nm,1.3s
MESJ Messejana 27.60 281 *e*P **P** **08 44 57.2 +1.5**
MESJ Messejana 27.60 281 P **P** **08 44 57.3 +1.5**
MESJ pmax pmax
comp=Z,17nm,1.3s
ARTI Arti 27.83 38 P **P** **08 44 57.0 -0.7**
ARTI Arti 27.83 38 LR LR 08 57 53.4
comp=Z,166nm,19.2s,baz=258,slow=40
ARTI Arti 27.83 38*c i*P **P** **08 44 57.0 -0.7**
ARTI 08 45 42.8
ARTI S **S** **08 49 41.0 +0.8**
ARTI SS **SnSn** **08 50 55.2 +2.0**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
PMAFR Mafra 28.22 283 *e*P **P** **08 44 59.8 -1.6**
PFVI Vila Bisbo 28.22 279 *e*P **P** **08 45 03.3 +2.0**
ARCES ARCESS Array B 31.59 359 P **P** **08 45 32.0 +1.3**
comp=Z,9.4nm,1.2s,baz=328,slow=13,SNR=6.2
ARCES LR LR 08 58 31.7
comp=Z,359nm,19.1s,baz=184,slow=37
comp=Z,9.4nm,1.2s
KKAR Karatay Array 33.24 67 P **P** **08 45 45.5 -0.1**
KKAR Karatay Array 33.24 67 P **P** **08 45 45.5 -0.1**
BRVK Borovoye 33.34 49 P **P** **08 45 46.9 +0.7**
BRVK Borovoye 33.34 49⇓ *e*P **P** **08 45 47.6 +1.3**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BVAR Borovoye Array 33.39 49 LR LR 09 02 28.1
comp=Z,137nm,19.7s,baz=245,slow=42
TORD Torodi Ar. Bea 33.41 229 P **P** **08 45 47.1 -0.1**
TORD Torodi Ar. Bea 33.41 229 P **P** **08 45 47.9 +0.6**
comp=Z,34nm,0.6s,baz=34,slow=10,SNR=61
comp=Z,34nm,0.6s
GAR Garm 33.75 75 P **P** **08 45 51.3 +1.0**
AAK Ala-Archa 36.20 67 LR LR 09 03 59.8
comp=Z,144nm,18.1s,baz=285,slow=41
AAK Ala-Archa 36.20 67⇑ *e*P **P** **08 46 13.7 +2.3**
AAK pmax pmax
comp=Z,3.0nm,0.9s
NIL Nilore 37.53 82 P **P** **08 46 22.8 +0.2**
NIL Nilore 37.53 82 P **P** **08 46 22.8 +0.2**
NIL pmax pmax
comp=Z,25nm,1.0s
JMIC Jan Mayen 37.77 342 LR LR 09 02 01.4
comp=Z,148nm,18.1s,baz=84,slow=36
KURBB Kurchatov Arra 38.27 54 P **P** **08 46 29.4 +0.8**
comp=Z,4.5nm,0.8s,baz=278,slow=8.6,SNR=20
KURBB LR LR 09 06 19.6
comp=Z,143nm,20.8s,baz=186,slow=43
comp=Z,4.5nm,0.8s
KURK Kurchatov 38.33 54 P **P** **08 46 29.6 +0.5**
KURK Kurchatov 38.33 54*de*P **P** **08 46 30.0 +0.9**
KURK pmax pmax
comp=Z,5.0nm,1.0s
BORG Borgarnes 38.76 329 LR LR 09 03 04.5
comp=Z,160nm,20.2s,baz=112,slow=37
KMBO Kilima Mbogo 40.11 164 LR LR 09 05 50.8
comp=Z,18nm,18.3s,baz=96,slow=40
SPITS Spitsbergen Ar 40.51 357 LR LR 09 04 27.5
comp=Z,232nm,19.2s,baz=172,slow=38
MK31 Makanchi Array 41.08 59*de*P **P** **08 46 53.0 +0.9**
MKAR Makanchi Array 41.08 59 P **P** **08 46 52.5 +0.4**
MKAR Makanchi Array 41.08 59 P **P** **08 46 53.1 +1.0**
comp=Z,5.1nm,0.8s,baz=283,slow=6.6,SNR=39
MKAR LR LR 09 05 39.3
comp=Z,215nm,21.4s,baz=268,slow=39
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 41.08 59 P **P** **08 46 52.5 +0.4**
ZAA0 Zalesovo Array 42.04 48 P **P** **08 47 00.3 +0.5**
ZALV Zalesovo Beam 42.04 48 P **P** **08 46 59.6 -0.2**
ZALV Zalesovo Beam 42.04 48 P **P** **08 47 00.7 +0.9**
comp=Z,4.1nm,0.7s,baz=267,slow=9.0,SNR=14
ZALV LR LR 09 07 52.9
comp=Z,88nm,19.3s,baz=276,slow=41
comp=Z,4.1nm,0.7s

DBIC Dimbokro 42.45 231 P **P** **08 47 03.5 0.0**
DBIC Dimbokro 42.45 231 P **P** **08 47 03.7 +0.2**
comp=Z,16nm,0.7s,baz=67,slow=8.7,SNR=26
DBIC LR LR 09 07 06.6
comp=Z,142nm,19.1s,baz=40,slow=40
comp=Z,16nm,0.7s
DBIC Dimbokro 42.45 231 P **P** **08 47 03.6 0.0**
DBIC pmax pmax
comp=Z,17nm,0.7s
WMQ Urumqi 45.40 63 *e*P **P** **08 47 25.3 -1.8**
WMQ ScP **ScP** **08 52 57.6 -1.0**
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ LR LR
comp=Z,120nm,13.9s
SUMG Summit 46.84 338 P **P** **08 47 38.6 +0.2**
SUMG IAmb IAmb 08 47 40.3
comp=Z,7.0nm,0.8s
SUMG Summit 46.84 338 P **P** **08 47 38.6 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
IVI Ivigtut 50.57 323 P **P** **08 48 06.5 -0.2**
SFJD Kangerlussuaq 50.87 330 LR LR 09 09 10.0
comp=Z,129nm,20.6s,baz=92,slow=36
GTA Gaotai 55.42 64 *e*P **P** **08 48 43.6 +0.6**
GTA sP sP 08 48 51.3 +2.3
GTA pmax pmax
comp=Z,4.0nm,1.4s
SONM Songino Array 56.62 52 P **P** **08 48 52.2 +0.7**
comp=Z,1.0nm,0.7s,baz=286,slow=8.8,SNR=5.2
SONM LR LR 09 15 39.4
comp=Z,114nm,20.0s,baz=294,slow=39
comp=Z,1.0nm,0.7s
PALK Pallekele 57.33 108 LR LR 09 17 09.0
comp=Z,94nm,18.9s,baz=318,slow=40
TSUM Tsumeb 57.58 190 LR LR 09 14 57.7
comp=Z,200nm,20.9s,baz=359,slow=37
TIXI Tiksi 58.00 21 LR LR 09 17 33.7
comp=Z,310nm,18.5s,baz=330,slow=40
TIXI Tiksi 58.00 21⇓ *e*P **P** **08 49 03.0 +2.3**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
MATP Matopo 58.15 178 LR LR 09 15 52.8
comp=Z,43nm,19.3s,baz=351,slow=38
FRB Frobisher Bay 58.94 329 LR LR 09 15 33.3
comp=Z,115nm,18.1s,baz=63,slow=37
RES Resolute Bay 61.27 345 LR LR 09 14 53.0
comp=Z,116nm,20.3s,baz=20,slow=35
SCHQ Schefferville 61.93 319 P **P** **08 49 27.7 -0.3**
comp=Z,9.7nm,0.8s,baz=57,slow=7.4,SNR=12
SCHQ LR LR 09 16 13.3
comp=Z,57nm,18.9s,baz=54,slow=36
comp=Z,9.7nm,0.8s
LBTB Lobatse 62.71 181 LR LR 09 17 41.6
comp=Z,70nm,18.0s,baz=7.0,slow=37
YAK Yakutsk 62.71 31 LR LR 09 19 47.6
comp=Z,72nm,18.8s,baz=294,slow=39
PZH PanZhiHua 62.79 77 P **P** **08 49 35.6 +1.3**
HHC Hu-ho-hao-te 62.92 58 *e*P **P** **08 49 34.8 -0.1**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,310nm,4.6s
KMI Kunming 64.27 77 P **P** **08 49 45.6 +1.4**
KMI pmax pmax
comp=Z,14nm,0.6s
KMI LR LR
comp=Z,100nm,40.5s
CMAR Chiang Mai Arr 64.91 86 P **P** **08 49 49.0 +0.8**
comp=Z,1.6nm,0.3s,baz=302,slow=7.2,SNR=9.6
CMAR LR LR 09 21 18.2
comp=Z,65nm,20.1s,baz=295,slow=39
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 64.91 86 P **P** **08 49 49.0 +0.8**
BOSA Boshof 66.30 182 P **P** **08 49 57.7 +0.8**
comp=Z,4.5nm,0.8s,baz=356,slow=6.0,SNR=4.5
BOSA LR LR 09 21 56.6
comp=Z,120nm,19.1s,baz=13,slow=39
comp=Z,4.5nm,0.8s
HEH HeiHe 67.81 43 *e*P **P** **08 50 06.8 +0.5**
HEH pmax pmax
comp=Z,10.0nm,0.9s
A36M Sachs Harbour 68.55 351 P **P** **08 50 09.3 -1.3**
baz=23
A21K Barrow 70.94 1 P **P** **08 50 24.1 -1.1**
baz=357
A22K Sinclair Lake 71.28 1 P **P** **08 50 25.6 -1.7**
baz=358
A19K Wainwright 71.93 3 P **P** **08 50 29.7 -1.6**
baz=353
B22K Teshekpuk Lake 71.95 0 P **P** **08 50 29.9 -1.5**
baz=360
C26K Camden Bay 72.21 357 P **P** **08 50 31.5 -1.5**
baz=6.8
B20K Meade River 72.25 1 P **P** **08 50 32.1 -1.0**
baz=357
MA2 Magadan 72.31 26 LR LR 09 26 21.0
comp=Z,122nm,18.6s,baz=302,slow=39
D28M Stokes Point 72.44 355 P **P** **08 50 33.2 -1.1**
baz=12
C23K Itkillik River 72.44 359 P **P** **08 50 33.1 -1.3**
baz=2.0
C27K Jago River 72.45 357 P **P** **08 50 32.8 -1.6**
baz=7.8
NJ2 Nanjing 72.48 63 *e*P **P** **08 50 34.2 -1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
C24K Franklin Bluff 72.53 358 P **P** **08 50 33.5 -1.4**
baz=3.6
B21K Ikpikpuk River 72.67 1 P **P** **08 50 34.7 -1.0**
baz=359
D27M Malcolm River 72.68 355 **P** **08 50 35.7 -0.2**
D27M IAmb IAmb 08 50 51.6
comp=Z,4.0nm,0.9s
D27M Malcolm River 72.68 355 P **P** **08 50 34.3 -1.6**
baz=10.0
B18K Kokolik River 72.74 3 P **P** **08 50 35.2 -0.9**
baz=353
D25K Kavik River 72.86 358 P **P** **08 50 37.2 +0.3**
D25K IAmb IAmb 08 50 42.2
comp=Z,9.8nm,1.2s
D25K Kavik River 72.86 358 P **P** **08 50 36.0 -0.9**
baz=5.5
INK Inuvik 72.98 353 LR LR 09 25 22.4
comp=Z,66nm,19.6s,baz=50,slow=38
INK Inuvik 72.98 353 P **P** **08 50 36.5 -1.0**
baz=16
C19K Lookout Ridge 73.08 2 P **P** **08 50 37.5 -0.8**
baz=355
D24K Happy Valley 73.10 358 P **P** **08 50 37.8 -0.5**
baz=3.5
C21K Knifeblade Rid 73.13 1 P **P** **08 50 38.1 -0.4**
baz=359
E28M Babbage River 73.21 355 **P** **08 50 39.4 +0.4**
E28M IAmb IAmb 08 50 43.5
comp=Z,5.9nm,1.0s
E28M Babbage River 73.21 355 P **P** **08 50 39.3 +0.3**
baz=11
E29M Blow River 73.30 354 P **P** **08 50 39.7 +0.2**
E29M Blow River 73.30 354 P **P** **08 50 39.6 +0.1**
baz=12,SNR=18
D23K Nanushuk River 73.32 359 P **P** **08 50 39.8 +0.2**
baz=2.0
D22K Ayikyak River 73.42 360 P **P** **08 50 40.4 +0.1**
baz=0.3
C18K Utukok River 73.48 3 P **P** **08 50 40.7 +0.1**
baz=353
D20K Etivluk River 73.56 1 P **P** **08 50 40.7 -0.3**
baz=357
C17K DeLong Mountai 73.56 4 P **P** **08 50 40.3 -0.8**
baz=352
TOLK Toolik Lake Re 73.63 359 P **P** **08 50 40.7 -0.8**
baz=2.9
C16K Lisburne Hills 73.63 5 P **P** **08 50 40.9 -0.5**
baz=350
D19K Kuna River 73.74 2 P **P** **08 50 41.3 -0.8**
baz=356
E27K Coleen River 73.76 356 P **P** **08 50 42.0 -0.2**
baz=9.4
F31M Tsiigehtchic 73.84 352 P **P** **08 50 42.4 -0.2**
baz=16
USRK Usuriysk Ar. 73.85 46 P **P** **08 50 44.3 +1.2**
comp=Z,3.7nm,0.8s,baz=299,slow=3.0,SNR=5.4
comp=Z,3.7nm,0.8s
E21K Killik River 73.86 0 P **P** **08 50 42.7 -0.1**
baz=359
F30M Barrier River 73.88 353 P **P** **08 50 42.5 -0.4**
baz=14

RDOG Red Dog Mine 73.99 4 P **P** **08 50 43.6 0.0**
baz=352
E20K Nigu River 74.02 1 P **P** **08 50 43.3 -0.5**
baz=358
SADO Sadowa 74.04 315 LR LR 09 23 13.5
comp=Z,62nm,18.2s,baz=70,slow=36
E22K Anaktuvuk Pass 74.16 359 **P** **08 50 45.2 +0.5**
E22K IAmb IAmb 08 50 49.1
comp=Z,6.5nm,1.1s
E22K Anaktuvuk Pass 74.16 359 P **P** **08 50 44.4 -0.2**
baz=1.1
E24K Your Creek 74.17 358 P **P** **08 50 43.9 -0.8**
baz=3.8
E23K Chandalar 74.21 359 P **P** **08 50 44.7 -0.3**
baz=2.9
F28M Old Crow 74.21 355 P **P** **08 50 45.2 +0.3**
F28M Old Crow 74.21 355 P **P** **08 50 44.8 -0.1**
baz=11
D17K Noatak River 74.33 4 P **P** **08 50 44.7 -0.8**
baz=352
F26K Sheenjek River 74.39 356 P **P** **08 50 46.3 +0.4**
F26K Sheenjek River 74.39 356 P **P** **08 50 44.8 -1.1**
baz=7.3,SNR=7.6
G31M Satah River 74.40 352 P **P** **08 50 45.6 -0.2**
baz=15
G30M tAoh Zraii Nji 74.53 353 P **P** **08 50 46.1 -0.7**
baz=14
F25K Christian Rive 74.56 357 P **P** **08 50 47.7 +0.8**
F25K Christian Rive 74.56 357 P **P** **08 50 46.5 -0.5**
baz=6.1
BMAR Burnt Mountain 74.68 357 **P** **08 50 48.1 +0.5**
F24K Squaw Lake 74.71 358 P **P** **08 50 47.2 -0.6**
baz=4.3
E18K Tukpahlearik C 74.73 3 P **P** **08 50 47.4 -0.4**
baz=354
G29M Pine Creek 74.76 354 P **P** **08 50 48.0 -0.1**
baz=12
F22K John River 74.80 360 P **P** **08 50 47.6 -0.7**
baz=0.8
E19K Redstone River 74.80 2 P **P** **08 50 48.6 +0.3**
E19K Redstone River 74.80 2 P **P** **08 50 48.0 -0.3**
baz=357,SNR=13
E17K Hotham Inlet 75.01 4 P **P** **08 50 48.3 -1.2**
baz=353
COLD Coldfoot 75.06 359 P **P** **08 50 50.3 +0.6**
COLD IAmb IAmb 08 50 54.5
comp=Z,8.3nm,1.2s
COLD Coldfoot 75.06 359 P **P** **08 50 49.1 -0.6**
baz=2.4
F21K Alatna River 75.08 0 P **P** **08 50 49.3 -0.7**
baz=360,SNR=8.5
G26K Porcupine Rive 75.12 356 **P** **08 50 51.0 +0.9**
G26K IAmb IAmb 08 50 55.4
comp=Z,7.4nm,1.0s
G26K Porcupine Rive 75.12 356 P **P** **08 50 49.8 -0.3**
baz=7.6,SNR=8.6
G27K Doyon Strip 75.13 355 P **P** **08 50 49.5 -0.7**
baz=9.3
YKA Yellowknife Ar 75.16 343 P **P** **08 50 50.4 +0.1**
comp=Z,1.5nm,1.0s,baz=42,slow=6.6,SNR=5.3
YKA LR LR 09 24 35.8
comp=Z,66nm,18.6s,baz=56,slow=36
comp=Z,1.5nm,1.0s
EPYK Eagle Plains 75.18 353 P **P** **08 50 50.3 -0.2**
baz=13
F20K Avaraart Lake 75.24 1 P **P** **08 50 51.6 +0.9**
F20K IAmb IAmb 08 50 56.9
comp=Z,11nm,1.2s
F20K Avaraart Lake 75.24 1 P **P** **08 50 50.8 +0.1**
baz=358
G22K Bettles 75.38 359 P **P** **08 50 51.3 -0.3**
baz=1.3
G25K Bearman Lake 75.41 357 P **P** **08 50 51.3 -0.4**
baz=5.7
KSRS Korea Array 75.45 54 P **P** **08 50 53.1 +0.6**
comp=Z,3.9nm,0.8s,baz=307,slow=4.9,SNR=12
comp=Z,3.9nm,0.8s
H29M Whitestone 75.47 354 P **P** **08 50 52.0 -0.2**
baz=12
H31M Peel River 75.49 352 P **P** **08 50 51.8 -0.5**
baz=15
G24K Hadweenzic Riv 75.52 358 P **P** **08 50 52.1 -0.3**
baz=4.6
FYU Fort Yukon 75.57 357 P **P** **08 50 54.0 +1.3**
G23K Bananza Creek 75.57 359 P **P** **08 50 52.0 -0.8**
baz=2.5
F18K Selawik 75.59 3 P **P** **08 50 51.8 -0.9**
baz=355
H27K Steamboat Moun 75.70 355 P **P** **08 50 53.2 -0.3**
baz=9.4,SNR=7.5
G21K Allakaket 75.80 0 P **P** **08 50 54.8 +0.8**
G21K Allakaket 75.80 0 P **P** **08 50 52.8 -1.2**
baz=360,SNR=8.6
H25L Birch Creek 75.89 357 P **P** **08 50 54.2 -0.3**
baz=5.9,SNR=7.6
TNA Tin City 76.11 6 P **P** **08 50 55.0 -0.7**
baz=348
G19K Purcell Mounta 76.12 2 P **P** **08 50 55.4 -0.4**
baz=357
F15K North Star Dit 76.22 5 P **P** **08 50 55.0 -1.5**
baz=351
I30M Mount Dempster 76.27 353 P **P** **08 50 57.0 +0.1**
I30M IAmb IAmb 08 51 02.3
comp=Z,6.9nm,0.8s
I30M Mount Dempster 76.27 353 P **P** **08 50 55.9 -0.9**
baz=14,SNR=9.5
I29M Ogilvie Camp, 76.31 354 P **P** **08 50 56.5 -0.5**
baz=12,SNR=9.5
I27K Kandik River 76.32 355 P **P** **08 50 56.0 -1.1**
baz=9.3
F14K Arctic Creek 76.33 6 P **P** **08 50 56.0 -1.0**
baz=349
G18K Tagagawik 76.33 2 P **P** **08 50 56.8 -0.2**
baz=356,SNR=8.6
I28M Miner Creek 76.36 354 P **P** **08 50 57.0 -0.3**
baz=11
H24K Noodor Dome 76.40 358 P **P** **08 50 57.1 -0.4**
baz=4.2
H22K Ishtalitna Cre 76.41 359 P **P** **08 50 57.8 +0.2**
baz=1.4,SNR=7.0
H23K Yukon River 76.45 358 P **P** **08 50 59.1 +1.3**
H23K IAmb IAmb 08 51 00.5
comp=Z,6.2nm,1.1s
H23K Yukon River 76.45 358 P **P** **08 50 57.3 -0.5**
baz=2.9,SNR=7.1
PRP Porcupine Dome 76.63 357 P **P** **08 50 58.2 -0.7**
baz=6.1
G17K Kiwalik Mounta 76.65 3 P **P** **08 50 58.1 -0.8**
baz=354
H21K Melozitna Rive 76.66 360 P **P** **08 50 58.4 -0.6**
baz=0.2,SNR=12
G16K Koyuk River 76.67 4 P **P** **08 50 58.5 -0.4**
baz=352
I26K Coal Creek Min 76.72 356 P **P** **08 50 58.1 -1.1**
baz=8.0
H19K Roundabout Mou 76.75 1 P **P** **08 50 58.5 -1.0**
baz=357
H20K Anotleneega Mo 76.81 1 P **P** **08 50 58.8 -1.0**
baz=359
J30M Hart River 76.89 353 P **P** **08 51 00.0 -0.4**
baz=14,SNR=11
G15K Niukluk 76.97 5 P **P** **08 51 00.3 -0.3**
baz=351
H18K Honhosa River 77.08 2 P **P** **08 51 01.4 +0.1**
baz=356
POKR Poker Plat Res 77.10 358 P **P** **08 51 00.8 -0.7**
baz=4.6
I23K Minto, Yukon-K 77.13 358 P **P** **08 51 01.2 -0.3**
baz=3.0
I21K Tanana 77.13 360 P **P** **08 51 01.3 -0.3**
baz=0.9,SNR=7.3
H17K Granite Mounta 77.24 3 P **P** **08 51 01.4 -0.8**
baz=354
MLY Manley 77.27 359 P **P** **08 51 03.5 +1.0**
MLY IAmb IAmb 08 51 06.8
comp=Z,5.7nm,1.1s
MLY Manley 77.27 359 P **P** **08 51 02.3 -0.2**
baz=1.9,SNR=7.9
ANM Nome 77.30 5 P **P** **08 51 02.4 -0.1**
baz=350
COLA College 77.36 358 P **P** **08 51 03.0 +0.2**
baz=4.2
H16K Elim 77.43 4 P **P** **08 51 03.0 -0.2**
baz=353
ILAR Eielson Array 77.43 357 P **P** **08 51 04.2 +0.9**
comp=Z,1.1nm,0.9s,baz=2.9,slow=5.4,SNR=11
comp=Z,1.1nm,0.9s
GAMB Gambell 77.47 8 P **P** **08 51 03.1 -0.4**

baz=345
I20K Naaghedeneel 77.52 1 P P 08 51 03.6 -0.1
baz=359
J25K Salcha River, 77.52 357 P P 08 51 03.8 -0.1
baz=6.2
J26L Joseph Creek 77.54 356 P P 08 51 04.0 0.0
baz=7.7
CCB Clear Creek Bu 77.59 358 P P 08 51 04.6 +0.4
DAWY Dawson 77.68 354 P P 08 51 04.9 +0.1
DAWY IAmb IAmb 08 51 09.2
comp=Z,5.3nm,1.0s
DAWY Dawson 77.68 354 P P 08 51 04.4 -0.3
baz=11,SNR=7.7
NEA2 Nenana 77.68 358 P P 08 51 05.0 +0.4
NEA2 IAmb IAmb 08 51 08.8
comp=Z,7.3nm,1.2s
NEA2 Nenana 77.68 358 P P 08 51 04.3 -0.3
baz=3.2
K29M Barlow Dome 77.72 353 P P 08 51 05.3 +0.2
K29M Barlow Dome 77.72 353 P P 08 51 04.9 -0.2
baz=12
HDA Harding Lake 77.80 357 P P 08 51 05.6 +0.2
HDA IAmb IAmb 08 51 09.2
comp=Z,5.7nm,0.8s
HDA Harding Lake 77.80 357 P P 08 51 05.3 0.0
baz=5.0,SNR=6.4
MAYO Mayo, Yukon 77.80 352 P P 08 51 05.0 -0.4
baz=14
K27K Chicken 77.92 355 P P 08 51 05.9 -0.1
baz=8.9
SCRK Sand Creek 78.09 356 P P 08 51 06.3 -0.8
baz=7.3
J20K Nowinta River 78.14 0 P P 08 51 08.2 +0.9
J20K IAmb IAmb 08 51 13.5
comp=Z,7.5nm,1.1s
J20K Nowinta River 78.14 0 P P 08 51 06.8 -0.5
baz=359
MMPY Sheldon Lake, 78.18 350 P P 08 51 06.8 -0.8
baz=17
BPAW Bear Paw Mtn. 78.21 359 P P 08 51 06.8 -0.8
baz=1.7
I17K Unalakleet 78.26 3 P P 08 51 07.3 -0.5
baz=354
J19K Poorman 78.31 1 P
J19K IAmb IAmb 08 51 14.5
comp=Z,11nm,1.1s
J19K Poorman 78.31 1 P P 08 51 07.6 -0.6
baz=358,SNR=10
K24K Donnelly Dome 78.35 357 P P 08 51 06.9 -1.5
baz=5.9
RIDG Independent Ri 78.37 356 P P 08 51 07.9 -0.7
baz=6.6
DOT Dot Lake 78.42 356 P P 08 51 09.6 +0.7
DOT IAmb IAmb 08 51 11.0
comp=Z,6.3nm,1.2s
CHUM Lake Minchumin 78.44 360 P P 08 51 08.1 -0.8
baz=0.6
L29M L29M 78.50 353 P P 08 51 08.1 -1.2
baz=12
MCK McKinley 78.54 358 P P 08 51 08.6 -0.8
baz=3.4
MDP Montagnes des 78.64 268 LR LR 09 25 27.2
comp=Z,30nm,19.5s,baz=79,slow=35
TGTN Hyland Airport 78.77 348 P P 08 51 10.3 -0.5
baz=20
J17K VABM Dome 78.81 3 P P 08 51 10.3 -0.7
baz=355
J18K Innoko River 78.82 2 P P 08 51 10.7 -0.3
baz=357
TRF Thorofare Moun 78.85 359 P P 08 51 10.6 -0.8
baz=2.3
L27K Beaver Creek, 78.86 355 P P 08 51 11.3 0.0
baz=9.0,SNR=5.5
J16K Anvik River 78.86 3 P P 08 51 10.8 -0.5
baz=354
M30M Minto, Yukon 78.89 352 P P 08 51 11.3 -0.2
baz=13
CAST Castle Rocks 78.90 360 P P 08 51 11.6 +0.1
baz=0.8
K20K Telida 78.96 0 P P 08 51 12.0 +0.2
K20K IAmb IAmb 08 51 17.9
comp=Z,6.3nm,1.1s
K20K Telida 78.96 0 P P 08 51 11.3 -0.5
baz=359
M31M Drury Creek, Y 78.99 351 P P 08 51 11.7 -0.3
baz=15
L26K Log Cabin Wild 79.00 355 P P 08 51 12.0 -0.1
baz=7.8
PAX Paxson 79.17 356 P P 08 51 13.1 +0.1
baz=6.1
M29M Somme Creek 79.19 353 P P 08 51 13.1 -0.1
baz=12
J14K Nanvaranak Lak 79.23 5 P P 08 51 13.6 +0.4
baz=352
KOTAN Kotaneelee Air 79.32 346 P P 08 51 13.5 -0.2
baz=23
BVCY Beaver Creek 79.43 354 P P 08 51 14.3 -0.1
baz=9.8
PPLA Purkeypile 79.43 360 P P 08 51 14.1 -0.4
baz=0.7
K17K Iditarod 79.52 2 P P 08 51 14.8 0.0
baz=356
M27K Edge Creek, AK 79.56 355 P P 08 51 15.0 -0.2
baz=9.0
M26K Nabesna, AK 79.59 355 P P 08 51 15.1 -0.2
baz=8.1
ASAJ Asahikawa 79.70 41 LR LR 09 31 22.8
comp=Z,70nm,18.3s,baz=322,slow=39
HARP HAARP 79.72 356 P P 08 51 14.5 -1.5
baz=6.4
PETK Petropavlovsk- 79.74 28 LR LR 09 30 53.9
comp=Z,118nm,18.5s,baz=309,slow=39
K15K Wolf Creek Mou 79.80 4 P P 08 51 15.3 -1.1
baz=353
N32M Quiet Lake 79.84 350 P P 08 51 15.9 -0.8
baz=16
N31M Braeburn, Yuko 79.85 352 P P 08 51 15.9 -0.7
baz=14
L20K Farewell, AK 79.85 0 P P 08 51 15.8 -0.9
baz=359
K13K Kusilvak Mount 79.96 6 P P 08 51 16.1 -1.1
baz=351
JNU Nakatsue 80.01 56 LR LR 09 32 13.1
comp=Z,87nm,19.1s,baz=294,slow=40
N30M Aishikik Lake 80.02 352 P P 08 51 16.5 -1.1
baz=13
YUK3 Moose Creek 80.03 354 P P 08 51 17.0 -0.9
baz=10
M24K Tolsona, Glenn 80.06 357 P P 08 51 17.2 -0.7
baz=5.5
L18K Granite Mounta 80.07 2 P P 08 51 17.0 -0.8
baz=357
L17K Donlin 80.11 2 P P 08 51 17.5 -0.5
baz=356
L19K White Mountain 80.14 1 P P 08 51 17.6 -0.7
baz=359
SKT Skwentna 80.34 359 P P 08 51 19.3 -0.1
baz=1.2
SCM Sheep Creek Mo 80.39 357 P P 08 51 19.4 -0.3
SCM IAmb IAmb 08 51 22.2
comp=Z,9.5nm,0.8s
SCM Sheep Creek Mo 80.39 357 P P 08 51 19.4 -0.3
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 80.39 357 P P 08 51 19.3 -0.3
baz=4.6
L15K Ungalak Mounta 80.42 4 P P 08 51 18.8 -0.9
baz=353
M19K Big River Lodg 80.42 1 P P 08 51 19.0 -0.7
baz=359
M23K Glacier View 80.44 357 P P 08 51 19.5 -0.4
baz=4.3
M20K Styx River 80.45 0 P P 08 51 19.2 -0.8
baz=360
N25K Chitina, Valde 80.48 356 P P 08 51 19.6 -0.6
baz=6.8
WHY Whitehorse 80.54 351 P P 08 51 20.7 +0.2
baz=14
M22K Willow 80.55 359 P P 08 51 20.5 +0.1
baz=2.4
MCARA McCarthy VSAT 80.61 355 P P 08 51 21.2 +0.4
baz=8.0
KLU Klutina 80.67 357 P P 08 51 21.2 +0.1
baz=5.7
HYT Haines Junctio 80.68 352 P P 08 51 22.0 +0.7
baz=12
L14K Kuka Creek 80.68 5 P P 08 51 21.1 0.0
baz=352

PMR Palmer 80.69 358 P P 08 51 21.8 +0.7
baz=3.2
P33M Teslin, Yukon 80.71 350 P P 08 51 22.2 +0.8
baz=16
TOAD Toad River Com 80.73 346 P P 08 51 22.3 +0.8
baz=22
M18K Stony River 80.82 1 P P 08 51 22.3 +0.4
baz=358
KNK Knik Glacier 80.85 358 P P 08 51 22.4 +0.4
baz=3.7
SUA Susitna One 80.85 359 P P 08 51 22.0 -0.2
baz=1.9
M17K Holitna River 80.87 2 P P 08 51 22.8 +0.7
M17K IAmb IAmb 08 51 29.1
comp=Z,9.9nm,1.0s
M17K Holitna River 80.87 2 P P 08 51 22.7 +0.5
baz=356
CTG Chitna Glacier 80.90 354 P P 08 51 22.8 +0.3
baz=9.4
O28M Mount Upton 80.99 354 P P 08 51 23.2 0.0
baz=10
BMRM Bremner River 81.12 356 P P 08 51 23.9 +0.3
baz=6.8
SPCR Spurr Chakacha 81.13 360 P P 08 51 23.9 +0.3
baz=0.7
N20K Mount Spurr 81.13 360 P P 08 51 24.4 +0.8
baz=0.7
M16K Timber Creek 81.19 3 P P 08 51 24.4 +0.5
baz=355
RC01 Rabbit Creek A 81.20 358 P P 08 51 24.5 +0.5
baz=2.7
R33M Jennings River 81.22 349 P P 08 51 24.7 +0.5
baz=18
CRQE Cirque 81.24 355 P P 08 51 24.0 -0.3
baz=8.0
O29M Mount Kennedy 81.31 353 P P 08 51 24.7 0.0
baz=12
P30M Million Dollar 81.31 352 P P 08 51 24.1 -0.5
baz=13
M14K Bethel 81.31 4 P P 08 51 24.5 0.0
baz=353
GLI Glacier Island 81.33 357 P P 08 51 23.5 -1.1
baz=4.8
M11K Mekoryuk 81.36 7 P P 08 51 23.9 -0.8
baz=350
PWL Port Wells 81.40 358 P P 08 51 24.7 -0.3
baz=3.8
SJG San Juan 81.40 286 LR LR 09 21 47.2
comp=Z,31nm,21.7s,baz=68,slow=32
P32M Atlin 81.43 350 P P 08 51 24.9 -0.3
baz=15
M15K Kasigluk River 81.44 4 P P 08 51 25.0 -0.1
baz=354
N19K Bonanza Creek 81.51 1 P P 08 51 25.3 -0.4
baz=359
CAPN Captain Cook N 81.55 359 P P 08 51 25.6 -0.1
baz=1.6
M13K Dall Lake 81.56 5 P P 08 51 25.1 -0.7
baz=352
EYAK Cordova Ski Ar 81.60 356 P P 08 51 25.9 -0.1
baz=5.8
N18K Kilae Creek 81.63 1 P P 08 51 25.3 -0.9
baz=358
PINM Pinnacle 81.67 354 P P 08 51 25.1 -1.4
baz=10
MESA MESA 81.73 354 P P 08 51 26.1 -0.9
baz=8.9
N16K Nishlik Lake 81.75 3 P P 08 51 26.4 -0.4
baz=356
N17K Nushagak Hills 81.75 2 P P 08 51 25.7 -1.1
baz=357
Q32M Nakina River 81.83 349 P P 08 51 26.1 -1.5
baz=16
DLBC Dease Lake 81.98 348 LR LR 09 30 27.9
comp=Z,9.7nm,19.5s,baz=356,slow=38
DLBC Dease Lake 81.98 348 P P 08 51 27.3 -1.0
baz=18
N15K Kwethluk River 82.00 4 P P 08 51 26.8 -1.3
baz=354
PNL Peninsula 82.01 353 P P 08 51 27.0 -1.2
baz=11
O19K Port Alsworth 82.14 1 P P 08 51 28.0 -0.8
baz=359
N14K Kuskokwak Cree 82.16 4 P P 08 51 27.8 -1.2
baz=353
SEW Seward 82.19 358 P P 08 51 28.5 -0.6
baz=2.9
O20K Slope Mountain 82.25 360 P P 08 51 28.2 -1.4
baz=0.4
MJAR Matsushiro Arr 82.39 49 LR LR 09 31 57.9
comp=Z,54nm,19.0s,baz=320,slow=38
O18K Koktuh Hills 82.47 1 P P 08 51 29.9 -0.8
baz=358
O17K Koliganek Bris 82.51 2 P P 08 51 30.3 -0.5
baz=357
TKL Tuckaleechee C 82.59 310 LR LR 09 28 12.3
comp=Z,76nm,18.9s,baz=52,slow=36
O16K Kokwok River B 82.66 3 P P 08 51 30.7 -0.8
baz=356
S34M Telegraph Cree 82.67 348 P P 08 51 31.1 -0.5
baz=17
HOM Homer 82.67 359 P P 08 51 31.3 -0.4
baz=1.1
P19K Oil Pt 82.69 0 P P 08 51 30.6 -1.1
baz=360
Q23K Middleton Isla 82.75 357 P P 08 51 31.1 -0.9
baz=5.4
R32K Eaglecrest 82.81 350 P P 08 51 31.7 -0.8
baz=15
O14K Tigyukauivet M 82.85 4 P P 08 51 31.5 -1.1
baz=354
P18K Big Mountain, 82.93 1 P P 08 51 31.8 -1.3
baz=358
O15K Ungalikthiuk R 83.00 3 P P 08 51 31.8 -1.6
baz=355
P17K Kvichak River 83.10 2 P P 08 51 32.8 -1.1
baz=357
P16K Nushagak River 83.22 3 P P 08 51 32.6 -1.9
baz=356
S31K Pelican 83.34 351 P P 08 51 33.8 -1.3
baz=13
Q19K Cape Douglas, 83.41 0 P P 08 51 33.8 -1.7
baz=360
T35M Bob Quinn 83.41 348 P P 08 51 34.4 -1.1
baz=18
S32K Killisnoo 83.60 350 P P 08 51 35.3 -1.2
baz=15
Q16K King Salmon 83.62 2 P P 08 51 34.7 -1.9
baz=357
Q18K Katmai Hardscr 83.68 1 P P 08 51 35.6 -1.5
baz=358
Q20K Shuyak Island 83.73 360 P P 08 51 36.0 -1.1
baz=0.6
ECSD EROS Data Cent 83.89 323 P P 08 51 37.6 -0.7
ECSD IAmb IAmb 08 51 41.4
comp=Z,3.5nm,0.8s
Q17K Contact Creek 84.05 1 P P 08 51 37.8 -1.1
baz=358
SPIA Saint Paul Isl 84.07 9 P P 08 51 37.8 -1.1
baz=346
SIT Sitka 84.10 350 P P 08 51 37.6 -1.4
baz=14
WRAK Wrangell Islan 84.29 349 P P 08 51 38.8 -1.2
baz=16
KDAK Kodiak Island 84.56 360 LR LR 09 33 20.5
comp=Z,50nm,18.1s,baz=19,slow=38
KDAK Kodiak Island 84.56 360 P P 08 51 39.9 -1.4
baz=0.4
R17L Mt. Peulik Vol 84.67 2 P P 08 51 40.4 -1.6
baz=357
U33K Whale Pass 84.70 349 P P 08 51 40.1 -2.0
baz=16
R18K Karluk 84.77 1 P P 08 51 41.1 -1.3
baz=359
OHAK Old Harbor 85.12 0 P P 08 51 42.9 -1.3
baz=360
V35K Ketchikan 85.22 348 P P 08 51 43.6 -1.1
baz=17
SHEM Shemya Is, Ala 85.23 19 LR LR 09 34 29.9
comp=Z,63nm,18.4s,baz=298,slow=39
CRAG Craig 85.33 349 P P 08 51 43.6 -1.6
baz=16
JHJ Hachijo jima 2 85.66 51 LR LR 09 32 46.3
comp=Z,60nm,18.4s,baz=310,slow=38
S12K Black Hills 86.33 5 P P 08 51 49.4 -0.9
baz=353
CHNA Chernabura Isl 87.35 4 P P 08 51 54.9 -0.3
baz=355

BBB Bella Bella 87.56 345 LR LR 09 34 25.0
comp=Z,68nm,19.1s,baz=34,slow=38
UNV Unalaska Valle 87.78 8 P P 08 51 56.6 -0.7
baz=350
JTMT Jette 87.86 335 P 08 51 57.8 -0.2
BDFB Brasilia 88.06 249 P P 08 52 00.8 +1.4
comp=Z,5.0nm,0.7s,baz=86,slow=4.2,SNR=8.5
BDFB LR LR 09 32 38.5
comp=Z,62nm,18.1s,baz=45,slow=36
comp=Z,5.0nm,0.7s
NEW Newport 88.32 337 P 08 52 00.4 +0.3
NEW IAmb IAmb 08 52 04.2
comp=Z,2.3nm,0.8s
NEW Newport 88.32 337 LR LR 09 34 00.5
comp=Z,72nm,18.6s,baz=34,slow=37
NEW Newport 88.32 337 P P 08 52 00.4 +0.3
NEW pmax pmax
comp=Z,2.0nm,0.9s
NIKH Nikolski High 88.36 9 P P 08 51 59.6 -0.5
baz=348
BPMT Black Pine Rid 88.71 334 P 08 52 02.2 0.0
PDAR Pinedale Array 90.38 330 P P 08 52 09.4 -0.7
comp=Z,0.6nm,0.8s,baz=69,slow=4.9,SNR=5.9
PDAR LR LR 09 36 46.7
comp=Z,26nm,18.9s,baz=24,slow=38
comp=Z,0.6nm,0.8s
MFID Camas Ranch 92.17 334 P 08 52 18.6 +0.4
MFID IAmb IAmb 08 52 23.7
comp=Z,6.8nm,1.3s
ELK Elko 94.30 332 LR LR 09 37 50.9
comp=Z,92nm,18.4s,baz=36,slow=37
ANMO Albuquerque 95.49 323 LR LR 09 36 47.6
comp=Z,93nm,18.4s,baz=132,slow=36
NVAR Mina Array Bea 97.45 333 P Pdif 08 52 42.8 +0.1
comp=Z,0.7nm,0.7s,baz=46,slow=3.0,SNR=7.1
NVAR LR LR 09 39 44.2
comp=Z,102nm,18.8s,baz=45,slow=37
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 98.60 318 P P 08 52 47.8 0.0
comp=Z,0.5nm,0.8s,baz=3.1,slow=8.4,SNR=4.9
comp=Z,0.5nm,0.8s
DZM Mont Dzumac 141.87 77 *e*LR LR 09 44 55.0
comp=Z,66nm,24.5s
TBI Tubuai 165.05 347 *e*LR LR 09 55 28.2
comp=Z,521nm,35.5s

---

*NEIC **08** 08:40:10.4±2.0, 22°.3S±0°.1×179°.2W±0°.1, h559km±6km, mb4.3/18, Error ellipse: s-maj=19.8km s-min=17.0km az=84.0*
*IDC **08** 08:40:10.7±4.1, 22°.57S×179°.20W, h561km±43km, mb3.2/7, mbtmp4.2/9, Error ellipse: s-maj=31.4km s-min=27.1km az=173.0*

ISC 08 08:40:09.3±0.6, 22°.39S±0°.09×179°.1W±0°.1, h550km, n86, σ1ᵍ45/86, mb4.1/18, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.37**	**329**	P	P	**08 41 42.6**	**+0.1**
AFI	**Afiamalu**	**10.91**	**41**	P	P	**08 42 35.3**	**-1.4**
DZM	**Mont Dzumac**	**13.43**	**269**	P	P	**08 43 05.0**	**+2.2**
DZM	**Mont Dzumac**	**13.43**	**269**	P	P	**08 43 04.7**	**+1.9**
	3.8nm,0.6s,baz=80,slow=18,SNR=6.8						
OUZ	**Omahuta**	**14.31**	**205**	P	P	**08 43 13.1**	**+1.6**
GRZ	**Great Barrier**	**14.61**	**198**	P	P	**08 43 15.1**	**+0.6**
WCZ	**Waipu Caves**	**14.67**	**202**	P	P	**08 43 16.9**	**+1.7**
KUZ	**Kuaotunu**	**15.01**	**196**	P	P	**08 43 19.1**	**+0.5**
WMGZ	**Waiomatatini S**	**15.53**	**187**	P	P	**08 43 23.8**	**-0.2**
HAZ	**Te Kaha**	**15.56**	**189**	P	P	**08 43 24.8**	**+0.6**
PKGZ	**Pakihiroa**	**15.62**	**188**	P	P	**08 43 26.3**	**+1.3**
RUGZ	**Raukumara Rang**	**15.78**	**190**	P	P	**08 43 26.6**	**0.0**
PUZ	**Puketiti**	**15.80**	**188**	P	P	**08 43 26.9**	**+0.2**
TWGZ	**Tauwhareparae**	**15.94**	**189**	P	P	**08 43 28.9**	**+0.8**
TOZ	**Tahuroa Road**	**15.99**	**196**	P	P	**08 43 29.0**	**+0.4**
TOZ	**Tahuroa Road**	**15.99**	**196**	P	P	**08 43 29.4**	**+0.9**
URZ	**Urewera**	**16.16**	**191**	P	P	**08 43 28.0**	**-2.1**
	4.8nm,0.3s,baz=264,slow=2.7,SNR=11						
URZ				S	S	**08 46 10.7**	**-3.4**
	12nm,1.1s,baz=84,slow=22,SNR=5.7						
URZ	**Urewera**	**16.16**	**191**	P	P	**08 43 28.1**	**-2.1**
MWZ	**Matawai**	**16.16**	**190**	P	P	**08 43 29.2**	**-1.1**
MUGZ	**Murupara**	**16.43**	**192**	P	P	**08 43 31.5**	**-1.2**
RIGZ	**Rimuhau**	**16.49**	**189**	P	P	**08 43 33.2**	**0.0**
SNGZ	**Shannon Statio**	**16.63**	**190**	P	P	**08 43 33.9**	**-0.6**
MRHZ	**Matea Rd**	**16.84**	**192**	P	P	**08 43 35.8**	**-0.7**
HIZ	**Hauiti**	**16.90**	**197**	P	P	**08 43 38.1**	**+1.2**
NMHZ	**Naumai**	**17.03**	**191**	P	P	**08 43 37.7**	**-0.5**
BKZ	**Black Stump Fm**	**17.15**	**192**	P	P	**08 43 37.1**	**-2.1**
TMVZ	**Te Maari**	**17.26**	**194**	P	P	**08 43 39.7**	**-0.6**
TWVZ	**Taurewa**	**17.28**	**195**	P	P	**08 43 41.8**	**+1.2**
ETVZ	**East Tongariro**	**17.28**	**194**	P	P	**08 43 40.1**	**-0.4**
OTVZ	**Oturere**	**17.32**	**194**	P	P	**08 43 39.9**	**-1.0**
VRZ	**Vera Road**	**17.50**	**196**	P	P	**08 43 44.5**	**+2.1**
NEZ	**North Egmont**	**17.81**	**198**	P	P	**08 43 48.8**	**+3.4**
PXZ	**Pawanui**	**17.93**	**190**	P	P	**08 43 45.4**	**-0.8**
WAZ	**Wanganui**	**18.04**	**195**	P	P	**08 43 49.2**	**+1.9**
TSZ	**Takapari Road**	**18.12**	**192**	P	P	**08 43 47.8**	**-0.3**
BFZ	**Birch Farm**	**18.67**	**191**	P	P	**08 43 52.9**	**-0.1**
MRZ	**Mangatainoka R**	**18.77**	**193**	P	P	**08 43 53.0**	**-1.1**
QRZ	**Quartz Range**	**19.71**	**199**	P	P	**08 44 04.5**	**+2.0**
QRZ	**Quartz Range**	**19.71**	**199**	P	P	**08 44 04.8**	**+2.3**
NNZ	**Nelson**	**19.82**	**197**	P	P	**08 44 04.4**	**+0.8**
THZ	**Tophouse**	**20.46**	**197**	P	P	**08 44 10.4**	**+1.0**
DSZ	**Denniston Nort**	**20.77**	**200**	P	P	**08 44 14.3**	**+2.1**
KHZ	**Kahutara**	**20.91**	**196**	P	P	**08 44 14.5**	**+1.2**
KHZ	**Kahutara**	**20.91**	**196**	P	P	**08 44 14.7**	**+1.3**
GVZ	**Greta Valley S**	**21.55**	**196**	P	P	**08 44 17.3**	**-1.9**
LTZ	**Lake Taylor**	**21.58**	**198**	P	P	**08 44 19.9**	**+0.4**
INZ	**Inchbonnie**	**21.77**	**199**	P	P	**08 44 21.4**	**+0.3**
OXZ	**Oxford**	**22.15**	**197**	P	P	**08 44 27.4**	**+2.9**
WVZ	**Waitaha Valley**	**22.31**	**200**	P	P	**08 44 26.5**	**+0.5**
MQZ	**McQueen's Vall**	**22.34**	**196**	P	P	**08 44 28.8**	**+2.6**
RPZ	**Rata Peaks**	**22.79**	**199**	P	P	**08 44 34.4**	**+4.2**
CTAO	**Charters Tower**	**32.37**	**268**	P	P	**08 45 53.1**	**-1.1**
CTAO				IAmb	IAmb	08 45 54.4	
	comp=Z,3.7nm,0.6s						
STKA	**Stephens Creek**	**36.10**	**246**	P	P	**08 46 25.1**	**-0.1**
STKA	**Stephens Creek**	**36.10**	**246**	P	P	**08 46 25.0**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=97,slow=12,SNR=4.5						
	comp=Z,3.6nm,0.7s						
COEN	**Coen**	**36.76**	**277**	P	P	**08 46 30.1**	**-0.8**
COEN				IAmb	IAmb	08 46 40.0	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**43.15**	**259**	P	P	**08 47 20.5**	**-1.5**
ASAR	**Alice Springs**	**43.15**	**259**	P	P	**08 47 20.5**	**-1.5**
ASAR	**Alice Springs**	**43.15**	**259**	P	P	**08 47 21.2**	**-0.8**
	comp=Z,4.4nm,0.7s,baz=101,slow=7.6,SNR=42						
ASAR				PcP	PcP	**08 48 59.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=107,slow=3.1,SNR=8.3						
	comp=Z,4.4nm,0.7s						
WR8	**Warramunga Arr**	**43.24**	**264**	P	P	**08 47 20.6**	**-2.1**
WR8				IAmb	IAmb	08 47 23.6	
	comp=Z,4.6nm,1.2s						
WRA	**Warramunga Arr**	**43.39**	**264**	P	P	**08 47 21.4**	**-2.5**
WRA	**Warramunga Arr**	**43.39**	**264**	P	P	**08 47 22.2**	**-1.6**
	comp=Z,1.0nm,0.4s,baz=90,slow=5.8,SNR=120						
	comp=Z,1.0nm,0.4s						
KNRA	**Kununurra**	**49.58**	**268**	P	P	**08 48 09.4**	**-1.3**
KNRA				IAmb	IAmb	08 48 20.8	
	comp=Z,7.8nm,1.1s						
MBWA	**Marble Bar**	**56.50**	**259**	P	P	**08 48 58.1**	**-1.8**
MBWA				IAmb	IAmb	08 49 04.8	
	comp=Z,38nm,1.4s						
QSPA	**South Pole Qui**	**67.69**	**180**	P	P	**08 50 14.4**	**+2.6**
BELA	**Belgrano 2**	**77.82**	**173**	P	P	**08 51 09.9**	**+0.2**
K15K	**Wolf Creek Mou**	**85.54**	**8**	P	P	**08 51 50.5**	**+1.5**
K15K				IAmb	IAmb	08 52 27.9	
	comp=Z,12nm,1.5s						
TROLL	**Troll, Antarti**	**85.85**	**180**	⇓P	P	**08 51 49.5**	**-1.2**
	comp=Z,56nm,0.4s						
SNAA	**Sanae**	**86.16**	**179**	⇓P	P	**08 51 51.6**	**-0.5**
	comp=Z,20nm,0.9s						
SNAA	**Sanae**	**86.16**	**179**	P	P	**08 51 51.4**	**-0.7**
SNAA				IAmb	IAmb	08 52 31.7	
	comp=Z,2.3nm,1.2s						
SNAA	**Sanae**	**86.16**	**179**	P	P	**08 51 51.6**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=200,slow=12,SNR=2.6						
	comp=Z,0.9nm,0.9s						
VNA3	**Neumayer Olymp**	**86.33**	**177**	⇓P	P	**08 51 53.3**	**+0.5**
	comp=Z,1.3nm,0.6s						
L19K	**White Mountain**	**86.47**	**11**	P	P	**08 51 54.4**	**+0.9**
L19K				IAmb	IAmb	08 51 54.8	
	comp=Z,9.2nm,1.4s						
SUA	**Susitna One**	**86.61**	**13**	P	P	**08 51 54.7**	**+0.4**

SUA					IAmb	IAmb	08 52 35.8	
	comp=Z,13nm,1.4s							
VNA1	**Neumayer--Stat**	**86.99**	**177**	⇓P	**P**	**P**	**08 51 55.6**	**-0.3**
	comp=Z,1.0nm,0.3s							
SCM	**Sheep Creek Mo**	**87.70**	**14**	P	**P**	**P**	**08 51 59.2**	**-0.1**
SCM					IAmb	IAmb	08 52 03.1	
	comp=Z,8.5nm,1.0s							
TXAR	**Lajitas Array**	**88.90**	**58**	P	**P**	**P**	**08 52 07.7**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=244,slow=5.4,SNR=5.3							
	comp=Z,0.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P	**P**	**P**	**08 52 11.1**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=154,slow=1.4,SNR=4.7							
	comp=Z,1.3nm,0.3s							
ILAR	**Eielson Array**	**90.37**	**13**	P	**P**	**P**	**08 52 12.0**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=213,slow=4.5,SNR=1.6							
	comp=Z,0.4nm,0.9s							
ARCES	**ARCESS Array B**	**130.58**	**349**	PKP		**PKPdf**	**08 58 17.0**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=3.5,slow=0.7,SNR=3.6							
FINES	**FINESS Array B**	**137.28**	**342**	PKP		**PKPdf**	**08 58 29.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=67,slow=3.6,SNR=1.7							
HFS	**Hagfors**	**141.23**	**350**	PKhKP	PKPpre		08 58 31.8	
	comp=Z,1.0nm,0.5s,baz=28,slow=3.4,SNR=9.8							
AKASG	**Malin Array Be**	**144.15**	**329**	PKP	PKPbc		08 58 41.5	-0.6
	comp=Z,1.5nm,0.3s,baz=45,slow=4.1,SNR=14							
EKA	**Eskdalemuir Ar**	**146.96**	**4**	PKPbc		**PKPbc**	**08 58 49.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=9.1,slow=2.6,SNR=3.0							
BRTR	**Keskin Array B**	**147.32**	**309**	PKPbc		**PKPbc**	**08 58 51.6**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=116,slow=4.8,SNR=4.8							
MMAI	**Mount Meron Ar**	**147.83**	**297**	PKPbc		**PKiKP**	**08 58 53.9**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=64,slow=5.0,SNR=2.3							
GERES	**GERESS Array B**	**151.71**	**342**	PKPbc		**PKiKP**	**08 59 02.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=20,slow=3.3,SNR=4.0							

*THE **08** 08:42:36.8, 38˚N ± 18˚ × 2˚7E ± 1˚3, h24km ± 12km, MLh2.7/2*
*ISK **08** 08:42:39.7, 38˚01N × 26˚96E, h7km, ML2.5/10*
ISC 08 08:42:37.7 ± 1.1, **38˚05N** ± 0˚04 × **26˚70E** ± 0˚04, **h9**km ± 9km, **n13**, σ1°**36/19**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.17**	**79**	Pg	**Pg**	**08 42 42.3**	**+0.9**
GMLD				Sg	**Sg**	**08 42 44.1**	**+0.2**
SMG	**Samos**	**0.35**	**162**	P	**Pg**	**08 42 44.8**	**+0.1**
SMG				S	**Sb**	**08 42 51.4**	**-0.4**
BLCB	**Balcova**	**0.43**	**38**	Pg	**Pb**	**08 42 47.9**	**+0.4**
BLCB				Sg	**Sb**	**08 42 53.4**	**-0.8**
BLCB	**Balcova**	**0.43**	**38**	P	**Pg**	**08 42 45.8**	**-0.4**
BLCB				S	**Sb**	**08 42 52.7**	**-1.5**
CHOS	**Chios island**	**0.61**	**304**	Pg	**Pn**	**08 42 55.7**	**+3.1**
CHOS	**Chios island**	**0.61**	**304**	P	**Pg**	**08 42 48.2**	**-1.4**
CHOS				S	**Sg**	**08 42 56.8**	**-0.9**
FOCM	**Foa**	**0.67**	**2**	Pg	**Pn**	**08 42 53.9**	**+0.6**
FOCM				Sg	**Sn**	**08 43 04.4**	**+0.5**
CAND	**Candarli**	**0.91**	**5**	Pg	**Pn**	**08 42 58.4**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**96**	Pg	**Pb**	**08 42 54.5**	**-1.8**
ODEM	**Odemis-Izmir**	**1.11**	**78**	Pg	**Pb**	**08 42 57.6**	**-1.5**
NAZL	**Nazilli-Aydin**	**1.26**	**93**	Pg	**Pb**	**08 43 00.2**	**-1.4**
SOMA	**Soma-Manisa**	**1.29**	**30**	Pn	**Pg**	**08 43 03.1**	**+0.7**
GORD	**Gordes-Manisa**	**1.45**	**53**	Pn	**Pg**	**08 43 04.9**	**-0.5**

*ATH **08** 08:47:33.9, 38˚04N × 26˚96E, h13km ± 2km, ML3.1/8,*
Manual Solution by A.Andreou First location: 2019/08/08 08:49:23, This location: 2019/08/08 09:16:55 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km
*ISK **08** 08:47:34.6, 38˚03N × 26˚88E, h5km, ML3.2/30*
*THE **08** 08:47:34.8, 38˚N ± 3˚ × 2˚7E ± ˚, h10km ± 4km, M3.3/5, MLh3.3/5*
*AFAD **08** 08:47:39.1, 38˚14N × 27˚20E, h2km ± 2km, ML3.0*
ISC 08 08:47:33.9 ± 0.9, **38˚02N** ± 0˚02 × **26˚90E** ± 0˚02, **h12**km ± 6km, **n65**, σ0°**86/87**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.06**	**17**	Pg	**Pg**	**08 47 36.5**	**+0.2**
GMLD				Sg	**Sg**	**08 47 38.2**	**+0.1**
KRL1	**Karlovasi Samo**	**0.27**	**213**	P	**Pb**	**08 47 40.5**	**-0.1**
KRL1				S	**Sb**	**08 47 45.0**	**-0.2**
SMG	**Samos**	**0.32**	**188**	P	**Pb**	**08 47 41.2**	**-0.3**
SMG				S	**Sb**	**08 47 46.1**	**-0.4**
SMG	**Samos**	**0.32**	**188**	P	**Pb**	**08 47 41.1**	**-0.3**
SMG				S	**Sb**	**08 47 46.2**	**-0.2**
BLCB	**Balcova**	**0.38**	**18**	Pg	**Pb**	**08 47 42.2**	**-0.3**
BLCB				Sg	**Sb**	**08 47 47.8**	**-0.6**
BLCB	**Balcova**	**0.38**	**18**	P	**Pb**	**08 47 42.3**	**-0.3**
BLCB				S	**Sb**	**08 47 47.2**	**-1.2**
CESE	**eme**	**0.56**	**304**	Pg	**Pb**	**08 47 45.1**	**-0.5**
DIDI	**Didim-Aydin**	**0.70**	**157**	Pg	**Pn**	**08 47 49.0**	**-0.5**
FOCM	**Foa**	**0.70**	**349**	Pg	**Pb**	**08 47 48.4**	**+0.4**
FOCM				Sg	**Sb**	**08 47 58.3**	**+0.7**
CHOS	**Chios island**	**0.76**	**299**	Pg	**Pb**	**08 47 49.2**	**+0.2**
CHOS	**Chios island**	**0.76**	**299**	P	**Pb**	**08 47 48.8**	**-0.2**
CHOS				S	**Sb**	**08 47 59.0**	**-0.2**
CHOS	**Chios island**	**0.76**	**299**	P	**Pb**	**08 47 49.2**	**+0.2**
CHOS				S	**Sb**	**08 48 00.2**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**95**	Pg	**Pb**	**08 47 49.9**	**+0.3**
AYDB				Sg	**Sn**	**08 48 02.3**	**-0.4**
EAG2	**Marmaro, Chios**	**0.81**	**310**	P	**Pb**	**08 47 50.9**	**+1.1**
EAG2				S	**Sb**	**08 48 02.0**	**+1.3**
YKAV	**Yalikavak-Bodr**	**0.95**	**161**	Pg	**Pn**	**08 47 53.7**	**+0.8**
ODEM	**Odemis-Izmir**	**0.96**	**74**	Pg	**Pn**	**08 47 53.3**	**+0.1**
GOMA	**Golmarmara-Man**	**1.06**	**49**	Pg	**Pn**	**08 47 55.4**	**+1.0**
NAZL	**Nazilli-Aydin**	**1.11**	**93**	Pn	**Pn**	**08 47 55.9**	**+0.8**
AKS	**Akhisar**	**1.12**	**40**	Pn	**Pn**	**08 47 56.5**	**+1.2**
SOMA	**Soma-Manisa**	**1.24**	**24**	Pn	**Pn**	**08 47 58.4**	**+1.4**
GORD	**Gordes-Manisa**	**1.34**	**48**	Pn	**Pb**	**08 48 00.4**	**+1.5**
MANT	**Manisa**	**1.39**	**70**	P	**Pb**	**08 48 01.0**	**+1.1**
MANT				S	**Sg**	**08 48 17.3**	**-1.4**
MANT				*i* IAML		08 48 19.0	
	comp=N,320nm,0.3s						
MANT				*i* IAML		08 48 21.0	
	comp=E,371nm,0.3s						
DAT	**Datca**	**1.40**	**157**	Pn	**Pb**	**08 48 01.3**	**+1.3**
DAT	**Datca**	**1.40**	**157**	P	**Pb**	**08 47 59.8**	**-0.2**
SIGR	**SIGRI**	**1.44**	**326**	Pn	**Pb**	**08 48 01.5**	**+0.9**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**08 47 60.0**	**+0.3**
SIGR				S	**Sg**	**08 48 18.1**	**-2.1**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**08 47 59.9**	**+0.1**
SIGR				S	**Sg**	**08 48 18.2**	**-2.1**
KULA	**Kula-Manisa**	**1.48**	**70**	Pn	**Pb**	**08 48 02.8**	**+1.6**
GPNR	**Gulpinar-Canak**	**1.55**	**338**	Pn	**Pg**	**08 48 03.2**	**-0.5**
YAYO	**Edremit-Balk**	**1.59**	**5**	Pn	**Pg**	**08 48 03.3**	**-0.6**
DEMI	**Demirci**	**1.75**	**54**	P	**Pg**	**08 48 07.5**	**-0.1**
DEMI				S	**Sn**	**08 48 27.9**	**+1.4**
DEMI				*i* IAML		08 48 34.0	
	comp=E,249nm,0.3s						
USAK	**Uak-Merkez**	**1.81**	**67**	P	**Pg**	**08 48 09.1**	**+0.6**
USAK				S	**Sn**	**08 48 27.1**	**-0.6**
USAK				*i* IAML		08 48 35.0	
	comp=N,107nm,0.6s						
EZN	**Ezine**	**1.86**	**346**	Pn	**Pb**	**08 48 07.9**	**+0.2**
EZN	**Ezine**	**1.86**	**346**	P	**Pn**	**08 48 05.9**	**+0.5**
EZN				S	**Sn**	**08 48 28.9**	**+0.2**
YENI	**Yenice-Canakka**	**1.93**	**8**	Pn	**Pb**	**08 48 08.9**	**-0.1**
SIMA	**Simav-Kutahya**	**1.95**	**56**	Pn	**Pb**	**08 48 09.5**	**+0.1**
APMY	**Acipayam-Deniz**	**1.98**	**105**	Pn	**Pb**	**08 48 09.9**	**0.0**
CANM	**Can-anakkale**	**1.99**	**4**	Pn	**Pb**	**08 48 09.6**	**-0.4**
DURS	**Dursunbey**	**2.00**	**38**	P	**Pb**	**08 48 09.9**	**-0.3**
DURS				S	**Sg**	**08 48 36.8**	**-1.4**
DURS				*i* IAML		08 48 43.0	
	comp=E,164nm,0.4s						
ARG	**Arkhangelos**	**2.05**	**151**	Pn	**Pb**	**08 48 11.2**	**+0.2**
PASA	**Karahalli, USA**	**2.07**	**80**	P	**Pb**	**08 48 10.8**	**-0.6**
PASA				S	**Sg**	**08 48 39.3**	**-1.1**
DST	**Dursunbey**	**2.08**	**40**	Pn	**Pb**	**08 48 11.2**	**-0.3**
SHAP	**Saphane-Kutahy**	**2.08**	**61**	Pn	**Pb**	**08 48 11.6**	**0.0**
GONE	**Gonen-Balikesi**	**2.11**	**17**	Pn	**Pb**	**08 48 11.9**	**-0.2**
CAME	**Cameli-Denizli**	**2.20**	**119**	Pn	**Pb**	**08 48 13.3**	**-0.3**
GEDZ	**Gediz**	**2.22**	**62**	Pn	**Pb**	**08 48 13.6**	**-0.4**
GDZ	**Gediz**	**2.29**	**61**	P	**Pg**	**08 48 17.3**	**-0.5**
GDZ				S	**Sg**	**08 48 46.6**	**-0.9**
LIA	**Limnos Island**	**2.30**	**325**	P	**Pn**	**08 48 11.9**	**+0.4**
GADA	**Gvkgeada**	**2.30**	**341**	Pn	**Pb**	**08 48 14.4**	**-0.9**
EMET	**Ktahya-Emet**	**2.33**	**54**	P	**Pb**	**08 48 16.5**	**+0.6**
EMET				S	**Sg**	**08 48 48.3**	**-0.5**
EMET				*i* IAML		08 48 54.0	
	comp=E,123nm,0.5s						
EMET				*i* IAML		08 48 56.0	
	comp=N,104nm,0.5s						

DION	**Dionisos Attik**	**2.34**	**272**	P	**Pn**	**08 48 12.6**	**+0.5**
PTL	**Penteli**	**2.39**	**272**	P	**Pn**	**08 48 13.2**	**+0.4**
BNAZ	**Uak-Banaz**	**2.44**	**73**	P	**Pg**	**08 48 19.7**	**-0.9**
BNAZ				S	**Sg**	**08 48 53.1**	**+1.0**
BNAZ				*i* IAML		08 48 59.0	
	comp=N,195nm,0.8s						
BNAZ				*i* IAML		08 48 59.0	
	comp=E,200nm,0.7s						
SMTH	**Samothraki Isl**	**2.67**	**337**	P	**Pn**	**08 48 17.2**	**+0.7**
MET2	**Kameni Chora,**	**2.85**	**263**	P	**Pn**	**08 48 19.6**	**+0.5**
ALN	**Alexandroupoli**	**2.95**	**347**	P	**Pn**	**08 48 20.9**	**+0.5**
RDO	**Rodhopi**	**3.29**	**342**	P	**Pn**	**08 48 25.7**	**+0.5**
KLV	**Kalavryta, Ach**	**3.75**	**272**	P	**Pn**	**08 48 32.6**	**+1.1**
KALE	**Kalithea**	**3.76**	**277**	P	**Pn**	**08 48 32.8**	**+1.1**
SERG	**Sergoula**	**3.83**	**277**	P	**Pn**	**08 48 34.2**	**+1.6**
EFP	**Efpalio**	**3.95**	**277**	P	**Pn**	**08 48 35.5**	**+1.3**
ANX	**Ano Chora**	**3.95**	**280**	P	**Pn**	**08 48 35.9**	**+1.5**
ITM	**Ithomi**	**4.03**	**259**	P	**Pn**	**08 48 37.0**	**+1.6**
DRO	**Drossia**	**4.10**	**271**	P	**Pn**	**08 48 37.0**	**+0.7**
AXS	**Araxos**	**4.36**	**274**	P	**Pn**	**08 48 41.4**	**+1.6**

*IDC **08** 08:53:20.0 ± 1.1, 35˚19N × 106˚62E, h0km, mb3.7/5,*
mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=79.7km s-min=18.8km az=56.0
ISC 08 08:53:25.0 ± 1.3, **35˚3N** ± 0˚2 × **106˚7E** ± 0˚3, **h35**km, **n6**, σ0°**31/6**, **mb3.6/5**, **Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.54**	**359**	Pn	**Pn**	**08 56 21.0**	**0.0**
	0.1nm,0.3s,baz=185,slow=12,SNR=1.8						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**21.62**	**310**	P	**P**	**08 58 11.7**	**-0.2**
	1.8nm,0.6s,baz=108,slow=13,SNR=16						
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**24.14**	**327**	P	**P**	**08 58 37.4**	**-0.1**
	0.7nm,0.3s,baz=138,slow=9.2,SNR=1.9						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**25.49**	**316**	P	**P**	**08 58 50.1**	**+0.4**
	1.6nm,0.8s,baz=122,slow=8.6,SNR=6.5						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**60.86**	**150**	P	**P**	**09 03 33.8**	**-0.2**
	1.4nm,0.7s,baz=340,slow=7.1,SNR=9.7						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**64.05**	**152**	P	**P**	**09 03 55.5**	**+0.2**
	0.7nm,0.7s,baz=339,slow=8.5,SNR=7.8						
	0.7nm,0.7s						

*WEL **08** 08:58:20.1 ± 1.0, 39˚S ± 5˚ × 17˚9E ± ˚, h12km, M3.4/36,*
ML3.5/17, MLv3.4/36, Error ellipse: s-maj=8.6km s-min=6.6km az=81.1, confirmed
*NOU **08** 08:58:23.1, 39˚37S × 179˚28E, h111km, mb3.8/7, Off E. Coast of N. Island, N.Z.*
ISC 08 08:58:14.3 ± 3.2, **39˚18S** ± 0˚05 × **179˚62E** ± 0˚09, **h4**km ± 19km, **n70**, σ2°**41/77**, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**1.33**	**271**	P	**Pn**	**08 58 42.0**	**+2.4**
PRGZ	**Paritu Road**	**1.37**	**280**	P	**Pn**	**08 58 42.5**	**+2.3**
KNZ	**Kokohu**	**1.52**	**275**	P	**Pn**	**08 58 44.7**	**+2.5**
RIGZ	**Rimuhau**	**1.52**	**287**	P	**Pn**	**08 58 44.6**	**+2.4**
RIGZ				S	**Sb**	**08 59 02.2**	**-0.5**
PUZ	**Puketiti**	**1.53**	**316**	P	**Pn**	**08 58 43.5**	**+1.1**
PUZ				S	**Sb**	**08 59 00.4**	**-2.5**
TKGZ	**Te Karaka**	**1.56**	**298**	P	**Pn**	**08 58 45.1**	**+2.3**
TKGZ				S	**Sn**	**08 59 03.2**	**-0.3**
TWGZ	**Tauwhareparae**	**1.62**	**307**	P	**Pn**	**08 58 45.6**	**+1.9**
TWGZ				S	**Sg**	**08 59 04.7**	**-1.7**
WMGZ	**Waiomatatini S**	**1.65**	**325**	P	**Pn**	**08 58 45.0**	**+1.1**
PKGZ	**Pakihiroa**	**1.78**	**317**	P	**Pn**	**08 58 47.0**	**+1.3**
PKGZ				S	**Sn**	**08 59 07.2**	**-1.6**
SNGZ	**Shannon Statio**	**1.82**	**282**	P	**Pn**	**08 58 48.9**	**+2.5**
SNGZ				S	**Sn**	**08 59 10.1**	**+0.3**
MWZ	**Matawai**	**1.84**	**297**	P	**Pn**	**08 58 48.6**	**+2.0**
MWZ				S	**Sn**	**08 59 09.8**	**-0.5**
RAGZ	**Rawiri**	**1.85**	**291**	P	**Pn**	**08 58 49.1**	**+2.3**
RAGZ				S	**Sn**	**08 59 10.6**	**0.0**
WHHZ	**Waihua**	**1.85**	**272**	P	**Pn**	**08 58 49.8**	**+3.0**
MXZ	**Matakaoa Point**	**1.91**	**327**	P	**Pn**	**08 58 49.1**	**+1.5**
MXZ				S	**Sn**	**08 59 11.3**	**-0.7**
RUGZ	**Raukumara Rang**	**1.94**	**308**	P	**Pn**	**08 58 50.1**	**+1.9**
RAHZ	**Arahi**	**1.99**	**277**	P	**Pn**	**08 58 51.8**	**+3.2**
HAZ	**Te Kaha**	**2.02**	**314**	P	**Pn**	**08 58 50.5**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.02**	**255**	P	**Pn**	**08 58 51.5**	**+2.4**
ARHZ	**Aropaoanui**	**2.04**	**267**	P	**Pn**	**08 58 52.3**	**+3.0**
RTZ	**Ruatahuna**	**2.13**	**284**	P	**Pn**	**08 58 53.3**	**+2.7**
URZ	**Urewera**	**2.16**	**294**	P	**Pn**	**08 58 53.5**	**+2.5**
MTHZ	**Maungataniwha**	**2.19**	**278**	P	**Pn**	**08 58 54.1**	**+2.7**
NMHZ	**Nuhaka**	**2.19**	**271**	P	**Pn**	**08 58 54.5**	**+3.1**
KAHZ	**Kahuranaki**	**2.21**	**253**	P	**Pn**	**08 58 54.1**	**+2.4**
MCHZ	**McNeill Hill**	**2.28**	**262**	P	**Pn**	**08 58 55.6**	**+3.0**
PXZ	**Pawanui**	**2.29**	**247**	P	**Pn**	**08 58 54.4**	**+1.6**
MUGZ	**Murupara**	**2.33**	**287**	P	**Pn**	**08 58 56.2**	**+2.9**
BKZ	**Black Stump Fm**	**2.43**	**269**	P	**Pn**	**08 58 57.4**	**+2.6**
BKZ	**Black Stump Fm**	**2.43**	**269**	S	**Sn**	**08 59 26.0**	**+1.1**
BKZ	**Black Stump Fm**	**2.43**	**269**	P	**Pn**	**08 58 57.3**	**+2.6**
KWHZ	**Kaweka Forest**	**2.49**	**263**	P	**Pn**	**08 58 58.1**	**+2.5**
MRHZ	**Matea Rd**	**2.52**	**277**	P	**Pn**	**08 58 59.1**	**+3.1**
PRHZ	**Porangahau**	**2.54**	**244**	P	**Pn**	**08 58 58.1**	**+1.8**
KRHZ	**Kereru**	**2.56**	**258**	P	**Pn**	**08 58 58.9**	**+2.4**
PRRZ	**Plateau Road**	**2.61**	**284**	P	**Pn**	**08 59 00.0**	**+2.9**
WPHZ	**Waipukurau**	**2.61**	**249**	P	**Pn**	**08 58 59.4**	**+2.2**
ALRZ	**Allen Road**	**2.63**	**282**	P	**Pn**	**08 59 00.7**	**+3.3**
PNHZ	**Pukenui**	**2.74**	**253**	P	**Pn**	**08 59 01.1**	**+2.0**
OPRZ	**Ohinepanea**	**2.75**	**298**	P	**Pn**	**08 59 01.0**	**+1.9**
RITZ	**Rihia Road**	**2.93**	**273**	P	**Pn**	**08 59 05.1**	**+3.5**
TSZ	**Takapari Road**	**2.96**	**252**	P	**Pn**	**08 59 03.8**	**+1.8**
BFZ	**Birch Farm**	**3.00**	**239**	P	**Pn**	**08 59 03.2**	**+0.7**
ETVZ	**East Tongariro**	**3.04**	**270**	P	**Pn**	**08 59 06.4**	**+3.3**
TMVZ	**Te Maari**	**3.04**	**270**	P	**Pn**	**08 59 06.3**	**+3.1**
TUVZ	**Tukino**	**3.08**	**267**	P	**Pn**	**08 59 06.8**	**+3.0**
KRVZ	**Karewarewa**	**3.09**	**270**	P	**Pn**	**08 59 07.1**	**+3.2**
NNVZ	**North Ngauruho**	**3.11**	**270**	P	**Pn**	**08 59 07.8**	**+3.6**
NGZ	**Ngauruhoe**	**3.12**	**269**	P	**Pn**	**08 59 07.5**	**+3.1**
WNVZ	**Wahianoa**	**3.12**	**266**	P	**Pn**	**08 59 07.7**	**+3.3**
PRWZ	**Pori Road**	**3.12**	**243**	P	**Pn**	**08 59 05.9**	**+1.6**
WHVZ	**Whangaehu Hut**	**3.13**	**267**	P	**Pn**	**08 59 07.5**	**+3.0**
TRVZ	**Turoa**	**3.16**	**267**	P	**Pn**	**08 59 07.1**	**+2.1**
POWZ	**Post Office Ro**	**3.20**	**247**	P	**Pn**	**08 59 07.3**	**+1.9**
MRZ	**Mangatainoka R**	**3.44**	**243**	P	**Pn**	**08 59 09.7**	**+1.1**
TMWZ	**Te Maipa**	**3.44**	**235**	P	**Pn**	**08 59 08.9**	**+0.2**
HOWZ	**Holdsworth Sta**	**3.59**	**240**	P	**Pn**	**08 59 11.3**	**+0.7**
WAZ	**Wanganui**	**3.63**	**259**	P	**Pn**	**08 59 16.2**	**+5.0**
MTW	**Mount Morrison**	**3.72**	**237**	P	**Pn**	**08 59 12.5**	**0.0**
HIZ	**Hauiti**	**3.78**	**279**	P	**Pn**	**08 59 17.4**	**+4.2**
VRZ	**Vera Road**	**3.78**	**269**	P	**Pn**	**08 59 17.2**	**+4.0**
OGWZ	**Otaki Gorge**	**3.79**	**243**	P	**Pn**	**08 59 14.5**	**+1.1**
KUZ	**Kuaotunu**	**3.92**	**307**	P	**Pn**	**08 59 16.4**	**+1.2**
CAW	**Cannon Point**	**3.98**	**240**	P	**Pn**	**08 59 16.7**	**+0.6**
KIW	**Kapiti Island**	**3.99**	**244**	P	**Pn**	**08 59 17.4**	**+1.3**
MSWZ	**Moikau Station**	**4.02**	**235**	P	**Pn**	08 59 16.1	-0.5
CTZ	**Chatham Island**	**5.36**	**149**	P	**Pn**	**08 59 38.9**	**+4.0**
KHZ	**Kahutara**	**5.63**	**233**	P	**Pn**	**08 59 40.9**	**+2.2**
KHZ	**Kahutara**	**5.63**	**233**	S	**Sn**	**09 00 40.5**	**-3.3**
QRZ	**Quartz Range**	**5.69**	**251**	P	**Pn**	**08 59 39.8**	**+0.3**
QRZ	**Quartz Range**	**5.69**	**251**	S	**Sn**	**09 00 42.0**	**-3.1**

*OSPL **08** 09:02:32.7 ± 0.6, 18˚69N × 72˚10W, h43km ± 5km, ML2.0*
*SDD **08** 09:02:35.6 ± 1.0, 18˚56N × 72˚02W, h1km ± 12km, MD2.5, ML1.8, MW2.2*
ISC 08 09:02:34.0 ± 1.1, **18˚53N** ± 0˚04 × **72˚01W** ± 0˚04, **h17**km ± 7km, **n10**, σ0°**89/19**, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.16**	**106**	*i* P	**Pg**	**09 02 37.9**	**-0.2**
JIDR				*e*Sg	**Sg**	**09 02 41.3**	**+0.4**
JIDR				IAML		09 02 41.5	
	comp=E,666nm,0.2s						
JIDR				IAML		09 02 41.7	
	comp=N,253nm,0.1s						
PAPH	**Port-au-Prince**	**0.28**	**268**	*i* P	**Pb**	**09 02 40.3**	**-0.2**
PAPH				*e*S	**Sb**	**09 02 45.6**	**+0.6**
PAPH				IAML		09 02 46.9	
	comp=Z,110nm,0.3s						
LODU1	**El Espartillar**	**0.54**	**110**	*i* P	**Pg**	**09 02 44.8**	**+0.1**
LODU1				*e*S	**Sb**	**09 02 54.3**	**+1.8**
LODU1				IAML		09 02 58.7	
	comp=Z,58nm,0.3s						
NEDR	**Neiba UASD**	**0.56**	**95**	*i* P	**Pg**	**09 02 45.4**	**+0.3**
NEDR				*e*Sg	**Sg**	**09 02 51.8**	**-0.9**
NEDR				IAML		09 02 57.4	
	comp=N,51nm,0.3s						
LOBH	**Bahia de las A**	**0.76**	**152**	*i* P	**Pg**	**09 02 48.1**	**-0.6**
LOBH				*e*S	**Sn**	**09 03 00.1**	**-0.8**
LOBH				IAML		09 03 03.9	
	comp=Z,25nm,1.6s						
PODR	**Polo**	**0.78**	**118**	*i* P	**Pn**	**09 02 50.5**	**+0.1**
PODR				*e*S	**Sn**	**09 03 02.6**	**+0.7**
PODR	**Polo**	**0.78**	**118**	*i* P	**Pn**	**09 02 50.3**	**-0.1**
PODR				*e*Sg	**Sg**	**09 03 00.9**	**+1.3**
PODR				IAML		09 03 19.7	
	comp=N,34nm,1.4s						
REDR	**Restauracion**	**0.86**	**43**	*i* P	**Pb**	**09 02 49.6**	**-0.8**
REDR				*e*Sg	**Sb**	**09 03 00.2**	**-1.4**
REDR				IAML		09 03 03.2	
	comp=N,18nm,0.1s						
REDR				IAML		09 03 04.8	
	comp=E,16nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.95**	**140**	*i* P	**Pb**	**09 02 51.5**	**-0.6**
LOVI				IAML		09 03 11.7	
	comp=Z,59nm,4.2s						
MCDR	**Montecristi**	**1.39**	**14**	*i* P	**Pb**	**09 02 59.9**	**+0.3**
MCDR				*e*Sg	**Sb**	**09 03 18.0**	**+0.9**
MCDR				IAML		09 03 47.1	
	comp=N,60nm,2.0s						

*IDC **08** 09:11:46.5 ± 1.4, 6˚75S × 129˚84E, h0km, mb4.0/2,*
mbtmp4.2/5, ML4.5/3, Error ellipse: s-maj=63.2km s-min=25.8km az=72.0
*NEIC **08** 09:11:57.7 ± 2.1, 6˚99S ± 0˚07 × 129˚5E ± 0˚1, h150km ± 20km, mb4.3/3, Error ellipse: s-maj=15.5km s-min=10.7km az=94.0*
*DJA **08** 09:11:59.3 ± 0.5, 7˚S ± 3˚ × 13˚0E ± ˚, h157km ± 19km, M4.3/10, mB5.0/2, mb4.2/7, MLv4.4/10, Mw(mB)4.3/2*
ISC 08 09:11:58.9 ± 0.7, **7˚20S** ± 0˚05 × **129˚51E** ± 0˚07, **h139**km, **n37**, σ2°**86/43**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**114**		**Pn**	**09 12 33.9**	**+1.3**
SAUI				Sn	**Sn**	**09 13 00.3**	**+1.8**
SAUI	**Saumlaki**	**1.94**	**114**	P	**Pn**	**09 12 34.2**	**+1.5**
SAUI	**Saumlaki**	**1.94**	**114**	S	**Sn**	**09 13 00.5**	**+2.0**
SAUI	**Saumlaki**	**1.94**	**114**	P	**Pn**	**09 12 34.1**	**+1.4**
AAI	**Ambon**	**3.72**	**339**	P	**Pn**	**09 12 56.4**	**+1.1**
FAKI	**Fak Fak**	**5.05**	**33**	Pn	**Pn**	**09 13 09.6**	**-3.3**
FAKI				Sn	**Sn**	**09 14 04.7**	**-5.9**
FAKI	**Fak Fak**	**5.05**	**33**	P	**Pn**	**09 13 10.7**	**-2.2**
DRS	**Darwin Rock St**	**5.38**	**165**	P

Manual Solution by G.Panopoulou First location: 2019/08/08 16:43:16, This location: 2019/08/08 16:42:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km
*ISK **08** 09:32:37.8,38.01N×26.91E,h6km,ML3.3/28*
*THE **08** 09:32:38.3,38°N±2°×2°7E±°,h10km±3km,M2.9/7, MLh2.9/7*
*AFAD **08** 09:32:38.6,37.97N×27.01E,h19km±4km,ML2.4*
ISC 08 09:32:37.4±0.8,**38.02N**±0.02×**26.91E**±0.02,**h15**km±6km, **n58**,σ0**65**/79,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.06**	**4**	Pg		**Pg**	**09 32 40.2**	**0.0**
GMLD				Sg		**Sg**	**09 32 41.9**	**-0.2**
SMG	**Samos**	**0.32**	**191**	P		**Pb**	**09 32 44.6**	**-0.1**
SMG				S		**Sb**	**09 32 49.2**	**-0.4**
SMG	**Samos**	**0.32**	**191**	P		**Pb**	**09 32 44.6**	**-0.1**
SMG				S		**Sb**	**09 32 49.4**	**-0.2**
BLCB	**Balcova**	**0.38**	**16**	Pg		**Pb**	**09 32 45.9**	**+0.1**
BLCB				Sg		**Sb**	**09 32 51.3**	**-0.2**
BLCB	**Balcova**	**0.38**	**16**	P		**Pb**	**09 32 45.9**	**+0.1**
BLCB				S		**Sg**	**09 32 51.0**	**+0.6**
CESE	**eme**	**0.57**	**303**	Pg		**Pb**	**09 32 49.5**	**+0.4**
DIDI	**Didim-Aydin**	**0.69**	**158**	Pg		**Pb**	**09 32 51.8**	**+0.7**
FOCM	**Foa**	**0.71**	**349**	Pg		**Pn**	**09 32 52.3**	**-0.5**
CHOS	**Chios island**	**0.77**	**299**	Pg		**Pb**	**09 32 52.8**	**+0.3**
CHOS	**Chios island**	**0.77**	**299**	P		**Pb**	**09 32 52.7**	**+0.3**
CHOS				S		**Sb**	**09 33 03.3**	**+0.5**
CHOS	**Chios island**	**0.77**	**299**	P		**Pb**	**09 32 52.7**	**+0.3**
CHOS				S		**Sb**	**09 33 03.5**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**95**	Pg		**Pb**	**09 32 53.3**	**+0.6**
EAG2	**Marmaro, Chios**	**0.82**	**310**	P		**Pb**	**09 32 53.7**	**+0.4**
EAG2				S		**Sb**	**09 33 04.7**	**+0.5**
IZMR	**zmir-demi**	**0.83**	**82**	Pn		**Pg**	**09 32 54.2**	**-0.2**
IZMR				S		**Sg**	**09 33 04.0**	**-0.4**
IZMR				*i*	IAML		09 33 09.0	
	comp=E,160nm,0.4s							
YKAV	**Yalikavak-Bodr**	**0.94**	**162**	Pg		**Pn**	**09 32 56.2**	**+0.2**
ODEM	**Odemis-Izmir**	**0.95**	**74**	Pg		**Pn**	**09 32 56.6**	**+0.3**
GOMA	**Golmarmara-Man**	**1.05**	**49**	Pg		**Pg**	**09 32 58.5**	**+0.9**
NAZL	**Nazilli-Aydin**	**1.09**	**92**	Pn		**Pg**	**09 32 58.9**	**+0.4**
AKS	**Akhisar**	**1.11**	**39**	Pn		**Pg**	**09 32 59.8**	**+0.9**
ESEN	**Aydn-Nazilli**	**1.16**	**101**	P		**Pg**	**09 32 59.9**	**+0.2**
ESEN				S		**Sn**	**09 33 14.6**	**0.0**
ESEN				*i*	IAML		09 33 18.0	
	comp=N,79nm,0.6s							
KIRA	**zmir-Kiraz**	**1.19**	**81**	P		**Pg**	**09 33 01.2**	**+1.0**
KIRA				S		**Sb**	**09 33 14.4**	**-0.5**
KIRA				*i*	IAML		09 33 28.0	
	comp=N,84nm,0.7s							
SOMA	**Soma-Manisa**	**1.24**	**23**	Pn		**Pg**	**09 33 02.0**	**+0.8**
GORD	**Gordes-Manisa**	**1.33**	**48**	Pn		**Pg**	**09 33 03.8**	**+0.8**
MANT	**Manisa**	**1.38**	**70**	P		**Pg**	**09 33 04.8**	**+0.9**
MANT				S		**Sb**	**09 33 20.8**	**+0.3**
MANT				*i*	IAML		09 33 24.0	
	comp=E,109nm,0.3s							
DAT	**Datca**	**1.39**	**157**	Pn		**Pg**	**09 33 03.9**	**-0.3**
DAT	**Datca**	**1.39**	**157**	P		**Pb**	**09 33 02.8**	**-0.3**
DAT				S		**Sg**	**09 33 22.4**	**+0.1**
YAZI	**Mula-Dat§a-**	**1.40**	**162**	P		**Pn**	**09 33 02.6**	**+0.2**
YAZI				S		**Sg**	**09 33 22.0**	**-0.6**
YAZI				*i*	IAML		09 33 27.0	
	comp=E,41nm,0.4s							
SIGR	**SIGRI**	**1.45**	**326**	Pn		**Pg**	**09 33 04.9**	**-0.3**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pb**	**09 33 03.7**	**-0.3**
SIGR				S		**Sg**	**09 33 24.0**	**-0.1**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pb**	**09 33 03.8**	**-0.2**
SIGR				S		**Sn**	**09 33 21.6**	**-0.2**
KULA	**Kula-Manisa**	**1.46**	**70**	Pn		**Pg**	**09 33 06.3**	**+0.8**
GPNR	**Gulpinar-Canak**	**1.56**	**337**	Pn		**Pg**	**09 33 07.2**	**-0.1**
YAYO	**Edremit-Balk**	**1.59**	**5**	Pn		**Pg**	**09 33 07.4**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.68**	**109**	P		**Pb**	**09 33 08.7**	**+0.7**
TAVA				S		**Sg**	**09 33 32.7**	**+1.2**
TAVA				*i*	IAML		09 33 40.0	
	comp=E,33nm,0.5s							
USAK	**Uak-Merkez**	**1.80**	**67**	P		**Pg**	**09 33 11.8**	**0.0**
USAK				S		**Sg**	**09 33 34.1**	**-1.1**
USAK				*i*	IAML		09 33 38.0	
	comp=N,31nm,0.8s							
EZN	**Ezine**	**1.86**	**346**	Pn		**Pb**	**09 33 11.3**	**+0.3**
EZN	**Ezine**	**1.86**	**346**	P		**Pn**	**09 33 09.1**	**+0.4**
YENI	**Yenice-Canakka**	**1.93**	**8**	Pn		**Pb**	**09 33 12.5**	**+0.2**
SIMA	**Simav-Kutahya**	**1.94**	**56**	Pn		**Pb**	**09 33 12.6**	**+0.1**
KARY	**Karystos**	**1.95**	**271**	P		**Pn**	**09 33 09.8**	**-0.1**
APMY	**Acipayam-Deniz**	**1.97**	**105**	Pn		**Pb**	**09 33 12.9**	**-0.1**
CANM	**Can-anakkale**	**1.99**	**3**	Pn		**Pb**	**09 33 13.4**	**+0.1**
SAP3	**Santorini-Thir**	**2.01**	**219**	P		**Pn**	**09 33 11.6**	**+0.8**
ARG	**Arkhangelos**	**2.04**	**151**	Pn		**Pb**	**09 33 13.8**	**-0.4**
ARG	**Arkhangelos**	**2.04**	**151**	P		**Pn**	**09 33 11.5**	**+0.3**
GONE	**Gonen-Balikesi**	**2.11**	**16**	Pn		**Pb**	**09 33 14.9**	**-0.4**
CAME	**Cameli-Denizli**	**2.19**	**119**	Pn		**Pb**	**09 33 15.7**	**-1.0**
GEDZ	**Gediz**	**2.21**	**62**	Pn		**Pb**	**09 33 16.2**	**-0.9**
GADA	**Gvkgeada**	**2.31**	**340**	Pn		**Pb**	**09 33 17.3**	**-1.4**
EMET	**Ktahya-Emet**	**2.32**	**54**	P		**Pg**	**09 33 21.7**	**-0.2**
EMET				S		**Sg**	**09 33 51.0**	**-1.1**
DION	**Dionisos Attik**	**2.35**	**272**	P		**Pn**	**09 33 16.1**	**+0.7**
BAND	**Balkesir-Ban**	**2.51**	**21**	P		**Pb**	**09 33 22.9**	**+0.8**
BAND				S		**Sg**	**09 33 55.8**	**-2.2**
BAND				*i*	IAML		09 34 04.0	
	comp=N,32nm,0.2s							
SMTH	**Samothraki Isl**	**2.67**	**337**	P		**Pn**	**09 33 20.6**	**+0.7**
DOMA	**Ktahya-Doman**	**2.80**	**50**	P		**Pg**	**09 33 30.5**	**-0.5**
DOMA				S		**Sg**	**09 34 05.9**	**-1.4**
VIL2	**Platees**	**2.88**	**275**	P		**Pn**	**09 33 23.0**	**+0.3**
ALN	**Alexandroupoli**	**2.95**	**347**	P		**Pn**	**09 33 25.0**	**+1.3**
IDI	**Anoyia**	**3.17**	**211**	P		**Pn**	**09 33 26.6**	**-0.2**
RDO	**Rodhopi**	**3.30**	**342**	P		**Pn**	**09 33 29.4**	**+0.9**

*AFAD **08** 09:39:59.7,38.00N×26.87E,h12km±4km,MW3.5*
*ATH **08** 09:40:00.4,38.02N×26.91E,h15km±1km,ML3.1/11, Manual Solution by A.Andreou First location: 2019/08/08 09:41:44, This location: 2019/08/08 10:34:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*ISK **08** 09:40:00.0,38.01N×26.90E,h6km,ML3.3/35*
*THE **08** 09:40:00.4,38.0N±1.0×2°7E±°,h8km±2km,M3.2/8, MLh3.2/8*
ISC 08 09:40:00.3±0.8,**38.01N**±0.01×**26.89E**±0.02,**h12**km±5km, **n99**,σ0**75**/135,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.07**	**17**	Pg		**Pg**	**09 40 02.4**	**-0.4**
GMLD				Sg		**Sg**	**09 40 03.9**	**-0.7**
KRL1	**Karlovasi Samo**	**0.26**	**214**	P		**Pg**	**09 40 06.0**	**+0.3**
KRL1				S		**Sg**	**09 40 10.4**	**+1.1**
SMG	**Samos**	**0.31**	**188**	P		**Pg**	**09 40 06.7**	**+0.2**
SMG				S		**Sg**	**09 40 11.6**	**+0.9**
SMG	**Samos**	**0.31**	**188**	P		**Pg**	**09 40 06.5**	**0.0**
SMG				S		**Sg**	**09 40 11.7**	**+0.9**
BLCB	**Balcova**	**0.39**	**18**	Pg		**Pg**	**09 40 08.0**	**-0.1**
BLCB				Sg		**Sg**	**09 40 13.3**	**0.0**
BLCB	**Balcova**	**0.39**	**18**	P		**Pg**	**09 40 08.0**	**-0.1**
BLCB				S		**Sg**	**09 40 13.1**	**-0.2**
GCAM	**G?zelcaml?**	**0.41**	**139**	P		**Pg**	**09 40 08.8**	**+0.3**
GCAM				S		**Sg**	**09 40 14.3**	**+0.4**
GCAM				*i*	IAML		09 40 15.0	
	comp=E,3μm,0.2s							
URLA	**Izmir**	**0.42**	**326**	P		**Pg**	**09 40 08.3**	**-0.3**
URLA				S		**Sg**	**09 40 14.0**	**-0.1**
URLA				*i*	IAML		09 40 15.0	
	comp=E,2μm,0.3s							
CESE	**eme**	**0.56**	**304**	Pg		**Pg**	**09 40 11.6**	**+0.3**
DIDI	**Didim-Aydin**	**0.69**	**156**	Pg		**Pg**	**09 40 13.8**	**+0.1**
FOCM	**Foa**	**0.71**	**350**	Pg		**Pg**	**09 40 14.3**	**+0.2**
CHOS	**Chios island**	**0.76**	**300**	Pg		**Pg**	**09 40 15.2**	**+0.3**
CHOS	**Chios island**	**0.76**	**300**	P		**Pg**	**09 40 14.9**	**0.0**
CHOS				S		**Sb**	**09 40 25.8**	**+0.1**
CHOS	**Chios island**	**0.76**	**300**	P		**Pg**	**09 40 14.9**	**0.0**
CHOS				S		**Sb**	**09 40 25.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**94**	Pg		**Pg**	**09 40 15.5**	**-0.1**
EAG2	**Marmaro, Chios**	**0.81**	**311**	P		**Pg**	**09 40 16.3**	**+0.3**
EAG2				S		**Sg**	**09 40 27.0**	**+0.4**
IZMR	**zmir-demi**	**0.85**	**81**	P		**Pg**	**09 40 16.4**	**-0.2**
IZMR				S		**Sg**	**09 40 26.5**	**-1.2**
IZMR				*i*	IAML		09 40 31.0	
	comp=E,368nm,0.4s							
AYDN	**Tasoluk**	**0.86**	**114**	P		**Pb**	**09 40 17.3**	**+0.2**
AYDN				S		**Sg**	**09 40 28.0**	**-0.1**
AYDN				*i*	IAML		09 40 31.0	
	comp=N,1μm,0.3s							
YKAV	**Yalikavak-Bodr**	**0.94**	**161**	Pg		**Pg**	**09 40 18.3**	**-0.1**
ODEM	**Odemis-Izmir**	**0.97**	**74**	Pg		**Pg**	**09 40 18.6**	**-0.4**
BDRM	**Kayabasi**	**1.04**	**155**	P		**Pb**	**09 40 19.8**	**-0.4**
BDRM				S		**Sb**	**09 40 33.5**	**-0.3**
BDRM				*i*	IAML		09 40 37.0	
	comp=E,565nm,0.5s							
GOMA	**Golmarmara-Man**	**1.06**	**49**	Pg		**Pn**	**09 40 21.1**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.11**	**92**	Pn		**Pb**	**09 40 21.3**	**-0.1**
AKS	**Akhisar**	**1.13**	**40**	Pn		**Pg**	**09 40 22.1**	**+0.1**
ESEN	**Aydn-Nazilli**	**1.17**	**100**	P		**Pb**	**09 40 21.9**	**-0.5**
ESEN				S		**Sb**	**09 40 37.1**	**-0.4**
ESEN				*i*	IAML		09 40 40.0	
	comp=N,172nm,0.6s							
KIRA	**zmir-Kiraz**	**1.21**	**81**	P		**Pn**	**09 40 22.5**	**-0.5**
KIRA				S		**Sb**	**09 40 37.2**	**-1.4**
KIRA				*i*	IAML		09 40 48.0	
	comp=E,160nm,0.5s							
SOMA	**Soma-Manisa**	**1.25**	**24**	Pn		**Pg**	**09 40 24.1**	**-0.2**
AYVA	**Ayvalik**	**1.30**	**353**	P		**Pb**	**09 40 24.7**	**+0.1**
AYVA				S		**Sg**	**09 40 43.3**	**+1.0**
AYVA				*i*	IAML		09 40 49.0	
	comp=N,486nm,0.5s							
GORD	**Gordes-Manisa**	**1.35**	**48**	Pn		**Pg**	**09 40 25.9**	**-0.3**
DAT	**Datca**	**1.39**	**157**	Pn		**Pn**	**09 40 25.4**	**-0.2**
DAT	**Datca**	**1.39**	**157**	P		**Pn**	**09 40 25.2**	**-0.4**
DAT				S		**Sb**	**09 40 44.7**	**+0.7**
DATC	**Datca-Mugla**	**1.39**	**154**	Pn		**Pb**	**09 40 26.4**	**+0.2**
MANT	**Manisa**	**1.40**	**69**	P		**Pb**	**09 40 26.7**	**+0.3**
MANT				S		**Sb**	**09 40 43.2**	**-1.0**
MANT				*i*	IAML		09 40 47.0	
	comp=E,218nm,0.3s							
YAZI	**Mula-Dat§a-**	**1.40**	**161**	P		**Pn**	**09 40 24.5**	**-1.2**
YAZI				S		**Sg**	**09 40 45.1**	**-0.3**
YAZI				*i*	IAML		09 40 50.0	
	comp=E,114nm,0.4s							
NISR	**Nisiros**	**1.41**	**172**	P		**Pn**	**09 40 26.0**	**+0.2**
SIGR	**SIGRI**	**1.45**	**326**	Pn		**Pn**	**09 40 25.9**	**-0.3**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pn**	**09 40 25.9**	**-0.3**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pn**	**09 40 25.8**	**-0.3**
SIGR				S		**Sn**	**09 40 43.8**	**-1.3**
KULA	**Kula-Manisa**	**1.48**	**70**	Pn		**Pb**	**09 40 28.0**	**+0.2**
GPNR	**Gulpinar-Canak**	**1.56**	**338**	Pn		**Pb**	**09 40 29.0**	**0.0**
YAYO	**Edremit-Balk**	**1.60**	**5**	Pn		**Pn**	**09 40 28.4**	**0.0**
TURN	**Turunc**	**1.64**	**138**	P		**Pn**	**09 40 28.1**	**-0.8**
TURN				S		**Sg**	**09 40 52.2**	**-0.8**
TURN				*i*	IAML		09 40 59.0	
	comp=E,156nm,0.8s							
TAVA	**DENIZLI_Tavas**	**1.69**	**108**	P		**Pb**	**09 40 30.7**	**-0.7**
TAVA				S		**Sb**	**09 40 53.5**	**+0.8**
TAVA				*i*	IAML		09 41 08.0	
	comp=N,75nm,1.0s							
DEMI	**Demirci**	**1.76**	**54**	P		**Pg**	**09 40 33.9**	**-0.2**
DEMI				S		**Sn**	**09 40 53.7**	**+0.6**
DEMI				*i*	IAML		09 40 57.0	
	comp=E,228nm,0.6s							
EZNE	**Ezine-Canakkal**	**1.79**	**347**	Pn		**Pb**	**09 40 32.5**	**-0.4**
USAK	**Uak-Merkez**	**1.81**	**67**	P		**Pb**	**09 40 33.7**	**+0.3**
USAK				S		**Sb**	**09 40 56.1**	**0.0**
USAK				*i*	IAML		09 41 01.0	
	comp=N,72nm,0.8s							
BALY	**Balya**	**1.82**	**18**	P		**Pb**	**09 40 32.8**	**-0.7**
BALY				S		**Sg**	**09 40 58.0**	**-0.8**
BALY				*i*	IAML		09 41 00.0	
	comp=E,321nm,0.4s							
EZN	**Ezine**	**1.86**	**346**	Pn		**Pb**	**09 40 33.6**	**-0.6**
EZN	**Ezine**	**1.86**	**346**	P		**Pn**	**09 40 31.8**	**-0.1**
EZN				S		**Sn**	**09 40 56.2**	**+0.8**
KARY	**Karystos**	**1.94**	**271**	P		**Pn**	**09 40 32.6**	**-0.3**
KARY	**Karystos**	**1.94**	**271**	P		**Pn**	**09 40 32.5**	**-0.5**
BOZC	**Bozcaada**	**1.94**	**341**	P		**Pb**	**09 40 34.7**	**-0.8**
BOZC				S		**Sb**	**09 41 01.0**	**+1.3**
BOZC				*i*	IAML		09 41 08.0	
	comp=E,132nm,0.6s							
YENI	**Yenice-Canakka**	**1.94**	**8**	Pn		**Pb**	**09 40 34.8**	**-0.7**
SIMA	**Simav-Kutahya**	**1.96**	**56**	Pn		**Pb**	**09 40 34.7**	**-1.2**
APMY	**Acipayam-Deniz**	**1.99**	**105**	Pn		**Pn**	**09 40 34.9**	**+1.2**
THERA	**Ancient Thera,**	**1.99**	**215**	P		**Pn**	**09 40 33.6**	**-0.2**
CANM	**Can-anakkale**	**2.00**	**4**	Pn		**Pb**	**09 40 35.4**	**-1.2**
SAP3	**Santorini-Thir**	**2.00**	**219**	P		**Pn**	**09 40 34.0**	**+0.2**
DURS	**Dursunbey**	**2.01**	**37**	P		**Pn**	**09 40 34.6**	**+0.5**
DURS				S		**Sb**	**09 41 02.0**	**+0.2**
DURS				*i*	IAML		09 41 07.0	
	comp=N,183nm,0.3s							
SABU	**Mula-Dalaman**	**2.04**	**125**	P		**Pn**	**09 40 35.0**	**+0.6**
SABU				S		**Sg**	**09 41 04.5**	**-1.2**
SABU				*i*	IAML		09 41 11.0	
	comp=N,111nm,0.9s							
ARG	**Arkhangelos**	**2.05**	**151**	Pn		**Pn**	**09 40 35.6**	**+1.1**
ARG	**Arkhangelos**	**2.05**	**151**	P		**Pn**	**09 40 34.6**	**+0.1**
PASA	**Karahalli, USA**	**2.07**	**80**	P		**Pg**	**09 40 39.5**	**-0.5**
PASA				S		**Sb**	**09 41 04.0**	**+0.3**
PASA				*i*	IAML		09 41 10.0	
	comp=N,33nm,0.6s							
DST	**Dursunbey**	**2.08**	**40**	Pn		**Pn**	**09 40 36.5**	**+1.4**
CNKL	**anakkale-Mer**	**2.09**	**349**	P		**Pn**	**09 40 36.4**	**+1.3**
CNKL				S		**Sg**	**09 41 06.8**	**-0.6**
CNKL				*i*	IAML		09 41 15.0	
	comp=N,122nm,0.5s							
SHAP	**Saphane-Kutahy**	**2.09**	**60**	Pn		**Pn**	**09 40 36.5**	**+1.3**
COMU	**Canakkale**	**2.11**	**351**	Pn		**Pb**	**09 40 37.3**	**-1.1**
GONE	**Gonen-Balikesi**	**2.12**	**17**	Pn		**Pn**	**09 40 37.1**	**+1.6**
CAME	**Cameli-Denizli**	**2.19**	**118**	Pn		**Pn**	**09 40 38.0**	**+1.3**
GEDZ	**Gediz**	**2.23**	**62**	Pn		**Pn**	**09 40 38.7**	**+1.6**
GDZ	**Gediz**	**2.30**	**61**	P		**Pg**	**09 40 43.0**	**-1.3**
GDZ				S		**Sb**	**09 41 10.9**	**+0.8**
GDZ				*i*	IAML		09 41 16.0	
	comp=N,71nm,0.5s							
LIA	**Limnos Island**	**2.31**	**325**	P		**Pn**	**09 40 38.3**	**+0.3**
LIA	**Limnos Island**	**2.31**	**325**	P		**Pn**	**09 40 38.0**	**-0.1**
GADA	**Gvkgeada**	**2.31**	**341**	Pn		**Pn**	**09 40 39.9**	**+1.8**
DION	**Dionisos Attik**	**2.34**	**273**	P		**Pn**	**09 40 37.9**	**-0.6**
EMET	**Ktahya-Emet**	**2.34**	**54**	P		**Pb**	**09 40 42.9**	**+0.5**
EMET				S		**Sb**	**09 41 12.1**	**+0.9**
EMET				*i*	IAML		09 41 18.0	
	comp=E,124nm,0.7s							
MHLO	**Agia Marina, M**	**2.38**	**237**	P		**Pn**	**09 40 38.2**	**-0.9**
KRBG	**Karabiga-Canak**	**2.40**	**7**	Pn		**Pn**	**09 40 40.7**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.40**	**352**	Pn		**Pn**	**09 40 41.4**	**+2.0**
EDC	**Edincik**	**2.45**	**18**	Pn		**Pn**	**09 40 41.8**	**+1.8**
ATHU	**Athens Univers**	**2.45**	**270**	P		**Pn**	**09 40 39.8**	**-0.3**
TVSB	**Tavsanli**	**2.47**	**54**	Pn		**Pn**	**09 40 42.0**	**+1.6**
BAND	**Balkesir-Ban**	**2.52**	**22**	P		**Pn**	**09 40 43.1**	**+2.1**
BAND				S		**Sb**	**09 41 16.9**	**+0.5**
BAND				*i*	IAML		09 41 27.0	
	comp=N,67nm,0.3s							
SMTH	**Samothraki Isl**	**2.67**	**337**	P		**Pn**	**09 40 43.1**	**0.0**
SART	**Tekirdag**	**2.68**	**5**	P		**Pn**	**09 40 43.0**	**-0.3**
SART				S		**Sb**	**09 41 21.5**	**+0.4**
SART				*i*	IAML		09 41 29.0	
	comp=E,111nm,0.5s							
MET5	**Makryloggos,Me**	**2.83**	**263**	P		**Pn**	**09 40 45.2**	**0.0**
MET2	**Kameni Chora,**	**2.85**	**263**	P		**Pn**	**09 40 45.2**	**-0.3**
VIL2	**Platees**	**2.86**	**275**	P		**Pn**	**09 40 44.8**	**-0.9**
ALN	**Alexandroupoli**	**2.95**	**347**	P		**Pn**	**09 40 46.9**	**0.0**
IDI	**Anoyia**	**3.16**	**211**	P		**Pn**	**09 40 50.1**	**+0.2**
RDO	**Rodhopi**	**3.30**	**342**	P		**Pn**	**09 40 51.5**	**-0.2**
KLV	**Kalavryta, Ach**	**3.74**	**272**	P		**Pn**	**09 40 58.1**	**+0.3**
SERG	**Sergoula**	**3.83**	**277**	P		**Pn**	**09 40 59.1**	**+0.1**
EFP	**Efpalio**	**3.95**	**278**	P		**Pn**	**09 41 01.1**	**+0.5**
ANX	**Ano Chora**	**3.95**	**280**	P		**Pn**	**09 41 01.0**	**+0.2**
ITM	**Ithomi**	**4.03**	**260**	P		**Pn**	**09 41 00.3**	**-1.4**
THL	**Klokotos Trika**	**4.11**	**294**	P		**Pn**	**09 41 03.1**	**+0.3**
AXS	**Araxos**	**4.35**	**274**	P		**Pn**	**09 41 06.5**	**+0.3**
KNT	**Kendrikon**	**4.41**	**317**	P		**Pn**	**09 41 06.9**	**0.0**

*THE **08** 09:44:05.4,38.0N±1.0×2°7E±°,h8km±2km,M3.0/8, MLh3.0/8*
*ISK **08** 09:44:05.7,38.04N×26.93E,h5km,ML3.0/33*
*AFAD **08** 09:44:05.1,38.01N×26.88E,h8km±2km,MW3.3*
*ATH **08** 09:44:05.3,38.03N×26.88E,h13km±2km,ML2.9/6, Manual Solution by G.Panopoulou First location: 2019/08/08 16:56:02, This location: 2019/08/08 16:55:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
ISC 08 09:44:05.2±0.8,**38.03N**±0.01×**26.89E**±0.02,**h12**km±5km, **n79**,σ0**68**/111,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.05**	**19**	Pg		**Pg**	**09 44 07.5**	**0.0**
GMLD				Sg		**Sg**	**09 44 09.0**	**-0.2**
SMG	**Samos**	**0.32**	**188**	P		**Pg**	**09 44 11.6**	**-0.1**
SMG				S		**Sg**	**09 44 16.5**	**+0.5**
SMG	**Samos**	**0.32**	**188**	P		**Pg**	**09 44 11.8**	**+0.1**
SMG				S		**Sg**	**09 44 16.7**	**+0.7**
ZEYE	**Izmir, Urla-Ze**	**0.37**	**305**	P		**Pg**	**09 44 12.8**	**+0.1**
ZEYE				*i*	IAML		09 44 18.0	
	comp=N,7μm,0.5s							
ZEYE				S		**Sg**	**09 44 18.2**	**+0.5**
BLCB	**Balcova**	**0.38**	**18**	Pg		**Pg**	**09 44 13.1**	**+0.3**
BLCB				Sg		**Sg**	**09 44 18.4**	**+0.6**
BLCB	**Balcova**	**0.38**	**18**	P		**Pg**	**09 44 13.0**	**+0.3**
BLCB				S		**Sg**	**09 44 18.2**	**+0.4**
URLA	**Izmir**	**0.41**	**325**	P		**Pg**	**09 44 13.5**	**+0.2**
URLA				S		**Sg**	**09 44 19.6**	**+0.8**
URLA				*i*	IAML		09 44 20.0	
	comp=E,1μm,0.3s							
GCAM	**G?zelcaml?**	**0.42**	**140**	P		**Pg**	**09 44 14.0**	**+0.5**
GCAM				S		**Sg**	**09 44 19.3**	**+0.1**
GCAM				*i*	IAML		09 44 20.0	
	comp=E,2μm,0.2s							
CESE	**eme**	**0.56**	**303**	Pg		**Pb**	**09 44 17.4**	**+0.5**
DIDI	**Aydin, Didim**	**0.63**	**154**	P		**Pg**	**09 44 17.6**	**+0.1**
DDIM				S		**Sb**	**09 44 26.5**	**-0.5**
DDIM				*i*	IAML		09 44 29.0	
	comp=N,525nm,0.7s							
FOCM	**Foa**	**0.70**	**349**	Pg		**Pb**	**09 44 19.5**	**+0.2**
DIDI	**Didim-Aydin**	**0.70**	**157**	Pg		**Pb**	**09 44 19.8**	**+0.4**
KARB	**zmir-Karabur**	**0.74**	**329**	P		**Pg**	**09 44 19.3**	**-0.3**
KARB				S		**Sg**	**09 44 29.0**	**-0.3**
KARB				*i*	IAML		09 44 34.0	
	comp=N,717nm,0.6s							
CHOS	**Chios island**	**0.75**	**299**	Pg		**Pb**	**09 44 20.7**	**+0.4**
CHOS	**Chios island**	**0.75**	**299**	P		**Pg**	**09 44 19.9**	**+0.1**
CHOS				S		**Sb**	**09 44 30.7**	**+0.2**
CHOS	**Chios island**	**0.75**	**299**	P		**Pg**	**09 44 20.0**	**+0.3**
CHOS				S		**Sg**	**09 44 30.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.79**	**95**	Pg		**Pg**	**09 44 20.6**	**0.0**
EAG2	**Marmaro, Chios**	**0.81**	**310**	P		**Pg**	**09 44 20.8**	**0.0**
EAG2				S		**Sg**	**09 44 30.9**	**-0.4**
AYDN	**Tasoluk**	**0.86**	**115**	P		**Pb**	**09 44 22.2**	**+0.1**
AYDN				S		**Sg**	**09 44 33.0**	**-0.2**
AYDN				*i*	IAML		09 44 36.0	
	comp=E,1μm,0.3s							
ZEDA	**zmir-Bergama**	**0.95**	**9**	P		**Pb**	**09 44 23.9**	**+0.3**
ZEDA				S		**Sb**	**09 44 36.5**	**+0.4**
ZEDA				*i*	IAML		09 44 40.0	
	comp=N,413nm,0.6s							
ODEM	**Odemis-Izmir**	**0.96**	**75**	Pg		**Pg**	**09 44 23.8**	**0.0**
GOMA	**Golmarmara-Man**	**1.05**	**49**	Pg		**Pn**	**09 44 26.3**	**+0.5**
BDRM	**Kayabasi**	**1.05**	**155**	P		**Pb**	**09 44 25.1**	**-0.3**
BDRM				S		**Sb**	**09 44 38.5**	**-0.7**
BDRM				*i*	IAML		09 44 42.0	
	comp=E,343nm,0.5s							
NAZL	**Nazilli-Aydin**	**1.11**	**93**	Pn		**Pb**	**09 44 26.4**	**+0.1**
AKS

*SJA **08** 09:55:50.4±0.7,24.˝14S×67.˝19W,h193km±7km,ML3.5, MW3.4*
*GUC **08** 09:55:51.5±0.8,24.˝21S×67.˝25W,h174km±9km,ML3.7*
ISC 08 09:55:51.5±1.3,24˝16S±0.˝04×67˝25W±0.˝05,h181km,n33, σ1§51/46,2C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SALTA		**0.83**	**95**	‖ *i*P		**Pn**	**09 56 18.7**	**-0.1**
SALTA		**0.83**	**95**	*e*P		**Pn**	**09 56 18.9**	**+0.1**
AF01	**San Pedro de A**	**1.48**	**324**	*e*P		**Pn**	**09 56 25.0**	**+1.3**
AF01	**San Pedro de A**	**1.48**	**324**	*e*P		**Pn**	**09 56 24.7**	**+1.0**
AF01				*e*S		**Sn**	**09 56 56.4**	**+7.8**
SLA	**San Lorenzo**	**1.68**	**110**	‖ *i*P		**Pn**	**09 56 25.8**	**+0.3**
SLA	**San Lorenzo**	**1.68**	**110**	*e*P		**Pn**	**09 56 25.9**	**+0.3**
AZAP	**Zapla**	**1.99**	**92**	*e*P		**Pn**	**09 56 28.4**	**-0.4**
FSA	**Cafayete**	**2.26**	**150**	*e*P		**Pn**	**09 56 32.0**	**+0.4**
GO02	**Mina Guanaco**	**2.36**	**244**	‖ *i*P		**Pn**	**09 56 33.9**	**+1.0**
GO02				*e*S		**Sn**	**09 57 05.8**	**+0.7**
GO02				IAML			09 57 06.5	
	comp=N,415nm,0.5s							
GO02	**Mina Guanaco**	**2.36**	**244**	*e*P		**Pn**	**09 56 33.5**	**+0.6**
GO02				*e*S		**Sn**	**09 57 06.1**	**+1.1**
PB06	**IPOC Station P**	**2.58**	**304**	‖ *i*P		**Pn**	**09 56 36.3**	**+0.9**
PB06				IAML			09 57 10.4	
	comp=N,292nm,0.3s							
PB06	**IPOC Station P**	**2.58**	**304**	*e*P		**Pn**	**09 56 35.6**	**+0.3**
PB06				*e*S		**Sn**	**09 57 09.2**	**-0.3**
PB06				IAML			09 57 10.3	
	comp=Z,195nm,0.1s							
PB09	**IPOC Station P**	**2.98**	**322**	*e*P		**Pn**	**09 56 41.7**	**+1.4**
PB09				IAML			09 57 19.7	
	comp=N,133nm,0.5s							
PB09	**IPOC Station P**	**2.98**	**322**	*e*P		**Pn**	**09 56 40.7**	**+0.4**
PB09				*e*S		**Sn**	**09 57 18.0**	**-0.2**
PB09				IAML			09 57 20.7	
	comp=Z,89nm,0.3s							
ALOL	**LOMAS DE OLMED**	**3.00**	**84**	*e*P		**Pn**	**09 56 40.4**	**+0.1**
PB05	**IPOC Station P**	**3.01**	**295**	*e*P		**Pn**	**09 56 40.8**	**+0.3**
PB05	**IPOC Station P**	**3.01**	**295**	*e*P		**Pn**	**09 56 41.0**	**+0.5**
PB05				*e*S		**Sn**	**09 57 17.7**	**-0.8**
PB05				*e*S			09 57 20.3	
PB05				IAML			09 57 24.1	
	comp=Z,62nm,0.6s							
PB10	**IPOC Station P**	**3.10**	**281**	*e*P		**Pn**	**09 56 42.4**	**+0.9**
PB10				IAML			09 57 24.3	
	comp=E,99nm,0.3s							
PB10	**IPOC Station P**	**3.10**	**281**	*e*P		**Pn**	**09 56 42.0**	**+0.6**
PB10				*e*S		**Sn**	**09 57 20.3**	**0.0**
PB10				IAML			09 57 22.5	
	comp=Z,70nm,1.3s							
AHML	**Horco Molle**	**3.13**	**147**	*e*P		**Pn**	**09 56 41.8**	**-0.1**
AC02	**Maricunga**	**3.16**	**212**	*e*P		**Pn**	**09 56 43.7**	**+1.0**
AC02	**Maricunga**	**3.16**	**212**	*e*P		**Pn**	**09 56 43.7**	**+1.0**
AC02				*e*S		**Sn**	**09 57 22.4**	**-0.2**
AC01	**Pan de Azucar**	**3.63**	**236**	*e*P		**Pn**	**09 56 47.4**	**-0.6**
AC01	**Pan de Azucar**	**3.63**	**236**	*e*P		**Pn**	**09 56 47.7**	**-0.3**
AC01				*e*S		**Sn**	**09 57 30.4**	**-1.7**
PB01	**IPOC Station P**	**3.73**	**326**	*e*P		**Pn**	**09 56 49.5**	**+0.1**
PB01	**IPOC Station P**	**3.73**	**326**	*e*P		**Pn**	**09 56 49.5**	**+0.1**
PB01				*e*S		**Sn**	**09 57 33.0**	**-1.6**
PB02	**IPOC Station P**	**3.74**	**319**	*e*P		**Pn**	**09 56 49.4**	**-0.1**
PB02	**IPOC Station P**	**3.74**	**319**	*e*P		**Pn**	**09 56 49.6**	**+0.1**
PB02				*e*S		**Sn**	**09 57 32.9**	**-1.9**
PATCX	**Punta Patache**	**4.27**	**320**	*e*P		**Pn**	**09 56 55.5**	**-0.7**
PATCX	**Punta Patache**	**4.27**	**320**	*e*P		**Pn**	**09 56 56.5**	**+0.2**
PATCX				*e*S		**Sn**	**09 57 45.6**	**-1.4**
GO03	**Copiapo**	**4.35**	**218**	*e*P		**Pn**	**09 56 55.7**	**-1.5**
TA01	**Diego Aracena**	**4.49**	**322**	*e*P		**Pn**	**09 56 58.5**	**-0.5**
PB11	**IPOC Station P**	**4.92**	**332**	*e*P		**Pn**	**09 57 04.3**	**-0.3**
PB11				*e*S		**Sn**	**09 57 59.1**	**-2.9**

*UPP **08** 10:00:19.8±3.6,64.˝22N×32.˝66E,h0km,ML1.6,Presumed earthquake*
*HEL **08** 10:00:32.2±0.2,64.˝75N×30.˝69E,h0km,ML1.8,Explosion*
*IDC **08** 10:00:33.3±3.0,64.˝69N×30.˝61E,h0km,mbtmp2.6/2, ML1.8/2,Error ellipse: s-maj=47.5km s-min=9.9km az=102.0*
*KOLA **08** 10:00:36.8,65.˝01N×31.˝08E,h0km,ML1.9,Error ellipse: s-maj=15.2km s-min=10.7km az=160.0,Karelia*
ISC 08 10:00:29.8±0.8,64˝74N±0.˝02×30˝73E±0.˝04,h0km,n41, σ1§98/58,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.63**	**214**	PG		**Pb**	**10 00 43.8**	**+0.2**
	baz=35							
RMF				MSG			10 00 52.2	
	comp=Z,14nm,0.2s							
RMF				SG		**Sb**	**10 00 53.9**	**+1.0**
KU1	**Kurvinen**	**0.97**	**330**	PG		**Pb**	**10 00 49.3**	**-0.1**
KU6	**Riekki**	**1.34**	**345**	PG		**Pn**	**10 00 56.1**	**+0.3**
	baz=160							
KU6				MSG			10 01 12.1	
	comp=Z,9.0nm,0.2s							
KU6				SN		**Sn**	**10 01 15.4**	**+1.2**
MSF	**Maaselka**	**1.38**	**330**	PG		**Pb**	**10 00 56.9**	**+0.5**
MSF				SN		**Sn**	**10 01 15.6**	**+0.4**
KU2	**Taivalkoski**	**1.44**	**314**	PG		**Pb**	**10 00 57.7**	**+0.3**
OLKF	**Oulanka, Finla**	**1.68**	**341**	PG		**Pg**	**10 01 02.2**	**+0.2**
OLKF				MSG			10 01 22.0	
	comp=Z,6.2nm,0.2s							
OLKF				SN		**Sg**	**10 01 26.6**	**+2.8**
JOF	**Joensuu**	**1.85**	**172**	*e*P		**Pb**	**10 01 04.4**	**+0.1**
JOF	**Joensuu**	**1.85**	**172**	PB		**Pb**	**10 01 04.6**	**+0.2**
	baz=351							
JOF				SG		**Sg**	**10 01 31.0**	**+2.0**
NIF	**Nilsia**	**1.86**	**225**	PG		**Pg**	**10 01 05.8**	**+0.3**
NIF				MSG			10 01 27.7	
	comp=Z,11nm,0.2s							
OUL	**Oulu**	**2.09**	**282**	PG		**Pb**	**10 01 09.2**	**+0.7**
OUL				SG		**Sb**	**10 01 35.8**	**+0.9**
RANF	**Ranua**	**2.09**	**310**	PG		**Pb**	**10 01 09.1**	**+0.6**
RANF				SG		**Sb**	**10 01 35.5**	**+0.5**
KVDA	**Kovda**	**2.15**	**23**	P		**Pb**	**10 01 09.6**	**0.0**
KVDA				S		**Sn**	**10 01 33.0**	**-1.3**
OBF4	**Vikkela, Lumij**	**2.41**	**274**	PG		**Pb**	**10 01 13.5**	**-0.4**
	baz=91							
OBF4				MSG			10 01 42.9	
	comp=Z,5.3nm,0.2s							
OUF	**Merijarvi**	**2.62**	**265**	PB		**Pb**	**10 01 16.4**	**-1.1**
	baz=83							
OUF				MSG			10 01 48.9	
	comp=Z,6.5nm,0.2s							
OUF				SG		**Sb**	**10 01 51.5**	**+1.4**
RNF	**Rovaniemi**	**2.71**	**316**	PN		**Pb**	**10 01 17.2**	**-1.9**
	baz=128							
RNF				SG		**Sg**	**10 01 55.2**	**-1.5**
OBF0	**Syolatti, Pyha**	**2.81**	**268**	PN		**Pn**	**10 01 18.4**	**+2.5**
OBF0				MSG			10 01 54.3	
	comp=Z,4.8nm,0.2s							
OBF0				SG		**Sg**	**10 01 58.7**	**-1.1**
SUF	**Sumiainen**	**2.87**	**227**	PB		**Pb**	**10 01 21.0**	**-0.9**
SUF				MSG			10 01 56.7	
	comp=Z,2.7nm,0.2s							
SUF				SG		**Sg**	**10 02 01.0**	**-1.0**
TOF	**Tornio**	**3.00**	**300**	PB		**Pb**	**10 01 21.8**	**-2.2**
TOF				MSG			10 01 59.5	
	comp=Z,1.3nm,0.2s							
TOF				SG		**Sb**	**10 02 03.2**	**+2.2**
APA0	**Apatity Array**	**3.02**	**17**	P		**Pb**	**10 01 22.2**	**-2.2**
APA0				S		**Sn**	**10 01 53.5**	**-2.2**
VRF	**Varrio**	**3.06**	**352**	PN		**Pn**	**10 01 21.9**	**+2.6**
VRF				MSG			10 02 01.6	
	comp=Z,1.8nm,0.2s							
KALU	**Kalix**	**3.29**	**293**	PN		**Pn**	**10 01 25.8**	**+3.2**
KAF	**Kangasniemi**	**3.30**	**219**	PG		**Pb**	**10 01 29.9**	**+0.7**
RUF	**Ruokolahti**	**3.42**	**194**	PN		**Pb**	**10 01 28.5**	**-2.7**
KEF	**Keuruu**	**3.68**	**228**	*e*P		**Pn**	**10 01 31.5**	**+3.6**
KEF	**Keuruu**	**3.68**	**228**	PB		**Pb**	**10 01 33.0**	**-2.7**
KEF				SB		**Sb**	**10 02 18.2**	**-2.6**
KLF	**Kolari**	**3.73**	**315**	PN		**Pn**	**10 01 30.3**	**+1.7**
PAJU	**Pajala**	**3.88**	**310**	P		**Pn**	**10 01 33.1**	**+2.5**
PAJU	**Pajala**	**3.88**	**310**	PN		**Pn**	**10 01 34.5**	**+3.9**
FINES	**FINESS Array B**	**3.92**	**215**	Pn		**Pn**	**10 01 34.2**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=1.9							
FINES				Sn		**Sn**	**10 02 15.5**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=32,slow=21,SNR=2.2							
FINES				Lg		Lg	10 02 33.6	
	comp=Z,0.8nm,0.3s,baz=34,slow=27,SNR=11							
	comp=Z,0.7nm,0.6s							
SJUU	**Sjulsmark**	**3.93**	**285**	P		**Pn**	**10 01 33.6**	**+2.3**
SJUU	**Sjulsmark**	**3.93**	**285**	*e*P		**Pn**	**10 01 32.9**	**+1.6**
ERTU	**Ertsjaerv**	**3.98**	**301**	P		**Pn**	**10 01 34.9**	**+2.9**
ERTU	**Ertsjaerv**	**3.98**	**301**	PN		**Pn**	**10 01 35.0**	**+3.1**
HARU	**Harads**	**4.31**	**294**	P		**Pn**	**10 01 39.1**	**+2.5**
ODEU	**Stanfors**	**4.33**	**270**	P		**Pn**	**10 01 37.8**	**+1.0**
UMAU	**Umeaa**	**4.46**	**263**	PN		**Pn**	**10 01 40.0**	**+1.5**
HEF	**Hetta**	**4.64**	**326**	SG		**Sg**	**10 02 54.4**	**-4.2**
ARCES	**ARCESS Array B**	**5.23**	**339**	Pn		**Pn**	**10 01 50.8**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=17							
ARCES				Sn		**Sn**	**10 02 49.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=151,slow=23,SNR=6.3							
	comp=Z,0.4nm,0.2s							
ARCES	**ARCESS Array B**	**5.23**	**339**	P		**Pn**	**10 01 51.0**	**+1.8**
ARCES				S		**Sn**	**10 02 49.6**	**-0.4**
I37NO	**I37NO**	**6.45**	**318**	I		I	10 37 10.0	
	baz=127,slow=318,SNR=2.9							
BDI	**Bagni Di Lucca**	**23.59**	**218**	P		**P**	**10 05 39.2**	**-2.8**

*IDC **08** 10:01:49.2±1.2,28.˝28N×53.˝74E,h0km,mb3.7/10, mbtmp3.7/11,ML2.7/2,MS3.0/7,Error ellipse: s-maj=26.8km s-min=21.5km az=28.0*
*TEH **08** 10:01:51.4,28.˝31N×53.˝94E,h14km±28km*
*DSN **08** 10:01:54.2±1.7,28.˝16N×54.˝03E,h15km,ML3.0/5,Error ellipse: s-maj=46.4km s-min=12.6km az=46.0*
ISC 08 10:01:52.3±0.6,28˝26N±0.˝04×53˝81E±0.˝04,h24km,n51, σ1§66/49,mb3.9/13,MS3.0/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.33**	**320**	Pg		**Pb**	**10 01 58.4**	**-1.3**
JHRM				Sg		**Sb**	**10 02 05.8**	**+1.0**
QIR1	**Qir**	**0.71**	**288**	Pg		**Pn**	**10 02 06.8**	**-0.2**
LAR1	**LAR**	**0.77**	**140**	Pg		**Pb**	**10 02 05.6**	**-1.5**
LMD1	**Lamerd**	**1.08**	**212**	Pg		**Pb**	**10 02 14.0**	**+1.7**
SHI	**Shiraz**	**1.79**	**321**	Pn		**Pb**	**10 02 24.2**	**-0.4**
DSBU	**Dashti - Bushe**	**2.25**	**273**	Pn		**Pb**	**10 02 31.5**	**-0.9**
GENO	**Geno**	**2.25**	**112**	Pn		**Pn**	**10 02 29.4**	**+1.1**
KRBR	**Kerman**	**3.10**	**56**	Pn		**Pn**	**10 02 40.7**	**+0.7**
IMEH	**Mehriz**	**3.20**	**12**	Pn		**Pn**	**10 02 42.4**	**+1.1**
KLNJ	**Kolanjah**	**3.36**	**325**	Pn		**Pn**	**10 02 46.0**	**+2.4**
MSFE	**Esma-Masafi**	**3.56**	**143**	P		**Pn**	**10 02 47.0**	**+0.8**
MSFE				S		**Sn**	**10 03 27.0**	**-0.6**
ZRDN	**Zarand Kerman**	**3.59**	**41**	Pn		**Pn**	**10 02 46.9**	**+0.2**
CHMN	**Cheshme madani**	**3.63**	**63**	Pn		**Pn**	**10 02 48.4**	**+1.0**
IRAM	**Ramesheh**	**3.75**	**341**	Pn		**Pn**	**10 02 51.7**	**+2.8**
ASUD	**Al Ashush, Dub**	**3.86**	**159**	P		**Pn**	**10 02 51.4**	**+1.2**
UOSS	**Minazif**	**3.93**	**146**	P		**Pn**	**10 02 51.1**	**-0.1**
HATD	**Hatta, Dubai**	**4.00**	**148**	P		**Pn**	**10 02 53.5**	**+1.4**
ICHK	**Chekchek**	**4.01**	**7**	Pn		**Pn**	**10 02 53.4**	**+0.9**
ASHO	**Ashiyiah**	**4.09**	**150**	P		**Pn**	**10 02 53.4**	**+0.1**
KBAM	**BAM**	**4.17**	**77**	Pn		**Pn**	**10 02 55.0**	**+0.5**
IBRJ	**Brojen**	**4.26**	**329**	Pn		**Pn**	**10 02 58.1**	**+2.2**
IGAR	**Gharneh**	**4.41**	**340**	Pn		**Pn**	**10 02 59.8**	**+1.9**
SOHO	**SOHO**	**4.78**	**149**	P		**Pn**	**10 03 02.5**	**-0.2**
IZEF	**Zefreh**	**4.80**	**345**	Pn		**Pn**	**10 03 04.7**	**+1.3**
ANAR	**Anarak**	**4.92**	**359**	Pn		**Pn**	**10 03 06.6**	**+1.7**
IPIR	**Pirpir**	**5.08**	**331**	Pn		**Pn**	**10 03 09.5**	**+2.2**
KRSH	**Kashahi**	**5.88**	**346**	Pn		**Pn**	**10 03 19.8**	**+1.8**
TKDS	**Koohdasht(Taba**	**6.05**	**27**	Pn		**Pn**	**10 03 21.1**	**+0.7**
WSAR	**Wadi Sarin**	**6.62**	**138**	Pn		**Pn**	**10 03 28.8**	**+0.6**
	baz=262,slow=24,SNR=6.9							
WSAR				Sn		**Sn**	**10 04 39.6**	**-3.3**
	baz=180,slow=20,SNR=2.0							
GNI	**Garni**	**14.03**	**330**	LR		LR	10 11 26.2	
	comp=Z,45nm,20.5s,baz=179,slow=41							
ASF	**Jabal al Asfar**	**15.14**	**289**	Pn		**Pn**	**10 05 24.4**	**-0.3**
	0.3nm,0.3s,baz=104,slow=8.9,SNR=1.6							
ASF				Sn		**Sn**	**10 08 04.4**	**-7.3**
	0.1nm,0.3s,baz=84,slow=9.2,SNR=2.1							
	0.9nm,0.4s							
KBZ	**Khabaz**	**17.76**	**333**	LR		LR	10 13 56.7	
	comp=Z,42nm,20.1s,baz=132,slow=41							
BRTR	**Keskin Array B**	**20.22**	**310**	P		**P**	**10 06 25.7**	**0.0**
	0.6nm,0.5s,baz=126,slow=14,SNR=12							
	0.6nm,0.5s							
AAK	**Ala-Archa**	**22.05**	**44**	LR		LR	10 17 13.7	
	comp=Z,33nm,18.4s,baz=254,slow=42							
AKTO	**Aktyubinsk**	**22.38**	**7**	P		**P**	**10 06 48.6**	**-0.1**
	2.3nm,0.8s,baz=202,slow=11,SNR=6.6							
	2.3nm,0.8s							
BVAR	**Borovoye Array**	**27.62**	**22**	LR		LR	10 19 55.5	
	comp=Z,36nm,19.4s,baz=225,slow=39							
MKAR	**Makanchi Array**	**28.96**	**43**	P		**P**	**10 07 52.3**	**+2.5**
	0.2nm,0.4s,baz=243,slow=9.7,SNR=1.9							
MKAR				LR		LR	10 20 39.2	
	comp=Z,29nm,20.5s,baz=172,slow=39							
	0.2nm,0.4s							
AKASG	**Malin Array Be**	**29.13**	**327**	P		**P**	**10 07 50.9**	**-0.3**
	0.4nm,0.5s,baz=133,slow=8.0,SNR=4.1							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**29.14**	**33**	P		**P**	**10 07 51.2**	**-0.1**
	0.2nm,0.5s,baz=230,slow=9.8,SNR=4.2							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**34.23**	**33**	LR		LR	10 24 26.6	
	comp=Z,39nm,18.1s,baz=66,slow=40							
ABTA	**Abfaltersbach**	**37.09**	**311**	P		**P**	**10 09 02.3**	**+1.4**
	3.1nm,0.8s							
WATA	**Walderalm**	**37.87**	**312**	*e*P		**P**	**10 09 07.5**	**+0.2**
	2.4nm,0.4s							
FINES	**FINESS Array B**	**37.98**	**339**	P		**P**	**10 09 08.0**	**0.0**
	1.6nm,0.7s,baz=126,slow=7.1,SNR=4.5							
	1.6nm,0.7s							
SQTA	**Sankt Quirin**	**38.08**	**312**	*e*P		**P**	**10 09 09.7**	**+0.5**
	3.7nm,0.6s							
FETA	**Feichten**	**38.35**	**311**	*e*P		**P**	**10 09 12.6**	**+1.1**
	4.7nm,1.0s							
DAVA	**Damuels**	**38.97**	**311**	*e*P		**P**	**10 09 16.9**	**+0.1**
	5.4nm,0.6s							
HFS	**Hagfors**	**41.81**	**331**	P		**P**	**10 09 39.8**	**0.0**
	2.3nm,0.8s,baz=156,slow=9.2,SNR=4.0							
	2.3nm,0.8s							
NOA	**NORSAR Array B**	**43.33**	**331**	P		**P**	**10 09 51.4**	**-0.8**
	0.7nm,0.8s,baz=123,slow=8.1,SNR=2.1							
	0.7nm,0.8s							
SONM	**Songino Array**	**44.83**	**49**	LR		LR	10 32 51.5	
	comp=Z,24nm,18.4s,baz=194,slow=42							
TORD	**Torodi Ar. Bea**	**50.65**	**264**	P		**P**	**10 10 50.2**	**+0.3**
	1.9nm,0.7s,baz=57,slow=7.9,SNR=7.3							
	1.9nm,0.7s							
WRA	**Warramunga Arr**	**91.32**	**112**	P		**P**	**10 14 57.0**	**+0.7**
	0.2nm,0.4s,baz=308,slow=4.7,SNR=4.9							
	0.2nm,0.4s							

*NOU **08** 10:17:27.0,37.˝13S×176.˝94E,h227km,MLv3.8/13,North Island, New Zealand*
*WEL **08** 10:17:29.8±0.9,37.˚5±6.˝×17.˝7E±.˚,h195km±8km,M3.8/99, MLv3.8/99,Error ellipse: s-maj=9.0km s-min=5.5km az=34.7,confirmed*
ISC 08 10:17:23.6±2.2,37˚01S±0.˚09×177˚09E±0.˚07, h248km±11km,n172,σ1§84/180,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.73**	**248**	P		**Pn**	**10 17 57.9**	**+0.8**
WHRZ	**Whale Island**	**0.85**	**186**	P		**Pn**	**10 17 59.7**	**+2.1**
HAZ	**Te Kaha**	**0.93**	**144**	P		**Pn**	**10 17 58.8**	**+0.8**
HAZ				S		**S**	**10 18 22.4**	**-2.7**
OPRZ	**Ohinepanea**	**0.94**	**207**	P		**Pn**	**10 17 58.6**	**+0.6**
TGRZ	**Tauranga**	**0.98**	**222**	P		**Pn**	**10 17 59.2**	**+1.0**
MARZ	**Manawahe**	**1.03**	**198**	P		**Pn**	**10 18 00.2**	**+1.7**
RUGZ	**Raukumara Rang**	**1.07**	**154**	P		**Pn**	**10 17 59.4**	**+0.5**
RUGZ				S		**S**	**10 18 22.8**	**-3.9**
MXZ	**Matakaoa Point**	**1.12**	**120**	P		**Pn**	**10 18 00.5**	**+1.4**
MXZ				S		**S**	**10 18 24.6**	**-2.3**
KUZ	**Kuaotunu**	**1.12**	**283**	P		**Pn**	**10 17 59.2**	**+0.1**
KUZ	**Kuaotunu**	**1.12**	**283**	P		**Pn**	**10 17 59.3**	**+0.2**
EDRZ	**Edgecumbe**	**1.13**	**194**	P		**Pn**	**10 18 01.1**	**+1.9**
PKGZ	**Pakihiroa**	**1.17**	**138**	P		**Pn**	**10 18 01.2**	**+1.9**
PKGZ				S		**S**	**10 18 25.7**	**-1.9**
KARZ	**Kaharoa**	**1.21**	**213**	P		**Pn**	**10 18 01.5**	**+1.8**
OMRZ	**Omania**	**1.24**	**207**	P		**Pn**	**10 18 01.9**	**+2.1**
KMRZ	**Kaimai**	**1.24**	**227**	P		**Pn**	**10 18 00.9**	**+1.0**
URZ	**Urewera**	**1.25**	**179**	P		**Pn**	**10 18 00.8**	**+0.9**
URZ	**Urewera**	**1.25**	**179**	S		**S**	**10 18 26.4**	**-2.1**
URZ	**Urewera**	**1.25**	**179**	P		**Pn**	**10 18 00.9**	**+1.1**
TARZ	**Mount Tarawera**	**1.31**	**200**	P		**Pn**	**10 18 02.8**	**+2.4**
WMGZ	**Waiomatatini S**	**1.33**	**128**	P		**Pn**	**10 18 02.3**	**+1.8**
WMGZ				S		**S**	**10 18 28.3**	**-1.1**
TWGZ	**Tauwhareparae**	**1.37**	**149**	P		**Pn**	**10 18 03.0**	**+2.2**
TWGZ				S		**S**	**10 18 29.7**	**-0.4**
MWZ	**Matawai**	**1.37**	**165**	P		**Pn**	**10 18 02.1**	**+1.4**
HLRZ	**Highlands Stat**	**1.37**	**205**	P		**Pn**	**10 18 03.1**	**+2.3**
RRRZ	**Republican Roa**	**1.41**	**199**	P		**Pn**	**10 18 03.0**	**+2.0**
PUZ	**Puketiti**	**1.42**	**139**	P		**Pn**	**10 18 02.8**	**+1.7**
PUZ				S		**S**	**10 18 28.9**	**-1.7**
TOZ	**Tahuroa Road**	**1.45**	**240**	P		**Pn**	**10 18 02.9**	**+1.6**
HSRZ	**Hossack Road**	**1.47**	**207**	P		**Pn**	**10 18 04.0**	**+2.6**
MUGZ	**Murupara**	**1.49**	**190**	P		**Pn**	**10 18 03.0**	**+1.4**
MUGZ				S		**S**	**10 18 29.5**	**-2.0**
GRZ	**Great Barrier**	**1.51**	**299**	P		**Pn**	**10 18 02.0**	**+0.2**
RAGZ	**Rawiri**	**1.51**	**170**	P		**Pn**	**10 18 03.9**	**+2.1**
HRRZ	**Handcock Road**	**1.52**	**204**	P		**Pn**	**10 18 04.2**	**+2.3**
MKAZ	**Moumakai**	**1.54**	**266**	P		**Pn**	**10 18 03.3**	**+1.3**
GRRZ	**Galatos Road**	**1.55**	**210**	P		**Pn**	**10 18 04.4**	**+2.4**
TKGZ	**Te Karaka**	**1.56**	**157**	P		**Pn**	**10 18 04.0**	**+2.0**
WIAZ	**Waiheke Island**	**1.58**	**277**	P		**Pn**	**10 18 03.4**	**+1.1**
PRRZ	**Plateau Road**	**1.59**	**200**	P		**Pn**	**10 18 04.3**	**+1.9**
PRRZ				S		**S**	**10 18 31.9**	**-1.0**
RTZ	**Ruatahuna**	**1.61**	**183**	P		**Pn**	**10 18 04.2**	**+1.6**
ALRZ	**Allen Road**	**1.66**	**200**	P		**Pn**	**10 18 05.0**	**+2.0**
WPRZ	**Whakapapatarin**	**1.68**	**206**	P		**Pn**	**10 18 05.9**	**+2.8**
CNGZ	**Carnagh Statio**	**1.72**	**149**	P		**Pn**	**10 18 06.1**	**+2.7**
ETAZ	**East Tamaki Re**	**1.73**	**271**	P		**Pn**	**10 18 04.9**	**+1.4**
MBAZ	**Motutapu North**	**1.77**	**277**	P		**Pn**	**10 18 05.2**	**+1.4**
RIGZ	**Rimuhau**	**1.78**	**163**	P		**Pn**	**10 18 06.5**	**+2.5**
RIGZ				S		**S**	**10 18 35.3**	**-0.6**
SNGZ	**Shannon Statio**	**1.79**	**174**	P		**Pn**	**10 18 06.0**	**+2.0**
SNGZ				S		**S**	**10 18 34.0**	**-1.9**
KUTZ	**Kaahu Road**	**1.79**	**214**	P		**Pn**	**10 18 06.5**	**+2.5**
TLZ	**Tolley Road**	**1.80**	**222**	P		**Pn**	**10 18 07.0**	**+2.9**
ABAZ	**Army Bay**	**1.85**	**282**	P		**Pn**	**10 18 06.0**	**+1.4**
MTHZ	**Maungataniwha**	**1.85**	**186**	P		**Pn**	**10 18 06.3**	**+1.7**
EPAZ	**Eden Park BICE**	**1.88**	**273**	P		**Pn**	**10 18 06.2**	**+1.4**
HBAZ	**Herne Bay Bore**	**1.89**	**274**	P		**Pn**	**10 18 06.4**	**+1.5**
MRHZ	**Matea Rd**	**1.90**	**196**	P		**Pn**	**10 18 06.8**	**+1.8**
RAHZ	**Arahi**	**1.91**	**180**	P		**Pn**	**10 18 07.4**	**+2.4**
AWAZ	**Awhitu Peninsu**	**1.96**	**268**	P		**Pn**	**10 18 06.9**	**+1.5**
WATZ	**Wairara**	**2.01**	**212**	P		**Pn**	**10 18 08.6**	**+2.6**
WTAZ	**Waiatarua**	**2.01**	**271**	P		**Pn**	**10 18 07.5**	**+1.5**
PRGZ	**Paritu Road**	**2.02**	**162**	P		**Pn**	**10 18 08.5**	**+2.4**
RVAZ	**Riverhead Bore**	**2.02**	**276**	P		**Pn**	**10 18 07.3**	**+1.3**
KNZ	**Kokohu**	**2.07**	**167**	P		**Pn**	**10 18 08.5**	**+2.0**
WHHZ	**Waihua**	**2.07**	**177**	P		**Pn**	**10 18 08.9**	**+2.4**
NMHZ	**Naumai**	**2.10**	**186**	P		**Pn**	**10 18 09.5**	**+2.7**
RATZ	**Rangitukua**	**2.13**	**209**	P		**Pn**	**10 18 09.4**	**+2.3**
RITZ	**Rihia Road**	**2.19**	**206**	P		**Pn**	**10 18 10.2**	**+2.5**
BKZ	**Black Stump Fm**	**2.21**	**192**	P		**Pn**	**10 18 09.3**	**+1.4**
BKZ	**Black Stump Fm**	**2.21**	**192**	S		**S**	**10 18 41.0**	**-1.8**
BKZ	**Black Stump Fm**	**2.21**	**192**	P

IDC 08 10:21:26.1±11.0, 20°00S×178°41W, h504km±91km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=178.6km s-min=43.7km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.29**	**259**	P	P	10 24 29.2	+0.2
	2.8nm,0.9s,baz=81,slow=19,SNR=1.6						
ASAR	**Alice Springs**	**44.26**	**256**	P	P	10 28 50.4	-0.2
	2.1nm,0.5s,baz=93,slow=8.0,SNR=54						
ASAR				PcP	PcP	10 30 23.6	-0.7
	0.3nm,0.5s,baz=94,slow=3.5,SNR=4.9						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.29**	**262**	P	P	10 28 50.0	-0.8
	0.5nm,0.3s,baz=97,slow=7.3,SNR=23						
	0.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.72**	**262**	P	P	10 29 54.4	+0.8
	1.0nm,0.4s,baz=88,slow=5.8,SNR=10.0						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**87.91**	**13**	P	P	10 33 21.2	0.0
	0.2nm,0.5s,baz=210,slow=4.9,SNR=1.6						
	0.2nm,0.5s						

*CATAC **08** 10:30:46.5±5.4, 17°N±2°×8°6W±°, h15km±44km, M4.7/20, mb4.9/8, mB5.3/3, MLv4.5/20, Mw(mB)4.7/3, Error ellipse: s-maj=4.9km s-min=4.7km az=48.7, Moment Tension Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.54; Mθθ3.33; Mϕϕ-4.87; Mrθ0.01; Mrϕ-4.10; Mθϕ0.73; Fault plane solution: M₀5.99335×10¹⁵ NP1:φ₁157.56945°, δ89.80269°, λ-6.52875°. NP2:φ₂247.59203°, δ83.47129°, λ-179.80140°. Principal axes: T 5.0460, Plg4.4715°, Azm202.7669°; N 1.5787, Plg83.4683°, Azm335.8459°; P -6.6247, Plg4.7515°, Azm112.3944°; confirmed*

*NEIC **08** 10:30:47.4±2.5, 16°75N±0°07×86°16W±0°08, h10km±2km, mb4.2/15 Error ellipse: s-maj=13.7km s-min=10.5km az=55.0*

*GCG **08** 10:30:53.9±2.9, 16°62N×86°55W, h36km±999km, MD5.1, ML4.1*

ISC 08 10:30:48.4±0.8, 16°77N±0°05×86°17W±0°04, h29km, n69, σ1s25/73, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZABA	**Izabal, Puerto**	**2.54**	**246**	P	**Pn**	**10 31 26.4**	**-1.2**
COMHN	**El Horno**	**2.67**	**210**	P	**Pn**	**10 31 28.4**	**-1.3**
YUSH	**Yuscaran**	**2.87**	**193**	P	**Pn**	**10 31 32.3**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.90**	**202**	Pn	**Pn**	**10 31 32.5**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.90**	**202**	P	**Pn**	**10 31 32.5**	**-0.3**
TGUH				S	**Sn**	**10 32 07.8**	**+1.0**
INTHN	**La Esperanza I**	**3.07**	**218**	P	**Pn**	**10 31 32.8**	**-2.4**
MARCA	**Marcala la Paz**	**3.16**	**215**	*i* P	**Pn**	**10 31 36.7**	**+0.3**
MARCA	**Marcala la Paz**	**3.16**	**215**	P	**Pn**	**10 31 36.4**	**+0.1**
RCVN	**Varillal2**	**3.17**	**180**	S	**Sn**	**10 32 14.3**	**+0.9**
RCVN	**Varillal2**	**3.17**	**180**	P	**Pn**	**10 31 36.4**	**-0.1**
SARH	**Santa Rosa de**	**3.19**	**232**	*i* P	**Pn**	**10 31 36.4**	**-0.3**
SARH				*i* S	**Sn**	**10 32 12.8**	**-1.0**
SARH	**Santa Rosa de**	**3.19**	**232**	P	**Pn**	**10 31 36.6**	**-0.1**
RCPN	**Sur Rio San Ju**	**3.23**	**179**	P	**Pn**	**10 31 36.1**	**-1.1**
RCPN	**Sur Rio San Ju**	**3.23**	**179**	S	**Sn**	**10 32 12.2**	**-2.6**
SIUN	**Universidad Ur**	**3.32**	**156**	Pn	**Pn**	**10 31 38.1**	**-0.3**
SIUN	**Universidad Ur**	**3.32**	**156**	P	**Pn**	**10 31 37.5**	**-0.9**
SIUN				S	**Sn**	**10 32 15.1**	**-1.9**
PETF	**Flores**	**3.54**	**273**	Pn	**Pn**	**10 31 41.5**	**0.0**
PETF	**Flores**	**3.54**	**273**	*i* P	**Pn**	**10 31 41.2**	**-0.3**
PETF				*i* S	**Sn**	**10 32 18.7**	**-3.8**
PETF				IAML		10 32 34.9	
	comp=E,449nm,0.6s						
PETF	**Flores**	**3.54**	**273**	P	**Pn**	**10 31 41.3**	**-0.2**
PETF	**Flores**	**3.54**	**273**	S	**Sn**	**10 32 25.4**	**+2.9**
ESQI	**Esquipulas**	**3.77**	**235**	Pn	**Pn**	**10 31 45.0**	**+0.3**
ESQI	**Esquipulas**	**3.77**	**235**	P	**Pn**	**10 31 44.7**	**+0.1**
ESQI	**Esquipulas**	**3.77**	**235**	S	**Sn**	**10 32 29.5**	**+1.4**
BILN	**Bilwi Airport**	**3.82**	**135**	Pn	**Pn**	**10 31 44.8**	**-0.5**
BILN	**Bilwi Airport**	**3.82**	**135**	P	**Pn**	**10 31 45.1**	**-0.2**
BILN				S	**Sn**	**10 32 30.0**	**+0.8**
LCND	**La Caada**	**3.82**	**206**	P	**Pn**	**10 31 45.8**	**+0.4**
MATN	**Matagalpa**	**3.83**	**176**	S	**Sn**	**10 32 30.7**	**+1.2**
MATN	**Matagalpa**	**3.83**	**176**	P	**Pn**	**10 31 44.6**	**-0.8**
CNCH	**Conchagua**	**3.83**	**205**	P	**Pn**	**10 31 45.4**	**-0.1**
CNCH	**Conchagua**	**3.83**	**205**	S	**Sn**	**10 32 30.6**	**+0.9**
MTO3	**Montecristo**	**3.88**	**233**	Pn	**Pn**	**10 31 46.5**	**+0.2**
MTO3	**Montecristo**	**3.88**	**233**	*e*P	**Pn**	**10 31 46.2**	**-0.1**
MTO3	**Montecristo**	**3.88**	**233**	P	**Pn**	**10 31 46.9**	**+0.6**
POTN	**Potosi Cosigui**	**3.96**	**199**	P	**Pn**	**10 31 46.9**	**-0.4**
TEIG	**Tepich**	**3.98**	**330**		**Pn**	**10 31 48.6**	**+1.2**
TEIG	**Tepich**	**3.98**	**330**	P	**Pn**	**10 31 48.5**	**+1.0**
TEIG				S	**Sn**	**10 32 31.5**	**-1.7**
CRIN	**San Cristobal**	**4.13**	**192**	Pn	**Pn**	**10 31 51.8**	**+2.1**
HERN	**Volcan Telica**	**4.19**	**189**	Pn	**Pn**	**10 31 51.5**	**+1.1**
CNGN	**Cerro Negro**	**4.28**	**187**	Pn	**Pn**	**10 31 54.3**	**+2.7**
BOAB	**BOACO BROADBAN**	**4.32**	**173**	Pn	**Pn**	**10 31 52.5**	**+0.2**
BOAB	**BOACO BROADBAN**	**4.32**	**173**	P	**Pn**	**10 31 52.1**	**-0.2**
ACON	**Acoyapa**	**4.87**	**168**	Pn	**Pn**	**10 31 59.1**	**-0.6**
SCIG	**Sabancuy**	**5.25**	**295**	*i* P	**Pn**	**10 32 03.4**	**-1.6**
SCIG	**Sabancuy**	**5.25**	**295**	P	**Pn**	**10 32 03.8**	**-1.2**
HUEH	**Huehuetenango**	**5.33**	**255**	Pn	**Pn**	**10 32 06.4**	**+0.1**
MYIG	**Merida**	**5.37**	**321**	P	**Pn**	**10 32 06.0**	**-0.5**
FSCY	**Frank Sound, G**	**5.37**	**61**	P	Pn	10 32 01.4	-5.2
PRVC	**Isla de Provid**	**5.74**	**125**	P	**Pn**	**10 32 10.6**	**-1.0**
PRVC				S	**Sn**	**10 33 14.9**	**-1.7**
CCIG	**Comitan**	**5.75**	**266**	Pn	**Pn**	**10 32 12.4**	**+0.4**
CCIG	**Comitan**	**5.75**	**266**	*i* P	**Pn**	**10 32 12.6**	**+0.7**
CCIG	**Comitan**	**5.75**	**266**	P	**Pn**	**10 32 12.2**	**+0.2**
CAMR	**Camarioca**	**7.71**	**35**	P	**Pn**	**10 32 39.5**	**+0.7**
CAIB	**Caibarien**	**8.50**	**47**	P	**Pn**	**10 32 50.4**	**+0.8**
TLIG	**Tlapa**	**11.88**	**276**		**Pn**	**10 33 36.2**	**+0.1**
656A	**Williston**	**12.98**	**14**	Pn	**Pn**	**10 33 50.1**	**-0.8**
HBVL	**Hebbronville**	**15.46**	**314**	Pn	**P**	**10 34 26.4**	**-2.3**
HBVL				IAmb	IAmb	10 35 09.8	
	comp=Z,6.9nm,0.8s						
MLDN	**Muldoon**	**16.36**	**324**		**P**	**10 34 37.5**	**-1.1**
833A	**Chaparral WMA,**	**16.76**	**316**		**Pn**	**10 34 39.4**	**-1.7**
833A				IAmb	IAmb	10 34 45.2	
	comp=Z,22nm,0.9s						
435B	**Jarrell**	**17.41**	**325**	P	**P**	**10 34 51.5**	**+1.2**
435B				IAmb	IAmb	10 34 53.8	
	comp=Z,25nm,1.1s						
HNDO	**Hondo**	**17.49**	**319**	P	**P**	**10 34 51.6**	**+0.4**
DRIO	**Del Rio**	**18.29**	**316**		**Pn**	**10 34 59.8**	**-0.3**
DRIO				IAmb	IAmb	10 35 05.5	
	comp=Z,13nm,0.5s						
WHTX	**Lake Whitney,**	**18.29**	**328**		**Pn**	**10 35 02.9**	**+2.8**
WHTX				IAmb	IAmb	10 35 09.1	
	comp=Z,13nm,0.7s						
JCT	**Junction City**	**18.48**	**320**	P	**Pn**	**10 35 03.2**	**+0.8**
JCT				IAmb	IAmb	10 35 14.9	
	comp=Z,9.4nm,0.5s						
BRDY	**Brady**	**18.58**	**323**		**Pn**	**10 35 04.6**	**+0.9**
BRDY				IAmb	IAmb	10 35 18.4	
	comp=Z,9.9nm,0.8s						
PLPT	**Palo Pinto**	**19.38**	**328**		**Pn**	**10 35 15.4**	**+2.2**
PLPT				IAmb	IAmb	10 35 59.8	
	comp=Z,8.3nm,0.7s						
OZNA	**Ozona**	**19.61**	**319**		**Pn**	**10 35 17.1**	**+1.1**
ABTX	**Abilene, Hawle**	**19.94**	**325**	P	**Pn**	**10 35 20.5**	**+0.5**
ABTX				IAmb	IAmb	10 35 30.0	
	comp=Z,13nm,0.6s						
TX31	**Lajitas Ar. Si**	**20.36**	**311**		Pn	10 35 24.9	-0.1
ALPN	**Alpine**	**20.93**	**313**		Pn	10 35 31.4	-0.3

*NIED **08** 10:39:01.5, 33°88N×132°76E, h42km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-2.41; Mθθ0.59; Mϕϕ1.83; Mrθ0.56; Mθϕ-0.74; Mrϕ0.43; Fault plane solution: M₀2.38000×10¹⁴ NP1: φs322.00000°, δ45.00000°, λ-110.00000°. NP2: φs169.00000°, δ49.00000°, λ-72.00000°.*

JMA 08 10:39:01.5±0.0, 33°9N±0°1×132°8E±0°1, h42km, MV3.7/39, 6D, NE EHIME PREF, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JET	**Tanbara**	**0.26**	**113**	‖*i* P	Pn	10 39 09.5	0.0
JET				‖S	Sn	10 39 15.1	0.0
JNA	**Nagahama**	**0.40**	**216**	*i* P	Pn	10 39 10.9	-0.2
JNA				S	Sn	10 39 17.4	-0.3
JKU	**Kubokawa**	**0.62**	**156**	P	Pn	10 39 13.8	-0.2
JKU				S	Sn	10 39 22.9	+0.1
UWA2	**Uwa jima 2**	**0.68**	**190**	*i* P	Pn	10 39 14.7	0.0
UWA2				*i* S	Sn	10 39 24.1	0.0
JHT	**Toyohira**	**0.83**	**340**	‖*i* P	Pn	10 39 16.8	0.0
JHT				‖S	Sn	10 39 28.0	+0.1
JMN	**Monobe**	**0.94**	**99**	P	Pn	10 39 18.1	-0.3
JMN				S	Sn	10 39 30.2	-0.4
JTO	**Tosashimizu**	**1.02**	**178**	‖*i* P	Pn	10 39 19.4	0.0
JTO				‖S	Sn	10 39 32.4	-0.1
JJS	**Sakaide**	**1.09**	**63**	P	Pn	10 39 19.9	-0.3
JJS				S	Sn	10 39 33.6	-0.6
JHS	**Saijyo**	**1.15**	**15**	*i* P	Pn	10 39 21.5	+0.2
JHS				S	Sn	10 39 36.2	+0.4
JGT2	**ShimaneMisato**	**1.20**	**350**	P	Pn	10 39 22.1	+0.3
JGT2				S	Sn	10 39 37.8	+0.9

WEL 08 11:01:03.5±1.2, 33°S±18°×18°0E±3°3, h433km±27km, M3.8/8, mB4.2/5, MLv4.0/8, Mw(mB)3.3/5, Error ellipse: s-maj=45.8km s-min=17.8km az=111.6, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.17**	**193**	P	P	11 02 28.8	+0.3
MXZ				S	S	11 03 39.5	+1.6
KUZ	**Kuaotunu**	**5.36**	**217**	P	P	11 02 31.1	+0.6
WMGZ	**Waiomatatini S**	**5.40**	**191**	P	P	11 02 31.0	+0.2
HAZ	**Te Kaha**	**5.47**	**196**	P	P	11 02 30.6	-0.9
HAZ				S	S	11 03 43.9	+0.4
PKGZ	**Pakihiroa**	**5.51**	**194**	P	P	11 02 33.2	+1.2
PUZ	**Puketiti**	**5.67**	**192**	P	P	11 02 31.7	-2.0
RUGZ	**Raukumara Rang**	**5.69**	**197**	P	P	11 02 34.0	+0.1
RUGZ				S	S	11 03 46.0	-2.0
MWZ	**Matawai**	**6.08**	**197**	P	P	11 02 38.3	+0.5
URZ	**Urewera**	**6.12**	**200**	P	P	11 02 37.5	-0.7
URZ				S	S	11 03 57.2	+1.4
RIGZ	**Rimuhau**	**6.38**	**194**	P	P	11 02 41.6	+0.5
RIGZ				S	S	11 04 03.2	+2.2
MUGZ	**Murupara**	**6.42**	**201**	P	P	11 02 41.6	+0.2
MUGZ				S	S	11 04 02.1	+0.4
ARHZ	**Aropaoanui**	**7.09**	**198**	P	P	11 02 49.8	+1.0
ARHZ				S	S	11 04 13.8	-1.0
BKZ	**Black Stump Fm**	**7.14**	**201**	P	P	11 02 48.4	-0.9
MCHZ	**McNeill Hill**	**7.34**	**199**	P	P	11 02 51.8	+0.3
KWHZ	**Kaweka Forest**	**7.40**	**200**	P	P	11 02 52.0	-0.2
FWVZ	**Far West T-bar**	**7.53**	**206**	P	P	11 02 54.2	+0.4
WNVZ	**Wahianoa**	**7.58**	**205**	P	P	11 02 54.8	-0.3
KRHZ	**Kereru**	**7.62**	**200**	P	P	11 02 54.2	-0.3
KAHZ	**Kahuranaki**	**7.62**	**197**	P	P	11 02 55.2	+0.6
PNHZ	**Pukenui**	**7.92**	**200**	P	P	11 02 55.9	-1.9

*ISK **08** 11:02:28.6, 38°04N×26°86E, h8km, ML3.5/32*

*AFAD **08** 11:02:28.5, 38°01N×26°83E, h16km±1km, ML3.4*

*THE **08** 11:02:29.1, 38°0N±0°8×2°7E±°, h7km±2km, M3.1/14, MLh3.1/14*

*ATH **08** 11:02:29.0, 37°99N×26°83E, h21km±1km, ML3.0/13, Manual Solution by G.Panopoulou First location: 2019/08/08 15:51:59, This location: 2019/08/08 15:49:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 08 11:02:28.6±0.8, 38°03N±0°02×26°86E±0°02, h12km±6km, n91, σ0s73/119, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.06**	**46**	Pg	**Pg**	**11 02 30.8**	**-0.2**
GMLD				Sg	**Sg**	**11 02 32.3**	**-0.5**
SMG	**Samos**	**0.32**	**183**	P	**Pg**	**11 02 35.6**	**+0.5**
SMG				S	**Sg**	**11 02 40.6**	**+1.1**
SMG	**Samos**	**0.32**	**183**	P	**Pg**	**11 02 35.7**	**+0.5**
SMG				S	**Sb**	**11 02 40.8**	**+1.3**
BLCB	**Balcova**	**0.38**	**22**	Pg	**Pg**	**11 02 36.7**	**+0.5**
BLCB				Sg	**Sg**	**11 02 41.5**	**+0.2**
BLCB	**Balcova**	**0.38**	**22**	P	**Pg**	**11 02 36.5**	**+0.2**
BLCB				S	**Sg**	**11 02 41.6**	**+0.2**
URLA	**Izmir**	**0.39**	**328**	P	**Pg**	**11 02 36.7**	**+0.4**
URLA				S	**Sb**	**11 02 42.6**	**-0.9**
URLA				*i* IAML		11 02 43.0	
	comp=N,2μm,0.2s						
URLA				*i* IAML		11 02 43.0	
	comp=E,2μm,0.4s						
GCAM	**G?zelcaml?**	**0.45**	**138**	P	**Pg**	**11 02 37.8**	**+0.4**
GCAM				*i* IAML		11 02 44.0	
	comp=N,3μm,0.4s						
GCAM				S	**Sg**	**11 02 44.3**	**+1.0**
GCAM				*i* IAML		11 02 45.0	
	comp=E,2μm,0.1s						
CESE	**eme**	**0.53**	**304**	Pg	**Pg**	**11 02 39.4**	**+0.4**
FOCM	**Foa**	**0.69**	**352**	Pg	**Pb**	**11 02 42.7**	**+0.1**
FOCM				Sg	**Sb**	**11 02 52.1**	**+0.1**
DIDI	**Didim-Aydin**	**0.72**	**155**	Pg	**Pb**	**11 02 43.3**	**+0.2**
CHOS	**Chios island**	**0.72**	**300**	Pg	**Pb**	**11 02 43.2**	**0.0**
CHOS				Sg	**Sb**	**11 02 53.6**	**+0.4**
CHOS	**Chios island**	**0.72**	**300**	P	**Pg**	**11 02 43.0**	**+0.3**
CHOS				S	**Sb**	**11 02 53.7**	**+0.4**
CHOS	**Chios island**	**0.72**	**300**	P	**Pb**	**11 02 43.3**	**+0.1**
CHOS				S	**Sb**	**11 02 53.5**	**+0.4**
EAG2	**Marmaro, Chios**	**0.78**	**311**	P	**Pg**	**11 02 44.0**	**+0.3**
EAG2				S	**Sb**	**11 02 55.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.82**	**96**	Pg	**Pg**	**11 02 44.6**	**+0.1**
IZMR	**zmir-demi**	**0.87**	**83**	P	**Pg**	**11 02 45.2**	**-0.2**
IZMR				S	**Sg**	**11 02 56.2**	**-0.6**
AYDN	**Tasoluk**	**0.89**	**114**	P	**Pb**	**11 02 46.2**	**+0.1**
AYDN				S	**Sb**	**11 02 58.3**	**+0.4**
IZMD	**zmir-Dikili-**	**0.95**	**3**	S	**Sn**	**11 03 01.4**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.97**	**160**	Pg	**Pb**	**11 02 47.5**	**+0.2**
ODEM	**Odemis-Izmir**	**0.99**	**75**	Pg	**Pg**	**11 02 47.5**	**-0.2**
BDRM	**Kayabasi**	**1.07**	**154**	P	**Pb**	**11 02 49.0**	**-0.1**
BDRM				S	**Sn**	**11 03 04.4**	**+0.1**
BDRM				*i* IAML		11 03 06.0	
	comp=E,946nm,0.7s						
GOMA	**Golmarmara-Man**	**1.07**	**51**	Pg	**Pn**	**11 02 49.8**	**+0.3**
AKHS	**Akhisar**	**1.13**	**41**	P	**Pb**	**11 02 49.0**	**-1.1**
AKS	**Akhisar**	**1.13**	**41**	Pn	**Pg**	**11 02 50.8**	**+0.4**
NAZL	**Nazilli-Aydin**	**1.14**	**93**	Pn	**Pg**	**11 02 50.5**	**0.0**
ESEN	**Aydn-Nazilli**	**1.20**	**101**	P	**Pg**	**11 02 52.0**	**+0.3**
ESEN				S	**Sn**	**11 03 07.8**	**+0.3**
KIRA	**zmir-Kiraz**	**1.23**	**82**	P	**Pn**	**11 02 51.7**	**0.0**
KIRA				S	**Sb**	**11 03 07.8**	**+0.1**
SOMA	**Soma-Manisa**	**1.24**	**25**	Pn	**Pg**	**11 02 52.9**	**+0.4**
AYVA	**Ayvalik**	**1.28**	**354**	P	**Pn**	**11 02 50.9**	**-1.4**
AYVA				S	**Sg**	**11 03 11.7**	**+1.8**
GORD	**Gordes-Manisa**	**1.36**	**49**	Pn	**Pg**	**11 02 54.5**	**-0.2**
MANT	**Manisa**	**1.42**	**71**	P	**Pg**	**11 02 55.8**	**-0.1**
MANT				S	**Sn**	**11 03 12.7**	**-0.4**
MANT				*i* IAML		11 03 16.0	
	comp=N,555nm,0.3s						
SIGR	**SIGRI**	**1.42**	**327**	Pn	**Pn**	**11 02 54.3**	**+0.1**
SIGR	**SIGRI**	**1.42**	**327**	P	**Pn**	**11 02 54.2**	**0.0**
SIGR				S	**Sg**	**11 03 14.2**	**0.0**
SIGR	**SIGRI**	**1.42**	**327**	P	**Pn**	**11 02 54.1**	**0.0**
SIGR				S	**Sn**	**11 03 12.1**	**-0.7**
DAT	**Datca**	**1.42**	**156**	Pn	**Pn**	**11 02 54.4**	**0.0**
DAT	**Datca**	**1.42**	**156**	P	**Pn**	**11 02 54.0**	**-0.4**
DAT				S	**Sg**	**11 03 14.1**	**-0.3**
APE	**Apeiranthos**	**1.43**	**228**	Pn	**Pb**	**11 02 55.7**	**+0.5**
APE	**Apeiranthos**	**1.43**	**228**	P	**Pn**	**11 02 54.7**	**+0.3**
APE	**Apeiranthos**	**1.43**	**228**	P	**Pn**	**11 02 53.5**	**-1.0**
NISR	**Nisiros**	**1.43**	**171**	P	**Pn**	**11 02 54.9**	**+0.4**
KULA	**Kula-Manisa**	**1.50**	**71**	Pn	**Pg**	**11 02 57.2**	**-0.2**
GPNR	**Gulpinar-Canak**	**1.53**	**339**	Pn	**Pb**	**11 02 56.9**	**0.0**
YAYO	**Edremit-Balk**	**1.59**	**6**	Pn	**Pb**	**11 02 56.9**	**+0.3**
EZNE	**Ezine-Canakkal**	**1.76**	**348**	Pn	**Pb**	**11 03 00.2**	**-0.7**
DEMI	**Demirci**	**1.77**	**55**	P	**Pb**	**11 03 01.8**	**+0.7**
DEMI				S	**Sg**	**11 03 25.0**	**-0.6**
BALY	**Balya**	**1.81**	**19**	P	**Pn**	**11 03 00.4**	**+0.8**
BALY				S	**Sg**	**11 03 27.1**	**+0.4**
USAK	**Uak-Merkez**	**1.83**	**67**	S	**Pb**	**11 03 01.9**	**-0.2**
USAK				S	**Sg**	**11 03 27.4**	**+0.1**
EZN	**Ezine**	**1.84**	**347**	Pn	**Pn**	**11 02 59.8**	**-0.2**
EZN	**Ezine**	**1.84**	**347**	P	**Pn**	**11 03 00.1**	**+0.1**
EZN				S	**Sn**	**11 03 23.6**	**+0.3**
KARY	**Karystos**	**1.91**	**271**	P	**Pn**	**11 03 02.1**	**+1.1**
KARY	**Karystos**	**1.91**	**271**	P	**Pn**	**11 03 00.5**	**-0.6**
KARY				S	**Sn**	**11 03 23.2**	**-1.9**
YENI	**Yenice-Canakka**	**1.93**	**9**	Pn	**Pb**	**11 03 02.6**	**-1.1**
SIMA	**Simav-Kutahya**	**1.97**	**57**	Pn	**Pb**	**11 03 03.6**	**-0.9**
CANM	**Can-anakkale**	**1.98**	**4**	Pn	**Pn**	**11 03 03.3**	**+1.3**
DURS	**Dursunbey**	**2.01**	**38**	P	**Pb**	**11 03 04.7**	**-0.5**
DURS				S	**Sg**	**11 03 33.0**	**-0.4**
DURS				*i* IAML		11 03 34.0	
	comp=N,254nm,0.7s						
DURS				*i* IAML		11 03 37.0	
	comp=E,428nm,0.3s						
APMY	**Acipayam-Deniz**	**2.02**	**105**	Pn	**Pn**	**11 03 03.9**	**+1.3**
ARG	**Arkhangelos**	**2.08**	**150**	P	**Pn**	**11 03 03.9**	**+0.5**
ARG	**Arkhangelos**	**2.08**	**150**	P	**Pn**	**11 03 02.9**	**-0.5**
COMU	**Canakkale**	**2.08**	**352**	Pn	**Pn**	**11 03 04.8**	**+1.3**
DST	**Dursunbey**	**2.09**	**41**	Pn	**Pn**	**11 03 04.9**	**+1.4**
SHAP	**Saphane-Kutahy**	**2.10**	**61**	Pn	**Pb**	**11 03 05.6**	**-1.2**
GONE	**Gonen-Balikesi**	**2.11**	**18**	Pn	**Pn**	**11 03 04.8**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.25**	**286**	P	**Pn**	**11 03 06.4**	**+0.7**
LIA	**Limnos Island**	**2.27**	**326**	P	**Pn**	**11 03 06.6**	**+0.6**
LIA	**Limnos Island**	**2.27**	**326**	P	**Pn**	**11 03 06.4**	**+0.4**
DION	**Dionisos Attik**	**2.31**	**272**	P	**Pn**	**11 03 07.1**	**+0.6**
DION	**Dionisos Attik**	**2.31**	**272**	P	**Pn**	**11 03 06.7**	**+0.1**
PTL	**Penteli**	**2.36**	**271**	P	**Pn**	**11 03 07.7**	**+0.5**
PTL	**Penteli**	**2.36**	**271**	P	**Pn**	**11 03 06.3**	**-0.9**
MHLO	**Agia Marina, M**	**2.37**	**236**	P	**Pn**	**11 03 08.8**	**+1.5**
MHLO	**Agia Marina, M**	**2.37**	**236**	P	**Pn**	**11 03 06.3**	**-1.0**
GELI	**Tayfur-Gelibol**	**2.38**	**353**	Pn	**Pn**	**11 03 07.9**	**+0.4**
KRBG	**Karabiga-Canak**	**2.38**	**8**	Pn	**Pn**	**11 03 09.1**	**+1.6**
ATHU	**Athens Univers**	**2.43**	**269**	P	**Pn**	**11 03 06.7**	**-1.5**
EDC	**Edincik**	**2.44**	**18**	Pn	**Pn**	**11 03 09.9**	**+1.6**
TVSB	**Tavsanli**	**2.48**	**54**	Pn	**Pn**	**11 03 10.8**	**+1.8**
KARP	**Karpathos**	**2.49**	**174**	P	**Pn**	**11 03 08.8**	**-0.3**
KARP	**Karpathos**	**2.49**	**174**	P	**Pn**	**11 03 08.3**	**-0.7**
KCTX	**Karacabey (Bur**	**2.52**	**27**	Pn	**Pn**	**11 03 08.1**	**-1.3**
SMTH	**Samothraki Isl**	**2.64**	**337**	P	**Pn**	**11 03 11.2**	**+0.1**
KSL	**Kastellorizon**	**2.88**	**130**	P	**Pn**	**11 03 15.5**	**+1.2**
KSL	**Kastellorizon**	**2.88**	**130**	P	**Pn**	**11 03 13.5**	**-0.8**
ALN	**Alexandroupoli**	**2.93**	**348**	P	**Pn**	**11 03 15.1**	**+0.1**
NPS	**Neapolis**	**2.94**	**200**	P	**Pn**	**11 03 14.3**	**-0.9**
IDI	**Anoyia**	**3.16**	**211**	P	**Pn**	**11 03 17.4**	**-0.9**
RDO	**Rodhopi**	**3.27**	**342**	P	**Pn**	**11 03 20.4**	**+0.6**
VLI	**Veliai**	**3.39**	**248**	P	**Pn**	**11 03 21.1**	**-0.2**
KAVA	**Kavala**	**3.47**	**329**	P	**Pn**	**11 03 23.0**	**+0.6**
GUR	**Goura**	**3.57**	**270**	P	**Pn**	**11 03 22.2**	**-1.7**
ANKY	**Antikythira Is**	**3.58**	**234**	P	**Pn**	**11 03 23.9**	**0.0**
KLV	**Kalavryta, Ach**	**3.72**	**272**	P	**Pn**	**11 03 25.9**	**-0.1**

IDC 08 11:09:49.5±2.2, 50°36N×27°62E, h0km, mbtmp3.6/3, ML2.7/3, Error ellipse: s-maj=20.4km s-min=11.1km az=25.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**1.08**	**71**	Pg	Pg	11 10 09.5	-0.8
	15nm,0.3s,baz=254,slow=16,SNR=34						
AKASG				Lg	Lg	11 10 26.9	
	10nm,0.3s,baz=253,slow=35,SNR=18						
AKASG				Rg	Rg	11 10 31.0	
	43nm,0.9s,baz=253,slow=36,SNR=11						
I26DE	**FREYUNG INFRAS**	**9.15**	**266**	I	I	12 06 10.0	
	baz=71,slow=317,SNR=1.8						
FINES	**FINESS Array B**	**11.15**	**356**	Pn	Pn	11 12 24.9	-5.1
	0.1nm,0.3s,baz=168,slow=14,SNR=4.1						
	1.1nm,0.8s						
HFS	**Hagfors**	**12.58**	**326**	Pn	Pn	11 12 42.2	-7.4
	0.2nm,0.3s,baz=129,slow=16,SNR=2.0						
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**19.27**	**358**	Pn	P	11 14 10.7	-4.7
	baz=180,slow=12,SNR=1.9						
	3.1nm,1.1s						

*IDC **08** 11:19:34.8±0.7, 37°96N×29°63E, h0km, mb4.1/13, mb

EMET	**Ktahya-Emet**	**1.52**	**351**	P	**Pn**	**11 20 03.4**	**-0.3**
EMET				S	**Sg**	**11 20 28.3**	**+2.7**
EMET				*i* IAML		11 20 30.0	
	comp=E,3μm,0.5s						
EMET				*i* IAML		11 20 33.0	
	comp=N,3μm,0.9s						
BYAT	**Afyon-Bayat**	**1.52**	**45**	P	**Pb**	**11 20 04.6**	**-0.3**
BYAT				S	**Sg**	**11 20 27.9**	**+2.3**
BYAT				*i* IAML		11 20 34.0	
	comp=N,2μm,0.7s						
BYAT				*i* IAML		11 20 34.0	
	comp=E,3μm,0.9s						
GORD	**Gordes-Manisa**	**1.53**	**313**	Pn	**Pn**	**11 20 03.7**	**-0.1**
GOMA	**Golmarmara-Man**	**1.57**	**303**	Pn	**Pn**	**11 20 04.4**	**+0.1**
TVSB	**Tavsanli**	**1.58**	**356**	Pn	**Pn**	**11 20 04.8**	**+0.3**
UCKU	**Afyonkarahisar**	**1.62**	**61**	P	**Pn**	**11 20 05.0**	**0.0**
UCKU				S	**Sb**	**11 20 26.4**	**-0.6**
KSL	**Kastellorizon**	**1.72**	**181**	P	**Pn**	**11 20 06.1**	**-0.2**
KSL				S	**Sb**	**11 20 29.5**	**0.0**
AKS	**Akhisar**	**1.74**	**306**	Pn	**Pn**	**11 20 06.6**	**+0.1**
SEYD	**Seydisehir-KON**	**1.83**	**104**	Pn	**Pn**	**11 20 08.5**	**+0.6**
CIFT	**Cifteler, Eski**	**1.87**	**37**	Pn	**Pn**	**11 20 08.5**	**0.0**
DOMA	**Ktahya-Doman**	**1.92**	**2**	P	**Pn**	**11 20 09.3**	**+0.2**
DOMA				S	**Sg**	**11 20 40.3**	**+2.1**
DOMA				*i* IAML		11 20 45.0	
	comp=N,1μm,1.3s						
DOMA				*i* IAML		11 20 49.0	
	comp=E,977nm,0.8s						
DAT	**Datca**	**1.98**	**236**	Pn	**Pn**	**11 20 10.4**	**+0.4**
DAT	**Datca**	**1.98**	**236**	P	**Pn**	**11 20 11.4**	**+1.4**
DAT				S	**Sb**	**11 20 36.6**	**-0.7**
ARG	**Arkhangelos**	**2.03**	**216**		**Pb**	**11 20 12.7**	**-0.8**
ARG	**Arkhangelos**	**2.03**	**216**	Pn	**Pn**	**11 20 11.4**	**+0.8**
ARG	**Arkhangelos**	**2.03**	**216**	P	**Pn**	**11 20 11.4**	**+0.8**
ARG				S	**Sb**	**11 20 39.2**	**+0.5**
ARG	**Arkhangelos**	**2.03**	**216**	P	**Pn**	**11 20 11.3**	**+0.7**
ARG				S	**Sb**	**11 20 39.1**	**+0.5**
SOMA	**Soma-Manisa**	**2.08**	**309**	Pn	**Pn**	**11 20 11.5**	**+0.3**
BLCB	**Balcova**	**2.09**	**285**	Pn	**Pn**	**11 20 11.7**	**+0.3**
BLCB	**Balcova**	**2.09**	**285**	P	**Pn**	**11 20 11.1**	**-0.3**
LADK	**Ladik-KONYA**	**2.20**	**81**	Pn	**Pn**	**11 20 14.1**	**+1.1**
SMG	**Samos**	**2.20**	**267**	P	**Pn**	**11 20 12.9**	**-0.1**
ORLT	**Orhaneli**	**2.24**	**346**	Pn	**Pn**	**11 20 14.2**	**+0.6**
NISR	**Nisiros**	**2.34**	**238**	P	**Pn**	**11 20 15.4**	**+0.5**
HDMB	**Hadim**	**2.46**	**111**	Pn	**Pn**	**11 20 18.0**	**+1.3**
ADVT	**Abdulvahap**	**2.56**	**2**	Pn	**Pn**	**11 20 18.7**	**+0.8**
YAYO	**Edremit-Balk**	**2.64**	**312**	Pn	**Pn**	**11 20 19.0**	**+0.1**
GULT	**Gulveren**	**2.65**	**15**	Pn	**Pn**	**11 20 20.3**	**+1.1**
CHBY	**Cihanbeyli**	**2.68**	**74**	Pn	**Pn**	**11 20 20.6**	**+1.0**
POLA	**Polatl-ANKAR**	**2.71**	**47**	Pn	**Pn**	**11 20 21.6**	**+1.6**
BAND	**Balkesir-Ban**	**2.75**	**335**	⇑P	**Pn**	**11 20 20.2**	**-0.2**
CHOS	**Chios island**	**2.85**	**282**	Pn	**Pn**	**11 20 22.8**	**+0.9**
CHOS	**Chios island**	**2.85**	**282**	P	**Pn**	**11 20 21.3**	**-0.6**
MDUB	**Mudurnu**	**2.88**	**25**		**Pn**	**11 20 22.6**	**+0.3**
MDUB	**Mudurnu**	**2.88**	**25**	Pn	**Pn**	**11 20 23.4**	**+1.1**
KULU	**Kulu**	**2.91**	**65**	Pn	**Pn**	**11 20 24.1**	**+1.3**
SAUV	**Serdivan-Sakar**	**2.92**	**11**	Pn	**Pn**	**11 20 24.3**	**+1.5**
YUVA	**Yuva-Kibriscik**	**2.99**	**32**	Pn	**Pn**	**11 20 25.3**	**+1.4**
KARP	**Karpathos**	**3.04**	**221**		**Pn**	**11 20 25.9**	**+1.4**
KARP	**Karpathos**	**3.04**	**221**	P	**Pn**	**11 20 24.7**	**+0.2**
KRBG	**Karabiga-Canak**	**3.10**	**325**	Pn	**Pn**	**11 20 25.3**	**+0.1**
SAHE	**Sakarya_HENDEK**	**3.13**	**18**	⇑P	**Pn**	**11 20 26.6**	**+0.8**
AFSR	**Afar-Bala (An**	**3.13**	**59**	Pn	**Pn**	**11 20 26.8**	**+1.0**
MRMT	**Marmara Adasi**	**3.15**	**331**	Pn	**Pn**	**11 20 26.4**	**+0.4**
ANTO	**Ankara**	**3.19**	**50**		**Pn**	**11 20 27.2**	**+0.6**
ANTO	**Ankara**	**3.19**	**50**	⇓P	**Pn**	**11 20 27.2**	**+0.6**
ANTO	**Ankara**	**3.19**	**50**	P	**Pn**	**11 20 27.2**	**+0.6**
KAVV	**Kandilli-Istan**	**3.22**	**353**	Pn	**Pn**	**11 20 27.9**	**+1.0**
ISK	**Istanbul-Kandi**	**3.22**	**353**	Pn	**Pn**	**11 20 27.9**	**+1.0**
EZN	**Ezine**	**3.22**	**308**	Pn	**Pn**	**11 20 27.4**	**+0.4**
EZN	**Ezine**	**3.22**	**308**	⇓P	**Pn**	**11 20 27.4**	**+0.4**
EZN	**Ezine**	**3.22**	**308**	P	**Pn**	**11 20 27.4**	**+0.4**
SIGR	**SIGRI**	**3.23**	**296**	Pn	**Pn**	**11 20 27.8**	**+0.7**
SIGR	**SIGRI**	**3.23**	**296**	P	**Pn**	**11 20 27.1**	**0.0**
SILT	**Silе**	**3.28**	**0**	Pn	**Pn**	**11 20 28.9**	**+1.2**
SILT	**Silе**	**3.28**	**0**	⇑P	**Pn**	**11 20 28.3**	**+0.6**
COMU	**Canakkale**	**3.31**	**313**	Pn	**Pn**	**11 20 28.9**	**+0.8**
BGKT	**Bogazkoy**	**3.37**	**349**	Pn	**Pn**	**11 20 30.2**	**+1.2**
KLYT	**Kilyos**	**3.41**	**353**	Pn	**Pn**	**11 20 30.7**	**+1.2**
KLYT	**Kilyos**	**3.41**	**353**	⇓P	**Pn**	**11 20 29.4**	**0.0**
CTKS	**Kestanelik-??a**	**3.47**	**346**	Pn	**Pn**	**11 20 32.3**	**+2.0**
GELI	**Tayfur-Gelibol**	**3.51**	**317**	Pn	**Pn**	**11 20 31.6**	**+0.7**
SLVT	**Silivri**	**3.53**	**343**	Pn	**Pn**	**11 20 32.7**	**+1.6**
KIRS	**Kirsehir-Merke**	**3.61**	**68**	⇓P	**Pn**	**11 20 32.8**	**+0.5**
BR131	**Keskin Array S**	**3.65**	**58**		**Pn**	**11 20 33.4**	**+0.4**
BR131	**Keskin Array S**	**3.65**	**58**	P	**Pn**	**11 20 33.4**	**+0.4**
BRTR	**Keskin Array B**	**3.65**	**58**		**Pn**	**11 20 33.2**	**+0.2**
BRTR	**Keskin Array B**	**3.65**	**58**	Pn	**Pn**	**11 20 33.4**	**+0.4**
	3.0nm,0.3s,baz=236,slow=14,SNR=94						
BRTR				Sn	**Sn**	**11 21 16.2**	**+0.2**
	3.6nm,0.3s,baz=245,slow=18,SNR=5.3						
	24nm,0.8s						
ERIK	**Erikli-Kesan**	**3.69**	**320**	Pn	**Pn**	**11 20 33.7**	**+0.3**
GADA	**Gvkgeada**	**3.71**	**310**	Pn	**Pn**	**11 20 34.7**	**+1.1**
GADA	**Gvkgeada**	**3.71**	**310**	P	**Pn**	**11 20 32.0**	**-1.6**
CTYL	**Yalikoy Yolu**	**3.74**	**345**	⇑P	**Pn**	**11 20 35.3**	**+1.2**
ZKR	**Zakros**	**3.88**	**226**	Pn	**Pn**	**11 20 37.7**	**+1.7**
ZKR	**Zakros**	**3.88**	**226**	P	**Pn**	**11 20 37.3**	**+1.4**
CAVK	**Edirne/Enez-Ca**	**3.88**	**318**	⇑P	**Pn**	**11 20 36.8**	**+0.7**
LIA	**Limnos Island**	**4.00**	**302**	P	**Pn**	**11 20 37.7**	**0.0**
PHSR	**Pinarhisar**	**4.09**	**337**	⇓P	**Pn**	**11 20 38.6**	**-0.2**
ALN	**Alexandroupoli**	**4.09**	**319**		**Pn**	**11 20 39.4**	**+0.4**
ALN	**Alexandroupoli**	**4.09**	**319**	P	**Pn**	**11 20 39.4**	**+0.4**
CSS	**Mathiatis**	**4.17**	**133**		**Pn**	**11 20 42.3**	**+2.2**
CSS	**Mathiatis**	**4.17**	**133**	P	**Pn**	**11 20 39.8**	**-0.2**
CSS	**Mathiatis**	**4.17**	**133**	S	**Sn**	**11 21 28.9**	**+0.1**
RDO	**Rodhopi**	**4.54**	**317**		**Pn**	**11 20 45.4**	**+0.4**
IDI	**Anoyia**	**4.59**	**237**		**Pn**	**11 20 47.7**	**+1.8**
IDI	**Anoyia**	**4.59**	**237**	Pn	**Pn**	**11 20 47.5**	**+1.6**
	18nm,0.8s,baz=55,slow=14,SNR=12						
IDI				Sn	**Sn**	**11 21 38.9**	**-0.2**
	3.1nm,0.3s,baz=165,slow=23,SNR=3.8						
CIDE	**Kastamonu/Cide**	**4.76**	**32**	⇑P	**Pn**	**11 20 48.8**	**+0.7**
KDZ	**Kurdzhali**	**4.99**	**320**	P	**Pn**	**11 20 51.7**	**+0.4**
JMB	**Yambol**	**5.18**	**334**	P	**Pn**	**11 20 53.7**	**-0.2**
DIM	**Dimitrovgrad**	**5.20**	**325**	P	**Pn**	**11 20 54.5**	**+0.4**
RZN	**Rozhen**	**5.35**	**317**	P	**Pn**	**11 20 57.2**	**+0.8**
PRD	**Provadia**	**5.54**	**343**	P	**Pn**	**11 20 58.8**	**+0.1**
SOH	**Sokhos**	**5.67**	**303**	P	**Pn**	**11 21 01.9**	**+1.2**
ELND	**Elena**	**5.80**	**332**	⇓P	**Pn**	**11 21 02.5**	**+0.1**
SZH	**Strazhitsa**	**6.06**	**334**	P	**Pn**	**11 21 06.3**	**+0.4**
PLNA	**Plana**	**6.60**	**316**	P	**Pn**	**11 21 14.9**	**+1.4**
TIRR	**Tirgusor**	**6.64**	**353**		**Pn**	**11 21 14.1**	**+0.2**
TIRR	**Tirgusor**	**6.64**	**353**	⇑P	**Pn**	**11 21 14.3**	**+0.3**
TIRR	**Tirgusor**	**6.64**	**353**	P	**Pn**	**11 21 14.2**	**+0.2**
PLVB	**Pleven**	**6.69**	**327**	⇑P	**Pn**	**11 21 15.5**	**+0.9**
MMA0B	**Mount Meron ar**	**6.77**	**134**	P	**Pn**	**11 21 15.4**	**-0.4**
MMA0B	**Mount Meron ar**	**6.77**	**134**	S	**Sn**	**11 22 32.4**	**-0.3**
MMAI	**Mount Meron Ar**	**6.77**	**134**	Pn	**Pn**	**11 21 16.4**	**+0.7**
	8.1nm,0.3s,baz=313,slow=12,SNR=27						
MMAI				Sn	**Sn**	**11 22 31.1**	**-1.7**
	8.8nm,0.3s,baz=314,slow=27,SNR=10						
	16nm,0.5s						
NATI	**Neve Ativ**	**6.79**	**131**	P	**Pn**	**11 21 16.4**	**+0.5**
NATI	**Neve Ativ**	**6.79**	**131**	S	**Sn**	**11 22 33.2**	**+0.1**
FNA	**Florina**	**7.01**	**297**		**Pn**	**11 21 20.0**	**+0.9**
FNA	**Florina**	**7.01**	**297**	P	**Pn**	**11 21 20.0**	**+0.9**
TPGR	**Topolog**	**7.04**	**353**	⇑P	**Pn**	**11 21 19.3**	**-0.1**
MPEP	**Malo Peshtene**	**7.07**	**323**	P	**Pn**	**11 21 20.4**	**+0.6**
TLCR		**7.33**	**356**	⇓P	**Pn**	**11 21 23.9**	**+0.4**
TLCR		**7.33**	**356**	P	**Pn**	**11 21 23.8**	**+0.4**
CFR	**Carcaliu**	**7.39**	**352**	⇑P	**Pn**	**11 21 24.1**	**0.0**
CFR	**Carcaliu**	**7.39**	**352**	P	**Pn**	**11 21 24.1**	**0.0**
HMDT	**Nahal Hemdat**	**7.41**	**137**	P	**Pn**	**11 21 24.6**	**+0.1**
HMDT	**Nahal Hemdat**	**7.41**	**137**	S	**Sn**	**11 22 47.7**	**-0.8**
SIM	**Simferopol'**	**7.84**	**24**	*eP*	**Pn**	**11 21 30.1**	**-0.3**
SIM				*eS*	**Sn**	**11 22 53.5**	**-5.5**
SIM				pmax	pmax		
	comp=Z,20nm,0.8s						
SIM				smax	smax		
	comp=E,46nm,0.9s						
SIM				smax	smax		
	comp=N,32nm,0.9s						
DSI	**Dead Sea**	**7.88**	**141**	P	**Pn**	**11 21 30.4**	**-0.5**
DSI	**Dead Sea**	**7.88**	**141**	S	**Sn**	**11 22 59.5**	**-0.5**
MLR	**Muntele Rosu**	**8.09**	**341**		**Pn**	**11 21 34.6**	**+0.7**
MLR	**Muntele Rosu**	**8.09**	**341**	Pn	**Pn**	**11 21 34.5**	**+0.6**
	comp=N,0.7nm,0.3s,baz=242,slow=6.0,SNR=5.0						
MLR				Sn	**Sn**	**11 23 02.6**	**-2.8**
	baz=148,slow=19						
MLR				Lg	Lg	11 23 49.8	

	comp=N,0.3nm,0.3s,baz=278,slow=12,SNR=1.0							
	comp=N,5.2nm,0.6s							
MLR	**Muntele Rosu**	**8.09**	**341**	⇓P	**Pn**	**11 21 35.1**	**+1.1**
GHAJ	**Ghor Haditha**	**8.18**	**141**		**Pn**	**11 21 36.2**	**+1.1**
GHAJ	**Ghor Haditha**	**8.18**	**141**	P	**Pn**	**11 21 35.1**	**0.0**
ASF	**Jabal al Asfar**	**8.24**	**131**	Pn	**Pn**	**11 21 37.7**	**+1.6**
	comp=N,0.9nm,0.3s,baz=310,slow=6.2,SNR=7.2							
ASF				Sn	**Sn**	**11 23 07.8**	**-1.3**
	comp=N,0.6nm,0.3s,baz=264,slow=14,SNR=1.1							
	comp=N,2.8nm,0.5s							
VRI	**Vrincioaia**	**8.27**	**346**	⇑P	**Pn**	**11 21 37.4**	**+1.0**
VRI	**Vrincioaia**	**8.27**	**346**	P	**Pn**	**11 21 37.3**	**+1.0**
PLOR	**Plostina**	**8.28**	**345**	⇑P	**Pn**	**11 21 37.5**	**+1.1**
PLOR	**Plostina**	**8.28**	**345**	P	**Pn**	**11 21 37.5**	**+1.1**
VOIR		**8.29**	**337**	⇑P	**Pn**	**11 21 36.9**	**+0.2**
VOIR		**8.29**	**337**	P	**Pn**	**11 21 36.9**	**+0.2**
BOVS	**Bovan**	**8.31**	**316**	⇓P	**Pn**	**11 21 38.2**	**+1.3**
DOPR	**Dopca**	**8.68**	**340**	⇑P	**Pn**	**11 21 43.0**	**+1.1**
OZUR		**8.70**	**342**	⇓P	**Pn**	**11 21 43.4**	**+1.2**
PRNI	**Paran**	**8.73**	**148**	P	**Pn**	**11 21 41.9**	**-0.8**
KRMI	**Paran Flat**	**8.82**	**150**	P	**Pn**	**11 21 44.4**	**+0.5**
HERR	**Herculane**	**8.85**	**325**	⇓P	**Pn**	**11 21 44.2**	**+0.1**
ANN	**Anapa**	**9.08**	**38**	*eP*	**Pn**	**11 21 45.7**	**-1.7**
GZR	**Gura Zlata**	**9.09**	**328**	⇑P	**Pn**	**11 21 48.0**	**+0.4**
GZR	**Gura Zlata**	**9.09**	**328**	P	**Pn**	**11 21 47.9**	**+0.4**
MDVR	**Moldovita**	**9.11**	**322**	⇓P	**Pn**	**11 21 47.9**	**+0.1**
MBRI	**Mt Berech**	**9.18**	**150**	P	**Pn**	**11 21 49.1**	**+0.2**
MBRI	**Mt Berech**	**9.18**	**150**	S	**Sn**	**11 23 32.2**	**+0.1**
EIL	**Elat**	**9.31**	**150**	Pn	**Pn**	**11 21 50.1**	**-0.4**
	comp=N,0.8nm,0.3s,baz=338,slow=11,SNR=6.6							
EIL				Sn	**Sn**	**11 23 30.6**	**-4.5**
	comp=N,1.0nm,0.3s,baz=71,slow=20,SNR=3.7							
	comp=N,6.3nm,0.6s							
EIL	**Elat**	**9.31**	**150**	P	**Pn**	**11 21 50.4**	**-0.1**
EIL	**Elat**	**9.31**	**150**	S	**Sn**	**11 23 34.5**	**-0.6**
VSLR	**Vesyoloye**	**9.69**	**52**	⇑*e*P	**Pn**	**11 21 56.8**	**+1.1**
VSLR				pmax	pmax			
	comp=Z,43nm,1.2s							
MARR	**Marisel-Cluj**	**10.03**	**333**	⇓P	**Pn**	**11 22 01.9**	**+1.4**
BURAR	**Bucovina Array**	**10.26**	**343**	Pn	**Pn**	**11 22 04.0**	**+0.3**
KIV	**Kislovodsk**	**11.61**	**54**	*e*P	**Pn**	**11 22 20.7**	**-1.4**
KIV				pmax	pmax			
	comp=Z,13nm,1.1s							
KIV				MLR	MLR			
	comp=Z,19nm,13.0s							
KBZ	**Khabaz**	**11.64**	**56**	Pn	**Pn**	**11 22 23.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=282,slow=8.7,SNR=3.9							
	comp=Z,1.9nm,0.7s							
AKASG	**Malin Array Be**	**12.83**	**359**	Pn	**Pn**	**11 22 36.6**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=175,slow=11,SNR=10.0							
	comp=Z,0.4nm,0.4s							
AKBB	**Malin Array Si**	**12.83**	**359**	⇓*e*P	**Pn**	**11 22 40.0**	**+1.3**
DPC	**Dobruska-Polom**	**15.68**	**327**	P	**Pn**	**11 23 19.3**	**+2.1**
GERES	**GERESS Array B**	**15.91**	**319**	Pn	**Pn**	**11 23 24.9**	**+0.9**
	baz=128,slow=10,SNR=12							
KHC	**Kasperske Hory**	**16.15**	**319**	⇑*e*P	**Pn**	**11 23 23.1**	**-0.2**
KEST	**Kesra**	**16.37**	**269**	Pn	**P**	**11 23 30.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=85,slow=12,SNR=5.4							
MNK	**Minsk**	**16.68**	**356**	*i* P	**Pn**	**11 23 25.0**	**-4.9**
	comp=E,14nm,0.7s,baz=200							
MNK				*i* P	**Pn**	**11 23 25.0**	**-4.9**
	comp=N,12nm,0.6s							
MNK				*i* P	**Pn**	**11 23 25.0**	**-4.9**
	comp=Z,7.0nm,0.7s							
MNK				*i* PP	**pP**	**11 23 35.0**	**-1.1**
MNK				*i* PPP	PPP	11 23 42.8		
MNK				*i* S	**Sn**	**11 26 28.7**	**-6.3**
MNK				*i* SS	**SnSn**	**11 26 59.0**	**+11**
MNK	**Minsk**	**16.68**	**356**	*i* P	**Pn**	**11 23 25.0**	**-4.9**
MNK				*i* S	**Sn**	**11 26 28.6**	**-6.3**
MNK				pmax	pmax			
	comp=E,14nm,0.7s							
MNK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,12nm,0.6s							
OBN	**Obninsk**	**17.89**	**13**	⇑*e*P	**P**	**11 23 46.2**	**+0.6**
OBN				*e*S	**S**	**11 27 08.8**	**-1.8**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BFO	**Black Forest**	**18.67**	**311**	P	**Pn**	**11 23 55.7**	**+1.0**
BFO				IAmb	IAmb	11 23 57.9		
	comp=Z,13nm,0.7s							
BFO	**Black Forest**	**18.67**	**311**	P	**Pn**	**11 23 55.7**	**+1.0**
BFO				pmax	pmax			
	comp=Z,13nm,0.7s							
MOS	**Moscow**	**18.68**	**14**	*eP*	**Pn**	**11 23 55.5**	**+0.9**
ECH	**Echery**	**19.33**	**309**	P	**Pn**	**11 24 02.7**	**0.0**
ECH				IAmb	IAmb	11 24 04.5		
	comp=Z,14nm,0.9s							
ECH	**Echery**	**19.33**	**309**	P	**Pn**	**11 24 02.7**	**0.0**
ECH				pmax	pmax			
	comp=Z,14nm,0.9s							
VSU	**Vasula**	**20.69**	**356**	⇑*e*P	**P**	**11 24 16.5**	**+0.2**
VSU				pmax	pmax			
	comp=Z,10.0nm,0.8s							
FINES	**FINESS Array B**	**23.70**	**356**	P	**P**	**11 24 47.4**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=155,slow=10,SNR=15							
	comp=Z,3.9nm,0.7s							
AKTO	**Aktyubinsk**	**23.78**	**49**	P	**P**	**11 24 48.2**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=250,slow=9.5,SNR=10.0							
	comp=Z,4.4nm,0.8s							
KLMR	**Klimovskoe**	**23.84**	**12**	*eP*	**P**	**11 24 47.2**	**-2.1**
KLMR				pmax	pmax			
	comp=Z,15nm,1.5s							
HFS	**Hagfors**	**24.48**	**341**	P	**P**	**11 24 55.0**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=163,slow=6.2,SNR=12							
	comp=Z,7.4nm,0.8s							
AB31	**Akbulak array**	**24.58**	**53**	P	**P**	**11 24 55.9**	**-0.4**
ABKAR	**Akbulak array**	**24.58**	**53**	P	**P**	**11 24 55.6**	**-0.7**
NB2	**NORSAR Subarra**	**25.91**	**339**	P	**P**	**11 25 07.9**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=150,slow=9.3							
NOA	**NORSAR Array B**	**25.91**	**339**	P	**P**	**11 25 07.5**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=145,slow=8.9,SNR=4.9							
	comp=Z,1.8nm,0.8s							
ESDC	**Sonseca Array**	**26.16**	**284**	P	**P**	**11 25 10.4**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=77,slow=9.6,SNR=13							
	comp=Z,1.4nm,0.8s							
ARTI	**Arti**	**26.64**	**37**	P	**P**	**11 25 16.0**	**+1.1**
ARTI				IAmb	IAmb	11 25 17.4		
	comp=Z,9.8nm,0.8s							
ARTI	**Arti**	**26.64**	**37**	P	**P**	**11 25 15.9**	**+1.0**
	comp=Z,7.5nm,0.7s,baz=226,slow=6.3,SNR=12							
	comp=Z,7.5nm,0.7s							
ARTI	**Arti**	**26.64**	**37**	*c iP*	**P**	**11 25 16.2**	**+1.4**
ARTI						11 25 58.4		
ARTI				S	**S**	**11 29 55.1**	**+5.7**
ARTI				SS	**SnSn**	**11 31 01.0**	**+8.9**
ARTI				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KKAR	**Karatay Array**	**31.32**	**67**	P	**P**	**11 25 56.6**	**0.0**
KKAR	**Karatay Array**	**31.32**	**67**	P	**P**	**11 25 56.6**	**0.0**
ARCES	**ARCESS Array B**	**31.80**	**357**	P	**P**	**11 25 59.7**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=182,slow=8.9,SNR=6.0							
	comp=Z,2.5nm,0.8s							
TRKS	**Terek-Say**	**31.94**	**70**	P	**P**	**11 26 05.1**	**+2.8**
TRKS				pmax	pmax			
	comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**34.27**	**68**	*c iP*	**P**	**11 26 23.2**	**+0.5**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**34.98**	**233**	P	**P**	**11 26 28.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=34,slow=9.3,SNR=21							
	comp=Z,2.0nm,0.6s							
KDJ	**Kajisay**	**36.32**	**68**	P	**P**	**11 26 40.8**	**+0.5**
KDJ	**Kajisay**	**36.32**	**68**	P	**P**	**11 26 40.8**	**+0.5**
KDJ				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KURBB	**Kurchatov Arra**	**36.63**	**54**	P	**P**	**11 26 42.5**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=277,slow=8.8,SNR=27							
	comp=Z,4.5nm,0.8s							
KURK	**Kurchatov**	**36.69**	**53**	P	**P**	**11 26 42.6**	**-0.5**
KURK				IAmb	IAmb	11 26 43.9		
	comp=Z,4.8nm,0.8s							
KURK	**Kurchatov**	**36.69**	**53**	*d iP*	**P**	**11 26 42.6**	**-0.5**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TARG	**Taragay, Kyrgy**	**36.85**	**69**	IAmb	IAmb	11 26 48.0		
	comp=Z,3.8nm,0.9s							
MK31	**Makanchi Array**	**39.30**	**60**	*ce*P	**P**	**11 27 05.4**	**+0.2**
MKAR	**Makanchi Array**	**39.30**	**60**		**P**	**11 27 04.8**	**-0.5**
MKAR	**Makanchi Array**	**39.30**	**60**	P	**P**	**11 27 05.1**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=282,slow=6.1,SNR=37							
	comp=Z,6.2nm,0.8s							
KMBO	**Kilima Mbogo**	**39.44**	**168**	⇓*e*P	**P**	**11 27 06.7**	**-0.2**
ZALV	**Zalesovo Beam**	**40.54**	**48**	P	**P**	**11 27 14.6**	**-0.8**
ZALV	**Zalesovo Beam**	**40.54**	**48**	P	**P**	**11 27 14.8**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=268,slow=8.4,SNR=6.0							
	comp=Z,1.2nm,0.3s							
TIXI	**Tiksi**	**57.35**	**22**	⇓*e*P	**P**	**11 29 24.2**	**+0.2**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
PZH	**PanZhiHua**	**60.73**	**78**	P	**P**	**11 29 51.0**	**+2.7**
HHC	**Hu-ho-hao-te**	**61.16**	**59**	*eP*	**P**	**11 29 51.8**	**+0.8**
HHC				pmax	pmax			
	comp=Z,17nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,4.1s							
BNX	**BinXian**	**68.83**	**48**	⇑P	**P**	**11 30 40.2**	**-0.4**
BNX				pmax	pmax			
	comp=Z,15nm,3.5s							
KSRS	**Korea Array**	**73.79**	**55**	P	**P**	**11 31 09.2**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=277,slow=4.0,SNR=3.4							
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**77.66**	**358**	P	**P**	**11 31 32.4**	**0.0**
	comp=Z,0.2nm,0.7s,baz=358,slow=6.8,SNR=4.2							
	comp=Z,0.2nm,0.7s							
QSPA	**South Pole Qui**	**127.71**	**180**	PKP	**PKiKP**	**11 38 41.2**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=297,slow=2.3,SNR=1.7							

KRSZO 08 11:19:37.8±1.9, 47.84N×19.15E, h0km, Error ellipse: s-maj=5.6km s-min=3.0km az=76.0, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSZ	**Piszkesteto**	**0.51**	**81**	Pg	Pb	11 19 49.1	-0.5
PSZ				Lg	Lg	11 19 56.8	
VYHS	**Vyhne**	**0.69**	**342**	Lg	Lg	11 20 01.8	
VYHS	**Vyhne**	**0.69**	**342**	*e*PG	Pb	11 19 52.1	-0.6
VYHS				*e*SG	Sb	11 20 01.8	-1.0

BJI ***08*** *11:25:26.9, 37.74N×29.28E, h26km, mB6.0/78, mb5.5/94, Ms6.0/97, Ms7 5.7/94*

CFUSG ***08*** *11:25:27.2, 37.90N×29.60E, h10km, mb5.0/6, MD4.4/4, Western Turkey Magtype MSH 4.6 from 6 stations*

IDC ***08*** *11:25:27.8±0.3, 37.89N×29.68E, h0km, mb5

AFYN Afyon-Dinar-K 0.78 58 P Pg 11 25 45.3 -0.4
AFYN P Pb 11 25 45.7 -0.1
AFYN S Sb 11 25 57.3 +1.1
BNAZ Uak-Banaz 0.83 12 P Pg 11 25 45.2 -1.5
BNAZ S Sn 11 25 59.8 -0.1
BUCA Burdur, Bucak- 0.89 127 P Pb 11 25 47.1 -0.6
BUCA S Sn 11 26 00.8 -0.5
BAGO Egridir - ISPA 0.90 82 P Pb 11 25 46.8 -1.1
BAGO S Sn 11 26 01.9 +0.4
CAME Cameli-Denizli 0.96 197 Pg Pb 11 25 47.3 -1.7
USAK Uak-Merkez 0.99 329 P Pb 11 25 48.1 -1.2
KNIK Mula-Seydike 1.02 184 P Pb 11 25 48.2 -1.8
KNIK S Sn 11 26 07.6 +3.1
KULA Kula-Manisa 1.02 310 Pg Pb 11 25 48.4 -1.5
KULA Sg Sb 11 26 02.3 -0.9
ESEN Aydn-Nazilli 1.04 267 P Pb 11 25 48.6 -1.6
ESEN S Sb 11 26 01.7 -2.0
KIRA zmir-Kiraz 1.05 289 P Pb 11 25 48.9 -1.5
KIRA S Sn 11 26 05.9 +0.7
MANT Manisa 1.07 306 Pb 11 25 50.0 -0.9
MANT Manisa 1.07 306 P Pb 11 25 49.7 -1.2
MANT S Sn 11 26 06.0 +0.1
NAZL Nazilli-Aydin 1.09 276 Pg Pb 11 25 49.4 -1.6
SDAG Sultandagi-AFY 1.15 59 Pn Pb 11 25 51.7 -0.4
SABU Mula-Dalaman 1.18 208 P Pn 11 25 50.8 -1.7
SABU S Sg 11 26 09.9 +1.4
GEDZ Gediz 1.20 351 Pn Pn 11 25 51.6 -1.2
GEDZ Sn Sb 11 26 07.9 -0.3
SHAP Saphane-Kutahy 1.21 344 Pn Pn 11 25 51.7 -1.3
GDZ Gediz 1.23 353 P Pn 11 25 52.5 -0.8
ANTB Antalya 1.25 140 Pn Pg 11 25 54.6 +0.1
YVAC Isparta, Yalva 1.31 71 P Pn 11 25 54.4 0.0
YVAC S Sg 11 26 15.0 +2.1
ODEM Odemis-Izmir 1.32 289 Pn Pn 11 25 53.4 -1.0
SIMA Simav-Kutahya 1.33 337 Pn Pn 11 25 53.8 -0.8
SMAA Simav-Kutahya 1.34 337 Pn Pn 11 25 54.1 -0.7
IZMR zmir-demi 1.38 282 P Pn 11 25 54.0 -1.2
IZMR P Pb 11 25 54.1 -1.9
IZMR S Sg 11 26 14.5 -0.4
DEMI Demirci 1.39 328 P Pn 11 25 53.8 -1.7
AYDB Zeytinkoy-Aydi 1.40 274 Pn Pn 11 25 54.7 -1.0
AYDN Tasoluk 1.43 262 P Pn 11 25 55.2 -0.7
KEMT Kemer-ANTALYA 1.45 150 Pn Pb 11 25 57.4 +0.3
BLVD Bolvadin-AFYON 1.46 50 Pn Pn 11 25 56.5 0.0
IZZE Mula-Seydike 1.47 194 P Pn 11 25 56.6 +0.2
IZZE S Sg 11 26 18.9 +1.1
BYAT Afyon-Bayat 1.50 43 P Pn 11 25 56.9 0.0
BYAT S Sg 11 26 19.4 +0.6
EMET Ktahya-Emet 1.53 350 P Pn 11 25 56.4 -1.0
GORD Gordes-Manisa 1.56 312 Pn Pn 11 25 56.8 -1.0
TURN Turunc 1.57 227 P Pn 11 25 57.7 -0.1
TURN S Sb 11 26 19.2 +0.4
UCKU Afyonkarahisar 1.59 60 P Pn 11 25 58.4 +0.2
UCKU S Sg 11 26 21.6 -0.1
TVSB Tavsanli 1.59 354 Pn Pn 11 25 57.6 -0.6
GOMA Golmarmara-Man 1.61 302 Pn Pn 11 25 57.2 -1.2
DEMR Demre-Antalya 1.64 173 Pn Pb 11 25 59.8 -0.6
KSL Kastellorizon 1.71 182 P Pb 11 26 01.7 +0.1
KSL S Sg 11 26 26.6 +1.0
MNVG Manavgat-Antal 1.76 127 Pn Pb 11 26 01.9 -0.6
AKHS Akhisar 1.77 305 P Pn 11 25 59.5 -1.1
AKS Akhisar 1.77 305 Pn Pn 11 25 59.6 -1.0
SEYD Seydisehir-KON 1.79 104 Pn Pb 11 26 02.1 -0.9
CIFT Cifteler, Eski 1.85 36 Pn Pn 11 26 01.6 -0.2
DOMA Ktahya-Doman 1.92 1 P Pn 11 26 02.3 -0.4
DST Dursunbey 1.92 335 Pn Pn 11 26 01.5 -1.2
GCAM G?zelcaml? 1.93 266 P Pn 11 26 02.1 -0.6
BDRM Kayabasi 1.94 246 P Pn 11 26 02.6 -0.3
CTIK Konya-Celtik 1.94 53 P Pn 11 26 03.4 +0.4
DURS Dursunbey 1.97 332 P Pn 11 26 02.6 -0.8
DAT Datca 2.01 236 Pn Pn 11 26 04.4 +0.4
DAT Datca 2.01 236 P Pn 11 26 04.3 +0.3
YKAV Yalikavak-Bodr 2.03 249 Pn Pn 11 26 04.5 +0.3
KDHN Kadinhani 2.04 71 P Pn 11 26 04.6 +0.2
KDHN S Sg 11 26 35.7 -0.5
ARG Arkhangelos 2.05 217 Pb 11 26 06.0 -1.5
ARG Arkhangelos 2.05 217 Pn Pn 11 26 04.9 +0.4
ARG Arkhangelos 2.05 217 P Pn 11 26 04.6 +0.1
SOMA Soma-Manisa 2.11 308 Pn Pn 11 26 04.5 -0.8
YAZI Mula-Dat§a- 2.12 237 P Pn 11 26 05.4 0.0
BLCB Balcova 2.13 285 Pn Pn 11 26 04.5 -1.0
BLCB Balcova 2.13 285 P Pn 11 26 04.0 -1.5
LADK Ladik-KONYA 2.16 80 Pn Pn 11 26 06.7 +0.6
GMLD Gumuldur 2.18 276 Pn Pn 11 26 06.4 +0.2
SMC Samos 2.24 267 P Pn 11 26 06.2 -1.6
ORLT Orhaneli 2.26 345 Pn Pn 11 26 07.3 -0.1
NISR Nisiros 2.38 239 P Pn 11 26 09.3 +0.4
HDMB Hadim 2.42 111 Pn Pn 11 26 11.2 +1.5
AVDN Avdancik/Bursa 2.46 351 P Pn 11 26 07.8 -2.2
BALY Balya 2.46 320 P Pn 11 26 09.5 -0.6
URLA Izmir 2.47 283 P Pn 11 26 08.3 -1.9
YYLC Yaylacik 2.52 345 P Pn 11 26 10.1 -0.9
KRSK Karsak 2.56 353 P Pn 11 26 10.4 -0.9
ALIN Konya, Altinte 2.58 79 P Pn 11 26 12.3 +0.5
CBEY Konya-Cihanbey 2.59 70 P Pn 11 26 12.7 +0.7
HISA Bilecik-Osmane 2.61 4 P Pn 11 26 11.7 -0.5
SUSU Bolu-G¶ynk- 2.64 20 P Pn 11 26 12.2 -0.4
GEYV SAKARYA_Geyve 2.66 10 P Pn 11 26 12.2 -0.6
KKBE Karaman, Kazim 2.68 103 P Pn 11 26 14.4 +1.2
YLV Yalova 2.71 355 P Pn 11 26 14.2 +0.6
OSMT Osmaniye 2.73 1 Pn Pn 11 26 14.2 +0.3
AYVA Ayvalik 2.74 303 P Pn 11 26 13.2 -0.7
KURT Yalova, Merkez 2.75 353 P Pn 11 26 12.9 -1.1
BAND Balkesir-Ban 2.77 334 P Pn 11 26 12.9 -1.4
BAND Balkesir-Ban 2.77 334 ⇑P Pn 11 26 14.0 -0.3
MDUB Mudurnu 2.86 24 Pn 11 26 16.5 +0.7
ERMK Ermenek 2.87 114 P Pn 11 26 16.8 +0.9
KKUL Konya-Kulu 2.87 62 P Pn 11 26 16.6 +0.8
CHOS Chios island 2.89 281 P Pn 11 26 14.1 -2.0
BTAS Taskesti 2.90 21 P Pn 11 26 16.0 -0.2
SEMS Kocaeli-K¶rfe 3.00 1 P Pn 11 26 16.9 -0.6
KARP Karpathos 3.06 222 Pn 11 26 19.5 +1.1
KARP Karpathos 3.06 222 P Pn 11 26 18.2 -0.2
KARP Karpathos 3.06 222 ⇑P Pn 11 26 19.2 +0.8
KARP Karpathos 3.06 222 P Pn 11 26 20.2 +1.8
SAHE Sakarya_HENDEK 3.12 17 P Pn 11 26 18.5 -0.7
ANTO Ankara 3.16 50 Pn 11 26 20.7 +1.0
ANTO Ankara 3.16 50 ⇓P Pn 11 26 20.8 +1.0
ANTO Ankara 3.16 50 ⇓P Pn 11 26 20.4 +0.7
ANTO Ankara 3.16 50 P Pn 11 26 20.2 +0.4
BBAL Bala 3.18 57 P Pn 11 26 20.4 +0.2
KAND Kocaeli-Kandir 3.25 7 P Pn 11 26 19.6 -1.3
EZN Ezine 3.26 308 P Pn 11 26 20.7 -0.4
EZN Ezine 3.26 308 ⇑P Pn 11 26 20.7 -0.4
EZN Ezine 3.26 308 P Pn 11 26 20.6 -0.4
EZN Ezine 3.26 308 P Pn 11 26 20.6 -0.4
SIGR SIGRI 3.27 295 P Pn 11 26 20.5 -0.8
SILT Sile 3.29 360 ⇑P Pn 11 26 22.1 +0.7
BOLU Bolu-Merkez-Mu 3.30 28 P Pn 11 26 22.3 +0.6
AKSY AKSARAY - Alti 3.32 75 P Pn 11 26 22.4 +0.4
CNKL anakkale-Mer 3.37 312 P Pn 11 26 21.9 -0.6
CNKL P Pb 11 26 22.3 -7.6
ELBA Catalca 3.41 344 P Pn 11 26 22.4 -0.8
SART Tekirdag 3.42 326 P Pn 11 26 22.5 -0.8
CMDR Camlidere-ANKA 3.42 39 P Pn 11 26 23.8 +0.5
KLYT Kilyos 3.42 352 ⇑P Pn 11 26 23.8 +0.5
KLYT Kilyos 3.42 352 P Pn 11 26 24.2 +1.0
ECEA Canakkale, Ece 3.48 310 P Pn 11 26 23.6 -0.7
BCAM Yenicaga 3.49 32 P Pn 11 26 24.3 0.0
KESK Krkkale-Ke 3.54 59 P Pn 11 26 25.2 +0.3
KERG Konya-Eregli 3.57 96 P Pn 11 26 25.5 +0.1
KIRS Kirsehir-Merke 3.57 68 P Pn 11 26 25.4 0.0
KIRS Kirsehir-Merke 3.57 68 ⇑P Pn 11 26 26.5 +1.0
BR105 Keskin Array S 3.60 58 P Pn 11 26 26.2 +0.3
BR106 Keskin Array S 3.61 58 P Pn 11 26 26.4 +0.4
BR104 Keskin Array S 3.61 58 P Pn 11 26 26.5 +0.4
BR131 Keskin Array S 3.62 58 Pn 11 26 26.8 +0.6
BR131 Keskin Array S 3.62 58 P Pn 11 26 26.8 +0.6
BRTR Keskin Array B 3.62 58 Pn 11 26 26.9 +0.6
BRTR Keskin Array B 3.62 58 Pn Pn 11 26 26.7 +0.6
134nm,0.3s,baz=235,slow=16,SNR=364
BRTR Sn Sn 11 27 11.3 +2.6
289nm,0.3s,baz=230,slow=28,SNR=12
BRTR LR LR 11 28 18.2
comp=Z,164µm,18.6s,baz=200,slow=47
BRTR PKiKP PKiKP 11 42 03.0 +0.1
3.9nm,1.1s,baz=306,slow=0.4,SNR=8.1
819nm,0.6s
BRTR Keskin Array B 3.62 58 P Pn 11 26 26.9 +0.7
BSIR Belisirma, Guz 3.67 82 P Pn 11 26 27.1 +0.2

SNT5 Nea Kammeni, S 3.71 248 P Pn 11 26 27.4 +0.2
DEVR Zonguldak/Devr 3.73 28 P Pn 11 26 27.5 0.0
DERS Karabk-Eskip 3.73 36 P Pn 11 26 28.2 +0.6
GADA Gvkgeada 3.74 310 P Pn 11 26 27.5 -0.2
KESN Edirne-Kesan 3.75 323 P Pn 11 26 27.1 -1.1
CTYL Yalikoy Yolu 3.76 344 ⇑P Pn 11 26 28.8 +0.9
CTYL Yalikoy Yolu 3.76 344 P Pn 11 26 29.1 +1.2
KIZK Mersin 3.84 110 P Pn 11 26 31.0 +2.0
ZKR Zakros 3.90 226 P Pn 11 26 31.3 +1.4
CAVK Edirne/Enez-Ca 3.91 317 P Pn 11 26 29.6 -0.4
CAVK Edirne/Enez-Ca 3.91 317 ⇓P Pn 11 26 30.8 +0.7
ELDT Eldivan 3.93 47 P Pn 11 26 29.9 -0.5
DELI KIRIKKALE 3.94 56 P Pn 11 26 30.7 +0.1
VIZE Kirklareli, Vi 3.97 340 P Pn 11 26 29.7 -1.1
MCUR KIREHR 4.03 70 P Pn 11 26 31.4 -0.4
LIA Limnos Island 4.04 302 P Pn 11 26 31.5 -0.3
NIDE Nigde/Merkez-G 4.05 87 P Pn 11 26 32.0 -0.1
KBUK KARABUK-Merkez 4.07 33 P Pn 11 26 31.7 -0.6
CDAG Cicekdag 4.08 63 P Pn 11 26 32.8 +0.4
GULE Gulek 4.10 97 P Pn 11 26 33.5 +0.6
PHSR Pinarhisar 4.11 337 ⇑P Pn 11 26 32.5 -0.2
ALN Alexandroupoli 4.13 318 Pn 11 26 32.7 -0.2
ALN Alexandroupoli 4.13 318 P Pn 11 26 32.0 -1.0
ALN Alexandroupoli 4.13 318 ⇑P Pn 11 26 32.8 -0.2
SMTH Samothraki Isl 4.13 310 P Pn 11 26 32.5 -0.6
CSS Mathiatis 4.14 133 Pn 11 26 34.0 +0.8
CSS Mathiatis 4.14 133 ⇑P Pn 11 26 31.9 -1.2
CSS Mathiatis 4.14 133 P Pn 11 26 33.4 +0.2
CSS Mathiatis 4.14 133 P Pn 11 26 33.4 +0.2
AVNS Nevsehir-Avano 4.18 75 P Pn 11 26 33.5 -0.4
DED Mersin 4.19 101 P Pn 11 26 34.8 +0.9
SUNG orum-Sungurl 4.26 51 P Pn 11 26 35.4 +0.5
BTIN Bartin 4.26 27 P Pn 11 26 34.0 +0.9
YENC ankr-Yen 4.29 48 P Pn 11 26 36.3 +1.0
ARMN Kirklareli, Me 4.35 337 P Pn 11 26 34.9 -1.1
YOZG Bozok Univ. Me 4.44 63 P Pn 11 26 37.8 +0.4
YAHY KAYSERI_Yahyal 4.51 85 P Pn 11 26 37.8 -0.6
RDO Rodhopi 4.57 317 Pn 11 26 39.1 0.0
RDO Rodhopi 4.57 317 ⇓P Pn 11 26 39.1 0.0
AKO Adana 4.61 93 P Pn 11 26 41.0 +1.4
IDI Anoyia 4.62 238 P Pn 11 26 40.4 +0.6
IDI S Sn 11 27 33.9 +0.6
IDI Anoyia 4.62 238 Pn 11 26 40.6 +0.7
IDI Anoyia 4.62 238 Pn Pn 11 26 40.4 +0.6
230nm,0.4s,baz=60,slow=16,SNR=98
IDI Sn Sn 11 27 35.7 +2.4
35nm,0.3s,baz=95,slow=9.0,SNR=4.2
IDI LR LR 11 28 30.9
comp=Z,40µm,19.4s,baz=72,slow=39
CIDE Kastamonu/Cide 4.74 31 P Pn 11 26 42.1 +0.7
CIDE Kastamonu/Cide 4.74 31 ⇑P Pn 11 26 42.5 +1.1
COAL Corum-Alaca 4.78 58 P Pn 11 26 42.8 +0.7
GUNE Kayseri 4.80 76 P Pn 11 26 41.8 -0.5
SEYI Kastamonu-Seyd 4.91 39 P Pn 11 26 43.1 -0.7
AYAZ Ayas K¶y, M 4.92 54 P Pn 11 26 43.7 -0.2
BNN Bunyan 4.96 77 Pn 11 26 47.0 +2.5
BNN Bunyan 4.96 77 ⇓P Pn 11 26 45.9 +1.4
KDZ Kurdzhali 5.02 320 P Pn 11 26 45.3 0.0
HACI Hacifakili, Ak 5.08 67 P Pn 11 26 46.9 +0.6
JMB Yambol 5.21 334 P Pn 11 26 47.8 0.0
DIM Dimitrovgrad 5.22 324 P Pn 11 26 48.7 +0.7
BZK Bozkurt 5.28 38 Pn 11 26 50.1 +1.3
BZK Bozkurt 5.28 38 ⇓P Pn 11 26 49.9 +1.1
BZK Bozkurt 5.28 38 ⇑P Pn 11 26 50.0 +1.3
ANDN Andirin 5.31 91 P Pn 11 26 49.2 -0.1
RZN Rozhen 5.39 317 P Pn 11 26 50.7 +0.2
PRD Provadia 5.56 343 P Pn 11 26 53.0 +0.3
KALB Balgarevo 5.62 351 ⇓P Pn 11 26 54.9 +1.5
NEF NEVSHA 5.69 342 P Pn 11 26 54.9 +0.4
PLD Plovdiv 5.70 320 P Pn 11 26 55.1 +0.5
SOH Sokhos 5.71 303 P Pn 11 26 55.0 +0.2
ELND Elena 5.83 331 ⇑P Pn 11 26 56.5 +0.1
MMB Musomishta 5.86 311 P Pn 11 26 57.2 +0.4
AGG Agios Georgios 5.87 284 P Pn 11 26 58.6 +1.6
AGG Agios Georgios 5.87 284 ⇑P Pn 11 26 58.0 +1.0
PSN Preselentsi 5.88 349 P Pn 11 26 57.2 +0.1
LOZB Loznitsa 5.97 338 ⇓P Pn 11 26 58.3 -0.1
MANR Mangalia 6.00 353 ⇓P Pn 11 26 59.1 +0.4
GAZ Gaziantep 6.04 94 Pn 11 27 02.9 +3.5
RAZG Razgrad 6.18 338 ⇓P Pn 11 27 01.4 +0.3
ITM Ithomi 6.19 266 Pn 11 27 03.9 +2.6
ITM Ithomi 6.19 266 ⇓P Pn 11 27 03.7 +2.4
HWQ Hawqa 6.22 123 eP Pn 11 27 07.0 +5.1
BEIL Beino 6.23 120 eP Pn 11 27 03.0 +1.0
PGB Panagyurishte 6.26 320 P Pn 11 27 02.8 +0.5
BHL Bhannes 6.27 127 eP Pn 11 27 03.8 +1.3
PVL Pavlikeni 6.27 328 P Pn 11 27 03.5 +1.1
DQRL Deir Qamar 6.35 129 eP Pn 11 27 04.7 +1.1
MFTR Murfatlar 6.38 352 ⇑P Pn 11 27 04.8 +0.9
ICOR Ion Corvin 6.40 348 ⇓P Pn 11 27 04.7 +0.4
ZAHL Zahle 6.44 126 eP Pn 11 27 07.2 +2.3
VAY Valandovo 6.47 304 i Pn Pn 11 27 06.8 +1.6
QRWL Qaraoun 6.52 130 eP Pn 11 27 07.3 +1.3
HNTI Hanita 6.55 135 P Pn 11 27 06.7 +0.3
HNTI Hanita 6.55 135 S Sn 11 28 20.9 0.0
CVDA Cernavoda 6.58 350 ⇓P Pn 11 27 06.8 +0.2
CICN Ciocanesti 6.63 343 ⇓P Pn 11 27 07.9 +0.6
ZIMR 6.64 332 ⇓P Pn 11 27 07.7 +0.1
ZIMR 6.64 332 P Pn 11 27 07.6 +0.1
RCY Rachaya 6.65 129 eP Pn 11 27 09.0 +1.2
TIRR Tirgusor 6.66 352 Pn 11 27 07.4 -0.3
TIRR Tirgusor 6.66 352 ⇑P Pn 11 27 07.9 +0.2
TIRR Tirgusor 6.66 352 P Pn 11 27 07.9 +0.2
TIRR Tirgusor 6.66 352 ⇓P Pn 11 27 07.3 -0.3
SHBL Chebaa 6.70 130 eP Pn 11 27 09.5 +1.1
PLVB Pleven 6.72 327 ⇓P Pn 11 27 09.2 +0.6
MMA0B Mount Meron ar 6.73 134 P Pn 11 27 08.9 0.0
MMA0B Mount Meron ar 6.73 134 S Sn 11 28 24.5 -0.8
MMAI Mount Meron Ar 6.73 134 Pn Pn 11 27 09.6 +0.7
596nm,0.5s,baz=310,slow=14,SNR=309
MMAI Sn Sn 11 28 24.7 -0.7
514nm,0.3s,baz=297,slow=26,SNR=10
MMAI LR LR 11 30 33.8
comp=Z,21µm,19.7s,baz=309,slow=45
NATI Neve Ativ 6.75 131 P Pn 11 27 09.2 +0.2
NATI Neve Ativ 6.75 131 S Sn 11 28 25.5 -0.1
TLBR Topalu 6.78 350 ⇑P Pn 11 27 10.2 +0.7
MATC Matruh 6.80 198 P Pn 11 27 09.7 -0.1
OFRI `Ofer 6.81 139 P Pn 11 27 09.6 -0.2
OFRI `Ofer 6.81 139 S Sn 11 28 25.9 -1.2
BLGI Bet Lehem HaGe 6.83 137 P Pn 11 27 10.5 +0.4
BLGI Bet Lehem HaGe 6.83 137 S Sn 11 28 27.2 -0.4
VTS Vitosha 6.83 316 P Pn 11 27 11.2 +0.9
LEHL Lehliu 6.94 343 ⇓P Pn 11 27 12.4 +0.8
HARR Harsova 6.94 350 ⇓P Pn 11 27 12.4 +0.8
HARR Harsova 6.94 350 P Pn 11 27 12.4 +0.8
TPGR Topolog 7.05 353 ⇑P Pn 11 27 13.5 +0.4
FNA Florina 7.05 297 ⇓P Pn 11 27 14.5 +1.3
MPEP Malo Peshtene 7.10 322 P Pn 11 27 13.8 0.0
COPA Copaceanca 7.11 333 ⇑P Pn 11 27 14.4 +0.5
SLTI Sal'it 7.13 140 P Pn 11 27 13.9 -0.4
SLTI Sal'it 7.13 140 S Sn 11 28 33.6 -1.6
SULR 7.28 340 ⇑P Pn 11 27 17.3 +1.1
VLAD Vladila 7.31 329 ⇑P Pn 11 27 16.4 -0.2
PGOR Pogoanele 7.32 345 ⇑P Pn 11 27 18.1 +1.4
SEV Sevastopol' 7.33 23 eP Pn 11 27 17.1 +0.2
SEV eS Sn 11 28 41.4 +1.7
SEV Sevastopol' 7.33 23 eP Pn 11 27 17.1 +0.2
SEV Pm 11 27 22.8
comp=Z,2µm,0.7s
SEV eS Sn 11 28 41.4 +1.7
SEV Sm 11 28 45.1
comp=N,346nm,0.7s
SEV Sm 11 28 45.1
comp=E,184nm,0.7s
SLUM Salum 7.34 211 P Pn 11 27 16.2 -0.9
TLCR 7.34 355 ⇑P Pn 11 27 18.0 +0.8
TLCR 7.34 355 P Pn 11 27 17.9 +0.8
HMDT Nahal Hemdat 7.38 138 P Pn 11 27 17.8 +0.1
HMDT Nahal Hemdat 7.38 138 S Sn 11 28 40.9 -0.2
CFR Carcaliu 7.40 352 ⇑P Pn 11 27 18.2 +0.3
CFR Carcaliu 7.40 352 P Pn 11 27 18.1 +0.3
YAL Yalta 7.43 26 eP Pn 11 27 18.8 +0.5
YAL eS Sn 11 28 44.8 +2.5
YAL Yalta 7.43 26 eP Pn 11 27 18.8 +0.5
YAL Pm 11 27 28.2
comp=Z,5µm,1.4s
YAL eS Sn 11 28 44.8 +2.5
YAL Sm 11 28 48.2
comp=N,218nm,0.9s

YAL Sm 11 28 48.2
comp=E,172nm,0.7s
VALD Valchedram 7.49 323 P Pn 11 27 19.7 +0.5
SKO Skopje 7.53 306 i Pn Pn 11 27 21.6 +1.9
HUMR Humele 7.53 334 ⇓P Pn 11 27 20.1 +0.4
OHR Ohrid 7.58 298 i Pn Pn 11 27 23.0 +2.6
UJAP Al Uja 7.58 139 P Pn 11 27 21.2 +0.8
ISR Istrita 7.62 343 ⇑P Pn 11 27 22.1 +1.2
ISR Istrita 7.62 343 P Pn 11 27 22.1 +1.2
ISR Istrita 7.62 343 P Pn 11 27 22.3 +1.4
comp=E,4.6nmcomp=E,18µmcomp=E,770nm,0.7s
AMAZ Amatzia 7.65 144 ⇑P Pn 11 27 21.4 0.0
AMAZ Amatzia 7.65 144 P Pn 11 27 22.0 +0.5
AMAZ Amatzia 7.65 144 S Sn 11 28 46.6 -1.4
GISR Galati 7.67 351 ⇓P Pn 11 27 22.1 +0.5
ALU Alushta 7.69 26 eP Pn 11 27 20.5 -1.4
ALU eS Sn 11 28 46.6 -2.0
ALU Alushta 7.69 26 eP Pn 11 27 20.5 -1.4
ALU Pm 11 27 29.1
comp=Z,705nm,0.8s
ALU eS Sn 11 28 46.6 -2.0
ALU Sm 11 28 52.1
comp=N,892nm,1.3s
ALU Sm 11 28 52.1
comp=E,79nm,0.8s
GIUM Giurgulesti 7.69 352 ⇑P Pn 11 27 23.9 +2.0
SCHLR Schela 7.72 350 ⇓P Pn 11 27 23.8 +1.5
SCHL Schela 7.75 350 ⇓P Pn 11 27 24.3 +1.6
GRER 7.77 346 ⇑P Pn 11 27 24.9 +1.9
NEGRR Negrea 7.78 351 ⇓P Pn 11 27 23.9 +0.7
TATR Tatarca 7.82 352 ⇑P Pn 11 27 25.3 +1.6
SIM Simferopol' 7.83 24 eP Pn 11 27 24.4 +0.6
SIM eS Sn 11 28 54.9 +2.8
SIM Simferopol' 7.83 24 eP Pn 11 27 24.4 +0.6
SIM Pm 11 27 33.4
comp=Z,3µm,1.3s
SIM eS Sn 11 28 54.9 +2.8
SIM Sm 11 29 06.0
comp=N,823nm,1.0s
SIM Sm 11 29 06.0
comp=E,2µm,1.2s
DSI Dead Sea 7.85 141 P Pn 11 27 23.9 -0.2
DSI Dead Sea 7.85 141 S Sn 11 28 51.6 -1.1
TUDR 7.87 350 ⇓P Pn 11 27 25.1 +0.8
YTIR Yattir 7.89 144 P Pn 11 27 25.1 +0.4
YTIR Yattir 7.89 144 S Sn 11 28 52.6 -1.3
SCTR Scanteiesti 7.90 351 ⇓P Pn 11 27 26.0 +1.2
DNZ2 Donuzlav2 7.96 18 eP Pn 11 27 25.7 +0.1
DNZ2 Pm 11 27 42.4
comp=Z,2µm,1.0s
DNZ2 eS Sn 11 28 56.7 +1.4
DNZ2 Sm 11 28 59.3
comp=N,2µm,1.5s
DNZ2 Sm 11 28 59.3
comp=E,1µm,0.9s
KZIT Kziot 7.97 149 ⇑P Pn 11 27 25.4 -0.3
KZIT Kziot 7.97 149 P Pn 11 27 25.1 -0.6
KZIT Kziot 7.97 149 S Sn 11 28 53.6 -2.0
BISRR Bisoca 7.99 345 ⇑P Pn 11 28 00.8 +1.9
MDBI Mazsada 8.05 143 P Pn 11 27 27.1 +0.4
MSBI Mazada 8.05 143 ⇓P Pn 11 27 27.3 +0.5
MSBI Mazada 8.05 143 P Pn 11 27 26.8 0.0
VLDR Vladesti 8.06 352 ⇑P Pn 11 27 28.1 +1.1
MLR Muntele Rosu 8.11 341 Pn Pn 11 27 28.3 +0.5
comp=E,6.3nm,0.3s,baz=239,slow=3.5,SNR=22
MLR Lg Lg 11 29 45.8
comp=E,3.7nm,0.3s,baz=292,slow=22,SNR=1.6
MLR LR LR 11 31 05.8
comp=E,35µm,20.2s,baz=162,slow=42
comp=E,90nm,0.7s
MLR Muntele Rosu 8.11 341 ⇓P Pn 11 27 29.4 +1.5
MLR Muntele Rosu 8.11 341 P Pn 11 27 29.3 +1.5
MLR Muntele Rosu 8.11 341 P Pn 11 27 28.8 +1.0
comp=E,14µmcomp=E,1µm,0.9s
MTUR Matau 8.12 336 ⇓P Pn 11 27 28.7 +0.7
MTUR Matau 8.12 336 P Pn 11 27 28.6 +0.7
ODBI Odobesti 8.13 347 ⇑P Pn 11 27 29.8 +1.9
VARL Varlezi 8.14 351 ⇑P Pn 11 27 30.0 +1.9
GHAJ Ghor Haditha 8.15 142 Pn 11 27 29.6 +1.3
GHAJ Ghor Haditha 8.15 142 P Pn 11 27 28.8 +0.5
COSR Cosmesti PH 8.18 348 ⇓P Pn 11 27 30.0 +1.5
ASF Jabal al Asfar 8.21 132 Pn Pn 11 27 31.0 +1.8
comp=E,31nm,0.3s,baz=329,slow=4.9,SNR=51
ASF Sn Sn 11 29 02.8 +1.0
comp=E,28nm,0.3s,baz=107,slow=19,SNR=6.2
ASF LR LR 11 32 03.9
comp=E,10µm,20.2s,baz=355,slow=48
PANC Panciu 8.22 348 ⇑P Pn 11 27 30.7 +1.6
HNAT Natroun 8.25 174 P Pn 11 27 30.7 +1.1
PLOR5 Plostina Array 8.28 345 P Pn 11 27 31.1 +1.0
comp=E,20µmcomp=E,2µm,1.0s
VRI Vrincioaia 8.29 346 ⇓P Pn 11 27 31.0 +0.9
VRI Vrincioaia 8.29 346 P Pn 11 27 31.0 +0.9
VRI Vrincioaia 8.29 346 P Pn 11 27 30.5 +0.4
comp=E,14µmcomp=E,1µm,0.9s
PLOR Plostina 8.29 345 ⇑P Pn 11 27 31.7 +1.5
PLOR Plostina 8.29 345 P Pn 11 27 31.7 +1.5
VOIR 8.31 337 ⇓P Pn 11 27 31.2 +0.6
VOIR 8.31 337 P Pn 11 27 31.1 +0.6
VOIR 8.31 337 P Pn 11 27 30.6 0.0
comp=E,7µmcomp=E,441nm,0.7s
FEO Feodosiya 8.34 29 eP Pn 11 27 29.4 -1.4
FEO eS Sn 11 29 05.2 +0.5
FEO Feodosiya 8.34 29 eP Pn 11 27 29.4 -1.4
FEO Pm 11 27 37.8
comp=Z,2µm,1.4s
FEO eS Sn 11 29 05.2 +0.5
FEO Sm 11 29 21.8
comp=N,177nm,0.8s
FEO Sm 11 29 21.8
comp=E,924nm,1.5s
BOVS Bovan 8.35 316 ⇓P Pn 11 27 31.3 +0.4
SRE Strehaia 8.35 326 ⇑P Pn 11 27 31.3 +0.3
SRE Strehaia 8.35 326 P Pn 11 27 31.2 +0.3
GHRR 8.36 349 ⇓P Pn 11 27 32.9 +1.8
GHRR 8.36 349 P Pn 11 27 32.2 +1.1
ARR Arges 8.39 335 ⇓P Pn 11 27 32.1 +0.6
BIR Birlad 8.53 350 ⇓P Pn 11 27 34.8 +1.4
BIR Birlad 8.53 350 P Pn 11 27 34.8 +1.4
ZFRI Zfri 8.60 146 P Pn 11 27 34.8 +0.3
TURR Turia 8.62 343 ⇑P Pn 11 27 35.7 +1.0
PURM Purcari 8.66 1 P Pn 11 27 35.7 +0.5
comp=E,16µmcomp=E,577nm,1.2s
DJES Djerdap 8.66 324 ⇑P Pn 11 27 34.6 -0.6
DOPR Dopca 8.70 340 ⇑P Pn 11 27 36.6 +0.8
PRNI Paran 8.70 148 P Pn 11 27 35.1 -0.7
OZUR 8.71 342 ⇑P Pn 11 27 36.6 +0.6
LOT Lotru 8.76 332 ⇑P Pn 11 27 38.2 +1.4
RYAN Fayoum 8.77 176 P Pn 11 27 36.3 -0.5
KRMI Paran Flat 8.79 150 P Pn 11 27 36.2 -0.9
ONER Baraj Valea Uz 8.80 345 ⇓P Pn 11 27 38.6 +1.4
MARD Mardin 8.84 90 Pn 11 27 40.9 +3.1
NE56 Odesa 8.85 6 P Pn 11 27 37.3 -0.5
HERR Herculane 8.87 324 ⇑P Pn 11 27 37.6 -0.5
ZNM Zenema 8.88 162 S Sn 11 29 14.9 -3.2
VASR Vaslui 8.88 352 ⇑P Pn 11 27 38.7 +0.5
TESR Tescani 8.93 346 ⇓P Pn 11 27 39.0 +0.1
TESR Tescani 8.93 346 P Pn 11 27 38.4 -0.4
comp=E,8µmcomp=E,493nm,0.7s
HRFI Mount Harif 8.99 149 P Pn 11 27 38.8 -1.0
HRFI Mount Harif 8.99 149 S Sn 11 29 19.3 -1.6
SCTE Santa Cesarea 8.99 288 Pn 11 27 42.7 +2.9
ANN Anapa 9.06 38 eP Pn 11 27 41.2 +0.5
ANN eS Sn 11 29 25.3 +2.9
ANN pmax pmax
comp=Z,1µm,1.3s
ANN MLR MLR
comp=N,26µm,10.0s
ANN MLR MLR
comp=E,16µm,10.0s
MILM Milestii Mici 9.07 356 eP Pn 11 27 39.0 -1.8
comp=Z,2µm,1.6s
MILM i S Sn 11 29 23.0 +0.4
MILM eL L 11 30 07.0
MILM LgM 11 31 05.0
comp=Z,47µm,22.0s
MILM LRM MLR 11 31 40.0
comp=Z,44µm,14.0s
MILM Milestii Mici 9.07 356 ⇑P Pn 11 27 42.1 +1.3
MILM Milestii Mici 9.07 356 eP Pn 11 27 39.0 -1.8
MILM i S Sn 11 29 23.0 +0.4
MILM pmax pmax
comp=Z,2µm,1.6s

MILM MLR MLR
comp=Z,60µm,16.0s
GZR Gura Zlata 9.12 328 ⇑P **Pn 11 27 42.4 +0.8**
GZR Gura Zlata 9.12 328 P **Pn 11 27 42.3 +0.8**
MDVR Moldovita 9.13 322 ⇑P **Pn 11 27 42.1 +0.3**
KIS Kishinev 9.15 356 *e*P **Pn 11 27 40.0 -1.9**
comp=Z,3µm,2.6s
KIS *e*S **Sn 11 29 24.0 -0.5**
KIS *e*Lg Lg 11 30 08.0
comp=Z,21µm,19.0s
KIS LRM MLR 11 31 45.0
comp=Z,21µm,15.5s
KIS Kishinev 9.15 356 ⇑P **Pn 11 27 42.7 +0.8**
KIS Kishinev 9.15 356 *e*P **Pn 11 27 40.0 -1.9**
KIS *e*S **Sn 11 29 24.0 -0.5**
KIS pmax pmax
comp=Z,3µm,2.6s
KIS MLR MLR
comp=Z,21µm,15.5s
MDB Medias 9.15 336 ⇓P **Pn 11 27 43.7 +1.7**
MDB Medias 9.15 336 P **Pn 11 27 43.6 +1.7**
MBRI Mt Berech 9.16 150 P **Pn 11 27 41.5 -0.6**
MBRI Mt Berech 9.16 150 S **Sn 11 29 23.6 -1.4**
PDG Podgorica 9.18 303 ⇓P **Pn 11 27 45.6 +3.3**
EIL Elat 9.28 150 Pn **Pn 11 27 43.0 -0.8**
comp=Z,23nm,0.3s,baz=340,slow=11,SNR=51
EIL Sn **Sn 11 29 26.1 -1.8**
comp=Z,59nm,0.3s,baz=13,slow=21,SNR=6.3
comp=Z,299nm,0.6s
EIL Elat 9.28 150 P **Pn 11 27 42.6 -1.2**
SWA2 9.29 203 P **Pn 11 27 42.8 -1.0**
SWA2 S **Sn 11 29 24.4 -3.5**
NBNS Bani Suef 9.32 171 P **Pn 11 27 43.2 -1.0**
IASR Iasi 9.43 351 ⇑P **Pn 11 27 46.4 +0.6**
DEV Deva 9.46 330 ⇓P **Pn 11 27 47.2 +0.9**
DEV Deva 9.46 330 P **Pn 11 27 47.1 +0.9**
SOC Sochi 9.53 50 *e*P **Pn 11 27 46.1 -1.0**
SOC *e* 11 29 35.0
SOC MLR MLR
comp=Z,51µm,15.0s
HBST Basata 9.60 152 P **Pn 11 27 46.7 -1.5**
VSLR Vesyoloye 9.66 51 *de*P **Pn 11 27 50.6 +1.7**
VSLR pmax pmax
comp=Z,42nm,0.6s
VSLR MLR MLR
comp=Z,38µm,12.0s
SURR Surduc 9.68 327 ⇑P **Pn 11 27 50.0 +0.8**
NUB Nuweibaa 9.74 153 P **Pn 11 27 51.4 +1.3**
BZS Buzias 9.80 325 ⇓P **Pn 11 27 50.7 -0.2**
BZS Buzias 9.80 325 P **Pn 11 27 50.6 -0.2**
BZS Buzias 9.80 325 ⇑P **Pn 11 27 50.2 -0.7**
CJR Cluj-Napoca 9.91 335 ⇑P **Pn 11 27 53.9 +1.5**
CJR Cluj-Napoca 9.91 335 P **Pn 11 27 53.9 +1.5**
HKAT Jabal Katrina 10.00 157 P **Pn 11 27 52.3 -1.5**
ARCR ARCALIA 10.01 339 ⇓P **Pn 11 27 54.6 +0.9**
HDHB Dhahab 10.01 154 P **Pn 11 27 53.3 -0.5**
MARR Marisel-Cluj 10.05 333 ⇑P **Pn 11 27 55.0 +0.7**
TIP Timpagrande 10.20 281 ⇓P **Pn 11 27 57.2 +0.8**
TIP Timpagrande 10.20 281 ⇓P **Pn 11 27 57.0 +0.6**
TIP Timpagrande 10.20 281 P **Pn 11 27 56.6 +0.2**
comp=Z,3µmcomp=Z,260nm,1.1s
TAMRE El Minia 10.21 174 P **Pn 11 27 55.9 -0.6**
BURAR Bucovina Array 10.28 343 **Pn 11 27 57.5 0.0**
BURAR Bucovina Array 10.28 343 ⇑P **Pn 11 27 58.2 +0.7**
BURAR Bucovina Array 10.28 343 P **Pn 11 27 58.1 +0.7**
SIRR Siria 10.29 327 ⇑P **Pn 11 27 57.5 +0.1**
DRGR 10.29 332 ⇓P **Pn 11 27 59.5 +1.8**
DRGR 10.29 332 P **Pn 11 27 59.4 +1.8**
SORM Soroca 10.31 355 ⇑P **Pn 11 27 57.5 -0.3**
SORM Soroca 10.31 355 P **Pn 11 27 57.5 -0.3**
SORM Soroca 10.31 355 P **Pn 11 27 57.0 -0.8**
comp=Z,11µmcomp=Z,595nm,1.2s
MATE Matera 10.43 289 ⇓P **Pn 11 27 59.0 -0.4**
MATE Matera 10.43 289 *e*P **Pn 11 28 02.5 +3.1**
MATE Matera 10.43 289 ⇓P **Pn 11 27 59.7 +0.3**
GEVA Gevas 10.57 83 Pn 11 28 07.1 +5.5
HFRF Wahat Farafira 10.75 186 P **Pn 11 28 03.6 -0.3**
BMR Baia Mare 10.80 337 ⇓P **Pn 11 28 06.1 +1.7**
BMR Baia Mare 10.80 337 P **Pn 11 28 06.1 +1.7**
NDNU Novodnistrovsk 10.86 352 P **Pn 11 28 04.4 -0.8**
CEL Celeste 10.87 276 **Pn 11 28 06.3 +0.8**
CEL Celeste 10.87 276 ⇓P **Pn 11 28 05.2 -0.3**
CEL Celeste 10.87 276 P **Pn 11 28 06.6 +1.1**
comp=Z,4µmcomp=Z,237nm,1.9s
MRVN Minervino Murg 10.89 291 ⇓P **Pn 11 28 02.7 -3.1**
KSV Kosov 10.97 344 P **Pn 11 28 06.1 -0.7**
CUC Castrocucco 10.99 285 **Pn 11 28 08.5 +1.2**
CUC Castrocucco 10.99 285 ⇓P **Pn 11 28 08.3 +1.1**
ACER Acerenza 11.02 290 **Pn 11 28 08.4 +0.8**
ERBR Yeremizino-Bor 11.25 42 *e*P **Pn 11 28 11.3 +0.6**
ERBR *e*S **Sn 11 30 18.4 +2.3**
ERBR pmax pmax
comp=Z,944nm,1.2s
ERBR MLR MLR
comp=Z,23µm,13.0s
ERBR MLR MLR
comp=N,61µm,12.0s
TRSU Trosnyk 11.34 337 P **Pn 11 28 12.0 +0.2**
SHA1 Shidzhatmaz 11.46 55 *d*P **Pn 11 28 16.6 +2.8**
STNU Starunia 11.47 343 P **Pn 11 28 14.4 +0.7**
BRIU Brid 11.53 337 P **Pn 11 28 14.8 +0.3**
MEZ Mezhgor'ye 11.55 339 P **Pn 11 28 14.8 +0.1**
BERU Beregovo 11.56 336 P **Pn 11 28 15.4 +0.5**
KIV Kislovodsk 11.58 54 **Pn 11 28 18.5 +3.2**
KIV Kislovodsk 11.58 54 *e*P **Pn 11 28 17.4 +2.2**
KIV *e*S **Sn 11 30 26.9 +2.7**
KIV pmax pmax
comp=Z,1µm,1.0s
KIV MLR MLR
comp=Z,17µm,13.0s
KIV Kislovodsk 11.58 54 *i*P **Pn 11 28 18.4 +3.2**
SNR=298
KIV Kislovodsk 11.58 54 ⇓P **Pn 11 28 15.2 0.0**
KVAR Kislovodsk Arr 11.58 54 Pn **Pn 11 28 18.5 +3.2**
KBZ Khabaz 11.61 56 Pn **Pn 11 28 17.2 +1.7**
comp=Z,0.9nm,0.3s,baz=257,slow=12,SNR=55
KBZ LR LR 11 34 03.1
comp=Z,21µm,19.4s,baz=243,slow=44
comp=Z,63nm,1.0s
KBZ Khabaz 11.61 56 *de*P **Pn 11 28 18.3 +2.7**
KBZ MLR MLR
comp=Z,43µm,13.0s
BLY Banja Luka 11.63 310 ⇑P **Pn 11 28 16.5 +0.7**
MORH Mrgy, Hungar 11.68 319 ⇓P **Pn 11 28 16.8 +0.2**
MORH Mrgy, Hungar 11.68 319 P **Pn 11 28 16.2 -0.4**
comp=Z,4µmcomp=Z,114nm,0.8s
MUKU Mukachevo 11.74 337 P **Pn 11 28 18.5 +1.2**
KOVH Kovagotottos 11.89 317 ⇑P **Pn 11 28 19.8 +0.4**
HOLU Holmets 11.90 336 P **Pn 11 28 20.2 +0.7**
GNI Garni 11.95 74 **Pn 11 28 24.6 +4.1**
GNI Garni 11.95 74 Pn **Pn 11 28 22.5 +2.0**
comp=Z,1.6nm,0.3s,baz=293,slow=6.4,SNR=19
GNI LR LR 11 32 58.0
comp=Z,19µm,18.7s,baz=281,slow=38
comp=Z,35nm,0.9s
GNI Garni 11.95 74 *de*P **Pn 11 28 24.1 +3.6**
GNI pmax pmax
comp=Z,44nm,1.1s
GNI MLR MLR
comp=Z,60µm,13.0s
GNI Garni 11.95 74 P **Pn 11 28 24.4 +3.9**
NCK Nalchik 11.98 58 *de*P **Pn 11 28 24.2 +3.6**
NCK MLR MLR
comp=Z,27µm,11.0s
MORS Morshin 12.01 342 P **Pn 11 28 22.2 +1.1**
VAE Valguarnera 12.09 273 Pn **Pn 11 28 22.5 +0.2**
comp=Z,9.9nm,0.4s,baz=126,slow=17,SNR=7.4
VAE LR LR 11 33 15.3
comp=Z,10µm,21.7s,baz=52,slow=38
LUBAR Lubar, Ukraine 12.13 354 P **Pn 11 28 21.9 -0.8**
RAFF Raffo Rosso 12.16 272 **Pn 11 28 24.4 +1.2**
HDK1 Dakhla 12.29 181 P **Pn 11 28 24.8 -0.2**
KOLS Kolonicke sedl 12.29 337 *e*P **Pn 11 28 26.5 +1.6**
KOLS Kolonicke sedl 12.29 337 *e*PN **Pn 11 28 26.5 +1.6**
PSZ Piszkesteto 12.33 328 ⇓P **Pn 11 28 26.0 +0.5**
PSZ Piszkesteto 12.33 328 P **Pn 11 28 25.9 +0.5**
PSZ Piszkesteto 12.33 328 *e*P **Pn 11 28 26.0 +0.5**
PSZ Piszkesteto 12.33 328 ⇓P **Pn 11 28 25.7 +0.2**
GOF Gofitskoye 12.34 50 *d*P **Pn 11 28 27.7 +2.2**
NAX Nakhchivan 12.47 79 P **Pn 11 28 30.7 +3.2**
KECS Kecovo 12.54 331 *e*P **Pn 11 28 32.9 +4.6**
KECS Kecovo 12.54 331 *e*PN **Pn 11 28 32.9 +4.6**
AK07 Malin Array Si 12.69 359 P **Pn 11 28 29.2 -1.1**
AK06 Malin Array Si 12.72 359 P **Pn 11 28 29.5 -1.3**
AK10 Malin Array Si 12.74 359 P **Pn 11 28 29.2 -1.7**
AK09 Malin Array Si 12.75 359 P **Pn 11 28 29.4 -1.7**
AK13 Malin Array Si 12.75 358 P **Pn 11 28 29.5 -1.7**
KWP Kalwaria Pacla 12.78 339 *e*P **Pn 11 28 34.9 +3.3**
KWP *e*S Sn 11 31 06.8 +13
KWP *e*L L 11 34 41.9
comp=Z,55µm,17.7s
KWP Kalwaria Pacla 12.78 339 P **Pn 11 28 31.7 +0.1**
KWP Kalwaria Pacla 12.78 339 ⇑P **Pn 11 28 31.7 +0.1**
KWP Kalwaria Pacla 12.78 339 P **Pn 11 28 32.2 +0.6**
comp=Z,6µmcomp=Z,229nm,0.8s
KIEV Kiev 12.83 359 **Pn 11 28 31.0 -1.2**
KIEV Kiev 12.83 359 *i*P **Pn 11 28 29.6 -2.6**
SNR=26
KIEV Kiev 12.83 359 ⇓P **Pn 11 28 29.5 -2.8**
KIEV Kiev 12.83 359 P **Pn 11 28 30.0 -2.2**
comp=Z,23µmcomp=Z,855nm,0.9s
AKASG Malin Array Be 12.84 359 **Pn 11 28 31.4 -1.0**
AKASG Malin Array Be 12.84 359 Pn **Pn 11 28 30.8 -1.5**
comp=Z,4.5nm,0.3s,baz=180,slow=12,SNR=30
AKASG Sn **Sn 11 30 50.0 -4.9**
baz=186,slow=25
AKASG LR LR 11 33 42.7
comp=Z,15µm,18.8s,baz=184,slow=39
comp=Z,13nm,0.7s
AKBB Malin Array Si 12.84 359 *ce*P **Pn 11 28 29.8 -2.5**
AKBB Malin Array Si 12.84 359 P **Pn 11 28 30.2 -2.1**
AK04 Malin Array Si 12.86 359 P **Pn 11 28 31.5 -1.1**
SRO Srobarova 12.96 324 *e*P **Pn 11 28 37.0 +3.1**
SRO Srobarova 12.96 324 *e*PN **Pn 11 28 37.0 +3.1**
STHS Stebnicka Huta 13.05 335 *e*P **P 11 28 41.3 -4.3**
STHS Stebnicka Huta 13.05 335 *e*PN **P 11 28 41.3 -4.3**
KOGS Kog 13.12 315 *i*Pn **Pn 11 28 36.6 +0.4**
KOGS *e*Sn Sn 11 31 13.5 +12
BOJS Bojanci 13.19 310 *i*Pn **Pn 11 28 37.2 +0.1**
GANJ Ganja 13.21 73 P **Pn 11 28 41.3 +3.8**
VYHS Vyhne 13.22 327 *e*P **Pn 11 28 38.6 +1.0**
VYHS Vyhne 13.22 327 *e*PN **Pn 11 28 38.6 +1.0**
AQU L'Aquila 13.23 295 P **Pn 11 28 39.3 +1.6**
NIE Niedzica 13.38 333 *e*P **Pn 11 28 40.7 +0.9**
NIE *e*S Sn 11 31 18.7 +11
NIE *e*L L 11 34 41.3
comp=Z,59µm,14.5s
LANS Liptovska Anna 13.47 330 *e*P **Pn 11 28 42.6 +1.5**
LANS Liptovska Anna 13.47 330 *e*PN **Pn 11 28 42.6 +1.5**
RNPP5 Staryi Chortor 13.63 350 P **Pn 11 28 41.2 -1.9**
RNPP8 Varash 13.74 350 P **Pn 11 28 42.6 -2.0**
MNGR Mingechevir, A 13.80 72 P **Pn 11 28 49.6 +4.1**
RNPP9 Sopachiv 13.81 350 P **Pn 11 28 43.5 -2.0**
MODS Modra-Piesok 13.84 323 *e*P **Pn 11 28 43.8 -2.3**
MODS Modra-Piesok 13.84 323 *e*PN **Pn 11 28 43.8 -2.3**
SMOL Smolenice 13.87 324 *e*P **Pn 11 28 47.2 +0.7**
RONA Rosalia, Austr 13.87 319 *e*Pn **Pn 11 28 46.5 0.0**
comp=Z,2µm,3.9s,SNR=23
RONA *e*Sn S 11 31 32.3 -10
comp=Z,2µm,4.7s
LJU Ljubljana 13.90 311 *i*Pn **Pn 11 28 46.8 -0.1**
SEKA Sheki 13.94 71 P **P 11 28 52.0 -3.6**
SOKA Soboth 13.94 314 *i*Pn **Pn 11 28 47.1 -0.4**
comp=Z,4µm,7.3s
SOKA *e*Sn Sn 11 31 32.6 +11
comp=Z,3µm,10.5s
ARSA Arzberg 14.00 317 *e*Pn **Pn 11 28 47.9 -0.4**
comp=Z,953nm,3.6s,SNR=28
ARSA Sn S 11 31 34.2 -11
comp=Z,6µm,7.2s
ARSA Arzberg 14.00 317 ⇓P **Pn 11 28 47.7 -0.6**
JAVC Velka Javorina 14.01 325 *e*PN **Pn 11 28 49.1 +0.7**
JAVC *e* 11 31 37.0
OBKA Obir 14.13 312 *e*Pn **Pn 11 28 49.7 -0.4**
comp=Z,694nm,3.8s,SNR=6.6
OBKA *e*Sn **S 11 31 38.8 -8.8**
comp=Z,5µm,9.4s
HAGS Hagol 14.19 160 P **Pn 11 28 51.9 +1.0**
OJC Ojcow 14.22 333 *e*P **Pn 11 28 50.0 -1.3**
OJC *e*S **S 11 31 55.6 +6.2**
OJC *e*L L 11 35 42.4
comp=Z,41µm,16.8s
OJC Ojcow 14.22 333 **Pn 11 28 52.1 +0.8**
OJC Ojcow 14.22 333 P **Pn 11 28 52.1 +0.8**
OJC Ojcow 14.22 333 ⇓P **Pn 11 28 50.5 -0.8**
OJC Ojcow 14.22 333 P **Pn 11 28 50.9 -0.4**
comp=Z,5µmcomp=Z,75nm,1.5s
CONA Conrad Observa 14.24 319 *e*Pn **Pn 11 28 51.1 -0.5**
comp=Z,1µm,4.6s,SNR=20
CONA Sn **S 11 31 40.9 -9.0**
comp=Z,3µm,7.9s
MGAB Montegabbione 14.29 296 ⇓P **Pn 11 28 52.1 -0.1**
MAUC Maruska 14.32 327 *e*P **Pn 11 28 53.1 +0.5**
MAK Makhachkala 14.51 64 *d*P **Pn 11 28 54.2 -1.0**
MAK *e*S **Sn 11 31 34.5 -1.2**
MAK pmax pmax
comp=Z,1µm,1.4s
MAK MLR MLR
comp=Z,17µm,15.0s
OKC Ostrava-Krasne 14.55 329 *e*P **Pn 11 28 55.6 -0.1**
OKC MLR MLR
comp=Z,48µm,13.0s
OKC Ostrava-Krasne 14.55 329 *e*P **Pn 11 28 55.6 -0.1**
OKC AMS AMS 11 35 40.0
comp=Z,48µm,13.0s
RAC Raciborz 14.72 330 *e*P **Pn 11 28 57.7 -0.3**
RAC *e*S **Sn 11 31 48.9 +8.1**
RAC AMS AMS 11 35 39.0
comp=Z,90nm,15.3s
RAC Raciborz 14.72 330 *e*P **Pn 11 28 57.7 -0.3**
RAC *e*S **Sn 11 31 48.9 +8.1**
RAC MLR MLR
comp=Z,90µm,15.3s
MYKA Terra Mystica 14.73 312 *i*Pn **Pn 11 28 58.1 -0.1**
comp=Z,2µm,6.8s,SNR=13
MYKA *e*Sn **S 11 31 52.9 -6.9**
comp=Z,6µm,8.3s
KRUC Moravsky 14.74 324 *e*PN **Pn 11 28 56.8 -1.6**
KRUC *e* 11 31 49.8
MORC Moravsky Berou 14.75 328 *e*PN **Pn 11 28 57.9 -0.6**
MORC *e* 11 31 51.3
MORC Moravsky Berou 14.75 328 ⇑P **Pn 11 28 59.6 +1.2**
MORC Moravsky Berou 14.75 328 P **Pn 11 28 59.7 +1.2**
MORC Moravsky Berou 14.75 328 ⇓P **Pn 11 28 57.6 -0.9**
VORD Divnogorie 14.78 25 *e*P **Pn 11 29 00.3 +1.5**
VORD pmax pmax
comp=Z,330nm,1.4s
VRAC Vranov 14.82 325 Pn **Pn 11 28 58.8 -0.7**
comp=Z,0.7nm,0.3s,baz=144,slow=13,SNR=8.7
VRAC LR LR 11 34 46.9
comp=Z,12µm,18.1s,baz=144,slow=38
comp=Z,4.4nm,0.5s
VRAC Vranov 14.82 325 *e*PN **Pn 11 28 58.3 -1.2**
VRAC *e* 11 31 52.8
VRAC Vranov 14.82 325 ⇓P **Pn 11 28 59.7 +0.2**
VRAC Vranov 14.82 325 P **Pn 11 28 59.6 +0.2**
VSR Storozhevoye 14.95 24 *e*P **Pn 11 29 00.1 -1.1**
VSR *e*S **Sn 11 31 42.9 -3.5**
VSR pmax pmax
comp=Z,2µm,1.7s
VSR smax smax
comp=E,3µm,10.0s
VSR MLR MLR
comp=Z,18µm,11.0s
LKRN Lenkeran, Azer 15.04 81 P **Pn 11 29 04.9 +2.5**
MOA Molln 15.04 316 *e*Pn **Pn 11 29 02.5 +0.1**
comp=Z,3µm,4.1s,SNR=14
MOA *e*S **S 11 32 00.8 -5.3**
comp=Z,8µm,7.1s
OSSC Osservatorio P 15.06 298 P **P 11 29 05.4 -2.5**
KBA Koelnbreinsper 15.13 313 *e*Pn **Pn 11 29 03.5 -0.3**
comp=Z,4µm,9.9s
KBA *e*S **S 11 32 05.5 -2.8**
comp=Z,3µm,5.7s
KBA *e*PcP **PcP 11 34 10.1 -0.4**
comp=Z,4µm,8.5s
CASP Castiglione de 15.15 295 Pn **Pn 11 29 05.9 +2.0**
BIOA Bad Ischl, Aus 15.30 315 *i*Pn **Pn 11 29 05.6 -0.2**
comp=Z,367nm,2.7s,SNR=12
BIOA *e*S **S 11 32 08.7 -2.7**
comp=Z,5µm,6.3s
KRLC Kraliky 15.30 327 *e*P **Pn 11 29 05.3 -0.6**
KRLC MLR MLR
comp=Z,45µm,11.3s
KRLC Kraliky 15.30 327 *e*P **Pn 11 29 05.3 -0.6**
KRLC AMS AMS 11 36 20.0
comp=Z,45µm,11.3s
BEL Belsk 15.30 339 *e*P **Pn 11 29 05.2 -0.6**
BEL *e*S **S 11 32 07.8 -3.6**
BEL *e*L L 11 36 31.0
comp=Z,2749µm,12.5s
TREC Trest 15.33 323 AMS AMS 11 36 00.0
comp=Z,36µm,12.4s
ABTA Abfaltersbach 15.46 310 *i*Pn **Pn 11 29 07.4 -0.6**
comp=Z,2µm,8.6s,SNR=24
ABTA S **S 11 32 14.8 0.0**
comp=Z,719nm,3.8s
R9F13 Warsaw-Wawer 15.55 340 *e*P **Pn 11 29 09.4 +0.4**
R9F13 *e*S **S 11 32 12.1 -4.3**
CKRC Cesky Krumlov 15.61 319 *e*P **P 11 29 15.0 +1.0**
CKRC MLR MLR
comp=Z,42µm,14.1s
CKRC Cesky Krumlov 15.61 319 *e*P **P 11 29 15.0 +1.0**
CKRC AMS AMS 11 35 50.0
comp=Z,42µm,14.1s
LESA Schwarzleotal 15.70 313 *e*Pn **Pn 11 29 10.8 -0.3**
comp=Z,2µm,6.9s,SNR=18
LESA S **S 11 32 22.7 +2.9**
comp=Z,6µm,8.9s
DPC Dobruska-Polom 15.70 327 *e*P **Pn 11 29 11.3 +0.2**
DPC MLR MLR
comp=Z,36µm,9.8s
DPC Dobruska-Polom 15.70 327 *e*P **Pn 11 29 11.3 +0.2**
DPC AMS AMS 11 36 20.0
comp=Z,36µm,9.8s
DPC Dobruska-Polom 15.70 327 P **Pn 11 29 10.6 -0.5**
comp=Z,4µmcomp=Z,77nm,1.1s
RJOB Jochberg 15.80 314 *e*P **P 11 29 18.1 +1.9**
baz=127,slow=11
RJOB *e*S **S 11 32 19.4 -2.3**
baz=128,slow=22
VLC Villacollemand 15.84 299 P **Pn 11 29 13.0 +0.2**
VLC Villacollemand 15.84 299 ⇓P **Pn 11 29 12.2 -0.6**
OSTC Ostas 15.90 327 *e*P **Pn 11 29 13.0 -0.6**
OSTC MLR MLR
comp=Z,36µm,9.4s
OSTC Ostas 15.90 327 *e*P **Pn 11 29 13.0 -0.6**
OSTC AMS AMS 11 36 30.0
comp=Z,36µm,9.4s
VSL Villasalto 15.93 282 IAmb IAmb 11 29 22.3
comp=Z,104nm,0.9s
VSL Villasalto 15.93 282 ⇓P **Pn 11 29 13.4 -0.6**
I26DE FREYUNG INFRAS 15.94 319 I I 13 03 30.0
baz=128,slow=322,SNR=2.5
GEC2 GERESS Array S 15.94 319 *e*P **P 11 29 19.3 +1.5**
baz=127,slow=11
GEC2 *e*S **S 11 32 23.4 -1.2**
baz=128,slow=22
GERES GERESS Array B 15.94 319 Pn **Pn 11 29 14.0 -0.2**
comp=Z,0.1nm,0.3s,baz=135,slow=12,SNR=54
GERES PcP **PcP 11 34 11.3 -0.2**
comp=Z,7.7nm,1.1s,baz=122,slow=1.3,SNR=3.1
GERES LR LR 11 35 57.8
comp=Z,11µm,19.0s,baz=130,slow=40
comp=Z,5.1nm,0.8s
GERES GERESS Array B 15.94 319 P **Pn 11 29 14.0 -0.2**
UPC Upice 15.95 327 *e*P **Pn 11 29 14.4 +0.1**
UPC MLR MLR
comp=Z,43µm,10.3s
UPC Upice 15.95 327 *e*P **Pn 11 29 14.4 +0.1**
UPC AMS AMS 11 36 30.0
comp=Z,43µm,10.3s
CHVC Chvalec 15.99 327 *e*P **Pn 11 29 14.8 0.0**
CHVC MLR MLR
comp=Z,38µm,9.8s
CHVC Chvalec 15.99 327 *e*P **Pn 11 29 14.8 0.0**
CHVC AMS AMS 11 36 30.0
comp=Z,38µm,9.8s
ZVC Zvikov 16.06 321 *e*P **Pn 11 29 14.0 -1.7**
ZVC AMS AMS 11 36 10.0
comp=Z,33µm,12.4s
PRMA PARMA 16.07 301 P **P 11 29 18.5 -0.6**
KSP Ksiaz 16.08 328 *e*P **Pn 11 29 14.5 -1.4**
KSP *e*S **S 11 32 34.6 +7.2**
KSP *e*L L 11 36 18.2
comp=Z,23µm,16.8s
KSP Ksiaz 16.08 328 ⇓P **Pn 11 29 15.0 -1.0**
KSP Ksiaz 16.08 328 P **Pn 11 29 15.9 0.0**
comp=Z,6µmcomp=Z,134nm,1.9s
GOPC GO Pecny, Ondr 16.09 323 *e*P **Pn 11 29 14.9 -1.2**
GOPC GO Pecny, Ondr 16.09 323 *e*P **Pn 11 29 14.9 -1.2**
LPSR Galich'ya Gora 16.09 21 *e*P **Pn 11 29 13.6 -2.5**
LPSR *e*S **Sn 11 32 07.6 -6.6**
LPSR pmax pmax
comp=Z,1µm,1.6s
LPSR smax smax
comp=E,3µm,8.6s
LPSR MLR MLR
comp=Z,17µm,13.0s
KHC Kasperske Hory 16.18 319 *e*P **Pn 11 29 17.5 +0.3**
KHC *ex* x 11 29 21.8
KHC AMS AMS 11 36 20.0
comp=Z,61µm,12.5s
KHC Kasperske Hory 16.18 319 ⇑P **Pn 11 29 15.9 -1.3**
KHC Kasperske Hory 16.18 319 P **Pn 11 29 16.7 -0.5**
comp=Z,4µmcomp=Z,116nm,1.2s
WTTA Wattenberg 16.23 311 *i*Pn **Pn 11 29 17.9 -0.2**
comp=Z,2µm,5.2s,SNR=38
WTTA *e*PcP **PcP 11 34 14.4 +2.3**
comp=Z,38nm,1.4s
PRU Pruhonice 16.26 323 *e*P **Pn 11 29 17.6 -0.6**
PRU MLR MLR
comp=Z,23µm,11.7s
PRU Pruhonice 16.26 323 *e*P **Pn 11 29 17.6 -0.6**
PRU AMS AMS 11 37 00.0
comp=Z,23µm,11.7s
WATA Walderalm 16.30 311 *e*Pn **Pn 11 29 18.6 -0.3**
comp=Z,2µm,3.8s,SNR=53
WATA S **S 11 32 33.5 +1.3**
comp=Z,3µm,5.4s
KEST Kesra 16.41 269 Pn **Pn 11 29 20.2 -0.1**
comp=Z,0.4nm,0.3s,baz=50,slow=5.0,SNR=11
comp=Z,25nm,1.1s
KEST Kesra 16.41 269 P **Pn 11 29 20.9 +0.6**
SNR=32
I48TN KESRA INFRASON 16.41 269 I I 13 00 20.0
baz=80,slow=308,SNR=3.3
PGF Pioggiola 16.45 293 ⇓P **Pn 11 29 21.1 +0.3**
SQTA Sankt Quirin 16.47 310 *e*Pn **Pn 11 29 21.1 +0.1**
comp=Z,2µm,3.3s,SNR=50
SQTA S **S 11 32 43.6 +8.1**
comp=Z,0.3nm,0.2s
SQTA *e*ScP **ScP 11 37 47.5 +1.2**
comp=Z,14µm,9.1s
WET Wettzell 16.55 318 *e*P **P 11 29 26.0 +1.5**
baz=127,slow=11
WET *e*S **S 11 32 35.2 -1.8**
baz=128,slow=22
MOTA Moosalm 16.59 311 *e*Pn **Pn 11 29 21.1 -1.5**
comp=Z,2µm,4.1s,SNR=33
MOTA *e*PcP **PcP 11 34 14.7 +2.1**
comp=Z,34nm,1.6s
PVCC Panska Ves 16.61 324 *e*P **Pn 11 29 21.7 -1.0**
PVCC MLR MLR
comp=Z,52µm,12.5s
PVCC Panska Ves 16.61 324 *e*P **Pn 11 29 21.7 -1.0**
PVCC AMS AMS 11 36 40.0
comp=Z,52µm,12.5s
BOB Bobbio (Coli) 16.66 301 ⇓P **Pn 11 29 24.2 +0.8**
FETA Feichten 16.67 309 *e*Pn **Pn 11 29 23.6 0.0**
comp=Z,3µm,3.2s,SNR=63
FETA *e*S **S 11 32 48.2 +8.5**
comp=Z,8µm,7.5s
FETA *e*ScP **ScP 11 37 49.9 +3.1**
comp=Z,16nm,1.1s
MNK Minsk 16.69 356 *i*P **Pn 11 29 21.9 -1.7**
comp=E,217nm,0.7s
MNK *i*P **Pn 11 29 21.9 -1.7**
comp=N,53nm,0.7s
MNK *i*P **Pn 11 29 21.9 -1.7**
comp=Z,251nm,0.8s,baz=175
MNK *i*PP **PnPn 11 29 33.4 +0.5**
MNK *i*S **Sn 11 32 26.5 -2.0**
MNK *i*SS **S 11 32 41.0 +1.4**
MNK *i*LQ LQ 11 34 15.2
MNK *i*LR LR 11 35 44.8
MNK *i*LRM MLR 11 36 44.0
comp=E,23µm,15.5s
MNK *i*LRM MLR 11 36 48.1
comp=Z,26µm,14.9s
MNK *i*LRM MLR 11 37 11.3
comp=N,6µm,14.6s
MNK Minsk 16.69 356 *i*P **Pn 11 29 21.8 -1.7**

MNK *i* S **Sn** **11 32 26.5 -2.0**
MNK pmax pmax
comp=N,53nm,0.7s
MNK pmax pmax
comp=E,217nm,0.7s
MNK pmax pmax
comp=Z,251nm,0.8s
MNK MLR MLR
comp=E,23µm,15.0s
MNK MLR MLR
comp=Z,26µm,15.0s
MNK MLR MLR
comp=N,6µm,15.0s
SUW **Suwalki** **16.75 347** *e*P **Pn** **11 29 21.3 -3.1**
SUW *e*S **S** **11 32 47.8 +6.8**
SUW *e*L L 11 36 16.8
comp=N,20µm,18.0s
SUW **Suwalki** **16.75 347** P **P** **11 29 26.2 -0.4**
SUW **Suwalki** **16.75 347** *e*P **Pn** **11 29 25.1 +0.6**
RICC **Richard** **16.84 324** *e*P **Pn** **11 29 25.0 -0.6**
RICC AMS AMS 11 36 50.0
comp=N,38µm,12.3s
RETA **Reutte** **16.86 311** *e*Pn **Pn** **11 29 26.0 0.0**
comp=N,2µm,3.5s,SNR=25
RETA *e*S **S** **11 32 47.8 +4.4**
comp=N,5µm,6.6s
FUR **Furstenfeldbru** **16.89 313** *e*P **P** **11 29 30.1 +1.8**
baz=127,slow=11
FUR *e*pP **sP** **11 29 36.3 +1.5**
baz=129,slow=11
FUR *e*S **S** **11 32 43.3 -0.6**
baz=128,slow=22
DAVOX **Davos/Dischmat** **17.09 308** P **Pn** **11 29 29.6 +0.6**
comp=N,0.9nm,0.3s,baz=123,slow=11,SNR=42
DAVOX LR LR 11 36 22.0
comp=N,16µm,20.1s,baz=112,slow=38
comp=N,16nm,0.8s
BRG **Berggiesshubel** **17.14 324** *e*P **P** **11 29 33.4 +2.4**
baz=127,slow=11
BRG *e*pP **PnPn** **11 29 39.7 +0.5**
baz=129,slow=11
BRG *e*S **S** **11 32 49.4 +0.5**
baz=128,slow=22
BRG **Berggiesshubel** **17.14 324** *e*P **P** **11 29 32.3 +1.3**
BRG Amp 11 29 36.1
comp=Z,107nm,1.2s
BRG PP **PnPn** **11 29 39.6 +0.5**
BRG Amp 11 29 41.9
comp=Z,174nm,1.2s
BRG **Berggiesshubel** **17.14 324** SS **S** **11 32 58.0 +9.1**
NACGM **Naroch** **17.16 354** *e*P **P** **11 29 31.0 -0.1**
ROTZ **Rotzenmuhle** **17.28 319** *e*P **Pn** **11 29 30.8 -0.3**
baz=127,slow=11
ROTZ *e*pP **sP** **11 29 40.5 +1.4**
baz=129,slow=11
ROTZ *e*S **S** **11 32 54.3 +2.5**
baz=128,slow=22
DAVA **Damuels** **17.31 309** *e*Pn **Pn** **11 29 31.2 -0.5**
comp=Z,3µm,3.0s,SNR=57
DAVA *e*S **S** **11 32 54.4 +1.8**
comp=Z,792nm,3.1s
DAVA **Damuels** **17.31 309** ⇓P **Pn** **11 29 31.6 0.0**
TUE **Stuetta** **17.31 306** IAmb IAmb 11 29 41.1
comp=Z,335nm,1.8s
TUE **Stuetta** **17.31 306** ⇓P **Pn** **11 29 32.1 +0.4**
KBD **Kabd** **17.33 115** P **Pn** **11 29 31.4 -0.5**
KBD S **Sn** **11 32 42.1 -2.4**
MANZ **Manzenberg** **17.46 320** *e*P **Pn** **11 29 33.5 +0.1**
baz=127,slow=11
MANZ *e*pP **sP** **11 29 42.5 +1.4**
baz=129,slow=11
MANZ *e*S **S** **11 32 56.8 +1.3**
baz=128,slow=22
TANN **Tannenbergstha** **17.55 321** *e*P **P** **11 29 35.4 -0.2**
baz=127,slow=11
TANN *e*pP **sP** **11 29 43.5 +1.2**
baz=129,slow=11
TANN *e*S **S** **11 32 59.6 +2.3**
baz=128,slow=22
GKP **Gorka Klasztor** **17.65 335** *e*P **Pn** **11 29 34.4 -1.2**
GKP *e*S **S** **11 33 05.2 +6.0**
GKP *e*L L 11 38 24.0
comp=Z,56µm,14.1s
GKP **Gorka Klasztor** **17.65 335** *e*P **P** **11 29 36.7 +0.2**
CMAH **Djebel Manchou** **17.75 273** P **P** **11 29 40.2 +2.3**
GRF **Grafenberg Arr** **17.75 318** *e*P **P** **11 29 39.3 +1.6**
comp=Z,515nm,1.8s,baz=127,slow=11
GRF *e*pP **sP** **11 29 46.3 +2.0**
baz=129,slow=11
GRF *e*S **S** **11 33 02.6 +1.2**
baz=128,slow=22
GRF *e*L L 11 36 53.1
comp=Z,15µm,18.2s
GRFO **Grafenberg** **17.75 318** P **Pn** **11 29 36.8 -0.1**
GRFO **Grafenberg** **17.75 318** P **Pn** **11 29 36.8 -0.1**
GRFO pmax pmax
comp=Z,139nm,1.1s
ABSA **Djebel Ababsia** **17.77 272** P **P** **11 29 39.4 +1.2**
MONC **Moncucco Torin** **17.78 301** ⇓P **Pn** **11 29 37.5 +0.2**
CLL **Collm** **17.87 324** *e*P **Pn** **11 29 38.0 -0.4**
CLL *e*S **S** **11 33 04.0 +0.3**
CLL pmax pmax
comp=Z,249nm,1.8s
CLL MLR MLR
comp=Z,14µm,18.2s
CLL **Collm** **17.87 324** P **Pn** **11 29 37.9 -0.4**
comp=Z,9µmcomp=Z,112nm,1.4s
CLL **Collm** **17.87 324** *e*P **P** **11 29 40.7 +1.7**
baz=127,slow=11
CLL *e*S **S** **11 33 06.6 +2.9**
baz=128,slow=22
CLL **Collm** **17.87 324** *e*P **Pn** **11 29 38.0 -0.4**
CLL *i* Pmax 11 29 38.9
CLL *i* pP **P** **11 29 41.0 +2.0**
comp=Z,249nm,1.8s
CLL *i* sP **pP** **11 29 44.4 +0.8**
comp=Z,233nm,1.6s
CLL *i* PP **PnPn** **11 29 52.6 +3.5**
comp=Z,142nm,1.2s
CLL *i* x x 11 29 58.8
CLL *i* x x 11 30 12.7
CLL *ex* x 11 30 59.0
CLL *ex* x 11 31 06.0
CLL *e*S **S** **11 33 04.0 +0.3**
CLL *e*(PcP) **PcP** **11 34 19.0 +4.7**
CLL *i* x x 11 34 24.5
comp=Z,66nm,1.7s
CLL LmH 11 35 00.0
comp=N,28µm,19.2s
CLL LmH 11 35 00.0
comp=E,35µm,18.9s
CLL *ex* x 11 36 08.0
CLL Lmax 11 37 00.0
CLL LmV 11 38 00.0
comp=Z,14µm,18.2s
ISAL **Salakas** **17.87 353** *e*P **P** **11 29 39.3 +0.3**
OBN **Obninsk** **17.88 13** P **Pn** **11 29 36.5 -2.0**
OBN **Obninsk** **17.88 13** P **Pn** **11 29 37.6 -0.8**
comp=Z,3.9nm,0.3s,baz=148,slow=7.5,SNR=15
OBN LR LR 11 36 12.7
comp=Z,10µm,21.1s,baz=139,slow=36
comp=Z,31nm,0.4s
OBN **Obninsk** **17.88 13***d i*P **Pn** **11 29 34.4 -4.1**
OBN *e*S **Sn** **11 32 52.5 -4.9**
OBN pmax pmax
comp=Z,323nm,2.7s
OBN MLR MLR
comp=Z,16µm,15.0s
OBN **Obninsk** **17.88 13** ⇓P **Pn** **11 29 34.9 -3.6**
OBN **Obninsk** **17.88 13** P **Pn** **11 29 36.7 -1.8**
comp=Z,17µmcomp=Z,482nm,2.5s
PABE **Paberze** **18.06 350** *e*P **P** **11 29 41.3 +0.3**
MOX **Moxa** **18.11 321** P **P** **11 29 43.3 +1.6**
MOX **Moxa** **18.11 321** *e*P **P** **11 29 44.3 +2.5**
baz=127,slow=11
MOX *e*S **S** **11 33 11.3 +2.5**
baz=128,slow=22
MOX *e*L L 11 38 23.3
comp=Z,26µm,19.1s
CKFL **Kef-Lekhel** **18.35 272** P **P** **11 29 47.1 +2.6**
RUE **Ruedersdorf** **18.35 328** *e*P **P** **11 29 44.4 +0.2**
RUE **Ruedersdorf** **18.35 328** *e*P **P** **11 29 46.8 +2.6**
baz=127,slow=11
RUE *e*S **S** **11 33 13.1 -0.2**
baz=128,slow=22
NEUB **Neuenburg** **18.39 322** *e*P **Pn** **11 29 47.3 +2.6**
baz=127,slow=11
NEUB *e*pP **sP** **11 29 53.6 +2.1**
baz=129,slow=11
NEUB *e*S **S** **11 33 15.0 +0.8**
baz=128,slow=22
STU **Stuttgart** **18.40 313** *e*P **Pn** **11 29 45.2 +0.3**
STU **Stuttgart** **18.40 313** ⇓P **P** **11 29 44.1 -0.7**
STU **Stuttgart** **18.40 313** *e*P **Pn** **11 29 46.6 +1.7**
baz=127,slow=11
STU *e*S **S** **11 33 16.4 +1.9**
baz=128,slow=22
BNI **Bardonecchia** **18.63 300** IAmb IAmb 11 29 59.0
comp=Z,80nm,0.8s
BNI **Bardonecchia** **18.63 300** ⇓P **Pn** **11 29 47.9 0.0**
MOS **Moscow** **18.67 14** *e*P **P** **11 29 43.7 -4.0**
MOS *e*S **Sn** **11 33 12.5 -4.0**
MOS pmax pmax
comp=Z,11µm,3.2s
MOS pmax pmax
comp=Z,2µm,2.2s
MOS pmax pmax
comp=N,10µm,4.2s
MOS pmax pmax
comp=E,3µm,4.2s
MOS pmax pmax
comp=N,743nm,2.4s
MOS MLR MLR
comp=Z,20µm,14.0s
BFO **Black Forest** **18.70 311** P **Pn** **11 29 49.0 +0.3**
BFO **Black Forest** **18.70 311** P **P** **11 29 48.0 -0.2**
BFO **Black Forest** **18.70 311** ⇑P **P** **11 29 48.2 -0.1**
BFO **Black Forest** **18.70 311** *e*P **Pn** **11 29 50.6 +2.0**
baz=127,slow=11
BFO *e*S **S** **11 33 24.3 +3.5**
baz=128,slow=22
PBUR **Paburge** **18.89 347** *e*P **Pn** **11 29 50.7 -0.2**
DFRA **Djebel Bou Aff** **18.98 273** P **Pn** **11 29 54.5 +2.3**
UBBA **Unterbreizbach** **19.04 319** *e*P **Pn** **11 29 53.5 +0.9**
baz=127,slow=11
UBBA *e*pP **sP** **11 30 00.1 +1.8**
baz=129,slow=11
UBBA *e*S **S** **11 33 32.9 +5.6**
baz=128,slow=22
BELG **Belogornoye** **19.20 35** P **P** **11 29 53.6 +0.1**
comp=Z,3.2nm,0.3s,baz=229,slow=19,SNR=17
comp=Z,408nm,1.1s
BELG **Belogornoye** **19.20 35***d i*P **P** **11 29 52.6 -1.0**
BELG pmax pmax
comp=Z,248nm,1.0s
ECH **Echery** **19.36 309** IAmb IAmb 11 30 00.8
comp=Z,345nm,0.9s
ECH **Echery** **19.36 309** ⇑P **P** **11 29 56.0 +0.6**
FLTG **Flechtingen** **19.37 324** ⇓P **P** **11 29 54.9 -0.5**
FLTG **Flechtingen** **19.37 324** *e*P **Pn** **11 29 56.7 +0.1**
baz=127,slow=11
FLTG *e*pP **sP** **11 30 03.1 +0.9**
baz=129,slow=11
FLTG *e*S **S** **11 33 38.2 +4.3**
baz=128,slow=22
CLZ **Clausthal** **19.47 322** *e*P **Pn** **11 29 58.3 +0.5**
baz=127,slow=11
CLZ *e*pP **sP** **11 30 04.6 +1.2**
baz=129,slow=11
CLZ *e*S **S** **11 33 43.1 +7.0**
baz=128,slow=22
GTTG **Gottingen** **19.49 321** *e*P **Pn** **11 29 58.8 +0.8**
baz=127,slow=11
GTTG *e*S **S** **11 33 43.1 +6.7**
baz=128,slow=22
ASSE **Asse, Remlinge** **19.50 323** *e*P **Pn** **11 29 58.5 +0.3**
baz=127,slow=11
ASSE *e*pP **sP** **11 30 04.8 +1.2**
baz=129,slow=11
ASSE *e*S **S** **11 33 42.9 +6.3**
baz=128,slow=22
TNS **Taunus Mts** **19.54 316** *e*P **Pn** **11 29 58.5 -0.2**
baz=127,slow=11
TNS *e*S **Sn** **11 33 43.4 +5.6**
baz=128,slow=22
RAYN **Ar Rayn** **19.70 132** P **Pn** **11 30 00.3 -0.6**
RAYN **Ar Rayn** **19.70 132** P **Pn** **11 30 00.4 -0.5**
RAYN S **S** **11 33 39.7 -1.6**
RAYN **Ar Rayn** **19.70 132** *i* P **Pn** **11 30 00.6 -0.3**
SNR=46
RAYN **Ar Rayn** **19.70 132** ⇓P **P** **11 29 60.0 +0.6**
GORT1 **Trebel** **19.78 326** *e*P **Pn** **11 30 01.0 -0.4**
baz=127,slow=11
GORT1 *e*pP **sP** **11 30 07.6 +1.0**
baz=129,slow=11
GORT1 *e*S **Sn** **11 33 47.5 +4.4**
baz=128,slow=22
MAHO **Mahon** **19.86 284** P **P** **11 30 01.2 +0.3**
MAHO **Mahon** **19.86 284** P **Pn** **11 30 01.7 -0.8**
MAHO **Mahon** **19.86 284** ⇓P **P** **11 30 01.2 +0.3**
BSD **Bornholm Skovb** **19.95 335** *e*P **P** **11 30 01.0 -0.7**
BSD **Bornholm Skovb** **19.95 335** ⇓P **P** **11 29 59.8 -2.0**
NRDL **Niedersach Rie** **20.00 323** *e*P **P** **11 30 02.5 +0.2**
baz=127,slow=11
NRDL *e*S Sn 11 33 54.8 +6.1
baz=128,slow=22
RGN **Rugen** **20.07 331** *e*P **P** **11 30 03.2 +0.1**
baz=127,slow=11
RGN *e*pP **sP** **11 30 09.8 0.0**
baz=129,slow=11
RGN *e*S Sn 11 33 51.5 +1.2
baz=128,slow=22
KASTN **Kahler Asten** **20.08 318** *e*P Pn 11 30 04.8 -0.3
baz=127,slow=11
KASTN *e*S Sn 11 33 54.1 +3.3
baz=128,slow=22
SSB **Saint Sauveur** **20.15 300** P **P** **11 30 04.7 +0.6**
SSB IAmb IAmb 11 30 19.1
comp=Z,75nm,1.0s
SSB **Saint Sauveur** **20.15 300** P **P** **11 30 04.7 +0.6**
SSB pmax pmax
comp=Z,75nm,1.0s
SSB MLR MLR
comp=Z,10µm,21.0s
SSB **Saint Sauveur** **20.15 300** ⇓P **P** **11 30 03.1 -1.0**
SLIT **Slitere, Latvi** **20.36 349** *e*P **P** **11 30 06.7 +0.4**
SLIT **Slitere, Latvi** **20.36 349** ⇓P **P** **11 30 04.5 -1.8**
RETH **Rethem/Aller,** **20.51 323** *e*P Pn 11 30 09.6 -0.4
baz=127,slow=11
RETH *e*pP sP 11 30 16.0 +1.4
baz=129,slow=11
RETH *e*S Sn 11 34 01.7 +0.9
baz=128,slow=22
WLF **Walferdange** **20.58 312** P **P** **11 30 08.6 -0.1**
WLF **Walferdange** **20.58 312** P **P** **11 30 09.2 +0.5**
WLF **Walferdange** **20.58 312** P **P** **11 30 09.2 +0.5**
WLF S **S** **11 33 57.3 -0.9**
WLF pmax pmax
comp=Z,161nm,1.0s
WLF **Walferdange** **20.58 312** *d*P **P** **11 30 08.5 -0.1**
comp=Z,110nm,1.0s
WLF **Walferdange** **20.58 312** ⇓P **P** **11 30 08.6 -0.1**
WLF **Walferdange** **20.58 312** *e*P **P** **11 30 09.7 +1.1**
baz=127,slow=11
WLF *e*S **S** **11 33 57.3 -0.9**
baz=128,slow=22
VSU **Vasula** **20.70 356***de*P **P** **11 30 08.1 -1.8**
VSU pmax pmax
comp=Z,509nm,1.3s
VSU MLR MLR
comp=Z,20µm,15.0s
VSU **Vasula** **20.70 356** *e*P **P** **11 30 09.1 -0.8**
VSU **Vasula** **20.70 356** ⇑P **P** **11 30 07.0 -2.9**
EJON **La Jonquera** **20.93 291** P **P** **11 30 11.5 -1.1**
BHOU **Houvegnez** **20.97 314** *d*P **P** **11 30 13.1 +0.1**
comp=Z,47nm,1.1s
ETOS **Mallorca** **20.98 284** P **P** **11 30 13.8 +0.7**
BTNL **Ternell** **21.01 315** *d*P **P** **11 30 13.0 -0.4**
comp=Z,69nm,1.1s
IBBN **Ibbenburen** **21.04 320** ⇓P **P** **11 30 13.8 +0.1**
IBBN **Ibbenburen** **21.04 320** *e*P **P** **11 30 14.8 +1.2**
baz=127,slow=11
IBBN *e*pP **sP** **11 30 21.8 +1.4**
baz=129,slow=11
IBBN *e*S Sn 11 34 12.2 -1.5
baz=128,slow=22
MEM **Membach** **21.09 315** *d*P **P** **11 30 13.8 -0.4**
comp=Z,64nm,1.0s
LOR **Lormes** **21.12 305** ⇓P **P** **11 30 14.5 -0.1**
BSTI **Sart Tilman** **21.33 314** *d*P **P** **11 30 17.9 +1.1**
RCHB **Rochefort** **21.33 313** *d*P **P** **11 30 16.6 -0.2**
BEBN **Eben Emael** **21.37 315** *d*P **P** **11 30 17.5 +0.4**
BCLA **Clavier** **21.41 314** *d*P **P** **11 30 17.8 +0.2**
comp=Z,66nm,1.0s
MTLF **Montolieu** **21.49 293** ⇓P **P** **11 30 18.5 -0.1**
SHMA **Al-Shehemyia** **21.64 117** P **P** **11 30 19.2 -1.0**
SNR=10
SHMA S **S** **11 34 18.9 -0.5**
BMRD **Maredsous** **21.66 313** *d*P **P** **11 30 20.2 -0.1**
comp=Z,61nm,1.0s
DOU **Dourbes** **21.67 312** *d*P **P** **11 30 19.8 -0.6**
comp=Z,62nm,1.1s
ARBE **Arbavere** **21.72 355** *e*P **P** **11 30 20.8 0.0**
PUL **Pulkovo** **21.93 1***de*P **P** **11 30 23.0 -0.1**
PUL pmax pmax
comp=Z,589nm,0.7s
PUL MLR MLR
comp=Z,23µm,17.0s
UCC **Uccle** **22.11 314** P **P** **11 30 25.6 +0.5**
UCC **Uccle** **22.11 314** P **P** **11 30 25.6 +0.5**
UCC pmax pmax
comp=Z,116nm,1.0s
UCC MLR MLR
comp=Z,19µm,18.0s
UCC **Uccle** **22.11 314** *d*P **P** **11 30 24.8 -0.3**
comp=Z,69nm,1.0s
EIBI **Ibiza** **22.18 282** P **P** **11 30 26.3 +0.3**
SMRA **Abu-Samra** **22.25 120** P **P** **11 30 26.5 -0.4**
SNR=15
SMRA S **S** **11 34 28.4 -2.9**
TRNA **Turayna** **22.52 119** P **P** **11 30 29.2 -0.6**
SNR=13
TRNA S **S** **11 34 33.9 -2.5**
MEF **Metsahovi** **22.62 353** *e*P **P** **11 30 30.6 +0.1**
UPP **Uppsala** **23.32 345** *e*P **P** **11 30 37.6 -0.1**
JRN **Qarnain Island** **23.54 116** P **P** **11 30 39.8 -0.4**
SNR=5.4
JRN S **S** **11 34 51.1 -2.5**
RAF **Rauma** **23.71 350** *e*P **P** **11 30 41.6 +0.1**
FINES **FINESS Array B** **23.71 356** P **P** **11 30 40.8 -0.8**
comp=Z,74nm,0.8s,baz=172,slow=9.9,SNR=116
FINES PcP **PcP** **11 34 24.5 -0.7**
comp=Z,11nm,0.9s,baz=116,slow=4.4,SNR=2.1
FINES LR LR 11 40 11.9
comp=Z,13µm,19.0s,baz=228,slow=37
comp=Z,74nm,0.8s
FINES **FINESS Array B** **23.71 356** *i* P **P** **11 30 40.7 -0.8**
FINES pmax pmax
comp=Z,75nm,0.8s
AKTO **Aktyubinsk** **23.75 49** P **P** **11 30 41.6 -0.4**
comp=Z,219nm,0.9s,baz=250,slow=8.1,SNR=75
AKTO LR LR 11 43 09.8
comp=Z,8µm,18.2s,baz=238,slow=45
comp=Z,219nm,0.9s
KLMR **Klimovskoe** **23.84 12***d i*P **P** **11 30 39.7 -3.0**
KLMR S **S** **11 34 56.1 -1.7**
KLMR pmax pmax
comp=Z,259nm,1.0s
KLMR MLR MLR
comp=Z,13µm,11.0s
ECHE **Chera** **23.91 284** P **P** **11 30 44.0 +0.3**
ELSH **Elham, Standar** **24.11 313** *e*P **P** **11 30 43.5 -2.0**
ELSH IAMs_20 IAMs_20 11 41 26.8
comp=Z,30µm,14.1s
CART **Cartagena** **24.21 279** P **P** **11 30 45.3 -1.2**
CART **Cartagena** **24.21 279** P **P** **11 30 45.7 -0.8**
CART **Cartagena** **24.21 279** ⇓P **P** **11 30 45.1 -1.3**
STRU **Stroemstad** **24.31 337** *e*P **P** **11 30 47.3 +0.1**
KIRV **Kirov** **24.38 25** P **P** **11 30 46.5 -1.2**
comp=Z,66nm,0.6s,baz=226,slow=5.9,SNR=22
comp=Z,66nm,0.6s
KIRV **Kirov** **24.38 25***d i*P **P** **11 30 46.3 -1.5**
HMNX **Herstmonceux** **24.48 312** *e*P **P** **11 30 47.0 -1.8**
HMNX IAMs_20 IAMs_20 11 41 49.3
comp=Z,57µm,17.6s
HFS **Hagfors** **24.50 341** P **P** **11 30 48.7 -0.2**
comp=Z,246nm,1.0s,baz=144,slow=10,SNR=150
HFS LR LR 11 42 16.2
comp=Z,20µm,19.1s,baz=146,slow=41
comp=Z,246nm,1.0s
KEF **Keuruu** **24.51 355** *e*P **P** **11 30 49.6 +0.7**
AB31 **Akbulak array** **24.55 53** *i* P **P** **11 30 48.9 -0.6**
MZWR **Madinat Zayed** **25.01 117** P **P** **11 30 53.2 -0.6**
MZWR S **S** **11 35 15.5 -1.8**
JOF **Joensuu** **25.10 2** *e*P **P** **11 30 54.7 +0.4**
UMQ **Umm Al-Quwin** **25.22 112** P **P** **11 30 55.8 +0.1**
SNR=21
UMQ S **S** **11 35 19.5 -1.2**
MZR **Muzera** **25.22 119** P **P** **11 30 55.8 0.0**
SNR=12
MZR S **S** **11 35 19.1 -1.7**
MZR **Muzera** **25.22 119** *i* P **P** **11 30 55.4 -0.4**
SNR=14
SHME **Shamm** **25.28 110** P **P** **11 30 55.4 -0.8**
SNR=38
SHME S **S** **11 35 19.7 -1.9**
SHME **Shamm** **25.28 110** *i* P **P** **11 30 56.0 -0.3**
SNR=64
AJN **Ajban** **25.30 114** P **P** **11 30 55.7 -0.8**
SNR=14
AJN S **S** **11 35 20.8 -1.2**
AJN **Ajban** **25.30 114** *i* P **P** **11 30 59.5 +3.1**
SNR=11
KONO **Kongsberg** **25.30 336** P **P** **11 30 55.5 -0.6**
KONO **Kongsberg** **25.30 336***d i*P **P** **11 30 55.0 -1.1**
KONO pmax pmax
comp=Z,167nm,1.2s
KONO MLR MLR
comp=Z,16µm,15.0s
KONO **Kongsberg** **25.30 336** ⇓P **P** **11 30 55.1 -1.0**
BANOM **Banah** **25.47 110** P **P** **11 30 57.4 -0.6**
BANOM S **S** **11 35 22.4 -2.2**
BANOM **Banah** **25.47 110** *i* P **P** **11 30 58.9 +0.8**
SNR=37
ASUD **Al Ashush, Dub** **25.51 114** P **P** **11 30 57.8 -0.6**
SNR=19
ASUD S **S** **11 35 24.3 -1.0**
ASUD **Al Ashush, Dub** **25.51 114** *i* P **P** **11 30 60.0 +1.6**
SNR=20
ASUD *i* P **P** **11 31 01.0 +2.6**
SNR=14
JSA **Saint Aubin** **25.52 307** *e*P **P** **11 30 56.6 -1.6**
JSA IAMs_20 IAMs_20 11 42 16.5
comp=Z,29µm,12.3s
JSA **Saint Aubin** **25.52 307** ⇓P **P** **11 30 56.8 -1.4**
NAZ **Nazwa, Dubai** **25.54 113** P **P** **11 30 58.0 -0.6**
SNR=39
NAZ S **S** **11 35 23.8 -1.9**
NAZ **Nazwa, Dubai** **25.54 113** *i* P **P** **11 30 60.0 +1.4**
SNR=21
WOL **Wolverton** **25.56 312** *e*P **P** **11 30 56.8 -1.8**
UCM **Universidad Co** **25.58 286** P **P** **11 30 59.5 +0.5**
TAM **Tamanrasset** **25.58 241** P **P** **11 31 00.4 +1.2**
TAM IAmb IAmb 11 31 10.3
comp=Z,160nm,0.7s
TAM **Tamanrasset** **25.58 241** ⇓P **P** **11 31 00.3 +1.1**
FAQ **Al Faqa, Dubai** **25.63 113** P **P** **11 30 58.8 -0.6**
SNR=19
FAQ S **S** **11 35 25.6 -1.6**
FAQ **Al Faqa, Dubai** **25.63 113** *i* P **P** **11 31 01.0 +1.5**
SNR=11
MASF **Masafi** **25.68 111** P **P** **11 30 59.2 -0.8**
SNR=22
MASF S **S** **11 35 25.7 -2.3**
MSFE **Esma-Masafi** **25.68 111** *i* P **P** **11 31 00.6 +0.6**
SNR=20
MDH **Madha** **25.82 111** P **P** **11 31 01.5 +0.3**
SNR=21
MDH S **S** **11 35 28.7 -1.6**
MDH **Madha** **25.82 111** *i* P **P** **11 31 02.0 +0.8**
SNR=20
NAO01 **NORSAR Array S** **25.86 339** IAmb IAmb 11 31 04.2
comp=Z,132nm,0.8s
NB2 **NORSAR Subarra** **25.93 339** P **P** **11 31 00.9 -1.0**
comp=Z,301nm,1.4s,baz=145,slow=9.3
NB2 **NORSAR Subarra** **25.93 339** P **P** **11 31 00.9 -1.0**
baz=145,slow=9.3
NOA **NORSAR Array B** **25.93 339** P **P** **11 31 01.2 -0.7**
comp=Z,42nm,1.0s,baz=145,slow=9.4,SNR=73
NOA LR LR 11 41 51.7
comp=Z,9µm,21.8s,baz=135,slow=38
comp=Z,42nm,1.0s
UOSS **Minazif** **25.96 112** P **P** **11 31 02.4 -0.1**
UOSS IAmb IAmb 11 31 25.3
comp=Z,189nm,1.1s
UOSS **Minazif** **25.96 112** P **P** **11 31 01.8 -0.6**
UOSS S **S** **11 35 30.4 -2.0**
UOSS **Minazif** **25.96 112** *i* P **P** **11 31 01.9 -0.6**

SNR=18
UOSS *i* P **P** **11 31 02.2 -0.3**
SNR=28
UOSS Minazif 25.96 112 ⇓P **P** **11 31 01.4 -1.1**
SWN1 Swindon 25.97 312 *e*P **P** **11 31 00.1 -2.2**
SWN1 IAMs_20 IAMs_20 11 42 48.9
comp=Z,49µm,10.7s
HATD Hatta, Dubai 25.98 112 P **P** **11 31 02.1 -0.6**
SNR=33
HATD S **S** **11 35 31.6 -1.2**
HATD Hatta, Dubai 25.98 112 *i* P **P** **11 31 03.1 +0.5**
SNR=23
ASHO Ashiyiah 26.00 113 P **P** **11 31 02.2 -0.8**
ASHO S **S** **11 35 31.8 -1.4**
ASHO Ashiyiah 26.00 113 *i* P **P** **11 31 04.0 +1.0**
SNR=17
ROSF Rostrenen 26.04 304 ⇓P **P** **11 31 01.5 -1.5**
NBO00 NORSAR Array S 26.04 339 IAmb IAmb 11 31 09.4
comp=Z,204nm,1.4s
ALNE Al Ain 26.16 114 P **P** **11 31 03.6 -0.8**
ALNE S **S** **11 35 34.7 -1.0**
ALNE Al Ain 26.16 114 *i* P **P** **11 31 04.7 +0.3**
SNR=21
ESDC Sonseca Array 26.20 284 P **P** **11 31 03.9 -0.7**
comp=Z,36nm,0.9s,baz=76,slow=9.3,SNR=82
ESDC PcP **PcP** **11 34 30.8 -0.4**
comp=Z,7.5nm,1.1s,baz=45,slow=2.8,SNR=4.2
ESDC LR LR 11 41 12.5
comp=Z,4µm,20.4s,baz=73,slow=36
comp=Z,36nm,0.9s
STRD Stroud 26.27 312 *e*P **P** **11 31 02.5 -2.5**
STRD IAMs_20 IAMs_20 11 43 06.2
comp=Z,29µm,12.3s
PAB San Pablo 26.51 284 P **P** **11 31 07.3 -0.1**
PAB IAmb IAmb 11 31 12.5
comp=Z,75nm,0.9s
PAB San Pablo 26.51 284 P **P** **11 31 07.3 -0.1**
PAB pmax pmax
comp=Z,75nm,0.9s
PAB MLR MLR
comp=Z,6µm,19.0s
PAB San Pablo 26.51 284 ⇓P **P** **11 31 06.7 -0.7**
ARTI Arti 26.62 37 P **P** **11 31 07.2 -1.0**
ARTI Arti 26.62 37 P **P** **11 31 07.6 -0.5**
comp=Z,118nm,0.7s,baz=239,slow=8.7,SNR=53
comp=Z,118nm,0.7s
ARTI Arti 26.62 37 *d* *i*P **P** **11 31 06.8 -1.4**
ARTI S **S** **11 35 42.3 -0.1**
ARTI SS **SnSn** **11 36 43.4 -1.6**
ARTI pmax pmax
comp=Z,75nm,0.7s
ARTI MLR MLR
comp=Z,7µm,15.0s
ARTI Arti 26.62 37 ⇓P **P** **11 31 06.8 -1.4**
MONM Monmouth 26.66 312 *e*P **P** **11 31 06.0 -2.6**
MONM IAMs_20 IAMs_20 11 43 18.9
comp=Z,33µm,10.9s
SOHO SOHO 26.68 113 P **P** **11 31 08.3 -0.7**
SOHO S **S** **11 35 42.0 -1.8**
SOHO SOHO 26.68 113 *i* P **P** **11 31 10.0 +1.0**
SNR=51
STNC Stoke 26.76 315 *e*P **P** **11 31 07.5 -1.9**
STNC IAMs_20 IAMs_20 11 43 15.1
comp=Z,12µm,11.0s
MCH1 Michaelchurch 26.83 312 *e*P **P** **11 31 08.5 -1.6**
MCH1 IAMs_20 IAMs_20 11 43 12.6
comp=Z,24µm,9.5s
MCH1 Michaelchurch 26.83 312 ⇓P **P** **11 31 08.5 -1.6**
EADA Adamuz 26.89 281 P **P** **11 31 10.4 -0.5**
DYA Yadsworthy 26.94 309 *e*P **P** **11 31 09.5 -1.6**
DYA IAMs_20 IAMs_20 11 43 09.2
comp=Z,23µm,10.1s
EMAL Malaga-Limoner 27.05 278 P **P** **11 31 11.1 -1.1**
ARQ Araqi 27.16 115 P **P** **11 31 12.6 -0.7**
SNR=20
ARQ S **S** **11 35 48.4 -3.0**
FOEL Foel Wylfa 27.24 314 *e*P **P** **11 31 12.0 -1.8**
FOEL IAMs_20 IAMs_20 11 43 43.4
comp=Z,17µm,20.1s
EMIJ Mijas 27.37 278 P **P** **11 31 14.2 -0.9**
HTL Hartland 27.42 310 *e*P **P** **11 31 13.2 -2.2**
HTL IAMs_20 IAMs_20 11 43 35.0
comp=Z,34µm,11.9s
SBD Saint Breward 27.44 309 *e*P **P** **11 31 13.4 -2.1**
LLW Llanuwchllyn 27.50 314 *e*P **P** **11 31 13.5 -2.5**
ECAB El Cabril 27.56 281 P **P** **11 31 16.3 -0.6**
HOQ Hoqain 27.58 113 P **P** **11 31 15.9 -1.2**
SNR=11
HOQ S **S** **11 35 54.5 -3.6**
SVE Sverdlovsk 27.92 37 *c* *e*P **P** **11 31 19.1 -0.7**
SVE *e*S **S** **11 36 06.7 +4.0**
SVE *e* 11 37 38.4
SVE pmax pmax
comp=Z,262nm,1.3s
WLF1 Llynfaes 28.06 314 *e*P **P** **11 31 20.1 -1.0**
WLF1 IAMs_20 IAMs_20 11 44 19.1
comp=Z,25µm,13.6s
ECAL Calabor 28.08 290 P **P** **11 31 20.7 -0.9**
SJUU Sjulsmark 28.08 353 *e*P **P** **11 31 20.5 -0.6**
MSF Maaselka 28.09 359 P **P** **11 31 21.3 0.0**
MSF pmax pmax
comp=Z,159nm,2.0s
PBRG Braganca 28.09 290 ⇓*e*P **P** **11 31 21.0 -0.6**
PBRG *i* IAmb IAmb 11 31 29.6
comp=Z,162nm,1.7s
ESY Stoneypath 28.13 320 *e*P **P** **11 31 19.8 -1.9**
ESPR Espera 28.15 279 P **P** **11 31 20.9 -1.2**
WPS Cemaes, Angles 28.15 315 *e*P **P** **11 31 19.8 -2.1**
WPS IAMs_20 IAMs_20 11 44 22.0
comp=Z,14µm,15.4s
EKA Eskdalemuir Ar 28.16 319 P **P** **11 31 21.7 -0.3**
comp=Z,7.7nm,0.8s,baz=108,slow=8.7,SNR=16
EKA PcP **PcP** **11 34 35.5 -0.1**
comp=Z,12nm,0.9s,baz=109,slow=2.6,SNR=9.6
comp=Z,7.7nm,0.8s
ESK Eskdalemuir 28.17 319 P **P** **11 31 21.4 -0.7**
ESK Eskdalemuir 28.17 319 *e*P **P** **11 31 19.1 -2.9**
ESK IAMs_20 IAMs_20 11 44 55.6
comp=Z,26µm,13.3s
ESK Eskdalemuir 28.17 319 P **P** **11 31 21.4 -0.7**
ESK pmax pmax
comp=Z,41nm,1.1s
BIDO Bidbid 28.21 112 P **P** **11 31 21.2 -1.5**
SNR=6.7
BIDO S **S** **11 36 07.0 -1.0**
MVO Moncorvo 28.36 288 ⇓*i*P **P** **11 31 22.8 -1.3**
MVO *i* IAmb IAmb 11 31 36.4
comp=Z,103nm,1.0s
MVO *e*S **S** **11 36 14.1 +3.8**
MVO *e*LR LR 11 43 32.3
MVO *i* IAMs_20 IAMs_20 11 44 39.3
comp=Z,7µm,16.0s
SMDO Samad 28.43 113 P **P** **11 31 23.9 -0.9**
SNR=16
SMDO S **S** **11 36 10.3 -1.4**
IOMK Kirk Michael 28.49 316 *e*P **P** **11 31 22.6 -2.3**
IOMK IAMs_20 IAMs_20 11 44 46.4
comp=Z,9µm,10.7s
DRUM Mains of Drumt 28.52 322 *e*P **P** **11 31 22.2 -2.9**
DRUM IAMs_20 IAMs_20 11 47 25.8
comp=Z,18µm,13.9s
EMIN Mina Concepcio 28.59 281 P **P** **11 31 25.8 -0.2**
NEWG New Galloway 28.63 318 *e*P **P** **11 31 23.9 -2.3**
NEWG IAMs_20 IAMs_20 11 44 59.9
comp=Z,25µm,13.1s
EBAD Badajoz 28.67 283 P **P** **11 31 26.0 -0.8**
DOK Doka 28.70 125 P **P** **11 31 27.0 -0.1**
DOK S **S** **11 36 13.2 -2.5**
WSAR Wadi Sarin 28.75 112 LR LR 11 44 42.0
comp=Z,43nm,21.3s,baz=324,slow=40
ATD Arta Tunnel 28.76 152 LR LR 11 43 14.5
comp=Z,156nm,19.1s,baz=334,slow=37
PBAR Barrancos 28.80 282 P **P** **11 31 27.3 -0.5**
PBAR Barrancos 28.80 282 ⇓*i*P **P** **11 31 26.9 -0.9**
PBAR *i* IAmb IAmb 11 31 44.1
comp=Z,104nm,1.6s
PMRV Marv??o 28.85 285 ⇓*i*P **P** **11 31 27.0 -1.3**
PMRV *i* IAmb IAmb 11 31 36.9
comp=Z,84nm,1.6s
PMRV *e*S **S** **11 36 23.9 +6.0**
PMRV *e*LR LR 11 43 48.8
PMRV *i* IAMs_20 IAMs_20 11 46 55.7
comp=Z,5µm,16.0s
PCBR Castelo Branco 28.86 286 *e*P **P** **11 31 27.5 -0.8**
PCBR *i* IAmb IAmb 11 31 37.1
comp=Z,157nm,1.6s
PVRL Vila Real 28.87 289 *e*P **P** **11 31 30.2 +1.7**
PVRL *i* IAmb IAmb 11 31 37.3
comp=Z,102nm,1.4s
JMDO Jabal Madar 28.90 114 P **P** **11 31 28.0 -0.9**
SNR=5.8
JMDO S **S** **11 36 16.6 -2.2**
POLO Lamas de Olo 28.92 289 ⇓*i*P **P** **11 31 28.1 -0.9**
POLO *i* IAmb IAmb 11 31 37.9
comp=Z,59nm,1.3s
PCAB Cabril 29.06 290 *e*P **P** **11 31 30.4 +0.2**
PCAB *i* IAmb IAmb 11 31 39.2
comp=Z,206nm,1.4s
PVIS Viseu 29.06 287 ⇓*i*P **P** **11 31 29.8 -0.4**
PESTR Estremoz 29.10 284 P **P** **11 31 29.8 -0.7**
PESTR Estremoz 29.10 284 *e*P **P** **11 31 29.9 -0.7**
PESTR *i* IAmb IAmb 11 31 39.0
comp=Z,94nm,1.5s
PESTR Estremoz 29.10 284 ⇓P **P** **11 31 29.9 -0.6**
ABTO Aybut 29.11 128 P **P** **11 31 31.1 +0.3**
ABTO S **S** **11 36 19.2 -3.1**
DSB Dublin 29.17 314 P **P** **11 31 30.3 -0.7**
MCD Coleburn Disti 29.21 323 *e*P **P** **11 31 28.7 -2.5**
MCD IAMs_20 IAMs_20 11 46 41.7
comp=Z,13µm,12.9s
PGAV Gavieira, Arco 29.22 290 ⇓*e*P **P** **11 31 31.8 +0.1**
PGAV *i* IAmb IAmb 11 31 41.0
comp=Z,327nm,1.5s
PGAV *e*S **S** **11 36 27.6 +3.9**
PGAV *e*LR LR 11 44 24.0
PGAV *i* IAMs_20 IAMs_20 11 47 12.7
comp=Z,8µm,16.0s
EGRO El Granado 29.27 281 P **P** **11 31 30.9 -1.1**
WBK Wadi Bani Khal 29.38 113 P **P** **11 31 32.5 -0.7**
SNR=5.9
WBK S **S** **11 36 25.7 -0.8**
ILTH Belurgan, Co L 29.39 315 *e*P **P** **11 31 31.8 -1.0**
PSARD Sardoal 29.42 285 ⇓*i*P **P** **11 31 31.5 -1.8**
PSARD *i* IAmb IAmb 11 31 42.3
comp=Z,87nm,2.3s
PBEJ Beja 29.47 282 ⇓*e*P **P** **11 31 31.7 -2.0**
PBEJ *i* IAmb IAmb 11 31 42.6
comp=Z,129nm,1.7s
PVAQ Vaqueiros 29.48 281 P **P** **11 31 33.4 -0.4**
PVAQ Vaqueiros 29.48 281 IAmb IAmb 11 31 36.4
comp=Z,96nm,0.9s
PVAQ Vaqueiros 29.48 281 ⇓*i*P **P** **11 31 32.2 -1.7**
PVAQ *i* IAmb IAmb 11 31 51.0
comp=Z,103nm,1.4s
PVAQ *e*S **S** **11 36 33.0 +5.2**
PVAQ *e*LR LR 11 44 48.5
PVAQ *i* IAMs_20 IAMs_20 11 45 51.5
comp=Z,4µm,18.0s
PVAQ Vaqueiros 29.48 281 ⇑P **P** **11 31 33.3 -0.6**
EVO Evora 29.48 283 P **P** **11 31 33.8 -0.1**
EVO Evora 29.48 283 ⇓*i*P **P** **11 31 31.3 -2.6**
COI Coimbra 29.52 287 *e*P **P** **11 31 34.0 -0.2**
COI *i* IAmb IAmb 11 31 46.8
comp=Z,120nm,1.6s
PMTG Montargil 29.55 284 ⇓*i*P **P** **11 31 33.3 -1.2**
PMTG *i* IAmb IAmb 11 31 41.9
comp=Z,70nm,1.8s
RBK Rabkut 29.57 127 P **P** **11 31 35.2 +0.4**
RBK S **S** **11 36 26.6 -2.9**
PCAS Casmilo, Conde 29.61 286 ⇓*i*P **P** **11 31 32.6 -2.4**
PCAS *i* IAmb IAmb 11 31 42.4
comp=Z,92nm,1.7s
PCVE Castro Verde 29.68 281 P **P** **11 31 35.1 -0.6**
PCVE Castro Verde 29.68 281 ⇓*i*P **P** **11 31 34.1 -1.5**
PCVE *i* IAmb IAmb 11 31 43.5
comp=Z,74nm,1.8s
PBDV Barranco-do-Ve 29.68 281 P **P** **11 31 35.4 -0.3**
PBDV Barranco-do-Ve 29.68 281 ⇓*e*P **P** **11 31 34.7 -1.1**
PBDV *i* IAmb IAmb 11 31 43.7
comp=Z,186nm,1.6s
LAWE Loch Awe, Argy 29.69 320 *e*P **P** **11 31 32.7 -2.8**
LAWE IAMs_20 IAMs_20 11 45 46.5
comp=Z,30µm,14.3s
MESJ Messejana 29.78 282 *e*P **P** **11 31 36.0 -0.5**
MESJ *e*S **S** **11 36 33.6 +1.2**
MESJ Messejana 29.78 282 ⇓*e*P **P** **11 31 36.2 -0.4**
MESJ *i* IAmb IAmb 11 31 44.6
comp=Z,82nm,1.5s
MESJ Messejana 29.78 282 *e*P **P** **11 31 36.0 -0.5**
MESJ *e*S **S** **11 36 33.6 +1.2**
MESJ Messejana 29.78 282 ⇓P **P** **11 31 35.6 -0.9**
APA Apatity 29.83 3 *e*P **P** **11 31 35.6 -1.0**
APA *e* 11 32 35.3
APA *e*S **S** **11 36 38.1 +5.5**
APA MLR MLR
comp=Z,23µm,14.1s
DMTO DMTO 29.89 125 P **P** **11 31 37.5 -0.1**
DMTO S **S** **11 36 31.8 -2.6**
BIGH Upper Bighouse 29.95 324 *e*P **P** **11 31 35.7 -2.1**
BIGH IAMs_20 IAMs_20 11 46 27.8
comp=Z,14µm,14.1s
JLN Jalan Bani Buh 29.98 113 P **P** **11 31 37.3 -1.2**
SNR=7.9
DQM DQM 30.08 119 P **P** **11 31 38.2 -1.1**
DQM S **S** **11 36 33.6 -3.8**
LVZ Lovozero 30.21 4 P **P** **11 31 39.9 -0.3**
LVZ IAMs_20 IAMs_20 11 44 44.4
comp=Z,22µm,20.0s
LVZ Lovozero 30.21 4 *d* *i*P **P** **11 31 39.3 -0.8**
LVZ pmax pmax
comp=Z,184nm,2.3s
LVZ MLR MLR
comp=Z,20µm,16.0s
LVZ Lovozero 30.21 4 ⇓P **P** **11 31 38.7 -1.4**
LVZ Lovozero 30.21 4 P **P** **11 31 40.1 0.0**
comp=Z,3µmcomp=Z,93nm,1.2s
PARRA Arraiolos 30.22 284 ⇓*i*P P 11 31 32.0 -8.4
PARRA *i* IAmb IAmb 11 31 41.2
comp=Z,36nm,1.3s
MORF Marmelete 30.23 281 *e*P **P** **11 31 40.1 -0.5**
MORF IAmb IAmb 11 31 47.5
comp=Z,71nm,1.6s
MORF *e*S **S** **11 36 40.5 +1.0**
MORF Marmelete 30.23 281 ⇓*e*P **P** **11 31 39.5 -1.0**
MORF *i* IAmb IAmb 11 31 48.5
comp=Z,79nm,1.8s
MORF Marmelete 30.23 281 *e*P **P** **11 31 40.1 -0.5**
MORF *e*S **S** **11 36 40.5 +1.0**
PTEO Sao Teotonio 30.23 281 ⇓*i*P **P** **11 31 39.7 -0.9**
PTEO *i* IAmb IAmb 11 32 30.6
comp=Z,164nm,1.8s
KPL Plockton 30.26 322 *e*P **P** **11 31 38.0 -2.5**
KPL IAMs_20 IAMs_20 11 46 32.5
comp=Z,29µm,14.2s
LIS Lisbon 30.32 284 *e*P **P** **11 31 40.8 -0.5**
LIS IAmb IAmb 11 31 53.2
comp=Z,104nm,0.9s
LIS *e*S **S** **11 36 42.0 +1.1**
LIS Lisbon 30.32 284 *e*P **P** **11 31 41.6 +0.2**
LIS *i* IAmb IAmb 11 31 50.8
comp=Z,156nm,1.4s
LIS Lisbon 30.32 284 *e*P **P** **11 31 40.8 -0.5**
LIS *e*S **S** **11 36 42.0 +1.1**
AVE Averroes 30.36 273 P **P** **11 31 42.1 +0.4**
PMAFR Mafra 30.38 284 P **P** **11 31 41.8 -0.1**
PMAFR Mafra 30.38 284 ⇓*i*P **P** **11 31 41.4 -0.5**
PMAFR *i* IAmb IAmb 11 31 50.0
comp=Z,141nm,1.7s
PFVI Vila Bisbo 30.40 281 P **P** **11 31 41.5 -0.5**
PFVI Vila Bisbo 30.40 281 IAmb IAmb 11 31 54.7
comp=Z,96nm,1.0s
PFVI Vila Bisbo 30.40 281 ⇓*e*P **P** **11 31 41.4 -0.7**
PFVI *i* IAmb IAmb 11 31 58.4
comp=Z,89nm,1.6s
SIMJ Simiganj 30.75 76 P **P** **11 31 45.5 +0.3**
SIMJ IAmb IAmb 11 31 48.5
comp=Z,136nm,0.9s
BRLS Borolday 30.79 68 *e*P **P** **11 31 44.5 -1.0**
BRLS pmax pmax
comp=Z,86nm,1.5s
BRLS Borolday 30.79 68 *e*P **P** **11 31 44.6 -1.0**
comp=Z,86nm,1.5s
IUG luzhnay 31.01 69 *d* *i*P **P** **11 31 47.4 -0.1**
IUG pmax pmax
comp=Z,183nm,1.2s
IUG luzhnay 31.01 69 ⇓*i*P **P** **11 31 47.4 -0.1**
comp=Z,183nm,1.2s
TIO Tiouine 31.10 268 P **P** **11 31 49.1 +0.7**
VAL Valentia 31.14 310 P **P** **11 31 48.0 -0.4**
LEWI Lewis, Hebride 31.19 322 *e*P **P** **11 31 47.4 -1.4**
LEWI IAMs_20 IAMs_20 11 47 12.4
comp=Z,16µm,12.8s
KK31 Karatay Array 31.28 67 P **P** **11 31 50.1 +0.3**
KK31 Karatay Array 31.28 67 P **P** **11 31 50.1 +0.3**
KK31 pmax pmax
comp=Z,194nm,1.0s
KBL Kabul 31.79 84 P **P** **11 31 54.6 0.0**
KBL Kabul 31.79 84 S **S** **11 37 08.1 +3.7**
KBL Kabul 31.79 84 P **P** **11 31 54.6 0.0**
KBL pmax pmax
comp=Z,52nm,1.3s
BRVK Borovoye 31.80 48 P **P** **11 31 54.5 +0.3**
BRVK IAmb IAmb 11 32 01.7
comp=Z,224nm,1.4s
BRVK Borovoye 31.80 48 *d* *e*P **P** **11 31 53.9 -0.3**
BRVK pmax pmax
comp=Z,122nm,1.7s
BRVK MLR MLR
comp=Z,10µm,18.0s
BRVK Borovoye 31.80 48 ⇑P **P** **11 31 54.1 -0.1**
ARCES ARCESS Array B 31.81 357 P **P** **11 31 53.6 -0.5**
comp=Z,38nm,0.8s,baz=170,slow=7.4,SNR=61
ARCES PcP **PcP** **11 34 43.5 -1.2**
comp=Z,8.6nm,0.9s,baz=204,slow=2.0,SNR=1.8
ARCES LR LR 11 45 17.3
comp=Z,11µm,18.5s,baz=182,slow=37
comp=Z,38nm,0.8s
BVA0 Borovoye Array 31.85 48 P **P** **11 31 54.1 -0.6**
BVAR Borovoye Array 31.85 48 P **P** **11 31 54.7 0.0**
comp=Z,28nm,0.9s,baz=262,slow=5.4,SNR=71
BVAR LR LR 11 47 53.7
comp=Z,11µm,19.5s,baz=261,slow=42
BVAR P3KPbc 12 03 23.9
comp=Z,0.6nm,0.5s,baz=94,slow=4.3,SNR=3.8
comp=Z,28nm,0.9s
TRKS Terek-Say 31.91 70 P **P** **11 31 56.1 +0.6**
TRKS pmax pmax
comp=Z,64nm,1.1s
KEV Kevo 31.98 358 P **P** **11 31 55.3 -0.3**
KEV IAmb IAmb 11 32 57.6
comp=Z,144nm,1.4s
KEV Kevo 31.98 358 ⇓P **P** **11 31 54.3 -1.3**
BRZS Berezniki 32.82 54 *d* *i*P **P** **11 32 02.9 -0.3**
BRZS *e*S **S** **11 37 20.7 +1.0**
BRZS Berezniki 32.82 54 ⇓*i*P **P** **11 32 02.9 -0.3**
BRZS *e*S **S** **11 37 20.8 +1.0**
OHH Osh 33.28 72 P **P** **11 32 08.0 +0.5**
OHH pmax pmax
comp=Z,223nm,1.0s
BTLS Baital 33.69 63 *e*P **P** **11 32 10.7 -0.1**
BTLS *e*S **S** **11 37 34.3 +1.0**
BTLS pmax pmax
comp=Z,91nm,1.0s
BTLS Baital 33.69 63 *e*P **P** **11 32 10.8 -0.1**
comp=Z,91nm,1.0s
BTLS *e*S **S** **11 37 34.4 +1.0**
EKS2 Erkin-Say 33.71 68 P **P** **11 32 12.2 +1.0**
SNR=134
USP Ospenovka 34.17 67 P **P** **11 32 15.1 0.0**
SNR=47
AAK Ala-Archa 34.24 68 P **P** **11 32 16.8 +0.9**
AAK Ala-Archa 34.24 68 LR LR 11 49 09.5
comp=Z,9µm,18.1s,baz=285,slow=42
AAK Ala-Archa 34.24 68 P **P** **11 32 16.7 +0.9**
SNR=86
AAK Ala-Archa 34.24 68 *d* *i*P **P** **11 32 16.8 +0.9**
AAK pmax pmax
comp=Z,300nm,1.0s
AAK MLR MLR
comp=Z,8µm,17.0s
AAK Ala-Archa 34.24 68 *i* P **P** **11 32 16.9 +1.1**
SNR=89
SGDS Sogindy 34.24 66 ⇓*i*P **P** **11 32 15.5 -0.2**
comp=Z,83nm,1.4s
UCH Uchtor 34.31 68 P **P** **11 32 19.5 +2.7**
SNR=12
FRU1 Bishkek 34.32 67 P **P** **11 32 17.8 +1.4**
FRU1 pmax pmax
comp=Z,634nm,1.0s
CHMS Chumysh 34.38 67 P **P** **11 32 17.5 +0.6**
SNR=89
KBK Karagaybulak 34.57 68 P **P** **11 32 21.9 +3.1**
SNR=52
LODK Lodwar 34.67 170 P **P** **11 32 21.1 +1.4**
LODK Lodwar 34.67 170 P **P** **11 32 21.9 +2.3**
SNR=18
TORD Torodi Ar. Bea 35.01 233 P **P** **11 32 22.4 -0.1**
comp=Z,71nm,0.8s,baz=33,slow=8.6,SNR=132
TORD PcP **PcP** **11 34 54.4 -0.2**
comp=Z,6.9nm,0.8s,baz=40,slow=3.5,SNR=2.7
TORD PKiKP **PKiKP** **11 42 16.8 0.0**
comp=Z,3.2nm,1.1s,baz=2.3,slow=3.3,SNR=4.5
TORD LR LR 11 48 52.0
comp=Z,8µm,20.8s,baz=36,slow=40
comp=Z,71nm,0.8s
TKM2 Tokmak 2 35.01 67 P **P** **11 32 24.6 +2.1**
SNR=91
NIL Nilore 35.38 83 P **P** **11 32 25.6 0.0**
NIL IAmb IAmb 11 32 33.1
comp=Z,164nm,0.9s
NIL Nilore 35.38 83 P **P** **11 32 25.7 0.0**
NIL pmax pmax
comp=Z,164nm,1.0s
KUU Kurty 35.42 65 *e*P **P** **11 32 25.5 -0.4**
KUU *e*S **S** **11 38 01.1 +1.0**
KUU pmax pmax
comp=Z,139nm,1.2s
KUU Kurty 35.42 65 *e*P **P** **11 32 25.6 -0.4**
comp=Z,139nm,1.2s
KUU *e*S **S** **11 38 01.2 +1.0**
KUU LR LR 11 48 14.9
comp=Z,6µm,13.5s
ULHL Ulahol 35.58 68 P **P** **11 32 28.7 +1.3**
SNR=190
KSH Kashi 35.88 73 P **P** **11 32 28.9 -1.1**
KSH pP pP 11 32 34.2 -0.8
KSH S **S** **11 38 06.5 -0.9**
KSH pmax pmax
comp=Z,120nm,1.0s
KSH pmax pmax
comp=Z,3µm,7.5s
KSH LR LR
comp=Z,7µm,21.3s
KSH LR LR
comp=Z,6µm,16.5s
KSH LR LR
comp=Z,6µm,24.1s
TNSS Tian-Shan 35.97 67 *e*P **P** **11 32 30.4 -0.7**
TNSS Tian-Shan 35.97 67 *e*P **P** **11 32 30.4 -0.7**
JASL Jaisalmer 36.23 95 *e*P **P** **11 32 33.4 +0.4**
JASL IAmb IAmb 11 32 36.2
comp=Z,704nm,2.5s
JASL *e*S **S** **11 38 12.1 -0.7**
ARXS Arharly 36.45 64 *e*P **P** **11 32 34.3 -0.5**
KURBB Kurchatov Arra 36.60 54 P **P** **11 32 35.8 -0.1**
comp=Z,271nm,0.9s,baz=276,slow=8.8,SNR=170
KURBB PP **PnPn** **11 33 58.9 +0.1**
comp=Z,58nm,1.1s,baz=274,slow=9.5,SNR=6.4
KURBB PcP **PcP** **11 34 58.2 -0.5**
comp=Z,34nm,1.0s,baz=273,slow=3.4,SNR=6.8
KURBB PKiKP **PKiKP** **11 42 16.9 -0.2**
comp=Z,1.3nm,1.0s,baz=260,slow=0.6,SNR=3.5
KURBB LR LR 11 49 52.2
comp=Z,4µm,19.3s,baz=262,slow=40
KURBB P3KPbc 12 03 04.8
comp=Z,0.1nm,0.3s,baz=270,slow=0.4,SNR=1.8
comp=Z,271nm,0.9s
KURK Kurchatov 36.66 53 P **P** **11 32 36.1 -0.3**
KURK Kurchatov 36.66 53 *d* *i*P **P** **11 32 36.2 -0.1**
KURK pmax pmax
comp=Z,484nm,1.3s
KURK MLR MLR
comp=Z,5µm,15.0s
KURK Kurchatov 36.66 53 ⇓P **P** **11 32 36.3 -0.1**
TDK Taldyqorghan 36.77 63 *e*P **P** **11 32 37.2 -0.2**
TDK MLR MLR
comp=Z,7µm,15.0s
TDK Taldyqorghan 36.77 63 *e*P **P** **11 32 37.2 -0.2**
TDK LR LR 11 49 11.4
comp=Z,7µm,15.3s
TARG Taragay, Kyrgy 36.81 69 IAMs_20 IAMs_20 11 49 56.4
comp=Z,10µm,20.0s
JMU Jammu 37.00 84 *e*P **P** **11 32 38.9 -0.6**
JMU IAmb IAmb 11 32 46.1
comp=Z,668nm,2.4s

JMU eS **S** **11 38 26.4 +2.0**
SATY Saty 37.03 66 eP **P** **11 32 39.5 -0.2**
SATY eS **S** **11 38 25.6 +0.7**
SATY pmax pmax
comp=Z,227nm,1.2s
SATY Saty 37.03 66 eP **P** **11 32 39.6 -0.2**
comp=Z,227nm,1.2s
SATY eS **S** **11 38 25.6 +0.7**
BHUJ Bhuj 37.09 101 eP **P** **11 32 38.8 -1.5**
BHUJ IAmb IAmb 11 32 48.1
comp=Z,651nm,2.5s
BHUJ ex x 11 53 39.7
KPKS Kokpek 37.17 65 eP **P** **11 32 40.7 -0.2**
KPKS Kokpek 37.17 65 eP **P** **11 32 40.7 -0.2**
UZB Uzynbulak 37.46 66 eP **P** **11 32 43.1 -0.3**
UZB pmax pmax
comp=Z,90nm,1.3s
UZB Uzynbulak 37.46 66 eP **P** **11 32 43.2 -0.3**
comp=Z,90nm,1.3s
PMPST Porto Santo, M 37.47 277 eP **P** **11 32 43.7 +0.3**
PMPST i IAmb IAmb 11 32 52.1
comp=Z,182nm,1.6s
PMPS Porto Santo 37.48 277 eP **P** **11 32 45.8 +2.3**
PMPS i IAmb IAmb 11 32 52.0
comp=Z,115nm,1.5s
BKNR BIKANER 37.61 92 eP **P** **11 32 44.7 +0.1**
BKNR IAmb IAmb 11 32 50.3
comp=Z,502nm,2.9s
BKNR eS **S** **11 38 32.5 -1.2**
SHLS Shalkode 37.78 66 eP **P** **11 32 48.4 +2.3**
SHLS pmax pmax
comp=Z,62nm,0.9s
SHLS Shalkode 37.78 66 eP **P** **11 32 48.5 +2.3**
comp=Z,62nm,0.9s
PMAR Madeira 38.05 277 eP **P** **11 32 48.7 +0.1**
PMAR i IAmb IAmb 11 33 10.7
comp=Z,174nm,1.2s
TLWR Talawar 38.11 85 eP **P** **11 32 49.4 +0.5**
TLWR IAmb IAmb 11 32 55.6
comp=Z,757nm,2.8s
TLWR eS **S** **11 38 42.2 +0.8**
PMOZ Porto Moniz, M 38.24 277 P **P** **11 32 52.4 +2.3**
PMOZ Porto Moniz, M 38.24 277 eP **P** **11 32 52.2 +2.1**
PMOZ eS **S** **11 38 50.8 +7.3**
DHRM DHARAMSHALA 38.27 84 eP **P** **11 32 50.7 +0.2**
DHRM IAmb IAmb 11 32 58.3
comp=Z,724nm,2.9s
EDA Edea 38.33 212 P **P** **11 32 52.8 +2.0**
JMIC Jan Mayen 38.61 341 LR LR 11 50 45.3
comp=Z,6µm,18.2s,baz=125,slow=39
BHK Bhakra 38.68 85 eP **P** **11 32 57.0 +3.3**
BHK IAmb IAmb 11 32 59.9
comp=Z,729nm,2.6s
BHK eS S 11 38 59.1 +9.1
EOSO Osorio 38.85 269 P **P** **11 32 57.2 +2.1**
MAKZ Makanchi 39.05 60 P **P** **11 32 56.8 +0.1**
MAKZ pmax pmax
comp=Z,218nm,1.4s
CGRH CHANDIGARH 39.23 86 eP **P** **11 32 57.8 -0.5**
CGRH IAmb IAmb 11 33 01.9
comp=Z,504nm,2.1s
MK31 Makanchi Array 39.27 60 d iP **P** **11 32 58.2 -0.3**
MK31 pmax pmax
comp=Z,318nm,0.8s
MKAR Makanchi Array 39.27 60 P **P** **11 32 58.5 +0.1**
comp=Z,262nm,0.8s,baz=277,slow=7.4,SNR=212
MKAR PcP **PcP** **11 35 06.3 -0.8**
comp=Z,27nm,1.0s,baz=278,slow=1.8,SNR=2.5
MKAR LR LR 11 51 54.9
comp=Z,7µm,18.5s,baz=276,slow=40
comp=Z,262nm,0.8s
SMLA Simla 39.38 85 eP **P** **11 33 00.8 +1.2**
SMLA IAmb IAmb 11 33 06.0
comp=Z,303nm,2.8s
KMBO Kilima Mbogo 39.43 168 P **P** **11 33 01.4 +1.2**
comp=Z,7.3nm,0.2s,baz=356,slow=9.0,SNR=14
KMBO LR LR 11 50 56.7
comp=Z,4µm,18.8s,baz=358,slow=39
comp=Z,7.3nm,0.2s
KMBO Kilima Mbogo 39.43 168⇑ eP **P** **11 33 02.7 +2.4**
HSPB Hornsund (broa 39.73 355 eP **P** **11 33 01.7 -0.1**
HSPB eS S 11 39 18.9 +14
HSPB eL L 11 49 37.2
comp=Z,11µm,21.3s
JHJR Jhajjar 40.01 89 eP **P** **11 33 04.1 -0.7**
JHJR IAmb IAmb 11 33 07.4
comp=Z,141nm,1.9s
JHJR eS **S** **11 39 09.4 -0.6**
BORG Borgarnes 40.02 329 IAMs_20 IAMs_20 11 51 56.8
comp=Z,8µm,19.0s
BORG Borgarnes 40.02 329 P **P** **11 33 04.7 +0.3**
comp=Z,22nm,0.9s,baz=125,slow=6.2,SNR=4.8
BORG LR LR 11 52 09.3
comp=Z,8µm,18.9s,baz=113,slow=40
comp=Z,22nm,0.9s
BORG Borgarnes 40.02 329 P **P** **11 33 07.4 +3.0**
BORG pmax pmax
comp=Z,48nm,1.1s
BORG MLR MLR
comp=Z,8µm,19.0s
KLP Kalpa 40.08 84 eP **P** **11 33 05.7 0.0**
KLP IAmb IAmb 11 33 07.1
comp=Z,448nm,1.9s
KLP eS **S** **11 39 12.8 +1.2**
GNR GANAUR 40.08 88 eP **P** **11 33 05.2 -0.2**
GNR IAmb IAmb 11 33 08.3
comp=Z,238nm,2.0s
KUDL Kundal 40.09 90 eP **P** **11 33 05.7 +0.3**
KUDL IAmb IAmb 11 33 07.6
comp=Z,692nm,2.0s
KUDL eS **S** **11 39 12.8 +1.7**
HNLY HANLEY 40.18 82 eP **P** **11 33 07.1 +0.3**
HNLY IAmb IAmb 11 33 15.2
comp=Z,700nm,2.3s
HNLY eS **S** **11 39 17.6 +4.1**
BHGR Bahadurgarh 40.21 89 eP **P** **11 33 09.3 +2.8**
BHGR IAmb IAmb 11 33 12.4
comp=Z,587nm,2.2s
BHGR eS **S** **11 39 13.4 +0.5**
NRLA Narela 40.29 89 eP **P** **11 33 07.8 +0.6**
NRLA IAmb IAmb 11 33 13.4
comp=Z,577nm,2.8s
NPLP NPLP New Delhi 40.41 89 eP **P** **11 33 05.7 -2.4**
NPLP IAmb IAmb 11 33 14.6
comp=Z,372nm,2.1s
NPLP eS **S** **11 39 14.8 -1.2**
AYAN Aya Nagar 40.45 89 eP **P** **11 33 11.3 +2.9**
AYAN eS **S** **11 39 21.6 +5.2**
LDR Lodi Road 40.48 89 eP **P** **11 33 05.7 -2.9**
LDR IAmb IAmb 11 33 10.5
comp=Z,649nm,2.3s
LDR eS **S** **11 39 12.8 -4.1**
ZAA0 Zalesovo Array 40.51 48 P **P** **11 33 08.1 -0.6**
ZAA0 IAmb IAmb 11 33 15.4
comp=Z,363nm,1.6s
ZALV Zalesovo Beam 40.51 48 P **P** **11 33 08.0 -0.6**
comp=Z,70nm,0.7s,baz=267,slow=9.0,SNR=81
ZALV PP **PnPn** **11 34 44.2 -1.5**
comp=Z,2.4nm,0.3s,baz=262,slow=10.0,SNR=5.5
ZALV LR LR 11 53 26.6
comp=Z,5µm,18.1s,baz=271,slow=42
comp=Z,70nm,0.7s
ZALV Zalesovo Beam 40.51 48 i P **P** **11 33 08.0 -0.6**
ZALV pmax pmax
comp=Z,70nm,0.6s
JMIU JAMIA UNIVERSI 40.54 89 eP **P** **11 33 08.4 -0.8**
JMIU IAmb IAmb 11 33 10.9
comp=Z,137nm,2.2s
JMIU eS **S** **11 39 23.7 +5.8**
KIBK Kibwezi 40.75 167 P **P** **11 33 12.8 +1.8**
SPB2 Spitsbergen Ar 40.80 356 IAmb IAmb 11 33 19.4
comp=Z,472nm,1.7s
SPITS Spitsbergen Ar 40.81 356 P **P** **11 33 10.6 -0.2**
comp=Z,22nm,0.7s,baz=152,slow=14,SNR=14
SPITS LR LR 11 51 12.0
comp=Z,9µm,18.9s,baz=166,slow=38
comp=Z,22nm,0.7s
ASOR Ausora 40.84 88 eP **P** **11 33 09.3 -2.4**
ASOR IAmb IAmb 11 33 13.6
comp=Z,405nm,2.6s
ASOR eS **S** **11 39 23.7 +1.4**
ZSN Zaisan 40.94 58 eP **P** **11 33 12.0 -0.2**
ZSN pmax pmax
comp=Z,158nm,1.1s
ZSN Zaisan 40.94 58 eP **P** **11 33 12.1 -0.2**
comp=Z,158nm,1.1s
UGON Onchagaon 41.14 89 eP **P** **11 33 15.9 +1.7**
UGON IAmb IAmb 11 33 21.4
comp=Z,743nm,2.3s
JOSI Joshimath 41.50 85 eP **P** **11 33 16.3 -1.0**
JOSI IAmb IAmb 11 33 22.4
comp=Z,790nm,2.8s
JOSI eS **S** **11 39 33.9 +1.4**
AGRA Agra 41.66 90 eP **P** **11 33 19.5 +1.2**
AGRA IAmb IAmb 11 33 20.7
comp=Z,315nm,2.0s
AGRA eS **S** **11 39 40.0 +5.6**
KBS Kingsbay 41.80 355 P **P** **11 33 18.8 -0.2**
KBS Kingsbay 41.80 355 d iP **P** **11 33 18.8 -0.2**
KBS pmax pmax
comp=Z,295nm,1.7s
KBS MLR MLR
comp=Z,11µm,19.0s
KBS Kingsbay 41.80 355 ⇓P **P** **11 33 18.8 -0.2**
KBS Kingsbay 41.80 355 i P **P** **11 33 19.0 0.0**
ACRG Accra 42.03 228 P **P** **11 33 22.3 +0.8**
SCO Scoresbysund 42.20 337 P **P** **11 33 23.2 +1.0**
SCO Scoresbysund 42.20 337 P **P** **11 33 23.2 +1.0**
SCO pmax pmax
comp=Z,104nm,1.4s
SCO MLR MLR
comp=Z,6µm,19.0s
SCO Scoresbysund 42.20 337 i P **P** **11 33 21.9 -0.3**
SCO IAmb IAmb 11 33 25.0
comp=Z,26nm,0.8s
SCO Scoresbysund 42.20 337 i P PKiKP 11 42 12.0 -9.2
PTH Pithoragarh 42.43 86 eP **P** **11 33 22.0 -2.9**
PTH IAmb IAmb 11 33 29.3
comp=Z,813nm,2.8s
LGTI Lohaghat 42.50 86 eP **P** **11 33 26.1 +0.9**
LGTI IAmb IAmb 11 33 30.4
comp=Z,664nm,2.5s
LGTI eS **S** **11 39 47.5 +0.6**
DBG Daneborg 43.37 342 i P **P** **11 33 32.7 +1.0**
DBG IAmb IAmb 11 33 39.0
comp=Z,26nm,1.2s
WMQ Urumqi 43.53 63 eP **P** **11 33 34.2 +0.7**
WMQ PcP **PcP** **11 35 23.2 +2.0**
WMQ pmax pmax
comp=Z,300nm,1.3s
WMQ pmax pmax
comp=Z,2µm,5.1s
WMQ LR LR
comp=Z,9µm,16.7s
WMQ LR LR
comp=Z,8µm,16.7s
WMQ LR LR
comp=Z,6µm,19.7s
DBIC Dimbokro 44.09 234 P **P** **11 33 38.4 +0.2**
DBIC IAmb IAmb 11 33 48.9
comp=Z,113nm,0.9s
DBIC Dimbokro 44.09 234 P **P** **11 33 37.7 -0.4**
comp=Z,50nm,0.7s,baz=62,slow=8.6,SNR=40
DBIC LR LR 11 54 07.4
comp=Z,5µm,18.2s,baz=61,slow=39
comp=Z,50nm,0.7s
LKN LUCKNOW 44.19 89 eP **P** **11 33 38.4 -0.6**
LKN IAmb IAmb 11 33 41.2
comp=Z,594nm,1.9s
DAG Danmarks Havn 44.27 346 P **P** **11 33 39.2 +0.3**
DAG pmax pmax
comp=Z,42nm,1.4s
DAG Danmarks Havn 44.27 346 ⇓P **P** **11 33 38.2 -0.7**
DAG Danmarks Havn 44.27 346 i P **P** **11 33 38.0 -0.9**
DAG IAmb IAmb 11 33 42.0
comp=Z,16nm,0.8s
BNDA BANDA 44.36 91 eP **P** **11 33 37.9 -2.4**
BNDA IAmb IAmb 11 33 44.2
comp=Z,610nm,2.4s
BRCI Bahraich 44.38 88 eP **P** **11 33 40.5 0.0**
BRCI IAmb IAmb 11 33 44.0
comp=Z,871nm,2.0s
SOEG Soedalen 44.76 332 i P **P** **11 33 42.4 -0.5**
ALBI Allahabad 45.62 90 eP **P** **11 33 52.2 +1.9**
ALBI IAmb IAmb 11 33 55.2
comp=Z,384nm,2.2s
NOR Nord 46.77 352 i P **P** **11 33 59.0 +0.4**
NOR IAmb IAmb 11 34 00.8
comp=Z,84nm,1.4s
ANGG Ammassalik, Gr 46.93 328 IAMs_20 IAMs_20 11 53 30.5
comp=Z,8µm,20.0s
ANGG Ammassalik, Gr 46.93 328 i P **P** **11 33 59.3 -0.7**
ANGG IAmb IAmb 11 34 03.8
comp=Z,20nm,1.0s
HYB Hyderabad 47.26 102 eP **P** **11 34 02.2 -1.1**
HYB IVmB_BB 11 34 03.3
comp=Z,2µm,2.1s
HYB esP **pP** **11 34 09.0 +0.5**
HYB ePP **PP** **11 35 55.4 +1.0**
MBO M'Bour 47.33 253 P **P** **11 34 05.3 +1.5**
MBO IAmb IAmb 11 34 13.2
comp=Z,85nm,0.9s
MBO IAMs_20 IAMs_20 11 56 02.5
comp=Z,8µm,20.0s
ISOG Isortoq, Green 47.49 328 i P **P** **11 34 05.7 +1.3**
ISOG IAmb IAmb 11 34 11.3
comp=Z,68nm,1.1s
SUMG Summit 47.80 338 IAmb IAmb 11 34 14.2
comp=Z,70nm,1.1s
SUMG Summit 47.80 338 i P **P** **11 34 08.7 +1.4**
SUMG IAmb IAmb 11 34 14.4
comp=Z,68nm,1.1s
EVN Everest 48.34 84 P **P** **11 34 11.2 -1.1**
BOK Bokaro 49.59 90 eP **P** **11 34 21.6 +0.4**
BOK IAmb IAmb 11 34 28.6
comp=Z,869nm,2.0s
GTK Tadong 50.03 84 eP **P** **11 34 24.4 -0.3**
GTK IAmb IAmb 11 34 30.7
comp=Z,248nm,2.4s
MOY Mondy 50.51 50 eP **P** **11 34 28.2 +0.3**
MOY pmax pmax
comp=Z,342nm,2.0s
NRS Narsarsuaq 50.70 323 i P **P** **11 34 30.1 +1.0**
NRS IAmb IAmb 11 34 33.8
comp=Z,55nm,1.1s
VIS Vishakhapatnam 50.81 98 eP **P** **11 34 31.7 +1.2**
VIS IAmb IAmb 11 34 36.0
comp=Z,319nm,2.1s
LSA Lhasa 50.95 80 P **P** **11 34 30.6 -1.4**
LSA LR LR
comp=Z,3µm,21.2s
LSA LR LR
comp=Z,3µm,17.8s
GOMU GeErMu 51.07 71 P **P** **11 34 33.0 +0.3**
GOMU pP pP 11 34 36.9 -0.9
GOMU sP sP 11 34 40.4 +0.6
GOMU PP **PP** **11 36 27.0 -2.2**
GOMU pmax pmax
comp=Z,31nm,1.6s
GOMU LR LR
comp=Z,3µm,15.0s
GOMU LR LR
comp=Z,3µm,15.0s
GOMU LR LR
comp=Z,4µm,14.8s
NEEM North Greenlan 51.37 344 i P **P** **11 34 35.0 +0.7**
NEEM IAmb IAmb 11 34 41.0
comp=Z,96nm,1.5s
TRD Trivandrum 51.63 112 eP **P** **11 34 37.8 +1.2**
TRD IAmb IAmb 11 34 51.8
comp=Z,730nm,2.9s
ILULI Ilulissat 51.95 333 IAMs_20 IAMs_20 11 58 03.0
comp=Z,6µm,18.0s
ILULI Ilulissat 51.95 333 i P **P** **11 34 37.8 -0.5**
ILULI IAmb IAmb 11 34 40.5
comp=Z,39nm,1.0s
IVI Ivigtut 52.01 323 IAMs_20 IAMs_20 11 55 03.9
comp=Z,5µm,19.0s
IVI Ivigtut 52.01 323 i P **P** **11 34 39.1 +0.2**
IVI IAmb IAmb 11 34 41.6
comp=Z,52nm,0.9s
SFJD Kangerlussuaq 52.08 331 P **P** **11 34 39.2 -0.1**
SFJD Kangerlussuaq 52.08 331 IAMs_20 IAMs_20 11 58 46.5
comp=Z,5µm,20.0s
SFJD Kangerlussuaq 52.08 331 LR LR 11 59 25.3
comp=Z,5µm,18.1s,baz=90,slow=39
SFJD Kangerlussuaq 52.08 331 P **P** **11 34 39.3 -0.1**
SFJD pmax pmax
comp=Z,71nm,1.4s
SFJD MLR MLR
comp=Z,5µm,20.0s
SFJD Kangerlussuaq 52.08 331 i P **P** **11 34 38.4 -1.0**
SFJD IAmb IAmb 11 34 41.6
comp=Z,18nm,0.8s
SACV Santiago Islan 52.09 259 P **P** **11 34 41.9 +1.8**
UMMG Uummannaq 52.12 335 i P **P** **11 34 39.5 -0.1**
UMMG IAmb IAmb 11 34 45.9
comp=Z,119nm,1.3s
ZAK Zakamensk 52.23 51 eP **P** **11 34 40.4 -0.5**
ZAK pmax pmax
comp=Z,108nm,1.8s
IRK Irkutsk 52.33 49 eP **P** **11 34 40.9 -0.5**
IRK pmax pmax
comp=Z,450nm,1.9s
NUUG Nuugaatsiaq 52.36 336 i P **P** **11 34 40.6 -0.8**
NUUG IAmb IAmb 11 34 47.4
comp=Z,48nm,1.3s
LSZ Lusaka 52.88 182 P **P** **11 34 47.3 +1.4**
LSZ Lusaka 52.88 182 IAMs_20 IAMs_20 12 00 49.1
comp=Z,5µm,19.0s
LSZ Lusaka 52.88 182 LR LR 11 59 32.5
comp=Z,3µm,21.1s,baz=13,slow=39
LSZ Lusaka 52.88 182 P **P** **11 34 46.8 +0.9**
LSZ Lusaka 52.88 182 P **P** **11 34 47.3 +1.4**
LSZ pmax pmax
comp=Z,29nm,1.1s
LSZ MLR MLR
comp=Z,5µm,19.0s
NUUK Nuuk 53.03 327 i P **P** **11 34 46.5 +0.1**
NUUK IAmb IAmb 11 34 52.4
comp=Z,34nm,1.2s
UPNV Upernavik 53.08 338 i P **P** **11 34 46.1 -0.5**
UPNV IAmb IAmb 11 34 49.8
comp=Z,52nm,1.1s
KULLO Kullorsuaq 53.10 340 i P **P** **11 34 48.0 +1.2**
KULLO IAmb IAmb 11 34 53.1
comp=Z,51nm,1.0s
SHL Shillong 53.45 84 P **P** **11 34 49.4 -0.9**
SHL IAmb IAmb 11 35 58.9
comp=Z,107nm,1.3s
SHL Shillong 53.45 84 P **P** **11 34 49.4 -0.9**
SNR=9.7
SHL Shillong 53.45 84 eP **P** **11 34 50.8 +0.5**
SHL IAmb IAmb 11 34 56.0
comp=Z,582nm,2.7s
SHL Shillong 53.45 84 P **P** **11 34 49.4 -0.9**
SHL pmax pmax
comp=Z,107nm,1.3s
GTA Gaotai 53.51 65 P **P** **11 34 49.4 -1.1**
GTA pP pP 11 34 54.8 -0.9
GTA PP **PP** **11 36 51.6 +0.7**
GTA SS **SKiKP** **11 46 02.6 -3.1**
GTA pmax pmax
comp=Z,90nm,2.2s
GTA pmax pmax
comp=Z,2µm,8.4s
GTA LR LR
comp=Z,6µm,18.7s
GTA LR LR
comp=Z,5µm,17.5s
GTA LR LR
comp=Z,7µm,17.9s
TEZP TEZPUR 53.66 82 eP **P** **11 34 48.8 -2.9**
TEZP IAmb IAmb 11 34 55.8
comp=Z,545nm,2.8s
ZIRO ZIRO 54.05 81 eP **P** **11 34 52.8 -1.9**
ZIRO IAmb IAmb 11 35 03.4
comp=Z,425nm,2.1s
ITAN ITANAGAR 54.13 81 eP **P** **11 34 52.8 -2.3**
ITAN IAmb IAmb 11 34 57.1
comp=Z,517nm,1.7s
SONM Songino Array 54.97 53 P **P** **11 35 00.7 -0.3**
comp=Z,14nm,0.8s,baz=288,slow=8.3,SNR=64
SONM PcP **PcP** **11 36 02.1 -0.6**
comp=Z,7.1nm,0.9s,baz=282,slow=4.7,SNR=3.6
SONM LR LR 12 01 02.3
comp=Z,6µm,18.8s,baz=299,slow=39
SONM PKP2bc 12 05 25.3
comp=Z,0.2nm,0.4s,baz=148,slow=1.4,SNR=3.8
comp=Z,14nm,0.8s
AZL Aizawl 55.00 86 eP **P** **11 35 00.9 -0.6**
AZL IAmb IAmb 11 35 08.1
comp=Z,320nm,2.2s
KOHI KOHIMA 55.13 83 eP **P** **11 35 03.0 +0.5**
KOHI IAmb IAmb 11 35 08.3
comp=Z,372nm,2.4s
PALK Pallekele 55.21 110 P **P** **11 35 03.7 +0.6**
PALK Pallekele 55.21 110 IAMs_20 IAMs_20 12 01 09.1
comp=Z,5µm,20.0s
PALK Pallekele 55.21 110 LR LR 12 01 03.0
comp=Z,3µm,18.6s,baz=312,slow=39
PALK Pallekele 55.21 110 P **P** **11 35 03.7 +0.6**
PALK pmax pmax
comp=Z,209nm,1.6s
PALK MLR MLR
comp=Z,5µm,20.0s
ULN Ulaanbaatar 55.37 53 P **P** **11 35 04.0 0.0**
ULN Ulaanbaatar 55.37 53 IAMs_20 IAMs_20 12 01 12.0
comp=Z,6µm,20.0s
ULN Ulaanbaatar 55.37 53 P **P** **11 35 04.0 0.0**
ULN pmax pmax
comp=Z,317nm,1.7s
ULN MLR MLR
comp=Z,6µm,20.0s
IMP Imphal 55.44 84 eP **P** **11 35 07.0 +2.4**
IMP IAmb IAmb 11 35 11.5
comp=Z,551nm,2.2s
TULEG Thule 55.47 344 i P **P** **11 35 02.8 -1.2**
TULEG IAmb IAmb 11 35 06.1
comp=Z,58nm,1.1s
BOD Bodaibo 56.08 40⇑ iP **P** **11 35 07.4 -1.2**
BOD pmax pmax
comp=Z,165nm,1.3s
TIXI Tiksi 57.34 22 P **P** **11 35 17.1 -0.4**
TIXI IAmb IAmb 11 35 24.7
comp=Z,207nm,1.6s
TIXI Tiksi 57.34 22 LR LR 12 04 49.6
comp=Z,6µm,18.4s,baz=308,slow=41
TIXI Tiksi 57.34 22 deP **P** **11 35 17.0 -0.4**
TIXI pmax pmax
comp=Z,108nm,1.7s
TIXI MLR MLR
comp=Z,6µm,18.0s
GMARE Gumare 57.38 188 IAMs_20 IAMs_20 12 03 03.7
comp=Z,4µm,18.0s
LZH Lanzhou 57.78 67 ⇓P **P** **11 35 21.0 -0.3**
LZH pP sP 11 35 27.8 -0.6
LZH S **S** **11 43 20.2 +0.2**
LZH pmax pmax
comp=Z,240nm,1.2s
LZH pmax pmax
comp=Z,2µm,4.5s
LZH LR LR
comp=Z,7µm,18.6s
LZH LR LR
comp=Z,7µm,16.3s
LZH LR LR
comp=Z,10µm,17.9s
TSUM Tsumeb 57.89 194 P **P** **11 35 24.1 +2.1**
TSUM Tsumeb 57.89 194 LR LR 12 01 42.1
comp=Z,7µm,20.6s,baz=9.5,slow=38
PHDHD Phuduhudu 57.95 186 IAmb IAmb 11 35 34.2
comp=Z,111nm,1.6s
MATP Matopo 57.99 181 LR LR 12 00 37.6
comp=Z,3µm,21.3s,baz=3.0,slow=36
BROLN Tlhalogang 58.69 183 i P **P** **11 35 30.4 +2.8**
TNCH TengChong 58.93 81 ⇓P **P** **11 35 28.2 -1.3**
TNCH pP sP 11 35 36.8 +0.2
TNCH PP **PP** **11 37 41.1 +1.5**
TNCH S **S** **11 43 35.0 -0.3**
TNCH pmax pmax
comp=Z,67nm,1.0s
TNCH pmax pmax
comp=Z,2µm,6.3s
TNCH LR LR
comp=Z,2µm,19.6s
TNCH LR LR
comp=Z,2µm,15.5s
TNCH LR LR
comp=Z,2µm,25.2s
GRTLG Ghanzi 59.44 189 i P **P** **11 35 36.5 +3.8**
GRTLG Ghanzi 59.44 189 IAmb IAmb 11 36 29.6
comp=Z,78nm,1.5s
GRTLG IAMs_20 IAMs_20 12 03 29.3
comp=Z,5µm,18.0s
CD2 Chengdu 60.08 73 P **P** **11 35 36.1 -1.1**

CD2 PP **PP** **11 37 53.6 +4.1**
CD2 S **S** **11 43 51.5 +1.7**
CD2 pmax pmax
comp=Z,210nm,1.0s
CD2 pmax pmax
comp=Z,3μm,8.0s
CD2 LR LR
comp=Z,4μm,17.8s
CD2 LR LR
comp=Z,3μm,17.1s
CD2 LR LR
comp=Z,5μm,15.2s
MREMI Moremi **60.15 182** P **P** **11 35 38.7 +1.2**
MREMI IAMs_20 IAMs_20 12 02 11.8
comp=Z,5μm,21.0s
FRB Frobisher Bay **60.19 330** LR LR 12 01 10.4
comp=Z,5μm,21.9s,baz=74,slow=36
BTO Baotou **60.19 60** *e*P **P** **11 35 36.1 -1.7**
BTO PP **PP** **11 37 49.5 -0.8**
BTO S **S** **11 43 47.6 -3.4**
BTO pmax pmax
comp=Z,170nm,1.2s
BTO pmax pmax
comp=Z,2μm,6.5s
BTO LR LR
comp=Z,10μm,19.6s
BTO LR LR
comp=Z,5μm,15.5s
BTO LR LR
comp=Z,3μm,19.4s
PZH PanZhiHua **60.69 78** P **P** **11 35 40.0 -1.5**
PZH PP **PP** **11 37 53.0 -2.1**
PZH S **S** **11 43 57.4 -0.5**
PZH pmax pmax
comp=Z,150nm,1.4s
PZH pmax pmax
comp=Z,380nm,5.3s
PZH LR LR
comp=Z,2μm,16.7s
PZH LR LR
comp=Z,1μm,19.4s
PZH LR LR
comp=Z,2μm,17.6s
KGCAE Kacgae **60.80 188** *i* P **P** **11 35 44.8 +2.7**
KGCAE Kacgae **60.80 188** P **P** **11 35 43.1 +1.1**
KGCAE IAmb IAmb 11 36 34.5
comp=Z,55nm,1.1s
DRLN Deer Lake **60.83 311** IAmb IAmb 11 35 50.1
comp=Z,102nm,1.1s
LPHEP Lephephe **61.01 184** *i* P **P** **11 35 46.0 +2.6**
LPHEP Lephephe **61.01 184** P **P** **11 35 45.3 +1.9**
LPHEP IAMs_20 IAMs_20 12 06 11.6
comp=Z,4μm,19.0s
KDWAN Kaudwane **61.10 185** *i* P **P** **11 35 46.5 +2.4**
KDWAN Kaudwane **61.10 185** IAmb IAmb 11 35 56.1
comp=Z,101nm,1.4s
HHC Hu-ho-hao-te **61.13 59**⇓ *i*P **P** **11 35 46.0 +1.7**
HHC pP pP 11 35 49.5 0.0
HHC PP **PP** **11 38 01.6 +3.0**
HHC S **S** **11 43 58.2 -4.9**
HHC pmax pmax
comp=Z,64nm,1.0s
HHC pmax pmax
comp=Z,1μm,5.1s
HHC LR LR
comp=Z,3μm,16.2s
HHC LR LR
comp=Z,4μm,20.6s
HHC LR LR
comp=Z,4μm,21.0s
KOOLE Kule **61.18 190** IAmb IAmb 11 36 19.9
comp=Z,49nm,1.0s
WIN Windhoek **61.26 193** IAmb IAmb 11 35 56.8
comp=Z,62nm,1.2s
WIN IAMs_20 IAMs_20 12 06 24.6
comp=Z,5μm,18.0s
VOI Vohitsoka **61.60 162** IAMs_20 IAMs_20 12 03 29.7
comp=Z,6μm,21.0s
YAK Yakutsk **61.70 32** P **P** **11 35 46.4 -1.2**
YAK IAmb IAmb 11 36 00.3
comp=Z,96nm,1.3s
YAK Yakutsk **61.70 32** LR LR 12 07 30.4
comp=Z,7μm,19.1s,baz=302,slow=41
YAK Yakutsk **61.70 32** *d* *i*P **P** **11 35 46.2 -1.4**
YAK *e* 11 36 27.6
YAK *e* 11 38 02.7
YAK *e*S **S** **11 44 09.5 +0.1**
YAK *e* 11 45 39.2
YAK pmax pmax
comp=Z,54nm,1.4s
YAK pmax pmax
comp=N,13nm,1.6s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=Z,124nm,1.7s
YAK pmax pmax
comp=N,59nm,1.6s
YAK pmax pmax
comp=E,68nm,2.0s
YAK smax smax
comp=E,285nm,4.2s
YAK smax smax
comp=N,104nm,3.7s
YAK MLR MLR
comp=Z,10μm,18.0s
YAK MLR MLR
comp=N,2μm,18.0s
YAK MLR MLR
comp=E,6μm,15.0s
RES Resolute Bay **61.97 346** LR LR 12 03 22.4
comp=E,4μm,20.1s,baz=54,slow=37
ILON Igloolik, Nuna **62.04 338** IAmb IAmb 11 35 55.6
comp=Z,83nm,1.3s
KMI Kunming **62.17 79**⇓ P **P** **11 35 49.8 -1.8**
KMI PP **PP** **11 38 11.9 +3.6**
KMI S **S** **11 44 15.7 -1.2**
KMI pmax pmax
comp=Z,40nm,1.2s
KMI pmax pmax
comp=Z,1μm,7.7s
KMI LR LR
comp=Z,1μm,19.9s
KMI LR LR
comp=Z,2μm,24.9s
KMI LR LR
comp=Z,3μm,20.0s
SKOMA Sekoma **62.28 186** *i* P **P** **11 35 54.0 +2.0**
XAN Xi'an **62.42 67**⇓ P **P** **11 35 51.5 -1.5**
XAN pP sP 11 36 01.3 +1.1
XAN S **S** **11 44 19.6 +0.2**
XAN pmax pmax
comp=Z,150nm,1.2s
XAN pmax pmax
comp=Z,3μm,6.7s
XAN LR LR
comp=Z,5μm,15.8s
XAN LR LR
comp=Z,5μm,16.5s
XAN LR LR
comp=Z,6μm,17.9s
CHTO Chiang Mai **62.54 87** P **P** **11 35 52.7 -1.2**
CHTO IAmb IAmb 11 35 56.3
comp=Z,48nm,1.0s
CHTO Chiang Mai **62.54 87** P **P** **11 35 52.7 -1.2**
CHTO pmax pmax
comp=Z,49nm,1.0s
CHTO MLR MLR
comp=Z,2μm,22.0s
LBTB Lobatse **62.66 184** IAmb IAmb 11 36 18.4
comp=Z,152nm,1.6s
LBTB Lobatse **62.66 184** LR LR 12 03 42.7
comp=Z,3μm,21.8s,baz=5.0,slow=37
KUQ Kuujjuaa **62.68 324** IAmb IAmb 11 35 56.9
comp=Z,86nm,1.0s
CM31 Chiang Mai Arr **62.73 87** P **P** **11 35 55.6 +0.4**
CM31 IAmb IAmb 11 36 00.7
comp=Z,50nm,0.9s
CMAR Chiang Mai Arr **62.73 87** P **P** **11 35 54.0 -1.2**
comp=Z,38nm,0.9s,baz=299,slow=7.3,SNR=76
CMAR PKP2bc 12 05 04.1
comp=Z,3.8nm,1.3s,baz=81,slow=2.3,SNR=5.4
CMAR LR LR 12 08 38.1
comp=Z,2μm,20.4s,baz=325,slow=41
comp=Z,38nm,0.9s
CMAR Chiang Mai Arr **62.73 87** P **P** **11 35 54.0 -1.2**

XLT XiLinHaoTe **62.74 54** *e*P **P** **11 35 54.1 -0.9**
XLT pP pP 11 35 59.6 -0.6
XLT PP **PP** **11 38 11.8 -0.9**
XLT S **S** **11 44 21.6 -1.7**
XLT SS **SS** **11 48 30.0 +2.5**
XLT pmax pmax
comp=Z,39nm,1.2s
XLT pmax pmax
comp=Z,2μm,8.7s
XLT LR LR
comp=Z,4μm,15.5s
XLT LR LR
comp=Z,4μm,17.6s
TIY Taiyuan **63.17 62** *e*P **P** **11 35 58.7 +0.7**
TIY PP **PP** **11 38 20.5 +3.8**
TIY SS SS 11 48 39.7 +5.2
TIY pmax pmax
comp=Z,40nm,1.0s
TIY pmax pmax
comp=Z,2μm,6.8s
TIY LR LR
comp=Z,4μm,22.0s
TIY LR LR
comp=Z,2μm,19.9s
TIY LR LR
comp=Z,3μm,24.0s
PHPEN Phepeng **63.33 187** IAmb IAmb 11 36 06.4
comp=Z,53nm,0.7s
SCHQ Schefferville **63.47 320** IAmb IAmb 11 36 01.8
comp=Z,83nm,1.1s
SCHQ Schefferville **63.47 320** P **P** **11 35 58.4 -1.1**
comp=Z,63nm,1.1s,baz=78,slow=5.0,SNR=25
SCHQ LR LR 12 03 25.5
comp=Z,3μm,18.4s,baz=65,slow=36
comp=Z,63nm,1.1s
GYA Guiyang **64.50 75**⇓ P **P** **11 36 07.3 +0.3**
GYA S **S** **11 44 45.7 -0.1**
GYA pmax pmax
comp=Z,91nm,1.2s
GYA pmax pmax
comp=Z,1μm,9.1s
GYA LR LR
comp=Z,2μm,23.0s
GYA LR LR
comp=Z,1μm,24.7s
GYA LR LR
comp=Z,520nm,11.3s
ZEA Zeya **64.56 41** *e*P **P** **11 36 05.8 -0.9**
ZEA *e* 11 38 34.9
ZEA *e* 11 40 02.1
ZEA *e*S **S** **11 44 46.5 +1.1**
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA pmax pmax
comp=E,300nm,8.9s
ZEA pmax pmax
comp=N,400nm,10.9s
ZEA pmax pmax
comp=Z,1μm,9.1s
BJI Beijing **64.62 58** P **P** **11 36 06.4 -0.9**
BJI PP **PP** **11 38 31.9 +2.7**
BJI pmax pmax
comp=Z,25nm,1.6s
BJI pmax pmax
comp=Z,830nm,7.0s
BJI LR LR
comp=Z,3μm,22.1s
BJI LR LR
comp=Z,2μm,19.8s
BJI LR LR
comp=Z,3μm,18.6s
BJT Baijiatuau **64.63 58** IAMs_20 IAMs_20 12 06 53.7
comp=Z,5μm,21.0s
LYN LuoYang **64.73 65**⇑ *i*P **P** **11 36 08.3 +0.1**
LYN pP pP 11 36 13.0 -0.4
LYN sP sP 11 36 16.1 +0.7
LYN PP **PP** **11 38 32.5 +2.2**
LYN sS sS 11 44 58.8 +2.1
LYN SS **SS** **11 48 58.0 -0.8**
LYN pmax pmax
comp=Z,74nm,1.1s
LYN pmax pmax
comp=Z,2μm,7.6s
LYN LR LR
comp=Z,4μm,18.9s
LYN LR LR
comp=Z,7μm,19.1s
LYN LR LR
comp=Z,6μm,19.2s
POGA Pongola **64.90 178** IAMs_20 IAMs_20 12 06 00.5
comp=Z,5μm,19.0s
HNS HongShan **64.91 61**⇓ P **P** **11 36 08.8 -0.5**
HNS S **S** **11 44 49.5 -0.7**
HNS pmax pmax
comp=Z,67nm,1.3s
HNS pmax pmax
comp=Z,2μm,9.9s
HNS LR LR
comp=Z,1μm,14.5s
HNS LR LR
comp=Z,4μm,16.9s
HNS LR LR
comp=Z,5μm,18.3s
SLVN Son La **65.07 82** IAmb IAmb 11 36 21.7
comp=Z,118nm,1.9s
BOSA Boshof **66.26 184** P **P** **11 36 17.6 -0.4**
comp=Z,19nm,1.1s,baz=5.5,slow=7.9,SNR=8.0
BOSA LR LR 12 05 39.0
comp=Z,3μm,21.7s,baz=9.0,slow=36
comp=Z,19nm,1.1s
HEH HeiHe **66.41 44** *e*P **P** **11 36 17.8 -1.0**
HEH pP **pP** **11 36 24.4 +0.4**
HEH S **S** **11 45 06.9 -1.3**
HEH pmax pmax
comp=Z,83nm,1.4s
HEH pmax pmax
comp=Z,2μm,8.0s
HEH LR LR
comp=Z,5μm,16.5s
HEH LR LR
comp=Z,3μm,17.3s
HEH LR LR
comp=Z,8μm,16.9s
TIA Tai'an **67.18 61** P **P** **11 36 22.8 -1.1**
TIA PP **PP** **11 38 58.1 +6.4**
TIA pmax pmax
comp=Z,75nm,1.3s
TIA pmax pmax
comp=Z,2μm,9.0s
TIA LR LR
comp=Z,3μm,23.3s
TIA LR LR
comp=Z,2μm,24.1s
TIA LR LR
comp=Z,5μm,21.2s
GULI GuiLin **67.95 75** P **P** **11 36 29.1 +0.1**
GULI S **S** **11 45 25.4 -2.1**
GULI pmax pmax
comp=Z,47nm,1.2s
GULI LR LR
comp=Z,2μm,22.8s
GULI LR LR
comp=Z,3μm,21.4s
GULI LR LR
comp=Z,2μm,17.1s
WHN Wuhan **68.14 68** P **P** **11 36 29.1 -1.0**
WHN S **S** **11 45 31.0 +1.4**
WHN pmax pmax
comp=Z,160nm,0.9s
WHN pmax pmax
comp=Z,5μm,6.0s
WHN LR LR
comp=Z,9μm,15.9s
WHN LR LR
comp=Z,8μm,18.6s
WHN LR LR
comp=Z,7μm,15.5s
CNSH ChangSha **68.34 71** P **P** **11 36 30.6 -0.8**
CNSH S **S** **11 45 35.1 +3.0**
CNSH pmax pmax
comp=Z,48nm,1.3s
CNSH LR LR
comp=Z,3μm,18.1s
CNSH LR LR
comp=Z,2μm,13.1s
CNSH LR LR
comp=Z,3μm,18.4s

SNY Shenyang **68.55 53**⇑ P **P** **11 36 31.4 -1.0**
SNY S **S** **11 45 37.0 +2.9**
SNY pmax pmax
comp=Z,25nm,2.2s
SNY pmax pmax
comp=Z,1μm,9.0s
SNY LR LR
comp=Z,2μm,15.1s
SNY LR LR
comp=Z,3μm,18.8s
SNY LR LR
comp=Z,3μm,24.4s
D62A Allapoint, All **68.64 314** IAMs_20 IAMs_20 12 08 46.5
comp=Z,4μm,18.0s
CN2 Changchun **68.67 51** *e*P **P** **11 36 32.6 -0.5**
CN2 PP **PP** **11 39 05.1 +0.7**
CN2 pmax pmax
comp=Z,2μm,8.5s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,4μm,17.0s
CN2 LR LR
comp=Z,5μm,15.6s
G65A Princeton **68.78 311** IAmb IAmb 11 36 36.8
comp=Z,124nm,1.3s
BNX BinXian **68.80 48**⇑ P **P** **11 36 33.6 -0.3**
BNX PcP **PcP** **11 36 58.3 -0.2**
BNX PP **PP** **11 39 04.8 -0.7**
BNX S **S** **11 45 39.9 +2.9**
BNX pmax pmax
comp=Z,52nm,1.6s
BNX pmax pmax
comp=Z,2μm,8.4s
BNX LR LR
comp=Z,4μm,16.1s
BNX LR LR
comp=Z,4μm,15.7s
BNX LR LR
comp=Z,5μm,15.3s
DL2 Dalian **68.83 57** P **P** **11 36 34.2 0.0**
DL2 PP **PP** **11 39 04.7 -1.2**
DL2 S **S** **11 45 39.7 +2.1**
DL2 pmax pmax
comp=Z,44nm,1.3s
DL2 pmax pmax
comp=Z,2μm,7.2s
DL2 LR LR
comp=Z,4μm,18.0s
DL2 LR LR
comp=Z,3μm,21.1s
DL2 LR LR
comp=Z,4μm,16.8s
F64A Sherman **68.89 312** IAmb IAmb 11 36 43.5
comp=Z,85nm,1.2s
F64A IAMs_20 IAMs_20 12 08 51.4
comp=Z,5μm,18.0s
SRIT Nakonsritamara **68.95 96** P **P** **11 36 34.0 -1.3**
A36M Sachs Harbour **69.03 352** IAmb IAmb 11 36 50.2
comp=Z,65nm,0.9s
A36M IAMs_20 IAMs_20 12 09 07.3
comp=Z,5μm,20.0s
A36M Sachs Harbour **69.03 352** P **P** **11 36 33.7 -1.2**
baz=21
A36M S **S** **11 45 44.0 +5.1**
baz=21
MLSI Meulaboh, Aceh **69.09 101** P **P** **11 36 35.0 -1.2**
LMQ La Malbaie **69.11 314** IAmb IAmb 11 36 38.7
comp=Z,56nm,1.1s
E62A Clayton Lake **69.16 313** IAmb IAmb 11 36 39.1
comp=Z,71nm,0.9s
E62A IAMs_20 IAMs_20 12 08 55.4
comp=Z,4μm,18.0s
LDAQ Lac Daran **69.39 315** IAmb IAmb 11 36 40.7
comp=Z,86nm,1.1s
BILL Bilibino **69.51 16** P **P** **11 36 38.2 +0.2**
BILL IAmb IAmb 11 36 46.3
comp=Z,104nm,1.1s
BILL IAMs_20 IAMs_20 12 11 37.1
comp=Z,4μm,21.0s
BILL Bilibino **69.51 16** *d* *i*P **P** **11 36 37.5 -0.5**
BILL pmax pmax
comp=Z,127nm,1.3s
BILL MLR MLR
comp=Z,4μm,18.0s
BLKN Baker Lake **69.57 338** IAmb IAmb 11 36 40.4
comp=Z,48nm,0.9s
SEY Seymchan **69.65 24** LR LR 12 10 52.9
comp=Z,3μm,20.8s,baz=322,slow=39
SEY Seymchan **69.65 24** *de*P **P** **11 36 39.3 +0.4**
SEY pmax pmax
comp=Z,98nm,1.3s
PKME Peaks-Kenny Pk **69.77 312** IAmb IAmb 11 36 48.0
comp=Z,105nm,1.4s
PKME IAMs_20 IAMs_20 12 09 17.7
comp=Z,4μm,18.0s
SUR Sutherland **70.37 188** IAMs_20 IAMs_20 12 08 20.7
comp=Z,5μm,18.0s
G62A West of Eustis **70.53 312** IAMs_20 IAMs_20 12 09 41.6
comp=Z,4μm,18.0s
NJ2 Nanjing **70.59 64**⇑ P **P** **11 36 45.4 +0.2**
NJ2 pP **pP** **11 36 48.9 -1.6**
NJ2 sP **sP** **11 36 53.6 +1.2**
NJ2 PcP **PcP** **11 37 00.8 -5.5**
NJ2 pmax pmax
comp=Z,40nm,1.2s
NJ2 pmax pmax
comp=Z,1μm,6.4s
NJ2 LR LR
comp=Z,2μm,21.8s
NJ2 LR LR
comp=Z,2μm,18.9s
NJ2 LR LR
comp=Z,2μm,17.1s
MDJ Mudanjiang **70.71 48** IAMs_20 IAMs_20 12 12 30.9
comp=Z,3μm,18.0s
MDJ Mudanjiang **70.71 48** P **P** **11 36 47.4 +1.7**
MDJ PP **PP** **11 39 24.2 +2.2**
MDJ pmax pmax
comp=Z,27nm,2.0s
MDJ pmax pmax
comp=Z,2μm,8.2s
MDJ LR LR
comp=Z,4μm,14.8s
MDJ LR LR
comp=Z,4μm,15.1s
MDJ LR LR
comp=Z,6μm,14.2s
GRNR Gornyy **70.90 40**⇓ *i*P **P** **11 36 46.0 -0.8**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR MLR MLR
comp=E,3μm,13.0s
GRNR MLR MLR
comp=N,2μm,15.0s
GRNR MLR MLR
comp=Z,4μm,15.0s
QIZ Qiongzhong **70.99 80** P **P** **11 36 48.0 +0.2**
QIZ pP **pP** **11 36 51.5 -1.6**
QIZ S **S** **11 46 02.3 -1.1**
QIZ pmax pmax
comp=Z,73nm,1.0s
QIZ pmax pmax
comp=Z,2μm,5.0s
QIZ LR LR
comp=Z,2μm,19.6s
QIZ LR LR
comp=Z,2μm,20.6s
A21K Barrow **71.02 2** P **P** **11 36 46.3 -0.9**
baz=355
A21K S **S** **11 46 08.0 +5.7**
baz=355
I63A Otisfield **71.22 311** IAmb IAmb 11 36 57.6
comp=Z,170nm,1.7s
TSI Tuntungan **71.25 100** P **P** **11 36 47.9 -1.5**
comp=Z,106nm,1.4s
H62A Milan **71.26 312** IAmb IAmb 11 36 52.4
comp=Z,68nm,0.9s
A22K Sinclair Lake **71.39 2** P **P** **11 36 48.4 -1.0**
baz=356
A22K S **S** **11 46 11.6 +5.2**
baz=356
PYAG Pyongyang **71.45 55** P **P** **11 36 48.3 -2.0**
PYAG S **S** **11 46 02.8 -5.4**
PYAG AmB
comp=Z,836nm,3.1s
PYAG AMS AMS

comp=Z,3µm,11.7s
MA2 Magadan 71.45 27 P **P** **11 36 50.0 -0.1**
MA2 IAmb IAmb 11 36 53.2
comp=Z,126nm,1.2s
MA2 Magadan 71.45 27 LR LR 12 13 57.5
comp=Z,5µm,18.5s,baz=312,slow=41
MA2 Magadan 71.45 27 *ce*P **P** **11 36 49.9 -0.1**
MA2 pmax pmax
comp=Z,129nm,1.3s
MA2 Magadan 71.45 27 P **P** **11 36 49.7 -0.3**
comp=Z,2µmcomp=Z,106nm,1.1s
NKL Nikolayevsk 71.52 36 *e*P **P** **11 36 48.3 -2.1**
NKL *e*S **S** **11 46 08.0 -0.5**
NKL smax smax
comp=E,310nm,5.1s
NKL smax smax
comp=N,251nm,4.1s
NKL MLR MLR
comp=E,14µm,16.0s
NKL MLR MLR
comp=N,7µm,15.0s
NKL MLR MLR
comp=Z,21µm,15.0s
GSI Gunungsitoli 71.86 103 P **P** **11 36 52.9 -0.2**
comp=Z,144nm,1.0s
LBNH Lisbon 71.90 312 IAmb IAmb 11 36 56.9
comp=Z,93nm,1.0s
LBNH IAMs_20 IAMs_20 12 10 41.0
comp=Z,4µm,18.0s
A19K Wainwright 71.96 4 P **P** **11 36 51.8 -1.0**
baz=351
A19K S **S** **11 46 17.0 +4.0**
baz=351
PSI Prapat 71.97 101 LR LR 12 10 51.4
comp=Z,1µm,21.8s,baz=297,slow=38
HJU Haeju 72.00 56 P **P** **11 36 51.1 -2.5**
HJU S **S** **11 46 09.3 -5.3**
HJU AmB
comp=Z,787nm,2.3s
HJU AMS AMS
comp=Z,6µm,17.0s
B22K Teshekpuk Lake 72.08 1 IAmb IAmb 11 37 02.1
comp=Z,65nm,0.9s
B22K Teshekpuk Lake 72.08 1 P **P** **11 36 53.0 -0.5**
baz=357
B22K S **S** **11 46 18.3 +3.8**
baz=357
HHU Hamhung 72.09 53 P **P** **11 36 51.7 -2.5**
HHU S **S** **11 46 10.1 -5.5**
HHU AmB
comp=Z,408nm,2.3s
HHU AMS AMS
comp=Z,4µm,14.7s
TRQ Mont Tremblant 72.25 315 IAmb IAmb 11 36 58.2
comp=Z,91nm,1.2s
B20K Meade River 72.32 2 IAMs_20 IAMs_20 12 12 14.0
comp=Z,3µm,19.0s
B20K Meade River 72.32 2 P **P** **11 36 54.9 -0.1**
baz=354,SNR=7.4
B20K S **S** **11 46 19.2 +2.0**
baz=354
VT1 Waterbury 72.33 313 IAmb IAmb 11 36 59.3
comp=Z,66nm,1.0s
VT1 IAMs_20 IAMs_20 12 10 46.5
comp=Z,4µm,19.0s
USA0B Ussuriysk Arra 72.36 48 *e*P **P** **11 36 56.3 +0.7**
USRK Ussuriysk Ar. 72.36 48 P **P** **11 36 54.5 -1.1**
comp=Z,28nm,0.9s,baz=325,slow=5.0,SNR=26
USRK LR LR 12 13 42.1
comp=Z,2µm,18.5s,baz=308,slow=40
comp=Z,28nm,0.9s
HNH Hanover 72.42 312 IAmb IAmb 11 37 00.0
comp=Z,98nm,1.0s
C26K Camden Bay 72.45 358 P **P** **11 36 55.2 -0.6**
baz=4.5
C26K S **S** **11 46 20.5 +1.7**
baz=4.5
FRNY Flat Rock 72.52 313 IAmb IAmb 11 36 59.7
comp=Z,54nm,0.9s
BCX Boston College 72.55 310 IAmb IAmb 11 37 00.3
comp=Z,104nm,0.9s
PSTR Posyet 72.56 49 *e*P **P** **11 36 57.5 +0.6**
IPM Ipoh 72.57 98 IAmb IAmb 11 36 57.8
comp=Z,126nm,1.2s
L64A Middleborough 72.58 310 IAmb IAmb 11 37 00.6
comp=Z,88nm,1.0s
L64A IAMs_20 IAMs_20 12 07 15.3
comp=Z,5µm,22.0s
C23K Itkillik River 72.61 0 P **P** **11 36 56.4 -0.3**
baz=360,SNR=25
C23K S **S** **11 46 24.4 +3.8**
baz=360
M65A Busby, Falmout 72.68 309 IAMs_20 IAMs_20 12 08 40.9
comp=Z,4µm,20.0s
M65A Busby, Falmout 72.68 309 P **P** **11 36 57.4 -0.2**
baz=54
HRV Adam Dziewonsk 72.69 311 P **P** **11 36 58.5 +0.9**
HRV IAmb IAmb 11 37 06.4
comp=Z,104nm,1.2s
HRV Adam Dziewonsk 72.69 311 IAMs_20 IAMs_20 12 09 55.0
comp=Z,5µm,19.0s
HRV Adam Dziewonsk 72.69 311 P **P** **11 36 58.5 +0.9**
HRV pmax pmax
comp=Z,104nm,1.3s
HRV MLR MLR
comp=Z,5µm,19.0s
VLDQ Val d'Or 72.69 318 IAmb IAmb 11 37 01.7
comp=Z,94nm,1.0s
C27K Jago River 72.71 358 IAmb IAmb 11 37 10.2
comp=Z,126nm,1.4s
C27K Jago River 72.71 358 P **P** **11 36 57.3 0.0**
baz=5.5,SNR=23
C27K S **SKiKP** **11 46 26.5 -4.1**
baz=5.5
C24K Franklin Bluff 72.72 359 IAmb IAmb 11 37 10.5
comp=Z,99nm,1.2s
C24K Franklin Bluff 72.72 359 P **P** **11 36 56.8 -0.6**
baz=1.3
C24K S **SKiKP** **11 46 27.5 -3.0**
baz=1.3
B18K Kokolik River 72.75 4 P **P** **11 36 57.1 -0.5**
baz=350
B18K S **S** **11 46 26.2 +4.0**
baz=350
D28M Stokes Point 72.78 356 P **P** **11 36 57.3 -0.4**
baz=9.6
D28M S **S** **11 46 26.4 +3.9**
baz=9.6
SSE Sheshan 72.78 64 P **P** **11 37 00.5 +2.1**
SSE pmax pmax
comp=Z,32nm,1.5s
SSE pmax pmax
comp=Z,700nm,6.3s
SSE LR LR
comp=Z,1µm,21.8s
SSE LR LR
comp=Z,750nm,21.6s
B21K Ikpikpuk River 72.78 2 P **P** **11 36 57.7 0.0**
baz=356,SNR=25
B21K S **S** **11 46 25.4 +2.9**
baz=356
J61A Chester 72.79 312 IAmb IAmb 11 37 02.2
comp=Z,63nm,0.9s
J61A IAMs_20 IAMs_20 12 05 14.6
comp=Z,4µm,22.0s
INCN Inchon 72.91 56 P **P** **11 36 59.5 +0.4**
INCN IAmb IAmb 11 37 03.6
comp=Z,72nm,1.1s
INCN Inchon 72.91 56 IAMs_20 IAMs_20 12 12 29.1
comp=Z,5µm,19.0s
INCN Inchon 72.91 56 P **P** **11 36 59.5 +0.4**
INCN pmax pmax
comp=Z,72nm,1.2s
INCN MLR MLR
comp=Z,5µm,19.0s
VLA Vladivostok 72.93 48 *e*P **P** **11 36 59.5 +0.4**
VLA pmax pmax
comp=Z,79nm,1.1s
D27M Malcolm River 72.98 357 P **P** **11 36 59.1 +0.1**
baz=7.7,SNR=16
D27M S **SKiKP** **11 46 29.1 -2.0**
baz=7.7
K62A Royalston 73.00 311 IAMs_20 IAMs_20 12 07 32.2
comp=Z,3µm,20.0s
D25K Kavik River 73.09 359 IAmb IAmb 11 37 11.5
comp=Z,78nm,1.2s
D25K Kavik River 73.09 359 P **P** **11 36 59.7 0.0**
baz=3.2,SNR=24
D25K S **S** **11 46 28.2 +2.0**
baz=3.2
C19K Lookout Ridge 73.12 3 IAMs_20 IAMs_20 12 13 16.0
comp=Z,3µm,18.0s
C19K Lookout Ridge 73.12 3 P **P** **11 36 59.9 0.0**
baz=352,SNR=5.5
C19K S **SKiKP** **11 46 31.4 +0.1**
baz=352
LONY Lake Ozonia 73.22 314 IAmb IAmb 11 37 04.1
comp=Z,67nm,0.9s
LONY IAMs_20 IAMs_20 12 08 34.6
comp=Z,3µm,19.0s
C21K Knifeblade Rid 73.24 2 P **P** **11 37 00.5 0.0**
baz=356,SNR=17
C21K S **SKiKP** **11 46 30.1 -1.2**
baz=356
D24K Happy Valley 73.29 359 IAmb IAmb 11 37 12.8
comp=Z,85nm,1.1s
D24K Happy Valley 73.29 359 P **P** **11 37 00.5 -0.2**
baz=1.2,SNR=21
D24K S **SKiKP** **11 46 32.9 +1.5**
baz=1.2
L61B Northampton 73.39 311 IAMs_20 IAMs_20 12 07 53.6
comp=Z,3µm,21.0s
NCB Newcomb 73.40 313 IAmb IAmb 11 37 10.1
comp=Z,137nm,1.9s
INK Inuvik 73.40 354 P **P** **11 37 00.6 -0.8**
comp=Z,11nm,1.0s,baz=13,slow=11,SNR=19
INK LR LR 12 12 22.7
comp=Z,2µm,21.0s,baz=13,slow=38
comp=Z,11nm,1.0s
INK Inuvik 73.40 354 P **P** **11 37 00.6 -0.8**
baz=14,SNR=10
INK S **SKiKP** **11 46 30.6 -1.0**
baz=14
ACCN Adirondack Com 73.42 312 IAmb IAmb 11 37 11.1
comp=Z,128nm,1.1s
D23K Nanushuk River 73.48 0 P **P** **11 37 01.8 -0.2**
baz=360,SNR=29
D23K S **SKiKP** **11 46 34.5 +2.8**
baz=360
C18K Utukok River 73.50 4 IAmb IAmb 11 37 12.9
comp=Z,74nm,0.8s
C18K Utukok River 73.50 4 P **P** **11 37 02.1 0.0**
baz=351,SNR=18
C18K S **SKiKP** **11 46 35.0 +3.2**
baz=351
UCCT U. Connecticut 73.50 310 IAmb IAmb 11 37 06.3
comp=Z,87nm,1.1s
E28M Babbage River 73.54 356 IAmb IAmb 11 37 04.8
comp=Z,180nm,1.9s
E28M IAMs_20 IAMs_20 12 12 24.4
comp=Z,3µm,20.0s
E28M Babbage River 73.54 356 P **P** **11 37 02.3 0.0**
baz=8.9,SNR=31
E28M S **SKiKP** **11 46 36.8 +5.0**
baz=8.9
C17K DeLong Mountai 73.54 5 P **P** **11 37 02.1 -0.2**
baz=349,SNR=17
C17K S **SKiKP** **11 46 36.3 +4.5**
baz=349
D22K Ayikyak River 73.56 1 IAmb IAmb 11 37 09.9
comp=Z,154nm,1.2s
D22K IAMs_20 IAMs_20 12 14 00.6
comp=Z,3µm,18.0s
D22K Ayikyak River 73.56 1 P **P** **11 37 02.7 +0.3**
baz=358,SNR=34
D22K S **SKiKP** **11 46 35.9 +4.0**
baz=358
C16K Lisburne Hills 73.58 6 IAmb IAmb 11 37 08.9
comp=Z,114nm,1.3s
C16K Lisburne Hills 73.58 6 P **P** **11 37 02.0 -0.5**
baz=348,SNR=7.4
C16K S **SKiKP** **11 46 35.1 +3.2**
baz=348
M63A Gales Ferry 73.63 310 IAmb IAmb 11 37 06.9
comp=Z,106nm,0.9s
M63A IAMs_20 IAMs_20 12 07 55.9
comp=Z,5µm,22.0s
D20K Etivluk River 73.64 2 IAmb IAmb 11 37 06.5
comp=Z,98nm,1.2s
D20K Etivluk River 73.64 2 P **P** **11 37 02.9 0.0**
baz=355
D20K S **S** **11 46 35.9 +3.5**
baz=355
E29M Blow River 73.66 355 P **P** **11 37 02.9 0.0**
baz=10,SNR=68
E29M S **S** **11 46 36.5 +4.0**
baz=10
KS19 Wonju Array Si 73.70 55 IAmb IAmb 11 37 06.1
comp=Z,98nm,1.4s
KSRS Korea Array 73.76 55 P **P** **11 37 03.2 -0.8**
comp=Z,44nm,1.0s,baz=303,slow=5.0,SNR=76
KSRS PP **PP** **11 39 47.4 -0.9**
comp=Z,14nm,1.1s,baz=281,slow=7.4,SNR=6.6
KSRS LR LR 12 13 57.8
comp=Z,3410µm,18.9s,baz=310,slow=40
comp=Z,44nm,1.0s
D19K Kuna River 73.80 3 P **P** **11 37 04.0 +0.1**
baz=354
TOLK Toolik Lake Re 73.81 360 P **P** **11 37 04.4 +0.5**
baz=0.6,SNR=24
TOLK S **S** **11 46 37.9 +3.5**
baz=0.6
TRY Troy 73.81 312 IAMs_20 IAMs_20 12 07 09.6
comp=Z,3µm,22.0s
J59A Piesco 73.86 313 IAmb IAmb 11 37 08.8
comp=Z,80nm,1.0s
TYV Tymovskoe 73.93 37 *e*P **P** **11 37 04.6 -0.2**
TYV *e*S **S** **11 46 35.5 -0.6**
TYV pmax pmax
comp=Z,31nm,1.6s
TYV pmax pmax
comp=Z,500nm,4.3s
TYV smax smax
comp=N,200nm,5.6s
TYV smax smax
comp=E,400nm,5.6s
E21K Killik River 73.98 1 P **P** **11 37 04.7 -0.2**
baz=357
E21K S **S** **11 46 39.4 +3.1**
baz=357
RDOG Red Dog Mine 73.98 5 IAmb IAmb 11 37 07.9
comp=Z,91nm,1.3s
RDOG IAMs_20 IAMs_20 12 11 00.7
comp=Z,4µm,21.0s
RDOG Red Dog Mine 73.98 5 P **P** **11 37 04.7 -0.2**
baz=350,SNR=6.6
RDOG S **S** **11 46 38.4 +2.2**
baz=350
TJN Taejon 74.02 56 *de*P **P** **11 37 05.8 +0.2**
E27K Coleen River 74.06 357 P **P** **11 37 05.3 -0.1**
baz=7.2,SNR=33
E27K S **S** **11 46 40.4 +3.1**
baz=7.2
E20K Nigu River 74.11 2 P **P** **11 37 05.7 0.0**
baz=355
E20K S **S** **11 46 40.1 +2.4**
baz=355
F31M Tsiigehtchic 74.26 353 IAmb IAmb 11 37 18.4
comp=Z,92nm,1.1s
F31M Tsiigehtchic 74.26 353 P **P** **11 37 05.9 -0.6**
baz=14,SNR=29
F31M S **S** **11 46 43.0 +3.7**
baz=14
F30M Barrier River 74.27 354 IAmb IAmb 11 37 19.2
comp=Z,90nm,1.2s
F30M IAMs_20 IAMs_20 12 12 20.5
comp=Z,3µm,21.0s
F30M Barrier River 74.27 354 P **P** **11 37 06.1 -0.5**
baz=12,SNR=19
F30M S **S** **11 46 44.0 +4.6**
baz=12
E22K Anaktuvuk Pass 74.31 1 IAmb IAmb 11 37 09.4
comp=Z,252nm,1.9s
E22K Anaktuvuk Pass 74.31 1 P **P** **11 37 06.9 +0.1**
baz=359,SNR=39
E22K S **S** **11 46 42.8 +2.7**
baz=359
D17K Noatak River 74.32 5 P **P** **11 37 06.2 -0.6**
baz=350,SNR=28
D17K S **S** **11 46 42.3 +2.4**
baz=350
E24K Your Creek 74.37 359 P **P** **11 37 07.1 -0.1**
baz=1.5,SNR=22
E24K S **S** **11 46 44.1 +3.4**
baz=1.5
E23K Chandalar 74.40 360 IAmb IAmb 11 37 19.6
comp=Z,104nm,1.1s
E23K Chandalar 74.40 360 P **P** **11 37 08.0 +0.6**
baz=0.6,SNR=42
E23K S **S** **11 46 43.8 +2.7**
baz=0.6
WSPT Westport, CT 74.54 310 IAMs_20 IAMs_20 12 08 10.5
comp=Z,3µm,22.0s
F28M Old Crow 74.55 356 P **P** **11 37 07.9 -0.3**
baz=8.5,SNR=27
F28M S **S** **11 46 48.1 +5.5**
baz=8.5
F26K Sheenjek River 74.66 358 IAmb IAmb 11 37 21.2
comp=Z,106nm,1.4s
F26K Sheenjek River 74.66 358 P **P** **11 37 09.0 +0.1**
baz=5.0,SNR=43
F26K S **S** **11 46 48.2 +4.4**
baz=5.0
RCBR Riachuelo 74.69 250 P **P** **11 37 11.3 +1.5**
RCBR IAmb IAmb 11 37 18.7
comp=Z,76nm,1.2s
RCBR Riachuelo 74.69 250 IAMs_20 IAMs_20 12 10 17.8
comp=Z,4µm,20.0s
RCBR Riachuelo 74.69 250 LR LR 12 10 37.9
comp=Z,2µm,19.8s,baz=56,slow=36
RCBR Riachuelo 74.69 250 P **P** **11 37 11.3 +1.5**
RCBR pmax pmax
comp=Z,76nm,1.2s
RCBR MLR MLR
comp=Z,4µm,20.0s
RCBR Riachuelo 74.69 250 *eP* **P** **11 37 11.4 +1.6**
E18K Tukpahlearik C 74.75 4 IAmb IAmb 11 37 16.0
comp=Z,226nm,1.8s
E18K Tukpahlearik C 74.75 4 P **P** **11 37 08.9 -0.4**
baz=352
E18K S **S** **11 46 47.8 +3.0**
baz=352
J57A Williamstown 74.76 313 IAmb IAmb 11 37 13.2
comp=Z,64nm,1.0s
N62A Caumsett State 74.77 310 IAMs_20 IAMs_20 12 08 28.1
comp=Z,4µm,22.0s
UGL Uglegorsk 74.80 39 *eP* **P** **11 37 09.7 -0.2**
UGL *e* 11 40 00.0
UGL *eS* **S** **11 46 43.2 -2.7**
UGL pmax pmax
comp=Z,110nm,1.1s
UGL pmax pmax
comp=Z,2µm,6.1s
UGL smax smax
comp=E,2µm,14.0s
UGL smax smax
comp=N,1µm,7.6s
UGL MLR MLR
comp=N,6µm,13.0s
UGL MLR MLR
comp=E,2µm,13.0s
UGL MLR MLR
comp=Z,5µm,15.0s
F25K Christian Rive 74.80 358 IAmb IAmb 11 37 13.1
comp=Z,214nm,2.0s
F25K Christian Rive 74.80 358 P **P** **11 37 10.1 +0.3**
baz=3.8,SNR=29
F25K S **S** **11 46 48.6 +3.0**
baz=3.8
G31M Satah River 74.82 354 IAmb IAmb 11 37 12.3
comp=Z,184nm,1.9s
G31M Satah River 74.82 354 P **P** **11 37 09.0 -0.7**
baz=13,SNR=13
G31M S **S** **11 46 48.2 +2.7**
baz=13
E19K Redstone River 74.87 3 P **P** **11 37 10.2 +0.2**
baz=354
E19K S **S** **11 46 49.0 +2.8**
baz=354
F24K Squaw Lake 74.92 359 IAmb IAmb 11 37 18.1
comp=Z,101nm,1.2s
F24K Squaw Lake 74.92 359 P **P** **11 37 11.1 +0.7**
baz=2.0,SNR=54
F24K S **S** **11 46 50.8 +3.9**
baz=2.0
G30M tAoh Zraii Nji 74.92 354 IAmb IAmb 11 37 12.0
comp=Z,235nm,2.0s
G30M IAMs_20 IAMs_20 12 12 49.7
comp=Z,4µm,21.0s
G30M tAoh Zraii Nji 74.92 354 P **P** **11 37 10.0 -0.4**
baz=12,SNR=18
G30M S **S** **11 46 49.3 +2.4**
baz=12
F22K John River 74.94 1 P **P** **11 37 10.9 +0.4**
baz=358
F22K S **S** **11 46 51.4 +4.3**
baz=358
DELO Deloro Mine 75.00 315 IAmb IAmb 11 37 14.5
comp=Z,106nm,1.2s
DELO IAMs_20 IAMs_20 12 08 11.6
comp=Z,3µm,20.0s
PECO Prince Edward 75.01 314 IAmb IAmb 11 37 20.0
comp=Z,78nm,1.1s
PECO IAMs_20 IAMs_20 12 12 32.0
comp=Z,3µm,19.0s
E17K Hotham Inlet 75.01 5 P **P** **11 37 10.6 -0.3**
baz=351,SNR=14
E17K S **S** **11 46 52.2 +4.5**
baz=351
G29M Pine Creek 75.12 355 P **P** **11 37 11.0 -0.6**
baz=10.0,SNR=25
G29M S **S** **11 46 54.9 +5.8**
baz=10.0
CPNY Central Park 75.15 310 IAmb IAmb 11 37 19.9
comp=Z,173nm,1.6s
F21K Alatna River 75.21 1 IAmb IAmb 11 37 19.3
comp=Z,172nm,1.3s
F21K Alatna River 75.21 1 P **P** **11 37 12.3 +0.3**
baz=357,SNR=76
F21K S **S** **11 46 53.4 +3.4**
baz=357
COLD Coldfoot 75.23 360 IAmb IAmb 11 37 23.9
comp=Z,106nm,1.2s
COLD Coldfoot 75.23 360 P **P** **11 37 11.9 -0.3**
baz=0.1,SNR=45
COLD S **S** **11 46 55.0 +4.8**
baz=0.1
F20K Avaraart Lake 75.33 2 IAmb IAmb 11 37 19.6
comp=Z,118nm,1.4s
F20K Avaraart Lake 75.33 2 P **P** **11 37 12.7 0.0**
baz=356,SNR=49
F20K S **S** **11 46 55.6 +4.3**
baz=356
G26K Porcupine Rive 75.39 357 P **P** **11 37 13.6 +0.6**
baz=5.3,SNR=77
G26K S **S** **11 46 54.5 +2.5**
baz=5.3
BUKO Buck Lake 75.40 317 IAmb IAmb 11 37 16.5
comp=Z,82nm,1.3s
BUKO IAMs_20 IAMs_20 12 08 56.1
comp=Z,3µm,19.0s
NBCL Cascavel-CE 75.43 253 *eP* **P** **11 37 14.2 +0.2**
G27K Doyon Strip 75.44 356 P **P** **11 37 13.5 +0.1**
baz=7.0,SNR=34
G27K S **S** **11 46 55.7 +3.1**
baz=7.0
K57A Scipio Center 75.48 313 IAmb IAmb 11 37 22.9
comp=Z,145nm,1.2s
K57A IAMs_20 IAMs_20 12 12 32.6
comp=Z,3µm,19.0s
PDSI Padang 75.49 103 P **P** **11 37 12.8 -1.6**
comp=Z,2µmcomp=Z,3µmcomp=Z,156nm,1.1s
BINY Binghamton 75.50 312 IAmb IAmb 11 37 18.2
comp=Z,82nm,1.0s
BINY IAMs_20 IAMs_20 12 13 25.2
comp=Z,3µm,18.0s
G22K Bettles 75.54 0 P **P** **11 37 13.9 +0.1**
baz=359
G22K S **S** **11 46 57.2 +3.7**
baz=359
EPYK Eagle Plains 75.56 354 IAmb IAmb 11 37 16.8
comp=Z,227nm,1.9s
EPYK IAMs_20 IAMs_20 12 12 56.7
comp=Z,3µm,21.0s
EPYK Eagle Plains 75.56 354 P **P** **11 37 13.3 -0.8**
baz=11,SNR=24
EPYK S **S** **11 46 57.9 +3.9**
baz=11
BRNJ Basking Ridge 75.58 310 IAmb IAmb 11 37 18.2
comp=Z,81nm,0.9s
F18K Selawik 75.62 4 P **P** **11 37 13.8 -0.5**
baz=352,SNR=17

F18K S **S** **11 46 56.2 +1.8**
baz=352
G25K **Bearman Lake** **75.65 358** P **P** **11 37 14.9 +0.4**
baz=3.4,SNR=26
G25K S **S** **11 47 00.3 +5.6**
baz=3.4
SADO **Sadowa** **75.68 316** IAmb IAmb 11 37 18.2
comp=Z,76nm,1.1s
SADO **Sadowa** **75.68 316** LR LR 12 10 17.7
comp=Z,4µm,19.6s,baz=64,slow=36
G24K **Hadweenzic Riv** **75.74 359** IAmb IAmb 11 37 28.1
comp=Z,91nm,1.4s
G24K **Hadweenzic Riv** **75.74 359** P **P** **11 37 15.6 +0.5**
baz=2.3,SNR=36
G24K S **S** **11 47 00.4 +4.5**
baz=2.3
G23K **Bananza Creek** **75.75 360** IAmb IAmb 11 37 27.2
comp=Z,65nm,1.1s
G23K **Bananza Creek** **75.75 360** P **P** **11 37 15.5 +0.3**
baz=0.2,SNR=36
G23K S **S** **11 46 58.5 +2.4**
baz=0.2
H29M **Whitestone** **75.83 355** IAmb IAmb 11 37 27.6
comp=Z,82nm,1.4s
H29M **Whitestone** **75.83 355** P **P** **11 37 15.2 -0.4**
baz=9.7,SNR=25
H29M S **S** **11 47 01.9 +5.0**
baz=9.7
YKAW3 **Yellowknife Wh** **75.87 344** IAmb IAmb 11 37 22.3
comp=Z,67nm,1.2s
J55A **Hilton** **75.89 314** IAmb IAmb 11 37 24.9
comp=Z,170nm,1.6s
H31M **Peel River** **75.92 353** IAMs_20 IAMs_20 12 12 23.0
comp=Z,3µm,21.0s
H31M **Peel River** **75.92 353** P **P** **11 37 16.0 -0.1**
baz=13,SNR=20
H31M S **S** **11 46 59.9 +2.1**
baz=13
YKAW1 **Yellowknife Wh** **75.92 344** IAmb IAmb 11 37 18.9
comp=Z,77nm,1.4s
G21K **Allakaket** **75.92 1** IAmb IAmb 11 37 20.1
comp=Z,91nm,1.1s
G21K **Allakaket** **75.92 1** P **P** **11 37 16.1 0.0**
baz=357
G21K S **S** **11 47 00.9 +3.1**
baz=357
YKA **Yellowknife Ar** **75.93 344** P **P** **11 37 15.6 -0.6**
comp=Z,15nm,1.1s,baz=25,slow=6.6,SNR=20
YKA LR LR 12 11 47.0
comp=Z,2µm,19.5s,baz=24,slow=37
comp=Z,15nm,1.1s
YKA **Yellowknife Ar** **75.93 344** *i*P **P** **11 37 17.6 +1.4**
YKA pmax pmax
comp=Z,16nm,1.1s
TNA **Tin City** **76.00 7** P **P** **11 37 16.1 -0.4**
baz=346
TNA S **S** **11 47 02.4 +3.7**
baz=346
H27K **Steamboat Moun** **76.01 356** P **P** **11 37 17.2 +0.5**
baz=7.1,SNR=49
H27K S **S** **11 47 03.4 +4.5**
baz=7.1
H25L **Birch Creek** **76.14 358** P **P** **11 37 18.2 +0.9**
baz=3.6,SNR=87
H25L S **S** **11 47 04.1 +3.9**
baz=3.6
F15K **North Star Dit** **76.16 6** IAmb IAmb 11 37 24.1
comp=Z,176nm,1.6s
F15K **North Star Dit** **76.16 6** P **P** **11 37 17.4 -0.1**
baz=348,SNR=11
F15K S **S** **11 47 03.8 +3.2**
baz=348
G19K **Purcell Mounta** **76.19 3** IAmb IAmb 11 37 21.1
comp=Z,146nm,1.4s
G19K **Purcell Mounta** **76.19 3** P **P** **11 37 17.9 +0.2**
baz=354,SNR=46
G19K S **S** **11 47 05.9 +5.1**
baz=354
SDSI **Sungai Dareh** **76.25 102** P **P** **11 37 16.7 -2.0**
comp=Z,2µmcomp=Z,5µmcomp=Z,85nm,1.5s
MMNY **Mt. Morris Dam** **76.28 314** IAmb IAmb 11 37 21.6
comp=Z,83nm,1.0s
MEDO **Medina** **76.32 314** IAmb IAmb 11 37 21.9
comp=Z,80nm,1.1s
P61A **Hammonton** **76.34 310** IAMs_20 IAMs_20 12 10 29.7
comp=Z,4µm,21.0s
G18K **Tagagawik** **76.37 4** IAmb IAmb 11 37 21.7
comp=Z,135nm,1.4s
G18K **Tagagawik** **76.37 4** P **P** **11 37 18.4 -0.3**
baz=353,SNR=51
G18K S **S** **11 47 05.4 +2.6**
baz=353
MYKOM **Kota Tinggi** **76.44 98** IAmb IAmb 11 37 20.7
comp=Z,63nm,1.1s
L56A **Greenwood** **76.45 313** IAmb IAmb 11 37 23.9
comp=Z,89nm,0.9s
L56A IAMs_20 IAMs_20 12 13 02.4
comp=Z,4µm,18.0s
YSS **Yuzhno-Sakhali** **76.55 40** P **P** **11 37 19.6 -0.4**
YSS **Yuzhno-Sakhali** **76.55 40**κ*e*P **P** **11 37 19.6 -0.4**
YSS *e* 11 40 10.3
YSS *e*PPP PPP 11 41 57.4
YSS *e*S **S** **11 47 05.9 +0.6**
YSS *e*PS **PnS** **11 47 36.9 -6.3**
YSS *e*SS **SS** **11 52 00.9 +1.5**
YSS pmax pmax
comp=Z,2µm,6.3s
YSS pmax pmax
comp=N,300nm,6.0s
YSS pmax pmax
comp=E,700nm,6.2s
YSS pmax pmax
comp=Z,120nm,1.4s
YSS smax smax
comp=N,700nm,8.2s
YSS smax smax
comp=E,700nm,7.5s
H22K **Ishtalitna Cre** **76.57 0** P **P** **11 37 20.6 +0.8**
baz=359,SNR=74
H22K S **S** **11 47 07.1 +2.0**
baz=359
H24K **Noodor Dome** **76.61 359** P **P** **11 37 20.2 +0.1**
baz=2.0,SNR=27
H24K S **S** **11 47 07.3 +1.7**
baz=2.0
H23K **Yukon River** **76.64 360** IAmb IAmb 11 37 24.5
comp=Z,144nm,1.3s
H23K **Yukon River** **76.64 360** P **P** **11 37 20.7 +0.5**
baz=0.6,SNR=80
H23K S **S** **11 47 05.0 -0.8**
baz=0.6
I27K **Kandik River** **76.64 356** P **P** **11 37 20.4 +0.1**
baz=7.0,SNR=41
I27K S **S** **11 47 06.0 +0.1**
baz=7.0
G17K **Kiwalik Mounta** **76.65 4** P **P** **11 37 19.7 -0.5**
baz=352,SNR=34
G17K S **S** **11 47 06.1 +0.2**
baz=352
I30M **Mount Dempster** **76.67 354** IAmb IAmb 11 37 31.8
comp=Z,73nm,1.1s
I30M IAMs_20 IAMs_20 12 13 18.1
comp=Z,3µm,22.0s
I30M **Mount Dempster** **76.67 354** P **P** **11 37 20.1 -0.4**
baz=11,SNR=44
I30M S **S** **11 47 08.6 +2.3**
baz=11
I29M **Ogilvie Camp,** **76.68 355** IAmb IAmb 11 37 31.5
comp=Z,66nm,1.0s
I29M **Ogilvie Camp,** **76.68 355** P **P** **11 37 19.9 -0.5**
baz=9.7,SNR=51
I29M S **S** **11 47 08.7 +2.4**
baz=9.7
I28M **Miner Creek** **76.70 356** IAmb IAmb 11 37 28.3
comp=Z,205nm,1.8s
I28M **Miner Creek** **76.70 356** P **P** **11 37 20.3 -0.4**
baz=8.4,SNR=32
I28M S **S** **11 47 08.3 +1.7**
baz=8.4
N58A **Sunbury** **76.77 312** IAmb IAmb 11 37 28.2
comp=Z,105nm,1.1s
N58A IAMs_20 IAMs_20 12 11 50.9
comp=Z,3µm,19.0s
H21K **Melozitna Rive** **76.79 1** P **P** **11 37 21.6 +0.5**
baz=358,SNR=80
H21K S **S** **11 47 09.8 +2.3**
baz=358
H19K **Roundabout Mou** **76.83 3** IAmb IAmb 11 37 28.3
comp=Z,134nm,1.4s
H19K **Roundabout Mou** **76.83 3** P **P** **11 37 21.6 +0.4**
baz=355,SNR=41
H19K S **S** **11 47 09.5 +1.7**
baz=355
PRP **Porcupine Dome** **76.88 358** P **P** **11 37 22.0 +0.2**
baz=3.9,SNR=31
PRP S **S** **11 47 10.3 +1.6**
baz=3.9
WVNY **West Valley, N** **76.88 314** IAmb IAmb 11 37 25.2
comp=Z,99nm,1.1s
G15K **Niukluk** **76.91 6** P **P** **11 37 21.3 -0.4**
baz=349,SNR=20
G15K S **S** **11 47 09.0 +0.3**
baz=349
H20K **Anotleneega Mo** **76.91 2** P **P** **11 37 21.9 +0.1**
baz=356,SNR=46
H20K S **S** **11 47 11.5 +2.7**
baz=356
WRGLY **Wrigley** **76.98 348** P **P** **11 37 22.0 -0.1**
baz=22,SNR=6.5
WRGLY S **S** **11 47 11.0 +1.4**
baz=22
I26K **Coal Creek Min** **77.01 357** IAmb IAmb 11 37 34.0
comp=Z,62nm,1.1s
I26K **Coal Creek Min** **77.01 357** P **P** **11 37 22.4 +0.2**
baz=5.8
I26K S **S** **11 47 11.5 +1.7**
baz=5.8
MVL **Millersville** **77.08 311** IAmb IAmb 11 37 27.1
comp=Z,105nm,1.0s
H18K **Honhosa River** **77.12 3** IAmb IAmb 11 37 35.2
comp=Z,174nm,1.6s
H18K **Honhosa River** **77.12 3** P **P** **11 37 22.9 -0.1**
baz=354
H18K S **S** **11 47 11.7 +0.6**
baz=354
ANM **Nome** **77.22 7** P **P** **11 37 23.4 -0.1**
baz=348,SNR=10.0
ANM S **S** **11 47 14.7 +2.6**
baz=348
H17K **Granite Mounta** **77.26 4** IAMs_20 IAMs_20 12 16 11.4
comp=Z,3µm,20.0s
H17K **Granite Mounta** **77.26 4** P **P** **11 37 23.1 -0.5**
baz=352,SNR=14
H17K S **S** **11 47 13.4 +0.9**
baz=352
NBPB **Pedra_Branca-C** **77.26 253** *e*P **P** **11 37 27.2 +2.7**
I21K **Tanana** **77.28 1** IAmb IAmb 11 37 32.5
comp=Z,71nm,1.1s
I21K **Tanana** **77.28 1** P **P** **11 37 24.2 +0.4**
baz=359,SNR=49
I21K S **S** **11 47 14.0 +1.3**
baz=359
GAMB **Gambell** **77.28 10** P **P** **11 37 23.3 -0.5**
baz=343
GAMB S **S** **11 47 15.0 +2.3**
baz=343
J30M **Hart River** **77.30 354** P **P** **11 37 24.1 0.0**
baz=11,SNR=96
J30M S **S** **11 47 13.7 +0.4**
baz=11
I23K **Minto, Yukon-K** **77.32 360** P **P** **11 37 24.5 +0.5**
baz=0.8,SNR=34
I23K S **S** **11 47 16.2 +3.1**
baz=0.8
POKR **Poker Plat Res** **77.33 359** IAmb IAmb 11 37 31.4
comp=Z,158nm,1.4s
POKR **Poker Plat Res** **77.33 359** P **P** **11 37 24.5 +0.4**
baz=2.3,SNR=10
POKR S **S** **11 47 12.8 -0.5**
baz=2.3
E46A **Sault Ste Mari** **77.39 320** IAmb IAmb 11 37 27.6
comp=Z,89nm,0.9s
E46A IAMs_20 IAMs_20 12 13 34.6
comp=Z,3µm,20.0s
H16K **Elim** **77.40 5** P **P** **11 37 24.4 0.0**
baz=350,SNR=12
H16K S **S** **11 47 14.3 +0.3**
baz=350
MLY **Manley** **77.44 0** IAmb IAmb 11 37 36.7
comp=Z,62nm,1.1s
MLY **Manley** **77.44 0** P **P** **11 37 24.9 +0.2**
baz=360,SNR=47
MLY S **S** **11 47 14.2 -0.4**
baz=360
R61A **Willards** **77.50 309** IAMs_20 IAMs_20 12 10 18.6
comp=Z,4µm,22.0s
NBAN **Anadia - AL** **77.51 247** *e*P **P** **11 37 28.4 +2.5**
J29N **Klondike Camp** **77.57 355** P **P** **11 37 25.7 +0.2**
baz=9.8
J29N S **S** **11 47 15.6 -0.5**
baz=9.8
COLA **College** **77.58 359***d i*P **P** **11 37 25.3 -0.1**
COLA pmax pmax
comp=Z,45nm,1.1s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA **College** **77.58 359** P **P** **11 37 25.5 +0.1**
baz=2.0
COLA S **S** **11 47 14.1 -1.9**
baz=2.0
SSPA **Standing Stone** **77.59 312** P **P** **11 37 26.1 +0.1**
GCSA **Galena City Sc** **77.59 3** P **P** **11 37 25.8 +0.3**
baz=355,SNR=5.2
GCSA S **S** **11 47 13.8 -2.3**
baz=355
I20K **Naaghedeneel** **77.62 2** P **P** **11 37 26.0 +0.3**
baz=357,SNR=27
IL31 **77.66 358** IAmb IAmb 11 37 32.7
comp=Z,100nm,1.6s
ILAR **Eielson Array** **77.66 358** P **P** **11 37 25.8 -0.2**
comp=Z,7.2nm,1.1s,baz=357,slow=4.6,SNR=33
ILAR PP **PP** **11 40 19.9 -0.4**
comp=Z,3.8nm,1.0s,baz=356,slow=7.2,SNR=4.5
ILAR PKKPbc **PKKPbc** **11 56 28.4 -0.1**
comp=Z,2.0nm,1.1s,baz=211,slow=2.7,SNR=7.4
ILAR PKPPKP P'P'df 12 04 24.9 -14
comp=Z,1.0nm,1.0s,baz=215,slow=1.7,SNR=5.9
comp=Z,7.2nm,1.1s
J25K **Salcha River,** **77.78 358** IAmb IAmb 11 37 29.0
comp=Z,129nm,2.0s
J25K **Salcha River,** **77.78 358** P **P** **11 37 26.4 -0.3**
baz=4.0,SNR=18
J25K S **S** **11 47 17.1 -1.3**
baz=4.0
J26L **Joseph Creek** **77.83 357** IAmb IAmb 11 37 38.2
comp=Z,110nm,1.6s
J26L **Joseph Creek** **77.83 357** P **P** **11 37 26.5 -0.5**
baz=5.4,SNR=41
J26L S **S** **11 47 17.1 -1.9**
baz=5.4
ERPA **Erie** **77.86 314** IAmb IAmb 11 37 31.1
comp=Z,58nm,0.9s
NEA2 **Nenana** **77.87 359** IAmb IAmb 11 37 30.3
comp=Z,72nm,1.2s
NEA2 **Nenana** **77.87 359** P **P** **11 37 26.8 -0.3**
baz=1.0,SNR=47
NEA2 S **S** **11 47 19.8 +0.6**
baz=1.0
WRH **Wood River Hil** **77.98 359** IAmb IAmb 11 37 30.7
comp=Z,140nm,1.4s
HDA **Harding Lake** **78.03 358** IAmb IAmb 11 37 39.0
comp=Z,62nm,1.0s
HDA **Harding Lake** **78.03 358** P **P** **11 37 27.7 -0.3**
baz=2.7,SNR=32
HDA S **S** **11 47 20.4 -0.5**
baz=2.7
DAWY **Dawson** **78.04 355** IAmb IAmb 11 37 40.5
comp=Z,120nm,1.4s
DAWY **Dawson** **78.04 355** P **P** **11 37 28.0 -0.1**
baz=8.8,SNR=52
DAWY S **S** **11 47 20.4 -0.7**
baz=8.8
K29M **Barlow Dome** **78.12 354** IAmb IAmb 11 37 41.4
comp=Z,127nm,1.8s
K29M **Barlow Dome** **78.12 354** P **P** **11 37 28.8 +0.1**
baz=10,SNR=37
K29M S **S** **11 47 21.8 -0.3**
baz=10
MAYO **Mayo, Yukon** **78.23 353** P **P** **11 37 29.4 +0.3**
baz=12,SNR=19
MAYO S **S** **11 47 21.8 -1.3**
baz=12
I49A **Point Hope** **78.23 317** IAMs_20 IAMs_20 12 10 32.1
comp=Z,3µm,21.0s
K27K **Chicken** **78.23 356** IAmb IAmb 11 37 36.4
comp=Z,126nm,1.2s
K27K **Chicken** **78.23 356** P **P** **11 37 29.3 +0.2**
baz=6.6
K27K S **S** **11 47 27.5 +4.4**
baz=6.6
J20K **Nowinta River** **78.25 2** IAmb IAmb 11 37 32.9
comp=Z,124nm,1.3s
J20K **Nowinta River** **78.25 2** P **P** **11 37 29.6 +0.3**
baz=357,SNR=54
J20K S **S** **11 47 20.7 -2.6**
baz=357
I17K **Unalakleet** **78.25 5** IAmb IAmb 11 37 32.5
comp=Z,113nm,1.4s
I17K **Unalakleet** **78.25 5** P **P** **11 37 28.8 -0.4**
baz=352,SNR=5.8
I17K S **S** **11 47 21.0 -2.3**
baz=352
JNU **Nakatsue** **78.28 57** IAmb IAmb 11 37 36.9
comp=Z,154nm,1.5s
JNU IAMs_20 IAMs_20 12 15 16.4
comp=Z,3µm,19.0s
JNU **Nakatsue** **78.28 57** LR LR 12 16 11.9
comp=Z,3µm,20.6s,baz=305,slow=39
TBO **Thunder Bay** **78.32 324** IAmb IAmb 11 37 32.6
comp=Z,95nm,1.1s
ASAJ **Asahikawa** **78.35 43** LR LR 12 17 16.4
comp=Z,6µm,18.2s,baz=316,slow=40
JKA **Kamikawa-asahi** **78.36 43** IAmb IAmb 11 37 36.0
comp=Z,160nm,1.6s
SCRK **Sand Creek** **78.37 357** P **P** **11 37 30.2 +0.2**
baz=5.1,SNR=62
SCRK S **S** **11 47 23.9 -1.0**
baz=5.1
BPAW **Bear Paw Mtn.** **78.37 0** P **P** **11 37 29.5 -0.5**
BPAW **Bear Paw Mtn.** **78.37 0** P **P** **11 37 29.4 -0.5**
baz=359,SNR=34
BPAW S **S** **11 47 22.9 -1.7**
baz=359
J19K **Poorman** **78.39 2** P **P** **11 37 30.4 +0.4**
baz=356,SNR=115
J19K S **S** **11 47 24.0 -0.8**
baz=356
P57A **Homestead Farm** **78.40 311** IAmb IAmb 11 37 33.7
comp=Z,110nm,1.2s
P57A IAMs_20 IAMs_20 12 10 31.1
comp=Z,3µm,21.0s
CHUM **Lake Minchumin** **78.58 1** P **P** **11 37 31.1 +0.1**
baz=358,SNR=15
CHUM S **S** **11 47 24.1 -2.7**
baz=358
GLMI **Grayling** **78.59 319** IAmb IAmb 11 37 34.4
comp=Z,96nm,0.8s
GLMI IAMs_20 IAMs_20 12 12 29.5
comp=Z,3µm,19.0s
K24K **Donnelly Dome** **78.61 358** IAmb IAmb 11 37 42.6
comp=Z,118nm,1.0s
K24K **Donnelly Dome** **78.61 358** P **P** **11 37 31.1 -0.1**
baz=3.6,SNR=43
K24K S **S** **11 47 26.7 -0.5**
baz=3.6
RIDG **Independent Ri** **78.64 358** IAmb IAmb 11 37 38.5
comp=Z,118nm,1.3s
RIDG **Independent Ri** **78.64 358** P **P** **11 37 31.3 -0.1**
baz=4.4,SNR=30
RIDG S **S** **11 47 26.9 -0.7**
baz=4.4
PAMR **Moraine State** **78.68 313** IAMs_20 IAMs_20 12 13 25.4
comp=Z,4µm,18.0s
MMPY **Sheldon Lake,** **78.69 351** IAmb IAmb 11 37 36.2
comp=Z,196nm,1.7s
MMPY **Sheldon Lake,** **78.69 351** P **P** **11 37 33.0 +1.2**
baz=15,SNR=43
MMPY S **S** **11 47 26.3 -1.9**
baz=15
MCK **McKinley** **78.74 359** IAmb IAmb 11 37 34.7
comp=Z,131nm,1.4s
MCK **McKinley** **78.74 359** P **P** **11 37 31.5 -0.4**
baz=1.1,SNR=19
MCK S **S** **11 47 27.8 -0.8**
baz=1.1
CBN **Corbin Frederi** **78.83 310** IAmb IAmb 11 37 35.8
comp=Z,81nm,1.0s
CBN IAMs_20 IAMs_20 12 13 40.6
comp=Z,3µm,19.0s
PEA0B **Petropavlovsk-** **78.83 29***de*P **P** **11 37 31.1 -1.5**
PETK **Petropavlovsk-** **78.83 29** P **P** **11 37 31.6 -1.1**
comp=Z,14nm,1.1s,baz=23,slow=4.8,SNR=12
PETK PP **PP** **11 40 29.7 -0.7**
comp=Z,3.1nm,1.0s,baz=316,slow=8.1,SNR=3.8
PETK PKKPbc **PKKPbc** **11 56 25.7 0.0**
comp=Z,1.0nm,0.5s,baz=131,slow=10,SNR=5.1
PETK LR LR 12 16 58.8
comp=Z,6µm,20.0s,baz=315,slow=39
comp=Z,14nm,1.1s
J17K **VABM Dome** **78.84 4** IAmb IAmb 11 37 35.7
comp=Z,123nm,1.2s
J17K IAMs_20 IAMs_20 12 17 10.0
comp=Z,3µm,19.0s
J17K **VABM Dome** **78.84 4** P **P** **11 37 32.0 -0.4**
baz=353,SNR=48
J17K S **S** **11 47 28.3 -1.3**
baz=353
J16K **Anvik River** **78.86 5** IAmb IAmb 11 37 39.3
comp=Z,112nm,1.3s
J16K **Anvik River** **78.86 5** P **P** **11 37 32.5 -0.1**
baz=352,SNR=24
J16K S **S** **11 47 29.0 -0.8**
baz=352
FFC **Flin Flon** **78.88 334** P **P** **11 37 32.5 -0.4**
FFC **Flin Flon** **78.88 334** P **P** **11 37 32.5 -0.4**
FFC pmax pmax
comp=Z,57nm,1.0s
FFC MLR MLR
comp=Z,7µm,18.0s
J18K **Innoko River** **78.88 3** IAmb IAmb 11 37 36.3
comp=Z,115nm,1.4s
J18K **Innoko River** **78.88 3** P **P** **11 37 33.1 +0.4**
baz=355,SNR=51
J18K S **S** **11 47 29.7 -0.4**
baz=355
L29M **L29M** **78.89 354** IAmb IAmb 11 37 40.1
comp=Z,168nm,1.6s
L29M **L29M** **78.89 354** P **P** **11 37 33.0 +0.1**
baz=9.8,SNR=30
L29M S **S** **11 47 29.8 -0.6**
baz=9.8
K50A **Casco** **78.89 316** IAMs_20 IAMs_20 12 10 53.8
comp=Z,3µm,20.0s
KTH **Kantishna Hill** **78.92 0** IAmb IAmb 11 37 45.4
comp=Z,88nm,1.2s
M52A **Chesterland** **79.01 314** IAMs_20 IAMs_20 12 13 32.9
comp=Z,4µm,18.0s
TRF **Thorofare Moun** **79.03 360** IAmb IAmb 11 37 36.5
comp=Z,120nm,1.6s
TRF **Thorofare Moun** **79.03 360** P **P** **11 37 33.2 -0.5**
baz=0.0,SNR=16
TRF S **S** **11 47 31.7 -0.3**
baz=0.0
CAST **Castle Rocks** **79.05 1** IAmb IAmb 11 37 40.2
comp=Z,95nm,1.3s
CAST **Castle Rocks** **79.05 1** P **P** **11 37 33.4 -0.2**
baz=359,SNR=63
CAST S **S** **11 47 32.6 +0.8**
baz=359
K20K **Telida** **79.08 2** P **P** **11 37 34.0 +0.2**
baz=357,SNR=53
K20K S **S** **11 47 32.5 +0.3**
baz=357
J14K **Nanvaranak Lak** **79.17 6** P **P** **11 37 34.2 0.0**
baz=349,SNR=21
J14K S **S** **11 47 30.8 -2.3**
baz=349
L27K **Beaver Creek,** **79.19 356** IAmb IAmb 11 37 38.3
comp=Z,104nm,1.5s
L27K **Beaver Creek,** **79.19 356** P **P** **11 37 34.4 0.0**
baz=6.8,SNR=52
L27K S **S** **11 47 32.5 -0.9**
baz=6.8
N53A **Lisbon** **79.19 314** IAmb IAmb 11 37 37.8
comp=Z,104nm,1.2s
N53A IAMs_20 IAMs_20 12 13 33.9
comp=Z,4µm,18.0s
PET **Petropavlovsk** **79.26 29**κ *i*P **P** **11 37 32.6 -2.3**
PET *e* 11 40 34.0
PET *e*S **S** **11 47 30.4 -4.0**
PET *e*PS **PnS** **11 48 12.7 -4.7**
PET *e*PPS PPS 11 48 33.3
PET pmax pmax
comp=Z,1µm,9.2s

PET pmax pmax
comp=Z,1µm,10.4s
PET pmax pmax
comp=Z,35nm,1.2s
PET pmax pmax
comp=Z,600nm,11.7s
PET pmax pmax
comp=Z,600nm,10.4s
R58B Mineral 79.29 310 IAmb IAmb 11 37 43.5
R58B IAMs_20 IAMs_20 12 14 15.8
comp=Z,3µm,19.0s
L26K Log Cabin Wild 79.30 357 IAmb IAmb 11 37 47.9
comp=Z,137nm,1.6s
L26K Log Cabin Wild 79.30 357 P **P** **11 37 35.1 +0.1**
baz=5.6,SNR=41
L26K S **S** **11 47 34.6 +0.1**
baz=5.6
M30M Minto, Yukon 79.31 354 P **P** **11 37 35.2 +0.1**
baz=11,SNR=21
M30M S **S** **11 47 36.3 +1.6**
baz=11
O54A Avella 79.34 313 IAMs_20 IAMs_20 12 10 41.8
comp=Z,3µm,22.0s
TGTN Hyland Airport 79.34 349 P **P** **11 37 36.5 +1.1**
baz=18,SNR=17
TGTN S **S** **11 47 34.9 -0.2**
baz=18
MCWV Mont Chateau 79.37 312 IAmb IAmb 11 37 39.1
comp=Z,137nm,1.1s
Q56A Snyder Ridge, 79.38 311 IAMs_20 IAMs_20 12 12 09.9
comp=Z,3µm,21.0s
PAX Paxson 79.43 358 P **P** **11 37 35.4 -0.4**
baz=3.9,SNR=13
PAX S **S** **11 47 35.7 -0.4**
baz=3.9
M31M Drury Creek, Y 79.45 352 IAmb IAmb 11 37 44.1
comp=Z,225nm,1.8s
M31M IAMs_20 IAMs_20 12 14 08.6
comp=Z,5µm,21.0s
M31M Drury Creek, Y 79.45 352 P **P** **11 37 36.1 +0.2**
baz=13,SNR=49
EPLO Experimental L 79.53 327 IAmb IAmb 11 37 38.8
comp=Z,104nm,1.2s
K17K Iditarod 79.56 4 IAmb IAmb 11 37 39.6
comp=Z,132nm,1.2s
K17K Iditarod 79.56 4 P **P** **11 37 36.1 -0.3**
baz=354,SNR=40
K17K S **S** **11 47 36.1 -1.1**
baz=354
PPLA Purkeypile 79.57 1 IAmb IAmb 11 37 43.5
comp=Z,199nm,1.4s
PPLA Purkeypile 79.57 1 P **P** **11 37 36.5 -0.2**
baz=358,SNR=24
PPLA S **S** **11 47 36.3 -1.4**
baz=358
M29M Somme Creek 79.58 354 IAmb IAmb 11 37 44.1
comp=Z,200nm,1.5s
M29M Somme Creek 79.58 354 P **P** **11 37 37.1 +0.5**
baz=9.5,SNR=111
M29M S **S** **11 47 37.1 -0.7**
baz=9.5
LHSI Lahat 79.69 103 P **P** **11 37 36.6 -1.3**
comp=Z,2µmcomp=Z,2µmcomp=Z,107nm,1.1s
JTM Tenmabayashi 79.72 46 IAmb IAmb 11 37 45.0
comp=Z,141nm,1.1s
JTM IAMs_20 IAMs_20 12 18 21.9
comp=Z,3µm,18.0s
F42A Maple Grove Fa 79.74 321 IAMs_20 IAMs_20 12 12 29.7
comp=Z,2µm,19.0s
BVCY Beaver Creek 79.77 356 P **P** **11 37 38.2 +0.5**
baz=7.6,SNR=66
O53A New Philadelph 79.77 313 IAmb IAmb 11 37 41.0
comp=Z,135nm,1.2s
O53A IAMs_20 IAMs_20 12 14 08.3
comp=Z,4µm,18.0s
J47A Sunmer 79.78 317 IAmb IAmb 11 37 41.4
comp=Z,108nm,1.1s
J47A IAMs_20 IAMs_20 12 12 46.9
comp=Z,4µm,18.0s
K15K Wolf Creek Mou 79.78 5 IAmb IAmb 11 37 41.1
comp=Z,112nm,1.2s
K15K Wolf Creek Mou 79.78 5 P **P** **11 37 37.9 +0.3**
baz=351,SNR=23
K15K S **S** **11 47 39.1 -0.5**
baz=351
AAM Ann Arbor 79.78 316 IAmb IAmb 11 37 40.5
comp=Z,103nm,1.2s
AAM IAMs_20 IAMs_20 12 11 31.2
comp=Z,3µm,20.0s
EYMN Ely 79.80 324 IAMs_20 IAMs_20 12 14 45.8
comp=Z,3µm,18.0s
K13K Kusilvak Mount 79.87 7 IAMs_20 IAMs_20 12 17 26.5
comp=Z,3µm,19.0s
K13K Kusilvak Mount 79.87 7 P **P** **11 37 37.8 -0.3**
baz=348,SNR=30
K13K S **S** **11 47 40.6 0.0**
baz=348
JMN Monobe 79.87 55 IAmb IAmb 11 37 43.6
comp=Z,124nm,1.3s
M27K Edge Creek, AK 79.89 356 IAmb IAmb 11 37 46.9
comp=Z,144nm,1.4s
M27K Edge Creek, AK 79.89 356 P **P** **11 37 38.9 +0.4**
baz=6.8,SNR=77
M27K S **S** **11 47 40.1 -1.0**
baz=6.8
M26K Nabesna, AK 79.90 357 P **P** **11 37 38.6 +0.2**
baz=5.8,SNR=36
M26K S **S** **11 47 41.4 +0.4**
baz=5.8
L20K Farewell, AK 79.96 2 P **P** **11 37 38.3 -0.4**
baz=357,SNR=26
L20K S **S** **11 47 41.0 -0.6**
baz=357
I45A Fountain 79.97 319 IAMs_20 IAMs_20 12 14 07.1
comp=Z,3µm,18.0s
KOTAN Kotaneelee Air 79.98 347 P **P** **11 37 39.3 +0.5**
baz=21,SNR=8.4
KOTAN S **S** **11 47 40.6 -1.3**
baz=21
N51A Ashland 79.99 314 IAmb IAmb 11 37 42.3
comp=Z,81nm,1.0s
N51A IAMs_20 IAMs_20 12 14 20.0
comp=Z,4µm,18.0s
HARP HAARP 79.99 358 P **P** **11 37 38.8 0.0**
baz=4.1,SNR=5.8
HARP S **S** **11 47 40.4 -1.5**
baz=4.1
COWI Conover 80.00 322 IAmb IAmb 11 37 46.0
comp=Z,231nm,1.9s
COWI IAMs_20 IAMs_20 12 12 40.4
comp=Z,3µm,20.0s
ULM Lac du Bonnet 80.02 328 *d i* P **P** **11 37 37.7 -1.4**
M50A Fremont 80.04 315 IAMs_20 IAMs_20 12 12 22.2
comp=Z,3µm,20.0s
ERM Erimo 80.07 44 P **P** **11 37 39.9 +0.3**
ERM IAmb IAmb 11 37 45.8
comp=Z,133nm,1.2s
ERM Erimo 80.07 44 *de* P **P** **11 37 39.7 +0.2**
ERM pmax pmax
comp=Z,176nm,1.7s
CUT Chulitna 80.08 360 P **P** **11 37 38.1 -1.1**
baz=0.0
CUT S **S** **11 47 41.1 -1.6**
baz=0.0
COCO West Island 80.10 114 IAMs_20 IAMs_20 12 10 19.8
comp=Z,4µm,21.0s
L18K Granite Mounta 80.13 3 IAmb IAmb 11 37 43.1
comp=Z,99nm,1.2s
L18K Granite Mounta 80.13 3 P **P** **11 37 39.5 0.0**
baz=355,SNR=57
L18K S **S** **11 47 42.8 -0.5**
baz=355
YUK Yuzh-Kuril'sk 80.13 41 *e* P P 11 37 30.7 -9.1
YUK *i* S **S** **11 47 41.8 -2.1**
YUK pmax pmax
comp=Z,410nm,1.8s
YUK pmax pmax
comp=Z,373nm,1.3s
YUK pmax pmax
comp=E,242nm,1.0s
L17K Donlin 80.14 4 P **P** **11 37 39.4 -0.2**
baz=354,SNR=29
L17K S **S** **11 47 43.4 0.0**
baz=354
O52A Adamsville 80.22 314 IAmb IAmb 11 37 43.8
comp=Z,95nm,1.0s
O52A IAMs_20 IAMs_20 12 14 14.2
comp=Z,4µm,19.0s
L19K White Mountain 80.23 2 IAmb IAmb 11 37 43.6
comp=Z,142nm,1.4s
L19K White Mountain 80.23 2 P **P** **11 37 40.0 -0.1**
baz=356,SNR=46
L19K S **S** **11 47 42.4 -2.1**
baz=356
N31M Braeburn, Yuko 80.29 353 IAmb IAmb 11 37 47.7
comp=Z,175nm,1.6s
N31M IAMs_20 IAMs_20 12 15 39.6
comp=Z,4µm,21.0s
N31M Braeburn, Yuko 80.29 353 P **P** **11 37 40.1 -0.3**
baz=12,SNR=26
N31M S **S** **11 47 43.4 -1.7**
baz=12
JOW Kunigami 80.30 64 LR LR 12 18 46.8
comp=Z,2µm,19.7s,baz=216,slow=40
KUR Kuril'sk 80.32 39 *e* P **P** **11 37 38.8 -2.0**
KUR *e* 11 40 44.5
KUR *e* S **S** **11 47 39.7 -6.1**
KUR pmax pmax
comp=Z,193nm,0.9s
KUR pmax pmax
comp=Z,2µm,7.1s
M24K Tolsona, Glenn 80.32 358 IAmb IAmb 11 38 19.4
comp=Z,145nm,1.3s
M24K Tolsona, Glenn 80.32 358 P **P** **11 37 40.8 +0.2**
baz=3.3,SNR=13
M24K S **S** **11 47 43.8 -1.6**
baz=3.3
N32M Quiet Lake 80.33 352 IAmb IAmb 11 37 44.1
comp=Z,125nm,1.3s
N32M Quiet Lake 80.33 352 P **P** **11 37 40.6 -0.1**
baz=14
N32M S **S** **11 47 44.3 -1.3**
baz=14
P53A Whipple 80.38 313 IAMs_20 IAMs_20 12 15 34.4
comp=Z,3µm,19.0s
YUK3 Moose Creek 80.38 355 P **P** **11 37 41.4 +0.2**
baz=7.9,SNR=49
YUK3 S **S** **11 47 44.3 -2.2**
baz=7.9
L15K Ungalak Mounta 80.39 5 P **P** **11 37 41.0 0.0**
baz=351,SNR=50
L15K S **S** **11 47 45.7 -0.4**
baz=351
R55A Marlinton 80.43 311 IAMs_20 IAMs_20 12 13 02.8
comp=Z,4µm,20.0s
N30M Aishikik Lake 80.44 354 IAmb IAmb 11 37 44.7
comp=Z,156nm,1.9s
N30M Aishikik Lake 80.44 354 P **P** **11 37 41.2 0.0**
baz=11,SNR=23
N30M S **S** **11 47 46.0 -0.8**
baz=11
SKT Skwentna 80.50 1 IAmb IAmb 11 37 49.9
comp=Z,76nm,1.0s
SKT Skwentna 80.50 1 P **P** **11 37 40.4 -1.1**
baz=359,SNR=41
SKT S **S** **11 47 46.3 -1.0**
baz=359
M19K Big River Lodg 80.52 2 P **P** **11 37 41.8 +0.1**
baz=357
M19K S **S** **11 47 47.9 +0.4**
baz=357
M20K Styx River 80.57 1 P **P** **11 37 41.1 -0.9**
baz=358,SNR=24
M20K S **S** **11 47 47.6 -0.6**
baz=358
MDSI Maura Dua 80.61 103 P **P** **11 37 41.4 -1.4**
comp=Z,110nm,1.0s
SCM Sheep Creek Mo 80.62 359 P **P** **11 37 42.2 -0.1**
baz=2.4,SNR=33
SCM S **S** **11 47 48.8 +0.2**
baz=2.4
L14K Kuka Creek 80.63 6 IAmb IAmb 11 37 45.5
comp=Z,99nm,1.4s
L14K Kuka Creek 80.63 6 P **P** **11 37 42.2 +0.1**
baz=350,SNR=21
L14K S **S** **11 47 48.9 +0.4**
baz=350
M23K Glacier View 80.67 359 P **P** **11 37 42.0 -0.5**
baz=2.1,SNR=22
M23K S **S** **11 47 49.8 +0.8**
baz=2.1
YUK4 Talbot Arm 80.68 354 P **P** **11 37 42.0 -0.7**
baz=9.4
GHO Glory Hole Cre 80.70 359 IAmb IAmb 11 37 49.4
comp=Z,187nm,1.4s
P52A Corning 80.71 313 IAmb IAmb 11 37 45.6
comp=Z,95nm,1.1s
P52A IAMs_20 IAMs_20 12 14 46.1
comp=Z,4µm,18.0s
M22K Willow 80.73 360 P **P** **11 37 42.2 -0.5**
baz=0.1,SNR=33
M22K S **S** **11 47 49.7 +0.2**
baz=0.1
N25K Chitina, Valde 80.77 357 P **P** **11 37 42.8 -0.3**
baz=4.6,SNR=21
N25K S **S** **11 47 48.0 -2.2**
baz=4.6
WTLY Watson Lake, Y 80.77 349 IAMs_20 IAMs_20 12 13 03.8
comp=Z,4µm,22.0s
WTLY Watson Lake, Y 80.77 349 P **P** **11 37 43.5 +0.5**
baz=17
ACSO Alum Creek Sta 80.80 314 IAmb IAmb 11 37 46.7
comp=Z,89nm,1.0s
ACSO IAMs_20 IAMs_20 12 11 50.2
comp=Z,3µm,21.0s
MJB9 Matsu-Tunnel 80.81 51 IAmb IAmb 11 37 49.2
comp=Z,122nm,1.5s
MAJO Matsushiro 80.81 51 P **P** **11 37 43.5 -0.2**
MAJO IAmb IAmb 11 37 48.2
comp=Z,120nm,1.4s
MAJO Matsushiro 80.81 51 P **P** **11 37 43.5 -0.2**
MAJO pmax pmax
comp=Z,120nm,1.5s
MAJO MLR MLR
comp=Z,2µm,21.0s
MJAR Matsushiro Arr 80.82 51 P **P** **11 37 42.9 -0.8**
comp=Z,54nm,1.1s,baz=317,slow=4.7,SNR=46
MJAR LR LR 12 16 20.3
comp=Z,2µm,21.8s,baz=318,slow=38
comp=Z,54nm,1.1s
MDP Montagnes des 80.82 269 LR LR 12 12 41.1
comp=Z,2µm,20.3s,baz=48,slow=35
INU Inuyama 80.85 52 IAMs_20 IAMs_20 12 17 12.4
comp=Z,4µm,18.0s
PMR Palmer 80.89 359 IAmb IAmb 11 37 54.8
comp=Z,154nm,1.4s
PMR Palmer 80.89 359 P **P** **11 37 43.4 -0.2**
baz=0.9,SNR=30
PMR S **S** **11 47 51.6 +0.4**
baz=0.9
M18K Stony River 80.89 3 P **P** **11 37 43.6 0.0**
baz=356,SNR=31
M18K S **S** **11 47 50.3 -1.0**
baz=356
JGF Kuroka 80.90 52 IAmb IAmb 11 37 48.9
comp=Z,138nm,1.5s
GLB Gilahina Butte 80.90 357 IAmb IAmb 11 37 46.0
comp=Z,132nm,1.9s
M17K Holitna River 80.91 3 IAmb IAmb 11 37 47.6
comp=Z,146nm,1.2s
M17K Holitna River 80.91 3 P **P** **11 37 44.2 +0.5**
baz=354,SNR=34
M17K S **S** **11 47 50.4 -1.2**
baz=354
MCARA McCarthy VSAT 80.92 356 P **P** **11 37 43.7 -0.1**
baz=5.8
MCARA S **S** **11 47 51.4 -0.2**
baz=5.8
KLU Klutina 80.93 358 P **P** **11 37 43.8 -0.1**
baz=3.5,SNR=18
KLU S **S** **11 47 51.7 -0.2**
baz=3.5
N49A Columbus Grove 81.00 315 IAmb IAmb 11 37 47.6
comp=Z,82nm,0.9s
N49A IAMs_20 IAMs_20 12 13 01.6
comp=Z,4µm,19.0s
WHY Whitehorse 81.01 352 IAmb IAmb 11 37 47.1
comp=Z,108nm,1.4s
WHY Whitehorse 81.01 352 P **P** **11 37 44.0 -0.4**
baz=12,SNR=7.1
WHY S **S** **11 47 52.3 -0.5**
baz=12
LIRD Liard River Hi 81.02 348 P **P** **11 37 44.6 +0.3**
baz=19,SNR=16
LIRD S **S** **11 47 52.0 -0.7**
baz=19
SUA Susitna One 81.02 0 P **P** **11 37 44.3 -0.1**
baz=360,SNR=12
SUA S **S** **11 47 51.7 -1.3**
baz=360
KNK Knik Glacier 81.06 359 P **P** **11 37 44.7 +0.1**
baz=1.5,SNR=17
KNK S **S** **11 47 52.0 -1.1**
baz=1.5
HYT Haines Junctio 81.10 354 IAmb IAmb 11 37 52.1
comp=Z,127nm,1.2s
HYT Haines Junctio 81.10 354 P **P** **11 37 44.8 -0.1**
baz=10
G40A Rib Lake 81.11 322 IAmb IAmb 11 37 51.9
comp=Z,214nm,1.9s
G40A IAMs_20 IAMs_20 12 13 23.9
comp=Z,4µm,21.0s
M16K Timber Creek 81.21 4 IAmb IAmb 11 37 49.1
comp=Z,136nm,1.3s
M16K IAMs_20 IAMs_20 12 18 43.9
comp=Z,3µm,20.0s
M16K Timber Creek 81.21 4 P **P** **11 37 45.8 +0.5**
baz=353,SNR=26
M16K S **S** **11 47 53.6 -1.0**
baz=353
P33M Teslin, Yukon 81.22 351 IAmb IAmb 11 37 48.7
comp=Z,92nm,1.4s
P33M Teslin, Yukon 81.22 351 P **P** **11 37 45.5 0.0**
baz=14,SNR=28
P33M S **S** **11 47 53.4 -1.5**
baz=14
M11K Mekoryuk 81.24 8 IAmb IAmb 11 37 54.8
comp=Z,117nm,1.1s
M11K Mekoryuk 81.24 8 P **P** **11 37 45.8 +0.4**
baz=347,SNR=9.1
M11K S **S** **11 47 54.2 -0.7**
baz=347
Q52A Bidwell 81.24 313 IAmb IAmb 11 37 49.1
comp=Z,88nm,1.0s
Q52A IAMs_20 IAMs_20 12 11 39.1
comp=Z,4µm,22.0s
CTG Chitna Glacier 81.25 356 P **P** **11 37 46.0 +0.3**
baz=7.2,SNR=9.6
CTG S **S** **11 47 55.6 +0.3**
baz=7.2
CTGM Chitina Glacie 81.25 356 IAmb IAmb 11 37 49.2
comp=Z,118nm,1.6s
CTGM IAMs_20 IAMs_20 12 16 43.0
comp=Z,3µm,22.0s
M14K Bethel 81.27 6 IAmb IAmb 11 37 48.9
comp=Z,150nm,1.3s
M14K Bethel 81.27 6 P **P** **11 37 45.6 0.0**
baz=351,SNR=29
M14K S **S** **11 47 54.5 -0.7**
baz=351
N20K Mount Spurr 81.27 1 P **P** **11 37 44.7 -1.1**
baz=358
SPCR Spurr Chakacha 81.27 1 P **P** **11 37 44.8 -1.0**
baz=358
SPCR S **S** **11 47 54.9 -0.5**
baz=358
DIV Divide 81.28 358 IAmb IAmb 11 37 49.1
comp=Z,111nm,1.6s
BLA Blacksburg 81.31 311 IAMs_20 IAMs_20 12 12 30.2
comp=Z,3µm,22.0s
P51A Williamsport 81.34 314 IAmb IAmb 11 37 48.6
comp=Z,87nm,1.3s
O28M Mount Upton 81.36 355 IAmb IAmb 11 37 53.6
comp=Z,83nm,1.4s
O28M Mount Upton 81.36 355 P **P** **11 37 46.3 -0.2**
baz=8.1,SNR=26
O28M S **S** **11 47 56.2 -0.6**
baz=8.1
LOGN Logan Glacier 81.36 355 IAMs_20 IAMs_20 12 16 46.2
comp=Z,3µm,22.0s
RC01 Rabbit Creek A 81.39 360 IAmb IAmb 11 37 49.4
comp=Z,137nm,1.3s
RC01 Rabbit Creek A 81.39 360 P **P** **11 37 45.9 -0.4**
baz=0.5,SNR=15
RC01 S **S** **11 47 56.4 -0.2**
baz=0.5
TOAD Toad River Com 81.40 347 P **P** **11 37 46.9 +0.5**
baz=20,SNR=66
TOAD S **S** **11 47 57.6 +0.8**
baz=20
BMRM Bremner River 81.41 357 P **P** **11 37 46.4 -0.1**
baz=4.5,SNR=23
BMRM S **S** **11 47 56.6 -0.2**
baz=4.5
L46A Eue Claire 81.41 317 IAMs_20 IAMs_20 12 12 30.1
comp=Z,3µm,20.0s
M15K Kasigluk River 81.42 5 P **P** **11 37 46.6 +0.1**
baz=352,SNR=29
M15K S **S** **11 47 55.4 -1.4**
baz=352
W59A Clinton 81.43 308 IAmb IAmb 11 37 50.3
comp=Z,189nm,1.5s
V58A Windy Hill, Pi 81.44 309 IAmb IAmb 11 37 50.1
comp=Z,105nm,1.3s
V58A IAMs_20 IAMs_20 12 15 03.9
comp=Z,3µm,20.0s
S54A Dingess, Beckl 81.45 312 IAMs_20 IAMs_20 12 13 33.9
comp=Z,3µm,20.0s
I42A Draeger Farm, 81.46 320 IAMs_20 IAMs_20 12 14 17.1
comp=Z,2µm,18.0s
M13K Dall Lake 81.49 6 P **P** **11 37 47.4 +0.6**
baz=350,SNR=12
M13K S **S** **11 47 55.9 -1.5**
baz=350
JMM Marumori 81.50 48 IAmb IAmb 11 37 50.1
comp=Z,104nm,1.1s
GRNC Granite Creek 81.50 356 IAmb IAmb 11 37 50.5
comp=Z,92nm,1.2s
KASI Kota Agung 81.51 104 P **P** **11 37 46.6 -1.0**
comp=Z,1µmcomp=Z,80nm,1.0s
TGL Tana Glacier 81.54 356 IAmb IAmb 11 37 56.4
comp=Z,93nm,1.3s
CRQE Cirque 81.55 356 P **P** **11 37 47.2 -0.1**
baz=5.8,SNR=10
GLI Glacier Island 81.57 358 IAmb IAmb 11 37 50.5
comp=Z,164nm,1.5s
GLI Glacier Island 81.57 358 P **P** **11 37 47.4 +0.1**
baz=2.6,SNR=6.5
GLI S **S** **11 47 56.2 -2.2**
baz=2.6
O49A Covington 81.59 315 IAmb IAmb 11 37 50.6
comp=Z,131nm,1.1s
O49A IAMs_20 IAMs_20 12 14 48.1
comp=Z,3µm,20.0s
PWL Port Wells 81.61 359 P **P** **11 37 47.5 0.0**
baz=1.6,SNR=7.7
PWL S **S** **11 47 57.6 -1.3**
baz=1.6
N19K Bonanza Creek 81.61 2 IAmb IAmb 11 37 50.9
comp=Z,137nm,1.2s
N19K Bonanza Creek 81.61 2 P **P** **11 37 47.4 -0.2**
baz=357,SNR=47
N19K S **S** **11 47 56.3 -2.7**
baz=357
ISLE Juniper Island 81.67 356 IAmb IAmb 11 37 51.1
comp=Z,100nm,1.3s
ISLE IAMs_20 IAMs_20 12 17 19.7
comp=Z,3µm,20.0s
N18K Kilae Creek 81.70 3 IAmb IAmb 11 37 51.7
comp=Z,109nm,1.2s
N18K Kilae Creek 81.70 3 P **P** **11 37 48.1 +0.1**
baz=356,SNR=24
N18K S **S** **11 47 58.1 -1.7**
baz=356
O29M Mount Kennedy 81.71 354 IAmb IAmb 11 37 51.2
comp=Z,88nm,1.4s
O29M Mount Kennedy 81.71 354 P **P** **11 37 47.9 -0.3**
baz=9.3,SNR=16
O29M S **S** **11 47 59.8 -0.3**
baz=9.3
KSM Kuching 81.71 95 IAmb IAmb 11 37 58.6
comp=Z,129nm,1.3s
P30M Million Dollar 81.75 353 P **P** **11 37 48.3 +0.1**
baz=11
P30M S **S** **11 48 00.6 +0.2**
baz=11
TABL Table Mountain 81.75 355 IAmb IAmb 11 37 55.4
comp=Z,159nm,1.6s
TABL IAMs_20 IAMs_20 12 16 58.2
comp=Z,3µm,22.0s
N16K Nishlik Lake 81.77 4 P **P** **11 37 48.5 +0.2**
baz=353,SNR=21
N16K S **S** **11 47 59.2 -1.3**
baz=353

R33M	**Jennings River**	**81.77**	**350**		IAMs_20	IAMs_20	12 16 36.2						
	comp=Z,3µm,20.0s												
R33M	**Jennings River**	**81.77**	**350**		P	**P**	**11 37 49.3**	**+0.8**					
R33M	baz=15,SNR=77				S	**S**	**11 47 59.3**	**-1.5**					
	baz=15												
N17K	**Nushagak Hills**	**81.80**	**3**		P	**P**	**11 37 48.9**	**+0.5**					
N17K	baz=354,SNR=19				S	**S**	**11 48 00.0**	**-0.7**					
	baz=354												
TMAB	**Tom-Au,PA,Br**	**81.80**	**261**	*eP*		**P**	**11 37 52.2**	**+3.0**					
BIM	**Bigot**	**81.81**	**282**		IAmb	IAmb	11 37 58.5						
	comp=Z,98nm,0.9s												
Q51A	**Peebles**	**81.82**	**314**		IAmb	IAmb	11 37 52.1						
Q51A	comp=Z,113nm,1.1s				IAMs_20	IAMs_20	12 15 21.2						
	comp=Z,4µm,18.0s												
U56A	**King**	**81.86**	**310**		IAmb	IAmb	11 37 58.2						
	comp=Z,103nm,1.1s												
EYAK	**Cordova Ski Ar**	**81.87**	**358**		IAmb	IAmb	11 38 00.7						
	comp=Z,104nm,1.1s												
EYAK	**Cordova Ski Ar**	**81.87**	**358**		P	**P**	**11 37 48.8**	**+0.1**					
EYAK	baz=3.6,SNR=19				S	**S**	**11 48 00.5**	**-0.9**					
	baz=3.6												
N47A	**Urbana**	**81.87**	**316**		IAmb	IAmb	11 37 57.5						
	comp=Z,84nm,1.0s												
N47A	comp=Z,4µm,20.0s				IAMs_20	IAMs_20	12 12 45.4						
YAH	**Yahtse**	**81.87**	**356**		IAMs_20	IAMs_20	12 16 39.8						
	comp=Z,3µm,22.0s												
P32M	**Atlin**	**81.93**	**352**		P	**P**	**11 37 48.8**	**-0.4**					
P32M	baz=13,SNR=15				S	**S**	**11 48 00.3**	**-1.9**					
	baz=13												
N15K	**Kwethluk River**	**81.99**	**5**		IAmb	IAmb	11 37 53.2						
	comp=Z,117nm,1.3s												
N15K	**Kwethluk River**	**81.99**	**5**		P	**P**	**11 37 49.6**	**+0.1**					
N15K	baz=352,SNR=17				S	**S**	**11 48 02.7**	**-0.1**					
	baz=352												
K43A	**Burlington**	**82.00**	**319**		IAmb	IAmb	11 37 52.8						
	comp=Z,81nm,1.0s												
K43A	comp=Z,3µm,19.0s				IAMs_20	IAMs_20	12 15 53.6						
O22K	**Cooper Landing**	**82.00**	**360**		IAmb	IAmb	11 38 00.6						
	comp=Z,144nm,1.2s												
O22K	**Cooper Landing**	**82.00**	**360**		P	**P**	**11 37 49.2**	**-0.3**					
O22K	baz=0.5				S	**S**	**11 48 01.4**	**-1.4**					
	baz=0.5												
HMT	**Hamilton**	**82.02**	**357**		IAmb	IAmb	11 38 02.2						
	comp=Z,240nm,2.0s												
PINM	**Pinnacle**	**82.04**	**355**		P	**P**	**11 37 50.2**	**+0.4**					
PINM	baz=8.0,SNR=17				S	**S**	**11 48 01.7**	**-1.7**					
	baz=8.0												
HIN	**Hinchinbrook I**	**82.04**	**358**		IAmb	IAmb	11 37 53.2						
	comp=Z,147nm,1.3s												
RED	**Redoubt Volcan**	**82.05**	**1**		IAmb	IAmb	11 37 52.1						
	comp=Z,140nm,1.6s												
MESA	**MESA**	**82.06**	**356**		IAmb	IAmb	11 37 53.7						
MESA	comp=Z,125nm,1.4s				IAMs_20	IAMs_20	12 16 46.7						
	comp=Z,3µm,21.0s												
MESA	**MESA**	**82.06**	**356**		P	**P**	**11 37 50.2**	**+0.1**					
MESA	baz=6.7,SNR=8.6				S	**S**	**11 48 03.4**	**-0.6**					
	baz=6.7												
N14K	**Kuskokwak Cree**	**82.11**	**6**		IAmb	IAmb	11 37 53.3						
	comp=Z,103nm,1.2s												
N14K	**Kuskokwak Cree**	**82.11**	**6**		P	**P**	**11 37 50.1**	**+0.1**					
N14K	baz=351,SNR=8.1				S	**S**	**11 48 04.4**	**+0.5**					
	baz=351												
BCPM	**Bancas Point**	**82.14**	**355**		IAmb	IAmb	11 37 57.2						
	comp=Z,118nm,1.6s												
L44A	**Lake County Fo**	**82.15**	**318**		IAMs_20	IAMs_20	12 14 28.7						
	comp=Z,3µm,19.0s												
BGLC	**Bering Glacier**	**82.19**	**356**		P	**P**	**11 37 50.6**	**+0.1**					
BGLC	baz=5.6				S	**S**	**11 48 04.6**	**-0.2**					
	baz=5.6												
TPI	**Tanjungpandan**	**82.22**	**100**		P	**P**	**11 37 51.5**	**+0.1**					
	comp=Z,2µmcomp=Z,94nm,1.4s												
SKAG	**Skagway**	**82.23**	**352**		IAmb	IAmb	11 37 58.6						
	comp=Z,204nm,1.8s												
SKAG	**Skagway**	**82.23**	**352**		P	**P**	**11 37 51.0**	**+0.3**					
SKAG	baz=12,SNR=14				S	**S**	**11 48 04.5**	**-0.7**					
	baz=12												
O19K	**Port Alsworth**	**82.24**	**2**		P	**P**	**11 37 49.9**	**-0.9**					
O19K	baz=357,SNR=8.3				S	**S**	**11 48 05.1**	**-0.1**					
	baz=357												
SUCK	**Suckling Hills**	**82.27**	**357**		IAmb	IAmb	11 37 54.9						
	comp=Z,147nm,1.4s												
P29M	**Windy Craggy**	**82.30**	**354**		IAmb	IAmb	11 37 54.5						
	comp=Z,93nm,1.4s												
P29M	**Windy Craggy**	**82.30**	**354**		P	**P**	**11 37 51.2**	**+0.1**					
P29M	baz=10.0,SNR=12				S	**S**	**11 48 04.5**	**-1.6**					
	baz=10.0												
I40A	**Norwalk**	**82.31**	**321**		IAmb	IAmb	11 37 53.8						
	comp=Z,115nm,1.5s												
I40A	comp=Z,3µm,18.0s				IAMs_20	IAMs_20	12 16 21.7						
Q32M	**Nakina River**	**82.36**	**351**		P	**P**	**11 37 51.8**	**+0.1**					
Q32M	baz=14,SNR=18				S	**S**	**11 48 04.0**	**-3.0**					
	baz=14												
SEW	**Seward**	**82.38**	**360**		IAmb	IAmb	11 37 54.6						
	comp=Z,121nm,1.3s												
SEW	**Seward**	**82.38**	**360**		P	**P**	**11 37 51.5**	**+0.1**					
SEW	baz=0.7,SNR=9.7				S	**S**	**11 48 05.6**	**-1.1**					
	baz=0.7												
HQIL	**Hanson Quary C**	**82.39**	**318**		IAMs_20	IAMs_20	12 14 35.0						
	comp=Z,4µm,19.0s												
O20K	**Slope Mountain**	**82.39**	**1**		P	**P**	**11 37 50.1**	**-1.6**					
O20K	baz=358				S	**S**	**11 48 06.3**	**-0.7**					
	baz=358												
X58A	**Rowland**	**82.39**	**308**		IAmb	IAmb	11 38 01.1						
	comp=Z,110nm,1.3s												
PNL	**Peninsula**	**82.40**	**354**		P	**P**	**11 37 50.7**	**-0.9**					
PNL	baz=8.7,SNR=7.4				S	**S**	**11 48 06.0**	**-1.1**					
	baz=8.7												
SPMN	**Marine on St.**	**82.40**	**323**		IAmb	IAmb	11 37 57.8						
	comp=Z,64nm,1.2s												
W57A	**Gilead**	**82.40**	**309**		IAmb	IAmb	11 38 00.1						
W57A	comp=Z,118nm,1.4s				IAMs_20	IAMs_20	12 15 32.4						
	comp=Z,3µm,20.0s												
O18K	**Koktuh Hills**	**82.55**	**2**		P	**P**	**11 37 52.3**	**-0.1**					
O18K	baz=356,SNR=15				S	**S**	**11 48 06.4**	**-2.1**					
	baz=356												
O17K	**Koliganek Bris**	**82.56**	**3**		P	**P**	**11 37 52.9**	**+0.5**					
	baz=355,SNR=28												
DLBC	**Dease Lake**	**82.56**	**349**		P	**P**	**11 37 53.2**	**+0.6**					
DLBC	comp=Z,0.9nm,0.9s,baz=354,slow=9.5,SNR=8.7				LR	LR	12 17 20.0						
	comp=Z,198nm,19.0s,baz=4.0,slow=38												
DLBC	**Dease Lake**	**82.56**	**349**		P	**P**	**11 37 53.2**	**+0.6**					
	baz=16,SNR=21												
U54A	**Nelsons Funny**	**82.61**	**311**		IAMs_20	IAMs_20	12 13 08.5						
	comp=Z,4µm,22.0s												
O16K	**Kokwok River B**	**82.68**	**4**		IAmb	IAmb	11 37 56.5						
	comp=Z,98nm,1.4s												
O16K	comp=Z,3µm,20.0s				IAMs_20	IAMs_20	12 19 29.9						
O16K	**Kokwok River B**	**82.68**	**4**		P	**P**	**11 37 53.2**	**+0.1**					
	baz=354,SNR=13												
V55A	**Taylorsville**	**82.69**	**310**		IAmb	IAmb	11 37 56.8						
	comp=Z,57nm,1.1s												
P48A	**Milroy**	**82.70**	**315**		IAmb	IAmb	11 37 55.6						
	comp=Z,72nm,1.0s												
P48A	comp=Z,3µm,20.0s				IAMs_20	IAMs_20	12 14 11.5						
BRLK	**Bradley Lake**	**82.72**	**0**		IAmb	IAmb	11 37 56.2						
	comp=Z,106nm,1.4s												
P19K	**Oil Pt**	**82.81**	**1**		P	**P**	**11 37 52.6**	**-1.2**					
	baz=358												
O14K	**Tigyukauivet M**	**82.81**	**6**		IAmb	IAmb	11 37 57.1						
	comp=Z,120nm,1.2s												
O14K	**Tigyukauivet M**	**82.81**	**6**		P	**P**	**11 37 53.4**	**-0.3**					
	baz=351,SNR=6.9												
HOM	**Homer**	**82.83**	**1**		P	**P**	**11 37 52.5**	**-1.3**					
	baz=359												
JFWS	**Jewell Farm**	**82.83**	**320**		IAmb	IAmb	11 37 56.1						
	comp=Z,53nm,0.9s												
R50A	**Paris**	**82.89**	**314**		IAmb	IAmb	11 37 57.3						
	comp=Z,84nm,1.2s												
R50A	comp=Z,4µm,18.0s				IAMs_20	IAMs_20	12 15 53.6						
CNPM	**China Poot**	**82.96**	**0**		IAmb	IAmb	11 38 05.6						
	comp=Z,84nm,1.1s												
O15K	**Ungalikthiuk R**	**82.99**	**5**		IAmb	IAmb	11 37 58.0						
	comp=Z,113nm,1.3s												
O15K	**Ungalikthiuk R**	**82.99**	**5**		P	**P**	**11 37 54.7**	**0.0**					
	baz=352,SNR=9.0												
Q23K	**Middleton Isla**	**83.00**	**358**		P	**P**	**11 37 54.7**	**0.0**					
	baz=3.1												
P18K	**Big Mountain,**	**83.01**	**3**		P	**P**	**11 37 54.0**	**-0.8**					
	baz=356												
Y58A	**Scranton**	**83.02**	**308**		IAmb	IAmb	11 37 58.5						
	comp=Z,94nm,1.0s												
Y58A	comp=Z,4µm,18.0s				IAMs_20	IAMs_20	12 17 53.7						
BIRD	**Birdtown, Kers**	**83.03**	**309**		IAmb	IAmb	11 38 03.7						
	comp=Z,111nm,1.4s												
BIRD	comp=Z,4µm,19.0s				IAMs_20	IAMs_20	12 16 09.9						
BESE	**Bessie Mountai**	**83.05**	**352**		IAMs_20	IAMs_20	12 17 01.8						
	comp=Z,4µm,22.0s												
CGJI	**Cibinong**	**83.11**	**104**		P	**P**	**11 37 54.4**	**-1.6**					
	comp=Z,2µmcomp=Z,130nm,1.4s												
P17K	**Kvichak River**	**83.16**	**3**		P	**P**	**11 37 55.6**	**0.0**					
	baz=355,SNR=14												
L42A	**Oliver, Polo**	**83.19**	**319**		IAMs_20	IAMs_20	12 16 39.1						
	comp=Z,3µm,19.0s												
S34M	**Telegraph Cree**	**83.23**	**350**		IAmb	IAmb	11 38 00.2						
	comp=Z,144nm,1.6s												
S34M	comp=Z,3µm,19.0s				IAMs_20	IAMs_20	12 19 55.7						
S34M	**Telegraph Cree**	**83.23**	**350**		P	**P**	**11 37 56.8**	**+0.9**					
	baz=15,SNR=24												
KMSC	**Kings Mountain**	**83.23**	**310**		IAmb	IAmb	11 37 59.4						
	comp=Z,63nm,1.1s												
P16K	**Nushagak River**	**83.25**	**4**		IAMs_20	IAMs_20	12 19 56.9						
	comp=Z,4µm,20.0s												
P16K	**Nushagak River**	**83.25**	**4**		P	**P**	**11 37 56.7**	**+0.7**					
	baz=354,SNR=6.3												
HUMP	**Col San Antoni**	**83.29**	**288**		IAmb	IAmb	11 38 05.3						
	comp=Z,96nm,1.6s												
R31K	**City Hall, Gus**	**83.31**	**352**		P	**P**	**11 37 56.4**	**+0.1**					
	baz=12												
R32K	**Eaglecrest**	**83.31**	**352**		IAMs_20	IAMs_20	12 17 56.5						
	comp=Z,4µm,19.0s												
R32K	**Eaglecrest**	**83.31**	**352**		P	**P**	**11 37 56.6**	**+0.3**					
	baz=12												
Y57A	**Sumter**	**83.40**	**308**		IAMs_20	IAMs_20	12 16 13.8						
	comp=Z,4µm,20.0s												
MDND	**Maddock**	**83.43**	**328**		IAMs_20	IAMs_20	12 16 20.7						
	comp=Z,3µm,19.0s												
STKI	**Sintang**	**83.49**	**95**		P	**P**	**11 38 00.0**	**+2.0**					
PDPR	**Patillas Dam,**	**83.49**	**288**		IAmb	IAmb	11 38 06.3						
	comp=Z,122nm,1.4s												
BLO	**Bloomington**	**83.51**	**315**		IAMs_20	IAMs_20	12 14 35.9						
	comp=Z,4µm,20.0s												
Q19K	**Cape Douglas,**	**83.52**	**2**		P	**P**	**11 37 55.8**	**-1.8**					
	baz=357												
SJG	**San Juan**	**83.53**	**288**		LR	LR	12 09 55.3						
	comp=Z,392nm,21.0s,baz=57,slow=32												
F33A	**5 Mile Ranch,**	**83.56**	**325**		IAmb	IAmb	11 38 03.7						
	comp=Z,103nm,1.3s												
F33A	comp=Z,3µm,21.0s				IAMs_20	IAMs_20	12 12 49.2						
P46A	**Rosedale**	**83.58**	**316**		IAMs_20	IAMs_20	12 13 47.6						
	comp=Z,3µm,21.0s												
I37A	**Lemond, Waseca**	**83.59**	**323**		IAMs_20	IAMs_20	12 15 05.3						
	comp=Z,3µm,19.0s												
TZTN	**Tazewell**	**83.62**	**312**		IAmb	IAmb	11 38 06.2						
	comp=Z,124nm,1.6s												
CMC01	**Camacan, BA**	**83.66**	**245**	*eP*		**P**	**11 37 59.9**	**+1.2**					
Q16K	**King Salmon**	**83.67**	**3**		P	**P**	**11 37 58.0**	**-0.2**					
	baz=355,SNR=7.6												
PAULI	**Pauline**	**83.74**	**310**		IAmb	IAmb	11 38 02.1						
	comp=Z,73nm,1.1s												
JSC	**Jenkinsville**	**83.76**	**309**		IAMs_20	IAMs_20	12 17 23.3						
	comp=Z,3µm,18.0s												
Q18K	**Katmai Hardscr**	**83.77**	**2**		P	**P**	**11 37 57.2**	**-1.6**					
	baz=356												
V53A	**Saluda**	**83.77**	**311**		IAMs_20	IAMs_20	12 13 54.4						
	comp=Z,3µm,22.0s												
S31K	**Pelican**	**83.80**	**352**		IAMs_20	IAMs_20	12 17 05.7						
	comp=Z,4µm,21.0s												
S31K	**Pelican**	**83.80**	**352**		P	**P**	**11 37 59.4**	**+0.5**					
	baz=11,SNR=5.3												
SPIA	**Saint Paul Isl**	**83.84**	**11**		P	**P**	**11 37 59.4**	**+0.4**					
	baz=344												
NHSC	**New Hope**	**83.87**	**307**		IAMs_20	IAMs_20	12 18 21.3						
	comp=Z,4µm,18.0s												
Q20K	**Shuyak Island**	**83.87**	**1**		P	**P**	**11 37 58.9**	**-0.3**					
	baz=358												
CSU	**Charleston Sou**	**83.88**	**307**		IAMs_20	IAMs_20	12 18 30.6						
	comp=Z,3µm,18.0s												
OBIP	**Obispado Ponce**	**83.92**	**288**		P	**P**	**11 38 00.2**	**0.0**					
OBIP	comp=Z,65nm,1.3s				IAmb	IAmb	11 38 11.0						
T35M	**Bob Quinn**	**84.00**	**349**		IAmb	IAmb	11 38 07.9						
	comp=Z,73nm,1.4s												
T35M	comp=Z,3µm,21.0s				IAMs_20	IAMs_20	12 17 55.2						
T35M	**Bob Quinn**	**84.00**	**349**		P	**P**	**11 38 00.5**	**+0.6**					
	baz=16,SNR=13												
HDIL	**Hopedale**	**84.03**	**318**		IAMs_20	IAMs_20	12 16 30.6						
	comp=Z,4µm,18.0s												
WCI	**Wyandotte Cave**	**84.04**	**315**		IAMs_20	IAMs_20	12 13 30.1						
	comp=Z,3µm,20.0s												
T50A	**Nancy**	**84.05**	**313**		IAMs_20	IAMs_20	12 17 48.4						
	comp=Z,4µm,18.0s												
S32K	**Killisnoo**	**84.10**	**352**		IAmb	IAmb	11 38 04.4						
	comp=Z,86nm,1.6s												
S32K	comp=Z,4µm,20.0s				IAMs_20	IAMs_20	12 18 28.7						
S32K	**Killisnoo**	**84.10**	**352**		P	**P**	**11 37 59.9**	**-0.5**					
	baz=12												
Q17K	**Contact Creek**	**84.12**	**3**		P	**P**	**11 37 58.9**	**-1.7**					
	baz=356,SNR=11												
TKL	**Tuckaleechee C**	**84.35**	**311**		LR	LR	12 15 21.9						
	comp=Z,3µm,21.6s,baz=57,slow=36												
HODGE	**Hodges**	**84.41**	**309**		IAmb	IAmb	11 38 10.0						
	comp=Z,95nm,1.7s												
P08K	**Saint George I**	**84.50**	**11**		P	**P**	**11 38 02.7**	**+0.3**					
	baz=345												
T33K	**Petersburg**	**84.54**	**350**		P	**P**	**11 38 02.8**	**+0.2**					
	baz=14												
SIT	**Sitka**	**84.59**	**352**		P	**P**	**11 38 03.1**	**+0.2**					
	baz=12,SNR=8.4												
SHEM	**Shemya Is, Ala**	**84.63**	**21**		P	**P**	**11 38 03.1**	**0.0**					
	comp=Z,42nm,1.1s,baz=13,slow=7.7,SNR=6.3												
SHEM					LR	LR	12 21 04.7						
	comp=Z,3µm,18.8s,baz=319,slow=39												
	comp=Z,42nm,1.1s												
SMY	**Shemya**	**84.63**	**21**		IAmb	IAmb	11 38 05.4						
	comp=Z,74nm,1.3s												
SMY	comp=Z,3µm,20.0s				IAMs_20	IAMs_20	12 20 14.4						
GUA01	**Guaratinga, BA**	**84.67**	**244**	*eP*		**P**	**11 38 06.6**	**+2.7**					
OLIL	**Olney**	**84.69**	**316**		IAMs_20	IAMs_20	12 15 25.1						
	comp=Z,3µm,20.0s												
KDAK	**Kodiak Island**	**84.69**	**1**		P	**P**	**11 38 04.9**	**+1.5**					
KDAK	comp=Z,96nm,1.2s				IAmb	IAmb	11 38 11.9						
KDAK	**Kodiak Island**	**84.69**	**1**		P	**P**	**11 38 03.4**	**0.0**					
	comp=Z,38nm,1.0s,baz=45,slow=3.7,SNR=11												
KDAK					LR	LR	12 15 58.7						
	comp=Z,2µm,21.9s,baz=4.3,slow=36												
	comp=Z,38nm,1.0s												
KDAK	**Kodiak Island**	**84.69**	**1**		P	**P**	**11 38 04.9**	**+1.5**					
KDAK	comp=Z,96nm,1.2s				pmax	pmax							
KDAK	comp=Z,2µm,22.0s				MLR	MLR							
KDAK	**Kodiak Island**	**84.69**	**1**		P	**P**	**11 38 03.2**	**-0.2**					
	baz=358												
R17L	**Mt. Peulik Vol**	**84.73**	**3**		P	**P**	**11 38 02.7**	**-1.0**					
	baz=355												
LEM	**Lembang**	**84.73**	**103**		P	**P**	**11 38 04.0**	**-0.4**					
	comp=Z,15nm,0.4s,baz=217,slow=12,SNR=5.3												
LEM					LR	LR	12 17 38.8						
	comp=Z,1µm,20.9s,baz=330,slow=37												
	comp=Z,15nm,0.4s												
LEM	**Lembang**	**84.73**	**103**		P	**P**	**11 38 03.1**	**-1.4**					
	comp=Z,44nm,1.4s												
R16K	**Pilot Point**	**84.73**	**4**		P	**P**	**11 38 02.7**	**-0.9**					
	baz=354												
N41A	**Harden Midland**	**84.75**	**319**		IAMs_20	IAMs_20	12 17 36.3						
	comp=Z,3µm,18.0s												
P43A	**Skaggs, Pawnee**	**84.81**	**317**		IAMs_20	IAMs_20	12 18 09.3						
	comp=Z,4µm,18.0s												
W52A	**Murphy**	**84.83**	**311**		IAmb	IAmb	11 38 07.7						
	comp=Z,94nm,1.2s												
W52A	comp=Z,3µm,21.0s				IAMs_20	IAMs_20	12 14 28.4						
WRAK	**Wrangell Islan**	**84.84**	**350**		IAmb	IAmb	11 38 08.1						
	comp=Z,119nm,1.4s												
WRAK	**Wrangell Islan**	**84.84**	**350**		IAMs_20	IAMs_20	12 17 56.4						
	comp=Z,3µm,21.0s												
WRAK	**Wrangell Islan**	**84.84**	**350**		P	**P**	**11 38 04.7**	**+0.5**					
	baz=14,SNR=12												
R18K	**Karluk**	**84.87**	**2**		P	**P**	**11 38 03.7**	**-0.5**					
	baz=357												
E28A	**Huff**	**84.90**	**328**		IAMs_20	IAMs_20	12 17 04.4						
	comp=Z,3µm,19.0s												
CPCT	**Cooper Cave**	**84.94**	**312**		IAMs_20	IAMs_20	12 18 19.2						
	comp=Z,3µm,18.0s												
U49A	**Red Boiling Sp**	**84.94**	**313**		IAMs_20	IAMs_20	12 16 15.1						
	comp=Z,3µm,20.0s												
U35K	**Hyder**	**84.99**	**349**		IAMs_20	IAMs_20	12 21 27.4						
	comp=Z,3µm,18.0s												
U35K	**Hyder**	**84.99**	**349**		P	**P**	**11 38 04.7**	**-0.3**					
	baz=16												
USIN	**University of**	**84.99**	**315**		IAMs_20	IAMs_20	12 16 21.3						
	comp=Z,3µm,20.0s												
Q44A	**Meyer Farm, Va**	**85.07**	**317**		IAMs_20	IAMs_20	12 14 44.1						
	comp=Z,4µm,21.0s												
257A	**Skidaway Islan**	**85.15**	**307**		IAMs_20	IAMs_20	12 19 19.4						
	comp=Z,3µm,18.0s												
OHAK	**Old Harbor**	**85.24**	**2**		IAmb	IAmb	11 38 09.4						
	comp=Z,55nm,1.1s												
OHAK	**Old Harbor**	**85.24**	**2**		P	**P**	**11 38 06.0**	**-0.2**					
	baz=358,SNR=7.1												
U33K	**Whale Pass**	**85.25**	**350**		IAmb	IAmb	11 38 18.6						
	comp=Z,98nm,1.3s												
U33K	comp=Z,3µm,20.0s				IAMs_20	IAMs_20	12 20 02.0						
U33K	**Whale Pass**	**85.25**	**350**		P	**P**	**11 38 06.0**	**-0.1**					
	baz=14,SNR=9.3												
ECSD	**EROS Data Cent**	**85.32**	**324**		IAMs_20	IAMs_20	12 17 32.0						
	comp=Z,3µm,19.0s												
T47A	**Sharon Grove**	**85.37**	**314**		IAMs_20	IAMs_20	12 15 14.3						
	comp=Z,3µm,20.0s												
SMTB	**Santa Maria do**	**85.47**	**255**	*eP*		**P**	**11 38 09.3**	**+1.3**					
PRPB	**Parauapebas**	**85.50**	**259**	*eP*		**P**	**11 38 09.7**	**+1.5**					
CLTN	**Cedars of Leba**	**85.55**	**313**		IAmb	IAmb	11 38 10.7						
	comp=Z,53nm,1.2s												
SDBA	**SAO DESIDERIO**	**85.68**	**251**	*eP*		**P**	**11 38 10.8**	**+1.8**					
GOGA	**Godfrey**	**85.70**	**310**		IAMs_20	IAMs_20	12 17 55.6						
	comp=Z,3µm,20.0s												
X51A	**Calhoun**	**85.75**	**311**		IAMs_20	IAMs_20	12 14 55.7						
	comp=Z,3µm,21.0s												
Y52A	**Lilburn**	**85.75**	**310**		IAMs_20	IAMs_20	12 18 02.9						
	comp=Z,3µm,18.0s												
V35K	**Ketchikan**	**85.80**	**349**		IAmb	IAmb	11 38 12.6						
	comp=Z,80nm,1.3s												
V35K	comp=Z,3µm,18.0s				IAMs_20	IAMs_20	12 22 07.7						
V35K	**Ketchikan**	**85.80**	**349**		P	**P**	**11 38 09.5**	**+0.5**					
	baz=15,SNR

comp=Z,57nm,0.9s
AKUT IAMs_20 IAMs_20 12 20 43.7
comp=Z,2µm,20.0s
PEBM Pemiscott Bayo 87.54 315 IAMs_20 IAMs_20 12 16 23.8
comp=Z,3µm,21.0s
UNV Unalaska Valle 87.60 10 IAMs_20 IAMs_20 12 20 23.8
comp=Z,3µm,21.0s
UNV Unalaska Valle 87.60 10 P **P** **11 38 16.2 -1.6**
baz=347
GNAR Gosnell 87.74 315 IAMs_20 IAMs_20 12 16 29.9
comp=Z,3µm,21.0s
BGNE Belgrade 87.84 324 IAMs_20 IAMs_20 12 19 06.6
comp=Z,3µm,18.0s
656A Willston 87.87 306 IAMs_20 IAMs_20 12 18 44.3
comp=Z,2µm,19.0s
WOJI Wonogiri, Jawa 87.92 101 P **P** **11 38 18.2 -1.7**
comp=Z,112nm,1.4s
352A Blakely 87.92 309 IAMs_20 IAMs_20 12 19 48.7
comp=Z,3µm,18.0s
DIB Dawson Inlet, 87.99 349 IAmb IAmb 11 38 23.0
comp=Z,40nm,1.2s
DWPF Disney Wildern 88.00 304 P **P** **11 38 20.7 +0.5**
DWPF Disney Wildern 88.00 304 IAMs_20 IAMs_20 12 21 42.1
comp=Z,2µm,18.0s
NIKH Nikolski High 88.11 11 P **P** **11 38 18.5 -1.8**
baz=346
BBB Bella Bella 88.25 347 P **P** **11 38 20.6 -0.3**
comp=Z,11nm,1.0s,baz=7.2,slow=3.2,SNR=9.7
BBB LR LR 12 20 38.8
comp=Z,2µm,18.8s,baz=22,slow=38
comp=Z,11nm,1.0s
RSSD Black Hills 88.27 329 P **P** **11 38 20.3 -1.2**
RSSD Black Hills 88.27 329 P **P** **11 38 20.3 -1.2**
RSSD pmax pmax
comp=Z,151nm,1.7s
RSSD MLR MLR
comp=Z,4µm,18.0s
LCAR Lake Charles 88.29 316 IAMs_20 IAMs_20 12 18 46.5
comp=Z,3µm,20.0s
MET Memphis--Engin 88.30 315 IAMs_20 IAMs_20 12 17 12.9
comp=Z,3µm,20.0s
PCJI Pacitan 88.33 102 P **P** **11 38 20.4 -1.5**
comp=Z,134nm,1.2s
HDBT Hernando Brdge 88.35 315 IAMs_20 IAMs_20 12 24 55.2
comp=Z,3µm,22.0s
HBAR Harrisburg 88.39 315 IAMs_20 IAMs_20 12 16 59.2
comp=Z,4µm,21.0s
LLLB Lillooet 88.41 342 IAmb IAmb 11 38 27.6
comp=Z,117nm,1.8s
OXF Oxford 88.44 314 IAMs_20 IAMs_20 12 19 54.8
comp=Z,2µm,18.0s
553A Crawfordville 88.51 308 IAMs_20 IAMs_20 12 17 03.1
comp=Z,4µm,21.0s
NMDO Nuevo Mundo 88.52 295 IAmb IAmb 11 38 29.0
comp=Z,68nm,1.4s
NMDO IAMs_20 IAMs_20 12 16 59.8
comp=Z,2µm,21.0s
DIAM Diamantina, MG 88.57 246 *e*P **P** **11 38 24.8 +1.7**
Z47A Carrollton 88.61 312 IAMs_20 IAMs_20 12 15 48.3
comp=Z,4µm,22.0s
HG4B Hotspring 88.67 348 IAmb IAmb 11 38 29.3
comp=Z,40nm,1.1s
BOAV Boa Vista 88.69 272 P **P** **11 38 24.2 +0.5**
BOAV IAmb IAmb 11 38 31.0
comp=Z,108nm,1.7s
BOAV Boa Vista 88.69 272 *e*P **P** **11 38 24.1 +0.5**
KSU1 Kansas State U 88.88 321 IAMs_20 IAMs_20 12 19 36.9
comp=Z,2µm,20.0s
Y45A Yeager Farm, C 88.99 313 IAMs_20 IAMs_20 12 18 25.2
comp=Z,3µm,20.0s
ITTB Itaituba 89.02 264 *e*P **P** **11 38 25.4 +0.2**
NEW Newport 89.30 339 IAMs_20 IAMs_20 12 20 52.9
comp=Z,3µm,18.0s
NEW Newport 89.30 339 LR LR 12 20 55.1
comp=Z,3µm,18.5s,baz=35,slow=37
CAM01 Campos-RJ 89.45 242 *e*P **P** **11 38 29.2 +2.2**
RLMT Red Lodge 89.47 332 IAMs_20 IAMs_20 12 17 56.0
comp=Z,3µm,19.0s
WHAR Wooly Hollow 89.49 316 IAmb IAmb 11 38 29.4
comp=Z,40nm,1.0s
146A Union 89.59 312 IAMs_20 IAMs_20 12 20 53.2
comp=Z,3µm,18.0s
JCJ Chichijima 89.62 55 LR LR 12 22 14.1
comp=Z,2µm,20.1s,baz=308,slow=38
HOLB Holberg 89.73 346 IAmb IAmb 11 38 31.1
comp=Z,72nm,1.0s
CBB Campbell River 89.74 344 IAmb IAmb 11 38 31.3
comp=Z,45nm,1.2s
U38A Gravette 89.76 318 IAmb IAmb 11 38 30.3
comp=Z,53nm,1.2s
U38A IAMs_20 IAMs_20 12 19 43.2
comp=Z,3µm,18.0s
B08A Colville Reser 89.83 340 IAMs_20 IAMs_20 12 19 35.9
comp=Z,3µm,19.0s
UALR University of 89.90 316 IAMs_20 IAMs_20 12 17 34.1
comp=Z,4µm,22.0s
BOZ Bozeman (W) 89.91 334 IAmb IAmb 11 38 36.0
comp=Z,121nm,1.6s
CHIV Chivirico 89.92 295 IAMs_20 IAMs_20 12 18 06.9
comp=Z,1µm,20.0s
MPSI Mapaga 89.98 90 P **P** **11 38 29.7 0.0**
comp=Z,2µmcomp=Z,1µmcomp=Z,56nm,1.1s
OGNE Ogallala 89.99 326 IAmb IAmb 11 38 36.3
comp=Z,103nm,1.4s
BDFB Brasilia 90.06 250 P **P** **11 38 30.1 +0.1**
comp=Z,55nm,1.0s,baz=76,slow=4.6,SNR=23
BDFB LR LR 12 18 53.6
comp=Z,4µm,21.6s,baz=60,slow=36
comp=Z,55nm,1.0s
DUB01 Friburgo-RJ 90.12 242 *e*P **P** **11 38 33.1 +3.0**
YMP Mirror Lake PI 90.12 333 IAmb IAmb 11 38 51.5
comp=Z,48nm,1.0s
CCAR Cane Creek 90.22 315 IAMs_20 IAMs_20 12 24 03.5
comp=Z,3µm,18.0s
SNDB Serra Nova Dou 90.24 255 *e*P **P** **11 38 32.5 +1.7**
RLO Rose Lookout 90.31 318 IAmb IAmb 11 38 32.7
comp=Z,50nm,1.2s
DAV Davao City (W) 90.36 81 LR LR 12 26 32.4
comp=Z,1µm,18.1s,baz=346,slow=41
NPGB Novo Progresso 90.36 261 *e*P **P** **11 38 32.9 +1.4**
LKWY Lake 90.36 333 IAmb IAmb 11 38 36.3
comp=Z,39nm,1.0s
X40A Basin Creek Fa 90.39 316 IAMs_20 IAMs_20 12 17 59.9
comp=Z,3µm,21.0s
YHL Hebgen Lake 90.40 333 IAmb IAmb 11 38 38.7
comp=Z,81nm,1.2s
R32A Long Quarter, 90.44 322 IAmb IAmb 11 38 33.2
comp=Z,75nm,1.2s
R32A IAMs_20 IAMs_20 12 20 40.6
comp=Z,2µm,20.0s
DLMT Dillon 90.44 334 IAmb IAmb 11 38 39.1
comp=Z,106nm,1.6s
YHB Horse Butte 90.49 333 IAmb IAmb 11 38 39.1
comp=Z,68nm,1.2s
K22A Casper 90.50 329 IAmb IAmb 11 38 34.0
comp=Z,44nm,1.0s
K22A IAMs_20 IAMs_20 12 19 03.6
comp=Z,3µm,20.0s
T35A Sooner Cattle 90.51 320 IAMs_20 IAMs_20 12 20 24.7
comp=Z,2µm,19.0s
CBKS Cedar Bluff 90.62 323 IAMs_20 IAMs_20 12 18 06.5
comp=Z,4µm,21.0s
346A Big Creek Wild 90.73 312 IAMs_20 IAMs_20 12 22 15.4
comp=Z,3µm,18.0s
PMNB Patos De Minas 90.73 247 *e*P **P** **11 38 34.5 +1.4**
VBMS Vicksburg 90.74 313 IAMs_20 IAMs_20 12 21 13.7
comp=Z,3µm,18.0s
MIAR Mount Ida 90.75 316 IAmb IAmb 11 38 35.8
comp=Z,83nm,1.3s
MIAR IAMs_20 IAMs_20 12 18 02.5
comp=Z,3µm,19.0s
143A Socs Landing, 90.90 314 IAmb IAmb 11 38 37.0
comp=Z,58nm,1.0s
143A IAMs_20 IAMs_20 12 18 18.6
comp=Z,2µm,21.0s
TUL3 Leonard 90.90 319 IAMs_20 IAMs_20 12 19 48.3
comp=Z,3µm,20.0s
BLOK Blackwell 90.98 320 IAmb IAmb 11 41 44.4
comp=Z,57nm,0.9s
VAS01 Vassouras-RJ 90.99 242 *e*P **P** **11 38 35.9 +1.7**
BSCB Bom Sucesso 91.11 244 *e*P **P** **11 38 36.6 +1.7**
WLAR White Oak Lake 91.13 315 IAMs_20 IAMs_20 12 18 42.8
comp=Z,3µm,21.0s
E09A Wood Farm, Sta 91.17 338 IAMs_20 IAMs_20 12 24 20.6
comp=Z,3µm,21.0s
QUOK Quay 91.18 319 IAmb IAmb 11 38 42.6
comp=Z,65nm,1.2s
LTY Liberty 91.20 340 IAMs_20 IAMs_20 12 21 03.2
comp=Z,3µm,19.0s
LOHW Long Hollow 91.26 332 IAmb IAmb 11 38 41.6
comp=Z,62nm,1.6s
LOHW IAMs_20 IAMs_20 12 18 54.3
comp=Z,3µm,20.0s
Z41A Richland Creek 91.28 315 IAMs_20 IAMs_20 12 19 06.7
comp=Z,3µm,20.0s
DEOK Depew 91.32 319 IAmb IAmb 11 38 41.4
comp=Z,70nm,1.2s
CAMR Camarioca 91.35 301 IAMs_20 IAMs_20 12 17 25.2
comp=Z,3µm,20.0s
WAH2 Wahluke Slope 91.36 339 IAmb IAmb 11 38 38.6
comp=Z,38nm,1.1s
WAH2 IAMs_20 IAMs_20 12 21 12.4
comp=Z,3µm,19.0s
OK052 Battle Ridge R 91.36 319 IAMs_20 IAMs_20 12 21 41.5
comp=Z,3µm,19.0s
FXWY Fox Creek 91.39 333 IAmb IAmb 11 38 40.1
comp=Z,55nm,1.1s
F10A Beach Ranch, E 91.39 338 IAmb IAmb 11 38 44.9
comp=Z,44nm,1.0s
SNOW Snow King Moun 91.44 332 IAMs_20 IAMs_20 12 19 10.3
comp=Z,3µm,20.0s
GNW Green Mountain 91.47 342 IAmb IAmb 11 38 42.8
comp=Z,51nm,1.0s
GNW IAMs_20 IAMs_20 12 21 37.2
comp=Z,3µm,20.0s
TPAW Teton Pass 91.49 332 IAmb IAmb 11 38 39.9
comp=Z,33nm,0.9s
TPAW IAMs_20 IAMs_20 12 24 00.6
comp=Z,3µm,18.0s
C03A Quillayute Air 91.53 343 IAMs_20 IAMs_20 12 25 44.6
comp=Z,2µm,19.0s
CROK Carrier 91.57 320 IAmb IAmb 11 38 38.6
comp=Z,43nm,1.3s
PDAR Pinedale Array 91.59 331 P **P** **11 38 35.9 -1.2**
comp=Z,7.9nm,0.8s,baz=62,slow=4.5,SNR=53
PDAR PKKPbc **PKKPbc** **11 55 55.4 -0.7**
comp=Z,0.4nm,0.7s,baz=174,slow=6.0,SNR=3.9
PDAR LR LR 12 21 25.7
comp=Z,3µm,18.8s,baz=20,slow=37
comp=Z,7.9nm,0.8s
D05A Enumclaw 91.61 341 IAMs_20 IAMs_20 12 21 57.9
comp=Z,2µm,18.0s
E07A Sunnyside 91.62 340 IAMs_20 IAMs_20 12 22 05.3
comp=Z,3µm,18.0s
IPMB Ipameri, GO 91.68 249 *e*P **P** **11 38 39.2 +1.7**
HAWA Hanford 91.68 339 IAmb IAmb 11 38 43.8
comp=Z,60nm,1.3s
MXC Moxie City 91.72 340 IAmb IAmb 11 38 43.8
comp=Z,72nm,1.8s
MAN01 Angra dos Reis 91.74 242 *e*P **P** **11 38 39.9 +2.3**
KSCO Kaye Shedlock' 91.82 325 IAMs_20 IAMs_20 12 24 04.9
comp=Z,3µm,18.0s
YPT Yellpit 91.83 339 IAmb IAmb 11 38 40.7
comp=Z,52nm,1.3s
YPT IAMs_20 IAMs_20 12 22 21.0
comp=Z,3µm,19.0s
OK029 Liberty Lake 91.85 320 IAmb IAmb 11 38 44.7
comp=Z,39nm,1.1s
OK029 IAMs_20 IAMs_20 12 21 56.4
comp=Z,3µm,18.0s
NLWA Neilton Lookou 91.89 342 IAMs_20 IAMs_20 12 24 09.1
comp=Z,2µm,18.0s
LON Longmire 91.97 341 IAMs_20 IAMs_20 12 22 54.4
comp=Z,3µm,20.0s
OK038 West end E0370 91.97 321 IAMs_20 IAMs_20 12 20 47.5
comp=Z,3µm,20.0s
WISH Wishkah 92.12 342 IAmb IAmb 11 38 51.1
comp=Z,44nm,1.1s
WISH IAMs_20 IAMs_20 12 20 00.3
comp=Z,3µm,20.0s
AHID Auburn Hatcher 92.17 332 IAmb IAmb 11 38 48.0
comp=Z,33nm,0.9s
MACA Manacapuru-AM 92.19 268 *e*P **P** **11 38 43.3 +3.3**
F07A Phinny Hill Vi 92.25 339 IAmb IAmb 11 38 47.6
comp=Z,80nm,1.4s
BMO Blue Mountains 92.43 337 IAmb IAmb 11 38 43.8
comp=Z,49nm,0.9s
G08A Pilot Rock 92.52 338 IAMs_20 IAMs_20 12 25 20.3
comp=Z,3µm,19.0s
HAYD Hayden 92.59 329 IAmb IAmb 11 38 46.9
comp=Z,76nm,1.8s
E03A Lebam 92.60 342 IAmb IAmb 11 38 45.0
comp=Z,45nm,1.1s
E03A IAMs_20 IAMs_20 12 22 44.1
comp=Z,3µm,20.0s
SDV Santo Domingo 92.64 283 P **P** **11 38 42.5 +0.2**
SDV Santo Domingo 92.64 283 LR LR 12 17 13.8
comp=Z,290nm,21.6s,baz=58,slow=34
SDV Santo Domingo 92.64 283 *e*P **P** **11 38 43.3 +1.0**
ELIS Ellis County 92.64 321 IAmb IAmb 11 38 50.3
comp=Z,58nm,1.3s
HLID Hailey 92.65 335 IAMs_20 IAMs_20 12 23 05.9
comp=Z,3µm,20.0s
RADR Rader Ridge 92.78 342 IAmb IAmb 11 38 45.5
comp=Z,58nm,1.2s
RADR IAMs_20 IAMs_20 12 22 50.7
comp=Z,3µm,19.0s
ARAG Araguaiana, MT 92.95 253 *e*P **P** **11 38 44.3 +1.0**
Q24A Divide 92.98 326 IAMs_20 IAMs_20 12 19 12.6
comp=Z,3µm,22.0s
CLDB Colider 93.04 259 *e*P **P** **11 38 45.6 +1.8**
KAPI Kappang 93.11 94 P **P** **11 38 43.8 -0.4**
comp=Z,7.8nm,0.3s,baz=245,slow=1.6,SNR=7.0
KAPI LR LR 12 25 05.0
comp=Z,678nm,20.7s,baz=311,slow=38
comp=Z,7.8nm,0.3s
KAPI Kappang 93.11 94 *de*P **P** **11 38 45.1 +0.9**
KAPI pmax pmax
comp=Z,47nm,1.1s
F03A Seaside 93.18 342 IAMs_20 IAMs_20 12 23 01.3
comp=Z,3µm,20.0s
MFID Camas Ranch 93.25 336 IAmb IAmb 11 38 47.3
comp=Z,34nm,0.9s
O20A White River Ci 93.31 329 IAmb IAmb 11 38 49.6
comp=Z,51nm,1.3s
441A DeRidder 93.36 314 IAMs_20 IAMs_20 12 19 55.0
comp=Z,3µm,21.0s
NATX Nacogdoches 93.44 315 IAMs_20 IAMs_20 12 20 23.9
comp=Z,3µm,20.0s
G04A Mulino 93.58 341 IAmb IAmb 11 38 56.3
comp=Z,28nm,1.0s
HVU Hansel Valley 93.64 333 IAmb IAmb 11 38 49.7
comp=Z,61nm,1.1s
TCUT Toone Canyon 93.71 332 IAmb IAmb 11 38 55.4
comp=Z,60nm,1.1s
G03D McMinnville, O 93.77 341 IAmb IAmb 11 38 50.7
comp=Z,56nm,1.1s
G03D IAMs_20 IAMs_20 12 22 59.2
comp=Z,2µm,19.0s
BB19B Bebedouro 93.85 246 *e*P **P** **11 38 49.4 +1.9**
HEBO Mount Hebo 93.89 342 IAmb IAmb 11 38 56.0
comp=Z,52nm,1.4s
VAO Valinhos 93.95 244 IAMs_20 IAMs_20 12 19 38.3
comp=Z,3µm,22.0s
VAO Valinhos 93.95 244 *e*P **P** **11 38 49.7 +1.8**
WTFS Witchita Falls 93.95 319 IAmb IAmb 11 38 55.3
comp=Z,34nm,1.2s
BSUT Blindstream Ca comp=Z,56nm,1.3s **93.97 331** IAmb IAmb 11 38 58.3
RCLB Rio Claro- Sao 93.98 245 *e*P **P** **11 38 50.5 +2.4**
I05D Terrebonne, OR 94.07 340 IAmb IAmb 11 38 51.6
comp=Z,78nm,1.5s
SDCO Great Sand Dun 94.15 326 IAMs_20 IAMs_20 12 22 59.4
comp=Z,2µm,18.0s
T25A Trinidad 94.16 325 IAMs_20 IAMs_20 12 21 33.8
comp=Z,3µm,20.0s
JLU Jordanelle 94.18 331 IAmb IAmb 11 38 57.8
comp=Z,32nm,1.0s
PDRB Porto dos Gac 94.21 259 *e*P **P** **11 38 50.1 +0.8**
H04D Lebanon 94.28 341 IAmb IAmb 11 38 55.7
comp=Z,67nm,1.5s
H04D IAMs_20 IAMs_20 12 22 17.5
comp=Z,2µm,18.0s
COR Corvallis 94.37 341 P **P** **11 38 50.5 +1.0**
COR IAmb IAmb 11 38 52.9
comp=Z,60nm,1.4s
COR Corvallis 94.37 341 IAMs_20 IAMs_20 12 24 28.9
comp=Z,2µm,20.0s
COR Corvallis 94.37 341 P **P** **11 38 50.5 +1.0**
COR pmax pmax
comp=Z,60nm,1.4s
COR MLR MLR
comp=Z,2µm,20.0s
PINE Pine Mountain 94.46 339 P **P** **11 38 51.0 +0.7**
PINE IAMs_20 IAMs_20 12 26 36.6
comp=Z,3µm,18.0s
BGU Big Grassy Mou 94.48 333 IAmb IAmb 11 38 53.7
comp=Z,30nm,1.0s
PLPT Palo Pinto 94.62 318 IAmb IAmb 11 38 56.7
comp=Z,71nm,1.5s
BUCK Buck Mountain 94.65 341 IAmb IAmb 11 39 02.4
comp=Z,41nm,1.1s
BUCK IAMs_20 IAMs_20 12 24 49.3
comp=Z,3µm,19.0s
SPB Sao Paulo 94.65 244 IAMs_20 IAMs_20 12 19 57.8
comp=Z,3µm,22.0s
SPB Sao Paulo 94.65 244 *e*P **P** **11 38 52.9 +1.9**
AMTX Amarillo 94.69 322 IAMs_20 IAMs_20 12 20 50.8
comp=Z,3µm,22.0s
WHTX Lake Whitney, 94.79 317 IAMs_20 IAMs_20 12 20 40.5
comp=Z,3µm,19.0s
PV22 Blue Mesa, Par 94.89 329 IAmb IAmb 11 38 57.9
comp=Z,56nm,1.7s
PV15 Paradox Valley 94.93 328 IAMs_20 IAMs_20 12 26 03.9
comp=Z,3µm,18.0s
PV21 Cone Mtn., Par 94.95 329 IAmb IAmb 11 38 59.1
comp=Z,47nm,1.5s
I02E Swisshome, OR 94.95 341 IAMs_20 IAMs_20 12 23 26.4
comp=Z,2µm,19.0s
J05D Fort Rock, OR 95.02 339 IAmb IAmb 11 38 56.3
comp=Z,47nm,1.2s
J05D IAMs_20 IAMs_20 12 26 56.2
comp=Z,3µm,20.0s
WVOR Wild Horse Val 95.03 337 IAmb IAmb 11 39 00.8
comp=Z,66nm,1.3s
DUG Dugway, Tooele 95.04 332 IAmb IAmb 11 39 01.8
comp=Z,24nm,0.9s
DUG IAMs_20 IAMs_20 12 24 16.5
comp=Z,3µm,19.0s
PV23 Carpenter Ridg 95.06 329 IAmb IAmb 11 38 56.0
comp=Z,26nm,0.8s
PV04 Paradox Valley 95.06 329 IAmb IAmb 11 38 58.8
comp=Z,63nm,1.6s
PV16 Nyswonger Mesa 95.14 328 IAMs_20 IAMs_20 12 24 17.3
comp=Z,3µm,18.0s
PV01 Paradox Valley 95.14 328 IAMs_20 IAMs_20 12 20 23.5
comp=Z,2µm,22.0s
PV02 Paradox Valley 95.15 328 IAmb IAmb 11 39 04.8
comp=Z,34nm,1.2s
PV03 Paradox Valley 95.16 328 IAMs_20 IAMs_20 12 24 18.9
comp=Z,3µm,19.0s
I03D Drain, OR 95.21 341 IAmb IAmb 11 38 56.4
comp=Z,43nm,1.2s
I03D IAMs_20 IAMs_20 12 25 16.1
comp=Z,3µm,18.0s
PV13 Radium Mtn., P 95.23 328 IAMs_20 IAMs_20 12 24 20.7
comp=Z,3µm,18.0s
PV05 Paradox Valley 95.41 328 IAmb IAmb 11 39 00.1
comp=Z,71nm,1.9s
PV05 IAMs_20 IAMs_20 12 24 22.6
comp=Z,3µm,18.0s
ELK Elko 95.43 334 LR LR 12 24 01.8
comp=Z,4µm,18.8s,baz=32,slow=37
HKT Hockley 95.47 315 IAMs_20 IAMs_20 12 22 45.3
comp=Z,3µm,21.0s
TEFE Tefe 95.53 270 *e*P **P** **11 38 57.1 +1.8**
K04D Chiloquin, OR 95.77 339 IAMs_20 IAMs_20 12 27 29.2
comp=Z,3µm,19.0s
BBOR Butler Butte 95.78 340 IAmb IAmb 11 39 01.7
comp=Z,36nm,1.3s
BBOR IAMs_20 IAMs_20 12 24 58.4
comp=Z,2µm,18.0s
J01E Myrtle Point 95.86 341 IAmb IAmb 11 39 00.8
comp=Z,23nm,0.9s
J01E IAMs_20 IAMs_20 12 21 53.4
comp=Z,2µm,22.0s
SALV Santo Antonio 96.01 255 *e*P **P** **11 39 01.1 +3.7**
PCMB Pacaembu 96.18 248 *e*P **P** **11 38 59.7 +1.6**
HMU Henry Mountain 96.20 330 IAmb IAmb 11 38 59.8
comp=Z,20nm,0.9s
K02D Willamette Mer 96.22 341 IAMs_20 IAMs_20 12 25 31.1
comp=Z,3µm,20.0s
KEBM Edson Butte 96.23 341 IAmb IAmb 11 39 09.0
comp=Z,49nm,1.1s
KEBM IAMs_20 IAMs_20 12 22 15.3
comp=Z,2µm,20.0s
L04D Klamath Falls 96.30 339 IAmb IAmb 11 39 01.0
comp=Z,46nm,1.2s
L04D IAMs_20 IAMs_20 12 24 57.2
comp=Z,3µm,20.0s
MTPU Mount Pierson 96.68 331 IAmb IAmb 11 39 03.7
comp=Z,37nm,1.5s
L02F Cave Junction 96.74 340 IAmb IAmb 11 39 03.3
comp=Z,32nm,1.4s
KBO Bosley Butte 96.82 341 IAmb IAmb 11 39 03.9
comp=Z,34nm,1.4s
YBH Yreka Blue Hor 96.86 340 LR LR 12 23 12.5
comp=Z,203nm,20.7s,baz=30,slow=36
PSUT Pine Spring 96.88 332 IAmb IAmb 11 39 08.1
comp=Z,27nm,1.1s
ANMO Albuquerque 96.90 325 P **P** **11 39 01.6 +0.1**
ANMO Albuquerque 96.90 325 LR LR 12 25 00.2
comp=Z,4µm,18.1s,baz=131,slow=37
ANMO Albuquerque 96.90 325 P **P** **11 39 01.6 +0.1**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO MLR MLR
comp=Z,3µm,19.0s
KSXB Camp Six Broad 97.09 340 IAmb IAmb 11 39 05.3
comp=Z,33nm,1.2s
LDASE Londrina, Braz 97.17 246 *e*P Pdif 11 39 04.7 +2.0
M02C Callahan 97.22 340 IAMs_20 IAMs_20 12 23 13.4
comp=Z,3µm,20.0s
JCT Junction City 97.23 318 P **P** **11 39 02.6 -0.3**
JCT IAmb IAmb 11 39 05.0
comp=Z,26nm,1.4s
JCT IAMs_20 IAMs_20 12 23 46.9
comp=Z,3µm,20.0s
JCT Junction City 97.23 318 P **P** **11 39 02.6 -0.3**
JCT pmax pmax
comp=Z,26nm,1.5s
JCT MLR MLR
comp=Z,3µm,20.0s
KRMB Red Mountain 97.38 340 IAmb IAmb 11 39 06.6
comp=Z,24nm,1.2s
735A Kenedy 97.41 315 IAMs_20 IAMs_20 12 27 04.9
comp=Z,3µm,18.0s
N02D Trinity Center 97.57 339 IAMs_20 IAMs_20 12 28 27.6
comp=Z,2µm,21.0s
OZNA Ozona 97.57 319 IAmb IAmb 11 39 07.3
comp=Z,20nm,0.9s
R11B Troy Canyon, C 97.68 333 IAmb IAmb 11 39 12.3
comp=Z,35nm,1.7s
PAHR Pah Rah Range 97.74 336 IAmb IAmb 11 39 08.2
comp=Z,19nm,1.1s
KRPM Rodgers 97.76 340 IAMs_20 IAMs_20 12 26 21.6
comp=Z,2µm,18.0s
PRVC Isla de Provid 97.81 294 IAMs_20 IAMs_20 12 30 01.1
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 97.83 325 IAMs_20 IAMs_20 12 23 32.0
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 97.83 325 P **P** **11 39 04.6 -1.1**
baz=33
BEKR Beckworth 97.90 337 IAmb IAmb 11 39 08.5
comp=Z,19nm,1.1s
TRCB Terra Rica 97.91 247 IAMs_20 IAMs_20 12 27 20.1
comp=Z,3µm,19.0s
KHMM Horse Mountain 97.94 340 IAmb IAmb 11 39 18.0
comp=Z,25nm,1.2s
Y22A Socorro 97.97 325 IAMs_20 IAMs_20 12 22 37.7
comp=Z,3µm,20.0s
JCC Jacoby Creek, 98.08 340 IAMs_20 IAMs_20 12 25 47.9
comp=Z,2µm,20.0s
U15A North Rim 98.12 330 IAMs_20 IAMs_20 12 26 11.3
comp=Z,3µm,20.0s
W18A Petrified Fore 98.20 327 IAMs_20 IAMs_20 12 22 25.5
comp=Z,4µm,22.0s
MPK Martis Peak 98.32 337 IAmb IAmb 11 39 11.0
comp=Z,35nm,1.3s
PRN Pahroc Range 98.32 332 IAmb IAmb 11 39 14.8
comp=Z,32nm,1.1s
O02D Mt. Diablo Mer 98.33 339 IAmb IAmb 11 39 10.4
comp=Z,50nm,1.6s
S11A Rachel 98.36 333 IAmb IAmb 11 39 16.4
comp=Z,20nm,1.1s
PTLB Pontes e Lacer 98.38 257 *e*P Pdif 11 39 10.9 +2.8
RYN Ryan 98.44 335 IAmb IAmb 11 39 14.6
comp=Z,36nm,1.9s
KVTX Kingsville 98.46 315 IAMs_20 IAMs_20 12 31 16.0
comp=Z,3µm,18.0s
KMPM Mount Pierce 98.47 340 IAMs_20 IAMs_20 12 26 10.6
comp=Z,2µm,20.0s
DRIO Del Rio 98.49 318 IAmb IAmb 11 39 13.4
comp=Z,19nm,1.1s

ORV	Oroville	98.53	338	IAmb	IAmb	11 39 14.4			
	comp=Z,36nm,1.4s								
KMRM	Mail Ridge	98.54	340	IAmb	IAmb	11 39 18.2			
	comp=Z,20nm,1.0s								
NVAR	Mina Array Bea	98.55	335	P	Pdif	11 39 09.1	+0.1		
	comp=Z,3.2nm,0.8s,baz=36,slow=3.7,SNR=19								
NVAR				PKKPbc	**PKKPbc**	**11 55 34.3**	**-3.3**		
	comp=Z,1.0nm,0.9s,baz=182,slow=4.9,SNR=5.2								
NVAR				LR	LR	12 25 47.1			
	comp=Z,2μm,20.4s,baz=29,slow=37								
	comp=Z,3.2nm,0.8s								
PECS	Pecos	98.61	321	IAmb	IAmb	11 39 15.7			
	comp=Z,32nm,1.5s								
LHV	Little Huntoon	98.78	335	IAmb	IAmb	11 39 13.3			
	comp=Z,19nm,1.0s								
BILN	Bilwi Airport	98.81	295	IAMs_20	IAMs_20	12 23 00.4			
	comp=Z,770nm,19.0s								
WAKR	Walker	98.85	336	IAmb	IAmb	11 39 17.2			
	comp=Z,48nm,1.9s								
SUTB	Sutter Butte	98.92	338	IAMs_20	IAMs_20	12 25 36.4			
	comp=Z,3μm,19.0s								
MNTX	Cornudas Mount	99.08	322	IAMs_20	IAMs_20	12 28 31.9			
	comp=Z,2μm,18.0s								
TPNV	Topopah Spring	99.16	333	IAMs_20	IAMs_20	12 27 20.3			
	comp=Z,3μm,20.0s								
ALPN	Alpine	99.30	320	IAmb	IAmb	11 39 18.0			
	comp=Z,42nm,1.6s								
BATI	Baumata	99.32	96	LR	LR	12 30 13.7			
	comp=Z,2μm,20.8s,baz=291,slow=39								
MNRC	McLaughlin Min	99.43	338	IAMs_20	IAMs_20	12 25 54.1			
	comp=Z,3μm,19.0s								
GRAC	Grapevine Rang	99.52	334	IAmb	IAmb	11 39 21.8			
	comp=Z,28nm,1.1s								
EPT	El Paso	99.56	323	IAMs_20	IAMs_20	12 24 21.9			
	comp=Z,3μm,20.0s								
GDXM	Geysers	99.60	339	IAmb	IAmb	11 39 20.9			
	comp=Z,24nm,1.2s								
FURC	Furnace Creek,	99.81	333	IAMs_20	IAMs_20	12 26 38.7			
	comp=Z,2μm,19.0s								
W13A	Hualapai Mount	99.91	330	IAMs_20	IAMs_20	12 25 05.7			
	comp=Z,2μm,20.0s								
SIUN	Universidad Ur	100.03	296	IAMs_20	IAMs_20	12 21 07.8			
	comp=Z,753nm,21.0s								
TXAR	Lajitas Array	100.15	320	P	**Pdif**	**11 39 15.8**	**-0.3**		
	comp=Z,5.8nm,1.0s,baz=46,slow=3.6,SNR=26								
TXAR				PP	**PP**	**11 43 19.8**	**-1.1**		
	comp=Z,0.7nm,0.7s,baz=29,slow=6.6,SNR=3.6								
NEE2	Needles Airpor	100.49	331	IAMs_20	IAMs_20	12 25 32.8			
	comp=Z,3μm,20.0s								
CLC	China Lake	100.66	333	IAMs_20	IAMs_20	12 28 39.1			
	comp=Z,3μm,18.0s								
FARB	Farallon Islan	100.69	338	IAMs_20	IAMs_20	12 29 34.4			
	comp=Z,3μm,18.0s								
WSHM	Spangler Hills	100.82	333	IAMs_20	IAMs_20	12 33 57.3			
	comp=Z,2μm,18.0s								
GSC	Goldstone, Bar	100.84	333	IAMs_20	IAMs_20	12 27 18.8			
	comp=Z,3μm,19.0s								
CCCA	Chr Cany lake	100.84	333	IAMs_20	IAMs_20	12 34 07.8			
	comp=Z,2μm,18.0s								
LRMC	Laurel Mtn Rad	100.99	333	IAMs_20	IAMs_20	12 27 18.9			
	comp=Z,2μm,19.0s								
TUC	Tucson	101.05	327	P	**Pdif**	**11 39 21.2**	**+1.2**		
TUC				pmax	pmax				
	comp=Z,11nm,1.2s								
319A	Douglas	101.17	325	IAMs_20	IAMs_20	12 28 52.6			
	comp=Z,3μm,19.0s								
IRM	Iron Mountain	101.23	331	IAMs_20	IAMs_20	12 25 56.4			
	comp=Z,3μm,20.0s								
BOAB	BOACO BROADBAN	101.53	296	IAMs_20	IAMs_20	12 22 04.5			
	comp=Z,3μm,19.0s								
TPO	Tropico Hills	101.72	333	IAMs_20	IAMs_20	12 28 53.3			
	comp=Z,2μm,19.0s								
GLA	Glamis	102.08	330	IAMs_20	IAMs_20	12 29 42.0			
	comp=Z,2μm,18.0s								
PFO	Pinyon Flats O	102.22	332	*ce*P	**Pdif**	**11 39 26.8**	**+1.6**		
PFO				pmax	pmax				
	comp=Z,13nm,1.0s								
HERN	Volcan Telica	102.24	297	IAMs_20	IAMs_20	12 26 20.4			
	comp=Z,1μm,20.0s								
SALN	Salton City	102.33	331	IAMs_20	IAMs_20	12 29 54.5			
	comp=Z,3μm,19.0s								
PASC	Pasadena Art C	102.35	333	IAMs_20	IAMs_20	12 28 17.8			
	comp=Z,3μm,19.0s								
CPBX	Cerro Prieto	102.83	330	IAMs_20	IAMs_20	12 29 26.8			
	comp=Z,2μm,18.0s								
PIX	Pinacate	102.83	328	IAMs_20	IAMs_20	12 27 33.1			
	comp=Z,3μm,22.0s								
YUH	Yuha Desert	102.87	331	IAMs_20	IAMs_20	12 26 56.8			
	comp=Z,3μm,20.0s								
CPE	Camp Elliot	103.10	332	IAMs_20	IAMs_20	12 29 17.7			
	comp=Z,2μm,18.0s								
HPIG		103.12	320	IAMs_20	IAMs_20	12 27 32.8			
	comp=Z,3μm,19.0s								
CCIG	Comitan	103.31	303	IAMs_20	IAMs_20	12 26 23.9			
	comp=Z,2μm,22.0s								
ESJX	Sierra Juarez	103.44	330	IAMs_20	IAMs_20	12 27 35.1			
	comp=Z,3μm,20.0s								
SFX	San Felipe	103.86	329	IAMs_20	IAMs_20	12 29 40.3			
	comp=Z,3μm,20.0s								
VTX	Valle De La Tr	103.92	330	IAMs_20	IAMs_20	12 32 27.8			
	comp=Z,2μm,18.0s								
HSIG		103.93	325	IAMs_20	IAMs_20	12 27 42.6			
	comp=Z,2μm,19.0s								
ZAIG	Zacatecas	104.82	315	IAMs_20	IAMs_20	12 29 52.3			
	comp=Z,2μm,18.0s								
FITZ	Fitzroy Crossi	105.49	101	Pdiff	**Pdif**	**11 39 39.6**	**-0.1**		
	comp=Z,4.3nm,0.9s,baz=243,slow=4.8,SNR=4.1								
SRIG	Santa Rosalia	105.97	325	IAMs_20	IAMs_20	12 30 30.6			
	comp=Z,2μm,19.0s								
SYO	Syowa Base	106.81	176↑	*e*Pdiff	**Pdif**	**11 39 48.0**	**+3.7**		
PB18	Visviri	107.67	261	IAMs_20	IAMs_20	12 32 26.3			
	comp=Z,2μm,18.0s								
SLBS	Sierra La Lagu	107.97	321	IAMs_20	IAMs_20	12 28 43.9			
	comp=Z,3μm,21.0s								
MAW	Mawson	108.11	167	PKKPbc	PKKPbc	11 55 08.8	-1.3		
	comp=Z,2.3nm,0.9s,baz=180,slow=4.4,SNR=3.7								
GO01	Chusmiza	108.62	259	IAMs_20	IAMs_20	12 31 36.7			
	comp=Z,2μm,21.0s								
SNAA	Sanae	111.63	191	IAMs_20	IAMs_20	12 33 03.0			
	comp=Z,2μm,19.0s								
SNAA	Sanae	111.63	191	PKiKP	**PKiKP**	**11 44 02.6**	**-0.6**		
	comp=Z,0.5nm,0.6s,baz=335,slow=4.0,SNR=3.3								
SNAA				PKKPbc	**PKKPbc**	**11 54 57.2**	**-1.7**		
	comp=Z,0.7nm,0.6s,baz=246,slow=8.1,SNR=6.0								
WRA	Warramunga Arr	113.32	98	PKiKP	**PKiKP**	**11 44 06.6**	**-1.4**		
	comp=Z,2.9nm,0.9s,baz=320,slow=1.4,SNR=3.6								
WRA				PP	**PP**	**11 44 52.9**	**-5.9**		
	comp=Z,7.7nm,1.2s,baz=301,slow=7.5,SNR=7.0								
WRA				PKKPbc	**PKKPbc**	**11 54 51.5**	**-0.3**		
	comp=Z,1.7nm,1.0s,baz=114,slow=3.0,SNR=3.1								
ASAR	Alice Springs	114.99	101	PKP	PKPdf	11 44 10.1	-1.1		
	comp=Z,3.2nm,0.9s,baz=316,slow=1.5,SNR=22								
ASAR				PKKPbc	**PKKPbc**	**11 54 46.4**	**+0.2**		
	comp=Z,2.2nm,0.8s,baz=120,slow=3.7,SNR=29								
LMEL	Las Melosas	116.85	247	IAMs_20	IAMs_20	12 34 09.1			
	comp=Z,2μm,21.0s								
COEN	Coen	116.94	87		**PKiKP**	**11 44 15.8**	**+0.7**		
PLCA	Paso Flores	120.26	240		**PKiKP**	**11 44 22.3**	**+1.4**		
PLCA	Paso Flores	120.26	240	PKP	**PKPdf**	**11 44 20.4**	**-0.4**		
	comp=Z,11nm,1.0s,baz=102,slow=2.7,SNR=13								
PLCA	Paso Flores	120.26	240	PKIKP	**PKiKP**	**11 44 22.3**	**+1.4**		
PLCA	Paso Flores	120.26	240	*e*P	**PKiKP**	**11 44 22.9**	**+2.0**		
CASY	Casey	120.54	152	IAMs_20	IAMs_20	12 33 28.0			
	comp=Z,1μm,20.0s								
LR05	Currie	121.05	241	IAMs_20	IAMs_20	12 39 29.9			
	comp=Z,2μm,21.0s								
LL02	Futaleuf	122.16	238		**PKiKP**	**11 44 24.8**	**+0.4**		
LL01	San Ignacio de	122.22	239	IAMs_20	IAMs_20	12 34 50.9			
	comp=Z,2μm,21.0s								
MWH	Mokuaweoweo	122.74	6	IAMs_20	IAMs_20	12 43 02.9			
	comp=Z,1μm,19.0s								
CTAO	Charters Tower	122.80	91		**PKPdf**	**11 44 26.2**	**+0.1**		
CTAO	Charters Tower	122.80	91	PKIKP	**PKPdf**	**11 44 26.3**	**+0.1**		
STKA	Stephens Creek	124.94	106	PKP	**PKPdf**	**11 44 29.6**	**-0.4**		
	comp=Z,11nm,0.9s,baz=342,slow=5.4,SNR=7.7								
QSPA	South Pole Qui	127.71	180		**PKPdf**	**11 44 34.1**	**-0.1**		
QSPA	South Pole Qui	127.71	180	PKP	**PKPdf**	**11 44 33.6**	**-0.6**		
	comp=Z,28nm,1.0s,baz=278,slow=2.0,SNR=17								
VNDA	Vanda	135.41	167		**PKiKP**	**11 44 50.8**	**+0.8**		
VNDA	Vanda	135.41	167	PKP	**PKPdf**	**11 44 47.0**	**-1.4**		
	comp=Z,2.7nm,1.1s,baz=306,slow=4.4,SNR=4.2								
VNDA	Vanda	135.41	167	PKIKP	**PKiKP**	**11 44 50.8**	**+0.8**		
SBA	Scott Base	136.07	168		**PKiKP**	**11 44 51.3**	**0.0**		
SBA	Scott Base	136.07	168	IAMs_20	IAMs_20	12 49 43.3			
	comp=Z,2μm,19.0s								
SBA	Scott Base	136.07	168	PKIKP	**PKiKP**	**11 44 51.3**	**0.0**		
DZM	Mont Dzumac	139.76	80		**PKPdf**	**11 44 59.1**	**+0.8**		
DZM	Mont Dzumac	139.76	80	*e*P	**PKPdf**	**11 44 52.3**	**-5.9**		
	comp=Z,59nm,1.2s								
DZM	Mont Dzumac	139.76	80	*e*PP	**PP**	**11 47 55.8**	**+1.6**		
	comp=Z,329nm,28.1s								
DZM	Mont Dzumac	139.76	80	*e*SS	SS	12 06 14.6	-0.3		
	comp=Z,828nm,29.4s								
DZM	Mont Dzumac	139.76	80	*e*LR	LR	12 30 15.8			
	comp=Z,1μm,21.9s								
WHZ	Wether Hill Ro	148.22	118		**PKPbc**	**11 45 16.0**	**+0.5**		
AFI	Afiamalu	149.47	44	PKPbc	**PKiKP**	**11 45 20.3**	**-0.4**		
AFI	Afiamalu	149.47	44	PKP2	**PKiKP**	**11 45 20.3**	**-0.4**		
TAOE	Nuku Hiva Isla	149.69	340	*e*PKIKP	**PKPdf**	**11 45 13.7**	**-1.9**		
	comp=Z,626nm,27.0s								
TAOE	Nuku Hiva Isla	149.69	340	*e*PP	**PP**	**11 48 53.4**	**+1.3**		
	comp=Z,302nm,22.7s								
TAOE	Nuku Hiva Isla	149.69	340	*e*SS	SS	12 08 00.9	-5.1		
	comp=Z,448nm,23.5s								
TAOE	Nuku Hiva Isla	149.69	340	*e*LR	LR	12 34 45.0			
	comp=Z,1μm,31.3s								
ODZ	Otahua Downs	150.12	116	IAMs_20	IAMs_20	13 02 54.6			
	comp=Z,1μm,20.0s								
WVZ	Waitaha Valley	150.12	112	P	**PKPbc**	**11 45 19.7**	**-0.7**		
INZ	Inchbonnie	150.62	112	P	**PKPbc**	**11 45 21.6**	**+0.1**		
DSZ	Denniston Nort	150.82	110	IAMs_20	IAMs_20	12 46 22.3			
	comp=Z,2μm,22.0s								
DSZ	Denniston Nort	150.82	110	P	**PKPbc**	**11 45 22.3**	**+0.2**		
OUZ	Omahuta	151.01	96	IAMs_20	IAMs_20	12 49 17.5			
	comp=Z,1μm,22.0s								
OXZ	Oxford	151.09	113	P	**PKiKP**	**11 45 24.5**	**+1.4**		
LTZ	Lake Taylor	151.23	112	P	**PKiKP**	**11 45 24.1**	**+0.6**		
QRZ	Quartz Range	151.27	108	IAMs_20	IAMs_20	12 46 53.3			
	comp=Z,2μm,22.0s								
QRZ	Quartz Range	151.27	108	P	**PKPbc**	**11 45 23.0**	**-0.1**		
MQZ	McQueen's Vall	151.54	114	P	**PKiKP**	**11 45 24.4**	**+0.4**		
THZ	Tophouse	151.64	110	IAMs_20	IAMs_20	13 04 36.1			
	comp=Z,1μm,20.0s								
THZ	Tophouse	151.64	110	P	**PKPbc**	**11 45 24.0**	**0.0**		
GVZ	Greta Valley S	151.80	112	P	**PKiKP**	**11 45 25.6**	**+0.9**		
NNZ	Nelson	151.95	108	P	**PKPbc**	**11 45 22.9**	**-1.8**		
KHZ	Kahutara	152.15	111	P	**PKPbc**	**11 45 24.5**	**-0.6**		
TCW	Tory Channel	152.62	108	P	**PKiKP**	**11 45 26.6**	**+0.2**		
SNZO	South Karori	152.95	108		**PKPbc**	**11 45 26.7**	**-0.1**		
BHW	Baring Head	153.08	109	IAMs_20	IAMs_20	12 48 19.3			
	comp=Z,1μm,21.0s								
CAW	Cannon Point	153.21	108	P	**PKiKP**	**11 45 28.4**	**+0.7**		
MSWZ	Moikau Station	153.37	109	P	**PKiKP**	**11 45 29.9**	**+2.0**		
HOWZ	Holdsworth Sta	153.53	107	P	**PKiKP**	**11 45 28.6**	**+0.3**		
MRZ	Mangatainoka R	153.56	107	IAMs_20	IAMs_20	12 48 04.9			
	comp=Z,1μm,22.0s								
BKZ	Black Stump Fm	154.09	103	IAMs_20	IAMs_20	12 50 20.0			
	comp=Z,1μm,22.0s								
ANWZ	Angora Road	154.22	106	P	**PKiKP**	**11 45 34.0**	**+4.3**		
RKT	Rikitea	160.26	314	*e*SS	SS	12 10 06.0	+4.3		
	comp=Z,9μm,33.8s								
TBI	Tubuai	165.51	357	*e*P	**PKPdf**	**11 45 36.0**	**+1.3**		
	comp=Z,1μm,28.0s								
TBI	Tubuai	165.51	357	*e*PP	**PP**	**11 50 14.5**	**-4.2**		
	comp=Z,3μm,28.2s								
TBI	Tubuai	165.51	357	*e*SS	SS	12 10 51.9	-2.6		
	comp=Z,4μm,33.8s								
TBI	Tubuai	165.51	357	*e*LQ	LQ	12 34 43.6			
	comp=Z,4μm,35.8s								
TBI				*e*LR	LR	12 42 12.0			
	comp=Z,8μm,24.5s								

*GUC **08** 11:26:14.1±0.4, 38°.27S×75°.58W, h20km, ML4.5*
*IDC **08** 11:26:16.7±0.7, 38°.34S×75°.08W, h0km, mb4.1/6, mbtmp4.0/9, ML3.9/3, MS3.4/1, Error ellipse: s-maj=24.4km s-min=17.5km az=80.0*
*SJA **08** 11:26:17.4±0.5, 38°.16S×74°.84W, h4km±11km, ML3.6, MW4.0*
*NEIC **08** 11:26:21.0±1.6, 38°.32S±0°.04×74°.9W±0°.1, h32km±5km, mb4.9/17, ML4.4(GUC), Error ellipse: s-maj=14.6km s-min=6.0km az=95.0*

ISC 08 11:26:17.7±3.3, 38°.29S±0°.04×75°.04W±0°.06, h9km±21km, n79, σ1°58/84, mb4.7/15, 5C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.91**	**98**	↑*i*P		**Pb**	**11 26 36.6**	**+0.9**
BI04				*e*S		**Sn**	**11 26 50.0**	**0.0**
BI04				IAML			11 26 51.3	
	comp=E,9μm,0.4s							
LR04	**Corral**	**2.02**	**142**			**Pn**	**11 26 48.9**	**-3.1**
LR04	**Corral**	**2.02**	**142**	↑*e*P		**Pn**	**11 26 48.6**	**-3.4**
LR04	**Corral**	**2.02**	**142**	*e*P		**Pn**	**11 26 48.6**	**-3.4**
BI05	**Punta Hualpn**	**2.13**	**44**	*e*P		**Pn**	**11 26 53.3**	**-0.1**
BI05	**Punta Hualpn**	**2.13**	**44**	*e*P		**Pn**	**11 26 53.1**	**-0.3**
BI05				*e*S		**Sn**	**11 27 18.5**	**-1.4**
BI05	**Punta Hualpn**	**2.13**	**44**	*e*P		**Pn**	**11 26 53.2**	**-0.1**
BI05				*e*S		**Sn**	**11 27 19.4**	**-0.5**
BI05				IAML			11 27 23.2	
	comp=Z,531nm,0.1s							
LR03	**Panguipulli**	**2.49**	**123**			**Pn**	**11 26 59.5**	**+1.1**
LR03	**Panguipulli**	**2.49**	**123**	↑*i*P		**Pn**	**11 26 59.4**	**+0.9**
LR03				*e*S		**Sn**	**11 27 27.5**	**-1.5**
LC01	**Cunco**	**2.55**	**105**	*e*P		**Pn**	**11 27 00.2**	**+0.9**
LC01				*e*S		**Sn**	**11 27 30.1**	**-0.3**
LC01				IAML			11 27 33.3	
	comp=E,2μm,0.1s							
LR05	**Currie**	**3.05**	**130**			**Pn**	**11 27 06.9**	**+0.8**
LR05	**Currie**	**3.05**	**130**	*e*P		**Pn**	**11 27 06.7**	**+0.6**
LR05				*e*S		**Sn**	**11 27 41.8**	**-1.0**
GO06	**Curarrehue**	**3.07**	**116**	↑*i*P		**Pn**	**11 27 07.5**	**+1.1**
GO06				*e*S		**Sn**	**11 27 43.2**	**-0.1**
GO06				IAML			11 27 47.0	
	comp=N,984nm,0.4s							
GO06	**Curarrehue**	**3.07**	**116**	*e*P		**Pn**	**11 27 08.2**	**+1.7**
GO06				*e*S		**Sn**	**11 27 46.5**	**+3.2**
CANA	**Caviahue**	**3.16**	**84**	*e*P		**Pn**	**11 27 08.9**	**+1.1**
CANA				*e*S		**Sn**	**11 27 46.5**	**+0.7**
CANA				*e*S		**Sb**	**11 27 48.5**	**-4.4**
CANA				IAML			11 28 00.8	
	comp=Z,97nm,0.9s							
LL05	**Los Muermos**	**3.34**	**159**			**Pn**	**11 27 08.7**	**-1.3**
ML02	**Panimavida**	**3.84**	**50**			**Pn**	**11 27 17.5**	**+0.6**
ML02	**Panimavida**	**3.84**	**50**	*e*P		**Pn**	**11 27 17.3**	**+0.3**
PLCA	**Paso Flores**	**4.24**	**127**	Pn		**Pn**	**11 27 23.3**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=288,slow=12,SNR=21							
PLCA				Sn		**Sn**	**11 28 15.6**	**+3.3**
	comp=Z,12nm,0.3s,baz=310,slow=14,SNR=3.9							
PLCA				LR		LR	11 29 06.8	
	comp=Z,518nm,21.8s,baz=354,slow=40							
	comp=Z,6.5nm,0.3s							
PLCA	**Paso Flores**	**4.24**	**127**	*e*P		**Pn**	**11 27 23.0**	**+0.4**
PLCA				*e*S		**Sb**	**11 28 18.4**	**-5.5**
PLCA				IAML			11 28 57.8	
	comp=Z,113nm,0.1s							
BO03	**Pichilemu**	**4.52**	**34**	*e*P		**Pn**	**11 27 25.6**	**-0.8**
LL01	**San Ignacio de**	**4.55**	**155**			**Pn**	**11 27 25.9**	**-0.8**
BO02	**Sierra Bellavi**	**4.89**	**46**			**Pn**	**11 27 31.4**	**-0.1**
BO02	**Sierra Bellavi**	**4.89**	**46**	*e*P		**Pn**	**11 27 31.2**	**-0.3**
GO07	**Milladeo Hill,**	**4.93**	**168**			**Pn**	**11 27 31.1**	**-0.9**
BO01	**Tunca**	**5.03**	**41**			**Pn**	**11 27 33.3**	**0.0**
BO01	**Tunca**	**5.03**	**41**	*e*P		**Pn**	**11 27 33.2**	**-0.1**
EDS3	**Malargue**	**5.16**	**63**	*e*P		**Pn**	**11 27 39.4**	**+4.1**
MT01	**Popeta**	**5.37**	**36**			**Pn**	**11 27 37.4**	**-0.7**
H03S1	**Juan Fernandez**	**5.43**	**324**	Pn		**Pn**	**11 27 34.3**	**-4.2**
	baz=118,slow=8.2							
H03S1				T		T	11 33 10.8	
	baz=149,slow=74							
H03S2	**Juan Fernandez**	**5.45**	**323**	Pn		**Pn**	**11 27 34.3**	**-4.5**
	baz=118,slow=8.2							
H03S2				T		T	11 33 08.5	
	baz=149,slow=74							
H03S3	**Juan Fernandez**	**5.45**	**324**	Pn		**Pn**	**11 27 34.3**	**-4.5**
	baz=118,slow=8.2							
H03S3				T		T	11 33 09.8	
	baz=149							
LL02	**Futaleuf**	**5.46**	**155**			**Pn**	**11 27 39.1**	**-0.2**
MT09	**Talagante**	**5.57**	**37**			**Pn**	**11 27 40.7**	**-0.2**
BO04	**La Punta**	**5.59**	**41**			**Pn**	**11 27 40.8**	**-0.3**
H03N3	**Juan Fernandez**	**5.76**	**326**	Pn		**Pn**	**11 27 39.5**	**-3.7**
	baz=349,slow=28							
H03N1	**Juan Fernandez**	**5.77**	**326**	Pn		**Pn**	**11 27 39.5**	**-3.7**
	baz=349,slow=28							
H03N2	**Juan Fernandez**	**5.78**	**326**	Pn		Pn	11 27 39.5	-3.8
	baz=349,slow=28							
LMEL	**Las Melosas**	**5.91**	**43**			**Pn**	**11 27 45.7**	**+0.1**
MT02	**Curacav**	**5.93**	**33**			**Pn**	**11 27 44.6**	**-1.2**
MT05	**Renca**	**6.00**	**37**			**Pn**	**11 27 47.1**	**+0.3**
PEL	**Peldehue**	**6.23**	**36**			**Pn**	**11 27 49.9**	**0.0**
RFA	**San Rafael**	**6.35**	**58**	↑*i*P		**Pn**	**11 27 53.0**	**+1.5**
RFA				IAML			11 29 26.0	
	comp=Z,16nm,3.3s							
VA06	**Catapilco**	**6.48**	**29**			**Pn**	**11 27 52.1**	**-1.1**
COYC	**Coyhaique**	**7.60**	**164**			**Pn**	**11 28 08.8**	**+0.2**
CO06	**Fray Jorge**	**8.10**	**21**	Pn		**Pn**	**11 28 13.2**	**-2.2**
CO03	**El Pedregal**	**8.25**	**27**			**Pn**	**11 28 17.9**	**+0.3**
CFA	**Coronel Fontan**	**8.69**	**42**	Pn		**Pn**	**11 28 23.0**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=220,slow=14,SNR=21							
CFA				Sn		**Sn**	**11 30 00.7**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=131,slow=20,SNR=6.2							
	comp=Z,4.4nm,0.3s							
TRQA	**Tornquist**	**10.29**	**93**			**Pn**	**11 28 47.0**	**+1.6**
AC04	**Llanos de Chal**	**10.59**	**19**	Pn		**Pn**	**11 28 50.6**	**+1.0**
PLTB	**Pedras Altas**	**18.70**	**76**	P		**P**	**11 30 35.9**	**-0.5**
CPUP	**Villa Florida**	**19.10**	**57**	P		**Pn**	**11 30 42.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=84,slow=9.2,SNR=11							
	comp=Z,1.5nm,0.7s							
LPAZ	**La Paz**	**22.74**	**17**	P		**P**	**11 31 23.3**	**+2.5**
	comp=Z,1.5nm,0.6s,baz=166,slow=6.8,SNR=7.0							
	comp=Z,1.5nm,0.6s							
RUSC	**La Rusia**	**43.99**	**3**	P		**P**	**11 34 26.8**	**+0.7**
RUSC				IAmb		IAmb	11 34 28.2	
	comp=Z,12nm,1.0s							
VNA3	**Neumayer Olymp**	**46.37**	**156**	⇓P		**P**	**11 34 43.6**	**-0.2**
	comp=Z,3.3nm,0.8s							
VNA1	**Neumayer--Stat**	**46.75**	**155**	⇓P		**P**	**11 34 46.8**	**+0.1**
	comp=Z,3.7nm,1.0s							
BAUV	**El Baul**	**47.44**	**9**	P		**P**	**11 34 52.5**	**-0.2**
BAUV				IAmb		IAmb	11 34 53.4	
	comp=Z,12nm,0.7s							
SNAA	**Sanae**	**48.59**	**156**	⇓P		**P**	**11 35 01.2**	**+0.1**
	comp=Z,105nm,0.9s							
SNAA	**Sanae**	**48.59**	**156**	P		**P**	**11 35 00.6**	**-0.6**
SNAA				IAmb		IAmb	11 35 03.6	
	comp=Z,12nm,1.2s							
SNAA	**Sanae**	**48.59**	**156**	P		**P**	**11 35 01.3**	**+0.2**
	comp=Z,7.3nm,1.1s,baz=271,slow=7.1,SNR=17							
	comp=Z,7.3nm,1.1s							
TROLL	**Troll, Antarti**	**50.27**	**157**	⇓P		**P**	**11 35 13.5**	**-0.6**
	comp=Z,226nm,0.7s							
QSPA	**South Pole Qui**	**51.95**	**180**	P		**P**	**11 35 27.5**	**+0.7**
QSPA				IAmb		IAmb	11 35 30.0	
	comp=Z,7.5nm,0.9s							
QSPA	**South Pole Qui**	**51.95**	**180**	P		**P**	**11 35 27.3**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=140,slow=1.4,SNR=27							
	comp=Z,6.9nm,0.9s							
CCD	**Concordia, Ant**	**66.24**	**185**	P		**P**	**11 37 05.3**	**-0.7**
PPT	**Papeete**	**67.34**	**265**	P		**P**	**11 37 14.3**	**+0.9**
	comp=Z,37nm,0.5s,baz=152,slow=9.6,SNR=4.1							
MAW	**Mawson**	**69.75**	**164**	P		**P**	**11 37 27.4**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=

comp=Z,2.9nm,0.3s,baz=25,slow=27,SNR=12
comp=Z,53nm,0.8s

KALU	**Kalix**	**2.72**	**316**	P	**Pn**	**11 30 41.4**	**+1.4**
KALU	**Kalix**	**2.72**	**316**	PB	**Pn**	**11 30 41.4**	**+1.4**
	baz=134						
KALU				SB	**Sn**	**11 31 15.3**	**+1.7**
RNF	**Rovaniemi**	**2.76**	**343**	PB	**Pn**	**11 30 42.0**	**+1.4**
RNF				SG	**Sb**	**11 31 18.9**	**-0.6**
UMAU	**Umeaa**	**3.23**	**271**	PN	**Pn**	**11 30 47.2**	**+0.2**
KPF	**Kankaanpaa**	**3.46**	**234**	PB	**Pn**	**11 30 52.3**	**+2.2**
	baz=46						
KPF				SB	**Sn**	**11 31 34.8**	**+3.0**
VJF	**Virojoki**	**3.47**	**184**	PN	**Pn**	**11 30 48.1**	**-2.1**
VJF				SG	**Sb**	**11 31 40.0**	**+0.2**
ERTU	**Ertsjaerv**	**3.54**	**319**	P	**Pn**	**11 30 53.0**	**+1.7**
ERTU	**Ertsjaerv**	**3.54**	**319**	PN	**Pn**	**11 30 52.7**	**+1.4**
	baz=136						
ERTU				SN	**Sn**	**11 31 35.2**	**+1.4**
KLF	**Kolari**	**3.66**	**335**	PN	**Pn**	**11 30 54.2**	**+1.3**
KLF				SN	**Sn**	**11 31 36.8**	**+0.1**
PAJU	**Pajala**	**3.66**	**329**	P	**Pn**	**11 30 54.5**	**+1.5**
VRF	**Varrio**	**3.83**	**9**	PB	**Pn**	**11 30 59.1**	**+3.8**
HUSU	**Husun**	**3.96**	**265**	PN	**Pn**	**11 30 58.3**	**+1.4**
	baz=76						
RAF	**Rauma**	**4.14**	**227**	PN	**Pn**	**11 31 01.1**	**+1.6**
MASU	**Masugnsbyn**	**4.27**	**327**	P	**Pn**	**11 31 02.8**	**+1.5**
DUNU	**Dundret**	**4.40**	**319**	P	**Pn**	**11 31 04.8**	**+1.7**
RAJF	**Raja-Jooseppi**	**4.51**	**2**	PN	**Pn**	**11 31 05.7**	**+1.1**
RAJF				SN	**Sn**	**11 31 57.8**	**+0.2**
HEMU	**Hemsoen**	**4.67**	**258**	PN	**Pn**	**11 31 07.4**	**+0.7**
LANU	**Lannavaara**	**4.75**	**332**	PN	**Pn**	**11 31 09.4**	**+1.5**
HEF	**Hetta**	**4.77**	**340**	*e*P	**Pn**	**11 31 09.2**	**+1.0**
RATU	**Laukkuluspa**	**5.16**	**322**	P	**Pn**	**11 31 15.5**	**+2.0**
SALU	**Saltoluokta**	**5.19**	**315**	*e*P	**Pn**	**11 31 14.9**	**+1.0**
NIKU	**Nikkaluokta**	**5.34**	**321**	P	**Pn**	**11 31 17.5**	**+1.5**
ARCES	**ARCESS Array B**	**5.66**	**351**	Pn	**Pn**	**11 31 21.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=165,slow=14,SNR=32						
ARCES				Sn	**Sn**	**11 32 23.6**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=168,slow=23,SNR=7.4						
	comp=Z,0.4nm,0.2s						
HFS	**Hagfors**	**7.74**	**247**	Pn	**Pn**	**11 31 49.3**	**+0.5**
	comp=Z,26nm,0.8s,baz=55,slow=7.6,SNR=0.7						
HFS				Sn	**Sn**	**11 33 15.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=57,slow=19,SNR=1.1						
NOA	**NORSAR Array B**	**8.29**	**257**	Pn	**Pn**	**11 31 56.8**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=55,slow=12,SNR=1.0						
NOA				Sn	**Sn**	**11 33 26.7**	**-4.1**
	baz=75,slow=16						

*AFAD **08** 11:30:32.8, 37.°84N×29.°71E, h7km±4km, ML3.2*
ISK 08 11:30:32.2, 37.°86N×29.°67E, h6km, ML3.1/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.16**	**206**	P	Pg	11 30 36.7	+1.2
INCE				S	Sg	11 30 40.7	+3.1
INCE				*i* IAML		11 30 41.0	
	comp=E,5μm,0.4s						
INCE				*i* IAML		11 30 42.0	
	comp=N,4μm,0.5s						
BASM	**Basmaki-Afyon**	**0.31**	**78**	Pg	Pg	11 30 38.4	+0.1
BASM				Sg	Sg	11 30 43.4	+1.0
APMY	**Acipayam-Deniz**	**0.48**	**217**	Pg	Pg	11 30 41.9	+0.5
APMY				Sg	Sb	11 30 49.3	-1.2
KHL	**Karahalli**	**0.48**	**346**	Pg	Pg	11 30 42.1	+0.6
PASA	**Karahalli, USA**	**0.51**	**344**	P	Pg	11 30 42.8	+0.7
PASA				S	Sb	11 30 53.1	+1.6
PASA				*i* IAML		11 30 57.0	
	comp=E,1μm,0.4s						
PASA				*i* IAML		11 30 57.0	
	comp=N,1μm,0.4s						
GOLH	**Golhisar**	**0.62**	**188**	P	Pg	11 30 44.1	0.0
GOLH				S	Sb	11 30 54.6	0.0
GOLH				*i* IAML		11 30 57.0	
	comp=E,1μm,0.3s						
GOLH				*i* IAML		11 30 57.0	
	comp=N,2μm,0.5s						
GOLH	**Golhisar**	**0.62**	**188**	P	Pg	11 30 44.0	-0.2
GOLH				S	Sb	11 30 54.4	-0.2
GOLH				*i* IAML		11 30 56.0	
	comp=N,1μm,0.4s						
GOLH				*i* IAML		11 30 57.0	
	comp=E,1μm,0.3s						
ISP	**Isparta**	**0.68**	**92**	Pg	Pg	11 30 45.6	+0.4
ISP				Sg	Sb	11 30 55.4	-0.9
TAVA	**DENIZLI_Tavas**	**0.71**	**237**	P	Pn	11 30 48.7	-0.2
TAVA				S	Sb	11 30 57.4	+0.1
AFYN	**Afyon-Dinar-K**	**0.78**	**58**	P	Pg	11 30 46.5	-0.7
AFYN				S	Sb	11 31 00.1	+0.9
AFYN				*i* IAML		11 31 01.0	
	comp=N,860nm,0.6s						
AFYN				*i* IAML		11 31 04.0	
	comp=E,2μm,0.9s						
BNAZ	**Uak-Banaz**	**0.84**	**11**	P	Pg	11 30 48.8	+0.4
BNAZ				S	Sb	11 31 01.7	+0.7
BNAZ				*i* IAML		11 31 05.0	
	comp=E,2μm,0.6s						
BNAZ				*i* IAML		11 31 05.0	
	comp=N,2μm,0.5s						
CAME	**Cameli-Denizli**	**0.95**	**198**	Pg	Pg	11 30 50.8	+0.3
CAME				Sg	Sb	11 31 04.6	+0.4
USAK	**Uak-Merkez**	**1.00**	**329**	P	Pn	11 30 52.5	-0.4
USAK				S	Sn	11 31 08.0	+0.6
USAK				*i* IAML		11 31 10.0	
	comp=E,612nm,0.4s						
USAK				*i* IAML		11 31 13.0	
	comp=N,366nm,0.6s						
KNIK	**Mula-Seydike**	**1.01**	**184**	P	Pg	11 30 51.6	0.0
KNIK				S	Sn	11 31 06.8	-0.9
KNIK				*i* IAML		11 31 10.0	
	comp=E,893nm,2.5s						
KNIK				*i* IAML		11 31 14.0	
	comp=N,729nm,1.6s						
KULA	**Kula-Manisa**	**1.03**	**310**	Pg	Pb	11 30 52.3	-0.2
ESEN	**Aydn-Nazilli**	**1.04**	**267**	P	Pb	11 30 52.5	-0.2
ESEN				S	Sb	11 31 07.3	+0.6
ESEN				*i* IAML		11 31 08.0	
	comp=N,522nm,1.2s						
ESEN				*i* IAML		11 31 09.0	
	comp=E,454nm,0.9s						
KIRA	**zmir-Kiraz**	**1.06**	**289**	P	Pg	11 30 49.8	-2.7
KIRA				S	Sn	11 31 10.0	+1.1
MANT	**Manisa**	**1.08**	**306**	P	Pn	11 30 54.8	+0.7
MANT				S	Sn	11 31 10.7	+0.6
MANT				*i* IAML		11 31 13.0	
	comp=E,863nm,0.4s						
MANT				*i* IAML		11 31 13.0	
	comp=N,872nm,0.4s						
NAZL	**Nazilli-Aydin**	**1.09**	**276**	Pn	Pb	11 30 53.5	-0.1
SDAG	**Sultandagi-AFY**	**1.15**	**59**	Pn	Pb	11 30 54.5	0.0
GEDZ	**Gediz**	**1.21**	**350**	Pn	Pb	11 30 55.5	0.0
SHAP	**Saphane-Kutahy**	**1.22**	**343**	Pn	Pn	11 30 55.9	0.0
ANTB	**Antalya**	**1.24**	**140**	Pn	Pn	11 30 56.2	+0.2
ODEM	**Odemis-Izmir**	**1.32**	**289**	Pn	Pg	11 30 57.6	0.0
SIMA	**Simav-Kutahya**	**1.34**	**337**	Pn	Pg	11 30 57.9	0.0
SMAA	**Simav-Kutahya**	**1.35**	**337**	Pn	Pg	11 30 58.5	+0.3
AYDB	**Zeytinkoy-Aydi**	**1.41**	**274**	Pn	Pg	11 30 59.1	-0.1
BLVD	**Bolvadin-AFYON**	**1.46**	**50**	Pn	Pb	11 30 58.9	-0.1
GORD	**Gordes-Manisa**	**1.57**	**312**	Pn	Pb	11 31 01.4	-0.4
TVSB	**Tavsanli**	**1.60**	**354**	Pn	Pn	11 31 01.4	+0.2
ARG	**Arkhangelos**	**2.05**	**217**	Pn	Pn	11 31 08.2	+1.0
BLCB	**Balcova**	**2.14**	**285**	Pn	Pn	11 31 09.4	+0.9

*AFAD **08** 11:31:10.3, 37.°84N×29.°70E, h7km±6km, ML3.1*
ISK 08 11:31:10.4, 37.°84N×29.°69E, h4km, ML2.8/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.16**	**214**	P	Pg	11 31 14.6	+1.1
INCE				*i* IAML		11 31 18.0	
	comp=E,5μm,0.3s						
INCE				S	Sg	11 31 18.2	+2.6
BASM	**Basmaki-Afyon**	**0.30**	**75**	Pg	Pg	11 31 16.6	+0.4
BASM				Sg	Sg	11 31 21.5	+1.4
APMY	**Acipayam-Deniz**	**0.48**	**220**	Pg	Pg	11 31 19.8	+0.2
APMY				Sg	Sb	11 31 27.8	-1.1
KHL	**Karahalli**	**0.50**	**345**	Pg	Pb	11 31 21.2	-0.6
KHL				Sg	Sg	11 31 27.9	+1.4
PASA	**Karahalli, USA**	**0.53**	**343**	P	Pg	11 31 21.0	+0.4
PASA				S	Sg	11 31 28.4	+0.9
PASA				*i* IAML		11 31 30.0	
	comp=E,777nm,0.3s						

PASA				*i* IAML		11 31 32.0	
	comp=N,894nm,0.5s						
ISP	**Isparta**	**0.66**	**91**	Pg	Pg	11 31 23.2	+0.1
ISP				Sg	Sb	11 31 33.7	-0.4
DNZT	**Denizli-Tavas-**	**0.77**	**223**	P	Pg	11 31 24.9	-0.3
DNZT				S	Sg	11 31 36.0	+0.8
DNZT				*i* IAML		11 31 38.0	
	comp=N,833nm,1.1s						
DNZT				*i* IAML		11 31 45.0	
	comp=E,365nm,0.7s						
CAME	**Cameli-Denizli**	**0.95**	**199**	Pg	Pb	11 31 29.4	0.0
USAK	**Uak-Merkez**	**1.02**	**329**	P	Pb	11 31 30.4	-0.2
USAK				S	Sb	11 31 43.9	-0.5
USAK				*i* IAML		11 31 44.0	
	comp=E,417nm,0.3s						
USAK				*i* IAML		11 31 45.0	
	comp=N,265nm,0.7s						
KULA	**Kula-Manisa**	**1.05**	**310**	Pg	Pb	11 31 31.3	+0.1
ESEN	**Aydn-Nazilli**	**1.06**	**268**	P	Pg	11 31 27.7	-3.0
ESEN				S	Sb	11 31 46.3	+0.8
ESEN				*i* IAML		11 31 47.0	
	comp=E,1μm,1.2s						
ESEN				*i* IAML		11 31 49.0	
	comp=N,341nm,1.0s						
KIRA	**zmir-Kiraz**	**1.08**	**290**	P	Pb	11 31 31.4	-0.3
KIRA				S	Sn	11 31 48.3	+0.5
KIRA				*i* IAML		11 31 49.0	
	comp=E,842nm,0.6s						
KIRA				*i* IAML		11 31 51.0	
	comp=N,604nm,0.5s						
MANT	**Manisa**	**1.10**	**306**	P	Pb	11 31 32.2	0.0
MANT				S	Sb	11 31 47.5	+0.6
MANT				*i* IAML		11 31 52.0	
	comp=E,724nm,0.2s						
MANT				*i* IAML		11 31 52.0	
	comp=N,626nm,0.3s						
NAZL	**Nazilli-Aydin**	**1.11**	**277**	Pn	Pn	11 31 32.5	-0.2
SDAG	**Sultandagi-AFY**	**1.14**	**58**	Pn	Pn	11 31 33.0	-0.2
ANTB	**Antalya**	**1.21**	**140**	Pn	Pn	11 31 34.7	+0.6
GEDZ	**Gediz**	**1.22**	**350**	Pn	Pn	11 31 34.3	0.0
SHAP	**Saphane-Kutahy**	**1.24**	**343**	Pn	Pn	11 31 34.6	+0.1
ODEM	**Odemis-Izmir**	**1.34**	**289**	Pn	Pb	11 31 36.4	+0.2
SIMA	**Simav-Kutahya**	**1.36**	**336**	Pn	Pg	11 31 36.7	+0.2
AYDB	**Zeytinkoy-Aydi**	**1.43**	**275**	Pn	Pg	11 31 37.8	+0.1
BLVD	**Bolvadin-AFYON**	**1.46**	**49**	Pn	Pg	11 31 38.5	+0.1
GORD	**Gordes-Manisa**	**1.60**	**312**	Pn	Pb	11 31 40.4	-0.1

*ISK **08** 11:33:41.9, 37.°85N×29.°69E, h11km, ML3.5/26*
*AFAD **08** 11:33:42.9, 37.°81N×29.°70E, h25km±2km, ML3.1*
ISC 08 11:33:43.7±0.9, 37.°84N±0.°02×29.°73E±0.°02, h17km±7km, n51, σ1°29/74, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.18**	**222**	P	**Pg**	**11 33 50.8**	**+2.4**
INCE				*i* IAML		11 33 51.0	
	comp=E,1μm,0.3s						
INCE				*i* IAML		11 33 51.0	
	comp=N,2μm,0.1s						
BASM	**Basmaki-Afyon**	**0.27**	**73**	Pg	**Pg**	**11 33 48.1**	**-1.6**
BASM				Sg	**Sg**	**11 33 52.6**	**-1.2**
APMY	**Acipayam-Deniz**	**0.50**	**223**	Pg	**Pg**	**11 33 52.3**	**-1.6**
KHL	**Karahalli**	**0.51**	**341**	Pg	**Pg**	**11 33 52.0**	**-1.9**
PASA	**Karahalli, USA**	**0.54**	**339**	P	**Pg**	**11 33 53.6**	**-0.9**
PASA				*i* IAML		11 34 03.0	
	comp=N,2μm,0.2s						
PASA				S	**Sb**	**11 34 03.5**	**+1.3**
PASA				*i* IAML		11 34 04.0	
	comp=E,2μm,0.6s						
GOLH	**Golhisar**	**0.62**	**193**	P	**Pg**	**11 33 54.4**	**-1.6**
GOLH				S	**Sb**	**11 34 05.0**	**+0.4**
GOLH				*i* IAML		11 34 05.0	
	comp=E,1μm,0.3s						
GOLH				*i* IAML		11 34 06.0	
	comp=N,1μm,0.3s						
ISP	**Isparta**	**0.63**	**92**	Pg	**Pg**	**11 33 54.9**	**-1.3**
ISP				Sg	**Sb**	**11 34 05.0**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.75**	**240**	P	**Pg**	**11 33 57.0**	**-1.4**
TAVA				S	**Sg**	**11 34 07.8**	**-0.6**
TAVA				*i* IAML		11 34 08.0	
	comp=E,457nm,0.2s						
TAVA				*i* IAML		11 34 08.0	
	comp=N,1μm,0.4s						
BUCA	**Burdur, Bucak-**	**0.84**	**128**	P	**Pg**	**11 33 58.8**	**-1.2**
BUCA				S	**Sn**	**11 34 12.8**	**+0.1**
BUCA				*i* IAML		11 34 13.0	
	comp=N,732nm,0.9s						
BUCA				*i* IAML		11 34 13.0	
	comp=E,821nm,0.4s						
BNAZ	**Uak-Banaz**	**0.84**	**8**	P	**Pg**	**11 34 00.0**	**-0.2**
BNAZ				S	**Sn**	**11 34 13.8**	**+0.9**
BNAZ				*i* IAML		11 34 14.0	
	comp=E,4μm,0.4s						
BAGO	**Egridir - ISPA**	**0.85**	**80**	P	**Pg**	**11 33 58.1**	**-2.2**
BAGO				*i* IAML		11 34 12.0	
	comp=N,480nm,0.5s						
BAGO				S	**Sb**	**11 34 12.3**	**+1.1**
BAGO				*i* IAML		11 34 14.0	
	comp=E,1μm,0.4s						
CAME	**Cameli-Denizli**	**0.96**	**201**	Pg	**Pg**	**11 34 00.5**	**-1.9**
KNIK	**Mula-Seydike**	**1.00**	**187**	P	**Pg**	**11 34 01.4**	**-1.8**
KNIK				S	**Sn**	**11 34 18.6**	**+1.8**
KNIK				*i* IAML		11 34 19.0	
	comp=N,272nm,0.4s						
USAK	**Uak-Merkez**	**1.03**	**327**	P	**Pg**	**11 34 02.6**	**-1.2**
KULA	**Kula-Manisa**	**1.08**	**309**	Pg	**Pg**	**11 34 02.7**	**-1.9**
ESEN	**Aydn-Nazilli**	**1.09**	**268**	P	**Pb**	**11 34 03.2**	**-0.9**
ESEN				*i* IAML		11 34 18.0	
	comp=N,640nm,0.4s						
ESEN				S	**Sg**	**11 34 18.2**	**-1.1**
ESEN				*i* IAML		11 34 20.0	
	comp=E,498nm,0.5s						
KIRA	**zmir-Kiraz**	**1.11**	**289**	P	**Pg**	**11 34 03.2**	**-1.9**
KIRA				*i* IAML		11 34 21.0	
	comp=E,582nm,0.4s						
KIRA				*i* IAML		11 34 21.0	
	comp=N,339nm,0.5s						
KIRA				S	**Sn**	**11 34 21.2**	**+1.8**
SDAG	**Sultandagi-AFY**	**1.11**	**57**	Pn	**Pg**	**11 34 03.8**	**-1.5**
MANT	**Manisa**	**1.13**	**305**	P	**Pg**	**11 34 04.3**	**-1.3**
MANT				*i* IAML		11 34 22.0	
	comp=E,1μm,0.3s						
MANT				S	**Sn**	**11 34 22.1**	**+2.1**
MANT				*i* IAML		11 34 23.0	
	comp=N,1μm,0.3s						
NAZL	**Nazilli-Aydin**	**1.14**	**276**	Pn	**Pb**	**11 34 03.4**	**-1.6**
SABU	**Mula-Dalaman**	**1.19**	**211**	P	**Pb**	**11 34 05.2**	**-0.6**
SABU				*i* IAML		11 34 23.0	
	comp=E,528nm,0.4s						
SABU				S	**Sn**	**11 34 23.2**	**+2.0**
SABU				*i* IAML		11 34 24.0	
	comp=N,149nm,0.3s						
ANTB	**Antalya**	**1.20**	**142**	Pn	**Pb**	**11 34 05.6**	**-0.3**
GEDZ	**Gediz**	**1.23**	**348**	Pn	**Pn**	**11 34 05.2**	**-0.9**
SHAP	**Saphane-Kutahy**	**1.24**	**341**	Pn	**Pn**	**11 34 05.9**	**-0.5**
GDZ	**Gediz**	**1.26**	**351**	P	**Pn**	**11 34 06.1**	**-0.5**
GDZ				S	**Sn**	**11 34 26.3**	**+3.0**
GDZ				*i* IAML		11 34 28.0	
	comp=N,520nm,0.5s						
SIMA	**Simav-Kutahya**	**1.37**	**335**	Pn	**Pn**	**11 34 07.1**	**-1.0**
ODEM	**Odemis-Izmir**	**1.38**	**289**	Pn	**Pn**	**11 34 07.5**	**-0.7**
SMAA	**Simav-Kutahya**	**1.39**	**335**	Pn	**Pn**	**11 34 07.5**	**-0.8**
BLVD	**Bolvadin-AFYON**	**1.43**	**48**	Pn	**Pn**	**11 34 08.6**	**-0.4**
IZMR	**zmir-demi**	**1.43**	**282**	P	**Pn**	**11 34 08.1**	**-0.8**
IZMR				S	**Sg**	**11 34 31.2**	**+1.1**
IZMR				*i* IAML		11 34 32.0	
	comp=N,243nm,0.9s						
IZMR				*i* IAML		11 34 32.0	
	comp=E,44nm,0.8s						
DEMI	**Demirci**	**1.44**	**327**	P	**Pn**	**11 34 08.5**	**-0.6**
DEMI				S	**Sg**	**11 34 30.9**	**+0.7**
DEMI				*i* IAML		11 34 31.0	
	comp=N,285nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.46**	**275**	Pn	**Pn**	**11 34 08.1**	**-1.3**
IZZE	**Mula-Seydike**	**1.46**	**196**	P	**Pn**	**11 34 10.3**	**+1.0**
IZZE				S	**Sg**	**11 34 31.6**	**+0.7**
IZZE				*i* IAML		11 34 32.0	
	comp=N,200nm,0.4s						
IZZE				*i* IAML		11 34 33.0	
	comp=E,299nm,0.4s						
AYDN	**Tasoluk**	**1.48**	**263**	P	**Pn**	**11 34 09.1**	**-0.4**
AYDN				S	**Sg**	**11 34 30.9**	**-0.5**
AYDN				*i* IAML		11 34 31.0	

comp=N,76nm,0.2s

BYAT	**Afyon-Bayat**	**1.48**	**41**	P	**Pn**	**11 34 09.9**	**+0.3**
BYAT				S	**Sg**	**11 34 33.7**	**+2.2**
BYAT				*i* IAML		11 34 35.0	
	comp=E,698nm,0.8s						
BYAT				*i* IAML		11 34 35.0	
	comp=N,489nm,0.4s						
EMET	**Ktahya-Emet**	**1.56**	**348**	P	**Pn**	**11 34 10.5**	**-0.3**
EMET				S	**Sg**	**11 34 36.3**	**+2.1**
EMET				*i* IAML		11 34 37.0	
	comp=E,231nm,0.3s						
EMET				*i* IAML		11 34 38.0	
	comp=N,328nm,0.8s						
TURN	**Turunc**	**1.59**	**228**	P	**Pn**	**11 34 11.1**	**+0.1**
TURN				S	**Sb**	**11 34 33.9**	**+1.5**
TURN				*i* IAML		11 34 34.0	
	comp=N,100nm,0.4s						
TURN				*i* IAML		11 34 34.0	
	comp=E,116nm,0.4s						
TVSB	**Tavsanli**	**1.62**	**353**	Pn	**Pn**	**11 34 10.6**	**-0.9**
GORD	**Gordes-Manisa**	**1.62**	**312**	Pn	**Pn**	**11 34 11.0**	**-0.5**
GOMA	**Golmarmara-Man**	**1.67**	**302**	Pn	**Pn**	**11 34 11.4**	**-0.7**
SEYD	**Seydisehir-KON**	**1.73**	**104**	Pn	**Pn**	**11 34 13.5**	**+0.4**
AKS	**Akhisar**	**1.83**	**305**	Pn	**Pn**	**11 34 13.8**	**-0.5**
DOMA	**Ktahya-Doman**	**1.94**	**359**	P	**Pn**	**11 34 16.2**	**+0.2**
DOMA				S	**Sg**	**11 34 45.2**	**-1.0**
DOMA				*i* IAML		11 34 46.0	
	comp=E,109nm,0.6s						
DOMA				*i* IAML		11 34 49.0	
	comp=N,56nm,0.6s						
DST	**Dursunbey**	**1.96**	**334**	Pn	**Pn**	**11 34 15.4**	**-0.8**
DURS	**Dursunbey**	**2.01**	**331**	P	**Pn**	**11 34 16.5**	**-0.5**
DURS				*i* IAML		11 34 51.0	
	comp=N,251nm,1.2s						
DURS				*i* IAML		11 34 51.0	
	comp=E,378nm,1.1s						
DURS				S	**Sg**	**11 34 51.1**	**+2.6**
DAT	**Datca**	**2.04**	**238**	Pn	**Pn**	**11 34 16.8**	**-0.6**
ARG	**Arkhangelos**	**2.07**	**219**	Pn	**Pn**	**11 34 17.5**	**-0.1**
YAZI	**Mula-Dat§a-**	**2.15**	**238**	P	**Pn**	**11 34 18.9**	**+0.1**
YAZI				*i* IAML		11 34 53.0	
	comp=N,421nm,1.3s						
YAZI				S	**Sg**	**11 34 53.5**	**+0.4**
YAZI				*i* IAML		11 34 56.0	
	comp=E,78nm,0.5s						
SOMA	**Soma-Manisa**	**2.17**	**308**	Pn	**Pn**	**11 34 18.2**	**-0.8**
BLCB	**Balcova**	**2.19**	**285**	Pn	**Pn**	**11 34 18.5**	**-0.8**
URLA	**Izmir**	**2.52**	**283**	P	Pn	11 34 19.3	-4.7

IDC 08 11:39:01.9±1.4, 12.°16N×142.°75E, h0km, mb3.9/4, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=72.3km s-min=19.5km az=123.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.51**	**55**	Pn	Pn	11 39 44.6	+0.6
	26nm,0.3s,baz=214,slow=15,SNR=4.4						
GUMO				Sn	Sn	11 40 14.7	-0.7
	25nm,0.3s,baz=288,slow=20,SNR=4.1						
	65nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**23.92**	**72**	T	T	12 08 53.1	
	baz=257,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**23.93**	**72**	T	T	12 08 54.0	
	baz=257,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**23.94**	**72**	T	T	12 08 55.7	
	baz=257,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**24.38**	**69**	T	T	12 09 29.8	
	baz=255,slow=75,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**24.39**	**69**	T	T	12 09 35.8	
	baz=255,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**24.40**	**69**	T	T	12 09 32.3	
	baz=255,slow=75,SNR=3.5						
WRA	**Warramunga Arr**	**32.95**	**195**	P	P	11 45 37.7	-0.8
	2.1nm,0.8s,baz=17,slow=8.8,SNR=4.8						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**36.64**	**194**	P	P	11 46 10.4	+0.1
	0.9nm,0.6s,baz=27,slow=9.5,SNR=18						
ASAR				PcP	PcP	11 48 33.4	-0.2
	0.5nm,0.7s,baz=35,slow=2.7,SNR=4.5						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**70.74**	**25**	P	P	11 50 19.1	-0.6
	0.4nm,0.7s,baz=246,slow=5.9,SNR=5.5						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**89.43**	**51**	P	P	11 52 02.1	+0.8
	0.6nm,0.6s,baz=283,slow=5.5,SNR=6.7						
	0.6nm,0.6s						

*UCR **08** 12:11:01.3±1.2, 9.°04N×84.°14W, h0km±1km, MW4.1*
*UPA **08** 12:11:01.5±0.8, 9.°29N×84.°24W, h25km±154km, MW4.2*
ISC 08 12:11:02.0±1.1, 9.°06N±0.°03×84.°12W±0.°03, h13km±9km, n116, σ0°98/183, 8C-34D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLNJ	**Naranjito**	**0.41**	**3**	*i* P	**Pb**	**12 11 11.3**	**+0.2**
LLNJ				*e*S	**Sn**	**12 11 18.5**	**-2.6**
PAR1A	**Puntarenas Pro**	**0.54**	**346**	*e*P	**Pb**	**12 11 14.1**	**+0.7**
PAR1A				*e*S	**Sn**	**12 11 24.1**	**-0.3**
EDPE	**Pejibaye, P**	**0.55**	**80**	*i* P	**Pb**	**12 11 13.4**	**-0.2**
EDPE				*e*S	**Sb**	**12 11 22.0**	**+0.5**
PISJ	**San Jernim**	**0.56**	**360**	*i* P	**Pb**	**12 11 16.7**	**+0.8**
PISJ				*e*S	**Sn**	**12 11 26.2**	**+0.9**
PIEC	**Cerro El Cedra**	**0.58**	**16**	*i* P

VTCV				eS	Sn	12 11 35.7	-0.1		
VTLA	**Turrialba Volc**	**0.99**	**20**	eP	Pn	12 11 21.5	-0.5		
CVTQ	**Turrialba Volc**	**1.00**	**21**	⇓iP	Pn	12 11 21.8	-0.3		
CVTQ				eS	Sn	12 11 35.9	-0.3		
CVTV	**Tajo**	**1.00**	**21**	⇓iP	Pn	12 11 21.9	-0.2		
CVTV				eS	Sn	12 11 36.3	0.0		
POAS	**San Pedro de P**	**1.01**	**353**	eP	Pn	12 11 22.1	+0.1		
VTR0	**Volcan Turrial**	**1.01**	**21**	⇓eP	Pn	12 11 21.9	-0.4		
VTR0				eS	Sn	12 11 37.9	+1.2		
CVTR	**Volcan Turrial**	**1.01**	**21**	⇓iP	Pn	12 11 21.9	-0.5		
CVTR				eS	Sn	12 11 39.0	+2.2		
RVSTA	**Santa Teresita**	**1.02**	**27**	⇓eP	Pn	12 11 22.2	+0.1		
EDAD	**Golfito**	**1.03**	**113**	eP	Pb	12 11 21.6	-0.2		
EDAD				eS	Sg	12 11 35.9	+0.5		
PALD	**Palmares**	**1.03**	**343**	eP	Pb	12 11 21.6	-0.3		
FITO	**Golfito**	**1.05**	**114**	eP	Pn	12 11 25.7	+3.2		
FITO				eS	Sg	12 11 36.2	+0.2		
ARZA	**Esparza**	**1.07**	**330**	eP	Pn	12 11 22.8	+0.1		
ARZA				eS	Sn	12 11 38.1	+0.6		
RESJ	**San Isidro (Tu**	**1.07**	**26**	⇓iP	Pn	12 11 22.9	+0.1		
RESJ				eS	Sn	12 11 38.4	+0.7		
RAMO	**San Ramon**	**1.07**	**342**	⇓iP	Pn	12 11 23.3	+0.5		
RAMO				eS	Sn	12 11 39.1	+1.4		
CBL1	**Cabuya**	**1.09**	**299**	eP	Pb	12 11 22.1	-0.6		
VPS8	**V Poas**	**1.11**	**354**	⇓eP	Pn	12 11 23.8	+0.1		
VPS5	**V. Poas**	**1.12**	**355**	eP	Pn	12 11 23.8	0.0		
ZARE	**Zarcero**	**1.14**	**347**	eP	Pn	12 11 24.6	+0.7		
ZARE				eS	Sn	12 11 43.1	+3.4		
LCOCO	**El Coco**	**1.16**	**29**	⇓iP	Pg	12 11 24.2	-0.1		
LCOCO				eS	Sn	12 11 40.5	+0.8		
RVLA	**Villa Bonita**	**1.16**	**27**	eP	Pg	12 11 24.5	+0.1		
VITO	**San Vito**	**1.16**	**102**	eP	Pb	12 11 23.8	-0.2		
VPL1	**V. Platanar**	**1.21**	**349**	eP	Pn	12 11 24.7	-0.1		
VPL1				eS	Sn	12 11 43.5	+2.3		
NELY	**Ciudad Neily**	**1.23**	**109**	⇑eP	Pn	12 11 24.9	0.0		
VERH	**Veragua Rainfo**	**1.26**	**47**	⇓eP	Pg	12 11 25.8	-0.4		
VERH				eS	Sg	12 11 44.0	+1.4		
ALCO	**Alturas Coton,**	**1.28**	**95**	eP	Pn	12 11 25.3	-0.5		
ALCO				eP	Pb	12 11 25.5	-0.5		
ALCO				eS	Sg	12 11 43.5	+0.2		
ALCO				eS	Sn	12 11 43.7	+0.8		
CEUA	**Cerro Uatsi, L**	**1.29**	**65**	⇑iP	Pg	12 11 27.6	+0.7		
CEUA				eS	Sg	12 11 47.2	+3.5		
CARI	**Cariari**	**1.35**	**16**	eP	Pg	12 11 28.0	+0.1		
CARI				eS	Sg	12 11 47.4	+1.9		
DMCAL	**E. de Neily**	**1.37**	**107**	⇓iP	Pn	12 11 27.1	+0.2		
ITAL	**Pital**	**1.39**	**354**	eP	Pb	12 11 27.7	-0.1		
SOCE	**Pocosol**	**1.40**	**340**	⇓eP	Pg	12 11 28.4	-0.6		
BRU2	**Volcan**	**1.44**	**101**	eP	Pn	12 11 28.0	0.0		
BRU2				eS	Sg	12 11 48.0	-0.5		
BRU2	**Volcan**	**1.44**	**101**	eP	Pn	12 11 25.9	-2.1		
BRU2				eP	Pb	12 11 29.1	+0.3		
JUNT	**Juntas**	**1.46**	**326**	eP	Pn	12 11 28.1	-0.1		
JTS	**Las Juntas de**	**1.47**	**326**	eP	Pn	12 11 28.2	0.0		
JTS	**Las Juntas de**	**1.47**	**326**	⇓eP	Pn	12 11 28.3	0.0		
JTS				eS	Sb	12 11 48.2	+0.4		
LESP3	**La Esperanza,**	**1.47**	**116**	eP	Pn	12 11 25.6	-2.6		
LESP3				eS	Sg	12 11 49.5	0.0		
CASO	**Castillo**	**1.49**	**336**	eP	Pb	12 11 29.4	-0.2		
FORC	**Fortuna**	**1.49**	**339**	eP	Pb	12 11 29.6	0.0		
FORC				eS	Sg	12 11 51.1	+0.9		
PTPM	**Petroterminale**	**1.50**	**125**	eP	Pn	12 11 29.5	+0.9		
PTPM				eS	Sg	12 11 50.6	+0.3		
VACR	**Volcan Arenal**	**1.50**	**339**	eP	Pb	12 11 29.8	0.0		
VARE2	**V. Arenal**	**1.51**	**337**	eP	Pb	12 11 29.9	-0.1		
BC3P	**Paso Ancho**	**1.51**	**99**	eP	Pn	12 11 29.1	+0.1		
BC3P				eS	Sg	12 11 48.3	+0.1		
CLLRA	**Cordillera,**	**1.52**	**102**	eP	Pn	12 11 29.2	+0.1		
CEDE	**Laguna Cedeo**	**1.52**	**338**	eP	Pb	12 11 30.2	0.0		
CEDE				iP	Pg	12 11 30.3	-1.0		
REZ	**Monterrey de S**	**1.56**	**339**	⇑eP	Pb	12 11 30.9	0.0		
TABAC	**Tabacon**	**1.56**	**336**	⇑eP	Pb	12 11 30.8	0.0		
PRISO	**Paraso**	**1.57**	**105**	eP	Pn	12 11 30.1	+0.4		
CHIK	**Chiripa**	**1.57**	**331**	eP	Pb	12 11 31.1	0.0		
BANCO	**falda S V. Bar**	**1.61**	**102**	eP	Pn	12 11 30.2	-0.1		
BANCO				⇑eP	Pb	12 11 30.4	-1.3		
BANCO				eS	Sn	12 11 48.2	-2.9		
JEFFS	**S de V. Baru**	**1.62**	**104**	⇓iP	Pn	12 11 30.9	+0.5		
PTAR3	**Potrerillos Ar**	**1.65**	**103**	eP	Pn	12 11 31.3	+0.5		
PTAR3				eS	Sb	12 11 53.1	0.0		
BQTLY	**Boquete Panama**	**1.67**	**100**	eP	Pn	12 11 30.7	-0.4		
BQTLY				eP	Pb	12 11 31.4	-1.3		
INVE	**Universidad In**	**1.68**	**327**	eP	Pn	12 11 31.2	0.0		
LNBQ3	**Los Naranjos,**	**1.68**	**99**	eP	Pn	12 11 31.1	-0.2		
LNBQ3				eS	Sb	12 11 54.3	+0.1		
NICO	**Nicoya**	**1.68**	**309**	eP	Pg	12 11 34.4	+0.1		
DAP26	**falda E V. Bar**	**1.70**	**99**	eP	Pn	12 11 31.6	0.0		
QUEB	**Quebradon, Cot**	**1.73**	**334**	eP	Pn	12 11 32.6	+0.8		
TIMP	**Tierras Morena**	**1.75**	**330**	⇓eP	Pn	12 11 33.0	+0.9		
DVD	**David**	**1.77**	**111**	eP	Pn	12 11 33.0	+0.7		
DVD				eS	Sb	12 11 56.5	+0.2		
JUD3	**Juan Diaz 3**	**1.77**	**308**	eP	Pg	12 11 35.8	-0.3		
LOCO3	**Loma Colorada,**	**1.81**	**111**	eP	Pn	12 11 33.9	+1.1		
LOCO3				eS	Sb	12 11 57.8	+0.3		
PEDE3	**Pedregal, Chir**	**1.81**	**112**	eP	Pn	12 11 33.2	+0.3		
PEDE3				eS	Sb	12 11 58.2	+0.5		
PSOM3	**Paja de Sombre**	**1.82**	**102**	eP	Pn	12 11 33.1	0.0		
PSOM3				eS	Sb	12 11 56.9	-1.1		
TENO	**El Achiote**	**1.83**	**333**	eP	Pn	12 11 34.0	+0.7		
CGUAY	**Guayabal, Coch**	**1.85**	**109**	eP	Pn	12 11 32.8	-0.7		
MOTZ	**Rio Naranjo**	**1.86**	**330**	eP	Pb	12 11 35.3	-0.7		
CUI	**Cuipilapa**	**1.89**	**327**	⇓eP	Pn	12 11 35.3	+1.0		
COLC	**Colonia**	**1.92**	**326**	eP	Pn	12 11 34.2	-0.2		
PBNVO	**Pueblo Nuevo,**	**1.92**	**95**	⇓iP	Pn	12 11 34.7	+0.4		
RBALA	**Bur**	**1.95**	**95**	⇑eP	Pn	12 11 35.0	+0.1		
RBALA				eS	Sn	12 11 59.2	-0.1		
MESS	**Mesas**	**1.97**	**328**	eP	Pb	12 11 37.4	-0.5		
VRLE	**La Escondida,**	**2.11**	**325**	eP	Pb	12 11 39.7	-0.4		
LAPC	**Finca la Perla**	**2.13**	**323**	eP	Pn	12 11 37.2	-0.1		
PG27	**Guanacaste Pro**	**2.16**	**325**	eP	Pn	12 11 39.3	+1.5		
CARN	**Rivas**	**2.52**	**327**	eP	Pn	12 11 43.0	+0.3		
CVEJO	**Cerro Viej**	**2.64**	**108**	eP	Pn	12 11 45.1	+0.7		
ACON	**Acoyapa**	**3.06**	**340**	eP	Pn	12 11 52.0	+1.8		
ACON				eP	Pb	12 11 52.5	-3.9		
ESPN	**Las Esperanzas**	**3.12**	**357**	eP	Pb	12 11 54.2	-3.1		
BCIP	**Isla Barro Col**	**4.23**	**88**	eP	Pn	12 12 07.5	+1.2		

AFAD 08 12:13:31.7, 38°.15N × 28°.85E, h7km ± 5km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASA	**Karahalli, USA**	**0.54**	**69**	P	Pg	12 13 42.7	+0.6
PASA				S	Sg	12 13 49.6	+0.4
PASA				*i* IAML		12 13 52.0	
	comp=E,11nm,0.2s						
PASA				*i* IAML		12 13 54.0	
	comp=N,8.8nm,0.3s						
TAVA	**DENIZLI_Tavas**	**0.69**	**176**	P	Pb	12 13 46.1	0.0
TAVA				S	Sg	12 13 54.7	+0.8
TAVA				*i* IAML		12 13 56.0	
	comp=E,8.8nm,1.3s						
TAVA				*i* IAML		12 14 12.0	
	comp=N,4.2nm,0.9s						
GOLH	**Golhisar**	**1.07**	**148**	P	Pg	12 13 44.7	-7.7
GOLH				*i* IAML		12 14 02.0	
	comp=E,8.7nm,0.3s						
GOLH				S	Sn	12 14 08.6	0.0
GOLH				*i* IAML		12 14 21.0	
	comp=N,19nm,0.4s						

*ISK **08** 12:13:54.5, 37°.97N × 29°.65E, h19km, ML1.2/7*

AFAD 08 12:13:57.2, 37°.88N × 29°.64E, h7km ± 5km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.17**	**196**	P	Pg	12 14 00.5	-0.3
INCE				*i* IAML		12 14 05.0	
	comp=E,77nm,0.5s						
INCE				S	Sg	12 14 05.4	+2.2
INCE				*i* IAML		12 14 06.0	
	comp=N,71nm,0.5s						
INCE	**Denizli-Bozkur**	**0.17**	**196**	P	Pg	12 14 01.2	+0.5
INCE	**Denizli-Bozkur**	**0.17**	**196**	S	Sg	12 14 05.0	+1.8
BASM	**Basmaki-Afyon**	**0.33**	**82**	Pg	Pg	12 14 01.9	-1.8
BASM				Sg	Sg	12 14 06.4	-1.7
APMY	**Acipayam-Deniz**	**0.48**	**213**	Pg	Pg	12 14 05.9	-0.7
APMY				Sg	Sb	12 14 15.0	-0.4
PASA	**Karahalli, USA**	**0.49**	**346**	P	Pg	12 14 07.0	+0.4
PASA				S	Sb	12 14 17.6	+2.1
PASA				*i* IAML		12 14 18.0	
	comp=E,30nm,0.3s						
PASA				*i* IAML		12 14 21.0	
	comp=N,23nm,0.4s						
GOLH	**Golhisar**	**0.64**	**185**	S	Sb	12 14 19.2	-0.7
ISP	**Isparta**	**0.70**	**94**	Pg	Pg	12 14 08.7	-2.0
ISP				Sg	Sg	12 14 19.4	-0.5
TAVA	**DENIZLI_Tavas**	**0.70**	**235**	S	Sb	12 14 21.7	-0.1
DNZT	**Denizli-Tavas-**	**0.77**	**219**	S	Sg	12 14 12.7	-9.3
CAME	**Cameli-Denizli**	**0.97**	**196**	Pg	Pg	12 14 14.4	-1.4
KULA	**Kula-Manisa**	**1.00**	**310**	Pg	Pg	12 14 13.5	-2.9
ODEM	**Odemis-Izmir**	**1.30**	**288**	Pn	Pn	12 14 17.7	-4.1
TVSB	**Tavsanli**	**1.58**	**355**	Pn	Pn	12 14 21.1	-4.6

ISK 08 12:14:13.6, 37°.78N × 29°.79E, h5km, ML1.2/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASM	**Basmaki-Afyon**	**0.25**	**55**	Pg	Pg	12 14 19.2	+0.7
BASM				Sg	Sg	12 14 23.7	+1.9
APMY	**Acipayam-Deniz**	**0.49**	**232**	Pg	Pb	12 14 24.1	-0.7
APMY				Sg	Sb	12 14 32.4	0.0
ISP	**Isparta**	**0.58**	**85**	Pg	Pb	12 14 26.1	-0.2
ISP				Sg	Sb	12 14 35.4	+0.5
CAME	**Cameli-Denizli**	**0.92**	**205**	Pg	Pb	12 14 32.1	0.0
KULA	**Kula-Manisa**	**1.16**	**310**	Pn	Pn	12 14 37.7	+1.2
ODEM	**Odemis-Izmir**	**1.45**	**291**	Pn	Pg	12 14 42.3	+1.0

*CATAC **08** 12:17:41.2±0.5, 12°.N±4°×8°.8W±°, h35km±5km, M3.2/19, MLv3.2/19, Error ellipse: s-maj=8.9km s-min=3.9km az=24.6, confirmed*

*SNET **08** 12:17:41.8±0.5, 12°.52N × 87°.76W, h71km±250km, ML3.1*

ISC 08 12:17:40.4±1.9, 12°.3N±0°.1 × 87°.75W±0°.07, h61km±20km, n30, σ0°.42/38, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.66**	**16**	P	Pn	12 17 54.3	0.0
CSGN				S	Sn	12 18 04.6	+0.1
POTN	**Potosi Cosigui**	**0.70**	**19**	P	Pn	12 17 54.7	0.0
POTN				S	Sn	12 18 05.2	+0.1
CRIN	**San Cristobal**	**0.77**	**62**	P	Pn	12 17 56.8	+1.2
CRIN	**San Cristobal**	**0.77**	**62**	S	Sn	12 18 06.9	+0.1
CNCH	**Conchagua**	**0.94**	**355**	eP	Pn	12 17 57.7	-0.1
CNCH				eS	Sn	12 18 10.3	-0.4
CNCH	**Conchagua**	**0.94**	**355**	P	Pn	12 17 57.8	0.0
POLN	**Al Sur del Vol**	**0.96**	**71**	P	Pn	12 17 57.4	-0.6
POLN				S	Sn	12 18 10.6	-0.4
LCND	**La Caada**	**0.98**	**352**	eP	Pn	12 17 58.2	-0.2
LCND				eS	Sn	12 18 10.8	-0.6
LCND				IAML		12 18 13.1	
	comp=Z,497nm,0.3s						
LCND	**La Caada**	**0.98**	**352**	P	Pn	12 17 58.5	+0.3
CNGN	**Cerro Negro**	**1.04**	**81**	S	Sn	12 18 12.3	-0.5
CNGN	**Cerro Negro**	**1.04**	**81**	P	Pn	12 17 59.5	+0.5
COPN	**Copaltepe**	**1.14**	**98**	P	Pn	12 18 00.8	+0.5
MOMN	**Momotombo**	**1.18**	**86**	P	Pn	12 18 01.3	+0.4
MOMN				S	Sn	12 18 15.9	-0.3
MOM2	**El Cardon**	**1.24**	**85**	P	Pn	12 18 02.2	+0.6
MOM2				S	Sn	12 18 17.3	-0.1
PACA	**Pacayal**	**1.26**	**334**	eP	Pn	12 18 02.1	+0.1
PACA				eS	Sn	12 18 17.7	-0.5
PACA	**Pacayal**	**1.26**	**334**	P	Pn	12 18 02.2	+0.2
CHOHN	**Orocuina**	**1.27**	**27**	P	Pn	12 18 02.1	-0.1
SAPS	**Ciudad Sandino**	**1.32**	**97**	P	Pn	12 18 02.6	-0.2
TISN	**Laguna Tiscapa**	**1.46**	**97**	P	Pn	12 18 04.4	-0.1
PQSS	**Presa 15 de Se**	**1.51**	**328**	P	Pn	12 18 05.8	+0.6
WILN	**Americas 2**	**1.53**	**96**	P	Pn	12 18 05.5	-0.1
NANN	**Nandasmo**	**1.64**	**104**	P	Pn	12 18 06.7	-0.3
NANN	**Nandasmo**	**1.64**	**104**	S	Sn	12 18 27.1	0.0
MARCA	**Marcala la Paz**	**1.83**	**351**	P	Pn	12 18 10.5	+0.7
MATN	**Matagalpa**	**1.87**	**71**	P	Pn	12 18 10.1	-0.1
MATN	**Matagalpa**	**1.87**	**71**	S	Sn	12 18 32.6	-0.3
RCVN	**Varillal2**	**1.96**	**50**	P	Pn	12 18 12.2	+0.8
RCPN	**Sur Rio San Ju**	**2.00**	**54**	P	Pn	12 18 11.8	-0.2
BOAB	**BOACO BROADBAN**	**2.04**	**87**	P	Pn	12 18 12.4	0.0
BOAB	**BOACO BROADBAN**	**2.04**	**87**	S	Sn	12 18 36.9	+0.2

*SOME **08** 12:27:48.9, 47°.28N × 82°.03E, h0km*

*NNC **08** 12:27:49.2±0.6, 47°.40N × 82°.04E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=4.9km s-min=3.0km az=69.0*

*ASRS **08** 12:27:59.6±0.6, 48°.N ± 3°.×3°.2E±°, h9km, MLh3.5/6, Error ellipse: s-maj=7.0km s-min=4.9km az=175.9, confirmed*

ISC 08 12:27:50.9±0.8, 47°.25N±0°.03 × 81°.78E±0°.03, h10km, n29, σ2s36/45, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.46**	**163**	⇓P	Pb	12 28 00.5	-0.6
	51nm,0.3s						
MAKZ				⇓S	Sb	12 28 09.2	+1.3
	215nm,0.3s						
MK31	**Makanchi Array**	**0.57**	**142**	⇑P	Pg	12 28 01.9	0.0
	14nm,0.2s,baz=354,slow=15,SNR=94						
MK31				⇑S	Sg	12 28 10.0	+0.5
	16nm,0.2s,baz=349,slow=28,SNR=23						
ZSN	**Zaisan**	**2.11**	**83**	eP	Pn	12 28 25.6	-0.6
	44nm,0.3s						
ZSN				eS	Sn	12 28 52.8	+0.3
	85nm,0.3s						
SEM	**Semipalatinsk**	**3.32**	**343**	eP	Pb	12 28 51.4	+1.4
	2.4nm,0.1s						
SEM				eS	Sg	12 29 36.2	-1.2
	31nm,0.2s						
KURBB	**Kurchatov Arra**	**4.00**	**329**	⇓Pg	Pb	12 29 01.8	+0.5
	11nm,0.8s						
KURBB				⇓Lg	Lg	12 29 55.2	
	100nm,0.7s						
KURK	**Kurchatov**	**4.05**	**330**	⇓Pg	Pb	12 29 02.6	+0.4
	8.9nm,1.0s						
KURK				⇑Lg	Lg	12 29 54.8	
	28nm,0.5s						
KURK	**Kurchatov**	**4.05**	**330**	Sg	Sb	12 29 55.0	+4.0
ARXS	**Arharly**	**4.11**	**224**	Pg	Pg	12 29 07.9	-1.6
	1.7nm,0.2s						
ARXS				Lg	Lg	12 30 04.6	
	44nm,0.6s						
UKR	**Ust'-Kan**	**4.18**	**27**	Pn	Pn	12 28 54.1	-0.6
UKR				Pg	Pb	12 29 01.9	-2.6
UKR				Sg	Sb	12 29 53.4	-1.7
PDGK	**Podgornoye**	**4.24**	**203**	⇑Pn	Pn	12 28 59.5	+3.9
	1.5nm,0.5s						
PDGK				⇑Lg	Lg	12 30 07.9	
	13nm,0.7s						
SHLS	**Shalkode**	**4.41**	**203**	eP	Pg	12 29 11.9	-3.3
	3.0nm,0.3s						
SHLS				eS	Sg	12 30 11.9	-0.4
	25nm,0.8s						
DGZ	**Jazzator, Alta**	**4.49**	**55**	Pn	Pn	12 28 59.5	+0.5
DGZ				Pg	Pb	12 29 09.6	-0.2
DGZ				Sg	Sb	12 30 04.1	+0.1
SATY	**Saty**	**4.82**	**211**	Pg	Pg	12 29 20.7	-2.5
	2.0nm,0.3s						
SATY				Lg	Lg	12 30 26.9	
	8.4nm,0.1s						
CHBI	**Chibit, Altay**	**4.87**	**49**	Pn	Pn	12 29 04.6	+0.3
CHBI				Sg	Sb	12 30 14.7	-0.2
ELDR	**Elanda**	**4.87**	**34**	Pg	Pb	12 29 16.3	0.0
ELDR				Sg	Sb	12 30 16.1	+1.2
AKAR	**Aktash**	**4.93**	**49**	Pn	Pn	12 29 04.5	-0.6
AKAR				Sg	Sb	12 30 16.2	-0.6
KTBS	**Karatobe**	**5.04**	**227**	Pg	Pg	12 29 24.6	-2.7
	1.6nm,0.3s						
KTBS				Lg	Lg	12 30 33.6	
	19nm,0.7s						
CUR	**Chagan-Uzun**	**5.20**	**54**	Pn	Pn	12 29 08.5	-0.4
CUR				Sg	Sb	12 30 26.7	+2.2
ULGR	**Ulagan, Altay**	**5.29**	**48**	Pn	Pn	12 29 10.5	+0.5
ULGR				Sg	Sb	12 30 28.8	+1.8
ARTR	**Artybash**	**5.79**	**36**	Sg	Sb	12 30 42.4	+1.1
BTLS	**Baital**	**5.81**	**250**	Pg	Pg	12 29 39.1	-3.0
	1.3nm,0.4s						
BTLS				Lg	Lg	12 30 58.9	
	2.3nm,0.3s						
BTLS	**Baital**	**5.81**	**250**	eP	Pg	12 29 39.1	-3.0
	0.7nm,0.1s						
BTLS				eS	Sg	12 30 58.9	+1.7
	2.5nm,0.2s						
DGS	**Degeres**	**5.83**	**229**	Pg	Pg	12 29 38.1	-4.5
	2.3nm,0.4s						
DGS				Lg	Lg	12 30 56.7	
	5.4nm,0.6s						
KST	**Kastek**	**5.88**	**226**	Pg	Pg	12 29 41.7	-1.7
	1.4nm,0.6s						
KST				Lg	Lg	12 31 03.0	
	11nm,0.8s						
KST	**Kastek**	**5.88**	**226**	eP	Pg	12 29 41.7	-1.7
	1.4nm,0.6s						
KST				eS	Sg	12 31 03.0	+3.4
	11nm,0.8s						
YALR	**Yailyu, Altay**	**5.91**	**38**	Sg	Sb	12 30 46.5	+2.0
BRZS	**Berezniki**	**6.62**	**298**	Pg	Pb	12 29 51.0	+4.9
	0.3nm,0.3s						
BRZS				Lg	Lg	12 31 18.4	
	13nm,0.3s						
BRZS	**Berezniki**	**6.62**	**298**	eP	Pg	12 29 54.1	-3.5
	0.3nm,0.1s						
BRZS				eS	Sg	12 31 23.8	+0.4
	10.0nm,0.2s						
ELT	**Eltsovka**	**6.66**	**24**	Sg	Sb	12 31 14.8	+8.5

*ISK **08** 12:38:20.5, 37°.85N × 29°.67E, h5km, ML3.5/23*

*IDC **08** 12:38:20.8±0.9, 37°.90N × 29°.68E, h0km, mb3.7/7, mbtmp3.7/13, ML3.2/4, MS3.9/2, Error ellipse: s-maj=19.3km s-min=14.5km az=158.0*

*GII **08** 12:38:21.9±0.0, 37°.74N±0°.05 × 29°.76E±0°.02, h0km, Mws3.7, confirmed*

*AFAD **08** 12:38:22.9, 37°.82N × 29°.66E, h5km±2km, MW3.7*

ISC 08 12:38:22.3±0.9, 37°.83N±0°.02 × 29°.68E±0°.02, h10km±6km, n74, σ1°02/98, mb3.5/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.15**	**213**	P	Pg	12 38 25.6	-0.1
INCE				S	Sg	12 38 28.4	+0.3
BASM	**Basmaki-Afyon**	**0.31**	**74**	Pg	Pg	12 38 27.5	-1.1
APMY	**Acipayam-Deniz**	**0.47**	**220**	Pg	Pg	12 38 30.8	-0.7
APMY				Sg	Sb	12 38 38.9	-0.8
KHL	**Karahalli**	**0.50**	**346**	Pg	Pg	12 38 31.3	-0.9
PASA	**Karahalli, USA**	**0.54**	**344**	P	Pg	12 38 32.1	-0.6
PASA				S	Sg	12 38 40.1	+0.2
GOLH	**Golhisar**	**0.60**	**189**	P	Pg	12 38 33.2	-0.9
GOLH				S	Sb	12 38 43.4	-0.2
ISP	**Isparta**	**0.67**	**91**	Pg	Pg	12 38 34.8	-0.6
ISP				Sg	Sb	12 38 45.3	-0.3
ISP	**Isparta**	**0.67**	**91**	P	Pg	12 38 34.5	-0.8
ISP				S	Sb	12 38 45.5	-0.1
TAVA	**DENIZLI_Tavas**	**0.71**	**239**	P	Pg	12 38 35.7	-0.3
TAVA				S	Sg	12 38 45.8	+0.5
DNZT	**Denizli-Tavas-**	**0.76**	**223**	P	Pg	12 38 35.7	-1.2
DNZT				P	Pb	12 38 35.9	-1.8
DNZT				S	Sg	12 38 47.6	+0.8
AFYN	**Afyon-Dinar-K**	**0.79**	**56**	P	Pg	12 38 37.4	-0.8
AFYN				P	Pb	12 38 37.5	-0.8
AFYN				S	Sb	12 38 50.1	+1.2
BNAZ	**Uak-Banaz**	**0.86**	**11**	P	Pg	12 38 38.4	-0.6
BNAZ				S	Sb	12 38 51.8	+0.8
BUCA	**Burdur, Bucak-**	**0.86**	**125**	P	Pg	12 38 38.5	-0.5
BUCA				S	Sb	12 38 52.0	+0.9
BAGO	**Egridir - ISPA**	**0.90**	**80**	P	Pg	12 38 38.3	-1.3
BAGO				S	Sb	12 38 52.8	+0.8
CAME	**Cameli-Denizli**	**0.94**	**199**	Pg	Pg	12 38 40.1	-0.3
CAME				Sg	Sb	12 38 54.2	+1.0
KNIK	**Mula-Seydike**	**0.99**	**185**	P	Pg	12 38 40.9	-0.5
KNIK				S	Sb	12 38 55.8	+1.0
USAK	**Uak-Merkez**	**1.02**	**330**	P	Pg	12 38 41.3	-0.7
KULA	**Kula-Manisa**	**1.05**	**311**	Pg	Pg	12 38 41.6	-0.9
ESEN	**Aydn-Nazilli**	**1.05**	**269**	P	Pg	12 38 41.7	-0.8
ESEN				S	Sg	12 38 56.0	-0.2
KIRA	**zmir-Kiraz**	**1.07**	**290**	P	Pg	12 38 42.0	-0.9
KIRA				S	Sb	12 38 57.8	+0.7
MANT	**Manisa**	**1.10**	**307**	P	Pg	12 38 42.7	-0.8
MANT				S	Sb	12 38 58.6	+0.6
NAZL	**Nazilli-Aydin**	**1.10**	**277**	Pn	Pg	12 38 42.4	-1.1
SDAG	**Sultandagi-AFY**	**1.15**	**58**	Pn	Pg	12 38 43.7	-0.8
SABU	**Mula-Dalaman**	**1.15**	**209**	P	Pg	12 38 44.0	-0.5
SABU				S	Sg	12 38 59.6	0

	0.6nm,0.5s								
TSUM	**Tsumeb**	**57.86**	**194**	LR	LR	13	14	10.8	
	comp=Z,226nm,18.2s,baz=308,slow=37								

IDC 08 12:39:03.6±12.0, 25°.26S×176°.41W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=316.1km s-min=35.7km az=38.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
ASAR	**Alice Springs**	**45.04**	**261**	P	P	12	47	21.2	-0.3
	0.3nm,0.4s,baz=99,slow=7.6,SNR=15								
	0.3nm,0.4s								
WRA	**Warramunga Arr**	**45.58**	**266**	P	P	12	47	25.8	0.0
	1.1nm,0.8s,baz=105,slow=8.0,SNR=2.5								
	1.1nm,0.8s								
VNDA	**Vanda**	**53.33**	**186**	P	P	12	48	24.6	+0.5
	0.3nm,0.5s,baz=19,slow=5.8,SNR=2.1								
	0.3nm,0.5s								
QSPA	**South Pole Qui**	**64.83**	**180**	P	P	12	49	43.9	-0.3
	1.6nm,1.0s,baz=45,slow=4.3,SNR=7.2								
	1.6nm,1.0s								

*IDC **08** 12:48:46.8±1.5, 9°.87S×117°.62E, h0km, mb3.6/5, mbtmp3.7/9, ML3.6/4, Error ellipse: s-maj=46.7km s-min=19.5km az=52.0*
*DJA **08** 12:48:53.2±0.3, 10°.5±4°×11°.8E±°, h10km, M4.1/16, mb4.1/4, MLv4.1/16*
ISC 08 12:48:53.5±0.8, 9°.76S±0°.07×118°.07E±0°.05, h38km, n26, σ2.9s39/27, mb3.9/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PLAI	**Plampang**	**0.97**	**343**	P	**Pn**	**12**	**49**	**11.5**	**+0.9**
PLAI				S	**Sn**	**12**	**49**	**23.8**	**+0.7**
WBSI	**Waikabubak, Su**	**1.31**	**85**	P	**Pn**	**12**	**49**	**16.0**	**+0.7**
TWSI	**Taliwang, Sumb**	**1.55**	**311**	P	**Pn**	**12**	**49**	**19.8**	**+1.3**
WSI	**Waingapu**	**2.20**	**88**	P	**Pn**	**12**	**49**	**30.1**	**+2.6**
BASI	**Baing, Sumba**	**2.51**	**101**	P	**Pn**	**12**	**49**	**34.6**	**+2.8**
DNP	**Denpasar**	**3.02**	**291**	P	**Pn**	**12**	**49**	**40.9**	**+2.1**
SRBI	**Singaraja**	**3.27**	**300**	P	**Pn**	**12**	**49**	**44.8**	**+2.5**
EDFI	**Ende, Flores**	**3.71**	**75**	P	**Pn**	**12**	**49**	**50.9**	**+2.5**
JAGI	**Jajag, Banyuwa**	**4.07**	**288**	P	**Pn**	**12**	**49**	**55.4**	**+2.1**
MMRI	**Maumere**	**4.26**	**75**	P	**Pn**	**12**	**49**	**58.3**	**+2.4**
GMJI	**Gumukmas**	**4.80**	**287**	P	**Pn**	**12**	**50**	**04.3**	**+1.0**
KMMI	**Kalianget**	**4.87**	**303**	P	**Pn**	**12**	**50**	**07.4**	**+3.2**
KAPI	**Kappang**	**5.00**	**20**	Pn	**Pn**	**12**	**50**	**07.8**	**+1.8**
	5.9nm,0.3s,baz=201,slow=7.1,SNR=14								
KAPI				Sn	**Sn**	**12**	**51**	**02.1**	**-0.4**
	9.8nm,0.3s,baz=272,slow=20,SNR=8.4								
	14nm,0.3s								
BATI	**Baumata**	**5.53**	**95**	Pn	**Pn**	**12**	**50**	**16.0**	**+2.6**
	8.7nm,0.3s,baz=275,slow=17,SNR=3.3								
BATI				Sn	**Sn**	**12**	**51**	**18.9**	**+3.2**
	5.2nm,0.3s,baz=40,slow=16,SNR=1.6								
	20nm,0.4s								
BATI	**Baumata**	**5.53**	**95**	P	**Pn**	**12**	**50**	**15.4**	**+2.1**
	0.1nm20nm,0.8s								
UGM	**Wanagama**	**7.68**	**283**	P	**Pn**	**12**	**50**	**44.6**	**+1.7**
	115nm,1.6s								
FITZ	**Fitzroy Crossi**	**11.08**	**139**	Pn	**Pn**	**12**	**51**	**29.0**	**-0.5**
	0.2nm,0.3s,baz=322,slow=13,SNR=8.2								
FITZ				Sn	Sn	12	53	22.5	-10
	0.7nm,0.3s,baz=352,slow=15,SNR=9.2								
	1.3nm,0.6s								
WRA	**Warramunga Arr**	**18.69**	**125**	P	**Pn**	**12**	**53**	**09.5**	**+0.2**
	0.1nm,0.3s,baz=300,slow=14,SNR=1.6								
WRA				S	Sn	12	56	20.7	-17
	1.0nm,0.9s,baz=296,slow=23,SNR=2.9								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**20.50**	**134**	P	**P**	**12**	**53**	**29.9**	**+1.5**
	0.7nm,0.8s,baz=310,slow=10,SNR=7.3								
ASAR				S	**S**	**12**	**57**	**09.2**	**-6.7**
	0.5nm,0.7s,baz=309,slow=23,SNR=2.9								
	0.7nm,0.8s								
H08S2	**Diego Garcia H**	**45.08**	**269**	T	T	13	45	20.5	
	baz=96,slow=74								
H08S3	**Diego Garcia H**	**45.09**	**269**	T	T	13	45	25.6	
	baz=96,slow=74								
H08S1	**Diego Carcia H**	**45.09**	**269**	T	T	13	45	23.6	
	baz=96								
KSRS	**Korea Array**	**47.86**	**11**	P	**P**	**12**	**57**	**27.4**	**-0.3**
	0.5nm,0.4s,baz=190,slow=7.1,SNR=5.6								
	0.5nm,0.4s								
SONM	**Songino Array**	**58.26**	**351**	P	**P**	**12**	**58**	**43.2**	**-1.1**
	0.8nm,0.6s,baz=168,slow=7.4,SNR=3.6								
	0.8nm,0.6s								
MKAR	**Makanchi Array**	**64.71**	**334**	P	**P**	**12**	**59**	**26.6**	**-1.2**
	0.3nm,0.3s,baz=151,slow=6.0,SNR=6.6								
	0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**69.24**	**334**	P	**P**	**12**	**59**	**54.8**	**-1.7**
	0.2nm,0.5s,baz=147,slow=5.8,SNR=4.5								
	0.2nm,0.5s								

*ISK **08** 12:50:34.6, 37°.96N×29°.61E, h16km, ML2.6/9*
*AFAD **08** 12:50:36.6, 37°.89N×29°.66E, h7km±4km, ML1.8*
ISC 08 12:50:34.5±1.0, 37°.94N±0°.04×29°.64E±0°.04, h24km±10km, n12, σ2s02/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
INCE	**Denizli-Bozkur**	**0.23**	**192**	P	**Pb**	**12**	**50**	**41.6**	**+1.0**
INCE				*i* IAML		12	50	45.0	
	comp=N,718nm,0.2s								
INCE				S	**Sb**	**12**	**50**	**45.2**	**+0.5**
BASM	**Basmaki-Afyon**	**0.33**	**93**	Pg	**Pb**	**12**	**50**	**41.9**	**0.0**
KHL	**Karahalli**	**0.40**	**347**	Pg	**Pb**	**12**	**50**	**42.4**	**-0.7**
PASA	**Karahalli, USA**	**0.43**	**344**	P	**Pn**	**12**	**50**	**46.1**	**+0.8**
PASA				*i* IAML		12	50	53.0	
	comp=N,120nm,0.2s								
PASA				S	**Sn**	**12**	**50**	**53.0**	**+0.6**
APMY	**Acipayam-Deniz**	**0.54**	**210**	Pg	**Pb**	**12**	**50**	**45.8**	**+0.4**
APMY				Sg	**Sb**	**12**	**50**	**54.0**	**+1.2**
GOLH	**Golhisar**	**0.70**	**185**	P	**Pn**	**12**	**50**	**49.1**	**0.0**
GOLH				S	**Sb**	**12**	**50**	**54.6**	**-2.9**
GOLH				*i* IAML		12	50	55.0	
	comp=N,25nm,0.4s								
GOLH				*i* IAML		12	50	55.0	
	comp=E,23nm,0.2s								
ISP	**Isparta**	**0.71**	**99**	Pg	**Pn**	**12**	**50**	**49.2**	**0.0**
ISP				Sg	**Sn**	**12**	**51**	**00.1**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.74**	**231**	P	**Pn**	**12**	**50**	**50.1**	**+0.5**
TAVA				S	**Sb**	**12**	**50**	**52.4**	**-6.3**
TAVA				*i* IAML		12	50	54.0	
	comp=N,11nm,0.1s								
KULA	**Kula-Manisa**	**0.96**	**307**	Pg	**Pn**	**12**	**50**	**53.7**	**+1.1**
CAME	**Cameli-Denizli**	**1.03**	**195**	Pg	**Pn**	**12**	**50**	**55.1**	**+1.5**
NAZL	**Nazilli-Aydin**	**1.06**	**272**	Pg	**Pb**	**12**	**50**	**55.1**	**+0.8**
SHAP	**Saphane-Kutahy**	**1.13**	**343**	Pn	**Pb**	**12**	**50**	**55.9**	**+0.4**

*ISK **08** 12:50:59.5, 37°.90N×29°.59E, h9km, ML3.1/27*
*AFAD **08** 12:51:00.1, 37°.89N×29°.60E, h9km±2km, MW3.5*
ISC 08 12:50:60.0±0.9, 37°.89N±0°.02×29°.60E±0°.02, h11km±7km, n47, σ1s28/71, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
INCE	**Denizli-Bozkur**	**0.18**	**185**	P	**Pg**	**12**	**51**	**04.3**	**+0.2**
INCE				S	**Sg**	**12**	**51**	**07.8**	**+0.9**
BASM	**Basmaki-Afyon**	**0.36**	**85**	Pg	**Pg**	**12**	**51**	**06.8**	**-0.4**
BASM				Sg	**Sg**	**12**	**51**	**12.3**	**+0.3**
KHL	**Karahalli**	**0.43**	**352**	Pg	**Pg**	**12**	**51**	**08.4**	**-0.2**
KHL				Sg	**Sg**	**12**	**51**	**14.8**	**+0.4**
PASA	**Karahalli, USA**	**0.46**	**349**	P	**Pg**	**12**	**51**	**09.0**	**-0.1**
PASA				S	**Sg**	**12**	**51**	**15.9**	**+0.6**
APMY	**Acipayam-Deniz**	**0.48**	**209**	Pg	**Pg**	**12**	**51**	**09.5**	**+0.1**
GOLH	**Golhisar**	**0.65**	**183**	P	**Pg**	**12**	**51**	**12.2**	**-0.5**
GOLH				S	**Sb**	**12**	**51**	**23.0**	**+0.4**
TAVA	**DENIZLI_Tavas**	**0.69**	**232**	P	**Pb**	**12**	**51**	**14.5**	**+0.4**
TAVA				S	**Sb**	**12**	**51**	**23.5**	**-0.1**
ISP	**Isparta**	**0.73**	**95**	Pg	**Pg**	**12**	**51**	**13.3**	**-0.9**
ISP				Sg	**Sb**	**12**	**51**	**24.9**	**0.0**
DNZT	**Denizli-Tavas-**	**0.76**	**217**	S	**Sg**	**12**	**51**	**15.9**	**-8.8**
DNZT				P	**Pn**	**12**	**51**	**16.2**	**-0.5**
AFYN	**Afyon-Dinar-K**	**0.81**	**62**	P	**Pg**	**12**	**51**	**15.6**	**0.0**
AFYN				P	**Pg**	**12**	**51**	**15.6**	**0.0**
BNAZ	**Uak-Banaz**	**0.82**	**16**	P	**Pb**	**12**	**51**	**16.1**	**-0.2**
BNAZ				S	**Sn**	**12**	**51**	**30.1**	**+0.4**
USAK	**Uak-Merkez**	**0.94**	**331**	P	**Pb**	**12**	**51**	**18.1**	**-0.2**
USAK				S	**Sb**	**12**	**51**	**30.4**	**-0.4**
BAGO	**Egridir - ISPA**	**0.95**	**84**	P	**Pg**	**12**	**51**	**17.0**	**-1.2**
BAGO				S	**Sn**	**12**	**51**	**32.7**	**-0.1**
BUCA	**Burdur, Bucak-**	**0.95**	**126**	P	**Pb**	**12**	**51**	**18.4**	**0.0**
BUCA				S	**Sn**	**12**	**51**	**32.3**	**-0.6**
KULA	**Kula-Manisa**	**0.96**	**310**	Pg	**Pg**	**12**	**51**	**18.3**	**-0.3**
CAME	**Cameli-Denizli**	**0.97**	**194**	Pg	**Pg**	**12**	**51**	**18.8**	**0.0**
CAME				Sg	**Sb**	**12**	**51**	**32.9**	**+1.0**
ESEN	**Aydn-Nazilli**	**0.99**	**265**	P	**Pg**	**12**	**51**	**18.9**	**-0.2**
ESEN				S	**Sb**	**12**	**51**	**33.1**	**+0.8**
KIRA	**zmir-Kiraz**	**0.99**	**288**	P	**Pg**	**12**	**51**	**18.9**	**-0.2**
KIRA				S	**Sn**	**12**	**51**	**33.6**	**-0.4**
MANT	**Manisa**	**1.01**	**306**	P	**Pb**	**12**	**51**	**20.0**	**+0.3**
MANT				S	**Sn**	**12**	**51**	**35.1**	**+0.5**
NAZL	**Nazilli-Aydin**	**1.03**	**274**	Pg	**Pg**	**12**	**51**	**19.7**	**-0.2**
KNIK	**Mula-Seydike**	**1.04**	**181**	P	**Pg**	**12**	**51**	**19.9**	**-0.2**
KNIK				S	**Sn**	**12**	**51**	**35.4**	**+0.2**
GEDZ	**Gediz**	**1.16**	**353**	Pn	**Pb**	**12**	**51**	**22.0**	**-0.1**
SHAP	**Saphane-Kutahy**	**1.17**	**345**	Pn	**Pb**	**12**	**51**	**22.1**	**-0.1**
SDAG	**Sultandagi-AFY**	**1.18**	**62**	Pn	**Pn**	**12**	**51**	**22.6**	**+0.2**
SABU	**Mula-Dalaman**	**1.18**	**205**	P	**Pn**	**12**	**51**	**23.3**	**+0.9**
SABU				S	**Sg**	**12**	**51**	**38.1**	**+0.2**
GDZ	**Gediz**	**1.20**	**356**	P	**Pb**	**12**	**51**	**22.2**	**-0.6**
GDZ				S	**Sn**	**12**	**51**	**38.8**	**-0.3**
ODEM	**Odemis-Izmir**	**1.26**	**288**	Pn	**Pb**	**12**	**51**	**23.7**	**-0.1**
SIMA	**Simav-Kutahya**	**1.28**	**338**	Pn	**Pb**	**12**	**51**	**24.1**	**-0.1**
ANTB	**Antalya**	**1.30**	**139**	Pn	**Pg**	**12**	**51**	**24.7**	**-0.2**
SMAA	**Simav-Kutahya**	**1.30**	**338**	Pn	**Pb**	**12**	**51**	**24.3**	**-0.2**
IZMR	**zmir-demi**	**1.32**	**281**	P	**Pn**	**12**	**51**	**23.0**	**-1.4**
IZMR				P	**Pb**	**12**	**51**	**23.2**	**-1.6**
IZMR				S	**Sg**	**12**	**51**	**44.4**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**273**	Pn	**Pn**	**12**	**51**	**24.9**	**0.0**
AYDN	**Tasoluk**	**1.38**	**261**	P	**Pn**	**12**	**51**	**25.0**	**-0.3**
AYDN				S	**Sg**	**12**	**51**	**44.6**	**+0.2**
IZZE	**Mula-Seydike**	**1.48**	**192**	P	**Pb**	**12**	**51**	**27.9**	**+0.4**
IZZE				S	**Sg**	**12**	**51**	**51.1**	**+3.4**
BLVD	**Bolvadin-AFYON**	**1.48**	**52**	Pn	**Pn**	**12**	**51**	**27.1**	**+0.4**
GORD	**Gordes-Manisa**	**1.51**	**313**	Pn	**Pn**	**12**	**51**	**27.2**	**+0.2**
TURN	**Turunc**	**1.55**	**224**	P	**Pb**	**12**	**51**	**28.8**	**+0.2**
GOMA	**Golmarmara-Man**	**1.55**	**302**	Pn	**Pn**	**12**	**51**	**27.9**	**+0.4**
TVSB	**Tavsanli**	**1.56**	**356**	Pn	**Pn**	**12**	**51**	**27.9**	**+0.2**
AKS	**Akhisar**	**1.71**	**306**	Pn	**Pn**	**12**	**51**	**30.3**	**+0.5**
CIFT	**Cifteler, Eski**	**1.86**	**38**	Pn	**Pn**	**12**	**51**	**31.8**	**-0.1**
DST	**Dursunbey**	**1.87**	**336**	Pn	**Pn**	**12**	**51**	**32.5**	**+0.5**
DAT	**Datca**	**1.98**	**235**	Pn	**Pn**	**12**	**51**	**34.2**	**+0.6**
ARG	**Arkhangelos**	**2.04**	**216**	Pn	**Pn**	**12**	**51**	**35.0**	**+0.7**
SOMA	**Soma-Manisa**	**2.05**	**309**	Pn	**Pn**	**12**	**51**	**34.5**	**+0.1**
BLCB	**Balcova**	**2.07**	**285**	Pn	**Pn**	**12**	**51**	**35.3**	**+0.6**
FOCM	**Foa**	**2.40**	**291**	Pn	**Pn**	**12**	**51**	**39.9**	**+0.8**

ROM 08 12:51:47.5±0.0, 42°.980N±0°.002×13°.139E±0°.004, h13km, ML2.1/75, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.0km az=56.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
FDMO	**Fiordimonte**	**0.07**	**326**	P	Pg	12	51	50.3	+0.1
FDMO				S	Sg	12	51	52.4	+0.3
FDMO				AML	AML				
	comp=E,1950μm,0.5s								
FDMO				AML	AML				
	comp=N,4275μm,0.2s								
FDMO				AML	AML				
	comp=E,1898μm,0.1s								
FDMO				AML	AML				
	comp=N,4278μm,0.2s								
FDMO				AML	AML				
	comp=E,1898μm,1.9s								
FEMA	**Monte Fema**	**0.07**	**255**	P	Pg	12	51	50.6	+0.3
FEMA				S	Sg	12	51	52.6	+0.3
FEMA				AML	AML				
	comp=N,1930μm,0.3s								
FEMA				AML	AML				
	comp=E,2240μm,1.2s								
FEMA				AML	AML				
	comp=N,1930μm,0.3s								
FEMA				AML	AML				
	comp=E,1935μm,0.1s								
FEMA				AML	AML				
	comp=N,1758μm,0.1s								
MC2	**Monte Cornacci**	**0.08**	**151**	P	Pg	12	51	50.6	+0.2
MC2				S	Sg	12	51	52.8	+0.3
MTCL	**Monte Cavallo**	**0.10**	**278**	P	Pg	12	51	50.9	+0.3
MTCL				S	Sg	12	51	53.3	+0.5
CSP1	**Cessapalombo**	**0.12**	**23**	P	Pg	12	51	51.0	+0.1
CSP1				S	Sg	12	51	53.4	+0.1
CSP1				AML	AML				
	comp=E,1186μm,0.2s								
CSP1				AML	AML				
	comp=N,3206μm,0.1s								
NRCA	**Norcia**	**0.15**	**187**	⇑P	Pg	12	51	51.6	+0.4
NRCA				AML	AML				
	comp=E,2060μm,1.5s								
NRCA				AML	AML				
	comp=N,2010μm,1.2s								
NRCA				AML	AML				
	comp=E,1881μm,0.1s								
NRCA				AML	AML				
	comp=N,1949μm,0.1s								
NRCA				AML	AML				
	comp=N,1878μm,0.1s								
NRCA				AML	AML				
	comp=E,1860μm,0.1s								
MMO1	**Montemonaco**	**0.16**	**120**	P	Pg	12	51	51.6	+0.2
MMO1				S	Sg	12	51	54.4	+0.3
GUMA	**Gualdo di Mace**	**0.17**	**60**	P	Pg	12	51	51.8	+0.4
CESI	**CESI - Serrava**	**0.17**	**278**	P	Pg	12	51	52.1	+0.5
CESI				S	Sb	12	51	55.3	-0.8
CESI				AML	AML				
	comp=N,1056μm,0.9s								
CESI				AML	AML				
	comp=E,764μm,0.5s								
CESI				AML	AML				
	comp=N,1002μm,0.2s								
CESI				AML	AML				
	comp=N,899μm,0.2s								
CESI				AML	AML				
	comp=E,642μm,0.1s								
CESI				AML	AML				
	comp=E,614μm,0.1s								
PF6	**Pievefavera**	**0.17**	**13**	P	Pg	12	51	51.5	-0.1
MML1	**Montelago di S**	**0.18**	**318**	P	Pg	12	51	52.0	+0.3
MML1				S	Sg	12	51	55.3	+0.7
MDAR	**Monte D'Aria**	**0.21**	**1**	P	Pg	12	51	52.5	+0.3
SEF1	**Sefro**	**0.22**	**320**	P	Pg	12	51	52.7	+0.4
SAP2	**Sant'Angelo in**	**0.22**	**58**	⇓P	Pg	12	51	52.9	+0.5
SAP2				S	Sb	12	51	57.0	-0.5
SAP2				AML	AML				
	comp=E,1580μm,1.5s								
SAP2				AML	AML				
	comp=N,8275μm,0.1s								
SAP2				AML	AML				
	comp=N,8276μm,0.1s								
SAP2				AML	AML				
	comp=E,1553μm,0.1s								
PIO1	**Pioraco**	**0.23**	**330**	P	Pg	12	51	52.8	+0.3
MF5	**Montefalcone A**	**0.24**	**88**	P	Pg	12	51	53.1	+0.5
MF5				S	Sb	12	51	57.4	-0.5
MF5				AML	AML				
	comp=E,686μm,0.5s								
MF5				AML	AML				
	comp=N,586μm,0.2s								
MF5				AML	AML				
	comp=E,687μm,0.5s								
MF5				AML	AML				
	comp=N,586μm,0.2s								
MF5				AML	AML				
	comp=N,586μm,0.2s								
MF5				AML	AML				
	comp=E,591μm,0.2s								
SSM1	**San Severino M**	**0.25**	**6**	P	Pg	12	51	53.1	+0.2
FIU1	**Fiuminata**	**0.26**	**324**	P	Pg	12	51	52.7	-0.3
GAG1	**Gagliole**	**0.26**	**349**	P	Pb	12	51	54.1	-0.1
MNTP	**Montappone**	**0.29**	**57**	P	Pb	12	51	54.3	-0.3
MNTP				AML	AML				
	comp=E,948μm,0.6s								
MNTP				AML	AML				
	comp=N,1075μm,1.5s								
MNTP				AML	AML				
	comp=N,926μm,0.2s								
MTRA	**Matera**	**0.29**	**140**	P	Pg	12	51	53.7	+0.1
MTRA				S	Sb	12	51	58.6	-0.9
MTRA				AML	AML				
	comp=E,686μm,0.1s								
MTRA				AML	AML				
	comp=N,976μm,0.5s								
MTRA				AML	AML				
	comp=N,976μm,0.5s								
MTRA				AML	AML				
	comp=E,712μm,0.2s								
MTRA				AML	AML				
	comp=N,946μm,0.5s								
MTRA				AML	AML				
	comp=E,686μm,0.1s								
MTRA				AML	AML				
	comp=N,863μm,0.2s								
MTRA				AML	AML				
	comp=E,712μm,0.2s								
MTRA				AML	AML				
	comp=E,686μm,1.9s								
MTRA				AML	AML				
	comp=N,873μm,0.2s								
SNTG	**Esanatoglia**	**0.31**	**332**	P	Pg	12	51	54.0	+0.1
SNTG				AML	AML				
	comp=N,183μm,0.9s								
SNTG				AML	AML				
	comp=E,260μm,0.1s								
SNTG				AML	AML				
	comp=N,174μm,0.1s								
SNTG				AML	AML				
	comp=E,260μm,0.1s								
SNTG				AML	AML				
	comp=E,257μm,0.1s								
GAVE	**Gavelli**	**0.34**	**212**	P	Pg	12	51	54.8	+0.4
GAVE				AML	AML				
	comp=N,736μm,1.2s								
GAVE				AML	AML				
	comp=E,815μm,1.4s								
GAVE				AML	AML				
	comp=E,805μm,0.2s								
GAVE				AML	AML				
	comp=N,234μm,0.2s								
GAVE				AML	AML				
	comp=N,723μm,0.2s								
GAVE				AML	AML				
	comp=E,802μm,0.3s								
MNTT	**Montottone**	**0.34**	**76**	P	Pb	12	51	55.4	-0.3
MNTT				AML	AML				
	comp=E,872μm,0.4s								
MNTT				AML	AML				
	comp=N,984μm,1.2s								
MNTT				AML	AML				
	comp=E,820μm,0.2s								
MNTT				AML	AML				
	comp=N,976μm,0.3s								
EL6	**Elcito**	**0.35**	**356**	⇑P	Pg	12	51	54.8	+0.1
EL6				AML	AML				
	comp=E,576μm,1.3s								
EL6				AML	AML				
	comp=N,544μm,0.3s								
EL6				AML	AML				
	comp=E,546μm,0.2s								
EL6				AML	AML				
	comp=N,475μm,0.2s								
TRE1	**Treia**	**0.35**	**21**	P	Pg	12	51	55.1	+0.4
ASSB	**Assisi San Ben**	**0.36**	**280**	P	Pg	12	51	55.0	+0.2
ASSB				AML	AML				
	comp=E,254μm,0.8s								
ASSB				AML	AML				
	comp=N,232μm,0.7s								
ASSB				AML	AML				
	comp=E,210μm,0.1s								
ASSB				AML	AML				
	comp=N,224μm,0.1s								
SMA1	**SAN MARTINO**	**0.38**	**157**	⇑P	Pg	12	51	55.3	+0.2
SMA1				S	Sb	12	52	01.5	-0.5
SMA1				AML	AML				
	comp=E,363μm,0.6s								
SMA1				AML	AML				
	comp=N,262μm,1.2s								
SMA1				AML	AML				
	comp=E,321μm,0.1s								
SMA1				AML	AML				
	comp=N,262μm,0.1s								
LNSS	**Leonessa**	**0.38**	**191**	P	Pg	12	51	55.4	+0.2
LNSS				AML	AML				
	comp=E,489μm,0.1s								
LNSS				AML	AML				
	comp=N,534μm,0.2s								
LNSS				AML	AML				
	comp=E,432μm,0.1s								
LNSS				AML	AML				
	comp=E,489μm,0.1s								
LNSS				AML	AML				
	comp=N,534μm,0.2s								
LNSS				AML	AML				
	comp=N,513μm,0.2s								
MOMA	**Monte Martano**	**0.45**	**247**	P	Pb	12	51	57.1	-0.4
MMUR	**Monte Murano**	**0.47**	**347**	P	Pg	12	51	57.0	+0.1
RM33	**Pellescritta (**	**0.47**	**173**	P	Pg	12	51	57.0	+0.1
RM33				AML	AML				
	comp=E,286μm,0.6s								
RM33				AML	AML				
	comp=N,304μm,1.0s								
RM33				AML	AML				
	comp=E,248μm,0.1s								
RM33				AML	AML				
	comp=N,253μm,0.2s								
RM33				AML	AML				
	comp=E,266μm,0.1s								
RM33				AML	AML				
	comp=N,272μm,0.2s								
RM33				AML	AML				
	comp=N,253μm,0.2s								
RM33				AML	AML				
	comp=E,248μm,0.1s								
ARRO	**Arrone**	**0.49**	**215**	P	Pg	12	51	57.4	+0.4
ARRO				AML	AML				
	comp=E,234μm,0.2s								
ARRO				AML	AML				
	comp=N,164μm,0.7s								
ARRO				AML	AML				
	comp=E,234μm,0.2s								
ARRO				AML	AML				
	comp=N,144μm,0.2s								
CAMP	**Campotosto**	**0.49**	**156**	P	Pg	12	51	57.0	-0.1
CAMP				AML	AML				
	comp=E,156μm,0.6s								
CAMP				AML	AML				
	comp=N,111μm,0.9s								
CAMP				AML	AML				
	comp=E,138μm,0.2s								
CAMP				AML	AML				
	comp=N,104μm,0.4s								
TERO	**Teramo**	**0.

CESX				AML	AML	
	comp=N,229μm,0.4s					
CESX				AML	AML	
	comp=E,189μm,0.2s					
GIGS	**Gran Sasso**	**0.62**	**149**	P	Pg	12 51 59.1 -0.5
GIGS				AML	AML	
	comp=N,76μm,0.3s					
GIGS				AML	AML	
	comp=E,58μm,0.1s					
GIGS				AML	AML	
	comp=E,58μm,0.1s					
GIGS				AML	AML	
	comp=N,68μm,0.1s					
ATVO	**AVT- Monte Val**	**0.67**	**307**	P	Pg	12 52 00.4 -0.2
ATVO				AML	AML	
	comp=E,38μm,0.3s					
ATVO				AML	AML	
	comp=N,42μm,0.5s					
MPAG	**Monte Paganucc**	**0.71**	**337**	P	Pg	12 52 01.1 -0.2
MPAG				AML	AML	
	comp=E,617μm,1.0s					
MPAG				AML	AML	
	comp=N,626μm,1.2s					
MPAG				AML	AML	
	comp=E,50μm,0.2s					
MPAG				AML	AML	
	comp=N,35μm,0.2s					
MPAG				AML	AML	
	comp=E,617μm,1.0s					
PIEI	**Pieia**	**0.71**	**322**	P	Pg	12 52 01.1 -0.2
PIEI				AML	AML	
	comp=N,76μm,1.3s					
PIEI				AML	AML	
	comp=E,98μm,0.3s					
PIEI				AML	AML	
	comp=E,80μm,0.2s					
PIEI				AML	AML	
	comp=N,69μm,0.2s					
FIAM	**Fiamignano**	**0.71**	**181**	P	Pg	12 52 00.4 -0.9
FIAM				AML	AML	
	comp=E,31μm,0.5s					
FIAM				AML	AML	
	comp=N,37μm,1.5s					
FIAM				AML	AML	
	comp=N,30μm,0.3s					
FIAM				AML	AML	
	comp=E,29μm,0.4s					
MGAB	**Montegabbione**	**0.76**	**265**	P	Pg	12 52 02.4 +0.2
VCEL	**Villa Celiera**	**0.78**	**138**	P	Pg	12 52 02.5 -0.2
VCEL				AML	AML	
	comp=E,141μm,0.3s					
VCEL				AML	AML	
	comp=N,95μm,0.3s					
T0110	**Collepietro**	**0.89**	**148**	P	Pg	12 52 04.0 -0.7
T0110				AML	AML	
	comp=N,78μm,0.4s					
T0110				AML	AML	
	comp=E,69μm,0.3s					

ROM 08 12:52:24.9±0.0,**42°979N**×0°003×**13°139E**±0°004, **h12**km,**ML1.7**/48,**Error ellipse: s-maj=0.3km s-min=0.1km az=63.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FEMA	**Monte Fema**	**0.07**	**256**	P	Pg	12 52 27.9	+0.4
FEMA				S	Sg	12 52 30.0	+0.5
FEMA				AML	AML		
	comp=N,625μm,0.1s						
FEMA				AML	AML		
	comp=E,598μm,0.2s						
FDMO	**Fiordimonte**	**0.07**	**327**	P	Pg	12 52 27.7	+0.2
FDMO				S	Sg	12 52 29.7	+0.3
FDMO				AML	AML		
	comp=E,589μm,0.1s						
FDMO				AML	AML		
	comp=N,1210μm,0.2s						
FDMO				AML	AML		
	comp=N,1210μm,0.2s						
FDMO				AML	AML		
	comp=E,589μm,0.1s						
MC2	**Monte Cornacci**	**0.08**	**150**	P	Pg	12 52 28.0	+0.3
MC2				S	Sg	12 52 30.1	+0.3
MTCL	**Monte Cavallo**	**0.10**	**278**	P	Pg	12 52 28.3	+0.4
MTCL				S	Sg	12 52 30.6	+0.5
CSP1	**Cessapalombo**	**0.12**	**23**	P	Pg	12 52 28.3	+0.1
CSP1				S	Sg	12 52 30.5	-0.1
CSP1				AML	AML		
	comp=E,1746μm,44.7s						
CSP1				AML	AML		
	comp=N,1032μm,0.2s						
NRCA	**Norcia**	**0.15**	**187**	P	Pg	12 52 28.9	+0.4
NRCA				S	Sg	12 52 31.7	+0.7
NRCA				AML	AML		
	comp=N,794μm,0.1s						
NRCA				AML	AML		
	comp=E,692μm,0.5s						
NRCA				AML	AML		
	comp=N,794μm,0.1s						
NRCA				AML	AML		
	comp=E,630μm,0.1s						
NRCA				AML	AML		
	comp=N,736μm,0.1s						
NRCA				AML	AML		
	comp=E,673μm,0.1s						
MMO1	**Montemonaco**	**0.16**	**120**	P	Pg	12 52 28.9	+0.2
MMO1				S	Sg	12 52 31.7	+0.4
GUMA	**Gualdo di Mace**	**0.17**	**60**	P	Pg	12 52 29.2	+0.4
GUMA				S	Sg	12 52 32.4	+1.0
CESI	**CESI - Serrava**	**0.17**	**279**	P	Pg	12 52 29.4	+0.6
CESI				S	Sg	12 52 32.7	+1.0
CESI				AML	AML		
	comp=E,272μm,0.5s						
CESI				AML	AML		
	comp=N,352μm,0.9s						
CESI				AML	AML		
	comp=E,216μm,0.1s						
CESI				AML	AML		
	comp=N,327μm,0.2s						
CESI				AML	AML		
	comp=N,320μm,0.2s						
CESI				AML	AML		
	comp=E,252μm,0.1s						
PF6	**Pievefavera**	**0.17**	**13**	P	Pg	12 52 28.9	0.0
PF6				S	Sg	12 52 31.7	0.0
MML1	**Montelago di S**	**0.18**	**318**	P	Pg	12 52 29.5	+0.4
MDAR	**Monte D'Aria**	**0.21**	**1**	P	Pb	12 52 30.9	+0.2
SAP2	**Sant'Angelo in**	**0.22**	**58**	P	Pg	12 52 30.2	+0.5
SAP2				S	Sg	12 52 34.3	+1.3
SAP2				AML	AML		
	comp=E,550μm,1.5s						
SAP2				AML	AML		
	comp=N,3010μm,0.9s						
SAP2				AML	AML		
	comp=N,3015μm,0.9s						
SAP2				AML	AML		
	comp=E,464μm,0.1s						
SAP2				AML	AML		
	comp=N,2842μm,0.1s						
MF5	**Montefalcone A**	**0.24**	**88**	P	Pg	12 52 30.5	+0.6
MF5				S	Sg	12 52 34.8	+1.4
MF5				AML	AML		
	comp=E,206μm,0.3s						
MF5				AML	AML		
	comp=N,167μm,0.3s						
SSM1	**San Severino M**	**0.25**	**6**	P	Pg	12 52 30.1	0.0
MTRA	**Matera**	**0.29**	**139**	P	Pg	12 52 31.1	+0.2
MTRA				S	Sg	12 52 35.7	+0.8
MTRA				AML	AML		
	comp=E,276μm,0.2s						
MTRA				AML	AML		
	comp=N,390μm,1.4s						
MTRA				AML	AML		
	comp=N,368μm,0.2s						
MTRA				AML	AML		
	comp=E,276μm,0.2s						
MTRA				AML	AML		
	comp=N,353μm,0.2s						
MTRA				AML	AML		
	comp=E,316μm,0.2s						
SNTG	**Esanatoglia**	**0.31**	**332**	P	Pg	12 52 31.5	+0.2
SNTG				S	Sb	12 52 36.6	-0.9
SNTG				AML	AML		
	comp=E,109μm,0.6s						
SNTG				AML	AML		
	comp=N,173μm,0.6s						
SNTG				AML	AML		
	comp=E,80μm,0.1s						
SNTG				AML	AML		
	comp=N,54μm,0.1s						
FOPC	**Foligno Prot C**	**0.32**	**268**	P	Pg	12 52 31.0	-0.4
GAVE	**Gavelli**	**0.34**	**212**	P	Pg	12 52 32.1	+0.4
GAVE				S	Sg	12 52 37.2	+0.8
GAVE				AML	AML		
	comp=E,284μm,0.9s						
GAVE				AML	AML		
	comp=N,254μm,0.2s						
GAVE				AML	AML		
	comp=E,279μm,0.2s						
GAVE				AML	AML		
	comp=N,188μm,1.3s						
GAVE				AML	AML		
	comp=N,254μm,0.2s						
GAVE				AML	AML		
	comp=E,272μm,0.2s						
MNTT	**Montottone**	**0.34**	**76**	P	Pb	12 52 32.6	-0.4
MNTT				AML	AML		
	comp=N,293μm,0.2s						
MNTT				AML	AML		
	comp=E,254μm,0.2s						
EL6	**Elcito**	**0.35**	**356**	P	Pg	12 52 32.3	+0.3
EL6				S	Sb	12 52 37.8	-0.9
EL6				AML	AML		
	comp=E,194μm,0.3s						
EL6				AML	AML		
	comp=N,171μm,0.3s						
ASSB	**Assisi San Ben**	**0.36**	**280**	P	Pg	12 52 32.4	+0.3
ASSB				AML	AML		
	comp=E,79μm,0.2s						
ASSB				AML	AML		
	comp=N,65μm,0.2s						
SMA1	**SAN MARTINO**	**0.38**	**157**	P	Pg	12 52 32.7	+0.2
SMA1				S	Sb	12 52 38.9	-0.5
SMA1				AML	AML		
	comp=N,92μm,0.1s						
SMA1				AML	AML		
	comp=E,98μm,0.1s						
LNSS	**Leonessa**	**0.38**	**191**	P	Pg	12 52 32.9	+0.3
LNSS				S	Sb	12 52 38.9	-0.6
LNSS				AML	AML		
	comp=E,174μm,0.1s						
LNSS				AML	AML		
	comp=N,157μm,0.1s						
LNSS				AML	AML		
	comp=E,152μm,0.1s						
LNSS				AML	AML		
	comp=N,148μm,0.1s						
FOSV	**Fossato di Vic**	**0.42**	**319**	P	Pg	12 52 33.5	+0.3
FOSV				S	Sb	12 52 40.0	-0.6
FOSV				AML	AML		
	comp=E,60μm,0.3s						
FOSV				AML	AML		
	comp=N,195μm,0.3s						
MOMA	**Monte Martano**	**0.45**	**247**	P	Pg	12 52 34.3	+0.4
MOMA				AML	AML		
	comp=E,100μm,0.2s						
MOMA				AML	AML		
	comp=E,86μm,0.3s						
MOMA				AML	AML		
	comp=N,100μm,0.2s						
RM33	**Pellescritta (**	**0.47**	**173**	P	Pg	12 52 34.3	+0.1
ARRO	**Arrone**	**0.48**	**215**	P	Pg	12 52 33.4	-1.0
CAMP	**Campotosto**	**0.49**	**156**	P	Pg	12 52 34.4	0.0
CAMP				AML	AML		
	comp=E,97μm,0.1s						
CAMP				AML	AML		
	comp=N,62μm,0.1s						
TERO	**Teramo**	**0.49**	**136**	P	Pg	12 52 34.6	+0.1
TERO				AML	AML		
	comp=E,66μm,0.1s						
TERO				AML	AML		
	comp=E,340μm,0.8s						
TERO				AML	AML		
	comp=N,68μm,0.7s						
TERO				AML	AML		
	comp=N,60μm,0.1s						
ATSC	**Scheggia e Pas**	**0.55**	**324**	P	Pg	12 52 35.7	-0.1
GIGS	**Gran Sasso**	**0.62**	**149**	P	Pg	12 52 36.5	-0.4
GIGS				AML	AML		
	comp=E,23μm,0.1s						
GIGS				AML	AML		
	comp=N,22μm,0.1s						

*ISK **08** 12:55:30.8, 36°.84N×28°.42E, h26km, ML2.5/5*
*AFAD **08** 12:55:31.4, 36°.95N×28°.34E, h7km±1km, ML1.7*

ISC 08 12:55:31.6±1.0,**36°.94N**±0°.03×**28°.36E**±0°.03,**h14**km±10km, **n11,σ0s74/20,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.19**	**211**	P	**Pg**	**12 55 35.9**	**-0.1**
TURN				*i* IAML		12 55 39.0	
	comp=N,348nm,0.4s						
TURN				*i* IAML		12 55 39.0	
	comp=E,490nm,0.2s						
TURN				S	**Sg**	**12 55 39.3**	**+0.4**
SABU	**Mula-Dalaman**	**0.50**	**103**	P	**Pg**	**12 55 41.5**	**+0.1**
SABU				S	**Sb**	**12 55 49.8**	**+0.4**
SABU				*i* IAML		12 55 50.0	
	comp=E,45nm,0.2s						
SABU				*i* IAML		12 55 50.0	
	comp=N,98nm,0.7s						
DAT	**Datca**	**0.66**	**252**	Pg	**Pb**	**12 55 45.0**	**-0.1**
DAT				Sg	**Sb**	**12 55 55.2**	**+0.9**
TAVA	**DENIZLI_Tavas**	**0.69**	**40**	P	**Pg**	**12 55 44.5**	**-0.5**
TAVA				*i* IAML		12 55 54.0	
	comp=N,23nm,0.2s						
TAVA				*i* IAML		12 55 54.0	
	comp=E,12nm,0.2s						
TAVA				S	**Sg**	**12 55 54.4**	**+0.3**
ARG	**Arkhangelos**	**0.74**	**195**	Pg	**Pg**	**12 55 44.7**	**-1.4**
CAME	**Cameli-Denizli**	**0.75**	**89**	Pg	**Pg**	**12 55 45.6**	**-0.7**
CAME				Sg	**Sg**	**12 55 56.3**	**+0.1**
AYDN	**Tasoluk**	**0.82**	**332**	P	**Pb**	**12 55 47.5**	**-0.3**
AYDN				S	**Sb**	**12 55 59.6**	**+0.9**
AYDN				*i* IAML		12 56 00.0	
	comp=N,46nm,0.3s						
AYDN				*i* IAML		12 56 00.0	
	comp=E,43nm,0.4s						
IZZE	**Mula-Seydike**	**0.85**	**126**	P	**Pg**	**12 55 47.4**	**-0.7**
IZZE				S	**Sb**	**12 56 00.9**	**+1.2**
ESEN	**Aydn-Nazilli**	**0.86**	**359**	P	**Pg**	**12 55 47.7**	**-0.6**
ESEN				*i* IAML		12 56 00.0	
	comp=N,30nm,0.4s						
ESEN				*i* IAML		12 56 00.0	
	comp=E,30nm,0.7s						
ESEN				S	**Sb**	**12 56 00.3**	**+0.5**
APMY	**Acipayam-Deniz**	**0.92**	**54**	Pg	**Pg**	**12 55 48.6**	**-0.8**
APMY				Sg	**Sb**	**12 56 02.1**	**+0.5**
NAZL	**Nazilli-Aydin**	**1.03**	**357**	Pn	**Pb**	**12 55 51.2**	**-0.1**

*ATH **08** 12:58:44.6, 37°.65N×26°.48E, h31km±6km, ML2.8/3,*
Manual Solution by A.Fokaefs First location: 2019/08/08 13:19:26, This location: 2019/08/08 13:19:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 7 km
*THE **08** 12:58:45.7, 38°.N2°×2°.7E±°, h7km, M2.7/4, MLh2.7/4*

ISC 08 12:58:45.7±1.2,**38°.03N**±0°.04×**26°.90E**±0°.07,**h16**km±10km, **n8,σ0s57/16,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRL1	**Karlovasi Samo**	**0.28**	**214**	P	**Pg**	**12 58 51.5**	**-0.2**
KRL1				S	**Sg**	**12 58 55.9**	**+0.1**
SMG	**Samos**	**0.32**	**189**	P	**Pg**	**12 58 52.0**	**-0.5**
SMG				S	**Sg**	**12 58 57.1**	**+0.1**
SMG	**Samos**	**0.32**	**189**	P	**Pg**	**12 58 51.9**	**-0.5**
SMG				S	**Sg**	**12 58 57.3**	**+0.3**
BLCB	**Balcova**	**0.38**	**17**	P	**Pg**	**12 58 53.3**	**-0.2**
BLCB				S	**Sg**	**12 58 58.5**	**-0.2**
CHOS	**Chios island**	**0.76**	**299**	P	**Pg**	**12 59 00.1**	**-0.5**
CHOS				S	**Sb**	**12 59 11.1**	**+0.3**
CHOS	**Chios island**	**0.76**	**299**	P	**Pg**	**12 59 00.1**	**-0.5**
CHOS				S	**Sb**	**12 59 11.0**	**+0.2**
EAG2	**Marmaro, Chios**	**0.81**	**310**	P	**Pb**	**12 59 02.2**	**+0.7**
EAG2				S	**Sn**	**12 59 13.9**	**-0.3**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pn**	**12 59 11.5**	**+0.3**
SIGR				S	**Sn**	**12 59 28.5**	**-1.3**

IDC 08 13:23:03.6±2.0,**30°.41S**×**177°.23W**,**h0**km,**mb3.7**/3, **mbtmp3.7**/3,**Error ellipse: s-maj=53.4km s-min=23.6km az=71.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.30**	**332**	Pn	Pn	13 23 29.4	+0.4
	114nm,0.3s,baz=198,slow=20,SNR=5.2						
RAO				Sn	Sb	13 23 46.2	0.0
	444nm,0.3s,baz=126,slow=19,SNR=9.8						
ASAR	**Alice Springs**	**43.78**	**267**	P	P	13 31 11.2	0.0
	0.4nm,0.6s,baz=109,slow=6.6,SNR=4.7						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**44.77**	**272**	P	P	13 31 19.1	-0.1
	0.8nm,0.6s,baz=110,slow=8.0,SNR=5.5						
	0.8nm,0.6s						
SNAA	**Sanae**	**78.12**	**178**	P	P	13 35 03.5	-0.6
	1.0nm,1.1s,baz=163,slow=5.1,SNR=2.5						
	1.0nm,1.1s						
H10N3	**ASCENSION HYDR**	**38.51**	**154**	T	T	16 17 03.7	
	baz=203,slow=74						
H10N1	**ASCENSION HYDR**	**38.51**	**154**	T	T	16 17 04.6	
	baz=203,slow=74						
H10N2	**ASCENSION HYDR**	**38.53**	**154**	T	T	16 17 06.0	
	baz=203						
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc	PKPbc	13 42 42.5	-0.1
	0.8nm,0.8s,baz=50,slow=4.3,SNR=1.3						

WEL 08 13:37:20.6±1.0,**32°S**±8°×**177°9E**±1°7,**h12**km,**M4.1**/10, **mB4.8**/10,**ML4.3**/13,**MLv4.2**/7,**Mw(mB)4.0**/10,**Error ellipse: s-maj=23.7km s-min=4.1km az=113.0, confirmed,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.88**	**45**	P	Pn	13 38 19.7	-0.4
GLKZ				S	Sn	13 39 07.4	+1.8
MXZ	**Matakaoa Point**	**5.53**	**185**	P	Pn	13 38 42.1	-0.6
MXZ				S	Sn	13 39 48.0	+1.8
HAZ	**Te Kaha**	**5.78**	**189**	P	Pn	13 38 47.3	+1.2
HAZ				S	Sn	13 39 55.1	+2.8
WMGZ	**Waiomatatini S**	**5.78**	**184**	P	Pn	13 38 45.2	-1.0
WMGZ				S	Sn	13 39 53.5	+1.1
PKGZ	**Pakihiroa**	**5.85**	**187**	P	Pn	13 38 47.7	+0.5
PKGZ				S	Sn	13 39 56.5	+2.3
RUGZ	**Raukumara Rang**	**6.00**	**189**	P	Pn	13 38 50.2	+1.0
RUGZ				S	Sn	13 39 59.9	+2.0
PUZ	**Puketiti**	**6.04**	**185**	P	Pn	13 38 48.7	-1.1
PUZ				S	Sn	13 39 58.5	-0.3
TWGZ	**Tauwhareparae**	**6.17**	**187**	P	Pn	13 38 53.6	+2.1
TWGZ				S	Sn	13 40 02.5	+0.5
URZ	**Urewera**	**6.38**	**193**	P	Pn	13 38 53.5	-0.9
URZ				S	Sn	13 40 09.7	+2.6
MWZ	**Matawai**	**6.38**	**190**	P	Pn	13 38 54.0	-0.4
MWZ				S	Sn	13 40 08.0	+0.8
TKGZ	**Te Karaka**	**6.44**	**188**	P	Pn	13 38 53.5	-1.7
TKGZ				S	Sn	13 40 08.9	+0.2
CNGZ	**Carnagh Statio**	**6.45**	**185**	P	Pn	13 38 55.1	-0.3
MUGZ	**Murupara**	**6.66**	**195**	P	Pn	13 38 59.4	+1.2
MUGZ				S	Sn	13 40 16.7	+2.7
RIGZ	**Rimuhau**	**6.72**	**188**	P	Pn	13 38 58.3	-0.7
RIGZ				S	Sn	13 40 15.0	-0.5
SNGZ	**Shannon Statio**	**6.85**	**190**	P	Pn	13 39 00.4	-0.4
SNGZ				S	Sn	13 40 18.3	-0.4
RAHZ	**Arahi**	**7.02**	**192**	P	Pn	13 39 03.3	+0.1
RAHZ				S	Sn	13 40 22.7	-0.2

RSNC 08 14:10:39.1±0.0,**7°N**±1°×**7°3W**±°,**h146**km±1km,**M3.3, mB4.8, mb3.7,ML3.0,Mw(mB)4.0,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**188**	P	Pn	14 10 59.0	-0.3
BARC				S	Sn	14 11 14.2	-0.4
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	14 11 00.7	+0.1
BRJC				S	Sn	14 11 17.9	+1.0
PAMC	**Pamplona, Colo**	**0.69**	**40**	P	Pn	14 11 01.9	+0.2
PAMC				S	Sn	14 11 19.0	+0.1
RUSC	**La Rusia**	**0.91**	**176**	P	Pn	14 11 02.9	-0.5
RUSC				S	Sn	14 11 21.3	-0.5
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	14 11 05.4	-1.2
PTBC				S	Sn	14 11 26.1	-1.4
OCAC	**Ocana**	**1.43**	**353**	P	Pn	14 11 07.1	-0.7
OCAC				S	Sn	14 11 29.1	-0.7
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	14 11 11.5	-0.5
ZARC				S	Sn	14 11 37.1	-0.1
NORC	**Norcasia**	**2.11**	**234**	P	Pn	14 11 14.8	-0.6
NORC				S	Sn	14 11 42.0	-1.2
CHIC	**Chingaza**	**2.24**	**195**	P	Pn	14 11 17.5	+0.2
CHIC				S	Sn	14 11 46.2	-0.5
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	14 11 18.6	+0.9
ROSC				S	Sn	14 11 45.4	-2.0
HELC	**Santa Helena**	**2.44**	**256**	P	Pn	14 11 20.5	+0.8
HELC				S	Sn	14 11 50.1	-0.8
CVER	**Cruz Verde, Cu**	**2.45**	**202**	P	Pn	14 11 20.4	+0.5
CVER				S	Sn	14 11 51.7	+0.4
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	14 11 19.5	-1.1
UREC				S	Sn	14 11 50.2	-2.3
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	14 11 23.2	+0.1
GUY2C				S	Sn	14 11 56.2	-0.8
VILC	**Villavicencio,**	**2.73**	**191**	P	Pn	14 11 22.7	-0.4
VILC				S	Sn	14 11 56.3	-0.8
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	14 11 26.9	+0.5
CBOC				S	Sn	14 12 02.6	-0.4
ANIL	**Santa Ana**	**3.21**	**224**	P	Pn	14 11 30.0	+0.6
ANIL				S	Sn	14 12 09.0	+0.8
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	14 11 29.5	+0.4
ARGC				S	Sn	14 12 07.7	-0.2
SDV	**Santo Domingo**	**3.24**	**50**	P	Pn	14 11 28.6	-0.9
SDV				S	Sn	14 12 05.4	-3.1
PRAC	**Prado**	**3.53**	**209**	P	Pn	14 11 33.2	0.0
PRAC				S	Sn	14 12 14.4	-0.7
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	14 11 33.2	-0.4
ORTC				S	Sn	14 12 15.3	-0.5
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	14 11 32.9	-0.8
APAC				S	Sn	14 12 14.9	-1.0
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	14 11 34.5	-0.2
PLMC				S	Sn	14 12 16.0	-1.8
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	14 11 32.7	-2.3
SJCC				S	Sn	14 12 14.3	-4.0
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	14 11 36.0	-0.1
URMC				S	Sn	14 12 19.6	-0.6
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	P	Pn	14 11 39.2	-2.7
CRJC				S	Sn	14 12 26.8	-3.9
YOTC	**Yotoco, Valle**	**4.24**	**229**	P	Pn	14 11 41.6	-1.0
YOTC				S	Sn	14 12 34.6	+2.7
GUVC	**San Jose del G**	**4.27**	**173**	P	Pn	14 11 41.6	-1.3
GUVC				S	Sn	14 12 29.7	-2.7
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	14 11 44.5	-0.8
SMRC				S	Sn	14 12 32.2	-4.6
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	14 11 49.2	-3.2
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	14 11 52.3	-0.5
	4.6nm,0.6s						
JAMC				S	Sn	14 12 51.4	+1.2
	4.6nm,0.6s						
GARC	**Garzon, Huila**	**5.15**	**207**	P	Pn	14 11 53.1	-1.7
GARC				S	Sn	14 12 48.8	-4.9
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	14 11 57.2	-2.3
POPC				S	Sn	14 13 00.1	-2.1
FLOC	**Florencia**	**5.76**	**206**	P	Pn	14 12 01.5	-1.2

*TAP **08** 14:10:56.4, 24°.05N×121°.51E, h22km, ML3.9, B*

ISC 08 14:10:56.7±0.8,**24°04N**±0°01×**121°54E**±0°02,**h18**km±1km, **n132,σ0s72/235,12C-10D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.07**	**50**	⇓*i* P	**Pg**	**14 11 00.7**	**+0.5**
TWD				*i* S	**Sg**	**14 11 03.5**	**+1.1**
ETM	**Tongmen**	**0.08**	**210**	⇑*i* P	**Pg**	**14 11 00.6**	**+0.3**
ETM				*i* S	**Sg**	**14 11 03.3**	**+0.7**
HWA	**Hwalien**	**0.09**	**133**	⇓*i* P	**Pg**	**14 11 01.2**	**+1.0**
HWA				S	**Sg**	**14 11 04.9**	**+2.3**
ETL	**Fush Village**	**0.15**	**33**	P	**Pg**	**14 11 01.1**	**+0.1**
ETL				S	**Sg**	**14 11 04.4**	**+0.5**

NACB	**Ninganchiao**	**0.15**	**21**	P	**Pg**	14 11 00.9 -0.1
NACB	**Ninganchiao**	**0.15**	**21**	S	**Sg**	14 11 04.4 +0.5
NACB	**Ninganchiao**	**0.15**	**21**	⇑*i*P	**Pg**	14 11 01.0 0.0
NACB				S	**Sg**	14 11 04.2 +0.4
TEYL	**Yanliau Villag**	**0.17**	**161**	P	**Pg**	14 11 01.6 +0.3
TEYL				*e*S	**Sg**	14 11 06.8 +2.4
ETLH	**Xiulin Townshi**	**0.18**	**344**	⇑*i*P	**Pb**	14 11 01.4 +0.5
ETLH				S	**Sb**	14 11 04.6 +1.1
ESL	**Shilin**	**0.24**	**203**	⇓*i*P	**Pb**	14 11 02.0 -0.3
ESL				S	**Sb**	14 11 06.1 +0.1
SHUL	**Shoufeng**	**0.25**	**174**	⇓*i*P	**Pg**	14 11 02.9 +0.5
SHUL				S	**Sg**	14 11 08.1 +1.8
WHF	**Hehuan Shan**	**0.27**	**294**	⇑*i*P	**Pb**	14 11 02.7 -0.5
WHF				*i* S	**Sb**	14 11 07.1 -0.4
TEGC	**Jichi Village**	**0.32**	**179**	*e*P	**Pb**	14 11 04.3 +0.3
EHP	**Heping Village**	**0.33**	**34**	*e*P	**Pb**	14 11 04.5 +0.4
EHP				*e*S	**Sg**	14 11 09.1 +0.4
OWD	**Renai**	**0.34**	**256**	⇑*i*P	**Pg**	14 11 03.7 -0.3
OWD				S	**Sg**	14 11 08.2 -0.8
FUSS	**Fushou**	**0.34**	**308**	⇑*i*P	**Pg**	14 11 03.9 -0.2
FUSS				S	**Sg**	14 11 09.2 0.0
WARBT	**Fenglin Townsh**	**0.34**	**204**	⇓*i*P	**Pg**	14 11 03.2 -0.8
WARBT				S	**Sg**	14 11 08.6 -0.4
EAHA	**Aohua**	**0.35**	**32**	*e*P	**Pg**	14 11 03.9 -0.2
EAHA				*e*S	**Sg**	14 11 09.4 +0.4
EGFH	**Guangfu**	**0.38**	**195**	*e*P	**Pg**	14 11 04.5 -0.1
EGFH				S	**Sg**	14 11 09.6 -0.3
WUSB	**Renai**	**0.39**	**264**	⇑*i*P	**Pg**	14 11 04.5 -0.3
WUSB				*e*S	**Sg**	14 11 09.9 -0.4
TWT	**Tachien**	**0.40**	**304**	⇓*i*P	**Pg**	14 11 05.0 0.0
TWT				*e*S	**Sg**	14 11 10.4 -0.2
TDCB	**Techi**	**0.41**	**302**	⇓*i*P	**Pg**	14 11 05.0 -0.2
TDCB				S	**Sg**	14 11 10.4 -0.6
NNSB	**Datong**	**0.42**	**340**	⇓*i*P	**Pg**	14 11 05.0 -0.3
NNSB				*i* S	**Sg**	14 11 10.6 -0.6
ENA	**Nanau**	**0.43**	**25**	⇑*i*P	**Pg**	14 11 05.1 -0.5
ENA				S	**Sg**	14 11 11.7 +0.1
LATG	**Datong**	**0.50**	**359**	P	**Pg**	14 11 06.2 -0.6
LATG				S	**Sg**	14 11 13.3 -0.3
HGSD	**Ruisui**	**0.55**	**191**	*e*P	**Pb**	14 11 07.2 -0.5
HGSD				*e*S	**Sb**	14 11 14.9 -0.3
EHY	**Hungye**	**0.56**	**201**	*e*P	**Pb**	14 11 06.0 -1.9
EHY				*e*S	**Sb**	14 11 15.5 -0.1
EHYH	**Wanrong**	**0.57**	**198**	*e*P	**Pb**	14 11 06.2 -1.8
EHYH				*e*S	**Sb**	14 11 15.3 -0.3
WCS	**Beigang Elemen**	**0.57**	**272**	P	**Pb**	14 11 07.5 -0.6
WCS				*e*S	**Sb**	14 11 16.3 +0.5
SSLB	**Suanglung**	**0.59**	**245**	P	**Pb**	14 11 07.7 -0.7
SSLB	**Suanglung**	**0.59**	**245**	S	**Sb**	14 11 14.9 -1.4
SSLB	**Suanglung**	**0.59**	**245**	⇑*i*P	**Pb**	14 11 07.5 -0.9
SSLB				S	**Sb**	14 11 14.6 -1.8
WHP	**Taichung City**	**0.59**	**294**	⇓P	**Pb**	14 11 07.9 -0.5
WHP				*i* S	**Sb**	14 11 16.2 -0.3
SMLT	**Sun Moon Lake**	**0.60**	**256**	⇑*i*P	**Pb**	14 11 08.0 -0.7
SMLT				*i* S	**Sb**	14 11 15.9 -0.9
ENTT	**Nioudou**	**0.60**	**3**	*i* P	**Pb**	14 11 08.1 -0.5
ENTT				*e*S	**Sb**	14 11 17.1 +0.3
ESAO	**Su ao**	**0.61**	**27**	*e*P	**Pb**	14 11 08.4 -0.3
ESAO				S	**Sb**	14 11 16.4 -0.5
NDS	**Dongshan**	**0.62**	**15**	P	**Pb**	14 11 08.8 -0.1
NDS				*e*S	**Sb**	14 11 17.2 0.0
TYC	**Yuchr**	**0.64**	**258**	⇑*i*P	**Pb**	14 11 08.4 -0.8
TYC				S	**Sb**	14 11 16.2 -1.4
TWC	**Suao**	**0.64**	**26**	*e*P	**Pb**	14 11 08.5 -0.7
TWC				*e*S	**Sb**	14 11 17.4 -0.4
YHNB	**Yeheng**	**0.65**	**347**	P	**Pb**	14 11 09.3 -0.2
YHNB	**Yeheng**	**0.65**	**347**	S	**Sb**	14 11 17.7 -0.5
YHNB	**Yeheng**	**0.65**	**347**	P	**Pb**	14 11 08.8 -0.7
YHNB				*e*S	**Sb**	14 11 16.8 -1.4
YULB	**Yu-li**	**0.68**	**199**	P	**Pb**	14 11 09.3 -0.6
YULB	**Yu-li**	**0.68**	**199**	S	**Sb**	14 11 19.0 +0.1
YULB	**Yu-li**	**0.68**	**199**	*e*P	**Pb**	14 11 07.6 -2.3
YULB				*e*S	**Sb**	14 11 18.3 -0.6
TWE	**Neicheng**	**0.69**	**10**	P	**Pb**	14 11 09.5 -0.7
TWE				*i* S	**Sb**	14 11 19.6 +0.1
NFF	**Wufeng Townshi**	**0.71**	**327**	P	**Pb**	14 11 10.0 -0.4
NFF				*e*S	**Sb**	14 11 19.0 -0.8
WHYT	**Xinyi Township**	**0.71**	**242**	*e*P	**Pb**	14 11 10.0 -0.5
WHYT				*e*S	**Sb**	14 11 20.0 0.0
EYUL	**Yuli**	**0.71**	**196**	*e*P	**Pb**	14 11 10.1 -0.4
EYUL				*e*S	**Sb**	14 11 19.7 -0.3
TWF1	**Yuli**	**0.71**	**198**	*e*P	**Pb**	14 11 08.3 -2.3
TWF1				*e*S	**Sb**	14 11 19.1 -1.0
EOS4	**EOS4**	**0.72**	**83**	*e*P	**Pb**	14 11 10.6 +0.1
EOS4				*e*S	**Sn**	14 11 21.6 -0.3
FUSB	**Fushanzhiwuyua**	**0.72**	**4**	*e*P	**Pb**	14 11 10.7 -0.7
FUSB				*e*S	**Sb**	14 11 19.6 -0.8
NWLT	**Wulai**	**0.74**	**358**	*e*P	**Pb**	14 11 10.7 -0.3
NWLT				*e*S	**Sb**	14 11 20.2 -0.7
EOS2	**EOS2**	**0.74**	**59**	*e*P	**Pn**	14 11 12.1 0.0
ILA	**Ilan**	**0.75**	**15**	*e*P	**Pb**	14 11 10.8 -0.5
ILA				*e*S	**Sg**	14 11 21.9 +0.4
EOS3	**EOS3**	**0.76**	**70**	*e*P	**Pg**	14 11 12.1 +0.6
TWQ1	**Liyutan**	**0.76**	**294**	*e*P	**Pb**	14 11 11.5 +0.1
TWQ1				*e*S	**Sb**	14 11 21.4 -0.1
NSTT	**Nanjuang**	**0.77**	**321**	⇓*i*P	**Pb**	14 11 11.3 -0.2
NSTT				*e*S	**Sb**	14 11 20.3 -1.3
WJS	**Zhushan**	**0.77**	**254**	*i* P	**Pb**	14 11 11.8 +0.3
WJS				S	**Sg**	14 11 22.9 +0.8
LIOB	**Emei**	**0.77**	**322**	*i* P	**Pb**	14 11 11.6 0.0
LIOB				*i* S	**Sb**	14 11 21.9 +0.1
TCU	**Taichung**	**0.79**	**278**	*e*P	**Pb**	14 11 12.4 +0.4
TCU				*e*S	**Sg**	14 11 23.8 +1.0
WNT	**Mingjian**	**0.80**	**259**	P	**Pb**	14 11 12.5 +0.5
WNT				*i* S	**Sg**	14 11 23.8 +1.0
NSY	**Sanyi**	**0.80**	**298**	P	**Pn**	14 11 13.3 +0.2
NSY				*e*S	**Sb**	14 11 23.2 +0.6
KSHI	**Guanxi Townshi**	**0.81**	**336**	*e*P	**Pb**	14 11 12.8 +0.6
KSHI				*e*S	**Sg**	14 11 23.6 +0.4
NMLH	**Miaoli**	**0.84**	**306**	*e*P	**Pb**	14 11 13.5 +0.7
NMLH				*e*S	**Sg**	14 11 25.6 +1.2
ALS	**Alishan**	**0.85**	**232**	⇑*i*P	**Pb**	14 11 12.8 -0.3
ALS				*e*S	**Sn**	14 11 26.6 +0.5
CHKH	**Chenggong**	**0.85**	**189**	*e*P	**Pb**	14 11 11.7 -1.2
CHKH				*e*S	**Sb**	14 11 22.9 -1.0
FULB	**Fuli**	**0.86**	**195**	*e*P	**Pb**	14 11 11.9 -1.2
WDJ	**Dajia District**	**0.88**	**291**	*e*P	**Pb**	14 11 13.9 +0.6
WDJ				*e*S	**Sg**	14 11 26.2 +0.8
WCHH	**Zhanghua**	**0.90**	**273**	*e*P	**Pb**	14 11 14.3 +0.6
WCHH				*e*S	**Sg**	14 11 26.3 +0.8
CHN5	**Tsauling**	**0.90**	**241**	P	**Pb**	14 11 14.3 +0.5
CHN5				*e*S	**Sg**	14 11 26.8 +0.6
WCH1	**Changhua City**	**0.91**	**273**	*e*P	**Pb**	14 11 14.6 +0.8
WCH1				*e*S	**Sg**	14 11 26.7 +0.4
SBCB	**Hsinchu**	**0.91**	**326**	*i* P	**Pn**	14 11 14.7 +0.2
SBCB				*e*S	**Sg**	14 11 27.0 +0.7
HSN	**Hsinchu**	**0.92**	**326**	*e*P	**Pn**	14 11 14.9 +0.2
HSN				*e*S	**Sb**	14 11 26.8 +0.8
NHDH	**Xindian Distri**	**0.92**	**359**	*e*P	**Pb**	14 11 14.1 -0.1
NHDH				*e*S	**Sb**	14 11 25.9 -0.2
EHD	**Haiduan**	**0.93**	**199**	*e*P	**Pb**	14 11 13.8 -0.5
EHD				*e*S	**Sb**	14 11 26.4 +0.1
TATO	**Taipei**	**0.94**	**357**	P	**Pb**	14 11 14.3 -0.1
TATO	**Taipei**	**0.94**	**357**	S	**Sb**	14 11 27.3 +0.8
TWA	**Mucha**	**0.94**	**3**	*e*P	**Pb**	14 11 14.5 0.0
TWA				*e*S	**Sb**	14 11 26.7 +0.1
CHKT	**Chengkung**	**0.94**	**190**	*e*P	**Pb**	14 11 12.7 -1.8
CHKT				*e*S	**Sb**	14 11 25.9 -0.8
WGK	**Gukeng**	**0.96**	**249**	*e*P	**Pb**	14 11 15.2 +0.5
WGK				*i* S	**Sg**	14 11 28.5 +0.6
ELDTW	**Lidau**	**0.97**	**210**	*e*P	**Pb**	14 11 14.2 -0.8
ELDTW				*e*S	**Sb**	14 11 26.9 -0.6
WDL	**Douliou City**	**0.97**	**251**	*e*P	**Pb**	14 11 14.6 -0.3
WDL				*e*S	**Sg**	14 11 29.3 +1.0
TIPB	**Shuangxi**	**0.97**	**16**	*e*P	**Pb**	14 11 14.3 -0.7
TIPB				*e*S	**Sb**	14 11 27.2 -0.2
WDLH	**Douliu**	**0.98**	**250**	*e*P	**Pb**	14 11 15.3 +0.3
WDLH				*e*S	**Sn**	14 11 29.3 +0.4
ECS	**Chishang**	**0.98**	**197**	*e*P	**Pb**	14 11 13.8 -1.3
NCUH	**Zhongli**	**0.98**	**341**	P	**Pb**	14 11 15.8 +0.6
NCUH				S	**Sg**	14 11 29.9 +1.2
WCKO	**Fanlu**	**1.04**	**235**	*e*P	**Pn**	14 11 16.9 +0.5
WCKO				S	**Sg**	14 11 31.2 +0.6
TWB1	**Santiao Chiao**	**1.05**	**23**	*e*P	**Pb**	14 11 16.3 -0.1
TWB1				S	**Sb**	14 11 30.3 +0.5
NWF	**Wu-fen Shan**	**1.05**	**12**	*e*P	**Pb**	14 11 15.9 -0.5
NWF				*e*S	**Sb**	14 11 30.4 +0.4
WFSB	**Wu-fen Shan**	**1.05**	**12**	*e*P	**Pb**	14 11 15.9 -0.5
WFSB				*e*S	**Sb**	14 11 30.1 +0.2
TWS1	**Kuangyinshan**	**1.07**	**354**	*e*P	**Pb**	14 11 16.8 +0.2
TWS1				*i* S	**Sg**	14 11 32.4 +0.9
EDH	**Donghe**	**1.08**	**191**	*e*P	**Pb**	14 11 16.2 -0.5
EDH				*e*S	**Sb**	14 11 29.8 -0.7
SXI1	**Grass Mountain**	**1.10**	**16**	*e*P	**Pn**	14 11 16.1 -1.1
SXI1				*e*S	**Sn**	14 11 32.1 +0.1
CHN4	**Tsaushan**	**1.10**	**232**	*e*P	**Pb**	14 11 18.1 +0.9
CHN4				*e*S	**Sg**	14 11 33.5 +1.0
WTK	**Tuku**	**1.11**	**252**	*e*P	**Pn**	14 11 16.9 -0.3
WTK				*e*S	**Sn**	14 11 32.8 +0.8
TPUB	**Ta-pu**	**1.11**	**229**	P	**Pb**	14 11 17.7 +0.4
TPUB	**Ta-pu**	**1.11**	**229**	S	**Sn**	14 11 32.5 +0.4
TPUB	**Ta-pu**	**1.11**	**229**	P	**Pb**	14 11 17.8 +0.4
TPUB				*e*S	**Sn**	14 11 32.5 +0.4
YM01	**YM01**	**1.11**	**2**	P	**Pn**	14 11 17.6 +0.2
YM01				*e*S	**Sb**	14 11 31.6 +0.2
STYH	**Taoyuan**	**1.11**	**219**	*e*P	**Pn**	14 11 16.6 -0.7
STYH				*e*S	**Sb**	14 11 31.6 +0.3
ZUZH	**Zhuzihu**	**1.12**	**0**	*e*P	**Pn**	14 11 16.5 -1.0
ZUZH				*i* S	**Sb**	14 11 31.9 0.0
NTST	**Danshui**	**1.13**	**356**	P	**Pn**	14 11 17.7 +0.1
NTST				*i* S	**Sg**	14 11 33.4 0.0
TNOU	**National Taiwa**	**1.13**	**11**	*e*P	**Pn**	14 11 17.2 -0.4
YM08	**YM08**	**1.15**	**2**	*e*P	**Pn**	14 11 16.4 -1.4
YM08				*e*S	**Sb**	14 11 33.0 +0.4
CHY	**Chiayi**	**1.15**	**243**	*e*P	**Pn**	14 11 18.0 +0.2
CHY				*i* S	**Sn**	14 11 34.2 +1.1
WTP	**Ta-pu**	**1.15**	**227**	*e*P	**Pn**	14 11 18.2 +0.3
WTP				*i* S	**Sg**	14 11 34.8 +0.6
WTCT	**Ta-ch'eng**	**1.16**	**262**	*e*P	**Pn**	14 11 18.4 +0.4
WTCT				S	**Sg**	14 11 34.7 +0.3
LONT	**Longtian**	**1.18**	**198**	*e*P	**Pn**	14 11 18.5 +0.2
LONT				*e*S	**Sb**	14 11 34.0 +0.5
TWK	**Hsinying**	**1.23**	**232**	*e*P	**Pb**	14 11 20.3 +0.9
TWK				*e*S	**Sg**	14 11 37.3 +0.7
SNST	**Tainan City**	**1.25**	**230**	*e*P	**Pb**	14 11 20.1 +0.3
SNST				*e*S	**Sg**	14 11 37.7 +0.4
CHN1	**Nanshi**	**1.25**	**228**	*i* P	**Pb**	14 11 20.4 +0.6
CHN1				S	**Sg**	14 11 37.7 +0.3
WSF	**Szhu**	**1.27**	**252**	*e*P	**Pn**	14 11 20.0 +0.5
WSF				*e*S	**Sb**	14 11 37.0 +1.1
TWG	**Pinlang**	**1.28**	**200**	*e*P	**Pn**	14 11 19.8 +0.1
TWG				*e*S	**Sn**	14 11 36.5 +0.1
TWGBT	**Beinan**	**1.28**	**199**	P	**Pb**	14 11 20.7 +0.4
WSL	**Shuilin Townsh**	**1.30**	**247**	*e*P	**Pn**	14 11 20.3 +0.4
WSL				S	**Sb**	14 11 38.2 +1.2
ICHU	**Yijhu**	**1.33**	**240**	*e*P	**Pn**	14 11 21.0 +0.6
ICHU				*e*S	**Sg**	14 11 39.8 -0.1
CHN8	**Yiju**	**1.40**	**241**	*e*P	**Pn**	14 11 21.8 +0.6
CHN8				*e*S	**Sb**	14 11 40.3 +0.7
SHHT	**Tainan City**	**1.49**	**227**	*e*P	**Pn**	14 11 23.3 +0.8
SCST	**Cishan**	**1.49**	**220**	*e*P	**Pb**	14 11 24.5 +0.6
SCST				*e*S	**Sg**	14 11 44.8 -0.1
SCLT	**Jiali**	**1.50**	**235**	*e*P	**Pn**	14 11 22.2 -0.5
SCLT				*e*S	**Sb**	14 11 44.4 +1.7
ECL	**Taimali**	**1.53**	**201**	*e*P	**Pn**	14 11 23.9 +0.9
SSD	**Sandimen**	**1.53**	**213**	*e*P	**Pn**	14 11 23.5 +0.4
SSD				*e*S	**Sb**	14 11 44.0 +0.5
TSMG	**Majia**	**1.56**	**212**	*e*P	**Pn**	14 11 24.1 +0.7
TSCK	**Chigu Township**	**1.60**	**237**	*e*P	**Pb**	14 11 25.3 -0.3
TSCK				*e*S	**Sb**	14 11 46.5 +1.0
MASBT	**Mashibuluo**	**1.64**	**211**	*e*P	**Pn**	14 11 23.8 -0.9
EAST	**Anshuo**	**1.76**	**201**	*e*P	**Pn**	14 11 26.8 +0.5
SCZT	**Fangliau**	**1.86**	**207**	*e*P	**Pn**	14 11 27.7 +0.1
PHUB	**P'eng-hu**	**1.87**	**254**	*e*P	**Pn**	14 11 27.2 -0.5
PNG	**Penghu**	**1.87**	**256**	*e*P	**Pn**	14 11 27.6 -0.2
WDUT	**Dungji**	**1.89**	**246**	*e*P	**Pn**	14 11 28.0 +0.1
VCHM	**Qimei**	**2.10**	**247**	*e*P	**Pn**	14 11 30.1 -0.8

*KOLA **08** 14:14:58.8, 68°.08N×33°.29E, h0km, ML2.0, Error ellipse: s-maj=2.1km s-min=1.2km az=100.0, Olenegorsk City, Mines*
*HEL **08** 14:14:58.5±0.2, 68°.12N×33°.31E, h0km, ML1.6, Explosion*
*IDC **08** 14:15:01.1±3.7, 68°.06N×32°.74E, h0km, mbtmp2.9/2, ML2.0/2, Error ellipse: s-maj=46.2km s-min=13.8km az=78.0*

ISC 08 14:14:56.7±0.8, **68°.02N**±0°.03×**33°.43E**±0°.03, **h0km, n32,** σ1$ **48**/55, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.45**	**202**	P	**Pb**	**14 15 07.2**	**-0.3**
APA0				S	**Sb**	**14 15 13.9**	**-0.8**
APA	**Apatity**	**0.45**	**181**	P	**Pb**	**14 15 07.8**	**+0.2**
APA				S	**Sb**	**14 15 14.6**	**-0.3**
LVZ	**Lovozero**	**0.48**	**104**	P	**Pb**	**14 15 08.0**	**0.0**
LVZ				S	**Sb**	**14 15 16.2**	**+0.7**
LVZ	**Lovozero**	**0.48**	**104**	PG	**Pb**	**14 15 08.0**	**+0.6**
LVZ				SG	**Sb**	**14 15 14.7**	**-0.9**
TERR	**Teriberka**	**1.34**	**27**	P	**Pg**	**14 15 21.8**	**-0.5**
TERR				S	**Sg**	**14 15 39.0**	**-0.5**
KVDA	**Kovda**	**1.35**	**189**	P	**Pb**	**14 15 23.7**	**+0.8**
KVDA				S	**Sn**	**14 15 42.0**	**+0.6**
VRF	**Varrio** baz=73	**1.47**	**261**	PG	**Pg**	**14 15 24.5**	**-0.4**
VRF				MSG		14 15 42.0	
	comp=Z,4.8nm,0.2s						
VRF				SG	**Sg**	**14 15 43.2**	**-0.7**
RAJF	**Raja-Jooseppi**	**1.96**	**286**	PG	**Pb**	**14 15 32.0**	**-1.2**
RAJF				SG	**Sn**	**14 15 56.1**	**-0.3**
OLKF	**Oulanka, Finla**	**2.32**	**224**	PB	**Pb**	**14 15 39.3**	**0.0**
OLKF				MSG		14 16 08.2	
	comp=Z,2.4nm,0.2s						
OLKF				SG	**Sb**	**14 16 09.4**	**+0.9**
KU6	**Riekki**	**2.44**	**216**	PB	**Pb**	**14 15 41.0**	**-0.3**
KU6				MSG		14 16 12.1	
	comp=Z,1.5nm,0.2s						
KU6				SB	**Sb**	**14 16 13.2**	**+1.3**
VADS	**Vadso**	**2.57**	**327**	P	**Pn**	**14 15 40.0**	**+0.6**
VADS				S	**Sn**	**14 16 11.8**	**+0.4**
MSF	**Maaselka**	**2.73**	**221**	PB	**Pb**	**14 15 46.1**	**-0.3**
MSF				SG	**Sb**	**14 16 21.9**	**+1.5**
KU1	**Kurvinen**	**2.90**	**214**	PB	**Pb**	**14 15 49.5**	**+0.2**
KEV	**Kevo**	**2.91**	**310**	PB	**Pn**	**14 15 45.5**	**+1.4**
KEV				SB	**Sn**	**14 16 21.7**	**+2.0**
KU2	**Taivalkoski**	**3.10**	**224**	PN	**Pb**	**14 15 49.8**	**-2.8**
RNF	**Rovaniemi** baz=61	**3.20**	**247**	PN	**Pn**	**14 15 49.6**	**+1.4**
RNF				SN	**Sn**	**14 16 28.0**	**+0.9**
ARA0	**ARCESS Array S** baz=109	**3.26**	**301**	PN	**Pn**	**14 15 49.9**	**+0.8**
ARA0				SG	**Sb**	**14 16 34.0**	**-1.5**
ARCES	**ARCESS Array B**	**3.26**	**301**	Pn	**Pn**	**14 15 49.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=17						
ARCES				Sn	**Sn**	**14 16 26.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=116,slow=22,SNR=1.7 comp=Z,1.8nm,0.7s						
ARCES	**ARCESS Array B**	**3.26**	**301**	P	**Pn**	**14 15 49.6**	**+0.7**
ARCES				S	**Sn**	**14 16 27.6**	**-0.9**
RANF	**Ranua**	**3.29**	**235**	PN	**Pn**	**14 15 51.5**	**+2.1**
RANF				SB	**Sb**	**14 16 36.8**	**+0.3**
HEF	**Hetta**	**3.66**	**281**	PN	**Pn**	**14 15 54.8**	**+0.2**
HEF				SN	**Sn**	**14 16 36.5**	**-1.9**
KLF	**Kolari**	**3.71**	**262**	PN	**Pn**	**14 15 56.8**	**+1.7**
KLF				SG	**Sb**	**14 16 51.4**	**+3.0**
KTK1	**Kautokeino**	**3.88**	**290**	PN	**Pn**	**14 15 58.7**	**+1.2**
KTK1				SG	**Sb**	**14 16 55.7**	**+2.3**
TOF	**Tornio**	**4.06**	**246**	SN	**Sn**	**14 16 47.4**	**-0.8**
PAJU	**Pajala**	**4.09**	**261**	PG	**Pb**	**14 16 11.3**	**+1.8**
PAJU				SN	**Sn**	**14 16 48.2**	**-0.6**
OUL	**Oulu**	**4.21**	**229**	SG	**Sg**	**14 17 09.5**	**-2.4**
LANU	**Lannavaara**	**4.29**	**276**	SG	**Sb**	**14 17 07.8**	**+2.5**
KALU	**Kaliz**	**4.52**	**246**	SN	**Sn**	**14 16 59.5**	**+0.2**
ERTU	**Ertsjaerv** baz=62	**4.60**	**257**	PN	**Pn**	**14 16 07.8**	**+0.4**
ERTU				SN	**Sn**	**14 17 00.2**	**-1.3**
KIF	**Kilpisjarvi**	**4.75**	**288**	SN	**Sn**	**14 17 00.4**	**-4.7**
I37NO	**I37NO** baz=95,slow=317,SNR=7.9	**5.54**	**288**	I	I	14 49 00.0	
FINES	**FINES Array B**	**7.31**	**209**	Pn	**Pn**	**14 16 46.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=2.4						
FINES				Sn	**Sn**	**14 18 05.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=22,slow=26,SNR=1.5						
FINES				Lg	Lg	14 18 38.6	
	comp=Z,0.3nm,0.3s,baz=26,slow=29,SNR=3.8 comp=Z,1.9nm,1.0s						

*IDC **08** 14:24:40.1±1.6, 37°.46N×30°.19E, h0km, mb3.7/3,*

mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=50.8km s-min=19.3km az=151.0
*ISK **08** 14:24:41.7, 37°.84N×29°.72E, h6km, ML3.4/27*
*AFAD **08** 14:24:42.1, 37°.83N×29°.71E, h14km±1km, MW3.5*

ISC 08 14:24:42.4±0.9, **37°.84N**±0°.02×**29°.72E**±0°.02, **h11**km±7km, **n56,** σ1$ **04**/83, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.17**	**220**	P	**Pg**	**14 24 45.9**	**-0.4**
INCE				S	**Sg**	**14 24 49.9**	**+0.8**
BASM	**Basmaki-Afyon**	**0.27**	**74**	Pg	**Pg**	**14 24 47.4**	**-0.7**
APMY	**Acipayam-Deniz**	**0.50**	**222**	Pg	**Pg**	**14 24 51.7**	**-0.4**
KHL	**Karahalli**	**0.50**	**342**	Pg	**Pg**	**14 24 52.0**	**-0.3**
KHL				Sg	**Sg**	**14 24 59.6**	**+0.6**
PASA	**Karahalli, USA**	**0.54**	**340**	P	**Pb**	**14 24 53.2**	**-0.7**
PASA				S	**Sg**	**14 25 00.4**	**+0.4**
GOLH	**Golhisar**	**0.62**	**192**	P	**Pg**	**14 24 53.9**	**-0.5**
GOLH				S	**Sb**	**14 25 04.1**	**+0.1**
ISP	**Isparta**	**0.64**	**92**	Pg	**Pg**	**14 24 53.9**	**-0.9**
ISP				Sg	**Sb**	**14 25 04.3**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.74**	**240**	P	**Pb**	**14 24 56.4**	**-1.1**
TAVA				S	**Sb**	**14 25 07.0**	**-0.7**
AFYN	**Afyon-Dinar-K**	**0.75**	**55**	P	**Pg**	**14 24 56.4**	**-0.6**
AFYN				P	**Pb**	**14 24 56.9**	**-0.8**
AFYN				S	**Sn**	**14 25 09.9**	**-0.7**
DNZT	**Denizli-Tavas-**	**0.79**	**225**	P	**Pg**	**14 24 57.0**	**-0.6**
DNZT				S	**Sb**	**14 25 08.4**	**-0.5**
BNAZ	**Uak-Banaz**	**0.84**	**9**	P	**Pg**	**14 24 58.6**	**-0.1**
BNAZ				S	**Sb**	**14 25 11.2**	**+0.6**
BUCA	**Burdur, Bucak-**	**0.84**	**127**	P	**Pg**	**14 24 58.0**	**-0.7**
BUCA				S	**Sb**	**14 25 11.0**	**+0.5**
BAGO	**Egridir - ISPA**	**0.86**	**80**	P	**Pg**	**14 24 57.3**	**-1.7**
BAGO				S	**Sb**	**14 25 11.3**	**+0.3**
CAME	**Cameli-Denizli**	**0.96**	**200**	Pg	**Pb**	**14 25 00.5**	**-0.6**
KNIK	**Mula-Seydike**	**1.00**	**187**	P	**Pb**	**14 25 01.6**	**-0.3**
KNIK				S	**Sn**	**14 25 17.2**	**+0.4**
USAK	**Uak-Merkez**	**1.03**	**328**	P	**Pb**	**14 25 02.1**	**-0.2**
USAK				S	**Sb**	**14 25 16.7**	**+0.8**
KULA	**Kula-Manisa**	**1.07**	**309**	Pg	**Pb**	**14 25 02.9**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.08**	**268**	P	**Pg**	**14 25 01.7**	**-1.6**
ESEN				S	**Sn**	**14 25 18.0**	**-0.6**
KIRA	**zmir-Kiraz**	**1.10**	**289**	P	**Pg**	**14 25 03.0**	**-0.6**
KIRA				S	**Sn**	**14 25 19.7**	**+0.6**
SDAG	**Sultandagi-AFY**	**1.12**	**57**	Pn	**Pg**	**14 25 03.2**	**-0.7**
MANT	**Manisa**	**1.12**	**306**	P	**Pn**	**14 25 04.0**	**-0.3**
MANT				S	**Sn**	**14 25 20.8**	**+0.9**
NAZL	**Nazilli-Aydin**	**1.13**	**277**	Pn	**Pg**	**14 25 03.4**	**-0.8**
SABU	**Mula-Dalaman**	**1.18**	**211**	P	**Pb**	**14 25 04.3**	**-0.5**
SABU				S	**Sn**	**14 25 21.4**	**+0.4**
ANTB	**Antalya**	**1.20**	**141**	Pn	**Pn**	**14 25 05.2**	**0.0**
GEDZ	**Gediz**	**1.22**	**349**	Pn	**Pn**	**14 25 05.6**

	comp=Z,26nm,18.2s,baz=185,slow=39								
SONM	**Songino Array**	**61.63**	**42**	P		**P**	14 50 30.9	**+0.3**	
	1.2nm,0.8s,baz=244,slow=7.2,SNR=4.1								
SONM				LR		LR	15 18 06.3		
	comp=Z,39nm,21.2s,baz=278,slow=37								
	1.2nm,0.8s								
TIXI	**Tiksi**	**76.55**	**19**	LR		LR	15 28 08.1		
	comp=Z,56nm,19.0s,baz=349,slow=38								
YAK	**Yakutsk**	**76.68**	**29**	LR		LR	15 28 09.8		
	comp=Z,48nm,18.9s,baz=258,slow=38								
MJAR	**Matsushiro Arr**	**84.96**	**54**	P		**P**	14 52 48.1	**-0.3**	
	2.1nm,0.8s,baz=270,slow=3.8,SNR=4.2								
	2.1nm,0.8s								
SNAA	**Sanae**	**89.47**	**194**	LR		LR	15 29 06.6		
	comp=Z,49nm,18.1s,baz=94,slow=33								
WRA	**Warramunga Arr**	**92.75**	**110**	P		**P**	14 53 26.5	**+0.7**	
	1.4nm,0.8s,baz=295,slow=3.6,SNR=4.7								
	1.4nm,0.8s								
ASAR	**Alice Springs**	**93.11**	**113**	P		**P**	14 53 27.5	**+0.1**	
	0.9nm,0.8s,baz=292,slow=4.5,SNR=8.0								
	0.9nm,0.8s								

*AZER **08** 14:58:50.1,41°.63N×46°.34E,h7km,ml3.0*
*MOS **08** 14:58:51.0,41°.73N×46°.40E,h17km,MPVA3.9*
*NSSP **08** 14:58:51.2,41°.63N×46°.32E,h10km,Ms3.3*
*TIF **08** 14:58:51.5,41°.70N×46°.37E,h12km±1km*
*NORS **08** 14:58:52.3,41°.77N×46°.38E,h20km,MPVA4.0*
*DRS **08** 14:58:53.0,41°.77N×46°.36E,h18km*

ISC 08 14:58:52.0±1.1,**41°.71N**±0°.01×**46°.35E**±0°.01,**h1**km±9km,
n104,σ1s**21**/196,**12C-5D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.22**	**110**	P		**Pg**	**14 58 56.4**	**+0.1**
ZKTA				S		**Sg**	**14 58 59.8**	**+0.7**
TLTR	**Tlyarata**	**0.39**	**1**	*e*PG		**Pg**	**14 59 00.1**	**+0.5**
TLTR				*e*S		**Sg**	**14 59 05.6**	**+0.9**
VSHL	**Vashlovani**	**0.48**	**175**	P		**Pb**	**14 59 03.1**	**-0.3**
VSHL				S		**Sb**	**14 59 12.8**	**+1.8**
KMKR	**Kumukh**	**0.70**	**53**	*i* Pg		**Pg**	**14 59 05.7**	**+0.3**
KMKR				*e*Sg		**Sb**	**14 59 15.3**	**-2.1**
KMKR	**Kumukh**	**0.70**	**53**	*i* PG		**Pg**	**14 59 05.7**	**+0.3**
KMKR				*e*S		**Sb**	**14 59 15.3**	**-2.1**
DGRG	**David-gareji**	**0.78**	**251**	P		**Pb**	**14 59 08.9**	**+0.5**
DGRG				S		**Sn**	**14 59 22.2**	**-0.4**
DGRG	**David-gareji**	**0.78**	**251**	PG		**Pb**	**14 59 08.9**	**+0.5**
DGRG				S		**Sn**	**14 59 22.2**	**-0.4**
SEKA	**Sheki**	**0.81**	**128**	Pg		**Pg**	**14 59 07.2**	**-0.3**
SEKA				Sg		**Sg**	**14 59 18.8**	**+0.6**
SEKA	**Sheki**	**0.81**	**128**	PG		**Pg**	**14 59 07.3**	**-0.3**
GNBR	**Gunib**	**0.82**	**34**	*i* Pg		**Pb**	**14 59 08.0**	**-1.1**
GNBR				*e*Sg		**Sb**	**14 59 19.6**	**-1.0**
GNBR	**Gunib**	**0.82**	**34**	⇑*i*PG		**Pb**	**14 59 08.2**	**-0.9**
GNBR				*e*S		**Sb**	**14 59 20.0**	**-0.7**
XNZR	**Khunzakh**	**0.87**	**18**	*i* Pg		**Pb**	**14 59 09.5**	**-0.6**
XNZR				*e*Sg		**Sb**	**14 59 21.8**	**-0.5**
HNZR	**Khunzah**	**0.89**	**18**	⇑*i*PG		**Pb**	**14 59 09.7**	**-0.7**
HNZR				*e*S		**Sb**	**14 59 22.0**	**-0.8**
BTLR	**Botlikh**	**0.95**	**354**	*e*PG		**Pb**	**14 59 10.8**	**-0.6**
BTLR				*e*S		**Sb**	**14 59 23.9**	**-0.7**
BTLR				pmax		pmax		
	comp=Z,61nm,0.2s							
QZX	**Qazax, Azerbai**	**0.98**	**229**	P		**Pg**	**14 59 10.8**	**0.0**
QZX				S		**Sb**	**14 59 25.0**	**-0.4**
ARKR	**Arakani**	**1.01**	**28**	⇑*i*PG		**Pb**	**14 59 11.7**	**-0.7**
ARKR				*e*S		**Sb**	**14 59 25.6**	**-0.6**
ARKR				pmax		pmax		
	comp=Z,100nm,0.4s							
UNCR	**Uncukul**	**1.05**	**18**	*i* Pg		**Pb**	**14 59 12.5**	**-0.6**
UNCR				*e*Sg		**Sb**	**14 59 26.5**	**-1.0**
UNCR	**Uncukul**	**1.05**	**18**	*i* PG		**Pb**	**14 59 12.5**	**-0.6**
UNCR				*e*S		**Sb**	**14 59 26.5**	**-1.0**
URKR	**Urkarakh**	**1.06**	**64**	*e*Pg		**Pb**	**14 59 12.3**	**-1.0**
URKR				*e*Sg		**Sb**	**14 59 27.2**	**-0.6**
URKR	**Urkarakh**	**1.06**	**64**	*e*PG		**Pb**	**14 59 12.3**	**-1.0**
URKR				*e*S		**Sb**	**14 59 27.1**	**-0.6**
URKR				pmax		pmax		
	comp=Z,53nm,0.5s							
AKT	**Akhty**	**1.06**	**102**	*e*Pg		**Pg**	**14 59 11.5**	**-0.9**
AKT				*e*Sg		**Sb**	**14 59 26.7**	**-1.1**
AKT	**Akhty**	**1.06**	**102**	*e*PG		**Pg**	**14 59 11.9**	**-0.5**
AKT				*e*S		**Sb**	**14 59 26.7**	**-1.1**
AKT				pmax		pmax		
	comp=Z,93nm,0.2s							
GANJ	**Ganja**	**1.07**	**181**	P		**Pg**	**14 59 11.1**	**-1.4**
GANJ				S		**Sg**	**14 59 25.9**	**-0.3**
GANJ	**Ganja**	**1.07**	**181**	PG		**Pg**	**14 59 11.0**	**-1.4**
GDB	**GEDABAY**	**1.09**	**204**	P		**Pg**	**14 59 11.3**	**-1.6**
GDB				S		**Sg**	**14 59 26.4**	**-0.5**
MNGR	**Mingechevir, A**	**1.09**	**149**	P		**Pg**	**14 59 12.6**	**-0.3**
MNGR				S		**Sn**	**14 59 29.1**	**-1.2**
MNGR	**Mingechevir, A**	**1.09**	**149**	PG		**Pg**	**14 59 12.6**	**-0.3**
SEAG	**Tbilisi Sea**	**1.16**	**273**	P		**Pb**	**14 59 14.8**	**0.0**
SEAG				S		**Sn**	**14 59 32.1**	**+0.2**
SEAG	**Tbilisi Sea**	**1.16**	**273**	PG		**Pb**	**14 59 14.8**	**0.0**
SEAG				S		**Sn**	**14 59 32.1**	**+0.2**
BTNK	**Botanikuri**	**1.16**	**269**	PG		**Pb**	**14 59 14.8**	**-0.1**
BTNK				S		**Sn**	**14 59 32.7**	**+0.7**
LSVT	**Lusahovit**	**1.18**	**228**	*e*P		**Pg**	**14 59 13.7**	**-0.9**
LSVT				*e*S		**Sg**	**14 59 29.4**	**-0.5**
KRNR	**Karanay**	**1.19**	**20**	*i* Pg		**Pb**	**14 59 14.7**	**-0.7**
KRNR				*e*Sg		**Sb**	**14 59 30.6**	**-0.8**
KRNR	**Karanay**	**1.19**	**20**	⇑*i*PG		**Pb**	**14 59 14.7**	**-0.7**
KRNR				*e*S		**Sb**	**14 59 30.6**	**-0.8**
KRNR				pmax		pmax		
	comp=Z,35nm,0.4s							
TBLG	**Delisi**	**1.20**	**271**	P		**Pb**	**14 59 15.3**	**-0.4**
TBLG				S		**Sn**	**14 59 33.4**	**+0.3**
TBLG	**Delisi**	**1.20**	**271**	PG		**Pb**	**14 59 15.3**	**-0.4**
TBLG				S		**Sn**	**14 59 33.4**	**+0.3**
BUJR	**Buynaksk**	**1.25**	**27**	*e*Pg		**Pn**	**14 59 16.0**	**-0.7**
BUJR				*e*Sg		**Sn**	**14 59 33.4**	**-0.7**
BUJR	**Buynaksk**	**1.25**	**27**	*e*PG		**Pn**	**14 59 16.0**	**-0.7**
BUJR				*e*S		**Sn**	**14 59 33.4**	**-0.7**
BUJR				pmax		pmax		
	comp=Z,100nm,0.4s							
SHTL	**Shatili**	**1.29**	**317**	P		**Pn**	**14 59 16.1**	**-1.3**
SHTL				S		**Sn**	**14 59 35.2**	**-0.3**
SHTL	**Shatili**	**1.29**	**317**	PG		**Pn**	**14 59 16.1**	**-1.3**
SHTL				S		**Sn**	**14 59 35.2**	**-0.3**
KSMR	**Kasumkent**	**1.34**	**94**	*e*Pg		**Pb**	**14 59 17.3**	**-0.7**
KSMR				*e*Sg		**Sn**	**14 59 35.9**	**-0.8**
KSMR	**Kasumkent**	**1.34**	**94**	*e*PG		**Pb**	**14 59 17.3**	**-0.7**
KSMR				*e*S		**Sn**	**14 59 35.6**	**-0.8**
KSMR				pmax		pmax		
	comp=Z,130nm,0.3s							
QBL	**Gabala**	**1.36**	**124**	Pn		**Pn**	**14 59 17.0**	**-1.2**
QBL				Sn		**Sn**	**14 59 36.2**	**-0.7**
DLMR	**Dylym**	**1.37**	**9**	*e*Pg		**Pg**	**14 59 18.1**	**-0.2**
DLMR				*e*Sg		**Sg**	**14 59 37.1**	**+1.0**
DLMR	**Dylym**	**1.37**	**9**	*e*PG		**Pg**	**14 59 18.1**	**-0.2**
DLMR				*e*S		**Sg**	**14 59 36.6**	**+0.5**
DLMR				pmax		pmax		
	comp=Z,81nm,0.7s							
QSAR	**Qusar**	**1.45**	**97**	Pn		**Pb**	**14 59 19.4**	**-0.5**
QSAR				Sn		**Sg**	**14 59 43.3**	**+4.7**
XNQ	**Khinaliq**	**1.45**	**111**	Pn		**Pn**	**14 59 18.8**	**-0.8**
XNQ				Sn		**Sg**	**14 59 41.6**	**+2.9**
KZRT	**Kazreti**	**1.50**	**258**	P		**Pn**	**14 59 17.6**	**-2.5**
KZRT				S		**Sn**	**14 59 37.2**	**-3.1**
KZRT	**Kazreti**	**1.50**	**258**	PG		**Pn**	**14 59 17.6**	**-2.5**
MAK	**Makhachkala**	**1.51**	**34**	*e*Pg		**Pn**	**14 59 19.4**	**-0.9**
MAK				*e*Sg		**Sg**	**14 59 39.8**	**-0.8**
MAK	**Makhachkala**	**1.51**	**34**	*e*PG		**Pn**	**14 59 19.6**	**-0.7**
MAK				*e*S		**Sb**	**14 59 39.6**	**-1.0**
MAK				pmax		pmax		
	comp=Z,118nm,0.3s							
MAK				smax		smax		
	comp=E,298nm,0.5s							
MAK				smax		smax		
	comp=E,349nm,0.5s							
DRN	**Derbent**	**1.52**	**77**	*e*Pg		**Pb**	**14 59 20.2**	**-0.7**
DRN				*e*Sg		**Sg**	**14 59 40.9**	**+0.2**
DRN	**Derbent**	**1.52**	**77**	*e*PG		**Pb**	**14 59 20.2**	**-0.7**
DRN				*e*S		**Sg**	**14 59 40.9**	**+0.2**
BRDA	**Brd**	**1.58**	**156**	Pn		**Pb**	**14 59 21.3**	**-0.7**
BRDA				Sn		**Sg**	**14 59 44.0**	**+1.2**
AYRK	**Ayrk**	**1.65**	**195**	⇑*i*P		**Pn**	**14 59 21.0**	**-1.4**
AYRK				⇓*i*S		**Sn**	**14 59 43.6**	**-0.8**
QUBA	**Quba, Azerbaij**	**1.65**	**102**	Pn		**Pg**	**14 59 23.8**	**+0.1**
QUBA				Sn		**Sg**	**14 59 49.1**	**+4.0**
SRTK	**Saratovka**	**1.66**	**248**	⇑*i*P		**Pn**	**14 59 21.2**	**-1.2**
SRTK				⇑*i*S		**Sn**	**14 59 43.3**	**-1.1**
IML	**Ismayilli**	**1.66**	**123**	Pn		**Pn**	**14 59 22.1**	**-0.3**
IML				Sn		**Sg**	**14 59 46.8**	**+1.4**
TRLG	**Trialeti**	**1.69**	**265**	P		**Pn**	**14 59 22.4**	**-0.5**
TRLG				S		**Sn**	**14 59 45.0**	**-0.3**
TRLG	**Trialeti**	**1.69**	**265**	PN		**Pn**	**14 59 22.4**	**-0.5**
TRLG				S		**Sn**	**14 59 45.0**	**-0.3**
AGDM	**Agdam**	**1.70**	**160**	Pn		**Pn**	**14 59 22.2**	**-0.7**
AGDM				Sn		**Sg**	**14 59 46.5**	**-0.2**
KMGR	**Komgaron**	**1.73**	**321**	*e*Pg		**Pb**	**14 59 24.7**	**0.0**
KMGR				*e*Sg		**Sg**	**14 59 48.8**	**+1.1**
KMGR	**Komgaron**	**1.73**	**321**	*e*PN		**Pb**	**14 59 24.7**	**0.0**
KMGR				*e*S		**Sg**	**14 59 48.8**	**+1.1**
ZRD	**Zardab**	**1.75**	**144**	Pn		**Pb**	**14 59 24.2**	**-0.8**
ZRD				Sn		**Sg**	**14 59 49.7**	**+1.4**
KAPZ	**Kaputan**	**1.87**	**222**	*e*P		**Pb**	**14 59 26.7**	**-0.3**
KAPZ				*e*S		**Sg**	**14 59 52.3**	**+0.3**
LACR	**Lac**	**1.89**	**307**	P		**Pb**	**14 59 26.8**	**-0.5**
LACR				S		**Sg**	**14 59 52.0**	**-0.5**
LACR	**Lac**	**1.89**	**307**	*e*Pg		**Pb**	**14 59 26.8**	**-0.5**
LACR				*e*Sg		**Sg**	**14 59 52.0**	**-0.5**
LACR	**Lac**	**1.89**	**307**	*e*PN		**Pb**	**14 59 26.8**	**-0.5**
PQL	**Pirkuli**	**1.93**	**118**	Pn		**Pb**	**14 59 26.6**	**-1.5**
PQL				Sn		**Sg**	**14 59 54.4**	**+0.4**
GNI	**Garni**	**1.98**	**218**	⇑*i*P		**Pb**	**14 59 27.7**	**-1.2**
GNI				⇑*i*S		**Sb**	**14 59 54.7**	**+0.5**
GNI	**Garni**	**1.98**	**218**	*e*PN		**Pb**	**14 59 27.8**	**-1.2**
KMOZ	**Kamo**	**2.02**	**245**	⇓*i*P		**Pn**	**14 59 28.1**	**+0.7**
KMOZ				⇓*i*S		**Sb**	**14 59 54.6**	**-0.6**
SIZA	**Siyzn**	**2.02**	**107**	Pn		**Pg**	**14 59 31.3**	**+0.5**
SIZA				Sn		**Sg**	**14 59 54.8**	**+3.0**
ALIG	**Mtskhetisjvari**	**2.05**	**282**	P		**Pn**	**14 59 28.1**	**+0.3**
ALIG				S		**Sb**	**14 59 55.6**	**-0.6**
ALIG	**Mtskhetisjvari**	**2.05**	**282**	PN		**Pn**	**14 59 28.1**	**+0.3**
ALIG				S		**Sb**	**14 59 55.6**	**-0.6**
AMBZ	**Amberd**	**2.06**	**231**	*e*P		**Pg**	**14 59 31.7**	**+0.2**
AMBZ				*e*S		**Sg**	**15 00 01.4**	**+3.2**
ATGJ	**Altiaghaj**	**2.13**	**113**	Pn		**Pb**	**14 59 31.7**	**+0.2**
ATGJ				Sn		**Sg**	**15 00 01.9**	**+1.4**
VAYK	**Vayk**	**2.13**	**199**	⇓*e*P		**Pn**	**14 59 29.4**	**+0.5**
VAYK				⇓*e*S		**Sb**	**14 59 57.2**	**-1.3**
NRKZ	**NAREK**	**2.14**	**217**	*e*P		**Pb**	**14 59 30.4**	**-1.1**
NRKZ				*e*S		**Sb**	**14 59 58.8**	**+0.1**
AKH	**Akhalkalaki**	**2.16**	**263**	P		**Pb**	**14 59 30.9**	**-1.2**
AKH				S		**Sb**	**14 59 59.2**	**-0.3**
AKH	**Akhalkalaki**	**2.16**	**263**	*e*Pg		**Pn**	**14 59 29.1**	**-0.3**
AKH				*e*Sg		**Sb**	**14 59 58.1**	**-1.4**
AKH	**Akhalkalaki**	**2.16**	**263**	PN		**Pb**	**14 59 30.9**	**-1.2**
AKH				S		**Sb**	**14 59 59.2**	**-0.3**
KORR	**Kora**	**2.17**	**310**	*e*Pg		**Pg**	**14 59 33.6**	**-0.1**
KORR				*e*Sg		**Sb**	**14 59 59.4**	**-0.3**
KORR	**Kora**	**2.17**	**310**	*e*PN		**Pg**	**14 59 33.6**	**-0.1**
KORR				*e*S		**Sb**	**14 59 59.4**	**-0.3**
BLQ	**Beylaqan**	**2.19**	**155**	Pn		**Pn**	**14 59 29.9**	**+0.3**
BLQ				Sn		**Sb**	**14 59 59.4**	**-0.8**
ARUZ	**Aruch**	**2.23**	**231**	*e*P		**Pb**	**14 59 32.9**	**-0.3**
ARUZ				*e*S		**Sb**	**15 00 02.6**	**+1.3**
GBS	**Qobustan**	**2.29**	**120**	Pn		**Pb**	**14 59 32.1**	**-2.1**
GBS				Sn		**Sb**	**15 00 01.1**	**-1.9**
GARIG	**Gari**	**2.32**	**294**	P		**Pn**	**14 59 32.4**	**+1.0**
GARIG				S		**Sb**	**15 00 05.0**	**+1.2**
STDR	**Stavd-Durt**	**2.36**	**315**	*e*Pn		**Pb**	**14 59 33.4**	**-2.0**
STDR				*e*Sn		**Sb**	**15 00 03.7**	**-1.4**
STDR	**Stavd-Durt**	**2.36**	**315**	*e*PN		**Sb**	**14 59 33.4**	**-2.0**
STDR				*e*S		**Sb**	**15 00 03.7**	**-1.4**
QRD	**Qoradiz**	**2.37**	**161**	Sn		**Sb**	**15 00 04.5**	**-0.7**
SBZ	**Shahbuz**	**2.39**	**195**	Pn		**Sb**	**14 59 33.1**	**+0.6**
SBZ				Sn		**Sb**	**15 00 06.3**	**+0.3**
EGVZ	**Egvard**	**2.49**	**177**	*e*P		**Pn**	**14 59 34.6**	**+0.8**
EGVZ				*e*S		**Sb**	**15 00 06.6**	**-2.2**
TKB	**Tkibuli**	**2.58**	**285**	PN		**Pb**	**14 59 37.7**	**-1.4**
GLBA	**Clilabad**	**2.92**	**147**	Pn		**Pn**	**14 59 40.1**	**+0.5**
GLBA				Sn		**Sn**	**15 00 16.8**	**+1.4**
NEUR	**Neytrino**	**3.11**	**301**	*e*Pn		**Pn**	**14 59 42.1**	**-0.3**
NEUR				*e*Sn		**Sn**	**15 00 18.8**	**-1.5**
NEUR	**Neytrino**	**3.11**	**301**	*e*PN		**Pn**	**14 59 42.1**	**-0.3**
NEUR				*e*S		**Sn**	**15 00 18.8**	**-1.5**
YRD	**Yardimli**	**3.15**	**152**	Pn		**Pn**	**14 59 42.8**	**-0.2**
YRD				Sn		**Sn**	**15 00 21.0**	**-0.2**
SHA1	**Shidzhatmaz**	**3.39**	**308**	*e*PN		**Pb**	**14 59 51.8**	**-1.2**
SHA1				*e*S		**Sn**	**15 00 30.1**	**+2.8**
LRK	**Lerik**	**3.43**	**153**	Pn		**Pn**	**14 59 46.6**	**-0.1**
LRK				Sn		**Sn**	**15 00 29.3**	**+1.2**
KIV	**Kislovodsk**	**3.50**	**311**	*e*PN		**Pb**	**14 59 49.0**	**+2.1**
ASTR	**Astara**	**3.66**	**148**	Pg		**Pb**	**14 59 53.3**	**-4.3**
ASTR				Sn		**Sn**	**15 00 33.8**	**+0.1**
BR131	**Keskin Array S**	**9.85**	**263**	⇑*e*P		**Pn**	**15 01 18.6**	**+3.7**
BRVK	**Borovoye**	**19.68**	**47**	⇑*e*P		**Pn**	**15 03 23.6**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,4.0nm,2.0s							
KURK	**Kurchatov**	**23.92**	**57**	⇑*e*P		**P**	**15 04 10.1**	**+2.8**

*IDC **08** 15:09:31.0±2.9,39°.17N×72°.74E,h0km,mb4.0/3,*
mbtmp3.7/7,ML3.1/4,Error ellipse: s-maj=54.0km
s-min=22.0km az=144.0
*KRNET **08** 15:09:34.2±0.1,39°.42N×72°.86E,h21km,mb3.8*
*NNC **08** 15:09:39.2±2.5,39°.60N×72°.72E,h0km,mb4.1,mpv3.8,*
Error ellipse: s-maj=18.8km s-min=9.4km az=0.0
*SOME **08** 15:09:40.1,39°.70N×72°.73E,h0km*

ISC 08 15:09:32.8±1.7,**39°.35N**±0°.06×**72°.93E**±0°.04,**h2**km±11km,
n37,σ2s**14**/57,**30C-7D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	h m s	ISC
OHH	**Osh**	**1.18**	**355**	⇑*i*P		**Pn**	**15 09 55.0**	**-1.4**
OHH				⇑*i*S		**Sb**	**15 10 10.1**	**-1.6**
SALK	**Salom-Alik**	**1.68**	**24**	⇑*e*P		**Pn**	**15 10 04.4**	**+1.1**
SALK				⇑*e*S		**Sb**	**15 10 26.3**	**+0.2**
ARSB	**Arslanbob**	**1.97**	**1**	⇑*i*P		**Pn**	**15 10 08.8**	**+1.4**
ARSB				⇑*e*S		**Sb**	**15 10 34.0**	**-0.6**
GAR	**Garm**	**2.06**	**261**	⇑*e*P		**Pn**	**15 10 10.4**	**+1.8**
GAR				⇑*i*S		**Sb**	**15 10 36.9**	**-0.2**
TRKS	**Terek-Say**	**2.57**	**328**	⇑*i*P		**Pn**	**15 10 16.0**	**+0.4**
TRKS				⇑*i*S		**Sn**	**15 10 46.5**	**-1.0**
JNKS	**Jany-Kuch**	**2.69**	**50**	⇑*i*P		**Pn**	**15 10 19.8**	**+2.4**
JNKS				⇑*i*S		**Sb**	**15 10 53.1**	**-2.4**
UCH	**Uchtor**	**3.11**	**22**	⇑*i*P		**Pn**	**15 10 25.2**	**+1.8**
UCH				⇑*i*S		**Sn**	**15 11 02.5**	**+1.1**
EKS2	**Erkin-Say**	**3.37**	**11**	⇑*i*P		**Pn**	**15 10 28.5**	**+1.9**
EKS2				⇑*i*S		**Sn**	**15 11 07.9**	**+0.7**
AAK	**Ala-Archa**	**3.49**	**19**	Pn		**Pn**	**15 10 32.3**	**+4.0**
	7.0nm,0.3s,baz=200,slow=12,SNR=7.2							
AAK				Sn		**Sb**	**15 11 15.1**	**-3.2**
	3.2nm,0.3s,baz=156,slow=20,SNR=5.6							
	12nm,0.3s							
AAK	**Ala-Archa**	**3.49**	**19**	⇓Pn		**Pn**	**15 10 31.9**	**+3.6**
	24nm,1.0s							
AAK				⇑Sn		**Sb**	**15 11 15.3**	**-3.0**
	64nm,0.9s							
AAK	**Ala-Archa**	**3.49**	**19**	⇑*i*P		**Pn**	**15 10 30.1**	**+1.8**
AAK				⇑*i*S		**Sn**	**15 11 11.3**	**+1.1**
IUG	**Iuzhnay**	**3.56**	**323**	Pg		**Pb**	**15 10 39.0**	**+2.5**
	32nm,0.3s							
IUG				Lg		Lg	15 11 20.5	
	43nm,0.4s							
KBK	**Karagaybulak**	**3.64**	**24**	⇓*i*P		**Pn**	**15 10 32.4**	**+2.1**
KBK				⇓*i*S		**Sn**	**15 11 15.0**	**+1.1**
FRU1	**Bishkek**	**3.69**	**20**	⇑*i*P		**Pn**	**15 10 33.3**	**+2.4**
FRU1				⇑*i*S		**Sn**	**15 11 16.3**	**+1.4**
ULHL	**Ulahol**	**3.83**	**40**	⇑*e*P		**Pn**	**15 10 35.5**	**+2.5**
ULHL				⇑*i*S		**Sn**	**15 11 20.0**	**+1.3**
CHMS	**Chumysh**	**3.89**	**20**	⇑*i*P		**Pn**	**15 10 35.7**	**+2.0**
CHMS				⇑*i*S		**Sn**	**15 11 20.6**	**+0.6**
USP	**Ospenovka**	**4.09**	**16**	⇓*i*P		**Pn**	**15 10 38.4**	**+2.0**
USP				⇓*i*S		**Sn**	**15 11 25.3**	**+0.5**
TKM2	**Tokmak 2**	**4.09**	**29**	⇑*i*P		**Pn**	**15 10 38.7**	**+2.1**
TKM2				⇑*i*S		**Sn**	**15 11 25.9**	**+0.7**
KK31	**Karatay Array**	**4.17**	**335**	⇑Pn		**Pn**	**15 10 39.5**	**+2.0**
	4.0nm,0.3s,baz=135,slow=13,SNR=130							
KK31				⇑Sn		**Sn**	**15 11 27.5**	**+0.8**
	15nm,0.4s,baz=143,slow=24,SNR=3.8							
KK31				⇑Lg		Lg	15 11 42.1	
	19nm,0.5s,baz=143,slow=24,SNR=3.8							
KDJ	**Kajisay**	**4.26**	**48**	⇓*i*P		**Pn**	**15 10 41.6**	**+2.8**
KDJ				⇓eS		**Sn**	**15 11 30.6**	**+1.4**
BRLS	**Borolday**	**4.35**	**329**	Pg		**Pb**	**15 10 52.2**	**+2.2**
	4.1nm,0.2s							
BRLS				Lg		Lg	15 11 43.3	
	17nm,0.2s							
BRLS	**Borolday**	**4.35**	**329**	*e*P		**Pb**	**15 10 51.8**	**+1.8**
	5.0nm,0.2s							
BRLS				*e*S		**Sb**	**15 11 42.3**	**-0.7**
	16nm,0.2s							
DGS	**Degeres**	**4.44**	**28**	Pg		**Pg**	**15 10 58.2**	**+0.3**
	9.6nm,0.6s							
DGS				Lg		Lg	15 11 53.4	
	38nm,0.8s							
TNSS	**Tian-Shan**	**4.77**	**38**	Pg		**Pg**	**15 11 04.6**	**+0.3**
	3.5nm,0.4s							
TNSS				Lg		Lg	15 12 04.8	
	11nm,0.7s							
TNSS	**Tian-Shan**	**4.77**	**38**	*e*P		**Pg**	**15 11 04.6**	**+0.3**
	3.5nm,0.4s							
TNSS				*e*S		**Sg**	**15 12 04.8**	**-1.2**
	11nm,0.7s							
CHKK	**Chushkaly**	**5.43**	**33**	Pg		**Pg**	**15 11 16.1**	**-0.7**
	17nm,0.5s							
CHKK				Lg		Lg	15 12 24.8	
	14nm,0.6s							
CHKK	**Chushkaly**	**5.43**	**33**	*e*P		**Pg**	**15 11 16.1**	**-0.7**
	17nm,0.5s							
CHKK				*e*S		**Sg**	**15 12 24.8**	**-2.5**
	14nm,0.6s							
BTLS	**Baital**	**5.75**	**8**	Pg		Pb	15 11 19.6	+5.8
	1.5nm,0.2s							
BTLS				Lg		Lg	15 12 30.5	
	18nm,0.6s							
BTLS	**Baital**	**5.75**	**8**	*e*P		Pb	15 11 19.6	+5.8
	1.5nm,0.2s							
BTLS				*e*S		**Sb**	**15 12 30.5**	**+7.5**
	18nm,0.6s							
ARXS	**Arharly**	**6.08**	**35**	Pg		**Pg**	**15 11 27.7**	**-1.6**
	2.4nm,0.6s							
ARXS				Lg		Lg	15 12 44.3	
	11nm,0.4s							
MKAR	**Makanchi Array**	**10.10**	**40**	Pn		**Pn**	**15 12 02.6**	**+3.7**
	0.1nm,0.3s,baz=232,slow=11,SNR=2.9							
MKAR				Lg		Lg	15 14 50.9	
	baz=261,slow=40							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**11.94**	**17**	Lg		Lg	15 15 47.8	
	baz=201,slow=28,SNR=5.6							
BVAR	**Borovoye Array**	**13.79**	**354**	Pn		**Pn**	**15 12 48.0**	**-1.2**
	baz=165,slow=12,SNR=2.8							
BVAR				Lg		Lg	15 16 42.4	
	baz=153,slow=23,SNR=1.4							
	0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**16.69**	**25**	Pn		**P**	**15 13 29.7**	**-0.4**
	0.3nm,0.3s,baz=211,slow=10.0,SNR=5.0							
	0.3nm,0.4s							
FINES	**FINESS Array B**	**36.04**	**323**	P		**P**	**15 16 34.5**	**-0.7**
	0.6nm,0.4s,baz=110,slow=11,SNR=7.1							
	0.6nm,0.4s							
HFS	**Hagfors**	**41.82**	**320**	P		**P**	**15 17 22.3**	**-1.3**
	0.6nm,0.5s,baz=98,slow

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.54**	**39**	Pg	**Pn**	**15 43 49.8**	**-0.2**
KNDR				Sg	**Sn**	**15 43 57.7**	**-0.1**
KNDR	**Palaiochora Ch**	**0.54**	**39**	P	**Pn**	**15 43 49.9**	**-0.2**
KNDR				S	**Sn**	**15 43 58.3**	**+0.5**
GVD	**Gavdhos**	**0.68**	**88**	Pg	**Pn**	**15 43 52.5**	**+0.6**
GVD				Sg	**Sn**	**15 44 02.9**	**+1.7**
GVD	**Gavdhos**	**0.68**	**88**	P	**Pn**	**15 43 52.9**	**+1.0**
GVD				S	**Sn**	**15 44 03.3**	**+2.1**
CHAN	**Chania**	**0.95**	**42**	P	**Pn**	**15 43 58.0**	**+2.5**
CHAN				S	**Sn**	**15 44 11.4**	**+3.6**
ANKY	**Antikythira Is**	**1.05**	**2**	P	**Pn**	**15 43 59.8**	**+2.9**
PRNS	**Prines Rethymn**	**1.15**	**61**	P	**Pn**	**15 43 59.7**	**+1.4**
TMBK	**Timbaki Herakl**	**1.26**	**78**	P	**Pn**	**15 44 02.7**	**+2.9**
IDI	**Anoyia**	**1.41**	**70**		**Pn**	**15 44 04.7**	**+2.7**
IDI	**Anoyia**	**1.41**	**70**	Pn	**Pn**	**15 44 04.1**	**+2.1**
IDI	**Anoyia**	**1.41**	**70**	P	**Pn**	**15 44 04.7**	**+2.7**
IDI	**Anoyia**	**1.41**	**70**	P	**Pn**	**15 44 04.8**	**+2.8**
	105nm,0.4s,baz=238,slow=11,SNR=357						
IDI				S	**Sn**	**15 44 23.6**	**+4.2**
	85nm,0.4s,baz=341,slow=23,SNR=4.8						
IDI				LR	LR	15 44 57.2	
	comp=Z,433nm,18.6s,baz=300,slow=53						
KTHA	**Kythira Island**	**1.45**	**353**	Pn	**Pn**	**15 44 04.9**	**+2.5**
KTHA	**Kythira Island**	**1.45**	**353**	P	**Pn**	**15 44 05.5**	**+3.0**
IACM	**Heraklion**	**1.56**	**71**	P	**Pn**	**15 44 07.1**	**+3.2**
VLI	**Veliai**	**1.92**	**352**	P	**Pn**	**15 44 11.9**	**+3.0**
MHLO	**Agia Marina, M**	**2.08**	**26**	P	**Pn**	**15 44 13.5**	**+2.3**
THR6	**Thira Island,**	**2.32**	**48**	P	**Pn**	**15 44 16.2**	**+1.8**
ZKR	**Zakros**	**2.44**	**82**	Pn	**Pn**	**15 44 18.8**	**+2.7**
ITM	**Ithomi**	**2.60**	**336**		**Pn**	**15 44 18.1**	**-0.1**
ITM	**Ithomi**	**2.60**	**336**	Pn	**Pn**	**15 44 20.4**	**+2.2**
ITM	**Ithomi**	**2.60**	**336**	P	**Pn**	**15 44 21.6**	**+3.3**
GUR	**Goura**	**3.20**	**347**	P	**Pn**	**15 44 29.5**	**+2.9**
PTL	**Penteli**	**3.26**	**8**	P	**Pn**	**15 44 29.6**	**+2.2**
KARP	**Karpathos**	**3.27**	**76**		**Pn**	**15 44 28.3**	**+0.7**
KARP				Sn	**Sn**	**15 45 05.2**	**-0.1**
KARP	**Karpathos**	**3.27**	**76**	Pn	**Pn**	**15 44 29.9**	**+2.4**
KARP	**Karpathos**	**3.27**	**76**	P	**Pn**	**15 44 30.1**	**+2.6**
PARN1	**Fyli,Attica,Gr**	**3.29**	**6**	P	**Pn**	**15 44 30.4**	**+2.5**
DION	**Dionisos Attik**	**3.30**	**9**	P	**Pn**	**15 44 30.2**	**+2.3**
VILL	**Villia**	**3.34**	**1**	P	**Pn**	**15 44 30.9**	**+2.4**
KLV	**Kalavryta, Ach**	**3.34**	**345**	P	**Pn**	**15 44 32.3**	**+3.7**
STFN	**Stefani**	**3.36**	**4**	P	**Pn**	**15 44 31.1**	**+2.3**
SLUM	**Salum**	**3.70**	**153**	⇑P	**Pn**	**15 44 35.5**	**+2.1**
SLUM				S	**Sn**	**15 45 14.4**	**-1.3**
DAT	**Datca**	**3.99**	**60**	Pn	**Pn**	**15 44 40.3**	**+2.8**
ARG	**Arkhangelos**	**4.20**	**69**		**Pn**	**15 44 41.4**	**+1.2**
ARG				Sn	**Sn**	**15 45 26.5**	**-1.6**
ARG	**Arkhangelos**	**4.20**	**69**	Pn	**Pn**	**15 44 42.9**	**+2.6**
KEK	**Kerkira**	**5.61**	**332**	Pn	**Pn**	**15 44 59.8**	**+0.1**
KEK				Sn	**Sn**	**15 46 01.4**	**-1.5**
SWA2		**5.86**	**161**	⇑P	**Pn**	**15 45 04.8**	**+1.8**
SWA2				S	**Sn**	**15 46 08.6**	**-0.5**
FNA	**Florina**	**6.14**	**346**		**Pn**	**15 45 07.5**	**+0.5**
SCTE	**Santa Cesarea**	**6.49**	**325**	Pn	**Pn**	**15 45 11.3**	**-0.3**
TIP	**Timpagrande**	**6.79**	**312**	Pn	**Pn**	**15 45 14.9**	**-0.9**
CEL	**Celeste**	**6.86**	**302**	Pn	**Pn**	**15 45 16.2**	**-0.6**
RAFF	**Raffo Rosso**	**7.60**	**291**	Pn	**Pn**	**15 45 24.9**	**-2.1**
VAE	**Valguarnera**	**7.64**	**293**	P	**Pn**	**15 45 28.3**	**+0.7**
	13nm,0.4s,baz=97,slow=6.3,SNR=2.1						
CUC	**Castrocucco**	**7.86**	**313**	Pn	**Pn**	**15 45 31.0**	**+0.4**
RYAN	**Fayoum**	**8.26**	**132**	⇑P	**Pn**	**15 45 36.0**	**0.0**
CSS	**Mathiatis**	**8.27**	**86**	Pn	**Pn**	**15 45 35.3**	**-0.9**
HFRF	**Wahat Farafira**	**8.78**	**149**	P	**Pn**	**15 45 43.9**	**+0.7**
SGRT	**San Giovanni R**	**9.10**	**322**	Pn	**Pn**	**15 45 46.9**	**-0.7**
BRTR	**Keskin Array B**	**9.61**	**56**	P	**Pn**	**15 45 55.5**	**+0.9**
	0.8nm,0.5s,baz=232,slow=14,SNR=5.3						
MMAI	**Mount Meron Ar**	**10.24**	**97**	P	**Pn**	**15 46 03.0**	**-0.3**
	1.1nm,0.3s,baz=287,slow=12,SNR=5.3						
MMAI				S	**Sn**	**15 47 50.5**	**-6.4**
	0.6nm,0.3s,baz=288,slow=27,SNR=2.0						
MLR	**Muntele Rosu**	**10.86**	**10**	LR	LR	15 51 12.4	
	comp=Z,54nm,20.9s,baz=159,slow=42						
GHAJ	**Ghor Haditha**	**10.90**	**105**	Pn	**Pn**	**15 46 11.0**	**-1.1**
HKAT	**Jabal Katrina**	**11.08**	**122**	P	**Pn**	**15 46 14.0**	**-0.9**
EIL	**Elat**	**11.14**	**114**	P	**Pn**	**15 46 14.3**	**-1.2**
	3.4nm,0.5s,baz=354,slow=19,SNR=9.0						
EIL				S	Sn	15 48 10.2	-8.6
	2.2nm,0.5s,baz=30,slow=17,SNR=2.3						
HBST	**Basata**	**11.22**	**117**	P	**Pn**	**15 46 15.9**	**-0.7**
ASF	**Jabal al Asfar**	**11.68**	**99**	P	**Pn**	**15 46 23.7**	**+0.7**
	1.0nm,0.3s,baz=324,slow=8.7,SNR=2.2						
ASF				S	**Sn**	**15 48 26.4**	**-5.7**
	0.8nm,0.4s,baz=354,slow=12,SNR=1.7						
VRAC	**Vranov**	**15.29**	**343**	P	**Pn**	**15 47 11.7**	**-0.2**
	1.1nm,0.4s,baz=124,slow=9.1,SNR=3.6						
VRAC				LR	LR	15 54 44.1	
	comp=Z,70nm,19.3s,baz=176,slow=44						
GEC2	**GERESS Array S**	**15.71**	**336**	Pn	**Pn**	**15 47 16.1**	**-1.2**
GERES	**GERESS Array B**	**15.71**	**336**	Pn	**Pn**	**15 47 15.9**	**-1.4**
GERES	**GERESS Array S**	**15.71**	**336**	P	**Pn**	**15 47 16.6**	**-0.7**
	0.2nm,0.4s,baz=144,slow=11,SNR=8.7						
KIEV	**Kiev**	**16.45**	**13**	Pn	**Pn**	**15 47 26.2**	**-0.5**
AKASG	**Malin Array Be**	**16.46**	**13**	P	**P**	**15 47 28.5**	**-0.6**
	0.8nm,0.4s,baz=210,slow=9.5,SNR=9.4						
AKBB	**Malin Array Si**	**16.46**	**13**	Pn	**Pn**	**15 47 26.3**	**-0.5**
KBZ	**Khabaz**	**17.58**	**54**	P	**P**	**15 47 42.6**	**+1.0**
	1.3nm,0.4s,baz=217,slow=8.4,SNR=4.9						
KBZ				LR	LR	15 55 31.2	
	comp=Z,29nm,20.0s,baz=220,slow=40						
GNI	**Garni**	**17.84**	**66**	LR	LR	15 55 54.5	
	comp=Z,59nm,19.2s,baz=266,slow=41						
PABE	**Paberze**	**20.69**	**1**	P	**P**	**15 48 15.2**	**-0.3**
PABE				IAmb	IAmb	15 48 54.9	
	comp=Z,8.0nm,0.5s						
ESDC	**Sonseca Array**	**22.17**	**291**	P	**P**	**15 48 34.2**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=79,slow=13,SNR=2.3						
PESTR	**Estremoz**	**24.96**	**288**	P	**P**	**15 48 56.2**	**-2.6**
MESJ	**Messejana**	**25.48**	**286**	P	**P**	**15 49 00.1**	**-3.4**
HFS	**Hagfors**	**26.09**	**349**	P	**P**	**15 49 08.2**	**-0.6**
	comp=Z,3.5nm,0.5s,baz=155,slow=11,SNR=25						
HFS				LR	LR	16 00 26.0	
	comp=Z,30nm,18.1s,baz=151,slow=39						
	comp=Z,3.5nm,0.5s						
FINES	**FINESS Array B**	**26.70**	**3**	P	**P**	**15 49 12.5**	**-1.9**
FINES	**FINESS Array B**	**26.70**	**3**	P	**P**	**15 49 13.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=164,slow=9.9,SNR=7.0						
FINES				LR	LR	16 00 33.2	
	comp=Z,46nm,21.5s,baz=197,slow=38						
	comp=Z,0.5nm,0.4s						
NC602	**NORSAR Array S**	**27.02**	**347**		**P**	**15 49 16.0**	**-1.1**
NAO01	**NORSAR Array S**	**27.24**	**347**	P	**P**	**15 49 18.0**	**-1.2**
NC405	**NORSAR Array S**	**27.34**	**348**	P	**P**	**15 49 19.4**	**-0.7**
NC405				IAmb	IAmb	15 49 30.9	
	comp=Z,8.5nm,1.2s						
NB201	**NORSAR Array S**	**27.36**	**347**	P	**P**	**15 49 18.8**	**-1.4**
NB201				IAmb	IAmb	15 49 43.0	
	comp=Z,20nm,1.5s						
NB2	**NORSAR Subarra**	**27.36**	**347**	P	**P**	**15 49 20.4**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**27.36**	**347**	P	**P**	**15 49 20.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=61,slow=8.5,SNR=6.1						
NOA				LR	LR	16 01 46.6	
	comp=Z,24nm,20.1s,baz=275,slow=40						
	comp=Z,0.3nm,0.4s						
NBO00	**NORSAR Array S**	**27.43**	**347**	P	**P**	**15 49 19.4**	**-1.5**
NBO00				IAmb	IAmb	15 49 57.0	
	comp=Z,5.1nm,0.8s						
EKA	**Eskdalemuir Ar**	**27.45**	**327**	P	**P**	**15 49 21.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=78,slow=13,SNR=3.8						
	comp=Z,0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**29.10**	**227**	P	**P**	**15 49 38.1**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=38,slow=9.4,SNR=1.2						
	comp=Z,1.1nm,0.3s						
AB31	**Akbulak array**	**30.49**	**50**	P	**P**	**15 49 46.9**	**-1.3**
ABKAR	**Akbulak array**	**30.49**	**50**	P	**P**	**15 49 47.2**	**-0.9**
ARCES	**ARCESS Array B**	**34.79**	**1**	P	**P**	**15 50 24.9**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=194,slow=9.7,SNR=9.6						
	comp=Z,1.1nm,0.7s						
KK31	**Karatay Array**	**37.24**	**63**	P	**P**	**15 50 45.8**	**-1.1**
KK31				IAmb	IAmb	15 50 48.8	
	comp=Z,2.4nm,0.7s						
KKAR	**Karatay Array**	**37.24**	**63**	P	**P**	**15 50 45.6**	**-1.3**
BRVK	**Borovoye**	**37.65**	**46**	P	**P**	**15 50 49.3**	**-0.9**
BVAR	**Borovoye Array**	**37.71**	**46**	P	**P**	**15 50 51.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=249,slow=2.9,SNR=4.4						
	comp=Z,0.4nm,0.4s						
ARSB	**Arslanbob**	**39.23**	**65**	P	**P**	**15 51 03.0**	**-0.8**
ARSB				IAmb	IAmb	15 51 08.7	
	comp=Z,6.4nm,1.4s						
BORG	**Borgarnes**	**40.12**	**332**	LR	LR	16 08 26.2	
	comp=Z,12nm,20.4s,baz=333,slow=37						
KDJ	**Kajisay**	**42.24**	**63**	P	**P**	**15 51 27.6**	**-1.0**
KDJ				IAmb	IAmb	15 51 31.8	
	comp=Z,2.8nm,0.7s						
KURBB	**Kurchatov Arra**	**42.54**	**51**	P	**P**	**15 51 30.9**	**+0.2**
	comp=Z,3.3nm,0.4s,baz=274,slow=8.6,SNR=57						
KURBB				LR	LR	16 12 19.5	
	comp=Z,16nm,21.4s,baz=166,slow=40						
	comp=Z,3.3nm,0.4s						
KURK	**Kurchatov**	**42.60**	**51**	P	**P**	**15 51 30.3**	**-0.9**
KURK				IAmb	IAmb	15 51 31.9	
	comp=Z,2.1nm,0.6s						
SPITS	**Spitsbergen Ar**	**43.56**	**358**	P	**P**	**15 51 39.3**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=138,slow=8.9,SNR=1.2						
	comp=Z,0.7nm,0.4s						
KBS	**Kingsbay**	**44.47**	**357**	P	**P**	**15 51 45.9**	**0.0**
MKAR	**Makanchi Array**	**45.26**	**56**	P	**P**	**15 51 53.0**	**+0.3**
MKAR	**Makanchi Array**	**45.26**	**56**	P	**P**	**15 51 53.3**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=264,slow=7.3,SNR=49						
	comp=Z,2.1nm,0.3s						
ZAA0	**Zalesovo Array**	**46.36**	**46**	P	**P**	**15 52 00.1**	**-1.1**
ZALV	**Zalesovo Beam**	**46.36**	**46**	P	**P**	**15 52 00.5**	**-0.7**
	comp=Z,3.5nm,0.4s,baz=268,slow=9.0,SNR=20						
	comp=Z,3.5nm,0.4s						
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**15 53 48.4**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=284,slow=6.9,SNR=7.7						
	comp=Z,1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**68.16**	**82**	P	**P**	**15 54 36.7**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=292,slow=8.6,SNR=4.5						
	comp=Z,0.7nm,0.4s						
E29M	**Blow River**	**76.14**	**353**	P	**P**	**15 55 24.1**	**+1.5**
E29M				IAmb	IAmb	15 55 25.3	
	comp=Z,2.9nm,1.1s						
F31M	**Tsiigehtchic**	**76.58**	**351**	P	**P**	**15 55 25.9**	**+0.9**
F31M				IAmb	IAmb	15 55 53.1	
	comp=Z,4.7nm,1.2s						
G31M	**Satah River**	**77.14**	**351**	P	**P**	**15 55 28.9**	**+0.7**
G29M	**Pine Creek**	**77.59**	**353**	P	**P**	**15 55 32.0**	**+1.2**
G29M				IAmb	IAmb	15 55 34.8	
	comp=Z,6.4nm,1.4s						
E19K	**Redstone River**	**78.04**	**0**	P	**P**	**15 55 34.2**	**+1.0**
E19K				IAmb	IAmb	15 55 35.9	
	comp=Z,3.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.17**	**44**	P	**P**	**15 55 34.9**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=280,slow=4.3,SNR=1.8						
	comp=Z,0.7nm,0.4s						
H27K	**Steamboat Moun**	**78.59**	**354**	P	**P**	**15 55 37.6**	**+1.3**
H27K				IAmb	IAmb	15 55 55.5	
	comp=Z,4.1nm,1.4s						
I30M	**Mount Dempster**	**79.03**	**351**	P	**P**	**15 55 39.6**	**+0.7**
I30M				IAmb	IAmb	15 55 54.4	
	comp=Z,5.3nm,1.5s						
KSRS	**Korea Array**	**79.72**	**51**	P	**P**	**15 55 43.9**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=304,slow=4.6,SNR=9.8						
	comp=Z,0.9nm,0.5s						
J26L	**Joseph Creek**	**80.47**	**354**	P	**P**	**15 55 47.4**	**+0.8**
J26L				IAmb	IAmb	15 56 25.7	
	comp=Z,1.3nm,0.9s						
BCAR	**Beaver Creek A**	**81.72**	**353**	P	**P**	**15 55 54.5**	**+1.2**
WRA	**Warramunga Arr**	**118.10**	**96**	PKP	**PKPdf**	**16 02 22.0**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=325,slow=1.9,SNR=1.3						
ASAR	**Alice Springs**	**119.52**	**100**	PKP	**PKiKP**	**16 02 25.6**	**+0.6**
	comp=Z,0.4nm,1.0s,baz=323,slow=1.1,SNR=5.0						
QSPA	**South Pole Qui**	**124.67**	**180**	PKP	**PKiKP**	**16 02 35.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=262,slow=4.7,SNR=0.9						

*IDC **08** 15:45:52.8±1.2,0.˚66N×126.˚79E, h0km, mb3.7/7, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=105.4km s-min=17.4km az=71.0*
*NEIC **08** 15:45:56.1±1.6,0.˚47N±0.˚07×126.˚35E±0.˚10, h18km±6km, mb4.2/6, Error ellipse: s-maj=15.3km s-min=8.7km az=118.0*
*DJA **08** 15:45:59.0±0.7,0˚N±2˚×12˚6E±˚, h14km±4km, M3.6/8, MLv3.6/8*
ISC 08 15:45:60.0±0.7,0˚.47N±0˚.05×126˚.53E±0˚.04, h47km, n22, σ1s56/28, mb3.9/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.89**	**70**		**Pn**	**15 46 16.1**	**0.0**
TNTI					**Sn**	**15 46 29.6**	**+1.7**
TNTI	**Ternate**	**0.89**	**70**	P	**Pn**	**15 46 16.4**	**+0.3**
TNTI				S	**Sn**	**15 46 31.2**	**+3.3**
KMSI	**Cibinong**	**2.55**	**272**	P	**Pn**	**15 46 40.4**	**+1.5**
KMSI				S	**Sn**	**15 47 10.2**	**+1.5**
SANI	**Sanana**	**2.56**	**192**	P	**Pn**	**15 46 41.4**	**+2.4**
SANI				S	**Sn**	**15 47 09.6**	**+0.6**
NLAI	**Namlea**	**3.73**	**171**	P	**Pn**	**15 46 55.5**	**+0.4**
NLAI				S	**Sn**	**15 47 40.2**	**+2.4**
LUWI	**Luwuk**	**4.05**	**248**	P	**Pn**	**15 46 59.5**	**+0.1**
LUWI				S	**Sn**	**15 47 46.6**	**+1.0**
FAKI	**Fak Fak**	**6.63**	**121**	Pn	**Pn**	**15 47 35.3**	**+0.4**
KNRA	**Kununurra**	**16.20**	**172**	Pn	**Pn**	**15 49 40.8**	**-3.6**
KNRA				IAmb	IAmb	15 50 17.0	
	comp=Z,15nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.48**	**183**	P	**P**	**15 50 11.7**	**-0.4**
	baz=0.0,slow=20,SNR=1.7						
	comp=Z,2.3nm,1.0s						
WB0	**Warramunga Arr**	**21.54**	**159**	P	**P**	**15 50 44.1**	**-1.3**
WB0				IAmb	IAmb	15 51 06.6	
	comp=Z,7.9nm,1.3s						
WRA	**Warramunga Arr**	**21.68**	**160**	P	**P**	**15 50 46.3**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=340,slow=10,SNR=24						
	comp=Z,3.1nm,0.7s						
AS31	**Alice Springs**	**25.04**	**164**	P	**P**	**15 51 18.9**	**-1.1**
ASAR	**Alice Springs**	**25.04**	**164**	P	**P**	**15 51 19.6**	**-0.3**
ASAR	**Alice Springs**	**25.04**	**164**	P	**P**	**15 51 20.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=346,slow=11,SNR=41						
	comp=Z,2.4nm,0.7s						
SONM	**Songino Array**	**50.31**	**342**	P	**P**	**15 54 51.1**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=151,slow=3.3,SNR=1.6						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**60.12**	**326**	P	**P**	**15 56 01.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=124,slow=8.8,SNR=7.2						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**63.40**	**334**	P	**P**	**15 56 22.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.3,SNR=1.9						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.37**	**328**	P	**P**	**15 56 30.1**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=132,slow=6.5,SNR=6.0						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**64.38**	**328**	P	**P**	**15 56 29.7**	**-1.4**
KURK				IAmb	IAmb	15 56 35.5	
	comp=Z,1.8nm,0.8s						
BVAR	**Borovoye Array**	**69.94**	**328**	P	**P**	**15 57 06.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=107,slow=4.8,SNR=2.0						
	comp=Z,0.3nm,0.4s						
L18K	**Granite Mounta**	**83.43**	**27**	P	**P**	**15 58 23.9**	**+1.7**
L18K				IAmb	IAmb	15 59 05.5	
	comp=Z,6.4nm,1.4s						
D19K	**Kuna River**	**84.21**	**21**	P	**P**	**15 58 27.8**	**+1.6**

IDC 08 15:59:01.6±3.5,31.˚00S×177.˚57W, h0km, mb3.7/2, mbtmp3.7/2, MS3.7/1, Error ellipse: s-maj=72.2km s-min=29.2km az=108.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.77**	**350**	Pn	Pn	15 59 33.1	-0.3
	27nm,0.3s,baz=77,slow=20,SNR=1.6						
RAO				Sn	Sg	15 59 58.3	0.0
	46nm,0.3s,baz=247,slow=23,SNR=1.6						
URZ	**Urewera**	**8.47**	**210**	Pn	Pn	16 00 59.2	-6.3
	0.3nm,0.3s,baz=34,slow=3.6,SNR=1.6						
URZ				Sn	Sn	16 02 31.8	-10
	1.4nm,0.3s,baz=13,slow=23,SNR=13						
ASAR	**Alice Springs**	**43.45**	**267**	P	P	16 07 06.5	-0.1
	0.5nm,0.6s,baz=105,slow=7.2,SNR=13						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**44.49**	**273**	P	P	16 07 14.8	-0.2
	0.5nm,0.3s,baz=111,slow=8.0,SNR=15						
WRA				LR	LR	16 24 20.2	
	comp=Z,89nm,18.4s,baz=23,slow=34						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**145.83**	**340**	PKPbc	PKPdf	16 18 41.4	-0.2
	0.4nm,0.5s,baz=64,slow=4.4,SNR=4.1						

HEL 08 16:01:27.2±0.2, 65.˚85N×24.˚61E, h0km, ML0.9, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.26**	**334**	PG	Pg	16 01 30.7	-1.4
TOF				SG	Sg	16 01 33.1	-2.4
KALU	**Kalix**	**0.51**	**272**	PG	Pg	16 01 37.0	0.0
	baz=90						
KALU				SG	Sg	16 01 43.8	+0.1
RANF	**Ranua**	**0.91**	**79**	PG	Pg	16 01 43.7	-0.9
	baz=259						
OUL	**Oulu**	**0.94**	**144**	PG	Pg	16 01 43.3	-1.9
OBF4	**Vikkela, Lumij**	**1.06**	**168**	PG	Pg	16 01 46.0	-1.5
OBF4				MSG		16 01 59.6	
	comp=Z,0.9nm,0.2s						
OBF4				SG	Sg	16 01 59.8	-1.5
ERTU	**Ertsjaerv**	**1.21**	**307**	PN	Pb	16 01 51.1	+0.2
ERTU				SN	Sn	16 02 08.1	-0.3
PAJU	**Pajala**	**1.32**	**334**	PN	Pn	16 01 53.3	+0.4
OBF0	**Syolatti, Pyha**	**1.37**	**187**	PG	Pg	16 01 51.0	-2.3
OBF0				MSG		16 02 08.4	
	comp=Z,0.9nm,0.2s						
KLF	**Kolari**	**1.41**	**350**	MSG		16 02 09.7	
	comp=Z,0.6nm,0.2s						
OUF	**Merijarvi**	**1.49**	**178**	PG	Pn	16 01 54.2	-1.0
OUF				MSG		16 02 12.0	
	comp=Z,0.8nm,0.2s						
OUF				SN	Sn	16 02 16.2	+0.9
KU2	**Taivalkoski**	**1.50**	**94**	PG	Pn	16 01 54.3	-1.1
KU2				SG	Sg	16 02 13.5	-1.9
MSF	**Maaselka**	**1.82**	**86**	SG	Sb	16 02 24.5	-0.3
OLKF	**Oulanka, Finla**	**2.01**	**74**	MSG		16 02 26.8	
	comp=Z,0.9nm,0.2s						
OLKF				SG	Sb	16 02 29.2	-0.9
KU1	**Kurvinen**	**2.07**	**96**	SG	Sn	16 02 30.3	+0.7
RAJF	**Raja-Jooseppi**	**3.01**	**27**	PN	Pn	16 02 15.2	-0.8
KTK1	**Kautokeino**	**3.22**	**351**	PG	Pb	16 02 23.7	-1.5
KTK1				SN	Sn	16 02 57.3	-0.6
ARA0	**ARCESS Array S**	**3.72**	**5**	PG	Pb	16 02 32.5	-1.1
LVZ	**Lovozero**	**4.46**	**58**	PB	Pb	16 02 42.0	-4.3

HEL 08 16:01:37.8±0.3, 65.˚21N×25.˚54E, h0km, ML0.8, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.19**	**129**	PG	Pg	16 01 41.3	-0.2
	baz=307						
OUF	**Merijarvi**	**0.91**	**203**	MSG		16 02 05.8	
	comp=Z,0.8nm,0.2s						
RANF	**Ranua**	**0.96**	**32**	PG	Pg	16 01 55.8	-0.4
KU2	**Taivalkoski**	**1.23**	**65**	PN	Pn	16 02 03.5	+1.2
RNF	**Rovaniemi**	**1.42**	**8**	PN	Pg	16 02 05.0	-0.1
PAJU	**Pajala**	**2.08**	**333**	PN	Pn	16 02 12.0	-1.9
KLF	**Kolari**	**2.14**	**343**	PB	Pn	16 02 14.3	-0.3
KLF				MSG		16 02 41.0	
	comp=Z,0.2nm,0.2s						
VRF	**Varrio**	**3.03**	**31**	PB	Pn	16 02 28.7	+1.8
VRF				MSG		16 03 06.9	
	comp=Z,0.3nm,0.2s						
NUR	**Nurmijarvi**	**4.73**	**185**	PN	Pn	16 02 50.6	+0.3

IDC 08 16:01:43.7±6.4, 30.˚28S×178.˚11W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=247.5km s-min=63.4km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.02**	**267**	P	P	16 09 44.8	-0.5
	0.6nm,0.9s,baz=107,slow=7.3,SNR=6.0						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**44.00**	**272**	P	P	16 09 53.4	+0.2
	0.5nm,0.5s,baz=111,slow=8.0,SNR=6.2						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	16 21 21.0	-0.5
	0.9nm,0.7s,baz=36,slow=2.7,SNR=2.1						

	comp=Z,1.6nm,0.6s					
JNU	**Nakatsue**	**33.43**	**18**	LR	LR	16 26 28.3
	comp=Z,51nm,19.5s,baz=206,slow=37					
BRDH	**Bariadhala**	**33.92**	**311**	LR	LR	16 29 11.3
	comp=Z,117nm,19.3s,baz=108,slow=42					
INKA	**Innaminka**	**35.78**	**146**	P	**P**	**16 12 29.5 +0.4**
INKA				IAmb	IAmb	16 12 42.5
	comp=Z,18nm,1.5s					
BBOO	**Buckleboo**	**37.70**	**156**	P	**P**	**16 12 43.5 -2.0**
PALK	**Pallekele**	**38.59**	**280**	LR	LR	16 30 22.8
	comp=Z,85nm,18.1s,baz=100,slow=39					
MJAR	**Matsushiro Arr**	**39.19**	**25**	LR	LR	16 26 48.7
	comp=Z,77nm,21.9s,baz=205,slow=32					
STKA	**Stephens Creek**	**39.47**	**149**	P	**P**	**16 12 59.7 -0.6**
STKA	**Stephens Creek**	**39.47**	**149**	P	**P**	**16 12 60.0 -0.3**
	comp=Z,10nm,0.7s,baz=318,slow=9.8,SNR=13					
STKA				LR	LR	16 32 54.6
	comp=Z,134nm,18.7s,baz=235,slow=42					
	comp=Z,10nm,0.7s					
HNR	**Honiara**	**42.20**	**106**	LR	LR	16 32 03.7
	comp=Z,37nm,19.2s,baz=178,slow=38					
CAN	**Canberra**	**46.10**	**145**	P	**P**	**16 13 54.7 +0.6**
CAN				IAmb	IAmb	16 14 13.7
	comp=Z,24nm,1.2s					
ASAJ	**Asahikawa**	**47.38**	**23**	LR	LR	16 33 49.1
	comp=Z,43nm,19.6s,baz=206,slow=36					
SONM	**Songino Array**	**47.48**	**349**	P	**P**	**16 14 06.0 +1.2**
	comp=Z,1.5nm,0.9s,baz=170,slow=7.8,SNR=6.9					
SONM				LR	LR	16 34 40.3
	comp=Z,63nm,19.3s,baz=164,slow=37					
	comp=Z,1.5nm,0.9s					
MKAR	**Makanchi Array**	**55.32**	**330**	P	**P**	**16 15 04.5 +1.0**
	comp=Z,2.4nm,0.7s,baz=131,slow=7.3,SNR=0.3					
	comp=Z,2.4nm,0.7s					
ZAA0	**Zalesovo Array**	**59.39**	**337**	P	**P**	**16 15 31.2 -0.8**
ZAA0				IAmb	IAmb	16 15 36.4
	comp=Z,3.4nm,0.9s					
ZALV	**Zalesovo Beam**	**59.39**	**337**	P	**P**	**16 15 31.8 -0.2**
ZALV	**Zalesovo Beam**	**59.39**	**337**	P	**P**	**16 15 32.3 +0.4**
	comp=Z,3.2nm,0.8s,baz=132,slow=6.6,SNR=7.1					
	comp=Z,3.2nm,0.8s					
KURBB	**Kurchatov Arra**	**59.74**	**331**	P	**P**	**16 15 35.3 +0.9**
	comp=Z,2.6nm,0.9s,baz=137,slow=7.0,SNR=13					
	comp=Z,2.6nm,0.9s					
KURK	**Kurchatov**	**59.76**	**332**	P	**P**	**16 15 34.5 -0.1**
KURK				IAmb	IAmb	16 15 39.9
	comp=Z,9.4nm,0.9s					
PETK	**Petropavlovsk-**	**60.64**	**26**	LR	LR	16 42 22.7
	comp=Z,29nm,20.4s,baz=215,slow=36					
YAK	**Yakutsk**	**60.97**	**6**	LR	LR	16 45 22.3
	comp=Z,30nm,19.4s,baz=186,slow=39					
MA2	**Magadan**	**63.00**	**18**	LR	LR	16 45 42.5
	comp=Z,27nm,19.1s,baz=215,slow=38					
BVAR	**Borovoye Array**	**65.21**	**330**	P	**P**	**16 16 12.0 +1.1**
	comp=Z,1.4nm,0.8s,baz=116,slow=6.9,SNR=5.5					
	comp=Z,1.4nm,0.9s					
BKZ	**Black Stump Fm**	**66.32**	**134**	P	**P**	**16 16 18.7 +0.3**
CASY	**Casey**	**67.84**	**184**	P	**P**	**16 16 28.0 +0.5**
CASY				IAmb	IAmb	16 16 28.6
	comp=Z,4.1nm,1.1s					
ABKAR	**Akbulak array**	**69.15**	**323**	P	**P**	**16 16 36.6 +0.6**
TIXI	**Tiksi**	**70.38**	**3**	LR	LR	16 52 21.9
	comp=Z,30nm,18.3s,baz=314,slow=40					
AKTO	**Aktyubinsk**	**70.76**	**324**	LR	LR	16 50 23.6
	comp=Z,49nm,21.4s,baz=96,slow=38					
CTZ	**Chatham Island**	**72.79**	**137**	P	**P**	**16 16 56.5 -1.7**
VNDA	**Vanda**	**82.25**	**171**	P	**P**	**16 17 49.5 -0.8**
VNDA	**Vanda**	**82.25**	**171**	P	**P**	**16 17 50.2 -0.1**
	comp=Z,0.8nm,0.7s,baz=309,slow=8.4,SNR=7.5					
	comp=Z,0.8nm,0.7s					
ARCES	**ARCESS Array B**	**89.88**	**339**	LR	LR	17 02 54.0
	comp=Z,17nm,18.0s,baz=114,slow=38					
LSZ	**Lusaka**	**91.14**	**255**	LR	LR	16 55 53.8
	comp=Z,32nm,19.4s,baz=146,slow=33					
HFS	**Hagfors**	**96.33**	**331**	LR	LR	17 04 44.0
	comp=Z,24nm,18.3s,baz=74,slow=37					
VRAC	**Vranov**	**96.97**	**320**	LR	LR	17 10 53.3
	comp=Z,16nm,18.6s,baz=72,slow=40					

*IDC **08** 16:08:45.9±1.3,39.°32S×175.°08E,h235km±15km,mb2.6/2, mbtmp3.5/3,Error ellipse: s-maj=46.5km s-min=22.5km az=146.0*
*NOU **08** 16:08:46.3,39.°13S×174.°89E,h219km,MLv3.9/22,North Island, New Zealand*
*WEL **08** 16:08:49.7±0.7,39.°5±0.°×17.°5E±.°,h202km±5km,M3.2/36, ML3.3/25,MLv3.2/36,Error ellipse: s-maj=11.2km s-min=8.6km az=146.4,confirmed*

ISC 08 16:08:45.7±0.8,39.°12S±0.°04×174.°85E±0.°05,h236km±5km, n162,σ1§19/186,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.07**	**263**	P	**Pn**	**16 09 16.3**	**+0.2**
MHEZ	**Mangahewa**	**0.41**	**275**	P	**Pn**	**16 09 17.5**	**+0.9**
PKVZ	**Pokaka**	**0.42**	**114**	P	**Pn**	**16 09 17.6**	**+0.8**
PKVZ				S	**S**	**16 09 39.7**	**-1.4**
TWVZ	**Taurewa**	**0.46**	**85**	P	**Pn**	**16 09 17.5**	**+0.5**
TWVZ				S	**S**	**16 09 39.8**	**-1.6**
LREZ	**Lake Rotokare**	**0.49**	**225**	P	**Pn**	**16 09 17.9**	**+1.1**
DREZ	**Durham Road**	**0.51**	**262**	P	**Pn**	**16 09 17.8**	**+0.8**
COVZ	**Chateau Observ**	**0.55**	**99**	P	**Pn**	**16 09 17.9**	**+0.7**
COVZ				S	**S**	**16 09 40.0**	**-1.9**
MTVZ	**Mangateitei**	**0.55**	**119**	P	**Pn**	**16 09 18.0**	**+0.8**
FWVZ	**Far West T-bar**	**0.56**	**104**	P	**Pn**	**16 09 18.2**	**+0.8**
FWVZ				S	**S**	**16 09 39.9**	**-2.4**
TRVZ	**Turoa**	**0.57**	**109**	P	**Pn**	**16 09 18.3**	**+0.8**
TRVZ				S	**S**	**16 09 40.1**	**-2.2**
MAVZ	**Matarangi**	**0.57**	**105**	P	**Pn**	**16 09 18.3**	**+0.7**
MAVZ				S	**S**	**16 09 41.2**	**-1.2**
WTVZ	**West Tongariro**	**0.58**	**90**	P	**Pn**	**16 09 18.1**	**+0.7**
WTVZ				S	**S**	**16 09 40.5**	**-1.6**
PREZ	**Palmer Road**	**0.58**	**247**	P	**Pn**	**16 09 18.2**	**+1.0**
NGZ	**Ngauruhoe**	**0.59**	**96**	P	**Pn**	**16 09 18.2**	**+0.8**
NGZ				S	**S**	**16 09 40.5**	**-1.7**
NNVZ	**North Ngauruho**	**0.60**	**92**	P	**Pn**	**16 09 18.1**	**+0.6**
NNVZ				S	**S**	**16 09 40.5**	**-1.8**
WHVZ	**Whangaehu Hut**	**0.60**	**106**	P	**Pn**	**16 09 18.4**	**+0.8**
HIZ	**Hauiti**	**0.60**	**1**	P	**Pn**	**16 09 17.5**	**+0.1**
HIZ	**Hauiti**	**0.60**	**1**	S	**S**	**16 09 40.8**	**-1.3**
HIZ	**Hauiti**	**0.60**	**1**	P	**Pn**	**16 09 17.5**	**+0.1**
HIZ				S	**S**	**16 09 40.3**	**-1.8**
NEZ	**North Egmont**	**0.60**	**255**	P	**Pn**	**16 09 18.4**	**+1.0**
KRVZ	**Karewarewa**	**0.62**	**88**	P	**Pn**	**16 09 18.2**	**+0.7**
KRVZ				S	**S**	**16 09 40.6**	**-1.8**
SNVZ	**South Ngauruho**	**0.62**	**97**	P	**Pn**	**16 09 18.5**	**+0.9**
SNVZ				S	**S**	**16 09 41.2**	**-1.3**
WNVZ	**Wahianoa**	**0.62**	**110**	P	**Pn**	**16 09 18.3**	**+0.8**
WNVZ				S	**S**	**16 09 40.3**	**-2.1**
OTVZ	**Oturere**	**0.64**	**94**	P	**Pn**	**16 09 18.7**	**+1.1**
TUVZ	**Tukino**	**0.65**	**104**	P	**Pn**	**16 09 18.6**	**+1.0**
WAZ	**Wanganui**	**0.65**	**171**	P	**Pn**	**16 09 18.8**	**+1.4**
WAZ				S	**S**	**16 09 41.6**	**-0.8**
TMVZ	**Te Maari**	**0.67**	**90**	P	**Pn**	**16 09 18.6**	**+1.0**
TMVZ				S	**S**	**16 09 41.2**	**-1.4**
KHEZ	**Kahui Hut**	**0.67**	**254**	P	**Pn**	**16 09 18.3**	**+0.7**
KHEZ	**Kahui Hut**	**0.67**	**254**	P	**Pn**	**16 09 18.6**	**+1.0**
ETVZ	**East Tongariro**	**0.67**	**92**	P	**Pn**	**16 09 18.6**	**+0.9**
ETVZ				S	**S**	**16 09 40.5**	**-2.2**
PKE	**Pukeiti**	**0.67**	**263**	P	**Pn**	**16 09 18.5**	**+0.9**
KATZ	**Kakaramea**	**0.68**	**78**	P	**Pn**	**16 09 18.3**	**+0.5**
KATZ				S	**S**	**16 09 41.2**	**-1.6**
MOVZ	**Moawhango**	**0.76**	**113**	P	**Pn**	**16 09 18.6**	**+0.6**
MOVZ				S	**S**	**16 09 40.6**	**-2.7**
RATZ	**Rangitukua**	**0.76**	**71**	P	**Pn**	**16 09 18.5**	**+0.4**
NBEZ	**Newall Road No**	**0.78**	**258**	P	**Pn**	**16 09 19.0**	**+1.0**
RITZ	**Rihia Road**	**0.80**	**80**	P	**Pn**	**16 09 18.9**	**+0.7**
RITZ				S	**S**	**16 09 42.2**	**-1.4**
WATZ	**Wairara**	**0.80**	**60**	P	**Pn**	**16 09 19.0**	**+0.7**
WATZ				S	**S**	**16 09 41.9**	**-1.7**
NMEZ	**Namu Road**	**0.81**	**248**	P	**Pn**	**16 09 19.2**	**+1.1**
TLZ	**Tolley Road**	**0.95**	**35**	P	**Pn**	**16 09 19.2**	**+0.2**
KUTZ	**Kaahu Road**	**0.99**	**51**	P	**Pn**	**16 09 19.8**	**+0.7**
OHWZ	**Ohakea**	**1.15**	**162**	P	**Pn**	**16 09 21.7**	**+1.7**
OHWZ				S	**S**	**16 09 46.9**	**-0.1**
WPRZ	**Whakapapatarin**	**1.19**	**60**	P	**Pn**	**16 09 20.7**	**+0.3**
GRRZ	**Galatos Road**	**1.25**	**53**	P	**Pn**	**16 09 21.3**	**+0.5**
MRHZ	**Matea Rd**	**1.26**	**78**	P	**Pn**	**16 09 20.9**	**0.0**
KWHZ	**Kaweka Forest**	**1.26**	**105**	P	**Pn**	**16 09 22.1**	**+1.2**
TSZ	**Takapari Road**	**1.27**	**138**	P	**Pn**	**16 09 22.2**	**+1.3**
BKZ	**Black Stump Fm**	**1.28**	**93**	P	**Pn**	**16 09 21.2**	**+0.1**
BKZ	**Black Stump Fm**	**1.28**	**93**	S	**S**	**16 09 46.5**	**-2.2**
BKZ	**Black Stump Fm**	**1.28**	**93**	P	**Pn**	**16 09 21.6**	**+0.5**
ALRZ	**Allen Road**	**1.29**	**65**	P	**Pn**	**16 09 21.4**	**+0.3**
KRHZ	**Kereru**	**1.29**	**115**	P	**Pn**	**16 09 22.1**	**+1.1**
PNHZ	**Pukenui**	**1.31**	**128**	P	**Pn**	**16 09 22.4**	**+1.1**
HRRZ	**Handcock Road**	**1.34**	**58**	P	**Pn**	**16 09 22.0**	**+0.5**
PRRZ	**Plateau Road**	**1.36**	**63**	P	**Pn**	**16 09 21.6**	**+0.1**
HSRZ	**Hossack Road**	**1.36**	**54**	P	**Pn**	**16 09 21.9**	**+0.3**
UTU	**Utuhina**	**1.41**	**49**	P	**Pn**	**16 09 22.6**	**+0.5**
POWZ	**Post Office Ro**	**1.46**	**151**	P	**Pn**	**16 09 23.3**	**+1.0**
NGRZ	**Ngongotaha**	**1.46**	**46**	P	**Pn**	**16 09 22.8**	**+0.4**
HLRZ	**Highlands Stat**	**1.46**	**54**	P	**Pn**	**16 09 23.5**	**+1.1**
MCHZ	**McNeill Hill**	**1.47**	**103**	P	**Pn**	**16 09 24.0**	**+1.6**
TOZ	**Tahuroa Road**	**1.48**	**21**	P	**Pn**	**16 09 22.7**	**+0.3**
RRRZ	**Republican Roa**	**1.52**	**60**	P	**Pn**	**16 09 23.0**	**+0.2**
NMHZ	**Naumai**	**1.52**	**90**	P	**Pn**	**16 09 24.5**	**+1.6**
KMRZ	**Kaimai**	**1.53**	**94**	P	**Pn**	**16 09 23.5**	**+0.5**
KARZ	**Kaharoa**	**1.55**	**45**	P	**Pn**	**16 09 23.4**	**+0.3**
WPHZ	**Waipukurau**	**1.55**	**128**	P	**Pn**	**16 09 24.4**	**+1.3**
DVHZ	**Dannevirke**	**1.56**	**140**	P	**Pn**	**16 09 24.1**	**+1.0**
TARZ	**Mount Tarawera**	**1.57**	**56**	P	**Pn**	**16 09 23.7**	**+0.4**
MTHZ	**Maungatainowha**	**1.58**	**81**	P	**Pn**	**16 09 23.7**	**+0.4**
MUGZ	**Murupara**	**1.63**	**68**	P	**Pn**	**16 09 23.5**	**-0.2**
MRZ	**Mangatainoka R**	**1.64**	**160**	P	**Pn**	**16 09 24.6**	**+0.9**
ARHZ	**Aropaoanui**	**1.68**	**96**	P	**Pn**	**16 09 25.4**	**+1.3**
PRWZ	**Porí Road**	**1.68**	**149**	P	**Pn**	**16 09 25.3**	**+1.2**
KAHZ	**Kahuranaki**	**1.71**	**114**	P	**Pn**	**16 09 26.0**	**+1.6**
OGWZ	**Otaki Gorge**	**1.72**	**172**	P	**Pn**	**16 09 25.5**	**+1.2**
RTZ	**Ruatahuna**	**1.74**	**74**	P	**Pn**	**16 09 24.9**	**+0.2**
KIW	**Kapiti Island**	**1.74**	**178**	P	**Pn**	**16 09 25.5**	**+0.8**
RAHZ	**Arahi**	**1.75**	**84**	P	**Pn**	**16 09 25.7**	**+1.0**
TGRZ	**Tauranga**	**1.77**	**39**	P	**Pn**	**16 09 25.2**	**+0.2**
EDRZ	**Edgecumbe**	**1.79**	**56**	P	**Pn**	**16 09 25.1**	**-0.1**
PRHZ	**Porangahau**	**1.79**	**130**	P	**Pn**	**16 09 26.4**	**+1.3**
PXZ	**Pawanui**	**1.81**	**121**	P	**Pn**	**16 09 26.4**	**+1.3**
CKHZ	**Cape Kidnapper**	**1.81**	**108**	P	**Pn**	**16 09 26.8**	**+1.6**
MARZ	**Manawahe**	**1.82**	**52**	P	**Pn**	**16 09 25.6**	**+0.2**
DUWZ	**D'Urville Isla**	**1.83**	**203**	P	**Pn**	**16 09 26.3**	**+0.9**
ANWZ	**Angora Road**	**1.84**	**137**	P	**Pn**	**16 09 26.8**	**+1.4**
TIWZ	**Tintock**	**1.84**	**155**	P	**Pn**	**16 09 26.5**	**+1.0**
OPRZ	**Ohinepanea**	**1.85**	**47**	P	**Pn**	**16 09 25.6**	**0.0**
HOWZ	**Holdsworth Sta**	**1.85**	**164**	P	**Pn**	**16 09 26.3**	**+0.7**
WHHZ	**Waihua**	**1.86**	**90**	P	**Pn**	**16 09 26.7**	**+1.1**
BFZ	**Birch Farm**	**1.90**	**146**	P	**Pn**	**16 09 26.5**	**+0.5**
BFZ	**Birch Farm**	**1.90**	**146**	P	**S**	**16 09 57.0**	**-0.6**
BFZ	**Birch Farm**	**1.90**	**146**	P	**Pn**	**16 09 26.9**	**+0.9**
URZ	**Urewera**	**1.97**	**65**	P	**Pn**	**16 09 26.3**	**-0.4**
	115nm,0.3s,baz=244,slow=3.3,SNR=681					
URZ				S	**S**	**16 09 54.7**	**-4.0**
	179nm,0.2s,baz=241,slow=12,SNR=11					
URZ	**Urewera**	**1.97**	**65**	P	**Pn**	**16 09 25.8**	**-0.9**
URZ	**Urewera**	**1.97**	**65**	P	**S**	**16 09 54.9**	**-3.8**
URZ	**Urewera**	**1.97**	**65**	P	**Pn**	**16 09 26.2**	**-0.4**
SNGZ	**Shannon Statio**	**1.97**	**81**	P	**Pn**	**16 09 27.4**	**+0.7**
CAW	**Cannon Point**	**2.00**	**175**	P	**Pn**	**16 09 27.8**	**+0.9**
MKAZ	**Moumakai**	**2.02**	**7**	P	**Pn**	**16 09 27.7**	**+0.4**
AWAZ	**Awhitu Peninsu**	**2.06**	**355**	P	**Pn**	**16 09 28.0**	**+0.5**
CPWZ	**Castlepoint**	**2.07**	**150**	P	**Pn**	**16 09 29.0**	**+1.5**
WHRZ	**Whale Island**	**2.09**	**54**	P	**Pn**	**16 09 28.6**	**+0.8**
MTW	**Mount Morrison**	**2.10**	**166**	P	**Pn**	**16 09 28.5**	**+0.6**
RAGZ	**Rawiri**	**2.10**	**74**	P	**Pn**	**16 09 28.2**	**+0.2**
TCW	**Tory Channel**	**2.14**	**192**	P	**Pn**	**16 09 29.3**	**+1.1**
TMWZ	**Te Maipa**	**2.14**	**158**	P	**Pn**	**16 09 29.1**	**+0.8**
ETAZ	**East Tamaki Re**	**2.16**	**2**	P	**Pn**	**16 09 29.0**	**+0.4**
WEL	**Wellington**	**2.17**	**182**	P	**Pn**	**16 09 29.3**	**+0.8**
WTAZ	**Waiatarua**	**2.19**	**354**	P	**Pn**	**16 09 29.3**	**+0.4**
SNZO	**South Karori**	**2.19**	**183**	P	**Pn**	**16 09 29.2**	**+0.5**
SNZO	**South Karori**	**2.19**	**183**	P	**S**	**16 10 01.3**	**-1.3**
KNZ	**Kokohu**	**2.20**	**88**	P	**Pn**	**16 09 29.6**	**+0.8**
MWZ	**Matawai**	**2.24**	**70**	P	**Pn**	**16 09 29.2**	**-0.1**
HBAZ	**Herne Bay Bore**	**2.26**	**358**	P	**Pn**	**16 09 29.9**	**+0.3**
BHW	**Baring Head**	**2.29**	**180**	P	**Pn**	**16 09 30.3**	**+0.6**
PAWZ	**Paruwai Farm**	**2.31**	**169**	P	**Pn**	**16 09 30.6**	**+0.7**
RIGZ	**Rimuhau**	**2.31**	**81**	P	**Pn**	**16 09 30.6**	**+0.6**
MSWZ	**Moikau Station**	**2.32**	**173**	P	**Pn**	**16 09 30.7**	**+0.7**
MBAZ	**Motutapu North**	**2.34**	**1**	P	**Pn**	**16 09 30.8**	**+0.4**
TRWZ	**Traveller**	**2.37**	**165**	P	**Pn**	**16 09 31.3**	**+0.7**
PRGZ	**Paritu Road**	**2.37**	**86**	P	**Pn**	**16 09 31.4**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.38**	**92**	P	**Pn**	**16 09 31.7**	**+1.0**
NNZ	**Nelson**	**2.38**	**208**	P	**Pn**	**16 09 31.3**	**+0.7**
TKNZ	**Takaka Hill**	**2.40**	**216**	P	**Pn**	**16 09 30.9**	**+0.1**
TUWZ	**Tuamarina**	**2.41**	**196**	P	**Pn**	**16 09 32.7**	**+1.8**
TKGZ	**Te Karaka**	**2.44**	**75**	P	**Pn**	**16 09 31.8**	**+0.6**
KUZ	**Kuaotunu**	**2.47**	**17**	P	**Pn**	**16 09 31.7**	**+0.1**
KUZ	**Kuaotunu**	**2.47**	**17**	P	**Pn**	**16 09 31.8**	**+0.2**
QRZ	**Quartz Range**	**2.47**	**225**	P	**Pn**	**16 09 31.2**	**-0.3**
QRZ	**Quartz Range**	**2.47**	**225**	S	**S**	**16 10 05.2**	**-2.4**
QRZ	**Quartz Range**	**2.47**	**225**	P	**Pn**	**16 09 31.4**	**-0.1**
PLWZ	**Palliser**	**2.47**	**173**	P	**Pn**	**16 09 32.1**	**+0.5**
RUGZ	**Raukumara Rang**	**2.50**	**63**	P	**Pn**	**16 09 31.0**	**-1.1**
TWGZ	**Tauwhareparae**	**2.63**	**70**	P	**Pn**	**16 09 33.5**	**+0.2**
CMWZ	**Cape Campbell**	**2.67**	**190**	P	**Pn**	**16 09 33.1**	**-0.5**
HAZ	**Te Kaha**	**2.67**	**60**	P	**Pn**	**16 09 32.8**	**-1.0**
BSWZ	**Blackbirch Sta**	**2.70**	**196**	P	**Pn**	**16 09 34.9**	**+1.0**
CNGZ	**Carnagh Statio**	**2.70**	**78**	P	**Pn**	**16 09 34.8**	**+0.8**
MRNZ	**Matariki Terra**	**2.79**	**214**	P	**Pn**	**16 09 35.0**	**+0.1**
PKGZ	**Pakihiroa**	**2.83**	**65**	P	**Pn**	**16 09 34.9**	**-0.5**
PUZ	**Puketiti**	**2.87**	**70**	P	**Pn**	**16 09 35.5**	**-0.4**
GRZ	**Great Barrier**	**2.90**	**10**	P	**Pn**	**16 09 36.7**	**+0.5**
THZ	**Tophouse**	**3.03**	**209**	P	**Pn**	**16 09 38.0**	**+0.3**
WMNZ	**Waiomatatini S**	**3.08**	**66**	P	**Pn**	**16 09 38.1**	**-0.4**
MXZ	**Matakaoa Point**	**3.13**	**61**	P	**Pn**	**16 09 38.4**	**-0.3**
MXZ	**Matakaoa Point**	**3.13**	**61**	P	**S**	**16 10 17.4**	**-3.1**
MXZ	**Matakaoa Point**	**3.13**	**61**	P	**Pn**	**16 09 38.5**	**-0.3**
WCZ	**Waipu Caves**	**3.20**	**353**	P	**Pn**	**16 09 40.0**	**+0.5**
KHZ	**Kahutara**	**3.44**	**196**	P	**Pn**	**16 09 42.6**	**+0.4**
KHZ	**Kahutara**	**3.44**	**196**	P	**S**	**16 10 25.1**	**-1.7**
DSZ	**Denniston Nort**	**3.50**	**221**	P	**Pn**	**16 09 42.7**	**-0.3**
OUZ	**Omahuta**	**4.02**	**345**	P	**Pn**	**16 09 50.1**	**+1.0**
RPZ	**Rata Peaks**	**5.41**	**211**	P	**Pn**	**16 10 05.0**	**-1.0**
	32nm,0.3s,baz=39,slow=2.4,SNR=109					
RPZ				S	**S**	**16 11 04.2**	**-5.7**
	46nm,0.3s,baz=315,slow=22,SNR=26					
RPZ	**Rata Peaks**	**5.41**	**211**	P	**Pn**	**16 10 05.2**	**-0.8**
ODZ	**Otahua Downs**	**6.70**	**206**	P	**Pn**	**16 10 21.2**	**-0.3**
SYZ	**Scrubby Hill**	**8.52**	**208**	P	**Pn**	**16 10 45.3**	**-0.1**
ASAR	**Alice Springs**	**37.85**	**282**	P	**P**	**16 15 43.0**	**+2.9**
	0.3nm,0.8s,baz=116,slow=6.5,SNR=5.6					
ASAR				PcP	**PcP**	**16 17 51.5**	**+0.2**
	0.3nm,0.6s,baz=124,slow=3.6,SNR=4.3					
	0.3nm,0.8s					
WRA	**Warramunga Arr**	**39.69**	**287**	P	**P**	**16 15 56.5**	**+1.1**
	0.1nm,0.3s,baz=122,slow=8.4,SNR=5.4					
	0.1nm,0.3s					
ARCES	**ARCESS Array B**	**145.44**	**342**	PKPbc	**PKPab**	**16 27 55.5**	**0.0**
	0.7nm,0.4s,baz=53,slow=4.6,SNR=8.0					
FINES	**FINESS Array B**	**150.54**	**330**	PKPbc	**PKiKP**	**16 28 09.0**	**-0.1**
	1.1nm,0.5s,baz=37,slow=3.4,SNR=6.0					
HFS	**Hagfors**	**155.85**	**337**	PKPab	**PKPab**	**16 28 39.4**	**+0.8**
	0.8nm,0.5s,baz=29,slow=3.3,SNR=4.5					

*UCR **08** 16:14:10.2±1.5,10.°07N×84.°05W,h82km±2km,MW3.8*
*CATAC **08** 16:14:11.2±0.4,10.°N±3.°×8.°4W±.°,h63km±5km,M3.3/11, MLv3.3/11,Error ellipse: s-maj=7.8km s-min=3.7km az=45.3,confirmed*

ISC 08 16:14:11.1±1.3,10.°01N±0.°03×84.°06W±0.°03,h77km±5km, n113,σ0§93/168,7C-40D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMI	**Santo Domingo**	**0.04**	**227**	eP	**Pn**	**16 14 22.3**	**-0.1**
DOMI				eS	**Sn**	**16 14 31.1**	**+0.5**
HDC	**Heredia**	**0.06**	**259**	ǁiP	**Pn**	**16 14 22.2**	**-0.2**
HDC				eS	**Sn**	**16 14 31.1**	**+0.4**
LUPE	**Guadalupe**	**0.06**	**177**	eP	**Pn**	**16 14 21.5**	**-0.9**
LUPE				eS	**Sn**	**16 14 31.1**	**+0.4**
CORON	**Coronado**	**0.07**	**125**	ǁiP	**Pn**	**16 14 22.2**	**-0.2**
CORON				eS	**Sn**	**16 14 31.7**	**+0.9**
ECI	**Escuela Centro**	**0.07**	**175**	eP	**Pn**	**16 14 21.6**	**-0.8**
ECI				eS	**Sn**	**16 14 31.1**	**+0.4**
HEME	**Heredia, Merce**	**0.08**	**258**	ǁiP	**Pn**	**16 14 22.2**	**-0.2**
HEME				eS	**Sn**	**16 14 31.1**	**+0.4**
CENT	**San Jose**	**0.08**	**194**	eP	**Pn**	**16 14 22.1**	**-0.3**
CENT				eS	**Sn**	**16 14 31.2**	**+0.5**
LUJA	**Lujan**	**0.09**	**189**	ǁeP	**Pn**	**16 14 21.8**	**-0.7**
LUJA				eS	**Sn**	**16 14 30.9**	**+0.2**
CVIMO	**Finca Echandi**	**0.11**	**84**	ǁiP	**Pn**	**16 14 22.3**	**-0.3**
CVIMO				eS	**Sn**	**16 14 31.1**	**+0.1**
AMPA	**Desamparados**	**0.12**	**182**	eP	**Pn**	**16 14 21.9**	**-0.6**
AMPA				eS	**Sn**	**16 14 30.7**	**-0.2**
TRIO	**Tres Rios**	**0.12**	**149**	eP	**Pn**	**16 14 20.1**	**-2.5**
TRIO				eS	**Sn**	**16 14 31.1**	**+0.2**
BELE	**Belem**	**0.13**	**254**	ǁiP	**Pn**	**16 14 22.1**	**-0.4**
BELE				eS	**Sn**	**16 14 30.7**	**-0.2**
SANTA	**Santa Ana**	**0.15**	**238**	ǁiP	**Pn**	**16 14 22.1**	**-0.5**
SANTA				eS	**Sn**	**16 14 31.0**	**+0.1**
VICA	**Volcano Irazu**	**0.21**	**97**	ǁiP	**Pn**	**16 14 22.8**	**-0.4**
ACOS	**Acosta**	**0.24**	**206**	eP	**Pn**	**16 14 19.8**	**-3.2**
ACOS				eS	**Sn**	**16 14 28.9**	**-2.7**
TCS1	**Tacares**	**0.24**	**277**	ǁiP	**Pn**	**16 14 22.7**	**-0.2**
TCS1				eS	**Sn**	**16 14 32.3**	**+0.7**
TCS1	**Tacares**	**0.24**	**277**	P	**Pn**	**16 14 22.7**	**-0.2**
VPS8	**V Poas**	**0.24**	**313**	ǁiP	**Pn**	**16 14 22.9**	**-0.3**
VPS8				eS	**Sn**	**16 14 32.8**	**+0.7**
VPS5	**V. Poas**	**0.25**	**316**	ǁiP	**Pn**	**16 14 22.7**	**-0.5**
RAFA	**San Farael, Vo**	**0.25**	**102**	eP	**Pn**	**16 14 23.2**	**-0.1**
RAFA				eS	**Sn**	**16 14 32.8**	**+0.7**
PCAYA	**Pacayas**	**0.26**	**111**	eP	**Pn**	**16 14 23.1**	**-0.1**
PCAYA				eS	**Sn**	**16 14 32.7**	**+0.7**
REPA	**Paraso**	**0.26**	**134**	eP	**Pn**	**16 14 22.7**	**-0.4**
REPA				eS	**Sn**	**16 14 31.9**	**0.0**
LCR2	**La Lucha 2**	**0.27**	**169**	eP	**Pn**	**16 14 22.7**	**-0.6**
LCR2				eS	**Sn**	**16 14 32.0**	**-0.1**
LCR2	**La Lucha 2**	**0.27**	**169**	P	**Pn**	**16 14 22.7**	**-0.6**
LCR2	**La Lucha 2**	**0.27**	**169**	S	**Sn**	**16 14 32.1**	**0.0**
VTLA	**Turrialba Volc**	**0.28**	**92**	ǁiP	**Pn**	**16 14 23.4**	**-0.1**
CVTQ	**Turrialba Volc**	**0.29**	**92**	ǁeP	**Pn**	**16 14 23.3**	**-0.2**
CVTQ				eS	**Sn**	**16 14 33.7**	**+1.2**
VTR0	**Volcan Turrial**	**0.29**	**89**	ǁiP	**Pn**	**16 14 23.3**	**-0.3**
VTR0				eS	**Sn**	**16 14 33.7**	**+1.0**
CVTR	**Volcan Turrial**	**0.29**	**88**	ǁ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.85**	**98**	*eP*	**Pn**	**16 16 51.1**	**+0.7**
YJA				*eS*	**Sn**	**16 17 17.8**	**-0.5**
YJA	**Yavi**	**1.85**	**98**	Pg	**Pn**	**16 16 51.1**	**+0.7**
MOCB	**Mochara**	**1.86**	**69**	Pg	**Pn**	**16 16 50.9**	**+0.4**
MOCB				Sg	**Sn**	**16 17 17.1**	**-1.4**
MOCB				IAML		16 17 18.3	
	657nm,0.2s						
PB01	**IPOC Station P**	**2.06**	**295**	*eP*	**Pn**	**16 16 53.0**	**+0.7**
PB01				*eS*	**Sn**	**16 17 21.3**	**-0.3**
PB01	**IPOC Station P**	**2.06**	**295**	*eP*	**Pn**	**16 16 53.1**	**+0.7**
PB01				*eS*	**Sn**	**16 17 21.0**	**-0.7**
PB01				IAML		16 17 23.5	
	comp=Z,507nm,0.2s						
PB01	**IPOC Station P**	**2.06**	**295**	Pg	**Pn**	**16 16 52.7**	**+0.4**
PB01				Sg	**Sn**	**16 17 21.2**	**-0.4**
PB01				IAML		16 17 22.7	
	comp=Z,2μm,0.3s						
PB06	**IPOC Station P**	**2.07**	**248**	*eP*	**Pn**	**16 16 53.8**	**+1.3**
PB06				*eS*	**Sn**	**16 17 22.5**	**+0.5**
PB06				IAML		16 17 24.3	
	comp=E,393nm,0.1s						
PB06	**IPOC Station P**	**2.07**	**248**	*eP*	**Pn**	**16 16 53.4**	**+1.0**
PB06				*eS*	**Sn**	**16 17 23.8**	**+1.8**
PB06				IAML		16 17 24.8	
	comp=Z,182nm,0.2s						
PB06	**IPOC Station P**	**2.07**	**248**	Pg	**Pn**	**16 16 53.1**	**+0.6**
PB02	**IPOC Station P**	**2.31**	**285**	*eP*	**Pn**	**16 16 55.6**	**+0.4**
PB02				*eS*	**Sn**	**16 17 26.0**	**-0.8**
PB02				IAML		16 17 26.9	
	comp=N,1μm,0.3s						
PB02	**IPOC Station P**	**2.31**	**285**	*eP*	**Pn**	**16 16 55.6**	**+0.4**
PB02				*eS*	**Sn**	**16 17 26.1**	**-0.7**
PB02				IAML		16 17 29.0	
	comp=Z,1μm,0.4s						
PB02	**IPOC Station P**	**2.31**	**285**	Pg	**Pn**	**16 16 55.8**	**+0.6**
PB02				Sg	**Sn**	**16 17 25.9**	**-0.9**
PB02				IAML		16 17 30.9	
	comp=Z,928nm,0.3s						
SALTA		**2.52**	**155**	*eP*	**Pn**	**16 16 57.4**	**-0.4**
SALTA				*eP*		16 17 03.3	
SALTA				*eP*		16 17 03.5	
PATCX	**Punta Patache**	**2.71**	**294**	*eP*	**Pn**	**16 17 00.1**	**+0.3**
GO01	**Chusmiza**	**2.76**	**325**	*eP*	**Pn**	**16 17 01.3**	**+0.5**
GO01				IAML		16 17 40.5	
	comp=N,398nm,0.2s						
GO01	**Chusmiza**	**2.76**	**325**	*eP*	**Pn**	**16 17 01.0**	**+0.2**
GO01				*eS*	**Sn**	**16 17 37.1**	**+0.4**
GO01	**Chusmiza**	**2.76**	**325**	Pg	**Pn**	**16 17 01.2**	**+0.5**
HMBC	**Humberstone**	**2.78**	**306**	*eP*	**Pn**	**16 17 00.1**	**-0.4**
HMBC				IAML		16 17 36.3	
	comp=N,650nm,0.4s						
HMBC	**Humberstone**	**2.78**	**306**	*eP*	**Pn**	**16 16 59.6**	**-1.0**
HMBC				*eS*	**Sn**	**16 17 35.0**	**-1.5**
HMBC				IAML		16 17 36.3	
	comp=Z,493nm,0.3s						
HMBC	**Humberstone**	**2.78**	**306**	Pg	**Pn**	**16 17 00.4**	**-0.2**
TA01	**Diego Aracena**	**2.85**	**298**	IAML		16 17 37.6	
	comp=E,484nm,0.2s						
TA01	**Diego Aracena**	**2.85**	**298**	*eP*	**Pn**	**16 17 01.5**	**+0.2**
TA01				*eS*	**Sn**	**16 17 36.9**	**-0.9**
TA01				IAML		16 17 37.2	
	comp=Z,169nm,0.3s						
PB11	**IPOC Station P**	**2.96**	**317**	*eP*	**Pn**	**16 17 02.6**	**-0.2**
PB11	**IPOC Station P**	**2.96**	**317**	*eP*	**Pn**	**16 17 02.3**	**-0.5**
PB11				*eS*	**Sn**	**16 17 39.0**	**-1.5**
PB11				IAML		16 17 40.4	
	comp=Z,283nm,0.2s						
PB11	**IPOC Station P**	**2.96**	**317**	Pg	**Pn**	**16 17 02.4**	**-0.5**
PB11				Sg	**Sn**	**16 17 39.2**	**-1.3**
PB11				IAML		16 17 40.3	
	comp=Z,476nm,0.3s						
TA02	**Huaiquique**	**2.97**	**303**	*eP*	**Pn**	**16 16 58.4**	**-4.3**
TA02				*eP*		16 17 03.4	
TA02				*eS*	**Sn**	**16 17 39.9**	**-0.4**
TA02				IAML		16 17 40.2	
	comp=Z,232nm,0.2s						
AZAP	**Zapla**	**3.19**	**136**	*eP*	**Pn**	**16 17 06.4**	**+0.7**
PB10	**IPOC Station P**	**3.23**	**240**	*eP*	**Pn**	**16 17 06.2**	**+0.3**
PB10				IAML		16 17 46.1	
	comp=N,112nm,0.2s						
PB10	**IPOC Station P**	**3.23**	**240**	*eP*	**Pn**	**16 17 06.8**	**+0.9**
PB10				*eS*	**Sn**	**16 17 46.0**	**-0.2**
PB10				IAML		16 17 47.7	
	comp=Z,69nm,0.4s						
PB10	**IPOC Station P**	**3.23**	**240**	Pg	**Pn**	**16 17 06.4**	**+0.5**
SOEO	**Opoqueri**	**3.37**	**354**	Pg	**Pn**	**16 17 08.6**	**+0.4**
GO02	**Mina Guanaco**	**3.74**	**210⇑**	*eP*	**Pn**	**16 17 13.6**	**+1.0**
GO02	**Mina Guanaco**	**3.74**	**210**	*eP*	**Pn**	**16 17 13.6**	**+1.0**
GO02				*eS*	**Sn**	**16 17 58.4**	**+0.2**
PB14	**IPOC Station P**	**3.79**	**224**	*eP*	**Pn**	**16 17 12.1**	**-1.0**
PB14	**IPOC Station P**	**3.79**	**224**	*eP*	**Pn**	**16 17 12.9**	**-0.2**
PB14				*eS*	**Sn**	**16 17 58.8**	**-0.3**
PB14				IAML		16 17 58.9	
	comp=Z,58nm,0.4s						
SOET	**ToroToro**	**4.12**	**23**	Pg	**Pn**	**16 17 17.6**	**+0.2**
AOEA	**Aiquile**	**4.30**	**30**	Pg	**Pn**	**16 17 19.5**	**-0.2**
BBOJ	**La Paz, Jacaqu**	**4.98**	**352**	Pg	**Pn**	**16 17 29.5**	**+0.8**
AC01	**Pan de Azucar**	**5.06**	**213**	*eP*	**Pn**	**16 17 28.6**	**-0.6**
AC01				*eS*	**Sn**	**16 18 26.1**	**-1.9**
AC01				IAML		16 18 29.4	
	comp=Z,46nm,1.6s						
BBOE	**La Paz, Chanca**	**5.12**	**355**	Pg	**Pn**	**16 17 31.5**	**+1.0**
BBOD	**La Paz, Gloria**	**5.37**	**349**	Pg	**Pn**	**16 17 34.6**	**+0.8**
LPAZ	**La Paz**	**5.65**	**354**	P	**Pn**	**16 17 38.0**	**+0.5**
	comp=Z,3.5nm,0.4s,baz=161,slow=8.7,SNR=20						
LPAZ				S	**Sn**	**16 18 40.5**	**-2.3**
	comp=Z,1.9nm,0.6s,baz=334,slow=17,SNR=3.8						
LPAZ	**La Paz**	**5.65**	**354**	Pg	**Pn**	**16 17 37.6**	**+0.1**
BBOB	**La Paz, Bander**	**5.79**	**354**	Pg	**Pn**	**16 17 39.7**	**+0.4**
SIV	**San Ignacio**	**8.48**	**47**	P	**Pn**	**16 18 10.4**	**-3.6**
	comp=Z,11nm,0.4s,baz=217,slow=8.6,SNR=60						
SIV				S	Sn	16 19 38.1	-11
	comp=Z,3.1nm,0.3s,baz=134,slow=22,SNR=5.8						
CFA	**Coronel Fontan**	**9.65**	**184**	P	**Pn**	**16 18 29.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=11,SNR=7.6						
CFA				S	**Sn**	**16 20 10.9**	**-6.1**
	comp=Z,0.5nm,0.3s,baz=46,slow=23,SNR=1.7						
PLCA	**Paso Flores**	**18.92**	**187**	P	**P**	**16 20 22.1**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=0.6,slow=8.6,SNR=6.2						
SNAA	**Sanae**	**61.44**	**161**	P	**P**	**16 26 12.2**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=274,slow=5.8,SNR=7.8						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**68.26**	**180**	P	**P**	**16 26 57.4**	**+1.9**
	comp=Z,1.0nm,0.5s,baz=143,slow=10,SNR=8.9						
	comp=Z,1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.27**	**70**	P	**P**	**16 27 42.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=245,slow=5.6,SNR=2.2						
	comp=Z,0.9nm,0.3s						
WRA	**Warramunga Arr**	**133.23**	**209**	PKhKP	PKPpre	16 35 07.7	
	comp=Z,0.5nm,0.9s,baz=148,slow=1.8,SNR=2.1						
MKAR	**Makanchi Array**	**145.20**	**37**	PKP	**PKPbc**	**16 35 30.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=290,slow=4.3,SNR=5.2						

*HEL **08** 16:24:51.3±0.6, 64.°92N×20.°29E, h0km, ML1.5, Explosion*
*IDC **08** 16:24:52.9±1.1, 64.°87N×20.°59E, h0km, mbtmp2.5/3, ML1.3/2, Error ellipse: s-maj=12.5km s-min=8.7km az=94.0*
ISC 08 16:24:50.8±0.9, **64.°93N**±0.°03×**20.°21E**±0.°04, **h0**km, **n17**, σ1**s53**/27, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**1.07**	**169**	PG	**Pg**	**16 25 10.6**	**-0.7**
UMAU				SG	**Sg**	**16 25 23.4**	**-1.7**
HUSU	**Husum**	**1.66**	**196**	PG	**Pn**	**16 25 21.4**	**+0.4**
HUSU				SG	**Sn**	**16 25 42.6**	**-0.4**
OBF0	**Syolatti, Pyha**	**1.78**	**102**	PG	**Pb**	**16 25 23.6**	**-0.7**
	baz=289						
OBF0				MSG		16 25 43.4	
	comp=Z,5.5nm,0.2s						
OBF0				SG	**Sb**	**16 25 46.8**	**-0.3**
OUF	**Merijarvi**	**2.03**	**104**	PG	**Pn**	**16 25 26.5**	**+0.4**
OUF				MSG		16 25 50.4	
	comp=Z,1.9nm,0.2s						
OUF				SB	**Sn**	**16 25 52.2**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.09**	**91**	PG	**Pn**	**16 25 28.1**	**+1.1**
OBF4				MSG		16 25 52.2	
	comp=Z,1.0nm,0.2s						
OBF4				SG	**Sb**	**16 25 55.5**	**-0.5**
PAJU	**Pajala**	**2.41**	**28**	PG	**Pn**	**16 25 33.5**	**+2.1**
HEMU	**Hemsoen**	**2.46**	**204**	PB	**Pn**	**16 25 33.5**	**+1.4**
	baz=25						
HEMU				SG	**Sn**	**16 26 05.4**	**+2.6**
SALU	**Saltoluokta**	**2.56**	**345**	*eP*	**Pb**	**16 25 37.1**	**-0.4**
KLF	**Kolari**	**2.77**	**32**	PG	**Pn**	**16 25 38.9**	**+2.5**
KLF				MSG		16 26 12.7	
	comp=Z,1.3nm,0.2s						
KLF				SG	**Sb**	**16 26 13.9**	**-1.7**
KEF	**Keuruu**	**3.47**	**141**	SN	**Sn**	**16 26 28.8**	**+1.1**
RAF	**Rauma**	**3.99**	**169**	SB	**Sb**	**16 26 48.6**	**-1.9**
I37NO	**I37NO**	**4.21**	**352**	I	I	16 51 50.0	
	baz=171,slow=322,SNR=0.8						
FIA0	**FINESS Array S**	**4.39**	**140**	PG	**Pb**	**16 26 08.9**	**+0.2**
FIA0				SG	**Sb**	**16 27 05.7**	**+3.5**
FINES	**FINESS Array B**	**4.39**	**140**	Pn	**Pn**	**16 25 59.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=327,slow=13,SNR=1.3						
FINES				Sn	**Sn**	**16 26 49.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=326,slow=23,SNR=1.1						
FINES				Lg	Lg	16 27 04.6	
	comp=Z,1.1nm,0.3s,baz=330,slow=27,SNR=22						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**5.06**	**22**	Pn	**Pn**	**16 26 09.0**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=199,slow=13,SNR=1.7						
ARCES				Sn	**Sn**	**16 27 06.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=202,slow=23,SNR=6.5						
ARCES				Lg	Lg	16 27 27.9	
	comp=Z,0.2nm,0.3s,baz=206,slow=29,SNR=5.9						
NOA	**NORSAR Array B**	**5.66**	**231**	Pn	**Pn**	**16 26 18.4**	**+2.3**
	baz=52,slow=15,SNR=2.0						
NOA				Sn	**Sn**	**16 27 20.6**	**-1.1**
	baz=47,slow=23,SNR=1.4						
NOA				Lg	Lg	16 27 46.7	
	baz=46,slow=26,SNR=0.9						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**5.68**	**215**	Sn	**Sn**	**16 27 21.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=26,slow=28,SNR=2.2						
HFS				Lg	Lg	16 27 46.4	
	comp=Z,0.2nm,0.3s,baz=32,slow=30,SNR=5.2						

*WEL **08** 16:32:56.5±0.4, 33.°5S×4.°1W, h12km, mB5.2/11, ML4.6/19, MLv4.7/14, Mw(mB)4.6/11, Error ellipse: s-maj=12.2km s-min=3.7km az=109.7, confirmed*
*NOU **08** 16:33:06.2, 34.°24S×179.°92E, h309km, mb4.0/16, South of Kermadec Islands*
ISC 08 16:33:08.8±2.5, **34.°0S**±0.°2×**179.°3E**±0.°1, **h300**km, **n116**, σ2**s16**/121, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.61**	**192**	P	**Pn**	**16 34 08.3**	**-2.3**
MXZ	**Matakaoa Point**	**3.61**	**192**	P	**Pn**	**16 34 07.8**	**-2.8**
MXZ				S	**S**	**16 35 02.7**	**+2.6**
GRZ	**Great Barrier**	**3.83**	**234**	P	**Pn**	**16 34 11.3**	**-1.8**
WMGZ	**Waiomatatini S**	**3.84**	**190**	P	**Pn**	**16 34 10.1**	**-3.0**
HAZ	**Te Kaha**	**3.91**	**198**	P	**Pn**	**16 34 11.8**	**-2.8**
PKGZ	**Pakihiroa**	**3.94**	**194**	P	**Pn**	**16 34 11.5**	**-2.8**
KUZ	**Kuaotunu**	**3.97**	**226**	P	**Pn**	**16 34 14.8**	**+0.2**
KUZ	**Kuaotunu**	**3.97**	**226**	P	**Pn**	**16 34 14.5**	**0.0**
PUZ	**Puketiti**	**4.11**	**191**	P	**Pn**	**16 34 12.6**	**-3.5**
PUZ				S	**S**	**16 35 13.5**	**+3.4**
RUGZ	**Raukumara Rang**	**4.13**	**198**	P	**Pn**	**16 34 15.6**	**-0.9**
WHRZ	**Whale Island**	**4.25**	**206**	P	**Pn**	**16 34 18.8**	**+1.2**
TWGZ	**Tauwhareparae**	**4.26**	**194**	P	**Pn**	**16 34 14.8**	**-3.0**
OPRZ	**Ohinepanea**	**4.40**	**209**	P	**Pn**	**16 34 19.2**	**-0.1**
MARZ	**Manawahe**	**4.47**	**207**	P	**Pn**	**16 34 21.0**	**+0.8**
WCZ	**Waipu Caves**	**4.48**	**244**	P	**Pn**	**16 34 18.4**	**-1.8**
MWZ	**Matawai**	**4.52**	**198**	P	**Pn**	**16 34 17.7**	**-3.1**
MWZ				S	**S**	**16 35 22.6**	**+4.2**
CNGZ	**Carnagh Statio**	**4.52**	**191**	P	**Pn**	**16 34 18.2**	**-2.5**
MKAZ	**Moumakai**	**4.54**	**226**	P	**Pn**	**16 34 20.5**	**-0.5**
TKGZ	**Te Karaka**	**4.54**	**194**	P	**Pn**	**16 34 18.9**	**-2.0**
TKGZ				S	**S**	**16 35 22.6**	**+3.7**
URZ	**Urewera**	**4.56**	**202**	P	**Pn**	**16 34 19.4**	**-1.8**
URZ	**Urewera**	**4.56**	**202**	P	**Pn**	**16 34 19.4**	**-1.8**
KARZ	**Kaharoa**	**4.68**	**211**	P	**Pn**	**16 34 23.4**	**+0.9**
RIGZ	**Rimuhau**	**4.82**	**194**	P	**Pn**	**16 34 21.9**	**-2.3**
RRRZ	**Republican Roa**	**4.84**	**207**	P	**Pn**	**16 34 26.2**	**+1.8**
MUGZ	**Murupara**	**4.87**	**204**	P	**Pn**	**16 34 23.5**	**-1.3**
SNGZ	**Shannon Statio**	**4.99**	**198**	P	**Pn**	**16 34 23.0**	**-3.1**
PRGZ	**Paritu Road**	**5.00**	**193**	P	**Pn**	**16 34 23.8**	**-2.5**
PRRZ	**Plateau Road**	**5.03**	**207**	P	**Pn**	**16 34 26.9**	**+0.4**
ALRZ	**Allen Road**	**5.10**	**207**	P	**Pn**	**16 34 27.7**	**+0.3**
WPRZ	**Whakapapatarin**	**5.13**	**208**	P	**Pn**	**16 34 28.8**	**+1.1**
KNZ	**Kokohu**	**5.14**	**194**	P	**Pn**	**16 34 27.0**	**-0.8**
RAHZ	**Arahi**	**5.18**	**199**	P	**Pn**	**16 34 26.9**	**-1.4**
MTHZ	**Maungataniwha**	**5.19**	**202**	P	**Pn**	**16 34 28.7**	**+0.2**
MHGZ	**Mahia Peninsul**	**5.22**	**192**	P	**Pn**	**16 34 25.8**	**-3.0**
TLZ	**Tolley Road**	**5.25**	**214**	P	**Pn**	**16 34 30.8**	**+1.6**
KUTZ	**Kaahu Road**	**5.25**	**211**	P	**Pn**	**16 34 30.8**	**+1.7**
WHHZ	**Waihua**	**5.29**	**198**	P	**Pn**	**16 34 29.7**	**+0.1**
MRHZ	**Matea Rd**	**5.32**	**205**	P	**Pn**	**16 34 29.4**	**-0.5**
NMHZ	**Nukumai**	**5.43**	**201**	P	**Pn**	**16 34 30.5**	**-0.8**
ARHZ	**Aropaoanui**	**5.53**	**199**	P	**Pn**	**16 34 30.3**	**-2.1**
RATZ	**Rangitukua**	**5.59**	**209**	P	**Pn**	**16 34 33.8**	**+0.6**
BKZ	**Black Stump Fm**	**5.59**	**203**	P	**Pn**	**16 34 31.6**	**-1.6**
BKZ	**Black Stump Fm**	**5.59**	**203**	P	**Pn**	**16 34 32.2**	**-0.9**
RITZ	**Rihia Road**	**5.65**	**208**	P	**Pn**	**16 34 34.3**	**+0.4**
HIZ	**Hauiti**	**5.72**	**217**	P	**Pn**	**16 34 36.3**	**+1.6**
HIZ	**Hauiti**	**5.72**	**217**	P	**Pn**	**16 34 37.6**	**+3.0**
MCHZ	**McNeill Hill**	**5.78**	**200**	P	**Pn**	**16 34 35.2**	**-0.2**
TMVZ	**Te Maari**	**5.83**	**209**	P	**Pn**	**16 34 36.4**	**+0.3**
KRVZ	**Karewarewa**	**5.84**	**209**	P	**Pn**	**16 34 36.8**	**+0.6**
ETVZ	**East Tongariro**	**5.84**	**208**	P	**Pn**	**16 34 36.5**	**+0.2**
KWHZ	**Kaweka Forest**	**5.85**	**202**	P	**Pn**	**16 34 34.3**	**-2.0**
NNVZ	**North Ngauruho**	**5.88**	**209**	P	**Pn**	**16 34 37.3**	**+0.6**
CKHZ	**Cape Kidnapper**	**5.88**	**197**	P	**Pn**	**16 34 35.9**	**-0.6**
SNVZ	**South Ngauruho**	**5.92**	**209**	P	**Pn**	**16 34 36.7**	**-0.4**
FWVZ	**Far West T-bar**	**6.01**	**209**	P	**Pn**	**16 34 37.8**	**-0.4**
WHVZ	**Whangaehu Hut**	**6.02**	**208**	P	**Pn**	**16 34 38.3**	**-0.1**
WNVZ	**Wahitunoa**	**6.05**	**208**	P	**Pn**	**16 34 38.4**	**-0.4**
KAHZ	**Kahuranaki**	**6.06**	**198**	P	**Pn**	**16 34 36.8**	**-1.9**
KRHZ	**Kereru**	**6.06**	**202**	P	**Pn**	**16 34 36.6**	**-2.1**
VRZ	**Vera Road**	**6.25**	**214**	P	**Pn**	**16 34 42.4**	**+1.5**
PXZ	**Pawanui**	**6.29**	**197**	P	**Pn**	**16 34 39.0**	**-2.4**
PNHZ	**Pukenui**	**6.36**	**202**	P	**Pn**	**16 34 38.5**	**-3.9**
WPHZ	**Waipukurau**	**6.43**	**200**	P	**Pn**	**16 34 41.0**	**-2.2**
PRHZ	**Porangahau**	**6.57**	**198**	P	**Pn**	**16 34 41.9**	**-2.9**
WAZ	**Wanganui**	**6.66**	**210**	P	**Pn**	**16 34 45.4**	**-0.6**
DVHZ	**Dannevirke**	**6.73**	**201**	P	**Pn**	**16 34 44.9**	**-1.9**
ANWZ	**Angora Road**	**6.79**	**198**	P	**Pn**	**16 34 46.0**	**-1.4**
POWZ	**Post Office Ro**	**6.94**	**203**	P	**Pn**	**16 34 47.4**	**-1.9**
PRWZ	**Pori Road**	**7.02**	**201**	P	**Pn**	**16 34 48.9**	**-1.4**
BFZ	**Birch Farm**	**7.06**	**199**	P	**Pn**	**16 34 48.9**	**-1.9**
BFZ	**Birch Farm**	**7.06**	**199**	S	**S**	**16 36 11.3**	**-1.9**
BFZ	**Birch Farm**	**7.06**	**199**	P	**Pn**	**16 34 48.8**	**-2.0**
MRZ	**Mangatainoka R**	**7.24**	**203**	P	**Pn**	**16 34 50.1**	**-2.8**
TIWZ	**Tintock**	**7.25**	**201**	P	**Pn**	**16 34 50.5**	**-2.6**
CPWZ	**Castlepoint**	**7.28**	**199**	P	**Pn**	**16 34 53.0**	**-0.5**
HOWZ	**Holdsworth Sta**	**7.47**	**203**	P	**Pn**	**16 34 53.1**	**-2.7**
OGWZ	**Otaki Gorge**	**7.52**	**205**	P	**Pn**	**16 34 53.1**	**-3.2**
TMWZ	**Te Maipa**	**7.55**	**200**	P	**Pn**	**16 34 54.5**	**-2.3**
TRWZ	**Traveller**	**7.88**	**200**	P	**Pn**	**16 34 59.0**	**-1.7**
PAWZ	**Paruwai Farm**	**7.94**	**201**	P	**Pn**	**16 34 59.3**	**-2.3**
DUWZ	**D'Urville Isla**	**7.99**	**211**	P	**Pn**	**16 34 59.9**	**-2.1**
MSWZ	**Moikau Station**	**8.03**	**202**	P	**Pn**	**16 35 00.2**	**-2.4**
SNZO	**South Karori**	**8.12**	**205**	P	**Pn**	**16 35 01.7**	**-1.9**
SNZO	**South Karori**	**8.12**	**205**	S	**S**	**16 36 36.2**	**-0.6**
PLWZ	**Palliser**	**8.17**	**202**	P	**Pn**	**16 35 01.8**	**-2.5**
TUWZ	**Tuamarina**	**8.50**	**208**	P	**Pn**	**16 35 07.1**	**-1.3**
NNZ	**Nelson**	**8.56**	**211**	P	**Pn**	**16 35 06.7**	**-2.4**
TKNZ	**Takaka Hill**	**8.60**	**214**	P	**Pn**	**16 35 07.6**	**-2.0**
QRZ	**Quartz Range**	**8.64**	**216**	P	**Pn**	**16 35 08.1**	**-2.0**
QRZ	**Quartz Range**	**8.64**	**216**	S	**S**	**16 36 50.7**	**+1.9**
QRZ	**Quartz Range**	**8.64**	**216**	P	**Pn**	**16 35 07.9**	**-2.2**
BSWZ	**Blackbirch Sta**	**8.77**	**208**	P	**Pn**	**16 35 09.6**	**-2.1**
MRNZ	**Matariki Terra**	**8.98**	**213**	P	**Pn**	**16 35 13.0**	**-1.3**
THZ	**Tophouse**	**9.21**	**211**	P	**Pn**	**16 35 15.0**	**-2.2**
KHZ	**Kahutara**	**9.51**	**207**	P	**Pn**	**16 35 17.5**	**-3.2**
KHZ	**Kahutara**	**9.51**	**207**	S	**S**	**16 37 07.7**	**-0.5**
KHZ	**Kahutara**	**9.51**	**207**	P	**Pn**	**16 35 17.8**	**-2.8**
DSZ	**Denniston Nort**	**9.70**	**215**	P	**Pn**	**16 35 20.5**	**-2.6**
GVZ	**Greta Valley S**	**10.17**	**207**	P	**Pn**	**16 35 26.5**	**-2.3**
CTZ	**Chatham Island**	**10.20**	**163**	P	**P**	**16 35 33.6**	**+1.2**
CTZ				S	**S**	**16 37 31.9**	**+8.1**
LTZ	**Lake Taylor**	**10.31**	**210**	P	**Pn**	**16 35 27.8**	**-2.9**
AMCZ	**Amberley**	**10.49**	**208**	P	**Pn**	**16 35 31.0**	**-1.8**
INZ	**Inchbonnie**	**10.63**	**213**	P	**Pn**	**16 35 32.1**	**-2.4**
OKCZ	**Okains Bay**	**10.82**	**205**	P	**Pn**	**16 35 35.1**	**-1.7**
OXZ	**Oxford**	**10.86**	**209**	P	**Pn**	**16 35 34.8**	**-2.5**
MQZ	**McQueen's Vall**	**10.95**	**206**	P	**Pn**	**16 35 35.4**	**-2.9**
AKCZ	**Akaroa Harbour**	**11.00**	**205**	P	**Pn**	**16 35 37.6**	**-1.4**
MHCZ	**Mount Hutt**	**11.22**	**210**	P	**Pn**	**16 35 39.2**	**-2.6**
RPZ	**Rata Peaks**	**11.59**	**211**	P	**Pn**	**16 35 44.7**	**-1.5**
GCSZ	**Gaunt Creek Bo**	**11.60**	**214**	P	**Pn**	**16 35 44.4**	**-1.9**
ARCZ	**Arundel**	**11.73**	**210**	P	**Pn**	**16 35 45.2**	**-2.6**
TMZ	**Timaru**	**12.15**	**209**	P	**Pn**	**16 35 50.8**	**-2.3**
ODZ	**Otahua Downs**	**12.85**	**209**	P	**Pn**	**16 35 59.4**	**-2.0**
ODZ	**Otahua Downs**	**12.85**	**209**	P	**Pn**	**16 35 59.9**	**-1.4**
JCZ	**Jackson Bay**	**12.91**	**216**	P	**P**	**16 36 01.8**	**-0.9**
JCZ	**Jackson Bay**	**12.91**	**216**	P	**P**	**16 36 00.9**	**-1.9**

*IDC **08** 16:37:30.0±1.1, 33.°53S×179.°35W, h0km, mb4.1/6, mbtmp4.1/7, ML4.1/1, MS3.4/3, Error ellipse: s-maj=35.3km s-min=24.3km az=49.0*
*NEIC **08** 16:37:37.6±1.3, 34.°1S±0.°1×179.°7W±0.°1, h35km±2km, mb4.3/10, Error ellipse: s-maj=25.3km s-min=8.7km az=140.0*
ISC 08 16:37:38.4±0.9, **34.°0S**±0.°1×**179.°7W**±0.°1, **h53**km, **n49**, σ2**s16**/41, **mb4.2**/12, **3C-1D**, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.95**	**204**	Pn	**Pn**	**16 38 33.6**	**-2.9**
URZ	**Urewera**	**5.01**	**210**	Pn	**Pn**	**16 38 51.8**	**+0.7**
	5.9nm,0.3s,baz=28,slow=7.3,SNR=14						
URZ				Sn	**Sn**	**16 39 50.7**	**+3.0**
	9.5nm,0.3s,baz=214,slow=23,SNR=6.2						
	15nm,0.4s						
RTZ	**Ruatahuna**	**5.37**	**209**		**Pn**	**16 38 54.0**	**-2.1**
TOZ	**Tahuroa Road**	**5.43**	**225**		**Pn**	**16 38 57.2**	**+0.4**
BKZ	**Black Stump Fm**	**6.04**	**210**		**Pn**	**16 39 03.7**	**-1.5**
HIZ	**Hauiti**	**6.34**	**223**	Pn	**Pn**	16 39 12.7	+3.4
BFZ	**Birch Farm**	**7.45**	**205**	Pn	**Pn**	**16 39 20.6**	**-3.8**
MRZ	**Mangatainoka R**	**7.68**	**208**	Pn	**Pn**	**16 39 25.2**	**-2.4**
MSWZ	**Moikau Station**	**8.46**	**207**	Pn	**Pn**	**16 39 35.7**	**-2.6**
SNZO	**South Karori**	**8.58**	**210**	Pn	**Pn**	**16 39 37.5**	**-2.4**
PLWZ	**Palliser**	**8.59**	**206**	Pn	**Pn**	**16 39 37.6**	**-2.5**
TCW	**Tory Channel**	**8.68**	**212**	Pn	**Pn**	**16 39 38.4**	**-2.9**
BSWZ	**Blackbirch Sta**	**9.27**	**212**		**Pn**	**16 39 46.8**	**-2.5**
KHZ	**Kahutara**	**9.98**	**210**	Pn	**Pn**	**16 39 56.1**	**-3.0**
GVZ	**Greta Valley S**	**10.65**	**210**	Pn	**Pn**	**16 40 05.8**	**-2.4**
OXZ	**Oxford**	**11.37**	**212**	Pn	**Pn**	**16 40 13.9**	**-4.2**
MQZ	**McQueen's V

BRRN	**Barrancas-Volc**	**2.17**	**49**	P		**Pn**	**16 40 02.2**	**+0.8**
BREF	**Cotopaxi Volca**	**2.27**	**47**	P		**Pn**	**16 40 04.7**	**+1.8**
BTAM	**Cotopaxi Volca**	**2.30**	**48**	⇓P		**Pn**	**16 40 04.1**	**+0.9**
BVC2	**Cotopaxi Volca**	**2.30**	**47**	P		**Pn**	**16 40 04.6**	**+1.4**
TAMB	**Tambo**	**2.31**	**49**	P		**Pn**	**16 40 04.7**	**+1.4**
PITA	**Cotopaxi Volc**	**2.35**	**45**	⇓P		**Pn**	**16 40 05.8**	**+1.9**
TOMA	**Boca Toma-Volc**	**2.39**	**44**	P		**Pn**	**16 40 05.7**	**+1.2**
GGPT	**Toaza - Volcan**	**2.48**	**37**	P		**Pn**	**16 40 06.5**	**+0.9**
JUA2	**San Juan 2**	**2.50**	**37**	⇓P		**Pn**	**16 40 06.4**	**+0.5**
BV15	**Puerto Quito-O**	**2.52**	**20**	P		**Pn**	**16 40 04.2**	**-1.6**
TERV	**Terraza Guagua**	**2.53**	**36**	⇓P		**Pn**	**16 40 06.4**	**0.0**
PINO	**Pino**	**2.54**	**36**	⇓P		**Pn**	**16 40 06.8**	**+0.1**
ANTS	**Antisana-Sarah**	**2.58**	**48**	P		**Pn**	**16 40 09.5**	**+2.3**
ARDO	**Archidona, Ten**	**2.61**	**62**	P		**Pn**	**16 40 07.3**	**+0.2**
TAIS	**Taisha**	**2.61**	**94**	P		**Pn**	**16 40 09.0**	**+1.9**
PULU	**Pululahua**	**2.75**	**36**	P		**Pn**	**16 40 11.0**	**+1.7**
ZUMB	**Zumba**	**2.79**	**160**	⇓P		**Pn**	**16 40 11.2**	**+1.4**
PAC1	**Pacto, Paraso**	**2.80**	**28**	P		**Pn**	**16 40 09.5**	**-0.3**
PAC1	**Pacto, Paraso**	**2.80**	**28**	P		**Pn**	**16 40 08.4**	**-1.4**
PAC1				S		**Sn**	**16 40 40.5**	**-1.9**
OTAV	**Otavalo**	**2.95**	**34**	P		**Pn**	**16 40 12.5**	**+0.3**
OTAV	**Otavalo**	**2.95**	**34**	P		**Pn**	**16 40 11.9**	**-0.2**
OTAV				S		**Sn**	**16 40 46.5**	**-0.1**
CUSE	**Cuicocha Este**	**3.04**	**34**	P		**Pn**	**16 40 14.2**	**+0.9**
CUSE	**Cuicocha Este**	**3.04**	**34**	P		**Pn**	**16 40 13.8**	**+0.5**
CUSE				S		**Sn**	**16 40 47.9**	**-0.7**
CUIC	**Cuicocha-Domo**	**3.06**	**35**	P		**Pn**	**16 40 15.4**	**+1.8**
ANGU	**Angureal**	**3.08**	**43**	P		**Pn**	**16 40 16.6**	**+2.6**
IMBA	**Imbabura, San**	**3.13**	**38**	P		**Pn**	**16 40 17.6**	**+3.0**
URCU	**Urcuqui**	**3.23**	**35**	P		**Pn**	**16 40 17.9**	**+2.0**
RVRD	**Rio Verde**	**3.35**	**12**	P		**Pn**	**16 40 17.0**	**-0.2**
LITE1	**Lita**	**3.47**	**30**	P		**Pn**	**16 40 18.5**	**-0.5**
CHMA	**Chilma**	**3.68**	**34**	P		**Pn**	**16 40 24.8**	**+2.7**
ECEN	**Cerro Negro**	**3.70**	**35**	P		**Pn**	**16 40 27.2**	**+4.6**
BBAC	**Balboa, Cauca**	**5.09**	**34**	P		**Pn**	**16 40 43.0**	**+1.6**
BBAC				S		**Sn**	**16 41 36.1**	**-3.0**
GR1C	**Gorgona, Isla**	**5.54**	**20**	P		**Pn**	**16 40 50.6**	**+3.3**
POPC	**Popayan, Colom** 5.4nm,0.5s	**5.84**	**36**	P		**Pn**	**16 40 52.8**	**+1.1**
POPC	5.4nm,0.5s			S		**Sn**	**16 41 56.1**	**-1.5**
JAMC	**Jamundi, Valle**	**6.40**	**32**	P		**Pn**	**16 40 59.2**	**-0.1**
JAMC				S		Sn	16 42 01.2	-10

*OSPL **08** 16:52:03.5±1.9, 18°.28N×69°.00W, h204km±10km, ML3.4*
*SDD **08** 16:52:04.5±1.7, 18°.28N×68°.99W, h196km±8km, MD3.6, ML3.9, MW3.7*
ISC 08 16:52:01.6±1.7**, 18°.30N**±0°.08×**69°.00W**±0°.03**, h198**km±11km**, n26,** σ1§**19**/49**, 1C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SADR	**Isla Saona**	**0.24**	**118**	*e*Pg	**Pn**	**16 52 28.4**	**+0.7**
SADR				*e*Sg	**Sn**	**16 52 47.4**	**-0.4**
SADR				IAML		16 52 49.4	
	comp=N,676nm,0.4s						
HIDR	**Higuey Centro**	**0.39**	**43**	*e*Pg	**Pn**	**16 52 28.9**	**+0.9**
HIDR				*e*Sg	**Sn**	**16 52 48.4**	**-0.2**
HIDR				IAML		16 52 49.3	
	comp=N,2μm,0.3s						
HATOM	**Hato Mayor del**	**0.60**	**323**	*e*Pg	**Pn**	**16 52 29.1**	**+0.2**
HATOM				*e*Sg	**Sn**	**16 52 48.8**	**-1.3**
HATOM				IAML		16 52 51.9	
	comp=N,282nm,0.1s						
SDD	**Santo Domingo**	**0.88**	**280**	*i* P	**Pn**	**16 52 30.7**	**+0.4**
SDD				*e*S	**Sn**	**16 52 50.9**	**-1.6**
LOSC1	**San Cristbal**	**1.06**	**276**	*e*Sg	**Sn**	**16 52 53.7**	**-0.8**
DR08	**Loma La Naviza**	**1.17**	**304**	*e*Pg	**Pn**	**16 52 33.1**	**+0.7**
DR08				*e*Sg	**Sn**	**16 52 54.7**	**-1.6**
DR08				IAML		16 52 55.6	
	comp=N,10μm,0.2s						
BANI	**BANI**	**1.29**	**274**	*e*Pg	**Pn**	**16 52 34.8**	**+1.4**
BANI				*e*Sg	**Sn**	**16 52 57.1**	**-0.9**
BANI				IAML		16 53 01.8	
	comp=N,487nm,0.1s						
NADR	**Nagua**	**1.32**	**322**	*e*Sg	**Sn**	**16 52 57.5**	**-0.9**
NADR				IAML		16 52 59.2	
	comp=N,2μm,0.2s						
CADR	**Cabrera**	**1.62**	**327**	*e*Pg	**Pn**	**16 52 38.5**	**+2.4**
CADR				*e*Sg	**Sn**	**16 53 02.6**	**-0.5**
CADR				IAML		16 53 03.8	
	comp=N,478nm,0.2s						
ABDR	**Alto Bandera**	**1.62**	**288**⇑	*e*Pg	**Pn**	**16 52 38.3**	**+1.7**
ABDR				*e*Sg	**Sn**	**16 53 03.8**	**+0.1**
ABDR				IAML		16 53 09.3	
	comp=N,263nm,0.5s						
PRSN	**Puerto Rico Se**	**1.77**	**92**	*e*Pg	**Pn**	**16 52 39.2**	**+1.7**
PRSN				*e*Sg	**Sn**	**16 53 04.8**	**-0.6**
AGPR	**Aguadilla, PR**	**1.80**	**85**	*i* P	**Pn**	**16 52 38.8**	**+0.9**
AGPR				*e*S	**Sn**	**16 53 06.0**	**-0.1**
AGPR				IAML		16 53 11.1	
	comp=Z,184nm,0.5s						
AGPR	**Aguadilla, PR**	**1.80**	**85**	*e*Pg	**Pn**	**16 52 39.0**	**+1.1**
AGPR				*e*Sg	**Sn**	**16 53 05.3**	**-0.8**
AGPR				IAML		16 53 12.6	
	comp=N,437nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.82**	**99**	*i* P	**Pn**	**16 52 38.6**	**+0.5**
CRPR				*e*S	**Sn**	**16 53 05.8**	**-0.6**
CRPR				IAML		16 53 11.9	
	comp=Z,196nm,0.3s						
SC01	**Santiago de lo**	**1.98**	**305**	*i* P	**Pn**	**16 52 40.8**	**+1.1**
SC01				*e*S	**Sn**	**16 53 10.1**	**+0.7**
AOPR	**Arecibo Observ**	**2.13**	**88**	*e*Pg	**Pn**	**16 52 41.7**	**+0.4**
AOPR				*e*Sg	**Sn**	**16 53 11.1**	**-1.2**
AOPR				IAML		16 53 16.4	
	comp=N,728nm,0.3s						
PODR	**Polo**	**2.17**	**267**	*i* P	**Pn**	**16 52 42.9**	**+1.0**
PODR				*e*S	**Sn**	**16 53 12.3**	**-1.0**
PODR	**Polo**	**2.17**	**267**	*e*Pg	**Pn**	**16 52 43.2**	**+1.3**
PODR				*e*Sg	**Sn**	**16 53 13.1**	**-0.2**
PODR				IAML		16 53 17.1	
	comp=N,126nm,0.4s						
SDDR	**Presa de Saban**	**2.27**	**288**	*i* P	**Pn**	**16 52 44.1**	**+1.2**
SDDR				*e*S	**Sn**	**16 53 14.3**	**-0.7**
SDDR				IAML		16 53 21.0	
	comp=Z,82nm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.31**	**258**	*i* P	**Pn**	**16 52 43.8**	**+0.6**
LOVI				*e*S	**Sn**	**16 53 14.0**	**-1.5**
LOVI				IAML		16 53 17.5	
	comp=Z,75nm,0.6s						
LODU1	**El Espartillar**	**2.35**	**272**	*i* P	**Pn**	**16 52 45.3**	**+1.6**
LODU1				*e*S	**Sn**	**16 53 14.8**	**-1.6**
LODU1				IAML		16 53 21.7	
	comp=Z,110nm,0.4s						
LOBH	**Bahia de las A**	**2.55**	**260**	*i* P	**Pn**	**16 52 46.8**	**+0.9**
LOBH				*e*S	**Sn**	**16 53 18.7**	**-1.7**
LOBH				IAML		16 53 33.1	
	comp=Z,58nm,1.0s						
LOPP1	**Punta Rusia, P**	**2.59**	**307**	*i* P	**Pn**	**16 52 46.3**	**+0.1**
LOPP1				*e*S	**Sn**	**16 53 19.1**	**-2.1**
LOPP1				IAML		16 53 26.8	
	comp=Z,93nm,0.5s						
SJG	**San Juan**	**2.72**	**94**	*i* P	**Pn**	**16 52 48.9**	**+1.1**
SJG				*e*S	**Sn**	**16 53 21.5**	**-2.3**
SJG				IAML		16 53 26.3	
	comp=Z,70nm,0.4s						
MCDR	**Montecristi**	**2.97**	**303**	*e*Pg	**Pn**	**16 52 52.2**	**+1.5**
MCDR				*e*Sg	**Sn**	**16 53 27.8**	**-1.3**
MCDR				IAML		16 53 30.9	
	comp=N,116nm,0.5s						
GRTK	**Grand Turk**	**3.77**	**328**	*i* P	**Pn**	**16 53 00.1**	**-0.3**
GRTK				IAML		16 53 46.4	
	comp=Z,47nm,1.1s						

*LDG **08** 16:52:04.4±0.2, 50°.01N×5°.27W, h5km, MI2.7/10, Error ellipse: s-maj=5.5km s-min=2.5km az=77.0*
*BGS **08** 16:52:05.4±0.8, 50°.08N×5°.18W, h6km±3km, ML2.3*
ISC 08 16:52:03.1±1.3**, 49°.99N**±0°.03×**5°.25W**±0°.08**, h17**km±8km**, n25,** σ1§**84**/41**, 1C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCA1	**Carnmenellis**	**0.19**	**5**⇑	*i* P	**Pg**	**16 52 07.7**	**-0.2**
CCA1				*e*S	**Sg**	**16 52 09.6**	**-1.5**
CCA1				IAML		16 52 09.7	
	comp=E,3μm,0.1s						
CCA1				IAML		16 52 09.7	
	comp=N,866nm,0.1s						
SBD	**Saint Breward**	**0.68**	**32**	*e*P	**Pg**	**16 52 16.7**	**+0.3**
SBD				*e*S	**Sg**	**16 52 24.8**	**-0.6**
SBD				IAML		16 52 26.4	
	comp=N,87nm,0.1s						
SBD				IAML		16 52 30.3	
	comp=E,99nm,0.1s						
SBD	**Saint Breward**	**0.68**	**32**	*e*P	**Pg**	**16 52 16.7**	**+0.3**
SBD				IAML		16 52 26.4	
	comp=N,87nm,0.1s						
SBD				IAML		16 52 30.3	
	comp=E,99nm,0.1s						
DYA	**Yadsworthy**	**0.96**	**62**	*e*P	**Pb**	**16 52 22.2**	**+1.0**
DYA				*e*S	**Sg**	**16 52 34.2**	**0.0**
DYA				IAML		16 52 36.6	
	comp=E,158nm,0.2s						
DYA				IAML		16 52 36.7	
	comp=N,235nm,0.2s						
HTL	**Hartland**	**1.11**	**26**	*e*P	**Pn**	**16 52 25.1**	**+1.2**
HTL				*e*S	**Sb**	**16 52 38.6**	**+0.5**
HTL				IAML		16 52 39.8	
	comp=E,84nm,0.2s						
HTL				IAML		16 52 41.0	
	comp=N,54nm,0.1s						
HTL	**Hartland**	**1.11**	**26**	*e*P	**Pn**	**16 52 25.0**	**+1.2**
HTL				*e*S	**Sb**	**16 52 38.6**	**+0.5**
HTL				IAML		16 52 39.8	
	comp=E,84nm,0.2s						
HTL				IAML		16 52 41.0	
	comp=N,54nm,0.1s						
RSBS	**Rosebush, Pemb**	**1.99**	**9**	*e*P	**Pn**	**16 52 36.9**	**+1.0**
ROSF	**Rostrenen**	**2.11**	**141**	*e*Pn	**Pn**	**16 52 39.2**	**+1.7**
ROSF	**Rostrenen**	**2.11**	**141**	*e*Pg	**Pg**	**16 52 43.9**	**+0.4**
ROSF				*e*Sg	**Sg**	**16 53 10.8**	**-0.1**
	comp=N,8.0nm,0.2s						
MCH1	**Michaelchurch**	**2.46**	**35**	*e*P	**Pn**	**16 52 43.9**	**+1.5**
SGMF	**Saint Gilles**	**2.48**	**133**	*e*Pn	**Pn**	**16 52 45.6**	**+2.9**
SGMF				*e*Sg	**Sg**	**16 53 21.8**	**-1.1**
	comp=N,6.6nm,0.2s						
QUIF	**Quistinic**	**2.49**	**146**	*e*P	**Pn**	**16 52 45.9**	**+3.1**
QUIF	**Quistinic**	**2.49**	**146**	*e*Pg	**Pg**	**16 52 52.3**	**+1.4**
QUIF				*e*Sg	**Sg**	**16 53 22.3**	**-0.9**
	comp=N,1.7nm,0.1s						
GRR	**Gorron**	**3.30**	**117**	*e*P	**Pn**	**16 52 56.5**	**+2.6**
GRR				*e*Sn	**Sn**	**16 53 32.4**	**-0.3**
	comp=N,1.8nm,0.2s						
FLN	**La Foliniere**	**3.35**	**110**	*e*Pn	**Pn**	**16 52 55.5**	**+0.9**
FLN				*e*Sg	**Sg**	**16 53 51.1**	**+0.4**
	comp=N,8.9nm,0.3s						
LDF	**La Druitiere**	**3.64**	**111**	*e*Pn	**Pn**	**16 52 59.3**	**+0.7**
LDF				*e*Sn	**Sn**	**16 53 40.9**	**-0.2**
LDF				*e*Sg	**Sg**	**16 53 57.4**	**-2.5**
	comp=N,3.6nm,0.3s						
MFF	**Saint Martin d**	**4.81**	**133**	*e*Pn	**Pn**	**16 53 16.2**	**+1.6**
MFF	**Saint Martin d**	**4.81**	**133**	*e*Pn	**Pn**	**16 53 16.3**	**+1.6**
MFF				*e*Sn	**Sn**	**16 54 08.4**	**-1.6**
MFF				*e*Sg	**Sg**	**16 54 36.1**	**-1.3**
	comp=N,2.3nm,0.7s						
MFF				*e*Sg	**Sg**	**16 54 36.3**	**-1.1**
	comp=N,13nm,0.9s						
TCF	**Toulx Ste Croi**	**6.22**	**124**	*e*Pn	**Pn**	**16 53 35.1**	**+1.0**
TCF				*e*Sn	**Sn**	**16 54 41.6**	**-3.1**
	comp=N,0.8nm,0.2s						
BGF	**Bois d'Agland**	**6.41**	**119**	*e*Pn	**Pn**	**16 53 37.7**	**+1.1**
SSF	**Saint Saulge**	**6.51**	**113**	*e*Pn	**Pn**	**16 53 39.6**	**+1.5**
RJF	**Les Rejaudoux**	**6.55**	**133**	*e*Sn	**Sn**	**16 54 49.2**	**-3.7**
AVF	**Avril sur Loir**	**6.57**	**116**	*e*Pn	**Pn**	**16 53 39.6**	**+0.8**
CAF	**Calviac**	**7.09**	**133**	*e*Sn	**Sn**	**16 55 02.1**	**-4.1**
SJPF	**Ste Jean**	**7.42**	**157**	*e*Sn	**Sn**	**16 55 09.8**	**-4.5**

*IDC **08** 17:08:47.0±1.2, 30°.99S×177°.66W, h0km, mb4.1/4, mbtmp4.1/4, MS3.5/6, Error ellipse: s-maj=35.3km s-min=22.8km az=92.0*
*NEIC **08** 17:08:48.4±1.5, 31°.05S±0°.1×177°.5W±0°.2, h10km±2km, mb4.5/13, Error ellipse: s-maj=31.5km s-min=17.4km az=74.0*
ISC 08 17:08:49.6±1.0**, 31°.29S**±0°.06×**177°.7W**±0°.2**, h26**km**, n65,** σ2§**37**/77**, mb4.4**/11**, MS3.5**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.03**	**354**	P	Pn	17 09 18.3	-3.9
GLKZ				S	**Sn**	**17 09 42.3**	**-4.4**
RAO	**Raoul Island**	**2.04**	**354**	Pn	Pn	17 09 18.3	-4.0
RAO	**Raoul Island**	**2.04**	**354**	Pn	**Pn**	**17 09 20.4**	**-1.9**
	52nm,0.3s,baz=68,slow=23,SNR=1.4						
RAO				Sn	**Sn**	**17 09 42.7**	**-4.3**
	149nm,0.3s,baz=83,slow=20,SNR=2.7						
RIZ	**Raoul Island**	**2.05**	**354**	P	**Pn**	**17 09 20.6**	**-1.9**
RIZ				S	**Sn**	**17 09 42.6**	**-4.6**
MXZ	**Matakaoa Point**	**7.08**	**207**	P	**Pn**	**17 10 30.4**	**-1.1**
MXZ				S	**Sn**	**17 11 53.2**	**+2.1**
WMGZ	**Waiomatatini S**	**7.26**	**205**	P	**Pn**	**17 10 32.4**	**-1.5**
WMGZ				S	**Sn**	**17 11 56.1**	**+0.5**
PKGZ	**Pakihiroa**	**7.43**	**207**	P	**Pn**	**17 10 34.3**	**-2.0**
PKGZ				S	**Sn**	**17 12 01.4**	**+1.7**
HAZ	**Te Kaha**	**7.45**	**209**	P	**Pn**	**17 10 36.3**	**-0.3**
HAZ				S	**Sn**	**17 12 03.4**	**+3.1**
PUZ	**Puketiti**	**7.54**	**205**	P	**Pn**	**17 10 35.6**	**-2.3**
PUZ				S	**Sn**	**17 12 02.1**	**-0.4**
RUGZ	**Raukumara Rang**	**7.67**	**209**	P	Pn	17 10 34.8	-5.0
RUGZ				S	**Sn**	**17 12 04.8**	**-1.1**
TWGZ	**Tauwhareparae**	**7.74**	**206**	P	**Pn**	**17 10 38.4**	**-2.2**
TWGZ				S	**Sn**	**17 12 06.6**	**-0.8**
CNGZ	**Carnagh Statio**	**7.93**	**204**	P	**Pn**	**17 10 40.5**	**-2.6**
CNGZ				S	**Sn**	**17 12 13.7**	**+1.7**
MWZ	**Matawai**	**8.05**	**208**	P	**Pn**	**17 10 42.7**	**-2.2**
MWZ				S	**Sn**	**17 12 15.7**	**+0.7**
WCZ	**Waipu Caves**	**8.10**	**233**	P	Pn	17 10 55.5	+10
URZ	**Urewera**	**8.16**	**210**	Pn	**Pn**	**17 10 44.9**	**-1.5**
	0.6nm,0.3s,baz=276,slow=5.2,SNR=8.9						
URZ				Sn	**Sn**	**17 12 17.6**	**0.0**
	4.7nm,0.3s,baz=38,slow=22,SNR=13						
URZ	**Urewera**	**8.16**	**210**	P	**Pn**	**17 10 44.6**	**-1.7**
URZ				S	**Sn**	**17 12 16.7**	**-0.9**
OUZ	**Omahuta**	**8.28**	**239**	P	Pn	17 10 56.4	+8.4
RIGZ	**Rimuhau**	**8.28**	**206**	P	**Pn**	**17 10 44.9**	**-3.2**
RIGZ				S	**Sn**	**17 12 21.0**	**+0.2**
PRGZ	**Paritu Road**	**8.43**	**204**	P	**Pn**	**17 10 46.5**	**-3.6**
PRGZ				S	**Sn**	**17 12 22.3**	**-2.1**
MUGZ	**Murupara**	**8.49**	**211**	P	**Pn**	**17 10 47.1**	**-3.7**
MUGZ				S	**Sn**	**17 12 26.1**	**+0.3**
SNGZ	**Shannon Statio**	**8.51**	**207**	P	**Pn**	**17 10 48.8**	**-2.3**
SNGZ				S	**Sn**	**17 12 25.8**	**-0.5**
RTZ	**Ruatahuna**	**8.51**	**209**	Pn	**Pn**	**17 10 51.1**	**-0.2**
KNZ	**Kokohu**	**8.60**	**205**	P	**Pn**	**17 10 49.7**	**-2.6**
KNZ				S	**Sn**	**17 12 27.1**	**-1.3**
MHGZ	**Mahia Peninsul**	**8.63**	**203**	P	**Pn**	**17 10 49.2**	**-3.6**
MHGZ				S	**Sn**	**17 12 28.8**	**-0.4**
BKZ	**Black Stump Fm**	**9.18**	**210**	P	**Pn**	**17 10 59.1**	**-1.4**
BKZ				S	**Sn**	**17 12 41.0**	**-1.9**
MCHZ	**McNeill Hill**	**9.33**	**208**	S	**Sn**	**17 12 45.4**	**-1.1**
KWHZ	**Kaweka Forest**	**9.43**	**209**	S	**Sn**	**17 12 49.3**	**+0.3**
KRHZ	**Kereru**	**9.64**	**209**	S	**Sn**	**17 12 51.2**	**-2.8**
PXZ	**Pawanui**	**9.78**	**205**	S	**Sn**	**17 12 53.9**	**-3.6**
PNHZ	**Pukenui**	**9.93**	**208**	P	**Pn**	**17 11 06.6**	**-4.1**
PNHZ				S	**Sn**	**17 12 57.1**	**-4.2**
WPHZ	**Waipukurau**	**9.97**	**207**	P	**Pn**	**17 11 09.2**	**-1.9**
WPHZ				S	**Sn**	**17 13 00.0**	**-2.1**
PRHZ	**Porangahau**	**10.07**	**206**	P	**Pn**	**17 11 10.0**	**-2.5**
PRHZ				S	**Sn**	**17 13 01.5**	**-3.1**
DVHZ	**Dannevirke**	**10.28**	**207**	P	**Pn**	**17 11 12.9**	**-2.5**
DVHZ				S	**Sn**	**17 13 06.2**	**-3.5**
ANWZ	**Angora Road**	**10.30**	**206**	S	**Sn**	**17 13 07.3**	**-2.9**
PRWZ	**Pori Road**	**10.57**	**207**	S	**Sn**	**17 13 12.5**	**-4.4**
MRZ	**Mangatainoka R**	**10.82**	**208**	P	Pn	17 11 17.6	-5.2
MRZ				S	**Sn**	**17 13 16.6**	**-6.4**
DZM	**Mont Dzumac**	**16.88**	**299**	LR	LR	17 17 44.6	
	comp=Z,235nm,19.5s,baz=150,slow=32						
RAR	**Rarotonga**	**18.92**	**62**	LR		17 18 37.1	
	comp=Z,87nm,20.9s,baz=216,slow=32						
HNR	**Honiara**	**30.09**	**312**	LR	LR	17 25 37.5	
	comp=Z,85nm,18.0s,baz=183,slow=34						
CTAO	**Charters Tower**	**34.21**	**280**	P	**P**	**17 15 34.9**	**+1.7**
CTAO				IAmb	IAmb	17 15 48.2	
	comp=Z,5.7nm,0.9s						
STKA	**Stephens Creek**	**34.55**	**258**	P	**P**	**17 15 37.8**	**+1.8**
STKA	**Stephens Creek**	**34.55**	**258**	P	**P**	**17 15 37.7**	**+1.7**
	comp=Z,4.7nm,0.8s,baz=191,slow=10,SNR=3.1						
	comp=Z,4.7nm,0.8s						
BBOO	**Buckleboo**	**38.99**	**255**	P	**P**	**17 16 16.7**	**+2.8**
PMG	**Port Moresby**	**39.23**	**296**	LR	LR	17 28 48.9	
	comp=Z,94nm,18.1s,baz=208,slow=31						

AS31	**Alice Springs**	**43.34**	**268**	P		**P**	**17 16 50.5**	**+0.8**
ASAR	**Alice Springs**	**43.34**	**268**	P		**P**	**17 16 50.6**	**+0.8**
ASAR	**Alice Springs**	**43.34**	**268**	P		**P**	**17 16 51.5**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=106,slow=7.2,SNR=18							
ASAR				PcP		**PcP**	**17 18 39.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=103,slow=3.9,SNR=1.8 comp=Z,1.4nm,0.8s							
WR8	**Warramunga Arr**	**44.26**	**273**	P		**P**	**17 16 58.9**	**+1.7**
WR8				IAmb		IAmb	17 17 12.3	
	comp=Z,8.9nm,1.1s							
WRA	**Warramunga Arr**	**44.40**	**273**	P		**P**	**17 16 59.6**	**+1.2**
WRA	**Warramunga Arr**	**44.40**	**273**	P		**P**	**17 16 59.9**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=113,slow=7.9,SNR=7.6 comp=Z,1.3nm,0.5s							
WB0	**Warramunga Arr**	**44.43**	**273**	P		**P**	**17 17 00.3**	**+1.8**
WB0				IAmb		IAmb	17 17 32.7	
	comp=Z,5.8nm,0.8s							
VNDA	**Vanda**	**47.24**	**186**	P		P	17 17 23.7	+3.7
VNDA				IAmb		IAmb	17 17 35.0	
	comp=Z,1.8nm,1.1s							
KNRA	**Kununurra**	**51.04**	**275**	P		**P**	**17 17 52.0**	**+2.2**
KNRA				IAmb		IAmb	17 18 15.5	
	comp=Z,12nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.63**	**270**	P		**P**	**17 18 03.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**52.63**	**270**	LR		LR	17 39 38.3	
	comp=Z,61nm,18.5s,baz=218,slow=35							
CASY	**Casey**	**54.48**	**208**	P		**P**	**17 18 15.6**	**+1.0**
CASY				IAmb		IAmb	17 18 29.9	
	comp=Z,5.5nm,1.1s							
GUMO	**Guam**	**57.30**	**315**	LR		LR	17 41 28.8	
	comp=Z,27nm,18.7s,baz=201,slow=34							
QSPA	**South Pole Qui**	**58.82**	**180**	P		P	17 18 49.7	+4.0
QSPA	**South Pole Qui**	**58.82**	**180**	P		P	17 18 50.1	+4.5
	comp=Z,2.8nm,1.0s,baz=49,slow=5.8,SNR=7.5 comp=Z,2.8nm,1.0s							
SNAA	**Sanae**	**77.26**	**178**	P		**P**	**17 20 43.8**	**+2.6**
SNAA				IAmb		IAmb	17 20 45.8	
	comp=Z,4.7nm,1.3s							
KURBB	**Kurchatov Arra**	**121.89**	**313**	PKP		**PKiKP**	**17 27 41.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=106,slow=2.0,SNR=1.6							
KBZ	**Khabaz**	**145.82**	**303**	PKPbc		**PKPab**	**17 28 27.8**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=180,slow=9.1,SNR=1.8							
FINES	**FINESS Array B**	**146.07**	**340**	PKPbc		**PKPbc**	**17 28 25.8**	**-0.7**
	comp=Z,8.4nm,1.0s,baz=48,slow=4.6,SNR=10.0							
AKASG	**Malin Array Be**	**152.17**	**322**	PKPbc		**PKiKP**	**17 28 43.1**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=54,slow=2.1,SNR=4.9							
BRTR	**Keskin Array B**	**153.25**	**297**	PKPbc		**PKiKP**	**17 28 46.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=66,slow=1.7,SNR=3.6							

*IDC **08** 17:30:20.7±2.2, 1°.14S×127°.35E, h0km, mb3.3/2, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=201.8km s-min=25.7km az=66.0*
*DJA **08** 17:30:23.6±0.5, 1°.5±1°×12°.8E±°, h12km±3km, M4.0/15, mB5.1/1, mb4.2/5, MLv3.9/15, Mw(mB)4.5/1*
ISC 08 17:30:24.8±2.6**, 0.75S**±0°.06×**128°.15E**±0°.05**, h30**km±23km**, n15,** σ1§**24**/22**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.70**	**333**	P	**Pn**	**17 30 52.9**	**+0.4**
TNTI				S	**Sb**	**17 31 16.1**	**-0.3**
SANI	**Sanana**	**2.52**	**239**	P	**Pn**	**17 31 02.9**	**-0.8**
SANI				S	**Sn**	**17 31 35.4**	**+2.0**
NLAI	**Namlea**	**2.69**	**203**	P	**Pn**	**17 31 06.0**	**-0.1**
NLAI				S	**Sn**	**17 31 37.5**	**-0.2**
MSAI	**Masohi**	**2.70**	**163**	P	**Pn**	**17 31 08.1**	**+1.9**
MSAI				S	**Sn**	**17 31 39.7**	**+1.8**
AAI	**Ambon**	**2.92**	**179**	P	**Pn**	**17 31 10.1**	**+0.8**
AAI				S	**Sn**	**17 31 44.5**	**+1.1**
SWI	**Sorong**	**3.12**	**92**	P	**Pn**	**17 31 12.8**	**+0.8**
SWI				S	**Sn

QIS	**Mount Isa**	**16.77**	**182**	P	**Pn**	**18 00 33.7**	**-1.3**
KMSI	**Cibinong**	**16.91**	**284**	P	**Pn**	**18 00 37.0**	**+0.3**
WB0	**Warramunga Arr**	**17.00**	**200**	P	**Pn**	**18 00 36.4**	**-1.4**
WB9	**Warramunga Arr**	**17.02**	**200**	P	**Pn**	**18 00 37.6**	**-0.5**
SOEI	**Soe**	**17.07**	**249**		**Pn**	**18 00 38.4**	**-0.3**
SOEI	**Soe**	**17.07**	**249**	P	**Pn**	**18 00 39.0**	**+0.2**
SOEI	**Soe**	**17.07**	**249**	P	**P**	**18 00 40.0**	**+1.0**
	comp=Z,126nm,0.7s						
WR8	**Warramunga Arr**	**17.14**	**199**	P	**P**	**18 00 38.9**	**-0.7**
WRAB	**Tennant Creek**	**17.17**	**199**		**P**	**18 00 38.6**	**-1.4**
WRA	**Warramunga Arr**	**17.18**	**200**	P	**P**	**18 00 38.4**	**-1.7**
WRA	**Warramunga Arr**	**17.18**	**200**	P	**P**	**18 00 41.1**	**+1.1**
	comp=Z,161nm,0.4s,baz=24,slow=12,SNR=293						
WRA				S	Sn	18 03 39.6	-12
	comp=Z,15nm,0.6s,baz=14,slow=22,SNR=7.0						
CTAO	**Charters Tower**	**17.27**	**161**		**P**	**18 00 40.9**	**-0.2**
CTAO	**Charters Tower**	**17.27**	**161**	P	**P**	**18 00 41.3**	**+0.2**
LUWI	**Luwuk**	**17.76**	**278**	P	**Pn**	**18 00 47.5**	**+0.4**
	comp=Z,81nm,1.0s						
BATI	**Baumata**	**17.78**	**248**	P	**Pn**	**18 00 49.5**	**+2.1**
	comp=Z,66nm,0.6s,baz=130,slow=2.6,SNR=17						
BATI				S	**Sn**	**18 04 02.1**	**-3.6**
	comp=Z,21nm,0.6s,baz=74,slow=18,SNR=2.0						
BATI	**Baumata**	**17.78**	**248**	P	**Pn**	**18 00 48.8**	**+1.5**
	comp=Z,92nm,0.6s						
DAV	**Davao City (W)**	**18.22**	**306**	LR	LR	18 08 33.4	
	comp=Z,48nm,20.3s,baz=186,slow=39						
MMRI	**Maumere**	**18.66**	**254**	P	**Pn**	**18 00 58.1**	**+0.2**
	comp=Z,39nm,1.2s						
MRSI	**Marisa**	**18.86**	**282**	P	**P**	**18 00 59.5**	**+0.9**
APSI	**Ampana**	**18.89**	**278**	P	**Pn**	**18 01 01.7**	**+1.1**
	comp=Z,1µmcomp=Z,155nm,0.8s						
EDFI	**Ende, Flores**	**19.22**	**254**	P	**P**	**18 01 03.0**	**+0.4**
TATA	**Tatamba Isabel**	**19.89**	**104**	P	**Pn**	**18 01 10.8**	**-1.5**
TOLI2	**Tolitoli**	**20.14**	**283**	P	**P**	**18 01 11.3**	**-1.2**
TOLI2	**Tolitoli**	**20.14**	**283**	P	Pn	18 01 14.3	-0.9
HNR	**Honiara**	**20.27**	**107**	P	**P**	**18 01 13.9**	**0.0**
HNR	**Honiara**	**20.27**	**107**	P	**P**	**18 01 13.7**	**-0.2**
	comp=Z,26nm,0.7s,baz=215,slow=0.8,SNR=7.4						
	comp=Z,26nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.31**	**224**	P	**P**	**18 01 14.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.31**	**224**	P	**P**	**18 01 14.4**	**+0.2**
	comp=Z,16nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.31**	**224**	P	**P**	**18 01 14.9**	**+0.6**
	comp=Z,50nm,0.7s,baz=41,slow=11,SNR=198						
FITZ				S	**S**	**18 04 52.4**	**-4.2**
	comp=Z,42nm,0.6s,baz=202,slow=14,SNR=6.5						
	comp=Z,50nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.31**	**224**	P	**P**	**18 01 14.9**	**+0.6**
SPSI	**Sidrap Palu**	**20.54**	**269**	P	**P**	**18 01 18.4**	**+1.6**
KAPI	**Kappang**	**20.59**	**266**	P	Pn	18 01 20.2	-0.2
KAPI	**Kappang**	**20.59**	**266**	P	**P**	**18 01 19.4**	**+2.1**
	comp=Z,19nm,0.5s,baz=131,slow=5.9,SNR=8.2						
KAPI				S	**S**	**18 04 55.0**	**-7.1**
	comp=Z,14nm,0.4s,baz=132,slow=11,SNR=2.4						
	comp=Z,19nm,0.5s						
BASI	**Baing, Sumba**	**20.66**	**251**	P	**P**	**18 01 20.1**	**+2.0**
PCI	**Palu**	**20.69**	**277**	P	Pn	18 01 21.7	+0.1
	comp=Z,2µmcomp=Z,176nm,0.9s						
AS06	**Alice Springs**	**20.77**	**197**	P	**P**	**18 01 19.3**	**+0.1**
	comp=Z,87nm,0.5s						
WSI	**Waingapu**	**20.78**	**252**	P	**P**	**18 01 21.3**	**+2.0**
AS01	**Alice Springs**	**20.79**	**197**	P	**P**	**18 01 20.1**	**+0.7**
AS31	**Alice Springs**	**20.80**	**197**	P	**P**	**18 01 19.7**	**+0.1**
AS31	**Alice Springs**	**20.80**	**197**	P	**P**	**18 01 19.8**	**+0.2**
	comp=Z,24nm,0.5s						
ASAR	**Alice Springs**	**20.81**	**197**	P	**P**	**18 01 19.5**	**-0.1**
ASAR	**Alice Springs**	**20.81**	**197**	P	**P**	**18 01 20.3**	**+0.7**
	comp=Z,38nm,0.5s,baz=27,slow=9.0,SNR=466						
ASAR				S	**S**	**18 05 03.6**	**-2.7**
	comp=Z,10nm,0.9s,baz=9.8,slow=28,SNR=7.8						
	comp=Z,38nm,0.5s						
MPSI	**Mapaga**	**20.83**	**281**	P	**P**	**18 01 21.7**	**+1.7**
	comp=Z,906nmcomp=Z,91nm,0.8s						
NGOA	**Tingoa Renbel**	**21.02**	**113**	P	**P**	**18 01 22.9**	**+1.0**
WBSI	**Waikabubak, Su**	**21.63**	**253**	P	**P**	**18 01 28.1**	**-0.5**
	comp=Z,57nm,0.6s						
PLAI	**Plampang**	**23.01**	**256**	P	**P**	**18 01 44.1**	**+1.4**
PLAI	**Plampang**	**23.01**	**256**	P	**P**	**18 01 42.0**	**-0.7**
	comp=Z,27nm,0.7s						
QLP	**Quilpie**	**23.05**	**171**	P	**P**	**18 01 42.1**	**-0.9**
	comp=Z,41nm,1.3s						
QLP	**Quilpie**	**23.05**	**171**	P	**P**	**18 01 42.7**	**-0.3**
MYLDM	**Lahad Datu**	**23.55**	**292**	P	**P**	**18 01 50.8**	**+3.1**
MYLDM	**Lahad Datu**	**23.55**	**292**	P	**P**	**18 01 50.4**	**+2.7**
EIDS	**Eidsvold**	**23.89**	**155**	P	**P**	**18 01 51.5**	**+0.9**
EIDS	**Eidsvold**	**23.89**	**155**	P	**P**	**18 01 51.6**	**+0.9**
	comp=Z,173nm,0.9s						
EIDS	**Eidsvold**	**23.89**	**155**	P	**P**	**18 01 52.4**	**+1.8**
WRKA	**Warakurna**	**24.18**	**208**	P	**P**	**18 01 52.3**	**-1.1**
	comp=Z,51nm,0.9s						
JAGI	**Jajag, Banyuwa**	**26.48**	**258**	P	**P**	**18 02 15.2**	**+1.0**
	comp=Z,30nm,1.6s						
MBWA	**Marble Bar**	**26.52**	**227**	P	**P**	**18 02 15.2**	**+0.7**
MBWA	**Marble Bar**	**26.52**	**227**	P	**P**	**18 02 14.8**	**+0.3**
	comp=Z,111nm,0.7s						
MBWA	**Marble Bar**	**26.52**	**227**	P	**P**	**18 02 15.6**	**+1.1**
PSAC2	**Pilbara Seismi**	**26.65**	**226**	P	**P**	**18 02 15.7**	**0.0**
	comp=Z,59nm,0.7s						
PSA00	**Pilbara Seismi**	**26.69**	**227**	P	**P**	**18 02 16.3**	**+0.2**
PSA00	**Pilbara Seismi**	**26.69**	**227**	P	**P**	**18 02 16.2**	**+0.1**
	comp=Z,74nm,0.7s						
PSA00	**Pilbara Seismi**	**26.69**	**227**	P	**P**	**18 02 17.4**	**+1.3**
GC1S	**Gold Coast 1 S**	**27.37**	**154**	P	**P**	**18 02 22.5**	**+0.5**
STKA	**Stephens Creek**	**28.05**	**178**	P	**P**	**18 02 29.5**	**+1.4**
	comp=Z,77nm,2.9s						
STKA	**Stephens Creek**	**28.05**	**178**	P	**P**	**18 02 28.0**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=356,slow=7.6,SNR=13						
STKA				LR	LR	18 14 01.8	
	comp=Z,157nm,20.2s,baz=290,slow=37						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**28.05**	**178**	P	**P**	**18 02 29.2**	**+1.1**
CMSA	**Cobar Meteorol**	**28.14**	**170**	P	**P**	**18 02 30.2**	**+1.3**
	comp=Z,31nm,1.2s						
CMSA	**Cobar Meteorol**	**28.14**	**170**	P	**P**	**18 02 29.7**	**+0.8**
ARMA	**Armidale**	**28.63**	**159**	P	**P**	**18 02 34.7**	**+1.3**
	comp=Z,29nm,1.5s						
ARMA	**Armidale**	**28.63**	**159**	P	**P**	**18 02 34.7**	**+1.3**
BBOO	**Buckleboo**	**29.24**	**187**	P	**P**	**18 02 38.7**	**0.0**
	comp=Z,72nm,1.6s						
BBOO	**Buckleboo**	**29.24**	**187**	P	**P**	**18 02 38.3**	**-0.3**
HTT	**Hallett**	**29.61**	**182**	P	**P**	**18 02 42.6**	**+0.7**
	comp=Z,7.2nm,2.6s						
HTT	**Hallett**	**29.61**	**182**	P	**P**	**18 02 42.7**	**+0.7**
KSM	**Kuching**	**30.47**	**279**	P	**P**	**18 02 50.4**	**+0.7**
KSM				IAmb	IAmb	18 02 51.4	
	comp=Z,13nm,0.6s						
MEEK	**Meekatharra**	**30.88**	**220**	P	**P**	**18 02 53.4**	**+0.2**
	comp=Z,26nm,1.1s						
MEEK	**Meekatharra**	**30.88**	**220**	P	**P**	**18 02 53.5**	**+0.2**
CAN	**Canberra**	**32.47**	**167**	P	**P**	**18 03 08.8**	**+1.7**
CAN				IAmb	IAmb	18 03 10.2	
	comp=Z,33nm,1.2s						
CAN	**Canberra**	**32.47**	**167**	P	**P**	**18 03 08.6**	**+1.5**
	comp=Z,30nm,1.1s						
CAN	**Canberra**	**32.47**	**167**	P	**P**	**18 03 08.3**	**+1.2**
CNB	**Canberra Magne**	**32.55**	**166**	P	**P**	**18 03 09.3**	**+1.5**
	comp=Z,54nm,1.2s						
CNB	**Canberra Magne**	**32.55**	**166**	P	**P**	**18 03 08.7**	**+0.9**
TPI	**Tanjungpandan**	**32.66**	**271**	P	**P**	**18 03 09.9**	**+0.9**
	comp=Z,40nm,1.1s						
ARPS	**Mount Arapiles**	**32.94**	**178**	P	**P**	**18 03 12.0**	**+0.9**
	comp=Z,21nm,2.5s						
TOO	**Toolangi**	**34.04**	**173**	P	**P**	**18 03 22.3**	**+1.5**
MORW	**Morawa**	**34.20**	**220**	P	**P**	**18 03 22.4**	**+0.2**
MORW	**Morawa**	**34.20**	**220**	P	**P**	**18 03 22.1**	**0.0**
	comp=Z,43nm,1.1s						
MORW	**Morawa**	**34.20**	**220**	P	**P**	**18 03 22.7**	**+0.5**
CGJI	**Cibinong**	**34.64**	**264**	P	**P**	**18 03 24.1**	**-2.1**
	comp=Z,41nm,1.1s						
BLDU	**Ballidu**	**34.86**	**217**	P	**P**	**18 03 28.0**	**+0.1**
	comp=Z,31nm,1.5s						
BLDU	**Ballidu**	**34.86**	**217**	P	**P**	**18 03 27.7**	**-0.1**
KLBR	**Kellerberrin**	**34.95**	**215**	P	**P**	**18 03 28.8**	**+0.2**
	comp=Z,32nm,0.8s						
KLBR	**Kellerberrin**	**34.95**	**215**	P	**P**	**18 03 29.5**	**+0.8**
KASI	**Kota Agung**	**35.78**	**266**	P	**P**	**18 03 34.3**	**-1.7**
	comp=Z,25nm,1.0s						
MDSI	**Maura Dua**	**36.09**	**267**	P	**P**	**18 03 38.7**	**+0.1**
	comp=Z,40nm,1.2s						
MUN	**Mundaring**	**36.13**	**216**	P	**P**	**18 03 38.8**	**0.0**
	comp=Z,30nm,2.6s						
MUN	**Mundaring**	**36.13**	**216**	P	**P**	**18 03 39.7**	**+1.0**
NWAO	**Narrogin (SRO)**	**36.24**	**214**	P	**P**	**18 03 40.2**	**+0.6**
	comp=Z,67nm,2.9s						
NWAO	**Narrogin (SRO)**	**36.24**	**214**	P	**P**	**18 03 40.5**	**+0.9**

RKGY	**Rocky Gully**	**37.65**	**212**	P	**P**	**18 03 52.5**	**+1.0**
	comp=Z,92nm,1.2s						
JNU	**Nakatsue**	**37.70**	**347**	LR	LR	18 17 22.9	
	comp=Z,38nm,20.5s,baz=144,slow=33						
GLAD	**Gladstone**	**37.75**	**171**	P	**P**	**18 03 53.9**	**+1.6**
MOO	**Moorlands**	**39.05**	**172**	P	**P**	**18 04 04.7**	**+1.4**
	comp=Z,66nm,1.5s						
TAU	**Tasmania Unive**	**39.53**	**172**	P	**P**	**18 04 08.3**	**+1.1**
MJAR	**Matsushiro Arr**	**40.08**	**357**	P	**P**	**18 04 09.2**	**-2.6**
	comp=Z,2.5nm,0.7s,baz=180,slow=8.5,SNR=7.9						
	comp=Z,2.5nm,0.7s						
MAJO	**Matsushiro**	**40.08**	**357**	P	**P**	**18 04 09.7**	**-2.1**
MAJO				IAmb	IAmb	18 04 11.6	
	comp=Z,16nm,1.4s						
MJB9	**Matsu-Tunnel**	**40.09**	**357**	P	**P**	**18 04 10.3**	**-1.5**
MJB9				IAmb	IAmb	18 04 12.6	
	comp=Z,14nm,1.3s						
NJ2	**Nanjing**	**41.01**	**332**	*e*P	**P**	**18 04 21.7**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
JMM	**Marumori**	**41.36**	**1**	P	P	18 04 27.0	+4.7
JMM	**Marumori**	**41.36**	**1**	P	**P**	**18 04 25.6**	**+3.4**
RPSI	**Rantau Prapat**	**41.89**	**278**	P	**P**	**18 04 26.3**	**-0.7**
RPSI				IAmb	IAmb	18 04 27.4	
	comp=Z,15nm,0.9s						
KSRS	**Korea Array**	**42.55**	**345**	P	**P**	**18 04 31.8**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=161,slow=8.8,SNR=16						
KSRS				LR	LR	18 19 49.6	
	comp=Z,11µm,21.0s,baz=125,slow=33						
	comp=Z,2.0nm,0.6s						
TIA	**Tai'an**	**45.26**	**333**	P	**P**	**18 04 53.0**	**-0.7**
TIA				pmax	pmax		
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.35**	**300**	P	**P**	**18 05 01.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**46.35**	**300**	P	**P**	**18 05 02.2**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=119,slow=6.1,SNR=28						
	comp=Z,4.5nm,0.7s						
CHTO	**Chiang Mai**	**46.50**	**300**	P	**P**	**18 05 02.9**	**-0.8**
QRZ	**Quartz Range**	**46.94**	**146**	P	**P**	**18 05 07.6**	**+0.8**
JCZ	**Jackson Bay**	**47.39**	**152**	P	**P**	**18 05 12.3**	**+1.9**
ASAJ	**Asahikawa**	**47.64**	**2**	LR	LR	18 27 54.6	
	comp=Z,20nm,18.0s,baz=234,slow=39						
PZH	**PanZhiHua**	**47.91**	**311**	P	**P**	**18 05 16.7**	**+2.0**
URZ	**Urewera**	**48.01**	**141**	P	**P**	**18 05 13.8**	**-1.4**
	comp=Z,3.9nm,0.7s,baz=242,slow=1.7,SNR=1.5						
URZ				LR	LR	18 26 53.6	
	comp=Z,38nm,18.3s,baz=269,slow=38						
	comp=Z,3.9nm,0.7s						
TUWZ	**Tuamarina**	**48.13**	**146**	P	**P**	**18 05 16.6**	**+0.6**
BKZ	**Black Stump Fm**	**48.17**	**142**	P	**P**	**18 05 17.7**	**+1.2**
RPZ	**Rata Peaks**	**48.21**	**150**	P	**P**	**18 05 17.6**	**+1.0**
RPZ	**Rata Peaks**	**48.21**	**150**	P	**P**	**18 05 17.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**48.27**	**352**	P	**P**	**18 05 15.8**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=170,slow=12,SNR=4.2						
USRK				LR	LR	18 23 24.5	
	comp=Z,36nm,20.0s,baz=203,slow=33						
	comp=Z,2.3nm,0.7s						
KHZ	**Kahutara**	**48.58**	**147**	P	**P**	**18 05 20.4**	**+0.9**
BJI	**Beijing**	**48.86**	**335**	P	**P**	**18 05 21.1**	**-0.5**
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
CD2	**Chengdu**	**49.02**	**317**	P	**P**	**18 05 23.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
TNCH	**TengChong**	**49.64**	**307**	P	**P**	**18 05 31.2**	**+3.1**
TNCH				pmax	pmax		
	comp=Z,13nm,0.8s						
BNX	**BinXian**	**50.55**	**348**	⇑P	**P**	**18 05 38.3**	**+4.0**
BNX				pmax	pmax		
	comp=Z,8.0nm,2.8s						
HHC	**Hu-ho-hao-te**	**51.56**	**332**	*e*P	P	18 05 46.8	+4.7
HHC				pmax	pmax		
	comp=Z,24nm,0.5s						
HHC				pmax	pmax		
	comp=Z,220nm,6.2s						
LZH	**Lanzhou**	**52.26**	**322**	*e*P	**P**	**18 05 47.0**	**-0.5**
LZH				pP	pP	18 06 14.5	+2.8
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
GTA	**Gaotai**	**56.84**	**323**	*e*P	**P**	**18 06 21.3**	**+0.8**
GTA				pmax	pmax		
	comp=Z,18nm,1.0s						
PETK	**Petropavlovsk-**	**58.46**	**12**	P	**P**	**18 06 30.7**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=183,slow=7.2,SNR=4.7						
PETK				LR	LR	18 29 34.3	
	comp=Z,9.3nm,21.5s,baz=236,slow=34						
	comp=Z,2.6nm,0.7s						
ULN	**Ulaanbaatar**	**59.05**	**334**	P	**P**	**18 06 36.0**	**+0.1**
SONM	**Songino Array**	**59.32**	**334**	P	**P**	**18 06 37.7**	**+0.1**
SONM				IAmb	IAmb	18 06 38.0	
	comp=Z,3.3nm,0.7s						
SONM	**Songino Array**	**59.32**	**334**	P	**P**	**18 06 37.5**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=155,slow=8.0,SNR=22						
	comp=Z,3.1nm,0.5s						
EVN	**Everest**	**60.35**	**305**	P	**P**	**18 06 45.0**	**-0.8**
SHEM	**Shemya Is, Ala**	**63.01**	**22**	LR	LR	18 34 45.2	
	comp=Z,9.9nm,18.3s,baz=237,slow=36						
MA2	**Magadan**	**63.62**	**6**	LR	LR	18 35 03.9	
	comp=Z,11nm,19.0s,baz=164,slow=36						
CASY	**Casey**	**65.86**	**193**	P	**P**	**18 07 20.9**	**+0.2**
CASY				IAmb	IAmb	18 07 22.2	
	comp=Z,13nm,1.1s						
YAK	**Yakutsk**	**66.06**	**355**	P	**P**	**18 07 21.1**	**-0.9**
YAK				IAmb	IAmb	18 07 22.2	
	comp=Z,9.3nm,0.8s						
WMQ	**Urumqi**	**66.80**	**321**	*e*P	**P**	**18 07 29.1**	**+1.9**
MKAR	**Makanchi Array**	**71.57**	**322**	P	**P**	**18 07 56.2**	**-0.3**
	comp=Z,11nm,0.6s,baz=96,slow=8.8,SNR=34						
	comp=Z,11nm,0.6s						
ZALV	**Zalesovo Beam**	**73.61**	**329**	P	**P**	**18 08 07.0**	**-1.5**
	comp=Z,3.9nm,0.5s,baz=112,slow=6.0,SNR=12						
	comp=Z,3.9nm,0.5s						
VNDA	**Vanda**	**74.66**	**175**	P	**P**	**18 08 13.8**	**-0.3**
VNDA				IAmb	IAmb	18 08 15.5	
	comp=Z,8.2nm,0.8s						
VNDA	**Vanda**	**74.66**	**175**	P	**P**	**18 08 14.5**	**+0.3**
	comp=Z,8.5nm,0.6s,baz=326,slow=7.1,SNR=81						
	comp=Z,8.5nm,0.6s						
SBA	**Scott Base**	**75.41**	**174**	P	**P**	**18 08 19.0**	**+0.6**
KURK	**Kurchatov**	**75.47**	**325**	P	**P**	**18 08 17.9**	**-1.4**
KURK				IAmb	IAmb	18 10 44.8	
	comp=Z,10nm,0.9s						
KURBB	**Kurchatov Arra**	**75.48**	**325**	P	**P**	**18 08 18.4**	**-0.9**
	comp=Z,4.7nm,0.7s,baz=114,slow=5.3,SNR=15						
	comp=Z,4.7nm,0.7s						
TIXI	**Tiksi**	**75.58**	**356**	LR	LR	18 41 18.8	
	comp=Z,18nm,18.3s,baz=190,slow=35						
L14K	**Kuka Creek**	**78.10**	**24**	P	**P**	**18 08 33.1**	**-0.7**
L14K				IAmb	IAmb	18 08 34.5	
	comp=Z,7.4nm,0.8s						
K17K	**Iditarod**	**80.58**	**24**	P	**P**	**18 08 46.4**	**-0.9**
K17K				IAmb	IAmb	18 08 48.3	
	comp=Z,8.1nm,0.9s						
J17K	**VABM Dome**	**80.59**	**23**	P	**P**	**18 08 47.2**	**-0.1**
BVAR	**Borovoye Array**	**81.06**	**325**	P	**P**	**18 08 49.6**	**-0.5**
	comp=Z,14nm,0.6s,baz=112,slow=7.2,SNR=16						
	comp=Z,14nm,0.6s						
BRVK	**Borovoye**	**81.13**	**325**	P	**P**	**18 08 49.9**	**-0.5**
BRVK				IAmb	IAmb	18 08 50.8	
	comp=Z,12nm,0.8s						
MAW	**Mawson**	**81.83**	**202**	P	**P**	**18 08 54.6**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=84,slow=8.1,SNR=4.1						
	comp=Z,2.0nm,0.8s						
E19K	**Redstone River**	**83.16**	**20**	IAmb	IAmb	18 09 46.0	
	comp=Z,27nm,1.9s						
G23K	**Bananza Creek**	**85.45**	**22**	IAmb	IAmb	18 10 06.0	
	comp=Z,16nm,1.9s						
CCB	**Clear Creek Bu**	**85.64**	**24**	P	**P**	**18 09 10.9**	**-2.4**
ILAR	**Eielson Array**	**86.05**	**24**	P	**P**	**18 09 12.8**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=266,slow=4.2,SNR=12						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**86.25**	**180**	P	**P**	**18 09 17.4**	**+0.9**
QSPA	**South Pole Qui**	**86.25**	**180**	P	**P**	**18 09 17.3**	**+0.8**
	comp=Z,7.4nm,0.8s,baz=334,slow=2.4,SNR=34						
	comp=Z,7.4nm,0.8s						
C23K	**Itkillik River**	**86.35**	**19**	P	**P**	**18 09 16.2**	**-0.4**
ABKAR	**Akbulak array**	**86.53**	**320**	P	**P**	**18 09 16.1**	**-1.9**
BMAR	**Burnt Mountain**	**87.70**	**22**	P	**P**	**18 09 23.2**	**-0.1**
F26K	**Sheenjek River**	**87.93**	**22**	IAmb	IAmb	18 09 25.6	
	comp=Z,19nm,1.2s						
AKTO	**Aktyubinsk**	**87.95**	**321**	P	**P**	**18 09 23.1**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=106,slow=7.4,SNR=1.2						
	comp=Z,1.2nm,0.4s						
H27K	**Steamboat Moun**	**88.58**	**23**	IAmb	IAmb	18 10 22.0	
	comp=Z,7.1nm,1.4s						
ARTI	**Arti**	**88.61**	**327**	P	**P**	**18 09 25.4**	**-2.4**
	comp=Z,5.3nm,0.5s,baz=180,slow=6.1,SNR=3.7						
	comp=Z,5.3nm,0.5s						
M29M	**Somme Creek**	**89.17**	**27**	P	**P**	**18 09 29.1**	**-1.3**
M29M				IAmb	IAmb	18 10 23.6	
	comp=Z,8.9nm,1.6s						
LPAZ	**La Paz**	**145.54**	**126**	PKPbc	**PKPab**	**18 16 15.1**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=241,slow=2.4,SNR=7.8						
CPUP	**Villa Florida**	**145.59**	**151**	PKPbc	**PKPbc**	**18 16 14.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=86,slow=2.3,SNR=2.9						

*IDC **08** 18:04:03.9±2.6,38˚.16N×75˚.20E,h96km±22km,mb3.8/19, mbtmp4.2/25,MS3.5/2,Error ellipse: s-maj=17.5km s-min=14.8km az=1.0*
*MOS **08** 18:04:04.3±1.2,38˚.24N×75˚.15E,h107km,mb4.5/11,Error ellipse: s-maj=9.3km s-min=4.9km az=98.8*
*NNC **08** 18:04:05.6±5.2,38˚.60N×75˚.05E,h0km,mb4.5,mpv4.1, Error ellipse: s-maj=40.2km s-min=24.5km az=178.0*
*NEIC **08** 18:04:07.6±1.7,38˚.35N±0˚.07×75˚.07E±0˚.08, h120km±11km,mb4.3/10,Error ellipse: s-maj=13.2km s-min=2.1km az=136.0*

ISC 08 18:04:03.8±0.4,**38˚.16N**±0˚.04×**75˚.16E**±0˚.05,**h100**km,**n136,** σ2°**29**/168,**mb4.2**/32,**12C-8D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.50**	**25**	Sg	**Sn**	**18 04 43.7**	**-6.4**
KSH	**Kashi**	**1.50**	**25**	Pg	**Pn**	**18 04 28.2**	**-1.9**
ARSB	**Arslanbob**	**3.58**	**333**		**Pn**	**18 04 58.9**	**+1.5**
ARSB	**Arslanbob**	**3.58**	**333**	PN	**Pn**	**18 04 58.9**	**+1.5**
GAR	**Garm**	**3.89**	**284**		**Pn**	**18 05 03.4**	**+1.7**
UCH	**Uchtor**	**4.09**	**353**	P	**Pn**	**18 05 07.0**	**+2.3**
	SNR=11						
TARG	**Taragay, Kyrgy**	**4.10**	**29**	Pn	**Pn**	**18 05 06.8**	**+2.1**
TARG	**Taragay, Kyrgy**	**4.10**	**29**	PN	**Pn**	**18 05 06.9**	**+2.1**
ULHL	**Ulahol**	**4.16**	**11**	P	**Pn**	**18 05 07.5**	**+2.1**
	SNR=39						
KDJ	**Kajisay**	**4.26**	**21**		**Pn**	**18 05 08.7**	**+2.1**
KDJ	**Kajisay**	**4.26**	**21**	PN	**Pn**	**18 05 08.7**	**+2.1**
KBK	**Karagaybulak**	**4.50**	**358**	P	**Pn**	**18 05 12.0**	**+2.2**
	SNR=24						
AAK	**Ala-Archa**	**4.50**	**354**		**Pn**	**18 05 11.9**	**+2.0**
AAK	**Ala-Archa**	**4.50**	**354**	P	**Pn**	**18 05 11.7**	**+1.8**
	20nm,0.3s,baz=156,slow=6.1,SNR=18						
AAK				S	**Sn**	**18 06 00.9**	**-0.3**
	77nm,0.4s,baz=349,slow=17,SNR=10						
AAK				LR	LR	18 06 35.5	
	comp=Z,60nm,18.8s,baz=194,slow=34						
AAK	**Ala-Archa**	**4.50**	**354**	P	**Pn**	**18 05 12.4**	**+2.5**
	SNR=15						
AAK	**Ala-Archa**	**4.50**	**354**	⇑P	**Pn**	**18 05 11.6**	**+1.8**
	6.7nm,0.5s						
AAK				⇑S	**Sn**	**18 05 59.9**	**-1.3**
	168nm,1.0s						
EKS2	**Erkin-Say**	**4.62**	**347**	P	**Pn**	**18 05 13.8**	**+2.4**
	SNR=22						
FRU1	**Bishkek**	**4.66**	**355**	Pn	**Pn**	**18 05 12.0**	**0.0**
FRU1	**Bishkek**	**4.66**	**355**	PN	**Pn**	**18 05 12.0**	**0.0**
NIL	**Nilore**	**4.76**	**200**		Pn	18 05 19.1	+5.8
NIL	**Nilore**	**4.76**	**200**	PN	Pn	18 05 19.1	+5.8
TKM2	**Tokmak 2**	**4.77**	**4**	P	**Pn**	**18 05 15.8**	**+2.3**
	SNR=117						
CHMS	**Chumysh**	**4.84**	**356**	P	**Pn**	**18 05 16.5**	**+2.1**
	SNR=33						
PRZ	**Przheval'sk**	**4.98**	**29**		**Pn**	**18 05 18.6**	**+2.3**
PRZ	**Przheval'sk**	**4.98**	**29**	PN	**Pn**	**18 05 18.7**	**+2.3**
USP	**Ospenovka**	**5.13**	**355**	P	**Pn**	**18 05 19.9**	**+1.7**
	SNR=8.3						
JMU	**Jammu**	**5.43**	**182**	*e*P	**Pn**	**18 05 27.1**	**+4.7**
JMU				*e*S	**Sn**	**18 06 27.3**	**+3.7**
JMU				IAML		18 06 29.6	
	comp=N,535nm,0.2s						
JMU				IAML		18 06 29.9	
	comp=E,590nm,0

AYAN				IAML			18 08 09.7	
	comp=E,158nm,0.2s							
AYAN				IAML			18 08 09.9	
	comp=N,130nm,0.3s							
KUDL	**Kundal**	**10.05**	**173**	*eP*		**Pn**	**18 06 26.2**	**+1.0**
KUDL				*eS*		**Sn**	**18 08 10.5**	**-5.5**
KUDL				IAML			18 08 12.2	
	comp=N,161nm,0.3s							
KUDL				IAML			18 08 12.6	
	comp=E,130nm,0.4s							
UGON	**Onchagaon**	**10.09**	**166**	*eP*		**Pn**	**18 06 26.2**	**+0.5**
UGON				*eS*		**Sn**	**18 08 10.4**	**-6.6**
UGON				IAML			18 08 11.4	
	comp=E,121nm,0.5s							
UGON				IAML			18 08 11.4	
	comp=N,115nm,0.4s							
MKAR	**Makanchi Array**	**10.10**	**29**	P		**Pn**	**18 06 26.7**	**+0.9**
	comp=N,1.8nm,0.5s,baz=202,slow=14,SNR=41							
MK31	**Makanchi Array**	**10.10**	**29**	*c iP*		**Pn**	**18 06 26.5**	**+0.7**
BKNR	**BIKANER**	**10.23**	**189**	*eP*		**Pn**	**18 06 26.6**	**-1.1**
BKNR				*eS*		**Sn**	**18 08 13.8**	**-6.7**
BKNR				IAML			18 08 17.2	
	comp=N,124nm,0.4s							
BKNR				IAML			18 08 17.6	
	comp=E,117nm,0.3s							
WMQ	**Urumqi**	**11.03**	**55**	*eP*		Pn	18 06 43.9	+5.5
JASL	**Jaisalmer**	**11.76**	**199**	*eP*		**Pn**	**18 06 48.4**	**0.0**
JASL				*eS*		**Sn**	**18 08 52.5**	**-5.2**
JASL				IAML			18 08 54.2	
	comp=N,133nm,0.2s							
JASL				IAML			18 08 54.2	
	comp=E,123nm,0.3s							
KURBB	**Kurchatov Arra**	**12.69**	**10**	P		**Pn**	**18 06 59.1**	**-1.3**
	comp=E,3.0nm,0.3s,baz=198,slow=12,SNR=5.5							
KURK	**Kurchatov**	**12.79**	**10**			**Pn**	**18 06 59.7**	**-2.0**
KURK	**Kurchatov**	**12.79**	**10**	*de*	P	**Pn**	**18 07 00.2**	**-1.6**
KURK					pmax	pmax		
	comp=E,6.0nm,1.2s							
JHNI	**Jhansi**	**12.97**	**166**	*eP*		**Pn**	**18 07 04.9**	**+0.5**
JHNI				*eS*		**Sn**	**18 09 18.4**	**-8.7**
JHNI				IAML			18 09 20.6	
	comp=N,124nm,0.3s							
JHNI				IAML			18 09 21.1	
	comp=E,114nm,0.2s							
BVAR	**Borovoye Array**	**15.23**	**349**	P		**Pn**	**18 07 33.2**	**0.0**
	comp=E,15nm,0.4s,baz=159,slow=9.9,SNR=55							
BRVK	**Borovoye**	**15.28**	**349**			**Pn**	**18 07 32.1**	**-1.7**
BRVK				IAmb		IAmb	18 07 39.1	
	comp=E,31nm,0.8s							
BRVK	**Borovoye**	**15.28**	**349**	*ce*	P	**Pn**	**18 07 33.3**	**-0.6**
BRVK					pmax	pmax		
	comp=Z,43nm,1.0s							
AB31	**Akbulak array**	**15.59**	**320**			**Pn**	**18 07 36.3**	**-1.5**
AB31				IAmb		IAmb	18 07 37.0	
	comp=Z,7.8nm,0.7s							
AB31	**Akbulak array**	**15.59**	**320**	⇓	P	**Sn**	**18 07 38.7**	**+0.9**
	comp=Z,4.9nm,0.6s,baz=123,slow=12,SNR=78							
AB31				⇓	S	**Sn**	**18 10 27.8**	**-2.3**
	comp=Z,1.2nm,0.5s,baz=187,slow=36,SNR=4.2							
AB31	**Akbulak array**	**15.59**	**320**	P		**Pn**	**18 07 38.7**	**+0.9**
AB31				S		**Sn**	**18 10 27.8**	**-2.3**
ABKAR	**Akbulak array**	**15.59**	**320**			**Pn**	**18 07 36.1**	**-1.7**
ZAA0	**Zalesovo Array**	**17.13**	**20**			**Pn**	**18 07 55.6**	**-1.1**
ZAA0				IAmb		IAmb	18 07 57.9	
	comp=Z,6.1nm,0.7s							
ZALV	**Zalesovo Beam**	**17.13**	**20**			**Pn**	**18 07 55.2**	**-1.5**
ZALV	**Zalesovo Beam**	**17.13**	**20**	P		**Pn**	**18 07 55.6**	**-1.1**
	comp=Z,5.0nm,0.6s,baz=208,slow=11,SNR=22							
AKTO	**Aktyubinsk**	**17.30**	**321**	P		**P**	**18 07 58.5**	**-0.3**
	comp=Z,8.9nm,0.5s,baz=118,slow=15,SNR=34							
AKTO	**Aktyubinsk**	**17.30**	**321**	⇑	P	**Pn**	**18 08 01.4**	**+2.5**
	comp=Z,5.8nm,0.6s							
AKTO				⇓	S	**Sn**	**18 11 10.5**	**-0.8**
	comp=Z,1.6nm,0.8s							
AKTO	**Aktyubinsk**	**17.30**	**321**		P	**Pn**	**18 08 01.4**	**+2.5**
AKTO					S	**Sn**	**18 11 10.5**	**-0.8**
WSAR	**Wadi Sarin**	**20.52**	**228**		P	**P**	**18 08 34.9**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=85,slow=23,SNR=11							
SVE	**Sverdlovsk**	**21.02**	**337**	*eP*		**P**	**18 08 39.8**	**+0.7**
ARTI	**Arti**	**21.39**	**334**			**P**	**18 08 43.4**	**+0.2**
ARTI				IAmb		IAmb	18 08 49.0	
	comp=Z,22nm,0.9s							
ARTI	**Arti**	**21.39**	**334**	P		**P**	**18 08 43.5**	**+0.4**
	comp=Z,15nm,0.8s,baz=120,slow=4.2,SNR=14							
	comp=Z,15nm,0.8s							
ARTI	**Arti**	**21.39**	**334**	*c i*	P	**P**	**18 08 43.7**	**+0.5**
ARTI							18 09 15.6	
ARTI					S	**S**	**18 12 38.0**	**+3.3**
ARTI					pmax	pmax		
	comp=Z,10.0nm,0.6s							
SONM	**Songino Array**	**24.66**	**57**	P		**P**	**18 09 15.6**	**+0.5**
SONM	**Songino Array**	**24.66**	**57**	P		**P**	**18 09 16.3**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=256,slow=9.9,SNR=7.3							
	comp=Z,1.3nm,0.7s							
SONM	**Songino Array**	**24.66**	**57**	P		**P**	**18 09 15.6**	**+0.5**
SONM					pmax	pmax		
	comp=Z,3.0nm,1.3s							
KBZ	**Khabaz**	**24.90**	**293**	P		**P**	**18 09 19.5**	**+2.2**
	comp=Z,0.8nm,0.4s,baz=103,slow=14,SNR=2.2							
	comp=Z,0.8nm,0.4s							
KIV	**Kislovodsk**	**25.06**	**294**	*eP*		**P**	**18 09 18.4**	**-0.4**
KIV					pmax	pmax		
	comp=Z,4.0nm,1.0s							
SOC	**Sochi**	**27.21**	**293**	*eP*		**P**	**18 09 37.0**	**-1.1**
SOC				*e*			18 10 27.5	
SOC				*eS*		**S**	**18 14 08.6**	**-0.9**
SOC				*eSS*		**SnSn**	**18 15 25.1**	**-3.1**
OBN	**Obninsk**	**30.95**	**316**	⇓ *eP*		**P**	**18 10 12.1**	**+1.0**
OBN					*PP	**pP**	**18 10 38.0**	**+3.2**
OBN					*SP	**sP**	**18 10 49.0**	**+2.0**
OBN				*e*			18 11 14.9	
OBN							18 13 04.0	
OBN					S	**S**	**18 15 02.0**	**-6.0**
OBN					*SS	**sS**	**18 15 46.0**	**-2.8**
OBN					pmax	pmax		
	comp=Z,8.0nm,1.1s							
OBN					MLR	MLR		
	comp=Z,19nm,16.0s							
KLMR	**Klimovskoe**	**31.78**	**327**	*eP*		**P**	**18 10 17.6**	**-0.6**
KLMR					pmax	pmax		
	comp=Z,12nm,1.2s							
BR131	**Keskin Array S**	**32.13**	**286**	*de*	P	**P**	**18 10 23.6**	**+1.8**
BR131				*i*	*PP	**pP**	**18 10 44.1**	**-1.4**
BRTR	**Keskin Array B**	**32.13**	**286**	P		**P**	**18 10 23.4**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=89,slow=7.5,SNR=9.0							
	comp=Z,1.4nm,0.8s							
BRTR	**Keskin Array B**	**32.13**	**286**	*ce*	P	**P**	**18 10 23.7**	**+1.9**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**34.57**	**306**	P		**P**	**18 10 42.8**	**+0.2**
AKASG	**Malin Array Be**	**34.57**	**306**	P		**P**	**18 10 43.2**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=78,slow=8.4,SNR=20							
	comp=Z,1.6nm,0.4s							
AKASG	**Malin Array Be**	**34.57**	**306**	*ce*	P	**P**	**18 10 43.2**	**+0.5**
AKASG					pmax	pmax		
	comp=Z,3.0nm,0.4s							
AKBB	**Malin Array Si**	**34.57**	**306**			**P**	**18 10 42.9**	**+0.3**
AKBB					IAmb	IAmb	18 10 44.0	
	comp=Z,6.3nm,0.9s							
AKBB	**Malin Array Si**	**34.57**	**306**	P		**P**	**18 10 42.9**	**+0.3**
AKBB					pmax	pmax		
	comp=Z,6.0nm,0.9s							
KIEV	**Kiev**	**34.58**	**306**			**P**	**18 10 43.0**	**+0.4**
KIEV					IAmb	IAmb	18 10 44.0	
	comp=Z,6.1nm,0.9s							
KIEV	**Kiev**	**34.58**	**306**	P		**P**	**18 10 43.1**	**+0.4**
KIEV					pmax	pmax		
	comp=Z,6.0nm,1.0s							
MLR	**Muntele Rosu**	**36.92**	**298**	P		**P**	**18 11 04.7**	**+1.7**
MLR	**Muntele Rosu**	**36.92**	**298**	P		**P**	**18 11 04.7**	**+1.7**
MLR					pmax	pmax		
	comp=Z,7.0nm,0.7s							
FINES	**FINESS Array B**	**38.03**	**324**	P		**P**	**18 11 12.7**	**+0.7**
FINES	**FINESS Array B**	**38.03**	**324**	P		**P**	**18 11 12.6**	**+0.6**
	comp=Z,2.9nm,0.4s,baz=114,slow=9.7,SNR=50							
	comp=Z,2.9nm,0.4s							
FINES	**FINESS Array B**	**38.03**	**324**	P		**P**	**18 11 12.7**	**+0.7**
BNX	**BinXian**	**38.99**	**62**	⇑	P	**P**	**18 11 18.7**	**-1.5**
BNX					pmax	pmax		
	comp=Z,10.0nm,3.8s							
ARCES	**ARCESS Array B**	**40.94**	**336**	P		**P**	**18 11 36.8**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=111,slow=8.9,SNR=30							
	comp=Z,3.5nm,0.5s							
RONA	**Rosalia, Austr**	**43.20**	**302**	*eP*		**P**	**18 11 56.6**	**+1.9**
	comp=Z,0.8nm,0.4s							
CONA	**Conrad Observa**	**43.45**	**303**	*eP*		**P**	**18 11 58.3**	**+1.5**
	comp=Z,4.3nm,1.1s							
ARSA	**Arzberg**	**43.79**	**302**	*eP*		**P**	**18 12 00.6**	**+1.1**
	comp=Z,1.2nm,0.4s							
HFS	**Hagfors**	**43.85**	**321**	P		**P**	**18 12 00.3**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=105,slow=11,SNR=19							
	comp=Z,4.8nm,0.6s							
SOKA	**Soboth**	**44.23**	**301**	*i* P		**P**	**18 12 04.4**	**+1.4**
	comp=Z,3.1nm,0.8s							
BRG	**Berggiesshubel**	**44.23**	**307**	*eP*		**P**	**18 12 05.1**	**+2.2**
BRG					Amp		18 12 05.7	
	comp=Z,3.0nm,0.8s							
GERES	**GERESS Array B**	**44.71**	**304**	P		**P**	**18 12 05.8**	**-1.1**
GERES	**GERESS Array B**	**44.71**	**304**	P		**P**	**18 12 08.4**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=60,slow=7.9,SNR=8.4							
	comp=Z,0.8nm,0.6s							
KHC	**Kasperske Hory**	**44.74**	**305**	*ce*	P	**P**	**18 12 08.4**	**+1.4**
KHC					pmax	pmax		
	comp=Z,3.0nm,0.7s							
CLL	**Collm**	**44.76**	**308**	*eP*		**P**	**18 12 07.0**	**-0.1**
CLL	**Collm**	**44.76**	**308**	*eP*		**P**	**18 12 07.0**	**-0.1**
NB2	**NORSAR Subarra**	**45.09**	**322**	P		**P**	**18 12 10.0**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**45.09**	**322**	P		**P**	**18 12 09.8**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=92,slow=7.7,SNR=12							
	comp=Z,2.0nm,0.6s							
LESA	**Schwarzleotal**	**45.66**	**303**	*eP*		**P**	**18 12 15.3**	**+1.0**
	comp=Z,3.2nm,0.6s							
SPITS	**Spitsbergen Ar**	**46.66**	**346**	P		**P**	**18 12 22.8**	**+1.1**
	comp=Z,2.8nm,0.5s,baz=110,slow=12,SNR=14							
	comp=Z,2.8nm,0.5s							
MOTA	**Moosalm**	**46.72**	**303**	*eP*		**P**	**18 12 23.5**	**+0.8**
	comp=Z,2.2nm,0.5s							
TGY	**Tagaytay City**	**46.96**	**108**	LR		LR	18 35 10.3	
	comp=Z,365nm,18.4s,baz=111,slow=40							
FETA	**Feichten**	**47.04**	**303**	*eP*		**P**	**18 12 25.6**	**+0.3**
	comp=Z,1.3nm,0.5s							
DAVA	**Damuels**	**47.54**	**303**	*eP*		**P**	**18 12 29.8**	**+0.6**
	comp=Z,3.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**53.41**	**316**	P		**P**	**18 13 13.3**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=92,slow=7.5,SNR=22							
	comp=Z,2.2nm,0.5s							
ESDC	**Sonseca Array**	**59.60**	**299**	P		**P**	**18 13 57.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=52,slow=7.0,SNR=8.9							
	comp=Z,0.5nm,0.5s							
SUMG	**Summit**	**60.56**	**342**	P		**P**	**18 14 03.4**	**-0.2**
SUMG	**Summit**	**60.56**	**342**	P		**P**	**18 14 03.4**	**-0.2**
SUMG					pmax	pmax		
	comp=Z,8.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**69.05**	**270**	P		**P**	**18 14 58.5**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=39,slow=5.9,SNR=5.6							
	comp=Z,1.9nm,0.4s							
ILAR	**Eielson Array**	**72.24**	**18**	P		**P**	**18 15 18.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=312,slow=4.9,SNR=5.1							
	comp=Z,0.5nm,0.7s							
DBIC	**Dimbokro**	**78.07**	**269**	P		**P**	**18 15 52.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=76,slow=5.5,SNR=2.1							
	comp=Z,2.5nm,0.7s							
YKA	**Yellowknife Ar**	**79.38**	**5**	P		**P**	**18 15 58.4**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=0.8,slow=6.6,SNR=4.2							
	comp=Z,1.6nm,0.7s							
YKA	**Yellowknife Ar**	**79.38**	**5**	*i* P		**P**	**18 15 58.5**	**+0.1**
YKA					pmax	pmax		
	comp=Z,3.0nm,0.9s							
WRA	**Warramunga Arr**	**80.13**	**125**	P		**P**	**18 16 03.0**	**0.0**
	comp=Z,0.5nm,1.0s,baz=318,slow=5.4,SNR=2.0							
	comp=Z,0.5nm,1.0s							
WRA	**Warramunga Arr**	**80.13**	**125**	P		**P**	**18 16 03.0**	**0.0**
ASAR	**Alice Springs**	**82.56**	**128**	P		**P**	**18 16 15.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=309,slow=4.9,SNR=4.4							
	comp=Z,0.3nm,0.7s							
ASAR	**Alice Springs**	**82.56**	**128**	P		**P**	**18 16 16.0**	**+0.2**

TRN 08 18:06:04.2, 17.12N×61.00W, h31km, MD3.6, East of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSDZ	**La Diserade, G**	**0.80**	**185**	*eP*		Pb	18 06 20.1	+0.3
DSDZ				*eS*		Sb	18 06 32.3	+2.0
ANWB	**Willy Bob**	**0.93**	**306**	*eP*		Pb	18 06 22.5	+0.7
ANWB				*eS*		Sb	18 06 35.1	+1.2
DHSZ	**Broadband at M**	**1.12**	**221**	*eP*		Pb	18 06 24.4	-0.6
DHSZ				*eS*		Sb	18 06 39.6	+0.4
MBWH		**1.20**	**252**	*eP*		Pb	18 06 26.7	+0.3
MBWH				*eS*		Sb	18 06 42.1	+0.4
MLYT	**Lee's Yard**	**1.21**	**251**	*eP*		Pb	18 06 27.3	+0.7
MLYT				*eS*		Sb	18 06 43.1	+1.3
MBFL	**Flemmings, Mon**	**1.22**	**253**	*eP*		Pb	18 06 27.1	+0.4
MBFL				*eS*		Sb	18 06 43.0	+0.8
ATGZ	**Broadband at L**	**1.23**	**215**	*eP*		Pb	18 06 26.2	-0.7
ATGZ				*eS*		Sb	18 06 43.3	+0.8
MMLZ	**Guadeloupe Bro**	**1.25**	**211**	*eP*		Pn	18 06 26.3	+0.8
MMLZ				*eS*		Sb	18 06 43.6	+0.7
TBG	**Guadaloupe-3**	**1.40**	**206**	*eP*		Pb	18 06 28.9	-1.0
TBG				*eS*		Sb	18 06 47.1	-0.3
DWS	**Wesley**	**1.57**	**191**	*eP*		Pb	18 06 31.7	-0.9
DWS				*eS*		Sb	18 06 52.2	+0.1
SKI	**Saint Kitts**	**1.68**	**278**	*eP*		Pb	18 06 33.8	-0.7
SKI				*eS*		Sb	18 06 55.2	0.0
DLDT	**Laudat, Domini**	**1.81**	**191**	*eP*		Pb	18 06 35.4	-1.3
DLDT				*eS*		Sb	18 06 57.4	-1.7
BIM	**Bigot**	**2.59**	**182**	*eP*		Pn	18 06 46.6	+2.6
BIM				*eS*		Sn	18 07 16.4	+2.0
SLBI	**Saint Lucia, B**	**3.08**	**180**	*eP*		Pn	18 06 51.8	+1.2
SLBI				*eS*		Sn	18 07 27.9	+1.5

*IDC **08** 18:06:13.9±2.6, 23.32S×179.65E, h524km±28km, mb3.1/13, mbtmp4.0/14, Error ellipse: s-maj=20.8km s-min=14.4km az=81.0*

*NOU **08** 18:06:13.9, 23.27S×179.96W, h573km, mb4.2/14, South of Fiji Islands*

*NEIC **08** 18:06:14.0±1.8, 23.3S±0.1×179.9E±0.2, h528km±7km, mb4.3/20, Error ellipse: s-maj=25.5km s-min=16.7km az=100.0*

ISC 08 18:06:15.3±0.5, 23.45S±0.06×179.7E±0.1, h548km, n106, σ1§61/113, mb3.7/21, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**5.37**	**15**	P		**18 07 46.1**	**-2.2**
MSVF	**Nonsavu**	**5.91**	**344**	P		**18 07 50.9**	**-2.2**
MSVF	**Nonsavu**	**5.91**	**344**	P		**18 07 50.8**	**-2.4**
GLKZ	**Green Lake**	**6.16**	**161**	P		**18 07 55.6**	**+0.5**
TAVE	**Taveuni**	**6.72**	**3**	P		**18 07 59.6**	**-1.0**
YSA	**Yasawairara**	**7.02**	**343**	P		**18 08 02.2**	**-1.3**
DGTI	**Dogotuki**	**7.11**	**360**	P		**18 08 02.9**	**-1.5**
OUZ	**Omahuta**	**12.89**	**203**	P		**18 09 05.1**	**+2.3**
KUZ	**Kuaotunu**	**13.70**	**194**	P		**18 09 10.5**	**-0.6**
MKAZ	**Moumakai**	**14.17**	**195**	P		**18 09 16.6**	**+0.6**
HAZ	**Te Kaha**	**14.36**	**186**	P		**18 09 18.1**	**+0.1**
HAZ				S		**18 11 44.9**	**-3.6**
WMGZ	**Waiomatatini S**	**14.37**	**184**	P		**18 09 20.3**	**+2.2**
WMGZ				S		**18 11 44.7**	**-4.0**
PKGZ	**Pakihiroa**	**14.44**	**185**	P		**18 09 21.4**	**+2.6**
PUZ	**Puketiti**	**14.63**	**185**	P		**18 09 22.1**	**+1.3**
PUZ				S		18 11 47.9	-5.8
TOZ	**Tahuroa Road**	**14.69**	**193**	P		**18 09 21.7**	**+0.3**
TOZ	**Tahuroa Road**	**14.69**	**193**	P		**18 09 21.6**	**+0.2**
TWGZ	**Tauwhareparae**	**14.76**	**185**	P		**18 09 21.6**	**-0.5**
TWGZ				S		**18 11 53.4**	**-2.7**
URZ	**Urewera**	**14.93**	**188**	P		**18 09 23.7**	**-0.2**
	9.2nm,0.3s,baz=256,slow=2.5,SNR=26						
URZ				S		**18 11 55.4**	**-3.8**
	4.0nm,0.5s,baz=63,slow=22,SNR=11						
URZ	**Urewera**	**14.93**	**188**	P		**18 09 23.7**	**-0.2**
URZ	**Urewera**	**14.93**	**188**	P		**18 09 20.2**	**-3.7**
URZ				S		**18 11 52.9**	**-6.3**
MWZ	**Matawai**	**14.96**	**187**	P		**18 09 22.6**	**-1.6**
MWZ				S		**18 11 56.7**	**-3.1**
TLZ	**Tolley Road**	**15.26**	**193**	P		**18 09 27.2**	**-0.1**
RTZ	**Ruatahuna**	**15.30**	**188**	P		**18 09 25.8**	**-2.0**
RTZ				IAmb		IAmb	18 10 06.9	
	comp=Z,31nm,1.4s							
RAHZ	**Arahi**	**15.58**	**188**	P		**18 09 30.1**	**-0.5**
HIZ	**Hauiti**	**15.58**	**194**	P		**18 09 31.0**	**+0.4**
HIZ	**Hauiti**	**15.58**	**194**	P		**18 09 31.9**	**+1.4**
KNZ	**Kokohu**	**15.62**	**186**	P		**18 09 30.2**	**-0.7**
BKZ	**Black Stump Fm**	**15.91**	**189**	P		**18 09 29.7**	**-4.2**
BKZ				IAmb		IAmb	18 09 32.8	
	comp=Z,11nm,1.0s							
BKZ	**Black Stump Fm**	**15.91**	**189**	P		**18 09 32.0**	**-1.9**
BKZ	**Black Stump Fm**	**15.91**	**189**	P		**18 09 30.6**	**-3.3**
VRZ	**Vera Road**	**16.19**	**194**	P		**18 09 38.9**	**+2.4**
PXZ	**Pawanui**	**16.71**	**188**	P		**18 09 40.1**	**-1.1**
PXZ				S		**18 12 26.7**	**-2.5**
TSZ	**Takapari Road**	**16.86**	**190**	P		**18 09 41.8**	**-0.9**
BFZ	**Birch Farm**	**17.43**	**189**	P		**18 09 45.8**	**-2.0**
BFZ	**Birch Farm**	**17.43**	**189**	P		**18 09 46.3**	**-1.5**
BFZ	**Birch Farm**	**17.43**	**189**	P		**18 09 46.2**	**-1.7**
BFZ				S		**18 12 41.1**	**+0.1**
MRZ	**Mangatainoka R**	**17.51**	**191**	P		**18 09 46.7**	**-1.9**
SNZO	**South Karori**	**18.30**	**192**	P		**18 09 55.6**	**-0.2**
QRZ	**Quartz Range**	**18.35**	**198**	P		**18 09 57.1**	**+0.8**
QRZ	**Quartz Range**	**18.35**	**198**	P		**18 09 57.5**	**+1.2**
NNZ	**Nelson**	**18.50**	**195**	P		**18 09 57.3**	**-0.3**
THZ	**Tophouse**	**19.13**	**196**	P		**18 10 03.5**	**+0.1**
DSZ	**Denniston Nort**	**19.41**	**198**	P		**18 10 06.5**	**+0.6**
KHZ	**Kahutara**	**19.60**	**194**	P		**18 10 07.5**	**-0.1**
KHZ	**Kahutara**	**19.60**	**194**	P		**18 10 06.5**	**-1.1**
GVZ	**Greta Valley S**	**20.24**	**194**	P		**18 10 12.4**	**-1.0**
LTZ	**Lake Taylor**	**20.25**	**196**	P		**18 10 12.6**	**-0.9**
INZ	**Inchbonnie**	**20.42**	**198**	P		**18 10 14.5**	**-0.5**
OXZ	**Oxford**	**20.82**	**196**	P		**18 10 18.1**	**-0.5**
WVZ	**Waitaha Valley**	**20.94**	**199**	P		**18 10 19.3**	**-0.5**
MQZ	**McQueen's Vall**	**21.03**	**194**	P		**18 10 20.2**	**-0.3**
RPZ	**Rata Peaks**	**21.44**	**197**	P		**18 10 23.8**	**-0.4**
	comp=Z,3.4nm,0.4s,baz=53,slow=3.5,SNR=6.5							
	comp=Z,3.4nm,0.4s							
RPZ	**Rata Peaks**	**21.44**	**197**	P		**18 10 24.6**	**+0.3**
FOZ	**Fox Glacier**	**21.64**	**200**	P		**18 10 25.1**	**-0.9**
TMZ	**Timaru**	**22.07**	**197**	P		**18 10 29.7**	**-0.3**
LBZ	**Lake Benmore**	**22.30**	**198**	P		**18 10 30.3**	**-1.7**
JCZ	**Jackson Bay**	**22.45**	**201**	P		**18 10 33.1**	**-0.3**
WKZ	**Wanaka**	**23.05**	**200**	P		**18 10 38.3**	**-0.4**
EAZ	**Earnscleugh**	**23.33**	**199**	P		**18 10 40.7**	**-0.4**
MLZ	**Mavora Lakes**	**23.82**	**201**	P		**18 10 46.7**	**+1.2**
TATA	**Tatamba Isabel**	**24.28**	**305**	P		**18 10 48.4**	**-1.5**
WHZ	**Wether Hill Ro**	**24.34**	**200**	P		**18 10 50.2**	**+0.1**
CTAO	**Charters Tower**	**31.24**	**270**	P		**18 11 51.5**	**+0.9**
CTAO				IAmb	IAmb	18 12 30.3	
	comp=Z,5.8nm,1.2s							
TOO	**Toolangi**	**32.49**	**236**	P		**18 12 02.3**	**+1.2**
TOO				IAmb	IAmb	18 12 03.1	
	comp=Z,12nm,1.2s							
BBOO	**Buckleboo**	**39.40**	**246**	P		**18 12 58.8**	**+0.5**
AS31	**Alice Springs**	**41.87**	**260**	P		**18 13 17.6**	**-0.5**
ASAR	**Alice Springs**	**41.87**	**260**	P		**18 13 18.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=94,slow=6.8,SNR=4.3							
ASAR				ScP		**ScP**	**18 18 02.0**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=98,slow=4.3,SNR=1.9							
	comp=Z,0.3nm,0.5s							
WR8	**Warramunga Arr**	**42.05**	**266**	P		**P**	**18 13 18.7**	**-0.8**
WR8				IAmb		IAmb	18 13 57.0	
	comp=Z,5.1nm,1.1s							
WB0	**Warramunga Arr**	**42.19**	**266**	P		**P**	**18 13 20.4**	**-0.2**
WB0				IAmb		IAmb	18 13 32.7	
	comp=Z,9.5nm,1.2s							
WRA	**Warramunga Arr**	**42.20**	**266**	P		**P**	**18 13 19.5**	**-1.2**
WRA	**Warramunga Arr**	**42.20**	**266**	P		**P**	**18 13 20.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=90,slow=5.8,SNR=13							
	comp=Z,0.4nm,0.5s							
KNRA	**Kununurra**	**48.45**	**269**	P		**P**	**18 14 08.6**	**+0.2**
KNRA				IAmb		IAmb	18 14 49.2	
	comp=Z,19nm,1.4s							
VNDA	**Vanda**	**54.80**	**185**	P		**P**	**18 14 55.1**	**+1.8**
VNDA	**Vanda**	**54.80**	**185**	P		**P**	**18 14 55.1**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=13,slow=7.8,SNR=7.1							
	comp=Z,0.6nm,0.5s							
SBA	**Scott Base**	**54.81**	**183**	P		**P**	**18 14 55.8**	**+2.5**
CASY	**Casey**	**60.41**	**206**	P		**P**	**18 15 31.7**	**+0.2**
QSPA	**South Pole Qui**	**66.63**	**180**	P		**P**	**18 16 13.7**	**+2.3**
QSPA				IAmb		IAmb	18 16

h120km±1km,mb5.0/285,Mww4.7/9 Error ellipse: s-maj=11.7km s-min=8.2km az=111.0
IDC ***08*** *18:56:46.6±0.6,25°.68N×124°.92E,h122km±5km,mb4.3/24, mbtmp4.7/27,MS3.3/22,Error ellipse: s-maj=9.1km s-min=8.4km az=38.0*
JMA ***08*** *18:56:46.8±0.2,26°.N±1°×124°.7E±0°.8,h108km,MD4.7/16, MV4.7/16,NW OFF MIYAKOJIMA ISLAND*
JMA Felt I J1 at NW OFF MIYAKOJIMA ISLAND.
MOS ***08*** *18:56:47.0±1.0,25°.62N×124°.79E,h142km,mb4.7/47, Error ellipse: s-maj=7.9km s-min=4.9km az=107.4*
GCMT ***08*** *18:56:49.4±0.3,25°.63N±0°.02×124°.93E±0°.03,h87km±4km, MW4.9/77,Moment Tensor Solution. s9,c9; s77,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.45±.10; $M_{\theta\theta}$-2.06±.10; $M_{\phi\phi}$ 1.61±.11; $M_{r\theta}$-0.88±.05; $M_{\theta\phi}$ 1.18±.13; $M_{\phi r}$-0.72±.06; Best double couple: $M_0$2.49000×10^{16} NP1:ϕs149.00000°,δ62.00000°,λ170.00000°. NP2: ϕs244.00000°,δ81.00000°,λ29.00000°. Principal axes: T 2.4270, Plg26.0000°, Azm110.0000°; N 0.1290, Plg60.0000°, Azm260.0000°; P -2.5520, Plg13.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 18:56:46.2±0.4,25°.57N±0°.03×124°.83E±0°.03,h120km±3km, h120km:pP-P,n685,σ1§14/597,mb4.9/212,15C-12D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
JIKM	**Ikemajima**	**0.75**	**149**	*i* P	**Pn**	**18 57 06.5**	**+0.6**
JIKM				S	**Sn**	**18 57 21.0**	**+0.3**
JMJ	**Miyako jima 2**	**0.86**	**150**	P	**Pn**	**18 57 08.7**	**+1.8**
JMJ	**Miyako jima 2**	**0.86**	**150**	S	**Sn**	**18 57 23.9**	**+1.3**
JTJ	**Tarama**	**0.93**	**187**	*i* P	**Pn**	**18 57 07.8**	**+0.3**
JTJ				S	**Sn**	**18 57 23.4**	**-0.3**
JMJ2	**Miyako jima3**	**0.94**	**151**	*i* P	**Pn**	**18 57 08.4**	**+0.8**
JMJ2				S	**Sn**	**18 57 24.2**	**+0.3**
JOGS	**Gusukube**	**0.96**	**147**	*i* P	**Pn**	**18 57 08.8**	**+0.9**
JOGS				*e*S	**Sn**	**18 57 24.5**	**+0.3**
JISG	**Ishigakijimahi**	**1.08**	**206**	*i* P	**Pn**	**18 57 09.3**	**+0.2**
JISG				S	**Sn**	**18 57 25.7**	**-0.7**
JISG	**Ishigakijimahi**	**1.08**	**206**	A	A	18 57 09.3	
	comp=N,60nm,0.5s,comp=E,37nm,0.6s						
JIJ	**Ishigaki jima**	**1.35**	**207**	*i* P	**Pn**	**18 57 11.7**	**-0.2**
JIJ				*e*S	**Sn**	**18 57 30.1**	**-1.4**
JIJ	**Ishigaki jima**	**1.35**	**207**	A	A	18 57 11.7	
	comp=N,14nm,0.6s,comp=E,22nm,3.2s						
JKRS	**Kuro-shima**	**1.52**	**209**	*i* P	**Pn**	**18 57 13.8**	**0.0**
JKRS				*e*S	**Sn**	**18 57 34.0**	**-0.8**
IRIF	**Iriomote-Funau**	**1.58**	**219**	*i* P	**Pn**	**18 57 14.5**	**0.0**
IRIF				S	**Sn**	**18 57 35.3**	**-0.8**
IRIF	**Iriomote-Funau**	**1.58**	**219**	A	A	18 57 14.5	
	comp=N,31nm,0.6s,comp=E,40nm,0.7s						
HATJ	**Hateruma jima**	**1.77**	**212**	*e*P	**Pn**	**18 57 16.7**	**-0.1**
HATJ				S	**Sn**	**18 57 39.5**	**-0.6**
JKE	**Kume jima 2**	**1.92**	**66**	*e*P	**Pn**	**18 57 19.1**	**+0.5**
JKE				*e*S	**Sn**	**18 57 43.0**	**-0.3**
YOJ	**Yonaguni jima**	**1.98**	**237**		**Pn**	**18 57 19.6**	**+0.3**
YOJ	**Yonaguni jima**	**1.98**	**237**	P	**Pn**	**18 57 19.9**	**+0.5**
YOJ	**Yonaguni jima**	**1.98**	**237**	S	**Sn**	**18 57 44.5**	**-0.3**
YOJ	**Yonaguni jima**	**1.98**	**237**	P	**Pn**	**18 57 19.7**	**+0.3**
YOJ	**Yonaguni jima**	**1.98**	**237**	P	**Pn**	**18 57 20.1**	**+0.7**
YOJ				S	**Sn**	**18 57 44.3**	**-0.5**
JYNG	**Yonagunijimaku**	**2.04**	**237**	P	**Pn**	**18 57 20.8**	**+0.7**
JYNG				*e*S	**Sn**	**18 57 45.6**	**-0.4**
JAGN	**Aguni-jima**	**2.40**	**64**	*e*P	**Pn**	**18 57 25.3**	**+0.7**
JAGN				S	**Sn**	**18 57 52.9**	**-1.2**
JJT3	**Tamagusuku3**	**2.73**	**77**	*e*S	**Sn**	**18 58 01.5**	**-0.2**
TATO	**Taipei**	**3.08**	**260**		**Pn**	**18 57 35.1**	**+1.7**
TATO	**Taipei**	**3.08**	**260**	P	**Pn**	**18 57 35.4**	**+1.9**
NACB	**Ninganchiao**	**3.25**	**245**		**Pn**	**18 57 35.5**	**-0.2**
NACB	**Ninganchiao**	**3.25**	**245**	P	**Pn**	**18 57 35.5**	**-0.2**
NACB	**Ninganchiao**	**3.25**	**245**	S	**Sn**	**18 58 12.9**	**-1.1**
YHNB	**Yeheng**	**3.25**	**255**		**Pn**	**18 57 37.4**	**+1.5**
YHNB	**Yeheng**	**3.25**	**255**	P	**Pn**	**18 57 37.8**	**+1.9**
JOW	**Kunigami**	**3.34**	**67**		**Pn**	**18 57 36.6**	**-0.4**
JOW	**Kunigami**	**3.34**	**67**	P	**Pn**	**18 57 36.7**	**-0.3**
	comp=E,173nm,0.4s,baz=129,slow=28,SNR=55						
JOW				S	**Sn**	**18 58 12.2**	**-4.1**
	comp=E,218nm,0.2s,baz=166,slow=29,SNR=12						
JOW	**Kunigami**	**3.34**	**67**	P	**Pn**	**18 57 36.8**	**-0.2**
YULB	**Yu-li**	**3.88**	**237**		**Pn**	**18 57 42.6**	**-1.5**
YULB	**Yu-li**	**3.88**	**237**	P	**Pn**	**18 57 42.5**	**-1.5**
SSLB	**Suanglung**	**3.94**	**244**		**Pn**	**18 57 44.8**	**-0.2**
SSLB				Sn	**Sn**	**18 58 28.2**	**-2.4**
SSLB	**Suanglung**	**3.94**	**244**	P	**Pn**	**18 57 44.7**	**-0.3**
SSLB	**Suanglung**	**3.94**	**244**	S	**Sn**	**18 58 28.5**	**-2.1**
TWGBT	**Beinan**	**4.38**	**232**	P	**Pn**	**18 57 49.0**	**-1.8**
TWG	**Pinlang**	**4.39**	**232**		**Pn**	**18 57 48.6**	**-2.3**
TPUB	**Ta-pu**	**4.44**	**240**		**Pn**	**18 57 51.4**	**-0.2**
TPUB				Sn	**Sn**	**18 58 41.5**	**-1.0**
TPUB	**Ta-pu**	**4.44**	**240**	P	**Pn**	**18 57 52.3**	**+0.7**
TPUB	**Ta-pu**	**4.44**	**240**	S	**Sn**	**18 58 41.5**	**-1.0**
QZH	**Quanzhou**	**5.68**	**265**	⇑*i*P	**Pn**	**18 58 09.5**	**+1.3**
QZH				S	**Sn**	**18 59 12.0**	**-0.2**
NJ2	**Nanjing**	**8.31**	**322**	⇓P	**Pn**	**18 58 46.3**	**+2.5**
NJ2				S	**Sn**	**19 00 16.5**	**+0.5**
NJ2				pmax	pmax		
	comp=E,26nm,0.7s						
JNU	**Nakatsue**	**9.19**	**34**		**Pn**	**18 58 55.0**	**-0.7**
JNU	**Nakatsue**	**9.19**	**34**	P	**Pn**	**18 58 56.6**	**+0.9**
	comp=E,8.9nm,0.9s,baz=212,slow=16,SNR=6.4						
JTU	**Tsushima**	**9.76**	**23**	P	**Pn**	**18 59 05.9**	**+2.5**
WHN	**Wuhan**	**10.49**	**301**	P	**Pn**	**18 59 15.6**	**+2.3**
WHN				pmax	pmax		
	comp=E,92nm,0.9s						
TJN	**Taejon**	**10.99**	**11**		**Pn**	**18 59 20.8**	**+0.9**
TJN	**Taejon**	**10.99**	**11**	P	**Pn**	**18 59 20.8**	**+0.9**
JMN	**Monobe**	**11.31**	**42**	Pn	**Pn**	**18 59 20.4**	**-3.9**
TGY	**Tagaytay City**	**11.98**	**198**	P	**Pn**	**18 59 34.5**	**+1.3**
	comp=E,189nm,0.4s,baz=304,slow=5.7,SNR=4.2						
TGY				S	**Sn**	**19 01 41.4**	**-3.7**
	comp=E,118nm,0.3s,baz=143,slow=7.6,SNR=1.7						
KSAR	**Wonju Array Be**	**12.12**	**12**		**Pn**	**18 59 36.6**	**+1.8**
KSAR	**Wonju Array Be**	**12.12**	**12**	P	**Pn**	**18 59 36.6**	**+1.8**
KSRS	**Korea Array**	**12.14**	**12**	P	**Pn**	**18 59 37.2**	**+2.2**
	comp=E,63nm,0.9s,baz=191,slow=13,SNR=186						
KS19	**Wonju Array Si**	**12.18**	**12**		**Pn**	**18 59 36.0**	**+0.4**
TIA	**Tai'an**	**12.49**	**330**	P	**Pn**	**18 59 43.1**	**+3.4**
TIA				pmax	pmax		
	comp=E,23nm,1.0s						
DL2	**Dalian**	**13.57**	**349**	P	**Pn**	**18 59 53.1**	**-0.5**
LYN	**LuoYang**	**13.94**	**313**	⇑*i*P	**P**	**19 00 05.8**	**+3.2**
LYN				pmax	pmax		
	comp=Z,90nm,0.8s						
INU	**Inuyama**	**14.32**	**44**	Pn	**Pn**	**19 00 04.7**	**+1.4**
HNS	**HongShan**	**14.60**	**326**	⇑P	**P**	**19 00 09.7**	**-0.2**
HNS				pmax	pmax		
	comp=Z,50nm,1.3s						
JGF	**Kuroka**	**14.70**	**44**	Pn	**Pn**	**19 00 08.5**	**+0.3**
MAJO	**Matsushiro**	**15.83**	**43**	P	**Pn**	**19 00 22.4**	**+0.2**
MAJO	**Matsushiro**	**15.83**	**43**	⇑*e*P	**Pn**	**19 00 22.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,13nm,0.7s						
MJAR	**Matsushiro Arr**	**15.83**	**43**		**Pn**	**19 00 22.7**	**+0.4**
MJAR	**Matsushiro Arr**	**15.83**	**43**	P	**Pn**	**19 00 22.9**	**+0.6**
	comp=Z,18nm,0.8s,baz=237,slow=9.7,SNR=46						
MJB9	**Matsu-Tunnel**	**15.83**	**43**		**Pn**	**19 00 22.6**	**+0.4**
TIY	**Taiyuan**	**16.04**	**322**	*e*P	**P**	**19 00 29.0**	**+3.0**
TIY				pmax	pmax		
	comp=Z,41nm,0.9s						
BJI	**Beijing**	**16.15**	**335**	P	**P**	**19 00 28.6**	**+1.6**
BJI				pmax	pmax		
	comp=Z,21nm,0.9s						
PSTR	**Posyet**	**17.73**	**15**	⇓*e*P	**P**	**19 00 42.8**	**-1.7**
CN2	**Changchun**	**18.20**	**1**	*e*P	**Pn**	**19 00 51.1**	**+0.2**
CN2				pmax	pmax		
	comp=Z,100nm,0.7s						
JMM	**Marumori**	**18.27**	**44**	P	**P**	**19 00 47.3**	**-3.1**
JMM	**Marumori**	**18.27**	**44**	P	**P**	**19 00 49.3**	**-1.1**
HHC	**Hu-ho-hao-te**	**18.82**	**327**	⇓*i*P	**Pn**	**19 00 58.8**	**+0.4**
HHC				pmax	pmax		
	comp=Z,40nm,1.4s						
HHC				pmax	pmax		
	comp=Z,280nm,4.0s						
CD2	**Chengdu**	**19.30**	**291**	P	**P**	**19 01 02.3**	**+0.5**
CD2				pmax	pmax		
	comp=Z,50nm,0.7s						
BTO	**Baotou**	**19.42**	**324**	*e*P	**Pn**	**19 01 06.8**	**+1.4**
BTO				pmax	pmax		
	comp=Z,46nm,1.2s						
BTO				pmax	pmax		
	comp=Z,550nm,4.7s						
BTO				LR	LR		
	comp=Z,510nm,7.1s						
BTO				LR	LR		
	comp=Z,550nm,6.4s						
BTO				LR	LR		
	comp=Z,470nm,5.1s						
USA0B	**Ussuriysk Arra**	**19.48**	**16**	P	**P**	**19 01 04.0**	**+0.5**
USA0B	**Ussuriysk Arra**	**19.48**	**16**	P	**P**	**19 01 04.0**	**+0.5**
USA0B				pmax	pmax		
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.48**	**16**	P	**P**	**19 01 03.4**	**-0.2**
	comp=Z,11nm,0.7s,baz=204,slow=10,SNR=24						
XLT	**XiLinHaoTe**	**19.63**	**341**	*e*P	**P**	**19 01 05.8**	**+0.5**
XLT				pP	pP	19 01 31.9	+4.7
XLT				PcP	**PcP**	**19 05 19.0**	**-0.8**
XLT				pmax	pmax		
	comp=Z,69nm,1.0s						
BNX	**BinXian**	**20.23**	**5**	⇓P	**P**	**19 01 11.6**	**-0.1**
BNX				pmax	pmax		
	comp=Z,26nm,1.0s						
JTM	**Tenmabayashi**	**20.32**	**38**		**P**	**19 01 10.6**	**-2.1**
JTM				IAmb	IAmb	19 01 16.4	
	comp=Z,50nm,0.8s						
JTM	**Tenmabayashi**	**20.32**	**38**	P	**P**	**19 01 12.3**	**-0.4**
PZH	**PanZhiHua**	**20.76**	**278**	P	**P**	**19 01 18.0**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,240nm,5.3s						
LZH	**Lanzhou**	**20.80**	**305**	*e*P	**P**	**19 01 18.3**	**+0.2**
LZH				pP	pP	19 01 45.0	+4.7
LZH				pmax	pmax		
	comp=Z,74nm,1.1s						
GUMO	**Guam**	**22.29**	**119**	P	**P**	**19 01 35.0**	**+1.2**
	comp=Z,150nm,0.7s,baz=3.9,slow=5.9,SNR=3.6						
	comp=Z,150nm,0.7s						
GUMO	**Guam**	**22.29**	**119**	P	**P**	**19 01 35.0**	**+1.2**
ERM	**Erimo**	**22.31**	**38**	P	**P**	**19 01 33.4**	**-0.3**
ERM	**Erimo**	**22.31**	**38**	⇓*e*P	**P**	**19 01 33.9**	**+0.2**
ERM				pmax	pmax		
	comp=Z,46nm,1.0s						
ASAJ	**Asahikawa**	**23.47**	**33**	LR	LR	19 11 22.9	
	comp=Z,57nm,18.9s,baz=210,slow=38						
TNCH	**TengChong**	**23.78**	**274**	P	**P**	**19 01 49.1**	**+1.0**
TNCH				pP	pP	19 02 15.5	+3.1
TNCH				pmax	pmax		
	comp=Z,12nm,3.5s						
HEH	**HeiHe**	**24.73**	**4**	*e*P	**P**	**19 01 55.5**	**-0.6**
HEH				pmax	pmax		
	comp=Z,16nm,1.2s						
TNTI	**Ternate**	**24.77**	**174**		**P**	**19 01 58.4**	**+1.5**
TNTI				IAmb	IAmb	19 02 00.9	
	comp=Z,38nm,0.7s						
TNTI	**Ternate**	**24.77**	**174**	P	**P**	**19 01 56.7**	**-0.2**
	comp=Z,63nm,1.1s						
CMAR	**Chiang Mai Arr**	**24.99**	**259**	P	**P**	**19 01 59.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=70,slow=9.0,SNR=5.7						
CMAR				pP	**pwP**	**19 02 26.7**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=69,slow=8.8,SNR=6.5						
CMAR				PcP	**PcP**	**19 05 32.1**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=114,slow=2.8,SNR=1.5						
CMAR				LR	LR	19 12 12.0	
	comp=Z,48nm,18.0s,baz=55,slow=37						
GTA	**Gaotai**	**25.11**	**309**	P	**P**	**19 02 00.3**	**+0.4**
GTA				pP	pP	19 02 29.6	+3.9
GTA				pmax	pmax		
	comp=Z,13nm,0.8s						
YSS	**Yuzhno-Sakhali**	**25.66**	**29**	P	**P**	**19 02 05.0**	**+0.4**
YSS	**Yuzhno-Sakhali**	**25.66**	**29**	*e*P	**P**	**19 02 04.8**	**+0.2**
YSS				*e*S	**S**	**19 06 20.9**	**-3.1**
YSS				pmax	pmax		
	comp=Z,300nm,4.6s						
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
ULN	**Ulaanbaatar**	**26.30**	**332**		**P**	**19 02 10.9**	**+0.4**
ULN	**Ulaanbaatar**	**26.30**	**332**	P	**P**	**19 02 11.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,22nm,0.9s						
SONM	**Songino Array**	**26.56**	**332**		**P**	**19 02 12.1**	**-0.7**
SONM	**Songino Array**	**26.56**	**332**	P	**P**	**19 02 12.5**	**-0.4**
	comp=Z,7.9nm,0.6s,baz=149,slow=9.6,SNR=62						
SONM				pP	**pP**	**19 02 40.7**	**+2.0**
	comp=Z,4.1nm,0.8s,baz=149,slow=10,SNR=3.2						
SONM				PcP	**PcP**	**19 05 35.1**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=144,slow=4.1,SNR=4.0						
SONM				ScP	**ScP**	**19 09 02.7**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=160,slow=4.6,SNR=3.7						
SONM				LR	LR	19 12 46.8	
	comp=Z,74nm,21.3s,baz=136,slow=36						
	comp=Z,7.9nm,0.6s						
SONM	**Songino Array**	**26.56**	**332**	P	**P**	**19 02 12.1**	**-0.7**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GOMU	**GeErMu**	**27.75**	**300**	P	**P**	**19 02 25.1**	**+1.2**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZEA	**Zeya**	**28.19**	**3**	*e*P	**P**	**19 02 27.4**	**+0.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FAKI	**Fak Fak**	**29.22**	**165**	P	**P**	**19 02 37.8**	**+1.1**
MOY	**Mondy**	**31.75**	**331**	*e*P	**P**	**19 02 58.5**	**-0.3**
MOY				pmax	pmax		
	comp=Z,45nm,1.5s						
JAY	**Jayapura**	**31.88**	**149**	LR	LR	19 15 30.8	
	comp=Z,29nm,18.4s,baz=352,slow=35						
MMRI	**Maumere**	**34.09**	**185**	P	**P**	**19 03 18.5**	**-0.8**
MANU	**Manus Island**	**35.07**	**138**		**P**	**19 03 28.7**	**+0.9**
MANU				IAmb	IAmb	19 03 29.9	
	comp=Z,19nm,0.8s						
SOEI	**Soe**	**35.12**	**181**	P	**P**	**19 03 27.8**	**-0.5**
WMQ	**Urumqi**	**35.18**	**311**	*e*P	**P**	**19 03 29.8**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,18nm,1.5s						
YAK	**Yakutsk**	**36.60**	**4**		**P**	**19 03 38.4**	**-1.9**
YAK				IAmb	IAmb	19 03 40.2	
	comp=Z,28nm,0.8s						
YAK	**Yakutsk**	**36.60**	**4**	*e*P	**P**	**19 03 38.3**	**-2.0**
YAK				*e*		19 05 03.3	
YAK				*e*		19 06 00.5	
YAK				*e*S	**S**	**19 09 13.0**	**-0.9**
YAK				*e*		19 13 42.5	
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,74nm,3.5s						
YAK				pmax	pmax		
	comp=E,27nm,2.8s						
YAK				pmax	pmax		
	comp=N,59nm,3.1s						
YAK				smax	smax		
	comp=N,107nm,4.3s						
YAK				smax	smax		
	comp=E,80nm,3.7s						
PETK	**Petropavlovsk-**	**36.89**	**33**	P	**P**	**19 03 43.3**	**+0.4**
	comp=E,3.8nm,0.6s,baz=185,slow=1.9,SNR=14						
PETK				LR	LR	19 18 42.4	
	comp=E,28nm,19.0s,baz=227,slow=36						
	comp=E,3.8nm,0.6s						
PET	**Petropavlovsk**	**37.32**	**34**	*de*P	**P**	**19 03 45.5**	**-1.0**
PET				pmax	pmax		
	comp=Z,25nm,1.2s						
ZSN	**Zaisan**	**38.27**	**315**	*e*P	**P**	**19 03 54.2**	**-0.5**
ZSN	**Zaisan**	**38.27**	**315**	*e*P	**P**	**19 03 54.3**	**-0.5**
MA2	**Magadan**	**38.48**	**21**	LR	LR	19 21 12.0	
	comp=Z,22nm,18.1s,baz=198,slow=38						
MA2	**Magadan**	**38.48**	**21**	*de*P	**P**	**19 03 55.6**	**-0.6**
MA2				pmax	pmax		
	comp=Z,22nm,2.3s						
MTN	**Manton Dam**	**38.67**	**170**		**P**	**19 03 57.5**	**-0.7**
MTN	**Manton Dam**	**38.67**	**170**	P	**P**	**19 03 57.5**	**-0.7**
KDU	**Kakadu**	**38.75**	**168**	P	**P**	**19 03 58.2**	**-0.7**
MK31	**Makanchi Array**	**39.72**	**313**	*d*	*i*P	**P**	**19 04 06.4**	**-0.4**
MKAR	**Makanchi Array**	**39.72**	**313**			**P**	**19 04 06.3**	**-0.5**
MKAR	**Makanchi Array**	**39.72**	**313**	P	**P**	**19 04 06.5**	**-0.3**
	comp=Z,13nm,0.7s,baz=101,slow=10,SNR=174						
MKAR				PcP	**PcP**	**19 06 10.9**	**0.0**
	comp=Z,4.1nm,0.8s,baz=88,slow=4.1,SNR=9.6						
MKAR				ScP	**ScP**	**19 09 48.8**	**0.0**
	comp=Z,1.4nm,0.9s,baz=106,slow=3.9,SNR=6.3						
MKAR				LR	LR	19 21 49.6	
	comp=Z,38nm,19.3s,baz=91,slow=38						
	comp=Z,13nm,0.7s						
SHLS	**Shalkode**	**40.81**	**307**	*e*P	**P**	**19 04 13.1**	**-2.8**
SHLS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SHLS	**Shalkode**	**40.81**	**307**	*e*P	**P**	**19 04 13.2**	**-2.8**
	comp=Z,5.9nm,0.7s						
ZAA0	**Zalesovo Array**	**40.96**	**325**		**P**	**19 04 15.6**	**-1.2**
ZAA0				IAmb	IAmb	19 04 17.0	
	comp=Z,27nm,1.3s						
ZALV	**Zalesovo Beam**	**40.96**	**325**		**P**	**19 04 15.7**	**-1.1**
ZALV	**Zalesovo Beam**	**40.96**	**325**	P	**P**	**19 04 15.8**	**-1.0**
	comp=Z,10nm,0.5s,baz=116,slow=8.2,SNR=50						
ZALV				PcP	**PcP**	**19 06 14.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=123,slow=5.5,SNR=4.3						
ZALV				ScP	**ScP**	**19 09 51.8**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=99,slow=2.9,SNR=6.8						
ZALV				LR	LR	19 21 53.6	
	comp=Z,36nm,18.5s,baz=95,slow=37						
	comp=Z,10nm,0.5s						
PMG	**Port Moresby**	**41.00**	**145**	P	**P**	**19 04 18.0**	**+0.4**
PMG				IAmb	IAmb	19 04 19.5	
	comp=Z,38nm,1.4s						
PMG	**Port Moresby**	**41.00**	**145**	P	**P**	**19 04 18.0**	**+0.4**
PMG				pmax	pmax		
	comp=Z,38nm,1.4s						
UZB	**Uzunbulak**	**41.12**	**307**	*e*P	**P**	**19 04 18.2**	**-0.3**
UZB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
UZB	**Uzunbulak**	**41.12**	**307**	*e*P	**P**	**19 04 18.3**	**-0.3**
	comp=Z,8.7nm,0.9s						
KNRA	**Kununurra**	**41.17**	**174**		**P**	**19 04 19.0**	**+0.1**
KNRA				IAmb	IAmb	19 04 20.2	
	comp=Z,29nm,0.7s						
PRZ	**Przheval'sk**	**41.47**	**306**	IAmb	IAmb	19 04 23.9	
	comp=Z,23nm,1.0s						
PRZ	**Przheval'sk**	**41.47**	**306**	P	**P**	**19 04 23.4**	**+2.0**
SATY	**Saty**	**41.55**	**307**	*e*P	**P**	**19 04 21.8**	**-0.2**
SATY				pmax	pmax		
	comp=Z,13nm,1.3s						
SATY	**Saty**	**41.55**	**307**	*e*P	**P**	**19 04 21.9**	**-0.2**
	comp=Z,13nm,1.3s						
TDK	**Taldyqorghan**	**41.91**	**310**	*e*P	**P**	**19 04 24.6**	**-0.1**
TDK	**Taldyqorghan**	**41.91**	**310**	*e*P	**P**	**19 04 24.6**	**-0.1**
ARXS	**Arharly**	**42.16**	**308**	*e*P	**P**	**19 04 26.4**	**-0.5**
KDJ	**Kajisay**	**42.31**	**305**	IAmb	IAmb	19 04 30.1	
	comp=Z,19nm,0.9s						
KDJ	**Kajisay**	**42.31**	**305**	P	**P**	**19 04 29.1**	**+0.8**
KDJ				pmax	pmax		
	comp=Z,24nm,0.9s						
TNSS	**Tian-Shan**	**42.60**	**307**	*e*P	**P**	**19 04 30.3**	**-0.6**
TNSS	**Tian-Shan**	**42.60**	**307**	*e*P	**P**	**19 04 30.4**	**-0.6**
AAA	**Alma-Ata**	**42.65**	**307**	*e*P	**P**	**19 04 30.5**	**-0.3**
AAA				pmax	pmax		
	comp=Z,18nm,1.0s						
AAA	**Alma-Ata**	**42.65**	**307**	*e*P	**P**	**19 04 30.6**	**-0.3**
	comp=Z,18nm,1.0s						
KSH	**Kashi**	**42.97**	**301**	P	**P**	**19 04 37.4**	**+3.9**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
COEN	**Coen**	**43.16**	**153**		**P**	**19 04 35.9**	**+0.8**
COEN	**Coen**	**43.16**	**153**	P	**P**	**19 04 36.2**	**+1.1**
KURK	**Kurchatov**	**43.22**	**318**	P	**P**	**19 04 34.5**	**-0.8**
KURK				IAmb	IAmb	19 04 35.8	
	comp=Z,25nm,1.4s						
KURK	**Kurchatov**	**43.22**	**318**	*de*P	**P**	**19 04 34.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
KURBB	**Kurchatov Arra**	**43.25**	**318**	P	**P**	**19 04 35.2**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=109,slow=8.1,SNR=17						
KURBB				PcP	**PcP**	**19 06 22.1**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=113,slow=3.8,SNR=7.3						
KURBB				ScP	**ScP**	**19 10 01.4**	**-1.3**
	comp=Z,0.9nm,0.2s,baz=98,slow=4.0,SNR=4.7						
	comp=Z,4.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**43.41**	**179**		**P**	**19 04 37.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**43.41**	**179**	P	**P**	**19 04 36.7**	**-0.3**
TKM2	**Tokmak 2**	**43.57**	**306**	P	**P**	**19 04 39.4**	**+0.9**
	SNR=41						
KBK	**Karagaybulak**	**44.02**	**306**	P	**P**	**19 04 43.3**	**+1.3**
	SNR=6.2						
CHMS	**Chumysh**	**44.20**	**306**	P	**P**	**19 04 44.2**	**+1.0**
	SNR=9.2						
SGDS	**Sogindy**	**44.34**	**307**	*e*P	**P**	**19 04 44.2**	**-0.2**
AAK	**Ala-Archa**	**44.35**	**306**	LR	LR	19 24 07.9	
	comp=Z,61nm,20.5s,baz=106,slow=37						
AAK	**Ala-Archa**	**44.35**	**306**	*ce*P	**P**	**19 04 45.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
USP	**Ospenovka**	**44.41**	**307**	P	**P**	**19 04 45.7**	**+0.7**
	SNR=8.4						
EKS2	**Erkin-Say**	**44.88**	**306**	P	**P**	**19 04 49.7**	**+1.0**
	SNR=7.0						
BTLS	**Baital**	**44.96**	**309**	*e*P	**P**	**19 04 47

comp=Z,10nm,0.8s,baz=356,slow=11,SNR=105
ASAR pP **pP** **19 05 55.5 +1.2**
comp=Z,2.1nm,0.5s,baz=347,slow=7.8,SNR=2.0
ASAR PcP **PcP** **19 06 46.0 +0.4**
comp=Z,1.9nm,0.8s,baz=352,slow=5.4,SNR=4.1
ASAR ScP **ScP** **19 10 30.0 -0.1**
comp=Z,0.4nm,0.8s,baz=345,slow=3.6,SNR=2.7
comp=Z,10nm,0.8s
AS01 Alice Springs 49.73 169 P **P** **19 05 27.0 +0.7**
CTAO Charters Tower 49.93 153 P **P** **19 05 28.0 +0.1**
CTAO Charters Tower 49.93 153 P **P** **19 05 28.0 +0.1**
CTAO pmax pmax
comp=Z,12nm,1.3s
AB31 Akbulak array 54.87 313 IAmb IAmb 19 06 05.6
comp=Z,12nm,0.7s
ABKAR Akbulak array 54.87 313 P **P** **19 06 03.7 -0.3**
SVE Sverdlovsk 54.92 323⇓*e*P **P** **19 06 04.5 +0.3**
SVE pmax pmax
comp=Z,37nm,0.9s
NIKH Nikolski High 55.86 42 P **P** **19 06 10.8 -0.2**
NIKH Nikolski High 55.86 42 P **P** **19 06 10.0 -1.0**
baz=268
ARTI Arti 56.12 322 P **P** **19 06 12.6 -0.3**
ARTI Arti 56.12 322 LR LR 19 31 37.3
comp=Z,49nm,19.2s,baz=95,slow=37
ARTI Arti 56.12 322*c i*P **P** **19 06 12.4 -0.4**
ARTI *PP **pP** **19 06 41.1 -0.3**
ARTI 19 07 09.0
ARTI 19 08 15.1
ARTI S **S** **19 13 53.7 +1.4**
ARTI SS **SS** **19 17 41.6 +1.6**
ARTI pmax pmax
comp=Z,23nm,0.8s
UNV Unalaska Valle 57.29 41 P **P** **19 06 19.5 -1.6**
UNV IAmb IAmb 19 06 27.0
comp=Z,16nm,0.8s
UNV Unalaska Valle 57.29 41 P **P** **19 06 20.2 -0.9**
baz=269
LVA Lava Point 57.57 41 IAmb IAmb 19 07 05.1
comp=Z,20nm,0.9s
AKUT Akutan 57.72 41 P **P** **19 06 23.1 -1.0**
M11K Mekoryuk 57.76 33 P **P** **19 06 26.0 +1.7**
baz=265,SNR=6.6
SANVU Saraoutou 58.01 130 P **P** **19 06 26.3 -0.3**
ANM Nome 58.55 28 P **P** **19 06 30.5 +0.8**
baz=264
NWAO Narrogin (SRO) 58.62 187 P **P** **19 06 29.8 -0.8**
K13K Kusilvak Mount 58.62 31 IAmb IAmb 19 06 32.7
comp=Z,37nm,1.4s
K13K Kusilvak Mount 58.62 31 P **P** **19 06 31.5 +1.2**
baz=266,SNR=11
F15K North Star Dit 58.98 27 P **P** **19 06 33.0 +0.3**
baz=264
BBOO Buckleboo 59.03 169 P **P** **19 06 33.4 0.0**
C16K Lisburne Hills 59.05 24 P **P** **19 06 32.9 -0.2**
C16K IAmb IAmb 19 07 11.4
comp=Z,37nm,1.5s
C16K Lisburne Hills 59.05 24 P **P** **19 06 34.2 +1.1**
baz=261
G15K Niukluk 59.16 28 P **P** **19 06 34.7 +0.8**
baz=265
M13K Dall Lake 59.17 33 P **P** **19 06 35.6 +1.6**
baz=268,SNR=5.6
J14K Nanvaranak Lak 59.19 31 IAmb IAmb 19 06 36.5
comp=Z,36nm,1.4s
J14K Nanvaranak Lak 59.19 31 P **P** **19 06 35.0 +0.8**
baz=266,SNR=6.9
STKA Stephens Creek 59.33 163 P **P** **19 06 35.5 0.0**
comp=Z,7.4nm,0.7s,baz=347,slow=5.8,SNR=12
comp=Z,7.4nm,0.7s
STKA Stephens Creek 59.33 163 P **P** **19 06 34.6 -0.9**
L14K Kuka Creek 59.53 32 P **P** **19 06 37.0 +0.5**
L14K Kuka Creek 59.53 32 P **P** **19 06 37.4 +0.9**
baz=268,SNR=33
PTPS Port Pirie 59.75 167 P **P** **19 06 38.2 -0.1**
D17K Noatak River 59.82 25 P **P** **19 06 39.0 +0.6**
baz=264
S12K Black Hills 59.84 39 P **P** **19 06 38.9 +0.1**
baz=272
M14K Bethel 59.87 33 P **P** **19 06 40.1 +1.3**
baz=269,SNR=13
H16K Elim 59.90 28 P **P** **19 06 39.9 +0.8**
baz=266
G16K Koyuk River 59.90 28 IAmb IAmb 19 06 41.7
comp=Z,17nm,1.4s
G16K Koyuk River 59.90 28 P **P** **19 06 40.4 +1.4**
baz=266
N14K Kuskokwak Cree 59.99 34 P **P** **19 06 40.9 +1.2**
baz=270
K15K Wolf Creek Mou 60.11 31 P **P** **19 06 41.8 +1.3**
K15K IAmb IAmb 19 06 42.5
comp=Z,14nm,0.8s
K15K Wolf Creek Mou 60.11 31 P **P** **19 06 42.0 +1.4**
baz=268,SNR=9.4
L15K Ungalak Mounta 60.12 32 P **P** **19 06 41.3 +0.8**
baz=269,SNR=5.4
CMSA Cobar Meteorol 60.19 159 P **P** **19 06 40.9 -0.4**
HTT Hallett 60.19 166 P **P** **19 06 40.7 -0.7**
O14K Tigyukauivet M 60.21 35 P **P** **19 06 41.7 +0.5**
baz=270
E17K Hotham Inlet 60.24 26 P **P** **19 06 41.3 -0.1**
baz=265
M15K Kasigluk River 60.49 33 P **P** **19 06 44.0 +0.8**
baz=270,SNR=12
I17K Unalakleet 60.54 29 P **P** **19 06 43.5 +0.2**
baz=268
J16K Anvik River 60.56 30 P **P** **19 06 44.3 +0.7**
J16K IAmb IAmb 19 06 46.0
comp=Z,20nm,1.4s
J16K Anvik River 60.56 30 P **P** **19 06 44.1 +0.5**
baz=269
C18K Utukok River 60.61 24 P **P** **19 06 44.1 +0.2**
baz=265
G17K Kiwalik Mounta 60.62 27 P **P** **19 06 44.9 +1.0**
baz=267,SNR=8.5
E18K Tukpahlearik C 60.74 25 P **P** **19 06 45.0 +0.3**
baz=266
SDPT Sand Point 60.76 39 P **P** **19 06 44.4 -0.6**
SDPT Sand Point 60.76 39 P **P** **19 06 44.5 -0.6**
baz=273
N15K Kwethluk River 60.79 34 P **P** **19 06 46.6 +1.4**
baz=271,SNR=24
H17K Granite Mounta 60.91 28 IAmb IAmb 19 06 49.0
comp=Z,18nm,1.1s
H17K Granite Mounta 60.91 28 P **P** **19 06 47.1 +1.2**
baz=268,SNR=9.5
O15K Ungalikthiuk R 60.95 35 P **P** **19 06 47.2 +1.0**
baz=272,SNR=9.1
KIRV Kirov 61.00 325 LR LR 19 33 54.5
comp=Z,49nm,20.7s,baz=93,slow=36
KIRV Kirov 61.00 325*ce*P **P** **19 06 45.4 -1.2**
F18K Selawik 61.07 26 P **P** **19 06 48.1 +1.2**
baz=268,SNR=6.2
L16K Owhat River 61.07 32 IAmb IAmb 19 06 49.2
comp=Z,31nm,1.2s
L16K Owhat River 61.07 32 P **P** **19 06 48.2 +1.1**
baz=271
S14K Fog Glacier 61.22 38 P **P** **19 06 48.1 -0.2**
baz=274
C19K Lookout Ridge 61.23 23 P **P** **19 06 48.5 +0.5**
baz=266
J17K VABM Dome 61.25 30 P **P** **19 06 49.6 +1.3**
baz=270,SNR=21
CHNA Chernabura Isl 61.30 40 P **P** **19 06 48.5 -0.2**
CHNA Chernabura Isl 61.30 40 P **P** **19 06 48.5 -0.2**
baz=274,SNR=7.2
M16K Timber Creek 61.33 33 P **P** **19 06 49.9 +1.1**
baz=271,SNR=21
N16K Nishlik Lake 61.44 33 P **P** **19 06 51.0 +1.4**
baz=272,SNR=33
G18K Tagagawik 61.46 27 IAmb IAmb 19 06 51.5
comp=Z,11nm,0.9s
G18K Tagagawik 61.46 27 P **P** **19 06 50.4 +0.8**
baz=269,SNR=12
H18K Honhosa River 61.57 28 IAmb IAmb 19 06 52.5
comp=Z,9.0nm,0.9s
H18K Honhosa River 61.57 28 P **P** **19 06 51.5 +1.1**
baz=270,SNR=5.7
K17K Iditarod 61.61 31 P **P** **19 06 52.0 +1.3**
baz=271,SNR=18
L17K Donlin 61.62 31 P **P** **19 06 52.3 +1.6**
baz=271,SNR=34
D19K Kuna River 61.73 24 P **P** **19 06 51.5 +0.1**
baz=268
O16K Kokwok River B 61.82 34 P **P** **19 06 52.9 +0.8**
O16K Kokwok River B 61.82 34 P **P** **19 06 52.9 +0.8**
baz=273,SNR=20

CHGN Chignik 61.86 38 P **P** **19 06 52.2 -0.1**
baz=274
P16K Nushagak River 61.90 35 P **P** **19 06 53.7 +1.1**
baz=273
E19K Redstone River 62.04 25 IAmb IAmb 19 06 55.6
comp=Z,23nm,1.4s
E19K Redstone River 62.04 25 P **P** **19 06 53.8 +0.2**
baz=270
M17K Holitna River 62.06 32 P **P** **19 06 55.1 +1.4**
baz=273,SNR=18
G19K Purcell Mounta 62.10 27 IAmb IAmb 19 06 56.5
comp=Z,18nm,1.3s
G19K Purcell Mounta 62.10 27 P **P** **19 06 54.7 +0.9**
baz=270,SNR=7.3
N17K Nushagak Hills 62.22 33 P **P** **19 06 56.2 +1.4**
baz=273,SNR=18
DZM Mont Dzumac 62.23 136 P **P** **19 06 56.7 +1.3**
comp=Z,12nm,0.8s,baz=273,slow=10,SNR=10
comp=Z,12nm,0.8s
DZM Mont Dzumac 62.23 136 P **P** **19 06 54.4 -1.0**
D20K Etivluk River 62.29 24 IAmb IAmb 19 07 36.1
comp=Z,10nm,0.8s
D20K Etivluk River 62.29 24 P **P** **19 06 55.7 +0.6**
baz=269
J18K Innoko River 62.31 30 IAmb IAmb 19 06 58.1
comp=Z,17nm,1.3s
J18K Innoko River 62.31 30 P **P** **19 06 56.4 +1.0**
baz=272,SNR=8.9
O17K Koliganek Bris 62.31 34 P **P** **19 06 56.2 +0.8**
baz=274,SNR=12
H19K Roundabout Mou 62.37 27 IAmb IAmb 19 06 58.7
comp=Z,26nm,0.9s
H19K Roundabout Mou 62.37 27 P **P** **19 06 56.7 +1.0**
baz=271,SNR=19
L18K Granite Mounta 62.38 31 P **P** **19 06 57.0 +1.2**
baz=273,SNR=16
E20K Nigu River 62.44 24 P **P** **19 06 57.1 +0.9**
baz=270,SNR=6.2
Q16K King Salmon 62.62 35 P **P** **19 06 58.1 +0.7**
baz=275,SNR=6.6
F20K Avaraart Lake 62.63 26 P **P** **19 06 58.4 +1.0**
baz=271
P17K Kvichak River 62.69 35 P **P** **19 06 59.1 +1.2**
baz=275,SNR=7.3
OUENC Ouzinkie Island, N 62.73 136 P **P** **19 06 57.6 -1.0**
J19K Poorman 62.77 29 IAmb IAmb 19 07 00.7
comp=Z,27nm,1.1s
J19K Poorman 62.77 29 P **P** **19 06 59.4 +1.0**
baz=273,SNR=23
M18K Stony River 62.83 32 P **P** **19 07 00.1 +1.3**
baz=274,SNR=21
N18K Kilae Creek 62.85 33 IAmb IAmb 19 07 01.6
comp=Z,19nm,1.0s
N18K Kilae Creek 62.85 33 P **P** **19 07 00.2 +1.1**
baz=274,SNR=7.6
R17L Mt. Peulik Vol 62.87 36 P **P** **19 06 59.8 +0.6**
baz=275
C21K Knifeblade Rid 62.95 23 P **P** **19 06 59.6 +0.1**
baz=271
B21K Ikpikpuk River 63.00 23 P **P** **19 06 59.7 -0.1**
baz=271
H20K Anotleneega Mo 63.02 27 P **P** **19 07 00.3 +0.2**
baz=273,SNR=14
Q17K Cosmic Creek 63.06 36 P **P** **19 07 00.2 -0.3**
baz=276
I20K Naaghedeneel 63.23 28 P **P** **19 07 03.0 +1.6**
baz=273,SNR=8.7
L19K White Mountain 63.24 31 IAmb IAmb 19 07 04.1
comp=Z,25nm,0.8s
L19K White Mountain 63.24 31 P **P** **19 07 02.7 +1.1**
baz=274,SNR=19
O18K Koktuh Hills 63.26 34 P **P** **19 07 02.8 +1.1**
baz=275,SNR=11
E21K Killik River 63.26 24 IAmb IAmb 19 07 04.0
comp=Z,14nm,0.7s
E21K Killik River 63.26 24 P **P** **19 07 01.8 +0.2**
baz=272,SNR=8.7
P18K Big Mountain, 63.29 34 P **P** **19 07 02.7 +0.7**
baz=276,SNR=5.4
ACHA Angle Creek He 63.36 36 IAmb IAmb 19 07 03.1
comp=Z,19nm,0.9s
J20K Nowinta River 63.41 29 IAmb IAmb 19 07 06.1
comp=Z,9nm,1.0s
J20K Nowinta River 63.41 29 P **P** **19 07 03.8 +1.2**
baz=274,SNR=27
IMAR Indian Mountai 63.46 27 P **P** **19 07 03.2 +0.3**
M19K Big River Lodg 63.48 31 IAmb IAmb 19 07 05.9
comp=Z,19nm,0.8s
M19K Big River Lodg 63.48 31 P **P** **19 07 04.6 +1.5**
baz=275,SNR=17
Q18K Katmai Hardscr 63.48 35 P **P** **19 07 03.2 -0.1**
baz=276
F21K Alatna River 63.50 26 P **P** **19 07 03.9 +0.7**
baz=273
K20K Telida 63.51 30 IAmb IAmb 19 07 06.1
comp=Z,39nm,1.2s
K20K Telida 63.51 30 P **P** **19 07 04.4 +1.2**
baz=274,SNR=27
N19K Bonanza Creek 63.53 33 IAmb IAmb 19 07 07.3
comp=Z,20nm,0.9s
N19K Bonanza Creek 63.53 33 P **P** **19 07 05.0 +1.4**
baz=275,SNR=13
G21K Allakaket 63.53 26 IAmb IAmb 19 07 05.8
comp=Z,12nm,0.9s
G21K Allakaket 63.53 26 P **P** **19 07 04.3 +1.0**
baz=273,SNR=10
L20K Farewell, AK 63.66 31 P **P** **19 07 05.6 +1.3**
baz=275,SNR=18
D22K Ayikyak River 63.72 24 P **P** **19 07 05.7 +1.1**
baz=273,SNR=6.4
H21K Melozitna Rive 63.87 27 IAmb IAmb 19 07 08.3
comp=Z,19nm,0.9s
H21K Melozitna Rive 63.87 27 P **P** **19 07 06.6 +0.9**
baz=274,SNR=20
R18K Karluk 63.89 36 P **P** **19 07 05.2 -0.6**
baz=277
F22K John River 63.99 25 P **P** **19 07 07.7 +1.3**
baz=274,SNR=11
M20K Styx River 64.07 31 P **P** **19 07 08.4 +1.3**
baz=276,SNR=22
E22K Anaktuvuk Pass 64.08 24 IAmb IAmb 19 07 09.9
comp=Z,14nm,0.8s
E22K Anaktuvuk Pass 64.08 24 P **P** **19 07 08.7 +1.6**
baz=274,SNR=7.9
Q19K Cape Douglas, 64.15 35 P **P** **19 07 07.4 -0.2**
baz=277
SII Sitkinak Islan 64.17 37 P **P** **19 07 08.7 +1.0**
baz=278
CHUM Lan Minchumin 64.24 29 P **P** **19 07 09.4 +1.3**
baz=276,SNR=21
I21K Tanana 64.26 28 IAmb IAmb 19 07 10.9
comp=Z,27nm,1.1s
I21K Tanana 64.26 28 P **P** **19 07 09.3 +1.2**
baz=275,SNR=8.6
P19K Oil Pt 64.27 34 P **P** **19 07 08.8 +0.4**
baz=277,SNR=6.5
ILSW Iliamna Southw 64.28 34 IAmb IAmb 19 07 10.2
comp=Z,10nm,0.7s
G22K Bettles 64.29 26 P **P** **19 07 08.9 +0.6**
baz=275
C23K Itkillik River 64.39 23 P **P** **19 07 09.4 +0.5**
baz=274
CAST Castle Rocks 64.39 30 IAmb IAmb 19 07 11.5
comp=Z,30nm,1.0s
CAST Castle Rocks 64.39 30 P **P** **19 07 10.2 +1.1**
baz=276,SNR=38
PPLA Purkeypile 64.40 30 P **P** **19 07 10.4 +1.1**
baz=276,SNR=14
RED Redoubt Volcan 64.41 33 IAmb IAmb 19 07 10.8
comp=Z,20nm,0.8s
D23K Nanushuk River 64.43 23 IAmb IAmb 19 07 17.3
comp=Z,14nm,1.2s
D23K Nanushuk River 64.43 23 P **P** **19 07 10.1 +0.8**
baz=275
H22K Ishtalitna Cre 64.44 27 P **P** **19 07 10.5 +1.2**
baz=276,SNR=29
O20K Slope Mountain 64.53 33 P **P** **19 07 10.6 +0.6**
baz=277
OHAK Old Harbor 64.56 37 P **P** **19 07 09.9 -0.3**
OHAK Old Harbor 64.56 37 P **P** **19 07 10.4 +0.2**
baz=278
SPCR Spurr Chakacha 64.59 32 P **P** **19 07 11.4 +0.9**
baz=277,SNR=8.3
SPU Mount Spurr 64.67 32 IAmb IAmb 19 07 12.7
comp=Z,22nm,0.9s
STLK Strandline Lak 64.73 32 IAmb IAmb 19 07 12.9
comp=Z,20nm,0.7s
COLD Coldfoot 64.77 25 P **P** **19 07 11.9 +0.5**

baz=276
MLY Manley 64.80 28 IAmb IAmb 19 07 14.2
comp=Z,31nm,1.2s
MLY Manley 64.80 28 P **P** **19 07 12.5 +0.7**
baz=277,SNR=26
BPAW Bear Paw Mtn. 64.80 29 P **P** **19 07 12.9 +1.2**
baz=277,SNR=31
SKT Skwentna 64.81 31 IAmb IAmb 19 07 13.1
comp=Z,23nm,0.7s
SKT Skwentna 64.81 31 P **P** **19 07 12.1 +0.3**
baz=277,SNR=13
Q20K Shuyak Island 64.84 35 P **P** **19 07 11.5 -0.5**
baz=278
KDAK Kodiak Island 64.86 36 P **P** **19 07 12.6 +0.5**
KDAK Kodiak Island 64.86 36 P **P** **19 07 12.6 +0.5**
KDAK pmax pmax
comp=Z,57nm,1.2s
KDAK Kodiak Island 64.86 36 P **P** **19 07 12.5 +0.3**
baz=278
TOLK Toolik Lake Re 64.86 24 P **P** **19 07 12.7 +0.7**
baz=276
KTH Kantishna Hill 64.89 29 IAmb IAmb 19 07 14.4
comp=Z,17nm,0.8s
G23K Bananza Creek 64.90 26 IAmb IAmb 19 07 14.8
comp=Z,12nm,0.9s
G23K Bananza Creek 64.90 26 P **P** **19 07 13.5 +1.2**
baz=276,SNR=11
E23K Chandalar 64.91 24 IAmb IAmb 19 07 15.1
comp=Z,13nm,0.9s
E23K Chandalar 64.91 24 P **P** **19 07 13.7 +1.3**
baz=276,SNR=8.1
C24K Franklin Bluff 65.06 23 IAmb IAmb 19 07 16.0
comp=Z,27nm,1.0s
C24K Franklin Bluff 65.06 23 P **P** **19 07 13.3 0.0**
baz=276
D24K Happy Valley 65.08 23 IAmb IAmb 19 07 16.4
comp=Z,17nm,0.7s
D24K Happy Valley 65.08 23 P **P** **19 07 14.3 +0.9**
baz=276,SNR=6.0
TRF Thorofare Moun 65.19 30 IAmb IAmb 19 07 17.3
comp=Z,9.9nm,0.7s
TRF Thorofare Moun 65.19 30 P **P** **19 07 14.9 +0.5**
baz=278,SNR=9.9
H23K Yukon River 65.20 27 IAmb IAmb 19 07 17.3
comp=Z,27nm,0.9s
H23K Yukon River 65.20 27 P **P** **19 07 15.7 +1.4**
baz=277,SNR=26
SUA Susitna One 65.25 32 P **P** **19 07 15.5 +0.7**
baz=278,SNR=15
E24K Your Creek 65.33 24 IAmb IAmb 19 07 17.7
comp=Z,12nm,0.8s
E24K Your Creek 65.33 24 P **P** **19 07 16.1 +1.0**
baz=277,SNR=10.0
CUT Chulitna 65.34 31 P **P** **19 07 15.3 +0.1**
baz=278
I23K Minto, Yukon-K 65.36 28 IAmb IAmb 19 07 17.8
comp=Z,27nm,1.4s
I23K Minto, Yukon-K 65.36 28 P **P** **19 07 16.2 +1.0**
baz=278
M22K Willow 65.51 31 P **P** **19 07 16.6 +0.4**
baz=279,SNR=7.4
NEA2 Nenana 65.56 28 P **P** **19 07 17.5 +0.9**
baz=278,SNR=19
F24K Squaw Lake 65.63 25 IAmb IAmb 19 07 19.6
comp=Z,23nm,0.7s
F24K Squaw Lake 65.63 25 P **P** **19 07 18.4 +1.3**
baz=278,SNR=26
SLKM Skilak Lake 65.65 33 IAmb IAmb 19 07 19.0
comp=Z,16nm,0.7s
MCK McKinley 65.75 29 P **P** **19 07 18.4 +0.6**
baz=279,SNR=14
KLMR Klimovskoe 65.77 328*e*P **P** **19 07 16.3 -1.6**
KLMR *e*PP **pP** **19 07 43.2 -4.1**
KLMR *e* 19 09 41.3
KLMR pmax pmax
comp=Z,22nm,1.1s
RC01 Rabbit Creek A 65.79 32 P **P** **19 07 18.0 -0.1**
baz=279
H24K Noodor Dome 65.88 27 IAmb IAmb 19 07 21.5
comp=Z,15nm,0.9s
H24K Noodor Dome 65.88 27 P **P** **19 07 19.4 +0.7**
baz=279,SNR=18
G24K Hadweenzic Riv 65.91 26 IAmb IAmb 19 07 21.6
comp=Z,13nm,0.8s
G24K Hadweenzic Riv 65.91 26 P **P** **19 07 20.4 +1.6**
baz=279,SNR=14
D25K Kavik River 65.92 23 P **P** **19 07 19.5 +0.6**
baz=279,SNR=6.4
PMR Palmer 66.00 31 P **P** **19 07 19.5 +0.1**
baz=280,SNR=8.7
WRH Wood River Hil 66.00 28 IAmb IAmb 19 07 22.1
comp=Z,16nm,0.8s
COLA College 66.04 28⇓*e*P **P** **19 07 20.1 +0.5**
COLA pmax pmax
comp=Z,10.0nm,0.8s
SEW Seward 66.09 33 P **P** **19 07 20.0 0.0**
baz=280,SNR=7.8
POKR Poker Plat Res 66.17 28 IAmb IAmb 19 07 22.9
comp=Z,22nm,0.7s
POKR Poker Plat Res 66.17 28 P **P** **19 07 21.4 +0.9**
baz=280,SNR=8.6
VRH Novokhopyorsk 66.31 317*e*P **P** **19 07 19.3 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KNK Knik Glacier 66.35 32 P **P** **19 07 22.2 +0.5**
baz=280,SNR=18
G25K Bearman Lake 66.43 26 P **P** **19 07 23.4 +1.3**
baz=280,SNR=15
ILAR Eielson Array 66.46 28 P **P** **19 07 21.9 -0.5**
ILAR Eielson Array 66.46 28 P **P** **19 07 22.0 -0.3**
comp=Z,3.5nm,0.6s,baz=251,slow=4.8,SNR=51
ILAR LR LR 19 39 30.4
comp=Z,33nm,18.1s,baz=188,slow=39
comp=Z,3.5nm,0.6s
F25K Christian Rive 66.47 25 IAmb IAmb 19 07 25.5
comp=Z,19nm,0.7s
F25K Christian Rive 66.47 25 P **P** **19 07 23.8 +1.3**
baz=280,SNR=29
HDA Harding Lake 66.50 28 IAmb IAmb 19 07 23.5
comp=Z,25nm,0.9s
HDA Harding Lake 66.50 28 P **P** **19 07 22.3 -0.3**
baz=280,SNR=16
PWL Port Wells 66.50 32 P **P** **19 07 22.8 +0.1**
baz=281,SNR=22
M23K Glacier View 66.62 31 P **P** **19 07 23.7 +0.2**
baz=281,SNR=12
H25L Birch Creek 66.63 26 P **P** **19 07 24.9 +1.6**
baz=280,SNR=10
C27K Jago River 66.80 22 P **P** **19 07 25.5 +1.1**
baz=281
SCM Sheep Creek Mo 66.80 31 P **P** **19 07 25.3 +0.7**
baz=281,SNR=28
FYU Fort Yukon 66.81 26 IAmb IAmb 19 07 28.2
comp=Z,32nm,1.4s
PRP Porcupine Dome 66.89 27 P **P** **19 07 25.4 +0.1**
baz=281,SNR=11
BMAR Burnt Mountain 66.90 25 P **P** **19 07 26.9 +1.7**
F26K Sheenjek River 67.01 24 IAmb IAmb 19 07 28.9
comp=Z,14nm,0.7s
F26K Sheenjek River 67.01 24 P **P** **19 07 27.2 +1.4**
baz=281,SNR=17
GLI Glacier Island 67.09 32 P **P** **19 07 26.6 +0.1**
baz=282
K24K Donnelly Dome 67.12 29 P **P** **19 07 26.9 +0.3**
baz=282,SNR=9.1
J25K Salcha River, 67.13 28 P **P** **19 07 25.7 -0.9**
baz=282,SNR=9.4
KBZ Khabaz 67.19 309 P **P** **19 07 27.9 +0.6**
comp=Z,8.6nm,0.9s,baz=76,slow=5.5,SNR=18
comp=Z,8.6nm,0.9s
KBZ Khabaz 67.19 309*ce*P **P** **19 07 27.6 +0.3**
KBZ pmax pmax
comp=Z,13nm,0.9s
M24K Tolsona, Glenn 67.28 31 P **P** **19 07 28.7 +1.0**
baz=282,SNR=17
KIV Kislovodsk 67.29 309 P **P** **19 07 27.9 -0.2**
KIV IAmb IAmb 19 07 29.8
comp=Z,24nm,0.8s
KIV Kislovodsk 67.29 309*e*P **P** **19 07 28.0 -0.1**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,18nm,17.0s
G26K Porcupine Rive 67.30 25 IAmb IAmb 19 07 30.6
comp=Z,16nm,0.8s
G26K Porcupine Rive 67.30 25 P **P** **19 07 29.5 +1.9**
baz=282,SNR=18
MSVF Nonsavu 67.33 124 P **P** **19 07 30.8 +2.2**

MSVF IAmb IAmb 19 07 31.9
comp=Z,37nm,1.2s
MSVF Nonsavu 67.33 124 P P 19 07 30.8 +2.2
MSVF pmax pmax
comp=Z,37nm,1.2s
PAX Paxson 67.42 30 IAmb IAmb 19 07 30.3
comp=Z,17nm,0.8s
PAX Paxson 67.42 30 P P 19 07 29.1 +0.5
baz=282,SNR=27
KLU Klutina 67.53 31 P P 19 07 29.6 +0.4
baz=282,SNR=12
RIDG Independent Ri 67.53 29 P P 19 07 29.2 -0.1
baz=282,SNR=20
HARP HAARP 67.68 30 P P 19 07 31.2 +1.1
baz=283,SNR=8.7
EYAK Cordova Ski Ar 67.81 32 IAmb IAmb 19 07 32.5
comp=Z,13nm,0.6s
EYAK Cordova Ski Ar 67.81 32 P P 19 07 31.7 +0.8
baz=283
D27M Malcolm River 67.83 23 P P 19 07 32.1 +1.1
baz=284
E27K Coleen River 67.85 24 P P 19 07 32.1 +1.0
baz=283,SNR=5.4
SCRK Sand Creek 67.86 28 IAmb IAmb 19 07 32.2
comp=Z,11nm,0.7s
SCRK Sand Creek 67.86 28 P P 19 07 31.8 +0.5
baz=283,SNR=22
VSR Storozhevoye 67.87 317 *eP* **P 19 07 28.0 -3.5**
VSR pmax pmax
comp=Z,8.0nm,1.0s
DOT Dot Lake 67.89 29 IAmb IAmb 19 07 32.8
comp=Z,22nm,0.8s
I26K Coal Creek Min 67.90 27 P P 19 07 31.2 -0.2
baz=283
J26L Joseph Creek 67.92 28 IAmb IAmb 19 07 32.8
comp=Z,22nm,0.8s
J26L Joseph Creek 67.92 28 P P 19 07 31.7 0.0
baz=283,SNR=43
N25K Chitina, Valde 68.12 31 IAmb IAmb 19 07 35.9
comp=Z,12nm,0.7s
N25K Chitina, Valde 68.12 31 P P 19 07 33.7 +0.8
baz=283,SNR=11
G27K Doyon Strip 68.15 25 P P 19 07 34.2 +1.2
baz=284,SNR=12
MENT Mentasta 68.21 30 IAmb IAmb 19 07 35.7
comp=Z,25nm,0.7s
BMRM Bremner River 68.26 32 P P 19 07 34.4 +0.5
baz=284,SNR=14
H27K Steamboat Moun 68.34 26 IAmb IAmb 19 07 37.1
comp=Z,14nm,0.7s
H27K Steamboat Moun 68.34 26 P P 19 07 35.7 +1.4
baz=284,SNR=22
L26K Log Cabin Wild 68.35 29 IAmb IAmb 19 07 36.6
comp=Z,15nm,0.8s
L26K Log Cabin Wild 68.35 29 P P 19 07 34.9 +0.6
baz=284
RAGM Ragged Mountai 68.37 32 IAmb IAmb 19 07 36.7
comp=Z,35nm,0.9s
I27K Kandik River 68.46 26 P P 19 07 36.7 +1.7
baz=284,SNR=36
OBN Obninsk 68.46 322 *ceP* **P 19 07 34.8 -0.3**
OBN *e* 19 08 01.0
OBN *SP **sP** **19 08 14.0 -3.7**
OBN *e* 19 10 13.6
OBN *eS **S** **19 16 31.6 +4.5**
OBN *e*SS **SKiKP 19 17 15.5 -0.9**
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,28nm,16.0s
E28M Babbage River 68.49 23 IAmb IAmb 19 07 37.7
comp=Z,11nm,0.8s
E28M Babbage River 68.49 23 P P 19 07 35.9 +0.9
baz=285,SNR=9.6
GLB Gilahina Butte 68.53 31 IAmb IAmb 19 07 37.4
comp=Z,25nm,0.8s
HMT Hamilton 68.58 32 IAmb IAmb 19 07 37.8
comp=Z,26nm,0.8s
F28M Old Crow 68.62 24 IAmb IAmb 19 07 39.1
comp=Z,15nm,1.0s
F28M Old Crow 68.62 24 P P 19 07 36.9 +1.0
baz=285,SNR=12
K27K Chicken 68.66 28 IAmb IAmb 19 07 38.6
comp=Z,22nm,0.8s
K27K Chicken 68.66 28 P P 19 07 37.2 +1.0
baz=285
M26K Nabesna, AK 68.66 30 P P 19 07 37.5 +1.2
baz=284,SNR=20
VRDI Verde Repeater 68.74 31 IAmb IAmb 19 07 38.8
comp=Z,28nm,0.7s
SPITS Spitsbergen Ar 68.83 348 P P 19 07 36.2 -0.9
comp=Z,13nm,1.0s,baz=59,slow=6.9,SNR=6.6
comp=Z,13nm,1.0s
MCARA McCarthy VSAT 68.91 31 P P 19 07 38.7 +1.0
baz=285,SNR=11
L27K Beaver Creek, 69.02 29 IAmb IAmb 19 07 41.0
comp=Z,17nm,0.8s
L27K Beaver Creek, 69.02 29 P P 19 07 39.8 +1.3
baz=285,SNR=36
BCAR Beaver Creek A 69.03 29 P P 19 07 40.1 +1.5
CRQE Cirque 69.03 32 P P 19 07 39.3 +0.6
baz=285,SNR=15
E29M Blow River 69.13 23 P P 19 07 40.1 +1.1
baz=287
JOF Joensuu 69.13 331 *eP* **P 19 07 38.2 -0.8**
I28M Miner Creek 69.17 26 IAmb IAmb 19 07 42.2
comp=Z,25nm,1.1s
I28M Miner Creek 69.17 26 P P 19 07 41.0 +1.5
baz=286,SNR=24
M27K Edge Creek, AK 69.18 30 IAmb IAmb 19 07 41.7
comp=Z,20nm,0.8s
M27K Edge Creek, AK 69.18 30 P P 19 07 40.4 +0.8
baz=285,SNR=24
ISLE Juniper Island 69.43 32 IAmb IAmb 19 07 42.7
comp=Z,22nm,0.7s
ARCES ARCESS Array B 69.49 338 P P 19 07 41.0 -0.2
ARCES IAmb IAmb 19 07 41.8
comp=Z,24nm,1.4s
ARCES ARCESS Array B 69.49 338 P P 19 07 40.7 -0.5
comp=Z,8.9nm,1.0s,baz=73,slow=7.7,SNR=10
ARCES LR LR 19 43 14.8
comp=Z,18nm,19.9s,baz=100,slow=40
comp=Z,8.9nm,1.0s
ARCES ARCESS Array B 69.49 338 P P 19 07 41.0 -0.2
ARCES pmax pmax
comp=Z,24nm,1.4s
G29M Pine Creek 69.51 25 IAmb IAmb 19 07 44.0
comp=Z,21nm,0.8s
G29M Pine Creek 69.51 25 P P 19 07 42.6 +1.2
baz=287,SNR=20
H29M Whitestone 69.58 25 IAmb IAmb 19 07 44.4
comp=Z,14nm,0.9s
H29M Whitestone 69.58 25 P P 19 07 42.8 +1.0
baz=287,SNR=10
BVCY Beaver Creek 69.62 30 P P 19 07 43.5 +1.3
baz=286,SNR=6.1
BARN Barnard Glacie 69.63 31 IAmb IAmb 19 07 44.5
comp=Z,28nm,0.7s
GRNC Granite Creek 69.67 32 IAmb IAmb 19 07 45.5
comp=Z,11nm,0.7s
MESA MESA 69.73 32 IAmb IAmb 19 07 45.2
comp=Z,15nm,0.9s
MESA MESA 69.73 32 P P 19 07 43.8 +0.7
baz=286
YAH Yahtse 69.78 32 IAmb IAmb 19 07 45.5
comp=Z,13nm,0.7s
DAWY Dawson 69.79 28 IAmb IAmb 19 07 45.2
comp=Z,18nm,0.9s
DAWY Dawson 69.79 28 P P 19 07 44.3 +1.1
baz=287,SNR=23
CTG Chitna Glacier 69.80 31 P P 19 07 44.6 +1.2
baz=286,SNR=29
I29M Ogilvie Camp, 69.85 26 IAmb IAmb 19 07 45.9
comp=Z,22nm,1.2s
I29M Ogilvie Camp, 69.85 26 P P 19 07 45.0 +1.5
baz=287
YUK3 Moose Creek 69.98 30 P P 19 07 45.7 +1.1
baz=287
LOGN Logan Glacier 70.00 31 IAmb IAmb 19 07 46.9
comp=Z,20nm,0.7s
TABL Table Mountain 70.05 32 IAmb IAmb 19 07 47.1
comp=Z,17nm,0.8s
F30M Barrier River 70.12 24 IAmb IAmb 19 07 47.5
comp=Z,12nm,0.8s
F30M Barrier River 70.12 24 P P 19 07 45.6 +0.5
baz=289,SNR=8.5
G30M tAoh Zraii Nji 70.16 24 IAmb IAmb 19 07 47.6
comp=Z,24nm,1.2s
G30M tAoh Zraii Nji 70.16 24 P P 19 07 46.0 +0.6
baz=289,SNR=10
J29N Klondike Camp 70.16 27 P P 19 07 47.0 +1.5
baz=288
EPYK Eagle Plains 70.17 25 IAmb IAmb 19 07 47.8
comp=Z,21nm,0.7s
EPYK Eagle Plains 70.17 25 P P 19 07 46.1 +0.6
baz=288,SNR=21
O28M Mount Upton 70.40 31 IAmb IAmb 19 07 50.3
comp=Z,28nm,0.8s
O28M Mount Upton 70.40 31 P P 19 07 48.5 +1.2
baz=287,SNR=18
YUK8 Steele Glacier 70.44 31 P P 19 07 48.9 +1.4
baz=288
MARD Mardin 70.50 303 IAmb IAmb 19 07 50.2
comp=Z,15nm,0.8s
PINM Pinnacle 70.57 32 P P 19 07 49.8 +1.7
baz=288,SNR=14
L29M L29M 70.61 29 P P 19 07 50.3 +2.0
baz=288,SNR=45
K29M Barlow Dome 70.64 28 IAmb IAmb 19 07 51.1
comp=Z,19nm,0.9s
K29M Barlow Dome 70.64 28 P P 19 07 49.8 +1.3
baz=288,SNR=30
I30M Mount Dempster 70.67 26 IAmb IAmb 19 07 50.8
comp=Z,14nm,0.8s
I30M Mount Dempster 70.67 26 P P 19 07 49.5 +0.9
baz=289,SNR=30
M29M Somme Creek 70.68 29 P P 19 07 50.9 +2.2
baz=288,SNR=44
INK Inuvik 70.69 23 P P 19 07 48.8 +0.3
baz=290
J30M Hart River 70.90 27 P P 19 07 51.3 +1.3
baz=289,SNR=14
G31M Satah River 70.91 24 P P 19 07 50.6 +0.8
baz=290,SNR=5.7
F31M Tsiigehtchic 70.92 24 P P 19 07 50.3 +0.4
baz=291
YUK4 Talbot Arm 70.94 30 P P 19 07 51.7 +1.3
baz=288
PNL Peninsula 71.11 32 P P 19 07 52.3 +1.0
baz=288,SNR=5.3
YUK6 Outpost Mounta 71.20 31 P P 19 07 53.1 +1.1
baz=289
H31M Peel River 71.27 25 IAmb IAmb 19 07 54.4
comp=Z,14nm,0.8s
H31M Peel River 71.27 25 P P 19 07 52.9 +0.8
baz=291,SNR=14
O29M Mount Kennedy 71.30 31 IAmb IAmb 19 08 00.6
comp=Z,21nm,1.0s
O29M Mount Kennedy 71.30 31 P P 19 07 54.3 +1.8
baz=289,SNR=8.7
M30M Minto, Yukon 71.37 29 IAmb IAmb 19 07 55.6
comp=Z,15nm,0.7s
M30M Minto, Yukon 71.37 29 P P 19 07 54.6 +1.8
baz=290,SNR=25
MAYO Mayo, Yukon 71.41 28 P P 19 07 54.8 +1.8
baz=290
N30M Aishikik Lake 71.61 30 IAmb IAmb 19 07 57.1
comp=Z,20nm,1.1s
N30M Aishikik Lake 71.61 30 P P 19 07 55.4 +1.1
baz=290,SNR=17
HYT Haines Junctio 71.63 31 IAmb IAmb 19 07 57.3
comp=Z,30nm,0.8s
HYT Haines Junctio 71.63 31 P P 19 07 55.9 +1.4
baz=290
A36M Sachs Harbour 71.81 18 P P 19 07 55.6 +0.4
baz=297
FINES FINESS Array B 71.92 330 P P 19 07 55.5 -0.5
comp=Z,11nm,0.7s,baz=74,slow=6.8,SNR=42
FINES LR LR 19 43 48.2
comp=Z,33nm,18.9s,baz=76,slow=39
comp=Z,11nm,0.7s
P29M Windy Craggy 71.92 32 P P 19 07 57.8 +1.6
baz=290,SNR=23
P30M Million Dollar 72.12 31 P P 19 07 58.6 +1.2
baz=290
N31M Braeburn, Yuko 72.19 30 IAmb IAmb 19 08 00.7
comp=Z,33nm,0.8s
N31M Braeburn, Yuko 72.19 30 P P 19 07 59.4 +1.6
baz=291,SNR=16
KEF Keuruu 72.20 331 *eP* **P 19 07 56.2 -1.5**
SJUU Sjulsmark 72.30 335 *eP* **P 19 07 57.7 -0.5**
M31M Drury Creek, Y 72.55 29 IAmb IAmb 19 08 02.1
comp=Z,19nm,0.7s
M31M Drury Creek, Y 72.55 29 P P 19 08 00.8 +1.0
baz=292
PLBC Pleasant Camp 72.64 32 P P 19 08 01.8 +1.4
baz=291,SNR=15
VSU Vasula 72.64 327 *ceP* **P 19 07 59.5 -0.9**
VSU pmax pmax
comp=Z,17nm,1.0s
VSU Vasula 72.64 327 *eP* **P 19 07 59.7 -0.7**
WHY Whitehorse 72.90 30 P P 19 08 03.4 +1.4
baz=292,SNR=18
MEF Metsahovi 73.12 329 *eP* **P 19 08 02.3 -0.9**
SKAG Skagway 73.13 32 P P 19 08 05.1 +1.8
baz=292,SNR=9.4
S31K Pelican 73.24 33 P P 19 08 05.4 +1.5
baz=291
N32M Quiet Lake 73.52 30 IAmb IAmb 19 08 08.1
comp=Z,34nm,0.8s
N32M Quiet Lake 73.52 30 P P 19 08 06.6 +1.0
baz=293
MMPY Sheldon Lake, 73.73 28 P P 19 08 08.1 +1.3
baz=294,SNR=12
P32M Atlin 73.84 31 P P 19 08 08.9 +1.3
baz=293,SNR=8.5
R32K Eaglecrest 73.97 33 IAmb IAmb 19 08 11.2
comp=Z,26nm,0.8s
R32K Eaglecrest 73.97 33 P P 19 08 09.8 +1.6
baz=293,SNR=6.5
RAF Rauma 74.01 330 *eP* **P 19 08 06.6 -1.7**
P33M Teslin, Yukon 74.02 30 P P 19 08 10.0 +1.4
baz=294,SNR=24
AKASG Malin Array Be 74.03 319 P P 19 08 07.9 -0.8
AKASG Malin Array Be 74.03 319 P P 19 08 08.1 -0.6
comp=Z,2.3nm,0.5s,baz=60,slow=6.3,SNR=18
comp=Z,2.3nm,0.5s
AKASG Malin Array Be 74.03 319 *i* P **P 19 08 08.3 -0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 74.03 319 *ceP* **P 19 08 08.2 -0.5**
SIT Sitka 74.03 34 P P 19 08 10.2 +1.7
baz=292,SNR=5.1
KIEV Kiev 74.04 319 P P 19 08 08.0 -0.7
KIEV Kiev 74.04 319 P P 19 08 08.0 -0.7
KIEV pmax pmax
comp=Z,8.0nm,0.8s
S32K Killisnoo 74.25 33 P P 19 08 11.3 +1.5
baz=293
Q32M Nakina River 74.78 32 P P 19 08 15.0 +1.9
baz=294
BR131 Keskin Array S 75.00 307 *ceP* **P 19 08 15.0 +0.2**
BRTR Keskin Array B 75.00 307 P P 19 08 13.1 -1.7
BRTR Keskin Array B 75.00 307 P P 19 08 14.9 +0.2
comp=Z,3.8nm,0.8s,baz=99,slow=5.5,SNR=20
BRTR pP **pP 19 08 47.0 +2.2**
comp=Z,5.2nm,1.1s,baz=99,slow=4.0,SNR=5.0
comp=Z,3.8nm,0.8s
BRTR Keskin Array B 75.00 307 *i* P **P 19 08 14.8 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
PABE Paberze 75.16 325 *eP* **P 19 08 15.3 +0.3**
R33M Jennings River 75.20 31 IAmb IAmb 19 08 18.6
comp=Z,18nm,0.8s
R33M Jennings River 75.20 31 P P 19 08 17.8 +2.3
baz=295,SNR=18
TGTN Hyland Airport 75.47 28 P P 19 08 18.2 +1.3
baz=297
U33K Whale Pass 75.53 34 IAmb IAmb 19 08 20.5
comp=Z,20nm,0.8s
U33K Whale Pass 75.53 34 P P 19 08 19.0 +1.8
baz=294,SNR=6.6
S34M Telegraph Cree 75.76 32 P P 19 08 20.8 +2.3
baz=295,SNR=8.7
CRAG Craig 75.79 35 P P 19 08 21.0 +2.3
baz=294
WRAK Wrangell Islan 75.79 34 IAmb IAmb 19 08 22.0
comp=Z,19nm,0.9s
WRAK Wrangell Islan 75.79 34 P P 19 08 20.6 +1.9
baz=295,SNR=6.8
WTLY Watson Lake, Y 75.88 30 P P 19 08 20.8 +1.6
baz=297
DLBC Dease Lake 76.06 32 P P 19 08 22.4 +2.1
baz=296,SNR=15
MMAI Mount Meron Ar 76.09 300 P P 19 08 22.1 +1.1
comp=Z,0.9nm,0.4s,baz=50,slow=7.9,SNR=1.4
comp=Z,0.9nm,0.4s
SUW Suwalki 76.18 323 *eP* **P 19 08 21.2 +0.3**
SUW Suwalki 76.18 323 *eP* **P 19 08 21.7 +0.8**
T35M Bob Quinn 76.59 33 P P 19 08 25.2 +1.9
baz=296
LIRD Liard River Hi 77.42 30 P P 19 08 29.6 +1.8
baz=299,SNR=7.0
BURAR Bucovina Array 77.64 317 P P 19 08 28.8 -0.6
BURAR Bucovina Array 77.64 317 P P 19 08 28.8 -0.6
BURAR pmax pmax
comp=Z,5.0nm,1.2s
KOTAN Kotaneelee Air 77.95 29 P P 19 08 32.5 +1.7
baz=301
HFS Hagfors 77.96 331 P P 19 08 30.6 -0.1
comp=Z,7.7nm,0.7s,baz=76,slow=6.3,SNR=17
HFS LR LR 19 46 00.5
comp=Z,28nm,18.1s,baz=60,slow=38
comp=Z,7.7nm,0.7s
TOAD Toad River Com 78.08 30 P P 19 08 33.1 +1.6
baz=300
NC405 NORSAR Array S 78.28 333 IAmb IAmb 19 08 32.8
comp=Z,36nm,1.4s
KWP Kalwaria Pacla 78.30 320 *eP* **P 19 08 33.8 +0.9**
BEL Belsk 78.42 322 *eP* **P 19 08 34.8 +1.3**
NB201 NORSAR Array S 78.49 333 P P 19 08 33.3 -0.4
NB2 NORSAR Subarra 78.53 333 P P 19 08 33.5 -0.5
comp=Z,4.5nm,0.8s,baz=54,slow=5.6
NOA NORSAR Array B 78.53 333 P P 19 08 33.5 -0.5
comp=Z,4.3nm,0.7s,baz=55,slow=5.5,SNR=20
NOA LR LR 19 46 17.5
comp=Z,13nm,19.6s,baz=65,slow=38
comp=Z,4.3nm,0.7s
NC204 NORSAR Array S 78.58 333 P P 19 08 33.8 -0.5
KOLS Kolonicke sedl 78.86 319 *eP* **P 19 08 36.5 +0.5**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 78.86 319 *eP* **P 19 08 36.5 +0.5**
QRZ Quartz Range 79.53 145 P P 19 08 38.7 -0.8
OJC Ojcow 79.72 321 *eP* **P 19 08 41.5 +0.9**
NIE Niedzica 79.80 320 *eP* **P 19 08 42.4 +1.3**
YKAW3 Yellowknife Wh 80.35 24 IAmb IAmb 19 08 45.6
comp=Z,25nm,0.8s
YKA Yellowknife Ar 80.39 24 P P 19 08 43.7 -0.2
YKA Yellowknife Ar 80.39 24 P P 19 08 44.7 +0.7
comp=Z,13nm,0.7s,baz=316,slow=5.4,SNR=30
comp=Z,13nm,0.7s
YKA Yellowknife Ar 80.39 24 *i* P **P 19 08 44.7 +0.7**
YKA pmax pmax
comp=Z,14nm,0.8s
LANS Liptovska Anna 80.41 320 *eP* **P 19 08 45.8 +1.4**
LANS Liptovska Anna 80.41 320 *eP* **P 19 08 45.8 +1.4**
YKAW1 Yellowknife Wh 80.44 24 IAmb IAmb 19 08 46.1
comp=Z,22nm,0.8s
RPZ Rata Peaks 80.94 148 P P 19 08 46.7 -0.4
STEB Steborice 81.00 321 *eP* **P 19 08 48.3 +0.8**
VYHS Vyhne 81.08 320 *eP* **P 19 08 48.9 +0.9**
VYHS pmax pmax
comp=Z,7.0nm,0.9s
VYHS Vyhne 81.08 320 *eP* **P 19 08 48.9 +0.9**
MORC Moravsky Berou 81.21 321 *eP* **P 19 08 49.2 +0.6**
KSP Ksiaz 81.38 323 *eP* **P 19 08 50.4 +0.9**
KRLC Kraliky 81.49 322 *eP* **P 19 08 51.0 +0.9**
KRLC Kraliky 81.49 322 *eP* **P 19 08 51.0 +0.9**
JAVC Velka Javorina 81.58 320 *eP* **P 19 08 52.6 +1.9**
DPC Dobruska-Polom 81.61 322 *eP* **P 19 08 51.9 +1.2**
DPC Dobruska-Polom 81.61 322 *eP* **P 19 08 51.9 +1.2**
SMOL Smolenice 81.89 320 *eP* **P 19 08 53.7 +1.5**
VRAC Vranov 81.98 321 *eP* **P 19 08 53.6 +0.9**
KRUC Moravsky 82.21 321 *eP* **P 19 08 54.6 +0.7**
BRG Berggiesshubel 82.64 323 *eP* **P 19 08 57.1 +1.1**
BRG Amp 19 08 59.4
comp=Z,3.6nm,1.0s
CLL Collm 82.91 324 *i* P **P 19 08 57.7 +0.3**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 82.91 324 *i* P **P 19 08 57.7 +0.3**
comp=Z,12nm,1.0s
RONA Rosalia, Austr 82.96 320 *ePcP* **PcP 19 09 00.3 -2.0**
comp=Z,3.5nm,1.3s
CONA Conrad Observa 83.09 320 *eP* **P 19 08 59.7 +1.1**
comp=Z,7.3nm,1.3s
ZVC Zvikov 83.26 322 *eP* **P 19 08 59.9 +0.6**
CKRC Cesky Krumlov 83.52 321 *eP* **P 19 09 01.6 +0.9**
CKRC Cesky Krumlov 83.52 321 *eP* **P 19 09 01.6 +0.9**
ARSA Arzberg 83.64 320 *eP* **P 19 09 01.7 +0.5**
comp=Z,3.1nm,1.0s
KHC Kasperske Hory 83.76 322⇑ *eP* **P 19 09 02.5 +0.6**
KHC pmax pmax
comp=Z,2.0nm,1.0s
KHC Kasperske Hory 83.76 322 *eP* **P 19 09 02.2 +0.3**
GERES GERESS Array B 83.84 322 P P 19 09 02.5 +0.1
GERES GERESS Array B 83.84 322 P P 19 09 03.0 +0.6
comp=Z,1.9nm,1.0s,baz=46,slow=4.4,SNR=10
comp=Z,1.9nm,1.0s
GERES GERESS Array B 83.84 322 P P 19 09 03.0 +0.6
SOKA Soboth 84.22 319 *eP* **P 19 09 04.8 +0.4**
comp=Z,5.2nm,1.1s
ITM Ithomi 84.42 309 IAmb IAmb 19 09 32.1
comp=Z,10nm,0.8s
GRF Grafenberg Arr 84.75 323 *eP* **P 19 09 07.6 +0.8**
comp=Z,12nm,1.1s,baz=61,slow=4.7
ABTA Abfaltersbach 85.65 320 *eP* **P 19 09 11.3 -0.2**
comp=Z,1.4nm,0.7s
WTTA Wattenberg 85.87 321 *eP* **P 19 09 12.7 0.0**
comp=Z,12nm,1.7s
MOTA Moosalm 86.12 321 PcP P 19 09 14.7 +0.8
comp=Z,3.9nm,0.9s
SQTA Sankt Quirin 86.13 321 *ePcP* **P 19 09 14.2 +0.2**
comp=Z,7.5nm,1.1s
FETA Feichten 86.52 321 *ePcP* **P 19 09 16.5 +0.6**
comp=Z,7.7nm,1.4s
DAVA Damuels 86.84 322 PcP P 19 09 18.2 +0.8
comp=Z,8.4nm,1.1s
KEBM Edson Butte 86.86 43 P P 19 09 20.0 +2.5
KEBM IAmb IAmb 19 09 20.7
comp=Z,20nm,0.9s
J01E Myrtle Point 86.95 43 IAmb IAmb 19 09 21.2
comp=Z,15nm,0.9s
TUE Stuetta 87.61 321 IAmb IAmb 19 09 23.3
comp=Z,17nm,1.4s
KSXB Camp Six Broad 87.70 44 P P 19 09 21.6 0.0
NEW Newport 87.96 36 IAmb IAmb 19 09 25.1
comp=Z,6.7nm,0.7s
NEW Newport 87.96 36 LR LR 19 51 47.3
comp=Z,34nm,18.1s,baz=304,slow=38
BNI Bardonecchia 89.96 321 IAmb IAmb 19 09 38.6
comp=Z,16nm,1.4s
FFC Flin Flon 90.52 25 P P 19 09 34.2 -0.2
FFC Flin Flon 90.52 25 P P 19 09 34.2 -0.2
FFC pmax pmax
comp=Z,29nm,0.9s
MSO Missoula 90.54 36 IAmb IAmb 19 09 38.5
comp=Z,5.6nm,0.8s
MFID Camas Ranch 91.64 39 IAmb IAmb 19 09 43.0
comp=Z,9.3nm,1.1s
HLID Hailey 92.35 39 IAmb IAmb 19 09 46.7
comp=Z,9.4nm,0.9s
NVAR Mina Array Bea 93.15 45 P P 19 09 47.2 0.0
NVAR Mina Array Bea 93.15 45 P P 19 09 47.9 +0.7
comp=Z,1.5nm,0.7s,baz=292,slow=3.9,SNR=7.1
comp=Z,1.5nm,0.7s
YHL Hebgen Lake 93.29 36 IAmb IAmb 19 09 52.8
comp=Z,8.4nm,1.2s
ELK Elko 93.63 41 LR LR 19 48 27.1
comp=Z,19nm,21.9s,baz=8.5,slow=33
YNE Yellowstone No 93.81 36 IAmb IAmb 19 09 48.6
comp=Z,8.9nm,1.2s
ESDC Sonseca Array 99.42 322 LR LR 20 00 31.0
comp=Z,17nm,18.2s,baz=34,slow=38

---

*KRSC **08** 19:36:34.8±2.3, 50.74N×156.65E, h150km±22km, Ml4.1*
*NEIC **08** 19:36:34.5±1.7, 50.6N±0.2×156.7E±0.3, h134km±5km, mb4.2/35, Error ellipse: s-maj=38.7km s-min=8.9km az=127.0*
*MOS **08** 19:36:35.7±1.2, 50.86N×156.30E, h162km, mb4.1/1, Error ellipse: s-maj=21.9km s-min=4.7km az=68.2*
*IDC **08** 19:36:38.2±1.3, 51.04N×156.23E, h166km±12km, mb3.4/9, mbtmp3.8/12, Error ellipse: s-maj=23.7km s-min=12.4km az=138.0*

ISC 08 19:36:35.5±0.7, 50.73N±0.07×156.53E±0.08, h149km±5km, n117, σ1s21/148, mb4.0/25, Kuril Islands

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

SKR	**Severo-Kuril's**	**0.26**	**261**	*i* PN	**Pn**	**19 36 56.8 +1.0**
SKR				*e*S	**Sn**	**19 37 11.7 +0.5**
SKR				pmax	pmax	
	comp=Z,685nm,0.5s					
SKR				smax	smax	
	comp=E,2µm,0.4s					
SKR				smax	smax	
	comp=N,3µm,0.7s					
SKR	**Severo-Kuril's**	**0.26**	**261**	*e*P	**Pn**	**19 36 56.7 +1.0**
SKR				*e*S	**Sn**	**19 37 11.5 +0.3**
PAU	**Pauzhetka**	**0.76**	**14**	*e*PN	**Pn**	**19 36 58.8 +0.6**
PAU				*e*S	**Sn**	**19 37 16.5 +0.7**
PAU	**Pauzhetka**	**0.76**	**14**	*e*P	**Pn**	**19 36 58.9 +0.6**
PAU				*e*S	**Sn**	**19 37 15.0 -0.8**
MIPR	**Malaya Ipel'ka**	**1.56**	**5**	PN	**Pn**	**19 37 05.8 +0.3**
MIPR				S	**Sn**	**19 37 27.5 -1.2**
MIPR	**Malaya Ipel'ka**	**1.56**	**5**	*e*P	**Pn**	**19 37 05.9 +0.3**
MIPR				*e*S	**Sn**	**19 37 27.5 -1.2**
ASAK	**Asacha**	**1.87**	**27**	PN	**Pn**	**19 37 09.8 +0.8**
ASAK				S	**Sn**	**19 37 35.1 +0.2**
ASAK	**Asacha**	**1.87**	**27**	*e*P	**Pn**	**19 37 09.8 +0.8**
ASAK				*e*S	**Sn**	**19 37 35.2 +0.2**
MTVR	**Mutnovka**	**2.04**	**30**	PN	**Pn**	**19 37 11.9 +0.8**
MTVR				S	**Sn**	**19 37 38.3 -0.3**
MTVR	**Mutnovka**	**2.04**	**30**	*e*P	**Pn**	**19 37 12.0 +0.8**
MTVR				*e*S	**Sn**	**19 37 38.3 -0.3**
GRL	**Gorelyy**	**2.07**	**27**	PN	**Pn**	**19 37 12.4 +1.0**
GRL				S	**Sn**	**19 37 40.1 +1.0**
GRL	**Gorelyy**	**2.07**	**27**	*e*P	**Pn**	**19 37 12.5 +1.0**
GRL				*e*S	**Sn**	**19 37 40.1 +1.0**
RUS	**Russkaya**	**2.11**	**35**	PN	**Pn**	**19 37 11.9 +0.1**
RUS				S	**Sn**	**19 37 38.1 -1.7**
RUS	**Russkaya**	**2.11**	**35**	*e*P	**Pn**	**19 37 11.9 +0.1**
RUS				*e*S	**Sn**	**19 37 38.1 -1.7**
APC	**Apacha**	**2.24**	**10**	PN	**Pn**	**19 37 14.1 +0.9**
APC				S	**Sn**	**19 37 42.7 +0.3**
APC	**Apacha**	**2.24**	**10**	*e*P	**Pn**	**19 37 14.1 +0.9**
APC				*e*S	**Sn**	**19 37 42.8 +0.3**
KRMR	**Karymshinskiy**	**2.33**	**25**	PN	**Pn**	**19 37 14.8 +0.4**
KRMR				S	**Sn**	**19 37 44.0 -0.4**
KRMR	**Karymshinskiy**	**2.33**	**25**	*e*P	**Pn**	**19 37 14.9 +0.4**
KRMR				*e*S	**Sn**	**19 37 44.1 -0.4**
PEA0B	**Petropavlovsk-**	**2.50**	**16**	Pn	**Pn**	**19 37 16.7 +0.3**
PEA0B	**Petropavlovsk-**	**2.50**	**16**	PN	**Pn**	**19 37 16.9 +0.5**
PEA0B				S	**Sn**	**19 37 47.8 -0.3**
PETK	**Petropavlovsk-**	**2.50**	**16**	P	**Pn**	**19 37 15.9 -0.5**
	comp=N,20nm,0.4s,baz=184,slow=12,SNR=36					
PETK				S	**Sn**	**19 37 48.4 +0.3**
	comp=N,20nm,0.9s,baz=199,slow=21,SNR=5.9					
PET	**Petropavlovsk**	**2.65**	**29**	Pn	**Pn**	**19 37 18.2 -0.2**
PET				Sn	**Sn**	**19 37 49.8 -1.7**
PET	**Petropavlovsk**	**2.65**	**29**	PN	**Pn**	**19 37 18.8 +0.5**
PET				S	**Sn**	**19 37 50.4 -1.1**
PET	**Petropavlovsk**	**2.65**	**29**	*e*P	**Pn**	**19 37 18.8 +0.5**
PET				*e*S	**Sn**	**19 37 50.5 -1.1**
DALK	**Dalny**	**2.69**	**30**	PN	**Pn**	**19 37 19.5 +0.7**
DALK				S	**Sn**	**19 37 50.8 -1.5**
DALK	**Dalny**	**2.69**	**30**	*e*P	**Pn**	**19 37 19.5 +0.7**
DALK				*e*S	**Sn**	**19 37 50.9 -1.5**
UGLR	**Uglovaya**	**2.87**	**29**	PN	**Pn**	**19 37 22.8 +1.7**
UGLR				S	**Sn**	**19 37 57.8 +1.4**
UGLR	**Uglovaya**	**2.87**	**29**	*e*P	**Pn**	**19 37 22.9 +1.7**
UGLR				*e*S	**Sn**	**19 37 57.8 +1.4**
KOK	**Koryaka**	**2.88**	**26**	PN	**Pn**	**19 37 22.8 +1.5**
KOK				S	**Sn**	**19 37 57.4 +0.6**
KOK	**Koryaka**	**2.88**	**26**	*e*P	**Pn**	**19 37 22.9 +1.5**
KOK				*e*S	**Sn**	**19 37 57.5 +0.6**
AVH	**Avacha**	**2.89**	**27**	PN	**Pn**	**19 37 23.0 +1.7**
AVH				S	**Sn**	**19 37 57.5 +0.6**
AVH	**Avacha**	**2.89**	**27**	*e*P	**Pn**	**19 37 23.1 +1.7**
AVH				*e*S	**Sn**	**19 37 57.5 +0.6**
SMAR	**Somma**	**2.91**	**28**	PN	**Pn**	**19 37 23.2 +1.5**
SMAR				S	**Sn**	**19 37 58.3 +0.8**
SMAR	**Somma**	**2.91**	**28**	*e*P	**Pn**	**19 37 23.2 +1.5**
SMAR				*e*S	**Sn**	**19 37 58.4 +0.8**
KRER	**Koryakskii**	**2.92**	**27**	PN	**Pn**	**19 37 23.1 +1.1**
KRER				S	**Sn**	**19 37 58.4 +0.5**
KRER	**Koryakskii**	**2.92**	**27**	*e*P	**Pn**	**19 37 23.1 +1.1**
KRER				*e*S	**Sn**	**19 37 58.5 +0.5**
SDLR	**Sedlovina**	**2.94**	**29**	PN	**Pn**	**19 37 23.1 +1.0**
SDLR				S	**Sn**	**19 37 57.4 -0.8**
SDLR	**Sedlovina**	**2.94**	**29**	*e*P	**Pn**	**19 37 23.1 +1.0**
SDLR				*e*S	**Sn**	**19 37 57.5 -0.8**
KRX	**Arik**	**2.95**	**26**	PN	**Pn**	**19 37 23.6 +1.4**
KRX				S	**Sn**	**19 37 59.1 +0.8**
KRX	**Arik**	**2.95**	**26**	*e*P	**Pn**	**19 37 23.6 +1.4**
KRX				*e*S	**Sn**	**19 37 59.1 +0.8**
SPN	**Mys Shipunski**	**3.21**	**41**	PN	**Pn**	**19 37 25.6 +0.2**
SPN				S	**Sn**	**19 38 01.0 -3.1**
SPN	**Mys Shipunski**	**3.21**	**41**	*e*P	**Pn**	**19 37 25.6 +0.2**
SPN				*e*S	**Sn**	**19 38 01.1 -3.1**
TUMD	**Tumrok D**	**5.06**	**26**	PN	**Pn**	**19 37 51.3 +1.8**
TUMD				S	**Sn**	**19 38 47.2 -0.1**
TUMD	**Tumrok D**	**5.06**	**26**	*e*P	**Pn**	**19 37 51.4 +1.8**
TUMD				*e*S	**Sn**	**19 38 47.3 -0.1**
KMNR	**Kamenistaya**	**5.51**	**22**	PN	**Pn**	**19 37 56.9 +1.3**
KMNR	**Kamenistaya**	**5.51**	**22**	*e*P	**Pn**	**19 37 56.9 +1.3**
KPT	**Kopyto**	**5.70**	**21**	PN	**Pn**	**19 37 59.4 +1.4**
KPT	**Kopyto**	**5.70**	**21**	*e*P	**Pn**	**19 37 59.5 +1.4**
BZMR	**Bezymyannaya**	**5.73**	**23**	PN	**Pn**	**19 37 59.7 +1.1**
BZMR	**Bezymyannaya**	**5.73**	**23**	*e*P	**Pn**	**19 37 59.8 +1.1**
BZWR	**Bezymyannyi-We**	**5.76**	**23**	PN	**Pn**	**19 38 00.5 +1.5**
BZWR	**Bezymyannyi-We**	**5.76**	**23**	*e*P	**Pn**	**19 38 00.6 +1.5**
KBTR	**Krutoberegovo**	**6.65**	**32**	PN	**Pn**	**19 38 09.9 -0.8**
KBTR	**Krutoberegovo**	**6.65**	**32**	*e*P	**Pn**	**19 38 09.9 -0.8**
KBTR				*e*S	Sn	19 39 17.3 -8.0
BKI	**Bering**	**7.25**	**48**	PN	**Pn**	**19 38 18.5 -0.2**
BKI	**Bering**	**7.25**	**48**	*e*P	**Pn**	**19 38 18.5 -0.2**
SHO	**Shikotan**	**9.50**	**228**	*e*PN	Pn	19 38 49.2 +0.4
ASAJ	**Asahikawa**	**11.51**	**240**	P	P	19 39 16.6 -6.2
	comp=N,3.5nm,0.5s,baz=67,slow=15,SNR=1.7					
ERM	**Erimo**	**12.68**	**232**	Pn	P	19 39 28.3 -7.5
ERM	**Erimo**	**12.68**	**232**	PN	P	19 39 28.3 -7.5
JTM	**Tenmabayashi**	**14.64**	**233**	Pn	**Pn**	**19 39 50.8 -4.5**
MAJO	**Matsushiro**	**19.33**	**230**	P	**Pn**	**19 40 49.6 -2.2**
MAJO				IAmb	IAmb	19 40 55.8
	comp=Z,5.7nm,0.7s					
MAJO	**Matsushiro**	**19.33**	**230**	P	**Pn**	**19 40 49.6 -2.2**
MAJO				pmax	pmax	
	comp=Z,6.0nm,0.7s					
MJAR	**Matsushiro Arr**	**19.33**	**230**	P	**Pn**	**19 40 51.1 -0.7**
	comp=Z,1.7nm,0.5s,baz=32,slow=9.0,SNR=7.0					
MJB9	**Matsu-Tunnel**	**19.33**	**230**		**Pn**	**19 40 50.6 -1.2**
MJB9				IAmb	IAmb	19 40 56.8
	comp=Z,5.5nm,0.7s					
JGF	**Kuroka**	**20.50**	**230**	P	Pn	19 41 03.0 -2.6
JGF				IAmb	IAmb	19 41 03.9
	comp=Z,5.7nm,0.6s					
INU	**Inuyama**	**20.87**	**230**	P	Pn	19 41 02.9 -7.1
INU				IAmb	IAmb	19 41 08.3
	comp=Z,9.5nm,0.8s					
KSRS	**Korea Array**	**24.27**	**248**	P	**P**	**19 41 40.0 +1.3**
	comp=Z,0.8nm,0.7s,baz=44,slow=9.2,SNR=4.4					
	comp=Z,0.8nm,0.7s					
L14K	**Kuka Creek**	**24.72**	**49**	P	**P**	**19 41 43.0 +0.6**
M17K	**Holitna River**	**27.24**	**49**	P	**P**	**19 42 05.3 +0.2**
M17K				IAmb	IAmb	19 42 07.6
	comp=Z,3.6nm,0.9s					
N17K	**Nushagak Hills**	**27.35**	**51**	P	**P**	**19 42 07.6 +1.5**
N17K				IAmb	IAmb	19 42 34.5
	comp=Z,5.0nm,1.2s					
F19K	**Shaleruckik Mo**	**27.79**	**37**	P	**P**	**19 42 09.6 -0.3**
G19K	**Purcell Mounta**	**27.92**	**39**	P	**P**	**19 42 11.1 0.0**
G19K				IAmb	IAmb	19 42 12.4
	comp=Z,6.4nm,1.4s					
H19K	**Roundabout Mou**	**28.07**	**40**	P	**P**	**19 42 13.5 +1.0**
H19K				IAmb	IAmb	19 42 14.8
	comp=Z,4.9nm,1.1s					
E19K	**Redstone River**	**28.14**	**36**	P	**P**	**19 42 14.3 +1.2**
E19K				IAmb	IAmb	19 42 20.0
	comp=Z,8.3nm,1.5s					
F20K	**Avaraart Lake**	**28.62**	**37**	P	**P**	**19 42 16.7 -0.7**
F20K				IAmb	IAmb	19 42 55.9
	comp=Z,5.8nm,1.4s					
B20K	**Meade River**	**28.85**	**31**	P	**P**	**19 42 19.8 +0.6**
B21K	**Ikpikpuk River**	**29.59**	**32**	P	**P**	**19 42 26.8 +1.0**
OHAK	**Old Harbor**	**29.64**	**58**	P	**P**	**19 42 27.3 +0.9**
CAST	**Castle Rocks**	**29.78**	**45**	P	**P**	**19 42 29.0 +1.3**
E22K	**Anaktuvuk Pass**	**30.29**	**36**	P	**P**	**19 42 32.8 +0.7**
E22K				IAmb	IAmb	19 42 52.6
	comp=Z,7.6nm,1.5s					
CNPM	**China Poot**	**30.39**	**53**	P	**P**	**19 42 33.6 +0.5**
COLD	**Coldfoot**	**30.79**	**38**	P	**P**	**19 42 37.4 +0.9**
COLD				IAmb	IAmb	19 42 37.5
	comp=Z,2.1nm,0.6s					
G23K	**Bananza Creek**	**30.81**	**39**	P	**P**	**19 42 37.0 +0.3**
D23K	**Nanushuk River**	**30.83**	**34**	P	**P**	**19 42 38.0 +1.3**
E23K	**Chandalar**	**31.09**	**36**	P	**P**	**19 42 40.1 +0.9**
E23K				IAmb	IAmb	19 42 40.9
	comp=Z,4.5nm,0.6s					
TOLK	**Toolik Lake Re**	**31.18**	**35**	P	**P**	**19 42 40.5 +0.5**
TOLK				IAmb	IAmb	19 43 06.2
	comp=Z,9.7nm,1.4s					
E24K	**Your Creek**	**31.52**	**36**	P	**P**	**19 42 44.0 +1.1**
E24K				IAmb	IAmb	19 42 44.7
	comp=Z,3.4nm,0.6s					
C24K	**Franklin Bluff**	**31.64**	**33**	P	**P**	**19 42 44.4 +0.5**
F24K	**Squaw Lake**	**31.70**	**37**	P	**P**	**19 42 45.5 +0.9**
G24K	**Hadweenzic Riv**	**31.82**	**39**	P	**P**	**19 42 46.7 +1.2**
G24K				IAmb	IAmb	19 42 47.8
	comp=Z,4.9nm,0.8s					
H11N2	**WAKE ISLAND Hy**	**32.00**	**161**	T	T	20 16 49.0
	baz=348,slow=76,SNR=13					
H11N1	**WAKE ISLAND Hy**	**32.02**	**161**	T	T	20 16 54.2
	baz=348,slow=76,SNR=13					
H11N3	**WAKE ISLAND Hy**	**32.02**	**161**	T	T	20 16 54.1
	baz=348,slow=76,SNR=34					
HDA	**Harding Lake**	**32.04**	**43**	P	**P**	**19 42 48.6 +1.2**
SCM	**Sheep Creek Mo**	**32.05**	**48**	P	**P**	**19 42 49.0 +1.3**
SCM				IAmb	IAmb	19 43 26.8
	comp=Z,8.1nm,1.2s					
SCM	**Sheep Creek Mo**	**32.05**	**48**	P	**P**	**19 42 49.0 +1.3**
ILAR	**Eielson Array**	**32.06**	**42**	P	**P**	**19 42 47.8 +0.2**
	comp=Z,0.7nm,0.7s,baz=264,slow=8.4,SNR=8.6					
	comp=Z,0.7nm,0.7s					
D25K	**Kavik River**	**32.40**	**34**	P	**P**	**19 42 51.2 +0.6**
F25K	**Christian Rive**	**32.57**	**37**	P	**P**	**19 42 53.7 +1.6**
F25K				IAmb	IAmb	19 43 00.4
	comp=Z,4.5nm,1.4s					
H11S1	**WAKE ISLAND Hy**	**33.15**	**162**	T	T	20 18 14.5
	baz=348,slow=76,SNR=41					
H11S3	**WAKE ISLAND Hy**	**33.16**	**162**	T	T	20 18 15.4
	baz=348,slow=76,SNR=31					
H11S2	**WAKE ISLAND Hy**	**33.17**	**162**	T	T	20 18 15.9
	baz=348,slow=76,SNR=23					
C27K	**Jago River**	**33.36**	**33**	P	**P**	**19 43 00.0 +1.1**
DOT	**Dot Lake**	**33.36**	**44**	P	**P**	**19 42 58.8 -0.2**
SCRK	**Sand Creek**	**33.36**	**44**	P	**P**	**19 42 57.9 -1.2**
SCRK				IAmb	IAmb	19 43 00.1
	comp=Z,2.8nm,1.0s					
G27K	**Doyon Strip**	**34.13**	**38**	P	**P**	**19 43 07.1 +1.5**
KURK	**Kurchatov**	**47.11**	**302**	P	**P**	**19 44 50.5 -1.5**
MKAR	**Makanchi Array**	**47.19**	**296**	P	**P**	**19 44 51.0 -1.7**
	comp=Z,0.1nm,0.3s,baz=60,slow=7.0,SNR=1.8					
KURBB	**Kurchatov Arra**	**47.21**	**302**	P	**P**	**19 44 50.5 -2.3**
	comp=Z,0.2nm,0.5s,baz=59,slow=7.3,SNR=2.1					
	comp=Z,0.2nm,0.5s					
ARCES	**ARCESS Array B**	**54.83**	**341**	P	**P**	**19 45 46.8 -2.6**
	comp=Z,2.6nm,0.9s,baz=36,slow=8.1,SNR=1.7					
	comp=Z,2.6nm,0.9s					
CMAR	**Chiang Mai Arr**	**55.50**	**256**	P	**P**	**19 45 56.4 +1.5**
	comp=Z,1.2nm,0.7s,baz=25,slow=6.9,SNR=7.5					
	comp=Z,1.2nm,0.7s					
PDAR	**Pinedale Array**	**60.64**	**57**	P	**P**	**19 46 32.5 +1.9**
	comp=Z,0.4nm,0.5s,baz=336,slow=3.3,SNR=4.6					
	comp=Z,0.4nm,0.5s					
WRA	**Warramunga Arr**	**73.03**	**202**	P	**P**	**19 47 50.5 +1.7**
	comp=Z,1.2nm,0.6s,baz=17,slow=6.1,SNR=10					
	comp=Z,1.2nm,0.6s					
TXAR	**Lajitas Array**	**73.64**	**64**	P	**P**	**19 47 52.5 -0.1**
	comp=Z,1.1nm,0.5s,baz=342,slow=4.3,SNR=3.8					
	comp=Z,1.1nm,0.5s					
ASAR	**Alice Springs**	**76.72**	**201**	P	**P**	**19 48 12.3 +2.4**
	comp=Z,0.9nm,0.5s,baz=12,slow=5.1,SNR=33					
	comp=Z,0.9nm,0.5s					
VNDA	**Vanda**	**128.02**	**179**	PKP	**PKiKP**	**19 55 23.0 +0.6**
	comp=Z,0.3nm,0.5s,baz=43,slow=12,SNR=2.3					

*IDC **08** 19:42:18.1±2.3, 12°.99N×145°.57E, h56km±15km, mb3.7/13, mbtmp4.0/13, MS4.1/6, Error ellipse: s-maj=31.6km s-min=16.2km az=85.0*
*NEIC **08** 19:42:21.4±0.5, 13°.1N±0°.1×145°.29E±0°.08, h64km±9km, mb4.3/19, Error ellipse: s-maj=15.2km s-min=10.6km az=198.0*

ISC 08 19:42:17.0±0.9, 12°.9N±0°.1×145°.6E±0°.2, h43km, n38, σ1°.17/36, mb4.3/24, MS4.2/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.95**	**316**		**Pn**	**19 42 35.2**	**+1.3**
GUMO				Sn	**Sn**	**19 42 44.7**	**-1.6**
GUMO	**Guam**	**0.95**	**316**	P	**Pn**	**19 42 35.4**	**+1.5**
	1µm,0.3s,baz=83,slow=6.1,SNR=45						
GUMO				S	**Sn**	**19 42 47.7**	**+1.5**
	463nm,0.4s,baz=163,slow=20,SNR=8.7						
GUMO				LR	LR	19 42 56.2	
	comp=Z,146nm,21.3s,baz=160,slow=42						
MJAR	**Matsushiro Arr**	**24.44**	**346**	P	**P**	**19 47 30.7**	**-1.1**
	0.4nm,0.3s,baz=124,slow=18,SNR=1.8						
	0.4nm,0.3s						
KSRS	**Korea Array**	**29.08**	**330**	P	**P**	**19 48 12.2**	**-1.2**
	0.8nm,0.6s,baz=149,slow=9.2,SNR=6.3						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**34.46**	**199**	P	**P**	**19 49 01.0**	**+0.1**
	0.4nm,0.6s,baz=20,slow=9.6,SNR=9.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**38.09**	**197**	P	**P**	**19 49 32.1**	**+0.3**
	0.5nm,0.8s,baz=28,slow=9.1,SNR=8.4						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.11**	**283**	P	**P**	**19 50 29.9**	**+0.4**
	1.0nm,0.6s,baz=86,slow=6.1,SNR=8.6						
	1.0nm,0.6s						
SONM	**Songino Array**	**47.66**	**325**	P	**P**	**19 50 48.7**	**-0.6**
	1.7nm,0.7s,baz=133,slow=7.8,SNR=13						
	1.7nm,0.7s						
TIXI	**Tiksi**	**59.58**	**354**	LR	LR	20 19 31.3	
	comp=Z,128nm,20.4s,baz=200,slow=38						
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**	**19 52 34.6**	**-1.2**
	0.6nm,0.5s,baz=91,slow=8.6,SNR=11						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**62.56**	**324**	P	**P**	**19 52 34.4**	**-2.0**
	1.0nm,0.6s,baz=98,slow=9.1,SNR=4.1						
	1.0nm,0.6s						
KURK	**Kurchatov**	**65.53**	**320**	P	**P**	**19 52 55.8**	**-0.2**
KURK				IAmb	IAmb	19 52 57.1	
	comp=Z,7.0nm,1.1s						
KURBB	**Kurchatov Arra**	**65.57**	**320**	P	**P**	**19 52 56.0**	**-0.2**
	comp=Z,3.1nm,0.5s,baz=103,slow=6.9,SNR=32						
	comp=Z,3.1nm,0.5s						
E22K	**Anaktuvuk Pass**	**68.06**	**21**	P	**P**	**19 53 13.0**	**+1.1**
E22K				IAmb	IAmb	19 53 19.6	
	comp=Z,4.2nm,1.1s						
G23K	**Bananza Creek**	**68.22**	**23**	P	**P**	**19 53 14.4**	**+1.5**
G23K				IAmb	IAmb	19 53 51.8	
	comp=Z,5.1nm,1.4s						
D23K	**Nanushuk River**	**68.74**	**20**	P	**P**	**19 53 17.6**	**+1.5**
D23K				IAmb	IAmb	19 53 18.7	
	comp=Z,4.8nm,0.9s						
E23K	**Chandalar**	**68.81**	**21**	P	**P**	**19 53 18.1**	**+1.5**
ILAR	**Eielson Array**	**68.90**	**25**	P	**P**	**19 53 16.4**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=250,slow=5.7,SNR=13						
	comp=Z,0.5nm,0.3s						
TOLK	**Toolik Lake Re**	**69.01**	**21**	P	**P**	**19 53 19.2**	**+1.4**
TOLK				IAmb	IAmb	19 53 20.0	
	comp=Z,3.9nm,1.1s						
C23K	**Itkillik River**	**69.07**	**19**	P	**P**	**19 53 19.3**	**+1.3**
PAX	**Paxson**	**69.07**	**27**	P	**P**	**19 53 19.1**	**+0.8**
G24K	**Hadweenzic Riv**	**69.19**	**23**	P	**P**	**19 53 20.1**	**+1.2**
G24K				IAmb	IAmb	19 53 39.4	
	comp=Z,6.4nm,1.4s						
E24K	**Your Creek**	**69.22**	**22**	P	**P**	**19 53 20.3**	**+1.2**
E24K				IAmb	IAmb	19 53 20.6	
	comp=Z,3.3nm,0.9s						
F24K	**Squaw Lake**	**69.27**	**22**	P	**P**	**19 53 20.3**	**+0.9**
F24K				IAmb	IAmb	19 53 21.8	
	comp=Z,2.6nm,0.8s						
D24K	**Happy Valley**	**69.43**	**20**	P	**P**	**19 53 22.0**	**+1.7**
C24K	**Franklin Bluff**	**69.66**	**20**	P	**P**	**19 53 22.9**	**+1.2**
DOT	**Dot Lake**	**69.84**	**27**	P	**P**	**19 53 23.6**	**+0.6**
SCRK	**Sand Creek**	**69.94**	**26**	P	**P**	**19 53 25.1**	**+1.4**
SCRK				IAmb	IAmb	19 53 44.8	
	comp=Z,4.0nm,1.4s						
F25K	**Christian Rive**	**70.11**	**22**	P	**P**	**19 53 26.1**	**+1.5**
D25K	**Kavik River**	**70.32**	**20**	P	**P**	**19 53 26.4**	**+0.6**
D25K				IAmb	IAmb	19 53 29.1	
	comp=Z,3.7nm,1.0s						
BVAR	**Borovoye Array**	**70.87**	**322**	P	**P**	**19 53 29.5**	**0.0**
	comp=Z,3.5nm,0.4s,baz=102,slow=7.8,SNR=40						
	comp=Z,3.5nm,0.4s						
BRVK	**Borovoye**	**70.93**	**322**	P	**P**	**19 53 30.1**	**+0.3**
BRVK				IAmb	IAmb	19 53 31.0	
	comp=Z,2.7nm,0.7s						
AB31	**Akbulak array**	**77.49**	**318**	P	**P**	**19 54 07.9**	**-0.2**
SPITS	**Spitsbergen Ar**	**84.83**	**351**	LR	LR	20 34 04.9	
	comp=Z,33nm,21.5s,baz=36,slow=37						
ARCES	**ARCESS Array B**	**87.93**	**342**	P	**P**	**19 55 02.3**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=64,slow=8.5,SNR=5.3						
ARCES				LR	LR	20 38 09.5	
	comp=Z,72nm,19.1s,baz=74,slow=38						
	comp=Z,1.9nm,0.7s						
FINES	**FINESS Array B**	**92.05**	**335**	P	**P**	**19 55 20.1**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=68,slow=4.4,SNR=9.8						
FINES				LR	LR	20 36 48.9	
	comp=Z,125nm,18.7s,baz=78,slow=36						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**97.67**	**338**	LR	LR	20 39 49.5	
	comp=Z,192nm,19.4s,baz=55,slow=35						
NOA	**NORSAR Array B**	**97.92**	**339**	LR	LR	20 40 21.0	
	comp=Z,82nm,19.1s,baz=75,slow=36						

IDC 08 19:58:02.3±3.5, 4°.57S×153°.38E, h0km, mb3.6/3, mbtmp3.7/4, ML2.1/1, Error ellipse: s-maj=106.8km s-min=33.8km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.82**	**232**	Pn	Pn	19 59 59.4	+2.0
	1.6nm,0.3s,baz=34,slow=13,SNR=4.8						
PMG				Sn	Sn	20 01 27.5	+0.7
	5.0nm,0.3s,baz=33,slow=22,SNR=10						
	6.1nm,0.5s						
WRA	**Warramunga Arr**	**24.03**	**229**	P	P	20 03 19.1	-0.2
	0.9nm,0.5s,baz=54,slow=9.9,SNR=12						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**26.71**	**223**	P	P	20 03 43.4	-0.2
	0.4nm,0.4s,baz=46,slow=10,SNR=8.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**80.53**	**319**	P	P	20 10 16.6	-0.1
	0.2nm,0.5s,baz=118,slow=6.5,SNR=2.1						
	0.2nm,0.5s						

*KRNET **08** 19:58:05.9±0.1, 40°.47N×73°.40E, h20km, mb3.8*
*SOME **08** 19:58:06.7, 40°.55N×73°.37E, h10km*
*NNC **08** 19:58:07.0±1.7, 40°.47N×73°.41E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=13.7km s-min=8.7km az=168.0*
*ISU **08** 19:58:07, 40°.33N×73°.31E, h19km*
*IDC **08** 19:58:07.8±2.7, 40°.79N×72°.90E, h0km, mb3.6/1, mbtmp3.2/5, ML2.8/4, Error ellipse: s-maj=45.7km s-min=20.7km az=143.0*

ISC 08 19:58:07.1±1.2, 40.48N±0°.04×73.37E±0°.02, h3km±9km, n65, σ1°.66/96, 23C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.45**	**276**	⇑*i*P	**Pg**	**19 58 15.3**	**-0.5**
OHH				⇑*i*S	**Sg**	**19 58 21.9**	**+0.3**
SALK	**Salom-Alik**	**0.53**	**40**	⇑*i*P	**Pg**	**19 58 16.2**	**-1.1**
SALK				⇑*i*S	**Sg**	**19 58 23.5**	**-0.7**
TSTA	**Tashata**	**0.69**	**278**	P	**Pg**	**19 58 19.4**	**-0.9**
TSTA				S	**Sg**	**19 58 29.3**	**+0.1**
ANR	**Andizhan**	**0.82**	**290**	P	**Pg**	**19 58 23.1**	**+0.3**
ARSB	**Arslanbob**	**0.89**	**341**	⇑*i*P	**Pg**	**19 58 23.3**	**-1.0**
ARSB				⇑*i*S	**Sg**	**19 58 35.9**	**+0.1**
FRG	**Fergana**	**1.22**	**265**	P	**Pn**	**19 58 31.2**	**+0.1**
FRG				S	**Sb**	**19 58 47.3**	**+0.4**
NAM	**Namangan**	**1.40**	**292**	S	**Sn**	**19 58 55.8**	**+3.3**
CHMI	**Chimion**	**1.43**	**262**	P	**Pn**	**19 58 33.1**	**-0.9**
KSNS	**Kasansay**	**1.56**	**296**	P	**Pg**	**19 58 40.2**	**+3.2**
JNKS	**Jany-Kuch**	**1.83**	**71**	⇓*i*P	**Pn**	**19 58 39.0**	**-0.7**
JNKS				⇓*i*S	**Sn**	**19 59 03.1**	**-0.4**
MINT	**Mingtut**	**1.83**	**270**	P	**Pb**	**19 58 41.5**	**+0.3**
MINT				S	**Sg**	**19 59 05.7**	**-0.1**
UCH	**Uchtor**	**1.95**	**26**	P	**Sg**	**19 59 10.2**	**+0.5**

TNSS	**Tian-Shan** 7.5nm,0.3s	**3.70**	**45**	Pg	**Pb**	**19 59 13.8**	**+0.5**
TNSS	9.7nm,0.4s			Lg	Lg	20 00 02.1	
TNSS	**Tian-Shan** 7.5nm,0.3s	**3.70**	**45**	*eP*	**Pb**	**19 59 13.8**	**+0.5**
TNSS	9.7nm,0.4s			*eS*	**Sb**	**20 00 02.1**	**+3.3**
KTBS	**Karatobe** 9.1nm,0.3s	**4.06**	**36**	Pg	**Pb**	**19 59 21.0**	**+1.7**
KTBS	26nm,0.6s			Lg	Lg	20 00 14.0	
KUU	**Kurty** 2.0nm,0.1s	**4.06**	**32**	Pg	**Pb**	**19 59 19.9**	**+0.6**
KUU	58nm,0.7s			Lg	Lg	20 00 12.4	
KUU	**Kurty** 2.0nm,0.1s	**4.06**	**32**	*eP*	**Pb**	**19 59 19.9**	**+0.6**
KUU	58nm,0.7s			*eS*	**Sb**	**20 00 12.4**	**+3.6**
CHKK	**Chushkaly** 12nm,0.3s	**4.31**	**37**	Pg	**Pb**	**19 59 25.6**	**+2.1**
CHKK	25nm,0.7s			Lg	Lg	20 00 22.1	
CHKK	**Chushkaly** 12nm,0.3s	**4.31**	**37**	*eP*	**Pb**	**19 59 25.6**	**+2.1**
CHKK	25nm,0.7s			*eS*	**Sg**	**20 00 22.1**	**-3.5**
SATY	**Saty** 13nm,0.6s	**4.56**	**54**	Pg	**Pb**	**19 59 29.6**	**+1.7**
SATY	18nm,0.6s			Lg	Lg	20 00 29.4	
BTLS	**Baital** 5.6nm,0.5s	**4.58**	**6**	Pg	**Pb**	**19 59 29.6**	**+1.4**
BTLS	27nm,0.6s			Lg	Lg	20 00 29.1	
BTLS	**Baital** 5.6nm,0.5s	**4.58**	**6**	*eP*	**Pb**	**19 59 29.6**	**+1.4**
BTLS	27nm,0.6s			*eS*	**Sb**	**20 00 29.1**	**+5.2**
KURS	**Kuram** 3.5nm,0.6s	**4.67**	**48**	Pg	**Pb**	**19 59 31.2**	**+1.5**
KURS	14nm,1.2s			Lg	Lg	20 00 31.8	
KPKS	**Kokpek** 0.4nm,0.2s	**4.96**	**51**	Pg	**Pb**	**19 59 35.9**	**+1.3**
KPKS	21nm,0.6s			Lg	Lg	20 00 39.8	
ARXS	**Arharly** 3.2nm,0.3s	**4.98**	**40**	Pg	**Pb**	**19 59 37.0**	**+2.0**
ARXS	21nm,0.7s			Lg	Lg	20 00 42.4	
UZB	**Uzynbulak** 3.4nm,0.5s	**4.99**	**56**	Pg	**Pb**	**19 59 37.1**	**+1.9**
UZB	9.3nm,0.4s			Lg	Lg	20 00 42.2	
UZB	**Uzynbulak** 3.4nm,0.5s	**4.99**	**56**	*eP*	**Pb**	**19 59 37.1**	**+1.9**
UZB	9.3nm,0.4s			*eS*	**Sg**	**20 00 42.2**	**-5.3**
SHLS	**Shalkode** 6.9nm,0.5s	**5.28**	**58**	Pg	**Pg**	**19 59 48.2**	**0.0**
SHLS	25nm,0.7s			Lg	Lg	20 01 00.9	
SHLS	**Shalkode** 6.9nm,0.5s	**5.28**	**58**	*eP*	**Pg**	**19 59 48.2**	**0.0**
SHLS	25nm,0.7s			*eS*	**Sg**	**20 01 00.9**	**+4.3**
PDGK	**Podgornoye** 1.9nm,0.7s	**5.38**	**56**	⇑Pn	**Pn**	**19 59 28.3**	**-0.1**
PDGK	4.7nm,0.6s			⇓Pg	**Pb**	**19 59 45.4**	**+3.6**
PDGK	16nm,0.7s			⇑Lg	Lg	20 01 01.1	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=232,slow=17,SNR=7.3	**9.03**	**43**	Pn	**Pn**	**20 00 22.4**	**+4.0**
MKAR	0.1nm,0.3s,baz=237,slow=24,SNR=2.5 0.2nm,0.5s			Lg	Lg	20 02 52.9	
KURBB	**Kurchatov Arra** baz=207,slow=13,SNR=1.8	**10.77**	**18**	Pn	**Pn**	**20 00 40.7**	**-1.4**
KURBB	baz=206,slow=31,SNR=4.9 0.1nm,0.4s			Lg	Lg	20 03 46.1	
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=220,slow=13,SNR=2.0 0.3nm,0.3s	**15.53**	**26**	Pn	**Pn**	**20 01 45.2**	**-1.7**
FINES	**FINESS Array B** 0.4nm,0.5s,baz=111,slow=10,SNR=5.3 0.4nm,0.5s	**35.34**	**322**	P	**P**	**20 05 01.1**	**-2.2**

*IDC **08** 20:12:04.9±1.1,39.˙94N×21.˙47E, h0km, mb3.6/7, mbtmp3.6/14, ML3.4/5, MS3.0/3, Error ellipse: s-maj=16.1km s-min=14.0km az=169.0*
*BEO **08** 20:12:07.8±0.6, 39.˙99N×21.˙68E, h6km±3km, ML3.3/9*
*PDG **08** 20:12:07.4±0.5, 40.˙03N×21.˙54E, h17km, ML3.7/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*NAO **08** 20:12:07.7, 39.˙94N×20.˙21E, h10km, mb3.7*
*SKO **08** 20:12:07.1, 39.˙88N×21.˙44E, h0km, ML3.9*
*SOF **08** 20:12:08.5, 40.˙06N±0.˙02×21.˙55E±0.˙02, h17km±2km, MD3.6/10*
*ATH **08** 20:12:08.9, 40.˙02N×21.˙60E, h16km±1km, ML3.7/21, Manual Solution by M.Papanikolaou First location: 2019/08/08 20:12:25, This location: 2019/08/08 20:25:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **08** 20:12:08.0, 40.˙0N±0.˙6×21.˙5E±0.˙7, h3km±1km, M3.7/28, MLh3.7/28*
*AFAD **08** 20:12:09.0, 40.˙36N×21.˙82E, h62km±13km, MW3.6*

ISC 08 20:12:07.9±0.9, **40.˙02N**±0.˙02×**21.˙53E**±0.˙02, **h15**km±7km, **n223**, σ1**s54**/283, **mb3.7**/6, **16C-9D**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.34**	**33**	P		**Pb**	**20 12 15.7**	**+0.1**
KZN				S		**Sb**	**20 12 21.0**	**0.0**
KZN	**Kozani**	**0.34**	**33**	P		**Pb**	**20 12 15.8**	**+0.1**
KZN				S		**Sb**	**20 12 20.6**	**-0.4**
PENT	**Pentalofos**	**0.35**	**300**	P		**Pg**	**20 12 14.6**	**-0.5**
PENT				S		**Sg**	**20 12 18.5**	**-1.5**
NEST	**Nestorio**	**0.54**	**317**	P		**Pg**	**20 12 17.9**	**-0.7**
NEST				S		**Sg**	**20 12 25.4**	**-0.4**
THL	**Klokotos Trika**	**0.59**	**141**	P		**Pg**	**20 12 19.6**	**0.0**
THL				S		**Sb**	**20 12 28.7**	**+0.6**
THL	**Klokotos Trika**	**0.59**	**141**	P		**Pb**	**20 12 19.8**	**-0.1**
THL				S		**Sb**	**20 12 27.9**	**-0.2**
PRMD	**Pramanda**	**0.59**	**214**	P		**Pg**	**20 12 19.0**	**-0.6**
PRMD				S		**Sg**	**20 12 27.9**	**+0.3**
TYRN	**Tyrnavos**	**0.62**	**120**	P		**Pb**	**20 12 20.9**	**+0.4**
TYRN				S		**Sg**	**20 12 28.2**	**-0.2**
JAN	**Janina**	**0.64**	**235**	P		**Pg**	**20 12 19.5**	**-0.9**
JAN				S		**Sg**	**20 12 28.3**	**-0.6**
JAN	**Janina**	**0.64**	**235**	P		**Pg**	**20 12 20.8**	**+0.4**
TETR	**Tetrakomo, Epi**	**0.70**	**196**	P		**Pg**	**20 12 20.9**	**-0.8**
TETR				S		**Sb**	**20 12 32.4**	**+0.9**
LIT	**Litokhoron**	**0.74**	**84**	P		**Pb**	**20 12 22.4**	**-0.1**
LIT				S		**Sn**	**20 12 33.9**	**-1.0**
LIT	**Litokhoron**	**0.74**	**84**	P		**Pb**	**20 12 22.9**	**+0.4**
LIT				S		**Sn**	**20 12 34.3**	**-0.5**
LIT	comp=E,2μm,0.2s			*i* IAML			20 12 37.0	
LIT	**Litokhoron**	**0.74**	**84**	*i* Pg		**Pb**	**20 12 22.6**	**0.0**
LIT				*i* Sg		**Sn**	**20 12 35.8**	**+0.9**
LRSO	**Larissa Observ**	**0.75**	**118**	P		**Pb**	**20 12 23.0**	**+0.3**
LRSO	**Larissa Observ**	**0.75**	**118**	P		**Pn**	**20 12 23.1**	**-0.8**
LRSO				S		**Sb**	**20 12 32.5**	**-0.2**
FNA	**Florina**	**0.77**	**351**	P		**Pg**	**20 12 22.3**	**-0.6**
FNA				S		**Sb**	**20 12 34.2**	**+0.9**
FNA	**Florina**	**0.77**	**351**	P		**Pg**	**20 12 22.5**	**-0.4**
FNA				S		**Sb**	**20 12 33.6**	**+0.2**
FNA	comp=E,767nm,0.4s			*i* IAML			20 12 36.0	
FNA	comp=N,2μm,0.4s			*i* IAML			20 12 38.0	
FNA	**Florina**	**0.77**	**351**	*i* Pg		**Pg**	**20 12 22.5**	**-0.4**
FNA				*i* Sg		**Sn**	**20 12 35.5**	**-0.2**
FNA	**Florina**	**0.77**	**351**	*eP*g		**Pg**	**20 12 22.4**	**-0.6**
FNA				*eS*g		**Sb**	**20 12 34.3**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.11**	**155**	P		**Pg**	**20 12 29.3**	**-0.1**
MAKR				S		**Sn**	**20 12 46.5**	**+2.6**
MAKR	**Makrakomi, Fth**	**1.11**	**155**	P		**Pg**	**20 12 29.6**	**+0.2**

EVR	**Evrytania**	**1.12**	**169**	P		**Pb**	**20 12 28.7**	**-0.4**
EVR	**Evrytania**	**1.12**	**169**	P		**Pb**	**20 12 28.8**	**-0.3**
AMPL	**Ampelaki**	**1.13**	**193**	P		**Pb**	**20 12 28.5**	**-0.6**
AGG	**Agios Georgios**	**1.18**	**148**	P		**Pg**	**20 12 30.3**	**-0.3**
AGG	**Agios Georgios**	**1.18**	**148**	P		**Pg**	**20 12 30.7**	**+0.1**
AGG	**Agios Georgios**	**1.18**	**148**	P		**Pg**	**20 12 30.5**	**-0.1**
OHR	**Ohrid**	**1.22**	**333**	*i* Pg		**Pn**	**20 12 30.7**	**+0.2**
OHR				*i* Sg		**Sg**	**20 12 49.9**	**+2.4**
OHR	comp=N,3μm,0.7s			*eL*g		Lg	20 12 50.1	
OHR	comp=E,3μm,0.5s			*eL*g		Lg	20 12 51.2	
THE	**Thessaloniki**	**1.25**	**61**	P		**Pg**	**20 12 32.2**	**+0.1**
THE	**Thessaloniki**	**1.25**	**61**	*i* Pg		**Pg**	**20 12 31.7**	**-0.4**
THE				*i* Sg		**Sg**	**20 12 49.0**	**+0.6**
THE	**Thessaloniki**	**1.25**	**61**	P		**Pg**	**20 12 31.8**	**-0.4**
LFKM	**Lefkimmi**	**1.27**	**244**	P		**Pn**	**20 12 31.6**	**+0.5**
HORT	**Hortiatis**	**1.33**	**64**	P		**Pg**	**20 12 33.1**	**-0.4**
HORT	**Hortiatis**	**1.33**	**64**	P		**Pb**	**20 12 32.8**	**+0.2**
TSLK	**Tsoukalades, L**	**1.38**	**210**	P		**Pb**	**20 12 33.2**	**-0.2**
PVO	**Paravola**	**1.40**	**180**	P		**Pb**	**20 12 33.8**	**0.0**
PVO	**Paravola**	**1.40**	**180**	P		**Pb**	**20 12 33.9**	**+0.1**
LKD2	**Lefkada island**	**1.41**	**209**	P		**Pn**	**20 12 33.4**	**+0.4**
LKD2	**Lefkada island**	**1.41**	**209**	P		**Pb**	**20 12 34.1**	**+0.3**
ANX	**Ano Chora**	**1.46**	**168**	P		**Pb**	**20 12 34.7**	**-0.1**
ANX	**Ano Chora**	**1.46**	**168**	P		**Pb**	**20 12 34.9**	**+0.1**
NEO	**Neokhori**	**1.49**	**118**	P		**Pb**	**20 12 34.9**	**-0.4**
NEO	**Neokhori**	**1.49**	**118**	P		**Pb**	**20 12 34.7**	**-0.6**
PLG	**Polygyros**	**1.51**	**76**	P		**Pb**	**20 12 35.0**	**-0.7**
PLG	**Polygyros**	**1.51**	**76**	P		**Pb**	**20 12 34.9**	**-0.7**
VAY	**Valandovo**	**1.52**	**31**	*i* Pn		**Pn**	**20 12 34.6**	**+0.1**
VAY	comp=N,820nm,0.8s			*i* Sn		**Sg**	**20 13 01.1**	**+4.2**
VAY				*eL*g		Lg	20 13 05.1	
AXAR	**Agios Charalam**	**1.53**	**145**	P		**Pb**	**20 12 36.0**	**+0.1**
AXAR	**Agios Charalam**	**1.53**	**145**	P		**Pb**	**20 12 35.6**	**-0.3**
KNT	**Kendrikon**	**1.54**	**42**	P		**Pb**	**20 12 35.5**	**-0.7**
KNT	**Kendrikon**	**1.54**	**42**	*i* Pn		**Pb**	**20 12 35.8**	**-0.4**
KNT				*i* Sn		**Sg**	**20 12 56.8**	**-0.9**
KNT	**Kendrikon**	**1.54**	**42**	P		**Pb**	**20 12 35.6**	**-0.6**
EVGI	**Lefkada island**	**1.56**	**206**	P		**Pb**	**20 12 36.8**	**+0.4**
SOH	**Sokhos**	**1.60**	**60**	P		**Pb**	**20 12 37.3**	**0.0**
SOH	**Sokhos**	**1.60**	**60**	*i* Pn		**Pb**	**20 12 37.5**	**+0.2**
SOH	**Sokhos**	**1.60**	**60**	P		**Pb**	**20 12 37.1**	**-0.2**
EFP	**Efpalio**	**1.62**	**170**	P		**Pb**	**20 12 37.4**	**-0.1**
EFP	**Efpalio**	**1.62**	**170**	P		**Pb**	**20 12 37.6**	**+0.1**
SERG	**Sergoula**	**1.66**	**166**	P		**Pb**	**20 12 37.4**	**-0.8**
KALE	**Kalithea**	**1.70**	**164**	P		**Pb**	**20 12 38.1**	**-0.7**
KALE	**Kalithea**	**1.70**	**164**	P		**Pn**	**20 12 37.8**	**+0.8**
FSK	**Fiskardo**	**1.73**	**206**	P		**Pb**	**20 12 39.4**	**0.0**
LKR	**Lokris**	**1.78**	**140**	P		**Pn**	**20 12 38.9**	**+0.8**
OUR	**Ouranopolis**	**1.90**	**80**	P		**Pn**	**20 12 40.8**	**+0.9**
OUR	**Ouranopolis**	**1.90**	**80**	P		**Pn**	**20 12 40.7**	**+0.9**
SRS	**Serrai**	**1.91**	**54**	P		**Pn**	**20 12 40.9**	**+0.8**
SRS	**Serrai**	**1.91**	**54**	*i* Pn		**Pn**	**20 12 40.8**	**+0.8**
SRS	**Serrai**	**1.91**	**54**	*eP*g		**Pn**	**20 12 41.1**	**+1.1**
SRS				*eS*g		**Sb**	**20 13 06.1**	**-0.1**
SRS	**Serrai**	**1.91**	**54**	P		**Pn**	**20 12 40.6**	**+0.6**
SKO	**Skopje**	**1.95**	**358**	*i* Pn		**Pb**	**20 12 42.2**	**-0.9**
SKO				*i* Sn		**Sg**	**20 13 14.5**	**+3.9**
RLS	**Riolos of Patr**	**1.96**	**181**	P		**Pn**	**20 12 41.7**	**+1.0**
RLS	**Riolos of Patr**	**1.96**	**181**	P		**Pb**	**20 12 43.1**	**-0.3**
VLS	**Valsamata**	**1.98**	**202**	P		**Pb**	**20 12 43.0**	**-0.7**
DMLN	**Damoulianata-K**	**2.00**	**207**	P		**Pb**	**20 12 43.1**	**-0.8**
KLV	**Kalavryta, Ach**	**2.03**	**166**	P		**Pn**	**20 12 42.7**	**+1.1**
PSDA	**Pessada-Kefalo**	**2.04**	**201**	P		**Pb**	**20 12 43.7**	**-1.0**
GUR	**Goura**	**2.18**	**163**	P		**Pn**	**20 12 44.4**	**+0.7**
KKB	**Krupnik**	**2.18**	**33**	*i* P		**Pn**	**20 12 44.9**	**+1.2**
KKB				*eS*		**Sb**	**20 13 12.1**	**-1.9**
KKB	**Krupnik**	**2.18**	**33**	P		**Pn**	**20 12 44.7**	**+1.0**
KKB	**Krupnik**	**2.18**	**33**	*i* Pn		**Pn**	**20 12 44.8**	**+1.2**
VIL2	**Platees**	**2.26**	**143**	P		**Pn**	**20 12 45.8**	**+1.1**
ORTH	**Orthonies,Zaky**	**2.26**	**197**	P		**Pb**	**20 12 47.0**	**-1.4**
MMB	**Musomishta**	**2.27**	**47**	*i* P		**Pn**	**20 12 46.0**	**+1.1**
MMB				*eS*		**Sb**	**20 13 14.4**	**-2.1**
MMB	**Musomishta**	**2.27**	**47**	P		**Pn**	**20 12 45.8**	**+0.9**
MMB	**Musomishta**	**2.27**	**47**	*i* Pn		**Pn**	**20 12 45.8**	**+0.9**
LTK	**Loutraki**	**2.29**	**150**	P		**Pn**	**20 12 45.6**	**+0.5**
VILL	**Villia**	**2.32**	**143**	P		**Pn**	**20 12 46.2**	**+0.6**
LOUT	**Loutraki**	**2.32**	**151**	P		**Pn**	**20 12 45.5**	**-0.1**
STFN	**Stefani**	**2.42**	**139**	P		**Pn**	**20 12 47.6**	**+0.6**
KAVA	**Kavala**	**2.47**	**66**	P		**Pn**	**20 12 47.8**	**+0.1**
THAS	**Thassos island**	**2.51**	**76**	P		**Pn**	**20 12 48.1**	**0.0**
BOSS	**Bosilegrad**	**2.57**	**16**	*eP*n		**Pn**	**20 12 50.4**	**+1.3**
BOSS				*eS*n		**Sn**	**20 13 22.4**	**+2.3**
ULC	**Ulcinj**	**2.60**	**319**	*eP*n		**Pn**	**20 12 50.8**	**+1.4**
ULC				*i* Sn		**Sn**	**20 13 21.9**	**+1.2**
PTL	**Penteli**	**2.68**	**137**	P		**Pn**	**20 12 51.4**	**+0.8**
DION	**Dionisos Attik**	**2.70**	**135**	P		**Pn**	**20 12 51.5**	**+0.8**
MET2	**Kameni Chora,**	**2.79**	**149**	P		**Pn**	**20 12 52.3**	**+0.3**
MET5	**Makryloggos,Me**	**2.79**	**149**	P		**Pn**	**20 12 52.5**	**+0.4**
DRME	**Dracevica, Mon**	**2.80**	**321**	*eP*n		**Pn**	**20 12 54.1**	**+2.0**
DRME	**Dracevica, Mon**	**2.80**	**321**	*eP*n		**Pn**	**20 12 53.5**	**+1.4**
DRME				*i* Sn		**Sn**	**20 13 26.7**	**+1.2**
BARS	**Barje**	**2.80**	**4**	*i* Pn		**Pn**	**20 12 53.4**	**+1.2**
BARS	**Barje**	**2.80**	**4**	*eP*n		**Pn**	**20 12 53.2**	**+1.0**
BARS				*eS*n		**Sn**	**20 12 56.9**	**+1.2**
MET4	**Agioi Theodoro**	**2.81**	**148**	P		**Pn**	**20 12 52.9**	**+0.6**
MET6	**Megalochori,Me**	**2.81**	**149**	P		**Pn**	**20 12 53.0**	**+0.7**
PLNA	**Plana**	**2.84**	**30**	*i* P		**Pn**	**20 12 54.4**	**+1.6**
PLNA				*eS*		**Sn**	**20 13 28.7**	**+2.0**
VTS	**Vitosha**	**2.89**	**26**	*i* P		**Pn**	**20 12 55.0**	**+1.4**
VTS				*eS*		**Sn**	**20 13 29.9**	**+1.7**
VTS	**Vitosha**	**2.89**	**26**	*eP*n		**Pn**	**20 12 54.7**	**+1.1**
VTS				*eS*n		**Sn**	**20 13 28.6**	**+0.4**
RZN	**Rozhen**	**2.95**	**55**	*i* P		**Pn**	**20 12 56.0**	**+1.6**
PDG	**Podgorica**	**2.95**	**325**	⇑P		**Pn**	**20 12 54.6**	**+0.3**
PDG	**Podgorica**	**2.95**	**325**	*eP*n		**Pn**	**20 12 56.2**	**+1.9**
PDG				*eS*n		**Sb**	**20 13 33.9**	**-2.2**
PDG	**Podgorica**	**2.95**	**325**	*eP*n		**Pn**	**20 12 55.7**	**+1.4**
PDG				*i* Sn		**Sn**	**20 13 30.4**	**+1.0**
SOF	**Sofia**	**2.99**	**27**	*eP*		**Pb**	**20 13 01.0**	**+0.1**
KARY	**Karystos**	**3.01**	**130**	P		**Pn**	**20 12 55.9**	**+0.8**
BUM	**Brajici-Budva**	**3.02**	**320**	*i* Pn		**Pn**	**20 12 56.7**	**+1.4**
BUM				*i* Sn		**Sn**	**20 13 32.1**	**+0.8**
BEY	**Berane**	**3.10**	**337**	*eP*n		**Pn**	**20 12 58.2**	**+1.8**
IVA	**Berane**	**3.10**	**337**	*eP*n		**Pn**	**20 12 57.6**	**+1.2**
IVA				*i* Sn		**Sn**	**20 13 33.7**	**+0.5**
PGB	**Panagyurishte**	**3.19**	**38**	*eP*		**Pn**	**20 12 59.6**	**+2.1**
CEME	**Cevo**	**3.20**	**323**	⇑*i* Pn		**Pn**	**20 12 59.0**	**+1.3**
CEME				*i* Sn		**Sn**	**20 13 36.3**	**+0.7**
KOME	**Kolasin**	**3.21**	**332**	*eP*n		**Pn**	**20 13 01.3**	**+3.5**
KOME	**Kolasin**	**3.21**	**332**	*eP*n		**Pn**	**20 12 59.0**	**+1.2**
KOME				*i* Sn		**Sn**	**20 13 36.3**	**+0.5**
PLD	**Plovdiv**	**3.23**	**48**	*eP*n		**Pn**	**20 12 58.0**	**0.0**
PLD				*eS*n		**Sn**	**20 13 34.4**	**-1.8**
KDZ	**Kurdzhali**	**3.31**	**60**	*i* P		**Pn**	**20 13 00.1**	**+1.0**
HCY	**Herceg Novi**	**3.33**	**318**	*eP*n		**Pn**	**20 13 00.9**	**+1.4**
HCY				*i* Sn		**Sn**	**20 13 39.5**	**+0.7**
NKME	**Niksic**	**3.36**	**326**	*eP*n		**Pn**	**20 13 01.2**	**+1.3**
NKME				*i* Sn		**Sn**	**20 13 40.0**	**+0.5**
GOAD	**anakkale-G¶**	**3.36**	**86**	P		**Pn**	**20 12 58.5**	**-1.3**
SJES	**Sjenica**	**3.44**	**341**	*eP*n		**Pn**	**20 13 02.3**	**+1.2**
SJES				*eS*n		**Sn**	**20 13 44.7**	**+3.1**
BOZC	**Bozcaada**	**3.48**	**92**	P		**Pn**	**20 13 00.7**	**-0.8**
ALN	**Alexandroupoli**	**3.55**	**74**	P		**Pn**	**20 13 01.8**	**-0.7**
ALN				S		**Sn**	**20 13 38.3**	**-5.9**
ALN	comp=N,27nm,0.5s			*i* IAML			20 13 49.0	
GOCS	**Kraljevo Serbi**	**3.57**	**352**	*eP*n		**Pn**	**20 13 04.2**	**+1.4**
KOCA	**Canakkale, Ayv**	**3.59**	**97**	P		**Pn**	**20 13 02.9**	**-0.1**
TREB	**Trebinje**	**3.60**	**319**	*eP*n		**Pn**	**20 13 03.9**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**3.61**	**78**	P		**Pb**	**20 13 12.5**	**+1.1**
BOVS	**Bovan**	**3.61**	**2**	⇑P		**Pn**	**20 13 04.1**	**+0.8**
BOVS	**Bovan**	**3.61**	**2**	*eP*n		**Pn**	**20 13 04.1**	**+0.8**
BRY	**Bratogost**	**3.65**	**323**	*eP*n		**Pn**	**20 13 05.3**	**+1.3**
BRY				*i* Sn		**Sn**	**20 13 47.0**	**+0.2**
DIM	**Dimitrovgrad**	**3.67**	**55**	*eP*		**Pb**	**20 13 12.8**	**+0.4**
PLE	**Pljevlja**	**3.67**	**335**	*eP*n		**Pn**	**20 13 06.8**	**+2.5**
PLE	**Pljevlja**	**3.67**	**335**	*eP*n		**Pn**	**20 13 05.5**	**+1.2**
PLE				*i* Sn		**Sn**	**20 13 47.5**	**+0.2**
EZN	**Ezine**	**3.69**	**92**	⇑P		**Pn**	**20 13 07.0**	**+2.6**
IVAS	**Ivanjica**	**3.70**	**344**	*eP*n		**Pn**	**20 13 05.5**	**+1.0**
BLKB	**Belogradchik**	**3.70**	**13**	*eP*n		**Pn**	**20 13 05.7**	**+1.2**
BLKB				*eS*n		**Sn**	**20 13 48.5**	**+0.7**
MPEP	**Malo Peshtene**	**3.72**	**26**	*i* P		**Pn**	**20 13 06.5**	**+1.7**
UPM	**Unac-Piva**	**3.74**	**329**	*eP*n		**Pn**	**20 13 06.4**	**+1.2**
UPM				*i* Sn		**Sn**	**20 13 49.0**	**0.0**
MATE	**Matera**	**3.74**	**281**	⇑P		**Pn**	**20 13 06.0**	**+0.9**
TIP	**Timpagrande**	**3.78**	**259**	⇑P		**Pn**	**20 13 06.7**	**+1.0**

ZAGS	**Zajecar**	**3.82**	**8**	*eP*n		**Pn**	**20 13 07.6**	**+1.4**
ZAGS				*eS*n		**Sn**	**20 13 51.0**	**+0.1**
KLINJ	**Klinje**	**3.84**	**326**	*eP*n		**Pn**	**20 13 07.3**	**+0.7**
BAYC	**CANAKKALE_Bayr**	**3.87**	**93**	P		**Pn**	**20 13 07.8**	**+0.9**
BAYC				S		**Sn**	**20 13 48.6**	**-3.4**
BAYC	comp=N,13nm,1.1s			*i* IAML			20 14 02.0	
GRUS	**Gruza**	**3.91**	**351**	*eP*n		**Pn**	**20 13 08.5**	**+1.1**
VALD	**Valchedram**	**3.93**	**21**	*eP*		**Pb**	**20 13 17.8**	**+0.9**
RUDO	**Rudo**	**3.94**	**337**	*eP*n		**Pn**	**20 13 10.0**	**+2.2**
KESN	**Edirne-Kesan**	**4.01**	**77**	P		**Pn**	**20 13 11.1**	**+1.9**
KESN				S		**Sn**	**20 13 47.5**	**-8.5**
STON	**Ston**	**4.05**	**316**	*eP*n		**Pn**	**20 13 08.9**	**-0.4**
PLVB	**Pleven**	**4.08**	**34**	⇓P		**Pn**	**20 13 12.2**	**+2.5**
BBLS	**Lazi&#263i**	**4.15**	**338**	*eP*n		**Pn**	**20 13 12.8**	**+2.0**
DIVS	**Divibare**	**4.23**	**345**	*eP*n		**Pn**	**20 13 12.6**	**+0.7**
URLA	**Izmir**	**4.27**	**111**	P		**Pn**	**20 13 10.9**	**-1.5**
TRUS	**Trudelj**	**4.28**	**349**	*eP*n		**Pn**	**20 13 13.3**	**+0.8**
ELND	**Elena**	**4.37**	**47**	⇑P		**Pn**	**20 13 15.1**	**+1.4**
KUBS	**Kucevo**	**4.39**	**1**	*eP*n		**Pn**	**20 13 13.5**	**-0.5**
JMB	**Yambol**	**4.50**	**55**	*eP*		**Pn**	**20 13 16.4**	**+0.9**
SZH	**Strazhitsa**	**4.65**	**44**	*eP*		**Pn**	**20 13 19.7**	**+2.2**
AVAS	**Avala Beograd**	**4.73**	**351**	*eP*n		**Pn**	**20 13 19.1**	**+0.4**
MDVR	**Moldovita**	**4.76**	**2**	⇓P		**Pn**	**20 13 19.6**	**+0.5**
TEKS	**Tekeris**	**4.76**	**342**	*eP*n		**Pn**	**20 13 20.2**	**+1.1**
HERR	**Herculane**	**4.90**	**7**	⇑P		**Pn**	**20 13 22.0**	**+1.0**
VRSS	**Vrsac**	**5.10**	**358**	*eP*n		**Pn**	**20 13 25.1**	**+1.4**
FRGS	**Fruska Gora**	**5.29**	**347**	*eP*n		**Pn**	**20 13 27.1**	**+0.8**
IDI	**Anoyia** comp=N,6.5nm,1.0s,baz=310,slow=4.2,SNR=9.1	**5.43**	**150**	Pn		**Pn**	**20 13 27.5**	**-0.8**
IDI	comp=N,2.4nm,0.3s,baz=325,slow=20,SNR=6.4			Sn		**Sn**	**20 14 31.2**	**+0.7**
GZR	**Gura Zlata**	**5.45**	**9**	⇓P		**Pn**	**20 13 29.4**	**+0.9**
KIJV	**Kijevo**	**5.51**	**318**	*eP*n		**Pn**	**20 13 29.5**	**+0.1**
BZS	**Buzias**	**5.59**	**1**	⇑P		**Pn**	**20 13 32.7**	**+2.2**
BLY	**Banja Luka**	**5.71**	**327**	*eP*n		**Pn**	**20 13 32.3**	**+0.1**
BLY	**Banja Luka**	**5.71**	**327**	⇑P		**Pn**	**20 13 33.7**	**+1.5**
SURR	**Surduc**	**5.75**	**4**	⇓P		**Pn**	**20 13 34.7**	**+2.1**
A050A	**Klekovaca**	**5.80**	**322**	*eP*n		**Pn**	**20 13 34.3**	**+0.9**
VOIR		**6.00**	**24**	⇑P		**Pn**	**20 13 37.2**	**+1.0**
A051A	**Mrakovica**	**6.04**	**327**	*eP*n		**Pn**	**20 13 37.2**	**+0.4**
VAE	**Valguarnera** comp=N,3.5nm,0.6s,baz=210,slow=19,SNR=1.8	**6.12**	**248**	Pn		**Pn**	**20 13 34.2**	**-3.6**
VAE	comp=N,1.7nm,0.3s,baz=202,slow=8.6,SNR=2.1			Sn		**Sn**	**20 14 47.8**	**+0.3**
SIRR	**Siria**	**6.24**	**1**	⇓P		**Pn**	**20 13 41.1**	**+1.6**
ISR	**Istrita**	**6.29**	**34**	⇑P		**Pn**	**20 13 42.9**	**+2.7**
MLR	**Muntele Rosu** comp=N,2.0nm,0.3s,baz=169,slow=9.4,SNR=19	**6.36**	**29**	Pn		**Pn**	**20 13 43.5**	**+2.4**
MLR	comp=N,0.6nm,0.3s,baz=224,slow=16,SNR=1.3			Sn		**Sn**	**20 14 55.1**	**+1.6**
MLR	comp=N,111nm,20.3s,baz=200,slow=43 comp=N,12nm,0.6s			LR	

TWM1	**Shoushan**	**0.22**	**259**	*i*	P		Pb	20 25 19.0 +0.7
TWM1					S		Sb	20 25 23.4 +1.3
SGST	**Jiashian**	**0.23**	**342**	*i*	P		Pb	20 25 18.3 -0.2
SGST					*i* S		Sb	20 25 22.9 +0.6
MASBT	**Mashibuluo**	**0.25**	**185**	*i*	P		Pg	20 25 18.4 +0.3
MASBT					S		Sg	20 25 22.4 +0.5
STYT	**Tauyuan**	**0.31**	**17**	*i*	P		Pb	20 25 20.5 +0.6
CHN1	**Nanshi**	**0.34**	**339**	*i*	P		Pb	20 25 21.3 +0.9
CHN1					*i* S		Sn	20 25 27.8 -1.9
WTP	**Ta-pu**	**0.38**	**354**	*i*	P		Pb	20 25 21.8 +0.7
ECL	**Taimali**	**0.38**	**134**	⇓	*i* P		Pb	20 25 20.8 -0.2
ECL					*i* S		Sb	20 25 26.8 +0.1
SNST	**Tainan City**	**0.38**	**337**	*i*	P		Pb	20 25 21.8 +0.7
SNST					S		Sn	20 25 28.8 -1.9
TWG	**Pinlang**	**0.38**	**97**		S		Sb	20 25 27.5 +0.6
TWGBT	**Beinan**	**0.39**	**97**		S		Sb	20 25 28.0 +0.9
TWGBT	**Beinan**	**0.39**	**97**		S		Sb	20 25 27.6 +0.5
TWK	**Hsinying**	**0.43**	**339**	*i*	P		Pn	20 25 24.0 -0.3
SCZT	**Fangliau**	**0.49**	**184**	*i*	P		Pg	20 25 22.4 +0.1
SCZT					S		Sb	20 25 29.9 0.0
EAST	**Anshuo**	**0.51**	**160**	*i*	P		Pb	20 25 23.2 -0.1
EAST					S		Sb	20 25 30.8 +0.2
WCKO	**Fanlu**	**0.57**	**355**	*i*	P		Pn	20 25 26.0 -0.3
WCKO					S		Sn	20 25 35.0 -0.4

IDC ***08*** *20:26:32.6±0.5, 1.°31N×126.°32E, h0km, mb4.2/19, mbtmp4.2/21, ML4.5/2, MS3.5/9, Error ellipse: s-maj=25.9km s-min=11.4km az=78.0*
DJA ***08*** *20:26:37.3±0.5, 1.°1N±2.°×12.°6E±.°, h11km±4km, M4.5/18, mB5.0/6, mb4.8/15, MLv4.5/18, Mw(mB)4.3/6*
NEIC ***08*** *20:26:38.6±2.4, 1.°16N±0.°08×126.°34E±0.°06, h35km±2km, mb4.7/30, Error ellipse: s-maj=14.5km s-min=9.7km az=199.0*

ISC 08 20:26:39.5±0.4,**1.°28N**±0.°04×**126.°35E**±0.°04,**h47**km,**n101,**
σ1ᵗ**40**/103,**mb4.5**/36,**MS3.5**/7,**1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.13**	**116**			**Pn**	**20 26 57.6**	**-1.4**
TNTI	**Ternate**	**1.13**	**116**	P		**Pn**	**20 26 58.1**	**-0.9**
TNTI	**Ternate**	**1.13**	**116**	S		**Sn**	**20 27 14.6**	**+1.2**
TNTI	**Ternate**	**1.13**	**116**	P		**Pn**	**20 26 57.8**	**-1.2**
TNTI				S		**Sn**	**20 27 14.8**	**+1.4**
KMSI	**Cibinong**	**2.47**	**254**	P		**Pn**	**20 27 16.5**	**-0.8**
KMSI				S		**Sn**	**20 27 45.9**	**-0.3**
SGSI	**Sangihe**	**2.53**	**341**	P		**Pn**	**20 27 18.6**	**+0.5**
SGSI				S		**Sn**	**20 27 48.6**	**+0.9**
SANI	**Sanana**	**3.32**	**186**	P		**Pn**	**20 27 28.4**	**-0.6**
SANI	**Sanana**	**3.32**	**186**	P		**Pn**	**20 27 28.4**	**-0.6**
SANI				S		**Sn**	**20 28 09.8**	**+2.5**
LUWI	**Luwuk**	**4.25**	**237**	P		**Pn**	**20 27 42.9**	**+1.1**
LUWI				S		**Sn**	**20 28 33.2**	**+3.0**
NLAI	**Namlea**	**4.55**	**171**	P		**Pn**	**20 27 46.0**	**+0.2**
NLAI				S		**Sn**	**20 28 38.7**	**+1.3**
APSI	**Ampana**	**5.18**	**245**	P		**Pn**	**20 27 55.8**	**+1.3**
MSAI	**Masohi**	**5.27**	**151**	P		**Pn**	**20 27 56.0**	**+0.3**
	0.4nm1µm77nm,0.5s							
MSAI				S		**Sn**	**20 28 59.0**	**+3.8**
	0.4nm1µm77nm,0.5s							
SWI	**Sorong**	**5.35**	**113**	P		**Pn**	**20 27 57.9**	**+1.1**
TOLI2	**Tolitoli**	**5.57**	**268**			**Pn**	**20 27 58.1**	**-1.7**
TOLI2	**Tolitoli**	**5.57**	**268**	P		**Pn**	**20 27 58.4**	**-1.5**
KDI	**Kendari**	**6.40**	**216**	P		**Pn**	**20 28 11.0**	**-0.2**
MPSI	**Mapaga**	**6.52**	**262**	P		**Pn**	**20 28 12.5**	**-0.4**
	0.2nm785nm49nm,0.8s							
PCI	**Palu**	**6.86**	**252**	P		**Pn**	**20 28 16.4**	**-1.3**
	0.3nm68nm,1.0s							
FAKI	**Fak Fak**	**7.22**	**125**	P		**Pn**	**20 28 23.4**	**+0.8**
FAKI	**Fak Fak**	**7.22**	**125**	P		**Pn**	**20 28 23.1**	**+0.5**
	0.3nm72nm,1.7s							
SPSI	**Sidrap Palu**	**8.39**	**232**	P		**Pn**	**20 28 40.2**	**+1.7**
	652nm65nm,0.7s							
MYLDM	**Lahad Datu**	**8.74**	**297**			**Pn**	**20 28 44.9**	**+1.5**
MYLDM	**Lahad Datu**	**8.74**	**297**	P		**Pn**	**20 28 47.0**	**+3.6**
KMPI	**Kaimana, Papua**	**8.84**	**124**	P		**Pn**	**20 28 45.7**	**+1.0**
	136nm,0.7s							
KAPI	**Kappang**	**9.08**	**226**			**Pn**	**20 28 46.9**	**-1.2**
KAPI	**Kappang**	**9.08**	**226**	Pn		**Pn**	**20 28 45.8**	**-2.3**
	4.1nm,0.3s,baz=35,slow=6.2,SNR=7.7							
KAPI				Sn		**Sn**	**20 30 29.3**	**+0.3**
	1.5nm,0.3s,baz=156,slow=18,SNR=1.3							
KAPI				LR		LR	20 32 58.2	
	comp=Z,155nm,20.3s,baz=65,slow=42							
	9.5nm,0.4s							
KAPI	**Kappang**	**9.08**	**226**	P		**Pn**	**20 28 50.2**	**+2.1**
BAKI	**Biak**	**10.06**	**104**	P		**Pn**	**20 29 01.9**	**+0.4**
SOEI	**Soe**	**11.15**	**191**			**Pn**	**20 29 14.0**	**-2.6**
SOEI	**Soe**	**11.15**	**191**	P		**Pn**	**20 29 16.4**	**-0.1**
SBUM	**Sibu**	**14.17**	**275**			**Pn**	**20 29 56.4**	**-1.2**
DRS	**Darwin Rock St**	**14.35**	**162**	P		**Pn**	**20 29 59.8**	**-0.2**
MTN	**Manton Dam**	**14.81**	**161**			**Pn**	**20 30 03.9**	**-2.2**
MTN	**Manton Dam**	**14.81**	**161**	P		**Pn**	**20 30 06.2**	**+0.1**
JAY	**Jayapura**	**14.84**	**105**	LR		LR	20 35 56.3	
	comp=Z,132nm,18.8s,baz=222,slow=38							
KDU	**Kakadu**	**15.15**	**157**	P		**Pn**	**20 30 07.7**	**-2.8**
JAGI	**Jajag, Banyuwa**	**15.54**	**231**			**Pn**	**20 30 16.4**	**+0.8**
JAGI				IAmb		IAmb	20 30 35.4	
	comp=Z,31nm,1.0s							
KSM	**Kuching**	**16.04**	**271**			**P**	**20 30 23.8**	**-1.0**
KSM				IAmb		IAmb	20 30 33.3	
	comp=Z,40nm,1.1s							
KNRA	**Kununurra**	**17.01**	**172**			**Pn**	**20 30 33.1**	**-1.1**
KNRA				IAmb		IAmb	20 30 34.9	
	comp=Z,30nm,0.7s							
FITZ	**Fitzroy Crossi**	**19.27**	**182**	P		**P**	**20 30 59.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**19.27**	**182**	P		**P**	**20 30 59.1**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=14,slow=8.1,SNR=44							
	comp=Z,12nm,0.6s							
WB0	**Warramunga Arr**	**22.35**	**160**			**P**	**20 31 32.3**	**-1.4**
WB0				IAmb		IAmb	20 31 36.1	
	comp=Z,29nm,0.7s							
WRAB	**Tennant Creek**	**22.49**	**160**	P		**P**	**20 31 32.4**	**-2.8**
WRAB				IAmb		IAmb	20 31 37.6	
	comp=Z,40nm,1.1s							
WRA	**Warramunga Arr**	**22.50**	**160**			**P**	**20 31 32.1**	**-3.1**
WRA	**Warramunga Arr**	**22.50**	**160**	P		**P**	**20 31 33.7**	**-1.5**
	comp=Z,20nm,0.8s,baz=340,slow=11,SNR=85							
WRA				PcP		**PcP**	**20 35 28.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=337,slow=2.0,SNR=2.0							
	comp=Z,20nm,0.8s							
COEN	**Coen**	**22.52**	**133**			**P**	**20 31 33.2**	**-2.3**
COEN	**Coen**	**22.52**	**133**	P		**P**	**20 31 37.1**	**+1.6**
WR8	**Warramunga Arr**	**22.56**	**160**			**P**	**20 31 34.2**	**-1.8**
WR8				IAmb		IAmb	20 31 48.8	
	comp=Z,21nm,0.8s							
PMG	**Port Moresby**	**23.29**	**118**	LR		LR	20 43 10.0	
	comp=Z,160nm,21.6s,baz=334,slow=43							
PSA00	**Pilbara Seismi**	**23.58**	**195**			**P**	**20 31 45.2**	**-0.9**
PSA00				IAmb		IAmb	20 31 46.4	
	comp=Z,19nm,0.8s							
PSA00	**Pilbara Seismi**	**23.58**	**195**	P		**P**	**20 31 45.4**	**-0.7**
QIS	**Mount Isa**	**25.29**	**150**	P		**P**	**20 32 02.4**	**+0.7**
ASAR	**Alice Springs**	**25.86**	**164**	P		**P**	**20 32 06.4**	**-0.5**
ASAR	**Alice Springs**	**25.86**	**164**	P		**P**	**20 32 06.8**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=347,slow=6.3,SNR=108							
ASAR				PcP		**PcP**	**20 35 35.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=346,slow=2.2,SNR=2.2							
ASAR				LR		LR	20 43 21.2	
	comp=Z,55nm,20.9s,baz=24,slow=39							
	comp=Z,4.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**31.85**	**304**	P		**P**	**20 33 00.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=123,slow=6.5,SNR=6.2							
CMAR				PcP		**PcP**	**20 35 51.5**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=153,slow=1.3,SNR=6.3							
	comp=Z,0.3nm,0.3s							
STKA	**Stephens Creek**	**36.00**	**158**	P		**P**	**20 33 36.0**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=344,slow=8.4,SNR=14							
	comp=Z,3.4nm,0.4s							
KSRS	**Korea Array**	**36.03**	**2**	P		**P**	**20 33 34.3**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=181,slow=10,SNR=6.4							
	comp=Z,0.3nm,0.3s							
MJAR	**Matsushiro Arr**	**36.77**	**16**	P		**P**	**20 33 42.1**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=180,slow=9.2,SNR=8.6							
	comp=Z,3.0nm,0.8s							
SHL	**Shillong**	**41.06**	**309**	P		**P**	**20 34 19.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**43.03**	**6**	P		**P**	**20 34 35.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**43.03**	**6**	P		**P**	**20 34 34.8**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=189,slow=6.0,SNR=9.1							
	comp=Z,2.4nm,0.5s							
BNX	**BinXian**	**44.29**	**1**	⇑P		**P**	**20 34 47.8**	**+3.2**
BNX				pmax		pmax		
	comp=Z,7.0nm,2.8s							

GTA	**Gaotai**	**45.02**	**331**	*eP*		**P**	**20 34 51.9**	**+1.2**
GTA				sP		pP	20 34 56.0	-6.9
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
PALK	**Pallekele**	**45.88**	**279**	LR		LR	20 54 50.3	
	comp=Z,66nm,21.0s,baz=98,slow=37							
HEH	**HeiHe**	**48.80**	**1**	*eP*		**P**	**20 35 20.8**	**+0.9**
HEH				pmax		pmax		
	comp=Z,5.0nm,1.0s							
SONM	**Songino Array**	**49.50**	**342**	P		**P**	**20 35 25.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=156,slow=8.9,SNR=6.9							
SONM				PcP		**PcP**	**20 36 47.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=169,slow=5.0,SNR=4.1							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**59.36**	**326**			**P**	**20 36 35.9**	**-1.1**
MKAR	**Makanchi Array**	**59.36**	**326**	P		**P**	**20 36 36.1**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=120,slow=7.4,SNR=32							
MKAR				PcP		**PcP**	**20 37 24.6**	**0.0**
	comp=Z,2.3nm,0.7s,baz=122,slow=5.0,SNR=4.9							
	comp=Z,3.3nm,0.5s							
RAO	**Raoul Island**	**61.24**	**125**	LR		LR	21 00 07.7	
	comp=Z,291nm,21.5s,baz=331,slow=33							
ARSB	**Arslanbob**	**62.36**	**317**	IAmb		IAmb	20 37 07.6	
	comp=Z,7.5nm,1.3s							
ZALV	**Zalesovo Beam**	**62.60**	**334**	P		**P**	**20 36 59.0**	**+0.3**
ZALV	**Zalesovo Beam**	**62.60**	**334**	P		**P**	**20 36 57.8**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=103,slow=4.7,SNR=6.8							
ZALV				LR		LR	21 05 59.6	
	comp=Z,28nm,18.2s,baz=274,slow=38							
	comp=Z,1.3nm,0.5s							
GAR	**Garm**	**63.31**	**314**			**P**	**20 37 04.1**	**+0.1**
KURBB	**Kurchatov Arra**	**63.60**	**328**	P		**P**	**20 37 03.8**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=131,slow=6.1,SNR=29							
	comp=Z,3.7nm,0.6s							
KURK	**Kurchatov**	**63.60**	**328**			**P**	**20 37 05.0**	**-0.4**
KK31	**Karatay Array**	**64.77**	**318**			**P**	**20 37 12.9**	**-0.5**
KKAR	**Karatay Array**	**64.77**	**318**	P		**P**	**20 37 12.8**	**-0.5**
BVAR	**Borovoye Array**	**69.17**	**328**	P		**P**	**20 37 41.4**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=142,slow=7.4,SNR=8.8							
	comp=Z,1.9nm,0.6s							
BRVK	**Borovoye**	**69.24**	**328**			**P**	**20 37 40.7**	**-0.8**
BRVK				IAmb		IAmb	20 38 05.0	
	comp=Z,3.6nm,0.9s							
TIXI	**Tiksi**	**70.28**	**1**	LR		LR	21 11 32.8	
	comp=Z,23nm,18.9s,baz=195,slow=38							
AB31	**Akbulak array**	**73.81**	**321**			**P**	**20 38 08.2**	**-0.9**
ABKAR	**Akbulak array**	**73.81**	**321**			**P**	**20 38 08.3**	**-0.8**
ARTI	**Arti**	**76.88**	**328**			**P**	**20 38 25.9**	**-0.7**
ARTI				IAmb		IAmb	20 38 31.3	
	comp=Z,8.1nm,0.8s							
VNDA	**Vanda**	**81.06**	**173**			**P**	**20 38 49.1**	**0.0**
VNDA	**Vanda**	**81.06**	**173**	P		**P**	**20 38 49.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=341,slow=6.7,SNR=12							
	comp=Z,1.2nm,0.6s							
J16K	**Anvik River**	**81.29**	**26**	IAmb		IAmb	20 39 05.2	
	comp=Z,8.2nm,1.1s							
K17K	**Iditarod**	**82.17**	**27**	IAmb		IAmb	20 38 59.4	
	comp=Z,8.0nm,0.8s							
L18K	**Granite Mounta**	**82.81**	**27**	IAmb		IAmb	20 39 02.1	
	comp=Z,6.9nm,0.7s							
J18K	**Innoko River**	**83.03**	**26**			**P**	**20 39 01.6**	**+1.9**
J18K				IAmb		IAmb	20 39 02.7	
	comp=Z,4.8nm,0.7s							
G19K	**Purcell Mounta**	**83.41**	**23**	P		**P**	**20 39 04.1**	**+2.5**
N19K	**Bonanza Creek**	**83.60**	**29**			**P**	**20 39 04.3**	**+1.5**
N19K				IAmb		IAmb	20 39 10.8	
	comp=Z,7.1nm,0.8s							
J19K	**Poorman**	**83.61**	**26**	IAmb		IAmb	20 39 19.1	
	comp=Z,5.8nm,1.1s							
KBZ	**Khabaz**	**84.38**	**314**	P		**P**	**20 39 06.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=176,slow=9.6,SNR=5.0							
	comp=Z,1.0nm,0.6s							
GURO	**Guroymak-BITLI**	**84.76**	**308**	P		**P**	**20 39 10.5**	**+1.3**
LSH	**Leshukonskoye**	**84.86**	**335**	*eP*		**P**	**20 39 08.6**	**-0.3**
	comp=Z,20nm,1.8s							
ILAR	**Eielson Array**	**87.47**	**25**	P		**P**	**20 39 21.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=256,slow=5.5,SNR=6.0							
	comp=Z,0.5nm,0.6s							
QSPA	**South Pole Qui**	**91.20**	**180**	P		**P**	**20 39 40.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=274,slow=1.0,SNR=6.2							
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**91.28**	**310**	P		**P**	**20 39 38.5**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=106,slow=4.0,SNR=4.9							
	comp=Z,0.5nm,0.7s							
ARCES	**ARCESS Array B**	**92.60**	**340**	P		**P**	**20 39 44.0**	**-1.7**
	comp=Z,2.3nm,0.9s,baz=88,slow=4.1,SNR=4.8							
	comp=Z,2.3nm,0.9s							
FINES	**FINESS Array B**	**93.80**	**332**	P		**P**	**20 39 50.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=45,slow=3.2,SNR=4.3							
	comp=Z,0.5nm,0.7s							
LSZ	**Lusaka**	**98.21**	**255**	LR		LR	21 23 51.0	
	comp=Z,26nm,18.9s,baz=123,slow=35							

RSNC 08 20:29:11.9±0.9,**1.°S**±6.°×**7.°6W**±.°,**h0**km,**M2.8, mB4.5, mb4.3, ML2.8, Mw(mB)3.7, Peru-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTLC	**Puerto Leguiza**	**1.36**	**40**	P		Pg	20 29 33.9	-4.1
PTLC				S		Sg	20 29 48.5	-7.2
BONI	**La Bonita**	**2.27**	**305**	P		Pn	20 29 48.4	-2.5
BONI				S		Sn	20 30 15.6	-4.1
FLOC	**Florencia**	**2.44**	**1**	P		Pn	20 29 51.1	-1.9
FLOC				S		Sn	20 30 22.2	-1.4
CRUC	**La Cruz**	**2.73**	**332**	P		Pn	20 29 57.5	+0.1
CRUC				S		Sn	20 30 27.9	-3.5
GARC	**Garzon, Huila**	**3.04**	**4**	P		Pn	20 30 04.2	+2.6
GARC				S		Sn	20 30 41.7	+2.9
ORTC	**Ortega, Tolima**	**4.77**	**5**	P		Pn	20 30 24.5	-0.6
ORTC				S		Sb	20 31 34.7	+0.3
VILC	**Villavicencio,**	**5.33**	**22**	P		Pn	20 30 36.9	+3.9
VILC				S		Sb	20 31 52.0	+1.2

IDC ***08*** *20:31:52.4±1.6, 31.°10S×177.°65W, h0km, mb4.1/5, mbtmp4.1/5, MS3.6/2, Error ellipse: s-maj=38.5km s-min=23.3km az=95.0*
NEIC ***08*** *20:31:53.1±1.6, 31.°07S±0.°07×177.°7W±0.°2, h10km±1km, mb4.5/7, Error ellipse: s-maj=31.5km s-min=12.6km az=93.0*

ISC 08 20:31:57.4±1.0,**31.°21S**±0.°08×**177.°9W**±0.°2,**h46**km,**n21,**
σ2ᵖ**41**/24,**mb4.3**/8,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.95**	**358**	Pn		**Pn**	**20 32 24.3**	**-3.8**
RAO	**Raoul Island**	**1.95**	**358**	Pn		**Pn**	**20 32 26.3**	**-1.8**
	168nm,0.3s,baz=72,slow=20,SNR=7.9							
RAO				Sn		**Sn**	**20 32 50.6**	**-0.8**
	240nm,0.3s,baz=107,slow=19,SNR=4.1							
URZ	**Urewera**	**8.16**	**209**	Pn		**Pn**	**20 33 49.1**	**-4.1**
	0.4nm,0.3s,baz=329,slow=19,SNR=1.4							
URZ				Sn		**Sn**	**20 35 20.6**	**-3.5**
	2.6nm,0.3s,baz=295,slow=14,SNR=8.5							
RTZ	**Ruatahuna**	**8.52**	**208**	Pn		**Pn**	**20 33 57.3**	**-0.9**
RTZ				Sn		**Sn**	**20 35 31.7**	**-1.4**
BFZ	**Birch Farm**	**10.59**	**205**	Pn		**Pn**	**20 34 24.2**	**-2.3**
THZ	**Tophouse**	**12.88**	**213**	Pn		**Pn**	**20 34 55.1**	**-2.8**
STKA	**Stephens Creek**	**34.42**	**258**	P		**P**	**20 38 40.8**	**+0.3**
STKA	**Stephens Creek**	**34.42**	**258**	P		**P**	**20 38 44.2**	**+3.7**
	4.0nm,0.8s,baz=150,slow=7.6,SNR=4.2							
STKA				LR		LR	20 52 13.2	
	comp=Z,106nm,18.3s,baz=306,slow=35							
BBOO	**Buckleboo**	**38.88**	**255**	P		**P**	**20 39 18.2**	**-0.3**
ASAR	**Alice Springs**	**43.20**	**268**	P		**P**	**20 39 56.7**	**+2.6**
	1.1nm,0.6s,baz=109,slow=7.5,SNR=13							
ASAR				PcP		**PcP**	**20 41 46.0**	**+3.0**
	0.5nm,0.8s,baz=100,slow=3.6,SNR=2.3							
	1.1nm,0.6s							
WR8	**Warramunga Arr**	**44.11**	**273**	P		**P**	**20 40 01.8**	**+0.3**
WR8				IAmb		IAmb	20 40 08.2	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**44.26**	**273**	P		**P**	**20 40 05.0**	**+2.3**
WRA	**Warramunga Arr**	**44.26**	**273**	P		**P**	**20 40 05.0**	**+2.3**
	comp=Z,1.2nm,0.5s,baz=112,slow=8.0,SNR=16							
	comp=Z,1.2nm,0.5s							
WB0	**Warramunga Arr**	**44.28**	**273**	P		**P**	**20 40 05.2**	**+2.3**
WB0				IAmb		IAmb	20 40 13.6	
	comp=Z,6.9nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.49**	**270**	P		**P**	**20 41 07.6**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=121,slow=4.5,SNR=2.1							
	comp=Z,2.2nm,0.7s							
CASY	**Casey**	**54.49**	**208**	P		**P**	**20 41 21.8**	**+1.8**
CASY				IAmb		IAmb	20 41 29.1	

	comp=Z,5.4nm,1.2s							
HLK	**Haleakala**	**55.68**	**25**	P		**P**	**20 41 28.7**	**-0.7**
QSPA	**South Pole Qui**	**58.90**	**180**	P		**P**	**20 41 53.1**	**+1.5**
QSPA	**South Pole Qui**	**58.90**	**180**	P		**P**	**20 41 53.7**	**+2.2**
	comp=Z,2.6nm,1.0s,baz=10,slow=4.5,SNR=3.7							
	comp=Z,2.6nm,1.0s							
MAW	**Mawson**	**71.60**	**201**	LR		LR	21 14 42.3	
	comp=Z,25nm,18.5s,baz=57,slow=36							
FINES	**FINESS Array B**	**145.94**	**340**	PKPbc		**PKPab**	**20 51 31.7**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=50,slow=3.3,SNR=8.9							

IDC 08 20:36:06.2±2.3,**31.°31S**×**179.°42W,h0**km,**mb3.8**/3, **mbtmp3.8**/3,**Error ellipse: s-maj=65.6km s-min=39.0km az=43.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.85**	**269**	P		P	20 43 58.1	-0.1
	0.5nm,0.6s,baz=107,slow=7.2,SNR=6.1							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**42.92**	**274**	P		P	20 44 06.7	-0.2
	0.6nm,0.5s,baz=112,slow=7.9,SNR=8.4							
	0.6nm,0.5s							
QSPA	**South Pole Qui**	**58.80**	**180**	P		P	20 46 05.8	-0.3
	1.9nm,0.8s,baz=39,slow=2.9,SNR=4.3							
	1.9nm,0.8s							
FINES	**FINESS Array B**	**145.56**	**339**	PKPbc		PKPdf	20 55 45.3	-0.3
	1.3nm,0.7s,baz=24,slow=3.9,SNR=3.5							

GII ***08*** *20:50:12.6±0.0, 37.°77N±0.°02×29.°825E±0.°007, h1km, Mws3.6, confirmed*
IDC ***08*** *20:50:12.6±1.2, 37.°85N×29.°86E, h0km, mb3.8/5, mbtmp3.7/11, ML3.1/4, Error ellipse: s-maj=20.7km s-min=17.6km az=41.0*
AFAD ***08*** *20:50:13.0, 37.°84N×29.°74E, h12km±14km, MW3.6*
ISK ***08*** *20:50:13.1, 37.°85N×29.°74E, h8km, ML3.6/18*

ISC 08 20:50:13.7±1.0,**37.°84N**±0.°02×**29.°77E**±0.°02,**h14**km±7km, **n118,**σ0ᵍ**91**/141,**mb3.8**/5,**14C-7D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.20**	**230**		P	**Pg**	**20 50 18.4**	**+0.1**
BASM	**Basmaki-Afyon**	**0.23**	**70**		Pg	**Pg**	**20 50 18.5**	**-0.3**
KHL	**Karahalli**	**0.52**	**338**		Pg	**Pg**	**20 50 23.4**	**-0.6**
APMY	**Acipayam-Deniz**	**0.52**	**226**		Pg	**Pg**	**20 50 23.3**	**-0.7**
APMY					Sg	**Sb**	**20 50 31.7**	**-0.5**
PASA	**Karahalli, USA**	**0.56**	**336**		P	**Pg**	**20 50 24.2**	**-0.4**
ISP	**Isparta**	**0.59**	**91**		Pg	**Pg**	**20 50 25.1**	**-0.2**
ISP					Sg	**Sb**	**20 50 34.8**	**+0.5**
ISP	**Isparta**	**0.59**	**91**		P	**Pg**	**20 50 24.0**	**-1.3**
ISP					S	**Sb**	**20 50 34.0**	**-0.3**
GOLH	**Golhisar**	**0.62**	**196**		P	**Pg**	**20 50 25.5**	**-0.4**
GOLH					S	**Sb**	**20 50 35.7**	**+0.5**
GOLH					*i* IAML		20 50 40.0	
	comp=E,4µm,0.3s							
AFYN	**Afyon-Dinar-K**	**0.72**	**53**		P	**Pb**	**20 50 28.0**	**-0.1**
AFYN					P	**Pb**	**20 50 28.1**	**-0.1**
AFYN					S	**Sn**	**20 50 40.3**	**-0.2**
AFYN					*i* IAML		20 50 43.0	
	comp=N,2µm,0.4s							
TAVA	**DENIZLI_Tavas**	**0.78**	**242**		P	**Pg**	**20 50 28.2**	**-0.5**
TAVA					S	**Sg**	**20 50 39.1**	**+0.1**
TAVA					*i* IAML		20 50 44.0	
	comp=N,800nm,0.4s							
**B

	OFRI	**`Ofer**	**6.73**	**139**	P		**Pn**	**20 51 52.0 -0.2**
	OFRI	**`Ofer**	**6.73**	**139**	S		**Sn**	**20 53 08.7 0.0**
	TLBR	**Topalu**	**6.82**	**350**	⇑P		**Pn**	**20 51 54.6 +1.2**
	VTS	**Vitosha**	**6.91**	**316**	*e*P		**Pn**	**20 51 55.8 +1.1**
	MMLI	**Mount Malkishu**	**7.10**	**138**	P		**Pn**	**20 51 57.3 +0.1**
	MMLI	**Mount Malkishu**	**7.10**	**138**	S		**Sn**	**20 53 17.4 -0.4**
	MPEP	**Malo Peshtene**	**7.17**	**322**	*e*P		**Pn**	**20 51 59.0 +0.9**
	HMDT	**Nahal Hemdat**	**7.30**	**138**	P		**Pn**	**20 51 59.8 -0.1**
	HMDT	**Nahal Hemdat**	**7.30**	**138**	S		**Sn**	**20 53 22.9 +0.2**
	UJAP	**Al Uja**	**7.51**	**140**	P		**Pn**	**20 52 02.5 -0.2**
	UJAP	**Al Uja**	**7.51**	**140**	S		**Sn**	**20 53 26.9 -0.7**
	DSI	**Dead Sea**	**7.77**	**142**	P		**Pn**	**20 52 06.0 -0.5**
	DSI	**Dead Sea**	**7.77**	**142**	S		**Sn**	**20 53 34.2 -0.1**
	YTIR	**Yattir**	**7.82**	**144**	P		**Pn**	**20 52 07.0 -0.1**
	YTIR	**Yattir**	**7.82**	**144**	S		**Sn**	**20 53 35.4 -0.1**
	KZIT	**Kziot**	**7.90**	**150**	P		**Pn**	**20 52 07.6 -0.6**
	KZIT	**Kziot**	**7.90**	**150**	S		**Sn**	**20 53 37.2 -0.3**
	MSBI	**Mazada**	**7.97**	**143**	P		**Pn**	**20 52 08.9 -0.3**
	MSBI	**Mazada**	**7.97**	**143**	S		**Sn**	**20 53 38.7 -0.5**
	GHAJ	**Ghor Haditha**	**8.08**	**142**	P		**Pn**	**20 52 10.4 -0.3**
	GHAJ	**Ghor Haditha**	**8.08**	**142**	S		**Sn**	**20 53 41.9 +0.1**
	ASF	**Jabal al Asfar**	**8.13**	**132**	Pn		**Pn**	**20 52 11.7 +0.2**
		0.8nm,0.3s,baz=333,slow=6.8,SNR=6.4						
	ASF				Sn		**Sn**	**20 53 43.6 +0.4**
		baz=311,slow=9.3						
		1.3nm,0.3s						
	MLR	**Muntele Rosu**	**8.16**	**341**	Pn		**Pn**	**20 52 08.9 -3.0**
		0.3nm,0.3s,baz=241,slow=16,SNR=3.2						
	MLR				Sn		**Sn**	**20 53 40.8 -3.2**
		0.3nm,0.3s,baz=156,slow=14,SNR=1.4						
	VRI	**Vrincioaia**	**8.33**	**345**	⇑P		**Pn**	**20 52 15.6 +1.5**
	PLOR	**Plostina**	**8.34**	**345**	⇓P		**Pn**	**20 52 15.8 +1.6**
	VOIR		**8.37**	**337**	⇑P		**Pn**	**20 52 15.9 +1.2**
	BOVS	**Bovan**	**8.42**	**316**	⇑P		**Pn**	**20 52 16.8 +1.5**
	PRNI	**Paran**	**8.64**	**148**	P		**Pn**	**20 52 18.2 -0.1**
	PRNI	**Paran**	**8.64**	**148**	S		**Sn**	**20 53 55.5 -0.1**
	TURR	**Turia**	**8.67**	**342**	⇑P		**Pn**	**20 52 20.6 +1.9**
	KRMI	**Paran Flat**	**8.73**	**150**	P		**Pn**	**20 52 18.9 -0.7**
	KRMI	**Paran Flat**	**8.73**	**150**	S		**Sn**	**20 53 58.5 +0.6**
	DOPR	**Dopca**	**8.75**	**339**	⇓P		**Pn**	**20 52 21.1 +1.2**
	HRFI	**Mount Harif**	**8.93**	**149**	P		**Pn**	**20 52 21.9 -0.4**
	HRFI	**Mount Harif**	**8.93**	**149**	S		**Sn**	**20 54 03.2 +0.5**
	HERR	**Herculane**	**8.95**	**324**	⇑P		**Pn**	**20 52 22.5 0.0**
	MBRI	**Mt Berech**	**9.09**	**150**	P		**Pn**	**20 52 24.1 -0.5**
	MBRI	**Mt Berech**	**9.09**	**150**	S		**Sn**	**20 54 07.0 +0.1**
	GZR	**Gura Zlata**	**9.18**	**327**	⇓P		**Pn**	**20 52 26.5 +0.7**
	EIL	**Elat**	**9.22**	**151**	Pn		**Pn**	**20 52 25.7 -0.6**
		0.7nm,0.3s,baz=334,slow=12,SNR=5.2						
	EIL				Sn		**Sn**	**20 54 06.5 -3.3**
		0.9nm,0.3s,baz=0.3,slow=16,SNR=4.6						
		5.0nm,0.6s						
	EIL	**Elat**	**9.22**	**151**	P		**Pn**	**20 52 26.0 -0.3**
	EIL	**Elat**	**9.22**	**151**	S		**Sn**	**20 54 10.2 +0.4**
	GERES	**GERESS Array B**	**16.02**	**318**	Pn		**P**	**20 54 01.1 -0.9**
		baz=143,slow=17,SNR=4.9						
		0.2nm,0.6s						
	FINES	**FINESS Array B**	**23.74**	**356**	P		**P**	**20 55 26.1 +0.8**
		0.3nm,0.5s,baz=170,slow=8.9,SNR=8.5						
		0.3nm,0.5s						
	HFS	**Hagfors**	**24.55**	**341**	P		**P**	**20 55 33.6 +0.9**
		5.1nm,1.1s,baz=152,slow=10,SNR=3.8						
		5.1nm,1.1s						
	KURBB	**Kurchatov Arra**	**36.55**	**54**	P		**P**	**20 57 19.8 +1.1**
		1.3nm,0.8s,baz=276,slow=8.5,SNR=10						
		1.3nm,0.8s						
	MKAR	**Makanchi Array**	**39.21**	**60**	P		**P**	**20 57 42.2 +0.9**
		1.3nm,0.5s,baz=268,slow=9.2,SNR=20						
		1.3nm,0.5s						
	ZALV	**Zalesovo Beam**	**40.46**	**48**	P		**P**	**20 57 51.5 -0.2**
		0.7nm,0.6s,baz=270,slow=7.2,SNR=2.2						
		0.7nm,0.6s						

*IDC **08** 20:52:58.2±2.8, 7°.22S×129°.59E, h128km±24km, mb3.6/7, mbtmp4.2/11, Error ellipse: s-maj=37.8km s-min=16.7km az=74.0*

*NEIC **08** 20:53:00.5±1.6, 7°.21S±0°.07×129°.38E±0°.09, h144km±12km, mb4.3/9, Error ellipse: s-maj=13.5km s-min=10.1km az=79.0*

*DJA **08** 20:53:00.7±0.2, 7°S±2°×12°9E±°, h175km±4km, M4.5/21, mb4.2/21, mB5.1/5, MLv4.5/15, Mw(mB)4.5/5*

ISC 08 20:52:59.8±0.5, 7°.32S±0°.05×129°.40E±0°.05, h150km, n69, σ2§13/78, mb3.8/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.00**	**109**	Pn	**Pn**	**20 53 36.1**	**+1.2**
SAUI				Sn	**Sn**	**20 54 00.6**	**-1.2**
SAUI	**Saumlaki**	**2.00**	**109**	P	**Pn**	**20 53 37.9**	**+3.0**
SAUI	**Saumlaki**	**2.00**	**109**	S	**Sn**	**20 54 03.0**	**+1.2**
SAUI	**Saumlaki**	**2.00**	**109**	P	**Pn**	**20 53 37.9**	**+3.0**
SAUI				S	**Sn**	**20 54 05.7**	**+3.9**
BNDI	**Bandanaira**	**2.82**	**10**	P	**Pn**	**20 53 47.1**	**+2.2**
AAI	**Ambon**	**3.80**	**342**	P	**Pn**	**20 53 59.1**	**+1.6**
MSAI	**Masohi**	**3.97**	**353**	P	**Pn**	**20 54 01.8**	**+2.1**
NLAI	**Namlea**	**4.65**	**330**	P	**Pn**	**20 54 11.9**	**+3.2**
FAKI	**Fak Fak**	**5.21**	**33**	Pn	**Pn**	**20 54 15.4**	**-0.7**
FAKI				Sn	**Sn**	**20 55 07.3**	**-8.2**
FAKI	**Fak Fak**	**5.21**	**33**	P	**Pn**	**20 54 15.0**	**-1.0**
	0.6nm37nm,1.1s						
DRS	**Darwin Rock St**	**5.29**	**164**	P	**Pn**	**20 54 19.5**	**+2.4**
DRS	**Darwin Rock St**	**5.29**	**164**	S	**Sn**	**20 55 18.8**	**+1.3**
KMPI	**Kaimana, Papua**	**5.62**	**50**	P	**Pn**	**20 54 21.7**	**+0.3**
SOEI	**Soe**	**5.62**	**244**		**Pn**	**20 54 23.1**	**+1.5**
SOEI	**Soe**	**5.62**	**244**	P	**Pn**	**20 54 23.6**	**+2.0**
	0.8nm76nm,0.6s						
MTN	**Manton Dam**	**5.75**	**163**	Pn	**Pn**	**20 54 24.9**	**+1.7**
MTN				Sn	**Sn**	**20 55 24.4**	**-4.1**
MTN	**Manton Dam**	**5.75**	**163**	P	**Pn**	**20 54 25.0**	**+1.8**
MTN	**Manton Dam**	**5.75**	**163**	S	**Sn**	**20 55 27.3**	**-1.1**
KDU	**Kakadu**	**6.13**	**151**	P	**Pn**	**20 54 29.6**	**+1.3**
BATI	**Baumata**	**6.35**	**243**	P	**Pn**	**20 54 32.9**	**+1.6**
	54nm,0.4s,baz=78,slow=2.8,SNR=20						
BATI				S	**Sn**	**20 55 42.0**	**-0.9**
	92nm,0.4s,baz=82,slow=17,SNR=14						
BATI	**Baumata**	**6.35**	**243**	P	**Pn**	**20 54 33.0**	**+1.7**
	0.5nm58nm,0.5s						
SWI	**Sorong**	**6.67**	**16**	P	**Pn**	**20 54 35.0**	**-0.5**
	0.3nm18nm,0.9s						
RKPI	**Ransiki, Papua**	**7.48**	**40**	P	**Pn**	**20 54 46.8**	**+0.5**
EDFI	**Ende, Flores**	**7.76**	**259**	P	**Pn**	**20 54 51.6**	**+1.4**
KNRA	**Kununurra**	**8.33**	**184**		**Pn**	**20 54 58.1**	**+0.4**
KNRA				Sn	**Sn**	**20 56 25.0**	**-5.4**
BAKI	**Biak**	**9.04**	**48**	P	**Pn**	**20 55 06.5**	**-0.6**
	42nm,0.8s						
WSI	**Waingapu**	**9.30**	**255**	P	**Pn**	**20 55 10.5**	**-0.1**
KMSI	**Cibinong**	**9.52**	**325**	P	**Pn**	**20 55 14.0**	**+0.5**
	70nm,1.4s						
WBSI	**Waikabubak, Su**	**10.16**	**256**	P	**Pn**	**20 55 22.1**	**0.0**
	45nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.32**	**199**		**Pn**	**20 55 36.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.32**	**199**	P	**Pn**	**20 55 36.9**	**-0.4**
	14nm,0.4s,baz=30,slow=11,SNR=119						
FITZ				S	**Sn**	**20 57 36.7**	**-5.8**
	23nm,0.7s,baz=92,slow=18,SNR=5.3						
FITZ	**Fitzroy Crossi**	**11.32**	**199**	P	**Pn**	**20 55 36.6**	**-0.6**
PLAI	**Plampang**	**11.61**	**262**	P	**Pn**	**20 55 40.7**	**-0.3**
PLAI	**Plampang**	**11.61**	**262**	P	**Pn**	**20 55 40.4**	**-0.6**
	28nm,1.7s						
WB0	**Warramunga Arr**	**13.29**	**159**	Pn	**Pn**	**20 56 01.9**	**-0.9**
WRA	**Warramunga Arr**	**13.43**	**160**		**Pn**	**20 56 02.2**	**-2.4**
WRA	**Warramunga Arr**	**13.43**	**160**	P	**Pn**	**20 56 03.4**	**-1.2**
	18nm,1.0s,baz=347,slow=13,SNR=81						
WRA				S	Sn	20 58 22.4	-11
	12nm,0.6s,baz=340,slow=22,SNR=9.5						
WB2	**Warramunga Arr**	**13.44**	**160**	Pn	**Pn**	**20 56 03.1**	**-1.6**
WR8	**Warramunga Arr**	**13.50**	**159**	Pn	**Pn**	**20 56 04.3**	**-1.1**
COEN	**Coen**	**15.06**	**117**	Pn	**Pn**	**20 56 24.6**	**-0.4**
COEN				IAmb	IAmb	20 56 31.4	
	comp=Z,7.2nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.15**	**265**	Pn	**Pn**	**20 56 23.8**	**-2.4**
JAGI	**Jajag, Banyuwa**	**15.15**	**265**	P	**P**	**20 56 26.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**15.15**	**265**	P	**Pn**	**20 56 25.0**	**-1.1**
	comp=Z,31nm,1.4s						
GMJI	**Gumukmas**	**15.84**	**266**	P	**Pn**	**20 56 33.7**	**-0.9**
	comp=Z,29nm,1.3s						
QIS	**Mount Isa**	**16.46**	**144**	P	**Pn**	**20 56 44.8**	**+2.6**
MBWA	**Marble Bar**	**16.64**	**213**	P	**Pn**	**20 56 44.6**	**+0.3**
MBWA				IAmb	IAmb	20 56 58.3	
	comp=Z,32nm,1.3s						
AS31	**Alice Springs**	**16.82**	**166**		**Pn**	**20 56 48.4**	**+1.8**
ASAR	**Alice Springs**	**16.82**	**166**		**Pn**	**20 56 47.8**	**+1.2**
ASAR	**Alice Springs**	**16.82**	**166**	P	**Pn**	**20 56 47.9**	**+1.3**
	comp=Z,11nm,0.7s,baz=338,slow=9.6,SNR=142						
ASAR				S	**S**	**20 59 49.2**	**-4.5**
	comp=Z,3.4nm,0.8s,baz=356,slow=27,SNR=5.8						
ASAR				ScP	**ScP**	**21 04 48.5**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=359,slow=1.6,SNR=4.4						
AS01	**Alice Springs**	**16.83**	**165**	P	**Pn**	**20 56 48.9**	**+2.2**
PSA00	**Pilbara Seismi**	**16.91**	**212**	P	**Pn**	**20 56 48.1**	**+0.5**
PSA00				IAmb	IAmb	20 56 56.1	
	comp=Z,34nm,1.3s						
PSA00	**Pilbara Seismi**	**16.91**	**212**	P	**Pn**	**20 56 49.8**	**+2.2**
PCJI	**Pacitan**	**18.08**	**266**	P	**P**	**20 56 59.1**	**-0.9**
	comp=Z,42nn,2.8s						
SBUM	**Sibu**	**19.70**	**299**	P	**P**	**20 57 16.7**	**-1.0**
SBUM				IAmb	IAmb	20 57 21.9	
	comp=Z,4.0nm,0.6s						
KPJI	**Karang Pucung**	**20.30**	**269**	P	**P**	**20 57 22.3**	**-1.8**
	comp=Z,28nn,2.0s						
CNJI	**Cibinong**	**22.09**	**269**	P	**P**	**20 57 41.9**	**-1.2**
	comp=Z,36nn,1.4s						
TPI	**Tanjungpandan**	**22.12**	**281**	P	**P**	**20 57 42.7**	**-0.7**
	comp=Z,21nn,1.7s						
CGJI	**Cibinong**	**23.54**	**270**	P	**P**	**20 57 56.3**	**-0.4**
BBOO	**Buckleboo**	**26.11**	**167**	P	**P**	**20 58 21.4**	**+1.6**
STKA	**Stephens Creek**	**26.95**	**157**	P	**P**	**20 58 30.3**	**+3.0**
	comp=Z,1.6nn,0.4s,baz=348,slow=8.1,SNR=9.9						
CMAR	**Chiang Mai Arr**	**39.48**	**311**	P	**P**	**21 00 17.5**	**+1.6**
	comp=Z,2.3nn,0.9s,baz=142,slow=7.3,SNR=13						
	comp=Z,2.3nn,0.9s						
MJAR	**Matsushiro Arr**	**44.40**	**10**	P	**P**	**21 00 55.3**	**-0.2**
	comp=Z,0.9nn,0.5s,baz=193,slow=7.7,SNR=2.9						
	comp=Z,0.9nn,0.5s						
SONM	**Songino Array**	**58.55**	**342**	P	**P**	**21 02 42.4**	**+1.7**
SONM	**Songino Array**	**58.55**	**342**	P	**P**	**21 02 40.6**	**-0.1**
	comp=Z,0.4nn,0.5s,baz=161,slow=6.4,SNR=3.7						
	comp=Z,0.4nn,0.5s						
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**21 03 44.5**	**+0.7**
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**21 03 44.4**	**+0.6**
	comp=Z,0.6nn,0.4s,baz=114,slow=8.2,SNR=14						
	comp=Z,0.6nn,0.4s						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**21 04 05.4**	**+0.8**
	comp=Z,0.7nn,0.4s,baz=99,slow=4.9,SNR=5.3						
	comp=Z,0.7nn,0.4s						
KURBB	**Kurchatov Arra**	**72.47**	**329**	P	**P**	**21 04 10.9**	**+1.1**
	comp=Z,0.6nn,0.4s,baz=126,slow=5.0,SNR=9.2						
	comp=Z,0.6nn,0.4s						
QSPA	**South Pole Qui**	**82.66**	**180**	P	**P**	**21 05 08.4**	**+2.1**
	comp=Z,1.6nn,0.9s,baz=18,slow=0.9,SNR=8.6						
	comp=Z,1.6nn,0.9s						

*AFAD **08** 20:54:57.7, 37°.82N×29°.74E, h7km±2km, ML1.7*

ISK 08 20:54:57.7, 37°.81N×29°.74E, h19km, ML1.7/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.17**	**234**	P	Pg	20 55 02.2	-0.2
INCE	**Denizli-Bozkur**	**0.17**	**234**	P	Pg	20 55 02.2	-0.2
INCE				*i* IAML		20 55 06.0	
	comp=N,112nm,0.6s						
INCE				*i* IAML		20 55 06.0	
	comp=E,87nm,0.3s						
INCE				S	Sg	20 55 06.0	+0.4
BASM	**Basmaki-Afyon**	**0.27**	**65**	Pg	Pb	20 55 03.8	0.0
BASM				Sg	Sg	20 55 08.8	+0.7
APMY	**Acipayam-Deniz**	**0.48**	**227**	Pg	Pb	20 55 07.9	+0.3
APMY				Sg	Sb	20 55 15.6	+1.2
UZP	**Denizli**	**0.50**	**297**	P	Pg	20 55 07.4	-0.6
UZP				S	Sg	20 55 14.4	-0.5
UZP				*i* IAML		20 55 18.0	
	comp=N,65nm,0.3s						
UZP				*i* IAML		20 55 19.0	
	comp=E,79nm,0.3s						
PASA	**Karahalli, USA**	**0.58**	**340**	P	Pb	20 55 07.8	-1.3
GOLH	**Golhisar**	**0.59**	**194**	P	Pg	20 55 09.8	+0.4
GOLH				S	Sg	20 55 18.5	+1.1
GOLH				*i* IAML		20 55 22.0	
	comp=N,38nm,0.3s						
GOLH	**Golhisar**	**0.59**	**194**	P	Pg	20 55 09.9	+0.4
GOLH				S	Sn	20 55 20.9	+0.8
GOLH				*i* IAML		20 55 22.0	
	comp=N,38nm,0.3s						
GOLH				*i* IAML		20 55 22.0	
	comp=E,18nm,0.3s						
ISP	**Isparta**	**0.62**	**88**	Pg	Sg	20 55 10.2	+0.2
ISP				Sg	Sg	20 55 19.6	+1.2
TAVA	**DENIZLI_Tavas**	**0.74**	**243**	P	Pb	20 55 12.0	-0.1
TAVA	**DENIZLI_Tavas**	**0.74**	**243**	P	Pg	20 55 12.3	0.0
TAVA				S	Sb	20 55 21.8	0.0
TAVA				*i* IAML		20 55 25.0	
	comp=E,5.0nm,0.4s						
TAVA				*i* IAML		20 55 26.0	
	comp=N,6.5nm,0.4s						
AFYN	**Afyon-Dinar-K**	**0.76**	**52**	P	Pb	20 55 12.3	-0.1
AFYN				S	Sg	20 55 22.7	-0.1
AFYN				*i* IAML		20 55 29.0	
	comp=E,18nm,0.4s						
BUCA	**Burdur, Bucak-**	**0.81**	**126**	P	Pn	20 55 16.4	+2.3
BNAZ	**Uak-Banaz**	**0.88**	**7**	P	Pb	20 55 14.2	-0.2
BNAZ				S	Sg	20 55 26.7	+0.1
BNAZ				*i* IAML		20 55 29.0	
	comp=N,30nm,0.4s						
BNAZ				*i* IAML		20 55 33.0	
	comp=E,87nm,0.6s						
CAME	**Cameli-Denizli**	**0.93**	**202**	Pg	Pg	20 55 16.2	+0.3
USAK	**Uak-Merkez**	**1.07**	**328**	P	Pn	20 55 18.1	+0.4
ESEN	**Aydn-Nazilli**	**1.10**	**270**	P	Pb	20 55 18.2	0.0
ESEN				S	Sg	20 55 33.3	-0.4
KULA	**Kula-Manisa**	**1.11**	**310**	Pn	Pb	20 55 18.6	+0.3
SDAG	**Sultandagi-AFY**	**1.12**	**55**	Pn	Pb	20 55 19.0	+0.5
KIRA	**zmir-Kiraz**	**1.13**	**291**	P	Pg	20 55 19.2	-0.5
KIRA				S	Sg	20 55 34.9	+0.3
MANT	**Manisa**	**1.16**	**307**	P	Pb	20 55 19.6	+0.4
MANT				S	Sg	20 55 35.5	+0.1
MANT				*i* IAML		20 55 40.0	
	comp=E,18nm,0.2s						

*ATH **08** 21:13:22.7, 38°.01N×26°.87E, h11km±5km, ML2.7/4, Manual Solution by M.Charalampakis First location: 2019/08/08 21:14:56, This location: 2019/08/09 04:56:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 6 km*

*ISK **08** 21:13:22.7, 38°.01N×26°.92E, h6km, ML3.0/23*

*THE **08** 21:13:22.9, 38°N±2°×2°7E±°, h7km±3km, M2.8/6, MLh2.8/6*

*AFAD **08** 21:13:23.3, 37°.98N×26°.84E, h8km, MW3.2*

ISC 08 21:13:22.8±0.9, 38°.02N±0°.02×26°.88E±0°.02, h9km±6km, n67, σ0§86/90, 3C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.07**	**27**	Pg	**Pg**	**21 13 24.7**	**-0.1**
GMLD				Sg	**Sg**	**21 13 26.1**	**-0.2**
SMG	**Samos**	**0.31**	**186**	P	**Pg**	**21 13 29.1**	**+0.2**
SMG				S	**Sg**	**21 13 34.1**	**+1.1**
SMG	**Samos**	**0.31**	**186**	P	**Pg**	**21 13 29.0**	**0.0**
SMG				S	**Sg**	**21 13 33.2**	**+0.1**
BLCB	**Balcova**	**0.39**	**19**	Pg	**Pg**	**21 13 30.5**	**0.0**
BLCB	**Balcova**	**0.39**	**19**	P	**Pg**	**21 13 30.4**	**0.0**
BLCB				S	**Sg**	**21 13 35.7**	**0.0**
URLA	**Izmir**	**0.41**	**327**	P	**Pg**	**21 13 30.9**	**0.0**
URLA				*i* IAML		21 13 37.0	
	comp=N,682nm,0.5s						
URLA				S	**Sg**	**21 13 37.3**	**+1.0**
GCAM	**G?zelcaml?**	**0.42**	**138**	P	**Pg**	**21 13 31.2**	**+0.2**
GCAM				*i* IAML		21 13 37.0	
	comp=N,948nm,0.5s						
GCAM				S	**Sg**	**21 13 37.2**	**+0.5**
CESE	**eme**	**0.55**	**305**	Pg	**Pb**	**21 13 34.3**	**-0.4**
FOCM	**Foa**	**0.70**	**351**	Pg	**Pb**	**21 13 37.1**	**-0.2**
CHOS	**Chios island**	**0.74**	**300**	Pg	**Pb**	**21 13 38.0**	**0.0**
CHOS	**Chios island**	**0.74**	**300**	P	**Pg**	**21 13 37.0**	**-0.2**
CHOS				S	**Sb**	**21 13 48.3**	**-0.1**
CHOS	**Chios island**	**0.74**	**300**	P	**Pg**	**21 13 37.3**	**+0.1**
CHOS				S	**Sb**	**21 13 48.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.81**	**95**	Pg	**Pg**	**21 13 37.9**	**-0.4**
AYDB				Sg	**Sg**	**21 13 49.0**	**+0.2**
IZMR	**zmir-demi**	**0.86**	**82**	P	**Pg**	**21 13 38.9**	**-0.4**
IZMR				S	**Sb**	**21 13 51.8**	**+0.3**
AYDN	**Tasoluk**	**0.87**	**114**	P	**Pg**	**21 13 39.7**	**+0.2**
AYDN				*i* IAML		21 13 53.0	
	comp=N,230nm,0.4s						
AYDN				S	**Sn**	**21 13 53.3**	**-0.9**
AYDN				*i* IAML		21 13 54.0	
	comp=E,447nm,0.6s						
YKAV	**Yalikavak-Bodr**	**0.95**	**160**	Pg	**Pg**	**21 13 40.9**	**-0.1**
ODEM	**Odemis-Izmir**	**0.98**	**74**	Pg	**Pg**	**21 13 41.4**	**-0.3**
BDRM	**Kayabasi**	**1.05**	**154**	P	**Pg**	**21 13 42.1**	**-0.9**
BDRM				S	**Sg**	**21 13 56.6**	**0.0**
GOMA	**Golmarmara-Man**	**1.07**	**50**	Pg	**Pg**	**21 13 43.3**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.12**	**92**	Pn	**Pg**	**21 13 43.9**	**-0.4**
AKS	**Akhisar**	**1.13**	**40**	Pn	**Pg**	**21 13 44.5**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.19**	**100**	P	**Pb**	**21 13 44.6**	**-0.9**
ESEN				S	**Sn**	**21 14 02.2**	**+0.4**
KIRA	**zmir-Kiraz**	**1.22**	**81**	P	**Pb**	**21 13 45.2**	**-0.8**
KIRA				S	**Sg**	**21 14 02.2**	**+0.3**
SOMA	**Soma-Manisa**	**1.25**	**24**	Pn	**Pg**	**21 13 47.1**	**+0.3**
AYVA	**Ayvalik**	**1.30**	**354**	P	**Pn**	**21 13 43.3**	**-3.8**
AYVA				S	**Sn**	**21 14 06.4**	**+1.8**
GORD	**Gordes-Manisa**	**1.35**	**48**	Pn	**Pb**	**21 13 48.6**	**+0.2**
GORD				Sn	**Sg**	**21 14 06.7**	**+0.3**
DAT	**Datca**	**1.40**	**156**	Pn	**Pn**	**21 13 48.9**	**+0.2**
MANT	**Manisa**	**1.41**	**70**	P	**Pb**	**21 13 49.6**	**+0.2**
MANT				S	**Sb**	**21 14 06.8**	**-0.7**
MANT				*i* IAML		21 14 07.0	
	comp=N,113nm,0.3s						
YAZI	**Mula-Dat§a-**	**1.41**	**161**	P	**Pn**	**21 13 47.3**	**-1.4**
YAZI				S	**Sg**	**21 14 11.2**	**+3.1**
SIGR	**SIGRI**	**1.44**	**326**	Pn	**Pb**	**21 13 50.1**	**+0.3**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pb**	**21 13 49.7**	**0.0**
SIGR				S	**Sn**	**21 14 07.5**	**-0.5**
SIGR	**SIGRI**	**1.44**	**326**	P	**Pb**	**21 13 49.8**	**0.0**
SIGR				S	**Sn**	**21 14 07.7**	**-0.4**
KULA	**Kula-Manisa**	**1.49**	**70**	Pn	**Pb**	**21 13 50.6**	**-0.1**
YAYO	**Edremit-Balk**	**1.60**	**5**	Pn	**Pb**	**21 13 52.2**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.71**	**108**	P	**Pn**	**21 13 52.0**	**-0.8**
TAVA				S	**Sg**	**21 14 19.2**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.71**	**108**	*i* IAML		21 14 26.0	
	comp=E,20nm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.71**	**108**	P	**Pn**	**21 13 52.5**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.71**	**108**	S	**Sg**	**21 14 18.1**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.71**	**108**	*i* IAML		21 14 20.0	
	comp=N,19nm,1.0s						
DEMI	**Demirci**	**1.77**	**54**	P	**Pg**	**21 13 56.4**	**-0.4**
DEMI				S	**Sb**	**21 14 18.6**	**+0.8**
DEMI				*i* IAML		21 14 20.0	
	comp=E,121nm,0.4s						
BALY	**Balya**	**1.82**	**18**	P	**Pb**	**21 13 55.5**	**-0.8**
BALY				S	**Sg**	**21 14 21.4**	**+0.2**
BALY				*i* IAML		21 14 22.0	
	comp=N,122nm,0.4s						
BALY				*i* IAML		21 14 22.0	
	comp=E,126nm,0.4s						
USAK	**Uak-Merkez**	**1.82**	**67**	P	**Pb**	**21 13 56.3**	**-0.1**
USAK				S	**Sg**	**21 14 20.8**	**-0.6**
DNZT	**Denizli-Tavas-**	**1.86**	**113**	*i* IAML		21 14 29.0	
	comp=E,18nm,0.5s						
DNZT	**Denizli-Tavas-**	**1.86**	**113**	P	**Pg**	**21 13 58.3**	**-0.1**
DNZT	**Denizli-Tavas-**	**1.86**	**113**	S	**Sg**	**21 14 23.4**	**+0.9**
DNZT	**Denizli-Tavas-**	**1.86**	**113**	*i* IAML		21 14 25.0	
	comp=N,14nm,0.7s						
EZN	**Ezine**	**1.86**	**347**	Pn	**Pb**	**21 13 56.4**	**-0.5**
EZN	**Ezine**	**1.86**	**347**	⇑P	**Pg**	**21 13 58.0**	**-0.4**
EZN				⇑S	**Sg**	**21 14 24.3**	**+1.8**
YENI	**Yenice-Canakka**	**1.94**	**8**	Pn	**

0.2nm,0.3s,baz=178,slow=7.2,SNR=2.6
0.2nm,0.3s
MKAR Makanchi Array 58.51 342 P **P** **21 48 19.3 +0.6**
0.3nm,0.5s,baz=147,slow=7.7,SNR=3.8
0.3nm,0.5s
H04N2 CROZET ISLANDS 59.29 221 T T 22 52 47.3
baz=68
H04N1 CROZET ISLANDS 59.30 221 T T 22 52 47.4
baz=68
H04N3 CROZET ISLANDS 59.31 221 T T 22 52 46.9
baz=68
KURBB Kurchatov Arra 63.06 341 P **P** **21 48 51.8 +2.3**
0.3nm,0.6s,baz=161,slow=6.8,SNR=4.2
0.3nm,0.6s
ZALV Zalesovo Beam 64.33 347 P **P** **21 48 58.1 +0.3**
0.5nm,0.4s,baz=157,slow=6.8,SNR=4.2
0.5nm,0.4s

---

*IDC **08** 21:38:50.5±8.2,7°.39S×129°.90E,h168km±87km,mb3.3/1, mbtmp3.9/5,Error ellipse: s-maj=78.8km s-min=25.0km az=38.0*

ISC 08 21:38:50.4±1.2,7°.45S±0°.09×129°.85E±0°.07,h150km,n14, σ2991/17,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.54**	**110**	P	**Pn**	**21 39 19.1**	**-1.2**
DRS	**Darwin Rock St**	**5.06**	**168**	P	**Pn**	**21 40 07.1**	**+2.5**
DRS	**Darwin Rock St**	**5.06**	**168**	S	**Sn**	**21 41 07.7**	**+5.2**
FAKI	**Fak Fak**	**5.10**	**28**	P	Pn	21 39 54.3	-11
MTN	**Manton Dam**	**5.51**	**167**	P	**Pn**	**21 40 12.6**	**+2.0**
KDU	**Kakadu**	**5.81**	**154**	P	**Pn**	**21 40 15.4**	**+0.8**
BATI	**Baumata**	**6.70**	**245**	P	**Pn**	**21 40 28.4**	**+2.0**
	34nm,0.4s,baz=72,slow=4.2,SNR=13						
BATI				S	**Sn**	**21 41 43.9**	**+2.2**
	20nm,0.4s,baz=315,slow=23,SNR=7.0						
FITZ	**Fitzroy Crossi**	**11.35**	**201**	P	**Pn**	**21 41 28.1**	**-0.1**
	0.8nm,0.3s,baz=24,slow=12,SNR=18						
FITZ				S	**Sn**	**21 43 29.9**	**-3.9**
	9.8nm,0.7s,baz=136,slow=21,SNR=10						
PLAI	**Plampang**	**12.03**	**263**	P	**Pn**	**21 41 36.0**	**-1.1**
WRA	**Warramunga Arr**	**13.16**	**161**	P	**Pn**	**21 41 50.5**	**-1.3**
	0.8nm,0.3s,baz=344,slow=12,SNR=26						
WRA				S	**Sn**	**21 44 12.3**	**-5.1**
	0.7nm,0.3s,baz=334,slow=22,SNR=5.2						
COEN	**Coen**	**14.60**	**117**	P	**Pn**	**21 42 10.8**	**+0.8**
ASAR	**Alice Springs**	**16.59**	**167**	P	**P**	**21 42 35.2**	**+0.9**
	1.6nm,0.5s,baz=344,slow=10.0,SNR=24						
ASAR				S	**S**	**21 45 35.9**	**-3.0**
	0.5nm,0.8s,baz=345,slow=25,SNR=2.3						
AS01	**Alice Springs**	**16.60**	**167**	P	**Pn**	**21 42 38.1**	**+3.6**
MKAR	**Makanchi Array**	**68.52**	**327**	P	**P**	**21 49 34.6**	**-2.0**
	0.5nm,0.6s,baz=128,slow=7.7,SNR=5.3						
	0.5nm,0.6s						

---

*NEIC **08** 21:47:18.0±1.7,4°.79S±0°.10×153°.8E±0°.1,h76km±8km, mb4.4/12,Error ellipse: s-maj=19.1km s-min=13.2km az=112.0*

*IDC **08** 21:47:22.1±4.4,4°.92S×153°.49E,h110km±37km,mb3.6/10, mbtmp4.0/11,MS2.9/2,Error ellipse: s-maj=29.1km s-min=21.1km az=74.0*

ISC 08 21:47:20.6±0.7,4°.86S±0°.08×153°.59E±0°.10,h100km,n30, σ0990/30,mb4.1/15,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.57**	**295**	Pn	**Pn**	**21 47 46.7**	**-1.1**
MANU	**Manus Island**	**6.81**	**294**	Pn	**Pn**	**21 48 58.4**	**+0.3**
HNR	**Honiara**	**7.77**	**126**	LR	LR	21 52 09.9	
	comp=Z,75nm,20.7s,baz=223,slow=37						
PMG	**Port Moresby**	**7.81**	**234**		**Pn**	**21 49 12.2**	**+0.6**
PMG	**Port Moresby**	**7.81**	**234**	P	**Pn**	**21 49 11.8**	**+0.1**
	58nm,0.5s,baz=34,slow=8.0,SNR=27						
PMG				S	**Sn**	**21 50 37.3**	**-1.2**
	83nm,0.5s,baz=342,slow=20,SNR=13						
PMG				LR	LR	21 51 58.0	
	comp=Z,92nm,20.0s,baz=32,slow=36						
COEN	**Coen**	**13.68**	**228**	Pn	**Pn**	**21 50 31.4**	**+0.9**
DZM	**Mont Dzumac**	**21.16**	**145**	P	**P**	**21 51 58.9**	**+1.0**
	6.1nm,0.9s,baz=331,slow=9.8,SNR=2.1						
	6.1nm,0.9s						
MTN	**Manton Dam**	**23.55**	**249**	P	**P**	**21 52 22.0**	**-0.2**
MTN				IAmb	IAmb	21 52 30.0	
	comp=Z,6.1nm,0.6s						
WB0	**Warramunga Arr**	**23.85**	**230**	P	**P**	**21 52 25.5**	**+0.5**
WB0				IAmb	IAmb	21 52 26.3	
	comp=Z,9.5nm,0.6s						
WR8	**Warramunga Arr**	**23.88**	**229**	P	**P**	**21 52 25.8**	**+0.6**
WR8				IAmb	IAmb	21 52 27.0	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**24.00**	**230**	P	**P**	**21 52 25.6**	**-0.7**
WRA	**Warramunga Arr**	**24.00**	**230**	P	**P**	**21 52 26.7**	**+0.4**
	comp=Z,8.2nm,0.6s,baz=54,slow=9.9,SNR=89						
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**26.64**	**224**	P	**P**	**21 52 49.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=56,slow=9.1,SNR=5.3						
	comp=Z,0.5nm,0.4s						
KNRA	**Kununurra**	**26.65**	**244**	P	**P**	**21 52 50.8**	**+0.6**
KNRA				IAmb	IAmb	21 53 08.9	
	comp=Z,15nm,1.3s						
FITZ	**Fitzroy Crossi**	**30.32**	**242**	P	**P**	**21 53 22.3**	**-0.6**
MBWA	**Marble Bar**	**36.62**	**241**	P	**P**	**21 54 19.5**	**+1.9**
PSA00	**Pilbara Seismi**	**36.68**	**240**	P	**P**	**21 54 19.2**	**+1.2**
LTZ	**Lake Taylor**	**41.24**	**159**	P	**P**	**21 54 54.6**	**-1.3**
SONM	**Songino Array**	**66.80**	**327**	P	**P**	**21 58 02.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=141,slow=5.5,SNR=2.5						
	comp=Z,0.2nm,0.5s						
VNDA	**Vanda**	**72.74**	**178**	P	**P**	**21 58 37.6**	**+0.2**
VNDA	**Vanda**	**72.74**	**178**	P	**P**	**21 58 37.6**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=334,slow=5.6,SNR=5.5						
	comp=Z,1.2nm,1.0s						
O14K	**Tigyukauivet M**	**73.21**	**22**	P	**P**	**21 58 39.3**	**-1.1**
O14K				IAmb	IAmb	21 58 51.6	
	comp=Z,17nm,1.4s						
MKAR	**Makanchi Array**	**80.89**	**319**	P	**P**	**21 59 23.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=100,slow=7.3,SNR=4.4						
	comp=Z,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**81.64**	**326**	P	**P**	**21 59 29.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=94,slow=5.8,SNR=2.2						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**81.92**	**22**	P	**P**	**21 59 29.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=253,slow=5.4,SNR=2.3						
	comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**85.10**	**180**	P	**P**	**21 59 45.5**	**+0.2**
QSPA				IAmb	IAmb	22 00 00.0	
	comp=Z,4.2nm,1.5s						
QSPA	**South Pole Qui**	**85.10**	**180**	P	**P**	**21 59 45.5**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=290,slow=1.1,SNR=7.2						
	comp=Z,2.1nm,1.0s						
MAW	**Mawson**	**85.81**	**203**	P	**P**	**21 59 47.9**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=122,slow=4.8,SNR=3.5						
	comp=Z,1.6nm,0.7s						
HFS	**Hagfors**	**117.02**	**339**	PKP	**PKiKP**	**22 05 54.3**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=67,slow=4.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**151.07**	**288**	PKPbc	**PKPbc**	**22 07 01.8**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=81,slow=1.8,SNR=1.6						

---

*NEIC **08** 21:50:49.3±2.4,35°.133N±0°.009×95°.37W±0°.02,h5km±1km, mb_Lg2.6/56,ML2.4/4,ML2.7/12,Error ellipse: s-maj=3.0km s-min=2.7km az=119.0*

NEIC 08 21:50:49.5±2.7,35°.14N±0°.02×95°.36W±0°.02,h7km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=162.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.84**	**335**		Pg	21 51 05.5	-0.3
RLO	**Rose Lookout**	**1.06**	**15**		Pg	21 51 09.3	-0.6
RLO					Sg	21 51 23.7	+0.1
RLO				IAML		21 51 28.8	
	comp=E,170nm,0.2s						
RLO				IAML		21 51 29.2	
	comp=N,153nm,0.2s						
DEOK	**Depew**	**1.16**	**307**	Pg	Pg	21 51 11.2	-0.6
DEOK					Sg	21 51 26.7	-0.3
DEOK				IAML		21 51 31.5	
	comp=N,248nm,0.4s						
DEOK				IAML		21 51 34.2	
	comp=E,135nm,0.5s						
OK052	**Battle Ridge R**	**1.45**	**306**		Pn	21 51 16.1	-0.1
OK052					Sg	21 51 36.1	-0.1
QUOK	**Quay**	**1.50**	**313**		Pn	21 51 16.9	-0.1
QUOK					Sg	21 51 37.8	-0.2
U38A	**Gravette**	**1.52**	**31**		Pn	21 51 17.2	0.0
U38A					Sb	21 51 37.5	0.0
MIAR	**Mount Ida**	**1.58**	**112**		Pb	21 51 18.7	-0.4
MIAR					Sb	21 51 39.8	+0.5
MIAR				IAmb_Lg		21 51 42.3	
	comp=Z,19nm,0.7s						
HHAR	**Hobbs**	**1.62**	**45**		Pn	21 51 18.9	+0.3
HHAR					Sb	21 51 40.7	+0.2
FNO	**Franklin**	**1.68**	**275**		Pn	21 51 19.9	+0.6
OKCSW	**OKLAHOMA CITY**	**1.72**	**279**		Pn	21 51 19.5	-0.5
OKCFA	**Oklahoma City**	**1.73**	**280**		Pb	21 51 21.2	-0.5
OKCFA					Sg	21 51 44.6	-0.7
OK029	**Liberty Lake**	**1.83**	**292**		Pn	21 51 22.2	+0.8
OK029					Sg	21 51 47.7	-0.7
Z38A	**Mt. Pleasant**	**1.90**	**171**		Pn	21 51 22.7	+0.4
Z38A					Sn	21 51 47.3	+0.7
Z38A				IAmb_Lg		21 51 52.7	
	comp=Z,32nm,0.9s						
BCOK	**Bluff Creek, N**	**1.91**	**286**		Pb	21 51 23.7	-1.0
BCOK					Sg	21 51 50.0	-0.9
T35A	**Sooner Cattle**	**2.00**	**333**		Pn	21 51 23.5	-0.3
T35A					Sb	21 51 52.7	+1.2
X40A	**Basin Creek Fa**	**2.18**	**107**	Pn	Pn	21 51 26.9	+0.8
X40A				Sg	Sg	21 51 58.2	-1.3
X40A				IAmb_Lg		21 52 01.0	
	comp=Z,37nm,0.8s						
BLOK	**Blackwell**	**2.21**	**318**	IAmb_Lg		21 52 04.1	
	comp=Z,36nm,1.1s						
WLAR	**White Oak Lake**	**2.36**	**127**	Pn	Pn	21 51 28.1	-0.5
WLAR				IAmb_Lg		21 52 06.8	
	comp=Z,25nm,0.7s						
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	21 51 28.1	-1.0
TREL	**Terrell**	**2.48**	**194**	IAmb_Lg		21 52 11.4	
	comp=Z,34nm,1.1s						
UALR	**University of**	**2.50**	**98**	Pn	Pn	21 51 29.7	-0.9
UALR				IAmb_Lg		21 52 13.7	
	comp=Z,29nm,1.0s						
WHAR	**Wooly Hollow**	**2.52**	**86**	Pn	Pn	21 51 35.1	+0.6
CROK	**Carrier**	**2.53**	**303**		Pn	21 51 29.8	-1.3
GC02	**Grant County #**	**2.65**	**311**	Pn	Pn	21 51 30.6	-2.1
CSTR	**Hydro, Custer**	**2.77**	**281**		Pn	21 51 32.9	-1.5
KAN14	**Manchester OK**	**2.78**	**311**	Pn	Pn	21 51 33.9	-0.6
KAN14				IAmb_Lg		21 52 19.1	
	comp=Z,14nm,1.1s						
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	21 51 34.9	-0.5
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	21 51 35.6	+0.2
WMOK				IAmb_Lg		21 52 27.1	
	comp=Z,5.3nm,0.8s						
OK038	**West end E0370**	**3.06**	**297**		Pn	21 51 37.0	-1.3
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		21 52 38.1	
	comp=Z,18nm,0.7s						
LCAR	**Lake Charles**	**3.55**	**74**	IAmb_Lg		21 52 43.3	
	comp=Z,12nm,0.9s						
SMWD	**Samnorwood**	**4.00**	**271**	IAmb_Lg		21 53 06.5	
	comp=Z,16nm,1.0s						
R32A	**Long Quarter,**	**4.24**	**322**	IAmb_Lg		21 53 15.7	
	comp=Z,16nm,0.7s						
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		21 53 17.1	
	comp=Z,9.6nm,0.7s						
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		21 53 27.3	
	comp=Z,8.0nm,0.7s						
DKNS	**Dickens**	**4.83**	**254**	IAmb_Lg		21 53 32.8	
	comp=Z,7.6nm,0.9s						
FVM	**French Village**	**4.88**	**53**	IAmb_Lg		21 53 28.0	
	comp=Z,8.6nm,0.8s						
SN07	**Snyder 07**	**5.03**	**248**	IAmb_Lg		21 53 31.8	
	comp=Z,6.2nm,0.8s						
CBKS	**Cedar Bluff**	**5.07**	**318**	IAmb_Lg		21 53 34.2	
	comp=Z,10.0nm,0.8s						
CGM3	**Cape Girardeau**	**5.09**	**63**	IAmb_Lg		21 53 34.8	
	comp=Z,6.5nm,0.7s						
P40A	**Paris**	**5.11**	**30**	IAmb_Lg		21 53 43.8	
	comp=Z,11nm,0.9s						
POST	**Post**	**5.50**	**250**	IAmb_Lg		21 53 49.8	
	comp=Z,5.8nm,0.7s						
SGCY	**Sterling City**	**5.79**	**238**	IAmb_Lg		21 54 03.2	
	comp=Z,14nm,1.0s						
JCT	**Junction City**	**5.97**	**220**	IAmb_Lg		21 54 06.2	
	comp=Z,5.4nm,0.8s						
T47A	**Sharon Grove**	**6.93**	**72**	IAmb_Lg		21 54 28.2	
	comp=Z,6.1nm,0.7s						
T25A	**Trinidad**	**7.59**	**288**	IAmb_Lg		21 55 04.0	
	comp=Z,8.4nm,1.1s						

ASRS 08 21:56:31.3±0.3,52°N±3°×9°9E±°,h5km,MLh3.6/9,Error ellipse: s-maj=5.6km s-min=2.3km az=15.6,confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**1.54**	**92**	Pg	Pg	21 57 04.3	+3.5
MOY				Sg	Sg	21 57 23.9	+3.1
KZLR	**Kyzyl**	**2.53**	**271**	Pg	Pg	21 57 23.4	+3.6
KZLR				Sg	Sg	21 57 55.8	+3.2
ARDR	**Aradan**	**3.24**	**287**	Pg	Pg	21 57 35.0	+1.5
ARDR				Sg	Sg	21 58 18.7	+3.2
ZAK	**Zakamensk**	**3.30**	**113**	Pg	Pg	21 57 34.1	-0.4
ZAK				Sg	Sg	21 58 17.4	+0.1
IRK	**Irkutsk**	**3.59**	**80**	Pg	Pg	21 58 27.6	+1.2
MINR	**Mina**	**4.08**	**322**	Pg	Pg	21 57 51.8	+2.3
MINR				Sg	Sg	21 58 49.3	+7.0
CERR	**Cheremushki**	**4.50**	**287**	Sg	Sg	21 58 59.2	+3.5
DJO	**Djoy, Khakassi**	**4.60**	**286**	Pg	Pg	21 58 00.1	+0.6
DJO				Sg	Sg	21 59 01.5	+2.4
VEH	**Verkhnyaya Baz**	**5.23**	**290**	Pg	Pg	21 58 12.9	+1.3
VEH				Sg	Sg	21 59 22.0	+2.8
TEL	**Teeli**	**5.26**	**265**	Pn	Pb	21 57 58.2	-5.6
TEL				Pg	Pg	21 58 09.8	-2.3
TEL				Sg	Sg	21 59 16.0	-4.3
GZLN	**Zheleznogorsk**	**5.41**	**331**	Pg	Pg	21 58 15.6	+0.6
GZLN				Sg	Sg	21 59 30.8	+5.8
SHTK	**Zheleznogorsk-**	**5.43**	**330**	Pg	Pg	21 58 14.8	-0.4
SHTK				Sg	Sg	21 59 29.7	+4.3

---

*IDC **08** 22:25:45.5±1.8,37°.79N×29°.82E,h0km,mb3.5/2, mbtmp3.3/4,ML2.9/2,MS2.5/1,Error ellipse: s-maj=35.3km s-min=22.0km az=141.0*

*AFAD **08** 22:25:46.9,37°.82N×29°.73E,h16km±1km,MW3.2*

*ISK **08** 22:25:46.6,37°.83N×29°.75E,h9km,ML3.0/14*

ISC 08 22:25:47.3±0.9,37°.83N±0°.02×29°.75E±0°.02,h13km±6km, n52,σ1900/87,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.18**	**230**	P	**Pg**	**22 25 51.8**	**+0.2**
INCE				S	**Sg**	**22 25 55.0**	**+0.6**
INCE				*i* IAML		22 25 57.0	
	comp=N,2μm,0.7s						
BASM	**Basmaki-Afyon**	**0.26**	**68**	Pg	**Pg**	**22 25 52.2**	**-0.6**
BASM				Sg	**Sg**	**22 25 56.1**	**-0.3**
APMY	**Acipayam-Deniz**	**0.50**	**225**	Pg	**Pb**	**22 25 56.9**	**-1.2**
APMY				Sg	**Sb**	**22 26 04.5**	**-0.9**
PASA	**Karahalli, USA**	**0.56**	**338**	P	**Pg**	**22 25 57.7**	**-0.7**
PASA				S	**Sg**	**22 26 05.7**	**-0.2**
PASA				*i* IAML		22 26 10.0	
	comp=E,1μm,0.3s						
GOLH	**Golhisar**	**0.61**	**194**	P	**Pb**	**22 25 59.0**	**-0.9**
GOLH				S	**Sb**	**22 26 08.9**	**+0.5**
GOLH				*i* IAML		22 26 12.0	
	comp=N,518nm,0.3s						
ISP	**Isparta**	**0.61**	**90**	Pg	**Pg**	**22 25 58.8**	**-0.5**
ISP				Sg	**Sb**	**22 26 07.9**	**-0.6**
AFYN	**Afyon-Dinar-K**	**0.74**	**53**	P	**Pb**	**22 26 01.6**	**-0.6**
AFYN				S	**Sb**	**22 26 13.3**	**+0.9**
AFYN				*i* IAML		22 26 18.0	
	comp=E,301nm,0.6s						
TAVA	**DENIZLI_Tavas**	**0.76**	**242**	P	**Pb**	**22 26 01.8**	**-0.6**
TAVA				S	**Sb**	**22 26 12.2**	**-0.5**
TAVA				*i* IAML		22 26 17.0	
	comp=N,180nm,0.5s						
DNZT	**Denizli-Tavas-**	**0.79**	**227**	P	**Pg**	**22 26 02.1**	**-0.7**
DNZT				S	**Sb**	**22 26 12.9**	**-0.9**
DNZT				*i* IAML		22 26 18.0	
	comp=E,76nm,0.7s						
BUCA	**Burdur, Bucak-**	**0.81**	**127**	P	**Pb**	**22 26 02.9**	**-0.5**
BUCA				S	**Sb**	**22 26 14.8**	**+0.5**
BUCA				*i* IAML		22 26 22.0	
	comp=E,276nm,0.4s						
BAGO	**Egridir - ISPA**	**0.84**	**78**	P	**Pg**	**22 26 02.6**	**-0.9**
BAGO				S	**Sb**	**22 26 14.9**	**-0.1**
BAGO				*i* IAML		22 26 18.0	
	comp=N,126nm,0.3s						
BNAZ	**Uak-Banaz**	**0.86**	**7**	P	**Pg**	**22 26 03.4**	**-0.6**
BNAZ				S	**Sn**	**22 26 17.5**	**-0.3**
BNAZ				*i* IAML		22 26 24.0	
	comp=E,2μm,0.4s						
CAME	**Cameli-Denizli**	**0.95**	**202**	Pg	**Pb**	**22 26 05.4**	**-0.4**
KNIK	**Mula-Seydike**	**0.99**	**188**	P	**Pg**	**22 26 05.5**	**-0.9**
KNIK				S	**Sn**	**22 26 21.7**	**+0.7**
KNIK				*i* IAML		22 26 25.0	
	comp=N,125nm,0.9s						
USAK	**Uak-Merkez**	**1.06**	**327**	P	**Pg**	**22 26 07.1**	**-0.7**
USAK				S	**Sb**	**22 26 21.6**	**+0.2**
USAK				*i* IAML		22 26 25.0	
	comp=E,348nm,0.6s						
KULA	**Kula-Manisa**	**1.10**	**309**	Pn	**Pb**	**22 26 07.9**	**-0.4**
KULA				Sn	**Sn**	**22 26 23.7**	**0.0**
SDAG	**Sultandagi-AFY**	**1.11**	**56**	Pn	**Pb**	**22 26 08.2**	**-0.2**
SDAG				Sn	**Sn**	**22 26 23.9**	**0.0**
ESEN	**Aydn-Nazilli**	**1.11**	**269**	P	**Pb**	**22 26 08.0**	**-0.4**
ESEN				S	**Sn**	**22 26 23.3**	**-0.5**
ESEN				*i* IAML		22 26 25.0	
	comp=E,107nm,0.4s						
KIRA	**zmir-Kiraz**	**1.13**	**290**	P	**Pn**	**22 26 08.6**	**-0.4**
KIRA				S	**Sn**	**22 26 25.5**	**+1.0**
KIRA				*i* IAML		22 26 27.0	
	comp=N,153nm,0.5s						
MANT	**Manisa**	**1.15**	**306**	P	**Pn**	**22 26 09.0**	**-0.4**
MANT				S	**Sn**	**22 26 25.1**	**-0.1**
MANT				*i* IAML		22 26 29.0	
	comp=N,480nm,0.3s						
NAZL	**Nazilli-Aydin**	**1.16**	**277**	Pn	**Pn**	**22 26 09.1**	**-0.3**
SABU	**Mula-Dalaman**	**1.18**	**212**	P	**Pn**	**22 26 09.7**	**+0.1**
SABU				S	**Sn**	**22 26 26.6**	**+1.1**
SABU				*i* IAML		22 26 31.0	
	comp=N,206nm,0.5s						
GEDZ	**Gediz**	**1.25**	**348**	Pn	**Pg**	**22 26 10.7**	**-0.6**
YVAC	**Isparta, Yalva**	**1.26**	**69**	P	**Pb**	**22 26 10.6**	**-0.4**
YVAC				S	**Sn**	**22 26 29.4**	**+1.8**
YVAC				*i* IAML		22 26 34.0	
	comp=N,28nm,0.3s						
SHAP	**Saphane-Kutahy**	**1.27**	**341**	Pn	**Pb**	**22 26 10.9**	**-0.3**
GDZ	**Gediz**	**1.28**	**351**	P	**Pn**	**22 26 10.6**	**-0.5**
GDZ				S	**Sn**	**22 26 30.0**	**+1.7**
GDZ				*i* IAML		22 26 34.0	
	comp=E,174nm,0.6s						
SIMA	**Simav-Kutahya**	**1.39**	**335**	Pn	**Pb**	**22 26 12.9**	**-0.4**
ODEM	**Odemis-Izmir**	**1.40**	**289**	Pn	**Pb**	**22 26 12.9**	**-0.5**
SMAA	**Simav-Kutahya**	**1.41**	**335**	Pn	**Pb**	**22 26 13.0**	**-0.6**
BLVD	**Bolvadin-AFYON**	**1.43**	**47**	Pn	**Pb**	**22 26 13.6**	**-0.4**
IZZE	**Mula-Seydike**	**1.45**	**197**	P	**Pg**	**22 26 14.7**	**-0.4**
IZZE				S	**Sg**	**22 26 38.7**	**+4.7**
IZZE				*i* IAML		22 26 41.0	
	comp=N,294nm,0.5s						
IZMR	**zmir-demi**	**1.46**	**283**	P	**Pn**	**22 26 13.1**	**-0.2**
IZMR				S	**Sg**	**22 26 37.4**	**+3.2**
IZMR				*i* IAML		22 26 40.0	
	comp=N,80nm,0.5s						
DEMI	**Demirci**	**1.46**	**327**	P	**Pn**	**22 26 13.5**	**-0.1**
DEMI				S	**Sg**	**22 26 36.9**	**+2.5**
DEMI				*i* IAML		22 26 39.0	
	comp=N,124nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**1.48**	**275**	Pn	**Pb**	**22 26 14.2**	**-0.6**
BYAT	**Afyon-Bayat**	**1.48**	**40**	P	**Pn**	**22 26 14.0**	**+0.1**
BYAT				S	**Sg**	**22 26 35.9**	**+0.9**
BYAT				*i* IAML		22 26 39.0	
	comp=E,126nm,0.6s						
AYDN	**Tasoluk**	**1.49**	**264**	P	**Pn**	**22 26 13.7**	**-0.2**
AYDN				S	**Sg**	**22 26 34.3**	**-1.2**
AYDN				*i* IAML		22 26 49.0	
	comp=N,50nm,0.6s						
UCKU	**Afyonkarahisar**	**1.55**	**58**	P	**Pn**	**22 26 15.0**	**+0.2**
UCKU				S	**Sg**	**22 26 38.6**	**+1.4**
UCKU				*i* IAML		22 26 46.0	
	comp=E,23nm,0.6s						
EMET	**Ktahya-Emet**	**1.58**	**348**	P	**Pn**	**22 26 15.1**	**-0.2**
EMET				S	**Sg**	**22 26 38.9**	**+0.6**
EMET				*i* IAML		22 26 43.0	
	comp=N,118nm,0.6s						
TURN	**Turunc**	**1.59**	**229**	P	**Pb**	**22 26 16.2**	**-0.4**
TURN				S	**Sg**	**22 26 37.4**	**-1.2**
TURN				*i* IAML		22 26 44.0	
	comp=E,28nm,0.7s						
TVSB	**Tavsanli**	**1.64**	**352**	Pn	**Pn**	**22 26 15.9**	**-0.1**
GORD	**Gordes-Manisa**	**1.64**	**312**	Pn	**Pn**	**22 26 16.3**	**+0.3**
SEYD	**Seydisehir-KON**	**1.71**	**104**	Pn	**Pn**	**22 26 17.4**	**+0.4**
CIFT	**Cifteler, Eski**	**1.85**	**33**	Pn	**Pn**	**22 26 18.5**	**-0.3**
CTIK	**Konya-Celtik**	**1.91**	**50**	P	**Pb**	**22 26 22.5**	**+0.4**
CTIK				S	**Sg**	**22 26 47.4**	**-1.4**
CTIK				*i* IAML		22 26 55.0	
	comp=N,54nm,0.5s						
DOMA	**Ktahya-Doman**	**1.96**	**359**	P	**Pn**	**22 26 20.1**	**-0.3**
DOMA				S	**Sg**	**22 26 51.0**	**+0.7**
DOMA				*i* IAML		22 26 59.0	
	comp=N,52nm,0.5s						
KDHN	**Kadinhani**	**1.99**	**69**	P	**Pb**	**22 26 22.7**	**-0.8**
KDHN				S	**Sg**	**22 26 49.6**	**-1.7**
DURS	**Dursunbey**	**2.04**	**331**	P	**Pn**	**22 26 21.4**	**-0.1**
DURS				S	**Sg**	**22 26 54.8**	**+2.0**
DURS				*i* IAML		22 27 02.0	
	comp=N,57nm,0.5s						
BRTR	**Keskin Array B**	**3.58**	**57**	Pn	**Pn**	**22 26 43.2**	**+0.5**
	0.3nm,0.3s,baz=238,slow=15,SNR=7.0						
BRTR				Sn	**Sn**	**22 27 26.4**	**+1.3**
	0.3nm,0.3s,baz=234,slow=26,SNR=4.7					

90nm,0.2s

SHO				A	A	22 36 15.0	

70nm,0.2s

JOB	**Onbets**	**1.41**	**265**	*e*P	**Pn**	**22 36 00.5**	**-0.1**
JOB				*e*S	**Sn**	**22 36 17.8**	**-0.2**
JAR	**Ashorobuto**	**1.46**	**280**	P	**Pn**	**22 36 01.9**	**+0.4**
JAR				S	**Sn**	**22 36 19.7**	**+0.3**
JTKR	**Abashiri--Toko**	**1.62**	**305**	P	**Pn**	**22 36 04.4**	**+0.9**
KUR	**Kuril'sk**	**2.66**	**34**	*e*S	**Sn**	**22 36 48.9**	**+0.1**
KUR				A	A	22 36 53.8	

30nm,0.3s

KUR				A	A	22 36 53.8	

30nm,0.3s

IPEC ***08*** *22:43:31.0±0.2,51.˚54N×16.˚19E, h1km, ML2.3/6, Error ellipse: s-maj=2.8km s-min=1.4km az=75.0*
DNK ***08*** *22:43:31.1±2.3,51.˚38N×16.˚10E, h36km±140km, ML3.1*
PRU ***08*** *22:43:33.8,51.˚44N×16.˚13E, h1km*
ISC 08 22:43:30.2±0.8,**51.˚58N**±0.˚03×**16.˚19E**±0.˚03,**h0**km,**n49, σ1s13/86,Poland**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.74**	**175**	*e*Pg		**Pg**	**22 43 44.7**	**+0.3**
KSP				*e*Sg		**Sg**	**22 43 53.7**	**-0.3**
CHVC	**Chvalec**	**1.00**	**185**	*e*PG		**Pg**	**22 43 49.6**	**+0.3**
CHVC				*e*SG		**Sg**	**22 44 01.8**	**-0.4**
OSTC	**Ostas**	**1.03**	**179**	*e*PG		**Pb**	**22 43 50.3**	**-0.5**
UPC	**Upice**	**1.08**	**186**	*e*PG		**Pg**	**22 43 50.8**	**-0.1**
UPC				*e*SG		**Sg**	**22 44 03.9**	**-0.9**
DPC	**Dobruska-Polom**	**1.23**	**176**	*e*PG		**Pg**	**22 43 53.6**	**-0.2**
DPC				*e*SG		**Sg**	**22 44 09.2**	**-0.6**

22nm,0.3s

PIVO	**Bartosovice**	**1.42**	**171**	*e*Pg		**Pn**	**22 43 56.7**	**-0.5**

baz=351

PIVO				*e*Sg		**Sg**	**22 44 13.8**	**-1.8**

46nm,0.2s,baz=351

PVCC	**Panska Ves**	**1.47**	**225**	*e*PG		**Pn**	**22 43 57.7**	**-0.2**
PVCC				*e*SG		**Sg**	**22 44 16.3**	**-1.0**

71nm,0.2s

KRLC	**Kraliky**	**1.55**	**166**	*e*PG		**Pn**	**22 43 59.2**	**+0.1**
KRLC				*e*SG		**Sn**	**22 44 18.7**	**-1.3**

33nm,0.2s

BRG	**Berggiesshubel**	**1.58**	**244**	Pg		**Pg**	**22 44 00.7**	**+0.3**
BRG				Sg		**Sg**	**22 44 21.5**	**+0.7**
BRG				Amp			22 44 23.3	

comp=Z,29nm,0.3s

RICC	**Richard**	**1.68**	**233**	*e*SG		**Sn**	**22 44 22.7**	**-0.2**
RYBC	**Ceska Rybna**	**1.78**	**183**	*e*Pn		**Pn**	**22 44 02.1**	**0.0**

baz=2.5

RYBC				*e*Sg		**Sn**	**22 44 25.2**	**-0.2**

comp=Z,34nm,0.2s,baz=2.5

GOPC	**GO Pecny, Ondr**	**1.89**	**209**	*e*PN		**Pn**	**22 44 03.6**	**-0.1**
GOPC				*e*PG		**Pb**	**22 44 05.3**	**-0.3**
PRU	**Pruhonice**	**1.91**	**214**	*e*PG		**Pb**	**22 44 05.4**	**-0.4**
PRU				*e*SG		**Sg**	**22 44 31.2**	**-0.1**
STEB	**Steborice**	**1.93**	**148**	*e*PN		**Pn**	**22 44 04.3**	**0.0**
STEB				*e*PG		**Pg**	**22 44 06.8**	**-0.4**
STEB				*e*SG		**Sg**	**22 44 32.1**	**-0.1**
MORC	**Moravsky Berou**	**2.00**	**154**	*e*Pn		**Pn**	**22 44 05.3**	**0.0**

baz=334

MORC				*e*Sg		**Sb**	**22 44 32.4**	**-0.5**

comp=Z,19nm,0.4s,baz=334

CLL	**Collm**	**2.01**	**263**	*e*Pn		**Pn**	**22 44 06.0**	**+0.7**
CLL				*e*Pg		**Pb**	**22 44 08.0**	**+0.4**
CLL				*i* x		x	22 44 11.2	
CLL				*e*Sg		**Sb**	**22 44 34.0**	**+0.9**

comp=Z,11nm,0.6s

OKC	**Ostrava-Krasne**	**2.15**	**144**	*e*SG		**Sb**	**22 44 37.2**	**+0.2**
VRAC	**Vranov**	**2.29**	**173**	*e*Pn		**Pn**	**22 44 09.1**	**-0.1**

baz=354

VRAC				*e*Sg		**Sb**	**22 44 41.4**	**+0.2**

comp=Z,9.1nm,0.3s,baz=354

TREC	**Trest**	**2.33**	**191**	*e*SG		**Sb**	**22 44 42.9**	**+0.5**
MAUC	**Maruska**	**2.45**	**154**	*e*SG		**Sg**	**22 44 49.8**	**+0.9**
KRUC	**Moravsky**	**2.53**	**177**	*e*Pn		**Pn**	**22 44 12.5**	**+0.1**

baz=357

KRUC				*e*Sg		**Sb**	**22 44 48.8**	**+0.8**

comp=Z,7.3nm,0.3s,baz=357

OJC	**Ojcow**	**2.66**	**119**	*e*Pg		**Pg**	**22 44 21.8**	**+0.6**
OJC				*e*Sg		**Sg**	**22 44 56.6**	**+1.0**
JAVC	**Velka Javorina**	**2.89**	**160**	*e*Pn		**Pn**	**22 44 17.5**	**+0.1**

baz=341

JAVC	**Velka Javorina**	**2.89**	**160**	*e*PN		**Pn**	**22 44 17.6**	**+0.1**
KHC	**Kasperske Hory**	**2.97**	**215**	*e*PN		**Pn**	**22 44 18.0**	**-0.5**
KHC				*e*PG		**Pb**	**22 44 24.3**	**+0.4**
KHC				*e*SG		**Sb**	**22 45 02.5**	**+1.8**

comp=Z,12nm,0.9s

CKRC	**Cesky Krumlov**	**3.02**	**204**	*e*PN		**Pn**	**22 44 19.9**	**+0.7**
CKRC				*e*PG		**Pb**	**22 44 25.7**	**+1.0**
CKRC				*e*SG		**Sb**	**22 45 03.8**	**+1.7**

comp=Z,6.0nm,0.3s

LANS	**Liptovska Anna**	**3.21**	**138**	*e*PN		**Pn**	**22 44 22.6**	**+0.7**
LANS				*e*PG		**Pg**	**22 44 30.7**	**-1.1**
LANS				*e*SG		**Sg**	**22 45 12.3**	**-1.1**
NIE	**Niedzica**	**3.40**	**128**	*e*Pg		**Pg**	**22 44 35.9**	**+0.5**
NIE				*e*Sg		**Sg**	**22 45 20.4**	**+1.0**
VYHS	**Vyhne**	**3.53**	**150**	*e*PN		**Pn**	**22 44 26.6**	**+0.3**
BSD	**Bornholm Skovb**	**3.62**	**348**	*i* P		**Pn**	**22 44 28.4**	**+1.0**
BSD				*e*S		**Sn**	**22 45 08.7**	**-2.1**
BSD				IAML			22 45 42.7	

comp=Z,24nm,1.3s

CONA	**Conrad Observa**	**3.66**	**183**	*i* Pn		**Pn**	**22 44 29.1**	**+1.0**

comp=Z,0.5nm,0.2s

CONA				*e*Pg		**Pg**	**22 44 38.3**	**-2.0**

comp=Z,1.2nm,0.2s

CONA				*e*Sn		**Sn**	**22 45 13.2**	**+1.2**

comp=Z,1.4nm,0.3s

CONA				*e*Sg		**Sg**	**22 45 24.9**	**-2.9**

comp=Z,5.6nm,0.2s

RONA	**Rosalia, Austr**	**3.89**	**179**	*e*Pn		**Pn**	**22 44 32.3**	**+1.2**

comp=Z,0.2nm,0.2s

RONA				*e*Sg		**Sg**	**22 45 34.3**	**-0.6**

comp=Z,3.4nm,0.3s

MOA	**Molln**	**3.94**	**199**	*i* Pn		**Pn**	**22 44 32.2**	**+0.3**

comp=Z,0.4nm,0.1s

MOA				*e*Sg		**Sg**	**22 45 33.6**	**-3.0**

comp=Z,0.4nm,0.1s

BIOA	**Bad Ischl, Aus**	**4.23**	**204**	Sg		**Sg**	**22 45 45.5**	**-0.5**

comp=Z,5.8nm,0.4s

ARSA	**Arzberg**	**4.36**	**186**	Sg		**Sb**	**22 45 44.1**	**+3.4**

comp=Z,5.2nm,0.7s

LUNU	**Lund**	**4.37**	**339**	*i* P		**Pn**	**22 44 36.0**	**-1.8**
LUNU				*e*S		**Sn**	**22 45 28.1**	**-1.3**
KOLS	**Kolonicke sedl**	**4.72**	**122**	*e*PN		**Pn**	**22 44 43.3**	**+0.7**
BLEU	**Blekinge**	**4.74**	**357**	*i* P		**Pn**	**22 44 43.7**	**+0.9**
LESA	**Schwarzleotal**	**4.75**	**210**	*e*Pn		**Pn**	**22 44 43.1**	**+0.1**

comp=Z,0.5nm,0.2s

LESA				*e*Sg		**Sg**	**22 46 02.0**	**-0.5**

comp=Z,1.5nm,0.2s

KBA	**Koelnbreinsper**	**4.87**	**203**	*e*Pn		**Pn**	**22 44 45.2**	**+0.4**

comp=Z,0.8nm,0.4s

KBA				Sg		**Sg**	**22 46 04.3**	**-2.4**

comp=Z,5.1nm,0.7s

BJUU	**Bjuv**	**4.88**	**339**	*i* P		**Pn**	**22 44 45.1**	**+0.5**
SOKA	**Soboth**	**4.96**	**189**	Sg		**Sg**	**22 46 05.7**	**-3.9**

comp=Z,1.0nm,0.3s

DEL	**Delary**	**5.08**	**345**	*i* P		**Pn**	**22 44 47.0**	**-0.6**
OBKA	**Obir**	**5.19**	**193**	Sg		**Sg**	**22 46 16.8**	**0.0**

comp=Z,4.0nm,0.7s

WTTA	**Wattenberg**	**5.24**	**216**	*i* Pn		**Pn**	**22 44 51.6**	**+1.7**

comp=Z,0.6nm,0.2s

MOTA	**Moosalm**	**5.38**	**220**	*i* Pn		**Pn**	**22 44 53.5**	**+1.7**

comp=Z,0.3nm,0.2s

MOTA				Sg		**Sg**	**22 46 23.3**	**+0.4**

comp=Z,1.0nm,0.3s

ABTA	**Abfaltersbach**	**5.40**	**208**	*i* Pn		**Pn**	**22 44 53.3**	**+1.2**

comp=Z,0.4nm,0.3s

ABTA				Sg		**Sg**	**22 46 23.9**	**+0.2**

comp=Z,2.1nm,0.6s

RETA	**Reutte**	**5.41**	**223**	*i* Pn		**Pn**	**22 44 52.1**	**0.0**

comp=Z,0.7nm,0.2s

SQTA	**Sankt Quirin**	**5.44**	**219**	*i* Pn		**Pn**	**22 44 54.0**	**+1.5**

comp=Z,2.0nm,0.3s

UCR ***08*** *22:46:49.4±0.9, 7.˚10N×82.˚14W, h14km±7km, MW3.8*
UPA ***08*** *22:46:50.7±1.3, 7.˚19N×82.˚11W, h10km±11km, MW4.2*
CATAC ***08*** *22:46:52.6±0.9, 7.˚N±11.˚×8.˚2W±.˚, h65km±33km, M3.8/11, MLv3.8/11, Error ellipse: s-maj=23.4km s-min=5.3km az=15.6, confirmed*
ISC 08 22:46:48.3±1.8,**7.˚18N**±0.˚08×**82.˚13W**±0.˚03,**h6**km±11km,
n65, σ1s05/78, 2C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GMAL	**Guarumal, Vera**	**1.06**	**57**	*i* P		**Pb**	**22 47 09.6**	**+0.5**
GMAL				*e*S		**Sn**	**22 47 23.8**	**-1.0**
GMAL	**Guarumal, Vera**	**1.06**	**57**	*e*P		**Pb**	**22 47 09.5**	**+0.5**
GMAL				*e*S		**Sn**	**22 47 23.6**	**-1.2**
NANC3	**Nancito, Chiri**	**1.12**	**20**	*e*P		**Pb**	**22 47 10.6**	**+0.4**
CVEJO	**Cerro Viej**	**1.20**	**27**	*e*P		**Pb**	**22 47 11.4**	**-0.1**
MARI3	**Mariato, Verag**	**1.22**	**67**	*e*P		**Pg**	**22 47 12.3**	**+0.6**
MARI3				*e*S		**Sn**	**22 47 28.2**	**-0.5**
CHIR3	**Chiriqui UPA,**	**1.22**	**350**	*e*P		**Pn**	**22 47 12.6**	**+0.6**
PEDE3	**Pedregal, Chir**	**1.23**	**346**	*e*P		**Pb**	**22 47 12.6**	**+0.6**
RSUS3	**Rio de Jesus,**	**1.25**	**50**	*e*P		**Pb**	**22 47 12.6**	**+0.3**
RSUS3				*e*S		**Sn**	**22 47 28.8**	**-0.6**
PTPA	**Petro Terminal**	**1.25**	**324**	*e*P		**Pg**	**22 47 12.2**	**-0.1**
LOCO3	**Loma Colorada,**	**1.26**	**347**	*e*P		**Pg**	**22 47 13.1**	**+0.7**
PTPM	**Petroterminale**	**1.26**	**324**	*e*P		**Pg**	**22 47 12.4**	**-0.2**
CACAO	**El Cacao, Vera**	**1.27**	**82**	*e*P		**Pg**	**22 47 12.3**	**-0.3**
CACAO				*e*S		**Sg**	**22 47 28.5**	**-0.5**
LOMA3	**Las Lomas, Chi**	**1.27**	**348**	*e*P		**Pn**	**22 47 13.5**	**+0.8**
DVD	**David**	**1.29**	**346**	*e*P		**Pg**	**22 47 13.4**	**+0.4**
CGUAY	**Guayabal, Coch**	**1.29**	**350**	*e*P		**Pg**	**22 47 13.4**	**+0.3**
MESA3	**La Mesa, Verag**	**1.34**	**44**	*e*P		**Pn**	**22 47 14.2**	**+0.6**
MESA3				*e*S		**Sn**	**22 47 31.8**	**0.0**
STIA3	**Santiago, Vera**	**1.46**	**51**	*e*P		**Pn**	**22 47 16.1**	**+0.8**
STIA3				*e*S		**Sn**	**22 47 34.9**	**+0.1**
PSOM3	**Paja de Sombre**	**1.51**	**353**	*e*P		**Pn**	**22 47 16.5**	**+0.5**
PSOM3				*e*S		**Sg**	**22 47 36.2**	**-0.6**
LPPC	**Paso Canoas**	**1.52**	**332**	*e*P		**Pn**	**22 47 16.0**	**-0.1**
JEFFS	**S de V. Baru**	**1.53**	**345**	*e*P		**Pn**	**22 47 17.2**	**+0.8**
PRISO	**Paraso**	**1.54**	**343**	*e*P		**Pn**	**22 47 17.1**	**+0.6**
PTAR3	**Potrerillos Ar**	**1.55**	**346**	*e*P		**Pn**	**22 47 17.6**	**+1.0**
CDITO	**Canoas**	**1.57**	**332**	P		**Pn**	**22 47 17.1**	**+0.4**
BANCO	**falda S V. Bar**	**1.58**	**345**	*e*P		**Pn**	**22 47 17.6**	**+0.6**
BQSF3	**Alto Boquete,**	**1.58**	**349**	*e*P		**Pn**	**22 47 17.8**	**+0.8**
WILLF	**Boquete**	**1.59**	**349**	*e*P		**Pn**	**22 47 17.8**	**+0.6**
BQTLY	**Boquete Panama**	**1.60**	**348**	*e*P		**Pn**	**22 47 18.0**	**+0.7**
DAP26	**falda E V. Bar**	**1.62**	**350**	*e*P		**Pn**	**22 47 18.1**	**+0.4**
LNBQ3	**Los Naranjos,**	**1.63**	**349**	*e*P		**Pn**	**22 47 17.9**	**+0.1**
KKNTU	**Kakint²**	**1.68**	**11**	*e*P		**Pn**	**22 47 18.7**	**+0.4**
RBALA	**Bur**	**1.69**	**359**	*e*P		**Pn**	**22 47 19.2**	**+0.8**
BC3P	**Paso Ancho**	**1.69**	**344**	*e*P		**Pn**	**22 47 19.6**	**+1.0**
BRU2	**Volcan**	**1.70**	**341**	*e*P		**Pn**	**22 47 19.9**	**+1.2**
BRU2				*e*S		**Sg**	**22 47 42.1**	**-0.9**
BRU2	**Volcan**	**1.70**	**341**	*e*P		**Pn**	**22 47 19.8**	**+1.1**
BRU2	**Volcan**	**1.70**	**341**	P		**Pn**	**22 47 19.4**	**+0.8**
PBNVO	**Pueblo Nuevo,**	**1.70**	**358**	*e*P		**Pn**	**22 47 18.8**	**+0.3**
CALO3	**Calobre, Verag**	**1.70**	**48**	*e*P		**Pn**	**22 47 20.2**	**+0.2**
CALO3				*e*S		**Sg**	**22 47 41.9**	**-1.2**
CRIS3	**El Cristo, Coc**	**1.84**	**54**	*e*P		**Pb**	**22 47 22.1**	**-0.3**
CHIT3	**Chitre**	**1.86**	**65**	*e*P		**Pn**	**22 47 22.5**	**+1.8**
CHIT3				*e*S		**Sb**	**22 47 45.2**	**-1.0**
AZU	**Azuero**	**1.93**	**72**	*e*P		**Pn**	**22 47 22.5**	**+0.7**
AZU				*e*S		**Sb**	**22 47 47.7**	**-0.7**
AZU	**Azuero**	**1.93**	**72**	*e*P		**Pn**	**22 47 22.4**	**+0.7**
ACHO3	**Achotines, Los**	**1.95**	**83**	*e*P		**Pn**	**22 47 22.2**	**+0.2**
PEDA3	**Pedasi**	**2.11**	**80**	*e*P		**Pn**	**22 47 24.3**	**+0.1**
FIMO	**Fila Mora**	**2.17**	**326**	*e*P		**Pn**	**22 47 26.1**	**+1.0**
DRK0	**Durika**	**2.35**	**332**	*e*P		**Pn**	**22 47 28.9**	**+1.3**
DRK0	**Durika**	**2.35**	**332**	*e*P		**Pn**	**22 47 28.4**	**+0.8**
DRK0	**Durika**	**2.35**	**332**	P		**Pn**	**22 47 28.5**	**+0.8**
DRK0	**Durika**	**2.35**	**332**	S		**Sn**	**22 47 56.3**	**-0.6**
OCHAL	**Ojochal**	**2.43**	**322**	P		**Pn**	**22 47 28.5**	**-0.1**
OCHAL	**Ojochal**	**2.43**	**322**	S		**Sn**	**22 47 59.5**	**+0.9**
SAJE	**San Jernim**	**2.55**	**328**	*e*P		**Pn**	**22 47 30.8**	**+0.4**
ZANG	**Zanguenga, Cho**	**2.85**	**52**	*e*P		**Pn**	**22 47 35.1**	**+0.7**
BCIP	**Isla Barro Col**	**3.00**	**49**	*i* P		**Pn**	**22 47 38.8**	**+2.3**
MLIR	**Monte Lirio**	**3.04**	**48**	*i* P		**Pn**	**22 47 37.1**	**+1.1**
GAMB1	**Gamboa**	**3.07**	**51**	*e*P		**Pn**	**22 47 39.3**	**+1.9**
FLAM	**Flamenco Islan**	**3.09**	**56**	*e*P		**Pn**	**22 47 39.8**	**+2.2**
FRIJ	**El Hiral**	**3.12**	**49**	*e*P		**Pn**	**22 47 39.0**	**+0.9**
UPA	**Univ. de Panam**	**3.13**	**55**	*e*P		**Pn**	**22 47 41.1**	**+2.9**
LCR2	**La Lucha 2**	**3.15**	**324**	*e*P		**Pn**	**22 47 39.6**	**+0.9**
LCR2	**La Lucha 2**	**3.15**	**324**	P		**Pn**	**22 47 39.9**	**+1.2**
SOCE	**Pocosol**	**4.02**	**322**	P		**Pn**	**22 47 53.2**	**+2.6**
JTS	**Las Juntas de**	**4.17**	**318**	*e*P		**Pn**	**22 47 54.5**	**+2.0**
JTS	**Las Juntas de**	**4.17**	**318**	P		**Pn**	**22 47 54.5**	**+2.0**
JTS				S		**Sn**	**22 48 40.0**	**-1.6**
INDI	**Punta indio, G**	**4.28**	**309**	P		**Pn**	**22 47 54.7**	**+0.7**
INDI	**Punta indio, G**	**4.28**	**309**	S		**Sn**	**22 48 41.7**	**-2.5**

TRN ***08*** *23:00:47.7, 9.˚92N×62.˚74W, h91km, MD4.0, Venezuela.*
FUNV ***08*** *23:00:48.4, 10.˚02N×62.˚73W, h20km, MW3.8*
ISC 08 23:00:46.2±1.9,**9.˚88N**±0.˚09×**62.˚73W**±0.˚06,**h104**km±22km,
n19, σ1s59/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DMDM	**Guralp CMG5TDE**	**1.41**	**55**	*e*P		**Pn**	**23 01 13.5**	**+1.9**
PSGH	**Port of Spain**	**1.43**	**57**	*e*P		**Pn**	**23 01 11.9**	**+0.1**
PSGH				*e*S		**Sn**	**23 01 30.6**	**-0.6**
TRN	**Trinidad (W)**	**1.51**	**60**	*e*P		**Pn**	**23 01 14.3**	**+1.5**
TRN				*e*S		**Sn**	**23 01 32.7**	**-0.3**
TBH	**Brigand Hill**	**1.74**	**70**	*e*P		**Pn**	**23 01 16.9**	**+1.2**
PCRV	**Puerto La Cruz**	**1.90**	**279**	*e*P		**Pn**	**23 01 18.4**	**+0.7**
PCRV				*e*S		**Sn**	**23 01 40.6**	**-1.2**
PCRV	**Puerto La Cruz**	**1.90**	**279**	*e*P		**Pn**	**23 01 18.5**	**+0.7**
PCRV				*e*S		**Sn**	**23 01 41.1**	**-0.8**
GRFF	**Grenada Fort F**	**2.37**	**24**	*e*P		**Pn**	**23 01 25.0**	**+1.2**
GRFF				*e*S		**Sn**	**23 01 52.0**	**-0.4**
GRGR	**Grenville**	**2.47**	**25**	*e*P		**Pn**	**23 01 25.8**	**+0.7**
GRGR				*e*S		**Sn**	**23 01 54.2**	**-0.8**
GRW	**Mount Saint Ca**	**2.50**	**25**	*e*P		**Pn**	**23 01 26.2**	**+0.7**
GRW				*e*S		**Sn**	**23 01 55.0**	**-0.6**
GRSS	**Sisters**	**2.64**	**24**	*e*P		**Pn**	**23 01 28.4**	**+1.1**
GRSS				*e*S		**Sn**	**23 01 58.6**	**-0.3**
SVB	**Belmont**	**3.67**	**23**	*e*P		**Pn**	**23 01 43.0**	**+2.0**
SVB				*e*S		**Sn**	**23 02 22.1**	**-1.4**
TACV	**Tcata**	**4.24**	**274**	*e*P		**Pn**	**23 01 50.4**	**+1.6**
CACV	**CAICARA DEL OR**	**4.42**	**239**	*e*P		**Pn**	**23 01 48.4**	**-2.7**
CACV				*e*S		Sn	23 02 32.4	-9.1
SLBI	**Saint Lucia, B**	**4.46**	**22**	*e*P		**Pn**	**23 01 52.6**	**+0.9**
SLBI				*e*S		**Sn**	**23 02 40.0**	**-2.6**
BENV	**Beln**	**4.80**	**271**	*e*P		**Pn**	**23 01 58.5**	**+2.1**
BENV				*e*S		**Sn**	**23 02 50.4**	**-0.9**
BIM	**Bigot**	**4.88**	**19**	*e*P		**Pn**	**23 01 57.9**	**+0.4**
BIM				*e*S		**Sn**	**23 02 51.4**	**-1.5**
BAUV	**El Baul**	**5.33**	**260**	*e*P		**Pn**	**23 02 05.9**	**+2.5**
BAUV				*e*S		**Sn**	**23 03 02.0**	**-1.6**
BAUV	**El Baul**	**5.33**	**260**	*e*P		**Pn**	**23 02 04.8**	**+1.4**
BAUV				*e*S		**Sn**	**23 03 01.9**	**-1.6**
ATGZ	**Broadband at L**	**6.26**	**9**	*e*P		**Pn**	**23 02 17.6**	**+1.6**
ATGZ				*e*S		**Sn**	**23 03 22.3**	**-3.8**

IDC ***08*** *23:01:22.2±0.7,21.˚87S×169.˚51E, h0km, mb4.3/13, mbtmp4.2/14, ML3.6/1, MS3.4/4, Error ellipse: s-maj=21.1km s-min=18.9km az=117.0*
NEIC ***08*** *23:01:24.3±2.0,21.˚8S±0.˚1×169.˚45E±0.˚10, h10km±1km, mb4.7/21, Error ellipse: s-maj=22.4km s-min=13.5km az=336.0*
NOU ***08*** *23:01:24.7,21.˚95S×169.˚28E, h0km, MLv4.3/10, Southeast of Loyalty Islands*
ISC 08 23:01:26.3±0.5,**21.˚89S**±0.˚10×**169.˚42E**±0.˚06,**h25**km,**n56, σ1s10/61, mb4.5/25, MS3.4/3, 4C, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PINNC	**Pines Island,**	**1.97**	**248**			**Pn**	**23 01 57.0**	**-1.0**
PINNC					Sn	**Sb**	**23 02 24.1**	**-1.4**
PINNC	**Pines Island,**	**1.97**	**248**	P		**Pn**	**23 01 57.0**	**-1.0**
PINNC	**Pines Island,**	**1.97**	**248**	S		**Sn**	**23 02 20.6**	**-1.3**
YATNC	**Mamie plateau,**	**2.35**	**265**	P		**Pn**	**23 02 01.5**	**-1.9**
YATNC	**Mamie plateau,**	**2.35**	**265**	S		**Sn**	**23 02 33.0**	**+1.5**
OUENC	**Ouen Island, N**	**2.45**	**257**	P		**Pn**	**23 02 03.9**	**-0.8**
OUENC	**Ouen Island, N**	**2.45**	**257**	S		**Sn**	**23 02 35.4**	**+1.6**
DZM	**Mont Dzumac**	**2.77**	**266**			**Pn**	**23 02 08.7**	**-0.4**
DZM					Sn	**Sn**	**23 02 40.2**	**-1.6**
DZM	**Mont Dzumac**	**2.77**	**266**	Pn		**Pn**	**23 02 09.0**	**-0.2**

9.9nm,0.3s,baz=120,slow=16,SNR=82

DZM					Sn	**Sn**	**23 02 43.3**	**+1.4**

25nm,0.3s,baz=59,slow=20,SNR=10

DZM				LR	LR		23 02 45.9	

comp=Z,269nm,18.5s,baz=160,slow=29
45nm,0.6s

DZM	**Mont Dzumac**	**2.77**	**266**	P		**Pn**	**23 02 08.6**	**-0.6**

DZM	**Mont Dzumac**	**2.77**	**266**	S		**Sn**	**23 02 38.9**	**-3.0**
ONTNC	**Ouen Toro**	**2.78**	**261**			**Pn**	**23 02 08.7**	**-0.5**
ONTNC					Sn	**Sn**	**23 02 42.7**	**+0.6**
ONTNC	**Ouen Toro**	**2.78**	**261**	P		**Pn**	**23 02 08.7**	**-0.5**
CTAO	**Charters Tower**	**21.70**	**270**	P		**P**	**23 06 17.0**	**+1.4**
CAN	**Canberra**	**22.32**	**229**	P		**P**	**23 06 25.3**	**+3.2**
CAN				IAmb	IAmb		23 06 27.0	

comp=Z,44nm,1.3s

COEN	**Coen**	**26.16**	**283**	P		**P**	**23 06 59.6**	**+0.8**
STKA	**Stephens Creek**	**26.67**	**242**	P		**P**	**23 07 04.5**	**+1.1**

comp=Z,1.8nm,0.6s,baz=58,slow=10,SNR=2.9

STKA				LR	LR		23 15 36.2	

comp=Z,102nm,21.2s,baz=80,slow=32
comp=Z,1.8nm,0.6s

WR8	**Warramunga Arr**	**32.64**	**267**	P		**P**	**23 07 55.8**	**-0.6**
WR8				IAmb	IAmb		23 07 59.7	

comp=Z,6.1nm,1.1s

AS31	**Alice Springs**	**32.75**	**260**	P		**P**	**23 07 57.9**	**+0.5**
ASAR	**Alice Springs**	**32.75**	**260**	P		**P**	**23 07 57.4**	**0.0**

comp=Z,5.2nm,0.8s,baz=85,slow=9.0,SNR=38

ASAR				PcP		**PcP**	**23 10 41.8**	**-0.8**

comp=Z,0.3nm,0.6s,baz=86,slow=2.5,SNR=4.0

ASAR				LR	LR		23 20 30.0

VEH				Sg	**Sg**	**23 09 38.5**	**-0.3**
ELT	**Eltsovka**	**6.25**	**341**	Pg	**Pg**	**23 08 25.9**	**-3.6**
ELT				Sg	**Sg**	**23 09 51.8**	**+1.4**
LUZB	**Luzhba, Kemero**	**6.29**	**356**	Pg	Pg	23 08 26.8	-3.6
LUZB				Sg	**Sg**	**23 09 51.4**	**-0.3**
KURK	**Kurchatov**	**7.92**	**299**	⇓Pn	**Pn**	**23 08 21.8**	**-3.1**
	2.0nm,0.8s						
KURK				⇑Sn	**Sn**	**23 09 50.5**	**-4.0**
	3.1nm,0.5s						
KURK				⇓Lg	Lg	23 10 34.7	
	12nm,0.7s						
KURK	**Kurchatov**	**7.92**	**299**	Pn	**Pn**	**23 08 22.3**	**-2.6**
KURK				Sg	**Sg**	**23 10 43.4**	**-0.4**
KURBB	**Kurchatov Arra**	**7.94**	**298**	⇓Pn	**Pn**	**23 08 22.3**	**-2.9**
	1.6nm,0.3s						
KURBB				⇓Sn	**Sn**	**23 09 51.5**	**-3.5**
	12nm,0.7s						
KURBB				⇑Lg	Lg	23 10 34.1	
	20nm,0.7s						

*IDC **08** 23:16:04.1±4.5,24°.22S×179°.92W,h513km±49km,mb3.0/3, mbtmp4.1/5,Error ellipse: s-maj=47.0km s-min=29.2km az=5.0*

*NEIC **08** 23:16:05.1±2.0,24°.18S±0°.07×179°.9W±0°.2,h528km±10km, mb4.4/14,Error ellipse: s-maj=23.7km s-min=7.3km az=70.0*

ISC 08 23:16:04.0±0.7,**24°.16S**±0°.09×**179°.9W**±0°.1,**h518**km,**n30**, σ0**°88**/29,**mb4.2**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.37**	**161**	P	**P**	**23 17 36.3**	**+1.1**
MSVF	**Nonsavu**	**6.68**	**343**	P	**P**	**23 17 46.3**	**-1.6**
PINNC	**Pines Island,**	**11.72**	**275**	P	**P**	**23 18 41.3**	**+1.7**
DZM	**Mont Dzumac**	**12.74**	**277**	P	**P**	**23 18 51.3**	**+0.9**
DZM	**Mont Dzumac**	**12.74**	**277**	P	**P**	**23 18 51.8**	**+1.3**
	5.6nm,0.7s,baz=74,slow=19,SNR=1.5						
URZ	**Urewera**	**14.28**	**190**	P	**P**	**23 19 05.7**	**-0.6**
	5.4nm,0.3s,baz=289,slow=3.5,SNR=7.8						
URZ				S	**S**	**23 21 35.5**	**-1.1**
	11nm,0.9s,baz=49,slow=22,SNR=5.6						
BFZ	**Birch Farm**	**16.79**	**190**	P	**P**	**23 19 31.1**	**-0.9**
THZ	**Tophouse**	**18.55**	**197**	P	**P**	**23 19 48.5**	**+0.2**
THZ				IAmb	IAmb	23 20 16.0	
	comp=Z,32nm,1.4s						
GVZ	**Greta Valley S**	**19.64**	**196**	P	**P**	**23 19 58.0**	**-0.2**
CTAO	**Charters Tower**	**31.57**	**271**	P	**P**	**23 21 45.3**	**+1.3**
CTAO				IAmb	IAmb	23 21 46.7	
	comp=Z,8.9nm,0.3s						
COEN	**Coen**	**36.24**	**279**	P	**P**	**23 22 24.0**	**+0.6**
COEN				IAmb	IAmb	23 23 07.5	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**39.42**	**247**	P	**P**	**23 22 48.2**	**-0.9**
ASAR	**Alice Springs**	**42.08**	**261**	P	**P**	**23 23 10.8**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=98,slow=7.3,SNR=9.0						
	comp=Z,0.6nm,0.3s						
WR8	**Warramunga Arr**	**42.33**	**266**	P	**P**	**23 23 12.3**	**-0.1**
WR8				IAmb	IAmb	23 23 48.9	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**42.47**	**266**	P	**P**	**23 23 13.3**	**-0.2**
WB2				IAmb	IAmb	23 23 40.9	
	comp=Z,8.6nm,1.2s						
WB0	**Warramunga Arr**	**42.47**	**267**	P	**P**	**23 23 13.6**	**0.0**
WB0				IAmb	IAmb	23 23 15.8	
	comp=Z,9.4nm,1.3s						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**23 23 12.1**	**-1.5**
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**23 23 13.3**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=104,slow=7.8,SNR=49						
	comp=Z,1.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P	**P**	**23 24 17.3**	**0.0**
MORW	**Morawa**	**56.87**	**250**	P	**P**	**23 24 58.3**	**-1.1**
MORW				IAmb	IAmb	23 25 25.9	
	comp=Z,24nm,1.4s						
CASY	**Casey**	**59.91**	**206**	P	**P**	**23 25 19.6**	**+0.3**
SKT	**Skwentna**	**88.81**	**13**	P	**P**	**23 28 02.0**	**-0.1**
SKT				IAmb	IAmb	23 28 04.5	
	comp=Z,5.9nm,0.6s						
TXAR	**Lajitas Array**	**90.50**	**58**	P	**P**	**23 28 11.9**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=250,slow=4.7,SNR=4.1						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**138.72**	**341**	PKhKP	PKPpre	23 34 22.4	
	comp=Z,0.9nm,0.8s,baz=26,slow=4.9,SNR=4.2						
FINES				PKP	**PKPdf**	**23 34 30.0**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=53,slow=0.7,SNR=5.8						
NOA	**NORSAR Array B**	**142.35**	**351**	PKhKP	PKPpre	23 34 32.8	
	comp=Z,0.4nm,0.7s,baz=6.6,slow=2.4,SNR=3.3						
HFS	**Hagfors**	**142.82**	**349**	PKhKP	PKPpre	23 34 34.6	
	comp=Z,2.6nm,0.3s,baz=66,slow=3.6,SNR=44						
AKASG	**Malin Array Be**	**145.24**	**327**	PKPbc	**PKPdf**	**23 34 42.5**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=49,slow=4.6,SNR=7.7						
BRTR	**Keskin Array B**	**147.81**	**307**	PKPbc	**PKPbc**	**23 34 50.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=81,slow=3.6,SNR=4.2						
MMAI	**Mount Meron Ar**	**147.89**	**294**	PKPbc	**PKiKP**	**23 34 52.6**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=82,slow=6.0,SNR=11						
EKA	**Eskdalemuir Ar**	**148.78**	**4**	PKPbc	**PKPbc**	**23 34 51.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=350,slow=2.7,SNR=5.0						

*JMA **08** 23:30:51.8±0.1,40°.9N±0°.6×143°.1E±0°.9,h13km,MV3.6/35, E OFF AOMORI PREF*

*IDC **08** 23:31:11.5±8.8,40°.61N×141°.87E,h170km±65km,mb3.0/5, mbtmp3.4/6,Error ellipse: s-maj=89.9km s-min=25.7km az=66.0*

ISC 08 23:30:50.5±1.4,**40°.91N**±0°.04×**143°.25E**±0°.06,**h19**km±4km, **n27**,σ0**°88**/31,**mb3.6**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.10**	**357**	P	**Pg**	**23 31 11.6**	**-0.3**
JEM				S	**Sg**	**23 31 26.4**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.37**	**239**	P	**Pb**	**23 31 15.4**	**0.0**
JKEN				*e*S	**Sb**	**23 31 33.4**	**+0.9**
JNBK	**Urakawa-nobuka**	**1.42**	**345**	P	**Pb**	**23 31 16.5**	**+0.2**
JANG	**Nango**	**1.42**	**248**	P	**Pb**	**23 31 16.2**	**-0.2**
JARK	**Aomorirokkasho**	**1.43**	**274**	P	**Pn**	**23 31 15.8**	**+0.5**
JTM	**Tenmabayashi**	**1.66**	**266**	P	**Pb**	**23 31 20.1**	**-0.3**
JTM				S	**Sb**	**23 31 40.6**	**-0.3**
JCH	**Churui**	**1.70**	**3**	*e*P	**Pn**	**23 31 20.1**	**+1.0**
JOT	**Ohata**	**1.72**	**287**	P	**Pn**	**23 31 20.4**	**+0.9**
JOT				S	**Sn**	**23 31 41.4**	**+0.5**
JKB	**Kayabe**	**1.93**	**301**	P	**Pn**	**23 31 23.2**	**+1.0**
JKB				*e*S	**Sn**	**23 31 46.1**	**+0.1**
JBT2	**Biratori 2**	**1.98**	**341**	*e*P	**Pb**	**23 31 24.7**	**-1.2**
JBT2				*e*S	**Sb**	**23 31 50.1**	**0.0**
JOM	**Ohasama**	**2.08**	**227**	P	**Pb**	**23 31 27.2**	**-0.3**
JOM				*e*S	**Sb**	**23 31 53.5**	**+0.6**
JAH	**Hinai**	**2.12**	**251**	P	**Pb**	**23 31 27.7**	**-0.5**
JAH				S	**Sb**	**23 31 53.2**	**-0.9**
JAK	**Akkeshi**	**2.35**	**27**	P	**Pn**	**23 31 29.0**	**+1.0**
JAK				*e*S	**Sn**	**23 31 56.1**	**-0.2**
JAR	**Ashorobuto**	**2.41**	**9**	P	**Pn**	**23 31 29.6**	**+0.7**
JAR				*e*S	**Sn**	**23 31 57.2**	**-0.8**
JMK	**Ichinoseki**	**2.50**	**219**	P	**Pb**	**23 31 33.1**	**-1.7**
MJAR	**Matsushiro Arr**	**5.88**	**224**	P	Pn	23 32 24.9	+8.3
	1.0nm,0.4s,baz=27,slow=10,SNR=4.5						
MJAR				S	**Sn**	**23 33 22.9**	**-0.5**
	1.3nm,0.4s,baz=35,slow=21,SNR=4.4						
SONM	**Songino Array**	**27.04**	**297**	P	**P**	**23 36 28.9**	**-2.6**
	0.3nm,0.6s,baz=89,slow=7.9,SNR=2.0						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.20**	**129**	T	T	00 07 50.3	
	baz=322,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**29.21**	**129**	T	T	00 07 41.5	
	baz=322,slow=74,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**29.22**	**129**	T	T	00 07 40.6	
	baz=322,slow=74,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**30.05**	**131**	T	T	00 08 59.1	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**30.05**	**131**	T	T	00 09 34.5	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**30.07**	**131**	T	T	00 09 19.7	
	baz=318						
MKAR	**Makanchi Array**	**43.38**	**299**	P	**P**	**23 38 51.7**	**+0.2**
	0.3nm,0.6s,baz=80,slow=7.9,SNR=4.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**44.84**	**305**	P	**P**	**23 39 02.9**	**-0.2**
	0.8nm,0.5s,baz=78,slow=8.9,SNR=7.1						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**49.09**	**310**	P	**P**	**23 39 37.1**	**+0.7**
	0.3nm,0.5s,baz=74,slow=10,SNR=4.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**61.11**	**190**	P	**P**	**23 41 04.3**	**+1.0**
	0.3nm,0.5s,baz=8.3,slow=6.9,SNR=1.8						

	0.3nm,0.5s						

IDC 08 23:34:00.7±4.1,**4°.95S×149°.49E,h0km,mb3.4/2, mbtmp3.5/2,Error ellipse: s-maj=146.0km s-min=51.9km az=113.0,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.97**	**223**	P	P	23 38 46.0	+0.4
	0.8nm,0.5s,baz=49,slow=10.0,SNR=12						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**23.92**	**217**	P	P	23 39 16.0	-0.6
	0.4nm,0.3s,baz=47,slow=8.4,SNR=5.9						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**147.20**	**287**	PKPbc	PKPbc	23 53 46.6	-0.5
	0.1nm,0.6s,baz=62,slow=3.9,SNR=1.6						

*NEIC **08** 23:59:05.0±0.9,19°.30N±0°.09×63°.72W±0°.06,h10km±2km, ML2.6/20,Md3.6/5(RSPR),Error ellipse: s-maj=17.2km s-min=5.2km az=330.0*

*RSPR **08** 23:59:07.2,19°.53N×63°.83W,h89km±18km,MD3.6/5*

ISC 08 23:59:04.9±3.5,**19°.5N**±0°.3×**63°.66W**±0°.09,**h31**km,**n31**, σ0**°60**/31,**5C-5D,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**2.47**	**238**		**Sn**	**00 00 11.8**	**-0.3**
HUMP	**Col San Antoni**	**2.47**	**238**		**Pn**	**23 59 43.4**	**+0.4**
HUMP	**Col San Antoni**	**2.47**	**238**	*e*P	**Pn**	**23 59 43.5**	**+0.5**
HUMP	**Col San Antoni**	**2.47**	**238**	*e*S	**Sn**	**00 00 11.8**	**-0.3**
GCPR	**Guaynabo City**	**2.58**	**243**		**Pn**	**23 59 44.5**	**0.0**
GCPR	**Guaynabo City**	**2.58**	**243**	IAML		00 00 23.4	
	comp=E,12nm,2.1s						
GCPR	**Guaynabo City**	**2.58**	**243**	⇑*e*P	**Pn**	**23 59 44.5**	**0.0**
PDPR	**Patillas Dam,**	**2.67**	**237**	Pn	**Pn**	**23 59 46.6**	**+0.8**
PDPR	**Patillas Dam,**	**2.67**	**237**	⇑*e*P	**Pn**	**23 59 46.0**	**+0.2**
PDPR	**Patillas Dam,**	**2.67**	**237**	*e*S	**Sn**	**00 00 17.6**	**+0.4**
IGPR	**InterUniversit**	**2.77**	**237**		**Pn**	**23 59 48.1**	**+0.9**
IGPR	**InterUniversit**	**2.77**	**237**	⇓*e*P	**Pn**	**23 59 48.1**	**+0.9**
ECPR	**Experimental S**	**2.81**	**246**	⇑*e*P	**Pn**	**23 59 48.1**	**+0.3**
CELP	**Cerrillos**	**3.10**	**244**		**Pn**	**23 59 52.1**	**+0.4**
CELP				IAML		00 00 19.9	
	comp=N,12nm,2.5s						
CELP				IAML		00 00 25.0	
	comp=E,13nm,2.1s						
CELP	**Cerrillos**	**3.10**	**244**	⇓*e*P	**Pn**	**23 59 52.3**	**+0.5**
OBIP	**Obispado Ponce**	**3.14**	**243**	Pn	**Pn**	**23 59 52.7**	**+0.4**
OBIP				IAML		00 00 49.6	
	comp=E,17nm,2.2s						
OBIP				IAML		00 01 46.2	
	comp=N,15nm,1.9s						
AOPR	**Arecibo Observ**	**3.14**	**249**		**Pn**	**23 59 52.5**	**+0.2**
AOPR				IAML		00 00 39.0	
	comp=E,35nm,0.3s						
AOPR				IAML		00 00 42.8	
	comp=N,27nm,0.7s						
AOPR	**Arecibo Observ**	**3.14**	**249**		**Sn**	**00 00 28.6**	**-0.2**
AOPR	**Arecibo Observ**	**3.14**	**249**	⇓*e*P	**Pn**	**23 59 52.5**	**+0.2**
AOPR	**Arecibo Observ**	**3.14**	**249**	*e*S	**Sn**	**00 00 28.6**	**-0.2**
UUPR	**Utuado, UPR, P**	**3.15**	**248**	Pn	**Pn**	**23 59 52.1**	**-0.3**
UUPR				IAML		00 00 47.9	
	comp=N,37nm,0.3s						
LSP	**Las Mesas**	**3.50**	**249**		**Pn**	**23 59 57.9**	**+0.7**
LSP					**Sn**	**00 00 36.5**	**-1.0**
LSP	**Las Mesas**	**3.50**	**249**	⇓*e*P	**Pn**	**23 59 57.9**	**+0.7**
LSP	**Las Mesas**	**3.50**	**249**	*e*S	**Sn**	**00 00 36.5**	**-1.0**
MLPR	**Magueyes Islan**	**3.54**	**245**	⇓*e*P	**Pn**	**23 59 58.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**3.58**	**246**		**Sn**	**00 00 38.9**	**-0.8**
CRPR	**Cabo Rojo, PR**	**3.58**	**246**		**Pn**	**23 59 59.1**	**+0.7**
CRPR				IAML		00 01 45.5	
	comp=E,20nm,2.5s						
CRPR				IAML		00 02 15.3	
	comp=N,22nm,2.3s						
CRPR	**Cabo Rojo, PR**	**3.58**	**246**	⇑*e*P	**Pn**	**23 59 59.2**	**+0.8**
CRPR	**Cabo Rojo, PR**	**3.58**	**246**	*e*S	**Sn**	**00 00 38.9**	**-0.8**
ABD	**La Joyeuse, An**	**3.64**	**145**	Pn	**Pn**	**23 59 59.4**	**+0.3**
GDHS	**Morne Mazeau,**	**3.67**	**150**	Pn	**Pn**	**23 59 59.7**	**+0.1**

*NEIC **09** 00:09:57.3±1.1,35°.894N±0°.008×117°.66W±0°.01, h5km±3km,Error ellipse: s-maj=1.6km s-min=0.5km az=134.0*

PAS 09 00:09:57.9±1.2,**35°.895N**±0°.008×**117°.68W**±0°.02, **h4**km±3km,**ML3.0**/82,**ML2.8**/146(NEIC),**Error ellipse: s-maj=1.9km s-min=1.2km az=84.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**140**		Pg	00 10 00.1	+0.1
CLC				Sg	Sg	00 10 01.8	+0.3
CLC				IAML		00 10 02.1	
	comp=E,3μm,0.5s						
TOW	**Tower One**	**0.11**	**219**		Pg	00 10 00.7	+0.5
TOW					Sg	00 10 03.3	+1.6
WVPM	**Volcano Peak E**	**0.12**	**296**		Pg	00 10 00.7	+0.1
WVPM					Sg	00 10 02.6	+0.3
JRC2	**Joshua Ridge**	**0.14**	**310**		Pg	00 10 03.2	+2.4
WCSM	**Coso Springs S**	**0.15**	**331**		Pg	00 10 01.0	0.0
WCSM					Sg	00 10 03.2	+0.2
WNMM	**Nine Mile Cany**	**0.19**	**254**		Pg	00 10 01.8	+0.2
WNMM					Sg	00 10 04.8	+0.6
WRVM	**Rose V. Centra**	**0.20**	**303**		Pg	00 10 02.1	+0.1
WRVM					Sg	00 10 05.1	+0.4
SRTC	**Snort**	**0.21**	**196**		Pg	00 10 02.5	+0.4
SRTC					Sg	00 10 06.2	+1.3
MPMC	**Manual Prospec**	**0.22**	**43**		Pg	00 10 02.4	+0.1
MPMC				Sg	Sg	00 10 05.5	+0.2
MFS	**McCloud Flat S**	**0.26**	**327**		Pg	00 10 03.1	0.0
MFS					Sg	00 10 06.9	+0.3
WSHM	**Spangler Hills**	**0.33**	**153**		Pg	00 10 04.3	-0.1
WSHM					Sg	00 10 09.3	+0.6
WSHM	**Spangler Hills**	**0.33**	**153**	IAML		00 10 09.8	
	comp=E,2μm,0.3s						
WSHM				IAML		00 10 09.8	
	comp=E,4μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.41**	**180**		Pg	00 10 05.8	-0.1
LRMC					Sg	00 10 11.9	+0.5
LRMC	**Laurel Mtn Rad**	**0.41**	**180**	IAML		00 10 12.9	
	comp=N,1μm,0.3s						
LRMC				IAML		00 10 12.9	
	comp=E,1μm,0.4s						
CCCA	**Chr Cany lake**	**0.45**	**145**		Sg	00 10 13.8	+1.4
CCCA	**Chr Cany lake**	**0.45**	**145**	IAML		00 10 16.4	
	comp=E,1μm,0.4s						
CCCA				IAML		00 10 16.9	
	comp=N,2μm,0.5s						
WORM	**Onyx Ranch**	**0.50**	**247**		Pg	00 10 07.3	-0.2
WORM					Sg	00 10 13.8	-0.2
WBSM	**Bird Springs**	**0.52**	**226**		Pg	00 10 07.8	-0.1
WBSM					Sg	00 10 14.9	+0.2
WHFM	**Hanning Flat**	**0.58**	**250**		Pg	00 10 08.9	-0.2
WHFM					Sg	00 10 16.7	+0.1
CWC	**Cottonwood Cre**	**0.63**	**329**		Pg	00 10 10.2	0.0
CWC					Sg	00 10 18.5	+0.1
CWC	**Cottonwood Cre**	**0.63**	**329**	IAML		00 10 19.1	
	comp=E,529nm,0.2s						
CWC				IAML		00 10 20.0	
	comp=N,522nm,0.1s						
DTP	**Desert Tortois**	**0.64**	**192**		Pg	00 10 09.8	-0.4
DTP					Sg	00 10 18.7	+0.1
QSM	**Queen of Sheba**	**0.66**	**84**		Pg	00 10 10.3	-0.3
QSM					Sg	00 10 19.2	0.0
QSM	**Queen of Sheba**	**0.66**	**84**	IAML		00 10 23.5	
	comp=N,685nm,0.7s						
CGO	**Cerro Gordo**	**0.66**	**351**		Pg	00 10 10.3	-0.3
CGO					Sg	00 10 19.7	+0.4
ISA	**Isabella, Lake**	**0.69**	**251**		Pg	00 10 10.9	-0.2
ISA				IAML		00 10 20.3	
	comp=N,528nm,0.4s						
ISA				IAML		00 10 21.1	
	comp=E,422nm,0.3s						
ISA	**Isabella, Lake**	**0.69**	**251**		Sg	00 10 19.8	-0.2
WASM	**Alta Sierra Ca**	**0.73**	**258**		Pg	00 10 11.7	-0.2
WASM					Sg	00 10 21.6	+0.1
CCAC	**Calif City Air**	**0.79**	**200**		Pg	00 10 12.7	-0.4
CCAC					Sg	00 10 23.5	+0.2
GWY	**Greenwater Val**	**0.87**	**70**		Pg	00 10 14.4	-0.2
GWY					Sg	00 10 26.2	+0.3
GWY	**Greenwater Val**	**0.87**	**70**	IAML		00 10 26.6	
	comp=E,485nm,0.5s						
GWY				IAML		00 10 29.5	
	comp=N,411nm,0.4s						
FURC	**Furnace Creek,**	**0.87**	**49**		Pg	00 10 14.8	+0.1
FURC					Sg	00 10 26.6	+0.6
GSC	**Goldstone, Bar**	**0.93**	**130**		Pg	00 10 15.0	-0.7
GSC					Sg	00 10 27.8	+0.1
GSC	**Goldstone, Bar**	**0.93**	**130**	IAML		00 10 30.1	
	comp=N,301nm,0.4s						
GSC				IAML		00 10 34.3	
	comp=E,397nm,0.5s						
SPG2	**Springville 2**	**0.93**	**289**		Pg	00 10 15.1	-0.8
SPG2					Pn	00 10 26.8	+9.0
HYS	**Haystack Butte**	**1.03**	**175**		Pg	00 10 17.0	-0.8
HYS					Sg	00 10 31.0	-0.1
EDW2	**Edwards Air Fo**	**1.04**	**194**		Pg	00 10 17.0	-0.9
EDW2					Sg	00 10 30.8	-0.7
TEJ	**El Tejon**	**1.06**	**231**		Pg	00 10 17.2	-1.0
TEJ					Sg	00 10 30.9	-1.0
TPO	**Tropico Hills**	**1.11**	**204**		Pg	00 10 18.3	-0.9
TPO					Sg	00 10 33.3	-0.3
TPO	**Tropico Hills**	**1.11**	**204**	IAML		00 10 36.4	
	comp=N,215nm,0.7s						
TPO				IAML		00 10 41.4	
	comp=E,187nm,0.8s						
SHOC	**Shoshone, Teco**	**1.14**	**89**		Pg	00 10 19.5	-0.3
SHOC	**Shoshone, Teco**	**1.14**	**89**		Sg	00 10 34.5	0.0
VES	**Vestal, Richgr**	**1.14**	**268**		Pg	00 10 19.3	-0.5
VES	**Vestal, Richgr**	**1.14**	**268**		Sg	00 10 33.6	-1.1
WCT	**Wildcat Mounta**	**1.23**	**43**		Pg	00 10 20.9	-0.8
WCT				IAML		00 10 40.0	
	comp=N,95nm,0.6s						
WCT				IAML		00 10 42.0	
	comp=E,156nm,0.6s						
TIN	**Tinemaha, Big**	**1.24**	**339**		Pn	00 10 22.2	+0.1
TIN				IAML		00 10 41.3	
	comp=N,236nm,0.4s						
GMN	**Gold Mountain**	**1.44**	**13**		Pn	00 10 24.4	-0.7
VOG	**Valley Oaks Go**	**1.44**	**288**		Pn	00 10 24.6	-0.2
DSP	**Deep Springs**	**1.49**	**351**		Pn	00 10 24.9	-0.6
DSP				IAML		00 10 47.0	
	comp=E,141nm,0.6s						
DSP				IAML		00 10 47.0	
	comp=N,88nm,0.6s						
OSI	**Osito Audit: C**	**1.54**	**214**		Pn	00 10 25.9	-0.3
OSI				IAML		00 10 55.6	
	comp=E,64nm,0.6s						
OSI				IAML		00 10 58.3	
	comp=N,66nm,0.6s						
TPNV	**Topopah Spring**	**1.56**	**47**		Pn	00 10 25.4	-1.2
TPNV				IAML		00 10 54.1	
	comp=N,112nm,0.6s						
TPNV				IAML		00 10 54.4	
	comp=N,109nm,0.5s						
BFSC	**Mount Baldy Ra**	**1.65**	**179**		Pn	00 10 27.6	-0.2
BFSC				IAML		00 10 51.9	
	comp=E,74nm,0.3s						
MWC	**Mount Wilson**	**1.70**	**191**		Pb	00 10 29.9	+0.1
MWC					Sb	00 10 51.6	0.0
MWC				IAML		00 10 53.8	
	comp=N,102nm,0.5s						
MWC				IAML		00 10 54.9	
	comp=E,83nm,0.4s						
PASC	**Pasadena Art C**	**1.77**	**194**		Pn	00 10 28.3	-1.0
MTPC	**Mountain Pass**	**1.78**	**103**		Pn	00 10 28.4	-1.2
MTPC				Sg	Sg	00 10 54.7	-0.4
MTPC				IAML		00 10 56.3	
	comp=E,96nm,0.6s						
MTPC				IAML		00 10 56.9	
	comp=N,80nm,0.5s						
MZP	**Montezuma Peak**	**1.82**	**7**		Pn	00 10 29.8	-0.5
MLAC	**Mammoth, Mammo**	**1.96**	**332**		Pb	00 10 34.6	+0.2
SHPR	**Sheep Range**	**2.13**	**73**		Pn	00 10 33.5	-0.9
TPH	**Tonopah**	**2.21**	**9**		Pb	00 10 39.1	+0.6
ELS	**Elsinore Mount**	**2.25**	**175**		Pn	00 10 35.2	-0.8
DANC	**Danby, Needles**	**2.26**	**123**		Pn	00 10 34.8	-1.3
DANC				IAML		00 11 17.6	
	comp=E,57nm,0.5s						
DANC				IAML		00 11 21.3	
	comp=N,65nm,1.0s						
V12A	**Nelson**	**2.30**	**93**		Pn	00 10 36.6	-0.2
V12A				IAML		00 11 12.8	
	comp=N,40nm,0.5s						
V12A				IAML		00 11 15.2	
	comp=E,32nm,0.5s						
S11A	**Rachel**	**2.33**	**41**		Pn	00 10 36.3	-0.9
S11A				IAML		00 11 14.4	
	comp=N,87nm,0.8s						
S11A				IAML		00 11 14.4	
	comp=E,87nm,0.7s						
BELC	**Belle Mtn. Jos**	**2.34**	**143**	IAML		00 11 15.6	
	comp=E,40nm,0.3s						
BELC				IAML		00 11 17.6	
	comp=N,36nm,0.4s						
LHV	**Little Huntoon**	**2.44**	**345**		Pn	00 10 39.1	+0.6
LHV				IAML		00 11 20.0	
	comp=N,30nm,0.6s						
LHV				IAML		00 11 25.6	
	comp=E,27nm,1.1s						
PMD	**Palm Desert**	**2.48**	**154**		Pb	00 10 44.1	+1.0
PMD				IAML		00 11 21.0	
	comp=E,25nm,0.8s						
PFO	**Pinyon Flats O**	**2.49**	**156**		Pb	00 10 44.1	+0.9
PMPB	**Monarch Peak**	**2.55**	**278**		Pn	00 10 40.8	+0.7
PMPB				IAML		00 11 23.6	
	comp=N,60nm,0.8s						

mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**79**	P	**Pn**	**00 17 42.5**	**-0.6**
TNTI				S	**Sn**	**00 17 56.8**	**+0.6**
WRA	**Warramunga Arr**	**21.84**	**159**	P	**P**	**00 22 13.2**	**-0.8**
	2.2nm,0.7s,baz=337,slow=11,SNR=16 2.2nm,0.7s						
ASAR	**Alice Springs**	**25.19**	**164**	P	**P**	**00 22 47.8**	**+1.1**
	2.9nm,0.8s,baz=341,slow=8.2,SNR=22 2.9nm,0.8s						
MKAR	**Makanchi Array**	**59.94**	**326**	P	**P**	**00 27 26.8**	**0.0**
	0.4nm,0.4s,baz=114,slow=8.4,SNR=4.8 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**00 27 55.2**	**+0.1**
	0.3nm,0.5s,baz=130,slow=6.0,SNR=7.0 0.3nm,0.5s						

*ATH **09** 00:19:06.9, 37°.97N×26°.98E, h23km±2km, ML2.5/3, Manual Solution by M.Charalampakis First location: 2019/08/09 00:20:56, This location: 2019/08/09 06:17:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 4 km*
*ISK **09** 00:19:07.3, 38°.02N×26°.92E, h4km, ML2.5/20*
*THE **09** 00:19:07.5, 38°.N±1°×2°.7E±°, h5km±2km, M2.5/7, MLh2.5/7*
*AFAD **09** 00:19:07.1, 38°.02N×26°.87E, h7km±3km, ML2.3*

ISC 09 00:19:07.3±0.8, 38°.02N±0°.02×26°.90E±0°.02, h10km±6km, n52, σ0s66/72, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.06**	**10**	Pg	**Pg**	**00 19 09.2**	**-0.2**
GMLD				Sg	**Sg**	**00 19 10.8**	**-0.1**
SMG	**Samos**	**0.31**	**190**	P	**Pg**	**00 19 13.7**	**+0.1**
SMG				S	**Sg**	**00 19 18.6**	**+0.9**
SMG	**Samos**	**0.31**	**190**	P	**Pg**	**00 19 13.7**	**+0.1**
SMG				S	**Sg**	**00 19 18.4**	**+0.7**
BLCB	**Balcova**	**0.38**	**17**	Pg	**Pg**	**00 19 14.7**	**-0.2**
BLCB	**Balcova**	**0.38**	**17**	P	**Pg**	**00 19 14.8**	**-0.1**
BLCB				S	**Sg**	**00 19 20.3**	**+0.3**
GCAM	**G?zelcaml?**	**0.41**	**140**	P	**Pb**	**00 19 16.0**	**-0.7**
GCAM				S	**Sb**	**00 19 21.9**	**-1.1**
GCAM				*i* IAML		00 19 22.0	
	comp=N,407nm,0.2s						
GCAM				*i* IAML		00 19 22.0	
	comp=E,305nm,0.3s						
URLA	**Izmir**	**0.42**	**325**	P	**Pg**	**00 19 15.4**	**-0.1**
URLA				*i* IAML		00 19 21.0	
	comp=N,365nm,0.5s						
URLA				S	**Sg**	**00 19 21.1**	**0.0**
URLA				*i* IAML		00 19 23.0	
	comp=E,216nm,0.3s						
FOCM	**Foa**	**0.71**	**349**	Pg	**Pb**	**00 19 21.8**	**+0.1**
CHOS	**Chios island**	**0.76**	**299**	Pg	**Pg**	**00 19 21.8**	**-0.3**
CHOS				Sg	**Sb**	**00 19 34.3**	**+1.0**
CHOS	**Chios island**	**0.76**	**299**	P	**Pg**	**00 19 21.6**	**-0.4**
CHOS				S	**Sg**	**00 19 32.4**	**+0.4**
CHOS	**Chios island**	**0.76**	**299**	P	**Pg**	**00 19 21.8**	**-0.3**
CHOS				S	**Sb**	**00 19 34.2**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**95**	Pg	**Pb**	**00 19 22.7**	**-0.4**
EAG2	**Marmaro, Chios**	**0.82**	**310**	P	**Pb**	**00 19 23.9**	**+0.3**
IZMR	**zmir-demi**	**0.84**	**82**	P	**Pg**	**00 19 23.1**	**-0.3**
IZMR				P	**Pb**	**00 19 23.5**	**-0.4**
IZMR				S	**Sg**	**00 19 33.7**	**-0.7**
AYDN	**Tasoluk**	**0.85**	**114**	P	**Pb**	**00 19 24.4**	**+0.2**
AYDN				S	**Sg**	**00 19 34.6**	**-0.2**
ODEM	**Odemis-Izmir**	**0.96**	**74**	Pg	**Pb**	**00 19 26.1**	**0.0**
IZMD	**zmir-Dikili-**	**0.96**	**1**	P	**Pg**	**00 19 25.0**	**-0.9**
IZMD				P	**Pb**	**00 19 26.4**	**+0.2**
IZMD				S	**Sb**	**00 19 39.4**	**+0.4**
IZMD				S	**Sn**	**00 19 40.5**	**-0.4**
IZMD				*i* IAML		00 19 51.0	
	comp=E,65nm,0.5s						
IZMD				*i* IAML		00 19 51.0	
	comp=E,72nm,0.9s						
GOMA	**Golmarmara-Man**	**1.05**	**49**	Pg	**Pn**	**00 19 28.2**	**0.0**
NAZL	**Nazilli-Aydin**	**1.10**	**92**	Pn	**Pb**	**00 19 28.6**	**+0.1**
AKHS	**Akhisar**	**1.12**	**40**	P	**Pb**	**00 19 29.0**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.17**	**100**	P	**Pg**	**00 19 29.3**	**-0.4**
ESEN				S	**Sn**	**00 19 45.9**	**+0.3**
KIRA	**zmir-Kiraz**	**1.20**	**81**	P	**Pn**	**00 19 31.4**	**+1.2**
SOMA	**Soma-Manisa**	**1.24**	**23**	Pn	**Pg**	**00 19 31.2**	**+0.1**
AYVA	**Ayvalik**	**1.30**	**353**	P	**Pn**	**00 19 31.7**	**+0.2**
GORI	**Gordes-Manisa**	**1.34**	**48**	Pn	**Pg**	**00 19 33.1**	**+0.1**
MANT	**Manisa**	**1.39**	**70**	P	**Pb**	**00 19 33.5**	**0.0**
DAT	**Datca**	**1.40**	**157**	Pn	**Pb**	**00 19 33.7**	**+0.2**
SIGR	**SIGRI**	**1.45**	**326**	Pn	**Pg**	**00 19 35.1**	**0.0**
SIGR	**SIGRI**	**1.45**	**326**	P	**Pn**	**00 19 33.4**	**-0.2**
SIGR				S	**Sn**	**00 19 52.1**	**-0.5**
SIGR	**SIGRI**	**1.45**	**326**	P	**Pn**	**00 19 34.0**	**+0.4**
SIGR				S	**Sn**	**00 19 51.9**	**-0.7**
KULA	**Kula-Manisa**	**1.47**	**70**	Pn	**Pg**	**00 19 35.3**	**-0.2**
YAYO	**Edremit-Balk**	**1.60**	**5**	Pn	**Pb**	**00 19 37.1**	**+0.2**
DEMI	**Demirci**	**1.75**	**54**	P	**Pb**	**00 19 40.2**	**+0.6**
USAK	**Uak-Merkez**	**1.80**	**67**	P	**Pg**	**00 19 41.2**	**-0.7**
BALY	**Balya**	**1.81**	**18**	P	**Pb**	**00 19 40.6**	**0.0**
EZN	**Ezine**	**1.86**	**346**	Pn	**Pb**	**00 19 41.0**	**-0.4**
KARY	**Karystos**	**1.95**	**271**	P	**Pn**	**00 19 39.4**	**-1.0**
KARY				S	**Sn**	**00 20 05.9**	**+0.9**
KARY	**Karystos**	**1.95**	**271**	P	**Pn**	**00 19 39.7**	**-0.8**
SIMA	**Simav-Kutahya**	**1.95**	**56**	Pn	**Pb**	**00 19 42.1**	**-0.8**
APMY	**Acipayam-Deniz**	**1.98**	**105**	Pn	**Pb**	**00 19 42.4**	**-1.1**
CANM	**Can-anakkale**	**1.99**	**3**	Pn	**Pb**	**00 19 42.8**	**-0.9**
DURS	**Dursunbey**	**2.00**	**37**	P	**Pn**	**00 19 42.5**	**+1.2**
DURS				S	**Sg**	**00 20 10.8**	**-0.9**
DURS				*i* IAML		00 20 17.0	
	comp=N,14nm,0.3s						
THERA	**Ancient Thera,**	**2.00**	**215**	P	**Pn**	**00 19 41.2**	**0.0**
THR3	**Thira Island,**	**2.00**	**217**	P	**Pn**	**00 19 40.9**	**-0.4**
SNT5	**Nea Kammeni, S**	**2.01**	**217**	P	**Pn**	**00 19 41.6**	**+0.3**
THR5	**Thira Island,**	**2.02**	**218**	P	**Pn**	**00 19 42.4**	**+0.9**
COMU	**Canakkale**	**2.10**	**351**	Pn	**Pb**	**00 19 44.5**	**-1.1**
LIA	**Limnos Island**	**2.31**	**325**	P	**Pn**	**00 19 44.7**	**-0.7**
LIA	**Limnos Island**	**2.31**	**325**	P	**Pn**	**00 19 45.0**	**-0.4**
DION	**Dionisos Attik**	**2.34**	**272**	P	**Pn**	**00 19 44.9**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.40**	**352**	Pn	**Pn**	**00 19 48.7**	**+2.0**
TVSB	**Tavsanli**	**2.46**	**54**	Pn	**Pn**	**00 19 49.3**	**+1.7**

*IDC **09** 00:21:44.9±1.1, 11°.40N×92°.15E, h0km, mb3.8/9, mbtmp3.8/10, ML4.1/1, MS3.5/2, Error ellipse: s-maj=42.7km s-min=18.9km az=56.0*

ISC 09 00:21:48.9±1.0, 11°.4N±0°.1×92°.1E±0°.1, h29km, n16, σ0s79/11, mb3.7/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.69**	**42**	Pn	**Pn**	**00 24 06.3**	**-0.1**
	0.5nm,0.3s,baz=235,slow=15,SNR=4.9 1.1nm,0.3s						
PALK	**Pallekele**	**11.93**	**251**	Sn	**Sn**	**00 26 48.6**	**-0.8**
	1.3nm,0.3s,baz=348,slow=19,SNR=5.6						
H08S3	**Diego Garcia H**	**27.12**	**227**	T	T	00 56 09.2	
	baz=46,slow=75,SNR=20						
H08S2	**Diego Garcia H**	**27.12**	**227**	T	T	00 56 07.7	
	baz=46,slow=75,SNR=4.5						
H08S1	**Diego Carcia H**	**27.14**	**227**	T	T	00 56 10.7	
	baz=46,slow=75,SNR=4.0						
MKAR	**Makanchi Array**	**36.28**	**349**	P	**P**	**00 28 49.4**	**-0.4**
	1.7nm,0.8s,baz=159,slow=7.8,SNR=8.0 1.7nm,0.8s						
SONM	**Songino Array**	**38.30**	**16**	P	**P**	**00 29 06.2**	**-0.8**
	0.4nm,0.3s,baz=180,slow=10,SNR=4.2 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**40.70**	**347**	P	**P**	**00 29 26.7**	**-0.1**
	1.1nm,0.8s,baz=164,slow=7.3,SNR=8.0 1.1nm,0.8s						
JNU	**Nakatsue**	**41.61**	**52**	LR	LR	00 46 29.0	
	comp=Z,72nm,19.0s,baz=202,slow=36						
ZALV	**Zalesovo Beam**	**42.88**	**354**	P	**P**	**00 29 44.0**	**-0.6**
	0.8nm,0.7s,baz=155,slow=8.2,SNR=4.4 0.8nm,0.7s						
BVAR	**Borovoye Array**	**45.06**	**342**	P	**P**	**00 30 02.7**	**+0.6**
	0.4nm,0.4s,baz=131,slow=7.7,SNR=3.7 0.4nm,0.4s						
JAY	**Jayapura**	**50.28**	**103**	LR	LR	00 54 33.2	
	comp=Z,34nm,18.1s,baz=32,slow=39						
WRA	**Warramunga Arr**	**51.94**	**127**	P	**P**	**00 30 55.8**	**+0.2**
	0.6nm,0.3s,baz=300,slow=10,SNR=13 0.6nm,0.3s						
ASAR	**Alice Springs**	**53.71**	**131**	P	**P**	**00 31 08.4**	**-0.2**
	0.5nm,0.5s,baz=308,slow=7.1,SNR=5.3 0.5nm,0.5s						
FINES	**FINESS Array B**	**68.70**	**332**	P	**P**	**00 32 49.5**	**0.0**
	0.8nm,0.6s,baz=104,slow=8.0,SNR=9.2 0.8nm,0.6s						
GERES	**GERESS Array B**	**73.89**	**318**	P	**P**	**00 33 23.0**	**+1.7**
	0.6nm,0.7s,baz=87,slow=7.8,SNR=4.8 0.6nm,0.7s						

DJA 09 00:25:45.5±1.2, 9°S±3°×112°4E±°, h17km±12km, M3.9/8, mb4.4/1, MLv3.6/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.95**	**148**	P	Pg	00 26 03.9	-0.1
SOEI				S	Sn	00 26 17.6	+0.2
BATI	**Baumata**	**1.25**	**184**	P	Pn	00 26 07.9	-0.4
BATI				S	Sn	00 26 24.8	0.0
MMRI	**Maumere**	**1.53**	**282**	P	Pb	00 26 13.5	+0.1
EDFI	**Ende, Flores**	**2.04**	**275**	P	Pn	00 26 20.2	+0.9
EDFI				S	Sn	00 26 45.7	+1.2
BASI	**Baing, Sumba**	**3.37**	**248**	P	Pn	00 26 36.6	-0.8
BASI				S	Sn	00 27 17.9	+0.8
WSI	**Waingapu**	**3.48**	**258**	P	Pn	00 26 38.4	-0.5
WBSI	**Waikabubak, Su**	**4.36**	**261**	P	Pn	00 26 49.8	-1.2
PLAI	**Plampang**	**5.90**	**271**	P	Pn	00 27 11.7	-0.6

*SKHL **09** 00:44:40.9±0.7, 43°.00N×145°.90E, h42km±1km, mb4.0/3*
*JMA **09** 00:44:40.8±0.2, 43°.1N±0°.6×145°.8E±0°.7, h49km±1km, MV2.6/29, OFF NEMURO PENINSULA*

ISC 09 00:44:40.3±1.8, 43°.06N±0°.08×145°.83E±0°.06, h51km±11km, n13, σ0s37/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.31**	**348**	*i* P	**Pn**	**00 44 49.8**	**+0.2**
NEM2				S	**Sn**	**00 44 56.1**	**0.0**
NMR	**Nemuro--Hokkai**	**0.32**	**347**	*i* P	**Pn**	**00 44 49.8**	**+0.2**
NMR				*i* S	**Sn**	**00 44 56.0**	**-0.2**
NMR				A	A	00 44 56.4	
	480nm,0.2s						
NMR				A	A	00 44 56.4	
	470nm,0.2s						
GLVR	**Golovnino**	**0.71**	**342**	*e*P	**Pn**	**00 44 54.5**	**+0.3**
GLVR				AMB	AMB	00 44 56.1	
	140nm,0.3s						
GLVR				*e*S	**Sn**	**00 45 04.5**	**+0.2**
GLVR				A	A	00 45 05.7	
	130nm,0.2s						
GLVR				A	A	00 45 05.7	
	280nm,0.2s						
AKK	**Akkeshi**	**0.72**	**267**	*i* P	**Pn**	**00 44 54.3**	**0.0**
AKK				*e*S	**Sn**	**00 45 04.3**	**-0.3**
JAK	**Akkeshi**	**0.83**	**266**	P	**Pn**	**00 44 55.7**	**0.0**
JAK				S	**Sn**	**00 45 06.8**	**-0.2**
JNSB	**Nemuroshibetsu**	**0.93**	**320**	P	**Pn**	**00 44 57.3**	**+0.2**
JNSB				*e*S	**Sn**	**00 45 09.0**	**-0.5**
JNK	**Nakash**	**0.96**	**303**	P	**Pn**	**00 44 57.4**	**-0.2**
JNK				S	**Sn**	**00 45 09.2**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**0.97**	**1**	*e*P	**Pn**	**00 44 57.7**	**+0.1**
YUK				AMB	AMB	00 44 58.8	
	140nm,0.3s						
YUK				*i* S	**Sn**	**00 45 10.0**	**-0.4**
YUK				A	A	00 45 11.9	
	320nm,0.2s						
YUK				A	A	00 45 11.9	
	310nm,0.2s						
JRA	**Rausu**	**1.02**	**330**	P	**Pn**	**00 44 58.6**	**+0.4**
JRA				S	**Sn**	**00 45 11.4**	**0.0**
SHO	**Shikotan**	**1.09**	**42**	*e*P	**Pn**	**00 44 59.0**	**-0.2**
SHO				AMB	AMB	00 45 00.0	
	20nm,0.2s						
SHO				*e*S	**Sn**	**00 45 13.4**	**+0.2**
SHO				A	A	00 45 16.1	
	60nm,0.2s						
SHO				A	A	00 45 16.1	
	80nm,0.2s						
JOB	**Onbets**	**1.47**	**265**	*e*P	**Pn**	**00 45 04.6**	**+0.2**
JOB				*e*S	**Sn**	**00 45 22.3**	**-0.2**
JAR	**Ashorobuto**	**1.52**	**280**	*e*P	**Pn**	**00 45 05.8**	**+0.7**
JAR				*e*S	**Sn**	**00 45 24.2**	**+0.4**
KUR	**Kuril'sk**	**2.62**	**33**	*e*S	**Sn**	**00 45 50.4**	**-0.2**
KUR				A	A	00 45 52.7	
	60nm,0.2s						
KUR				A	A	00 45 52.7	
	20nm,0.2s						

*IDC **09** 01:22:26.2±1.4, 32°.32N×87°.32E, h0km, mb3.7/6, mbtmp3.6/8, ML3.2/2, MS2.9/5, Error ellipse: s-maj=54.2km s-min=20.4km az=67.0*

ISC 09 01:22:31.5±1.5, 32°.4N±0°.2×87°.3E±0°.3, h35km, n12, σ0s56/8, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**14.38**	**319**	LR	LR	01 32 26.9	
	comp=Z,54nm,19.4s,baz=156,slow=42						
MKAR	**Makanchi Array**	**14.86**	**346**	Pn	**Pn**	**01 25 58.1**	**-0.9**
	0.2nm,0.3s,baz=169,slow=12,SNR=3.9						
MKAR				LR	LR	01 32 16.4	
	comp=Z,40nm,21.3s,baz=256,slow=40 0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.41**	**140**	LR	LR	01 33 57.6	
	comp=Z,23nm,20.0s,baz=175,slow=40						
KURBB	**Kurchatov Arra**	**19.31**	**343**	P	**P**	**01 26 53.5**	**+0.1**
	baz=158,slow=10,SNR=8.6 1.3nm,0.7s						
SONM	**Songino Array**	**21.13**	**38**	P	**P**	**01 27 13.6**	**+0.2**
	1.0nm,0.8s,baz=213,slow=14,SNR=6.1 1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**21.59**	**356**	P	**P**	**01 27 18.3**	**+0.3**
	0.8nm,0.5s,baz=165,slow=10,SNR=4.0 0.8nm,0.5s						
AKTO	**Aktyubinsk**	**28.12**	**318**	LR	LR	01 41 48.6	
	comp=Z,18nm,18.7s,baz=218,slow=41						
FINES	**FINESS Array B**	**48.42**	**326**	P	**P**	**01 31 10.5**	**+0.5**
	0.7nm,0.6s,baz=96,slow=9.9,SNR=1.9 0.7nm,0.6s						
VRAC	**Vranov**	**54.10**	**310**	LR	LR	01 57 20.9	
	comp=Z,16nm,18.5s,baz=54,slow=39						
WRA	**Warramunga Arr**	**68.82**	**132**	P	**P**	**01 33 32.1**	**-0.4**
	1.3nm,0.6s,baz=320,slow=6.1,SNR=6.0 1.3nm,0.6s						
ASAR	**Alice Springs**	**71.35**	**135**	P	**P**	**01 33 47.8**	**-0.2**
	1.2nm,0.7s,baz=321,slow=6.5,SNR=9.3 1.2nm,0.7s						
ILAR	**Eielson Array**	**74.33**	**21**	P	**P**	**01 34 05.5**	**+0.4**
	0.4nm,0.8s,baz=324,slow=5.1,SNR=3.3 0.4nm,0.8s						

*IDC **09** 01:39:02.2±1.3, 23°.77S×179°.89W, h498km±13km, mb3.8/18, mbtmp4.7/19, Error ellipse: s-maj=14.3km s-min=11.8km az=83.0*
*NOU **09** 01:39:02.9, 23°.94S×179°.67W, h518km, mb4.9/36, South of Fiji Islands*
*NEIC **09** 01:39:03.7±1.8, 23°.8S±0°.1×179°.8W±0°.1, h517km±5km, mb4.7/80, Error ellipse: s-maj=17.4km s-min=14.3km az=108.0*

ISC 09 01:39:03.5±0.3, 23°.91S±0°.05×179°.84W±0°.06, h518km, n291, σ1s15/272, mb4.6/60, 25C-23D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.59**	**163**	P	**P**	**01 40 36.7**	**+0.1**
RAO	**Raoul Island**	**5.60**	**162**	P	**P**	**01 40 38.0**	**+1.3**
RAO	**Raoul Island**	**5.60**	**162**	P	**P**	**01 40 36.2**	**-0.5**
	923nm,0.3s,baz=69,slow=13,SNR=5.9						
GLKZ	**Green Lake**	**5.61**	**163**	P	**P**	**01 40 38.0**	**+1.2**
GLKZ				S	**S**	**01 41 56.9**	**+3.8**
LKBA	**Tubou, Lakemba**	**5.73**	**10**	P	**P**	**01 40 38.1**	**-0.1**
LKBA	**Tubou, Lakemba**	**5.73**	**10**	S	**S**	**01 41 55.2**	**-0.2**
MSVF	**Nonsavu**	**6.45**	**342**	P	**P**	**01 40 44.5**	**-0.6**
MSVF	**Nonsavu**	**6.45**	**342**	P	**P**	**01 40 44.9**	**-0.2**
MSVF	**Nonsavu**	**6.45**	**342**	P	**S**	**01 42 09.4**	**+1.3**
TAVE	**Taveuni**	**7.16**	**360**	P	**P**	**01 40 52.1**	**+0.1**
YSA	**Yasawairara**	**7.57**	**341**	P	**P**	**01 40 56.2**	**+0.1**
YSA	**Yasawairara**	**7.57**	**341**	S	**S**	**01 42 28.8**	**+0.6**
DGTI	**Dogotuki**	**7.58**	**357**	P	**P**	**01 40 56.2**	**0.0**
FUTU	**Fugatoga**	**9.69**	**10**	P	**P**	**01 41 16.7**	**-1.1**
NIUE	**Niue**	**10.41**	**64**		**P**	**01 41 24.1**	**-1.3**
NIUE	**Niue**	**10.41**	**64**	P	**P**	**01 41 23.5**	**-1.8**
NIUE	**Niue**	**10.41**	**64**	S	**S**	**01 43 19.9**	**-2.1**
NIUE	**Niue**	**10.41**	**64**	P	**P**	**01 41 24.2**	**-1.2**
NIUE				S	**S**	**01 43 22.3**	**+0.3**
INH	**Isangel**	**11.01**	**291**	P	**P**	**01 41 33.2**	**+1.6**
PINNC	**Pines Island,**	**11.76**	**274**		**P**	**01 41 41.0**	**+1.6**
PINNC	**Pines Island,**	**11.76**	**274**	P	**P**	**01 41 41.1**	**+1.6**
OUENC	**Ouen Island, N**	**12.34**	**274**	P	**P**	**01 41 47.2**	**+1.6**
ONTNC	**Ouen Toro**	**12.71**	**274**		**P**	**01 41 50.9**	**+1.4**
DZM	**Mont Dzumac**	**12.76**	**276**		**P**	**01 41 51.1**	**+0.9**
DZM	**Mont Dzumac**	**12.76**	**276**	P	**P**	**01 41 49.0**	**-1.2**
	14nm,0.6s,baz=79,slow=20,SNR=25						
DZM	**Mont Dzumac**	**12.76**	**276**	P	**P**	**01 41 51.9**	**+1.7**
WCZ	**Waipu Caves**	**13.00**	**201**	P	**P**	**01 41 53.9**	**+1.5**
KUZ	**Kuaotunu**	**13.36**	**196**	P	**P**	**01 41 56.3**	**+0.2**
WIAZ	**Waiheke Island**	**13.55**	**197**	P	**P**	**01 41 59.0**	**+0.9**
MBAZ	**Motutapu North**	**13.60**	**198**	P	**P**	**01 42 00.0**	**+1.5**
MKAZ	**Moumakai**	**13.84**	**197**	P	**P**	**01 42 01.5**	**+0.4**
WTAZ	**Waiatarua**	**13.84**	**199**	P	**P**	**01 42 01.9**	**+0.7**
AWAZ	**Awhitu Peninsu**	**13.95**	**199**	P	**P**	**01 42 02.7**	**+0.5**
HAZ	**Te Kaha**	**13.96**	**188**	P	**P**	**01 42 01.4**	**-0.9**
HAZ				S	**S**	**01 44 27.1**	**-2.6**
PKGZ	**Pakihiroa**	**14.03**	**187**	P	**P**	**01 42 03.8**	**+0.6**
PKGZ				S	**S**	**01 44 30.0**	**-1.2**
PUZ	**Puketiti**	**14.21**	**186**	P	**P**	**01 42 07.3**	**+2.2**
TOZ	**Tahuroa Road**	**14.35**	**195**		**P**	**01 42 06.3**	**-0.1**
TWGZ	**Tauwhareparae**	**14.35**	**187**	P	**P**	**01 42 04.1**	**-2.4**
TWGZ				S	**S**	**01 44 34.0**	**-3.4**
KMRZ	**Kaimai**	**14.36**	**194**	P	**P**	**01 42 06.7**	**+0.2**
KARZ	**Kaharoa**	**14.46**	**192**	P	**P**	**01 42 07.7**	**0.0**
OMRZ	**Omania**	**14.52**	**192**	P	**P**	**01 42 10.3**	**+2.0**
URZ	**Urewera**	**14.54**	**190**	P	**P**	**01 42 05.2**	**-3.2**
	40nm,0.5s,baz=38,slow=2.4,SNR=27						
URZ				S	**S**	**01 44 36.2**	**-4.8**
	9.4nm,0.5s,baz=162,slow=23,SNR=11						
URZ	**Urewera**	**14.54**	**190**	P	**P**	**01 42 04.9**	**-3.5**
URZ				S	**S**	**01 44 38.3**	**-2.7**
MWZ	**Matawai**	**14.56**	**188**	P	**P**	**01 42 06.8**	**-1.9**
CNGZ	**Carnagh Statio**	**14.63**	**186**	P	**P**	**01 42 11.0**	**+1.7**
MUGZ	**Murupara**	**14.81**	**190**	P	**P**	**01 42 10.8**	**-0.4**
MUGZ				S	**S**	**01 44 43.9**	**-2.2**
BKZ	**Black Stump Fm**	**15.53**	**191**		**P**	**01 42 17.4**	**-1.4**
BKZ	**Black Stump Fm**	**15.53**	**191**	P	**P**	**01 42 18.0**	**-0.8**
SNVZ	**South Ngauruho**	**15.71**	**193**	P	**P**	**01 42 20.3**	**-0.5**
BFZ	**Birch Farm**	**17.05**	**190**	P	**P**	**01 42 32.1**	**-1.9**
BFZ	**Birch Farm**	**17.05**	**190**	P	**P**	**01 42 32.3**	**-1.7**
BFZ	**Birch Farm**	**17.05**	**190**	S	**S**	**01 45 24.5**	**-1.5**
MRZ	**Mangatainoka R**	**17.14**	**192**	P	**P**	**01 42 32.8**	**-2.1**
MRZ				IAmb	IAmb	01 42 33.5	
	comp=Z,17nm,0.5s						
TCW	**Tory Channel**	**17.95**	**195**		**P**	**01 42 40.6**	**-1.6**
BHW	**Baring Head**	**18.00**	**193**	P	**P**	**01 42 41.1**	**-1.6**
QRZ	**Quartz Range**	**18.05**	**199**		**P**	**01 42 42.9**	**-0.3**
QRZ	**Quartz Range**	**18.05**	**199**	P	**P**	**01 42 42.9**	**-0.3**
QRZ	**Quartz Range**	**18.05**	**199**	S	**S**	**01 45 42.6**	**+0.4**
PLWZ	**Palliser**	**18.08**	**192**	P	**P**	**01 42 41.8**	**-1.8**
TKNZ	**Takaka Hill**	**18.11**	**198**	P	**P**	**01 42 43.6**	**-0.2**
NNZ	**Nelson**	**18.17**	**197**	P	**P**	**01 42 43.6**	**-0.7**
TUWZ	**Tuamarina**	**18.23**	**195**	P	**P**	**01 42 43.7**	**-1.1**
THZ	**Tophouse**	**18.81**	**197**		**P**	**01 42 49.7**	**-0.4**
KHZ	**Kahutara**	**19.26**	**195**		**P**	**01 42 53.0**	**-1.2**
KHZ	**Kahutara**	**19.26**	**195**	P	**P**	**01 42 54.1**	**-0.1**
KHZ	**Kahutara**	**19.26**	**195**	S	**S**	**01 46 03.6**	**+1.7**
LTZ	**Lake Taylor**	**19.93**	**197**		**P**	**01 42 58.8**	**-1.6**
INZ	**Inchbonnie**	**20.11**	**199**		**P**	**01 43 01.0**	**-0.9**
OXZ	**Oxford**	**20.50**	**197**	P	**P**	**01 43 03.7**	**-1.8**
RPZ	**Rata Peaks**	**21.13**	**199**		**P**	**01 43 11.9**	**+0.7**
RPZ	**Rata Peaks**	**21.13**	**199**	P	**P**	**01 43 10.8**	**-0.4**
	comp=Z,18nm,0.6s,baz=353,slow=2.2,SNR=17 comp=Z,18nm,0.6s						
ARMA	**Armidale**	**26.15**	**249**	P	**P**	**01 43 57.7**	**+1.4**
ARMA				IAmb	IAmb	01 43 58.3	
	comp=Z,15nm,0.7s						
ARMA	**Armidale**	**26.15**	**249**	P	**P**	**01 43 56.9**	**+0.6**
EIDS	**Eidsvold**	**26.45**	**261**	P	**P**	**01 43 59.3**	**+0.5**
EIDS				IAmb	IAmb	01 43 60.0	
	comp=Z,20nm,0.6s						
EIDS	**Eidsvold**	**26.45**	**261**	P	**P**	**01 43 59.4**	**+0.6**
CAN	**Canberra**	**29.26**	**240**	P	**P**	**01 44 24.5**	**+1.1**
CAN				IAmb	IAmb	01 44 25.1	
	comp=Z,20nm,0.7s						
CMSA	**Cobar Meteorol**	**31.35**	**248**	P	**P**	**01 44 41.9**	**+0.5**
CTA	**Charters Tower**	**31.62**	**270**	P	**P**	**01 44 44.5**	**+0.6**
CTAO	**Charters Tower**	**31.62**	**270**	P	**P**	**01 44 44.5**	**+0.6**
CTAO	**Charters Tower**	**31.62**	**270**	P	**P**	**01 44 44.3**	**+0.4**
QLP	**Quilpie**	**32.54**	**258**	P	**P**	**01 44 52.2**	**+0.6**
TOO	**Toolangi**	**32.56**	**237**	P	**P**	**01 44 51.4**	**-0.3**
TOO				IAmb	IAmb	01 44 56.0	
	comp=Z,22nm,1.5s						
**

NIKH	Nikolski High	77.15	7	P		P		01 50 02.6	-0.5
UNV	Unalaska Valle	78.28	8	P		P		01 50 08.6	-0.6
UNV				IAmb		IAmb		01 50 09.2	
	comp=Z,19nm,0.8s								
UNV	Unalaska Valle	78.28	8	P		P		01 50 08.6	-0.6
KSRS	Korea Array	78.34	320	P		P		01 50 10.9	+1.0
	comp=Z,3.7nm,0.7s,baz=136,slow=5.8,SNR=18								
	comp=Z,3.7nm,0.7s								
LVA	Lava Point	78.65	8	IAmb		IAmb		01 50 11.1	
	comp=Z,22nm,0.5s								
AKUT	Akutan	78.66	8	IAmb		IAmb		01 50 35.2	
	comp=Z,29nm,1.3s								
PETK	Petropavlovsk-	79.14	346	P		P		01 50 13.1	-0.8
	comp=Z,11nm,0.7s,baz=112,slow=6.6,SNR=14								
	comp=Z,11nm,0.7s								
NJ2	Nanjing	80.77	311	*e*P		P		01 50 24.1	+1.2
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
USRK	Ussuriysk Ar.	80.85	327	P		P		01 50 24.0	+1.0
	comp=Z,5.3nm,0.6s,baz=134,slow=2.8,SNR=9.5								
	comp=Z,5.3nm,0.6s								
PLK4	Peulik 4	83.58	12	IAmb		IAmb		01 50 37.6	
	comp=Z,21nm,0.7s								
OHAK	Old Harbor	83.85	14	P		P		01 50 37.7	-0.1
OHAK				IAmb		IAmb		01 50 39.0	
	comp=Z,27nm,1.4s								
YBH	Yreka Blue Hor	84.00	39	P		P		01 50 40.1	+0.9
	baz=164,slow=3.1,SNR=5.4								
BNX	BinXian	84.24	326	⇑P		P		01 50 40.2	+0.1
BNX				pmax		pmax			
	comp=Z,12nm,0.7s								
TIA	Tai'an	84.34	314	P		P		01 50 41.9	+1.0
TIA				pmax		pmax			
	comp=Z,17nm,1.2s								
N15K	Kwethluk River	85.31	10	IAmb		IAmb		01 50 46.6	
	comp=Z,17nm,0.7s								
P19K	Oil Pt	86.08	13	IAmb		IAmb		01 50 49.3	
	comp=Z,21nm,0.9s								
ILSW	Iliamna Southw	86.40	13	IAmb		IAmb		01 50 51.0	
	comp=Z,19nm,0.8s								
MA2	Magadan	86.62	346	P		P		01 50 50.7	-0.5
	comp=Z,5.7nm,0.4s,baz=169,slow=5.6,SNR=6.3								
	comp=Z,5.7nm,0.4s								
MA2	Magadan	86.62	346	P		P		01 50 51.1	-0.1
SLKM	Skilak Lake	87.51	14	IAmb		IAmb		01 50 56.1	
	comp=Z,17nm,0.8s								
STLK	Strandline Lak	88.05	13	IAmb		IAmb		01 50 57.6	
	comp=Z,5.9nm,0.7s								
L19K	White Mountain	88.09	11	IAmb		IAmb		01 50 59.3	
	comp=Z,8.9nm,0.8s								
SUA	Susitna One	88.25	14	IAmb		IAmb		01 50 59.8	
	comp=Z,14nm,0.7s								
PWL	Port Wells	88.25	15	IAmb		IAmb		01 50 59.5	
	comp=Z,12nm,0.8s								
LTY	Liberty	88.60	36	IAmb		IAmb		01 50 59.8	
	comp=Z,4.5nm,0.5s								
PMR	Palmer	88.72	14	IAmb		IAmb		01 51 01.6	
	comp=Z,6.6nm,0.8s								
PMR	Palmer	88.72	14	P		P		01 51 00.8	-0.2
HMT	Hamilton	88.82	17	IAmb		IAmb		01 51 02.6	
	comp=Z,14nm,0.8s								
GHO	Glory Hole Cre	88.92	14	IAmb		IAmb		01 51 03.2	
	comp=Z,16nm,0.8s								
J18K	Innoko River	88.97	10	IAmb		IAmb		01 51 03.1	
	comp=Z,7.3nm,0.9s								
BMRM	Bremner River	89.26	16	IAmb		IAmb		01 51 05.1	
	comp=Z,6.6nm,0.8s								
K20K	Telida	89.32	11	IAmb		IAmb		01 51 04.6	
	comp=Z,5.4nm,0.9s								
SCM	Sheep Creek Mo	89.34	15	IAmb		IAmb		01 51 05.3	
	comp=Z,8.7nm,0.8s								
XLT	XiLinHaoTe	89.38	319	*e*P		P		01 51 04.3	-0.4
XLT				pmax		pmax			
	comp=Z,5.0nm,0.7s								
XLT				pmax		pmax			
	comp=Z,160nm,8.4s								
CMAR	Chiang Mai Arr	89.66	290	P		P		01 51 08.0	+1.5
	comp=Z,1.1nm,0.3s,baz=138,slow=2.7,SNR=8.2								
	comp=Z,1.1nm,0.3s								
CAST	Castle Rocks	89.74	12	IAmb		IAmb		01 51 05.7	
	comp=Z,7.3nm,0.8s								
VRDI	Verde Repeater	89.78	17	IAmb		IAmb		01 51 08.0	
	comp=Z,12nm,1.5s								
KTH	Kantishna Hill	90.09	13	IAmb		IAmb		01 51 07.9	
	comp=Z,4.8nm,0.8s								
TRF	Thorofare Moun	90.13	13	IAmb		IAmb		01 51 08.1	
	comp=Z,6.8nm,0.9s								
TXAR	Lajitas Array	90.31	58	P		P		01 51 10.4	+1.1
	comp=Z,0.9nm,0.8s,baz=211,slow=4.1,SNR=8.7								
	comp=Z,0.9nm,0.8s								
RND	Reindeer	90.39	13	IAmb		IAmb		01 51 09.2	
	comp=Z,6.2nm,0.8s								
HHC	Hu-ho-hao-te	90.52	315	*e*P		P		01 51 12.6	+2.5
HHC				pmax		pmax			
	comp=Z,12nm,0.5s								
HHC				pmax		pmax			
	comp=Z,150nm,4.0s								
PZH	PanZhiHua	90.81	299	P		P		01 51 12.4	+0.6
ILAR	Eielson Array	92.00	13	P		P		01 51 15.1	-1.1
	comp=Z,0.8nm,0.7s,baz=228,slow=5.8,SNR=9.9								
	comp=Z,0.8nm,0.7s								
J26L	Joseph Creek	92.52	15	IAmb		IAmb		01 51 19.8	
	comp=Z,3.8nm,0.8s								
M30M	Minto, Yukon	92.72	18	IAmb		IAmb		01 51 21.7	
	comp=Z,5.3nm,1.4s								
L29M	L29M	92.77	18	IAmb		IAmb		01 51 21.2	
	comp=Z,3.0nm,0.8s								
MKAR	Makanchi Array	112.26	313	PKiKP		PKiKP		01 56 39.0	-1.0
	comp=Z,0.5nm,0.6s,baz=305,slow=1.7,SNR=5.3								
KURBB	Kurchatov Arra	115.35	316	PKP		PKPdf		01 56 44.5	-1.3
	comp=Z,1.0nm,0.6s,baz=108,slow=2.0,SNR=9.4								
NIL	Nilore	116.38	297			PKiKP		01 56 50.4	+1.9
BVAR	Borovoye Array	120.54	319	PKP		PKPdf		01 56 55.1	-0.6
	comp=Z,2.2nm,0.5s,baz=113,slow=0.6,SNR=11								
ARCES	ARCESS Array B	131.92	348	PKP		PKPdf		01 57 16.4	-0.6
	comp=Z,3.6nm,0.8s,baz=35,slow=1.1,SNR=16								
FINES	FINESS Array B	138.50	342	PKhKP		PKPpre		01 57 20.1	
	comp=Z,0.7nm,0.5s,baz=42,slow=3.3,SNR=9.2								
FINES				PKP		sPdif		01 57 29.4	-0.1
	comp=Z,1.6nm,0.6s,baz=96,slow=3.2,SNR=11								
FINES				SKPbc		SKPbc		02 00 16.0	+0.8
	comp=Z,3.2nm,0.8s,baz=64,slow=4.4,SNR=9.3								
NB2	NORSAR Subarra	142.11	351	PKP		PKPpre		01 57 31.5	
	comp=Z,1.1nm,0.6s,baz=12,slow=3.1								
NB2	NORSAR Subarra	142.11	351	PKP		PKPpre		01 57 31.5	
	baz=12,slow=3.1								
NOA	NORSAR Array B	142.11	351	PKhKP		PKPpre		01 57 31.7	
	comp=Z,2.4nm,0.8s,baz=16,slow=4.6,SNR=9.4								
NC602	NORSAR Array S	142.35	351	*e*P		PKPpre		01 57 32.5	
KOPT	Kop Dagi	142.54	305			PKPdf		01 57 36.3	-1.5
HFS	Hagfors	142.58	349	PKhKP		PKPpre		01 57 33.1	
	comp=Z,9.7nm,0.4s,baz=64,slow=3.4,SNR=148								
HFS				SKPbc		SKiKP		02 00 26.5	-0.5
	comp=Z,2.8nm,0.8s,baz=90,slow=1.5,SNR=3.8								
SUE	Sulen	142.73	356	*e*P		PKPpre		01 57 34.0	
MARD	Mardin	142.85	301			PKPdf		01 57 36.1	-2.1
OSL	Oslo	143.24	351	*e*P		PKPab		01 57 35.9	+0.1
ASK	Askoy	143.28	356	*e*P		PKPbc		01 57 36.1	-0.2
BER	Bergen	143.37	356	*e*P		PKPab		01 57 36.3	0.0
KONO	Kongsberg	143.67	352			PKPab		01 57 37.3	-0.2
KONO	Kongsberg	143.67	352	*e*P		PKPab		01 57 37.2	-0.2
ODD1	Odda	143.73	354	*e*P		PKPab		01 57 37.6	-0.1
STRU	Stroemstad	144.04	350	*i* P		PKPbc		01 57 37.7	-1.0
BLS5	Blasjo	144.23	354	*e*P		PKPbc		01 57 39.4	0.0
AKASG	Malin Array Be	145.05	327			PKPdf		01 57 41.6	+0.2
AKASG	Malin Array Be	145.05	327	PKP		PKPdf		01 57 41.2	-0.2
	comp=Z,4.5nm,0.4s,baz=44,slow=4.3,SNR=32								
AKASG				SKPbc		SKiKP		02 00 33.0	+0.6
	comp=Z,3.1nm,0.6s,baz=49,slow=2.7,SNR=9.6								
KIEV	Kiev	145.06	327			PKPdf		01 57 41.4	0.0
KIEV	Kiev	145.06	327	⇑P		PKPdf		01 57 41.8	+0.3
BORU	Boraas	145.10	348	*i* P		PKPdf		01 57 41.1	-0.1
HOMB	Homborsund	145.15	352	*e*P		PKPab		01 57 43.3	+0.2
HOMB	Homborsund	145.15	352	*i* P		PKPbc		01 57 42.2	0.0
SUW	Suwalki	145.33	336	*e*PKP		PKPbc		01 57 42.5	-0.4
SUW	Suwalki	145.33	336			PKPbc		01 57 42.8	-0.1
ONAU	Onsala	145.48	349	*i* P		PKPdf		01 57 41.8	-0.1
BLEU	Blekinge	145.66	345	*i* P		PKPdf		01 57 41.9	-0.3
FABU	Falkenberg	145.70	348	*i* P		PKPdf		01 57 42.1	-0.2
DEL	Delary	145.96	346	*i* P		PKPdf		01 57 43.0	+0.3
BJUU	Bjuv	146.51	347	*i* P		PKPbc		01 57 45.5	-0.6
BSD	Bornholm Skovb	146.96	344	*i* P		PKPbc		01 57 46.4	-1.0
SORM	Soroca	147.09	324	⇑P		PKPbc		01 57 47.1	-0.8
PURM	Purcari	147.17	321	⇓P		PKPbc		01 57 48.2	0.0
KIRS	Kirsehir-Merke	147.68	306	⇑P		PKPbc		01 57 50.0	+0.1
BRTR	Keskin Array B	147.70	307	PKPbc		PKPbc		01 57 49.4	-0.6
	comp=Z,2.1nm,0.7s,baz=140,slow=4.5,SNR=14								
BRTR				PKPab		PKPab		01 57 54.4	+0.2
	comp=Z,4.6nm,0.6s,baz=94,slow=3.9,SNR=23								
MMAI	Mount Meron Ar	147.83	294	PKPbc		PKiKP		01 57 51.5	-0.4
	comp=Z,5.7nm,0.4s,baz=75,slow=7.0,SNR=22								
BEL	Belsk	147.94	336	*e*PKP		PKPbc		01 57 50.3	+0.3
GKP	Gorka Klasztor	147.96	341	*e*PKP		PKPbc		01 57 50.5	+0.5
ANTO	Ankara	148.26	308			PKPbc		01 57 51.5	+0.2
ANTO	Ankara	148.26	308	⇓P		PKPbc		01 57 51.4	+0.1
EKA	Eskdalemuir Ar	148.51	4	PKPbc		PKPbc		01 57 50.9	-0.4
	comp=Z,1.2nm,0.4s,baz=344,slow=3.0,SNR=10								
TLCR		148.52	319	⇓P		PKPbc		01 57 52.1	+0.4
VLDR	Vladesti	148.59	321	⇑P		PKPbc		01 57 52.1	+0.3
KWP	Kalwaria Pacla	148.84	331	*e*PKP		PKPbc		01 57 52.5	+0.2
GHRR		148.84	322	⇓P		PKPbc		01 57 52.9	+0.4
CFR	Carcaliu	148.93	320	⇑P		PKPbc		01 57 53.1	+0.4
TPGR	Topolog	148.94	319	⇓P		PKPbc		01 57 52.4	-0.4
TESR	Tescani	149.00	323	⇓P		PKPbc		01 57 52.9	+0.1
BURAR	Bucovina Array	149.05	326			PKPbc		01 57 53.3	+0.2
BURAR	Bucovina Array	149.05	326	⇓P		PKiKP		01 57 54.3	+0.3
ONER	Baraj Valea Uz	149.24	323	⇑P		PKiKP		01 57 54.3	0.0
HARR	Harsova	149.32	319	⇓P		PKiKP		01 57 54.5	+0.1
TLBR	Topalu	149.33	319	⇓P		PKiKP		01 57 54.1	-0.4
VRI	Vrincioaia	149.34	322	⇑P		PKiKP		01 57 53.4	-0.3
PLOR	Plostina	149.40	322	⇑P		PKiKP		01 57 53.8	-0.1
KOLS	Kolonicke sedl	149.55	331	*e*PKP		PKiKP		01 57 54.8	-0.1
KOLS				*e*				01 58 01.4	
OJC	Ojcow	149.60	335	*e*PKP		PKPbc		01 57 54.2	+0.1
TURR	Turia	149.62	323	⇑P		PKPbc		01 57 53.9	-0.5
STHS	Stebnicka Huta	149.64	332	*e*PKP		PKPbc		01 57 54.5	+0.2
ARCR	ARCALIA	149.84	326	⇓P		PKPbc		01 57 55.1	+0.2
NEHR	Nehoiu	149.85	322	⇑P		PKPbc		01 57 55.1	+0.1
MLR	Muntele Rosu	150.01	322	⇓P		PKPbc		01 57 55.0	-0.4
DOPR	Dopca	150.02	323	⇑P		PKiKP		01 57 56.0	+0.1
NIE	Niedzica	150.03	333	*e*PKP		PKiKP		01 57 56.2	+0.3
TGMR	Targu Mures	150.12	325	⇓P		PKPdf		01 57 50.1	+0.2
KSP	Ksiaz	150.34	339	*e*PKP		PKiKP		01 57 56.4	0.0
CJR	Cluj-Napoca	150.48	326	⇓P		PKiKP		01 57 56.9	0.0
LANS	Liptovska Anna	150.58	334	*e*PKP		PKiKP		01 57 57.7	+0.7
STEB	Steborice	150.60	337	⇑*e*PKP		PKiKP		01 57 56.8	-0.2
STEB				*e*PKPAB		PKPab		01 58 06.1	+0.5
OSTC	Ostas	150.62	339	⇑*e*PKP		PKiKP		01 57 57.3	+0.3
UPC	Upice	150.72	339	⇑*e*PKP		PKiKP		01 57 57.1	-0.1
MARR	Marisel-Cluj	150.75	327	⇑P		PKiKP		01 57 57.3	-0.2
DPC	Dobruska-Polom	150.76	339	⇑*e*PKP		PKiKP		01 57 57.3	0.0
DPC				*e*PKPAB		PKPab		01 58 07.1	+0.8
MORC	Moravsky Berou	150.81	337	*e*PKP		PKPbc		01 57 56.9	-0.2
MORC				*e*				01 58 06.8	
MORC	Moravsky Berou	150.81	337	⇓P		PKiKP		01 57 57.3	-0.1
KRLC	Kraliky	150.83	338	⇑*e*PKP		PKiKP		01 57 57.4	-0.1
KRLC				*e*PKPAB		PKPab		01 58 07.1	+0.5
DRGR		150.87	327	⇓P		PKPbc		01 57 57.2	-0.1
CLL	Collm	150.90	343	⇓*i*PKPbc		PKPbc		01 57 57.1	0.0
	comp=Z,14nm,0.9s								
CLL				⇑⇑*i*PKPab		PKPab		01 58 06.7	-0.1
	comp=Z,9.0nm,0.8s								
CLL				LmV				02 59 00.0	
	comp=Z,100nm,20.8s								
BRG	Berggiesshubel	151.04	342	*i* PKP		PKiKP		01 57 58.3	+0.5
BRG				Amp				01 57 58.7	
	comp=Z,8.4nm,0.5s								
BRG	Berggiesshubel	151.04	342	P		PKPab		01 58 08.2	+0.8
BRG				Amp				01 58 08.8	
	comp=Z,4.5nm,0.7s								
MAUC	Maruska	151.05	336	⇑*e*PKP		PKiKP		01 57 57.9	-0.1
PVCC	Panska Ves	151.16	341	⇑*e*PKP		PKiKP		01 57 58.0	-0.1
VYHS	Vyhne	151.35	334	*e*PKP		PKPbc		01 57 58.3	0.0
VYHS				*e*				01 58 09.5	
JAVC	Velka Javorina	151.52	335	*e*PKP		PKPbc		01 57 58.3	-0.4
JAVC				*e*				01 58 11.0	
VRAC	Vranov	151.55	337	*e*PKP		PKPbc		01 57 58.5	-0.2
VRAC				*e*				01 58 10.2	
VRAC	Vranov	151.55	337	⇓P		PKPbc		01 57 57.4	-1.3
PRU	Pruhonice	151.64	340	⇑*e*PKP		PKPbc		01 57 58.9	0.0
KRUC	Moravsky	151.82	337	*e*PKP		PKPbc		01 57 58.1	-1.2
KRUC				*e*				01 58 11.2	
MODS	Modra-Piesok	152.07	335	*e*PKP		PKPbc		01 57 57.7	-2.2
MODS				*e*				01 58 09.7	
ZVC	Zvikov	152.23	340	⇑*e*PKP		PKPbc		01 57 59.0	-1.2
ZVC				*e*PKPAB		PKPab		01 58 13.1	+0.6
KHC	Kasperske Hory	152.70	341	⇑*e*PKP		PKPbc		01 58 01.1	-0.2
KHC				*e*PKPAB		PKPab		01 58 14.9	+0.4
CKRC	Cesky Krumlov	152.74	339	⇑*e*PKP		PKPbc		01 58 00.9	-0.4
CKRC				*e*PKPAB		PKPab		01 58 14.9	+0.2
EZN	Ezine	152.83	312	⇓P		PKPbc		01 58 01.6	-0.2
GERES	GERESS Array B	152.91	340	PKPbc		PKPbc		01 58 01.6	-0.2
	comp=Z,0.7nm,0.6s,baz=60,slow=3.2,SNR=6.5								
GERES				PKPab		PKPab		01 58 14.2	-1.4
	comp=Z,0.8nm,0.6s,baz=20,slow=4.3,SNR=5.8								
MEM	Membach	152.96	352	*d*PKPdf		PKPdf		01 57 53.1	-0.8
CONA	Conrad Observa	152.97	336	*i* PKP		PKPab		01 58 16.5	+0.7
	comp=Z,6.1nm,0.6s								
RONA	Rosalia, Austr	153.00	336	*i* PKP		PKPab		01 58 16.6	+0.7
	comp=Z,5.0nm,0.7s								
BGES	Gesves	153.29	353	*d*PKP		PKPbc		01 58 02.0	-0.5
BMRD	Maredsous	153.41	353	*d*PKPdf		PKPdf		01 57 54.4	-0.1
RCHB	Rochefort	153.50	353	*d*PKP		PKPbc		01 58 02.5	-0.3
MOA	Molln	153.60	338	*i* PKP		PKPab		01 58 17.8	-0.6
	comp=Z,3.2nm,0.9s								
ARSA	Arzberg	153.66	336	*i* PKP		PKPab		01 58 18.2	-0.5
	comp=Z,1.7nm,0.5s								
WLF	Walferdange	153.86	351	*d*PKP		PKPab		01 58 18.2	-1.2
BIOA	Bad Ischl, Aus	153.94	339	*i* PKP		PKPab		01 58 19.4	-0.5
	comp=Z,3.2nm,0.7s								
SOKA	Soboth	154.32	336	*i* PKP		PKPab		01 58 21.6	0.0
	comp=Z,5.5nm,1.1s								
LESA	Schwarzleotal	154.49	340	*i* PKP		PKPab		01 58 22.0	-0.3
	comp=Z,3.7nm,1.1s								
KBA	Koelnbreinsper	154.58	339	*i* PKP		PKPab		01 58 22.5	-0.3
	comp=Z,2.5nm,0.6s								
OBKA	Obir	154.65	336	*i* PKP		PKPab		01 58 22.7	-0.3
	comp=Z,3.4nm,0.6s								
BFO	Black Forest	154.78	347			PKPab		01 58 22.5	-0.9
WATA	Walderalm	154.90	341	*e*PKP		PKPab		01 58 23.7	-0.4
	comp=Z,3.3nm,0.5s								
WTTA	Wattenberg	154.95	341	*e*PKP		PKPab		01 58 24.2	-0.2
	comp=Z,5.7nm,0.5s								
RETA	Reutte	154.99	343	*e*PKP		PKPab		01 58 24.1	-0.4
	comp=Z,6.1nm,0.9s								
MOTA	Moosalm	155.03	342	*e*PKP		PKPab		01 58 24.4	-0.3
	comp=Z,6.4nm,1.0s								
SQTA	Sankt Quirin	155.11	342	*i* PKP		PKPab		01 58 24.6	-0.4
	comp=Z,6.4nm,1.1s								
ABTA	Abfaltersbach	155.14	340	*e*PKP		PKPab		01 58 24.3	-0.8
	comp=Z,3.6nm,0.7s								
GBRS	Gornja Briga	155.37	335	*i* PKPbc		PKPab		01 58 25.9	-0.2
DAVA	Damuels	155.41	344	*e*PKP		PKPab		01 58 25.8	-0.5
	comp=Z,7.1nm,0.8s								
ESDC	Sonseca Array	163.90	12	PKPab		PKPab		01 59 02.8	-0.6
	comp=Z,1.5nm,0.9s,baz=350,slow=4.3,SNR=7.3								

GCG ***09*** *01:52:17.6±0.9, 14°.34N×92°.83W, h18km±17km, MD3.5, ML2.8*
MEX ***09*** *01:52:19.6±0.6, 14°.36N×92°.79W, h9km±11km, MD3.8*

ISC 09 01:52:16.6±2.6, 14°.46N±0°.09×92°.73W±0°.05, h10km±13km, n13, σ1s21/22, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		0.64	45	*e*S			Sn	01 52 43.5	+1.5
SMCA	Catarina	0.75	58	*e*S			Sn	01 52 45.8	+1.0
PATR	El Naranjo	0.81	36	*e*P			Pn	01 52 34.8	+0.3
PATR				*e*S			Sn	01 52 46.8	0.0
PAVE	Pavencul	0.91	36	*e*P			Pn	01 52 36.2	+0.5
PAVE				*e*S			Sn	01 52 49.6	+0.6
RTAL	Retalhuleu	1.01	86	*e*P			Pn	01 52 37.1	+0.2
RTAL				*e*S			Sn	01 52 50.2	-0.9
PCIG		1.33	339	*e*P			Pb	01 52 41.5	-0.2
PCIG				*e*S			Sb	01 52 58.8	-0.1
CCIG	Comitan	1.91	17	*e*P			Pg	01 52 53.2	0.0
CCIG				*e*S			Sg	01 53 17.9	0.0
CCIG	Comitan	1.91	17	*i* S			Sg	01 53 18.6	+0.7
CCIG				IAML				01 53 21.6	
	comp=N,85nm,0.5s								
TGIG		2.34	351	*e*P			Pn	01 52 55.0	-0.3
TGIG				*e*S			Sb	01 53 26.3	-1.8
TGIG		2.34	351	*e*S			Sb	01 53 26.5	-1.5
TGIG				IAML				01 53 27.3	
	comp=E,27nm,0.4s								
UXUV	UXUV	3.15	335	*e*P			Pn	01 53 08.6	+2.1
UXUV				*e*S			Sb	01 53 49.7	-1.8
CMIG	Matias Romero	3.34	322	*e*P			Pn	01 53 10.5	+1.5
CMIG				*e*S			Sn	01 53 47.5	-1.3
NEUV	Arroyo Zacate	4.38	318	*e*P			Pn	01 53 22.6	-0.8
NEUV				*e*S			Sn	01 54 16.3	+1.9

IDC ***09*** *01:55:54.4±0.9, 4°.44S×106°.02W, h0km, mb4.0/10, mbtmp4.0/10, MS4.6/41, Error ellipse: s-maj=38.6km s-min=18.6km az=70.0*
NEIC ***09*** *01:55:57.1±1.7, 4°.63S±0°.08×106°.1W±0°.1, h10km±1km, mb4.7/186, Error ellipse: s-maj=22.3km s-min=7.5km az=303.0*
GCMT ***09*** *01:55:59.1±0.1, 4°.45S±0°.01×106°.07W±0°.01, h12km, MW5.2/139, Moment Tensor Solution. s96,c143; s139,c246; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr=0.03±.10; Mθθ2.79±.10; Mφφ=-2.76±.12; Mrθ0.46±.25; Mθφ6.99±.09; Mφr1.97±.27; Best double couple: M₀7.78800×10¹⁶ NP1:φs101.00000°, δ75.00000°, λ0.00000°. NP2:φs11.00000°, δ90.00000°, λ165.00000°. Principal axes: T 7.8220, Plg11.0000°, Azm325.0000°; N -0.0680, Plg75.0000°, Azm189.0000°; P -7.7540, Plg10.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 01:55:56.9±0.5, 4°.62S±0°.09×106°.16W±0°.08, h17km, n181, σ1s31/66, mb4.6/100, MS4.5/43, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	22.59	187	LR			LR	02 07 28.4	
	comp=Z,1μm,18.9s,baz=360,slow=30								
TLIG	Tlapa	23.28	19	P		P		02 01 04.5	+0.4
TLIG				IAmb		IAmb		02 01 14.7	
	comp=Z,27nm,1.5s								
CMIG	Matias Romero	24.28	27	P		P		02 01 11.2	-2.3
	comp=Z,0.9nm,0.5s,baz=221,slow=9.2,SNR=5.8								
CMIG				LR		LR		02 08 30.5	
	comp=Z,1μm,20.1s,baz=204,slow=31								
	comp=Z,0.9nm,0.5s								
MOIG	Morelia	24.63	11	P		P		02 01 18.1	+1.1
CCIG	Comitan	24.97	33	P		P		02 01 20.5	+0.5
MTO3	Montecristo	25.19	41	P		P		02 01 23.0	+1.0
ESQI	Esquipulas	25.32	41	P		P		02 01 24.6	+1.5
CRIN	San Cristobal	25.62	48	P		P		02 01 27.7	+1.9
JTS	Las Juntas de	25.79	55	P		P		02 01 28.1	+0.8
SOCE	Pocosol	26.12	55	P		P		02 01 30.7	+0.3
LCR2	La Lucha 2	26.28	57	P		P		02 01 31.9	0.0
BOAB	BOACD BROADBA	26.50	50			P		02 01 33.9	+0.2
ACON	Acoyapa	26.59	52			P		02 01 34.9	+0.4
PETF	Flores	26.78	37	P		P		02 01 35.5	-0.6
BRU2	Volcan	26.92	60	P		P		02 01 38.0	+0.2
ESPN	Las Esperanzas	27.41	52	P		P		02 01 41.3	-0.5
ATAH	Atahualpa	27.73

CFA Coronel Fontan 44.55 132 LR LR 02 18 11.3
comp=Z,429nm,19.7s,baz=204,slow=30

O20A White River Ci 44.57 358 IAmb IAmb 02 04 18.9
comp=Z,13nm,0.9s

R40A Maddies Statio 44.59 16 IAmb IAmb 02 04 11.0
comp=Z,9.1nm,1.0s

WAKR Walker 44.64 345 P **P** **02 04 08.6 -0.3**
WAKR IAmb IAmb 02 04 20.4
comp=Z,9.5nm,1.3s

CCM Cathedral Cave 44.66 17 P **P** **02 04 08.9 +0.1**
CCM IAmb IAmb 02 04 21.0
comp=Z,8.1nm,1.1s

UUPR Utuado, UPR, P 45.03 59 P **P** **02 04 09.3 -2.8**

BSUT Blindstream Ca 45.13 355 IAmb IAmb 02 04 19.8
comp=Z,7.9nm,1.2s

TKL Tuckaleechee C 45.24 26 LR LR 02 21 46.3
comp=Z,171nm,21.8s,baz=216,slow=34

SJG San Juan 45.46 59 LR LR 02 21 20.5
comp=Z,634nm,21.2s,baz=250,slow=34

TBI Tubuai 45.72 242 *e*S **S** **02 10 58.4 -1.9**
TBI *e*SS **SS** **02 14 26.6 +1.9**
comp=Z,1μm,25.8s
TBI *e*LR LR 02 16 59.3
comp=Z,2μm,29.2s
TBI *e*LR LR 02 17 02.7
comp=Z,2μm,28.8s
TBI *e*LR LR 02 17 02.7
comp=Z,8μm,28.0s

BGU Big Grassy Mou 45.76 353 IAmb IAmb 02 04 24.9
comp=Z,11nm,1.4s

PAHR Pah Rah Range 45.76 346 IAmb IAmb 02 04 49.7
comp=Z,11nm,1.4s

P40A Paris 45.82 15 IAmb IAmb 02 04 18.5
comp=Z,16nm,1.3s

ELK Elko 45.91 350 IAmb IAmb 02 04 31.1
comp=Z,7.0nm,1.1s

ELK Elko 45.91 350 LR LR 02 20 31.3
comp=Z,1μm,18.3s,baz=161,slow=32

VILB Vilhena 46.10 103 P **P** **02 04 20.6 -0.1**

HWUT Hardware Ranch 46.27 354 IAmb IAmb 02 04 33.2
comp=Z,7.6nm,1.0s

HVU Hansel Valley 46.57 353 P **P** **02 04 25.9 +1.9**

K22A Casper 47.05 360 IAmb IAmb 02 04 33.7
comp=Z,10nm,1.2s

PDAR Pinedale Array 47.26 357 P **P** **02 04 29.2 -0.4**
comp=Z,2.8nm,0.7s,baz=170,slow=6.9,SNR=26
PDAR LR LR 02 21 56.2
comp=Z,596nm,18.2s,baz=172,slow=33
comp=Z,2.8nm,0.7s

PTLB Pontes e Lacer 47.43 107 P **P** **02 04 28.4 -2.6**
PTLB IAmb IAmb 02 04 33.4
comp=Z,14nm,1.5s

TPAW Teton Pass 48.08 355 IAmb IAmb 02 04 46.7
comp=Z,6.4nm,0.9s

PLCA Paso Flores 48.10 144 LR LR 02 19 45.5
comp=Z,1μm,19.7s,baz=330,slow=30

LOHW Long Hollow 48.18 356 IAmb IAmb 02 04 41.9
comp=Z,4.3nm,0.9s

WVOR Wild Horse Val 48.19 348 IAmb IAmb 02 04 56.2
comp=Z,8.9nm,1.4s

FXWY Fox Creek 48.23 355 IAmb IAmb 02 04 49.7
comp=Z,5.9nm,1.0s

HLID Hailey 48.53 352 IAmb IAmb 02 04 49.4
comp=Z,6.3nm,1.1s

YBH Yreka Blue Hor 48.54 343 IAmb IAmb 02 05 19.9
comp=Z,7.4nm,1.3s

YBH Yreka Blue Hor 48.54 343 LR LR 02 20 34.2
comp=Z,56nm,20.6s,baz=155,slow=31

RSSD Black Hills 48.55 2 P **P** **02 04 40.0 +0.5**
RSSD IAmb IAmb 02 05 03.9
comp=Z,14nm,1.4s

J08A Circle Bar Ran 49.04 348 IAmb IAmb 02 05 09.9
comp=Z,17nm,1.5s

L02F Cave Junction 49.15 343 IAmb IAmb 02 05 02.3
comp=Z,17nm,1.4s

YHB Horse Butte 49.35 355 IAmb IAmb 02 04 47.8
comp=Z,8.9nm,1.0s

YHL Hebgen Lake 49.45 355 IAmb IAmb 02 04 53.5
comp=Z,11nm,1.0s

YNE Yellowstone No 49.52 356 IAmb IAmb 02 05 12.9
comp=Z,6.5nm,1.1s

J05D Fort Rock, OR 49.59 346 P **P** **02 04 48.6 +1.1**
J05D IAmb IAmb 02 05 05.1
comp=Z,16nm,1.2s

RLMT Red Lodge 49.60 357 IAmb IAmb 02 04 58.8
comp=Z,6.1nm,0.9s

BBOR Butler Butte 49.60 344 IAmb IAmb 02 05 09.2
comp=Z,12nm,1.4s

I37A Lemond, Waseca 49.76 12 P **P** **02 04 49.0 +0.6**
I37A IAmb IAmb 02 04 58.9
comp=Z,12nm,1.0s

PINE Pine Mountain 50.00 346 IAmb IAmb 02 05 22.0
comp=Z,14nm,1.2s

DLMT Dillon 50.09 354 P **P** **02 04 55.8 +4.6**
DLMT IAmb IAmb 02 04 57.5
comp=Z,11nm,1.3s

PLID Pearl Lake 50.26 351 P **P** **02 04 52.0 -0.5**
PLID IAmb IAmb 02 04 58.4
comp=Z,9.3nm,1.5s

G08A Pilot Rock 50.99 348 IAmb IAmb 02 05 15.2
comp=Z,8.9nm,1.3s

H04A Detroit Lake 51.14 345 IAmb IAmb 02 05 20.7
comp=Z,21nm,1.4s

F10A Beach Ranch, E 51.33 350 IAmb IAmb 02 05 24.3
comp=Z,14nm,1.4s

CPUP Villa Florida 51.38 120 P **P** **02 05 01.3 +0.2**
comp=Z,0.9nm,0.8s,baz=158,slow=7.8,SNR=5.2
CPUP LR LR 02 23 17.8
comp=Z,143nm,20.9s,baz=140,slow=32
comp=Z,0.9nm,0.8s

AQDB Aquidauana 51.48 112 P **P** **02 05 01.3 -0.5**
AQDB IAmb IAmb 02 05 04.3
comp=Z,13nm,1.3s

G04A Mulino 51.71 345 P **P** **02 05 04.0 +0.8**

HAWA Hanford 52.16 348 IAmb IAmb 02 05 13.7
comp=Z,16nm,1.4s

AGMN Agassiz Nation 53.46 9 IAmb IAmb 02 05 18.9
comp=Z,8.9nm,1.0s

NEW Newport 53.53 351 IAmb IAmb 02 05 50.3
comp=Z,9.2nm,1.2s

NEW Newport 53.53 351 LR LR 02 25 12.1
comp=Z,982nm,18.3s,baz=177,slow=33

MDP Montagnes des 54.31 80 LR LR 02 26 08.9
comp=Z,908nm,19.4s,baz=270,slow=34

RAR Rarotonga 54.52 247 LR LR 02 23 39.8
comp=Z,327nm,18.1s,baz=96,slow=30

SADO Sadowa 54.80 23 LR LR 02 29 02.3
comp=Z,478nm,18.1s,baz=218,slow=36

EPLO Experimental L 55.14 10 IAmb IAmb 02 05 31.2
comp=Z,9.3nm,1.0s

VLDQ Val d'Or 58.23 22 IAmb IAmb 02 05 55.4
comp=Z,9.6nm,0.9s

BBB Bella Bella 59.59 345 LR LR 02 28 24.2
comp=Z,362nm,18.5s,baz=156,slow=33

DLBC Dease Lake 65.71 346 LR LR 02 32 37.0
comp=Z,25nm,18.1s,baz=124,slow=34

YKA Yellowknife Ar 67.23 356 P **P** **02 06 49.3 -0.7**
comp=Z,2.0nm,0.7s,baz=163,slow=5.6,SNR=5.3
YKA LR LR 02 34 02.0
comp=Z,649nm,18.3s,baz=161,slow=34
comp=Z,2.0nm,0.7s

SCHQ Schefferville 67.61 23 LR LR 02 36 23.0
comp=Z,205nm,19.1s,baz=230,slow=36

M29M Somme Creek 71.28 345 IAmb IAmb 02 07 36.4
comp=Z,8.2nm,1.4s

RAO Raoul Island 71.85 241 LR LR 02 33 28.9
comp=Z,282nm,18.9s,baz=326,slow=31

GLB Gilahina Butte 72.00 342 IAmb IAmb 02 07 22.4
comp=Z,6.0nm,1.1s

M27K Edge Creek, AK 72.14 343 P **P** **02 07 22.0 +1.5**
M27K IAmb IAmb 02 07 42.7
comp=Z,11nm,1.4s

K29M Barlow Dome 72.21 346 IAmb IAmb 02 07 39.2
comp=Z,4.7nm,0.9s

BCAR Beaver Creek A 72.68 344 P **P** **02 07 24.1 +0.5**

L27K Beaver Creek, 72.69 344 IAmb IAmb 02 07 46.5
comp=Z,11nm,1.4s

DAWY Dawson 72.86 345 IAmb IAmb 02 07 47.4
comp=Z,10nm,1.5s

I29M Ogilvie Camp, 73.67 347 IAmb IAmb 02 08 11.1
comp=Z,7.1nm,1.4s

FRB Frobisher Bay 73.77 16 LR LR 02 39 35.1
comp=Z,205nm,20.4s,baz=240,slow=36

DOT Dot Lake 73.78 343 IAmb IAmb 02 07 52.4
comp=Z,12nm,1.5s

SCRK Sand Creek 74.01 344 IAmb IAmb 02 07 53.9
comp=Z,11nm,1.4s

I28M Miner Creek 74.13 346 IAmb IAmb 02 07 42.2
comp=Z,8.0nm,1.2s

G29M Pine Creek 74.91 348 IAmb IAmb 02 07 47.9
comp=Z,6.7nm,0.9s

SKT Skwentna 74.92 340 IAmb IAmb 02 08 19.2
comp=Z,19nm,1.5s

H27K Steamboat Moun 75.15 346 IAmb IAmb 02 08 00.5
comp=Z,16nm,1.4s

N19K Bonanza Creek 75.22 338 IAmb IAmb 02 07 58.0
comp=Z,14nm,1.4s

INK Inuvik 75.23 350 IAmb IAmb 02 08 00.7
comp=Z,13nm,1.4s

INK Inuvik 75.23 350 LR LR 02 38 20.4
comp=Z,776nm,18.6s,baz=154,slow=34

ILAR Eielson Array 75.44 343 P **P** **02 07 39.7 +0.1**

ILAR Eielson Array 75.44 343 P **P** **02 07 39.4 -0.2**
comp=Z,1.3nm,0.8s,baz=155,slow=4.7,SNR=13
comp=Z,1.3nm,0.8s

WRH Wood River Hil 75.57 343 IAmb IAmb 02 08 07.5
comp=Z,13nm,1.3s

F28M Old Crow 75.89 347 IAmb IAmb 02 07 48.0
comp=Z,4.4nm,1.0s

CAST Castle Rocks 76.08 341 IAmb IAmb 02 07 49.8
comp=Z,16nm,1.5s

L19K White Mountain 76.23 339 IAmb IAmb 02 08 06.2
comp=Z,12nm,1.4s

I23K Minto, Yukon-K 76.43 343 IAmb IAmb 02 08 01.5
comp=Z,13nm,1.4s

URZ Urenera 76.74 232 LR LR 02 36 09.5
comp=Z,454nm,18.1s,baz=96,slow=31

MLY Manley 76.77 342 IAmb IAmb 02 08 07.3
comp=Z,10nm,1.4s

J20K Nowinta River 77.28 341 IAmb IAmb 02 08 05.5
comp=Z,16nm,1.5s

J17K VABM Dome 78.51 338 P **P** **02 07 58.0 +1.1**
J17K IAmb IAmb 02 07 60.0
comp=Z,11nm,1.4s

RES Resolute Bay 79.47 3 LR LR 02 41 19.3
comp=Z,326nm,20.8s,baz=206,slow=34

SFJD Kangerlussuaq 81.48 19 LR LR 02 44 40.9
comp=Z,294nm,19.0s,baz=242,slow=36

QSPA South Pole Qui 85.44 180 P **P** **02 08 35.5 +2.0**

QSPA South Pole Qui 85.44 180 P **P** **02 08 35.2 +1.7**
comp=Z,3.1nm,1.0s,baz=142,slow=1.0,SNR=8.3
QSPA LR LR 02 39 23.1
comp=Z,352nm,21.6s,baz=116,slow=30
comp=Z,3.1nm,1.0s

DZM Mont Dzumac 85.88 248 *e*S **SKSac** **02 19 02.0 -0.3**
DZM *e*SS **SS** **02 24 45.0 -2.5**
comp=Z,47nm,25.0s
DZM *e*LQ LQ 02 31 47.3
comp=Z,526nm,31.2s
DZM *e*LR LR 02 35 34.2
comp=Z,264nm,27.3s
comp=Z,343nm,22.9s

VNDA Vanda 85.95 193 LR LR 02 39 33.8
comp=Z,188nm,19.2s,baz=88,slow=30

SHEM Shemya Is, Ala 87.45 323 LR LR 02 39 45.7
comp=Z,508nm,20.7s,baz=109,slow=30

H11N3 WAKE ISLAND Hy 88.66 290 T T 03 46 48.6
baz=96,slow=74,SNR=146

H11N2 WAKE ISLAND Hy 88.67 290 T T 03 46 53.2
baz=96,slow=74,SNR=141

H11N1 WAKE ISLAND Hy 88.68 290 T T 03 46 56.1
baz=96,slow=74,SNR=94

H11S2 WAKE ISLAND Hy 88.74 289 T T 03 46 58.7
baz=96,slow=75,SNR=49

H11S1 WAKE ISLAND Hy 88.75 289 T T 03 47 00.4
baz=96,slow=75,SNR=38

H11S3 WAKE ISLAND Hy 88.76 289 T T 03 47 00.5
baz=96,slow=75,SNR=37

SNAA Sanae 89.81 162 P **P** **02 08 54.7 +0.3**
comp=Z,1.2nm,0.9s,baz=200,slow=5.1,SNR=3.5
SNAA LR LR 02 41 38.7
comp=Z,564nm,21.7s,baz=281,slow=30
comp=Z,1.2nm,0.9s

BORG Borgarnes 91.93 25 LR LR 02 49 37.2
comp=Z,120nm,19.3s,baz=270,slow=35

JMIC Jan Mayen 96.84 19 LR LR 02 52 23.4
comp=Z,140nm,18.6s,baz=271,slow=35

PETK Petropavlovsk- 97.36 323 LR LR 02 45 20.5
comp=Z,316nm,20.9s,baz=121,slow=30

BRTR Keskin Array B 129.65 40 PKP **PKPdf** **02 15 03.5 -2.2**
comp=Z,8.8nm,0.8s,baz=48,slow=1.8,SNR=5.3

CMAR Chiang Mai Arr 151.88 301 PKPbc **PKPbc** **02 15 52.0 +0.1**
comp=Z,1.4nm,0.3s,baz=30,slow=1.8,SNR=5.4

*VAO **09** 02:09:32.2±0.9, 32.°10S×70.°76W, h39km±7km, mb4.8*
*SJA **09** 02:09:34.6±0.7, 32.°13S×70.°99W, h94km±4km, ML4.8, MW4.7*
*MOS **09** 02:09:35.9±1.2, 32.°11S×70.°81W, h94km, mb4.9/9, Error ellipse: s-maj=16.4km s-min=7.9km az=97.5*
*NEIC **09** 02:09:36.2, 32.°11S×70.°98W, h81km*
*NEIC **09** 02:09:36.3±1.8, 32.°11S±0.°04×70.°97W±0.°08, h83km±4km, mb4.9/278, Mwr4.7/41, Mwr5.0(GUC), Error ellipse: s-maj=9.8km s-min=6.0km az=93.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.17; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$-0.52; $M_{r\theta}$0.21; $M_{r\phi}$0.62; $M_{\theta\phi}$0.00; Fault plane solution: $M_0$1.21000×10^{16} NP1:ϕ_s125.22000°, δ49.17000°, λ80.77000°. NP2:ϕ_s319.18000°, δ41.68000°, λ100.52000°. Principal axes: T 1.1984, Plg82.0000°, Azm340.0000°; N 0.0183, Plg7.0000°, Azm131.0000°; P -1.2167, Plg4.0000°, Azm222.0000°;*
*GUC **09** 02:09:36.1±0.8, 32.°14S×70.°96W, h92km±3km, ML5.1*
*IDC **09** 02:09:36.2±0.5, 32.°09S×70.°86W, h86km±4km, mb4.4/17, mbtmp4.8/21, MS4.5/3, Error ellipse: s-maj=10.9km s-min=8.6km az=164.0*

ISC 09 02:09:35.4±0.5, 32.°13S±0.°02×70.°97W±0.°03, h84km±4km, n376, σ1$30/301, mb4.9/138, 11C-18D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.51**	**212**			**Pn**	**02 09 51.0**	**+1.3**
VA06	**Catapilco**	**0.51**	**212**	P	*e*P	**Pn**	**02 09 50.9**	**+1.3**
VA06					*e*S	**Sn**	**02 10 01.6**	**+1.4**
VA06					IAML		02 10 03.1	
	comp=N,145μm,0.5s							
VA03	**San Esteban**	**0.73**	**151**			**Pn**	**02 09 52.6**	**+0.8**
VA03	**San Esteban**	**0.73**	**151**	P	*e*P	**Pn**	**02 09 52.5**	**+0.6**
VA03					*e*S	**Sn**	**02 10 04.8**	**+0.8**
VA03					IAML		02 10 07.0	
	comp=E,195μm,0.3s							
VA03	**San Esteban**	**0.73**	**151**		*e*P	**Pn**	**02 09 52.4**	**+0.5**
ROCH	**El Roble**	**0.84**	**182**		*e*P	**Pn**	**02 09 54.0**	**+0.8**
ROCH					*e*S	**Sn**	**02 10 07.3**	**+0.8**
ROCH					IAML		02 10 08.8	
	comp=N,101μm,0.6s							
ROC1	**El Roble**	**0.85**	**182**		*e*P	**Pn**	**02 09 53.8**	**+0.6**
ROC1					*e*S	**Sn**	**02 10 07.4**	**+0.9**
CO02	**Combarbal**	**0.92**	**359**			**Pn**	**02 09 54.9**	**+1.0**
CO02	**Combarbal**	**0.92**	**359**	P	*e*P	**Pn**	**02 09 54.9**	**+1.0**
CO02					*e*S	**Sn**	**02 10 09.3**	**+1.6**
CO02					IAML		02 10 12.0	
	comp=N,96μm,0.2s							
CO02	**Combarbal**	**0.92**	**359**		*e*P	**Pn**	**02 09 54.9**	**+1.0**
CO02					*e*S	**Sn**	**02 10 09.6**	**+1.8**
CO02					IAML		02 10 11.8	
	comp=Z,17μm,0.5s							
PEL	**Peldehue**	**1.04**	**167**			**Pn**	**02 09 56.3**	**+1.0**
PEL	**Peldehue**	**1.04**	**167**	P		**Pn**	**02 09 56.3**	**+1.0**
PEL	**Peldehue**	**1.04**	**167**	P	*e*P	**Pn**	**02 09 56.0**	**+0.8**
PEL					*e*S	**Sn**	**02 10 11.1**	**+0.9**
PEL					IAML		02 10 12.3	
	comp=E,138μm,0.4s							
PEL	**Peldehue**	**1.04**	**167**		*e*P	**Pn**	**02 09 56.1**	**+0.8**
PEL					*e*S	**Sn**	**02 10 11.8**	**+1.6**
VA01	**Torpederas**	**1.06**	**212**			**Pn**	**02 09 56.4**	**+1.0**
VA01	**Torpederas**	**1.06**	**212**	P	*e*P	**Pn**	**02 09 56.4**	**+1.0**
VA01					*e*S	**Sn**	**02 10 11.9**	**+1.6**
VA01	**Torpederas**	**1.06**	**212**		*e*P	**Pn**	**02 09 56.4**	**+1.0**
VA01					*e*S	**Sn**	**02 10 12.3**	**+2.0**
VA01					IAML		02 10 13.7	
	comp=Z,10μm,0.8s							
MT02	**Curacav**	**1.14**	**187**			**Pn**	**02 09 57.4**	**+1.0**
MT02	**Curacav**	**1.14**	**187**	P	*e*P	**Pn**	**02 09 57.4**	**+1.0**
MT02					*e*S	**Sn**	**02 10 12.9**	**+0.8**
MT02					IAML		02 10 14.1	
	comp=E,53μm,0.4s							
MT02	**Curacav**	**1.14**	**187**		*e*P	**Pn**	**02 09 57.0**	**+0.7**
MT02					*e*S	**Sn**	**02 10 13.6**	**+1.4**
MT02					IAML		02 10 15.1	
	comp=Z,33μm,0.4s							
MT10	**Hacienda Santa**	**1.20**	**162**		*e*P	**Pn**	**02 09 58.3**	**+1.0**
MT10					*e*S	**Sn**	**02 10 14.6**	**+0.9**
MT05	**Renca**	**1.28**	**171**			**Pn**	**02 09 59.0**	**+0.9**
MT05	**Renca**	**1.28**	**171**	P	*e*P	**Pn**	**02 09 59.1**	**+0.9**
MT05					*e*S	**Sn**	**02 10 16.0**	**+0.8**
MT05					IAML		02 10 18.2	
MT05	**Renca**	**1.28**	**171**		*e*P	**Pn**	**02 09 59.1**	**+0.9**
MT05					*e*S	**Sn**	**02 10 16.9**	**+1.6**
MT05					IAML		02 10 18.2	
	comp=Z,32μm,0.6s							
CO03	**El Pedregal**	**1.31**	**11**			**Pn**	**02 09 59.4**	**+0.9**
CO03	**El Pedregal**	**1.31**	**11**	P	*e*P	**Pn**	**02 09 59.4**	**+0.9**
CO03					*e*S	**Sn**	**02 10 17.5**	**+1.6**
CO03					IAML		02 10 19.2	
	comp=E,24μm,0.2s							
CO03	**El Pedregal**	**1.31**	**11**		*e*P	**Pn**	**02 09 59.4**	**+0.9**
CO03					*e*S	**Sn**	**02 10 18.1**	**+2.2**
CO03					IAML		02 10 19.8	
	comp=Z,13μm,0.2s							
MT14	**Cerro Cal¡n**	**1.32**	**164**	P	*e*P	**Pn**	**02 09 59.5**	**+0.8**
MT14					*e*S	**Sn**	**02 10 17.0**	**+0.8**
MT14					IAML		02 10 22.5	
	comp=E,84μm,0.4s							
FCH	**Farellones**	**1.33**	**155**	P	*e*P	**Pn**	**02 10 00.2**	**+1.2**
FCH					*e*S	**Sn**	**02 10 18.3**	**+1.5**
MT16	**CCHEN**	**1.35**	**164**			**Pn**	**02 09 60.0**	**+0.9**
MT04	**Ro Olivares**	**1.46**	**151**		*e*P	**Pn**	**02 10 02.0**	**+1.5**
MT04					*e*S	**Sn**	**02 10 21.2**	**+1.6**
MT04					IAML		02 10 25.1	
	comp=E,41μm,0.4s							
MT04	**Ro Olivares**	**1.46**	**151**		*e*P	**Pn**	**02 10 01.9**	**+1.3**
MT04					*e*S	**Sn**	**02 10 21.6**	**+2.1**
MT04					IAML		02 10 22.9	
	comp=Z,30μm,0.5s							
RTLS	**Leoncito**	**1.46**	**78**		*e*P	**Pn**	**02 10 01.6**	**+0.9**
RTLS					*e*S	**Sn**	**02 10 21.8**	**+2.0**
RTLS					IAML		02 10 26.1	
	comp=Z,13μm,0.8s							
MT15	**Las Vizcachas**	**1.52**	**165**	P	*e*P	**Pn**	**02 10 01.9**	**+0.7**
MT15					*e*S	**Sn**	**02 10 21.7**	**+1.0**
MT08	**Bocatoma Ro**	**1.54**	**149**			**Pn**	**02 10 03.3**	**+1.7**
MT08	**Bocatoma Ro**	**1.54**	**149**	P	*e*P	**Pn**	**02 10 02.4**	**+0.8**
MT08					IAML		02 10 26.7	
	comp=E,35μm,0.5s							
MT08	**Bocatoma Ro**	**1.54**	**149**		*e*P	**Pn**	**02 10 03.2**	**+1.5**
MT08					*e*S	**Sn**	**02 10 24.7**	**+3.2**
MT08					IAML		02 10 26.2	
	comp=Z,21μm,1.0s							
CO06	**Fray Jorge**	**1.55**	**339**		*e*P	**Pn**	**02 10 02.9**	**+1.4**
MT09	**Talagante**	**1.65**	**180**	P	*e*P	**Pn**	**02 10 03.6**	**+0.7**
MT09					*e*S	**Sn**	**02 10 24.0**	**+0.3**
MT09					IAML		02 10 27.2	
	comp=E,24μm,0.2s							
MT01	**Popeta**	**1.75**	**188**	P	*e*P	**Pn**	**02 10 04.9**	**+0.8**
MT01					IAML		02 10 28.2	
	comp=E,25μm,0.4s							
MT01	**Popeta**	**1.75**	**188**		*e*P	**Pn**	**02 10 04.8**	**+0.7**
MT01					*e*S	**Sn**	**02 10 27.2**	**+1.3**
MT01					IAML		02 10 28.9	
	comp=Z,20μm,0.4s							
LMEL	**Las Melosas**	**1.83**	**160**			**Pn**	**02 10 06.8**	**+1.4**
LMEL	**Las Melosas**	**1.83**	**160**	P	*e*P	**Pn**	**02 10 06.7**	**+1.4**
LMEL	**Las Melosas**	**1.83**	**160**		*e*P	**Pn**	**02 10 06.8**	**+1.4**
LMEL					*e*S	**Sn**	**02 10 29.8**	**+1.6**
ARCO	**CERRO ARCO**	**1.87**	**113**		*e*P	**Pn**	**02 10 07.8**	**+0.2**
ARCO					*e*S	**Sn**	**02 10 30.9**	**+1.9**
ARCO					IAML		02 10 32.3	
	comp=Z,5μm,0.9s							
ASAL	**Salagasta**	**1.87**	**105**		*e*P	**Pn**	**02 10 07.7**	**+2.0**
ASAL					*e*S	**Sn**	**02 10 32.1**	**+3.3**
BO04	**La Punta**	**1.88**	**171**	P	*e*P	**Pn**	**02 10 06.6**	**+0.7**
BO04					*e*S	**Sn**	**02 10 29.3**	**+0.2**
BO04					IAML		02 10 30.9	
	comp=E,28μm,0.3s							
GO04	**Tololo Observa**	**1.95**	**4**			**Pn**	**02 10 07.5**	**+0.5**
GO04	**Tololo Observa**	**1.95**	**4**	P	*e*P	**Pn**	**02 10 07.5**	**+0.5**
GO04					*e*S	**Sn**	**02 10 32.5**	**+1.4**
GO04					IAML		02 10 36.0	
	comp=E,26μm,0.5s							
GO04	**Tololo Observa**	**1.95**	**4**	P	*e*P	**Pn**	**02 10 07.5**	**+0.5**
GO04					*e*S	**Sn**	**02 10 32.0**	**+1.0**
ZON	**Zonda**	**2.04**	**74**			**Pn**	**02 10 09.1**	**+1.2**
ZON	**Zonda**	**2.04**	**74**	P		**Pn**	**02 10 09.1**	**+1.2**
ZON	**Zonda**	**2.04**	**74**	P	*e*P	**Pn**	**02 10 08.9**	**+1.0**
ZON					*e*S	**Sn**	**02 10 34.3**	**+1.5**
ZON					IAML		02 10 40.3	
	comp=Z,4μm,0.6s							
AAGR	**Agrelo**	**2.05**	**118**		*e*P	**Pn**	**02 10 10.4**	**+2.3**
SJA	**San Juan**	**2.14**	**74**		*e*P	Pn	02 10 00.5	-8.8
SJA					*e*S	**Sn**	**02 10 38.3**	**+3.1**
SJA					IAML		02 10 41.3	
	comp=Z,2μm,0.5s							
CO05	**La Serena**	**2.21**	**354**			**Pn**	**02 10 10.8**	**+0.6**
CO05	**La Serena**	**2.21**	**354**	P	*e*P	**Pn**	**02 10 11.0**	**+0.8**
ACCO	**Cerro Coronel**	**2.24**	**47**	P	*e*P	**Pn**	**02 10 12.4**	**+1.5**
ACCO					*e*P		02 10 12.5	
ACCO					*e*S	**Sn**	**02 10 41.2**	**+3.2**
BO01	**Tunca**	**2.26**	**182**			**Pn**	**02 10 11.5**	**+0.6**
BO01	**Tunca**	**2.26**	**182**	P	*e*P	**Pn**	**02 10 11.4**	**+0.6**
BO01					*e*S	**Sn**	**02 10 37.4**	**-0.6**
BO01	**Tunca**	**2.26**	**182**		*e*P	**Pn**	**02 10 11.4**	**+0.6**
BO01					*e*S	**Sn**	**02 10 38.8**	**+0.8**
BO01					IAML		02 10 40.2	
	comp=Z,5μm,0.5s							
CO01	**Juntas del Tor**	**2.27**	**20**			**Pn**	**02 10 12.4**	**+1.2**
CO01	**Juntas del Tor**	**2.27**	**20**	P	*e*P	**Pn**	**02 10 12.4**	**+1.2**
CO01					*e*S	**Sn**	**02 10 40.3**	**+1.7**
CO01	**Juntas del Tor**	**2.27**	**20**		*e*P	**Pn**	**02 10 12.5**	**+1.3**
CO01					*e*S	**Sn**	**02 10 40.3**	**+1.7**
RTLL	**Cerro Villicun**	**2.27**	**70**		*e*P	**Pn**	**02 10 11.9**	**+0.9**
RTLL					*e*S	**Sn**	**02 10 39.5**	**+1.1**
RTLL					IAML		02 10 39.9	
	comp=Z,4μm,0.5s							
AROD	**Rodeo**	**2.34**	**34**		*e*P	**Pn**	**02 10 14.1**	**+1.9**
CFA	**Coronel Fontan**	**2.39**	**78**	P		**Pn**	**02 10 13.2**	**+0.7**
	comp=Z,2μm,0.3s,baz=248,slow=9.4							
CFA					S	**Sn**	**02 10 40.9**	**-0.1**
	comp=Z,3μm,0.5s,baz=353,slow=20,SNR=66							
CFA	**Coronel Fontan**	**2.39**	**78**		*e*P	**Pn**	**02 10 13.3**	**+0.7**
CFA					*e*S	**Sn**	**02 10 41.8**	**+0.8**
AVIZ	**Vizcacheras**	**2.47**	**124**		*e*P	**Pn**	**02 10 15.3**	**+1.6**
BO03	**Pichilemu**	**2.50**	**199**		*e*P	**Pn**	**02 10 13.4**	**-0.7**
BO03					*e*S	**Sn**	**02 10 42.5**	**-1.2**
BO03					IAML		02 10 54.5	
	comp=N,4μm,0.3s							
BO02	**Sierra Bellavi**	**2.67**	**177**			**Pn**	**02 10 17.0**	**+0.6**
BO02	**Sierra Bellavi**	**2.67**	**177**	P	*e*P	**Pn**	**02 10 16.9**	**+0.6**
BO02					*e*S	**Sn**	**02 10 46.6**	**-1.1**
BO02					IAML		02 10 50.6	
	comp=N,15μm,0.4s							
BO02	**Sierra Bellavi**	**2.67**	**177**		*e*P	**Pn**	**02 10 17.1**	**+0.8**
GO05	**Hualane**	**2.98**	**195**		*e*P	**Pn**	**02 10 20.3**	**-0.3**
LCO	**Las Campanas**	**3.11**	**4**			**Pn**	**02 10 22.5**	**-0.1**
LCO	**Las Campanas**	**3.11**	**4**	P	*e*P	**Pn**	**02 10 22.5**	**-0.1**
RFA	**San Rafael**	**3.37**	**142**		*e*P	**Pn**	**02 10 26.3**	**+0.5**
RFA					IAML		02 11 34.6	
	comp=Z,764nm,0.5s							
ML02	**Panimavida**	**3.65**	**186**			**Pn**	**02 10 29.5**	**0.0**
ACHE	**Chepes**	**3.80**	**76**		*e*P	**Pn**	**02 10 31.6**	**-0.1**
ACHE					*e*P	**Pn**	**02 10 31.6**	**-0.1**
ACHE					*e*P	**Pn**	**02 10 31.6**	**-0.1**
AC04	**Llanos de Chal**	**3.91**	**359**			**Pn**	**02 10 33.3**	**+0.2**
AC04	**Llanos de Chal**	**3.91**	**359**		IAML		02 11 28.2	
	comp=Z,835nm,0.7s							
AC04					IAML		02 11 28.2	
	comp=Z,835nm,0.7s							
VCA	**Vinchina**	**4.14**	**36**		IAML		02 12 06.7	
	comp=Z,1μm,0.5s							
MRA	**San Martin**	**4.46**	**95**		IAML		02 11 30.9	
	comp=Z,1μm,0.9s							
GO03	**Copiapo**	**4.56**	**8**			**Pn**	**02 10 41.6**	**-0.4**
AC06	**Mina Casimiro**	**4.78**	**7**			**Pn**	**02 10 44.4**	**-0.6**
BI05	**Punta Hualpn**	**4.96**	**201**			**Pn**	**02 10 45.8**	**-1.5**
AC02	**Maricunga**	**5.51**	**17**			**Pn**	**02 10 54.9**	**-0.5**
AC01	**Pan de Azucar**	**5.97**	**3**	

baz=110,slow=18,SNR=68
H03N2 T T 02 18 00.8
baz=87,slow=73,SNR=567
H03S3 Juan Fernandez 6.88 254 P Pn 02 11 15.3 +2.0
baz=34,slow=17,SNR=16
H03S3 T T 02 17 52.8
baz=84,slow=75,SNR=538
H03S1 Juan Fernandez 6.88 253 P Pn 02 11 15.2 +1.9
baz=34,slow=17,SNR=14
H03S1 T T 02 17 48.8
baz=84,slow=75,SNR=350
H03S2 Juan Fernandez 6.90 254 P Pn 02 11 15.4 +1.9
baz=34,slow=17,SNR=18
H03S2 T T 02 17 49.6
baz=84,slow=75,SNR=567
GO02 Mina Guanaco 7.04 10 Pn 02 11 13.6 -2.5
PLCA Paso Flores 8.60 178 P **Pn 02 11 36.7 -0.3**
comp=Z,6.0nm,0.3s,baz=353,slow=12,SNR=44
PLCA Paso Flores 8.60 178 *eP* **Pn 02 11 34.6 -2.4**
TRQA Tornquist 9.45 131 Pn 02 11 48.0 -0.6
TRQA Tornquist 9.45 131 P **Pn 02 11 48.0 -0.6**
LL01 San Ignacio de 10.30 186 Pn 02 11 57.4 -2.6
GO07 Milladeo Hill, 11.17 190 Pn 02 12 07.8 -4.2
PB11 IPOC Station P 12.37 6 Pn 02 12 28.2 -0.3
CPUP Villa Florida 13.24 68 P Pn 02 12 35.3 -4.6
comp=Z,3.3nm,0.9s,baz=96,slow=12,SNR=16
CPUP Villa Florida 13.24 68 *eP* Pn 02 12 34.8 -5.1
PB18 Visviri 14.54 6 P **P 02 13 00.5 -1.2**
PLTB Pedras Altas 14.76 93 *eP* **Pn 02 12 56.7 -2.9**
SJPY San Joaquin 14.86 65 *eP* Pn 02 12 55.3 -5.8
CPSB Cacapava Do Su 15.10 88 *eP* Pn 02 12 59.2 -4.7
LPAZ La Paz 15.98 10 P **Pn 02 13 15.5 -0.3**
comp=Z,33nm,0.7s,baz=178,slow=6.1,SNR=94
LPAZ La Paz 15.98 10 *eP* **Pn 02 13 13.8 -2.0**
AMBA Amambai (Brazi 16.86 61 *eP* **Pn 02 13 23.2 -2.9**
ITAB Concordia 17.08 78 Pn 02 13 27.1 -1.7
ITAB IAmb IAmb 02 13 50.3
comp=Z,77nm,0.9s
ITAB Concordia 17.08 78 *eP* **Pn 02 13 26.5 -2.3**
BDQN Bodoquena, MS 17.24 51 *eP* **Pn 02 13 28.1 -2.7**
CNLB Canela 17.53 86 *eP* **P 02 13 31.4 -2.8**
BBSD Serra de San D 17.59 35 *eP* **P 02 13 32.9 -2.0**
AQDB Aquidauana 17.92 53 P **P 02 13 36.6 -2.0**
AQDB Aquidauana 17.92 53 *eP* **P 02 13 35.3 -3.2**
PTGB Pitanga 18.18 71 *eP* **P 02 13 40.7 -0.8**
SIV San Ignacio 18.41 32 P **P 02 13 42.2 -1.8**
comp=Z,58nm,1.0s,baz=217,slow=12,SNR=72
TRCB Terra Rica 18.72 65 P **P 02 13 46.5 -0.8**
TRCB Terra Rica 18.72 65 *eP* **P 02 13 46.8 -0.6**
RPRD Ribas do Rio P 19.32 57 *eP* **P 02 13 53.7 -0.1**
LDASE Londrina, Braz 19.59 69 *eP* **P 02 13 54.1 -2.6**
PTLB Pontes e Lacer 19.80 36 P **P 02 13 58.6 -0.4**
PTLB IAmb IAmb 02 14 00.3
comp=Z,48nm,0.9s
PTLB Pontes e Lacer 19.80 36 *eP* **P 02 13 58.9 -0.1**
PCMB Pacaembu 20.44 64 *eP* **P 02 14 04.6 -1.4**
FRTB Fartura 20.84 71 *eP* **P 02 14 08.7 -1.7**
C2SB Chapadao do Su 21.05 55 *eP* **P 02 14 12.2 -0.4**
SALV Santo Antonio 21.30 44 *eP* **P 02 14 14.5 -0.8**
VILB Vilhena 21.49 30 P **P 02 14 16.9 -0.4**
VILB IAmb IAmb 02 14 20.1
comp=Z,57nm,0.9s
VILB Vilhena 21.49 30 *eP* **P 02 14 16.6 -0.8**
EFI East Falkland 21.71 158⇑ *eP* **P 02 14 19.4 +0.1**
EFI pmax pmax
comp=Z,81nm,1.4s
ITRB Iturama 22.24 61 *eP* **P 02 14 23.3 -2.0**
PET01 Itanhaem-SP 22.27 75 *eP* **P 02 14 23.1 -2.4**
SPB Sao Paulo 22.45 74 *eP* **P 02 14 27.6 +0.1**
BB19B Bebedouro 22.85 67 *eP* **P 02 14 29.9 -1.8**
RCLB Rio Claro- Sao 22.93 71 *eP* **P 02 14 31.1 -1.4**
VAO Valinhos 23.10 73 P **P 02 14 32.2 -2.0**
VAO IAmb IAmb 02 15 08.5
comp=Z,63nm,1.5s
VAO Valinhos 23.10 73 *eP* **P 02 14 32.2 -2.0**
ARAG Araguaiana, MT 23.89 51 *eP* **P 02 14 39.7 -1.6**
PARB Paraibuna 24.04 75 *eP* **P 02 14 42.0 -0.7**
PDRB Porto dos Gac 24.27 36 *eP* **P 02 14 43.7 -1.1**
CZSB Cruzeiro do Su 24.33 356 P **P 02 14 44.8 -0.5**
CZSB IAmb IAmb 02 15 18.5
comp=Z,29nm,0.9s
CZSB Cruzeiro do Su 24.33 356 *eP* **P 02 14 45.7 +0.4**
IPMB Ipameri, GO 24.90 61 *eP* **P 02 14 49.8 -0.8**
CLDB Colider 25.37 37 *eP* **P 02 14 54.7 0.0**
MAN01 Angra dos Reis 25.62 76 *eP* **P 02 14 54.6 -2.5**
PMNB Patos De Minas 25.90 64 *eP* **P 02 14 59.5 -0.1**
BDFB Brasilia 26.56 57 P **P 02 15 04.0 -1.6**
BDFB Brasilia 26.56 57 P **P 02 15 04.0 -1.6**
comp=Z,14nm,0.8s,baz=227,slow=6.8,SNR=17
comp=Z,14nm,0.8s
BDFB Brasilia 26.56 57 P **P 02 15 04.0 -1.6**
SNDB Serra Nova Dou 27.02 47 *eP* **P 02 15 10.5 +0.9**
TBTG Tabatinga, AM 27.81 2 P **P 02 15 17.9 +1.2**
TBTG IAmb IAmb 02 15 18.4
comp=Z,35nm,0.8s
TBTG Tabatinga, AM 27.81 2 *eP* **P 02 15 17.9 +1.2**
NPGB Novo Progresso 28.89 34 *eP* **P 02 15 26.8 +0.5**
TEFE Tefe 29.08 13 *eP* **P 02 15 28.8 +0.8**
JANB Januaria 29.64 61 *eP* **P 02 15 32.5 -0.5**
ITTB Itituba 31.09 47 *eP* **P 02 15 46.7 +0.9**
SMTB Santa Maria do 31.72 48 *eP* **P 02 15 51.7 +0.4**
PMSA Palmer Station 32.95 175 LR LR 02 28 46.6
comp=Z,1µm,19.6s,baz=318,slow=35
CMC01 Camacan, BA 33.11 67 *eP* **P 02 16 03.5 0.0**
MAL2 Monte Alegre, 33.87 31 IAmb IAmb 02 16 14.0
comp=Z,20nm,1.2s
BOAV Boa Vista 35.74 18 P **P 02 16 25.8 -0.3**
BOAV Boa Vista 35.74 18 *eP* **P 02 16 26.1 0.0**
RUSC La Rusia 37.86 357 P **P 02 16 46.2 +1.5**
NBPB Pedra_Branca-C 39.49 55 *eP* **P 02 16 58.1 +0.2**
BAUV El Baul 40.93 4 P **P 02 17 09.2 -0.5**
BAUV IAmb IAmb 02 17 39.9
comp=Z,28nm,1.1s
SOCE Pocosol 44.24 341 P **P 02 17 32.9 -3.6**
BELA Belgrano 2 48.57 170 P **P 02 18 11.2 +1.6**
CELP Cerrillos 50.09 5 P **P 02 18 21.9 +0.1**
SJG San Juan 50.16 6 P **P 02 18 21.6 -0.8**
SJG San Juan 50.16 6 P **P 02 18 21.6 -0.8**
SJG pmax pmax
comp=Z,24nm,1.1s
VNA3 Neumayer Olymp 50.76 159⇑ P **P 02 18 26.8 +0.4**
comp=Z,5.8nm,0.7s
VNA1 Neumayer--Stat 51.05 158⇑ P **P 02 18 29.0 +0.5**
comp=Z,4.5nm,0.8s
SNAA Sanae 52.99 158⇑ P **P 02 18 43.6 +0.6**
comp=Z,171nm,0.6s
SNAA Sanae 52.99 158 P **P 02 18 43.5 +0.6**
SNAA IAmb IAmb 02 18 44.6
comp=Z,12nm,0.8s
SNAA Sanae 52.99 158 P **P 02 18 43.6 +0.6**
comp=Z,9.6nm,0.8s,baz=278,slow=7.4,SNR=50
SNAA pP **pP 02 19 04.3 +0.1**
comp=Z,9.3nm,0.8s,baz=291,slow=6.7,SNR=9.5
comp=Z,9.6nm,0.8s
SNAA Sanae 52.99 158 P **P 02 18 43.5 +0.6**
SNAA pmax pmax
comp=Z,12nm,0.8s
TEIG Tepich 54.63 340 P **P 02 18 56.7 +1.3**
TROLL Troll, Antarti 54.70 159⇑ P **P 02 18 56.1 +0.6**
comp=Z,475nm,0.7s
QSPA South Pole Qui 58.11 180 P **P 02 19 22.2 +2.4**
QSPA South Pole Qui 58.11 180 P **P 02 19 22.1 +2.3**
comp=Z,22nm,0.8s,baz=156,slow=1.5,SNR=118
comp=Z,22nm,0.8s
HBVL Hebbronville 64.51 333 IAmb IAmb 02 20 06.5
comp=Z,14nm,0.8s
HKT Hockley 66.09 336⇑ *eP* **P 02 20 14.3 +1.0**
HKT pmax pmax
comp=Z,18nm,1.4s
VNDA Vanda 66.11 191 P **P 02 20 14.9 +1.9**
comp=Z,1.2nm,0.8s,baz=274,slow=2.1,SNR=6.4
VNDA pP **pP 02 20 35.3 +0.5**
comp=Z,1.0nm,0.7s,baz=151,slow=2.4,SNR=3.3
comp=Z,1.2nm,0.8s
Y52A Lilburn 66.79 348 IAmb IAmb 02 20 18.4
comp=Z,8.7nm,0.8s
Z47A Carrollton 66.95 344 IAmb IAmb 02 20 20.3
comp=Z,16nm,0.7s
HNDO Hondo 66.95 333 IAmb IAmb 02 20 21.7
comp=Z,20nm,0.8s
SYO Syowa Base 67.28 159⇓ *eP* **P 02 20 20.0 -0.5**
SYO Syowa Base 67.28 159⇓ *ePcP* **PcP 02 20 48.1 +0.4**
HPIG 67.39 327 IAmb IAmb 02 20 25.0
comp=Z,10nm,0.8s
BG3 Lake Jocassee 67.70 349 IAmb IAmb 02 20 25.1
comp=Z,10nm,0.9s
X48A Hartselle 67.93 346 IAmb IAmb 02 20 26.5
comp=Z,16nm,0.9s
JCT Junction City 68.00 333 IAmb IAmb 02 20 28.1
comp=Z,23nm,0.9s
Z41A Richland Creek 68.22 340 IAmb IAmb 02 20 29.3
comp=Z,20nm,0.9s
V55A Taylorsville, 68.30 351 IAmb IAmb 02 20 28.6
comp=Z,17nm,1.0s
V53A Saluda 68.35 350 IAmb IAmb 02 20 28.7
comp=Z,11nm,0.8s
CPCT Cooper Cave 68.41 348 IAmb IAmb 02 20 29.3
comp=Z,11nm,0.8s
BRDY Brady 68.42 334 IAmb IAmb 02 20 30.3
comp=Z,11nm,0.8s
SAND Sanderson 68.45 331 IAmb IAmb 02 20 31.1
comp=Z,30nm,1.3s
TKL Tuckaleechee C 68.49 349 P **P 02 20 28.2 -0.2**
comp=Z,7.0nm,0.7s,baz=154,slow=5.3,SNR=7.6
comp=Z,7.0nm,0.7s
WHTX Lake Whitney, 68.51 336 IAmb IAmb 02 20 30.8
comp=Z,20nm,0.8s
TXAR Lajitas Array 68.56 330 P **P 02 20 30.8 +1.7**
comp=Z,3.8nm,0.7s,baz=152,slow=5.7,SNR=8.1
comp=Z,3.8nm,0.7s
PLAL Pickwick Lake 68.66 345 IAmb IAmb 02 20 30.3
comp=Z,7.1nm,0.6s
OZNA Ozona 68.91 332 IAmb IAmb 02 20 33.5
comp=Z,14nm,0.7s
U54A Nelsons Funny 69.04 351 IAmb IAmb 02 20 33.0
comp=Z,16nm,0.9s
PLPT Palo Pinto 69.56 336 P 02 20 36.4 +1.2
MIAR Mount Ida 69.64 340 P 02 20 35.6 +0.1
MIAR IAmb IAmb 02 20 37.5
comp=Z,22nm,1.4s
MIAR Mount Ida 69.64 340 P **P 02 20 35.6 +0.1**
MIAR pmax pmax
comp=Z,22nm,1.4s
SGCY Sterling City 69.79 333 IAmb IAmb 02 20 38.0
comp=Z,9.4nm,0.6s
ABTX Abilene, Hawle 69.86 334 P 02 20 38.1 +1.1
ABTX IAmb IAmb 02 20 39.2
comp=Z,21nm,0.8s
S57A Dark Hollow, R 69.92 353 IAmb IAmb 02 20 38.9
comp=Z,10nm,0.9s
MNHN Monahans 69.93 331 IAmb IAmb 02 20 39.8
comp=Z,14nm,0.7s
R58B Mineral 70.03 354 IAmb IAmb 02 20 40.0
comp=Z,12nm,1.1s
T47A Sharon Grove 70.39 346 IAmb IAmb 02 20 41.2
comp=Z,16nm,0.9s
WTFS Witchita Falls 70.47 336 IAmb IAmb 02 20 42.6
comp=Z,18nm,0.8s
FCAR Ozark Folk Cen 70.51 342 IAmb IAmb 02 20 42.2
comp=Z,8.4nm,0.7s
R55A Marlinton 70.56 352 IAmb IAmb 02 20 43.2
comp=Z,17nm,0.8s
SN07 Snyder 07 70.74 334 IAmb IAmb 02 20 44.2
comp=Z,14nm,1.1s
PBMO Poplar Bluff 70.92 344 IAmb IAmb 02 20 44.8
comp=Z,22nm,1.0s
HHAR Hobbs 71.37 341 IAmb IAmb 02 20 47.7
comp=Z,19nm,0.8s
SIUC Southern Illin 71.54 345 IAmb IAmb 02 20 48.2
comp=Z,16nm,1.0s
P57A Homestead Farm 71.55 354 IAmb IAmb 02 20 49.4
comp=Z,14nm,0.9s
MGMO Mountain Grove 71.74 342 IAmb IAmb 02 20 50.0
comp=Z,15nm,1.0s
WUPA West Chester U 71.82 356 IAmb IAmb 02 20 50.8
comp=Z,16nm,1.2s
OK052 Battle Ridge R 71.96 338 IAmb IAmb 02 20 51.2
comp=Z,25nm,1.0s
OK029 Liberty Lake 71.99 338 IAmb IAmb 02 20 51.4
comp=Z,23nm,1.0s
CCM Cathedral Cave 72.33 343 P **P 02 20 52.6 +0.8**
CCM Cathedral Cave 72.33 343 P **P 02 20 52.6 +0.8**
CCM pmax pmax
comp=Z,38nm,1.2s
T35A Sooner Cattle 72.72 339 IAmb IAmb 02 20 56.0
comp=Z,17nm,0.9s
CROK Carrier 72.81 337 IAmb IAmb 02 20 56.4
comp=Z,19nm,0.8s
319A Douglas 72.83 326 IAmb IAmb 02 20 58.3
comp=Z,18nm,0.9s
P46A Rosedale 72.95 347 IAmb IAmb 02 20 56.0
comp=Z,27nm,1.2s
121A Cookes Peak, D 73.11 328 IAmb IAmb 02 21 00.1
comp=Z,23nm,0.9s
P43A Skaggs, Pawnee 73.45 345 IAmb IAmb 02 20 59.4
comp=Z,20nm,1.0s
DBIC Dimbokro 73.73 71 P **P 02 21 00.2 -0.3**
comp=Z,6.9nm,0.7s,baz=247,slow=5.0,SNR=12
DBIC pP **pP 02 21 22.9 -0.5**
comp=Z,2.8nm,0.7s,baz=227,slow=4.2,SNR=1.9
comp=Z,6.9nm,0.7s
N47A Urbana 73.91 348 IAmb IAmb 02 21 01.4
comp=Z,23nm,0.9s
TUC Tucson 74.31 326 P **P 02 21 05.3 +1.6**
TUC Tucson 74.31 326 P **P 02 21 05.3 +1.6**
TUC pmax pmax
comp=Z,4.0nm,1.1s
P38A Dawn 74.39 342 IAmb IAmb 02 21 05.2
comp=Z,28nm,1.1s
ANMO Albuquerque 74.58 330 P **P 02 21 07.4 +2.1**
ANMO IAmb IAmb 02 21 08.4
comp=Z,14nm,1.3s
ANMO Albuquerque 74.58 330 P **P 02 21 07.1 +1.8**
comp=Z,7.7nm,1.0s,baz=247,slow=8.1,SNR=12
comp=Z,7.7nm,1.0s
ANMO Albuquerque 74.58 330 P **P 02 21 07.4 +2.1**
ANMO pmax pmax
comp=Z,14nm,1.3s
MAW Mawson 74.72 163 P **P 02 21 06.1 +0.7**
comp=Z,4.0nm,0.6s,baz=225,slow=6.2,SNR=8.7
MAW LR LR 02 54 06.7
comp=Z,288nm,20.3s,baz=212,slow=36
comp=Z,4.0nm,0.6s
R32A Long Quarter, 74.79 338 IAmb IAmb 02 21 08.4
comp=Z,20nm,1.0s
214A Organ Pipe Nat 75.01 324 IAmb IAmb 02 21 11.2
comp=Z,20nm,1.1s
VTX Valle De La Tr 76.09 322 IAmb IAmb 02 21 17.5
comp=Z,31nm,1.3s
X16A Lo Mia Camp, P 76.36 326 IAmb IAmb 02 21 18.8
comp=Z,17nm,1.0s
SDCO Great Sand Dun 76.61 332 IAmb IAmb 02 21 19.7
comp=Z,7.9nm,0.8s
ESJX Sierra Juarez 76.65 322 IAmb IAmb 02 21 20.8
comp=Z,9.8nm,0.9s
Y14A Wickenburg 76.71 325 IAmb IAmb 02 21 20.4
comp=Z,11nm,1.0s
JFWS Jewell Farm 76.74 346 IAmb IAmb 02 21 18.6
comp=Z,27nm,1.2s
SADO Sadowa 76.89 354 P **P 02 21 17.9 -0.1**
comp=Z,9.2nm,0.8s,baz=190,slow=6.4,SNR=3.9
comp=Z,9.2nm,0.8s
WUAZ Wupatki 77.23 327 IAmb IAmb 02 21 23.7
comp=Z,13nm,0.9s
MVCO Mesa Verde 77.38 330 IAmb IAmb 02 21 24.1
comp=Z,16nm,0.9s
BC3 Big Chuckawall 77.70 323 IAmb IAmb 02 21 26.2
comp=Z,13nm,0.9s
IRM Iron Mountain 77.94 324 IAmb IAmb 02 21 27.4
comp=Z,12nm,1.1s
PMD Palm Desert 78.17 323 IAmb IAmb 02 21 28.9
comp=Z,18nm,1.4s
PFO Pinyon Flats O 78.18 323 P **P 02 21 27.9 +2.3**
PFO IAmb IAmb 02 21 29.2
comp=Z,16nm,1.1s
PFO Pinyon Flats O 78.18 323 P **P 02 21 26.7 +1.1**
comp=Z,10nm,0.9s,baz=100,slow=5.6,SNR=9.5
comp=Z,10nm,0.9s
PFO Pinyon Flats O 78.18 323 P **P 02 21 27.9 +2.3**
PFO pmax pmax
comp=Z,15nm,1.1s
PV13 Radium Mtn., P 78.31 330 IAmb IAmb 02 21 29.1
comp=Z,18nm,1.0s
PV05 Paradox Valley 78.36 330 IAmb IAmb 02 21 29.2
comp=Z,15nm,1.0s
PV03 Paradox Valley 78.41 330 IAmb IAmb 02 21 29.4
comp=Z,13nm,1.1s
PV18 Skein Mesa, Pa 78.42 330 IAmb IAmb 02 21 29.5
comp=Z,21nm,0.9s
PV12 Saucer Basin, 78.44 331 IAmb IAmb 02 21 29.9
comp=Z,18nm,1.0s
PV19 Morning Glory 78.51 330 IAmb IAmb 02 21 30.0
comp=Z,20nm,1.2s
PV20 West Nyswonger 78.53 330 IAmb IAmb 02 21 30.1
comp=Z,25nm,1.2s
PV04 Paradox Valley 78.55 330 IAmb IAmb 02 21 30.5
comp=Z,20nm,1.3s
PV23 Carpenter Ridg 78.64 330 IAmb IAmb 02 21 30.9
comp=Z,23nm,1.1s
ELS Elsinore Mount 78.71 322 IAmb IAmb 02 21 31.8
comp=Z,11nm,0.9s
KNB Kanab 79.13 327 IAmb IAmb 02 21 34.2
comp=Z,16nm,1.0s
BFSC Mount Baldy Ra 79.29 322 IAmb IAmb 02 21 34.9
comp=Z,14nm,1.1s
SPMN Marine on St. 79.50 344 IAmb IAmb 02 21 33.1
comp=Z,9.8nm,0.5s
HAYD Hayden 79.69 333 IAmb IAmb 02 21 37.1
comp=Z,10nm,0.9s
CCUT Cedar City 79.81 327 IAmb IAmb 02 21 38.2
comp=Z,11nm,0.9s
SRU San Rafael Swe 79.83 330 IAmb IAmb 02 21 36.9
comp=Z,12nm,0.8s
Q16A Castle Valley 79.95 329 IAmb IAmb 02 21 38.1
comp=Z,13nm,0.9s
BOSA Boshof 80.14 117 P **P 02 21 36.4 -0.2**
comp=Z,8.5nm,0.8s,baz=243,slow=4.2,SNR=13
comp=Z,8.5nm,0.8s
P18A Preston Nutter 80.15 330 IAmb IAmb 02 21 39.2
comp=Z,17nm,0.9s
P17A Butcher Ranch, 80.23 330 IAmb IAmb 02 21 39.2
comp=Z,22nm,1.3s
LRMC Laurel Mtn Rad 80.27 323 IAmb IAmb 02 21 40.1
comp=Z,15nm,1.1s
GRTLG Ghanzi 80.71 109 P 02 21 39.8 0.0
ISA Isabella, Lake 80.81 323 IAmb IAmb 02 21 43.2
comp=Z,16nm,1.1s
F33A 5 Mile Ranch, 80.92 342 IAmb IAmb 02 21 41.0
comp=Z,16nm,1.3s
K22A Casper 81.25 334 IAmb IAmb 02 21 44.6
comp=Z,16nm,1.1s
SPR3 Spring Creek 3 81.43 327 IAmb IAmb 02 21 45.9
comp=Z,12nm,1.1s
RSSD Black Hills 81.66 337 P **P 02 21 45.0 +0.8**
RSSD IAmb IAmb 02 21 46.3
comp=Z,14nm,0.9s
RSSD Black Hills 81.66 337 P **P 02 21 45.0 +0.8**
RSSD pmax pmax
comp=Z,14nm,0.9s
EYMN Ely 81.81 346 IAmb IAmb 02 21 46.2
comp=Z,18nm,1.2s
TPH Tonopah 82.06 325 IAmb IAmb 02 21 49.5
comp=Z,12nm,1.0s
PDAR Pinedale Array 82.51 332 P 02 21 49.2 +0.5
PDAR Pinedale Array 82.51 332 P **P 02 21 49.6 +0.9**
comp=Z,2.2nm,0.8s,baz=134,slow=4.3,SNR=14
comp=Z,2.2nm,0.8s
TORD Torodi Ar. Bea 82.73 70 P 02 21 50.0 -0.2
TORD Torodi Ar. Bea 82.73 70 P **P 02 21 50.1 -0.1**
comp=Z,4.7nm,0.7s,baz=266,slow=4.5,SNR=7.5
TORD LR LR 02 58 31.8
comp=Z,166nm,18.4s,baz=289,slow=36
comp=Z,4.7nm,0.7s
LHV Little Huntoon 82.83 324 IAmb IAmb 02 21 53.6
comp=Z,12nm,0.9s
NVAR Mina Array Bea 82.87 324 P 02 21 52.9 +2.2
NVAR Mina Array Bea 82.87 324 P **P 02 21 52.5 +1.8**
comp=Z,5.9nm,0.8s,baz=157,slow=6.1,SNR=9.7
comp=Z,5.9nm,0.8s
HVU Hansel Valley 83.00 330 IAmb IAmb 02 21 53.1
comp=Z,8.8nm,0.8s
AGMN Agassiz Nation 83.11 344 IAmb IAmb 02 21 52.6
comp=Z,11nm,0.8s
ELK Elko 83.25 328 IAmb IAmb 02 21 54.9
comp=Z,8.6nm,0.8s
ELK Elko 83.25 328 P **P 02 21 54.3 +1.7**
comp=Z,7.3nm,0.8s,baz=144,slow=3.0,SNR=26
comp=Z,7.3nm,0.8s
WAKR Walker 83.49 324 IAmb IAmb 02 21 57.4
comp=Z,10nm,1.1s
PHDHD Phuduhudu 83.97 110 P **P 02 21 57.1 +0.4**
PHDHD IAmb IAmb 02 21 57.6
comp=Z,11nm,0.6s
PAHR Pah Rah Range 84.39 325 IAmb IAmb 02 22 01.5
comp=Z,14nm,1.2s
RLMT Red Lodge 84.39 334 IAmb IAmb 02 22 00.2
comp=Z,5.9nm,0.6s
LAO LASA Array 84.66 336 IAmb IAmb 02 22 01.2
comp=Z,16nm,1.1s
ULM Lac du Bonnet 84.93 344 *de*P **P 02 22 00.8 +0.2**
DLMT Dillon 85.88 332 IAmb IAmb 02 22 08.1
comp=Z,17nm,1.2s
SCHQ Schefferville 86.68 2 P 02 22 08.4 -0.7
SCHQ IAmb IAmb 02 22 11.2
comp=Z,16nm,1.2s
SCHQ Schefferville 86.68 2 P **P 02 22 08.9 -0.2**
comp=Z,12nm,1.1s,baz=204,slow=7.9,SNR=5.6
comp=Z,12nm,1.1s
EGMT Eagleton 87.03 335 IAmb IAmb 02 22 12.5
comp=Z,8.1nm,0.8s
PLID Pearl Lake 87.06 330 IAmb IAmb 02 22 13.8
comp=Z,14nm,0.9s
KMPM Mount Pierce 87.32 322 IAmb IAmb 02 22 15.9
comp=Z,10nm,0.8s
KHMM Horse Mountain 87.45 323 IAmb IAmb 02 22 16.6
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 87.57 324 P **P 02 22 14.3 +0.4**
comp=Z,0.2nm,0.8s,baz=166,slow=2.4,SNR=13
KRPM Rodgers 87.81 323 IAmb IAmb 02 22 18.3
comp=Z,15nm,0.9s
J05D Fort Rock, OR 88.02 326 IAmb IAmb 02 22 18.8
comp=Z,11nm,1.0s
KRMB Red Mountain 88.02 323 IAmb IAmb 02 22 19.0
comp=Z,6.7nm,0.8s
L02F Cave Junction 88.29 324 IAmb IAmb 02 22 20.1
comp=Z,10nm,1.3s
K02D Willamette Mer 88.76 324 IAmb IAmb 02 22 22.5
comp=Z,15nm,1.4s
I05D Terrebonne, OR 88.87 326 IAmb IAmb 02 22 22.8
comp=Z,12nm,1.1s
G06A Carlson Farm, 89.22 327 IAmb IAmb 02 22 24.6
comp=Z,6.9nm,1.2s
HAWA Hanford 89.61 329 IAmb IAmb 02 22 25.8
comp=Z,7.5nm,0.9s
D08A Wollman Farm, 89.86 329 IAmb IAmb 02 22 26.4
comp=Z,5.6nm,0.7s
MXC Moxie City 90.09 328 IAmb IAmb 02 22 28.1
comp=Z,5.1nm,0.8s
LTY Liberty 90.78 329 IAmb IAmb 02 22 30.5
comp=Z,5.3nm,1.0s
KHC Kasperske Hory 110.25 44 AMS AMS 03 01 40.0
comp=Z,200nm,22.4s
CKRC Cesky Krumlov 110.55 45 AMS AMS 03 08 00.0
comp=Z,100nm,13.4s
PRU Pruhonice 111.19 44 AMS AMS 03 01 40.0
comp=Z,200nm,19.2s
PVCC Panska Ves 111.43 43 AMS AMS 03 07 30.0
comp=Z,100nm,20.3s
UPC Upice 112.26 44 AMS AMS 03 07 40.0
comp=Z,100nm,19.7s
ASAR Alice Springs 119.64 206 PKP **PKPdf 02 28 15.3 -0.7**
comp=Z,1.4nm,0.8s,baz=169,slow=2.6,SNR=9.2
BRTR Keskin Array B 120.13 60 PKP **PKiKP 02 28 16.4 -0.2**
comp=Z,1.0nm,0.7s,baz=198,slow=3.2,SNR=7.7
AKASG Malin Array Be 120.26 46 PKP **PKPdf 02 28 15.2 -0.9**
comp=Z,0.3nm,0.3s,baz=266,slow=2.4,SNR=4.5
FINES FINESS Array B 120.94 34 PKP **PKPdf 02 28 16.8 -0.3**
comp=Z,2.9nm,1.1s,baz=130,slow=3.0,SNR=4.1
ARCES ARCESS Array B 121.94 24 PKP **PiKiKP 02 28 18.8 -0.2**
comp=Z,5.4nm,1.0s,baz=274,slow=3.5,SNR=3.7
WRA Warramunga Arr 122.83 209 PKP **PKPdf 02 28 22.0 -0.2**
comp=Z,2.9nm,0.5s,baz=162,slow=1.8,SNR=26
WRA Warramunga Arr 122.83 209 PKIKP **PKPdf 02 28 22.0 -0.2**
OBN Obninsk 125.46 42 *i* PKIKP **PKiKP 02 28 26.5 +0.2**
OBN *e* 02 28 52.0
OBN *e* 02 30 17.0
OBN pmax pmax
comp=Z,3.0nm,0.4s
H11S2 WAKE ISLAND Hyl 26.68 270 T T 04 47 56.6
baz=118,slow=75,SNR=162
H11S1 WAKE ISLAND Hyl 26.69 270 T T 04 47 53.8
baz=118,slow=75,SNR=131
H11S3 WAKE ISLAND Hyl 26.70 270 T T 04 47 57.8
baz=118,slow=75,SNR=104
H11N3 WAKE ISLAND Hyl 27.05 271 T T 04 48 18.3
baz=117,slow=76,SNR=44
H11N1 WAKE ISLAND Hyl 27.06 271 T T 04 48 19.6
baz=117,slow=76,SNR=16
H11N2 WAKE ISLAND Hyl 27.06 271 T T 04 48 22.4
baz=117,slow=76,SNR=74

KLMR	**Klimovskoe**	**127.36**	**35**	*e*PKIKP	**PKPdf**	**02 28 27.9**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,11nm,1.3s						
KIV	**Kislovodsk**	**127.73**	**57**	*i* PKIKP	**PKiKP**	**02 28 31.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**127.84**	**57**	PKP	**PKiKP**	**02 28 31.9**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=61,slow=5.9,SNR=3.6						
KBZ	**Khabaz**	**127.84**	**57**	⇓*i*PKIKP	**PKiKP**	**02 28 31.4**	**-0.1**
ARTI	**Arti**	**137.65**	**40**	*i* PKIKP	**PKiKP**	**02 28 49.7**	**-1.2**
ARTI						02 31 35.3	
ARTI				SS	SS	02 49 32.5	-6.4
BRVK	**Borovoye**	**145.22**	**41**		**PKPdf**	**02 29 03.3**	**+0.6**
BRVK	**Borovoye**	**145.22**	**41**	*e*PKIKP	**PKPdf**	**02 29 02.9**	**+0.3**
BVAR	**Borovoye Array**	**145.30**	**41**	PKPbc	**PKPab**	**02 29 03.5**	**+0.5**
	comp=Z,13nm,0.6s,baz=297,slow=3.4,SNR=67						
BVAR				pPKPbc	pPKPab	02 29 26.1	-0.4
	comp=Z,2.9nm,0.5s,baz=301,slow=3.2,SNR=3.0						
YAK	**Yakutsk**	**147.25**	**342**	*e*PKIKP	**PKPdf**	**02 29 05.1**	**-0.6**
YAK				*e*		02 29 30.1	
YAK				*e*		02 32 34.2	
YAK				*e*SS	SS	02 51 30.2	+1.5
YAK				pmax	pmax		
	comp=Z,61nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,107nm,4.3s						
YAK				pmax	pmax		
	comp=N,144nm,5.6s						
YAK				pmax	pmax		
	comp=E,108nm,5.2s						
KKAR	**Karatay Array**	**147.84**	**59**	PKPbc	**PKPbc**	**02 29 10.6**	**+0.1**
KKAR	**Karatay Array**	**147.84**	**59**	PKP2	**PKPbc**	**02 29 10.6**	**+0.1**
YSS	**Yuzhno-Sakhali**	**150.34**	**310**	*e*PKIKP	**PKPdf**	**02 29 11.2**	**0.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
AAK	**Ala-Archa**	**150.81**	**59**	⇑*e*PKIKP	**PKPdf**	**02 29 13.8**	**+1.4**
KURBB	**Kurchatov Arra**	**150.89**	**42**	PKPbc	**PKiKP**	**02 29 17.7**	**-0.6**
KURBB				pPKPbc	**pPKPbc**	**02 29 41.8**	**0.0**
	comp=Z,10nm,0.7s,baz=300,slow=2.9,SNR=4.4						
	comp=Z,3.1nm,0.8s,baz=296,slow=3.0,SNR=4.6						
KURK	**Kurchatov**	**150.90**	**41**		**PKiKP**	**02 29 18.3**	**0.0**
KURK	**Kurchatov**	**150.90**	**41**	PKIKP	**PKiKP**	**02 29 17.7**	**-0.6**
KURK						02 29 41.8	
ZAA0	**Zalesovo Array**	**152.17**	**31**		**PKiKP**	**02 29 20.6**	**-0.2**
ZALV	**Zalesovo Beam**	**152.17**	**31**		**PKiKP**	**02 29 20.9**	**0.0**
ZALV	**Zalesovo Beam**	**152.17**	**31**	PKP	**PKPdf**	**02 29 15.1**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=259,slow=3.0,SNR=4.6						
ZALV				PKPbc	**PKiKP**	**02 29 20.5**	**-0.3**
	comp=Z,17nm,0.5s,baz=296,slow=3.1,SNR=66						
ZALV				pPKPbc	**pPKPbc**	**02 29 44.7**	**0.0**
	comp=Z,5.9nm,0.5s,baz=298,slow=2.6,SNR=4.2						
MKAR	**Makanchi Array**	**154.85**	**47**	PKP	**PKPdf**	**02 29 17.7**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=299,slow=2.5,SNR=4.3						
MKAR				PKPab	**PKPab**	**02 29 42.3**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=299,slow=3.9,SNR=14						
MJAR	**Matsushiro Arr**	**155.55**	**288**	PKP	**PKPdf**	**02 29 19.0**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=280,slow=2.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**155.55**	**288**	PKIKP	**PKPdf**	**02 29 19.0**	**-0.2**
WMQ	**Urumqi**	**159.59**	**49**	*e*PKP	**PKPdf**	**02 29 24.2**	**+0.1**
WMQ				LR	LR		
	comp=Z,190nm,24.1s						
KSRS	**Korea Array**	**163.60**	**294**	PKPab	**PKPab**	**02 30 22.3**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=93,slow=4.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**163.63**	**144**	PKP	**PKPdf**	**02 29 28.6**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=262,slow=3.9,SNR=4.6						
SONM	**Songino Array**	**164.18**	**7**	PKPab	**PKPab**	**02 30 23.5**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=326,slow=5.0,SNR=5.2						
HHC	**Hu-ho-hao-te**	**171.06**	**348**	*e*P	**PKPdf**	**02 29 32.3**	**-1.5**
PZH	**PanZhiHua**	**171.53**	**130**	PKP	**PKPdf**	**02 29 34.1**	**-0.4**
NJ2	**Nanjing**	**171.66**	**272**	*e*P	**PKPdf**	**02 29 35.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						

NEIC 09 02:13:54.6±0.9,**37.07N**±0.02×**97.971W**±0.009,**h5**km±2km,
mb_Lg2.8/95,**ML3.2**/26,**Error ellipse: s-maj=3.8km**
s-min=3.0km az=356.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.12**	**177**		Pg	02 13 57.7	+0.6
KAN14				IAML		02 13 59.8	
	comp=E,10μm,0.1s						
GC02	**Grant County #**	**0.24**	**158**		Pg	02 13 59.9	+0.6
CROK	**Carrier**	**0.57**	**181**		Pg	02 14 05.7	+0.2
CROK				IAML		02 14 19.2	
	comp=E,1μm,0.3s						
BLOK	**Blackwell**	**0.68**	**117**		Pg	02 14 08.0	+0.3
BLOK				IAML		02 14 17.9	
	comp=N,1μm,0.2s						
BLOK				IAML		02 14 28.7	
	comp=E,863nm,0.2s						
OK038	**West end E0370**	**0.86**	**227**		Pg	02 14 11.1	0.0
NOKA	**Waynoka**	**0.89**	**241**		Pg	02 14 11.6	0.0
NOKA				IAML		02 14 31.6	
	comp=E,1μm,0.2s						
NOKA				IAML		02 14 40.1	
	comp=N,947nm,0.2s						
T35A	**Sooner Cattle**	**1.18**	**97**		Pg	02 14 17.0	-0.2
T35A				IAML		02 14 37.5	
	comp=N,372nm,0.2s						
OK029	**Liberty Lake**	**1.34**	**162**		Pn	02 14 19.8	-0.2
OK029				IAML		02 14 40.6	
	comp=N,554nm,0.7s						
OK029				IAML		02 14 41.0	
	comp=N,407nm,0.2s						
QUOK	**Quay**	**1.36**	**131**		Pn	02 14 20.1	-0.1
OK052	**Battle Ridge R**	**1.43**	**138**		Pn	02 14 21.2	0.0
R32A	**Long Quarter,**	**1.47**	**337**		Pn	02 14 22.0	+0.1
CSTR	**Hydro, Custer**	**1.54**	**202**		Pn	02 14 23.1	+0.4
DEOK	**Depew**	**1.71**	**135**		Pn	02 14 25.5	+0.5
TUL3	**Leonard**	**2.10**	**123**		Pn	02 14 31.2	+0.7
TUL3				IAmb_Lg		02 15 03.9	
	comp=Z,58nm,0.8s						
CBKS	**Cedar Bluff**	**2.23**	**322**		Pn	02 14 33.1	+0.8
WMOK	**Wichita Mounta**	**2.42**	**196**		Pn	02 14 35.2	+0.3
RLO	**Rose Lookout**	**2.54**	**110**		Pn	02 14 37.3	+0.8
SMWD	**Samnorwood**	**2.69**	**224**	IAmb_Lg		02 15 26.6	
	comp=Z,30nm,0.7s						
HHAR	**Hobbs**	**3.33**	**102**		Pn	02 14 48.2	+0.7
HHAR				IAmb_Lg		02 15 45.6	
	comp=Z,26nm,0.8s						
RTBA	**Rita Blanca**	**3.88**	**262**		Pn	02 14 55.3	+0.2
KSCO	**Kaye Shedlock'**	**4.16**	**299**		Pn	02 14 59.1	+0.2
KSCO				IAmb_Lg		02 16 15.1	
	comp=Z,24nm,0.7s						
DKNS	**Dickens**	**4.17**	**216**	IAmb_Lg		02 16 15.5	
	comp=Z,16nm,0.8s						
N35A	**Tabor**	**4.20**	**25**		Pn	02 15 00.9	+1.6
P38A	**Dawn**	**4.32**	**52**	IAmb_Lg		02 16 11.2	
	comp=Z,24nm,0.7s						
BGNE	**Belgrade**	**4.33**	**358**		Pn	02 15 01.4	+0.1
BGNE				IAmb_Lg		02 16 19.8	
	comp=Z,29nm,0.8s						
MIAR	**Mount Ida**	**4.37**	**124**		Pn	02 15 02.5	+0.8
MIAR				IAmb_Lg		02 16 16.5	
	comp=Z,32nm,1.1s						
MGMO	**Mountain Grove**	**4.56**	**87**	IAmb_Lg		02 16 29.7	
	comp=Z,14nm,0.9s						
TREL	**Terrell**	**4.60**	**160**	IAmb_Lg		02 16 25.1	
	comp=Z,18nm,0.8s						
SN07	**Snyder 07**	**4.64**	**212**		Pn	02 15 06.1	+0.7
SN07				IAmb_Lg		02 16 33.1	
	comp=Z,14nm,0.7s						
ABTX	**Abilene, Hawle**	**4.64**	**198**	IAmb_Lg		02 16 24.6	
	comp=Z,15nm,0.7s						
R40A	**Maddies Statio**	**4.68**	**73**		Pn	02 15 06.5	+0.5
R40A				IAmb_Lg		02 16 33.6	
	comp=Z,18nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.86**	**102**	IAmb_Lg		02 16 27.4	
	comp=Z,13nm,0.9s						
X40A	**Basin Creek Fa**	**4.91**	**120**	IAmb_Lg		02 16 41.4	
	comp=Z,20nm,0.7s						
WHAR	**Wooly Hollow**	**4.93**	**109**		Pn	02 15 09.3	-0.1
POST	**Post**	**4.93**	**217**		Pn	02 15 09.4	-0.1
POST				IAmb_Lg		02 16 44.0	
	comp=Z,14nm,0.7s						
MSTX	**Muleshoe**	**4.99**	**233**	IAmb_Lg		02 16 34.6	
	comp=Z,13nm,0.7s						
OGNE	**Ogallala**	**5.00**	**322**	IAmb_Lg		02 16 44.9	
	comp=Z,27nm,0.8s						

UALR	**University of**	**5.11**	**115**	lAmb_Lg		02 16 46.3	
	comp=Z,15nm,0.8s						
T25A	**Trinidad**	**5.15**	**273**	lAmb_Lg		02 16 40.7	
	comp=Z,14nm,0.8s						
WLAR	**White Oak Lake**	**5.21**	**129**	lAmb_Lg		02 16 40.6	
	comp=Z,17nm,0.7s						
P40A	**Paris**	**5.26**	**60**	lAmb_Lg		02 16 47.6	
	comp=Z,20nm,0.7s						
237A	**Washetta, Mont**	**5.36**	**160**	lAmb_Lg		02 16 54.9	
	comp=Z,18nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**78**	lAmb_Lg		02 16 56.8	
	comp=Z,22nm,0.8s						
Z41A	**Richland Creek**	**5.69**	**130**	lAmb_Lg		02 17 11.2	
	comp=Z,15nm,0.7s						
SGCY	**Sterling City**	**5.77**	**208**	lAmb_Lg		02 17 10.9	
	comp=Z,18nm,0.8s						
BRDY	**Brady**	**5.83**	**189**	lAmb_Lg		02 17 06.1	
	comp=Z,12nm,0.9s						
Q24A	**Divide**	**5.97**	**291**	lAmb_Lg		02 17 10.9	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**6.05**	**91**	lAmb_Lg		02 17 09.2	
	comp=Z,12nm,0.9s						
FVM	**French Village**	**6.07**	**79**	lAmb_Lg		02 17 08.2	
	comp=Z,15nm,0.8s						
435B	**Jarrell**	**6.28**	**177**	lAmb_Lg		02 17 22.4	
	comp=Z,16nm,0.8s						
ISCO	**Idaho Springs**	**6.59**	**297**	lAmb_Lg		02 17 40.9	
	comp=Z,9.4nm,0.8s						
CGM3	**Cape Girardeau**	**6.64**	**86**	lAmb_Lg		02 17 25.5	
	comp=Z,12nm,0.8s						
143A	**Socs Landing,**	**6.94**	**127**	lAmb_Lg		02 17 49.4	
	comp=Z,16nm,0.9s						
MNHN	**Monahans**	**6.96**	**216**	lAmb_Lg		02 17 47.0	
	comp=Z,8.6nm,0.8s						
S44A	**Carbondale**	**6.97**	**82**	lAmb_Lg		02 17 42.4	
	comp=Z,16nm,0.7s						
L40A	**Anamosa**	**7.21**	**44**	lAmb_Lg		02 17 47.9	
	comp=Z,17nm,0.8s						
OXF	**Oxford**	**7.41**	**108**	lAmb_Lg		02 18 09.5	
	comp=Z,11nm,0.8s						
PECS	**Pecos**	**7.49**	**222**	lAmb_Lg		02 18 09.6	
	comp=Z,12nm,0.7s						
HNDO	**Hondo**	**7.60**	**189**	lAmb_Lg		02 18 05.2	
	comp=Z,8.6nm,0.8s						
Y22A	**Socorro**	**7.97**	**250**	lAmb_Lg		02 18 23.3	
	comp=Z,8.4nm,0.8s						
HAYD	**Hayden**	**8.03**	**298**	lAmb_Lg		02 18 29.9	
	comp=Z,10nm,1.1s						
RSSD	**Black Hills**	**8.42**	**329**	lAmb_Lg		02 18 34.7	
	comp=Z,9.2nm,0.9s						
VHRN	**Van Horn**	**8.56**	**225**	lAmb_Lg		02 18 40.5	
	comp=Z,12nm,1.1s						

JSO ***09*** *02:24:29.9±1.4,33°N±10°×3°5E±°, h2km,M3.0/12,*
Md3.3/12,Mjma3.0/8,ML3.1/10,MLv2.9/12,MLv2.9/12
GII ***09*** *02:24:29.2±0.0,33°32N×35°44E, h4km,Mws2.8,*
confirmed
GRAL ***09*** *02:24:30.6±0.2,33°30N×35°48E, h0km±2km,MD3.4*
ISC 09 02:24:28.9±0.8,**33°34N**±0.02×**35°49E**±0.03,**h15**km±4km,
n96,σ0s54/99,4C-2D,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTLA	**Metula**	**0.10**	**129**	P	**Pb**	**02 24 32.3**	**0.0**
MTLA	**Metula**	**0.10**	**129**	S	**Sb**	**02 24 34.4**	**0.0**
MSAM	**Misgav Am**	**0.11**	**150**	P	**Pb**	**02 24 32.3**	**-0.4**
MSAM	**Misgav Am**	**0.11**	**150**	S	**Sb**	**02 24 34.7**	**-0.6**
KIRY	**Kiryat Shemona**	**0.15**	**152**	P	**Pb**	**02 24 32.8**	**-0.6**
KIRY	**Kiryat Shemona**	**0.15**	**152**	S	**Sg**	**02 24 35.1**	**-0.4**
GOSH	**HaGoshrim**	**0.17**	**136**	P	**Pb**	**02 24 33.4**	**-0.3**
GOSH	**HaGoshrim**	**0.17**	**136**	S	**Sb**	**02 24 36.9**	**0.0**
GEM	**Giv'at Ha'Em**	**0.20**	**131**	P	**Pb**	**02 24 34.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.20**	**131**	⇓P	**Pb**	**02 24 34.1**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.20**	**131**	S	**Sb**	**02 24 38.0**	**+0.2**
SHBL	**Chebaa**	**0.22**	**88**	*e*P	**Pb**	**02 24 34.7**	**0.0**
SHBL				*e*S	**Sb**	**02 24 37.7**	**-0.8**
YFTH	**Yftach**	**0.22**	**165**	P	**Pb**	**02 24 34.0**	**-0.7**
YFTH	**Yftach**	**0.22**	**165**	S	**Sb**	**02 24 37.8**	**-0.7**
NATI	**Neve Ativ**	**0.23**	**110**	P	**Pb**	**02 24 34.6**	**-0.1**
NATI	**Neve Ativ**	**0.23**	**110**	⇓P	**Pb**	**02 24 34.7**	**-0.1**
NATI	**Neve Ativ**	**0.23**	**110**	S	**Sb**	**02 24 39.2**	**+0.7**
LVBS	**Lehavot Habash**	**0.24**	**145**	P	**Pb**	**02 24 34.8**	**-0.2**
LVBS	**Lehavot Habash**	**0.24**	**145**	S	**Sb**	**02 24 39.0**	**0.0**
QRWL	**Qaraoun**	**0.26**	**39**	*e*P	**Pb**	**02 24 36.0**	**+0.5**
ZRT	**Zar'it**	**0.29**	**214**	P	**Pg**	**02 24 35.0**	**-0.1**
ZRT	**Zar'it**	**0.29**	**214**	S	**Sg**	**02 24 39.4**	**+0.1**
HULT	**Hulata**	**0.31**	**160**	P	**Pb**	**02 24 35.8**	**-0.3**
HULT	**Hulata**	**0.31**	**160**	S	**Sb**	**02 24 41.3**	**+0.4**
MMC7	**Mount Meron ar**	**0.33**	**194**	P	**Pg**	**02 24 35.7**	**-0.1**
MMA0B	**Mount Meron ar**	**0.33**	**192**	⇑P	**Pg**	**02 24 35.8**	**-0.1**
MMA0B	**Mount Meron ar**	**0.33**	**192**	S	**Sg**	**02 24 41.0**	**+0.5**
RCY	**Rachaya**	**0.33**	**62**	*e*P	**Pb**	**02 24 37.0**	**+0.4**
RCY				*e*S	**Sb**	**02 24 41.8**	**0.0**
KDZV	**Kedmat Zvi**	**0.36**	**150**	P	**Pb**	**02 24 37.0**	**+0.1**
KDZV	**Kedmat Zvi**	**0.36**	**150**	S	**Sb**	**02 24 42.8**	**+0.4**
HNTI	**Hanita**	**0.37**	**226**	P	**Pg**	**02 24 36.4**	**0.0**
HNTI	**Hanita**	**0.37**	**226**	⇑P	**Pg**	**02 24 36.3**	**-0.1**
HNTI	**Hanita**	**0.37**	**226**	S	**Sg**	**02 24 41.8**	**+0.3**
DQRL	**Deir Qamar**	**0.37**	**11**	*e*P	**Pn**	**02 24 38.0**	**-1.9**
DQRL				*e*S	**Sb**	**02 24 43.5**	**+0.6**
ZEFT	**Zefat**	**0.37**	**179**	P	**Pb**	**02 24 36.7**	**-0.5**
RSPN	**Rosh Pina**	**0.37**	**172**	P	**Pb**	**02 24 37.0**	**-0.3**
RSPN	**Rosh Pina**	**0.37**	**172**	S	**Sb**	**02 24 43.0**	**+0.1**
AMID	**Amiad**	**0.41**	**174**	P	**Pb**	**02 24 37.6**	**-0.3**
AMID	**Amiad**	**0.41**	**174**	S	**Sb**	**02 24 44.2**	**+0.2**
HDNS	**Had-Ness**	**0.43**	**162**	P	**Pb**	**02 24 38.1**	**-0.1**
KSHT	**Keshet**	**0.45**	**143**	P	**Pb**	**02 24 39.1**	**+0.5**
KSHT	**Keshet**	**0.45**	**143**	S	**Sb**	**02 24 45.7**	**+0.6**
KNHM	**Kefar Nahum**	**0.46**	**170**	P	**Pb**	**02 24 38.3**	**-0.4**
KNHM	**Kefar Nahum**	**0.46**	**170**	S	**Sb**	**02 24 46.1**	**+0.7**
SPIR	**Sapir Facility**	**0.48**	**175**	P	**Pb**	**02 24 38.8**	**-0.2**
SPIR	**Sapir Facility**	**0.48**	**175**	S	**Sb**	**02 24 46.5**	**+0.8**
MGDL	**Migdal**	**0.50**	**178**	P	**Pb**	**02 24 39.1**	**-0.2**
MGDL	**Migdal**	**0.50**	**178**	S	**Sb**	**02 24 47.4**	**+0.9**
RMOT	**Ramot**	**0.51**	**163**	P	**Pb**	**02 24 39.9**	**+0.3**
RMOT	**Ramot**	**0.51**	**163**	S	**Sb**	**02 24 48.2**	**+1.4**
TVER	**Teveria**	**0.56**	**175**	P	**Pb**	**02 24 40.4**	**0.0**
TVER	**Teveria**	**0.56**	**175**	S	**Sb**	**02 24 49.4**	**+1.2**
ENGV	**Ein-Gev**	**0.57**	**167**	P	**Pb**	**02 24 41.1**	**+0.4**
BHL	**Bhannes**	**0.58**	**14**	*e*P	**Pn**	**02 24 41.7**	**-1.0**
AFK	**Afek**	**0.58**	**211**	P	**Pb**	**02 24 40.7**	**-0.1**
AFK	**Afek**	**0.58**	**211**	S	**Sb**	**02 24 49.1**	**+0.2**
ZAHL	**Zahle**	**0.61**	**33**	*e*P	**Pn**	**02 24 42.4**	**-0.9**
KMKB	**Kefar Hamakabi**	**0.63**	**210**	P	**Pg**	**02 24 41.4**	**+0.1**
KMKB	**Kefar Hamakabi**	**0.63**	**210**	S	**Sb**	**02 24 50.7**	**+0.4**
GOLA	**Golan Heights**	**0.64**	**167**	P	**Pb**	**02 24 42.2**	**+0.4**
GOLA	**Golan Heights**	**0.64**	**167**	S	**Sn**	**02 24 52.3**	**-1.1**
BLGI	**Bet Lehem HaGe**	**0.65**	**202**	P	**Pb**	**02 24 42.0**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.65**	**202**	⇑P	**Pb**	**02 24 41.8**	**-0.2**
BLGI	**Bet Lehem HaGe**	**0.65**	**202**	S	**Sb**	**02 24 51.1**	**+0.2**
MNHA	**Menahamia**	**0.68**	**175**	P	**Pb**	**02 24 42.4**	**0.0**
MNHA	**Menahamia**	**0.68**	**175**	S	**Sb**	**02 24 53.0**	**+1.4**
ALON	**ALONIM**	**0.68**	**205**	P	**Pb**	**02 24 42.4**	**-0.1**
YGR	**Yagur**	**0.69**	**210**	P	**Pb**	**02 24 42.6**	**0.0**
YGR	**Yagur**	**0.69**	**210**	S	**Sb**	**02 24 52.4**	**+0.4**
BTOR	**Bet Oren**	**0.73**	**214**	P	**Pb**	**02 24 43.2**	**-0.1**
BTOR	**Bet Oren**	**0.73**	**214**	S	**Sb**	**02 24 53.4**	**+0.2**
HYGV	**Hayogev**	**0.77**	**198**	P	**Pb**	**02 24 43.9**	**-0.1**
HYGV	**Hayogev**	**0.77**	**198**	S	**Sb**	**02 24 54.9**	**+0.7**
IZRL	**Izrael**	**0.79**	**190**	P	**Pb**	**02 24 44.3**	**0.0**
OFRI	**`Ofer**	**0.83**	**210**	P	**Pb**	**02 24 45.1**	**0.0**
OFRI	**`Ofer**	**0.83**	**210**	P	**Pb**	**02 24 45.0**	**0.0**
OFRI	**`Ofer**	**0.83**	**210**	S	**Sb**	**02 24 57.0**	**+0.9**
MMLI	**Mount Malkishu**	**0.90**	**183**	P	**Pg**	**02 24 46.5**	**+0.1**
MMLI	**Mount Malkishu**	**0.90**	**183**	S	**Sb**	**02 24 58.8**	**+0.6**
QRNJ	**Al-Qirein**	**1.01**	**176**	P	**Pg**	**02 24 48.1**	**-0.3**
HWQ	**Hawqa**	**1.01**	**22**	*e*P	**Pn**	**02 24 49.5**	**+0.8**
HMDT	**Nahal Hemdat**	**1.08**	**178**	P	**Pn**	**02 24 49.5**	**-0.1**
HMDT	**Nahal Hemdat**	**1.08**	**178**	⇑P	**Pn**	**02 24 49.5**	**-0.1**
HMDT	**Nahal Hemdat**	**1.08**	**178**	S	**Sn**	**02 25 04.7**	**+0.4**
SLTI	**Sal'it**	**1.16**	**199**	P	**Pb**	**02 24 50.8**	**+0.1**
SLTI	**Sal'it**	**1.16**	**199**	P	**Pb**	**02 24 50.7**	**+0.1**
SLTI	**Sal'it**	**1.16**	**199**	S	**Sg**	**02 25 06.6**	**+0.1**
FKH	**Fakeheh**	**1.19**	**40**	*e*P	**Pg**	**02 24 52.5**	**+0.6**
SALP	**Salfit**	**1.29**	**191**	P	**Pb**	**02 24 53.0**	**0.0**
BEIL	**Beino**	**1.33**	**26**	*e*P	**Pg**	**02 24 54.9**	**+0.3**
HSUJ	**Al Zarqa**	**1.37**	**154**	P	**Pg**	**02 24 55.6**	**+0.3**
DSI	**Dead Sea**	**1.77**	**183**	P	**Pb**	**02 25 00.5**	**-0.5**
DSI	**Dead Sea**	**1.77**	**183**	P	**Pb**	**02 25 00.3**	**-0.7**
AMAZ	**Amatzia**	**1.87**	**195**	P	**Pb**	**02 25 02.0**	**-0.7**
AMAZ	**Amatzia**	**1.87**	**195**	S	**Sg**	**02 25 28.2**	**-0.8**
YTIR	**Yattir**	**2.00**	**189**	P	**Pn**	**02 25 03.5**	**+1.3**

CATAC 09 02:35:06.2±0.5,**13°N**±3°×**8°8W**±°,**h32km**±4km,**M2.3**/13,
MLv2.3/13,**Error ellipse: s-maj=8.0km s-min=3.9km**
az=38.8,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.55**	**47**	P	Pn	02 35 18.3	+0.4
CSGN				S	Sn	02 35 28.0	+1.9
POTN	**Potosi Cosigui**	**0.60**	**49**	P	Pn	02 35 18.7	+0.1
POTN				S	Sn	02 35 29.0	+1.7
CNCH	**Conchagua**	**0.69**	**11**	S	Sn	02 35 30.7	+1.2
CNCH	**Conchagua**	**0.69**	**11**	P	Pb	02 35 20.3	+0.4
LCND	**La Caada**	**0.71**	**7**	P	Pn	02 35 20.0	0.0
LCND	**La Caada**	**0.71**	**7**	S	Sn	02 35 30.8	+0.9
CRIN	**San Cristobal**	**0.91**	**84**	S	Sb	02 35 35.9	+0.6
CRIN	**San Cristobal**	**0.91**	**84**	P	Pb	02 35 23.7	+0.2
POLN	**Al Sur del Vol**	**1.13**	**87**	P	Pn	02 35 26.0	+0.1
POLN				S	Sb	02 35 41.4	-0.2
PLRN	**Geotermica Pol**	**1.18**	**91**	P	Pn	02 35 26.5	0.0
PLRN				S	Sn	02 35 41.8	+0.4
CHOHN	**Orocuina**	**1.18**	**42**	P	Pn	02 35 26.2	-0.4
CHOHN	**Orocuina**	**1.18**	**42**	S	Sb	02 35 42.8	-0.4
ROCN	**Rota Cerro Neg**	**1.20**	**94**	P	Pn	02 35 26.5	-0.3
ROCN				S	Sn	02 35 42.2	+0.1
CNGA	**Al SSO del Vol**	**1.25**	**95**	P	Pn	02 35 27.6	+0.2
CNGA				S	Sn	02 35 43.9	+0.6
CNGN	**Cerro Negro**	**1.25**	**94**	P	Pn	02 35 27.3	-0.2
CNGN	**Cerro Negro**	**1.25**	**94**	S	Sn	02 35 44.0	+0.8
SCLA	**Alcaldia de Sa**	**1.32**	**326**	S	Sn	02 35 45.2	+0.1
SCLA	**Alcaldia de Sa**	**1.32**	**326**	P	Pn	02 35 29.2	+0.7
MOMN	**Momotombo**	**1.41**	**98**	P	Pn	02 35 29.8	0.0
MOMN				S	Sn	02 35 47.3	-0.1
MOM2	**El Cardon**	**1.46**	**96**	P	Pn	02 35 30.9	+0.5
MOM2				S	Sn	02 35 49.3	+0.8
TGUH	**Tegucigalpa,Un**	**1.60**	**25**	S	Sn	02 35 52.4	+0.3

GII ***09*** *02:38:50.1±0.0,33°318N±0°002×35°444E±0°001,*
h4km,Mws1.9,confirmed
GRAL ***09*** *02:38:51.3±0.2,33°29N×35°48E, h0km±4km,MD2.6*
ISC 09 02:38:50.7±1.0,**33°31N**±0°02×**35°47E**±0°03,**h9**km±7km,
n49,σ0s56/52,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAM	**Misgav Am**	**0.09**	**135**	P	**Pg**	**02 38 53.1**	**-0.1**
MSAM	**Misgav Am**	**0.09**	**135**	S	**Sg**	**02 38 55.3**	**+0.3**
MTLA	**Metula**	**0.10**	**111**	P	**Pg**	**02 38 52.9**	**-0.4**
MTLA	**Metula**	**0.10**	**111**	S	**Sg**	**02 38 55.1**	**0.0**
KIRY	**Kiryat Shemona**	**0.13**	**142**	P	**Pg**	**02 38 53.4**	**-0.3**
KIRY	**Kiryat Shemona**	**0.13**	**142**	S	**Sg**	**02 38 55.9**	**+0.1**
GOSH	**HaGoshrim**	**0.16**	**126**	P	**Pg**	**02 38 54.1**	**-0.1**
GOSH	**HaGoshrim**	**0.

WTP				*e*S		**Sb**	02 52 20.0	-2.6	
TPUB	**Ta-pu**	**2.46**	**333**	*e*P		**Pn**	02 51 49.8	+1.0	
CHN4	**Tsaushan**	**2.52**	**332**	*e*P		**Pn**	02 51 51.2	+1.6	
ALS	**Alishan**	**2.58**	**338**	P		**Pn**	02 51 51.6	+0.9	
ALS				*e*S		**Sn**	02 52 20.6	-0.8	
TSCK	**Chigu Township**	**2.61**	**321**	P		**Pn**	02 51 50.4	-0.4	
TSCK				S		**Sn**	02 52 21.7	0.0	
WARBT	**Fenglin Townsh**	**2.63**	**350**	P		**Pn**	02 51 50.3	-0.9	
WARBT				*e*S		**Sn**	02 52 23.3	+1.0	
VWDT	**VWDT**	**2.71**	**346**	P		**Pn**	02 51 51.8	-0.4	
VWDT				S		**Sn**	02 52 23.4	-0.8	
SSLB	**Suanglung**	**2.79**	**343**	*e*P		**Pn**	02 51 54.8	+1.4	
ETM	**Tongmen**	**2.86**	**353**	P		**Pn**	02 51 53.4	-0.9	
ETM				*e*S		**Sn**	02 52 29.2	+1.3	
SMLT	**Sun Moon Lake**	**2.90**	**342**	P		**Pn**	02 51 55.5	+0.5	
TYC	**Yuchr**	**2.93**	**342**	*e*P		**Pn**	02 51 57.0	+1.8	
TYC				*e*S		**Sn**	02 52 32.8	+3.2	
WUSB	**Renai**	**2.95**	**347**	P		**Pn**	02 51 55.6	-0.1	
WUSB				*e*S		**Sn**	02 52 32.2	+1.9	
EOS4	**EOS4**	**3.03**	**8**	P		**Pn**	02 51 55.0	-1.2	
EOS4				*e*S		**Sn**	02 52 30.3	-1.1	
NACB	**Ninganchiao**	**3.06**	**355**	P		**Pn**	02 51 54.1	-2.9	
NACB				S		**Sn**	02 52 30.8	-2.0	
WCS	**Beigang Elemen**	**3.06**	**343**	P		**Pn**	02 51 55.9	-1.1	
ETLH	**Xiulin Townshi**	**3.10**	**354**	P		**Pn**	02 51 57.1	-0.5	
ETLH				S		**Sn**	02 52 34.0	+0.1	
EOS3	**EOS3**	**3.19**	**7**	P		**Pn**	02 51 57.4	-1.3	
EOS3				*e*S		**Sn**	02 52 36.6	+0.8	
TWT	**Tachien**	**3.19**	**349**	*e*P		**Pn**	02 51 58.2	-0.8	
TWT				*e*S		**Sn**	02 52 38.5	+2.2	
PHUB	**P'eng-hu**	**3.20**	**319**	P		**Pn**	02 51 56.4	-2.5	
ENA	**Nanau**	**3.31**	**358**	P		**Pn**	02 51 59.7	-0.7	
ENA				S		**Sn**	02 52 37.2	-1.7	
LATG	**Datong**	**3.42**	**355**	P		**Pn**	02 52 01.5	-0.6	
LATG				*e*S		**Sn**	02 52 40.3	-1.6	
ENTT	**Nioudou**	**3.52**	**356**	*e*P		**Pn**	02 52 05.1	+1.7	
ENTT				*e*S		**Sn**	02 52 42.7	-1.6	
YHNB	**Yeheng**	**3.57**	**353**	P		**Pn**	02 52 03.2	-1.0	
YHNB				S		**Sn**	02 52 44.2	-1.4	
TIPB	**Shuangxi**	**3.84**	**359**	P		**Pn**	02 52 07.4	-0.4	
TIPB				*e*S		**Sn**	02 52 49.6	-2.6	
PTMZ	**Houxiangcun**	**4.66**	**328**	P		**Pn**	02 52 18.4	-0.6	
PTMZ				S		**Sn**	02 53 09.4	-2.8	
DSXP	**Dongshan**	**4.85**	**303**	P		**Pn**	02 52 20.9	-0.8	
DSXP				*e*S		**Sn**	02 53 15.5	-1.5	
AXDP	**Jialang**	**5.21**	**317**	P		**Pn**	02 52 24.9	-1.6	
AXDP				S		**Sn**	02 53 23.3	-2.4	
KSRS	**Korea Array**	**17.12**	**17**	P		**P**	02 55 10.6	+1.4	
	0.1nm,0.3s,baz=191,slow=12,SNR=2.6								
	0.8nm,0.4s								
SONM	**Songino Array**	**29.44**	**339**	P		**P**	02 57 13.0	+1.1	
	0.5nm,0.4s,baz=160,slow=4.6,SNR=2.9								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**41.01**	**318**	P		**P**	02 58 51.3	0.0	
	0.5nm,0.7s,baz=113,slow=11,SNR=2.4								
	0.5nm,0.7s								
H11N1	**WAKE ISLAND Hy**	**42.12**	**84**	T		T	03 43 48.4		
	baz=280,slow=75,SNR=44								
H11N2	**WAKE ISLAND Hy**	**42.12**	**84**	T		T	03 43 51.4		
	baz=280,slow=75,SNR=58								
H11N3	**WAKE ISLAND Hy**	**42.13**	**84**	T		T	03 43 49.6		
	baz=280,slow=75,SNR=31								
H11S3	**WAKE ISLAND Hy**	**42.15**	**85**	T		T	03 43 49.5		
	baz=281,slow=74,SNR=215								
H11S1	**WAKE ISLAND Hy**	**42.16**	**85**	T		T	03 43 51.7		
	baz=281,slow=74,SNR=330								
H11S2	**WAKE ISLAND Hy**	**42.17**	**85**	T		T	03 43 52.3		
	baz=281,slow=74,SNR=232								
WRA	**Warramunga Arr**	**42.59**	**163**	P		P	02 58 56.8	-7.6	
	2.6nm,1.1s,baz=343,slow=8.4,SNR=5.0								
	2.6nm,1.1s								
ZALV	**Zalesovo Beam**	**43.17**	**329**	P		**P**	02 59 09.3	+0.6	
	1.4nm,0.5s,baz=125,slow=8.7,SNR=5.7								
	1.4nm,0.5s								
KURBB	**Kurchatov Arra**	**44.88**	**322**	P		**P**	02 59 21.4	-1.0	
	0.7nm,0.6s,baz=110,slow=9.4,SNR=1.6								
	0.7nm,0.6s								
ASAR	**Alice Springs**	**46.02**	**165**	P		P	02 59 24.6	-7.2	
	0.3nm,0.4s,baz=348,slow=6.9,SNR=6.0								
	0.3nm,0.4s								

IDC ***09*** *02:51:44.7±1.0,52°.81S×26°.92E, h0km, mb4.1/9, mbtmp4.1/9, MS3.5/2, Error ellipse: s-maj=32.1km s-min=19.9km az=76.0*

NEIC ***09*** *02:51:47.4±1.5, 52°.84S±0°.03×27°.0E±0°.1, h10km±2km, mb4.6/13, Error ellipse: s-maj=30.0km s-min=4.4km az=93.0*

ISC 09 02:51:46.8±0.6, 52°.82S±0°.09×27°.0E±0°.1, h10km, n34, σ0s93/28, mb4.4/15, 4C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**17.09**	**80**	T	T	03 13 12.3	
	baz=241,slow=73,SNR=21						
H04S3	**CROZET ISLANDS**	**17.09**	**79**	T	T	03 13 15.1	
	baz=241,slow=73,SNR=22						
H04S1	**CROZET ISLANDS**	**17.11**	**80**	T	T	03 13 18.8	
	baz=241,slow=73,SNR=29						
SUR	**Sutherland**	**20.91**	**345**	P	**P**	**02 56 31.1**	**+1.6**
TROLL	**Troll, Antarti**	**22.02**	**200**	⇑P	**P**	**02 56 41.4**	**+0.3**
	comp=Z,220nm,0.7s						
MAW	**Mawson**	**22.70**	**144**	P	**P**	**02 56 47.6**	**-0.6**
	comp=Z,7.3nm,1.0s,baz=294,slow=10,SNR=10						
	comp=Z,7.3nm,1.0s						
SNAA	**Sanae**	**23.00**	**204**	⇑P	**P**	**02 56 52.6**	**+1.2**
	comp=Z,232nm,0.7s						
SNAA	**Sanae**	**23.00**	**204**	P	**P**	**02 56 52.8**	**+1.3**
SNAA				IAmb	IAmb	02 56 53.9	
	comp=Z,14nm,0.9s						
SNAA	**Sanae**	**23.00**	**204**	P	**P**	**02 56 51.2**	**-0.2**
	comp=Z,9.9nm,0.8s,baz=57,slow=11,SNR=76						
SNAA				LR	LR	03 04 18.9	
	comp=Z,96nm,18.1s,baz=46,slow=33						
	comp=Z,9.9nm,0.8s						
VNA1	**Neumayer--Stat**	**23.86**	**208**	⇑P	**P**	**02 57 01.6**	**+1.7**
	comp=Z,15nm,0.8s						
BOSA	**Boshof**	**24.21**	**356**	P	**P**	**02 57 04.7**	**+1.0**
BOSA				IAmb	IAmb	02 57 22.1	
	comp=Z,17nm,1.5s						
BOSA	**Boshof**	**24.21**	**356**	P	**P**	**02 57 04.1**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=192,slow=7.5,SNR=4.4						
	comp=Z,2.2nm,0.7s						
VNA3	**Neumayer Olymp**	**24.56**	**208**	⇑P	**P**	**02 57 06.3**	**-0.1**
	comp=Z,1.6nm,0.6s						
GRTLG	**Ghanzi**	**31.71**	**350**	P	**P**	**02 58 10.5**	**-0.3**
GRTLG				IAmb	IAmb	02 58 35.2	
	comp=Z,16nm,1.4s						
PHDHD	**Phuduhudu**	**32.62**	**356**	P	**P**	**02 58 18.3**	**-0.3**
BELA	**Belgrano 2**	**33.09**	**200**	P	**P**	**02 58 22.9**	**+0.7**
QSPA	**South Pole Qui**	**37.40**	**180**	P	**P**	**02 58 59.5**	**-0.1**
QSPA				IAmb	IAmb	02 59 07.3	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**37.40**	**180**	P	**P**	**02 58 59.5**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=269,slow=1.1,SNR=29						
	comp=Z,2.4nm,0.5s						
CASY	**Casey**	**41.02**	**142**	P	**P**	**02 59 30.0**	**+0.4**
CASY				IAmb	IAmb	02 59 42.3	
	comp=Z,13nm,1.0s						
PMSA	**Palmer Station**	**44.49**	**218**	LR	LR	03 14 58.5	
	comp=Z,75nm,19.0s,baz=121,slow=31						
VNDA	**Vanda**	**46.95**	**168**	P	**P**	**03 00 16.6**	**-0.5**
VNDA	**Vanda**	**46.95**	**168**	P	**P**	**03 00 16.4**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=243,slow=6.8,SNR=4.2						
	comp=Z,0.7nm,0.8s						
H10S2	**ASCENSION HYDR**	**55.17**	**307**	T	T	04 01 18.2	
	baz=149,slow=74,SNR=4.8						
H10S3	**ASCENSION HYDR**	**55.19**	**307**	T	T	04 01 18.4	
	baz=71,slow=74,SNR=7.1						
PLCA	**Paso Flores**	**62.87**	**238**	P	**P**	**03 02 12.1**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=157,slow=1.9,SNR=3.4						
	comp=Z,1.2nm,0.5s						
CPUP	**Villa Florida**	**66.14**	**258**	P	**P**	**03 02 34.0**	**-0.3**
CPUP	**Villa Florida**	**66.14**	**258**	P	**P**	**03 02 33.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=112,slow=19,SNR=6.6						
	comp=Z,0.9nm,0.7s						
BDFB	**Brasília**	**68.64**	**272**	P	**P**	**03 02 49.0**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=201,slow=14,SNR=3.1						
	comp=Z,2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**69.21**	**334**	P	**P**	**03 02 53.7**	**+0.1**
TORD				IAmb	IAmb	03 02 54.9	
	comp=Z,5.5nm,1.4s						
CO01	**Juntas del Tor**	**70.72**	**246**	P	**P**	**03 03 03.9**	**+0.7**
CO01				IAmb	IAmb	03 03 04.5	
	comp=Z,6.9nm,0.9s						

ARMA	**Armidale**	**84.12**	**134**	P		**P**	03 04 18.2	+0.2	
BRTR	**Keskin Array B**	**92.35**	**5**	P		**P**	03 04 56.1	-0.9	
	comp=Z,0.9nm,0.8s,baz=180,slow=8.4,SNR=5.6								
	comp=Z,0.9nm,0.8s								
PDAR	**Pinedale Array**	**149.56**	**268**	PKPbc		**PKPdf**	03 11 33.7	+2.3	
	comp=Z,1.2nm,0.9s,baz=276,slow=0.4,SNR=5.0								
NVAR	**Mina Array Bea**	**152.11**	**253**	PKPbc		**PKPbc**	03 11 41.7	-0.4	
	comp=Z,1.0nm,0.5s,baz=53,slow=2.5,SNR=8.6								

BJI ***09*** *02:54:32.5,5°.28S×151°.82E, h135km, mB5.5/23, mb5.4/87*

MOS ***09*** *02:54:34.8±0.9, 5°.02S×151°.19E, h120km, mb5.4/44, Error ellipse: s-maj=8.2km s-min=5.2km az=103.5*

IDC ***09*** *02:54:36.7±0.3, 5°.15S×151°.16E, h130km±2km, mb4.9/32, mbtmp5.3/35, MS4.0/27, Error ellipse: s-maj=9.2km s-min=6.3km az=114.0*

NEIC ***09*** *02:54:37.4, 5°.16S×151°.29E, h130km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17 Nm; Mrr-0.35; Mθθ0.25; Mφφ0.10; Mrθ-0.92; Mθφ0.39; Mφr-0.32; Fault plane solution: M0 1.10000×10^17 NP1: φs199.98000°, δ17.51000°, λ-139.32000°. NP2: φs70.64000°, δ78.69000°, λ-76.54000°. Principal axes: T 1.1594, Plg32.0000°, Azm149.0000°; N -0.1361, Plg13.0000°, Azm248.0000°; P -1.0233, Plg54.0000°, Azm357.0000°;*

NEIC ***09*** *02:54:37.4, 5°.16S×151°.19E, h130km*

NEIC ***09*** *02:54:37.8±2.0, 5°.16S±0°.07×151°.19E±0°.07, h126km±4km, mb5.2/439, Mww5.3/28, Error ellipse: s-maj=10.3km s-min=9.6km az=154.0*

GCMT ***09*** *02:54:37.8±0.1, 5°.26S±0°.01×151°.26E±0°.01, h129km, MW5.3/146, Moment Tensor Solution. s102,c175; s146,c278; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.49±.02; Mθθ0.08±.02; Mφφ0.41±.02; Mrθ-1.03±.01; Mθφ0.30±.02; Mφr-0.42±.01; Best double couple: M0 1.23700×10^17 NP1: φs188.00000°, δ19.00000°, λ-144.00000°. NP2: φs63.00000°, δ79.00000°, λ-75.00000°. Principal axes: T 1.1840, Plg32.0000°, Azm140.0000°; N 0.1060, Plg15.0000°, Azm240.0000°; P -1.2910, Plg54.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***09*** *02:54:38.1±0.5, 5°.53×15°.1E±°, h148km±5km, M5.5/47, mb5.3/47, mB5.7/27, MLv6.5/1, Mw(mB)5.2/27, MwMwp5.0/2, Mwp5.3/2*

ISC 09 02:54:36.9±0.3, 5°.14S±0°.03×151°.16E±0°.03, h131km±2km, h131km:pP-P, n1107, σ1s12/985, mb5.2/334, 44C-43D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.19**	**45**	P	**Pn**	02 55 02.5	+0.7
	baz=192,slow=11						
I40PG				S	**Sn**	02 55 21.2	+0.6
	baz=235,slow=241						
I40PG				I	I	03 06 30.0	
	75nm,0.4s,baz=226,slow=309,SNR=0.7						
RABL	**Rabaul**	**1.37**	**47**		**Pn**	02 55 03.8	+0.1
MANU	**Manus Island**	**4.88**	**309**		**Pn**	02 55 50.6	+2.2
PMG	**Port Moresby**	**5.81**	**223**	P	**Pn**	02 56 01.5	+0.6
	2μm,0.9s,baz=40,slow=6.8,SNR=134						
PMG				S	**Sn**	02 57 05.8	-0.7
	2μm,0.7s,baz=6.8,slow=17,SNR=8.1						
PMG	**Port Moresby**	**5.81**	**223**	S	**Sn**	02 57 07.2	+0.7
PMG	**Port Moresby**	**5.81**	**223**	P	**Pn**	02 56 01.9	+1.0
PMG	**Port Moresby**	**5.81**	**223**	S	**Sn**	02 57 07.4	+0.9
TATA	**Tatamba Isabel**	**9.17**	**111**	P	**Pn**	02 56 46.8	+0.7
SAVO	**Savo Central**	**9.46**	**115**	P	**Pn**	02 56 51.2	+1.1
HNR	**Honiara**	**9.70**	**117**		**Pn**	02 56 53.2	0.0
HNR	**Honiara**	**9.70**	**117**	P	**Pn**	02 56 53.1	-0.2
	1μm,0.8s,baz=239,slow=2.1,SNR=18						
ALEG	**Aligegeo Malai**	**10.12**	**111**	P	**Pn**	02 57 00.0	+1.1
ALEG	**Aligegeo Malai**	**10.12**	**111**	S	**Sn**	02 58 53.7	+3.0
JAY	**Jayapura**	**10.76**	**284**	P	**Pn**	02 57 08.5	+1.0
	127nm,1.1s,baz=115,slow=7.1,SNR=56						
JAY				ScP	**ScP**	03 06 17.5	-0.4
	6.6nm,1.0s,baz=208,slow=3.0,SNR=8.2						
JAY	**Jayapura**	**10.76**	**284**	P	**Pn**	02 57 07.8	+0.3
	122nm,1.2s						
NGOA	**Tingoa Renbel**	**10.87**	**126**	P	**Pn**	02 57 10.3	+1.4
NGOA	**Tingoa Renbel**	**10.87**	**126**	S	**Sn**	02 59 11.7	+2.9
GENI	**Genyem**	**11.26**	**283**	P	**Pn**	02 57 14.6	+0.5
	3μm4μm270nm,1.6s						
COEN	**Coen**	**11.78**	**221**		**Pn**	02 57 20.8	-0.2
COEN	**Coen**	**11.78**	**221**	P	**Pn**	02 57 21.2	+0.3
	comp=Z,73nm,1.5s						
COEN	**Coen**	**11.78**	**221**	P	**Pn**	02 57 21.3	+0.3
HURO	**Huro Makira**	**11.88**	**117**	P	**Pn**	02 57 23.9	+1.6
SMPI	**Sarmi**	**12.82**	**284**	P	**Pn**	02 57 35.4	+0.9
	comp=Z,5μmcomp=Z,403nm,1.1s						
PATS	**Pohnpei**	**13.87**	**31**	P	**P**	02 57 50.0	-2.0
	comp=Z,149nm,1.1s						
SRPI	**Seui, Papua**	**15.24**	**282**	P	**Pn**	02 58 05.8	+0.4
	comp=Z,4μmcomp=Z,260nm,0.8s						
BAKI	**Biak**	**15.53**	**284**	P	**P**	02 58 10.1	-0.4
	comp=Z,4μmcomp=Z,331nm,1.2s						
LUES	**Luesalemba Tem**	**15.60**	**111**	P	**P**	02 58 12.0	+0.7
CTA	**Charters Tower**	**15.61**	**197**	P	**P**	02 58 11.6	+0.3
CTAO	**Charters Tower**	**15.61**	**197**	P	**P**	02 58 11.6	+0.3
RKPI	**Ransiki, Papua**	**17.33**	**281**	P	**Pn**	02 58 31.0	0.0
	comp=Z,305nm,1.0s						
SANVU	**Saraoutou**	**18.80**	**124**		**Pn**	02 58 47.7	-0.7
SANVU	**Saraoutou**	**18.80**	**124**	P	**Pn**	02 58 49.2	+0.8
FAKI	**Fak Fak**	**19.00**	**276**		**Pn**	02 58 50.0	-0.8
FAKI	**Fak Fak**	**19.00**	**276**	P	**Pn**	02 58 50.3	-0.5
FAKI	**Fak Fak**	**19.00**	**276**	P	**P**	02 58 49.4	+0.8
	comp=Z,2μmcomp=Z,136nm,1.7s						
QIS	**Mount Isa**	**19.00**	**215**	S	**P**	02 58 50.1	+1.4
QIS	**Mount Isa**	**19.00**	**215**	P	**Pn**	02 58 49.8	-1.0
	comp=Z,287nm,0.8s						
QIS	**Mount Isa**	**19.00**	**215**	P	**Pn**	02 58 50.2	-0.6
GUMO	**Guam**	**19.63**	**341**		**Pn**	02 58 58.1	0.0
GUMO	**Guam**	**19.63**	**341**	P	**Pn**	02 58 56.9	-1.2
	comp=Z,2μm,1.1s,baz=176,slow=6.1,SNR=28						
KDU	**Kakadu**	**19.92**	**247**	P	**P**	02 58 58.3	-0.3
	comp=Z,691nm,1.2s						
KDU	**Kakadu**	**19.92**	**247**	P	**P**	02 58 58.7	+0.1
EIDS	**Eidsvold**	**20.12**	**180**	P	**P**	02 59 01.8	+1.1
	comp=Z,553nm,0.8s						
EIDS	**Eidsvold**	**20.12**	**180**	P	**P**	02 59 01.5	+0.9
SWI	**Sorong**	**20.32**	**281**	P	**P**	02 59 03.5	+0.6
	comp=Z,5μmcomp=Z,476nm,1.5s						
DVP	**Devils Point**	**20.83**	**128**	P	**P**	02 59 09.7	+1.4
MTN	**Manton Dam**	**21.20**	**247**		**P**	02 59 11.8	-0.6
MTN	**Manton Dam**	**21.20**	**247**	P	**P**	02 59 12.3	-0.1
	comp=Z,318nm,1.2s						
MTN	**Manton Dam**	**21.20**	**247**	P	**P**	02 59 12.3	-0.1
DRS	**Darwin Rock St**	**21.29**	**249**	P	**P**	02 59 13.8	+0.5
RMQ	**Roma**	**21.35**	**186**	P	**P**	02 59 09.5	-4.4
RMQ	**Roma**	**21.35**	**186**	P	**P**	02 59 15.8	+1.9
WRAB	**Tennant Creek**	**22.00**	**227**	P	**P**	02 59 20.6	-0.3
WRAB	**Tennant Creek**	**22.00**	**227**	*d* iP	**P**	02 59 20.0	-0.8
WRAB				pmax	pmax		
	comp=Z,85nm,0.9s						
WRA	**Warramunga Arr**	**22.02**	**227**	P	**P**	02 59 19.8	-1.1
WRA	**Warramunga Arr**	**22.02**	**227**	P	**P**	02 59 20.6	-0.4
	comp=Z,76nm,0.8s,baz=51,slow=9.8,SNR=86						
WRA				S	**S**	03 03 14.7	-0.6
	comp=Z,59nm,0.9s,baz=54,slow=20,SNR=25						
WRA				ScP	**ScP**	03 06 39.9	+0.1
	comp=Z,41nm,0.8s,baz=48,slow=2.7,SNR=28						
	comp=Z,76nm,0.8s						
WRA	**Warramunga Arr**	**22.02**	**227**	*i* P	**P**	02 59 20.6	-0.4
WRA				pmax	pmax		
	comp=Z,60nm,0.6s						
MSAI	**Masohi**	**22.25**	**274**	P	P	02 59 31.6	+8.3
	comp=Z,6μmcomp=Z,99nm,0.6s						
QLP	**Quilpie**	**22.33**	**197**	P	**P**	02 59 25.0	+1.0
	comp=Z,628nm,1.4s						
QLP	**Quilpie**	**22.33**	**197**	P	**P**	02 59 24.6	+0.6
DZM	**Mont Dzumac**	**22.41**	**140**	P	**P**	02 59 25.3	+0.4
DZM	**Mont Dzumac**	**22.41**	**140**	*e* P	**P**	02 59 22.5	-2.5
	comp=Z,468nm,1.1s						
DZM				*e* S	**S**	03 03 15.5	-6.4
	comp=Z,2μm,24.6s						
DZM				*e* LR	LR	03 04 55.3	
	comp=Z,2μm,29.0s						
DZM	**Mont Dzumac**	**22.41**	**140**	P	**P**	02 59 25.2	+0.2
	comp=Z,188nm,0.5s,baz=323,slow=8.1,SNR=250						
	comp=Z,188nm,0.5s						
DZM	**Mont Dzumac**	**22.41**	**140**	P	**P**	02 59 25.1	+0.2

ONTNC	**Ouen Toro**	**22.59**	**141**			**P**	02 59 26.5	-0.1	
ONTNC	**Ouen Toro**	**22.59**	**141**	P		**P**	02 59 27.8	+1.2	
YATNC	**Mamie plateau,**	**22.69**	**139**	P		**P**	02 59 28.6	+1.0	
OUENC	**Ouen Island, N**	**22.91**	**140**	P		**P**	02 59 30.5	+0.8	
PINNC	**Pines Island,**	**23.44**	**139**	P		**P**	02 59 35.4	+0.8	
KNRA	**Kununurra**	**24.36**	**243**	P		**P**	02 59 43.7	+0.6	
KNRA	**Kununurra**	**24.36**	**243**	P		**P**	02 59 43.3	+0.3	
	comp=Z,290nm,1.4s								
TNTI	**Ternate**	**24.48**	**283**	P		**P**	02 59 44.6	+0.4	
TNTI				IAmb		IAmb	02 59 47.6		
	comp=Z,109nm,1.0s								
TNTI	**Ternate**	**24.48**	**283**	P		**P**	02 59 43.4	-0.8	
	comp=Z,121nm,1.0s								
AS01	**Alice Springs**	**24.79**	**220**	P		**P**	02 59 47.5	+0.6	
AS31	**Alice Springs**	**24.82**	**220**	P		**P**	02 59 47.6	+0.5	
	comp=Z,34nm,0.7s								
ASAR	**Alice Springs**	**24.82**	**220**	P		**P**	02 59 47.1	0.0	
ASAR	**Alice Springs**	**24.82**	**220**	P		**P**	02 59 47.5	+0.3	
	comp=Z,60nm,0.7s,baz=53,slow=8.7,SNR=122								
ASAR				PcP		**PcP**	03 03 19.1	-1.1	
	comp=Z,16nm,1.0s,baz=31,slow=3.0,SNR=4.9								
ASAR				S		**S**	03 03 59.8	-0.6	
	comp=Z,24nm,0.9s,baz=48,slow=14,SNR=7.9								
ASAR				ScP		**ScP**	03 06 47.1	-0.1	
	comp=Z,22nm,0.7s,baz=48,slow=2.9,SNR=20								
ASAR				LR		LR	03 09 46.9		
	comp=Z,335nm,19.7s,baz=27,slow=37								
	comp=Z,60nm,0.7s								
ARMA	**Armidale**	**25.15**	**179**	P		**P**	02 59 51.1	+1.0	
	comp=Z,254nm,1.3s								
ARMA	**Armidale**	**25.15**	**179**	P		**P**	02 59 51.4	+1.2	
CMSA	**Cobar Meteorol**	**26.76**	**190**	P		**P**	03 00 04.5	0.0	
	comp=Z,157nm,0.9s								
CMSA	**Cobar Meteorol**	**26.76**	**190**	P		**P**	03 00 04.6	0.0	
SOEI	**Soe**	**27.05**	**259**	P		**P**	03 00 08.5	+1.0	
SOEI				IAmb		IAmb	03 01 10.1		
	comp=Z,91nm,0.8s								
SOEI	**Soe**	**27.05**	**259**	P		**P**	03 00 09.3	+1.8	
	comp=Z,69nm,0.9s								
BATI	**Baumata**	**27.70**	**258**	LR		LR	03 14 10.6		
	comp=Z,495nm,19.8s,baz=75,slow=42								
BATI	**Baumata**	**27.70**	**258**	P		**P**	03 00 14.3	+1.1	
	comp=Z,2μmcomp=Z,73nm,0.6s								
MGCD	**Mangrove Creek**	**27.93**	**180**	P		**P**	03 00 15.4	+0.5	
	comp=Z,100nm,0.8s								
MGCD	**Mangrove Creek**	**27.93**	**180**	P		**P**	03 00 16.2	+1.3	
FITZ	**Fitzroy Crossi**	**28.07**	**241**	P		**P**	03 00 16.3	-0.1	
	comp=Z,210nm,0.5s,baz=55,slow=7.0,SNR=756								
FITZ				LR		LR	03 11 47.1		
	comp=Z,422nm,18.5s,baz=54,slow=37								
STKA	**Stephens Creek**	**28.07**	**197**	P		**P**	03 00 16.1	-0.2	
STKA	**Stephens Creek**	**28.07**	**197**	P		**P**	03 00 16.0	-0.2	
	comp=Z,382nm,1.0s								
STKA	**Stephens Creek**	**28.07**	**197**	P		**P**	03 00 16.2	0.0	
	comp=Z,43nm,0.7s,baz=359,slow=8.4,SNR=45								
STKA				ScP		**ScP**	03 06 57.1	+0.4	
	comp=Z,10.0nm,0.8s,baz=39,slow=4.3,SNR=4.4								
STKA				LR		LR	03 11 09.7		
	comp=Z,226nm,19.9s,baz=41,slow=35								
	comp=Z,43nm,0.7s								
STKA	**Stephens Creek**	**28.07**	**197**	P		**P**	03 00 16.6	+0.4	
STKA	**Stephens Creek**	**28.07**	**197**	P		**P**	03 00 16.1	-0.2	
STKA				pmax		pmax			
	comp=Z,254nm,0.9s								
YSA	**Yasawairara**	**28.32**	**116**	P		**P**	03 00 19.7	+1.1	
MSVF	**Nonsavu**	**29.12**	**118**	P		**P**	03 00 26.4	+0.6	
MSVF				IAmb		IAmb	03 00 33.3		
	comp=Z,35nm,0.9s								
MSVF	**Nonsavu**	**29.12**	**118**	P		**P**	03 00 27.2	+1.4	
MSVF	**Nons

MORW Morawa 40.87 230 P **P** **03 02 06.0 -0.3**
MORW IAmb IAmb 03 02 07.0
comp=Z,63nm,1.0s
MORW Morawa 40.87 230 P **P** **03 02 05.6 -0.7**
comp=Z,72nm,1.1s
MORW Morawa 40.87 230 P **P** **03 02 06.1 -0.2**
KLBR Kellerberrin 40.90 226 P **P** **03 02 05.4 -1.0**
comp=Z,194nm,0.8s
KLBR Kellerberrin 40.90 226 P **P** **03 02 05.5 -1.0**
BKZ Black Stump Fm 40.90 149 IAmb IAmb 03 02 08.1
comp=Z,78nm,1.1s
BKZ Black Stump Fm 40.90 149 P **P** **03 02 07.1 +0.7**
NACB Ninganchiao 40.97 317 P **P** **03 02 08.8 +1.7**
TPUB Ta-pu 41.08 315 P **P** **03 02 08.6 +0.6**
BLDU Ballidu 41.14 228 P **P** **03 02 07.5 -1.0**
comp=Z,41nm,1.2s
BLDU Ballidu 41.14 228 P **P** **03 02 07.7 -0.7**
SSLB Suanglung 41.16 316 IAmb IAmb 03 02 15.7
comp=Z,81nm,1.1s
SSLB Suanglung 41.16 316 P **P** **03 02 10.5 +1.8**
SNZO South Karori 41.72 153 P **P** **03 02 13.4 +0.5**
SNZO South Karori 41.72 153 P **P** **03 02 13.8 +0.9**
SNZO South Karori 41.72 153 ⇑P **P** **03 02 13.2 +0.2**
JCZ Jackson Bay 41.76 161 P **P** **03 02 14.9 +1.5**
BFZ Birch Farm 41.94 151 P **P** **03 02 15.2 +0.4**
JMN Monobe 41.97 338 P **P** **03 02 17.2 +2.0**
JMN Monobe 41.97 338 P **P** **03 02 15.8 +0.6**
NWAO Narrogin (SRO) 42.00 225 P **P** **03 02 14.7 -0.7**
comp=Z,93nm,2.4s
NWAO Narrogin (SRO) 42.00 225 P **P** **03 02 16.3 +0.9**
NWAO Narrogin (SRO) 42.00 225 P **P** **03 02 15.9 +0.5**
KHZ Kahutara 42.11 155 P **P** **03 02 16.2 +0.1**
MUN Mundaring 42.21 226 P **P** **03 02 16.7 -0.5**
comp=Z,99nm,0.9s
MUN Mundaring 42.21 226 P **P** **03 02 16.3 -0.9**
RPZ Rata Peaks 42.23 158 P **P** **03 02 17.3 +0.2**
RPZ Rata Peaks 42.23 158 P **P** **03 02 17.9 +0.8**
INU Inuyama 42.41 343 P **P** **03 02 18.4 -0.3**
INU IAmb IAmb 03 02 19.6
comp=Z,57nm,0.9s
INU Inuyama 42.41 343 P **P** **03 02 18.7 +0.1**
LBZ Lake Benmore 42.51 160 P **P** **03 02 19.2 -0.2**
DCZ Deep Cove 42.52 163 P **P** **03 02 20.1 +0.7**
JGF Kuroka 42.55 343 P **P** **03 02 20.5 +0.7**
JNU Nakatsue 42.64 335 P **P** **03 02 21.0 +0.4**
comp=Z,241nm,0.9s,baz=115,slow=3.5,SNR=109
comp=Z,241nm,0.9s
JNU Nakatsue 42.64 335 P **P** **03 02 21.0 +0.4**
MLZ Mavora Lakes 42.72 162 P **P** **03 02 21.9 +0.9**
PYZ Puysegur Point 43.03 164 P **P** **03 02 25.1 +1.6**
RKGY Rocky Gully 43.12 223 P **P** **03 02 24.6 +0.2**
comp=Z,105nm,1.3s
WHZ Wether Hill Ro 43.14 163 P **P** **03 02 24.6 +0.2**
MJAR Matsushiro Arr 43.20 345 P **P** **03 02 23.9 -1.1**
comp=Z,38nm,0.9s,baz=166,slow=8.4,SNR=72
MJAR PcP **PcP** **03 04 10.5 -1.6**
comp=Z,12nm,0.7s,baz=162,slow=3.8,SNR=11
MJAR ScP **ScP** **03 07 51.3 -0.1**
comp=Z,8.1nm,1.1s,baz=181,slow=5.6,SNR=7.2
MJAR LR LR 03 17 25.3
comp=Z,267nm,21.6s,baz=155,slow=32
comp=Z,38nm,0.9s
MAJO Matsushiro 43.20 345 P **P** **03 02 24.6 -0.3**
MAJO IAmb IAmb 03 02 25.4
comp=Z,86nm,1.1s
MAJO Matsushiro 43.20 345*c iP* **P** **03 02 24.7 -0.3**
MAJO pmax pmax
comp=Z,59nm,1.1s
MAJO Matsushiro 43.20 345 P **P** **03 02 24.4 -0.6**
MJB9 Matsu-Tunnel 43.20 345 P **P** **03 02 25.5 +0.4**
MJB9 IAmb IAmb 03 02 26.4
comp=Z,84nm,1.1s
ODZ Otahua Downs 43.24 160 IAmb IAmb 03 02 27.4
comp=Z,100nm,1.1s
ODZ Otahua Downs 43.24 160 P **P** **03 02 26.1 +0.9**
BBJI Bungbulang 43.30 265 P **P** **03 02 26.3 0.0**
QZH Quanzhou 43.56 315 P **P** **03 02 29.9 +1.9**
QZH pP **pwP** **03 03 00.3 +0.5**
QZH pmax pmax
comp=Z,380nm,1.1s
JMM Marumori 43.86 348 IAmb IAmb 03 02 31.4
comp=Z,71nm,1.0s
JMM Marumori 43.86 348 P **P** **03 02 30.8 +0.6**
SYZ Scrubby Hill 44.08 162 P **P** **03 02 32.8 +0.9**
JTU Tsushima 44.47 334 P **P** **03 02 36.0 +0.8**
JTM Tenmabayashi 46.63 349 P **P** **03 02 53.5 +1.5**
MDSI Maura Dua 46.82 269 P **P** **03 02 51.9 -2.1**
comp=Z,35nm,1.1s
TJN Taejon 46.93 334*d iP* **P** **03 02 55.1 +0.7**
QIZ Qiongzhong 47.25 302 P **P** **03 02 59.0 +1.8**
QIZ pP **pwP** **03 03 30.0 +0.9**
QIZ sP **sP** **03 03 40.2 -0.8**
QIZ S **S** **03 09 43.2 +2.4**
QIZ pmax pmax
comp=Z,150nm,1.1s
QIZ pmax pmax
comp=Z,790nm,7.3s
QIZ LR LR
comp=Z,1μm,20.1s
KSRS Korea Array 47.59 335 P **P** **03 03 00.8 +1.2**
comp=Z,39nm,1.0s,baz=153,slow=9.1,SNR=102
KSRS PcP **PcP** **03 04 27.1 -0.2**
comp=Z,4.8nm,0.7s,baz=165,slow=3.2,SNR=5.8
comp=Z,39nm,1.0s
KSAR Wonju Array Be 47.59 335 P **P** **03 03 00.9 +1.3**
KSAR Wonju Array Be 47.59 335 P **P** **03 03 00.9 +1.3**
KS19 Wonju Array Si 47.65 335 IAmb IAmb 03 03 02.2
comp=Z,68nm,1.1s
CTZ Chatham Island 47.77 149 P **P** **03 03 02.5 +1.6**
NJ2 Nanjing 48.10 322 ⇓P **P** **03 03 05.8 +2.2**
NJ2 pmax pmax
comp=Z,86nm,1.0s
INCN Inchon 48.17 334 P **P** **03 03 06.0 +1.9**
INCN Inchon 48.17 334 P **P** **03 03 06.0 +1.9**
INCN pmax pmax
comp=Z,484nm,1.3s
ASAJ Asahikawa 49.63 352 P **P** **03 03 15.2 +0.1**
comp=Z,26nm,1.0s,baz=219,slow=1.2,SNR=5.8
ASAJ LR LR 03 21 35.1
comp=Z,51nm,21.3s,baz=160,slow=33
comp=Z,26nm,1.0s
SDSI Sungai Dareh 49.83 273 P **P** **03 03 16.3 -0.8**
comp=Z,28nm,1.2s
WHN Wuhan 49.99 318 P **P** **03 03 20.5 +2.5**
WHN pmax pmax
comp=Z,480nm,1.2s
MSHR Mys Shultsa 50.85 341⇑*eP* **P** **03 03 22.7 -1.6**
MSHR pmax pmax
comp=Z,31nm,1.1s
PPI Padang Panjang 50.90 274 P **P** **03 03 23.4 -1.8**
comp=Z,72nm,1.0s
PSTR Posyet 51.03 341*ceP* **P** **03 03 26.4 +0.8**
VLA Vladivostok 51.11 342⇓*eP* **P** **03 03 28.0 +1.8**
VLA pmax pmax
comp=Z,44nm,0.8s
DL2 Dalian 51.65 331 P P 03 03 24.6 -5.7
DL2 pP pP 03 03 59.9 -0.2
DL2 sP sP 03 04 15.6 +1.2
DL2 S **S** **03 10 32.9 -8.6**
DL2 pmax pmax
comp=Z,39nm,0.4s
DL2 pmax pmax
comp=Z,680nm,4.1s
TIA Tai'an 52.03 325 P **P** **03 03 34.0 +0.8**
TIA ScP **ScP** **03 08 28.4 -0.2**
TIA pmax pmax
comp=Z,120nm,1.0s
USA0B Ussuriysk Arra 52.06 343 IAmb IAmb 03 03 35.4
comp=Z,67nm,1.1s
USA0B Ussuriysk Arra 52.06 343*ceP* **P** **03 03 34.4 +1.2**
USRK Ussuriysk Ar. 52.06 343 P **P** **03 03 34.2 +1.0**
comp=Z,27nm,0.8s,baz=173,slow=8.8,SNR=44
USRK LR LR 03 24 27.0
comp=Z,81nm,19.7s,baz=164,slow=34
comp=Z,27nm,0.8s
YSS Yuzhno-Sakhali 52.40 353⇑*eP* **P** **03 03 35.1 -0.6**
YSS pmax pmax
comp=Z,52nm,2.5s
MDJ Mudanjiang 53.18 341 P **P** **03 03 42.4 +0.9**
MDJ pmax pmax
comp=Z,66nm,0.8s
GYA Guiyang 53.31 308 ⇑P **P** **03 03 45.4 +2.4**
GYA pmax pmax
comp=Z,60nm,1.5s
LYN LuoYang 53.74 320 P **P** **03 03 47.1 +1.3**
LYN pmax pmax
comp=Z,140nm,1.1s
CN2 Changchun 53.96 337 *eP* **P** **03 03 48.0 +0.8**
CN2 *epP* pP 03 04 18.1 +0.9
CN2 PcP **PcP** **03 04 50.2 -0.6**
CN2 pmax pmax
comp=Z,40nm,1.3s
CN2 pmax pmax
comp=Z,100nm,3.0s
HNS HongShan 54.25 324 ⇓P **P** **03 03 50.4 +1.0**
HNS pmax pmax
comp=Z,160nm,1.3s
BNX BinXian 54.91 340 ⇓P **P** **03 03 54.0 0.0**
BNX pmax pmax
comp=Z,130nm,1.1s
BJI Beijing 55.29 328 P **P** **03 03 57.3 +0.5**
BJI PP **PP** **03 06 03.6 +1.7**
BJI pmax pmax
comp=Z,16nm,1.3s
BJI pmax pmax
comp=Z,210nm,3.7s
XAN Xi'an 55.75 318 ⇓P **P** **03 04 01.0 +0.6**
XAN pmax pmax
comp=Z,120nm,1.3s
SKR Severo-Kuril's 55.76 4⇓*eP* **P** **03 03 59.1 -0.9**
TIY Taiyuan 55.80 323 *eP* **P** **03 04 02.0 +1.3**
TIY pmax pmax
comp=Z,32nm,0.7s
KMI Kunming 55.83 305 P **P** **03 04 04.0 +2.7**
KMI pP pwP 03 04 36.7 +2.6
KMI sP sP 03 04 49.7 +3.9
KMI pmax pmax
comp=Z,84nm,1.3s
TYV Tymovskoe 56.26 354 *eP* **P** **03 04 03.6 +0.1**
TYV *eS* **S** **03 11 41.6 -1.5**
TYV pmax pmax
comp=Z,37nm,0.9s
TYV pmax pmax
comp=Z,100nm,4.8s
TYV smax smax
comp=N,300nm,8.7s
TYV smax smax
comp=E,800nm,8.7s
KIP Kipapa 56.36 60 P **P** **03 04 05.7 +0.8**
KIP Kipapa 56.36 60 P **P** **03 04 05.7 +0.8**
KIP pmax pmax
comp=Z,163nm,1.5s
CMAR Chiang Mai Arr 56.55 296 P **P** **03 04 08.4 +2.1**
CMAR Chiang Mai Arr 56.55 296 P **P** **03 04 07.4 +1.2**
comp=Z,33nm,1.0s,baz=110,slow=5.3,SNR=94
CMAR pP **pP** **03 04 37.1 +0.5**
comp=Z,7.7nm,0.8s,baz=115,slow=5.3,SNR=3.4
comp=Z,33nm,1.0s
CMAR Chiang Mai Arr 56.55 296 *i* P **P** **03 04 08.3 +2.1**
CMAR pmax pmax
comp=Z,36nm,1.0s
CHTO Chiang Mai 56.67 296 P **P** **03 04 08.7 +1.6**
CHTO Chiang Mai 56.67 296 P **P** **03 04 08.7 +1.6**
CHTO pmax pmax
comp=Z,114nm,1.4s
CHTO Chiang Mai 56.67 296 P **P** **03 04 08.8 +1.8**
PZH PanZhiHua 57.24 306 P **P** **03 04 12.6 +1.5**
PZH pmax pmax
comp=Z,30nm,1.6s
CD2 Chengdu 57.73 312 P **P** **03 04 16.0 +1.6**
CD2 pmax pmax
comp=Z,90nm,1.2s
XLT XiLinHaoTe 58.15 331 *eP* **P** **03 04 18.2 +1.1**
XLT pP pwP 03 04 51.5 +1.3
XLT pmax pmax
comp=Z,95nm,1.2s
XLT pmax pmax
comp=Z,230nm,4.2s
PET Petropavlovsk 58.29 5 *eP* **P** **03 04 17.5 -0.2**
PET *eS* **S** **03 12 08.1 -1.5**
PET pmax pmax
comp=Z,55nm,0.7s
PEA0B Petropavlovsk- 58.29 5 P **P** **03 04 18.2 +0.4**
PEA0B Petropavlovsk- 58.29 5 P **P** **03 04 18.2 +0.4**
PEA0B pmax pmax
comp=Z,80nm,0.8s
PETK Petropavlovsk- 58.29 5 P **P** **03 04 18.0 +0.2**
PETK Petropavlovsk- 58.29 5 P **P** **03 04 17.9 +0.2**
comp=Z,51nm,0.6s,baz=169,slow=6.5,SNR=52
PETK LR LR 03 24 55.9
comp=Z,81nm,20.2s,baz=185,slow=31
comp=Z,51nm,0.6s
PETK Petropavlovsk- 58.29 5 P **P** **03 04 18.0 +0.2**
HHC Hu-ho-hao-te 58.38 325 *eP* **P** **03 04 20.8 +2.0**
HHC pP pwP 03 04 53.5 +1.7
HHC sP PcP 03 05 06.6 -1.7
HHC pmax pmax
comp=Z,30nm,0.6s
HHC pmax pmax
comp=Z,260nm,3.8s
HEH HeiHe 58.87 342 *eP* **P** **03 04 21.2 -0.6**
HEH pmax pmax
comp=Z,43nm,0.9s
BTO Baotou 59.11 324 *eP* **P** **03 04 25.1 +1.3**
BTO S **S** **03 12 23.3 +2.3**
BTO pmax pmax
comp=Z,22nm,0.5s
BTO pmax pmax
comp=Z,760nm,5.8s
BTO LR LR
comp=Z,740nm,5.4s
BTO LR LR
comp=Z,750nm,5.9s
BTO LR LR
comp=Z,430nm,10.8s
TNCH TengChong 59.28 303 P **P** **03 04 26.2 +0.8**
TNCH pP pwP 03 04 59.8 +1.4
TNCH S **S** **03 12 18.8 -5.1**
TNCH pmax pmax
comp=Z,330nm,1.8s
TBI Tubuai 59.91 114 *eP* P 03 04 21.2 -8.3
comp=Z,541nm,32.0s
TBI *eS* **S** **03 12 28.5 -3.2**
comp=Z,858nm,27.5s
TBI *eSS* **SS** **03 16 24.6 -5.7**
comp=Z,701nm,26.5s
TBI *eLQ* LQ 03 19 46.3
comp=Z,1μm,32.5s
TBI *eLR* LR 03 22 13.1
comp=Z,971nm,30.5s
TBI *eLR* LR 03 22 23.2
comp=Z,3μm,36.0s
LZH Lanzhou 60.35 317 *eP* **P** **03 04 34.0 +1.5**
LZH pP pwP 03 05 07.6 +2.0
LZH sP sP 03 05 20.2 +2.9
LZH pmax pmax
comp=Z,40nm,1.1s
SHEM Shemya Is, Ala 60.84 16 P **P** **03 04 35.3 0.0**
comp=Z,19nm,0.5s,baz=295,slow=20,SNR=3.7
SHEM LR LR 03 27 56.6
comp=Z,126nm,20.2s,baz=204,slow=33
comp=Z,19nm,0.5s
DRV Dumont d'Urvil 61.91 185 ⇑P **P** **03 04 42.8 +0.6**
DRV pP **pP** **03 05 12.0 -1.8**
ZEA Zeya 62.01 344 *eP* **P** **03 04 43.6 +0.5**
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,40nm,1.2s
KIWB Kanaga Island 62.88 21 P **P** **03 04 49.6 +0.7**
ADK Adak 63.07 22 P **P** **03 04 50.9 +0.7**
ADK Adak 63.07 22 P **P** **03 04 50.9 +0.7**
ADK Adak 63.07 22 P **P** **03 04 50.9 +0.7**
ADK pmax pmax
comp=Z,56nm,0.9s
ATKA Atka Island 64.26 23 P **P** **03 04 58.8 +0.8**
MA2 Magadan 64.51 360 P **P** **03 04 58.9 -0.6**
MA2 Magadan 64.51 360 P **P** **03 04 59.1 -0.4**
comp=Z,30nm,0.8s,baz=163,slow=6.1,SNR=19
MA2 LR LR 03 29 32.3
comp=Z,80nm,21.2s,baz=136,slow=32
comp=Z,30nm,0.8s
MA2 Magadan 64.51 360*d iP* **P** **03 04 58.9 -0.6**
MA2 pmax pmax
comp=Z,90nm,1.3s
GTA Gaotai 64.81 318 *eP* **P** **03 05 03.6 +1.6**
GTA pP pwP 03 05 34.9 -0.4
GTA PP **PP** **03 07 25.6 -0.7**
GTA pmax pmax
comp=Z,25nm,1.1s
ULN Ulaanbaatar 65.43 329 P **P** **03 05 07.1 +1.2**
ULN Ulaanbaatar 65.43 329 P **P** **03 05 07.1 +1.2**
ULN pmax pmax
comp=Z,70nm,1.1s
ULN Ulaanbaatar 65.43 329 P **P** **03 05 07.7 +1.8**
ULN pP **PcP** **03 05 36.9 +0.1**
SONM Songino Array 65.75 329 P **P** **03 05 09.1 +1.2**
SONM Songino Array 65.75 329 P **P** **03 05 08.3 +0.4**
comp=Z,56nm,1.0s,baz=139,slow=5.7,SNR=180
SONM PKPPKP **P'P'df** **03 33 46.0 +1.6**
comp=Z,1.6nm,0.9s,baz=304,slow=3.0,SNR=4.3
comp=Z,56nm,1.0s
SONM Songino Array 65.75 329 P **P** **03 05 09.1 +1.2**
SONM pmax pmax
comp=Z,90nm,1.2s
GOMU GeErMu 66.79 313 P **P** **03 05 16.8 +1.7**
GOMU S **S** **03 14 04.2 +6.7**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
GOMU LR LR
comp=Z,150nm,8.3s
GOMU LR LR
comp=Z,170nm,8.3s
GOMU LR LR
comp=Z,120nm,8.5s
NIKH Nikolski High 67.00 25 P **P** **03 05 16.7 +1.1**
NIKH Nikolski High 67.00 25 P **P** **03 05 14.3 -1.2**
baz=224
CASY Casey 67.22 197 P **P** **03 05 17.0 +0.2**
CASY IAmb IAmb 03 05 47.5
comp=Z,55nm,1.2s
CASY Casey 67.22 197 P **P** **03 05 17.4 +0.6**
CASY PcP **PcP** **03 05 45.7 +2.0**
TAOE Nuku Hiva Isla 68.20 97 *e*LR LR 03 26 16.4
comp=Z,448nm,27.6s
UNV Unalaska Valle 68.61 25 P **P** **03 05 25.0 -0.6**
UNV IAmb IAmb 03 05 26.2
comp=Z,24nm,0.8s
UNV Unalaska Valle 68.61 25 P **P** **03 05 25.1 -0.6**
baz=226,SNR=12
ZAK Zakamensk 68.94 329 *eP* **P** **03 05 27.8 -0.1**
ZAK *e* 03 05 47.9
ZAK pmax pmax
comp=Z,95nm,1.1s
YAK Yakutsk 68.99 349 P **P** **03 05 28.0 +0.2**
comp=Z,53nm,0.5s,baz=173,slow=2.3,SNR=23
YAK LR LR 03 38 22.4
comp=Z,39nm,18.4s,baz=155,slow=38
comp=Z,53nm,0.5s
YAK Yakutsk 68.99 349*d iP* **P** **03 05 27.5 -0.3**
YAK *e*AP **pP** **03 05 59.6 +0.4**
YAK *e*PP **PP** **03 08 01.7 -0.3**
YAK *e*S **S** **03 14 22.4 +0.6**
YAK pmax pmax
comp=Z,141nm,1.3s
LVA Lava Point 69.03 25 IAmb IAmb 03 06 24.6
comp=Z,35nm,1.0s
AKUT Akutan 69.13 25 P **P** **03 05 29.1 +0.3**
P08K Saint George I 69.38 22 P **P** **03 05 30.1 -0.2**
baz=222
BOD Bodaibo 69.53 340 *eP* **P** **03 05 30.7 -0.6**
BOD pmax pmax
comp=Z,70nm,1.4s
SPIA Saint Paul Isl 69.55 21 P **P** **03 05 32.5 +1.2**
SPIA Saint Paul Isl 69.55 21 P **P** **03 05 31.5 +0.1**
baz=221
IRK Irkutsk 69.61 331 *eP* **P** **03 05 32.1 +0.2**
IRK pmax pmax
comp=Z,81nm,1.4s
EVN Everest 70.13 302 P **P** **03 05 37.1 +0.8**
EVN IAmb IAmb 03 05 38.3
comp=Z,35nm,1.0s
FALS False Pass 70.63 26 P **P** **03 05 37.7 -0.3**
baz=229
CCD Concordia, Ant 71.72 187 P **P** **03 05 45.6 +0.8**
CCD pP **pP** **03 06 15.4 -1.8**
S12K Black Hills 71.77 26 IAmb IAmb 03 05 45.9
comp=Z,37nm,0.8s
S12K Black Hills 71.77 26 P **P** **03 05 44.3 -0.6**
baz=230
SDPT Sand Point 72.24 27 P **P** **03 05 48.8 +1.1**
SDPT Sand Point 72.24 27 P **P** **03 05 46.6 -1.1**
baz=231
CHNA Chernabura Isl 72.32 27 P **P** **03 05 48.7 +0.5**
CHNA Chernabura Isl 72.32 27 P **P** **03 05 47.4 -0.8**
baz=232
VNDA Vanda 72.56 178 P **P** **03 05 50.0 +0.8**
comp=Z,5.6nm,0.6s,baz=332,slow=6.6,SNR=43
VNDA pP **pP** **03 06 20.7 -1.1**
comp=Z,22nm,0.9s,baz=318,slow=5.8,SNR=12
comp=Z,5.6nm,0.6s
SBA Scott Base 73.13 177 P **P** **03 05 54.6 +2.0**
SBA IAmb IAmb 03 06 26.0
comp=Z,45nm,1.2s
SBA Scott Base 73.13 177 P **P** **03 05 54.6 +2.0**
SBA pmax pmax
comp=Z,45nm,1.2s
S14K Fog Glacier 73.23 26 P **P** **03 05 53.3 -0.4**
baz=232
M11K Mekoryuk 73.34 21 P **P** **03 05 54.2 +0.2**
baz=225
CHGN Chignik 73.75 27 P **P** **03 05 55.9 -0.6**
baz=233
BILL Bilibino 73.78 6*ceP* **P** **03 05 57.1 +0.6**
BILL pmax pmax
comp=Z,52nm,1.0s
GAMB Gambell 74.15 16 P **P** **03 05 59.1 +0.4**
baz=219,SNR=6.9
M13K Dall Lake 74.38 22 IAmb IAmb 03 06 02.5
comp=Z,58nm,0.9s
M13K Dall Lake 74.38 22 P **P** **03 06 00.7 +0.6**
baz=227,SNR=5.1
O14K Tigyukauivet M 74.40 23 IAmb IAmb 03 06 02.1
comp=Z,43nm,0.8s
O14K Tigyukauivet M 74.40 23 P **P** **03 06 00.2 0.0**
baz=230,SNR=9.8
N14K Kuskokwak Cree 74.67 23 IAmb IAmb 03 06 03.5
comp=Z,27nm,0.8s
N14K Kuskokwak Cree 74.67 23 P **P** **03 06 01.8 0.0**
baz=229
R16K Pilot Point 74.87 26 P **P** **03 06 04.2 +1.3**
baz=234
WMQ Urumqi 74.89 318 *eP* **P** **03 06 04.9 +1.3**
WMQ pmax pmax
comp=Z,31nm,0.9s
O15K Ungalikthiuk R 74.92 24 IAmb IAmb 03 06 05.0
comp=Z,41nm,0.9s
O15K Ungalikthiuk R 74.92 24 P **P** **03 06 03.5 +0.2**
baz=231,SNR=9.7
K13K Kusilvak Mount 74.96 20 P **P** **03 06 04.1 +0.7**
baz=226,SNR=13
HYB Hyderabad 75.06 289 *eP* **P** **03 06 05.9 +0.9**
M14K Bethel 75.11 22 IAmb IAmb 03 06 06.3
comp=Z,47nm,0.8s
M14K Bethel 75.11 22 P **P** **03 06 04.9 +0.6**
baz=229,SNR=28
L14K Kuka Creek 75.25 21 IAmb IAmb 03 06 07.2
comp=Z,61nm,0.8s
L14K Kuka Creek 75.25 21 P **P** **03 06 05.7 +0.7**
baz=228,SNR=52
R17L Mt. Peulik Vol 75.44 26 P **P** **03 06 06.0 -0.3**
baz=235,SNR=11
N15K Kwethluk River 75.44 23 IAmb IAmb 03 06 08.3
comp=Z,29nm,0.8s
N15K Kwethluk River 75.44 23 P **P** **03 06 06.7 +0.5**
baz=231,SNR=13
PLK4 Peulik 4 75.44 26 IAmb IAmb 03 06 58.4
comp=Z,81nm,1.0s
M15K Kasigluk River 75.55 22 P **P** **03 06 07.1 +0.3**
baz=230,SNR=11
P16K Nushagak River 75.58 24 P **P** **03 06 06.6 -0.4**
baz=233
SII Sitkinak Islan 75.82 28 P **P** **03 06 08.6 +0.1**
baz=237
O16K Kokwok River B 75.88 24 P **P** **03 06 08.4 -0.3**
baz=233,SNR=9.5
L15K Ungalak Mounta 75.90 21 P **P** **03 06 08.6 -0.1**
baz=229,SNR=11
J14K Nanvaranak Lak 75.90 20 IAmb IAmb 03 06 11.9
comp=Z,40nm,0.9s
J14K Nanvaranak Lak 75.90 20 P **P** **03 06 09.4 +0.6**
baz=227,SNR=14
Q16K King Salmon 75.92 25 P **P** **03 06 08.1 -0.9**
baz=234
Q17K Contact Creek 76.01 26 P **P** **03 06 09.0 -0.7**
baz=235
N16K Nishlik Lake 76.15 23 P **P** **03 06 11.1 +0.8**

baz=232
R18K **Karluk** 76.25 27 P P 03 06 10.2 -0.6
baz=236
K15K **Wolf Creek Mou** 76.29 21 IAmb IAmb 03 06 13.2
comp=Z,59nm,0.8s
K15K **Wolf Creek Mou** 76.29 21 P P 03 06 11.8 +0.8
baz=229,SNR=46
P17K **Kvichak River** 76.32 25 P P 03 06 10.5 -0.7
baz=234
O17K **Koliganek Bris** 76.39 24 P P 03 06 11.7 +0.1
baz=234,SNR=13
M16K **Timber Creek** 76.42 23 IAmb IAmb 03 06 14.4
comp=Z,51nm,0.8s
M16K **Timber Creek** 76.42 23 P P 03 06 12.5 +0.8
baz=232,SNR=38
TNA **Tin City** 76.57 16 P P 03 06 12.5 0.0
baz=222
ANM **Nome** 76.59 18 P P 03 06 12.8 +0.1
baz=225
OHAK **Old Harbor** 76.59 27 IAmb IAmb 03 06 14.3
comp=Z,23nm,0.7s
OHAK **Old Harbor** 76.59 27 P P 03 06 13.7 +0.9
OHAK **Old Harbor** 76.59 27 P P 03 06 12.8 0.0
baz=238,SNR=8.6
Q18K **Katmai Hardscr** 76.61 26 P P 03 06 12.5 -0.6
baz=236,SNR=11
N17K **Nushagak Hills** 76.80 23 P P 03 06 14.9 +0.9
baz=233,SNR=15
P18K **Big Mountain,** 76.94 25 P P 03 06 14.1 -0.7
baz=235
O18K **Koktuh Hills** 77.21 25 P P 03 06 15.4 -0.9
baz=235
KDAK **Kodiak Island** 77.21 27 P P 03 06 15.6 -0.7
comp=Z,8.2nm,0.7s,baz=192,slow=0.2,SNR=16
KDAK LR LR 03 38 05.4
comp=Z,60nm,18.6s,baz=231,slow=34
comp=Z,8.2nm,0.7s
KDAK **Kodiak Island** 77.21 27 P P 03 06 15.9 -0.3
baz=238
M17K **Holitna River** 77.23 23 IAmb IAmb 03 06 20.0
comp=Z,30nm,0.8s
M17K **Holitna River** 77.23 23 P P 03 06 17.5 +1.2
baz=233,SNR=18
J16K **Anvik River** 77.26 20 P P 03 06 17.2 +0.7
baz=230,SNR=11
G15K **Niukluk** 77.30 18 P P 03 06 16.4 -0.2
baz=226
L17K **Donlin** 77.36 22 P P 03 06 17.6 +0.6
baz=232,SNR=21
Q19K **Cape Douglas,** 77.36 26 P P 03 06 17.0 -0.1
baz=237,SNR=9.8
N18K **Kilae Creek** 77.41 24 P P 03 06 18.3 +0.9
baz=234,SNR=15
F15K **North Star Dit** 77.61 17 IAmb IAmb 03 06 20.3
comp=Z,38nm,1.2s
F15K **North Star Dit** 77.61 17 P P 03 06 18.6 +0.2
baz=225,SNR=7.4
H16K **Elim** 77.61 19 P P 03 06 18.1 -0.2
baz=228
I17K **Unalakleet** 77.62 20 IAmb IAmb 03 07 11.6
comp=Z,31nm,0.9s
I17K **Unalakleet** 77.62 20 P P 03 06 19.1 +0.7
baz=229
K17K **Iditarod** 77.71 21 IAmb IAmb 03 07 11.9
comp=Z,38nm,0.9s
K17K **Iditarod** 77.71 21 P P 03 06 19.9 +0.9
baz=232,SNR=25
Q20K **Shuyak Island** 77.74 27 P P 03 06 19.1 -0.1
baz=238
O19K **Port Alsworth** 77.77 25 P P 03 06 19.2 -0.2
baz=236
J17K **VABM Dome** 77.86 21 IAmb IAmb 03 07 12.8
comp=Z,43nm,0.9s
J17K **VABM Dome** 77.86 21 P P 03 06 20.8 +1.0
baz=231,SNR=17
M18K **Stony River** 77.91 23 P P 03 06 20.9 +0.8
baz=234,SNR=19
P19K **Oil Pt** 77.93 25 P P 03 06 20.0 -0.3
baz=237,SNR=20
L18K **Granite Mounta** 78.01 22 IAmb IAmb 03 06 24.7
comp=Z,31nm,0.9s
L18K **Granite Mounta** 78.01 22 P P 03 06 21.4 +0.8
baz=233,SNR=31
TIXI **Tiksi** 78.02 353 P P 03 06 20.1 -0.4
TIXI **Tiksi** 78.02 353 LR LR 03 39 34.2
comp=Z,38nm,21.0s,baz=180,slow=35
TIXI **Tiksi** 78.02 353 *e*P P 03 06 19.9 -0.6
TIXI pmax pmax
comp=Z,34nm,1.1s
N19K **Bonanza Creek** 78.05 24 P P 03 06 21.1 +0.1
baz=236,SNR=14
ILSW **Iliamna Southw** 78.15 25 IAmb IAmb 03 06 21.9
comp=Z,90nm,1.8s
O20K **Slope Mountain** 78.42 25 P P 03 06 22.0 -1.0
baz=238,SNR=9.7
H17K **Granite Mounta** 78.56 19 IAmb IAmb 03 06 26.6
comp=Z,96nm,1.6s
H17K **Granite Mounta** 78.56 19 P P 03 06 24.2 +0.6
baz=230,SNR=16
HOM **Homer** 78.62 26 P P 03 06 24.1 +0.1
baz=239
L19K **White Mountain** 78.68 23 IAmb IAmb 03 06 28.0
comp=Z,35nm,0.9s
L19K **White Mountain** 78.68 23 P P 03 06 24.8 +0.4
baz=235,SNR=34
G17K **Kiwalik Mounta** 78.69 18 P P 03 06 25.0 +0.7
baz=229,SNR=25
M19K **Big River Lodg** 78.71 23 P P 03 06 25.1 +0.6
baz=236,SNR=22
J18K **Innoko River** 78.74 21 P P 03 06 24.9 +0.2
baz=233,SNR=21
BRLK **Bradley Lake** 79.00 26 IAmb IAmb 03 06 28.4
comp=Z,24nm,0.8s
M20K **Styx River** 79.19 23 P P 03 06 26.9 -0.3
baz=237
N20K **Mount Spurr** 79.19 24 P P 03 06 26.0 -1.2
baz=238
H18K **Honhosa River** 79.21 19 P P 03 06 27.0 -0.1
baz=231
L20K **Farewell, AK** 79.23 23 P P 03 06 27.7 +0.3
baz=236,SNR=17
C16K **Lisburne Wells** 79.25 15 P P 03 06 28.6 +1.3
baz=224
E17K **Hotham Inlet** 79.39 17 P P 03 06 28.8 +0.7
baz=228,SNR=11
CAPN **Captain Cook N** 79.40 25 P P 03 06 28.5 +0.2
baz=239
J19K **Poorman** 79.45 21 P P 03 06 28.9 +0.4
baz=234,SNR=23
D17K **Noatak River** 79.45 16 P P 03 06 29.0 +0.6
baz=226,SNR=9.0
GCSA **Galena City Sc** 79.46 20 P P 03 06 28.3 -0.2
baz=233
MK31 **Makanchi Array** 79.51 319 *d* iP P 03 06 29.2 0.0
MKAR **Makanchi Array** 79.51 319 P P 03 06 29.2 0.0
comp=Z,17nm,0.9s,baz=101,slow=6.3,SNR=71
MKAR PP PP 03 09 30.3 -1.2
comp=Z,7.8nm,1.0s,baz=106,slow=8.9,SNR=5.0
MKAR PKKPbc PKKPbc 03 25 17.1 -2.2
comp=Z,1.0nm,0.7s,baz=313,slow=1.9,SNR=7.4
comp=Z,17nm,0.9s
G18K **Tagagawik** 79.58 19 P P 03 06 29.2 +0.1
baz=231,SNR=24
K20K **Telida** 79.65 22 IAmb IAmb 03 06 32.8
comp=Z,26nm,0.8s
K20K **Telida** 79.65 22 P P 03 06 30.2 +0.6
baz=236,SNR=32
F18K **Selawik** 79.72 18 P P 03 06 29.9 +0.1
baz=230
RDOG **Red Dog Mine** 79.75 16 IAmb IAmb 03 07 22.9
comp=Z,26nm,0.8s
RDOG **Red Dog Mine** 79.75 16 P P 03 06 30.4 +0.4
baz=227,SNR=5.8
SEW **Seward** 79.80 26 P P 03 06 29.9 -0.5
baz=240
O22K **Cooper Landing** 79.87 26 P P 03 06 30.2 -0.6
baz=240
SKT **Skwentna** 79.88 24 P P 03 06 29.4 -1.5
baz=238
SUA **Susitna One** 79.93 24 P P 03 06 30.3 -1.0
baz=239,SNR=9.9
C17K **DeLong Mountai** 79.97 16 P P 03 06 30.9 -0.3
baz=226
E18K **Tukpahlearik C** 79.97 17 P P 03 06 31.0 -0.2
baz=229,SNR=11
H19K **Roundabout Mou** 80.07 20 IAmb IAmb 03 06 35.2
comp=Z,38nm,1.0s
H19K **Roundabout Mou** 80.07 20 P P 03 06 32.0 +0.3
baz=233,SNR=25
J20K **Nowinta River** 80.08 21 IAmb IAmb 03 06 35.6
comp=Z,36nm,1.1s
J20K **Nowinta River** 80.08 21 P P 03 06 32.4 +0.5
baz=236,SNR=34
PPLA **Purkeypile** 80.11 23 P P 03 06 31.3 -1.0
baz=238,SNR=8.8
RC01 **Rabbit Creek A** 80.16 25 P P 03 06 32.0 -0.4
baz=240,SNR=14
G19K **Purcell Mounta** 80.24 19 IAmb IAmb 03 06 36.3
comp=Z,36nm,1.1s
G19K **Purcell Mounta** 80.24 19 P P 03 06 32.8 +0.1
baz=232,SNR=28
SHLS **Shalkode** 80.32 315 *e*P P 03 06 32.2 -1.6
SHLS pmax pmax
comp=Z,21nm,1.0s
SHLS **Shalkode** 80.32 315 *e*P P 03 06 32.2 -1.6
comp=Z,21nm,1.0s
I20K **Naaghedeneel** 80.32 21 IAmb IAmb 03 07 26.0
comp=Z,39nm,0.9s
I20K **Naaghedeneel** 80.32 21 P P 03 06 33.5 +0.4
baz=235
M22K **Willow** 80.34 24 IAmb IAmb 03 07 24.7
comp=Z,34nm,0.9s
M22K **Willow** 80.34 24 P P 03 06 32.2 -1.0
baz=240
CAST **Castle Rocks** 80.43 22 P P 03 06 32.9 -0.9
baz=238,SNR=34
ZAA0 **Zalesovo Array** 80.53 327 IAmb IAmb 03 06 34.7
comp=Z,43nm,0.9s
ZALV **Zalesovo Beam** 80.53 327 P P 03 06 33.7 -0.8
comp=Z,34nm,0.7s,baz=110,slow=5.4,SNR=102
ZALV PP PP 03 09 38.2 -1.5
comp=Z,6.3nm,0.9s,baz=102,slow=5.1,SNR=5.0
ZALV PKKPbc PKKPbc 03 25 14.5 -2.8
comp=Z,0.9nm,0.4s,baz=316,slow=4.1,SNR=4.7
ZALV LR LR 03 42 00.3
comp=Z,60nm,20.7s,baz=138,slow=35
comp=Z,34nm,0.7s
H20K **Anotleneega Mo** 80.58 20 P P 03 06 34.7 +0.2
baz=235,SNR=10
CHUM **Lake Minchumin** 80.59 22 P P 03 06 34.4 -0.2
baz=237,SNR=47
CUT **Chulitna** 80.61 24 IAmb IAmb 03 06 36.6
comp=Z,50nm,1.1s
CUT **Chulitna** 80.61 24 P P 03 06 33.6 -1.1
baz=239
C18K **Utukok River** 80.62 16 P P 03 06 34.4 -0.4
baz=228
UZB **Uzunbulak** 80.62 315 *e*P P 03 06 35.5 0.0
UZB **Uzunbulak** 80.62 315 *e*P P 03 06 35.5 0.0
PWL **Port Wells** 80.65 26 IAmb IAmb 03 07 27.1
comp=Z,47nm,0.7s
PWL **Port Wells** 80.65 26 P P 03 06 34.8 -0.2
baz=241,SNR=21
P23K **Montague Islan** 80.65 27 P P 03 06 34.7 -0.3
baz=242
PMR **Palmer** 80.67 25 P P 03 06 34.5 -0.5
baz=241,SNR=9.0
KNK **Knik Glacier** 80.86 25 IAmb IAmb 03 07 17.4
comp=Z,44nm,1.4s
KNK **Knik Glacier** 80.86 25 P P 03 06 35.7 -0.5
baz=241
Q23K **Milleton Isla** 80.87 27 P P 03 06 36.0 -0.1
baz=243
E19K **Redstone River** 81.00 18 IAmb IAmb 03 06 40.2
comp=Z,60nm,1.1s
E19K **Redstone River** 81.00 18 P P 03 06 37.2 +0.4
baz=232,SNR=30
TRF **Thorofare Moun** 81.14 23 P P 03 06 36.5 -1.3
baz=239,SNR=14
GLI **Glacier Island** 81.19 26 IAmb IAmb 03 06 39.1
comp=Z,25nm,0.8s
GLI **Glacier Island** 81.19 26 P P 03 06 37.5 -0.4
baz=242,SNR=7.2
BPAW **Bear Paw Mtn.** 81.21 22 P P 03 06 37.0 -0.9
baz=238,SNR=13
F20K **Avaraart Lake** 81.22 19 P P 03 06 38.3 +0.5
baz=234
IMAR **Indian Mountai** 81.25 20 P P 03 06 38.1 0.0
M23K **Glacier View** 81.35 25 P P 03 06 38.5 -0.2
baz=242,SNR=7.3
C19K **Lookout Ridge** 81.36 16 P P 03 06 38.8 +0.2
baz=230,SNR=5.1
D19K **Kuna River** 81.38 17 IAmb IAmb 03 06 41.8
comp=Z,36nm,1.2s
D19K **Kuna River** 81.38 17 P P 03 06 38.8 0.0
baz=231,SNR=5.6
H21K **Melozitna Rive** 81.39 20 P P 03 06 39.1 +0.3
baz=237,SNR=9.6
I21K **Tanana** 81.42 21 P P 03 06 39.2 +0.3
baz=237
SCM **Sheep Creek Mo** 81.54 25 P P 03 06 39.6 -0.2
baz=242,SNR=10.0
TDK **Taldyqorghan** 81.56 317 *e*P P 03 06 40.3 +0.1
TDK pmax pmax
comp=Z,37nm,1.0s
TDK **Taldyqorghan** 81.56 317 *e*P P 03 06 40.4 +0.1
comp=Z,37nm,1.0s
G21K **Allakaket** 81.63 19 P P 03 06 40.2 +0.1
baz=236,SNR=8.7
EYAK **Cordova Ski Ar** 81.64 26 P P 03 06 40.1 -0.1
baz=244
KDJ **Kajisay** 81.66 314 P P 03 06 41.5 +0.5
KDJ pmax pmax
comp=Z,51nm,1.1s
MLY **Manley** 81.78 21 IAmb IAmb 03 06 42.1
comp=Z,25nm,0.6s
MLY **Manley** 81.78 21 P P 03 06 40.8 -0.2
baz=239,SNR=55
E20K **Nigu River** 81.80 17 P P 03 06 41.0 0.0
baz=233,SNR=13
MCK **McKinley** 81.80 23 IAmb IAmb 03 06 43.2
comp=Z,68nm,1.1s
MCK **McKinley** 81.80 23 P P 03 06 40.1 -0.9
baz=240,SNR=28
BWN **Browne** 81.82 22 IAmb IAmb 03 06 43.6
comp=Z,71nm,1.2s
KSH **Kashi** 81.92 311 P P 03 06 44.4 +2.0
KSH pmax pmax
comp=Z,17nm,1.2s
D20K **Etivluk River** 81.95 17 IAmb IAmb 03 06 44.2
comp=Z,58nm,1.6s
D20K **Etivluk River** 81.95 17 P P 03 06 42.1 +0.4
baz=233
KLU **Klutina** 81.98 26 P P 03 06 42.1 0.0
baz=244,SNR=17
H22K **Ishtalitna Cre** 82.01 20 P P 03 06 41.9 -0.3
baz=238,SNR=13
F21K **Alaska River** 82.04 19 P P 03 06 42.1 -0.1
baz=236,SNR=7.3
RAGM **Ragged Mountai** 82.05 27 IAmb IAmb 03 06 44.1
comp=Z,44nm,1.3s
TNSS **Tian-Shan** 82.06 315 *e*P P 03 06 43.0 -0.3
TNSS **Tian-Shan** 82.06 315 *e*P P 03 06 43.1 -0.3
AAA **Alma-Ata** 82.12 315 *e*P P 03 06 43.4 +0.1
AAA pmax pmax
comp=Z,23nm,0.5s
AAA **Alma-Ata** 82.12 315 *e*P P 03 06 43.4 +0.1
comp=Z,23nm,0.5s
M24K **Tolsona, Glenn** 82.15 25 IAmb IAmb 03 06 44.7
comp=Z,26nm,0.7s
M24K **Tolsona, Glenn** 82.15 25 P P 03 06 42.7 -0.2
baz=243,SNR=5.7
NEA2 **Nenana** 82.18 22 IAmb IAmb 03 06 45.0
comp=Z,40nm,1.3s
NEA2 **Nenana** 82.18 22 P P 03 06 41.3 -1.7
baz=240,SNR=22
BMRM **Bremner River** 82.32 26 P P 03 06 43.5 -0.4
baz=245,SNR=6.2
I23K **Minto, Yukon-K** 82.35 22 IAmb IAmb 03 06 45.0
comp=Z,47nm,1.6s
I23K **Minto, Yukon-K** 82.35 22 P P 03 06 43.2 -0.6
baz=240,SNR=13
BERG **Berg Lake** 82.49 27 IAmb IAmb 03 07 37.1
comp=Z,34nm,0.8s
WRH **Wood River Hil** 82.49 22 IAmb IAmb 03 06 46.5
comp=Z,32nm,1.1s
G22K **Bettles** 82.52 20 P P 03 06 44.8 +0.1
baz=238,SNR=6.5
E21K **Killik River** 82.58 18 IAmb IAmb 03 06 46.6
comp=Z,104nm,1.6s
E21K **Killik River** 82.58 18 P P 03 06 45.1 +0.1
baz=235
N25K **Chitina, Valde** 82.60 26 IAmb IAmb 03 06 47.1
comp=Z,62nm,1.8s
N25K **Chitina, Valde** 82.60 26 P P 03 06 45.5 +0.2
baz=245,SNR=10
F22K **John River** 82.61 19 P P 03 06 45.4 +0.2
baz=237
H23K **Yukon River** 82.62 21 IAmb IAmb 03 06 47.9
comp=Z,70nm,1.6s
H23K **Yukon River** 82.62 21 P P 03 06 45.3 0.0
baz=240,SNR=15
KUU **Kurty** 82.70 315 *e*P P 03 06 46.2 0.0
KUU pmax pmax
comp=Z,31nm,1.0s
KUU **Kurty** 82.70 315 *e*P P 03 06 46.3 0.0
comp=Z,31nm,1.0s
HARP **HAARP** 82.70 25 P P 03 06 45.4 -0.4
baz=244
C21K **Knifeblade Rid** 82.75 17 P P 03 06 45.8 -0.1
baz=234
COLA **College** 82.77 22 P P 03 06 44.7 -1.3
COLA IAmb IAmb 03 06 47.7
comp=Z,33nm,0.9s
COLA **College** 82.77 22 P P 03 06 46.3 +0.3
COLA **College** 82.77 22 *d* iP P 03 06 44.7 -1.3
COLA pmax pmax
comp=Z,25nm,0.9s
COLA **College** 82.77 22 P P 03 06 45.0 -0.9
baz=241
PAX **Paxson** 82.83 24 P P 03 06 46.0 -0.5
baz=244,SNR=11
CRQM **Cirque** 82.89 27 IAmb IAmb 03 07 41.9
comp=Z,22nm,0.8s
HDA **Harding Lake** 82.89 23 P P 03 06 45.3 -1.3
baz=242,SNR=19
WAX **Waxell Ridge** 82.89 27 IAmb IAmb 03 07 39.3
comp=Z,29nm,0.9s
G23K **Bananza Creek** 82.91 20 P P 03 06 47.0 +0.3
baz=239,SNR=16
CRQE **Cirque** 82.91 27 P P 03 06 46.5 -0.5
baz=246,SNR=5.8
TKM2 **Tokmak 2** 82.99 314 P P 03 06 48.3 +0.3
SNR=12
KURK **Kurchatov** 83.03 322 P P 03 06 47.0 -0.6
KURK **Kurchatov** 83.03 322 *d* iP P 03 06 47.2 -0.5
KURK pmax pmax
comp=Z,67nm,1.1s
POKR **Poker Plat Res** 83.04 22 P P 03 06 46.0 -1.5
baz=242,SNR=16
KURBB **Kurchatov Arra** 83.06 322 P P 03 06 47.4 -0.4
comp=Z,26nm,1.0s,baz=107,slow=4.3,SNR=82
KURBB PP PP 03 09 57.6 -3.0
comp=Z,3.2nm,0.9s,baz=106,slow=7.9,SNR=4.6
KURBB PKKPbc PKKPbc 03 25 09.5 -1.8
comp=Z,1.4nm,0.2s,baz=290,slow=3.0,SNR=6.4
comp=Z,26nm,1.0s
B21K **Ikpikpuk River** 83.07 17 P P 03 06 47.9 +0.4
baz=234
E22K **Anaktuvuk Pass** 83.07 18 P P 03 06 47.8 +0.2
baz=237,SNR=13
K24K **Donnelly Dome** 83.07 23 P P 03 06 47.7 0.0
baz=243,SNR=9.1
ILAR **Eielson Array** 83.09 22 P P 03 06 45.9 -1.8
comp=Z,11nm,0.6s,baz=248,slow=5.2,SNR=206
ILAR PKKPbc PKKPbc 03 25 08.1 -3.8
comp=Z,0.4nm,0.6s,baz=4.2,slow=1.6,SNR=8.1
ILAR LR LR 03 39 44.3
comp=Z,65nm,20.2s,baz=264,slow=33
comp=Z,11nm,0.6s
COLD **Coldfoot** 83.11 20 IAmb IAmb 03 06 49.7
comp=Z,65nm,1.8s
COLD **Coldfoot** 83.11 20 P P 03 06 48.1 +0.3
baz=239,SNR=7.5
MCARA **McCarthy VSAT** 83.19 26 IAmb IAmb 03 07 01.9
comp=Z,20nm,0.7s
MCARA **McCarthy VSAT** 83.19 26 P P 03 06 48.4 +0.1
baz=246
MESA **MESA** 83.20 28 P P 03 06 48.8 +0.2
baz=247
D22K **Ayikyak River** 83.21 18 P P 03 06 49.1 +0.8
baz=236,SNR=7.2
H24K **Noodor Dome** 83.22 21 P P 03 06 47.4 -1.0
baz=241,SNR=15
KBK **Karagaybulak** 83.39 314 P P 03 06 51.0 +1.0
SNR=8.4
RIDG **Independent Ri** 83.42 24 IAmb IAmb 03 06 52.4
comp=Z,49nm,1.5s
RIDG **Independent Ri** 83.42 24 P P 03 06 49.1 -0.3
baz=244,SNR=13
A21K **Barrow** 83.55 15 P P 03 06 50.0 +0.1
baz=232
J25K **Salcha River,** 83.59 23 IAmb IAmb 03 06 52.9
comp=Z,50nm,1.1s
J25K **Salcha River,** 83.59 23 P P 03 06 49.8 -0.6
baz=244,SNR=68
CHMS **Chumysh** 83.61 314 P P 03 06 51.8 +0.8
SNR=9.2
M26K **Nabesna, AK** 83.62 25 P P 03 06 50.5 0.0
baz=246
TABL **Table Mountain** 83.67 27 IAmb IAmb 03 07 43.2
comp=Z,28nm,0.8s
DOT **Dot Lake** 83.69 24 IAmb IAmb 03 06 53.8
comp=Z,29nm,1.0s
AAK **Ala-Archa** 83.72 314 P P 03 06 52.3 +0.7
AAK IAmb IAmb 03 06 53.4
comp=Z,28nm,0.9s
AAK **Ala-Archa** 83.72 314 P P 03 06 51.8 +0.2
comp=Z,18nm,0.8s,baz=122,slow=4.9,SNR=20
AAK LR LR 03 44 50.7
comp=Z,78nm,20.7s,baz=140,slow=36
comp=Z,18nm,0.8s
AAK **Ala-Archa** 83.72 314 P P 03 06 52.7 +1.1
SNR=7.8
AAK **Ala-Archa** 83.72 314 *de*P P 03 06 52.1 +0.5
AAK pmax pmax
comp=Z,57nm,1.7s
L26K **Log Cabin Wild** 83.73 25 IAmb IAmb 03 06 53.7
comp=Z,17nm,0.7s
L26K **Log Cabin Wild** 83.73 25 P P 03 06 51.2 +0.2
baz=246,SNR=8.3
E23K **Chandalar** 83.73 19 IAmb IAmb 03 06 54.5
comp=Z,33nm,1.2s
E23K **Chandalar** 83.73 19 P P 03 06 51.5 +0.4
baz=239,SNR=12
CTG **Chitna Glacier** 83.78 27 P P 03 06 51.5 0.0
baz=248,SNR=8.8
A22K **Sinclair Lake** 83.78 15 P P 03 06 51.5 +0.4
baz=234
G24K **Hadweenzic Riv** 83.78 21 P P 03 06 51.4 +0.1
baz=242,SNR=16
CTGM **Chitina Glacie** 83.78 27 IAmb IAmb 03 07 44.5
comp=Z,34nm,0.9s
SGDS **Sogindy** 83.80 315 *e*P P 03 06 51.9 0.0
B22K **Teshekpuk Lake** 83.82 16 P P 03 06 52.1 +0.9
baz=236
USP **Ospenovka** 83.85 314 P P 03 06 52.5 +0.3
SNR=22
SCRK **Sand Creek** 83.86 24 P P 03 06 51.5 -0.3
baz=245,SNR=19
D23K **Nanushuk River** 83.87 18 IAmb IAmb 03 06 55.6
comp=Z,49nm,0.9s
D23K **Nanushuk River** 83.87 18 P P 03 06 52.5 +0.9
baz=238,SNR=15
PRP **Porcupine Dome** 83.94 22 P P 03 06 51.4 -0.8
baz=243
PCA **Pinnacle** 83.96 28 IAmb IAmb 03 07 44.5
comp=Z,22nm,0.9s
PINM **Pinnacle** 83.96 28 P P 03 06 52.3 0.0
baz=249
F24K **Squaw Lake** 84.04 20 IAmb IAmb 03 06 55.7
comp=Z,68nm,1.4s
F24K **Squaw Lake** 84.04 20 P P 03 06 53.1 +0.6
baz=241,SNR=21
TOLK **Toolik Lake Re** 84.05 18 P P 03 06 52.2 -0.3
baz=239
M27K **Edge Creek, AK** 84.08 26 IAmb IAmb 03 07 46.1
comp=Z,30nm,0.8s
M27K **Edge Creek, AK** 84.08 26 P P 03 06 52.8 -0.2
baz=247,SNR=36
E24K **Your Creek** 84.11 19 P P 03 06 52.6 -0.4
baz=240
H25L **Birch Creek** 84.17 21 P P 03 06 53.2 +0.1
baz=243,SNR=6.3
BCPM **Bancas Point** 84.20 28 IAmb IAmb 03 08 34.7
comp=Z,28nm,0.8s
PNL **Peninsula** 84.21 29 P P 03 06 54.3 +0.8
PNL **Peninsula** 84.21 29 P P 03 06 53.5 0.0
baz=250,SNR=7.9
O28M **Mount Upton** 84.23 27 IAmb IAmb 03 07 46.8
comp=Z,21nm,0.8s
O28M **Mount Upton** 84.23 27 P P 03 06 54.1 +0.2
baz=249
EKS2 **Erkin-Say** 84.24 314 P P 03 06 55.5 +1.3

SNR=25
J26L Joseph Creek 84.25 23 IAmb IAmb 03 06 56.4
comp=Z,46nm,1.6s
J26L Joseph Creek 84.25 23 P **P** **03 06 53.6 -0.1**
baz=245,SNR=26
G25K Bearman Lake 84.30 21 P **P** **03 06 54.3 +0.5**
baz=243,SNR=12
C23K Itkillik River 84.35 17 IAmb IAmb 03 06 57.5
comp=Z,37nm,1.0s
C23K Itkillik River 84.35 17 P **P** **03 06 54.1 +0.1**
baz=238
L27K Beaver Creek, 84.38 25 P **P** **03 06 54.3 0.0**
baz=247,SNR=20
YUK3 Moose Creek 84.48 26 P **P** **03 06 55.4 +0.3**
baz=248,SNR=11
FYU Fort Yukon 84.52 21 IAmb IAmb 03 06 58.2
comp=Z,41nm,1.3s
OHH Osh 84.53 311 P **P** **03 06 55.7 0.0**
OHH pmax pmax
comp=Z,21nm,0.7s
BVCY Beaver Creek 84.54 26 P **P** **03 06 55.4 +0.3**
baz=248,SNR=21
D24K Happy Valley 84.54 18 IAmb IAmb 03 06 58.0
comp=Z,58nm,1.4s
D24K Happy Valley 84.54 18 P **P** **03 06 55.4 +0.4**
baz=240,SNR=5.7
BTLS Baital 84.56 316 *e*P **P** **03 06 55.7 +0.1**
BTLS pmax pmax
comp=Z,40nm,1.1s
BTLS Baital 84.56 316 *e*P **P** **03 06 55.7 +0.1**
comp=Z,40nm,1.1s
YUK8 Steele Glacier 84.61 27 P **P** **03 06 56.0 +0.2**
baz=249
MAW Mawson 84.63 203 P **P** **03 06 55.6 +0.1**
comp=Z,15nm,0.9s,baz=78,slow=7.0,SNR=18
MAW PKKPbc **PKKPbc** **03 25 06.1 -1.7**
comp=Z,1.4nm,0.5s,baz=285,slow=1.7,SNR=4.5
comp=Z,15nm,0.9s
K27K Chicken 84.65 24 IAmb IAmb 03 06 59.7
comp=Z,28nm,1.1s
K27K Chicken 84.65 24 P **P** **03 06 56.2 +0.6**
baz=247
I26K Coal Creek Min 84.75 23 P **P** **03 06 55.5 -0.6**
baz=246
O29M Mount Kennedy 84.81 28 P **P** **03 06 57.3 +0.6**
baz=250,SNR=7.2
QSPA South Pole Qui 84.83 180 P **P** **03 06 57.9 +1.2**
QSPA South Pole Qui 84.83 180 P **P** **03 06 57.5 +0.8**
comp=Z,32nm,0.7s,baz=299,slow=0.6,SNR=207
QSPA pP **pP** **03 07 28.6 -1.7**
comp=Z,54nm,0.9s,baz=348,slow=2.1,SNR=10.0
QSPA PKKPbc **PKKPbc** **03 25 04.5 -3.7**
comp=Z,2.5nm,1.1s,baz=298,slow=2.2,SNR=12
QSPA LR LR 03 42 32.2
comp=Z,46nm,20.4s,baz=11,slow=34
comp=Z,32nm,0.7s
F25K Christian Rive 84.83 20 P **P** **03 06 56.8 +0.2**
baz=243,SNR=7.1
C24K Franklin Bluff 84.86 18 IAmb IAmb 03 07 00.1
comp=Z,40nm,1.0s
C24K Franklin Bluff 84.86 18 P **P** **03 06 57.0 +0.5**
baz=240
P29M Windy Craggy 84.99 29 P **P** **03 06 57.8 +0.3**
baz=251
BMAR Burnt Mountain 85.13 20 P **P** **03 06 58.7 +0.7**
YUK6 Outpost Mounta 85.13 28 P **P** **03 06 58.4 0.0**
baz=250,SNR=7.0
YUK4 Talbot Arm 85.14 27 P **P** **03 06 59.4 +1.0**
baz=250,SNR=21
G26K Porcupine Rive 85.20 21 IAmb IAmb 03 07 02.1
comp=Z,33nm,1.0s
G26K Porcupine Rive 85.20 21 P **P** **03 06 58.8 +0.5**
baz=245,SNR=27
S31K Pelican 85.21 31 IAmb IAmb 03 07 00.6
comp=Z,45nm,1.5s
S31K Pelican 85.21 31 P **P** **03 06 59.4 +0.9**
baz=252
D25K Kavik River 85.39 18 IAmb IAmb 03 07 51.5
comp=Z,50nm,1.6s
D25K Kavik River 85.39 18 P **P** **03 06 59.2 0.0**
baz=242
F26K Sheenjek River 85.39 20 P **P** **03 07 00.0 +0.7**
baz=244,SNR=9.8
SIT Sitka 85.41 32 P **P** **03 07 01.1 +1.6**
SIT Sitka 85.41 32 P **P** **03 06 59.5 0.0**
baz=253
I27K Kandik River 85.45 23 P **P** **03 06 59.6 0.0**
baz=247,SNR=24
HYT Haines Junctio 85.49 28 IAmb IAmb 03 07 52.9
comp=Z,28nm,0.8s
HYT Haines Junctio 85.49 28 P **P** **03 07 00.8 +0.8**
baz=251,SNR=29
P30M Million Dollar 85.52 29 P **P** **03 07 00.6 +0.5**
baz=252
M29M Somme Creek 85.59 26 P **P** **03 07 00.6 +0.1**
baz=250,SNR=20
PLBC Pleasant Camp 85.60 29 P **P** **03 07 00.9 +0.5**
baz=252,SNR=5.2
H27K Steamboat Moun 85.73 22 IAmb IAmb 03 07 04.7
comp=Z,49nm,1.3s
H27K Steamboat Moun 85.73 22 P **P** **03 07 01.4 +0.3**
baz=247,SNR=21
DAWY Dawson 85.76 24 P **P** **03 07 01.6 +0.4**
baz=249,SNR=21
N30M Aishikik Lake 85.88 27 IAmb IAmb 03 07 03.0
comp=Z,47nm,1.8s
N30M Aishikik Lake 85.88 27 P **P** **03 07 02.3 +0.4**
baz=251,SNR=8.4
G27K Doyon Strip 85.91 21 P **P** **03 07 02.3 +0.4**
baz=247,SNR=13
S32K Killisnoo 85.92 31 P **P** **03 07 02.7 +0.6**
baz=254
TRKS Terek-Say 85.94 312 P **P** **03 07 02.9 +0.1**
TRKS pmax pmax
comp=Z,17nm,1.4s
L29M L29M 85.96 25 IAmb IAmb 03 07 55.6
comp=Z,26nm,0.8s
L29M L29M 85.96 25 P **P** **03 07 02.6 +0.3**
baz=250,SNR=30
I28M Miner Creek 86.04 23 IAmb IAmb 03 07 05.2
comp=Z,39nm,1.4s
I28M Miner Creek 86.04 23 P **P** **03 07 02.3 -0.3**
baz=249,SNR=21
DZA Taraz 86.05 314 *e*P **P** **03 07 03.0 -0.1**
DZA pmax pmax
comp=Z,26nm,0.9s
DZA Taraz 86.05 314 *e*P **P** **03 07 03.1 -0.1**
comp=Z,26nm,0.9s
BESE Bessie Mountai 86.09 30 IAmb IAmb 03 07 05.0
comp=Z,60nm,1.5s
SKAG Skagway 86.11 29 IAmb IAmb 03 07 05.1
comp=Z,64nm,1.7s
SKAG Skagway 86.11 29 P **P** **03 07 03.2 +0.3**
baz=253,SNR=5.9
C26K Camden Bay 86.11 18 P **P** **03 07 03.7 +1.0**
baz=244
GAR Garm 86.12 310 IAmb IAmb 03 07 40.9
comp=Z,40nm,1.2s
CRAG Craig 86.17 34 IAmb IAmb 03 07 05.6
comp=Z,60nm,1.7s
CRAG Craig 86.17 34 P **P** **03 07 03.8 +0.6**
baz=255
R32K Eaglecrest 86.17 31 P **P** **03 07 03.7 +0.4**
baz=254
U33K Whale Pass 86.33 33 P **P** **03 07 04.4 +0.3**
baz=255,SNR=7.2
C27K Jago River 86.36 19 IAmb IAmb 03 07 07.2
comp=Z,94nm,1.8s
C27K Jago River 86.36 19 P **P** **03 07 04.8 +0.8**
baz=245,SNR=6.3
M30M Minto, Yukon 86.37 26 P **P** **03 07 04.8 +0.5**
baz=252,SNR=25
J29N Klondike Camp 86.38 24 IAmb IAmb 03 07 08.5
comp=Z,22nm,0.9s
J29N Klondike Camp 86.38 24 P **P** **03 07 04.8 +0.6**
baz=250
KBL Kabul 86.42 305 P **P** **03 07 03.8 -1.5**
KBL pmax pmax
comp=Z,7.0nm,0.5s
K29M Barlow Dome 86.46 25 IAmb IAmb 03 07 56.6
comp=Z,31nm,0.9s
K29M Barlow Dome 86.46 25 P **P** **03 07 05.5 +0.8**
baz=251,SNR=37
E27K Coleen River 86.47 20 IAmb IAmb 03 07 07.8
comp=Z,89nm,1.6s
E27K Coleen River 86.47 20 P **P** **03 07 05.0 +0.4**
baz=247,SNR=14
N31M Braeburn, Yuko 86.49 27 IAmb IAmb 03 07 07.0
comp=Z,26nm,1.0s
N31M Braeburn, Yuko 86.49 27 P **P** **03 07 05.1 +0.3**
baz=253,SNR=12
HG4B Hotspring 86.52 37 IAmb IAmb 03 07 09.5
comp=Z,31nm,1.0s
T33K Petersburg 86.60 32 P **P** **03 07 06.5 +1.2**
baz=255
I29M Ogilvie Camp, 86.65 23 P **P** **03 07 05.5 -0.1**
baz=250,SNR=18
WHY Whitehorse 86.67 28 IAmb IAmb 03 07 09.7
comp=Z,27nm,0.9s
WHY Whitehorse 86.67 28 P **P** **03 07 06.3 +0.4**
baz=253,SNR=15
KK31 Karatay Array 86.68 314 IAmb IAmb 03 07 08.3
comp=Z,47nm,1.4s
KKAR Karatay Array 86.68 314 P **P** **03 07 05.9 -0.3**
KKAR Karatay Array 86.68 314 P **P** **03 07 05.9 -0.3**
WRAK Wrangell Islan 86.83 33 P **P** **03 07 07.0 +0.6**
baz=256,SNR=7.2
F28M Old Crow 86.86 21 IAmb IAmb 03 07 09.5
comp=Z,38nm,1.4s
F28M Old Crow 86.86 21 P **P** **03 07 06.8 +0.3**
baz=248,SNR=13
IUG Iuzhnay 86.86 313 *e*P **P** **03 07 07.1 -0.1**
IUG pmax pmax
comp=Z,20nm,1.1s
IUG Iuzhnay 86.86 313 *e*P **P** **03 07 07.1 -0.1**
comp=Z,20nm,1.1s
H29M Whitestone 86.92 23 IAmb IAmb 03 07 18.9
comp=Z,51nm,1.9s
H29M Whitestone 86.92 23 P **P** **03 07 06.4 -0.4**
baz=250
P32M Atlin 86.93 29 P **P** **03 07 07.8 +0.7**
baz=254,SNR=8.5
V35K Ketchikan 86.97 34 IAmb IAmb 03 07 58.4
comp=Z,27nm,0.9s
V35K Ketchikan 86.97 34 P **P** **03 07 07.4 +0.2**
baz=256,SNR=9.4
SIMJ Simiganj 87.07 309 P **P** **03 07 08.0 -0.4**
SIMJ IAmb IAmb 03 07 45.4
comp=Z,40nm,1.4s
MAYO Mayo, Yukon 87.07 25 P **P** **03 07 08.6 +1.0**
baz=252
D27M Malcolm River 87.10 19 IAmb IAmb 03 07 10.9
comp=Z,58nm,1.6s
D27M Malcolm River 87.10 19 P **P** **03 07 08.4 +0.8**
baz=247
BRLS Boroloday 87.15 313 *e*P **P** **03 07 08.4 0.0**
BRLS Boroloday 87.15 313 *e*P **P** **03 07 08.5 0.0**
J30M Hart River 87.19 24 IAmb IAmb 03 08 03.6
comp=Z,22nm,0.8s
J30M Hart River 87.19 24 P **P** **03 07 08.8 +0.5**
baz=252,SNR=26
CHM Chimkent 87.21 313 *e*P **P** **03 07 08.6 -0.1**
CHM pmax pmax
comp=Z,20nm,1.0s
CHM Chimkent 87.21 313 *e*P **P** **03 07 08.7 -0.1**
comp=Z,20nm,1.0s
G29M Pine Creek 87.29 22 P **P** **03 07 08.8 +0.2**
baz=250,SNR=13
M31M Drury Creek, Y 87.33 27 IAmb IAmb 03 07 10.3
comp=Z,39nm,1.6s
M31M Drury Creek, Y 87.33 27 P **P** **03 07 08.7 -0.2**
baz=254,SNR=11
E28M Babbage River 87.34 20 P **P** **03 07 09.0 +0.2**
baz=248,SNR=14
I30M Mount Dempster 87.37 24 P **P** **03 07 09.2 +0.1**
baz=252,SNR=17
Q32M Nakina River 87.49 30 IAmb IAmb 03 07 14.3
comp=Z,26nm,1.4s
Q32M Nakina River 87.49 30 P **P** **03 07 11.2 +1.2**
baz=256,SNR=9.2
RUBB Prince Rupert 87.51 35 IAmb IAmb 03 08 01.1
comp=Z,23nm,0.8s
P33M Teslin, Yukon 87.53 29 IAmb IAmb 03 07 11.6
comp=Z,28nm,1.4s
P33M Teslin, Yukon 87.53 29 P **P** **03 07 10.0 0.0**
baz=255
EPYK Eagle Plains 87.60 23 IAmb IAmb 03 07 13.4
comp=Z,36nm,1.0s
EPYK Eagle Plains 87.60 23 P **P** **03 07 10.0 -0.1**
baz=252,SNR=15
N32M Quiet Lake 87.64 28 P **P** **03 07 10.8 +0.4**
baz=255,SNR=18
S34M Telegraph Cree 87.82 31 IAmb IAmb 03 07 15.8
comp=Z,18nm,0.8s
S34M Telegraph Cree 87.82 31 P **P** **03 07 12.3 +1.1**
baz=257,SNR=16
E29M Blow River 87.83 21 IAmb IAmb 03 07 13.5
comp=Z,52nm,1.8s
E29M Blow River 87.83 21 P **P** **03 07 11.1 0.0**
baz=250
U35K Hyder 87.98 34 P **P** **03 07 12.5 +0.5**
baz=258
G30M tAoh Zraii Nji 87.98 22 P **P** **03 07 11.4 -0.5**
baz=252,SNR=12
HOLB Holberg 88.06 39 IAmb IAmb 03 07 14.8
comp=Z,21nm,0.8s
T35M Bob Quinn 88.08 32 P **P** **03 07 13.6 +1.0**
baz=258
R33M Jennings River 88.24 30 P **P** **03 07 14.3 +0.9**
baz=257,SNR=16
F30M Barrier River 88.33 22 IAmb IAmb 03 07 55.9
comp=Z,25nm,1.0s
F30M Barrier River 88.33 22 P **P** **03 07 13.4 -0.1**
baz=252,SNR=8.5
BBB Bella Bella 88.35 37 P **P** **03 07 13.5 -0.3**
comp=Z,13nm,1.1s,baz=188,slow=6.6,SNR=4.1
comp=Z,13nm,1.1s
H31M Peel River 88.36 23 IAmb IAmb 03 07 15.0
comp=Z,64nm,1.9s
H31M Peel River 88.36 23 P **P** **03 07 13.6 -0.1**
baz=254,SNR=9.7
DLBC Dease Lake 88.51 31 P **P** **03 07 14.2 -0.4**
comp=Z,0.7nm,0.8s,baz=252,slow=4.2,SNR=16
DLBC Dease Lake 88.51 31 P **P** **03 07 15.3 +0.7**
baz=258,SNR=12
BVAR Borovoye Array 88.53 323 P **P** **03 07 13.4 -1.3**
comp=Z,27nm,0.9s,baz=104,slow=6.3,SNR=84
BVAR pP **pP** **03 07 47.4 -0.6**
comp=Z,6.0nm,0.7s,baz=86,slow=4.8,SNR=2.7
BVAR PKKPbc **PKKPbc** **03 24 56.1 -2.2**
comp=Z,0.9nm,0.7s,baz=297,slow=6.5,SNR=4.4
BVAR LR LR 03 49 44.7
comp=Z,54nm,18.9s,baz=101,slow=37
comp=Z,27nm,0.9s
BRVK Borovoye 88.60 323 P **P** **03 07 14.0 -1.0**
BRVK IAmb IAmb 03 07 15.0
comp=Z,26nm,1.0s
BRVK Borovoye 88.60 323 P **P** **03 07 14.0 -1.0**
BRVK pmax pmax
comp=Z,26nm,1.0s
G31M Satah River 88.70 22 IAmb IAmb 03 07 16.5
comp=Z,67nm,1.6s
G31M Satah River 88.70 22 P **P** **03 07 14.7 -0.5**
baz=254,SNR=12
MMPY Sheldon Lake, 88.84 27 IAmb IAmb 03 07 18.1
comp=Z,21nm,1.3s
MMPY Sheldon Lake, 88.84 27 P **P** **03 07 16.3 +0.3**
baz=257,SNR=11
F31M Tsiigehtchic 89.04 22 IAmb IAmb 03 07 17.8
comp=Z,42nm,1.4s
F31M Tsiigehtchic 89.04 22 P **P** **03 07 16.2 -0.6**
baz=254,SNR=7.7
KMPM Mount Pierce 89.28 49 IAmb IAmb 03 07 21.9
comp=Z,17nm,0.8s
INK Inuvik 89.35 21 IAmb IAmb 03 07 19.0
comp=Z,38nm,1.4s
INK Inuvik 89.35 21 P **P** **03 07 17.4 -0.8**
comp=Z,8.0nm,1.0s,baz=290,slow=5.1,SNR=16
INK LR LR 03 45 38.5
comp=Z,50nm,19.8s,baz=253,slow=34
comp=Z,8.0nm,1.0s
INK Inuvik 89.35 21 P **P** **03 07 17.5 -0.7**
baz=254,SNR=14
KBO Bosley Butte 89.43 48 IAmb IAmb 03 07 22.6
comp=Z,39nm,1.2s
KEBM Edon Butte 89.44 47 IAmb IAmb 03 07 22.4
comp=Z,16nm,0.9s
KRPM Rodgers 89.45 49 IAmb IAmb 03 07 22.0
comp=Z,33nm,1.3s
WTLY Watson Lake, Y 89.47 30 P **P** **03 07 19.8 +0.8**
baz=259
KMRM Mail Ridge 89.57 50 IAmb IAmb 03 07 26.2
comp=Z,14nm,0.8s
KRMB Red Mountain 89.58 48 IAmb IAmb 03 07 22.3
comp=Z,17nm,1.1s
KCPM Cahto Peak 89.60 50 IAmb IAmb 03 07 22.1
comp=Z,17nm,0.9s
KSXB Camp Six Broad 89.64 48 IAmb IAmb 03 07 22.4
comp=Z,16nm,1.0s
CBB Campbell River 89.71 40 IAmb IAmb 03 07 22.1
comp=Z,17nm,1.0s
K02D Willamette Mer 89.90 47 IAmb IAmb 03 07 23.2
comp=Z,26nm,1.0s
I02E Swisshome, OR 89.94 46 IAmb IAmb 03 07 24.4
comp=Z,15nm,0.8s
TGTN Hyland Airport 89.99 28 P **P** **03 07 22.0 +0.5**
baz=259,SNR=5.1
I03D Drain, OR 90.25 46 IAmb IAmb 03 07 24.6
comp=Z,20nm,0.9s
O02D Mt. Diablo Mer 90.26 50 IAmb IAmb 03 07 26.6
comp=Z,22nm,0.9s
RADR Rader Ridge 90.27 44 IAmb IAmb 03 07 24.8
comp=Z,24nm,0.9s
F03A Seaside 90.37 44 IAmb IAmb 03 07 26.3
comp=Z,22nm,0.9s
WISH Wishkah 90.37 43 IAmb IAmb 03 07 24.9
comp=Z,18nm,1.0s
COR Corvallis 90.39 45 P **P** **03 07 24.2 +0.6**
COR IAmb IAmb 03 07 27.7
comp=Z,24nm,1.2s
COR Corvallis 90.39 45 P **P** **03 07 24.2 +0.6**
COR pmax pmax
comp=Z,24nm,1.2s
E03A Lebam 90.44 43 IAmb IAmb 03 07 25.3
comp=Z,29nm,0.9s
YBH Yreka Blue Hor 90.49 48 IAmb IAmb 03 07 26.3
comp=Z,21nm,1.0s
YBH Yreka Blue Hor 90.49 48 P **P** **03 07 24.4 +0.1**
comp=Z,0.9nm,0.9s,baz=199,slow=1.4,SNR=57
BUCK Buck Mountain 90.57 46 IAmb IAmb 03 08 14.0
comp=Z,17nm,1.0s
BBOR Butler Butte 90.64 47 IAmb IAmb 03 07 27.9
comp=Z,12nm,0.9s
LIRD Liard River Hi 90.69 30 P **P** **03 07 24.8 +0.1**
baz=261
H04D Lebanon 90.78 46 IAmb IAmb 03 07 28.2
comp=Z,55nm,1.8s
G04A Mulino 91.04 45 IAmb IAmb 03 07 32.7
comp=Z,20nm,0.9s
TOAD Toad River Com 91.05 31 P **P** **03 07 26.3 -0.1**
baz=262
GNW Green Mountain 91.06 43 IAmb IAmb 03 07 28.1
comp=Z,11nm,0.8s
H04A Detroit Lake 91.19 45 IAmb IAmb 03 07 30.5
comp=Z,29nm,1.6s
HATC Hat Creek Radi 91.33 49 IAmb IAmb 03 07 31.2
comp=Z,21nm,0.9s
AFDM Forest Hills D 91.53 51 IAmb IAmb 03 07 30.9
comp=Z,17nm,1.0s
D05A Enumclaw 91.59 43 IAmb IAmb 03 07 31.8
comp=Z,12nm,0.8s
KOTAN Kotaneelee Air 91.81 30 P **P** **03 07 29.6 -0.3**
baz=263
CMB Columbia Colle 91.91 52 IAmb IAmb 03 07 32.5
comp=Z,14nm,1.1s
PINE Pine Mountain 92.00 46 IAmb IAmb 03 07 33.1
comp=Z,18nm,0.9s
WRGLY Wrigley 92.46 27 P **P** **03 07 32.4 -0.4**
baz=264
WAKR Walker 92.69 52 IAmb IAmb 03 07 36.2
comp=Z,10nm,1.0s
SYO Syowa Base 92.81 200 ‖ *e*P **P** **03 07 34.6 +0.3**
E07A Sunnyside 92.99 44 IAmb IAmb 03 07 42.7
comp=Z,7.8nm,0.7s
ISA Isabella, Lake 93.25 55 IAmb IAmb 03 07 38.9
comp=Z,11nm,1.0s
RYN Ryan 93.42 52 IAmb IAmb 03 07 39.8
comp=Z,15nm,1.0s
G08A Pilot Rock 93.53 45 IAmb IAmb 03 07 40.8
comp=Z,16nm,1.4s
NVAR Mina Array Bea 93.57 52 P **P** **03 07 39.4 +0.6**
NVAR Mina Array Bea 93.57 52 P **P** **03 07 38.8 0.0**
comp=Z,11nm,0.8s,baz=254,slow=6.6,SNR=69
NVAR pP **pP** **03 08 12.3 -0.1**
comp=Z,4.4nm,0.7s,baz=254,slow=5.7,SNR=4.1
comp=Z,11nm,0.8s
CWC Cottonwood Cre 93.62 54 IAmb IAmb 03 07 40.8
comp=Z,16nm,1.0s
J08A Circle Bar Ran 93.75 47 IAmb IAmb 03 07 40.8
comp=Z,34nm,1.8s
DSP Deep Springs 93.77 53 IAmb IAmb 03 07 41.7
comp=Z,21nm,1.0s
BFSC Mount Baldy Ra 93.83 56 IAmb IAmb 03 07 41.9
comp=Z,15nm,1.1s
CLC China Lake 93.97 55 IAmb IAmb 03 07 42.5
comp=Z,19nm,1.1s
ELS Elsinore Mount 93.98 57 IAmb IAmb 03 07 42.8
comp=Z,14nm,1.1s
WSHM Spangler Hills 94.05 55 IAmb IAmb 03 07 42.9
comp=Z,26nm,1.2s
MPMC Manual Prospec 94.08 54 IAmb IAmb 03 07 43.2
comp=Z,17nm,1.0s
E09A Wood Farm, Sta 94.17 44 IAmb IAmb 03 07 43.4
comp=Z,16nm,0.8s
MZP Montezuma Peak 94.25 53 IAmb IAmb 03 07 43.7
comp=Z,14nm,1.0s
DPP Dos Picos Cty 94.35 57 IAmb IAmb 03 07 45.4
comp=Z,22nm,1.0s
TPH Tonopah 94.40 52 IAmb IAmb 03 07 44.3
comp=Z,16nm,1.2s
ABKAR Akbulak array 94.65 319 P **P** **03 07 40.9 -2.3**
GWY Greenwater Val 94.75 54 IAmb IAmb 03 07 47.0
comp=Z,15nm,1.2s
F10A Beach Ranch, E 94.78 44 IAmb IAmb 03 07 45.5
comp=Z,14nm,0.8s
PFO Pinyon Flats O 94.79 57 P **P** **03 07 45.6 +1.3**
PFO IAmb IAmb 03 07 46.6
comp=Z,15nm,1.0s
PFO Pinyon Flats O 94.79 57 LR LR 03 44 05.4
comp=Z,74nm,18.4s,baz=230,slow=31
PFO Pinyon Flats O 94.79 57 P **P** **03 07 45.7 +1.3**
PFO pmax pmax
comp=Z,15nm,1.0s
BORC Borrego Spring 94.81 57 IAmb IAmb 03 07 46.6
comp=Z,17nm,1.2s
PMD Palm Desert 94.86 57 IAmb IAmb 03 07 46.7
comp=Z,14nm,1.0s
NEW Newport 94.94 42 P **P** **03 07 42.8 -1.8**
comp=Z,3.8nm,0.8s,baz=234,slow=6.8,SNR=8.3
comp=Z,3.8nm,0.8s
PLID Pearl Lake 95.61 45 IAmb IAmb 03 07 49.0
comp=Z,6.1nm,0.8s
BC3 Big Chuckawall 95.63 57 IAmb IAmb 03 07 50.8
comp=Z,20nm,1.1s
R11B Troy Canyon, C 95.70 52 IAmb IAmb 03 07 50.3
comp=Z,8.6nm,1.3s
ARTI Arti 95.78 326 P **P** **03 07 45.6 -2.5**
ARTI Arti 95.78 326 P **P** **03 07 46.2 -2.0**
comp=Z,9.4nm,1.0s,baz=74,slow=2.5,SNR=9.8
ARTI PP **PP** **03 11 43.4 +1.8**
comp=Z,4.8nm,1.0s,baz=98,slow=6.2,SNR=6.1
ARTI LR LR 03 51 23.4
comp=Z,112nm,21.9s,baz=94,slow=36
comp=Z,9.4nm,1.0s
ARTI Arti 95.78 326 *d* P **P** **03 07 45.7 -2.5**
ARTI 03 11 38.9
ARTI S **SKSac** **03 18 09.4 -2.7**
ARTI SS **SS** **03 25 25.9 -1.3**
ARTI pmax pmax
comp=Z,24nm,1.4s
AKTO Aktyubinsk 95.93 320 P **P** **03 07 47.2 -1.8**
comp=Z,2.4nm,0.6s,baz=55,slow=7.1,SNR=7.5
AKTO PP **PP** **03 11 46.0 +3.0**
comp=Z,6.1nm,1.1s,baz=80,slow=10.0,SNR=5.9
comp=Z,2.4nm,0.6s
SHPR Sheep Range 95.98 54 IAmb IAmb 03 07 52.1
comp=Z,7.3nm,1.1s
ELK Elko 96.05 50 IAmb IAmb 03 07 52.8
comp=Z,18nm,1.8s
PRN Pahroc Range 96.09 53 IAmb IAmb 03 07 52.4
comp=Z,19nm,1.3s
V12A Nelson 96.20 55 IAmb IAmb 03 07 53.0
comp=Z,8.8nm,0.9s
BLYC Blythe 96.41 57 IAmb IAmb 03 07 55.9
comp=Z,12nm,0.8s
YKA Yellowknife Ar 96.48 28 P **P** **03 07 51.4 +0.2**
YKA Yellowknife Ar 96.48 28 P **P** **03 07 49.9 -1.3**
comp=Z,1.6nm,0.8s,baz=226,slow=2.7,SNR=5.6
YKA LR LR 03 49 37.2
comp=Z,52nm,18.3s,baz=298,slow=34
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 96.48 28 P **P** **03 07 51.4 +0.2**
SPR3 Spring Creek 3 96.70 51 IAmb IAmb 03 07 55.0
comp=Z,10nm,1.1s

113A Mohawk Valley, 97.01 58 lAmb lAmb 03 11 25.1
comp=Z,6.7nm,1.0s
CCUT Cedar City 97.44 53 lAmb lAmb 03 07 59.9
comp=Z,9.2nm,1.2s
SZCU Shurtz Canyon 97.66 53 lAmb lAmb 03 08 00.7
comp=Z,14nm,1.5s
Y14A Wickenburg 97.68 57 lAmb lAmb 03 07 59.9
comp=Z,12nm,1.4s
KNB Kanab 97.87 53 lAmb lAmb 03 08 01.8
comp=Z,8.8nm,1.1s
HVU Hansel Valley 97.92 49 lAmb lAmb 03 07 59.7
comp=Z,6.9nm,0.9s
PKCU Pink Cliffs 98.28 53 lAmb lAmb 03 08 04.6
comp=Z,12nm,1.1s
U15A North Rim 98.29 54 lAmb lAmb 03 08 03.9
comp=Z,7.7nm,0.9s
MTPU Mount Pierson 98.38 52 lAmb lAmb 03 08 07.1
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 98.69 45 lAmb lAmb 03 11 03.7
comp=Z,6.8nm,0.9s
WUAZ Wupatki 99.03 55 lAmb lAmb 03 08 07.4
comp=Z,8.7nm,0.9s
TMUT Trail Mountain 99.13 51 lAmb lAmb 03 08 05.7
comp=Z,5.5nm,1.0s
YFT Old Faithful 99.29 46 lAmb lAmb 03 08 44.3
comp=Z,6.7nm,1.0s
LPIG La Paz 99.85 67 LR LR 03 48 44.7
comp=Z,108nm,18.5s,baz=234,slow=32
PDAR Pinedale Array 100.28 48 P **Pdif 03 08 08.2 -0.9**
comp=Z,3.8nm,0.6s,baz=227,slow=1.9,SNR=37
PDAR PKKPbc **PKKPbc 03 24 25.7 -1.3**
comp=Z,1.3nm,1.0s,baz=101,slow=4.7,SNR=5.2
TROLL Troll, Antarti 100.36 189 ⇑P **Pdif 03 08 08.7 0.0**
comp=Z,207nm,0.6s
KIRV Kirov 100.49 329 *de*P **Pdif 03 08 07.4 -1.8**
SNAA Sanae 101.47 188 ⇑P **Pdif 03 08 13.2 -0.3**
comp=Z,44nm,1.1s
SNAA Sanae 101.47 188 P **Pdif 03 08 11.3 -2.2**
comp=Z,1.0nm,0.7s,baz=199,slow=7.9,SNR=7.3
VNA3 Neumayer Olymp 102.72 186 ⇑P **Pdif 03 08 17.8 -1.2**
comp=Z,1.5nm,0.6s
KLMR Klimovskoe 104.92 332 *e*P **Pdif 03 08 25.7 -3.1**
KLMR *e* 03 12 48.3
KLMR pmax pmax
comp=Z,10.0nm,1.7s
TXAR Lajitas Array 105.72 61 Pdiff **Pdif 03 08 36.6 +3.3**
comp=Z,0.5nm,0.8s,baz=245,slow=2.6,SNR=5.4
TXAR PKiKP **PKiKP 03 12 45.4 -0.4**
comp=Z,0.1nm,0.4s,baz=357,slow=2.6,SNR=3.6
TXAR PP **PP 03 13 02.2 +4.6**
comp=Z,0.6nm,0.8s,baz=183,slow=7.5,SNR=4.7
TXAR PKKPbc **PKKPbc 03 24 10.9 +0.7**
comp=Z,0.6nm,0.8s,baz=74,slow=4.2,SNR=4.4
ARCES ARCESS Array B 106.71 343 PKiKP **PKiKP 03 12 45.8 -0.5**
comp=Z,3.8nm,0.8s,baz=96,slow=1.6,SNR=15
ARCES PKKPbc **PKKPbc 03 24 06.8 -1.7**
comp=Z,3.5nm,1.0s,baz=294,slow=1.2,SNR=6.6
OBN Obninsk 108.12 327 *e*P **Pdif 03 08 42.4 -0.8**
OBN *e* 03 13 13.8
OBN pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 110.68 335 Pdiff **Pdif 03 08 53.0 -1.4**
comp=Z,1.8nm,0.6s,baz=52,slow=4.5,SNR=12
FINES PKiKP **PKiKP 03 12 53.2 -0.6**
comp=Z,2.9nm,0.7s,baz=46,slow=5.5,SNR=8.0
FINES PP **PP 03 13 34.1 +1.9**
comp=Z,2.0nm,0.8s,baz=76,slow=8.0,SNR=4.0
AKASG Malin Array Be 113.81 324 PKiKP **PKiKP 03 12 59.3 -0.9**
comp=Z,3.8nm,0.8s,baz=65,slow=1.7,SNR=10.0
AKASG PP **PP 03 13 56.9 +2.0**
comp=Z,0.1nm,0.3s,baz=58,slow=5.4,SNR=7.3
KIRS Kirsehir-Merke 114.24 311 ⇑P PKPdf 03 12 59.1 -2.4
BRTR Keskin Array B 114.31 311 PKP PKPdf 03 12 59.9 -1.9
comp=Z,2.2nm,0.9s,baz=132,slow=3.5,SNR=11
BRTR PP **PP 03 13 59.8 +0.7**
comp=Z,1.5nm,0.8s,baz=99,slow=7.6,SNR=4.9
BRTR PKKPbc **PKKPbc 03 23 43.1 +0.1**
comp=Z,0.9nm,0.8s,baz=151,slow=2.8,SNR=4.6
ANTO Ankara 114.90 312 ⇓P **PKiKP 03 13 02.7 0.0**
ANTO Ankara 114.90 312 ⇓PKiKP **PKiKP 03 13 02.7 0.0**
LCAR Lake Charles 115.28 53 **PKiKP 03 13 02.9 -0.6**
SORM Soroca 115.31 321 ⇓P **PKiKP 03 13 01.3 -1.8**
SORM Soroca 115.31 321 ⇓PKiKP **PKiKP 03 13 01.3 -1.8**
SUW Suwalki 115.69 329 *e*PKP **PKiKP 03 13 03.5 -0.2**
TLCR 116.09 318 ⇓P **PKPdf 03 13 04.0 -0.8**
TLCR 116.09 318 ⇓PKiKP **PKPdf 03 13 04.0 -0.8**
HFS Hagfors 116.38 338 PKP **PKPdf 03 13 03.1 -1.8**
comp=Z,1.9nm,0.8s,baz=0.0,slow=2.0,SNR=3.5
TATR Tatarca 116.45 319 ⇑P **PKiKP 03 13 11.4 +6.0**
TPGR Topolog 116.47 318 ⇓P **PKPdf 03 13 04.8 -0.8**
CFR Carcaliu 116.54 318 ⇓P **PKPdf 03 13 05.2 -0.4**
CFR Carcaliu 116.54 318 ⇓PKiKP **PKPdf 03 13 05.2 -0.4**
NB2 NORSAR Subarra 116.67 339 PKPdf **PKPdf 03 13 04.8 -0.7**
comp=Z,1.4nm,0.8s,baz=48,slow=1.9
NOA NORSAR Array B 116.67 339 PKP **PKPdf 03 13 03.5 -2.0**
comp=Z,3.3nm,0.9s,baz=46,slow=1.9,SNR=10.0
NOA SKP 03 16 28.9
comp=Z,1.4nm,0.9s,baz=47,slow=2.0,SNR=3.6
E46A Sault Ste Mari 117.07 40 **PKPdf 03 13 06.2 -0.4**
VRI Vrincioaia 117.21 320 ⇑P **PKPdf 03 13 06.1 -0.8**
VRI Vrincioaia 117.21 320 ⇑PKiKP **PKPdf 03 13 06.1 -0.8**
BISRR Bisoca 117.34 319 ⇑P PKiKP 03 13 17.8 +10
BURAR Bucovina Array 117.46 322 **PKiKP 03 13 08.1 +0.6**
BURAR Bucovina Array 117.46 322 ⇑P **PKiKP 03 13 08.3 +0.8**
BURAR Bucovina Array 117.46 322 ⇑PKiKP **PKiKP 03 13 08.3 +0.8**
MLR Muntele Rosu 117.86 319 ⇑P **PKPdf 03 13 07.7 -0.6**
MLR Muntele Rosu 117.86 319 ⇑PKiKP **PKPdf 03 13 07.7 -0.6**
DOPR Dopca 118.03 320 ⇑P **PKiKP 03 13 08.7 +0.1**
KWP Kalwaria Pacla 118.06 325 *e*PKP **PKPdf 03 13 08.2 -0.3**
BOSA Boshof 118.11 234 PKP **PKPdf 03 13 08.7 -0.6**
comp=Z,5.8nm,0.6s,baz=105,slow=2.4,SNR=22
BOSA SKP 03 16 33.0
comp=Z,4.0nm,0.8s,baz=160,slow=2.3,SNR=5.8
BOSA PKKPbc **PKKPbc 03 23 29.4 0.0**
comp=Z,4.4nm,1.0s,baz=329,slow=3.8,SNR=4.3
LOZB Loznitsa 118.23 317 ⇑P **PKPdf 03 13 08.5 -0.5**
VOIR 118.46 320 ⇑P **PKiKP 03 13 10.0 +0.5**
VOIR 118.46 320 ⇑PKiKP **PKiKP 03 13 10.0 +0.5**
WCI Wyandotte Cave 118.47 49 **PKPdf 03 13 09.1 -0.5**
WCI Wyandotte Cave 118.47 49 PKiKP **PKPdf 03 13 09.1 -0.5**
MREMI Moremi 118.50 241 *i* P **PKPdf 03 13 10.2 0.0**
MREMI Moremi 118.50 241 **PKPdf 03 13 10.0 -0.2**
KOLS Kolonicke sedl 118.64 324 *e*PKiKP **PKiKP 03 13 10.0 +0.4**
KOLS Kolonicke sedl 118.64 324 *e*PKP **PKiKP 03 13 10.0 +0.4**
ARR Arges 118.75 320 ⇓P **PKiKP 03 13 11.0 +1.0**
STHS Stebnicka Huta 119.00 325 *e*PKiKP **PKiKP 03 13 10.5 +0.2**
STHS Stebnicka Huta 119.00 325 *e*PKP **PKiKP 03 13 10.5 +0.2**
BROLN Tlhalogang 119.08 243 *i* P **PKPdf 03 13 11.1 -0.2**
MARR Marisel-Cluj 119.15 322 ⇓P **PKPdf 03 13 10.1 -0.7**
DRGR 119.36 322 ⇑P **PKPdf 03 13 10.6 -0.5**
DRGR 119.36 322 ⇑PKiKP **PKPdf 03 13 10.6 -0.5**
OJC Ojcow 119.41 326 *e*PKP **PKPdf 03 13 10.0 -1.0**
NIE Niedzica 119.53 325 *e*PKP **PKiKP 03 13 11.8 +0.4**
PLVB Pleven 119.55 318 ⇑P **PKPdf 03 13 11.4 0.0**
LPHEP Lephephe 119.60 240 *i* P **PKPdf 03 13 12.3 0.0**
EZN Ezine 119.67 313 ⇓P **PKPdf 03 13 10.2 -1.6**
EZN Ezine 119.67 313 ⇓PKiKP **PKPdf 03 13 10.2 -1.6**
RDO Rodhopi 119.77 315 **PKPdf 03 13 10.9 -1.0**
GZR Gura Zlata 119.93 320 ⇑P **PKPdf 03 13 11.7 -0.5**
GZR Gura Zlata 119.93 320 ⇑PKiKP **PKPdf 03 13 11.7 -0.5**
LSZ Lusaka 120.00 249 **PKiKP 03 13 13.4 +0.1**
LSZ Lusaka 120.00 249 PKiKP **PKiKP 03 13 13.4 +0.1**
LANS Liptovska Anna 120.14 325 *e*PKiKP **PKiKP 03 13 12.9 +0.3**
LANS Liptovska Anna 120.14 325 *e*PKP **PKiKP 03 13 12.9 +0.3**
SURR Surduc 120.18 321 ⇑P **PKPdf 03 13 12.2 -0.4**
SIRR Siria 120.24 322 ⇑P **PKPdf 03 13 12.2 -0.6**
PLCA Paso Flores 120.48 144 PKP **PKPdf 03 13 13.2 -0.4**
comp=Z,5.5nm,0.6s,baz=217,slow=3.6,SNR=13
PSZ Piszkesteto 120.51 324 ⇑P **PKPdf 03 13 13.0 -0.3**
BZS Buzias 120.56 321 ⇑P **PKPdf 03 13 13.0 -0.4**
BZS Buzias 120.56 321 ⇑PKiKP **PKPdf 03 13 13.0 -0.4**
KDWAN Kaudwane 120.62 239 *i* P **PKiKP 03 13 14.6 +0.2**
STEB Steborice 120.67 327 *e*PKPDF **PKPdf 03 13 13.3 -0.1**
SKOMA Sekoma 120.81 238 *i* P **PKiKP 03 13 14.9 +0.1**
VYHS Vyhne 120.83 325 *e*PKiKP **PKPdf 03 13 13.4 -0.4**
VYHS Vyhne 120.83 325 *e*PKP **PKPdf 03 13 13.4 -0.4**
MDVR Moldovita 120.88 320 ⇑P **PKPdf 03 13 13.8 -0.3**
MORC Moravsky Berou 120.88 327 *e*PKP **PKPdf 03 13 13.3 -0.6**
MORC Moravsky Berou 120.88 327 ⇑P **PKiKP 03 13 14.1 +0.1**
MORC Moravsky Berou 120.88 327 ⇑PKiKP **PKiKP 03 13 14.1 +0.1**
MAUC Maruska 120.94 326 *e*PKPDF **PKPdf 03 13 14.1 +0.1**
KSP Ksiaz 120.95 326 *e*PKP **PKiKP 03 13 14.3 +0.2**
KRLC Kraliky 121.12 327 *e*PKiKP **PKPdf 03 13 14.1 -0.3**
KRLC Kraliky 121.12 327 *e*PKPDF **PKPdf 03 13 14.1 -0.3**

OSTC Ostas 121.15 328 *e*PKiKP **PKPdf 03 13 14.3 -0.1**
OSTC Ostas 121.15 328 *e*PKPDF **PKPdf 03 13 14.3 -0.1**
DPC Dobruska-Polom 121.22 328 *e*PKiKP **PKPdf 03 13 14.6 +0.1**
DPC MLR MLR
comp=Z,200nm,23.1s
DPC Dobruska-Polom 121.22 328 *e*PKP **PKPdf 03 13 14.6 +0.1**
DPC AMS AMS 04 06 20.0
comp=Z,200nm,23.1s
JAVC Velka Javorina 121.30 326 *e*PKP **PKiKP 03 13 15.2 +0.3**
PHPEN Phepeng 121.33 236 *i* P **PKiKP 03 13 15.8 +0.1**
PHPEN Phepeng 121.33 236 **PKPdf 03 13 15.6 0.0**
BOVS Bovan 121.38 319 ⇑P **PKPdf 03 13 14.6 -0.4**
VRAC Vranov 121.65 327 *e*PKP **PKPdf 03 13 14.9 -0.5**
VRAC Vranov 121.65 327 ⇑P **PKPdf 03 13 09.6 -5.8**
VRAC Vranov 121.65 327 ⇑PKiKP **PKPdf 03 13 09.6 -5.8**
MODS Modra-Piesok 121.78 326 *e*PKiKP **PKPdf 03 13 12.7 -3.0**
MODS Modra-Piesok 121.78 326 *e*PKP **PKPdf 03 13 12.7 -3.0**
SCHQ Schefferville 121.78 25 PKP **PKPdf 03 13 14.7 -0.8**
comp=Z,3.3nm,0.6s,baz=331,slow=2.4,SNR=6.9
SCHQ PKKPbc **PKKPab 03 23 15.5 +0.2**
comp=Z,4.3nm,0.8s,baz=129,slow=2.9,SNR=5.3
PHDHD Phuduhudu 121.84 243 ⇓ *i* P **PKiKP 03 13 17.5 +0.7**
KRUC Moravsky 121.90 327 *e*PKP **PKPdf 03 13 15.2 -0.6**
PVCC Panska Ves 122.03 329 *e*PKiKP **PKPdf 03 13 15.9 -0.1**
PVCC Panska Ves 122.03 329 *e*PKPDF **PKPdf 03 13 15.9 -0.1**
KSANE Kasane 122.06 245 *i* P **PKiKP 03 13 17.9 +0.5**
KSANE Kasane 122.06 245 **PKiKP 03 13 17.7 +0.3**
MORH Mrgy, Hungar 122.10 323 ⇑P **PKPdf 03 13 16.0 -0.3**
BRG Berggiesshubel 122.14 329 *e*PKPdf **PKiKP 03 13 16.8 +0.4**
baz=51,slow=1.9
BRG Berggiesshubel 122.14 329 *i* PKP **PKiKP 03 13 16.6 +0.2**
BRG Amp 03 13 17.7
comp=Z,15nm,1.0s
BRG pPKP **pPKPdf 03 13 50.7 -0.6**
BRG Amp 03 13 51.5
comp=Z,3.5nm,0.8s
BRG PP **PP 03 14 52.2 -0.2**
BRG Amp 03 14 57.3
comp=Z,9.0nm,1.3s
TREC Trest 122.26 327 *e*PKiKP **PKPdf 03 13 16.3 -0.3**
TREC *e* 03 13 50.1
TREC Trest 122.26 327 *e*PKPDF **PKPdf 03 13 16.3 -0.3**
TREC *ep*PKP **pPKPdf 03 13 50.1 -1.4**
SKO Skopje 122.27 317 *i* P **PKPdf 03 13 16.5 -0.3**
CLL Collm 122.35 330 *i* PKiKP **PKPdf 03 13 15.8 -0.8**
CLL *i* 03 13 49.4
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 122.35 330 *e*PKPdf **PKPdf 03 13 16.5 -0.1**
baz=51,slow=1.9
PRU Pruhonice 122.36 328 *e*PKiKP **PKPdf 03 13 16.6 -0.1**
PRU MLR MLR
comp=Z,100nm,16.9s
PRU Pruhonice 122.36 328 *e*PKPDF **PKPdf 03 13 16.6 -0.1**
PRU AMS AMS 04 06 20.0
comp=Z,100nm,16.9s
FLTG Flechtingen 122.55 332 *e*PKPdf **PKPdf 03 13 16.9 0.0**
baz=51,slow=1.9
RONA Rosalia, Austr 122.70 325 *e*PKP **PKPdf 03 13 16.9 -0.6**
comp=Z,15nm,1.1s,SNR=8.0
CONA Conrad Observa 122.82 326 *e*PKP **PKPdf 03 13 17.2 -0.6**
comp=Z,6.1nm,0.7s,SNR=7.6
ASSE Asse, Remlinge 122.94 332 *e*PKPdf **PKiKP 03 13 17.8 0.0**
baz=51,slow=1.9
NRDL Niedersach Rie 122.96 333 *e*PKPdf **PKiKP 03 13 18.2 +0.4**
baz=51,slow=1.9
NEUB Neuenburg 123.01 331 *e*PKPdf **PKPdf 03 13 18.0 +0.1**
baz=51,slow=1.9
RETH Rethem/Aller, 123.13 333 *e*PKPdf **PKiKP 03 13 18.4 +0.2**
baz=51,slow=1.9
CKRC Cesky Krumlov 123.17 327 *e*PKiKP **PKPdf 03 13 18.2 -0.1**
CKRC Cesky Krumlov 123.17 327 *e*PKPDF **PKPdf 03 13 18.2 -0.1**
TANN Tannenbergstha 123.17 330 *e*PKPdf **PKPdf 03 13 18.3 0.0**
baz=51,slow=1.9
CLZ Clausthal 123.27 332 *e*PKPdf **PKiKP 03 13 18.8 +0.2**
baz=51,slow=1.9
KHC Kasperske Hory 123.37 328 *e*PKiKP **PKPdf 03 13 18.7 0.0**
KHC *e* 03 13 52.7
KHC MLR MLR
comp=Z,100nm,22.4s
KHC Kasperske Hory 123.37 328 *e*PKPDF **PKPdf 03 13 18.7 0.0**
KHC *ep*PKP **pPKPdf 03 13 52.7 -0.9**
KHC *ex* x 03 21 00.7
KHC AMS AMS 04 06 10.0
comp=Z,100nm,22.4s
ARSA Arzberg 123.39 325 *i* PKP **PKPdf 03 13 18.0 -0.8**
comp=Z,5.6nm,1.1s
MOX Moxa 123.45 330 *e*PKPdf **PKPdf 03 13 18.7 -0.1**
baz=51,slow=1.9
GEC2 GERESS Array S 123.48 328 *e*PKPdf **PKPdf 03 13 18.8 -0.2**
baz=51,slow=1.9
GERES GERESS Array B 123.48 328 **PKPdf 03 13 18.6 -0.4**
GERES GERESS Array B 123.48 328 PKP **PKPdf 03 13 18.1 -1.0**
comp=Z,6.8nm,0.7s,baz=63,slow=1.8,SNR=62
GERES SKP 03 16 41.1
comp=Z,1.1nm,0.8s,baz=349,slow=1.4,SNR=3.5
PDG Podgorica 123.53 319 ⇓P **PKPdf 03 13 18.2 -0.9**
MANZ Manzenberg 123.61 329 *e*PKPdf **PKiKP 03 13 19.4 0.0**
baz=51,slow=1.9
GTTG Gottingen 123.66 332 *e*PKPdf **PKiKP 03 13 19.6 +0.2**
baz=51,slow=1.9
SSPA Standing Stone 123.67 44 **PKPdf 03 13 19.3 -0.2**
ROTZ Rotzenmuhle 123.70 329 *e*PKPdf **PKPdf 03 13 19.3 0.0**
baz=51,slow=1.9
WET Wettzell 123.73 328 *e*PKPdf **PKPdf 03 13 19.5 +0.1**
baz=51,slow=1.9
MOA Molln 123.75 326 *i* PKP **PKPdf 03 13 18.7 -0.8**
comp=Z,4.9nm,1.1s
PERS Pernice 123.96 325 *i* PKPdf **PKPdf 03 13 19.0 -1.0**
SOKA Soboth 123.98 325 *e*PKP **PKPdf 03 13 19.1 -0.9**
comp=Z,13nm,1.1s,SNR=6.9
BO02 Sierra Bellavi 124.00 138 **PKiKP 03 13 20.9 +0.2**
IBBN Ibbenburen 124.14 334 *e*PKPdf **PKiKP 03 13 20.3 0.0**
baz=51,slow=1.9
BIOA Bad Ischl, Aus 124.19 327 *i* PKP **PKPdf 03 13 19.4 -1.0**
comp=Z,9.9nm,1.1s
JTS Las Juntas de 124.21 81 **PKPdf 03 13 21.4 +0.1**
JTS Las Juntas de 124.21 81 PKiKP **PKPdf 03 13 21.4 +0.1**
GRF Grafenberg Arr 124.25 330 *e*PKPdf **PKPdf 03 13 20.3 -0.1**
baz=51,slow=1.9
GRTLG Ghanzi 124.33 240 *i* P **PKiKP 03 13 22.0 +0.2**
GRTLG Ghanzi 124.33 240 **PKiKP 03 13 22.2 +0.4**
OBKA Obir 124.35 325 *i* PKP **PKPdf 03 13 19.8 -1.0**
comp=Z,10nm,1.4s
KOOLE Kule 124.56 238 *i* P **PKPdf 03 13 21.9 0.0**
KOOLE Kule 124.56 238 **PKiKP 03 13 22.4 +0.2**
J59A Piesco 124.59 39 **PKPdf 03 13 21.1 -0.2**
KASTN Kahler Asten 124.61 332 *e*PKPdf **PKiKP 03 13 21.3 -0.1**
baz=51,slow=1.9
RJOB Jochberg 124.62 327 *e*PKPdf **PKPdf 03 13 20.6 -0.6**
baz=51,slow=1.9
LJU Ljubljana 124.62 324 *i* PKPdf **PKPdf 03 13 20.6 -0.6**
KBA Koelnbriesper 124.71 326 *e*PKP **PKPdf 03 13 20.0 -1.5**
comp=Z,13nm,1.1s
MYKA Terra Mystica 124.80 325 *i* PKP **PKPdf 03 13 20.4 -1.2**
comp=Z,3.7nm,0.6s
LMQ La Malbaie 124.81 33 **PKPdf 03 13 21.6 +0.1**
LESA Schwarzleotal 124.87 327 *e*PKP **PKPdf 03 13 20.6 -1.1**
comp=Z,16nm,1.3s,SNR=6.8
BUG Bochum--Univer 124.96 333 *e*PKPdf **PKPdf 03 13 21.7 +0.1**
baz=51,slow=1.9
CADS Cadrg 124.97 325 *i* PKPdf **PKPdf 03 13 20.5 -1.4**
TNS Taunus Mts 125.26 332 *e*PKPdf **PKPdf 03 13 22.5 +0.2**
baz=51,slow=1.9
ABTA Abfaltersbach 125.36 326 *e*PKP **PKPdf 03 13 21.3 -1.4**
comp=Z,21nm,1.1s,SNR=11
WATA Walderalm 125.52 327 *e*PKP **PKPdf 03 13 22.2 -0.9**
comp=Z,17nm,1.0s,SNR=7.0
WTTA Wattenberg 125.53 327 *e*PKP **PKPdf 03 13 22.5 -0.6**
comp=Z,36nm,1.1s,SNR=16
MOTA Moosalm 125.77 327 *i* PKP **PKPdf 03 13 22.6 -0.9**
comp=Z,25nm,1.0s,SNR=10
SQTA Sankt Quirin 125.79 327 *i* PKP **PKPdf 03 13 23.0 -0.5**
comp=Z,22nm,1.0s,SNR=10
STU Stuttgart 125.86 330 *e*PKPdf **PKPdf 03 13 23.4 0.0**
baz=51,slow=1.9
RETA Reutte 125.86 328 *e*PKP **PKPdf 03 13 23.0 -0.6**
comp=Z,13nm,1.1s,SNR=6.6
EKA Eskdalemuir Ar 125.87 342 PKP **PKPdf 03 13 22.4 -0.8**
comp=Z,25nm,1.1s,baz=34,slow=2.1,SNR=12
EKA Eskdalemuir Ar 125.87 342 PKiKP **PKPdf 03 13 23.0 -0.2**
BTNL Ternell 126.08 333 *d*PKPdf **PKPdf 03 13 22.2 -1.6**
MEM Membach 126.11 333 *d*PKPdf **PKPdf 03 13 23.9 +0.1**
FETA Feichten 126.17 327 *e*PKP **PKPdf 03 13 24.0 -0.3**
comp=Z,26nm,1.1s,SNR=12

BHOU Houvegnez 126.30 333 *d*PKPdf **PKPdf 03 13 24.4 +0.2**
DAVA Damuels 126.46 328 *e*PKP **PKPdf 03 13 24.3 -0.5**
comp=Z,16nm,1.0s
BCLA Clavier 126.56 333 *d*PKPdf **PKiKP 03 13 25.1 -0.1**
BFO Black Forest 126.58 330 *e*PKPdf **PKPdf 03 13 24.4 -0.5**
baz=51,slow=1.9
BGES Gesves 126.69 334 *d*PKPdf **PKPdf 03 13 24.9 -0.1**
TIP Timpagrande 126.70 316 ⇓P **PKiKP 03 13 25.9 -0.1**
UCC Uccle 126.70 334 *d*PKPdf **PKPdf 03 13 25.1 +0.2**
WLF Walferdange 126.72 332 *d*PKPdf **PKPdf 03 13 25.4 -0.2**
RCHB Rochefort 126.79 333 *d*PKPdf **PKPdf 03 13 25.4 +0.2**
BMRD Maredsous 126.89 334 *d*PKPdf **PKPdf 03 13 24.9 -0.4**
DOU Dourbes 127.11 334 *d*PKPdf **PKPdf 03 13 25.6 -0.2**
TRQA Tornquist 127.14 147 **PKPdf 03 13 26.4 +0.1**
TRQA Tornquist 127.14 147 PKiKP **PKPdf 03 13 26.4 +0.1**
TUE Stuetta 127.26 328 **PKPdf 03 13 26.1 -0.3**
LCO Las Campanas 127.36 133 **PKiKP 03 13 28.0 +0.2**
LCO Las Campanas 127.36 133 PKiKP **PKiKP 03 13 28.0 +0.2**
ATAH Atahualpa 129.06 103 PKP **PKiKP 03 13 32.0 +0.3**
comp=Z,16nm,0.8s,baz=246,slow=0.4,SNR=13
ATAH pPKP **pPKPdf 03 14 05.2 -1.3**
comp=Z,24nm,0.9s,baz=162,slow=1.4,SNR=9.5
BCIP Isla Barro Col 129.27 82 **PKPdf 03 13 30.4 -0.5**
BCIP Isla Barro Col 129.27 82 PKiKP **PKPdf 03 13 30.4 -0.5**
BNI Bardonecchia 129.60 328 **PKPdf 03 13 31.4 -0.2**
BNI Bardonecchia 129.60 328 PKiKP **PKiKP 03 13 31.4 -0.2**
KEST Kesra 133.53 316 PKP **PKPdf 03 13 38.6 +0.1**
comp=Z,9.0nm,0.9s,baz=288,slow=2.7,SNR=7.9
KEST SKPbc **SKPbc 03 16 54.8 -0.4**
comp=Z,8.8nm,1.0s,baz=335,slow=5.9,SNR=4.6
ROSC El Rosal 134.69 88 PKP **PKPdf 03 13 42.2 +0.5**
comp=Z,19nm,0.5s,baz=144,slow=12,SNR=6.0
ROSC SKPbc **SKPbc 03 16 59.4 -0.6**
comp=Z,4.8nm,0.4s,baz=137,slow=0.7,SNR=5.4
LPAZ La Paz 135.68 119 PKiKP PKPpre 03 13 35.0
comp=Z,2.9nm,0.6s,baz=302,slow=4.4,SNR=9.3
LPAZ PKP **PKPdf 03 13 44.4 +0.6**
comp=Z,10nm,0.5s,baz=17,slow=3.3,SNR=17
LPAZ SKPbc **SKPbc 03 17 02.7 -0.6**
comp=Z,13nm,1.0s,baz=313,slow=0.8,SNR=12
LPAZ La Paz 135.68 119 *e*P **PKPdf 03 13 44.4 +0.6**
TBTG Tabatinga, AM 137.94 102 *e*P **PKiKP 03 13 49.0 -0.3**
CPUP Villa Florida 138.28 140 PKP **PKPdf 03 13 48.1 +0.6**
comp=Z,2.2nm,0.7s,baz=153,slow=1.1,SNR=14
CPUP pPKP **pPKPdf 03 14 22.4 -0.5**
comp=Z,2.2nm,0.8s,baz=176,slow=1.3,SNR=6.6
CPUP SKPbc **SKPbc 03 17 09.9 -0.1**
comp=Z,2.0nm,1.0s,baz=143,slow=2.3,SNR=4.8
SDV Santo Domingo 138.37 82 **PKPdf 03 13 49.1 +0.9**
SDV Santo Domingo 138.37 82 *e*P **PKiKP 03 13 49.4 -1.0**
PBRG Braganca 138.51 335 *e*SKP 03 17 10.2
ESDC Sonseca Array 138.94 330 **PKPdf 03 13 46.9 -1.5**
ESDC Sonseca Array 138.94 330 PKhKP PKPpre 03 13 38.3
comp=Z,1.0nm,1.1s,baz=3.0,slow=4.7,SNR=4.5
ESDC PKP **PKPdf 03 13 49.3 +0.9**
comp=Z,2.4nm,1.0s,baz=359,slow=4.5,SNR=8.0
ESDC PP **PP 03 16 41.8 +0.9**
comp=Z,5.8nm,1.0s,baz=19,slow=6.7,SNR=14
ESDC SKPbc **SKPbc 03 17 11.5 0.0**
comp=Z,3.9nm,1.0s,baz=1.2,slow=2.9,SNR=6.2
ESDC SKKPbc **SKKPbc 03 25 52.4 +0.2**
comp=Z,2.4nm,0.9s,baz=236,slow=4.5,SNR=9.5
PGAV Gavieira, Arco 139.00 336 *e*PKPdf **PKiKP 03 13 52.8 +2.1**
PGAV *e*SKP 03 17 12.0
MVO Moncorvo 139.16 335 *e*PKPdf **PKPdf 03 13 49.7 +0.9**
MVO *e*SKP 03 17 12.8
POLO Lamas de Olo 139.31 336 *e*PKPdf **PKPdf 03 13 49.7 +0.6**
POLO *e*SKP 03 17 12.9
PVRL Vila Real 139.36 335 *e*PKPdf **PKPdf 03 13 49.6 +0.5**
PVRL *e*SKP 03 17 12.9
PVIS Viseu 139.90 335 *e*PKPdf **PKPdf 03 13 51.2 +1.1**
PVIS *e*SKP 03 17 15.0
PCBR Castelo Branco 140.44 334 *e*PKPdf **PKPdf 03 13 51.7 +0.7**
ITAB Concordia 140.72 146 *e*P **PKiKP 03 13 53.7 -0.9**
PMRV Marv??o 140.74 333 *e*PKPdf **PKiKP 03 13 54.7 +0.4**
PMRV *e*SKP 03 17 16.8
PSARD Sardoal 140.94 334 *e*PKPdf **PKPdf 03 13 52.8 +0.8**
PESTR Estremoz 141.29 333 *e*PKPdf **PKPdf 03 13 53.0 +0.3**
PMTG Montargil 141.41 334 *e*PKPdf **PKPdf 03 13 53.0 +0.2**
PBAR Barrancos 141.59 332 *e*PKPdf **PKPdf 03 13 53.7 +0.6**
PBAR *e*SKP 03 17 18.4
EVO Evora 141.75 333 *e*PKPdf **PKPdf 03 13 53.7 +0.2**
EVO *e*SKP 03 17 17.7
SIV San Ignacio 141.81 124 PKhKP PKPpre 03 13 47.6
comp=Z,7.9nm,0.6s,baz=228,slow=3.6,SNR=14
SIV SKPbc **SKPbc 03 17 19.1 -0.6**
comp=Z,8.2nm,1.0s,baz=256,slow=5.9,SNR=6.5
MESJ Messejana 142.41 333 *e*PKPdf **PKPdf 03 13 55.5 +0.8**
MESJ *e*SKP 03 17 17.1
PCVE Castro Verde 142.50 332 *e*PKPdf **PKPdf 03 13 55.4 +0.6**
PCVE *e*SKP 03 17 20.4
PVAQ Vaqueiros 142.53 332 *e*PKPdf **PKiKP 03 14 00.9 +2.9**
PVAQ *e*SKP 03 17 21.5
PBDV Barranco-do-Ve 142.76 332 *e*PKPdf **PKPdf 03 13 55.9 +0.5**
MORF Marmelete 143.05 333 *e*PKPdf **PKPdf 03 13 55.6 -0.3**
MORF Marmelete 143.05 333 *e*PKPdf **PKPdf 03 13 56.0 +0.1**
TEFE Tefe 143.22 103 *e*P **PKPdf 03 13 56.3 -0.5**
AQDB Aquidauana 143.34 135 *e*P **PKiKP 03 13 58.7 -1.4**
TRCB Terra Rica 143.78 141 *e*P **PKiKP 03 13 59.5 +1.6**
LDASE Londrina, Braz 144.26 143 *e*P **PKPdf 03 13 59.3 +0.9**
FRTB Fartura 145.20 145 *e*P **PKPdf 03 14 01.1 +1.1**
PCMB Pacaembu 145.51 141 *e*P **PKPab 03 14 01.9 +0.7**
PET01 Itanhaem-SP 145.67 149 *e*P **PKPab 03 14 02.5 +0.8**
ATGZ Broadband at L 145.95 69 *e*P **PKPbc 03 14 02.0 -0.2**
MMLZ Guadeloupe Bro 146.01 69 *e*P **PKPdf 03 14 01.7 +0.3**
TBG Guadaloupe-3 146.08 69 *e*P **PKPbc 03 14 02.8 +0.1**
SPB Sao Paulo 146.17 148 *e*P **PKPab 03 14 04.1 +0.5**
SALV Santo Antonio 146.18 129 *e*P **PKPab 03 14 03.9 0.0**
VAO Valinhos 146.89 148 *e*P **PKPab 03 14 05.8 -0.7**
BIM Bigot 146.94 71 **PKPbc 03 14 05.3 0.0**
TCE Chacachacare 146.95 78 *e*P **PKiKP 03 14 08.4 +0.7**
SVB Belmont 147.03 74 *e*P **PKPdf 03 14 02.9 -0.4**
SVT Saint Vincent 147.06 74 *e*P **PKPdf 03 13 59.4 -3.9**
RCLB Rio Claro- Sao 147.07 147 *e*P **PKPbc 03 14 05.5 +0.1**
SLBI Saint Lucia, B 147.14 72 *e*P **PKPdf 03 14 04.1 +0.7**
PARB Paraibuna 147.29 151 *e*P **PKPbc 03 14 05.2 -0.9**
ITRB Iturama 147.48 140 *e*P **PKPbc 03 14 05.8 -0.8**
BB19B Bebedouro 147.57 144 *e*P **PKPbc 03 14 06.1 -0.7**
PDRB Porto dos Gac 147.64 121 *e*P **PKiKP 03 14 08.3 -0.9**
TBH Brigand Hill 147.65 79 *e*P **PKPbc 03 14 08.0 +0.8**
TPR Prospect 147.84 77 *e*P **PKPbc 03 14 08.5 +0.8**
BOAV Boa Vista 148.27 94 **PK

EIDS	**Eidsvold**	**5.85**	**159**	S	Sg	02 58 16.3 -7.7
COEN	**Coen**	**7.96**	**317**	S	Sg	02 59 25.0 -6.8
QIS	**Mount Isa**	**8.61**	**264**	P	Pn	02 57 22.1 +1.3

*IDC **09** 03:32:09.5±0.4,3˚.23N×99˚.21E, h220km±4km, mb3.8/10, mbtmp4.3/11, Error ellipse: s-maj=23.6km s-min=10.3km az=61.0*
*NEIC **09** 03:32:10.1±1.3,3˚.35N±0˚.07×99˚.30E±0˚.07, h217km±3km, mb4.5/15, Error ellipse: s-maj=10.8km s-min=10.0km az=94.0*
*DJA **09** 03:32:10.1±0.4,3˚N±3˚×9˚9E±˚, h213km±4km, M4.5/19, mB5.2/2, mb4.4/3, MLv4.5/19, Mw(mB)4.6/2*
ISC 09 03:32:09.7±0.5,**3˚.28N**±0˚.05×**99˚.30E**±0˚.05,**h217**km,**n54,** σ0§**90**/60,**mb4.4**/19,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.61**	**218**	P	**Pn**	**03 32 40.8**	**+1.4**
	455nm,0.3s,baz=12,slow=4.5,SNR=279						
PSI				S	**S**	**03 33 03.6**	**+1.2**
	169nm,0.8s,baz=206,slow=20,SNR=35						
RPSI	**Rantau Prapat**	**0.69**	**213**		**Pn**	**03 32 40.8**	**+1.2**
RPSI					**S**	**03 33 03.6**	**+0.8**
RPSI	**Rantau Prapat**	**0.69**	**213**		**Pn**	**03 32 40.6**	**+1.1**
TSI	**Tuntungan**	**0.77**	**287**	P	**Pn**	**03 32 40.8**	**+0.9**
TSI				S	**S**	**03 33 04.5**	**+1.2**
SBSI	**Sibolga**	**1.77**	**194**	P	**Pn**	**03 32 49.6**	**+2.3**
IPM	**Ipoh**	**2.09**	**55**		**Pn**	**03 32 50.7**	**+0.3**
KULM	**Kulim**	**2.41**	**34**		**Pn**	**03 32 53.2**	**-0.4**
MNSI	**Mandailing Nat**	**2.48**	**174**	P	**Pn**	**03 32 55.6**	**+1.1**
GSI	**Gunungsitoli**	**2.62**	**221**		**Pn**	**03 32 56.0**	**+0.1**
GSI	**Gunungsitoli**	**2.62**	**221**	P	**Pn**	**03 32 56.0**	**+0.1**
GSI				S	**S**	**03 33 30.8**	**-1.1**
LHMI	**Lhok Sumawe**	**3.04**	**310**		**Pn**	**03 33 01.3**	**+0.6**
LHMI	**Lhok Sumawe**	**3.04**	**310**	P	**Pn**	**03 33 01.1**	**+0.4**
MLSI	**Meulaboh, Aceh**	**3.05**	**289**	P	**Pn**	**03 33 00.8**	**0.0**
SNSI	**Sinabang, Aceh**	**3.10**	**254**	P	**Pn**	**03 33 01.7**	**+0.4**
BKNI	**Bangkinang**	**3.41**	**149**	P	**Pn**	**03 33 05.7**	**+0.7**
PBSI	**Pulau Batu**	**3.47**	**197**	P	**Pn**	**03 33 05.8**	**+0.1**
PPI	**Padang Panjang**	**3.87**	**164**	P	**Pn**	**03 33 11.1**	**+0.6**
PDSI	**Padang**	**4.32**	**164**	P	**Pn**	**03 33 15.6**	**-0.5**
SISI	**Saibi**	**4.58**	**183**	P	**Pn**	**03 33 18.6**	**-0.7**
SDSI	**Sungai Dareh**	**4.69**	**153**	P	**Pn**	**03 33 21.5**	**+0.8**
MYKOM	**Kota Tinggi**	**4.78**	**108**	Pn	**Pn**	**03 33 22.6**	**+0.9**
SRIT	**Nakonsritamara**	**5.29**	**3**		**Pn**	**03 33 27.1**	**-1.0**
DSRI	**Dabo**	**6.46**	**125**	P	**Pn**	**03 33 44.9**	**+1.8**
MNAI	**Manna**	**8.42**	**154**	Pn	**Pn**	**03 34 06.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**15.09**	**359**	P	**P**	**03 35 32.7**	**+0.2**
	1.8nm,0.3s,baz=184,slow=13,SNR=4.2						
TOLI2	**Tolitoli**	**21.57**	**95**	P	**P**	**03 36 42.6**	**+0.1**
TOLI2				IAmb	IAmb	03 36 44.6	
	comp=Z,20nm,1.0s						
KAPI	**Kappang**	**22.03**	**112**	P	**P**	**03 36 48.2**	**+1.3**
KAPI				IAmb	IAmb	03 36 48.5	
	comp=Z,30nm,1.0s						
KAPI	**Kappang**	**22.03**	**112**	P	**P**	**03 36 47.3**	**+0.4**
	comp=Z,17nm,0.5s,baz=288,slow=9.4,SNR=7.1						
	comp=Z,17nm,0.5s						
FAKI	**Fak Fak**	**33.50**	**100**	P	**P**	**03 38 28.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.54**	**130**		**P**	**03 38 28.4**	**-0.8**
FITZ				IAmb	IAmb	03 38 29.5	
	comp=Z,9.4nm,1.5s						
KNRA	**Kununurra**	**34.70**	**124**	P	**P**	**03 38 38.2**	**-1.1**
KNRA				IAmb	IAmb	03 38 46.4	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**41.43**	**125**	P	**P**	**03 39 35.2**	**-0.3**
WRA	**Warramunga Arr**	**41.43**	**125**	P	**P**	**03 39 35.1**	**-0.3**
	comp=Z,12nm,0.5s,baz=304,slow=9.0,SNR=68						
	comp=Z,12nm,0.5s						
WR8	**Warramunga Arr**	**41.57**	**125**	P	**P**	**03 39 36.2**	**-0.3**
KSRS	**Korea Array**	**42.96**	**34**	pP	pP	03 40 34.0	+0.4
	comp=Z,1.1nm,0.5s,baz=214,slow=9.0,SNR=3.3						
ASAR	**Alice Springs**	**43.05**	**130**	P	**P**	**03 39 48.5**	**0.0**
ASAR	**Alice Springs**	**43.05**	**130**	P	**P**	**03 39 48.2**	**-0.2**
	comp=Z,12nm,0.4s,baz=302,slow=7.9,SNR=145						
	comp=Z,12nm,0.4s						
AS31	**Alice Springs**	**43.05**	**130**	P	**P**	**03 39 48.5**	**+0.1**
AS31				IAmb	IAmb	03 39 48.8	
	comp=Z,7.9nm,0.5s						
SONM	**Songino Array**	**44.80**	**7**	P	**P**	**03 40 03.4**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=187,slow=6.8,SNR=2.4						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.79**	**344**	P	**P**	**03 40 08.4**	**-1.4**
MKAR	**Makanchi Array**	**45.79**	**344**	P	**P**	**03 40 09.0**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=146,slow=8.1,SNR=6.9						
MKAR				pP	**pP**	**03 40 57.0**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=163,slow=8.6,SNR=5.3						
	comp=Z,1.0nm,0.7s						
COEN	**Coen**	**46.76**	**113**	P	**P**	**03 40 17.2**	**-0.5**
BBOO	**Buckleboo**	**49.99**	**139**	P	**P**	**03 40 41.2**	**-0.9**
BBOO				IAmb	IAmb	03 40 42.2	
	comp=Z,82nm,1.5s						
CTAO	**Charters Tower**	**51.60**	**119**	P	**P**	**03 40 54.4**	**+0.1**
CTAO				IAmb	IAmb	03 41 31.5	
	comp=Z,12nm,1.5s						
ZALV	**Zalesovo Beam**	**51.88**	**349**	P	**P**	**03 40 54.6**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=160,slow=7.8,SNR=4.1						
ZALV				pP	**pP**	**03 41 44.0**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=169,slow=8.6,SNR=3.3						
	comp=Z,0.8nm,0.4s						
STKA	**Stephens Creek**	**53.24**	**134**	P	**P**	**03 41 05.8**	**-0.3**
STKA	**Stephens Creek**	**53.24**	**134**	P	**P**	**03 41 05.6**	**-0.6**
	comp=Z,9.7nm,0.6s,baz=314,slow=7.4,SNR=16						
	comp=Z,9.7nm,0.6s						
BVAR	**Borovoye Array**	**55.03**	**339**	P	**P**	**03 41 18.1**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=148,slow=12,SNR=2.8						
BVAR				pP	**pP**	**03 42 06.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=142,slow=7.5,SNR=4.3						
	comp=Z,0.7nm,0.6s						
CAN	**Canberra**	**60.30**	**134**	P	**P**	**03 41 56.1**	**+0.3**
CAN				IAmb	IAmb	03 42 39.4	
	comp=Z,28nm,1.4s						
BUR08	**Bucovina Ar. S**	**76.89**	**318**	P	**P**	**03 43 38.3**	**+0.2**
BOSA	**Boshof**	**77.63**	**240**	P	**P**	**03 43 42.1**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=90,slow=4.0,SNR=5.2						
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**79.15**	**332**	P	**P**	**03 43 49.7**	**-0.4**
FINES	**FINESS Array B**	**79.15**	**332**	P	**P**	**03 43 49.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=104,slow=8.0,SNR=5.6						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**93.21**	**180**	P	**P**	**03 45 00.8**	**+1.6**
QSPA				IAmb	IAmb	03 45 32.0	
	comp=Z,4.6nm,1.4s						

*CATAC **09** 03:33:13.7±0.8, 10˚N±6˚×8˚6W±˚, h42km±21km, M3.0/11, MLv3.0/11, Error ellipse: s-maj=15.3km s-min=8.7km az=45.3, confirmed*
*UCR **09** 03:33:13.0±0.9, 10˚.31N×86˚.33W, h18km±8km, MW3.8*
ISC 09 03:33:15.1±2.0,**10˚.24N**±0˚.08×**86˚.27W**±0˚.09,**h35**km,**n38,** σ0§**82**/38,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUD3	**Juan Diaz 3**	**0.73**	**96**	*e*P	**Pn**	**03 33 27.9**	**-1.0**
JUD3				*e*S	**Sn**	**03 33 38.8**	**-0.1**
ALIBA	**Liberia Airpor**	**0.80**	**64**	*e*P	**Pn**	**03 33 29.3**	**-0.5**
ELI1	**Hacienda Flor**	**0.81**	**60**	*e*P	**Pn**	**03 33 29.8**	**-0.2**
ELI1	**Hacienda Flor**	**0.81**	**60**	P	**Pn**	**03 33 29.9**	**-0.2**
ELI1	**Hacienda Flor**	**0.81**	**60**	S	**Sn**	**03 33 43.1**	**+2.2**
INDI	**Punta indio, G**	**0.85**	**116**	S	**Sn**	**03 33 41.7**	**0.0**
INDI	**Punta indio, G**	**0.85**	**116**	P	**Pn**	**03 33 30.0**	**-0.5**
CMARA	**Lajas Hojancha**	**0.86**	**105**	*e*P	**Pn**	**03 33 30.0**	**-0.8**
CMARA	**Lajas Hojancha**	**0.86**	**105**	P	**Pn**	**03 33 30.7**	**-0.1**
CMARA	**Lajas Hojancha**	**0.86**	**105**	S	**Sn**	**03 33 42.3**	**+0.1**
LAPC	**Finca la Perla**	**0.98**	**58**	*e*P	**Pn**	**03 33 31.2**	**-1.1**
GPS2	**Hotel Rincn d**	**1.04**	**61**	*e*P	**Pn**	**03 33 32.2**	**-1.0**
VRLE	**La Escondida,**	**1.04**	**59**	*e*P	**Pn**	**03 33 32.3**	**-1.0**
PG27	**Guanacaste Pro**	**1.05**	**56**	*e*P	**Pn**	**03 33 32.4**	**-1.0**
CUI	**Cuipilapa**	**1.17**	**69**	*e*P	**Pn**	**03 33 34.5**	**-0.5**
MESS	**Mesas**	**1.17**	**65**	*e*P	**Pn**	**03 33 34.5**	**-0.6**
CARN	**Rivas**	**1.19**	**38**	*e*P	**Pn**	**03 33 34.8**	**-0.5**
CARN	**Rivas**	**1.19**	**38**	P	**Pn**	**03 33 34.9**	**-0.5**
VMAR	**Armenia, Volca**	**1.27**	**63**	*e*P	**Pn**	**03 33 36.2**	**-0.2**
TIMP	**Tierras Morena**	**1.28**	**75**	*e*P	**Pn**	**03 33 36.2**	**-0.4**
JTS	**Las Juntas de**	**1.30**	**88**	*e*P	**Pn**	**03 33 36.3**	**-0.4**
JTS	**Las Juntas de**	**1.30**	**88**	P	**Pn**	**03 33 36.5**	**-0.2**
JTS				S	**Sn**	**03 33 53.2**	**+0.3**
TENO	**El Achiote**	**1.35**	**70**	*e*P	**Pn**	**03 33 36.6**	**-0.9**
JAPN	**AI SSO del Vol**	**1.40**	**25**	*e*P	**Pn**	**03 33 38.1**	**-0.1**
JAPN	**AI SSO del Vol**	**1.40**	**25**	P	**Pn**	**03 33 38.2**	**0.0**
MORN	**AI O del Volca**	**1.43**	**25**	P	**Pn**	**03 33 38.0**	**-0.6**
TABAC	**Tabacon**	**1.50**	**80**	*e*P	**Pn**	**03 33 40.4**	**+0.8**
VARE2	**V. Arenal**	**1.54**	**82**	*e*P	**Pn**	**03 33 41.0**	**+0.8**
CEDE	**Laguna Cedeo**	**1.56**	**81**	*e*P	**Pn**	**03 33 41.5**	**+1.1**
SOCE	**Pocosol**	**1.63**	**85**	P	**Pn**	**03 33 41.4**	**0.0**
NANN	**Nandasmo**	**1.69**	**5**	P	**Pn**	**03 33 41.5**	**-0.7**
COPN	**Copaltepe**	**1.95**	**351**	P	**Pn**	**03 33 44.8**	**-0.9**
ACON	**Acoyapa**	**2.03**	**32**	*e*P	**Pn**	**03 33 45.3**	**-1.4**
ACON	**Acoyapa**	**2.03**	**32**	P	**Pn**	**03 33 45.5**	**-1.2**
MOM2	**El Cardon**	**2.19**	**355**	P	**Pn**	**03 33 48.1**	**-0.9**
CNGA	**AI SSO del Vol**	**2.28**	**349**	P	Pn	03 33 54.5	+4.2
CNGN	**Cerro Negro**	**2.28**	**350**	P	Pn	03 33 56.5	+6.2
CRIN	**San Cristobal**	**2.56**	**343**	P	**Pn**	**03 33 55.3**	**+1.2**

*IDC **09** 03:36:05.0±8.2, 17˚.46S×176˚.78W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=215.7km s-min=40.1km az=27.0*
*NEIC **09** 03:36:53.3±2.1, 16˚.6S±0˚.2×176˚.82W±0˚.09, h510km±16km, mb4.0/7, Error ellipse: s-maj=33.4km s-min=12.5km az=173.0*
ISC 09 03:36:48.1±5.0,**15˚.7S**±0˚.8×**176˚.4W**±0˚.4,**h500**km,**n12,** σ1§**68**/**11**,**mb3.9**/**9**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.67**	**248**		**P**	**03 38 22.5**	**+1.0**
COEN	**Coen**	**39.06**	**267**	P	**P**	**03 43 32.6**	**+0.9**
COEN				IAmb	IAmb	03 44 12.8	
	comp=Z,6.3nm,1.1s						
STKA	**Stephens Creek**	**41.38**	**239**	P	P	03 43 43.4	-6.7
	comp=Z,2.7nm,0.7s,baz=82,slow=7.1,SNR=2.9						
	comp=Z,2.7nm,0.7s						
WR8	**Warramunga Arr**	**46.79**	**257**	P	**P**	**03 44 31.0**	**-1.3**
WR8				IAmb	IAmb	03 45 07.0	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**46.90**	**257**	P	**P**	**03 44 32.0**	**-1.2**
WB0				IAmb	IAmb	03 45 09.3	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**46.94**	**257**	P	**P**	**03 44 32.0**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=94,slow=8.0,SNR=12						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**47.25**	**252**	P	**P**	**03 44 34.0**	**-1.8**
AS31				IAmb	IAmb	03 44 34.4	
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**47.25**	**252**	P	**P**	**03 44 33.1**	**-2.7**
ASAR	**Alice Springs**	**47.25**	**252**	P	**P**	**03 44 33.9**	**-2.0**
	comp=Z,6.6nm,0.4s,baz=89,slow=8.4,SNR=84						
	comp=Z,6.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**55.30**	**259**	P	**P**	**03 45 35.3**	**+1.0**
FITZ				IAmb	IAmb	03 46 09.9	
	comp=Z,1.8nm,1.1s						
QSPA	**South Pole Qui**	**74.35**	**180**	P	**P**	**03 47 34.4**	**+0.4**
QSPA	**South Pole Qui**	**74.35**	**180**	P	**P**	**03 47 34.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=51,slow=6.3,SNR=11						
	comp=Z,0.8nm,0.5s						

*BUT **09** 03:46:53.0±1.1, 45˚.87N±0˚.02×111˚.36W±0˚.02, h5km±6km, Error ellipse: s-maj=2.6km s-min=2.4km az=213.0*
NEIC 09 03:46:52.6±1.2,**45˚.87N**±0˚.02×**111˚.39W**±0˚.03,**h5**km±2km, **ML3.0**/48,**ML3.2**/26(BUT),**Error ellipse: s-maj=3.2km s-min=3.0km az=51.0,Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.05**	**45**		Pg	03 46 54.5	+0.4
NQMA					Sg	03 46 55.7	+0.5
SXM	**Sixmile**	**0.31**	**24**		Pg	03 46 59.1	+0.4
BOZ	**Bozeman (W)**	**0.32**	**212**		Pg	03 46 59.3	+0.5
BOZ				Sg	Sg	03 47 03.6	+0.5
BOZ				IAML		03 47 03.9	
	2µm,0.3s						
BZMT	**Bozeman Pass**	**0.47**	**118**		Pg	03 47 02.0	+0.4
LRM	**Limekiln Ridge**	**0.74**	**267**		Pg	03 47 07.2	+0.3
MSMT	**Mission Creek**	**0.76**	**108**		Pg	03 47 07.3	+0.1
BGMT	**Barton Gulch**	**0.78**	**216**		Pg	03 47 08.0	+0.4
BUT	**Butte**	**0.83**	**281**		Pg	03 47 09.1	+0.5
HBMT	**Mount Humbug**	**0.86**	**265**		Pg	03 47 09.3	+0.2
HRY	**Holter Researc**	**0.90**	**340**		Pg	03 47 09.9	0.0
CRMT	**Chrome Mountai**	**0.97**	**115**		Pg	03 47 10.5	-0.6
DLMT	**Dillon**	**0.99**	**240**		Pg	03 47 11.7	+0.1
DLMT				IAML		03 47 28.9	
	469nm,0.4s						
DLMT				IAML		03 47 29.0	
	350nm,0.3s						
YMV	**Mammoth Vault**	**1.02**	**151**		Pg	03 47 12.0	-0.1
YHL	**Hebgen Lake**	**1.03**	**172**		Pg	03 47 12.0	-0.3
YHL				IAML		03 47 28.1	
	comp=E,473nm,0.5s						
YHL				IAML		03 47 30.4	
	comp=N,527nm,0.5s						
QLMT	**Earthquake Lak**	**1.04**	**182**		Pg	03 47 12.0	-0.5
GCR	**Grayling Creek**	**1.09**	**169**		Pg	03 47 13.4	-0.1
BEMT	**Mount Belmont**	**1.10**	**324**		Pg	03 47 13.8	+0.2
YHB	**Horse Butte**	**1.12**	**173**		Pg	03 47 13.9	-0.3
YHB	**Horse Butte**	**1.12**	**173**	IAML		03 47 32.4	
	comp=N,420nm,0.3s						
YHB				IAML		03 47 36.7	
	comp=E,307nm,0.4s						
YMC	**Maple Creek**	**1.14**	**166**		Pg	03 47 14.0	-0.4
YHH	**Holmes Hill**	**1.14**	**160**		Pg	03 47 14.0	-0.5
TPMT	**Tepee Creek**	**1.15**	**190**		Pg	03 47 14.7	-0.1
YPDC	**Denny Creek**	**1.16**	**175**		Pg	03 47 14.7	-0.2
YNR	**Norris Junctio**	**1.25**	**156**		Pg	03 47 16.2	-0.4
YNR				IAML		03 47 35.9	
	comp=N,149nm,0.5s						
YNR				IAML		03 47 37.5	
	comp=E,146nm,0.4s						
YPM	**Purple Mountai**	**1.26**	**163**		Pg	03 47 16.7	-0.1
LYMT	**Lyon Mountain**	**1.27**	**331**		Pb	03 47 17.1	-0.1
YPWB	**West Boundary**	**1.28**	**171**		Pg	03 47 17.0	-0.1
YNE	**Yellowstone No**	**1.30**	**131**		Pg	03 47 16.9	-0.5
YNE				IAML		03 47 35.6	
	comp=N,451nm,0.3s						
YNE				IAML		03 47 37.3	
	comp=E,505nm,0.4s						
YUF	**Upper Falls**	**1.31**	**152**		Pg	03 47 17.3	-0.4
YPSB	**Soda Butte**	**1.31**	**138**		Pg	03 47 17.2	-0.6
YMP	**Mirror Lake Pl**	**1.42**	**142**		Pn	03 47 19.4	0.0
YMP				IAML		03 47 40.1	
	comp=E,400nm,0.3s						
MOMT	**Monida**	**1.46**	**210**		Pg	03 47 20.6	+0.1
MCMT	**McKenzie Canyo**	**1.46**	**225**		Pb	03 47 20.3	-0.1
YFT	**Old Faithful**	**1.47**	**164**		Pb	03 47 20.4	-0.1
LKWY	**Lake**	**1.48**	**151**		Pg	03 47 21.0	+0.1
LKWY				IAML		03 47 32.2	
	comp=E,114nm,0.5s						
YPPC	**Pelican Cone**	**1.48**	**145**		Pg	03 47 23.2	+2.2
YLT	**Little Thumb C**	**1.54**	**158**		Pg	03 47 23.1	+1.0
BPMT	**Black Pine Rid**	**1.54**	**292**		Pn	03 47 21.1	+0.1
OVMT	**Ovando**	**1.64**	**318**		Pn	03 47 22.1	-0.1
CHMT	**Chamberlain Mo**	**1.66**	**310**		Pn	03 47 22.8	+0.2
RLMT	**Red Lodge**	**1.67**	**116**		Pb	03 47 23.4	-0.4
YTP	**The Promontory**	**1.67**	**152**		Pg	03 47 24.3	-0.3
MCID	**Moose Creek**	**1.68**	**175**		Pb	03 47 24.1	-0.1
SLMT	**Seeley Lake**	**2.00**	**314**		Pn	03 47 27.1	-0.1
MSO	**Missoula**	**2.01**	**299**		Pn	03 47 27.3	0.0
MSO				IAML		03 47 59.7	
	comp=E,149nm,0.5s						
MSO				IAML		03 48 00.3	
	comp=E,154nm,0.5s						
VCMT	**Victor**	**2.03**	**287**		Pb	03 47 29.1	-0.9
FXWY	**Fox Creek**	**2.24**	**173**		Pb	03 47 33.1	-0.7
PCMT	**Pistol Creek**	**2.27**	**307**		Pn	03 47 31.9	+1.0
LOHW	**Long Hollow**	**2.32**	**166**		Pb	03 47 34.7	-0.3
TPAW	**Teton Pass**	**2.40**	**172**		Pb	03 47 35.9	-0.5
TPAW	**Teton Pass**	**2.40**	**172**	IAML		03 48 09.6	
	comp=E,40nm,0.6s						
TPAW				IAML		03 48 20.8	
	comp=E,50nm,0.8s						
ALMT	**Alberton, Mont**	**2.41**	**300**		Pb	03 47 37.1	+0.5
EGMT	**Eaglton**	**2.43**	**27**		Pn	03 47 33.5	+0.5
SWMT	**Swartz Lake**	**2.44**	**313**		Pn	03 47 33.1	0.0
SNOW	**Snow King Moun**	**2.45**	**169**		Pn	03 47 34.1	+0.7
FBMT	**Ferry Basin**	**2.60**	**307**		Pn	03 47 36.7	+1.3
YBMT	**Yellow Bay**	**2.69**	**319**		Pn	03 47 37.8	+1.2
JTMT	**Jette**	**2.74**	**314**		Pn	03 47 38.3	+1.0
NDMT	**Ninemile Divid**	**2.74**	**302**		Pn	03 47 37.8	+0.4
AHID	**Auburn Hatcher**	**3.11**	**176**		Pn	03 47 40.8	-1.7
AHID				IAML		03 48 34.7	
	comp=E,22nm,0.6s						
HLID	**Hailey**	**3.16**	**224**		Pn	03 47 44.6	+1.5
HLID				IAML		03 48 31.9	
	comp=E,78nm,0.5s						
HLID				IAML		03 48 35.5	
	comp=E,51nm,0.4s						
MKRVA	**Milk River, Al**	**3.29**	**356**		Pn	03 47 45.1	+0.3
PLID	**Pearl Lake**	**3.34**	**258**		Pn	03 47 46.1	+0.4
PLID				IAML		03 48 40.8	
	comp=E,21nm,0.7s						
PLID				IAML		03 48 43.0	
	comp=E,24nm,0.5s						
LAO	**LASA Array**	**3.67**	**75**		Pn	03 47 52.4	+2.3
HSPGA	**Hill Springs,**	**3.81**	**337**		Pn	03 47 52.8	+0.7
MFID	**Camas Ranch**	**4.01**	**234**		Pn	03 47 55.7	+1.0
F10A	**Beach Ranch, E**	**4.08**	**274**		Pn	03 47 56.5	+0.8
BMO	**Blue Mountains**	**4.29**	**258**	Pn	Pn	03 47 58.5	-0.1
NEW	**Newport**	**4.59**	**304**		Pn	03 48 01.6	-1.2
NEW				IAML		03 49 26.7	
	comp=E,20nm,0.9s						
NEW				IAML		03 49 26.8	
	comp=E,22nm,1.0s						

*ISN **09** 03:59:57.6±0.3, 34˚.61N×46˚.13E, h5km±39km, ML2.5*
*TEH **09** 03:59:58.8, 34˚.60N×46˚.13E, h0km±476km*
ISC 09 03:59:58.3±1.7,**34˚.68N**±0˚.09×**46˚.05E**±0˚.08,**h10**km,**n7,** σ0§**97**/**11**,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.28**	**85**	Pg	**Pg**	**04 00 03.3**	**-0.7**
IDHR				Sg	**Sg**	**04 00 07.2**	**-0.6**
IGHG	**Ghaleghazi**	**0.55**	**129**	Pg	**Pg**	**04 00 07.9**	**-1.2**
GLG1	**Gilan-e-Gharb**	**0.57**	**192**	Pg	**Pb**	**04 00 09.5**	**-1.0**
IBZA	**Bozab**	**1.51**	**97**	Pg	**Pg**	**04 00 28.5**	**+1.3**
IBDR	**Badra**	**1.56**	**184**	*e*Pn	**Pb**	**04 00 27.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**04 00 48.5**	**-0.1**
IBDR				AML	AML	04 00 54.9	
	comp=N,70nm,0.7s						
IBDR				AML	AML	04 01 09.6	
	comp=E,70nm,0.6s						
BHD	**Baghdad**	**1.97**	**225**	*e*Pn	**Pb**	**04 00 33.5**	**-0.8**
BHD				*e*Sn	**Sb**	**04 00 59.5**	**+0.5**
RAFI	**AI-Rafai**	**2.94**	**179**	*e*Pn	**Pn**	**04 00 46.0**	**+0.8**
RAFI				*e*Sn	**Sn**	**04 01 21.5**	**+0.9**

*IDC **09** 04:16:01.7±0.8, 64˚.50N×20˚.73E, h0km, mbtmp2.6/4, ML1.7/4, Error ellipse: s-maj=8.8km s-min=7.1km az=107.0*
*HEL **09** 04:16:04.3±0.1, 64˚.54N×20˚.53E, h23km±1km, ML2.2, ML2.5(UPP), ML2.3(BER), Confirmed Earthquake*
*UPP **09** 04:16:04.0±0.1, 64˚.53N×20˚.54E, h24km, ML2.5, Confirmed Earthquake*
*BER **09** 04:16:05.5±1.8, 64˚.50N×20˚.68E, h24km, ML2.3, ML2.5(UPP), Confirmed Earthquake*
ISC 09 04:16:03.5±0.9,**64˚.51N**±0˚.02×**20˚.61E**±0˚.03,**h29**km±5km, **n68,**σ1§**37**/**96**,**7C**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODEU	**Stanfors**	**0.11**	**155**	P	**Pb**	**04 16 08.6**	**-0.1**
ODEU				S	**Sb**	**04 16 11.8**	**-0.5**
ODEU	**Stanfors**	**0.11**	**155**	P	**Pb**	**04 16 08.6**	**-0.1**
ODEU				S	**Sb**	**04 16 11.8**	**-0.5**
ODEU	**Stanfors**	**0.11**	**155**	*i* P	**Pb**	**04 16 08.6**	**-0.1**
ODEU				*i* S	**Sb**	**04 16 11.8**	**-0.5**
UMAU	**Umeaa**	**0.63**	**177**	↑↑P	**Pn**	**04 16 16.3**	**0.0**
UMAU				S	**Sn**	**04 16 25.0**	**-0.3**
UMAU	**Umeaa**	**0.63**	**177**	↑↑P	**Pn**	**04 16 16.3**	**0.0**
UMAU				S	**Sn**	**04 16 25.0**	**-0.3**
UMAU	**Umeaa**	**0.63**	**177**	*e*P	**Pn**	**04 16 16.3**	**0.0**
UMAU				*e*S	**Sb**	**04 16 24.6**	**+0.3**
BREU	**Bredtraesk**	**1.08**	**236**	P	**Pb**	**04 16 23.4**	**-0.2**
BREU				S	**Sb**	**04 16 37.4**	**+0.1**
BREU

HEF					*e*Pg		**Pb**	04 17 18.2	**+3.3**
HEF	**Hetta**	**4.11**	**16**		*e*P		**Pn**	04 17 05.4	**+1.3**
KIF	**Kilpisjarvi**	**4.52**	**1**		*e*P		**Pn**	04 17 11.9	**+2.1**
KIF	**Kilpisjarvi**	**4.52**	**1**		*e*P		**Pn**	04 17 11.9	**+2.1**
KTK1	**Kautokeino**	**4.64**	**12**		*e*P		**Pn**	04 17 13.2	**+1.7**
KTK1	**Kautokeino**	**4.64**	**12**		*e*P		**Pn**	04 17 13.2	**+1.7**
MEF	**Metsahovi**	**4.65**	**156**		*e*P		Pn	04 17 17.9	+6.3
UPP	**Uppsala**	**4.87**	**198**		*e*P		**Pb**	04 17 24.0	**-3.9**
JOF	**Joensuu**	**5.02**	**104**		*e*P		**Pn**	04 17 17.6	**+0.9**
JETT	**Jettan, Norway**	**5.07**	**359**		*e*P		**Pn**	04 17 14.0	**-3.4**
JETT					*e*Pg		**Pb**	04 17 29.2	**-2.2**
JETT	**Jettan, Norway**	**5.07**	**359**		*e*PB		**Pb**	04 17 29.2	**-2.2**
ARA0	**ARCESS Array S**	**5.40**	**19**		*e*P		**Pn**	04 17 22.4	**+0.5**
ARA0					*e*P		**Pn**	04 17 22.7	**+0.8**
ARA0	**ARCESS Array S**	**5.40**	**19**		*e*P		**Pn**	04 17 22.7	**+0.8**
ARCES	**ARCESS Array B**	**5.40**	**19**		Pn		**Pn**	04 17 21.8	**-0.1**
	comp=Z,0.2nm,0.3s,baz=195,slow=16,SNR=30								
ARCES					Sn		**Sn**	04 18 20.8	**-2.1**
	comp=Z,0.3nm,0.3s,baz=202,slow=22,SNR=6.3								
ARCES					Lg	Lg		04 18 48.5	
	comp=Z,0.6nm,0.3s,baz=198,slow=26,SNR=6.8								
	comp=Z,0.5nm,0.3s								
HFS	**Hagfors**	**5.44**	**219**		Pn		**Pn**	04 17 24.4	**+2.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=6.6								
HFS					Sn		**Sn**	04 18 23.6	**-0.4**
	comp=Z,0.5nm,0.3s,baz=40,slow=23,SNR=8.4								
HFS					Lg	Lg		04 18 50.1	
	comp=Z,1.0nm,0.3s,baz=40,slow=29,SNR=9.8								
	comp=Z,1.2nm,0.8s								
NOA	**NORSAR Array B**	**5.54**	**235**		Pn		**Pn**	04 17 24.8	**+0.9**
	baz=62,slow=18,SNR=2.4								
NOA					Sn		**Sn**	04 18 25.6	**-0.9**
	baz=56,slow=20,SNR=4.4								
	comp=Z,0.4nm,0.8s								
KEV	**Kevo**	**5.83**	**22**		*e*P		**Pn**	04 17 28.2	**+0.5**
KEV	**Kevo**	**5.83**	**22**		*e*P		**Pn**	04 17 28.2	**+0.5**
STRU	**Stroemstad**	**7.08**	**223**		*e*P		**Pn**	04 17 46.1	**+1.3**

NEIC ***09*** *04:39:07.5±0.6,36°.20N±0°.01×118°.16W±0°.01,h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=81.0*

PAS 09 04:39:08.0±0.7,36°.20N±0°.01×118°.16W±0°.01,h3km±3km, ML3.2/106,**ML2.9**/152(NEIC),**Error ellipse: s-maj=1.6km s-min=1.5km az=176.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CWC	**Cottonwood Cre**	**0.25**	**16**		Pg	04 39 12.7	-0.1
MFS	**McCloud Flat S**	**0.26**	**108**		Pg	04 39 13.2	+0.2
MFS					Sg	04 39 17.1	+0.6
WRVM	**Rose V. Centra**	**0.29**	**131**		Pg	04 39 13.7	+0.1
WRVM					Sg	04 39 18.0	+0.6
JRC2	**Joshua Ridge**	**0.36**	**127**		Pg	04 39 15.1	+0.1
JRC2					Sg	04 39 20.1	+0.5
WCSM	**Coso Springs S**	**0.36**	**118**		Pg	04 39 15.2	+0.1
WCSM					Sg	04 39 20.1	+0.4
WVPM	**Volcano Peak E**	**0.38**	**132**		Pg	04 39 15.3	+0.1
WVPM					Sg	04 39 20.6	+0.5
WNMM	**Nine Mile Cany**	**0.41**	**150**		Pg	04 39 15.8	-0.1
WNMM					Sg	04 39 21.4	+0.2
CGO	**Cerro Gordo**	**0.45**	**40**		Pg	04 39 16.8	0.0
CGO					Sg	04 39 22.8	0.0
SPG2	**Springville 2**	**0.49**	**270**		Pg	04 39 17.3	-0.1
SPG2					Sg	04 39 23.8	0.0
TOW	**Tower One**	**0.51**	**140**		Pg	04 39 18.0	+0.3
TOW					Sg	04 39 25.4	+1.1
WORM	**Onyx Ranch**	**0.51**	**187**		Pg	04 39 17.5	-0.2
WORM					Sg	04 39 24.2	-0.1
WHFM	**Hanning Flat**	**0.53**	**197**		Pg	04 39 17.9	-0.1
WHFM					Sg	04 39 25.1	+0.2
WASM	**Alta Sierra Ca**	**0.56**	**215**		Pg	04 39 18.7	0.0
WASM					Sg	04 39 26.6	+0.5
MPMC	**Manual Prospec**	**0.56**	**104**		Sg	04 39 26.1	-0.1
MPMC	**Manual Prospec**	**0.56**	**104**		Pg	04 39 18.6	-0.2
MPMC				IAML		04 39 28.2	
	comp=N,698nm,0.5s						
MPMC				IAML		04 39 28.3	
	comp=E,743nm,0.4s						
ISA	**Isabella, Lake**	**0.59**	**205**		Sg	04 39 27.4	+0.3
ISA	**Isabella, Lake**	**0.59**	**205**		Pg	04 39 19.2	-0.2
ISA				IAML		04 39 28.2	
	comp=E,854nm,0.2s						
ISA				IAML		04 39 29.2	
	comp=N,743nm,0.6s						
CLC	**China Lake**	**0.60**	**130**		Sg	04 39 27.4	+0.3
CLC	**China Lake**	**0.60**	**130**		Pg	04 39 19.4	0.0
CLC				IAML		04 39 27.8	
	comp=N,377nm,0.4s						
CLC				IAML		04 39 28.4	
	comp=E,280nm,0.3s						
SRTC	**Snort**	**0.61**	**146**		Pg	04 39 20.0	+0.3
SRTC					Sg	04 39 28.8	+1.3
WSHM	**Spangler Hills**	**0.81**	**138**		Sg	04 39 33.9	-0.1
WSHM	**Spangler Hills**	**0.81**	**138**		Pg	04 39 23.1	-0.5
WSHM				IAML		04 39 38.1	
	comp=E,729nm,0.5s						
WSHM				IAML		04 39 38.3	
	comp=E,699nm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.82**	**151**		Sg	04 39 34.1	-0.2
LRMC	**Laurel Mtn Rad**	**0.82**	**151**		Pg	04 39 23.4	-0.3
LRMC				IAML		04 39 34.9	
	comp=N,719nm,0.2s						
LRMC				IAML		04 39 35.3	
	comp=E,672nm,0.2s						
VES	**Vestal, Richgr**	**0.83**	**245**		Pg	04 39 23.8	-0.1
VES				IAML		04 39 47.3	
	comp=E,726nm,0.7s						
VES	**Vestal, Richgr**	**0.83**	**245**		Sg	04 39 35.3	+0.7
TIN	**Tinemaha, Big**	**0.85**	**356**		Sg	04 39 36.3	+0.8
TIN	**Tinemaha, Big**	**0.85**	**356**		Pg	04 39 24.2	-0.2
CCCA	**Chr Cany lake**	**0.94**	**136**		Sb	04 39 39.1	-0.7
CCCA	**Chr Cany lake**	**0.94**	**136**		Pg	04 39 25.8	-0.1
DTP	**Desert Tortois**	**0.97**	**164**		Pg	04 39 26.0	-0.5
DTP					Sg	04 39 38.8	-0.2
VOG	**Valley Oaks Go**	**0.99**	**277**		Pg	04 39 26.3	-0.7
VOG					Sg	04 39 40.5	+0.6
MAGC	**SCE Magundon P**	**1.04**	**217**		Pg	04 39 27.7	-0.2
CCAC	**Calif City Air**	**1.05**	**173**		Pg	04 39 26.9	-1.3
CCAC					Sg	04 39 41.7	-0.1
TEJ	**El Tejon**	**1.06**	**204**		Sg	04 39 41.8	-0.2
QSM	**Queen of Sheba**	**1.07**	**102**		Sg	04 39 42.1	-0.4
QSM	**Queen of Sheba**	**1.07**	**102**		Pg	04 39 28.1	-0.5
QSM				IAML		04 39 46.0	
	comp=E,314nm,0.5s						
QSM				IAML		04 39 47.4	
	comp=N,313nm,0.6s						
FURC	**Furnace Creek,**	**1.08**	**75**		Pg	04 39 28.4	-0.4
BAKC	**Calstate**	**1.15**	**222**		Pg	04 39 29.8	-0.2
BAKC					Sb	04 39 45.9	+0.1
DSP	**Deep Springs**	**1.18**	**7**		Pg	04 39 29.6	-0.9
DSP				IAML		04 39 50.2	
	comp=N,159nm,0.5s						
MTUM	**Tungsten Hills**	**1.20**	**344**		Pg	04 39 30.3	-0.6
GWY	**Greenwater Val**	**1.21**	**90**		Pg	04 39 30.2	-1.0
GWY				IAML		04 39 38.9	
	comp=N,189nm,0.6s						
GWY				IAML		04 39 50.3	
	comp=E,334nm,0.7s						
GMN	**Gold Mountain**	**1.32**	**33**		Pg	04 39 32.3	-1.0
GMN				IAML		04 39 51.3	
	comp=E,121nm,0.4s						
GMN				IAML		04 39 54.1	
	comp=N,179nm,0.6s						
TPO	**Tropico Hills**	**1.32**	**182**		Pg	04 39 32.3	-0.9
TPO				IAML		04 39 52.3	
	comp=N,313nm,1.0s						
TPO				IAML		04 39 56.3	
	comp=E,324nm,0.8s						
WCT	**Wildcat Mounta**	**1.37**	**64**		Pn	04 39 33.2	-1.0
WCT				IAML		04 39 52.8	
	comp=N,109nm,0.5s						
WCT				IAML		04 39 54.5	
	comp=E,136nm,0.7s						
GSC	**Goldstone, Bar**	**1.42**	**129**	IAML		04 39 59.6	
	comp=N,175nm,0.6s						
MLAC	**Mammoth, Mammo**	**1.53**	**339**		Pn	04 39 36.5	0.0
MCSM	**Casa Diablo Ho**	**1.57**	**338**		Pn	04 39 37.2	+0.2
OSI	**Osito Audit: C**	**1.65**	**196**		Pn	04 39 37.1	-0.8
TPNV	**Topopah Spring**	**1.71**	**64**		Pn	04 39 38.3	-0.6
TPNV				IAML		04 39 46.4	
	comp=N,77nm,0.4s						
TPNV				IAML		04 39 52.5	
	comp=N,115nm,0.5s						
MWC	**Mount Wilson**	**1.97**	**177**		Pn	04 39 42.9	+0.4
MWC				IAML		04 40 13.1	
	comp=E,100nm,0.6s						
MWC				IAML		04 40 16.7	
	comp=N,107nm,0.9s						
BFSC	**Mount Baldy Ra**	**2.00**	**168**	IAML		04 40 13.6	
	comp=E,100nm,0.6s						
BFSC				IAML		04 40 14.7	
	comp=N,57nm,0.7s						
PASC	**Pasadena Art C**	**2.02**	**181**		Pn	04 39 43.5	+0.4
PASC				IAML		04 40 22.0	
	comp=E,76nm,0.5s						
PASC				IAML		04 40 22.8	
	comp=N,49nm,0.6s						
LHV	**Little Huntoon**	**2.06**	**353**		Pn	04 39 43.8	+0.2
LHV				IAML		04 40 19.6	
	comp=E,84nm,0.8s						
LHV				IAML		04 40 30.3	
	comp=N,90nm,1.0s						
FIGC	**Figueroa Mtn.**	**2.09**	**226**		Pb	04 39 45.6	-1.0
PMPB	**Monarch Peak**	**2.13**	**271**		Pn	04 39 45.0	+0.4
MYLM	**Yosemite Lake**	**2.16**	**304**		Pb	04 39 46.5	-1.3
CLTC	**Calectric**	**2.21**	**162**		Pn	04 39 46.9	+1.2
NVAR	**Mina Array Bea**	**2.23**	**357**		Pn	04 39 46.4	+0.3
MTPC	**Mountain Pass**	**2.24**	**108**		Pn	04 39 45.8	-0.4
MTPC				IAML		04 40 20.2	
	comp=E,65nm,0.6s						
MTPC				IAML		04 40 29.3	
	comp=N,48nm,1.2s						
BBGB	**Big Mountain B**	**2.35**	**280**		Pn	04 39 45.8	-1.8
PCCM	**Crazy Canyon**	**2.43**	**268**		Pn	04 39 49.3	+0.6
SHPR	**Sheep Range**	**2.44**	**82**		Pn	04 39 49.0	0.0
WAKR	**Walker**	**2.51**	**337**		Pb	04 39 52.9	-1.0
WAKR				IAML		04 40 36.4	
	comp=E,40nm,0.6s						
WAKR				IAML		04 40 41.0	
	comp=N,34nm,1.0s						
CMB	**Columbia Colle**	**2.55**	**317**		Pb	04 39 52.6	-1.9
CMB				IAML		04 40 36.1	
	comp=N,69nm,0.5s						
CMB				IAML		04 40 37.9	
	comp=E,66nm,0.7s						
ELS	**Elsinore Mount**	**2.62**	**166**		Pn	04 39 51.0	-0.3
SAO	**San Andreas Ge**	**2.71**	**283**		Pn	04 39 53.2	+0.7
V12A	**Nelson**	**2.73**	**99**		Pn	04 39 53.8	+0.9
V12A				IAML		04 40 44.0	
	comp=N,28nm,1.5s						
BELC	**Belle Mtn. Jos**	**2.82**	**140**		Pn	04 39 53.1	-1.1
BELC				IAML		04 40 41.7	
	comp=E,33nm,0.6s						
BELC				IAML		04 40 46.0	
	comp=N,37nm,0.5s						
PFO	**Pinyon Flats O**	**2.94**	**151**		Pn	04 39 54.9	-0.8
R11B	**Troy Canyon, C**	**2.97**	**43**		Pn	04 39 55.9	-0.4
NEE2	**Needles Airpor**	**3.23**	**115**	IAML		04 40 54.0	
	comp=N,40nm,0.7s						
NEE2				IAML		04 40 54.7	
	comp=E,43nm,0.8s						
BORC	**Borrego Spring**	**3.26**	**153**	IAML		04 40 54.8	
	comp=E,31nm,0.9s						
BORC				IAML		04 40 59.9	
	comp=N,23nm,0.8s						
BC3	**Big Chuckawall**	**3.38**	**138**	IAML		04 41 02.4	
	comp=E,15nm,1.0s						
BC3				IAML		04 41 04.4	
	comp=N,19nm,0.6s						
AFDM	**Forest Hills D**	**3.54**	**322**	IAML		04 41 06.8	
	comp=N,31nm,0.8s						
BLYC	**Blythe**	**3.86**	**128**	IAML		04 41 24.1	
	comp=N,13nm,0.7s						
SPR3	**Spring Creek 3**	**4.13**	**46**	IAML		04 41 26.1	
	comp=E,14nm,1.0s						
SPR3				IAML		04 41 27.4	
	comp=N,8.7nm,0.9s						
PSUT	**Pine Spring**	**4.15**	**55**	IAML		04 41 22.9	
	comp=N,14nm,0.7s						
PSUT				IAML		04 41 30.6	
	comp=E,15nm,0.8s						
KNB	**Kanab**	**4.37**	**78**	IAML		04 41 36.0	
	comp=E,11nm,1.0s						
U15A	**North Rim**	**4.75**	**86**	IAML		04 41 10.1	
	comp=E,6.3nm,2.1s						
U15A				IAML		04 42 05.3	
	comp=N,5.4nm,3.2s						
Y14A	**Wickenburg**	**4.79**	**117**	IAML		04 41 45.9	
	comp=E,8.3nm,0.8s						
Y14A				IAML		04 41 52.1	
	comp=N,11nm,0.8s						
PKCU	**Pink Cliffs**	**4.86**	**73**	IAML		04 41 59.3	
	comp=N,16nm,4.5s						
PKCU				IAML		04 42 28.4	
	comp=E,14nm,4.1s						
ELK	**Elko**	**5.08**	**26**	IAML		04 41 49.1	
	comp=E,5.3nm,0.7s						
MTPU	**Mount Pierson**	**5.12**	**67**	IAML		04 41 57.6	
	comp=E,5.2nm,3.6s						
MTPU				IAML		04 42 06.0	
	comp=N,4.5nm,4.2s						

NNC ***09*** *04:59:58.8±2.4,55°.69N×86°.86E,h0km,mb3.1,mpv2.6, Error ellipse: s-maj=19.1km s-min=14.2km az=32.0, Suspected Mining explosion.*

ASRS ***09*** *04:59:59.0±0.9,55°.65N×86°.16E,h0km,M3.0,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 05:00:04.0±3.3,55°.59N×86°.08E,h0km,mbtmp2.8/2, **ML2.4**/2,**3C-3D,Error ellipse: s-maj=28.1km s-min=26.4km az=93.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**205**	I	I	05 12 00.0	
	baz=24,slow=321,SNR=15						
ZAA0	**Zalesovo Array**	**1.80**	**205**	⇑Pn	Pn	05 00 35.0	-1.3
	0.3nm,0.3s,baz=36,slow=17						
ZAA0				⇓Lg	Lg	05 01 05.7	
	2.0nm,0.6s,baz=32,slow=25						
ZALV	**Zalesovo Beam**	**1.80**	**205**	Pn	Pn	05 00 35.7	-0.6
	3.0nm,0.3s,baz=27,slow=16,SNR=28						
ZALV				Lg	Lg	05 01 00.4	
	2.8nm,0.3s,baz=26,slow=27,SNR=8.4						
KURK	**Kurchatov**	**6.63**	**226**	⇑Lg	Lg	05 03 43.5	
	6.1nm,0.9s						
KURBB	**Kurchatov Arra**	**6.74**	**226**	Pn	Pn	05 01 43.3	-0.8
	baz=45,slow=14,SNR=5.1						
KURBB				Lg	Lg	05 03 40.4	
	0.1nm,0.3s,baz=50,slow=33,SNR=2.9						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**6.74**	**226**	⇓Pn	Pn	05 01 44.7	+0.6
	2.0nm,0.8s						
KURBB				⇑Lg	Lg	05 03 46.1	
	8.6nm,0.9s						
MK31	**Makanchi Array**	**9.12**	**197**	Pn	Pn	05 02 15.7	-1.1
	0.4nm,0.6s,baz=175,slow=16,SNR=3.3						
MK31				⇓Lg	Lg	05 04 54.0	
	1.6nm,0.8s,baz=27,slow=31,SNR=3.5						
MKAR	**Makanchi Array**	**9.12**	**197**	Pn	Pn	05 02 18.0	+1.1
	0.1nm,0.3s,baz=18,slow=16,SNR=1.8						
MKAR				Lg	Lg	05 04 54.4	
	baz=22,slow=20,SNR=4.2						
	0.4nm,0.8s						

OSPL ***09*** *05:01:13.5±2.9, 18°.40N×69°.12W,h120km±23km,ML2.9 SDD* ***09*** *05:01:14.4±1.9, 18°.41N×69°.10W,h99km±11km,MD3.7, ML3.0,MW3.2*

ISC 09 05:01:11.8±1.4,18°.46N±0°.06×69°.11W±0°.03,h111km±9km, n24,σ1°.23/40,7C-15D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.40**	**70**	⇓*e*Pg	**Pn**	**05 01 28.3**	**+0.1**
HIDR				⇓*e*Sg	**Sn**	**05 01 39.7**	**-0.7**
HIDR				IAML		05 01 41.1	
	comp=N,1μm,0.1s						
HATOM	**Hato Mayor del**	**0.42**	**322**	⇓*e*Pg	**Pn**	**05 01 27.6**	**-0.7**
HATOM				⇑*e*Sg	**Sn**	**05 01 39.3**	**-1.4**
HATOM				IAML		05 01 40.8	
	comp=N,173nm,0.1s						
SDD	**Santo Domingo**	**0.76**	**270**	*i* P	**Pn**	**05 01 32.9**	**+2.1**
SDD				*e*S	**Sn**	**05 01 44.9**	**-0.1**
SMDR	**Samana, DR**	**0.83**	**355**	⇑*e*Pg	**Pn**	**05 01 31.2**	**-0.3**
SMDR				⇓*e*Sg	**Sn**	**05 01 46.1**	**-0.2**
SMDR				IAML		05 01 50.7	
	comp=N,728nm,0.4s						
NADR	**Nagua**	**1.14**	**322**	⇑*e*Pg	**Pn**	**05 01 35.5**	**+1.0**
NADR				⇓*e*Sg	**Sn**	**05 01 52.8**	**+1.0**
NADR				IAML		05 01 54.9	
	comp=N,702nm,0.2s						
BANI	**BANI**	**1.18**	**267**	⇓*e*Pg	**Pn**	**05 01 36.0**	**+0.9**
BANI				⇓*e*Sg	**Sn**	**05 01 52.9**	**+0.1**
BANI				IAML		05 01 58.0	
	comp=N,155nm,0.3s						
ABDR	**Alto Bandera**	**1.48**	**284**	⇑*e*Pg	**Pn**	**05 01 39.0**	**+0.2**
ABDR				⇓*e*Sg	**Sn**	**05 01 58.9**	**-0.3**
ABDR				IAML		05 02 05.3	
	comp=N,128nm,0.2s						
SC01	**Santiago de lo**	**1.81**	**303**	*i* P	**Pn**	**05 01 43.6**	**+1.1**
SC01				*e*S	**Sn**	**05 02 08.1**	**+2.2**
AGPR	**Aguadilla, PR**	**1.90**	**89**	*i* P	**Pn**	**05 01 45.1**	**+1.6**
AGPR				IAML		05 02 20.8	
	comp=Z,76nm,0.2s						
AGPR	**Aguadilla, PR**	**1.90**	**89**	⇑*e*Pg	**Pn**	**05 01 45.3**	**+1.7**
AGPR				⇓*e*Sg	**Sn**	**05 02 07.2**	**-0.6**
AGPR				IAML		05 02 16.4	
	comp=N,134nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.96**	**103**	*i* P	**Pn**	**05 01 44.5**	**+0.3**
CRPR				IAML		05 02 23.9	
	comp=Z,38nm,0.5s						
MLPR	**Magueyes Islan**	**2.02**	**103**	⇓*e*Pg	**Pn**	**05 01 45.2**	**+0.1**
MLPR				⇓*e*Sg	**Sn**	**05 02 09.4**	**-1.2**
MLPR				IAML		05 02 19.5	
	comp=N,11nm,0.3s						
PODR	**Polo**	**2.08**	**262**	*i* P	**Pn**	**05 01 46.1**	**+0.1**
PODR				*e*S	**Sn**	**05 02 12.5**	**+0.3**
PODR	**Polo**	**2.08**	**262**	⇑*e*Pg	**Pn**	**05 01 46.3**	**+0.2**
PODR				⇓*e*Sg	**Sn**	**05 02 11.0**	**-1.2**
PODR				IAML		05 02 36.2	
	comp=N,38nm,1.6s						
SDDR	**Presa de Saban**	**2.13**	**285**	*i* P	**Pn**	**05 01 48.2**	**+1.6**
SDDR				IAML		05 02 20.6	
	comp=Z,39nm,0.7s						
SDDR	**Presa de Saban**	**2.13**	**285**	⇓*e*Pg	**Pn**	**05 01 48.0**	**+1.4**
SDDR				⇓*e*Sg	**Sn**	**05 02 12.8**	**-0.2**
SDDR				IAML		05 02 21.5	
	comp=N,39nm,0.7s						
AOPR	**Arecibo Observ**	**2.24**	**92**	⇑*e*Pg	**Pn**	**05 01 48.5**	**+0.6**
AOPR				IAML		05 02 25.8	
	comp=N,204nm,0.4s						
LOVI	**El Cajuil, Ovi**	**2.24**	**253**	*i* P	**Pn**	**05 01 47.6**	**-0.3**
LOVI				*e*S	**Sn**	**05 02 13.2**	**-2.4**
LOVI				IAML		05 02 14.6	
	comp=Z,64nm,1.2s						
LODU1	**El Espartillar**	**2.25**	**268**	*i* P	**Pn**	**05 01 48.5**	**+0.6**
LODU1				IAML		05 02 20.8	
	comp=Z,32nm,1.2s						
LOPP1	**Punta Rusia, P**	**2.41**	**306**	*i* P	**Pn**	**05 01 49.6**	**-0.6**
LOPP1				*e*S	**Sn**	**05 02 19.5**	**-0.1**
LOPP1				IAML		05 02 35.3	
	comp=Z,50nm,2.1s						
CELP	**Cerrillos**	**2.44**	**99**	⇓*e*Pg	**Pn**	**05 01 51.0**	**+0.6**
CELP				IAML		05 02 28.4	
	comp=N,51nm,0.6s						
LOBH	**Bahia de las A**	**2.47**	**257**	*i* P	**Pn**	**05 01 51.1**	**+0.2**
LOBH				*e*S	**Sn**	**05 02 19.8**	**-1.1**
LOBH				IAML		05 02 30.8	
	comp=Z,52nm,3.1s						
SJG	**San Juan**	**2.83**	**96**	*i* P	**Pn**	**05 01 57.1**	**+1.5**
SJG				IAML		05 02 36.8	
	comp=Z,20nm,0.2s						
GRTK	**Grand Turk**	**3.59**	**328**	*e*S	**Sn**	**05 02 43.6**	**-3.7**
GRTK				IAML		05 02 45.3	
	comp=Z,47nm,1.7s						

FUNV ***09*** *05:15:00.2, 10°.58N×62°.35W, h4km, MW3.0 TRN* ***09*** *05:15:00.5, 10°.98N×61°.91W, h106km, MD2.9, North of the Paria peninsula.*

ISC 09 05:14:54.3±2.8,10°.83N±0°.07×62°.2W±0°.1,h137km±25km, n14,σ2°.23/24,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.61**	**103**	*e*P	**Pn**	**05 15 17.9**	**+3.2**
DMDM				*e*S	**Sn**	**05 15 29.6**	**-0.5**
PSMG	**Mucurapo Girls**	**0.63**	**104**	*e*P	**Pn**	**05 15 16.4**	**+1.6**
PSMG				*e*S	**Sn**	**05 15 28.3**	**-2.1**
PSKH	**Kent House, Po**	**0.64**	**104**	*e*S	**Sn**	**05 15 27.9**	**-2.6**
PSQC	**Port of Spain**	**0.65**	**105**	*e*P	**Pn**	**05 15 16.9**	**+2.0**
PSQC				*e*S	**Sn**	**05 15 28.7**	**-1.9**
PSNL	**Port of Spain**	**0.66**	**106**	*e*S	**Sn**	**05 15 29.4**	**-1.3**
PSGH	**Port of Spain**	**0.66**	**105**	*e*P	**Pn**	**05 15 16.9**	**+1.9**
PSGH				*e*S	**Sn**	**05 15 28.5**	**-2.3**
TRN	**Trinidad (W)**	**0.76**	**104**	*e*P	**Pn**	**05 15 17.9**	**+2.1**
TRN				*e*S	**Sn**	**05 15 30.3**	**-1.7**
GRFF	**Grenada Fort F**	**1.28**	**19**	*e*P	**Pn**	**05 15 21.6**	**+1.1**
GRFF				*e*S	**Sn**	**05 15 38.2**	**-2.3**
GRGR	**Grenville**	**1.38**	**21**	*e*P	**Pn**	**05 15 23.2**	**+1.6**
GRGR				*e*S	**Sn**	**05 15 41.0**	**-1.4**
GRW	**Mount Saint Ca**	**1.41**	**20**	*e*S	**Sn**	**05 15 40.8**	**-2.2**
GRSS	**Sisters**	**1.55**	**20**	*e*P	**Pn**	**05 15 25.3**	**+1.9**
GRSS				*e*S	**Sn**	**05 15 43.3**	**-2.4**
PCRV	**Puerto La Cruz**	**2.53**	**255**	*e*P	**Pn**	**05 15 37.4**	**+2.3**
PCRV				*e*S	**Sn**	**05 16 05.8**	**-0.8**
CACV	**CAICARA DEL OR**	**5.41**	**234**	*e*P	**Pn**	**05 16 11.0**	**-2.0**
CACV				*e*S	Sn	05 17 03.0	-11
BAUV	**El Baul**	**6.10**	**253**	*e*P	**Pn**	**05 16 25.4**	**+3.2**
BAUV				*e*S	**Sn**	**05 17 28.7**	**-2.1**

IDC 09 05:20:21.9±55.0,15°.73S×176°.90W,h0km,mb4.0/3, mbtmp4.0/3,Error ellipse: s-maj=1022.0km s-min=176.5km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.96**	**239**	P	P	05 28 05.9	-0.6
	2.7nm,1.0s,baz=74,slow=7.4,SNR=1.6						
	2.7nm,1.0s			

CD-ROM, 2021.

IDC 09 05:37:43.8±3.5, 54.45N×86.88E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=31.0km s-min=19.5km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**248**	I	I	05 46 03.5	
	baz=67,slow=311,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.31**	**248**	Pg	Pg	05 38 07.0	-1.8
	1.1nm,0.3s,baz=68,slow=16,SNR=8.7						
ZALV				Lg	Lg	05 38 25.9	
	1.8nm,0.3s,baz=67,slow=24,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.37**	**236**	Pn	Pn	05 39 19.9	+1.1
	0.2nm,0.3s,baz=54,slow=14,SNR=5.8						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**8.20**	**203**	Pn	Pn	05 39 45.0	+1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=1.4						
	0.1nm,0.3s						

*GCG **09** 05:47:59.9±4.1, 17.64N×94.96W, h123km±58km, MD4.5, ML4.3*

*IDC **09** 05:48:00.4±0.6, 17.71N×94.69W, h119km±11km, mb3.5/8, mbtmp4.0/10, Error ellipse: s-maj=34.1km s-min=17.1km az=52.0*

*NEIC **09** 05:48:01.0±1.6, 17.62N±0.05×94.97W±0.05, h134km±4km, mb4.3/25, Md4.3/60(MEX), Error ellipse: s-maj=7.4km s-min=6.2km az=49.0*

*MEX **09** 05:48:02.0±1.1, 17.61N×94.99W, h135km±8km, MD4.3*

ISC 09 05:48:00.7±0.6, 17.63N±0.03×95.00W±0.03, h138km±5km, n111, σ1s75/154, mb3.7/8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.54**	**169**		**Pn**	**05 48 20.8**	**-0.2**
CMIG					**Sn**	**05 48 34.8**	**-1.5**
CMIG	**Matias Romero**	**0.54**	**169**	P	**Pn**	**05 48 20.5**	**-0.5**
	1μm,0.3s,baz=334,slow=2.3,SNR=5814						
CMIG				LR	LR	05 48 29.0	
	comp=Z,38nm,19.0s,baz=189,slow=45						
CMIG				S	**Sn**	**05 48 34.6**	**-1.8**
	804nm,0.3s,baz=49,slow=23,SNR=15						
CMIG	**Matias Romero**	**0.54**	**169**	*i* P	**Pn**	**05 48 20.8**	**-0.2**
CMIG				*i* S	**Sn**	**05 48 34.8**	**-1.5**
TUIG	**Tuzandepetl**	**0.68**	**53**	*i* P	**Pn**	**05 48 21.9**	**+0.1**
TUIG				*i* S	**Sn**	**05 48 35.2**	**-2.6**
NEUV	**Arroyo Zacate**	**0.77**	**277**		**Pn**	**05 48 22.2**	**-0.3**
NEUV	**Arroyo Zacate**	**0.77**	**277**	*e*P	**Pn**	**05 48 22.2**	**-0.3**
NEUV				*i* S	**Sn**	**05 48 36.9**	**-2.1**
UXUV	**UXUV**	**0.87**	**110**		**Pn**	**05 48 23.2**	**0.0**
UXUV	**UXUV**	**0.87**	**110**	*e*P	**Pn**	**05 48 23.2**	**0.0**
UXUV				*e*S	**Sn**	**05 48 38.5**	**-1.8**
PMUV	**Sontecomapan**	**0.92**	**353**		**Pn**	**05 48 23.3**	**-0.5**
PMUV					**Sn**	**05 48 39.9**	**-1.5**
PMUV	**Sontecomapan**	**0.92**	**353**	*i* P	**Pn**	**05 48 23.3**	**-0.5**
PMUV				*i* S	**Sn**	**05 48 39.9**	**-1.5**
NILT	**Santiago Nilte**	**1.11**	**161**		**Pn**	**05 48 25.4**	**0.0**
NILT					**Sn**	**05 48 42.9**	**-1.3**
NILT	**Santiago Nilte**	**1.11**	**161**	*e*P	**Pn**	**05 48 25.4**	**0.0**
NILT				*i* S	**Sn**	**05 48 42.9**	**-1.3**
OXLC	**Oaxaca**	**1.72**	**251**		**Pn**	**05 48 32.4**	**+0.3**
OXLC					**Sn**	**05 48 56.2**	**+0.2**
OXLC	**Oaxaca**	**1.72**	**251**	*i* P	**Pn**	**05 48 32.4**	**+0.3**
OXLC				*e*S	**Sn**	**05 48 56.2**	**+0.2**
OXBJ	**Oaxaca**	**1.74**	**252**		**Pn**	**05 48 32.5**	**+0.2**
OXBJ					**Sn**	**05 48 56.5**	**+0.1**
OXBJ	**Oaxaca**	**1.74**	**252**	*e*P	**Pn**	**05 48 32.5**	**+0.2**
OXBJ				*e*S	**Sn**	**05 48 56.5**	**+0.1**
OXIG	**Oaxaca**	**1.75**	**252**		**Pn**	**05 48 33.0**	**+0.6**
OXIG					**Sn**	**05 48 56.0**	**-0.6**
VHO	**Vista Hermosa**	**1.75**	**252**	*e*P	**Pn**	**05 48 33.0**	**+0.6**
VHO				*i* S	**Sn**	**05 48 56.0**	**-0.6**
TGIG		**1.98**	**115**		**Pn**	**05 48 35.1**	**+0.1**
TGIG					**Sn**	**05 48 59.4**	**-1.7**
TGIG		**1.98**	**115**	*e*P	**Pn**	**05 48 35.1**	**+0.1**
TGIG				*e*S	**Sn**	**05 48 59.4**	**-1.7**
TGIG		**1.98**	**115**	*i* P	**Pn**	**05 48 35.1**	**+0.1**
TGIG				*i* S	**Sn**	**05 48 59.5**	**-1.7**
TGIG				IAML		05 49 00.9	
	comp=N,3μm,0.6s						
TGBT	**Tuxtla Gutierr**	**2.01**	**115**		**Pn**	**05 48 35.6**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.01**	**115**	*e*P	**Pn**	**05 48 35.6**	**+0.4**
TGBT				*e*S	**Sn**	**05 48 59.3**	**-2.3**
TOIG	**Toxpalan**	**2.02**	**284**		**Pn**	**05 48 36.2**	**+0.6**
TOIG					**Sn**	**05 49 01.6**	**-0.6**
TOIG	**Toxpalan**	**2.02**	**284**	*i* P	**Pn**	**05 48 36.2**	**+0.6**
TOIG				*i* S	**Sn**	**05 49 01.6**	**-0.6**
HUIG	**Huatulco**	**2.13**	**210**		**Pn**	**05 48 35.2**	**-1.6**
HUIG					**Sn**	**05 49 03.1**	**-1.3**
HUIG	**Huatulco**	**2.13**	**210**	*e*P	**Pn**	**05 48 35.2**	**-1.6**
HUIG				*i* S	**Sn**	**05 49 03.1**	**-1.3**
HUIG	**Huatulco**	**2.13**	**210**	*i* P	**Pn**	**05 48 35.1**	**-1.6**
HUIG				*i* S	**Sn**	**05 49 03.2**	**-1.2**
HUIG				IAML		05 49 04.1	
	comp=N,564nm,0.1s						
TPIG	**Tehuac#an**	**2.39**	**290**		**Pn**	**05 48 40.7**	**+0.7**
TPIG					**Sn**	**05 49 09.1**	**-1.1**
TPIG	**Tehuac#an**	**2.39**	**290**	*e*P	**Pn**	**05 48 40.7**	**+0.7**
TPIG				*e*S	**Sn**	**05 49 09.1**	**-1.1**
JAUV	**Jalcomulco**	**2.44**	**316**		**Pn**	**05 48 40.0**	**-0.6**
JAUV	**Jalcomulco**	**2.44**	**316**	*e*P	**Pn**	**05 48 40.0**	**-0.6**
JAUV				*e*S	**Sn**	**05 49 08.1**	**-3.1**
LVIG	**Laguna Verde**	**2.48**	**327**	*e*P	**Pn**	**05 48 40.1**	**-0.9**
LVIG				*i* S	**Sn**	**05 49 08.1**	**-4.1**
YOIG	**Yosondua**	**2.55**	**253**		**Pn**	**05 48 42.0**	**-0.2**
YOIG					**Sn**	**05 49 12.7**	**-1.4**
YOIG	**Yosondua**	**2.55**	**253**	*e*P	**Pn**	**05 48 42.0**	**-0.2**
YOIG				*e*S	**Sn**	**05 49 12.7**	**-1.4**
PCIG		**2.56**	**138**		**Pn**	**05 48 42.3**	**+0.3**
PCIG		**2.56**	**138**	*e*P	**Pn**	**05 48 42.3**	**+0.3**
PCIG				*e*S	**Sn**	**05 49 11.7**	**-2.1**
POHV	**Veracruz**	**2.60**	**304**		**Pn**	**05 48 43.9**	**+0.8**
POHV	**Veracruz**	**2.60**	**304**	*e*P	**Pn**	**05 48 43.9**	**+0.8**
POHV				*i* S	**Sn**	**05 49 08.2**	**-7.4**
PEIG	**Puerto Escondi**	**2.62**	**232**		**Pn**	**05 48 40.8**	**-2.0**
PEIG	**Puerto Escondi**	**2.62**	**232**	*e*P	**Pn**	**05 48 40.8**	**-2.0**
PEIG				*i* S	**Sn**	**05 49 10.5**	**-4.7**
TXIG	**Tlaxiaco**	**2.67**	**262**		**Pn**	**05 48 43.8**	**+0.1**
TXIG	**Tlaxiaco**	**2.67**	**262**	*e*P	**Pn**	**05 48 43.8**	**+0.1**
TXIG				*e*S	**Sn**	**05 49 12.6**	**-4.2**
HLIG	**Huajuapan de L**	**2.68**	**275**		**Pn**	**05 48 44.2**	**+0.5**
HLIG	**Huajuapan de L**	**2.68**	**275**	*e*P	**Pn**	**05 48 44.2**	**+0.5**
HLIG				*e*S	**Sn**	**05 49 13.1**	**-3.9**
CCIG	**Comitan**	**3.04**	**116**		**Pn**	**05 48 48.1**	**-0.3**
CCIG	**Comitan**	**3.04**	**116**	*e*P	**Pn**	**05 48 48.3**	**-0.1**
CCIG				*i* S	**Sn**	**05 49 20.9**	**-4.2**
CCIG	**Comitan**	**3.04**	**116**	*i* P	**Pn**	**05 48 47.8**	**-0.6**
CCIG				*i* S	**Sn**	**05 49 21.4**	**-3.8**
CCIG				IAML		05 49 34.9	
	comp=N,612nm,0.4s						
PNIG	**Pinotepa**	**3.24**	**248**		**Pn**	**05 48 48.6**	**-2.1**
PNIG	**Pinotepa**	**3.24**	**248**	*e*P	**Pn**	**05 48 48.6**	**-2.1**
PNIG				*e*P		05 48 48.6	
PNIG				*i* S	**Sn**	**05 49 22.1**	**-7.3**
PNIG				*e*S		05 49 25.1	
TLIG	**Tlapa**	**3.41**	**269**		**Pn**	**05 48 52.5**	**-0.5**
TLIG	**Tlapa**	**3.41**	**269**	*e*P	**Pn**	**05 48 53.1**	**+0.1**
TLIG				*i* S	Sn	05 49 25.1	-8.4
MGIG	**Malinaltepec**	**3.50**	**264**		**Pn**	**05 48 54.0**	**-0.2**
MGIG	**Malinaltepec**	**3.50**	**264**	*e*P	**Pn**	**05 48 54.0**	**-0.2**
MGIG				*i* S	**Sn**	**05 49 28.9**	**-6.7**
CXUV	**Coxquihui**	**3.53**	**316**		**Pn**	**05 48 55.1**	**+0.6**
CXUV	**Coxquihui**	**3.53**	**316**	*i* P	**Pn**	**05 48 55.1**	**+0.6**
CXUV				*e*S	**Sn**	**05 49 30.7**	**-5.5**
THIG		**3.77**	**135**		**Pn**	**05 48 57.9**	**+0.3**
THIG					**Sn**	**05 49 40.5**	**-1.2**
THIG		**3.77**	**135**	*e*P	**Pn**	**05 48 57.9**	**+0.3**
THIG				*i* S	**Sn**	**05 49 40.5**	**-1.2**
HUEH	**Huehuetenango**	**4.06**	**124**	Pn	**Pn**	**05 49 01.1**	**-0.6**
UNM	**Universidad Na**	**4.32**	**294**	Pn	**Pn**	**05 49 06.1**	**+1.0**
QUIS	**Sacapulas**	**4.41**	**121**	*i* P	**Pn**	**05 49 03.5**	**-2.7**
QUIS				*i* S	**Sn**	**05 49 55.2**	**-1.8**
QUIS				IAML		05 50 03.2	
	comp=E,579nm,0.6s						
RTAL	**Retalhuleu**	**4.42**	**134**	Pn	**Pn**	**05 49 06.2**	**-0.1**
PETF	**Flores**	**4.95**	**97**	Pn	**Pn**	**05 49 12.7**	**-0.6**
JRQG	**Juriquilla Cam**	**5.99**	**302**	Pn	**Pn**	**05 49 28.7**	**+1.2**
MOIG	**Morelia**	**6.22**	**290**	Pn	**Pn**	**05 49 31.5**	**+1.1**
ESQI	**Esquipulas**	**6.23**	**118**	Pn	**Pn**	**05 49 28.4**	**-2.1**
MTO3	**Montecristo**	**6.30**	**120**	Pn	**Pn**	**05 49 29.9**	**-1.6**
TEIG	**Tepich**	**6.87**	**67**	Pn	**Pn**	**05 49 37.0**	**-1.9**
CNGN	**Cerro Negro**	**9.49**	**121**	Pn	**Pn**	**05 50 13.1**	**-1.1**
KVTX	**Kingsville**	**10.23**	**345**	Pn	**Pn**	**05 50 24.8**	**+0.9**
ACON	**Acoyapa**	**11.04**	**119**	Pn	**Pn**	**05 50 35.5**	**+0.8**
JTS	**Las Juntas de**	**12.17**	**125**	Pn	**Pn**	**05 50 49.2**	**-0.5**
JTS	**Las Juntas de**	**12.17**	**125**	P	**Pn**	**05 50 49.3**	**-0.4**
	comp=E,4.3nm,0.3s,baz=308,slow=20,SNR=12						
SOR	**Soroa**	**12.37**	**63**	Pn	**Pn**	**05 50 51.0**	**-1.2**
HNDO	**Hondo**	**12.48**	**342**	Pn	**Pn**	**05 50 54.4**	**+0.8**
LCR2	**La Lucha 2**	**13.24**	**125**	Pn	**Pn**	**05 51 03.0**	**-0.7**
435B	**Jarrell**	**13.31**	**350**	Pn	**Pn**	**05 51 04.3**	**+0.1**
JCT	**Junction City**	**13.53**	**342**		**Pn**	**05 51 06.4**	**-0.7**
SAND	**Sanderson**	**13.89**	**333**	Pn	**Pn**	**05 51 13.0**	**+1.2**
BRDY	**Brady**	**14.08**	**346**	Pn	**Pn**	**05 51 13.8**	**-0.2**
TXAR	**Lajitas Array**	**14.10**	**327**	P	**P**	**05 51 17.6**	**-0.2**
	comp=E,1.0nm,0.7s,baz=148,slow=9.8,SNR=10						
OZNA	**Ozona**	**14.36**	**338**		**Pn**	**05 51 18.9**	**+1.2**
FW13	**Cleburne**	**14.83**	**352**	Pn	**Pn**	**05 51 23.9**	**+0.4**
ALPN	**Alpine**	**14.94**	**330**		**P**	**05 51 27.2**	**0.0**
SGCY	**Sterling City**	**15.27**	**340**		**Pn**	**05 51 30.1**	**+1.0**
SGCY				IAmb	IAmb	05 51 34.6	
	comp=Z,15nm,0.9s						
MNHN	**Monahans**	**15.37**	**334**	P	**P**	**05 51 33.7**	**+1.8**
PLPT	**Palo Pinto**	**15.42**	**349**	P	**P**	**05 51 32.8**	**+0.4**
PLPT				IAmb	IAmb	05 51 35.3	
	comp=Z,30nm,1.4s						
Z38A	**Mt. Pleasant**	**15.57**	**0**	P	**Pn**	**05 51 33.7**	**+1.0**
Z38A				IAmb	IAmb	05 51 36.7	
	comp=Z,14nm,0.8s						
Z41A	**Richland Creek**	**15.69**	**7**	P	**P**	**05 51 36.0**	**+0.6**
VHRN	**Van Horn**	**15.95**	**327**		**P**	**05 51 40.1**	**+1.8**
ODSA	**Odessa**	**15.97**	**336**		**P**	**05 51 39.9**	**+1.4**
ODSA				IAmb	IAmb	05 51 42.8	
	comp=Z,14nm,0.7s						
HTMS	**Hat Mesa**	**16.71**	**334**	P	**P**	**05 51 47.6**	**+0.8**
FCAR	**Ozark Folk Cen**	**18.37**	**7**		**P**	**05 52 05.3**	**+0.5**
FCAR				IAmb	IAmb	05 52 07.3	
	comp=Z,16nm,0.6s						
CROK	**Carrier**	**18.99**	**353**	P	**P**	**05 52 11.9**	**+0.3**
BNM	**Barren Site**	**19.48**	**330**	P	**Pn**	**05 52 19.0**	**-0.7**
PBMO	**Poplar Bluff**	**19.50**	**11**	P	**P**	**05 52 17.3**	**+0.2**
PBMO				IAmb	IAmb	05 52 18.3	
	comp=Z,22nm,1.1s						
ANMO	**Albuquerque**	**20.05**	**332**	P	**P**	**05 52 24.6**	**+1.3**
ANMO	**Albuquerque**	**20.05**	**332**	P	Pn	05 52 25.8	-0.6
	comp=Z,4.6nm,0.6s,baz=230,slow=13,SNR=17						
	comp=Z,4.6nm,0.6s						
TKL	**Tuckaleechee C**	**20.54**	**27**	P	**P**	**05 52 27.3**	**-1.0**
	comp=Z,3.7nm,0.4s,baz=177,slow=10,SNR=13						
	comp=Z,3.7nm,0.4s						
SIUC	**Southern Illin**	**20.65**	**13**	P	**P**	**05 52 29.4**	**0.0**
SIUC				IAmb	IAmb	05 52 32.8	
	comp=Z,16nm,0.6s						
X18A	**Snowflake**	**21.49**	**324**	P	**P**	**05 52 38.5**	**-0.2**
CBKS	**Cedar Bluff**	**21.51**	**350**	P	**P**	**05 52 39.1**	**+0.3**
CBKS				IAmb	IAmb	05 52 41.9	
	comp=Z,8.0nm,0.8s						
WCI	**Wyandotte Cave**	**21.90**	**19**	P	**P**	**05 52 42.0**	**-0.7**
WCI				IAmb	IAmb	05 52 44.8	
	comp=Z,12nm,0.9s						
HMU	**Henry Mountain**	**24.50**	**329**	P	**P**	**05 53 07.9**	**+0.5**
L42A	**Oliver, Polo**	**24.72**	**10**	P	**P**	**05 53 08.6**	**-0.5**
PDAR	**Pinedale Array**	**27.96**	**337**	P	**P**	**05 53 40.4**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=146,slow=8.0,SNR=1.9						
	comp=Z,0.3nm,0.3s						
NVAR	**Mina Array Bea**	**29.06**	**320**	P	**P**	**05 53 51.1**	**+2.9**
	comp=Z,1.2nm,0.6s,baz=131,slow=9.0,SNR=12						
	comp=Z,1.2nm,0.6s						
LPAZ	**La Paz**	**42.85**	**140**	P	**P**	**05 55 46.4**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=327,slow=8.3,SNR=5.0						
	comp=Z,1.1nm,0.9s						
SCHQ	**Schefferville**	**42.96**	**24**	P	**P**	**05 55 44.8**	**-1.1**
	comp=Z,3.0nm,0.6s,baz=231,slow=4.8,SNR=4.1						
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**46.87**	**348**	P	**P**	**05 56 17.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=152,slow=6.6,SNR=3.6						
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**58.39**	**337**	P	**P**	**05 57 42.8**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=136,slow=7.2,SNR=5.2						
	comp=Z,0.4nm,0.7s						

*ASRS **09** 05:59:46.0±0.6, 55.62N×86.19E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 05:59:48.1±3.5, 55.66N×86.12E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=28.5km s-min=27.4km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**204**	I	I	06 11 50.0	
	baz=23,slow=318,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.87**	**204**	Pn	Pn	06 00 21.7	+0.4
	2.0nm,0.3s,baz=28,slow=16,SNR=20						
ZALV				Lg	Lg	06 00 47.1	
	2.3nm,0.3s,baz=25,slow=28,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.80**	**225**	Pn	Pn	06 01 28.0	-1.0
	baz=42,slow=14,SNR=3.2						
KURBB				Lg	Lg	06 03 25.0	
	0.1nm,0.3s,baz=53,slow=32,SNR=4.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**9.19**	**197**	Pn	Pn	06 02 02.6	+0.7
	0.1nm,0.3s,baz=14,slow=15,SNR=1.8						
	0.2nm,0.4s						

*ISN **09** 06:01:39.1±0.5, 34.61N×46.17E, h8km±5km, ML3.5*

*TEH **09** 06:01:39.8, 34.59N×46.18E, h8km±27km*

ISC 09 06:01:39.9±1.3, 34.60N±0.03×46.19E±0.03, h2km±12km, n22, σ1s27/28, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.19**	**59**	Pg	**Pg**	**06 01 43.7**	**0.0**
IDHR				Sg	**Sg**	**06 01 47.3**	**+1.1**
IGHG	**Ghaleghazi**	**0.41**	**130**	Pg	**Pg**	**06 01 48.2**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.50**	**259**	Pg	**Pg**	**06 01 49.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.54**	**205**	Pg	**Pg**	**06 01 50.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.78**	**114**	Pg	**Pg**	**06 01 55.1**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.97**	**179**	Pg	**Pg**	**06 01 58.4**	**-0.2**
ILBA				Sg	**Sb**	**06 02 12.5**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.21**	**77**	Pg	**Pn**	**06 02 03.5**	**-0.7**
IBZA	**Bozab**	**1.39**	**95**	Pg	**Pg**	**06 02 06.6**	**+0.1**
IBDR	**Badra**	**1.50**	**188**	*e*Pn	**Pb**	**06 02 08.0**	**-0.5**
IBDR				*e*Sn	**Sg**	**06 02 29.2**	**+1.0**
IBDR				AML	AML	06 02 35.4	
	comp=N,428nm,0.6s						
IBDR				AML	AML	06 02 46.1	
	comp=E,522nm,0.6s						
IKRK	**Kirkuk**	**1.71**	**298**	*e*Pn	**Pb**	**06 02 11.0**	**-1.1**
IKRK				*e*Sn	**Sb**	**06 02 34.0**	**-0.1**
IKRK				AML	AML	06 02 37.6	
	comp=E,823nm,0.6s						
IKRK				AML	AML	06 02 41.8	
	comp=N,990nm,0.4s						
IDOB	**Doab**	**1.84**	**116**	Pn	**Pb**	**06 02 13.9**	**-0.5**
BHD	**Baghdad**	**2.00**	**229**	*e*Pn	**Pn**	**06 02 15.0**	**+0.2**
BHD				*e*Sn	**Sb**	**06 02 41.0**	**-1.5**
BHD				AML	AML	06 02 53.8	
	comp=E,495nm,0.5s						
MAHB	**Mahabad**	**2.20**	**350**	Pn	**Pb**	**06 02 19.3**	**-1.2**
BDRS	**Dareh Seyedi**	**2.32**	**105**	Pn	**Pb**	**06 02 20.9**	**-1.8**
HGHA	**Hamedan- Ghaye**	**2.36**	**67**	Pn	**Pb**	**06 02 21.5**	**-1.9**
IHSH	**Hashtrud**	**2.84**	**18**	Pn	**Pb**	**06 02 28.6**	**-2.9**
RAFI	**Al-Rafai**	**2.87**	**181**	*e*Pn	**Pn**	**06 02 27.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**06 03 02.5**	**+0.8**
RAFI				AML	AML	06 03 17.4	
	comp=E,192nm,0.3s						
RAFI				AML	AML	06 03 32.1	
	comp=N,264nm,0.1s						
IAZR	**Azarshahr**	**3.08**	**357**	Pn	**Pn**	**06 02 31.9**	**+2.1**
ISHB	**Shabestar**	**3.71**	**353**	Pn	**Pn**	**06 02 40.0**	**+1.6**
IHRS	**Heris**	**3.77**	**10**	Pn	**Pn**	**06 02 41.0**	**+1.6**
GRMI	**Germi**	**4.42**	**18**	Pn	**Pn**	**06 02 49.6**	**+1.5**
ISFB	**Sefidab**	**5.01**	**91**	Pn	**Pn**	**06 02 57.7**	**+1.5**

*NEIC **09** 06:34:58.3±1.2, 35.808N±0.009×98.11W±0.01, h7km±1km, Error ellipse: s-maj=2.9km s-min=1.5km az=306.0*

NEIC 09 06:34:58.3±1.1, 35.809N±0.009×98.11W±0.01, h5km±1km, mb_Lg3.1/99, ML3.5/55, ML3.4/38, Error ellipse: s-maj=2.9km s-min=1.5km az=308.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BCOK	**Bluff Creek, N**	**0.43**	**110**		**Pg**	**06 35 07.0**	**+0.3**
BCOK					Sg	**06 35 13.1**	**+0.7**
CSTR	**Hydro, Custer**	**0.50**	**251**		**Pg**	**06 35 08.1**	**+0.2**
CSTR					Sg	**06 35 15.5**	**+1.1**
OK029	**Liberty Lake**	**0.53**	**91**		**Pg**	**06 35 08.7**	**+0.1**
OK029					Sg	**06 35 16.5**	**+1.0**
OK029				IAML		06 35 16.6	
	4μm,0.2s						
OK004	**Okla Sci Mus**	**0.59**	**119**		**Pg**	**06 35 09.8**	**+0.1**
OK004					Sg	**06 35 18.2**	**+0.9**
ADOK	**Arcadia Dam**	**0.62**	**104**		**Pg**	**06 35 10.3**	**+0.1**
OKCFA	**Oklahoma City**	**0.67**	**126**		**Pg**	**06 35 11.0**	**-0.1**
OKCFA					Sg	**06 35 20.4**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**0.68**	**126**		**Pg**	**06 35 11.2**	**-0.2**
OKCSW					Sg	**06 35 20.3**	**+0.1**
OKCSW				IAML		06 35 20.9	
	comp=N,3μm,0.3s						
OKCSW				IAML		06 35 21.0	
	comp=E,2μm,0.3s						
CROK	**Carrier**	**0.70**	**8**		**Pg**	**06 35 11.7**	**-0.1**
CROK					Sg	**06 35 21.6**	**+0.7**
CROK				IAML		06 35 23.9	
	comp=N,3μm,0.2s						
FNO	**Franklin**	**0.80**	**133**	Pg	**Pg**	**06 35 13.2**	**-0.4**
FNO					Sg	**06 35 24.4**	**+0.4**
FNO				IAML		06 35 27.6	
	comp=E,1μm,0.4s						
OK038	**West end E0370**	**0.84**	**323**		**Pg**	**06 35 14.2**	**-0.3**
OK038					Sg	**06 35 25.8**	**+0.4**
NOKA	**Waynoka**	**1.06**	**321**		**Pg**	**06 35 18.0**	**-0.7**
NOKA					Sg	**06 35 32.4**	**0.0**
NOKA				IAML		06 35 41.1	
	comp=N,2μm,0.2s						
NOKA				IAML		06 35 42.6	
	comp=E,2μm,0.2s						
GC02	**Grant County #**	**1.06**	**11**		**Pg**	**06 35 18.0**	**-0.6**
GC02					Sg	**06 35 32.3**	**-0.1**
OK052	**Battle Ridge R**	**1.08**	**80**		**Pg**	**06 35 18.4**	**-0.6**
OK052					Sg	**06 35 33.2**	**+0.3**
OK052				IAML		06 35 34.3	
	comp=E,1μm,0.2s						
OK052				IAML		06 35 36.0	
	comp=E,997nm,0.2s						
ELIS	**Ellis County**	**1.09**	**284**		**Pg**	**06 35 18.7**	**-0.5**
ELIS					Sg	**06 35 33.8**	**+0.3**
KAN14	**Manchester OK**	**1.15**	**6**		**Pg**	**06 35 19.5**	**-0.9**
KAN14				IAML		06 35 37.8	
	comp=E,1μm,0.1s						
KAN14				IAML		06 35 39.7	
	comp=N,892nm,0.2s						
QUOK	**Quay**	**1.19**	**72**		**Pg**	**06 35 20.3**	**-0.9**
QUOK				IAML		06 35 38.4	
	comp=E,2μm,0.2s						
BLOK	**Blackwell**	**1.19**	**37**		**Pg**	**06 35 20.5**	**-0.7**
WMOK	**Wichita Mounta**	**1.20**	**207**		**Pg**	**06 35 20.3**	**-1.1**
DEOK	**Depew**	**1.31**	**88**		**Pn**	**06 35 22.2**	**-1.1**
DEOK				IAML		06 35 41.2	
	comp=N,1μm,0.4s						
DEOK				IAML		06 35 45.1	
	comp=E,1μm,0.3s						
T35A	**Sooner Cattle**	**1.70**	**49**		**Pn**	**06 35 28.5**	**-0.1**
SMWD	**Samnorwood**	**1.88**	**249**		**Pn**	**06 35 30.9**	**-0.2**
SMWD				IAmb_Lg		06 35 57.4	
	comp=Z,78nm,0.8s						
SMWD					Sb	**06 35 57.4**	**+0.5**
TUL3	**Leonard**	**1.89**	**86**		**Pn**	**06 35 31.3**	**+0.1**
LOOK	**Love County**	**1.97**	**157**		**Pn**	**06 35 33.1**	**+0.7**
LOOK				IAmb_Lg		06 36 05.6	
	comp=Z,155nm,0.8s						
WTFS	**Witchita Falls**	**2.06**	**188**		**Pb**	**06 35 34.9**	**-1.3**
RLO	**Rose Lookout**	**2.53**	**81**		**Pn**	**06 35 40.2**	**+0.1**
Z35A	**Perchaven, San**	**2.57**	**164**		**Pn**	**06 35 41.2**	**+0.6**
R32A	**Long Quarter,**	**2.65**	**350**		**Pn**	**06 35 41.7**	**-0.1**
FW06	**Azle**	**2.87**	**171**		**Pn**	**06 35 45.5**	**+0.8**
FW02	**City of Haslet**	**2.92**	**167**		**Pn**	**06 35 48.

comp=Z,23nm,0.9s
S22A 4UR Ranch, Cre 7.26 288 lAmb_Lg 06 39 00.4
comp=Z,15nm,1.1s
Y45A Yeager Farm, C 7.31 103 lAmb_Lg 06 39 02.5
comp=Z,24nm,1.0s
S44A Carbondale 7.35 73 lAmb_Lg 06 39 00.1
comp=Z,23nm,0.7s
SIUC Southern Illin 7.39 72 lAmb_Lg 06 38 54.0
comp=Z,25nm,0.7s
Y22D IRIS PASSCAL I 7.44 259 lAmb_Lg 06 39 02.7
comp=Z,30nm,0.9s
833A Chaparral WMA, 7.54 189 lAmb_Lg 06 39 13.5
comp=Z,14nm,0.7s
T45A Paducah 7.73 78 lAmb_Lg 06 39 19.6
comp=Z,34nm,0.7s
P43A Skaggs, Pawnee 7.81 58 lAmb_Lg 06 39 18.1
comp=Z,28nm,0.7s
Q44A Meyer Farm, Va 7.87 64 lAmb_Lg 06 39 09.7
comp=Z,28nm,0.9s
SUSD Miller 8.65 356 lAmb_Lg 06 39 48.6
comp=Z,20nm,1.0s
I37A Lemond, Waseca 8.96 22 lAmb_Lg 06 40 01.1
comp=Z,22nm,0.7s
K22A Casper 9.45 319 lAmb_Lg 06 40 23.7
comp=Z,18nm,1.1s
I40A Norwalk 9.91 33 lAmb_Lg 06 40 17.0
comp=Z,15nm,0.8s

---

*ASRS **09** 07:00:38.0±0.9, 53.91N×86.63E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 07:00:41.1±2.9, 53.96N×86.64E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.8km s-min=14.1km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**270**	I	I	07 07 50.0	
	baz=88,slow=313,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.07**	**270**	Pg	Pg	07 01 00.9	-0.7
	0.6nm,0.3s,baz=91,slow=14,SNR=5.4						
ZALV				Lg	Lg	07 01 16.9	
	1.5nm,0.3s,baz=90,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**5.99**	**239**	Pn	Pn	07 02 11.2	+0.3
	0.1nm,0.3s,baz=55,slow=13,SNR=4.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**203**	Pn	Pn	07 02 35.8	+1.5
	0.1nm,0.3s,baz=24,slow=14,SNR=4.6						
	0.2nm,0.3s						

---

*IDC **09** 07:06:54.8±4.5, 53.66N×90.66E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=43.9km s-min=28.6km az=54.0*

ASRS 09 07:06:46.0±2.2, 53.77N×91.01E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.67**	**275**	I	I	07 28 55.0	
	0.1nm,1.1s,baz=90,slow=316,SNR=7.9						
ZALV	**Zalesovo Beam**	**3.67**	**275**	Pn	Pb	07 07 51.7	0.0
	0.5nm,0.3s,baz=92,slow=16,SNR=5.4						
ZALV				Lg	Lg	07 08 43.1	
	0.5nm,0.3s,baz=89,slow=26,SNR=6.0						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**8.29**	**253**	Pn	Pn	07 08 53.5	+6.2
	0.1nm,0.3s,baz=66,slow=16,SNR=4.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.94**	**222**	Pn	Pn	07 09 01.6	+5.4
	0.1nm,0.3s,baz=30,slow=11,SNR=3.1						
MKAR				Lg	Lg	07 11 32.7	
	0.1nm,0.3s,baz=41,slow=27,SNR=3.0						
	0.2nm,0.5s						

---

*IDC **09** 07:23:49.1±0.4, 37.71N×101.68E, h0km, mb4.9/38, mbtmp4.9/41, ML4.4/3, MS4.0/61, Error ellipse: s-maj=14.8km s-min=9.9km az=32.0*

*BJI **09** 07:23:49.7, 37.70N×101.59E, h12km, mB5.2/25, mb4.9/45, ML5.0/20, Ms4.9/66, Ms7 4.7/61*

*NEIC **09** 07:23:51.4±1.4, 37.74N±0.07×101.48E±0.09, h10km±1km, mb5.2/103, Mww4.8/8, Error ellipse: s-maj=12.3km s-min=11.4km az=227.0*

*MOS **09** 07:23:51.0±1.0, 37.72N×101.58E, h23km, mb5.3/46, Error ellipse: s-maj=5.8km s-min=3.7km az=131.9*

*GCMT **09** 07:23:51.4±0.3, 37.68N±0.03×101.65E±0.03, h15km±1km, MW4.8/82, Moment Tensor Solution. s31,c35; s82,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.19±.14; $M_{\theta\theta}$-0.98±.10; $M_{\phi\phi}$-1.21±.09; $M_{r\theta}$0.76±.22; $M_{r\phi}$1.17±.06; $M_{\theta\phi}$0.09±.19; Best double couple: M_o2.35900×10^{16} NP1:χ_s332.0000°, δ41.00000°, λ113.00000°. NP2: ϕ_s123.00000°, δ53.00000°, λ71.00000°. Principal axes: T 2.3990, Plg74.0000°, Azm338.0000°; N -0.0850, Plg15.0000°, Azm135.0000°; P -2.3190, Plg6.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **09** 07:23:54.3, 37.10N×101.43E, h33km, mb5.3, Ms4.0*

ISC 09 07:23:50.7±0.5, 37.71N±0.03×101.54E±0.03, h7km±3km, h8km: pP-P, n821, σ1913/830, mb5.2/200, MS4.0/71, 36C-37D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**2.17**	**322**	Pg	**Pb**	**07 24 30.1**	**-0.2**
GTA				Sg	**Sg**	**07 25 00.0**	**-0.4**
GTA				smax	smax		
	comp=N,13μm,0.9s						
GTA				smax	smax		
	comp=E,11μm,0.8s						
LZH	**Lanzhou**	**2.46**	**131**	Pn	**Pn**	**07 24 32.8**	**+1.5**
LZH				Pg	**Pb**	**07 24 36.5**	**+1.3**
LZH				Sg	**Sb**	**07 25 06.9**	**+1.1**
LZH				smax	smax		
	comp=N,11μm,0.8s						
LZH				smax	smax		
	comp=E,8μm,0.9s						
GOMU	**GeErMu**	**5.59**	**256**	Pn	**Pn**	**07 25 16.0**	**+1.4**
GOMU				Pg	**Pb**	**07 25 32.9**	**+4.1**
GOMU				Sn	**Sn**	**07 26 22.2**	**+3.0**
GOMU				Sg	**Sg**	**07 26 46.7**	**-3.5**
GOMU				smax	smax		
	comp=N,1μm,0.9s						
GOMU				smax	smax		
	comp=E,530nm,0.8s						
GOMU				LR	LR		
	comp=N,2μm,9.5s						
GOMU				LR	LR		
	comp=E,2μm,8.6s						
GOMU				LR	LR		
	comp=Z,2μm,8.4s						
XAN	**Xi'an**	**7.02**	**119**	Pn	**Pn**	**07 25 32.1**	**-1.8**
XAN				Sn	**Sn**	**07 27 00.2**	**+6.2**
XAN				Sg	**Sg**	**07 27 31.5**	**-4.6**
XAN				smax	smax		
	comp=N,790nm,1.0s						
XAN				smax	smax		
	comp=E,740nm,1.3s						
XAN				LR	LR		
	comp=N,9μm,5.5s						
XAN				LR	LR		
	comp=E,9μm,5.2s						
XAN				LR	LR		
	comp=Z,6μm,9.6s						
CD2	**Chengdu**	**7.03**	**164**	Pn	**Pn**	**07 25 36.6**	**+2.6**
CD2				LR	LR		
	comp=N,16μm,6.1s						
CD2				LR	LR		
	comp=E,7μm,6.0s						
CD2				LR	LR		
	comp=Z,14μm,6.4s						
BTO	**Baotou**	**7.20**	**64**	*e*Pn	**Pn**	**07 25 36.4**	**+0.1**
BTO				Pg	**Pb**	**07 25 57.9**	**+1.9**
BTO				Sn	**Sn**	**07 26 58.6**	**+0.2**
BTO				Sg	**Sb**	**07 27 28.5**	**+6.5**
HHC	**Hu-ho-hao-te**	**8.38**	**65**	*e*P	**Pn**	**07 25 52.6**	**0.0**
HHC				S	**Sn**	**07 27 22.6**	**-5.0**
HHC				smax	smax		
	comp=N,1μm,1.1s						
HHC				smax	smax		
	comp=E,490nm,0.7s						
TIY	**Taiyuan**	**8.64**	**87**	*e*P	**Pn**	**07 25 56.1**	**0.0**
TIY				pmax	pmax		
	comp=E,44nm,0.6s						
TIY				LR	LR		
	comp=N,4μm,5.5s						
TIY				LR	LR		
	comp=E,6μm,6.3s						
TIY				LR	LR		
	comp=Z,4μm,6.9s						
LYN	**LuoYang**	**9.39**	**106**	P	**Pn**	**07 26 08.7**	**+2.4**
LYN				S	**Sn**	**07 27 53.3**	**+1.2**
LYN				pmax	pmax		
	comp=Z,54nm,0.5s						
LYN				LR	LR		
	comp=N,10μm,10.3s						
LYN				LR	LR		
	comp=E,7μm,12.0s						
LYN				LR	LR		
	comp=Z,5μm,9.6s						
ENH	**Enshi**	**9.92**	**136**		**Pn**	**07 26 13.9**	**+0.2**
HNS	**HongShan**	**10.46**	**88**	⇓P	**Pn**	**07 26 19.5**	**-1.5**
HNS				S	**Sn**	**07 28 15.2**	**-3.2**
HNS				pmax	pmax		
	comp=Z,26nm,0.8s						
HNS				LR	LR		
	comp=N,2μm,6.4s						
HNS				LR	LR		
	comp=E,4μm,7.3s						
HNS				LR	LR		
	comp=Z,4μm,8.4s						
SONM	**Songino Array**	**10.73**	**18**		**Pn**	**07 26 24.2**	**-0.5**
SONM	**Songino Array**	**10.73**	**18**	Pn	**Pn**	**07 26 23.9**	**-0.9**
	6.9nm,0.3s,baz=202,slow=15,SNR=63						
SONM				LR	LR	07 30 54.6	
	comp=Z,1μm,21.8s,baz=198,slow=40						
	54nm,0.8s						
SONM	**Songino Array**	**10.73**	**18**	P	**Pn**	**07 26 24.2**	**-0.5**
ULN	**Ulaanbaatar**	**10.92**	**20**		**Pn**	**07 26 27.0**	**-0.4**
ULN	**Ulaanbaatar**	**10.92**	**20**	*c* iP	**Pn**	**07 26 27.8**	**+0.3**
PZH	**PanZhiHua**	**11.18**	**179**	P	**Pn**	**07 26 32.4**	**+1.5**
PZH				pmax	pmax		
	comp=Z,30nm,1.1s						
PZH				pmax	pmax		
	comp=Z,200nm,4.9s						
PZH				LR	LR		
	comp=N,2μm,10.1s						
PZH				LR	LR		
	comp=E,4μm,13.1s						
PZH				LR	LR		
	comp=Z,3μm,9.8s						
BJT	**Baijiatuan**	**11.64**	**74**	Pn	**Pn**	**07 26 38.2**	**+1.1**
BJT	**Baijiatuan**	**11.64**	**74**	P	**Pn**	**07 26 38.2**	**+1.1**
BJI	**Beijing**	**11.64**	**74**	P	**Pn**	**07 26 36.9**	**-0.3**
BJI				pP		07 26 40.0	
BJI				S	**Sn**	**07 28 46.7**	**-0.7**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSA	**Lhasa**	**11.77**	**230**	Pn	**Pn**	**07 26 39.7**	**+0.4**
LSA	**Lhasa**	**11.77**	**230**	P	**Pn**	**07 26 39.0**	**-0.3**
LSA				LR	LR		
	comp=Z,2μm,7.7s						
LSA				LR	LR		
	comp=N,1μm,6.9s						
LSA	**Lhasa**	**11.77**	**230**	P	**Pn**	**07 26 39.7**	**+0.4**
GYA	**Guiyang**	**12.03**	**157**	⇑P	**Pn**	**07 26 44.0**	**+1.4**
GYA				S	**Sn**	**07 28 59.9**	**+2.8**
GYA				pmax	pmax		
	comp=Z,100nm,0.9s						
GYA				pmax	pmax		
	comp=Z,360nm,3.3s						
GYA				LR	LR		
	comp=N,3μm,7.3s						
GYA				LR	LR		
	comp=E,3μm,7.0s						
GYA				LR	LR		
	comp=Z,3μm,8.0s						
WMQ	**Urumqi**	**12.13**	**305**	*e*P	**Pn**	**07 26 46.4**	**+2.4**
WMQ				LR	LR		
	comp=N,2μm,8.9s						
WMQ				LR	LR		
	comp=E,1μm,8.9s						
TIA	**Tai'an**	**12.56**	**92**	P	**Pn**	**07 26 46.5**	**-3.2**
TIA				LR	LR		
	comp=N,2μm,11.6s						
TIA				LR	LR		
	comp=E,2μm,9.6s						
TIA				LR	LR		
	comp=Z,3μm,9.9s						
KMI	**Kunming**	**12.59**	**175**	P	**Pn**	**07 26 52.5**	**+2.1**
KMI				pmax	pmax		
	comp=Z,26nm,1.0s						
KMI				LR	LR		
	comp=N,2μm,6.3s						
KMI				LR	LR		
	comp=E,2μm,6.9s						
KMI				LR	LR		
	comp=Z,2μm,7.3s						
XLT	**XiLinHaoTe**	**12.63**	**56**	*e*P	**Pn**	**07 26 49.6**	**-1.1**
XLT				pP		07 26 52.5	
XLT				pmax	pmax		
	comp=Z,17nm,0.7s						
XLT				pmax	pmax		
	comp=Z,170nm,4.5s						
XLT				LR	LR		
	comp=N,230nm,6.4s						
XLT				LR	LR		
	comp=E,2μm,8.9s						
XLT				LR	LR		
	comp=Z,3μm,8.3s						
ZAK	**Zakamensk**	**12.73**	**5**	*e*P	**Pn**	**07 26 51.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,23nm,1.1s						
WHN	**Wuhan**	**12.79**	**120**	P	**Pn**	**07 26 55.9**	**+3.0**
TNCH	**TengChong**	**12.90**	**192**	P	**Pn**	**07 26 55.9**	**+1.3**
TNCH				PP	**PnPn**	**07 27 06.1**	**+3.6**
TNCH				S	**Sn**	**07 29 18.6**	**+0.1**
TNCH				sS		07 29 23.5	
TNCH				pmax	pmax		
	comp=Z,30nm,0.6s						
TNCH				LR	LR		
	comp=Z,2μm,6.9s						
TNCH				LR	LR		
	comp=Z,2μm,6.3s						
TNCH				LR	LR		
	comp=Z,2μm,7.7s						
SHL	**Shillong**	**14.62**	**217**		**Pn**	**07 27 16.6**	**-1.5**
SHL	**Shillong**	**14.62**	**217**	P	**Pn**	**07 27 16.6**	**-1.5**
IRK	**Irkutsk**	**14.66**	**7**	*e*P	**Pn**	**07 27 17.6**	**-0.7**
IRK				pmax	pmax		
	comp=Z,147nm,0.1s						
NJ2	**Nanjing**	**15.29**	**107**	*e*P	**Pn**	**07 27 27.5**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
NJ2				LR	LR		
	comp=Z,4μm,11.8s						
NJ2				LR	LR		
	comp=Z,3μm,10.9s						
NJ2				LR	LR		
	comp=Z,3μm,7.6s						
EVN	**Everest**	**15.72**	**236**		**Pn**	**07 27 31.7**	**-1.4**
DL2	**Dalian**	**15.82**	**79**	P	**Pn**	**07 27 33.4**	**-0.3**
DL2				S	**Sn**	**07 30 31.5**	**+2.3**
DL2				pmax	pmax		
	comp=Z,62nm,0.8s						
DL2				pmax	pmax		
	comp=Z,610nm,6.3s						
DL2				LR	LR		
	comp=Z,1μm,10.4s						
DL2				LR	LR		
	comp=Z,950nm,10.0s						
DL2				LR	LR		
	comp=Z,1μm,15.1s						
MK31	**Makanchi Array**	**16.86**	**309**	*i* P	**Pn**	**07 27 46.2**	**-0.9**
MK31				pmax	pmax		
	comp=Z,69nm,1.1s						
MKAR	**Makanchi Array**	**16.86**	**309**		**Pn**	**07 27 46.1**	**-1.0**
MKAR	**Makanchi Array**	**16.86**	**309**	Pn	**Pn**	**07 27 46.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=112,slow=13,SNR=72						
MKAR				LR	LR	07 35 01.8	
	comp=Z,590nm,18.1s,baz=109,slow=40						
MKAR	**Makanchi Array**	**16.86**	**309**	P	**Pn**	**07 27 46.1**	**-1.0**
BRDH	**Bariadhala**	**17.23**	**212**	LR	LR	07 35 06.2	
	comp=Z,652nm,19.2s,baz=32,slow=39						
SNY	**Shenyang**	**17.43**	**69**	⇑P	**P**	**07 27 55.9**	**+0.5**
SNY				pmax	pmax		
	comp=Z,42nm,0.9s						
SNY				LR	LR		
	comp=Z,630nm,5.2s						
SNY				LR	LR		
	comp=Z,450nm,4.7s						
SNY				LR	LR		
	comp=Z,880nm,7.1s						
SHLS	**Shalkode**	**17.65**	**295**	*e*P	**Pn**	**07 27 53.8**	**-3.2**
SHLS	**Shalkode**	**17.65**	**295**	*e*P	**Pn**	**07 27 53.8**	**-3.2**
PDGK	**Podgornoye**	**17.66**	**295**	P	**Pn**	**07 27 56.7**	**-0.5**
UZB	**Uzynbulak**	**17.96**	**295**	*e*P	**Pn**	**07 28 01.0**	**+0.1**
UZB	**Uzynbulak**	**17.96**	**295**	*e*P	**Pn**	**07 28 01.1**	**+0.1**
SATY	**Saty**	**18.39**	**294**	*e*P	**P**	**07 28 06.4**	**+0.2**
SATY	**Saty**	**18.39**	**294**	*e*P	**P**	**07 28 06.4**	**+0.2**
TARG	**Taragay, Kyrgy**	**18.68**	**290**	P	**Pn**	**07 28 10.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**18.68**	**290**	P	**Pn**	**07 28 10.1**	**+0.1**
TARG				pmax	pmax		
	comp=Z,62nm,1.1s						
TDK	**Taldyqorghan**	**18.79**	**300**	*e*P	**P**	**07 28 10.6**	**+0.1**
TDK	**Taldyqorghan**	**18.79**	**300**	*e*P	**P**	**07 28 10.6**	**+0.1**
CHTO	**Chiang Mai**	**18.96**	**188**		**Pn**	**07 28 12.9**	**-0.2**
CHTO	**Chiang Mai**	**18.96**	**188**	P	**Pn**	**07 28 12.9**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,24nm,1.0s						
ARXS	**Arharly**	**19.02**	**297**	*e*P	**P**	**07 28 13.0**	**0.0**
CN2	**Changchun**	**19.08**	**64**	*e*P	**Pn**	**07 28 14.7**	**+0.3**
CN2				*e*S	**S**	**07 31 49.5**	**-0.7**
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,2μm,10.0s						
CN2				LR	LR		
	comp=Z,1μm,10.0s						
CN2				LR	LR		
	comp=Z,1μm,11.0s						
CM31	**Chiang Mai Arr**	**19.32**	**187**	P	**P**	**07 28 16.4**	**0.0**
CMAR	**Chiang Mai Arr**	**19.32**	**187**	P	**Pn**	**07 28 17.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=357,slow=9.7,SNR=43						
CMAR				PcP	**PcP**	**07 32 38.9**	**0.0**
	comp=Z,1.3nm,0.6s,baz=301,slow=2.9,SNR=4.1						
CMAR				LR	LR	07 36 43.3	
	comp=Z,308nm,18.4s,baz=0.0,slow=40						
	comp=Z,8.8nm,0.9s						
AAA	**Alma-Ata**	**19.49**	**294**	*e*P	**Pn**	**07 28 22.7**	**+3.2**
ZAA0	**Zalesovo Arra**	**19.90**	**330**		**P**	**07 28 21.9**	**-0.7**
ZALV	**Zalesovo Beam**	**19.90**	**330**		**P**	**07 28 21.1**	**-1.5**
ZALV	**Zalesovo Beam**	**19.90**	**330**	P	**P**	**07 28 22.0**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=139,slow=11,SNR=34						
ZALV				LR	LR	07 35 09.1	
	comp=Z,146nm,19.6s,baz=135,slow=34						
	comp=Z,40nm,0.7s						
QIZ	**Qiongzhong**	**19.98**	**156**	P	**P**	**07 28 23.9**	**+0.3**
QIZ	**Qiongzhong**	**19.98**	**156**	P	**Pn**	**07 28 24.5**	**-0.8**
QIZ				S	**Sn**	**07 32 09.7**	**-0.4**
QIZ				pmax	pmax		
	comp=Z,33nm,1.6s						
QIZ				LR	LR		
	comp=Z,2μm,8.3s						
QIZ				LR	LR		
	comp=Z,3μm,10.8s						
KUU	**Kurty**	**20.01**	**296**	*e*P	**P**	**07 28 24.4**	**+0.6**
KUU	**Kurty**	**20.01**	**296**	*e*P	**P**	**07 28 24.5**	**+0.6**
KSH	**Kashi**	**20.04**	**283**	P	Pn	07 28 29.4	+3.3
KSH				LR	LR		
	comp=Z,2μm,14.1s						
KSH				LR	LR		
	comp=Z,790nm,13.3s						
KSH				LR	LR		
	comp=Z,770nm,13.3s						
TJN	**Taejon**	**20.64**	**86**	P	**P**	**07 28 31.4**	**+0.7**
TJN	**Taejon**	**20.64**	**86**	⇓*e*P	**P**	**07 28 31.6**	**+0.9**
BNX	**BinXian**	**20.84**	**59**	⇓P	**P**	**07 28 32.8**	**0.0**
BNX				pP	**pP**	**07 28 36.1**	**+0.1**
BNX				sP	**sP**	**07 28 37.7**	**+0.2**
BNX				S	**S**	**07 32 26.8**	**+1.4**
BNX				sS	Sn	07 32 31.1	+0.5
BNX				pmax	pmax		
	comp=Z,50nm,1.0s						
BNX				LR	LR		
	comp=Z,2μm,6.5s						
BNX				LR	LR		
	comp=Z,2μm,4.3s						
BNX				LR	LR		
	comp=Z,960nm,11.4s						
KS19	**Wonju Array Si**	**20.84**	**82**	P	**P**	**07 28 33.3**	**+0.4**
KS19				lAmb	lAmb	07 28 44.0	
	comp=Z,65nm,0.9s						
KURK	**Kurchatov**	**20.84**	**316**		**P**	**07 28 32.4**	**-0.4**
KURK	**Kurchatov**	**20.84**	**316**	*c*eP	**P**	**07 28 33.1**	**+0.3**
KURK				pmax	pmax		
	comp=Z,281nm,0.9s						
KURBB	**Kurchatov Arra**	**20.85**	**316**	P	**P**	**07 28 33.1**	**+0.3**
	comp=Z,179nm,0.9s,baz=117,slow=12,SNR=454						
KURBB				LR	LR	07 37 02.8	
	comp=Z,455nm,18.6s,baz=154,slow=38						
	comp=Z,179nm,0.9s						
KURBB	**Kurchatov Arra**	**20.85**	**316**	P	**P**	**07 28 32.8**	**0.0**
KSAR	**Wonju Array Be**	**20.86**	**83**		**P**	**07 28 33.0**	**-0.1**
KSAR	**Wonju Array Be**	**20.86**	**83**	P	**P**	**07 28 33.0**	**-0.1**
KSRS	**Korea Array**	**20.89**	**83**	P	**P**	**07 28 32.8**	**-0.7**
	comp=Z,31nm,0.8s,baz=278,slow=9.8,SNR=48						
	comp=Z,31nm,0.8s						
SGDS	**Sogindy**	**21.18**	**294**	*e*P	**P**	**07 28 37.0**	**+0.5**
AAK	**Ala-Archa**	**21.20**	**292**		**P**	**07 28 36.8**	**-0.1**
AAK	**Ala-Archa**	**21.20**	**292**	P	**P**	**07 28 37.9**	**+1.0**
	comp=Z,9.6nm,0.6s,baz=79,slow=11,SNR=7.4						
AAK				LR	LR	07 38 33.6	
	comp=Z,562nm,20.1s,baz=91,slow=42						
	comp=Z,9.6nm,0.6s						
AAK	**Ala-Archa**	**21.20**	**292**	P	**P**	**07 28 36.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,26nm,0.9s						
BOD	**Bodaibo**	**21.73**	**18**	*e*P	**P**	**07 28 42.2**	**0.0**
BOD				pmax	pmax		
	comp=Z,73nm,1.5s						
BTLS	**Baital**	**21.82**	**298**	*e*P	**P**	**07 28 43.5**	**+0.2**
BTLS	**Baital**	**21.82**	**298**	*e*P	**P**	**07 28 43.6**	**+0.2**
MDJ	**Mudanjiang**	**22.15**	**63**	P	**P**	**07 28 47.3**	**+0.5**
MDJ	**Mudanjiang**	**22.15**	**63**	P	**P**	**07 28 47.9**	**+1.0**
MDJ				S	**S**	**07 32 55.1**	**+4.0**
MDJ				pmax	pmax		
	comp=Z,880nm,5.8s						
MDJ				LR	LR		
	comp=Z,2μm,14.8s						
MDJ				LR	LR		
	comp=Z,560nm,14.5s						
MDJ				LR	LR		
	comp=Z,2μm,22.7s						
HEH	**HeiHe**	**22.32**	**48**	*e*P	**P**	**07 28 48.5**	**-0.1**
HEH				pmax	pmax		
	comp=Z,31nm,0.9s						
HEH				LR	LR		
	comp=Z,1μm,7.3s						
HEH				LR	LR		
	comp=Z,960nm,7.5s						
HEH				LR	LR		
	comp=Z,1μm,11.9s						
TWG	**Pinlang**	**22.40**	**126**	P	**P**	**07 28 50.6**	**+0.9**
TWG				lAmb	lAmb	07 28 53.9	
	comp=Z,87nm,1.1s						
PSTR	**Posyet**	**22.84**	**68**	⇑*e*P	**P**	**07 28 54.8**	**+0.6**
MSHR	**Mys Shultsa**	**23.09**	**69**	⇓*e*P	**P**	**07 28 57.1**	**+0.2**
MSHR				pmax	pmax		
	comp=Z,27nm,1.0s						
NIL	**Nilore**	**23.29**	**269**	P	**P**	**07 28 58.4**	**-0.6**
NIL				lAmb	lAmb	07 29 08.3	
	comp=Z,67nm,1.1s						
NIL	**Nilore**	**23.29**	**269**	P	**P**	**07 28 58.4**	**-0.6**
NIL				pmax	pmax		
	comp=Z,67nm,1.1s						
DZA	**Taraz**	**23.54**	**292**	*e*P	**P**	**07 29 01.8**	**+0.4**
DZA	**Taraz**	**23.54**	**292**	*e*P	**P**	**07 29 01.9**	**+0.4**
VLA	**Vladivostok**	**23.65**	**67**	⇑*e*P	**P**	**07 29 02.7**	**+0.2**
VLA				pmax	pmax		
	comp=Z,50nm,1.1s						
USA0B	**Ussuriysk Arra**	**23.80**	**65**	*i* P	**P**	**07 29 04.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**23.80**	**65**	P	**P**	**07 29 03.3**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=252,slow=11,SNR=5.2						
USRK				LR	LR	07 38 57.8	
	comp=Z,593nm,20.5s,baz=267,slow=38						
	comp=Z,4.8nm,0.9s						
ZEA	**Zeya**	**23.87**	**40**	*e*P	**P**	**07 29 05.4**	**+0.9**
ZEA				*e*S	**S**	**07 33 15.5**	**-5.2**
ZEA				pmax	pmax		
	comp=Z,100nm,2.0s						

ZEA pmax pmax
comp=Z,40nm,1.2s
ZEA smax smax
comp=N,300nm,11.4s
ZEA smax smax
comp=E,400nm,14.5s
ZEA MLR MLR
comp=E,700nm,10.0s
ZEA MLR MLR
comp=N,1µm,12.0s
ZEA MLR MLR
comp=Z,1µm,9.0s
BRZS Berezniki 24.00 310 *e*P **P** **07 29 06.1 +0.4**
BRZS Berezniki 24.00 310 *e*P **P** **07 29 06.1 +0.4**
KK31 Karatay Array 24.15 293 P **P** **07 29 06.9 -0.4**
KK31 Karatay Array 24.15 293 P **P** **07 29 06.9 -0.4**
KK31 pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 24.15 293 P **P** **07 29 07.2 -0.1**
KKAR Karatay Array 24.15 293 P **P** **07 29 07.2 -0.1**
JNU Nakatsue 24.30 92 LR LR 07 39 22.3
comp=Z,302nm,19.2s,baz=298,slow=39
GAR Garm 24.46 283 P **P** **07 29 09.8 -0.5**
GAR IAmb IAmb 07 29 19.1
comp=Z,39nm,1.0s
IUG Iuzhnay 24.49 290 *e*P **P** **07 29 10.7 +0.2**
IUG pmax pmax
comp=Z,45nm,0.8s
IUG Iuzhnay 24.49 290 *e*P **P** **07 29 10.7 +0.2**
comp=Z,45nm,0.8s
BRLS Boroldaу 24.64 292 *e*P **P** **07 29 11.8 0.0**
KBL Kabul 26.37 273 P **P** **07 29 30.2 +2.5**
BVA0 Borovoye Array 26.44 315 P **P** **07 29 27.5 -0.4**
BVAR Borovoye Array 26.44 315 P **P** **07 29 28.6 +0.6**
comp=Z,36nm,0.8s,baz=113,slow=10.0,SNR=122
BVAR S **S** **07 34 07.2 +5.5**
comp=Z,2.5nm,0.5s,baz=127,slow=24,SNR=6.1
BVAR LR LR 07 40 26.6
comp=Z,388nm,18.5s,baz=111,slow=38
comp=Z,36nm,0.8s
BRVK Borovoye 26.51 315 P **P** **07 29 28.8 +0.3**
BRVK IAmb IAmb 07 29 30.6
comp=Z,71nm,1.0s
BRVK Borovoye 26.51 315*c i*P **P** **07 29 29.3 +0.8**
BRVK pmax pmax
comp=Z,67nm,1.0s
MJAR Matsushiro Arr 29.15 81 P **P** **07 29 50.8 -1.5**
comp=Z,1.4nm,0.5s,baz=285,slow=9.5,SNR=4.4
MJAR PcP **PcP** **07 32 59.0 -0.8**
comp=Z,1.3nm,0.6s,baz=286,slow=2.5,SNR=8.2
MJAR LR LR 07 41 40.2
comp=Z,314nm,18.2s,baz=295,slow=37
comp=Z,1.4nm,0.5s
YAK Yakutsk 29.91 26 LR LR 07 42 30.5
comp=Z,742nm,18.4s,baz=228,slow=38
YAK Yakutsk 29.91 26 *e*P **P** **07 29 58.4 -0.3**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK MLR MLR
comp=Z,799nm,20.0s
YAK MLR MLR
comp=E,528nm,20.0s
YAK MLR MLR
comp=N,201nm,17.0s
JHJ Hachijo jima 2 31.36 87 LR LR 07 43 03.3
comp=N,330nm,18.2s,baz=78,slow=37
ASAJ Asahikawa 31.43 65 LR LR 07 43 31.9
comp=N,401nm,20.0s,baz=303,slow=38
TYV Tymovskoe 31.81 52 *e*P **P** **07 30 15.5 -0.1**
TYV pmax pmax
comp=Z,12nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.8s
AB31 Akbulak array 31.92 305 P **P** **07 30 17.0 +0.3**
AB31 IAmb IAmb 07 30 18.7
comp=Z,17nm,0.8s
AB31 Akbulak array 31.92 305 P **P** **07 30 16.7 0.0**
ABKAR Akbulak array 31.92 305 P **P** **07 30 16.8 +0.1**
SVE Sverdlovsk 33.03 319*de*P **P** **07 30 27.5 +1.2**
SVE pmax pmax
comp=Z,165nm,1.1s
AKTO Aktyubinsk 33.28 307 P **P** **07 30 29.4 +0.8**
comp=Z,12nm,0.7s,baz=90,slow=7.6,SNR=27
AKTO LR LR 07 45 07.8
comp=Z,454nm,20.9s,baz=92,slow=38
comp=Z,12nm,0.7s
ARTI Arti 34.11 317 P **P** **07 30 35.6 -0.1**
ARTI Arti 34.11 317 P **P** **07 30 36.3 +0.7**
comp=Z,120nm,0.9s,baz=108,slow=4.1,SNR=102
ARTI LR LR 07 45 28.9
comp=Z,192nm,21.1s,baz=110,slow=38
comp=Z,120nm,0.9s
ARTI Arti 34.11 317*c i*P **P** **07 30 36.1 +0.4**
ARTI 07 31 49.7
ARTI S **S** **07 36 05.3 +3.6**
ARTI SS **SnSn** **07 38 15.1 +6.4**
ARTI pmax pmax
comp=Z,207nm,1.1s
ARTI MLR MLR
comp=Z,220nm,14.0s
PSI Prapat 34.82 185 LR LR 07 43 55.7
comp=Z,299nm,20.5s,baz=339,slow=34
PALK Pallekele 35.71 217 LR LR 07 46 35.7
comp=Z,65nm,18.8s,baz=56,slow=38
SBUM Sibu 36.44 162 P **P** **07 30 56.0 -0.1**
TIXI Tiksi 36.78 14 P **P** **07 30 57.1 -1.4**
TIXI Tiksi 36.78 14 LR LR 07 45 38.4
comp=Z,129nm,18.1s,baz=244,slow=36
TIXI Tiksi 36.78 14⇑*i*P **P** **07 30 57.4 -1.1**
TIXI pmax pmax
comp=Z,11nm,0.8s
DAV Davao City (W) 37.50 138 LR LR 07 47 54.9
comp=Z,418nm,18.3s,baz=322,slow=39
MA2 Magadan 38.01 39 P **P** **07 31 08.6 -0.5**
MA2 Magadan 38.01 39 LR LR 07 48 06.3
comp=Z,270nm,21.1s,baz=268,slow=38
MA2 Magadan 38.01 39⇓*e*P **P** **07 31 08.9 -0.1**
MA2 pmax pmax
comp=Z,18nm,1.0s
KIRV Kirov 39.29 319 P **P** **07 31 20.3 +0.5**
comp=Z,97nm,0.8s,baz=96,slow=4.0,SNR=58
KIRV LR LR 07 48 43.4
comp=Z,215nm,18.2s,baz=98,slow=38
comp=Z,97nm,0.8s
BELG Belogornoye 39.86 309 P **P** **07 31 25.2 +0.7**
comp=Z,201nm,1.0s,baz=268,slow=0.9,SNR=9.6
MAK Makhachkala 40.93 295*c i*P P 07 31 28.5 -5.1
MAK *e*S **S** **07 37 38.6 -6.8**
MAK pmax pmax
comp=Z,247nm,1.3s
MAK MLR MLR
comp=Z,493nm,19.0s
LKRN Lenkeran, Azer 40.99 288 P **P** **07 31 35.4 +1.3**
PETK Petropavlovsk- 41.22 49 P **P** **07 31 36.4 +0.5**
PETK Petropavlovsk- 41.22 49 P **P** **07 31 35.0 -0.9**
comp=Z,4.8nm,0.8s,baz=234,slow=10,SNR=5.0
PETK LR LR 07 49 51.2
comp=Z,164nm,20.0s,baz=261,slow=38
comp=Z,4.8nm,0.8s
PETK Petropavlovsk- 41.22 49 P **P** **07 31 36.4 +0.5**
SEKA Sheki 41.53 292 P **P** **07 31 40.2 +1.5**
MNGR Mingechevir, A 41.72 292 P **P** **07 31 42.2 +2.1**
PET Petropavlovsk 41.80 50 *e*P P 07 31 48.0 +7.5
PET *e*S **S** **07 37 59.8 +1.7**
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,300nm,18.0s
MNAI Manna 41.88 178 P **P** **07 31 41.9 +0.3**
GANJ Ganja 42.31 292 P **P** **07 31 46.7 +1.7**
NAX Nakhchivan 43.32 290 P **P** **07 31 54.6 +1.3**
VRH Novokhopyorsk 43.59 308 *e*P **P** **07 31 53.4 -1.7**
VRH pmax pmax
comp=Z,60nm,0.9s
GNI Garni 43.61 292 **P** **07 31 55.7 0.0**
GNI IAmb IAmb 07 32 01.9
comp=Z,105nm,1.6s
GNI Garni 43.61 292 P **P** **07 31 57.8 +2.1**
comp=Z,20nm,0.8s,baz=157,slow=5.2,SNR=8.9
GNI LR LR 07 54 24.8
comp=Z,129nm,18.7s,baz=108,slow=42
comp=Z,20nm,0.8s
GNI Garni 43.61 292 P **P** **07 31 55.7 0.0**
GNI pmax pmax
comp=Z,105nm,1.6s
GOF Gofitskoye 43.66 299*ce*P **P** **07 31 57.1 +1.2**

KBZ Khabaz 44.05 297 P **P** **07 31 59.8 +0.9**
comp=Z,15nm,1.0s,baz=95,slow=5.4,SNR=19
KBZ LR LR 07 53 28.0
comp=Z,143nm,18.0s,baz=80,slow=40
comp=Z,15nm,1.0s
KBZ Khabaz 44.05 297*c i*P **P** **07 31 59.8 +0.9**
KBZ pmax pmax
comp=Z,24nm,1.1s
KIV Kislovodsk 44.15 297 P **P** **07 31 59.3 -0.6**
KIV Kislovodsk 44.15 297 ⇓P **P** **07 32 01.0 +1.1**
KIV Kislovodsk 44.15 297 *e*P **P** **07 32 01.0 +1.1**
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,95nm,16.0s
SHA1 Shidzhatmaz 44.22 297*ce*P **P** **07 32 01.9 +1.3**
KLMR Klimovskoe 44.50 322 *e*P **P** **07 31 59.6 -2.7**
KLMR *e* 07 33 43.0
KLMR pmax pmax
comp=Z,230nm,1.5s
SPSI Sidrap Palu 44.79 154 P **P** **07 32 05.2 +0.1**
comp=Z,1µmcomp=Z,49nm,1.1s
VORD Divnogorie 45.14 308 *e*P **P** **07 32 06.8 -0.7**
VORD pmax pmax
comp=Z,30nm,1.0s
LPSR Galich'ya Gora 45.15 310 *e*P **P** **07 32 06.0 -1.6**
LPSR pmax pmax
comp=Z,110nm,1.0s
VSR Storozhevoye 45.18 308 *e*P **P** **07 32 06.2 -1.7**
VSR pmax pmax
comp=Z,60nm,0.9s
ERBR Yeremizino-Bor 45.29 300 *e*P **P** **07 32 09.9 +1.1**
ERBR *e**PP **pP** **07 32 13.0 +0.6**
ERBR *e* 07 33 52.0
ERBR *e*S **S** **07 38 50.7 +1.3**
ERBR pmax pmax
comp=Z,174nm,0.8s
GUMO Guam 45.32 110 LR LR 07 51 44.3
comp=Z,65nm,19.2s,baz=314,slow=37
GEVA Gevas 45.40 290 P **P** **07 32 10.2 +0.2**
GEVA IAmb IAmb 07 32 18.1
comp=Z,20nm,1.0s
MOS Moscow 45.61 315 *e*P **P** **07 32 09.3 -1.9**
MOS *e* 07 33 56.6
MOS pmax pmax
comp=Z,300nm,1.2s
MOS pmax pmax
comp=Z,225nm,1.1s
KAPI Kappang 45.76 154 LR LR 07 53 32.9
comp=Z,71nm,18.2s,baz=334,slow=39
GURO Guroymak-BITLI 46.09 290 P **P** **07 32 15.0 -0.4**
GURO IAmb IAmb 07 32 18.6
comp=Z,48nm,1.3s
BILL Bilibino 46.24 28*c i*P **P** **07 32 15.9 -0.1**
BILL pmax pmax
comp=Z,22nm,0.9s
OBN Obninsk 46.27 314 P **P** **07 32 15.7 -0.7**
OBN Obninsk 46.27 314 P **P** **07 32 16.1 -0.2**
comp=Z,49nm,0.6s,baz=347,slow=3.0,SNR=30
comp=Z,49nm,0.6s
OBN Obninsk 46.27 314*ce*P **P** **07 32 16.7 +0.3**
OBN *e* 07 33 50.3
OBN *e* 07 34 04.6
OBN *e*PPP PPP 07 34 45.1
OBN *e*SSS SSS 07 43 26.2
OBN pmax pmax
comp=Z,129nm,1.1s
OBN MLR MLR
comp=Z,158nm,16.0s
SOC Sochi 46.32 298 *e*P **P** **07 32 15.5 -1.5**
SOC *e* 07 34 00.6
SOC *e*PPP PPP 07 34 44.5
SOC *e*S **S** **07 39 03.4 -1.0**
SOC *e*SSS SSS 07 43 26.7
SOC pmax pmax
comp=Z,13nm,0.4s
SOC MLR MLR
comp=Z,111nm,15.0s
KOPT Kop Dagi 46.76 293 P **P** **07 32 21.0 +0.1**
KOPT IAmb IAmb 07 32 26.2
comp=Z,37nm,1.3s
MARD Mardin 47.43 289 P **P** **07 32 26.2 +0.3**
MARD IAmb IAmb 07 32 28.1
comp=Z,26nm,1.0s
APA Apatity 47.48 331 *e*P P 07 32 16.2 -10
APA MLR MLR
comp=Z,800nm,12.6s
ANN Anapa 47.60 300 *e*P **P** **07 32 27.2 +0.2**
ANN *e**PP **pP** **07 32 31.0 +0.5**
ANN *e*S **S** **07 39 27.8 +5.3**
ANN pmax pmax
comp=Z,70nm,1.0s
JOF Joensuu 48.37 325 *e*P **P** **07 32 32.8 +0.2**
PUL Pulkovo 49.11 321*ce*P **P** **07 32 40.0 +1.6**
PUL pmax pmax
comp=Z,70nm,0.4s
MSF Maaselka 49.21 329 P **P** **07 32 38.8 -0.3**
MSF pmax pmax
comp=Z,25nm,1.5s
RAYN Ar Rayn 49.58 270 P **P** **07 32 41.7 -0.8**
RAYN Ar Rayn 49.58 270 P **P** **07 32 41.7 -0.8**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
SIM Simferopol' 49.83 301 *e*P P 07 32 35.2 -8.9
SIM pmax pmax
comp=Z,41nm,0.8s
SIM MLR MLR
comp=Z,67nm,17.5s
KEV Kevo 49.86 334 P **P** **07 32 43.9 -0.1**
KEV IAmb IAmb 07 32 45.4
comp=Z,50nm,1.3s
KEV Kevo 49.86 334 P **P** **07 32 43.9 -0.1**
KEV pmax pmax
comp=Z,50nm,1.3s
WBSI Waikabubak, Su 49.98 157 P **P** **07 32 43.0 -2.6**
comp=Z,58nm,1.0s
MMRI Maumere 50.00 153 P **P** **07 32 46.0 +0.3**
GAZ Gaziantep 50.14 290 P **P** **07 32 46.9 +0.2**
GAZ IAmb IAmb 07 32 49.1
comp=Z,17nm,1.0s
ARA0 ARCESS Array S 50.39 334 *e*P **P** **07 32 48.1 0.0**
ARCES ARCESS Array B 50.39 334 P **P** **07 32 47.9 -0.2**
ARCES IAmb IAmb 07 32 50.0
comp=Z,27nm,0.9s
ARCES ARCESS Array B 50.39 334 P **P** **07 32 48.1 0.0**
comp=Z,14nm,0.7s,baz=82,slow=7.1,SNR=42
ARCES PcP **PcP** **07 34 07.8 +1.4**
comp=Z,3.0nm,0.6s,baz=66,slow=4.2,SNR=3.6
ARCES LR LR 07 55 42.5
comp=Z,125nm,19.6s,baz=76,slow=38
comp=Z,14nm,0.7s
ARCES ARCESS Array B 50.39 334 P **P** **07 32 47.9 -0.2**
ARCES pmax pmax
comp=Z,27nm,1.0s
BNN Bunyan 50.55 293 P **P** **07 32 50.1 +0.2**
FIA1 FINESS Array S 50.96 323 P **P** **07 32 51.9 -0.5**
FINES FINESS Array B 50.96 323 P **P** **07 32 51.9 -0.5**
FINES FINESS Array B 50.96 323 P **P** **07 32 52.4 -0.1**
comp=Z,22nm,0.9s,baz=87,slow=9.7,SNR=36
FINES PP **PP** **07 34 50.6 +2.0**
comp=Z,6.6nm,0.9s,baz=97,slow=12,SNR=4.8
FINES LR LR 07 55 55.2
comp=Z,150nm,18.7s,baz=96,slow=38
comp=Z,22nm,0.9s
SHEM Shemya Is, Ala 51.09 48 LR LR 07 55 30.2
comp=Z,110nm,21.2s,baz=292,slow=37
VSU Vasula 51.14 319*ce*P **P** **07 32 53.1 -0.7**
VSU pmax pmax
comp=Z,80nm,1.1s
VSU Vasula 51.14 319 *e*P **P** **07 32 53.2 -0.6**
KTK1 Kautokeino 51.23 333 *e*P **P** **07 32 54.6 +0.2**
ARBE Arbavere 51.34 321 *e*P **P** **07 32 55.6 +0.3**
KEF Keuruu 51.41 324 *e*P **P** **07 32 55.5 -0.4**
AKASG Malin Array Be 51.44 309 P **P** **07 32 56.0 -0.2**
AKASG IAmb IAmb 07 32 57.9
comp=Z,48nm,1.6s
AKASG Malin Array Be 51.44 309 P **P** **07 32 55.9 -0.3**
comp=Z,31nm,0.9s,baz=67,slow=7.0,SNR=44
AKASG LR LR 07 55 40.3
comp=Z,298nm,18.5s,baz=58,slow=37
comp=Z,31nm,0.9s
AKASG Malin Array Be 51.44 309 *i* P **P** **07 32 56.4 +0.2**
AKASG pmax pmax
comp=Z,36nm,0.9s
AKBB Malin Array Si 51.44 309 P **P** **07 32 56.0 -0.2**

AKBB IAmb IAmb 07 33 00.2
comp=Z,57nm,1.2s
AKBB Malin Array Si 51.44 309*c i*P **P** **07 32 56.0 -0.2**
KIEV Kiev 51.45 309 P **P** **07 32 56.0 -0.3**
KIEV IAmb IAmb 07 33 00.3
comp=Z,51nm,1.2s
KIEV Kiev 51.45 309 ⇑P **P** **07 32 56.5 +0.2**
KIEV Kiev 51.45 309 P **P** **07 32 56.0 -0.3**
KIEV pmax pmax
comp=Z,51nm,1.2s
SOEI Soe 51.79 151 P **P** **07 33 00.4 +1.1**
BR131 Keskin Array S 51.84 295 P **P** **07 32 59.1 -0.4**
BR131 Keskin Array S 51.84 295 P **P** **07 32 59.1 -0.4**
BR131 pmax pmax
comp=Z,14nm,0.9s
BRTR Keskin Array B 51.84 295 P **P** **07 32 59.1 -0.4**
BRTR Keskin Array B 51.84 295 P **P** **07 33 00.1 +0.5**
comp=Z,8.0nm,0.8s,baz=99,slow=7.6,SNR=46
BRTR LR LR 07 58 17.7
comp=Z,64nm,18.7s,baz=21,slow=40
comp=Z,8.0nm,0.8s
KIRS Kirsehir-Merke 51.85 294 ⇑P **P** **07 33 00.2 +0.6**
NACGM Naroch 51.85 315 *i* P **P** **07 33 00.0 +0.8**
comp=Z,47nm,1.0s,baz=77
MEF Metsahovi 51.98 322 *e*P **P** **07 33 00.1 0.0**
BJO1 Bjornoya 52.09 340 *e*P **P** **07 33 00.8 0.0**
JETT Jettan, Norway 52.18 334 *e*P **P** **07 33 01.8 +0.3**
SJUU Sjulsmark 52.31 329 *e*P **P** **07 33 02.5 +0.1**
ASF Jabal al Asfar 52.35 285 LR LR 07 58 43.6
comp=Z,134nm,19.6s,baz=107,slow=40
ANTO Ankara 52.40 295 P **P** **07 33 03.6 0.0**
ANTO Ankara 52.40 295 P **P** **07 33 03.6 0.0**
ANTO pmax pmax
comp=Z,18nm,1.2s
SPB2 Spitsbergen Ar 52.42 345 P **P** **07 33 03.0 -0.2**
SPB2 IAmb IAmb 07 33 04.3
comp=Z,19nm,0.8s
SPA0 Spitsbergen Ar 52.43 345 *e*P **P** **07 33 03.5 +0.2**
SPITS Spitsbergen Ar 52.43 345 P **P** **07 33 03.1 -0.1**
comp=Z,16nm,0.7s,baz=98,slow=11,SNR=21
SPITS LR LR 07 58 43.1
comp=Z,252nm,19.9s,baz=70,slow=40
comp=Z,16nm,0.7s
TRO Tromso 52.68 334 *e*P **P** **07 33 05.5 +0.4**
SORM Soroca 52.71 306 ⇑P **P** **07 33 06.1 +0.4**
SORM Soroca 52.71 306 P **P** **07 33 06.0 +0.4**
HSPB Hornsund (broa 52.72 344 *e*P **P** **07 33 05.9 +0.6**
MILM Milestii Mici 52.78 305⇑*i*P **P** **07 33 05.3 -0.9**
comp=Z,80nm,1.9s
MILM Milestii Mici 52.78 305*c i*P **P** **07 33 05.0 -1.2**
MILM pmax pmax
comp=Z,80nm,1.9s
RAF Rauma 53.09 323 *e*P **P** **07 33 08.5 +0.2**
MMAI Mount Meron Ar 53.14 286 P **P** **07 33 10.3 +1.1**
comp=Z,6.8nm,0.9s,baz=75,slow=10,SNR=7.8
MMAI LR LR 08 00 45.0
comp=Z,88nm,18.6s,baz=82,slow=42
comp=Z,6.8nm,0.9s
KBS Kingsbay 53.23 346 P **P** **07 33 08.7 -0.4**
KBS IAmb IAmb 07 33 13.2
comp=Z,20nm,1.1s
KBS Kingsbay 53.23 346 P **P** **07 33 08.7 -0.4**
KBS pmax pmax
comp=Z,20nm,1.1s
PABE Paberze 53.27 316 *e*P **P** **07 33 10.4 +0.7**
MDUB Mudurnu 53.32 296 P **P** **07 33 11.2 +0.7**
MDUB IAmb IAmb 07 33 12.5
comp=Z,32nm,1.0s
TLCR 53.33 303 ⇑P **P** **07 33 10.7 +0.4**
TLCR 53.33 303 P **P** **07 33 10.7 +0.4**
SLIT Slitere, Latvi 53.63 319 *e*P **P** **07 33 12.0 -0.3**
TPGR Topolog 53.70 302 ⇓P **P** **07 33 14.1 +0.9**
CFR Carcaliu 53.78 303 ⇑P **P** **07 33 13.9 +0.3**
CFR Carcaliu 53.78 303 P **P** **07 33 13.9 +0.3**
HARR Harsova 54.09 302 ⇓P **P** **07 33 16.6 +0.7**
HARR Harsova 54.09 302 P **P** **07 33 16.5 +0.7**
SUW Suwalki 54.12 314 *e*P **P** **07 33 16.2 +0.3**
SUW Suwalki 54.12 314 P **P** **07 33 15.7 -0.2**
SUW Suwalki 54.12 314 P **P** **07 33 15.7 -0.2**
PBUR Paburge 54.24 317 *e*P **P** **07 33 16.8 0.0**
STEI Steigen 54.32 332 *e*P **P** **07 33 15.5 -1.6**
TESR Tescani 54.32 305 ⇑P **P** **07 33 18.2 +0.6**
FAUS Fauske 54.43 332 *e*P **P** **07 33 18.1 +0.1**
VRI Vrincioaia 54.48 304 ⇓P **P** **07 33 20.2 +1.3**
VRI Vrincioaia 54.48 304 P **P** **07 33 20.1 +1.3**
PLOR Plostina 54.54 304 ⇓P **P** **07 33 21.0 +1.7**
PLOR Plostina 54.54 304 P **P** **07 33 20.9 +1.7**
ONER Baraj Valea Uz 54.54 305 ⇓P **P** **07 33 20.4 +1.2**
ISP Isparta 54.81 294 P **P** **07 33 20.7 -0.7**
ISP Isparta 54.81 294 P **P** **07 33 20.7 -0.7**
ISP pmax pmax
comp=Z,55nm,0.8s
COVR Voineasa-Covas 54.84 304 ⇑P **P** **07 33 22.6 +1.2**
ISR Istrita 54.86 303 ⇓P **P** **07 33 23.2 +1.5**
ISR Istrita 54.86 303 P **P** **07 33 23.1 +1.5**
BURAR Bucovina Array 54.87 307 P **P** **07 33 21.5 -0.2**
BURAR Bucovina Array 54.87 307 ⇑P **P** **07 33 22.0 +0.3**
BURAR Bucovina Array 54.87 307 P **P** **07 33 22.0 +0.3**
TURR Turia 54.89 304 ⇑P **P** **07 33 23.1 +1.3**
LOF Lofoten 54.89 333 *e*P **P** **07 33 20.5 -0.8**
MOR8 Moi Rana 55.05 330 *e*P **P** **07 33 21.1 -1.4**
MLR Muntele Rosu 55.13 304 P **P** **07 33 23.9 +0.3**
MLR IAmb IAmb 07 33 28.1
comp=Z,16nm,0.9s
MLR Muntele Rosu 55.13 304 P **P** **07 33 24.5 +0.9**
comp=Z,14nm,0.9s,baz=249,slow=4.2,SNR=9.0
MLR LR LR 07 58 26.2
comp=Z,180nm,19.8s,baz=82,slow=38
comp=Z,14nm,0.9s
MLR Muntele Rosu 55.13 304 P **P** **07 33 23.9 +0.3**
MLR pmax pmax
comp=Z,16nm,0.9s
DOPR Dopca 55.33 305 ⇓P **P** **07 33 26.1 +1.2**
UPP Uppsala 55.37 322 *e*P **P** **07 33 24.7 -0.2**
GAMB Gambell 55.56 33 P **P** **07 33 25.4 -0.8**
GAMB IAmb IAmb 07 33 26.5
comp=Z,14nm,0.9s
GAMB Gambell 55.56 33 P **P** **07 33 25.2 -1.0**
baz=286,SNR=5.4
STOK Stokkvaagen 55.56 331 *e*P **P** **07 33 25.6 -0.6**
LEIR Leirfjorden 55.59 330 *e*P **P** **07 33 25.8 -0.6**
ARCR ARCALIA 55.60 306 ⇓P **P** **07 33 28.1 +1.3**
VOIR 55.74 304 ⇓P **P** **07 33 28.5 +0.5**
VOIR 55.74 304 P **P** **07 33 28.4 +0.5**
KWP Kalwaria Pacla 55.76 309 *e*P **P** **07 33 28.8 +0.9**
KWP Kalwaria Pacla 55.76 309 P **P** **07 33 29.0 +1.0**
KWP pmax pmax
comp=Z,85nm,0.9s
BEL Belsk 56.17 313 *e*P **P** **07 33 31.9 +1.1**
TNR Turnu Rosu 56.17 305 ⇑P **P** **07 33 32.5 +1.6**
TNR Turnu Rosu 56.17 305 P **P** **07 33 32.5 +1.6**
CJR Cluj-Napoca 56.22 306 ⇓P **P** **07 33 32.4 +1.0**
CJR Cluj-Napoca 56.22 306 P **P** **07 33 32.3 +1.0**
KOLS Kolonicke sedl 56.27 309 *e*P **P** **07 33 32.4 +0.8**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 56.27 309 *e*P **P** **07 33 32.4 +0.8**
MARR Marisel-Cluj 56.54 306 ⇓P **P** **07 33 34.9 +1.3**
LOT Lotru 56.57 304 ⇓P **P** **07 33 34.9 +1.0**
TNA Tin City 56.58 30 P **P** **07 33 33.5 0.0**
baz=288
C16K Lisburne Hills 56.69 26 P **P** **07 33 34.2 0.0**
baz=289
STHS Stebnicka Huta 56.73 310 *e*P **P** **07 33 35.6 +0.7**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 56.73 310 *e*P **P** **07 33 35.6 +0.7**
DRGR 56.76 306 P **P** **07 33 38.7 +3.5**
ALN Alexandroupoli 56.78 299 P **P** **07 33 35.6 +0.3**
ALN IAmb IAmb 07 33 36.7
comp=Z,17nm,1.1s
ALN Alexandroupoli 56.78 299 P **P** **07 33 35.6 +0.3**
ALN pmax pmax
comp=Z,17nm,1.1s
NOR Nord 56.82 351 *i* P **P** **07 33 33.3 -1.7**
NOR IAmb IAmb 07 33 35.5
comp=Z,44nm,1.1s
RDO Rodhopi 57.03 299 P **P** **07 33 36.6 -0.5**
HFS Hagfors 57.16 323 P **P** **07 33 36.9 -0.8**
comp=Z,24nm,0.8s,baz=79,slow=7.7,SNR=28
HFS LR LR 07 58 55.9
comp=Z,103nm,18.1s,baz=69,slow=37
comp=Z,24nm,0.8s
GZR Gura Zlata 57.24 305 ⇑P **P** **07 33 39.5 +0.8**

GZR **Gura Zlata** 57.24 305 P **P** 07 33 39.4 +0.8
NIE **Niedzica** 57.30 310 *e*P **P** 07 33 40.0 +1.1
OJC **Ojcow** 57.32 311 *e*P **P** 07 33 39.5 +0.5
OJC **Ojcow** 57.32 311 P **P** 07 33 39.1 +0.1
OJC **Ojcow** 57.32 311 P **P** 07 33 39.1 +0.1
C17K **DeLong Mountai** 57.38 26 P **P** 07 33 39.4 +0.2
baz=290
A19K **Wainwright** 57.46 24 P **P** 07 33 39.1 -0.6
baz=291
B18K **Kokolik River** 57.53 25 P **P** 07 33 39.5 -0.6
baz=291
SURR **Surduc** 57.53 305 ⇓P **P** 07 33 41.8 +1.3
RDOG **Red Dog Mine** 57.62 26 P **P** 07 33 41.1 +0.3
RDOG IAmb IAmb 07 33 41.6
comp=Z,16nm,0.7s
RDOG **Red Dog Mine** 57.62 26 P **P** 07 33 40.5 -0.3
baz=291
SIRR **Siria** 57.63 306 ⇑P **P** 07 33 42.7 +1.4
HERR **Herculane** 57.67 304 ⇓P **P** 07 33 42.6 +1.0
D17K **Noatak River** 57.68 27 P **P** 07 33 41.6 +0.3
baz=291,SNR=21
F15K **North Star Dit** 57.81 29 P **P** 07 33 42.5 +0.3
F15K IAmb IAmb 07 33 43.2
comp=Z,18nm,0.9s
F15K **North Star Dit** 57.81 29 P **P** 07 33 42.0 -0.2
baz=291,SNR=8.8
BZS **Buzias** 57.91 305 ⇓P **P** 07 33 43.3 +0.1
BZS **Buzias** 57.91 305 P **P** 07 33 43.3 +0.1
KDU **Kakadu** 57.93 144 P **P** 07 33 42.7 -0.9
comp=Z,17nm,2.1s
ANM **Nome** 57.93 31 P **P** 07 33 42.5 -0.6
baz=291
NC602 **NORSAR Array S** 57.96 325 *e*P **P** 07 33 42.8 -0.5
C18K **Utukok River** 57.99 25 P **P** 07 33 43.7 +0.2
C18K **Utukok River** 57.99 25 P **P** 07 33 43.4 -0.2
baz=292,SNR=6.7
NB2 **NORSAR Subarra** 58.00 325 P **P** 07 33 42.6 -1.1
comp=Z,40nm,1.0s,baz=70,slow=7.4
NB2 PP **PP** 07 35 46.8 -5.0
comp=Z,6.1nm,0.9s,baz=94,slow=8.6
NB2 **NORSAR Subarra** 58.00 325 P **P** 07 33 42.6 -1.1
baz=70,slow=7.4
NOA **NORSAR Array B** 58.00 325 P **P** 07 33 43.0 -0.7
comp=Z,19nm,0.9s,baz=70,slow=7.0,SNR=25
NOA PP **PP** 07 35 52.0 +0.3
comp=Z,4.8nm,0.9s,baz=65,slow=8.3,SNR=6.0
NOA LR LR 07 59 34.5
comp=Z,110nm,18.1s,baz=75,slow=37
comp=Z,19nm,0.9s
NOA **NORSAR Array B** 58.00 325 P **P** 07 33 43.0 -0.7
PSZ **Piszkesteto** 58.11 308 P **P** 07 33 44.5 -0.3
PSZ IAmb IAmb 07 33 46.9
comp=Z,26nm,1.3s
PSZ **Piszkesteto** 58.11 308 ⇑P **P** 07 33 45.1 +0.4
PSZ **Piszkesteto** 58.11 308 P **P** 07 33 44.5 -0.3
PSZ pmax pmax
comp=Z,26nm,1.3s
MDVR **Moldovita** 58.17 304 ⇑P **P** 07 33 45.7 +0.5
BSD **Bornholm Skovb** 58.31 318 *i* P **P** 07 33 45.1 -0.7
BSD IAmb IAmb 07 33 47.9
comp=Z,21nm,0.9s
G15K **Niukluk** 58.31 30 P **P** 07 33 45.2 -0.5
baz=292,SNR=7.8
C19K **Lookout Ridge** 58.35 25 P **P** 07 33 46.4 +0.4
C19K **Lookout Ridge** 58.35 25 P **P** 07 33 46.5 +0.4
baz=293
DEL **Delary** 58.36 319 *i* P **P** 07 33 45.0 -1.2
E17K **Hotham Inlet** 58.36 27 P **P** 07 33 46.1 0.0
baz=292,SNR=15
SPIA **Saint Paul Isl** 58.38 40 P **P** 07 33 45.8 -0.5
baz=292
BORU **Boraas** 58.49 321 *i* P **P** 07 33 45.6 -1.5
VYHS **Vyhne** 58.55 309 *e*P **P** 07 33 48.7 +1.0
VYHS pmax pmax
comp=Z,41nm,1.4s
VYHS **Vyhne** 58.55 309 *e*P **P** 07 33 48.7 +1.0
STEB **Steborice** 58.63 311 *e*P **P** 07 33 49.2 +0.9
STEB *ep*P **sP** 07 33 53.3 0.0
BOVS **Bovan** 58.64 303 ⇓P **P** 07 33 48.6 +0.3
E18K **Tukpahlearik C** 58.67 27 P **P** 07 33 48.2 0.0
E18K IAmb IAmb 07 33 49.3
comp=Z,15nm,0.8s
E18K **Tukpahlearik C** 58.67 27 P **P** 07 33 48.1 -0.1
baz=293,SNR=11
STRU **Stroemstad** 58.75 323 *e*P **P** 07 33 48.3 -0.5
STRU **Stroemstad** 58.75 323 *i* P **P** 07 33 47.2 -1.7
STRU IAmb IAmb 07 33 49.1
comp=Z,21nm,1.1s
FABU **Falkenberg** 58.75 320 ⇓*i*P **P** 07 33 47.8 -1.1
FABU IAmb IAmb 07 33 49.4
comp=Z,34nm,1.0s
B20K **Meade River** 58.77 23 P **P** 07 33 48.9 +0.1
baz=295
MAUC **Maruska** 58.82 311 *e*P **P** 07 33 51.1 +1.5
MORC **Moravsky Berou** 58.83 311 P **P** 07 33 49.5 -0.2
MORC IAmb IAmb 07 33 51.5
comp=Z,39nm,1.3s
MORC **Moravsky Berou** 58.83 311 *e*P **P** 07 33 50.1 +0.4
MORC **Moravsky Berou** 58.83 311 ⇑P **P** 07 33 50.6 +0.9
MORC **Moravsky Berou** 58.83 311 P **P** 07 33 49.5 -0.2
MORC pmax pmax
comp=Z,39nm,1.3s
KNRA **Kununurra** 58.95 149 P **P** 07 33 50.0 -0.7
KNRA IAmb IAmb 07 34 26.0
comp=Z,26nm,1.3s
KNRA **Kununurra** 58.95 149 P **P** 07 33 49.7 -1.0
comp=Z,9.7nm,1.1s
ONAU **Onsala** 59.01 321 *i* P **P** 07 33 49.3 -1.4
A22K **Sinclair Lake** 59.01 22 P **P** 07 33 50.8 +0.3
baz=296
MOL **Molde** 59.05 327 *e*P **P** 07 33 51.1 +0.2
D19K **Kuna River** 59.09 25 P **P** 07 33 51.0 -0.2
D19K **Kuna River** 59.09 25 P **P** 07 33 51.5 +0.4
baz=295,SNR=15
JAVC **Velka Javorina** 59.12 310 *e*P **P** 07 33 52.8 +1.1
M11K **Mekoryuk** 59.13 35 P **P** 07 33 51.3 -0.2
baz=293
KSP **Ksiaz** 59.16 313 *e*P **P** 07 33 52.3 +0.5
H16K **Elim** 59.16 30 P **P** 07 33 51.3 -0.3
baz=293,SNR=5.2
KRLC **Kraliky** 59.17 312 *e*P **P** 07 33 52.9 +0.9
KRLC *e* 07 33 56.4
KRLC **Kraliky** 59.17 312 *e*P **P** 07 33 52.9 +0.9
KRLC *ex* x 07 33 56.4
K13K **Kusilvak Mount** 59.22 33 P **P** 07 33 51.6 -0.4
K13K IAmb IAmb 07 33 52.7
comp=Z,18nm,0.8s
K13K **Kusilvak Mount** 59.22 33 P **P** 07 33 51.6 -0.4
baz=293,SNR=14
KONO **Kongsberg** 59.27 324 P **P** 07 33 52.0 -0.4
KONO **Kongsberg** 59.27 324 P **P** 07 33 52.1 -0.4
KONO pmax pmax
comp=Z,38nm,1.2s
KONO **Kongsberg** 59.27 324 *e*P **P** 07 33 52.3 -0.2
OSTC **Ostas** 59.31 312 *e*P **P** 07 33 53.9 +0.9
OSTC **Ostas** 59.31 312 *e*P **P** 07 33 53.9 +0.9
DPC **Dobruska-Polom** 59.33 312 *e*P **P** 07 33 54.1 +1.0
DPC *e* 07 33 58.2
DPC **Dobruska-Polom** 59.33 312 *e*P **P** 07 33 54.1 +1.0
DPC *ep*P **sP** 07 33 58.2 0.0
F18K **Selawik** 59.34 27 P **P** 07 33 52.9 +0.1
baz=294,SNR=7.0
J14K **Nanvaranak Lak** 59.37 32 P **P** 07 33 52.7 -0.4
baz=293
CHVC **Chvalec** 59.40 312 *e*P **P** 07 33 54.9 +1.3
CHVC **Chvalec** 59.40 312 *e*P **P** 07 33 54.9 +1.3
SMOL **Smolenice** 59.40 310 *e*P **P** 07 33 54.9 +1.3
SMOL pmax pmax
comp=Z,21nm,1.4s
G17K **Kiwalik Mounta** 59.42 29 P **P** 07 33 53.5 0.0
baz=294,SNR=9.7
SKAR **Skarslia** 59.46 325 *e*P **P** 07 33 54.3 +0.4
D20K **Etivluk River** 59.50 25 P **P** 07 33 53.3 -0.7
D20K **Etivluk River** 59.50 25 P **P** 07 33 54.1 +0.1
baz=296,SNR=29
MODS **Modra-Piesok** 59.55 310 *e*P **P** 07 33 52.5 -2.1
MODS pmax pmax
comp=Z,46nm,1.1s
MODS **Modra-Piesok** 59.55 310 *e*P **P** 07 33 52.5 -2.1
MORH **Mrgy, Hungar** 59.57 307 ⇓P **P** 07 33 55.5 +0.7
VRAC **Vranov** 59.59 311 P **P** 07 33 55.2 +0.3
comp=Z,9.3nm,0.8s,baz=76,slow=8.2,SNR=12
comp=Z,9.3nm,0.8s
VRAC **Vranov** 59.59 311 *e*P **P** 07 33 55.4 +0.5
VRAC **Vranov** 59.59 311 ⇑P **P** 07 33 55.7 +0.8
VRAC **Vranov** 59.59 311 P **P** 07 33 55.6 +0.8
B21K **Ikpikpuk River** 59.73 23 P **P** 07 33 55.7 +0.2
baz=297,SNR=6.6
B22K **Teshekpuk Lake** 59.77 22 P **P** 07 33 55.8 +0.1
baz=298
KRUC **Moravsky** 59.80 311 *e*P **P** 07 33 57.2 +0.8
E19K **Redstone River** 59.84 26 P **P** 07 33 56.0 -0.3
E19K **Redstone River** 59.84 26 P **P** 07 33 55.9 -0.5
baz=296,SNR=28
E20K **Nigu River** 59.84 25 P **P** 07 33 56.2 -0.2
baz=296,SNR=16
C21K **Knifeblade Rid** 59.89 24 P **P** 07 33 56.7 0.0
baz=297,SNR=6.6
DAG **Danmarks Havn** 59.94 347 *i* P **P** 07 33 55.1 -1.8
DAG IAmb IAmb 07 33 56.2
comp=Z,16nm,0.9s
H17K **Granite Mounta** 59.94 29 P **P** 07 33 56.6 -0.4
H17K **Granite Mounta** 59.94 29 P **P** 07 33 56.8 -0.2
baz=295,SNR=23
FITZ **Fitzroy Crossi** 59.97 153 P **P** 07 33 56.8 -0.9
comp=Z,2.3nm,1.0s
G18K **Tagagawik** 60.01 28 P **P** 07 33 56.9 -0.6
G18K **Tagagawik** 60.01 28 P **P** 07 33 57.0 -0.5
baz=296,SNR=10
FNA **Florina** 60.05 300 P **P** 07 33 57.3 -0.9
FNA **Florina** 60.05 300 P **P** 07 33 57.3 -0.9
FNA pmax pmax
comp=Z,6.0nm,0.9s
I17K **Unalakleet** 60.08 30 P **P** 07 33 58.1 +0.2
baz=295
HYA **Hoyanger** 60.21 326 *e*P **P** 07 33 58.9 0.0
L14K **Kuka Creek** 60.32 34 P **P** 07 33 59.1 -0.5
L14K IAmb IAmb 07 34 00.6
comp=Z,24nm,0.9s
L14K **Kuka Creek** 60.32 34 P **P** 07 33 59.6 0.0
baz=295,SNR=14
J16K **Anvik River** 60.38 31 P **P** 07 34 00.0 0.0
baz=295,SNR=6.6
K15K **Wolf Creek Mou** 60.41 32 P **P** 07 33 59.9 -0.4
K15K IAmb IAmb 07 34 01.5
comp=Z,20nm,1.0s
K15K **Wolf Creek Mou** 60.41 32 P **P** 07 34 00.3 0.0
baz=295,SNR=13
M13K **Dall Lake** 60.41 35 P **P** 07 34 00.2 -0.1
baz=295
RONA **Rosalia, Austr** 60.42 309 *e*pP **P** 07 34 01.4 +0.7
comp=Z,11nm,0.9s
H18K **Honhosa River** 60.44 29 P **P** 07 34 00.2 -0.3
baz=296,SNR=13
G19K **Purcell Mounta** 60.47 27 P **P** 07 34 00.0 -0.7
G19K IAmb IAmb 07 34 01.5
comp=Z,24nm,1.3s
G19K **Purcell Mounta** 60.47 27 P **P** 07 34 00.3 -0.3
baz=297,SNR=11
E21K **Killik River** 60.49 24 P **P** 07 34 00.4 -0.4
baz=298
BRG **Berggiesshubel** 60.51 313 *e*P **P** 07 34 02.5 +1.3
comp=Z,45nm,1.5s,baz=64,slow=6.7
BRG **Berggiesshubel** 60.51 313 *i* P **P** 07 34 02.5 +1.3
BRG Amp 07 34 04.1
comp=Z,13nm,1.0s
PRU **Pruhonice** 60.53 312 *e*P **P** 07 34 02.5 +1.2
PRU MLR MLR
comp=Z,200nm,22.5s
PRU **Pruhonice** 60.53 312 *e*P **P** 07 34 02.5 +1.2
PRU AMS AMS 08 00 50.0
comp=Z,200nm,22.5s
F20K **Avaraart Lake** 60.55 26 P **P** 07 34 00.8 -0.3
baz=297
CONA **Cerad Observa** 60.59 310 *e*pP **P** 07 34 02.6 +0.7
comp=Z,19nm,1.2s,SNR=13
D22K **Ayikyak River** 60.69 24 P **P** 07 34 02.1 0.0
baz=299,SNR=7.1
L15K **Ungalak Mounta** 60.70 33 P **P** 07 34 02.1 -0.1
baz=296,SNR=6.9
MUD **Monsted U'grnd** 60.76 321 *i* P **P** 07 34 02.3 -0.5
MUD IAmb IAmb 07 34 04.1
comp=Z,81nm,1.2s
PDG **Podgorica** 60.77 303 ⇓P **P** 07 34 03.7 +0.6
BLS5 **Blasjo** 60.82 324 *e*P **P** 07 34 03.3 +0.1
C23K **Itkillik River** 60.86 22 P **P** 07 34 03.1 -0.1
baz=300,SNR=11
CLL **Collm** 60.87 314 *i* P **P** 07 34 03.8 +0.2
CLL pmax pmax
comp=Z,35nm,1.3s
CLL **Collm** 60.87 314 *e*P **P** 07 34 03.9 +0.4
comp=Z,28nm,1.2s,baz=64,slow=6.7
CLL **Collm** 60.87 314 *i* P **P** 07 34 03.8 +0.2
comp=Z,35nm,1.3s
CLL *e*PP **PP** 07 36 16.0 -1.2
M14K **Bethel** 60.89 34 P **P** 07 34 02.9 -0.7
M14K IAmb IAmb 07 34 04.3
comp=Z,24nm,0.8s
M14K **Bethel** 60.89 34 P **P** 07 34 03.2 -0.3
baz=296,SNR=12
BER **Bergen** 60.92 326 *e*P **P** 07 34 03.3 -0.5
J17K **VABM Dome** 60.95 31 P **P** 07 34 03.8 -0.1
baz=297,SNR=11
ZVC **Zvikov** 60.96 312 *e*P **P** 07 34 05.5 +1.2
H19K **Roundabout Mou** 60.99 28 P **P** 07 34 03.8 -0.4
H19K IAmb IAmb 07 34 05.4
comp=Z,28nm,0.9s
H19K **Roundabout Mou** 60.99 28 P **P** 07 34 04.4 +0.2
baz=298,SNR=21
ARSA **Arzberg** 61.09 309 *i* pP **P** 07 34 05.7 +0.5
comp=Z,7.7nm,0.9s
CKRC **Cesky Krumlov** 61.16 311 *e*P **P** 07 34 06.8 +1.2
CKRC **Cesky Krumlov** 61.16 311 *e*P **P** 07 34 06.8 +1.2
GCSA **Galena City Sc** 61.19 29 P **P** 07 34 05.5 0.0
baz=298,SNR=16
F21K **Alatna River** 61.24 25 P **P** 07 34 06.0 +0.1
baz=295,SNR=24
D23K **Nanushuk River** 61.28 23 P **P** 07 34 06.2 +0.1
baz=301
E22K **Anaktuvuk Pass** 61.34 24 P **P** 07 34 06.7 +0.1
baz=300,SNR=13
N14K **Kuskokwak Cree** 61.38 35 P **P** 07 34 06.6 -0.2
baz=296,SNR=5.7
FLTG **Flechtingen** 61.42 316 *e*P **P** 07 34 07.6 +0.3
comp=Z,39nm,1.2s,baz=64,slow=6.7
KHC **Kasperske Hory** 61.46 312 *e*P **P** 07 34 08.2 +0.5
KHC MLR MLR
comp=Z,200nm,21.9s
KHC **Kasperske Hory** 61.46 312 *e*P **P** 07 34 08.2 +0.5
KHC AMS AMS 08 01 20.0
comp=Z,200nm,21.9s
M15K **Kasigluk River** 61.48 34 P **P** 07 34 07.1 -0.4
baz=297,SNR=10.0
C24K **Franklin Bluff** 61.49 22 P **P** 07 34 07.5 0.0
baz=302
GEC2 **GERESS Array S** 61.51 311 P **P** 07 34 07.8 -0.3
GEC2 IAmb IAmb 07 34 09.7
comp=Z,14nm,1.1s
GEC2 **GERESS Array S** 61.51 311 *e*P **P** 07 34 08.8 +0.7
comp=Z,17nm,1.1s,baz=64,slow=6.7
GERES **GERESS Array B** 61.51 311 P **P** 07 34 07.8 -0.3
comp=Z,4.7nm,0.9s,baz=60,slow=5.3,SNR=29
GERES PP **PP** 07 36 22.4 -0.7
comp=Z,1.7nm,0.9s,baz=61,slow=11,SNR=5.7
comp=Z,4.7nm,0.9s
GERES **GERESS Array B** 61.51 311 P **P** 07 34 07.9 -0.3
F22K **John River** 61.53 25 P **P** 07 34 08.1 +0.2
baz=300
TANN **Tannenbergstha** 61.56 313 *e*P **P** 07 34 09.2 +0.8
comp=Z,18nm,1.2s,baz=64,slow=6.7
K17K **Iditarod** 61.57 31 P **P** 07 34 08.0 -0.1
baz=298,SNR=18
G21K **Allakaket** 61.58 26 P **P** 07 34 07.8 -0.3
baz=300,SNR=20
H20K **Anotleneega Mo** 61.58 27 P **P** 07 34 08.3 +0.1
baz=299,SNR=33
MOA **Molln** 61.60 310 *e*pP **P** 07 34 09.3 +0.7
comp=Z,15nm,1.0s,SNR=8.4
NEUB **Neuenburg** 61.60 314 *e*P **P** 07 34 09.2 +0.7
comp=Z,39nm,1.1s,baz=64,slow=6.7
PERS **Pernice** 61.61 309 *i* P **P** 07 34 08.8 +0.1
SOKA **Soboth** 61.64 309 *e*pP **P** 07 34 09.3 +0.3
comp=Z,20nm,1.0s,SNR=15
UNV **Unalaska Valle** 61.67 42 P **P** 07 34 09.5 +0.6
baz=296
D24K **Happy Valley** 61.75 23 P **P** 07 34 09.2 -0.1
baz=302
IMAR **Indian Mountai** 61.75 27 P **P** 07 34 08.6 -0.8
TOLK **Toolik Lake Re** 61.79 23 P **P** 07 34 09.8 +0.2
baz=302,SNR=12
DBG **Daneborg** 61.80 345 *i* P **P** 07 34 08.9 -0.7
DBG IAmb IAmb 07 34 09.6
comp=Z,25nm,1.2s
ASSE **Asse, Remlinge** 61.82 316 *e*P **P** 07 34 10.5 +0.6
comp=Z,20nm,1.4s,baz=64,slow=6.7
L17K **Donlin** 61.84 32 P **P** 07 34 10.1 +0.1
baz=298,SNR=9.8
J18K **Innoko River** 61.86 30 P **P** 07 34 09.6 -0.5
baz=298,SNR=19
WET **Wettzell** 61.87 312 *e*P **P** 07 34 11.4 +1.0
comp=Z,23nm,1.3s,baz=64,slow=6.7
O14K **Tigyukauivet M** 61.87 35 P **P** 07 34 09.9 -0.3
baz=297
MOX **Moxa** 61.94 314 *e*P **P** 07 34 11.7 +0.8
comp=Z,38nm,1.4s,baz=64,slow=6.7
MOX *e*L L 08 04 52.5
comp=Z,85nm,20.1s
MANZ **Manzenberg** 61.95 313 *e*P **P** 07 34 11.7 +0.7
comp=Z,6.7nm,1.5s,baz=64,slow=6.7
NRDL **Niedersach Rie** 61.97 316 *e*P **P** 07 34 12.4 +1.5
comp=Z,62nm,1.2s,baz=64,slow=6.7
N15K **Kwethluk River** 61.98 34 P **P** 07 34 10.8 -0.1
baz=297,SNR=5.6
ROTZ **Rotzenmuhle** 61.99 313 *e*P **P** 07 34 12.4 +1.2
comp=Z,5.7nm,1.1s,baz=64,slow=6.7
OBKA **Obir** 62.02 309 *e*pP **P** 07 34 12.6 +1.0
comp=Z,20nm,1.9s
J19K **Poorman** 62.03 29 P **P** 07 34 11.4 +0.1
baz=299,SNR=13
BIOA **Bad Ischl, Aus** 62.05 310 *e*pP **P** 07 34 12.9 +1.2
comp=Z,22nm,1.0s,SNR=5.6
G22K **Bettles** 62.06 25 P **P** 07 34 11.0 -0.3
baz=301
I20K **Naaghedeneel** 62.07 28 P **P** 07 34 11.9 +0.5
baz=300,SNR=11
M16K **Timber Creek** 62.08 33 P **P** 07 34 11.2 -0.5
baz=298,SNR=9.7
E23K **Chandalar** 62.09 24 P **P** 07 34 11.9 +0.2
baz=302,SNR=17
CLZ **Clausthal** 62.12 315 *e*P **P** 07 34 13.2 +1.1
comp=Z,54nm,1.2s,baz=64,slow=6.7
LJU **Ljubljana** 62.23 308 *e*P **P** 07 34 13.1 +0.1
H21K **Melozitna River** 62.25 27 P **P** 07 34 12.7 -0.1
baz=300
RETH **Rethem/Aller,** 62.27 317 *e*P **P** 07 34 14.0 +1.1
comp=Z,36nm,1.2s,baz=64,slow=6.7
COLD **Coldfoot** 62.34 25 P **P** 07 34 13.4 +0.2
baz=302,SNR=44
D25K **Kavik River** 62.39 22 P **P** 07 34 14.1 +0.4
baz=304,SNR=12
N16K **Nishlik Lake** 62.42 33 P **P** 07 34 14.1 +0.2
baz=298,SNR=8.9
CEY **Cerknica** 62.43 308 *i* P **P** 07 34 14.3 0.0
E24K **Your Creek** 62.44 23 P **P** 07 34 14.2 +0.2
baz=303
L18K **Granite Mounta** 62.47 31 P **P** 07 34 14.2 0.0
baz=299,SNR=6.2
GTTG **Gottingen** 62.48 315 *e*P **P** 07 34 15.4 +1.0
comp=Z,31nm,1.0s,baz=64,slow=6.7
KBA **Koelnbreinsper** 62.50 310 *i* pP **P** 07 34 15.2 +0.3
comp=Z,7.8nm,0.9s
J20K **Nowinta River** 62.50 29 P **P** 07 34 14.7 +0.2
baz=300,SNR=38
M17K **Holitna River** 62.55 32 P **P** 07 34 15.1 +0.3
baz=299,SNR=18
O15K **Ungalikthiuk R** 62.56 35 P **P** 07 34 14.5 -0.3
baz=298,SNR=7.5
GRF **Grafenberg Arr** 62.59 313 *e*P **P** 07 34 16.5 +1.2
comp=Z,42nm,1.1s,baz=64,slow=6.7
GRF *e*L L 08 04 16.7
comp=Z,100nm,19.2s
H22K **Ishtalitna Cre** 62.64 26 P **P** 07 34 15.4 +0.1
baz=302,SNR=9.1
G23K **Bananza Creek** 62.67 25 P **P** 07 34 15.4 -0.1
baz=302,SNR=15
LESA **Schwarzleotal** 62.75 310 *e*pP **P** 07 34 17.1 +0.7
comp=Z,36nm,1.0s,SNR=15
I21K **Tanana** 62.79 27 P **P** 07 34 16.4 +0.1
baz=301
F24K **Squaw Lake** 62.93 24 P **P** 07 34 17.4 +0.1
baz=304,SNR=10
K20K **Telida** 62.95 29 P **P** 07 34 17.6 +0.2
baz=300,SNR=24
C27K **Jago River** 62.98 21 P **P** 07 34 18.2 +0.6
baz=306,SNR=17
N17K **Nushagak Hills** 63.08 33 P **P** 07 34 18.4 +0.1
baz=299,SNR=6.5
S12K **Black Hills** 63.12 39 P **P** 07 34 18.3 -0.4
baz=298
O16K **Kokwok River B** 63.14 34 P **P** 07 34 18.6 -0.1
baz=299,SNR=13
ABTA **Abfaltersbach** 63.16 310 *e*P **P** 07 34 18.8 -0.4
comp=Z,19nm,1.0s,SNR=6.7
M18K **Stony River** 63.18 32 P **P** 07 34 19.1 +0.1
baz=300,SNR=15
L19K **White Mountain** 63.23 31 P **P** 07 34 19.5 +0.1
baz=300,SNR=17
H23K **Yukon River** 63.31 26 P **P** 07 34 20.4 +0.6
baz=303,SNR=43
MLY **Manley** 63.32 27 P **P** 07 34 20.2 +0.3
baz=302,SNR=38
IBBN **Ibbenburen** 63.34 317 *e*P **P** 07 34 21.0 +0.9
comp=Z,44nm,1.2s,baz=64,slow=6.7
CHUM **Lake Minchumin** 63.35 28 P **P** 07 34 20.6 +0.6
baz=302,SNR=7.5
WTTA **Wattenberg** 63.45 310 *e*pP **P** 07 34 21.5 +0.3
comp=Z,30nm,0.9s,SNR=12
WATA **Walderalm** 63.46 311 *e*P **P** 07 34 21.3 +0.1
comp=Z,32nm,1.2s,SNR=6.0
P16K **Nushagak River** 63.46 35 P **P** 07 34 20.8 0.0
baz=299
L20K **Farewell, AK** 63.47 30 P **P** 07 34 21.2 +0.3
baz=301,SNR=15
O17K **Koliganek Bris** 63.49 34 P **P** 07 34 20.7 -0.3
baz=300,SNR=6.1
KASTN **Kahler Asten** 63.49 315 *e*P **P** 07 34 22.0 +0.7
comp=Z,11nm,1.1s,baz=64,slow=6.7
G24K **Hadweenzic Riv** 63.52 25 P **P** 07 34 21.4 +0.2
baz=304,SNR=25
N18K **Kilae Creek** 63.56 32 P **P** 07 34 21.6 0.0
baz=300,SNR=11
M19K **Big River Lodg** 63.56 31 P **P** 07 34 22.0 +0.5
baz=301,SNR=13
F25K **Christian Rive** 63.60 23 P **P** 07 34 22.3 +0.6
baz=305,SNR=27
CAST **Castle Rocks** 63.68 29 P **P** 07 34 22.5 +0.3
baz=302,SNR=44
BPAW **Bear Paw Mtn.** 63.73 28 P **P** 07 34 22.5 0.0
baz=303,SNR=24
SQTA **Sankt Quirin** 63.73 311 *e*P **P** 07 34 23.0 0.0
comp=Z,25nm,1.1s,SNR=12
MOTA **Moosalm** 63.74 311 *e*pP **P** 07 34 23.3 +0.2
comp=Z,30nm,1.1s,SNR=9.1
I23K **Minto, Yukon-K** 63.75 26 P **P** 07 34 23.0 +0.4
baz=303,SNR=33
H24K **Noodor Dome** 63.88 25 P **P** 07 34 23.9 +0.3
baz=304,SNR=16
RETA **Reutte** 63.88 311 *e*P **P** 07 34 24.0 +0.1
comp=Z,0.5nm,0.4s
NEEM **North Greenlan** 63.88 354 *i* P **P** 07 34 23.2 -0.5
NEEM IAmb IAmb 07 34 24.3
comp=Z,49nm,0.7s
PPLA **Purkeypile** 63.92 29 P **P** 07 34 24.1 +0.1
baz=302,SNR=22
G25K **Bearman Lake** 63.94 24 P **P** 07 34 24.3 +0.4
baz=305,SNR=15
TIP **Timpagrande** 63.94 300 ⇓P **P** 07 34 24.8 +0.3
D27M **Malcolm River** 63.99 21 P **P** 07 34 24.5 +0.2
baz=309,SNR=5.3
F26K **Sheenjek River** 64.00 23 P **P** 07 34 24.1 -0.2
baz=307,SNR=8.0
BUG **Bochum--Univer** 64.02 316 *e*P **P** 07 34 25.5 +0.9
comp=Z,78nm,1.4s,baz=64,slow=6.7
P17K **Kvichak River** 64.07 34 P **P** 07 34 24.4 -0.5
baz=300
S14K **Fog Glacier** 64.08 38 P **P** 07 34 24.8 -0.3
baz=300
M20K **Styx River** 64.08 31 P **P** 07 34 25.1 +0.1
baz=302
N19K **Bonanza Creek** 64.09 32 P **P** 07 34 24.9 -0.2
baz=301,SNR=9.8
FETA **Feichten** 64.12 311 *i* pP **P** 07 34 26.0 +0.4
comp=Z,26nm,1.3s,SNR=8.0
NEA2 **Nenana** 64.16 27 P **P** 07 34 25.3 -0.1
baz=304,SNR=13
Q16K **King Salmon** 64.24 35 P **P** 07 34 25.4 -0.6
baz=301
O18K **Koktuh Hills** 64.28 33 P **P** 07 34 25.6 -0.6
baz=301
H25L **Birch Creek** 64.32 24 P **P** 07 34 25.6 -0.7

baz=306,SNR=8.0
TRF Thorofare Moun 64.34 28 P P 07 34 26.3 -0.5
baz=303,SNR=6.8
COLA College 64.43 26 P P 07 34 27.0 -0.1
COLA College 64.43 26 P P 07 34 27.2 +0.1
baz=305
POKR Poker Plat Res 64.44 26 P P 07 34 27.5 +0.3
baz=305,SNR=9.0
E27K Coleen River 64.47 22 P P 07 34 27.5 +0.1
baz=308,SNR=15
O19K Port Alsworth 64.48 32 P P 07 34 27.5 0.0
baz=302
DAVA Damuels 64.50 311 *e*pP P 07 34 28.6 +0.5
comp=Z,4.0nm,1.0s
P18K Big Mountain, 64.51 33 P P 07 34 27.6 -0.2
baz=301
G26K Porcupine Rive 64.56 23 P P 07 34 28.6 +0.6
baz=307,SNR=19
COEN Coen 64.56 134 P P 07 34 28.0 -0.6
comp=Z,18nm,1.2s
WRH Wood River Hil 64.58 27 P P 07 34 27.1 -1.0
WRH IAmb IAmb 07 34 29.4
comp=Z,26nm,1.0s
CCB Clear Creek Bu 64.58 26 P P 07 34 27.0 -1.1
CHGN Chignik 64.62 37 P P 07 34 27.4 -1.1
baz=300
SKT Skwentna 64.67 30 P P 07 34 27.8 -1.0
SKT IAmb IAmb 07 34 29.3
comp=Z,10.0nm,0.8s
SKT Skwentna 64.67 30 P P 07 34 27.8 -1.0
baz=303,SNR=8.8
MCK McKinley 64.69 28 P P 07 34 28.2 -0.7
MCK IAmb IAmb 07 34 30.1
comp=Z,13nm,0.8s
MCK McKinley 64.69 28 P P 07 34 28.2 -0.7
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 64.69 28 P P 07 34 28.5 -0.4
baz=304,SNR=7.8
DAVOX Davos/Dischmat 64.74 311 P P 07 34 29.7 0.0
comp=Z,6.3nm,0.4s,baz=60,slow=4.3,SNR=6.5
DAVOX LR LR 08 05 46.3
comp=Z,142nm,18.9s,baz=68,slow=39
comp=Z,6.3nm,0.4s
CHNA Chernabura Isl 64.78 39 P P 07 34 27.9 -1.7
baz=300,SNR=7.3
E28M Babbage River 64.80 21 P P 07 34 29.6 +0.2
baz=310,SNR=13
Q17K Contact Creek 64.80 35 P P 07 34 28.6 -1.2
baz=301
N20K Mount Spurr 64.82 31 P P 07 34 29.7 -0.2
baz=303
SPCR Spurr Chakacha 64.82 31 P P 07 34 29.6 -0.3
baz=303
ILAR Eielson Array 64.83 26 P P 07 34 28.7 -1.1
comp=Z,22nm,0.8s,baz=289,slow=5.7,SNR=201
ILAR LR LR 08 05 14.5
comp=Z,288nm,18.2s,baz=298,slow=38
comp=Z,22nm,0.8s
PRP Porcupine Dome 64.86 25 P P 07 34 29.9 -0.2
baz=306,SNR=20
BFO Black Forest 64.91 313 *e*P P 07 34 30.8 +0.2
comp=Z,22nm,1.2s,baz=64,slow=6.7
CUT Chulitna 64.93 29 P P 07 34 29.9 -0.5
baz=304,SNR=7.4
Q18K Katmai Hardscr 64.99 34 P P 07 34 29.8 -1.2
baz=302
WB9 Warramunga Arr 65.01 146 P P 07 34 30.5 -1.0
HDA Harding Lake 65.02 26 P P 07 34 29.7 -1.3
baz=306,SNR=13
WB8 Warramunga Arr 65.03 146 P P 07 34 30.7 -0.9
WB7 Warramunga Arr 65.05 146 P P 07 34 30.7 -1.0
BTNL Ternell 65.06 316 *d*P P 07 34 31.3 -0.3
comp=Z,11nm,1.2s
WB5 Warramunga Arr 65.08 146 P P 07 34 30.5 -1.4
MEM Membach 65.12 316 *d*P P 07 34 32.7 +0.9
comp=Z,12nm,1.3s
WRAB Tennant Creek 65.12 146 P P 07 34 31.2 -1.0
WRAB IAmb IAmb 07 34 32.3
comp=Z,10nm,0.9s
WRAB Tennant Creek 65.12 146 P P 07 34 31.2 -1.0
WRAB pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 65.12 146 P P 07 34 31.4 -0.8
comp=Z,7.0nm,1.0s,baz=343,slow=7.2,SNR=5.7
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 65.12 146 *i* P P 07 34 31.3 -0.9
WRA pmax pmax
comp=Z,7.0nm,0.9s
P19K Oil Pt 65.23 33 P P 07 34 31.7 -0.8
baz=303,SNR=5.3
O20K Slope Mountain 65.26 32 P P 07 34 32.3 -0.4
baz=303
SUA Susitna One 65.27 30 P P 07 34 32.4 -0.4
baz=304,SNR=41
G27K Doyon Strip 65.31 23 P P 07 34 33.3 +0.3
baz=309,SNR=17
F28M Old Crow 65.34 22 P P 07 34 33.2 +0.2
baz=310,SNR=19
M22K Willow 65.35 30 P P 07 34 32.0 -1.1
baz=304
E29M Blow River 65.40 21 P P 07 34 33.6 +0.3
baz=311,SNR=30
Q19K Cape Douglas, 65.44 33 P P 07 34 32.5 -1.4
baz=303
J25K Salcha River, 65.45 26 P P 07 34 32.3 -1.6
baz=307,SNR=20
CAPN Captain Cook N 65.49 31 P P 07 34 34.2 +0.1
baz=304
WLF Walferdange 65.50 315 *d*P P 07 34 35.3 +0.9
comp=Z,22nm,1.3s
WLF Walferdange 65.50 315 *e*P P 07 34 35.7 +1.4
comp=Z,66nm,1.3s,baz=64,slow=6.7
BCLA Clavier 65.60 316 *d*P P 07 34 35.5 +0.5
comp=Z,12nm,1.0s
H27K Steamboat Moun 65.72 23 P P 07 34 36.0 +0.4
baz=309,SNR=54
I26K Coal Creek Min 65.78 25 P P 07 34 35.9 0.0
baz=308
RCHB Rochefort 65.78 315 *d*P P 07 34 35.9 -0.2
comp=Z,13nm,1.3s
K24K Donnelly Dome 65.79 27 P P 07 34 34.9 -1.2
baz=307,SNR=24
A36M Sachs Harbour 65.80 14 P P 07 34 36.0 +0.1
baz=321,SNR=16
R18K Karluk 65.82 35 P P 07 34 35.4 -0.8
baz=303
PMR Palmer 65.83 30 P P 07 34 35.5 -0.8
baz=305,SNR=21
RC01 Rabbit Creek A 65.88 30 P P 07 34 36.1 -0.5
baz=305,SNR=6.3
HOM Homer 65.91 32 P P 07 34 36.1 -0.6
baz=304
UCC Uccle 65.93 316 *d*P P 07 34 36.6 -0.5
BMRD Maredsous 65.96 316 *d*P P 07 34 37.8 +0.6
comp=Z,14nm,1.1s
I27K Kandik River 66.09 24 P P 07 34 38.5 +0.5
baz=309,SNR=23
J26L Joseph Creek 66.14 25 P P 07 34 37.2 -1.1
baz=308,SNR=28
DOU Dourbes 66.16 316 *d*P P 07 34 39.0 +0.5
comp=Z,9.5nm,1.1s
RIDG Independent Ri 66.16 26 P P 07 34 37.4 -1.1
baz=308,SNR=64
Q20K Shuyak Island 66.17 33 P P 07 34 38.0 -0.5
baz=304
KNK Knik Glacier 66.20 30 P P 07 34 38.5 -0.2
baz=306,SNR=6.8
CHIR Chirikof Islan 66.21 37 P P 07 34 38.0 -0.8
baz=302
O22K Cooper Landing 66.23 31 P P 07 34 38.2 -0.7
baz=305
M23K Glacier View 66.26 29 P P 07 34 38.8 -0.3
baz=306,SNR=17
SCRK Sand Creek 66.32 26 P P 07 34 38.7 -0.8
baz=308,SNR=64
G29M Pine Creek 66.34 22 P P 07 34 39.6 +0.1
baz=312,SNR=12
VAE Valguarnera 66.38 300 LR LR 08 08 08.1
comp=Z,87nm,18.1s,baz=308,slow=40
SCM Sheep Creek Mo 66.39 29 P P 07 34 39.8 -0.2
baz=306,SNR=33
PAX Paxson 66.41 27 P P 07 34 39.3 -0.7
baz=307,SNR=27
SII Sitkinak Islan 66.49 36 P P 07 34 40.3 -0.3
baz=303
F30M Barrier River 66.51 21 P P 07 34 40.8 +0.2
baz=313,SNR=16

OHAK Old Harbor 66.54 35 P P 07 34 41.1 +0.2
baz=304
KDAK Kodiak Island 66.54 34 LR LR 08 04 25.3
comp=Z,234nm,21.7s,baz=318,slow=37
KDAK Kodiak Island 66.54 34 P P 07 34 39.5 -1.4
baz=304
SEW Seward 66.56 31 P P 07 34 39.8 -1.2
baz=305,SNR=9.0
PWL Port Wells 66.57 30 P P 07 34 40.2 -0.9
baz=306,SNR=6.5
INK Inuvik 66.64 19 LR LR 08 08 28.2
comp=Z,152nm,18.3s,baz=269,slow=40
INK Inuvik 66.64 19 P P 07 34 41.0 -0.3
baz=315,SNR=31
M24K Tolsona, Glenn 66.67 28 P P 07 34 41.8 +0.1
baz=307,SNR=17
H29M Whitestone 66.70 22 P P 07 34 41.6 -0.2
baz=312,SNR=9.6
I28M Miner Creek 66.73 24 P P 07 34 42.0 -0.1
baz=311,SNR=42
G30M tAoh Zraii Nji 66.82 21 P P 07 34 42.1 -0.5
baz=313,SNR=37
HARP HAARP 66.87 28 P P 07 34 43.2 +0.2
baz=308,SNR=12
K27K Chicken 66.94 25 P P 07 34 43.5 +0.1
baz=310
GLI Glacier Island 67.05 30 P P 07 34 43.6 -0.5
baz=307
EPYK Eagle Plains 67.09 22 P P 07 34 43.6 -0.7
baz=313,SNR=24
KULLO Kullorsuaq 67.10 354 *i* P P 07 34 42.2 -2.0
KULLO IAmb IAmb 07 34 44.7
comp=Z,27nm,0.8s
L26K Log Cabin Wild 67.13 27 P P 07 34 44.2 -0.5
baz=309
KLU Klutina 67.14 29 P P 07 34 44.9 +0.1
baz=307,SNR=54
F31M Tsiigehtchic 67.19 20 P P 07 34 44.2 -0.6
baz=315,SNR=10
I29M Ogilvie Camp, 67.30 23 P P 07 34 44.8 -0.9
baz=312,SNR=14
RES Resolute Bay 67.35 5 LR LR 08 04 03.5
comp=Z,86nm,21.5s,baz=20,slow=36
EKA Eskdalemuir Ar 67.36 323 P P 07 34 45.9 -0.3
comp=Z,12nm,0.9s,baz=47,slow=6.1,SNR=10
EKA PP PP 07 37 14.6 +0.5
comp=Z,4.4nm,0.8s,baz=45,slow=11,SNR=5.1
comp=Z,12nm,0.9s
G31M Satah River 67.41 21 P P 07 34 45.6 -0.7
baz=315,SNR=33
P23K Montague Islan 67.46 31 P P 07 34 46.5 -0.2
baz=307
N25K Chitina, Valde 67.57 28 P P 07 34 48.0 +0.5
baz=308,SNR=38
L27K Beaver Creek, 67.65 26 P P 07 34 48.3 +0.4
baz=310,SNR=33
M26K Nabesna, AK 67.66 27 P P 07 34 48.5 +0.5
baz=309,SNR=33
EYAK Cordova Ski Ar 67.78 30 P P 07 34 48.9 +0.2
baz=308,SNR=12
DAWY Dawson 67.81 25 P P 07 34 48.4 -0.6
baz=312,SNR=25
J29N Klondike Camp 67.94 24 P P 07 34 50.0 +0.2
baz=312,SNR=5.8
BMRM Bremner River 67.96 29 P P 07 34 49.9 0.0
baz=309,SNR=27
I30M Mount Dempster 67.99 23 P P 07 34 49.3 -0.8
baz=314,SNR=65
M27K Edge Creek, AK 68.08 27 P P 07 34 51.4 +0.6
baz=310,SNR=43
QIS Mount Isa 68.13 141 P P 07 34 50.4 -1.0
comp=Z,9.9nm,2.9s
H31M Peel River 68.19 22 P P 07 34 50.6 -0.6
baz=315,SNR=32
AS15 Alice Springs 68.19 148 P P 07 34 51.2 -0.6
comp=Z,5.7nm,1.2s
AS13 Alice Springs 68.20 148 P P 07 34 51.2 -0.6
comp=Z,5.9nm,1.2s
ASAR Alice Springs 68.22 148 P P 07 34 51.4 -0.6
comp=Z,3.7nm,0.7s,baz=332,slow=6.3,SNR=34
ASAR PKPPKP P'P'df 08 03 09.5 +5.6
comp=Z,1.4nm,1.0s,baz=167,slow=3.6,SNR=5.3
comp=Z,3.7nm,0.7s
Q23K Middleton Isla 68.23 31 P P 07 34 51.5 0.0
baz=308
MCARA McCarthy VSAT 68.29 28 P P 07 34 52.6 +0.6
baz=310,SNR=8.7
BVCY Beaver Creek 68.41 26 P P 07 34 53.5 +0.8
baz=311,SNR=16
J30M Hart River 68.45 23 P P 07 34 52.6 -0.4
baz=314,SNR=28
BORG Borgarnes 68.56 337 LR LR 08 07 27.0
comp=Z,65nm,20.6s,baz=53,slow=38
K29M Barlow Dome 68.58 24 P P 07 34 53.8 -0.1
baz=313,SNR=32
CRQE Cirque 68.67 28 P P 07 34 54.7 +0.2
baz=310,SNR=5.2
SOEG Soedalen 68.69 343 *i* P P 07 34 53.1 -1.2
UPNV Upernavik 68.72 353 *i* P P 07 34 51.7 -2.7
UPNV IAmb IAmb 07 34 55.0
comp=Z,22nm,0.8s
L29M L29M 68.88 25 P P 07 34 55.9 +0.2
baz=313,SNR=32
YUK3 Moose Creek 68.97 27 P P 07 34 56.7 +0.2
baz=312,SNR=23
CTG Chitna Glacier 69.19 28 P P 07 34 58.0 +0.3
baz=311,SNR=9.8
M29M Somme Creek 69.22 26 P P 07 34 58.4 +0.6
baz=313,SNR=40
MAYO Mayo, Yukon 69.27 24 P P 07 34 57.8 -0.3
baz=314,SNR=8.6
MESA MESA 69.48 29 P P 07 35 00.0 +0.4
baz=311
YUK8 Steele Glacier 69.55 27 P P 07 35 00.6 +0.5
baz=312,SNR=13
M30M Minto, Yukon 69.69 25 P P 07 35 00.6 -0.1
baz=314,SNR=10
O28M Mount Upton 69.74 27 P P 07 35 01.3 0.0
O28M IAmb IAmb 07 35 03.0
comp=Z,19nm,1.0s
O28M Mount Upton 69.74 27 P P 07 35 01.8 +0.5
baz=312,SNR=11
POIN Pond Inlet 69.88 360 P P 07 35 01.7 +0.1
POIN IAmb IAmb 07 35 02.7
comp=Z,29nm,1.0s
YUK4 Talbot Arm 69.91 26 P P 07 35 02.2 0.0
baz=313,SNR=8.0
PCA Pinnacle 70.17 28 P P 07 35 04.0 +0.3
PINM Pinnacle 70.17 28 P P 07 35 04.0 +0.3
baz=312,SNR=7.6
YUK6 Outpost Mounta 70.28 27 P P 07 35 05.0 +0.5
baz=313
N30M Aishikik Lake 70.37 26 P P 07 35 05.1 +0.2
N30M IAmb IAmb 07 35 06.3
comp=Z,22nm,1.0s
N30M Aishikik Lake 70.37 26 P P 07 35 05.4 +0.5
baz=314,SNR=21
KMBO Kilima Mbogo 70.60 253 P P 07 35 07.0 -0.2
comp=Z,1.4nm,0.3s,baz=29,slow=12,SNR=6.2
comp=Z,1.4nm,0.3s
KMBO Kilima Mbogo 70.60 253 *i* P P 07 35 07.6 +0.4
KMBO pmax pmax
comp=Z,2.0nm,0.3s
O29M Mount Kennedy 70.64 27 P P 07 35 06.0 -0.7
O29M Mount Kennedy 70.64 27 P P 07 35 07.0 +0.3
baz=313,SNR=8.6
HYT Haines Junctio 70.67 26 P P 07 35 06.8 0.0
HYT Haines Junctio 70.67 26 P P 07 35 07.2 +0.4
baz=314,SNR=41
M31M Drury Creek, Y 70.75 24 P P 07 35 06.3 -0.8
M31M IAmb IAmb 07 35 07.9
comp=Z,20nm,1.4s
M31M Drury Creek, Y 70.75 24 P P 07 35 06.8 -0.4
baz=316,SNR=14
KEST Kesra 70.77 301 P P 07 35 07.7 -0.1
comp=Z,8.7nm,0.9s,baz=358,slow=5.8,SNR=6.9
KEST LR LR 08 11 05.0
comp=Z,72nm,18.2s,baz=305,slow=40
comp=Z,8.7nm,0.9s
PNL Peninsula 70.78 28 P P 07 35 08.1 +0.7
baz=313,SNR=7.9
N31M Braeburn, Yuko 70.80 25 P P 07 35 07.3 -0.2
N31M Braeburn, Yuko 70.80 25 P P 07 35 07.4 -0.1
baz=315,SNR=32
CTAO Charters Tower 71.23 136 P P 07 35 10.3 -0.2
CTAO IAmb IAmb 07 35 11.4
comp=Z,19nm,1.6s
CTAO Charters Tower 71.23 136 P P 07 35 10.3 -0.2

CTAO pmax pmax
comp=Z,19nm,1.6s
P30M Million Dollar 71.35 27 P P 07 35 11.0 +0.1
baz=315
P29M Windy Craggy 71.41 27 P P 07 35 11.2 -0.1
P29M Windy Craggy 71.41 27 P P 07 35 11.4 +0.2
baz=314,SNR=6.1
MMPY Sheldon Lake, 71.44 23 P P 07 35 10.9 -0.5
MMPY IAmb IAmb 07 35 12.4
comp=Z,23nm,0.8s
MMPY Sheldon Lake, 71.44 23 P P 07 35 11.4 +0.1
baz=318,SNR=40
ILULI Ilulissat 71.49 350 *i* P P 07 35 10.5 -0.9
ILULI IAmb IAmb 07 35 11.4
comp=Z,22nm,1.0s
WHY Whitehorse 71.70 26 P P 07 35 12.7 -0.3
baz=316
N32M Quiet Lake 71.94 25 P P 07 35 13.4 -1.0
N32M IAmb IAmb 07 35 14.8
comp=Z,27nm,1.1s
N32M Quiet Lake 71.94 25 P P 07 35 14.3 -0.1
baz=317,SNR=6.5
PLBC Pleasant Camp 72.03 27 P P 07 35 15.0 +0.1
baz=315,SNR=13
CEST Esterri de Car 72.17 310 P P 07 35 16.1 0.0
CEST IAmb IAmb 07 35 17.2
comp=Z,24nm,1.2s
SKAG Skagway 72.40 27 P P 07 35 17.4 +0.3
SKAG Skagway 72.40 27 P P 07 35 17.6 +0.6
baz=316,SNR=29
P33M Teslin, Yukon 72.72 25 P P 07 35 18.9 -0.3
baz=318,SNR=20
P32M Atlin 72.88 26 P P 07 35 19.5 -0.5
P32M IAmb IAmb 07 35 21.2
comp=Z,45nm,1.4s
P32M Atlin 72.88 26 P P 07 35 20.2 +0.2
baz=317,SNR=16
S31K Pelican 73.15 28 P P 07 35 22.0 +0.5
baz=316
TGTN Hyland Airport 73.18 22 P P 07 35 22.1 +0.3
baz=321,SNR=13
WRGLY Wrigley 73.20 20 P P 07 35 21.2 -0.5
WRGLY Wrigley 73.20 20 P P 07 35 21.1 -0.6
baz=324,SNR=9.0
BESE Bessie Mountai 73.21 27 P P 07 35 22.4 +0.4
BESE IAmb IAmb 07 35 23.5
comp=Z,41nm,1.2s
SFJD Kangerlussuaq 73.47 349 LR LR 08 09 10.9
comp=Z,165nm,20.4s,baz=20,slow=37
SFJD Kangerlussuaq 73.47 349 *i* P P 07 35 21.7 -1.6
SFJD IAmb IAmb 07 35 23.0
comp=Z,53nm,1.1s
R32K Eaglecrest 73.55 27 P P 07 35 23.0 -1.0
baz=317
Q32M Nakina River 73.84 26 P P 07 35 25.9 0.0
baz=318
R33M Jennings River 73.96 25 P P 07 35 26.7 +0.2
baz=319,SNR=18
WTLY Watson Lake, Y 74.12 24 P P 07 35 27.2 -0.1
baz=321
S32K Killisnoo 74.12 28 P P 07 35 27.4 +0.1
baz=317
SIT Sitka 74.14 28 P P 07 35 27.9 +0.6
baz=316
DLBC Dease Lake 75.01 25 LR LR 08 11 52.3
comp=Z,228nm,19.2s,baz=300,slow=38
DLBC Dease Lake 75.01 25 P P 07 35 33.3 +0.8
baz=320,SNR=17
S34M Telegraph Cree 75.03 26 P P 07 35 33.1 +0.5
baz=319,SNR=16
LIRD Liard River Hi 75.52 23 P P 07 35 35.3 -0.1
baz=323,SNR=8.3
U33K Whale Pass 75.66 28 P P 07 35 36.6 +0.5
baz=318
WRAK Wrangell Islan 75.72 28 P P 07 35 36.7 +0.2
baz=319,SNR=10
YKA Yellowknife Ar 75.99 16 P P 07 35 37.6 -0.3
comp=Z,16nm,0.7s,baz=332,slow=6.0,SNR=26
YKA LR LR 08 12 34.6
comp=Z,83nm,19.2s,baz=326,slow=38
comp=Z,16nm,0.7s
YKA Yellowknife Ar 75.99 16 *i* P P 07 35 37.7 -0.3
YKA pmax pmax
comp=Z,19nm,0.8s
T35M Bob Quinn 76.05 26 P P 07 35 38.8 +0.3
baz=320,SNR=15
CRAG Craig 76.14 29 P P 07 35 39.5 +0.6
baz=318,SNR=5.6
TOAD Toad River Com 76.23 23 P P 07 35 39.5 0.0
baz=324,SNR=16
V35K Ketchikan 76.82 28 P P 07 35 43.0 +0.2
baz=319
ESDC Sonseca Array 77.07 310 P P 07 35 45.0 +0.3
comp=Z,10nm,1.1s,baz=51,slow=4.6,SNR=25
ESDC LR LR 08 11 32.5
comp=Z,74nm,19.9s,baz=338,slow=37
comp=Z,10nm,1.1s
PBRG Braganca 77.38 313 *e*P P 07 35 46.6 +0.3
PBRG *i* IAmb IAmb 07 36 25.6
comp=Z,30nm,1.8s
MVO Moncorvo 77.95 313 *e*P P 07 35 52.4 +2.8
EIDS Eidsvold 78.11 135 P P 07 35 50.5 +0.2
comp=Z,18nm,1.6s
PGAV Gavieira, Arco 78.15 314 *e*P P 07 35 54.8 +4.1
PGAV *i* IAmb IAmb 07 36 03.9
comp=Z,70nm,1.8s
PCAB Cabril 78.18 314 *e*P P 07 35 51.8 +1.1
PCAB *i* IAmb IAmb 07 35 56.4
comp=Z,68nm,1.2s
IVI Ivigtut 78.38 346 *i* P P 07 35 48.1 -3.3
IVI IAmb IAmb 07 35 50.9
comp=Z,27nm,0.9s
FRB Frobisher Bay 78.58 356 LR LR 08 12 20.4
comp=Z,146nm,18.1s,baz=347,slow=37
STKA Stephens Creek 78.68 146 P P 07 35 52.5 -0.9
comp=Z,5.0nm,0.8s,baz=300,slow=5.1,SNR=5.0
comp=Z,5.0nm,0.8s
STKA Stephens Creek 78.68 146‖ *e*P P 07 35 53.0 -0.3
PMRV Marv??o 79.28 312 *e*P P 07 35 57.4 +0.6
PMRV *i* IAmb IAmb 07 35 59.9
comp=Z,59nm,1.8s
COI Coimbra 79.37 313 *e*P P 07 35 59.0 +1.8
COI *i* IAmb IAmb 07 36 01.6
comp=Z,84nm,1.3s
PSARD Sardoal 79.62 312 *e*P P 07 35 59.3 +0.6
PSARD *i* IAmb IAmb 07 35 59.6
comp=Z,48nm,1.5s
PESTR Estremoz 79.76 311 *e*P P 07 36 00.7 +1.3
PESTR *i* IAmb IAmb 07 36 03.2
comp=Z,43nm,1.5s
PBAR Barrancos 79.88 311 *e*P P 07 36 00.8 +0.7
PBAR *i* IAmb IAmb 07 36 04.0
comp=Z,29nm,1.4s
PMTG Montargil 80.00 312 *i* IAmb IAmb 07 36 04.9
comp=Z,38nm,1.5s
EVO Evora 80.23 311 *e*P P 07 36 02.5 +0.6
EVO *i* IAmb IAmb 07 36 03.6
comp=Z,29nm,1.4s
BBB Bella Bella 80.57 28 LR LR 08 12 58.5
comp=Z,120nm,21.2s,baz=353,slow=37
PARRA Arraiolos 80.65 312 *e*P P 07 36 01.7 -2.5
PARRA *i* IAmb IAmb 07 36 03.1
comp=Z,24nm,1.9s
PVAQ Vaqueiros 80.79 310 *e*P P 07 36 09.6 +4.6
MESJ Messejana 80.80 311 *e*P P 07 36 05.6 +0.5
MESJ IAmb IAmb 07 36 07.0
comp=Z,15nm,1.1s
MESJ Messejana 80.80 311 *e*P P 07 36 06.3 +1.2
MESJ *i* IAmb IAmb 07 36 09.2
comp=Z,35nm,1.6s
MESJ Messejana 80.80 311 *e*P P 07 36 05.6 +0.5
PCVE Castro Verde 80.83 311 *e*P P 07 36 06.6 +1.4
PCVE *i* IAmb IAmb 07 36 07.5
comp=Z,29nm,1.9s
PBDV Barranco-do-Ve 81.02 310 *e*P P 07 36 07.7 +1.5
PBDV *i* IAmb IAmb 07 36 09.0
comp=Z,56nm,1.5s
MORF Marmelete 81.41 311 *e*P P 07 36 09.7 +1.3
PFVI Vila Bisbo 81.63 311 *e*P P 07 36 09.9 +0.5
DZM Mont Dzumac 85.16 123 *e*LR LR 08 03 18.6
comp=Z,62nm,24.6s
LSZ Lusaka 86.57 248 LR LR 08 13 07.5
comp=Z,68nm,21.3s,baz=121,slow=34
SCHQ Schefferville 87.29 353 P P 07 36 37.0 -0.8
comp=Z,8.3nm,1.0s,baz=41,slow=6.3,SNR=4.1
comp=Z,8.3nm,1.0s
NEW Newport 87.75 25 LR LR 08 18 46.8

comp=Z,190nm,18.4s,baz=334,slow=38
MATP Matopo 89.67 244 LR LR 08 14 41.4
comp=Z,59nm,21.6s,baz=42,slow=34
TORD Torodi Ar. Bea 89.68 286 P **P 07 36 49.2 -0.6**
comp=Z,3.8nm,1.0s,baz=34,slow=4.9,SNR=16
comp=Z,3.8nm,1.0s
ULM Lac du Bonnet 91.08 11ℓeP **P 07 36 54.4 -1.3**
YBH Yreka Blue Hor 91.22 31 LR LR 08 17 10.4
comp=Z,6.2nm,19.2s,baz=316,slow=35
LBTB Lobatse 94.67 242 LR LR 08 16 45.0
comp=Z,68nm,21.8s,baz=35,slow=34
ELK Elko 94.97 27 LR LR 08 23 05.2
comp=Z,87nm,18.7s,baz=340,slow=38
PDAR Pinedale Array 95.05 22 P **P 07 37 13.8 -0.6**
comp=Z,1.0nm,0.8s,baz=11,slow=2.3,SNR=8.0
PDAR LR LR 08 24 36.8
comp=Z,102nm,18.7s,baz=330,slow=38
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 95.81 30 P **P 07 37 18.1 0.0**
comp=Z,1.8nm,0.8s,baz=310,slow=3.6,SNR=14
comp=Z,1.8nm,0.8s
BOSA Boshof 97.17 239 LR LR 08 19 47.3
comp=Z,22nm,18.1s,baz=24,slow=34
SADO Sadowa 97.90 0 LR LR 08 23 08.0
comp=Z,78nm,18.7s,baz=354,slow=36
DBIC Dimbokro 98.75 285 LR LR 08 29 44.8
comp=Z,38nm,18.9s,baz=93,slow=40
TBI Tubuai 118.51 99 eLR LR 08 18 30.5
TBI eLR LR 08 18 43.7
comp=Z,523nm,36.8s
VNDA Vanda 120.60 167 PKP **PKPdf 07 42 39.3 -2.5**
comp=Z,1.2nm,0.8s,baz=314,slow=4.9,SNR=7.8
QSPA South Pole Qui 127.47 180 PKP **PKPdf 07 42 54.8 -0.5**
comp=Z,5.5nm,1.0s,baz=298,slow=3.0,SNR=9.1
OTAV Otavalo 142.24 360 eP **PKPdf 07 43 25.1 +0.1**
BDFB Brasilia 145.28 301 PKPbc **PKPbc 07 43 28.6 -0.8**
comp=Z,5.6nm,0.6s,baz=114,slow=6.9,SNR=9.4
TBTG Tabatinga, AM 145.73 345 eP **PKPdf 07 43 30.4 -0.1**
BSCB Bom Sucesso 146.47 290 eP **PKPdf 07 43 31.0 -0.6**
IPMB Ipameri, GO 147.03 298 eP **PKPdf 07 43 33.2 +0.6**
PDRB Porto dos Gac 147.53 317 eP **PKPdf 07 43 33.8 +0.4**
LPAZ La Paz 156.79 334 PKP **PKPdf 07 43 47.4 -0.6**
comp=Z,2.8nm,1.1s,baz=56,slow=3.7,SNR=4.6
LPAZ PKPab **PKPab 07 44 15.6 -1.7**
comp=Z,2.5nm,1.0s,baz=347,slow=5.1,SNR=3.8
LPAZ La Paz 156.79 334 eP **PKPdf 07 43 47.0 -0.9**
CPUP Villa Florida 158.84 296 PKPab **PKPab 07 44 23.4 -2.0**
comp=Z,1.0nm,0.9s,baz=197,slow=4.0,SNR=4.3

*ISK **09** 07:31:19.2, 39°.31N×29°.30E, h0km, ML1.6/5, Suspected Mining explosion.*

AFAD 09 07:31:18.9, 39°.34N×29°.20E, h7km±2km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMET	**Ktahya-Emet**	**0.10**	**67**	P	Pg	07 31 21.7	+0.4
EMET				S	Sg	07 31 23.2	+0.3
EMET				*i* IAML		07 31 24.0	
	comp=E,183nm,0.2s						
TVSB	**Tavsanli**	**0.23**	**61**	Pg	Pg	07 31 23.7	+0.1
TVSB				Sg	Sg	07 31 26.9	+0.2
SIMA	**Simav-Kutahya**	**0.30**	**214**	Pg	Pb	07 31 26.2	-0.5
SHAP	**Saphane-Kutahy**	**0.31**	**177**	Pg	Pg	07 31 25.6	+0.5
SHAP				Sg	Sg	07 31 30.3	+1.1
GDZ	**Gediz**	**0.33**	**138**	P	Pg	07 31 25.9	+0.5
GDZ				S	Sg	07 31 30.3	+0.6
GDZ				*i* IAML		07 31 31.0	
	comp=N,31nm,0.4s						
GDZ				*i* IAML		07 31 31.0	
	comp=E,42nm,0.2s						
DEMI	**Demirci**	**0.47**	**232**	P	Pb	07 31 29.2	-0.4
DEMI				S	Sb	07 31 36.0	-0.9
DEMI				*i* IAML		07 31 36.0	
	comp=E,20nm,0.1s						
DEMI				*i* IAML		07 31 37.0	
	comp=N,31nm,0.1s						
DURS	**Dursunbey**	**0.62**	**296**	P	Pg	07 31 31.1	+0.2
DURS				S	Sb	07 31 40.0	-1.0
DURS				*i* IAML		07 31 59.0	
	comp=E,8.2nm,0.8s						
USAK	**Uak-Merkez**	**0.64**	**193**	P	Pb	07 31 32.1	-0.3
USAK				S	Sb	07 31 40.9	-0.6
USAK				*i* IAML		07 31 42.0	
	comp=N,24nm,0.8s						
USAK				*i* IAML		07 32 01.0	
	comp=E,12nm,0.9s						
GORD	**Gordes-Manisa**	**0.90**	**242**	Pg	Pn	07 31 38.2	+0.1
YLV	**Yalova**	**1.24**	**6**	Pn	Pn	07 31 43.2	+0.5

*NNC **09** 07:31:39.0±0.6, 50°.01N×78°.80E, h0km, mb4.2, mpv3.3, Error ellipse: s-maj=17.4km s-min=3.1km az=73.0, Suspected Mining explosion.*

*IDC **09** 07:31:40.5±1.0, 50°.04N×78°.75E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=13.8km s-min=6.5km az=66.0*

ISC 09 07:31:38.9±2.4, 49°.96N±0°.07×78°.5E±0°.3, h0km, n15, σ0$60/25, 12C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.63**	**3**	⇓P	**Pg**	**07 31 50.7**	**-0.1**
KUR07				⇑S	**Sg**	**07 31 59.7**	**+0.7**
KUR06	**Kurchatov Arra**	**0.65**	**3**	⇓P	**Pg**	**07 31 51.2**	**-0.1**
KUR06				⇑S	**Sg**	**07 31 60.0**	**+0.3**
KUR14	**Kurchatov Arra**	**0.66**	**7**	⇑P	**Pg**	**07 31 51.3**	**-0.2**
KUR14				⇑S	**Sg**	**07 31 60.0**	**-0.2**
KUR15	**Kurchatov Arra**	**0.66**	**5**	⇑P	**Pg**	**07 31 51.2**	**-0.4**
KUR15				⇓S	**Sg**	**07 32 00.2**	**0.0**
KURBB	**Kurchatov Arra**	**0.67**	**3**	Pg	**Pg**	**07 31 51.5**	**-0.1**
	2.8nm,0.3s,baz=165,slow=17,SNR=115						
KURBB				Lg	Lg	07 32 01.2	
	3.3nm,0.3s,baz=163,slow=33,SNR=16						
KURBB	**Kurchatov Arra**	**0.67**	**3**	⇓P	**Pg**	**07 31 51.4**	**-0.3**
	36nm,0.6s						
KURBB				⇑S	**Sg**	**07 32 00.9**	**+0.6**
	332nm,1.4s						
KUR16	**Kurchatov Arra**	**0.67**	**1**	⇓P	**Pg**	**07 31 51.4**	**-0.3**
KUR16				⇓S	**Sg**	**07 32 00.0**	**-0.4**
KUR17	**Kurchatov Arra**	**0.68**	**360**	⇓P	**Pg**	**07 31 52.0**	**+0.2**
KUR17				⇑S	**Sg**	**07 32 00.2**	**-0.3**
KUR05	**Kurchatov Arra**	**0.69**	**3**	⇓P	**Pg**	**07 31 51.4**	**-0.6**
KUR05				⇑S	**Sg**	**07 32 00.3**	**-0.6**
KUR04	**Kurchatov Arra**	**0.71**	**4**	⇑P	**Pg**	**07 31 52.0**	**-0.4**
KUR04				⇑S	**Sg**	**07 32 01.0**	**-0.6**
KURK	**Kurchatov**	**0.76**	**7**	⇓P	**Pg**	**07 31 52.8**	**-0.8**
	9.2nm,0.4s						
KURK				⇑S	**Sg**	**07 32 02.7**	**-0.7**
	158nm,1.2s						
MK31	**Makanchi Array**	**4.06**	**140**	⇑Pn	**Pn**	**07 32 42.1**	**-0.2**
	26nm,1.1s,baz=322,slow=10,SNR=14						
MK31				Lg	Lg	07 33 46.2	
	43nm,1.1s,baz=339,slow=27,SNR=4.7						
MKAR	**Makanchi Array**	**4.06**	**140**	Pn	**Pn**	**07 32 43.8**	**+1.5**
	0.4nm,0.3s,baz=321,slow=10,SNR=22						
MKAR				Pg	**Pb**	**07 32 50.7**	**-0.6**
	0.9nm,0.3s,baz=321,slow=15,SNR=11						
MKAR				Lg	Lg	07 33 46.3	
	2.1nm,0.3s,baz=342,slow=28,SNR=11						
	0.7nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.60**	**42**	I	I	08 01 40.6	
	baz=225,slow=327,SNR=12						
ZALV	**Zalesovo Beam**	**5.60**	**42**	Pn	**Pn**	**07 33 04.4**	**+1.1**
	0.5nm,0.3s,baz=224,slow=12,SNR=3.3						
ZALV				Lg	Lg	07 34 34.6	
	0.4nm,0.3s,baz=225,slow=24,SNR=4.0						
	1.0nm,0.3s						

*IDC **09** 07:41:21.6±8.8, 17°.45S×175°.02W, h170km±76km, mb3.9/8, mbtmp4.3/9, Error ellipse: s-maj=33.9km s-min=22.8km az=60.0*

*NEIC **09** 07:41:28.1±1.1, 17°.5S±0°.1×175°.2W±0°.1, h227km±8km, mb4.4/19, Error ellipse: s-maj=24.5km s-min=4.3km az=127.0*

ISC 09 07:41:30.2±0.5, 17°.35S±0°.08×175°.09W±0°.07, h256km, n73, σ1$41/76, mb4.2/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.68**	**43**		**Pn**	**07 42 40.9**	**-1.5**
AFI	**Afiamalu**	**4.68**	**43**	P	**Pn**	**07 42 41.3**	**-1.2**
NIUE	**Niue**	**5.20**	**110**	Pn	**Pn**	**07 42 47.0**	**-1.6**
NIUE	**Niue**	**5.20**	**110**	P	**Pn**	**07 42 48.1**	**-0.5**
NIUE				S	**S**	**07 43 50.4**	**-0.8**
MSVF	**Nonsavu**	**6.56**	**266**		**Pn**	**07 43 06.3**	**+0.8**
SANVU	**Saraoutou**	**17.09**	**274**	P	**P**	**07 45 10.7**	**-2.0**
SANVU				IAmb	IAmb	07 45 16.3	
	comp=Z,24nm,0.6s						
PINNC	**Pines Island,**	**17.22**	**249**	P	**P**	**07 45 13.0**	**-1.1**
PINNC				IAmb	IAmb	07 45 22.2	
	comp=Z,40nm,1.3s						
DZM	**Mont Dzumac**	**18.00**	**252**	P	**P**	**07 45 20.9**	**-1.8**
	comp=Z,2.9nm,0.4s,baz=253,slow=20,SNR=16						
ONTNC	**Ouen Toro**	**18.05**	**251**	P	**P**	**07 45 22.3**	**-0.7**
ONTNC				IAmb	IAmb	07 45 29.6	
	comp=Z,13nm,0.8s						
OUZ	**Omahuta**	**20.45**	**207**	P	**P**	**07 45 49.6**	**+1.0**
WCZ	**Waipu Caves**	**20.75**	**205**	P	**P**	**07 45 52.6**	**+0.9**
WMGZ	**Waiomatatini S**	**21.17**	**194**	P	**P**	**07 45 56.3**	**+0.4**
HAZ	**Te Kaha**	**21.27**	**196**	P	**P**	**07 45 57.2**	**+0.3**
PKGZ	**Pakihiroa**	**21.30**	**195**	P	**P**	**07 45 58.3**	**+1.1**
PUZ	**Puketiti**	**21.45**	**194**	P	**P**	**07 45 58.0**	**-0.6**
RUGZ	**Raukumara Rang**	**21.49**	**196**	P	**P**	**07 45 59.4**	**+0.3**
TWGZ	**Tauwhareparae**	**21.62**	**195**	P	**P**	**07 46 00.2**	**0.0**
CNGZ	**Carnagh Statio**	**21.85**	**194**	P	**P**	**07 46 03.2**	**+0.9**
MWZ	**Matawai**	**21.88**	**196**	P	**P**	**07 46 02.5**	**-0.1**
TKGZ	**Te Karaka**	**21.90**	**195**	P	**P**	**07 46 02.8**	**+0.1**
TOZ	**Tahuroa Road**	**21.92**	**200**	P	**P**	**07 46 01.3**	**-1.6**
TOZ				IAmb	IAmb	07 46 05.0	
	comp=Z,38nm,1.5s						
URZ	**Urewera**	**21.92**	**197**	P	**P**	**07 46 00.1**	**-2.8**
	comp=Z,16nm,0.3s,baz=32,slow=1.6,SNR=31						
URZ				S	**S**	**07 49 51.7**	**+5.4**
	comp=Z,5.7nm,0.5s,baz=255,slow=22,SNR=5.5						
	comp=Z,16nm,0.3s						
URZ	**Urewera**	**21.92**	**197**	P	**P**	**07 46 01.8**	**-1.1**
RAGZ	**Rawiri**	**22.06**	**196**	P	**P**	**07 46 05.1**	**+0.8**
RRRZ	**Repulican Roa**	**22.16**	**198**	P	**P**	**07 46 07.0**	**+1.8**
RIGZ	**Rimuhau**	**22.17**	**195**	P	**P**	**07 46 05.3**	**0.0**
MUGZ	**Murupara**	**22.22**	**197**	P	**P**	**07 46 04.4**	**-1.3**
RTZ	**Ruatahuna**	**22.29**	**197**	P	**P**	**07 46 05.3**	**-1.1**
TLZ	**Tolley Road**	**22.45**	**200**	P	**P**	**07 46 09.4**	**+1.6**
KNZ	**Kokohu**	**22.49**	**195**	P	**P**	**07 46 10.4**	**+2.3**
RAHZ	**Arahi**	**22.54**	**196**	P	**P**	**07 46 07.4**	**-1.2**
MTHZ	**Maungataniwha**	**22.55**	**197**	P	**P**	**07 46 09.4**	**+0.7**
MRHZ	**Matea Rd**	**22.65**	**197**	P	**P**	**07 46 09.4**	**-0.2**
NMHZ	**Naumai**	**22.79**	**196**	P	**P**	**07 46 11.1**	**+0.2**
HIZ	**Hauiti**	**22.84**	**201**	P	**P**	**07 46 12.9**	**+1.6**
ARHZ	**Aropaoanui**	**22.89**	**196**	P	**P**	**07 46 12.9**	**+1.2**
BKZ	**Black Stump Fm**	**22.94**	**197**	P	**P**	**07 46 10.9**	**-1.4**
MCHZ	**McNeill Hill**	**23.14**	**196**	P	**P**	**07 46 13.4**	**-0.6**
VRZ	**Vera Road**	**23.43**	**200**	P	**P**	**07 46 18.7**	**+2.1**
NEZ	**North Egmont**	**23.78**	**201**	P	**P**	**07 46 21.7**	**+1.8**
TSZ	**Takapari Road**	**23.92**	**197**	P	**P**	**07 46 20.8**	**-0.3**
BFZ	**Birch Farm**	**24.42**	**196**	P	**P**	**07 46 23.5**	**-2.1**
MRZ	**Mangatainoka R**	**24.59**	**197**	P	**P**	**07 46 24.1**	**-3.0**
QRZ	**Quartz Range**	**25.71**	**202**	P	**P**	**07 46 36.4**	**-0.8**
NNZ	**Nelson**	**25.77**	**200**	P	**P**	**07 46 37.1**	**-0.6**
THZ	**Tophouse**	**26.42**	**200**	P	**P**	**07 46 42.8**	**-0.7**
EIDS	**Eidsvold**	**32.43**	**250**	P	**P**	**07 47 35.1**	**-1.6**
EIDS				IAmb	IAmb	07 48 18.6	
	comp=Z,9.0nm,1.4s						
ARMA	**Armidale**	**32.96**	**241**	P	**P**	**07 47 40.4**	**-0.9**
CTAO	**Charters Tower**	**36.66**	**260**	P	**P**	**07 48 11.6**	**-1.3**
CTAO				IAmb	IAmb	07 48 12.9	
	comp=Z,5.4nm,0.7s						
TOO	**Toolangi**	**39.98**	**232**	P	**P**	**07 48 38.6**	**-1.7**
TOO				IAmb	IAmb	07 48 46.0	
	comp=Z,14nm,1.3s						
STKA	**Stephens Creek**	**41.67**	**241**	P	**P**	**07 48 53.5**	**-0.6**
STKA	**Stephens Creek**	**41.67**	**241**	P	**P**	**07 48 54.2**	**+0.1**
	comp=Z,14nm,0.8s,baz=84,slow=11,SNR=12						
	comp=Z,14nm,0.8s						
WR8	**Warramunga Arr**	**47.69**	**259**	P	**P**	**07 49 40.5**	**-1.1**
WRA	**Warramunga Arr**	**47.84**	**259**	P	**P**	**07 49 41.3**	**-1.5**
WRA	**Warramunga Arr**	**47.84**	**259**	P	**P**	**07 49 42.1**	**-0.7**
	comp=Z,4.6nm,0.6s,baz=97,slow=7.0,SNR=11						
	comp=Z,4.6nm,0.6s						
AS31	**Alice Springs**	**47.98**	**254**	P	**P**	**07 49 42.8**	**-1.1**
AS31				IAmb	IAmb	07 49 44.2	
	comp=Z,7.2nm,0.6s						
ASAR	**Alice Springs**	**47.98**	**254**	P	**P**	**07 49 42.8**	**-1.1**
ASAR	**Alice Springs**	**47.98**	**254**	P	**P**	**07 49 43.2**	**-0.7**
	comp=Z,29nm,0.7s,baz=89,slow=8.5,SNR=376						
ASAR				PcP	**PcP**	**07 51 08.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=101,slow=4.1,SNR=4.3						
	comp=Z,29nm,0.7s						
PSA00	**Pilbara Seismi**	**61.11**	**255**	P	**P**	**07 51 17.3**	**-0.6**
PSA00				IAmb	IAmb	07 51 18.4	
	comp=Z,7.2nm,1.1s						
SBA	**Scott Base**	**61.19**	**184**	P	**P**	**07 51 17.0**	**-0.5**
MBWA	**Marble Bar**	**61.28**	**255**	P	**P**	**07 51 17.8**	**-1.3**
VNDA	**Vanda**	**61.28**	**186**	P	**P**	**07 51 18.4**	**+0.3**
VNDA	**Vanda**	**61.28**	**186**	P	**P**	**07 51 18.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=22,slow=6.2,SNR=3.7						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**07 52 30.6**	**+0.5**
QSPA	**South Pole Qui**	**72.70**	**180**	P	**P**	**07 52 30.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=53,slow=0.9,SNR=5.9						
	comp=Z,0.7nm,0.6s						
PETK	**Petropavlovsk-**	**74.01**	**343**	P	**P**	**07 52 39.0**	**+1.4**
SSLB	**Suanglung**	**74.62**	**301**	P	**P**	**07 52 42.6**	**+0.8**
VTX	**Vale De La Tr**	**74.74**	**50**	P	**P**	**07 52 42.4**	**0.0**
VTX				IAmb	IAmb	07 52 50.2	
	comp=Z,11nm,1.3s						
KSRS	**Korea Array**	**76.43**	**317**	P	**P**	**07 52 54.5**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=134,slow=3.6,SNR=5.0						
	comp=Z,1.2nm,0.8s						
K15K	**Wolf Creek Mou**	**80.10**	**6**		**P**	**07 53 13.9**	**+2.6**
K15K				IAmb	IAmb	07 53 14.8	
	comp=Z,4.1nm,0.8s						
ILAR	**Eielson Array**	**84.67**	**12**	P	**P**	**07 53 35.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=222,slow=5.7,SNR=7.7						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.57**	**318**	PKPbc	**PKPab**	**08 00 42.9**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=4.1						
GERES	**GERESS Array B**	**147.78**	**349**	PKPbc	**PKiKP**	**08 00 45.8**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=20,slow=4.3,SNR=4.0						

*IDC **09** 07:50:14.6±3.6, 54°.16N×87°.38E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=31.9km s-min=19.8km az=48.0*

ASRS 09 07:50:16.0±1.1, 54°.15N×87°.28E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**263**	I	I	07 59 40.0	
	baz=79,slow=314,SNR=5.1						
ZALV	**Zalesovo Beam**	**1.47**	**263**	Pg	Pn	07 50 42.0	-1.7
	1.7nm,0.3s,baz=82,slow=16,SNR=15						
ZALV				Lg	Lg	07 51 02.7	
	2.0nm,0.3s,baz=83,slow=29,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	07 51 52.2	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=3.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.02**	**205**	Pn	Pn	07 52 13.5	-0.2
	baz=28,slow=14,SNR=1.5						
	0.1nm,0.3s						

IDC 09 07:50:24.6±54.0, 17°.91S×176°.28W, h0km, mb4.4/3, mbtmp4.4/3, Error ellipse: s-maj=1003.0km s-min=165.4km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.41**	**242**	P	P	07 58 05.1	+0.4
	2.6nm,0.7s,baz=84,slow=7.2,SNR=4.2						
	2.6nm,0.7s						
WRA	**Warramunga Arr**	**46.62**	**259**	P	P	07 58 54.8	-0.2
	1.7nm,0.3s,baz=97,slow=7.5,SNR=12						
	1.7nm,0.3s						
ASAR	**Alice Springs**	**46.74**	**254**	P	P	07 58 55.5	-0.5
	4.7nm,0.7s,baz=89,slow=7.6,SNR=51						
	4.7nm,0.7s						

IDC 09 07:51:27.8±4.0, 53°.70N×88°.10E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=39.6km s-min=21.1km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**279**	I	I	08 04 05.3	
	baz=95,slow=316,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.96**	**278**	Pn	Pn	07 52 02.9	+0.6
	0.3nm,0.3s,baz=100,slow=12,SNR=5.2						
ZALV				Lg	Lg	07 52 30.2	
	1.0nm,0.3s,baz=96,slow=23,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.65**	**246**	Pn	Pn	07 53 06.5	-0.2
	baz=58,slow=13,SNR=3.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.85**	**211**	Pn	Pn	07 53 24.7	+1.4
	baz=35,slow=12,SNR=2.3						
	0.1nm,0.4s						

*IDC **09** 07:53:11.1±3.5, 53°.64N×87°.96E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=33.5km s-min=19.8km az=44.0*

ASRS 09 07:53:09.0±1.7, 53°.58N×88°.03E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**282**	I	I	08 05 13.6	
	baz=96,slow=320						
ZALV	**Zalesovo Beam**	**1.94**	**282**	Pn	Pb	07 53 44.6	-0.6
	0.7nm,0.3s,baz=98,slow=12,SNR=5.7						
ZALV				Lg	Lg	07 54 11.1	
	0.9nm,0.3s,baz=105,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.56**	**247**	Pn	Pn	07 54 49.3	+2.7
	baz=60,slow=14,SNR=3.5						
KURBB				Lg	Lg	07 56 37.1	
	baz=64,slow=32,SNR=6.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.73**	**211**	Pn	Pn	07 55 06.2	+3.5
	0.1nm,0.3s,baz=19,slow=12,SNR=2.1						
	0.1nm,0.4s						

CATAC 09 07:58:36.6±0.4, 13°N±2°×8°8W±°, h31km±3km, M2.7/18, MLv2.7/18, Error ellipse: s-maj=5.8km s-min=2.4km az=30.3, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.55**	**41**	P	Pn	07 58 48.9	+0.3
POTN	**Potosi Cosigui**	**0.60**	**43**	P	Pn	07 58 49.3	+0.2
POTN				S	Sn	07 58 59.0	+1.1
CNCH	**Conchagua**	**0.72**	**7**	S	Sn	07 59 02.6	+1.6
LCND	**La Caada**	**0.75**	**3**	P	Pn	07 58 51.2	0.0
CRIN	**San Cristobal**	**0.87**	**80**	P	Pb	07 58 53.6	+0.3
CRIN	**San Cristobal**	**0.87**	**80**	S	Sb	07 59 05.8	+1.2
CNRM	**Centro Naciona**	**0.94**	**346**	S	Sb	07 59 06.5	-0.2
CNRM	**Centro Naciona**	**0.94**	**346**	P	Pn	07 58 53.1	-0.7
PACA	**Pacayal**	**0.99**	**337**	P	Pn	07 58 54.5	0.0
PACA	**Pacayal**	**0.99**	**337**	S	Sb	07 59 08.3	+0.3
QUEN	**Al S del Volca**	**1.05**	**88**	P	Pn	07 58 55.6	+0.3
POLN	**Al Sur del Vol**	**1.09**	**85**	P	Pn	07 58 55.9	0.0
POLN				S	Sb	07 59 11.0	+0.1
PLRN	**Geotermica Pol**	**1.13**	**88**	P	Pn	07 58 56.7	+0.2
PLRN				S	Sn	07 59 11.4	+0.4
CHOHN	**Orocuina**	**1.19**	**39**	S	Sb	07 59 13.2	-0.5
CHOHN	**Orocuina**	**1.19**	**39**	P	Pn	07 58 57.1	-0.2
CNGA	**Al SSO del Vol**	**1.20**	**93**	P	Pn	07 58 57.4	0.0
CNGA				S	Sn	07 59 12.8	+0.2
CNGN	**Cerro Negro**	**1.20**	**93**	S	Sb	07 59 13.5	-0.6
CNGN	**Cerro Negro**	**1.20**	**93**	P	Pn	07 58 57.6	+0.1
PQSS	**Presa 15 de Se**	**1.23**	**330**	S	Sb	07 59 14.6	-0.2
PQSS	**Presa 15 de Se**	**1.23**	**330**	P	Pn	07 58 58.1	+0.4
TECO	**Alcaldia de Te**	**1.28**	**320**	S	Sn	07 59 14.6	-0.1
TECO	**Alcaldia de Te**	**1.28**	**320**	P	Pn	07 58 58.9	+0.4
COPN	**Copaltepe**	**1.36**	**106**	P	Pn	07 58 59.4	-0.2
UESV	**Universidad de**	**1.36**	**322**	S	Sn	07 59 16.6	-0.1
MOMN	**Momotombo**	**1.36**	**96**	P	Pn	07 58 59.6	0.0
MOMN				S	Sn	07 59 16.7	0.0
SCLA	**Alcaldia de Sa**	**1.38**	**326**	P	Pn	07 58 59.5	-0.4
SCLA	**Alcaldia de Sa**	**1.38**	**326**	S	Sn	07 59 18.0	+0.8
MOM2	**El Cardon**	**1.42**	**95**	P	Pn	07 59 00.5	+0.2
MOM2				S	Sn	07 59 18.9	+0.9
PAVA	**Las Pavas**	**1.51**	**320**	P	Pn	07 59 01.4	-0.4
PAVA	**Las Pavas**	**1.51**	**320**	S	Sn	07 59 21.1	+0.5
SAPS	**Ciudad Sandino**	**1.54**	**104**	S	Sn	07 59 21.6	+0.6
SAPS	**Ciudad Sandino**	**1.54**	**104**	P	Pn	07 59 02.7	+0.7
TGUH	**Tegucigalpa,Un**	**1.62**	**23**	P	Pn	07 59 03.3	0.0
TGUH				S	Sn	07 59 23.7	+0.4
YUSH	**Yuscaran**	**1.75**	**37**	P	Pn	07 59 05.0	0.0
YUSH	**Yuscaran**	**1.75**	**37**	S	Sn	07 59 26.8	+0.5
OCON	**Estacion meteo**	**1.77**	**53**	P	Pn	07 59 05.0	-0.2
OCON				S	Sn	07 59 27.4	+0.5
RCVN	**Varillal2**	**1.98**	**59**	P	Pn	07 59 08.7	+0.5
RCVN	**Varillal2**	**1.98**	**59**	S	Sn	07 59 32.7	+0.7
MATN	**Matagalpa**	**1.99**	**79**	S	Sn	07 59 31.2	-1.0
MATN	**Matagalpa**	**1.99**	**79**	P	Pn	07 59 07.0	-1.3

*ASRS **09** 07:59:59.0±0.7, 54°.23N×86°.44E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 08:00:03.2±3.0, 54°.22N×86°.42E, h0km, mbtmp2.7/2, ML2.7/2, 1D, Error ellipse: s-maj=23.3km s-min=13.9km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**254**	I	I	08

Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.13**	**328**	T	T	08 26 00.7	
	baz=152,slow=74,SNR=40						
H01W2	**Cape Leeuwin H**	**16.14**	**328**	T	T	08 25 59.6	
	baz=152,slow=74,SNR=35						
H01W3	**Cape Leeuwin H**	**16.15**	**328**	T	T	08 25 57.4	
	baz=152,slow=74,SNR=32						
NWAO	**Narrogin (SRO)**	**17.05**	**338**	LR	LR	08 14 43.0	
	comp=Z,140nm,19.5s,baz=110,slow=33						
STKA	**Stephens Creek**	**21.42**	**43**	P	P	08 10 10.6	+0.4
	4.0nm,0.8s,baz=235,slow=14,SNR=4.1						
STKA				LR	LR	08 16 45.4	
	comp=Z,222nm,21.7s,baz=211,slow=32 4.0nm,0.8s						
ASAR	**Alice Springs**	**26.40**	**19**	P	P	08 10 58.4	-0.6
	1.9nm,0.9s,baz=191,slow=9.4,SNR=7.1						
ASAR				LR	LR	08 20 19.5	
	comp=Z,303nm,21.1s,baz=172,slow=34 1.9nm,0.9s						
WRA	**Warramunga Arr**	**30.10**	**19**	LR	LR	08 22 24.4	
	comp=Z,336nm,21.6s,baz=172,slow=34						
FITZ	**Fitzroy Crossi**	**30.91**	**2**	LR	LR	08 23 00.9	
	comp=Z,238nm,20.7s,baz=169,slow=34						
VNDA	**Vanda**	**31.88**	**166**	P	P	08 11 47.2	+0.2
	0.9nm,0.9s,baz=296,slow=6.4,SNR=4.2						
VNDA				LR	LR	08 23 50.4	
	comp=Z,126nm,18.3s,baz=328,slow=35 0.9nm,0.9s						
MAW	**Mawson**	**35.38**	**216**	LR	LR	08 24 21.8	
	comp=Z,53nm,18.7s,baz=80,slow=32						
BATI	**Baumata**	**38.75**	**359**	LR	LR	08 29 56.4	
	comp=Z,185nm,18.4s,baz=242,slow=38						
QSPA	**South Pole Qui**	**41.05**	**180**	LR	LR	08 29 26.9	
	comp=Z,136nm,19.1s,baz=327,slow=35						
PMG	**Port Moresby**	**43.82**	**33**	LR	LR	08 32 49.0	
	comp=Z,62nm,18.7s,baz=184,slow=38						
KAPI	**Kappang**	**44.10**	**353**	LR	LR	08 32 01.3	
	comp=Z,35nm,18.7s,baz=90,slow=36						
JAY	**Jayapura**	**48.40**	**22**	LR	LR	08 34 03.0	
	comp=Z,126nm,20.0s,baz=216,slow=36						
HNR	**Honiara**	**49.32**	**49**	LR	LR	08 33 51.5	
	comp=Z,49nm,18.2s,baz=204,slow=35						
SNAA	**Sanae**	**53.97**	**198**	P	P	08 14 45.3	-0.4
	2.0nm,1.1s,baz=151,slow=8.7,SNR=5.3						
SNAA				LR	LR	08 36 04.6	
	comp=Z,158nm,21.8s,baz=116,slow=34 2.0nm,1.1s						
GUMO	**Guam**	**64.92**	**22**	LR	LR	08 45 17.1	
	comp=Z,24nm,19.4s,baz=243,slow=37						
PMSA	**Palmer Station**	**66.29**	**176**	LR	LR	08 43 20.4	
	comp=Z,38nm,21.2s,baz=155,slow=34						
CMAR	**Chiang Mai Arr**	**71.00**	**334**	P	P	08 16 40.6	+0.5
	1.5nm,0.3s,baz=160,slow=6.3,SNR=4.2						
CMAR				LR	LR	08 48 38.1	
	comp=Z,45nm,18.5s,baz=170,slow=37 1.5nm,0.3s						
LBTB	**Lobatse**	**77.08**	**247**	LR	LR	08 44 33.7	
	comp=Z,36nm,20.1s,baz=103,slow=30						
MATP	**Matopo**	**78.70**	**252**	LR	LR	08 47 23.3	
	comp=Z,15nm,19.3s,baz=93,slow=32						
SONM	**Songino Array**	**97.81**	**348**	LR	LR	09 05 39.9	
	comp=Z,24nm,18.8s,baz=222,slow=37						

*DJA **09** 08:10:31.4±0.5, 10°S±4°×11°9E±°, h18km±3km, M4.3/19, mb4.4/6, mB5.5/1, MLv4.3/19, Mw(mB)5.0/1*
*IDC **09** 08:10:34.6±4.9, 9.58S×119.64E, h52km±46km, mb3.7/2, mbtmp3.9/7, ML3.9/5, Error ellipse: s-maj=75.8km s-min=14.2km az=68.0*
ISC 09 08:10:31.4±1.2, 9.80S±0.06×119.43E±0.04, h34km±3km, n29, σ2^{s}17/28, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.16**	**345**	P	**Pb**	**08 10 37.2**	**-0.6**
WBSI				S	**Sb**	**08 10 40.3**	**-1.9**
WSI	**Waingapu**	**0.86**	**82**	P	**Pb**	**08 10 47.5**	**-0.5**
WSI				S	**Sb**	**08 10 59.6**	**+0.3**
BASI	**Baing, Sumba**	**1.20**	**110**	P	**Pn**	**08 10 53.1**	**+1.3**
PLAI	**Plampang**	**1.90**	**300**	P	**Pn**	**08 11 01.9**	**+0.5**
EDFI	**Ende, Flores**	**2.46**	**65**	P	**Pn**	**08 11 10.6**	**+1.4**
TWSI	**Taliwang, Sumb**	**2.73**	**292**	P	**Pn**	**08 11 14.4**	**+1.6**
MMRI	**Maumere**	**3.00**	**68**	P	**Pn**	**08 11 18.7**	**+2.1**
BSSI	**Bau Bau, Buton**	**3.78**	**16**	P	**Pn**	**08 11 28.1**	**+0.8**
BATI	**Baumata**	**4.19**	**96**	P	**Pn**	**08 11 35.5**	**+2.6**
	12nm,0.3s,baz=217,slow=23,SNR=2.1 27nm,0.3s						
BATI	**Baumata**	**4.19**	**96**	P	**Pn**	**08 11 33.5**	**+0.6**
BKSI	**Bulukumba**	**4.50**	**9**	P	**Pn**	**08 11 38.2**	**+1.0**
SRBI	**Singaraja**	**4.50**	**292**	P	**Pn**	**08 11 39.1**	**+1.9**
KAPI	**Kappang**	**4.76**	**4**	P	**Pn**	**08 11 41.6**	**+0.7**
	23nm,0.3s,baz=167,slow=4.4,SNR=65						
KAPI				S	**Sn**	**08 12 32.5**	**-2.4**
	22nm,0.4s,baz=21,slow=22,SNR=5.9 43nm,0.3s						
SOEI	**Soe**	**4.77**	**90**	P	**Pn**	**08 11 44.3**	**+3.3**
JAGI	**Jajag, Banyuwa**	**5.38**	**284**	P	**Pn**	**08 11 50.6**	**+1.3**
BNSI	**Bone**	**5.40**	**7**	P	**Pn**	**08 11 50.8**	**+1.2**
SPSI	**Sidrap Palu**	**5.80**	**3**	P	**Pn**	**08 11 57.1**	**+2.0**
	0.2nm4µm32nm,0.6s						
GMJI	**Gumukmas**	**6.11**	**284**	P	**Pn**	**08 12 00.3**	**+1.0**
	0.3nm34nm,1.3s						
FITZ	**Fitzroy Crossi**	**10.21**	**145**	P	**Pn**	**08 12 57.5**	**+1.9**
	0.3nm,0.3s,baz=338,slow=8.8,SNR=13						
FITZ				S	**Sn**	**08 14 45.5**	**-3.6**
	3.6nm,0.4s,baz=177,slow=20,SNR=10 2.5nm,0.6s						
WRA	**Warramunga Arr**	**17.57**	**127**	P	**Pn**	**08 14 34.9**	**+1.1**
	0.3nm,0.3s,baz=302,slow=12,SNR=6.5						
WRA				S	Sn	08 17 40.2	-8.5
	0.4nm,0.5s,baz=291,slow=24,SNR=2.5 1.1nm,0.5s						
ASAR	**Alice Springs**	**19.52**	**137**	P	**P**	**08 14 58.4**	**+2.2**
	0.4nm,0.3s,baz=322,slow=12,SNR=19						
ASAR				S	**S**	**08 18 28.9**	**-6.0**
	0.5nm,0.6s,baz=301,slow=21,SNR=4.1 0.9nm,0.5s						
H08S2	**Diego Garcia H**	**46.42**	**269**	T	T	09 08 21.7	
	baz=96,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**46.43**	**269**	T	T	09 08 22.6	
	baz=96,slow=75,SNR=40						
H08S1	**Diego Carcia H**	**46.44**	**269**	T	T	09 08 23.1	
	baz=96,slow=75,SNR=32						
MKAR	**Makanchi Array**	**65.36**	**333**	P	**P**	**08 21 11.1**	**+0.7**
	0.5nm,0.4s,baz=143,slow=7.3,SNR=6.9 0.5nm,0.4s						
H04N2	**CROZET ISLANDS**	**67.53**	**224**	T	T	09 36 22.7	
	baz=83,slow=75,SNR=9.0						
H04N1	**CROZET ISLANDS**	**67.54**	**224**	T	T	09 36 31.0	
	baz=83,slow=75,SNR=7.3						
H04N3	**CROZET ISLANDS**	**67.54**	**224**	T	T	09 36 27.4	
	baz=83,slow=75,SNR=5.5						
ZALV	**Zalesovo Beam**	**69.93**	**339**	P	**P**	**08 21 39.2**	**+0.2**
	0.6nm,0.3s,baz=152,slow=5.4,SNR=2.3 0.6nm,0.3s						

*WEL **09** 08:13:34.4±1.1, 34°S±5°×18°0E±1°, h12km, mB4.8/6, ML4.4/23, MLv4.3/19, Mw(mB)4.0/6, Error ellipse: s-maj=16.3km s-min=7.2km az=89.8, confirmed*
*NOU **09** 08:13:59.9, 35.855S×179.31E, h86km, ML3.9/5, Off E. Coast of N. Island, N.Z.*
ISC 09 08:13:31.2±4.2, 33.7S±0.2×179.8E±0.2, h35km, n37, σ1^{s}45/47, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.06**	**197**	P	**Pn**	**08 14 30.6**	**-0.2**
MXZ	**Matakaoa Point**	**4.06**	**197**	P	**Pn**	**08 14 32.7**	**+1.9**
MXZ				S	**Sn**	**08 15 15.0**	**-2.2**
MXZ				T	T	08 18 08.8	
WMGZ	**Waiomatatini S**	**4.29**	**195**	P	**Pn**	**08 14 35.1**	**+1.3**
WMGZ				S	**Sn**	**08 15 23.4**	**+0.7**
HAZ	**Te Kaha**	**4.39**	**201**	P	**Pn**	**08 14 34.8**	**-0.5**
PKGZ	**Pakihiroa**	**4.41**	**198**	P	**Pn**	**08 14 35.4**	**-0.2**
PUZ	**Puketiti**	**4.56**	**195**	P	**Pn**	**08 14 38.3**	**+0.6**
PUZ				S	**Sn**	**08 15 29.2**	**-0.3**
RUGZ	**Raukumara Rang**	**4.61**	**201**	P	**Pn**	**08 14 40.0**	**+1.5**
RUGZ				S	**Sn**	**08 15 28.4**	**-2.5**
TWGZ	**Tauwhareparae**	**4.73**	**198**	P	**Pn**	**08 14 41.1**	**+1.1**
TGRZ	**Tauranga**	**4.96**	**214**	P	**Pn**	**08 14 46.1**	**+2.9**
CNGZ	**Carnagh Statio**	**4.97**	**195**	P	**Pn**	**08 14 44.0**	**+0.7**
CNGZ				S	**Sn**	**08 15 40.5**	**+1.0**
MARZ	**Manawahe**	**4.99**	**210**	P	**Pn**	**08 14 45.6**	**+1.9**
MWZ	**Matawai**	**5.00**	**201**	P	**Pn**	**08 14 44.7**	**+0.9**
TKGZ	**Te Karaka**	**5.01**	**198**	P	**Pn**	**08 14 44.3**	**+0.5**
TKGZ				S	**Sn**	**08 15 40.7**	**+0.3**
WCZ	**Waipu Caves**	**5.02**	**242**	P	**Pn**	**08 14 44.8**	**+0.8**
URZ	**Urewera**	**5.07**	**205**	P	**Pn**	**08 14 44.7**	**+0.1**
URZ	**Urewera**	**5.07**	**205**	P	**Pn**	**08 14 45.2**	**+0.6**
KARZ	**Kaharoa**	**5.21**	**213**	P	**Pn**	**08 14 50.1**	**+3.5**
RIGZ	**Rimuhau**	**5.28**	**198**	P	**Pn**	**08 14 48.5**	**+0.9**
RIGZ				S	**Sn**	**08 15 45.8**	**-1.5**
TOZ	**Tahuroa Road**	**5.35**	**220**	P	**Pn**	**08 14 50.6**	**+2.1**
OUZ	**Omahuta**	**5.35**	**252**	P	**Pn**	**08 14 48.7**	**+0.2**
OUZ				S	**Sn**	**08 15 46.3**	**-2.6**
MUGZ	**Murupara**	**5.38**	**206**	P	**Pn**	**08 14 50.1**	**+1.1**
RTZ	**Ruatahuna**	**5.43**	**204**	P	**Pn**	**08 14 50.2**	**+0.5**
PRGZ	**Paritu Road**	**5.46**	**196**	P	**Pn**	**08 14 49.6**	**-0.4**
KNZ	**Kokohu**	**5.60**	**197**	P	**Pn**	**08 14 51.7**	**-0.3**
RAHZ	**Arahi**	**5.67**	**202**	P	**Pn**	**08 14 53.9**	**+0.9**
RAHZ				S	**Sn**	**08 15 55.4**	**-1.4**
MHGZ	**Mahia Peninsul**	**5.67**	**195**	P	**Pn**	**08 14 52.0**	**-0.9**
MHGZ				S	**Sn**	**08 15 55.4**	**-1.5**
MTHZ	**Maungataniwha**	**5.69**	**204**	P	**Pn**	**08 14 54.8**	**+1.6**
MTHZ				S	**Sn**	**08 15 57.8**	**+0.4**
WHHZ	**Waihua**	**5.77**	**200**	P	**Pn**	**08 14 55.2**	**+0.9**
KUTZ	**Kaahu Road**	**5.78**	**213**	P	**Pn**	**08 14 56.4**	**+1.9**
MRHZ	**Matea Rd**	**5.83**	**207**	P	**Pn**	**08 14 56.6**	**+1.4**
NMHZ	**Naumai**	**5.92**	**203**	P	**Pn**	**08 14 58.4**	**+1.9**
BKZ	**Black Stump Fm**	**6.09**	**205**	P	**Pn**	**08 14 59.1**	**+0.3**
BKZ	**Black Stump Fm**	**6.09**	**205**	P	**Pn**	**08 14 59.5**	**+0.7**
HIZ	**Hauiti**	**6.27**	**218**	P	Pn	08 15 04.8	+3.6
MCHZ	**McNeill Hill**	**6.27**	**203**	P	**Pn**	**08 15 03.0**	**+1.8**
KWHZ	**Kaweka Forest**	**6.35**	**204**	P	**Pn**	**08 15 04.1**	**+1.9**
BFZ	**Birch Farm**	**7.54**	**201**	P	**Pn**	**08 15 17.6**	**-1.1**

IDC 09 08:17:23.8±63.0, 18.15S×178.32W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=1157.0km s-min=160.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.59**	**241**	P	P	08 24 49.0	+0.3
	2.2nm,0.5s,baz=81,slow=9.3,SNR=6.6 2.2nm,0.5s						
WRA	**Warramunga Arr**	**44.67**	**260**	P	P	08 25 38.3	-0.5
	1.3nm,0.4s,baz=98,slow=7.5,SNR=7.8 1.3nm,0.4s						
ASAR	**Alice Springs**	**44.81**	**254**	P	P	08 25 39.7	-0.2
	2.3nm,0.4s,baz=88,slow=7.9,SNR=41 2.3nm,0.4s						

IDC 09 08:24:42.0±3.5, 53.47N×87.73E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=35.9km s-min=18.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.80**	**287**	I	I	08 35 27.2	
	baz=104,slow=312,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.80**	**287**	Pn	Pn	08 25 13.8	-0.5
	0.8nm,0.3s,baz=106,slow=15,SNR=5.0						
ZALV				Lg	Lg	08 25 39.4	
	1.0nm,0.3s,baz=108,slow=28,SNR=2.5						
KURBB	**Kurchatov Arra**	**6.35**	**247**	Pn	Pn	08 26 17.1	+0.3
	0.1nm,0.3s,baz=64,slow=14,SNR=2.4 0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.54**	**210**	Pn	Pn	08 26 34.6	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=5.9 0.2nm,0.2s						

*WEL **09** 08:28:46.7±0.8, 45°S±3°×16°7E±°, h5km, M3.1/8, ML3.2/9, MLv3.1/8, Error ellipse: s-maj=7.9km s-min=2.9km az=115.4, confirmed*
*NOU **09** 08:28:49.8, 44.625S×167.63E, h93km, mb3.9/9, South Island, New Zealand*
ISC 09 08:28:45.1±1.5, 44.68S±0.04×167.32E±0.06, h16km±9km, n41, σ1^{s}19/50, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.43**	**89**	P	**Pg**	**08 28 54.3**	**+0.6**
MSZ				S	**Sb**	**08 28 59.1**	**-1.5**
DCZ	**Deep Cove**	**0.79**	**189**	P	**Pb**	**08 29 00.4**	**-0.1**
DCZ				S	**Sg**	**08 29 10.4**	**-0.6**
MLZ	**Mavora Lakes**	**0.89**	**141**	P	**Pb**	**08 29 01.8**	**-0.3**
MLZ				S	**Sg**	**08 29 12.5**	**-1.5**
NSBS	**Neils Beach**	**1.18**	**55**	P	**Pg**	**08 29 09.0**	**+1.2**
NSBS				S	**Sn**	**08 29 24.1**	**+1.4**
MOSS	**Mossburn Schoo**	**1.18**	**147**	P	**Pb**	**08 29 07.1**	**0.0**
MOSS				S	**Sb**	**08 29 21.7**	**-0.5**
JCZ	**Jackson Bay**	**1.21**	**60**	P	**Pg**	**08 29 08.9**	**+0.4**
JCZ	**Jackson Bay**	**1.21**	**60**	S	**Sn**	**08 29 25.1**	**+1.5**
JCZ	**Jackson Bay**	**1.21**	**60**	P	**Pb**	**08 29 08.0**	**+0.3**
JCZ				S	**Sn**	**08 29 24.6**	**+1.0**
WKZ	**Wanaka**	**1.22**	**97**	P	**Pb**	**08 29 08.1**	**+0.3**
WHZ	**Wether Hill Ro**	**1.29**	**160**	P	**Pn**	**08 29 08.7**	**+0.2**
WHZ				S	**Sb**	**08 29 24.7**	**-0.6**
MECS	**Makarora Emerg**	**1.44**	**72**	P	**Pg**	**08 29 13.0**	**+0.2**
RRKS	**Rarakau**	**1.47**	**176**	P	**Pn**	**08 29 12.2**	**+1.3**
RRKS				S	**Sn**	**08 29 31.0**	**+1.1**
HDWS	**Haast DOC Work**	**1.47**	**58**	P	**Pg**	**08 29 13.8**	**+0.4**
HDWS				S	**Sg**	**08 29 32.0**	**-0.5**
EAZ	**Earnscleugh**	**1.51**	**112**	P	**Pn**	**08 29 12.6**	**+1.1**
PYZ	**Puysegur Point**	**1.55**	**197**	P	**Pn**	**08 29 11.4**	**-0.7**
LBZ	**Lake Benmore**	**2.07**	**83**	P	**Pn**	**08 29 21.0**	**+1.8**
TUZ	**Tuapeka**	**2.07**	**129**	P	**Pn**	**08 29 20.8**	**+1.7**
FOZ	**Fox Glacier**	**2.13**	**58**	P	**Pn**	**08 29 20.6**	**+0.6**
APZ	**The Paps**	**2.20**	**168**	P	**Pn**	**08 29 22.4**	**+1.3**
SYZ	**Scrubby Hill**	**2.25**	**146**	P	**Pn**	**08 29 23.3**	**+1.6**
ODZ	**Otahua Downs**	**2.39**	**100**	P	**Pn**	**08 29 24.6**	**+1.0**
ODZ	**Otahua Downs**	**2.39**	**100**	S	**Sn**	**08 29 51.1**	**-1.4**
ODZ	**Otahua Downs**	**2.39**	**100**	P	**Pn**	**08 29 24.9**	**+1.3**
GCSZ	**Gaunt Creek Bo**	**2.56**	**59**	P	**Pb**	**08 29 29.4**	**-1.2**
HHSZ	**Highcliff Hill**	**2.61**	**119**	P	**Pn**	**08 29 28.1**	**+1.5**
TMZ	**Timaru**	**2.65**	**85**	P	**Pn**	**08 29 28.3**	**+1.1**
RPZ	**Rata Peaks**	**2.85**	**71**	P	**Pn**	**08 29 31.2**	**+1.2**
RPZ	**Rata Peaks**	**2.85**	**71**	S	**Sn**	**08 30 02.6**	**-1.4**
RPZ	**Rata Peaks**	**2.85**	**71**	P	**Pn**	**08 29 31.2**	**+1.2**
ARCZ	**Arundel**	**2.86**	**76**	P	**Pn**	**08 29 30.8**	**+0.7**
WVZ	**Waitaha Valley**	**2.94**	**58**	P	**Pn**	**08 29 33.6**	**+2.4**
MHCZ	**Mount Hutt**	**3.27**	**71**	P	**Pn**	**08 29 36.4**	**+0.7**
WACZ	**Wakanui South**	**3.32**	**79**	P	**Pn**	**08 29 37.0**	**+0.6**
INZ	**Inchbonnie**	**3.57**	**58**	P	**Pn**	**08 29 41.1**	**+1.3**
MQZ	**McQueen's Vall**	**3.96**	**78**	P	**Pn**	**08 29 45.5**	**+0.4**
LTZ	**Lake Taylor**	**4.06**	**64**	P	**Pn**	**08 29 47.1**	**+0.5**
AMCZ	**Amberley**	**4.13**	**71**	P	**Pn**	**08 29 48.2**	**+0.6**
OKCZ	**Okains Bay**	**4.23**	**79**	P	**Pn**	**08 29 50.2**	**+1.2**
KHZ	**Kahutara**	**5.05**	**66**	P	**Pn**	**08 29 59.7**	**-0.5**
QRZ	**Quartz Range**	**5.43**	**47**	P	**Pn**	**08 30 06.1**	**+0.7**
QRZ	**Quartz Range**	**5.43**	**47**	S	**Sn**	**08 31 04.5**	**-3.1**

IDC 09 08:34:15.2±7.3, 30.87S×177.71W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=305.1km s-min=61.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.33**	**267**	P	P	08 42 19.1	-0.2
	0.6nm,0.6s,baz=106,slow=7.5,SNR=7.0 0.6nm,0.6s						
WRA	**Warramunga Arr**	**44.37**	**272**	P	P	08 42 27.6	-0.1
	0.3nm,0.3s,baz=114,slow=8.1,SNR=1.5 0.3nm,0.3s						
FINES	**FINESS Array B**	**145.67**	**340**	PKPbc	PKPdf	08 53 54.3	-0.5
	1.0nm,0.6s,baz=20,slow=4.6,SNR=4.4						

HEL 09 08:40:33.0±0.1, 63.03N×24.00E, h0km, ML1.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.96**	**155**	PB	Pg	08 40 50.1	-1.2
	baz=340						
KEF				MSG		08 41 02.3	
	comp=Z,1.1nm,0.2s						
KEF				SB	Sg	08 41 03.5	-0.2
SUF	**Sumiainen**	**1.04**	**107**	PG	Pg	08 40 51.2	-1.7
SUF				MSG		08 41 04.6	
	comp=Z,0.7nm,0.2s						
SUF				SB	Sg	08 41 05.4	-0.8
OUF	**Merijarvi**	**1.38**	**13**	PG	Pg	08 40 57.5	-1.9
OUF				MSG		08 41 14.5	
	comp=Z,0.7nm,0.2s						
OUF				SG	Sg	08 41 15.9	-1.4
KAF	**Kangasniemi**	**1.41**	**130**	PN	Pn	08 40 58.4	-1.5
KAF				MSG		08 41 15.5	
	comp=Z,2.1nm,0.2s						
KAF				SN	Sg	08 41 17.0	-1.3
OBF0	**Syolatti, Pyha**	**1.48**	**4**	PG	Pn	08 40 59.4	-1.4
OBF0				MSG		08 41 17.3	
	comp=Z,1.0nm,0.2s						
OBF0				SG	Sg	08 41 18.7	-1.6
KPF	**Kankaanpaa**	**1.50**	**218**	PG	Pn	08 40 59.8	-1.3
KPF				MSG		08 41 18.1	
	comp=Z,0.8nm,0.2s						
KPF				SB	Sg	08 41 19.6	-1.5
UMAU	**Umeaa**	**1.72**	**301**	PG	Pn	08 41 03.2	-0.9
	baz=119						
UMAU				SG	Sn	08 41 25.5	-1.2
NIF	**Nilsia**	**1.77**	**77**	MSG		08 41 25.6	
	comp=Z,0.6nm,0.2s						
NIF				SN	Sb	08 41 28.4	-0.4
FIA0	**FINESS Array S**	**1.87**	**148**	PG	Pn	08 41 06.2	0.0
	baz=332						
FIA0				MSG		08 41 28.5	
	comp=Z,0.9nm,0.2s						
FIA0				SG	Sn	08 41 30.7	+0.3
HUSU	**Husum**	**2.19**	**280**	SG	Sb	08 41 41.2	+0.2
RAF	**Rauma**	**2.27**	**209**	MSG		08 41 40.4	
	comp=Z,0.7nm,0.2s						
RAF				SG	Sb	08 41 44.3	+0.8
HEMU	**Hemsoen**	**2.76**	**265**	SB	Sb	08 41 56.1	-1.2
RUF	**Ruokolahti**	**2.83**	**123**	PG	Pb	08 41 22.4	-1.8
RUF				MSG		08 41 56.2	
	comp=Z,0.5nm,0.2s						
RUF				SG	Sb	08 41 59.5	+0.2
OLKF	**Oulanka, Finla**	**4.04**	**33**	PN	Pn	08 41 36.9	+0.9
KLF	**Kolari**	**4.22**	**360**	SN	Sn	08 42 25.1	-3.3

*FUNV **09** 08:48:50.9, 10.39N×61.97W, h5km, MW3.1*
*TRN **09** 08:48:52.8, 10.69N×61.73W, h62km, MD2.5, West of Trinidad, Boca.*
ISC 09 08:48:50.0±3.0, 10.6N±0.1×61.9W±0.2, h67km±32km, n14, σ1^{s}27/25, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.39**	**69**	*eP*	**Pn**	**08 49 03.6**	**+2.0**
DMDM				*eS*	**Sn**	**08 49 10.6**	**+0.5**
PSMG	**Mucurapo Girls**	**0.40**	**73**	*eP*	**Pn**	**08 49 02.2**	**+0.5**
PSMG				*eS*	**Sn**	**08 49 09.1**	**-1.2**
PSKH	**Kent House, Po**	**0.41**	**72**	*eP*	**Pn**	**08 49 02.3**	**+0.5**
PSKH				*eS*	**Sn**	**08 49 09.2**	**-1.2**
PSQC	**Port of Spain**	**0.41**	**74**	*eP*	**Pn**	**08 49 02.4**	**+0.5**
PSQC				*eS*	**Sn**	**08 49 09.2**	**-1.3**
PSNL	**Port of Spain**	**0.42**	**76**	*eP*	**Pn**	**08 49 02.3**	**+0.5**
PSNL				*eS*	**Sn**	**08 49 09.5**	**-1.0**
PSGH	**Port of Spain**	**0.42**	**75**	*eP*	**Pn**	**08 49 02.5**	**+0.6**
PSGH				*eS*	**Sn**	**08 49 09.8**	**-0.8**
TRN	**Trinidad (W)**	**0.52**	**80**	*eP*	**Pn**	**08 49 03.6**	**+0.8**
TRN				*eS*	**Sn**	**08 49 11.7**	**-0.6**
GRFF	**Grenada Fort F**	**1.50**	**7**	*eP*	**Pn**	**08 49 16.2**	**+1.3**
GRFF				*eS*	**Sn**	**08 49 33.3**	**-0.4**
GRGR	**Grenville**	**1.59**	**10**	*eP*	**Pn**	**08 49 16.4**	**+0.2**
GRGR				*eS*	**Sn**	**08 49 34.1**	**-1.8**
PCRV	**Puerto La Cruz**	**2.69**	**262**	*eP*	**Pn**	**08 49 32.0**	**+0.9**
TACV	**Tcata**	**5.04**	**266**	*eP*	**Pn**	**08 50 04.4**	**+1.2**
TACV				*eS*	**Sn**	**08 51 00.8**	**+0.7**
CACV	**CAICARA DEL OR**	**5.44**	**237**	*eP*	Pn	08 50 04.0	-4.6
CACV				*eS*	Sn	08 50 57.6	-12
BENV	**Beln**	**5.62**	**264**	*eP*	**Pn**	**08 50 12.4**	**+1.3**
BENV				*eS*	**Sn**	**08 51 12.5**	**-1.8**
BAUV	**El Baul**	**6.24**	**256**	*eP*	**Pn**	**08 50 20.2**	**+0.7**
BAUV				*eS*	**Sn**	**08 51 26.6**	**-2.9**

*IDC **09** 08:59:47.2±1.8, 67.46N×23.51E, h0km, mbtmp2.9/1, ML2.1/1, Error ellipse: s-maj=36.1km s-min=8.2km az=97.0*
*UPP **09** 08:59:47.4±0.2, 67.42N×23.33E, h0km, ML1.8, Unknown Suspected explosion*
*HEL **09** 08:59:47.8±0.1, 67.43N×23.35E, h0km, ML1.4, Explosion*
ISC 09 08:59:47.0±0.8, 67.43N±0.02×23.30E±0.02, h0km, n39, σ0^{s}97/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.32**	**127**	PG	**Pg**	**08 59 53.2**	**+0.1**
KLF				SG	**Sg**	**08 59 57.3**	**+0.1**
PAJU	**Pajala**	**0.41**	**191**	P	**Pg**	**08 59 55.2**	**+0.4**
PAJU				S	**Sg**	**09 00 01.3**	**+1.2**
PAJU	**Pajala**	**0.41**	**191**	PG	**Pg**	**08 59 55.0**	**+0.2**
	baz=11						
PAJU				SG	**Sg**	**08 59 58.4**	**-1.8**
MASU	**Masugnsbyn**	**0.51**	**274**	P	**Pg**	**08 59 57.2**	**+0.6**
MASU				S	**Sg**	**09 00 03.9**	**+0.8**
LANU	**Lannavaara**	**0.80**	**322**	P	**P

KU1	Kurvinen	3.13	124	PN	Pn	09 00 38.6	+1.1
OUF	Merijarvi	3.13	169	PB	Pn	09 00 40.1	+2.7
OUF				MSG		09 01 19.5	
	comp=Z,0.8nm,0.2s						
UMAU	Umeaa	3.72	198	PN	Pn	09 00 47.7	+2.1
RMF	Romuvaara	4.22	137	PN	Pn	09 00 55.1	+2.7
	baz=319						
FINES	FINESS Array B	6.13	167	Pn	Pn	09 01 20.5	+1.9
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=2.4						
FINES				Sn	Sn	09 02 28.0	-1.3
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.4						
	comp=Z,0.9nm,0.6s						

ASRS ***09*** *09:10:50.0±2.5,51°.14N×81°.97E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

NNC ***09*** *09:10:53.9±3.7,51°.30N×81°.85E,h0km,mb3.1,mpv2.6, Error ellipse: s-maj=27.6km s-min=15.5km az=49.0, Suspected Mining explosion.*

IDC ***09*** *09:10:55.1±1.4,51°.35N×81°.89E,h0km,mbtmp2.2/2, ML2.0/2,Error ellipse: s-maj=15.4km s-min=13.0km az=125.0*

ISC 09 09:10:54.2±1.5,51°.5N±0°.1×81°.7E±0°.1,h0km,n8,σ0^{s}07/5, 2C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	Kurchatov	2.05	250	⇓Pg	Pb	09 11 32.4	+0.1
	3.8nm,0.7s						
KURK				⇑Lg	Lg	09 12 01.6	
	17nm,0.7s						
KURBB	Kurchatov Arra	2.14	248	Pn	Pb	09 11 33.9	0.0
	0.2nm,0.3s,baz=73,slow=19,SNR=6.9						
KURBB				Lg	Lg	09 12 04.6	
	0.2nm,0.3s,baz=72,slow=31,SNR=6.0						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	2.14	248	⇓Pg	Pb	09 11 33.8	0.0
	1.5nm,0.3s,baz=73,slow=19						
KURBB				⇑Lg	Lg	09 12 04.5	
	22nm,0.6s						
I46RU	ZALESOVO INFRA	3.14	37	I	I	09 27 50.0	
	baz=215,slow=322,SNR=1.3						
ZALV	Zalesovo Beam	3.14	37	Pg	Pb	09 11 50.9	0.0
	0.1nm,0.3s,baz=218,slow=17,SNR=4.1						
ZALV				Lg	Lg	09 12 35.7	
	0.3nm,0.3s,baz=219,slow=24,SNR=3.6						
MAKZ	Makanchi	4.67	177	Lg	Lg	09 13 18.9	
	4.8nm,0.9s						
MK31	Makanchi Array	4.70	175	⇓Lg	Lg	09 13 18.5	
	2.7nm,0.7s,baz=12,slow=28,SNR=3.5						
MKAR	Makanchi Array	4.70	175	Pn	Pn	09 12 06.4	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=12						
MKAR				Lg	Lg	09 13 20.2	
	0.4nm,0.3s,baz=3.3,slow=27,SNR=6.5						
	0.2nm,0.2s						

ASRS ***09*** *09:17:50.0±1.0,54°.69N×83°.69E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 09 09:17:54.4±2.2,54°.60N×83°.88E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=17.6km s-min=10.2km az=171.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.85	139	I	I	09 23 10.0	
	baz=319,slow=316,SNR=1.8						
ZALV	Zalesovo Beam	0.85	140	Pg	Pg	09 18 09.4	-1.3
	1.2nm,0.3s,baz=325,slow=17,SNR=7.0						
ZALV				Lg	Lg	09 18 23.9	
	4.7nm,0.3s,baz=318,slow=29,SNR=18						
KURBB	Kurchatov Arra	5.15	221	Pn	Pn	09 19 12.8	+0.1
	0.1nm,0.3s,baz=45,slow=14,SNR=1.0						
KURBB				Pg	Pb	09 19 24.6	-0.7
	0.1nm,0.3s,baz=38,slow=16,SNR=4.8						
KURBB				Lg	Lg	09 20 38.5	
	baz=43,slow=31,SNR=6.5						
	0.3nm,0.3s						
MKAR	Makanchi Array	7.88	188	Pn	Pn	09 19 49.9	-0.3
	0.1nm,0.3s,baz=6.7,slow=11,SNR=2.2						
	0.2nm,0.5s						

IDC ***09*** *09:26:00.0±0.6,34°.79S×111°.97W,h0km,mb4.0/10, mbtmp4.0/10,MS4.1/42,Error ellipse: s-maj=26.0km s-min=18.1km az=87.0*

NEIC ***09*** *09:26:02.0±1.2,34°.93S±0°.10×112°.0W±0°.2,h10km±1km, mb4.7/106,Error ellipse: s-maj=27.4km s-min=16.5km az=277.0*

GCMT ***09*** *09:26:06.0±0.2,34°.87S±0°.02×111°.95W±0°.02,h16km±1km, MW5.0/112,Moment Tensor Solution. s34,c41; s112,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.91±.12; $M_{\theta\theta}$-0.41±.10; $M_{\phi\phi}$1.31±.10; $M_{r\theta}$-1.09±.34; $M_{\theta\phi}$-2.80±.08; $M_{r\phi}$-1.48±.33; Best double couple: M_o3.54200×10^{16} NP1:ϕ_s104.00000°,δ61.00000°, λ-161.00000°. NP2:ϕ_s4.00000°,δ73.00000°,λ-30.00000°. Principal axes: T 3.4570, Plg8.0000°, Azm56.0000°; N 0.1690, Plg56.0000°, Azm158.0000°; P -3.6280, Plg33.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 09:26:01.4±0.4,34°.86S±0°.07×111°.99W±0°.08,h10km, n168,σ1^{s}12/110,mb4.7/53,MS4.2/42,15C-2D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA02	Isla de Pascua	7.99	17	Pn	Pn	09 27 57.7	+0.2
RPN	Rapa Nui	8.04	17	LR	LR	09 30 12.5	
	comp=Z,968nm,18.3s,baz=192,slow=32						
RKT	Rikitea	23.20	294	*e*S	S	09 35 17.9	-2.5
	6μm,30.2s						
RKT				*e*LR	LR	09 36 46.0	
	3μm,42.5s						
VA04	Juan Fernndez	27.37	97	P	P	09 31 47.0	+0.2
LL02	Futaleuf	32.03	117	P	P	09 32 25.5	-2.5
LL02				IAmb	IAmb	09 32 53.7	
	comp=Z,10nm,1.3s						
PLCA	Paso Flores	33.04	113	P	P	09 32 36.6	-0.4
PLCA	Paso Flores	33.04	113	P	P	09 32 37.0	+0.1
	comp=Z,2.7nm,1.0s,baz=270,slow=11,SNR=4.1						
PLCA				LR	LR	09 42 11.4	
	comp=Z,138nm,19.2s,baz=269,slow=29						
	comp=Z,2.7nm,1.0s						
VA01	Torpederas	33.37	99	P	P	09 32 40.9	+1.1
BO01	Tunca	33.50	101	P	P	09 32 41.2	+0.2
BO02	Sierra Bellavi	33.66	102	P	P	09 32 42.7	+0.2
TBI	Tubuai	34.50	279	*e*SS	SS	09 40 29.2	-19
	comp=Z,1μm,29.0s						
TBI				*e*LR	LR	09 41 51.0	
	comp=Z,620nm,29.2s						
TBI				*e*LR	LR	09 41 58.2	
	comp=Z,3μm,24.5s						
MG02	Cerro Sombrero	35.04	134	P	P	09 32 54.2	+0.1
ZON	Zonda	36.19	97	P	P	09 33 04.2	-0.1
ZON				IAmb	IAmb	09 33 11.3	
	comp=Z,9.6nm,1.0s						
TAOE	Nuku Hiva Isla	36.53	308	*e*LR	LR	09 43 01.9	
	comp=Z,570nm,26.3s						
AC02	Maricunga	37.43	90		P	09 33 14.7	-0.7
PPT	Papeete	37.59	288	LR	LR	09 44 34.0	
	comp=Z,188nm,19.6s,baz=121,slow=30						
PB05	IPOC Station P	38.25	83	P	P	09 33 21.5	-0.5
PB06	IPOC Station P	38.84	83	P	P	09 33 25.7	-1.2
PB06				IAmb	IAmb	09 33 27.9	
	comp=Z,19nm,0.9s						
NNA	Nana	39.17	63	LR	LR	09 45 18.1	
	comp=Z,619nm,21.2s,baz=226,slow=30						
PMSA	Palmer Station	41.39	151	LR	LR	09 46 15.9	
	comp=Z,314nm,21.2s,baz=298,slow=29						
ATAH	Atahualpa	41.42	56	LR	LR	09 46 37.2	
	comp=Z,560nm,18.9s,baz=246,slow=30						
LPAZ	La Paz	43.28	76	P	P	09 34 03.6	-0.4
LPAZ				IAmb	IAmb	09 34 07.7	
	comp=Z,15nm,1.3s						
LPAZ	La Paz	43.28	76	P	P	09 34 04.9	+0.8
	comp=Z,7.5nm,1.0s,baz=219,slow=4.4,SNR=13						
LPAZ				LR	LR	09 48 33.0	
	comp=Z,164nm,18.4s,baz=234,slow=31						
	comp=Z,7.5nm,1.0s						
LPAZ	La Paz	43.28	76	*e*P	P	09 34 03.7	-0.4
ESPZ	Base Esperanza	43.91	148	P	P	09 34 08.0	+0.1
RAR	Rarotonga	43.92	275	LR	LR	09 47 25.0	
	comp=Z,141nm,21.1s,baz=123,slow=29						
CZSB	Cruzeiro do Su	45.03	63	P	P	09 34 16.4	-1.0
CZSB	Cruzeiro do Su	45.03	63	*e*P	P	09 34 16.9	-0.5
CPUP	Villa Florida	47.32	95	P	P	09 34 35.7	+0.3
	comp=Z,0.2nm,0.4s,baz=208,slow=1.9,SNR=3.3						
CPUP				LR	LR	09 51 26.8	
	comp=Z,53nm,18.1s,baz=110,slow=32						
	comp=Z,0.2nm,0.4s						
BBSD	Serra de San D	48.88	83	*e*P	P	09 34 46.5	-1.0
SJPY	San Joaquin	48.88	94	*e*P	P	09 34 48.3	+0.8
SIV	San Ignacio	49.13	81	LR	LR	09 52 41.0	
	comp=Z,205nm,20.8s,baz=268,slow=33						
MURT	Porto Murtinho	49.13	90	*e*P	P	09 34 48.1	-1.4
TBTG	Tabatinga, AM	49.46	62	P	P	09 34 51.9	-0.1
BDQN	Bodoquena, MS	50.41	89	*e*P	P	09 35 00.1	+0.8
AQDB	Aquidauana	51.26	89	*e*P	P	09 35 06.3	+0.7
JTS	Las Juntas de	51.70	35	LR	LR	09 51 39.4	
	comp=Z,627nm,19.4s,baz=200,slow=30						
ROSC	El Rosal	53.07	50	LR	LR	09 54 26.3	
	comp=Z,334nm,18.6s,baz=245,slow=32						
MTO3	Montecristo	53.50	28	P	P	09 35 23.1	+0.7
BELA	Belgrano 2	53.55	165	P	P	09 35 22.1	+0.3
BELA				IAmb	IAmb	09 35 30.4	
	comp=Z,9.9nm,0.9s						
SALV	Santo Antonio	53.56	84	*e*P	P	09 35 23.8	+1.1
TEFE	Tefe	53.80	65	*e*P	P	09 35 23.9	-0.6
CMIG	Matias Romero	54.17	20	LR	LR	09 53 20.8	
	comp=Z,115nm,19.8s,baz=196,slow=30						
FRTB	Fartura	54.97	96	*e*P	P	09 35 32.2	-0.8
PDRB	Porto dos Gac	55.05	79	*e*P	P	09 35 33.1	-0.5
QSPA	South Pole Qui	55.33	180	P	P	09 35 33.9	-1.3
QSPA				IAmb	IAmb	09 35 44.0	
	comp=Z,16nm,1.4s						
QSPA	South Pole Qui	55.33	180	P	P	09 35 36.5	+1.4
	comp=Z,1.2nm,0.9s,baz=144,slow=2.9,SNR=5.0						
QSPA				LR	LR	09 56 07.7	
	comp=Z,103nm,20.1s,baz=104,slow=33						
	comp=Z,1.2nm,0.9s						
VNDA	Vanda	55.43	195	P	P	09 35 37.4	+1.9
	comp=Z,2.5nm,1.0s,baz=35,slow=3.9,SNR=3.6						
VNDA				LR	LR	09 53 23.4	
	comp=Z,135nm,19.9s,baz=94,slow=30						
	comp=Z,2.5nm,1.0s						
URZ	Urewera	55.75	244	LR	LR	09 54 11.1	
	comp=Z,507nm,20.3s,baz=86,slow=30						
CLDB	Colider	56.22	79	*e*P	P	09 35 40.9	-1.1
SDV	Santo Domingo	58.49	50	LR	LR	09 57 05.7	
	comp=Z,399nm,21.4s,baz=248,slow=32						
LPIG	La Paz	58.66	2	LR	LR	09 55 22.1	
	comp=Z,214nm,19.3s,baz=193,slow=30						
SNDB	Serra Nova Dou	59.26	83	*e*P	P	09 36 02.0	-1.4
BDFB	Brasilia	60.00	89	LR	LR	09 59 25.5	
	comp=Z,184nm,18.4s,baz=242,slow=33						
ITTB	Itaituba	60.10	73	*e*P	P	09 36 08.1	-1.1
BAUV	El Baul	60.20	52		P	09 36 09.6	-0.2
BOAV	Boa Vista	60.78	64	P	P	09 36 13.6	-0.2
BOAV				IAmb	IAmb	09 36 19.2	
	comp=Z,5.1nm,0.9s						
VNA3	Neumayer Olymp	61.21	159	⇑P	P	09 36 16.1	+0.2
	comp=Z,12nm,0.8s						
VNA1	Neumayer--Stat	61.87	158	⇑P	P	09 36 20.6	+0.2
	comp=Z,14nm,1.0s						
DIAM	Diamantina, MG	62.21	94	*e*P	P	09 36 23.9	+0.3
SNAA	Sanae	62.97	160	⇑P	P	09 36 27.5	-0.3
	comp=Z,159nm,0.9s						
SNAA	Sanae	62.97	160		P	09 36 27.8	-0.1
SNAA	Sanae	62.97	160	P	P	09 36 27.4	-0.5
	comp=Z,3.3nm,0.9s,baz=240,slow=3.3,SNR=13						
SNAA				LR	LR	10 00 21.5	
	comp=Z,130nm,18.7s,baz=285,slow=33						
	comp=Z,3.3nm,0.9s						
PCRV	Puerto La Cruz	63.35	54	LR	LR	10 00 36.1	
	comp=Z,257nm,21.9s,slow=33						
TROLL	Troll, Antarti	64.23	162	⇑P	P	09 36 36.6	+0.4
	comp=Z,531nm,0.9s						
TXAR	Lajitas Array	64.33	8	P	P	09 36 37.8	+0.5
	comp=Z,0.6nm,1.0s,baz=165,slow=10,SNR=4.2						
TXAR				LR	LR	09 59 18.7	
	comp=Z,37nm,18.6s,baz=175,slow=31						
	comp=Z,0.6nm,1.0s						
HNDO	Hondo	65.16	12	P	P	09 36 43.0	+0.5
ALPN	Alpine	65.37	8	P	P	09 36 45.1	+1.0
ALPN				IAmb	IAmb	09 36 56.1	
	comp=Z,6.8nm,1.2s						
VHRN	Van Horn	65.63	7		P	09 36 46.6	+0.9
VHRN				IAmb	IAmb	09 36 57.1	
	comp=Z,6.0nm,1.1s						
JCT	Junction City	66.00	12	P	P	09 36 48.3	+0.3
JCT				IAmb	IAmb	09 36 59.4	
	comp=Z,6.5nm,0.9s						
GUA01	Guaratinga, BA	66.26	94	*e*P	P	09 36 50.4	+0.4
DUN6	Lazy B Ranch	67.12	3		P	09 36 55.5	+0.2
061Z	Ochoppi	67.20	30	P	P	09 36 56.5	+0.8
PFO	Pinyon Flats O	68.25	356	LR	LR	09 59 43.9	
	comp=Z,135nm,19.8s,baz=170,slow=30						
SJG	San Juan	68.35	47	LR	LR	10 04 33.4	
	comp=Z,114nm,18.1s,baz=186,slow=34						
MDP	Montagnes des	68.45	67	LR	LR	10 03 33.9	
	comp=Z,311nm,19.4s,baz=258,slow=33						
Y22A	Socorro	68.60	4		P	09 37 05.1	+0.5
Y22A				IAmb	IAmb	09 37 11.8	
	comp=Z,4.1nm,0.9s						
BELC	Belle Mtn. Jos	68.61	356	P	P	09 37 05.4	+0.8
CRNM	Carthage	68.63	5	P	P	09 37 05.7	+0.9
ANMO	Albuquerque	69.64	5	LR	LR	10 02 08.6	
	comp=Z,129nm,18.3s,baz=277,slow=31						
U15A	North Rim	70.93	360	IAmb	IAmb	09 37 32.3	
	comp=Z,5.3nm,0.9s						
DZM	Mont Dzumac	71.06	256	*e*S	S	09 46 38.1	+1.3
	comp=Z,93nm,25.2s						
DZM				*e*SS	SS	09 51 08.0	-1.8
	comp=Z,62nm,32.5s						
DZM				*e*LR	LR	09 59 00.8	
	comp=Z,397nm,26.8s						
MVCO	Mesa Verde	71.78	3	IAmb	IAmb	09 37 36.5	
	comp=Z,10.0nm,1.2s						
PKCU	Pink Cliffs	71.94	360	IAmb	IAmb	09 37 43.3	
	comp=Z,8.2nm,1.1s						
T25A	Trinidad	71.98	6	IAmb	IAmb	09 37 37.8	
	comp=Z,7.6nm,1.4s						
CCUT	Cedar City	72.06	359	IAmb	IAmb	09 37 34.0	
	comp=Z,5.3nm,0.9s						
HMU	Henry Mountain	72.44	1	IAmb	IAmb	09 37 57.8	
	comp=Z,7.9nm,1.2s						
PV01	Paradox Valley	72.70	3	P	P	09 37 30.7	+1.2
HHAR	Hobbs	72.75	15		P	09 37 30.8	+1.1
HHAR				IAmb	IAmb	09 37 40.9	
	comp=Z,7.1nm,1.1s						
PV02	Paradox Valley	72.77	3	P	P	09 37 31.3	+1.3
PV02				IAmb	IAmb	09 37 42.1	
	comp=Z,8.7nm,1.2s						
PV18	Skein Mesa, Pa	72.80	3	IAmb	IAmb	09 37 37.6	
	comp=Z,9.3nm,1.1s						
PV19	Morning Glory	72.86	2	P	P	09 37 31.0	+0.5
PV19				IAmb	IAmb	09 37 51.7	
	comp=Z,15nm,1.5s						
PV16	Nyswonger Mesa	72.86	3	P	P	09 37 31.4	+0.9
PV12	Saucer Basin,	72.87	3	P	P	09 37 31.4	+0.8
PV20	West Nyswonger	72.89	2	IAmb	IAmb	09 37 52.7	
	comp=Z,13nm,1.2s						
PV15	Paradox Valley	72.91	3	IAmb	IAmb	09 37 42.4	
	comp=Z,6.4nm,1.0s						
PV14	Lion Creek, Pa	72.92	2	IAmb	IAmb	09 37 47.4	
	comp=Z,8.2nm,1.1s						
PV10	Paradox Valley	72.92	2	P	P	09 37 30.6	-0.3
PV04	Paradox Valley	72.94	3	IAmb	IAmb	09 37 43.1	
	comp=Z,9.9nm,1.1s						
LHV	Little Huntoon	73.00	355	P	P	09 37 33.6	+2.6
LHV				IAmb	IAmb	09 37 59.1	
	comp=Z,16nm,1.5s						
NVAR	Mina Array Bea	73.16	355		P	09 37 34.9	+2.7
NVAR	Mina Array Bea	73.16	355	P	P	09 37 32.6	+0.3
	comp=Z,1.9nm,0.9s,baz=204,slow=8.5,SNR=4.7						
NVAR				LR	LR	10 04 12.4	
	comp=Z,146nm,19.3s,baz=174,slow=31						
	comp=Z,1.9nm,0.9s						
Q16A	Castle Valley	73.42	1	IAmb	IAmb	09 37 57.5	
	comp=Z,8.4nm,1.2s						
SPR3	Spring Creek 3	73.53	358	IAmb	IAmb	09 37 46.9	
	comp=Z,9.7nm,1.4s						
MPK	Martis Peak	74.16	354	IAmb	IAmb	09 37 55.3	
	comp=Z,6.8nm,0.9s						
SYO	Syowa Base	74.32	170	⇓*e*sP	sP	09 37 41.2	-0.4
MPU	Maple Canyon	74.51	0	IAmb	IAmb	09 37 52.6	
	comp=Z,7.9nm,1.2s						
TKL	Tuckaleechee C	74.94	24	LR	LR	10 05 53.7	
	comp=Z,143nm,21.1s,baz=194,slow=32						
JLU	Jordanelle	75.10	0	IAmb	IAmb	09 37 50.6	
	comp=Z,6.2nm,1.0s						
T47A	Sharon Grove	75.14	20		P	09 37 44.7	+1.1
T47A				IAmb	IAmb	09 37 54.6	
	comp=Z,8.6nm,1.0s						
RCBR	Riachuelo	75.28	87	LR	LR	10 08 59.5	
	comp=Z,42nm,19.6s,baz=250,slow=34						
ELK	Elko	75.30	357	LR	LR	10 04 02.6	
	comp=Z,100nm,19.6s,baz=190,slow=30						
KHMM	Horse Mountain	76.14	351	IAmb	IAmb	09 38 02.8	
	comp=Z,13nm,1.2s						
YBH	Yreka Blue Hor	76.86	352	P	P	09 37 54.4	+1.1
YBH	Yreka Blue Hor	76.86	352	LR	LR	10 05 07.7	
	comp=Z,9.2nm,18.1s,baz=174,slow=31						
L04D	Klamath Falls	77.29	352		P	09 37 56.3	+0.4
L04D				IAmb	IAmb	09 38 19.8	
	comp=Z,12nm,1.3s						
PD31	Pinedale Array	77.29	2	P	P	09 37 55.7	-0.3
PD31				IAmb	IAmb	09 38 07.6	
	comp=Z,13nm,1.2s						
PDAR	Pinedale Array	77.29	2		P	09 37 55.3	-0.7
PDAR	Pinedale Array	77.29	2	P	P	09 37 55.5	-0.5
	comp=Z,2.5nm,0.9s,baz=159,slow=4.5,SNR=18						
PDAR				LR	LR	10 07 48.9	
	comp=Z,60nm,18.4s,baz=182,slow=32						
	comp=Z,2.5nm,0.9s						
K22A	Casper	77.30	4		P	09 37 56.9	+0.9
K22A				IAmb	IAmb	09 38 08.3	
	comp=Z,11nm,1.0s						
L02F	Cave Junction	77.34	351	P	P	09 37 56.9	+0.9
L02F				IAmb	IAmb	09 38 17.5	
	comp=Z,7.5nm,1.3s						
MAW	Mawson	77.78	178	P	P	09 37 59.4	+1.2
	comp=Z,1.8nm,0.9s,baz=182,slow=7.3,SNR=4.8						
MAW				LR	LR	10 08 43.0	
	comp=Z,72nm,21.7s,baz=195,slow=33						
	comp=Z,1.8nm,0.9s						
K02D	Willamette Mer	77.92	351	IAmb	IAmb	09 38 21.7	
	comp=Z,7.5nm,1.2s						
SNOW	Snow King Moun	77.96	1	P	P	09 38 00.5	+0.8
TPAW	Teton Pass	77.99	1		P	09 38 00.2	+0.3
TPAW				IAmb	IAmb	09 38 07.0	
	comp=Z,5.2nm,0.9s						
HLID	Hailey	78.08	358		P	09 38 01.0	+0.7
HLID				IAmb	IAmb	09 38 13.3	
	comp=Z,12nm,1.2s						
LOHW	Long Hollow	78.11	1	P	P	09 38 00.5	-0.1
FXWY	Fox Creek	78.13	1	P	P	09 38 01.3	+0.6
J05D	Fort Rock, OR	78.23	353		P	09 38 01.7	+0.6
J05D				IAmb	IAmb	09 38 24.1	
	comp=Z,17nm,1.4s						
PINE	Pine Mountain	78.71	353		P	09 38 04.2	+0.5
PINE				IAmb	IAmb	09 38 16.9	
	comp=Z,7.1nm,1.0s						
L40A	Anamosa	78.89	16	IAmb	IAmb	09 38 16.7	
	comp=Z,10.0nm,1.0s						
RSSD	Black Hills	78.94	6		P	09 38 05.6	+0.5
NEW	Newport	82.88	357	IAmb	IAmb	09 38 33.5	
	comp=Z,5.3nm,1.2s						
NEW	Newport	82.88	357	LR	LR	10 09 40.2	
	comp=Z,161nm,18.8s,baz=188,slow=32						
HNR	Honiara	83.10	263	LR	LR	10 07 44.8	
	comp=Z,91nm,20.7s,baz=166,slow=30						
STKA	Stephens Creek	84.18	235	LR	LR	10 09 35.8	
	comp=Z,157nm,18.5s,baz=182,slow=31						
SADO	Sadowa	84.68	23	LR	LR	10 14 43.1	
	comp=Z,102nm,18.4s,baz=182,slow=34						
PMG	Port Moresby	93.46	256	LR	LR	10 11 37.9	
	comp=Z,89nm,21.0s,baz=134,slow=29						
H11S2	WAKE ISLAND Hy	93.52	290	T	T	11 23 09.8	
	baz=126,slow=76,SNR=6.3						
H11S1	WAKE ISLAND Hy	93.53	290	T	T	11 23 14.9	
	baz=126,slow=76,SNR=5.9						
H11S3	WAKE ISLAND Hy	93.53	290	T	T	11 23 11.6	
	baz=126,slow=76,SNR=7.2						
DLBC	Dease Lake	94.17	351	LR	LR	10 12 49.5	
	comp=Z,72nm,21.3s,baz=153,slow=30						
ASAR	Alice Springs	94.63	237	LR	LR	10 19 55.0	
	comp=Z,138nm,18.1s,baz=143,slow=34						
WRA	Warramunga Arr	96.75	240	LR	LR	10 21 50.5	
	comp=Z,110nm,18.1s,baz=64,slow=35						
SCHQ	Schefferville	97.39	24	LR	LR	10 19 52.5	
	comp=Z,68nm,18.7s,baz=232,slow=33						
KDAK	Kodiak Island	98.39	339	LR	LR	10 13 49.8	
	comp=Z,122nm,21.2s,baz=165,slow=29						
GZR	Gura Zlata	144.28	59	⇑P	PKPab	09 45 33.3	-2.0
MARR	Marisel-Cluj	144.47	57	⇑P	PKPab	09 45 35.3	-0.8
IDI	Anoyia	144.92	77	PKP	PKPab	09 45 37.9	-0.1
	comp=Z,25nm,1.1s,baz=300,slow=5.6,SNR=8.0						
ARCR	ARCALIA	145.29	56	⇑P	PKPdf	09 45 39.8	+0.7
HHC	Hu-ho-hao-te	145.37	293	*e*P	PKPbc	09 45 36.3	-3.1
ARR	Arges	145.59	59	⇑P	PKPdf	09 45 39.6	-0.1
BURAR	Bucovina Array	145.82	55	⇑P	PKPdf	09 45 39.8	-0.3
VOIR		145.87	59	⇑P	PKPbc	09 45 40.7	-0.1
MLR	Muntele Rosu	146.50	59	PKPbc	PKPdf	09 45 41.9	+0.6
	comp=Z,3.3nm,0.6s,baz=177,slow=5.9,SNR=5.3						
MLR	Muntele Rosu	146.50	59	⇑P	PKPdf	09 45 41.9	+0.6
VRI	Vrincioaia	147.02	58	⇑P	PKPdf	09 45 38.4	-3.6
SORM	Soroca	147.84	53	⇑P	PKPbc	09 45 44.8	-1.4
AKASG	Malin Array Be	147.86	48	PKPbc	PKPdf	09 45 44.5	+1.2
	comp=Z,0.5nm,0.3s,baz=279,slow=3.7,SNR=9.0						
CMAR	Chiang Mai Arr	148.06	247	PKPbc	PKPbc	09 45 47.2	-0.5
	comp=Z,2.4nm,0.6s,baz=183,slow=1.7,SNR=17						
CFR	Carcaliu	148.06	59	⇓P	PKPdf	09 45 39.6	-4.1
TIRR	Tirgusor	148.31	60	⇑P	PKPbc	09 45 46.0	-1.6
SONM	Songino Array	148.73	306	PKPbc	PKPbc	09 45 48.2	-0.5
	comp=Z,1.5nm,0.7s,ba

RIZ S Sn 09 39 00.5 +5.6
RAO Raoul Island 3.71 191 Pn Pn 09 38 15.4 +3.7
RAO Sn Sn 09 38 58.2 +3.1
RAO Raoul Island 3.71 191 P Pn 09 38 15.4 +3.7
763nm,0.3s,baz=80,slow=21,SNR=5.2
RAO S Sn 09 39 00.4 +5.3
3µm,0.3s,baz=85,slow=23,SNR=11
RAO Raoul Island 3.71 191 P Pn 09 38 15.5 +3.7
GLKZ Green Lake 3.73 191 P Pn 09 38 15.1 +3.2
GLKZ S Sn 09 38 59.3 +4.0
LKBA Tubou, Lakemba 7.49 348 P Pn 09 39 06.5 +4.0
MSVF Nonsavu 9.01 329 Pn Pn 09 39 27.8 +4.7
MSVF Nonsavu 9.01 329 P Pn 09 39 27.8 +4.7
MSVF Nonsavu 9.01 329 P Pn 09 39 27.8 +4.7
TAVE Taveuni 9.21 343 P Pn 09 39 29.4 +3.7
NIUE Niue 9.29 47 Pn Pn 09 39 27.6 +0.7
NIUE Niue 9.29 47 P Pn 09 39 19.9 -7.0
DGTI Dogotuki 9.69 342 P Pn 09 39 36.3 +4.0
FUTU Fugatoga 11.26 355 Pn Pn 09 39 52.0 -1.3
OUZ Omahuta 12.49 218 P P 09 40 21.6 +5.7
WCZ Waipu Caves 12.65 213 P P 09 40 20.9 +3.3
AFI Afiamalu 12.66 24 Pn Pn 09 40 08.6 -3.1
AFI Afiamalu 12.66 24 P Pn 09 40 07.1 -4.6
AFI Afiamalu 12.66 24 P Pn 09 40 08.6 -3.1
HAZ Te Kaha 12.88 198 P Pn 09 40 06.7 -7.5
PUZ Puketiti 13.04 196 P Pn 09 40 06.2 -10
TWGZ Tauwhareparae 13.22 197 S Sn 09 42 33.4 -11
TKGZ Te Karaka 13.50 197 P Pn 09 40 18.2 -4.1
URZ Urewera 13.54 200 P Pn 09 40 24.6 +1.8
16nm,0.3s,baz=288,slow=2.9,SNR=14
URZ S Sn 09 42 40.8 -11
30nm,0.4s,baz=115,slow=6.4,SNR=9.7
URZ Urewera 13.54 200 P Pn 09 40 22.3 -0.5
URZ Urewera 13.54 200 P Pn 09 40 12.9 -10
URZ S Sn 09 42 40.7 -12
RIGZ Rimuhau 13.77 197 P Pn 09 40 20.8 -5.1
MUGZ Murupara 13.85 200 P Pn 09 40 19.8 -7.0
RTZ Ruatahuna 13.91 200 P Pn 09 40 22.0 -5.6
SNGZ Shannon Statio 13.96 198 P Pn 09 40 22.3 -5.9
KNZ Kokohu 14.09 197 P Pn 09 40 22.6 -7.3
RAHZ Arahi 14.15 199 P Pn 09 40 23.4 -7.4
NMHZ Naumai 14.40 199 P Pn 09 40 28.1 -5.9
HIZ Hauiti 14.56 206 P Pn 09 40 35.6 -0.2
BKZ Black Stump Fm 14.56 200 P Pn 09 40 35.0 -0.9
BKZ Black Stump Fm 14.56 200 P Pn 09 40 28.2 -7.8
OTVZ Oturere 14.83 202 P Pn 09 40 34.5 -4.9
OUENC Ouen Island, N 14.98 279 P P 09 40 45.8 +2.1
YATNC Mamie plateau, 15.04 280 P P 09 40 47.5 +3.2
PWZ Pawanui 15.25 198 P Pn 09 40 37.3 -7.2
PXZ Pawanui 15.26 198 P Pn 09 40 38.5 -6.0
ONTNC Ouen Toro 15.36 279 P 09 40 48.6 +0.8
ONTNC IAmb IAmb 09 40 54.9
comp=Z,26nm,0.9s
DZM Mont Dzumac 15.43 280 P 09 40 48.7 0.0
DZM IAmb IAmb 09 40 53.5
comp=Z,41nm,1.1s
DZM Mont Dzumac 15.43 280 P Pn 09 40 47.4 +0.4
comp=Z,20nm,0.8s,baz=87,slow=16,SNR=24
DZM Mont Dzumac 15.43 280 P P 09 40 52.4 +3.6
DVP Devils Point 15.72 297 P P 09 40 56.1 +4.2
BFZ Birch Farm 16.03 199 P Pn 09 40 50.9 -3.3
BFZ Birch Farm 16.03 199 P Pn 09 40 46.3 -7.8
MRZ Mangatainoka R 16.21 200 P Pn 09 40 49.8 -6.6
SNZO South Karori 17.08 201 P P 09 41 04.0 -2.7
QRZ Quartz Range 17.46 207 P P 09 41 07.7 -3.2
SANVU Saraoutou 17.79 302 P 09 41 13.9 -0.8
SANVU Saraoutou 17.79 302 P Pn 09 41 16.1 +0.4
CTZ Chatham Island 18.11 179 P P 09 41 12.9 -5.0
KHZ Kahutara 18.46 202 P P 09 41 18.4 -3.4
RPZ Rata Peaks 20.49 205 P P 09 41 44.0 +0.2
comp=Z,2.9nm,0.4s,baz=239,slow=16,SNR=1.6
RPZ S S 09 45 11.4 -15
comp=Z,5.9nm,0.5s,baz=315,slow=20,SNR=7.9
comp=Z,2.9nm,0.4s
JCZ Jackson Bay 21.71 208 P P 09 41 54.3 -2.6
SYZ Scrubby Hill 23.60 204 P P 09 42 10.1 -5.1
SAVO Savo Central 27.34 303 P P 09 42 48.1 -1.2
TATA Tatamba Isabel 27.83 304 P P 09 42 54.1 +0.5
ARMA Armidale 27.95 253 P P 09 42 54.3 -0.4
ARMA IAmb IAmb 09 43 02.4
comp=Z,32nm,1.4s
ARMA Armidale 27.95 253 P P 09 42 54.3 -0.4
EIDS Eidsvold 28.66 263 P P 09 43 00.2 -0.7
EIDS Eidsvold 28.66 263 P P 09 43 01.4 +0.4
CNB Canberra Magne 30.35 243 P P 09 43 15.2 -0.6
CAN Canberra 30.64 243 P P 09 43 18.6 +0.2
CAN Canberra 30.64 243 P P 09 43 17.6 -0.8
CAN Canberra 30.64 243 P P 09 43 18.6 +0.2
CAN pmax pmax
comp=Z,35nm,1.2s
CMSA Cobar Meteorol 33.08 251 P P 09 43 39.1 -0.6
TOO Toolangi 33.80 240 P P 09 43 45.9 -0.1
TOO IAmb IAmb 09 44 09.3
comp=Z,17nm,1.4s
TOO Toolangi 33.80 240 P P 09 43 45.9 -0.1
TOO pmax pmax
comp=Z,17nm,1.5s
CTA Charters Tower 34.11 272 P P 09 43 48.8 -0.1
CTA Charters Tower 34.11 272 P P 09 43 48.7 -0.1
CTAO Charters Tower 34.11 272 P 09 43 48.4 -0.5
CTAO Charters Tower 34.11 272 P P 09 43 48.8 -0.1
CTAO Charters Tower 34.11 272 P P 09 43 48.4 -0.5
CTAO pmax pmax
comp=Z,23nm,0.7s
QLP Quilpie 34.63 260 P P 09 43 52.6 -0.6
STKA Stephens Creek 36.57 250 P 09 44 09.5 -0.2
STKA Stephens Creek 36.57 250 P P 09 44 08.8 -0.9
comp=Z,7.6nm,0.5s,baz=99,slow=10,SNR=35
STKA PcP PcP 09 46 31.4 +0.9
comp=Z,3.6nm,0.5s,baz=99,slow=3.3,SNR=5.2
comp=Z,7.6nm,0.5s
STKA Stephens Creek 36.57 250 P P 09 44 08.8 -0.9
STKA Stephens Creek 36.57 250 P P 09 44 09.5 -0.2
STKA pmax pmax
comp=Z,69nm,1.2s
PMG Port Moresby 37.51 289 P 09 44 16.9 -0.9
PMG Port Moresby 37.51 289 *d* *i*P P 09 44 17.1 -0.7
PMG pmax pmax
comp=Z,35nm,0.8s
INKA Innaminka 37.58 257 P P 09 44 18.0 -0.3
INKA IAmb IAmb 09 44 20.4
comp=Z,14nm,0.7s
HTT Hallett 38.81 248 P P 09 44 27.6 -1.0
COEN Coen 38.96 280 P P 09 44 29.1 -0.9
COEN IAmb IAmb 09 44 31.9
comp=Z,8.3nm,0.6s
COEN Coen 38.96 280 P P 09 44 29.6 -0.4
QIS Mount Isa 39.99 268 P P 09 44 37.2 -1.3
BBOO Buckleboo 41.23 249 P P 09 44 47.2 -1.3
BBOO Buckleboo 41.23 249 P P 09 44 47.0 -1.5
MANU Manus Island 41.42 299 P P 09 44 49.2 -1.0
MANU IAmb IAmb 09 44 52.1
comp=Z,36nm,1.3s
AS01 Alice Springs 44.31 262 P P 09 45 12.4 -1.2
AS31 Alice Springs 44.35 262 P P 09 45 13.5 -0.4
AS31 IAmb IAmb 09 45 15.1
comp=Z,13nm,0.5s
ASAR Alice Springs 44.35 262 P P 09 45 12.5 -1.4
ASAR Alice Springs 44.35 262 P P 09 45 12.2 -1.7
comp=Z,22nm,0.5s,baz=90,slow=6.7,SNR=289
comp=Z,22nm,0.5s
ASAR Alice Springs 44.35 262 P P 09 45 12.5 -1.4
WR0 Warramunga Arr 44.72 267 P P 09 45 15.4 -1.4
WR0 IAmb IAmb 09 45 16.9
comp=Z,10.0nm,0.5s
WR8 Warramunga Arr 44.76 267 P P 09 45 16.2 -0.9
WR8 IAmb IAmb 09 45 17.9
comp=Z,9.7nm,0.6s
WRAB Tennant Creek 44.90 267 P P 09 45 16.7 -1.6
WRAB IAmb IAmb 09 45 18.3
comp=Z,12nm,0.6s
WRAB Tennant Creek 44.90 267 P P 09 45 16.7 -1.6
WRAB pmax pmax
comp=Z,12nm,0.6s
WRA Warramunga Arr 44.91 267 P P 09 45 16.5 -1.8
WRA Warramunga Arr 44.91 267 P P 09 45 16.1 -2.3
comp=Z,15nm,0.5s,baz=103,slow=7.6,SNR=210
WRA PcP PcP 09 46 57.4 -0.4
comp=Z,2.9nm,0.7s,baz=107,slow=3.3,SNR=8.4
comp=Z,15nm,0.5s
WRA Warramunga Arr 44.91 267 P P 09 45 16.5 -1.8
WRA pmax pmax
comp=Z,1.0nm,0.6s

WB0 Warramunga Arr 44.91 267 P P 09 45 17.1 -1.3
KDU Kakadu 49.04 275 P P 09 45 49.0 -1.4
MTN Manton Dam 50.19 274 P P 09 45 57.5 -1.6
MTN IAmb IAmb 09 46 37.9
comp=Z,12nm,1.1s
KIP Kipapa 50.28 23 *ce*P P 09 45 57.6 -2.0
KIP pmax pmax
comp=Z,204nm,4.2s
KNRA Kununurra 51.29 270 P 09 46 05.9 -1.5
VNDA Vanda 52.94 186 P P 09 46 20.7 +2.0
VNDA Vanda 52.94 186 P P 09 46 21.9 +3.2
comp=Z,1.2nm,0.6s,baz=6.7,slow=7.7,SNR=9.5
comp=Z,1.2nm,0.6s
VNDA Vanda 52.94 186 P P 09 46 20.7 +2.0
VNDA pmax pmax
comp=Z,5.0nm,1.5s
FITZ Fitzroy Crossi 53.31 266 P 09 46 21.4 -0.9
FITZ Fitzroy Crossi 53.31 266 P P 09 46 21.6 -0.7
FAKI Fak Fak 53.56 286 P P 09 46 23.2 -1.0
KLBR Kellerberrin 56.76 248 P P 09 46 43.4 -3.5
NWAO Narrogin (SRO) 56.93 246 P P 09 46 46.5 -1.6
NWAO Narrogin (SRO) 56.93 246 P P 09 46 46.5 -1.6
NWAO pmax pmax
comp=Z,28nm,1.5s
MEEK Meekatharra 57.14 254 P P 09 46 47.3 -2.4
MBWA Marble Bar 57.66 260 P P 09 46 51.6 -1.8
MBWA Marble Bar 57.66 260 P P 09 46 50.9 -2.5
BLDU Ballidu 57.84 249 P P 09 46 51.9 -2.6
MORW Morawa 58.76 250 P P 09 46 59.2 -1.8
MORW Morawa 58.76 250 P P 09 46 58.8 -2.2
EDFI Ende, Flores 60.31 275 P P 09 47 10.4 -1.5
comp=Z,27nm,1.1s
GIRL Giralia 62.07 257 P P 09 47 23.3 -0.3
BKSI Bulukumba 63.17 277 P P 09 47 29.6 -1.4
comp=Z,45nm,0.8s
KAPI Kappang 63.64 277 ⇓ *e*P P 09 47 32.4 -1.6
KAPI pmax pmax
comp=Z,28nm,1.5s
PLAI Plampang 63.81 273 P P 09 47 33.5 -1.7
QSPA South Pole Qui 64.50 180 P P 09 47 41.2 +2.1
QSPA IAmb IAmb 09 48 21.3
comp=Z,9.6nm,1.0s
QSPA South Pole Qui 64.50 180 P P 09 47 41.4 +2.3
comp=Z,1.5nm,0.7s,baz=19,slow=1.1,SNR=12
comp=Z,1.5nm,0.7s
JAGI Jajeg, Banyuwa 67.23 271 P P 09 47 55.9 -1.3
BELA Belgrano 2 74.43 172 P P 09 48 40.1 +0.4
JGF Kuroka 74.53 323 P P 09 48 40.6 -0.2
MJAR Matsushiro Arr 74.78 324 P P 09 48 41.6 -0.6
MJAR Matsushiro Arr 74.78 324 P P 09 48 40.2 -2.0
comp=Z,3.1nm,0.8s,baz=163,slow=5.0,SNR=6.7
comp=Z,3.1nm,0.8s
MJAR Matsushiro Arr 74.78 324 P P 09 48 41.6 -0.6
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MAJO Matsushiro 74.78 324 ⇓ *e*P P 09 48 40.8 -1.4
MAJO pmax pmax
comp=Z,35nm,4.0s
KSM Kuching 74.96 279 P P 09 48 42.5 -1.3
KSM IAmb IAmb 09 48 45.4
comp=Z,24nm,1.3s
JTM Tenmabayashi 76.61 329 P P 09 48 51.9 -0.6
AMKA Amchitka 76.69 358 P P 09 48 52.8 +0.1
MAW Mawson 77.07 200 P P 09 48 55.9 +1.1
comp=Z,7.7nm,0.6s,baz=138,slow=5.9,SNR=42
comp=Z,7.7nm,0.6s
KIWB Kanaga Island 77.11 360 P P 09 48 55.5 +0.5
ADK Adak 77.14 0 P P 09 48 55.4 +0.2
ADK Adak 77.14 0 P P 09 48 48.8 -6.4
ADK Adak 77.14 0 P P 09 48 55.4 +0.2
ADK pmax pmax
comp=Z,31nm,0.9s
ATKA Atka Island 77.50 2 P P 09 48 57.2 0.0
MDSI Maura Dua 77.88 271 P P 09 48 58.9 -1.4
SMY Shemya 78.36 355 P P 09 49 02.6 +0.7
SMY Shemya 78.36 355 P P 09 49 02.6 +0.7
SMY pmax pmax
comp=Z,85nm,1.5s
NIKH Nikolski High 78.56 5 P P 09 49 03.3 +0.3
NIKH Nikolski High 78.56 5 P P 09 49 04.1 +1.0
baz=188
JKA Kamikawa-asahi 78.56 332 P P 09 49 04.6 +1.3
ASAJ Asahikawa 78.56 332 P P 09 49 04.6 +1.3
ASAJ pmax pmax
comp=Z,26nm,0.7s
UNV Unalaska Valle 79.64 6 P 09 49 09.2 +0.3
UNV IAmb IAmb 09 49 09.7
comp=Z,9.1nm,0.7s
UNV Unalaska Valle 79.64 6 P P 09 49 09.6 +0.7
baz=190
LVA Lava Point 80.00 7 P 09 49 11.3 +0.5
LVA IAmb IAmb 09 49 11.6
comp=Z,11nm,0.5s
AKUT Akutan 80.00 7 P P 09 49 11.2 +0.4
AKUT IAmb IAmb 09 49 26.4
comp=Z,16nm,1.2s
YSS Yuzhno-Sakhali 80.78 333 P 09 49 15.2 0.0
YSS Yuzhno-Sakhali 80.78 333 *e*P P 09 49 16.6 +1.4
YSS pmax pmax
comp=Z,50nm,1.2s
TJN Taejon 80.85 318 P P 09 49 15.4 -0.4
TJN Taejon 80.85 318 P P 09 49 15.4 -0.4
TJN pmax pmax
comp=Z,70nm,0.9s
KSRS Korea Array 81.22 319 P P 09 49 17.6 -0.2
comp=Z,4.1nm,0.6s,baz=132,slow=5.8,SNR=23
comp=Z,4.1nm,0.6s
KSAR Wonju Array Be 81.24 319 P P 09 49 18.1 +0.3
KSAR Wonju Array Be 81.24 319 P P 09 49 18.1 +0.3
KS19 Wonju Array Si 81.29 319 P P 09 49 18.2 0.0
KS19 IAmb IAmb 09 49 19.2
comp=Z,33nm,1.5s
PEA0B Petropavlovsk- 81.37 345 P P 09 49 18.5 +0.3
PEA0B Petropavlovsk- 81.37 345 P P 09 49 18.5 +0.3
PEA0B pmax pmax
comp=Z,18nm,0.6s
PETK Petropavlovsk- 81.37 345 P P 09 49 18.4 +0.2
PETK Petropavlovsk- 81.37 345 P P 09 49 16.9 -1.3
comp=Z,12nm,0.6s,baz=110,slow=6.5,SNR=32
comp=Z,12nm,0.6s
PETK Petropavlovsk- 81.37 345 P P 09 49 18.4 +0.2
SLBS Sierra La Lagu 81.41 59 P P 09 49 20.8 +1.6
SLBS IAmb IAmb 09 49 24.7
comp=Z,12nm,1.4s
CNBA Chernabura Isl 81.49 10 P P 09 49 19.4 +0.7
CNBA IAmb IAmb 09 50 00.8
comp=Z,22nm,1.4s
CHNA Chernabura Isl 81.50 10 P P 09 49 11.2 -7.6
CHNA Chernabura Isl 81.50 10 P P 09 49 19.1 +0.3
baz=196
ESJX Sierra Juarez 81.76 49 P 09 49 21.7 +0.7
ESJX IAmb IAmb 09 49 24.5
comp=Z,18nm,1.5s
SDPT Sand Point 81.86 10 P P 09 49 21.4 +0.8
baz=195
SYO Syowa Base 81.96 193 ⇑ *e*P P 09 49 21.0 -0.2
S12K Black Hills 81.98 9 P P 09 49 22.0 +0.7
S12K IAmb IAmb 09 49 22.1
comp=Z,13nm,0.6s
S12K Black Hills 81.98 9 P P 09 49 22.1 +0.7
baz=194
VES Vestal, Richgr 82.07 44 P P 09 49 23.5 +1.2
VES IAmb IAmb 09 49 25.1
comp=Z,19nm,1.2s
KMPM Mount Pierce 82.10 38 P P 09 49 23.4 +1.0
KMPM IAmb IAmb 09 49 26.0
comp=Z,12nm,1.1s
KMRM Mail Ridge 82.20 38 P 09 49 25.1 +2.1
KMRM IAmb IAmb 09 49 26.4
comp=Z,18nm,1.1s
PFO Pinyon Flats O 82.39 47 P P 09 49 24.8 +0.6
PFO Pinyon Flats O 82.39 47 P P 09 49 24.8 +0.6
PFO pmax pmax
comp=Z,4.0nm,1.1s
H03S2 Juan Fernandez 82.48 124 T T 11 20 50.9
baz=243,slow=74,SNR=17
H03S1 Juan Fernandez 82.50 124 T T 11 20 52.0
baz=243,slow=74,SNR=19
H03S3 Juan Fernandez 82.50 124 T T 11 20 50.8
baz=243,slow=74,SNR=18
H03N2 Juan Fernandez 82.65 123 T T 11 20 48.6
baz=250,slow=73,SNR=5.3
H03N3 Juan Fernandez 82.65 123 T T 11 20 47.3
baz=250,slow=73,SNR=7.4
H03N1 Juan Fernandez 82.66 123 T T 11 20 51.5
baz=250,slow=73,SNR=9.1

TROLL Troll, Antarti 82.67 180 ⇑P P 09 49 25.6 +0.5
comp=Z,176nm,0.3s
TROLL ⇑pP **pwP** 09 50 03.5 +6.9
comp=Z,280nm,0.6s
O02D Mt. Diablo Mer 82.69 39 P P 09 49 25.6 +0.2
O02D IAmb IAmb 09 49 29.1
comp=Z,8.1nm,0.9s
S14K Fog Glacier 82.91 10 P P 09 49 26.6 +0.4
baz=196
AFDM Forest Hills D 82.92 41 P P 09 49 27.5 +0.9
SNAA Sanae 82.92 178 ⇑P P 09 49 25.2 -1.1
comp=Z,29nm,0.4s
SNAA ⇑pP **sP** 09 50 04.4 -6.6
comp=Z,71nm,1.0s
SNAA Sanae 82.92 178 P P 09 49 26.8 +0.5
SNAA Sanae 82.92 178 ⇓ *e*P P 09 49 27.0 +0.7
SNAA pmax pmax
comp=Z,4.0nm,1.2s
BELC Belle Mtn. Jos 82.93 47 P P 09 49 26.9 -0.1
BELC IAmb IAmb 09 49 30.2
comp=Z,6.2nm,0.8s
CLC China Lake 83.00 45 P P 09 49 28.5 +1.3
CLC IAmb IAmb 09 49 30.3
comp=Z,10nm,1.3s
CLC China Lake 83.00 45 P P 09 49 28.5 +1.3
CLC pmax pmax
comp=Z,11nm,1.3s
ORV Oroville 83.01 40 P P 09 49 27.4 +0.4
ORV Oroville 83.01 40 P P 09 49 27.5 +0.4
ORV pmax pmax
comp=Z,4.0nm,1.0s
VNA3 Neumayer Olymp 83.03 176 ⇑P P 09 49 26.7 -0.1
comp=Z,4.4nm,0.5s
VNA3 ⇑pP **pP** 09 50 01.8 +3.5
comp=Z,4.4nm,0.7s
GSC Goldstone, Bar 83.19 46 P P 09 49 29.6 +1.4
GSC IAmb IAmb 09 49 31.3
comp=Z,11nm,1.4s
GSC Goldstone, Bar 83.19 46 P P 09 49 29.6 +1.4
GSC pmax pmax
comp=Z,11nm,1.5s
N02D Trinity Center 83.27 38 P P 09 49 29.1 +0.6
KBO Bosley Butte 83.28 37 P P 09 49 28.8 +0.3
O03E Paynes Creek 83.33 39 P P 09 49 30.0 +1.3
O03E IAmb IAmb 09 49 31.5
comp=Z,12nm,1.2s
M02C Callahan 83.47 38 P P 09 49 30.8 +1.3
M02C IAmb IAmb 09 49 32.9
comp=Z,5.6nm,0.8s
WAKR Walker 83.55 42 P P 09 49 30.8 +0.6
QSM Queen of Sheba 83.56 45 P P 09 49 30.8 +0.8
HSIG 83.56 54 P P 09 49 31.1 +1.0
HSIG IAmb IAmb 09 49 32.3
comp=Z,6.7nm,1.0s
L02F Cave Junction 83.57 37 P P 09 49 31.2 +1.3
IRM Iron Mountain 83.59 47 P P 09 49 32.0 +1.7
IRM IAmb IAmb 09 49 33.8
comp=Z,9.7nm,1.3s
USA0B Ussuriysk Arra 83.61 326 P P 09 49 30.2 +0.2
USA0B Ussuriysk Arra 83.61 326 P P 09 49 30.2 +0.2
USA0B pmax pmax
comp=Z,28nm,1.1s
USRK Ussuriysk Ar. 83.61 326 P P 09 49 30.5 +0.5
USRK Ussuriysk Ar. 83.61 326 P P 09 49 29.8 -0.2
comp=Z,13nm,0.8s,baz=106,slow=4.2,SNR=15
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 83.61 326 P P 09 49 30.5 +0.5
MPK Martis Peak 83.70 41 P P 09 49 31.7 +0.7
MPK IAmb IAmb 09 49 33.8
comp=Z,8.3nm,0.8s
VNA1 Neumayer--Stat 83.70 176 ⇑P P 09 49 29.7 -0.5
comp=Z,5.9nm,0.8s
VNA1 ⇓pP **sP** 09 50 08.7 -6.3
comp=Z,5.6nm,0.8s
DSP Deep Springs 83.73 43 P P 09 49 31.9 +1.2
NJ2 Nanjing 83.74 310 *e*P P 09 49 32.1 +1.2
NJ2 pmax pmax
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 83.78 38 P P 09 49 31.3 +0.2
YBH Yreka Blue Hor 83.78 38 P P 09 49 31.3 +0.2
YBH pmax pmax
comp=Z,6.0nm,1.0s
GWY Greenwater Val 83.82 45 P 09 49 31.4 -0.1
HATC Hat Creek Radi 83.87 39 P P 09 49 30.9 -0.6
HATC IAmb IAmb 09 49 34.5
comp=Z,11nm,0.9s
SHOC Shoshone, Teco 83.90 45 P P 09 49 32.1 +0.4
SHOC IAmb IAmb 09 49 34.7
comp=Z,10nm,1.2s
K02D Willamette Mer 83.91 37 P P 09 49 32.1 +0.4
LHV Little Huntoon 83.95 43 P P 09 49 32.2 +0.3
TYV Tymovskoe 83.99 336 *e*P P 09 49 32.3 +0.6
TYV pmax pmax
comp=Z,27nm,0.9s
TYV pmax pmax
comp=Z,200nm,5.4s
J01E Myrtle Point 84.08 36 P P 09 49 32.4 0.0
J01E IAmb IAmb 09 49 35.5
comp=Z,6.8nm,0.8s
GMN Gold Mountain 84.13 44 P P 09 49 32.1 -1.0
NVAR Mina Array Bea 84.19 42 P P 09 49 33.8 +0.4
NVAR Mina Array Bea 84.19 42 P P 09 49 34.5 +1.0
comp=Z,3.7nm,0.7s,baz=223,slow=8.7,SNR=36
comp=Z,3.7nm,0.7s
NV11 Mina Array Sit 84.28 43 P P 09 49 33.8 0.0
L04D Klamath Falls 84.33 38 P P 09 49 35.3 +1.4
L04D IAmb IAmb 09 49 36.6
comp=Z,9.1nm,0.9s
PAHR Pah Rah Range 84.35 41 P 09 49 35.5 +1.4
TPNV Topopah Spring 84.55 45 P P 09 49 36.8 +1.6
TPNV Topopah Spring 84.55 45 P P 09 49 36.8 +1.6
TPNV pmax pmax
comp=Z,4.0nm,1.0s
BBOR Butler Butte 84.57 37 P P 09 49 36.6 +1.4
TPH Tonopah 84.63 43 P P 09 49 37.4 +1.8
TPH IAmb IAmb 09 49 38.3
comp=Z,6.2nm,0.8s
TPH Tonopah 84.63 43 P P 09 49 37.4 +1.8
TPH pmax pmax
comp=Z,6.0nm,0.8s
R17L Mt. Peulik Vol 84.72 11 P P 09 49 36.5 +1.2
baz=199
PLK4 Peulik 4 84.72 11 P 09 49 36.6 +1.2
I03D Drain, OR 84.76 36 P P 09 49 37.7 +1.9
Y14A Wickenburg 84.90 49 P P 09 49 36.6 -0.3
OHAK Old Harbor 84.90 13 P P 09 49 28.3 -7.9
OHAK Old Harbor 84.90 13 P P 09 49 37.2 +1.0
baz=202
W13A Hualapai Mount 84.98 47 P P 09 49 36.7 -0.8
R18K Karluk 85.00 12 P P 09 49 37.1 +0.5
baz=200
MDJ Mudanjiang 85.13 325 P P 09 49 37.5 -0.2
MDJ Mudanjiang 85.13 325 P P 09 49 38.0 +0.3
MDJ pmax pmax
comp=Z,19nm,0.8s
Q17K Contact Creek 85.40 11 P P 09 49 39.1 +0.3
baz=199
TUC Tucson 85.51 51 P 09 49 39.5 -0.5
TUC IAmb IAmb 09 49 43.7
comp=Z,7.0nm,0.9s
TUC Tucson 85.51 51 P P 09 49 39.5 -0.5
TUC pmax pmax
comp=Z,7.0nm,1.0s
O14K Tigyukauivet M 85.54 8 P P 09 49 40.0 +0.7
baz=194
PRN Pahroc Range 85.59 45 P P 09 49 40.3 0.0
J05D Fort Rock, OR 85.62 37 P P 09 49 39.4 -0.9
O15K Ungalikthiuk R 85.66 9 P P 09 49 40.6 +0.7
baz=196
Q16K King Salmon 85.66 11 P P 09 49 40.3 +0.4
baz=198
P16K Nushagak River 85.78 10 P P 09 49 41.0 +0.5
baz=197
Q18K Katmai Hardscr 85.92 11 P P 09 49 41.9 +0.5
baz=200
M11K Mekoryuk 86.13 5 P 09 49 42.0 -0.1
M11K IAmb IAmb 09 49 45.0
comp=Z,13nm,0.9s
M11K Mekoryuk 86.13 5 P P 09 49 43.5 +1.3
baz=190
N14K Kuskokwak Cree 86.14 8 P 09 49 43.4 +1.1
N14K Kuskokwak Cree 86.14 8 P P 09 49 43.3 +1.1
baz=194,SNR=9.5
P17K Kvichak River 86.19 10 P P 09 49 43.3 +0.8

baz=199
X16A Lo Mia Camp, P 86.23 49 P P 09 49 43.6 0.0
O16K Kokwok River B 86.31 10 P P 09 49 43.1 0.0
O16K IAmb IAmb 09 49 43.9
comp=Z,5.6nm,0.8s
O16K Kokwok River B 86.31 10 P P 09 49 43.7 +0.6
baz=197
M13K Dall Lake 86.43 7 P P 09 49 44.7 +1.1
baz=192
Q19K Cape Douglas, 86.43 12 P P 09 49 44.5 +0.7
baz=201
LCMT Little Creek M 86.52 46 P P 09 49 45.6 +0.7
WVOR Wild Horse Val 86.53 39 P P 09 49 45.8 +1.0
WVOR Wild Horse Val 86.53 39 P P 09 49 45.8 +1.0
WVOR pmax pmax
comp=Z,2.0nm,0.8s
P18K Big Mountain, 86.58 11 P P 09 49 45.0 +0.5
baz=200
N15K Kwethluk River 86.58 8 P 09 49 44.6 +0.2
N15K Kwethluk River 86.58 8 P P 09 49 45.2 +0.8
baz=195,SNR=11
O17K Koliganek Bris 86.63 10 P P 09 49 45.5 +0.8
baz=198
CCUT Cedar City 86.76 46 P 09 49 46.7 +0.5
CN2 Changchun 86.80 322 eP P 09 49 46.1 +0.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
M14K Bethel 86.91 7 P P 09 49 46.9 +0.9
M14K IAmb IAmb 09 49 50.1
comp=Z,6.0nm,0.8s
M14K Bethel 86.91 7 P P 09 49 46.7 +0.7
baz=194
SZCU Shurtz Canyon 86.96 46 P P 09 49 48.6 +1.5
SPR3 Spring Creek 3 86.99 44 P P 09 49 48.1 +0.7
M15K Kasigluk River 87.01 8 P P 09 49 47.3 +0.8
baz=195,SNR=7.8
O18K Koktuh Hills 87.02 11 P P 09 49 47.2 +0.7
O18K Koktuh Hills 87.02 11 P P 09 49 47.3 +0.7
baz=200,SNR=5.4
PSUT Pine Spring 87.02 45 P 09 49 46.9 -0.5
BNX BinXian 87.03 325 ⇓P P 09 49 46.9 -0.1
BNX pmax pmax
comp=Z,28nm,0.8s
N16K Nishlik Lake 87.06 9 P P 09 49 47.7 +0.9
baz=197,SNR=8.5
P19K Oil Pt 87.18 12 P P 09 49 48.1 +0.7
baz=202
J08A Circle Bar Ran 87.20 39 P 09 49 48.0 -0.1
TIA Tai'an 87.29 312 P P 09 49 49.2 +0.7
TIA pmax pmax
comp=Z,20nm,0.8s
N17K Nushagak Hills 87.34 10 P P 09 49 49.1 +1.0
baz=196
L14K Kuka Creek 87.41 7 P P 09 49 49.3 +0.9
baz=193
CNPM China Poot 87.45 13 P P 09 49 49.2 +0.5
CNPM IAmb IAmb 09 49 50.1
comp=Z,7.8nm,0.7s
HOM Homer 87.49 13 P P 09 49 49.4 +0.6
baz=203
O19K Port Alsworth 87.49 11 P P 09 49 49.2 +0.4
O19K Port Alsworth 87.49 11 P P 09 49 49.2 +0.4
baz=200,SNR=5.3
ILSW Iliamna Southw 87.51 12 P P 09 49 49.3 +0.2
M16K Timber Creek 87.56 9 P P 09 49 49.7 +0.6
baz=196
N18K Kilae Creek 87.69 10 P P 09 49 50.3 +0.5
baz=199
O20K Slope Mountain 87.69 12 P P 09 49 50.6 +0.7
baz=202
K13K Kusilvak Mount 87.79 6 P P 09 49 51.0 +0.8
baz=191
L15K Umgalak Mounta 87.87 7 P P 09 49 51.3 +0.8
baz=194
N19K Bonanza Creek 88.05 11 P P 09 49 51.6 0.0
N19K IAmb IAmb 09 49 52.5
comp=Z,7.8nm,1.1s
N19K Bonanza Creek 88.05 11 P P 09 49 52.2 +0.6
baz=200
M17K Holitna River 88.14 9 IAmb IAmb 09 49 54.5
comp=Z,9.2nm,0.9s
M17K Holitna River 88.14 9 P P 09 49 53.3 +1.4
baz=198,SNR=5.3
G08A Pilot Rock 88.17 37 IAmb IAmb 09 49 55.2
comp=Z,6.0nm,1.1s
SEW Seward 88.35 13 IAmb IAmb 09 49 54.4
comp=Z,5.7nm,0.8s
SEW Seward 88.35 13 P P 09 49 53.5 +0.6
baz=205
K15K Wolf Creek Mou 88.47 7 P P 09 49 54.9 +1.5
K15K IAmb IAmb 09 49 55.7
comp=Z,13nm,1.1s
K15K Wolf Creek Mou 88.47 7 P P 09 49 53.9 +0.5
baz=194
M18K Stony River 88.47 10 P P 09 49 54.5 +1.1
baz=199
LTY Liberty 88.55 35 IAmb IAmb 09 49 56.4
comp=Z,3.8nm,0.9s
J14K Nanvaranak Lak 88.70 6 P P 09 49 55.2 +0.8
baz=192
P23K Montague Islan 88.70 14 P P 09 49 55.3 +0.8
baz=207
L17K Donlin 88.72 9 P P 09 49 55.2 +0.6
baz=197
MA2 Magadan 88.88 344 P P 09 49 54.8 -0.6
MA2 Magadan 88.88 344 P P 09 49 54.8 -0.6
MA2 pmax pmax
comp=Z,10.0nm,0.7s
E08A Dider Farm, El 88.89 36 P P 09 49 55.4 -0.4
E08A IAmb IAmb 09 49 59.0
comp=Z,9.0nm,1.3s
L18K Granite Mounta 89.03 9 IAmb IAmb 09 49 58.3
comp=Z,6.1nm,0.8s
L18K Granite Mounta 89.03 9 P P 09 49 56.9 +0.8
baz=198,SNR=6.3
CRAG Craig 89.04 23 P P 09 49 56.9 +0.7
baz=219
Y22A Socorro 89.08 51 IAmb IAmb 09 50 00.4
comp=Z,5.5nm,1.1s
M19K Big River Lodg 89.09 11 IAmb IAmb 09 49 57.6
comp=Z,4.6nm,0.8s
M19K Big River Lodg 89.09 11 P P 09 49 56.9 +0.6
baz=200
TXAR Lajitas Array 89.14 57 P P 09 49 59.5 +2.0
comp=Z,1.1nm,0.8s,baz=216,slow=6.2,SNR=7.9
comp=Z,1.1nm,0.8s
STLK Strandline Lak 89.16 12 IAmb IAmb 09 49 57.2
comp=Z,6.3nm,0.7s
GAMB Gambell 89.17 2 P P 09 49 57.0 +0.5
baz=185
RC01 Rabbit Creek A 89.19 13 P P 09 49 57.5 +0.7
baz=205
PWL Port Wells 89.27 14 P P 09 49 58.1 +0.9
baz=206
L19K White Mountain 89.27 10 IAmb IAmb 09 49 59.9
comp=Z,6.5nm,0.9s
L19K White Mountain 89.27 10 P P 09 49 58.4 +1.1
baz=200,SNR=5.8
K17K Iditarod 89.28 9 P P 09 49 57.9 +0.7
baz=197
M20K Styx River 89.28 11 P P 09 49 58.2 +0.8
baz=202
D08A Wollman Farm, 89.32 36 P P 09 49 58.1 +0.3
D08A IAmb IAmb 09 50 00.5
comp=Z,9.3nm,0.9s
SUA Susitna One 89.33 12 P P 09 49 58.0 +0.4
SUA Susitna One 89.33 12 P P 09 49 58.1 +0.4
baz=204,SNR=12
V35K Ketchikan 89.48 24 P P 09 49 58.9 +0.7
baz=220
J16K Anvik River 89.53 7 IAmb IAmb 09 50 00.4
comp=Z,7.4nm,0.8s
J16K Anvik River 89.53 7 P P 09 49 59.2 +0.8
baz=195
SIT Sitka 89.54 21 P P 09 49 50.2 -8.3
SIT Sitka 89.54 21 P P 09 49 59.2 +0.7
baz=217
U33K Whale Pass 89.55 23 P P 09 49 59.6 +1.0
baz=219
GLI Glacier Island 89.56 14 P P 09 49 59.1 +0.5
baz=207,SNR=7.1
EYAK Cordova Ski Ar 89.57 15 P P 09 49 59.4 +0.8
baz=208,SNR=5.3
HLID Hailey 89.66 40 P P 09 49 59.9 +0.2
PLID Pearl Lake 89.67 38 P 09 50 00.2 +0.4
PLID IAmb IAmb 09 50 02.0
comp=Z,4.7nm,0.9s
L20K Farewell, AK 89.71 11 P P 09 49 59.6 +0.3
baz=201
M22K Willow 89.72 12 P P 09 49 59.8 +0.6
baz=204
HMT Hamilton 89.73 16 P P 09 50 00.5 +1.0
HMT IAmb IAmb 09 50 01.0
comp=Z,5.8nm,0.7s
KNK Knik Glacier 89.74 13 P P 09 50 00.3 +0.8
KNK IAmb IAmb 09 50 01.2
comp=Z,7.9nm,0.7s
KNK Knik Glacier 89.74 13 P P 09 49 59.7 +0.3
baz=206
PMR Palmer 89.77 13 IAmb IAmb 09 50 01.0
comp=Z,5.6nm,0.9s
PMR Palmer 89.77 13 P P 09 50 00.1 +0.6
baz=205,SNR=5.6
J17K VABM Dome 89.83 8 P P 09 50 00.6 +0.8
baz=196
B08A Colville Reser 89.95 34 IAmb IAmb 09 50 02.5
comp=Z,4.9nm,0.8s
S31K Pelican 89.98 20 P P 09 50 01.4 +0.9
baz=216
HEH HeiHe 90.04 328 eP P 09 50 01.2 +0.2
HEH pmax pmax
comp=Z,18nm,0.9s
TCUT Toone Canyon 90.05 44 P P 09 50 01.0 -0.7
TCUT IAmb IAmb 09 50 04.4
comp=Z,7.7nm,1.2s
WRAK Wrangell Islan 90.05 23 IAmb IAmb 09 50 03.7
comp=Z,6.4nm,0.8s
WRAK Wrangell Islan 90.05 23 P P 09 50 01.8 +0.9
baz=220
DIV Divide 90.08 15 P P 09 50 01.8 +0.7
DIV IAmb IAmb 09 50 02.8
comp=Z,8.5nm,0.9s
MESA MESA 90.18 17 P P 09 50 02.5 +0.7
MESA MESA 90.18 17 P P 09 50 02.2 +0.5
baz=211
BMRM Brenner River 90.20 15 P P 09 50 02.1 +0.4
baz=209,SNR=8.1
J18K Innoko River 90.21 9 P 09 50 02.3 +0.7
J18K IAmb IAmb 09 50 03.4
comp=Z,7.5nm,0.8s
J18K Innoko River 90.21 9 P P 09 50 02.2 +0.7
baz=198
M23K Glacier View 90.24 13 P P 09 50 02.5 +0.7
baz=206
SCM Sheep Creek Mo 90.36 14 P P 09 50 02.7 +0.3
baz=207,SNR=6.0
KLU Klutina 90.36 14 IAmb IAmb 09 50 04.2
comp=Z,5.8nm,1.0s
KLU Klutina 90.36 14 P P 09 50 02.8 +0.4
baz=208
CRQE Cirque 90.38 16 P P 09 50 02.8 +0.2
baz=210
PPLA Purkeypile 90.39 11 P P 09 50 03.1 +0.5
baz=202
PNL Peninsula 90.44 18 P P 09 50 03.3 +0.6
baz=214
K20K Telida 90.51 10 P P 09 50 03.4 +0.4
baz=201
PINM Pinnacle 90.56 18 P P 09 50 03.6 +0.3
baz=213
H16K Elim 90.68 6 P P 09 50 04.3 +0.6
baz=193
N25K Chitina, Valde 90.77 15 IAmb IAmb 09 50 06.2
comp=Z,5.9nm,0.7s
N25K Chitina, Valde 90.77 15 P P 09 50 04.9 +0.6
baz=209,SNR=5.7
R32K Eaglecrest 90.77 21 P P 09 50 04.6 +0.3
baz=218
M24K Tolsona, Glenn 90.85 14 P P 09 50 04.5 -0.1
baz=208
G15K Niukluk 90.86 6 P P 09 50 04.3 -0.2
baz=192
J19K Poorman 90.87 9 P P 09 50 04.9 +0.3
baz=199
P29M Windy Craggy 90.88 19 P P 09 50 05.0 +0.2
baz=215
CAST Castle Rocks 90.89 11 IAmb IAmb 09 50 05.0
comp=Z,3.6nm,0.8s
CAST Castle Rocks 90.89 11 P P 09 50 04.6 -0.2
baz=202
MCARA McCarthy VSAT 90.95 16 P P 09 50 05.3 +0.3
baz=201
LOGN Logan Glacier 90.98 17 IAmb IAmb 09 50 07.3
comp=Z,5.5nm,0.8s
CTG Chitna Glacier 91.01 17 P P 09 50 06.0 +0.5
baz=212
CTGM Chitina Glacie 91.01 17 P P 09 50 06.2 +0.7
CTGM IAmb IAmb 09 50 08.0
comp=Z,7.5nm,0.9s
TNA Tin City 91.13 4 P P 09 50 06.7 +1.0
baz=188
PLBC Pleasant Camp 91.15 19 P P 09 50 06.5 +0.6
baz=216
O28M Mount Upton 91.15 17 P P 09 50 06.8 +0.5
baz=213
O29M Mount Kennedy 91.20 18 P P 09 50 06.6 +0.2
baz=214
H17K Granite Mounta 91.22 7 P P 09 50 06.5 +0.3
baz=196
KTH Kantishna Hill 91.22 11 IAmb IAmb 09 50 06.8
comp=Z,3.2nm,0.9s
T35M Bob Quinn 91.23 24 P P 09 50 06.5 0.0
baz=221
TRF Thorofare Moun 91.24 12 IAmb IAmb 09 50 07.3
comp=Z,5.4nm,0.8s
TRF Thorofare Moun 91.24 12 P P 09 50 06.6 +0.1
baz=204,SNR=8.0
J20K Nowinta River 91.26 10 P P 09 50 07.0 +0.6
baz=201
CHUM Lake Minchumin 91.28 11 P P 09 50 07.2 +0.7
baz=202
GCSA Galena City Sc 91.41 9 P P 09 50 07.6 +0.6
baz=198
SKAG Skagway 91.46 20 P P 09 50 08.1 +0.7
baz=217
RND Reindeer 91.47 12 IAmb IAmb 09 50 08.9
comp=Z,5.2nm,0.9s
F15K North Star Dit 91.51 5 P P 09 50 08.2 +0.7
baz=191
P30M Million Dollar 91.51 19 P P 09 50 08.1 +0.4
baz=216
H18K Honhosa River 91.61 8 P P 09 50 08.1 +0.1
baz=197
S34M Telegraph Cree 91.63 23 P P 09 50 08.5 +0.3
baz=221
TPAW Teton Pass 91.67 42 IAmb IAmb 09 50 15.9
comp=Z,6.4nm,1.5s
G17K Kiwalik Mounta 91.68 7 P P 09 50 08.9 +0.6
baz=195
YUK8 Steele Glacier 91.69 17 P P 09 50 08.9 +0.1
baz=213
MCK McKinley 91.75 12 P P 09 50 09.9 +1.2
baz=205
DLMT Dillon 91.77 40 IAmb IAmb 09 50 15.0
comp=Z,9.1nm,1.4s
PAX Paxson 91.77 14 P P 09 50 09.8 +0.8
baz=208
SNOW Snow King Moun 91.77 42 P P 09 50 11.1 +1.4
SNOW IAmb IAmb 09 50 12.2
comp=Z,5.7nm,0.8s
YUK6 Outpost Mounta 91.79 18 P P 09 50 09.8 +0.6
baz=214
I20K Naaghedeneel 91.80 9 P P 09 50 09.8 +0.9
baz=200
M26K Nabesna, AK 91.83 15 P P 09 50 09.8 +0.6
baz=210
YUK3 Moose Creek 91.92 17 P P 09 50 10.2 +0.4
baz=213,SNR=5.9
HYT Haines Junctio 91.93 18 P P 09 50 10.6 +0.9
baz=215
YUK4 Talbot Arm 92.04 17 P P 09 50 11.6 +1.2
baz=214
Q32M Nakina River 92.05 21 P P 09 50 10.9 +0.5
baz=220
M27K Edge Creek, AK 92.06 16 P P 09 50 10.8 +0.4
baz=212,SNR=7.4
P32M Atlin 92.07 20 P P 09 50 10.9 +0.6
baz=218
MSTX Muleshoe 92.09 53 P P 09 50 11.7 +0.5
MSTX IAmb IAmb 09 50 13.2
comp=Z,3.8nm,0.8s
BW06 Boulder Array 92.11 43 P P 09 50 11.8 +0.6
BW06 IAmb IAmb 09 50 12.9
comp=Z,2.7nm,0.8s
PD31 Pinedale Array 92.11 43 P P 09 50 11.6 +0.4
PD31 IAmb IAmb 09 50 12.9
comp=Z,2.6nm,0.8s
PDAR Pinedale Array 92.11 43 P P 09 50 11.8 +0.6
PDAR Pinedale Array 92.11 43 P P 09 50 12.2 +1.0
comp=Z,2.0nm,0.7s,baz=214,slow=3.3,SNR=22
comp=Z,2.0nm,0.7s
MENT Mentasta 92.13 15 IAmb IAmb 09 50 12.3
comp=Z,5.4nm,0.6s
QLMT Earthquake Lak 92.14 40 P P 09 50 11.0 -0.2
H19K Roundabout Mou 92.21 8 P P 09 50 11.9 +1.2
baz=199
XLT XiLinHaoTe 92.27 318 eP P 09 50 11.7 0.0
XLT pmax pmax
comp=Z,10.0nm,0.7s
XLT pmax pmax
comp=Z,93nm,4.2s
G18K Tagagawik 92.29 7 P P 09 50 11.6 +0.4
baz=197
L26K Log Cabin Wild 92.29 15 P P 09 50 11.7 +0.4
baz=210
YHL Hebgen Lake 92.30 41 IAmb IAmb 09 50 15.2
comp=Z,3.6nm,0.8s
BVCY Beaver Creek 92.36 16 P P 09 50 12.1 +0.5
baz=212
H20K Anotleneega Mo 92.39 9 P P 09 50 11.9 +0.3
baz=200
DLBC Dease Lake 92.41 23 P P 09 50 12.8 +0.8
baz=222
K24K Donnelly Dome 92.44 13 P P 09 50 12.6 +0.7
baz=208
BOZ Bozeman (W) 92.46 40 IAmb IAmb 09 50 15.1
comp=Z,3.3nm,0.8s
NEA2 Nenana 92.51 12 P P 09 50 12.3 +0.2
baz=205
I21K Tanana 92.54 10 P P 09 50 12.5 +0.2
baz=203
CMAR Chiang Mai Arr 92.55 289 P P 09 50 13.4 0.0
comp=Z,2.5nm,0.8s,baz=139,slow=3.8,SNR=11
comp=Z,2.5nm,0.8s
CMAR Chiang Mai Arr 92.55 289 ceP P 09 50 14.8 +1.3
CMAR pmax pmax
comp=Z,3.0nm,0.8s
WHY Whitehorse 92.56 19 P P 09 50 13.0 +0.4
baz=218
N30M Aishikik Lake 92.56 18 P P 09 50 13.4 +0.8
baz=216
WRH Wood River Hil 92.58 12 IAmb IAmb 09 50 13.7
comp=Z,8.4nm,1.3s
POST Post 92.58 55 P P 09 50 14.4 +1.0
POST IAmb IAmb 09 50 15.1
comp=Z,4.8nm,0.8s
RIDG Independent Ri 92.58 14 P P 09 50 12.6 0.0
baz=209
MLY Manley 92.61 11 P P 09 50 12.6 -0.1
baz=204
DOT Dot Lake 92.68 14 P P 09 50 14.0 +1.0
DOT IAmb IAmb 09 50 14.6
comp=Z,4.8nm,0.8s
L27K Beaver Creek, 92.68 15 P P 09 50 13.2 +0.2
baz=212
CHTO Chiang Mai 92.70 289 P 09 50 14.4 +0.2
CHTO IAmb IAmb 09 50 16.3
comp=Z,5.3nm,0.7s
CHTO Chiang Mai 92.70 289 P P 09 50 10.0 -4.2
CHTO Chiang Mai 92.70 289 P P 09 50 14.4 +0.2
CHTO pmax pmax
comp=Z,5.0nm,0.7s
HDA Harding Lake 92.75 13 P P 09 50 13.8 +0.5
baz=207
CCB Clear Creek Bu 92.79 12 P P 09 50 13.5 0.0
CCB IAmb IAmb 09 50 14.2
comp=Z,2.5nm,0.5s
R33M Jennings River 92.81 22 P P 09 50 14.3 +0.4
baz=221
P33M Teslin, Yukon 92.84 20 P P 09 50 13.9 -0.1
baz=219
F18K Selawik 92.85 7 P P 09 50 13.7 0.0
baz=196
H21K Melozitna Rive 92.86 10 P P 09 50 14.3 +0.5
baz=202
N31M Braeburn, Yuko 92.96 19 P P 09 50 14.9 +0.6
baz=217
I23K Minto, Yukon-K 92.96 11 P P 09 50 14.6 +0.4
baz=205
SCRK Sand Creek 92.98 14 P P 09 50 14.9 +0.4
baz=210
M29M Somme Creek 93.00 17 P P 09 50 15.1 +0.4
baz=214
YNE Yellowstone No 93.08 41 IAmb IAmb 09 50 18.4
comp=Z,3.4nm,1.0s
ILAR Eielson Array 93.08 12 P P 09 50 14.7 -0.2
comp=Z,1.4nm,0.8s,baz=216,slow=4.8,SNR=23
comp=Z,1.4nm,0.8s
E17K Hotham Inlet 93.10 6 P P 09 50 16.0 +1.1
baz=194
J25K Salcha River, 93.25 13 P P 09 50 16.1 +0.5
J25K IAmb IAmb 09 50 17.0
comp=Z,3.6nm,0.8s
J25K Salcha River, 93.25 13 P P 09 50 16.4 +0.7
baz=208
POKR Poker Plat Res 93.29 12 P P 09 50 16.5 +0.7
baz=207
H22K Ishtalitna Cre 93.30 10 P P 09 50 17.0 +1.2
baz=203
K27K Chicken 93.45 15 P P 09 50 18.4 +1.8
baz=211
HHC Hu-ho-hao-te 93.46 314 eP P 09 50 20.5 +3.2
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,7.9s
N32M Quiet Lake 93.49 20 P P 09 50 17.6 +0.8
baz=219
J26L Joseph Creek 93.53 14 P P 09 50 17.7 +0.7
baz=210
H23K Yukon River 93.55 11 P P 09 50 18.3 +1.4
baz=205
E18K Tukpahlearik C 93.55 6 P P 09 50 18.2 +1.3
baz=195
M30M Minto, Yukon 93.56 17 P P 09 50 18.3 +1.2
baz=216
D17K Noatak River 93.59 5 P P 09 50 18.2 +1.1
baz=193
L29M L29M 93.64 17 P P 09 50 19.0 +1.5
baz=215
F20K Avaraart Lake 93.75 8 P P 09 50 19.2 +1.3
baz=199
PZH PanZhiHua 93.78 297 P P 09 50 20.3 +1.2
H24K Noodor Dome 93.85 12 P P 09 50 19.6 +1.2
baz=206
E19K Redstone River 93.95 8 P P 09 50 19.6 +0.8
baz=198
PRP Porcupine Dome 94.01 13 P P 09 50 20.5 +1.2
baz=208
DAWY Dawson 94.12 16 P P 09 50 21.2 +1.5
baz=214
F21K Alatna River 94.22 9 P P 09 50 20.8 +0.8
baz=201
G22K Bettles 94.23 10 P P 09 50 21.3 +1.3
baz=203
G23K Bananza Creek 94.27 10 P P 09 50 21.3 +1.0
baz=204
I26K Coal Creek Min 94.31 14 IAmb IAmb 09 50 22.2
comp=Z,2.6nm,0.8s
I26K Coal Creek Min 94.31 14 P P 09 50 21.7 +1.2
baz=210
K29M Barlow Dome 94.40 16 P P 09 50 21.4 +0.4
baz=215
TOAD Toad River Com 94.43 24 P P 09 50 22.0 +0.8
baz=226
MAYO Mayo, Yukon 94.62 17 P P 09 50 22.8 +0.8
baz=217
F22K John River 94.67 9 P P 09 50 22.5 +0.4
baz=202
C18K Utukok River 94.69 6 P P 09 50 23.2 +1.0
baz=194
COLD Coldfoot 94.72 10 P P 09 50 23.1 +0.8
baz=204
J29N Klondike Camp 94.73 16 P P 09 50 23.4 +0.9
baz=215
E20K Nigu River 94.84 8 P P 09 50 24.0 +1.1
baz=199
I27K Kandik River 94.90 14 P P 09 50 24.0 +0.8
baz=212
G25K Bearman Lake 95.01 12 P P 09 50 24.5 +0.9
baz=208
I28M Miner Creek 95.15 15 P P 09 50 25.6 +1.2
baz=213

E21K	**Killik River**	**95.30**	**8**	P		**P**	**09 50 26.1**	**+1.2**
	baz=201								
J30M	**Hart River**	**95.30**	**16**	P		**P**	**09 50 26.3**	**+1.1**
	baz=216								
E22K	**Anaktuvuk Pass**	**95.31**	**9**	P		**P**	**09 50 26.3**	**+1.3**
	baz=203								
H27K	**Steamboat Moun**	**95.46**	**14**	P		**P**	**09 50 27.3**	**+1.6**
	baz=212								
E23K	**Chandalar**	**95.57**	**10**	P		**P**	**09 50 27.3**	**+1.0**
	baz=205								
G26K	**Porcupine Rive**	**95.61**	**13**	P		**P**	**09 50 27.5**	**+1.1**
	baz=210								
E24K	**Your Creek**	**95.77**	**10**	P		**P**	**09 50 27.9**	**+0.8**
	baz=206								
I30M	**Mount Dempster**	**95.81**	**16**	P		**P**	**09 50 28.1**	**+0.6**
	baz=216								
F25K	**Christian Rive**	**95.83**	**12**	P		**P**	**09 50 28.4**	**+1.0**
	baz=208								
C21K	**Knifeblade Rid**	**95.86**	**8**	P		**P**	**09 50 28.1**	**+0.6**
	baz=200								
D22K	**Ayikyak River**	**95.88**	**9**	P		**P**	**09 50 28.3**	**+0.7**
	baz=202								
G27K	**Doyon Strip**	**95.92**	**13**	P		**P**	**09 50 28.3**	**+0.4**
	baz=212								
TOLK	**Toolik Lake Re**	**96.11**	**10**	P		**P**	**09 50 29.1**	**+0.5**
	baz=205								
H29M	**Whitestone**	**96.15**	**15**	P		**P**	**09 50 29.3**	**+0.5**
	baz=215								
F26K	**Sheenjek River**	**96.19**	**12**	P		**P**	**09 50 30.5**	**+1.5**
	baz=210								
D23K	**Nanushuk River**	**96.24**	**9**	P		**P**	**09 50 30.4**	**+1.2**
	baz=204								
EPYK	**Eagle Plains**	**96.66**	**15**	P		**P**	**09 50 31.8**	**+0.6**
	baz=216								
G29M	**Pine Creek**	**96.80**	**15**	P		**P**	**09 50 31.7**	**0.0**
	baz=215								
F28M	**Old Crow**	**96.98**	**14**	P		**P**	**09 50 32.4**	**-0.2**
	baz=214								
C23K	**Itkillik River**	**97.05**	**9**	P		Pdif	09 50 33.3	+0.4
	baz=204								
E27K	**Coleen River**	**97.11**	**13**	P		**P**	**09 50 33.4**	**+0.2**
	baz=212								
B22K	**Teshekpuk Lake**	**97.14**	**8**	P		**P**	**09 50 33.3**	**+0.1**
	baz=202								
C24K	**Franklin Bluff**	**97.22**	**10**	P		**P**	**09 50 33.6**	**+0.1**
	baz=206								
D25K	**Kavik River**	**97.23**	**11**	P		Pdif	09 50 34.4	+0.6
	baz=208								
G30M	**tAoh Zraii Nji**	**97.27**	**15**	P		Pdif	09 50 34.6	+0.6
	baz=217								
G31M	**Satah River**	**97.69**	**16**	P		Pdif	09 50 36.5	+0.7
	baz=218								
E28M	**Babbage River**	**97.88**	**13**	P		Pdif	09 50 37.3	+0.7
	baz=214								
F31M	**Tsiigehtchic**	**98.23**	**16**	P		Pdif	09 50 39.1	+1.0
	baz=219								
WMQ	**Urumqi**	**110.81**	**310**	*e*PKP		**PKiKP**	**09 55 29.9**	**-4.1**
WMQ				LR		LR			
	comp=Z,270nm,23.9s								
ZALV	**Zalesovo Beam**	**114.91**	**320**	PKP		PKPdf	09 55 40.1	-1.3
	comp=Z,1.8nm,0.6s,baz=200,slow=1.6,SNR=7.7								
MK31	**Makanchi Array**	**115.22**	**312**	*d* PKIKP		**PKPdf**	**09 55 41.1**	**-1.2**
MKAR	**Makanchi Array**	**115.22**	**312**	PKP		**PKPdf**	**09 55 41.1**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=96,slow=0.7,SNR=14								
KURK	**Kurchatov**	**118.22**	**316**	*c* PKIKP		**PKPdf**	**09 55 46.5**	**-1.4**
KURBB	**Kurchatov Arra**	**118.27**	**316**	PKP		**PKPdf**	**09 55 46.7**	**-1.2**
	comp=Z,2.9nm,0.6s,baz=110,slow=1.8,SNR=22								
BOSA	**Boshof**	**121.97**	**203**	PKP		**PKPdf**	**09 55 55.6**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=340,slow=4.5,SNR=4.8								
BVAR	**Borovoye Array**	**123.43**	**318**	PKP		**PKPdf**	**09 55 57.2**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=48,slow=2.2,SNR=20								
BRVK	**Borovoye**	**123.49**	**318**	*c* PKIKP		**PKPdf**	**09 55 57.1**	**-0.8**
ARTI	**Arti**	**129.89**	**323**	*i* PKIKP		**PKPdf**	**09 56 10.2**	**+0.1**
ARTI							09 58 20.7		
ARTI				SS		SS	10 15 32.4	-5.5
ARCES	**ARCESS Array B**	**134.05**	**349**	PKhKP		PKPpre	09 56 11.0		
	comp=Z,1.9nm,0.8s,baz=352,slow=1.7,SNR=5.6								
ARCES				PKP		**PKPdf**	**09 56 17.1**	**-0.5**
	comp=Z,6.1nm,0.6s,baz=13,slow=1.3,SNR=25								
FINES	**FINESS Array B**	**140.85**	**343**	PKhKP		PKPpre	09 56 24.1		
	comp=Z,1.9nm,0.5s,baz=30,slow=4.0,SNR=8.3								
FINES				PKP		**PKPdf**	**09 56 30.7**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=64,slow=4.4,SNR=6.8								
OBN	**Obninsk**	**141.56**	**329**	*i* PKIKP		**PKiKP**	**09 56 34.7**	**+0.1**
OBN				*e*			09 59 34.8		
OBN				*e*PPP		PPP	10 02 41.5		
OBN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**	**142.86**	**309**	PKhKP		PKPpre	09 56 30.9		
	comp=Z,1.8nm,0.7s,baz=39,slow=3.2,SNR=4.6								
ERBR	**Yeremizino-Bor**	**143.87**	**314**	*i* PKIKP		PKPab	09 56 33.5	-0.1	
ERBR				*e*			09 57 08.2		
ERBR				*e*			09 59 56.7		
ERBR				*e*			10 03 27.6		
ERBR				pmax		pmax			
	comp=Z,17nm,0.7s								
NB2	**NORSAR Subarra**	**144.11**	**353**	PKP		**PKPab**	**09 56 33.6**	**-0.4**
	comp=Z,14nm,0.8s,baz=9.3,slow=3.3								
NOA	**NORSAR Array B**	**144.11**	**353**	PKP		**PKPab**	**09 56 34.0**	**-0.1**
	comp=Z,9.7nm,0.7s,baz=4.5,slow=2.2,SNR=35								
NOA	**NORSAR Array B**	**144.11**	**353**	PKIKP		**PKPab**	**09 56 34.0**	**-0.1**
HFS	**Hagfors**	**144.67**	**351**	PKP		**PKPab**	**09 56 35.6**	**-0.6**
	comp=Z,26nm,0.6s,baz=67,slow=3.9,SNR=98								
STRU	**Stroemstad**	**146.07**	**352**	*i* P		**PKPbc**	**09 56 40.5**	**-0.1**
ANN	**Anapa**	**146.21**	**313**	*e*PKIKP		**PKPdf**	**09 56 39.0**	**-1.2**
ANN				*e*			09 57 14.1		
ANN				*e*			10 00 10.2		
ANN				pmax		pmax			
	comp=Z,29nm,0.8s								
HOMB	**Homborsund**	**147.10**	**355**	*i* P		**PKPbc**	**09 56 43.9**	**+0.4**
BORU	**Boraas**	**147.21**	**350**	*i* P		**PKPbc**	**09 56 43.2**	**-0.7**
ONAU	**Onsala**	**147.56**	**351**	*i* P		**PKPbc**	**09 56 44.1**	**-0.7**
AKASG	**Malin Array Be**	**147.79**	**328**	PKPbc		**PKPbc**	**09 56 44.8**	**-0.9**
	comp=Z,7.9nm,0.4s,baz=44,slow=3.9,SNR=59								
AKBB	**Malin Array Si**	**147.79**	**328**	*c* PKP2		**PKPbc**	**09 56 44.7**	**-1.0**
FABU	**Falkenberg**	**147.82**	**350**	*i* P		**PKPbc**	**09 56 45.0**	**-0.6**
SUW	**Suwalki**	**147.84**	**337**	*e*PKP		**PKPbc**	**09 56 46.3**	**+0.6**
BLEU	**Blekinge**	**147.91**	**346**	*i* P		**PKPbc**	**09 56 44.7**	**-1.1**
DEL	**Delary**	**148.13**	**348**	*i* P		**PKPbc**	**09 56 45.9**	**-0.5**
SIM	**Simferopol'**	**148.29**	**316**	*e*PKIKP		**PKPdf**	**09 56 45.0**	**+1.3**
SIM				pmax		pmax			
	comp=Z,54nm,0.9s								
BJUU	**Bjuv**	**148.66**	**349**	*i* P		**PKPbc**	**09 56 47.6**	**-0.1**
MUD	**Monsted U'grnd**	**148.82**	**353**	*i* P		**PKPbc**	**09 56 47.8**	**-0.3**
EKA	**Eskdalemuir Ar**	**149.96**	**7**	PKPbc		**PKPbc**	**09 56 50.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=297,slow=1.7,SNR=7.5								
BEL	**Belsk**	**150.46**	**337**	*e*PKP		**PKiKP**	**09 56 53.1**	**+0.1**
BRTR	**Keskin Array B**	**150.68**	**306**	PKPbc		**PKPbc**	**09 56 52.8**	**-0.7**
	comp=Z,6.1nm,0.6s,baz=141,slow=4.6,SNR=27								
MMAI	**Mount Meron Ar**	**150.76**	**292**	PKPbc		**PKPbc**	**09 56 54.0**	**+0.3**
	comp=Z,14nm,0.6s,baz=75,slow=6.4,SNR=15								
OJC	**Ojcow**	**152.15**	**336**	*e*PKP		**PKPbc**	**09 56 56.4**	**+0.1**
KOLS	**Kolonicke sedl**	**152.20**	**332**	*e*PKIKP		**PKiKP**	**09 56 57.5**	**+0.7**
KOLS	**Kolonicke sedl**	**152.20**	**332**	*e*PKP		**PKiKP**	**09 56 57.5**	**+0.7**
STHS	**Stebnicka Huta**	**152.25**	**334**	*e*PKIKP		**PKPbc**	**09 56 56.8**	**+0.2**
STHS	**Stebnicka Huta**	**152.25**	**334**	*e*PKP		**PKPbc**	**09 56 56.8**	**+0.2**
NIE	**Niedzica**	**152.62**	**335**	*e*PKP		**PKiKP**	**09 56 58.1**	**+0.5**
KSP	**Ksiaz**	**152.76**	**341**	*e*PKP		**PKiKP**	**09 56 58.1**	**+0.3**
CLL	**Collm**	**153.18**	**346**	⇑*i* PKIKP		**PKPbc**	**09 56 58.4**	**-0.1**
CLL				*i*			09 57 10.6		
CLL				pmax		pmax			
	comp=Z,16nm,0.7s								
CLL				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CLL	**Collm**	**153.18**	**346**	⇑*i* PKPbc		**PKPbc**	**09 56 58.4**	**-0.1**
	comp=Z,16nm,0.7s								
CLL				⇓*i* PKPab		**PKPab**	**09 57 10.6**	**0.0**
	comp=Z,10.0nm,1.0s								
MORC	**Moravsky Berou**	**153.30**	**339**	*e*PKP		**PKPbc**	**09 56 58.5**	**-0.5**
BRG	**Berggiesshubel**	**153.36**	**344**	*i* PKP		**PKiKP**	**09 56 60.0**	**+0.9**
BRG				Amp			09 57 00.3		
	comp=Z,8.6nm,0.8s								
BRG	**Berggiesshubel**	**153.36**	**344**	P		**PKPab**	**09 57 07.2**	**-4.2**
BRG				Amp			09 57 07.5		
	comp=Z,4.9nm,0.9s								
BRG	**Berggiesshubel**	**153.36**	**344**	P		**PKPab**	**09 57 12.5**	**+1.1**
BRG				Amp			09 57 13.4		
	comp=Z,5.3nm,0.8s								
VYHS	**Vyhne**	**153.93**	**335**	*e*PKP2		**PKPab**	**09 57 14.5**	**+0.5**
VYHS	**Vyhne**	**153.93**	**335**	*e*PKP		**PKPab**	**09 57 14.5**	**+0.5**
KRUC	**Moravsky**	**154.30**	**339**	*e*PKP		**PKPbc**	**09 57 00.6**	**-0.4**
GERES	**GERESS Array B**	**155.29**	**343**	PKPbc		PKPdf	09 57 02.5	+8.4
	comp=Z,0.8nm,0.7s,baz=96,slow=1.3,SNR=5.4								
GERES				PKPab		**PKPab**	**09 57 19.9**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=31,slow=5.4,SNR=10								
BIOA	**Bad Ischl, Aus**	**156.35**	**342**	*i* PKP		**PKPab**	**09 57 24.1**	**-0.3**
	comp=Z,8.6nm,0.7s								
SOKA	**Soboth**	**156.83**	**338**	*i* PKP		**PKPab**	**09 57 26.9**	**+0.4**
	comp=Z,5.7nm,1.2s								
LESA	**Schwarzleotal**	**156.86**	**343**	*i* PKP		**PKPab**	**09 57 26.8**	**+0.1**
	comp=Z,7.0nm,1.0s								
KBA	**Koelnbreinsper**	**157.00**	**341**	*i* PKP		**PKPab**	**09 57 26.6**	**-0.7**
	comp=Z,3.7nm,0.9s								
WATA	**Walderalm**	**157.22**	**345**	*i* PKP		**PKPab**	**09 57 27.6**	**-0.6**
	comp=Z,5.5nm,0.8s								
RETA	**Reutte**	**157.27**	**346**	*i* PKP		**PKPab**	**09 57 28.4**	**0.0**
	comp=Z,3.5nm,0.9s								
WTTA	**Wattenberg**	**157.28**	**344**	*i* PKP		**PKPab**	**09 57 28.7**	**+0.2**
	comp=Z,12nm,1.0s								
MOTA	**Moosalm**	**157.33**	**345**	*e*PKP		**PKPab**	**09 57 28.4**	**-0.3**
	comp=Z,8.4nm,1.2s								
ABTA	**Abfaltersbach**	**157.53**	**342**	*i* PKP		**PKPab**	**09 57 28.8**	**-0.8**
	comp=Z,4.8nm,0.7s								
FETA	**Feichten**	**157.72**	**346**	*i* PKP		**PKPab**	**09 57 29.5**	**-0.9**
	comp=Z,2.1nm,0.7s								
ESDC	**Sonseca Array**	**164.83**	**21**	PKPab		**PKPab**	**09 58 01.9**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=350,slow=3.8,SNR=5.9								
TORD	**Torodi Ar. Bea**	**167.57**	**175**	PKP		**PKPdf**	**09 57 06.9**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=336,slow=1.6,SNR=7.1								
TORD				PKPab		**PKPab**	**09 58 14.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=161,slow=3.1,SNR=5.5								

IDC 09 09:53:31.8±1.0, 62.78N×22.04E, h0km, mbtmp2.9/2, ML1.8/2, Error ellipse: s-maj=11.1km s-min=9.7km az=147.0, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF	**Keuruu**	**1.45**	**114**	*e*P	Pn	09 53 58.3	-0.9
RAF	**Rauma**	**1.77**	**184**	*e*P	Pb	09 54 04.8	-0.3
FINES	**FINESS Array B**	**2.32**	**124**	Pn	Pn	09 54 12.6	+1.4
	0.5nm,0.3s,baz=306,slow=14,SNR=17						
FINES				Sn	Sb	09 54 43.6	-0.1
	0.9nm,0.3s,baz=307,slow=25,SNR=12						
	1.8nm,0.4s						
SJUU	**Sjulsmark**	**2.75**	**356**	*e*P	Pn	09 54 16.5	-0.5
JOF	**Joensuu**	**4.25**	**84**	*e*P	Pn	09 54 36.0	-1.7
HFS	**Hagfors**	**4.80**	**240**	Pg	Pb	09 54 55.6	-1.2
	0.2nm,0.3s,baz=54,slow=15,SNR=1.3						
HFS				Sn	Sn	09 55 41.4	-0.2
	0.2nm,0.3s,baz=53,slow=29,SNR=1.6						
HFS				Lg	Lg	09 55 59.8	
	0.2nm,0.3s,baz=57,slow=30,SNR=2.2						
I37NO	**I37NO**	**6.47**	**349**	I	I	10 32 40.0	
	baz=166,slow=322,SNR=2.4						
ARCES	**ARCESS Array B**	**6.93**	**10**	Pn	Pn	09 55 12.7	-1.7
	0.1nm,0.3s,baz=191,slow=14,SNR=7.9						
ARCES				Sn	Sn	09 56 29.1	-4.7
	0.1nm,0.3s,baz=191,slow=23,SNR=1.8						
ARCES				Lg	Lg	09 57 15.3	
	0.1nm,0.3s,baz=192,slow=34,SNR=1.5						
	1.7nm,0.8s						

*IDC **09** 09:57:33.0±0.9, 31.56S×177.30W, h0km, mb4.0/7, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=28.7km s-min=24.9km az=14.0*
*NEIC **09** 09:57:37.0±1.1, 31.2S±0.1×177.59W±0.05, h10km±2km, mb4.4/8, Error ellipse: s-maj=20.6km s-min=8.2km az=358.0*

ISC 09 09:57:36.9±0.8, 31.44S±0.09×177.5W±0.1, h26km, n19, σ1s34/20, mb4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.22**	**349**	Pn	Pn	**09 58 09.8**	**-2.3**
URZ	**Urewera**	**8.14**	**212**	Pn	Pn	**09 59 32.5**	**-0.8**
	0.6nm,0.3s,baz=255,slow=3.3,SNR=6.3						
URZ				Sn	Sn	**10 01 03.3**	**-1.2**
	2.0nm,0.3s,baz=292,slow=21,SNR=11						
	19nm,1.2s						
STKA	**Stephens Creek**	**34.72**	**258**	P	P	**10 04 26.3**	**+1.4**
STKA	**Stephens Creek**	**34.72**	**258**	P	P	**10 04 26.1**	**+1.2**
	2.5nm,0.8s,baz=107,slow=14,SNR=2.9						
	2.5nm,0.8s						
BBOO	**Buckleboo**	**39.16**	**255**	P	P	**10 05 03.7**	**+1.1**
AS31	**Alice Springs**	**43.54**	**268**	P	P	**10 05 40.1**	**+1.4**
ASAR	**Alice Springs**	**43.54**	**268**	P	P	**10 05 40.0**	**+1.3**
	2.5nm,0.7s,baz=105,slow=7.6,SNR=30						
	2.5nm,0.7s						
WR8	**Warramunga Arr**	**44.48**	**273**	P	P	**10 05 46.1**	**-0.2**
WR8				IAmb	IAmb	10 06 01.4	
	comp=Z,9.1nm,1.0s						
WRA	**Warramunga Arr**	**44.62**	**273**	P	P	**10 05 47.4**	**0.0**
WRA	**Warramunga Arr**	**44.62**	**273**	P	P	**10 05 48.0**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=114,slow=7.5,SNR=17						
	comp=Z,1.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.84**	**270**	P	P	**10 06 51.4**	**+0.8**
FITZ				IAmb	IAmb	10 07 11.6	
	comp=Z,3.1nm,1.4s						
QSPA	**South Pole Qui**	**58.67**	**180**	P	P	10 07 36.6	+4.7
QSPA				IAmb	IAmb	10 08 05.8	
	comp=Z,8.8nm,1.4s						
QSPA	**South Pole Qui**	**58.67**	**180**	P	P	**10 07 29.6**	**-2.3**
	comp=Z,1.1nm,1.1s,baz=344,slow=0.7,SNR=7.8						
	comp=Z,1.1nm,1.1s						
SNAA	**Sanae**	**77.10**	**178**	P	P	**10 09 29.8**	**+2.2**
SNAA				IAmb	IAmb	10 10 04.2	
	comp=Z,4.5nm,1.3s						
SNAA	**Sanae**	**77.10**	**178**	P	P	**10 09 28.9**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=160,slow=9.8,SNR=5.3						
	comp=Z,0.9nm,0.9s						
PLCA	**Paso Flores**	**81.45**	**133**	P	P	**10 09 51.4**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=252,slow=6.5,SNR=2.9						
	comp=Z,2.9nm,1.0s						
NVAR	**Mina Array Bea**	**88.68**	**42**	P	P	**10 10 29.5**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=213,slow=7.8,SNR=4.3						
	comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**146.28**	**340**	PKPbc	**PKPdf**	**10 17 13.4**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=66,slow=3.5,SNR=11						
AKASG	**Malin Array Be**	**152.41**	**322**	PKP	**PKPdf**	**10 17 23.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=48,slow=1.4,SNR=4.7						
AKASG				PKPbc	**pPKPdf**	**10 17 30.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=48,slow=1.4,SNR=1.9						

*ASRS **09** 09:57:48.0±1.1, 53.56N×87.65E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **09** 09:57:49.5±1.8, 53.63N×87.89E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=21.9km s-min=11.4km az=36.0, Suspected Mining explosion.*
*IDC **09** 09:57:50.9±3.0, 53.56N×87.76E, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=29.4km s-min=16.9km az=51.0*

ISC 09 09:57:49.4±4.0, 53.7N±0.2×87.8E±0.2, h0km, n8, σ0s71/7, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**279**	I	I	10 09 10.0	
	0.1nm,0.8s,baz=100,slow=321,SNR=5.3						
ZAA0	**Zalesovo Array**	**1.81**	**279**	⇓Pn	**Pn**	**09 58 22.4**	**+0.7**
ZAA0	0.6nm,0.4s			⇑Sn	**Sg**	**09 58 47.7**	**+0.3**
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**1.81**	**279**	Pn	**Pb**	**09 58 22.5**	**-0.8**
	4.0nm,0.3s,baz=97,slow=14,SNR=19						
ZALV				Lg	Lg	09 58 47.5	
	3.5nm,0.3s,baz=106,slow=23,SNR=8.3						
KURK	**Kurchatov**	**6.41**	**246**	⇑Lg	Lg	10 01 10.7	
	4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.51**	**245**	Pn	**Pn**	**09 59 27.0**	**+0.7**
	0.2nm,0.3s,baz=61,slow=14,SNR=6.5						
KURBB				Lg	Lg	10 01 13.8	
	0.1nm,0.3s,baz=63,slow=31,SNR=4.2						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**6.51**	**245**	⇑Pn	**Pn**	**09 59 26.0**	**-0.3**
	1.1nm,0.3s						
KURBB				⇑Lg	Lg	10 01 15.7	
	9.3nm,1.1s						
MK31	**Makanchi Array**	**7.78**	**209**	⇓Pn	**Pn**	**09 59 43.9**	**+0.1**
	0.8nm,0.5s,baz=30,slow=14,SNR=17						
MKAR	**Makanchi Array**	**7.78**	**209**	Pn	**Pn**	**09 59 44.4**	**+0.6**
	0.9nm,0.3s,baz=31,slow=15,SNR=14						
	0.9nm,0.3s						

*IDC **09** 09:59:60.0±1.2, 7.03N×92.34E, h0km, mb4.0/7, mbtmp4.0/9, ML4.2/2, MS3.4/2, Error ellipse: s-maj=40.2km s-min=18.8km az=57.0*

ISC 09 10:00:03.1±1.1, 7.70N±0.2×92.20E±0.09, h23km, n19, σ1s42/10, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.41**	**272**	Pn	**Pn**	**10 02 47.0**	**+2.1**
	1.3nm,0.3s,baz=81,slow=15,SNR=6.3						
PALK				Sn	**Sn**	**10 04 49.0**	**-2.9**
	2.4nm,0.3s,baz=172,slow=12,SNR=5.7						
PALK				LR	LR	10 06 54.7	
	comp=Z,70nm,18.8s,baz=100,slow=36						
	3.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**13.12**	**29**	Pn	**Pn**	**10 03 07.7**	**-0.6**
	0.6nm,0.3s,baz=230,slow=14,SNR=16						
	2.3nm,0.8s						
H08S3	**Diego Garcia H**	**24.46**	**234**	T	T	10 31 33.5	
	baz=53,slow=75,SNR=362						
H08S2	**Diego Garcia H**	**24.47**	**234**	T	T	10 31 28.4	
	baz=53,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**24.48**	**234**	T	T	10 31 36.6	
	baz=53,slow=75,SNR=101						
MKAR	**Makanchi Array**	**40.53**	**350**	P	**P**	**10 07 41.2**	**+0.8**
	1.5nm,0.5s,baz=167,slow=8.6,SNR=14						
	1.5nm,0.5s						
SONM	**Songino Array**	**42.43**	**14**	P	**P**	**10 07 56.2**	**0.0**
	0.6nm,0.4s,baz=202,slow=11,SNR=3.0						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**44.93**	**348**	P	**P**	**10 08 16.6**	**+0.6**
	1.8nm,0.6s,baz=170,slow=7.1,SNR=16						
	1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**47.17**	**354**	P	**P**	**10 08 33.6**	**-0.1**
	0.4nm,0.3s,baz=144,slow=5.3,SNR=3.7						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**49.20**	**343**	P	**P**	**10 08 49.5**	**+0.1**
	0.8nm,0.5s,baz=158,slow=4.7,SNR=4.8						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**49.36**	**124**	P	**P**	**10 08 50.7**	**-0.4**
	1.8nm,0.8s,baz=305,slow=8.4,SNR=12						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**50.87**	**128**	P	**P**	**10 09 02.2**	**-0.4**
	1.5nm,0.7s,baz=310,slow=7.2,SNR=13						
	1.5nm,0.7s						
H04N2	**CROZET ISLANDS**	**64.02**	**210**	T	T	11 21 14.8	
	baz=46,slow=75,SNR=30						
H04N1	**CROZET ISLANDS**	**64.03**	**210**	T	T	11 21 15.5	
	baz=46,slow=75,SNR=29						
H04N3	**CROZET ISLANDS**	**64.04**	**210**	T	T	11 21 18.1	
	baz=46,slow=75,SNR=34						
H04S1	**CROZET ISLANDS**	**64.44**	**209**	T	T	11 21 50.5	
	baz=45						
H04S3	**CROZET ISLANDS**	**64.45**	**209**	T	T	11 21 49.5	
	baz=45,slow=74,SNR=3.7						
H04S2	**CROZET ISLANDS**	**64.46**	**209**	T	T	11 21 54.7	
	baz=45,slow=74,SNR=3.1						
MLR	**Muntele Rosu**	**68.44**	**316**	LR	LR	10 48 07.7	
	comp=Z,48nm,18.1s,baz=252,slow=42						

*IDC **09** 10:02:05.9±0.9, 35.12S×111.81W, h0km, mb3.8/5, mbtmp3.8/5, MS4.0/38, Error ellipse: s-maj=40.2km s-min=28.1km az=76.0*
*NEIC **09** 10:02:09.1±0.7, 35.01S±0.09×112.8W±0.2, h10km±1km, mb4.6/27, Error ellipse: s-maj=30.8km s-min=12.8km az=284.0*
*GCMT **09** 10:02:12.1±0.3, 34.84S±0.02×111.94W±0.02, h15km±1km, MW4.9/97, Moment Tensor Solution. s22,c22; s97,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70±.12; $M_{\theta\theta}$-0.40±.09; $M_{\phi\phi}$ 1.10±.10; $M_{r\theta}$-0.96±.37; $M_{r\phi}$-1.77±.07; $M_{\theta\phi}$-1.68±.41; Best double couple: M_o2.77100×10^{16} NP1:ϕ_s109.00000°, δ48.00000°, λ-163.00000°. NP2: ϕ_s8.00000°, δ78.00000°, λ-43.00000°. Principal axes: T 2.5700, Plg19.0000°, Azm65.0000°; N 0.4000, Plg45.0000°, Azm175.0000°; P -2.9720, Plg39.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 10:02:08.5±0.7, 35.03S±0.08×112.7W±0.2, h10km, n81, σ1s34/39, mb4.6/18, MS4.1/38, 3C, Southern East Pacific Rise

| Code | Station Name |

comp=Z,178nm,0.9s
TXAR **Lajitas Array** 64.58 9 P P 10 12 45.6 -0.3
comp=Z,0.3nm,0.9s,baz=167,slow=5.9,SNR=3.9
comp=Z,0.3nm,0.9s
PFO **Pinyon Flats O** 68.37 357 LR LR 10 36 03.8
comp=Z,78nm,21.3s,baz=192,slow=30
SJG **San Juan** 68.87 48 LR LR 10 40 29.9
comp=Z,75nm,18.6s,baz=198,slow=34
MDP **Montagnes des** 69.04 68 LR LR 10 39 48.7
comp=Z,205nm,18.9s,baz=268,slow=33
ANMO **Albuquerque** 69.85 5 LR LR 10 37 54.0
comp=Z,103nm,18.3s,baz=282,slow=31
DZM **Mont Dzumac** 70.47 256 *e*LR LR 10 35 05.2
comp=Z,270nm,26.9s
DZM **Mont Dzumac** 70.47 256 LR LR 10 36 59.9
comp=Z,93nm,19.7s,baz=196,slow=29
MPMC **Manual Prospec** 70.86 356 P P 10 13 26.0 +0.3
MPMC IAmb IAmb 10 13 44.9
comp=Z,7.2nm,1.4s
GWY **Greenwater Val** 70.94 357 P P 10 13 25.8 -0.3
GWY IAmb IAmb 10 13 47.3
comp=Z,6.7nm,1.4s
U15A **North Rim** 71.09 0 P P 10 13 26.8 -0.4
U15A IAmb IAmb 10 13 43.3
comp=Z,4.8nm,1.2s
SHPR **Sheep Range** 71.20 358 P P 10 13 27.6 -0.1
CCUT **Cedar City** 72.21 359 P P 10 13 33.9 +0.1
BUCR **Buckhorn Ranch** 72.66 354 P P 10 13 36.4 +0.1
NVAR **Mina Array Bea** 73.27 355 P P 10 13 40.1 0.0
NVAR **Mina Array Bea** 73.27 355 P P 10 13 39.8 -0.3
comp=Z,0.6nm,0.8s,baz=192,slow=7.7,SNR=3.7
NVAR LR LR 10 38 52.8
comp=Z,150nm,20.9s,baz=178,slow=30
comp=Z,0.6nm,0.8s
SRU **San Rafael Swe** 73.79 2 P P 10 13 43.4 +0.4
TMUT **Trail Mountain** 73.97 1 P P 10 13 44.7 +0.5
P17A **Butcher Ranch,** 74.15 2 P P 10 13 45.5 +0.4
P17A IAmb IAmb 10 13 54.9
comp=Z,5.8nm,1.2s
BSUT **Blindstream Ca** 75.21 2 P P 10 13 52.3 +0.7
BSUT IAmb IAmb 10 14 07.2
comp=Z,10nm,1.2s
Y58A **Scranton** 75.22 28 P P 10 13 51.8 +0.6
TKL **Tuckaleechee C** 75.32 24 LR LR 10 41 47.6
comp=Z,94nm,21.5s,baz=191,slow=32
ELK **Elko** 75.44 358 LR LR 10 41 09.2
comp=Z,110nm,18.3s,baz=192,slow=31
RCBR **Riachuelo** 75.86 87 LR LR 10 45 15.1
comp=Z,39nm,18.8s,baz=254,slow=34
PDAR **Pinedale Array** 77.47 2 P P 10 14 02.4 -1.7
comp=Z,0.4nm,0.4s,baz=157,slow=4.2,SNR=5.3
PDAR LR LR 10 43 45.7
comp=Z,43nm,18.7s,baz=172,slow=32
comp=Z,0.4nm,0.4s
MAW **Mawson** 77.63 178 LR LR 10 44 38.5
comp=Z,65nm,21.4s,baz=206,slow=33
HLID **Hailey** 78.23 359 P P 10 14 08.2 0.0
HLID IAmb IAmb 10 14 25.5
comp=Z,7.7nm,1.4s
HNR **Honiara** 82.52 264 LR LR 10 43 27.1
comp=Z,71nm,22.0s,baz=219,slow=30
NEW **Newport** 83.01 357 LR LR 10 45 44.7
comp=Z,157nm,18.0s,baz=186,slow=32
STKA **Stephens Creek** 83.62 235 LR LR 10 48 07.6
comp=Z,144nm,19.3s,baz=208,slow=33
SADO **Sadowa** 85.05 23 LR LR 10 50 57.4
comp=Z,76nm,18.0s,baz=158,slow=34
PMG **Port Moresby** 92.87 257 LR LR 10 53 31.7
comp=Z,79nm,18.0s,baz=181,slow=33
ASAR **Alice Springs** 94.07 238 LR LR 10 52 46.6
comp=Z,125nm,19.5s,baz=144,slow=32
DLBC **Dease Lake** 94.24 351 LR LR 10 48 42.8
comp=Z,53nm,20.8s,baz=150,slow=30
WRA **Warramunga Arr** 96.18 241 LR LR 10 58 11.4
comp=Z,86nm,18.1s,baz=358,slow=35
YKA **Yellowknife Ar** 97.19 359 LR LR 10 53 41.9
comp=Z,116nm,19.4s,baz=326,slow=32
SCHQ **Schefferville** 97.78 25 LR LR 10 56 59.2
comp=Z,56nm,18.7s,baz=238,slow=34
KDAK **Kodiak Island** 98.35 340 LR LR 10 51 44.8
comp=Z,108nm,18.4s,baz=165,slow=30
IDI **Anoyia** 145.51 77 PKP PKPdf 10 21 42.8 -4.2
comp=Z,7.4nm,0.8s,baz=198,slow=5.6,SNR=4.7
CMAR **Chiang Mai Arr** 147.47 248 PKPbc PKPbc 10 21 53.5 +0.3
comp=Z,1.2nm,0.8s,baz=156,slow=2.4,SNR=5.4
SONM **Songino Array** 148.37 306 PKPbc PKiKP 10 21 57.1 +0.5
comp=Z,0.3nm,0.3s,baz=99,slow=1.9,SNR=1.7
BRTR **Keskin Array B** 152.93 70 PKPbc PKPbc 10 22 02.7 -3.4
comp=Z,0.3nm,0.4s,baz=316,slow=3.4,SNR=5.4
KURBB **Kurchatov Arra** 162.41 336 PKPab PKPab 10 22 58.4 +0.9
comp=Z,0.7nm,0.8s,baz=33,slow=3.4,SNR=4.7

*IDC **09** 10:04:28.2±10.0, 20.28S×177.84W, h360km±93km, mb2.9/3, mbtmp3.9/4, Error ellipse: s-maj=63.0km s-min=27.6km az=37.0*

ISC 09 10:04:30.9±1.3, 20.2S±0.2×177.8W±0.3, h400km, n8, σ1§61/9, mb3.0/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	18.50	193	P		P	10 08 19.4	-1.3
	4.2nm,0.4s,baz=306,slow=2.3,SNR=13							
ASAR	**Alice Springs**	44.77	256	P		P	10 12 07.8	+0.8
	0.3nm,0.4s,baz=92,slow=8.3,SNR=7.4							
ASAR				PcP		PcP	10 13 42.0	+0.8
	0.6nm,0.6s,baz=104,slow=3.6,SNR=9.4							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	44.83	262	P		P	10 12 07.2	-0.3
	0.2nm,0.3s,baz=97,slow=7.5,SNR=11							
	0.2nm,0.3s							
QSPA	**South Pole Qui**	69.84	180	P		P	10 15 00.4	+1.0
	0.9nm,0.7s,baz=304,slow=1.5,SNR=6.1							
	0.9nm,0.7s							
ARCES	**ARCESS Array B**	128.69	350	PKP		PKiKP	10 22 53.2	+1.8
	1.1nm,0.8s,baz=17,slow=1.3,SNR=3.9							
AKASG	**Malin Array Be**	142.87	331	PKP		PKiKP	10 23 17.8	-2.9
	3.0nm,0.4s,baz=44,slow=4.2,SNR=22							
BRTR	**Keskin Array B**	146.79	313	PKPbc		PKPab	10 23 29.2	-0.3
	0.9nm,0.6s,baz=108,slow=2.8,SNR=4.2							
GERES	**GERESS Array B**	149.99	345	PKPbc		PKiKP	10 23 35.5	-0.1
	0.7nm,0.6s,baz=3.1,slow=3.5,SNR=4.9							

IDC 09 10:18:18.3±4.1, 31.01N×141.17E, h0km, mb3.5/4, mbtmp3.4/5, ML2.3/1, MS3.6/2, Error ellipse: s-maj=164.0km s-min=23.6km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	6.04	337	Pn		Pn	10 19 48.2	-0.8
	0.1nm,0.3s,baz=159,slow=12,SNR=5.4							
	1.3nm,0.5s							
SONM	**Songino Array**	31.35	312	P		P	10 24 41.4	+0.7
	0.6nm,0.7s,baz=116,slow=11,SNR=1.9							
	0.6nm,0.7s							
ZALV	**Zalesovo Beam**	46.00	317	LR		LR	10 47 21.9	
	comp=Z,56nm,20.1s,baz=34,slow=38							
KURBB	**Kurchatov Arra**	49.72	312	P		P	10 27 11.6	-0.5
	0.7nm,0.9s,baz=95,slow=7.9,SNR=3.3							
	0.7nm,0.9s							
WRA	**Warramunga Arr**	51.08	188	P		P	10 27 22.4	-0.2
	0.2nm,0.3s,baz=6.6,slow=7.7,SNR=5.5							
	0.2nm,0.3s							
BVAR	**Borovoye Array**	54.60	316	LR		LR	10 52 40.4	
	comp=Z,59nm,20.3s,baz=31,slow=38							
ASAR	**Alice Springs**	54.81	188	P		P	10 27 50.1	0.0
	0.2nm,0.6s,baz=3.5,slow=6.4,SNR=5.9							
	0.2nm,0.6s							

*IDC **09** 10:48:53.4±1.0, 35.20S×111.30W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=77.6km s-min=30.6km az=86.0*

*NEIC **09** 10:48:55.1±0.9, 35.09S±0.06×111.4W±0.2, h10km±1km, mb4.6/19, Error ellipse: s-maj=32.7km s-min=9.9km az=269.0*

ISC 09 10:48:56.0±0.8, 35.0S±0.1×111.1W±0.2, h10km, n31, σ1§45/30, mb4.6/15, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA02	**Isla de Pascua**	7.93	11	Pn		Pn	10 50 54.2	+2.9
VA01	**Torpederas**	32.61	98	P		P	10 55 28.2	+0.4
MG03	**Isla Dawson**	33.99	136	P		P	10 55 37.3	-2.3
PB10	**IPOC Station P**	36.94	83	P		P	10 56 05.3	-0.1
HOPE	**Hope Point**	53.83	136	P		P	10 58 19.1	+0.4
QSPA	**South Pole Qui**	55.21	180	P		P	10 58 27.2	-1.6
QSPA				IAmb		IAmb	10 58 55.5	
	comp=Z,6.4nm,1.2s							
VNA3	**Neumayer Olymp**	60.82	159	⇑P		P	10 59 11.4	+3.5
	comp=Z,6.7nm,0.8s							
VNA1	**Neumayer--Stat**	61.48	158	⇑P		P	10 59 15.0	+2.7
	comp=Z,5.7nm,1.0s							
SNAA	**Sanae**	62.60	160	⇑P		P	10 59 22.3	+2.3
	comp=Z,62nm,0.9s							
SNAA	**Sanae**	62.60	160	P		P	10 59 17.7	-2.3
	comp=Z,1.6nm,1.0s,baz=225,slow=5.7,SNR=2.3							
	comp=Z,1.6nm,1.0s							
TROLL	**Troll, Antarti**	63.87	162	⇑P		P	10 59 31.2	+2.7
	comp=Z,82nm,0.8s							
TXAR	**Lajitas Array**	64.36	7	P		P	10 59 32.5	+0.4
	comp=Z,0.2nm,0.8s,baz=182,slow=3.8,SNR=4.9							
	comp=Z,0.2nm,0.8s							
CCUT	**Cedar City**	72.20	358	P		P	11 00 22.0	+0.8
CCUT				IAmb		IAmb	11 00 23.5	
	comp=Z,4.1nm,1.1s							
DSP	**Deep Springs**	72.28	354	P		P	11 00 21.1	-0.2
DSP				IAmb		IAmb	11 00 48.9	
	comp=Z,8.0nm,1.4s							
MZP	**Montezuma Peak**	72.56	355	P		P	11 00 22.7	-0.7
NVAR	**Mina Array Bea**	73.36	354	P		P	11 00 27.5	-0.6
NVAR	**Mina Array Bea**	73.36	354	P		P	11 00 29.1	+1.0
	comp=Z,1.0nm,1.0s,baz=190,slow=7.5,SNR=4.7							
	comp=Z,1.0nm,1.0s							
SPR3	**Spring Creek 3**	73.68	357	P		P	11 00 29.8	-0.3
SRU	**San Rafael Swe**	73.73	0	P		P	11 00 29.6	-0.6
CPCT	**Cooper Cave**	74.33	22	P		P	11 00 33.1	-0.4
CPCT				IAmb		IAmb	11 00 41.1	
	comp=Z,7.6nm,1.3s							
HOPS	**Hopland Field**	74.44	350	P		P	11 00 32.5	-1.6
HOPS				IAmb		IAmb	11 01 06.8	
	comp=Z,15nm,1.4s							
BSUT	**Blindstream Ca**	75.16	0	P		P	11 00 38.0	-0.7
BSUT				IAmb		IAmb	11 00 58.5	
	comp=Z,11nm,1.4s							
HATC	**Hat Creek Radi**	76.04	352	P		P	11 00 43.3	-0.1
HATC				IAmb		IAmb	11 01 02.9	
	comp=Z,14nm,1.4s							
PDAR	**Pinedale Array**	77.39	1			P	11 00 50.9	-0.3
PDAR	**Pinedale Array**	77.39	1	P		P	11 00 50.5	-0.7
	comp=Z,1.5nm,1.0s,baz=191,slow=4.5,SNR=8.6							
	comp=Z,1.5nm,1.0s							
TPAW	**Teton Pass**	78.11	0	P		P	11 00 54.1	-1.1
TPAW				IAmb		IAmb	11 01 14.7	
	comp=Z,7.7nm,1.4s							
HLID	**Hailey**	78.24	358			P	11 00 56.3	+0.5
FXWY	**Fox Creek**	78.25	0	P		P	11 00 56.1	+0.1
FXWY				IAmb		IAmb	11 01 15.4	
	comp=Z,4.4nm,1.4s							
CMAR	**Chiang Mai Arr**	148.69	246	PKPbc		PKPdf	11 08 41.5	+1.3
	comp=Z,4.1nm,1.1s,baz=176,slow=3.1,SNR=6.4							
SONM	**Songino Array**	149.41	306	PKPbc		PKPbc	11 08 44.1	-1.0
	comp=Z,0.7nm,0.5s,baz=109,slow=4.1,SNR=6.0							
BRTR	**Keskin Array B**	151.68	70	PKPbc		PKPbc	11 08 51.3	+0.5
	comp=Z,0.2nm,0.3s,baz=295,slow=4.4,SNR=1.5							

*IDC **09** 10:52:43.6±0.8, 34.88S×111.69W, h0km, mb3.7/7, mbtmp3.7/7, MS4.3/23, Error ellipse: s-maj=35.0km s-min=22.7km az=77.0*

*NEIC **09** 10:52:45.4±1.2, 34.67S±0.09×111.56W±0.07, h10km±1km, mb4.7/31, Error ellipse: s-maj=18.0km s-min=4.9km az=209.0*

*GCMT **09** 10:52:49.4±0.2, 34.93S±0.01×111.90W±0.01, h12km, MW5.1/124, Moment Tensor Solution. s62, c76; s124, c189; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.81±.10; $M_{\theta\theta}$=1.33±.10; $M_{\phi\phi}$2.14±.10; $M_{r\theta}$=1.23±.25; $M_{\theta\phi}$=4.13±.07; $M_{\phi r}$=1.39±.24; Best double couple: M_{o}4.89900×10^{16} NP1:ϕ_s104.00000°, δ70.00000°, λ-166.00000°. NP2:ϕ_s9.00000°, δ77.00000°, λ-21.00000°. Principal axes: T 4.9270, Plg5.0000°, Azm57.0000°; N -0.0590, Plg65.0000°, Azm159.0000°; P -4.8720, Plg24.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 10:52:44.5±0.6, 34.76S±0.09×111.8W±0.1, h10km, n70, σ1§51/48, mb4.6/25, MS4.4/22, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VA02	**Isla de Pascua**	7.83	15	Pn		Pn	10 54 39.0	+0.5
RPN	**Rapa Nui**	7.89	16	LR		LR	10 56 55.7	
	comp=Z,2μm,18.1s,baz=194,slow=32							
RKT	**Rikitea**	23.33	294	*e*S		S	11 02 06.4	+0.8
	8μm,31.5s							
PLCA	**Paso Flores**	32.91	113	P		P	10 59 16.7	-2.2
	0.8nm,0.7s,baz=225,slow=12,SNR=3.2							
PLCA				LR		LR	11 08 51.8	
	comp=Z,216nm,21.4s,baz=267,slow=30							
	0.8nm,0.7s							
VA06	**Catapilco**	33.60	98	P		P	10 59 23.1	-1.9
MG03	**Isla Dawson**	34.55	136	P		P	10 59 33.2	+0.3
TBI	**Tubuai**	34.67	279	*e*S		S	11 04 52.3	-12
	2μm,24.5s							
TBI				*e*SS		SnSn	11 07 03.3	-13
TBI				*e*LR		LR	11 08 35.1	
	822nm,25.0s							
TBI				*e*LR		LR	11 08 37.2	
	4μm,24.8s							
ZON	**Zonda**	36.02	97	P		P	10 59 44.4	-1.5
AC06	**Mina Casimiro**	36.04	90	P		P	10 59 44.5	-1.6
GO03	**Copiapo**	36.05	90	P		P	10 59 45.0	-1.3
GO03				IAmb		IAmb	11 00 00.0	
	comp=Z,28nm,1.4s							
TAOE	**Nuku Hiva Isla**	36.61	308	*e*LR		LR	11 09 46.8	
	comp=Z,1μm,25.8s							
PPT	**Papeete**	37.74	287	LR		LR	11 11 09.6	
	comp=Z,311nm,21.3s,baz=124,slow=29							
NNA	**Nana**	38.95	63	LR		LR	11 12 00.4	
	comp=Z,1μm,21.3s,baz=224,slow=30							
PATCX	**Punta Patache**	39.07	80	P		P	11 00 11.8	-0.1
ATAH	**Atahualpa**	41.20	56	LR		LR	11 13 19.7	
	comp=Z,900nm,19.4s,baz=252,slow=30							
PMSA	**Palmer Station**	41.40	151	LR		LR	11 12 57.6	
	comp=Z,522nm,21.9s,baz=286,slow=29							
LPAZ	**La Paz**	43.08	76	P		P	11 00 46.8	+1.2
	comp=Z,1.9nm,1.0s,baz=237,slow=9.0,SNR=3.9							
LPAZ				LR		LR	11 15 15.4	
	comp=Z,266nm,18.8s,baz=234,slow=31							
	comp=Z,1.9nm,1.0s							
RAR	**Rarotonga**	44.10	275	LR		LR	11 14 32.3	
	comp=Z,172nm,20.2s,baz=127,slow=30							
CPUP	**Villa Florida**	47.15	95	LR		LR	11 18 09.4	
	comp=Z,76nm,18.3s,baz=108,slow=32							
SIV	**San Ignacio**	48.93	81	LR		LR	11 19 33.2	
	comp=Z,326nm,19.4s,baz=268,slow=33							
ROSC	**El Rosal**	52.86	49	LR		LR	11 21 08.9	
	comp=Z,551nm,18.2s,baz=249,slow=32							
BELA	**Belgrano 2**	53.60	165	P		P	11 02 06.9	+1.6
BELA				IAmb		IAmb	11 02 18.2	
	comp=Z,7.7nm,1.2s							
CMIG	**Matias Romero**	54.00	20	LR		LR	11 19 36.4	
	comp=Z,215nm,20.5s,baz=194,slow=30							
QSPA	**South Pole Qui**	55.44	180	P		P	11 02 20.7	+1.7
QSPA				IAmb		IAmb	11 02 26.8	
	comp=Z,7.9nm,1.3s							
QSPA	**South Pole Qui**	55.44	180	P		P	11 02 20.2	+1.2
	comp=Z,2.0nm,1.0s,baz=76,slow=6.2,SNR=3.1							
QSPA				LR		LR	11 21 45.8	
	comp=Z,258nm,21.8s,baz=106,slow=32							
	comp=Z,2.0nm,1.0s							
VNDA	**Vanda**	55.58	195	P		P	11 02 22.1	+2.4
VNDA	**Vanda**	55.58	195	LR		LR	11 20 07.1	
	comp=Z,233nm,19.8s,baz=96,slow=30							
SDV	**Santo Domingo**	58.28	50	LR		LR	11 23 48.0	
	comp=Z,661nm,21.0s,baz=243,slow=32							
RPZ	**Rata Peaks**	58.45	236	LR		LR	11 24 08.8	
	comp=Z,416nm,18.5s,baz=136,slow=32							
LPIG	**La Paz**	58.55	2	LR		LR	11 22 06.3	
	comp=Z,323nm,20.2s,baz=187,slow=30							
BDFB	**Brasilia**	59.81	89	LR		LR	11 26 08.4	
	comp=Z,319nm,18.0s,baz=239,slow=34							
VNA3	**Neumayer Olymp**	61.24	159	⇑P		P	11 02 57.4	-1.9
	comp=Z,4.3nm,0.7s							
VNA1	**Neumayer--Stat**	61.90	158	⇑P		P	11 03 02.6	-1.1
	comp=Z,9.4nm,1.1s							
SNAA	**Sanae**	63.01	160	⇑P		P	11 03 10.4	-0.8
	comp=Z,98nm,1.1s							
SNAA	**Sanae**	63.01	160	P		P	11 03 11.5	+0.3
SNAA	**Sanae**	63.01	160	P		P	11 03 10.3	-0.8
	comp=Z,1.5nm,0.9s,baz=282,slow=7.8,SNR=4.6							
SNAA				LR		LR	11 26 15.1	
	comp=Z,260nm,20.0s,baz=292,slow=32							
	comp=Z,1.5nm,0.9s							
PCRV	**Puerto La Cruz**	63.14	54	LR		LR	11 27 06.9	
	comp=Z,544nm,21.2s,slow=33							
TXAR	**Lajitas Array**	64.20	8	P		P	11 03 21.7	+2.2
	comp=Z,0.1nm,0.4s,baz=179,slow=8.8,SNR=6.3							
	comp=Z,0.1nm,0.4s							
TROLL	**Troll, Antarti**	64.27	162	⇑P		P	11 03 17.6	-2.0
	comp=Z,220nm,0.9s							
SDD	**Santo Domingo**	66.20	44	P		P	11 03 31.6	-1.0
ODSA	**Odessa**	67.09	8	P		P	11 03 38.2	+0.2
ODSA				IAmb		IAmb	11 03 49.4	
	comp=Z,8.6nm,0.9s							
SJG	**San Juan**	68.14	47	LR		LR	11 31 07.7	
	comp=Z,194nm,18.2s,baz=206,slow=34							
MDP	**Montagnes des**	68.24	67	LR		LR	11 30 25.9	
	comp=Z,532nm,19.1s,baz=256,slow=33							
DZM	**Mont Dzumac**	71.27	256	*e*S		S	11 13 16.4	-5.9
	comp=Z,156nm,26.4s							
DZM	**Mont Dzumac**	71.27	256	*e*LR		LR	11 25 28.8	
	comp=Z,574nm,23.9s							
CCUT	**Cedar City**	71.96	359	P		P	11 04 10.5	+2.3
CCUT				IAmb		IAmb	11 04 26.0	
	comp=Z,5.9nm,1.1s							
SZCU	**Shurtz Canyon**	72.00	359	P		P	11 04 07.8	-0.7
SZCU				IAmb		IAmb	11 04 26.8	
	comp=Z,9.7nm,1.5s							
RLO	**Rose Lookout**	72.27	14	P		P	11 04 09.4	-0.4
RLO				IAmb		IAmb	11 04 15.6	
	comp=Z,8.5nm,1.0s							
MZP	**Montezuma Peak**	72.28	355	P		P	11 04 10.0	-0.2
HMU	**Henry Mountain**	72.33	1	P		P	11 04 10.9	+0.4
HMU				IAmb		IAmb	11 04 27.6	
	comp=Z,7.3nm,1.2s							
FCAR	**Ozark Folk Cen**	72.64	17			P	11 04 10.1	-1.9
FCAR				IAmb		IAmb	11 04 10.8	
	comp=Z,4.4nm,0.8s							
PV12	**Saucer Basin,**	72.76	2	P		P	11 04 13.8	+0.7
PV12				IAmb		IAmb	11 04 32.9	
	comp=Z,17nm,1.4s							
NVAR	**Mina Array Bea**	73.07	355	P		P	11 04 16.2	+1.3
	comp=Z,0.4nm,0.7s,baz=188,slow=7.7,SNR=7.1							
	comp=Z,0.4nm,0.7s							
TKL	**Tuckaleechee C**	74.77	23	LR		LR	11 32 25.7	
	comp=Z,75nm,21.7s,baz=195,slow=32							
BSUT	**Blindstream Ca**	74.93	1			P	11 04 26.4	+0.5
BSUT				IAmb		IAmb	11 04 38.9	
	comp=Z,7.9nm,1.1s							
PDAR	**Pinedale Array**	77.18	2	P		P	11 04 38.5	+0.1
PDAR	**Pinedale Array**	77.18	2	P		P	11 04 39.2	+0.7
	comp=Z,1.0nm,0.9s,baz=150,slow=4.7,SNR=5.9							
	comp=Z,1.0nm,0.9s							
BLA	**Blacksburg**	77.31	25	P		P	11 04 38.7	-0.4
BLA				IAmb		IAmb	11 04 52.4	
	comp=Z,12nm,1.2s							
K02D	**Willamette Mer**	77.84	351	P		P	11 04 43.0	+1.0
SNOW	**Snow King Moun**	77.85	1	P		P	11 04 42.3	0.0
SNOW				IAmb		IAmb	11 05 00.2	
	comp=Z,6.6nm,1.3s							
TPAW	**Teton Pass**	77.88	1	P		P	11 04 42.9	+0.5
TPAW				IAmb		IAmb	11 04 54.5	
	comp=Z,7.5nm,1.4s							
MFID	**Camas Ranch**	77.89	357	P		P	11 04 42.6	+0.3
HLID	**Hailey**	77.98	358	P		P	11 04 42.8	-0.1
HLID				IAmb		IAmb	11 05 01.6	
	comp=Z,9.6nm,1.3s							
LOHW	**Long Hollow**	78.00	1	P		P	11 04 42.2	-0.8
FXWY	**Fox Creek**	78.03	1	P		P	11 04 43.3	+0.1
J05D	**Fort Rock, OR**	78.15	353	P		P	11 04 44.8	+1.1
J05D				IAmb		IAmb	11 05 00.7	
	comp=Z,7.3nm,1.2s							
G04A	**Mulino**	80.18	352	P		P	11 04 55.3	+0.6
G04A				IAmb		IAmb	11 04 58.4	
	comp=Z,11nm,0.7s							
CMAR	**Chiang Mai Arr**	148.27	247	PKPbc		PKPbc	11 12 31.3	-0.1
	comp=Z,1.6nm,0.7s,baz=166,slow=1.9,SNR=7.9							
SONM	**Songino Array**	148.82	306	PKPbc		PKPbc	11 12 31.8	-0.3
	comp=Z,2.2nm,1.0s,baz=102,slow=3.6,SNR=6.7							
BRTR	**Keskin Array B**	152.13	69	PKPbc		PKiKP	11 12 42.6	+2.0
	comp=Z,0.3nm,0.4s,baz=177,slow=2.7,SNR=1.4							

RSNC 09 10:57:10.1±0.0, 3°N±1°×7°4W±°, h-2km±2km, M2.2, ML2.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URMC	**La Uribe, Meta**	0.22	223	P		Pg	10 57 15.0	+0.7
URMC				S		Sg	10 57 18.7	+1.5
PRAC	**Prado**	0.72	295	P		Pg	10 57 23.5	-0.5
PRAC				S		Sg	10 57 33.6	+0.3
VILC	**Villavicencio,**	0.88	37	P		Pg	10 57 25.9	-1.1
VILC				S		Sg	10 57 37.5	-0.9
CVER	**Cruz Verde, Cu**	1.11	8	P		Pg	10 57 29.8	-1.7
CVER				S		Sg	10 57 46.3	+0.3
ORTC	**Ortega, Tolima**	1.13	296	P		Pg	10 57 30.7	-1.1
ORTC				S		Sg	10 57 46.9	+0.5
CHIC	**Chingaza**	1.31	22	P		Pg	10 57 33.3	-1.9
CHIC				S		Sg	10 57 52.8	+0.5
MACC	**Macarena, Meta**	1.31	163	P		Pg	10 57 33.9	-1.4
MACC				S		Sg	10 57 51.0	-1.4
BETC	**Betania**	1.41	239	P		Pn	10 57 35.0	-2.1
BETC				S		Sg	10 57 55.2	-0.3
ROSC	**El Rosal**	1.42	356	P		Pg	10 57 36.6	-0.8
ROSC				S		Sg	10 57 55.7	-0.2
ANIL	**Santa Ana**	1.59	313	P		Pn	10 57 38.7	-1.1
ANIL				S		Sn	10 57 59.6	-1.6
GARC	**Garzon, Huila**	1.75	226	P		Pn	10 57 41.8	-0.2
GARC				S		Sn	10 58 05.1	-0.1
GUVC	**San Jose del G**	1.82	118	P		Pn	10 57 42.7	0.0
GUVC				S		Sn	10 58 06.3	-0.1
GUY2C	**Guyana, Caldas**	2.13	328	P		Pn	10 57 47.6	+0.2
GUY2C				S		Sn	10 58 14.3	-0.5
YOTC	**Yotoco, Valle**	2.19	285	P		Pn	10 57 48.0	+0.1
YOTC				S		Sb	10 58 18.0	-0.4
NORC	**Norcasia**	2.23	343	P		Pn	10 57 48.3	-0.1
NORC				S		Sn	10

11µm,30.5s
H03S2 Juan Fernandez 27.77 98 T T 11 57 14.5
baz=258,slow=75,SNR=16
H03S1 Juan Fernandez 27.78 98 T T 11 57 08.4
baz=258,slow=75,SNR=24
H03S3 Juan Fernandez 27.78 98 T T 11 57 07.0
baz=258,slow=75,SNR=28
H03N2 Juan Fernandez 27.84 97 T T 11 57 18.0
baz=261,slow=72,SNR=7.3
H03N3 Juan Fernandez 27.85 97 T T 11 57 14.3
baz=261,slow=72,SNR=6.9
H03N1 Juan Fernandez 27.86 97 T T 11 57 13.9
baz=261,slow=72,SNR=9.0
LL02 Futaleuf 32.49 117 P **P** **11 29 22.5 +1.1**
PLCA Paso Flores 33.52 113 P P 11 29 25.4 -5.1
3.5nm,1.0s,baz=258,slow=6.4,SNR=4.2
PLCA LR LR 11 39 00.8
comp=Z,305nm,20.3s,baz=268,slow=30
3.5nm,1.0s
VA01 Torpederas 33.88 99 P **P** **11 29 34.6 +1.0**
TBI Tubuai 33.99 280 *e*SS SS 11 37 26.3 -0.5
3µm,29.8s
TBI *e*LR LR 11 38 31.5
2µm,26.5s
TBI *e*LR LR 11 38 33.2
9µm,25.5s
MT09 Talagante 34.23 100 P **P** **11 29 38.3 +1.4**
BO04 La Punta 34.48 101 P **P** **11 29 40.3 +1.3**
BO04 IAmb IAmb 11 30 47.6
comp=Z,18nm,1.2s
MT16 CCHEN 34.69 100 **P** **11 29 40.3 -0.4**
VA03 San Esteban 34.84 99 P **P** **11 29 41.0 -1.1**
LMEL Las Melosas 34.84 101 P **P** **11 29 42.2 0.0**
LMEL IAmb IAmb 11 30 07.8
comp=Z,25nm,1.4s
GO04 Tololo Observa 35.39 94 P **P** **11 29 48.0 +1.0**
TAOE Nuku Hiva Isla 36.13 309 *e*LR LR 11 39 34.3
comp=Z,1µm,26.1s
AC06 Mina Casimiro 36.74 90 P **P** **11 29 59.2 +0.8**
AC06 IAmb IAmb 11 30 00.7
comp=Z,19nm,1.1s
CFA Coronel Fontan 37.04 98 LR LR 11 41 08.3
comp=Z,451nm,20.6s,baz=198,slow=30
PPT Papeete 37.10 288 LR LR 11 40 54.5
comp=Z,783nm,18.6s,baz=132,slow=29
AC02 Maricunga 37.95 90 P **P** **11 30 10.2 +1.0**
AC02 IAmb IAmb 11 30 12.7
comp=Z,27nm,1.2s
NNA Nana 39.63 64 LR LR 11 42 08.1
comp=Z,1µm,20.9s,baz=226,slow=30
TA01 Diego Aracena 39.88 80 P **P** **11 30 25.6 +0.7**
PB09 IPOC Station P 40.05 83 P **P** **11 30 27.5 +1.1**
PMSA Palmer Station 41.64 151 LR LR 11 43 06.0
comp=Z,633nm,21.8s,baz=277,slow=30
ATAH Atahualpa 41.85 57 LR LR 11 43 27.1
comp=Z,1µm,18.9s,baz=237,slow=30
RAR Rarotonga 43.41 275 LR LR 11 44 24.1
comp=Z,170nm,20.6s,baz=136,slow=29
LPAZ La Paz 43.78 77 P **P** **11 30 55.9 -1.6**
LPAZ IAmb IAmb 11 31 01.9
comp=Z,16nm,1.3s
LPAZ La Paz 43.78 77 P **P** **11 30 53.8 -3.7**
comp=Z,1.9nm,0.7s,baz=241,slow=5.9,SNR=4.8
LPAZ LR LR 11 45 23.8
comp=Z,364nm,18.8s,baz=234,slow=31
comp=Z,1.9nm,0.7s
ESPZ Base Esperanza 44.18 148 P **P** **11 30 58.7 -0.7**
CPUP Villa Florida 47.84 96 LR LR 11 48 17.7
comp=Z,111nm,18.6s,baz=110,slow=32
SIV San Ignacio 49.64 81 LR LR 11 49 32.1
comp=Z,482nm,20.9s,baz=271,slow=33
FLOC Florencia 50.12 52 P **P** **11 31 44.8 -1.6**
FLOC IAmb IAmb 11 31 54.6
comp=Z,13nm,1.2s
JTS Las Juntas de 51.99 35 LR LR 11 48 29.4
comp=Z,1µm,19.4s,baz=204,slow=30
VILB Vilhena 52.00 79 P **P** **11 32 01.6 +1.1**
VILB IAmb IAmb 11 32 14.8
comp=Z,29nm,1.5s
ROSC El Rosal 53.46 50 LR LR 11 51 16.4
comp=Z,686nm,18.1s,baz=245,slow=32
BELA Belgrano 2 53.68 165 P **P** **11 32 12.7 +0.6**
SBA Scott Base 54.23 195 P **P** **11 32 17.6 +1.5**
SBA IAmb IAmb 11 32 25.3
comp=Z,13nm,1.4s
CMIG Matias Romero 54.35 21 LR LR 11 49 42.9
comp=Z,200nm,20.0s,baz=188,slow=30
URZ Urewera 55.29 244 LR LR 11 50 48.8
comp=Z,1µm,20.6s,baz=92,slow=30
VNDA Vanda 55.30 195 P **P** **11 32 25.8 +2.0**
comp=Z,0.7nm,0.8s,baz=108,slow=11,SNR=4.5
VNDA LR LR 11 50 21.5
comp=Z,287nm,20.1s,baz=94,slow=30
comp=Z,0.7nm,0.8s
QSPA South Pole Qui 55.33 180 P **P** **11 32 24.1 -0.3**
QSPA South Pole Qui 55.33 180 P **P** **11 32 25.3 +0.8**
comp=Z,3.2nm,1.1s,baz=137,slow=21,SNR=18
QSPA LR LR 11 52 45.5
comp=Z,458nm,19.5s,baz=104,slow=32
comp=Z,3.2nm,1.1s
RPZ Rata Peaks 57.80 236 LR LR 11 53 46.5
comp=Z,530nm,18.2s,baz=137,slow=32
ZAIG Zacatecas 58.10 11 P **P** **11 32 45.1 +0.4**
LPIG La Paz 58.68 2 LR LR 11 52 20.7
comp=Z,456nm,19.7s,baz=186,slow=30
SDV Santo Domingo 58.89 51 P **P** **11 32 51.3 +1.0**
SDV IAmb IAmb 11 33 58.5
comp=Z,7.2nm,0.7s
SDV Santo Domingo 58.89 51 LR LR 11 53 55.7
comp=Z,831nm,21.2s,baz=248,slow=32
BDFB Brasilia 60.52 89 LR LR 11 56 42.9
comp=Z,534nm,18.1s,baz=222,slow=34
BAUV El Baul 60.61 53 P **P** **11 33 01.9 0.0**
BOAV Boa Vista 61.24 64 **P** **11 33 06.1 -0.1**
BOAV IAmb IAmb 11 33 09.2
comp=Z,21nm,1.7s
VNA3 Neumayer Olymp 61.39 159 ⇑P **P** **11 33 05.0 -1.6**
comp=Z,7nm,0.8s
SRIG Santa Rosalia 61.85 0 P **P** **11 33 09.3 -0.6**
VNA1 Neumayer--Stat 62.06 159 ⇑P **P** **11 33 09.9 -1.0**
comp=Z,18nm,1.0s
SNAA Sanae 63.15 161 ⇑P **P** **11 33 16.7 -1.6**
comp=Z,174nm,0.9s
SNAA Sanae 63.15 161 P **P** **11 33 17.1 -1.2**
SNAA Sanae 63.15 161 P **P** **11 33 16.6 -1.7**
comp=Z,8.1nm,0.9s,baz=227,slow=5.1,SNR=24
SNAA LR LR 11 56 52.0
comp=Z,296nm,19.4s,baz=286,slow=32
comp=Z,8.1nm,0.9s
PCRV Puerto La Cruz 63.77 55 LR LR 11 57 25.8
comp=Z,572nm,21.6s,slow=33
TROLL Troll, Antarti 64.39 162 ⇑P **P** **11 33 26.1 -0.5**
comp=Z,484nm,0.9s
TXAR Lajitas Array 64.41 9 P **P** **11 33 27.9 +0.8**
comp=Z,0.3nm,0.7s,baz=195,slow=9.1,SNR=6.7
comp=Z,0.3nm,0.7s
DRIO Del Rio 64.94 12 P **P** **11 33 30.6 +0.1**
SAND Sanderson 65.23 10 **P** **11 33 32.6 +0.3**
SAND IAmb IAmb 11 33 39.8
comp=Z,4.8nm,0.9s
HNDO Hondo 65.27 13 P **P** **11 33 33.0 +0.4**
ALPN Alpine 65.44 9 **P** **11 33 34.2 +0.4**
ALPN IAmb IAmb 11 33 46.0
comp=Z,10nm,1.4s
VHRN Van Horn 65.69 7 **P** **11 33 35.9 +0.4**
VHRN IAmb IAmb 11 33 44.0
comp=Z,5.0nm,1.0s
JCT Junction City 66.11 12 P **P** **11 33 38.1 +0.1**
MNHN Monahans 66.50 9 P **P** **11 33 41.2 +0.7**
MNHN IAmb IAmb 11 33 59.7
comp=Z,17nm,1.6s
MNTX Cornudas Mount 66.56 7 P **P** **11 33 41.1 +0.2**
MNTX IAmb IAmb 11 34 02.6
comp=Z,6.8nm,1.3s
TUC Tucson 66.84 2 P **P** **11 33 43.5 +0.8**
TUC IAmb IAmb 11 33 52.0
comp=Z,8.2nm,1.4s
BRDY Brady 67.03 13 P **P** **11 33 43.4 -0.5**
TKX Tecate 67.18 356 P **P** **11 33 44.8 0.0**
121A Cookes Peak, D 67.19 4 P **P** **11 33 45.3 +0.2**
121A IAmb IAmb 11 33 53.0
comp=Z,4.7nm,0.8s
BORC Borrego Spring 67.87 357 P **P** **11 33 50.4 +1.3**
BC3 Big Chuckawall 68.21 357 **P** **11 33 51.9 +0.5**
BC3 IAmb IAmb 11 34 14.9
comp=Z,16nm,1.5s
PFO Pinyon Flats O 68.21 357 P **P** **11 33 52.1 +0.7**
PFO IAmb IAmb 11 34 04.6
comp=Z,9.9nm,1.3s
PFO Pinyon Flats O 68.21 357 LR LR 11 56 54.6
comp=Z,258nm,18.9s,baz=183,slow=30
ABTX Abilene, Hawle 68.23 12 P **P** **11 33 52.2 +0.8**
ABTX IAmb IAmb 11 34 26.2
comp=Z,7.5nm,1.2s
PMD Palm Desert 68.24 357 P **P** **11 33 52.0 +0.5**
PMD IAmb IAmb 11 34 05.2
comp=Z,7.0nm,1.2s
BLYC Blythe 68.28 358 P **P** **11 33 51.8 +0.1**
BLYC IAmb IAmb 11 34 05.1
comp=Z,8.9nm,1.1s
Y22A Socorro 68.65 5 **P** **11 33 54.9 +0.7**
Y22A IAmb IAmb 11 34 03.3
comp=Z,6.3nm,1.1s
SBM South Baldy 68.67 5 P **P** **11 33 54.4 -0.2**
CRNM Carthage 68.68 5 P **P** **11 33 54.9 +0.5**
SJG San Juan 68.73 48 LR LR 12 01 23.8
comp=Z,229nm,18.1s,baz=218,slow=34
PDPR Patillas Dam, 68.73 48 P **P** **11 33 54.5 -0.3**
BNM Barren Site 68.88 5 P **P** **11 33 56.4 +0.7**
MDP Montagnes des 68.93 68 LR LR 12 00 34.0
comp=Z,595nm,19.4s,baz=258,slow=33
X16A Lo Mia Camp, P 68.93 1 **P** **11 33 56.0 0.0**
X18A Snowflake 69.08 2 P **P** **11 33 56.8 -0.1**
MSTX Muleshoe 69.09 9 **P** **11 33 56.3 -0.6**
MSTX IAmb IAmb 11 34 03.5
comp=Z,5.7nm,0.9s
ANMO Albuquerque 69.69 5 LR LR 11 59 35.7
comp=Z,344nm,18.2s,baz=280,slow=32
GSC Goldstone, Bar 69.91 356 P **P** **11 34 02.6 +0.7**
WUAZ Wupatki 70.03 1 P **P** **11 34 02.4 -0.3**
MTPC Mountain Pass 70.04 357 P **P** **11 34 01.9 -0.9**
MTPC IAmb IAmb 11 34 25.8
comp=Z,22nm,1.8s
CCCA Chr Cany lake 70.17 356 P **P** **11 34 02.4 -1.0**
CLC China Lake 70.47 356 P **P** **11 34 04.7 -0.5**
SHOC Shoshone, Teco 70.48 357 P **P** **11 34 05.4 +0.2**
SHOC IAmb IAmb 11 34 21.9
comp=Z,9.1nm,1.2s
DZM Mont Dzumac 70.56 256 *e*S **S** **11 43 19.6 -0.7**
comp=Z,173nm,24.6s
DZM *e*SS **SS** **11 47 48.5 -2.9**
comp=Z,103nm,27.6s
DZM *e*LR LR 11 55 26.3
comp=Z,955nm,27.2s
DZM Mont Dzumac 70.56 256 LR LR 11 57 45.5
comp=Z,370nm,21.5s,baz=157,slow=29
QSM Queen of Sheba 70.58 356 P **P** **11 34 06.0 +0.1**
QSM IAmb IAmb 11 34 26.1
comp=Z,11nm,1.3s
MPMC Manual Prospec 70.70 356 P **P** **11 34 06.8 0.0**
MPMC IAmb IAmb 11 34 09.9
comp=Z,7.5nm,1.2s
GWY Greenwater Val 70.78 357 P **P** **11 34 08.1 +0.7**
U15A North Rim 70.93 0 **P** **11 34 08.6 +0.3**
SHPR Sheep Range 71.04 358 **P** **11 34 08.5 -0.4**
PMPB Monarch Peak 71.12 353 P **P** **11 34 08.9 -0.4**
WCT Wildcat Mounta 71.39 357 P **P** **11 34 11.5 +0.6**
WCT IAmb IAmb 11 34 34.9
comp=Z,7.9nm,1.3s
LCMT Little Creek M 71.51 359 P **P** **11 34 11.6 -0.1**
KNB Kanab 71.51 360 P **P** **11 34 11.3 -0.4**
KNB IAmb IAmb 11 34 34.9
comp=Z,12nm,1.4s
TPNV Topopah Spring 71.53 357 P **P** **11 34 11.7 -0.1**
TPNV IAmb IAmb 11 34 25.2
comp=Z,6.6nm,1.0s
MVCO Mesa Verde 71.81 3 P **P** **11 34 13.4 -0.1**
MVCO IAmb IAmb 11 34 26.3
comp=Z,14nm,1.4s
UALR University of 71.83 17 P **P** **11 34 13.5 0.0**
UALR IAmb IAmb 11 34 25.1
comp=Z,6.3nm,0.8s
GMN Gold Mountain 71.93 356 P **P** **11 34 14.4 +0.1**
PRN Pahroc Range 71.94 358 P **P** **11 34 14.5 +0.2**
PRN IAmb IAmb 11 34 36.0
comp=Z,11nm,1.4s
PKCU Pink Cliffs 71.94 0 **P** **11 34 14.7 +0.2**
PKCU IAmb IAmb 11 34 28.2
comp=Z,12nm,1.2s
DSP Deep Springs 72.04 356 **P** **11 34 15.3 +0.7**
DSP IAmb IAmb 11 34 37.2
comp=Z,17nm,1.4s
T25A Trinidad 72.04 7 P **P** **11 34 14.8 -0.1**
T25A IAmb IAmb 11 34 27.6
comp=Z,7.9nm,1.2s
CCUT Cedar City 72.05 359 **P** **11 34 14.5 -0.5**
CCUT IAmb IAmb 11 34 37.1
comp=Z,12nm,1.3s
SZCU Shurtz Canyon 72.09 360 P **P** **11 34 15.2 -0.1**
SZCU IAmb IAmb 11 34 38.9
comp=Z,13nm,1.5s
S11A Rachel 72.20 357 P **P** **11 34 16.0 +0.2**
MZP Montezuma Peak 72.33 356 P **P** **11 34 18.1 +1.3**
HMU Henry Mountain 72.45 2 P **P** **11 34 17.2 -0.2**
HMU IAmb IAmb 11 34 41.1
comp=Z,12nm,1.1s
BUCR Buckhorn Ranch 72.51 354 P **P** **11 34 18.3 +0.7**
SDCO Great Sand Dun 72.54 6 P **P** **11 34 18.1 0.0**
TPH Tonopah 72.70 356 IAmb IAmb 11 34 42.8
comp=Z,11nm,1.2s
PV02 Paradox Valley 72.79 3 IAmb IAmb 11 34 32.0
comp=Z,6.8nm,1.0s
PV18 Skein Mesa, Pa 72.82 3 IAmb IAmb 11 34 31.9
comp=Z,9.5nm,1.0s
PV03 Paradox Valley 72.83 3 P **P** **11 34 20.4 +0.8**
R11B Troy Canyon, C 72.89 358 IAmb IAmb 11 34 44.0
comp=Z,18nm,1.8s
PV12 Saucer Basin, 72.90 3 IAmb IAmb 11 34 28.8
comp=Z,13nm,1.0s
PV20 West Nyswonger 72.92 3 IAmb IAmb 11 34 32.6
comp=Z,16nm,1.2s
FCAR Ozark Folk Cen 72.94 17 P **P** **11 34 20.3 +0.3**
PV10 Paradox Valley 72.95 3 P **P** **11 34 20.5 +0.1**
PV10 IAmb IAmb 11 34 36.2
comp=Z,8.9nm,1.1s
PV04 Paradox Valley 72.97 3 P **P** **11 34 19.7 -0.7**
PV04 IAmb IAmb 11 34 32.9
comp=Z,9.6nm,1.1s
MSU Marysvale 73.01 0 P **P** **11 34 21.0 +0.3**
PV23 Carpenter Ridg 73.02 3 IAmb IAmb 11 34 29.7
comp=Z,12nm,0.9s
PSUT Pine Spring 73.04 359 **P** **11 34 21.6 +0.7**
PSUT IAmb IAmb 11 34 42.8
comp=Z,6.6nm,1.0s
NVAR Mina Array Bea 73.11 355 **P** **11 34 20.2 -1.1**
NVAR Mina Array Bea 73.11 355 P **P** **11 34 24.3 +3.0**
comp=Z,5.6nm,1.1s,baz=188,slow=8.8,SNR=13
NVAR LR LR 11 59 26.7
comp=Z,487nm,22.0s,baz=174,slow=30
comp=Z,5.6nm,1.1s
RYN Ryan 73.33 355 P **P** **11 34 21.6 -0.9**
RYN IAmb IAmb 11 34 39.5
comp=Z,9.3nm,1.4s
Q16A Castle Valley 73.42 1 IAmb IAmb 11 34 44.3
comp=Z,9.0nm,1.2s
SPR3 Spring Creek 3 73.51 359 IAmb IAmb 11 34 45.1
comp=Z,21nm,1.7s
SRU San Rafael Swe 73.63 2 IAmb IAmb 11 34 30.8
comp=Z,6.8nm,0.9s
P17A Butcher Ranch, 73.99 2 P **P** **11 34 26.0 -0.4**
P18A Preston Nutter 74.15 2 P **P** **11 34 28.0 +0.5**
CBKS Cedar Bluff 74.27 10 P **P** **11 34 27.8 -0.1**
CBKS IAmb IAmb 11 34 41.9
comp=Z,12nm,1.1s
SYO Syowa Base 74.42 170⇑ *e*P **P** **11 34 25.0 -3.4**
SYO Syowa Base 74.42 170⇑ *e*pP **P** **11 34 28.0 -0.4**
MPU Maple Canyon 74.51 1 P **P** **11 34 29.6 +0.1**
DCMP DeCamp, Califo 74.62 351 P **P** **11 34 29.5 -0.4**
DUG Dugway, Tooele 74.69 360 P **P** **11 34 29.9 -0.5**
BSUT Blindstream Ca 75.05 1 **P** **11 34 32.5 -0.3**
BSUT IAmb IAmb 11 34 45.6
comp=Z,19nm,1.2s
JLU Jordanelle 75.10 1 P **P** **11 34 32.8 -0.1**
TKL Tuckaleechee C 75.15 24 LR LR 12 02 32.4
comp=Z,281nm,21.8s,baz=192,slow=32
ELK Elko 75.28 358 LR LR 12 01 53.1
comp=Z,674nm,21.4s,baz=151,slow=31
S44A Carbondale 75.38 19 IAmb IAmb 11 34 54.6
comp=Z,13nm,1.2s
HATC Hat Creek Radi 75.75 353 IAmb IAmb 11 34 56.7
comp=Z,12nm,1.1s
RCBR Riachuelo 75.80 87 LR LR 12 06 00.4
comp=Z,111nm,19.4s,baz=240,slow=34
KHMM Horse Mountain 76.06 351 IAmb IAmb 11 34 46.8
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 76.78 352 LR LR 12 01 56.5
comp=Z,16nm,18.4s,baz=170,slow=30
WVOR Wild Horse Val 77.12 355 IAmb IAmb 11 34 58.3
comp=Z,9.9nm,1.3s
L04D Klamath Falls 77.22 353 **P** **11 34 45.5 +0.7**
L04D IAmb IAmb 11 35 01.7
comp=Z,6.1nm,0.9s
AHID Auburn Hatcher 77.27 1 P **P** **11 34 45.5 +0.3**
PD31 Pinedale Array 77.31 2 P **P** **11 34 45.6 +0.2**
PD31 IAmb IAmb 11 34 51.6
comp=Z,6.8nm,0.9s
PDAR Pinedale Array 77.31 2 **P** **11 34 45.7 +0.3**
PDAR Pinedale Array 77.31 2 P **P** **11 34 46.1 +0.7**
comp=Z,2.5nm,0.9s,baz=165,slow=6.2,SNR=14
PDAR LR LR 12 04 20.2
comp=Z,124nm,18.0s,baz=182,slow=32
comp=Z,2.5nm,0.9s
K22A Casper 77.34 5 P **P** **11 34 46.4 +0.8**
K22A IAmb IAmb 11 34 58.0
comp=Z,12nm,1.1s
MAW Mawson 77.79 178 LR LR 12 06 50.5
comp=Z,146nm,19.5s,baz=190,slow=34
K02D Willamette Mer 77.84 352 IAmb IAmb 11 35 02.1
comp=Z,9.7nm,1.4s
BBOR Butler Butte 77.92 352 P **P** **11 34 47.8 -1.0**
BBOR IAmb IAmb 11 35 20.8
comp=Z,17nm,1.8s
HLID Hailey 78.07 359 IAmb IAmb 11 35 13.0
comp=Z,15nm,1.4s
J05D Fort Rock, OR 78.17 354 **P** **11 34 50.2 +0.1**
J05D IAmb IAmb 11 35 08.8
comp=Z,6.9nm,1.0s
PINE Pine Mountain 78.65 354 IAmb IAmb 11 35 00.9
comp=Z,8.1nm,1.0s
RSSD Black Hills 79.00 6 **P** **11 34 54.2 -0.5**
I05D Terrebonne, OR 79.23 354 P **P** **11 34 55.9 +0.1**
YHH Holmes Hill 79.29 1 **P** **11 34 56.8 +0.4**
YHL Hebgen Lake 79.35 1 **P** **11 34 57.5 +0.7**
BMO Blue Mountains 79.46 357 **P** **11 34 56.7 -0.3**
YNE Yellowstone No 79.53 2 P **P** **11 34 56.5 -1.2**
ECSD EROS Data Cent 79.57 12 **P** **11 34 57.8 +0.2**
PLID Pearl Lake 79.64 358 **P** **11 34 58.5 +0.3**
G08A Pilot Rock 79.99 355 **P** **11 35 00.3 +0.4**
G06A Carlson Farm, 80.06 354 P **P** **11 35 00.1 -0.2**
G06A IAmb IAmb 11 35 25.6
comp=Z,20nm,1.7s
BOZ Bozeman (W) 80.09 1 P **P** **11 35 00.5 -0.1**
R61A Willards 80.61 29 P **P** **11 35 04.3 +1.0**
LYMT Lyon Mountain 81.46 0 P **P** **11 35 07.4 -0.5**
LON Longmire 81.66 354 P **P** **11 35 09.8 +1.0**
JTMT Jette 82.25 359 **P** **11 35 12.1 +0.2**
NEW Newport 82.85 357 **P** **11 35 15.4 +0.4**
NEW IAmb IAmb 11 35 28.2
comp=Z,7.2nm,1.2s
NEW Newport 82.85 357 LR LR 12 06 37.7
comp=Z,435nm,18.3s,baz=184,slow=32
STKA Stephens Creek 83.76 235 LR LR 12 07 53.2
comp=Z,395nm,18.2s,baz=91,slow=32
SADO Sadowa 84.88 23 LR LR 12 11 07.3
comp=Z,217nm,18.1s,baz=151,slow=34
DELO Deloro Mine 85.17 24 P **P** **11 35 28.0 +1.2**
BBB Bella Bella 87.73 351 LR LR 12 06 20.2
comp=Z,66nm,20.0s,baz=204,slow=30
PMG Port Moresby 92.95 257 LR LR 12 14 25.5
comp=Z,140nm,18.5s,baz=164,slow=33
H11S2 WAKE ISLAND Hy 93.03 290 T T 13 20 03.1
baz=126,slow=76,SNR=7.7
H11S1 WAKE ISLAND Hy 93.05 290 T T 13 20 04.6
baz=126,slow=76,SNR=5.9
H11S3 WAKE ISLAND Hy 93.05 290 T T 13 20 01.7
baz=126,slow=76,SNR=6.5
DLBC Dease Lake 94.08 351 LR LR 12 11 22.1
comp=Z,131nm,18.1s,baz=145,slow=31
ASAR Alice Springs 94.20 237 P **P** **11 36 13.3 +3.0**
comp=Z,0.9nm,1.1s,baz=134,slow=5.3,SNR=4.4
comp=Z,0.9nm,1.1s
WRA Warramunga Arr 96.31 241 LR LR 12 16 52.8
comp=Z,298nm,18.3s,baz=81,slow=34
YKA Yellowknife Ar 97.03 359 LR LR 12 14 56.5
comp=Z,355nm,19.6s,baz=146,slow=32
SCHQ Schefferville 97.61 25 LR LR 12 16 32.2
comp=Z,150nm,20.5s,baz=224,slow=33
NWAO Narrogin (SRO) 97.93 220 LR LR 12 12 49.3
comp=Z,148nm,19.0s,baz=120,slow=30
KDAK Kodiak Island 98.21 340 LR LR 12 11 10.5
comp=Z,303nm,20.7s,baz=164,slow=30
NOA NORSAR Array B 136.05 36 PKP **PKPdf** **11 42 10.1 -1.3**
comp=Z,0.4nm,0.7s,baz=290,slow=2.4,SNR=3.4
NJ2 Nanjing 137.34 281 *e*P **PKiKP** **11 42 16.1 -0.3**
NJ2 pmax pmax
comp=Z,19nm,0.5s
HHC Hu-ho-hao-te 144.89 293 *e*P **PKPab** **11 42 25.3 -1.9**
CMAR Chiang Mai Arr 147.58 248 PKPbc **PKPbc** **11 42 37.0 +1.2**
comp=Z,6.8nm,0.9s,baz=175,slow=2.4,SNR=28
AKASG Malin Array Be 148.25 48 PKPbc **PKPdf** **11 42 33.2 +0.1**
comp=Z,0.2nm,0.3s,baz=274,slow=3.1,SNR=4.7
SONM Songino Array 148.31 306 PKPbc **PKPbc** **11 42 36.7 -0.3**
comp=Z,7.3nm,1.0s,baz=35,slow=3.6,SNR=6.8
PZH PanZhiHua 149.41 264 PKPbc **PKPdf** **11 42 36.7 +0.7**
BRTR Keskin Array B 152.82 70 PKPbc **PKPbc** **11 42 45.5 -2.6**
comp=Z,1.8nm,0.9s,baz=180,slow=2.5,SNR=6.7
GTA Gaotai 153.83 290 PKPbc **PKPbc** **11 42 48.1 -2.1**
ZALV Zalesovo Beam 157.32 333 PKPab **PKPab** **11 43 19.4 +1.8**
comp=Z,2.3nm,0.8s,baz=28,slow=3.8,SNR=6.3
WMQ Urumqi 161.95 306 *e*PKP **PKPdf** **11 42 54.0 +1.9**
WMQ LR LR
comp=Z,180nm,22.5s
KURBB Kurchatov Arra 162.28 336 PKPab **PKPab** **11 43 39.6 +0.4**
comp=Z,2.0nm,0.9s,baz=31,slow=4.0,SNR=4.3
MKAR Makanchi Array 163.62 321 PKP **PKPdf** **11 42 54.5 +0.9**
comp=Z,1.0nm,1.0s,baz=61,slow=5.7,SNR=3.6

JMA ***09*** *11:28:43.4±0.8,46°N±7°×15°3E±°,h138km,MV3.7/11,*
KURILE ISLANDS REGION

SKHL 09 11:28:40.5±0.4,45.80N×153.00E,h60km±5km,mb4.8/4,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.65**	**263**	*e*P			Pn	11 29 34.4	-0.1
KUR					AMB		AMB	11 29 34.8	
	80nm,0.6s								
KUR				*i* S			Sn	11 30 14.5	-1.8
KUR				A			A	11 30 16.3	
	130nm,0.3s								
KUR				A			A	11 30 16.3	
	120nm,0.3s								
SHO	**Shikotan**	**4.79**	**248**	*e*P			Pn	11 29 50.9	+0.8
SHO					AMB		AMB	11 29 55.8	
	40nm,0.4s								
SHO				*e*S			Sn	11 30 43.7	-0.6
SHO				A			A	11 30 50.8	
	60nm,0.3s								
SHO				A			A	11 30 50.8	
	60nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.37**	**253**	*e*P			Pn	11 29 58.2	+0.3
YUK					AMB		AMB	11 29 58.9	
	160nm,0.5s								
YUK				*e*S			Sn	11 30 56.8	-1.6
YUK				A			A	11 31 00.8	
	120nm,0.5s								
YUK				A			A	11 31 00.8	
	70nm,0.5s								
GLVR	**Golovnino**	**5.71**	**252**	*e*P			Pn	11 30 02.5	-0.1
GLVR					AMB		AMB	11 30 03.2	
	90nm,0.4s								
GLVR				*i* S			Sn	11 31 05.2	-1.6
GLVR				A			A	11 31 12.1	
	90nm,0.2s								
GLVR				A			A	11 31 12.1	
	80nm,0.2s								
NEM2	**Nemuro 2**	**5.73**	**247**	*e*P			Pn	11 30 02.5	-0.3
NEM2				*e*S			Sn	11 31 03.5	-3.7
NMR	**Nemuro--Hokkai**	**5.73**	**248**	*e*P			Pn	11 30 02.6	-0.4
NMR				*e*S			Sn	11 31 04.6	-2.7
JRA	**Rausu**	**5.90**	**254**	*e*P			Pn	11 30 05.3	0.0
JRA				*e*S			Sn	11 31 13.1	+1.6
JNK	**Nakash**	**6.30**	**252**	*e*P			Pn	11 30 10.8	0.0
JNK				*e*S			Sn	11 31 20.9	-0.5
AKK	**Akkeshi**	**6.47**	**247**	*e*P			Pn	11 30 12.2	-0.9
AKK				*e*S			Sn	11 31 21.8	-3.7
JAK	**Akkeshi**	**6.58**	**248**	*e*P			Pn	11 30 13.4	-1.1

JAK eS Sn 11 31 23.9 -4.1
JTKR Abashiri--Toko 6.71 257 eP Pn 11 30 15.5 -0.9
JAR Ashorobuto 7.05 253 eP Pn 11 30 20.9 -0.1
JAR eS Sn 11 31 37.2 -2.5
JOB Onbets 7.18 249 eP Pn 11 30 22.4 -0.3
JOB eS Sn 11 31 38.1 -4.7
JKK2 Kamakawa 2 7.54 259 eP Pn 11 30 26.8 -0.9
JCH Churui 7.62 249 P Pn 11 30 28.0 -0.8
JCH eS Sn 11 31 49.5 -4.2
JNBK Urakawa-nobuka 8.18 248 eP Pn 11 30 34.3 -2.1
JNBK eS Sn 11 32 01.6 -5.7

*KRNET **09** 11:45:09.7±0.1,39°.21N×74°.16E,mb3.4*
*NNC **09** 11:45:12.8±1.3,39°.71N×74°.13E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=10.4km s-min=6.1km az=153.0
*SOME **09** 11:45:12.7,39°.80N×73°.98E,h10km*
ISC 09 11:45:10.5±2.5,39°.3N±0°.1×74°.13E±0°.05,h28km,n19,
σ1§14/34,21C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKS	**Jany-Kuch**	**2.13**	**33**	⇑*iP*	**Pn**	**11 45 44.9**	**+0.4**
JNKS				⇑*iS*	**Sn**	**11 46 10.4**	**+0.3**
ARSB	**Arslanbob**	**2.22**	**337**	⇑*iP*	**Pn**	**11 45 46.3**	**+0.7**
ARSB				⇑*iS*	**Sn**	**11 46 13.4**	**+1.2**
UCH	**Uchtor**	**2.96**	**6**	⇓*iP*	**Pn**	**11 45 56.9**	**+0.8**
UCH				⇓*iS*	**Sn**	**11 46 31.3**	**+0.4**
TRKS	**Terek-Say**	**3.20**	**316**	⇑*iP*	**Pn**	**11 45 59.2**	**+0.1**
TRKS				⇑*iS*	**Sn**	**11 46 35.5**	**-0.9**
AAK	**Ala-Archa** 6.2nm,0.5s	**3.37**	**5**	⇑Pg	**Pb**	**11 46 06.2**	**-3.4**
AAK				⇑Lg	Lg	11 46 46.2	
AAK	33nm,0.8s **Ala-Archa**	**3.37**	**5**	⇑*eP*	**Pn**	**11 46 02.5**	**+1.1**
AAK				⇑*iS*	**Sn**	**11 46 40.8**	**+0.3**
ULHL	**Ulahol**	**3.37**	**28**	⇑*iP*	**Pn**	**11 46 02.3**	**+0.8**
ULHL				⇑*iS*	**Sn**	**11 46 40.6**	**-0.1**
KBK	**Karagaybulak**	**3.43**	**10**	⇑*iP*	**Pn**	**11 46 03.1**	**+0.8**
KBK				⇑*iS*	**Sn**	**11 46 42.3**	**+0.2**
KDJ	**Kajisay**	**3.67**	**38**	⇑*iP*	**Pn**	**11 46 06.4**	**+0.8**
KDJ				⇑*iS*	**Sn**	**11 46 47.7**	**-0.4**
TARG	**Taragay, Kyrgy**	**3.72**	**48**	⇑*iP*	**Pn**	**11 46 06.8**	**+0.3**
TARG				⇑*iS*	**Sn**	**11 46 48.6**	**-1.0**
KST	**Kastek** 3.3nm,0.3s	**4.01**	**20**	Pg	**Pb**	**11 46 12.6**	**+2.5**
KST				Lg	Lg	11 46 57.1	
KST	21nm,0.6s **Kastek**	**4.01**	**20**	*eP*	**Pb**	**11 46 19.2**	**-1.2**
KST	7.5nm,0.4s			*eS*	**Sb**	**11 47 06.8**	**-1.7**
SGDS	23nm,0.6s **Sogindy**	**4.19**	**5**	Pg	**Pb**	**11 46 21.1**	**-2.4**
SGDS	4.7nm,0.5s			Lg	Lg	11 47 11.7	
TNSS	13nm,0.5s **Tian-Shan**	**4.32**	**29**	*eP*	**Pb**	**11 46 25.4**	**-0.5**
TNSS	2.0nm,0.2s			*eS*	**Sb**	**11 47 17.3**	**-0.4**
KK31	3.4nm,0.6s **Karatay Array**	**4.69**	**326**	⇓Pn	**Pn**	**11 46 19.9**	**+0.4**
KK31	1.3nm,0.5s,baz=139,slow=14,SNR=7.7			⇑Pg	**Pb**	**11 46 31.9**	**-0.2**
KK31	1.1nm,0.3s,baz=142,slow=13,SNR=3.9			⇑Sn	**Sn**	**11 47 14.3**	**+1.3**
KK31	2.0nm,0.4s,baz=141,slow=30,SNR=4.9			⇑Lg	Lg	11 47 31.9	
KTBS	2.7nm,0.3s,baz=149,slow=29,SNR=6.0 **Karatobe**	**4.83**	**23**	Pg	**Pb**	**11 46 34.3**	**0.0**
KTBS	7.7nm,0.5s			Lg	Lg	11 47 33.0	
KUU	16nm,0.4s **Kurty**	**4.90**	**19**	*eP*	**Pb**	**11 46 35.6**	**0.0**
KUU	2.5nm,0.0s			*eS*	**Sb**	**11 47 34.7**	**+0.7**
ARXS	22nm,0.1s **Arharly**	**5.65**	**28**	Pg	**Pb**	**11 46 49.5**	**+1.0**
ARXS	1.4nm,0.3s			Lg	Lg	11 47 59.0	
BTLS	8.6nm,0.5s **Baital**	**5.76**	**359**	*eP*	**Pb**	**11 46 49.8**	**-0.4**
BTLS	2.0nm,0.3s			*eS*	**Sb**	**11 47 59.3**	**+0.6**
	4.0nm,0.6s						

*IDC **09** 11:45:16.3±0.6,21°.70N×145°.11E,h0km,mb4.3/19,*
mbtmp4.3/22,ML4.0/3,MS3.7/11,Error ellipse:
s-maj=21.1km s-min=14.4km az=73.0
*NEIC **09** 11:45:22.2±1.4,21°.79N±0°.07×144°.9E±0°.1,h35km±2km,*
mb4.7/188,Error ellipse: s-maj=17.0km s-min=11.0km
az=78.0
ISC 09 11:45:22.7±0.3,21°.76N±0°.05×144°.96E±0°.07,h44km,n433,
σ0°.71/391,mb4.6/115,MS3.9/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.88**	**335**	Pn	**Pn**	**11 46 45.7**	**-1.7**
JCJ	**Chichijima** 24nm,0.3s,baz=243,slow=11,SNR=2.1	**5.88**	**335**	Pn	**Pn**	**11 46 46.3**	**-1.1**
GUMO	72nm,0.4s **Guam**	**8.13**	**181**	LR	LR	11 49 05.5	
JGF	comp=Z,142nm,19.2s,baz=56,slow=28 **Kuroka**	**15.31**	**336**		**Pn**	**11 48 55.1**	**-0.7**
MJAR	**Matsushiro Arr**	**15.86**	**340**		**Pn**	**11 49 02.0**	**-0.9**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=158,slow=10,SNR=14	**15.86**	**340**	Pn	**Pn**	**11 49 02.4**	**-0.5**
MAJO	5.5nm,0.7s **Matsushiro**	**15.86**	**340**		**Pn**	**11 49 01.1**	**-1.8**
MJB9	**Matsu-Tunnel**	**15.86**	**340**		**Pn**	**11 49 01.6**	**-1.4**
JMM	**Marumori**	**16.45**	**348**		**Pn**	**11 49 08.8**	**-1.6**
JMM	comp=Z,46nm,0.9s			IAmb	IAmb	11 49 16.9	
JNU	**Nakatsue**	**16.84**	**315**	Pn	**Pn**	**11 49 14.2**	**-1.2**
JNU	**Nakatsue** comp=Z,0.3nm,0.3s,baz=108,slow=10,SNR=4.9 comp=Z,4.6nm,0.8s	**16.84**	**315**	Pn	**Pn**	**11 49 16.2**	**+0.8**
JTM	**Tenmabayashi**	**19.25**	**351**	P	**P**	**11 49 42.0**	**-1.4**
TJN	**Taejon**	**21.13**	**317**	P	**P**	**11 50 02.5**	**-1.3**
KSRS	**Korea Array** comp=Z,6.4nm,0.7s,baz=150,slow=8.9,SNR=46 comp=Z,6.4nm,0.7s	**21.48**	**320**	P	**P**	**11 50 09.5**	**+1.9**
KSAR	**Wonju Array Be**	**21.50**	**320**	P	**P**	**11 50 07.2**	**-0.6**
KS19	**Wonju Array Si**	**21.55**	**320**	P	**P**	**11 50 07.2**	**-1.1**
YULB	**Yu-li**	**21.91**	**279**	P	**P**	**11 50 09.7**	**-2.6**
YULB	comp=Z,31nm,1.1s			IAmb	IAmb	11 50 29.4	
SSLB	**Suanglung**	**22.22**	**280**		**P**	**11 50 14.5**	**-1.3**
JKA	**Kamikawa-asahi**	**22.38**	**356**	P	**P**	**11 50 16.2**	**-0.9**
JKA	comp=Z,44nm,1.3s			IAmb	IAmb	11 50 53.8	
MANU	**Manus Island**	**23.78**	**174**	P	**P**	**11 50 30.8**	**-0.7**
MANU	comp=Z,25nm,1.1s			IAmb	IAmb	11 50 44.5	
JAY	**Jayapura** comp=Z,125nm,20.0s,baz=345,slow=34	**24.48**	**190**	LR	LR	11 59 06.5	
USA0B	**Ussuriysk Arra**	**24.82**	**337**	P	**P**	**11 50 40.7**	**-0.1**
USA0B	comp=Z,14nm,0.8s			IAmb	IAmb	11 50 56.4	
USRK	**Ussuriysk Ar.**	**24.82**	**337**	P	**P**	**11 50 40.1**	**-0.6**
USRK	**Ussuriysk Ar.** comp=Z,6.4nm,0.8s,baz=160,slow=8.4,SNR=9.0 comp=Z,6.4nm,0.8s	**24.82**	**337**	P	**P**	**11 50 41.9**	**+1.2**
NJ2	**Nanjing**	**25.38**	**299**	*eP*	**P**	**11 50 47.3**	**+1.4**
NJ2	comp=Z,12nm,0.6s			pmax	pmax		
RABL	**Rabaul**	**26.74**	**164**		**P**	**11 50 57.7**	**-0.7**
FAKI	**Fak Fak**	**27.50**	**208**	P	**P**	**11 51 05.6**	**+0.3**
FAKI	comp=Z,25nm,1.0s			IAmb	IAmb	11 51 11.2	
TOLI2	**Tolitoli**	**31.24**	**232**	P	**P**	**11 51 37.7**	**-0.7**
HEH	**HeiHe**	**31.61**	**338**	*eP*	**P**	**11 51 42.4**	**+1.1**
HEH	comp=Z,6.0nm,0.7s			pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,94nm,20.6s,baz=200,slow=34	**32.78**	**14**	LR	LR	12 03 35.3	
HHC	**Hu-ho-hao-te**	**34.01**	**312**	*eP*	**P**	**11 52 03.7**	**+1.1**
HHC	comp=Z,21nm,0.6s			pmax	pmax		
HHC	comp=Z,290nm,3.6s			pmax	pmax		
HNR	**Honiara**	**34.31**	**153**		**P**	**11 52 04.8**	**-0.4**
COEN	**Coen**	**35.54**	**183**	P	**P**	**11 52 15.2**	**-0.6**
COEN				IAmb	IAmb	11 52 18.6	
	comp=Z,11nm,1.4s						
MTN	**Manton Dam**	**36.97**	**203**		**P**	**11 52 28.1**	**0.0**
SOEI	**Soe**	**37.33**	**215**	P	**P**	**11 52 31.2**	**-0.1**
MMRI	**Maumere**	**37.55**	**219**	P	**P**	**11 52 32.2**	**-0.8**
SLVN	**Son La**	**38.11**	**277**	P	**P**	**11 52 37.0**	**-0.8**
SLVN	comp=Z,8.8nm,1.2s			IAmb	IAmb	11 52 52.2	
SMY	**Shemya**	**38.15**	**29**	P	**P**	**11 52 36.8**	**-0.8**
PZH	**PanZhiHua**	**39.59**	**286**	P	**P**	**11 52 51.3**	**+1.1**
AMKA	**Amchitka**	**39.80**	**34**	P	**P**	**11 52 50.9**	**-0.5**
SONM	**Songino Array**	**40.35**	**320**	P	**P**	**11 52 55.8**	**-0.4**
SONM	**Songino Array** comp=Z,0.7nm,0.5s,baz=141,slow=5.6,SNR=5.8 comp=Z,0.7nm,0.5s	**40.35**	**320**	P	**P**	**11 52 58.1**	**+1.8**
KNRA	**Kununurra**	**40.46**	**204**		**P**	**11 52 57.7**	**+0.5**
YAK	**Yakutsk**	**41.60**	**349**	P	**P**	**11 53 06.1**	**0.0**
YAK	comp=Z,14nm,0.8s			IAmb	IAmb	11 53 13.6	
CTAO	**Charters Tower**	**41.61**	**178**	P	**P**	**11 53 07.3**	**+0.6**
GTA	**Gaotai**	**42.18**	**305**	*eP*	**P**	**11 53 15.4**	**+4.0**
GTA				pP	pP	11 53 19.7	-2.6
GTA	comp=Z,6.0nm,0.9s			pmax	pmax		
WB0	**Warramunga Arr**	**42.55**	**195**	P	**P**	**11 53 14.0**	**-0.4**
WB0	comp=Z,29nm,1.4s			IAmb	IAmb	11 53 15.9	
WR8	**Warramunga Arr**	**42.70**	**195**	P	**P**	**11 53 15.5**	**-0.1**
WRAB	**Tennant Creek**	**42.72**	**195**	P	**P**	**11 53 15.9**	**+0.2**
WRAB	comp=Z,22nm,1.2s			IAmb	IAmb	11 53 17.2	
WB2	**Warramunga Arr**	**42.73**	**195**	P	**P**	**11 53 15.8**	**0.0**
WB2	comp=Z,20nm,1.1s			IAmb	IAmb	11 53 17.3	
WRA	**Warramunga Arr**	**42.73**	**195**		**P**	**11 53 15.0**	**-0.8**
WRA	**Warramunga Arr** comp=Z,6.8nm,0.9s,baz=18,slow=8.9,SNR=37	**42.73**	**195**	P	**P**	**11 53 16.0**	**+0.1**
WRA	comp=Z,0.7nm,0.6s,baz=7.0,slow=3.2,SNR=4.8 comp=Z,6.8nm,0.9s			PcP	**PcP**	**11 55 06.8**	**-0.1**
CHTO	**Chiang Mai**	**43.14**	**275**	P	**P**	**11 53 19.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**43.22**	**274**	P	**P**	**11 53 19.9**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.7s,baz=58,slow=8.1,SNR=8.3	**43.22**	**274**	P	**P**	**11 53 21.1**	**+1.2**
CMAR	comp=Z,62nm,20.7s,baz=150,slow=35 comp=Z,1.4nm,0.7s			LR	LR	12 10 46.7	
FITZ	**Fitzroy Crossi**	**43.90**	**207**		**P**	**11 53 25.8**	**+0.5**
KULM	**Kulim**	**45.88**	**256**	P	**P**	**11 53 40.3**	**-0.9**
AS31	**Alice Springs**	**46.42**	**194**	P	**P**	**11 53 45.2**	**0.0**
ASAR	**Alice Springs**	**46.42**	**194**	P	**P**	**11 53 44.5**	**-0.7**
ASAR	**Alice Springs** comp=Z,2.3nm,0.7s,baz=13,slow=7.8,SNR=27	**46.42**	**194**	P	**P**	**11 53 43.8**	**-1.5**
ASAR	comp=Z,1.1nm,0.8s,baz=15,slow=3.8,SNR=4.4 comp=Z,2.3nm,0.7s			PcP	**PcP**	**11 55 19.8**	**+0.2**
EIDS	**Eidsvold**	**47.23**	**172**	P	**P**	**11 53 52.1**	**+0.7**
EIDS	comp=Z,19nm,1.4s			IAmb	IAmb	11 54 24.4	
DZM	**Mont Dzumac**	**48.34**	**153**		**P**	**11 54 00.3**	**0.0**
DZM	**Mont Dzumac** comp=Z,110nm,22.5s	**48.34**	**153**	*e*LR	LR	12 07 47.8	
DZM	**Mont Dzumac** comp=Z,84nm,20.9s,baz=27,slow=32	**48.34**	**153**	LR	LR	12 11 06.1	
SHL	**Shillong**	**48.50**	**285**	P	**P**	**11 54 01.6**	**-0.1**
UNV	**Unalaska Valle**	**48.57**	**36**	P	**P**	**11 54 01.8**	**+0.2**
UNV	comp=Z,12nm,1.0s			IAmb	IAmb	11 54 08.5	
UNV	**Unalaska Valle** baz=248	**48.57**	**36**	P	**P**	**11 54 02.4**	**+0.8**
LVA	**Lava Point**	**48.95**	**36**	P	**P**	**11 54 04.2**	**-0.3**
AKUT	**Akutan**	**49.08**	**36**	P	**P**	**11 54 04.5**	**-1.0**
PINNC	**Pines Island,**	**49.25**	**152**	P	**P**	**11 54 07.5**	**+0.4**
MBWA	**Marble Bar**	**49.26**	**212**	P	**P**	**11 54 07.7**	**+0.5**
INKA	**Innaminka**	**49.38**	**185**	P	**P**	**11 54 07.7**	**-0.3**
INKA	comp=Z,4.0nm,0.8s			IAmb	IAmb	11 54 20.3	
MSVF	**Nonsavu**	**50.90**	**138**	P	**P**	**11 54 20.5**	**+0.7**
MSVF	comp=Z,16nm,1.1s			IAmb	IAmb	11 54 22.8	
S12K	**Black Hills**	**51.63**	**35**	P	**P**	**11 54 24.8**	**0.0**
S12K	**Black Hills** baz=251	**51.63**	**35**	P	**P**	**11 54 25.7**	**+0.9**
M13K	**Dall Lake** baz=246	**52.70**	**29**	P	**P**	**11 54 34.1**	**+1.5**
EVN	**Everest**	**52.71**	**289**		**P**	**11 54 32.6**	**-1.4**
EVN	comp=Z,7.3nm,0.6s			IAmb	IAmb	11 54 42.1	
CNBA	**Chernabura Isl**	**52.72**	**37**	P	**P**	**11 54 33.4**	**+0.5**
CHNA	**Chernabura Isl** baz=254	**52.72**	**37**	P	**P**	**11 54 34.0**	**+1.2**
K13K	**Kusilvak Mount**	**52.76**	**27**	P	**P**	**11 54 34.4**	**+1.4**
K13K	comp=Z,5.3nm,0.9s			IAmb	IAmb	11 54 36.1	
K13K	**Kusilvak Mount** baz=244	**52.76**	**27**	P	**P**	**11 54 33.5**	**+0.4**
S14K	**Fog Glacier** baz=253	**53.15**	**35**	P	**P**	**11 54 37.2**	**+1.0**
N14K	**Kuskokwak Cree** baz=248	**53.28**	**30**	P	**P**	**11 54 38.2**	**+1.3**
GIRL	**Giralia**	**53.34**	**216**	P	**P**	**11 54 39.1**	**+1.3**
L14K	**Kuka Creek** baz=246	**53.37**	**28**	P	**P**	**11 54 38.7**	**+1.2**
M14K	**Bethel**	**53.46**	**29**		**P**	**11 54 39.1**	**+0.9**
M14K	**Bethel** baz=248	**53.46**	**29**	P	**P**	**11 54 39.5**	**+1.3**
J14K	**Nanvaranak Lak** baz=245	**53.58**	**27**	P	**P**	**11 54 40.0**	**+1.0**
CHGN	**Chignik** baz=254	**53.77**	**35**	P	**P**	**11 54 40.7**	**+0.2**
F14K	**Arctic Creek** baz=240	**53.77**	**23**	P	**P**	**11 54 41.1**	**+0.7**
O15K	**Ungalikthiuk R**	**53.91**	**32**	P	**P**	**11 54 42.2**	**+0.7**
O15K	comp=Z,11nm,0.9s			IAmb	IAmb	11 54 48.8	
O15K	**Ungalikthiuk R** baz=251	**53.91**	**32**	P	**P**	**11 54 42.3**	**+0.7**
M15K	**Kasigluk River** baz=249	**54.02**	**30**	P	**P**	**11 54 42.7**	**+0.3**
L15K	**Ungalak Mounta** baz=248	**54.03**	**28**	P	**P**	**11 54 42.0**	**-0.3**
N15K	**Kwethluk River**	**54.11**	**30**		**P**	**11 54 43.9**	**+0.9**
N15K	**Kwethluk River** baz=250	**54.11**	**30**	P	**P**	**11 54 44.1**	**+1.1**
K15K	**Wolf Creek Mou**	**54.25**	**28**	P	**P**	**11 54 44.5**	**+0.6**
K15K	comp=Z,8.1nm,1.0s			IAmb	IAmb	11 54 51.7	
K15K	**Wolf Creek Mou** baz=247	**54.25**	**28**	P	**P**	**11 54 45.0**	**+1.0**
G15K	**Niukluk** baz=243	**54.39**	**24**	P	**P**	**11 54 46.1**	**+1.2**
F15K	**North Star Dit** baz=242	**54.49**	**23**	P	**P**	**11 54 45.7**	**0.0**
N16K	**Nishlik Lake** baz=251	**54.84**	**30**	P	**P**	**11 54 48.8**	**+0.5**
O16K	**Kokwok River B** baz=252	**54.88**	**31**	P	**P**	**11 54 49.6**	**+1.0**
H16K	**Elim** baz=245	**54.92**	**25**	P	**P**	**11 54 49.5**	**+0.7**
M16K	**Timber Creek**	**54.93**	**30**	P	**P**	**11 54 49.4**	**+0.4**
M16K	comp=Z,9.7nm,1.2s			IAmb	IAmb	11 55 11.6	
M16K	**Timber Creek** baz=250	**54.93**	**30**	P	**P**	**11 54 49.2**	**+0.3**
L16K	**Owhat River**	**54.93**	**29**	P	**P**	**11 54 49.8**	**+0.9**
L16K	**Owhat River** baz=250	**54.93**	**29**	P	**P**	**11 54 48.9**	**0.0**
J16K	**Anvik River** baz=247	**55.03**	**27**	P	**P**	**11 54 50.2**	**+0.6**
CHIR	**Chirikof Islan** baz=257	**55.16**	**36**	P	**P**	**11 54 50.3**	**-0.4**
ZAA0	**Zalesovo Array** comp=Z,4.0nm,0.8s	**55.19**	**321**	P	**P**	**11 54 51.1**	**+0.2**
ZAA0				IAmb	IAmb	11 55 06.6	
ZALV	**Zalesovo Beam**	**55.19**	**321**	P	**P**	**11 54 51.0**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.4s,baz=104,slow=8.7,SNR=9.4 comp=Z,1.6nm,0.4s	**55.19**	**321**	P	**P**	**11 54 50.6**	**-0.3**
R17L	**Mt. Peulik Vol** baz=255	**55.20**	**34**	P	**P**	**11 54 51.9**	**+0.9**
I17K	**Unalakleet** baz=247	**55.23**	**26**	P	**P**	**11 54 51.6**	**+0.6**
Q16K	**King Salmon** baz=254	**55.33**	**33**	P	**P**	**11 54 52.4**	**+0.7**
O17K	**Koliganek Bris** baz=253,SNR=7.1	**55.42**	**31**	P	**P**	**11 54 53.1**	**+0.6**
N17K	**Nushagak Hills**	**55.60**	**30**		**P**	**11 54 54.4**	**+0.7**
N17K	comp=Z,5.0nm,0.8s			IAmb	IAmb	11 55 01.1	
N17K	**Nushagak Hills** baz=252	**55.60**	**30**	P	**P**	**11 54 53.6**	**-0.2**
L17K	**Donlin** baz=250	**55.60**	**28**	P	**P**	**11 54 53.8**	**+0.1**
J17K	**VABM Dome**	**55.71**	**27**	P	**P**	**11 54 54.3**	**-0.2**
J17K	comp=Z,8.1nm,1.1s			IAmb	IAmb	11 55 02.0	
J17K	**VABM Dome** baz=249	**55.71**	**27**	P	**P**	**11 54 54.6**	**+0.1**
M17K	**Holitna River**	**55.75**	**29**		**P**	**11 54 55.6**	**+0.8**
M17K	comp=Z,14nm,1.2s			IAmb	IAmb	11 54 59.4	
M17K	**Holitna River** baz=252	**55.75**	**29**	P	**P**	**11 54 54.4**	**-0.4**
K17K	**Iditarod**	**55.80**	**28**	P	**P**	**11 54 55.3**	**+0.1**
K17K	**Iditarod** baz=250	**55.80**	**28**	P	**P**	**11 54 55.4**	**+0.2**
MKAR	**Makanchi Array**	**55.87**	**312**		**P**	**11 54 54.9**	**-1.1**
MKAR	**Makanchi Array** comp=Z,4.4nm,0.9s,baz=96,slow=8.7,SNR=12 comp=Z,4.4nm,0.9s	**55.87**	**312**	P	**P**	**11 54 56.0**	**0.0**
H17K	**Granite Mounta**	**55.95**	**25**	P	**P**	**11 54 56.9**	**+0.6**
H17K	**Granite Mounta** baz=247	**55.95**	**25**	P	**P**	**11 54 55.9**	**-0.3**
D17K	**Noatak River** baz=242	**55.99**	**21**	P	**P**	**11 54 56.5**	**+0.1**
E17K	**Hotham Inlet** baz=244	**56.14**	**22**	P	**P**	**11 54 57.9**	**+0.4**
Q18K	**Katmai Hardscr** baz=256	**56.15**	**33**	P	**P**	**11 54 57.6**	**-0.2**
N18K	**Kilae Creek** baz=254	**56.26**	**31**	P	**P**	**11 54 57.9**	**-0.6**
C17K	**DeLong Mountai** baz=242	**56.33**	**20**	P	**P**	**11 54 57.8**	**-1.1**
L18K	**Granite Mounta** baz=252	**56.34**	**29**	P	**P**	**11 54 58.7**	**-0.4**
O18K	**Koktuh Hills** baz=255	**56.36**	**32**	P	**P**	**11 54 57.8**	**-1.4**
M18K	**Stony River** baz=253	**56.52**	**30**	P	**P**	**11 54 59.6**	**-0.7**
H18K	**Honhosa River** baz=248	**56.64**	**25**	P	**P**	**11 55 00.9**	**-0.2**
F18K	**Selawik** baz=246	**56.71**	**23**	P	**P**	**11 55 00.6**	**-0.9**
E18K	**Tukpahlearik C** baz=245	**56.72**	**22**	P	**P**	**11 55 00.9**	**-0.7**
OHAK	**Old Harbor** baz=258	**56.73**	**35**	P	**P**	**11 55 00.9**	**-0.9**
J18K	**Innoko River** baz=251	**56.73**	**27**	P	**P**	**11 55 01.4**	**-0.4**
G18K	**Tagagawik**	**56.81**	**24**		**P**	**11 55 02.8**	**+0.4**
G18K	comp=Z,5.6nm,1.1s			IAmb	IAmb	11 55 04.7	
G18K	**Tagagawik** baz=248	**56.81**	**24**	P	**P**	**11 55 02.5**	**+0.2**
O19K	**Port Alsworth** baz=256	**56.88**	**31**	P	**P**	**11 55 02.9**	**+0.1**
N19K	**Bonanza Creek** comp=Z,9.5nm,1.0s	**56.96**	**31**	IAmb	IAmb	11 55 11.1	
N19K	**Bonanza Creek** baz=255,SNR=5.2	**56.96**	**31**	P	**P**	**11 55 03.6**	**0.0**
C18K	**Utukok River** baz=243	**57.05**	**21**	P	**P**	**11 55 04.6**	**+0.6**
GCSA	**Malena City Sc** baz=250	**57.09**	**26**	P	**P**	**11 55 05.2**	**+1.0**
L19K	**White Mountain** comp=Z,6.2nm,1.0s	**57.16**	**29**	IAmb	IAmb	11 55 12.3	
L19K	**White Mountain** baz=254	**57.16**	**29**	P	**P**	**11 55 05.4**	**+0.6**
B18K	**Kokolik River** baz=242	**57.19**	**20**	P	**P**	**11 55 05.2**	**+0.3**
KDAK	**Kodiak Island** baz=259	**57.21**	**34**	P	**P**	**11 55 05.4**	**+0.2**
P19K	**Oil Pt** baz=257	**57.28**	**32**	P	**P**	**11 55 05.5**	**-0.3**
M19K	**Big River Lodg** baz=254	**57.29**	**29**	P	**P**	**11 55 05.5**	**-0.3**
J19K	**Poorman** comp=Z,5.4nm,0.9s	**57.36**	**27**	IAmb	IAmb	11 55 13.6	
J19K	**Poorman** baz=252,SNR=7.7	**57.36**	**27**	P	**P**	**11 55 06.3**	**+0.1**
Q20K	**Shuyak Island** baz=258	**57.48**	**33**	P	**P**	**11 55 06.9**	**-0.2**
F19K	**Shaleruckik Mo** baz=248	**57.49**	**23**	P	**P**	**11 55 06.9**	**-0.2**
G19K	**Purcell Mounta** baz=249	**57.49**	**24**	P	**P**	**11 55 07.2**	**0.0**
H19K	**Roundabout Mou** comp=Z,9.5nm,1.2s	**57.53**	**25**	IAmb	IAmb	11 55 22.6	
H19K	**Roundabout Mou** baz=250	**57.53**	**25**	P	**P**	**11 55 07.1**	**-0.2**
L20K	**Farewell, AK** baz=254	**57.67**	**29**	P	**P**	**11 55 09.1**	**+0.6**
O20K	**Slope Mountain** baz=257	**57.67**	**32**	P	**P**	**11 55 08.5**	**-0.1**
C19K	**Lookout Ridge** baz=245	**57.78**	**20**	P	**P**	**11 55 09.8**	**+0.7**
A19K	**Wainwright** baz=243	**57.80**	**19**	P	**P**	**11 55 09.9**	**+0.7**
K20K	**Telida** baz=254	**57.83**	**28**	P	**P**	**11 55 09.7**	**+0.2**
M20K	**Styx River** comp=Z,6.2nm,0.9s	**57.86**	**30**	IAmb	IAmb	11 55 19.1	
M20K	**Styx River** baz=256	**57.86**	**30**	P	**P**	**11 55 10.5**	**+0.6**
E19K	**Redstone River** baz=248	**57.92**	**23**	P	**P**	**11 55 10.2**	**0.0**
D19K	**Kuna River** baz=250	**58.01**	**21**	P	**P**	**11 55 10.7**	**-0.1**
J20K	**Nowinta River** comp=Z,12nm,1.1s	**58.03**	**27**	IAmb	IAmb	11 55 14.0	
J20K	**Nowinta River** baz=253,SNR=8.5	**58.03**	**27**	P	**P**	**11 55 11.4**	**+0.4**
H20K	**Anotleneega Mo** baz=252,SNR=6.9	**58.13**	**25**	P	**P**	**11 55 12.1**	**+0.4**
F20K	**Avaraart Lake** baz=250	**58.32**	**23**	P	**P**	**11 55 12.8**	**-0.1**
PPLA	**Purkeypile** baz=256	**58.53**	**29**	P	**P**	**11 55 14.5**	**-0.1**
KURK	**Kurchatov**	**58.55**	**317**		**P**	**11 55 14.3**	**-0.5**
KURK	comp=Z,5.1nm,0.8s			IAmb	IAmb	11 55 28.4	
E20K	**Nigu River** baz=249	**58.59**	**22**	P	**P**	**11 55 15.2**	**+0.4**
KURBB	**Kurchatov Arra** comp=Z,2.8nm,0.5s,baz=92,slow=7.8,SNR=35 comp=Z,2.8nm,0.5s	**58.61**	**317**	P	**P**	**11 55 15.8**	**+0.6**
D20K	**Etivluk River** baz=248	**58.61**	**21**	P	**P**	**11 55 14.9**	**0.0**
SKT	**Skwentna**	**58.62**	**30**		**P**	**11 55 14.6**	**-0.5**
SKT	comp=Z,6.6nm,1.1s			IAmb	IAmb	11 55 24.5	
SKT	**Skwentna** baz=257	**58.62**	**30**	P	**P**	**11 55 15.1**	**0.0**
CAST	**Castle Rocks**	**58.71**	**28**		**P**	**11 55 16.3**	**+0.5**
CAST	comp=Z,6.4nm,1.0s			IAmb	IAmb	11 55 22.6	
CAST	**Castle Rocks** baz=256,SNR=9.4	**58.71**	**28**	P	**P**	**11 55 15.7**	**0.0**
CHUM	**Lake Minchumin** baz=255	**58.73**	**27**	P	**P**	**11 55 16.3**	**+0.5**
IMAR	**Indian Mountai**	**58.73**	**25**	P	**P**	**11 55 16.2**	**+0.4**
SUA	**Susitna One**	**58.87**	**30**	P	**P**	**11 55 17.6**	**+0.6**
SUA	**Susitna One** baz=258	**58.87**	**30**	P	**P**	**11 55 17.1**	**+0.1**
B20K	**Meade River** baz=247	**58.93**	**20**	P	**P**	**11 55 17.3**	**+0.2**
G21K	**Allakaket** baz=252	**58.98**	**24**	P	**P**	**11 55 17.5**	**0.0**
H21K	**Melozitna Rive** baz=254	**59.01**	**25**	P	**P**	**11 55 17.8**	**+0.1**
O22K	**Cooper Landing** baz=260	**59.17**	**32**	P	**P**	**11 55 19.1**	**+0.2**
I21K	**Tanana** comp=Z,5.6nm,0.9s	**59.21**	**26**	IAmb	IAmb	11 55 23.1	
**I21

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.6nm,0.8s						
BPAW	**Bear Paw Mtn.**	**59.35**	**27**	P	**P**	**11 55 19.9**	**-0.2**
	baz=256,SNR=8.0						
C21K	**Knifeblade Rid**	**59.38**	**21**	P	**P**	**11 55 19.4**	**-0.9**
	baz=250						
E21K	**Killik River**	**59.42**	**22**	P	**P**	**11 55 20.1**	**-0.5**
	baz=251						
TRF	**Thorofare Moun**	**59.50**	**28**	IAmb	IAmb	11 55 38.3	
	comp=Z,9.9nm,1.0s						
TRF	**Thorofare Moun**	**59.50**	**28**	P	**P**	**11 55 20.9**	**-0.5**
	baz=257,SNR=6.9						
B21K	**Ikpikpuk River**	**59.60**	**21**	P	**P**	**11 55 21.8**	**+0.1**
	baz=250						
H22K	**Ishtalitna Cre**	**59.64**	**25**	P	**P**	**11 55 22.1**	**0.0**
	baz=255						
PMR	**Palmer**	**59.66**	**30**	IAmb	IAmb	11 55 24.0	
	comp=Z,6.0nm,1.1s						
PMR	**Palmer**	**59.66**	**30**	P	**P**	**11 55 22.0**	**-0.2**
	baz=260						
MLY	**Manley**	**59.68**	**26**	IAmb	IAmb	11 55 33.5	
	comp=Z,8.4nm,1.3s						
MLY	**Manley**	**59.68**	**26**	P	**P**	**11 55 23.1**	**+0.7**
	baz=256,SNR=5.6						
F22K	**John River**	**59.77**	**23**	P	**P**	**11 55 23.4**	**+0.4**
	baz=253						
GHO	**Glory Hole Cre**	**59.78**	**30**	IAmb	IAmb	11 55 39.8	
	comp=Z,6.5nm,1.0s						
G22K	**Bettles**	**59.86**	**24**	P	**P**	**11 55 23.7**	**+0.1**
	baz=254						
PWL	**Port Wells**	**59.91**	**31**	P	**P**	**11 55 24.3**	**+0.3**
	baz=261						
D22K	**Ayikyak River**	**60.01**	**22**	P	**P**	**11 55 24.7**	**+0.1**
	baz=252						
E22K	**Anaktuvuk Pass**	**60.09**	**23**	P	**P**	**11 55 24.8**	**-0.4**
E22K				IAmb	IAmb	11 55 37.1	
	comp=Z,4.4nm,0.9s						
E22K	**Anaktuvuk Pass**	**60.09**	**23**	P	**P**	**11 55 25.8**	**+0.6**
	baz=253						
MCK	**McKinley**	**60.15**	**28**		**P**	**11 55 25.1**	**-0.6**
MCK				IAmb	IAmb	11 55 27.1	
	comp=Z,7.1nm,1.0s						
MCK	**McKinley**	**60.15**	**28**	P	**P**	**11 55 25.9**	**+0.2**
	baz=258						
I23K	**Minto, Yukon-K**	**60.27**	**26**	P	**P**	**11 55 26.8**	**+0.4**
	baz=257						
NEA2	**Nenana**	**60.27**	**27**	IAmb	IAmb	11 55 37.3	
	comp=Z,4.0nm,1.0s						
NEA2	**Nenana**	**60.27**	**27**	P	**P**	**11 55 26.6**	**+0.1**
	baz=258						
M23K	**Glacier View**	**60.35**	**30**	P	**P**	**11 55 27.0**	**0.0**
	baz=261						
H23K	**Yukon River**	**60.35**	**26**	IAmb	IAmb	11 55 37.8	
	comp=Z,4.5nm,1.1s						
H23K	**Yukon River**	**60.35**	**26**	P	**P**	**11 55 27.5**	**+0.5**
	baz=257						
G23K	**Bananza Creek**	**60.37**	**24**	IAmb	IAmb	11 55 30.1	
	comp=Z,4.8nm,1.0s						
G23K	**Bananza Creek**	**60.37**	**24**	P	**P**	**11 55 26.6**	**-0.6**
	baz=256						
COLD	**Coldfoot**	**60.44**	**24**	IAmb	IAmb	11 55 30.4	
	comp=Z,9.1nm,1.2s						
COLD	**Coldfoot**	**60.44**	**24**	P	**P**	**11 55 26.7**	**-0.8**
	baz=255						
GLI	**Glacier Island**	**60.51**	**31**	P	**P**	**11 55 28.0**	**-0.1**
	baz=262						
SCM	**Sheep Creek Mo**	**60.54**	**30**	P	**P**	**11 55 27.9**	**-0.6**
	baz=261,SNR=8.9						
D23K	**Nanushuk River**	**60.73**	**22**	P	**P**	**11 55 29.6**	**+0.1**
	baz=254						
E23K	**Chandalar**	**60.86**	**23**	IAmb	IAmb	11 55 46.9	
	comp=Z,7.8nm,0.9s						
E23K	**Chandalar**	**60.86**	**23**	P	**P**	**11 55 30.2**	**-0.4**
	baz=255						
C23K	**Itkillik River**	**60.99**	**21**	P	**P**	**11 55 31.1**	**-0.2**
	baz=254						
H24K	**Noodor Dome**	**61.02**	**26**	P	**P**	**11 55 31.5**	**-0.1**
	baz=258						
TOLK	**Toolik Lake Re**	**61.03**	**22**	P	**P**	**11 55 31.7**	**+0.1**
	baz=255						
M24K	**Tolsona, Glenn**	**61.12**	**30**	P	**P**	**11 55 31.8**	**-0.6**
	baz=262						
EYAK	**Cordova Ski Ar**	**61.12**	**32**	P	**P**	**11 55 32.6**	**+0.3**
	baz=263						
HDA	**Harding Lake**	**61.14**	**27**	P	**P**	**11 55 32.8**	**+0.5**
	baz=260						
KLU	**Klutina**	**61.16**	**31**	IAmb	IAmb	11 55 34.8	
	comp=Z,8.3nm,1.1s						
KLU	**Klutina**	**61.16**	**31**	P	**P**	**11 55 33.5**	**+0.9**
	baz=262,SNR=5.5						
ILAR	**Eielson Array**	**61.23**	**27**	P	**P**	**11 55 32.4**	**-0.6**
ILAR	**Eielson Array**	**61.23**	**27**	P	**P**	**11 55 32.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=261,slow=5.5,SNR=18						
	comp=Z,1.8nm,0.8s						
E24K	**Your Creek**	**61.28**	**23**	P	**P**	**11 55 33.7**	**+0.4**
E24K				IAmb	IAmb	11 55 55.9	
	comp=Z,4.3nm,1.0s						
E24K	**Your Creek**	**61.28**	**23**	P	**P**	**11 55 32.9**	**-0.4**
	baz=256						
G24K	**Hadweenzic Riv**	**61.36**	**25**	IAmb	IAmb	11 55 41.6	
	comp=Z,4.1nm,0.9s						
G24K	**Hadweenzic Riv**	**61.36**	**25**	P	**P**	**11 55 33.4**	**-0.4**
	baz=258						
F24K	**Squaw Lake**	**61.38**	**24**	P	**P**	**11 55 33.5**	**-0.4**
	baz=257						
D24K	**Happy Valley**	**61.42**	**22**	P	**P**	**11 55 33.7**	**-0.5**
	baz=256						
AAK	**Ala-Archa**	**61.44**	**308**	LR	LR	12 24 21.1	
	comp=Z,99nm,20.1s,baz=39,slow=38						
K24K	**Donnelly Dome**	**61.55**	**28**	P	**P**	**11 55 35.0**	**-0.2**
	baz=261						
PAX	**Paxson**	**61.57**	**29**		**P**	**11 55 35.4**	**0.0**
PAX	**Paxson**	**61.57**	**29**	P	**P**	**11 55 35.2**	**-0.1**
	baz=262						
BMRM	**Bremner River**	**61.73**	**31**	IAmb	IAmb	11 55 43.6	
	comp=Z,9.2nm,1.0s						
BMRM	**Bremner River**	**61.73**	**31**	P	**P**	**11 55 36.6**	**+0.1**
	baz=264						
N25K	**Chitina, Valde**	**61.80**	**31**	P	**P**	**11 55 35.9**	**-1.1**
	baz=264						
J25K	**Salcha River,**	**61.85**	**27**	P	**P**	**11 55 36.4**	**-0.8**
	baz=261						
G25K	**Bearman Lake**	**61.91**	**25**	P	**P**	**11 55 36.9**	**-0.6**
	baz=260						
PRP	**Porcupine Dome**	**61.92**	**26**	P	**P**	**11 55 37.1**	**-0.7**
	baz=261						
H25L	**Birch Creek**	**61.93**	**25**	P	**P**	**11 55 37.1**	**-0.5**
	baz=260						
RIDG	**Independent Ri**	**61.95**	**28**	P	**P**	**11 55 38.4**	**+0.5**
RIDG				IAmb	IAmb	11 56 01.0	
	comp=Z,5.7nm,1.1s						
RIDG	**Independent Ri**	**61.95**	**28**	P	**P**	**11 55 37.4**	**-0.5**
	baz=262						
GLB	**Gilahina Butte**	**62.16**	**31**	IAmb	IAmb	11 55 45.4	
	comp=Z,6.9nm,1.2s						
F25K	**Christian Rive**	**62.23**	**24**	P	**P**	**11 55 39.7**	**0.0**
	baz=260						
DOT	**Dot Lake**	**62.28**	**28**	P	**P**	**11 55 40.5**	**+0.4**
DOT				IAmb	IAmb	11 55 46.1	
	comp=Z,4.1nm,1.0s						
D25K	**Kavik River**	**62.31**	**22**	P	**P**	**11 55 39.2**	**-1.0**
	baz=258						
VRDI	**Verde Repeater**	**62.31**	**31**	IAmb	IAmb	11 55 42.4	
	comp=Z,4.3nm,0.9s						
SCRK	**Sand Creek**	**62.36**	**28**		**P**	**11 55 40.9**	**+0.2**
SCRK				IAmb	IAmb	11 55 42.4	
	comp=Z,4.5nm,0.9s						
SCRK	**Sand Creek**	**62.36**	**28**	P	**P**	**11 55 40.1**	**-0.6**
	baz=263,SNR=9.5						
CRQE	**Cirque**	**62.45**	**32**	P	**P**	**11 55 40.8**	**-0.6**
	baz=266						
MCARA	**McCarthy VSAT**	**62.53**	**31**	P	**P**	**11 55 41.5**	**-0.3**
	baz=265						
L26K	**Log Cabin Wild**	**62.53**	**29**	P	**P**	**11 55 41.6**	**-0.2**
	baz=264						
J26L	**Joseph Creek**	**62.60**	**28**	IAmb	IAmb	11 55 43.9	
	comp=Z,5.0nm,0.9s						
J26L	**Joseph Creek**	**62.60**	**28**	P	**P**	**11 55 42.4**	**+0.1**
	baz=263,SNR=6.8						
M26K	**Nabesna, AK**	**62.63**	**30**	P	**P**	**11 55 42.2**	**-0.3**
	baz=265						
F26K	**Sheenjek River**	**62.82**	**24**	P	**P**	**11 55 44.2**	**+0.6**
	baz=261						
G26K	**Porcupine Rive**	**62.84**	**25**	IAmb	IAmb	11 55 50.6	
	comp=Z,4.0nm,0.9s						
G26K	**Porcupine Rive**	**62.84**	**25**	P	**P**	**11 55 44.0**	**+0.3**
	baz=262						
MESA	**MESA**	**62.97**	**32**	P	**P**	**11 55 44.5**	**-0.4**
	baz=267						
M27K	**Edge Creek, AK**	**63.15**	**30**	P	**P**	**11 55 45.5**	**-0.6**
	baz=266						
K27K	**Chicken**	**63.20**	**28**	P	**P**	**11 55 45.7**	**-0.5**
	baz=265						
L27K	**Beaver Creek,**	**63.23**	**29**	IAmb	IAmb	11 55 51.8	
	comp=Z,6.1nm,1.4s						
L27K	**Beaver Creek,**	**63.23**	**29**	P	**P**	**11 55 46.5**	**+0.1**
	baz=265						
C27K	**Jago River**	**63.29**	**22**	P	**P**	**11 55 47.0**	**+0.3**
	baz=260						
CTG	**Chitna Glacier**	**63.32**	**32**	P	**P**	**11 55 46.5**	**-0.7**
	baz=267						
I27K	**Kandik River**	**63.55**	**26**	P	**P**	**11 55 48.1**	**-0.4**
	baz=264						
BVCY	**Beaver Creek**	**63.63**	**30**	P	**P**	**11 55 48.7**	**-0.3**
	baz=267						
H27K	**Steamboat Moun**	**63.65**	**26**	IAmb	IAmb	11 56 04.8	
	comp=Z,5.4nm,1.1s						
H27K	**Steamboat Moun**	**63.65**	**26**	P	**P**	**11 55 48.1**	**-1.1**
	baz=264						
G27K	**Doyon Strip**	**63.66**	**25**	P	**P**	**11 55 48.5**	**-0.7**
	baz=264						
BVAR	**Borovoye Array**	**63.70**	**319**	P	**P**	**11 55 50.5**	**+0.8**
	comp=Z,5.3nm,0.5s,baz=89,slow=9.0,SNR=20						
	comp=Z,5.3nm,0.5s						
BRVK	**Borovoye**	**63.76**	**320**	P	**P**	**11 55 49.3**	**-0.7**
BRVK				IAmb	IAmb	11 55 56.5	
	comp=Z,5.2nm,0.7s						
YUK3	**Moose Creek**	**63.78**	**31**	P	**P**	**11 55 49.7**	**-0.6**
	baz=267						
PINM	**Pinnacle**	**63.82**	**33**	P	**P**	**11 55 49.9**	**-0.5**
	baz=268						
E27K	**Coleen River**	**63.84**	**24**	P	**P**	**11 55 49.1**	**-1.3**
	baz=263						
O28M	**Mount Upton**	**63.87**	**32**	P	**P**	**11 55 51.6**	**+0.7**
O28M				IAmb	IAmb	11 55 57.2	
	comp=Z,8.2nm,1.1s						
O28M	**Mount Upton**	**63.87**	**32**	P	**P**	**11 55 49.8**	**-1.2**
	baz=268						
YUK8	**Steele Glacier**	**64.09**	**31**	P	**P**	**11 55 51.7**	**-0.7**
	baz=268						
D27M	**Malcolm River**	**64.19**	**22**	P	**P**	**11 55 52.3**	**-0.4**
	baz=263						
I28M	**Miner Creek**	**64.23**	**27**	P	**P**	**11 55 52.8**	**-0.2**
	baz=266						
PNL	**Peninsula**	**64.24**	**33**	P	**P**	**11 55 52.1**	**-1.0**
	baz=269						
KK31	**Karatay Array**	**64.31**	**308**	P	**P**	**11 55 54.3**	**+0.4**
KK31				IAmb	IAmb	11 56 08.1	
	comp=Z,5.9nm,0.9s						
KKAR	**Karatay Array**	**64.31**	**308**		**P**	**11 55 54.7**	**+0.8**
DAWY	**Dawson**	**64.38**	**28**	P	**P**	**11 55 54.8**	**+0.8**
DAWY	**Dawson**	**64.38**	**28**	P	**P**	**11 55 54.0**	**0.0**
	baz=267						
F28M	**Old Crow**	**64.43**	**24**	P	**P**	**11 55 53.5**	**-0.7**
	baz=265						
YUK4	**Talbot Arm**	**64.64**	**31**	P	**P**	**11 55 55.4**	**-0.5**
	baz=269						
E28M	**Babbage River**	**64.64**	**23**	P	**P**	**11 55 54.2**	**-1.3**
	baz=265						
O29M	**Mount Kennedy**	**64.66**	**32**	IAmb	IAmb	11 56 03.3	
	comp=Z,9.1nm,1.1s						
O29M	**Mount Kennedy**	**64.66**	**32**	P	**P**	**11 55 54.5**	**-1.5**
	baz=270						
M29M	**Somme Creek**	**64.74**	**30**	P	**P**	**11 55 56.4**	**-0.1**
	baz=269						
YUK6	**Outpost Mounta**	**64.77**	**32**	P	**P**	**11 55 56.3**	**-0.5**
	baz=270						
I29M	**Ogilvie Camp,**	**64.91**	**27**	P	**P**	**11 55 57.3**	**0.0**
	baz=268						
L29M	**L29M**	**64.91**	**29**	P	**P**	**11 55 57.9**	**+0.4**
L29M				IAmb	IAmb	11 56 04.8	
	comp=Z,4.6nm,0.9s						
L29M	**L29M**	**64.91**	**29**	P	**P**	**11 55 57.0**	**-0.5**
	baz=269						
H29M	**Whitestone**	**64.92**	**26**	P	**P**	**11 55 57.3**	**-0.1**
	baz=267						
P29M	**Windy Craggy**	**65.08**	**33**	IAmb	IAmb	11 56 06.3	
	comp=Z,6.1nm,0.8s						
P29M	**Windy Craggy**	**65.08**	**33**	P	**P**	**11 55 58.9**	**+0.3**
	baz=271						
HYT	**Haines Junctio**	**65.19**	**32**	P	**P**	**11 55 59.8**	**+0.4**
	baz=270						
K29M	**Barlow Dome**	**65.20**	**28**	P	**P**	**11 55 59.5**	**+0.1**
	baz=269						
E29M	**Blow River**	**65.23**	**23**	P	**P**	**11 55 59.4**	**0.0**
	baz=266						
N30M	**Aishikik Lake**	**65.39**	**31**	P	**P**	**11 56 00.5**	**-0.1**
	baz=270						
P30M	**Million Dollar**	**65.47**	**33**	P	**P**	**11 56 00.6**	**-0.5**
	baz=271						
M30M	**Minto, Yukon**	**65.52**	**30**	P	**P**	**11 56 01.3**	**-0.1**
	baz=270						
EPYK	**Eagle Plains**	**65.59**	**26**	IAmb	IAmb	11 56 08.0	
	comp=Z,4.2nm,0.8s						
EPYK	**Eagle Plains**	**65.59**	**26**	P	**P**	**11 56 01.5**	**-0.3**
	baz=268						
I30M	**Mount Dempster**	**65.71**	**27**	P	**P**	**11 56 02.5**	**-0.2**
	baz=269						
J30M	**Hart River**	**65.73**	**28**	P	**P**	**11 56 02.7**	**-0.1**
	baz=270						
PLBC	**Pleasant Camp**	**65.78**	**33**	P	**P**	**11 56 02.7**	**-0.4**
	baz=272						
G30M	**tAoh Zraii Nji**	**65.81**	**25**	P	**P**	**11 56 03.1**	**-0.1**
	baz=269						
S31K	**Pelican**	**65.92**	**35**	P	**P**	**11 56 04.3**	**+0.4**
	baz=273						
F30M	**Barrier River**	**65.99**	**24**	P	**P**	**11 56 03.8**	**-0.5**
	baz=269						
N31M	**Braeburn, Yuko**	**66.01**	**31**	IAmb	IAmb	11 56 10.4	
	comp=Z,5.8nm,1.1s						
N31M	**Braeburn, Yuko**	**66.01**	**31**	P	**P**	**11 56 03.7**	**-0.9**
	baz=272						
SIT	**Sitka**	**66.46**	**36**	P	**P**	**11 56 06.7**	**-0.7**
	baz=274						
WHY	**Whitehorse**	**66.48**	**32**	P	**P**	**11 56 06.8**	**-0.9**
	baz=273						
H31M	**Peel River**	**66.56**	**26**	P	**P**	**11 56 07.6**	**-0.4**
	baz=271						
G31M	**Satah River**	**66.57**	**25**	IAmb	IAmb	11 56 14.2	
	comp=Z,5.1nm,0.8s						
G31M	**Satah River**	**66.57**	**25**	P	**P**	**11 56 07.8**	**-0.2**
	baz=270						
M31M	**Drury Creek, Y**	**66.65**	**30**	P	**P**	**11 56 08.4**	**-0.2**
	baz=272						
F31M	**Tsiigehtchic**	**66.78**	**25**	P	**P**	**11 56 09.9**	**+0.6**
	baz=271						
R32K	**Eaglecrest**	**66.81**	**35**	P	**P**	**11 56 09.6**	**0.0**
	baz=274						
S32K	**Killisnoo**	**66.83**	**35**	P	**P**	**11 56 09.8**	**0.0**
	baz=274						
INK	**Inuvik**	**66.85**	**24**	P	**P**	**11 56 09.4**	**-0.3**
	baz=271						
RTZ	**Ruatahuna**	**67.15**	**153**	P	**P**	**11 56 11.7**	**-0.4**
BKZ	**Black Stump Fm**	**67.41**	**154**	P	**P**	**11 56 13.3**	**-0.4**
CRAG	**Craig**	**67.82**	**38**	P	**P**	**11 56 15.2**	**-0.9**
	baz=276						
Q32M	**Nakina River**	**67.92**	**34**	P	**P**	**11 56 16.6**	**-0.4**
	baz=276						
MMPY	**Sheldon Lake,**	**68.07**	**30**	P	**P**	**11 56 17.7**	**0.0**
	baz=275						
WRAK	**Wrangell Islan**	**68.15**	**36**	P	**P**	**11 56 18.4**	**+0.2**
	baz=277						
R33M	**Jennings River**	**68.54**	**33**	P	**P**	**11 56 20.7**	**-0.1**
	baz=277						
S34M	**Telegraph Cree**	**68.63**	**35**	P	**P**	**11 56 20.9**	**-0.3**
	baz=277						
V35K	**Ketchikan**	**68.69**	**38**	P	**P**	**11 56 21.0**	**-0.6**
	baz=278						
DLBC	**Dease Lake**	**69.14**	**34**	P	**P**	**11 56 24.4**	**0.0**
	baz=278						
T35M	**Bob Quinn**	**69.23**	**36**	P	**P**	**11 56 24.5**	**-0.4**
	baz=278						
A36M	**Sachs Harbour**	**69.43**	**19**	P	**P**	**11 56 26.1**	**+0.3**
	baz=277						
TGTN	**Hyland Airport**	**69.59**	**31**	P	**P**	**11 56 27.3**	**+0.1**
	baz=278						
AB31	**Akbulak array**	**70.65**	**316**		**P**	**11 56 33.7**	**-0.1**
AB31				IAmb	IAmb	11 56 39.6	
	comp=Z,3.9nm,0.7s						
ABKAR	**Akbulak array**	**70.65**	**316**		**P**	**11 56 33.6**	**-0.1**
WRGLY	**Wrigley**	**71.52**	**29**	P	**P**	**11 56 39.0**	**+0.2**
	baz=282						
TOAD	**Toad River Com**	**71.55**	**33**	P	**P**	**11 56 39.3**	**+0.2**
	baz=282						
PPT	**Papeete**	**75.07**	**116**	LR	LR	12 24 01.2	
	comp=Z,72nm,20.1s,baz=304,slow=31						
LTY	**Liberty**	**77.19**	**44**	P	**P**	**11 57 12.7**	**+0.5**
KCPM	**Cahto Peak**	**77.51**	**52**	P	**P**	**11 57 14.1**	**-0.1**
KCPM				IAmb	IAmb	11 57 16.7	
	comp=Z,6.7nm,0.9s						
M02C	**Callahan**	**77.52**	**50**	P	**P**	**11 57 15.6**	**+1.4**
B08A	**Colville Reser**	**77.70**	**43**		**P**	**11 57 14.5**	**-0.5**
N02D	**Trinity Center**	**77.75**	**51**	P	**P**	**11 57 14.4**	**-1.1**
DCMP	**DeCamp, Califo**	**77.76**	**52**	P	**P**	**11 57 14.9**	**-0.6**
TBI	**Tubuai**	**78.00**	**121**	*e*LR	LR	12 21 27.1	
	comp=Z,375nm,26.5s						
J05D	**Fort Rock, OR**	**78.06**	**48**	P	**P**	**11 57 16.7**	**-0.6**
HOPS	**Hopland Field**	**78.10**	**53**	P	**P**	**11 57 16.1**	**-1.2**
HOPS				IAmb	IAmb	11 57 23.9	
	comp=Z,18nm,1.4s						
PINE	**Pine Mountain**	**78.11**	**48**		**P**	**11 57 16.1**	**-1.4**
MCCM	**Marconi Confer**	**78.51**	**54**	P	**P**	**11 57 19.4**	**-0.2**
NEW	**Newport**	**79.12**	**42**	P	**P**	**11 57 22.7**	**-0.1**
ARCES	**ARCESS Array B**	**79.38**	**342**		**P**	**11 57 23.8**	**0.0**
ARCES	**ARCESS Array B**	**79.38**	**342**	P	**P**	**11 57 24.2**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=64,slow=5.6,SNR=9.9						
	comp=Z,3.6nm,0.7s						
SAO	**San Andreas Ge**	**80.04**	**54**	P	**P**	**11 57 28.6**	**+0.7**
SAO				IAmb	IAmb	11 58 05.0	
	comp=Z,5.7nm,0.9s						
BMO	**Blue Mountains**	**80.20**	**46**		**P**	**11 57 28.8**	**0.0**
NEEM	**North Greenlan**	**80.55**	**4**	*i* P	**P**	**11 57 30.7**	**+0.4**
PLID	**Pearl Lake**	**80.98**	**45**		**P**	**11 57 33.2**	**0.0**
JTMT	**Jette**	**81.09**	**42**	P	**P**	**11 57 34.2**	**+0.7**
RYN	**Ryan**	**81.57**	**52**	P	**P**	**11 57 36.7**	**+0.4**
MFID	**Camas Ranch**	**81.72**	**47**		**P**	**11 57 37.2**	**+0.3**
NVAR	**Mina Array Bea**	**81.81**	**52**	P	**P**	**11 57 38.0**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=270,slow=5.1,SNR=14						
	comp=Z,2.3nm,0.8s						
NV11	**Mina Array Sit**	**81.91**	**52**	P	**P**	**11 57 38.5**	**+0.4**
OVMT	**Ovando**	**82.16**	**42**	P	**P**	**11 57 39.4**	**+0.2**
GMN	**Gold Mountain**	**82.99**	**53**	P	**P**	**11 57 44.0**	**+0.1**
ELK	**Elko**	**83.14**	**49**		**P**	**11 57 44.1**	**-0.5**
KBZ	**Khabaz**	**83.51**	**314**	P	**P**	**11 57 47.3**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=43,slow=2.9,SNR=6.0						
	comp=Z,2.6nm,0.8s						
FIA1	**FINESS Array S**	**83.83**	**335**	P	**P**	**11 57 47.4**	**+0.1**
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**11 57 47.5**	**+0.2**
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**11 57 47.3**	**0.0**
	comp=Z,2.7nm,0.5s,baz=59,slow=4.0,SNR=14						
FINES				LR	LR	12 37 30.5	
	comp=Z,109nm,21.8s,baz=266,slow=37						
	comp=Z,2.7nm,0.5s						
TPNV	**Topopah Spring**	**83.87**	**53**	IAmb	IAmb	11 57 53.9	
	comp=Z,4.0nm,0.9s						
YHL	**Hebgen Lake**	**84.22**	**44**	IAmb	IAmb	11 57 57.2	
	comp=Z,3.4nm,0.9s						
PSUT	**Pine Spring**	**84.99**	**51**	P	**P**	**11 57 54.1**	**+0.1**
PSUT				IAmb	IAmb	11 58 10.2	
	comp=Z,2.5nm,0.7s						
RLMT	**Red Lodge**	**85.33**	**43**	P	**P**	**11 57 54.7**	**-0.9**
RLMT				IAmb	IAmb	11 58 09.6	
	comp=Z,2.6nm,0.8s						
HWUT	**Hardware Ranch**	**85.33**	**47**	P	**P**	**11 57 54.2**	**-1.4**
HWUT				IAmb	IAmb	11 58 01.9	
	comp=Z,3.9nm,1.1s						
DANC	**Danby, Needles**	**85.41**	**55**	P	**P**	**11 57 55.8**	**-0.2**
CCUT	**Cedar City**	**85.75**	**51**	P	**P**	**11 57 56.7**	**-1.1**
SUMG	**Summit**	**85.88**	**1**	P	**P**	**11 57 57.4**	**-0.6**
SUMG				IAmb	IAmb	11 58 13.5	
	comp=Z,5.1nm,0.9s						
LCMT	**Little Creek M**	**86.05**	**52**	P	**P**	**11 57 58.3**	**-0.9**
BW06	**Boulder Array**	**86.18**	**45**	P	**P**	**11 57 58.9**	**-0.9**
PD31	**Pinedale Array**	**86.18**	**45**	P	**P**	**11 57 58.7**	**-1.2**
PDAR	**Pinedale Array**	**86.18**	**45**	P	**P**	**11 57 59.0**	**-0.9**
PDAR	**Pinedale Array**	**86.18**	**45**	P	**P**	**11 58 00.6**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=252,slow=4.2,SNR=5.6						
	comp=Z,0.6nm,0.6s						
MSU	**Marysvale**	**86.20**	**50**	P	**P**	**11 57 58.8**	**-1.2**
KNB	**Kanab**	**86.36**	**52**	P	**P**	**11 58 00.3**	**-0.5**
KNB				IAmb	IAmb	11 58 07.0	
	comp=Z,7.2nm,1.1s						
Q16A	**Castle Valley**	**86.74**	**49**	P	**P**	**11 58 02.5**	**-0.2**
Q16A				IAmb	IAmb	11 58 08.8	
	comp=Z,8.3nm,1.2s						
U15A	**North Rim**	**86.99**	**52**	P	**P**	**11 58 02.9**	**-1.1**
U15A				IAmb	IAmb	11 58 09.5	
	comp=Z,3.0nm,0.9s						
P18A	**Preston Nutter**	**87.08**	**48**	P	**P**	**11 58 04.8**	**+0.3**
SRU	**San Rafael Swe**	**87.11**	**49**	P	**P**	**11 58 04.0**	**-0.5**
SRU				IAmb	IAmb	11 58 09.9	
	comp=Z,6.0nm,1.3s						
113A	**Mohawk Valley,**	**87.39**	**56**	P	**P**	**11 58 05.0**	**-0.6**
113A				IAmb	IAmb	11 58 11.7	
	comp=Z,3.2nm,1.1s						
HMU	**Henry Mountain**	**87.47**	**50**	P	**P**	**11 58 06.4**	**+0.1**
HMU				IAmb	IAmb	11 58 25.9	
	comp=Z,8.3nm,1.5s						
Y14A	**Wickenburg**	**87.49**	**54**		**P**	**11 58 05.2**	**-1.1**
Y14A				IAmb	IAmb	11 58 10.3	
	comp=Z,3.4nm,0.7s						
PV23	**Carpenter Ridg**	**88.47**	**49**	P	**P**	**11 58 09.9**	**-1.2**
PV10	**Paradox Valley**	**88.48**	**49**	P	**P**	**11 58 11.2**	**+0.1**
PV14	**Lion Creek, Pa**	**88.49**	**49**	P	**P**	**11 58 10.6**	**-0.5**
PV14				IAmb	IAmb	11 58 12.9	
	comp=Z,4.6nm,0.9s						
PV20	**West Nyswonger**	**88.55**	**49**	P	**P**	**11 58 10.4**	**-0.9**
PV19	**Morning Glory**	**88.55**	**49**	P	**P**	**11 58 10.4**	**-1.0**
PV18	**Skein Mesa, Pa**	**88.63**	**49**	P	**P**	**11 58 10.8**	**-1.0**
PV03	**Paradox Valley**	**88.67**	**49**	P	**P**	**11 58 12.2**	**+0.3**
PV03				IAmb	IAmb	11 58 16.8	
	comp=Z,5.7nm,1.2s						
PV12	**Saucer Basin,**	**88.67**	**49**	P	**P**	**11 58 11.1**	**-0.9**
PV12				IAmb	IAmb	11 58 17.3	
	comp=Z,6.0nm,0.9s						
PV13	**Radium Mtn., P**	**88.73**	**49**	P	**P**	**11 58 12.4**	**+0.2**
PV13				IAmb	IAmb	11 58 31.4	
	comp=Z,3.8nm,1.0s						
PV02	**Paradox Valley**	**88.77**	**49**	P	**P**	**11 58 12.1**	**-0.3**
PV02				IAmb	IAmb	11 58 17.4	
	comp=Z,5.0nm,0.9s						
HFS	**Hagfors**	**89.30**	**338**	P	**P**	**11 58 13.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=44,slow=8.6,SNR=2.0						
HFS				LR	LR	12 41 32.9	
	comp=Z,47nm,18.1s,baz=265,slow=38						
	comp=Z,0.9nm,0.6s						
NB2	**NORSAR Subarra**	**89.47**	**339**	P	**P**	**11 58 14.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**89.47**	**339**	P	**P**	**11 58 14.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=52,slow=4.3,SNR=4.8						
NOA				LR	LR	12 43 37.5	
	comp=Z,48nm,19.5s,baz=280,slow=39						
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**91.49**	**314**	P	**P**	**11 58 26.4**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=90,slow=3.2,SNR=3.1						
	comp=Z,0.5nm,0.6s						
MLR	**Muntele Rosu**	**93.16**	**322**	LR	LR	12 41 51.4	
	comp=Z,102nm,19.5s,baz=258,slow=36						
SNAA	**Sanae**	**126.77**	**192**	PKP	**PKPdf**	**12 04 21.0**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=175,slow=5.4,SNR=7.4						
PLCA	**Paso Flores**	**144.55**	**130**	PKP	PKPbc	12 04 53.8	+0.4
	comp=Z,7.9nm,1.0s,baz=204,slow=2.3,SNR=11						
LPAZ	**La Paz**	**148.29**	**86**	PKPbc	**PKPbc**	**12 05 05.0**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=332,slow=1.9,SNR=13						

*GCG **09** 11:49:54.8±0.9, 14°.66N×92°.03W, h75^{km}±6^{km}, MD3.9, ML3.4*

*MEX **09** 11:49:54.1±0.6, 14°.34N×92°.29W, h68^{km}±32^{km}, MD3.8*

ISC 09 11:49:52.9±2.2, **14°.26N**±0°.09×**92°.32W**±0°.08, **h31**^{km}±13^{km}, **n11**, σ1.49/20, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.65**	**5**	*e*P	**Pb**	**11 50 04.9**	**-0.9**
THIG				*e*S	**Sb**	**11 50 13.7**	**-0.9**
RTAL	**Retalhuleu**	**0.66**	**66**	*e*P	**Pb**	**11 50 06.2**	**+0.2**
RTAL				*e*S	**Sb**	**11 50 16.7**	**+1.8**
PATR	**El Naranjo**	**0.86**	**6**	*e*P	**Pn**	**11 50 08.3**	**-0.7**
PATR				*e*S	**Sn**	**11 50 19.6**	**-1.1**
PAVE	**Pavencul**	**0.94**	**8**	*e*P	**Pn**	**11 50 09.6**	**-0.6**
PAVE				*e*S	**Sn**	**11 50 22.0**	**-0.7**
PCIG		**1.68**	**329**	*e*P	**Pn**	**11 50 19.7**	**-0.4**
PCIG				*e*S	**Sn**	**11 50 38.9**	**-1.7**
FG16	**Alotenango, Sa**	**1.75**	**89**	*i* P	Pn	11 50 16.6	-4.8
FG16				IAML		11 50 42.8	
	comp=E,1μm,0.2s						
CCIG	**Comitan**	**2.02**	**5**	*e*P	**Pn**	**11 50 27.0**	**+2.0**
CCIG				*e*S	**Sn**	**11 50 50.6**	**+1.3**
NUBE	**Las Nubes**	**2.49**	**98**	*i* P	**Pn**	**11 50 31.8**	**+0.4**
NUBE				*i* S	**Sn**	**11 50 59.7**	**-1.2**
TGIG		**2.62**	**343**	*e*P	**Pn**	**11 50 32.0**	**-1.2**

TGIG				*e*S	**Sn**	**11 51 03.6**	**-0.4**
JAYA	**Jayaque - finc**	**2.85**	**102**	*i* P	**Pn**	**11 50 36.5**	**+0.1**
JAYA				*i* S	**Sn**	**11 51 08.7**	**-1.1**
UXUV	**UXUV**	**3.51**	**330**	*e*P	**Pn**	**11 50 46.7**	**+1.4**
UXUV				*e*S	**Sn**	**11 51 29.6**	**+3.7**

*GCG **09** 11:52:45.4±1.6, 13°.26N×87°.94W, h1km±47km, MD4.1, ML2.8*
*CATAC **09** 11:52:45.5±0.2, 13°.N±2°×8°.8W±°, h4km±1km, M3.4/22, MLv3.4/22, Error ellipse: s-maj=4.9km s-min=1.6km az=23.8, confirmed*
*SNET **09** 11:52:46.5±6.0, 13°.25N×87°.94W, h5km, ML3.6*

ISC 09 11:52:45.5±0.8, **13°.28N**±0°.04×**87°.91W**±0°.03, **h15**km±4km, **n53**, σ0⁉**47**/64, **Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.04**	**28**	*e*P	**Pg**	**11 52 48.1**	**-0.1**
LCND				*e*S	**Sg**	**11 52 49.9**	**-0.1**
LCND	**La Caada**	**0.04**	**28**	P	**Pg**	**11 52 48.0**	**-0.3**
LCND	**La Caada**	**0.04**	**28**	S	**Sg**	**11 52 50.3**	**+0.3**
CNCH	**Conchagua**	**0.07**	**91**	*e*P	**Pg**	**11 52 48.4**	**-0.2**
CNCH				*e*S	**Sg**	**11 52 51.3**	**+0.7**
CNCH	**Conchagua**	**0.07**	**91**	P	**Pg**	**11 52 48.4**	**-0.2**
CNCH	**Conchagua**	**0.07**	**91**	S	**Sg**	**11 52 51.0**	**+0.3**
CNRM	**Centro Naciona**	**0.32**	**308**	P	**Pg**	**11 52 52.3**	**+0.1**
CNRM	**Centro Naciona**	**0.32**	**308**	S	**Sb**	**11 52 57.7**	**-0.3**
BLLM	**Bellamira**	**0.36**	**297**	*i* P	**Pg**	**11 52 52.9**	**0.0**
PACA	**Pacayal**	**0.45**	**295**	P	**Pg**	**11 52 54.6**	**+0.1**
PACA	**Pacayal**	**0.45**	**295**	S	**Sg**	**11 53 01.1**	**+0.5**
CSGN	**Cosiguina Volc**	**0.45**	**131**	P	**Pg**	**11 52 54.7**	**+0.1**
CSGN				S	**Sg**	**11 53 00.4**	**-0.3**
POTN	**Potosi Cosigui**	**0.48**	**125**	P	**Pg**	**11 52 55.1**	**+0.1**
CAHU	**Cacaocatique**	**0.57**	**329**	*e*P	**Pb**	**11 52 57.2**	**-0.2**
PQSS	**Presa 15 de Se**	**0.72**	**299**	P	**Pg**	**11 52 59.4**	**-0.2**
PQSS	**Presa 15 de Se**	**0.72**	**299**	S	**Sg**	**11 53 09.2**	**+0.1**
MARCA	**Marcala la Paz**	**0.89**	**352**	*i* P	**Pg**	**11 53 02.9**	**+0.2**
MARCA				*i* S	**Sn**	**11 53 16.2**	**-0.1**
TECO	**Alcaldia de Te**	**0.89**	**287**	S	**Sb**	**11 53 13.9**	**-0.4**
TECO	**Alcaldia de Te**	**0.89**	**287**	P	**Pb**	**11 53 02.0**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.90**	**298**	P	**Pb**	**11 53 02.7**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.90**	**298**	S	**Sg**	**11 53 15.4**	**+0.5**
UESV	**Universidad de**	**0.93**	**293**	S	**Sg**	**11 53 15.8**	**+0.2**
UESV	**Universidad de**	**0.93**	**293**	P	**Pb**	**11 53 02.7**	**-0.6**
CRIN	**San Cristobal**	**1.01**	**124**	P	**Pg**	**11 53 05.5**	**+0.4**
CRIN	**San Cristobal**	**1.01**	**124**	S	**Sn**	**11 53 20.3**	**+0.9**
PAVA	**Las Pavas**	**1.09**	**294**	P	**Pb**	**11 53 06.0**	**-0.2**
PAVA	**Las Pavas**	**1.09**	**294**	S	**Sg**	**11 53 21.0**	**+0.1**
POLN	**Al Sur del Vol**	**1.24**	**120**	P	**Pn**	**11 53 08.3**	**0.0**
POLN				S	**Sg**	**11 53 25.7**	**+0.2**
LOMA	**Loma Larga**	**1.28**	**287**	P	**Pn**	**11 53 09.1**	**0.0**
LOMA	**Loma Larga**	**1.28**	**287**	S	**Sg**	**11 53 26.7**	**-0.3**
LLGN	**La Laguna**	**1.34**	**311**	P	**Pn**	**11 53 09.7**	**-0.1**
LLGN	**La Laguna**	**1.34**	**311**	S	**Sb**	**11 53 27.9**	**+0.5**
ROCN	**Rota Cerro Neg**	**1.36**	**123**	P	**Pn**	**11 53 10.1**	**0.0**
ROCN				S	**Sb**	**11 53 28.4**	**+0.4**
LALI	**Alcalda de L**	**1.39**	**279**	*i* P	**Pn**	**11 53 09.5**	**-0.9**
LALI				IAML		11 53 35.1	
	comp=N,170nm,0.4s						
BOQS	**Boqueron**	**1.41**	**289**	*e*P	**Pb**	**11 53 11.3**	**-0.4**
CNGA	**Al SSO del Vol**	**1.41**	**123**	P	**Pb**	**11 53 11.1**	**-0.5**
CNGN	**Cerro Negro**	**1.41**	**123**	P	**Pn**	**11 53 10.8**	**+0.1**
CNGN	**Cerro Negro**	**1.41**	**123**	S	**Sg**	**11 53 30.2**	**-0.8**
PMON	**Piamonte**	**1.44**	**288**	P	**Pb**	**11 53 11.6**	**-0.4**
PMON	**Piamonte**	**1.44**	**288**	S	**Sb**	**11 53 30.2**	**0.0**
JAYA	**Jayaque - finc**	**1.55**	**284**	*i* P	**Pn**	**11 53 12.9**	**+0.2**
JAYA				*i* S	**Sb**	**11 53 33.9**	**+0.5**
JAYA	**Jayaque - finc**	**1.55**	**284**	P	**Pn**	**11 53 13.2**	**+0.5**
MOMN	**Momotombo**	**1.59**	**123**	P	**Pb**	**11 53 14.2**	**-0.4**
MOMN				S	**Sb**	**11 53 35.1**	**+0.5**
MOM2	**El Cardon**	**1.62**	**121**	P	**Pb**	**11 53 14.6**	**-0.5**
MOM2				S	**Sg**	**11 53 37.3**	**-0.4**
COPN	**Copaltepe**	**1.69**	**130**	P	**Pn**	**11 53 14.6**	**+0.1**
RCVN	**Varillal2**	**1.69**	**79**	P	**Pb**	**11 53 16.2**	**-0.4**
RCVN	**Varillal2**	**1.69**	**79**	S	**Sg**	**11 53 39.3**	**-0.9**
SARH	**Santa Rosa de**	**1.70**	**331**	*i* P	**Pb**	**11 53 16.7**	**+0.1**
SARH				*i* S	**Sg**	**11 53 40.2**	**-0.3**
CEVE	**Cerro Verde**	**1.76**	**288**	P	**Pb**	**11 53 16.9**	**-0.7**
MTO3	**Montecristo**	**1.80**	**308**	*i* P	**Pb**	**11 53 17.6**	**-0.7**
MTO3				*i* S	**Sg**	**11 53 42.4**	**-1.1**
MTO3	**Montecristo**	**1.80**	**308**	P	**Pb**	**11 53 17.7**	**-0.7**
NUBE	**Las Nubes**	**1.92**	**289**	*i* P	**Pn**	**11 53 18.9**	**+1.0**
NUBE	**Las Nubes**	**1.92**	**289**	P	**Pn**	**11 53 18.9**	**+1.0**

*SNET **09** 11:57:28.6±0.8, 13°.23N×87°.93W, h5km, ML3.2, ML2.9*
*CATAC **09** 11:57:29.2±0.2, 13°.N±1°×87°.9W±0°.9, h3km±1km, M2.9/18, MLv2.9/18, Error ellipse: s-maj=3.3km s-min=1.8km az=18.1, confirmed*

ISC 09 11:57:29.5±0.9, **13°.25N**±0°.03×**87°.94W**±0°.02, **h10**km±5km, **n45**, σ0⁉**78**/52, **Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.07**	**38**	*e*P	**Pg**	**11 57 31.3**	**-0.4**
LCND				*e*S	**Sg**	**11 57 33.4**	**0.0**
LCND				IAML		11 57 34.6	
	comp=Z,12µm,0.3s						
LCND	**La Caada**	**0.07**	**38**	P	**Pg**	**11 57 31.4**	**-0.4**
CNCH	**Conchagua**	**0.10**	**75**	*e*P	**Pg**	**11 57 31.8**	**-0.5**
CNCH				*e*S	**Sg**	**11 57 34.3**	**+0.2**
CNCH	**Conchagua**	**0.10**	**75**	P	**Pg**	**11 57 31.8**	**-0.5**
CNCH				S	**Sg**	**11 57 34.6**	**+0.4**
BLLM	**Bellamira**	**0.35**	**303**	*e*P	**Pg**	**11 57 36.2**	**-0.3**
LCY	**Lacayo**	**0.39**	**297**	*e*P	**Pg**	**11 57 37.1**	**-0.1**
PACA	**Pacayal**	**0.43**	**300**	P	**Pg**	**11 57 37.8**	**-0.3**
PACA	**Pacayal**	**0.43**	**300**	S	**Sg**	**11 57 44.8**	**+1.0**
CSGN	**Cosiguina Volc**	**0.46**	**126**	P	**Pg**	**11 57 38.2**	**-0.3**
CSGN				S	**Sg**	**11 57 44.9**	**+0.4**
POTN	**Potosi Cosigui**	**0.49**	**120**	P	**Pg**	**11 57 38.8**	**-0.3**
POTN				S	**Sb**	**11 57 46.4**	**-1.1**
PQSS	**Presa 15 de Se**	**0.71**	**302**	P	**Pg**	**11 57 42.9**	**-0.4**
CHOHN	**Orocuina**	**0.79**	**73**	P	**Pg**	**11 57 43.9**	**-0.9**
CHOHN	**Orocuina**	**0.79**	**73**	S	**Sg**	**11 57 55.0**	**-0.2**
TECO	**Alcaldia de Te**	**0.87**	**289**	S	**Sg**	**11 57 57.3**	**-0.3**
TECO	**Alcaldia de Te**	**0.87**	**289**	P	**Pg**	**11 57 45.0**	**-1.2**
SCLA	**Alcaldia de Sa**	**0.89**	**300**	P	**Pg**	**11 57 46.2**	**-0.5**
MARCA	**Marcala la Paz**	**0.91**	**354**	P	**Pg**	**11 57 46.5**	**-0.5**
MARCA	**Marcala la Paz**	**0.91**	**354**	S	**Sg**	**11 57 59.8**	**+0.9**
UESV	**Universidad de**	**0.91**	**295**	S	**Sb**	**11 57 59.5**	**-0.2**
UESV	**Universidad de**	**0.91**	**295**	P	**Pg**	**11 57 46.9**	**-0.2**
CRIN	**San Cristobal**	**1.02**	**122**	P	**Pb**	**11 57 49.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.03**	**39**	P	**Pg**	**11 57 48.3**	**-1.1**
TGUH				S	**Sg**	**11 58 02.6**	**-0.2**
INTHN	**La Esperanza I**	**1.07**	**351**	P	**Pg**	**11 57 49.3**	**-0.8**
INTHN	**La Esperanza I**	**1.07**	**351**	S	**Sg**	**11 58 04.7**	**+0.6**
PAVA	**Las Pavas**	**1.08**	**296**	P	**Pg**	**11 57 49.4**	**-0.9**
LFRS	**El Faro**	**1.16**	**289**	*e*P	**Pg**	**11 57 50.3**	**-1.4**
POLN	**Al Sur del Vol**	**1.25**	**118**	P	**Pg**	**11 57 52.4**	**-1.1**
POLN				S	**Sg**	**11 58 09.3**	**-0.4**
YUSH	**Yuscaran**	**1.27**	**57**	S	**Sg**	**11 58 10.3**	**-0.3**
YUSH	**Yuscaran**	**1.27**	**57**	P	**Pg**	**11 57 52.4**	**-1.6**
PMON	**Piamonte**	**1.42**	**289**	P	**Pn**	**11 57 55.4**	**-0.1**
PMON	**Piamonte**	**1.42**	**289**	S	**Sg**	**11 58 14.0**	**-1.1**
OCON	**Estacion meteo**	**1.47**	**75**	P	**Pn**	**11 57 55.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.52**	**285**	P	**Pn**	**11 57 56.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.52**	**285**	S	**Sn**	**11 58 16.8**	**-0.3**
SARH	**Santa Rosa de**	**1.71**	**332**	P	**Pn**	**11 58 00.3**	**+0.7**
RCVN	**Varillal2**	**1.73**	**79**	P	**Pn**	**11 57 60.0**	**+0.1**
RCVN	**Varillal2**	**1.73**	**79**	S	**Sn**	**11 58 23.1**	**+1.1**
MTO3	**Montecristo**	**1.79**	**310**	P	**Pn**	**11 58 00.7**	**-0.1**
MTO3	**Montecristo**	**1.79**	**310**	S	**Sn**	**11 58 24.8**	**+1.0**
NUBE	**Las Nubes**	**1.91**	**290**	P	**Pn**	**11 58 02.1**	**-0.2**
NUBE	**Las Nubes**	**1.91**	**290**	S	**Sn**	**11 58 28.0**	**+1.5**
MATN	**Matagalpa**	**1.99**	**99**	P	**Pn**	**11 58 04.2**	**+0.9**
MATN	**Matagalpa**	**1.99**	**99**	S	**Sn**	**11 58 29.6**	**+1.2**
BOAB	**BOACO BROADBAN**	**2.35**	**109**	P	**Pn**	**11 58 09.0**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.35**	**109**	S	**Sn**	**11 58 39.0**	**+1.7**

*IDC **09** 12:32:31.2±2.2, 30°.57S×177°.46W, h0km, mb4.1/3, mbtmp4.1/4, ML3.1/1, Error ellipse: s-maj=50.6km s-min=26.5km az=111.0*
*NEIC **09** 12:32:32.9±0.9, 30°.5S±0°.1×177°.4W±0°.2, h10km±2km, mb4.5/16, Error ellipse: s-maj=26.6km s-min=16.6km az=68.0*

ISC 09 12:32:36.0±0.7, **30°.45S**±0°.06×**177°.6W**±0°.1, **h33**km, **n26,**
σ1⁉**22**/28, **mb4.4**/10, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**345**		**Pn**	**12 32 57.8**	**+0.8**
RAO	**Raoul Island**	**1.24**	**345**	Pn	**Pb**	**12 32 58.1**	**-0.8**
	336nm,0.3s,baz=8.2,slow=23,SNR=6.0						
RAO				Sn	**Sn**	**12 33 12.0**	**-0.6**
	734nm,0.3s,baz=34,slow=21,SNR=8.4						
URZ	**Urewera**	**8.94**	**208**	Pn	**Pn**	**12 34 41.2**	**-1.6**
	0.2nm,0.3s,baz=255,slow=5.2,SNR=10						
URZ				Sn	**Sn**	**12 36 19.1**	**-3.3**
	1.7nm,0.3s,baz=225,slow=23,SNR=9.6						
	11nm,1.0s						
NIUE	**Niue**	**13.28**	**33**	Pn	**Pn**	**12 35 40.3**	**-2.0**
PINNC	**Pines Island,**	**15.51**	**297**	Pn	**Pn**	**12 36 10.8**	**-1.6**
PINNC				IAmb	IAmb	12 36 46.7	
	comp=Z,50nm,1.5s						
CTAO	**Charters Tower**	**34.18**	**279**	P	**P**	**12 39 20.8**	**+2.3**
CTAO				IAmb	IAmb	12 39 22.1	
	comp=Z,4.0nm,1.0s						
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**12 39 24.4**	**+0.3**
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**12 39 26.1**	**+2.0**
	comp=Z,2.8nm,0.4s,baz=102,slow=12,SNR=12						
	comp=Z,2.8nm,0.4s						
INKA	**Innaminka**	**36.39**	**264**	P	**P**	**12 39 37.2**	**-0.1**
INKA				IAmb	IAmb	12 39 50.2	
	comp=Z,5.3nm,1.2s						
BBOO	**Buckleboo**	**39.32**	**254**	P	**P**	**12 40 02.9**	**+0.8**
AS31	**Alice Springs**	**43.48**	**267**	P	**P**	**12 40 36.4**	**0.0**
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**12 40 35.9**	**-0.6**
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**12 40 36.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=106,slow=7.4,SNR=19						
	comp=Z,0.5nm,0.3s						
WR8	**Warramunga Arr**	**44.33**	**272**	P	**P**	**12 40 43.4**	**+0.2**
WR8				IAmb	IAmb	12 40 47.5	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**44.48**	**272**	P	**P**	**12 40 44.5**	**+0.1**
WRA	**Warramunga Arr**	**44.48**	**272**	P	**P**	**12 40 44.4**	**0.0**
	comp=Z,1.3nm,0.4s,baz=110,slow=8.1,SNR=78						
	comp=Z,1.3nm,0.4s						
WB0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**12 40 44.0**	**-0.6**
WB0				IAmb	IAmb	12 41 25.2	
	comp=Z,13nm,1.5s						
VNDA	**Vanda**	**48.08**	**186**	P	**P**	**12 41 11.6**	**-0.3**
KNRA	**Kununurra**	**51.09**	**274**	P	**P**	**12 41 35.6**	**0.0**
KNRA				IAmb	IAmb	12 41 40.5	
	comp=Z,11nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.74**	**270**	P	**P**	**12 41 48.1**	**+0.2**
CASY	**Casey**	**55.27**	**208**	P	**P**	**12 42 07.2**	**+1.5**
QSPA	**South Pole Qui**	**59.66**	**180**	P	**P**	**12 42 37.9**	**+1.1**
BELA	**Belgrano 2**	**69.68**	**172**	P	**P**	**12 43 42.4**	**+0.5**
BELA				IAmb	IAmb	12 44 00.2	
	comp=Z,3.9nm,1.3s						
SNAA	**Sanae**	**78.09**	**178**	P	**P**	**12 44 31.8**	**+0.6**
SNAA				IAmb	IAmb	12 45 12.0	
	comp=Z,6.6nm,1.5s						
KURBB	**Kurchatov Arra**	**121.40**	**314**	PKP	**PKPdf**	**12 51 25.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=118,slow=2.3,SNR=4.7						
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc	**PKPdf**	**12 52 10.5**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=44,slow=3.8,SNR=28						

*NEIC **09** 12:41:13.9±1.2, 28°.4N±0°.1×83°.3E±0°.1, h10km±1km, mb4.4/17, Error ellipse: s-maj=23.6km s-min=12.9km az=214.0*
*IDC **09** 12:41:13.3±1.7, 28°.42N×83°.41E, h0km, mb3.8/6, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=87.8km s-min=20.0km az=63.0*
*DMN **09** 12:41:14.3±0.0, 28°.36N×83°.28E, h2km, Ml4.7/3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **09** 12:41:19.0±2.5, 28°.28N×83°.15E, h17km±9km, ML4.2, MW4.0, mb4.4(NEIC)*

ISC 09 12:41:13.2±1.1, **28°.36N**±0°.03×**83°.23E**±0°.02, **h10**km±7km, **n82**, σ1⁉**83**/126, **mb4.2**/13, **Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**0.34**	**219**	Pg	**Pb**	**12 41 21.3**	**-0.2**
	baz=213,slow=0.0						
PYUN				Sg	**Sb**	**12 41 26.9**	**0.0**
	7µm,0.5s,baz=213,slow=0.0						
PYUN	**Piuthan**	**0.34**	**219**	Pg	**Pb**	**12 41 21.2**	**-0.2**
	baz=220,slow=0.0						
PYUN				Sg	**Sb**	**12 41 26.7**	**-0.2**
	7µm,0.5s,baz=220,slow=0.0						
PYUN	**Piuthan**	**0.34**	**219**	Pg	**Pb**	**12 41 21.4**	**0.0**
	baz=225,slow=0.0						
PYUN				Sg	**Sb**	**12 41 26.6**	**-0.3**
	7µm,0.5s,baz=225,slow=0.0						
DANN	**Dangsing**	**0.47**	**91**	Pg	**Pb**	**12 41 23.2**	**-0.5**
	baz=103,slow=0.0						
DANN				Sg	**Sg**	**12 41 28.7**	**+0.1**
	3µm,0.2s,baz=103,slow=0.0						
DANN	**Dangsing**	**0.47**	**91**	Pg	**Pb**	**12 41 23.5**	**-0.2**
	baz=97,slow=0.0						
DANN				Sg	**Sg**	**12 41 28.3**	**-0.3**
	6µm,0.4s,baz=97,slow=0.0						
DANN	**Dangsing**	**0.47**	**91**	Pg	**Pb**	**12 41 23.2**	**-0.5**
	baz=92,slow=0.0						
DANN				Sg	**Sg**	**12 41 28.3**	**-0.3**
	4µm,0.2s,baz=92,slow=0.0						
KOLN	**Koldanda**	**0.67**	**151**	Pg	**Pb**	**12 41 27.4**	**+0.2**
	baz=155,slow=0.0						
KOLN				Sg	**Sn**	**12 41 38.3**	**-1.4**
	baz=155,slow=0.0						
KOLN				Sg	**Sb**	**12 41 38.4**	**+1.8**
	1µm,0.2s,baz=155,slow=0.0						
KOLN	**Koldanda**	**0.67**	**151**	Pg	**Pb**	**12 41 27.3**	**+0.1**
	baz=155,slow=0.0						
KOLN				Sg	**Sb**	**12 41 36.3**	**-0.3**
	1µm,0.2s,baz=155,slow=0.0						
KOLN	**Koldanda**	**0.67**	**151**	Pg	**Pb**	**12 41 27.3**	**+0.1**
	baz=154,slow=0.0						
KOLN				Sg	**Sg**	**12 41 35.6**	**+0.5**
	baz=154,slow=0.0						
GKN	**Gorkha**	**1.29**	**106**	Pg	**Pg**	**12 41 38.4**	**+0.4**
	baz=110,slow=0.0						
GKN				Sg	**Sn**	**12 41 54.9**	**0.0**
	2µm,0.2s,baz=110,slow=0.0						
GKN	**Gorkha**	**1.29**	**106**	Pg	**Pg**	**12 41 38.1**	**+0.1**
	baz=108,slow=0.0						
GKN				Sg	**Sg**	**12 41 54.6**	**-0.2**
	2µm,0.2s,baz=108,slow=0.0						
GKN	**Gorkha**	**1.29**	**106**	Pg	**Pg**	**12 41 38.1**	**+0.1**
	baz=106,slow=0.0						
GKN				Sg	**Sb**	**12 41 53.3**	**-1.1**
	baz=106,slow=0.0						
BRCI	**Bahraich**	**1.66**	**242**	*e*P	**Pg**	**12 41 45.8**	**+0.8**
BRCI				*e*S	**Sg**	**12 42 06.0**	**-0.6**
BRCI				IAML		12 42 10.7	
	comp=E,27µm,0.4s						
BRCI				IAML		12 42 11.0	
	comp=N,24µm,0.4s						
DMN	**Daman**	**1.82**	**114**	Pg	**Pg**	**12 41 47.7**	**-0.4**
	baz=117,slow=0.0						
DMN				Sg	**Sg**	**12 42 10.7**	**-1.0**
	comp=N,771nm,0.3s,baz=117,slow=0.0						
DMN	**Daman**	**1.82**	**114**	Pg	**Pg**	**12 41 47.5**	**-0.6**
	baz=116,slow=0.0						
DMN				Sg	**Sb**	**12 42 10.5**	**+0.8**
	comp=N,771nm,0.3s,baz=116,slow=0.0						
DMN	**Daman**	**1.82**	**114**	Pg	**Pg**	**12 41 47.6**	**-0.6**
	baz=115,slow=0.0						
DMN				Sg	**Sg**	**12 42 10.8**	**-1.0**
	baz=115,slow=0.0						
KKN	**Kakani**	**1.90**	**107**	Pg	**Pb**	**12 41 48.5**	**+0.4**
	baz=110,slow=0.0						
KKN				Sg	**Sg**	**12 42 14.4**	**+0.1**
	comp=N,810nm,0.2s,baz=110,slow=0.0						
KKN	**Kakani**	**1.90**	**107**	Pg	**Pb**	**12 41 48.4**	**+0.4**
	baz=108,slow=0.0						
KKN				Sg	**Sb**	**12 42 12.6**	**+0.7**
	comp=N,2µm,0.4s,baz=108,slow=0.0						
PKIN	**Phulchoki**	**2.07**	**112**	Pg	**Pg**	**12 41 52.4**	**-0.5**
	baz=114,slow=0.0						
PKIN				Sg	**Sg**	**12 42 18.4**	**-1.3**
	comp=N,797nm,0.2s,baz=114,slow=0.0						
PKIN	**Phulchoki**	**2.07**	**112**	Pg	**Pb**	**12 41 50.8**	**-0.2**
	baz=113,slow=0.0						
PKIN				Sg	**Sg**	**12 42 18.5**	**-1.3**
	comp=N,797nm,0.2s,baz=113,slow=0.0						
PKIN	**Phulchoki**	**2.07**	**112**	Pn	**Pb**	**12 41 50.8**	**-0.2**
	baz=112,slow=0.0						
PKIN	**Phulchoki**	**2.07**	**112**	Pg	**Pg**	**12 41 52.4**	**-0.5**
	baz=112,slow=0.0						
PKIN				Sg	**Sg**	**12 42 18.3**	**-1.4**
	comp=N,797nm,0.2s,baz=112,slow=0.0						
PKI	**Pulchoki**	**2.08**	**112**	Pg	**Pg**	**12 41 52.4**	**-0.7**
	baz=114,slow=0.0						
PKI				Sg	**Sg**	**12 42 18.6**	**-1.6**
	comp=N,723nm,0.3s,baz=114,slow=0.0						
PKI	**Pulchoki**	**2.08**	**112**	Pg	**Pb**	**12 41 51.1**	**-0.2**
	baz=113,slow=0.0						
PKI				Sg	**Sg**	**12 42 18.7**	**-1.5**
	comp=N,723nm,0.3s,baz=113,slow=0.0						
PKI	**Pulchoki**	**2.08**	**112**	Pn	**Pb**	**12 41 50.8**	**-0.5**
	baz=112,slow=0.0						
PKI	**Pulchoki**	**2.08**	**112**	Pg	**Pg**	**12 41 52.4**	**-0.7**
	baz=112,slow=0.0						
PKI				Sg	**Sb**	**12 42 18.4**	**+1.1**
	comp=N,723nm,0.3s,baz=112,slow=0.0						
GUN	**Gumba**	**2.38**	**100**	Pn	**Pb**	**12 41 54.8**	**-1.6**
	baz=102,slow=0.0						
GUN	**Gumba**	**2.38**	**100**	Pg	**Pg**	**12 41 57.8**	**-1.1**
	baz=102,slow=0.0						
GUN				Sg	**Sb**	**12 42 27.3**	**+1.3**
	comp=N,798nm,0.3s,baz=102,slow=0.0						
GUN	**Gumba**	**2.38**	**100**	Pg	**Pb**	**12 41 55.5**	**-0.9**
	baz=101,slow=0.0						
GUN				Sg	**Sg**	**12 42 28.9**	**-0.9**
	comp=N,798nm,0.3s,baz=101,slow=0.0						
GUN	**Gumba**	**2.38**	**100**	Pg	**Pb**	**12 41 54.9**	**-1.5**
	baz=100,slow=0.0						
GUN				Sg	**Sg**	**12 42 28.7**	**-1.1**
	comp=N,798nm,0.3s,baz=100,slow=0.0						
STMR	**SITAMARHI**	**2.42**	**131**	*e*P	**Pg**	**12 41 58.9**	**-0.7**
STMR				*e*S	**Sb**	**12 42 26.0**	**-0.7**
STMR				IAML		12 42 32.6	
	comp=E,14µm,0.3s						
STMR				IAML		12 42 32.8	
	comp=N,15µm,0.2s						
LGTI	**Lohaghat**	**2.83**	**293**	*e*P	**Pb**	**12 42 03.5**	**-0.4**
LGTI				*e*S	**Sb**	**12 42 37.8**	**-0.8**
LGTI				IAML		12 42 38.9	
	comp=N,382nm,0.3s						
LGTI				IAML		12 42 38.9	
	comp=E,254nm,0.3s						
PTH	**Pithoragarh**	**2.90**	**295**	*e*P	**Pb**	**12 42 03.8**	**-1.2**
PTH				*e*S	**Sb**	**12 42 38.2**	**-2.4**
PTH				IAML		12 42 39.1	
	comp=N,243nm,0.1s						
RAMN	**Ramite**	**3.30**	**114**	Pn	**Pn**	**12 42 07.4**	**+2.2**
	baz=115,slow=0.0						
RAMN				Sn	**Sn**	**12 42 39.9**	**-4.8**
	comp=N,270nm,0.3s,baz=115,slow=0.0						
RAMN	**Ramite**	**3.30**	**114**	Sn	**Sn**	**12 42 42.4**	**-2.3**
	baz=115,slow=0.0						
JOSI	**Joshimath**	**3.88**	**305**	*e*P	**Pb**	**12 42 17.5**	**-4.3**
JOSI				*e*S	**Sn**	**12 43 02.5**	**+3.6**
JOSI				IAML		12 43 03.1	
	comp=E,390nm,0.3s						
JOSI				IAML		12 43 03.5	
	comp=N,519nm,0.2s						
GAYA	**Gaya**	**3.97**	**153**	*e*P	**Pb**	**12 42 20.2**	**-3.1**
GAYA				*e*S	**Sn**	**12 43 02.1**	**+1.3**
GAYA				IAML		12 43 04.5	
	comp=E,2µm,0.2s						
GAYA				IAML		12 43 04.5	
	comp=N,2µm,0.2s						
ODAN	**Odare**	**3.98**	**111**	Pn	**Pn**	**12 42 15.7**	**+1.2**
	baz=112,slow=0.0						
ODAN				Sn	**Sn**	**12 42 56.3**	**-5.1**
	comp=N,129nm,0.2s,baz=112,slow=0.0						
ODAN				Sg	**Sg**	**12 43 18.1**	**-3.0**
	comp=N,321nm,0.5s,baz=112,slow=0.0						
GTK	**Tadong**	**4.87**	**101**	*e*P	Pn	12 42 31.4	+4.8
GTK				*e*S	**Sn**	**12 43 25.8**	**+2.7**
SHBG	**Sahibganj**	**5.05**	**127**	*e*P	**Pn**	**12 42 32.8**	**+3.8**
SHBG				*e*S	**Sn**	**12 43 27.1**	**-0.4**
SHBG				IAML		12 43 28.0	
	comp=N,442nm,0.3s						
SHBG				IAML		12 43 28.2	
	comp=E,529nm,0.3s						
JHNI	**Jhansi**	**5.08**	**237**	*e*P	**Pn**	**12 42 32.4**	**+2.9

FINES	**FINESS Array B**	**49.90**	**328**	P	**P**	**12 50 08.6**	**+2.0**
	comp=Z,1.3nm,0.9s,baz=92,slow=7.0,SNR=2.7						
	comp=Z,1.3nm,0.9s						
ARCES	**ARCESS Array B**	**52.56**	**338**	P	**P**	**12 50 26.7**	**+0.2**
ARCES				IAmb	IAmb	12 50 38.9	
	comp=Z,4.4nm,1.1s						
ARCES	**ARCESS Array B**	**52.56**	**338**	P	**P**	**12 50 28.1**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=97,slow=4.9,SNR=4.2						
	comp=Z,1.4nm,0.7s						
NC303	**NORSAR Array S**	**56.89**	**327**	P	**P**	**12 50 58.6**	**+0.6**
NC303				IAmb	IAmb	12 51 36.5	
	comp=Z,8.9nm,1.1s						
WB0	**Warramunga Arr**	**68.80**	**128**	P	**P**	**12 52 17.4**	**-0.4**
WRA	**Warramunga Arr**	**68.88**	**128**	P	**P**	**12 52 19.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=322,slow=6.2,SNR=6.8						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**71.13**	**131**	P	**P**	**12 52 33.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=316,slow=6.1,SNR=6.7						
	comp=Z,0.2nm,0.3s						
MD01	**Midelt array s**	**73.67**	**299**	P	**P**	**12 52 47.5**	**0.0**
TORD	**Torodi Ar. Bea**	**76.52**	**278**	P	**P**	**12 53 04.6**	**+0.6**
I20K	**Naaghedeneel**	**76.97**	**22**	P	**P**	**12 53 05.9**	**+0.2**
I20K				IAmb	IAmb	12 53 08.7	
	comp=Z,14nm,1.4s						
BMAR	**Burnt Mountain**	**78.03**	**17**	P	**P**	**12 53 11.9**	**+0.2**
AKUT	**Akutan**	**78.68**	**34**	P	**P**	**12 53 14.3**	**-1.1**
BOSA	**Boshof**	**79.30**	**229**	P	**P**	**12 53 19.5**	**+0.3**
BOSA				IAmb	IAmb	12 54 02.0	
	comp=Z,8.7nm,1.2s						
SKT	**Skwentna**	**79.84**	**23**	P	**P**	**12 53 22.1**	**+0.5**
SKT				IAmb	IAmb	12 53 48.3	
	comp=Z,5.7nm,1.4s						
H29M	**Whitestone**	**80.52**	**16**	P	**P**	**12 53 26.0**	**+0.8**
H29M				IAmb	IAmb	12 53 28.3	
	comp=Z,6.9nm,1.4s						
SYI	**Shuyak Island**	**81.83**	**26**	P	**P**	**12 53 32.0**	**-0.2**

*SOME **09** 13:05:24.9, 40˚.45N×82˚.97E, h20km*
*IDC **09** 13:05:29.2±1.2, 41˚.39N×84˚.24E, h0km, mb3.8/5, mbtmp3.7/11, ML3.3/6, MS3.4/9, Error ellipse: s-maj=31.7km s-min=17.4km az=60.0*
*MOS **09** 13:05:31.3±1.1, 41˚.18N×83˚.38E, h14km, mb4.3/6, Error ellipse: s-maj=13.0km s-min=5.9km az=118.3*
*BJI **09** 13:05:32.2, 41˚.12N×83˚.39E, h12km, mb4.2/5, ML4.1/10*
*NNC **09** 13:05:37.9±2.9, 41˚.46N×83˚.19E, h14km±13km, mb4.7, mpv4.3, Error ellipse: s-maj=20.6km s-min=12.0km az=154.0*

ISC 09 13:05:32.4±0.7, 41˚06N±0˚07×83˚55E±0˚04, h10km, n65, σ29/62, mb4.0/10, MS3.4/3, 14C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.69**	**306**	Pg	**Pn**	**13 06 29.2**	**-0.4**
	111nm,0.3s						
SHLS				Lg	Lg	13 07 14.8	
	3μm,0.5s						
SHLS	**Shalkode**	**3.69**	**306**	*e*P	Pn	13 06 25.8	-3.8
SHLS	**Shalkode**	**3.69**	**306**	*e*P	**Pn**	**13 06 28.5**	**-1.1**
	53nm,0.2s						
SHLS				*e*S	**Sn**	**13 07 14.8**	**+1.6**
	3μm,0.5s						
PDGK	**Podgornoye**	**3.77**	**308**	⇑Pn	**Pn**	**13 06 29.4**	**-1.3**
	41nm,0.3s						
PDGK				⇑Pg	**Pb**	**13 06 39.9**	**+0.7**
	106nm,0.6s						
PDGK				⇓Lg	Lg	13 07 24.0	
	1μm,1.1s						
PDGK	**Podgornoye**	**3.77**	**308**	P	**Pn**	**13 06 29.4**	**-1.3**
UZB	**Uzynbulak**	**3.96**	**303**	Pg	**Pn**	**13 06 36.6**	**+3.3**
	27nm,0.3s						
UZB				Lg	Lg	13 07 30.1	
	1μm,0.4s						
UZB	**Uzynbulak**	**3.96**	**303**	*e*P	**Pn**	**13 06 32.7**	**-0.6**
UZB	**Uzynbulak**	**3.96**	**303**	*e*P	**Pn**	**13 06 37.4**	**+4.1**
	30nm,0.3s						
UZB				*e*S	**Sb**	**13 07 30.1**	**-0.3**
	1μm,0.4s						
WMQ	**Urumqi**	**4.13**	**47**	Pn	Pn	13 06 30.6	-5.0
WMQ				Sn	**Sn**	**13 07 22.4**	**-1.6**
WMQ				smax	smax		
	comp=N,280nm,1.5s						
WMQ				smax	smax		
	comp=E,470nm,1.1s						
SATY	**Saty**	**4.32**	**299**	Pg	**Pn**	**13 06 41.9**	**+3.7**
	comp=E,25nm,0.2s						
SATY				Lg	Lg	13 07 36.2	
	comp=E,560nm,0.6s						
KPKS	**Kokpek**	**4.34**	**305**	Pg	**Pn**	**13 06 41.2**	**+2.8**
	comp=E,1.3nm,0.2s						
KPKS				Lg	Lg	13 07 33.6	
	comp=E,826nm,0.4s						
ARXS	**Arharly**	**5.27**	**309**	Pg	Pb	13 07 01.0	-3.6
	comp=E,20nm,0.7s						
ARXS				Lg	Lg	13 08 10.9	
	comp=E,167nm,0.8s						
ARXS	**Arharly**	**5.27**	**309**	*e*P	**Pn**	**13 06 49.3**	**-1.9**
TNSS	**Tian-Shan**	**5.30**	**294**	*e*P	**Pb**	**13 07 03.4**	**-1.8**
	comp=E,2.4nm,0.3s						
TNSS				*e*S	**Sb**	**13 08 14.0**	**+5.0**
	comp=E,69nm,0.8s						
KNDC	**Almaty**	**5.35**	**296**	⇓Pg	**Pb**	**13 07 08.6**	**+2.7**
	comp=E,155nm,0.7s						
KNDC				⇓Lg	Lg	13 08 14.7	
	comp=E,481nm,0.9s						
AAA	**Alma-Ata**	**5.38**	**296**	*e*P	**Pn**	**13 06 52.9**	**+0.2**
AAA	**Alma-Ata**	**5.38**	**296**	*e*P	**Pb**	**13 07 06.0**	**-0.4**
	comp=E,24nm,0.1s						
AAA				*e*S	**Sb**	**13 08 18.2**	**+7.2**
	comp=E,35nm,0.4s						
TDK	**Taldyqorghan**	**5.45**	**318**	*e*P	**Pb**	**13 07 08.9**	**+1.3**
	comp=E,70nm,0.3s						
TDK				*e*S	**Sg**	**13 08 23.6**	**-3.8**
	comp=E,425nm,0.8s						
MTBS	**Maitube**	**5.69**	**294**	*e*P	**Pb**	**13 07 10.8**	**-0.9**
	comp=E,13nm,0.4s						
MTBS				*e*S	**Sb**	**13 08 26.6**	**+6.7**
	comp=E,139nm,0.6s						
KTBS	**Karatobe**	**5.73**	**300**	Pg	Pb	13 07 09.4	-3.1
	comp=E,19nm,0.3s						
KTBS				Lg	Lg	13 08 26.3	
	comp=E,392nm,0.6s						
MK31	**Makanchi Array**	**5.81**	**351**	⇓Pn	**Pn**	**13 06 58.4**	**-0.2**
	comp=E,3.4nm,0.3s,baz=152,slow=12,SNR=186						
MK31				⇓Pg	**Pb**	**13 07 16.8**	**+3.1**
	comp=E,14nm,0.4s,baz=171,slow=16,SNR=16						
MK31				⇑Lg	Lg	13 08 28.6	
	comp=E,97nm,0.7s,baz=165,slow=30,SNR=4.0						
MK31	**Makanchi Array**	**5.81**	**351**	*c*/P	**Pn**	**13 06 58.3**	**-0.2**
MKAR	**Makanchi Array**	**5.81**	**351**	Pn	**Pn**	**13 06 58.1**	**-0.5**
	comp=E,1.4nm,0.3s,baz=173,slow=12,SNR=27						
MKAR				Pg	**Pb**	**13 07 12.6**	**-1.1**
	comp=E,3.5nm,0.3s,baz=174,slow=14,SNR=15						
MKAR				Lg	Lg	13 08 29.8	
	comp=E,12nm,0.3s,baz=179,slow=27,SNR=7.0						
MKAR				LR	LR	13 09 21.8	
	comp=E,187nm,18.2s,baz=178,slow=42						
	comp=E,2.1nm,0.4s						
MAKZ	**Makanchi**	**5.86**	**349**	⇑Pn	**Pn**	**13 06 58.8**	**-0.5**
	comp=E,11nm,0.8s						
MAKZ				⇑Pg	**Pb**	**13 07 16.7**	**+2.0**
	comp=E,19nm,0.6s						
MAKZ				⇓Lg	Lg	13 08 31.1	
	comp=E,118nm,0.9s						
MAKZ	**Makanchi**	**5.86**	**349**	P	**Pn**	**13 06 58.8**	**-0.5**
KST	**Kastek**	**5.98**	**292**	Pg	Pb	13 07 11.6	-5.2
	comp=E,27nm,0.4s						
KST				Lg	Lg	13 08 29.4	
	comp=E,163nm,0.7s						
KST	**Kastek**	**5.98**	**292**	*e*P	Pb	13 07 12.0	-4.8
	comp=E,27nm,0.4s						
KST				*e*S	**Sb**	**13 08 29.4**	**+0.9**
	comp=E,163nm,0.7s						
KSH	**Kashi**	**5.99**	**258**	Pn	Pn	13 07 07.3	+6.1
KSH				smax	smax		
	comp=E,34nm,0.6s						
KSH				smax	smax		
	comp=E,51nm,1.0s						
KUU	**Kurty**	**6.04**	**300**	*e*P	**Pb**	**13 07 15.6**	**-2.0**
	comp=E,3.1nm,0.1s						
KUU				*e*S	**Sb**	**13 08 34.7**	**+4.8**
	comp=E,189nm,0.6s						
AAK	**Ala-Archa**	**6.94**	**286**	Pn	Pn	13 07 22.0	+7.7
	comp=E,1.3nm,0.3s,baz=139,slow=9.6,SNR=2.4						
AAK				Lg	Lg	13 09 15.4	
	comp=E,7.2nm,0.3s,baz=12,slow=18,SNR=7.2						
AAK				LR	LR	13 09 59.0	
	comp=E,107nm,21.3s,baz=104,slow=37						
	comp=E,3.2nm,0.3s						
AAK	**Ala-Archa**	**6.94**	**286**	⇑Pg	Pb	13 07 40.9	+7.8
	comp=E,246nm,1.0s						
AAK				⇑Lg	Lg	13 09 09.5	
	comp=E,174nm,1.1s						
AAK	**Ala-Archa**	**6.94**	**286**	*e*P	Pn	13 07 09.8	-4.5
SGDS	**Sogindy**	**7.03**	**293**	Pg	**Pb**	**13 07 32.2**	**-2.4**
	comp=E,5.6nm,0.4s						
SGDS				Lg	Lg	13 09 07.0	
	comp=E,95nm,0.6s						
BTLS	**Baital**	**8.02**	**303**	*e*P	**Pn**	**13 07 27.8**	**-1.0**
KK31	**Karatay Array**	**9.90**	**286**	Pg	Pn	13 08 32.9	+38
	comp=E,6.0nm,0.8s,baz=89,slow=16,SNR=4.0						
KK31				⇓Lg	Lg	13 10 41.4	
	comp=E,68nm,1.2s,baz=88,slow=27,SNR=4.0						
GOMU	**GeÉrMu**	**10.06**	**115**	P	**Pn**	**13 07 59.8**	**+2.6**
GOMU				S	**Sn**	**13 09 47.4**	**-2.9**
IUG	**luzhnay**	**10.18**	**281**	*e*P	**Pn**	**13 07 57.3**	**-1.4**
KURBB	**Kurchatov Arra**	**10.19**	**342**	Pn	Pn	13 07 55.0	-3.5
	comp=E,0.1nm,0.3s,baz=164,slow=12,SNR=13						
KURBB				LR	LR	13 12 04.0	
	comp=E,130nm,21.8s,baz=169,slow=39						
	comp=E,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**10.19**	**342**	⇑Pn	**Pn**	**13 07 56.7**	**-1.8**
	comp=E,13nm,0.6s						
KURBB				⇑Lg	Lg	13 10 46.1	
	comp=E,80nm,0.8s						
KURBB	**Kurchatov Arra**	**10.19**	**342**	P	**Pn**	**13 07 56.7**	**-1.8**
KURK	**Kurchatov**	**10.25**	**342**	⇑Pn	**Pn**	**13 07 57.5**	**-1.9**
	comp=E,5.6nm,0.5s						
KURK				⇑Lg	Lg	13 10 49.0	
	comp=E,71nm,0.9s						
KURK	**Kurchatov**	**10.25**	**342**	*ce*P	Pn	13 07 57.0	-2.4
KURK				pmax	pmax		
	comp=E,3.0nm,0.8s						
GTA	**Gaotai**	**12.54**	**92**	*e*P	**Pn**	**13 08 35.0**	**+4.0**
GTA				sP		13 08 42.4	
GTA				pmax	pmax		
	comp=E,4.0nm,0.8s						
ZALV	**Zalesovo Beam**	**12.93**	**3**	Pn	Pn	13 08 28.0	-8.0
	comp=Z,0.6nm,0.3s,baz=187,slow=12,SNR=15						
ZALV				LR	LR	13 13 15.7	
	comp=Z,102nm,18.5s,baz=214,slow=37						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**12.93**	**3**	*i* P	**Pn**	**13 08 34.5**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BVAR	**Borovoye Array**	**14.93**	**328**	Pn	Pn	13 09 00.6	-2.7
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=8.8						
BVAR				LR	LR	13 14 54.0	
	comp=Z,218nm,18.7s,baz=156,slow=38						
	comp=Z,0.6nm,0.5s						
BRVK	**Borovoye**	**15.00**	**328**	⇓*i* P	**Pn**	**13 09 02.4**	**-1.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**17.63**	**60**	P	Pn	13 09 27.9	-10
	comp=Z,0.2nm,0.3s,baz=232,slow=7.1,SNR=1.1						
SONM				LR	LR	13 17 01.1	
	comp=Z,176nm,20.8s,baz=264,slow=41						
	comp=Z,0.2nm,0.3s						
ULN	**Ulaanbaatar**	**18.07**	**60**	*e*P	**Pn**	**13 09 44.2**	**+0.6**
AKTO	**Aktyubinsk**	**20.05**	**306**	P	**P**	**13 10 06.2**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=77,slow=11,SNR=4.3						
	comp=Z,1.7nm,0.4s						
ARTI	**Arti**	**22.41**	**322**	LR	LR	13 19 49.0	
	comp=Z,122nm,18.0s,baz=130,slow=38						
ARTI	**Arti**	**22.41**	**322**	*d* /P	**P**	**13 10 29.6**	**-1.3**
ARTI						13 10 52.3	
ARTI				S	**S**	**13 14 36.3**	**-0.6**
ARTI				SS	**SnSn**	**13 15 03.7**	**-1.1**
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.11**	**145**	P	**P**	**13 11 05.0**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=320,slow=9.5,SNR=12						
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**26.11**	**145**	*e*P	**P**	**13 11 08.6**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BELG	**Belogornoye**	**26.83**	**307**	⇓*e*P	**P**	**13 11 11.2**	**-1.5**
BELG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**29.93**	**289**	*e*P	**P**	**13 11 39.2**	**-1.2**
KBZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**33.70**	**311**	*e*P	**P**	**13 12 11.6**	**-1.7**
OBN				*e*		13 13 23.6	
OBN				*e*		13 14 53.0	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TIXI	**Tiksi**	**37.91**	**22**	*ce*P	**P**	**13 12 49.9**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s						
JOW	**Kunigami**	**39.30**	**97**	LR	LR	13 29 48.6	
	comp=Z,505nm,20.7s,baz=116,slow=38						
ARCES	**ARCESS Array B**	**41.13**	**333**	P	P	13 13 13.7	-2.4
	comp=Z,1.5nm,0.8s,baz=96,slow=9.9,SNR=7.5						
ARCES				LR	LR	13 29 28.3	
	comp=Z,38nm,18.7s,baz=108,slow=35						
	comp=Z,1.5nm,0.8s						
MA2	**Magadan**	**44.59**	**42**	*i* P	**P**	**13 13 44.9**	**+0.6**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**45.83**	**319**	P	**P**	**13 13 53.0**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=82,slow=11,SNR=7.4						
	comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**45.83**	**319**	P	**P**	**13 13 53.0**	**-1.1**
NB2	**NORSAR Subarra**	**46.90**	**321**	P	**P**	**13 14 01.5**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=81,slow=7.9						
NOA	**NORSAR Array B**	**46.90**	**321**	P	**P**	**13 14 01.2**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=80,slow=7.9,SNR=6.0						
	comp=Z,0.5nm,0.5s						

NNC 09 13:07:30.9±3.2, 54˚.91N×61˚.66E, h0km, mb3.7, mpv3.3, 4C-2D, Error ellipse: s-maj=29.4km s-min=10.2km az=150.0, Suspected Mining explosion., Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRVK	**Borovoye**	**5.42**	**106**	⇑Pg	Pb	13 09 10.0	+3.8
	4.0nm,0.5s						
BRVK				⇑Lg	Lg	13 10 23.1	
	6.5nm,0.7s						
BVA0	**Borovoye Array**	**5.49**	**107**	⇑Pg	Pb	13 09 10.3	+2.8
	5.3nm,1.0s,baz=132,slow=11,SNR=7.9						
BVA0				⇑Lg	Lg	13 10 25.6	
	7.4nm,1.1s,baz=288,slow=28,SNR=2.5						
AB31	**Akbulak array**	**5.76**	**191**	⇓Pg	Pb	13 09 16.0	+3.9
	0.6nm,0.4s,baz=25,slow=13,SNR=6.0						
AB31				⇓Lg	Lg	13 10 33.7	
	3.5nm,0.5s,baz=14,slow=26,SNR=5.8						

*IDC **09** 13:09:44.4±0.4, 4˚.30S×152˚.80E, h0km, mb4.8/20, mbtmp4.7/23, ML2.7/2, MS4.0/38, Error ellipse: s-maj=13.4km s-min=11.7km az=73.0*
*BJI **09** 13:09:45.3, 4˚.23S×153˚.21E, h15km, mB5.6/11, mb5.0/49, Ms5.3/3, Ms7 4.9/3*
*MOS **09** 13:09:47.3±1.1, 4˚.23S×152˚.74E, h24km, mb5.2/18, Error ellipse: s-maj=10.0km s-min=6.9km az=98.3*
*NEIC **09** 13:09:47.1±2.2, 4˚.26S±0˚.09×152˚.82E±0˚.05, h10km±1km, mb4.9/144, Mww5.1/8, Error ellipse: s-maj=14.9km s-min=7.8km az=8.0*
*GCMT **09** 13:09:48.1±0.3, 4˚.27S±0˚.02×152˚.85E±0˚.02, h20km±1km, MW4.9/82, Moment Tensor Solution. s24,c28; s82,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.91±.19; Mθθ=0.43±.11; Mϕϕ=2.34±.13; Mrθ=1.04±.23; Mrϕ=1.43±.09; Mθϕ=0.42±.19; Best double couple: Mo=2.77100×10^16 NP1: ϕs=355.00000°, δ=43.00000°, λ=-133.00000°. NP2: ϕs=228.00000°, δ=60.00000°, λ=-57.00000°. Principal axes: T 3.0770, Plg9.0000°, Azm295.0000°; N -0.6110, Plg28.0000°, Azm30.0000°; P -2.4660, Plg60.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **09** 13:09:51.1±0.5, 4˚.3S×15˚.3E±˚, h40km±5km, M5.1/34, mb5.1/34, mB5.5/12, MLv5.5/1, Mw(mB)4.9/12*

ISC 09 13:09:47.2±0.6, 4˚32S±0˚04×152˚89E±0˚04, h14km±3km, h15km:pP-P, n570, σ1s73/507, mb5.0/139, MS4.0/39,

9C-10D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.74**	**280**		**Pg**	**13 10 00.1**	**-1.6**
I40PG	**Keravat**	**0.88**	**271**	Pn	**Pg**	**13 10 02.1**	**-2.2**
	baz=104,slow=16						
I40PG				Sn	**Sg**	**13 10 15.4**	**-0.5**
	baz=98,slow=18						
I40PG				I	I	13 13 24.9	
	72nm,0.5s,baz=84,slow=320,SNR=0.8						
MANU	**Manus Island**	**5.96**	**292**	Pn	**Pn**	**13 11 16.6**	**+1.4**
PMG	**Port Moresby**	**7.61**	**228**		**Pn**	**13 11 36.4**	**-1.4**
PMG	**Port Moresby**	**7.61**	**228**	Pn	**Pn**	**13 11 37.3**	**-0.5**
	2.0nm,0.3s,baz=237,slow=9.7,SNR=3.2						
PMG				Sn	**Sn**	**13 13 06.8**	**+3.0**
	5.5nm,0.3s,baz=98,slow=23,SNR=8.3						
PMG				LR	LR	13 14 50.0	
	comp=Z,660nm,19.7s,baz=34,slow=40						
	64nm,0.8s						
PMG	**Port Moresby**	**7.61**	**228**	P	**Pn**	**13 11 41.4**	**+3.6**
PMG	**Port Moresby**	**7.61**	**228**	*d* /P	**Pn**	**13 11 39.6**	**+1.8**
PMG				pmax	pmax		
	comp=Z,91nm,0.8s						
TATA	**Tatamba Isabel**	**7.97**	**121**	P	**Pn**	**13 11 44.9**	**+2.2**
SAVO	**Savo Central**	**8.38**	**125**	P	**Pn**	**13 11 51.1**	**+2.7**
HNR	**Honiara**	**8.65**	**126**		**Pn**	**13 11 54.5**	**+2.4**
HNR	**Honiara**	**8.65**	**126**	Pn	**Pn**	**13 11 52.1**	**0.0**
	comp=Z,41nm,0.6s,baz=196,slow=6.9,SNR=14						
HNR				Sn	**Sn**	**13 13 34.3**	**+4.9**
	comp=Z,18nm,0.3s,baz=339,slow=24,SNR=7.4						
HNR				LR	LR	13 15 21.0	
	comp=Z,2μm,19.0s,baz=268,slow=38						
HNR	**Honiara**	**8.65**	**126**	P	Pn	13 11 57.2	+5.2
HNR	**Honiara**	**8.65**	**126**	P	**Pn**	**13 11 54.5**	**+2.4**
ALEG	**Aligegeo Malai**	**8.91**	**120**	P	**Pn**	**13 11 57.6**	**+1.9**
NGOA	**Tingoa Renbel**	**10.10**	**136**	P	**Pn**	**13 12 16.2**	**+4.2**
HURO	**Huro Makira**	**10.82**	**125**	P	Pn	13 12 27.2	+5.4
JAY	**Jayapura**	**12.30**	**278**	Pn	**Pn**	**13 12 41.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=353,slow=6.2,SNR=8.0						
JAY				LR	LR	13 16 44.9	
	comp=Z,2μm,19.3s,baz=85,slow=34						
	comp=Z,11nm,0.9s						
JAY	**Jayapura**	**12.30**	**278**	P	**Pn**	**13 12 44.4**	**+2.3**
	comp=Z,1μmcomp=Z,49nm,0.9s						
PATS	**Pohnpei**	**12.33**	**26**	P	**Pn**	**13 12 40.8**	**-1.7**
	comp=Z,308nm,1.6s						
GENI	**Genyem**	**12.82**	**277**	P	Pn	13 12 54.4	+5.2
	comp=Z,160nm,1.2s						
COEN	**Coen**	**13.55**	**224**		**Pn**	**13 13 00.5**	**+1.3**
COEN	**Coen**	**13.55**	**224**	P	**Pn**	**13 13 00.5**	**+1.3**
	comp=Z,67nm,0.9s						
COEN	**Coen**	**13.55**	**224**	P	**Pn**	**13 13 02.4**	**+3.3**
SMPI	**Sarmi**	**14.35**	**279**	P	**Pn**	**13 13 10.2**	**+0.1**
LUES	**Luesalemba Tem**	**14.36**	**117**	P	**P**	**13 13 15.2**	**-2.1**
MTSU	**Mount Surprise**	**16.09**	**211**	P	**P**	**13 13 35.9**	**-0.6**
	comp=Z,92nm,0.9s						
MTSU	**Mount Surprise**	**16.09**	**211**	P	**P**	**13 13 36.4**	**-0.1**
SRPI	**Serui, Papua**	**16.80**	**278**	P	**P**	**13 13 46.4**	**+2.0**
	comp=Z,3μmcomp=Z,84nm,0.8s						
CTA	**Charters Tower**	**16.95**	**202**	P	**P**	**13 13 46.1**	**0.0**
	comp=Z,1.5nm,1.3s						
CTA	**Charters Tower**	**16.95**	**202**	P	**P**	**13 13 46.2**	**+0.1**
CTAO	**Charters Tower**	**16.95**	**202**		**P**	**13 13 45.9**	**-0.2**
CTAO	**Charters Tower**	**16.95**	**202**	P	**P**	**13 13 47.1**	**+1.0**
CTAO	**Charters Tower**	**16.95**	**202**	P	**P**	**13 13 45.9**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,37nm,0.9s						
BAKI	**Biak**	**17.05**	**280**	P	**Pn**	**13 13 45.6**	**+0.2**
	comp=Z,128nm,1.0s						
RKPI	**Ransiki, Papua**	**18.90**	**278**	P	**Pn**	**13 14 07.9**	**-0.3**
	comp=Z,90nm,0.9s						
GD1S	**Gladstone Soft**	**19.48**	**185**	P	**Pn**	**13 14 17.2**	**+2.1**
GUMO	**Guam**	**19.50**	**336**	LR	LR	13 22 32.4	
	comp=Z,297nm,18.3s,baz=157,slow=40						
FAKI	**Fak Fak**	**20.65**	**273**		**P**	**13 14 26.0**	**-0.7**
FAKI				IAmb	IAmb	13 14 41.1	
	comp=Z,99nm,1.0s						
FAKI	**Fak Fak**	**20.65**	**273**	P	**P**	**13 14 26.0**	**-0.7**
	comp=Z,2μmcomp=Z,106nm,1.0s						
QIS	**Mount Isa**	**20.68**	**218**	P	**P**	**13 14 26.9**	**-0.1**
	comp=Z,60nm,0.9s						
EIDS	**Eidsvold**	**21.00**	**185**		**P**	**13 14 31.9**	**+1.6**
EIDS				IAmb	IAmb	13 14 35.5	
	comp=Z,62nm,0.8s						
EIDS	**Eidsvold**	**21.00**	**185**	P	**P**	**13 14 31.7**	**+1.3**
	comp=Z,78nm,0.9s						
KDU	**Kakadu**	**21.82**	**246**	P	**P**	**13 14 38.0**	**-1.3**
	comp=Z,105nm,0.9s						
SWI	**Sorong**	**21.88**	**278**	P	**P**	**13 14 41.2**	**+1.3**
	comp=Z,1μmcomp=Z,129nm,1.1s						
DZM	**Mont Dzumac**	**22.00**	**145**	P	**P**	**13 14 41.3**	**+0.1**
DZM				IAmb	IAmb	13 14 48.0	
	comp=Z,80nm,1.0s						
DZM	**Mont Dzumac**	**22.00**	**145**	*e*P	**P**	**13 14 40.9**	**-0.3**
	comp=Z,220nm,1.1s						
DZM				*e*S	**S**	**13 18 39.1**	**-4.8**
	comp=Z,196nm,22.4s						
DZM				*e*LR	LR	13 20 03.2	
	comp=Z,1μm,23.1s						
DZM	**Mont Dzumac**	**22.00**	**145**	P	**P**	**13 14 40.3**	**-0.9**
	comp=Z,35nm,0.7s,baz=328,slow=7.5,SNR=48						
	comp=Z,35nm,0.7s						
ONTNC	**Quen Toro**	**22.19**	**145**		**P**	**13 14 41.5**	**-1.7**
RMQ	**Roma**	**22.39**	**190**	P	**P**	**13 14 46.5**	**+1.2**
	comp=Z,67nm,1.2s						
PINNC	**Pines Island,**	**23.00**	**144**		**P**	**13 14 51.6**	**-0.2**
MTN	**Manton Dam**	**23.10**	**247**	P	**P**	**13 14 51.5**	**-1.4**
	comp=Z,33nm,0.8s						
QLP	**Quilpie**	**23.64**

comp=Z,314nm,18.3s,baz=16,slow=37
comp=Z,16nm,0.8s
STKA Stephens Creek 29.39 200 P **P 13 15 49.3 -0.8**
STKA pmax pmax
comp=Z,82nm,0.9s
DAV Davao City (W) 29.52 292 LR LR 13 25 55.6
comp=Z,182nm,20.5s,baz=141,slow=33
BATI Baumata 29.56 257 LR LR 13 29 16.5
comp=Z,773nm,19.8s,baz=98,slow=40
FITZ Fitzroy Crossi 29.97 241 P **P 13 15 53.9 -1.6**
FITZ Fitzroy Crossi 29.97 241 P **P 13 15 53.4 -2.0**
CNB Canberra Magne 31.01 186 P **P 13 16 05.1 +0.6**
comp=Z,62nm,1.8s
EDFI Ende, Flores 31.30 260 P **P 13 16 04.8 -2.6**
comp=Z,12nm,1.2s
BBOO Buckleboo 32.42 207 P **P 13 16 16.1 -0.8**
comp=Z,37nm,0.9s
KAPI Kappang 33.04 267 LR LR 13 31 06.8
comp=Z,190nm,21.0s,baz=84,slow=39
MPSI Mapaga 33.29 277 P P 13 16 29.6 +4.9
comp=Z,29nm,0.9s
ARPS Mount Arapiles 33.85 196 P **P 13 16 29.4 +0.1**
comp=Z,23nm,1.2s
MBWA Marble Bar 36.29 240 P **P 13 16 48.9 -1.7**
MBWA IAmb IAmb 13 16 49.3
comp=Z,16nm,0.8s
MBWA Marble Bar 36.29 240 P **P 13 16 48.4 -2.2**
comp=Z,24nm,0.8s
TGY Tagaytay City 36.60 301 LR LR 13 29 34.5
comp=Z,484nm,20.6s,baz=170,slow=33
MOO Moorlands 38.30 187 P **P 13 17 08.6 +1.3**
comp=Z,164nm,2.5s
JOW Kunigami 39.06 324 P P 13 17 08.8 -5.2
MEEK Meekatharra 39.57 232 P **P 13 17 16.7 -1.5**
comp=Z,45nm,1.1s
KMBL Kambalda 39.66 224 P **P 13 17 14.7 -4.2**
URZ Urewera 40.35 150 LR LR 13 32 05.4
comp=Z,188nm,19.2s,baz=322,slow=33
TKNZ Takaka Hill 40.75 157 P **P 13 17 26.3 -1.5**
BKZ Black Stump Fm 40.76 152 IAmb IAmb 13 17 59.8
comp=Z,35nm,1.3s
MRNZ Matariki Terra 40.99 157 P **P 13 17 29.9 +0.1**
THZ Tophouse 41.35 157 P **P 13 17 31.1 -1.7**
MRZ Mangatainoka R 41.54 154 IAmb IAmb 13 17 41.0
comp=Z,30nm,0.9s
INZ Inchbonnie 41.65 159 IAmb IAmb 13 17 40.4
comp=Z,28nm,0.8s
LTZ Lake Taylor 41.99 159 P **P 13 17 38.8 +0.8**
KHZ Kahutara 42.16 157 P **P 13 17 38.8 -0.5**
JGF Kuroka 42.30 341 P **P 13 17 40.4 -0.3**
JGF IAmb IAmb 13 17 44.2
comp=Z,21nm,0.9s
RPZ Rata Peaks 42.39 160 P **P 13 17 41.6 +0.4**
KLBR Kellerberrin 42.70 226 P **P 13 17 41.6 -2.4**
comp=Z,35nm,0.8s
LBZ Lake Benmore 42.71 162 P **P 13 17 43.8 0.0**
MORW Morawa 42.72 231 P **P 13 17 42.0 -2.1**
comp=Z,26nm,0.9s
MJAR Matsushiro Arr 42.91 343 P **P 13 17 43.6 -1.9**
comp=Z,29nm,1.1s,baz=166,slow=8.3,SNR=34
MJAR LR LR 13 32 25.0
comp=Z,280nm,21.6s,baz=164,slow=32
comp=Z,29nm,1.1s
MAJO Matsushiro 42.91 343 P **P 13 17 43.0 -2.5**
MAJO IAmb IAmb 13 17 47.3
comp=Z,53nm,1.3s
MAJO Matsushiro 42.91 343⇓*i*P **P 13 17 43.0 -2.5**
MAJO pmax pmax
comp=Z,42nm,1.2s
MJB9 Matsu-Tunnel 42.91 343 IAmb IAmb 13 17 48.3
comp=Z,52nm,1.3s
BLDU Ballidu 42.96 228 P **P 13 17 44.1 -2.0**
comp=Z,19nm,0.8s
WHZ Wether Hill Ro 43.44 165 P **P 13 17 49.5 -0.1**
JMM Marumori 43.45 346 P **P 13 17 49.5 -0.3**
NWAO Narrogin (SRO) 43.79 225 LR LR 13 38 17.8
comp=Z,318nm,18.8s,baz=82,slow=39
MUN Mundaring 44.02 227 P **P 13 17 53.6 -1.1**
comp=Z,34nm,1.7s
RKGY Rocky Gully 44.89 223 P **P 13 18 01.2 -0.3**
comp=Z,69nm,2.0s
TJN Taejon 47.00 332 P **P 13 18 17.1 -1.0**
TJN Taejon 47.00 332 P **P 13 18 17.1 -1.0**
KSRS Korea Array 47.62 333 P **P 13 18 22.3 -0.5**
comp=Z,11nm,1.0s,baz=151,slow=8.7,SNR=30
KSRS ScP **ScP 13 23 45.5 -1.0**
comp=Z,2.0nm,1.0s,baz=129,slow=5.3,SNR=6.0
KSRS LR LR 13 37 32.7
comp=Z,74µm,18.7s,baz=155,slow=35
comp=Z,11nm,1.0s
KSAR Wonju Array Be 47.62 333 P **P 13 18 22.4 -0.5**
KSAR Wonju Array Be 47.62 333 P **P 13 18 22.4 -0.5**
INCN Inchon 48.24 332 P **P 13 18 27.7 0.0**
INCN Inchon 48.24 332 P **P 13 18 27.7 0.0**
INCN pmax pmax
comp=Z,129nm,1.2s
QIZ Qiongzhong 48.31 300 P **P 13 18 32.4 +3.9**
QIZ S **S 13 25 28.3 -0.1**
QIZ LR LR
comp=Z,380nm,11.3s
QIZ LR LR
comp=Z,1µm,20.7s
NJ2 Nanjing 48.53 321 *e*P **P 13 18 30.1 +0.1**
NJ2 pmax pmax
comp=Z,33nm,0.8s
RAR Rarotonga 48.89 114 LR LR 13 36 12.5
comp=Z,89nm,22.0s,baz=286,slow=32
ASAJ Asahikawa 49.10 350 LR LR 13 36 49.5
comp=Z,119nm,20.6s,baz=208,slow=33
KSI Kapahiang 50.17 269 P **P 13 18 45.2 +2.2**
USRK Ussuriysk Ar. 51.83 341 P **P 13 18 54.7 -0.1**
comp=Z,7.6nm,0.8s,baz=161,slow=7.7,SNR=11
USRK LR LR 13 39 31.8
comp=Z,79nm,19.6s,baz=168,slow=34
comp=Z,7.6nm,0.8s
YSS Yuzhno-Sakhali 51.84 351⇓*i*P **P 13 18 53.4 -1.4**
YSS pmax pmax
comp=Z,46nm,1.4s
TIA Tai'an 52.39 323 P **P 13 18 59.9 +0.7**
TIA pmax pmax
comp=Z,35nm,1.3s
MDJ Mudanjiang 53.01 339 P **P 13 19 05.0 +1.4**
MDJ pmax pmax
comp=Z,22nm,1.3s
CN2 Changchun 53.90 336 *e*P **P 13 19 11.8 +1.6**
CN2 pmax pmax
comp=Z,20nm,1.3s
HNS HongShan 54.62 323⇓P **P 13 19 17.6 +2.1**
HNS pmax pmax
comp=Z,51nm,1.3s
BNX BinXian 54.76 338⇓P **P 13 19 16.9 +0.5**
BNX pmax pmax
comp=Z,36nm,1.1s
TYV Tymovskoe 55.67 352 *e*P **P 13 19 23.4 +0.6**
TYV pmax pmax
comp=Z,21nm,1.4s
TYV pmax pmax
comp=Z,200nm,5.9s
PEA0B Petropavlovsk- 57.36 3 *e*P **P 13 19 34.8 0.0**
PETK Petropavlovsk- 57.36 3 P **P 13 19 35.5 +0.7**
PETK Petropavlovsk- 57.36 3 P **P 13 19 34.6 -0.3**
comp=Z,22nm,1.1s,baz=132,slow=4.4,SNR=9.3
PETK LR LR 13 39 46.6
comp=Z,140nm,21.6s,baz=181,slow=31
comp=Z,22nm,1.1s
PETK Petropavlovsk- 57.36 3 P **P 13 19 35.5 +0.7**
CMAR Chiang Mai Arr 57.76 295 P **P 13 19 36.8 -1.5**
CMAR Chiang Mai Arr 57.76 295 P **P 13 19 37.5 -0.8**
comp=Z,2.0nm,0.9s,baz=114,slow=5.4,SNR=8.5
CMAR LR LR 13 42 58.0
comp=Z,84nm,21.2s,baz=145,slow=35
comp=Z,2.0nm,0.9s
PPT Papeete 57.78 108 LR LR 13 41 44.9
comp=Z,92nm,19.9s,baz=301,slow=33
PZH PanZhiHua 58.17 305 P **P 13 19 42.6 +1.3**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.3s
XLT XiLinHaoTe 58.30 329 *e*P **P 13 19 43.7 +1.9**
XLT pmax pmax
comp=Z,39nm,1.2s
XLT pmax pmax
comp=Z,360nm,5.2s
HEH HeiHe 58.63 341 *e*P **P 13 19 42.4 -1.4**
HEH pmax pmax

comp=Z,21nm,0.9s
TBI Tubuai 58.67 115 *e*SS SS 13 31 39.4 -2.9
comp=Z,291nm,27.0s
TBI *e*LQ LQ 13 34 25.9
comp=Z,1µm,25.5s
TBI *e*LR LR 13 36 56.8
comp=Z,1µm,27.2s
TBI *e*LR LR 13 36 58.9
comp=Z,2µm,26.5s
HHC Hu-ho-hao-te 58.71 324 *e*P **P 13 19 46.4 +1.7**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,210nm,3.6s
BTO Baotou 59.48 323 *e*P **P 13 19 54.0 +4.0**
BTO pP **sP 13 19 58.8 +1.9**
BTO sP **pP 13 20 01.0 +5.9**
BTO pmax pmax
comp=Z,44nm,1.0s
LZH Lanzhou 60.95 316 *e*P **P 13 20 03.6 +3.3**
LZH PcP **PcP 13 20 46.8 +3.1**
LZH pmax pmax
comp=Z,24nm,1.0s
ZEA Zeya 61.72 343 *e*P **P 13 20 06.5 +1.6**
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 63.72 359 P **P 13 20 16.2 -1.9**
MA2 Magadan 63.72 359 LR LR 13 47 48.1
comp=Z,128nm,19.1s,baz=180,slow=36
MA2 Magadan 63.72 359*d i*P **P 13 20 16.1 -2.1**
MA2 *i* *PP **pP 13 20 19.0 -4.2**
MA2 pmax pmax
comp=Z,9.0nm,0.9s
GTA Gaotai 65.37 317 *e*P **P 13 20 29.4 -0.1**
GTA pP pP 13 20 33.4 -1.2
GTA PP **PP 13 22 58.2 +4.7**
GTA pmax pmax
comp=Z,4.0nm,1.1s
BRDH Bariadhala 65.52 297 LR LR 13 47 19.6
comp=Z,80nm,21.8s,baz=122,slow=34
NIKH Nikolski High 65.54 24 P **P 13 20 29.1 -1.1**
baz=223
ULN Ulaanbaatar 65.64 328 *i* P **P 13 20 29.6 -1.5**
ULN *i* *PP **pP 13 20 33.7 -2.5**
SONM Songino Array 65.97 328 P **P 13 20 32.5 -0.8**
SONM IAmb IAmb 13 20 37.5
comp=Z,14nm,1.0s
SONM Songino Array 65.97 328 P **P 13 20 32.7 -0.5**
comp=Z,20nm,1.2s,baz=139,slow=5.7,SNR=31
SONM PKPPKP **P'P'df 13 49 13.7 +4.9**
comp=Z,1.6nm,0.7s,baz=325,slow=1.8,SNR=5.6
SONM LR LR 13 49 35.3
comp=Z,112nm,18.1s,baz=118,slow=36
comp=Z,20nm,1.2s
TAOE Nuku Hiva Isla 66.60 98 *e*LR LR 13 40 25.7
comp=Z,364nm,27.1s
UNV Unalaska Valle 67.15 25 P **P 13 20 39.7 -0.8**
baz=225
P08K Saint George I 67.99 21 P **P 13 20 44.9 -0.8**
baz=221
SPIA Saint Paul Isl 68.17 21 P **P 13 20 46.2 -0.7**
baz=220
CASY Casey 68.50 197 P **P 13 20 47.9 -0.8**
YAK Yakutsk 68.53 348 LR LR 13 49 23.2
comp=Z,48nm,20.9s,baz=149,slow=35
YAK Yakutsk 68.53 348 *e*P **P 13 20 50.8 +1.9**
YAK *e**PP **pP 13 20 54.1 +0.1**
YAK *e* 13 21 13.0
YAK *e* 13 23 20.7
YAK *e*PPP PPP 13 25 00.8
YAK *e*S **S 13 29 53.5 +3.1**
YAK *e* 13 30 50.6
YAK *e*SS **SS 13 34 18.4 +3.7**
YAK pmax pmax
comp=Z,47nm,1.1s
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,199nm,6.9s
YAK pmax pmax
comp=N,145nm,5.2s
YAK pmax pmax
comp=E,116nm,5.1s
YAK smax smax
comp=N,334nm,5.7s
YAK smax smax
comp=E,112nm,4.3s
BOD Bodaibo 69.38 339 *e*P **P 13 20 55.3 +0.9**
BOD pmax pmax
comp=Z,21nm,1.2s
S12K Black Hills 70.30 25 P **P 13 20 59.2 -0.9**
baz=229
SDPT Sand Point 70.75 26 P **P 13 21 01.7 -1.1**
baz=230
CHNA Chernabura Isl 70.82 27 P **P 13 21 02.6 -0.6**
baz=231
S14K Fog Glacier 71.75 26 P **P 13 21 07.4 -1.6**
baz=231
BILL Bilibino 72.81 5⇓*i*P **P 13 21 17.2 +2.2**
BILL pmax pmax
comp=Z,29nm,1.0s
GAMB Gambell 72.90 16 P **P 13 21 14.6 -0.9**
baz=217
O14K Tigyukauivet M 72.98 23 P **P 13 21 14.6 -1.5**
baz=228
M13K Dall Lake 73.00 21 P **P 13 21 14.9 -1.3**
baz=226
CHIR Chirof Islan 73.22 27 P **P 13 21 16.4 -1.3**
baz=235
N14K Kuskokwak Cree 73.27 22 P **P 13 21 16.7 -1.1**
baz=228
VNDA Vanda 73.30 178 P **P 13 21 18.2 +0.4**
comp=Z,9.3nm,0.7s,baz=328,slow=6.8,SNR=50
comp=Z,9.3nm,0.7s
O15K Ungalikthiuk R 73.49 23 P **P 13 21 18.3 -0.8**
baz=230
K13K Kusilvak Mount 73.62 19 P **P 13 21 19.5 -0.3**
baz=225
M14K Bethel 73.73 21 P **P 13 21 19.6 -0.9**
baz=227
SBA Scott Base 73.85 177 P **P 13 21 22.1 +1.1**
SBA IAmb IAmb 13 21 28.6
comp=Z,20nm,0.9s
SBA Scott Base 73.85 177 P **P 13 21 22.1 +1.1**
SBA pmax pmax
comp=Z,20nm,1.0s
L14K Kuka Creek 73.87 21 IAmb IAmb 13 21 30.7
comp=Z,12nm,0.9s
L14K Kuka Creek 73.87 21 P **P 13 21 20.4 -1.0**
baz=227
R17L Mt. Peulik Vol 73.96 26 P **P 13 21 20.4 -1.6**
baz=234
N15K Kwethluk River 74.03 22 P **P 13 21 21.5 -0.9**
baz=229
P16K Nushagak River 74.13 24 P **P 13 21 22.5 -0.4**
baz=232
M15K Kasigluk River 74.16 22 P **P 13 21 22.1 -0.9**
baz=229
SII Sitkinak Islan 74.30 27 P **P 13 21 23.6 -0.4**
baz=236
L15K Ungalak Mounta 74.52 21 P **P 13 21 24.6 -0.6**
baz=228
Q17K Contact Creek 74.54 25 P **P 13 21 24.4 -1.0**
baz=234
J14K Nanvaranak Lak 74.56 19 P **P 13 21 24.4 -0.9**
baz=226
N16K Nishlik Lake 74.73 23 P **P 13 21 25.2 -1.2**
baz=231
R18K Karluk 74.76 26 P **P 13 21 25.0 -1.6**
baz=235
P17K Kvichak River 74.86 24 P **P 13 21 25.8 -1.3**
baz=233
K15K Wolf Creek Mou 74.93 20 P **P 13 21 27.5 0.0**
K15K IAmb IAmb 13 21 36.9
comp=Z,15nm,0.8s
K15K Wolf Creek Mou 74.93 20 P **P 13 21 26.4 -1.0**
baz=228,SNR=9.9
O17K Koliganek Bris 74.95 24 P **P 13 21 25.7 -2.0**
baz=232
M16K Timber Creek 75.01 22 P **P 13 21 26.1 -1.9**
baz=230,SNR=7.5
OHAK Old Harbor 75.08 27 P **P 13 21 26.6 -1.8**
baz=236

Q18K Katmai Hardscr 75.14 25 P **P 13 21 26.4 -2.5**
baz=234
TNA Tin City 75.31 16 P **P 13 21 27.5 -2.1**
baz=221
N17K Nushagak Hills 75.38 23 P **P 13 21 28.2 -1.9**
baz=232
WMQ Urumqi 75.45 317 *e*P **P 13 21 32.7 +1.7**
P18K Big Mountain, 75.48 25 P **P 13 21 29.4 -1.4**
baz=234
KDAK Kodiak Island 75.71 27 P **P 13 21 30.6 -1.5**
baz=237
O18K Koktuh Hills 75.76 24 P **P 13 21 31.4 -0.9**
baz=234
M17K Holitna River 75.82 22 P **P 13 21 32.4 -0.3**
baz=232
Q19K Cape Douglas, 75.88 25 P **P 13 21 31.6 -1.6**
baz=236
J16K Anvik River 75.91 20 P **P 13 21 31.8 -1.3**
baz=228
L17K Donlin 75.97 21 P **P 13 21 32.2 -1.3**
baz=231
N18K Kilae Creek 75.98 23 IAmb IAmb 13 21 37.0
comp=Z,17nm,1.3s
N18K Kilae Creek 75.98 23 P **P 13 21 32.1 -1.5**
baz=233
G15K Niukluk 76.00 17 P **P 13 21 33.0 -0.6**
baz=225
Q20K Shuyak Island 76.25 26 P **P 13 21 34.2 -0.9**
baz=237
I17K Unalakleet 76.28 19 P **P 13 21 34.3 -0.9**
baz=228
H16K Elim 76.30 18 P **P 13 21 33.9 -1.4**
baz=226
F15K North Star Dit 76.34 17 P **P 13 21 34.4 -1.1**
baz=224
HYB Hyderabad 76.42 289 *e*P **P 13 21 37.4 +0.3**
P19K Oil Pt 76.47 25 P **P 13 21 33.9 -2.5**
P19K Oil Pt 76.47 25 P **P 13 21 35.1 -1.3**
baz=236
M18K Stony River 76.49 23 P **P 13 21 35.0 -1.4**
baz=233
J17K VABM Dome 76.50 20 IAmb IAmb 13 21 44.9
comp=Z,9.8nm,0.9s
J17K VABM Dome 76.50 20 P **P 13 21 34.5 -2.0**
baz=230
L18K Granite Mounta 76.61 22 P **P 13 21 34.9 -2.2**
baz=232,SNR=6.2
N19K Bonanza Creek 76.62 24 P **P 13 21 34.5 -2.9**
baz=235
G16K Koyuk River 76.79 18 P **P 13 21 35.8 -2.3**
baz=226
O20K Slope Mountain 76.96 25 P **P 13 21 37.1 -2.2**
baz=236
HOM Homer 77.14 25 P **P 13 21 37.8 -2.3**
baz=237
H17K Granite Mounta 77.24 19 IAmb IAmb 13 21 44.6
comp=Z,15nm,1.2s
H17K Granite Mounta 77.24 19 P **P 13 21 38.9 -1.8**
baz=229
CNPM China Poot 77.25 26 P **P 13 21 39.8 -1.0**
L19K White Mountain 77.27 22 P **P 13 21 38.8 -2.1**
baz=234
M19K Big River Lodg 77.29 23 P **P 13 21 39.8 -1.2**
baz=234
J18K Innoko River 77.37 21 IAmb IAmb 13 21 44.9
comp=Z,8.9nm,1.1s
J18K Innoko River 77.37 21 P **P 13 21 40.2 -1.2**
baz=232,SNR=8.2
G17K Kiwalik Mounta 77.38 18 P **P 13 21 39.9 -1.5**
baz=228
TIXI Tiksi 77.44 352 P **P 13 21 41.1 -0.4**
TIXI IAmb IAmb 13 21 44.6
comp=Z,13nm,1.4s
TIXI Tiksi 77.44 352 LR LR 13 59 33.3
comp=Z,45nm,18.0s,baz=182,slow=39
TIXI Tiksi 77.44 352*ce*P **P 13 21 42.4 +0.8**
TIXI pmax pmax
comp=Z,9.0nm,1.3s
M20K Styx River 77.76 23 IAmb IAmb 13 21 46.7
comp=Z,9.0nm,1.1s
M20K Styx River 77.76 23 P **P 13 21 42.1 -1.6**
baz=236
L20K Farewell, AK 77.82 22 P **P 13 21 42.3 -1.7**
baz=235,SNR=6.7
F17K Baldwin Pennin 77.84 17 P **P 13 21 41.9 -2.0**
baz=227
C16K Lisburne Hills 78.03 15 P **P 13 21 43.8 -1.1**
baz=223
J19K Poorman 78.08 21 IAmb IAmb 13 21 48.7
comp=Z,14nm,1.4s
J19K Poorman 78.08 21 P **P 13 21 43.7 -1.6**
baz=233,SNR=6.8
E17K Hotham Inlet 78.12 17 P **P 13 21 44.1 -1.4**
baz=226,SNR=5.3
D17K Noatak River 78.20 16 P **P 13 21 44.7 -1.2**
baz=225
K20K Telida 78.26 22 IAmb IAmb 13 21 49.7
comp=Z,8.9nm,1.1s
K20K Telida 78.26 22 P **P 13 21 45.5 -0.8**
baz=234
G18K Tagagawik 78.27 18 P **P 13 21 46.8 +0.4**
G18K IAmb IAmb 13 21 49.7
comp=Z,11nm,1.1s
G18K Tagagawik 78.27 18 P **P 13 21 44.9 -1.4**
baz=230,SNR=9.5
SEW Seward 78.32 26 P **P 13 21 45.2 -1.5**
baz=239
O22K Cooper Landing 78.39 25 P **P 13 21 45.4 -1.7**
baz=239
F18K Selawik 78.42 17 P **P 13 21 45.1 -2.0**
baz=229
SKT Skwentna 78.45 23 P **P 13 21 45.8 -1.7**
baz=237
SUA Susitna One 78.48 24 P **P 13 21 45.4 -2.4**
baz=238
E18K Tukpahlearik C 78.70 17 IAmb IAmb 13 21 58.1
comp=Z,8.6nm,0.9s
E18K Tukpahlearik C 78.70 17 P **P 13 21 46.6 -2.1**
baz=228
PPLA Purkeypile 78.70 22 P **P 13 21 46.6 -2.4**
baz=236
RC01 Rabbit Creek A 78.70 25 IAmb IAmb 13 21 51.7
comp=Z,11nm,1.0s
RC01 Rabbit Creek A 78.70 25 P **P 13 21 46.8 -2.0**
baz=239
J20K Nowinta River 78.71 21 IAmb IAmb 13 21 52.8
comp=Z,16nm,1.2s
J20K Nowinta River 78.71 21 P **P 13 21 46.6 -2.2**
baz=234,SNR=7.8
C17K DeLong Mountai 78.73 15 P **P 13 21 47.1 -1.8**
baz=225
H19K Roundabout Mou 78.74 19 IAmb IAmb 13 21 52.7
comp=Z,19nm,1.1s
H19K Roundabout Mou 78.74 19 P **P 13 21 47.1 -1.8**
baz=232,SNR=12
M22K Willow 78.89 24 IAmb IAmb 13 22 22.6
comp=Z,26nm,1.3s
M22K Willow 78.89 24 P **P 13 21 48.4 -1.4**
baz=238
G19K Purcell Mounta 78.92 19 IAmb IAmb 13 21 53.8
comp=Z,13nm,1.1s
G19K Purcell Mounta 78.92 19 P **P 13 21 48.4 -1.6**
baz=231,SNR=9.8
I20K Naaghedeneel 78.96 20 P **P 13 21 48.5 -1.7**
baz=234
CAST Castle Rocks 79.03 22 P **P 13 21 48.8 -1.8**
baz=236,SNR=6.7
F19K Shaleruckik Mo 79.14 18 IAmb IAmb 13 22 00.4
comp=Z,7.5nm,0.8s
F19K Shaleruckik Mo 79.14 18 P **P 13 21 49.2 -1.9**
baz=230
PWL Port Wells 79.18 25 IAmb IAmb 13 22 00.5
comp=Z,17nm,0.8s
PWL Port Wells 79.18 25 P **P 13 21 49.1 -2.4**
baz=240
CHUM Lake Minchumin 79.20 22 P **P 13 21 49.3 -2.2**
baz=236
PMR Palmer 79.21 24 P **P 13 21 49.3 -2.3**
baz=239
H20K Anotleneega Mo 79.24 20 P **P 13 21 49.5 -2.2**
baz=233,SNR=6.9
Q23K Middleton Isla 79.36 27 P **P 13 21 50.5 -1.9**
baz=242
C18K Utukok River 79.37 16 P **P 13 21 50.7 -1.7**
baz=227
KNK Knik Glacier 79.40 25 P **P 13 21 50.9 -1.8**
baz=240
KTH Kantishna Hill 79.54 22 P **P 13 21 51.2 -2.2**

E19K	**Redstone River**	**79.70**	**17**	IAmb	IAmb	13 22 04.1		
	comp=Z,19nm,0.8s							
E19K	**Redstone River**	**79.70**	**17**	P	**P**	**13 21 52.8**	**-1.4**	
	baz=231							
B18K	**Kokolik River**	**79.71**	**15**	P	**P**	**13 21 52.3**	**-1.9**	
	baz=226							
GLI	**Glacier Island**	**79.72**	**26**	P	**P**	**13 21 52.1**	**-2.3**	
	baz=241							
TRF	**Thorofare Moun**	**79.72**	**22**	P	**P**	**13 21 52.0**	**-2.6**	
	baz=238							
BPAW	**Bear Paw Mtn.**	**79.81**	**22**	IAmb	IAmb	13 21 57.9		
	comp=Z,16nm,1.7s							
BPAW	**Bear Paw Mtn.**	**79.81**	**22**	P	**P**	**13 21 52.7**	**-2.1**	
	baz=237							
IMAR	**Indian Mountai**	**79.90**	**19**	P	**P**	**13 21 54.2**	**-1.1**	
F20K	**Avaraart Lake**	**79.91**	**18**	P	**P**	**13 21 53.0**	**-2.2**	
	baz=232							
MK31	**Makanchi Array**	**80.03**	**319**	*e*P	**P**	**13 21 55.7**	**-0.7**	
MKAR	**Makanchi Array**	**80.03**	**319**		**P**	**13 21 54.0**	**-2.4**	
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**13 21 55.6**	**-0.9**	
	comp=Z,4.0nm,0.9s,baz=100,slow=6.8,SNR=18							
MKAR				PKKPbc	**PKKPbc**	**13 40 41.0**	**-2.2**	
	comp=Z,1.2nm,0.9s,baz=325,slow=1.9,SNR=5.4							
MKAR				PKPPKP	**P'P'df**	**13 48 47.0**	**+2.1**	
	comp=Z,0.5nm,0.9s,baz=290,slow=4.2,SNR=4.1							
MKAR				LR	LR	13 57 11.6		
	comp=Z,80nm,20.0s,baz=78,slow=36							
	comp=Z,4.0nm,0.9s							
H21K	**Melozitna Rive**	**80.03**	**20**	P	**P**	**13 21 53.7**	**-2.3**	
	baz=235							
I21K	**Tanana**	**80.05**	**21**	P	**P**	**13 21 54.0**	**-2.1**	
	baz=236							
SCM	**Sheep Creek Mo**	**80.08**	**25**	IAmb	IAmb	13 22 17.5		
	comp=Z,9.3nm,0.9s							
SCM	**Sheep Creek Mo**	**80.08**	**25**	P	**P**	**13 21 53.8**	**-2.6**	
	baz=241							
C19K	**Lookout Ridge**	**80.11**	**16**	P	**P**	**13 21 54.0**	**-2.4**	
	baz=228							
D19K	**Kuna River**	**80.11**	**16**	IAmb	IAmb	13 22 05.4		
	comp=Z,11nm,0.9s							
D19K	**Kuna River**	**80.11**	**16**	P	**P**	**13 21 54.3**	**-2.2**	
	baz=230							
EYAK	**Cordova Ski Ar**	**80.14**	**26**	P	**P**	**13 21 54.6**	**-2.0**	
	baz=243							
G21K	**Allakaket**	**80.30**	**19**	P	**P**	**13 21 55.6**	**-1.9**	
	baz=234							
MCK	**McKinley**	**80.39**	**23**	IAmb	IAmb	13 22 00.2		
	comp=Z,23nm,1.1s							
MCK	**McKinley**	**80.39**	**23**	P	**P**	**13 21 56.8**	**-1.2**	
	baz=239,SNR=7.1							
DIV	**Divide**	**80.40**	**26**	IAmb	IAmb	13 24 53.3		
	comp=Z,8.3nm,0.7s							
MLY	**Manley**	**80.41**	**21**	P	**P**	**13 21 56.9**	**-1.2**	
	baz=237,SNR=5.9							
KLU	**Klutina**	**80.51**	**25**	IAmb	IAmb	13 22 20.6		
	comp=Z,11nm,1.0s							
KLU	**Klutina**	**80.51**	**25**	P	**P**	**13 21 57.1**	**-1.6**	
	baz=242							
E20K	**Nigu River**	**80.52**	**17**	P	**P**	**13 21 57.0**	**-1.7**	
	baz=232							
RAGM	**Ragged Mountai**	**80.55**	**27**	IAmb	IAmb	13 22 02.4		
	comp=Z,17nm,1.3s							
H22K	**Ishtalitna Cre**	**80.65**	**20**	P	**P**	**13 21 57.9**	**-1.4**	
	baz=237,SNR=5.3							
D20K	**Etivluk River**	**80.68**	**17**	IAmb	IAmb	13 22 03.1		
	comp=Z,10nm,1.1s							
D20K	**Etivluk River**	**80.68**	**17**	P	**P**	**13 21 57.8**	**-1.6**	
	baz=231							
M24K	**Tolsona, Glenn**	**80.69**	**25**	P	**P**	**13 21 57.8**	**-1.9**	
	baz=242							
F21K	**Alatna River**	**80.72**	**19**	IAmb	IAmb	13 22 06.0		
	comp=Z,18nm,1.8s							
F21K	**Alatna River**	**80.72**	**19**	P	**P**	**13 21 58.3**	**-1.4**	
	baz=234							
NEA2	**Nenana**	**80.78**	**22**	IAmb	IAmb	13 22 02.1		
	comp=Z,10.0nm,1.1s							
NEA2	**Nenana**	**80.78**	**22**	P	**P**	**13 21 58.4**	**-1.7**	
	baz=239,SNR=6.8							
ZALV	**Zalesovo Beam**	**80.81**	**326**	P	**P**	**13 21 58.6**	**-1.8**	
	comp=Z,2.6nm,0.8s,baz=104,slow=6.3,SNR=10							
ZALV				LR	LR	13 58 21.7		
	comp=Z,62nm,20.7s,baz=108,slow=36							
	comp=Z,2.6nm,0.8s							
ZALV	**Zalesovo Beam**	**80.81**	**326**	*i* P	**P**	**13 22 01.7**	**+1.3**	
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BMRM	**Bremner River**	**80.84**	**26**	IAmb	IAmb	13 22 07.5		
	comp=Z,18nm,1.4s							
BMRM	**Bremner River**	**80.84**	**26**	P	**P**	**13 21 59.2**	**-1.3**	
	baz=244							
I23K	**Minto, Yukon-K**	**80.96**	**21**	P	**P**	**13 21 59.1**	**-1.9**	
	baz=239							
WRH	**Wood River Hil**	**81.08**	**22**	IAmb	IAmb	13 22 03.8		
	comp=Z,15nm,1.3s							
N25K	**Chitina, Valde**	**81.12**	**25**	IAmb	IAmb	13 22 05.6		
	comp=Z,12nm,1.4s							
N25K	**Chitina, Valde**	**81.12**	**25**	P	**P**	**13 21 59.9**	**-2.2**	
	baz=244							
G22K	**Bettles**	**81.18**	**19**	P	**P**	**13 21 59.6**	**-2.5**	
	baz=236							
HARP	**HAARP**	**81.25**	**25**	P	**P**	**13 22 00.4**	**-2.2**	
	baz=243							
H23K	**Yukon River**	**81.25**	**21**	P	**P**	**13 22 00.5**	**-2.0**	
	baz=238							
E21K	**Killik River**	**81.28**	**17**	IAmb	IAmb	13 22 36.0		
	comp=Z,9.6nm,0.9s							
E21K	**Killik River**	**81.28**	**17**	P	**P**	**13 22 00.6**	**-2.1**	
	baz=234,SNR=5.3							
F22K	**John River**	**81.29**	**19**	P	**P**	**13 22 00.2**	**-2.6**	
	baz=236							
B20K	**Meade River**	**81.35**	**15**	P	**P**	**13 22 00.9**	**-2.0**	
	baz=231							
COLA	**College**	**81.38**	**22**	⇑*i*P	**P**	**13 22 03.6**	**+0.4**	
COLA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
COLA	**College**	**81.38**	**22**	P	**P**	**13 22 01.2**	**-2.0**	
	baz=240							
PAX	**Paxson**	**81.38**	**24**	P	**P**	**13 22 01.0**	**-2.4**	
	baz=243							
GLB	**Gilahina Butte**	**81.39**	**26**	IAmb	IAmb	13 22 06.6		
	comp=Z,19nm,1.3s							
C21K	**Knifeblade Rid**	**81.47**	**17**	P	**P**	**13 22 01.8**	**-1.8**	
	baz=233							
HDA	**Harding Lake**	**81.48**	**22**	P	**P**	**13 22 02.3**	**-1.5**	
	baz=241							
G23K	**Bananza Creek**	**81.56**	**20**	IAmb	IAmb	13 22 07.7		
	comp=Z,12nm,1.4s							
G23K	**Bananza Creek**	**81.56**	**20**	P	**P**	**13 22 02.5**	**-1.7**	
	baz=238							
K24K	**Donnelly Dome**	**81.65**	**23**	P	**P**	**13 22 02.9**	**-1.8**	
	baz=242							
POKR	**Poker Plat Res**	**81.65**	**22**	P	**P**	**13 22 02.6**	**-2.1**	
	baz=240							
ILAR	**Eielson Array**	**81.68**	**22**	P	**P**	**13 22 02.1**	**-2.8**	
ILAR	**Eielson Array**	**81.68**	**22**	P	**P**	**13 22 03.5**	**-1.4**	
	comp=Z,3.6nm,1.0s,baz=263,slow=5.2,SNR=20							
ILAR				LR	LR	13 58 29.3		
	comp=Z,61nm,18.3s,baz=251,slow=36							
	comp=Z,3.6nm,1.0s							
MESA	**MESA**	**81.69**	**27**	P	**P**	**13 22 03.0**	**-2.2**	
	baz=246							
MCARA	**McCarthy VSAT**	**81.71**	**26**	P	**P**	**13 22 03.1**	**-1.9**	
	baz=245							
E22K	**Anaktuvuk Pass**	**81.76**	**18**	IAmb	IAmb	13 22 08.2		
	comp=Z,11nm,1.2s							
E22K	**Anaktuvuk Pass**	**81.76**	**18**	P	**P**	**13 22 03.7**	**-1.6**	
	baz=236,SNR=5.2							
COLD	**Coldfoot**	**81.78**	**19**	P	**P**	**13 22 03.5**	**-1.8**	
	baz=238							
B21K	**Ikpikpuk River**	**81.80**	**16**	P	**P**	**13 22 03.7**	**-1.7**	
	baz=233							
H24K	**Noodor Dome**	**81.85**	**21**	P	**P**	**13 22 03.9**	**-1.9**	
	baz=240							
D22K	**Ayikyak River**	**81.92**	**17**	P	**P**	**13 22 04.1**	**-2.0**	
	baz=235							
RIDG	**Independent Ri**	**81.98**	**23**	IAmb	IAmb	13 22 09.6		
	comp=Z,30nm,1.7s							
RIDG	**Independent Ri**	**81.98**	**23**	P	**P**	**13 22 04.5**	**-2.0**	
	baz=243							
M26K	**Nabesna, AK**	**82.15**	**25**	P	**P**	**13 22 05.5**	**-2.0**	
	baz=245							
J25K	**Salcha River,**	**82.18**	**23**	IAmb	IAmb	13 22 15.6		
	comp=Z,14nm,0.9s							
J25K	**Salcha River,**	**82.18**	**23**	P	**P**	**13 22 05.4**	**-2.2**	
	baz=242,SNR=19							
DOT	**Dot Lake**	**82.26**	**24**	IAmb	IAmb	13 22 16.8		
	comp=Z,8.5nm,0.9s							
L26K	**Log Cabin Wild**	**82.27**	**24**	P	**P**	**13 22 06.0**	**-2.0**	
	baz=244							
CTG	**Chitna Glacier**	**82.28**	**27**	P	**P**	**13 22 06.6**	**-1.7**	
	baz=247							
E23K	**Chandalar**	**82.41**	**19**	IAmb	IAmb	13 22 17.7		
	comp=Z,11nm,1.2s							
E23K	**Chandalar**	**82.41**	**19**	P	**P**	**13 22 06.8**	**-1.9**	
	baz=238							
G24K	**Hadweenzic Riv**	**82.42**	**20**	P	**P**	**13 22 07.0**	**-1.7**	
	baz=240							
SCRK	**Sand Creek**	**82.43**	**23**	P	**P**	**13 22 06.1**	**-2.8**	
	baz=244							
PINM	**Pinnacle**	**82.44**	**28**	P	**P**	**13 22 06.5**	**-2.5**	
	baz=248							
B22K	**Teshekpuk Lake**	**82.56**	**16**	P	**P**	**13 22 07.4**	**-1.9**	
	baz=234							
D23K	**Nanushuk River**	**82.57**	**18**	IAmb	IAmb	13 22 13.1		
	comp=Z,15nm,0.9s							
D23K	**Nanushuk River**	**82.57**	**18**	P	**P**	**13 22 07.1**	**-2.4**	
	baz=237							
M27K	**Edge Creek, AK**	**82.61**	**25**	IAmb	IAmb	13 22 13.5		
	comp=Z,14nm,1.1s							
M27K	**Edge Creek, AK**	**82.61**	**25**	P	**P**	**13 22 07.6**	**-2.3**	
	baz=246							
PNL	**Peninsula**	**82.68**	**28**	P	**P**	**13 22 07.6**	**-2.6**	
	baz=248							
F24K	**Squaw Lake**	**82.69**	**19**	IAmb	IAmb	13 22 17.9		
	comp=Z,5.4nm,0.8s							
F24K	**Squaw Lake**	**82.69**	**19**	P	**P**	**13 22 07.4**	**-2.8**	
	baz=240							
KSH	**Kashi**	**82.69**	**311**	P	**P**	**13 22 12.3**	**+1.4**	
KSH				pP	sP	13 22 17.0	-0.9	
KSH				sP	PcP	13 22 20.9	+5.1	
KSH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
O28M	**Mount Upton**	**82.72**	**27**	P	**P**	**13 22 07.9**	**-2.9**	
	baz=248							
TOLK	**Tolkik Lake Re**	**82.73**	**18**	P	**P**	**13 22 08.0**	**-2.3**	
	baz=238							
E24K	**Your Creek**	**82.78**	**19**	P	**P**	**13 22 08.3**	**-2.3**	
	baz=239							
H25L	**Birch Creek**	**82.79**	**21**	P	**P**	**13 22 08.3**	**-2.2**	
	baz=242							
J26L	**Joseph Creek**	**82.83**	**23**	P	**P**	**13 22 09.1**	**-1.9**	
	baz=244							
L27K	**Beaver Creek,**	**82.92**	**25**	P	**P**	**13 22 09.3**	**-2.1**	
	baz=246							
G25K	**Bearman Lake**	**82.93**	**20**	P	**P**	**13 22 09.2**	**-2.1**	
	baz=242							
BCAR	**Beaver Creek A**	**82.94**	**25**		**P**	**13 22 10.4**	**-1.1**	
YUK3	**Moose Creek**	**82.99**	**26**	P	**P**	**13 22 09.6**	**-2.4**	
	baz=247							
BVCY	**Beaver Creek**	**83.06**	**25**	P	**P**	**13 22 10.0**	**-2.2**	
	baz=247							
C23K	**Itkillik River**	**83.07**	**17**	P	**P**	**13 22 09.8**	**-2.2**	
	baz=237							
YUK8	**Steele Glacier**	**83.11**	**27**	P	**P**	**13 22 10.1**	**-2.6**	
	baz=248							
K27K	**Chicken**	**83.22**	**24**	P	**P**	**13 22 10.9**	**-2.0**	
	baz=246							
D24K	**Happy Valley**	**83.24**	**18**	P	**P**	**13 22 11.3**	**-1.6**	
	baz=239							
O29M	**Mount Kennedy**	**83.29**	**28**	IAmb	IAmb	13 22 16.6		
	comp=Z,13nm,1.3s							
O29M	**Mount Kennedy**	**83.29**	**28**	P	**P**	**13 22 11.8**	**-1.7**	
	baz=245							
I26K	**Coal Creek Min**	**83.34**	**22**	P	**P**	**13 22 11.9**	**-1.5**	
	baz=244							
KURK	**Kurchatov**	**83.45**	**322**	⇓*i*P	**P**	**13 22 13.0**	**-1.3**	
P29M	**Windy Craggy**	**83.45**	**29**	P	**P**	**13 22 12.3**	**-1.9**	
	baz=250							
KURBB	**Kurchatov Arra**	**83.48**	**322**	P	**P**	**13 22 13.7**	**-0.8**	
	comp=Z,4.1nm,1.1s,baz=107,slow=4.3,SNR=13							
KURBB				PKKPbc	**PKKPbc**	**13 40 33.6**	**-1.7**	
	comp=Z,1.0nm,0.8s,baz=288,slow=3.1,SNR=7.5							
KURBB				PKPPKP	**P'P'df**	**13 48 43.8**	**+5.5**	
	comp=Z,0.7nm,0.8s,baz=297,slow=3.1,SNR=5.5							
	comp=Z,4.1nm,1.1s							
F25K	**Christian Rive**	**83.48**	**20**	P	**P**	**13 22 13.4**	**-0.9**	
	baz=242							
C24K	**Franklin Bluff**	**83.57**	**17**	P	**P**	**13 22 13.2**	**-1.3**	
	baz=239							
YUK4	**Talbot Arm**	**83.63**	**27**	P	**P**	**13 22 14.3**	**-1.0**	
	baz=249							
S31K	**Pelican**	**83.64**	**30**	P	**P**	**13 22 13.9**	**-1.2**	
	baz=252							
BMAR	**Burnt Mountain**	**83.77**	**20**		**P**	**13 22 15.2**	**-0.5**	
SIT	**Sitka**	**83.82**	**31**	P	**P**	**13 22 15.0**	**-1.1**	
	baz=252							
G26K	**Porcupine Rive**	**83.83**	**21**	IAmb	IAmb	13 22 25.2		
	comp=Z,10nm,0.9s							
G26K	**Porcupine Rive**	**83.83**	**21**	P	**P**	**13 22 13.9**	**-2.1**	
	baz=244							
HYT	**Haes Junctio**	**83.97**	**28**	IAmb	IAmb	13 22 20.8		
	comp=Z,13nm,1.2s							
HYT	**Haines Junctio**	**83.97**	**28**	P	**P**	**13 22 15.2**	**-1.8**	
	baz=250							
P30M	**Million Dollar**	**83.99**	**28**	P	**P**	**13 22 15.5**	**-1.5**	
	baz=251							
F26K	**Sheenjek River**	**84.04**	**20**	P	**P**	**13 22 15.7**	**-1.3**	
	baz=243							
I27K	**Kandik River**	**84.05**	**22**	P	**P**	**13 22 15.7**	**-1.5**	
	baz=246,SNR=7.1							
PLBC	**Pleasant Camp**	**84.05**	**29**	P	**P**	**13 22 15.8**	**-1.4**	
	baz=251							
D25K	**Kavik River**	**84.08**	**18**	IAmb	IAmb	13 22 29.8		
	comp=Z,6.0nm,0.9s							
D25K	**Kavik River**	**84.08**	**18**	P	**P**	**13 22 16.0**	**-1.2**	
	baz=241							
M29M	**Somme Creek**	**84.11**	**26**	P	**P**	**13 22 16.3**	**-1.3**	
	baz=249							
DAWY	**Dawson**	**84.31**	**24**	IAmb	IAmb	13 22 22.3		
	comp=Z,16nm,1.6s							
DAWY	**Dawson**	**84.31**	**24**	P	**P**	**13 22 16.7**	**-1.9**	
	baz=248,SNR=5.5							
S32K	**Killisnoo**	**84.33**	**31**	P	**P**	**13 22 16.6**	**-2.0**	
	baz=253							
H27K	**Steamboat Moun**	**84.34**	**22**	IAmb	IAmb	13 22 22.4		
	comp=Z,14nm,1.5s							
H27K	**Steamboat Moun**	**84.34**	**22**	P	**P**	**13 22 17.0**	**-1.6**	
	baz=247							
N30M	**Aishikik Lake**	**84.38**	**27**	P	**P**	**13 22 17.8**	**-1.2**	
	baz=250							
AAK	**Ala-Archa**	**84.41**	**313**	*e*P	**P**	**13 22 18.2**	**-1.5**	
AAK				pmax	pmax			
	comp=Z,8.0nm,1.7s							
L29M	**L29M**	**84.49**	**25**	P	**P**	**13 22 17.9**	**-1.6**	
	baz=249							
G27K	**Doyon Strip**	**84.53**	**21**	P	**P**	**13 22 18.1**	**-1.5**	
	baz=246							
CRAG	**Craig**	**84.54**	**33**	P	**P**	**13 22 18.3**	**-1.5**	
	baz=254							
SKAG	**Skagway**	**84.56**	**29**	P	**P**	**13 22 18.7**	**-1.1**	
	baz=252							
R32K	**Eaglecrest**	**84.60**	**30**	P	**P**	**13 22 18.7**	**-1.4**	
	baz=253							
I28M	**Miner Creek**	**84.63**	**23**	IAmb	IAmb	13 22 28.9		
	comp=Z,19nm,1.8s							
I28M	**Miner Creek**	**84.63**	**23**	P	**P**	**13 22 19.3**	**-0.9**	
	baz=247							
U33K	**Whale Pass**	**84.72**	**33**	P	**P**	**13 22 19.1**	**-1.5**	
	baz=254							
C26K	**Camden Bay**	**84.81**	**18**	P	**P**	**13 22 20.2**	**-0.7**	
	baz=242							
M30M	**Minto, Yukon**	**84.88**	**26**	P	**P**	**13 22 20.2**	**-1.3**	
	baz=250							
N31M	**Braeburn, Yuko**	**84.98**	**27**	P	**P**	**13 22 21.2**	**-0.7**	
	baz=252							
K29M	**Barlow Dome**	**85.00**	**25**	IAmb	IAmb	13 22 45.3		
	comp=Z,7.4nm,1.1s							
K29M	**Barlow Dome**	**85.00**	**25**	P	**P**	**13 22 21.0**	**-1.1**	
	baz=250							
C27K	**Jago River**	**85.05**	**18**	P	**P**	**13 22 21.3**	**-0.8**	
	baz=244							
E27K	**Coleen River**	**85.12**	**20**	P	**P**	**13 22 21.8**	**-0.7**	
	baz=246							
WHY	**Whitehorse**	**85.14**	**28**	IAmb	IAmb	13 22 25.7		
	comp=Z,12nm,1.3s							
WHY	**Whitehorse**	**85.14**	**28**	P	**P**	**13 22 21.3**	**-1.5**	
	baz=252							
WRAK	**Wrangell Islan**	**85.21**	**33**	P	**P**	**13 22 22.1**	**-1.1**	
	baz=255							
I29M	**Ogilvie Camp,**	**85.23**	**23**	P	**P**	**13 22 22.2**	**-0.8**	
	baz=249							
V35K	**Ketchikan**	**85.33**	**34**	P	**P**	**13 22 23.0**	**-0.7**	
	baz=256							
P32M	**Atlin**	**85.38**	**29**	P	**P**	**13 22 23.1**	**-0.9**	
	baz=254							
F28M	**Old Crow**	**85.49**	**21**	P	**P**	**13 22 23.4**	**-0.9**	
	baz=247							
H29M	**Whitestone**	**85.51**	**22**	P	**P**	**13 22 23.9**	**-0.6**	
	baz=249							
QSPA	**South Pole Qui**	**85.64**	**180**	P	**P**	**13 22 25.4**	**+0.1**	
QSPA	**South Pole Qui**	**85.64**	**180**	P	**P**	**13 22 25.6**	**+0.3**	
	comp=Z,43nm,1.0s,baz=330,slow=0.7,SNR=70							
	comp=Z,43nm,1.0s							
J30M	**Hart River**	**85.74**	**24**	IAmb	IAmb	13 22 33.5		
	comp=Z,7.9nm,0.9s							
J30M	**Hart River**	**85.74**	**24**	P	**P**	**13 22 24.8**	**-1.0**	
	baz=251,SNR=6.9							
D27M	**Malcolm River**	**85.76**	**19**	P	**P**	**13 22 24.9**	**-0.9**	
	baz=246							
M31M	**Drury Creek, Y**	**85.83**	**27**	IAmb	IAmb	13 22 29.3		
	comp=Z,8.8nm,1.4s							
M31M	**Drury Creek, Y**	**85.83**	**27**	P	**P**	**13 22 25.0**	**-1.2**	
	baz=253							
G29M	**Pine Creek**	**85.89**	**22**	P	**P**	**13 22 24.5**	**-1.9**	
	baz=249							
Q32M	**Nakina River**	**85.92**	**30**	P	**P**	**13 22 25.1**	**-1.8**	
	baz=255							
I30M	**Mount Dempster**	**85.94**	**24**	IAmb	IAmb	13 22 30.0		
	comp=Z,11nm,1.4s							
I30M	**Mount Dempster**	**85.94**	**24**	P	**P**	**13 22 25.2**	**-1.6**	
	baz=251							
E28M	**Babbage River**	**85.99**	**20**	P	**P**	**13 22 25.2**	**-1.6**	
	baz=248							
P33M	**Teslin, Yukon**	**85.99**	**29**	P	**P**	**13 22 25.8**	**-1.3**	
	baz=254							
MAW	**Mawson**	**86.05**	**203**	P	**P**	**13 22 26.4**	**-0.7**	
	comp=Z,18nm,0.7s,baz=88,slow=6.2,SNR=69							
MAW				LR	LR	13 58 18.3		
	comp=Z,115nm,20.6s,baz=93,slow=34							
	comp=Z,18nm,0.7s							
N32M	**Quilet Lake**	**86.12**	**28**	P	**P**	**13 22 26.3**	**-1.3**	
	baz=254							
EPYK	**Eagle Plains**	**86.19**	**22**	P	**P**	**13 22 26.3**	**-1.6**	
	baz=250,SNR=5.6							
S34M	**Telegraph Cree**	**86.23**	**31**	P	**P**	**13 22 26.5**	**-1.7**	
	baz=256							
T35M	**Bob Quinn**	**86.47**	**32**	P	**P**	**13 22 28.5**	**-0.9**	
	baz=257							
D28M	**Stokes Point**	**86.53**	**19**	P	**P**	**13 22 28.1**	**-1.3**	
	baz=248							
G30M	**tAoh Zraii Nji**	**86.58**	**22**	P	**P**	**13 22 28.7**	**-1.1**	
	baz=251							
R33M	**Jennings River**	**86.68**	**30**	P	**P**	**13 22 29.2**	**-1.4**	
	baz=256							
DLBC	**Dease Lake**	**86.93**	**31**	P	**P**	**13 22 30.1**	**-1.6**	
	baz=257							
H31M	**Peel River**	**86.93**	**23**	IAmb	IAmb	13 22 47.4		
	comp=Z,10nm,1.2s							
H31M	**Peel River**	**86.93**	**23**	P	**P**	**13 22 30.3**	**-1.3**	
	baz=253							
F30M	**Barrier River**	**86.95**	**21**	P	**P**	**13 22 30.4**	**-1.2**	
	baz=251							
G31M	**Satah River**	**87.29**	**22**	IAmb	IAmb	13 22 39.6		
	comp=Z,8.5nm,0.8s							
G31M	**Satah River**	**87.29**	**22**	P	**P**	**13 22 32.4**	**-0.8**	
	baz=253							
MMPY	**Sheldon Lake,**	**87.34**	**27**	P	**P**	**13 22 32.8**	**-0.8**	
	baz=256							
KKAR	**Karatay Array**	**87.37**	**313**		**P**	**13 22 32.0**	**-2.1**	
KKAR	**Karatay Array**	**87.37**	**313**	P	**P**	**13 22 32.0**	**-2.1**	
F31M	**Tsiigehtchic**	**87.64**	**22**	P	**P**	**13 22 34.6**	**-0.2**	
	baz=253							
WTLY	**Watson Lake, Y**	**87.91**	**29**	IAmb	IAmb	13 22 40.0		
	comp=Z,9.5nm,1.1s							
WTLY	**Watson Lake, Y**	**87.91**	**29**	P	**P**	**13 22 35.7**	**-0.7**	
	baz=258							
INK	**Inuvik**	**87.98**	**21**	IAmb	IAmb	13 22 39.0		
	comp=Z,8.3nm,1.1s							
INK	**Inuvik**	**87.98**	**21**	LR	LR	14 04 47.3		
	comp=Z,50nm,18.0s,baz=259,slow=38							
INK	**Inuvik**	**87.98**	**21**	P	**P**	**13 22 35.7**	**-0.7**	
	baz=253							
TGTN	**Hyland Airport**	**88.46**	**28**	P	**P**	**13 22 38.5**	**-0.5**	
	baz=258							
YBH	**Yreka Blue Hor**	**88.67**	**48**	LR	LR	13 55 37.4		
	comp=Z,6.7nm,20.7s,baz=280,slow=31							
BVAR	**Borovoye Array**	**88.91**	**323**	P	**P**	**13 22 40.0**	**-1.2**	
	comp=Z,7.6nm,1.0s,baz=104,slow=6.3,SNR=21							
BVAR				LR	LR	14 04 54.2		
	comp=Z,38nm,18.4s,baz=99,slow=37							
	comp=Z,7.6nm,1.0s							
BVAR	**Borovoye Array**	**88.91**	**323**	P	**P**	**13 22 40.0**	**-1.2**	
BRVK	**Borovoye**	**88.98**	**323**	*ce*P	**P**	**13 22 39.6**	**-1.9**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TOAD	**Toad River Com**	**89.47**	**31**	P	**P**	**13 22 43.4**	**-0.3**	
	baz=261							
A36M	**Sachs Harbour**	**91.56**	**18**	P	**P**	**13 22 52.1**	**-1.0**	
	baz=261							
NVAR	**Mina Array Bea**	**91.72**	**52**	P	**P**	**13 22 56.0**	**+1.0**	
	comp=Z,0.9nm,0.9s,baz=272,slow=3.9,SNR=5.1							
	comp=Z,0.9nm,0.9s							
PFO	**Pinyon Flats O**	**92.90**	**57**	LR	LR	13 57 21.2		
	comp=Z,102nm,21.5s,baz=236,slow=31							
SYO	**Syowa Base**	**94.15**	**199**⇑	*e*P	**P**	**13 23 04.4**	**-0.8**	
SYO	**Syowa Base**	**94.15**	**199**⇑	*es*P	sP	13 23 10.4	-1.8	
RPN	**Rapa Nui**	**94.95**	**118**	LR	LR	14 00 49.3		
	comp=Z,50nm,18.2s,baz=280,slow=32							
YKA	**Yellowknife Ar**	**94.96**	**28**	LR	LR	14 01 48.6		
	comp=Z,99nm,20.0s,baz=296,slow=33							
ARTI	**Arti**	**96.07**	**326**	LR	LR	14 08 41.3		
	comp=Z,56nm,19.2s,baz=92,slow=37							
AKTO	**Aktyubinsk**	**96.42**	**320**	LR	LR	14 09 49.0		
	comp=Z,32nm,19.3s,baz=344,slow=37							
BELA	**Belgrano 2**	**97.81**	**178**	P	**P**	**13 23 20.9**	**-0.8**	
LPIG	**La Paz**	**97.95**	**66**	LR	LR	14 00 40.7		
	comp=Z,105nm,20.1s,baz=266,slow=31							
PDAR	**Pinedale Array**	**98.46**	**48**	P	**P**	**13 23 24.2**	**-1.4**	
	comp=Z,0.5nm,0.7s,baz=281,slow=2.4,SNR=4.7							
	comp=Z,0.5nm,0.7s							
RES	**Resolute Bay**	**99.92**	**14**	LR	LR	14 09 37.8

	comp=Z,9.9nm,1.6s								
CONA	**Conrad Observa**	**123.10**	**327**	*i* PKP		**PKPdf**	**13 28 41.9**	**-1.8**
	comp=Z,6.2nm,1.1s								
CKRC	**Cesky Krumlov**	**123.39**	**328**	*e*PKIKP		**PKPdf**	**13 28 43.7**	**-0.4**
CKRC	**Cesky Krumlov**	**123.39**	**328**	*e*PKP		**PKPdf**	**13 28 43.7**	**-0.4**
FNA	**Florina**	**123.41**	**317**			**PKPdf**	**13 28 42.7**	**-1.8**
FNA	**Florina**	**123.41**	**317**	PKIKP		**PKPdf**	**13 28 42.7**	**-1.8**
BO02	**Sierra Bellavi**	**123.44**	**137**			**PKPdf**	**13 28 43.9**	**-0.9**
KHC	**Kasperske Hory**	**123.58**	**329**	⇓*i* PKIKP		**PKPdf**	**13 28 43.6**	**-0.9**
KHC				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KHC	**Kasperske Hory**	**123.58**	**329**	*e*PKP		**PKiKP**	**13 28 46.7**	**+1.9**
ARSA	**Arzberg**	**123.68**	**326**	*e*PKP		**PKPdf**	**13 28 42.8**	**-2.0**
	comp=Z,1.8nm,0.6s								
GERES	**GERESS Array B**	**123.69**	**329**	PKP		**PKPdf**	**13 28 43.8**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=34,slow=0.5,SNR=15								
MOA	**Molln**	**124.01**	**328**	*e*PKP		**PKPdf**	**13 28 43.4**	**-1.9**
	comp=Z,4.6nm,1.1s								
SOKA	**Soboth**	**124.29**	**326**	*i* PKP		**PKPdf**	**13 28 44.2**	**-1.8**
	comp=Z,8.2nm,1.4s								
BIOA	**Bad Ischl, Aus**	**124.44**	**328**	*e*PKP		**PKPdf**	**13 28 44.3**	**-1.9**
	comp=Z,3.5nm,1.0s								
OBKA	**Obir**	**124.66**	**326**	*e*PKP		**PKPdf**	**13 28 45.5**	**-1.2**
	comp=Z,1.1nm,0.5s								
KBA	**Koelnbreinsper**	**124.98**	**327**	*i* PKP		**PKPdf**	**13 28 45.6**	**-1.9**
	comp=Z,5.7nm,1.2s								
MYKA	**Terra Mystica**	**125.09**	**327**	*i* PKiKP		**PKPdf**	**13 28 47.3**	**-0.3**
	comp=Z,7.4nm,1.6s								
LESA	**Schwarzleotal**	**125.12**	**328**	*e*PKP		**PKPdf**	**13 28 46.5**	**-1.1**
	comp=Z,5.7nm,0.8s								
ABTA	**Abfaltersbach**	**125.63**	**327**	*e*PKP		**PKPdf**	**13 28 46.9**	**-1.7**
	comp=Z,8.3nm,1.0s								
WATA	**Walderalm**	**125.75**	**328**	*e*PKP		**PKPdf**	**13 28 47.0**	**-1.8**
	comp=Z,9.5nm,1.0s								
WTTA	**Wattenberg**	**125.77**	**328**	*e*PKP		**PKPdf**	**13 28 47.5**	**-1.4**
	comp=Z,11nm,0.8s								
STAL	**STALIGIAL**	**125.82**	**327**			**PKPdf**	**13 28 47.7**	**-1.2**
MOTA	**Moosalm**	**125.99**	**329**	*i* PKP		**PKPdf**	**13 28 47.5**	**-1.8**
	comp=Z,14nm,1.1s								
SQTA	**Sankt Quirin**	**126.02**	**328**	*e*PKiKP		**PKPdf**	**13 28 48.6**	**-0.7**
	comp=Z,5.4nm,0.6s								
FETA	**Feichten**	**126.40**	**329**	*e*PKP		**PKPdf**	**13 28 48.6**	**-1.5**
	comp=Z,9.9nm,1.0s								
LCO	**Las Campanas**	**126.62**	**131**			**PKPdf**	**13 28 51.0**	**-0.3**
LCO	**Las Campanas**	**126.62**	**131**	PKIKP		**PKPdf**	**13 28 51.0**	**-0.3**
ZON	**Zonda**	**126.73**	**135**			**PKPdf**	**13 28 50.8**	**-0.3**
ZON	**Zonda**	**126.73**	**135**	PKIKP		**PKPdf**	**13 28 50.8**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**126.90**	**328**			**PKPdf**	**13 28 50.7**	**-0.6**
TUE	**Stuetta**	**127.47**	**329**			**PKPdf**	**13 28 51.2**	**-1.0**
RUSC	**La Rusia**	**134.19**	**86**			**PKPdf**	**13 29 04.1**	**-2.2**
LPAZ	**La Paz**	**134.56**	**118**	PKP		**PKPdf**	**13 29 07.2**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=209,slow=0.8,SNR=17								
LPAZ				SKPbc		**SKPab**	**13 32 38.6**	**-1.5**
	comp=Z,5.0nm,0.8s,baz=303,slow=3.2,SNR=11								
CPUP	**Villa Florida**	**137.75**	**138**	PKP		**PKPdf**	**13 29 11.4**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=118,slow=3.4,SNR=3.5								
ESDC	**Sonseca Array**	**139.05**	**332**	PKP		**PKPdf**	**13 29 13.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=33,slow=2.9,SNR=4.5								
PTLB	**Pontes e Lacer**	**142.70**	**122**			**PKPdf**	**13 29 19.8**	**-1.3**
SPB	**Sao Paulo**	**145.90**	**145**			**PKPdf**	**13 29 25.8**	**-0.8**
BOAV	**Boa Vista**	**146.59**	**92**			**PKPdf**	**13 29 28.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.24**	**289**	PKPdf		**PKPdf**	**13 29 32.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**150.24**	**289**	PKPbc		**PKPbc**	**13 29 37.1**	**-1.9**
	comp=Z,16nm,0.9s,baz=40,slow=3.3,SNR=9.5								
BDFB	**Brasilia**	**151.33**	**134**	PKPbc		**PKPbc**	**13 29 40.0**	**-1.7**
	comp=Z,54nm,0.7s,baz=305,slow=0.5,SNR=26								
BDFB	**Brasilia**	**151.33**	**134**	PKIKP		**PKPbc**	**13 29 40.0**	**-1.7**

*UCR **09** 13:13:39.8±1.3, 12°.35N×87°.87W, h87km±26km, MW4.0*
*CATAC **09** 13:13:39.4±0.3, 12°N±2°×87°.8W±°, h14km±1km, M3.8/36, MLv3.8/36, Error ellipse: s-maj=4.0km s-min=1.7km az=31.8, confirmed*
*IDC **09** 13:13:40.1±2.1, 12°.87N×87°.49W, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, MS2.7/1, Error ellipse: s-maj=237.0km s-min=22.9km az=48.0*
*SNET **09** 13:13:42.7±2.4, 12°.31N×87°.84W, h29km, ML3.5*

ISC 09 13:13:39.4±1.4, 12°23N±0°.03×87°.88W±0°.03, h13km±9km, n97, σ0°86/116, mb3.3/3, 12C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.81**	**22**	*e*P	**Pn**	**13 13 56.2**	**-0.4**
CSGN				*e*S	**Sn**	**13 14 08.4**	**-0.2**
CSGN	**Cosiguina Volc**	**0.81**	**22**	⇑P	**Pb**	**13 13 56.1**	**+0.7**
CSGN				S	**Sn**	**13 14 08.1**	**-0.5**
POTN	**Potosi Cosigui**	**0.85**	**25**	*e*P	**Pn**	**13 13 56.7**	**-0.3**
POTN				*e*S	**Sn**	**13 14 08.5**	**-1.0**
POTN	**Potosi Cosigui**	**0.85**	**25**	⇑P	**Pn**	**13 13 56.8**	**-0.3**
POTN				S	**Sn**	**13 14 09.2**	**-0.3**
CRIN	**San Cristobal**	**0.94**	**60**	*e*P	**Pn**	**13 13 58.7**	**+0.4**
CRIN				*e*S	**Sn**	**13 14 13.0**	**+1.3**
CRIN	**San Cristobal**	**0.94**	**60**	⇑P	**Pn**	**13 13 58.4**	**+0.1**
ALEN	**Leon**	**1.01**	**77**	S	**Sg**	**13 14 12.3**	**+0.3**
ALEN	**Leon**	**1.01**	**77**	P	**Pb**	**13 13 57.8**	**-1.0**
CNCH	**Conchagua**	**1.05**	**2**	*e*P	**Pg**	**13 13 59.8**	**+0.2**
CNCH				*e*S	**Sn**	**13 14 15.0**	**+0.5**
CNCH	**Conchagua**	**1.05**	**2**	P	**Pb**	**13 13 59.6**	**+0.1**
CNCH	**Conchagua**	**1.05**	**2**	S	**Sn**	**13 14 14.9**	**+0.5**
LCND	**La Caada**	**1.08**	**359**	⇓P	**Pb**	**13 14 00.2**	**+0.2**
LCND				*e*S	**Sn**	**13 14 16.5**	**+1.4**
LCND	**La Caada**	**1.08**	**359**	⇓P	**Pb**	**13 14 00.2**	**+0.2**
POLN	**Al Sur del Vol**	**1.12**	**68**	⇑P	**Pb**	**13 14 00.0**	**-0.6**
POLN				S	**Sb**	**13 14 14.8**	**-0.4**
PLRN	**Geotermica Pol**	**1.14**	**72**	P	**Pb**	**13 14 00.6**	**-0.4**
PLRN				S	**Sn**	**13 14 16.4**	**-0.2**
ROCN	**Rota Cerro Neg**	**1.14**	**75**	⇑P	**Pb**	**13 14 00.6**	**-0.5**
CNGA	**Al SSO del Vol**	**1.18**	**77**	P	**Pn**	**13 14 01.0**	**-0.6**
CNGA				S	**Sn**	**13 14 17.6**	**-0.1**
CNGN	**Cerro Negro**	**1.18**	**76**	P	**Pn**	**13 14 00.6**	**-1.2**
CNGN	**Cerro Negro**	**1.18**	**76**	S	**Sg**	**13 14 18.2**	**+0.7**
COPN	**Copaltepe**	**1.26**	**92**	⇑*e*P	**Pn**	**13 14 02.0**	**-0.7**
COPN				*e*S	**Sb**	**13 14 18.7**	**-0.4**
COPN	**Copaltepe**	**1.26**	**92**	⇑P	**Pn**	**13 14 02.1**	**-0.6**
LCY	**Lacayo**	**1.26**	**341**	*e*P	**Pn**	**13 14 02.4**	**-0.5**
BLLM	**Bellamira**	**1.26**	**344**	*e*P	**Pn**	**13 14 02.7**	**-0.2**
CNRM	**Centro Naciona**	**1.27**	**347**	S	**Sg**	**13 14 20.4**	**-0.2**
PACA	**Pacayal**	**1.31**	**341**	P	**Pn**	**13 14 03.6**	**0.0**
PACA	**Pacayal**	**1.31**	**341**	S	**Sg**	**13 14 22.1**	**+0.3**
BC84	**Volcan Momotom**	**1.32**	**83**	P	**Pn**	**13 14 03.7**	**+0.2**
BC84	**Volcan Momotom**	**1.32**	**83**	S	**Sb**	**13 14 20.5**	**-0.3**
MOMN	**Momotombo**	**1.32**	**82**	⇑P	**Pn**	**13 14 02.9**	**-0.7**
MOMN				S	**Sb**	**13 14 20.8**	**-0.2**
MOM2	**El Cardon**	**1.38**	**81**	⇑P	**Pn**	**13 14 03.9**	**-0.4**
MOM2				S	**Sb**	**13 14 22.9**	**+0.4**
AMTN	**Mateare**	**1.41**	**89**	S	**Sb**	**13 14 23.6**	**0.0**
AMTN	**Mateare**	**1.41**	**89**	P	**Pn**	**13 14 04.5**	**-0.3**
CHOHN	**Orocuina**	**1.43**	**29**	⇑P	**Pn**	**13 14 05.0**	**-0.2**
CHOHN	**Orocuina**	**1.43**	**29**	S	**Sb**	**13 14 24.4**	**+0.1**
SAPS	**Ciudad Sandino**	**1.44**	**92**	P	**Pn**	**13 14 04.9**	**-0.4**
SAPS	**Ciudad Sandino**	**1.44**	**92**	S	**Sn**	**13 14 24.2**	**+0.1**
APQ2	**Apoyeque**	**1.52**	**91**	S	**Sn**	**13 14 25.1**	**-0.8**
ALLN	**Telcor Managua**	**1.57**	**92**	S	**Sn**	**13 14 27.2**	**0.0**
TISN	**Laguna Tiscapa**	**1.57**	**93**	P	**Pn**	**13 14 06.2**	**-0.9**
UNAN	**Cigeo UNAN**	**1.57**	**94**	P	**Pn**	**13 14 06.7**	**-0.4**
UNAN				S	**Sb**	**13 14 27.9**	**-0.4**
TECO	**Alcaldia de Te**	**1.57**	**326**	P	**Pn**	**13 14 07.2**	**+0.1**
R4DEC	**Barrio San Lui**	**1.59**	**93**	S	**Sn**	**13 14 27.8**	**0.0**
R4DEC	**Barrio San Lui**	**1.59**	**93**	P	**Pn**	**13 14 06.9**	**-0.4**
MGAN	**Managua**	**1.59**	**93**	*e*P	**Pn**	**13 14 07.0**	**-0.4**
MGAN				*e*S	**Sn**	**13 14 27.6**	**-0.2**
MGAN	**Managua**	**1.59**	**93**	P	**Pn**	**13 14 07.1**	**-0.2**
UESV	**Universidad de**	**1.66**	**328**	S	**Sb**	**13 14 30.2**	**-0.6**
AERN	**Aeropuerto Man**	**1.67**	**93**	S	**Sn**	**13 14 30.4**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.69**	**331**	P	**Pn**	**13 14 09.0**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.69**	**331**	S	**Sb**	**13 14 31.3**	**-0.3**
NANN	**Nandasmo**	**1.74**	**99**	S	**Sn**	**13 14 32.2**	**+0.7**
NANN	**Nandasmo**	**1.74**	**99**	P	**Pn**	**13 14 10.3**	**+0.9**
PAVA	**Las Pavas**	**1.81**	**325**	S	**Sn**	**13 14 33.8**	**+0.5**
PAVA	**Las Pavas**	**1.81**	**325**	P	**Pn**	**13 14 11.3**	**+0.9**
NADN	**Granada**	**1.86**	**104**	P	**Pn**	**13 14 10.4**	**-0.7**
LOMA	**Loma Larga**	**1.89**	**318**	P	**Pn**	**13 14 10.7**	**-0.9**
LOMA	**Loma Larga**	**1.89**	**318**	S	**Sn**	**13 14 36.1**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.91**	**18**	P	**Pb**	**13 14 13.1**	**-1.1**
MARCA	**Marcala la Paz**	**1.93**	**355**	P	**Pn**	**13 14 13.3**	**+1.2**
MARCA	**Marcala la Paz**	**1.93**	**355**	S	**Sb**	**13 14 37.6**	**-1.0**
OCON	**Estacion meteo**	**1.95**	**44**	P	**Pn**	**13 14 12.6**	**+0.3**
OCON				S	**Sb**	**13 14 38.1**	**-1.1**
YUSH	**Yuscaran**	**1.99**	**30**	⇑P	**Pn**	**13 14 13.3**	**+0.3**
MATN	**Matagalpa**	**2.03**	**70**	⇓P	**Pn**	**13 14 13.1**	**-0.3**
PMON	**Piamonte**	**2.04**	**317**	S	**Sb**	**13 14 40.4**	**-1.4**
JAYA	**Jayaque - finc**	**2.09**	**313**	P	**Pn**	**13 14 14.7**	**+0.3**
RCVN	**Varillal2**	**2.12**	**50**	P	**Pn**	**13 14 15.6**	**+0.8**
RCVN	**Varillal2**	**2.12**	**50**	S	**Sn**	**13 14 42.3**	**+1.1**
RCPN	**Sur Rio San Ju**	**2.17**	**53**	S	**Sn**	**13 14 43.3**	**+1.1**
RCPN	**Sur Rio San Ju**	**2.17**	**53**	P	**Pn**	**13 14 16.0**	**+0.7**
BOAB	**BOACO BROADBAN**	**2.17**	**84**	P	**Pn**	**13 14 15.0**	**-0.3**
BOAB	**BOACO BROADBAN**	**2.17**	**84**	S	**Sn**	**13 14 43.2**	**+1.1**
JAPN	**AI SSO del Vol**	**2.26**	**108**	*e*P	**Pn**	**13 14 16.4**	**-0.1**
JAPN	**AI SSO del Vol**	**2.26**	**108**	P	**Pn**	**13 14 16.7**	**+0.2**
MORN	**AI O del Volca**	**2.28**	**107**	⇑P	**Pn**	**13 14 16.8**	**-0.1**
MORN				S	**Sn**	**13 14 45.3**	**+0.4**
NUBE	**Las Nubes**	**2.50**	**312**	S	**Sn**	**13 14 49.9**	**-0.5**
NUBE	**Las Nubes**	**2.50**	**312**	P	**Pn**	**13 14 19.8**	**-0.1**
CARN	**Rivas**	**2.52**	**114**	*e*P	**Pn**	**13 14 20.0**	**-0.2**
CARN	**Rivas**	**2.52**	**114**	P	**Pn**	**13 14 20.5**	**+0.3**
CARN				S	**Sn**	**13 14 51.1**	**+0.2**
MTO3	**Montecristo**	**2.60**	**326**	P	**Pn**	**13 14 21.5**	**+0.1**
ACON	**Acoyapa**	**2.66**	**95**	*e*P	**Pn**	**13 14 20.6**	**-1.4**
ACON	**Acoyapa**	**2.66**	**95**	P	**Pn**	**13 14 21.0**	**-1.0**
ACON	**Acoyapa**	**2.66**	**95**	S	**Sn**	**13 14 54.5**	**+0.4**
LAPC	**Finca la Perla**	**2.80**	**121**	*e*P	**Pn**	**13 14 24.3**	**+0.3**
ALIBA	**Liberia Airpor**	**2.80**	**125**	*e*P	**Pb**	**13 14 28.1**	**-1.3**
VRLE	**La Escondida,**	**2.84**	**120**	*e*P	**Pn**	**13 14 24.5**	**-0.2**
MESS	**Mesas**	**3.01**	**119**	*e*P	**Pn**	**13 14 22.9**	**-4.1**
COLC	**Colonia**	**3.04**	**120**	*e*P	**Pn**	**13 14 27.7**	**+0.4**
JUD3	**Juan Diaz 3**	**3.07**	**132**	*e*P	**Pn**	**13 14 27.0**	**-0.8**
TENO	**El Achiote**	**3.22**	**118**	*e*P	**Pn**	**13 14 30.5**	**+0.7**
TIMP	**Tierras Morena**	**3.24**	**120**	*e*P	**Pn**	**13 14 30.5**	**+0.3**
JTS	**Las Juntas de**	**3.45**	**124**	Pn	**Pn**	**13 14 36.1**	**+3.2**
	4.9nm,0.3s,baz=304,slow=13,SNR=11								
JTS				Sn	**Sb**	**13 15 22.4**	**0.0**
	6.4nm,0.3s,baz=136,slow=21,SNR=6.8								
JTS				LR	LR	13 16 21.4			
	comp=Z,93nm,19.1s,baz=284,slow=45 11nm,0.3s								
JTS	**Las Juntas de**	**3.45**	**124**	*e*P	**Pn**	**13 14 33.5**	**+0.5**
VARE2	**V. Arenal**	**3.56**	**119**	*e*P	**Pn**	**13 14 35.6**	**+1.1**
PIEC	**Cerro El Cedra**	**4.64**	**124**	*e*P	**Pn**	**13 14 51.7**	**+2.3**
DRK0	**Durika**	**5.42**	**122**	*e*P	**Pn**	**13 15 02.4**	**+2.3**
TXAR	**Lajitas Array**	**22.49**	**322**	P	**P**	**13 18 37.9**	**-0.9**
	2.2nm,0.8s,baz=138,slow=11,SNR=22 2.2nm,0.8s								
PDAR	**Pinedale Array**	**35.77**	**332**	P	**P**	**13 20 37.8**	**-0.8**
	0.3nm,0.7s,baz=123,slow=11,SNR=4.0 0.3nm,0.7s								
NVAR	**Mina Array Bea**	**37.60**	**319**	P	**P**	**13 20 55.8**	**+1.6**
	0.1nm,0.4s,baz=120,slow=8.3,SNR=2.2 0.1nm,0.4s								

*IDC **09** 13:40:22.2±7.5, 21°.89N×143°.98E, h234km±60km, mb3.7/10, mbtmp4.2/10, Error ellipse: s-maj=83.3km s-min=17.5km az=78.0*
*NEIC **09** 13:40:25.4±0.4, 22°.0N±0°.1×143°.9E±0°.2, h257km±10km, mb4.2/10, Error ellipse: s-maj=25.1km s-min=12.1km az=114.0*

ISC 09 13:40:23.9±1.0, 21°.9N±0°.1×144°.0E±0°.2, h250km, n27, σ0°51/28, mb3.9/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**11.76**	**343**	Pn	**Pn**	**13 43 03.0**	**-1.4**
JMZ	**Minamidaito 2**	**12.28**	**291**		**P**	**13 43 13.7**	**+0.1**
JTM	**Tenmabayashi**	**18.99**	**353**	P	**P**	**13 44 27.2**	**+0.1**
KSRS	**Korea Array**	**20.79**	**322**	P	**P**	**13 44 46.0**	**-0.2**
	3.1nm,0.8s,baz=146,slow=8.5,SNR=25 3.1nm,0.8s								
KS19	**Wonju Array Si**	**20.86**	**322**	P	**P**	**13 44 47.7**	**+0.7**
KS19				IAmb	IAmb	13 44 49.8			
	comp=Z,8.0nm,1.1s								
SONM	**Songino Array**	**39.64**	**320**	P	**P**	**13 47 31.9**	**+0.2**
SONM	**Songino Array**	**39.64**	**320**	P	**P**	**13 47 31.7**	**0.0**
	comp=Z,0.8nm,0.5s,baz=138,slow=8.8,SNR=3.4 comp=Z,0.8nm,0.5s								
WRA	**Warramunga Arr**	**42.63**	**193**	P	**P**	**13 47 55.2**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=13,slow=8.4,SNR=1.4								
KULM	**Kulim**	**45.00**	**255**	P	**P**	**13 48 14.7**	**-0.4**
KULM				IAmb	IAmb	13 48 55.9			
	comp=Z,31nm,1.3s								
ASAR	**Alice Springs**	**46.33**	**193**	P	**P**	**13 48 25.5**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=20,slow=11,SNR=1.6								
EVN	**Everest**	**51.77**	**289**	P	**P**	**13 49 06.9**	**-0.3**
ZALV	**Zalesovo Beam**	**54.50**	**321**	P	**P**	**13 49 25.4**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=115,slow=7.0,SNR=5.1 comp=Z,1.1nm,0.3s								
MKAR	**Makanchi Array**	**55.09**	**312**	P	**P**	**13 49 30.3**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=95,slow=9.4,SNR=12								
MKAR				PcP	**pwP**	**13 50 28.2**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=74,slow=4.7,SNR=7.6 comp=Z,1.2nm,0.6s								
KURK	**Kurchatov**	**57.81**	**317**	P	**P**	**13 49 49.5**	**+0.2**
KURK				IAmb	IAmb	13 49 49.8			
	comp=Z,4.9nm,0.9s								
KURBB	**Kurchatov Arra**	**57.86**	**317**	P	**P**	**13 49 49.5**	**-0.1**
	comp=Z,5.9nm,0.6s,baz=92,slow=7.6,SNR=67 comp=Z,5.9nm,0.6s								
BVAR	**Borovoye Array**	**62.98**	**319**	P	**P**	**13 50 24.4**	**+0.3**
	comp=Z,5.7nm,0.5s,baz=92,slow=7.0,SNR=25 comp=Z,5.7nm,0.5s								
BRVK	**Borovoye**	**63.05**	**319**	P	**P**	**13 50 25.1**	**+0.6**
BRVK				IAmb	IAmb	13 50 25.7			
	comp=Z,3.6nm,0.7s								
KKAR	**Karatay Array**	**63.49**	**308**	P	**P**	**13 50 28.0**	**+0.3**
AB31	**Akbulak array**	**69.90**	**316**	P	**P**	**13 51 08.1**	**+0.2**
AB31				IAmb	IAmb	13 51 08.6			
	comp=Z,2.8nm,0.7s								
ABKAR	**Akbulak array**	**69.90**	**316**	P	**P**	**13 51 08.0**	**+0.1**
LTY	**Liberty**	**77.75**	**44**	P	**P**	**13 51 53.7**	**+0.2**
LTY				IAmb	IAmb	13 51 54.9			
	comp=Z,2.5nm,0.9s								
ARCES	**ARCESS Array B**	**78.96**	**342**	P	**P**	**13 51 59.9**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=74,slow=8.9,SNR=4.4 comp=Z,2.3nm,0.8s								
KBZ	**Khabaz**	**82.74**	**314**	P	**P**	**13 52 20.3**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=110,slow=3.6,SNR=5.2 comp=Z,2.7nm,0.8s								
FIA1	**FINESS Array S**	**83.31**	**335**	P	**P**	**13 52 22.9**	**+0.4**
FINES	**FINESS Array B**	**83.31**	**335**	P	**P**	**13 52 22.8**	**+0.3**
FINES	**FINESS Array B**	**83.31**	**335**	P	**P**	**13 52 22.7**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=65,slow=3.4,SNR=15 comp=Z,1.3nm,0.5s								
HFS	**Hagfors**	**88.82**	**338**	P	**P**	**13 52 49.1**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=64,slow=6.8,SNR=6.7 comp=Z,0.5nm,0.4s								

IDC 09 14:03:54.8±353.0, 49°.28N×45°.58E, h0km, Error ellipse: s-maj=147.9km s-min=128.7km az=4.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.13**	**77**	I	I	14 52 40.0	
	baz=267,slow=311,SNR=0.6						
I43RU	**DUBNA INFRASON**	**8.99**	**329**	I	I	14 57 40.0	
	baz=142,slow=330,SNR=1.7						
I26DE	**FREYUNG INFRAS**	**20.81**	**281**	I	I	16 08 30.0	
	baz=79,slow=312,SNR=1.4						
I37NO	**I37NO**	**23.80**	**336**	I	I	16 29 30.0	
	baz=133,slow=322,SNR=0.5						

*IDC **09** 14:20:32.1±1.5, 32°.45N×132°.24E, h0km, mb3.5/2, mbtmp3.4/4, ML2.9/2, MS3.3/1, Error ellipse: s-maj=31.6km s-min=13.8km az=44.0*
*NIED **09** 14:20:35.4±0.0, 32°.59N×132°.26E, h32km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=0.70; Mθθ-0.88; Mϕϕ1.57; Mrθ1.24; Mθϕ-0.84; Mϕr 3.31; Fault plane solution: Mo3.88000×10¹⁴ NP1: ϕs304.00000°, δ22.00000°, λ-164.00000°. NP2: ϕs199.00000°, δ84.00000°, λ-68.00000°.*
*JMA **09** 14:20:35.4±0.0, 32°.6N±0°.2×132°.3E±0°.1, h32km, MD3.7/34, MV3.9/34, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .

ISC 09 14:20:34.8±1.2, 32°.58N±0°.05×132°.25E±0°.04, h27km±12km, n23, σ0°71/24, 7D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSKE	**Saikikamae**	**0.37**	**308**	⇓*i*P	**Pn**	**14 20 43.6**	**-0.7**
JSKE				⇓S	**Sn**	**14 20 49.4**	**-1.2**
JSKE	**Saikikamae**	**0.37**	**308**	A	A	14 20 43.6	
	comp=N,8.0nm,0.6s,comp=E,16nm,0.7s						
JHHC	**Hyugahichiya**	**0.53**	**256**	*i* P	**Pn**	**14 20 46.1**	**-0.5**
JHHC				S	**Sn**	**14 20 54.0**	**-0.7**
JHHC	**Hyugahichiya**	**0.53**	**256**	A	A	14 20 46.1	
	comp=N,9.0nm,0.6s,comp=E,12nm,0.4s						
JTO	**Tosashimizu**	**0.55**	**59**	⇓*i*P	**Pn**	**14 20 46.2**	**-0.7**
JTO				⇓S	**Sb**	**14 20 53.6**	**+0.2**
JTO	**Tosashimizu**	**0.55**	**59**	A	A	14 20 46.2	
	comp=N,9.0nm,1.2s,comp=E,7.0nm,0.8s						
JUS	**Usuki**	**0.64**	**320**	*i* P	**Pn**	**14 20 47.9**	**-0.3**
JUS				S	**Sn**	**14 20 57.0**	**-0.5**
JUS	**Usuki**	**0.64**	**320**	A	A	14 20 47.9	
	comp=N,12nm,0.3s,comp=E,8.0nm,0.9s						
JKIT	**Kitakata**	**0.67**	**274**	P	**Pn**	**14 20 48.4**	**-0.1**
JKIT				S	**Sn**	**14 20 57.7**	**-0.5**
JKIT	**Kitakata**	**0.67**	**274**	A	A	14 20 48.4	
	comp=N,6.0nm,0.4s,comp=E,7.0nm,0.5s						
JTSN	**Tsuno**	**0.71**	**243**	*i* P	**Pn**	**14 20 48.9**	**-0.1**
JTSN				S	**Sn**	**14 20 58.9**	**-0.2**
JTSN	**Tsuno**	**0.71**	**243**	A	A	14 20 48.9	
	comp=N,5.0nm,1.1s,comp=E,2.0nm,0.5s						
UWA2	**Uwa jima 2**	**0.71**	**26**	⇓*i*P	**Pb**	**14 20 48.5**	**-0.2**
UWA2				⇓S	**Sb**	**14 20 57.9**	**-0.2**
JNA	**Nagahama**	**1.00**	**11**	*i* P	**Pn**	**14 20 52.7**	**-0.4**
JKU	**Kubokawa**	**1.00**	**43**	⇓*i*P	**Pn**	**14 20 52.8**	**-0.4**
JTZ	**Takazaki**	**1.19**	**236**	*i* P	**Pb**	**14 20 56.2**	**-0.5**
JIU3	**Izumi3**	**1.21**	**269**	*i* P	**Pb**	**14 20 56.9**	**-0.1**
JIU3				S	**Sb**	**14 21 13.2**	**+0.9**
JNU	**Nakatsue**	**1.27**	**296**	Pg	**Pb**	**14 20 58.0**	**-0.2**
	comp=E,132nm,0.3s,baz=125,slow=8.6,SNR=1080						
JNU				Lg	Lg	14 21 14.5	
	comp=E,227nm,0.3s,baz=262,slow=21,SNR=29						
JNU				LR	LR	14 21 44.7	
	comp=E,317nm,19.9s,baz=138,slow=55						
KSRS	**Korea Array**	**6.02**	**325**	Pn	**Pn**	**14 22 03.6**	**+1.6**
	comp=E,0.3nm,0.3s,baz=145,slow=15,SNR=4.8						
KSRS				Lg	Lg	14 23 46.1	
	comp=E,0.3nm,0.3s,baz=146,slow=29,SNR=4.1 comp=E,0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**6.31**	**50**	Pn	**Pn**	**14 22 07.2**	**+1.1**
	comp=E,0.2nm,0.3s,baz=241,slow=14,SNR=6.3 comp=E,1.3nm,0.3s						
SONM	**Songino Array**	**24.78**	**316**	LR	LR	14 35 58.2	

DSDZ	**La Diserade, G**	**4.81**	**126**	*eP*	**Pn**	**14 22 51.7**	**-0.6**
SDDR	**Presa de Saban**	**5.86**	**269**		**Pn**	**14 23 10.1**	**+3.3**
SDDR	**Presa de Saban**	**5.86**	**269**	*eP*	**Pn**	**14 23 10.8**	**+4.1**
SDDR	**Presa de Saban**	**5.86**	**269**	*eS*	**Sn**	**14 24 14.3**	**+1.1**
BIM	**Bigot**	**6.06**	**140**	*eP*	**Pn**	**14 23 08.2**	**-1.3**
GRTK	**Grand Turk**	**6.10**	**293**	Pn	**Pn**	**14 23 11.2**	**+1.1**
GRTK	**Grand Turk**	**6.10**	**293**	*eP*	**Pn**	**14 23 11.1**	**+1.1**
GRTK				IAML		14 24 21.4	
	comp=N,153nm,0.0s						
GRTK				IAML		14 24 21.9	
	comp=N,103nm,0.7s						
MASC	**Masc**	**8.66**	**278**	*eP*	**Pn**	**14 23 44.7**	**-0.5**
MASC				*eS*	**Sn**	**14 25 17.1**	**-4.9**
MASC				IAML		14 25 22.6	
	comp=E,16nm,0.5s						
MASC				IAML		14 25 23.1	
	comp=N,17nm,1.4s						
PCRV	**Puerto La Cruz**	**9.00**	**177**	Pn	**Pn**	**14 23 48.7**	**-1.3**
	comp=N,1.5nm,0.3s,baz=357,slow=2.5,SNR=7.6						
PCRV				LR	LR	14 27 22.6	
	comp=N,91nm,21.0s,slow=39						
	comp=N,1.5nm,0.4s						
QMBU	**Quimbuelo**	**9.20**	**278**	*eP*	**Pn**	**14 23 50.8**	**-1.9**
QMBU				*eS*	**Sn**	**14 25 30.9**	**-4.6**
QMBU				IAML		14 25 35.4	
	comp=N,36nm,0.4s						
QMBU				IAML		14 25 37.6	
	comp=E,28nm,0.2s						
NMDO	**Nuevo Mundo**	**9.40**	**280**		**Pn**	**14 23 54.0**	**-1.3**
NMDO	**Nuevo Mundo**	**9.40**	**280**	*eP*	**Pn**	**14 23 53.5**	**-1.8**
NMDO				*eS*	**Sn**	**14 25 32.7**	**-7.5**
NMDO				IAML		14 25 41.1	
	comp=N,8.7nm,0.6s						
NMDO				IAML		14 25 43.9	
	comp=E,9.7nm,0.1s						
GTBY	**Guantanamo Bay**	**9.47**	**276**	*eP*	**Pn**	**14 23 56.8**	**+0.5**
GTBY				*eP*		14 24 02.4	
RCC	**Rio Carpintero**	**10.02**	**276**	*eP*	**Pn**	**14 24 02.6**	**-1.3**
PINC	**Pinares de May**	**10.14**	**279**	*eP*	**Pn**	**14 24 02.2**	**-3.3**
PINC				*eS*	Sn	14 25 50.9	-7.6
PINC				IAML		14 25 54.8	
	comp=N,5.9nm,1.7s						
PINC				IAML		14 26 11.5	
	comp=E,9.4nm,1.1s						
MARVS	**Santiago de Cu**	**10.21**	**276**	*eP*	**Pn**	**14 24 03.9**	**-2.6**
BAUV	**El Baul**	**10.61**	**196**		**Pn**	**14 24 11.0**	**-0.9**
YAR	**Yar**	**10.66**	**278**	*eP*	**Pn**	**14 24 11.2**	**-1.5**
LMGC	**Las Mercedes**	**11.25**	**276**	*eP*	**Pn**	**14 24 18.2**	**-2.5**
SDV	**Santo Domingo**	**11.59**	**208**	Pn	**Pn**	**14 24 25.4**	**-0.2**
	comp=E,2.2nm,0.3s,baz=58,slow=6.1,SNR=6.3						
SDV				LR	LR	14 29 20.5	
	comp=E,106nm,18.4s,baz=68,slow=40						
	comp=E,5.8nm,0.3s						
PILO	**Pilon**	**11.62**	**275**	*eP*	**Pn**	**14 24 22.7**	**-3.2**
RUSC	**La Rusia**	**15.36**	**211**	Pn	Pn	14 25 09.4	-7.8
RUSC				IAmb	IAmb	14 25 35.6	
	comp=Z,15nm,0.8s						
061Z	**Ochoppi**	**16.02**	**297**	Pn	**Pn**	**14 25 23.8**	**-1.4**
ROSC	**El Rosal**	**16.89**	**213**	LR	LR	14 32 28.5	
	comp=Z,140nm,20.5s,baz=113,slow=39						
BIRD	**Birdtown, Kers**	**20.54**	**321**	P	**P**	**14 26 18.2**	**+0.1**
BIRD				IAmb	IAmb	14 26 46.5	
	comp=Z,10nm,1.0s						
SOCE	**Pocosol**	**20.80**	**248**	P	**P**	**14 26 20.8**	**-0.3**
SOCE				IAmb	IAmb	14 26 30.2	
	comp=Z,10nm,0.7s						
HODGE	**Hodges**	**21.36**	**318**	P	**P**	**14 26 27.3**	**+0.3**
W50A	**Signal Mountai**	**23.94**	**316**	P	**P**	**14 26 53.7**	**+0.1**
W50A				IAmb	IAmb	14 27 00.4	
	comp=Z,9.1nm,1.0s						
X48A	**Hartselle**	**24.69**	**312**	P	**P**	**14 26 57.2**	**-3.4**
X48A				IAmb	IAmb	14 26 58.0	
	comp=Z,7.2nm,1.2s						
TXAR	**Lajitas Array**	**36.43**	**294**	P	**P**	**14 28 46.9**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=102,slow=12,SNR=5.2						
TXAR				LR	LR	14 49 34.9	
	comp=Z,9.7nm,18.2s,baz=92,slow=46						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**44.11**	**312**	P	**P**	**14 29 51.0**	**+3.0**
	comp=Z,1.0nm,0.6s,baz=119,slow=8.6,SNR=11						
PDAR				PcP	**PcP**	**14 31 34.6**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=108,slow=5.4,SNR=5.2						
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**45.90**	**170**	P	**P**	**14 30 01.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=184,slow=8.6,SNR=4.5						
	comp=Z,0.6nm,0.6s						
NVAR	**Mina Array Bea**	**49.68**	**304**	P	**P**	**14 30 35.8**	**+4.1**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.7,SNR=3.7						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**55.93**	**55**	LR	LR	14 51 54.1	
	comp=Z,30nm,19.2s,baz=288,slow=32						
DBIC	**Dimbokro**	**59.76**	**93**	P	**P**	**14 31 45.0**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=304,slow=7.8,SNR=4.0						
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**69.30**	**333**	P	**P**	**14 32 48.0**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=103,slow=4.1,SNR=13						
	comp=Z,0.9nm,0.6s						
BRTR	**Keskin Array B**	**84.40**	**50**	P	**P**	**14 34 13.0**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=262,slow=3.7,SNR=3.6						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Ar**	**161.67**	**265**	PKPab	**PKPab**	**14 42 27.7**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=93,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**161.77**	**253**	PKPab	**PKPab**	**14 42 25.7**	**-1.0**
	comp=Z,0.3nm,0.9s,baz=98,slow=6.8,SNR=4.8						

*IDC **09** 14:21:48.6±5.4, 19.°17N×145.°61E, h215km±50km, mb3.5/13, mbtmp4.0/14, Error ellipse: s-maj=22.7km s-min=18.6km az=103.0*
*NEIC **09** 14:21:49.0±1.0, 19.°1N±0.°1×145.°5E±0.°2, h203km±9km, mb4.3/31, Error ellipse: s-maj=27.6km s-min=14.9km az=91.0*

ISC 09 14:21:49.1±0.8, 19.°1N±0.°1×145.°5E±0.°2, h214km, n49, σ1§00/49, mb4.1/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**17.97**	**338**	P		**P**	**14 25 44.3**	**+0.7**
JGF				IAmb		IAmb	14 25 45.2	
	comp=Z,11nm,0.7s							
MJAR	**Matsushiro Arr**	**18.55**	**341**	P		**P**	**14 25 49.8**	**-0.1**
MJAR	**Matsushiro Arr**	**18.55**	**341**	P		**P**	**14 25 47.8**	**-2.1**
	comp=Z,1.6nm,0.4s,baz=164,slow=9.4,SNR=12							
MAJO	**Matsushiro**	**18.55**	**341**	P		**P**	**14 25 49.9**	**0.0**
MAJO				IAmb		IAmb	14 25 51.3	
	comp=Z,7.7nm,0.6s							
MJB9	**Matsu-Tunnel**	**18.55**	**341**	P		**P**	**14 25 50.7**	**+0.7**
MJB9				IAmb		IAmb	14 25 52.3	
	comp=Z,7.1nm,0.6s							
JMM	**Marumori**	**19.17**	**349**	P		**P**	**14 25 58.3**	**+1.8**
JTM	**Tenmabayashi**	**21.97**	**351**	P		**P**	**14 26 26.5**	**+0.7**
KSRS	**Korea Array**	**23.91**	**324**	P		**P**	**14 26 42.0**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=150,slow=8.4,SNR=10							
	comp=Z,2.8nm,0.7s							
ASAJ	**Asahikawa**	**25.09**	**355**	P		**P**	**14 26 53.8**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=166,slow=4.5,SNR=5.0							
	comp=Z,4.5nm,0.7s							
WB0	**Warramunga Arr**	**40.12**	**196**	P		**P**	**14 29 04.6**	**+0.4**
WB0				IAmb		IAmb	14 29 33.7	
	comp=Z,7.4nm,1.2s							
WB2	**Warramunga Arr**	**40.29**	**196**	P		**P**	**14 29 06.2**	**+0.5**
WRA	**Warramunga Arr**	**40.30**	**196**	P		**P**	**14 29 05.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=6.6,slow=7.9,SNR=5.4							
	comp=Z,0.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**41.79**	**209**	P		**P**	**14 29 18.5**	**+0.6**
SONM	**Songino Array**	**42.74**	**321**	P		**P**	**14 29 26.0**	**+0.6**
SONM	**Songino Array**	**42.74**	**321**	P		**P**	**14 29 25.7**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=138,slow=9.3,SNR=4.9							
	comp=Z,1.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**44.00**	**277**	P		**P**	**14 29 37.3**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=87,slow=7.2,SNR=2.2							
	comp=Z,0.4nm,0.4s							
UNV	**Unalaska Valle**	**50.44**	**35**	P		**P**	**14 30 25.3**	**+0.5**
LVA	**Lava Point**	**50.83**	**35**	P		**P**	**14 30 27.9**	**+0.2**
AKUT	**Akutan**	**50.96**	**35**	P		**P**	**14 30 28.8**	**+0.2**
K13K	**Kusilvak Mount**	**54.91**	**26**	P		**P**	**14 30 58.4**	**+1.0**
K13K				IAmb		IAmb	14 30 59.2	
	comp=Z,2.8nm,0.7s							
N14K	**Kuskokwak Cree**	**55.34**	**29**	P		**P**	**14 31 01.4**	**+1.0**
L14K	**Kuka Creek**	**55.49**	**27**	P		**P**	**14 31 01.9**	**+0.4**
M14K	**Bethel**	**55.55**	**28**	P		**P**	**14 31 03.2**	**+1.2**
M14K				IAmb		IAmb	14 31 33.5	
	comp=Z,11nm,1.4s							
O15K	**Ungalikthiuk R**	**55.93**	**30**	P		**P**	**14 31 05.5**	**+0.8**
N15K	**Kwethluk River**	**56.17**	**29**	P		**P**	**14 31 07.2**	**+0.8**
N15K				IAmb		IAmb	14 31 08.2	
	comp=Z,9.0nm,0.9s							
TOO	**Toolangi**	**56.34**	**180**	P		**P**	**14 31 07.3**	**-0.5**
TOO				IAmb		IAmb	14 31 47.9	
	comp=Z,13nm,1.4s							
M16K	**Timber Creek**	**57.01**	**29**	P		**P**	**14 31 13.2**	**+0.8**
M16K				IAmb		IAmb	14 31 15.9	
	comp=Z,12nm,1.4s							
L16K	**Owhat River**	**57.04**	**28**	P		**P**	**14 31 13.0**	**+0.5**
L16K				IAmb		IAmb	14 31 56.3	
	comp=Z,5.8nm,1.4s							
J16K	**Anvik River**	**57.20**	**26**	P		**P**	**14 31 14.8**	**+1.3**
J16K				IAmb		IAmb	14 31 45.9	
	comp=Z,11nm,1.2s							
ZALV	**Zalesovo Beam**	**57.61**	**322**	P		**P**	**14 31 15.4**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=99,slow=9.2,SNR=2.3							
	comp=Z,0.4nm,0.4s							
N17K	**Nushagak Hills**	**57.65**	**30**	P		**P**	**14 31 17.9**	**+1.1**
N17K				IAmb		IAmb	14 31 47.6	
	comp=Z,8.3nm,1.5s							
MKAR	**Makanchi Array**	**58.08**	**314**	P		**P**	**14 31 20.7**	**+0.7**
MKAR	**Makanchi Array**	**58.08**	**314**	P		**P**	**14 31 19.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=86,slow=8.9,SNR=5.7							
	comp=Z,0.5nm,0.5s							
N18K	**Kilae Creek**	**58.31**	**30**	P		**P**	**14 31 22.3**	**+1.0**
L18K	**Granite Mounta**	**58.45**	**28**	P		**P**	**14 31 23.2**	**+0.9**
L18K				IAmb		IAmb	14 31 58.1	
	comp=Z,5.1nm,1.3s							
H18K	**Honhosa River**	**58.85**	**24**	P		**P**	**14 31 25.3**	**+0.3**
H18K				IAmb		IAmb	14 31 51.7	
	comp=Z,6.3nm,1.4s							
KDAK	**Kodiak Island**	**59.14**	**33**	P		**P**	**14 31 27.4**	**+0.4**
KDAK				IAmb		IAmb	14 32 10.3	
	comp=Z,13nm,1.4s							
CAST	**Castle Rocks**	**60.84**	**27**	P		**P**	**14 31 39.1**	**+0.5**
KURBB	**Kurchatov Arra**	**60.92**	**318**	P		**P**	**14 31 39.0**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=91,slow=7.6,SNR=18							
	comp=Z,0.8nm,0.4s							
BPAW	**Bear Paw Mtn.**	**61.49**	**27**	P		**P**	**14 31 43.5**	**+0.5**
BPAW				IAmb		IAmb	14 31 43.6	
	comp=Z,3.1nm,0.6s							
ILAR	**Eielson Array**	**63.38**	**26**	P		**P**	**14 31 53.9**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=257,slow=5.7,SNR=16							
	comp=Z,0.8nm,0.5s							
BMAR	**Burnt Mountain**	**64.84**	**24**	P		**P**	**14 32 06.1**	**+1.2**
BVAR	**Borovoye Array**	**66.08**	**320**	P		**P**	**14 32 12.4**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=92,slow=6.8,SNR=14							
	comp=Z,2.4nm,0.5s							
KKAR	**Karatay Array**	**66.40**	**309**	P		**P**	**14 32 15.2**	**0.0**
ARCES	**ARCESS Array B**	**82.08**	**342**	P		**P**	**14 33 44.2**	**-1.0**
ARCES				IAmb		IAmb	14 34 25.0	
	comp=Z,11nm,1.3s							
ARCES	**ARCESS Array B**	**82.08**	**342**	P		**P**	**14 33 44.1**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=81,slow=7.5,SNR=6.4							
	comp=Z,2.1nm,0.7s							
NVAR	**Mina Array Bea**	**83.04**	**52**	P		**P**	**14 33 51.4**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=279,slow=5.6,SNR=4.3							
	comp=Z,0.9nm,0.7s							
FINES	**FINESS Array B**	**86.47**	**335**	P		**P**	**14 34 05.2**	**-2.1**
FINES	**FINESS Array B**	**86.47**	**335**	P		**P**	**14 34 05.0**	**-2.4**
	comp=Z,1.2nm,0.4s,baz=71,slow=4.5,SNR=16							
	comp=Z,1.2nm,0.4s							

*AFAD **09** 14:46:11.0, 34.°96N×26.°99E, h35km, MW3.9*
*ISK **09** 14:46:17.7, 35.°53N×27.°75E, h2km, ML3.0/10*
*ATH **09** 14:46:18.3, 35.°53N×27.°76E, h9km±2km, ML2.9/7, Manual Solution by A.Andreou First location: 2019/08/09 14:48:07, This location: 2020/10/15 15:21:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **09** 14:46:18.9, 36.°N±5.°×2.°8E±.°, h0km±9km, M2.8/6, MLh2.8/6*

ISC 09 14:46:18.7±1.2, 35.°52N±0.°04×27.°74E±0.°03, h10km±10km, n42, σ1§18/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.47**	**274**	Pg		**Pg**	**14 46 27.9**	**+0.1**
KARP				Sg		**Sb**	**14 46 35.6**	**-0.5**
KARP	**Karpathos**	**0.47**	**274**	P		**Pg**	**14 46 28.0**	**+0.1**
KARP				S		**Sb**	**14 46 35.8**	**-0.3**
KARP	**Karpathos**	**0.47**	**274**	P		**Pg**	**14 46 28.0**	**+0.1**
KARP				S		**Sg**	**14 46 35.0**	**+0.8**
ARG	**Arkhangelos**	**0.77**	**24**	Pg		**Pg**	**14 46 33.1**	**-0.4**
ARG				Sg		**Sb**	**14 46 44.3**	**-0.3**
ARG	**Arkhangelos**	**0.77**	**24**	P		**Pg**	**14 46 32.9**	**-0.5**
ARG				S		**Sb**	**14 46 44.2**	**-0.4**
ARG	**Arkhangelos**	**0.77**	**24**	P		**Pg**	**14 46 33.0**	**-0.4**
ARG				S		**Sg**	**14 46 42.9**	**-0.6**
YAZI	**Mula-Dat§a-**	**1.19**	**349**	P		**Pb**	**14 46 39.5**	**-1.8**
YAZI				S		**Sn**	**14 46 58.6**	**+1.1**
DAT	**Datca**	**1.22**	**354**	Pn		**Pn**	**14 46 41.9**	**0.0**
DAT	**Datca**	**1.22**	**354**	P		**Pb**	**14 46 41.1**	**-0.8**
ZKR	**Zakros**	**1.31**	**253**	Pn		**Pg**	**14 46 43.6**	**-0.2**
ZKR	**Zakros**	**1.31**	**253**	P		**Pg**	**14 46 43.6**	**-0.2**
ZKR	**Zakros**	**1.31**	**253**	P		**Pg**	**14 46 43.5**	**-0.2**
KSL	**Kastellorizon**	**1.63**	**67**	P		**Pb**	**14 46 48.5**	**-0.3**
KSL				S		**Sg**	**14 47 10.9**	**-0.1**
KSL	**Kastellorizon**	**1.63**	**67**	P		**Pn**	**14 46 47.0**	**-0.3**
NPS	**Neapolis**	**1.75**	**262**	P		**Pg**	**14 46 51.5**	**-0.8**
NPS				S		**Sb**	**14 47 12.7**	**-0.3**
NPS	**Neapolis**	**1.75**	**262**	P		**Pb**	**14 46 50.0**	**-0.9**
NPS				S		**Sb**	**14 47 12.9**	**-0.1**
MULA	**Mugla, Merkez-**	**1.80**	**15**	P		**Pb**	**14 46 50.5**	**-1.3**
MULA				S		**Sg**	**14 47 20.0**	**+3.5**
CAME	**Cameli-Denizli**	**1.91**	**41**	Pn		**Pb**	**14 46 52.5**	**-1.1**
KNIK	**Mula-Seydike**	**1.99**	**48**	P		**Pb**	**14 46 53.5**	**-1.6**
THERA	**Ancient Thera,**	**2.02**	**296**	P		**Pb**	**14 46 54.1**	**-1.4**
THERA				S		**Sb**	**14 47 21.2**	**+0.4**
THERA	**Ancient Thera,**	**2.02**	**296**	P		**Pn**	**14 46 53.0**	**+0.1**
DNZT	**Denizli-Tavas-**	**2.04**	**30**	P		**Pn**	**14 46 53.2**	**0.0**
DNZT				S		**Sg**	**14 47 26.9**	**+2.6**
THR3	**Thira Island,**	**2.10**	**296**	P		**Pn**	**14 46 54.8**	**+1.0**
SNT5	**Nea Kammeni, S**	**2.10**	**296**	P		**Pn**	**14 46 54.5**	**+0.7**
TAVA	**DENIZLI_Tavas**	**2.17**	**26**	P		**Pn**	**14 46 55.4**	**+0.5**
TAVA				S		**Sg**	**14 47 31.3**	**+3.0**
SMG	**Samos**	**2.31**	**342**	P		**Pn**	**14 46 56.2**	**-0.5**
APMY	**Acipayam-Deniz**	**2.32**	**32**	Pn		**Pn**	**14 46 58.1**	**+1.1**
ESEN	**Aydn-Nazilli**	**2.33**	**12**	P		**Pn**	**14 46 57.2**	**+0.2**
IDI	**Anoyia**	**2.34**	**265**	Pn		**Pn**	**14 46 58.9**	**+1.7**
IDI	**Anoyia**	**2.34**	**265**	P		**Pb**	**14 46 59.2**	**-1.7**
IDI	**Anoyia**	**2.34**	**265**	P		**Pn**	**14 46 57.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.43**	**3**	Pn		**Pn**	**14 46 59.7**	**+1.2**
NAZL	**Nazilli-Aydin**	**2.48**	**10**	Pn		**Pn**	**14 47 00.5**	**+1.3**
INCE	**Denizli-Bozkur**	**2.64**	**33**	P		**Pn**	**14 47 03.1**	**+1.7**
INCE				S		**Sg**	**14 47 45.7**	**+2.1**
KIRA	**zmir-Kiraz**	**2.73**	**11**	P		**Pn**	**14 47 02.5**	**-0.1**
KIRA				S		**Sg**	**14 47 43.8**	**-2.6**
GVD	**Gavdhos**	**3.07**	**258**	Pn		**Pn**	**14 47 09.0**	**+1.9**
GVD	**Gavdhos**	**3.07**	**258**	P		**Pn**	**14 47 07.8**	**+0.7**
ANKY	**Antikythira Is**	**3.63**	**277**	P		**Pn**	**14 47 15.2**	**+0.3**
AKMS	**Akamas**	**3.79**	**96**	P		**Pn**	**14 47 17.0**	**-0.1**
VLI	**Veliai**	**4.07**	**289**	P		**Pn**	**14 47 20.9**	**0.0**
STFN	**Stefani**	**4.29**	**310**	P		**Pn**	**14 47 23.8**	**-0.1**
VIL2	**Platees**	**4.48**	**308**	P		**Pn**	**14 47 26.5**	**-0.1**

*TIR **09** 15:07:59.5, 39.°27N×20.°83E, h31km±1km, Md2.7/6, Ml3.0/5*
*SKO **09** 15:08:00.8, 39.°20N×20.°89E, h0km, ML2.7*
*ATH **09** 15:08:00.7, 39.°31N×20.°82E, h5km±1km, ML2.8/28, Manual Solution by A.Andreou First location: 2019/08/09 15:08:59, This location: 2020/08/24 06:49:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **09** 15:08:01.6, 39.°3N±0.°9×2.°1E±.°, h11km±2km, M2.6/20, MLh2.6/20*

ISC 09 15:08:00.9±1.0, 39.°29N±0.°01×20.°85E±0.°02, h10km±8km, n86, σ0§73/143, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRMD	**Pramanda**	**0.31**	**39**	P		**Pb**	**15 08 07.9**	**-0.7**
PRMD				S		**Sb**	**15 08 13.2**	**-0.4**
TETR	**Tetrakomo, Epi**	**0.34**	**81**	P		**Pg**	**15 08 07.8**	**+0.1**
TETR				S		**Sb**	**15 08 13.4**	**-1.0**
TETR	**Tetrakomo, Epi**	**0.34**	**81**	P		**Pg**	**15 08 07.7**	**+0.1**
TETR				S		**Sb**	**15 08 13.0**	**-1.5**
JAN	**Janina**	**0.37**	**0**	P		**Pb**	**15 08 09.0**	**-0.5**
JAN				S		**Sb**	**15 08 16.4**	**+1.1**
JAN	**Janina**	**0.37**	**0**	P		**Pg**	**15 08 07.7**	**-0.5**
AMPL	**Ampelaki**	**0.47**	**142**	P		**Pg**	**15 08 09.6**	**-0.4**
AMPL				S		**Sb**	**15 08 17.9**	**-0.2**
TSLK	**Tsoukalades, L**	**0.49**	**198**	P		**Pb**	**15 08 10.9**	**-0.7**
TSLK				S		**Sb**	**15 08 19.5**	**+0.8**
TSLK	**Tsoukalades, L**	**0.49**	**198**	P		**Pb**	**15 08 10.8**	**-0.7**
TSLK				S		**Sg**	**15 08 17.6**	**+0.8**
LKD2	**Lefkada island**	**0.52**	**196**	Pg		**Pg**	**15 08 10.4**	**-0.7**
LKD2				Sg		**Sg**	**15 08 18.0**	**+0.1**
LKD2				AML	AML	15 08 23.3		
	4.3nm,0.4s							
LKD2				AMd			15 09 00.1	
LKD2	**Lefkada island**	**0.52**	**196**	P		**Pg**	**15 08 11.2**	**+0.2**
LKD2				S		**Sb**	**15 08 20.4**	**+0.7**
LKD2	**Lefkada island**	**0.52**	**196**	P		**Pg**	**15 08 11.2**	**+0.2**
LKD2				S		**Sg**	**15 08 18.3**	**+0.4**
NYDR	**Nydri-Lefkada**	**0.59**	**191**	P		**Pg**	**15 08 12.1**	**-0.2**
NYDR				S		**Sb**	**15 08 21.7**	**+0.2**
DRAG	**Dragano-Lefkad**	**0.64**	**199**	P		**Pg**	**15 08 13.3**	**0.0**
DRAG				S		**Sb**	**15 08 22.6**	**-0.6**
EVGI	**Lefkada island**	**0.69**	**193**	P		**Pg**	**15 08 13.7**	**-0.4**
EVGI				S		**Sb**	**15 08 25.0**	**+0.6**
EVGI	**Lefkada island**	**0.69**	**193**	P		**Pg**	**15 08 13.7**	**-0.4**
EVGI				S		**Sb**	**15 08 24.1**	**-0.3**
EVR	**Evrytania**	**0.84**	**116**	P		**Pg**	**15 08 16.6**	**-0.4**
EVR				S		**Sb**	**15 08 29.0**	**+0.2**
EVR	**Evrytania**	**0.84**	**116**	P		**Pg**	**15 08 16.4**	**-0.7**
EVR				S		**Sb**	**15 08 28.9**	**+0.1**
PVO	**Paravola**	**0.86**	**142**	P		**Pg**	**15 08 17.0**	**-0.3**
PVO				S		**Sn**	**15 08 30.4**	**-1.0**
PVO	**Paravola**	**0.86**	**142**	P		**Pg**	**15 08 17.1**	**-0.3**
PVO				S		**Sn**	**15 08 30.5**	**-1.0**
FSK	**Fiskardo**	**0.86**	**195**	P		**Pg**	**15 08 16.5**	**-1.0**
FSK				S		**Sn**	**15 08 30.8**	**-0.7**
FSK	**Fiskardo**	**0.86**	**195**	P		**Pg**	**15 08 16.5**	**-1.0**
FSK				S		**Sb**	**15 08 29.8**	**+0.4**
SRN	**Sarande**	**0.88**	**312**	Pg		**Pg**	**15 08 17.3**	**-0.6**
SRN				Sg		**Sb**	**15 08 30.6**	**+0.5**
SRN				AML	AML	15 08 34.9		
	0.4nm,0.4s							
SRN				AMd			15 09 15.4	
SRN	**Sarande**	**0.88**	**312**	P		**Pb**	**15 08 18.6**	**+0.3**
SRN				S		**Sn**	**15 08 32.4**	**+0.3**
KEK	**Kerkira**	**0.92**	**298**	Pg		**Pg**	**15 08 17.7**	**-0.8**
KEK				Sg		**Sg**	**15 08 30.6**	**+0.2**
KEK				AML	AML	15 08 40.0		
	9µm,0.2s							
KEK				AMd			15 09 15.9	
KEK	**Kerkira**	**0.92**	**298**	P		**Pg**	**15 08 16.7**	**-1.8**
PENT	**Pentalofos**	**0.93**	**14**	P		**Pb**	**15 08 19.3**	**+0.1**
PENT				S		**Sn**	**15 08 32.9**	**-0.7**
PENT	**Pentalofos**	**0.93**	**14**	P		**Pg**	**15 08 18.9**	**+0.1**
PENT				S		**Sb**	**15 08 31.3**	**-0.4**
THL	**Klokotos Trika**	**0.94**	**73**	P		**Pb**	**15 08 18.7**	**-0.5**
THL				S		**Sn**	**15 08 33.2**	**-0.4**
THL	**Klokotos Trika**	**0.94**	**73**	P		**Pb**	**15 08 18.8**	**-0.5**
THL				S		**Sb**	**15 08 32.0**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.04**	**105**	P		**Pg**	**15 08 20.3**	**-0.5**
MAKR				S		**Sn**	**15 08 36.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.04**	**105**	P		**Pg**	**15 08 20.2**	**-0.5**
MAKR				S		**Sn**	**15 08 35.3**	**-0.7**
ANX	**Ano Chora**	**1.09**	**129**	P		**Pb**	**15 08 20.8**	**-1.1**
ANX				S		**Sn**	**15 08 37.2**	**-0.2**
ANX	**Ano Chora**	**1.09**	**129**	P		**Pn**	**15 08 21.8**	**-0.4**
ANX				S		**Sn**	**15 08 38.3**	**+0.9**
DMLN	**Damoulianata-K**	**1.11**	**200**	P		**Pn**	**15 08 22.8**	**+0.3**
DMLN				S		**Sn**	**15 08 38.9**	**+1

NEIC ***09*** *15:23:03.2±1.4, 35°.69N±0°.01×117°.543W±0°.009, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=160.0*

PAS 09 15:23:04.2±1.0, 35°.68N±0°.01×117°.54W±0°.01, h7km±2km, ML3.0/102, ML2.7/82(NEIC), Error ellipse: s-maj=2.1km s-min=0.9km az=146.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.09**	**155**		Pg	15 23 06.4	+0.1
WSHM					Sg	15 23 08.3	+0.4
WSHM	**Spangler Hills** 4µm,0.2s	**0.09**	**155**	IAML		15 23 08.5	
WSHM	5µm,0.1s			IAML		15 23 09.6	
CLC	**China Lake**	**0.14**	**340**		Pg	15 23 07.2	0.0
CLC	comp=E,4µm,0.2s			IAML		15 23 09.7	
SRTC	**Snort**	**0.17**	**273**		Pg	15 23 08.1	+0.4
SRTC					Sg	15 23 11.5	+1.4
CCCA	**Chr Cany lake**	**0.21**	**138**		Pg	15 23 08.9	+0.5
CCCA					Sg	15 23 11.9	+0.6
CCCA	**Chr Cany lake** comp=N,6µm,0.5s	**0.21**	**138**	IAML		15 23 12.8	
CCCA	comp=E,5µm,0.3s			IAML		15 23 14.0	
TOW	**Tower One**	**0.22**	**305**		Pg	15 23 09.0	+0.3
TOW					Sg	15 23 12.9	+1.3
LRMC	**Laurel Mtn Rad**	**0.23**	**210**		Pg	15 23 12.3	+3.5
LRMC	**Laurel Mtn Rad** comp=E,3µm,0.2s	**0.23**	**210**	IAML		15 23 12.5	
LRMC	comp=N,3µm,0.2s			IAML		15 23 13.1	
WNMM	**Nine Mile Cany**	**0.34**	**298**		Sg	15 23 15.6	+0.4
WVPM	**Volcano Peak E**	**0.35**	**320**		Pg	15 23 10.9	-0.2
WVPM					Sg	15 23 15.6	-0.1
JRC2	**Joshua Ridge**	**0.37**	**324**		Sg	15 23 16.5	+0.1
MPMC	**Manual Prospec**	**0.38**	**6**		Sg	15 23 16.6	0.0
MPMC	**Manual Prospec**	**0.38**	**6**		Pg	15 23 11.3	-0.3
MPMC	comp=N,1µm,0.5s			IAML		15 23 17.0	
MPMC	comp=E,1µm,0.5s			IAML		15 23 17.1	
WCSM	**Coso Springs S**	**0.39**	**332**		Pg	15 23 11.7	-0.1
WCSM					Sg	15 23 17.0	0.0
WRVM	**Rose V. Centra**	**0.43**	**319**		Pg	15 23 12.3	-0.3
WRVM					Sg	15 23 18.1	-0.2
DTP	**Desert Tortois**	**0.48**	**211**		Pg	15 23 13.1	-0.4
DTP					Sg	15 23 19.7	-0.2
MFS	**McCloud Flat S**	**0.50**	**329**		Pg	15 23 13.7	-0.2
MFS					Sg	15 23 20.2	-0.3
WBSM	**Bird Springs**	**0.51**	**254**		Sg	15 23 20.8	0.0
WORM	**Onyx Ranch**	**0.57**	**272**		Pg	15 23 14.8	-0.5
WORM					Sg	15 23 22.3	-0.5
QSM	**Queen of Sheba**	**0.61**	**62**		Pg	15 23 15.6	-0.4
QSM					Sg	15 23 24.1	0.0
QSM	**Queen of Sheba** comp=E,272nm,0.3s	**0.61**	**62**	IAML		15 23 27.6	
QSM	comp=N,316nm,0.5s			IAML		15 23 27.7	
CCAC	**Calif City Air**	**0.66**	**217**		Pg	15 23 16.5	-0.3
CCAC					Sg	15 23 25.5	+0.1
WHFM	**Hanning Flat**	**0.66**	**271**		Pg	15 23 16.4	-0.5
WHFM					Sg	15 23 25.0	-0.5
GSC	**Goldstone, Bar**	**0.71**	**122**		Pg	15 23 17.3	-0.5
GSC					Sg	15 23 26.9	-0.1
GSC	**Goldstone, Bar** comp=N,538nm,0.3s	**0.71**	**122**	IAML		15 23 27.3	
GSC	comp=E,559nm,0.5s			IAML		15 23 27.6	
ISA	**Isabella, Lake**	**0.76**	**269**		Pg	15 23 18.2	-0.6
ISA					Sg	15 23 28.4	-0.4
ISA	**Isabella, Lake** comp=N,151nm,0.2s	**0.76**	**269**	IAML		15 23 28.7	
ISA	comp=E,206nm,0.3s			IAML		15 23 28.9	
HYS	**Haystack Butte**	**0.82**	**182**		Pg	15 23 19.1	-0.7
HYS					Sg	15 23 29.9	-0.6
WASM	**Alta Sierra Ca**	**0.83**	**274**		Pg	15 23 19.5	-0.6
WASM					Sg	15 23 30.5	-0.5
GWY	**Greenwater Val**	**0.87**	**54**		Pg	15 23 20.2	-0.6
GWY	**Greenwater Val** comp=N,158nm,0.5s	**0.87**	**54**	IAML		15 23 34.5	
GWY	comp=E,193nm,0.3s			IAML		15 23 35.4	
CWC	**Cottonwood Cre**	**0.87**	**330**		Pg	15 23 20.6	-0.4
CWC					Sg	15 23 32.1	-0.2
CWC	**Cottonwood Cre** comp=E,166nm,0.2s	**0.87**	**330**	IAML		15 23 34.5	
CWC	comp=N,142nm,0.2s			IAML		15 23 36.5	
EDW2	**Edwards Air Fo**	**0.88**	**205**		Pg	15 23 20.3	-0.8
EDW2					Sg	15 23 32.2	-0.4
CGO	**Cerro Gordo**	**0.89**	**346**		Pg	15 23 20.7	-0.6
CGO					Sg	15 23 32.5	-0.4
RRX	**Edison Barstow**	**0.92**	**151**		Pg	15 23 21.3	-0.5
RRX					Sb	15 23 34.3	-0.5
FURC	**Furnace Creek,**	**0.95**	**35**		Pg	15 23 22.1	-0.4
FURC					Sg	15 23 35.0	+0.1
FURC	**Furnace Creek,** comp=N,303nm,0.7s	**0.95**	**35**	IAML		15 23 40.9	
FURC	comp=E,309nm,0.6s			IAML		15 23 42.0	
TPO	**Tropico Hills**	**0.98**	**215**		Pg	15 23 22.3	-0.7
TPO					Sg	15 23 35.6	-0.1
TPO	**Tropico Hills** comp=N,164nm,0.4s	**0.98**	**215**	IAML		15 23 39.2	
TPO	comp=E,277nm,0.8s			IAML		15 23 41.6	
SBB	**Saddle Back Bu**	**1.02**	**193**		Pg	15 23 22.9	-0.9
TEJ	**El Tejon**	**1.04**	**245**		Pg	15 23 22.9	-1.3
TEJ					Sg	15 23 36.6	-1.1
SHOC	**Shoshone, Teco**	**1.05**	**78**		Pg	15 23 24.1	-0.2
SPG2	**Springville 2**	**1.12**	**298**		Pg	15 23 24.6	-1.1
SPG2					Sg	15 23 39.2	-1.1
LRRC	**Littlerock Res**	**1.22**	**199**		Pb	15 23 26.3	-1.3
HOLC	**Holcomb Ridge**	**1.25**	**192**		Pb	15 23 26.6	-1.5
AMDNV	**Amargosa**	**1.28**	**53**		Pn	15 23 26.8	-1.6
DSCC	**Desert Studies**	**1.29**	**114**		Pn	15 23 26.6	-2.0
WCT	**Wildcat Mounta**	**1.33**	**33**		Pn	15 23 27.9	-1.4
CHFC	**Chilao Flat St**	**1.40**	**197**		Pn	15 23 29.1	-1.2
SSK	**Sunset Peak**	**1.47**	**185**		Pn	15 23 30.3	-0.9
MWC	**Mount Wilson**	**1.52**	**196**		Pn	15 23 30.7	-1.2
MWC	comp=N,131nm,0.5s			IAML		15 23 53.7	
MWC	comp=E,201nm,0.5s			IAML		15 23 55.1	
GMN	**Gold Mountain**	**1.63**	**8**		Pn	15 23 32.6	-0.9
GMN	comp=N,46nm,0.5s			IAML		15 23 59.1	
MTPC	**Mountain Pass**	**1.63**	**96**		Pn	15 23 31.7	-1.7
MTPC	comp=E,68nm,0.2s			IAML		15 23 56.3	
MTPC	comp=N,63nm,0.3s			IAML		15 23 58.6	
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	15 23 32.3	-1.2
TPNV	comp=N,71nm,0.4s			IAML		15 23 58.6	
TPNV	comp=N,56nm,0.5s			IAML		15 24 00.0	
DSP	**Deep Springs**	**1.72**	**348**		Pn	15 23 33.9	-0.6
DSP	comp=N,40nm,0.5s			IAML		15 23 59.6	
MTUM	**Tungsten Hills**	**1.86**	**334**		Pb	15 23 38.7	+0.1
MZP	**Montezuma Peak**	**2.02**	**4**	Pn	Pn	15 23 38.1	-0.8
ELS	**Elsinore Mount**	**2.03**	**177**	Pn	Pn	15 23 37.9	-0.9
ELS	comp=E,32nm,0.3s			IAML		15 24 09.4	
DANC	**Danby, Needles**	**2.05**	**120**	Pn	Pn	15 23 37.3	-1.8
DANC	comp=N,103nm,0.3s			IAML		15 24 13.8	
POB	**Polly Butte**	**2.05**	**166**		Pn	15 23 38.3	-0.9
BELC	**Belle Mtn. Jos**	**2.10**	**142**		Pn	15 23 38.4	-1.5
BELC	comp=N,47nm,0.8s			IAML		15 24 12.2	
BELC	comp=E,45nm,0.4s			IAML		15 24 13.4	
V12A	**Nelson**	**2.19**	**88**	Pn	Pn	15 23 39.6	-1.4
PMD	**Palm Desert**	**2.24**	**154**	Pn	Pn	15 23 40.0	-1.8
PMD	comp=E,27nm,0.5s			IAML		15 24 15.8	
PFO	**Pinyon Flats O**	**2.25**	**156**	Pn	Pn	15 23 40.7	-1.2
TPH	**Tonopah**	**2.40**	**6**		Pg	15 23 49.4	-0.8
TPH	comp=N,24nm,0.9s			IAML		15 24 26.4	
IRM	**Iron Mountain**	**2.49**	**127**	Pn	Pn	15 23 42.6	-2.5
IRM	comp=E,40nm,0.4s			IAML		15 24 23.5	
IRM	comp=N,30nm,0.4s			IAML		15 24 23.7	
BC3	**Big Chuckawall**	**2.65**	**139**		Pn	15 23 45.5	-1.9
BC3	comp=E,22nm,0.6s			IAML		15 24 29.5	
BC3	comp=N,29nm,0.6s			IAML		15 24 31.4	
W13A	**Hualapai Mount**	**3.04**	**100**	Pn	Pn	15 23 51.4	-1.5

IDC ***09*** *15:28:12.5±3.1, 24°.805×179°.81E, h490km±30km, mb3.3/8, mbtmp4.2/9, Error ellipse: s-maj=27.1km s-min=17.3km az=53.0*

NOU ***09*** *15:28:14.8, 24°.91S×179°.94W, h551km, mb4.2/16, South of Fiji Islands*

ISC 09 15:28:15.4±0.8, 24°.85S±0°.07×180°.0W±0°.2, h550km, n81, σ2s47/83, mb3.6/8, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**6.67**	**9**	P	**P**	**15 30 00.3**	**-0.1**
MSVF	**Nonsavu**	**7.33**	**345**	P	**P**	**15 30 05.7**	**-1.0**
TAVE	**Taveuni**	**8.11**	**0**	P	**P**	**15 30 15.0**	**+0.7**
YSA	**Yasawairara**	**8.44**	**344**	P	**P**	**15 30 17.5**	**-0.1**
DGTI	**Dogotuki**	**8.52**	**358**	P	**P**	**15 30 18.8**	**+0.4**
OUZ	**Omahuta**	**11.74**	**207**	P	**P**	**15 30 51.1**	**+0.1**
OUZ	**Omahuta**	**11.74**	**207**	P	**P**	**15 30 50.3**	**-0.7**
PINNC	**Pines Island,**	**11.76**	**278**	P	**P**	**15 30 51.0**	**-0.4**
WCZ	**Waipu Caves**	**12.09**	**203**	P	**P**	**15 30 54.4**	**-0.2**
KUZ	**Kuaotunu**	**12.42**	**196**	P	**P**	**15 30 57.0**	**-1.0**
KUZ	**Kuaotunu**	**12.42**	**196**	P	**P**	**15 30 56.8**	**-1.2**
ETAZ	**East Tamaki Re**	**12.83**	**199**	P	**P**	**15 31 01.6**	**-0.7**
MKAZ	**Moumakai**	**12.91**	**198**	P	**P**	**15 31 02.0**	**-1.1**
WMGZ	**Waiomatatini S**	**13.00**	**186**	P	**P**	**15 31 03.5**	**-0.5**
WMGZ				S	**S**	**15 33 24.9**	**+2.0**
HAZ	**Te Kaha**	**13.01**	**188**	P	**P**	**15 31 01.9**	**-2.2**
HAZ				S	**S**	**15 33 22.6**	**-0.4**
AWAZ	**Awhitu Peninsu**	**13.02**	**200**	P	**P**	**15 31 03.0**	**-1.2**
PKGZ	**Pakihiroa**	**13.08**	**187**	P	**P**	**15 31 06.2**	**+1.3**
PKGZ				S	**S**	**15 33 23.7**	**-0.8**
RUGZ	**Raukumara Rang**	**13.22**	**188**	P	**P**	**15 31 05.7**	**-0.8**
PUZ	**Puketiti**	**13.27**	**186**	P	**P**	**15 31 06.9**	**+0.1**
TOZ	**Tahuroa Road**	**13.41**	**196**	P	**P**	**15 31 07.1**	**-1.2**
KMRZ	**Kaimai**	**13.41**	**194**	P	**P**	**15 31 10.0**	**+1.6**
KARZ	**Kaharoa**	**13.52**	**193**	P	**P**	**15 31 08.5**	**-0.9**
URZ	**Urewera** 24nm,0.5s,baz=322,slow=2.4,SNR=27	**13.60**	**190**	P	**P**	**15 31 07.8**	**-2.3**
URZ	11nm,0.4s,baz=206,slow=22,SNR=17			S	**S**	**15 33 30.1**	**-4.0**
URZ	**Urewera**	**13.60**	**190**	P	**P**	**15 31 08.1**	**-2.1**
MWZ	**Matawai**	**13.61**	**188**	P	**P**	**15 31 07.5**	**-2.9**
MWZ				S	**S**	**15 33 31.7**	**-2.7**
TKGZ	**Te Karaka**	**13.67**	**187**	P	**P**	**15 31 09.6**	**-1.3**
CNGZ	**Carnagh Statio**	**13.68**	**186**	P	**P**	**15 31 10.6**	**-0.4**
MUGZ	**Murupara**	**13.86**	**191**	P	**P**	**15 31 10.7**	**-2.2**
HRRZ	**Handcock Road**	**13.87**	**192**	P	**P**	**15 31 12.4**	**-0.6**
TLZ	**Tolley Road**	**13.97**	**195**	P	**P**	**15 31 12.6**	**-1.5**
MTHZ	**Maungataniwha**	**14.22**	**190**	P	**P**	**15 31 12.7**	**-3.9**
RAHZ	**Arahi**	**14.24**	**189**	P	**P**	**15 31 12.7**	**-4.1**
HIZ	**Hauiti**	**14.31**	**197**	P	**P**	**15 31 16.7**	**-0.9**
HIZ	**Hauiti**	**14.31**	**197**	P	**P**	**15 31 19.8**	**+2.2**
RATZ	**Rangitukua**	**14.43**	**193**	P	**P**	**15 31 17.4**	**-1.5**
BKZ	**Black Stump Fm**	**14.58**	**191**	P	**P**	**15 31 17.8**	**-2.6**
BKZ	**Black Stump Fm**	**14.58**	**191**	P	P	15 31 15.5	-4.9
TWVZ	**Taurewa**	**14.70**	**194**	P	**P**	**15 31 19.6**	**-2.1**
ETVZ	**East Tongariro**	**14.71**	**193**	P	**P**	**15 31 17.0**	**-4.7**
OTVZ	**Oturere**	**14.74**	**193**	P	**P**	**15 31 18.5**	**-3.7**
SNVZ	**South Ngauruho**	**14.77**	**194**	P	**P**	**15 31 19.9**	**-2.6**
MCHZ	**McNeill Hill**	**14.82**	**190**	P	**P**	**15 31 20.1**	**-2.6**
KWHZ	**Kaweka Forest**	**14.85**	**191**	P	**P**	**15 31 21.2**	**-1.9**
WNVZ	**Wahianoa**	**14.91**	**194**	P	**P**	**15 31 19.6**	**-4.3**
VRZ	**Vera Road**	**14.91**	**196**	P	**P**	**15 31 25.2**	**+1.5**
KRHZ	**Kereru**	**15.07**	**191**	P	**P**	**15 31 21.5**	**-3.9**
KAHZ	**Kahuranaki**	**15.13**	**189**	P	**P**	**15 31 22.2**	**-3.9**
NEZ	**North Egmont**	**15.23**	**198**	P	**P**	**15 31 27.9**	**+0.8**
PNHZ	**Pukenui**	**15.36**	**191**	P	**P**	**15 31 24.2**	**-4.1**
PXZ	**Pawanui**	**15.37**	**189**	P	**P**	**15 31 25.8**	**-2.5**
DVHZ	**Dannevirke**	**15.74**	**191**	P	**P**	**15 31 28.3**	**-3.9**
ANWZ	**Angora Road**	**15.85**	**190**	P	**P**	**15 31 31.6**	**-1.6**
BFZ	**Birch Farm**	**16.10**	**190**	P	**P**	**15 31 33.3**	**-2.4**
BFZ	**Birch Farm**	**16.10**	**190**	P	**P**	**15 31 32.2**	**-3.5**
MRZ	**Mangatainoka R**	**16.20**	**192**	P	**P**	**15 31 31.3**	**-5.3**
OGWZ	**Otaki Gorge**	**16.43**	**193**	P	**P**	**15 31 33.8**	**-4.9**
HOWZ	**Holdsworth Sta**	**16.44**	**192**	P	**P**	**15 31 34.2**	**-4.7**
SNZO	**South Karori**	**17.00**	**194**	P	**P**	**15 31 43.0**	**-0.9**
QRZ	**Quartz Range**	**17.12**	**200**	P	**P**	**15 31 43.8**	**-1.2**
KHZ	**Kahutara**	**18.32**	**195**	P	**P**	**15 31 54.6**	**-1.3**
RPZ	**Rata Peaks** 8.3nm,0.5s,baz=31,slow=5.3,SNR=8.5	**20.20**	**199**	P	**P**	**15 32 12.2**	**-0.9**
RPZ	**Rata Peaks** 8.3nm,0.5s	**20.20**	**199**	P	**P**	**15 32 12.2**	**-0.9**
JCZ	**Jackson Bay**	**21.26**	**203**	P	**P**	**15 32 21.9**	**-0.8**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=93,slow=7.3,SNR=23 0.4nm,0.3s	**41.93**	**262**	P	**P**	**15 35 18.4**	**-0.1**
WRA	**Warrenunga Arr** 1.5nm,0.3s,baz=100,slow=6.9,SNR=45	**42.39**	**267**	P	**P**	**15 35 21.6**	**-0.5**
WRA	0.5nm,0.7s,baz=104,slow=3.6,SNR=4.8 1.5nm,0.3s			ScP	**ScP**	**15 40 08.2**	**+7.0**
VNDA	**Vanda** 0.4nm,0.5s,baz=38,slow=6.9,SNR=5.8 0.4nm,0.5s	**53.44**	**185**	P	**P**	**15 36 45.2**	**+1.7**
QSPA	**South Pole Qui** 2.3nm,0.7s,baz=338,slow=0.4,SNR=19 2.3nm,0.7s	**65.23**	**180**	P	P	15 38 06.4	+3.7
MAW	**Mawson** 1.5nm,0.6s,baz=132,slow=6.6,SNR=6.6 1.5nm,0.6s	**76.87**	**200**	P	**P**	**15 39 13.1**	**+2.4**
TROLL	**Troll, Antarti** comp=Z,350nm,0.6s	**83.38**	**181**	⇑P	**P**	**15 39 46.9**	**+2.2**
SNAA	**Sanae** comp=Z,17nm,0.5s	**83.72**	**179**	⇑P	**P**	**15 39 47.9**	**+1.6**
SNAA	**Sanae** comp=Z,0.5nm,0.4s,baz=208,slow=9.4,SNR=19 comp=Z,0.5nm,0.4s	**83.72**	**179**	P	**P**	**15 39 48.1**	**+1.8**
VNA3	**Neumayer Olymp** comp=Z,2.6nm,0.4s	**83.92**	**177**	⇑P	**P**	**15 39 49.2**	**+1.9**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.7s,baz=224,slow=5.2,SNR=4.8 comp=Z,0.6nm,0.7s	**90.90**	**58**	P	P	15 40 25.6	+4.6
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=112,slow=0.9,SNR=4.2	**121.18**	**318**	PKP	**PKiKP**	**15 46 08.0**	**+2.2**
FINES	**FINESS Array B** comp=Z,0.6nm,0.6s,baz=90,slow=7.6,SNR=3.4	**139.36**	**341**	PKhKP	PKPpre	15 46 35.7	
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.6s,baz=15,slow=3.2	**143.03**	**351**	PKP	**PKiKP**	**15 46 46.8**	**-2.9**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=19,slow=2.4,SNR=4.7	**143.03**	**351**	PKP	**PKiKP**	**15 46 46.6**	**-3.1**
HFS	**Hagfors** comp=Z,2.9nm,0.4s,baz=72,slow=4.8,SNR=32	**143.49**	**349**	PKP	**PKiKP**	**15 46 48.1**	**-2.6**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.5s,baz=46,slow=4.6,SNR=7.6	**145.79**	**327**	PKPbc	**PKiKP**	**15 46 54.9**	**-0.7**
MMAI	**Mount Meron Ar** comp=Z,1.5nm,0.4s,baz=93,slow=5.0,SNR=6.9	**148.12**	**293**	PKPbc	**PKPab**	**15 47 02.7**	**-2.2**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,baz=185,slow=3.1,SNR=4.4	**148.18**	**306**	PKPbc	**PKPab**	**15 47 01.8**	**-3.2**

IDC 09 15:52:05.6±345.0, 48°.00N×48°.74E, h0km, Error ellipse: s-maj=146.8km s-min=110.0km az=9.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF** baz=252,slow=312,SNR=2.8	**6.55**	**65**	I	I	16 31 45.0	
I43RU	**DUBNA INFRASON** baz=133,slow=330,SNR=2.7	**11.20**	**325**	I	I	17 02 10.0	
I26DE	**FREYUNG INFRAS** baz=80,slow=320,SNR=0.7	**23.14**	**285**	I	I	18 11 50.0	

DJA ***09*** *15:57:01.9±0.5, 6°.N±4°×12°.7E±°, h135km±7km, M4.5/11, mb4.3/11, mB5.5/1, MLv4.5/10, Mw(mB)5.0/1*

IDC ***09*** *15:57:02.0±2.2, 6°.19N×127°.21E, h114km±17km, mb3.9/14, mbtmp4.3/15, MS2.9/1, Error ellipse: s-maj=37.4km s-min=11.0km az=66.0*

NEIC ***09*** *15:57:02.2±1.7, 6°.24N±0°.09×127°.12E±0°.07, h124km±9km, mb4.5/18, Error ellipse: s-maj=13.6km s-min=9.4km az=198.0*

ISC 09 15:57:00.2±0.5, 6°.18N±0°.06×127°.18E±0°.09, h100km, n52, σ1s62/52, mb4.3/21, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.82**	**299**		**Pn**	**15 57 32.7**	**+2.2**
DAV	**Davao City (W)** 498nm,0.3s,baz=246,slow=5.1,SNR=14	**1.82**	**299**	P	**Pn**	**15 57 32.3**	**+1.8**
DAV	681nm,0.4s,baz=105,slow=20,SNR=6.6			S	**Sn**	**15 57 57.6**	**+4.0**
SGSI	**Sangihe**	**2.98**	**214**	P	**Pn**	**15 57 47.0**	**+1.3**
SGSI				S	**Sn**	**15 58 20.2**	**-0.5**
TNTI	**Ternate** 0.2nm28nm,0.6s	**5.38**	**178**	P	**Pn**	**15 58 20.1**	**+2.0**
MRSI	**Marisa**	**7.71**	**223**	P	**Pn**	**15 58 48.3**	**-1.5**
SWI	**Sorong** 18nm,0.5s	**8.10**	**150**	P	**Pn**	**15 58 57.5**	**+2.4**
TOLI2	**Tolitoli**	**8.13**	**232**	Pn	**Pn**	**15 58 54.6**	**-1.0**
SANI	**Sanana** 20nm,0.8s	**8.26**	**188**	P	**Pn**	**15 58 57.0**	**-0.3**
LUWI	**Luwuk** 52nm,0.6s	**8.42**	**212**	P	**Pn**	**15 58 59.8**	**+0.3**
MYLDM	**Lahad Datu**	**8.70**	**264**	Pn	**Pn**	**15 59 01.2**	**-2.1**
MPSI	**Mapaga**	**9.30**	**232**	P	Pn	15 59 08.2	-3.3
NLAI	**Namlea** 32nm,1.2s	**9.36**	**181**	P	**Pn**	**15 59 11.6**	**-0.6**
FAKI	**Fak Fak**	**10.36**	**151**	Pn	**Pn**	**15 59 29.8**	**+3.9**
SBUM	**Sibu**	**15.37**	**257**		**Pn**	**16 00 34.0**	**+2.3**
BATI	**Baumata** 14nm,0.4s,baz=246,slow=11,SNR=4.7	**16.65**	**192**	P	**Pn**	**16 00 50.0**	**+2.3**
YULB	**Yu-li**	**18.03**	**342**		P	16 00 57.0	-6.4
YULB	comp=Z,22nm,1.1s			IAmb	IAmb	16 01 10.7	
MTN	**Manton Dam**	**19.30**	**168**		**P**	**16 01 19.7**	**+2.2**
MTN	comp=Z,6.1nm,0.5s			IAmb	IAmb	16 01 26.5	
HKPS	**Hong Kong Po S**	**20.36**	**323**	P	**P**	**16 01 24.1**	**-4.9**
HKPS	comp=Z,35nm,0.9s			IAmb	IAmb	16 01 42.2	
KNRA	**Kununurra**	**21.77**	**176**		**P**	**16 01 43.8**	**-0.2**
KNRA	comp=Z,7.8nm,0.6s			IAmb	IAmb	16 01 46.4	
FITZ	**Fitzroy Crossi**	**24.17**	**184**	P	**P**	**16 02 07.1**	**-0.2**
WB0	**Warramunga Arr**	**26.74**	**165**	P	**P**	**16 02 31.3**	**+0.7**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.4s,baz=343,slow=9.9,SNR=14 comp=Z,0.4nm,0.4s	**26.90**	**165**	P	**P**	**16 02 31.9**	**-0.2**
WR8	**Warramunga Arr**	**26.95**	**165**	P	**P**	**16 02 33.1**	**+0.6**
GSI	**Gunungsitoli**	**29.93**	**262**	P	P	16 02 55.6	-3.5
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.4s,baz=116,slow=9.1,SNR=5.0 comp=Z,0.5nm,0.4s	**30.11**	**296**	P	**P**	**16 03 01.2**	**+0.6**
ASAR	**Alice Springs** comp=Z,0.5nm,0.3s,baz=343,slow=6.9,SNR=25	**30.38**	**168**	P	**P**	**16 03 03.5**	**+0.6**
ASAR	comp=Z,0.7nm,0.5s,baz=348,slow=2.6,SNR=9.4			PcP	**PcP**	**16 06 01.1**	**+0.4**
ASAR	comp=Z,0.3nm,0.5s,baz=350,slow=3.0,SNR=4.9 comp=Z,0.5nm,0.3s			ScP	**ScP**	**16 09 33.0**	**-1.2**
HNR	**Honiara** comp=Z,18nm,21.0s,baz=226,slow=33	**36.15**	**115**	LR	LR	16 17 04.7	
MORW	**Morawa**	**36.65**	**196**	P	**P**	**16 03 55.8**	**-1.5**
MORW	comp=Z,9.2nm,1.1s			IAmb	IAmb	16 04 07.7	
USRK	**Ussuriysk Ar.** comp=Z,1.4nm,0.7s,baz=191,slow=5.5,SNR=2.3 comp=Z,1.4nm,0.7s	**38.10**	**6**	P	**P**	**16 04 10.0**	**+0.6**
EIDS	**Eidsvold**	**39.03**	**144**	P	**P**	**16 04 15.8**	**-1.6**
EIDS	comp=Z,6.3nm,1.1s			IAmb	IAmb	16 04 21.7	
BBOO	**Buckleboo**	**39.68**	**168**	P	**P**	**16 04 23.1**	**+0.5**
NWAO	**Narrogin (SRO)**	**40.02**	**193**	P	**P**	**16 04 24.9**	**-0.6**
NWAO	comp=Z,11nm,0.8s			IAmb	IAmb	16 04 26.7	
STKA	**Stephens Creek**	**40.27**	**161**	P	**P**	**16 04 28.2**	**+0.7**
STKA	comp=Z,23nm,1.1s			IAmb	IAmb	16 04 44.9	
STKA	**Stephens Creek** comp=Z,2.5nm,0.7s,baz=350,slow=9.7,SNR=6.3 comp=Z,2.5nm,0.7s	**40.27**	**161**	P	**P**	**16 04 28.1**	**+0.6**
SONM	**Songino Array** comp=Z,1.2nm,0.8s,baz=175,slow=12,SNR=4.2 comp=Z,1.2nm,0.8s	**45.15**	**340**	P	**P**	**16 05 08.5**	**+1.6**
CAN	**Canberra**	**46.11**	**155**	P	P	16 05 11.4	-3.2
CAN	comp=Z,8.6nm,1.1s			IAmb	IAmb	16 05 20.9	
MKAR	**Makanchi Array** comp=Z,5.2nm,0.3s,baz=116,slow=7.6,SNR=101	**55.83**	**324**	P	**P**	**16 06 27.8**	**+0.6**
MKAR	comp=Z,1.2nm,0.6s,baz=103,slow=3.9,SNR=4.5 comp=Z,5.2nm,0.3s			PcP	**PcP**	**16 07 25.0**	**0.0**
KSH	**Kashi**	**56.66**	**314**	P	**P**	**16 06 33.8**	**+0.4**
KSH	comp=Z,4.0nm,0.7s			pmax	pmax		
ZALV	**Zalesovo Beam**	**58.63**	**332**	P	**P**	**16 06 46.3**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,2.1nm,0.5s,baz=129,slow=6.7,SNR=10 comp=Z,2.1nm,0.5s	**58.63**	**332**	P	**P**	**16 06 46.9**	**+0.1**
KURK	**Kurchatov**	**59.94**	**327**		**P**	**16 06 54.7**	**-1.2**
KURBB	**Kurchatov Arra** comp=Z,14nm,0.6s,baz=126,slow=6.9,SNR=174 comp=Z,14nm,0.6s	**59.94**	**326**	P	**P**	**16 06 56.4**	**+0.5**
KKAR	**Karatay Array**	**61.77**	**316**		**P**	**16 07 08.1**	**-0.4**
AMKA	**Amchitka**	**62.23**	**34**	P	**P**	**16 07 09.3**	**-1.9**
BVAR	**Borovoye Array** comp=Z,7.0nm,0.5s,baz=125,slow=7.8,SNR=37 comp=Z,7.0nm,0.5s	**65.53**	**326**	P	**P**	**16 07 33.3**	**+0.3**
BRVK	**Borovoye**	**65.61**	**326**	P	**P**	**16 07 31.9**	**-1.5**
AB31	**Akbulak array**	**70.56**	**320**		**P**	**16 08 02.7**	**-1.8**
AB31	comp=Z,4.9nm,0.8s			IAmb	IAmb	16 08 05.4	
ABKAR	**Akbulak array**	**70.56**	**320**		**P**	**16 08 03.0**	**-1.5**
ARCES	**ARCESS

SPA0	**Spitsbergen Ar**	**1.88**	**79**	*e*P		**Pb**	**15 59 17.8**	**-0.2**
SPA0				*e*S		**Sn**	**15 59 37.7**	**+0.7**
SPA0	**Spitsbergen Ar**	**1.88**	**79**	Pn		**Pb**	**15 59 18.2**	**+0.1**
	baz=260,slow=14							
SPA0				Sn		**Sb**	**15 59 39.6**	**-1.5**
	baz=266,slow=16							
SPITS	**Spitsbergen Ar**	**1.88**	**79**	P		**Pb**	**15 59 17.8**	**-0.2**
SPITS				S		**Sn**	**15 59 39.1**	**+2.1**
HSPB	**Hornsund (broa**	**2.03**	**115**	Pn		**Pb**	**15 59 19.7**	**-0.8**
HSPB				Sn		**Sn**	**15 59 42.3**	**+1.8**
HSPB	**Hornsund (broa**	**2.03**	**115**	P		**Pb**	**15 59 19.6**	**-1.0**
HSPB				S		**Sn**	**15 59 42.7**	**+2.1**
HSPB	**Hornsund (broa**	**2.03**	**115**	*e*P		**Pb**	**15 59 19.2**	**-1.3**
HSPB				*e*S		**Sn**	**15 59 41.9**	**+1.3**
HSPB	**Hornsund (broa**	**2.03**	**115**	*e*P		**Pb**	**15 59 19.7**	**-0.8**
HSPB				*e*			15 59 37.4	
HSPB				*e*S		**Sn**	**15 59 42.0**	**+1.5**
HSPB				IAML			15 59 46.1	
	comp=Z,42nm,0.3s							
HOPEN	**Hopen**	**4.17**	**102**	Pn		**Pn**	**15 59 49.3**	**+3.5**
HOPEN				Sn		**Sn**	**16 00 34.0**	**+0.8**
HOPEN	**Hopen**	**4.17**	**102**	P		**Pn**	**15 59 46.3**	**+0.6**
HOPEN				*e*S		**Sn**	**16 00 30.7**	**-2.5**
HOPEN	**Hopen**	**4.17**	**102**	*e*P		**Pn**	**15 59 48.9**	**+3.2**
HOPEN				*e*S		**Sn**	**16 00 33.7**	**+0.4**
HOPEN				IAML			16 00 35.5	
	comp=Z,39nm,0.2s							
NOR	**Nord**	**5.56**	**322**	Pn		**Pn**	**16 00 06.3**	**+1.6**
NOR				Sn		**Sn**	**16 01 05.9**	**-1.5**
NOR	**Nord**	**5.56**	**322**	*e*P		**Pn**	**16 00 06.5**	**+1.7**
NOR				Sn		**Sn**	**16 01 05.9**	**-1.5**
NOR	**Nord**	**5.56**	**322**	*i* P		**Pn**	**16 00 06.2**	**+1.4**
NOR				*i* S		**Sn**	**16 01 05.6**	**-1.8**
NOR				IAML			16 01 12.9	
	comp=Z,1.2nm,0.2s							
DAG	**Danmarks Havn**	**5.80**	**271**	*e*P		**Pn**	**16 00 11.4**	**+3.3**
DAG				*e*S		**Sn**	**16 01 10.8**	**-2.5**
DAG	**Danmarks Havn**	**5.80**	**271**	*i* P		**Pn**	**16 00 10.8**	**+2.8**
DAG				*i* S		**Sn**	**16 01 12.3**	**-1.0**
DAG				IAML			16 01 14.6	
	comp=Z,2.4nm,0.9s							
DBG	**Daneborg**	**7.50**	**255**	Pn		**Pn**	**16 00 34.5**	**+3.1**
DBG				Sn		**Sn**	**16 01 52.1**	**-3.1**
DBG	**Daneborg**	**7.50**	**255**	Pn		**Pn**	**16 00 34.5**	**+3.1**
DBG				Sn		**Sn**	**16 01 52.1**	**-3.1**
DBG	**Daneborg**	**7.50**	**255**	*i* P		**Pn**	**16 00 34.5**	**+3.1**
DBG				*i* S		**Sn**	**16 01 52.2**	**-3.1**
DBG				IAML			16 01 57.6	
	comp=Z,0.8nm,0.2s							
ZFI2	**Zemlya Franca-**	**7.79**	**50**	*e*P		**Pn**	**16 00 37.7**	**+2.3**
ZFI2				*e*S		**Sn**	**16 01 58.2**	**-4.2**
	comp=Z,50nm,1.4s							
OMEGA	**Omega**	**7.81**	**50**	*e*P		**Pn**	**16 00 37.8**	**+2.2**
OMEGA				*e*S		**Sn**	**16 01 57.8**	**-4.8**
	comp=Z,80nm,2.1s							
ARA0	**ARCESS Array S**	**9.81**	**140**	Sn		**Sn**	**16 02 46.3**	**-5.6**
	baz=335,slow=22							
ARA0	**ARCESS Array S**	**9.81**	**140**	Sn		**Sn**	**16 02 46.3**	**-5.6**
	baz=335,slow=22							

DJA 09 16:00:45.1±0.8, 5°S±6°×12°8E±°, h355km±12km, M3.8/12, mb3.6/5, MLv3.8/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.21**	**4**	P	Pn	16 01 32.2	-0.1
BNDI	**Bandanaira**	**1.82**	**78**	P	Pn	16 01 36.3	+0.6
NLAI	**Namlea**	**1.94**	**328**	P	Pn	16 01 37.2	+0.7
SANI	**Sanana**	**3.54**	**323**	P	Pn	16 01 50.4	+0.5
FAKI	**Fak Fak**	**4.56**	**65**	P	Pn	16 02 00.0	-0.3
SOEI	**Soe**	**6.15**	**218**	P	Pn	16 02 17.0	-1.0
	20nm,1.5s						
BATI	**Baumata**	**6.88**	**220**	P	P	16 02 27.3	-0.3
	22nm,0.8s						
EDFI	**Ende, Flores**	**7.44**	**239**	P	Pn	16 02 32.6	-0.3

*BUT **09** 16:02:28.5±1.7, 44°660N±0°008×114°15W±0°03, h11km±8km, Error ellipse: s-maj=3.1km s-min=1.1km az=93.0*

NEIC 09 16:02:27.6±1.7, 44°67N±0°02×114°15W±0°02, h10km±1km, ML3.2/54, ML3.6/23(BUT), Error ellipse: s-maj=4.0km s-min=3.5km az=163.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCMT	**McKenzie Canyo**	**0.94**	**80**		Pb	16 02 46.0	-0.1
HLID	**Hailey**	**1.12**	**190**		Pg	16 02 48.6	-0.6
HLID				Sg	Sg	16 03 03.2	-0.6
HLID				IAML		16 03 04.2	
	1µm,0.2s						
MOMT	**Monida**	**1.25**	**93**		Pg	16 02 51.8	+0.1
DLMT	**Dillon**	**1.30**	**57**		Pg	16 02 52.9	+0.4
DLMT					Sb	16 03 08.8	-0.2
DLMT				IAML		16 03 13.2	
	670nm,0.6s						
DLMT				IAML		16 03 13.2	
	792nm,0.3s						
PLID	**Pearl Lake**	**1.38**	**288**		Pg	16 02 53.9	-0.1
PLID					Sn	16 03 11.6	+0.1
PLID				IAML		16 03 16.4	
	313nm,0.3s						
PLID				IAML		16 03 16.6	
	442nm,0.1s						
HBMT	**Mount Humbug**	**1.56**	**44**		Pb	16 02 56.9	+0.2
BGMT	**Barton Gulch**	**1.60**	**69**		Pb	16 02 57.7	+0.4
LRM	**Limekiln Ridge**	**1.66**	**46**		Pb	16 02 57.8	-0.6
MFID	**Camas Ranch**	**1.75**	**225**		Pb	16 02 59.0	-0.7
BUT	**Butte**	**1.75**	**39**		Pb	16 02 59.0	-0.9
TPMT	**Tepee Creek**	**1.77**	**87**		Pg	16 03 01.1	-0.4
VCMT	**Victor**	**1.77**	**359**		Pn	16 02 57.9	-0.5
BPMT	**Black Pine Rid**	**1.83**	**15**		Pn	16 03 00.2	+0.9
QLMT	**Earthquake Lak**	**1.94**	**84**		Pb	16 03 02.7	-0.5
BOZ	**Bozeman (W)**	**2.01**	**62**		Pn	16 03 02.8	+1.1
YPDC	**Denny Creek**	**2.08**	**88**		Pb	16 03 04.9	-0.5
YHB	**Horse Butte**	**2.11**	**87**		Pb	16 03 06.5	+0.5
YHB				IAML		16 03 35.1	
	comp=N,246nm,0.7s						
YHB				IAML		16 03 35.9	
	comp=E,209nm,0.5s						
YHL	**Hebgen Lake**	**2.12**	**84**		Pb	16 03 05.4	-0.8
MSO	**Missoula**	**2.16**	**4**		Pn	16 03 04.7	+1.0
MSO				IAML		16 03 42.0	
	comp=E,198nm,0.7s						
MSO				IAML		16 03 46.0	
	comp=E,142nm,0.5s						
GCR	**Grayling Creek**	**2.17**	**86**		Pb	16 03 07.9	+0.8
YPWB	**West Boundary**	**2.18**	**91**		Pb	16 03 06.4	-0.8
MCID	**Moose Creek**	**2.18**	**102**		Pb	16 03 06.0	-1.1
YMC	**Maple Creek**	**2.24**	**87**		Pb	16 03 07.0	-1.3
BMO	**Blue Mountains**	**2.26**	**276**		Pn	16 03 06.2	+1.2
BMO				IAML		16 03 42.2	
	comp=E,117nm,0.3s						
BMO				IAML		16 03 42.4	
	comp=E,102nm,0.2s						
CHMT	**Chamberlain Mo**	**2.33**	**15**		Pn	16 03 07.0	+0.9
YHH	**Holmes Hill**	**2.35**	**86**		Pb	16 03 08.8	-1.4
ALMT	**Alberton, Mont**	**2.37**	**355**		Pb	16 03 10.2	-0.1
BEMT	**Mount Belmont**	**2.44**	**31**		Pn	16 03 08.4	+0.8
FXWY	**Fox Creek**	**2.47**	**114**		Pn	16 03 07.6	-0.6
OVMT	**Ovando**	**2.52**	**18**		Pn	16 03 09.7	+1.0
PCMT	**Pistol Creek**	**2.55**	**2**		Pn	16 03 10.2	+1.1
TPAW	**Teton Pass**	**2.59**	**116**		Pn	16 03 09.6	-0.2
TPAW				IAML		16 03 53.2	
	comp=E,79nm,0.6s						
TPAW				IAML		16 03 58.6	
	comp=E,140nm,0.7s						
HRY	**Holter Researc**	**2.61**	**38**		Pn	16 03 11.2	+1.4
SLMT	**Seeley Lake**	**2.61**	**10**		Pb	16 03 10.8	+0.8
NDMT	**Ninemile Divid**	**2.64**	**350**		Pb	16 03 15.2	+0.2
LYMT	**Lyon Mountain**	**2.64**	**29**		Pb	16 03 11.3	+0.8
SNOW	**Snow King Moun**	**2.73**	**115**		Pb	16 03 14.7	-1.9
SNOW				IAML		16 03 55.3	
	comp=E,71nm,0.5s						
SNOW				IAML		16 04 05.2	
	comp=E,66nm,1.0s						
FBMT	**Ferry Basin**	**2.74**	**356**		Pn	16 03 13.1	+1.4
LOHW	**Long Hollow**	**2.76**	**111**		Pn	16 03 12.4	+0.3
SWMT	**Swartz Lake**	**2.84**	**2**		Pn	16 03 13.9	+0.8
AHID	**Auburn Hatcher**	**2.92**	**130**		Pn	16 03 12.9	-1.3
AHID				IAML		16 04 03.8	
	comp=E,70nm,0.4s						
AHID				IAML		16 04 04.7	
	comp=E,81nm,0.7s						
YNE	**Yellowstone No**	**2.96**	**82**		Pn	16 03 17.2	+2.3
YNE				IAML		16 04 07.5	
	comp=E,96nm,0.4s						
BHMT	**Big Hole Peak**	**2.98**	**348**		Pn	16 03 15.0	+0.1
HVU	**Hansel Valley**	**3.06**	**160**		Pn	16 03 16.9	+0.8
JTMT	**Jette**	**3.08**	**358**		Pn	16 03 17.8	+1.4
YBMT	**Yellow Bay**	**3.19**	**2**		Pn	16 03 19.3	+1.3
BSMT	**Bassoo Peak**	**3.21**	**352**		Pn	16 03 20.0	+1.8
J08A	**Circle Bar Ran**	**3.39**	**249**	IAML		16 04 19.2	
	comp=E,71nm,0.5s						
J08A				IAML		16 04 22.5	
	comp=N,50nm,0.6s						
G08A	**Pilot Rock**	**3.47**	**282**		Pn	16 03 23.8	+2.1
G08A				IAML		16 04 15.7	
	comp=N,36nm,0.4s						
RLMT	**Red Lodge**	**3.50**	**81**	IAML		16 04 23.8	
	comp=N,70nm,0.3s						
RLMT				IAML		16 04 24.0	
	comp=N,90nm,0.5s						
HWUT	**Hardware Ranch**	**3.60**	**147**	IAML		16 04 26.5	
	comp=N,36nm,0.7s						
HWUT				IAML		16 04 31.3	
	comp=N,39nm,1.1s						
BGU	**Big Grassy Mou**	**3.83**	**167**	IAML		16 04 34.0	
	comp=E,43nm,0.6s						
BGU				IAML		16 04 35.9	
	comp=N,41nm,0.9s						
LDM	**Libby Dam**	**3.87**	**348**		Pn	16 03 29.1	+2.0
WVOR	**Wild Horse Val**	**3.96**	**237**		Pn	16 03 28.1	-0.3
NEW	**Newport**	**4.14**	**331**		Pn	16 03 34.2	+3.4
NEW	**Newport**	**4.14**	**331**	IAML		16 04 40.1	
	comp=N,40nm,0.3s						
C09A	**Chrisman Ranch**	**4.24**	**319**		Pn	16 03 33.8	+1.6
EGMT	**Eagleton**	**4.53**	**41**		Pn	16 03 36.0	-0.2
PSUT	**Pine Spring**	**6.14**	**178**	Pn	Pn	16 03 56.8	-1.7
R11B	**Troy Canyon, C**	**6.41**	**190**	Pn	Pn	16 03 59.6	-2.6

*LDG **09** 16:03:34.7±0.1, 45°59N×6°29E, h10km, Md1.6/2, Ml1.5/2, Error ellipse: s-maj=2.3km s-min=2.0km az=161.0*

STR 09 16:03:34.8±0.5, 46°N±3°×±°, h5km, MLv1.1/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSL	**Roselend**	**0.26**	**75**	Pg	Pg	16 03 40.5	+0.5
RSL				Sg	Sg	16 03 43.8	+0.4
LPL	**La Plagne**	**0.35**	**108**	*e*Pg	Pg	16 03 41.4	-0.2
LPL				*e*Sg	Sg	16 03 44.3	-1.9
	3.5nm,0.2s						
LPG	**La Plagne**	**0.37**	**110**	*e*Pg	Pg	16 03 42.0	+0.1
LPG				*e*Sg	Sg	16 03 45.7	-1.1
	2.4nm,0.2s						
OGMY	**Moye**	**0.37**	**315**	Pg	Pg	16 03 41.9	0.0
OGMY				Sg	Sg	16 03 46.9	+0.2
OGSM	**Saint Maurice**	**0.40**	**268**	Pg	Pg	16 03 42.5	+0.1
OGSM				Sg	Sg	16 03 48.2	+0.6
LSD	**Lago del Serru**	**0.64**	**105**	Pg	Pg	16 03 47.3	+0.3
LSD				Sg	Sg	16 03 54.8	-0.4
OG35	**Corcelles**	**0.64**	**311**	Pg	Pg	16 03 46.8	-0.3
OG35				Sg	Sg	16 03 55.3	-0.2
ORIF	**Oris-en-Rattie**	**0.75**	**201**	*e*Pg	Pg	16 03 48.9	-0.3
ORIF				*e*Sg	Sg	16 03 57.6	-1.4
	1.3nm,0.2s						
CABF	**La Chapelle**	**1.00**	**353**	*e*Pg	Pg	16 03 52.9	-1.0
CABF	**La Chapelle**	**1.00**	**353**	*e*P	Pb	16 03 54.9	+0.3
CABF				*e*Sg	Sg	16 04 06.7	-0.1
	1.1nm,0.3s						
VIVF	**Saint-Julien-l**	**1.36**	**236**	*e*Pg	Pn	16 04 00.1	-0.3
VIVF				*e*Sg	Sb	16 04 17.3	-1.1
	0.7nm,0.2s						

*NEIC **09** 16:08:43.4±0.5, 35°681N±0°008×97°39W±0°01, h6km±2km, Error ellipse: s-maj=1.4km s-min=1.1km az=120.0*

NEIC 09 16:08:43.3±0.4, 35°676N±0°009×97°39W±0°01, h5km±2km, mb_Lg2.5/54, ML2.8/35, ML2.8/52, Error ellipse: s-maj=1.4km s-min=1.1km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.03**	**152**		Pg	16 08 44.8	+0.4
OK009	**Oakdale Elemen**	**0.10**	**197**	Pg	Pg	16 08 45.9	+0.5
OK029	**Liberty Lake**	**0.13**	**335**	Pg	Pg	16 08 46.5	+0.5
OK004	**Okla Sci Mus**	**0.17**	**205**		Pg	16 08 47.2	+0.6
OK004					Sg	16 08 50.0	+1.2
BCOK	**Bluff Creek, N**	**0.18**	**264**		Pg	16 08 47.3	+0.4
BCOK					Sg	16 08 50.2	+0.9
OKCFA	**Oklahoma City**	**0.27**	**192**		Pg	16 08 49.0	+0.5
OKCFA					Sg	16 08 53.2	+1.2
OKCSW	**OKLAHOMA CITY**	**0.27**	**189**		Pg	16 08 49.1	+0.6
OKCSW					Sg	16 08 53.5	+1.3
OKCSW				IAML		16 08 53.6	
	comp=N,2µm,0.1s						
OKCSW				IAML		16 08 53.6	
	comp=E,2µm,0.4s						
FNO	**Franklin**	**0.42**	**182**		Pg	16 08 51.8	+0.5
FNO					Sg	16 08 58.1	+1.3
OK052	**Battle Ridge R**	**0.57**	**56**		Pg	16 08 54.6	+0.3
OK052					Sg	16 09 02.6	+0.9
OK052				IAML		16 09 03.0	
	comp=E,781nm,0.1s						
OK052				IAML		16 09 03.3	
	comp=E,656nm,0.2s						
QUOK	**Quay**	**0.74**	**48**		Pg	16 08 57.5	0.0
QUOK					Sg	16 09 07.8	+0.6
QUOK				IAML		16 09 08.2	
	comp=E,583nm,0.4s						
QUOK				IAML		16 09 10.8	
	comp=N,609nm,0.1s						
DEOK	**Depew**	**0.74**	**77**		Pg	16 08 57.3	-0.2
DEOK					Sg	16 09 07.8	+0.7
DEOK				IAML		16 09 08.1	
	comp=N,271nm,0.2s						
CROK	**Carrier**	**0.96**	**330**		Pg	16 09 01.5	-0.2
CROK					Sb	16 09 15.0	-0.4
CROK				IAML		16 09 23.1	
	comp=E,404nm,0.3s						
CSTR	**Hydro, Custer**	**1.06**	**269**		Pg	16 09 03.4	-0.2
CSTR					Sb	16 09 18.2	-0.1
BLOK	**Blackwell**	**1.09**	**7**		Pg	16 09 03.9	-0.3
BLOK					Sg	16 09 18.6	+0.2
GC02	**Grant County #**	**1.23**	**342**		Pg	16 09 06.3	-0.7
TUL3	**Leonard**	**1.32**	**79**		Pn	16 09 07.1	-1.2
TUL3				IAML		16 09 28.7	
	comp=E,94nm,0.2s						
TUL3				IAML		16 09 31.7	
	comp=E,175nm,0.4s						
OK038	**West end E0370**	**1.36**	**306**		Pn	16 09 07.9	-1.0
KAN14	**Manchester OK**	**1.36**	**340**		Pn	16 09 08.3	-0.6
T35A	**Sooner Cattle**	**1.43**	**29**		Pn	16 09 09.6	-0.2
WMOK	**Wichita Mounta**	**1.48**	**231**	Pn	Pn	16 09 10.2	-0.3
NOKA	**Waynoka**	**1.57**	**308**		Pn	16 09 12.1	+0.2
LOOK	**Love County**	**1.69**	**174**		Pb	16 09 14.2	-0.6
LOOK				IAmb_Lg		16 09 40.2	
	comp=Z,27nm,1.0s						
RLO	**Rose Lookout**	**1.98**	**75**		Pn	16 09 18.1	+0.6
WTFS	**Witchita Falls**	**2.10**	**205**		Pn	16 09 20.4	+1.3
Z35A	**Perchaven, San**	**2.34**	**177**		Pn	16 09 23.3	+0.9
Z35A				IAmb_Lg		16 10 03.7	
	comp=Z,12nm,0.9s						
SMWD	**Samnorwood**	**2.40**	**257**	Pn	Pn	16 09 23.1	-0.2
U38A	**Gravette**	**2.55**	**72**		Pn	16 09 25.7	+0.4
HHAR	**Hobbs**	**2.86**	**77**	Pn	Pn	16 09 29.1	-0.5
MIAR	**Mount Ida**	**3.32**	**109**	Pn	Pn	16 09 37.0	+1.2
MIAR				IAmb_Lg		16 10 37.3	
	comp=Z,14nm,1.1s						
DKNS	**Dickens**	**3.54**	**237**	IAmb_Lg		16 10 39.8	
	comp=Z,13nm,0.9s						
ABTX	**Abilene, Hawle**	**3.57**	**212**	IAmb_Lg		16 10 39.1	
	comp=Z,15nm,1.1s						
CBKS	**Cedar Bluff**	**3.65**	**330**	IAmb_Lg		16 10 45.1	
	comp=Z,16nm,0.9s						
SN07	**Snyder 07**	**3.88**	**229**	IAmb_Lg		16 10 55.1	
	comp=Z,13nm,0.8s						
WHAR	**Wooly Hollow**	**4.18**	**94**	IAmb_Lg		16 10 56.3	
	comp=Z,9.5nm,0.7s						
UALR	**University of**	**4.22**	**101**	IAmb_Lg		16 11 02.9	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.28**	**86**	IAmb_Lg		16 10 57.2	
	comp=Z,9.3nm,0.9s						
POST	**Post**	**4.28**	**234**	Pn	Pn	16 09 51.0	+1.8
POST				IAmb_Lg		16 11 07.9	
	comp=Z,12nm,1.0s						
MGMO	**Mountain Grove**	**4.38**	**69**	IAmb_Lg		16 11 01.5	
	comp=Z,9.4nm,0.8s						
RTBA	**Rita Blanca**	**4.40**	**282**	IAmb_Lg		16 11 10.7	
	comp=Z,6.1nm,0.9s						
BRDY	**Brady**	**4.58**	**198**	Pn	Pn	16 09 52.3	-0.9
BRDY				IAmb_Lg		16 11 16.7	
	comp=Z,9.6nm,0.9s						
R40A	**Maddies Statio**	**4.86**	**56**	IAmb_Lg		16 11 20.4	
	comp=Z,7.0nm,0.8s						
LCAR	**Lake Charles**	**5.08**	**84**	IAmb_Lg		16 11 31.0	
	comp=Z,5.9nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.34**	**310**	IAmb_Lg		16 11 42.4	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**5.73**	**77**	IAmb_Lg		16 11 44.3	
	comp=Z,7.4nm,1.0s						
T25A	**Trinidad**	**5.85**	**287**	IAmb_Lg		16 11 57.4	
	comp=Z,10nm,0.9s						
FVM	**French Village**	**6.04**	**66**	IAmb_Lg		16 11 56.6	
	comp=Z,7.8nm,0.8s						
MNHN	**Monahans**	**6.23**	**228**	IAmb_Lg		16 12 18.8	
	comp=Z,5.1nm,0.7s						
DRIO	**Del Rio**	**6.80**	**205**	IAmb_Lg		16 12 33.8	
	comp=Z,3.9nm,0.7s						
S44A	**Carbondale**	**6.84**	**70**	IAmb_Lg		16 12 33.6	
	comp=Z,6.1nm,0.7s						
SDCO	**Great Sand Dun**	**6.84**	**290**	IAmb_Lg		16 12 32.1	
	comp=Z,4.0nm,1.1s						
SAND	**Sanderson**	**6.96**	**216**	IAmb_Lg		16 12 39.5	
	comp=Z,5.1nm,0.8s						
Q24A	**Divide**	**7.00**	**300**	IAmb_Lg		16 12 36.1	
	comp=Z,4.4nm,0.8s						

*SJA **09** 16:16:53.8±0.7, 21°10S×68°60W, h142km±4km, ML3.5, MW3.5*

*GUC **09** 16:16:55.8±0.6, 21°09S×68°65W, h141km±4km, ML3.6*

ISC 09 16:16:53.4±1.5, 21°10S±0°03×68°62W±0°06, h151km±11km, n30, σ1°903/56, 5C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.81**	**274**	⇓*i*P	**Pn**	**16 17 17.0**	**+0.1**
PB01				*i* S	**Sn**	**16 17 33.1**	**-1.7**
PB01				IAML		16 17 36.1	
	comp=E,1µm,0.4s						
PB01	**IPOC Station P**	**0.81**	**274**	*e*P	**Pn**	**16 17 16.9**	**+0.1**
PB01				*e*S	**Sn**	**16 17 35.0**	**+0.2**
PB01				IAML		16 17 35.8	
	comp=Z,601nm,0.2s						
PB09	**IPOC Station P**	**0.90**	**220**	⇑*i*P	**Pn**	**16 17 18.6**	**+0.9**
PB09				*i* S	**Sn**	**16 17 35.6**	**-0.7**
PB09				IAML		16 17 36.8	
	comp=N,809nm,0.7s						
PB09	**IPOC Station P**	**0.90**	**220**	*e*P	**Pn**	**16 17 18.7**	**+1.0**
PB09				*e*S	**Sn**	**16 17 35.5**	**-0.7**
PB09				IAML		16 17 36.8	
	comp=Z,823nm,0.5s						
PB08	**IPOC Station P**	**1.08**	**332**	*i* P	**Pn**	**16 17 20.2**	**+0.8**
PB08				*i* S	**Sn**	**16 17 38.2**	**-1.0**
PB08				IAML		16 17 39.7	
	comp=N,771nm,0.5s						
PB08	**IPOC Station P**	**1.08**	**332**	*e*P	**Pn**	**16 17 20.2**	**+0.8**
PB08				*e*S	**Sn**	**16 17 39.0**	**-0.3**
PB08				IAML		16 17 40.5	
	comp=Z,388nm,0.6s						
PB02	**IPOC Station P**	**1.21**	**260**	⇓*i*P	**Pn**	**16 17 21.1**	**+0.8**
PB02				*i* S	**Sn**	**16 17 40.3**	**-0.5**
PB02				IAML		16 17 42.4	
	comp=E,2µm,0.4s						
PB02	**IPOC Station P**	**1.21**	**260**	*e*P	**Pn**	**16 17 20.9**	**+0.6**
PB02				*e*S	**Sn**	**16 17 40.7**	**-0.1**
PB02				IAML		16 17 44.7	
	comp=Z,2µm,0.4s						
PB03	**IPOC Station P**	**1.42**	**228**	⇑*i*P	**Pn**	**16 17 23.2**	**+0.8**
PB03				*i* S	**Sn**	**16 17 43.8**	**-0.7**
PB03				IAML		16 17 44.5	
	comp=E,994nm,0.2s						
PB03	**IPOC Station P**	**1.42**	**228**	*e*P	**Pn**	**16 17 23.2**	**+0.8**
PB03				*e*S	**Sn**	**16 17 44.4**	**-0.2**
PB03				IAML		16 17 45.2	
	comp=Z,872nm,0.3s						
HMBC	**Humberstone**	**1.45**	**304**	⇓*i*P	**Pn**	**16 17 23.1**	**+0.4**
HMBC				*i* S	**Sn**	**16 17 44.2**	**-0.8**
HMBC				IAML		16 17 45.5	
	comp=N,1µm,0.8s						
HMBC	**Humberstone**	**1.45**	**304**	*e*P	**Pn**	**16 17 23.1**	**+0.4**
HMBC				*e*S	**Sn**	**16 17 44.7**	**-0.3**
HMBC				IAML		16 17 45.5	
	comp=Z,900nm,0.3s						
GO01	**Chusmiza**	**1.53**	**339**	⇑*i*P	**Pn**	**16 17 24.7**	**+0.8**
GO01				*i* S	**Sn**	**16 17 46.3**	**-0.8**
GO01	**Chusmiza**	**1.53**	**339**	*e*P	**Pn**	**16 17 24.4**	**+0.5**
GO01				*e*S	**Sn**	**16 17 44.4**	**-2.8**
TA01	**Diego Aracena**	**1.56**	**290**	*e*P	**Pn**	**16 17 24.2**	**+0.5**
TA01				*i* S	**Sn**	**16 17 46.1**	**-0.6**
TA01	**Diego Aracena**	**1.56**	**290**	*e*P	**Pn**	**16 17 24.4**	**+0.7**
TA01				*e*S	**Sn**	**16 17 47.0**	**+0.2**
TA01				IAML		16 17 49.8	
	comp=Z,133nm,0.9s						
TA02	**Huaiquique**	**1.64**	**300**	*e*P	Pn	16 17 16.9	-7.7
TA02				*e*S	**Sn**	**16 17 48.8**	**+0.4**
TA02				IAML		16 17 52.5	
	comp=Z,344nm,0.1s						
PB11	**IPOC Station P**	**1.65**	**324**	*i* P	**Pn**	**16 17 25.3**	**+0.4**
PB11				*i* S	**Sn**	**16 17 48.4**	**-0.6**
PB11				IAML		16 17 49.2	
	comp=E,966nm,0.2s						
PB11	**IPOC Station P**	**1.65**	**324**	*e*P	**Pn**	**16 17 24.6**	**-0.3**
PB

0.2nm,0.4s
ASAR Alice Springs 17.82 167 P Pn 16 22 57.5 -0.7
0.1nm,0.3s,baz=341,slow=8.7,SNR=8.5
0.4nm,0.5s
MKAR Makanchi Array 67.38 327 P P 16 29 45.7 0.0
0.2nm,0.5s,baz=140,slow=7.0,SNR=2.3
0.2nm,0.5s

*HEL **09** 16:28:29.6±0.2,67°.65N×34°.15E,h0km,ML2.0,Explosion*
*KOLA **09** 16:28:30.7,67°.66N×34°.04E,h0km,ML2.2,Khibiny, mines Koashva, Nyurkpakh*
*IDC **09** 16:28:31.5±2.7,67°.69N×33°.86E,h0km,mbtmp2.6/2, ML1.9/2,Error ellipse: s-maj=30.1km s-min=12.3km az=72.0*
ISC 09 16:28:29.8±0.9,**67°.69N**±0°.03×**33°.98E**±0°.03,**h0**km,**n31,** σ1**9**58/49,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.25**	**241**	P	**Pg**	**16 28 35.4**	**+0.7**
APA				S	**Sg**	**16 28 38.9**	**+1.0**
LVZ	**Lovozero**	**0.33**	**51**	P	**Pg**	**16 28 36.7**	**+0.6**
LVZ				S	**Sg**	**16 28 41.5**	**+1.2**
LVZ	**Lovozero**	**0.33**	**51**	PG	**Pg**	**16 28 35.1**	**-1.0**
APA0	**Apatity Array**	**0.39**	**257**	P	**Pg**	**16 28 37.9**	**+0.6**
APA0				S	**Sg**	**16 28 43.5**	**+1.2**
KVDA	**Kovda**	**1.09**	**204**	P	**Pg**	**16 28 49.8**	**-1.0**
TERR	**Teriberka**	**1.57**	**15**	P	**Pn**	**16 28 59.0**	**+0.1**
TERR				S	**Sn**	**16 29 19.8**	**-0.1**
VRF	**Varrio**	**1.67**	**274**	PG	**Pn**	**16 29 00.5**	**+0.3**
VRF				MSG		16 29 21.4	
	comp=Z,20nm,0.2s						
VRF				SN	**Sn**	**16 29 22.9**	**+0.6**
OLKF	**Oulanka, Finla**	**2.27**	**235**	PG	**Pb**	**16 29 10.6**	**-1.0**
OLKF				MSG		16 29 37.5	
	comp=Z,5.8nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.27**	**293**	PB	**Pn**	**16 29 09.2**	**+0.7**
RAJF				SB	**Sb**	**16 29 39.7**	**-0.4**
KU6	**Riekki**	**2.33**	**226**	PG	**Pb**	**16 29 10.9**	**-1.7**
	baz=48						
KU6				MSG		16 29 39.0	
	comp=Z,4.6nm,0.2s						
KU6				SG	**Sb**	**16 29 42.4**	**+0.6**
MSF	**Maaselka**	**2.65**	**230**	PG	**Pb**	**16 29 17.0**	**-1.1**
MSF				SG	**Sb**	**16 29 51.6**	**+0.5**
KU1	**Kurvinen**	**2.77**	**222**	PB	**Pn**	**16 29 16.5**	**+1.1**
VADS	**Vadso**	**2.96**	**328**	P	**Pn**	**16 29 18.8**	**+0.9**
VADS				S	**Sn**	**16 29 54.8**	**+0.8**
VADS	**Vadso**	**2.96**	**328**	*eP*	**Pn**	**16 29 18.4**	**+0.5**
KU2	**Taivalkoski**	**3.03**	**232**	PB	**Pb**	**16 29 22.0**	**-2.5**
KEV	**Kevo**	**3.28**	**312**	*eP*	**Pn**	**16 29 23.6**	**+1.2**
RNF	**Rovaniemi**	**3.29**	**254**	PN	**Pn**	**16 29 23.1**	**+0.5**
RNF				SB	**Sn**	**16 30 06.0**	**+3.6**
RANF	**Ranua**	**3.30**	**243**	PB	**Pb**	**16 29 27.2**	**-2.0**
RANF				SG	**Sb**	**16 30 11.4**	**+1.5**
ARA0	**ARCESS Array S**	**3.61**	**305**	PN	**Pn**	**16 29 27.6**	**+0.6**
ARA0				SG	**Sg**	**16 30 23.4**	**-2.3**
ARCES	**ARCESS Array B**	**3.61**	**305**	Pn	**Pn**	**16 29 26.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=33						
ARCES				Pg	**Pg**	**16 29 36.2**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=117,slow=16,SNR=16						
ARCES				Sn	**Sn**	**16 30 10.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=120,slow=24,SNR=7.1						
ARCES				Lg	Lg	16 30 23.6	
	comp=Z,2.0nm,0.3s,baz=117,slow=29,SNR=15						
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**3.61**	**305**	P	**Pn**	**16 29 27.6**	**+0.7**
ARCES				S	**Sn**	**16 30 10.4**	**+0.1**
RMF	**Romuvaara**	**3.86**	**207**	PN	**Pn**	**16 29 30.4**	**0.0**
KLF	**Kolari**	**3.88**	**268**	PN	**Pn**	**16 29 31.9**	**+1.2**
KLF				SG	**Sg**	**16 30 32.0**	**-2.5**
HEF	**Hetta**	**3.94**	**285**	PN	**Pn**	**16 29 32.1**	**+0.6**
HEF				SN	**Sn**	**16 30 19.8**	**+1.5**
OUL	**Oulu**	**4.17**	**235**	PB	**Pn**	**16 29 39.0**	**+4.4**
KTK1	**Kautokeino**	**4.19**	**293**	PN	**Pn**	**16 29 36.3**	**+1.3**
KTK1				SN	**Sn**	**16 30 25.7**	**+1.1**
PAJU	**Pajala**	**4.25**	**266**	PN	**Pn**	**16 29 37.0**	**+1.1**
LANU	**Lannavaara**	**4.55**	**280**	PN	**Pn**	**16 29 39.6**	**-0.2**
LANU				SG	**Sg**	**16 30 53.0**	**-2.7**
I37NO	**I37NO**	**5.84**	**291**	I	I	17 03 30.0	
	baz=97,slow=322,SNR=4.1						
FINES	**FINESS Array B**	**7.13**	**212**	Pn	**Pn**	**16 30 15.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=24,slow=14,SNR=1.9						
FINES				Lg	Lg	16 32 13.2	
	comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=3.9						
	comp=Z,0.5nm,0.7s						
FAUS	**Fauske**	**7.16**	**276**	S	**Sn**	**16 31 33.2**	**-4.4**

*BER **09** 16:31:53.8±3.7,78°.11N×7°.49E,h10km,Mw3.5, ML2.2(NAO),Confirmed Earthquake*
*KOLA **09** 16:31:54.0,78°.07N×8°.64E,h0km,ML1.9,Error ellipse: s-maj=17.7km s-min=7.3km az=90.0,Greenland sea*
*NAO **09** 16:31:55.6±1.3,78°.08N×8°.19E,h15km,ML2.2*
ISC 09 16:31:52.8±3.0,**78°.06N**±0°.08×**8°.1E**±0°.1,**h3**km±15km,**n13,** σ0**8**82/22,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.17**	**40**	Pb	**Pg**	**16 32 15.1**	**+0.1**
KBS				Sb	**Sg**	**16 32 29.1**	**-1.0**
KBS	**Kingsbay**	**1.17**	**40**	P	**Pg**	**16 32 15.1**	**+0.1**
KBS				S	**Sg**	**16 32 29.0**	**-1.2**
KBS	**Kingsbay**	**1.17**	**40**	*eP*	**Pg**	**16 32 15.2**	**+0.1**
KBS				*eS*	**Sg**	**16 32 29.3**	**-0.9**
KBS				IAML		16 32 31.1	
	comp=Z,55nm,0.2s						
BRBA	**Barentsburg A**	**1.28**	**87**	Pb	**Pn**	**16 32 17.9**	**+0.5**
BRBA				Sb	**Sg**	**16 32 33.9**	**0.0**
BRBA	**Barentsburg A**	**1.28**	**87**	*eP*	**Pn**	**16 32 18.0**	**+0.5**
BRBA				*eS*	**Sg**	**16 32 33.8**	**-0.1**
BRBA				IAML		16 32 38.6	
	comp=Z,42nm,0.6s						
SPA0	**Spitsbergen Ar**	**1.73**	**82**	Pn	**Pb**	**16 32 25.6**	**+0.6**
	baz=264,slow=14						
SPA0				Sn	**Sn**	**16 32 46.2**	**+0.2**
	baz=251,slow=22						
SPA0	**Spitsbergen Ar**	**1.73**	**82**	Pn	**Pb**	**16 32 25.6**	**+0.6**
	baz=264,slow=14						
SPA0				Sn	**Sn**	**16 32 46.2**	**+0.2**
	baz=251,slow=22						
SPITS	**Spitsbergen Ar**	**1.73**	**82**	P	**Pn**	**16 32 24.1**	**+0.5**
SPITS				S	**Sn**	**16 32 46.3**	**+0.2**
HSPB	**Hornsund (broa**	**1.94**	**120**	Pn	**Pn**	**16 32 27.0**	**+0.4**
HSPB				Sn	**Sn**	**16 32 49.8**	**-1.6**
HSPB	**Hornsund (broa**	**1.94**	**120**	P	**Pn**	**16 32 26.9**	**+0.4**
HSPB				S	**Sn**	**16 32 49.4**	**-2.0**
HSPB	**Hornsund (broa**	**1.94**	**120**	*eP*	**Pn**	**16 32 27.0**	**+0.4**
HSPB				*e*		16 32 44.5	
HSPB				*eS*	**Sn**	**16 32 50.6**	**-0.7**
HSPB				IAML		16 32 51.1	
	comp=Z,12nm,0.2s						
NOR	**Nord**	**5.58**	**321**	*eP*	Pn	16 33 12.2	-4.3
DAG	**Danmarks Havn**	**5.94**	**271**	*eS*	Sn	16 34 17.9	-12

*IDC **09** 16:37:46.5±1.3,20°.68N×121°.99E,h0km,mb3.4/4, mbtmp3.4/5,ML3.3/1,Error ellipse: s-maj=71.8km s-min=22.0km az=69.0*
*TAP **09** 16:37:52.9,21°.17N×121°.85E,h107km±1km,ML3.5,D*
ISC 09 16:37:53.8±1.7,**21°.1N**±0°.1×**122°.0E**±0°.1,**h78**km±20km,**n61,** σ1**9**14/69,**mb3.4/4,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.99**	**338**	*eP*	**Pn**	**16 38 13.5**	**+0.8**
LAY				*eS*	**Sn**	**16 38 27.8**	**+1.0**
HEN	**Hengchun**	**1.44**	**308**	*eP*	**Pn**	**16 38 18.3**	**+0.1**
HEN				*eS*	**Sn**	**16 38 36.7**	**+0.1**
SLIU	**Shizi**	**1.53**	**316**	*eP*	**Pn**	**16 38 20.4**	**+1.0**
SLIU				*eS*	**Sn**	**16 38 39.1**	**+0.2**
TAWH	**Dawu Township**	**1.57**	**321**	*eP*	**Pn**	**16 38 17.6**	**-2.4**
TAWH				*eS*	**Sn**	**16 38 38.9**	**-0.8**
TAW	**Tawu**	**1.58**	**322**	*eP*	**Pn**	**16 38 19.5**	**-0.6**
TAW				*eS*	**Sn**	**16 38 38.7**	**-1.3**
LDUT	**Ludao**	**1.62**	**344**	*eP*	**Pn**	**16 38 19.9**	**-0.6**
LDUT				*eS*	**Sn**	**16 38 40.8**	**0.0**
SCZT	**Fangliau**	**1.76**	**316**	*eP*	**Pn**	**16 38 22.7**	**+0.2**
TWGBT	**Beinan**	**1.88**	**335**	*eP*	**Pn**	**16 38 22.9**	**-1.1**
TWG	**Pinlang**	**1.89**	**335**	*eP*	**Pn**	**16 38 22.8**	**-1.3**
TWG				*eS*	**Sn**	**16 38 46.4**	**-0.8**
MASBT	**Mashibuluo**	**1.93**	**321**	*eP*	**Pn**	**16 38 24.1**	**-0.6**
LONT	**Longtian**	**1.94**	**337**	*eP*	**Pn**	**16 38 24.1**	**-0.8**
EDH	**Donghe**	**1.95**	**342**	*eP*	**Pn**	**16 38 23.9**	**-1.0**
EDH				*eS*	**Sn**	**16 38 48.1**	**-0.5**
SSD	**Sandimen**	**2.04**	**323**	*eP*	**Pn**	**16 38 27.4**	**+1.3**
ECS	**Chishang**	**2.09**	**341**	*eP*	**Pn**	**16 38 27.3**	**+0.5**
CHKH	**Chenggong**	**2.13**	**346**	*eP*	**Pn**	**16 38 27.9**	**+0.5**
EHD	**Haiduan**	**2.14**	**341**	*eP*	**Pn**	**16 38 27.1**	**-0.5**
EHD				*eS*	**Sn**	**16 38 52.3**	**-1.0**
FULB	**Fuli**	**2.16**	**344**	*eP*	**Pn**	**16 38 27.1**	**-0.8**
FULB				*eS*	**Sn**	**16 38 53.6**	**-0.2**
SCST	**Cishan**	**2.22**	**323**	*eP*	**Pn**	**16 38 28.6**	**-0.1**
ELDTW	**Lidau**	**2.24**	**337**	*eP*	**Pn**	**16 38 27.9**	**-1.0**
TWF1	**Yuli**	**2.31**	**345**	*eP*	**Pn**	**16 38 28.9**	**-0.9**
TWF1				*eS*	**Sn**	**16 38 56.0**	**-1.3**
STYH	**Taoyuan**	**2.32**	**332**	*eP*	**Pn**	**16 38 30.9**	**+1.0**
YULB	**Yu-li**	**2.35**	**345**	*eP*	**Pn**	**16 38 29.7**	**-0.6**
YULB				*eS*	**Sn**	**16 38 56.2**	**-2.0**
HGSD	**Ruisui**	**2.42**	**348**	*eP*	**Pn**	**16 38 29.6**	**-1.7**
EHYH	**Wanrong**	**2.44**	**347**	*eP*	**Pn**	**16 38 32.7**	**+1.2**
EHYH				*eS*	**Sn**	**16 38 58.6**	**-1.7**
EHY	**Hungye**	**2.45**	**346**	*eP*	**Pn**	**16 38 31.3**	**-0.4**
EHY				*eS*	**Sn**	**16 38 59.4**	**-1.4**
SNST	**Tainan City**	**2.49**	**328**	*eP*	**Pn**	**16 38 33.7**	**+1.4**
TPUB	**Ta-pu**	**2.50**	**331**	*eP*	**Pn**	**16 38 33.7**	**+1.3**
TWK	**Hsinying**	**2.54**	**328**	*eP*	**Pn**	**16 38 33.0**	**+0.1**
CHN4	**Tsaushan**	**2.56**	**331**	*eP*	**Pn**	**16 38 34.4**	**+1.3**
EGFH	**Guangfu**	**2.59**	**349**	*eP*	**Pn**	**16 38 33.5**	**0.0**
WCKO	**Fanlu**	**2.63**	**332**	*eP*	**Pn**	**16 38 34.8**	**+0.7**
WARBT	**Fenglin Townsh**	**2.65**	**349**	*eP*	**Pn**	**16 38 33.5**	**-0.8**
WARBT				*eS*	**Sn**	**16 39 02.9**	**-2.6**
VWDT	**VWDT**	**2.73**	**344**	*eP*	**Pn**	**16 38 35.7**	**+0.2**
SSLB	**Suanglung**	**2.82**	**341**	*eP*	**Pn**	**16 38 36.3**	**-0.3**
ETM	**Tongmen**	**2.87**	**352**	*eP*	**Pn**	**16 38 36.5**	**-0.8**
OWD	**Renai**	**2.92**	**346**	*eP*	**Pn**	**16 38 38.9**	**+0.8**
SMLT	**Sun Moon Lake**	**2.92**	**341**	*eP*	**Pn**	**16 38 38.0**	**-0.2**
WUSB	**Renai**	**2.97**	**345**	*eP*	**Pn**	**16 38 40.1**	**+1.4**
EOS4	**EOS4**	**3.01**	**6**	*eP*	**Pn**	**16 38 39.2**	**+0.2**
NACB	**Ninganchiao**	**3.06**	**354**	*eP*	**Pn**	**16 38 39.6**	**-0.3**
ETLH	**Xiulin Townshi**	**3.11**	**352**	*eP*	**Pn**	**16 38 40.4**	**-0.3**
EOS3	**EOS3**	**3.18**	**6**	*eP*	**Pn**	**16 38 41.9**	**+0.5**
EOS3				*eS*	**Sn**	**16 39 16.6**	**-1.5**
EOS2	**EOS2**	**3.30**	**4**	*eP*	**Pn**	**16 38 44.2**	**+1.1**
ENA	**Nanau**	**3.31**	**357**	*eP*	**Pn**	**16 38 42.9**	**-0.3**
LATG	**Datong**	**3.43**	**354**	*eP*	**Pn**	**16 38 46.1**	**+1.1**
TWE	**Neicheng**	**3.60**	**356**	*eP*	**Pn**	**16 38 48.5**	**+1.3**
FUSB	**Fushanzhiwuyua**	**3.65**	**355**	*eP*	**Pn**	**16 38 48.8**	**+0.8**
TIPB	**Shuangxi**	**3.84**	**358**	*eP*	**Pn**	**16 38 52.1**	**+1.5**
SXI1	**Grass Mountain**	**3.96**	**359**	*eP*	**Pn**	**16 38 53.5**	**+1.2**
ZUZH	**Zhuzihu**	**4.05**	**355**	*eP*	**Pn**	**16 38 54.0**	**+0.6**
KSRS	**Korea Array**	**17.09**	**16**	P	**P**	**16 41 51.6**	**+3.5**
	0.1nm,0.3s,baz=198,slow=13,SNR=6.2						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**41.06**	**318**	P	P	16 45 34.8	+5.2
	0.5nm,0.5s,baz=110,slow=10.0,SNR=5.7						
	0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**42.04**	**84**	T	T	17 30 37.3	
	baz=274,slow=75,SNR=61						
H11N2	**WAKE ISLAND Hy**	**42.04**	**84**	T	T	17 30 36.6	
	baz=274,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**42.05**	**84**	T	T	17 30 39.1	
	baz=274,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**42.07**	**85**	T	T	17 30 33.7	
	baz=281,slow=75,SNR=208						
H11S1	**WAKE ISLAND Hy**	**42.08**	**85**	T	T	17 30 35.5	
	baz=281,slow=75,SNR=193						
H11S2	**WAKE ISLAND Hy**	**42.09**	**85**	T	T	17 30 33.7	
	baz=281,slow=75,SNR=174						
WRA	**Warramunga Arr**	**42.56**	**163**	P	**P**	**16 45 40.6**	**-1.5**
	0.4nm,0.8s,baz=343,slow=9.1,SNR=4.9						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**43.21**	**329**	P	P	16 45 51.6	+4.7
	0.4nm,0.3s,baz=108,slow=14,SNR=2.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.01**	**165**	P	**P**	**16 46 08.6**	**-1.0**
	0.2nm,0.8s,baz=339,slow=6.9,SNR=5.6						
	0.2nm,0.8s						

*NEIC **09** 16:39:44.2±1.9,43°.79N±0°.09×129°.5W±0°.2,h10km±2km, mb4.0/4,ML3.1/34,Error ellipse: s-maj=23.1km s-min=13.6km az=250.0*
*IDC **09** 16:39:50.1±2.1,44°.03N×129°.06W,h0km,mb3.4/3, mbtmp3.4/8,ML3.3/5,MS3.2/11,Error ellipse: s-maj=53.2km s-min=16.3km az=43.0*
*PGC **09** 16:39:51.1±0.1,43°.99N×128°.75W,h10km,MLSn3.7/2, Mw4.3/2,mb4.0(NEIC),454km west of Eugene, Oregon, Usa Off Coast Of Oregon*
ISC 09 16:39:51.2±1.2,**44°.11N**±0°.06×**128°.85W**±0°.09,**h15**km,**n83,** σ1**9**77/78,**mb3.5/4,MS3.2/6,Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.51**	**109**		**Pn**	**16 40 43.8**	**-1.5**
I02E	**Swisshome, OR**	**3.61**	**88**		**Pn**	**16 40 47.3**	**+0.8**
J01E	**Myrtle Point**	**3.70**	**103**		**Pn**	**16 40 46.9**	**-0.9**
J01E				IAML		16 41 33.4	
	comp=E,18nm,0.4s						
NC27	**ODP1027**	**3.73**	**11**	Pn	**Pn**	**16 40 48.5**	**+0.6**
HEBO	**Mount Hebo**	**3.80**	**71**		**Pn**	**16 40 49.6**	**+0.3**
HEBO				IAML		16 41 40.9	
	comp=E,23nm,2.0s						
HEBO				IAML		16 41 54.5	
	comp=N,21nm,2.2s						
I03D	**Drain, OR**	**4.00**	**94**		**Pn**	**16 40 52.0**	**0.0**
I03D				IAML		16 41 49.2	
	comp=E,16nm,1.6s						
G03D	**McMinnville, O**	**4.14**	**73**		**Pn**	**16 40 54.5**	**+0.6**
BUCK	**Buck Mountain**	**4.22**	**87**		**Pn**	**16 40 57.0**	**+1.9**
BUCK				IAML		16 41 53.5	
	comp=N,16nm,1.1s						
RADR	**Rader Ridge**	**4.25**	**55**		**Pn**	**16 40 56.6**	**+1.1**
RADR				IAML		16 42 34.8	
	comp=N,13nm,1.5s						
RADR				IAML		16 42 35.6	
	comp=E,14nm,3.0s						
L02F	**Cave Junction**	**4.35**	**115**		**Pn**	**16 40 55.4**	**-1.3**
L02F				IAML		16 41 52.8	
	comp=E,16nm,1.7s						
H04D	**Lebanon**	**4.41**	**83**		**Pn**	**16 40 59.6**	**+2.0**
H04D				IAML		16 43 29.1	
	comp=N,13nm,2.4s						
E03A	**Lebam**	**4.46**	**55**		**Pn**	**16 40 59.6**	**+1.4**
E03A				IAML		16 42 00.2	
	comp=E,14nm,0.9s						
E03A				IAML		16 42 19.4	
	comp=N,13nm,0.4s						
BBOR	**Butler Butte**	**4.66**	**103**		**Pn**	**16 40 59.5**	**-1.6**
BBOR				IAML		16 42 06.8	
	comp=N,14nm,1.4s						
BBOR				IAML		16 42 08.7	
	comp=E,12nm,1.1s						
NC89	**ODP889**	**4.77**	**16**	Pn	**Pn**	**16 41 03.8**	**+1.5**
NLWA	**Neilton Lookou**	**4.79**	**45**		**Pn**	**16 41 03.1**	**+0.3**
H04A	**Detroit Lake**	**4.81**	**81**		**Pn**	**16 41 02.3**	**-0.8**
H04A				IAML		16 42 07.5	
	comp=N,8.3nm,0.7s						
H04A				IAML		16 42 11.9	
	comp=E,8.1nm,0.7s						
C03A	**Quillayute Air**	**4.86**	**36**		**Pn**	**16 41 05.2**	**+1.5**
J04A	**Umpqua Nationa**	**4.97**	**98**		**Pn**	**16 41 06.9**	**+1.4**
YBH	**Yreka Blue Hor**	**5.10**	**116**		**Pn**	**16 41 08.1**	**+1.0**
YBH	**Yreka Blue Hor**	**5.10**	**116**	Pn	**Pn**	**16 41 10.2**	**+3.1**
	baz=265,slow=4.1,SNR=18						
YBH				Sn	**Sn**	**16 42 07.7**	**+1.9**
	baz=192,slow=6.8,SNR=3.5						
OSD	**Olympics--Snow**	**5.16**	**42**	Pn	**Pn**	**16 41 09.5**	**+1.3**
BFSB	**Bamfield**	**5.38**	**27**	Pn	**Pn**	**16 41 12.6**	**+1.8**
BFSB					Sn	**Sn**	**16 42 12.2**	**-0.2**
B928	**Bamfield**	**5.38**	**27**	Pn	**Pn**	**16 41 12.6**	**+1.8**
B928					Sn	**Sn**	**16 42 12.4**	**+0.1**
PTRF	**Port Renfrew**	**5.39**	**33**	Pn	**Pn**	**16 41 12.0**	**+0.9**
STW	**Striped Peak**	**5.41**	**40**	Pn	**Pn**	**16 41 12.9**	**+1.6**
SHPB	**Sharp Point**	**5.53**	**18**	Pn	**Pn**	**16 41 14.4**	**+1.5**
SHPB					Sn	**Sn**	**16 42 17.5**	**+1.3**
J05D	**Fort Rock, OR**	**5.58**	**96**		**Pn**	**16 41 15.1**	**+1.2**
LON	**Longmire**	**5.62**	**60**		**Pn**	**16 41 15.7**	**+1.5**
SYMB	**Survey Mountai**	**5.66**	**36**	Pn	**Pn**	**16 41 15.5**	**+0.7**
SYMB					Sn	**Sn**	**16 42 19.4**	**-0.1**
MGRB	**Mount Grey**	**5.67**	**29**	Pn	**Pn**	**16 41 16.2**	**+1.3**
MGRB					Sn	**Sn**	**16 42 20.3**	**+0.5**
NTKA	**Nootka**	**5.69**	**15**	Pn	**Pn**	**16 41 16.9**	**+1.8**
PINE	**Pine Mountain**	**5.72**	**90**		**Pn**	**16 41 15.4**	**-0.4**
B926	**Mesachie Lake**	**5.73**	**33**	Pn	**Pn**	**16 41 17.0**	**+1.3**
B926				Sn	**Sn**	**16 42 21.4**	**+0.3**
CLRS	**Cowichan Lake**	**5.73**	**33**		**Pn**	**16 41 16.5**	**+0.8**
CLRS	**Cowichan Lake**	**5.73**	**33**	Pn	**Pn**	**16 41 17.0**	**+1.4**
CLRS				Sn	**Sn**	**16 42 21.5**	**+0.4**
VGZ	**Gonzales**	**5.76**	**40**	Pn	**Pn**	**16 41 17.2**	**+1.0**
B009	**North Saanich**	**5.88**	**38**	Pn	**Pn**	**16 41 18.6**	**+0.9**
B009				Sn	**Sn**	**16 42 25.0**	**+0.2**
PGC	**Sidney**	**5.88**	**38**	Pn	**Pn**	**16 41 18.8**	**+1.1**
PGC				Sn	**Sn**	**16 42 25.0**	**+0.3**
B011	**North Saanich**	**5.88**	**38**	Sn	**Sn**	**16 42 25.8**	**+1.0**
EDB	**Eliza Dome**	**5.89**	**11**	Pn	**Pn**	**16 41 19.7**	**+1.9**
MYRA	**Myra Falls**	**5.89**	**21**	Pn	**Pn**	**16 41 19.7**	**+1.7**
G06A	**Carlson Farm,**	**5.97**	**76**		**Pn**	**16 41 21.0**	**+2.0**
GOBB	**Galiano Island**	**6.08**	**35**	Pn	**Pn**	**16 41 21.8**	**+1.3**
GOBB				Sn	**Sn**	**16 42 30.6**	**+0.8**
SNB	**Saturna Island**	**6.10**	**38**	Pn	**Pn**	**16 41 22.5**	**+1.7**
SNB				Sn	**Sn**	**16 42 30.5**	**+0.3**
TXB	**Texada**	**6.35**	**27**	Pn	**Pn**	**16 41 26.6**	**+2.3**
MAYB	**Maynard**	**6.40**	**10**	Pn	**Pn**	**16 41 27.8**	**+2.9**
HOLB	**Holberg**	**6.55**	**4**	Pn	**Pn**	**16 41 25.7**	**-1.3**
NCSB	**Newcastle Ridg**	**6.58**	**16**	Pn	**Pn**	**16 41 30.7**	**+3.3**
G08A	**Pilot Rock**	**7.15**	**77**	Pn	**Pn**	**16 41 37.8**	**+2.5**
WSLR	**Whistler**	**7.25**	**32**	Pn	**Pn**	**16 41 38.9**	**+2.2**
LLLB	**Lillooet**	**8.04**	**34**	Pn	**Pn**	**16 41 49.9**	**+2.5**
BBB	**Bella Bella**	**8.10**	**3**	Pn	**Pn**	**16 41 50.8**	**+2.7**
	comp=E,0.1nm,0.3s,baz=233,slow=8.4,SNR=3.4						
	comp=E,1.9nm,0.6s						
NEW	**Newport**	**9.13**	**59**	LR	LR	16 45 30.8	
	comp=E,200nm,19.5s,baz=232,slow=37						
LHV	**Little Huntoon**	**9.75**	**123**	Pn	Pn	16 42 06.7	-4.1
NVAR	**Mina Array Bea**	**9.76**	**122**	Pn	**Pn**	**16 42 14.1**	**+2.9**
	baz=282,slow=14,SNR=5.3						
	comp=E,0.8nm,0.8s						
ELK	**Elko**	**10.61**	**104**	Pn	**Pn**	**16 42 20.5**	**-2.4**
ELK	**Elko**	**10.61**	**104**	Pn	Pn	16 42 28.6	+5.8
	comp=E,0.1nm,0.3s,baz=293,slow=3.9,SNR=4.8						
ELK				LR	LR	16 46 55.3	
	comp=E,62nm,18.3s,baz=300,slow=40						
	comp=E,0.9nm,0.7s						
EGMT	**Eagleton**	**13.82**	**67**	Pn	**Pn**	**16 43 06.0**	**-0.6**
PDAR	**Pinedale Array**	**14.09**	**89**	Pn	**P**	**16 43 16.4**	**-1.6**
	comp=E,0.1nm,0.3s,baz=290,slow=9.3,SNR=6.6						
PDAR				LR	LR	16 48 48.7	
	comp=E,87nm,18.6s,baz=270,slow=38						
	comp=E,0.2nm,0.6s						
PFO	**Pinyon Flats O**	**14.23**	**133**	LR	LR	16 48 18.5	
	comp=E,92nm,18.1s,baz=321,slow=36						
DLBC	**Dease Lake**	**14.37**	**358**	LR	LR	16 47 29.2	
	comp=E,20nm,20.1s,baz=159,slow=32						
P18A	**Preston Nutter**	**14.56**	**101**	Pn	**Pn**	**16 43 14.7**	**-2.3**
SRU	**San Rafael Swe**	**14.59**	**104**	Pn	**Pn**	**16 43 16.4**	**-0.8**
HMU	**Henry Mountain**	**14.98**	**108**	Pn	**Pn**	**16 43 20.7**	**-2.0**
HMU				IAmb	IAmb	16 43 43.7	
	comp=Z,6.4nm,0.8s						
PV21	**Cone Mtn., Par**	**15.91**	**104**	Pn	**Pn**	**16 43 33.4**	**-1.4**
ANMO	**Albuquerque**	**19.50**	**110**	P	**Pn**	**16 44 20.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=46,slow=8.2,SNR=5.2						
	comp=Z,2.3nm,0.9s						
KDAK	**Kodiak Island**	**20.12**	**321**	LR	LR	16 49 33.5	
	comp=E,45nm,18.8s,baz=105,slow=29						
ILAR	**Eielson Array**	**23.04**	**340**	P	**P**	**16 44 56.5**	**+1.0**
	comp=Z,0.9nm,1.0s,baz=150,slow=8.9,SNR=8.0						
ILAR				LR	LR	16 52 24.4	
	comp=Z,70nm,19.3s,baz=186,slow=33						
	comp=Z,0.9nm,1.0s						
H24K	**Noodor Dome**	**24.15**	**341**	P	**P**	**16 45 01.4**	**-5.1**
H24K				IAmb	IAmb	16 45 12.1	
	comp=Z,7.8nm,1.5s						
INK	**Inuvik**	**24.38**	**

RTLL					IAML			16 44 01.9	
	comp=Z,61nm,1.1s								
SJA	**San Juan**	**3.27**	**122**	*e*P		Pg		16 43 24.2	+12
SJA					IAML			16 44 48.1	
	comp=Z,114nm,0.1s								
VCA	**Vinchina**	**3.34**	**72**	*e*P		**Pb**		**16 43 08.2**	**-1.8**
VCA				*e*S		**Sb**		**16 43 47.5**	**-3.7**
VCA					IAML			16 43 58.5	
	comp=Z,158nm,0.4s								
PEL	**Peldehue**	**3.43**	**164**	*e*P		**Pb**		**16 43 10.5**	**-1.0**
PEL				*e*S		**Sb**		**16 43 55.0**	**+1.3**
ASAL	**Salagasta**	**3.75**	**138**	*e*P		**Pb**		**16 43 15.2**	**-1.7**
ASAL				*e*S		**Sb**		**16 44 03.0**	**+0.2**
AC02	**Maricunga**	**3.82**	**39**	*e*P		**Pn**		**16 43 12.4**	**+2.1**
AC02				*e*S		**Sg**		**16 44 12.1**	**-0.6**
AC02					IAML			16 44 14.1	
	comp=Z,60nm,0.8s								
AVFE	**Valle Fertil**	**3.86**	**103**	*e*P		**Pn**		**16 43 13.3**	**+2.8**
AVFE				*e*S		**Sn**		**16 43 59.5**	**+3.0**
AVFE					IAML			16 44 13.3	
	comp=Z,60nm,0.8s								
ARCO	**CERRO ARCO**	**3.88**	**141**	*e*P		**Pb**		**16 43 20.0**	**+0.8**
ARCO				*e*S		**Sg**		**16 44 13.5**	**-1.0**
ARCO					IAML			16 44 16.9	
	comp=Z,40nm,0.4s								
AAGR	**Agrelo**	**4.12**	**142**	*e*P		**Pb**		**16 43 23.9**	**+0.6**
AAGR				*e*S		**Sg**		**16 44 20.9**	**-1.4**
AAGR					IAML			16 44 25.1	
	comp=Z,26nm,0.7s								
ACLC	**CERRO LA CRUZ**	**4.25**	**86**	*e*P		**Pn**		**16 43 13.5**	**-2.5**
ACLC				*e*P		Pb		16 43 20.7	-4.9
ACLC					IAML			16 44 17.6	
	comp=Z,29nm,0.5s								
AANI	**Anillaco**	**4.38**	**78**	*e*P		**Pn**		**16 43 21.1**	**+3.4**
APLL	**PUNTA DE LOS L**	**4.61**	**98**	*e*P		**Pn**		**16 43 23.2**	**+2.4**
APLL				*e*S		**Sb**		**16 44 21.6**	**-6.2**
ACHE	**Chepes**	**4.64**	**108**	*e*P		**Pn**		**16 43 23.9**	**+2.7**
CYA	**Choya**	**5.44**	**77**	*e*P		Pn		16 43 37.0	+4.8
CYA				*e*S		**Sn**		**16 44 37.0**	**+1.6**
CYA					IAML			16 44 47.0	
	comp=Z,18nm,0.7s								

*IDC **09** 16:52:19.0±7.5, 7.41S×129.37E±0.08, h171km±79km, mb3.0/1, mbtmp3.9/5, Error ellipse: s-maj=72.3km s-min=24.8km az=37.0*

ISC 09 16:52:18.6±1.3, **7.55S**±0.09×**129.47E**±0.08, **h150**km, **n13,** σ3**15**/16, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.87**	**104**	P		**Pn**	**16 52 49.7**	**-2.5**
DRS	**Darwin Rock St**	**5.05**	**164**	P		**Pn**	**16 53 35.1**	**+2.3**
DRS	**Darwin Rock St**	**5.05**	**164**	S		**Sn**	**16 54 34.9**	**+4.2**
FAKI	**Fak Fak**	**5.37**	**31**	P		Pn	16 53 26.3	-11
KDU	**Kakadu**	**5.90**	**150**	P		**Pn**	**16 53 44.6**	**+0.6**
BATI	**Baumata**	**6.31**	**245**	P		**Pn**	**16 53 50.7**	**+1.2**
	11nm,0.3s,baz=148,slow=1.2,SNR=8.6							
BATI				S		**Sn**	**16 55 01.8**	**+1.1**
	34nm,0.6s,baz=91,slow=20,SNR=9.4							
FITZ	**Fitzroy Crossi**	**11.13**	**199**	P		**Pn**	**16 54 54.7**	**+1.2**
	2.4nm,0.2s,baz=22,slow=5.6,SNR=18							
FITZ				S		**Sn**	**16 56 52.9**	**-3.7**
	2.3nm,0.3s,baz=33,slow=16,SNR=3.6							
FITZ	**Fitzroy Crossi**	**11.13**	**199**	P		**Pn**	**16 54 54.4**	**+0.8**
WRA	**Warramunga Arr**	**13.20**	**160**	P		**Pn**	**16 55 20.4**	**-0.1**
	2.1nm,0.5s,baz=335,slow=14,SNR=40							
WRA				S		**Sn**	**16 57 42.2**	**-4.3**
	3.0nm,0.5s,baz=334,slow=21,SNR=11							
COEN	**Coen**	**14.89**	**116**	P		**Pn**	**16 55 44.9**	**+3.1**
ASAR	**Alice Springs**	**16.59**	**166**	P		**P**	**16 56 04.5**	**+2.0**
	0.9nm,0.5s,baz=337,slow=9.3,SNR=36							
ASAR				S		**S**	**16 59 01.6**	**-5.4**
	0.6nm,0.9s,baz=182,slow=30,SNR=4.8							
AS01	**Alice Springs**	**16.59**	**165**	P		**Pn**	**16 56 05.9**	**+3.2**
MKAR	**Makanchi Array**	**68.39**	**327**	P		**P**	**17 03 01.0**	**-3.1**
	0.2nm,0.3s,baz=120,slow=7.9,SNR=4.3							
	0.2nm,0.3s							

*SJA **09** 16:53:41.7±0.7, 23.33S×62.97W, h551km±42km, ML4.3, MW4.0*

*IDC **09** 16:53:52.7±1.3, 23.32S×63.75W, h548km±22km, mb3.6/1, mbtmp3.9/6, Error ellipse: s-maj=31.6km s-min=22.5km az=109.0*

ISC 09 16:53:52.3±0.9, **23.5S**±0.1×**63.6W**±0.1, **h544**km, **n18,** σ1**78**/24, **Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**5.36**	**201**	*e*P		**P**	**16 55 21.5**	**-3.3**
CPUP	**Villa Florida**	**6.36**	**118**	P		**P**	**16 55 37.0**	**+3.1**
	1.3nm,0.5s,baz=166,slow=11,SNR=9.7							
ACLC	**CERRO LA CRUZ**	**6.68**	**206**	*e*P		**P**	**16 55 36.7**	**-0.3**
VCA	**Vinchina**	**6.71**	**217**	*e*P		**P**	**16 55 37.7**	**+0.4**
VCA				*e*S		**S**	**16 57 02.1**	**-1.3**
GO03	**Copiapo**	**7.29**	**234**	*e*P		**P**	**16 55 43.9**	**+1.0**
APLL	**PUNTA DE LOS L**	**7.40**	**200**	*e*P		**P**	**16 55 43.9**	**+0.1**
APLL				*e*S		**S**	**16 57 10.9**	**-4.5**
AGUA	**GUANDACOL**	**7.45**	**215**	*e*P		**P**	**16 55 44.6**	**+0.1**
AGUA				*e*S		**S**	**16 57 16.5**	**+0.1**
AGUA					IAML		16 57 18.6	
	comp=Z,15nm,0.3s							
SIV	**San Ignacio**	**7.79**	**18**	P		**P**	**16 55 47.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=208,slow=12,SNR=2.5							
AVFE	**Valle Fertil**	**7.97**	**205**	*e*P		**P**	**16 55 49.5**	**0.0**
ACHE	**Chepes**	**8.16**	**199**	*e*P		**P**	**16 55 52.0**	**+0.5**
LPAZ	**La Paz**	**8.31**	**328**	P		**P**	**16 55 52.5**	**-1.3**
	comp=Z,11nm,0.3s,baz=126,slow=3.4,SNR=58							
ACDV	**Cuesta del Vie**	**8.32**	**215**	*e*P		**P**	**16 55 55.4**	**+2.3**
ACDV					IAML		16 55 58.2	
	comp=Z,6.3nm,0.4s							
ACDV				*e*S		**S**	**16 57 33.7**	**+1.3**
AROD	**Rodeo**	**8.51**	**217**	*e*P		**P**	**16 55 57.2**	**+2.0**
ACCO	**Cerro Coronel**	**8.63**	**213**	*e*P		**P**	**16 55 58.5**	**+2.1**
ACCO				*e*S		**S**	**16 57 39.4**	**+1.1**
CFA	**Coronel Fontan**	**9.11**	**206**	P		**P**	**16 56 02.6**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=28,slow=15,SNR=3.3							
CFA				S		**S**	**16 57 46.5**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=273,slow=19,SNR=6.6							
BDFB	**Brasilia**	**16.59**	**65**	P		**P**	**16 57 17.5**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=251,slow=10.0,SNR=3.2							
DBIC	**Dimbokro**	**64.66**	**70**	P		**P**	**17 03 37.9**	**+0.7**
	comp=Z,5.9nm,1.1s,baz=247,slow=7.7,SNR=2.3							
	comp=Z,5.9nm,1.1s							
WRA	**Warramunga Arr**	**133.47**	**203**	PKP		**PKiKP**	**17 12 08.2**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=143,slow=1.9,SNR=5.6							

*UCR **09** 17:03:59.5±1.2, 13.22N×89.24W, h0km±16km, MB4.5(NEIC)*

*CATAC **09** 17:03:59.7±0.2, 13.1′N±1.1′×89.5W±1.0, h32km±2km, M4.9/64, mb5.2/7, mB5.3/6, MLv5.0/64, Mw(mB)4.7/6, Error ellipse: s-maj=3.3km s-min=1.5km az=32.1, confirmed*

*NEIC **09** 17:03:59.3, 13.10N×89.47W, h66km*

*NEIC **09** 17:03:59.4±2.2, 13.14N±0.06×89.45W±0.07, h64km±7km, mb4.5/201, Mwr4.5/16, Error ellipse: s-maj=10.8km s-min=6.8km az=50.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=6.25; $M_{\theta\theta}$7.74; $M_{\phi\phi}$-1.49; $M_{r\theta}$2.64; $M_{\theta\phi}$0.48; $M_{\phi r}$-2.41; Fault plane solution: M_o7.98000×10^{15} NP1:ϕ_1=65.55000°, δ39.33000°, λ-124.80000°. NP2:ϕ_2=287.49000°, δ58.64000°, λ-64.94000°. Principal axes: T 8.2237, Plg10.0000°, Azm360.0000°; N -0.5189, Plg21.0000°, Azm94.0000°; P -7.7047, Plg66.0000°, Azm245.0000°;*

*SNET **09** 17:04:00.6±1.6, 13.13N×89.52W, h40km, ML4.8*

*IDC **09** 17:04:01.3±0.9, 13.41N×89.12W, h77km±5km, mb3.8/13, mbtmp4.2/15, MS3.4/24, Error ellipse: s-maj=25.1km s-min=13.6km az=52.0*

*GCG **09** 17:04:01.2±0.5, 13.24N×89.59W, h50km±6km, MD4.9, ML4.7*

ISC 09 17:03:59.8±0.6, **13.17N**±0.04×**89.47W**±0.03, **h71**km±4km, **n361,** σ1**26**/323, **mb4.5**/91, **28C-12D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.35**	**25**	*e*P		**Pn**	**17 04 10.4**	**-1.0**
LALI				*e*S		**Sn**	**17 04 18.6**	**-1.4**
LALI	**Alcalda de L**	**0.35**	**25**	⇓P		**Pn**	**17 04 10.3**	**-1.2**
JAYA	**Jayaque - finc**	**0.48**	**3**	*e*P		**Pn**	**17 04 12.0**	**-0.8**
JAYA	**Jayaque - finc**	**0.48**	**3**	⇑*i*P		**Pn**	**17 04 11.6**	**-1.2**
JAYA	**Jayaque - finc**	**0.48**	**3**	⇑P		**Pn**	**17 04 11.6**	**-1.2**
JAYA	**Jayaque - finc**	**0.48**	**3**	S		**Sn**	**17 04 20.9**	**-1.4**
PANCS	**Alcalda de**	**0.52**	**33**	P		**Pn**	**17 04 12.3**	**-0.8**
PANCS	**Alcalda de**	**0.52**	**33**	S		**Sn**	**17 04 21.6**	**-1.1**
LOMA	**Loma Larga**	**0.55**	**32**	*e*P		**Pn**	**17 04 12.8**	**-0.7**
LOMA	**Loma Larga**	**0.55**	**32**	⇑P		**Pn**	**17 04 12.8**	**-0.7**
LOMA	**Loma Larga**	**0.55**	**32**	S		**Sn**	**17 04 23.0**	**-0.4**
PMON	**Piamonte**	**0.56**	**16**	⇑P		**Pn**	**17 04 12.8**	**-0.7**
PMON	**Piamonte**	**0.56**	**16**	S		**Sn**	**17 04 23.1**	**-0.4**
UEES	**Universidad Ev**	**0.59**	**23**	⇑P		**Pn**	**17 04 13.2**	**-0.5**
UEES	**Universidad Ev**	**0.59**	**23**	S		**Sn**	**17 04 23.7**	**-0.2**
UTEC	**Universidad Te**	**0.59**	**27**	P		**Sn**	**17 04 13.2**	**-0.5**
UTEC	**Universidad Te**	**0.59**	**27**	S		**Sn**	**17 04 23.8**	**-0.1**
BOQS	**Boqueron**	**0.59**	**19**	*e*P		**Pn**	**17 04 13.4**	**-0.5**
LFRS	**El Faro**	**0.60**	**42**	*e*P		**Pn**	**17 04 13.5**	**-0.4**
UDBS	**Universidad Do**	**0.62**	**30**	P		**Pn**	**17 04 13.8**	**-0.3**
UDBS	**Universidad Do**	**0.62**	**30**	S		**Sn**	**17 04 24.6**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.63**	**34**	*e*P		**Pn**	**17 04 14.1**	**-0.1**
AEIL				*e*S		**Sn**	**17 04 25.3**	**+0.7**
CEDA	**San Andres**	**0.63**	**7**	*e*P		**Pn**	**17 04 13.5**	**-0.6**
CEDA	**San Andres**	**0.63**	**7**	⇑P		**Pn**	**17 04 13.7**	**-0.5**
CEDA	**San Andres**	**0.63**	**7**	S		**Sn**	**17 04 24.5**	**-0.2**
CEVE	**Cerro Verde**	**0.67**	**347**	*e*P		**Pn**	**17 04 14.0**	**-0.7**
CEVE	**Cerro Verde**	**0.67**	**347**	⇑P		**Pn**	**17 04 14.1**	**-0.7**
CEVE	**Cerro Verde**	**0.67**	**347**	S		**Sn**	**17 04 25.2**	**-0.6**
LFU	**La Fuente**	**0.67**	**31**	*e*P		**Pn**	**17 04 14.5**	**-0.1**
LBRS	**Las Brisas**	**0.70**	**37**	*e*P		**Pn**	**17 04 15.0**	**+0.1**
SNJE	**San Jose**	**0.70**	**349**	*e*P		**Pn**	**17 04 14.5**	**-0.6**
SNJE				*e*S		**Sn**	**17 04 25.8**	**-0.5**
PAVA	**Las Pavas**	**0.75**	**44**	⇓P		**Pn**	**17 04 15.9**	**+0.3**
PAVA	**Las Pavas**	**0.75**	**44**	S		**Sn**	**17 04 28.1**	**+1.0**
TECO	**Alcaldia de Te**	**0.77**	**62**	P		**Pn**	**17 04 15.4**	**-1.2**
TECO	**Alcaldia de Te**	**0.77**	**62**	S		**Sn**	**17 04 27.4**	**+0.2**
NUBE	**Las Nubes**	**0.78**	**338**	⇑*i*P		**Pn**	**17 04 15.1**	**-0.9**
NUBE				*i*S		**Sn**	**17 04 26.3**	**-1.6**
NUBE	**Las Nubes**	**0.78**	**338**	⇑P		**Pn**	**17 04 15.1**	**-0.9**
UNIC	**Universidad Ca**	**0.81**	**355**	P		**Pn**	**17 04 16.1**	**-0.1**
UNIC	**Universidad Ca**	**0.81**	**355**	S		**Sn**	**17 04 28.7**	**+0.5**
UESV	**Universidad de**	**0.81**	**55**	P		**Pn**	**17 04 16.3**	**+0.2**
UESV	**Universidad de**	**0.81**	**55**	S		**Sn**	**17 04 28.8**	**+0.6**
FAME	**Alcaldia de Sa**	**0.85**	**322**	⇑P		**Pn**	**17 04 15.4**	**-1.2**
LOAL	**Lomas de Alarc**	**0.87**	**340**	*e*P		**Pn**	**17 04 16.8**	**-0.2**
LOAL	**Lomas de Alarc**	**0.87**	**340**	P		**Pn**	**17 04 16.7**	**-0.2**
LOAL	**Lomas de Alarc**	**0.87**	**340**	S		**Sn**	**17 04 30.8**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.90**	**54**	⇑P		**Pn**	**17 04 17.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.90**	**54**	S		**Sn**	**17 04 32.0**	**+1.9**
SLOZ	**Alcaldia de Sa**	**0.90**	**340**	P		**Pn**	**17 04 16.9**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.90**	**340**	S		**Sn**	**17 04 30.8**	**+0.6**
PQSS	**Presa 15 de Se**	**1.00**	**63**	P		**Pn**	**17 04 18.8**	**+0.5**
PQSS	**Presa 15 de Se**	**1.00**	**63**	S		**Sn**	**17 04 32.9**	**+0.8**
LLGN	**La Laguna**	**1.11**	**28**	*e*P		**Pn**	**17 04 20.1**	**+0.2**
LLGN	**La Laguna**	**1.11**	**28**	⇑P		**Pn**	**17 04 20.1**	**+0.2**
LLGN	**La Laguna**	**1.11**	**28**	S		**Sn**	**17 04 36.5**	**+1.6**
PACA	**Pacayal**	**1.16**	**75**	P		**Pn**	**17 04 21.5**	**+1.0**
PACA	**Pacayal**	**1.16**	**75**	S		**Sn**	**17 04 37.7**	**+1.7**
MTO3	**Montecristo**	**1.22**	**5**			**Pn**	**17 04 21.5**	**+0.1**
MTO3						**Sn**	**17 04 37.8**	**+0.1**
MTO3	**Montecristo**	**1.22**	**5**	⇑*i*P		**Pn**	**17 04 21.6**	**+0.1**
MTO3				*i*S		**Sn**	**17 04 38.2**	**+0.6**
MTO3	**Montecristo**	**1.22**	**5**	⇑P		**Pn**	**17 04 21.6**	**+0.1**
BLLM	**Bellamira**	**1.23**	**77**	*e*P		**Pn**	**17 04 22.1**	**+0.7**
CNRM	**Centro Naciona**	**1.30**	**77**	*e*P		**Pn**	**17 04 23.6**	**+1.3**
CNRM				*e*S		**Sn**	**17 04 41.6**	**+2.5**
CNRM	**Centro Naciona**	**1.30**	**77**	P		**Pn**	**17 04 23.0**	**+0.8**
CNRM	**Centro Naciona**	**1.30**	**77**	S		**Sn**	**17 04 40.8**	**+1.7**
CAHU	**Cacacuatique**	**1.36**	**64**	*e*P		**Pn**	**17 04 23.9**	**+0.7**
ESQI	**Esquipulas**	**1.39**	**5**			**Pn**	**17 04 24.0**	**+0.5**
ESQI						**Sn**	**17 04 42.5**	**+1.3**
ESQI	**Esquipulas**	**1.39**	**5**	⇑P		**Pn**	**17 04 24.0**	**+0.5**
ESQI	**Esquipulas**	**1.39**	**5**	S		**Sn**	**17 04 42.5**	**+1.3**
FG16	**Alotenango, Sa**	**1.49**	**317**	⇑*i*P		**Pn**	**17 04 29.5**	**+4.6**
FG8	**Yepocapa, Chim**	**1.51**	**316**	*e*P		Pn	17 04 29.9	+4.8
FG8				⇑*e*S		**Sn**	**17 04 52.4**	**+8.2**
LCND	**La Caada**	**1.55**	**85**	*e*P		**Pn**	**17 04 26.8**	**+1.3**
LCND				*e*S		**Sn**	**17 04 47.3**	**+2.4**
LCND	**La Caada**	**1.55**	**85**	P		**Pn**	**17 04 26.8**	**+1.3**
CNCH	**Conchagua**	**1.60**	**86**	*e*P		**Pn**	**17 04 27.1**	**+0.8**
CNCH				*e*S		**Sn**	**17 04 50.2**	**+3.9**
CNCH	**Conchagua**	**1.60**	**86**	⇓P		**Pn**	**17 04 27.0**	**+0.7**
CNCH	**Conchagua**	**1.60**	**86**	S		**Sn**	**17 04 48.1**	**+1.8**
MARCA	**Marcala la Paz**	**1.71**	**55**	S		**Sn**	**17 04 50.6**	**+1.8**
MARCA	**Marcala la Paz**	**1.71**	**55**	⇑P		**Pn**	**17 04 28.4**	**+0.7**
SARH	**Santa Rosa de**	**1.74**	**23**	⇑*i*P		**Pn**	**17 04 29.3**	**+1.2**
SARH	**Santa Rosa de**	**1.74**	**23**	⇑P		**Pn**	**17 04 29.2**	**+1.2**
SARH	**Santa Rosa de**	**1.74**	**23**	S		**Sn**	**17 04 52.1**	**+2.6**
INTN	**La Esperanza I**	**1.75**	**49**	⇑P		**Pn**	**17 04 29.2**	**+0.8**
ESSG	**Sabana Grande**	**1.79**	**313**	*i*P		**Pn**	**17 04 28.2**	**-0.5**
CSGN	**Cosiguina Volc**	**1.88**	**96**	*e*P		**Pn**	**17 04 29.6**	**-0.3**
CSGN				*e*S		**Sn**	**17 04 53.1**	**+0.3**
CSGN	**Cosiguina Volc**	**1.88**	**96**	⇓P		**Pn**	**17 04 30.0**	**+0.1**
CSGN				S		**Sn**	**17 04 53.9**	**+1.1**
POTN	**Potosi Cosigui**	**1.92**	**95**	*e*P		**Pn**	**17 04 30.7**	**+0.2**
POTN				*e*S		**Sn**	**17 04 54.8**	**+1.0**
POTN	**Potosi Cosigui**	**1.92**	**95**	⇓P		**Pn**	**17 04 31.0**	**+0.5**
POTN				S		**Sn**	**17 04 55.1**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.31**	**67**			**Pn**	**17 04 36.4**	**+0.6**
TGUH						**Sn**	**17 05 03.3**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.31**	**67**	⇑P		**Pn**	**17 04 36.4**	**+0.6**
TGUH				S		**Sn**	**17 05 05.2**	**+1.8**
CRIN	**San Cristobal**	**2.41**	**101**			**Pn**	**17 04 37.6**	**+0.5**
CRIN						**Sn**	**17 05 02.9**	**-2.8**
CRIN	**San Cristobal**	**2.41**	**101**	*e*P		**Pn**	**17 04 37.2**	**+0.1**
CRIN	**San Cristobal**	**2.41**	**101**	⇓P		**Pn**	**17 04 37.6**	**+0.5**
CRIN	**San Cristobal**	**2.41**	**101**	S		**Sn**	**17 05 07.8**	**+2.2**
RTAL	**Retalhuleu**	**2.54**	**302**			**Pn**	**17 04 38.6**	**-0.2**
RTAL	**Retalhuleu**	**2.54**	**302**	P		**Pn**	**17 04 39.0**	**+0.2**
RTAL	**Retalhuleu**	**2.54**	**302**	S		**Sn**	**17 05 09.3**	**+0.5**
ALEN	**Leon**	**2.64**	**105**	P		**Pn**	**17 04 40.9**	**+0.8**
HERN	**Volcan Telica**	**2.64**	**102**			**Pn**	**17 04 37.5**	**-2.8**
HERN						**Sn**	**17 05 09.0**	**-2.2**
POLN	**Al Sur del Vol**	**2.65**	**101**	⇓P		**Pn**	**17 04 40.3**	**+0.1**
POLN				S		**Sn**	**17 05 11.3**	**-0.1**
YUSH	**Yuscaran**	**2.67**	**73**	⇑P		**Pn**	**17 04 41.5**	**+0.8**
PACN	**Al O del Volca**	**2.70**	**104**	P		**Pn**	**17 04 41.5**	**+0.5**
PACN				S		**Sn**	**17 05 12.2**	**-0.5**
PLRN	**Geotermica Pol**	**2.70**	**102**	P		**Pn**	**17 04 41.2**	**+0.1**
PLRN				S		**Sn**	**17 05 12.0**	**-0.7**
ROCN	**Rota Cerro Neg**	**2.74**	**103**	P		**Pn**	**17 04 41.7**	**+0.2**
ROCN				S		**Sn**	**17 05 13.8**	**+0.2**
ILCN	**San Idelfonso**	**2.77**	**102**	⇓P		**Pn**	**17 04 42.3**	**+0.3**
ILCN				S		**Sn**	**17 05 14.2**	**+0.1**
CNGA	**Al SSO del Vol**	**2.79**	**104**	⇑P		**Pn**	**17 04 42.3**	**+0.1**
CNGA				S		**Sn**	**17 05 14.5**	**-0.3**
CNGN	**Cerro Negro**	**2.79**	**104**			**Pn**	**17 04 41.0**	**-1.2**
CNGN	**Cerro Negro**	**2.79**	**104**	⇓P		**Pn**	**17 04 42.0**	**-0.2**
CNGN	**Cerro Negro**	**2.79**	**104**	S		**Sn**	**17 05 16.3**	**+1.4**
HUEH	**Huehuetenango**	**2.90**	**318**			**Pn**	**17 04 43.1**	**-0.8**
OCON	**Estacion meteo**	**2.95**	**81**	P		**Pn**	**17 04 45.2**	**+0.7**
MOMN	**Momotombo**	**2.96**	**105**	⇓P		**Pn**	**17 04 44.4**	**-0.2**
MOMN				S		**Sn**	**17 05 18.2**	**-0.9**
COPN	**Copaltepe**	**2.98**	**109**	*e*P		**Pn**	**17 04 44.3**	**-0.5**
COPN	**Copaltepe**	**2.98**	**109**	⇓P		**Pn**	**17 04 44.5**	**-0.3**
MOM2	**El Cardon**	**3.01**	**104**	⇑P		**Pn**	**17 04 45.7**	**+0.5**
MOM2				S		**Sn**	**17 05 21.4**	**+1.3**
AMTN	**Mateare**	**3.11**	**107**	S		**Sn**	**17 05 22.4**	**-0.2**
SAPS	**Ciudad Sandino**	**3.16**	**108**	P		**Pn**	**17 04 48.2**	**+1.0**
SAPS	**Ciudad Sandino**	**3.16**	**108**	S		**Sn**	**17 05 22.8**	**-1.0**
APQ3	**Volcan Apoyequ**	**3.16**	**106**	P		**Pn**	**17 04 47.5**	**+0.3**
RCVN	**Varilla2**	**3.22**	**82**	P		**Pn**	**17 04 49.1**	**+1.0**
APQ2	**Apoyeque**	**3.22**	**107**	S		**Sn**	**17 05 24.7**	**-0.6**
ALLN	**Telcor Managua**	**3.28**	**108**	S		**Sn**	**17 05 26.8**	**0.0**
TISN	**Laguna Tiscapa**	**3.29**	**108**	P		**Pn**	**17 04 49.4**	**+0.3**
USIM	**UNAN**	**3.29**	**108**	Pn		**Pn**	**17 04 48.5**	**-0.6**
UNAN	**Cigeo UNAN**	**3.30**	**108**	P		**Pn**	**17 04 49.7**	**+0.6**
UNAN				S		**Sn**	**17 05 26.5**	**-0.7**
R4DEC	**Barrio San Lui**	**3.31**	**108**	S		**Sn**	**17 05 27.0**	**-0.5**
R4DEC	**Barrio San Lui**	**3.31**	**108**	P		**Pn**	**17 04 49.6**	**+0.3**
RCPN	**Sur Rio San Ju**	**3.31**	**84**	P		**Pn**	**17 04 49.0**	**-0.4**
MGAN	**Managua**	**3.31**	**108**			**Pn**	**17 04 48.1**	**-1.1**
MGAN	**Managua**	**3.31**	**108**	S		**Sn**	**17 05 26.9**	**-0.6**
MGAN	**Managua**	**3.31**	**108**	P		**Pn**	**17 04 49.9**	**+0.6**
CRUN	**El Crucero**	**3.32**	**111**	⇓P		**Pn**	**17 04 49.4**	**-0.1**
AERN	**Aeropuerto Man**	**3.38**	**107**	S		**Sn**	**17 05 29.0**	**-0.3**
SABN	**Sabanita**	**3.45**	**110**	P		**Pn**	**17 04 51.4**	**+0.1**
MATN	**Matagalpa**	**3.47**	**94**	⇓P		**Pn**	**17 04 51.0**	**-0.5**
MATN	**Matagalpa**	**3.47**	**94**	S		**Sn**	**17 05 31.3**	**-0.2**
NANN	**Nandasmo**	**3.50**	**110**	S		**Sn**	**17 05 31.8**	**-0.3**
NANN	**Nandasmo**	**3.50**	**110**	P		**Pn**	**17 04 52.7**	**+0.8**
PETF	**Flores**	**3.74**	**354**	Pn		**Pn**	**17 04 56.8**	**+1.6**
PETF	**Flores**	**3.74**	**354**	⇑P		**Pn**	**17 04 57.0**	**+1.8**
BOAB	**BOACO BROADBAN**	**3.78**	**101**			**Pn**	**17 04 55.5**	**-0.2**
BOAB	**BOACO BROADBAN**	**3.78**	**101**	P		**Pn**	**17 04 55.5**	**-0.2**
CCIG	**Comitan**	**4.03**	**321**			**Pn**	**17 04 58.9**	**-0.3**
CCIG	**Comitan**	**4.03**	**321**	⇑P		**Pn**	**17 05 01.0**	**+1.8**
OMEN	**Al SSO del Vol**	**4.11**	**113**	P		**Pn**	**17 05 01.6**	**+1.4**
CARN	**Rivas**	**4.34**	**117**	P		**Pn**	**17 05 03.9**	**+0.6**
CARN				S		**Sn**	**17 05 51.9**	**-0.8**
ACON	**Acoyapa**	**4.37**	**105**			**Pn**	**17 05 02.2**	**-1.5**
ACON	**Acoyapa**	**4.37**	**105**	*e*P		**Pn**	**17 05 02.8**	**-0.9**
ACON	**Acoyapa**	**4.37**	**105**	P		**Pn**	**17 05 04.1**	**+0.4**
SIUN	**Universidad Ur**	**4.61**	**83**			**Pn**	**17 05 07.5**	**+0.5**
SIUN	**Universidad Ur**	**4.61**	**83**	P		**Pn**	**17 05 08.5**	**+1.5**
VRLE	**La Escondida,**	**4.67**	**120**	*e*P		**Pn**	**17 05 09.9**	**+2.0**
MESS	**Mesas**	**4.83**	**120**	*e*P		**Pn**	**17 05 10.7**	**+0.5**
COLC	**Colonia**	**4.87**	**120**	*e*P		**Pn**	**17 05 12.3**	**+1.7**
JUD3	**Juan Diaz 3**	**4.88**	**127**	*e*P		**Pn**	**17 05 12.2**	**+1.4**
CMARA	**Lajas Hojancha**	**5.06**	**128**	*e*P		**Pn**	**17 05 14.6**	**+1.4**
TIMP	**Tierras Morena**	**5.06**	**120**	*e*P		**Pn**	**17 05 14.8**	**+1.5**
INVE	**Universidad In**	**5.08**	**121**	*e*P		**Pn**	**17 05 15.5**	**+2.0**
INDI	**Punta indio, G**	**5.09**	**130**	P		**Pn**	**17 05 14.7**	**+1.0**
ESPN	**Las Esperanzas**	**5.14**	**100**			**Pn**	**17 05 13.8**	**-0.5**
NYURE	**Nandayure**	**5.20**	**127**	*e*P		**Pn**	**17 05 16.5

POST	Post	22.64	333	IAmb	IAmb	17 08 55.5		
	comp=Z,17nm,0.8s							
FCAR	Ozark Folk Cen	22.75	354	IAmb	IAmb	17 09 18.6		
	comp=Z,15nm,0.9s							
LCAR	Lake Charles	22.85	356	IAmb	IAmb	17 08 59.0		
	comp=Z,14nm,0.8s							
DKNS	Dickens	22.91	335	P	P	17 08 56.8	-1.2	
DKNS				IAmb	IAmb	17 08 59.7		
	comp=Z,20nm,0.7s							
TKL	Tuckaleechee C	22.97	12	P	P	17 08 58.3	-0.1	
	comp=Z,3.5nm,0.5s,baz=182,slow=12,SNR=7.0							
TKL				LR	LR	17 18 26.8		
	comp=Z,170nm,21.0s,baz=150,slow=38							
	comp=Z,3.5nm,0.5s							
SJG	San Juan	22.98	75	LR	LR	17 18 41.0		
	comp=Z,147nm,19.7s,baz=291,slow=39							
WMOK	Wichita Mounta	23.07	340	IAmb	IAmb	17 09 00.9		
	comp=Z,26nm,1.1s							
KMSC	Kings Mountain	23.08	17	IAmb	IAmb	17 09 02.4		
	comp=Z,18nm,1.1s							
V53A	Saluda	23.19	14	IAmb	IAmb	17 09 23.4		
	comp=Z,13nm,0.9s							
TUL3	Leonard	23.34	347	P	P	17 09 01.4	-0.7	
TUL3				IAmb	IAmb	17 09 28.1		
	comp=Z,28nm,0.9s							
HHAR	Hobbs	23.36	351	IAmb	IAmb	17 09 33.6		
	comp=Z,20nm,1.0s							
U49A	Red Boiling Sp	23.48	7	P	P	17 09 02.4	-0.8	
U49A				IAmb	IAmb	17 09 06.8		
	comp=Z,18nm,0.9s							
W57A	Gilead	23.50	20	IAmb	IAmb	17 09 05.0		
	comp=Z,12nm,0.9s							
OK052	Battle Ridge R	23.66	345	IAmb	IAmb	17 09 05.8		
	comp=Z,20nm,0.6s							
V55A	Taylorsville	23.78	17	IAmb	IAmb	17 09 08.1		
	comp=Z,14nm,0.7s							
QUOK	Quay	23.81	345	IAmb	IAmb	17 09 07.1		
	comp=Z,14nm,0.7s							
T47A	Sharon Grove	23.81	5		P	17 09 05.6	-0.6	
T47A				IAmb	IAmb	17 09 07.3		
	comp=Z,22nm,0.8s							
MSTX	Muleshoe	23.98	332	IAmb	IAmb	17 09 09.7		
	comp=Z,11nm,0.7s							
MGMO	Mountain Grove	24.01	355	IAmb	IAmb	17 09 11.7		
	comp=Z,20nm,1.1s							
CGM3	Cape Girardeau	24.03	360	P	P	17 09 07.5	-0.6	
CGM3				IAmb	IAmb	17 09 10.3		
	comp=Z,21nm,1.0s							
V58A	Windy Hill, Pi	24.38	21	P	P	17 09 10.8	-0.5	
V58A				IAmb	IAmb	17 09 30.8		
	comp=Z,19nm,0.9s							
CROK	Carrier	24.46	343	IAmb	IAmb	17 09 32.4		
	comp=Z,12nm,0.9s							
PCRV	Puerto La Cruz	24.50	94	LR	LR	17 19 24.3		
	comp=Z,56nm,20.9s,slow=38							
OK038	West end E0370	24.66	342	P	P	17 09 13.2	-0.7	
OK038				IAmb	IAmb	17 09 16.1		
	comp=Z,18nm,0.8s							
CCM	Cathedral Cave	24.83	357	P	P	17 09 15.4	-0.1	
CCM				IAmb	IAmb	17 09 17.6		
	comp=Z,15nm,0.8s							
S51A	Beattyville	24.93	11	IAmb	IAmb	17 10 03.6		
	comp=Z,14nm,1.2s							
R40A	Maddies Statio	25.14	355	IAmb	IAmb	17 09 21.6		
	comp=Z,14nm,0.8s							
T59A	Double "B" Far	25.99	22		P	17 09 25.6	-0.4	
T59A				IAmb	IAmb	17 09 45.7		
	comp=Z,31nm,1.5s							
RTBA	Rita Blanca	26.05	335	IAmb	IAmb	17 09 30.5		
	comp=Z,9.0nm,0.8s							
P40A	Paris	26.35	356	IAmb	IAmb	17 09 30.6		
	comp=Z,11nm,0.9s							
ANMO	Albuquerque	26.57	328	LR	LR	17 21 40.6		
	comp=Z,62nm,18.3s,baz=236,slow=40							
Q54A	Coxs Mills	26.82	15	P	P	17 09 33.1	-0.4	
Q54A				IAmb	IAmb	17 09 34.3		
	comp=Z,13nm,0.9s							
TUC	Tucson	27.27	318	P	P	17 09 39.3	+1.6	
T25A	Trinidad	27.35	333	IAmb	IAmb	17 09 41.5		
	comp=Z,7.4nm,0.7s							
N41A	Harden Midland	27.46	358	IAmb	IAmb	17 09 40.2		
	comp=Z,16nm,1.0s							
P57A	Homestead Farm	28.09	19	P	P	17 09 44.7	-0.1	
P57A				IAmb	IAmb	17 09 45.9		
	comp=Z,7.5nm,0.6s							
L40A	Anamosa	28.82	357	IAmb	IAmb	17 09 52.0		
	comp=Z,15nm,1.1s							
JFWS	Jewell Farm	29.64	359	IAmb	IAmb	17 09 59.1		
	comp=Z,10.0nm,0.6s							
ISCO	Idaho Springs	30.10	335		P	17 10 03.4	+0.4	
PV18	Skein Mesa, Pa	30.37	329	IAmb	IAmb	17 10 09.2		
	comp=Z,9.2nm,0.7s							
PV10	Paradox Valley	30.53	329	IAmb	IAmb	17 10 34.6		
	comp=Z,11nm,1.0s							
PV23	Carpenter Ridg	30.58	329	IAmb	IAmb	17 10 11.5		
	comp=Z,6.9nm,0.8s							
I42A	Draeger Farm	30.61	1	P	P	17 10 06.6	-0.5	
BC3	Big Chuckawall	31.21	315	P	P	17 10 13.7	+1.0	
BC3				IAmb	IAmb	17 10 16.9		
	comp=Z,6.9nm,1.1s							
O20A	White River Ci	31.52	332	IAmb	IAmb	17 10 19.2		
	comp=Z,9.2nm,0.8s							
PFO	Pinyon Flats O	31.89	314	LR	LR	17 25 51.0		
	comp=Z,50nm,18.6s,baz=221,slow=41							
G40A	Rib Lake	32.00	359	IAmb	IAmb	17 10 19.6		
	comp=Z,12nm,1.0s							
V12A	Nelson	32.04	319	P	P	17 10 20.8	+0.9	
P17A	Butcher Ranch,	32.23	328	IAmb	IAmb	17 10 24.8		
	comp=Z,5.7nm,0.8s							
SADO	Sadowa	32.70	14	LR	LR	17 24 07.3		
	comp=Z,100nm,21.5s,baz=188,slow=37							
F33A	5 Mile Ranch,	33.07	351	IAmb	IAmb	17 10 28.7		
	comp=Z,5.2nm,0.7s							
RSSD	Black Hills	33.27	341		P	17 10 31.0	+0.3	
RSSD				IAmb	IAmb	17 10 32.4		
	comp=Z,4.4nm,0.6s							
E38A	The Farm, Brul	33.37	357	IAmb	IAmb	17 10 31.3		
	comp=Z,9.6nm,0.8s							
PDAR	Pinedale Array	34.22	333		P	17 10 38.9	-0.2	
PDAR	Pinedale Array	34.22	333	P	P	17 10 39.9	+0.8	
	comp=Z,0.9nm,0.6s,baz=129,slow=11,SNR=11							
PDAR				pP	pP	17 10 58.8	+2.7	
	comp=Z,1.0nm,0.8s,baz=105,slow=17,SNR=4.3							
PDAR				PcP	PcP	17 13 14.8	+0.4	
	comp=Z,0.1nm,0.4s,baz=116,slow=3.4,SNR=3.8							
PDAR				pPcP		17 13 32.8		
	comp=Z,0.4nm,0.6s,baz=135,slow=4.1,SNR=3.7							
PDAR				ScP	ScP	17 16 53.7	+0.4	
	comp=Z,0.7nm,0.9s,baz=145,slow=5.4,SNR=5.2							
PDAR				LR	LR	17 27 10.8		
	comp=Z,28nm,19.1s,baz=138,slow=41							
	comp=Z,0.9nm,0.6s							
HWUT	Hardware Ranch	34.25	330	IAmb	IAmb	17 10 43.2		
	comp=Z,7.7nm,0.6s							
BGU	Big Grassy Mou	34.48	328	IAmb	IAmb	17 10 45.9		
	comp=Z,3.5nm,0.8s							
HVU	Hansel Valley	34.98	329	IAmb	IAmb	17 10 49.7		
	comp=Z,3.5nm,0.7s							
TBO	Thunder Bay	35.37	0		P	17 10 47.4	-1.1	
TPAW	Teton Pass	35.42	333	IAmb	IAmb	17 10 56.1		
	comp=Z,8.6nm,0.9s							
ELK	Elko	35.54	325	P	P	17 10 51.9	+1.5	
	comp=Z,0.9nm,0.6s,baz=60,slow=9.4,SNR=5.7							
	comp=Z,0.9nm,0.6s							
NVAR	Mina Array Bea	35.87	320		P	17 10 54.5	+1.2	
NVAR	Mina Array Bea	35.87	320	P	P	17 10 55.0	+1.7	
	comp=Z,3.6nm,1.0s,baz=134,slow=8.1,SNR=12							
NVAR				pP	pP	17 11 13.3	+2.9	
	comp=Z,1.1nm,0.6s,baz=127,slow=8.0,SNR=3.7							
NVAR				PcP	PcP	17 13 20.6	+1.4	
	comp=Z,1.5nm,0.8s,baz=142,slow=4.5,SNR=3.8							
NVAR				pPcP		17 13 38.3		
	comp=Z,0.3nm,0.5s,baz=136,slow=3.6,SNR=3.7							
NVAR				ScP	ScP	17 17 00.2	+0.9	
	comp=Z,1.5nm,0.8s,baz=146,slow=4.6,SNR=6.4							
	comp=Z,3.6nm,1.0s							
LHV	Little Huntoon	35.89	319	IAmb	IAmb	17 10 58.8		
	comp=Z,5.2nm,1.0s							
YMP	Mirror Lake Pl	36.07	335	IAmb	IAmb	17 11 08.9		
	comp=Z,9.2nm,0.9s							
LPAZ	La Paz	36.08	144	P	P	17 10 57.3	+1.6	
	comp=Z,0.8nm,0.6s,baz=346,slow=4.2,SNR=1.8							
	comp=Z,0.8nm,0.6s							
YNE	Yellowstone No	36.23	335	IAmb	IAmb	17 10 58.0		
	comp=Z,6.7nm,0.8s							
LAO	LASA Array	36.26	340		P	17 10 56.3	0.0	
EPLO	Experimental L	36.56	355	IAmb	IAmb	17 10 58.4		
	comp=Z,9.6nm,0.9s							
BOZ	Bozeman (W)	37.38	334	IAmb	IAmb	17 11 08.9		
	comp=Z,3.9nm,0.7s							
WVOR	Wild Horse Val	38.57	325	P	P	17 11 16.8	+1.0	
EGMT	Eagleton	38.63	338	IAmb	IAmb	17 11 19.6		
	comp=Z,6.8nm,0.8s							
VILB	Vilhena	38.93	131	P	P	17 11 20.6	+1.5	
F10A	Beach Ranch, E	40.23	330	IAmb	IAmb	17 11 32.7		
	comp=Z,6.1nm,0.8s							
SIV	San Ignacio	40.35	135	LR	LR	17 29 12.9		
	comp=Z,88nm,20.8s,baz=298,slow=38							
YBH	Yreka Blue Hor	40.54	321	LR	LR	17 29 55.3		
	comp=Z,6.8nm,19.5s,baz=122,slow=38							
H04A	Detroit Lake	41.99	325		P	17 11 43.8	-0.2	
FFC	Flin Flon	42.60	349		P	17 11 48.8	0.0	
FFC				IAmb	IAmb	17 11 49.2		
	comp=Z,5.3nm,0.7s							
SCHQ	Schefferville	45.19	18	P	P	17 12 08.0	-1.5	
	comp=Z,8.6nm,0.6s,baz=214,slow=7.2,SNR=5.4							
SCHQ				LR	LR	17 30 21.4		
	comp=Z,60nm,19.0s,baz=246,slow=35							
	comp=Z,8.6nm,0.6s							
H03N2	Juan Fernandez	47.43	168	T	T	18 03 11.1		
	baz=346,slow=76,SNR=6.6							
H03N1	Juan Fernandez	47.43	168	T	T	18 02 57.9		
	baz=346,slow=76,SNR=13							
H03N3	Juan Fernandez	47.45	168	T	T	18 02 57.6		
	baz=346,slow=76,SNR=14							
BBB	Bella Bella	49.70	330	LR	LR	17 37 31.5		
	comp=Z,62nm,18.3s,baz=186,slow=40							
MT08	Bocatoma Ro	49.93	159	P	P	17 12 49.2	+2.4	
BDFB	Brasilia	50.01	124	LR	LR	17 35 59.3		
	comp=Z,52nm,18.8s,baz=301,slow=38							
YKA	Yellowknife Ar	52.41	346	P	P	17 13 03.7	-1.0	
	comp=Z,5.9nm,0.8s,baz=147,slow=7.4,SNR=8.7							
YKA				LR	LR	17 38 10.8		
	comp=Z,41nm,20.1s,baz=91,slow=39							
	comp=Z,5.9nm,0.8s							
FRB	Frobisher Bay	52.60	12	LR	LR	17 35 47.5		
	comp=Z,128nm,19.2s,baz=212,slow=36							
DLBC	Dease Lake	54.42	335	LR	LR	17 41 40.7		
	comp=Z,58nm,18.4s,baz=113,slow=42							
TAOE	Nuku Hiva Isla	54.87	249	*e*LR	LR	17 29 22.1		
	comp=Z,194nm,24.3s							
ILON	Igloolik, Nuna	56.37	3		P	17 13 31.7	-1.5	
PLCA	Paso Flores	56.43	163	P	P	17 13 35.4	+1.2	
	comp=Z,2.9nm,0.8s,baz=315,slow=6.6,SNR=4.9							
PLCA				LR	LR	17 32 31.0		
	comp=Z,47nm,19.3s,baz=259,slow=30							
	comp=Z,2.9nm,0.8s							
RCBR	Riachuelo	56.45	106	LR	LR	17 40 35.9		
	comp=Z,21nm,18.5s,baz=304,slow=39							
MMPY	Sheldon Lake,	57.55	339	P	P	17 13 41.2	-0.6	
MMPY				IAmb	IAmb	17 14 03.7		
	comp=Z,4.4nm,1.0s							
SFJD	Kangerlussuaq	59.58	17	LR	LR	17 39 20.0		
	comp=Z,71nm,18.3s,baz=199,slow=36							
M29M	Somme Creek	60.15	336	P	P	17 13 59.2	-0.8	
M29M				IAmb	IAmb	17 14 21.7		
	comp=Z,3.8nm,0.8s							
G31M	Satah River	61.28	342		P	17 14 06.8	-0.6	
G31M				IAmb	IAmb	17 14 28.0		
	comp=Z,4.0nm,0.8s							
RES	Resolute Bay	61.58	358	P	P	17 14 08.1	-1.2	
	comp=Z,5.6nm,0.7s,baz=160,slow=7.8,SNR=5.9							
RES				LR	LR	17 42 11.3		
	comp=Z,42nm,18.6s,baz=82,slow=37							
	comp=Z,5.6nm,0.7s							
INK	Inuvik	61.94	343		P	17 14 11.2	-0.6	
INK				IAmb	IAmb	17 14 12.3		
	comp=Z,4.9nm,0.9s							
INK	Inuvik	61.94	343	LR	LR	17 43 47.9		
	comp=Z,28nm,18.6s,baz=45,slow=39							
KLU	Klutina	62.81	333	IAmb	IAmb	17 14 40.6		
	comp=Z,5.9nm,1.2s							
ILAR	Eielson Array	64.57	336	P	P	17 14 28.9	-0.4	
	comp=Z,1.1nm,0.8s,baz=165,slow=4.5,SNR=11							
ILAR				pP	pP	17 14 48.1	+0.1	
	comp=Z,2.2nm,0.9s,baz=128,slow=4.4,SNR=8.8							
	comp=Z,1.1nm,0.8s							
RND	Reindeer	64.82	335	IAmb	IAmb	17 14 32.2		
	comp=Z,4.2nm,0.9s							
SPU	Mount Spurr	65.45	332	IAmb	IAmb	17 14 38.3		
	comp=Z,7.3nm,0.8s							
I23K	Minto, Yukon-K	65.69	336	IAmb	IAmb	17 14 37.5		
	comp=Z,4.8nm,1.0s							
MLY	Manley	66.19	336		P	17 14 39.4	-0.4	
MLY				IAmb	IAmb	17 14 40.0		
	comp=Z,3.4nm,0.6s							
F21K	Alatna River	67.99	338		P	17 14 50.6	-0.5	
F21K				IAmb	IAmb	17 15 13.6		
	comp=Z,6.2nm,0.8s							
TBI	Tubuai	68.99	238	*e*LR	LR	17 35 45.4		
	comp=Z,454nm,29.5s							
EKA	Eskdalemuir Ar	77.20	36	P	P	17 15 43.0	-2.9	
	comp=Z,1.8nm,0.8s,baz=280,slow=4.7,SNR=4.1							
	comp=Z,1.8nm,0.8s							
ESDC	Sonseca Array	78.30	52	P	P	17 15 50.2	-2.3	
	comp=Z,0.3nm,0.6s,baz=270,slow=5.4,SNR=1.8							
ESDC				pP	pP	17 16 12.6	+0.8	
	comp=Z,0.9nm,0.8s,baz=293,slow=7.4,SNR=3.6							
	comp=Z,0.3nm,0.6s							
SPITS	Spitsbergen Ar	80.40	12	P	P	17 16 02.4	-0.8	
	comp=Z,4.7nm,0.9s,baz=319,slow=4.0,SNR=7.5							
SPITS				LR	LR	17 52 59.0		
	comp=Z,30nm,18.3s,baz=279,slow=37							
NOA	NORSAR Array B	83.69	29	LR	LR	17 49 33.9		
	comp=Z,17nm,22.0s,baz=215,slow=33							
HFS	Hagfors	85.13	29	LR	LR	17 51 17.2		
	comp=Z,20nm,21.6s,baz=278,slow=34							
HHC	Hu-ho-hao-te	122.83	341	*e*P	PKPdf	17 22 43.0	-5.3	
WMQ	Urumqi	123.22	2	*e*PKP	PKiKP	17 22 49.6	+0.5	
WMQ				LR	LR			
	comp=Z,140nm,19.7s							
NJ2	Nanjing	127.48	329	*e*P	PKiKP	17 22 57.6	-0.2	
NJ2				pmax	pmax			
	comp=Z,24nm,0.7s							
WRA	Warramunga Arr	137.56	255	PKhKP	PKPpre	17 23 07.9		
	comp=Z,1.8nm,1.0s,baz=92,slow=1.4,SNR=4.8							
WRA				PKP	PKiKP	17 23 18.3	-0.1	
	comp=Z,1.1nm,0.6s,baz=89,slow=2.1,SNR=16							
ASAR	Alice Springs	137.69	249	PKhKP	PKPpre	17 23 06.0		
	comp=Z,0.3nm,0.7s,baz=111,slow=4.2,SNR=5.8							
ASAR				PKP	PKiKP	17 23 18.3	-0.4	
	comp=Z,1.1nm,1.0s,baz=97,slow=2.6,SNR=5.7							
PZH	PanZhiHua	139.08	345	PKP	PKPdf	17 23 18.1	-1.3	
CMAR	Chiang Mai Arr	147.49	345	PKPbc	PKPbc	17 23 35.4	-1.3	
	comp=Z,3.2nm,0.8s,baz=342,slow=3.5,SNR=12							

*IDC **09** 17:08:56.3±1.8, 1.73N×67.02E, h0km, mb3.6/6, mbtmp3.6/6, MS3.7/4, Error ellipse: s-maj=62.1km s-min=26.7km az=56.0*

ISC 09 17:08:58.2±1.8, 1.7N±0.3×67.0E±0.3, h13km, n14, σ0.93/7, mb3.8/6, MS4.0/3, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	Pallekele	14.76	68	LR	LR	17 17 09.9	
	comp=Z,92nm,18.2s,baz=251,slow=34						
PSI	Prapat	31.94	87	LR	LR	17 26 31.8	
	comp=Z,274nm,19.2s,baz=244,slow=33						
LSZ	Lusaka	41.91	245	LR	LR	17 30 31.0	
	comp=Z,54nm,20.0s,baz=150,slow=31						
MKAR	Makanchi Array	46.86	14	P	P	17 17 27.4	-0.7
	0.2nm,0.6s,baz=212,slow=13,SNR=1.9						
	0.2nm,0.6s						
BRTR	Keskin Array B	48.49	326	P	P	17 17 41.5	+0.5
	0.4nm,0.7s,baz=145,slow=16,SNR=1.9						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	54.11	13	P	P	17 18 21.6	-1.1
	1.0nm,0.6s,baz=200,slow=13,SNR=5.6						
	1.0nm,0.6s						
SONM	Songino Array	57.18	31	P	P	17 18 46.1	+1.1
	0.4nm,0.4s,baz=216,slow=7.1,SNR=3.0						
	0.4nm,0.4s						
H01W3	Cape Leeuwin H	57.18	134	T	T	18 20 22.8	
	baz=299,slow=75,SNR=24						
H01W2	Cape Leeuwin H	57.19	134	T	T	18 20 23.7	
	baz=299,slow=75,SNR=26						
H01W1	Cape Leeuwin H	57.20	134	T	T	18 20 27.3	
	baz=299,slow=75,SNR=32						
WRA	Warramunga Arr	69.39	112	P	P	17 20 06.6	+0.1
	0.9nm,0.9s,baz=290,slow=5.8,SNR=5.8						
	0.9nm,0.9s						
ASAR	Alice Springs	69.67	116	P	P	17 20 08.1	-0.1
	0.7nm,0.8s,baz=287,slow=6.1,SNR=6.9						
	0.7nm,0.8s						
KLR	Kul'dur	72.45	38	LR	LR	17 50 46.8	
	comp=Z,163nm,21.5s,baz=127,slow=35						
TXAR	Lajitas Array	147.87	345	PKPbc	PKPbc	17 28 43.4	-0.6
	1.0nm,0.8s,baz=39,slow=3.9,SNR=7.9						

*NEIC **09** 17:17:21.8±1.4, 26.34N±0.07×126.56E±0.06, h70km±7km, mb4.5/65, Error ellipse: s-maj=11.8km s-min=6.6km az=151.0*

*JMA **09** 17:17:22.9±0.2, 26.1N±1.1×126.7E±0.7, h77km±1km, MV3.9/19, NEAR OKINAWAJIMA ISLAND*

JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .

*IDC **09** 17:17:22.5±2.1, 26.37N×126.64E, h86km±20km, mb3.7/14, mbtmp4.0/17, MS3.3/4, Error ellipse: s-maj=22.8km s-min=12.0km az=68.0*

ISC 09 17:17:22.4±0.6, 26.32N±0.05×126.58E±0.04, h83km±5km, n131, σ1.32/143, mb4.4/46, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.19	89	P	Pn	17 17 34.2	-0.4
JKE				S	Sn	17 17 42.4	-1.1
JAGN	Aguni-jima	0.65	66	P	Pn	17 17 37.5	-0.3
JAGN				S	Sn	17 17 48.1	-1.2
JJT3	Tamagusuku3	1.10	99	P	Pn	17 17 42.9	0.0
JJT3				S	Sn	17 17 57.1	-1.0
JNTH	Nagotoyohara	1.31	81	P	Pn	17 17 45.1	-0.4
JNTH				S	Sn	17 18 01.0	-1.8
JIH	Iheya	1.43	60	*i* P	Pn	17 17 47.0	0.0
JIH				S	Sn	17 18 04.4	-1.1
JOW	Kunigami	1.60	71		Pn	17 17 48.0	-1.2
JOW				Sn	Sn	17 18 07.4	-2.1
JOW	Kunigami	1.60	71	P	Pn	17 17 48.7	-0.5
	252nm,0.3s,baz=294,slow=27,SNR=77						
JOW				S	Sn	17 18 08.0	-1.5
	524nm,0.3s,baz=121,slow=25,SNR=17						
JOW	Kunigami	1.60	71	P	Pn	17 17 48.6	-0.6
JOW	Kunigami	1.60	71	P	Pn	17 17 48.7	-0.5
JOW				S	Sn	17 18 07.9	-1.5
JYRO	Yoronjima	1.82	67	P	Pn	17 17 51.5	-0.4
JYRO				*e*S	Sn	17 18 12.6	-1.8
JIKM	Ikemajima	1.84	221	*e*P	Pn	17 17 52.6	+0.4
JIKM				*S*	Sn	17 18 15.4	+0.5
JOGS	Gusukube	1.88	214	*e*P	Pn	17 17 53.8	+1.0
JOGS				*e*S	Sn	17 18 16.6	+0.7
JMJ	Miyako jima 2	1.90	218	P	Pn	17 17 54.5	+1.5
JMJ2	Miyako jima3	1.94	216	*e*P	Pn	17 17 54.2	+0.6
JOKE	Okinoerabujima	2.06	59	P	Pn	17 17 54.4	-0.8
JTK	Tokunoshima	2.57	55	P	Pn	17 18 01.3	-0.7
JTK				S	Sn	17 18 30.7	-1.7
JAMN	Amaminishikomi	3.00	50	*e*P	Pn	17 18 06.9	-0.9
JAM	Amami Oshima	3.40	52	P	Pn	17 18 12.4	-0.8
JAM				S	Sn	17 18 50.1	-2.5
JTAJ	Takarajima	3.66	39	P	Pn	17 18 17.3	+0.6
YOJ	Yonaguni jima	3.72	241	Pn	Pn	17 18 18.0	+0.4
JMZ	Minamidaito 2	4.21	96	Pn	Pn	17 18 23.4	-0.8
TATO	Taipei	4.78	255	Pn	Pn	17 18 30.2	-1.9
YHNB	Yeheng	4.98	252	Pn	Pn	17 18 33.1	-1.6
NACB	Ninganchiao	4.99	246	Pn	Pn	17 18 34.1	-0.8
NACB				Sn	Sn	17 19 30.0	-1.3
NACB	Ninganchiao	4.99	246	P	Pn	17 18 35.8	+0.9
YULB	Yu-li	5.61	240	Pn	Pn	17 18 39.5	-3.9
YULB				Sn	Sn	17 19 39.6	-6.9
YULB	Yu-li	5.61	240	P	Pn	17 18 41.3	-2.1
SSLB	Suanglung	5.69	245	Pn	Pn	17 18 42.3	-2.1
SSLB				Sn	Sn	17 19 45.8	-2.6
SSLB	Suanglung	5.69	245	P	Pn	17 18 44.4	0.0
TWGBT	Beinan	6.10	236	P	Pn	17 18 48.4	-1.6
TWG	Pinlang	6.10	236	Pn	Pn	17 18 46.4	-3.6
TPUB	Ta-pu	6.18	242	Pn	Pn	17 18 49.1	-2.1
TPUB	Ta-pu	6.18	242	P	Pn	17 18 50.8	-0.4
JNU	Nakatsue	7.74	28		Pn	17 19 12.7	+0.3
JNU	Nakatsue	7.74	28	P	Pn	17 19 12.9	+0.6
	11nm,0.3s,baz=210,slow=12,SNR=52						
NJ2	Nanjing	8.84	312	*e*P	Pn	17 19 26.1	-1.2
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
JMN	Monobe	9.72	39	Pn	Pn	17 19 35.8	-3.6
KSRS	Korea Array	11.16	6	P	Pn	17 19 59.8	+0.9
	comp=Z,3.8nm,0.8s,baz=183,slow=13,SNR=16						
JGF	Kuroka	13.07	42	Pn	Pn	17 20 22.1	-2.7
TGY	Tagaytay City	13.26	205	LR	LR	17 26 03.8	
	comp=Z,82nm,18.6s,baz=212,slow=39						
MJAR	Matsushiro Arr	14.21	41	P	Pn	17 20 38.8	-0.9
	comp=Z,0.6nm,0.6s,baz=222,slow=8.8,SNR=7.8						
JMM	Marumori	16.64	43	P	Pn	17 21 10.1	-0.2
HHC	Hu-ho-hao-te	19.10	323	*e*P	P	17 21 39.9	+1.3
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,3.5s						
XLT	XiLinHaoTe	19.50	337	*e*P	Pn	17 21 45.3	+0.4
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s		

AB31	**Akbulak array**	**55.50**	**313**	P		**P**	**17 26 48.9**	**+0.2**
ABKAR	**Akbulak array**	**55.50**	**313**	P		**P**	**17 26 49.2**	**+0.5**
K13K	**Kusilvak Mount**	**57.16**	**32**	P		**P**	**17 27 01.5**	**+1.2**
K13K				IAmb		IAmb	17 27 02.7	
	comp=Z,3.9nm,1.2s							
F15K	**North Star Dit**	**57.59**	**27**	P		**P**	**17 27 04.2**	**+0.9**
F15K				IAmb		IAmb	17 27 48.0	
	comp=Z,6.7nm,1.3s							
L14K	**Kuka Creek**	**58.05**	**32**			**P**	**17 27 07.7**	**+1.2**
L14K				IAmb		IAmb	17 27 08.8	
	comp=Z,3.7nm,0.8s							
M14K	**Bethel**	**58.38**	**33**	P		**P**	**17 27 09.8**	**+1.0**
K15K	**Wolf Creek Mou**	**58.65**	**31**	P		**P**	**17 27 10.3**	**-0.4**
C18K	**Utukok River**	**59.29**	**24**	P		**P**	**17 27 15.2**	**+0.1**
N15K	**Kwethluk River**	**59.29**	**34**	P		**P**	**17 27 16.0**	**+0.8**
E18K	**Tukpahlearik C**	**59.39**	**25**	P		**P**	**17 27 16.7**	**+0.9**
E18K				IAmb		IAmb	17 27 35.2	
	comp=Z,5.8nm,1.4s							
O15K	**Ungalikthiuk R**	**59.43**	**35**	P		**P**	**17 27 16.8**	**+0.6**
STKA	**Stephens Creek**	**59.62**	**165**	P		**P**	**17 27 18.1**	**+0.4**
STKA	**Stephens Creek**	**59.62**	**165**	P		**P**	**17 27 17.6**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=346,slow=6.2,SNR=6.5							
	comp=Z,3.1nm,0.7s							
CNBA	**Chernabura Isl**	**59.72**	**40**	P		**P**	**17 27 18.8**	**+0.6**
J17K	**VABM Dome**	**59.81**	**30**	P		**P**	**17 27 19.8**	**+1.1**
M16K	**Timber Creek**	**59.85**	**33**	P		**P**	**17 27 19.8**	**+0.8**
M16K				IAmb		IAmb	17 28 00.3	
	comp=Z,4.9nm,1.1s							
G18K	**Tagagawik**	**60.07**	**27**	P		**P**	**17 27 20.8**	**+0.3**
G18K				IAmb		IAmb	17 27 22.0	
	comp=Z,8.1nm,1.4s							
D19K	**Kuna River**	**60.41**	**24**	P		**P**	**17 27 23.3**	**+0.5**
E19K	**Redstone River**	**60.69**	**25**			**P**	**17 27 25.3**	**+0.7**
D20K	**Etivluk River**	**60.97**	**24**	P		**P**	**17 27 27.2**	**+0.7**
D20K				IAmb		IAmb	17 27 28.2	
	comp=Z,4.5nm,0.8s							
H19K	**Roundabout Mou**	**60.98**	**28**			**P**	**17 27 27.6**	**+1.1**
H19K				IAmb		IAmb	17 27 30.2	
	comp=Z,4.0nm,0.8s							
J19K	**Poorman**	**61.35**	**29**			**P**	**17 27 30.2**	**+1.0**
J19K				IAmb		IAmb	17 27 31.6	
	comp=Z,3.5nm,0.9s							
E21K	**Killik River**	**61.93**	**24**	P		**P**	**17 27 33.7**	**+0.7**
J20K	**Nowinta River**	**61.99**	**29**	P		**P**	**17 27 34.6**	**+1.2**
J20K				IAmb		IAmb	17 27 35.8	
	comp=Z,3.4nm,0.8s							
K20K	**Telida**	**62.07**	**30**	P		**P**	**17 27 34.4**	**+0.4**
K20K				IAmb		IAmb	17 27 36.6	
	comp=Z,3.2nm,0.9s							
IMAR	**Indian Mountai**	**62.08**	**27**	P		**P**	**17 27 34.8**	**+0.8**
F21K	**Alatna River**	**62.14**	**26**	P		**P**	**17 27 35.5**	**+1.0**
F21K				IAmb		IAmb	17 27 39.9	
	comp=Z,3.7nm,1.1s							
G21K	**Allakaket**	**62.16**	**27**	P		**P**	**17 27 35.6**	**+1.0**
G21K				IAmb		IAmb	17 27 36.6	
	comp=Z,3.3nm,0.8s							
D22K	**Ayikyak River**	**62.40**	**24**	P		**P**	**17 27 37.3**	**+1.2**
E22K	**Anaktuvuk Pass**	**62.74**	**25**	P		**P**	**17 27 39.3**	**+0.8**
E22K				IAmb		IAmb	17 27 40.5	
	comp=Z,3.9nm,0.7s							
CAST	**Castle Rocks**	**62.96**	**30**			**P**	**17 27 40.5**	**+0.5**
H23K	**Yukon River**	**63.81**	**27**	P		**P**	**17 27 47.3**	**+1.8**
H23K				IAmb		IAmb	17 27 48.3	
	comp=Z,4.0nm,0.7s							
E24K	**Your Creek**	**63.99**	**25**	P		**P**	**17 27 47.9**	**+1.1**
E24K				IAmb		IAmb	17 27 48.9	
	comp=Z,3.4nm,0.7s							
F24K	**Squaw Lake**	**64.28**	**25**	P		**P**	**17 27 49.9**	**+1.3**
F24K				IAmb		IAmb	17 27 50.8	
	comp=Z,4.7nm,0.7s							
F24K				PcP		**sP**	**17 28 19.2**	**+0.8**
ILAR	**Eielson Array**	**65.06**	**28**	P		**P**	**17 27 53.2**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=264,slow=4.6,SNR=4.9							
	comp=Z,0.5nm,0.8s							
F25K	**Christian River**	**65.12**	**25**	P		**P**	**17 27 55.6**	**+1.5**
BMAR	**Burnt Mountain**	**65.55**	**25**	P		**P**	**17 27 59.1**	**+2.2**
F26K	**Sheenjek River**	**65.67**	**25**	IAmb		IAmb	17 28 00.5	
	comp=Z,3.7nm,0.7s							
M26K	**Nabesna, AK**	**67.22**	**30**			**P**	**17 28 08.4**	**+0.8**
M26K				IAmb		IAmb	17 28 09.3	
	comp=Z,3.9nm,0.8s							
G29M	**Pine Creek**	**68.16**	**25**			**P**	**17 28 14.9**	**+1.4**
G29M				IAmb		IAmb	17 28 15.8	
	comp=Z,5.4nm,1.0s							
EPYK	**Eagle Plains**	**68.82**	**25**	IAmb		IAmb	17 28 19.2	
	comp=Z,5.5nm,0.8s							
G30M	**tAoh Zraii Nji**	**68.82**	**25**			**P**	**17 28 17.7**	**+0.1**
G30M				IAmb		IAmb	17 28 19.0	
	comp=Z,8.3nm,1.2s							
INK	**Inuvik**	**69.39**	**23**	IAmb		IAmb	17 28 23.1	
	comp=Z,3.5nm,0.7s							
FIA1	**FINESS Array S**	**72.05**	**330**	P		**P**	**17 28 36.6**	**-0.6**
FINES	**FINESS Array B**	**72.05**	**330**	P		**P**	**17 28 36.9**	**-0.3**
FINES	**FINESS Array B**	**72.05**	**330**	P		**P**	**17 28 36.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=68,slow=6.5,SNR=11							
	comp=Z,0.5nm,0.4s							
MMPY	**Sheldon Lake,**	**72.32**	**28**	P		**P**	**17 28 39.1**	**+0.1**
AKASG	**Malin Array Be**	**74.50**	**319**	P		**P**	**17 28 51.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=65,slow=6.0,SNR=5.3							
	comp=Z,0.7nm,0.4s							
AKBB	**Malin Array Si**	**74.50**	**319**	P		**P**	**17 28 51.4**	**-0.4**
AKBB				IAmb		IAmb	17 28 56.7	
	comp=Z,7.4nm,1.5s							
KIEV	**Kiev**	**74.51**	**319**	P		**P**	**17 28 51.5**	**-0.4**
ASF	**Jabal al Asfar**	**76.23**	**299**	LR		LR	18 06 27.7	
	comp=Z,117nm,20.8s,baz=123,slow=39							
HFS	**Hagfors**	**78.05**	**332**	P		**P**	**17 29 09.8**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=65,slow=3.9,SNR=9.3							
	comp=Z,0.4nm,0.3s							
NC405	**NORSAR Array S**	**78.33**	**333**	P		**P**	**17 29 13.1**	**-0.2**
NC405				IAmb		IAmb	17 29 17.3	
	comp=Z,10nm,1.3s							
NB2	**NORSAR Subarra**	**78.57**	**333**	P		**P**	**17 29 14.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=54,slow=5.9							
NOA	**NORSAR Array B**	**78.57**	**333**	P		**P**	**17 29 13.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=66,slow=8.9,SNR=4.1							
	comp=Z,0.4nm,0.6s							

*IDC **09** 17:41:06.2±1.5, 10°.51S×119°.93E, h0km, mb3.8/3, mbtmp3.7/8, ML3.6/5, MS3.1/1, Error ellipse: s-maj=43.4km s-min=19.5km az=46.0*

*DJA **09** 17:41:15.1±1.1, 10°.S±8°×12°.0E±°, h30km±5km, M3.8/6, MLv3.8/6*

ISC 09 17:41:09.8±0.8, 10°.45S±0°.06×120°.21E±0°.05, h30km, n19, σ2s54/18, mb3.9/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.78**	**6**	P	**Pn**	**17 41 26.5**	**+1.6**
WSI				S	**Sn**	**17 41 35.5**	**-0.1**
EDFI	**Ende, Flores**	**2.23**	**41**	P	**Pb**	**17 41 47.2**	**-2.4**
MMRI	**Maumere**	**2.69**	**48**	P	**Pb**	**17 41 54.3**	**-3.1**
MMRI				S	**Sn**	**17 42 24.5**	**+1.7**
PLAI	**Plampang**	**2.89**	**304**	P	**Pb**	**17 41 56.8**	**-4.0**
PLAI				S	**Sn**	**17 42 29.3**	**+1.6**
BATI	**Baumata**	**3.41**	**86**	Pn	**Pn**	**17 42 05.3**	**+4.3**
	5.2nm,0.3s,baz=238,slow=3.6,SNR=6.0						
BATI				Sn	**Sb**	**17 42 48.0**	**-2.5**
	6.8nm,0.3s,baz=227,slow=20,SNR=6.3						
	18nm,0.5s						
SOEI	**Soe**	**4.05**	**81**	P	Pn	17 42 15.0	+5.0
KAPI	**Kappang**	**5.42**	**355**	Pn	**Pn**	**17 42 30.4**	**+1.6**
	3.4nm,0.3s,baz=184,slow=14,SNR=4.6						
KAPI				LR	LR	17 44 57.9	
	comp=Z,158nm,18.2s,baz=120,slow=42						
	4.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**9.24**	**146**	Pn	**Pn**	**17 43 23.6**	**+2.4**
	0.4nm,0.3s,baz=338,slow=6.0,SNR=16						
FITZ				Sn	**Sn**	**17 45 02.2**	**-2.0**
	1.2nm,0.3s,baz=176,slow=23,SNR=9.9						
	3.1nm,0.8s						
WRA	**Warramunga Arr**	**16.57**	**126**	Pn	**Pn**	**17 45 00.9**	**+0.8**
	0.1nm,0.3s,baz=299,slow=13,SNR=9.2						
WRA				Sn	Sn	17 47 53.6	-10
	0.1nm,0.3s,baz=306,slow=21,SNR=2.7						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**18.53**	**137**	P	**Pn**	**17 45 26.4**	**+2.0**
	0.2nm,0.3s,baz=314,slow=12,SNR=14						
ASAR				S	**Sn**	**17 48 47.1**	**-3.7**
	0.5nm,0.6s,baz=308,slow=22,SNR=6.2						
	1.2nm,0.9s						
H08S2	**Diego Garcia H**	**47.17**	**269**	T	T	18 40 01.2	
	baz=96,slow=75,SNR=9.6						
H08S3	**Diego Garcia H**	**47.19**	**269**	T	T	18 40 05.1	
	baz=96,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**47.19**	**269**	T	T	18 40 03.7	
	baz=96,slow=75,SNR=7.8						
SONM	**Songino Array**	**59.31**	**349**	P	**P**	**17 51 09.6**	**+0.6**
	0.8nm,0.6s,baz=167,slow=9.3,SNR=4.5						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**66.29**	**333**	P	**P**	**17 51 56.4**	**+1.0**
	0.8nm,0.7s,baz=141,slow=7.8,SNR=7.0						
	0.8nm,0.7s						
H04N2	**CROZET ISLANDS**	**67.59**	**224**	T	T	19 05 58.1	
	baz=80,slow=75,SNR=4.5						
H04N3	**CROZET ISLANDS**	**67.61**	**224**	T	T	19 05 59.3	
	baz=80,slow=75,SNR=4.9						
H04N1	**CROZET ISLANDS**	**67.61**	**224**	T	T	19 06 00.6	
	baz=80,slow=75,SNR=5.1						
ZALV	**Zalesovo Beam**	**70.82**	**339**	P	**P**	**17 52 23.6**	**+0.2**
	0.4nm,0.4s,baz=136,slow=5.6,SNR=3.5						
	0.4nm,0.4s						

*NEIC **09** 17:45:46.9±1.2, 21°.06S±0°.09×173°.81W±0°.09, h10km±1km, mb5.3/191, Mww5.3/13, Error ellipse: s-maj=14.7km s-min=13.4km az=192.0*

*MOS **09** 17:45:49.3±1.1, 21°.25S×174°.36W, h10km, mb5.4/36, MS5.2/9, Error ellipse: s-maj=10.3km s-min=9.4km az=140.7*

*IDC **09** 17:45:49.0±0.4, 21°.21S×174°.19W, h0km, mb4.8/21, mbtmp4.8/23, ML4.6/2, MS4.8/55, Error ellipse: s-maj=16.0km s-min=14.0km az=114.0*

*NEIC **09** 17:45:51.4, 21°.19S×174°.12W, h30km*

*NEIC **09** 17:45:51.4, 21°.09S×174°.12W, h30km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; Mrr0.89; Mθθ-0.06; Mφφ-0.83; Mrθ-0.19; Mθφ-0.28; Mφr-0.82; Fault plane solution: M0 1.24000×10^17^ NP1: φs21.88000°, δ23.65000°, λ96.58000°. NP2:φs194.71000°, δ66.52000°, λ87.13000°. Principal axes: T 1.2228, Plg68.0000°, Azm99.0000°; N 0.0269, Plg3.0000°, Azm196.0000°; P -1.2497, Plg21.0000°, Azm287.0000°;*

*BJI **09** 17:45:52.7, 20°.99S×173°.98W, h30km, mB5.9/16, mb5.2/38, Ms5.5/11, Ms7 5.3/12*

*GCMT **09** 17:45:53.9±0.1, 21°.37S±0°.01×173°.69W±0°.01, h12km, MW5.3/147, Moment Tensor Solution. s99,c161; s147,c266; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr0.87±.01; Mθθ-0.19±.01; Mφφ-0.67±.01; Mrθ0.43±.03; Mθφ-0.38±.01; Mφr0.73±.03; Best double couple: M0 1.21900×10^17^ NP1:φs202.00000°, δ23.00000°, λ87.00000°. NP2:φs30.00000°, δ67.00000°, λ91.00000°. Principal axes: T 1.2100, Plg68.0000°, Azm303.0000°; N 0.0200, Plg1.0000°, Azm210.0000°; P -1.2280, Plg22.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **09** 17:45:53.7, 21°.03S×173°.52W, h78km, mb5.1/53, Tonga Islands*

*BGR **09** 17:45:54.8, 21°.60S×173°.10W, h33km, Ms5.3*

ISC 09 17:45:48.4±0.4, 21°.28S±0°.04×173°.80W±0°.04, h11km±2km, h12km:pP-P, n889, σ2s64/810, mb5.3/166, MS5.0/65, 45C-36D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.25**	**60**		**Pn**	**17 46 50.2**	**-2.9**
NIUE				Sn	**Sn**	**17 47 34.8**	**-7.9**
NIUE	**Niue**	**4.25**	**60**	P	**Pn**	**17 46 51.2**	**-1.9**
NIUE				S	**Sn**	**17 47 36.7**	**-6.1**
NIUE	**Niue**	**4.25**	**60**	P	**Pn**	**17 46 51.0**	**-2.1**
NIUE	**Niue**	**4.25**	**60**	S	**Sn**	**17 47 37.2**	**-5.6**
NIUE	**Niue**	**4.25**	**60**	P	**Pn**	**17 46 51.5**	**-1.6**
NIUE				S	**Sn**	**17 47 35.4**	**-7.3**
LKBA	**Tubou, Lakemba**	**5.61**	**302**	P	Pn	17 47 15.8	+4.0
TAVE	**Taveuni**	**7.35**	**307**	P	Pn	17 47 40.1	+4.3
AFI	**Afiamalu**	**7.58**	**15**		**Pn**	**17 47 34.4**	**-4.6**
AFI				Sn	Sn	17 48 53.6	-11
AFI	**Afiamalu**	**7.58**	**15**	P	**Pn**	**17 47 37.0**	**-2.0**
AFI	**Afiamalu**	**7.58**	**15**	S	**Sn**	**17 48 58.3**	**-6.8**
AFI	**Afiamalu**	**7.58**	**15**	P	**Pn**	**17 47 34.4**	**-4.6**
DGTI	**Dogotuki**	**7.88**	**308**	P	Pn	17 47 46.9	+3.9
FUTU	**Fugatoga**	**8.06**	**329**	Pn	**Pn**	**17 47 41.0**	**-4.6**
MSVF	**Nonsavu**	**8.46**	**293**		Pn	17 47 54.7	+3.7
MSVF	**Nonsavu**	**8.46**	**293**	P	Pn	17 47 55.9	+4.9
MSVF	**Nonsavu**	**8.46**	**293**	P	Pn	17 47 54.7	+3.7
RAO	**Raoul Island**	**8.76**	**204**	Sn	**Sn**	**17 49 29.6**	**-4.4**
	219nm,0.3s,baz=248,slow=22,SNR=9.5						
RAO				LR	LR	17 51 49.3	
	comp=Z,3μm,18.1s,baz=34,slow=42						
GLKZ	**Green Lake**	**8.77**	**204**	P	**Pn**	**17 47 53.4**	**-1.8**
GLKZ				S	Sn	17 49 27.4	-6.7
RAR	**Rarotonga**	**13.08**	**92**		**Pn**	**17 48 51.1**	**-3.1**
RAR	**Rarotonga**	**13.08**	**92**	Pn	**Pn**	**17 48 52.2**	**-2.0**
	50nm,0.3s,baz=235,slow=5.2,SNR=41						
RAR				LR	LR	17 55 00.6	
	comp=Z,6μm,18.1s,baz=254,slow=41						
RAR	**Rarotonga**	**13.08**	**92**	P	**Pn**	**17 48 52.5**	**-1.8**
DVP	**Devils Point**	**17.34**	**279**	P	**P**	**17 49 53.4**	**+1.4**
PINNC	**Pines Island,**	**17.45**	**262**		**P**	**17 49 52.4**	**-0.7**
PINNC	**Pines Island,**	**17.45**	**262**	P	**P**	**17 49 54.2**	**+1.1**
OUZ	**Omahuta**	**17.75**	**216**	P	**P**	**17 49 57.3**	**+0.9**
KUZ	**Kuaotunu**	**17.91**	**208**	P	**P**	**17 50 01.3**	**+3.3**
KUZ	**Kuaotunu**	**17.91**	**208**	P	**P**	**17 50 00.9**	**+2.9**
WCZ	**Waipu Caves**	**17.91**	**213**	P	**Pn**	**17 49 57.6**	**+0.2**
HAZ	**Te Kaha**	**17.96**	**202**	P	**Pn**	**17 49 57.6**	**-0.5**
YATNC	**Mamie plateau,**	**17.96**	**264**	P	**P**	**17 49 59.7**	**+0.9**
OUENC	**Ouen Island, N**	**18.01**	**263**	P	**P**	**17 50 01.9**	**+2.6**
PUZ	**Puketiti**	**18.08**	**201**	P	**P**	**17 50 02.2**	**+2.1**
RUGZ	**Raukumara Rang**	**18.18**	**202**	P	**Pn**	**17 49 57.1**	**-3.9**
TWGZ	**Tauwhareparae**	**18.27**	**201**	P	**P**	**17 50 00.5**	**-1.6**
ONTNC	**Ouen Toro**	**18.37**	**263**		**Pn**	**17 50 01.5**	**-1.7**
DZM	**Mont Dzumac**	**18.38**	**264**	P	**Pn**	**17 50 01.2**	**-2.3**
DZM	**Mont Dzumac**	**18.38**	**264**	eP	**P**	**17 50 02.7**	**-0.8**
DZM	101nm,1.0s			eS	**Sn**	**17 53 23.0**	**-5.9**
DZM	1μm,22.9s			eLR	LR	17 54 21.0	
DZM	2μm,21.8s **Mont Dzumac**	**18.38**	**264**	P	**Pn**	**17 50 02.3**	**-1.2**
DZM	1.0nm,0.3s,baz=81,slow=17,SNR=29			LR	LR	17 55 38.5	
	comp=Z,2μm,19.4s,baz=109,slow=33						
	37nm,0.8s						
DZM	**Mont Dzumac**	**18.38**	**264**	P	**P**	**17 50 04.8**	**+1.3**
URZ	**Urewera**	**18.65**	**203**	P	**Pn**	**17 50 07.5**	**+1.0**
URZ	3.8nm,0.3s,baz=5.5,slow=3.4,SNR=37			S	Sn	17 53 21.4	-14
	15nm,0.6s,baz=83,slow=21,SNR=8.0						
	70nm,0.8s						
URZ	**Urewera**	**18.65**	**203**	P	**Pn**	**17 50 08.5**	**+2.0**
TOZ	**Tahuroa Road**	**18.82**	**207**	P	**P**	**17 50 08.3**	**+0.2**
SANVU	**Saraoutou**	**18.93**	**285**	P	**P**	**17 50 06.4**	**-3.1**
SANVU				IAmb	IAmb	17 50 17.7	
	comp=Z,541nm,2.0s						
SANVU	**Saraoutou**	**18.93**	**285**	P	**Pn**	**17 50 11.1**	**+1.0**
MUGZ	**Murupara**	**18.96**	**203**	P	**P**	**17 50 10.7**	**+0.9**
MUGZ				S	Sn	17 53 26.2	-17
PRGZ	**Paritu Road**	**18.98**	**200**	P	**Pn**	**17 50 12.1**	**+1.5**
PRGZ				S	Sn	17 53 23.3	-20
RTZ	**Ruatahuna**	**19.01**	**203**	P	**P**	**17 50 10.0**	**-0.3**
BKZ	**Black Stump Fm**	**19.67**	**203**	P	**P**	**17 50 17.5**	**0.0**
HIZ	**Hauiti**	**19.76**	**207**	P	**P**	**17 50 18.9**	**+0.5**
HIZ	**Hauiti**	**19.76**	**207**	P	**Pn**	**17 50 20.9**	**+1.0**
BFZ	**Birch Farm**	**21.11**	**201**	P	**P**	**17 50 33.5**	**+0.5**
BFZ	**Birch Farm**	**21.11**	**201**	P	**P**	**17 50 35.0**	**+2.0**
MRZ	**Mangatainoka R**	**21.32**	**203**	P	**P**	**17 50 34.1**	**-1.3**
MSWZ	**Moikau Station**	**22.11**	**202**	P	**P**	**17 50 42.1**	**-1.7**
SNZO	**South Karori**	**22.21**	**203**	P	**P**	**17 50 44.5**	**-0.3**
SNZO				IAmb	IAmb	17 51 09.4	
	comp=Z,303nm,1.9s						
SNZO	**South Karori**	**22.21**	**203**	P	**P**	**17 50 47.2**	**+2.4**
BHW	**Baring Head**	**22.23**	**203**	P	**P**	**17 50 44.5**	**-0.6**
PLWZ	**Palliser**	**22.24**	**202**	P	**P**	**17 50 45.0**	**-0.2**
TCW	**Tory Channel**	**22.29**	**204**	P	**P**	**17 50 43.9**	**-1.8**
CTZ	**Chatham Island**	**22.51**	**185**	P	**P**	**17 50 49.6**	**+1.5**
TUWZ	**Tuamarina**	**22.60**	**205**	P	**P**	**17 50 46.9**	**-2.2**
TBI	**Tubuai**	**22.61**	**100**	eP	P	17 50 35.0	-14
TBI	comp=Z,2μm,32.2s			eS	**S**	**17 54 52.2**	**-4.8**
TBI	comp=Z,10μm,27.5s			eLR	LR	17 55 56.0	
TBI	comp=Z,12μm,22.0s			eLR	LR	17 56 01.7	
	comp=Z,3μm,22.8s						
TKNZ	**Takaka Hill**	**22.66**	**207**	P	**P**	**17 50 46.5**	**-3.2**
TKNZ	**Takaka Hill**	**22.66**	**207**	P	P	**17 50 47.6**	**-2.2**
TKNZ				S	S	17 54 48.2	-10
QRZ	**Quartz Range**	**22.68**	**208**	P	**P**	**17 50 46.7**	**-3.2**
QRZ	**Quartz Range**	**22.68**	**208**	P	**P**	**17 50 52.2**	**+2.3**
MRNZ	**Matariki Terra**	**23.05**	**207**	P	**P**	**17 50 53.3**	**-0.5**
PPT	**Papeete**	**23.14**	**85**	LR	LR	17 58 38.1	
	comp=Z,5μm,18.7s,baz=254,slow=33						
THZ	**Tophouse**	**23.30**	**206**	P	**P**	**17 50 56.3**	**-0.1**
THZ				IAmb	IAmb	17 51 05.3	
	comp=Z,209nm,1.8s						
THZ	**Tophouse**	**23.30**	**206**	P	**P**	**17 50 54.5**	**-1.8**
KHZ	**Kahutara**	**23.60**	**204**	P	**P**	**17 50 59.0**	**-0.2**
KHZ				IAmb	IAmb	17 51 08.3	
	comp=Z,150nm,1.5s						
KHZ					**S**	**17 55 13.1**	**-0.5**
KHZ	**Kahutara**	**23.60**	**204**	P	**P**	**17 51 00.7**	**+1.4**
KHZ	**Kahutara**	**23.60**	**204**	P	**P**	**17 50 59.2**	**-0.1**
KHZ				S	S	17 55 03.6	-10
GVZ	**Greta Valley S**	**24.27**	**204**	P	**P**	**17 51 06.4**	**+0.8**
LTZ	**Lake Taylor**	**24.41**	**205**	P	**P**	**17 51 05.9**	**-1.0**
LTZ				IAmb	IAmb	17 51 19.8	
	comp=Z,61nm,0.7s						
LTZ	**Lake Taylor**	**24.41**	**205**	P	**P**	**17 51 05.9**	**-1.0**
INZ	**Inchbonnie**	**24.70**	**207**	P	**P**	**17 51 08.6**	**-0.9**
INZ				IAmb	IAmb	17 51 15.5	
	comp=Z,107nm,1.0s						
OXZ	**Oxford**	**24.96**	**205**	P	**P**	**17 51 11.0**	**-0.9**
OXZ				IAmb	IAmb	17 51 24.9	
	comp=Z,65nm,0.7s						
OXZ	**Oxford**	**24.96**	**205**	P	**P**	**17 51 11.5**	**-0.3**
OXZ				S	**S**	**17 55 33.4**	**-2.0**
MQZ	**McQueen's Vall**	**25.04**	**204**	P	**P**	**17 51 12.4**	**-0.1**
MQZ				S	**S**	**17 55 35.1**	**-1.5**
MHCZ	**Mount Hutt**	**25.32**	**205**	P	**P**	**17 51 15.7**	**+0.5**
RPZ	**Rata Peaks**	**25.68**	**206**	P	**P**	**17 51 17.7**	**-0.6**
RPZ	**Rata Peaks**	**25.68**	**206**	LR	LR	18 02 09.7	
	comp=Z,3μm,18.6s,baz=22,slow=38						
RPZ	**Rata Peaks**	**25.68**	**206**	P	**P**	**17 51 19.1**	**+0.7**
RPZ	**Rata Peaks**	**25.68**	**206**	P	**P**	**17 51 18.7**	**+0.3**
ARCZ	**Arundel**	**25.82**	**205**	P	**P**	**17 51 20.7**	**+1.0**
FOZ	**Fox Glacier**	**26.05**	**208**	P	**P**	**17 51 20.4**	**-1.4**
JCZ	**Jackson Bay**	**26.93**	**208**	P	**P**	**17 51 31.0**	**+1.2**
ODZ	**Otahua Downs**	**26.94**	**205**	P	**P**	**17 51 30.9**	**+1.1**
HNR	**Honiara**	**27.87**	**291**	LR	LR	18 01 07.4	
	comp=Z,922nm,20.1s,baz=147,slow=33						
MLZ	**Mavora Lakes**	**28.25**	**208**	P	**P**	**17 51 41.3**	**-0.2**
TATA	**Tatamba Isabel**	**28.49**	**293**	P	**P**	**17 51 43.8**	**-0.2**
WHZ	**Wether Hill Ro**	**28.73**	**207**	P	**P**	**17 51 45.3**	**-0.6**
WHZ				IAmb	IAmb	17 51 54.4	
	comp=Z,50nm,0.9s						
ARMA	**Armidale**	**32.31**	**246**	P	**P**	**17 52 16.2**	**-1.5**
ARMA				IAmb	IAmb	17 52 30.4	
	comp=Z,41nm,1.2s						
ARMA	**Armidale**	**32.31**	**246**	P	**P**	**17 52 18.2**	**+0.5**
EIDS	**Eidsvold**	**32.45**	**256**	P	**P**	**17 52 17.1**	**-1.8**
EIDS				IAmb	IAmb	17 52 21.5	
	comp=Z,58nm,1.9s						
EIDS	**Eidsvold**	**32.45**	**256**	P	**P**	**17 52 17.2**	**-1.7**
	comp=Z,16nm,2.7s						
TAOE	**Nuku Hiva Isla**	**34.68**	**74**	eS	**S**	**17 58 00.3**	**-8.2**
	comp=Z,350nm,24.6s						
TAOE				eLR	LR	18 01 42.5	
	comp=Z,2μm,21.2s						
CAN	**Canberra**	**35.40**	**239**	P	**P**	**17 52 43.2**	**-1.2**
CAN				IAmb	IAmb	17 53 52.2	
	comp=Z,121nm,1.8s						
CAN	**Canberra**	**35.40**	**239**	P	**P**	**17 52 43.2**	**-1.2**
CAN				pmax	pmax		
	comp=Z,121nm,1.8s						
RKT	**Rikitea**	**35.93**	**100**	eS	**S**	**17 58 26.1**	**-1.3**
	comp=Z,2μm,32.8s						
RKT				eSS	**SS**	**18 01 04.7**	**+0.7**
	comp=Z,4μm,36.5s						
RKT				eLR	LR	18 02 14.3	
	comp=Z,6μm,22.8s						
CTA	**Charters Tower**	**37.32**	**264**	P	**P**	**17 52 59.6**	**-1.4**
CTA	**Charters Tower**	**37.32**	**264**	P	**P**	**17 52 59.8**	**-1.2**
CTAO	**Charters Tower**	**37.32**	**264**	P	**P**	**17 52 58.4**	**-2.6**
CTAO				IAmb	IAmb	17 53 03.7	
	comp=Z,89nm,2.0s						
CTAO	**Charters Tower**	**37.32**	**264**	P	**P**	**17 52 59.6**	**-1.4**
**CTAO

WB1 Warramunga Ar. 48.37 262 P **P** **17 54 28.6 -2.1**
WRAB Tennant Creek 48.37 262 P **P** **17 54 28.7 -2.0**
WRAB IAmb IAmb 17 54 29.7
comp=Z,31nm,1.1s
WRAB Tennant Creek 48.37 262 P **P** **17 54 28.7 -2.0**
WRAB pmax pmax
comp=Z,31nm,1.2s
WRA Warramunga Arr 48.38 262 P **P** **17 54 28.0 -2.8**
WRA Warramunga Arr 48.38 262 P **P** **17 54 28.5 -2.2**
comp=Z,16nm,0.8s,baz=98,slow=7.5,SNR=49
WRA PcP **PcP** **17 55 58.7 +1.4**
comp=Z,5.4nm,0.8s,baz=96,slow=3.3,SNR=4.7
WRA LR LR 18 14 50.7
comp=Z,1µm,18.2s,baz=80,slow=36
comp=Z,16nm,0.8s
WRA Warramunga Arr 48.38 262 P **P** **17 54 28.0 -2.8**
GENI Genyem 48.47 286 P **P** **17 54 29.4 -2.0**
comp=Z,85nm,1.3s
MIDW Midway 49.33 356 P P 17 54 32.3 -5.4
MIDW IAmb IAmb 17 54 56.1
comp=Z,49nm,0.9s
KDU Kakadu 51.89 270 P **P** **17 54 54.9 -2.4**
comp=Z,27nm,2.4s
KDU Kakadu 51.89 270 P **P** **17 54 57.2 -0.2**
BAKI Biak 52.72 285 P **P** **17 55 02.7 -0.9**
comp=Z,68nm,2.0s
MTN Manton Dam 53.09 270 P **P** **17 55 03.8 -2.5**
MTN Manton Dam 53.09 270 P **P** **17 55 03.7 -2.6**
comp=Z,15nm,0.8s
MTN Manton Dam 53.09 270 P **P** **17 55 05.1 -1.2**
GUMO Guam 53.37 307 LR LR 18 15 36.3
comp=Z,385nm,21.0s,baz=124,slow=34
KMPI Kaimana, Papua 53.87 281 P **P** **17 55 11.6 -0.5**
SAUI Saumlaki 54.48 275 P **P** **17 55 14.3 -2.2**
KNRA Kununurra 54.52 266 P **P** **17 55 14.9 -1.8**
KNRA Kununurra 54.52 266 P **P** **17 55 14.5 -2.2**
comp=Z,14nm,0.7s
FAKI Fak Fak 55.50 282 P **P** **17 55 20.8 -3.1**
FAKI IAmb IAmb 17 55 27.8
comp=Z,54nm,1.2s
FAKI Fak Fak 55.50 282 P **P** **17 55 22.3 -1.6**
FITZ Fitzroy Crossi 56.81 262 P **P** **17 55 31.0 -2.2**
FITZ Fitzroy Crossi 56.81 262 P **P** **17 55 31.2 -2.0**
comp=Z,6.1nm,2.1s
FITZ Fitzroy Crossi 56.81 262 LR LR 18 20 09.4
comp=Z,1µm,18.7s,baz=96,slow=36
SWI Sorong 57.24 283 P **P** **17 55 35.3 -1.0**
SBA Scott Base 57.39 185 P **P** **17 55 38.6 +2.2**
SBA IAmb IAmb 17 55 43.9
comp=Z,73nm,1.6s
SBA Scott Base 57.39 185 P **P** **17 55 38.6 +2.2**
SBA pmax pmax
comp=Z,73nm,1.6s
VNDA Vanda 57.52 186 P **P** **17 55 40.6 +3.3**
comp=Z,4.7nm,0.9s,baz=1.5,slow=6.0,SNR=23
VNDA LR LR 18 15 57.1
comp=Z,729nm,20.3s,baz=16,slow=31
comp=Z,4.7nm,0.9s
RPN Rapa Nui 58.54 109 LR LR 18 16 58.3
comp=Z,2µm,18.0s,baz=252,slow=32
NLAI Namlea 60.10 279 P **P** **17 55 54.9 -1.4**
comp=Z,1µmcomp=Z,42nm,1.5s
SOEI Soe 60.44 271 P **P** **17 55 56.2 -2.6**
SOEI Soe 60.44 271 P **P** **17 55 58.2 -0.6**
SOEI Soe 60.44 271 P **P** **17 55 58.1 -0.7**
BATI Baumata 60.86 270 LR LR 18 20 50.4
comp=Z,770nm,21.4s,baz=144,slow=35
KLBR Kellerberrin 61.28 245 P **P** **17 56 02.3 -1.8**
comp=Z,99nm,0.8s
KLBR Kellerberrin 61.28 245 P **P** **17 56 04.0 -0.1**
MEEK Meekatharra 61.37 251 P **P** **17 56 04.0 -0.8**
MBWA Marble Bar 61.51 257 P **P** **17 56 03.5 -2.3**
MBWA IAmb IAmb 17 56 05.9
comp=Z,17nm,0.8s
MBWA Marble Bar 61.51 257 P **P** **17 56 03.5 -2.3**
comp=Z,23nm,1.0s
MBWA Marble Bar 61.51 257 P **P** **17 56 05.4 -0.4**
NWAO Narrogin (SRO) 61.53 243 P **P** **17 56 04.0 -1.7**
NWAO Narrogin (SRO) 61.53 243 LR LR 18 21 01.2
comp=Z,978nm,19.2s,baz=76,slow=34
NWAO Narrogin (SRO) 61.53 243 P **P** **17 56 05.6 -0.1**
NWAO Narrogin (SRO) 61.53 243 P **P** **17 56 04.0 -1.7**
NWAO pmax pmax
comp=Z,147nm,2.0s
BLDU Ballidu 62.32 246 P **P** **17 56 09.6 -1.5**
comp=Z,47nm,2.9s
BLDU Ballidu 62.32 246 P **P** **17 56 11.0 -0.1**
MUN Mundaring 62.52 244 P **P** **17 56 11.5 -1.0**
comp=Z,38nm,2.1s
MUN Mundaring 62.52 244 P **P** **17 56 12.6 +0.1**
MORW Morawa 63.16 247 P **P** **17 56 16.3 -0.5**
MORW IAmb IAmb 17 56 18.6
comp=Z,36nm,1.1s
MORW Morawa 63.16 247 P **P** **17 56 14.5 -2.3**
comp=Z,36nm,1.1s
MORW Morawa 63.16 247 P **P** **17 56 17.1 +0.4**
EDFI Ende, Flores 63.17 271 P **P** **17 56 15.1 -2.0**
comp=Z,16nm,0.9s
JCJ Chichijima 64.25 317 LR LR 18 18 04.9
comp=Z,384nm,21.8s,baz=124,slow=30
CASY Casey 64.95 206 P **P** **17 56 29.2 +1.4**
CASY IAmb IAmb 17 56 32.8
comp=Z,39nm,1.1s
DAV Davao City (W) 65.80 289 LR LR 18 23 23.4
comp=Z,260nm,18.1s,baz=126,slow=34
GIRL Giralia 66.12 254 P **P** **17 56 34.7 -1.5**
KAPI Kappang 66.26 274 LR LR 18 24 49.4
comp=Z,369nm,20.5s,baz=112,slow=36
KAPI Kappang 66.26 274⇓ *i*P **P** **17 56 36.9 -0.3**
KAPI pmax pmax
comp=Z,32nm,1.6s
TOLI2 Tolitoli 67.61 280 P **P** **17 56 43.2 -2.6**
TOLI2 IAmb IAmb 17 56 46.4
comp=Z,39nm,1.2s
PCI Palu 67.69 278 P **P** **17 56 47.9 +1.6**
comp=Z,1µmcomp=Z,50nm,1.5s
QSPA South Pole Qui 68.79 180 P **P** **17 56 56.0 +3.5**
QSPA IAmb IAmb 17 57 30.2
comp=Z,32nm,1.1s
QSPA South Pole Qui 68.79 180 P **P** **17 56 56.3 +3.8**
comp=Z,8.1nm,0.7s,baz=40,slow=1.2,SNR=54
QSPA LR LR 18 22 40.4
comp=Z,1µm,20.6s,baz=38,slow=32
comp=Z,8.1nm,0.7s
JHJ Hachijo jima 2 69.92 320 LR LR 18 26 18.0
comp=Z,291nm,18.0s,baz=151,slow=35
JAGI Jajag, Banyuwa 70.30 268 P **P** **17 57 01.8 -0.7**
JAGI IAmb IAmb 17 57 55.1
comp=Z,45nm,1.1s
MYLDM Lahad Datu 71.33 283 P **P** **17 57 08.4 -0.4**
JGF Kuroka 73.08 320 P **P** **17 57 19.2 +0.4**
JGF IAmb IAmb 17 57 28.2
comp=Z,46nm,1.6s
ATKA Atka Island 73.17 360 P **P** **17 57 18.6 -0.3**
MJAR Matsushiro Arr 73.22 321 P **P** **17 57 20.1 +0.5**
MJAR IAmb IAmb 17 57 20.9
comp=Z,42nm,1.7s
MJAR Matsushiro Arr 73.22 321 P **P** **17 57 20.6 +1.0**
comp=Z,9.7nm,1.1s,baz=157,slow=6.0,SNR=14
MJAR LR LR 18 25 31.8
comp=Z,337nm,20.3s,baz=117,slow=33
comp=Z,9.7nm,1.1s
MJAR Matsushiro Arr 73.22 321 P **P** **17 57 20.1 +0.5**
MJAR pmax pmax
comp=Z,42nm,1.7s
MAJO Matsushiro 73.22 321 P **P** **17 57 19.6 0.0**
MAJO Matsushiro 73.22 321⇑ *i*P **P** **17 57 20.3 +0.7**
MAJO pmax pmax
comp=Z,36nm,1.5s
MJB9 Matsu-Tunnel 73.22 321 P **P** **17 57 18.1 -1.6**
MJB9 IAmb IAmb 17 57 22.1
comp=Z,90nm,1.9s
JOW Kunigami 73.71 308 LR LR 18 24 24.5
comp=Z,498nm,19.2s,baz=152,slow=32
KKM Kota Kinabalu 73.76 283 P **P** **17 57 23.4 0.0**
KKM IAmb IAmb 17 57 28.0
comp=Z,18nm,0.8s
JMN Monobe 74.00 317 P **P** **17 57 25.4 +1.1**
JMN IAmb IAmb 17 57 27.5
comp=Z,48nm,1.0s
NIKH Nikolski High 74.06 3 P **P** **17 57 25.0 +0.9**
NIKH Nikolski High 74.06 3 P **P** **17 57 25.8 +1.7**
baz=185
NIKH S **S** **18 06 56.0 -0.6**
baz=185
SHEM Shemya Is, Ala 74.45 352 LR LR 18 26 21.4
comp=Z,1µm,19.9s,baz=142,slow=33
UNV Unalaska Valle 75.08 4 P **P** **17 57 31.6 +1.6**
UNV IAmb IAmb 17 57 34.4
comp=Z,62nm,1.8s
UNV Unalaska Valle 75.08 4 P **P** **17 57 30.4 +0.5**
baz=187
UNV S **S** **18 07 06.3 -1.5**
baz=187
AKUT Akutan 75.42 5 P **P** **17 57 33.7 +1.8**
LVA Lava Point 75.43 5 P **P** **17 57 33.6 +1.6**
JNU Nakatsue 75.58 315 P **P** **17 57 31.9 -1.5**
JNU Nakatsue 75.58 315 LR LR 18 23 14.4
comp=Z,266nm,20.6s,baz=116,slow=30
SAO San Andreas Ge 75.97 41 P **P** **17 57 31.6 -4.0**
SAO IAmb IAmb 17 57 56.1
comp=Z,30nm,1.2s
SAO San Andreas Ge 75.97 41 P **P** **17 57 31.6 -4.0**
SAO pmax pmax
comp=Z,30nm,1.2s
SBUM Sibu 76.00 278 P **P** **17 57 35.9 -0.4**
PMPB Monarch Peak 76.02 42 P P 17 57 38.9 +2.9
PMPB IAmb IAmb 17 57 56.2
comp=Z,38nm,1.1s
BBGB Big Mountain B 76.10 41 P P 17 57 40.0 +3.5
BBGB IAmb IAmb 17 57 57.1
comp=Z,45nm,1.1s
CBX Cerro Bola 76.32 47 P P 17 57 41.7 +3.9
CBX IAmb IAmb 17 58 01.6
comp=Z,42nm,1.5s
OSI Osito Audit: C 76.33 44 P P 17 57 40.8 +3.0
OSI IAmb IAmb 17 57 44.1
comp=Z,58nm,1.6s
JKA Kamikawa-asahi 76.34 329 P **P** **17 57 39.2 +1.7**
ASAJ Asahikawa 76.34 329 LR LR 18 25 34.6
comp=Z,674nm,21.6s,baz=150,slow=31
ASAJ Asahikawa 76.34 329 P **P** **17 57 39.2 +1.7**
ASAJ pmax pmax
comp=Z,150nm,1.9s
FALS False Pass 76.35 6 P **P** **17 57 38.5 +1.3**
baz=190
VTX Valle De La Tr 76.39 48 P P 17 57 41.3 +3.2
VTX IAmb IAmb 18 00 21.2
comp=Z,17nm,0.8s
HOPS Hopland Field 76.47 38 P P 17 57 40.9 +2.5
HOPS IAmb IAmb 17 57 43.9
comp=Z,30nm,1.1s
LPIG La Paz 76.48 57 LR LR 18 24 47.4
comp=Z,2µm,19.2s,baz=230,slow=30
GDXM Geysers 76.51 39 P P 17 57 42.3 +3.6
MWC Mount Wilson 76.53 45 P **P** **17 57 40.7 +1.7**
MWC Mount Wilson 76.53 45 P **P** **17 57 40.7 +1.7**
MWC pmax pmax
comp=Z,15nm,1.1s
DPP Dos Picos Cty 76.53 46 P P 17 57 41.7 +2.9
ELS Elsinore Mount 76.60 46 P **P** **17 57 41.8 +2.6**
ELS IAmb IAmb 17 57 45.6
comp=Z,30nm,1.4s
ESJX Sierra Juarez 76.63 48 P P 17 57 43.0 +3.4
KCPM Cahto Peak 76.65 38 P **P** **17 57 41.4 +1.9**
CNBA Chernabura Isl 76.77 8 P **P** **17 57 40.9 +1.4**
CHNA Chernabura Isl 76.78 8 P **P** **17 57 41.4 +1.8**
baz=194
CHNA S **S** **18 07 25.0 -1.6**
baz=194
KMRM Mail Ridge 76.94 37 P P 17 57 44.7 +3.6
YUH Yuha Desert 77.02 47 P P 17 57 44.9 +3.3
BORC Borrego Spring 77.05 46 P P 17 57 44.9 +3.1
BORC IAmb IAmb 17 58 02.8
comp=Z,48nm,1.8s
SDPT Sand Point 77.17 8 P **P** **17 57 42.8 +1.0**
baz=193
SDPT S **S** **18 07 30.8 0.0**
baz=193
PFO Pinyon Flats O 77.22 46 P **P** **17 57 40.5 -2.4**
PFO Pinyon Flats O 77.22 46 LR LR 18 25 19.5
comp=Z,376nm,18.9s,baz=236,slow=31
PFO Pinyon Flats O 77.22 46⇑ *i*P P 17 57 46.8 +3.9
PFO pmax pmax
comp=Z,35nm,2.0s
S12K Black Hills 77.33 7 P **P** **17 57 44.5 +1.7**
baz=192
S12K S **S** **18 07 32.0 -0.6**
baz=192
KHMM Horse Mountain 77.37 37 P P 17 57 46.3 +2.8
KHMM IAmb IAmb 17 57 50.4
comp=Z,28nm,1.2s
KSM Kuching 77.41 277 P **P** **17 57 40.9 -3.3**
O02D Mt. Diablo Mer 77.43 38 P P 17 57 47.3 +3.5
O02D IAmb IAmb 17 57 50.8
comp=Z,36nm,1.1s
CMB Columbia Colle 77.44 41 P **P** **17 57 41.4 -2.5**
CMB Columbia Colle 77.44 41 P **P** **17 57 41.4 -2.5**
CMB pmax pmax
comp=Z,14nm,1.0s
P08K Saint George I 77.66 2 P **P** **17 57 46.5 +2.0**
baz=184
AFDM Forest Hills D 77.67 39 P P 17 57 48.2 +3.1
ORV Oroville 77.76 39 P P 17 57 48.3 +2.8
ORV IAmb IAmb 17 57 51.7
comp=Z,27nm,1.3s
ORV Oroville 77.76 39 P P 17 57 48.3 +2.7
ORV pmax pmax
comp=Z,27nm,1.3s
BELC Belle Mtn. Jos 77.76 46 P P 17 57 48.6 +2.7
BELC IAmb IAmb 17 58 08.9
comp=Z,34nm,1.4s
PET Petropavlovsk 77.77 343 *e*P **P** **17 57 47.1 +1.9**
PET *e*S **S** **18 07 38.0 +0.6**
PET *e*SS **SS** **18 12 36.2 -2.1**
PET pmax pmax
comp=Z,300nm,13.1s
PET pmax pmax
comp=Z,600nm,13.6s
BC3 Big Chuckawall 77.93 47 P P 17 57 49.9 +3.1
BC3 IAmb IAmb 17 57 53.4
comp=Z,65nm,1.8s
KSXB Camp Six Broad 77.94 36 P P 17 57 49.7 +3.1
KSXB IAmb IAmb 17 57 53.5
comp=Z,32nm,1.2s
PEA0B Petropavlovsk- 78.10 343 *d*iP **P** **17 57 48.9 +1.8**
PETK Petropavlovsk- 78.10 343 P **P** **17 57 48.0 +0.8**
PETK Petropavlovsk- 78.10 343 P **P** **17 57 48.5 +1.4**
comp=Z,4.9nm,0.6s,baz=97,slow=9.7,SNR=17
PETK LR LR 18 27 29.1
comp=Z,728nm,20.7s,baz=156,slow=32
comp=Z,4.9nm,0.6s
S14K Fog Glacier 78.20 8 P **P** **17 57 49.8 +2.1**
baz=194
SPIA Saint Paul Isl 78.21 2 P **P** **17 57 49.5 +1.9**
baz=184
SPIA S **S** **18 07 45.7 +3.7**
baz=184
BELA Belgrano 2 78.26 172 P **P** **17 57 49.0 +1.1**
BELA IAmb IAmb 17 57 53.7
comp=Z,43nm,1.5s
WAKR Walker 78.31 41 P P 17 57 52.0 +3.1
WAKR IAmb IAmb 17 58 09.5
comp=Z,39nm,1.2s
CHIR Chirikof Island 78.34 10 P **P** **17 57 50.5 +2.1**
baz=198
QSM Queen of Sheba 78.36 44 P **P** **17 57 47.0 -2.0**
CHGN Chignik 78.37 9 P **P** **17 57 50.5 +2.0**
baz=195
YSS Yuzhno-Sakhali 78.41 331⇓ *e*P **P** **17 57 50.1 +1.2**
YSS pmax pmax
comp=Z,27nm,1.8s
IRM Iron Mountain 78.43 46 P P 17 57 53.2 +3.8
IRM IAmb IAmb 17 58 10.8
comp=Z,32nm,1.4s
DSP Deep Springs 78.51 42 P P 17 57 53.1 +3.3
YBH Yreka Blue Hor 78.51 36 P P 17 57 53.3 +3.4
YBH IAmb IAmb 17 57 56.5
comp=Z,30nm,1.2s
YBH Yreka Blue Hor 78.51 36 LR LR 18 25 46.7
comp=Z,87nm,20.4s,baz=243,slow=30
YBH Yreka Blue Hor 78.51 36 P P 17 57 53.3 +3.5
YBH pmax pmax
comp=Z,30nm,1.2s
GWY Greenwater Val 78.62 44 P P 17 57 53.6 +3.0
GWY IAmb IAmb 17 57 56.8
comp=Z,65nm,2.0s
LHV Little Huntoon 78.72 41 P P 17 57 54.7 +3.8
LHV IAmb IAmb 17 57 58.5
comp=Z,46nm,1.3s
RYN Ryan 78.95 41 P P 17 57 55.7 +3.3
RYN IAmb IAmb 17 57 58.8
comp=Z,46nm,1.3s
NVAR Mina Array Bea 78.96 41 P P 17 57 55.4 +2.8
NVAR Mina Array Bea 78.96 41 P P 17 57 55.8 +3.2
comp=Z,9.2nm,0.8s,baz=223,slow=9.1,SNR=42
comp=Z,9.2nm,0.8s
PMSA Palmer Station 78.99 156 LR LR 18 28 08.7
comp=Z,925nm,18.5s,baz=244,slow=32
L04D Klamath Falls 79.06 36 P P 17 57 55.4 +2.5
L04D IAmb IAmb 17 57 58.0
comp=Z,23nm,1.0s
PAHR Pah Rah Range 79.11 40 P P 17 57 55.9 +2.7
PAHR IAmb IAmb 17 57 59.6
comp=Z,30nm,1.1s
SII Sitkinak Islan 79.29 11 P **P** **17 57 55.8 +2.2**
baz=199
BBOR Butler Butte 79.31 36 P P 17 57 57.6 +3.3
BBOR IAmb IAmb 17 58 00.6
comp=Z,50nm,1.8s
TPNV Topopah Spring 79.35 43 P P 17 57 57.9 +3.3
TPNV Topopah Spring 79.35 43 P P 17 57 57.9 +3.3
TPNV pmax pmax
comp=Z,19nm,1.1s
TPH Tonopah 79.41 42 P P 17 57 58.1 +3.1
TPH Tonopah 79.41 42 P P 17 57 58.1 +3.1
TPH pmax pmax
comp=Z,22nm,0.9s
R16K Pilot Point 79.71 9 P **P** **17 57 57.6 +1.8**
baz=196
SHPR Sheep Range 79.79 44 P P 17 58 00.7 +3.7
J04A Umpqua Nationa 79.86 36 P P 17 58 00.8 +3.5
J04A IAmb IAmb 17 58 03.7
comp=Z,44nm,0.9s
R17L Mt. Peulik Vol 79.95 9 P **P** **17 57 58.7 +1.5**
baz=197
R17L S **S** **18 08 00.6 -0.1**
baz=197
OHAK Old Harbor 80.08 11 P P 17 58 01.2 +3.4
OHAK IAmb IAmb 17 58 02.0
comp=Z,74nm,1.9s
OHAK Old Harbor 80.08 11 P **P** **17 57 59.7 +1.9**
baz=200
OHAK S **S** **18 08 04.9 +3.0**
baz=200
KSRS Korea Array 80.11 317 P **P** **17 58 00.6 +2.1**
comp=Z,3.8nm,0.8s,baz=138,slow=6.1,SNR=21
comp=Z,3.8nm,0.8s
KSAR Wonju Array Be 80.13 317 P **P** **17 58 00.0 +1.4**
KSAR Wonju Array Be 80.13 317 P **P** **17 58 00.0 +1.4**
R18K Karluk 80.20 10 P **P** **17 58 00.5 +2.0**
baz=199
R18K S **S** **18 08 05.6 +2.4**
baz=199
J05D Fort Rock, OR 80.36 36 P P 17 58 02.9 +3.0
J05D IAmb IAmb 17 58 06.5
comp=Z,31nm,1.0s
PRN Pahroc Range 80.39 44 P P 17 58 03.8 +3.6
TUC Tucson 80.42 50 P P 17 58 04.3 +3.9
TUC Tucson 80.42 50 P P 17 58 04.3 +3.9
TUC pmax pmax
comp=Z,11nm,1.1s
R11B Troy Canyon, C 80.60 43 P P 17 58 04.8 +3.4
Q17K Contact Creek 80.64 9 P **P** **17 58 03.0 +2.0**
baz=197
KDAK Kodiak Island 80.73 11 P P 17 58 04.4 +3.0
KDAK Kodiak Island 80.73 11 LR LR 18 27 32.0
comp=Z,1µm,21.9s,baz=209,slow=31
KDAK Kodiak Island 80.73 11 P P 17 58 04.4 +3.0
KDAK pmax pmax
comp=Z,106nm,1.8s
KDAK Kodiak Island 80.73 11 P P 17 58 04.5 +3.1
baz=200
KDAK S **S** **18 08 10.5 +1.7**
baz=200
PINE Pine Mountain 80.86 36 P P 17 58 05.5 +2.8
PINE IAmb IAmb 17 58 08.1
comp=Z,33nm,1.0s
O14K Tigyukauivet M 80.90 6 P **P** **17 58 04.2 +2.0**
baz=192
O14K S **S** **18 08 11.2 +0.8**
baz=192
Q16K King Salmon 80.92 9 P P 17 58 04.6 +2.3
baz=196
MDSI Maura Dua 80.96 269 P **P** **17 58 03.4 -0.3**
O15K Ungalikthiuk R 80.99 7 P **P** **17 58 04.4 +1.7**
baz=194
O15K S **S** **18 08 11.7 +0.3**
baz=194
P16K Nushagak River 81.08 8 P **P** **17 58 05.4 +2.3**
baz=195
Q18K Katmai Hardscr 81.14 10 P **P** **17 58 05.8 +2.1**
baz=198
Q18K S **S** **18 08 13.4 +0.1**
baz=198
E03A Lebam 81.34 32 P P 17 58 07.5 +2.7
TYV Tymovskoe 81.42 334 *e*P **P** **17 58 06.3 +1.1**
TYV pmax pmax
comp=Z,600nm,4.0s
TYV pmax pmax
comp=Z,19nm,1.6s
P17K Kvichak River 81.45 9 P **P** **17 58 07.2 +2.1**
baz=197
P17K S **SKSac** **18 08 17.4 -6.8**
baz=197
N14K Kuskokwak Cree 81.52 6 P **P** **17 58 04.1 -1.3**
N14K Kuskokwak Cree 81.52 6 P **P** **17 58 07.7 +2.2**
baz=192,SNR=5.5
Q20K Shuyak Island 81.55 11 P P 17 58 08.4 +2.8
baz=200
Q20K S **SKSac** **18 08 20.4 -4.5**
baz=200
O16K Kokwok River B 81.61 8 P **P** **17 58 04.2 -1.7**
O16K IAmb IAmb 17 58 09.2
comp=Z,48nm,1.4s
O16K Kokwok River B 81.61 8 P **P** **17 58 07.6 +1.7**
baz=195
O16K S **S** **18 08 18.2 +0.4**
baz=195
M11K Mekoryuk 81.61 4 P P 17 58 09.3 +3.3
baz=188
M11K S **SKSac** **18 08 23.4 -1.9**
baz=188
Q19K Cape Douglas, 81.63 10 P P 17 58 08.6 +2.4
baz=199
Q19K S **SKSac** **18 08 20.4 -5.2**
baz=199
WUAZ Wupatki 81.75 47 P P 17 58 11.0 +3.5
NLWA Neilton Lookou 81.77 32 P **P** **17 58 09.7 +2.5**
NLWA IAmb IAmb 17 58 13.8
comp=Z,58nm,1.9s
SPR3 Spring Creek 3 81.78 43 P P 17 58 11.2 +3.3
LHSI Lahat 81.80 269 P **P** **17 58 09.5 +1.4**
comp=Z,67nm,1.2s
P18K Big Mountain, 81.82 9 P **P** **17 58 09.2 +2.1**
baz=198
P18K S **SKSac** **18 08 21.8 -5.1**
baz=198
M13K Dall Lake 81.85 5 P P 17 58 10.6 +3.5
baz=190
M13K S **SKSac** **18 08 24.6 -2.2**
baz=190
USA0B Ussuriysk Arra 81.86 324⇑ *e*P **P** **17 58 09.0 +1.3**
USRK Ussuriysk Ar. 81.86 324 P **P** **17 58 05.1 -2.6**
USRK Ussuriysk Ar. 81.86 324 P **P** **17 58 10.1 +2.4**
comp=Z,4.0nm,1.0s,baz=160,slow=7.3,SNR=6.2
USRK LR LR 18 30 11.6
comp=Z,1µm,20.8s,baz=131,slow=33
comp=Z,4.0nm,1.0s
O17K Koliganek Bris 81.91 8 P **P** **17 58 09.7 +2.1**
baz=196
O17K S **SKSac** **18 08 23.5 -3.9**
baz=196
N15K Kwethluk River 81.92 7 P P 17 58 10.2 +2.5
baz=193
N15K S **SKSac** **18 08 23.5 -4.0**
baz=193
J08A Circle Bar Ran 81.95 37 P P 17 58 10.9 +2.6
J08A IAmb IAmb 17 58 14.6
comp=Z,48nm,1.5s
MAW Mawson 82.13 199 P **P** **17 58 11.3 +2.5**
comp=Z,6.8nm,0.8s,baz=82,slow=5.1,SNR=14
MAW LR LR 18 33 21.6
comp=Z,1µm,18.9s,baz=114,slow=35
comp=Z,6.8nm,0.8s
HOLB Holberg 82.14 27 P **P** **17 58 07.2 -1.9**
HOLB IAmb IAmb 17 58 15.2
comp=Z,54nm,1.5s

ELK	**Elko**	**82.24**	**41**	P	P	17 58 13.4 +3.3
ELK	**Elko**	**82.24**	**41**	P	P	17 58 13.4 +3.3
ELK				pmax	pmax	
	comp=Z,23nm,1.3s					
O18K	**Koktuh Hills**	**82.26**	**9**	P	P	17 58 11.9 +2.4
	baz=198					
O18K				S	**SKSac**	**18 08 26.5 -3.3**
	baz=198					
H03S2	**Juan Fernandez**	**82.30**	**123**	T	T	19 30 41.1
	baz=248,slow=74,SNR=14					
M14K	**Bethel**	**82.30**	**6**	P	**P**	**17 58 11.8 +2.3**
M14K	**Bethel**	**82.30**	**6**	P	P	17 58 12.8 +3.3
	baz=191,SNR=11					
M14K				S	**S**	**18 08 29.5 +4.6**
	baz=191					
H03S1	**Juan Fernandez**	**82.31**	**123**	T	T	19 30 41.7
	baz=248,slow=74,SNR=16					
H03S3	**Juan Fernandez**	**82.31**	**123**	T	T	19 30 31.4
	baz=248,slow=74,SNR=14					
DIB	**Dawson Inlet,**	**82.35**	**24**	P	P	17 58 12.9 +2.9
M15K	**Kasigluk River**	**82.38**	**6**	P	P	17 58 13.1 +3.1
	baz=193,SNR=16					
M15K				S	**SKSac**	**18 08 29.0 -1.4**
	baz=193					
N16K	**Nishlik Lake**	**82.38**	**7**	P	P	17 58 13.0 +3.0
	baz=194					
N16K				S	**SKSac**	**18 08 29.5 -1.1**
	baz=194					
P19K	**Oil Pt**	**82.39**	**10**	P	**P**	**17 58 12.4 +2.3**
	baz=200					
P19K				S	**SKSac**	**18 08 28.4 -2.3**
	baz=200					
GNW	**Green Mountain**	**82.41**	**32**	P	P	17 58 13.4 +2.9
H03N2	**Juan Fernandez**	**82.43**	**123**	T	T	19 30 41.4
	baz=258,slow=72,SNR=14					
H03N3	**Juan Fernandez**	**82.43**	**123**	T	T	19 30 36.4
	baz=258,slow=72,SNR=9.5					
H03N1	**Juan Fernandez**	**82.44**	**123**	T	T	19 30 33.7
	baz=259,slow=72,SNR=7.6					
N17K	**Nushagak Hills**	**82.63**	**8**	P	**P**	**17 58 13.3 +2.0**
	baz=196					
N17K				S	**SKSac**	**18 08 30.0 -2.2**
	baz=196					
CLRS	**Cowichan Lake**	**82.64**	**31**	P	P	17 58 14.7 +3.0
CLRS				IAmb	IAmb	17 58 16.7
	comp=Z,25nm,1.3s					
HOM	**Homer**	**82.67**	**11**	P	**P**	**17 58 13.7 +2.1**
	baz=201					
HOM				S	**SKSac**	**18 08 29.0 -3.4**
	baz=201					
ILSW	**Iliamna Southw**	**82.72**	**10**	P	**P**	**17 58 13.7 +1.7**
O19K	**Port Alsworth**	**82.73**	**10**	P	**P**	**17 58 14.0 +2.2**
	baz=199					
O19K				S	**S**	**18 08 32.5 +3.3**
	baz=199					
KSI	**Kapahiang**	**82.73**	**269**	P	**P**	**17 58 13.6 +0.5**
L14K	**Kuka Creek**	**82.82**	**5**	P	P	17 58 15.6 +3.3
	baz=191,SNR=20					
L14K				S	**S**	**18 08 34.5 +4.4**
	baz=191					
PGC	**Sidney**	**82.85**	**31**	P	**P**	**17 58 14.7 +2.0**
PGC				IAmb	IAmb	17 58 17.7
	comp=Z,25nm,1.1s					
M16K	**Timber Creek**	**82.89**	**7**	P	P	17 58 15.2 +2.5
M16K	**Timber Creek**	**82.89**	**7**	P	P	17 58 16.1 +3.4
	baz=194,SNR=20					
M16K				S	**S**	**18 08 35.7 +4.8**
	baz=194					
O20K	**Slope Mountain**	**82.89**	**11**	P	**P**	**17 58 15.1 +2.3**
	baz=200					
O20K				S	**SKSac**	**18 08 33.0 -1.1**
	baz=200					
G08A	**Pilot Rock**	**82.91**	**36**	P	**P**	**17 58 15.8 +2.5**
G08A				IAmb	IAmb	17 58 18.3
	comp=Z,28nm,1.0s					
CBB	**Campbell River**	**82.92**	**29**	P	P	17 58 15.9 +2.8
CBB				IAmb	IAmb	17 58 18.2
	comp=Z,32nm,1.3s					
N18K	**Kilae Creek**	**82.95**	**9**	P	**P**	**17 58 11.9 -1.2**
N18K				IAmb	IAmb	17 58 18.2
	comp=Z,25nm,1.4s					
N18K	**Kilae Creek**	**82.95**	**9**	P	**P**	**17 58 15.1 +2.1**
	baz=197					
N18K				S	**S**	**18 08 34.1 +2.4**
	baz=197					
E07A	**Sunnyside**	**83.25**	**34**	P	P	17 58 17.7 +2.8
K13K	**Kusilvak Mount**	**83.25**	**4**	P	P	17 58 17.8 +3.3
	baz=189,SNR=9.9					
K13K				S	S	18 08 40.3 +5.8
	baz=189					
L15K	**Ungalak Mounta**	**83.26**	**6**	P	P	17 58 17.6 +3.1
	baz=192,SNR=24					
L15K				S	**S**	**18 08 38.0 +3.4**
	baz=192					
L15K				S	**SKKSac**	**18 08 41.2 +0.6**
	baz=192					
N19K	**Bonanza Creek**	**83.29**	**9**	P	**P**	**17 58 16.7 +1.8**
	baz=198,SNR=7.8					
N19K				S	**S**	**18 08 37.0 +1.8**
	baz=198					
BBB	**Bella Bella**	**83.30**	**26**	LR	LR	18 31 12.7
	comp=Z,341nm,18.4s,baz=224,slow=33					
HAWA	**Hanford**	**83.31**	**34**	P	P	17 58 18.0 +2.8
NJ2	**Nanjing**	**83.43**	**308**	*e*P	P	17 58 19.2 +3.1
NJ2				pmax	pmax	
	comp=Z,67nm,0.8s					
M17K	**Holitna River**	**83.44**	**8**	P	P	17 58 18.9 +3.4
	baz=196,SNR=8.6					
M17K				S	**S**	**18 08 41.4 +4.9**
	baz=196					
MDJ	**Mudanjiang**	**83.45**	**323**	P	P	17 58 18.9 +2.9
MDJ				S	**S**	**18 08 42.3 +4.9**
MDJ				pmax	pmax	
	comp=Z,38nm,2.4s					
MDJ				LR	LR	
	comp=Z,1μm,16.5s					
MDJ				LR	LR	
	comp=Z,1μm,18.6s					
MDJ				LR	LR	
	comp=Z,2μm,24.0s					
SEW	**Seward**	**83.49**	**12**	P	**P**	**17 58 17.8 +2.1**
	baz=203					
SEW				S	**S**	**18 08 38.9 +1.9**
	baz=203					
MFID	**Camas Ranch**	**83.50**	**38**	P	P	17 58 19.1 +2.7
MFID				IAmb	IAmb	17 58 23.1
	comp=Z,16nm,1.0s					
Q23K	**Middleton Isla**	**83.52**	**14**	P	**P**	**17 58 18.2 +2.3**
	baz=206					
Q23K				S	**S**	**18 08 39.9 +2.6**
	baz=206					
Q23K				S	**S**	**18 08 39.9 +2.6**
	baz=206					
M18K	**Stony River**	**83.74**	**9**	P	P	17 58 19.5 +2.4
	baz=197,SNR=5.8					
M18K				S	**S**	**18 08 42.2 +2.6**
	baz=197					
O22K	**Cooper Landing**	**83.79**	**12**	P	P	17 58 19.7 +2.4
	baz=203					
CAPN	**Captain Cook N**	**83.80**	**11**	P	P	17 58 20.4 +3.1
	baz=202					
CAPN				S	S	18 08 45.7 +5.7
	baz=202					
K15K	**Wolf Creek Mou**	**83.86**	**6**	P	P	17 58 21.4 +3.8
	baz=192,SNR=53					
K15K				S	S	18 08 47.5 +6.8
	baz=192					
VHRN	**Van Horn**	**83.90**	**54**	P	P	17 58 21.7 +2.9
VHRN				IAmb	IAmb	17 58 27.5
	comp=Z,44nm,1.9s					
CRAG	**Craig**	**83.91**	**22**	P	P	17 58 20.8 +2.8
	baz=218					
CRAG				S	**S**	**18 08 46.9 +5.5**
	baz=218					
LL02	**Futaleuf**	**83.98**	**134**	P	**P**	**17 58 22.4 +3.5**
LL02				IAmb	IAmb	17 58 26.0
	comp=Z,15nm,1.0s					
N20K	**Mount Spurr**	**84.02**	**10**	P	**P**	**17 58 20.1 +1.5**
	baz=200					
SPCR	**Spurr Chakacha**	**84.02**	**10**	P	**P**	**17 58 20.2 +1.6**
	baz=200					
SPCR				S	**S**	**18 08 44.0 +1.5**
	baz=200					
L17K	**Donlin**	**84.05**	**7**	P	P	17 58 21.9 +3.3
	baz=195,SNR=17					
L17K				S	S	18 08 50.1 +7.5
	baz=195					
Y22D	**IRIS PASSCAL I**	**84.10**	**50**	P	P	17 58 24.0 +4.2
	baz=240					
J14K	**Nanvaranak Lak**	**84.14**	**5**	P	**P**	**17 58 16.4 -2.6**
J14K				IAmb	IAmb	17 58 25.1
	comp=Z,35nm,1.4s					
J14K	**Nanvaranak Lak**	**84.14**	**5**	P	P	17 58 21.8 +2.8
	baz=190					
TXAR	**Lajitas Array**	**84.21**	**56**	P	P	17 58 23.7 +3.3
	comp=Z,3.2nm,1.0s,baz=206,slow=8.3,SNR=12					
TXAR				LR	LR	18 29 32.6
	comp=Z,776nm,19.7s,baz=234,slow=31					
	comp=Z,3.2nm,1.0s					
L18K	**Granite Mounta**	**84.33**	**8**	P	P	17 58 23.4 +3.4
	baz=196,SNR=12					
L18K				S	**S**	**18 08 50.3 +4.9**
	baz=196					
V35K	**Ketchikan**	**84.33**	**23**	P	**P**	**17 58 22.4 +2.3**
V35K				IAmb	IAmb	17 58 25.3
	comp=Z,35nm,1.5s					
V35K	**Ketchikan**	**84.33**	**23**	P	P	17 58 23.5 +3.4
	baz=219					
V35K				S	**S**	**18 08 49.0 +3.4**
	baz=219					
M19K	**Big River Lodg**	**84.34**	**9**	P	P	17 58 22.6 +2.4
	baz=198,SNR=6.9					
M19K				S	**S**	**18 08 50.4 +4.8**
	baz=198					
P17A	**Butcher Ranch,**	**84.34**	**44**	P	**P**	**17 58 23.4 +2.4**
RC01	**Rabbit Creek A**	**84.35**	**11**	P	**P**	**17 58 22.3 +2.1**
	baz=203,SNR=8.4					
RC01				S	**S**	**18 08 47.3 +1.6**
	baz=203					
HVU	**Hansel Valley**	**84.36**	**41**	P	**P**	**17 58 17.7 -3.2**
HVU	**Hansel Valley**	**84.36**	**41**	P	**P**	**17 58 17.7 -3.2**
HVU				pmax	pmax	
	comp=Z,11nm,0.8s					
STLK	**Strandline Lak**	**84.36**	**10**	IAmb	IAmb	17 58 34.6
	comp=Z,20nm,1.2s					
PWL	**Port Wells**	**84.41**	**12**	P	**P**	**17 58 17.7 -2.8**
PWL				IAmb	IAmb	17 58 41.9
	comp=Z,32nm,1.0s					
PWL	**Port Wells**	**84.41**	**12**	P	**P**	**17 58 22.6 +2.1**
	baz=204,SNR=12					
PWL				S	**S**	**18 08 50.8 +4.5**
	baz=204					
U33K	**Whale Pass**	**84.42**	**22**	P	P	17 58 23.7 +3.1
	baz=218,SNR=5.9					
U33K				S	S	18 08 52.3 +5.8
	baz=218					
SIT	**Sitka**	**84.45**	**20**	P	P	17 58 23.4 +2.7
	baz=216					
M20K	**Styx River**	**84.52**	**10**	P	**P**	**17 58 23.1 +1.9**
	baz=200					
M20K				S	**S**	**18 08 49.7 +2.2**
	baz=200					
SUA	**Susitna One**	**84.52**	**11**	P	**P**	**17 58 23.3 +2.1**
	baz=202,SNR=12					
SUA				S	**S**	**18 08 49.3 +1.7**
	baz=202					
L19K	**White Mountain**	**84.54**	**9**	P	**P**	**17 58 23.4 +2.3**
	baz=198,SNR=11					
L19K				S	**S**	**18 08 49.0 +1.4**
	baz=198					
K17K	**Iditarod**	**84.61**	**7**	P	P	17 58 24.7 +3.3
	baz=195,SNR=8.7					
K17K				S	S	18 08 54.6 +6.3
	baz=195					
EYAK	**Cordova Ski Ar**	**84.66**	**13**	P	**P**	**17 58 24.0 +2.3**
	baz=206					
EYAK				S	**S**	**18 08 50.5 +1.8**
	baz=206					
GLI	**Glacier Island**	**84.68**	**13**	P	**P**	**17 58 23.9 +2.1**
	baz=205,SNR=10					
GLI				S	**S**	**18 08 51.0 +2.0**
	baz=205					
QIZ	**Qiongzhong**	**84.77**	**293**	P	**P**	**17 58 24.5 +1.2**
QIZ				S	**S**	**18 08 54.6 +3.0**
QIZ				pmax	pmax	
	comp=Z,36nm,2.5s					
QIZ				pmax	pmax	
	comp=Z,780nm,4.9s					
GAMB	**Gambell**	**84.79**	**1**	P	P	17 58 25.6 +3.3
	baz=182,SNR=13					
GAMB				S	**S**	**18 08 54.9 +5.0**
	baz=182					
BGLC	**Bering Glacier**	**84.84**	**15**	P	P	17 58 25.7 +3.1
	baz=209					
SKT	**Skwentna**	**84.87**	**10**	P	**P**	**17 58 19.8 -3.0**
SKT				IAmb	IAmb	17 58 27.0
	comp=Z,28nm,1.4s					
SKT	**Skwentna**	**84.87**	**10**	P	**P**	**17 58 24.1 +1.3**
	baz=201,SNR=11					
SKT				S	**S**	**18 08 51.1 +0.2**
	baz=201					
ANMO	**Albuquerque**	**84.87**	**50**	P	P	17 58 27.0 +3.3
ANMO				IAmb	IAmb	17 58 44.2
	comp=Z,24nm,1.1s					
ANMO	**Albuquerque**	**84.87**	**50**	LR	LR	18 31 29.7
	comp=Z,1μm,18.4s,baz=339,slow=32					
ANMO	**Albuquerque**	**84.87**	**50**	P	P	17 58 27.0 +3.3
ANMO				pmax	pmax	
	comp=Z,25nm,1.1s					
KNK	**Knik Glacier**	**84.89**	**12**	P	P	17 58 25.3 +2.4
	baz=204					
KNK				S	**S**	**18 08 52.9 +1.7**
	baz=204					
M22K	**Willow**	**84.90**	**11**	P	**P**	**17 58 24.9 +2.0**
	baz=202					
M22K				S	**S**	**18 08 51.7 +0.6**
	baz=202					
S31K	**Pelican**	**84.91**	**19**	P	P	17 58 25.9 +2.9
	baz=215					
S31K				S	**S**	**18 08 56.7 +5.4**
	baz=215					
J16K	**Anvik River**	**84.92**	**6**	P	P	17 58 25.6 +2.6
J16K	**Anvik River**	**84.92**	**6**	P	P	17 58 26.0 +3.0
	baz=193,SNR=10.0					
J16K				S	S	18 08 59.3 +8.0
	baz=193					
WRAK	**Wrangell Islan**	**84.93**	**22**	P	P	17 58 26.5 +3.3
	baz=219					
WRAK				S	**S**	**18 08 56.9 +5.3**
	baz=219					
PMR	**Palmer**	**84.93**	**12**	P	**P**	**17 58 25.1 +2.0**
	baz=203					
PMR				S	**S**	**18 08 53.4 +2.1**
	baz=203					
L20K	**Farewell, AK**	**84.97**	**9**	P	**P**	**17 58 25.4 +2.1**
	baz=199,SNR=7.8					
L20K				S	**S**	**18 08 54.0 +2.1**
	baz=199					
BERG	**Berg Lake**	**84.98**	**14**	P	P	17 58 26.0 +2.6
S32K	**Kiilisnoo**	**85.03**	**20**	P	P	17 58 26.5 +2.9
	baz=217					
T33K	**Petersburg**	**85.03**	**21**	P	P	17 58 27.5 +3.8
	baz=218					
LR05	**Currie**	**85.06**	**131**	P	**P**	**17 58 28.0 +3.6**
GHO	**Glory Hole Cre**	**85.14**	**12**	P	**P**	**17 58 26.3 +2.0**
GHO				IAmb	IAmb	17 58 28.2
	comp=Z,23nm,0.9s					
J17K	**VABM Dome**	**85.19**	**7**	P	**P**	**17 58 21.2 -3.2**
J17K				IAmb	IAmb	17 58 32.0
	comp=Z,33nm,1.2s					
J17K	**VABM Dome**	**85.19**	**7**	P	P	17 58 27.6 +3.3
	baz=194,SNR=13					
J17K				S	S	18 09 00.3 +6.3
	baz=194					
MESA	**MESA**	**85.22**	**15**	P	P	17 58 27.9 +3.1
	baz=210					
MESA				S	**S**	**18 08 59.8 +5.0**
	baz=210					
BMRM	**Bremner River**	**85.29**	**14**	P	P	17 58 27.7 +2.7
	baz=207,SNR=13					
BMRM				S	**S**	**18 08 59.3 +4.1**
	baz=207					
CN2	**Changchun**	**85.35**	**321**	*e*P	P	17 58 28.2 +2.6
CN2				*e*S	**S**	**18 09 01.4 +5.0**
CN2				pmax	pmax	
	comp=Z,40nm,2.0s					
CN2				pmax	pmax	
	comp=Z,100nm,4.0s					
CN2				LR	LR	
	comp=Z,100nm,12.0s					
CN2				LR	LR	
	comp=Z,200nm,12.0s					
CN2				LR	LR	
	comp=Z,200nm,11.0s					
U35K	**Hyder**	**85.36**	**23**	P	P	17 58 28.4 +3.1
	baz=221					
BNX	**BinXian**	**85.36**	**323**	⇓P	**P**	**17 58 27.5 +1.9**
BNX				pmax	pmax	
	comp=Z,27nm,2.3s					
M23K	**Glacier View**	**85.38**	**12**	P	**P**	**17 58 27.4 +2.0**
	baz=205					
M23K				S	**S**	**18 08 59.7 +3.7**
	baz=205					
PNL	**Peninsula**	**85.44**	**17**	P	P	17 58 28.7 +3.0
	baz=212,SNR=8.2					
PNL				S	**S**	**18 09 01.3 +4.7**
	baz=212					
CRQE	**Cirque**	**85.44**	**15**	P	P	17 58 28.7 +2.8
	baz=209,SNR=9.3					
KLU	**Klutina**	**85.48**	**13**	P	**P**	**17 58 23.6 -2.4**
KLU	**Klutina**	**85.48**	**13**	P	**P**	**17 58 27.9 +2.0**
	baz=206,SNR=8.1					
KLU				S	**S**	**18 08 58.6 +1.6**
	baz=206					
CUT	**Chulitna**	**85.48**	**11**	P	**P**	**17 58 27.9 +2.1**
	baz=202					
CUT				S	**S**	**18 09 00.2 +3.4**
	baz=202					
SCM	**Sheep Creek Mo**	**85.50**	**12**	P	P	17 58 28.7 +2.6
	baz=205,SNR=19					
SCM				S	**S**	**18 08 59.9 +2.7**
	baz=205					
I17K	**Unalakleet**	**85.51**	**6**	P	P	17 58 29.0 +3.1
	baz=192					
I17K				S	S	18 09 02.6 +5.6
	baz=192					
J18K	**Innoko River**	**85.53**	**8**	P	P	17 58 29.2 +3.1
	baz=196					
PINM	**Pinnacle**	**85.57**	**16**	P	P	17 58 29.3 +2.8
	baz=211					
PINM				S	S	18 09 04.4 +6.3
	baz=211					
PPLA	**Purkeypile**	**85.62**	**10**	P	**P**	**17 58 27.8 +1.0**
	baz=200					
PPLA				S	S	18 09 05.7 +7.2
	baz=200					
MA2	**Magadan**	**85.64**	**343**	LR	LR	18 32 14.6
	comp=Z,1μm,20.8s,baz=154,slow=33					
MA2	**Magadan**	**85.64**	**343**	*c i*P	**P**	**17 58 26.6 -0.1**
MA2				pmax	pmax	
	comp=Z,6.0nm,1.0s					
R32K	**Eaglecrest**	**85.69**	**20**	P	P	17 58 29.6 +2.6
	baz=217					
NEW	**Newport**	**85.77**	**34**	LR	LR	18 32 05.6
	comp=Z,2μm,18.9s,baz=222,slow=32					
K20K	**Telida**	**85.78**	**9**	P	P	17 58 29.9 +2.5
	baz=199					
K20K				S	**S**	**18 09 00.8 +1.0**
	baz=199					
ANM	**Nome**	**85.82**	**4**	P	P	17 58 30.3 +2.8
	baz=188					
ANM				S	**S**	**18 09 04.9 +4.8**
	baz=188					
P29M	**Windy Craggy**	**85.86**	**17**	P	**P**	**17 58 30.1 +2.2**
P29M				IAmb	IAmb	17 58 46.9
	comp=Z,25nm,1.1s					
P29M	**Windy Craggy**	**85.86**	**17**	P	P	17 58 31.7 +3.9
	baz=214,SNR=6.9					
P29M				S	**S**	**18 09 05.4 +4.6**
	baz=214					
N25K	**Chitina, Valde**	**85.86**	**14**	P	P	17 58 30.7 +2.8
	baz=207,SNR=16					
N25K				S	**S**	**18 09 02.1 +1.3**
	baz=207					
PLCA	**Paso Flores**	**85.86**	**132**	P	P	17 58 33.1 +4.5
	comp=Z,4.3nm,1.0s,baz=266,slow=8.4,SNR=4.6					
PLCA				LR	LR	18 28 35.0
	comp=Z,786nm,20.2s,baz=244,slow=30					
	comp=Z,4.3nm,1.0s					
GLB	**Gilahina Butte**	**85.89**	**14**	P	**P**	**17 58 25.2 -2.8**
GLB				IAmb	IAmb	17 58 50.0
	comp=Z,38nm,1.5s					
M24K	**Tolsona, Glenn**	**85.98**	**13**	P	P	17 58 31.6 +3.2
	baz=206,SNR=8.2					
M24K				S	**S**	**18 09 05.9 +4.0**
	baz=206					
MCARA	**McCarthy VSAT**	**86.02**	**14**	P	P	17 58 31.5 +3.0
	baz=209					
MCARA				S	**S**	**18 09 04.1 +1.9**
	baz=209					
CTG	**Chitna Glacier**	**86.05**	**15**	P	P	17 58 31.6 +2.7
	baz=210,SNR=8.9					
T35M	**Bob Quinn**	**86.10**	**22**	P	P	17 58 32.7 +3.7
	baz=220					
T35M				S	S	18 09 09.1 +5.9
	baz=220					
PLBC	**Pleasant Camp**	**86.10**	**18**	P	P	17 58 32.2 +3.2
	baz=215,SNR=8.9					
PLBC				S	**S**	**18 09 07.8 +4.8**
	baz=215					
H16K	**Elim**	**86.11**	**5**	P	P	17 58 31.6 +2.8
	baz=191					
H16K				S	S	18 09 08.8 +5.9
	baz=191					
CAST	**Castle Rocks**	**86.13**	**10**	P	**P**	**17 58 26.7 -2.4**
CAST				IAmb	IAmb	17 58 31.8
	comp=Z,19nm,1.0s					
CAST	**Castle Rocks**	**86.13**	**10**	P	**P**	**17 58 30.0 +0.9**
	baz=200,SNR=16					
O28M	**Mount Upton**	**86.17**	**16**	P	P	17 58 32.4 +2.7
	baz=211,SNR=13					
O28M				S	**S**	**18 09 06.5 +2.2**
	baz=211					
J19K	**Poorman**	**86.17**	**8**	P	P	17 58 32.4 +3.1
	baz=197,SNR=16					
J19K				S	**S**	**18 09 08.8 +5.2**
	baz=197					
O29M	**Mount Kennedy**	**86.19**	**17**	P	P	17 58 32.5 +2.9
	baz=213,SNR=6.8					
O29M				S	**S**	**18 09 08.2 +4.0**
	baz=213					
CMIG	**Matias Romero**	**86.21**	**70**	LR	LR	18 28 53.5
	comp=Z,1μm,19.5s,baz=234,slow=30					
G15K	**Niukluk**	**86.33**	**4**	P	P	17 58 32.7 +2.7
	baz=189					
SKAG	**Skagway**	**86.41**	**19**	P	P	17 58 34.5 +4.1
	baz=216					
SKAG				S	S	18 09 11.8 +5.7
	baz=216					
KTH	**Kantishna Hill**	**86.44**	**10**	IAmb	IAmb	17 58 50.7
	comp=Z,47nm,1.4s					
TRF	**Thorofare Moun**	**86.45**	**10**	P	**P**	**17 58 32.8 +2.0**
	baz=202,SNR=40					
TRF				S	**S**	**18 09 07.7 +1.1**
	baz=202					
HARP	**HAARP**	**86.45**	**13**	P	P	17 58 33.3 +2.6
	baz=207					
HARP				S	**S**	**18 09 09.0 +2.6**
	baz=207					
P30M	**Million Dollar**	**86.48**	**18**	P	P	17 58 34.4 +3.5
	baz=214					
S34M	**Telegraph Cree**	**86.51**	**21**	P	P	17 58 34.4 +3.4
	baz=220,SNR=10					
CHUM	**Lake Minchumin**	**86.53**	**9**	P	**P**	**17 58 32.8 +1.8**
	baz=200					
J20K	**Nowinta River**	**86.55**	**8**	P	**P**	**17 58 33.4 +2.4**
J20K	**Nowinta River**	**86.55**	**8**	P	P	17 58 33.8 +2.7
	baz=199,SNR=20					
J20K				S	**S**	**18 09 11.0 +3.8**
	baz=199					
H17K	**Granite Mounta**	**86.61**	**6**	P	**P**	**17 58 28.5 -2.9**
H17K				IAmb	IAmb	17 58 35.6
	comp=Z,52nm,1.5s					
H17K	**Granite Mounta**	**86.61**	**6**	P	P	17 58 33.8 +2.4
	baz=193,SNR=9.8					
H17K				S	**S**	**18 09 12.1 +4.2**
	baz=193					
DRIO	**Del Rio**	**86.62**	**57**	P	**P**	**17 58 34.7 +2.4**
DRIO				IAmb	IAmb	17 58 52.4
	comp=Z,59nm,1.9s					
F14K	**Arctic Creek**	**86.67**	**3**	P	P	17 58 34.3 +2.7
	baz=187					
TNA	**Tin City**	**86.69**	**2**	P	P	17 58 34.1 +2.5
	baz=186					
TNA				S	**S**	**18 09 13.5 +5.1**
	baz=186					
YUK8	**Steele Glacier**	**86.72**	**16**	P	P	17 58 35.3 +3.0
	baz=212,SNR=16					
GCSA	**Galena City Sc**	**86.75**	**7**	P	P	17 58 34.6 +2.6
	baz=196					
GCSA				S	**S**	**18 09 14.4 +5.3**
	baz=196					

SYO **Syowa Base** 86.79 191 ⇓*e*PcP **P** 17 58 32.6 +0.2
SYO **Syowa Base** 86.79 191 ⇓*i*pP pP 17 58 35.0 +1.6
YUK6 **Outpost Mounta** 86.79 16 P P 17 58 35.7 +3.0
baz=213,SNR=17
G16K **Koyuk River** 86.85 5 P **P** 17 58 35.3 +2.8
baz=191
PDAR **Pinedale Array** 86.89 42 P **P** **17 58 35.3 +1.7**
PDAR **Pinedale Array** 86.89 42 P **P** **17 58 35.5 +1.9**
comp=Z,1.8nm,0.8s,baz=217,slow=2.3,SNR=16
PDAR LR LR 18 32 50.6
comp=Z,430nm,18.6s,baz=236,slow=32
comp=Z,1.8nm,0.8s
PAX **Paxson** 86.90 13 P **P** **17 58 34.9 +1.9**
baz=207,SNR=13
PAX S **S** **18 09 11.2 +0.3**
baz=207
TROLL **Troll, Antarti** 86.92 179 ⇑P **P** **17 58 35.6 +2.4**
comp=Z,335nm,0.8s
M26K **Nabesna, AK** 86.92 14 P P 17 58 35.9 +2.9
baz=209,SNR=23
M26K S **S** **18 09 14.5 +3.5**
baz=209
HYT **Haines Junctio** 86.92 17 P P 17 58 36.4 +3.3
baz=214,SNR=13
HYT S **S** **18 09 15.0 +3.7**
baz=214
BPAW **Bear Paw Mtn.** 86.94 10 P **P** **17 58 34.3 +1.3**
baz=202,SNR=7.5
BPAW S **S** **18 09 11.3 +0.2**
baz=202
MCK **McKinley** 86.94 11 P P 17 58 35.5 +2.4
baz=203,SNR=21
MCK S **S** **18 09 11.8 +0.6**
baz=203
Q32M **Nakina River** 86.95 20 P P 17 58 37.0 +3.6
baz=218,SNR=7.3
Q32M S **S** **18 09 16.0 +4.2**
baz=218
YUK3 **Moose Creek** 86.97 15 P P 17 58 36.4 +2.9
baz=211,SNR=38
YUK3 S **S** **18 09 15.2 +3.3**
baz=211
H18K **Honhosa River** 86.97 6 P P 17 58 35.6 +2.5
baz=195,SNR=8.6
H18K S **S** **18 09 15.0 +3.7**
baz=195
F15K **North Star Dit** 87.00 4 P P 17 58 35.9 +2.7
baz=189
F15K S **S** **18 09 15.9 +4.3**
baz=189
P32M **Atlin** 87.00 19 P P 17 58 36.7 +3.3
baz=217
P32M S **S** **18 09 17.5 +5.5**
baz=217
YUK4 **Talbot Arm** 87.06 16 P P 17 58 37.5 +3.6
baz=213,SNR=8.7
VNA3 **Neumayer Olymp** 87.06 175 ⇑P **P** **17 58 33.9 +0.1**
comp=Z,16nm,0.7s
SNAA **Sanae** 87.08 177 ⇑P **P** **17 58 36.3 +2.3**
comp=Z,158nm,0.8s
SNAA **Sanae** 87.08 177 P **P** **17 58 33.1 -0.8**
SNAA **Sanae** 87.08 177 P **P** **17 58 35.8 +1.9**
comp=Z,6.3nm,0.8s,baz=204,slow=3.9,SNR=29
SNAA LR LR 18 34 42.1
comp=Z,1μm,19.8s,baz=176,slow=34
comp=Z,6.3nm,0.8s
SNAA **Sanae** 87.08 177 P **P** **17 58 33.1 -0.8**
SNAA pmax pmax
comp=Z,71nm,1.9s
I20K **Naaghedeneel** 87.09 8 P P 17 58 36.6 +2.9
baz=198
I20K S **S** **18 09 17.7 +5.3**
baz=198
G17K **Kiwalik Mounta** 87.09 5 P **P** **17 58 36.0 +2.3**
baz=193,SNR=12
G17K S **S** **18 09 17.2 +4.7**
baz=193
M27K **Edge Creek, AK** 87.14 14 P P 17 58 37.5 +3.3
baz=210,SNR=31
M27K S **S** **18 09 16.4 +3.1**
baz=210
OVMT **Ovando** 87.27 37 P **P** **17 58 35.8 +0.6**
ML02 **Panimavida** 87.29 127 P **P** **17 58 39.4 +3.8**
DLBC **Dease Lake** 87.29 21 LR LR 18 30 38.8
comp=Z,414nm,21.4s,baz=220,slow=31
DLBC **Dease Lake** 87.29 21 P P 17 58 38.1 +3.2
baz=220,SNR=7.7
DLBC S **S** **18 09 20.5 +5.7**
baz=220
L26K **Log Cabin Wild** 87.39 13 P P 17 58 38.0 +2.8
baz=208,SNR=5.8
BVCY **Beaver Creek** 87.42 15 P P 17 58 38.6 +3.2
baz=211,SNR=27
BVCY S **S** **18 09 19.4 +3.5**
baz=211
WHY **Whitehorse** 87.52 18 P P 17 58 39.4 +3.4
baz=216,SNR=8.7
WHY S **S** **18 09 21.9 +4.9**
baz=216
H19K **Roundabout Mou** 87.55 7 P P 17 58 39.0 +3.1
baz=196,SNR=20
H19K S **S** **18 09 21.8 +5.0**
baz=196
N30M **Aishikik Lake** 87.56 17 P P 17 58 38.9 +2.7
baz=214,SNR=12
N30M S **S** **18 09 20.9 +3.6**
baz=214
K24K **Donnelly Dome** 87.59 12 P P 17 58 39.2 +3.0
baz=206
K24K S **S** **18 09 18.9 +1.5**
baz=206
G18K **Tagagawik** 87.67 6 P P 17 58 39.1 +2.6
baz=194,SNR=14
G18K S **S** **18 09 21.2 +3.1**
baz=194
H20K **Anotleneega Mo** 87.71 8 P P 17 58 39.7 +3.0
baz=198,SNR=15
H20K S **S** **18 09 23.4 +5.0**
baz=198
NEA2 **Nenana** 87.72 10 P **P** **17 58 38.4 +1.6**
baz=203,SNR=6.5
NEA2 S **S** **18 09 18.7 +0.1**
baz=203
R33M **Jennings River** 87.72 20 P P 17 58 40.6 +3.6
baz=220,SNR=12
RIDG **Independent Ri** 87.72 12 P **P** **17 58 39.2 +2.4**
baz=207,SNR=11
RIDG S **S** **18 09 21.1 +2.4**
baz=207
VNA1 **Neumayer--Stat** 87.75 175 ⇑P **P** **17 58 39.7 +2.7**
comp=Z,10nm,0.9s
L27K **Beaver Creek,** 87.76 14 P **P** **17 58 34.6 -2.5**
L27K IAmb IAmb 17 58 40.8
comp=Z,50nm,1.9s
L27K **Beaver Creek,** 87.76 14 P P 17 58 39.9 +2.8
baz=210,SNR=12
L27K S **S** **18 09 22.6 +3.5**
baz=210
P33M **Teslin, Yukon** 87.77 19 P P 17 58 39.7 +2.5
baz=218
P33M S **S** **18 09 23.1 +3.7**
baz=218
BCAR **Beaver Creek A** 87.78 14 P **P** **17 58 39.2 +2.1**
I21K **Tanana** 87.80 9 P P 17 58 39.5 +2.4
baz=201
I21K S **S** **18 09 21.1 +1.8**
baz=201
MLY **Manley** 87.85 10 IAmb IAmb 17 58 40.0
comp=Z,45nm,1.8s
MLY **Manley** 87.85 10 P **P** **17 58 39.3 +1.8**
baz=202,SNR=12
MLY S **S** **18 09 20.1 +0.2**
baz=202
HDA **Harding Lake** 87.92 11 P P 17 58 40.2 +2.5
baz=205,SNR=12
HDA S **S** **18 09 21.3 +0.8**
baz=205
N31M **Braeburn, Yuko** 87.94 17 P P 17 58 41.4 +3.4
baz=215,SNR=11
N31M S **S** **18 09 24.3 +3.4**
baz=215
F17K **Baldwin Pennin** 87.97 5 P P 17 58 40.9 +3.0
baz=192
M29M **Somme Creek** 88.03 16 P P 17 58 41.5 +3.1
baz=213,SNR=22
M29M S **S** **18 09 24.3 +2.4**
baz=213
G19K **Purcell Mounta** 88.07 7 P P 17 58 41.2 +2.8
baz=196,SNR=13
G19K S **S** **18 09 26.3 +4.5**
baz=196
HEH **HeiHe** 88.08 327 *e*P **P** **17 58 40.0 +1.2**
HEH pP **pwP** **17 58 50.9 +0.3**
HEH sP PcP 17 58 55.2 +15
HEH S **S** **18 09 21.8 -0.7**
HEH sS **ScS** **18 09 35.6 +6.9**
HEH pmax pmax
comp=Z,23nm,1.4s
HEH pmax pmax
comp=Z,730nm,5.8s
HEH LR LR
comp=Z,810nm,18.9s
HEH LR LR
comp=Z,710nm,20.5s
HEH LR LR
comp=Z,1μm,21.0s
SCRK **Sand Creek** 88.10 13 P **P** **17 58 40.6 +1.8**
SCRK IAmb IAmb 17 58 45.9
comp=Z,29nm,1.2s
SCRK **Sand Creek** 88.10 13 P P 17 58 41.4 +2.6
baz=208,SNR=8.3
SCRK S **S** **18 09 25.0 +2.5**
baz=208
H21K **Melozitna Rive** 88.14 9 P P 17 58 41.6 +2.8
baz=200,SNR=10
H21K S **S** **18 09 26.3 +3.7**
baz=200
I23K **Minto, Yukon-K** 88.18 10 P **P** **17 58 40.8 +1.9**
baz=203,SNR=14
I23K S **S** **18 09 23.7 +0.8**
baz=203
COLA **College** 88.18 11 P **P** **17 58 40.9 +2.1**
COLA **College** 88.18 11 *c i*P **P** **17 58 41.0 +2.1**
COLA pmax pmax
comp=Z,110nm,2.7s
COLA **College** 88.18 11 P **P** **17 58 41.0 +2.1**
baz=204
COLA S **S** **18 09 24.9 +2.0**
baz=204
MT01 **Popeta** 88.19 126 P **P** **17 58 42.3 +2.3**
ILAR **Eielson Array** 88.26 11 P **P** **17 58 40.4 +1.0**
ILAR **Eielson Array** 88.26 11 P **P** **17 58 41.4 +2.0**
comp=Z,4.2nm,0.9s,baz=212,slow=5.3,SNR=28
comp=Z,4.2nm,0.9s
F18K **Selawik** 88.26 6 P **P** **17 58 41.4 +2.1**
baz=194
F18K S **S** **18 09 27.2 +3.6**
baz=194
IMAR **Indian Mountai** 88.32 8 P **P** **17 58 41.5 +1.9**
J25K **Salcha River,** 88.40 12 P P 17 58 42.8 +2.7
baz=207,SNR=21
J25K S **S** **18 09 27.6 +2.4**
baz=207
N32M **Quiet Lake** 88.44 18 P P 17 58 43.4 +3.1
baz=218
PSI **Prapat** 88.47 274 LR LR 18 41 58.6
comp=Z,358nm,18.3s,baz=124,slow=38
POKR **Poker Plat Res** 88.48 11 P **P** **17 58 42.4 +2.0**
baz=205
POKR S **S** **18 09 27.1 +1.3**
baz=205
K27K **Chicken** 88.55 13 P P 17 58 44.3 +3.6
baz=210
E17K **Hotham Inlet** 88.55 5 P P 17 58 43.3 +2.7
baz=192
E17K S **S** **18 09 29.3 +3.0**
baz=192
H22K **Ishtalitna Cre** 88.56 9 P **P** **17 58 43.0 +2.2**
baz=201,SNR=15
H22K S **S** **18 09 27.5 +0.9**
baz=201
M30M **Minto, Yukon** 88.57 16 P P 17 58 43.7 +2.8
baz=214,SNR=21
M30M S **S** **18 09 30.1 +3.3**
baz=214
J26L **Joseph Creek** 88.66 13 P P 17 58 44.7 +3.3
baz=208,SNR=55
J26L S **S** **18 09 29.6 +1.9**
baz=208
F19K **Shaleruckik Mo** 88.67 6 P **P** **17 58 38.8 -2.4**
F19K IAmb IAmb 17 59 02.0
comp=Z,29nm,1.2s
F19K **Shaleruckik Mo** 88.67 6 P P 17 58 43.9 +2.7
baz=195
L29M **L29M** 88.68 15 P P 17 58 44.6 +3.2
baz=213,SNR=23
L29M S **S** **18 09 30.9 +3.1**
baz=213
BRDY **Brady** 88.69 56 P **P** **17 58 44.4 +2.2**
H23K **Yukon River** 88.78 10 P **P** **17 58 43.7 +1.9**
baz=203
H23K S **S** **18 09 30.9 +2.3**
baz=203
G21K **Allakaket** 88.86 8 P P 17 58 45.0 +2.9
baz=199,SNR=9.1
G21K S **S** **18 09 33.7 +4.4**
baz=199
M31M **Drury Creek, Y** 88.91 17 P P 17 58 45.1 +2.7
baz=217,SNR=10.0
M31M S **S** **18 09 32.9 +2.9**
baz=217
WTLY **Watson Lake, Y** 88.97 21 P P 17 58 46.2 +3.3
baz=222
E18K **Tukpahlearik C** 88.98 5 P P 17 58 45.4 +2.8
baz=193,SNR=8.4
E18K S **S** **18 09 33.4 +3.0**
baz=193
HNS **HongShan** 89.00 311 ⇑P P 17 58 47.2 +3.8
HNS pmax pmax
comp=Z,25nm,2.7s
H24K **Noodor Dome** 89.06 10 P P 17 58 46.6 +3.4
baz=204
H24K S **S** **18 09 32.6 +1.3**
baz=204
D17K **Noatak River** 89.07 4 P P 17 58 46.2 +3.1
baz=190
D17K S **S** **18 09 36.2 +5.0**
baz=190
F20K **Avaraart Lake** 89.10 7 P **P** **17 58 42.2 -1.0**
F20K IAmb IAmb 17 58 48.9
comp=Z,21nm,1.2s
F20K **Avaraart Lake** 89.10 7 P P 17 58 46.1 +2.9
baz=197,SNR=9.7
F20K S **S** **18 09 34.8 +3.3**
baz=197
DAWY **Dawson** 89.19 14 P P 17 58 47.0 +3.2
baz=212,SNR=12
DAWY S **S** **18 09 36.1 +3.6**
baz=212
PRP **Porcupine Dome** 89.19 11 P P 17 58 46.4 +2.5
baz=206,SNR=11
PRP S **S** **18 09 35.3 +2.6**
baz=206
BJI **Beijing** 89.23 314 P **P** **17 58 47.0 +2.5**
BJI SKS **SKSac** **18 09 13.6 -0.9**
BJI pmax pmax
comp=Z,310nm,4.5s
TOAD **Toad River Com** 89.28 23 P P 17 58 47.1 +2.8
baz=225,SNR=24
LYN **LuoYang** 89.32 308 P P 17 58 47.8 +2.8
LYN pmax pmax
comp=Z,45nm,1.2s
E19K **Redstone River** 89.33 6 P **P** **17 58 46.6 +2.3**
baz=196,SNR=13
E19K S **S** **18 09 36.2 +2.5**
baz=196
LIRD **Liard River Hi** 89.38 22 P P 17 58 48.1 +3.4
baz=224
RDOG **Red Dog Mine** 89.44 4 P P 17 58 47.4 +2.6
baz=190
RDOG S **S** **18 09 38.7 +4.0**
baz=190
K29M **Barlow Dome** 89.44 15 P P 17 58 48.5 +3.4
baz=214,SNR=30
K29M S **S** **18 09 38.5 +3.4**
baz=214
I26K **Coal Creek Min** 89.45 12 P P 17 58 48.3 +3.4
baz=209
G22K **Bettles** 89.51 9 P P 17 58 48.0 +2.8
baz=201
C16K **Lisburne Hills** 89.51 3 P P 17 58 48.0 +2.9
baz=188
G23K **Bananza Creek** 89.53 9 P P 17 58 47.8 +2.5
baz=202,SNR=9.0
G23K S **S** **18 09 39.6 +4.0**
baz=202
F21K **Alatna River** 89.53 8 P P 17 58 47.9 +2.6
baz=199
F21K S **S** **18 09 38.4 +2.8**
baz=199
MAYO **Mayo, Yukon** 89.64 16 P P 17 58 49.2 +3.3
baz=215
J29N **Klondike Camp** 89.79 15 P P 17 58 50.2 +3.6
baz=213
J29N S **S** **18 09 42.6 +4.4**
baz=213
H25L **Birch Creek** 89.81 11 P P 17 58 50.4 +3.9
baz=206
C17K **DeLong Mountai** 89.83 4 P P 17 58 49.1 +2.5
baz=190
C17K S **S** **18 09 40.9 +2.6**
baz=190
G24K **Hadweenzic Riv** 89.92 10 P **P** **17 58 49.0 +1.9**
baz=205
G24K S **S** **18 09 41.9 +2.6**
baz=205
SRIT **Nakonsritamara** 89.93 279 P **P** **17 58 47.8 -0.6**
F22K **John River** 89.97 8 P P 17 58 50.3 +3.0
baz=200,SNR=6.7
F22K S **S** **18 09 42.9 +3.2**
baz=200
COLD **Coldfoot** 89.98 9 P P 17 58 50.6 +3.2
baz=202,SNR=6.4
COLD S **S** **18 09 45.0 +5.2**
baz=202
I27K **Kandik River** 90.03 13 P P 17 58 50.7 +3.0
baz=210,SNR=7.7
I27K S **S** **18 09 44.0 +3.7**
baz=210
MMPY **Sheldon Lake,** 90.13 18 P P 17 58 51.8 +3.5
baz=219,SNR=14
MMPY S **S** **18 09 46.2 +4.8**
baz=219
C18K **Utukok River** 90.14 5 P **P** **17 58 50.2 +2.1**
baz=192
C18K S **S** **18 09 43.2 +1.9**
baz=192
TGTN **Hyland Airport** 90.21 20 P P 17 58 52.0 +3.4
baz=222,SNR=8.4
TGTN S **S** **18 09 46.6 +4.4**
baz=222
G25K **Bearman Lake** 90.21 11 P **P** **17 58 50.8 +2.4**
baz=206
G25K S **S** **18 09 45.2 +3.4**
baz=206
E20K **Nigu River** 90.21 6 P P 17 58 51.1 +2.6
baz=197,SNR=11
E20K S **S** **18 09 44.8 +2.8**
baz=197
I28M **Miner Creek** 90.25 13 P **P** **17 58 50.8 +2.0**
I28M IAmb IAmb 17 58 54.4
comp=Z,25nm,1.2s
I28M **Miner Creek** 90.25 13 P P 17 58 51.7 +2.9
baz=212,SNR=16
I28M S **S** **18 09 45.5 +3.0**
baz=212
D19K **Kuna River** 90.25 6 P **P** **17 58 50.8 +2.1**
baz=195,SNR=7.3
D19K S **S** **18 09 43.3 +1.0**
baz=195
ZEA **Zeya** 90.26 329 *e*P **P** **17 58 51.1 +2.2**
ZEA pmax pmax
comp=Z,20nm,1.5s
BILL **Bilibino** 90.26 353 *c i*P **P** **17 58 50.7 +2.1**
BILL pmax pmax
comp=Z,37nm,2.5s
J30M **Hart River** 90.34 15 P P 17 58 52.5 +3.2
baz=215,SNR=13
J30M S **S** **18 09 47.2 +3.7**
baz=215
GYA **Guiyang** 90.46 298 ⇓P **P** **17 58 53.2 +2.5**
GYA pmax pmax
comp=Z,41nm,1.8s
I29M **Ogilvie Camp,** 90.53 14 P P 17 58 52.7 +2.7
baz=213,SNR=11
H27K **Steamboat Moun** 90.59 12 P P 17 58 53.5 +3.2
baz=210,SNR=14
H27K S **S** **18 09 49.9 +4.4**
baz=210
F24K **Squaw Lake** 90.60 10 P P 17 58 53.3 +3.0
baz=204
F24K S **S** **18 09 49.1 +3.5**
baz=204
D20K **Etivluk River** 90.61 6 P P 17 58 53.1 +2.8
baz=196,SNR=6.4
D20K S **S** **18 09 49.8 +4.3**
baz=196
E22K **Anaktuvuk Pass** 90.61 8 P P 17 58 53.4 +3.0
baz=201
KOTAN **Kotaneelee Air** 90.62 22 P P 17 58 53.9 +3.5
baz=226
E21K **Killik River** 90.63 7 P P 17 58 53.3 +2.8
baz=199
E21K S **S** **18 09 48.3 +2.5**
baz=199
C19K **Lookout Ridge** 90.72 5 P P 17 58 53.7 +2.9
baz=194
C19K S **S** **18 09 49.5 +2.9**
baz=194
G26K **Porcupine Rive** 90.79 11 P P 17 58 54.0 +3.0
baz=208,SNR=14
G26K S S 18 09 53.2 +6.0
baz=208
B18K **Kokolik River** 90.80 4 P P 17 58 54.2 +3.1
baz=192
E23K **Chandalar** 90.84 9 P P 17 58 54.2 +2.8
baz=203
E23K S **S** **18 09 50.9 +3.1**
baz=203
I30M **Mount Dempster** 90.87 15 P P 17 58 54.7 +3.0
baz=215,SNR=21
I30M S **S** **18 09 50.8 +2.5**
baz=215
E24K **Your Creek** 91.02 9 P P 17 58 55.3 +3.0
baz=204
E24K S **S** **18 09 53.8 +4.4**
baz=204
RSSD **Black Hills** 91.03 43 P **P** **17 58 54.3 +1.2**
RSSD **Black Hills** 91.03 43 P **P** **17 58 54.3 +1.2**
RSSD pmax pmax
comp=Z,13nm,1.3s
F25K **Christian Rive** 91.03 10 P P 17 58 55.9 +3.5
baz=206
F25K S **S** **18 09 53.5 +3.9**
baz=206
G27K **Doyon Strip** 91.07 12 P P 17 58 55.8 +3.3
baz=210,SNR=10
G27K S **S** **18 09 52.9 +3.0**
baz=210
XLT **XiLinHaoTe** 91.15 317 *e*P **P** **17 58 54.8 +1.3**
XLT pmax pmax
comp=Z,13nm,2.3s
XLT pmax pmax
comp=Z,340nm,4.0s
D22K **Ayikyak River** 91.20 8 P P 17 58 56.2 +3.2
baz=200
D22K S **S** **18 09 54.2 +3.2**
baz=200
C21K **Knifeblade Rid** 91.23 7 P **P** **17 58 55.5 +2.4**
baz=198
C21K S **S** **18 09 54.7 +3.6**
baz=198
H29M **Whitestone** 91.24 14 P P 17 58 56.2 +2.9
baz=213,SNR=13
H29M S **S** **18 09 54.5 +3.1**
baz=213
F26K **Sheenjek River** 91.39 11 P P 17 58 57.1 +3.2
baz=208,SNR=7.9
F26K S **S** **18 09 57.5 +4.8**
baz=208
TOLK **Toolik Lake Re** 91.39 9 P P 17 58 56.6 +2.7
baz=203
TOLK S **S** **18 09 55.1 +2.4**
baz=203
TOLK S **ScS** **18 09 57.5 +1.9**
baz=203
D23K **Nanushuk River** 91.54 8 P P 17 58 57.4 +2.9
baz=202
D23K S **S** **18 09 58.6 +4.6**
baz=202
A19K **Wainwright** 91.68 4 P P 17 58 58.1 +3.0
baz=192
B21K **Ikpikpuk River** 91.69 7 P P 17 58 57.9 +2.6
baz=198

EPYK	**Eagle Plains**	**91.74**	**14**	P	P	17 58 58.4	+2.8	
	baz=214,SNR=9.5							
EPYK				S	**S**	**18 09 58.0**	**+2.1**	
	baz=214							
B20K	**Meade River**	**91.81**	**6**	P	P	17 58 58.7	+3.0	
	baz=196							
B20K				S	**S**	**18 09 59.8**	**+3.5**	
	baz=196							
H31M	**Peel River**	**91.84**	**15**	P	**P**	**17 58 58.5**	**+2.4**	
	baz=217							
H31M				S	**S**	**18 09 58.9**	**+2.1**	
	baz=217							
G29M	**Pine Creek**	**91.90**	**13**	P	P	17 58 59.3	+3.0	
	baz=213,SNR=7.4							
G29M				S	**S**	**18 10 01.6**	**+4.2**	
	baz=213							
D24K	**Happy Valley**	**91.97**	**9**	P	P	17 58 59.6	+3.1	
	baz=204							
NNA	**Nana**	**92.07**	**104**	LR	LR	18 32 29.9		
	comp=Z,617nm,18.9s,baz=230,slow=30							
F28M	**Old Crow**	**92.12**	**12**	P	P	17 59 00.4	+3.1	
	baz=212,SNR=6.3							
F28M				S	**S**	**18 10 04.6**	**+5.3**	
	baz=212							
E27K	**Coleen River**	**92.28**	**11**	P	P	17 59 01.5	+3.5	
	baz=210,SNR=6.4							
E27K				S	**S**	**18 10 06.1**	**+5.3**	
	baz=210							
G30M	**tAoh Zraii Nji**	**92.36**	**14**	P	**P**	**17 58 55.1**	**-3.3**	
G30M	**tAoh Zraii Nji**	**92.36**	**14**	P	P	17 59 01.2	+2.8	
	baz=215,SNR=11							
G30M				S	**S**	**18 10 04.1**	**+2.6**	
	baz=215							
C23K	**Itkillik River**	**92.36**	**8**	P	P	17 59 01.3	+3.0	
	baz=202							
C23K				S	S	18 10 07.6	+6.3	
	baz=202							
ATAH	**Atahualpa**	**92.45**	**99**	LR	LR	18 33 09.4		
	comp=Z,1µm,18.1s,baz=256,slow=31							
D25K	**Kavik River**	**92.48**	**9**	P	**P**	**17 59 01.5**	**+2.4**	
	baz=206							
D25K				S	**S**	**18 10 05.4**	**+2.8**	
	baz=206							
B22K	**Teshekpuk Lake**	**92.50**	**7**	P	P	17 59 01.6	+2.6	
	baz=199							
B22K				S	**S**	**18 10 05.8**	**+3.3**	
	baz=199							
JTS	**Las Juntas de**	**92.61**	**80**	LR	LR	18 33 16.2		
	comp=Z,625nm,18.1s,baz=256,slow=31							
HHC	**Hu-ho-hao-te**	**92.73**	**313**	*e*P	**P**	**17 59 02.8**	**+1.9**	
HHC				S	**S**	**18 10 05.3**	**-0.8**	
HHC				sS	sS	18 10 17.2	+10	
HHC				pmax	pmax			
	comp=Z,14nm,0.5s							
HHC				pmax	pmax			
	comp=Z,310nm,6.4s							
HHC				LR	LR			
	comp=Z,420nm,15.5s							
HHC				LR	LR			
	comp=Z,530nm,16.2s							
HHC				LR	LR			
	comp=Z,510nm,17.8s							
G31M	**Satah River**	**92.76**	**15**	P	P	17 59 03.0	+2.8	
	baz=217,SNR=17							
G31M				S	**S**	**18 10 07.1**	**+2.3**	
	baz=217							
F30M	**Barrier River**	**92.97**	**14**	P	P	17 59 04.2	+3.0	
	baz=215							
F30M				S	**S**	**18 10 10.1**	**+3.2**	
	baz=215							
A22K	**Sinclair Lake**	**92.97**	**6**	P	P	17 59 03.7	+2.6	
	baz=198							
E28M	**Babbage River**	**93.03**	**12**	P	P	17 59 04.6	+3.1	
	baz=212,SNR=5.4							
E28M				S	**S**	**18 10 11.6**	**+4.2**	
	baz=212							
E29M	**Blow River**	**93.17**	**13**	P	**P**	**17 59 04.6**	**+2.4**	
	baz=214							
E29M				S	**S**	**18 10 11.8**	**+3.2**	
	baz=214							
C27K	**Jago River**	**93.18**	**10**	P	P	17 59 05.0	+2.8	
	baz=208							
KMI	**Kunming**	**93.21**	**296**	P	P	17 59 07.0	+3.4	
KMI				pmax	pmax			
	comp=Z,22nm,2.0s							
C26K	**Camden Bay**	**93.25**	**10**	P	P	17 59 05.1	+2.6	
	baz=207							
C26K				S	**S**	**18 10 12.5**	**+3.4**	
	baz=207							
F31M	**Tsiigehtchic**	**93.30**	**14**	P	P	17 59 05.2	+2.5	
	baz=217							
F31M				S	**S**	**18 10 13.2**	**+3.6**	
	baz=217							
D27M	**Malcolm River**	**93.31**	**11**	P	P	17 59 06.1	+3.2	
	baz=211							
D27M				S	**S**	**18 10 12.4**	**+2.5**	
	baz=211							
BTO	**Baotou**	**93.69**	**312**	*e*P	P	17 59 09.9	+4.6	
BTO				pP	pwP	17 59 20.4	+3.3	
BTO				sP	sP	17 59 24.5	+18	
BTO				pmax	pmax			
	comp=Z,21nm,1.7s							
INK	**Inuvik**	**94.04**	**14**	LR	LR	18 39 02.8		
	comp=Z,554nm,18.5s,baz=228,slow=34							
INK	**Inuvik**	**94.04**	**14**	P	**P**	**17 59 08.5**	**+2.5**	
	baz=218							
INK				S	**S**	**18 10 18.2**	**+2.1**	
	baz=218							
CMAR	**Chiang Mai Arr**	**94.08**	**288**	P	**P**	**17 59 08.4**	**+0.9**	
CMAR	**Chiang Mai Arr**	**94.08**	**288**	P	**P**	**17 59 09.2**	**+1.7**	
	comp=Z,5.6nm,0.8s,baz=101,slow=4.3,SNR=4.0							
CMAR				LR	LR	18 41 08.2		
	comp=Z,94nm,19.2s,baz=125,slow=35							
	comp=Z,5.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**94.08**	**288**	*ce*P	**P**	**17 59 07.8**	**+0.3**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CHTO	**Chiang Mai**	**94.21**	**288**	P	**P**	**17 59 08.5**	**+0.4**	
CHTO	**Chiang Mai**	**94.21**	**288**	P	**P**	**17 59 08.5**	**+0.4**	
CHTO				pmax	pmax			
	comp=Z,72nm,2.0s							
YAK	**Yakutsk**	**94.34**	**337**	P	**P**	**17 59 08.5**	**+0.9**	
YAK				lAmb	lAmb	17 59 11.3		
	comp=Z,10nm,0.8s							
YAK	**Yakutsk**	**94.34**	**337**	LR	LR	18 36 24.8		
	comp=Z,274nm,20.6s,baz=117,slow=32							
YAK	**Yakutsk**	**94.34**	**337**	*e*P	**P**	**17 59 09.8**	**+2.2**	
YAK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.2s							
PZH	**PanZhiHua**	**94.56**	**297**	P	**P**	**17 59 12.0**	**+2.3**	
PZH				pmax	pmax			
	comp=E,20nm,1.3s							
PZH				pmax	pmax			
	comp=E,120nm,4.9s							
YKA	**Yellowknife Ar**	**95.62**	**24**	P	P	17 59 16.9	+3.4	
	comp=E,2.1nm,0.9s,baz=247,slow=8.3,SNR=1.5							
YKA				LR	LR	18 40 10.9		
	comp=E,260nm,18.0s,baz=268,slow=34							
	comp=E,2.1nm,0.9s							
LPAZ	**La Paz**	**98.12**	**111**	LR	LR	18 37 20.4		
	comp=E,1µm,18.2s,baz=248,slow=31							
A36M	**Sachs Harbour**	**98.68**	**14**	S	**S**	**18 10 58.7**	**+2.8**	
	baz=225							
SONM	**Songino Array**	**98.94**	**318**	P	Pdif	17 59 28.3	-0.7	
	comp=E,0.4nm,0.3s,baz=104,slow=4.7,SNR=4.1							
SONM				LR	LR	18 43 50.5		
	comp=E,176nm,18.4s,baz=112,slow=35							
	comp=E,0.4nm,0.3s							
WMQ	**Urumqi**	**110.42**	**310**	*e*PKP	**PKiKP**	**18 04 22.3**	**+1.4**	
ZALV	**Zalesovo Beam**	**113.57**	**321**	PKiKP	**PKiKP**	**18 04 26.8**	**+0.3**	
	comp=E,1.3nm,0.5s,baz=128,slow=1.7,SNR=7.8							
MK31	**Makanchi Array**	**114.60**	**313***c*	*i*PKIKP	**PKiKP**	**18 04 30.4**	**+1.6**	
MKAR	**Makanchi Array**	**114.60**	**313**	PKP	**PKiKP**	**18 04 28.9**	**+0.1**	
	comp=E,0.7nm,0.6s,baz=188,slow=0.6,SNR=8.0							
KURK	**Kurchatov**	**117.23**	**317***d*	*i*PKIKP	**PKiKP**	**18 04 34.6**	**+1.0**	
KURBB	**Kurchatov Arra**	**117.29**	**317**	PKP	**PKiKP**	**18 04 34.6**	**+0.9**	
	comp=E,1.4nm,0.7s,baz=94,slow=1.9,SNR=11							
KURBB				PKKPbc	**PKKPab**	**18 15 01.6**	**+1.7**	
	comp=E,0.8nm,0.8s,baz=267,slow=4.4,SNR=7.8							
BVAR	**Borovoye Array**	**122.20**	**320**	PKP	**PKiKP**	**18 04 44.5**	**+1.2**	
	comp=E,3.2nm,0.7s,baz=77,slow=1.6,SNR=17							
BRVK	**Borovoye**	**122.26**	**320**		**PKiKP**	**18 04 44.0**	**+0.6**	
BRVK	**Borovoye**	**122.26**	**320***d*	*i*PKIKP	**PKiKP**	**18 04 45.1**	**+1.7**	
KKAR	**Karatay Array**	**122.81**	**308**		**PKiKP**	**18 04 45.4**	**+0.5**	
KKAR	**Karatay Array**	**122.81**	**308**	PKIKP	**PKiKP**	**18 04 45.4**	**+0.5**	
SVE	**Sverdlovsk**	**126.84**	**326**	*i* PKIKP	**PKiKP**	**18 04 54.9**	**+2.5**	
SVE				MLR	MLR			
	comp=Z,741nm,21.0s							
BOSA	**Boshof**	**127.09**	**201**	PKP	**PKiKP**	**18 04 55.5**	**+1.5**	
	comp=Z,5.7nm,0.9s,baz=147,slow=2.9,SNR=6.1							
ARTI	**Arti**	**128.16**	**326**		**PKiKP**	**18 04 54.9**	**-0.2**	
ARTI	**Arti**	**128.16**	**326**	*i* PKIKP	**PKiKP**	**18 04 55.6**	**+0.6**	
ARTI						18 06 54.3		
ARTI						18 12 06.7		
ARTI				MLR	MLR			
	comp=Z,745nm,20.0s							
ABKAR	**Akbulak array**	**129.34**	**317**		**PKiKP**	**18 04 57.3**	**-0.3**	
ARCES	**ARCESS Array B**	**130.34**	**351**	PKP	**PKiKP**	**18 04 59.6**	**+0.5**	
	comp=Z,2.7nm,0.8s,baz=7.6,slow=3.7,SNR=3.9							
KIRV	**Kirov**	**131.56**	**331**	⇓*i* PKIKP	**PKiKP**	**18 05 03.0**	**+1.2**	
KLMR	**Klimovskoe**	**134.12**	**338**	*e*PKIKP	**PKiKP**	**18 05 06.1**	**-0.8**	
KLMR				pmax	pmax			
	comp=Z,13nm,1.9s							
KLMR				MLR	MLR			
	comp=Z,444nm,17.0s							
FINES	**FINESS Array B**	**137.55**	**346**	PKhKP	PKPpre	18 05 03.5		
	comp=Z,0.9nm,0.7s,baz=22,slow=6.8,SNR=5.8							
LSZ	**Lusaka**	**137.74**	**213**		**PKiKP**	**18 05 14.0**	**-1.8**	
LSZ	**Lusaka**	**137.74**	**213**	PKIKP	**PKiKP**	**18 05 14.0**	**-1.8**	
OBN	**Obninsk**	**139.26**	**334**	⇑*i* PKIKP	**PKiKP**	**18 05 18.4**	**+0.9**	
OBN				*e*		18 08 09.5		
OBN				*e*PPP	PPP	18 11 08.5		
OBN				pmax	pmax			
	comp=Z,19nm,1.3s							
MAK	**Makhachkala**	**139.41**	**312**	*i* P	**Pdif**	**18 02 21.4**	**-7.5**	
MAK				*i*		18 05 14.2		
MAK				*e*		18 12 24.9		
MAK				*e*SS	SS	18 26 26.1	-2.9	
MAK				*e*SSS	SSS	18 31 34.9		
NOA	**NORSAR Array B**	**140.12**	**356**	PKhKP	PKPpre	18 05 12.3		
	comp=Z,0.6nm,0.7s,baz=13,slow=4.5,SNR=3.4							
HFS	**Hagfors**	**140.82**	**354**	PKhKP	PKPpre	18 05 12.6		
	comp=Z,1.5nm,0.8s,baz=72,slow=4.8,SNR=7.7							
KIV	**Kislovodsk**	**142.29**	**315**	*i* PKIKP	**PKiKP**	**18 05 24.1**	**-0.2**	
KIV				*e*		18 08 25.9		
KIV				*e*		18 12 31.1		
KIV				*e*SS	SS	18 26 59.5	-3.2	
KIV				*e*SSS	SSS	18 32 18.4		
KIV				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,478nm,24.0s							
KMBO	**Kilima Mbogo**	**142.35**	**238**	PKP	**PKiKP**	**18 05 23.5**	**-2.0**	
	comp=Z,0.9nm,0.3s,baz=131,slow=3.2,SNR=4.9							
ERBR	**Yeremizino-Bor**	**142.88**	**319**	*i* PKIKP	**PKPdf**	**18 05 19.8**	**-2.3**	
ERBR				*e*		18 08 27.4		
ERBR				pmax	pmax			
	comp=Z,13nm,0.8s							
MNK	**Minsk**	**143.00**	**339**	*i* PKIKP	**PKiKP**	**18 05 23.0**	**-2.2**	
MNK				*i*		18 08 31.6		
MNK				*i* PPP	PPP	18 11 42.2		
MNK				*i*		18 12 34.2		
MNK				*i* SS	SS	18 27 12.1	+2.9	
MNK				*i* SSS	SSS	18 32 30.5		
MNK				pmax	pmax			
	comp=E,7.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,7.0nm,0.7s							
MNK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MNK				MLR	MLR			
	comp=Z,653nm,21.0s							
MNK				MLR	MLR			
	comp=N,173nm,18.0s							
MNK				MLR	MLR			
	comp=E,465nm,21.0s							
GEVA	**Gevas**	**144.08**	**306**		**PKPdf**	**18 05 23.7**	**-1.0**	
SOC	**Sochi**	**144.38**	**316**	*e*PKHKP	PKPpre	18 05 20.2		
SOC				*e*SS	SS	18 27 22.4	-4.1	
SOC				*e*SSS	SSS	18 32 51.0		
SUW	**Suwalki**	**144.86**	**343**	*e*PKP	**PKiKP**	**18 05 26.1**	**-3.0**	
SUW	**Suwalki**	**144.86**	**343**		**PKPdf**	**18 05 25.2**	**-0.1**	
SUW	**Suwalki**	**144.86**	**343**	PKIKP	**PKPdf**	**18 05 25.2**	**-0.1**	
ANN	**Anapa**	**145.20**	**320**	*i* PKIKP	**PKiKP**	**18 05 27.0**	**-3.0**	
ANN				*e*		18 05 30.8		
ANN				pmax	pmax			
	comp=Z,56nm,1.0s							
EKA	**Eskdalemuir Ar**	**145.28**	**9**	PKPbc	**PKiKP**	**18 05 28.2**	**-1.6**	
	comp=Z,1.2nm,0.5s,baz=325,slow=2.7,SNR=6.8							
AKASG	**Malin Array Be**	**145.52**	**334**		**PKiKP**	**18 05 26.9**	**-3.6**	
AKASG	**Malin Array Be**	**145.52**	**334**	PKPbc	**PKiKP**	**18 05 27.6**	**-2.9**	
	comp=Z,6.9nm,0.5s,baz=39,slow=3.9,SNR=70							
KIEV	**Kiev**	**145.53**	**334**		**PKPdf**	**18 05 26.8**	**+0.2**	
KIEV	**Kiev**	**145.53**	**334**	⇓P	**PKiKP**	**18 05 28.2**	**-2.4**	
KIEV	**Kiev**	**145.53**	**334**	⇓PKIKP	**PKiKP**	**18 05 28.2**	**-2.4**	
GKP	**Gorka Klasztor**	**146.96**	**348**	*e*PKP	**PKiKP**	**18 05 32.9**	**-0.5**	
SIM	**Simferopol'**	**147.06**	**322**	*i* PKP2	**PKiKP**	**18 05 31.8**	**-2.1**	
SIM				pmax	pmax			
	comp=Z,38nm,1.2s							
BEL	**Belsk**	**147.46**	**343**	*e*PKP	**PKiKP**	**18 05 34.6**	**+0.1**	
SORM	**Soroca**	**147.84**	**332**	⇓P	**PKPab**	**18 05 36.1**	**+0.2**	
SORM	**Soroca**	**147.84**	**332**	⇓PKP2	**PKPab**	**18 05 36.1**	**+0.2**	
RETH	**Rethem/Aller,**	**148.51**	**356**	*e*PKPbc	**PKPab**	**18 05 38.9**	**+0.5**	
	baz=8.5,slow=2.4							
NRDL	**Niedersach Rie**	**148.70**	**355**	*e*PKPbc	**PKPab**	**18 05 39.9**	**+0.8**	
	baz=8.5,slow=2.4							
FLTG	**Flechtingen**	**148.76**	**354**	*e*PKPbc	**PKPab**	**18 05 39.2**	**-0.2**	
	baz=8.5,slow=2.4							
KWP	**Kalwaria Pacla**	**148.82**	**339**	*e*PKP	**PKPab**	**18 05 38.4**	**-1.4**	
IBBN	**Ibbenbueren**	**149.01**	**358**	*e*PKPbc	**PKPab**	**18 05 40.1**	**-0.4**	
	baz=8.5,slow=2.4							
ASSE	**Asse, Remlinge**	**149.01**	**355**	*e*PKPbc	**PKPab**	**18 05 40.2**	**-0.2**	
	baz=8.5,slow=2.4							
OJC	**Ojcow**	**149.19**	**343**	*e*PKP	**PKPab**	**18 05 38.7**	**-2.5**	
CLZ	**Clausthal**	**149.33**	**355**	*e*PKPbc	**PKPab**	**18 05 41.0**	**-0.8**	
	baz=8.5,slow=2.4							
KSP	**Ksiaz**	**149.45**	**347**	*e*PKP	**PKPab**	**18 05 40.0**	**-2.3**	
STHS	**Stebnicka Huta**	**149.48**	**340**	*e*PKP2	**PKPab**	**18 05 45.4**	**+2.9**	
STHS	**Stebnicka Huta**	**149.48**	**340**	*e*PKP	**PKPab**	**18 05 45.4**	**+2.9**	
WIMM	**Wimmelburg**	**149.54**	**353**	*e*PKPbc	**PKPab**	**18 05 41.4**	**-1.1**	
	baz=8.5,slow=2.4							
CLL	**Collm**	**149.56**	**352**	*e*PKHKP	PKPpre	18 05 36.0		
CLL				*i*		18 05 39.9		
CLL				pmax	pmax			
	comp=Z,143nm,2.2s							
CLL	**Collm**	**149.56**	**352**	*e*PKPbc	**PKPab**	**18 05 41.4**	**-1.3**	
	baz=8.5,slow=2.4							
KOLS	**Kolonicke sedl**	**149.57**	**339**	*e*PKP2	**PKPab**	**18 05 46.1**	**+3.2**	
KOLS	**Kolonicke sedl**	**149.57**	**339**	*e*PKP	**PKPab**	**18 05 46.1**	**+3.2**	
BURAR	**Bucovina Array**	**149.57**	**334**		**PKPbc**	**18 05 34.2**	**-3.9**	
BURAR	**Bucovina Array**	**149.57**	**334**	⇓P	**PKPab**	**18 05 40.0**	**-3.0**	
BURAR	**Bucovina Array**	**149.57**	**334**	⇓PKP2	**PKPab**	**18 05 40.0**	**-3.0**	
GTTG	**Gottingen**	**149.65**	**355**	*e*PKPbc	**PKPab**	**18 05 41.6**	**-1.4**	
	baz=8.5,slow=2.4							
OSTC	**Ostas**	**149.74**	**347**	AMS	AMS	19 21 50.0		
	comp=Z,600nm,19.2s							
CHVC	**Chvalec**	**149.74**	**347**	*e*PKP2	**PKPab**	**18 05 46.7**	**+3.2**	
CHVC				MLR	MLR			
	comp=Z,600nm,21.3s							
CHVC	**Chvalec**	**149.74**	**347**⇑	*e*PKP	**PKPab**	**18 05 46.7**	**+3.2**	
CHVC				AMS	AMS	19 13 10.0		
	comp=Z,600nm,21.3s							
NIE	**Niedzica**	**149.77**	**342**	*e*PKP	**PKPab**	**18 05 41.6**	**-2.1**	
POSS	**Possen**	**149.79**	**354**	*e*PKPbc	**PKPab**	**18 05 42.0**	**-1.7**	
	baz=8.5,slow=2.4							
NEUB	**Neuenburg**	**149.81**	**353**	*e*PKPbc	**PKPab**	**18 05 42.0**	**-1.7**	
	baz=8.5,slow=2.4							
TESR	**Tescani**	**149.82**	**331**	⇑P	**PKPab**	**18 05 41.5**	**-2.5**	
UPC	**Upice**	**149.83**	**347**	AMS	AMS	19 12 50.0		
	comp=Z,600nm,20.2s							
BRG	**Berggiesshubel**	**149.85**	**350**	*e*PKPbc	**PKPab**	**18 05 42.9**	**-1.1**	
	baz=8.5,slow=2.4							
BRG	**Berggiesshubel**	**149.85**	**350**	*e*PKP	**PKPab**	**18 05 41.8**	**-2.1**	
BRG				Amp		18 05 44.4		
	comp=Z,27nm,1.4s							
BRG				PKiKP	**sPKPab**	**18 05 47.5**	**+2.4**	
BRG				Amp		18 05 48.4		
	comp=Z,12nm,1.0s							
BUG	**Bochum--Univer**	**149.89**	**359**	*e*PKPbc	**PKPab**	**18 05 42.2**	**-1.8**	
	baz=8.5,slow=2.4							
DPC	**Dobruska-Polom**	**149.91**	**347**	*e*PKP2	**PKPab**	**18 05 42.3**	**-2.0**	
DPC				MLR	MLR			
	comp=Z,700nm,17.0s							
DPC	**Dobruska-Polom**	**149.91**	**347**⇑	*e*PKP	**PKPab**	**18 05 42.3**	**-2.0**	
DPC				AMS	AMS	19 21 50.0		
	comp=Z,700nm,17.0s							
OKC	**Ostrava-Krasne**	**149.97**	**344**	AMS	AMS	19 12 50.0		
	comp=Z,500nm,21.2s							
STEB	**Steborice**	**149.97**	**345**⇑	*e*PKP	**PKiKP**	**18 05 40.1**	**+0.3**	
STEB				*e*PKPAB	**sPKPab**	**18 05 46.7**	**+1.0**	
SCHLR	**Schela**	**150.05**	**329**	⇓P	**PKPab**	**18 05 42.2**	**-2.7**	
KRLC	**Kraliky**	**150.07**	**346**	*e*PKP2	**PKPab**	**18 05 41.6**	**-3.3**	
KRLC	**Kraliky**	**150.07**	**346**⇑	*e*PKP	**PKPab**	**18 05 41.6**	**-3.3**	
ONER	**Baraj Valea Uz**	**150.07**	**331**	⇑P	**PKPab**	**18 05 43.0**	**-2.0**	
PVCC	**Panska Ves**	**150.08**	**349**	AMS	AMS	19 14 00.0		
	comp=Z,500nm,22.6s							
KASTN	**Kahler Asten**	**150.09**	**357**	*e*PKPbc	**PKPab**	**18 05 42.8**	**-2.1**	
	baz=8.5,slow=2.4							
CFR	**Carcaliu**	**150.11**	**328**	⇓P	**PKPab**	**18 05 42.4**	**-2.8**	
CFR	**Carcaliu**	**150.11**	**328**	⇓PKP2	**PKPab**	**18 05 42.4**	**-2.8**	
MORC	**Moravsky Berou**	**150.18**	**345**	*e*PKP	**PKPbc**	**18 05 36.2**	**-3.2**	
MORC	**Moravsky Berou**	**150.18**	**345**	⇑P	**PKPab**	**18 05 41.7**	**-3.7**	
MORC	**Moravsky Berou**	**150.18**	**345**	⇑PKIKP	**PKPab**	**18 05 41.7**	**-3.7**	
BMR	**Baia Mare**	**150.20**	**336**	⇓P	**PKPab**	**18 05 42.3**	**-3.2**	
BMR	**Baia Mare**	**150.20**	**336**	⇓PKP2	**PKPab**	**18 05 42.3**	**-3.2**	
BRTR	**Keskin Array B**	**150.23**	**314**		**PKPdf**	**18 05 34.6**	**-0.3**	
BRTR	**Keskin Array B**	**150.23**	**314**	PKPbc	**PKPab**	**18 05 41.8**	**-4.4**	
	comp=Z,4.1nm,0.8s,baz=144,slow=2.7,SNR=22							
BRTR	**Keskin Array B**	**150.23**	**314**	PKIKP	**PKPdf**	**18 05 34.6**	**-0.3**	
VRI	**Vrincioaia**	**150.28**	**330**	⇑P	**PKPab**	**18 05 42.1**	**-3.8**	
VRI	**Vrincioaia**	**150.28**	**330**	⇑PKP2	**PKPab**	**18 05 42.1**	**-3.8**	
PLOR	**Plostina**	**150.32**	**330**	⇓P	**PKPab**	**18 05 43.2**	**-2.9**	
PLOR	**Plostina**	**150.32**	**330**	⇓PKIKP	**PKPab**	**18 05 43.2**	**-2.9**	
KIRS	**Kirsehir-Merke**	**150.34**	**313**	⇑P	**PKPab**	**18 05 42.0**	**-4.5**	
ARCR	**ARCALIA**	**150.35**	**335**	⇑P	**PKPab**	**18 05 49.8**	**+3.7**	
UBBA	**Unterbreizbach**	**150.37**	**355**	*e*PKPbc	**PKPab**	**18 05 43.4**	**-2.6**	
	baz=8.5,slow=2.4							
MOX	**Moxa**	**150.39**	**353**	*e*PKPbc	**PKPab**	**18 05 43.5**	**-2.6**	
	baz=8.5,slow=2.4							
MOX				*e*L	L	19 13 50.5		
	comp=Z,540nm,20.4s							
TURR	**Turia**	**150.46**	**331**	⇑P	**PKPab**	**18 05 50.2**	**+3.5**	
MAUC	**Maruska**	**150.49**	**344**⇑	*e*PKP	**PKPab**	**18 05 42.9**	**-3.8**	
UCC	**Uccle**	**150.51**	**2**	*d*PKP	**PKPab**	**18 05 44.7**	**-1.9**	
TANN	**Tannbergstha**	**150.51**	**352**	*e*PKPbc	**PKPab**	**18 05 43.9**	**-2.8**	
	baz=8.5,slow=2.4							
TANN				*e*PKPab	**sPKPab**	**18 05 49.7**	**+1.7**	
	baz=8.7,slow=4.1							
OZUR		**150.53**	**332**	⇑P	**PKPab**	**18 05 43.9**	**-3.1**	
HARR	**Harsova**	**150.56**	**327**	⇑P	**PKPab**	**18 05 43.1**	**-3.9**	
HARR	**Harsova**	**150.56**	**327**	⇑PKIKP	**PKPab**	**18 05 43.1**	**-3.9**	
PRU	**Pruhonice**	**150.60**	**349**	*e*PKIKP	**PKiKP**	**18 05 41.4**	**+0.4**	
PRU				MLR	MLR			
	comp=Z,500nm,18.0s							
PRU	**Pruhonice**	**150.60**	**349**⇑	*e*PKP	**PKiKP**	**18 05 41.4**	**+0.4**	
PRU				AMS	AMS	19 16 00.0		
	comp=Z,500nm,18.0s							
GOPC	**GO Pecny, Ondr**	**150.63**	**349**	AMS	AMS	19 23 00.0		
	comp=Z,600nm,18.7s							
ANTO	**Ankara**	**150.72**	**315**	⇑P	**PKPab**	**18 05 44.4**	**-3.6**	
ANTO	**Ankara**	**150.72**	**315**	⇑PKIKP	**PKPab**	**18 05 44.4**	**-3.6**	
BTNL	**Ternell**	**150.76**	**0**	*d*PKP	**PKPab**	**18 05 44.9**	**-2.8**	
DOPR	**Dopca**	**150.80**	**332**	⇑P	**PKPab**	**18 05 44.2**	**-3.9**	
VRAC	**Vranov**	**150.84**	**346**	*e*PKP	**PKPbc**	**18 05 37.9**	**-3.0**	
VRAC	**Vranov**	**150.84**	**346**	⇓P	**PKPab**	**18 05 52.0**	**+4.0**	
MLR	**Muntele Rosu**	**150.92**	**331**	⇓P	**PKPab**	**18 05 43.7**	**-5.0**	
MLR	**Muntele Rosu**	**150.92**	**331**	⇓PKIKP	**PKPab**	**18 05 43.7**	**-5.0**	
MANZ	**Manzenberg**	**150.98**	**352**	*e*PKPbc	**PKPab**	**18 05 45.0**	**-3.7**	
	baz=8.5,slow=2.4							
BHOU	**Houwegnez**	**150.99**	**0**	*d*PKP	**PKPab**	**18 05 46.1**	**-2.5**	
JAVC	**Velka Javorina**	**151.00**	**344**	*e*PKP	**PKPdf**	**18 05 35.6**	**-0.1**	
VYHS	**Vyhne**	**151.02**	**343**	*e*PKIKP	**PKPbc**	**18 05 38.7**	**-2.7**	
VYHS				*e*		18 05 44.3		
VYHS	**Vyhne**	**151.02**	**343**	*e*PKP	**PKPbc**	**18 05 38.7**	**-2.7**	
VYHS				*e*		18 05 44.3		
VYHS				*e*		18 05 52.4		
TNS	**Taunus Mts**	**151.07**	**357**	*e*PKPbc	**PKPab**	**18 05 45.2**	**-3

	comp=Z,29nm,1.3s							
BIOA				*i* pPKP		**sPKPab**	**18 06 00.1**	**+1.9**
	comp=Z,21nm,1.1s							
ARSA	**Arzberg**	**153.01 346**		*e*pPKP		**PKPbc**	**18 05 41.4**	**-4.5**
	comp=Z,8.9nm,1.1s							
ARSA				*e*pPKP		**sPKPab**	**18 06 00.5**	**+2.1**
	comp=Z,8.9nm,1.1s							
RJOB	**Jochberg**	**153.08 350**		*e*PKPab		**PKPab**	**18 06 00.6**	**+3.1**
	baz=8.7,slow=4.1							
MDVR	**Moldovita**	**153.29 335**		⇑P		**PKiKP**	**18 05 49.5**	**+2.7**
LESA	**Schwarzleotal**	**153.40 350**		*i* pPKP		**PKPbc**	**18 05 44.1**	**-2.8**
	comp=Z,6.0nm,1.3s							
LESA				*i* pPKP		**sPKPab**	**18 06 01.8**	**+1.7**
	comp=Z,20nm,1.3s							
KOGS	**Kog**	**153.59 344**		*i* PKPab		**PKPab**	**18 06 01.8**	**+2.1**
RETA	**Reutte**	**153.60 353**		*e*PKiKP		**PKiKP**	**18 05 50.2**	**+2.8**
	comp=Z,9.8nm,1.4s							
RETA				*i* pPKP		**sPKPab**	**18 06 02.4**	**+1.4**
	comp=Z,16nm,1.3s							
KBA	**Koelnbreinsper**	**153.62 349**		*e*PKP		**PKPdf**	**18 05 40.6**	**+0.8**
	comp=Z,2.8nm,0.9s							
WATA	**Walderalm**	**153.65 352**		*e*pPKP		**PKPbc**	**18 05 42.6**	**-4.9**
	comp=Z,11nm,1.2s							
WATA				*i* pPKP		**sPKPab**	**18 06 02.8**	**+1.6**
	comp=Z,12nm,1.3s							
SOKA	**Soboth**	**153.67 346**		*e*PKP		**PKPbc**	**18 05 42.2**	**-5.3**
	comp=Z,1.2nm,0.9s							
SOKA				*i* pPKP		**sPKPab**	**18 06 02.7**	**+1.4**
	comp=Z,11nm,1.3s							
MOTA	**Moosalm**	**153.70 352**		*e*pPKP		**PKPbc**	**18 05 42.9**	**-4.7**
	comp=Z,16nm,1.1s							
MOTA				*i* pPKP		**sPKPab**	**18 06 03.0**	**+1.5**
	comp=Z,16nm,1.1s							
WTTA	**Wattenberg**	**153.71 352**		*e*pPKP		**PKPbc**	**18 05 42.8**	**-4.9**
	comp=Z,6.6nm,1.1s							
WTTA				*e*pPKP		**sPKPab**	**18 06 03.3**	**+1.7**
	comp=Z,15nm,1.3s							
SQTA	**Sankt Quirin**	**153.81 352**		*e*PKP		**PKPdf**	**18 05 40.6**	**+0.7**
	comp=Z,3.3nm,0.6s							
DAVA	**Damuels**	**153.89 354**		*e*pPKP		**PKPab**	**18 06 04.1**	**+3.0**
	comp=Z,11nm,1.1s							
OBKA	**Obir**	**153.93 347**		*e*PKP		**PKPdf**	**18 05 41.7**	**+1.5**
	comp=Z,4.7nm,1.3s							
OBKA				*i* pPKP		**sPKPab**	**18 06 03.8**	**+1.4**
	comp=Z,6.3nm,1.0s							
MYKA	**Terra Mystica**	**154.00 348**		*e*PKP		**PKPbc**	**18 05 42.6**	**-5.6**
	comp=Z,0.1nm,0.2s							
MYKA				*i* PKP		**sPKPab**	**18 06 03.5**	**+0.8**
	comp=Z,9.5nm,1.1s							
FETA	**Feichten**	**154.06 353**		*i* pPKP		**PKPab**	**18 06 04.5**	**+2.6**
	comp=Z,2.4nm,1.0s							
LJU	**Ljubljana**	**154.38 347**		*i* PKPdf		**PKPdf**	**18 05 42.5**	**+1.8**
LJU				*i* PKPab		**sPKPab**	**18 06 05.0**	**+0.8**
PDG	**Podgorica**	**156.23 335**		⇑P		**PKPab**	**18 06 12.9**	**+1.9**
CAMP	**Campotosto**	**157.96 346**		PKPdf		**PKPdf**	**18 05 45.4**	**-0.2**
CAMP						**sPKPab**	**18 06 19.6**	**-0.3**
ESDC	**Sonseca Array**	**159.71 23**		PKPdf		**PKPdf**	**18 05 47.4**	**-0.3**
ESDC				PKPab		**sPKPab**	**18 06 28.1**	**+0.6**
ESDC	**Sonseca Array**	**159.71 23**		PKPab		**PKPab**	**18 06 29.1**	**+2.8**
	comp=Z,1.4nm,0.8s,baz=317,slow=4.1,SNR=6.5							
DBIC	**Dimbokro**	**161.96 142**		PKP		**PKPdf**	**18 05 53.2**	**+2.4**
	comp=Z,5.0nm,1.0s,baz=243,slow=6.4,SNR=3.8							
DBIC				PKPab		**sPKPab**	**18 06 39.2**	**+1.2**
	comp=Z,5.4nm,0.7s,baz=277,slow=5.8,SNR=4.6							

IDC 09 17:56:18.6±2.5, 30°.01S×177°.14W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=56.8km s-min=30.1km az=60.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.02**	**318**	Pn	Pn	17 56 40.5	+0.4
	334nm,0.3s,baz=42,slow=20,SNR=10						
RAO				Sn	Sn	17 56 55.2	+0.1
	563nm,0.3s,baz=214,slow=21,SNR=6.3						
ASAR	**Alice Springs**	**43.88**	**266**	P	P	18 04 26.2	-0.9
	0.4nm,0.8s,baz=108,slow=7.2,SNR=4.4						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**44.83**	**271**	P	P	18 04 35.5	+0.8
	0.4nm,0.6s,baz=112,slow=7.9,SNR=2.6						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**145.03**	**341**	PKPbc	PKPbc	18 15 55.5	-1.1
	0.7nm,0.5s,baz=66,slow=3.4,SNR=9.5						

*IDC **09** 17:57:11.7±5.7, 6°.38S×155°.06E, h63km±44km, mb3.6/6, mbtmp4.0/8, ML3.1/2, Error ellipse: s-maj=42.6km s-min=25.4km az=52.0*
*NEIC **09** 17:57:13.9±1.8, 6°.3S±0°.1×154°.98E±0°.07, h82km±13km, mb4.1/13, Error ellipse: s-maj=19.4km s-min=5.5km az=204.0*

ISC 09 17:57:11.5±0.7, 6°.4S±0°.1×154°.97E±0°.07, h56km, n27, σ1♀34/27, mb4.1/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.54**	**308**		**Pn**	**17 58 06.2**	**+2.3**
HNR	**Honiara**	**5.79**	**122**	Pn	**Pn**	**17 58 37.8**	**+2.9**
HNR				Sn	**Sn**	**17 59 41.0**	**+0.9**
PMG	**Port Moresby**	**8.31**	**248**	Sn	**Sn**	**18 00 44.3**	**+2.4**
PMG	**Port Moresby**	**8.31**	**248**	P	**Pn**	**17 59 10.7**	**+1.3**
	5.0nm,0.3s,baz=69,slow=6.8,SNR=16						
	19nm,0.5s						
DZM	**Mont Dzumac**	**19.14**	**146**		**P**	**18 01 30.3**	**-0.1**
DZM				IAmb	IAmb	18 02 04.3	
	comp=Z,11nm,1.2s						
DZM	**Mont Dzumac**	**19.14**	**146**	P	**P**	**18 01 29.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=128,slow=17,SNR=2.5						
	comp=Z,3.3nm,0.7s						
WB0	**Warramunga Arr**	**24.02**	**234**	P	**P**	**18 02 21.4**	**-0.1**
WB0				IAmb	IAmb	18 02 48.6	
	comp=Z,9.0nm,1.3s						
WR8	**Warramunga Arr**	**24.04**	**234**	P	**P**	**18 02 21.6**	**+0.1**
ARMA	**Armidale**	**24.13**	**187**	P	**P**	**18 02 22.6**	**+0.2**
ARMA				IAmb	IAmb	18 02 48.0	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**24.16**	**234**	P	**P**	**18 02 22.9**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=57,slow=9.5,SNR=44						
WRA				PcP	**PcP**	**18 06 01.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=46,slow=2.3,SNR=7.7						
	comp=Z,0.9nm,0.3s						
MTN	**Manton Dam**	**24.36**	**253**	P	**P**	**18 02 24.9**	**+0.5**
MTN				IAmb	IAmb	18 02 45.9	
	comp=Z,11nm,1.4s						
INKA	**Innaminka**	**25.18**	**211**	P	**P**	**18 02 30.6**	**-1.3**
MSVF	**Nonsavu**	**25.20**	**119**	P	**P**	**18 02 31.0**	**-1.2**
MSVF				IAmb	IAmb	18 03 02.6	
	comp=Z,12nm,1.3s						
ASAR	**Alice Springs**	**26.57**	**227**	P	**P**	**18 02 43.2**	**-1.4**
ASAR	**Alice Springs**	**26.57**	**227**	P	**P**	**18 02 44.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=57,slow=9.0,SNR=11						
ASAR				PcP	**PcP**	**18 06 07.2**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=68,slow=2.6,SNR=4.6						
	comp=Z,0.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.27**	**25**	T	T	18 31 24.5	
	baz=203,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy**	**27.28**	**25**	T	T	18 31 24.0	
	baz=203,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**27.29**	**25**	T	T	18 31 25.1	
	baz=203,slow=75,SNR=16						
KNRA	**Kununurra**	**27.31**	**248**	P	**P**	**18 02 48.9**	**-2.3**
KNRA				IAmb	IAmb	18 02 58.6	
	comp=Z,11nm,1.4s						
SOEI	**Soe**	**30.58**	**262**	P	**P**	**18 03 18.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**30.89**	**245**	P	**P**	**18 03 21.8**	**-1.2**
RTZ	**Ruatahuna**	**37.78**	**151**	P	**P**	**18 04 22.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**60.50**	**295**	P	**P**	**18 07 17.2**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=116,slow=5.6,SNR=7.7						
	comp=Z,1.4nm,0.7s						
SONM	**Songino Array**	**68.80**	**327**	P	**P**	**18 08 09.4**	**-0.6**
SONM				IAmb	IAmb	18 08 20.6	
	comp=Z,2.6nm,1.5s						
MKAR	**Makanchi Array**	**82.92**	**319**	P	**P**	**18 09 29.4**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=104,slow=5.1,SNR=5.7						
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**18 09 33.3**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=353,slow=5.9,SNR=17						
	comp=Z,0.6nm,0.5s						
MAW	**Mawson**	**84.96**	**203**	P	**P**	**18 09 39.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=109,slow=6.7,SNR=6.3						
	comp=Z,1.0nm,0.6s						

*IDC **09** 18:20:54.3±2.7, 7°.53S×118°.93E, h136km±23km, mb3.8/7, mbtmp4.2/10, Error ellipse: s-maj=51.8km s-min=10.5km az=54.0*
*DJA **09** 18:20:56.4±2.6, 7°.5S×11°.9E±°, h16km±24km, M4.6/13, mb4.7/6, MLv4.6/13*
*NEIC **09** 18:20:57.7±1.4, 7°.8S±0°.1×118°.44E±0°.07, h185km±8km, mb4.1/12, Error ellipse: s-maj=18.0km s-min=10.1km az=185.0*

ISC 09 18:20:53.9±0.5, 7°.52S±0°.06×118°.75E±0°.05, h150km, n49, σ2♀42/46, mb4.2/12, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.62**	**216**	P	**Pn**	**18 21 28.1**	**+3.3**
PLAI				S	**Sn**	**18 21 49.9**	**+1.5**
WSI	**Waingapu**	**2.63**	**144**	P	Pn	18 21 40.7	+4.0
KAPI	**Kappang**	**2.68**	**22**	Pn	**Pn**	**18 21 35.9**	**-1.4**
KAPI					Pn	18 22 03.6	+26
KAPI	**Kappang**	**2.68**	**22**	P	**Pn**	**18 21 36.1**	**-1.3**
	11nm,0.4s,baz=348,slow=10,SNR=9.0						
KAPI				S	**Sn**	**18 22 03.9**	**-6.9**
	21nm,0.4s,baz=84,slow=21,SNR=7.1						
EDFI	**Ende, Flores**	**3.16**	**113**	P	Pn	18 21 51.4	+7.9
EDFI				S	Sn	18 22 30.9	+9.1
SRBI	**Singaraja**	**3.54**	**261**	P	**Pn**	**18 21 50.9**	**+2.6**
MMRI	**Maumere**	**3.63**	**108**		Pn	18 21 58.1	+8.7
MMRI				Sn	Sn	18 22 40.8	+8.3
MMRI	**Maumere**	**3.63**	**108**	P	Pn	18 21 57.6	+8.2
MMRI				S	Sn	18 22 43.2	+11
JAGI	**Jajag, Banyuwa**	**4.65**	**258**		**Pn**	**18 22 02.6**	**-0.1**
JAGI				Sn	Sn	18 22 51.7	-4.6
JAGI	**Jajag, Banyuwa**	**4.65**	**258**	P	**Pn**	**18 22 03.1**	**+0.4**
KMMI	**Kalianget**	**4.76**	**275**	P	**Pn**	**18 22 07.6**	**+3.4**
BATI	**Baumata**	**5.55**	**119**	P	Pn	18 22 21.0	+6.3
	36nm,0.4s,baz=294,slow=6.0,SNR=14						
BATI				S	**Sn**	**18 23 18.2**	**+0.5**
	81nm,0.5s,baz=145,slow=18,SNR=8.3						
SOEI	**Soe**	**5.89**	**113**		Pn	18 22 25.7	+6.3
SOEI				Sn	**Sn**	**18 23 30.8**	**+4.6**
SOEI	**Soe**	**5.89**	**113**	P	Pn	18 22 26.3	+6.9
	0.5nm40nm,0.8s						
PCJI	**Pacitan**	**7.53**	**264**	P	**Pn**	**18 22 42.6**	**+1.5**
	0.6nm84nm,1.3s						
WOJI	**Wonogiri, Jawa**	**7.76**	**267**	P	**Pn**	**18 22 45.5**	**+1.3**
	108nm,2.1s						
UGM	**Wanagama**	**8.16**	**267**	Pn	Pn	18 22 47.1	-2.4
UGM				Sn	**Sn**	**18 24 17.1**	**-3.3**
UGM	**Wanagama**	**8.16**	**267**	P	**Pn**	**18 22 49.8**	**+0.3**
KPJI	**Karang Pucung**	**9.73**	**270**	P	**Pn**	**18 23 12.3**	**+1.8**
FITZ	**Fitzroy Crossi**	**12.48**	**148**		**Pn**	**18 23 47.0**	**+0.5**
FITZ	**Fitzroy Crossi**	**12.48**	**148**	P	**Pn**	**18 23 46.2**	**-0.3**
	8.1nm,0.7s,baz=344,slow=11,SNR=47						
FITZ				S	**Sn**	**18 25 57.4**	**-7.1**
	6.3nm,0.6s,baz=190,slow=16,SNR=9.3						
KNRA	**Kununurra**	**12.72**	**130**		**Pn**	**18 23 50.6**	**+0.9**
MTN	**Manton Dam**	**13.29**	**114**		**P**	**18 24 00.5**	**-0.7**
MBWA	**Marble Bar**	**13.60**	**176**		Pn	18 23 55.4	-5.4
FAKI	**Fak Fak**	**14.20**	**72**	P	P	18 24 15.6	+4.2
WB0	**Warramunga Arr**	**19.46**	**130**	P	**Pn**	**18 25 09.7**	**-2.3**
WB0				IAmb	IAmb	18 25 13.9	
	comp=Z,6.7nm,0.7s						
WRA	**Warramunga Arr**	**19.52**	**131**	P	**P**	**18 25 09.6**	**-0.3**
WRA	**Warramunga Arr**	**19.52**	**131**	P	**Pn**	**18 25 10.3**	**-2.4**
	comp=Z,4.3nm,0.7s,baz=301,slow=12,SNR=66						
WRA				S	**S**	**18 28 42.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=311,slow=22,SNR=5.0						
AS31	**Alice Springs**	**21.67**	**139**	P	**P**	**18 25 32.6**	**-0.2**
AS31				IAmb	IAmb	18 25 34.6	
	comp=Z,3.4nm,0.5s						
ASAR	**Alice Springs**	**21.67**	**140**	P	**P**	**18 25 32.5**	**-0.4**
	comp=Z,5.4nm,0.4s,baz=314,slow=9.0,SNR=248						
	comp=Z,5.4nm,0.4s						
COEN	**Coen**	**24.83**	**107**	P	**P**	**18 26 04.4**	**+1.9**
STKA	**Stephens Creek**	**32.26**	**142**	P	**P**	**18 27 08.5**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=312,slow=8.7,SNR=3.9						
	comp=Z,1.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.37**	**323**	P	**P**	**18 27 13.8**	**+4.4**
	comp=Z,1.0nm,0.5s,baz=156,slow=7.0,SNR=7.7						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**56.18**	**350**	P	**P**	**18 30 22.2**	**+3.9**
	comp=Z,2.0nm,0.8s,baz=180,slow=9.0,SNR=2.0						
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**63.03**	**333**	P	**P**	**18 31 06.5**	**+1.5**
MK31				IAmb	IAmb	18 31 08.0	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**63.03**	**333**	P	**P**	**18 31 06.5**	**+1.5**
MKAR	**Makanchi Array**	**63.03**	**333**	P	**P**	**18 31 07.2**	**+2.2**
	comp=Z,2.6nm,0.6s,baz=143,slow=6.9,SNR=6.5						
	comp=Z,2.6nm,0.6s						
ARSB	**Arslanbob**	**64.18**	**323**	P	**P**	**18 31 12.9**	**0.0**
KKAR	**Karatay Array**	**66.72**	**324**	P	**P**	**18 31 28.3**	**-0.7**
KURBB	**Kurchatov Arra**	**67.54**	**334**	P	**P**	**18 31 35.4**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=145,slow=5.6,SNR=4.1						
	comp=Z,0.9nm,0.6s						
ZAA0	**Zalesovo Array**	**67.58**	**339**	P	**P**	**18 31 34.6**	**+0.6**
ZALV	**Zalesovo Beam**	**67.58**	**339**	P	**P**	**18 31 34.5**	**+0.5**
ZALV	**Zalesovo Beam**	**67.58**	**339**	P	**P**	**18 31 35.5**	**+1.4**
	comp=Z,1.9nm,0.5s,baz=138,slow=5.4,SNR=8.4						
	comp=Z,1.9nm,0.5s						
VOI	**Vohitsoka**	**70.52**	**249**	P	**P**	**18 31 50.9**	**-2.2**
AB31	**Akbulak array**	**76.21**	**325**	P	**P**	**18 32 25.6**	**-0.1**
ABKAR	**Akbulak array**	**76.21**	**325**	P	**P**	**18 32 25.5**	**-0.2**
QSPA	**South Pole Qui**	**82.47**	**180**	P	**P**	**18 32 58.6**	**-0.9**
QSPA				IAmb	IAmb	18 33 07.3	
	comp=Z,3.4nm,1.4s						
SNAA	**Sanae**	**92.35**	**196**	P	**P**	**18 33 45.4**	**-1.6**
SNAA				IAmb	IAmb	18 33 46.3	
	comp=Z,3.0nm,1.1s						
BELA	**Belgrano 2**	**93.46**	**185**	P	**P**	**18 33 50.3**	**-1.7**
BELA				IAmb	IAmb	18 33 56.9	
	comp=Z,2.9nm,1.4s						

*ASRS **09** 18:22:55.3±0.2, 52°.N±1°.×9°.4E±°, h5km, MLh4.4/14, Error ellipse: s-maj=2.8km s-min=2.4km az=168.8, confirmed*
*MOS **09** 18:23:00.6±1.7, 51°.87N×93°.71E, h13km, mb4.0/8, Error ellipse: s-maj=9.3km s-min=7.6km az=25.0*
*NNC **09** 18:23:01.1±2.6, 52°.04N×93°.69E, h0km, mb3.7, mpv2.8, Error ellipse: s-maj=24.3km s-min=16.0km az=78.0*
*IDC **09** 18:23:08.3±1.6, 52°.05N×92°.61E, h0km, mb3.6/3, mbtmp3.4/8, ML3.0/5, MS3.6/2, Error ellipse: s-maj=22.5km s-min=18.6km az=18.0*

ISC 09 18:23:01.5±0.6, 52°.03N±0°.03×93°.79E±0°.03, h10km, n86, σ1♀97/115, mb3.8/9, MS3.5/3, 11C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.53**	**128**	⇑Pg	Pg	18 23 04.7	-7.0
KZLR				Sg	Sg	18 23 09.1	-9.5
KZLR	**Kyzyl**	**0.53**	**128**	PG	Pg	18 23 04.7	-7.0
ARDR	**Aradan**	**0.59**	**339**	⇑Pg	**Pg**	**18 23 12.1**	**-1.0**
ARDR				Sg	**Sb**	**18 23 22.1**	**-0.4**
ARDR	**Aradan**	**0.59**	**339**	PG	**Pg**	**18 23 12.0**	**-1.0**
ARDR						18 23 22.3	
CERR	**Cheremushki**	**1.67**	**301**	Pg	**Pg**	**18 23 32.0**	**-1.5**
CERR				Sg	**Sg**	**18 23 55.7**	**+0.5**
CERR	**Cheremushki**	**1.67**	**301**	PN	**Pg**	**18 23 31.8**	**-1.7**
CERR						18 23 56.0	
DJO	**Djoy, Khakassi**	**1.75**	**297**	Pg	**Pg**	**18 23 33.3**	**-1.6**
DJO				Sg	**Sg**	**18 23 58.0**	**+0.4**
DJO	**Djoy, Khakassi**	**1.75**	**297**	PN	**Pg**	**18 23 33.3**	**-1.6**
DJO						18 23 58.2	
VEH	**Verkhnyaya Baz**	**2.44**	**302**	Pn	**Pn**	**18 23 42.3**	**+0.8**
VEH				Pg	**Pg**	**18 23 46.8**	**-1.5**
VEH				Sg	**Sg**	**18 24 19.8**	**-0.2**
VEH	**Verkhnyaya Baz**	**2.44**	**302**	PN	**Pb**	**18 23 42.6**	**-3.0**
VEH						18 23 46.8	
VEH						18 24 20.5	
TEL	**Teeli**	**2.46**	**247**	Pg	**Pn**	**18 23 40.0**	**-1.7**
TEL				Sg	**Sg**	**18 24 18.2**	**-2.2**
TEL	**Teeli**	**2.46**	**247**	PN	**Pn**	**18 23 39.7**	**-2.0**
TEL						18 24 14.8	
MINR	**Mina**	**2.89**	**5**	Pn	**Pn**	**18 23 46.4**	**-1.2**
MINR				Pg	**Pb**	**18 23 52.5**	**-0.6**
MINR				Sg	**Sb**	**18 24 29.5**	**+1.1**
LUZB	**Luzhba, Kemero**	**3.38**	**301**	Pn	**Pn**	**18 23 55.6**	**+1.2**
LUZB				Pg	**Pb**	**18 24 01.9**	**+0.4**
LUZB				Sg	**Sg**	**18 24 48.0**	**-2.2**
LUZB	**Luzhba, Kemero**	**3.38**	**301**	PN	**Pn**	**18 23 55.8**	**+1.4**
LUZB						18 24 02.0	
LUZB						18 24 48.0	
TASR	**Tashtagol**	**3.69**	**284**	Pg	**Pb**	**18 24 08.0**	**+1.3**
TASR				Sg	**Sg**	**18 24 59.1**	**-0.9**
TASR	**Tashtagol**	**3.69**	**284**	PN	**Pg**	**18 24 08.7**	**-3.5**
TASR						18 24 58.3	
ORL	**Orlik**	**3.73**	**80**	PN	**Pn**	**18 24 00.1**	**+0.8**
ORL				SG	**Sn**	**18 24 45.7**	**+2.4**
YALR	**Yailyu, Altay**	**3.83**	**269**	Pn	**Pn**	**18 24 01.7**	**+1.2**
YALR				Pg	**Pg**	**18 24 11.9**	**-3.0**
YALR				Sg	**Sg**	**18 25 02.1**	**-2.5**
YALR	**Yailyu, Altay**	**3.83**	**269**	PN	**Pb**	**18 24 10.5**	**+1.3**
ULGR	**Ulagan, Altay**	**3.92**	**251**	Pn	**Pn**	**18 24 03.7**	**+2.0**
ULGR				Pg	**Pg**	**18 24 14.5**	**-2.0**
ULGR				Sg	**Sg**	**18 25 06.5**	**-0.7**
ULGR	**Ulagan, Altay**	**3.92**	**251**	PN	**Pn**	**18 24 03.7**	**+2.0**
ULGR						18 24 12.4	
ULGR						18 25 07.7	
CUR	**Chagan-Uzun**	**3.94**	**243**	Pn	**Pn**	**18 24 02.5**	**+0.5**
CUR				Pg	**Pg**	**18 24 14.2**	**-2.7**
CUR				Sg	**Sg**	**18 25 04.9**	**-2.9**
KIYZ	**Kiyzas, Kuzbas**	**3.97**	**295**	Pn	**Pn**	**18 24 03.2**	**+0.8**
KIYZ				Pg	**Pg**	**18 24 14.6**	**-2.8**
KIYZ				Sg	**Sg**	**18 25 06.7**	**-2.1**
KRAR	**Krasnoyarsk**	**4.03**	**353**	PN	**Pb**	**18 24 11.8**	**-0.7**
KRAR				SG	**Sg**	**18 25 06.2**	**-4.6**
ARTR	**Artybash**	**4.04**	**269**	Pn	**Pn**	**18 24 04.0**	**+0.7**
ARTR				Pg	**Pg**	**18 24 15.9**	**-2.9**
ARTR				Sg	**Sg**	**18 25 09.4**	**-1.6**
ARTR	**Artybash**	**4.04**	**269**	PN	**Pn**	**18 24 04.2**	**+0.9**
ARTR						18 24 15.9	
KALT1	**Kaltan 1**	**4.11**	**292**	Pn	**Pn**	**18 24 06.1**	**+1.7**
KALT1				Sg	**Sg**	**18 25 11.4**	**-2.1**
MALIN	**Malinovka, Kuz**	**4.20**	**292**	PN	**Pb**	**18 24 16.8**	**+1.4**
MALIN						18 25 13.2	
GZL	**Zheleznogorsk**	**4.25**	**358**	Pg	**Pb**	**18 24 17.5**	**+1.3**
GZL				Sg	**Sg**	**18 25 13.4**	**-4.4**
GZL	**Zheleznogorsk**	**4.25**	**358**	PN	**Pb**	**18 24 16.3**	**+0.1**
GZL						18 25 13.1	
CHBI	**Chibit, Altay**	**4.31**	**249**	Pn	**Pn**	**18 24 06.9**	**-0.2**
CHBI				Pg	**Pg**	**18 24 20.7**	**-3.4**
CHBI				Sg	**Sg**	**18 25 17.8**	**-2.0**
CHBI	**Chibit, Altay**	**4.31**	**249**	PN	**Pn**	**18 24 07.1**	**-0.1**
CHBI						18 24 17.6	
CHBI						18 25 13.4	
SHTK	**Zheleznogorsk-**	**4.32**	**359**	Pn	**Pn**	**18 24 04.0**	**-3.1**
SHTK				Pg	**Pb**	**18 24 14.4**	**-3.0**
GZLN	**Zheleznogorsk**	**4.36**	**360**	Pg	**Pb**	**18 24 16.9**	**-1.2**
GZLN				Sg	**Sb**	**18 25 13.9**	**+3.2**
ERU	**Erunakovo, Kuz**	**4.40**	**301**	Pg	**Pb**	**18 24 20.6**	**+1.7**
ERU				Sg	**Sg**	**18 25 21.8**	**-0.9**
ERU	**Erunakovo, Kuz**	**4.40**	**301**	PN	**Pb**	**18 24 20.7**	**+1.8**
MOY	**Mondy**	**4.48**	**92**	Pg	**Pn**	**18 24 13.6**	**+4.0**
MOY				Sg	**Sb**	**18 25 09.5**	**-4.9**
MOY	**Mondy**	**4.48**	**92**	PN	**Pn**	**18 24 14.0**	**+4.4**
MOY						18 25 08.6	
DGZ	**Jazzator, Alta**	**4.65**	**242**	Pn	**Pn**	**18 24 12.3**	**+0.4**
DGZ				Pg	**Pg**	**18 24 30.1**	**-0.4**
DGZ				Sg	**Sg**	**18 25 29.3**	**-1.5**
DGZ	**Jazzator, Alta**	**4.65**	**242**	PN	**Pn**	**18 24 12.7**	**+0.8**
DGZ						18 24 26.6	
ELT	**Eltsovka**	**4.76**	**288**	Pn	**Pn**	**18 24 14.0**	**+0.8**
ELT				Pg	**Pb**	**18 24 26.8**	**+1.9**
ELT				Sg	**Sg**	**18 25 29.5**	**-4.7**
BRCR	**Berchikul'**	**4.86**	**320**	PN	**Pn**	**18 24 15.9**	**+1.4**
BRCR						18 25 32.9	
ELDR	**Elanda**	**4.86**	**263**	Pn	**Pn**	**18 24 16.0**	**+1.3**
ELDR				Pg	**Pg**	**18 24 33.5**	**-1.1**
ELDR				Sg	**Sg**	**18 25 38.3**	**+0.7**
ELDR	**Elanda**	**4.86**	**263**	PN	**Pn**	**18 24 14.7**	**+2.0**
ELDR						18 24 30.6	
POMOR	**Pomortsevo, Ku**	**4.97**	**301**	PN	**Pb**	**18 24 25.8**	**-2.7**
ARS	**Arshan**	**5.34**	**88**	*e*PN	Pb	18 24 28.4	-6.5
SALR	**Pechorkino, Sa**	**5.41**	**299**	Pg	**Pg**	**18 24 40.4**	**-4.7**
SALR				Sg	**Sg**	**18 25 53.4**	**-1.8**
ZAA0	**Zalesovo Array**	**5.75**

FINES pmax pmax
comp=Z,1.0nm,0.7s
BILL Bilibino 37.01 37 *i* P **P 18 30 13.9 +3.1**
BILL pmax pmax
comp=Z,2.0nm,1.0s
PEA0B Petropavlovsk- 37.71 62⇓ *e*P **P 18 30 17.2 +0.4**
KBS Kingsbay 37.96 342 *i* P **P 18 30 19.7 +1.0**
AKBB Malin Array Si 39.14 295 *i* P **P 18 30 28.1 -0.8**
AKBB pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 42.46 278 P **P 18 30 59.8 +3.1**
comp=Z,0.7nm,0.8s,baz=83,slow=10,SNR=4.8
comp=Z,0.7nm,0.8s
CLL Collm 47.61 303 *e*P **P 18 31 36.0 -1.2**
CLL *e* 18 31 40.0
KHC Kasperske Hory 48.55 300⇑ *i*P **P 18 31 45.0 +0.4**
KHC pmax pmax
comp=Z,1.0nm,0.8s
BORG Borgarnes 53.29 331 LR LR 18 58 47.4
comp=Z,332nm,20.5s,baz=327,slow=40
ATD Arta Tunnel 57.47 245 LR LR 19 02 29.0
comp=Z,7.5nm,18.2s,baz=138,slow=42

*IDC **09** 18:31:33.6±5.2,26°.80N×92°.90E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=429.7km s-min=30.4km az=61.0*
*NDI **09** 18:31:40.4±2.2,26°.66N×92°.50E,h29km±5km,ML3.7, MW3.6*
ISC 09 18:31:40.1±1.0,**26°.66N**±0°.05×**92°.50E**±0°.04,**h47**km,**n13,** σ1=**20**/23,**mb3.4**/3,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TEZP	**TEZPUR**	**0.27**	**100**	*e*P		**Pn**	**18 31 47.6**	**-1.0**
TEZP				*e*S		**Sn**	**18 31 52.9**	**-1.8**
TEZP				IAML			18 31 53.2	
	comp=E,2μm,0.2s							
GUWA	**GUWAHATI**	**0.86**	**237**	*e*P		**Pn**	**18 31 57.5**	**+1.6**
GUWA				*e*S		**Sn**	**18 32 06.9**	**-0.5**
GUWA				IAML			18 32 10.3	
	comp=N,2μm,0.2s							
GUWA				IAML			18 32 10.4	
	comp=E,2μm,0.2s							
ITAN	**ITANAGAR**	**1.19**	**66**	*e*P		**Pn**	**18 32 02.0**	**+1.7**
ITAN				*e*S		**Sn**	**18 32 15.6**	**+0.2**
ITAN				IAML			18 32 16.2	
	comp=E,2μm,0.2s							
SHL	**Shillong**	**1.23**	**207**	*e*P		**Pn**	**18 32 01.9**	**+0.9**
SHL				*e*S		**Sn**	**18 32 17.6**	**+1.1**
SHL				IAML			18 32 17.9	
	comp=N,2μm,0.2s							
SHL				IAML			18 32 18.0	
	comp=E,1μm,0.2s							
JORH	**JORHAT**	**1.57**	**87**	*e*P		**Pn**	**18 32 07.4**	**+2.0**
JORH				*e*S		**Sn**	**18 32 25.9**	**+1.3**
JORH				IAML			18 32 27.9	
	comp=N,1μm,0.3s							
JORH				IAML			18 32 28.0	
	comp=E,1μm,0.1s							
KOHI	**KOHIMA**	**1.72**	**123**	*e*P		**Pn**	**18 32 07.7**	**0.0**
KOHI				*e*S		**Sn**	**18 32 30.3**	**+1.6**
KOHI				IAML			18 32 30.8	
	comp=N,2μm,0.3s							
IMP	**Imphal**	**2.24**	**144**	*e*P		**Pn**	**18 32 16.1**	**+1.2**
IMP				*e*S		**Sn**	**18 32 41.0**	**-0.3**
IMP				IAML			18 32 42.6	
	comp=E,565nm,0.4s							
IMP				IAML			18 32 42.9	
	comp=N,520nm,0.3s							
AZL	**Aizawl**	**2.92**	**177**	*e*P		**Pn**	**18 32 24.7**	**+0.6**
AZL				*e*S		**Sn**	**18 32 58.6**	**+0.6**
AZL				IAML			18 32 59.1	
	comp=N,692nm,0.2s							
AGT	**Agartala**	**2.99**	**203**	*e*P		**Pn**	**18 32 26.0**	**+1.0**
AGT				*e*S		**Sn**	**18 32 58.6**	**-1.0**
AGT				IAML			18 32 58.9	
	comp=E,435nm,0.2s							
AGT				IAML			18 32 59.1	
	comp=N,486nm,0.2s							
GTK	**Tadong**	**3.54**	**282**	*e*P		**Pn**	**18 32 33.5**	**+0.9**
GTK				*e*S		**Sn**	**18 33 13.6**	**+0.3**
GTK				IAML			18 33 14.7	
	comp=E,432nm,0.3s							
GTK				IAML			18 33 14.7	
	comp=N,295nm,0.3s							
MKAR	**Makanchi Array**	**21.66**	**341**	P		**P**	**18 36 25.5**	**-1.0**
	comp=N,0.4nm,0.6s,baz=158,slow=10,SNR=5.5							
	comp=N,0.4nm,0.6s							
WRA	**Warramunga Arr**	**61.58**	**134**	P		**P**	**18 41 51.6**	**-1.3**
	comp=N,0.5nm,0.9s,baz=324,slow=7.2,SNR=1.7							
	comp=N,0.5nm,0.9s							
ASAR	**Alice Springs**	**64.07**	**138**	P		**P**	**18 42 09.0**	**-0.4**
	comp=N,0.2nm,0.5s,baz=319,slow=7.0,SNR=7.2							
	comp=N,0.2nm,0.5s							

*IDC **09** 18:33:47.8±1.8,24°.11S×66°.98W,h169km±17km,mb3.4/7, mbtmp4.0/13,Error ellipse: s-maj=21.9km s-min=12.0km az=80.0*
*NEIC **09** 18:33:47.9±2.3,24°.20S±0°.06×67°.00W±0°.09,h172km±5km, mb4.2/24,Mwr4.4(GUC),Error ellipse: s-maj=12.2km s-min=8.1km az=88.0*
*GUC **09** 18:33:49.4±0.7,24°.16S×67°.33W,h204km±12km,ML4.7*
*VAO **09** 18:33:52.4±1.5,23°.91S×66°.84W,h207km±8km,mb4.3*
ISC 09 18:33:47.2±0.7,**24°.18S**±0°.04×**67°.05W**±0°.05,**h168**km±7km, **n128,** σ1=**34**/146,**mb4.1**/19,**9C,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AF01	**San Pedro de A**	**1.61**	**319**			**Pn**	**18 34 22.1**	**+2.5**
AF01				Sn		**Sn**	**18 34 48.3**	**+3.8**
AF01	**San Pedro de A**	**1.61**	**319**	*e*P		**Pn**	**18 34 22.6**	**+3.0**
GO02	**Mina Guanaco**	**2.51**	**247**			**Pn**	**18 34 31.5**	**+1.8**
GO02				Sn		**Sn**	**18 35 03.5**	**+0.9**
GO02	**Mina Guanaco**	**2.51**	**247**⇑	*e*P		**Pn**	**18 34 31.6**	**+1.9**
GO02				*e*S		**Sn**	**18 35 04.2**	**+1.6**
GO02				IAML			18 35 05.2	
	comp=N,3μm,0.4s							
PB06	**IPOC Station P**	**2.75**	**302**			**Pn**	**18 34 34.1**	**+1.7**
PB06				Sn		**Sn**	**18 35 07.1**	**-0.3**
PB06	**IPOC Station P**	**2.75**	**302**⇑	*e*P		**Pn**	**18 34 34.2**	**+1.8**
PB06				*e*S		**Sn**	**18 35 07.5**	**+0.1**
PB06				IAML			18 35 10.0	
	comp=N,3μm,0.1s							
PB14	**IPOC Station P**	**3.09**	**261**			**Pn**	**18 34 37.5**	**+0.8**
PB14				Sn		**Sn**	**18 35 13.6**	**-1.7**
PB09	**IPOC Station P**	**3.12**	**319**			**Pn**	**18 34 38.9**	**+1.9**
PB09				Sn		**Sn**	**18 35 15.7**	**0.0**
PB09	**IPOC Station P**	**3.12**	**319**⇑	*e*P		**Pn**	**18 34 38.9**	**+1.9**
PB09				*e*S		**Sn**	**18 35 16.4**	**+0.7**
PB09				IAML			18 35 17.8	
	comp=E,1μm,0.3s							
PB05	**IPOC Station P**	**3.19**	**294**			**Pn**	**18 34 38.7**	**+0.9**
PB05				Sn		**Sn**	**18 35 14.8**	**-2.2**
PB05	**IPOC Station P**	**3.19**	**294**	*e*P		**Pn**	**18 34 38.7**	**+0.9**
PB05				IAML			18 35 17.4	
	comp=E,709nm,0.3s							
AC02	**Maricunga**	**3.24**	**215**			**Pn**	**18 34 40.9**	**+2.1**
AC02	**Maricunga**	**3.24**	**215**⇑	*e*P		**Pn**	**18 34 40.9**	**+2.1**
PB03	**IPOC Station P**	**3.28**	**310**			**Pn**	**18 34 40.0**	**+1.1**
PB03				Sn		**Sn**	**18 35 17.2**	**-1.9**
PB03	**IPOC Station P**	**3.28**	**310**⇑	*e*P		**Pn**	**18 34 40.0**	**+1.1**
PB03				*e*S		**Sn**	**18 35 18.1**	**-1.1**
PB10	**IPOC Station P**	**3.28**	**281**			**Pn**	**18 34 39.7**	**+0.9**
PB10				Sn		**Sn**	**18 35 17.0**	**-2.0**
PB10	**IPOC Station P**	**3.28**	**281**⇑	*e*P		**Pn**	**18 34 39.9**	**+1.1**
PB10				IAML			18 35 24.2	
	comp=N,552nm,0.5s							
AC01	**Pan de Azucar**	**3.77**	**238**			**Pn**	**18 34 44.9**	**-0.1**
AC01				Sn		**Sn**	**18 35 27.6**	**-2.4**
PB01	**IPOC Station P**	**3.85**	**324**			**Pn**	**18 34 46.6**	**+0.4**
PB01				Sn		**Sn**	**18 35 30.0**	**-2.2**
PB01	**IPOC Station P**	**3.85**	**324**	*e*P		**Pn**	**18 34 46.8**	**+0.6**
PB01				*e*S		**Sn**	**18 35 31.3**	**-0.9**
PB02	**IPOC Station P**	**3.88**	**317**	Pn		**Pn**	**18 34 46.8**	**+0.3**
PB02				Sn		**Sn**	**18 35 30.2**	**-2.6**
PB02	**IPOC Station P**	**3.88**	**317**	*e*P		**Pn**	**18 34 46.8**	**+0.3**
AC06	**Mina Casimiro**	**4.35**	**223**			**Pn**	**18 34 52.0**	**-0.4**
AC06				Sn		**Sn**	**18 35 41.7**	**-1.7**
PATCX	**Punta Patache**	**4.41**	**319**			**Pn**	**18 34 53.6**	**+0.2**
GO03	**Copiapo**	**4.45**	**220**			**Pn**	**18 34 53.4**	**-0.4**
GO03				Sn		**Sn**	**18 35 42.9**	**-3.0**
PB08	**IPOC Station P**	**4.47**	**334**			**Pn**	**18 34 55.3**	**+0.9**
TA01	**Diego Aracena**	**4.62**	**321**			**Pn**	**18 34 55.7**	**-0.4**
HMBC	**Humberstone**	**4.70**	**325**			**Pn**	**18 34 56.2**	**-0.9**
TA02	**Huaiquique**	**4.83**	**323**	Pn		**Pn**	**18 34 58.4**	**-0.4**
GO01	**Chusmiza**	**4.92**	**336**			**Pn**	**18 35 00.8**	**+0.5**
PB11	**IPOC Station P**	**5.02**	**331**			**Pn**	**18 35 00.9**	**-0.6**
AC04	**Llanos de Chal**	**5.40**	**221**			**Pn**	**18 35 04.5**	**-1.6**
LCO	**Las Campanas**	**5.82**	**213**			**Pn**	**18 35 10.4**	**-1.4**
PB16	**IPOC Station P**	**6.26**	**338**			**Pn**	**18 35 18.1**	**+0.1**
CO01	**Juntas del Tor**	**6.38**	**205**			**Pn**	**18 35 19.0**	**-0.3**
CO05	**La Serena**	**6.83**	**212**	Pn		**Pn**	**18 35 23.7**	**-1.2**
GO04	**Tololo Observa**	**6.84**	**208**			**Pn**	**18 35 23.2**	**-2.1**
PB18	**Visviri**	**6.95**	**340**	Pn		**Pn**	**18 35 27.3**	**+0.1**
CO03	**El Pedregal**	**7.38**	**205**	Pn		**Pn**	**18 35 31.5**	**-0.8**
CFA	**Coronel Fontan**	**7.47**	**188**	*e*P		**Pn**	**18 35 34.6**	**+1.1**
	comp=N,0.9nm,0.3s,baz=32,slow=17,SNR=9.0							
CFA				S		**Sn**	**18 36 54.2**	**-3.1**
	comp=N,3.3nm,0.3s,baz=209,slow=21,SNR=5.8							
CO06	**Fray Jorge**	**7.64**	**211**	Pn		**Pn**	18 35 32.8	-3.0
CO02	**Combarbal**	**7.82**	**206**	Pn		**Pn**	**18 35 36.8**	**-1.5**
LPAZ	**La Paz**	**7.92**	**352**	P		**Pn**	**18 35 41.2**	**+1.0**
	comp=N,8.2nm,0.4s,baz=159,slow=7.3,SNR=40							
LPAZ				S		**Sn**	**18 37 07.1**	**-2.1**
	comp=N,6.3nm,0.8s,baz=13,slow=25,SNR=4.5							
LPAZ	**La Paz**	**7.92**	**352**	*e*P		**Pn**	**18 35 41.7**	**+1.6**
CPUP	**Villa Florida**	**9.05**	**106**	P		**Pn**	**18 35 54.5**	**+0.1**
	comp=N,1.4nm,0.8s,baz=153,slow=11,SNR=8.1							
MURT	**Porto Murtinho**	**9.05**	**76**	*e*P		**Pn**	**18 35 55.8**	**+1.3**
VA06	**Catapilco**	**9.15**	**203**	Pn		**Pn**	**18 35 53.4**	**-2.2**
BBSD	**Serra de San D**	**9.20**	**42**	*e*P		**Pn**	**18 35 56.0**	**-0.5**
MT02	**Curacav**	**9.73**	**201**	Pn		Pn	18 36 00.3	-3.0
SIV	**San Ignacio**	**9.89**	**36**	P		**Pn**	**18 36 04.8**	**-0.8**
	comp=N,4.2nm,0.3s,baz=208,slow=13,SNR=30							
SIV				S		**Sn**	**18 37 50.4**	**-5.3**
	comp=N,3.7nm,0.9s,baz=293,slow=21,SNR=3.1							
BDQN	**Bodoquena, MS**	**10.23**	**71**	*e*P		**Pn**	**18 36 09.4**	**-0.6**
AQDB	**Aquidauana**	**11.13**	**73**	Pn		**Pn**	**18 36 19.8**	**-1.9**
AQDB	**Aquidauana**	**11.13**	**73**	*e*P		**Pn**	**18 36 24.2**	**+2.4**
PTLB	**Pontes e Lacer**	**11.44**	**42**			**Pn**	**18 36 24.9**	**-0.9**
PTLB	**Pontes e Lacer**	**11.44**	**42**	*e*P		**Pn**	**18 36 25.5**	**-0.2**
RPRD	**Ribas do Rio P**	**12.89**	**76**	*e*P		**Pn**	**18 36 45.6**	**+1.2**
TRCB	**Terra Rica**	**13.30**	**87**	P		**P**	**18 36 53.6**	**+0.2**
TRCB	**Terra Rica**	**13.30**	**87**	*e*P		**Pn**	**18 36 50.9**	**+1.3**
SALV	**Santo Antonio**	**13.47**	**54**	*e*P		**Pn**	**18 36 51.4**	**-0.4**
BI05	**Punta Hualpn**	**13.59**	**201**			**Pn**	**18 36 55.9**	**+2.7**
PTGB	**Pitanga**	**13.66**	**95**	*e*P		**P**	**18 36 58.4**	**+1.0**
ITAB	**Concordia**	**13.78**	**106**			**P**	**18 36 57.9**	**-0.8**
PLTB	**Pedras Altas**	**14.06**	**125**	P		**Pn**	**18 36 58.1**	**-1.1**
C2SB	**Chapadao do Su**	**14.28**	**71**	*e*P		**P**	**18 37 03.6**	**-0.7**
TRQA	**Tornquist**	**14.49**	**164**	P		**Pn**	**18 37 04.5**	**0.0**
PCMB	**Pacaembu**	**14.77**	**83**	*e*P		**P**	**18 37 08.6**	**-1.1**
PDRB	**Porto dos Gac**	**15.88**	**40**	*e*P		**P**	**18 37 21.3**	**-0.8**
FRTB	**Fartura**	**16.03**	**91**	*e*P		**P**	**18 37 23.6**	**-0.1**
ITRB	**Iturama**	**16.11**	**77**	*e*P		**P**	**18 37 25.0**	**+0.4**
ARAG	**Araguaiana, MT**	**16.61**	**62**	*e*P		**Pn**	**18 37 30.4**	**-0.1**
PLCA	**Pago Flores**	**16.76**	**189**	P		**P**	**18 37 32.8**	**+1.1**
	comp=N,2.3nm,0.8s,baz=353,slow=11,SNR=4.2							
CLDB	**Colider**	**17.02**	**41**	*e*P		**P**	**18 37 33.9**	**-0.7**
SPB	**Sao Paulo**	**17.95**	**92**	*e*P		**P**	**18 37 44.8**	**+0.1**
RCLB	**Rio Claro- Sao**	**18.01**	**88**	*e*P		**P**	**18 37 45.5**	**0.0**
PET01	**Itanhaem-SP**	**18.03**	**94**	*e*P		**Pn**	**18 37 46.4**	**-1.0**
VAO	**Valinhos**	**18.44**	**90**	P		**P**	**18 37 49.5**	**-0.7**
VAO	**Valinhos**	**18.44**	**90**	*e*P		**P**	**18 37 49.7**	**-0.5**
IPMB	**Ipameri, GO**	**18.62**	**74**	*e*P		**P**	**18 37 52.2**	**+0.1**
LL01	**San Ignacio de**	**18.68**	**192**	P		**P**	**18 37 53.3**	**+0.8**
SNDB	**Serra Nova Dou**	**19.25**	**54**	*e*P		**P**	**18 37 58.5**	**-0.4**
LL02	**Futaleuf**	**19.37**	**191**	P		**P**	**18 38 00.0**	**+0.1**
BDFB	**Brasilia**	**19.79**	**68**	P		**P**	**18 38 04.7**	**-0.2**
BDFB	**Brasilia**	**19.79**	**68**	P		**P**	**18 38 04.7**	**-0.2**
	comp=N,42nm,0.8s,baz=247,slow=9.7,SNR=51							
PMNB	**Patos De Minas**	**19.99**	**78**	*e*P		**P**	**18 38 05.3**	**-1.7**
NPGB	**Novo Progresso**	**20.40**	**35**	*e*P		**P**	**18 38 09.6**	**-1.7**
BSCB	**Bom Sucesso**	**20.80**	**86**	*e*P		**P**	**18 38 15.4**	**-0.1**
VAS01	**Vassouras-RJ**	**21.77**	**90**	*e*P		**P**	**18 38 26.5**	**+0.7**
JANB	**Januaria**	**23.23**	**71**	*e*P		**P**	**18 38 38.5**	**-1.1**
SDBA	**SAO DESIDERIO**	**24.02**	**65**	*e*P		**P**	**18 38 45.6**	**-1.2**
SMTB	**Santa Maria do**	**24.03**	**54**	*e*P		**P**	**18 38 47.2**	**+0.3**
PRPB	**Parauapebas**	**24.38**	**46**	*e*P		**P**	**18 38 48.3**	**-1.8**
COHC	**Cochancay**	**24.61**	**330**	P		**P**	**18 38 53.5**	**+1.4**
MAL2	**Monte Alegre,**	**25.30**	**31**	P		**P**	**18 38 59.0**	**+0.6**
VNA3	**Neumayer Olymp**	**56.99**	**161**⇑	P		**P**	**18 43 14.7**	**-0.2**
	comp=Z,2.9nm,0.8s							
SNAA	**Sanae**	**59.19**	**161**⇑	P		**P**	**18 43 30.4**	**+0.2**
	comp=Z,37nm,0.8s							
SNAA	**Sanae**	**59.19**	**161**	P		**P**	**18 43 30.2**	**0.0**
SNAA				IAmb	IAmb		18 43 34.2	
	comp=Z,4.3nm,1.4s							
SNAA	**Sanae**	**59.19**	**161**	P		**P**	**18 43 30.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=265,slow=7.9,SNR=12							
	comp=Z,1.1nm,0.6s							
TROLL	**Troll, Antarti**	**60.91**	**161**⇑	P		**P**	**18 43 42.5**	**+0.6**
	comp=Z,103nm,0.7s							
TXAR	**Lajitas Array**	**63.80**	**325**	P		**P**	**18 44 01.3**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=152,slow=5.7,SNR=4.4							
	comp=Z,0.3nm,0.5s							
APMT	**Aspermont**	**65.30**	**330**	P		**P**	**18 44 10.9**	**-0.2**
APMT				IAmb	IAmb		18 44 12.1	
	comp=Z,6.0nm,0.9s							
VHRN	**Van Horn**	**65.65**	**324**	P		**P**	**18 44 13.7**	**+0.1**
VHRN				IAmb	IAmb		18 44 14.8	
	comp=Z,3.2nm,0.9s							
QSPA	**South Pole Qui**	**66.02**	**180**	P		**P**	**18 44 16.9**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=186,slow=1.0,SNR=24							
	comp=Z,2.1nm,0.6s							
ANMO	**Albuquerque**	**69.68**	**326**	P		**P**	**18 44 39.4**	**+0.6**
ANMO				IAmb	IAmb		18 44 40.8	
	comp=Z,3.1nm,1.1s							
ANMO	**Albuquerque**	**69.68**	**326**	P		**P**	**18 44 39.3**	**+0.4**
ANMO				IAmb	IAmb		18 44 40.9	
	comp=Z,2.7nm,1.0s							
U15A	**North Rim**	**73.88**	**323**	P		**P**	**18 45 05.2**	**+1.2**
DANC	**Danby, Needles**	**74.33**	**320**	P		**P**	**18 45 07.8**	**+1.5**
DANC				IAmb	IAmb		18 45 08.8	
	comp=Z,5.9nm,0.8s							
VNDA	**Vanda**	**74.51**	**190**	P		**P**	**18 45 09.2**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=60,slow=2.4,SNR=4.4							
	comp=Z,0.8nm,0.8s							
KNB	**Kanab**	**74.60**	**323**	P		**P**	**18 45 08.8**	**+0.8**
KNB				IAmb	IAmb		18 45 10.9	
	comp=Z,6.0nm,1.0s							
SRU	**San Rafael Swe**	**74.95**	**326**	P		**P**	**18 45 09.9**	**-0.1**
SRU				IAmb	IAmb		18 45 11.8	
	comp=Z,3.1nm,0.7s							
P18A	**Preston Nutter**	**75.21**	**327**	P		**P**	**18 45 12.5**	**+0.8**
CCUT	**Cedar City**	**75.28**	**324**			**P**	**18 45 12.8**	**+0.8**
CCUT				IAmb	IAmb		18 45 14.9	
	comp=Z,3.9nm,0.9s							
MSU	**Marysvale**	**75.36**	**325**	P		**P**	**18 45 13.4**	**+1.0**
BSUT	**Blindstream Ca**	**76.15**	**327**	P		**P**	**18 45 18.2**	**+1.1**
BSUT				IAmb	IAmb		18 45 19.3	
	comp=Z,3.1nm,0.8s							
PSUT	**Pine Spring**	**76.26**	**324**	P		**P**	**18 45 18.4**	**+0.9**
PSUT				IAmb	IAmb		18 45 19.9	
	comp=Z,3.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P		**P**	**18 45 19.9**	**-0.2**
TORD				IAmb	IAmb		18 45 47.2	
	comp=Z,5.8nm,1.5s							
PD31	**Pinedale Array**	**77.28**	**329**	P		**P**	**18 45 22.6**	**-0.6**
PDAR	**Pinedale Array**	**77.28**	**329**	P		**P**	**18 45 22.7**	**-0.5**
PDAR	**Pinedale Array**	**77.28**	**329**	P		**P**	**18 45 23.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=128,slow=4.3,SNR=2.5							
	comp=Z,0.2nm,0.3s							
TPH	**Tonopah**	**77.80**	**322**	P		**P**	**18 45 26.8**	**+0.7**
NVAR	**Mina Array Bea**	**78.66**	**321**	P		**P**	**18 45 31.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=139,slow=5.3,SNR=3.8							
	comp=Z,0.8nm,0.8s							
YHH	**Holmes Hill**	**79.44**	**330**	P		**P**	**18 45 36.5**	**+1.4**
HLID	**Hailey**	**80.22**	**327**			**P**	**18 45 40.1**	**+0.9**
HLID				IAmb	IAmb		18 45 41.5	
	comp=Z,3.4nm,0.8s							
MAW	**Mawson**	**81.27**	**163**	P		**P**	**18 45 44.9**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=198,slow=7.4,SNR=4.1							
	comp=Z,2.1nm,0.9s							
ASAR	**Alice Springs**	**128.27**	**205**	PKP		**PKPdf**	**18 52 33.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=135,slow=1.7,SNR=12							
WRA	**Warramunga Arr**	**131.44**	**207**	PKP		**PKPdf**	**18 52 40.1**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=158,slow=1.7,SNR=14							
ZALV	**Zalesovo Beam**	**143.57**	**28**	PKP		PKPbc	18 52 59.1	-0.4
	comp=Z,0.8nm,0.6s,baz=299,slow=3.6,SNR=4.8							
MKAR	**Makanchi Array**	**146.69**	**40**	PKPbc		**PKPbc**	**18 53 09.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=314,slow=2.6,SNR=11							
MJAR	**Matsushiro Arr**	**155.05**	**305**	PKPab		**PKPab**	**18 53 45.6**	**-0.1**
	comp=Z,1.8nm,1.1s,baz=71,slow=3.5,SNR=4.4							

*CNRM **09** 18:53:52.5,36°.78N×8°.79W,h6km,ML3.0*
*SFS **09** 18:53:54.5,36°.92N×8°.82W,h25km,ML3.2/11,ML3.2/12, MLv3.0/12*
*MDD **09** 18:53:54.9±0.5,36°.96N×8°.78W,h22km,mb_Lg3.0/23, Error ellipse: s-maj=4.2km s-min=2.9km az=59.0*
*IGIL **09** 18:53:55.5,36°.96N×8°.85W,h25km,ML2.9*
*INMG **09** 18:53:55.4±1.6,36°.95N×8°.83W,h25km±2km,ML2.6,Error ellipse: s-maj=3.8km s-min=2.6km az=68.0, #DIST_RANGE: LOCAL #IPMA_REGION: SE Vila do Bispo*
ISC 09 18:53:53.7±1.0,**36°.94N**±0°.03×**8°.83W**±0°.04,**h31**km±5km, **n84,** σ1=**55**/149,**8C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSVI	**Cabo S. Vicent**	**0.15**	**302**	*e*Pg		**Pb**	**18 53 59.9**	**+0.3**
PSVI				*e*Sg		**Sb**	**18 54 03.2**	**-0.4**
PSVI				*i* IAML			18 54 03.5	
PSVI				*i* IAML			18 54 03.8	
PSVI				*i* IAML			18 54 04.0	
PFVI	**Vila Bisbo**	**0.19**	**2**	S		**Sb**	**18 54 03.6**	**-0.6**
PFVI				P		**Pb**	**18 54 00.4**	**+0.5**
PFVI	**Vila Bisbo**	**0.19**	**2**⇑	*i*Pg		**Pb**	**18 54 00.5**	**+0.5**
PFVI				*e*Sg		**Sb**	**18 54 04.2**	**0.0**
PFVI				*i* IAML			18 54 04.5	
PFVI				*i* IAML			18 54 04.5	
PFVI				*i* IAML			18 54 04.7	
PFVI	**Vila Bisbo**	**0.19**	**2**	S		**Sb**	**18 54 04.0**	**-0.3**
PLAGO	**Lagos**	**0.19**	**37**⇑	*e*Pg		**Pb**	**18 54 00.7**	**+0.8**
PLAGO				*e*Sg		**Sb**	**18 54 04.7**	**+0.4**
PLAGO				*i* IAML			18 54 05.5	
PLAGO				*i* IAML			18 54 06.0	
PLAGO				*i* IAML			18 54 07.4	
PPOR	**Portimao**	**0.31**	**51**	*e*Sg		**Sn**	**18 54 07.2**	**-0.2**
PPOR				*i* IAML			18 54 07.4	
PPOR				*i* IAML			18 54 08.3	
PALJ	**Aljezur**	**0.38**	**4**	*e*Sg		**Sn**	**18 54 08.5**	**-0.6**
PALJ				*i* IAML			18 54 09.0	
PALJ				*i* IAML			18 54 09.1	
MORF	**Marmelete**	**0.39**	**22**	*e*P		**Pn**	**18 54 03.2**	**0.0**
MORF				*e*S		**Sn**	**18 54 08.7**	**-0.9**
MORF				IAML			18 54 11.0	
	comp=E,1μm,0.2s							
MORF	**Marmelete**	**0.39**	**22**⇑	*i*Pg		**Pn**	**18 54 03.2**	**0.0**
MORF				*e*Sg		**Sn**	**18 54 08.7**	**-0.9**
MORF				*i* IAML			18 54 09.1	
MORF				*i* IAML			18 54 09.7	
MORF				*i* IAML			18 54 10.9	
PALBU	**Albufeira**	**0.49**	**72**	*e*Sg		**Sn**	**18 54 12.2**	**+0.1**
PALBU				*i* IAML			18 54 12.8	
PALBU				*i* IAML			18 54 13.5	
PFARO	**Faro**	**0.73**	**83**	*e*S		**Sn**	**18 54 19.4**	**+1.4**
PFARO				*i* IAML			18 54 22.4	
PFARO				*i* IAML			18 54 24.0	
PBDV	**Barranco-do-Ve**	**0.78**	**67**⇑	*e*P		**Pn**	**18 54 09.3**	**+0.7**
PBDV				*e*S		**Sn**	**18 54 20.2**	**+1.0**
PBDV				*i* IAML			18 54 21.4	
PBDV				*i* IAML			18 54 21.5	
PBDV				*i* IAML			18 54 24.1	
PCVE	**Castro Verde**	**0.94**	**42**⇑	*e*P		**Pn**	**18 54 11.3**	**+0.6**
PCVE				*e*S		**Sn**	**18 54 23.4**	**+0.3**
PCVE				*i* IAML			18 54 25.5	
PCVE				*i* IAML			18 54 25.8	
PCVE				*i* IAML			18 54 26.0	
PVAQ	**Vaqueiros**	**1.00**	**62**	P		**Pn**	**18 54 12.1**	**+0.6**
PVAQ				S		**Sn**	**18 54 26.1**	**+1.4**
PVAQ	**V

PSARD				*i* IAML			18 55 24.1	
PMRV	**Marv??o**	**2.73**	**24**	*e*Pn	**Pn**		**18 54 35.6**	**+0.2**
PMRV				*e*Sn	**Sn**		**18 55 06.7**	**-0.6**
PMRV				*e*Sg	**Sb**		**18 55 18.8**	**+3.9**
PMRV				*i* IAML			18 55 21.1	
PMRV				*i* IAML			18 55 21.5	
PMRV				*i* IAML			18 55 21.7	
ECAB	**El Cabril**	**2.94**	**66**	P	**Pn**		**18 54 38.8**	**+0.5**
ECAB				S	**Sn**		**18 55 10.8**	**-1.8**
ECAB	**El Cabril**	**2.94**	**66**	Pn	**Pn**		**18 54 38.7**	**+0.5**
ECAB				Sn	**Sn**		**18 55 10.8**	**-1.8**
ECAB				Sg	**Sb**		**18 55 22.4**	**+1.4**
ECAB				*i* IVmb_Lg			18 55 34.1	
PCBR	**Castelo Branco**	**3.08**	**20**	*e*Pn	**Pn**		**18 54 40.5**	**+0.3**
PCBR				*e*Sn	**Sn**		**18 55 14.8**	**-1.2**
PCBR				*i* IAML			18 55 34.5	
PCBR				*i* IAML			18 55 36.6	
PCBR				*i* IAML			18 55 38.6	
PCAS	**Casmilo, Conde**	**3.12**	**5**	*e*Pn	**Pn**		**18 54 42.6**	**+1.9**
PCAS				*e*Sn	**Sn**		**18 55 16.0**	**-0.8**
PCAS				*i* IAML			18 55 36.6	
PCAS				*i* IAML			18 55 36.9	
PCAS				*i* IAML			18 55 38.5	
EADA	**Adamuz**	**3.60**	**69**	P	**Pn**		**18 54 47.7**	**+0.4**
EADA				S	**Sn**		**18 55 25.8**	**-3.0**
EADA	**Adamuz**	**3.60**	**69**	Pn	**Pn**		**18 54 48.1**	**+0.8**
EADA				Sn	**Sn**		**18 55 26.7**	**-2.0**
EADA				*i* IVmb_Lg			18 55 29.9	
EADA				Sg	**Sb**		**18 55 42.2**	**+2.4**
EGOR	**Sierra Gorda,**	**3.78**	**86**	Pn	**Pn**		**18 54 50.6**	**+0.6**
EGOR				Sn	**Sn**		**18 55 31.0**	**-2.5**
EGOR				*i* IVmb_Lg			18 55 55.5	
EPLA	**Plasencia**	**3.79**	**34**	Pn	**Pn**		**18 54 49.8**	**-0.1**
EPLA				Sn	**Sn**		**18 55 31.0**	**-2.5**
EPLA				Sg	**Sb**		**18 55 48.1**	**+2.7**
EPLA				*i* IVmb_Lg			18 55 59.0	
PVIS	**Viseu**	**3.84**	**11**	*e*Pn	**Pn**		**18 54 50.9**	**+0.2**
PVIS				*e*Sn	**Sn**		**18 55 33.2**	**-1.5**
ZHG	**ZHG**	**3.92**	**152**	P	**Pn**		**18 54 52.3**	**+0.4**
ZHG	**ZHG**	**3.92**	**152**	S	**Sn**		**18 55 38.7**	**+1.8**
ELGU	**Los Guajares,**	**4.17**	**89**	Pn	**Pn**		**18 54 56.5**	**+1.2**
ELGU				Sn	**Sn**		**18 55 40.5**	**-2.5**
ELGU				*i* IVmb_Lg			18 55 53.1	
EQUE	**Quentar**	**4.32**	**85**	Pn	**Pn**		**18 54 58.0**	**+0.6**
EQUE				Sn	**Sn**		**18 55 44.0**	**-2.7**
EQUE				*i* IVmb_Lg			18 55 58.6	
PAB	**San Pablo**	**4.38**	**52**	Pn	**Pn**		**18 54 58.4**	**+0.2**
PAB				Sn	**Sn**		**18 55 44.8**	**-3.4**
PAB				*i* IVmb_Lg			18 56 08.4	
PAB				Sg	Sb		18 56 10.8	+8.4
PVRL	**Vila Real**	**4.41**	**11**	*e*Sn	**Sn**		**18 55 46.8**	**-2.0**
PVRL				*i* IAML			18 56 19.2	
PVRL				*i* IAML			18 56 25.4	
PVRL				*i* IAML			18 56 25.6	
PSIM	**Granatula de C**	**4.43**	**63**	Pn	**Pn**		**18 54 59.5**	**+0.7**
PSIM				Sn	**Sn**		**18 55 46.3**	**-3.0**
MVO	**Moncorvo**	**4.44**	**18**	*e*Pn	**Pn**		**18 54 59.2**	**+0.3**
MVO				*e*Sn	**Sn**		**18 55 47.0**	**-2.7**
MVO				*i* IAML			18 56 19.7	
MVO				*i* IAML			18 56 20.9	
MVO				*i* IAML			18 56 21.9	
POLO	**Lamas de Olo**	**4.50**	**10**	*e*Pn	**Pn**		**18 55 00.1**	**+0.4**
POLO				*e*Sn	**Sn**		**18 55 48.4**	**-2.6**
EQES	**Quesada**	**4.67**	**78**	Pn	**Pn**		**18 55 02.4**	**+0.2**
EQES				Sn	**Sn**		**18 55 52.5**	**-2.8**
EQES				*i* IVmb_Lg			18 56 02.2	
ESSC	**Sonseca Array**	**4.70**	**53**	Pn	**Pn**		**18 54 02.9**	**+0.4**
ESDC				Sn	**Sn**		**18 55 53.3**	**-2.7**
ESDC				*i* IVmb_Lg			18 56 14.6	
ESBB	**Sonseca Array**	**4.70**	**53**	Pn	**Pn**		**18 55 03.0**	**+0.5**
ESBB				Sn	**Sn**		**18 55 53.2**	**-2.9**
AKLM	**AKL**	**4.72**	**120**	P	**Pn**		**18 55 01.0**	**-1.8**
AKLM	**AKL**	**4.72**	**120**	S	**Sn**		**18 55 55.3**	**-1.1**
PCAB	**Cabril**	**4.80**	**7**	*e*Pn	**Pn**		**18 55 04.3**	**+0.5**
PCAB				*e*Sn	**Sn**		**18 55 56.1**	**-2.3**
ELOB	**Lobios**	**4.95**	**7**	Pn	**Pn**		**18 55 06.1**	**+0.1**
ELOB				Sn	**Sn**		**18 55 59.0**	**-3.2**
ELOB				*i* IVmb_Lg			18 56 02.7	
PGAV	**Gavieira, Arco**	**5.04**	**5**	*e*Pn	**Pn**		**18 55 07.6**	**+0.5**
PGAV				*e*Sn	**Sn**		**18 56 01.6**	**-2.7**
PBRG	**Braganca**	**5.12**	**18**	*e*Sn	**Sn**		**18 56 03.2**	**-3.0**
GUD	**Guadarrama**	**5.20**	**43**	Pn	**Pn**		**18 55 09.4**	**0.0**
GUD				Sn	**Sn**		**18 56 05.4**	**-2.9**
GUD				Sg	Sb		18 56 38.1	+12
GUD				*i* IVmb_Lg			18 56 41.2	
MD31	**MD31**	**5.27**	**139**	P	**Pn**		**18 55 10.6**	**+0.3**
MD31	**MD31**	**5.27**	**139**	S	**Sn**		**18 56 10.4**	**+0.4**
MDT	**Midelt**	**5.39**	**139**	P	**Pn**		**18 55 11.8**	**-0.2**
MDT	**Midelt**	**5.39**	**139**	S	**Sn**		**18 56 13.6**	**+0.6**
UCM	**Universidad Co**	**5.52**	**51**	P	**Pn**		**18 55 14.2**	**+0.5**
JBK	**JBK**	**5.73**	**115**	P	**Pn**		**18 55 15.1**	**-1.7**
JBK	**JBK**	**5.73**	**115**	S	**Sn**		**18 56 21.1**	**-0.5**
EAGO	**Agolada(Pontev**	**5.88**	**5**	Pn	**Pn**		**18 55 19.3**	**+0.7**
EAGO				Sn	**Sn**		**18 56 21.9**	**-3.1**
EAGO				*i* IVmb_Lg			18 57 10.5	
TIO	**Tiouine**	**6.14**	**167**	P	**Pn**		**18 55 23.3**	**+0.9**
TIO				S	**Sn**		**18 56 26.5**	**-5.1**
TIO	**Tiouine**	**6.14**	**167**	P	**Pn**		**18 55 22.4**	**0.0**
TIO	**Tiouine**	**6.14**	**167**	S	**Sn**		**18 56 31.6**	**0.0**
OUZM	**OUZ**	**6.26**	**163**	P	**Pn**		**18 55 24.3**	**+0.3**
OUZM	**OUZ**	**6.26**	**163**	S	**Sn**		**18 56 36.2**	**+1.7**
ETOR	**Torete**	**6.55**	**52**	Pn	**Pn**		**18 55 28.7**	**+0.7**
ETOR				*i* IVmb_Lg			18 56 35.5	
ETOR				Sn	**Sn**		**18 56 37.4**	**-4.2**

OMAN **09** *19:09:07.5±0.1,24°.69N×62°.20E, h30km, mb3.7/3, ml3.2/3, Error ellipse: s-maj=2.4km s-min=1.5km az=273.0, Off coast of Pakistan*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.18**	**305**	P	Pn	19 09 28.1	+0.2
JLN	**Jalan Bani Buh**	**3.60**	**226**	P	Pn	19 10 01.0	-0.2
JLN				S	Sn	19 10 45.7	+2.9
BIDO	**Bidbid**	**3.90**	**254**	P	Pn	19 10 05.1	-0.3
SMDO	**Samad**	**4.13**	**248**	P	Pn	19 10 09.0	+0.3
SMDO				S	Sn	19 10 58.1	+2.0
JMDO	**Jabal Madar**	**4.41**	**239**	P	Pn	19 10 12.2	-0.2
JMDO				S	Sn	19 11 04.0	+1.2
HOQ	**Hoqain**	**4.60**	**257**	P	Pn	19 10 14.7	-0.3
SOHO	**SOHO**	**5.20**	**265**	P	Pn	19 10 22.5	-0.6
SOHO				S	Sn	19 11 22.9	+0.8
ARQ	**Araqi**	**5.37**	**257**	P	Pn	19 10 28.2	+2.7
MDH	**Madha**	**5.39**	**278**	P	Pn	19 10 24.6	-1.3
UOSS	**Minazif**	**5.46**	**274**	P	Pn	19 10 25.1	-1.7
UOSS				S	Sn	19 11 27.9	-0.7
HATD	**Hatta, Dubai**	**5.52**	**273**	P	Pn	19 10 27.1	-0.5
MASF	**Masafi**	**5.52**	**278**	P	Pn	19 10 27.9	+0.2
ASHO	**Ashiyiah** SNR=24	**5.59**	**271**	P	Pn	19 10 28.1	-0.5
SHME	**Shamm** SNR=19	**5.65**	**285**	P	Pn	19 10 29.7	+0.4
ALNE	**Al Ain** SNR=7.1	**5.92**	**265**	P	Pn	19 10 34.3	+1.3
UMQ	**Umm Al-Quwin**	**5.99**	**279**	P	Pn	19 10 35.6	+1.5
FAQ	**Al Faqa, Dubai**	**6.01**	**272**	P	Pn	19 10 34.8	+0.5

NEIC **09** *19:13:52.1±0.8, 19°.31N±0°.01×155°.189W±0°.006, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=326.0*

HVO 09 19:13:52.0±0.9,19°.34N±0°.01×155°.193W±0°.008, h7km±1km, ML3.2/42, ML3.2/42(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=164.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.04**	**330**		Pg	19 13 54.0	+0.4
PUH					Sg	19 13 55.4	+0.5
PUH	**Pauahi** comp=N,14μm,0.5s	**0.04**	**330**	IAML		19 13 55.8	
PUH	comp=E,9μm,0.2s			IAML		19 13 56.0	
KNHH	**Kane Nui o Ham**	**0.05**	**28**		Pg	19 13 54.1	+0.4
STCH	**Steam Cracks**	**0.08**	**53**		Pg	19 13 54.4	+0.4
STCH	**Steam Cracks**	**0.08**	**53**		Sg	19 13 56.2	+0.7
STCH	comp=N,23μm,0.5s			IAML		19 13 56.5	
STCH				IAML		19 13 57.2	
	comp=E,13μm,0.1s						
KKO	**Keanakako'i**	**0.09**	**311**		Pg	19 13 54.7	+0.4
KKO					Sg	19 13 56.6	+0.7
RIM	**Rim**	**0.10**	**307**		Pg	19 13 54.8	+0.4
RIM					Sg	19 13 56.6	+0.6
NPOC	**North of Pu'u**	**0.10**	**55**		Pg	19 13 54.7	+0.4
NPOC					Sg	19 13 56.6	+0.7
BYL	**Byron's Ledge**	**0.10**	**320**		Pg	19 13 54.7	+0.3
BYL					Sg	19 13 56.8	+0.8
BYL	**Byron's Ledge** comp=N,7μm,0.7s	**0.10**	**320**	IAML		19 13 57.2	
BYL	comp=E,6μm,0.5s			IAML		19 13 57.2	
JCUZ	**Jacuzzi**	**0.10**	**61**		Pg	19 13 54.7	+0.4
JCUZ					Sg	19 13 56.5	+0.6
HATHI	**Halema'uma'u T**	**0.11**	**323**		Pg	19 13 54.9	+0.4
HATHI	comp=N,11μm,0.4s			IAML		19 13 57.2	
HATHI	comp=E,8μm,0.3s			IAML		19 13 57.4	
HATHI	**Halema'uma'u T**	**0.11**	**323**		Sg	19 13 57.0	+0.7
SDHHI	**Sand Hill**	**0.11**	**299**		Pg	19 13 54.9	+0.4
SDHHI					Sg	19 13 57.0	+0.7
SBLHI	**Steaming Bluff**	**0.11**	**322**		Pg	19 13 54.9	+0.3
SBLHI					Sg	19 13 57.1	+0.7
HLP	**Hilina Pali**	**0.12**	**250**		Pg	19 13 55.1	+0.5
HLP					Sg	19 13 57.5	+1.1
HLP	**Hilina Pali** comp=E,9μm,0.3s	**0.12**	**250**	IAML		19 13 57.6	
HLP	comp=N,10μm,0.3s			IAML		19 13 57.6	
OBL	**Observatory Le**	**0.12**	**313**		Pg	19 13 55.0	+0.4
OBL					Sg	19 13 57.4	+0.8
UWB	**Uwekahuna Bluf**	**0.12**	**318**		Pg	19 13 55.0	+0.3
UWB					Sg	19 13 57.2	+0.7
WRMHI	**West Rim**	**0.12**	**305**		Pg	19 13 55.0	+0.3
WRMHI					Sg	19 13 57.0	+0.9
UWE	**Uwekahuna**	**0.13**	**312**		Pg	19 13 55.2	+0.4
UWE					Sg	19 13 57.5	+0.7
UWE	**Uwekahuna** comp=E,6μm,0.8s	**0.13**	**312**	IAML		19 13 58.3	
UWE	comp=N,7μm,0.9s			IAML		19 13 58.3	
RSD	**Rainshed**	**0.15**	**327**		Pg	19 13 58.2	+3.0
JOKA	**Jonika Flow**	**0.20**	**62**		Sg	19 13 59.4	+0.6
JOKA	**Jonika Flow**	**0.20**	**62**		Pg	19 13 56.1	0.0
JOKA	comp=N,2μm,0.5s			IAML		19 14 01.7	
JOKA	comp=E,914nm,0.5s			IAML		19 14 02.6	
HTC	**Hot Caves**	**0.22**	**243**		Pg	19 13 56.9	+0.6
MLH	**Mauna Loa**	**0.24**	**311**		Sg	19 14 00.9	+0.7
MLH	**Mauna Loa**	**0.24**	**311**		Pg	19 13 57.1	+0.3
MLH	comp=N,2μm,0.2s			IAML		19 14 03.3	
MLH	comp=E,2μm,0.2s			IAML		19 14 03.5	
AIN	**Ainahou**	**0.25**	**278**		Pg	19 13 57.4	+0.4
AIN					Sg	19 14 01.4	+0.9
AIN	**Ainahou** comp=E,10μm,0.3s	**0.25**	**278**	IAML		19 14 03.3	
AIN	comp=N,11μm,0.3s			IAML		19 14 03.4	
HMH	**Humu'ula Sheep**	**0.38**	**314**		Pg	19 13 59.6	0.0
KHU	**Kahuku**	**0.41**	**257**		Pg	19 13 59.8	-0.2
KHU					Sg	19 14 05.5	+0.1
MWH	**Mokuaweoweo**	**0.41**	**291**		Pg	19 13 59.9	-0.2
MWH	**Mokuaweoweo** comp=N,5μm,0.3s	**0.41**	**291**	IAML		19 14 07.6	
MWH	comp=E,7μm,0.6s			IAML		19 14 07.6	
HPO	**Honuapo**	**0.42**	**234**		Pg	19 14 00.1	0.0
HPO	**Honuapo**	**0.42**	**234**		Sg	19 14 05.0	-0.7
ALEP	**Alea Permanent**	**0.47**	**296**		Pg	19 14 00.8	-0.4
ALEP					Sg	19 14 07.6	+0.2
POHA	**Pohakuloa**	**0.53**	**323**		Pg	19 14 01.8	-0.4
HUH	**Hualalai**	**0.70**	**300**		Pg	19 14 04.7	-0.8
CPH	**Captain Cook**	**0.70**	**283**		Pg	19 14 04.7	-0.8
HPAH	**Hawaii Prepara**	**0.84**	**326**		Pg	19 14 06.0	-2.1
HPAH	**Hawaii Prepara** comp=N,798nm,0.2s	**0.84**	**326**	IAML		19 14 19.2	
HPAH	comp=E,1μm,0.3s			IAML		19 14 19.2	
MHA	**Mahukona**	**1.08**	**322**		Pg	19 14 09.6	-3.1
MHA	**Mahukona**	**1.08**	**322**		Sg	19 14 24.6	-2.1
HLK	**Haleakala**	**1.73**	**325**		Sn	19 14 15.0	-6.1
HLK	**Haleakala**	**1.73**	**325**		Pn	19 14 16.9	-5.8
KHLH	**Kahului Airpor**	**1.94**	**323**		Pn	19 14 17.6	-7.7
HON	**Honolulu**	**3.29**	**307**	Pn	Pn	19 14 38.1	-5.9

CATAC **09** *19:17:23.9±0.4, 10°.3°×7°.9W±°, h28km±3km, M3.6/13, MLv3.6/13, Error ellipse: s-maj=6.6km s-min=4.7km az=177.7, confirmed*

RSNC **09** *19:17:24.1±0.3, 9°.3°×7°.9W±°, h45km±11km, M3.1, mB4.8, mb4.2, ML2.8, MLv3.6, Mw(mB)4.1*

UPA **09** *19:17:24.7±0.7, 9°.35N×79°.17W, h56km±3km, MD3.9, MW4.6*

ISC 09 19:17:24.7±1.2,9°.43N±0°.05×79°.22W±0°.03, h54km±8km, n33, σ1°.72/57, 1C-7D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	**Chepo, Panama**	**0.28**	**157**	*e*P	**Pn**	**19 17 33.4**	**-0.6**
CHPO				*e*S	**Sn**	**19 17 40.1**	**-0.5**
FRIJ	**El Hiral**	**0.54**	**248**	⇓*i*P	**Pn**	**19 17 36.5**	**-0.1**
FRIJ				*e*S	**Sn**	**19 17 45.9**	**+0.7**
GAMB1	**Gamboa**	**0.57**	**238**	⇓*i*P	**Pn**	**19 17 37.9**	**+0.9**
GAMB1				*e*S	**Sn**	**19 17 46.3**	**+0.4**
FLAM	**Flamenco Islan**	**0.60**	**211**	⇓*i*P	**Pn**	**19 17 37.3**	**0.0**
FLAM				*e*S	**Sn**	**19 17 46.1**	**-0.4**
ARRA3	**Arraijan, Pana**	**0.63**	**223**	*e*P	**Pn**	**19 17 37.5**	**-0.2**
ARRA3				*e*S	**Sn**	**19 17 47.1**	**0.0**
MLIR	**Monte Lirio**	**0.65**	**254**	⇓*i*P	**Pn**	**19 17 38.0**	**+0.1**
MLIR				*e*S	**Sn**	**19 17 48.8**	**+1.3**
BCIP	**Isla Barro Col**	**0.66**	**247**	⇓*i*P	**Pn**	**19 17 38.1**	**+0.1**
BCIP				*e*S	**Sn**	**19 17 48.8**	**+1.0**
BCIP	**Isla Barro Col**	**0.66**	**247**	⇓P	**Pn**	**19 17 38.3**	**+0.2**
BCIP				S	**Sn**	**19 17 48.1**	**+0.3**
BCIP	**Isla Barro Col**	**0.66**	**247**	P	**Pn**	**19 17 38.2**	**+0.1**
BCIP				S	**Sn**	**19 17 48.1**	**+0.3**
CHOR3	**La Chorrera**	**0.75**	**226**	⇓*i*P	**Pn**	**19 17 38.9**	**-0.3**
CHOR3				*e*S	**Sn**	**19 17 50.0**	**+0.2**
CHIT3	**Chitre**	**1.88**	**219**	*e*P	**Pn**	**19 17 54.8**	**+0.4**
CHIT3				*e*S	**Sn**	**19 18 16.2**	**-0.8**
AZU	**Azuero**	**1.93**	**213**	⇑*i*P	**Pn**	**19 17 54.2**	**-1.0**
AZU				*e*S	**Sn**	**19 18 16.2**	**-2.0**
AZU	**Azuero**	**1.93**	**213**	P	**Pn**	**19 17 54.6**	**-0.5**
AZU				S	**Sn**	**19 18 17.2**	**-1.0**
CALO3	**Calobre, Verag**	**1.94**	**236**	*e*P	**Pn**	**19 17 55.0**	**-0.2**
CALO3				*e*S	**Sn**	**19 18 18.9**	**+0.4**
CAP2	**Capurgana**	**2.00**	**113**	P	**Pn**	**19 17 56.1**	**0.0**
GMAL	**Guarumal, Vera**	**2.58**	**230**	*e*P	**Pn**	**19 18 04.1**	**-0.1**
GMAL				*e*S	**Sn**	**19 18 32.8**	**-1.6**
GMAL	**Guarumal, Vera**	**2.58**	**230**	P	**Pn**	**19 18 04.5**	**+0.4**
GMAL				S	**Sn**	**19 18 33.9**	**-0.4**
CACAO	**El Cacao, Vera**	**2.63**	**218**	P	**Pn**	**19 18 05.6**	**+0.9**
PTAC	**Punta Ardita,**	**2.66**	**148**	P	**Pn**	**19 18 03.6**	**-1.6**
PTAC				S	**Sn**	**19 18 34.2**	**-2.0**
LCBC	**Los crdobas,**	**2.88**	**101**	P	**Pn**	**19 18 10.1**	**+2.0**
LCBC				S	**Sn**	**19 18 41.9**	**+0.4**
APAC	**Apartado, Choc**	**3.02**	**120**	P	**Pn**	**19 18 13.0**	**+2.9**
APAC				S	**Sn**	**19 18 51.9**	**+6.8**
DRK0	**Durika**	**3.97**	**268**	P	**Pn**	**19 18 24.3**	**+1.0**
DRK0	**Durika**	**3.97**	**268**	S	**Sn**	**19 19 09.3**	**+0.5**
UREC	**San Jos de Ur**	**4.01**	**114**	P	**Pn**	**19 18 25.5**	**+1.8**
UREC				S	**Sn**	**19 19 10.5**	**+1.0**
SJCC	**San Jacinto, C**	**4.01**	**83**	P	**Pn**	**19 18 24.3**	**+0.5**
SJCC	**San Jacinto, C**	**4.01**	**83**	P	**Pn**	**19 18 24.0**	**+0.2**
SJCC				S	**Sn**	**19 19 07.5**	**-2.1**
PRVC	**Isla de Provid**	**4.45**	**332**	S	**Sn**	**19 19 17.4**	**-2.9**
ZARC	**Zaragoza, Cauc**	**4.73**	**114**	P	**Pn**	**19 18 34.2**	**+0.7**
ZARC				S	**Sn**	**19 19 26.3**	**-0.8**
LCR2	**La Lucha 2**	**4.73**	**274**	P	**Pn**	**19 18 35.0**	**+1.3**
LCR2	**La Lucha 2**	**4.73**	**274**	S	**Sn**	**19 19 28.4**	**+1.0**
CBOC	**Ciudad Bolivar**	**4.76**	**138**	P	**Pn**	**19 18 34.8**	**+0.7**
CBOC				S	**Sn**	**19 19 26.4**	**-1.7**
ESPN	**Las Esperanzas** 18nm,0.5s	**5.70**	**299**	P	**Pn**	**19 18 46.9**	**+0.1**
CRJC	**Cerrejon, Guaj**	**6.44**	**75**	P	**Pn**	**19 18 56.2**	**-0.9**
CRJC				S	**Sn**	**19 20 02.4**	**-6.9**

NEIC **09** *19:45:29.8±2.0, 51°.8N±0°.2×179°.80E±0°.07, h161km±3km, mb4.2/134, ML3.7/10, ML3.7(AEIC), Error ellipse: s-maj=22.7km s-min=6.4km az=182.0*

IDC **09** *19:45:30.3±1.8, 52°.15N×179°.77E, h149km±17km, mb3.4/13, mbtmp3.9/15, Error ellipse: s-maj=21.4km s-min=12.8km az=165.0*

AEIC **09** *19:45:31.4±2.2, 51°.9N±0°.1×179°.83E±0°.07, h151km±5km, Error ellipse: s-maj=19.5km s-min=6.5km az=181.0*

ISC 09 19:45:30.5±0.6, 52°.00N±0°.09×179°.84E±0°.03, h155km±5km, n423, σ0°.89/428, mb4.2/48, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEPE	**Semis' Perret**	**0.12**	**256**		**Pn**	**19 45 51.0**	**-0.2**
CERB	**Semis' Cerberu**	**0.15**	**244**		**Pn**	**19 45 51.1**	**-0.1**
CERB					**Sn**	**19 46 07.6**	**+0.6**
CEAP	**Semis' Anvil P**	**0.16**	**273**		**Pn**	**19 45 51.1**	**-0.1**
CESW	**Semis' Southwe**	**0.20**	**241**		**Pn**	**19 45 50.8**	**-0.5**
CETU	**Semis' Tuman**	**0.22**	**262**		**Pn**	**19 45 51.0**	**-0.3**
AMKA	**Amchitka**	**0.70**	**209**		**Pn**	**19 45 52.6**	**-0.8**
AMKA				Sn	**Sn**	**19 46 08.4**	**-2.6**
LSPA	**Little Sitkin**	**0.79**	**268**		**Pn**	**19 45 53.7**	**-0.3**
LSSE	**Little Sitkin**	**0.79**	**266**		**Pn**	**19 45 53.9**	**-0.2**
LSNW	**Little Sitkin**	**0.82**	**269**		**Pn**	**19 45 53.8**	**-0.5**
GASW	**Gareloi Southw**	**0.84**	**105**		**Pn**	**19 45 54.0**	**-0.3**
GASW					**Sn**	**19 46 11.7**	**-1.0**
GANO	**Gareloi North**	**0.86**	**101**		**Pn**	**19 45 53.9**	**-0.7**
GANO					**Sn**	**19 46 11.4**	**-1.5**
GANE	**Gareloi Northe**	**0.87**	**101**		**Pn**	**19 45 54.4**	**-0.3**
GANE					**Sn**	**19 46 12.4**	**-0.7**
GALAA	**Gareloi Lava P**	**0.89**	**105**		**Pn**	**19 45 55.0**	**+0.2**
GALAA					**Sn**	**19 46 13.4**	**0.0**
GAEA	**Gareloi East**	**0.90**	**103**		**Pn**	**19 45 54.6**	**-0.3**
GAEA					**Sn**	**19 46 13.8**	**+0.3**
GAKI	**Gareloi-Kavalg**	**0.94**	**117**		**Pn**	**19 45 54.8**	**-0.4**
GAKI					**Sn**	**19 46 13.0**	**-1.1**
TANO	**Tanaga North**	**1.26**	**93**		**Pn**	**19 45 57.9**	**-0.1**
TANO					**Sn**	**19 46 20.1**	**+1.0**
TASE	**Tanaga Southea**	**1.32**	**96**		**Pn**	**19 45 58.6**	**0.0**
TASE					**Sn**	**19 46 19.9**	**-0.3**
TAFP	**Tanaga Falls P**	**1.35**	**93**		**Pn**	**19 45 58.4**	**-0.4**
TAFP					**Sn**	**19 46 19.6**	**-1.0**
TAFL	**Tanaga Flats**	**1.42**	**99**		**Pn**	**19 45 59.2**	**-0.3**
TAFL					**Sn**	**19 46 21.8**	**0.0**
TAPA	**Tanaga Point A**	**1.46**	**96**		**Pn**	**19 45 59.8**	**-0.2**
TAPA					**Sn**	**19 46 22.0**	**-0.7**
KIMD	**Kanaga Island**	**1.83**	**96**		**Pn**	**19 46 03.3**	**-0.5**
KIMD					**Sn**	**19 46 28.4**	**-1.1**
KICM	**Kanaga Island**	**1.83**	**91**		**Pn**	**19 46 04.0**	**0.0**
KICM					**Sn**	**19 46 29.8**	**+0.1**
KIKV	**Kanaga Island**	**1.85**	**92**		**Sn**	**19 46 29.8**	**-0.3**
KIWB	**Kanaga Island**	**1.87**	**93**		**Pn**	**19 46 03.8**	**-0.5**
KIWB				Sn	**Sn**	**19 46 29.2**	**-1.1**
KIWB	comp=E,440nm,0.6s			IAML		19 46 31.4	
KIWB	comp=N,359nm,0.5s			IAML		19 46 32.1	
KINC	**Kanaga Island**	**1.88**	**91**		**Pn**	**19 46 04.3**	**-0.1**
KINC					**Sn**	**19 46 30.9**	**+0.4**
KIRH	**Kanaga Island**	**1.90**	**92**		**Pn**	**19 46 04.4**	**-0.3**
ADK	**Adak**	**2.15**	**92**		**Pn**	**19 46 06.9**	**-0.6**
ADK				Sn	**Sn**	**19 46 34.6**	**-1.5**
ADK	comp=N,262nm,0.3s			IAML		19 46 36.5	
ADK	comp=N,273nm,0.2s			IAML		19 46 38.2	
ADK	**Adak**	**2.15**	**92**	P	**Pn**	**19 46 07.0**	**-0.6**
ADAG	**Mount Adagdak**	**2.20**	**89**		**Pn**	**19 46 08.7**	**+0.6**
GSCK	**Great Sitkin C**	**2.47**	**88**		**Pn**	**19 46 11.3**	**-0.1**
GSCK					**Sn**	**19 46 42.6**	**-0.4**
GSTR	**Great Sitkin T**	**2.53**	**86**	Pn	**Pn**	**19 46 07.8**	**-4.4**
GSTR				Sn	**Sn**	**19 46 40.2**	**-4.2**
SHEM	**Shemya Is, Ala** comp=N,36nm,0.7s,baz=101,slow=4.3,SNR=4.3	**3.60**	**284**	P	**Pn**	**19 46 23.7**	**-1.8**
SHEM	comp=N,37nm,0.2s,baz=298,slow=18,SNR=12			S	**Sn**	**19 47 06.7**	**-1.6**
SMY	**Shemya**	**3.60**	**284**	Pn	**Pn**	**19 46 24.0**	**-1.5**
SMY				Sn	**Sn**	**19 47 06.5**	**-1.8**
SMY	comp=N,108nm,2.1s			IAML		19 47 18.3	
SMY	comp=E,92nm,1.2s			IAML		19 47 27.7	
ATKA	**Atka Island**	**3.68**	**84**	Pn	**Pn**	**19 46 24.6**	**-2.1**
ATKA				Sn	**Sn**	**19 47 08.7**	**-1.5**
ATKA	**Atka Island**	**3.68**	**84**	P	**Pn**	**19 46 23.4**	**-3.2**
CLCO	**Concord Point,**	**6.44**

baz=232,SNR=7.4
O16K **Kokwok River B** 14.50 50 P Pn 19 48 48.6 +0.4
O16K **Kokwok River B** 14.50 50 P Pn 19 48 47.2 -0.9
baz=248
N16K **Nishlik Lake** 14.55 46 P Pn 19 48 47.7 -1.1
baz=244
M16K **Timber Creek** 14.72 44 Pn 19 48 51.6 +0.7
M16K **Timber Creek** 14.72 44 P Pn 19 48 50.7 -0.2
baz=241
ANM **Nome** 14.75 26 P Pn 19 48 51.8 +0.6
baz=218
R17L **Mt. Peulik Vol** 14.79 58 P Pn 19 48 51.7 -0.1
baz=257
CHIR **Chirikof Islan** 14.93 65 P P 19 48 54.2 -1.0
CHIR **Chirikof Islan** 14.93 65 P Pn 19 48 52.8 -0.7
baz=265
TNA **Tin City** 14.96 20 P Pn 19 48 53.3 -0.5
baz=210
O17K **Koliganek Bris** 15.04 50 P Pn 19 48 54.4 -0.4
baz=249
P17K **Kvichak River** 15.16 52 P Pn 19 48 56.5 +0.1
baz=252
Q17K **Contact Creek** 15.18 56 P Pn 19 48 56.4 -0.3
baz=256
N17K **Nushagak Hills** 15.28 47 P 19 48 59.1 -0.1
N17K IAmb IAmb 19 49 02.3
comp=Z,11nm,1.2s
N17K **Nushagak Hills** 15.28 47 P Pn 19 48 57.9 0.0
baz=246
J16K **Anvik River** 15.33 35 P P 19 48 59.5 -0.1
J16K **Anvik River** 15.33 35 P Pn 19 48 58.4 0.0
baz=231
G15K **Niukluk** 15.44 26 P Pn 19 49 00.1 +0.3
baz=220
L17K **Donlin** 15.55 41 P Pn 19 49 00.6 -0.4
baz=239,SNR=10
M17K **Holitna River** 15.55 44 P 19 49 02.8 +0.7
M17K IAmb IAmb 19 49 05.8
comp=Z,10.0nm,0.8s
M17K **Holitna River** 15.55 44 P Pn 19 49 01.1 -0.1
baz=243,SNR=5.9
I17K **Unalakleet** 15.68 33 P P 19 49 03.4 -0.1
baz=229
H16K **Elim** 15.70 29 P P 19 49 03.6 -0.1
baz=224
Q18K **Katmai Hardscr** 15.72 55 P Pn 19 49 03.5 +0.2
baz=256
SII **Sitkinak Islan** 15.79 63 P Pn 19 49 03.7 -0.5
SII **Sitkinak Islan** 15.79 63 P P 19 49 04.5 -0.4
P18K **Big Mountain,** 15.81 52 P Pn 19 49 04.1 -0.3
baz=253
F15K **North Star Dit** 15.84 24 P Pn 19 49 05.0 +0.3
baz=217
K17K **Iditarod** 15.85 39 P 19 49 05.9 +0.5
K17K **Iditarod** 15.85 39 P P 19 49 05.4 0.0
baz=237
N18K **Kilae Creek** 15.93 47 P P 19 49 07.4 +1.0
N18K IAmb IAmb 19 49 11.4
comp=Z,4.6nm,0.5s
N18K **Kilae Creek** 15.93 47 P P 19 49 06.3 -0.1
baz=248
J17K **VABM Dome** 15.95 36 P 19 49 06.4 0.0
J17K IAmb IAmb 19 49 11.2
comp=Z,6.3nm,0.8s
J17K **VABM Dome** 15.95 36 P P 19 49 06.7 +0.3
baz=234,SNR=5.3
O18K **Koktuh Hills** 15.96 51 Pn 19 49 06.3 0.0
O18K IAmb IAmb 19 49 12.1
comp=Z,9.3nm,0.7s
O18K **Koktuh Hills** 15.96 51 P Pn 19 49 06.2 0.0
baz=251
G16K **Koyuk River** 16.21 27 P Pn 19 49 09.0 -0.2
baz=222
L18K **Granite Mounta** 16.25 42 P 19 49 10.1 +0.3
L18K **Granite Mounta** 16.25 42 P P 19 49 10.1 +0.3
baz=241
M18K **Stony River** 16.29 45 P P 19 49 10.5 +0.3
baz=245
OHAK **Old Harbor** 16.36 61 P Pn 19 49 09.3 -1.7
OHAK **Old Harbor** 16.36 61 P Pn 19 49 09.0 -2.0
N19K **Bonanza Creek** 16.62 48 P Pn 19 49 14.4 0.0
N19K IAmb IAmb 19 49 22.9
comp=Z,9.3nm,0.9s
N19K **Bonanza Creek** 16.62 48 P Pn 19 49 14.5 +0.2
baz=249,SNR=5.5
H17K **Granite Mounta** 16.63 31 P Pn 19 49 15.9 +1.7
H17K **Granite Mounta** 16.63 31 P Pn 19 49 15.3 +1.0
baz=228
G17K **Kiwalik Mounta** 16.79 29 P Pn 19 49 16.7 +0.6
baz=225
KDAK **Kodiak Island** 16.81 59 P Pn 19 49 16.3 -0.2
KDAK IAmb IAmb 19 49 18.9
comp=Z,8.4nm,0.7s
KDAK **Kodiak Island** 16.81 59 P P 19 49 14.0 -2.0
comp=Z,6.1nm,0.5s,baz=274,slow=5.2,SNR=48
KDAK **Kodiak Island** 16.81 59 P Pn 19 49 16.3 -0.2
baz=261
P19K **Oil Pt** 16.86 52 P Pn 19 49 18.1 +1.0
P19K **Oil Pt** 16.86 52 P P 19 49 16.6 0.0
baz=255
J18K **Innoko River** 16.86 38 Pn 19 49 17.9 +0.8
J18K **Innoko River** 16.86 38 P Pn 19 49 17.2 +0.1
baz=238,SNR=5.0
ILSW **Iliamna Southw** 17.00 51 P Pn 19 49 19.5 +0.7
ILSW IAmb IAmb 19 49 22.8
comp=Z,13nm,1.2s
L19K **White Mountain** 17.00 43 Pn 19 49 20.0 +1.3
L19K **White Mountain** 17.00 43 P Pn 19 49 18.4 -0.3
baz=244,SNR=7.1
Q20K **Shuyak Island** 17.05 56 P Pn 19 49 19.4 0.0
baz=259
SYI **Shuyak Island** 17.05 56 P Pn 19 49 19.1 -0.3
M19K **Big River Lodg** 17.08 44 P Pn 19 49 19.4 -0.3
M19K **Big River Lodg** 17.08 44 P Pn 19 49 20.1 +0.4
baz=246
H18K **Honhosa River** 17.27 32 P P 19 49 21.6 +0.5
H18K **Honhosa River** 17.27 32 P Pn 19 49 21.9 0.0
baz=230
O20K **Slope Mountain** 17.27 51 P Pn 19 49 22.0 -0.1
baz=254
F17K **Baldwin Pennin** 17.30 26 P Pn 19 49 22.3 +0.1
baz=222
L20K **Farewell, AK** 17.54 43 P Pn 19 49 24.8 -0.4
baz=245
J19K **Poorman** 17.56 37 Pn 19 49 25.0 -0.4
J19K IAmb IAmb 19 49 29.6
comp=Z,11nm,1.0s
J19K **Poorman** 17.56 37 P Pn 19 49 25.5 +0.1
baz=238,SNR=9.6
M20K **Styx River** 17.62 45 P P 19 49 25.5 +0.5
M20K IAmb IAmb 19 49 33.7
comp=Z,6.9nm,0.9s
M20K **Styx River** 17.62 45 P Pn 19 49 26.0 -0.2
baz=248,SNR=8.4
E17K **Hotham Inlet** 17.63 24 P Pn 19 49 26.0 -0.2
baz=220
HOM **Homer** 17.65 53 P P 19 49 25.3 +0.2
baz=257
G18K **Tagagawik** 17.66 30 Pn 19 49 26.8 +0.2
G18K **Tagagawik** 17.66 30 P Pn 19 49 26.9 +0.3
baz=228
N20K **Mount Spurr** 17.80 48 P Pn 19 49 27.6 -0.8
baz=251
SPCR **Spurr Chakacha** 17.80 48 P Pn 19 49 28.0 -0.3
baz=251
D17K **Noatak River** 17.82 21 P Pn 19 49 28.4 0.0
baz=216
CNPM **China Poot** 17.82 54 P P 19 49 27.5 +0.4
CNPM IAmb IAmb 19 49 28.5
comp=Z,11nm,1.2s
K20K **Telida** 17.84 40 P Pn 19 49 28.6 -0.2
baz=242
F18K **Selawik** 17.86 27 P P 19 49 27.8 +0.5
baz=225
SPU **Mount Spurr** 17.86 48 P Pn 19 49 28.6 -0.5
SPU IAmb IAmb 19 49 31.5
comp=Z,14nm,1.1s
BRLK **Bradley Lake** 18.04 53 P P 19 49 29.6 +0.1
BRLK IAmb IAmb 19 49 34.6
comp=Z,9.1nm,1.2s
STLK **Strandline Lak** 18.07 47 P Pn 19 49 31.1 -0.4
H19K **Roundabout Mou** 18.13 33 P Pn 19 49 31.8 -0.3
baz=233
E18K **Tukpahlearik C** 18.20 24 P Pn 19 49 33.4 +0.5
E18K **Tukpahlearik C** 18.20 24 P Pn 19 49 32.6 -0.3
baz=221
J20K **Nowinta River** 18.21 38 Pn 19 49 32.4 -0.6
J20K IAmb IAmb 19 49 36.4
comp=Z,9.1nm,0.8s
J20K **Nowinta River** 18.21 38 P Pn 19 49 32.3 -0.8
baz=240,SNR=14
G19K **Purcell Mounta** 18.31 30 Pn 19 49 34.2 -0.1
G19K IAmb IAmb 19 49 39.1
comp=Z,5.6nm,0.7s
G19K **Purcell Mounta** 18.31 30 P Pn 19 49 33.8 -0.4
baz=230,SNR=5.5
SKT **Skwentna** 18.36 46 P Pn 19 49 34.1 -0.8
SKT **Skwentna** 18.36 46 P Pn 19 49 34.3 -0.6
baz=250,SNR=29
PPLA **Purkeypile** 18.42 43 P Pn 19 49 35.6 0.0
PPLA IAmb IAmb 19 49 42.2
comp=Z,9.7nm,0.8s
PPLA **Purkeypile** 18.42 43 P Pn 19 49 34.8 -0.8
baz=246
C17K **DeLong Mountai** 18.43 20 P P 19 49 33.9 +0.2
baz=215
SLKM **Skilak Lake** 18.54 51 P P 19 49 34.6 -0.4
SUA **Susitna One** 18.55 48 P P 19 49 36.1 +0.9
SUA IAmb IAmb 19 49 38.6
comp=Z,10nm,0.6s
SUA **Susitna One** 18.55 48 P P 19 49 36.1 +0.9
baz=252,SNR=13
F19K **Shaleruckik Mo** 18.56 28 P P 19 49 36.3 +1.3
baz=228
H20K **Anotleneega Mo** 18.64 34 P Pn 19 49 37.4 -0.7
baz=236,SNR=11
CAST **Castle Rocks** 18.68 41 Pn 19 49 37.9 -0.7
CAST IAmb IAmb 19 49 40.4
comp=Z,6.6nm,0.8s
CAST **Castle Rocks** 18.68 41 P Pn 19 49 38.0 -0.6
baz=245,SNR=17
CHUM **Lake Minchumin** 18.78 40 P Pn 19 49 39.7 0.0
baz=244
SEW **Seward** 18.82 52 P P 19 49 37.4 -0.6
SEW **Seward** 18.82 52 P Pn 19 49 39.5 -0.8
baz=258
RC01 **Rabbit Creek A** 18.91 49 P P 19 49 39.8 +0.8
RC01 IAmb IAmb 19 49 44.1
comp=Z,5.3nm,0.6s
RC01 **Rabbit Creek A** 18.91 49 P P 19 49 40.0 +1.0
baz=255
C18K **Utukok River** 19.00 21 P Pn 19 49 41.9 -0.5
baz=218
E19K **Redstone River** 19.14 27 Pn 19 49 43.0 -0.9
E19K IAmb IAmb 19 49 44.6
comp=Z,7.4nm,0.9s
E19K **Redstone River** 19.14 27 P Pn 19 49 43.2 -0.7
baz=227,SNR=7.5
KTH **Kantishna Hill** 19.21 42 P Pn 19 49 43.6 -1.2
F20K **Avaraart Lake** 19.31 29 P P 19 49 44.1 +0.9
F20K **Avaraart Lake** 19.31 29 P Pn 19 49 44.9 -0.9
baz=230,SNR=5.7
BPAW **Bear Paw Mtn.** 19.40 40 P P 19 49 45.3 +1.0
BPAW IAmb IAmb 19 49 50.1
comp=Z,8.1nm,1.0s
BPAW **Bear Paw Mtn.** 19.40 40 P Pn 19 49 46.2 -0.9
baz=245,SNR=9.3
TRF **Thorofare Moun** 19.43 42 P 19 49 45.2 +0.6
TRF IAmb IAmb 19 49 49.2
comp=Z,5.9nm,0.6s
TRF **Thorofare Moun** 19.43 42 P P 19 49 45.3 +0.6
baz=248,SNR=7.7
H21K **Melozitna Rive** 19.46 35 P P 19 49 45.8 +0.9
baz=238,SNR=6.2
GHO **Glory Hole Cre** 19.47 48 P P 19 49 44.6 -0.6
GHO IAmb IAmb 19 49 49.8
comp=Z,9.0nm,0.8s
I21K **Tanana** 19.52 37 P P 19 49 45.7 +0.3
I21K IAmb IAmb 19 49 52.2
comp=Z,7.8nm,0.9s
I21K **Tanana** 19.52 37 P P 19 49 46.6 +1.1
baz=241
PWL **Port Wells** 19.52 51 P P 19 49 45.3 -0.3
PWL IAmb IAmb 19 49 46.9
comp=Z,9.5nm,0.9s
PWL **Port Wells** 19.52 51 P P 19 49 46.5 +0.9
baz=257,SNR=7.2
KNK **Knik Glacier** 19.59 49 P P 19 49 44.9 -1.5
KNK IAmb IAmb 19 49 50.3
comp=Z,8.2nm,0.6s
KNK **Knik Glacier** 19.59 49 P P 19 49 46.8 +0.4
baz=255
D19K **Kuna River** 19.63 24 P P 19 49 48.1 +1.4
D19K IAmb IAmb 19 49 49.2
comp=Z,13nm,1.1s
D19K **Kuna River** 19.63 24 P P 19 49 48.5 +1.9
baz=224,SNR=6.5
G21K **Allakaket** 19.69 32 P P 19 49 47.9 +0.6
G21K **Allakaket** 19.69 32 P P 19 49 48.7 +1.3
baz=235
C19K **Lookout Ridge** 19.73 22 P P 19 49 49.0 +1.3
baz=220
MLY **Manley** 19.91 38 P 19 49 50.9 +1.1
MLY **Manley** 19.91 38 P P 19 49 50.5 +0.8
baz=243
E20K **Nigu River** 19.97 26 P P 19 49 52.3 +1.9
baz=227,SNR=6.1
RND **Reindeer** 20.01 43 P P 19 49 50.6 -0.3
RND IAmb IAmb 19 49 55.0
comp=Z,7.1nm,0.6s
M23K **Glacier View** 20.03 48 P P 19 49 51.8 +0.8
baz=255,SNR=8.0
H22K **Ishtalitna Cre** 20.09 35 P P 19 49 52.8 +1.2
baz=240
MCK **McKinley** 20.09 42 P 19 49 51.1 -0.6
MCK IAmb IAmb 19 49 55.9
comp=Z,12nm,1.1s
MCK **McKinley** 20.09 42 P P 19 49 52.5 +0.7
baz=249
F21K **Alatna River** 20.11 31 P 19 49 53.1 +1.3
F21K IAmb IAmb 19 49 54.4
comp=Z,8.2nm,1.2s
F21K **Alatna River** 20.11 31 P P 19 49 52.9 +1.1
baz=234,SNR=5.8
GLI **Glacier Island** 20.12 51 P P 19 49 51.5 -0.5
GLI **Glacier Island** 20.12 51 P P 19 49 52.6 +0.6
baz=258,SNR=7.5
D20K **Etivluk River** 20.17 25 P 19 49 53.4 +0.9
D20K **Etivluk River** 20.17 25 P P 19 49 54.0 +1.5
baz=226,SNR=12
SCM **Sheep Creek Mo** 20.22 48 P P 19 49 52.9 -0.3
SCM **Sheep Creek Mo** 20.22 48 P P 19 49 54.0 +0.9
baz=256,SNR=12
Q23K **Middleton Isla** 20.26 55 P P 19 49 54.2 +0.8
baz=263
A19K **Wainwright** 20.28 19 P P 19 49 54.5 +1.0
baz=216
NEA2 **Nenana** 20.37 40 P P 19 49 55.0 +0.4
NEA2 IAmb IAmb 19 49 58.5
comp=Z,10nm,0.8s
NEA2 **Nenana** 20.37 40 P P 19 49 55.6 +1.0
baz=246,SNR=15
FID **Port Fidalgo** 20.39 51 P P 19 49 53.1 -1.8
I23K **Minto, Yukon-K** 20.48 38 P P 19 49 56.7 +0.9
I23K **Minto, Yukon-K** 20.48 38 P P 19 49 56.8 +1.0
baz=245,SNR=9.6
F22K **John River** 20.69 31 P P 19 49 58.9 +0.9
baz=235
WRH **Wood River Hil** 20.71 41 P P 19 49 57.1 -1.2
E21K **Killik River** 20.71 27 P P 19 49 58.3 +0.1
E21K IAmb IAmb 19 50 01.9
comp=Z,5.7nm,0.7s
E21K **Killik River** 20.71 27 P P 19 49 59.9 +1.7
baz=230,SNR=7.6
EYAK **Cordova Ski Ar** 20.71 52 P 19 49 57.3 -1.0
EYAK **Cordova Ski Ar** 20.71 52 P P 19 49 59.7 +1.4
baz=261
H23K **Yukon River** 20.72 36 P P 19 49 58.9 +0.5
H23K IAmb IAmb 19 50 02.7
comp=Z,7.2nm,1.1s
H23K **Yukon River** 20.72 36 P P 19 49 59.9 +1.5
baz=243
KLU **Klutina** 20.80 49 P P 19 49 59.1 -0.2
KLU IAmb IAmb 19 50 05.1
comp=Z,6.3nm,0.9s
KLU **Klutina** 20.80 49 P P 19 50 00.3 +1.0
baz=258,SNR=10.0
DIV **Divide** 20.80 51 P P 19 49 58.6 -0.8
M24K **Tolsona, Glenn** 20.82 48 P P 19 49 58.3 -1.2
M24K **Tolsona, Glenn** 20.82 48 P P 19 50 00.2 +0.7
baz=256,SNR=6.1
CCB **Clear Creek Bu** 20.89 40 P P 19 49 59.6 -0.5
C21K **Knifeblade Rid** 20.96 25 P P 19 50 01.3 +0.5
baz=228
G23K **Bananza Creek** 20.97 34 P 19 50 01.9 +0.9
G23K **Bananza Creek** 20.97 34 P P 19 50 01.1 0.0
baz=240,SNR=5.7
B20K **Meade River** 20.97 22 P P 19 50 01.4 +0.4
baz=222
HDA **Harding Lake** 21.15 41 P P 19 50 02.6 -0.3
HDA **Harding Lake** 21.15 41 P P 19 50 04.2 +1.2
baz=250,SNR=8.3
E22K **Anaktuvuk Pass** 21.16 30 P 19 50 03.8 +0.7
E22K **Anaktuvuk Pass** 21.16 30 P P 19 50 04.2 +1.1
baz=234
COLD **Coldfoot** 21.17 33 P P 19 50 03.7 +0.5
baz=239
POKR **Poker Plat Res** 21.22 39 P P 19 50 03.7 +0.1
baz=247
RAGM **Ragged Mountai** 21.22 53 P P 19 50 02.7 -1.0
KAIM **Kayak Island** 21.29 54 P 19 50 04.8 +0.3
KAIM IAmb IAmb 19 50 07.1
comp=Z,10nm,0.8s
ILAR **Eielson Array** 21.30 40 P P 19 50 03.0 -1.6
comp=Z,0.6nm,0.3s,baz=244,slow=10,SNR=24
comp=Z,0.6nm,0.3s
B21K **Ikpikpuk River** 21.32 25 P P 19 50 04.5 -0.2
B21K IAmb IAmb 19 50 07.3
comp=Z,13nm,1.2s
B21K **Ikpikpuk River** 21.32 25 P P 19 50 05.5 +0.8
baz=227
BMRM **Bremner River** 21.33 51 P P 19 50 04.5 -0.5
BMRM **Bremner River** 21.33 51 P P 19 50 05.0 0.0
baz=261,SNR=7.1
H24K **Noodor Dome** 21.34 37 P 19 50 05.6 +0.6
H24K IAmb IAmb 19 50 08.2
comp=Z,7.5nm,0.7s
H24K **Noodor Dome** 21.34 37 P P 19 50 06.0 +0.9
baz=245,SNR=19
PAX **Paxson** 21.35 46 P P 19 50 05.2 0.0
PAX IAmb IAmb 19 50 06.5
comp=Z,6.1nm,0.6s
PAX **Paxson** 21.35 46 P P 19 50 05.5 +0.3
baz=255,SNR=11
D22K **Ayikyak River** 21.36 27 P 19 50 06.6 +1.5
D22K IAmb IAmb 19 50 08.5
comp=Z,6.3nm,0.7s
D22K **Ayikyak River** 21.36 27 P P 19 50 05.9 +0.8
baz=231
HMT **Hamilton** 21.41 53 P P 19 50 05.9 0.0
HMT IAmb IAmb 19 50 08.5
comp=Z,15nm,1.2s
K24K **Donnelly Dome** 21.44 43 P P 19 50 05.1 -1.1
K24K **Donnelly Dome** 21.44 43 P P 19 50 06.6 +0.5
baz=253
N25K **Chitina, Valde** 21.44 49 P P 19 50 05.6 -0.7
N25K IAmb IAmb 19 50 08.9
comp=Z,6.3nm,0.9s
N25K **Chitina, Valde** 21.44 49 P P 19 50 06.5 +0.3
baz=259,SNR=8.6
BERG **Berg Lake** 21.70 53 P P 19 50 06.0 -2.8
GLB **Gilahina Butte** 21.79 50 P 19 50 08.9 -0.9
GLB IAmb IAmb 19 50 12.4
comp=Z,9.5nm,1.0s
E23K **Chandalar** 21.80 31 P P 19 50 10.7 +0.8
baz=238
RIDG **Independent Ri** 21.82 44 P P 19 50 10.7 +0.6
baz=254
G24K **Hadweenzic Riv** 21.86 35 P P 19 50 11.2 +0.8
G24K IAmb IAmb 19 50 13.8
comp=Z,8.7nm,0.9s
G24K **Hadweenzic Riv** 21.86 35 P P 19 50 11.2 +0.8
baz=244,SNR=8.7
J25K **Salcha River,** 21.86 41 P 19 50 07.9 -2.7
J25K IAmb IAmb 19 50 10.8
comp=Z,4.4nm,0.5s
J25K **Salcha River,** 21.86 41 P P 19 50 10.2 -0.4
baz=251,SNR=12
VRDI **Verde Repeater** 21.93 51 P 19 50 10.9 -0.4
VRDI IAmb IAmb 19 50 13.6
comp=Z,8.2nm,0.6s
D23K **Nanushuk River** 21.99 28 P 19 50 12.3 +0.6
D23K **Nanushuk River** 21.99 28 P P 19 50 12.7 +1.0
baz=234,SNR=6.3
CRQM **Cirque** 22.02 52 P P 19 50 11.0 -1.3
CRQE **Cirque** 22.04 52 P P 19 50 13.4 +1.0
baz=263
F24K **Squaw Lake** 22.10 33 P 19 50 13.3 +0.5
F24K IAmb IAmb 19 50 16.4
comp=Z,6.6nm,0.7s
F24K **Squaw Lake** 22.10 33 P P 19 50 13.8 +1.0
baz=241,SNR=12
PRP **Porcupine Dome** 22.11 39 P P 19 50 13.0 -0.1
PRP **Porcupine Dome** 22.11 39 P P 19 50 13.3 +0.1
baz=249,SNR=7.7
B22K **Teshekpuk Lake** 22.11 24 P P 19 50 12.4 -0.5
baz=228
MENT **Mentasta** 22.11 46 P P 19 50 11.9 -1.1
MENT IAmb IAmb 19 50 17.1
comp=Z,7.4nm,0.6s
TOLK **Toolik Lake Re** 22.13 30 IAmb IAmb 19 50 15.9
comp=Z,5.3nm,0.5s
TOLK **Toolik Lake Re** 22.13 30 P P 19 50 13.3 0.0
baz=236,SNR=6.0
DOT **Dot Lake** 22.14 44 P P 19 50 12.6 -0.6
DOT IAmb IAmb 19 50 14.3
comp=Z,8.4nm,0.7s
MCARA **McCarthy VSAT** 22.15 50 P P 19 50 13.6 +0.2
baz=262
E24K **Your Creek** 22.17 31 P P 19 50 14.2 +0.6
baz=239
SCRK **Sand Creek** 22.25 43 P 19 50 13.0 -1.5
SCRK **Sand Creek** 22.25 43 P P 19 50 13.9 -0.6
baz=254,SNR=17
H25L **Birch Creek** 22.28 37 P P 19 50 15.1 +0.5
baz=247
L26K **Log Cabin Wild** 22.30 46 IAmb IAmb 19 50 18.4
comp=Z,8.5nm,1.0s
L26K **Log Cabin Wild** 22.30 46 P P 19 50 15.6 +0.7
baz=257
M26K **Nabesna, AK** 22.33 48 P P 19 50 15.8 +0.5
baz=259
G25K **Bearman Lake** 22.38 36 P P 19 50 16.3 +0.8
baz=245
C23K **Itkillik River** 22.53 27 P P 19 50 18.0 +1.2
baz=233
MESA **MESA** 22.55 54 P P 19 50 17.7 +0.3
baz=266
J26L **Joseph Creek** 22.57 42 P P 19 50 16.5 -1.0
J26L **Joseph Creek** 22.57 42 P P 19 50 17.1 -0.5
baz=254,SNR=25
FYU **Fort Yukon** 22.62 37 IAmb IAmb 19 50 19.2
comp=Z,6.6nm,0.7s
D24K **Happy Valley** 22.64 29 P P 19 50 18.8 +0.7
baz=236,SNR=6.4
M27K **Edge Creek, AK** 22.84 48 IAmb IAmb 19 50 22.9
comp=Z,5.3nm,0.9s
M27K **Edge Creek, AK** 22.84 48 P P 19 50 20.3 +0.2
baz=260,SNR=6.6
F25K **Christian Rive** 22.90 34 P P 19 50 20.9 +0.4
baz=244
CTG **Chitna Glacier** 22.91 52 P P 19 50 21.2 +0.4
baz=264
CTGM **Chitina Glacie** 22.92 52 IAmb IAmb 19 50 22.2
comp=Z,8.3nm,0.7s
I26K **Coal Creek Min** 22.98 40 P P 19 50 20.5 -0.6
baz=252
L27K **Beaver Creek,** 22.99 46 IAmb IAmb 19 50 23.6
comp=Z,11nm,0.9s
L27K **Beaver Creek,** 22.99 46 P P 19 50 21.0 -0.3
baz=259,SNR=25
BCAR **Beaver Creek A** 23.00 46 P 19 50 21.8 +0.3
K27K **Chicken** 23.08 44 P P 19 50 22.3 +0.2
baz=256
G26K **Porcupine Rive** 23.30 36 P 19 50 24.9 +0.9
G26K **Porcupine Rive** 23.30 36 P P 19 50 24.6 +0.6
baz=248,SNR=16
BVCY **Beaver Creek** 23.32 48 P P 19 50 24.6 +0.3
baz=261,SNR=6.4
PINM **Pinnacle** 23.39 54 P P 19 50 24.7 -0.4
baz=267
YUK3 **Moose Creek** 23.42 50 P P 19 50 25.3 -0.1
baz=263,SNR=17
O28M **Mount Upton** 23.46 52 P P 19 50 26.3 +0.4
baz=266
F26K **Sheenjek River** 23.46 34 P P 19 50 26.4 +0.9
baz=246
D25K **Kavik River** 23.48 30 P P 19 50 26.7 +1.1
baz=240
I27K **Kandik River** 23.68 40 P P 19 50 27.3 -0.3

baz=253
YUK8 Steele Glacier 23.70 51 P P 19 50 28.3 +0.2
baz=265,SNR=6.3
PNL Peninsula 23.81 55 P P 19 50 29.6 +0.8
PNL Peninsula 23.81 55 P P 19 50 29.2 +0.4
baz=269
H27K Steamboat Moun 23.90 39 P P 19 50 30.3 +0.7
baz=252
G27K Doyon Strip 24.03 37 P P 19 50 30.8 0.0
baz=251
O29M Mount Kennedy 24.23 54 P P 19 50 32.6 -0.2
baz=268
DAWY Dawson 24.25 44 P P 19 50 33.2 +0.5
baz=259,SNR=15
YUK4 Talbot Arm 24.25 51 P P 19 50 33.6 +0.7
baz=266,SNR=8.2
I28M Miner Creek 24.31 41 IAmb IAmb 19 50 34.4
comp=Z,6.4nm,0.8s
I28M Miner Creek 24.31 41 P P 19 50 33.8 +0.4
baz=256,SNR=11
YUK6 Outpost Mounta 24.36 52 P P 19 50 34.3 +0.2
baz=267
M29M Somme Creek 24.43 48 P P 19 50 34.9 +0.4
baz=264
C27K Jago River 24.45 30 P P 19 50 35.0 +0.6
baz=242
E27K Coleen River 24.54 34 P P 19 50 35.6 +0.3
baz=248
P29M Windy Craggy 24.65 55 P P 19 50 36.8 +0.3
baz=271
L29M L29M 24.66 47 IAmb IAmb 19 51 14.1
comp=Z,6.5nm,1.2s
L29M L29M 24.66 47 P P 19 50 37.2 +0.7
baz=263
HYT Haines Junctio 24.78 52 IAmb IAmb 19 50 43.2
comp=Z,9.0nm,1.4s
HYT Haines Junctio 24.78 52 P P 19 50 38.5 +0.8
baz=268
F28M Old Crow 24.95 36 P P 19 50 40.1 +1.0
baz=251
I29M Ogilvie Camp, 24.96 42 P P 19 50 38.2 -1.0
baz=258
N30M Aishikik Lake 25.00 51 P P 19 50 39.7 +0.1
N30M Aishikik Lake 25.00 51 P P 19 50 39.8 +0.2
baz=267
K29M Barlow Dome 25.02 45 IAmb IAmb 19 50 44.0
comp=Z,3.0nm,0.6s
K29M Barlow Dome 25.02 45 P P 19 50 40.4 +0.5
baz=262
P30M Million Dollar 25.04 54 P P 19 50 39.6 -0.4
baz=270
H29M Whitestone 25.13 40 P P 19 50 41.0 +0.3
baz=256
D27M Malcolm River 25.16 32 P P 19 50 41.4 +0.4
baz=247
M30M Minto, Yukon 25.21 48 P P 19 50 41.6 +0.1
baz=265
E28M Babbage River 25.40 34 P P 19 50 43.6 +0.5
baz=250
G29M Pine Creek 25.43 38 IAmb IAmb 19 50 48.5
comp=Z,9.9nm,1.4s
G29M Pine Creek 25.43 38 P P 19 50 43.8 +0.3
baz=255
S31K Pelican 25.53 59 P P 19 50 43.6 -0.7
baz=275
J30M Hart River 25.64 44 P 19 50 45.4 -0.1
J30M IAmb IAmb 19 50 50.1
comp=Z,2.9nm,0.6s
J30M Hart River 25.64 44 P P 19 50 45.4 -0.1
baz=262
EPYK Eagle Plains 25.81 40 IAmb IAmb 19 50 48.1
comp=Z,5.1nm,0.8s
EPYK Eagle Plains 25.81 40 P P 19 50 46.7 -0.2
baz=257
WHY Whitehorse 26.07 53 P P 19 50 48.9 -0.4
baz=271
SIT Sitka 26.12 61 P P 19 50 48.6 -1.1
baz=278
G30M tAoh Zrai Nji 26.14 38 P P 19 50 50.1 +0.3
baz=257
F30M Barrier River 26.45 37 IAmb IAmb 19 50 57.8
comp=Z,6.2nm,1.1s
F30M Barrier River 26.45 37 P P 19 50 52.3 -0.2
baz=256
S32K Killisnoo 26.47 60 P P 19 50 53.0 +0.3
baz=278
H31M Peel River 26.66 41 P P 19 50 54.8 +0.3
baz=261
P32M Atlin 26.70 55 P P 19 50 54.9 0.0
baz=274
G31M Satah River 26.88 39 P P 19 50 56.4 +0.1
baz=259
P33M Teslin, Yukon 27.11 54 P P 19 50 58.1 -0.5
baz=274
F31M Tsiigehtchic 27.18 38 P P 19 50 59.1 +0.1
baz=258
Q32M Nakina River 27.50 56 P P 19 51 02.2 0.0
baz=276
CRAG Craig 27.62 64 P P 19 51 03.0 -0.1
baz=282
MMPY Sheldon Lake, 27.77 48 P P 19 51 04.6 +0.2
baz=270
R33M Jennings River 28.11 55 P P 19 51 07.8 +0.2
baz=277
TGTN Hyland Airport 29.23 51 P P 19 51 17.6 +0.3
baz=275
TOAD Toad River Com 31.12 55 P P 19 51 34.7 +0.7
baz=282
KOTAN Kotaneelee Air 31.46 53 P P 19 51 36.7 -0.2
baz=280
MJAR Matsushiro Arr 33.06 259 P P 19 51 51.8 +0.7
comp=Z,0.8nm,0.6s,baz=49,slow=6.0,SNR=4.8
comp=Z,0.8nm,0.6s
H11N2 WAKE ISLAND Hy 33.76 202 T T 20 27 57.6
baz=17
H11N3 WAKE ISLAND Hy 33.77 202 T T 20 27 53.4
baz=17
H11N1 WAKE ISLAND Hy 33.78 202 T T 20 27 46.4
baz=17
YKA Yellowknife Ar 35.42 47 P P 19 52 11.4 +0.2
comp=Z,1.1nm,0.7s,baz=302,slow=9.7,SNR=4.5
comp=Z,1.1nm,0.7s
BOZ Bozeman (W) 44.06 70 P P 19 53 22.4 -0.5
NVAR Mina Array Bea 44.31 82 P P 19 53 26.4 +1.4
NVAR Mina Array Bea 44.31 82 P P 19 53 26.7 +1.7
comp=Z,2.7nm,0.7s,baz=295,slow=7.3,SNR=7.0
comp=Z,2.7nm,0.7s
DSP Deep Springs 45.18 83 P P 19 53 31.9 +0.3
TPH Tonopah 45.20 82 P P 19 53 31.8 -0.2
TPH IAmb IAmb 19 53 34.8
comp=Z,3.6nm,0.8s
R11B Troy Canyon, C 46.02 81 P 19 53 38.2 -0.3
HHC Hu-ho-hao-te 46.71 284 eP P 19 53 45.0 +1.3
HHC pmax pmax
comp=Z,5.0nm,0.6s
HHC pmax pmax
comp=Z,300nm,5.1s
PDAR Pinedale Array 46.92 72 P 19 53 45.0 -0.5
PDAR Pinedale Array 46.92 72 P P 19 53 45.5 +0.1
comp=Z,1.6nm,0.5s,baz=313,slow=3.3,SNR=21
comp=Z,1.6nm,0.5s
PRN Pahroc Range 46.95 81 P P 19 53 45.1 -0.5
PRN IAmb IAmb 19 53 47.9
comp=Z,3.9nm,0.8s
TMUT Trail Mountain 48.08 77 IAmb IAmb 19 53 56.9
comp=Z,3.0nm,0.6s
SRU San Rafael Swe 48.61 76 IAmb IAmb 19 54 00.2
comp=Z,2.5nm,0.5s
U15A North Rim 49.27 80 P 19 54 04.9 +1.3
SPITS Spitsbergen Ar 49.70 356 P P 19 54 05.9 0.0
comp=Z,0.7nm,0.3s,baz=41,slow=7.7,SNR=8.0
comp=Z,0.7nm,0.3s
PV18 Skein Mesa, Pa 50.13 76 P 19 54 10.0 0.0
PV18 IAmb IAmb 19 54 12.1
comp=Z,6.9nm,1.1s
PV02 Paradox Valley 50.26 76 P P 19 54 11.3 +0.3
PV02 IAmb IAmb 19 54 12.4
comp=Z,4.6nm,0.6s
TXAR Lajitas Array 59.39 81 P P 19 55 17.2 +0.6
comp=Z,0.8nm,0.7s,baz=277,slow=3.5,SNR=7.8
comp=Z,0.8nm,0.7s
FINES FINESS Array B 64.99 346 P P 19 55 52.1 -1.1
comp=Z,0.4nm,0.3s,baz=22,slow=7.0,SNR=6.3
comp=Z,0.4nm,0.3s
NOA NORSAR Array B 66.95 354 P P 19 56 05.4 -0.3
comp=Z,0.3nm,0.8s,baz=12,slow=6.8,SNR=4.2
comp=Z,0.3nm,0.8s
HFS Hagfors 67.67 353 P P 19 56 09.5 -0.7
comp=Z,0.8nm,0.6s,baz=46,slow=4.2,SNR=1.8
comp=Z,0.8nm,0.6s
AKASG Malin Array Be 74.69 341 P P 19 56 52.0 -0.6
comp=Z,0.3nm,0.4s,baz=21,slow=6.6,SNR=2.8
comp=Z,0.3nm,0.4s
WRA Warramunga Arr 81.88 223 P P 19 57 32.7 +0.3
comp=Z,0.4nm,0.4s,baz=34,slow=6.1,SNR=5.1
comp=Z,0.4nm,0.4s
ASAR Alice Springs 85.38 221 P P 19 57 51.0 +0.8
comp=Z,0.3nm,0.6s,baz=24,slow=4.8,SNR=5.2
comp=Z,0.3nm,0.6s

*NEIC **09** 19:48:50.2±1.5, 35.13N±0.02×95.37W±0.01, h5km±1km, mb_Lg2.4/17, ML2.5/12, ML2.2/5, Error ellipse: s-maj=3.1km s-min=2.9km az=160.0*
NEIC 09 19:48:50.1±1.5, 35.130N±0.009×95.35W±0.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=67.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	19 49 06.2	-0.3
TUL3					Sg	19 49 17.7	+0.1
RLO	**Rose Lookout**	**1.07**	**14**		Pg	19 49 09.9	-0.7
RLO				Sg	Sg	19 49 24.1	-0.3
DEOK	**Depew**	**1.17**	**308**		Pg	19 49 12.3	-0.3
DEOK					Sg	19 49 27.8	-0.1
DEOK				IAML		19 49 33.2	
	comp=E,62nm,0.1s						
DEOK				IAML		19 49 34.8	
	comp=N,62nm,0.3s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	19 49 16.9	-0.3
OK052					Sg	19 49 36.9	-0.2
QUOK	**Quay**	**1.52**	**314**		Pn	19 49 17.9	0.0
QUOK					Sg	19 49 38.6	-0.1
U38A	**Gravette**	**1.52**	**31**		Pn	19 49 18.2	+0.2
U38A				Sg	Sn	19 49 38.1	-0.2
MIAR	**Mount Ida**	**1.57**	**111**	Pg	Pb	19 49 19.9	+0.2
MIAR					Sb	19 49 40.0	+0.2
HHAR	**Hobbs**	**1.62**	**45**		Pn	19 49 19.6	+0.2
HHAR				Sg	Sb	19 49 41.4	0.0
FNO	**Franklin**	**1.68**	**275**		Pn	19 49 19.4	-0.7
OK029	**Liberty Lake**	**1.84**	**292**		Pn	19 49 21.8	-0.5
Z38A	**Mt. Pleasant**	**1.89**	**171**		Pn	19 49 23.7	+0.7
T35A	**Sooner Cattle**	**2.02**	**333**		Pn	19 49 25.4	+0.6
X40A	**Basin Creek Fa**	**2.17**	**106**	IAmb_Lg		19 50 03.1	
	comp=Z,15nm,0.7s						
UALR	**University of**	**2.50**	**97**	IAmb_Lg		19 50 11.1	
	comp=Z,17nm,1.1s						
WHAR	**Wooly Hollow**	**2.51**	**85**		Pn	19 49 29.7	-1.8
FCAR	**Ozark Folk Cen**	**2.74**	**73**		Pn	19 49 34.5	-0.2
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	19 49 34.8	-1.3
PLPT	**Palo Pinto**	**3.38**	**228**	IAmb_Lg		19 50 39.1	
	comp=Z,17nm,0.7s						
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		19 51 08.0	
	comp=Z,4.5nm,0.7s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		19 50 57.4	
	comp=Z,10nm,0.8s						
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		19 51 10.5	
	comp=Z,7.1nm,1.2s						
P38A	**Dawn**	**4.71**	**17**		Pn	19 49 57.5	-4.3
P38A				IAmb_Lg		19 51 17.9	
	comp=Z,6.0nm,0.9s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		19 51 40.5	
	comp=Z,7.5nm,0.9s						

*IDC **09** 19:56:56.9±7.8, 36.73N×71.34E, h233km±49km, mb3.3/5, mbtmp4.0/10, MS3.3/1, Error ellipse: s-maj=76.3km s-min=34.6km az=172.0*
*NEIC **09** 19:56:56.6±1.8, 36.72N±0.04×71.19E±0.08, h240km±6km, mb4.2/15, Error ellipse: s-maj=9.7km s-min=5.4km az=74.0*
*NNC **09** 19:57:00.1±2.9, 36.99N×70.95E, h209km±30km, mb3.0, mpv4.0, Error ellipse: s-maj=27.8km s-min=17.6km az=17.0*
ISC 09 19:56:56.3±0.5, 36.67N±0.05×71.29E±0.06, h250km, n66, σ2s23/80, mb4.0/11, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.45**	**342**		Pn	19 57 42.4	-0.8
GAR				Sn	S	19 58 15.1	-5.1
SIMJ	**Simiganj**	**2.68**	**318**		Pn	19 57 44.3	-1.2
SIMJ				Sn	S	19 58 19.0	-5.5
KBL	**Kabul**	**2.80**	**221**	Pn	Pn	19 57 46.1	-0.9
KBL				Sn	S	19 58 23.6	-3.4
NIL	**Nilore**	**3.42**	**151**		Pn	19 57 54.2	+0.7
NIL				Sn	S	19 58 36.0	-2.8
ARSB	**Arslanbob**	**4.83**	**15**		Pn	19 58 09.5	-0.6
ARSB				Sn	S	19 59 04.2	-4.7
JMU	**Jammu**	**4.94**	**142**	eP	Pn	19 58 11.0	-0.4
JMU				eS	S	19 59 07.8	-3.5
JMU				IAML		19 59 10.1	
	comp=N,148nm,0.6s						
JMU				IAML		19 59 10.4	
	comp=E,179nm,0.2s						
UCH	**Uchtor**	**6.09**	**23**	P	Pn	19 58 26.6	+0.7
	SNR=9.6						
EKS2	**Erkin-Say**	**6.28**	**17**	P	Pn	19 58 28.1	+0.1
	SNR=9.4						
AAK	**Ala-Archa**	**6.45**	**22**	P	Pn	19 58 30.4	+0.2
	comp=E,19nm,0.4s,baz=191,slow=5.4,SNR=18						
AAK				S	S	19 59 43.0	-2.3
	comp=E,6.4nm,0.3s,baz=138,slow=23,SNR=8.3						
AAK	**Ala-Archa**	**6.45**	**22**	P	Pn	19 58 30.9	+0.7
	SNR=5.1						
AAK	**Ala-Archa**	**6.45**	**22**	⇑P	Pn	19 58 30.3	+0.2
	comp=E,6.9nm,0.5s						
AAK				⇑S	S	19 59 43.0	-2.3
	comp=E,18nm,0.9s						
KK31	**Karatay Array**	**6.45**	**355**		Pn	19 58 29.3	-0.7
KK31				Sn	S	19 59 39.1	-6.0
KK31	**Karatay Array**	**6.45**	**355**	P	Pn	19 58 29.5	-0.5
	comp=E,6.5nm,0.3s,baz=175,slow=12,SNR=92						
KK31				⇑S	S	19 59 40.0	-5.1
	comp=E,15nm,0.5s,baz=182,slow=19,SNR=11						
KKAR	**Karatay Array**	**6.45**	**355**		Pn	19 58 29.5	-0.5
KBK	**Karagaybulak**	**6.61**	**24**	P	Pn	19 58 32.7	+0.6
	SNR=8.1						
FRU1	**Bishkek**	**6.65**	**22**	Pn	Pn	19 58 33.4	+0.9
ULHL	**Ulahoi**	**6.76**	**33**	P	Pn	19 58 34.1	+0.1
	SNR=9.0						
CHMS	**Chumysh**	**6.86**	**22**	P	Pn	19 58 35.6	+0.5
	SNR=14						
USP	**Ospenovka**	**7.04**	**20**	P	Pn	19 58 37.2	-0.1
	SNR=15						
KDJ	**Kajisay**	**7.11**	**38**	Pn	Pn	19 58 38.3	-0.1
TARG	**Taragay, Kyrgy**	**7.15**	**43**	Pn	Pn	19 58 38.4	-0.8
SMLA	**Simla**	**7.38**	**137**	eP	Pn	19 58 42.9	+1.1
SMLA				eS	S	20 00 02.7	-3.8
SMLA				IAML		20 00 04.2	
	comp=E,226nm,0.4s						
SMLA				IAML		20 00 04.2	
	comp=N,186nm,0.4s						
CGRH	**CHANDIGARH**	**7.48**	**141**	eP	Pn	19 58 46.1	+3.0
CGRH				eS	S	20 00 05.8	-3.2
CGRH				IAML		20 00 06.5	
	comp=N,274nm,0.3s						
CGRH				IAML		20 00 06.6	
	comp=E,196nm,0.2s						
PRZ	**Przheval'sk**	**7.99**	**41**	Pn	Pn	19 58 49.8	+0.2
DDI	**Dehra Dun**	**8.49**	**136**	eP	Pn	19 58 58.8	+2.9
DDI				eS	S	20 00 28.6	-3.7
DDI				IAML		20 00 29.0	
	comp=E,381nm,0.3s						
DDI				IAML		20 00 29.0	
	comp=N,398nm,0.3s						
TKRD	**Thakurdwara**	**9.83**	**138**	eP	Pn	19 59 16.7	+3.9
TKRD				eS	S	20 00 59.0	-4.5
TKRD				IAML		20 01 00.7	
	comp=N,299nm,0.3s						
TKRD				IAML		20 01 00.9	
	comp=E,160nm,0.5s						
PTH	**Pithoragarh**	**10.32**	**131**	eP	P	19 59 23.9	-0.5
PTH				eS	S	20 01 09.2	-5.9
PTH				IAML		20 01 10.8	
	comp=N,120nm,0.4s						
MAKZ	**Makanchi**	**12.88**	**35**	Pn	Pn	19 59 50.1	-0.6
MK31	**Makanchi Array**	**13.02**	**36**	Pn	Pn	19 59 52.6	+0.2
MK31	**Makanchi Array**	**13.02**	**36**	P	P	19 59 57.2	+3.2
	comp=N,0.3nm,0.4s,baz=206,slow=9.7,SNR=6.0						
MKAR	**Makanchi Array**	**13.02**	**36**	Pn	Pn	19 59 52.6	+0.2
MKAR	**Makanchi Array**	**13.02**	**36**	P	Pn	19 59 51.7	-0.6
	comp=N,0.3nm,0.4s,baz=213,slow=11,SNR=6.5						
KURBB	**Kurchatov Arra**	**14.89**	**18**	P	P	20 00 13.2	-1.4
	comp=N,0.4nm,0.6s,baz=208,slow=12,SNR=3.6						
AB31	**Akbulak array**	**15.05**	**330**		P	20 00 15.9	-0.5
AB31	**Akbulak array**	**15.05**	**330**	P	Pn	20 00 16.1	-0.8
	comp=N,3.3nm,0.6s,baz=138,slow=13,SNR=64						
ABKAR	**Akbulak array**	**15.05**	**330**		Pn	20 00 16.0	-0.8
EVN	**Everest**	**15.73**	**119**	P	P	20 00 22.9	-2.0
EVN				IAmb	IAmb	20 00 55.9	
	comp=Z,8.7nm,0.6s						
BVA0	**Borovoye Array**	**16.37**	**358**	P	Pn	20 00 33.9	+1.4
	comp=Z,1.4nm,0.6s,baz=158,slow=11,SNR=8.3						
BVAR	**Borovoye Array**	**16.37**	**358**	P	Pn	20 00 33.1	+0.6
	comp=Z,1.3nm,0.4s,baz=170,slow=9.6,SNR=7.1						
AKTO	**Aktyubinsk**	**16.75**	**329**	P	Pn	20 00 36.8	-0.3
	comp=Z,7.6nm,0.4s,baz=137,slow=11,SNR=38						
AKTO	**Aktyubinsk**	**16.75**	**329**	⇓P	Pn	20 00 36.8	-0.3
	comp=Z,2.8nm,0.4s						
UOSS	**Minazif**	**17.42**	**232**	P	P	20 00 42.0	-0.7
UOSS				IAmb	IAmb	20 00 54.9	
	comp=Z,8.1nm,1.0s						
LSA	**Lhasa**	**18.01**	**107**	P	P	20 00 48.9	-0.6
ZAA0	**Zalesovo Array**	**19.66**	**24**	P	P	20 01 05.8	-0.7
ZALV	**Zalesovo Beam**	**19.66**	**24**	P	P	20 01 05.9	-0.6
ZALV	**Zalesovo Beam**	**19.66**	**24**	P	P	20 01 07.7	+1.2
	comp=Z,2.1nm,0.3s,baz=216,slow=11,SNR=12						
ARTI	**Arti**	**21.56**	**340**	P	P	20 01 25.6	-0.4
ARTI	**Arti**	**21.56**	**340**	P	P	20 01 27.9	+2.0
	comp=Z,2.6nm,0.4s,baz=134,slow=11,SNR=5.8						
	comp=Z,2.6nm,0.4s						
KIRV	**Kirov**	**26.19**	**334**	LR	LR	20 12 28.5	
	comp=Z,67nm,19.4s,baz=195,slow=36						
FIA1	**FINESS Array S**	**37.47**	**326**	P	P	20 03 46.8	+1.1
FIA1				IAmb	IAmb	20 04 20.1	
	comp=Z,15nm,1.3s						
FINES	**FINESS Array B**	**37.47**	**326**	P	P	20 03 47.0	+1.4
FINES	**FINESS Array B**	**37.47**	**326**	P	P	20 03 47.3	+1.6
	comp=Z,0.7nm,0.3s,baz=113,slow=8.8,SNR=11						
	comp=Z,0.7nm,0.3s						
KEV	**Kevo**	**40.73**	**338**	P	P	20 04 13.9	+1.5
ARCES	**ARCESS Array B**	**41.08**	**337**	P	P	20 04 17.5	+2.2
ARCES				IAmb	IAmb	20 04 41.0	
	comp=Z,18nm,1.4s						
ARCES	**ARCESS Array B**	**41.08**	**337**	P	P	20 04 17.3	+2.0
	comp=Z,0.7nm,0.4s,baz=116,slow=8.5,SNR=16						
	comp=Z,0.7nm,0.4s						
GERES	**GERESS Array B**	**43.02**	**305**	P	P	20 04 31.8	+0.4
HFS	**Hagfors**	**43.07**	**322**	P	P	20 04 33.1	+1.6
	comp=Z,1.2nm,0.5s,baz=102,slow=12,SNR=9.4						
	comp=Z,1.2nm,0.5s						
NC303	**NORSAR Array S**	**44.33**	**323**	P	P	20 04 42.6	+1.2
NC303				IAmb	IAmb	20 04 52.4	
	comp=Z,12nm,1.4s						
NB201	**NORSAR Array S**	**44.34**	**323**	P	P	20 04 42.4	+0.8
NB201				IAmb	IAmb	20 04 48.7	
	comp=Z,12nm,1.4s						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	P	20 04 43.1	+1.2
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.38**	**323**	P	P	20 04 43.2	+1.2
	comp=Z,0.6nm,0.6s,baz=97,slow=7.7,SNR=4.6						
	comp=Z,0.6nm,0.6s						
NC204	**NORSAR Array S**	**44.62**	**323**	P	P	20 04 45.1	+1.3
NC204				IAmb	IAmb	20 05 06.4	
	comp=Z,11nm,1.4s						
TIXI	**Tiksi**	**45.53**	**22**	P	P	20 04 52.2	+1.5
TIXI				IAmb	IAmb	20 05 24.2	
	comp=Z,3.8nm,0.8s						
D19K	**Kuna River**	**68.91**	**17**	P	P	20 07 36.0	+2.2
D19K				IAmb	IAmb	20 07 45.4	
	comp=Z,9.0nm,1.3s						
H23K	**Yukon River**	**73.06**	**16**	P	P	20 08 00.1	+1.4
LBTB	**Lobatse**	**74.96**	**222**	P	P	20 08 11.6	+1.3

*IDC **09** 20:10:12.4±1.5, 4.60S×12.32W, h0km, mb3.9/8, mbtmp3.9/8, MS3.7/51, Error ellipse: s-maj=59.8km s-min=23.2km az=91.0*
*NEIC **09** 20:10:12.6±1.3, 4.85S±0.1×12.3W±0.1, h10km±1km, mb4.7/15, Error ellipse: s-maj=24.0km s-min=16.6km az=129.0*
ISC 09 20:10:12.5±0.6, 4.75S±0.1×12.3W±0.1, h10km, n77, σ1s25/27, mb4.5/15, MS3.7/50, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**3.75**	**215**	T	T	20 15 09.8	
	baz=34,slow=74,SNR=1179						
H10N1	**ASCENSION HYDR**	**3.76**	**215**	T	T	20 15 12.1	
	baz=34,slow=74,SNR=1873						
ASCN	**Ascension**	**3.77**	**213**	Pn	Pn	20 11 09.2	-1.5
H10N3	**ASCENSION HYDR**	**3.77**	**215**	T	T	20 15 12.7	
	baz=34,slow=74,SNR=984						
DBIC	**Dimbokro**	**13.56**	**33**	LR	LR	20 17 33.1	
	comp=Z,303nm,20.3s,baz=234,slow=33						
TORD	**Torodi Ar. Bea**	**22.57**	**38**	P	P	20 15 09.8	-3.3
TORD	**Torodi Ar. Bea**	**22.57**	**38**	P	P	20 15 12.9	-0.2
	4.6nm,0.8s,baz=227,slow=9.6,SNR=4.7						
TORD				LR	LR	20 22 33.1	
	comp=Z,195nm,20.4s,baz=201,slow=33						
	4.6nm,0.8s						
RCBR	**Riachuelo**	**23.52**	**266**	LR	LR	20 22 06.7	
	comp=Z,115nm,21.4s,baz=86,slow=30						
TSUM	**Tsumeb**	**32.50**	**119**	LR	LR	20 27 19.8	
	comp=Z,348nm,20.9s,baz=326,slow=32						
BDFB	**Brasilia**	**36.71**	**250**	LR	LR	20 29 35.7	
	comp=Z,65nm,20.9s,baz=87,slow=32						
MDT	**Midelt**	**38.06**	**11**	LR	LR	20 31 35.5	
	comp=Z,87nm,20.2s,baz=232,slow=34						
SPB	**Sao Paulo**	**38.69**	**238**	P	P	20 17 36.2	-0.6
PHPEN	**Phepeng**	**39.51**	**125**	P	P	20 17 42.6	-1.2
PHPEN				IAmb	IAmb	20 17 47.5	
	comp=Z,11nm,1.0s						
LSZ	**Lusaka**	**41.16**	**108**	LR	LR	20 32 44.1	
	comp=Z,221nm,20.3s,baz=298,slow=33						
LPHEP	**Lephephe**	**41.20**	**120**	P	P	20 17 56.8	-1.1
LPHEP				IAmb	IAmb	20 18 21.4	
	comp=Z,13nm,1.3s						
MDP	**Montagnes des**	**41.45**	**283**	LR	LR	20 31 48.2	
	comp=Z,80nm,19.2s,baz=97,slow=31						
LBTB	**Lobatse**	**41.59**	**123**	LR	LR	20 33 40.0	
	comp=Z,108nm,18.5s,baz=290,slow=34						
MATP	**Matopo**	**42.61**	**115**	LR	LR	20 33 22.3	
	comp=Z,94nm,21.4s,baz=270,slow=33						
BOSA	**Boshof**	**42.80**	**128**	P	P	20 18 10.0	-0.9
BOSA				IAmb	IAmb	20 18 15.5	
	comp=Z,18nm,1.3s						
BOSA	**Boshof**	**42.80**	**128**	P	P	20 18 13.2	+2.3
	comp=Z,3.0nm,0.8s,baz=260,slow=9.5,SNR=3.8						
BOSA				LR	LR	20 34 04.3	
	comp=Z,135nm,19.1s,baz=280,slow=33						
	comp=Z,3.0nm,0.8s						
ESDC	**Sonseca Array**	**44.86**	**9**	P	P	20 18 28.1	+1.0
	comp=Z,0.5nm,0.8s,baz=317,slow=28,SNR=4.3						
ESDC				LR	LR	20 37 07.4	
	comp=Z,60nm,18.2s,baz=174,slow=36						
	comp=Z,0.5nm,0.8s						
KEST	**Kesra**	**45.10**	**25**	LR	LR	20 37 40.4	
	comp=Z,120nm,18.2s,baz=310,slow=37						
CPUP	**Villa Florida**	**48.05**	**239**	LR	LR	20 36 06.4	
	comp=Z,19nm,21.0s,baz=300,slow=32						
BOAV	**Boa Vista**	**48.69**	**277**	P	P	20 18 55.5	-2.0
BOAV				IAmb	IAmb	20 19 06.9	
	comp=Z,12nm,1.1s						
VAE	**Valguarnera**	**48.82**	**28**	LR	LR	20 38 55.9	
	comp=Z,128nm,18.9s,baz=150,slow=35						
SIV	**San Ignacio**	**49.13**	**253**	LR	LR	20 37 57.3	
	comp=Z,70nm,20.8s,baz=111,slow=34						
KMBO	**Kilima Mbogo**	**49.62**	**87**	LR	LR	20 38 36.3	
	comp=Z,246nm,19.1s,baz=248,slow=34						
OSSC	**Osservatorio P**	**52.54**	**21**	P	P	20 19 24.9	-1.1
PCRV	**Puerto La Cruz**	**54.18**	**286**	LR	LR	20 39 28.1	
	comp=Z,118nm,21.9s,slow=32						
DAVOX	**Davos/Dischmat**	**54.93**	**18**	LR	LR	20 43 48.2	
	comp=Z,70nm,18.2s,baz=258,slow=37						
LPAZ	**La Paz**	**55.90**	**254**	LR	LR	20 43 36.9	
	comp=Z,61nm,20.3s,baz=64,slow=36						
BAUV	**El Baul**	**57.20**	**284**	P	P	20 20 00.1	-0.2
BAUV				IAmb	IAmb	20 20 10.3	
	comp=Z,16nm,1.1s						
SJG	**San Juan**	**57.73**	**295**	LR	LR	20 39 05.4	
	comp=Z,152nm,21.2s,baz=84,slow=30						
GERES	**GERESS Array B**	**57.99**	**20**	P	P	20 20 04.8	-0.6
GERES	**GERESS Array B**	**57.99**	**20**	P	P	20 20 06.2	+0.8

comp=Z,0.8nm,0.7s,baz=224,slow=3.7,SNR=6.0
comp=Z,0.8nm,0.7s
MMAI Mount Meron Ar 58.74 47 LR LR 20 45 25.1
comp=Z,40nm,20.7s,baz=243,slow=36
VRAC Vranov 59.40 22 LR LR 20 47 22.8
comp=Z,52nm,18.3s,baz=214,slow=38
ASF Jabal al Asfar 59.42 48 LR LR 20 45 54.8
comp=Z,40nm,18.4s,baz=328,slow=36
OPO Ambohidratompo 59.61 109 LR LR 20 43 21.3
comp=Z,47nm,19.9s,baz=20,slow=33
SDV Santo Domingo 59.70 283 LR LR 20 43 49.8
comp=Z,78nm,19.6s,baz=118,slow=34
MLR Muntele Rosu 60.52 30 P **P 20 20 22.8 -0.2**
MLR IAmb IAmb 20 20 31.2
comp=Z,8.7nm,1.3s
MLR Muntele Rosu 60.52 30 LR LR 20 47 44.5
comp=Z,61nm,19.5s,baz=234,slow=37
BRTR Keskin Array B 61.17 39 P **P 20 20 27.6 0.0**
BRTR Keskin Array B 61.17 39 P **P 20 20 28.6 +1.0**
comp=Z,0.2nm,0.3s,baz=238,slow=6.9,SNR=5.8
comp=Z,0.2nm,0.3s
BNN Bunyan 62.11 41 P **P 20 20 33.2 -0.8**
BNN IAmb IAmb 20 20 42.2
comp=Z,4.6nm,0.9s
ROSC El Rosal 62.66 278 LR LR 20 45 56.0
comp=Z,184nm,20.1s,baz=77,slow=34
NNA Nana 64.13 259 LR LR 20 48 03.3
comp=Z,83nm,18.4s,baz=85,slow=35
ATAH Atahualpa 65.73 264 LR LR 20 49 05.6
comp=Z,95nm,18.3s,baz=94,slow=36
AKASG Malin Array Be 65.73 28 LR LR 20 51 30.9
comp=Z,46nm,18.9s,baz=240,slow=38
GURO Guroymak-BITLI 66.14 44 P **P 20 21 00.1 -0.4**
SNAA Sanae 67.11 177 P **P 20 21 08.0 +2.0**
comp=Z,1.5nm,1.0s,baz=280,slow=11,SNR=3.9
SNAA LR LR 20 45 18.2
comp=Z,51nm,18.8s,baz=324,slow=31
comp=Z,1.5nm,1.0s
HFS Hagfors 67.84 14 P **P 20 21 10.3 -0.4**
comp=Z,0.9nm,0.6s,baz=198,slow=4.2,SNR=5.0
HFS LR LR 20 53 16.0
comp=Z,29nm,18.6s,baz=202,slow=38
comp=Z,0.9nm,0.6s
NC602 NORSAR Array S 67.89 12 P **P 20 21 10.4 -0.6**
NC602 IAmb IAmb 20 21 17.7
comp=Z,9.9nm,1.4s
NOA NORSAR Array B 68.10 12 LR LR 20 52 30.3
comp=Z,9.4nm,19.4s,baz=210,slow=37
GNI Garni 68.73 44 LR LR 20 53 03.5
comp=Z,19nm,19.6s,baz=230,slow=38
KBZ Khabaz 69.16 40 LR LR 20 54 45.6
comp=Z,21nm,20.2s,baz=196,slow=39
NRS Narsarsuaq 70.55 344 P **P 20 21 27.3 -0.1**
FINES FINESS Array B 72.34 18 P **P 20 21 38.7 +0.5**
FINES FINESS Array B 72.34 18 P **P 20 21 39.0 +0.8**
comp=Z,2.1nm,0.8s,baz=176,slow=3.1,SNR=6.2
comp=Z,2.1nm,0.8s
FIA1 FINESS Array S 72.34 18 P **P 20 21 38.9 +0.7**
FIA1 IAmb IAmb 20 21 57.5
comp=Z,28nm,1.4s
JTS Las Juntas de 73.86 282 LR LR 20 54 29.4
comp=Z,37nm,18.9s,baz=134,slow=36
SADO Sadowa 77.19 318 LR LR 20 49 16.9
comp=Z,114nm,20.7s,baz=140,slow=30
O52A Adamsville 77.61 313 P **P 20 22 10.2 +1.1**
TKL Tuckaleechee C 77.86 308 LR LR 20 48 30.5
comp=Z,58nm,21.5s,baz=108,slow=30
ARCES ARCESS Array B 78.46 13 LR LR 20 59 29.2
comp=Z,35nm,18.0s,baz=224,slow=38
KIRV Kirov 79.78 28 LR LR 20 58 42.4
comp=Z,24nm,19.4s,baz=237,slow=36
MAW Mawson 80.01 158 LR LR 20 55 24.0
comp=Z,48nm,18.0s,baz=302,slow=34
ARTI Arti 83.40 32 LR LR 21 01 56.1
comp=Z,26nm,18.8s,baz=166,slow=37
QSPA South Pole Qui 85.36 180 LR LR 20 56 52.0
comp=Z,39nm,18.1s,baz=215,slow=33
AAK Ala-Archa 90.83 47 LR LR 21 09 34.4
comp=Z,50nm,18.1s,baz=218,slow=39
TXAR Lajitas Array 93.47 299 LR LR 21 01 15.5
comp=Z,17nm,21.7s,baz=70,slow=33
PALK Pallekele 93.57 83 LR LR 21 02 29.2
comp=Z,90nm,19.2s,baz=263,slow=34
ANMO Albuquerque 96.09 305 LR LR 21 01 38.3
comp=Z,92nm,19.6s,baz=183,slow=32
VNDA Vanda 97.79 179 LR LR 21 03 12.0
comp=Z,45nm,18.9s,baz=188,slow=32
PDAR Pinedale Array 98.52 312 LR LR 21 02 08.2
comp=Z,48nm,20.4s,baz=88,slow=32
LPIG La Paz 99.21 294 LR LR 21 04 34.6
comp=Z,22nm,20.0s,baz=30,slow=33
ASAR Alice Springs 136.61 132 PKhKP PKPpre 20 29 29.7
comp=Z,0.5nm,0.8s,baz=223,slow=2.1,SNR=4.3
ASAR PKP **PKiKP 20 29 39.5 +1.8**
comp=Z,0.4nm,0.9s,baz=354,slow=1.3,SNR=4.5

*UCR **09** 20:48:47.8±1.2, 10°.18N×86°.53W, h7km±14km, MW4.4*
*CATAC **09** 20:48:49.4±0.4, 10°N±3°×8°6W±°, h5km, M3.5/18, MLv3.5/18, Error ellipse: s-maj=6.3km s-min=3.4km az=36.0, confirmed*
ISC 09 20:48:50.5±1.4, 10°.20N±0°.05×86°.36W±0°.06, h17km, n59, σ0.75/62, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUD3	**Juan Diaz 3**	**0.81**	**92**	*eP*	**Pn**	**20 49 06.8**	**-0.4**
ALIBA	**Liberia Airpor**	**0.90**	**64**	*eP*	**Pn**	**20 49 08.4**	**+0.1**
INDI	**Punta indio, G**	**0.91**	**111**	P	**Pn**	**20 49 08.8**	**+0.3**
INDI	**Punta indio, G**	**0.91**	**111**	S	**Sn**	**20 49 20.7**	**-0.5**
ELI1	**Hacienda Flor**	**0.91**	**61**	*eP*	**Pn**	**20 49 08.9**	**+0.2**
ELI1				*eS*	**Sn**	**20 49 23.6**	**+2.3**
ELI1	**Hacienda Flor**	**0.91**	**61**	P	**Pn**	**20 49 08.8**	**+0.2**
ELI1	**Hacienda Flor**	**0.91**	**61**	S	**Sg**	**20 49 20.6**	**+0.2**
CMARA	**Lajas Hojancha**	**0.94**	**101**	S	**Sg**	**20 49 21.2**	**-0.1**
CMARA	**Lajas Hojancha**	**0.94**	**101**	P	**Pb**	**20 49 08.3**	**-0.2**
LAPC	**Finca la Perla**	**1.08**	**58**	*eP*	**Pb**	**20 49 09.8**	**-0.9**
GPS3	**Bodega del ICE**	**1.13**	**60**	*eP*	**Pb**	**20 49 11.4**	**-0.2**
LCRUZ	**La Cruz**	**1.14**	**39**	*eP*	**Pn**	**20 49 11.3**	**-0.4**
GPS2	**Hotel Rincn d**	**1.14**	**61**	*eP*	**Pn**	**20 49 11.4**	**-0.4**
PG27	**Guanacaste Pro**	**1.15**	**56**	*eP*	**Pn**	**20 49 11.4**	**-0.6**
GPS1	**Guardaparques**	**1.15**	**60**	*eP*	**Pn**	**20 49 11.5**	**-0.5**
BUAI	**Buenos Aires**	**1.22**	**56**	*eP*	**Pb**	**20 49 13.3**	**+0.2**
COLC	**Colonia**	**1.23**	**68**	*eP*	**Pn**	**20 49 12.7**	**-0.3**
CUI	**Cuipilapa**	**1.27**	**69**	*eP*	**Pb**	**20 49 13.7**	**-0.3**
MESS	**Mesas**	**1.27**	**65**	*eP*	**Pn**	**20 49 13.5**	**-0.1**
CARN	**Rivas**	**1.29**	**40**	*eP*	**Pn**	**20 49 13.8**	**+0.1**
CARN	**Rivas**	**1.29**	**40**	P	**Pn**	**20 49 13.8**	**+0.1**
CARN				S	**Sg**	**20 49 32.1**	**0.0**
INVE	**Universidad In**	**1.31**	**78**	*eP*	**Pb**	**20 49 14.4**	**-0.3**
MOTZ	**Rio Naranjo**	**1.36**	**69**	*eP*	**Pb**	**20 49 15.1**	**-0.5**
VMAR	**Armenia, Volca**	**1.37**	**63**	*eP*	**Pb**	**20 49 15.4**	**-0.4**
TIMP	**Tierras Morena**	**1.38**	**74**	*eP*	**Pn**	**20 49 14.9**	**-0.2**
JTS	**Las Juntas de**	**1.39**	**86**	*eP*	**Pn**	**20 49 15.3**	**+0.1**
JTS	**Las Juntas de**	**1.39**	**86**	P	**Pn**	**20 49 15.4**	**+0.1**
JTS				S	**Sg**	**20 49 36.6**	**+1.0**
TENO	**El Achiote**	**1.45**	**70**	*eP*	**Pn**	**20 49 15.8**	**-0.3**
JAPN	**Al SSO del Vol**	**1.48**	**27**	*eP*	**Pb**	**20 49 17.1**	**-0.6**
JAPN	**Al SSO del Vol**	**1.48**	**27**	P	**Pb**	**20 49 17.4**	**-0.3**
OMEN	**Al SSO del Vol**	**1.49**	**29**	P	**Pn**	**20 49 14.7**	**-1.9**
UPAL	**Upala**	**1.50**	**62**	S	**Sg**	**20 49 41.3**	**+2.3**
UPAL	**Upala**	**1.50**	**62**	P	**Pn**	**20 49 16.4**	**-0.2**
QUEB	**Quebradon, Cot**	**1.50**	**74**	*eP*	**Pb**	**20 49 17.2**	**-0.8**
MORN	**Al O del Volca**	**1.52**	**28**	P	**Pn**	**20 49 17.2**	**+0.3**
NADN	**Granada**	**1.58**	**12**	S	**Sb**	**20 49 38.4**	**-0.6**
TABAC	**Tabacon**	**1.60**	**79**	*eP*	**Pn**	**20 49 18.3**	**+0.2**
VARE2	**V. Arenal**	**1.64**	**81**	*eP*	**Pb**	**20 49 19.8**	**-0.6**
CEDE	**Laguna Cedeo**	**1.66**	**80**	*eP*	**Pb**	**20 49 20.6**	**-0.1**
SOCE	**Pocosol**	**1.73**	**84**	P	**Pn**	**20 49 18.7**	**-1.1**
NANN	**Nandasmo**	**1.75**	**8**	P	**Pn**	**20 49 21.1**	**+1.0**
COPN	**Copaltepe**	**1.98**	**354**	P	**Pn**	**20 49 23.8**	**+0.5**
COVE	**Coope Vega, Sa**	**2.00**	**75**	P	**Pn**	**20 49 23.8**	**+0.3**
ACON	**Acoyapa**	**2.11**	**33**	*eP*	**Pn**	**20 49 24.5**	**-0.6**
ACON	**Acoyapa**	**2.11**	**33**	P	**Pn**	**20 49 24.8**	**-0.3**
ACON	**Acoyapa**	**2.11**	**33**	S	**Sb**	**20 49 53.5**	**-0.9**
MOM2	**El Cardon**	**2.23**	**357**	P	**Pn**	**20 49 27.1**	**+0.4**
CNGA	**Al SSO del Vol**	**2.31**	**352**	P	**Pn**	**20 49 28.4**	**+0.5**
CNGN	**Cerro Negro**	**2.31**	**352**	P	**Pn**	**20 49 28.1**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.34**	**17**	P	**Pn**	**20 49 28.7**	**+0.4**
POLN	**Al Sur del Vol**	**2.48**	**350**	P	**Pn**	**20 49 30.2**	**+0.1**
ESPN	**Las Esperanzas**	**2.84**	**45**	P	**Pn**	**20 49 36.6**	**+1.5**
CSGN	**Cosiguina Volc**	**3.00**	**337**	P	**Pn**	**20 49 38.2**	**+0.8**
DRK0	**Durika**	**3.21**	**107**	P	**Pb**	**20 49 47.1**	**-0.2**
DRK0	**Durika**	**3.21**	**107**	S	**Sn**	**20 50 18.5**	**+0.1**
CHOHN	**Orocuina**	**3.35**	**347**	P	**Pn**	**20 49 43.2**	**+0.9**
CHOHN	**Orocuina**	**3.35**	**347**	S	**Sn**	**20 50 19.8**	**-2.0**
CNCH	**Conchagua**	**3.38**	**335**	S	**Sn**	**20 50 22.5**	**0.0**
CNCH	**Conchagua**	**3.38**	**335**	P	**Pn**	**20 49 43.2**	**+0.6**

*SOME **09** 21:00:33.2, 42°.18N×80°.58E, h20km*
*NNC **09** 21:00:33.1±1.7, 42°.22N×80°.65E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=12.0km s-min=10.6km az=39.0*
*KRNET **09** 21:00:35.6±0.1, 43°.10N×80°.37E, mb3.4*
ISC 09 21:00:34.2±1.9, 42°.31N±0°.07×80°.54E±0°.08, h10km, n28, σ1.98/42, 10C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.16**	**317**	P	**Pb**	**21 00 53.8**	**-2.6**
SHLS	58nm,0.1s			S	**Sb**	**21 01 09.0**	**-2.5**
SHLS	145nm,0.2s **Shalkode**	**1.16**	**317**	*eP*	**Pb**	**21 00 53.8**	**-2.6**
SHLS	58nm,0.1s			*eS*	**Sb**	**21 01 09.0**	**-2.5**
PDGK	145nm,0.2s **Podgornoye**	**1.27**	**323**	⇑P	**Pg**	**21 00 58.6**	**-0.1**
PDGK	6.6nm,0.3s			⇑S	**Sn**	**21 01 18.9**	**+3.4**
UZB	17nm,0.5s **Uzunbulak**	**1.39**	**307**	P	**Pg**	**21 01 01.7**	**+0.7**
UZB	13nm,0.2s			S	**Sg**	**21 01 22.4**	**+3.3**
UZB	36nm,0.1s **Uzunbulak**	**1.39**	**307**	*eP*	**Pg**	**21 01 01.7**	**+0.7**
UZB	13nm,0.2s			*eS*	**Sg**	**21 01 22.4**	**+3.3**
PRZ	36nm,0.1s **Przheval'sk**	**1.59**	**277**	⇑*i*P	**Pg**	**21 01 05.1**	**+0.3**
PRZ				⇑*i*S	**Sg**	**21 01 26.6**	**+1.1**
SATY	**Saty**	**1.74**	**296**	P	**Pg**	**21 01 08.0**	**+0.4**
SATY	28nm,0.4s			S	**Sg**	**21 01 33.5**	**+3.3**
KPKS	129nm,0.1s **Kokpek**	**1.78**	**311**	P	**Pg**	**21 01 08.1**	**-0.4**
KPKS	0.6nm,0.2s			S	**Sg**	**21 01 33.4**	**+1.7**
KDJ	33nm,0.2s **Kajisay**	**2.50**	**267**	⇓*i*P	**Pb**	**21 01 20.0**	**+0.7**
KDJ				⇓*i*S	**Sg**	**21 01 52.7**	**-1.9**
ARXS	**Arharly**	**2.74**	**315**	Pg	**Pb**	**21 01 23.3**	**-0.1**
ARXS	5.3nm,0.2s			Lg	Lg	21 01 59.4	
TNSS	19nm,0.4s **Tian-Shan**	**2.75**	**286**	*eP*	**Pb**	**21 01 23.9**	**+0.2**
TNSS	3.7nm,0.2s			*eS*	**Sg**	**21 02 00.1**	**-2.3**
KNDC	6.3nm,0.4s **Almaty**	**2.78**	**290**	⇑Pn	**Pb**	**21 01 21.5**	**-2.5**
KNDC	29nm,0.7s			⇑Lg	Lg	21 02 03.0	
TDK	44nm,0.6s **Taldyqorghan**	**3.10**	**331**	Pg	**Pb**	**21 01 30.5**	**+1.0**
TDK	9.9nm,0.2s			Lg	Lg	21 02 11.5	
TDK	29nm,0.3s **Taldyqorghan**	**3.10**	**331**	*eP*	**Pb**	**21 01 30.5**	**+1.0**
TDK	9.9nm,0.2s			*eS*	**Sg**	**21 02 11.6**	**-2.3**
MTBS	29nm,0.3s **Maitube**	**3.13**	**286**	Pg	**Pb**	**21 01 31.1**	**+1.0**
MTBS	7.0nm,0.2s			Lg	Lg	21 02 12.8	
MTBS	27nm,0.4s **Maitube**	**3.13**	**286**	*eP*	**Pb**	**21 01 31.1**	**+1.0**
MTBS	7.0nm,0.2s			*eS*	**Sg**	**21 02 12.8**	**-2.1**
KTBS	27nm,0.4s **Karatobe**	**3.15**	**298**	Pg	**Pb**	**21 01 30.3**	**-0.1**
KTBS	3.0nm,0.2s			Lg	Lg	21 02 11.4	
ULHL	53nm,0.4s **Ulahol**	**3.19**	**270**	⇓*i*P	**Pb**	**21 01 28.9**	**-2.2**
ULHL				⇓*i*S	**Sb**	**21 02 07.7**	**-2.4**
KST	**Kastek**	**3.45**	**284**	Pg	**Pb**	**21 01 37.2**	**+1.6**
KST	12nm,0.5s			Lg	Lg	21 02 23.1	
KST	29nm,0.6s **Kastek**	**3.45**	**284**	*eP*	**Pb**	**21 01 37.2**	**+1.6**
KST	12nm,0.5s			*eS*	**Sg**	**21 02 23.1**	**-1.9**
KUU	29nm,0.6s **Kurty**	**3.46**	**299**	*eP*	**Pg**	**21 01 37.5**	**-2.9**
KUU	2.7nm,0.1s			*eS*	**Sg**	**21 02 23.5**	**-1.7**
DGS	18nm,0.3s **Degeres**	**3.63**	**286**	Pg	**Pb**	**21 01 40.5**	**+2.0**
DGS	3.9nm,0.3s			Lg	Lg	21 02 28.9	
TKM2	18nm,0.4s **Tokmak 2**	**3.70**	**281**	⇑*i*P	**Pn**	**21 01 33.6**	**+2.0**
TKM2				⇑*i*S	**Sn**	**21 02 15.9**	**+0.6**
SGDS	**Sogindy**	**4.49**	**287**	Pg	**Pb**	**21 01 55.7**	**+2.5**
SGDS	2.9nm,0.4s			Lg	Lg	21 02 54.9	
MAKZ	5.9nm,0.6s **Makanchi**	**4.61**	**12**	Pn	**Pn**	**21 01 44.9**	**+0.9**
MAKZ	1.5nm,0.5s			⇓Lg	Lg	21 03 03.9	
MK31	2.8nm,0.5s **Makanchi Array**	**4.65**	**15**	⇓Pn	**Pn**	**21 01 44.2**	**-0.3**
MK31	0.1nm,0.2s,baz=202,slow=14,SNR=31			⇑Lg	Lg	21 03 04.6	
KK31	3.2nm,0.5s,baz=194,slow=28,SNR=6.8 **Karatay Array**	**7.43**	**279**	Lg	Lg	21 04 34.0	
KURK	1.9nm,0.8s,baz=101,slow=27,SNR=4.3 **Kurchatov**	**8.51**	**352**	⇑Lg	Lg	21 05 07.3	
	3.6nm,0.9s						

*NEIC **09** 21:07:18.1±1.5, 35°.680N±0°.010×117°.53W±0°.01, h10km±3km, Error ellipse: s-maj=1.8km s-min=1.5km az=115.0*
PAS 09 21:07:18.8±1.1, 35°.676N±0°.008×117°.54W±0°.01, h7km±2km, ML3.1/16, ML2.8/135(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=126.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.09**	**153**		Pg	21 07 20.9	0.0
WSHM				Sg	Sg	21 07 22.6	+0.2
WSHM				IAML		21 07 23.0	
WSHM	6μm,0.2s			IAML		21 07 23.7	
	6μm,0.1s						
CLC	**China Lake**	**0.15**	**341**		Pg	21 07 21.9	0.0
CLC				Sg	Sg	21 07 24.4	+0.3
SRTC	**Snort**	**0.17**	**275**		Pg	21 07 22.7	+0.4
CCCA	**Chr Cany lake**	**0.21**	**137**		Pg	21 07 23.4	+0.4
CCCA				Sg	Sg	21 07 26.6	+0.9
TOW	**Tower One**	**0.23**	**306**		Pg	21 07 23.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.23**	**211**		Pg	21 07 23.3	-0.1
LRMC				Sg	Sg	21 07 26.4	0.0
LRMC				IAML		21 07 27.0	
	comp=E,3μm,0.4s						
MPMC	**Manual Prospec**	**0.38**	**6**		Pg	21 07 25.9	-0.5
MPMC				Sg	Sg	21 07 31.4	-0.1
MPMC				IAML		21 07 31.9	
	comp=E,1μm,0.6s						
QSM	**Queen of Sheba**	**0.62**	**62**		Pg	21 07 30.3	-0.4
QSM					Sg	21 07 38.4	-0.3
QSM				IAML		21 07 42.1	
	comp=E,491nm,0.2s						
QSM				IAML		21 07 42.3	
	comp=N,756nm,0.6s						
GSC	**Goldstone, Bar**	**0.70**	**122**		Pg	21 07 31.9	-0.4
GSC				Sg	Sg	21 07 41.4	-0.2
GSC				IAML		21 07 41.8	
	comp=N,838nm,0.4s						
ISA	**Isabella, Lake**	**0.76**	**269**		Pg	21 07 32.8	-0.7
ISA				IAML		21 07 43.4	
	comp=N,233nm,0.4s						
ISA				IAML		21 07 43.5	
	comp=E,439nm,0.5s						
GWY	**Greenwater Val**	**0.87**	**54**		Pg	21 07 35.2	-0.4
GWY				Sg	Sg	21 07 47.2	+0.3
GWY				IAML		21 07 49.1	
	comp=N,373nm,0.5s						
GWY				IAML		21 07 50.0	
	comp=E,462nm,0.3s						
CWC	**Cottonwood Cre**	**0.88**	**330**		Pg	21 07 35.6	-0.1
CWC					Sg	21 07 47.2	0.0
CWC				IAML		21 07 48.3	
	comp=N,269nm,0.2s						
CWC				IAML		21 07 48.4	
	comp=E,206nm,0.2s						
FURC	**Furnace Creek,**	**0.96**	**35**		Pg	21 07 37.1	-0.1
FURC				IAML		21 07 55.6	
	comp=E,460nm,0.5s						
FURC				IAML		21 07 58.9	
	comp=N,342nm,0.5s						
TPO	**Tropico Hills**	**0.97**	**216**		Pg	21 07 37.3	-0.2
TPO				Sg	Sb	21 07 50.7	-0.5
TPO				IAML		21 07 56.6	
	comp=E,518nm,0.6s						
TPO				IAML		21 07 56.7	
	comp=N,375nm,0.5s						
SHOC	**Shoshone, Teco**	**1.05**	**77**		Pg	21 07 38.2	-0.7
SHOC				Sg	Sb	21 07 53.1	-0.3
SPG2	**Springville 2**	**1.12**	**298**		Pg	21 07 39.3	-1.1
VES	**Vestal, Richgr**	**1.27**	**278**		Pn	21 07 42.3	-0.6
VES				IAML		21 08 01.4	
	comp=N,250nm,0.7s						
WCT	**Wildcat Mounta**	**1.34**	**33**		Pn	21 07 42.8	-1.2
TUQ	**Turquoise Moun**	**1.34**	**100**		Pn	21 07 42.7	-1.4
OSI	**Osito Audit: C**	**1.44**	**223**		Pn	21 07 45.0	-0.3
OSI				IAML		21 08 11.3	
	comp=E,76nm,0.9s						
BFSC	**Mount Baldy Ra**	**1.44**	**184**		Pn	21 07 45.0	-0.4
BFSC				IAML		21 08 05.1	
	comp=N,106nm,0.5s						
BFSC				IAML		21 08 05.8	
	comp=E,139nm,0.3s						
TIN	**Tinemaha, Big**	**1.48**	**338**		Pn	21 07 45.6	-0.4
TIN				IAML		21 08 08.5	
	comp=N,146nm,0.3s						
TIN				IAML		21 08 11.8	
	comp=E,158nm,0.7s						
MWC	**Mount Wilson**	**1.51**	**197**		Pn	21 07 46.0	-0.4
MWC				IAML		21 08 08.0	
	comp=N,160nm,0.5s						
MWC				IAML		21 08 09.2	
	comp=E,179nm,0.3s						
PASC	**Pasadena Art C**	**1.59**	**200**		Sn	21 08 08.4	+0.2
MTPC	**Mountain Pass**	**1.63**	**96**		Pn	21 07 46.3	-1.8
MTPC				IAML		21 08 12.4	
	comp=E,106nm,0.3s						
MTPC				IAML		21 08 13.3	
	comp=N,93nm,0.4s						
GMN	**Gold Mountain**	**1.64**	**8**		Pn	21 07 47.5	-0.8
TPNV	**Topopah Spring**	**1.64**	**39**		Pn	21 07 48.4	+0.1
TPNV				IAML		21 08 13.1	
	comp=N,94nm,0.5s						
TPNV				IAML		21 08 14.8	
	comp=N,121nm,0.5s						
DSP	**Deep Springs**	**1.73**	**349**		Pn	21 07 48.6	-0.6
DSP				IAML		21 08 14.4	
	comp=N,57nm,0.5s						
ELS	**Elsinore Mount**	**2.02**	**177**		Pn	21 07 52.8	-0.6
ELS				IAML		21 08 29.9	
	comp=E,50nm,0.6s						
MZP	**Montezuma Peak**	**2.02**	**4**		Pn	21 07 51.7	-2.0
DANC	**Danby, Needles**	**2.05**	**120**		Pn	21 07 53.1	-0.6
BELC	**Belle Mtn. Jos**	**2.10**	**142**	IAML		21 08 26.9	
	comp=N,90nm,0.6s						
BELC				IAML		21 08 28.6	
	comp=E,89nm,0.5s						
SHPR	**Sheep Range**	**2.10**	**66**		Pn	21 07 54.3	-0.2
V12A	**Nelson**	**2.19**	**88**		Pn	21 07 55.3	-0.4
V12A				IAML		21 08 28.1	
	comp=N,37nm,0.9s						
V12A				IAML		21 08 34.8	
	comp=E,46nm,0.6s						
PMD	**Palm Desert**	**2.24**	**154**		Pn	21 07 56.0	-0.3
PMD				IAML		21 08 29.9	
	comp=E,40nm,0.6s						
PFO	**Pinyon Flats O**	**2.24**	**156**		Pn	21 07 55.8	-0.6
TPH	**Tonopah**	**2.41**	**6**		Pn	21 07 57.8	-1.0
TPH				Pg	Pb	21 08 03.6	+1.0
TPH				IAML		21 08 39.5	
	comp=N,29nm,0.5s						
S11A	**Rachel**	**2.44**	**36**		Pn	21 07 58.5	-0.7
S11A				IAML		21 08 42.8	
	comp=E,61nm,0.6s						
S11A				IAML		21 08 44.7	
	comp=N,37nm,0.9s						
IRM	**Iron Mountain**	**2.48**	**127**	IAML		21 08 38.6	
	comp=E,67nm,0.5s						
IRM				IAML		21 08 38.6	
	comp=N,64nm,0.4s						
NEE2	**Needles Airpor**	**2.56**	**110**		Pb	21 08 06.0	+1.0
NEE2				IAML		21 08 51.4	
	comp=E,78nm,0.5s						
BORC	**Borrego Spring**	**2.57**	**159**	IAML		21 08 41.1	
	comp=E,57nm,0.5s						
BORC				IAML		21 08 43.5	
	comp=N,33nm,0.8s						
PRN	**Pahroc Range**	**2.65**	**49**		Pg	21 08 10.3	+0.8
PRN				IAML		21 08 48.2	
	comp=N,29nm,0.7s						
PRN				IAML		21 08 52.0	
	comp=E,30nm,1.1s						
BC3	**Big Chuckawall**	**2.65**	**139**		Pb	21 08 07.4	+0.8
BC3				IAML		21 08 43.9	
	comp=E,43nm,0.6s						
BC3				IAML		21 08 45.8	
	comp=N,46nm,0.5s						
LHV	**Little Huntoon**	**2.68**	**344**		Pn	21 08 02.0	-0.4
LHV				IAML		21 08 50.5	
	comp=E,24nm,1.0s						
LHV				IAML		21 09 00.7	
	comp=N,24nm,1.0s						
PMPB	**Monarch Peak**	**2.70**	**282**		Pn	21 08 02.2	-0.5
PMPB				IAML		21 08 45.0	
	comp=N,64nm,0.7s						
PMPB				IAML		21 09 02.5	
	comp=E,53nm,1.1s						
DPP	**Dos Picos Cty**	**2.72**	**169**	Pn	Pn	21 08 02.1	-0.7
DPP				Pg	Pg	21 08 09.9	-0.9
DPP				IAML		21 08 31.2	
	comp=E,43nm,0.1s						
NVAR	**Mina Array Bea**	**2.82**	**348**		Pn	21 08 03.0	-1.4
NVAR				Pg	Pg	21 08 11.8	-1.0
BBGB	**Big Mountain B**	**2.97**	**289**	Pn	Pn	21 08 05.4	-1.1
R11B	**Troy Canyon, C**	**3.09**	**30**		Pn	21 08 08.9	+0.7
BLYC	**Blythe**	**3.14**	**127**		Pn	21 08 08.3	-0.4
BLYC				IAML		21 09 02.3	
	comp=E,29nm,0.6s						
BLYC				IAML		21 09 03.1	
	comp=N,28nm,0.6s						
CMB	**Columbia Colle**	**3.28**	**317**	IAML		21 09 05.6	
	comp=E,18nm,0.9s						
CMB				IAML		21 09 06.2	
	comp=N,16nm,0.8s						
Y14A	**Wickenburg**	**4.11**	**114**	IAML		21 09 31.7	
	comp=E,15nm,0.5s						
U15A	**North Rim**	**4.32**	**78**	IAML		21 09 38.3	
	comp=N,5.7nm,1.3s						
U15A				IAML		21 09 42.5	
	comp=E,7.1nm,1.1s						
WUAZ	**Wupatki**	**5.03**	**90**	IAML		21 10 00.7	
	comp=E,6.6nm,0.8s						
WUAZ				IAML		21 10 05.5	
	comp=E,6.4nm,0.5s						

*AEIC **09** 21:21:41.6±0.7, 53°.44N±0°.04×165°.23W±0°.06, h26km±6km, Error ellipse: s-maj=6.0km s-min=4.8km az=193.0*
NEIC 09 21:21:41.5±0.8, 53°.46N±0°.04×165°.21W±0°.04, h27km±10km, ML3.4/18, ML3.2(AEIC), Error ellipse: s-maj=6.2km s-min=2.0km az=209.0, Fox Islands

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---

LVA	Lava Point	0.85	325		Pb	21 21 57.3	-0.4
LVA				Sn	Sn	21 22 09.3	-0.1
LVA				IAML		21 22 12.5	
	comp=E,945nm,0.6s						
LVA				IAML		21 22 21.9	
	comp=N,2μm,0.7s						
UNV	Unalaska Valle	0.86	297		Pn	21 21 57.5	-0.4
UNV					Sb	21 22 08.9	-0.1
UNV	Unalaska Valle	0.86	297		Sb	21 22 09.2	+0.2
AKGG	Akutan Green G	0.87	328		Pn	21 21 57.9	-0.1
AKGG					Sn	21 22 10.5	+0.7
MREP	Makushin Rep't	0.98	292		Pn	21 21 59.4	-0.1
MGOD	Makushin Gods	1.05	289		Pn	21 22 00.2	-0.2
MGOD					Sb	21 22 14.3	-0.1
WEBT	Westdahl Beart	1.16	13		Pn	21 22 01.8	-0.2
SSBA	Shishaldin	1.46	25		Pn	21 22 05.3	-0.8
ISLZ	Isanotski Laza	1.54	34		Pn	21 22 06.0	-1.2
ISNN	Isanotski Nort	1.61	31		Pn	21 22 08.2	+0.1
OKFG	Magazine Ridge	1.62	269		Pn	21 22 08.5	+0.3
OKTU	Okmok Mt. Tuli	1.70	269		Pn	21 22 09.5	+0.2
OKNC	Okmok New Cone	1.74	271		Pn	21 22 10.7	+0.7
FALS	False Pass	1.75	36		Pn	21 22 10.7	+0.7
OKCE	Okmok Cone E	1.77	270		Pn	21 22 10.8	+0.5
NIKH	Nikolski High	2.25	259	Pn	Pn	21 22 16.9	0.0
NIKH				IAML		21 22 51.5	
	comp=N,181nm,0.7s						
NIKH				IAML		21 22 56.2	
	comp=E,250nm,0.8s						
NIKH	Nikolski High	2.25	259		Sn	21 22 45.1	+1.5
HAG	Hague Volcano	2.68	45		Pn	21 22 24.5	+1.7
CLCO	Concord Point,	2.80	258		Pn	21 22 25.9	+1.4
PS1A	Pavlof South-1	2.82	44		Pn	21 22 26.7	+2.0
S12K	Black Hills	2.90	38		Pn	21 22 26.0	+0.2
SDPT	Sand Point	3.35	54		Pn	21 22 32.1	+0.1
SDPT				IAML		21 23 23.8	
	comp=E,56nm,1.0s						
SDPT				IAML		21 23 37.5	
	comp=N,63nm,0.8s						
CNBA	Chernabura Isl	3.57	65		Pn	21 22 34.5	-0.5
P08K	Saint George I	4.02	323		Pn	21 22 40.8	-0.4
P08K				IAML		21 24 00.2	
	comp=E,53nm,1.5s						
P08K				IAML		21 25 23.5	
	comp=N,59nm,1.2s						
SPIA	Saint Paul Isl	4.71	324		Pn	21 22 51.0	+0.4
CHGN	Chignik	4.84	51	Pn	Pn	21 22 53.5	+1.0
ATKA	Atka Island	5.59	261	Pn	Pn	21 23 02.7	-0.1
N14K	Kuskokwak Cree	6.76	15		Pn	21 23 20.9	+2.2
N15K	Kwethluk River	7.28	21		Pn	21 23 27.9	+1.9
O16K	Kokwok River B	7.29	30		Pn	21 23 28.0	+1.9
M15K	Kasigluk River	7.66	17		Pn	21 23 33.0	+2.0
N16K	Nishlik Lake	7.86	24		Pn	21 23 36.0	+2.1
N17K	Nushagak Hills	8.32	28		Pn	21 23 42.2	+2.0
KDAK	Kodiak Island	8.35	54		Pn	21 23 41.5	+0.9
L15K	Ungalak Mounta	8.48	12		Pn	21 23 45.0	+2.7
K15K	Wolf Creek Mou	9.07	11		Pn	21 23 53.0	+2.5

BJI ***09*** *21:26:55.7, 56°.17N×161°.65E, h48km, mB5.3/24, mb4.8/45, Ms5.1/50, Ms7 4.8/48*

KRSC ***09*** *21:26:55.6±0.3, 55°.78N×162°.04E, h60km±9km, Mc5.8, Ml6.0, Felt [IV-V] at cape Afrika; [IV] at kordon Chazhma, Kluchi, kordon Kronoki; [III-IV] at Ust-Kamchatsk; [II] at Kozyrevsk; Felt at Krutoberegovo.*

MOS ***09*** *21:26:56.9±0.9, 55°.90N×161°.76E, h64km, mb5.5/75, MS4.8/28, Error ellipse: s-maj=5.4km s-min=2.9km az=83.3*

NEIC ***09*** *21:26:57.8, 55°.72N×162°.03E, h46km, Moment Tensor Solution. Duration: 2s.5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25; $M_{\theta\theta}$0.97; $M_{\phi\phi}$-0.72; $M_{r\theta}$0.91; $M_{\theta\phi}$-0.59; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.40000×10^{17} NP1: ϕ_s154.93000°, δ47.65000°, λ-4.83000°. NP2: ϕ_s248.19000°, δ86.43000°, λ-137.55000°. Principal axes: T 1.5590, Plg26.0000°, Azm14.0000°; N -0.4234, Plg47.0000°, Azm252.0000°; P -1.1355, Plg31.0000°, Azm121.0000°;*

NEIC ***09*** *21:26:57.8, 55°.92N×161°.85E, h46km*

NEIC ***09*** *21:26:57.8±1.6, 55°.91N±0°.07×161°.9E±0°.1, h47km±4km, mb5.4/952, Mww5.4/28, Error ellipse: s-maj=9.7km s-min=8.8km az=169.0*

IDC ***09*** *21:26:58.5±1.1, 55°.95N×161°.64E, h59km±9km, mb4.7/36, mbtmp5.0/39, MS4.6/76, Error ellipse: s-maj=11.5km s-min=8.0km az=125.0*

BGR ***09*** *21:27:00.4, 56°.78N×162°.60E, h42km±3km, mb5.5, mB_BB5.7, Ms4.8*

GCMT ***09*** *21:27:00.9±0.1, 55°.86N±0°.01×162°.07E±0°.01, h50km±1km, MW5.5/142, Moment Tensor Solution. s119,c218; s142,c279; Duration: 1s.3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.57±.02; $M_{\theta\theta}$0.23±.02; $M_{\phi\phi}$-0.79±.02; $M_{r\theta}$1.50±.03; $M_{\theta\phi}$-1.15±.02; $M_{\phi r}$0.18±.02; Best double couple: $M_0$2.02600×10^{17} NP1: ϕ_s175.00000°, δ40.00000°, λ17.00000°. NP2: ϕ_s72.00000°, δ79.00000°, λ129.00000°. Principal axes: T 2.0620, Plg42.0000°, Azm19.0000°; N -0.0720, Plg38.0000°, Azm244.0000°; P -1.9900, Plg24.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 21:26:57.5±0.2**, 55°.81N**±0°.02×**161°.92E**±0°.02**, h52**km±1km**, h51**km**:pP-P, n1733,** σ**1s.42**/1830**, mb5.3**/622**, MS4.7**/110**, 50C-46D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	Krutoberegovo	0.62	44	PN	Pn	21 27 09.7	-0.5
KBG				S	Sn	21 27 19.3	-0.2
KBG	Krutoberegovo	0.62	44	*i* P	Pn	21 27 09.8	-0.5
KBG				*e*S	Sn	21 27 19.3	-0.2
KBTR	Krutoberegovo	0.64	51	PN	Pn	21 27 09.9	-0.6
KBTR	Krutoberegovo	0.64	51	*e*P	Pn	21 27 10.0	-0.6
ZLN	Zelenaya	0.66	288	PN	Pn	21 27 11.3	+0.4
ZLN	Zelenaya	0.66	288	*e*P	Pn	21 27 11.4	+0.4
BZGR	Bezymyannyi-Gr	0.70	281	PN	Pn	21 27 11.9	+0.5
BZGR				S	Sn	21 27 22.9	+1.4
BZGR	Bezymyannyi-Gr	0.70	281	*i* P	Pn	21 27 11.9	+0.5
BZGR				*e*S	Sn	21 27 22.9	+1.4
CIRR	Tsirk	0.73	295	PN	Pn	21 27 12.0	+0.2
CIRR	Tsirk	0.73	295	*i* P	Pn	21 27 12.0	+0.2
LGNR	Loginova	0.74	292	PN	Pn	21 27 12.4	+0.3
LGNR	Loginova	0.74	292	*e*P	Pn	21 27 12.4	+0.3
SMKR	Semkarok	0.81	342	PN	Pn	21 27 12.9	+0.1
SMKR	Semkarok	0.81	342	*e*P	Pn	21 27 13.0	+0.1
BZMR	Bezymyannaya	0.82	279	PN	Pn	21 27 13.4	+0.5
BZMR	Bezymyannaya	0.82	279	*i* P	Pn	21 27 13.4	+0.5
BZWR	Bezymyannyi-We	0.82	281	PN	Pn	21 27 13.6	+0.6
BZWR	Bezymyannyi-We	0.82	281	*i* P	Pn	21 27 13.6	+0.6
KLY	Klyuchi	0.87	306	PN	Pn	21 27 12.2	-1.2
KLY				S	Sn	21 27 24.6	-0.6
KLY	Klyuchi	0.87	306	*e*P	Pn	21 27 12.3	-1.2
KLY				*e*S	Sn	21 27 24.6	-0.6
KIRR	Kirishev	0.90	280	PN	Pn	21 27 14.8	+0.8
KIRR				S	Sn	21 27 28.3	+2.1
KIRR	Kirishev	0.90	280	*e*P	Pn	21 27 14.9	+0.8
KIRR				*e*S	Sn	21 27 28.3	+2.1
SRKR	Sorokina	0.94	334	PN	Pn	21 27 14.9	+0.4
SRKR	Sorokina	0.94	334	*e*P	Pn	21 27 15.0	+0.4
KMNR	Kamenistaya	0.95	267	PN	Pn	21 27 15.2	+0.6
KMNR	Kamenistaya	0.95	267	*e*P	Pn	21 27 15.3	+0.6
KPT	Kopyto	0.97	280	PN	Pn	21 27 15.6	+0.7
KPT	Kopyto	0.97	280	*e*P	Pn	21 27 15.7	+0.7
TUMD	Tumrok D	1.06	235	PN	Pn	21 27 16.3	+0.3
TUMD				S	Sn	21 27 31.1	+1.4
TUMD	Tumrok D	1.06	235	*i* P	Pn	21 27 16.3	+0.3
TUMD				*e*S	Sn	21 27 31.2	+1.4
KOZ	Kozyrevsk	1.18	283	PN	Pn	21 27 18.8	+1.2
KOZ				S	Sn	21 27 36.0	+3.4
KOZ	Kozyrevsk	1.18	283	*e*P	Pn	21 27 18.9	+1.2
KOZ				*e*S	Sn	21 27 36.0	+3.4
MKZ	Mys Kozlova	1.27	185	PN	Pn	21 27 18.5	-0.2
MKZ	Mys Kozlova	1.27	185	*e*P	Pn	21 27 18.6	-0.2
SRDR	Sredinnyy	1.34	293	PN	Pn	21 27 20.4	+0.6
SRDR	Sredinnyy	1.34	293	*e*P	Pn	21 27 20.4	+0.6
ESO	Esso	1.82	275	PN	Pn	21 27 26.7	+0.4
ESO	Esso	1.82	275	*e*P	Pn	21 27 26.7	+0.4
KII	Karymskiy	2.28	220	PN	Pn	21 27 33.8	+1.1
KII	Karymskiy	2.28	220	*e*P	Pn	21 27 33.8	+1.1
BKI	Bering	2.38	103	PN	Pn	21 27 33.8	-0.1
BKI				S	Sn	21 28 01.0	-0.9
BKI	Bering	2.38	103	*i* P	Pn	21 27 33.8	-0.1
BKI				*e*S	Sn	21 28 01.1	-0.9
SPN	Mys Shipunski	2.94	203	PN	Pn	21 27 41.3	-0.3
SPN				S	Sn	21 28 16.1	+0.5
SPN	Mys Shipunski	2.94	203	*e*P	Pn	21 27 41.4	-0.3
SPN				*e*S	Sn	21 28 16.1	+0.5
NLC	Nalytchevo	3.04	211	PN	Pn	21 27 43.7	+0.7
NLC				S	Sn	21 28 19.2	+1.0
NLC	Nalytchevo	3.04	211	*e*P	Pn	21 27 43.8	+0.7
NLC				*e*S	Sn	21 28 19.2	+1.0
SDLR	Sedlovina	3.10	216	PN	Pn	21 27 45.2	+1.3
SDLR	Sedlovina	3.10	216	*e*P	Pn	21 27 45.3	+1.3
KRX	Arik	3.11	219	PN	Pn	21 27 45.3	+1.2
KRX	Arik	3.11	219	*e*P	Pn	21 27 45.3	+1.2
KRER	Koryakskii	3.12	218	PN	Pn	21 27 45.7	+1.4
KRER	Koryakskii	3.12	218	*e*P	Pn	21 27 45.7	+1.4
GNL	Ganaly	3.13	229	PN	Pn	21 27 45.7	+1.3
GNL	Ganaly	3.13	229	*e*P	Pn	21 27 45.7	+1.3
SMAR	Somma	3.14	217	PN	Pn	21 27 45.8	+1.3
SMAR	Somma	3.14	217	*e*P	Pn	21 27 45.9	+1.3
AVH	Avacha	3.16	217	PN	Pn	21 27 46.5	+1.9
AVH	Avacha	3.16	217	*e*P	Pn	21 27 46.6	+1.9
KOK	Koryaka	3.17	219	PN	Pn	21 27 46.4	+1.5
KOK	Koryaka	3.17	219	*e*P	Pn	21 27 46.5	+1.5
UGLR	Uglovaya	3.17	216	PN	Pn	21 27 46.4	+1.5
UGLR	Uglovaya	3.17	216	*e*P	Pn	21 27 46.5	+1.5
DALK	Dalny	3.35	215	PN	Pn	21 27 48.4	+1.2
DALK	Dalny	3.35	215	*e*P	Pn	21 27 48.5	+1.2
INSR	Institute	3.37	217	PN	Pn	21 27 48.9	+1.4
INSR	Institute	3.37	217	*e*P	Pn	21 27 48.9	+1.4
PET	Petropavlovsk	3.38	216		Pn	21 27 49.0	+1.2
PET	Petropavlovsk	3.38	216	P	Pn	21 27 49.2	+1.5
PET	Petropavlovsk	3.38	216α	*i*PN	Pn	21 27 49.1	+1.4
PET				*e*S	Sn	21 28 29.3	+2.7
PET				pmax	pmax		
	comp=Z,5μm,0.7s						
PET				smax	smax		
	comp=E,13μm,0.9s						
PET				smax	smax		
	comp=N,13μm,0.7s						
PET				MLR	MLR		
	comp=Z,9μm,9.0s						
PET				MLR	MLR		
	comp=Z,11μm,12.0s						
PET	Petropavlovsk	3.38	216	*e*P	Pn	21 27 48.8	+1.1
PALN	Palana	3.45	343	PN	Pn	21 27 49.8	+1.2
PALN	Palana	3.45	343	*e*P	Pn	21 27 49.8	+1.2
OSSR	Ossora	3.50	10	PN	Pn	21 27 49.9	+0.7
OSSR	Ossora	3.50	10	*e*P	Pn	21 27 50.0	+0.7
PEA0B	Petropavlovsk-	3.66	224		Pn	21 27 52.2	+0.6
PEA0B	Petropavlovsk-	3.66	224*c*	*i*PN	Pn	21 27 53.0	+1.4
PETK	Petropavlovsk-	3.66	224		Pn	21 27 51.8	+0.2
PETK	Petropavlovsk-	3.66	224	P	Pn	21 27 52.0	+0.5
	comp=Z,398nm,0.5s,baz=59,slow=16,SNR=631						
PETK				S	Sn	21 28 37.3	+3.8
	comp=Z,1μm,0.9s,baz=47,slow=23,SNR=5.1						
PETK				LR	LR	21 29 45.3	
	comp=Z,18μm,18.6s,baz=42,slow=46						
KRMR	Karymshinskiy	3.72	218	PN	Pn	21 27 53.7	+1.4
KRMR	Karymshinskiy	3.72	218	*e*P	Pn	21 27 53.8	+1.4
RUS	Russkaya	3.94	212	PN	Pn	21 27 56.0	+0.7
RUS	Russkaya	3.94	212	*e*P	Pn	21 27 56.0	+0.7
GRL	Gorelyy	3.97	216	PN	Pn	21 27 57.7	+1.8
GRL	Gorelyy	3.97	216	*e*P	Pn	21 27 57.8	+1.8
MTVR	Mutnovka	4.00	215	PN	Pn	21 27 58.0	+1.8
MTVR	Mutnovka	4.00	215	*e*P	Pn	21 27 58.0	+1.8
APC	Apacha	4.02	226	PN	Pn	21 27 59.4	+3.1
APC	Apacha	4.02	226	*i* P	Pn	21 27 59.5	+3.1
ASAK	Asacha	4.17	216	PN	Pn	21 28 00.7	+2.1
ASAK	Asacha	4.17	216	*e*P	Pn	21 28 00.8	+2.1
TILK	Tilichiki	5.16	24	PN	Pn	21 28 13.6	+1.7
TILK	Tilichiki	5.16	24	*e*P	Pn	21 28 13.6	+1.7
PAU	Pauzhetka	5.31	217	PN	Pn	21 28 16.4	+2.3
PAU	Pauzhetka	5.31	217	*e*P	Pn	21 28 16.5	+2.3
SKR	Severo-Kuril's	6.21	217	*e*PN	Pn	21 28 28.2	+1.8
SKR				*e*S	Sn	21 29 37.1	+1.2
SKR				pmax	pmax		
	comp=Z,712nm,0.9s						
SKR				pmax	pmax		
	comp=Z,5μm,3.1s						
SKR				smax	smax		
	comp=E,2μm,0.7s						
SKR				smax	smax		
	comp=N,2μm,0.9s						
SKR				MLR	MLR		
	comp=Z,7μm,17.0s						
SKR				MLR	MLR		
	comp=E,5μm,18.0s						
SKR	Severo-Kuril's	6.21	217	*e*P	Pn	21 28 28.6	+2.2
KMSK	Kamenskaya	7.03	16	PN	Pn	21 28 39.4	+1.9
KMSK	Kamenskaya	7.03	16	*e*P	Pn	21 28 39.5	+1.9
MA2	Magadan	7.07	307		Pn	21 28 37.7	-0.4
MA2	Magadan	7.07	307	P	Pn	21 28 40.9	+2.8
	comp=E,85nm,0.8s,baz=114,slow=9.3,SNR=37						
MA2				LR	LR	21 31 39.0	
	comp=E,9μm,18.6s,baz=142,slow=41						
MA2	Magadan	7.07	307	P	Pn	21 28 41.2	+3.1
MA2	Magadan	7.07	307	PN	Pn	21 28 37.7	-0.4
SHEM	Shemya Is, Ala	7.77	108	P	Pn	21 28 47.6	-0.2
	comp=E,307nm,0.5s,baz=354,slow=4.9,SNR=42						
SHEM				S	Sn	21 30 08.9	-5.3
	comp=E,568nm,0.6s,baz=298,slow=21,SNR=9.5						
SMY	Shemya	7.77	108		Pn	21 28 47.9	+0.1
SMY	Shemya	7.77	108	P	Pn	21 28 48.0	+0.3
SMY	Shemya	7.77	108	PN	Pn	21 28 47.9	+0.1
OKH	Okha	11.22	266*d*	*e*PN	Pn	21 29 30.7	-4.2
OKH				pmax	pmax		
	comp=Z,100nm,5.7s						
OKH				MLR	MLR		
	comp=E,2μm,15.0s						
OKH				MLR	MLR		
	comp=Z,2μm,11.0s						
AMKA	Amchitka	11.23	106		Pn	21 29 35.0	-0.1
BILL	Bilibino	12.44	8		Pn	21 29 54.5	+3.1
BILL	Bilibino	12.44	8	*e*PN	Pn	21 29 54.1	+2.7
BILL				MLR	MLR		
	comp=Z,4μm,14.0s						
TYV	Tymovskoe	12.52	255	*e*PN	Pn	21 29 57.5	+4.8
TYV				*e*S	Sn	21 32 21.1	+11
TYV				pmax	pmax		
	comp=Z,66nm,1.3s						
TYV				pmax	pmax		
	comp=Z,500nm,2.7s						
TYV				smax	smax		
	comp=N,600nm,7.0s						
TYV				smax	smax		
	comp=E,400nm,7.0s						
TYV				MLR	MLR		
	comp=Z,1μm,18.0s						
TYV	Tymovskoe	12.52	255	*e*P	Pn	21 29 57.4	+4.7
NKL	Nikolayevsk	12.63	267	*e*PN	Pn	21 29 51.3	-2.8
NKL				MLR	MLR		
	comp=E,4μm,18.0s						
NKL				MLR	MLR		
	comp=N,3μm,12.0s						
NKL				MLR	MLR		
	comp=Z,4μm,17.0s						
KIWB	Kanaga Island	12.96	99		Pn	21 29 58.6	-0.1
ADK	Adak	13.21	98		Pn	21 30 02.3	+0.2
ADK	Adak	13.21	98	P	Pn	21 30 02.1	0.0
ADK	Adak	13.21	98	PN	Pn	21 30 02.9	+0.8
GSTR	Great Sitkin T	13.47	97		Pn	21 30 06.7	+1.0
KUR	Kuril'sk	13.83	226	P	Pn	21 30 11.8	+1.3
KUR				S	Sn	21 32 47.5	+5.1
KUR				pmax	pmax		
	comp=Z,1μm,3.4s						
KUR				pmax	pmax		
	comp=Z,152nm,1.0s						
KUR				MLR	MLR		
	comp=N,2μm,17.0s						
KUR				MLR	MLR		
	comp=E,3μm,17.0s						
KUR				MLR	MLR		
	comp=Z,3μm,17.0s						
ATKA	Atka Island	14.47	94		Pn	21 30 19.3	+0.2
ATKA	Atka Island	14.47	94	P	Pn	21 30 20.6	+1.5
YSS	Yuzhno-Sakhali	14.85	241		Pn	21 30 24.7	+0.7
YSS	Yuzhno-Sakhali	14.85	241	*e*P	P	21 30 26.5	-2.3
YSS				*e*S	Sn	21 33 10.2	+3.0
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
YSS				pmax	pmax		
	comp=Z,400nm,2.3s						
YSS				MLR	MLR		
	comp=Z,3μm,11.0s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
SHO	Shikotan	15.37	225	*e*P	Pn	21 30 29.8	-1.0
SHO				*i* S	Sn	21 33 17.4	-2.5
SHO				pmax	pmax		
	comp=Z,84nm,0.5s						
SHO				pmax	pmax		
	comp=N,34nm,0.3s						
SHO				pmax	pmax		
	comp=E,41nm,0.3s						
SHO	Shikotan	15.37	225	*e*P	Pn	21 30 30.2	-0.7
GAMB	Gambell	15.38	48		Pn	21 30 30.6	-0.2
GAMB	Gambell	15.38	48	P	Pn	21 30 32.0	+1.2
	baz=251,SNR=166						
GAMB				S	Sn	21 33 24.2	+4.5
	baz=251						
SPIA	Saint Paul Isl	15.39	73		Pn	21 30 28.2	-2.7
SPIA				IAmb	IAmb	21 30 38.6	
	comp=Z,109nm,0.6s						
SPIA	Saint Paul Isl	15.39	73	P	Pn	21 30 31.7	+0.8
	baz=277						
YUK	Yuzh-Kuril'sk	15.63	228	*e*P	Pn	21 30 34.1	-0.1
YUK				pmax	pmax		
	comp=N,124nm,0.5s						
YUK				pmax	pmax		
	comp=Z,456nm,0.5s						
YUK				pmax	pmax		
	comp=E,154nm,0.4s						
YUK	Yuzh-Kuril'sk	15.63	228	*e*P	Pn	21 30 33.8	-0.3
P08K	Saint George I	15.85	75	P	Pn	21 30 37.7	+0.9
P08K				IAmb	IAmb	21 30 44.6	
	comp=Z,315nm,0.8s						
P08K	Saint George I	15.85	75	P	Pn	21 30 37.0	+0.2
	baz=280,SNR=9.7						
GRNR	Gornyy	16.02	262⇑	*i*P	P	21 30 42.8	+1.1
GRNR				pmax	pmax		
	comp=E,8.0nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
JKA	Kamikawa-asahi	17.00	235	P	Pn	21 30 51.1	-0.4
ASAJ	Asahikawa	17.01	235	P	P	21 30 53.2	+0.5
	comp=Z,81nm,0.8s,baz=68,slow=9.4,SNR=43						
ASAJ				LR	LR	21 37 48.0	
	comp=Z,4μm,18.9s,baz=53,slow=38						
ASAJ	Asahikawa	17.01	235	P	Pn	21 30 51.1	-0.4
ASAJ				pmax	pmax		
	comp=Z,123nm,0.9s						
NIKH	Nikolski High	17.19	87		Pn	21 30 53.4	-0.3
NIKH				IAmb	IAmb	21 30 58.1	
	comp=Z,312nm,0.9s						
NIKH	Nikolski High	17.19	87	P	P	21 30 55.4	+0.7
NIKH	Nikolski High	17.19	87	P	Pn	21 30 54.0	+0.3
	baz=292,SNR=41						
NIKH				S	Sn	21 34 03.6	-0.2
	baz=292						
M11K	Mekoryuk	17.35	62	P	Pn	21 30 55.7	+0.2
M11K	Mekoryuk	17.35	62	P	P	21 30 57.1	+0.8
	baz=269,SNR=12						
M11K				S	Sn	21 34 10.5	+3.1
	baz=269						
TNA	Tin City	17.51	44	P	Pn	21 30 57.4	-0.1
TNA				IAmb	IAmb	21 31 03.1	
	comp=Z,277nm,1.0s						
TNA	Tin City	17.51	44	P	P	21 30 59.6	+1.6
	baz=251,SNR=52						
TNA				S	S	21 34 18.9	+2.0
	baz=251						
YAK	Yakutsk	17.63	304	P	Pn	21 30 57.6	-1.4
YAK	Yakutsk	17.63	304	P	Pn	21 30 57.8	-1.2
	comp=Z,71nm,0.6s,baz=97,slow=16,SNR=22						
YAK				LR	LR	21 38 08.3	
	comp=Z,3μm,18.9s,baz=94,slow=38						
YAK	Yakutsk	17.63	304	*e*P	Pn	21 30 58.3	-0.7
YAK				*e*S	Sn	21 34 13.6	-0.6
YAK				pmax	pmax		
	comp=Z,128nm,1.3s						
YAK				pmax	pmax		
	comp=N,20nm,1.4s						
YAK				pmax	pmax		
	comp=E,77nm,1.1s						
YAK				smax	smax		
	comp=N,2μm,9.4s						
YAK				smax	smax		
	comp=E,1μm,7.8s						
F14K	Arctic Creek	18.11	45	P	Pn	21 31 07.4	+2.5
	baz=253						
F14K				S	S	21 34 31.5	+2.3
	baz=253						
K13K	Kusilvak Mount	18.17	57	P	Pn	21 31 06.4	+0.8
K13K	Kusilvak Mount	18.17	57	P	Pn	21 31 07.2	+1.5
	baz=266,SNR=129						
K13K				S	S	21 34 29.4	-1.1
	baz=266						
UNV	Unalaska Valle	18.21	83	P	P	21 31 05.7	-0.2
UNV				IAmb	IAmb	21 31 12.3	
	comp=Z,184nm,0.8s						
UNV	Unalaska Valle	18.21	83	P	Pn	21 31 06.4	+0.2
	baz=289,SNR=59						
UNV				S	S	21 34 33.2	+1.8
	baz=289						
ANM	Nome	18.26	48	P	Pn	21 31 07.4	+0.6
ANM				IAmb	IAmb	21 31 11.9	
	comp=Z,263nm,1.1s						
ANM	Nome	18.26	48	P	Pn	21 31 07.4	+0.6
ANM				pmax	pmax		
	comp=Z,263nm,1.1s						
ANM	Nome	18.26	48	P	Pn	21 31 08.9	+2.2
	baz=257,SNR=40						
ANM				S	S	21 34 32.5	+0.2
	baz=257						
LVA	Lava Point	18.38	82	P	Pn	21 31 08.3	0.0
LVA				IAmb	IAmb	21 31 13.6	
	comp=Z,196nm,0.7s						
JEM	Erimo	18.43	229	P	Pn	21 31 09.6	+0.7
ERM	Erimo	18.43	229	P	P	21 31 07.4	-0.9
ERM				IAmb	IAmb	21 31 16.5	
	comp=Z,106nm,0.4s						
ERM	Erimo	18.43	229	P	Pn	21 31 09.7	+0.8
ERM	Erimo	18.43	229	P	P	21 31 07.4	-0.9
ERM				pmax	pmax		
	comp=Z,106nm,0.4s						
AKUT	Akutan	18.53	82	P	Pn	21 31 10.8	+0.8
AKUT				IAmb	IAmb	21 31 14.0	
	comp=Z,356nm,1.0s						
AKUT	Akutan	18.53	82	P	Pn	21 31 10.4	+0.4
AKUT	Akutan	18.53	82	S	S	21 34 37.7	-0.1
J14K	Nanvaranak Lak	18.76	54	P	Pn	21 31 12.8	+0.1
J14K				IAmb	IAmb	21 31 16.4	
	comp=Z,155nm,0.8s						
J14K	Nanvaranak Lak	18.76	54	P	Pn	21 31 13.6	+0.9
	baz=264						
J14K				S	S	21 34 42.8	+0.5
	baz=264						
M13K	Dall Lake	18.76	62	P	Pn	21 31 13.0	+0.3
M13K	Dall Lake	18.76	62	P	Pn	21 31 15.0	+2.2
	baz=272,SNR=16						
M13K				S	S	21 34 45.4	+3.1
	baz=272						
F15K	North Star Dit	18.85	45	P	Pn	21 31 14.7	+1.0
F15K				IAmb	IAmb	21 31 18.0	
	comp=Z,367nm,1.1s						
F15K	North Star Dit	18.85	45	P	Pn	21 31 15.7	+1.9
	baz=255,SNR=192						
F15K				S	S	21 34 47.3	+3.3
	baz=255						
G15K	Niukluk	18.92	47	P	Pn	21 31 15.9	+1.3
	baz=257						
G15K				S	S	21 34 47.4	+1.9
	baz=257						
L14K	Kuka Creek	19.09	59	P	Pn	21 31 16.8	+0.1
L14K	Kuka Creek	19.09	59	P	Pn	21 31 17.9	+1.2
	baz=269,SNR=104						
L14K				S	Sn	21 34 51.9	+2.6
	baz=269						
TEY	Ternei	19.29	247	*e*P	Pn	21 31 20.3	+1.1
M14K	Bethel	19.44	60	P	Pn	21 31 20.6	-0.3
M14K				IAmb	IAmb	21 31 23.0	
	comp=Z,290nm,0.9s						
M14K	Bethel	19.44	60	P	Pn	21 31 21.9	+1.1
	baz=272,SNR=127						
M14K				S	Sn	21 34 59.0	+1.2
	baz=272						

C16K **Lisburne Hills** 19.46 37 P **P** 21 31 20.1 +0.7
C16K **Lisburne Hills** 19.46 37 P **Pn** 21 31 20.9 -0.1
baz=247
C16K S **Sn** 21 34 57.7 -0.5
baz=247
H16K **Elim** 19.60 49 P **Pn** 21 31 23.3 +0.6
baz=260,SNR=90
H16K S **Sn** 21 35 03.1 +1.3
baz=260
N14K **Kuskokwak Cree** 19.61 63 P **Pn** 21 31 22.4 -0.5
N14K **Kuskokwak Cree** 19.61 63 P **Pn** 21 31 23.5 +0.6
baz=274,SNR=81
N14K S **Sn** 21 35 02.5 +0.4
baz=274
FALS **False Pass** 19.62 78 P **Pn** 21 31 23.2 +0.2
FALS **False Pass** 19.62 78 P **Pn** 21 31 23.2 +0.2
baz=287
FALS S **Sn** 21 35 01.1 -1.2
baz=287
K15K **Wolf Creek Mou** 19.66 56 P **Pn** 21 31 23.4 -0.1
K15K **Wolf Creek Mou** 19.66 56 P **Pn** 21 31 24.2 +0.8
baz=268,SNR=270
K15K S **Sn** 21 35 03.4 +0.1
baz=268
L15K **Ungalak Mounta** 19.66 58 P **Pn** 21 31 24.1 +0.6
baz=270,SNR=132
L15K S **Sn** 21 35 04.2 +1.0
baz=270
G16K **Koyuk River** 19.70 46 P **Pn** 21 31 24.0 +0.1
baz=258
G16K S **Sn** 21 35 05.6 +1.6
baz=258
O14K **Tigyukauivet M** 19.89 65 P **Pn** 21 31 25.4 -0.8
O14K IAmb IAmb 21 31 28.3
comp=Z,162nm,1.1s
O14K **Tigyukauivet M** 19.89 65 P **Pn** 21 31 26.3 +0.1
baz=276,SNR=26
O14K S **S** 21 35 06.7 +1.7
baz=276
ZEA **Zeya** 19.98 279 *e*P **P** 21 31 25.1 -0.2
ZEA *e*S S 21 34 54.0 -13
ZEA pmax pmax
comp=E,300nm,3.2s
ZEA pmax pmax
comp=Z,300nm,2.3s
ZEA pmax pmax
comp=E,60nm,1.0s
ZEA pmax pmax
comp=Z,70nm,0.9s
ZEA smax smax
comp=E,1μm,6.6s
ZEA smax smax
comp=N,2μm,13.7s
ZEA MLR MLR
comp=E,600nm,8.0s
ZEA MLR MLR
comp=Z,600nm,13.0s
D17K **Noatak River** 20.04 40 P Pn 21 31 27.4 -0.4
baz=251,SNR=99
D17K S Sn 21 35 10.2 -2.1
baz=251
M15K **Kasigluk River** 20.07 61 P Pn 21 31 28.2 -0.1
baz=273,SNR=220
M15K S Sn 21 35 11.2 -1.8
baz=273
S12K **Black Hills** 20.13 75 P Pn 21 31 28.5 -0.5
baz=286,SNR=39
S12K S Sn 21 35 13.3 -1.2
baz=286
J16K **Anvik River** 20.15 53 P Pn 21 31 28.1 -1.1
J16K IAmb IAmb 21 31 30.6
comp=Z,301nm,1.1s
J16K **Anvik River** 20.15 53 P Pn 21 31 29.4 +0.1
baz=266,SNR=99
J16K S Sn 21 35 14.4 -0.5
baz=266
I17K **Unalakleet** 20.16 51 P Pn 21 31 29.0 -0.4
I17K **Unalakleet** 20.16 51 P Pn 21 31 29.8 +0.4
baz=264,SNR=85
I17K S Sn 21 35 14.3 -0.9
baz=264
RDOG **Red Dog Mine** 20.22 39 P **P** 21 31 28.6 +0.9
RDOG **Red Dog Mine** 20.22 39 P Pn 21 31 29.6 -0.5
baz=250,SNR=31
RDOG S Sn 21 35 14.1 -2.5
baz=250
C17K **DeLong Mountai** 20.28 38 P Pn 21 31 30.1 -0.6
baz=249,SNR=68
C17K S Sn 21 35 16.5 -1.4
baz=249
E17K **Hotham Inlet** 20.32 42 P Pn 21 31 31.0 -0.2
baz=254,SNR=140
E17K S Sn 21 35 17.0 -1.9
baz=254
JTM **Tenmabayashi** 20.34 231 P **P** 21 31 29.1 -0.1
F17K **Baldwin Pennin** 20.37 44 S Sn 21 35 18.6 -1.6
baz=257
N15K **Kwethluk River** 20.39 62 P Pn 21 31 31.7 -0.5
N15K **Kwethluk River** 20.39 62 P Pn 21 31 32.2 +0.1
baz=275,SNR=297
N15K S Sn 21 35 18.2 -2.7
baz=275
G17K **Kiwalik Mounta** 20.42 47 P Pn 21 31 31.6 -0.8
baz=260,SNR=90
G17K S Sn 21 35 19.5 -1.8
baz=260
H17K **Granite Mounta** 20.63 48 P **P** 21 31 33.5 +1.3
H17K IAmb IAmb 21 31 39.5
comp=Z,286nm,1.0s
H17K **Granite Mounta** 20.63 48 P Pn 21 31 34.4 -0.6
baz=262,SNR=197
H17K S Sn 21 35 24.5 -2.0
baz=262
O15K **Ungalikthiuk R** 20.63 65 P **P** 21 31 33.5 +1.2
O15K IAmb IAmb 21 31 35.1
comp=Z,217nm,0.8s
O15K **Ungalikthiuk R** 20.63 65 P Pn 21 31 33.9 -1.1
baz=278,SNR=73
O15K S Sn 21 35 25.3 -1.3
baz=278
J17K **VABM Dome** 20.84 53 P **P** 21 31 35.3 +0.8
J17K **VABM Dome** 20.84 53 P Pn 21 31 36.7 -0.7
baz=267,SNR=160
J17K S Sn 21 35 28.3 -3.2
baz=267
E18K **Tukpahlearik C** 20.87 41 P **P** 21 31 35.2 +0.5
E18K IAmb IAmb 21 31 37.8
comp=Z,144nm,1.1s
E18K **Tukpahlearik C** 20.87 41 P Pn 21 31 36.5 -1.2
baz=255,SNR=79
E18K S **S** 21 35 27.0 +2.9
baz=255
M16K **Timber Creek** 20.89 59 P **P** 21 31 35.9 +0.8
M16K **Timber Creek** 20.89 59 P Pn 21 31 37.1 -0.9
baz=273,SNR=174
M16K S **S** 21 35 27.9 +3.0
baz=273
C18K **Utukok River** 21.02 38 P **P** 21 31 36.8 +0.3
C18K IAmb IAmb 21 31 52.6
comp=Z,242nm,0.9s
C18K **Utukok River** 21.02 38 P **P** 21 31 37.7 +1.2
baz=251,SNR=83
C18K S **S** 21 35 29.0 +1.6
baz=251
N16K **Nishlik Lake** 21.03 61 P **P** 21 31 38.5 +2.0
baz=275,SNR=112
N16K S **S** 21 35 30.3 +2.8
baz=275
F18K **Selawik** 21.03 44 P **P** 21 31 38.4 +2.0
baz=258,SNR=121
F18K S Sn 21 35 32.5 -3.5
baz=258
B18K **Kokolik River** 21.07 36 P **P** 21 31 38.5 +1.7
baz=248,SNR=43
B18K S **S** 21 35 29.8 +1.7
baz=248
SDPT **Sand Point** 21.09 76 P **P** 21 31 37.1 -0.1
SDPT IAmb IAmb 21 31 51.2
comp=Z,131nm,0.9s
SDPT **Sand Point** 21.09 76 P **P** 21 31 37.1 -0.1
SDPT **Sand Point** 21.09 76 S **S** 21 35 28.4 -0.4
SDPT **Sand Point** 21.09 76 P **P** 21 31 36.9 -0.3
baz=287
TIXI **Tiksi** 21.12 331 P **P** 21 31 37.2 -0.2
TIXI **Tiksi** 21.12 331 P **P** 21 31 37.5 +0.1
comp=Z,73nm,0.9s,baz=129,slow=11,SNR=28
TIXI LR LR 21 40 37.7
comp=Z,3μm,19.9s,baz=140,slow=39
comp=Z,73nm,0.9s
TIXI **Tiksi** 21.12 331 *c i*P **P** 21 31 37.9 +0.5
TIXI pmax pmax
comp=Z,165nm,1.3s
TIXI MLR MLR
comp=Z,3μm,16.0s
K17K **Iditarod** 21.17 55 P **P** 21 31 39.2 +1.1
K17K **Iditarod** 21.17 55 P **P** 21 31 40.0 +2.0
baz=270,SNR=194
K17K S **S** 21 35 34.7 +4.4
baz=270
L17K **Donlin** 21.17 56 P **P** 21 31 40.0 +2.0
baz=271,SNR=120
L17K S **S** 21 35 34.3 +3.9
baz=271
G18K **Tagagawik** 21.30 46 P **P** 21 31 40.3 +1.0
G18K **Tagagawik** 21.30 46 P **P** 21 31 41.1 +1.8
baz=261,SNR=282
G18K S **S** 21 35 37.4 +4.6
baz=261
H18K **Honhosa River** 21.31 48 P **P** 21 31 40.2 +0.7
H18K IAmb IAmb 21 31 48.9
comp=Z,295nm,1.1s
H18K **Honhosa River** 21.31 48 P **P** 21 31 41.2 +1.7
baz=263,SNR=158
H18K S **S** 21 35 37.4 +4.3
baz=263
HEH **HeiHe** 21.33 269 *e*P **P** 21 31 38.1 -1.7
HEH pP **pP** 21 31 51.8 -0.1
HEH S **S** 21 35 32.4 -1.2
HEH pmax pmax
comp=Z,42nm,1.2s
HEH pmax pmax
comp=Z,450nm,5.3s
HEH LR LR
comp=Z,3μm,17.9s
HEH LR LR
comp=Z,2μm,20.8s
HEH LR LR
comp=Z,1μm,17.7s
S14K **Fog Glacier** 21.34 73 P **P** 21 31 41.9 +2.0
baz=285,SNR=15
S14K S **S** 21 35 37.2 +3.3
baz=285
O16K **Kokwok River B** 21.46 63 P **P** 21 31 41.1 0.0
O16K **Kokwok River B** 21.46 63 P **P** 21 31 42.0 +0.9
baz=278,SNR=37
O16K S **S** 21 35 36.6 +0.6
baz=278
P16K **Nushagak River** 21.59 65 P **P** 21 31 43.0 +0.5
P16K **Nushagak River** 21.59 65 P **P** 21 31 43.6 +1.1
baz=279
M17K **Holitna River** 21.61 58 P **P** 21 31 43.8 +1.1
M17K **Holitna River** 21.61 58 P **P** 21 31 44.5 +1.8
baz=274,SNR=181
M17K S **S** 21 35 41.6 +2.6
baz=274
A19K **Wainwright** 21.62 34 P **P** 21 31 43.8 +1.1
baz=247,SNR=18
A19K S **S** 21 35 40.3 +1.3
baz=247
C19K **Lookout Ridge** 21.72 37 P **P** 21 31 44.2 +0.4
C19K **Lookout Ridge** 21.72 37 P **P** 21 31 45.2 +1.3
baz=252,SNR=92
C19K S **S** 21 35 42.2 +1.1
baz=252
CHNA **Chernabura Isl** 21.74 76 S **S** 21 35 40.7 -0.8
CHNA **Chernabura Isl** 21.74 76 P **P** 21 31 44.3 +0.2
CHNA **Chernabura Isl** 21.74 76 P **P** 21 31 44.2 +0.2
baz=289,SNR=35
CHNA S **S** 21 35 39.4 -2.1
baz=289
CNBA **Chernabura Isl** 21.74 77 P **P** 21 31 43.5 -0.6
CNBA IAmb IAmb 21 31 48.1
comp=Z,134nm,0.6s
N17K **Nushagak Hills** 21.80 61 P **P** 21 31 45.5 +0.8
N17K **Nushagak Hills** 21.80 61 P **P** 21 31 46.0 +1.2
baz=276,SNR=36
N17K S **S** 21 35 44.7 +2.0
baz=276
F19K **Shaleruckik Mo** 21.81 44 P **P** 21 31 46.1 +1.3
baz=260
F19K S **S** 21 35 44.8 +2.1
baz=260
GCSA **Galena City Sc** 21.90 49 P **P** 21 31 46.6 +0.9
baz=266
GCSA S **S** 21 35 45.7 +1.3
baz=266
J18K **Innoko River** 21.91 53 P **P** 21 31 46.9 +1.0
J18K IAmb IAmb 21 31 55.5
comp=Z,154nm,1.0s
J18K **Innoko River** 21.91 53 P **P** 21 31 47.2 +1.3
baz=269,SNR=147
J18K S **S** 21 35 45.8 +1.1
baz=269
L18K **Granite Mounta** 21.93 56 P **P** 21 31 47.0 +0.9
L18K IAmb IAmb 21 31 50.0
comp=Z,166nm,1.1s
L18K **Granite Mounta** 21.93 56 P **P** 21 31 47.8 +1.7
baz=272,SNR=104
L18K S **S** 21 35 48.1 +3.0
baz=272
O17K **Koliganek Bris** 21.94 63 P **P** 21 31 47.3 +1.1
baz=278,SNR=50
O17K S **S** 21 35 46.8 +1.6
baz=278
CHGN **Chignik** 21.95 72 P **P** 21 31 46.7 +0.4
CHGN IAmb IAmb 21 32 09.1
comp=Z,150nm,0.9s
CHGN **Chignik** 21.95 72 P **P** 21 31 47.3 +1.0
baz=286,SNR=12
G19K **Purcell Mounta** 21.97 45 P **P** 21 31 46.8 +0.3
G19K IAmb IAmb 21 31 49.8
comp=Z,152nm,0.9s
G19K **Purcell Mounta** 21.97 45 P **P** 21 31 47.5 +1.0
baz=262,SNR=181
G19K S **S** 21 35 47.0 +1.2
baz=262
D19K **Kuna River** 22.06 39 P **P** 21 31 47.4 0.0
D19K **Kuna River** 22.06 39 P **P** 21 31 48.1 +0.6
baz=255,SNR=152
D19K S **S** 21 35 48.2 +0.7
baz=255
E19K **Redstone River** 22.14 42 P **P** 21 31 49.2 +0.8
E19K IAmb IAmb 21 32 11.0
comp=Z,175nm,0.9s
E19K **Redstone River** 22.14 42 P **P** 21 31 49.7 +1.3
baz=259,SNR=138
E19K S **S** 21 35 50.3 +1.3
baz=259
H19K **Roundabout Mou** 22.15 47 P **P** 21 31 48.6 +0.1
H19K **Roundabout Mou** 22.15 47 P **P** 21 31 49.8 +1.3
baz=264,SNR=410
H19K S **S** 21 35 51.1 +2.0
baz=264
USA0B **Ussuriysk Arra** 22.28 251 P **P** 21 31 50.1 0.0
USA0B **Ussuriysk Arra** 22.28 251 P **P** 21 31 50.1 0.0
USA0B pmax pmax
comp=Z,100nm,1.7s
USRK **Ussuriysk Ar.** 22.28 251 P **P** 21 31 50.0 0.0
USRK **Ussuriysk Ar.** 22.28 251 P **P** 21 31 48.1 -1.9
comp=Z,3.1nm,0.5s,baz=42,slow=11,SNR=8.4
USRK ScP **ScP** 21 39 14.7 -2.1
comp=Z,5.6nm,0.9s,baz=146,slow=4.6,SNR=5.9
Q16K **King Salmon** 22.33 65 P **P** 21 31 51.8 +1.4
baz=281,SNR=6.8
Q16K S **S** 21 35 53.9 +1.5
baz=281
P17K **Kvichak River** 22.35 64 P **P** 21 31 52.0 +1.3
baz=280,SNR=40
P17K S **S** 21 35 54.8 +2.0
baz=280
M18K **Stony River** 22.38 58 P **P** 21 31 52.2 +1.3
baz=275,SNR=69
M18K S **S** 21 35 55.9 +2.7
baz=275
J19K **Poorman** 22.41 51 IAmb IAmb 21 31 54.3
comp=Z,110nm,0.9s
J19K **Poorman** 22.41 51 P **P** 21 31 51.9 +0.6
baz=269,SNR=171
J19K S **S** 21 35 54.4 +0.7
baz=269
N18K **Kilae Creek** 22.42 60 IAmb IAmb 21 32 00.1
comp=Z,183nm,1.4s
N18K **Kilae Creek** 22.42 60 P **P** 21 31 52.6 +1.1
baz=277,SNR=49
N18K S **S** 21 35 57.1 +3.0
baz=277
F20K **Avaraart Lake** 22.64 43 P **P** 21 31 54.5 +0.8
baz=261,SNR=67
F20K S **S** 21 35 58.4 +0.8
baz=261
D20K **Etivluk River** 22.64 39 P **P** 21 31 54.2 +0.5
baz=256,SNR=151
D20K S **S** 21 35 57.7 -0.1
baz=256
E20K **Nigu River** 22.69 40 P **P** 21 31 55.0 +0.7
baz=258,SNR=224
E20K S **S** 21 35 58.7 0.0
baz=258
R17L **Mt. Peulik Vol** 22.70 68 P **P** 21 31 55.6 +1.1
baz=284,SNR=50
R17L S **S** 21 35 58.7 -0.2
baz=284
L19K **White Mountain** 22.79 56 P **P** 21 31 54.4 -1.0
L19K **White Mountain** 22.79 56 P **P** 21 31 56.2 +0.9
baz=274,SNR=25
L19K S **S** 21 36 01.7 +1.4
baz=274
H20K **Anotleneega Mo** 22.80 47 P **P** 21 31 56.3 +0.9
baz=266,SNR=197
H20K S **S** 21 36 01.8 +1.4
baz=266
B20K **Meade River** 22.81 36 P **P** 21 31 55.5 +0.1
B20K **Meade River** 22.81 36 P **P** 21 31 55.8 +0.4
baz=253,SNR=104
B20K S **S** 21 36 00.2 -0.2
baz=253
Q17K **Contact Creek** 22.81 66 P **P** 21 31 56.1 +0.4
baz=282,SNR=42
Q17K S **S** 21 36 02.0 +1.1
baz=282
O18K **Koktuh Hills** 22.87 62 P **P** 21 31 56.5 +0.3
O18K IAmb IAmb 21 32 05.5
comp=Z,176nm,1.1s
O18K **Koktuh Hills** 22.87 62 P **P** 21 31 57.1 +0.9
baz=279,SNR=36
O18K S **S** 21 36 03.8 +2.1
baz=279
JMM **Marumori** 22.89 227 P **P** 21 31 57.0 +0.5
JMM IAmb IAmb 21 32 19.1
comp=Z,114nm,1.0s
JMM **Marumori** 22.89 227 P **P** 21 31 57.4 +0.9
I20K **Naaghedeneel** 22.93 49 P **P** 21 31 57.8 +1.1
baz=268,SNR=19
I20K S **S** 21 36 04.5 +2.0
baz=268
P18K **Big Mountain,** 22.93 63 P **P** 21 31 56.9 0.0
P18K IAmb IAmb 21 31 59.0
comp=Z,114nm,0.9s
P18K **Big Mountain,** 22.93 63 P **P** 21 31 57.8 +0.9
baz=280,SNR=24
P18K S **S** 21 36 04.7 +1.9
baz=280
M19K **Big River Lodg** 23.02 57 IAmb IAmb 21 32 00.3
comp=Z,240nm,1.5s
M19K **Big River Lodg** 23.02 57 P **P** 21 31 58.8 +1.1
baz=275,SNR=60
M19K S **S** 21 36 04.8 +0.6
baz=275
J20K **Nowinta River** 23.06 51 P **P** 21 31 58.7 +0.7
baz=270,SNR=265
J20K S **S** 21 36 04.9 +0.2
baz=270
N19K **Bonanza Creek** 23.09 60 P **P** 21 31 58.3 -0.2
N19K **Bonanza Creek** 23.09 60 P **P** 21 31 59.5 +1.0
baz=277,SNR=26
N19K S **S** 21 36 08.6 +3.1
baz=277
K20K **Telida** 23.10 53 P **P** 21 31 59.2 +0.8
baz=272,SNR=166
K20K S **S** 21 36 05.5 +0.1
baz=272
Q18K **Katmai Hardscr** 23.18 65 P **P** 21 31 59.9 +0.5
baz=282
Q18K S **S** 21 36 08.7 +1.6
baz=282
L20K **Farewell, AK** 23.22 55 P **P** 21 32 00.3 +0.6
baz=274,SNR=59
L20K S **S** 21 36 08.0 +0.5
baz=274
O19K **Port Alsworth** 23.26 61 P **P** 21 32 00.4 +0.4
O19K IAmb IAmb 21 32 15.0
comp=Z,112nm,1.1s
O19K **Port Alsworth** 23.26 61 P **P** 21 32 01.0 +1.0
baz=279
IMAR **Indian Mountai** 23.30 46 P **P** 21 32 00.6 +0.2
C21K **Knifeblade Rid** 23.39 38 P **P** 21 32 02.1 +0.9
baz=257,SNR=202
C21K S **S** 21 36 10.5 +0.4
baz=257
A21K **Barrow** 23.40 32 P **P** 21 32 01.0 -0.2
baz=250
A21K S **S** 21 36 10.7 +0.6
baz=250
G21K **Allakaket** 23.45 45 P **P** 21 32 02.5 +0.7
baz=265,SNR=428
G21K S **S** 21 36 12.0 +1.0
baz=265
F21K **Alatna River** 23.54 43 P **P** 21 32 03.1 +0.5
baz=263,SNR=274
F21K S **S** 21 36 13.4 +1.0
baz=263
E21K **Killik River** 23.54 40 P **P** 21 32 03.0 +0.3
baz=260
E21K S **S** 21 36 11.7 -0.7
baz=260
B21K **Ikpikpuk River** 23.56 37 P **P** 21 32 03.6 +0.9
baz=256,SNR=284
B21K S **S** 21 36 12.6 -0.1
baz=256
CHIR **Chirikof Islan** 23.58 72 IAmb IAmb 21 32 09.3
comp=Z,194nm,1.0s
CHIR **Chirikof Islan** 23.58 72 P **P** 21 32 03.8 +0.7
CHIR **Chirikof Islan** 23.58 72 S **S** 21 36 14.0 +0.7
CHIR **Chirikof Islan** 23.58 72 P **P** 21 32 03.3 +0.2
baz=288
CHIR S **S** 21 36 12.4 -0.9
baz=288
M20K **Styx River** 23.62 57 IAmb IAmb 21 32 06.4
comp=Z,172nm,1.1s
M20K **Styx River** 23.62 57 P **P** 21 32 04.8 +1.3
baz=276,SNR=90
M20K S **S** 21 36 15.8 +1.7
baz=276
H21K **Melozitna Rive** 23.67 47 P **P** 21 32 04.5 +0.6
baz=268,SNR=104
H21K S **S** 21 36 15.2 +0.6
baz=268
R18K **Karluk** 23.72 68 P **P** 21 32 03.3 -1.0
baz=285
BNX **BinXian** 23.80 260 ⇓P **P** 21 32 04.0 -1.2
BNX pP **sP** 21 32 21.4 -3.1
BNX S **S** 21 36 11.6 -5.4
BNX pmax pmax
comp=Z,48nm,1.0s
BNX LR LR
comp=Z,2μm,20.6s
BNX LR LR
comp=Z,1μm,17.9s
BNX LR LR
comp=Z,980nm,15.2s
A22K **Sinclair Lake** 23.81 34 P **P** 21 32 05.6 +0.6
baz=253,SNR=14
A22K S **S** 21 36 15.3 -1.4
baz=253
Q19K **Cape Douglas,** 23.82 64 P **P** 21 32 06.1 +0.7
baz=282,SNR=25
Q19K S **S** 21 36 17.6 +0.3
baz=282
JSD **Sado** 23.83 232 P **P** 21 32 06.6 +1.1
MSHR **Mys Shultsa** 23.83 249 *c i*P **P** 21 32 03.5 -2.0
MSHR MLR MLR
comp=Z,714nm,17.0s
CHUM **Lake Minchumin** 23.87 52 P **P** 21 32 06.6 +0.9
baz=272,SNR=102
CHUM S **S** 21 36 19.2 +1.5
baz=272
P19K **Oil Pt** 23.89 62 P **P** 21 32 06.8 +0.9
baz=281,SNR=38
P19K S **S** 21 36 19.8 +1.5
baz=281
PPLA **Purkeypile** 23.97 54 P **P** 21 32 07.5 +0.6
baz=274,SNR=130

PPLA S **S** **21 36 21.4 +1.6**
baz=274
CAST **Castle Rocks** **23.99 53** IAmb IAmb 21 32 10.9
comp=Z,144nm,0.9s
CAST **Castle Rocks** **23.99 53** P **P** **21 32 07.8 +1.0**
baz=273,SNR=249
CAST S **S** **21 36 20.9 +1.0**
baz=273
I21K **Tanana** **24.00 48** P **P** **21 32 07.7 +0.8**
baz=269,SNR=86
I21K S **S** **21 36 21.2 +1.3**
baz=269
F22K **John River** **24.07 43** P **P** **21 32 08.2 +0.7**
baz=264,SNR=222
F22K S **S** **21 36 21.3 +0.2**
baz=264
D22K **Ayikyak River** **24.08 39** P **P** **21 32 08.3 +0.7**
baz=260,SNR=334
D22K S **S** **21 36 21.5 +0.3**
baz=260
O20K **Slope Mountain** **24.11 61** P **P** **21 32 08.9 +0.9**
baz=280,SNR=28
O20K S **S** **21 36 23.6 +1.7**
baz=280
B22K **Teshekpuk Lake** **24.13 36** P **P** **21 32 08.5 +0.5**
baz=256,SNR=71
B22K S **S** **21 36 22.2 +0.4**
baz=256
SII **Sitkinak Islan** **24.13 70** P **P** **21 32 07.7 -0.5**
SII **Sitkinak Islan** **24.13 70** P **P** **21 32 09.7 +1.5**
SII **Sitkinak Islan** **24.13 70** S **S** **21 36 23.2 +1.0**
SII **Sitkinak Islan** **24.13 70** P **P** **21 32 08.2 +0.1**
baz=287,SNR=9.1
SII S **S** **21 36 21.3 -0.9**
baz=287
N20K **Mount Spurr** **24.14 58** P **P** **21 32 09.5 +1.2**
baz=278
N20K S **S** **21 36 24.5 +2.1**
baz=278
SPCR **Spurr Chakacha** **24.14 58** P **P** **21 32 09.7 +1.4**
baz=278,SNR=13
SPCR S **S** **21 36 24.3 +1.9**
baz=278
SPU **Mount Spurr** **24.22 58** P **P** **21 32 09.5 +0.6**
SPU IAmb IAmb 21 32 12.3
comp=Z,164nm,1.1s
H22K **Ishtalitna Cre** **24.27 47** P **P** **21 32 10.2 +0.8**
baz=268,SNR=301
H22K S **S** **21 36 25.6 +1.4**
baz=268
G22K **Bettles** **24.27 44** P **P** **21 32 09.3 0.0**
baz=266,SNR=443
G22K S **S** **21 36 24.8 +0.6**
baz=266
STLK **Strandline Lak** **24.28 57** IAmb IAmb 21 32 12.5
comp=Z,104nm,1.0s
E22K **Anaktuvuk Pass** **24.28 41** P **P** **21 32 09.9 +0.4**
baz=263,SNR=377
E22K S **S** **21 36 23.5 -1.0**
baz=263
SKT **Skwentna** **24.36 56** P **P** **21 32 10.9 +0.7**
baz=277,SNR=143
OHAK **Old Harbor** **24.42 68** IAmb IAmb 21 32 17.5
comp=Z,100nm,1.1s
OHAK **Old Harbor** **24.42 68** P **P** **21 32 11.3 +0.6**
OHAK **Old Harbor** **24.42 68** S **S** **21 36 27.6 +0.9**
OHAK **Old Harbor** **24.42 68** P **P** **21 32 10.1 -0.6**
baz=286,SNR=26
BPAW **Bear Paw Mtn.** **24.44 51** P **P** **21 32 11.3 +0.4**
BPAW **Bear Paw Mtn.** **24.44 51** P **P** **21 32 11.7 +0.7**
baz=273,SNR=136
BPAW S **S** **21 36 28.1 +1.0**
baz=273
MLY **Manley** **24.53 49** IAmb IAmb 21 32 15.0
comp=Z,180nm,1.0s
MLY **Manley** **24.53 49** P **P** **21 32 12.4 +0.6**
baz=271,SNR=151
MLY S **S** **21 36 30.0 +1.5**
baz=271
Q20K **Shuyak Island** **24.53 64** P **P** **21 32 12.3 +0.6**
baz=284,SNR=17
Q20K S **S** **21 36 29.5 +1.0**
baz=284
KDAK **Kodiak Island** **24.63 66** P **P** **21 32 12.4 -0.3**
KDAK IAmb IAmb 21 32 19.2
comp=Z,109nm,0.9s
KDAK **Kodiak Island** **24.63 66***d i* P **P** **21 32 12.6 -0.1**
KDAK pmax pmax
comp=Z,65nm,0.7s
KDAK **Kodiak Island** **24.63 66** P **P** **21 32 12.0 -0.7**
baz=285
KDAK S **S** **21 36 28.8 -1.3**
baz=285
HOM **Homer** **24.68 62** P **P** **21 32 13.8 +0.7**
HOM **Homer** **24.68 62** P **P** **21 32 12.8 -0.3**
baz=282
HOM S **S** **21 36 30.2 -0.7**
baz=282
CAPN **Captain Cook N** **24.71 59** P **P** **21 32 14.8 +1.4**
CAPN **Captain Cook N** **24.71 59** P **P** **21 32 14.5 +1.1**
baz=280,SNR=13
CAPN S **S** **21 36 28.4 -3.0**
baz=280
TRF **Thorofare Moun** **24.79 53** P **P** **21 32 14.9 +0.6**
baz=275,SNR=161
TRF S **S** **21 36 33.7 +0.7**
baz=275
SUA **Susitna One** **24.80 57** IAmb IAmb 21 32 26.5
comp=Z,120nm,0.8s
SUA **Susitna One** **24.80 57** P **P** **21 32 14.5 +0.2**
baz=279,SNR=146
SUA S **S** **21 36 33.0 0.0**
baz=279
COLD **Coldfoot** **24.81 43** P **P** **21 32 14.4 +0.1**
COLD IAmb IAmb 21 32 17.1
comp=Z,103nm,0.9s
COLD **Coldfoot** **24.81 43** P **P** **21 32 14.7 +0.5**
baz=266,SNR=68
COLD S **S** **21 36 33.1 +0.3**
baz=266
D23K **Nanushuk River** **24.81 39** P **P** **21 32 14.9 +0.7**
baz=262,SNR=117
D23K S **S** **21 36 32.3 -0.5**
baz=262
G23K **Bananza Creek** **24.85 45** IAmb IAmb 21 32 17.4
comp=Z,191nm,1.2s
G23K **Bananza Creek** **24.85 45** P **P** **21 32 14.8 +0.1**
baz=268,SNR=146
G23K S **S** **21 36 34.3 +0.7**
baz=268
CUT **Chulitna** **24.90 55** P **P** **21 32 15.0 0.0**
CUT **Chulitna** **24.90 55** P **P** **21 32 15.1 0.0**
baz=277,SNR=20
CNPM **China Poot** **24.91 62** IAmb IAmb 21 32 46.0
comp=Z,118nm,0.8s
C23K **Itkillik River** **24.97 37** P **P** **21 32 16.2 +0.6**
baz=260,SNR=144
C23K S **S** **21 36 35.5 +0.2**
baz=260
H23K **Yukon River** **25.02 47** P **P** **21 32 17.3 +1.1**
baz=270,SNR=446
H23K S **S** **21 36 38.0 +1.6**
baz=270
BRLK **Bradley Lake** **25.03 61** IAmb IAmb 21 32 47.6
comp=Z,58nm,0.7s
M22K **Willow** **25.06 57** IAmb IAmb 21 32 23.8
comp=Z,100nm,0.8s
M22K **Willow** **25.06 57** P **P** **21 32 17.0 +0.5**
baz=278,SNR=8.9
M22K S **S** **21 36 35.1 -1.7**
baz=278
E23K **Chandalar** **25.09 42** P **P** **21 32 17.6 +0.7**
baz=265,SNR=171
E23K S **S** **21 36 37.3 -0.3**
baz=265
MAJO **Matsushiro** **25.10 230** P **P** **21 32 17.4 +0.2**
MAJO **Matsushiro** **25.10 230** P **P** **21 32 17.7 +0.5**
MAJO **Matsushiro** **25.10 230***c i* P **P** **21 32 17.3 +0.1**
MAJO pmax pmax
comp=Z,89nm,0.9s
MJAR **Matsushiro Arr** **25.10 230** P **P** **21 32 17.5 +0.3**
MJAR IAmb IAmb 21 32 43.3
comp=Z,110nm,1.1s
MJAR **Matsushiro Arr** **25.10 230** P **P** **21 32 17.0 -0.1**
comp=Z,46nm,0.9s,baz=22,slow=8.8,SNR=119
MJAR ScP **ScP** **21 39 23.9 -0.7**
comp=Z,2.5nm,0.8s,baz=25,slow=1.4,SNR=5.6
MJAR LR LR 21 43 00.6
comp=Z,2µm,18.9s,baz=36,slow=38
comp=Z,46nm,0.9s
MJAR **Matsushiro Arr** **25.10 230** P **P** **21 32 17.5 +0.3**
MJAR pmax pmax
comp=Z,110nm,1.1s
I23K **Minto, Yukon-K** **25.11 48** P **P** **21 32 17.8 +0.8**
baz=272,SNR=306
I23K S **S** **21 36 38.0 +0.4**
baz=272
TOLK **Toolik Lake Re** **25.17 40** P **P** **21 32 17.9 +0.4**
baz=264,SNR=194
TOLK S **S** **21 36 38.2 -0.5**
baz=264
SLKM **Skilak Lake** **25.21 59** P **P** **21 32 17.8 -0.2**
SLKM IAmb IAmb 21 32 46.7
comp=Z,182nm,1.9s
NEA2 **Nenana** **25.25 50** IAmb IAmb 21 32 22.8
comp=Z,98nm,0.8s
NEA2 **Nenana** **25.25 50** P **P** **21 32 18.7 +0.4**
baz=273,SNR=108
NEA2 S **S** **21 36 40.1 +0.1**
baz=273
RC01 **Rabbit Creek A** **25.34 58** P **P** **21 32 18.6 -0.5**
RC01 **Rabbit Creek A** **25.34 58** P **P** **21 32 18.2 -0.9**
baz=280,SNR=13
RC01 S **S** **21 36 39.3 -2.2**
baz=280
MCK **McKinley** **25.37 52** IAmb IAmb 21 32 42.9
comp=Z,179nm,1.2s
MCK **McKinley** **25.37 52** P **P** **21 32 19.8 +0.4**
baz=275,SNR=33
MCK S **S** **21 36 40.5 -1.5**
baz=275
RND **Reindeer** **25.44 53** IAmb IAmb 21 32 27.5
comp=Z,176nm,1.2s
D24K **Happy Valley** **25.49 39** P **P** **21 32 20.8 +0.4**
baz=264,SNR=114
D24K S **S** **21 36 43.2 -0.5**
baz=264
E24K **Your Creek** **25.52 42** IAmb IAmb 21 32 39.3
comp=Z,116nm,0.8s
E24K **Your Creek** **25.52 42** P **P** **21 32 21.4 +0.7**
baz=266,SNR=149
E24K S **S** **21 36 44.2 0.0**
baz=266
PMR **Palmer** **25.55 57** P **P** **21 32 21.2 +0.3**
PMR **Palmer** **25.55 57** P **P** **21 32 21.2 +0.3**
PMR pmax pmax
comp=Z,28nm,0.8s
PMR **Palmer** **25.55 57** P **P** **21 32 21.2 +0.3**
baz=280
PMR S **S** **21 36 43.2 -1.4**
baz=280
C24K **Franklin Bluff** **25.61 38** P **P** **21 32 21.8 +0.4**
baz=263,SNR=152
C24K S **S** **21 36 45.5 +0.1**
baz=263
GHO **Glory Hole Cre** **25.61 56** IAmb IAmb 21 33 00.6
comp=Z,75nm,0.9s
SEW **Seward** **25.67 60** P **P** **21 32 21.8 -0.3**
SEW IAmb IAmb 21 32 30.1
comp=Z,78nm,0.9s
SEW **Seward** **25.67 60** P **P** **21 32 21.8 -0.3**
baz=282,SNR=19
SEW S **S** **21 36 43.6 -3.0**
baz=282
H24K **Noodor Dome** **25.71 47** IAmb IAmb 21 33 01.0
comp=Z,79nm,0.9s
H24K **Noodor Dome** **25.71 47** P **P** **21 32 23.3 +0.8**
baz=272,SNR=61
H24K S **S** **21 36 49.4 +2.2**
baz=272
F24K **Squaw Lake** **25.72 43** P **P** **21 32 22.6 +0.1**
baz=268,SNR=67
F24K S **S** **21 36 48.1 +0.8**
baz=268
COLA **College** **25.76 49** P **P** **21 32 23.5 +0.6**
COLA IAmb IAmb 21 32 27.4
comp=Z,101nm,0.9s
COLA **College** **25.76 49** P **P** **21 32 23.9 +1.1**
COLA **College** **25.76 49***c i* P **P** **21 32 23.4 +0.6**
COLA pmax pmax
comp=Z,77nm,0.9s
COLA **College** **25.76 49** P **P** **21 32 23.3 +0.5**
baz=274
COLA S **S** **21 36 48.6 +0.7**
baz=274
CCB **Clear Creek Bu** **25.80 50** IAmb IAmb 21 32 29.2
comp=Z,138nm,1.0s
G24K **Hadweenzic Riv** **25.86 45** IAmb IAmb 21 32 30.2
comp=Z,208nm,1.1s
G24K **Hadweenzic Riv** **25.86 45** P **P** **21 32 24.7 +0.9**
baz=270,SNR=158
G24K S **S** **21 36 50.8 +1.2**
baz=270
BOD **Bodaibo** **25.88 294** *e* P **P** **21 32 21.6 -2.4**
BOD pmax pmax
comp=Z,171nm,1.7s
KNK **Knik Glacier** **25.89 57** IAmb IAmb 21 32 30.1
comp=Z,126nm,1.0s
KNK **Knik Glacier** **25.89 57** P **P** **21 32 24.3 +0.2**
baz=280,SNR=30
KNK S **S** **21 36 49.2 -1.0**
baz=280
POKR **Poker Plat Res** **25.92 48** IAmb IAmb 21 32 58.8
comp=Z,100nm,0.9s
POKR **Poker Plat Res** **25.92 48** P **P** **21 32 25.0 +0.7**
baz=274,SNR=19
POKR S **S** **21 36 50.1 -0.5**
baz=274
PWL **Port Wells** **26.06 58** P **P** **21 32 25.7 +0.1**
PWL **Port Wells** **26.06 58** P **P** **21 32 25.5 -0.1**
baz=282,SNR=128
PWL S **S** **21 36 50.7 -2.1**
baz=282
CN2 **Changchun** **26.10 258** *e* P **P** **21 32 27.2 +1.0**
CN2 *e* S **S** **21 36 48.1 -5.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,800nm,14.0s
M23K **Glacier View** **26.17 56** P **P** **21 32 26.9 +0.2**
baz=280,SNR=54
M23K S **S** **21 36 53.5 -1.1**
baz=280
ILAR **Eielson Array** **26.18 49** P **P** **21 32 26.6 -0.1**
comp=Z,64nm,0.9s,baz=263,slow=8.4,SNR=237
ILAR LR LR 21 43 49.2
comp=Z,1µm,19.0s,baz=259,slow=39
comp=Z,64nm,0.9s
HDA **Harding Lake** **26.18 50** IAmb IAmb 21 32 46.1
comp=Z,66nm,0.8s
HDA **Harding Lake** **26.18 50** P **P** **21 32 26.4 -0.3**
baz=275,SNR=52
HDA S **S** **21 36 54.3 -0.4**
baz=275
JGF **Kuroka** **26.26 230** IAmb IAmb 21 33 02.5
comp=Z,50nm,0.7s
JGF **Kuroka** **26.26 230** P **P** **21 32 28.5 +0.8**
SCM **Sheep Creek Mo** **26.35 56** P **P** **21 32 28.8 +0.4**
baz=280,SNR=137
SCM S **S** **21 36 56.7 -0.9**
baz=280
D25K **Kavik River** **26.38 39** P **P** **21 32 28.8 +0.3**
baz=266,SNR=120
D25K S **S** **21 36 56.9 -0.9**
baz=266
G25K **Bearman Lake** **26.41 45** P **P** **21 32 29.6 +0.9**
baz=271,SNR=34
H25L **Birch Creek** **26.54 46** P **P** **21 32 30.8 +1.0**
baz=273,SNR=34
H25L S **S** **21 37 00.8 +0.6**
baz=273
F25K **Christian Rive** **26.58 43** IAmb IAmb 21 32 32.5
comp=Z,110nm,1.4s
F25K **Christian Rive** **26.58 43** P **P** **21 32 30.9 +0.6**
baz=270,SNR=64
F25K S **S** **21 37 01.9 +0.9**
baz=270
INU **Inuyama** **26.62 230** P **P** **21 32 31.2 +0.3**
INU **Inuyama** **26.62 230** P **P** **21 32 32.6 +1.7**
GLI **Glacier Island** **26.65 58** IAmb IAmb 21 32 44.2
comp=Z,74nm,0.7s
GLI **Glacier Island** **26.65 58** P **P** **21 32 30.7 -0.2**
baz=282,SNR=36
GLI S **S** **21 37 01.2 -0.8**
baz=282
PRP **Porcupine Dome** **26.70 47** P **P** **21 32 31.6 +0.1**
PRP IAmb IAmb 21 32 33.5
comp=Z,194nm,1.2s
PRP **Porcupine Dome** **26.70 47** P **P** **21 32 31.9 +0.4**
baz=274,SNR=151
PRP S **S** **21 37 04.4 +1.3**
baz=274
JSG **Sagara** **26.70 228** P **P** **21 32 33.1 +1.5**
FYU **Fort Yukon** **26.76 45** IAmb IAmb 21 32 38.5
comp=Z,168nm,1.1s
K24K **Donnelly Dome** **26.76 51** IAmb IAmb 21 32 57.9
comp=Z,74nm,0.8s
K24K **Donnelly Dome** **26.76 51** P **P** **21 32 31.3 -0.7**
baz=278,SNR=18
K24K S **S** **21 37 01.0 -2.8**
baz=278
M24K **Tolsona, Glenn** **26.84 55** P **P** **21 32 33.6 +0.8**
baz=281,SNR=35
M24K S **S** **21 37 06.3 +1.1**
baz=281
J25K **Salcha River,** **26.84 49** P **P** **21 32 31.8 -0.9**
baz=276,SNR=81
J25K S **S** **21 37 02.5 -2.7**
baz=276
C26K **Camden Bay** **26.93 38** P **P** **21 32 34.4 +1.1**
baz=266,SNR=38
C26K S **S** **21 37 07.1 +0.8**
baz=266
FID **Port Fidalgo** **26.97 58** IAmb IAmb 21 33 07.4
comp=Z,76nm,1.1s
BMAR **Burnt Mountain** **26.99 43** P **P** **21 32 34.8 +0.8**
PAX **Paxson** **27.02 53** P **P** **21 32 33.9 -0.4**
baz=279,SNR=34
PAX S **S** **21 37 08.1 +0.1**
baz=279
HIN **Hinchinbrook I** **27.04 59** IAmb IAmb 21 33 03.5
comp=Z,50nm,0.8s
KLU **Klutina** **27.08 56** P **P** **21 32 35.1 +0.3**
baz=282,SNR=46
KLU S **S** **21 37 09.5 +0.5**
baz=282
F26K **Sheenjek River** **27.15 43** P **P** **21 32 36.4 +1.0**
baz=271,SNR=27
F26K S **S** **21 37 12.5 +2.6**
baz=271
RIDG **Independent Ri** **27.18 51** IAmb IAmb 21 33 10.0
comp=Z,105nm,1.0s
RIDG **Independent Ri** **27.18 51** P **P** **21 32 35.1 -0.6**
baz=278,SNR=54
DIV **Divide** **27.22 57** IAmb IAmb 21 32 51.0
comp=Z,48nm,0.8s
HARP **HAARP** **27.26 54** P **P** **21 32 37.0 +0.6**
baz=281,SNR=8.9
HARP S **S** **21 37 11.8 +0.2**
baz=281
G26K **Porcupine Rive** **27.32 44** IAmb IAmb 21 32 42.9
comp=Z,107nm,1.1s
G26K **Porcupine Rive** **27.32 44** P **P** **21 32 37.9 +1.1**
baz=273,SNR=79
G26K S **S** **21 37 14.5 +2.1**
baz=273
C27K **Jago River** **27.33 38** P **P** **21 32 37.8 +0.8**
baz=268,SNR=76
C27K S **S** **21 37 12.8 +0.1**
baz=268
Q23K **Middleton Isla** **27.35 61** P **P** **21 32 37.9 +0.7**
Q23K IAmb IAmb 21 33 05.0
comp=Z,131nm,1.0s
Q23K **Middleton Isla** **27.35 61** P **P** **21 32 37.5 +0.3**
baz=286
Q23K S **S** **21 37 15.7 +2.6**
baz=286
Q23K S **S** **21 37 15.7 +2.6**
baz=286
EYAK **Cordova Ski Ar** **27.36 58** P **P** **21 32 37.5 +0.2**
baz=284,SNR=7.5
EYAK S **S** **21 37 14.2 +0.9**
baz=284
JHJ **Hachijo jima 2** **27.42 223** LR LR 21 45 17.8
comp=Z,368nm,19.2s,baz=47,slow=40
SCRK **Sand Creek** **27.52 51** IAmb IAmb 21 32 43.1
comp=Z,125nm,1.0s
SCRK **Sand Creek** **27.52 51** P **P** **21 32 38.4 -0.4**
baz=279,SNR=90
SCRK S **S** **21 37 13.6 -2.4**
baz=279
J26L **Joseph Creek** **27.63 49** P **P** **21 32 38.4 -1.5**
baz=278,SNR=33
J26L S **S** **21 37 15.1 -2.6**
baz=278
N25K **Chitina, Valde** **27.67 56** IAmb IAmb 21 33 00.3
comp=Z,50nm,0.8s
N25K **Chitina, Valde** **27.67 56** P **P** **21 32 41.0 +0.7**
baz=283,SNR=42
N25K S **S** **21 37 20.0 +1.6**
baz=283
I26K **Coal Creek Min** **27.70 48** P **P** **21 32 39.1 -1.2**
baz=277
BMRM **Bremner River** **27.81 57** IAmb IAmb 21 33 05.9
comp=Z,109nm,1.0s
BMRM **Bremner River** **27.81 57** P **P** **21 32 42.1 +0.7**
baz=284,SNR=42
BMRM S **S** **21 37 21.8 +1.3**
baz=284
RAGM **Ragged Mountai** **27.92 58** P **P** **21 32 42.9 +0.5**
RAGM IAmb IAmb 21 33 10.1
comp=Z,82nm,0.9s
L26K **Log Cabin Wild** **27.96 53** P **P** **21 32 42.8 +0.1**
baz=281,SNR=18
L26K S **S** **21 37 23.6 +0.8**
baz=281
GLB **Gilahina Butte** **28.08 56** IAmb IAmb 21 32 51.0
comp=Z,121nm,1.4s
E27K **Coleen River** **28.10 41** P **P** **21 32 44.3 +0.4**
baz=273,SNR=17
E27K S **S** **21 37 27.0 +2.1**
baz=273
HMT **Hamilton** **28.13 58** P **P** **21 32 44.5 +0.2**
G27K **Doyon Strip** **28.16 44** P **P** **21 32 45.5 +1.0**
baz=275,SNR=53
G27K S **S** **21 37 28.4 +2.5**
baz=275
KAIM **Kayak Island** **28.16 59** P **P** **21 32 44.3 -0.2**
KAIM IAmb IAmb 21 32 59.6
comp=Z,60nm,0.8s
M26K **Nabesna, AK** **28.24 54** IAmb IAmb 21 32 53.7
comp=Z,89nm,1.1s
M26K **Nabesna, AK** **28.24 54** P **P** **21 32 46.5 +1.3**
baz=282,SNR=64
M26K S **S** **21 37 29.7 +2.5**
baz=282
H27K **Steamboat Moun** **28.27 46** P **P** **21 32 45.2 -0.3**
H27K IAmb IAmb 21 32 48.1
comp=Z,184nm,1.4s
H27K **Steamboat Moun** **28.27 46** P **P** **21 32 46.8 +1.3**
baz=276,SNR=95
H27K S **S** **21 37 31.2 +3.5**
baz=276
D27M **Malcolm River** **28.30 39** IAmb IAmb 21 32 51.7
comp=Z,73nm,0.9s
D27M **Malcolm River** **28.30 39** P **P** **21 32 46.4 +0.7**
baz=271,SNR=30
I27K **Kandik River** **28.31 47** P **P** **21 32 45.4 -0.4**
baz=277,SNR=23
K27K **Chicken** **28.34 50** P **P** **21 32 46.3 +0.2**
baz=280
K27K S **S** **21 37 28.5 -0.2**
baz=280
BERG **Berg Lake** **28.39 58** P **P** **21 32 46.9 +0.4**
SUCK **Suckling Hills** **28.44 59** P **P** **21 32 47.7 +0.8**
SUCK IAmb IAmb 21 32 54.6
comp=Z,124nm,1.5s
SNY **Shenyang** **28.44 257** ⇓P **P** **21 32 46.0 -1.1**
SNY *e* S **S** **21 37 26.1 -4.5**
SNY pmax pmax
comp=Z,12nm,1.9s
SNY LR LR
comp=Z,970nm,15.2s
SNY LR LR
comp=Z,930nm,19.9s
SNY LR LR
comp=Z,2µm,16.3s

MCARA **McCarthy VSAT** 28.46 56 P P 21 32 47.7 +0.6
MCARA IAmb IAmb 21 33 15.6
comp=Z,62nm,0.9s
MCARA **McCarthy VSAT** 28.46 56 P P 21 32 48.2 +1.1
baz=284,SNR=18
MCARA S S 21 37 33.0 +2.4
baz=284
CRQM **Cirque** 28.56 57 IAmb IAmb 21 33 03.9
comp=Z,130nm,1.3s
CRQE **Cirque** 28.58 57 P P 21 32 49.3 +1.0
baz=285,SNR=20
L27K **Beaver Creek,** 28.63 52 IAmb IAmb 21 32 51.0
comp=Z,100nm,1.2s
L27K **Beaver Creek,** 28.63 52 P P 21 32 49.5 +0.8
baz=282,SNR=112
L27K S S 21 37 35.0 +1.6
baz=282
BCAR **Beaver Creek A** 28.65 52 P P 21 32 49.7 +0.8
BGLC **Bering Glacier** 28.66 59 P P 21 32 49.8 +0.9
baz=286
TGL **Tana Glacier** 28.71 57 P P 21 32 49.0 -0.4
M27K **Edge Creek, AK** 28.76 54 IAmb IAmb 21 33 17.9
comp=Z,78nm,0.9s
M27K **Edge Creek, AK** 28.76 54 P P 21 32 51.4 +1.4
baz=283,SNR=75
M27K S S 21 37 38.0 +2.4
baz=283
WAX **Waxell Ridge** 28.78 58 P P 21 32 50.9 +0.9
F28M **Old Crow** 28.79 43 P P 21 32 50.6 +0.6
F28M IAmb IAmb 21 32 52.4
comp=Z,137nm,1.6s
F28M **Old Crow** 28.79 43 P P 21 32 51.0 +1.0
baz=275,SNR=26
F28M S S 21 37 37.5 +1.9
baz=275
E28M **Babbage River** 28.84 40 P P 21 32 51.0 +0.5
baz=274,SNR=17
E28M S S 21 37 36.9 +0.5
baz=274
ISLE **Juniper Island** 28.98 57 IAmb IAmb 21 33 09.0
comp=Z,102nm,1.5s
I28M **Miner Creek** 29.02 47 P P 21 32 52.6 +0.4
baz=279,SNR=49
I28M S S 21 37 40.2 +0.7
baz=279
BARN **Barnard Glacie** 29.18 56 P P 21 32 54.9 +1.1
BARN IAmb IAmb 21 33 33.0
comp=Z,68nm,1.0s
BVCY **Beaver Creek** 29.21 53 P P 21 32 55.0 +1.2
baz=284,SNR=26
KSRS **Korea Array** 29.28 246 P P 21 32 53.4 -1.1
comp=Z,6.4nm,0.8s,baz=38,slow=8.8,SNR=24
KSRS PcP PcP 21 36 00.2 +0.1
comp=Z,4.4nm,0.8s,baz=9.7,slow=2.5,SNR=8.3
KSRS ScP ScP 21 39 36.5 -0.7
comp=Z,2.4nm,0.8s,baz=53,slow=3.1,SNR=6.1
comp=Z,6.4nm,0.8s
MESA **MESA** 29.29 58 IAmb IAmb 21 33 17.4
comp=Z,61nm,0.9s
MESA **MESA** 29.29 58 P P 21 32 55.9 +1.2
baz=287,SNR=8.2
MESA S S 21 37 46.6 +2.7
baz=287
KSAR **Wonju Array Be** 29.31 246 P P 21 32 53.0 -1.8
KSAR PcP 21 36 01.1 +0.9
KSAR **Wonju Array Be** 29.31 246 P P 21 32 53.0 -1.8
KSAR 21 36 01.1
YAH **Yahtse** 29.33 58 P P 21 32 55.8 +0.7
CTG **Chitna Glacier** 29.36 56 P P 21 32 56.3 +1.1
baz=286,SNR=10
CTGM **Chitina Glacie** 29.36 56 P P 21 32 55.7 +0.5
CTGM IAmb IAmb 21 33 15.6
comp=Z,96nm,1.3s
JMN **Monobe** 29.38 233 P P 21 32 57.3 +1.8
E29M **Blow River** 29.46 41 P P 21 32 56.1 +0.2
E29M **Blow River** 29.46 41 P P 21 32 56.9 +1.0
baz=275,SNR=16
E29M S S 21 37 47.9 +1.7
baz=275
DAWY **Dawson** 29.50 50 P P 21 32 56.4 +0.1
DAWY **Dawson** 29.50 50 P P 21 32 57.1 +0.7
baz=282,SNR=6.5
H29M **Whitestone** 29.54 45 IAmb IAmb 21 33 12.7
comp=Z,64nm,0.9s
H29M **Whitestone** 29.54 45 P P 21 32 57.8 +1.1
baz=279,SNR=40
H29M S S 21 37 49.7 +2.2
baz=279
YUK3 **Moose Creek** 29.55 54 P P 21 32 57.9 +0.9
baz=285,SNR=22
YUK3 S S 21 37 49.4 +1.3
baz=285
G29M **Pine Creek** 29.58 44 IAmb IAmb 21 32 59.8
comp=Z,94nm,1.1s
G29M **Pine Creek** 29.58 44 P P 21 32 58.5 +1.5
baz=278,SNR=42
G29M S S 21 37 51.1 +3.0
baz=278
TABL **Table Mountain** 29.59 57 IAmb IAmb 21 33 12.7
comp=Z,60nm,0.8s
I29M **Ogilvie Camp,** 29.71 47 IAmb IAmb 21 33 00.0
comp=Z,116nm,1.3s
I29M **Ogilvie Camp,** 29.71 47 P P 21 32 58.7 +0.5
baz=280,SNR=87
I29M S S 21 37 52.0 +1.8
baz=280
J29N **Klondike Camp** 29.92 49 P P 21 33 00.5 +0.4
baz=282
O28M **Mount Upton** 29.95 56 P P 21 33 00.2 -0.4
O28M IAmb IAmb 21 33 15.6
comp=Z,36nm,0.7s
O28M **Mount Upton** 29.95 56 P P 21 33 01.7 +1.1
baz=287,SNR=8.4
O28M S S 21 37 55.3 +0.8
baz=287
YUK8 **Steele Glacier** 30.00 55 P P 21 33 01.9 +0.8
baz=286
PINM **Pinnacle** 30.12 58 P P 21 33 02.6 +0.7
baz=288,SNR=22
PINM S S 21 37 57.9 +1.1
baz=288
EPYK **Eagle Plains** 30.18 45 IAmb IAmb 21 33 22.9
comp=Z,72nm,1.1s
EPYK **Eagle Plains** 30.18 45 P P 21 33 02.9 +0.6
baz=280,SNR=24
EPYK S S 21 37 58.2 +0.7
baz=280
L29M **L29M** 30.26 51 P P 21 33 04.4 +1.2
L29M IAmb IAmb 21 33 05.9
comp=Z,130nm,1.2s
L29M **L29M** 30.26 51 P P 21 33 04.7 +1.5
baz=284,SNR=80
L29M S S 21 38 01.4 +2.5
baz=284
G30M **tAoh Zraii Nji** 30.27 43 P P 21 33 03.7 +0.6
baz=279,SNR=26
G30M S S 21 37 59.5 +0.5
baz=279
M29M **Somme Creek** 30.28 53 P P 21 33 04.7 +1.3
baz=285,SNR=51
M29M S S 21 38 02.1 +2.7
baz=285
F30M **Barrier River** 30.34 42 P P 21 33 04.3 +0.6
F30M **Barrier River** 30.34 42 P P 21 33 05.0 +1.3
baz=279,SNR=40
F30M S S 21 38 01.1 +1.2
baz=279
K29M **Barlow Dome** 30.35 50 P P 21 33 04.5 +0.5
baz=284,SNR=23
K29M S S 21 38 00.3 -0.1
baz=284
BCPM **Bancas Point** 30.46 58 IAmb IAmb 21 33 20.1
comp=Z,84nm,0.8s
YUK4 **Talbot Arm** 30.50 55 P P 21 33 06.4 +1.0
baz=287,SNR=15
I30M **Mount Dempster** 30.53 47 P P 21 33 05.5 0.0
I30M IAmb IAmb 21 33 11.6
comp=Z,85nm,1.1s
I30M **Mount Dempster** 30.53 47 P P 21 33 06.0 +0.5
baz=282,SNR=65
I30M S S 21 38 03.4 +0.2
baz=282
PNL **Peninsula** 30.66 58 P P 21 33 07.4 +0.7
PNL **Peninsula** 30.66 58 P P 21 33 07.4 +0.7
baz=289,SNR=19
PNL S S 21 38 06.6 +1.4
baz=289

J30M **Hart River** 30.69 48 P P 21 33 07.2 +0.2
baz=283,SNR=19
J30M S S 21 38 06.1 +0.4
baz=283
YUK6 **Outpost Mounta** 30.75 56 P P 21 33 08.8 +1.1
baz=288,SNR=24
O29M **Mount Kennedy** 30.85 57 P P 21 33 08.9 +0.5
O29M **Mount Kennedy** 30.85 57 P P 21 33 09.4 +1.0
baz=289,SNR=7.7
O29M S S 21 38 10.1 +1.7
baz=289
M30M **Minto, Yukon** 30.99 52 P P 21 33 10.9 +1.3
baz=286,SNR=32
M30M S S 21 38 14.1 +3.7
baz=286
G31M **Satah River** 31.04 43 IAmb IAmb 21 33 11.6
comp=Z,97nm,1.4s
G31M **Satah River** 31.04 43 P P 21 33 10.1 +0.3
baz=281,SNR=23
G31M S S 21 38 12.0 +1.2
baz=281
INK **Inuvik** 31.08 41 LR LR 21 48 19.0
comp=Z,770nm,18.6s,baz=292,slow=41
INK **Inuvik** 31.08 41 P P 21 33 10.9 +0.8
baz=279,SNR=44
INK S S 21 38 11.8 +0.3
baz=279
MAYO **Mayo, Yukon** 31.12 50 P P 21 33 11.4 +0.9
baz=285
F31M **Tsiigehtchic** 31.14 42 IAmb IAmb 21 33 12.6
comp=Z,85nm,1.3s
F31M **Tsiigehtchic** 31.14 42 P P 21 33 11.4 +0.6
baz=281,SNR=24
F31M S S 21 38 13.7 +1.2
baz=281
N30M **Aishikik Lake** 31.18 54 P P 21 33 12.1 +0.8
baz=288,SNR=13
N30M S S 21 38 14.8 +1.3
baz=288
HYT **Haines Junctio** 31.19 55 IAmb IAmb 21 33 31.4
comp=Z,93nm,1.2s
HYT **Haines Junctio** 31.19 55 P P 21 33 12.6 +1.2
baz=288,SNR=60
HYT S S 21 38 16.1 +2.5
baz=288
H31M **Peel River** 31.24 45 P P 21 33 11.9 +0.3
baz=283,SNR=20
H31M S S 21 38 13.7 -0.3
baz=283
JNU **Nakatsue** 31.27 236 LR LR 21 46 48.6
comp=Z,711nm,18.9s,baz=40,slow=38
JNU **Nakatsue** 31.27 236 P P 21 33 14.7 +2.5
MIDW **Midway** 31.33 143 P P 21 33 12.7 0.0
MIDW IAmb IAmb 21 33 35.4
comp=Z,51nm,0.9s
P29M **Windy Craggy** 31.47 58 P P 21 33 14.4 +0.6
P29M **Windy Craggy** 31.47 58 P P 21 33 15.2 +1.5
baz=290,SNR=15
P29M S S 21 38 20.2 +2.4
baz=290
P30M **Million Dollar** 31.67 57 P P 21 33 16.9 +1.3
baz=290
P30M S S 21 38 23.5 +2.5
baz=290
N31M **Braeburn, Yuko** 31.77 54 P P 21 33 17.7 +1.3
N31M **Braeburn, Yuko** 31.77 54 P P 21 33 18.0 +1.6
baz=289,SNR=17
N31M S S 21 38 26.5 +3.9
baz=289
JCJ **Chichijima** 32.05 215 LR LR 21 47 50.3
comp=Z,271nm,19.4s,baz=257,slow=39
M31M **Drury Creek, Y** 32.17 52 P P 21 33 20.8 +0.9
M31M IAmb IAmb 21 33 22.9
comp=Z,120nm,1.5s
M31M **Drury Creek, Y** 32.17 52 P P 21 33 21.5 +1.6
baz=288,SNR=40
M31M S S 21 38 32.3 +3.5
baz=288
PLBC **Pleasant Camp** 32.19 58 P P 21 33 21.6 +1.6
baz=291,SNR=6.7
PLBC S S 21 38 32.2 +3.3
baz=291
WHY **Whitehorse** 32.46 55 P P 21 33 23.8 +1.2
WHY **Whitehorse** 32.46 55 P P 21 33 24.3 +1.8
baz=290,SNR=44
WHY S S 21 38 37.4 +4.0
baz=290
SKAG **Skagway** 32.68 57 IAmb IAmb 21 33 27.6
comp=Z,66nm,1.1s
SKAG **Skagway** 32.68 57 P P 21 33 26.4 +2.1
baz=292,SNR=18
SKAG S S 21 38 40.9 +4.4
baz=292
S31K **Pelican** 32.82 60 P P 21 33 27.4 +1.9
baz=294,SNR=6.5
S31K S S 21 38 42.0 +3.3
baz=294
N32M **Quiet Lake** 33.11 54 P P 21 33 29.3 +1.1
baz=291
N32M S S 21 38 44.6 +1.2
baz=291
IRK **Irkutsk** 33.21 288 eP P 21 33 27.8 -1.2
IRK pmax pmax
comp=Z,57nm,2.5s
BESE **Bessie Mountai** 33.24 59 P P 21 33 30.4 +1.1
BESE IAmb IAmb 21 33 32.4
comp=Z,96nm,1.2s
A36M **Sachs Harbour** 33.25 33 P P 21 33 30.2 +1.2
baz=280,SNR=27
A36M S S 21 38 46.5 +1.4
baz=280
P32M **Atlin** 33.39 56 P P 21 33 32.3 +1.7
baz=293,SNR=12
P32M S S 21 38 51.3 +3.5
baz=293
MMPY **Sheldon Lake,** 33.42 51 IAmb IAmb 21 33 33.8
comp=Z,67nm,1.4s
MMPY **Sheldon Lake,** 33.42 51 P P 21 33 32.5 +1.7
baz=290,SNR=23
MMPY S S 21 38 50.9 +2.8
baz=290
R32K **Eaglecrest** 33.53 59 P P 21 33 32.9 +1.2
R32K IAmb IAmb 21 33 38.8
comp=Z,80nm,1.4s
R32K **Eaglecrest** 33.53 59 P P 21 33 33.8 +2.1
baz=294,SNR=8.8
P33M **Teslin, Yukon** 33.58 55 P P 21 33 33.0 +0.7
P33M IAmb IAmb 21 33 38.9
comp=Z,78nm,1.6s
P33M **Teslin, Yukon** 33.58 55 P P 21 33 33.7 +1.5
baz=292,SNR=24
P33M S S 21 38 54.4 +3.8
baz=292
SIT **Sitka** 33.64 61 P P 21 33 34.2 +1.5
SIT **Sitka** 33.64 61 P P 21 33 34.2 +1.5
SIT pmax pmax
comp=Z,138nm,1.2s
SIT **Sitka** 33.64 61 P P 21 33 35.1 +2.5
baz=295,SNR=19
SIT S S 21 38 56.1 +4.7
baz=295
BJI **Beijing** 33.76 262 P P 21 33 34.0 +0.1
BJI pP pP 21 33 45.7 -1.7
BJI sP sP 21 33 51.3 -2.2
BJI PcP PcP 21 36 14.2 +2.1
BJI S S 21 38 52.8 -0.9
BJI ScP ScP 21 39 52.9 +0.7
BJI LR LR
comp=Z,1µm,21.4s
BJI LR LR
comp=Z,750nm,19.8s
BJI LR LR
comp=Z,500nm,18.2s
S32K **Killisnoo** 33.83 60 P P 21 33 34.7 +0.4
S32K IAmb IAmb 21 33 51.0
comp=Z,30nm,0.9s
S32K **Killisnoo** 33.83 60 P P 21 33 36.5 +2.1
baz=295,SNR=9.1
ULN **Ulaanbaatar** 34.01 280 ⇓iP P 21 33 36.1 -0.1
ULN pmax pmax
comp=Z,6.0nm,1.2s
Q32M **Nakina River** 34.33 57 P P 21 33 39.6 +0.8
Q32M **Nakina River** 34.33 57 P P 21 33 41.2 +2.3
baz=294,SNR=32
Q32M S S 21 39 07.5 +5.0
baz=294
SONM **Songino Array** 34.39 280 P P 21 33 39.3 -0.2

SONM **Songino Array** 34.39 280 P P 21 33 38.8 -0.7
comp=Z,4.0nm,0.6s,baz=65,slow=7.4,SNR=18
SONM PcP PcP 21 36 12.8 -1.2
comp=Z,3.2nm,0.7s,baz=50,slow=2.7,SNR=4.1
SONM ScP ScP 21 39 54.0 -0.5
comp=Z,13nm,1.1s,baz=59,slow=1.5,SNR=20
SONM LR LR 21 48 57.5
comp=Z,899nm,19.7s,baz=60,slow=39
comp=Z,4.0nm,0.6s
SONM **Songino Array** 34.39 280 P P 21 33 39.3 -0.2
SONM pmax pmax
comp=Z,7.0nm,0.9s
ZAK **Zakamensk** 34.70 286 eP P 21 33 40.8 -1.3
ZAK pmax pmax
comp=Z,8.0nm,1.3s
R33M **Jennings River** 34.76 56 P P 21 33 43.6 +1.1
R33M IAmb IAmb 21 33 49.8
comp=Z,103nm,1.5s
R33M **Jennings River** 34.76 56 P P 21 33 44.8 +2.3
baz=294,SNR=43
R33M S S 21 39 13.0 +4.0
baz=294
TGTN **Hyland Airport** 35.13 51 P P 21 33 47.2 +1.6
baz=293,SNR=13
TGTN S S 21 39 17.6 +3.2
baz=293
U33K **Whale Pass** 35.15 62 P P 21 33 47.0 +1.3
U33K IAmb IAmb 21 33 53.3
comp=Z,93nm,1.6s
U33K **Whale Pass** 35.15 62 P P 21 33 48.4 +2.7
baz=298,SNR=13
U33K S S 21 39 19.9 +5.2
baz=298
S34M **Telegraph Cree** 35.31 58 P P 21 33 49.2 +2.1
S34M IAmb IAmb 21 33 53.7
comp=Z,59nm,1.2s
S34M **Telegraph Cree** 35.31 58 P P 21 33 49.2 +2.1
baz=296
WRAK **Wrangell Islan** 35.39 61 P P 21 33 49.6 +1.8
WRAK IAmb IAmb 21 34 04.9
comp=Z,53nm,1.1s
WRAK **Wrangell Islan** 35.39 61 P P 21 33 50.4 +2.6
baz=298,SNR=16
WRAK S S 21 39 23.4 +4.9
baz=298
CRAG **Craig** 35.45 63 P P 21 33 48.6 +0.3
CRAG IAmb IAmb 21 34 19.9
comp=Z,51nm,1.2s
CRAG **Craig** 35.45 63 P P 21 33 49.2 +0.9
CRAG **Craig** 35.45 63 P P 21 33 51.1 +2.8
baz=298,SNR=6.8
CRAG S S 21 39 27.0 +7.7
baz=298
WTLY **Watson Lake, Y** 35.46 54 P P 21 33 50.0 +1.5
WTLY **Watson Lake, Y** 35.46 54 P P 21 33 50.0 +1.5
baz=295
WTLY S S 21 39 22.2 +2.6
baz=295
DLBC **Dease Lake** 35.61 57 LR LR 21 49 13.5
comp=Z,882nm,18.7s,baz=278,slow=37
DLBC **Dease Lake** 35.61 57 P P 21 33 52.0 +2.2
baz=296,SNR=44
DLBC S S 21 39 27.1 +5.1
baz=296
HHC **Hu-ho-hao-te** 35.80 267 eP P 21 33 52.3 +0.6
HHC sP sP 21 34 08.9 -2.5
HHC S S 21 39 23.5 -1.9
HHC sS sS 21 39 45.0 -2.8
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=Z,1µm,17.5s
HHC LR LR
comp=Z,1µm,16.3s
HHC LR LR
comp=Z,740nm,17.3s
T35M **Bob Quinn** 36.16 59 P P 21 33 56.7 +2.3
T35M IAmb IAmb 21 34 03.9
comp=Z,73nm,1.1s
T35M **Bob Quinn** 36.16 59 P P 21 33 57.6 +3.2
baz=298,SNR=37
T35M S S 21 39 38.5 +8.2
baz=298
V35K **Ketchikan** 36.27 62 P P 21 33 56.5 +1.1
V35K **Ketchikan** 36.27 62 P P 21 33 57.5 +2.2
baz=299,SNR=5.7
V35K S S 21 39 38.4 +6.5
baz=299
HNS **HongShan** 36.43 260 ⇑P P 21 33 59.7 +2.8
HNS LR LR
comp=Z,700nm,16.1s
HNS LR LR
comp=Z,2µm,14.5s
HNS LR LR
comp=Z,1µm,13.5s
WRGLY **Wrigley** 36.51 47 P P 21 33 58.7 +1.4
WRGLY IAmb IAmb 21 34 15.9
comp=Z,80nm,1.1s
WRGLY **Wrigley** 36.51 47 P P 21 33 59.4 +2.1
baz=294,SNR=7.3
WRGLY S S 21 39 39.7 +4.3
baz=294
U35K **Hyder** 36.77 61 P P 21 34 01.9 +2.2
baz=299
BTO **Baotou** 36.84 268 eP P 21 34 01.7 +1.2
BTO pP pP 21 34 13.9 -0.2
BTO sP sP 21 34 18.9 -1.3
BTO PP PnPn 21 35 28.0 +2.6
BTO pmax pmax
comp=Z,18nm,0.8s
BTO pmax pmax
comp=Z,340nm,10.1s
BTO LR LR
comp=Z,3µm,21.2s
BTO LR LR
comp=Z,3µm,19.7s
BTO LR LR
comp=Z,2µm,18.8s
DIB **Dawson Inlet,** 36.90 66 P P 21 34 01.5 +0.7
LIRD **Liard River Hi** 37.00 54 P P 21 34 03.2 +1.7
baz=297
LIRD S S 21 39 47.1 +4.1
baz=297
RUBB **Prince Rupert** 37.46 63 P P 21 34 07.1 +1.7
KOTAN **Kotaneelee Air** 37.59 52 P P 21 34 08.5 +1.9
baz=297,SNR=13
KOTAN S S 21 39 56.0 +4.0
baz=297
TOAD **Toad River Com** 37.65 54 P P 21 34 09.3 +2.2
baz=298,SNR=86
TOAD S S 21 39 57.0 +4.0
baz=298
JOW **Kunigami** 37.77 234 LR LR 21 51 54.8
comp=Z,509nm,19.6s,baz=14,slow=40
HG4B **Hotspring** 38.04 66 P P 21 34 11.4 +1.0
NJ2 **Nanjing** 38.18 250 eP P 21 34 12.2 +0.5
NJ2 pmax pmax
comp=Z,6.0nm,0.8s
EUNU **Eureka** 39.05 15 P P 21 34 18.2 -0.4
BBB **Bella Bella** 39.69 65 P P 21 34 25.5 +1.3
BBB IAmb IAmb 21 34 56.7
comp=Z,70nm,1.4s
BBB **Bella Bella** 39.69 65 LR LR 21 50 44.5
comp=Z,272nm,19.4s,baz=314,slow=36
ALE **Alert** 40.07 8 P P 21 34 27.4 +0.4
ALE pP pP 21 34 42.4 +1.9
ALE PcP PcP 21 36 30.2 -0.4
RES **Resolute Bay** 40.40 24 P P 21 34 29.6 -0.2
RES IAmb IAmb 21 34 31.4
comp=Z,52nm,1.1s
RES **Resolute Bay** 40.40 24 LR LR 21 52 26.1
comp=Z,625nm,21.8s,baz=326,slow=38
RES **Resolute Bay** 40.40 24 P P 21 34 29.6 -0.2
RES pmax pmax
comp=Z,52nm,1.2s
YKAW3 **Yellowknife Wh** 40.42 45 P P 21 34 30.5 +0.4
YKAW3 IAmb IAmb 21 34 31.5
comp=Z,32nm,0.7s
YKA **Yellowknife Ar** 40.46 45 P P 21 34 30.0 -0.4
YKA **Yellowknife Ar** 40.46 45 P P 21 34 31.0 +0.6
comp=Z,24nm,0.9s,baz=302,slow=8.4,SNR=38
YKA LR LR 21 53 02.0
comp=Z,529nm,20.4s,baz=285,slow=39
comp=Z,24nm,0.9s
YKA **Yellowknife Ar** 40.46 45 P P 21 34 30.0 -0.4

YKAW1 **Yellowknife Wh** 40.51 45 IAmb IAmb 21 34 32.9
comp=Z,93nm,1.5s
HOLB **Holberg** 40.56 67 P **P** **21 34 33.1 +1.7**
HOLB IAmb IAmb 21 35 05.0
comp=Z,62nm,1.3s
ZALV **Zalesovo Beam** 42.25 301 P **P** **21 34 45.4 +0.3**
ZALV **Zalesovo Beam** 42.25 301 P **P** **21 34 43.8 -1.4**
comp=Z,0.6nm,0.3s,baz=66,slow=8.3,SNR=5.3
PP **PP** **21 36 22.1 -1.3**
ZALV comp=Z,5.5nm,0.8s,baz=56,slow=11,SNR=4.6
ScP **ScP** **21 40 22.0 -2.1**
ZALV comp=Z,3.0nm,0.9s,baz=44,slow=4.7,SNR=4.6
LR LR 21 53 28.6
ZALV comp=Z,1μm,19.8s,baz=50,slow=38
CBB **Campbell River** 42.35 66 P **P** **21 34 48.1 +2.0**
NOR **Nord** 42.82 360 *i* P **P** **21 34 49.0 -0.5**
NOR IAmb IAmb 21 34 50.1
comp=Z,8.8nm,0.7s
OZB **Mount Ozzard** 42.93 67 P **P** **21 34 51.7 +0.8**
GTA **Gaotai** 43.41 275 *e*P **P** **21 34 54.3 -0.6**
GTA pP pP 21 35 08.8 +0.1
GTA ScP **ScP** **21 40 28.6 -0.6**
GTA ScS **ScS** **21 44 47.8 -2.0**
GTA pmax pmax
comp=Z,25nm,1.4s
GTA LR LR
comp=Z,2μm,18.3s
GTA LR LR
comp=Z,2μm,19.1s
GTA LR LR
comp=Z,790nm,23.9s
LZH **Lanzhou** 43.46 268 *e*P **P** **21 34 57.9 +2.5**
LZH pP sP 21 35 12.6 -2.6
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,2μm,15.8s
LZH LR LR
comp=Z,1μm,15.3s
LZH LR LR
comp=Z,830nm,15.8s
CLRS **Cowichan Lake** 43.73 67 P **P** **21 34 57.0 -0.2**
LLLB **Lillooet** 43.78 63 P **P** **21 34 58.9 +1.2**
TULEG **Thule** 44.05 15 IAmb IAmb 21 34 59.8
comp=Z,35nm,0.8s
TULEG **Thule** 44.05 15 *i* P **P** **21 34 58.4 -1.0**
TULEG IAmb IAmb 21 34 59.5
comp=Z,39nm,0.9s
C03A **Quillayute Air** 44.05 68 P **P** **21 35 00.7 +0.9**
C03A IAmb IAmb 21 35 32.0
comp=Z,102nm,1.3s
KEKH **Kekaha** 44.11 124 P **P** **21 35 01.7 +1.2**
PGC **Sidney** 44.19 67 P **P** **21 35 01.8 +0.9**
KBS **Kingsbay** 44.33 352 P **P** **21 35 01.0 -0.6**
KBS **Kingsbay** 44.33 352 *c i* P **P** **21 35 02.1 +0.5**
KBS pmax pmax
comp=Z,116nm,1.5s
KBS **Kingsbay** 44.33 352 *i* P **P** **21 35 01.7 +0.1**
KBS **Kingsbay** 44.33 352 P **P** **21 35 02.1 +0.5**
KBS pP **pP** **21 35 15.4 0.0**
KBS sP **sP** **21 35 21.5 +0.1**
A04D **Lummi Island** 44.53 66 P **P** **21 35 04.2 +0.6**
A04D IAmb IAmb 21 35 29.3
comp=Z,42nm,0.8s
SPITS **Spitsbergen Ar** 44.62 350 P **P** **21 35 04.0 -0.1**
comp=Z,66nm,0.5s,baz=60,slow=8.7,SNR=309
SPITS LR LR 21 54 06.8
comp=Z,912nm,18.6s,baz=22,slow=37
comp=Z,66nm,0.5s
SPITS **Spitsbergen Ar** 44.62 350 P **P** **21 35 04.0 -0.1**
SPB2 **Spitsbergen Ar** 44.63 350 P **P** **21 35 03.9 -0.1**
WISH **Wishkah** 44.99 68 P **P** **21 35 08.1 +0.8**
WISH IAmb IAmb 21 35 55.7
comp=Z,49nm,0.9s
GNW **Green Mountain** 45.20 67 P **P** **21 35 10.3 +1.3**
POIN **Pond Inlet** 45.34 21 P **P** **21 35 10.0 +0.3**
KIP **Kipapa** 45.39 123 P **P** **21 35 11.6 +0.9**
KIP **Kipapa** 45.39 123 *c i* P **P** **21 35 12.2 +1.5**
KIP pmax pmax
comp=Z,185nm,0.9s
RADR **Rader Ridge** 45.42 69 P **P** **21 35 12.7 +1.9**
RADR IAmb IAmb 21 35 41.4
comp=Z,46nm,1.2s
NEEM **North Greenlan** 45.42 10 *i* P **P** **21 35 10.0 -0.7**
NEEM IAmb IAmb 21 35 11.6
comp=Z,126nm,1.0s
E03A **Lebam** 45.47 69 P **P** **21 35 11.3 +0.2**
E03A IAmb IAmb 21 35 44.2
comp=Z,67nm,1.0s
DHH **Diamond Head** 45.63 122 P **P** **21 35 14.8 +2.2**
DHH **Diamond Head** 45.63 122 P **P** **21 35 14.8 +2.2**
HSPB **Hornsund (broa** 45.77 350 *e*P **P** **21 35 12.4 -0.6**
F03A **Seaside** 45.87 70 P **P** **21 35 16.0 +1.8**
D05A **Enumclaw** 45.88 67 P **P** **21 35 16.6 +2.3**
HEBO **Mount Hebo** 46.23 70 P **P** **21 35 18.8 +1.5**
HEBO IAmb IAmb 21 36 01.9
comp=Z,44nm,0.9s
BLKN **Baker Lake** 46.25 36 P **P** **21 35 17.1 +0.1**
BLKN IAmb IAmb 21 35 17.5
comp=Z,76nm,1.1s
LON **Longmire** 46.25 68 P **P** **21 35 18.3 +0.9**
LON **Longmire** 46.25 68 P **P** **21 35 18.3 +0.9**
LON pmax pmax
comp=Z,17nm,1.0s
G03D **McMinnville, O** 46.50 70 P **P** **21 35 20.0 +0.8**
LTY **Liberty** 46.51 66 P **P** **21 35 19.8 +0.4**
KHLH **Kahului Airpor** 46.60 121 P **P** **21 35 19.7 -0.6**
SEM **Semipalatinsk** 46.63 299 *e*P **P** **21 35 18.1 -2.4**
SEM **Semipalatinsk** 46.63 299 *e*P **P** **21 35 18.1 -2.4**
HLK **Haleakala** 46.80 121 P **P** **21 35 23.1 +1.0**
COR **Corvallis** 46.89 71 P **P** **21 35 22.9 +0.6**
COR IAmb IAmb 21 35 55.1
comp=Z,34nm,1.0s
COR **Corvallis** 46.89 71 P **P** **21 35 22.9 +0.6**
COR pmax pmax
comp=Z,34nm,1.0s
ILON **Igloolik, Nuna** 46.89 26 P **P** **21 35 21.0 -0.9**
G04A **Mulino** 46.92 70 P **P** **21 35 23.6 +1.1**
G04A IAmb IAmb 21 35 49.5
comp=Z,55nm,0.8s
I02E **Swisshome, OR** 46.92 72 P **P** **21 35 23.4 +1.0**
WMQ **Urumqi** 47.11 288 *e*P **P** **21 35 24.2 +0.1**
WMQ pP pP 21 35 38.0 0.0
WMQ S **S** **21 42 09.5 -3.0**
WMQ pmax pmax
comp=Z,78nm,1.3s
WMQ pmax pmax
comp=Z,290nm,3.9s
WMQ LR LR
comp=Z,3μm,20.5s
WMQ LR LR
comp=Z,2μm,16.3s
WMQ LR LR
comp=Z,1μm,24.9s
MXC **Moxie City** 47.16 67 P **P** **21 35 24.6 +0.3**
KURK **Kurchatov** 47.23 301 P **P** **21 35 22.9 -1.9**
KURK IAmb IAmb 21 35 55.0
comp=Z,47nm,1.1s
KURK **Kurchatov** 47.23 301 *c i* P **P** **21 35 22.6 -2.3**
KURK pmax pmax
comp=Z,42nm,1.0s
KURK **Kurchatov** 47.23 301 P **P** **21 35 22.8 -2.1**
KURK pP **pP** **21 35 35.5 -3.3**
H04D **Lebanon** 47.23 71 P **P** **21 35 25.8 +0.8**
H04D IAmb IAmb 21 35 58.0
comp=Z,30nm,0.9s
KULLO **Kullorsuaq** 47.30 13 *i* P **P** **21 35 24.3 -0.7**
KULLO IAmb IAmb 21 35 25.5
comp=Z,105nm,0.7s
BUCK **Buck Mountain** 47.32 71 P **P** **21 35 26.3 +0.5**
BUCK IAmb IAmb 21 36 10.6
comp=Z,35nm,1.0s
KURBB **Kurchatov Arra** 47.34 301 P **P** **21 35 23.3 -2.4**
comp=Z,17nm,0.8s,baz=59,slow=7.9,SNR=53
KURBB LR LR 21 56 40.9
comp=Z,2μm,20.0s,baz=66,slow=38
comp=Z,17nm,0.8s
KURBB **Kurchatov Arra** 47.34 301 P **P** **21 35 23.0 -2.7**
E07A **Sunnyside** 47.40 67 P **P** **21 35 26.2 0.0**
WAH2 **Wahluke Slope** 47.41 66 IAmb IAmb 21 35 55.8
comp=Z,62nm,1.4s
H04A **Detroit Lake** 47.42 70 P **P** **21 35 28.0 +1.6**
H04A IAmb IAmb 21 35 56.2
comp=Z,41nm,1.2s
MHA **Mahukona** 47.46 121 P **P** **21 35 29.1 +2.2**

MHA **Mahukona** 47.46 121 P **P** **21 35 29.1 +2.2**
I03D **Drain, OR** 47.46 72 P **P** **21 35 27.8 +1.1**
I03D IAmb IAmb 21 35 55.7
comp=Z,55nm,1.4s
KEBM **Edson Butte** 47.49 73 P **P** **21 35 27.8 +0.7**
KEBM IAmb IAmb 21 36 01.6
comp=Z,42nm,1.1s
J01E **Myrtle Point** 47.51 73 P **P** **21 35 29.1 +2.0**
J01E IAmb IAmb 21 35 33.7
comp=Z,39nm,1.1s
NEW **Newport** 47.67 63 LR LR 21 55 48.1
comp=Z,318nm,19.6s,baz=300,slow=36
HAWA **Hanford** 47.67 67 P **P** **21 35 29.1 +0.7**
DAG **Danmarks Havn** 47.68 0 *i* P **P** **21 35 27.3 -0.7**
DAG IAmb IAmb 21 35 28.5
comp=Z,83nm,1.4s
HPAH **Hawaii Prepara** 47.69 121 P **P** **21 35 30.0 +1.2**
F07A **Phinny Hill Vi** 47.80 67 P **P** **21 35 30.5 +1.2**
F07A IAmb IAmb 21 35 49.2
comp=Z,42nm,0.7s
E08A **Dider Farm, El** 47.85 66 P **P** **21 35 30.3 +0.6**
G06A **Carlson Farm,** 47.87 68 P **P** **21 35 30.4 +0.4**
MK31 **Makanchi Array** 47.97 295 *d i* P **P** **21 35 28.8 -1.9**
MKAR **Makanchi Array** 47.97 295 P **P** **21 35 28.5 -2.2**
comp=Z,8.1nm,0.8s,baz=54,slow=6.0,SNR=48
MKAR LR LR 21 56 48.8
comp=Z,2μm,19.5s,baz=29,slow=38
comp=Z,8.1nm,0.8s
KBO **Bosley Butte** 47.99 74 P **P** **21 35 31.6 +0.6**
I05D **Terrebonne, OR** 48.10 70 P **P** **21 35 31.7 0.0**
I05D IAmb IAmb 21 36 03.6
comp=Z,22nm,0.9s
MAKZ **Makanchi** 48.12 295 P **P** **21 35 30.5 -1.3**
MAKZ **Makanchi** 48.12 295 P **P** **21 35 29.3 -2.6**
YPT **Yellepit** 48.20 67 P **P** **21 35 33.4 +1.0**
MLH **Mauna Loa** 48.30 121 P **P** **21 35 35.1 +1.3**
E09A **Wood Farm, Sta** 48.31 66 P **P** **21 35 33.4 +0.2**
E09A IAmb IAmb 21 36 02.8
comp=Z,37nm,0.9s
AIN **Ainahou** 48.37 121 P **P** **21 35 35.7 +1.5**
BBOR **Butler Butte** 48.37 72 P **P** **21 35 35.4 +1.4**
BBOR IAmb IAmb 21 36 02.9
comp=Z,51nm,1.3s
RSD **Rainshed** 48.38 121 P **P** **21 35 34.4 +0.1**
L02F **Cave Junction** 48.41 73 P **P** **21 35 34.2 +0.1**
HATHI **Halema'uma'u T** 48.42 121 P **P** **21 35 36.2 +1.7**
BYL **Byron's Ledge** 48.43 121 P **P** **21 35 35.2 +0.5**
J04A **Umpqua Nationa** 48.43 71 P **P** **21 35 35.2 +0.7**
J04A IAmb IAmb 21 36 07.2
comp=Z,45nm,0.8s
KSXB **Camp Six Broad** 48.45 74 P **P** **21 35 35.2 +0.7**
GOMU **GeErMu** 48.47 276 P **P** **21 35 34.8 -0.3**
GOMU S **S** **21 42 36.7 +4.2**
GOMU pmax pmax
comp=Z,20nm,1.0s
GOMU LR LR
comp=Z,640nm,13.8s
GOMU LR LR
comp=Z,370nm,14.0s
GOMU LR LR
comp=Z,900nm,13.6s
PUH **Pauahi** 48.48 121 P **P** **21 35 35.3 +0.3**
KNHH **Kane Nui o Ham** 48.50 121 P **P** **21 35 36.1 +1.0**
STCH **Steam Cracks** 48.52 121 P **P** **21 35 36.3 +1.0**
JOKA **Jonika Flow** 48.54 121 P **P** **21 35 36.4 +1.1**
KRMB **Red Mountain** 48.64 74 P **P** **21 35 37.8 +1.8**
PINE **Pine Mountain** 48.68 70 P **P** **21 35 37.2 +0.8**
PINE IAmb IAmb 21 36 05.9
comp=Z,36nm,1.0s
KRPM **Rodgers** 48.83 75 P **P** **21 35 39.2 +1.7**
J05D **Fort Rock, OR** 48.87 71 P **P** **21 35 39.5 +1.7**
J05D IAmb IAmb 21 36 07.5
comp=Z,40nm,1.0s
L04D **Klamath Falls** 49.03 72 IAmb IAmb 21 35 45.2
comp=Z,50nm,1.0s
UPNV **Upernavik** 49.03 14 *i* P **P** **21 35 37.6 -0.8**
UPNV IAmb IAmb 21 35 38.9
comp=Z,54nm,0.7s
JCC **Jacoby Creek,** 49.06 75 P **P** **21 35 40.4 +1.3**
YBH **Yreka Blue Hor** 49.15 73 LR LR 21 54 26.7
comp=Z,22nm,20.6s,baz=295,slow=34
KHMM **Horse Mountain** 49.19 75 P **P** **21 35 42.5 +2.2**
KHMM IAmb IAmb 21 35 47.1
comp=Z,36nm,1.0s
KMPM **Mount Pierce** 49.29 75 P **P** **21 35 42.9 +1.9**
KMPM IAmb IAmb 21 35 48.0
comp=Z,29nm,1.0s
BVA0 **Borovoye Array** 49.56 307 *i* P **P** **21 35 40.0 -2.7**
BVAR **Borovoye Array** 49.56 307 P **P** **21 35 40.6 -2.1**
comp=Z,5.7nm,0.5s,baz=58,slow=7.3,SNR=37
BVAR ScP **ScP** **21 40 51.5 -2.9**
comp=Z,2.8nm,0.7s,baz=78,slow=3.6,SNR=4.1
BVAR LR LR 21 59 31.2
comp=Z,1μm,18.0s,baz=47,slow=40
comp=Z,5.7nm,0.5s
BRVK **Borovoye** 49.58 308 P **P** **21 35 41.7 -1.3**
BRVK **Borovoye** 49.58 308 *d i* P **P** **21 35 41.6 -1.3**
BRVK pmax pmax
comp=Z,12nm,1.0s
KMRM **Mail Ridge** 49.65 75 P **P** **21 35 45.1 +1.4**
KMRM IAmb IAmb 21 35 50.7
comp=Z,31nm,0.9s
O02D **Mt. Diablo Mer** 50.19 75 IAmb IAmb 21 35 54.5
comp=Z,31nm,1.1s
MSO **Missoula** 50.23 63 IAmb IAmb 21 35 50.2
comp=Z,35nm,1.2s
J08A **Circle Bar Ran** 50.28 69 P **P** **21 35 49.3 +0.8**
FFC **Flin Flon** 50.39 48 P **P** **21 35 49.5 +0.6**
FFC IAmb IAmb 21 35 50.8
comp=Z,54nm,1.3s
FFC **Flin Flon** 50.39 48 P **P** **21 35 49.6 +0.6**
FFC pmax pmax
comp=Z,54nm,1.3s
FFC **Flin Flon** 50.39 48 P **P** **21 35 49.8 +0.8**
FFC pP **pP** **21 36 03.1 +0.2**
FFC PcP **PcP** **21 37 06.1 -0.7**
HATC **Hat Creek Radi** 50.46 73 P **P** **21 35 51.7 +1.9**
HATC IAmb IAmb 21 35 58.6
comp=Z,37nm,1.1s
NUUG **Nuugaatsiaq** 50.55 14 *i* P **P** **21 35 49.3 -0.7**
NUUG IAmb IAmb 21 35 50.5
comp=Z,42nm,1.2s
BRZS **Berezniki** 50.56 303 *e*P **P** **21 35 48.2 -2.2**
BRZS **Berezniki** 50.56 303 *e*P **P** **21 35 48.2 -2.2**
LVZ **Lovozero** 50.60 337 *i* P **P** **21 35 48.8 -1.7**
LVZ pmax pmax
comp=Z,26nm,1.0s
LVZ MLR MLR
comp=Z,1μm,23.0s
WVOR **Wild Horse Val** 50.84 70 P **P** **21 35 52.8 +0.1**
WVOR IAmb IAmb 21 36 22.9
comp=Z,42nm,1.4s
WVOR **Wild Horse Val** 50.84 70 P **P** **21 35 52.8 +0.1**
WVOR pmax pmax
comp=Z,42nm,1.4s
HOPS **Hopland Field** 50.87 76 P **P** **21 35 53.0 +0.1**
HOPS IAmb IAmb 21 36 26.5
comp=Z,32nm,1.2s
ARCES **ARCESS Array B** 51.03 342 P **P** **21 35 52.5 -1.2**
ARCES IAmb IAmb 21 35 53.7
comp=Z,49nm,1.2s
ARCES **ARCESS Array B** 51.03 342 P **P** **21 35 52.0 -1.6**
comp=Z,6.3nm,0.4s,baz=37,slow=8.6,SNR=64
ARCES LR LR 22 00 13.3
comp=Z,812nm,20.2s,baz=28,slow=39
comp=Z,6.3nm,0.4s
ARCES **ARCESS Array B** 51.03 342 P **P** **21 35 52.5 -1.2**
ARCES pmax pmax
comp=Z,49nm,1.2s
SVE **Sverdlovsk** 51.04 316 *e*P **P** **21 35 52.9 -1.0**
SVE pmax pmax
comp=Z,39nm,1.5s
SVE MLR MLR
comp=Z,3μm,19.0s
APA **Apatity** 51.15 337 *e*P **P** **21 35 50.6 -3.9**
APA *e* 21 37 48.5
GDXM **Geysers** 51.15 76 P **P** **21 35 56.8 +1.7**
TDK **Taldyqorghan** 51.17 295 *e*P **P** **21 35 52.9 -2.2**
TDK pmax pmax
comp=Z,24nm,1.0s
TDK **Taldyqorghan** 51.17 295 *e*P **P** **21 35 53.0 -2.2**
comp=Z,24nm,1.0s
ORV **Oroville** 51.33 74 P **P** **21 35 56.8 +0.5**
ORV **Oroville** 51.33 74 P **P** **21 35 56.8 +0.5**
ORV pmax pmax

comp=Z,12nm,0.8s
UMMG **Uummannaq** 51.49 14 *i* P **P** **21 35 56.2 -0.8**
UMMG IAmb IAmb 21 35 56.8
comp=Z,48nm,1.2s
MCCM **Marconi Confer** 51.58 77 P **P** **21 35 59.3 +1.2**
MCCM IAmb IAmb 21 36 03.9
comp=Z,35nm,1.2s
MFID **Camas Ranch** 51.63 67 P **P** **21 35 59.1 +0.5**
PDGK **Podgornoye** 51.78 293 P **P** **21 35 56.7 -3.1**
PZH **PanZhiHua** 51.84 261 P **P** **21 36 01.8 +1.4**
PZH S **S** **21 43 19.7 +0.7**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,320nm,5.6s
PZH LR LR
comp=Z,610nm,19.2s
PZH LR LR
comp=Z,920nm,19.8s
PZH LR LR
comp=Z,900nm,15.6s
DLMT **Dillon** 51.92 63 P **P** **21 36 01.1 +0.2**
DLMT IAmb IAmb 21 36 31.8
comp=Z,54nm,1.4s
SHLS **Shalkode** 51.92 293 *e*P **P** **21 35 57.1 -3.7**
SHLS pmax pmax
comp=Z,37nm,1.2s
SHLS **Shalkode** 51.92 293 *e*P **P** **21 35 57.1 -3.7**
comp=Z,37nm,1.2s
AFDM **Forest Hills D** 52.05 75 P **P** **21 36 02.0 +0.4**
KPKS **Kokpek** 52.10 294 *e*P **P** **21 36 00.3 -1.8**
KPKS **Kokpek** 52.10 294 *e*P **P** **21 36 00.4 -1.8**
UZB **Uzynbulak** 52.16 293 *e*P **P** **21 36 00.4 -2.1**
UZB pmax pmax
comp=Z,18nm,1.4s
UZB **Uzynbulak** 52.16 293 *e*P **P** **21 36 00.5 -2.1**
comp=Z,18nm,1.4s
MCMT **McKenzie Canyo** 52.17 64 P **P** **21 36 02.0 -0.7**
ARTI **Arti** 52.23 317 P **P** **21 36 00.7 -2.1**
ARTI IAmb IAmb 21 36 31.0
comp=Z,28nm,1.0s
ARTI **Arti** 52.23 317 *c i* P **P** **21 36 01.1 -1.6**
ARTI *PP **pP** **21 36 18.0 +1.2**
ARTI 21 37 08.6
ARTI 21 37 58.3
ARTI S **S** **21 43 23.8 +0.4**
ARTI SS **SS** **21 46 55.2 -5.4**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
ARTI MLR MLR
comp=Z,2μm,19.0s
BOZ **Bozeman (W)** 52.24 62 P **P** **21 36 03.9 +0.7**
BOZ IAmb IAmb 21 36 09.1
comp=Z,40nm,1.4s
BOZ **Bozeman (W)** 52.24 62 P **P** **21 36 03.9 +0.7**
BOZ pmax pmax
comp=Z,40nm,1.5s
HLID **Hailey** 52.26 66 P **P** **21 36 03.7 +0.4**
PAHR **Pah Rah Range** 52.37 73 P **P** **21 36 05.5 +1.3**
PAHR IAmb IAmb 21 36 10.4
comp=Z,32nm,1.2s
SATY **Saty** 52.54 293 *e*P **P** **21 36 03.4 -2.0**
SATY pmax pmax
comp=Z,19nm,1.6s
SATY **Saty** 52.54 293 *e*P **P** **21 36 03.4 -2.0**
comp=Z,18nm,1.6s
GDH **Godhavn** 52.60 15 *i* P **P** **21 36 05.0 -0.3**
GDH IAmb IAmb 21 36 05.7
comp=Z,96nm,1.5s
QLMT **Earthquake Lak** 52.88 63 P **P** **21 36 09.2 +1.1**
ILULI **Ilulissat** 52.98 14 *i* P **P** **21 36 07.1 -1.0**
ILULI IAmb IAmb 21 36 07.7
comp=Z,34nm,0.9s
YHL **Hebgen Lake** 52.99 63 P **P** **21 36 09.5 +0.6**
YHL IAmb IAmb 21 36 11.4
comp=Z,32nm,1.1s
CMB **Columbia Colle** 53.02 75 P **P** **21 36 10.0 +1.0**
CMB **Columbia Colle** 53.02 75 P **P** **21 36 10.0 +1.0**
CMB pmax pmax
comp=Z,20nm,1.1s
YHB **Horse Butte** 53.05 63 P **P** **21 36 09.9 +0.6**
YHB IAmb IAmb 21 36 49.5
comp=Z,25nm,0.8s
WAKR **Walker** 53.20 74 IAmb IAmb 21 36 17.1
comp=Z,44nm,1.0s
JMIC **Jan Mayen** 53.31 356 LR LR 21 58 00.1
comp=Z,443nm,20.6s,baz=18,slow=35
YNR **Norris Junctio** 53.34 63 P **P** **21 36 13.1 +1.7**
YNR IAmb IAmb 21 36 18.7
comp=Z,49nm,1.3s
BTLS **Baital** 53.35 298 *e*P **P** **21 36 09.0 -2.1**
BTLS pmax pmax
comp=Z,16nm,1.3s
BTLS **Baital** 53.35 298 *e*P **P** **21 36 09.1 -2.1**
comp=Z,16nm,1.3s
SAO **San Andreas Ge** 53.36 77 P **P** **21 36 12.3 +1.0**
SAO **San Andreas Ge** 53.36 77 P **P** **21 36 12.4 +1.0**
SAO pmax pmax
comp=Z,15nm,0.9s
QIZ **Qiongzhong** 53.44 248 P **P** **21 36 12.6 +0.5**
QIZ S **S** **21 43 42.6 +1.9**
QIZ LR LR
comp=Z,970nm,17.7s
QIZ LR LR
comp=Z,2μm,18.8s
YFT **Old Faithful** 53.45 63 P **P** **21 36 13.5 +1.3**
YFT IAmb IAmb 21 36 17.3
comp=Z,29nm,0.8s
YNE **Yellowstone No** 53.47 62 P **P** **21 36 13.2 +0.8**
YNE IAmb IAmb 21 38 10.5
comp=Z,33nm,0.8s
YMP **Mirror Lake Pl** 53.58 62 P **P** **21 36 13.8 +0.5**
RYN **Ryan** 53.60 73 P **P** **21 36 14.4 +1.0**
RYN IAmb IAmb 21 36 19.8
comp=Z,39nm,1.0s
BBGB **Big Mountain B** 53.72 77 P **P** **21 36 15.4 +1.3**
RLMT **Red Lodge** 53.75 61 P **P** **21 36 14.7 +0.3**
DGMT **Dagmar** 53.79 55 IAmb IAmb 21 37 21.9
comp=Z,34nm,0.8s
KIRV **Kirov** 53.84 323 LR LR 22 02 35.1
comp=Z,2μm,18.8s,baz=32,slow=40
KIRV **Kirov** 53.84 323 *i* P **P** **21 36 13.4 -1.1**
NVAR **Mina Array Bea** 53.87 73 P **P** **21 36 16.7 +1.4**
NVAR **Mina Array Bea** 53.87 73 P **P** **21 36 17.3 +2.0**
comp=Z,38nm,0.9s,baz=304,slow=7.5,SNR=82
comp=Z,38nm,0.9s
TPAW **Teton Pass** 54.08 64 P **P** **21 36 17.8 +0.9**
TPAW IAmb IAmb 21 36 21.9
comp=Z,28nm,0.9s
LAO **LASA Array** 54.12 58 P **P** **21 36 17.6 +0.7**
PMPB **Monarch Peak** 54.12 77 P **P** **21 36 18.6 +1.6**
LOHW **Long Hollow** 54.16 64 P **P** **21 36 18.3 +0.9**
LOHW IAmb IAmb 21 36 24.0
comp=Z,52nm,1.4s
Q09A **Carvers** 54.18 72 P **P** **21 36 19.2 +1.7**
SGDS **Sogindy** 54.19 296 *e*P **P** **21 36 15.4 -2.1**
comp=Z,17nm,1.3s
SNOW **Snow King Moun** 54.20 64 P **P** **21 36 19.0 +1.3**
USP **Ospenovka** 54.39 296 P **P** **21 36 18.1 -0.8**
SNR=18
CHMS **Chumysh** 54.45 296 P **P** **21 36 17.7 -1.7**
SNR=12
FRB **Frobisher Bay** 54.58 25 LR LR 22 00 11.7
comp=Z,418nm,21.9s,baz=330,slow=37
KBK **Karagaybulak** 54.60 295 P **P** **21 36 19.8 -0.8**
SNR=11
FRU1 **Bishkek** 54.65 296 IAmb IAmb 21 36 20.9
comp=Z,60nm,1.1s
TPH **Tonopah** 54.71 73 P **P** **21 36 22.2 +0.8**
TPH **Tonopah** 54.71 73 P **P** **21 36 22.2 +0.8**
TPH pmax pmax
comp=Z,65nm,0.9s
DSP **Deep Springs** 54.82 74 P **P** **21 36 23.4 +1.4**
DSP IAmb IAmb 21 36 29.1
comp=Z,35nm,1.0s
AAK **Ala-Archa** 54.85 296 P **P** **21 36 21.6 -0.8**
AAK IAmb IAmb 21 36 22.2
comp=Z,39nm,1.0s
AAK **Ala-Archa** 54.85 296 LR LR 22 00 57.4
comp=Z,564nm,21.5s,baz=49,slow=37
AAK **Ala-Archa** 54.85 296 P **P** **21 36 21.6 -0.8**
SNR=9.6
AAK **Ala-Archa** 54.85 296 *c i* P **P** **21 36 21.2 -1.1**
AAK pmax pmax
comp=Z,56nm,1.2s

BGU Big Grassy Mou 54.86 67 P **P** **21 36 23.9 +1.4**
MZP Montezuma Peak 54.90 73 P **P** **21 36 23.9 +1.0**
TIN Tinemaha, Big 54.91 74 P **P** **21 36 23.9 +1.1**
TIN Tinemaha, Big 54.91 74 P **P** **21 36 23.9 +1.1**
TIN pmax pmax
comp=Z,126nm,1.0s
SFJD Kangerlussuaq 55.11 15 P **P** **21 36 23.2 -0.4**
SFJD IAmb IAmb 21 36 24.1
comp=Z,34nm,0.9s
SFJD Kangerlussuaq 55.11 15 LR LR 22 01 10.2
comp=Z,818nm,21.6s,baz=352,slow=37
SFJD Kangerlussuaq 55.11 15 P **P** **21 36 23.2 -0.4**
SFJD pmax pmax
comp=Z,34nm,1.0s
SFJD Kangerlussuaq 55.11 15 *i* P **P** **21 36 23.1 -0.5**
SFJD IAmb IAmb 21 36 23.9
comp=Z,33nm,0.9s
HWUT Hardware Ranch 55.12 66 P **P** **21 36 25.4 +1.1**
HWUT IAmb IAmb 21 36 30.2
comp=Z,58nm,1.2s
KLMR Klimovskoe 55.13 330 *eP* **P** **21 36 21.4 -2.5**
KLMR *e**PP **pP** **21 36 37.4 -0.5**
KLMR pmax pmax
comp=Z,42nm,1.3s
EKS2 Erkin-Say 55.19 296 P **P** **21 36 24.1 -0.7**
SNR=12
GMN Gold Mountain 55.26 73 P **P** **21 36 26.8 +1.3**
GMN IAmb IAmb 21 36 32.1
comp=Z,27nm,0.9s
PDAR Pinedale Array 55.30 64 P **P** **21 36 26.3 +0.6**
PDAR Pinedale Array 55.30 64 P **P** **21 36 27.1 +1.4**
comp=Z,10.0nm,0.6s,baz=321,slow=3.8,SNR=23
PDAR LR LR 22 01 27.2
comp=Z,204nm,19.2s,baz=320,slow=37
comp=Z,10.0nm,0.6s
SJUU Sjulsmark 55.31 341 *eP* **P** **21 36 24.0 -1.1**
R11B Troy Canyon, C 55.39 71 IAmb IAmb 21 36 32.6
comp=Z,45nm,1.4s
CWC Cottonwood Cre 55.44 75 P **P** **21 36 28.1 +1.4**
CWC IAmb IAmb 21 36 33.1
comp=Z,38nm,1.1s
JOF Joensuu 55.55 335 *eP* **P** **21 36 25.9 -0.9**
TCUT Toone Canyon 55.56 66 P **P** **21 36 29.6 +2.0**
TCUT IAmb IAmb 21 36 31.9
comp=Z,32nm,0.9s
SPR3 Spring Creek 3 55.58 70 P **P** **21 36 28.9 +1.1**
CTU Camp Tracy 55.69 67 P **P** **21 36 28.8 +0.4**
CTU IAmb IAmb 21 36 34.5
comp=Z,39nm,1.2s
ISA Isabella, Lake 55.80 76 P **P** **21 36 30.9 +1.7**
ISA IAmb IAmb 21 36 35.2
comp=Z,38nm,1.1s
ISA Isabella, Lake 55.80 76 P **P** **21 36 30.9 +1.7**
SOEG Soedalen 55.91 6 *i* P **P** **21 36 28.8 -0.5**
SOEG IAmb IAmb 21 36 30.4
comp=Z,64nm,1.1s
JLU Jordanelle 55.92 67 P **P** **21 36 31.4 +1.3**
JLU IAmb IAmb 21 36 33.1
comp=Z,44nm,1.4s
WCT Wildcat Mounta 55.97 73 P **P** **21 36 31.6 +1.2**
MPMC Manual Prospec 56.05 75 P **P** **21 36 32.2 +1.1**
MPMC IAmb IAmb 21 37 11.2
comp=Z,25nm,1.0s
TPNV Topopah Spring 56.06 73 P **P** **21 36 32.1 +1.0**
TPNV IAmb IAmb 21 36 37.7
comp=Z,56nm,1.1s
TPNV Topopah Spring 56.06 73 P **P** **21 36 32.1 +1.0**
TPNV pmax pmax
comp=Z,56nm,1.1s
FURC Furnace Creek, 56.08 74 P **P** **21 36 32.7 +1.7**
CLC China Lake 56.17 75 P **P** **21 36 30.6 -1.2**
CLC IAmb IAmb 21 36 38.1
comp=Z,31nm,0.9s
CLC China Lake 56.17 75 P **P** **21 36 30.6 -1.2**
CLC pmax pmax
comp=Z,31nm,0.9s
PSUT Pine Spring 56.17 70 IAmb IAmb 21 36 37.8
comp=Z,54nm,1.2s
ULM Lac du Bonnet 56.20 49 *c* *i* P **P** **21 36 32.4 +0.7**
MPU Maple Canyon 56.25 67 P **P** **21 36 33.8 +1.3**
MPU IAmb IAmb 21 36 43.0
comp=Z,34nm,0.8s
BSUT Blindstream Ca 56.32 66 P **P** **21 36 34.3 +1.1**
MDND Maddock 56.35 53 P **P** **21 36 34.3 +1.5**
KSH Kashi 56.36 292 P **P** **21 36 35.9 +2.7**
KSH pP sP 21 36 50.4 -2.9
KSH sP pP 21 36 53.8 +6.4
KSH pmax pmax
comp=Z,32nm,1.3s
KSH LR LR
comp=Z,1μm,16.1s
KSH LR LR
comp=Z,980nm,16.3s
KSH LR LR
comp=Z,1μm,19.6s
PRN Pahroc Range 56.37 72 P **P** **21 36 34.4 +1.2**
LRMC Laurel Mtn Rad 56.37 75 P **P** **21 36 34.8 +1.5**
LRMC IAmb IAmb 21 36 39.4
comp=Z,35nm,1.0s
WSHM Spangler Hills 56.38 75 P **P** **21 36 34.6 +1.3**
WSHM IAmb IAmb 21 36 39.5
comp=Z,37nm,0.9s
GWY Greenwater Val 56.40 74 P **P** **21 36 34.4 +0.9**
GWY IAmb IAmb 21 36 39.9
comp=Z,55nm,1.0s
OSI Osito Audit: C 56.44 77 P **P** **21 36 35.7 +2.0**
OSI IAmb IAmb 21 37 06.1
comp=Z,41nm,1.0s
QSM Queen of Sheba 56.45 74 P **P** **21 36 35.1 +1.3**
QSM IAmb IAmb 21 36 39.6
comp=Z,30nm,0.9s
DAV Davao City (W) 56.48 225 LR LR 22 03 00.6
comp=Z,209nm,18.3s,baz=18,slow=38
KK31 Karatay Array 56.51 299 IAmb IAmb 21 36 48.3
comp=Z,40nm,0.8s
KK31 Karatay Array 56.51 299 *i* P **P** **21 36 30.7 -3.3**
KKAR Karatay Array 56.51 299 P **P** **21 36 32.0 -2.1**
KKAR Karatay Array 56.51 299 P **P** **21 36 32.0 -2.1**
TPO Tropico Hills 56.52 76 P **P** **21 36 34.7 +0.4**
TPO IAmb IAmb 21 36 40.5
comp=Z,44nm,1.1s
ARSB Arslanbob 56.58 296 IAmb IAmb 21 36 49.4
comp=Z,22nm,0.8s
KOHI KOHIMA 56.73 267 *eP* **P** **21 36 37.5 +1.5**
KOHI *eS* **S** **21 44 24.2 -0.8**
AKTO Aktyubinsk 56.78 312 LR LR 22 03 40.9
comp=Z,2μm,20.1s,baz=42,slow=39
AKTO Aktyubinsk 56.78 312 P **P** **21 36 33.3 -2.5**
E28A Huff 56.80 55 P **P** **21 36 37.7 +1.6**
SHOC Shoshone, Teco 56.82 74 P **P** **21 36 38.0 +1.6**
SHOC IAmb IAmb 21 36 49.7
comp=Z,59nm,1.2s
AB31 Akbulak array 56.85 310 *eP* **P** **21 36 33.8 -2.5**
ABKAR Akbulak array 56.85 310 P **P** **21 36 34.3 -2.1**
TCRU Three Creeks R 56.86 69 P **P** **21 36 38.2 +1.3**
TCRU IAmb IAmb 21 36 54.8
comp=Z,31nm,0.9s
BRLS Borolday 56.90 299 *eP* **P** **21 36 36.7 -0.1**
BRLS pmax pmax
comp=Z,19nm,1.7s
BRLS Borolday 56.90 299 *eP* **P** **21 36 36.7 -0.1**
comp=Z,19nm,1.7s
K22A Casper 56.91 62 P **P** **21 36 37.7 +0.6**
K22A IAmb IAmb 21 38 21.3
comp=Z,35nm,0.7s
SHPR Sheep Range 56.97 72 P **P** **21 36 38.5 +0.8**
GSC Goldstone, Bar 56.98 75 P **P** **21 36 38.2 +0.6**
GSC IAmb IAmb 21 37 06.7
comp=Z,39nm,0.9s
GSC Goldstone, Bar 56.98 75 P **P** **21 36 38.2 +0.6**
GSC pmax pmax
comp=Z,39nm,1.0s
TMUT Trail Mountain 57.00 67 P **P** **21 36 39.0 +1.0**
TMUT IAmb IAmb 21 37 09.2
comp=Z,43nm,0.8s
RSSD Black Hills 57.04 59 P **P** **21 36 38.3 +0.2**
RSSD Black Hills 57.04 59 P **P** **21 36 38.3 +0.2**
RSSD pmax pmax
comp=Z,102nm,0.6s
RSSD Black Hills 57.04 59 P **P** **21 36 38.8 +0.7**
MSU Marysvale 57.08 69 P **P** **21 36 39.9 +1.5**
MSU Marysvale 57.08 69 P **P** **21 36 39.9 +1.5**
MWC Mount Wilson 57.10 76 P **P** **21 36 37.9 -0.6**
MWC IAmb IAmb 21 37 10.4
comp=Z,56nm,1.1s
MWC Mount Wilson 57.10 76 P **P** **21 36 37.9 -0.6**
MWC pmax pmax
comp=Z,56nm,1.1s
P17A Butcher Ranch, 57.12 67 P **P** **21 36 39.0 +0.4**
CCUT Cedar City 57.16 70 P **P** **21 36 40.0 +1.0**
P18A Preston Nutter 57.26 67 P **P** **21 36 40.2 +0.5**
SZCU Shurtz Canyon 57.27 70 P **P** **21 36 40.0 +0.2**
SZCU IAmb IAmb 21 37 09.0
comp=Z,24nm,1.0s
Q16A Castle Valley 57.30 68 P **P** **21 36 40.8 +0.9**
Q16A IAmb IAmb 21 37 07.1
comp=Z,34nm,1.0s
BFSC Mount Baldy Ra 57.31 76 P **P** **21 36 41.1 +1.2**
BFSC IAmb IAmb 21 37 06.5
comp=Z,24nm,0.8s
MTPU Mount Pierson 57.42 69 P **P** **21 36 42.0 +1.0**
MTPU IAmb IAmb 21 36 47.3
comp=Z,58nm,1.6s
IUG luzhnay 57.45 298 *eP* **P** **21 36 38.8 -2.0**
IUG luzhnay 57.45 298 *eP* **P** **21 36 38.9 -2.0**
IMP Imphal 57.52 267 *eP* **P** **21 36 39.5 -2.0**
IMP *eS* **S** **21 44 36.4 +1.3**
MTPC Mountain Pass 57.52 74 P **P** **21 36 43.0 +1.5**
MTPC IAmb IAmb 21 36 49.2
comp=Z,30nm,1.1s
EPLO Experimental L 57.55 48 P **P** **21 36 41.2 -0.1**
EPLO IAmb IAmb 21 36 56.3
comp=Z,46nm,0.9s
NUUK Nuuk 57.57 17 *i* P **P** **21 36 40.8 -0.3**
NUUK IAmb IAmb 21 36 41.9
comp=Z,57nm,1.2s
KEF Keuruu 57.66 338 *eP* **P** **21 36 41.1 -0.7**
AGMN Agassiz Nation 57.68 51 IAmb IAmb 21 36 57.3
comp=Z,42nm,0.9s
V12A Nelson 57.72 73 P **P** **21 36 44.2 +1.4**
V12A IAmb IAmb 21 36 46.2
comp=Z,23nm,1.1s
PKCU Pink Cliffs 57.80 70 P **P** **21 36 44.2 +0.6**
PKCU IAmb IAmb 21 36 57.6
comp=Z,61nm,1.3s
KNB Kanab 57.84 70 P **P** **21 36 44.5 +0.7**
KNB IAmb IAmb 21 37 19.9
comp=Z,36nm,1.0s
KNB Kanab 57.84 70 P **P** **21 36 44.5 +0.7**
KNB pmax pmax
comp=Z,36nm,1.0s
ELS Elsinore Mount 57.88 76 P **P** **21 36 44.8 +0.9**
ELS IAmb IAmb 21 37 09.9
comp=Z,21nm,0.8s
O20A White River Ci 57.91 65 P **P** **21 36 44.9 +0.7**
ISOG Isortoq, Green 57.92 10 *i* P **P** **21 36 42.6 -1.0**
ISOG IAmb IAmb 21 36 43.4
comp=Z,115nm,1.4s
ANGG Ammassalik, Gr 57.99 9 *i* P **P** **21 36 42.7 -1.3**
ANGG IAmb IAmb 21 36 43.9
comp=Z,66nm,1.2s
FINES FINESS Array B 58.04 337 P **P** **21 36 43.5 -1.0**
comp=Z,29nm,0.7s,baz=26,slow=7.8,SNR=146
FINES LR LR 22 08 21.7
comp=Z,354nm,18.4s,baz=20,slow=43
comp=Z,29nm,0.7s
SHL Shillong 58.11 269 *eP* **P** **21 36 47.6 +1.9**
SHL *eS* **S** **21 44 43.1 0.0**
DANC Danby, Needles 58.25 74 P **P** **21 36 48.2 +1.8**
HMU Henry Mountain 58.26 68 P **P** **21 36 47.6 +0.9**
BELC Belle Mtn. Jos 58.39 75 P **P** **21 36 48.4 +0.8**
BELC IAmb IAmb 21 37 16.1
comp=Z,24nm,1.0s
PFO Pinyon Flats O 58.43 76 P **P** **21 36 48.7 +0.9**
PFO Pinyon Flats O 58.43 76 LR LR 21 58 22.6
comp=Z,284nm,21.6s,baz=274,slow=32
PFO Pinyon Flats O 58.43 76 ||| *i* P **P** **21 36 48.3 +0.5**
PFO pmax pmax
comp=Z,29nm,1.2s
PMD Palm Desert 58.45 76 P **P** **21 36 48.5 +0.7**
U15A North Rim 58.57 71 P **P** **21 36 50.7 +1.8**
U15A IAmb IAmb 21 37 18.2
comp=Z,34nm,1.1s
GTK Tadong 58.60 273 *eP* **P** **21 36 53.7 +4.6**
GTK *eS* **S** **21 44 50.7 +1.2**
DPP Dos Picos Cty 58.63 77 P **P** **21 36 49.2 +0.1**
PV21 Cone Mtn., Par 58.71 67 P **P** **21 36 50.9 +1.0**
PV21 IAmb IAmb 21 38 46.6
comp=Z,29nm,0.7s
W13A Hualapai Mount 58.71 73 P **P** **21 36 50.9 +1.0**
W13A IAmb IAmb 21 36 55.5
comp=Z,24nm,1.1s
BORC Borrego Spring 58.72 76 P **P** **21 36 50.4 +0.7**
IRM Iron Mountain 58.74 74 P **P** **21 36 50.7 +0.8**
IRM IAmb IAmb 21 37 16.9
comp=Z,47nm,1.2s
PV23 Carpenter Ridg 58.77 67 P **P** **21 36 49.8 -0.5**
PV10 Paradox Valley 58.82 67 P **P** **21 36 51.0 +0.4**
PV14 Lion Creek, Pa 58.83 67 P **P** **21 36 50.8 +0.1**
PV22 Blue Mesa, Par 58.83 66 P **P** **21 36 51.2 +0.5**
PV04 Paradox Valley 58.87 67 P **P** **21 36 50.5 -0.4**
PV20 West Nyswonger 58.88 67 P **P** **21 36 49.8 -1.2**
MANU Manus Island 58.88 197 P **P** **21 36 51.0 +0.1**
MANU IAmb IAmb 21 37 05.7
comp=Z,76nm,1.7s
PV19 Morning Glory 58.89 67 P **P** **21 36 50.6 -0.5**
PV16 Nyswonger Mesa 58.93 67 P **P** **21 36 51.3 0.0**
PV17 East Wray Mesa 58.93 67 P **P** **21 36 51.5 +0.1**
BC3 Big Chuckawall 58.95 75 P **P** **21 36 52.4 +1.0**
PV11 David Mesa, Pa 58.96 67 P **P** **21 36 51.3 -0.3**
PV07 Paradox Valley 58.97 66 P **P** **21 36 52.5 +0.8**
PV18 Skein Mesa, Pa 58.98 67 P **P** **21 36 52.4 +0.7**
PV12 Saucer Basin, 58.98 67 P **P** **21 36 51.7 0.0**
PV03 Paradox Valley 59.01 67 P **P** **21 36 51.9 0.0**
PV03 IAmb IAmb 21 37 20.5
comp=Z,37nm,0.8s
PV05 Paradox Valley 59.01 67 P **P** **21 36 51.9 0.0**
AZL Aizawl 59.08 267 *eP* **P** **21 36 54.8 +2.4**
AZL *eS* **S** **21 44 56.8 +1.2**
PV13 Radium Mtn., P 59.09 67 P **P** **21 36 51.8 -0.7**
PV02 Paradox Valley 59.10 67 P **P** **21 36 52.2 -0.3**
EVN Everest 59.12 275 P **P** **21 36 53.3 0.0**
EVN IAmb IAmb 21 37 23.3
comp=Z,20nm,0.9s
SUSD Miller 59.21 55 P **P** **21 36 52.9 -0.1**
PV01 Paradox Valley 59.24 67 P **P** **21 36 53.4 -0.2**
PV01 IAmb IAmb 21 37 09.1
comp=Z,19nm,0.9s
CBX Cerro Bola 59.30 77 P **P** **21 36 53.9 0.0**
CBX IAmb IAmb 21 37 18.8
comp=Z,45nm,1.1s
RAF Rauma 59.34 339 *eP* **P** **21 36 53.1 -0.4**
F33A 5 Mile Ranch, 59.36 53 P **P** **21 36 54.0 +0.1**
BLYC Blythe 59.38 74 P **P** **21 36 55.8 +1.5**
BLYC IAmb IAmb 21 37 20.8
comp=Z,53nm,1.4s
YUH Yuha Desert 59.46 76 P **P** **21 36 55.3 +0.5**
ISCO Idaho Springs 59.50 63 P **P** **21 36 56.5 +1.1**
ISCO IAmb IAmb 21 37 12.2
comp=Z,51nm,1.1s
ISCO Idaho Springs 59.50 63 P **P** **21 36 56.5 +1.1**
ISCO pmax pmax
comp=Z,51nm,1.2s
CHTO Chiang Mai 59.50 258 P **P** **21 36 56.4 +1.1**
CHTO Chiang Mai 59.50 258 P **P** **21 36 56.4 +1.1**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
MEF Metsahovi 59.51 337 *eP* **P** **21 36 53.8 -0.9**
GAR Garm 59.67 296 P **P** **21 36 55.1 -1.2**
BORG Borgarnes 59.74 2 P **P** **21 36 57.7 +1.5**
BORG Borgarnes 59.74 2 LR LR 22 02 19.2
comp=Z,507nm,20.4s,baz=357,slow=36
BORG Borgarnes 59.74 2 P **P** **21 36 57.7 +1.5**
BORG pmax pmax
comp=Z,68nm,1.3s
WUAZ Wupatki 59.74 71 P **P** **21 36 57.5 +0.5**
WUAZ IAmb IAmb 21 37 24.9
comp=Z,30nm,0.9s
GLA Glamis 59.75 75 P **P** **21 36 57.1 +0.3**
GLA IAmb IAmb 21 37 23.8
comp=Z,29nm,0.8s
GLA Glamis 59.75 75 P **P** **21 36 57.1 +0.3**
GLA pmax pmax
comp=Z,29nm,0.8s
CMAR Chiang Mai Arr 59.79 258 P **P** **21 36 57.8 +0.5**
comp=Z,2.2nm,0.8s,baz=22,slow=6.9,SNR=12
CMAR ScP **ScP** **21 41 39.1 -0.6**
comp=Z,2.6nm,0.9s,baz=24,slow=4.8,SNR=6.2
CMAR LR LR 22 04 49.0
comp=Z,528nm,21.1s,baz=45,slow=38
comp=Z,2.2nm,0.8s
EYMN Ely 59.82 48 P **P** **21 36 56.7 -0.4**
ARBE Arbavere 59.85 336 *eP* **P** **21 36 57.0 0.0**
ESJX Sierra Juarez 59.93 77 P **P** **21 36 59.7 +1.4**
ESJX IAmb IAmb 21 37 05.9
comp=Z,24nm,1.0s
MOS Moscow 59.94 327 *eP* **P** **21 36 55.5 -2.2**
MOS *e**PP **pP** **21 37 11.5 -0.5**
MOS *e**SP **sP** **21 37 19.9 +2.0**
MOS *e* 21 39 09.1
MOS pmax pmax
comp=Z,36nm,0.8s
MOS MLR MLR
comp=Z,2μm,23.0s
MOS MLR MLR
comp=N,1μm,22.0s
MVCO Mesa Verde 59.98 67 P **P** **21 36 59.2 +0.6**
MVCO IAmb IAmb 21 37 44.3
comp=Z,29nm,1.0s
Y14A Wickenburg 60.06 73 **P** **21 37 00.6 +1.5**
Y14A IAmb IAmb 21 37 06.7
comp=Z,24nm,1.0s
TBO Thunder Bay 60.13 46 P **P** **21 36 58.8 -0.4**
TBO IAmb IAmb 21 37 33.0
comp=Z,34nm,1.1s
K30B Basset 60.25 57 P **P** **21 37 01.0 +0.9**
RABL Rabaul 60.34 191 P **P** **21 37 02.0 +1.1**
OGNE Ogallala 60.41 60 P **P** **21 37 01.4 +0.1**
S22A 4UR Ranch, Cre 60.43 66 P **P** **21 37 02.0 +0.2**
S22A IAmb IAmb 21 37 18.6
comp=Z,44nm,1.1s
VTX Valle De La Tr 60.49 77 P **P** **21 37 03.4 +1.4**
VTX IAmb IAmb 21 37 09.5
comp=Z,32nm,0.9s
BRDH Bariadhala 60.51 267 LR LR 22 05 50.7
comp=Z,395nm,19.5s,baz=48,slow=39
X16A Lo Mia Camp, P 60.54 71 P **P** **21 37 03.2 +0.8**
X16A IAmb IAmb 21 37 31.9
comp=Z,21nm,0.9s
113A Mohawk Valley, 60.54 74 P **P** **21 37 04.2 +2.1**
VSU Vasula 60.55 335 *c* *i* P **P** **21 37 00.3 -1.5**
VSU *i* *PP **pP** **21 37 15.0 -1.1**
VSU pmax pmax
comp=Z,118nm,1.4s
VSU Vasula 60.55 335 *eP* **P** **21 37 00.4 -1.4**
SIMJ Simiganj 60.59 296 P **P** **21 37 00.4 -2.3**
SIMJ pP **pP** **21 37 15.6 -1.4**
BAKI Biak 60.59 210 P **P** **21 37 02.2 -0.5**
comp=Z,67nm,1.6s
SMPI Sarmi 60.66 207 P **P** **21 37 01.3 -1.8**
comp=Z,58nm,1.9s
JAY Jayapura 60.68 205 LR LR 21 59 57.8
comp=Z,256nm,21.8s,baz=5.5,slow=33
SHBG Sahibganj 60.76 272 *eP* **P** **21 37 02.8 -1.0**
SHBG *eS* **S** **21 45 22.4 +5.5**
OBN Obninsk 60.79 328 P **P** **21 37 02.7 -0.9**
OBN Obninsk 60.79 328 LR LR 22 06 19.4
comp=Z,1μm,20.8s,baz=346,slow=39
OBN Obninsk 60.79 328 *eP* **P** **21 37 02.2 -1.3**
OBN *i* *PP **pP** **21 37 18.4 +0.6**
OBN *i* *SP **sP** **21 37 27.5 +3.8**
OBN *i* 21 37 45.7
OBN *e* 21 39 17.0
OBN *e*PPP PPP 21 40 41.3
OBN *e*S **S** **21 45 14.6 -1.9**
OBN *e*SS **SS** **21 49 15.4 +0.4**
OBN pmax pmax
comp=Z,65nm,2.0s
OBN MLR MLR
comp=Z,1μm,20.0s
ECSD EROS Data Cent 60.84 54 P **P** **21 37 04.3 +0.3**
ECSD IAmb IAmb 21 37 19.1
comp=Z,35nm,1.1s
GENI Genyem 60.88 205 P **P** **21 37 05.8 +1.2**
comp=Z,57nm,0.7s
W18A Petrified Fore 60.91 70 P **P** **21 37 05.9 +0.9**
W18A IAmb IAmb 21 37 30.2
comp=Z,24nm,1.0s
IVI Ivigtut 60.94 16 P **P** **21 37 03.9 -0.6**
IVI Ivigtut 60.94 16 *i* P **P** **21 37 03.7 -0.7**
IVI IAmb IAmb 21 37 04.8
comp=Z,98nm,1.3s
IVI Ivigtut 60.94 16 P **P** **21 37 04.1 -0.3**
IVI pP **pP** **21 37 20.0 +1.3**
SDCO Great Sand Dun 61.11 65 P **P** **21 37 06.9 +0.5**
SDCO IAmb IAmb 21 37 22.9
comp=Z,24nm,1.1s
MYLDM Lahad Datu 61.16 231 P **P** **21 37 07.0 +0.5**
NB2 NORSAR Subarra 61.22 344 P **P** **21 37 05.2 -1.2**
comp=Z,80nm,1.0s,baz=18,slow=6.9
NB2 NORSAR Subarra 61.22 344 P **P** **21 37 05.2 -1.2**
baz=18,slow=6.9
NOA NORSAR Array B 61.22 344 P **P** **21 37 05.3 -1.1**
comp=Z,12nm,0.5s,baz=19,slow=6.9,SNR=114
NOA LR LR 22 04 49.4
comp=Z,324nm,19.5s,baz=20,slow=37
comp=Z,12nm,0.5s
UPP Uppsala 61.23 340 *eP* **P** **21 37 05.8 -0.7**
X18A Snowflake 61.25 70 IAmb IAmb 21 37 37.4
comp=Z,40nm,1.0s
NBO00 NORSAR Array S 61.29 344 IAmb IAmb 21 37 23.0
comp=Z,45nm,1.1s
NRS Narsarsuaq 61.39 15 P **P** **21 37 06.5 -1.0**
NRS IAmb IAmb 21 37 07.7
comp=Z,45nm,1.2s
NRS Narsarsuaq 61.39 15 P **P** **21 37 06.5 -1.0**
NRS pmax pmax
comp=Z,45nm,1.2s
NRS Narsarsuaq 61.39 15 *i* P **P** **21 37 06.7 -0.9**
NRS IAmb IAmb 21 37 08.9
comp=Z,36nm,1.1s
KKM Kota Kinabalu 61.42 234 P **P** **21 37 09.4 +1.0**
NAO01 NORSAR Array S 61.45 344 IAmb IAmb 21 37 23.9
comp=Z,32nm,0.9s
PTH Pithoragarh 61.58 281 *eP* **P** **21 37 08.9 -0.6**
PTH *eS* **S** **21 45 30.6 +2.9**
TNTI Ternate 61.58 220 P **P** **21 37 09.7 +0.3**
TNTI IAmb IAmb 21 37 28.8
comp=Z,39nm,1.0s
KSCO Kaye Shedlock' 61.59 62 P **P** **21 37 10.4 +0.9**
KSCO IAmb IAmb 21 37 35.4
comp=Z,44nm,1.0s
LGTI Lohaghat 61.64 281 *eP* **P** **21 37 11.0 +1.3**
LGTI *eS* **S** **21 45 30.6 +2.6**
HFS Hagfors 61.68 343 P **P** **21 37 08.2 -1.3**
comp=Z,23nm,0.7s,baz=41,slow=4.7,SNR=97
HFS LR LR 22 04 46.4
comp=Z,512nm,21.5s,baz=16,slow=37
comp=Z,23nm,0.7s
214A Organ Pipe Nat 61.68 74 P **P** **21 37 10.1 +0.1**
214A IAmb IAmb 21 37 27.3
comp=Z,21nm,1.0s
SWI Sorong 61.76 215 P **P** **21 37 09.8 -0.8**
comp=Z,57nm,1.3s
BGNE Belgrade 61.92 57 P **P** **21 37 11.6 +0.2**
SMLA Simla 62.04 285 *eP* **P** **21 37 10.5 -1.8**
SMLA *eS* **S** **21 45 36.0 +3.0**
JMU Jammu 62.05 288 *eP* **P** **21 37 14.6 +2.2**
JMU *eS* **S** **21 45 30.3 -2.8**
I37A Lemond, Waseca 62.07 52 P **P** **21 37 13.2 +0.8**
T25A Trinidad 62.13 64 P **P** **21 37 14.5 +1.3**
T25A IAmb IAmb 21 37 35.5
comp=Z,30nm,1.1s
LPSR Galich'ya Gora 62.18 325 *eP* **P** **21 37 09.0 -4.0**
LPSR pmax pmax
comp=Z,40nm,0.8s
NIL Nilore 62.21 290 P **P** **21 37 12.8 -0.7**
NIL Nilore 62.21 290 P **P** **21 37 12.8 -0.7**
NIL pmax pmax
comp=Z,52nm,0.9s
COWI Conover 62.27 48 IAmb IAmb 21 37 42.0
comp=Z,23nm,0.9s
SLIT Slitere, Latvi 62.33 337 *eP* **P** **21 37 13.3 -0.5**
VRH Novokhopyorsk 62.42 322 *eP* P 21 37 09.3 -5.3
VRH pmax pmax
comp=Z,20nm,0.8s
GAYA Gaya 62.45 274 *eP* **P** **21 37 16.7 +1.5**
GAYA *eS* **S** **21 45 40.5 +2.2**
G40A Rib Lake 62.48 49 IAmb IAmb 21 37 43.2
comp=Z,23nm,1.1s
TUC Tucson 62.51 72 P **P** **21 37 15.9 +0.3**
TUC Tucson 62.51 72 P **P** **21 37 15.9 +0.3**
TUC pmax pmax
comp=Z,22nm,1.3s

SCHQ **Schefferville** 62.74 29 IAmb IAmb 21 37 16.8
comp=Z,32nm,0.8s
SCHQ **Schefferville** 62.74 29 P **P** **21 37 16.0 -0.7**
comp=Z,88nm,1.2s,baz=338,slow=4.9,SNR=27
SCHQ LR LR 22 07 00.9
comp=Z,160nm,18.6s,baz=321,slow=38
comp=Z,88nm,1.2s
ANMO Albuquerque 62.77 67 P **P** **21 37 18.4 +1.0**
ANMO IAmb IAmb 21 37 44.8
comp=Z,19nm,0.9s
ANMO Albuquerque 62.77 67 LR LR 22 04 52.1
comp=Z,149nm,18.1s,baz=60,slow=36
ANMO Albuquerque 62.77 67 ⇓*i*P **P** **21 37 17.6 +0.2**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
KONO Kongsberg 62.79 345 P **P** **21 37 16.3 -0.6**
KONO IAmb IAmb 21 37 16.9
comp=Z,34nm,0.9s
KONO Kongsberg 62.79 345 ⇑*i*P **P** **21 37 16.2 -0.7**
KONO pmax pmax
comp=Z,36nm,0.9s
KONO Kongsberg 62.79 345 P **P** **21 37 16.5 -0.4**
F42A Maple Grove Fa 62.96 48 P **P** **21 37 17.6 -0.7**
LENM Lemitar 63.10 68 P **P** **21 37 21.1 +1.5**
STRU Stroemstad 63.13 344 *e*P **P** **21 37 18.6 -0.5**
STRU Stroemstad 63.13 344 *i*P **P** **21 37 18.0 -1.2**
STRU IAmb IAmb 21 37 19.2
comp=Z,9.0nm,0.9s
CBKS Cedar Bluff 63.17 60 P **P** **21 37 20.2 +0.3**
CBKS IAmb IAmb 21 37 35.4
comp=Z,36nm,0.8s
CBKS Cedar Bluff 63.17 60 P **P** **21 37 20.2 +0.3**
CBKS pmax pmax
comp=Z,36nm,0.8s
Y22D IRIS PASSCAL I 63.20 68 P **P** **21 37 22.1 +1.9**
baz=321
DUN6 Lazy B Ranch 63.23 71 P **P** **21 37 21.8 +1.4**
VSR Storozhevoye 63.28 324 *e*P **P** **21 37 17.9 -2.4**
VSR pmax pmax
comp=Z,20nm,1.0s
Y22A Socorro 63.28 69 P **P** **21 37 22.0 +1.2**
Y22A IAmb IAmb 21 37 44.0
comp=Z,46nm,1.1s
ISAL Salakas 63.28 334 *e*P **P** **21 37 19.0 -1.3**
IDID Didziasalis 63.36 333 *e*P **P** **21 37 19.0 -1.8**
FAKI Fak Fak 63.38 214 P **P** **21 37 21.4 +0.1**
FAKI Fak Fak 63.38 214 P **P** **21 37 22.3 +0.9**
I40A Norwalk 63.40 50 IAmb IAmb 21 37 35.9
comp=Z,30nm,0.9s
VSVD Vaisvydziai 63.45 335 *e*P **P** **21 37 20.4 -0.9**
MNK Minsk 63.79 332 *i*P **P** **21 37 23.3 -0.3**
MNK *i* *PP **pP** **21 37 39.7 +1.7**
MNK *i* 21 39 44.7
MNK *i* PPP PPP 21 41 13.7
MNK *i* *SS **S** **21 45 54.3 0.0**
MNK *i* *SS **sS** **21 46 22.3 +4.0**
MNK pmax pmax
comp=Z,42nm,1.3s
MNK pmax pmax
comp=E,42nm,1.4s
MNK pmax pmax
comp=N,16nm,1.2s
MNK MLR MLR
comp=N,429nm,19.0s
MNK MLR MLR
comp=Z,1µm,22.0s
MNK MLR MLR
comp=E,962nm,20.0s
KNTI KHUNTI 63.79 273 *e*P **P** **21 37 25.3 +1.1**
SCIA State Center 63.82 54 P **P** **21 37 25.1 +1.0**
TOLI2 Tolitoli 63.84 227 P **P** **21 37 26.0 +1.6**
PABE Paberze 63.87 335 IAmb IAmb 21 37 40.8
comp=Z,52nm,1.0s
PABE Paberze 63.87 335 *e*P **P** **21 37 23.5 -0.7**
PBUR Paburge 63.88 336 *e*P **P** **21 37 23.3 -0.9**
121A Cookes Peak, D 63.94 70 P **P** **21 37 26.5 +1.3**
121A IAmb IAmb 21 37 44.4
comp=Z,61nm,1.5s
R32A Long Quarter, 63.98 60 P **P** **21 37 24.2 -1.0**
E46A Sault Ste Mari 64.03 45 P **P** **21 37 24.1 -1.3**
E46A IAmb IAmb 21 37 51.7
comp=Z,22nm,0.7s
319A Douglas 64.03 72 P **P** **21 37 26.0 +0.3**
319A IAmb IAmb 21 37 43.8
comp=Z,40nm,1.1s
I42A Draeger Farm, 64.13 49 P **P** **21 37 25.7 -0.4**
H43A Windswept, Lux 64.15 48 P **P** **21 37 26.2 0.0**
BORU Boraas 64.20 342 *i*P **P** **21 37 24.9 -1.4**
JFWS Jewell Farm 64.34 51 P **P** **21 37 26.6 -0.8**
JFWS Jewell Farm 64.34 51 P **P** **21 37 26.6 -0.8**
JFWS pmax pmax
comp=Z,13nm,0.7s
ONAU Onsala 64.58 343 *i*P **P** **21 37 27.6 -1.1**
L40A Anamosa 64.59 52 IAmb IAmb 21 37 43.2
comp=Z,28nm,0.8s
SANI Sanana 64.69 220 P **P** **21 37 29.2 -0.8**
comp=Z,82nm,1.2s
KUDL Kundal 64.72 283 *e*P **P** **21 37 29.4 -0.7**
FABU Falkenberg 64.81 342 *i*P **P** **21 37 29.3 -1.0**
BLEU Blekinge 64.90 340 *i*P **P** **21 37 29.1 -1.7**
HSIG 64.97 75 P **P** **21 37 32.9 +1.2**
LUWI Luwuk 64.99 224 P P 21 37 26.1 -5.8
DEL Delary 65.11 341 *i*P **P** **21 37 30.9 -1.3**
NOKA Waynoka 65.28 61 P **P** **21 37 33.0 -0.7**
NOKA IAmb IAmb 21 37 50.3
comp=Z,26nm,0.9s
L42A Oliver, Polo 65.33 51 P **P** **21 37 33.0 -0.9**
L42A IAmb IAmb 21 37 49.9
comp=Z,30nm,0.9s
K43A Burlington 65.34 50 P **P** **21 37 33.1 -0.8**
K43A IAmb IAmb 21 37 59.1
comp=Z,22nm,0.8s
SUW Suwalki 65.42 335 *e*P **P** **21 37 33.2 -1.0**
SUW Suwalki 65.42 335 P **P** **21 37 33.3 -1.0**
SUW pmax pmax
comp=Z,66nm,1.3s
SUW Suwalki 65.42 335 *e*P **P** **21 37 33.3 -1.0**
AAI Ambon 65.43 218 P **P** **21 37 32.6 -2.2**
MSTX Muleshoe 65.44 65 IAmb IAmb 21 38 04.8
comp=Z,36nm,1.0s
ELIS Ellis County 65.48 62 P **P** **21 37 36.0 +1.0**
ELIS IAmb IAmb 21 38 02.5
comp=Z,29nm,1.0s
OK038 West end E0370 65.49 61 P **P** **21 37 35.4 +0.3**
OK038 IAmb IAmb 21 37 50.2
comp=Z,28nm,0.7s
KAN14 Manchester OK 65.50 60 P **P** **21 37 34.5 -0.5**
CPRX Cap Rock 65.61 67 P **P** **21 37 37.0 +1.1**
SMWD Samnorwood 65.83 63 IAmb IAmb 21 37 53.3
comp=Z,43nm,1.0s
MUD Monsted U'grnd 65.92 344 *i*P **P** **21 37 37.1 -0.3**
MUD IAmb IAmb 21 37 37.5
comp=Z,51nm,1.2s
LUNU Lund 65.98 341 *i*P **P** **21 37 37.0 -0.9**
PCI Palu 66.05 227 P **P** **21 37 37.0 -1.8**
PMG Port Moresby 66.14 196 P **P** **21 37 40.0 +0.7**
PMG IAmb IAmb 21 38 04.0
comp=Z,37nm,0.8s
PMG Port Moresby 66.14 196 ⇓*i*P **P** **21 37 39.5 +0.3**
PMG *i* *PP **pP** **21 37 52.6 -1.0**
PMG pmax pmax
comp=Z,36nm,1.1s
BSD Bornholm Skovb 66.20 340 *i*P **P** **21 37 38.7 -0.5**
BSD IAmb IAmb 21 37 39.6
comp=Z,21nm,0.6s
T35A Sooner Cattle 66.23 59 P **P** **21 37 39.9 0.0**
SBUM Sibu 66.44 236 IAmb IAmb 21 38 02.1
comp=Z,53nm,1.0s
DKNS Dickens 66.62 64 P **P** **21 37 42.2 -0.1**
DKNS IAmb IAmb 21 38 10.2
comp=Z,25nm,1.0s
OK029 Liberty Lake 66.67 60 P **P** **21 37 43.2 +0.6**
OK029 IAmb IAmb 21 37 57.5
comp=Z,19nm,0.7s
BUKO Buck Lake 66.70 42 P **P** **21 37 41.9 -0.7**
BUKO IAmb IAmb 21 38 05.3
comp=Z,32nm,1.1s
QUOK Quay 66.73 60 P **P** **21 37 42.5 -0.5**
QUOK IAmb IAmb 21 37 57.6
comp=Z,34nm,1.2s
L46A Eue Claire 66.78 49 P **P** **21 37 43.2 0.0**
L46A IAmb IAmb 21 37 44.1
comp=Z,40nm,1.0s
VHRN Van Horn 66.78 69 P **P** **21 37 44.2 +0.7**
VHRN IAmb IAmb 21 38 15.0
comp=Z,32nm,1.0s
POST Post 66.80 65 P **P** **21 37 44.1 +0.6**
POST IAmb IAmb 21 38 18.2
comp=Z,28nm,0.8s
AKASG Malin Array Be 66.82 329 P **P** **21 37 42.7 -0.6**
AKASG Malin Array Be 66.82 329 P **P** **21 37 41.5 -1.8**
comp=Z,3.5nm,0.4s,baz=30,slow=6.3,SNR=38
AKASG LR LR 22 11 05.1
comp=Z,777nm,18.6s,baz=18,slow=40
comp=Z,3.5nm,0.4s
AKASG Malin Array Be 66.82 329 P **P** **21 37 42.7 -0.6**
AKASG pmax pmax
comp=Z,29nm,1.6s
AKBB Malin Array Si 66.82 329 IAmb IAmb 21 37 59.5
comp=Z,31nm,1.1s
AKBB Malin Array Si 66.82 329*c* *i*P **P** **21 37 41.6 -1.7**
OK052 Battle Ridge R 66.83 60 P **P** **21 37 43.8 +0.2**
KIEV Kiev 66.83 329 P **P** **21 37 42.2 -1.1**
KIEV IAmb IAmb 21 37 59.4
comp=Z,28nm,1.1s
KIEV Kiev 66.83 329 ⇓P **P** **21 37 42.3 -1.1**
KIEV Kiev 66.83 329 P **P** **21 37 42.2 -1.1**
KIEV pmax pmax
comp=Z,28nm,1.1s
KIEV Kiev 66.83 329 P **P** **21 37 42.0 -1.4**
WMOK Wichita Mounta 66.85 62 P **P** **21 37 44.1 +0.3**
WMOK IAmb IAmb 21 37 59.2
comp=Z,66nm,1.3s
WMOK Wichita Mounta 66.85 62 P **P** **21 37 44.1 +0.3**
WMOK pmax pmax
comp=Z,66nm,1.3s
PECS Pecos 66.91 68 P **P** **21 37 45.3 +1.0**
PECS IAmb IAmb 21 38 15.5
comp=Z,18nm,0.7s
ODSA Odessa 67.01 67 P **P** **21 37 45.6 +0.7**
SN07 Snyder 07 67.09 65 P **P** **21 37 45.2 -0.1**
MAK Makhachkala 67.09 313 *e*P **P** **21 37 43.0 -2.1**
MAK *e**SP **sP** **21 38 03.1 -2.4**
MAK *e* 21 40 17.8
MAK *e*S **S** **21 46 32.8 -2.2**
MAK *e**SS **sS** **21 46 57.4 -1.7**
MAK *e*SS **SS** **21 50 59.1 +5.4**
MAK pmax pmax
comp=Z,166nm,1.3s
MAK MLR MLR
comp=Z,2µm,17.0s
DEOK Depew 67.10 60 P **P** **21 37 44.9 -0.4**
DEOK IAmb IAmb 21 38 00.2
comp=Z,21nm,0.8s
GOF Gofitskoye 67.10 318*c**e*P **P** **21 37 43.9 -1.3**
FNO Franklin 67.12 61 P **P** **21 37 45.7 +0.2**
APMT Aspermont 67.30 64 IAmb IAmb 21 38 14.2
comp=Z,42nm,1.0s
P43A Skaggs, Pawnee 67.31 53 IAmb IAmb 21 38 01.5
comp=Z,26nm,0.7s
SADO Sadowa 67.37 42 LR LR 22 09 10.9
comp=Z,471nm,19.2s,baz=352,slow=38
TUL3 Leonard 67.39 59 IAmb IAmb 21 38 02.0
comp=Z,19nm,0.7s
GKP Gorka Klasztor 67.46 338 *e*P **P** **21 37 46.7 -0.6**
GKP Gorka Klasztor 67.46 338 *e*P **P** **21 37 46.7 -0.6**
ERBR Yeremizino-Bor 67.50 320 *e*P **P** **21 37 46.1 -1.6**
ERBR *e**PP **pP** **21 38 02.7 +0.5**
ERBR *e*PPP PPP 21 41 56.8
ERBR *e*S **S** **21 46 37.9 -1.9**
ERBR pmax pmax
comp=Z,17nm,0.9s
ERBR MLR MLR
comp=Z,927nm,20.0s
MNHN Monahans 67.51 67 IAmb IAmb 21 38 19.3
comp=Z,18nm,0.7s
RLO Rose Lookout 67.55 59 P **P** **21 37 47.9 -0.3**
R9F13 Warsaw-Wawer 67.56 335 *e*P **P** **21 37 47.5 -0.4**
WTFS Witchita Falls 67.78 63 P **P** **21 37 50.4 +0.8**
WTFS IAmb IAmb 21 38 20.5
comp=Z,22nm,0.8s
SLM Saint Louis 67.80 54 P **P** **21 37 49.6 -0.1**
SLM IAmb IAmb 21 38 10.9
comp=Z,33nm,0.8s
SLM Saint Louis 67.80 54 P **P** **21 37 49.6 -0.1**
SLM pmax pmax
comp=Z,33nm,0.8s
CCM Cathedral Cave 67.81 55 P **P** **21 37 49.5 -0.3**
CCM IAmb IAmb 21 38 05.1
comp=Z,42nm,1.2s
CCM Cathedral Cave 67.81 55 P **P** **21 37 49.5 -0.3**
CCM pmax pmax
comp=Z,42nm,1.2s
CCM Cathedral Cave 67.81 55 P **P** **21 37 49.3 -0.4**
CCM pP **pP** **21 38 03.7 -0.5**
TRQ Mont Tremblant 67.81 39 IAmb IAmb 21 37 50.1
comp=Z,58nm,1.1s
ALPN Alpine 67.82 69 P **P** **21 37 50.0 -0.1**
ALPN IAmb IAmb 21 38 19.4
comp=Z,26nm,1.0s
SGCY Sterling City 67.90 66 P **P** **21 37 51.1 +0.6**
SGCY IAmb IAmb 21 38 08.1
comp=Z,24nm,0.9s
N47A Urbana 67.97 49 P **P** **21 37 49.6 -1.1**
N47A IAmb IAmb 21 38 05.2
comp=Z,35nm,1.2s
HHAR Hobbs 67.98 58 IAmb IAmb 21 38 05.4
comp=Z,35nm,0.7s
BEL Belsk 68.00 335 *e*P **P** **21 37 50.7 0.0**
BHPL Bhopal 68.06 279 *e*P **P** **21 37 53.5 +1.9**
BHPL *e*S **S** **21 46 46.6 -0.6**
ABTX Abilene, Hawle 68.10 64 IAmb IAmb 21 38 22.7
comp=Z,28nm,0.9s
KVAR Kislovodsk Arr 68.17 317 LR LR 22 11 17.4
comp=Z,578nm,19.1s,baz=262,slow=39
KIV Kislovodsk 68.17 317 P **P** **21 37 52.8 +0.7**
KIV IAmb IAmb 21 38 25.1
comp=Z,20nm,0.8s
KIV Kislovodsk 68.17 317 *e*P **P** **21 37 50.5 -1.6**
KIV *e* 21 40 19.5
KIV *e*PPP PPP 21 41 59.9
KIV *e*S **S** **21 46 46.7 -1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,302nm,17.0s
KSM Kuching 68.19 238 P **P** **21 37 53.0 +0.7**
LOOK Love County 68.24 61 P **P** **21 37 53.0 +0.5**
LOOK IAmb IAmb 21 38 39.1
comp=Z,31nm,1.0s
FVM French Village 68.24 54 IAmb IAmb 21 38 22.9
comp=Z,44nm,0.9s
KBZ Khabaz 68.28 317 P **P** **21 37 51.8 -0.8**
comp=Z,9.5nm,0.8s,baz=19,slow=3.9,SNR=10
KBZ LR LR 22 10 49.3
comp=Z,1µm,21.8s,baz=16,slow=39
comp=Z,9.5nm,0.8s
KBZ Khabaz 68.28 317*c* *i*P **P** **21 37 51.6 -1.0**
KBZ MLR MLR
comp=Z,854nm,20.0s
P46A Rosedale 68.35 51 IAmb IAmb 21 38 21.5
comp=Z,42nm,0.8s
SHA1 Shidzhatmaz 68.37 317*c* *i*P **P** **21 37 52.3 -1.2**
EKA Eskdalemuir Ar 68.55 351 P **P** **21 37 53.5 -0.6**
comp=Z,5.8nm,0.4s,baz=16,slow=4.6,SNR=38
comp=Z,5.8nm,0.4s
EKA Eskdalemuir Ar 68.55 351 P **P** **21 37 53.7 -0.4**
EKA pmax pmax
comp=Z,65nm,1.4s
ESK Eskdalemuir 68.57 351 P **P** **21 37 54.0 -0.2**
ESK Eskdalemuir 68.57 351 P **P** **21 37 54.0 -0.2**
ESK pmax pmax
comp=Z,84nm,1.4s
ESK Eskdalemuir 68.57 351 P **P** **21 37 53.8 -0.4**
N49A Columbus Grove 68.57 48 IAmb IAmb 21 38 24.3
comp=Z,31nm,0.9s
PLPT Palo Pinto 68.62 63 P **P** **21 37 55.7 +0.8**
PLPT IAmb IAmb 21 38 22.5
comp=Z,65nm,1.6s
TXAR Lajitas Array 68.63 69 P **P** **21 37 56.2 +1.1**
comp=Z,7.0nm,0.5s,baz=301,slow=6.0,SNR=98
TXAR LR LR 22 08 46.8
comp=Z,83nm,18.9s,baz=328,slow=36
comp=Z,7.0nm,0.5s
SEKA Sheki 68.68 313 P **P** **21 37 53.4 -1.8**
OZNA Ozona 68.69 66 P **P** **21 37 55.3 -0.1**
O48B Farmland 68.71 49 IAmb IAmb 21 37 55.7
comp=Z,42nm,1.2s
MNTQ Montreal, Queb 68.76 38 IAmb IAmb 21 37 55.8
comp=Z,38nm,1.1s
RUE Ruedersdorf 68.91 340 *e*P **P** **21 37 56.4 0.0**
comp=Z,112nm,1.4s,baz=16,slow=6.1
RUE *e*sP **pP** **21 38 13.0 +2.2**
baz=16,slow=6.3
D62A Allapoint, All 68.92 35 IAmb IAmb 21 37 57.4
comp=Z,47nm,1.1s
MEDO Medina 68.99 43 IAmb IAmb 21 37 57.4
comp=Z,71nm,1.1s
S44A Carbondale 69.02 54 IAmb IAmb 21 38 16.5
comp=Z,31nm,0.8s
SIUC Southern Illin 69.02 53 IAmb IAmb 21 38 16.5
comp=Z,31nm,0.9s
LVV L'vov 69.05 332 P **P** **21 37 56.2 -1.1**
MNGR Mingechevir, A 69.09 312 P **P** **21 37 56.3 -1.4**
O49A Covington 69.12 49 P **P** **21 37 56.8 -1.1**
O49A IAmb IAmb 21 37 58.6
comp=Z,94nm,1.7s
IDGL Inch Island, C 69.14 354 P **P** **21 37 56.2 -1.5**
CGM3 Cape Girardeau 69.16 54 P **P** **21 37 58.0 -0.1**
FCAR Ozark Folk Cen 69.16 57 IAmb IAmb 21 38 13.2
comp=Z,51nm,1.1s
LPIG La Paz 69.19 78 LR LR 22 06 21.2
comp=Z,71nm,19.4s,baz=310,slow=34
PBMO Poplar Bluff 69.22 55 IAmb IAmb 21 38 14.1
comp=Z,35nm,0.7s
P48A Milroy 69.25 50 IAmb IAmb 21 38 24.3
comp=Z,29nm,0.9s
N51A Ashland 69.33 47 IAmb IAmb 21 37 59.6
comp=Z,58nm,1.2s
SORM Soroca 69.38 329 ⇓P **P** **21 37 58.3 -1.1**
SORM Soroca 69.38 329 P **P** **21 37 58.2 -1.1**
ANN Anapa 69.38 321 *e*P **P** **21 37 56.7 -2.7**
ANN *e**PP **pP** **21 38 12.6 -1.4**
ANN *e* 21 40 32.6
ANN *e*S **S** **21 46 58.2 -4.0**
ANN pmax pmax
comp=Z,21nm,1.1s
ANN MLR MLR
comp=E,216nm,14.0s
ANN MLR MLR
comp=Z,373nm,15.0s
ANN MLR MLR
comp=N,779nm,20.0s
FW13 Cleburne 69.43 63 P **P** **21 38 01.0 +1.1**
HPIG 69.47 72 P **P** **21 38 00.9 +0.4**
RETH Rethem/Aller, 69.47 343 *e*P **P** **21 37 59.8 +0.1**
comp=N,66nm,1.6s,baz=16,slow=6.1
USIN University of 69.51 52 IAmb IAmb 21 38 36.3
comp=Z,40nm,1.1s
GANJ Ganja 69.51 313 P **P** **21 37 58.9 -1.5**
FLTG Flechtingen 69.53 341 *e*P **P** **21 37 59.6 -0.6**
comp=Z,35nm,1.3s,baz=16,slow=6.1
FLTG *e*pP **pP** **21 38 11.7 -3.1**
FLTG *e*sP **sP** **21 38 16.3 -4.3**
baz=16,slow=6.3
MIAR Mount Ida 69.56 59 IAmb IAmb 21 38 33.2
comp=Z,70nm,1.4s
KWP Kalwaria Pacla 69.56 333 *e*P **P** **21 38 00.4 -0.1**
WHAR Wooly Hollow 69.57 57 IAmb IAmb 21 38 32.9
comp=Z,47nm,1.0s
MMNY Mt. Morris Dam 69.57 43 IAmb IAmb 21 38 00.8
comp=Z,60nm,1.2s
NRDL Niedersach Rie 69.58 342 *e*P **P** **21 38 00.3 -0.1**
comp=Z,26nm,1.2s,baz=16,slow=6.1
WVNY West Valley, N 69.58 43 IAmb IAmb 21 38 01.1
comp=Z,71nm,1.2s
SOC Sochi 69.61 319 *e*P **P** **21 37 58.7 -2.1**
SOC *e*S **S** **21 47 02.6 -2.3**
SOC *e*SSS SSS 21 54 42.9
SOC MLR MLR
comp=Z,505nm,19.0s
ACSO Alum Creek Sta 69.65 48 IAmb IAmb 21 38 31.2
comp=Z,49nm,1.0s
BATG Bathurst New B 69.68 33 IAmb IAmb 21 38 02.2
comp=Z,44nm,1.1s
WHTX Lake Whitney, 69.71 63 P **P** **21 38 01.1 -0.5**
J57A Williamstown 69.71 41 P **P** **21 38 00.8 -0.7**
MORS Morshin 69.71 332 P **P** **21 38 01.2 -0.2**
SLBS Sierra La Lagu 69.72 78 P **P** **21 38 01.0 -0.9**
JCT Junction City 69.73 66 P **P** **21 38 02.5 +0.6**
JCT IAmb IAmb 21 38 28.9
comp=Z,51nm,1.0s
JCT Junction City 69.73 66 P **P** **21 38 02.5 +0.6**
JCT pmax pmax
comp=Z,51nm,1.0s
OJC Ojcow 69.73 335 *e*P **P** **21 38 01.3 -0.2**
KULM Kulim 69.77 249 P **P** **21 38 03.8 +1.6**
KAPI Kappang 69.81 225 P **P** **21 38 03.4 +1.0**
KAPI IAmb IAmb 21 38 22.5
comp=Z,69nm,1.1s
KAPI Kappang 69.81 225 LR LR 22 11 52.9
comp=Z,98nm,18.1s,baz=34,slow=39
KAPI Kappang 69.81 225 P **P** **21 38 03.4 +1.0**
KAPI pmax pmax
comp=Z,69nm,1.2s
ASSE Asse, Remlinge 69.83 342 *e*P **P** **21 38 02.0 +0.1**
comp=Z,55nm,1.4s,baz=16,slow=6.1
ASSE *e*pP **pP** **21 38 13.7 -2.8**
WCI Wyandotte Cave 69.90 51 P **P** **21 38 02.4 -0.3**
WCI IAmb IAmb 21 38 27.9
comp=Z,26nm,0.8s
WCI Wyandotte Cave 69.90 51 P **P** **21 38 02.4 -0.3**
WCI pmax pmax
comp=Z,26nm,0.8s
PAOC Oil Creek Stat 69.91 45 IAmb IAmb 21 38 03.2
comp=Z,36nm,1.1s
Z38A Mt. Pleasant 69.91 60 P **P** **21 38 03.2 +0.4**
Z38A IAmb IAmb 21 38 33.8
comp=Z,47nm,1.1s
KSP Ksiaz 69.94 338 *e*P **P** **21 38 02.8 0.0**
X40A Basin Creek Fa 69.96 58 P **P** **21 38 03.4 +0.2**
UALR University of 69.96 58 P **P** **21 38 02.9 -0.2**
HICK Hickman 69.97 54 P **P** **21 38 02.7 -0.5**
PEBM Pemiscott Bayo 70.03 55 P **P** **21 38 04.5 +0.9**
G62A West of Eustis 70.07 37 IAmb IAmb 21 38 05.0
comp=Z,50nm,1.2s
GNAR Gosnell 70.08 55 P **P** **21 38 04.6 +0.8**
LKRN Lenkeran, Azer 70.09 310 P **P** **21 38 02.5 -1.4**
ILTH Belurgan, Co L 70.10 353 P **P** **21 38 04.9 +1.3**
K57A Scipio Center 70.10 42 P **P** **21 38 02.7 -1.2**
K57A IAmb IAmb 21 38 03.9
comp=Z,50nm,1.2s
HBAR Harrisburg 70.12 56 P **P** **21 38 04.9 +0.8**
STHS Stebnicka Huta 70.13 334 *e*P **P** **21 38 03.8 -0.2**
STHS *e* 21 38 20.5
STHS pmax pmax
comp=Z,42nm,1.5s
STHS Stebnicka Huta 70.13 334 *e*P **P** **21 38 03.8 -0.2**
STHS *e* 21 38 20.5
IBBN Ibbenburen 70.15 343 *e*P **P** **21 38 03.9 -0.1**
comp=Z,61nm,1.2s,baz=16,slow=6.1
DRIO Del Rio 70.15 67 IAmb IAmb 21 38 33.7
comp=Z,36nm,0.9s
GLAT Glass 70.17 54 P **P** **21 38 05.2 +0.8**
CLL Collm 70.18 340 IAmb IAmb 21 38 04.7
comp=Z,90nm,1.3s
CLL Collm 70.18 340 ⇑*i*P **P** **21 38 03.3 -0.9**
CLL *i* *PP **pP** **21 38 19.6 +0.8**
CLL *e*S **S** **21 47 10.0 -1.3**
CLL pmax pmax
comp=Z,83nm,1.3s
CLL MLR MLR
comp=Z,500nm,21.3s
CLL Collm 70.18 340 *e*P **P** **21 38 03.8 -0.4**
comp=Z,90nm,1.3s,baz=16,slow=6.1
CLL *e*pP **pP** **21 38 16.7 -2.1**
CLL *e*sP **sP** **21 38 20.7 -3.9**
baz=16,slow=6.3
CLL Collm 70.18 340 ⇑*i*P **P** **21 38 03.3 -0.9**
comp=Z,83nm,1.3s
CLL *i* pP **pP** **21 38 19.6 +0.8**
CLL *e*sP **sP** **21 38 25.0 +0.4**
CLL *ex* x 21 40 24.0
CLL *e*PP **PP** **21 40 37.0 -2.2**
CLL *e*sPP 21 40 57.0
CLL *e*S **S** **21 47 10.0 -1.3**
CLL *e*SS SS 21 52 00.0 +19
CLL *ex* x 21 55 42.0
CLL Lm MLR 22 11 00.0
comp=N,400nm,21.9s
CLL Lm MLR 22 11 00.0
comp=E,300nm,19.9s
CLL Lm MLR 22 11 00.0
comp=Z,500nm,21.3s

L56A Greenwood 70.21 43 IAmb IAmb 21 38 05.0
comp=Z,54nm,1.1s
LNXT Lenox 70.21 55 P P 21 38 05.2 +0.5
F64A Sherman 70.22 35 IAmb IAmb 21 38 05.2
comp=Z,69nm,1.2s
O52A Adamsville 70.22 47 IAmb IAmb 21 38 34.6
comp=Z,42nm,0.9s
OSTC Ostas 70.23 338 eP P 21 38 04.3 -0.3
OSTC MLR MLR
comp=Z,700nm,23.9s
OSTC Ostas 70.23 338 eP P 21 38 04.3 -0.3
OSTC AMS AMS 22 09 50.0
comp=Z,700nm,23.9s
PAMR Moraine State 70.23 45 IAmb IAmb 21 38 05.4
comp=Z,38nm,1.2s
CHVC Chvalec 70.23 338 eP P 21 38 04.5 -0.1
CHVC MLR MLR
comp=Z,800nm,22.9s
CHVC Chvalec 70.23 338 eP P 21 38 04.5 -0.1
CHVC AMS AMS 22 09 30.0
comp=Z,800nm,22.9s
IPM Ipoh 70.26 248 P P 21 38 06.1 +0.9
KOLS Kolonicke sedl 70.31 333 eP P 21 38 04.9 -0.2
KOLS e 21 38 20.2
KOLS pmax pmax
comp=Z,33nm,1.5s
KOLS Kolonicke sedl 70.31 333 eP P 21 38 04.9 -0.2
KOLS e 21 38 20.2
UPC Upice 70.32 338 eP P 21 38 04.9 -0.2
UPC MLR MLR
comp=Z,500nm,17.6s
UPC Upice 70.32 338 eP P 21 38 04.9 -0.2
UPC AMS AMS 22 13 00.0
comp=Z,500nm,17.6s
MILM Milestii Mici 70.33 328⇑eP P 21 38 02.5 -2.7
comp=Z,120nm,2.7s
MILM eL L 22 02 33.0
MILM LRM MLR 22 12 20.0
comp=Z,600nm,18.0s
MILM Milestii Mici 70.33 328ceP P 21 38 02.0 -3.2
MILM pmax pmax
comp=Z,120nm,2.7s
MILM MLR MLR
comp=Z,600nm,18.0s
NIE Niedzica 70.36 335 eP P 21 38 05.7 +0.2
O53A New Philadelph 70.36 46 IAmb IAmb 21 38 05.9
comp=Z,36nm,1.2s
DPC Dobruska-Polom 70.40 337 eP P 21 38 05.7 0.0
DPC e 21 38 21.5
DPC MLR MLR
comp=Z,700nm,20.9s
DPC Dobruska-Polom 70.40 337 eP P 21 38 05.7 0.0
DPC ex x 21 38 21.5
DPC AMS AMS 22 09 50.0
comp=Z,700nm,20.9s
BRG Berggiesshubel 70.40 339 eP P 21 38 05.9 +0.3
comp=Z,40nm,1.3s,baz=16,slow=6.1
BRG Berggiesshubel 70.40 339 i P P 21 38 05.5 -0.1
BRG Amp 21 38 07.1
comp=Z,28nm,1.1s
BRG pP pP 21 38 21.2 +1.0
BRG Amp 21 38 22.7
comp=Z,13nm,0.9s
BRG Berggiesshubel 70.40 339 S S 21 47 16.0 +2.0
H62A Milan 70.43 37 IAmb IAmb 21 38 07.1
comp=Z,74nm,1.1s
HALT Halls 70.44 55 P P 21 38 06.1 +0.1
PKME Peaks-Kenny Pk 70.45 36 IAmb IAmb 21 38 07.0
comp=Z,60nm,1.1s
LBNH Lisbon 70.45 38 IAmb IAmb 21 38 07.3
comp=Z,55nm,1.1s
STEB Steborice 70.47 336 eP P 21 38 06.2 +0.2
STEB ex x 21 38 21.0
OKC Ostrava-Krasne 70.48 336 AMS AMS 22 07 50.0
comp=Z,800nm,21.7s
WLAR White Oak Lake 70.48 59 P P 21 38 06.7 +0.4
WLAR IAmb IAmb 21 38 35.5
comp=Z,55nm,1.0s
P52A Corning 70.50 47 IAmb IAmb 21 38 06.7
comp=Z,47nm,1.4s
NEUB Neuenburg 70.51 341 eP P 21 38 06.0 -0.2
comp=Z,157nm,1.9s,baz=16,slow=6.1
Q51A Peebles 70.51 49 IAmb IAmb 21 38 36.0
comp=Z,42nm,1.3s
GTTG Gottingen 70.51 342 eP P 21 38 06.3 +0.1
comp=Z,42nm,1.4s,baz=16,slow=6.1
KRLC Kraliky 70.56 337 eP P 21 38 06.4 -0.2
KRLC e 21 38 22.7
KRLC MLR MLR
comp=Z,600nm,22.2s
KRLC Kraliky 70.56 337 eP P 21 38 06.4 -0.2
KRLC ex x 21 38 22.7
KRLC AMS AMS 22 11 30.0
comp=Z,600nm,22.2s
T47A Sharon Grove 70.56 52 IAmb IAmb 21 38 27.0
comp=Z,32nm,0.9s
GNI Garni 70.58 314 P P 21 38 06.8 -0.3
GNI IAmb IAmb 21 38 43.6
comp=Z,40nm,1.0s
GNI Garni 70.58 314 LR LR 22 13 11.6
comp=Z,788nm,21.7s,baz=24,slow=39
GNI Garni 70.58 314c i P P 21 38 06.8 -0.3
GNI pmax pmax
comp=Z,25nm,1.5s
ACCN Adirondack Com 70.58 40 IAmb IAmb 21 38 07.2
comp=Z,42nm,1.2s
PVCC Panska Ves 70.60 339 eP P 21 38 06.7 -0.1
PVCC MLR MLR
comp=Z,600nm,17.7s
PVCC Panska Ves 70.60 339 eP P 21 38 06.7 -0.1
PVCC AMS AMS 22 13 30.0
comp=Z,600nm,17.7s
435B Jarrell 70.62 64 P P 21 38 07.7 +0.5
435B IAmb IAmb 21 38 35.6
comp=Z,59nm,1.3s
MORC Moravsky Berou 70.67 336 IAmb IAmb 21 38 08.5
comp=Z,79nm,1.4s
MORC Moravsky Berou 70.67 336 eP P 21 38 06.9 -0.4
MORC Moravsky Berou 70.67 336 ⇑P P 21 38 07.5 +0.2
MORC Moravsky Berou 70.67 336 P P 21 38 07.5 +0.2
RICC Richard 70.69 339 eP P 21 38 07.4 +0.1
BURAR Bucovina Array 70.74 331 P P 21 38 06.7 -1.2
BURAR Bucovina Array 70.74 331 ⇑P P 21 38 07.2 -0.6
BURAR Bucovina Array 70.74 331 P P 21 38 07.2 -0.6
O54A Avella 70.76 46 IAmb IAmb 21 38 31.4
comp=Z,108nm,1.9s
HNH Hanover 70.80 39 IAmb IAmb 21 38 23.5
comp=Z,58nm,1.4s
LANS Liptovska Anna 70.81 335 eP P 21 38 08.8 +0.6
LANS e 21 38 24.0
LANS pmax pmax
comp=Z,42nm,1.4s
LANS Liptovska Anna 70.81 335 eP P 21 38 08.8 +0.6
LANS e 21 38 23.9
DSB Dublin 70.88 353 IAmb IAmb 21 38 12.8
comp=Z,64nm,1.2s
DSB Dublin 70.88 353 P P 21 38 07.7 -0.7
IGLA Glengowla, Co 70.89 355 P P 21 38 07.6 -0.9
TRSU Trosnyk 70.91 332 P P 21 38 07.9 -0.8
P53A Whipple 70.94 47 IAmb IAmb 21 38 09.7
comp=Z,41nm,1.2s
I62A Tamworth 70.98 38 IAmb IAmb 21 38 10.4
comp=Z,45nm,1.2s
MAUC Maruska 70.99 336 eP P 21 38 09.4 +0.1
Q52A Bidwell 71.01 48 IAmb IAmb 21 38 10.0
comp=Z,45nm,1.2s
M57A Sunshine Farm, 71.06 43 IAmb IAmb 21 38 11.0
comp=Z,31nm,0.8s
BUG Bochum--Univer 71.06 344 eP P 21 38 09.2 -0.4
comp=Z,46nm,1.2s,baz=16,slow=6.1
G65A Princeton 71.06 35 IAmb IAmb 21 38 10.1
comp=Z,60nm,1.1s
MOX Moxa 71.08 341 P P 21 38 09.4 -0.3
MOX pmax pmax
comp=Z,38nm,1.2s
MOX Moxa 71.08 341 eP P 21 38 09.7 0.0
comp=Z,62nm,1.3s,baz=16,slow=6.1
MOX eS S 21 47 25.3 +3.5
MOX eL L 22 12 40.0
comp=Z,513nm,21.5s
I63A Otisfield 71.08 37 IAmb IAmb 21 38 11.4
comp=Z,68nm,1.1s
NAX Nakhchivan 71.09 313 P P 21 38 08.7 -1.4
KASTN Kahler Asten 71.11 343 eP P 21 38 09.9 0.0
comp=Z,34nm,1.3s,baz=16,slow=6.1

L59A Walton 71.12 41 IAmb IAmb 21 38 10.3
comp=Z,78nm,1.3s
PRU Pruhonice 71.12 338 eP P 21 38 09.5 -0.5
PRU e 21 38 25.9
PRU MLR MLR
comp=Z,800nm,16.5s
PRU Pruhonice 71.12 338 eP P 21 38 09.5 -0.5
PRU ex x 21 38 25.9
PRU AMS AMS 22 13 50.0
comp=Z,800nm,16.5s
TANN Tannenbergstha 71.13 340 eP P 21 38 10.2 0.0
comp=Z,38nm,1.3s,baz=16,slow=6.1
GOPC GO Pecny, Ondr 71.14 338 eP P 21 38 09.9 -0.2
GOPC MLR MLR
comp=Z,800nm,19.0s
GOPC GO Pecny, Ondr 71.14 338 eP P 21 38 09.9 -0.2
GOPC AMS AMS 22 14 00.0
comp=Z,800nm,19.0s
TRY Troy 71.15 40 P P 21 38 09.6 -0.7
BMR Baia Mare 71.16 332 ⇓P P 21 38 10.4 +0.1
BMR Baia Mare 71.16 332 P P 21 38 10.3 +0.1
UBBA Unterbreizbach 71.20 342 eP P 21 38 10.4 +0.1
comp=Z,18nm,1.0s,baz=16,slow=6.1
COEN Coen 71.27 199 P P 21 38 10.8 -0.4
comp=Z,65nm,1.5s
COEN Coen 71.27 199 P P 21 38 11.8 +0.6
VRAC Vranov 71.32 337 P P 21 38 10.5 -0.7
comp=Z,17nm,0.8s,baz=18,slow=8.6,SNR=25
VRAC LR LR 22 12 51.6
comp=Z,622nm,22.0s,baz=20,slow=39
comp=Z,17nm,0.8s
VRAC Vranov 71.32 337 eP P 21 38 11.0 -0.2
VRAC Vranov 71.32 337 ⇑P P 21 38 11.5 +0.3
TESR Tescani 71.34 329 ⇓P P 21 38 10.7 -0.7
LMN Caledonia Moun 71.34 32 IAmb IAmb 21 38 16.6
comp=Z,51nm,1.4s
GGN Saint George 71.37 34 IAmb IAmb 21 38 12.3
comp=Z,63nm,1.1s
SSPA Standing Stone 71.37 44 P P 21 38 10.8 -0.9
SSPA Standing Stone 71.37 44 P P 21 38 10.8 -0.9
MCWV Mont Chateau 71.42 46 IAmb IAmb 21 38 28.6
comp=Z,68nm,1.6s
ARCR ARCALIA 71.46 331 ⇓P P 21 38 12.6 +0.5
JAVC Velka Javorina 71.50 336 eP P 21 38 13.1 +0.7
EMMW East Machias 71.54 35 IAmb IAmb 21 38 13.4
comp=Z,60nm,1.2s
VYHS Vyhne 71.57 335 eP P 21 38 12.5 -0.2
VYHS pmax pmax
comp=Z,21nm,1.1s
VYHS Vyhne 71.57 335 eP P 21 38 12.5 -0.2
TREC Trest 71.58 338 eP P 21 38 12.4 -0.4
TREC Trest 71.58 338 eP P 21 38 12.4 -0.4
KRUC Moravsky 71.60 337 eP P 21 38 12.6 -0.3
MANZ Manzenberg 71.61 340 eP P 21 38 12.9 -0.1
comp=Z,13nm,1.4s,baz=16,slow=6.1
MANZ esP pP 21 38 29.6 +2.0
baz=16,slow=6.3
N58A Sunbury 71.65 43 IAmb IAmb 21 38 14.4
comp=Z,31nm,0.9s
833A Chaparral WMA, 71.67 67 P P 21 38 13.4 -0.2
MLDN Muldoon 71.69 64 P P 21 38 14.6 +0.9
MLDN IAmb IAmb 21 38 43.4
comp=Z,52nm,0.9s
HNVL Huntsville, TX 71.70 62 P P 21 38 14.6 +0.8
HNVL IAmb IAmb 21 38 45.2
comp=Z,62nm,0.9s
ZVC Zvikov 71.72 338 eP P 21 38 13.5 -0.1
ZVC AMS AMS 22 14 10.0
comp=Z,800nm,17.6s
K62A Royalston 71.72 39 P P 21 38 13.3 -0.5
K62A IAmb IAmb 21 39 25.2
comp=Z,60nm,1.6s
V48A Smith Brothers 71.73 53 IAmb IAmb 21 38 34.0
comp=Z,28nm,0.9s
L61B Northampton 71.75 39 IAmb IAmb 21 39 21.8
comp=Z,83nm,1.9s
IWEX Carrickbyrne, 71.77 353 P P 21 38 13.5 -0.3
PLAL Pickwick Lake 71.78 54 IAmb IAmb 21 38 34.2
comp=Z,55nm,0.9s
ROTZ Rotzenmuhle 71.80 340 eP P 21 38 14.3 +0.2
comp=Z,24nm,1.6s,baz=16,slow=6.1
ROTZ esP PcP 21 38 31.1 -1.6
baz=16,slow=6.3
PSZ Piszkesteto 71.85 334 ⇓P P 21 38 14.9 +0.4
PSZ Piszkesteto 71.85 334 P P 21 38 14.9 +0.4
PSZ Piszkesteto 71.85 334 eP P 21 38 14.6 0.0
VRI Vrincioaia 71.90 329 ⇑P P 21 38 14.9 +0.1
VRI Vrincioaia 71.90 329 P P 21 38 14.8 +0.1
TURR Turia 71.94 329 ⇓P P 21 38 15.4 +0.4
PLOR Plostina 71.94 329 ⇓P P 21 38 14.9 -0.2
PLOR Plostina 71.94 329 P P 21 38 14.8 -0.2
OZUR 71.97 330 ⇓P P 21 38 15.4 +0.2
CJR Cluj-Napoca 72.01 331 ⇓P P 21 38 15.8 +0.3
CJR Cluj-Napoca 72.01 331 P P 21 38 15.7 +0.3
MODS Modra-Piesok 72.05 336 eP P 21 38 12.7 -2.9
MODS pmax pmax
comp=Z,79nm,1.5s
MODS Modra-Piesok 72.05 336 eP P 21 38 12.7 -2.9
TNS Taunus Mts 72.05 342 eP P 21 38 15.6 -0.1
comp=Z,67nm,1.6s,baz=16,slow=6.1
TNS esP PcP 21 38 32.6 -1.3
baz=16,slow=6.3
TNS ePcP sP 21 38 34.7 -1.4
GRF Grafenberg Arr 72.06 340 eP P 21 38 16.1 +0.4
comp=Z,196nm,1.7s,baz=16,slow=6.1
GRF ePcP sP 21 38 35.4 -0.8
GRF eS S 21 47 35.4 +2.2
GRF eL L 22 12 47.3
comp=Z,525nm,21.7s
GRFO Grafenberg 72.06 340 P P 21 38 16.1 +0.5
GRFO Grafenberg 72.06 340 P P 21 38 16.1 +0.5
GRFO pmax pmax
comp=Z,182nm,1.7s
MEM Membach 72.07 344 dP P 21 38 15.2 -0.5
comp=Z,44nm,1.1s
BTNL Ternell 72.07 344 dP P 21 38 15.2 -0.6
comp=Z,28nm,1.1s
COVR Voineasa-Covas 72.07 329 ⇑P P 21 38 16.5 +0.6
HYB Hyderabad 72.07 275 eP P 21 38 16.9 +0.7
143A Socs Landing, 72.10 58 P P 21 38 16.8 +0.6
143A IAmb IAmb 21 38 49.1
comp=Z,58nm,1.0s
HRV Adam Dziewonsk 72.10 39 P P 21 38 15.7 -0.3
HRV IAmb IAmb 21 38 17.0
comp=Z,44nm,1.2s
HRV Adam Dziewonsk 72.10 39 P P 21 38 15.7 -0.3
HRV pmax pmax
comp=Z,44nm,1.2s
CFR Carcaliu 72.11 328 ⇓P P 21 38 15.3 -0.6
CFR Carcaliu 72.11 328 P P 21 38 15.3 -0.6
UCC Uccle 72.13 345 dP P 21 38 14.8 -1.2
KHC Kasperske Hory 72.13 339c i P P 21 38 16.1 -0.1
KHC pmax pmax
comp=Z,44nm,1.3s
KHC Kasperske Hory 72.13 339 eP P 21 38 16.0 -0.1
KHC AMS AMS 22 15 00.0
comp=Z,900nm,17.0s
MMRI Maumere 72.16 222 P P 21 38 17.2 +0.6
MMRI Maumere 72.16 222 P P 21 38 14.5 -2.1
comp=Z,86nm,1.1s
BSTI Sart Tilman 72.16 344 dP P 21 38 15.8 -0.5
comp=Z,6.0nm,1.1s
HKT Hockley 72.17 63 P P 21 38 17.0 +0.5
HKT Hockley 72.17 63 P P 21 38 17.0 +0.5
HKT pmax pmax
comp=Z,19nm,1.2s
MARR Marisel-Cluj 72.17 332 ⇓P P 21 38 16.2 -0.3
DRGR 72.18 332 ⇓P P 21 38 16.9 +0.4
DRGR 72.18 332 P P 21 38 16.9 +0.4
DOPR Dopca 72.20 330 ⇓P P 21 38 16.9 +0.4
ZST Bratislava 72.25 336 eP P 21 38 19.7 +2.9
ZST Bratislava 72.25 336 eP P 21 38 19.7 +2.9
WET Wettzell 72.26 339 eP P 21 38 17.3 +0.4
comp=Z,68nm,1.3s,baz=16,slow=6.1
WET esP PcP 21 38 33.9 -0.9
baz=16,slow=6.3
CKRC Cesky Krumlov 72.28 338 eP P 21 38 16.5 -0.5
CKRC e 21 38 33.4
CKRC MLR MLR
comp=Z,800nm,17.7s
CKRC Cesky Krumlov 72.28 338 eP P 21 38 16.5 -0.5
CKRC ex x 21 38 33.4
CKRC AMS AMS 22 14 30.0
comp=Z,800nm,17.7s

TPGR Topolog 72.31 327 ⇑P P 21 38 17.3 0.0
BHOU Houvegnez 72.32 344 dP P 21 38 17.1 -0.1
comp=Z,14nm,1.1s
SRO Srobarova 72.33 335 eP P 21 38 19.2 +1.9
SRO pmax pmax
comp=Z,30nm,1.3s
SRO Srobarova 72.33 335 eP P 21 38 19.2 +1.9
BCLA Clavier 72.36 345 dP P 21 38 16.8 -0.6
GEC2 GERESS Array S 72.38 339 IAmb IAmb 21 38 18.6
comp=Z,46nm,1.3s
GEC2 GERESS Array S 72.38 339 eP P 21 38 17.7 0.0
comp=Z,45nm,1.3s,baz=16,slow=6.1
GEC2 esP PcP 21 38 34.3 -1.1
baz=16,slow=6.3
GEC2 ePcP sP 21 38 36.8 -1.3
GERES GERESS Array B 72.38 339 P P 21 38 17.1 -0.5
GERES GERESS Array B 72.38 339 P P 21 38 17.3 -0.4
comp=Z,4.9nm,0.5s,baz=31,slow=5.9,SNR=49
GERES LR LR 22 15 12.8
comp=Z,804nm,20.0s,baz=19,slow=40
comp=Z,4.9nm,0.5s
S54A Dingess, Beckl 72.40 48 P P 21 38 17.5 -0.4
S54A IAmb IAmb 21 39 34.3
comp=Z,55nm,1.2s
BGES Gesves 72.43 345 dP P 21 38 17.1 -0.7
comp=Z,12nm,1.2s
SOEI Soe 72.45 219 P P 21 38 22.3 +3.9
comp=Z,47nm,1.0s
EDFI Ende, Flores 72.47 222 P P 21 38 14.9 -3.6
comp=Z,36nm,1.5s
MLR Muntele Rosu 72.47 329 P P 21 38 17.6 -0.7
comp=Z,5.2nm,0.5s,baz=16,slow=5.0,SNR=17
MLR LR LR 22 14 56.6
comp=Z,845nm,19.0s,baz=24,slow=40
comp=Z,5.2nm,0.5s
MLR Muntele Rosu 72.47 329 ⇑P P 21 38 18.6 +0.3
MLR Muntele Rosu 72.47 329 P P 21 38 18.6 +0.3
R55A Marlinton 72.48 47 IAmb IAmb 21 38 48.8
comp=Z,31nm,1.0s
UCCT U. Connecticut 72.49 39 IAmb IAmb 21 39 23.9
comp=Z,108nm,1.7s
MVL Millersville 72.51 43 P P 21 38 17.9 -0.6
BMRD Maredsous 72.56 345 dP P 21 38 17.8 -0.8
comp=Z,13nm,0.9s
SWET Sewanee 72.56 53 IAmb IAmb 21 38 38.5
comp=Z,35nm,0.8s
PAL Palisades 72.57 41 IAmb IAmb 21 38 19.1
comp=Z,61nm,1.2s
KDU Kakadu 72.57 210 P P 21 38 18.7 -0.2
comp=Z,77nm,0.9s
KDU Kakadu 72.57 210 P P 21 38 19.3 +0.4
BRNJ Basking Ridge 72.60 42 P P 21 38 18.9 0.0
HARR Harsova 72.61 327 ⇑P P 21 38 18.6 -0.3
HARR Harsova 72.61 327 P P 21 38 18.6 -0.3
RCHB Rochefort 72.63 345 dP P 21 38 18.1 -0.9
comp=Z,9.1nm,1.3s
ISR Istrita 72.64 329 ⇑P P 21 38 19.9 +0.6
ISR Istrita 72.64 329 P P 21 38 19.8 +0.6
X48A Hartselle 72.70 54 IAmb IAmb 21 38 38.9
comp=Z,35nm,1.1s
CPNY Central Park 72.73 41 P P 21 38 19.3 -0.5
CPNY IAmb IAmb 21 38 20.1
comp=Z,37nm,1.1s
VOIR 72.78 330 ⇓P P 21 38 20.4 +0.3
VOIR 72.78 330 P P 21 38 20.3 +0.3
PSI Prapat 72.78 249 LR LR 22 12 30.5
comp=Z,228nm,19.0s,baz=339,slow=38
DOU Dourbes 72.78 345 dP P 21 38 18.4 -1.5
CONA Conrad Observa 72.79 337 i P P 21 38 20.5 +0.4
comp=Z,29nm,1.5s,SNR=16
HAL Halifax 72.81 32 IAmb IAmb 21 38 22.3
comp=Z,38nm,0.9s
W50A Signal Mountai 72.85 52 IAmb IAmb 21 38 40.5
comp=Z,29nm,0.9s
L64A Middleborough 72.86 38 IAmb IAmb 21 38 21.5
comp=Z,40nm,1.1s
RONA Rosalia, Austr 72.91 336 i P P 21 38 21.1 +0.4
comp=Z,29nm,1.5s,SNR=12
SIRR Siria 72.94 332 ⇓P P 21 38 21.0 0.0
ARR Arges 72.96 330 ⇓P P 21 38 21.9 +0.8
WLF Walferdange 72.97 344 dP P 21 38 19.5 -1.5
comp=Z,16nm,1.1s
WLF Walferdange 72.97 344 esP sP 21 38 37.8 -3.7
baz=16,slow=6.3
GURO Guroymak-BITLI 73.04 315 P P 21 38 21.8 -0.1
HBVL Hebbronville 73.06 67 P P 21 38 22.5 +0.6
MTN Manton Dam 73.11 211 P P 21 38 22.1 0.0
comp=Z,96nm,1.3s
MTN Manton Dam 73.11 211 P P 21 38 22.4 +0.3
TKL Tuckaleechee C 73.15 51 P P 21 38 22.7 +0.3
TKL Tuckaleechee C 73.15 51 LR LR 22 12 17.9
comp=Z,516nm,18.6s,baz=335,slow=37
TKL Tuckaleechee C 73.15 51 P P 21 38 22.7 +0.3
TKL pmax pmax
comp=Z,18nm,1.0s
MOA Molln 73.21 338 i P P 21 38 22.4 -0.2
comp=Z,22nm,1.2s,SNR=9.0
U54A Nelsons Funny 73.27 49 IAmb IAmb 21 38 24.7
comp=Z,28nm,0.7s
BLA Blacksburg 73.27 48 IAmb IAmb 21 38 24.0
comp=Z,45nm,1.1s
146A Union 73.27 56 P P 21 38 23.9 +0.8
SURR Surduc 73.29 332 ⇑P P 21 38 22.4 -0.6
STU Stuttgart 73.32 342 eP P 21 38 21.8 -1.3
STU Stuttgart 73.32 342 eP P 21 38 22.9 -0.2
comp=Z,58nm,1.2s,baz=16,slow=6.1
S57A Dark Hollow, R 73.40 46 IAmb IAmb 21 38 25.0
comp=Z,59nm,1.2s
GZR Gura Zlata 73.45 331 ⇓P P 21 38 23.6 -0.4
GZR Gura Zlata 73.45 331 P P 21 38 23.6 -0.4
Y49A Blount Mountai 73.48 54 IAmb IAmb 21 38 44.3
comp=Z,32nm,0.9s
BIOA Bad Ischl, Aus 73.49 338 eP P 21 38 23.7 -0.4
comp=Z,2.2nm,0.6s,SNR=8.5
ARSA Arzberg 73.50 337 eP P 21 38 24.5 +0.2
comp=Z,5.2nm,0.8s,SNR=13
FUR Furstenfeldbru 73.51 340 eP P 21 38 24.3 0.0
comp=Z,94nm,1.4s,baz=16,slow=6.1
BZS Buzias 73.55 332 ⇑P P 21 38 23.6 -1.0
BZS Buzias 73.55 332 P P 21 38 23.5 -1.0
V53A Saluda 73.56 50 IAmb IAmb 21 38 26.0
comp=Z,42nm,1.3s
X51A Calhoun 73.59 52 IAmb IAmb 21 38 44.5
comp=Z,46nm,1.2s
RJOB Jochberg 73.62 339 eP P 21 38 25.4 +0.4
comp=Z,23nm,1.0s,baz=16,slow=6.1
TOKA Tokat 73.63 320 P P 21 38 24.7 -0.5
CBN Corbin Frederi 73.66 45 P P 21 38 24.6 -0.6
MORH Mrgy, Hungar 73.75 334 ⇑P P 21 38 24.7 -1.0
BFO Black Forest 73.90 342 P P 21 38 25.8 -0.8
BFO Black Forest 73.90 342 P P 21 38 25.8 -0.8
BFO pmax pmax
comp=Z,35nm,1.2s
BFO Black Forest 73.90 342 eP P 21 38 26.3 -0.3
comp=Z,35nm,1.2s,baz=16,slow=6.1
T57A Hurt 73.93 47 P P 21 38 26.2 -0.8
LESA Schwarzleotal 73.94 339 i P P 21 38 27.0 +0.1
comp=Z,5.4nm,0.5s,SNR=13
HERR Herculane 74.02 331 ⇓P P 21 38 26.6 -0.7
U56A King 74.02 48 IAmb IAmb 21 38 28.6
comp=Z,44nm,1.1s
PLAI Plampang 74.07 226 P P 21 38 27.9 +0.1
BG3 Lake Jocassee 74.08 51 IAmb IAmb 21 39 29.1
comp=Z,48nm,1.1s
KBA Koelnbreinsper 74.14 338 i P P 21 38 28.7 +0.5
comp=Z,27nm,0.6s
SOKA Soboth 74.15 337 eP P 21 38 28.1 0.0
comp=Z,30nm,1.6s,SNR=19
PERS Pernice 74.17 337 i P P 21 38 28.1 -0.2
ECH Echery 74.21 343 IAmb IAmb 21 38 28.9
comp=Z,53nm,1.3s
WATA Walderalm 74.25 340 i P P 21 38 28.7 0.0
comp=Z,35nm,1.1s,SNR=20
RETA Reutte 74.26 340 i P P 21 38 28.6 -0.2
comp=Z,29nm,1.2s,SNR=7.5
MDVR Moldovita 74.30 332 ⇓P P 21 38 28.2 -0.8
WTTA Wattenberg 74.31 339 i P P 21 38 29.3 +0.2
comp=Z,28nm,0.7s,SNR=24
MOTA Moosalm 74.33 340 i P P 21 38 28.7 -0.6
comp=Z,34nm,1.1s,SNR=18
OBKA Obir 74.42 337 eP P 21 38 29.7 0.0
comp=Z,16nm,0.8s,SNR=30
SQTA Sankt Quirin 74.43 340 i P P 21 38 29.9 +0.1
comp=Z,43nm,1.0s,SNR=23
ZAIG Zacatecas 74.48 72 P P 21 38 31.0 +0.4
MYKA Terra Mystica 74.50 338 i P P 21 38 29.8 -0.3

comp=Z,41nm,1.7s,SNR=12
MSVF Nonsavu 74.52 164 P **P** **21 38 32.6 +2.2**
MSVF IAmb IAmb 21 40 39.5
comp=Z,59nm,1.4s
MSVF Nonsavu 74.52 164 P **P** **21 38 32.6 +2.2**
MSVF pmax pmax
comp=Z,59nm,1.5s
DAVA Damuels 74.62 341 *i* P **P** **21 38 29.9 -1.1**
comp=Z,25nm,1.4s
ABTA Abfaltersbach 74.62 339 *i* P **P** **21 38 30.7 -0.2**
comp=Z,35nm,1.2s,SNR=21
KMSC Kings Mountain 74.64 49 IAmb IAmb 21 38 31.9
comp=Z,46nm,1.2s
T59A Double "B" Far 74.65 46 IAmb IAmb 21 38 32.2
comp=Z,37nm,1.2s
FETA Feichten 74.72 340 *i* P **P** **21 38 31.6 +0.1**
comp=Z,60nm,1.3s,SNR=19
GSI Gunungsitoli 74.75 249 P **P** **21 38 32.8 +0.9**
GSI IAmb IAmb 21 38 48.9
comp=Z,43nm,0.8s
GSI Gunungsitoli 74.75 249 P **P** **21 38 34.1 +2.2**
GSI Gunungsitoli 74.75 249 P **P** **21 38 31.1 -0.8**
comp=Z,61nm,1.0s
PLVB Pleven 74.78 329 ⇑P **P** **21 38 31.4 -0.3**
LJU Ljubljana 74.87 337 *i* P **P** **21 38 31.5 -0.7**
HODGE Hodges 75.02 51 IAmb IAmb 21 38 34.3
comp=Z,42nm,1.3s
V58A Windy Hill, Pi 75.02 47 IAmb IAmb 21 38 34.4
comp=Z,65nm,1.2s
DAVOX Davos/Dischmat 75.11 341 P **P** **21 38 33.3 -0.5**
comp=Z,17nm,0.9s,baz=345,slow=7.0,SNR=30
DAVOX LR LR 22 18 13.5
comp=Z,345nm,18.3s,baz=20,slow=41
comp=Z,17nm,0.9s
250A Grady 75.12 55 IAmb IAmb 21 38 35.1
comp=Z,54nm,1.2s
CLF Chambon-Foret 75.14 346 IAmb IAmb 21 38 34.9
comp=Z,64nm,1.3s
MTSU Mount Surprise 75.15 197 P **P** **21 38 33.9 -0.1**
comp=Z,15nm,0.8s
BNN Bunyan 75.16 319 P **P** **21 38 34.1 0.0**
GOGA Godfrey 75.18 52 P **P** **21 38 34.5 +0.3**
GOGA Godfrey 75.18 52 P **P** **21 38 34.5 +0.3**
GOGA pmax pmax
comp=Z,12nm,1.1s
BRTR Keskin Array B 75.18 321 P **P** **21 38 33.4 -0.9**
BRTR Keskin Array B 75.18 321 P **P** **21 38 33.6 -0.7**
comp=Z,2.7nm,0.8s,baz=48,slow=3.7,SNR=18
BRTR LR LR 22 18 01.7
comp=Z,438nm,18.7s,baz=28,slow=41
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 75.18 321 P **P** **21 38 33.4 -0.9**
FUORN Ofenpass-Fuorn 75.19 340 P **P** **21 38 34.1 -0.2**
FUORN IAmb IAmb 21 38 35.8
comp=Z,46nm,1.3s
W57A Gilead 75.20 48 IAmb IAmb 21 38 35.2
comp=Z,39nm,1.1s
BOJS Bojanci 75.22 336 *i* P **P** **21 38 33.6 -0.6**
152A Waverly Hall 75.25 53 IAmb IAmb 21 38 35.4
comp=Z,42nm,1.3s
TRI Trieste 75.35 338 P **P** **21 38 33.0 -1.9**
TRI Trieste 75.35 338 P **P** **21 38 33.1 -1.9**
TRI pmax pmax
comp=Z,10.0nm,1.1s
ANTO Ankara 75.35 322 P **P** **21 38 35.7 +0.5**
ANTO Ankara 75.35 322 P **P** **21 38 35.7 +0.5**
ANTO pmax pmax
comp=Z,26nm,1.3s
MDUB Mudurnu 75.36 323 P **P** **21 38 35.0 -0.3**
BOVS Bovan 75.37 331 ⇓P **P** **21 38 34.4 -0.7**
BRAL Brewton 75.43 56 P **P** **21 38 36.2 +0.5**
CTI Castel Tesino 75.47 339 IAmb IAmb 21 38 36.0
comp=Z,45nm,1.3s
BLY Banja Luka 75.48 335 ⇑P **P** **21 38 35.4 -0.4**
TUE Stuetta 75.51 341 IAmb IAmb 21 38 37.5
comp=Z,52nm,1.3s
W59A Clinton 75.84 47 IAmb IAmb 21 38 40.0
comp=Z,50nm,0.8s
X58A Rowland 75.99 48 P **P** **21 38 39.0 +0.2**
Y57A Sumter 76.01 49 P **P** **21 38 38.5 -0.3**
Y57A IAmb IAmb 21 39 07.9
comp=Z,26nm,0.7s
154A Montrose 76.02 52 P **P** **21 38 38.8 -0.2**
V61A Roper 76.06 46 P **P** **21 38 39.0 -0.2**
LHSI Lahat 76.09 241 P **P** **21 38 41.1 +1.6**
comp=Z,52nm,0.7s
WOJI Wonogiri, Jawa 76.11 232 P **P** **21 38 40.8 +1.2**
comp=Z,140nm,2.5s
GAZ Gaziantep 76.12 317 P **P** **21 38 38.8 -0.8**
352A Blakely 76.15 54 P **P** **21 38 39.7 -0.1**
352A IAmb IAmb 21 39 14.8
comp=Z,28nm,0.5s
MDSI Maura Dua 76.34 240 P **P** **21 38 41.0 +0.1**
comp=Z,22nm,1.1s
Y58A Scranton 76.41 49 P **P** **21 38 40.8 -0.3**
KNRA Kununurra 76.50 213 P **P** **21 38 42.0 +0.3**
KNRA IAmb IAmb 21 39 01.9
comp=Z,53nm,1.0s
KNRA Kununurra 76.50 213 P **P** **21 38 41.7 +0.1**
comp=Z,59nm,1.1s
RDO Rodhopi 76.56 328 P **P** **21 38 41.2 -0.7**
RDO IAmb IAmb 21 41 14.2
comp=Z,48nm,0.9s
ALN Alexandroupoli 76.63 327 P **P** **21 38 41.0 -1.3**
ALN Alexandroupoli 76.63 327 P **P** **21 38 41.0 -1.3**
ALN pmax pmax
comp=Z,12nm,1.2s
LEM Lembang 76.73 236 LR LR 22 12 34.4
comp=Z,99nm,20.9s,baz=342,slow=36
CTA Charters Tower 76.76 195 P **P** **21 38 43.5 +0.3**
CTAO Charters Tower 76.76 195 P **P** **21 38 43.4 +0.3**
CTAO IAmb IAmb 21 39 05.2
comp=Z,47nm,0.8s
CTAO Charters Tower 76.76 195 P **P** **21 38 43.9 +0.8**
CTAO Charters Tower 76.76 195 P **P** **21 38 43.4 +0.3**
CTAO pmax pmax
comp=Z,47nm,0.9s
NHSC New Hope 76.88 50 P **P** **21 38 43.9 +0.1**
NHSC IAmb IAmb 21 38 45.2
comp=Z,59nm,0.9s
PRMA PARMA 76.97 340 P **P** **21 38 44.4 +0.3**
PDG Podgorica 77.14 333 IAmb IAmb 21 41 16.5
comp=Z,51nm,0.9s
PDG Podgorica 77.14 333 ⇓P **P** **21 38 44.4 -0.7**
ZCCA Zocca 77.23 339 P **P** **21 38 45.9 +0.2**
BNI Bardonecchia 77.36 342 P **P** **21 38 45.7 -0.8**
BNI IAmb IAmb 21 38 48.2
comp=Z,51nm,1.4s
BNI Bardonecchia 77.36 342 P **P** **21 38 45.7 -0.8**
BNI pmax pmax
comp=Z,51nm,1.5s
SSB Saint Sauveur 77.49 344 IAmb IAmb 21 38 48.0
comp=Z,42nm,1.3s
SOH Sokhos 77.51 329 P **P** **21 38 46.5 -0.8**
SOH pmax pmax
comp=Z,12nm,1.9s
MSSA Maissana 77.55 340 IAmb IAmb 21 38 47.9
comp=Z,56nm,1.2s
DZM Mont Dzumac 77.67 176 P **P** **21 38 49.8 +1.5**
DZM IAmb IAmb 21 39 10.8
comp=Z,62nm,1.2s
DZM Mont Dzumac 77.67 176 *e*P P 21 38 41.9 -6.3
comp=Z,103nm,26.9s
DZM Mont Dzumac 77.67 176 *e*PP PP 21 41 31.0 -13
comp=Z,333nm,31.3s
DZM *e*S S 21 48 24.1 -12
comp=Z,242nm,25.2s
DZM *e*SS **SS** **21 53 30.8 -6.6**
comp=Z,97nm,24.6s
DZM *e*LR LR 22 02 46.7
comp=Z,2µm,30.8s
ONTNC Ouen Toro 77.90 176 P **P** **21 38 50.9 +1.5**
ONTNC IAmb IAmb 21 39 06.4
comp=Z,75nm,1.3s
GUMA Gualdo di Mace 77.96 337 IAmb IAmb 21 38 53.1
comp=Z,38nm,0.8s
ISP Isparta 77.97 323 P **P** **21 38 48.8 -1.2**
ISP Isparta 77.97 323 P **P** **21 38 48.8 -1.2**
ISP pmax pmax
comp=Z,19nm,0.8s
OSSC Osservatorio P 77.97 339 IAmb IAmb 21 38 50.4
comp=Z,78nm,1.5s
MANT Manisa 78.03 324 P **P** **21 38 49.3 -1.2**
456A Hilliard 78.10 52 P **P** **21 38 50.6 -0.1**
456A IAmb IAmb 21 38 52.5
comp=Z,58nm,1.1s

QIS Mount Isa 78.39 201 P **P** **21 38 51.7 -0.5**
comp=Z,30nm,1.4s
QIS Mount Isa 78.39 201 P **P** **21 38 52.9 +0.7**
CAMP Campotosto 78.45 337 IAmb IAmb 21 38 53.9
comp=Z,72nm,1.2s
AQU L'Aquila 78.62 337 P **P** **21 38 53.7 +0.2**
AQU pmax pmax
comp=Z,38nm,1.0s
SGRT San Giovanni R 78.65 335 P **P** **21 38 51.0 -2.7**
INTR Introdacqua 78.84 336 IAmb IAmb 21 41 40.1
comp=Z,70nm,1.4s
WB9 Warramunga Arr 78.84 206 P **P** **21 38 54.4 -0.4**
WR0 Warramunga Arr 78.97 206 P **P** **21 38 55.6 +0.2**
WR8 Warramunga Arr 78.97 206 P **P** **21 38 55.6 +0.2**
WR8 IAmb IAmb 21 39 11.3
comp=Z,51nm,1.3s
WRAB Tennant Creek 78.99 206 P **P** **21 38 55.4 -0.2**
WRAB IAmb IAmb 21 39 18.4
comp=Z,37nm,0.9s
WRAB Tennant Creek 78.99 206 *d* P **P** **21 38 55.0 -0.5**
WRAB pmax pmax
comp=Z,35nm,1.2s
WB2 Warramunga Arr 79.00 206 P **P** **21 38 55.6 +0.1**
WB2 IAmb IAmb 21 39 13.2
comp=Z,41nm,1.0s
WRA Warramunga Arr 79.00 206 P **P** **21 38 54.8 -0.8**
WRA Warramunga Arr 79.00 206 P **P** **21 38 55.1 -0.5**
comp=Z,12nm,0.8s,baz=14,slow=5.8,SNR=52
WRA LR LR 22 10 21.8
comp=Z,186nm,21.9s,baz=40,slow=33
comp=Z,12nm,0.8s
WRA Warramunga Arr 79.00 206 P **P** **21 38 54.8 -0.8**
WRA pmax pmax
comp=Z,4.0nm,1.3s
WB1 Warramunga Ar. 79.02 206 P **P** **21 38 55.6 -0.1**
656A Willston 79.03 53 P **P** **21 38 55.6 -0.2**
656A IAmb IAmb 21 38 57.9
comp=Z,70nm,1.2s
MATE Matera 79.46 334 *e*P **P** **21 38 55.8 -2.2**
CSS Mathiatis 79.53 319 P **P** **21 38 57.3 -1.2**
CSS IAmb IAmb 21 39 33.3
comp=Z,42nm,1.4s
PAOL Paolisi 79.62 335 P **P** **21 38 57.8 -1.2**
PAOL IAmb IAmb 21 41 44.7
comp=Z,34nm,0.6s
FITZ Fitzroy Crossi 79.75 215 LR LR 22 14 11.0
comp=Z,88nm,21.7s,baz=26,slow=36
FITZ Fitzroy Crossi 79.75 215 P **P** **21 39 00.3 +0.6**
TAOE Nuku Hiva Isla 80.21 122 *e*S S 21 48 49.9 -14
comp=Z,274nm,26.1s
TAOE *e*SS **SS** **21 54 12.6 -3.0**
comp=Z,361nm,29.7s
TAOE *e*LQ LQ 22 00 42.6
comp=Z,12µm,35.7s
TAOE *e*LR LR 22 03 57.2
comp=Z,819nm,28.6s
MMAI Mount Meron Ar 80.48 317 P **P** **21 39 02.9 -0.9**
comp=Z,1.5nm,0.5s,baz=19,slow=5.5,SNR=6.3
MMAI LR LR 22 20 50.2
comp=Z,680nm,19.2s,baz=20,slow=40
comp=Z,1.5nm,0.5s
CEST Esterri de Car 80.60 346 P **P** **21 39 03.5 -0.8**
DWPF Disney Wildern 80.60 53 P **P** **21 39 03.8 -0.5**
DWPF IAmb IAmb 21 39 06.4
comp=Z,79nm,1.4s
ASF Jabal al Asfar 80.64 315 P **P** **21 39 03.7 -1.0**
comp=Z,11nm,1.1s,baz=311,slow=2.2,SNR=5.9
ASF LR LR 22 20 58.9
comp=Z,838nm,18.8s,baz=56,slow=40
comp=Z,11nm,1.1s
TIP Timpagrande 80.84 333 ⇓P **P** **21 39 05.2 -0.3**
TLIG Tlapa 80.88 72 P **P** **21 39 07.9 +1.8**
EIDS Eidsvold 81.38 190 P **P** **21 39 08.6 +0.3**
GHAJ Ghor Haditha 81.93 316 P **P** **21 39 11.6 +0.3**
060A Indiantown 82.01 53 P **P** **21 39 12.0 +0.2**
IDI Anoyia 82.14 326 LR LR 22 19 07.5
comp=Z,428nm,21.0s,baz=14,slow=38
VSL Villasalto 82.22 339 IAmb IAmb 21 39 13.6
comp=Z,34nm,1.3s
PBRG Braganca 82.28 351 *e*P **P** **21 39 12.6 -0.5**
AS01 Alice Springs 82.67 206 P **P** **21 39 16.1 +1.0**
AS31 Alice Springs 82.68 206 P **P** **21 39 14.7 -0.5**
ASAR Alice Springs 82.68 206 P **P** **21 39 15.3 +0.1**
ASAR Alice Springs 82.68 206 P **P** **21 39 15.5 +0.3**
comp=Z,19nm,0.9s,baz=12,slow=5.0,SNR=116
ASAR LR LR 22 13 29.7
comp=Z,272nm,21.7s,baz=26,slow=34
comp=Z,19nm,0.9s
ASAR Alice Springs 82.68 206 P **P** **21 39 15.3 +0.1**
POLO Lamas de Ólo 82.79 352 *e*P **P** **21 39 16.4 +0.5**
PVRL Vila Real 82.88 352 *e*P **P** **21 39 16.2 0.0**
MVO Moncorvo 82.94 352 *e*P **P** **21 39 16.3 -0.2**
MVO *i* IAmb IAmb 21 39 17.4
comp=Z,41nm,1.4s
VAE Valguarnera 83.03 335 LR LR 22 21 40.7
comp=Z,507nm,18.4s,baz=21,slow=40
PTO Porto 83.08 353 *e*P **P** **21 39 17.1 -0.1**
QLP Quilpie 83.44 196 P **P** **21 39 19.7 +0.7**
PVIS Viseu 83.45 352 *e*P **P** **21 39 19.0 -0.2**
EIL Elat 83.62 316 P **P** **21 39 19.4 -0.8**
comp=Z,4.0nm,0.9s,baz=299,slow=4.8,SNR=6.6
EIL LR LR 22 23 19.9
comp=Z,543nm,18.0s,baz=59,slow=40
comp=Z,4.0nm,0.9s
PPT Papeete 83.73 134 LR LR 22 08 35.6
comp=Z,305nm,21.8s,baz=358,slow=30
COI Coimbra 83.99 353 *e*P **P** **21 39 22.5 +0.6**
ESBB Sonseca Array 84.12 349 IAmb IAmb 21 39 23.9
comp=Z,37nm,1.1s
ESDC Sonseca Array 84.12 349 P **P** **21 39 22.5 -0.2**
ESDC IAmb IAmb 21 39 23.9
comp=Z,43nm,1.2s
ESDC Sonseca Array 84.12 349 P **P** **21 39 22.1 -0.6**
comp=Z,35nm,1.2s,baz=359,slow=5.0,SNR=58
comp=Z,35nm,1.2s
PCAS Casmilo, Conde 84.16 353 *e*P **P** **21 39 22.6 -0.1**
PCBR Castelo Branco 84.29 352 *e*P **P** **21 39 23.2 -0.2**
PCBR *i* IAmb IAmb 21 39 25.1
comp=Z,76nm,1.4s
PAB San Pablo 84.29 349 P **P** **21 39 23.4 -0.2**
PAB IAmb IAmb 21 39 24.7
comp=Z,54nm,1.3s
PAB San Pablo 84.29 349 P **P** **21 39 23.4 -0.2**
PAB pmax pmax
comp=Z,55nm,1.3s
RAYN Ar Rayn 84.43 304 P **P** **21 39 22.9 -1.6**
RAYN Ar Rayn 84.43 304 P **P** **21 39 22.9 -1.6**
RAYN pmax pmax
comp=Z,17nm,1.0s
PSARD Sardoal 84.58 352 *e*P **P** **21 39 24.8 -0.1**
PSARD *i* IAmb IAmb 21 39 25.7
comp=Z,62nm,1.4s
MBWA Marble Bar 84.60 219 P **P** **21 39 26.0 +1.1**
MBWA IAmb IAmb 21 39 45.1
comp=Z,48nm,1.1s
MBWA Marble Bar 84.60 219 P **P** **21 39 26.2 +1.2**
PMRV Marv??o 84.69 352 *e*P **P** **21 39 25.9 +0.4**
PMRV *i* IAmb IAmb 21 39 26.5
comp=Z,56nm,1.5s
PMTG Montargil 85.11 352 *e*P **P** **21 39 27.0 -0.5**
PMTG *i* IAmb IAmb 21 39 28.9
comp=Z,61nm,1.4s
PESTR Estremoz 85.26 352 *e*P **P** **21 39 27.9 -0.4**
PESTR *i* IAmb IAmb 21 39 29.9
comp=Z,56nm,1.4s
PMAFR Mafra 85.30 353 *e*P **P** **21 39 28.2 -0.4**
PARRA Arraiolos 85.42 353 *e*P **P** **21 39 28.4 -0.8**
PARRA *i* IAmb IAmb 21 39 29.6
comp=Z,57nm,1.3s
EVO Evora 85.63 352 *e*P **P** **21 39 30.1 -0.1**
EVO *i* IAmb IAmb 21 39 31.8
comp=Z,57nm,1.4s
KEST Kesra 85.86 338 P **P** **21 39 30.4 -1.1**
comp=Z,4.0nm,0.4s,baz=140,slow=2.8,SNR=13
KEST LR LR 22 22 28.3
comp=Z,310nm,21.7s,baz=348,slow=39
comp=Z,4.0nm,0.4s
PBAR Barrancos 85.91 351 *e*P **P** **21 39 31.3 -0.2**
PBAR *i* IAmb IAmb 21 39 33.2
comp=Z,67nm,1.3s
PBEJ Beja 86.12 352 *e*P **P** **21 39 32.6 0.0**
PBEJ *i* IAmb IAmb 21 39 34.4
comp=Z,43nm,1.6s
ARMA Armidale 86.33 189 P **P** **21 39 34.0 +0.4**
PCVE Castro Verde 86.53 352 *e*P **P** **21 39 35.0 +0.5**
PCVE *i* IAmb IAmb 21 39 36.4
comp=Z,62nm,1.4s
MTO3 Montecristo 88.37 67 P **P** **21 39 44.4 +0.3**
TBI Tubuai 88.99 136 *e*S **S** **21 50 26.0 -4.2**
comp=Z,560nm,27.2s
TBI *e*SS **SS** **21 56 19.4 -5.4**
comp=Z,480nm,30.8s
TBI *e*LQ LQ 22 04 26.0
comp=Z,2µm,29.2s
TBI *e*LR LR 22 08 00.7
comp=Z,967nm,33.5s
TBI *e*LR LR 22 08 05.4
comp=Z,5µm,32.2s
STKA Stephens Creek 89.05 197 P **P** **21 39 45.7 -0.7**
comp=Z,7.7nm,1.1s,baz=7.3,slow=6.6,SNR=5.3
STKA LR LR 22 15 20.4
comp=Z,318nm,21.5s,baz=23,slow=33
comp=Z,7.7nm,1.1s
STKA Stephens Creek 89.05 197 ⇑*i*P **P** **21 39 46.5 +0.1**
CHIV Chivirico 89.91 53 IAmb IAmb 21 39 55.2
comp=Z,34nm,0.9s
MEEK Meekatharra 90.03 218 P **P** **21 39 50.8 -0.3**
NMDO Nuevo Mundo 90.04 52 P **P** **21 39 51.8 +0.3**
NMDO IAmb IAmb 21 39 53.7
comp=Z,24nm,0.9s
GTBY Guantanamo Bay 90.53 52 P **P** **21 39 53.0 -0.8**
MDT Midelt 90.98 349 P **P** **21 39 54.6 -1.2**
comp=Z,3.8nm,0.9s,baz=18,slow=7.6,SNR=5.5
MDT LR LR 22 24 51.7
comp=Z,129nm,19.1s,baz=46,slow=38
comp=Z,3.8nm,0.9s
PMAR Madeira 91.81 359 *e*P **P** **21 39 57.4 -2.4**
PMAR *i* IAmb IAmb 21 40 03.6
comp=Z,141nm,1.6s
SDDR Presa de Saban 93.04 49 P **P** **21 40 05.2 -0.3**
SDDR IAmb IAmb 21 40 08.3
comp=Z,13nm,0.8s
MORW Morawa 93.15 219 IAmb IAmb 21 40 05.9
comp=Z,24nm,1.1s
URZ Urewera 94.60 168 LR LR 22 17 30.0
comp=Z,92nm,21.6s,baz=349,slow=32
SJG San Juan 95.95 45 LR LR 22 27 13.0
comp=Z,247nm,19.6s,baz=318,slow=38
ATD Arta Tunnel 96.02 301 LR LR 22 28 56.3
comp=Z,31nm,20.2s,baz=22,slow=39
NWAO Narrogin (SRO) 96.26 217 LR LR 22 23 44.5
comp=Z,76nm,21.2s,baz=64,slow=35
RPZ Rata Peaks 99.46 173 LR LR 22 19 40.2
comp=Z,658nm,21.6s,baz=320,slow=32
TORD Torodi Ar. Bea 109.32 340 PKiKP **PKiKP** **21 45 21.3 -0.6**
comp=Z,0.8nm,0.4s,baz=2.9,slow=2.8,SNR=1.5
PTLB Pontes e Lacer 128.97 55 **PKPdf** **21 45 59.6 +0.3**
VNDA Vanda 133.07 180 PKP **PKPdf** **21 46 05.3 0.0**
comp=Z,1.8nm,0.8s,baz=317,slow=4.7,SNR=12
VNDA SKPbc **SKPbc** **21 49 28.5 +0.1**
comp=Z,3.0nm,1.2s,baz=332,slow=1.3,SNR=3.5
BDFB Brasilia 133.82 42 PKP **PKPdf** **21 46 08.3 -0.4**
comp=Z,1.4nm,0.4s,baz=343,slow=11,SNR=2.5
BDFB SKPbc **SKPbc** **21 49 32.7 -0.4**
comp=Z,2.8nm,0.5s,baz=65,slow=5.4,SNR=4.1
BOSA Boshof 138.96 293 PKhKP PKPpre 21 46 10.5
comp=Z,1.2nm,0.4s,baz=33,slow=4.7,SNR=8.2
BOSA PKP **PKPdf** **21 46 16.9 -0.9**
comp=Z,3.0nm,0.7s,baz=114,slow=2.8,SNR=5.5
CPUP Villa Florida 139.15 60 PKP **PKPdf** **21 46 17.8 -0.3**
comp=Z,0.5nm,0.6s,baz=55,slow=4.1,SNR=3.8
MAW Mawson 142.79 219 PKP **PKPdf** **21 46 21.5 -1.8**
comp=Z,1.4nm,0.5s,baz=129,slow=3.8,SNR=6.7
PLCA Paso Flores 142.92 89 PKhKP PKPpre 21 46 21.1
comp=Z,5.8nm,0.9s,baz=283,slow=2.3,SNR=7.6
COYC Coyhaique 145.14 96 **PKPab** **21 46 27.9 0.0**
PLTB Pedras Altas 145.46 61 **PKPab** **21 46 29.9 +0.3**
QSPA South Pole Qui 145.56 180 **PKPdf** **21 46 28.4 +0.1**
QSPA South Pole Qui 145.56 180 PKPbc **PKPdf** **21 46 28.2 -0.1**
comp=Z,38nm,1.0s,baz=340,slow=6.8,SNR=135
TRQA Tornquist 145.87 77 **PKPbc** **21 46 30.5 +0.1**
TRQA Tornquist 145.87 77 PKP2 **PKPbc** **21 46 30.5 +0.1**
SYO Syowa Base 151.50 220 ⇑*i*PKPbc **PKiKP** **21 46 47.3 +3.0**
SYO Syowa Base 151.50 220 ⇑*e*PKPab **PKPab** **21 46 55.3 +2.6**
SYO Syowa Base 151.50 220 ⇑sPKPbc sPKPbc 21 47 06.6 +1.6
TROLL Troll, Antarti 161.58 200 ⇑PKPab **PKPab** **21 47 35.8 -0.4**
comp=Z,1µm,0.7s
SNAA Sanae 162.82 196 ⇑PKPab **PKPab** **21 47 39.8 -1.7**
comp=Z,97nm,0.7s
SNAA Sanae 162.82 196 PKP **PKPdf** **21 46 51.7 -0.4**
comp=Z,1.2nm,1.0s,baz=168,slow=3.9,SNR=6.1
SNAA PKPab **PKPab** **21 47 39.7 -1.7**
comp=Z,7.8nm,1.0s,baz=169,slow=3.5,SNR=14
SNAA PP PP **21 51 31.2 +4.3**
comp=Z,5.7nm,1.3s,baz=189,slow=4.1,SNR=3.9
VNA3 Neumayer Olymp 164.09 190 ⇑PKPab **PKPab** **21 47 44.5 -2.6**
comp=Z,8.9nm,0.7s
VNA1 Neumayer--Stat 164.50 192 ⇑PKPab **PKPab** **21 47 47.6 -1.2**
comp=Z,9.3nm,1.0s

CATAC ***09*** *21:33:22.1±0.6, 13˚N±3˚×8˚8W±˚, h7km±2km, M2.4/6, MLv2.4/6, Error ellipse: s-maj=6.8km s-min=4.5km az=12.7, confirmed*

SNET 09 21:33:22.7±2.0, 13°29N×87°95W, h8km±17km, ML1.8, Honduras

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.06**	**75**	*i* P		Pg	21 33 25.0	+0.4
LCND				*e*S		Sg	21 33 27.0	+1.0
LCND				IAML			21 33 28.1	
	comp=Z,2µm,0.2s							
LCND	**La Caada**	**0.06**	**75**	P		Pg	21 33 25.0	+0.4
CNCH	**Conchagua**	**0.12**	**98**	*i* P		Pg	21 33 25.4	0.0
CNCH	**Conchagua**	**0.12**	**98**	P		Pg	21 33 25.3	-0.1
PACA	**Pacayal**	**0.40**	**296**	*e*P		Pn	21 33 31.4	-0.7
PACA				*e*S		Sb	21 33 38.0	-0.4
PACA	**Pacayal**	**0.40**	**296**	P		Pg	21 33 31.3	+0.7
PACA	**Pacayal**	**0.40**	**296**	S		Sb	21 33 37.8	-0.7
CSGN	**Cosiguina Volc**	**0.50**	**129**	P		Pg	21 33 31.3	-1.1
TECA	**Tecapa**	**0.57**	**291**	*e*P		Pn	21 33 36.5	-0.8
TECA				*e*S		Sb	21 33 43.0	-0.4
TECA				*e*S		Sg	21 33 43.8	+2.5
TECA				IAML			21 33 44.4	
	comp=N,43nm,0.2s							
TECA				IAML			21 33 46.5	
	comp=Z,25nm,0.3s							
CHOHN	**Orocuina**	**0.80**	**76**	P		Pg	21 33 37.5	-0.6
CHOHN	**Orocuina**	**0.80**	**76**	S		Sg	21 33 48.5	0.0
MARCA	**Marcala la Paz**	**0.86**	**355**	S		Sn	21 33 53.1	-1.1
TGUH	**Tegucigalpa,Un**	**1.01**	**41**	P		Pg	21 33 42.0	-0.1
TGUH				S		Sb	21 33 56.1	+0.2
YUSH	**Yuscaran**	**1.26**	**59**	P		Pn	21 33 45.9	-0.9
YUSH	**Yuscaran**	**1.26**	**59**	S		Sb	21 34 03.3	0.0

NAO ***09*** *21:39:22.4, 35˚07N×21˚40E, h10km, mb4.4*
MOS ***09*** *21:39:39.7±1.5, 37˚10N×21˚04E, h17km, mb4.6/11, Error ellipse: s-maj=6.9km s-min=3.4km az=77.8*
IDC ***09*** *21:39:40.4±0.9, 37˚36N×21˚15E, h0km, mb4.1/15, mbtmp4.0/25, ML3.3/8, MS3.5/10, Error ellipse: s-maj=18.2km s-min=13.3km az=6.0*
THE ***09*** *21:39:41.5, 37˚N±4˚×2˚1E±˚, h1km±2km, M4.6/13, MLh4.6/13*
NEIC ***09*** *21:39:42.3±1.6, 37˚27N±0˚07×21˚17E±0˚07, h10km±1km, mb4.4/30, Mwr4.5/21, Error ellipse: s-maj=12.6km s-min=9.7km az=191.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.03; Mθθ-0.69; Mφφ0.66; Mrθ1.53; Mθφ-6.63; Mφr-1.24; Fault plane solution: M₀6.95000×10¹⁵ NP1:φ91.97000°, δ81.23000°, λ167.22000°. NP2:φ183.95000°, δ77.37000°, λ8.99000°. Principal axes: T 7.1785, Plg15.0000°, Azm48.0000°; N -0.4854, Plg75.0000°, Azm238.0000°; P -6.6930, Plg3.0000°, Azm138.0000°;*
NEIC ***09*** *21:39:42.6, 37˚27N×21˚16E, h10km*
MED_RC ***09*** *21:39:42.0±0.4, 37˚02N×21˚16E, h12km±2km, MW4.5/29, Moment Tensor Solution.Mantle waves: s29,c35; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr2.01±.44; Mθθ-0.76±.37; Mφφ-1.25±.38; Mrθ-1.94±1.07; Mθφ6.54±.35; Mφr-3.17±1.12; Best double couple: M₀7.72000×10¹⁵ NP1:φ276.00000°, δ63.00000°, λ20.00000°. NP2:φ177.00000°, δ73.00000°, λ152.00000°. Principal axes: T 7.8000, Plg32.0000°, Azm134.0000°; N -0.1500, Plg57.0000°, Azm327.0000°; P -7.6500, Plg6.0000°, Azm228.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*ATH **09** 21:39:42.8, 37°.22N×21°.21E, h6km±1km, ML4.5/28, Manual Solution by G.Panopoulou First location: 2019/08/09 21:40:44, This location: 2021/06/28 16:25:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*PDG **09** 21:39:43.7±0.5, 37°.27N×21°.13E, h26km±1km, ML4.5/12, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0*

ISC 09 21:39:42.3±0.6, 37°.21N±0'.03×21°.19E±0'.02, h20km±24km, n360, σ2≥01/396, mb4.4/33, MS3.9/7, 39C-8D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ZARO	**Zacharo**	**0.46**	**53**	P		**Pb**	**21 39 51.6**	**0.0**
AMT	**Artemida-Makis**	**0.52**	**52**	P		**Pb**	**21 39 52.8**	**-0.1**
KRI1	**kERI**	**0.54**	**327**	P		**Pb**	**21 39 52.9**	**-0.2**
KRI1				S		**Sb**	**21 40 01.8**	**+1.3**
KRI1	**kERI**	**0.54**	**327**	P		**Pb**	**21 39 53.4**	**+0.3**
MTHA	**Methoni**	**0.57**	**133**	P		**Pb**	**21 39 54.0**	**+0.4**
LTHK	**Lithakia**	**0.57**	**331**	P		**Pb**	**21 39 53.6**	**-0.1**
LTHK	**Lithakia**	**0.57**	**331**	P		**Pb**	**21 39 53.5**	**-0.1**
LTHK				S		**Sb**	**21 40 01.6**	**+0.2**
ITM	**Ithomi**	**0.59**	**93**			**Pb**	**21 39 53.2**	**-0.7**
ITM	**Ithomi**	**0.59**	**93**	P		**Pb**	**21 39 53.1**	**-0.8**
ITM	**Ithomi**	**0.59**	**93**	P		**Pb**	**21 39 53.5**	**-0.5**
ITM				S		**Sb**	**21 40 01.2**	**-0.7**
KYPS	**Kipseli, Zakin**	**0.67**	**334**	P		**Pb**	**21 39 55.7**	**+0.3**
KYPS				S		**Sb**	**21 40 04.8**	**+0.4**
CLEM	**Kyllini,Ilia,G**	**0.68**	**356**	P		**Pb**	**21 39 55.8**	**+0.3**
CLEM				S		**Sb**	**21 40 05.2**	**+0.6**
LCHA	**Lechaina**	**0.73**	**5**	P		**Pn**	**21 39 56.9**	**-0.5**
ORTH	**Orthonies,Zaky**	**0.75**	**329**	P		**Pb**	**21 39 56.3**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.75**	**329**	P		**Pb**	**21 39 56.4**	**-0.3**
ORTH				S		**Sb**	**21 40 07.2**	**+0.7**
DRO	**Drossia**	**0.85**	**29**	P		**Pb**	**21 39 58.5**	**+0.2**
DRO	**Drossia**	**0.85**	**29**	P		**Pb**	**21 39 58.6**	**+0.2**
DRO				S		**Sn**	**21 40 10.3**	**-0.7**
RLS	**Riolos of Patr**	**0.87**	**14**	P		**Pb**	**21 39 58.9**	**+0.1**
RLS	**Riolos of Patr**	**0.87**	**14**	P		**Pb**	**21 39 58.8**	**+0.1**
RLS				S		**Sb**	**21 40 10.3**	**+0.3**
YRMI	**Loutra Irminis**	**0.90**	**8**	P		**Pn**	**21 39 59.5**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.93**	**339**	P		**Pb**	**21 39 59.5**	**-0.2**
VLX	**Vlachokerasia**	**0.96**	**80**	P		**Pn**	**21 40 00.8**	**+0.1**
AXS	**Araxos**	**1.00**	**8**	P		**Pn**	**21 40 01.6**	**+0.5**
PSDA	**Pessada-Kefalo**	**1.02**	**332**	P		**Pb**	**21 40 00.8**	**-0.6**
PSDA	**Pessada-Kefalo**	**1.02**	**332**	P		**Pb**	**21 40 01.0**	**-0.3**
PSDA				S		**Sn**	**21 40 15.6**	**+0.3**
VLS	**Valsamata**	**1.08**	**334**	P		**Pb**	**21 40 01.5**	**-0.7**
VLS	**Valsamata**	**1.08**	**334**	P		**Pb**	**21 40 01.5**	**-0.7**
VLS	**Valsamata**	**1.08**	**334**	P		**Pb**	**21 40 02.1**	**-0.1**
KLV1	**Kalavrita**	**1.10**	**41**	P		**Pn**	**21 40 02.5**	**-0.1**
PATG	**Patra B**	**1.11**	**2**	P		**Pn**	**21 40 03.8**	**+0.9**
ARG2	**Argostoli**	**1.12**	**330**	P		**Pn**	**21 40 02.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.13**	**42**	S		**Sn**	**21 40 21.1**	**+3.1**
KLV	**Kalavryta, Ach**	**1.13**	**42**	P		**Pn**	**21 40 03.0**	**0.0**
KLV				S		**Sn**	**21 40 19.0**	**+1.0**
GUR	**Goura**	**1.17**	**51**	S		**Sn**	**21 40 22.4**	**+3.4**
GUR	**Goura**	**1.17**	**51**	P		**Pb**	**21 40 03.8**	**-0.1**
UPR	**University Cam**	**1.17**	**24**	P		**Pb**	**21 40 05.3**	**+1.4**
UPR	**University Cam**	**1.17**	**24**	P		**Pb**	**21 40 05.3**	**+1.4**
DMLN	**Damoulianata-K**	**1.21**	**328**	P		**Pn**	**21 40 04.1**	**0.0**
DMLN				S		**Sn**	**21 40 23.1**	**+3.0**
DMLN	**Damoulianata-K**	**1.21**	**328**	P		**Pb**	**21 40 04.5**	**-0.1**
ARS1	**Argos**	**1.30**	**70**	P		**Pb**	**21 40 06.7**	**+0.7**
VVK	**Vomvokou**	**1.31**	**22**	P		**Pb**	**21 40 07.0**	**+0.8**
AST1	**Astakos**	**1.33**	**357**	S		**Sb**	**21 40 27.2**	**+4.0**
EFP	**Efpalio**	**1.34**	**25**	P		**Pb**	**21 40 06.7**	**-0.1**
EFP	**Efpalio**	**1.34**	**25**	P		**Pb**	**21 40 07.3**	**+0.6**
FSK	**Fiskardo**	**1.34**	**338**	S		**Sb**	**21 40 26.7**	**+3.2**
FSK	**Fiskardo**	**1.34**	**338**	P		**Pb**	**21 40 06.5**	**-0.2**
FSK				S		**Sb**	**21 40 25.4**	**+1.9**
SERG	**Sergoula**	**1.38**	**29**	P		**Pb**	**21 40 08.0**	**+0.5**
SERG	**Sergoula**	**1.38**	**29**	P		**Pb**	**21 40 08.7**	**+1.2**
KALE	**Kalithea**	**1.40**	**32**	P		**Pb**	**21 40 08.3**	**+0.5**
KALE	**Kalithea**	**1.40**	**32**	P		**Pb**	**21 40 08.2**	**+0.4**
KALE				S		**Sb**	**21 40 26.4**	**+1.2**
PVO	**Paravola**	**1.43**	**11**	P		**Pb**	**21 40 08.7**	**+0.5**
PVO	**Paravola**	**1.43**	**11**	P		**Pb**	**21 40 09.0**	**+0.8**
EVGI	**Lefkada island**	**1.47**	**343**	P		**Pb**	**21 40 09.0**	**+0.1**
EVGI	**Lefkada island**	**1.47**	**343**	P		**Pb**	**21 40 08.8**	**-0.2**
VLI	**Veliai**	**1.48**	**109**	P		**Pb**	**21 40 09.6**	**+0.4**
ANX	**Ano Chora**	**1.50**	**22**	P		**Pb**	**21 40 10.1**	**+0.7**
MNVA	**Monemvasia**	**1.57**	**109**	P		**Pb**	**21 40 11.3**	**+0.7**
LOUT	**Loutraki**	**1.62**	**61**	P		**Pb**	**21 40 12.7**	**+1.2**
LTK	**Loutraki**	**1.63**	**60**	P		**Pb**	**21 40 12.6**	**+1.0**
LKD2	**Lefkada island**	**1.63**	**345**	P		**Pb**	**21 40 13.5**	**+1.7**
TSLK	**Tsoukalades, L**	**1.67**	**345**	P		**Pb**	**21 40 12.8**	**+0.5**
AMPL	**Ampelaki**	**1.71**	**1**	P		**Pb**	**21 40 13.3**	**+0.3**
MET2	**Kameni Chora,**	**1.75**	**76**	P		**Pb**	**21 40 13.9**	**+0.2**
MET6	**Megalochori,Me**	**1.77**	**77**	P		**Pb**	**21 40 13.9**	**0.0**
MET5	**Makryloggos,Me**	**1.77**	**76**	P		**Pb**	**21 40 14.6**	**+0.5**
AGG	**Agios Georgios**	**2.02**	**26**	P		**Pb**	**21 40 19.5**	**+1.1**
ATH	**Athens Observa**	**2.15**	**68**	P		**Pb**	**21 40 19.0**	**-1.5**
JAN	**Janina**	**2.46**	**354**	P		**Pb**	**21 40 26.2**	**+0.4**
KEK	**Kerkira**	**2.73**	**337**			**Pn**	**21 40 25.9**	**+1.0**
IDI	**Anoyia**	**3.55**	**122**			**Pn**	**21 40 38.6**	**+2.3**
IDI	**Anoyia**	**3.55**	**122**	Pn		**Pn**	**21 40 38.9**	**+2.5**
	9.1nm,0.4s,baz=211,slow=20,SNR=7.9							
IDI				Sn		**Sn**	**21 41 20.5**	**+2.8**
	16nm,0.3s,baz=109,slow=23,SNR=6.5							
IDI				LR		LR	21 42 15.7	
	comp=Z,835nm,21.4s,baz=290,slow=42							
FNA	**Florina**	**3.57**	**2**			**Pn**	**21 40 38.3**	**+1.7**
FNA	**Florina**	**3.57**	**2**	P		**Pn**	**21 40 38.3**	**+1.7**
THE	**Thessaloniki**	**3.69**	**22**	P		**Pn**	**21 40 42.3**	**+4.2**
OHR	**Ohrid**	**3.91**	**356**	*e*Pg		**Pn**	**21 40 44.5**	**+3.2**
SOH	**Sokhos**	**3.98**	**24**	P		**Pn**	**21 40 45.5**	**+3.3**
TIP	**Timpagrande**	**4.01**	**301**	Pn		**Pn**	**21 40 42.7**	**+0.1**
VAY	**Valandovo**	**4.24**	**14**	*e*Pg		**Pn**	**21 40 49.2**	**+3.5**
CEL	**Celeste**	**4.33**	**286**			**Pn**	**21 40 47.3**	**+0.3**
PEHC	**Pehcevo**	**4.75**	**16**	*e*Pg		**Pn**	**21 40 55.7**	**+2.9**
SKO	**Skopje**	**4.76**	**2**	*e*Pg		**Pn**	**21 40 55.3**	**+2.5**
MMB	**Musomishta**	**4.76**	**24**	P		**Pn**	**21 40 55.0**	**+2.0**
EZN	**Ezine**	**4.80**	**55**	⇑P		Pn	21 40 58.8	+5.4
KKB	**Krupnik**	**4.86**	**17**	P		**Pn**	**21 40 57.5**	**+3.2**
MATE	**Matera**	**4.90**	**316**	⇑P		**Pn**	**21 40 53.1**	**-1.7**
ULC	**Ulcinj**	**4.98**	**343**	*e*Pn		**Pn**	**21 40 55.7**	**-0.2**
ULC				*i* Sn		**Sn**	**21 41 49.8**	**-3.1**
CUC	**Castrocucco**	**5.04**	**305**			**Pn**	**21 40 58.2**	**+1.4**
KARP	**Karpathos**	**5.09**	**107**			**Pn**	**21 40 58.9**	**+1.3**
RDO	**Rodhopi**	**5.18**	**39**			**Pn**	**21 40 59.7**	**+1.1**
DRME	**Dracevica, Mon**	**5.21**	**343**	*e*Pn		**Pn**	**21 40 58.9**	**-0.1**
DRME				*i* Sn		**Sn**	**21 41 55.1**	**-3.3**
CAVK	**Edirne/Enez-Ca**	**5.21**	**47**	⇑P		Pn	21 41 04.5	+5.5
RZN	**Rozhen**	**5.25**	**30**	P		**Pn**	**21 41 02.1**	**+2.3**
ALN	**Alexandroupoli**	**5.28**	**44**			**Pn**	**21 41 01.7**	**+1.8**
ALN	**Alexandroupoli**	**5.28**	**44**	P		**Pn**	**21 41 01.7**	**+1.8**
BUM	**Brajici-Budva**	**5.38**	**342**	*e*Pn		**Pn**	**21 41 01.4**	**-0.1**
BUM				*i* Sn		**Sn**	**21 41 59.3**	**-3.6**
VAE	**Valguarnera**	**5.41**	**275**	Pn		**Pn**	**21 41 02.9**	**+1.0**
	7.4nm,0.3s,baz=342,slow=22,SNR=14							
VAE				Sn		**Sn**	**21 42 04.3**	**+0.8**
	16nm,0.3s,baz=14,slow=21,SNR=7.4							
	20nm,0.5s							
PDG	**Podgorica**	**5.42**	**345**			**Pn**	**21 41 01.9**	**0.0**
PDG	**Podgorica**	**5.42**	**345**	⇑P		**Pn**	**21 41 03.2**	**+1.3**
PDG	**Podgorica**	**5.42**	**345**	*e*Pn		**Pn**	**21 41 01.8**	**-0.1**
PDG				*i* Sn		**Sn**	**21 42 00.4**	**-3.3**
ACER	**Acerenza**	**5.43**	**313**			**Pn**	**21 41 03.4**	**+1.3**
RAFF	**Raffo Rosso**	**5.45**	**272**			**Pn**	**21 41 02.7**	**+0.4**
KDZ	**Kurdzhali**	**5.46**	**35**	P		**Pn**	**21 41 04.4**	**+1.9**
PLNA	**Plana**	**5.53**	**17**	P		**Pn**	**21 41 06.6**	**+3.0**
WDD	**Wied Dalam**	**5.54**	**258**			**Pn**	**21 41 04.9**	**+1.3**
CEME	**Cevo**	**5.61**	**343**	*e*Pn		**Pn**	**21 41 04.3**	**-0.3**
CEME				*i* Sn		**Sn**	**21 42 04.8**	**-3.7**
VTS	**Vitosha**	**5.62**	**16**	P		**Pn**	**21 41 07.1**	**+2.2**
HCY	**Herceg Novi**	**5.63**	**339**	*e*Pn		**Pn**	**21 41 04.6**	**-0.2**
HCY				*i* Sn		**Sn**	**21 42 05.2**	**-3.6**
PLD	**Plovdiv**	**5.64**	**28**	P		**Pn**	**21 41 08.9**	**+3.9**
ARG	**Arkhangelos**	**5.66**	**98**	Pn		**Pn**	**21 41 08.3**	**+3.1**
ARG	**Arkhangelos**	**5.66**	**98**	P		**Pn**	**21 41 08.3**	**+3.1**
IVA	**Berane**	**5.74**	**350**	*e*Pn		**Pn**	**21 41 06.2**	**-0.2**
IVA				*i* Sn		**Sn**	**21 42 08.0**	**-3.8**
KOME	**Kolasin**	**5.78**	**348**	*e*Pn		**Pn**	**21 41 06.8**	**-0.1**
KOME				*i* Sn		**Sn**	**21 42 08.9**	**-3.8**
NKME	**Niksic**	**5.81**	**344**	*e*Pn		**Pn**	**21 41 07.2**	**-0.1**
NKME				*i* Sn		**Sn**	**21 42 09.6**	**-3.8**
DIM	**Dimitrovgrad**	**5.90**	**34**	P		**Pn**	**21 41 10.9**	**+2.4**
TREB	**Trebinje**	**5.92**	**339**	*e*Pn		**Pn**	**21 41 07.9**	**-0.9**
MANT	**Manisa**	**5.97**	**75**	Pn		**Pn**	**21 41 11.2**	**+1.6**
BRY	**Bratogost**	**6.04**	**341**	*e*Pn		**Pn**	**21 41 10.2**	**-0.3**
BRY				*i* Sn		**Sn**	**21 42 15.3**	**-3.8**
SGRT	**San Giovanni R**	**6.19**	**319**			**Pn**	**21 41 12.9**	**+0.3**
UPM	**Unac-Piva**	**6.24**	**344**	*e*Pn		**Pn**	**21 41 13.0**	**-0.3**
UPM				*i* Sn		**Sn**	**21 42 19.8**	**-4.3**
BAND	**Balkesir-Ban**	**6.24**	**58**	⇑P		Pn	21 41 19.2	+5.9
STON	**Ston**	**6.26**	**336**	*e*Pn		**Pn**	**21 41 12.5**	**-0.9**
PLE	**Pljevlja**	**6.27**	**348**	*e*Pn		**Pn**	**21 41 13.4**	**-0.3**
PLE				*i* Sn		**Sn**	**21 42 20.4**	**-4.3**
KLINJ	**Klinje**	**6.28**	**342**	*e*Pn		**Pn**	**21 41 14.3**	**+0.5**
PAOL	**Paolisi**	**6.41**	**309**	Pn		**Pn**	**21 41 16.1**	**+0.5**
BOVS	**Bovan**	**6.43**	**3**	⇑P		**Pn**	**21 41 18.2**	**+2.4**
MPEP	**Malo Peshtene**	**6.44**	**17**	P		**Pn**	**21 41 18.4**	**+2.4**
RUDO	**Rudo**	**6.55**	**348**	*e*Pn		**Pn**	**21 41 16.8**	**-0.7**
PLVB	**Pleven**	**6.70**	**22**	⇑P		**Pn**	**21 41 23.3**	**+3.8**
ELND	**Elena**	**6.75**	**31**	⇑P		Pn	21 41 25.2	+5.1
CTYL	**Yalikoy Yolu**	**6.96**	**50**	⇑P		**Pn**	**21 41 27.3**	**+4.3**
INTR	**Introdacqua**	**7.39**	**313**			**Pn**	**21 41 30.3**	**+1.3**
RAZG	**Razgrad**	**7.53**	**31**	⇓P		Pb	21 41 42.6	-10
MDVR	**Moldovita**	**7.58**	**3**	⇑P		**Pn**	**21 41 34.9**	**+3.3**
NEF	**NEVSHA**	**7.63**	**36**	P		**Pn**	**21 41 35.1**	**+2.8**
KIJV	**Kijevo**	**7.70**	**333**	*e*Pn		**Pn**	**21 41 33.0**	**-0.2**
HERR	**Herculane**	**7.72**	**6**	⇑P		**Pn**	**21 41 36.1**	**+2.6**
CAMP	**Campotosto**	**8.00**	**314**			**Pn**	**21 41 38.2**	**+0.7**
A050A	**Klekovaca**	**8.07**	**336**	*e*Pn		**Pn**	**21 41 39.5**	**+1.0**
BLY	**Banja Luka**	**8.12**	**339**	*e*Pn		**Pn**	**21 41 37.9**	**-1.0**
BLY	**Banja Luka**	**8.12**	**339**	⇓P		**Pn**	**21 41 39.8**	**+0.8**
GZR	**Gura Zlata**	**8.26**	**8**	⇑P		**Pn**	**21 41 44.7**	**+3.7**
GZR	**Gura Zlata**	**8.26**	**8**	⇑P		**Pn**	**21 41 44.7**	**+3.7**
NRCA	**Norcia**	**8.36**	**315**	Pn		**Pn**	**21 41 43.1**	**+0.7**
GUMA	**Gualdo di Mace**	**8.39**	**317**			**Pn**	**21 41 44.0**	**+1.3**
BZS	**Buzias**	**8.41**	**2**	⇑P		**Pn**	**21 41 45.9**	**+3.0**
BZS	**Buzias**	**8.41**	**2**	⇑P		**Pn**	**21 41 45.9**	**+3.0**
A051A	**Mrakovica**	**8.44**	**339**	*e*Pn		**Pn**	**21 41 42.6**	**-0.8**
LOT	**Lotru**	**8.46**	**12**	⇑P		**Pn**	**21 41 46.9**	**+3.2**
MDUB	**Mudurnu**	**8.46**	**64**	Pn		**Pn**	**21 41 44.1**	**+0.4**
FDMO	**Fiordimonte**	**8.51**	**316**			**Pn**	**21 41 45.1**	**+0.8**
ICOR	**Ion Corvin**	**8.53**	**34**	⇑P		Pn	21 41 49.9	+5.2
CESX	**Cesi**	**8.53**	**312**	Pn		**Pn**	**21 41 45.1**	**+0.4**
VOIR		**8.72**	**18**	⇓P		**Pn**	**21 41 51.4**	**+4.2**
VOIR		**8.72**	**18**	⇓P		**Pn**	**21 41 51.4**	**+4.2**
TNR	**Turnu Rosu**	**8.75**	**14**	⇑P		**Pn**	**21 41 50.8**	**+3.2**
TNR	**Turnu Rosu**	**8.75**	**14**	⇑P		**Pn**	**21 41 50.8**	**+3.2**
ISR	**Istrita**	**8.87**	**25**	⇑P		Pn	21 41 54.7	+5.4
ISR	**Istrita**	**8.87**	**25**	⇑P		Pn	21 41 54.7	+5.4
MLR	**Muntele Rosu**	**9.01**	**22**	Pn		**Pn**	**21 41 51.6**	**+0.3**
MLR	**Muntele Rosu**	**9.01**	**22**	Pn		Pn	21 41 56.7	+5.4
	0.5nm,0.3s,baz=0.7,slow=7.8,SNR=4.8							
MLR	**Muntele Rosu**	**9.01**	**22**	⇑P		Pn	21 41 56.9	+5.5
MLR	**Muntele Rosu**	**9.01**	**22**	⇑P		Pn	21 41 56.9	+5.6
MOSL	**Moslavina**	**9.03**	**340**	*e*Pn		**Pn**	**21 41 49.6**	**-1.9**
HARR	**Harsova**	**9.04**	**32**	⇓P		**Pn**	**21 41 54.6**	**+3.0**
HARR	**Harsova**	**9.04**	**32**	⇓P		**Pn**	**21 41 54.6**	**+3.0**
TIRR	**Tirgusor**	**9.07**	**35**	Pn		**Pn**	**21 41 53.4**	**+1.3**
TIRR	**Tirgusor**	**9.07**	**35**	P		**Pn**	**21 41 53.4**	**+1.3**
MORH	**Mrgy, Hungar**	**9.20**	**349**	*e*Pn		**Pn**	**21 41 52.1**	**-1.6**
MORH	**Mrgy, Hungar**	**9.20**	**349**	⇑P		**Pn**	**21 41 54.6**	**+0.8**
DOPR	**Dopca**	**9.30**	**18**	⇓P		**Pn**	**21 41 59.3**	**+4.1**
BOJS	**Bojanci**	**9.41**	**334**	*i* Pn		**Pn**	**21 41 57.0**	**+0.4**
BOJS				*e*Sn		**Sn**	**21 43 39.1**	**-2.7**
COVR	**Voineasa-Covas**	**9.41**	**22**	⇑P		Pn	21 42 01.6	+4.9
BRJN	**Brijuni**	**9.52**	**326**	*e*Pn		**Pn**	**21 41 57.4**	**-0.7**
OZUR		**9.52**	**20**	⇑P		Pn	21 42 03.5	+5.3
CFR	**Carcaliu**	**9.52**	**31**	⇑P		Pn	21 42 03.4	+5.2
CFR	**Carcaliu**	**9.52**	**31**	⇑P		Pn	21 42 03.4	+5.2
TURR	**Turia**	**9.54**	**21**	⇑P		Pn	21 42 03.8	+5.3
PLOR	**Plostina**	**9.55**	**24**	⇑P		Pn	21 42 03.9	+5.2
PLOR	**Plostina**	**9.55**	**24**	⇑P		Pn	21 42 03.9	+5.2
VSL	**Villasalto**	**9.56**	**287**			**Pn**	**21 41 59.2**	**+0.5**
MARR	**Marisel-Cluj**	**9.57**	**8**	⇑P		**Pn**	**21 42 03.3**	**+4.3**
VRI	**Vrincioaia**	**9.59**	**24**	⇑P		**Pn**	**21 42 03.2**	**+4.0**
VRI	**Vrincioaia**	**9.59**	**24**	⇑P		**Pn**	**21 42 03.2**	**+4.0**
KEST	**Kesra**	**9.65**	**265**	Pn		**Pn**	**21 42 01.4**	**+1.3**
KEST	**Kesra**	**9.65**	**265**	Pn		**Pn**	**21 42 01.8**	**+1.7**
	0.2nm,0.3s,baz=89,slow=4.5,SNR=3.9							
KEST				Sn		**Sn**	**21 43 44.8**	**-3.3**
	0.7nm,0.3s,baz=21,slow=22,SNR=11							
KEST				LR		LR	21 46 48.7	
	comp=Z,118nm,20.1s,baz=2.2,slow=44							
	5.8nm,0.8s							
OSSC	**Osservatorio P**	**9.86**	**313**	Pn		**Pn**	**21 42 03.8**	**+0.9**
CSS	**Mathiatis**	**10.08**	**99**	Pn		**Pn**	**21 42 07.8**	**+1.9**
BR131	**Keskin Array S**	**10.08**	**72**	*e*P		**Pn**	**21 42 10.1**	**+4.1**
BRTR	**Keskin Array B**	**10.08**	**72**	Pn		**Pn**	**21 42 10.4**	**+4.4**
	0.2nm,0.3s,baz=253,slow=12,SNR=4.5							
BRTR				LR		LR	21 46 47.6	
	comp=Z,269nm,19.6s,baz=257,slow=42							
	1.2nm,0.7s							
ARCR	**ARCALIA**	**10.14**	**12**	⇑P		Pn	21 42 11.7	+4.9
TRI	**Trieste**	**10.15**	**329**	Pn		**Pn**	**21 42 06.8**	**0.0**
TRI	**Trieste**	**10.15**	**329**	P		**Pn**	**21 42 06.8**	**0.0**
SABO	**M.te Sabotino**	**10.44**	**329**			**Pn**	**21 42 11.4**	**+0.6**
SOKA	**Soboth**	**10.51**	**336**	*e*Pn		**Pn**	**21 42 11.0**	**-0.8**
	5.4nm,0.6s							
SOKA				*e*Sn		**Sn**	**21 44 03.9**	**-5.0**
	4.5nm,0.5s							
OBKA	**Obir**	**10.52**	**334**	*e*Pn		**Pn**	**21 42 12.4**	**+0.4**
	0.5nm,0.3s							
OBKA				*e*Sn		**Sn**	**21 44 04.1**	**-5.2**
	4.9nm,0.5s							
PSZ	**Piszkesteto**	**10.74**	**355**	Pn		**Pn**	**21 42 15.1**	**+0.1**
PSZ	**Piszkesteto**	**10.74**	**355**	P		**Pn**	**21 42 15.1**	**+0.1**
ARSA	**Arzberg**	**10.87**	**339**			**Pn**	**21 42 16.5**	**-0.2**
ARSA	**Arzberg**	**10.87**	**339**	*e*Pn		**Pn**	**21 42 16.3**	**-0.4**
	0.1nm,0.2s							
MYKA	**Terra Mystica**	**10.96**	**332**	*e*Pn		**Pn**	**21 42 16.9**	**-1.0**
	2.7nm,0.9s							
MYKA				*e*Sn		**Sn**	**21 44 15.5**	**-4.4**
	7.8nm,1.2s							
STAL	**STALIGIAL**	**11.03**	**328**	Pn		**Pn**	**21 42 19.7**	**+0.8**
RONA	**Rosalia, Austr**	**11.09**	**343**	*e*Pn		**Pn**	**21 42 20.7**	**+1.1**
	8.0nm,1.2s							
RONA				*e*Sn		**Sn**	**21 44 22.3**	**-0.6**
	2.8nm,0.8s							
CIMO	**Cimolais**	**11.19**	**327**	Pn		**Pn**	**21 42 20.7**	**-0.4**
KECS	**Kecovo**	**11.28**	**358**	*e*P		**Pn**	**21 42 26.4**	**+4.2**
KECS	**Kecovo**	**11.28**	**358**	*e*PN		**Pn**	**21 42 26.4**	**+4.2**
MSSA	**Maissana**	**11.34**	**312**	Pn		**Pn**	**21 42 23.4**	**+0.2**
CTI	**Castel Tesino**	**11.35**	**324**			**Pn**	**21 42 23.6**	**+0.3**
CTI	**Castel Tesino**	**11.35**	**324**	P		**Pn**	**21 42 23.6**	**+0.3**
CONA	**Conrad Observa**	**11.40**	**342**	*e*Pn		**Pn**	**21 42 24.0**	**0.0**
	1.2nm,1.0s							
CONA				*i* Sn		**Sn**	**21 44 32.1**	**+1.2**
	0.5nm,0.5s							
KBA	**Koelnbreinsper**	**11.45**	**332**	*i* Pn		**Pn**	**21 42 25.4**	**+0.7**
	4.6nm,0.8s							
KBA				*e*Sn		**Sn**	**21 44 27.5**	**-4.5**
	1.7nm,0.5s							
ABTA	**Abfaltersbach**	**11.50**	**329**	*e*Pn		**Pn**	**21 42 25.7**	**+0.3**
	0.7nm,0.5s							
ABTA				*i* Sn		**Sn**	**21 44 27.8**	**-5.4**
	4.3nm,0.5s							
KOLS	**Kolonicke sedl**	**11.74**	**4**	*e*P		Pn	21 42 42.4	+14
MOA	**Molln**	**11.79**	**337**	*e*Pn		**Pn**	**21 42 27.4**	**-1.9**
	9.2nm,0.7s							
MOA				*e*Sn		**Sn**	**21 44 38.0**	**-2.2**
	4.9nm,0.8s							
BIOA	**Bad Ischl, Aus**	**11.86**	**334**	*i* Pn		**Pn**	**21 42 28.5**	**-1.7**
	11nm,1.0s							
BIOA				*e*Sn		**Sn**	**21 44 36.5**	**-5.4**
	3.1nm,0.5s							
LESA	**Schwarzleotal**	**11.99**	**331**	*i* Pn		**Pn**	**21 42 34.5**	**+2.5**
	1.5nm,0.4s							
LESA				*i* Sn		**Sn**	**21 44 42.3**	**-2.8**
	8.6nm,0.8s							
WTTA	**Wattenberg**	**12.28**	**328**	*e*Pn		**Pn**	**21 42 37.1**	**+1.0**
	2.6nm,1.0s							
WTTA				*i* Sn		**Sn**	**21 44 51.5**	**-0.9**
	4.7nm,0.5s							
WATA	**Walderalm**	**12.36**	**328**	*e*Pn		**Pn**	**21 42 37.5**	**+0.4**
	6.1nm,1.1s							
WATA				*i* Sn		**Sn**	**21 44 55.1**	**+0.8**
	14nm,0.7s							
MMAI	**Mount Meron Ar**	**12.37**	**106**	Pn		**Pn**	**21 42 34.6**	**-2.6**
	0.9nm,0.3s,baz=284,slow=13,SNR=6.1							
MMAI				Sn		**Sn**	**21 44 47.2**	**-7.3**
	1.7nm,0.3s,baz=291,slow=22,SNR=4.8							
FUORN	**Ofenpass-Fuorn**	**12.42**	**323**	Pn		**Pn**	**21 42 39.7**	**+1.6**
SQTA	**Sankt Quirin**	**12.43**	**327**	*e*Pn		**Pn**	**21 42 42.1**	**+4.0**
	2.6nm,0.6s							
SQTA				*i* Sn		**Sn**	**21 44 51.7**	**-4.3**
	13nm,1.2s							
FETA	**Feichten**	**12.49**	**325**	*e*Pn		**Pn**	**21 42 41.9**	**+2.9**
	2.8nm,0.9s							
FETA				*i* Sn		**Sn**	**21 44 55.7**	**-2.0**
	0.2nm,0.3s							
VRAC	**Vranov**	**12.54**	**346**	LR		LR	21 47 44.7	
	comp=Z,254nm,21.2s,baz=164,slow=39							
MOTA	**Moosalm**	**12.57**	**327**	*e*Pn		**Pn**	**21 42 42.4**	**+2.4**
	9.7nm,1.0s							
MOTA				*i* Sn		**Sn**	**21 44 55.7**	**-3.8**
	5.2nm,0.7s							
CKRC	**Cesky Krumlov**	**12.64**	**339**	*e*P		**Pn**	**21 42 41.6**	**+0.7**
CKRC	**Cesky Krumlov**	**12.64**	**339**	*e*PN		**Pn**	**21 42 41.6**	**+0.7**
DAVOX	**Davos/Dischmat**	**12.72**	**322**	Pn		**Pn**	**21 42 44.9**	**+2.7**
	0.3nm,0.3s,baz=152,slow=16,SNR=5.8							
DAVOX				S

comp=Z,14nm,0.5s,baz=209,slow=19,SNR=5.2
comp=Z,14nm,0.5s
OBN Obninsk 20.75 25 *e*P **P** 21 44 21.5 0.0
OBN *e*PPP PPP 21 44 47.4
OBN *e* 21 48 30.6
OBN pmax pmax
comp=Z,10.0nm,0.8s
OBN MLR MLR
comp=Z,306nm,19.0s
MAK Makhachkala 20.89 66 *e*P **P** **21 44 20.7 -2.5**
MAK *e*S **S** **21 48 13.2 -2.0**
MAK pmax pmax
comp=Z,220nm,1.1s
MDT Midelt 21.55 266 LR LR 21 55 12.1
comp=Z,70nm,19.2s,baz=80,slow=43
VSU Vasula 21.57 8*c i*P **P** **21 44 29.9 -0.4**
VSU pmax pmax
comp=Z,15nm,0.6s
VSU Vasula 21.57 8 *e*P P 21 44 19.8 -10
MOS Moscow 21.61 26 *e*P **P** **21 44 29.2 -1.6**
MOS *e*PPP PPP 21 44 56.3
MOS *e*S **S** **21 48 24.6 -4.6**
MOS pmax pmax
comp=Z,30nm,0.9s
ARBE Arbavere 22.46 6 *e*P **P** **21 44 34.7 -5.1**
MEF Metsahovi 23.12 4 *e*P **P** **21 44 46.6 -0.1**
HFS Hagfors 23.44 351 P **P** **21 44 49.0 -1.0**
comp=Z,3.3nm,0.6s,baz=154,slow=12,SNR=17
HFS S **S** **21 49 00.7 -1.4**
comp=Z,9.1nm,1.1s,baz=152,slow=16,SNR=5.7
comp=Z,3.3nm,0.6s
HFS Hagfors 23.44 351 P **P** **21 44 49.0 -1.0**
RAF Rauma 23.84 1 *e*P **P** **21 44 56.1 +2.4**
NC602 NORSAR Array S 24.33 348 P **P** **21 44 58.7 +0.3**
NC602 IAmb IAmb 21 45 18.0
comp=Z,12nm,1.0s
FINES FINESS Array B 24.45 6 P **P** **21 44 59.8 +0.4**
FINES FINESS Array B 24.45 6 P **P** **21 44 59.2 -0.3**
comp=Z,1.5nm,0.4s,baz=185,slow=9.6,SNR=22
FINES S **S** **21 49 17.9 -0.4**
comp=Z,1.1nm,0.6s,baz=271,slow=18,SNR=5.3
comp=Z,1.5nm,0.4s
FIA1 FINESS Array S 24.45 6 **P** **21 45 00.6 +1.1**
EKA Eskdalemuir Ar 24.52 325 P **P** **21 45 01.2 +1.0**
comp=Z,2.3nm,0.4s,baz=126,slow=7.1,SNR=22
comp=Z,2.3nm,0.4s
ESK Eskdalemuir 24.54 325 P **P** **21 45 01.0 +0.7**
ESK IAmb IAmb 21 45 05.5
comp=Z,20nm,1.1s
ESK Eskdalemuir 24.54 325 P **P** **21 45 01.0 +0.7**
ESK pmax pmax
comp=Z,20nm,1.1s
NAO01 NORSAR Array S 24.54 348 P **P** **21 45 00.6 +0.3**
NAO01 IAmb IAmb 21 45 13.8
comp=Z,9.4nm,0.9s
NC405 NORSAR Array S 24.66 349 P **P** **21 45 02.4 +1.0**
NC405 IAmb IAmb 21 45 15.4
comp=Z,9.9nm,0.9s
NB201 NORSAR Array S 24.67 348 P **P** **21 45 00.8 -0.7**
NB201 IAmb IAmb 21 45 20.5
comp=Z,11nm,1.0s
NB2 NORSAR Subarra 24.67 348 P **P** **21 45 01.9 +0.4**
comp=Z,8.9nm,1.2s,baz=161,slow=9.3
NOA NORSAR Array B 24.67 348 P **P** **21 45 01.3 -0.2**
comp=Z,0.8nm,0.7s,baz=157,slow=8.9,SNR=8.4
comp=Z,0.8nm,0.7s
NOA NORSAR Array B 24.67 348 *e*P **P** **21 45 01.6 +0.1**
NBO00 NORSAR Array S 24.73 348 P **P** **21 45 02.4 +0.3**
NBO00 IAmb IAmb 21 45 19.3
comp=Z,13nm,1.1s
NC303 NORSAR Array S 24.82 349 P **P** **21 45 03.6 +0.7**
NC303 IAmb IAmb 21 45 16.7
comp=Z,11nm,0.8s
VALR Valaam 24.93 11 *i*P **P** **21 45 04.1 +0.3**
NC204 NORSAR Array S 24.97 348 P **P** **21 45 04.6 +0.4**
NC204 IAmb IAmb 21 45 23.0
comp=Z,9.2nm,0.9s
KEF Keuruu 25.09 4 *e*P **P** **21 45 07.3 +2.1**
KLMR Klimovskoe 26.35 20 *e*P **P** **21 45 16.7 0.0**
KLMR pmax pmax
comp=Z,36nm,1.6s
KLMR MLR MLR
comp=Z,871nm,16.0s
JOF Joensuu 26.48 10 *e*P **P** **21 45 18.4 +0.7**
KIRV Kirov 28.19 32*c i*P **P** **21 45 33.1 -0.1**
TORD Torodi Ar. Bea 29.63 221 P **P** **21 45 45.7 -0.7**
TORD Torodi Ar. Bea 29.63 221 P **P** **21 45 47.5 +1.1**
comp=Z,1.2nm,0.3s,baz=24,slow=9.2,SNR=4.4
comp=Z,1.2nm,0.3s
AB31 Akbulak array 30.36 54 **P** **21 45 52.2 -0.4**
ABKAR Akbulak array 30.36 54 P **P** **21 45 52.7 +0.1**
ARTI Arti 31.34 40 **P** **21 46 00.3 -0.8**
ARTI Arti 31.34 40*c i*P **P** **21 46 00.7 -0.4**
ARTI 21 47 00.3
ARTI S **S** **21 51 09.4 +2.5**
ARTI pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 32.47 3 P **P** **21 46 11.2 +0.3**
ARCES IAmb IAmb 21 46 23.0
comp=Z,5.4nm,1.1s
ARCES ARCESS Array B 32.47 3 P **P** **21 46 11.0 +0.1**
comp=Z,1.9nm,0.4s,baz=189,slow=9.2,SNR=40
comp=Z,1.9nm,0.4s
ARCES ARCESS Array B 32.47 3 P **P** **21 46 11.2 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 37.28 49 P **P** **21 46 54.1 +1.5**
BRVK IAmb IAmb 21 47 09.9
comp=Z,7.1nm,0.9s
BRVK Borovoye 37.28 49 P **P** **21 46 54.1 +1.5**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BVAR Borovoye Array 37.34 49 P **P** **21 46 53.8 +0.7**
comp=Z,2.2nm,0.5s,baz=272,slow=5.5,SNR=16
comp=Z,2.2nm,0.5s
KK31 Karatay Array 37.71 65 **P** **21 46 57.0 +0.6**
KK31 Karatay Array 37.71 65 P **P** **21 46 57.0 +0.6**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 37.71 65 P **P** **21 46 56.4 0.0**
KKAR Karatay Array 37.71 65 P **P** **21 46 56.4 0.0**
GAR Garm 38.32 72 P **P** **21 47 02.9 +1.2**
DBIC Dimbokro 38.56 224 LR LR 22 04 25.8
comp=Z,49nm,18.0s,baz=78,slow=38
ARSB Arslanbob 39.82 68 P **P** **21 47 15.2 +0.9**
ARSB IAmb IAmb 21 47 33.8
comp=Z,9.2nm,1.2s
ARSB Arslanbob 39.82 68 P **P** **21 47 15.2 +0.9**
ARSB pmax pmax
comp=Z,9.0nm,1.2s
KURBB Kurchatov Arra 42.38 53 P **P** **21 47 35.2 +0.2**
comp=Z,4.0nm,0.5s,baz=277,slow=8.7,SNR=60
comp=Z,4.0nm,0.5s
KURK Kurchatov 42.44 53 P **P** **21 47 35.5 +0.1**
KURK IAmb IAmb 21 47 52.3
comp=Z,6.0nm,0.9s
KURK Kurchatov 42.44 53‖ *i*P **P** **21 47 36.1 +0.6**
KURK pmax pmax
comp=Z,16nm,3.6s
MK31 Makanchi Array 45.36 58‖ *i*P **P** **21 47 59.3 +0.2**
MKAR Makanchi Array 45.36 58 **P** **21 47 59.2 +0.1**
MKAR Makanchi Array 45.36 58 P **P** **21 47 58.9 -0.2**
comp=Z,1.3nm,0.5s,baz=272,slow=7.3,SNR=17
comp=Z,1.3nm,0.5s
MKAR Makanchi Array 45.36 58 *e*P **P** **21 47 59.2 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 45.95 47 **P** **21 48 03.8 +0.3**
ZAA0 IAmb IAmb 21 48 20.2
comp=Z,7.0nm,1.1s
ZALV Zalesovo Beam 45.95 47 **P** **21 48 04.0 +0.4**
ZALV Zalesovo Beam 45.95 47 P **P** **21 48 03.2 -0.3**
comp=Z,2.3nm,0.4s,baz=272,slow=8.6,SNR=14
comp=Z,2.3nm,0.4s
ZALV Zalesovo Beam 45.95 47 *e*P **P** **21 48 04.2 +0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
LSZ Lusaka 52.62 171 LR LR 22 13 42.3
comp=Z,97nm,18.2s,baz=297,slow=39
DRLN Deer Lake 56.12 309 P **P** **21 49 23.3 +3.2**
TSUM Tsumeb 56.21 184 LR LR 22 15 33.6
comp=Z,175nm,20.3s,baz=348,slow=38
SCHQ Schefferville 59.53 318 P **P** **21 49 43.2 -0.8**
SCHQ Schefferville 59.53 318 P **P** **21 49 42.6 -1.4**
comp=Z,4.2nm,0.8s,baz=72,slow=13,SNR=2.5
comp=Z,4.2nm,0.8s
SONM Songino Array 60.66 50 P **P** **21 49 51.8 -0.2**
comp=Z,0.5nm,0.9s,baz=261,slow=7.4,SNR=3.8
comp=Z,0.5nm,0.9s
LZH Lanzhou 64.16 63 *e*P **P** **21 50 17.1 +1.4**
LZH pP pP 21 50 22.8 +1.0
LZH pmax pmax
comp=Z,9.0nm,1.1s
HHC Hu-ho-hao-te 67.15 55 *e*P **P** **21 50 36.3 +1.5**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,540nm,4.5s
PZH PanZhiHua 67.37 73 P **P** **21 50 38.9 +2.5**
CMAR Chiang Mai Arr 69.50 82 P **P** **21 50 52.0 +2.4**
comp=Z,0.4nm,0.5s,baz=307,slow=8.5,SNR=5.2
comp=Z,0.4nm,0.5s
NJ2 Nanjing 76.84 60 *e*P **P** **21 51 33.0 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.8s
KSRS Korea Array 79.53 51 P **P** **21 51 50.6 +2.9**
comp=Z,2.1nm,0.9s,baz=310,slow=4.8,SNR=5.9
comp=Z,2.1nm,0.9s
JHJ Hachijo jima 2 89.61 47 LR LR 22 38 37.5
comp=Z,442nm,19.1s,baz=315,slow=40

IDC 09 21:50:19.7±4.2, 56.79S×143.58W, h0km, mb3.5/3, mbtmp3.5/3, MS3.5/2, Error ellipse: s-maj=149.6km s-min=43.6km az=39.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**33.37**	**180**	LR	LR	22 07 51.9	
	comp=Z,127nm,21.5s,baz=68,slow=32						
H03S2	**Juan Fernandez**	**48.79**	**91**	T	T	22 50 58.1	
	baz=220,slow=74,SNR=27						
H03S1	**Juan Fernandez**	**48.80**	**91**	T	T	22 50 59.1	
	baz=220,slow=74,SNR=35						
H03S3	**Juan Fernandez**	**48.81**	**91**	T	T	22 50 59.7	
	baz=220,slow=74,SNR=24						
SNAA	**Sanae**	**48.91**	**165**	P	P	21 59 06.7	-0.1
	1.0nm,0.9s,baz=225,slow=8.6,SNR=2.4						
SNAA				LR	LR	22 19 24.4	
	comp=Z,37nm,18.4s,baz=137,slow=36						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**66.48**	**262**	P	P	22 01 10.1	-0.9
	0.3nm,0.7s,baz=142,slow=6.0,SNR=6.1						
	0.3nm,0.7s						
H01W1	**Cape Leeuwin H**	**67.70**	**240**	T	T	23 16 43.1	
	baz=144,slow=75,SNR=340						
H01W2	**Cape Leeuwin H**	**67.71**	**240**	T	T	23 16 42.8	
	baz=144,slow=75,SNR=338						
H01W3	**Cape Leeuwin H**	**67.72**	**240**	T	T	23 16 39.7	
	baz=144,slow=75,SNR=223						
WRA	**Warramunga Arr**	**69.24**	**265**	P	P	22 01 29.6	+1.2
	0.5nm,0.9s,baz=147,slow=5.5,SNR=2.1						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**150.45**	**270**	PKPbc	PKPbc	22 10 11.8	-0.4
	0.7nm,0.9s,baz=106,slow=3.1,SNR=3.0						

*NOU **09** 22:01:08.8, 10.05S×160.34E, h0km, MLv4.6/10, Solomon Islands*
*IDC **09** 22:01:12.7±3.6, 9.84S×160.24E, h33km±26km, mb3.9/16, mbtmp4.1/17, ML3.3/1, MS4.1/3, Error ellipse: s-maj=21.6km s-min=13.5km az=85.0*
*NEIC **09** 22:01:13.7±2.4, 9.87S±0.07×160.19E±0.10, h38km±8km, mb4.4/14, Error ellipse: s-maj=15.3km s-min=7.6km az=58.0*

ISC 09 22:01:12.8±0.5, 9.98S±0.04×160.24E±0.06, h35km, n51, σ1s44/50, mb4.2/19, MS4.5/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.62**	**332**		**Pn**	**22 01 23.3**	**-1.9**
HNR				Sn	**Sn**	**22 01 31.4**	**-2.4**
HNR	**Honiara**	**0.62**	**332**	Pn	**Pn**	**22 01 23.2**	**-1.9**
	541nm,0.3s,baz=180,slow=8.1,SNR=73						
HNR				Sn	**Sn**	**22 01 32.0**	**-1.8**
	5µm,0.3s,baz=53,slow=20,SNR=51						
SAVO	**Savo Central**	**0.93**	**333**	P	**Pn**	**22 01 28.3**	**-1.1**
SAVO	**Savo Central**	**0.93**	**333**	S	**Sn**	**22 01 41.7**	**+0.2**
ALEG	**Aligegeo Malai**	**1.29**	**20**	P	**Pn**	**22 01 33.2**	**-1.2**
ALEG	**Aligegeo Malai**	**1.29**	**20**	S	**Sn**	**22 01 50.7**	**+0.2**
NGOA	**Tingoa Renbel**	**1.58**	**186**	P	**Pn**	**22 01 36.4**	**-1.9**
NGOA	**Tingoa Renbel**	**1.58**	**186**	S	**Sn**	**22 01 56.2**	**-1.3**
TATA	**Tatamba Isabel**	**1.64**	**345**	P	**Pn**	**22 01 40.8**	**+1.6**
TATA	**Tatamba Isabel**	**1.64**	**345**	S	**Sn**	**22 02 03.7**	**+4.6**
HURO	**Huro Makira**	**1.70**	**107**	P	**Pn**	**22 01 38.4**	**-1.6**
HURO	**Huro Makira**	**1.70**	**107**	S	**Sn**	**22 01 58.5**	**-2.1**
SANVU	**Saraoutou**	**8.70**	**129**	Pn	**Pn**	**22 03 17.1**	**+0.9**
DZM	**Mont Dzumac**	**13.42**	**154**	Pn	**Pn**	**22 04 21.9**	**+1.0**
DZM	**Mont Dzumac**	**13.42**	**154**	Pn	**Pn**	**22 04 22.3**	**+1.4**
	0.1nm,0.3s,baz=324,slow=19,SNR=1.6						
	2.7nm,0.9s						
CTAO	**Charters Tower**	**16.83**	**232**		**P**	**22 05 07.5**	**-0.2**
COEN	**Coen**	**17.16**	**255**	Pn	**Pn**	**22 05 08.6**	**-1.5**
COEN				IAmb	IAmb	22 05 31.2	
	comp=Z,16nm,1.4s						
EIDS	**Eidsvold**	**17.61**	**208**		**P**	**22 05 17.7**	**+1.4**
JAY	**Jayapura**	**20.78**	**290**	P	**P**	**22 05 51.1**	**0.0**
	comp=Z,4.7nm,0.7s,baz=158,slow=20,SNR=1.6						
	comp=Z,4.7nm,0.7s						
ARMA	**Armidale**	**21.87**	**200**	P	**P**	**22 06 04.0**	**+1.2**
ARMA				IAmb	IAmb	22 06 06.6	
	comp=Z,20nm,1.2s						
WR8	**Warramunga Arr**	**26.74**	**245**	P	**P**	**22 06 50.1**	**+0.7**
WR8				IAmb	IAmb	22 07 00.1	
	comp=Z,4.6nm,0.8s						
WB0	**Warramunga Arr**	**26.78**	**246**	P	**P**	**22 06 50.1**	**+0.4**
WB0				IAmb	IAmb	22 07 05.0	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**26.88**	**245**	P	**P**	**22 06 49.5**	**-1.2**
WRA	**Warramunga Arr**	**26.88**	**245**	P	**P**	**22 06 50.6**	**0.0**
	comp=Z,1.9nm,0.6s,baz=76,slow=9.0,SNR=14						
WRA				PcP	**PcP**	**22 10 12.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=74,slow=2.6,SNR=9.5						
	comp=Z,1.9nm,0.6s						
STKA	**Stephens Creek**	**27.81**	**216**	P	**P**	**22 07 01.2**	**+2.4**
	comp=Z,3.0nm,0.8s,baz=36,slow=14,SNR=3.4						
	comp=Z,3.0nm,0.8s						
GUMO	**Guam**	**27.95**	**327**	LR	LR	22 17 04.7	
	comp=Z,88nm,20.5s,baz=168,slow=34						
ASAR	**Alice Springs**	**28.58**	**238**	P	**P**	**22 07 04.8**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=65,slow=10,SNR=6.7						
ASAR				PcP	**PcP**	**22 10 16.1**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=83,slow=1.9,SNR=5.2						
	comp=Z,0.3nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**30.22**	**13**	T	T	22 37 42.8	
	baz=192,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**30.23**	**13**	T	T	22 37 47.7	
	baz=192,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**30.24**	**13**	T	T	22 37 46.1	
	baz=192,slow=76,SNR=27						
MJAR	**Matsushiro Arr**	**50.70**	**337**	P	**P**	**22 10 07.2**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=158,slow=8.9,SNR=1.9						
	comp=Z,0.6nm,0.5s						
ASAJ	**Asahikawa**	**56.17**	**345**	P	**P**	**22 10 48.0**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=228,slow=16,SNR=1.7						
	comp=Z,3.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**66.75**	**295**	P	**P**	**22 12 01.6**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=113,slow=7.2,SNR=7.7						
	comp=Z,1.3nm,0.5s						
VNDA	**Vanda**	**67.53**	**180**	P	**P**	**22 12 06.7**	**+1.6**
VNDA				IAmb	IAmb	22 12 30.8	
	comp=Z,4.3nm,1.5s						
VNDA	**Vanda**	**67.53**	**180**	P	**P**	**22 12 06.5**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=336,slow=6.1,SNR=9.0						
	comp=Z,1.2nm,0.7s						
SONM	**Songino Array**	**74.67**	**326**	P	**P**	**22 12 48.9**	**0.0**
	comp=Z,2.0nm,0.6s,baz=146,slow=5.8,SNR=7.8						
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	**80.02**	**180**	P	**P**	**22 13 20.2**	**+1.6**
QSPA				IAmb	IAmb	22 13 21.1	
	comp=Z,5.4nm,0.9s						
QSPA	**South Pole Qui**	**80.02**	**180**	P	**P**	**22 13 20.1**	**+1.5**
	comp=Z,4.5nm,0.9s,baz=328,slow=0.7,SNR=18						
QSPA				LR	LR	22 44 18.2	
	comp=Z,222nm,21.5s,baz=13,slow=32						
	comp=Z,4.5nm,0.9s						
E19K	**Redstone River**	**83.05**	**15**	P	**P**	**22 13 33.9**	**-0.3**
E19K				IAmb	IAmb	22 13 35.3	
	comp=Z,8.5nm,1.4s						
MAW	**Mawson**	**83.65**	**202**	P	**P**	**22 13 38.1**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=56,slow=3.6,SNR=2.7						
	comp=Z,2.2nm,0.9s						
ILAR	**Eielson Array**	**84.30**	**20**	P	**P**	**22 13 38.4**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=250,slow=4.9,SNR=6.8						
	comp=Z,0.3nm,0.4s						
O02D	**Mt. Diablo Mer**	**86.58**	**48**	P	**P**	**22 13 53.5**	**+0.6**
O02D				IAmb	IAmb	22 13 54.2	
	comp=Z,3.4nm,0.8s						
BMAR	**Burnt Mountain**	**86.65**	**19**	P	**P**	**22 13 51.8**	**-0.7**
YBH	**Yreka Blue Hor**	**87.07**	**47**	P	**P**	**22 13 55.2**	**+0.1**
	baz=314,slow=3.8,SNR=3.7						
MKAR	**Makanchi Array**	**89.07**	**318**	P	**P**	**22 14 03.5**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=95,slow=7.3,SNR=3.6						
	comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**89.52**	**51**	P	**P**	**22 14 07.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=237,slow=6.5,SNR=5.6						
	comp=Z,0.8nm,0.7s						
ELK	**Elko**	**92.31**	**49**	P	**P**	**22 14 20.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=217,slow=5.1,SNR=2.5						
	comp=Z,0.3nm,0.3s						
MTPU	**Mount Pierson**	**94.17**	**52**	P	**P**	**22 14 29.3**	**+0.5**
SNAA	**Sanae**	**97.75**	**185**	P	**P**	**22 14 44.0**	**-0.1**
SNAA	**Sanae**	**97.75**	**185**	P	Pdif	22 14 44.5	+0.4
	comp=Z,1.9nm,1.1s,baz=180,slow=1.0,SNR=3.0						
SNAA				LR	LR	22 53 07.0	
	comp=Z,224nm,21.9s,baz=128,slow=32						
	comp=Z,1.9nm,1.1s						
BOSA	**Boshof**	**122.03**	**227**	PKP	**PKPdf**	**22 20 04.1**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=56,slow=3.6,SNR=1.6						

*NEIC **09** 22:08:15.5±1.6, 20.13S±0.08×171.75W±0.07, h13km±4km, mb4.6/23, Error ellipse: s-maj=11.7km s-min=8.8km az=182.0*
*IDC **09** 22:08:15.3±0.8, 20.30S×172.11W, h0km, mb4.2/12, mbtmp4.3/12, MS3.5/3, Error ellipse: s-maj=23.4km s-min=21.8km az=115.0*

ISC 09 22:08:15.2±0.5, 20.12S±0.07×171.82W±0.06, h10km, n45, σ1s57/45, mb4.5/19, MS3.4/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.06**	**60**	Pn	**Pn**	**22 08 49.5**	**-0.4**
NIUE				Sn	**Sn**	**22 09 14.2**	**-1.5**
AFI	**Afiamalu**	**6.18**	**0**	Pn	**Pn**	**22 09 46.0**	**-0.6**
AFI					**Sn**	**22 10 53.1**	**-4.3**
MSVF	**Nonsavu**	**9.88**	**282**		**Pn**	**22 10 39.1**	**+1.7**
RAR	**Rarotonga**	**11.33**	**98**	Pn	**Pn**	**22 10 55.6**	**-1.5**
RAR	**Rarotonga**	**11.33**	**98**	Pn	**Pn**	**22 10 55.0**	**-2.2**
	8.8nm,0.3s,baz=259,slow=9.5,SNR=15						
RAR				Sn	Sn	22 12 53.1	-11
	3.5nm,0.3s,baz=37,slow=19,SNR=2.2						
PINNC	**Pines Island,**	**19.47**	**259**	P	**P**	**22 12 41.7**	**-0.6**
PINNC				IAmb	IAmb	22 12 49.5	
	comp=Z,39nm,1.1s						
DZM	**Mont Dzumac**	**20.38**	**261**		**P**	**22 12 51.2**	**-1.1**
DZM				IAmb	IAmb	22 13 10.4	
	comp=Z,34nm,1.4s						
DZM	**Mont Dzumac**	**20.38**	**261**	P	**P**	**22 12 50.6**	**-1.7**
	comp=Z,6.6nm,0.6s,baz=83,slow=18,SNR=18						
	comp=Z,6.6nm,0.6s						
URZ	**Urewera**	**20.47**	**206**	P	**P**	**22 12 52.7**	**-0.4**
	comp=Z,9.4nm,0.8s,baz=14,slow=8.2,SNR=5.4						
URZ				S	S	22 16 21.3	-21
	comp=Z,14nm,1.2s,baz=170,slow=19,SNR=1.8						
	comp=Z,9.4nm,0.8s						
PPT	**Papeete**	**21.20**	**87**	LR	LR	22 18 52.9	
	comp=Z,77nm,20.1s,baz=354,slow=30						
MRZ	**Mangatainoka R**	**23.13**	**205**	P	**P**	**22 13 20.0**	**-1.5**
HNR	**Honiara**	**29.25**	**287**	LR	LR	22 25 22.6	
	comp=Z,90nm,18.4s,baz=83,slow=35						
CAN	**Canberra**	**37.58**	**238**	P	**P**	**22 15 28.7**	**-1.3**
CAN				IAmb	IAmb	22 15 47.2	
	comp=Z,26nm,1.3s						
CTAO	**Charters Tower**	**39.30**	**263**	P	**P**	**22 15 44.0**	**-0.7**
CTAO				IAmb	IAmb	22 16 03.1	
	comp=Z,15nm,1.5s						
PMG	**Port Moresby**	**40.97**	**279**	P	**P**	**22 15 58.1**	**-0.5**
	comp=Z,7.3nm,0.4s,baz=337,slow=5.2,SNR=6.1						
	comp=Z,7.3nm,0.4s						
COEN	**Coen**	**43.37**	**271**	P	**P**	**22 16 17.2**	**-0.9**
COEN				IAmb	IAmb	22 16 22.3	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**47.91**	**244**	P	**P**	**22 16 53.4**	**-0.5**
JAY	**Jayapura**	**49.50**	**284**	P	**P**	**22 17 07.0**	**+0.6**
	comp=Z,6.5nm,0.8s,baz=141,slow=9.3,SNR=4.4						
	comp=Z,6.5nm,0.8s						
WR8	**Warramunga Arr**	**50.24**	**260**	P	**P**	**22 17 11.0**	**-1.0**
WR8				IAmb	IAmb	22 17 25.1	
	comp=Z,6.5nm,1.1s						
AS31	**Alice Springs**	**50.24**	**256**	P	**P**	**22 17 11.1**	**-0.8**
ASAR	**Alice Springs**	**50.24**	**256**	P	**P**	**22 17 10.7**	**-1.3**
ASAR	**Alice Springs**	**50.24**	**256**	P	**P**	**22 17 11.0**	**-1.0**
	comp=Z,2.5nm,0.7s,baz=102,slow=7.3,SNR=27						
	comp=Z,2.5nm,0.7s						
WB0	**Warramunga Arr**	**50.37**	**261**	P	**P**	**22 17 11.7**	**-1.2**
WB0				IAmb	IAmb	22 17 16.1	
	comp=Z,5.9nm,0.9s						
WRAB	**Tennant Creek**	**50.38**	**260**	P	**P**	**22 17 12.2**	**-0.9**
WRAB				IAmb	IAmb	22 17 14.9	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**50.39**	**260**		**P**	**22 17 11.6**	**-1.5**
WRA	**Warramunga Arr**	**50.39**	**260**	P	**P**	**22 17 11.7**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=98,slow=5.9,SNR=21						
	comp=Z,2.2nm,0.6s						
KNRA	**Kununurra**	**56.47**	**264**	P	**P**	**22 17 57.6**	**-0.2**
KNRA				IAmb	IAmb	22 18 31.1	
	comp=Z,10.0nm,1.2s						
SBA	**Scott Base**	**58.70**	**185**		**P**	**22 18 13.4**	**+0.9**
SBA				IAmb	IAmb	22 18 15.7	
	comp=Z,4.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**58.82**	**261**	P	**P**	**22 18 12.9**	**-1.4**
VNDA	**Vanda**	**58.87**	**186**	P	**P**	**22 18 13.3**	**-0.4**
VNDA	**Vanda**	**58.87**	**186**	P	**P**	**22 18 14.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=11,slow=4.3,SNR=5.2						
	comp=Z,0.7nm,0.7s						
SOEI	**Soe**	**62.30**	**269**		**P**	**22 18 39.7**	**+1.4**
MBWA	**Marble Bar**	**63.59**	**256**	P	**P**	**22 18 46.9**	**+0.3**
MORW	**Morawa**	**65.32**	**246**	P	**P**	**22 18 57.6**	**-0.3**
QSPA	**South Pole Qui**	**69.95**	**180**	P	**P**	**22 19 27.1**	**+0.4**
QSPA				IAmb	IAmb	22 19 45.7	
	comp=Z,7.9nm,1.3s						
QSPA	**South Pole Qui**	**69.95**	**180**	P	**P**	**22 19 27.4**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=53,slow=1.2,SNR=11						
	comp=Z,2.1nm,0.8s						
NVAR	**Mina Array Bea**	**76.87**	**40**	P	**P**	**22 20 11.8**	**+4.0**
	comp=Z,0.9nm,0.7s,baz=210,slow=8.6,SNR=4.5						
	comp=Z,0.9nm,0.7s						
MAW	**Mawson**	**83.82**	**198**	P	**P**	**22 20 44.7**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=137,slow=7.4,SNR=4.8						
	comp=Z,1.5nm,0.7s						
G18K	**Tagagawik**	**86.33**	**5**	P	**P**	**22 20 59.0**	**+2.0**
ILAR	**Eielson Array**	**86.78**	**10**	P	**P**	**22 21 01.7**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=224,slow=5.5,SNR=7.8						
ILAR				LR	LR	22 53 16.9	
	comp=Z,54nm,20.3s,baz=248,slow=31						
	comp=Z,1.1nm,0.8s						
J26L	**Joseph Creek**	**87.13**	**12**	P	**P**	**22 21 04.5**	**+3.5**
J26L				IAmb	IAmb	22 21 05.7	
	comp=Z,3.9nm,0.8s						
SNAA	**Sanae**	**88.13**	**177**	P	**P**	**22 21 04.2**	**-1.8**
SNAA				IAmb	IAmb	22 21 11.2	
	comp=Z,7.5nm,1.4s						
**S

KEBM Edson Butte 3.55 108 Pn 22 15 33.9 -2.3
I02E Swisshome, OR 3.66 88 Pn 22 15 37.2 -0.4
I02E IAML 22 16 27.2
comp=N,46nm,1.9s
I02E IAML 22 16 27.8
comp=E,48nm,1.4s
J01E Myrtle Point 3.74 102 Pn 22 15 36.9 -1.8
J01E IAML 22 16 28.5
comp=N,42nm,1.9s
NC27 ODP102Z 3.78 12 Pn Pn 22 15 38.6 -0.4
HEBO Mount Hebo 3.86 71 Pn 22 15 40.7 +0.2
HEBO IAML 22 16 36.6
comp=N,39nm,1.1s
HEBO IAML 22 16 44.9
comp=E,42nm,1.9s
KBO Bosley Butte 3.91 117 Pn 22 15 40.0 -1.1
I03D Drain, OR 4.05 93 Pn 22 15 42.7 -0.2
I03D IAML 22 16 34.8
comp=E,30nm,2.2s
I03D IAML 22 16 36.8
comp=N,29nm,1.2s
COR Corvallis 4.07 81 Pn 22 15 43.4 +0.1
COR IAML 22 16 35.2
comp=N,36nm,0.7s
COR IAML 22 16 38.8
comp=N,56nm,1.6s
G03D McMinnville, O 4.20 72 Pn 22 15 45.3 +0.3
G03D IAML 22 16 45.1
comp=E,41nm,1.2s
F03A Seaside 4.24 62 Pn 22 15 45.5 -0.1
BUCK Buck Mountain 4.28 86 Pn 22 15 46.7 +0.4
BUCK IAML 22 16 44.0
comp=N,35nm,1.3s
RADR Rader Ridge 4.32 55 Pn 22 15 46.7 0.0
RADR IAML 22 16 45.3
comp=N,25nm,1.7s
RADR IAML 22 16 46.2
comp=E,27nm,2.1s
KSXB Camp Six Broad 4.33 119 Pn 22 15 46.9 -0.1
L02F Cave Junction 4.38 115 Pn 22 15 46.9 -0.6
L02F IAML 22 16 40.8
comp=N,23nm,0.7s
L02F IAML 22 16 42.9
comp=E,31nm,0.8s
H04D Lebanon 4.46 82 Pn 22 15 48.8 +0.1
H04D IAML 22 16 45.2
comp=N,35nm,1.1s
H04D IAML 22 17 07.5
comp=E,40nm,1.8s
KRMB Red Mountain 4.48 123 Pn 22 15 49.1 0.0
E03A Lebam 4.52 55 Pn 22 15 49.4 -0.1
E03A IAML 22 16 51.9
comp=N,26nm,1.1s
E03A IAML 22 16 52.0
comp=E,29nm,1.2s
KRPM Rodgers 4.64 127 Pn 22 15 52.3 +1.1
F04D Rainier, OR 4.65 62 Pn 22 15 50.7 -0.5
BBOR Butler Butte 4.69 102 Pn 22 15 51.4 -0.7
BBOR IAML 22 16 54.4
comp=E,29nm,1.0s
BBOR IAML 22 16 57.3
comp=N,30nm,1.5s
WISH Wishkah 4.73 48 Pn 22 15 53.1 +0.8
WISH IAML 22 16 35.4
comp=N,23nm,1.2s
WISH IAML 22 16 52.4
comp=E,23nm,2.4s
G04A Mulino 4.74 74 Pn 22 15 53.3 +0.8
NC89 ODP889 4.82 17 Pn Pn 22 15 53.5 +0.1
NC89 Sn Sn 22 16 49.2 +0.3
NLWA Neilton Lookou 4.85 45 Pn 22 15 53.7 -0.4
NLWA IAML 22 16 55.3
comp=E,16nm,0.9s
NLWA IAML 22 16 57.1
comp=E,16nm,0.7s
JCC Jacoby Creek, 4.86 130 Pn Pn 22 15 54.0 -0.2
H04A Detroit Lake 4.87 80 Pn 22 15 54.7 +0.4
H04A IAML 22 16 30.7
comp=E,26nm,0.5s
H04A IAML 22 17 01.7
comp=N,21nm,0.8s
C03A Quillayute Air 4.92 36 Pn 22 15 55.2 +0.1
KHMM Horse Mountain 4.99 128 Pn 22 15 56.0 -0.1
J04A Umpqua Nationa 5.01 97 Pn 22 15 56.4 -0.1
KMPM Mount Pierce 5.10 134 Pn 22 15 56.7 -0.9
KMPM IAML 22 19 18.9
comp=N,15nm,3.1s
YBH Yreka Blue Hor 5.12 115 Pn 22 15 58.4 +0.5
YBH Yreka Blue Hor 5.12 115 Pn Pn 22 15 57.9 0.0
baz=311,slow=6.1,SNR=16
YBH Sn Sn 22 16 56.6 -0.3
baz=348,slow=20,SNR=1.5
YBH LR LR 22 17 42.5
comp=N,21nm,19.3s,baz=288,slow=35
L04D Klamath Falls 5.18 109 Pn 22 15 58.6 -0.1
OSD Olympics--Snow 5.23 42 Pn Pn 22 15 59.9 +0.5
B012 Ucluelet 5.39 24 Pn Pn 22 16 02.3 +0.9
B012 Sn Sn 22 17 02.8 -0.4
OZB Mount Ozzard 5.44 25 Pn 22 16 01.9 +0.2
OZB Mount Ozzard 5.44 25 Pn Pn 22 16 02.9 +0.8
OZB Sn Sn 22 17 02.9 -1.5
BFSB Bamfield 5.44 27 Pn Pn 22 16 02.9 +0.9
BFSB Sn Sn 22 17 02.7 -1.6
B928 Bamfield 5.44 27 Pn Pn 22 16 02.9 +0.9
B928 Sn Sn 22 17 03.5 -0.7
KMRM Mail Ridge 5.46 133 Pn 22 16 03.1 +0.6
I05D Terrebonne, OR 5.46 85 Pn 22 16 02.3 -0.2
PTRF Port Renfrew 5.46 33 Pn Pn 22 16 02.3 -0.1
PTRF Sn Sn 22 17 02.9 -1.9
GNW Green Mountain 5.51 48 Pn 22 16 03.2 +0.1
ETB Estevan Point 5.56 16 Pn Pn 22 16 04.8 +1.1
SHPB Sharp Point 5.59 18 Pn Pn 22 16 04.8 +0.6
J05D Fort Rock, OR 5.63 95 Pn 22 16 05.4 +0.5
LON Longmire 5.68 59 Pn 22 16 06.0 +0.5
SYMB Survey Mountai 5.72 37 Pn Pn 22 16 06.0 -0.1
SYMB Sn Sn 22 17 09.8 -1.8
MGRB Mount Grey 5.73 29 Pn Pn 22 16 06.4 +0.2
MGRB Sn Sn 22 17 10.3 -1.4
NTKA Nootka 5.75 15 Pn Pn 22 16 07.0 +0.7
PINE Pine Mountain 5.77 90 Pn 22 16 06.5 -0.4
D05A Enumclaw 5.78 55 Pn 22 16 08.4 +1.6
B926 Mesachie Lake 5.79 33 Pn Pn 22 16 07.3 +0.4
B926 Sn Sn 22 17 11.6 -1.5
CLRS Cowichan Lake 5.79 33 Pn 22 16 07.0 +0.1
CLRS Cowichan Lake 5.79 33 Pn Pn 22 16 07.2 +0.2
CLRS Sn Sn 22 17 11.6 -1.5
VGZ Gonzales 5.83 40 Pn Pn 22 16 07.4 -0.1
VGZ Sn Sn 22 17 12.6 -1.3
B927 Port Alberni 5.88 27 Sn Sn 22 17 14.7 -0.4
PABB Port Alberni 5.88 27 Pn Pn 22 16 09.0 +0.9
PABB Sn Sn 22 17 15.0 -0.1
EDB Eliza Dome 5.94 11 Pn Pn 22 16 09.8 +0.9
B009 North Saanich 5.94 38 Sn Sn 22 17 15.1 -1.6
PGC Sidney 5.94 38 Pn 22 16 08.4 -0.6
PGC Sidney 5.94 38 Pn Pn 22 16 09.0 0.0
PGC Sn Sn 22 17 14.9 -1.9
B011 North Saanich 5.95 38 Pn Pn 22 16 09.1 0.0
B011 Sn Sn 22 17 16.3 -0.5
MYRA Myra Falls 5.95 22 Pn Pn 22 16 10.3 +1.2
O02D Mt. Diablo Mer 5.99 128 Pn 22 16 09.7 -0.2
G06A Carlson Farm, 6.03 76 Pn 22 16 10.1 -0.1
GDR Gold River 6.05 18 Pn Pn 22 16 10.7 +0.2
BPEB Brooks Peninsu 6.14 7 Pn Pn 22 16 12.7 +0.9
GOBB Galiano Island 6.15 36 Pn Pn 22 16 12.3 +0.5
SNB Saturna Island 6.16 38 Pn Pn 22 16 12.9 +0.9
SNB Sn Sn 22 17 21.7 -0.4
A04D Lummi Island 6.33 41 Pn 22 16 14.8 +0.4
HATC Hat Creek Radi 6.40 118 Pn Pn 22 16 14.7 -0.8
TXB Texada 6.42 27 Pn Pn 22 16 17.3 +1.7
CBB Campbell River 6.44 21 Sn 22 16 16.7 +0.8
CBB Campbell River 6.44 21 Pn Pn 22 16 17.2 +1.4
PACB Port Alice, BC 6.45 8 Pn Pn 22 16 17.2 +1.4
MAYB Maynard 6.45 10 Pn Pn 22 16 17.6 +1.5
MXC Moxie City 6.58 65 Pn 22 16 17.5 -0.3
HOLB Holberg 6.60 4 Sn 22 16 19.7 +1.6
HOLB Holberg 6.60 4 Pn Pn 22 16 19.3 +1.3
LTY Liberty 6.60 58 Pn 22 16 18.8 +0.6
NCSB Newcastle Ridg 6.63 16 Pn Pn 22 16 20.8 +2.2
NCSB Sn Sn 22 17 33.1 -0.8
F07A Phinny Hill Vi 6.64 71 Pn 22 16 19.0 +0.5
HOPS Hopland Field 6.70 137 Pn 22 16 19.5 0.0
WPB Watts Point 6.82 33 Pn Pn 22 16 22.1 +1.0
E07A Sunnyside 6.86 66 Pn Pn 22 16 20.9 -0.7
E07A Sn 22 17 40.1 +0.7
GDXM Geysers 6.99 137 Pn Pn 22 16 22.7 -0.7
HAWA Hanford 7.03 67 Pn 22 16 23.2 -0.7
ORV Oroville 7.14 127 Pn Pn 22 16 24.9 -0.6
G08A Pilot Rock 7.21 77 Pn 22 16 26.7 +0.2
WSLR Whistler 7.31 32 Pn Pn 22 16 29.5 +1.6
WSLR Sn Sn 22 17 52.8 +2.2
E08A Dider Farm, El 7.37 67 Pn 22 16 27.9 -0.6
J08A Circle Bar Ran 7.60 92 Pn 22 16 31.7 -0.3
D08A Wollman Farm, 7.63 63 Pn 22 16 32.0 -0.1
WVOR Wild Horse Val 7.69 99 Pn Pn 22 16 33.1 0.0
LNOR Lincton Mounta 7.76 73 Pn Pn 22 16 32.9 -1.1
AFDM Forest Hills D 7.86 128 Pn Pn 22 16 35.4 +0.1
B08A Colville Reser 7.91 54 Pn Pn 22 16 37.3 +1.2
E09A Wood Farm, Sta 7.98 68 Pn Pn 22 16 37.6 +0.5
LLLB Lillooet 8.10 34 Pn 22 16 39.2 +0.6
LLLB Lillooet 8.10 34 Pn Pn 22 16 40.0 +1.3
LLLB Sn Sn 22 18 09.7 -0.2
BBB Bella Bella 8.14 4 Pn 22 16 39.9 +0.8
BBB Bella Bella 8.14 4 Pn Pn 22 16 40.2 +1.1
comp=N,0.4nm,0.3s,baz=193,slow=6.7,SNR=9.2
BBB LR LR 22 18 43.6
comp=N,74nm,21.8s,baz=168,slow=30
comp=N,3.0nm,0.5s
BBB Bella Bella 8.14 4 Pn Pn 22 16 40.7 +1.6
PAHR Pah Rah Range 8.34 118 Pn Pn 22 16 41.2 -0.9
CMB Columbia Colle 8.82 130 Pn 22 16 48.5 -0.1
BUTB Butedale 9.01 2 Pn Pn 22 16 53.5 +2.4
WAKR Walker 9.04 125 Pn Pn 22 16 51.0 -0.8
NEW Newport 9.20 59 LR LR 22 20 21.3
comp=N,521nm,20.5s,baz=258,slow=37
PLID Pearl Lake 9.28 79 Pn Pn 22 16 55.5 +0.4
MFID Camas Ranch 9.50 89 Pn Pn 22 16 58.4 +0.4
RYN Ryan 9.52 121 Pn Pn 22 16 57.2 -1.1
LHV Little Huntoon 9.77 123 Pn Pn 22 17 02.9 +1.4
NVAR Mina Array Bea 9.78 122 Pn Pn 22 17 02.3 +0.4
NVAR Mina Array Bea 9.78 122 Pn Pn 22 17 04.7 +2.8
comp=N,0.2nm,0.3s,baz=273,slow=13,SNR=8.3
comp=N,2.4nm,0.8s
GRNB Grenville Isla 9.81 356 Pn Pn 22 17 05.3 +3.2
HLID Hailey 10.50 88 Pn Pn 22 17 12.8 +1.1
ELK Elko 10.65 103 Pn Pn 22 17 14.0 +0.2
ELK Elko 10.65 103 Pn Pn 22 17 17.8 +3.9
comp=N,0.1nm,0.3s,baz=297,slow=12,SNR=10
comp=N,2.7nm,0.7s
DSP Deep Springs 10.66 125 Pn Pn 22 17 13.7 -0.1
VES Vestal, Richgr 11.15 134 Pn Pn 22 17 19.1 -1.3
V35K Ketchikan 11.40 352 P Pn 22 17 23.3 -0.5
baz=170
CRAG Craig 11.73 348 P Pn 22 17 28.1 -0.1
baz=165
U33K Whale Pass 12.35 349 P Pn 22 17 36.5 -0.3
baz=166
SIT Sitka 13.62 345 P Pn 22 17 53.6 -0.4
baz=160
S32K Killisnoo 13.88 347 P Pn 22 17 56.5 -1.1
baz=163
PDAR Pinedale Array 14.14 89 Pn P 22 18 05.9 -3.2
comp=N,0.3nm,0.3s,baz=283,slow=8.8,SNR=8.9
PDAR LR LR 22 23 39.4
comp=N,213nm,19.3s,baz=283,slow=38
PFO Pinyon Flats O 14.24 133 Pn Pn 22 18 04.9 +2.1
comp=N,0.1nm,0.3s,baz=321,slow=7.0,SNR=4.4
PFO LR LR 22 23 00.1
comp=N,249nm,19.9s,baz=264,slow=35
comp=N,1.6nm,0.7s
DLBC Dease Lake 14.41 358 LR LR 22 22 57.9
comp=N,330nm,18.3s,baz=166,slow=34
S31K Pelican 14.64 344 P Pn 22 18 08.5 +0.6
baz=159
R32K Eaglecrest 14.64 348 P Pn 22 18 07.7 -0.3
baz=164
Q32M Nakina River 15.05 353 P Pn 22 18 14.0 +0.2
baz=171
R33M Jennings River 15.40 356 P Pn 22 18 18.5 +0.2
baz=174
P32M Atlin 15.82 351 P Pn 22 18 24.2 +0.6
baz=167
SKAG Skagway 15.90 348 P Pn 22 18 25.4 +0.8
baz=163
PLBC Pleasant Camp 16.07 346 P Pn 22 18 27.6 +0.9
baz=160
P33M Teslin, Yukon 16.34 353 P Pn 22 18 31.1 +0.8
baz=170
P29M Windy Craggy 16.48 344 P Pn 22 18 32.1 -0.1
baz=157
P30M Million Dollar 16.80 346 P Pn 22 18 36.5 +0.3
baz=160
PNL Peninsula 16.87 341 P Pn 22 18 37.7 +0.6
baz=153
WHY Whitehorse 17.00 350 P Pn 22 18 39.1 +0.4
baz=165
O29M Mount Kennedy 17.27 344 P Pn 22 18 42.7 +0.6
baz=156
PINM Pinnacle 17.45 341 P Pn 22 18 44.9 +0.5
baz=152
TGTN Hyland Airport 17.49 1 P Pn 22 18 45.2 +0.4
baz=181
HYT Haines Junctio 17.55 346 P Pn 22 18 46.2 +0.6
baz=159
YUK6 Outpost Mounta 17.82 345 P Pn 22 18 48.9 -0.1
baz=157
N31M Braeburn, Yuko 17.92 349 P Pn 22 18 50.3 +0.3
baz=164
O28M Mount Upton 18.04 342 P Pn 22 18 51.7 -0.1
baz=153
N30M Aishikik Lake 18.08 347 P Pn 22 18 52.6 +0.5
baz=161
YUK4 Talbot Arm 18.24 345 P P 22 18 55.8 +1.5
baz=157
BGLC Bering Glacier 18.27 337 P P 22 18 55.4 +1.0
baz=145
YUK8 Steele Glacier 18.41 343 P P 22 18 56.8 +0.6
baz=154
M31M Drury Creek, Y 18.45 352 P Pn 22 18 57.2 +0.7
baz=167
CTG Chitna Glacier 18.48 341 P P 22 18 57.0 +0.1
baz=151
MMPY Sheldon Lake, 18.64 357 P Pn 22 18 59.4 +0.5
baz=175,SNR=5.9
Q23K Middleton Isla 18.69 331 P P 22 18 59.2 +0.1
baz=138
CRQE Cirque 18.74 338 P P 22 18 60.0 +0.2
baz=147
YUK3 Moose Creek 19.00 343 P P 22 19 03.3 +0.6
baz=154
M30M Minto, Yukon 19.10 349 P P 22 19 04.5 +0.9
baz=162
M29M Somme Creek 19.23 346 P P 22 19 06.2 +1.0
baz=159
MCARA McCarthy VSAT 19.25 339 P P 22 19 05.6 +0.4
baz=148
BMRM Bremner River 19.34 337 P P 22 19 06.2 0.0
baz=144
EYAK Cordova Ski Ar 19.35 334 P P 22 19 07.0 +0.8
baz=141
ANMO Albuquerque 19.53 110 Pn Pn 22 19 12.3 +2.3
comp=N,0.2nm,0.3s,baz=38,slow=9.5,SNR=11
comp=N,4.8nm,0.8s
L29M L29M 19.80 348 P P 22 19 12.0 +0.7
baz=160,SNR=5.7
M27K Edge Creek, AK 19.82 342 P P 22 19 12.2 +0.5
baz=152
N25K Chitina, Valde 19.86 338 P P 22 19 12.2 +0.3
baz=145
GLI Glacier Island 20.03 334 P P 22 19 13.5 -0.1
baz=139
KDAK Kodiak Island 20.12 321 P P 22 19 15.4 +0.7
comp=N,7.4nm,0.9s,baz=180,slow=8.1,SNR=5.1
KDAK LR LR 22 25 09.1
comp=N,187nm,20.1s,baz=104,slow=31
comp=N,7.4nm,0.9s
KDAK Kodiak Island 20.12 321 P P 22 19 14.8 +0.1
baz=123
KLU Klutina 20.14 336 P P 22 19 15.6 +0.6
baz=142
OHAK Old Harbor 20.15 319 P P 22 19 16.0 +1.0
baz=120
YKA Yellowknife Ar 20.26 19 P Pn 22 19 18.5 +0.3
comp=N,2.8nm,0.8s,baz=209,slow=9.5,SNR=3.9
comp=N,2.8nm,0.8s
SII Sitkinak Islan 20.26 317 P P 22 19 17.5 +1.2
baz=117
SEW Seward 20.28 330 P P 22 19 16.7 +0.3
baz=133
K29M Barlow Dome 20.41 349 P P 22 19 19.2 +1.2
baz=162,SNR=7.2
PWL Port Wells 20.42 332 P P 22 19 19.3 +1.3
baz=137
L27K Beaver Creek, 20.44 343 P P 22 19 19.7 +1.5
baz=152
Q20K Shuyak Island 20.50 323 P P 22 19 19.5 +0.7
baz=125
HARP HAARP 20.66 338 P P 22 19 20.6 +0.1
baz=145
M24K Tolsona, Glenn 20.70 337 P P 22 19 21.4 +0.4
baz=143
L26K Log Cabin Wild 20.74 341 P P 22 19 22.0 +0.5
baz=150
SCM Sheep Creek Mo 20.83 335 P P 22 19 23.0 +0.6
baz=140
KNK Knik Glacier 20.87 333 P P 22 19 23.5 +0.7
baz=137
M23K Glacier View 20.92 335 P P 22 19 23.0 -0.4
baz=139,SNR=6.3
J30M Hart River 20.97 351 P P 22 19 23.9 -0.1
baz=165,SNR=6.3
RC01 Rabbit Creek A 21.06 331 P P 22 19 24.8 0.0
baz=134
J29N Klondike Camp 21.09 349 P P 22 19 25.5 +0.2
baz=161
PAX Paxson 21.21 339 P P 22 19 26.0 -0.6
baz=145
Q19K Cape Douglas, 21.22 323 P P 22 19 26.3 -0.4
baz=124
K27K Chicken 21.35 344 P P 22 19 28.3 +0.3
baz=153
P19K Oil Pt 21.46 325 P P 22 19 28.6 -0.6
baz=126
O20K Slope Mountain 21.47 327 P P 22 19 28.8 -0.6
baz=128
I30M Mount Dempster 21.60 351 P P 22 19 30.5 -0.3
baz=165,SNR=6.8
Q18K Katmai Hardscr 21.67 321 P P 22 19 31.1 -0.5
baz=121
SUA Susitna One 21.68 331 P P 22 19 31.2 -0.4
baz=134,SNR=15
RIDG Independent Ri 21.70 341 P P 22 19 31.3 -0.5
baz=148
SCRK Sand Creek 21.71 342 P P 22 19 31.7 -0.3
baz=150
R17L Mt. Peulik Vol 21.81 318 P P 22 19 31.9 -1.1
baz=117
Q17K Contact Creek 21.88 320 P P 22 19 33.4 -0.4
baz=119
K24K Donnelly Dome 21.98 340 P P 22 19 34.8 0.0
baz=146
H31M Peel River 21.99 354 P P 22 19 35.3 +0.5
baz=169,SNR=6.2
N20K Mount Spurr 22.02 329 P P 22 19 35.1 -0.1
baz=130
SPCR Spurr Chakacha 22.02 329 P P 22 19 35.2 0.0
baz=130
J26L Joseph Creek 22.08 343 P P 22 19 36.0 +0.2
baz=151
P18K Big Mountain, 22.16 323 P P 22 19 36.8 +0.1
baz=122
I28M Miner Creek 22.28 348 P P 22 19 37.7 -0.3
baz=159,SNR=8.3
SKT Skwentna 22.30 331 P P 22 19 37.6 -0.6
baz=133
CHGN Chignik 22.30 314 P P 22 19 37.8 -0.4
baz=111
O18K Koktuh Hills 22.40 324 P P 22 19 38.1 -1.2
baz=123,SNR=7.6
CHNA Chernabura Isl 22.48 309 P P 22 19 39.8 -0.3
baz=106
J25K Salcha River, 22.57 341 P P 22 19 40.7 -0.4
baz=148
N19K Bonanza Creek 22.65 327 P P 22 19 41.7 -0.3
baz=126,SNR=10.0
I27K Kandik River 22.70 346 P P 22 19 42.2 -0.2
baz=156
I26K Coal Creek Min 22.71 344 P P 22 19 42.0 -0.4
baz=153
EPYK Eagle Plains 22.75 352 P P 22 19 43.0 0.0
baz=165
MCK McKinley 22.77 337 P P 22 19 43.4 +0.2
baz=140
HDA Harding Lake 22.78 340 P P 22 19 43.2 0.0
baz=145
H29M Whitestone 22.80 350 P P 22 19 43.8 +0.5
baz=162,SNR=11
M20K Styx River 22.80 330 P P 22 19 43.5 -0.1
baz=130
TRF Thorofare Moun 22.95 335 P P 22 19 45.6 +0.4
baz=138
ILAR Eielson Array 23.06 340 P P 22 19 46.6 +0.4
comp=N,2.4nm,1.0s,baz=157,slow=7.7,SNR=16
ILAR LR LR 22 27 03.9
comp=N,228nm,21.5s,baz=158,slow=32
comp=N,2.4nm,1.0s
G31M Satah River 23.09 355 P P 22 19 46.1 -0.2
baz=170
N18K Kilae Creek 23.14 325 P P 22 19 47.2 +0.2
baz=124,SNR=6.5
PPLA Turkeypile 23.16 333 P P 22 19 47.1 -0.2
baz=134
O17K Koliganek Bris 23.17 323 P P 22 19 47.3 0.0
baz=120,SNR=5.3
P16K Nushagak River 23.21 320 P P 22 19 47.9 +0.1
baz=117
H27K Steamboat Moun 23.26 347 P P 22 19 48.9 +0.8
baz=156,SNR=8.0
M19K Big River Lodg 23.28 329 P P 22 19 49.3 +0.9
baz=128
G30M tAoh Zraii Nji 23.30 353 P P 22 19 49.2 +0.5
baz=166
PRP Porcupine Dome 23.38 343 P P 22 19 49.6 +0.1
baz=149
G29M Pine Creek 23.42 351 P P 22 19 50.4 +0.6
baz=163
L20K Farewell, AK 23.46 331 P P 22 19 50.5 +0.3
baz=130,SNR=6.8
NEA2 Nenana 23.48 338 P P 22 19 50.7 +0.3
baz=141
POKR Poker Plat Res 23.48 340 P P 22 19 50.8 +0.4
baz=145
CAST Castle Rocks 23.49 334 P P 22 19 50.7 +0.2
baz=135
O16K Kokwok River B 23.52 322 P P 22 19 51.5 +0.6
baz=118,SNR=7.6
F31M Tsiigehtchic 23.57 355 P P 22 19 51.5 +0.3
baz=171
M18K Stony River 23.57 327 P P 22 19 51.9 +0.6
baz=125
N17K Nushagak Hills 23.60 324 P P 22 19 51.7 +0.2
baz=122
L19K White Mountain 23.62 329 P P 22 19 52.3 +0.5
baz=128,SNR=9.2
BPAW Bear Paw Mtn. 23.64 336 P P 22 19 52.1 +0.1
baz=138
G27K Doyon Strip 23.81 348 P P 22 19 54.0 +0.4
baz=157
F30M Barrier River 23.88 354 P P 22 19 54.9 +0.7
baz=168
CHUM Lake Minchumin 23.89 334 P P 22 19 55.2 +0.9
baz=135
I23K Minto, Yukon-K 23.99 339 P P 22 19 55.7 +0.4
baz=142,SNR=14
H25L Birch Creek 24.08 343 P P 22 19 57.2 +1.1
baz=149,SNR=6.5
K20K Telida 24.10 332 P P 22 19 56.8 +0.4
baz=131,SNR=8.4
O15K Ungalikthiuk R 24.13 320 P P 22 19 56.8 +0.2
baz=115
M17K Holitna River 24.17 326 P P 22 19 57.1 +0.2
baz=123
H24K Noodor Dome 24.18 341 P P 22 19 57.5 +0.4
baz=145
N16K Nishlik Lake 24.25 323 P P 22 19 57.7 0.0
baz=119
MLY Manley 24.27 337 P P 22 19 58.0 +0.1
baz=139
G26K Porcupine Rive 24.29 346 P P 22 19 58.0 -0.1
baz=153
F28M Old Crow 24.31 350 P P 22 19 58.6 +0.3
baz=160
L18K Granite Mounta 24.33 328 P P 22 19 58.7 +0.2
baz=125,SNR=11
INK Inuvik 24.42 356 LR LR 22 29 09.3
comp=N,197nm,19.5s,baz=194,slow=36
INK Inuvik 24.42 356 P P 22 19 59.6 +0.5
baz=172
G25K Bearman Lake 24.57 344 P P 22 20 01.0 +0.4
baz=149

H23K	Yukon River baz=142	24.57 340	P	P	22 20 01.4	+0.8
M16K	Timber Creek baz=120,SNR=6.5	24.60 324	P	P	22 20 01.9	+1.0
J20K	Nowinta River baz=133,SNR=5.6	24.68 333	P	P	22 20 02.1	+0.6
N15K	Kwethluk River baz=117	24.68 322	P	P	22 20 01.9	+0.2
I21K	Tanana baz=138	24.73 337	P	P	22 20 02.6	+0.6
G24K	Hadweenzic Riv baz=147,SNR=7.0	24.80 342	P	P	22 20 03.5	+0.8
E29M	Blow River baz=164	24.83 352	P	P	22 20 03.5	+0.6
O14K	Tigyukauivet M baz=113	24.83 319	P	P	22 20 03.5	+0.5
TXAR	Lajitas Array comp=N,1.7nm,0.8s,baz=282,slow=6.3,SNR=14 comp=N,1.7nm,0.8s	24.90 118	P	P	22 20 05.3	+1.4
L17K	Donlin baz=123,SNR=12	24.91 327	P	P	22 20 04.3	+0.7
F26K	Sheenjek River baz=153	25.02 346	P	P	22 20 05.4	+0.7
J19K	Poorman baz=130,SNR=13	25.04 332	P	P	22 20 05.2	+0.3
LPIG	La Paz comp=N,102nm,18.6s,baz=310,slow=34	25.08 137	LR	LR	22 28 50.3	
E27K	Coleen River baz=158,SNR=7.0	25.08 349	P	P	22 20 06.0	+0.8
J18K	Innoko River baz=128,SNR=15	25.09 330	P	P	22 20 05.6	+0.3
H22K	Ishtalitna Cre baz=140,SNR=18	25.10 338	P	P	22 20 06.4	+1.0
M15K	Kasigluk River baz=117	25.19 323	P	P	22 20 06.5	+0.3
F25K	Christian Rive baz=151	25.20 345	P	P	22 20 06.9	+0.5
I20K	Naaghedeneel baz=133	25.20 334	P	P	22 20 06.6	+0.3
E28M	Babbage River baz=162	25.21 351	P	P	22 20 07.0	+0.6
K17K	Iditarod baz=124,SNR=10	25.23 328	P	P	22 20 07.0	+0.4
N14K	Kuskokwak Cree baz=114	25.30 320	P	P	22 20 07.4	+0.2
H21K	Melozitna Rive baz=137,SNR=5.6	25.32 337	P	P	22 20 07.7	+0.4
G23K	Bananza Creek baz=143	25.40 341	P	P	22 20 08.3	+0.2
F24K	Squaw Lake baz=147	25.58 343	P	P	22 20 10.1	+0.3
M14K	Bethel baz=115	25.77 322	P	P	22 20 11.6	+0.1
H20K	Anotleneega Mo baz=134,SNR=15	25.81 335	P	P	22 20 12.1	+0.3
COLD	Coldfoot baz=143	25.85 341	P	P	22 20 12.3	+0.1
J17K	VABM Dome baz=124	25.91 329	P	P	22 20 12.9	+0.2
G22K	Bettles baz=141	25.93 340	P	P	22 20 14.0	+1.2
GCSA	Galena City Sc baz=129	25.94 333	P	P	22 20 13.6	+0.6
L15K	Ungalak Mounta baz=118	25.98 324	P	P	22 20 14.2	+0.8
D27M	Malcolm River baz=160	25.99 350	P	P	22 20 14.1	+0.6
G21K	Allakaket baz=137,SNR=5.9	26.14 338	P	P	22 20 15.7	+0.9
E24K	Your Creek baz=147	26.18 343	P	P	22 20 15.3	+0.2
UNV	Unalaska Valle baz=96	26.26 305	P	P	22 20 15.8	-0.2
M13K	Dall Lake baz=113	26.26 321	P	P	22 20 15.6	-0.3
K15K	Wolf Creek Mou baz=119	26.29 325	P	P	22 20 15.8	-0.4
H19K	Roundabout Mou baz=131,SNR=11	26.31 334	P	P	22 20 16.2	-0.1
L14K	Kuka Creek baz=116,SNR=5.8	26.34 323	P	P	22 20 16.4	-0.3
E23K	Chandalar baz=145	26.40 343	P	P	22 20 16.7	-0.6
J16K	Anvik River baz=122	26.42 328	P	P	22 20 17.1	-0.3
F22K	John River baz=140	26.55 340	P	P	22 20 18.4	-0.2
F21K	Alatna River baz=138	26.66 339	P	P	22 20 19.6	+0.1
H18K	Honhosa River baz=128,SNR=7.1	26.69 332	P	P	22 20 19.8	-0.1
C27K	Jago River baz=156	26.71 349	P	P	22 20 20.3	+0.3
I17K	Unalakleet baz=123	26.78 329	P	P	22 20 21.0	+0.4
TOLK	Toolik Lake Re baz=146	26.87 343	P	P	22 20 21.7	+0.3
G19K	Purcell Mounta baz=131,SNR=7.4	26.92 335	P	P	22 20 21.9	+0.1
E22K	Anaktuvuk Pass baz=142	26.95 341	P	P	22 20 22.3	+0.1
H17K	Granite Mounta baz=125	27.09 331	P	P	22 20 23.8	+0.4
F20K	Avaraart Lake baz=134	27.14 337	P	P	22 20 24.2	+0.5
C26K	Camden Bay baz=154	27.15 348	P	P	22 20 23.4	-0.4
D24K	Happy Valley baz=147	27.15 345	P	P	22 20 23.9	0.0
G18K	Tagagawik baz=129,SNR=6.1	27.25 334	P	P	22 20 24.7	-0.1
J14K	Nanvaranak Lak baz=117	27.34 325	P	P	22 20 26.0	+0.4
D23K	Nanushuk River baz=144	27.37 343	P	P	22 20 26.6	+0.8
K13K	Kusilvak Mount baz=114	27.45 323	P	P	22 20 26.4	-0.2
M11K	Mekoryuk baz=109	27.57 319	P	P	22 20 27.6	0.0
F19K	Shaleruckik Mo baz=131	27.58 336	P	P	22 20 27.8	+0.1
NIKH	Nikolski High baz=93	27.59 303	P	P	22 20 27.8	-0.2
C24K	Franklin Bluff baz=148	27.61 345	P	P	22 20 28.1	+0.1
G17K	Kiwalik Mounta baz=125	27.67 332	P	P	22 20 28.7	+0.2
E21K	Killik River baz=139	27.70 340	P	P	22 20 28.6	-0.3
D22K	Ayikyak River baz=141	27.74 342	P	P	22 20 28.6	-0.5
H16K	Elim baz=122	27.75 329	P	P	22 20 28.2	-1.1
E19K	Redstone River baz=133	27.85 337	P	P	22 20 29.3	-0.8
F18K	Selawik baz=128	28.01 334	P	P	22 20 30.5	-1.0
A36M	Sachs Harbour baz=186	28.05 2	P	P	22 20 31.0	-0.9
C23K	Itkillik River baz=146	28.07 344	P	P	22 20 31.9	-0.2
E20K	Nigu River baz=136	28.12 339	P	P	22 20 32.3	-0.3
G16K	Koyuk River baz=123	28.20 331	P	P	22 20 33.1	-0.1
F17K	Baldwin Pennin baz=126	28.42 333	P	P	22 20 34.9	-0.4
C21K	Knifeblade Rid baz=139	28.44 341	P	P	22 20 34.8	-0.6
D20K	Etivluk River baz=136	28.56 339	P	P	22 20 35.4	-1.1
G15K	Niukluk baz=120	28.60 329	P	P	22 20 35.9	-1.0
B21K	Ikpikpuk River baz=139	28.75 342	P	P	22 20 37.8	-0.4
D19K	Kuna River baz=133	28.80 338	P	P	22 20 38.1	-0.6
E18K	Tukpahlearik C baz=128	28.81 335	P	P	22 20 38.1	-0.6
ANM	Nome baz=118	28.89 328	P	P	22 20 38.9	-0.5
E17K	Hotham Inlet baz=126	28.98 334	P	P	22 20 39.5	-0.7
B22K	Teshekpuk Lake baz=142	29.05 343	P	P	22 20 39.7	-1.1
C19K	Lookout Ridge baz=132	29.61 338	P	P	22 20 45.0	-0.9
B20K	Meade River baz=136	29.63 341	P	P	22 20 45.0	-1.0
F14K	Arctic Creek baz=118	29.68 329	P	P	22 20 45.6	-0.8
D17K	Noatak River baz=125	29.74 334	P	P	22 20 46.2	-0.8
C18K	Utukok River baz=129	29.75 337	P	P	22 20 46.0	-1.2
C17K	DeLong Mountai baz=126	30.23 336	P	P	22 20 50.8	-0.5
C16K	Lisburne Hills baz=123	30.77 334	P	P	22 20 55.0	-1.0
GAMB	Gambell baz=109	31.13 324	P	P	22 20 58.2	-1.0
SADO	Sadowa comp=N,262nm,18.2s,baz=324,slow=37	35.11 71	LR	LR	22 36 19.5	
TKL	Tuckaleechee C comp=N,349nm,18.6s,baz=272,slow=37	35.29 88	LR	LR	22 36 35.8	
FRB	Frobisher Bay comp=N,68nm,20.2s,baz=18,slow=38	38.81 38	LR	LR	22 39 35.3	
SCHQ	Schefferville comp=N,136nm,19.4s,baz=294,slow=36	40.49 52	LR	LR	22 39 02.8	
SFJD	Kangerlussuaq comp=N,92nm,20.7s,baz=7.0,slow=35	45.99 32	LR	LR	22 41 48.9	
H11N3	WAKE ISLAND Hy baz=49,slow=75,SNR=1043	58.10 267	T	T	23 27 10.3	
H11N2	WAKE ISLAND Hy baz=49,slow=75,SNR=676	58.11 267	T	T	23 27 07.6	
H11N1	WAKE ISLAND Hy baz=49,slow=75,SNR=640	58.12 267	T	T	23 27 09.8	
H11S1	WAKE ISLAND Hy baz=50,slow=75,SNR=226	59.04 266	T	T	23 28 22.2	
H11S2	WAKE ISLAND Hy baz=50,slow=75,SNR=203	59.04 266	T	T	23 28 24.8	
H11S3	WAKE ISLAND Hy baz=50,slow=75,SNR=173	59.05 266	T	T	23 28 22.0	
SONM	Songino Array comp=N,1.2nm,0.7s,baz=30,slow=6.8,SNR=7.3 comp=N,1.2nm,0.7s	76.36 325	P	P	22 26 30.3	+0.2
ZALV	Zalesovo Beam comp=N,0.5nm,0.6s,baz=28,slow=6.7,SNR=4.6 comp=N,0.5nm,0.6s	78.19 340	P	P	22 26 39.6	-0.4
LPAZ	La Paz comp=N,0.7nm,0.6s,baz=306,slow=4.5,SNR=7.3 comp=N,0.7nm,0.6s	81.68 122	P	P	22 27 01.2	+1.1
BVAR	Bovoye Array comp=N,0.6nm,0.5s,baz=25,slow=3.9,SNR=4.7 comp=N,0.6nm,0.5s	81.87 348	P	P	22 27 00.1	+0.1
KURBB	Kurchatov Arra comp=N,1.2nm,0.2s,baz=21,slow=5.3,SNR=5.2 comp=N,1.2nm,0.2s	82.71 343	P	P	22 27 03.6	-0.8
ESDC	Sonseca Array comp=N,19nm,18.0s,baz=339,slow=35	83.00 40	LR	LR	23 03 03.0	
MKAR	Makanchi Array comp=N,0.3nm,0.7s,baz=25,slow=4.1,SNR=2.0 comp=N,0.3nm,0.7s	85.41 339	P	P	22 27 17.8	-0.5
PMG	Port Moresby comp=N,49nm,21.7s,baz=360,slow=29	92.13 259	LR	LR	22 59 44.2	
QSPA	South Pole Qui comp=N,1.0nm,0.9s,baz=150,slow=2.0,SNR=1.9	133.87 180	PKP	PKiKP	22 33 57.1	-1.0

*GUC **09** 22:27:52.6±0.9, 16°.33S×70°.67W, h216km±7km, ML4.6*
*NEIC **09** 22:27:53.3±1.9, 16°.05S±0°.06×70°.27W±0°.09, h195km±8km, mb4.5/27, ML4.7(GUC), Error ellipse: s-maj=12.6km s-min=9.3km az=84.0*
*IDC **09** 22:27:54.7±1.1, 15°.84S×70°.05W, h206km±9km, mb3.7/12, mbtmp4.2/15, MS2.9/1, Error ellipse: s-maj=15.1km s-min=12.7km az=77.0*
*VAO **09** 22:27:57.3±0.8, 15°.79S×69°.92W, h209km±5km, mb4.5*
ISC 09 22:27:53.0±0.6, 16°.00S±0°.05×70°.22W±0°.06, h195km±6km, n118, σ1$36/128, mb4.2/17, 6C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB18	Visviri	1.73	156	Pn		Pn		22 28 31.1	+2.1
PB18	Visviri	1.73	156	⇓iP		Pn		22 28 31.6	+2.6
PB18				*i* S		Sn		22 29 01.2	+4.1
LPAZ	La Paz 2μm,0.3s,baz=316,slow=6.6	2.03	98	P		Pn		22 28 34.4	+2.3
LPAZ	433nm,0.7s,baz=171,slow=19,SNR=7.3			S		Sn		22 29 03.8	+1.4
LPAZ	La Paz	2.03	98	*e*P		Pn		22 28 34.8	+2.7
AP01	Chacalluta	2.36	183			Pn		22 28 34.6	-0.4
AP01				*i* S		Sn		22 29 06.5	-1.4
AP01	Chacalluta	2.36	183	⇑*i*P		Pn		22 28 34.6	-0.4
AP01				*i* S		Sn		22 29 05.8	-2.1
PB16	IPOC Station P	2.42	164			Pn		22 28 37.7	+1.4
PB16				Sn		Sn		22 29 12.2	+2.1
PB16	IPOC Station P	2.42	164	⇑*i*P		Pn		22 28 37.9	+1.6
PB16				*i* S		Sn		22 29 11.9	+1.8
PB16	comp=N,1μm,0.4s			IAML				22 29 14.7	
GO01	Chusmiza	3.77	165			Pn		22 28 52.9	+0.6
GO01	Chusmiza	3.77	165	*e*P		Pn		22 28 53.1	+0.8
PB11	IPOC Station P	3.78	172			Pn		22 28 51.5	-0.5
PB11	IPOC Station P	3.78	172	⇑*i*P		Pn		22 28 51.6	-0.5
PB11				*i* S		Sn		22 29 35.6	-2.8
PB08	IPOC Station P	4.24	166			Pn		22 28 58.5	+0.5
PB08				Sn		Sn		22 29 48.2	-0.9
TA02	Huaiquique	4.25	179			Pn		22 28 56.3	-1.4
HMBC	Humberstone	4.26	176			Pn		22 28 57.0	-1.0
TA01	Diego Aracena	4.54	180			Pn		22 29 00.2	-1.2
PATCX	Punta Patache	4.79	179			Pn		22 29 03.5	-1.3
PB01	IPOC Station P	5.06	172			Pn		22 29 07.5	-0.7
PB02	IPOC Station P	5.30	177			Pn		22 29 10.5	-0.7
PB09	IPOC Station P	5.84	171			Pn		22 29 17.9	-0.4
PB03	IPOC Station P	6.03	176			Pn		22 29 19.5	-1.3
PB06	IPOC Station P	6.70	175			Pn		22 29 27.9	-1.5
PB05	IPOC Station P	6.81	180			Pn		22 29 29.1	-1.8
PB10	IPOC Station P	7.48	182	Pn		Pn		22 29 38.7	-0.8
NNA	Nana	7.56	301			Pn		22 29 39.3	-1.4
NNA	Nana comp=N,43nm,0.5s,baz=150,slow=8.3,SNR=9.8	7.56	301	P		Pn		22 29 38.5	-2.2
NNA	comp=N,40nm,0.4s,baz=214,slow=18,SNR=5.8			S		Sn		22 30 59.4	-6.9
PB14	IPOC Station P	8.58	181	Pn		Pn		22 29 52.8	-1.4
SIV	San Ignacio comp=N,12nm,0.7s,baz=271,slow=15,SNR=59	8.80	91	P		Pn		22 29 56.2	-0.6
SIV	comp=N,8.8nm,0.5s,baz=156,slow=19,SNR=3.6			S		Sn		22 31 32.6	-2.9
GO02	Mina Guanaco	9.13	176			Pn		22 30 00.9	-0.5
BBSD	Serra de San D	9.29	99	*e*P		Pn		22 30 02.7	-0.5
AC01	Pan de Azucar	10.10	182	Pn		Pn		22 30 12.5	-1.2
VILB	Vilhena	10.17	74			Pn		22 30 14.1	-0.5
VILB	Vilhena	10.17	74	*e*P		Pn		22 30 14.1	-0.5
PTLB	Pontes e Lacer	10.69	89			Pn		22 30 20.9	-0.4
PTLB	Pontes e Lacer	10.69	89	*e*P		Pn		22 30 20.3	-1.0
AC02	Maricunga	10.83	175			Pn		22 30 23.6	0.0
AC06	Mina Casimiro	11.30	181	Pn		Pn		22 30 29.4	+0.3
AC04	Llanos de Chal	12.17	184	Pn		Pn		22 30 38.8	-1.4
LCO	Las Campanas	12.96	182	Pn		Pn		22 30 50.2	-0.1
BDQN	Bodoquena, MS	13.54	111	*e*P		P		22 30 58.9	-1.2
TEFE	Tefe	13.58	24	*e*P		Pn		22 30 58.0	0.0
PDRB	Porto dos Gac	13.81	73	*e*P		Pn		22 31 01.0	+0.1
CO01	Juntas del Tor	13.91	180	P		P		22 31 03.7	-0.7
SALV	Santo Antonio	13.97	92	*e*P		P		22 31 03.2	-1.8
GO04	Tololo Observa	14.12	182	P		P		22 31 05.8	-0.9
AQDB	Aquidauana	14.49	110			P		22 31 10.3	-0.4
CO06	Fray Jorge	14.66	185	P		P		22 31 12.3	-0.2
CO03	El Pedregal	14.78	182	Pn		Pn		22 31 11.5	-1.3
CLDB	Colider	14.92	72	*e*P		P		22 31 15.5	0.0
CO02	Combarbal	15.15	183	P		P		22 31 18.7	+0.7
CFA	Coronel Fontan comp=N,2.1nm,0.4s,baz=348,slow=11,SNR=8.8	15.64	174	P		P		22 31 24.9	+1.6
CFA	comp=N,1.1nm,0.6s,baz=278,slow=22,SNR=2.1			S		S		22 34 11.2	-5.8
CPUP	Villa Florida comp=N,1.3nm,0.6s,baz=287,slow=13,SNR=8.4	15.80	133	P		P		22 31 26.6	+1.5
CPUP	comp=N,40nm,20.3s,baz=200,slow=38			LR		LR		22 37 46.2	
AMBA	Amambai (Brazi	15.92	118	*e*P		Pn		22 31 27.9	+1.1
SJPY	San Joaquin	15.96	126	*e*P		Pn		22 31 30.0	+2.9
COHC	Cochancay	16.13	326			Pn		22 31 30.9	+1.6
RPRD	Ribas do Rio P	16.31	108	*e*P		Pn		22 31 31.8	+0.4
VA03	San Esteban	16.69	181			Pn		22 31 37.0	+1.1
VA03	comp=Z,18nm,0.5s			IAmb		IAmb		22 31 38.9	
C2SB	Chapadao do Su	16.82	102	*e*P		Pn		22 31 37.1	-0.4
NPGB	Novo Progresso	17.06	60	*e*P		Pn		22 31 39.6	-0.8
PEL	Peldehue	17.07	181	Pn		Pn		22 31 40.3	-0.1
PEL	comp=Z,17nm,0.7s			IAmb		IAmb		22 31 41.6	
MT02	Curacav	17.20	183			Pn		22 31 41.8	-0.1
MT02	comp=Z,45nm,1.4s			IAmb		IAmb		22 32 08.0	
MT08	Bocatoma Ro	17.37	179			Pn		22 31 44.0	-0.1
MT08	comp=Z,25nm,1.2s			IAmb		IAmb		22 31 46.8	
MT09	Talagante	17.71	182			Pn		22 31 47.6	-0.4
MT09	comp=Z,16nm,1.0s			IAmb		IAmb		22 31 52.0	
ARAG	Araguaiana, MT	17.71	92	*e*P		Pn		22 31 47.1	-1.0
LMEL	Las Melosas	17.77	180	P		P		22 31 45.3	-1.6
LMEL	comp=Z,15nm,0.6s			IAmb		IAmb		22 31 52.3	
BO04	La Punta	17.91	181	P		P		22 31 47.5	-0.7
BO04	comp=Z,16nm,0.7s			IAmb		IAmb		22 31 55.8	
OTAV	Otavalo	18.07	333			P		22 31 52.7	+2.2
BO01	Tunca	18.33	182			Pn		22 31 54.0	-1.2
BO01	comp=Z,10.0nm,0.7s			IAmb		IAmb		22 31 59.9	
ITTB	Itaituba	18.34	52	*e*P		P		22 31 53.4	+0.3
SNDB	Serra Nova Dou	18.79	80	*e*P		P		22 31 58.6	+0.7
PTGB	Pitanga	19.09	120	*e*P		Pn		22 32 03.3	-0.9
ITRB	Iturama	19.26	104	*e*P		Pn		22 32 04.3	-2.0
BOAV	Boa Vista	20.64	29			P		22 32 18.7	+0.9
BOAV	comp=Z,12nm,0.6s			IAmb		IAmb		22 32 20.5	
BOAV	Boa Vista	20.64	29	*e*P		P		22 32 18.0	+0.3
FRTB	Fartura	20.76	114	*e*P		Pn		22 32 21.4	-3.4
MAL2	Monte Alegre,	21.04	50			P		22 32 22.6	+0.6
IPMB	Ipameri, GO	21.14	99	*e*P		P		22 32 22.0	-1.1
BB19B	Bebedouro	21.17	107	*e*P		P		22 32 23.9	+0.6
BDFB	Brasilia	21.37	92			P		22 32 25.2	-0.4
BDFB	Brasilia comp=Z,11nm,0.4s,baz=260,slow=13,SNR=22 comp=Z,11nm,0.4s	21.37	92	P		P		22 32 24.8	-0.8
PLTB	Pedras Altas	21.79	139	P		P		22 32 31.1	+1.4
PLTB	comp=Z,26nm,1.5s			IAmb		IAmb		22 33 06.8	
RUSC	La Rusia	21.94	352			P		22 32 30.8	-1.0
PRPB	Parauapebas	22.26	66	*e*P		P		22 32 33.7	-0.6
RCLB	Rio Claro- Sao	22.34	110	*e*P		P		22 32 35.3	+0.2
SPB	Sao Paulo	22.71	113	P		P		22 32 38.1	-0.2
SPB	Sao Paulo	22.71	113	*e*P		P		22 32 39.4	+1.1
PMNB	Patos De Minas	22.85	100	*e*P		P		22 32 41.0	+1.3
VAO	Valinhos	22.98	111	P		P		22 32 40.7	-0.1
VAO	comp=Z,8.9nm,0.8s			IAmb		IAmb		22 32 42.6	
SMTB	Santa Maria do	23.20	75	*e*P		P		22 32 43.1	+0.3
PLCA	Paso Flores comp=Z,2.4nm,0.4s,baz=358,slow=10,SNR=7.9 comp=Z,2.4nm,0.4s	24.64	181	P		P		22 32 56.6	+0.8
BAUV	El Baul	24.88	5	P		P		22 32 57.0	-1.0
JANB	Januaria	24.98	91	*e*P		P		22 32 57.2	-1.8
CELP	Cerrillos	34.05	6	P		P		22 34 18.6	-0.3
CELP	comp=Z,17nm,1.2s			IAmb		IAmb		22 34 55.4	
S54A	Dingess, Beckl	54.52	349	P		P		22 36 59.5	-1.3
TXAR	Lajitas Array comp=Z,0.7nm,0.5s,baz=152,slow=11,SNR=11 comp=Z,0.7nm,0.5s	55.45	324	P		P		22 37 06.8	-0.8
SDCO	Great Sand Dun	62.91	329	P		P		22 37 59.2	+0.2
VNA3	Neumayer Olymp comp=Z,1.2nm,0.7s	65.66	162	⇑P		P		22 38 17.5	+1.5
SNAA	Sanae comp=Z,19nm,0.5s	67.86	162	⇑P		P		22 38 30.6	+0.6
SNAA	Sanae comp=Z,0.7nm,0.6s,baz=261,slow=10,SNR=12 comp=Z,0.7nm,0.6s	67.86	162	P		P		22 38 31.0	+1.0
DBIC	Dumbokro comp=Z,7.5nm,0.3s,baz=267,slow=6.1,SNR=29 comp=Z,7.5nm,0.3s	68.49	76	P		P		22 38 33.4	-1.4
PDAR	Pinedale Array comp=Z,0.3nm,0.4s,baz=132,slow=7.7,SNR=2.3 comp=Z,0.3nm,0.4s	68.75	330	P		P		22 38 35.6	-0.5
TROLL	Troll, Antarti comp=Z,40nm,0.6s	69.57	162	⇑P		P		22 38 42.0	+1.4
NVAR	Mina Array Bea comp=Z,0.7nm,0.6s,baz=114,slow=8.4,SNR=4.1 comp=Z,0.7nm,0.6s	70.43	322	P		P		22 38 46.9	+0.4
PAHR	Pah Rah Range	71.89	322	P		P		22 38 55.1	0.0
MFID	Camas Ranch	72.38	327	P		P		22 38 58.2	+0.3
QSPA	South Pole Qui comp=Z,2.2nm,0.7s,baz=154,slow=2.0,SNR=21 comp=Z,2.2nm,0.7s	74.16	180	P		P		22 39 10.1	+2.1
TORD	Torodi Ar. Bea	76.77	72	P		P		22 39 22.8	-0.8
TORD	comp=Z,5.1nm,0.8s			IAmb		IAmb		22 39 24.2	
TORD	Torodi Ar. Bea comp=Z,4.3nm,0.5s,baz=272,slow=5.2,SNR=7.2 comp=Z,4.3nm,0.5s	76.77	72	P		P		22 39 22.1	-1.4
B08A	Colville Reser	77.54	329	P		P		22 39 28.9	+1.7
B08A	comp=Z,4.8nm,0.7s			IAmb		IAmb		22 39 32.4	
VNDA	Vanda comp=Z,0.4nm,0.6s,baz=145,slow=4.8,SNR=2.3 comp=Z,0.4nm,0.6s	82.02	190	P		P		22 39 52.7	+1.8
ESDC	Sonseca Array comp=Z,3.0nm,0.7s,baz=254,slow=5.5,SNR=31 comp=Z,3.0nm,0.7s	82.84	45	P		P		22 39 55.8	0.0
MAW	Mawson comp=Z,1.3nm,0.7s,baz=217,slow=6.3,SNR=2.1 comp=Z,1.3nm,0.7s	89.93	164	P		P		22 40 30.9	+1.3
ASAR	Alice Springs comp=Z,0.8nm,0.7s,baz=122,slow=1.8,SNR=7.6	134.06	211	PKP		PKPdf		22 46 47.4	-0.7
WRA	Warramunga Arr comp=Z,0.9nm,0.4s,baz=135,slow=1.5,SNR=18	136.89	215	PKP		PKPdf		22 46 53.1	-0.2
ZALV	Zalesovo Beam comp=Z,1.2nm,0.5s,baz=337,slow=1.5,SNR=2.8	137.42	22	PKP		PKPdf		22 46 54.1	+0.9
USRK	Ussuriysk Ar. comp=Z,2.8nm,0.5s,baz=45,slow=4.9,SNR=7.8	146.18	331	PKPbc		PKPdf		22 47 09.8	+0.7
MJAR	Matsushiro Arr comp=Z,4.9nm,0.6s,baz=85,slow=2.5,SNR=16	147.51	314	PKPbc		PKPbc		22 47 14.8	+0.3
SONM	Songino Array comp=Z,1.3nm,0.4s,baz=324,slow=2.1,SNR=8.1	148.13	4	PKPbc		PKPbc		22 47 16.8	+0.9
SONM	comp=Z,0.1nm,0.3s,baz=17,slow=3.4,SNR=1.5			pPKPbc		pPKPab		22 48 08.8	-0.9

*BJI **09** 22:35:47.7, 54°.94N×160°.67E, h107km, mB5.2/10, mb4.6/41*
*IDC **09** 22:35:49.9±0.5, 54°.97N×160°.65E, h104km±4km, mb4.6/30, mbtmp4.9/33, MS3.6/27, Error ellipse: s-maj=10.5km s-min=6.8km az=138.0*
*KRSC **09** 22:35:49.1±0.6, 54°.72N×161°.20E, h114km±11km, Mc4.7, Ml5.2, Felt [IV] at kordon Valley of Geysers.*
*NEIC **09** 22:35:50.2±1.2, 54°.92N±0°.07×160°.8E±0°.1, h106km±5km, mb4.9/668, Error ellipse: s-maj=11.6km s-min=8.8km az=142.0*
*MOS **09** 22:35:50.5±0.9, 54°.84N×160°.76E, h129km, mb4.8/91, Error ellipse: s-maj=6.4km s-min=3.1km az=79.9*
*GCMT **09** 22:35:52.2±0.3, 54°.70N±0°.02×161°.11E±0°.04, h121km±4km, MW4.9/102, Moment Tensor Solution. s19,c20; s102,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.25±.14; Mθθ-1.85±.16; Mφφ2.10±.17; Mrθ 1.17±.08; Mθφ-1.00±.15; Mφr2.08±.09; Best double couple: M0 3.25900×10^16 NP1:φs302.00000°, δ43.00000°, λ-176.00000°. NP2:φs209.00000°, δ87.00000°, λ-47.00000°. Principal axes: T 3.3290, Plg29.0000°, Azm266.0000°; N -0.1410, Plg42.0000°, Azm27.0000°; P -3.1890, Plg34.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **09** 22:35:53.4, 56°.09N×161°.55E, h74km±2km, mb5.1*
ISC 09 22:35:49.9±0.3, 54°.77N±0°.02×160°.96E±0°.03, h112km±2km, h111km:pP-P, n1578, σ1$17/1632, mb4.9/443, 30C-46D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.49	115	PN		Pn		22 36 06.5	-0.3
MKZ	Mys Kozlova	0.49	115	*e*P		Pn		22 36 06.5	-0.3
TUMD	Tumrok D	0.54	323	PN		Pn		22 36 08.1	+0.9
TUMD				S		Sn		22 36 21.2	+1.0
TUMD	Tumrok D	0.54	323	*e*P		Pn		22 36 08.1	+0.9
TUMD				*e*S		Sn		22 36 21.3	+1.0
KMNR	Kamenistaya	1.07	337	PN		Pn		22 36 13.9	+1.9
KMNR	Kamenistaya	1.07	337	*e*P		Pn		22 36 14.0	+1.9
KII	Karymskiy	1.15	231	PN		Pn		22 36 14.7	+1.9
KII	Karymskiy	1.15	231	*e*P		Pn		22 36 14.8	+1.9
BZGR	Bezymyannyi-Gr	1.19	353	PN		Pn		22 36 14.7	+1.5
BZGR				S

BZMR Bezymyannaya 1.20 347 *e*P **Pn** **22 36 15.3 +1.8**
BZWR Bezymyannyi-We 1.23 348 PN **Pn** **22 36 15.6 +1.8**
BZWR Bezymyannyi-We 1.23 348 *e*P **Pn** **22 36 15.6 +1.8**
KIRR Kirishev 1.24 344 PN **Pn** **22 36 15.6 +1.7**
KIRR S **Sn** **22 36 34.7 +2.6**
KIRR Kirishev 1.24 344 *e*P **Pn** **22 36 15.7 +1.7**
KIRR *e*S **Sn** **22 36 34.8 +2.6**
ZLN Zelenaya 1.25 356 PN **Pn** **22 36 15.8 +1.8**
ZLN Zelenaya 1.25 356 *i* P **Pn** **22 36 15.9 +1.8**
KPT Kopyto 1.27 341 PN **Pn** **22 36 15.8 +1.6**
KPT Kopyto 1.27 341 *e*P **Pn** **22 36 15.8 +1.6**
LGNR Loginova 1.33 353 PN **Pn** **22 36 17.3 +2.3**
LGNR Loginova 1.33 353 *e*P **Pn** **22 36 17.3 +2.3**
KOZ Kozyrevsk 1.44 335 PN **Pn** **22 36 17.8 +1.8**
KOZ Kozyrevsk 1.44 335 *e*P **Pn** **22 36 17.8 +1.8**
KLY Klyuchi 1.56 354 PN **Pn** **22 36 19.0 +1.6**
KLY S **Sn** **22 36 41.2 +2.9**
KLY Klyuchi 1.56 354 *e*P **Pn** **22 36 19.1 +1.6**
KLY *e*S **Sn** **22 36 41.3 +2.9**
SRDR Sredinnyy 1.71 336 PN **Pn** **22 36 20.6 +1.3**
SRDR Sredinnyy 1.71 336 *e*P **Pn** **22 36 20.6 +1.3**
ESO Esso 1.74 313 PN **Pn** **22 36 21.7 +2.1**
ESO S **Sn** **22 36 45.0 +2.7**
ESO Esso 1.74 313 *e*P **Pn** **22 36 21.7 +2.1**
ESO *e*S **Sn** **22 36 45.1 +2.7**
SPN Mys Shipunski 1.76 199 PN **Pn** **22 36 19.9 0.0**
SPN S **Sn** **22 36 42.2 -0.6**
SPN Mys Shipunski 1.76 199 *e*P **Pn** **22 36 20.0 0.0**
SPN *e*S **Sn** **22 36 42.2 -0.6**
KBTR Krutoberegovo 1.79 35 PN **Pn** **22 36 20.9 +0.7**
KBTR Krutoberegovo 1.79 35 *e*P **Pn** **22 36 21.0 +0.7**
KBG Krutoberegovo 1.79 33 PN **Pn** **22 36 21.0 +0.8**
KBG S **Sn** **22 36 43.8 +0.4**
KBG Krutoberegovo 1.79 33 *e*P **Pn** **22 36 21.0 +0.8**
KBG *e*S **Sn** **22 36 43.8 +0.4**
SMKR Semkarok 1.84 9 PN **Pn** **22 36 22.3 +1.4**
SMKR Semkarok 1.84 9 *e*P **Pn** **22 36 22.4 +1.4**
NLC Nalytchevo 1.86 212 PN **Pn** **22 36 22.4 +1.2**
NLC S **Sn** **22 36 46.0 +1.0**
NLC Nalytchevo 1.86 212 *e*P **Pn** **22 36 22.4 +1.2**
NLC *e*S **Sn** **22 36 46.1 +1.0**
SDLR Sedlovina 1.93 220 PN **Pn** **22 36 24.0 +1.8**
SDLR Sedlovina 1.93 220 *e*P **Pn** **22 36 24.0 +1.8**
KRER Koryakskii 1.96 223 PN **Pn** **22 36 24.9 +2.3**
KRER Koryakskii 1.96 223 *e*P **Pn** **22 36 25.0 +2.3**
KRX Arik 1.96 225 PN **Pn** **22 36 25.0 +2.4**
KRX Arik 1.96 225 *e*P **Pn** **22 36 25.0 +2.4**
SMAR Somma 1.98 221 PN **Pn** **22 36 24.8 +2.0**
SMAR Somma 1.98 221 *e*P **Pn** **22 36 24.8 +2.0**
AVH Avacha 2.00 222 PN **Pn** **22 36 25.3 +2.4**
AVH Avacha 2.00 222 *e*P **Pn** **22 36 25.4 +2.4**
UGLR Uglovaya 2.01 220 PN **Pn** **22 36 25.2 +2.1**
UGLR Uglovaya 2.01 220 *e*P **Pn** **22 36 25.2 +2.1**
KOK Koryaka 2.02 224 PN **Pn** **22 36 25.4 +2.2**
KOK Koryaka 2.02 224 *e*P **Pn** **22 36 25.5 +2.2**
GNL Ganaly 2.08 240 PN **Pn** **22 36 26.5 +2.5**
GNL Ganaly 2.08 240 *e*P **Pn** **22 36 26.5 +2.5**
DALK Dalny 2.18 218 PN **Pn** **22 36 26.8 +1.7**
DALK S **Sn** **22 36 53.6 +1.5**
DALK Dalny 2.18 218 *e*P **Pn** **22 36 26.9 +1.7**
DALK *e*S **Sn** **22 36 53.6 +1.5**
PET Petropavlovsk 2.22 219 **Pn** **22 36 26.4 +0.7**
PET Sn **Sn** **22 36 52.2 -0.8**
PET Petropavlovsk 2.22 219 P **Pn** **22 36 27.7 +2.0**
PET Petropavlovsk 2.22 219 S **Sn** **22 36 56.3 +3.2**
PET Petropavlovsk 2.22 219 ‖ *i*PN **Pn** **22 36 27.5 +1.8**
PET *e*S **Sn** **22 36 54.8 +1.7**
PET pmax pmax
comp=Z,2µm,0.6s
PET smax smax
comp=E,8µm,0.6s
PET smax smax
comp=N,16µm,0.7s
PET MLR MLR
comp=Z,700nm,10.0s
PET Petropavlovsk 2.22 219 *i* P **Pn** **22 36 27.5 +1.8**
PET *e*S **Sn** **22 36 54.6 +1.5**
PEA0B Petropavlovsk- 2.55 231 **Pn** **22 36 29.2 -0.7**
PEA0B Sn **Sn** **22 36 52.8 +2.0**
PEA0B Petropavlovsk- 2.55 231 PN **Pn** **22 36 32.1 +2.1**
PEA0B S **Sn** **22 37 03.6 +2.9**
PETK Petropavlovsk- 2.55 231 **Pn** **22 36 29.4 -0.5**
PETK Sn **Sn** **22 36 59.7 -1.0**
PETK Petropavlovsk- 2.55 231 P **Pn** **22 36 31.0 +1.0**
comp=Z,439nm,0.7s,baz=61,slow=13,SNR=309
PETK S **Sn** **22 37 00.7 -0.1**
comp=Z,153nm,0.6s,baz=50,slow=19,SNR=6.2
KRMR Karymshinskiy 2.57 222 PN **Pn** **22 36 31.9 +1.7**
KRMR S **Sn** **22 37 02.8 +1.7**
KRMR Karymshinskiy 2.57 222 *e*P **Pn** **22 36 32.0 +1.7**
KRMR *e*S **Sn** **22 37 02.9 +1.7**
RUS Russkaya 2.76 213 PN **Pn** **22 36 33.4 +0.7**
RUS Russkaya 2.76 213 *e*P **Pn** **22 36 33.5 +0.7**
GRL Gorelyy 2.81 219 PN **Pn** **22 36 35.9 +2.4**
GRL Gorelyy 2.81 219 *e*P **Pn** **22 36 36.0 +2.4**
MTVR Mutnovka 2.83 217 PN **Pn** **22 36 35.5 +1.8**
MTVR S **Sn** **22 37 09.6 +2.2**
MTVR Mutnovka 2.83 217 *e*P **Pn** **22 36 35.6 +1.8**
MTVR *e*S **Sn** **22 37 09.6 +2.2**
APC Apacha 2.91 232 PN **Pn** **22 36 38.3 +3.6**
APC S **Sn** **22 37 11.4 +2.1**
APC Apacha 2.91 232 *e*P **Pn** **22 36 38.3 +3.6**
APC *e*S **Sn** **22 37 11.4 +2.1**
BKI Bering 2.92 79 PN **Pn** **22 36 34.2 -0.5**
BKI Bering 2.92 79 *e*P **Pn** **22 36 34.3 -0.5**
BKI *e*S **Sn** **22 37 05.8 -3.5**
ASAK Asacha 3.01 219 PN **Pn** **22 36 38.0 +1.9**
ASAK Asacha 3.01 219 *e*P **Pn** **22 36 38.0 +1.9**
MIPR Malaya Ipel'ka 3.54 227 PN **Pn** **22 36 45.6 +2.5**
MIPR Malaya Ipel'ka 3.54 227 *e*P **Pn** **22 36 45.6 +2.5**
PAU Pauzhetka 4.15 219 PN **Pn** **22 36 52.9 +1.8**
PAU Pauzhetka 4.15 219 *e*P **Pn** **22 36 53.0 +1.8**
PALN Palana 4.37 353 PN **Pn** **22 36 55.4 +1.4**
PALN Palana 4.37 353 *e*P **Pn** **22 36 55.4 +1.4**
OSSR Ossora 4.64 13 PN **Pn** **22 36 58.2 +0.5**
OSSR Ossora 4.64 13 *e*P **Pn** **22 36 58.2 +0.5**
SKR Severo-Kuril's 5.04 218 ‖ *i*PN **Pn** **22 37 03.1 -0.1**
SKR *i* S **Sn** **22 37 57.7 -2.5**
SKR pmax pmax
comp=Z,513nm,0.6s
SKR smax smax
comp=E,839nm,0.6s
SKR smax smax
comp=N,138nm,0.3s
SKR MLR MLR
comp=Z,900nm,11.0s
SKR Severo-Kuril's 5.04 218 *e*P **Pn** **22 37 04.2 +1.0**
TILK Tilichiki 6.34 24 PN **Pn** **22 37 22.3 +1.7**
TILK S **Sn** **22 38 30.9 -0.5**
TILK Tilichiki 6.34 24 *e*P **Pn** **22 37 22.4 +1.7**
TILK *e*S **Sn** **22 38 31.0 -0.5**
MA2 Magadan 7.34 315 **Pn** **22 37 32.6 -1.7**
MA2 Magadan 7.34 315 P **Pn** **22 37 37.0 +2.7**
comp=Z,173nm,0.8s,baz=123,slow=9.6,SNR=97
MA2 Magadan 7.34 315 P **Pn** **22 37 37.1 +2.9**
MA2 Magadan 7.34 315 S **Sn** **22 38 59.3 +3.4**
MA2 Magadan 7.34 315 *c i*PN **Pn** **22 37 36.0 +1.8**
SHEM Shemya Is, Ala 8.05 99 P **Pn** **22 37 44.4 +0.5**
comp=Z,102nm,0.7s,baz=282,slow=19,SNR=12
SHEM S **Sn** **22 39 08.5 -4.6**
comp=Z,123nm,0.6s,baz=18,slow=22,SNR=6.1
SHEM LR LR 22 41 13.4
comp=Z,132nm,19.8s,baz=334,slow=39
SMY Shemya 8.05 99 Pn **Pn** **22 37 44.5 +0.6**
SMY Shemya 8.05 99 PN **Pn** **22 37 43.6 -0.3**
OKH Okha 10.64 271 *c i*PN **Pn** **22 38 17.2 -1.8**
OKH pmax pmax
comp=Z,200nm,8.1s
OKH MLR MLR
comp=N,200nm,13.0s
OKH MLR MLR
comp=E,100nm,13.0s
OKH MLR MLR
comp=Z,100nm,14.0s
AMKA Amchitka 11.54 100 Pn **Pn** **22 38 33.2 +2.2**
TYV Tymovskoe 11.74 258 *e*PN **Pn** **22 38 37.3 +3.6**
TYV *e*S **Sn** **22 40 49.4 +6.8**
TYV pmax pmax
comp=Z,63nm,1.2s
TYV pmax pmax
comp=Z,500nm,4.7s
TYV smax smax
comp=N,10.0nm,1.2s
TYV smax smax
comp=E,14nm,1.2s
TYV smax smax
comp=N,200nm,4.9s
TYV smax smax
comp=E,400nm,4.9s
KIWB Kanaga Island 13.39 94 Pn **Pn** **22 38 54.6 -0.7**
BILL Bilibino 13.55 9 **Pn** **22 38 58.8 +1.6**
BILL Bilibino 13.55 9 ‖ *i*P **Pn** **22 38 59.0 +1.8**
ADK Adak 13.65 93 Pn **Pn** **22 39 00.1 +1.4**
ADK Adak 13.65 93 P **Pn** **22 39 00.8 +2.2**
ADK Adak 13.65 93 P **Pn** **22 39 00.1 +1.4**
YSS Yuzhno-Sakhali 13.88 243 **Pn** **22 39 00.2 -1.3**
YSS Yuzhno-Sakhali 13.88 243 *e*P **P** **22 39 04.0 -2.1**
YSS *e*S **Sn** **22 41 31.2 -3.2**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,300nm,17.0s
ATKA Atka Island 14.98 90 **Pn** **22 39 17.0 +1.4**
ATKA Atka Island 14.98 90 P **Pn** **22 39 16.1 +0.5**
GRNR Gornyy 15.35 265 ‖ *i*P **P** **22 39 22.8 +0.3**
GRNR pmax pmax
comp=E,20nm,1.3s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,280nm,14.0s
JKA Kamikawa-asahi 15.96 236 **P** **22 39 29.4 +0.2**
ASAJ Asahikawa 15.96 236 P **P** **22 39 29.4 +0.2**
comp=E,43nm,0.6s,baz=66,slow=9.3,SNR=34
SPIA Saint Paul Isl 16.24 70 **P** **22 39 32.9 +0.7**
SPIA Saint Paul Isl 16.24 70 P **Pn** **22 39 31.3 +0.2**
baz=274
GAMB Gambell 16.49 46 **P** **22 39 35.0 0.0**
GAMB Gambell 16.49 46 P **Pn** **22 39 34.3 0.0**
baz=250
P08K Saint George I 16.67 72 P **P** **22 39 38.1 +1.2**
P08K Saint George I 16.67 72 P **Pn** **22 39 36.2 -0.3**
baz=276
ERM Erimo 17.33 230 **P** **22 39 43.8 -0.5**
ERM Erimo 17.33 230 P **Pn** **22 39 46.1 +1.5**
ERM Erimo 17.33 230 S **S** **22 42 59.6 +0.8**
ERM Erimo 17.33 230 P **P** **22 39 43.8 -0.5**
YAK Yakutsk 17.79 307 **P** **22 39 48.4 -0.7**
YAK Yakutsk 17.79 307 P **P** **22 39 47.8 -1.3**
comp=E,169nm,0.8s,baz=84,slow=3.4,SNR=47
YAK Yakutsk 17.79 307 *e*P **P** **22 39 47.9 -1.3**
YAK *e*S **S** **22 43 03.8 -4.0**
YAK pmax pmax
comp=E,72nm,1.1s
YAK pmax pmax
comp=Z,165nm,0.9s
YAK pmax pmax
comp=N,23nm,1.1s
YAK smax smax
comp=E,124nm,2.8s
YAK smax smax
comp=N,99nm,2.7s
NIKH Nikolski High 17.82 83 P **Pn** **22 39 51.7 +1.2**
NIKH Nikolski High 17.82 83 P **Pn** **22 39 51.5 +1.0**
NIKH Nikolski High 17.82 83 S **Sn** **22 43 09.2 -0.1**
NIKH Nikolski High 17.82 83 P **P** **22 39 49.6 -0.1**
baz=288
M11K Mekoryuk 18.34 59 Pn **Pn** **22 39 58.4 +1.8**
M11K Mekoryuk 18.34 59 P **P** **22 39 55.7 +0.4**
baz=267
TNA Tin City 18.64 42 P **Pn** **22 40 00.1 0.0**
TNA Tin City 18.64 42 P **P** **22 39 58.2 -0.3**
baz=250
UNV Unalaska Valle 18.92 79 P **Pn** **22 40 02.7 -0.8**
UNV Unalaska Valle 18.92 79 P **Pn** **22 40 02.7 -0.8**
baz=286,SNR=32
LVA Lava Point 19.10 78 **Pn** **22 40 05.1 -0.6**
K13K Kusilvak Mount 19.22 54 P **P** **22 40 05.6 +0.8**
K13K Kusilvak Mount 19.22 54 P **P** **22 40 05.7 +0.9**
baz=264,SNR=16
F14K Arctic Creek 19.24 43 P **P** **22 40 05.8 +0.8**
baz=252
JTM Tenmabayashi 19.25 232 P **P** **22 40 03.9 -1.5**
JTM Tenmabayashi 19.25 232 P **Pn** **22 40 06.5 -1.0**
AKUT Akutan 19.25 78 **Pn** **22 40 07.1 -0.3**
ANM Nome 19.38 46 P **P** **22 40 07.5 +1.0**
ANM Nome 19.38 46 P **P** **22 40 07.5 +1.0**
ANM Nome 19.38 46 P **P** **22 40 07.2 +0.6**
baz=256
ZEA Zeya 19.62 281 *e*P **P** **22 40 08.6 -0.7**
ZEA pmax pmax
comp=Z,20nm,0.8s
M13K Dall Lake 19.76 59 P **Pn** **22 40 12.5 -0.7**
M13K Dall Lake 19.76 59 P **Pn** **22 40 11.9 -1.3**
baz=270,SNR=9.9
J14K Nanvaranak Lak 19.83 52 P **P** **22 40 12.4 +1.0**
J14K Nanvaranak Lak 19.83 52 P **P** **22 40 12.5 +1.0**
baz=263,SNR=14
F15K North Star Dit 19.98 43 P **Pn** **22 40 14.8 -0.9**
F15K North Star Dit 19.98 43 P **P** **22 40 14.1 +1.1**
baz=254,SNR=15
G15K Nuluk 20.04 45 P **P** **22 40 14.5 +0.8**
baz=256,SNR=5.6
L14K Kuka Creek 20.11 56 P **P** **22 40 15.7 +1.2**
L14K Kuka Creek 20.11 56 P **Pn** 22 40 16.2 -1.1
baz=268,SNR=22
FALS False Pass 20.39 75 P **Pn** 22 40 19.1 -1.5
FALS False Pass 20.39 75 P **P** **22 40 17.9 +0.3**
baz=285
M14K Bethel 20.45 58 P **P** **22 40 19.6 +1.5**
M14K Bethel 20.45 58 P **P** **22 40 19.5 +1.4**
baz=270,SNR=17
N14K Kuskokwak Cree 20.60 60 P **P** **22 40 21.1 +1.4**
N14K Kuskokwak Cree 20.60 60 P **P** **22 40 21.2 +1.6**
baz=272,SNR=11
C16K Lisburne Hills 20.62 36 P **Pn** 22 40 22.4 -0.9
C16K Lisburne Hills 20.62 36 P **P** **22 40 20.7 +0.8**
baz=246
L15K Ungalak Mounta 20.70 55 P **P** **22 40 22.0 +1.2**
baz=268,SNR=9.4
H16K Elim 20.71 47 P **P** **22 40 21.8 +1.0**
baz=259
K15K Wolf Creek Mou 20.71 54 P **P** **22 40 22.4 +1.5**
K15K Wolf Creek Mou 20.71 54 P **P** **22 40 22.4 +1.5**
baz=266,SNR=17
HEH HeiHe 20.79 271 *e*P **P** **22 40 19.2 -2.6**
HEH pmax pmax
comp=Z,19nm,0.7s
G16K Koyuk River 20.82 45 P **P** **22 40 22.7 +0.6**
G16K Koyuk River 20.82 45 P **P** **22 40 22.9 +0.8**
baz=257
O14K Tigyukauivet M 20.85 62 P **P** **22 40 23.2 +0.9**
O14K Tigyukauivet M 20.85 62 P **P** **22 40 23.8 +1.4**
baz=274,SNR=5.4
S12K Black Hills 20.95 72 P **P** **22 40 24.3 +0.8**
S12K Black Hills 20.95 72 P **P** **22 40 24.9 +1.3**
baz=283,SNR=19
M15K Kasigluk River 21.07 58 P **P** **22 40 26.0 +1.2**
baz=271,SNR=42
D17K Noatak River 21.20 38 P **P** **22 40 27.0 +0.9**
baz=251,SNR=5.5
J16K Anvik River 21.23 51 P **P** **22 40 27.2 +0.8**
J16K Anvik River 21.23 51 P **P** **22 40 27.1 +0.7**
baz=265
I17K Unalakleet 21.25 49 P **P** **22 40 27.2 +0.5**
baz=263
RDOG Red Dog Mine 21.38 37 P **P** **22 40 28.1 0.0**
baz=250
N15K Kwethluk River 21.39 60 P **P** **22 40 29.4 +1.2**
N15K Kwethluk River 21.39 60 P **P** **22 40 29.2 +1.0**
baz=273,SNR=32
USA0B Ussuriysk Arra 21.43 252 P **P** **22 40 28.1 -0.7**
USA0B Ussuriysk Arra 21.43 252 ‖ *i*P **P** **22 40 28.2 -0.6**
USRK Ussuriysk Ar. 21.43 252 P **P** **22 40 28.2 -0.6**
comp=Z,2.7nm,0.7s,baz=98,slow=5.8,SNR=7.0
C17K DeLong Mountai 21.44 36 P **P** **22 40 29.4 +0.7**
baz=249
E17K Hotham Inlet 21.47 40 P **P** **22 40 29.7 +0.7**
baz=254,SNR=7.3
F17K Baldwin Pennin 21.51 42 P **P** **22 40 30.3 +0.9**
F17K Baldwin Pennin 21.51 42 P **P** **22 40 30.3 +0.9**
baz=256
G17K Kiwalik Mounta 21.54 45 P **P** **22 40 30.7 +1.0**
baz=259,SNR=18
O15K Ungalikthiuk R 21.59 62 P **P** **22 40 30.8 +0.4**
O15K Ungalikthiuk R 21.59 62 P **P** **22 40 31.2 +0.8**
baz=276,SNR=9.8
H17K Granite Mounta 21.74 47 P **P** **22 40 32.2 +0.3**
H17K Granite Mounta 21.74 47 P **P** **22 40 32.4 +0.5**
baz=261,SNR=16
JMM Marumori 21.77 227 P **P** **22 40 32.7 +0.2**
JMM Marumori 21.77 227 P **P** **22 40 34.3 +1.8**
TIXI Tiksi 21.80 333 P **P** **22 40 31.5 -0.9**
comp=Z,38nm,0.7s,baz=122,slow=12,SNR=18
TIXI PcP **PcP** **22 44 27.9 +0.3**
comp=Z,5.2nm,0.6s,baz=37,slow=1.5,SNR=1.9
TIXI LR LR 22 49 13.5
comp=Z,128nm,19.3s,baz=152,slow=37
comp=Z,38nm,0.7s
TIXI Tiksi 21.80 333 ‖ *i*P **P** **22 40 31.3 -1.1**
TIXI pmax pmax
comp=Z,50nm,0.9s
TIXI MLR MLR
comp=Z,137nm,16.0s
SDPT Sand Point 21.91 73 P **P** **22 40 35.1 +1.4**
baz=285
M16K Timber Creek 21.91 57 P **P** **22 40 34.4 +0.6**
M16K Timber Creek 21.91 57 P **P** **22 40 34.9 +1.2**
baz=272,SNR=14
J17K VABM Dome 21.92 51 P **P** **22 40 34.5 +0.7**
J17K VABM Dome 21.92 51 P **P** **22 40 35.1 +1.3**
baz=266,SNR=14
E18K Tukpahlearik C 22.02 40 P **P** **22 40 35.8 +1.0**
E18K Tukpahlearik C 22.02 40 P **P** **22 40 35.7 +0.9**
baz=254,SNR=9.3
N16K Nishlik Lake 22.03 59 P **P** **22 40 35.5 +0.5**
baz=273,SNR=18
F18K Selawik 22.17 42 P **P** **22 40 37.1 +0.7**
baz=257,SNR=6.5
C18K Utukok River 22.19 37 P **P** **22 40 37.3 +0.7**
C18K Utukok River 22.19 37 P **P** **22 40 36.9 +0.3**
baz=251,SNR=8.7
S14K Fog Glacier 22.19 70 P **P** **22 40 36.8 0.0**
baz=283
L17K Donlin 22.22 54 P **P** **22 40 37.3 +0.4**
baz=270,SNR=14
K17K Iditarod 22.23 53 P **P** **22 40 37.8 +0.8**
K17K Iditarod 22.23 53 P **P** **22 40 37.8 +0.8**
baz=268,SNR=15
B18K Kokolik River 22.24 35 P **P** **22 40 37.2 +0.2**
baz=248
G18K Tagagawik 22.43 44 P **P** **22 40 39.6 +0.5**
G18K Tagagawik 22.43 44 P **P** **22 40 39.5 +0.4**
baz=260,SNR=18
H18K Honhosa River 22.43 46 P **P** **22 40 39.3 +0.2**
H18K Honhosa River 22.43 46 P **P** **22 40 39.2 +0.2**
baz=262,SNR=24
O16K Kokwok River B 22.43 61 P **P** **22 40 39.1 0.0**
O16K Kokwok River B 22.43 61 P **P** **22 40 39.7 +0.6**
baz=276,SNR=7.4
MDJ Mudanjiang 22.51 256 P **P** **22 40 38.5 -1.5**
MDJ pmax pmax
comp=Z,15nm,1.2s
CHNA Chernabura Isl 22.54 74 P **P** **22 40 40.1 -0.1**
CHNA Chernabura Isl 22.54 74 P **P** **22 40 40.1 -0.1**
baz=286,SNR=16
CNBA Chernabura Isl 22.54 74 P **P** **22 40 39.5 -0.7**
P16K Nushagak River 22.55 62 P **P** **22 40 40.8 +0.5**
baz=277
M17K Holitna River 22.64 56 P **P** **22 40 41.4 +0.2**
M17K Holitna River 22.64 56 P **P** **22 40 42.4 +1.2**
baz=272,SNR=28
JSD Sado 22.75 232 P **P** **22 40 44.7 +2.2**
A19K Wainwright 22.80 33 P **P** **22 40 42.7 0.0**
baz=247
N17K Nushagak Hills 22.81 58 P **P** **22 40 43.5 +0.7**
baz=274,SNR=5.9
CHGN Chignik 22.81 69 P **P** **22 40 42.5 -0.4**
CHGN Chignik 22.81 69 P **P** **22 40 43.4 +0.6**
baz=284
C19K Lookout Ridge 22.89 36 P **P** **22 40 44.1 +0.5**
C19K Lookout Ridge 22.89 36 P **P** **22 40 43.9 +0.3**
baz=252,SNR=8.9
O17K Koliganek Bris 22.92 60 P **P** **22 40 43.9 0.0**
baz=276,SNR=15
F19K Shaleruckik Mo 22.95 42 P **P** **22 40 44.1 -0.1**
F19K Shaleruckik Mo 22.95 42 P **P** **22 40 44.6 +0.4**
baz=259
L18K Granite Mounta 22.98 54 P **P** **22 40 44.9 +0.5**
L18K Granite Mounta 22.98 54 P **P** **22 40 44.3 -0.1**
baz=271,SNR=18
J18K Innoko River 22.99 51 P **P** **22 40 45.0 +0.4**
J18K Innoko River 22.99 51 P **P** **22 40 45.0 +0.4**
baz=268,SNR=19
R16K Pilot Point 22.99 66 P **P** **22 40 45.6 +1.0**
baz=281
GCSA Galena City Sc 23.00 47 P **P** **22 40 45.1 +0.4**
baz=265
BNX BinXian 23.08 261 ‖ *i*P **P** **22 40 43.2 -2.4**
BNX pmax pmax
comp=Z,18nm,1.3s
G19K Purcell Mounta 23.10 44 P **P** **22 40 45.7 +0.1**
G19K Purcell Mounta 23.10 44 P **P** **22 40 45.9 +0.3**
baz=261,SNR=11
D19K Kuna River 23.22 38 P **P** **22 40 46.9 +0.2**
D19K Kuna River 23.22 38 P **P** **22 40 46.9 +0.2**
baz=255,SNR=12
H19K Roundabout Mou 23.27 46 P **P** **22 40 47.2 0.0**
H19K Roundabout Mou 23.27 46 P **P** **22 40 47.7 +0.5**
baz=263,SNR=42
Q16K King Salmon 23.28 63 P **P** **22 40 48.1 +0.7**
baz=279
E19K Redstone River 23.29 41 P **P** **22 40 47.1 -0.2**
E19K Redstone River 23.29 41 P **P** **22 40 48.1 +0.8**
baz=258,SNR=14
P17K Kvichak River 23.32 62 P **P** **22 40 48.9 +1.3**
baz=278,SNR=6.7
M18K Stony River 23.41 56 P **P** **22 40 49.4 +0.9**
baz=273,SNR=21
N18K Kilae Creek 23.43 58 P **P** **22 40 49.1 +0.4**
N18K Kilae Creek 23.43 58 P **P** **22 40 49.6 +0.9**
baz=275,SNR=15
J19K Poorman 23.50 49 P **P** **22 40 49.3 +0.1**
J19K Poorman 23.50 49 P **P** **22 40 49.4 +0.1**
baz=268,SNR=39
R17L Mt. Peulik Vol 23.62 66 P **P** **22 40 50.7 +0.2**
baz=282,SNR=19
PLK4 Peulik 4 23.62 65 P **P** **22 40 50.9 +0.3**
Q17K Contact Creek 23.75 64 P **P** **22 40 52.6 +0.9**
baz=281,SNR=15
F20K Avaraart Lake 23.79 42 P **P** **22 40 51.8 0.0**
F20K Avaraart Lake 23.79 42 P **P** **22 40 52.4 +0.6**
baz=261,SNR=13
D20K Etivluk River 23.81 38 P **P** **22 40 52.5 +0.5**
D20K Etivluk River 23.81 38 P **P** **22 40 52.8 +0.8**
baz=256,SNR=31
L19K White Mountain 23.84 54 P **P** **22 40 52.9 +0.5**
L19K White Mountain 23.84 54 P **P** **22 40 53.1 +0.7**
baz=272
E20K Nigu River 23.85 39 P **P** **22 40 53.1 +0.7**
baz=257,SNR=22
O18K Koktuh Hills 23.86 60 P **P** **22 40 53.5 +0.9**
O18K Koktuh Hills 23.86 60 P **P** **22 40 53.5 +0.9**
baz=278,SNR=13
P18K Big Mountain, 23.91 61 P **P** **22 40 53.7 +0.6**
P18K Big Mountain, 23.91 61 P **P** **22 40 54.3 +1.3**
baz=278,SNR=9.3
H20K Anotleneega Mo 23.92 46 P **P** **22 40 53.9 +0.8**
baz=265,SNR=18
B20K Meade River 23.98 34 P **P** **22 40 54.0 +0.5**
B20K Meade River 23.98 34 P **P** **22 40 54.3 +0.7**
baz=252,SNR=9.5
MJB9 Matsu-Tunnel 24.01 230 P **P** **22 40 55.2 +1.1**
MJAR Matsushiro Arr 24.01 230 P **P** **22 40 54.4 +0.3**
MJAR Matsushiro Arr 24.01 230 P **P** **22 40 55.5 +1.4**
comp=Z,42nm,0.6s,baz=28,slow=8.8,SNR=140
MJAR ScP **ScP** **22 48 01.5 +0.8**
comp=Z,1.1nm,0.3s,baz=35,slow=1.5,SNR=4.0
comp=Z,42nm,0.6s
MAJO Matsushiro 24.01 230 P **P** **22 40 54.4 +0.3**
MAJO Matsushiro 24.01 230 P **P** **22 40 55.9 +1.8**
MAJO Matsushiro 24.01 230 *c i*P **P** **22 40 54.2 +0.1**
MAJO pmax pmax
comp=Z,80nm,0.6s
I20K Naaghedeneel 24.04 48 P **P** **22 40 55.0 +1.0**
I20K Naaghedeneel 24.04 48 P **P** **22 40 54.2 +0.2**
baz=267
ACHA Angle Creek He 24.05 64 P **P** **22 40 54.5 0.0**
M19K Big River Lodg 24.07 55 P **P** **22 40 55.3 +0.9**
M19K Big River Lodg 24.07 55 P **P** **22 40 54.6 +0.2**
baz=274,SNR=18
N19K Bonanza Creek 24.11 57 P **P** **22 40 55.5 +0.6**

N19K **Bonanza Creek** 24.11 57 P P 22 40 55.9 +1.0
baz=276,SNR=8.1
Q18K **Katmai Hardscr** 24.14 63 P P 22 40 55.7 +0.5
baz=280
J20K **Nowinta River** 24.15 49 P P 22 40 55.9 +0.8
J20K **Nowinta River** 24.15 49 P P 22 40 56.0 +0.8
baz=269,SNR=59
K20K **Telida** 24.17 51 P P 22 40 56.3 +0.9
K20K **Telida** 24.17 51 P P 22 40 56.2 +0.8
baz=270,SNR=34
O19K **Port Alsworth** 24.26 59 P P 22 40 57.2 +1.1
L20K **Farewell, AK** 24.28 53 P P 22 40 57.4 +1.0
baz=273,SNR=15
IMAR **Indian Mountai** 24.43 45 P P 22 40 58.1 +0.5
CHIR **Chirikof Islan** 24.45 70 P P 22 40 59.7 +1.8
CHIR **Chirikof Islan** 24.45 70 P P 22 40 59.1 +1.2
baz=286
C21K **Knifeblade Rid** 24.56 37 P P 22 40 59.8 +1.0
baz=257,SNR=11
G21K **Allakaket** 24.58 43 P P 22 40 59.8 +0.7
G21K **Allakaket** 24.58 43 P P 22 40 59.5 +0.5
baz=264,SNR=30
A21K **Barrow** 24.58 31 P P 22 40 59.5 +0.6
baz=250
R18K **Karluk** 24.64 65 P P 22 40 59.4 -0.2
baz=283
M20K **Styx River** 24.66 55 P P 22 41 01.3 +1.3
M20K **Styx River** 24.66 55 P P 22 41 01.6 +1.6
baz=275,SNR=28
F21K **Alatna River** 24.68 42 P P 22 41 00.0 +0.1
F21K **Alatna River** 24.68 42 P P 22 41 00.4 +0.5
baz=263,SNR=16
E21K **Killik River** 24.69 39 P P 22 41 00.3 +0.2
baz=259
B21K **Ikpikpuk River** 24.73 36 P P 22 41 00.7 +0.4
B21K **Ikpikpuk River** 24.73 36 P P 22 41 01.5 +1.2
baz=256,SNR=21
Q19K **Cape Douglas,** 24.79 62 P P 22 41 01.4 +0.4
Q19K **Cape Douglas,** 24.79 62 P P 22 41 01.4 +0.4
baz=281
H21K **Melozitna Rive** 24.79 46 P P 22 41 01.3 +0.3
H21K **Melozitna Rive** 24.79 46 P P 22 41 01.3 +0.3
baz=267,SNR=6.2
ILSW **Iliamna Southw** 24.87 59 P P 22 41 02.8 +0.9
P19K **Oil Pt** 24.88 60 P P 22 41 02.6 +0.8
P19K **Oil Pt** 24.88 60 P P 22 41 01.4 -0.4
baz=279
CHUM **Lake Minchumin** 24.95 50 P P 22 41 02.8 +0.4
baz=271
A22K **Sinclair Lake** 24.98 33 P P 22 41 02.4 -0.3
baz=253
RED **Redoubt Volcan** 24.99 58 P P 22 41 03.9 +0.9
SII **Sitkinak Islan** 25.02 67 P P 22 41 04.3 +1.1
SII **Sitkinak Islan** 25.02 67 P P 22 41 04.3 +1.1
SII **Sitkinak Islan** 25.02 67 P P 22 41 03.4 +0.2
baz=285
PPLA **Purkeypile** 25.04 52 P P 22 41 04.9 +1.5
PPLA **Purkeypile** 25.04 52 P P 22 41 04.7 +1.2
baz=273,SNR=10
CAST **Castle Rocks** 25.07 51 P P 22 41 04.1 +0.6
CAST **Castle Rocks** 25.07 51 P P 22 41 04.5 +1.0
baz=272,SNR=19
I21K **Tanana** 25.11 47 P P 22 41 04.8 +0.9
I21K **Tanana** 25.11 47 P P 22 41 04.5 +0.6
baz=268
O20K **Slope Mountain** 25.11 59 P P 22 41 04.5 +0.5
baz=279
N20K **Mount Spurr** 25.17 56 P P 22 41 05.6 +1.0
baz=277
SPCR **Spurr Chakacha** 25.17 56 P P 22 41 05.8 +1.3
baz=277
JGF **Kuroka** 25.17 230 P P 22 41 05.1 +0.4
JGF IAmb IAmb 22 41 06.8
comp=Z,44nm,0.8s
JGF **Kuroka** 25.17 230 P P 22 41 05.9 +1.2
F22K **John River** 25.21 41 P P 22 41 05.2 +0.4
baz=263
D22K **Ayikyak River** 25.24 38 P P 22 41 05.3 +0.3
D22K **Ayikyak River** 25.24 38 P P 22 41 05.7 +0.7
baz=260,SNR=12
SPU **Mount Spurr** 25.25 56 P P 22 41 06.3 +1.1
B22K **Teshekpuk Lake** 25.30 34 P P 22 41 04.9 -0.6
baz=256
STLK **Strandline Lak** 25.32 55 P P 22 41 06.7 +0.9
OHAK **Old Harbor** 25.33 66 P P 22 41 05.6 -0.3
OHAK **Old Harbor** 25.33 66 P P 22 41 06.3 +0.4
OHAK **Old Harbor** 25.33 66 P P 22 41 05.2 -0.7
baz=284,SNR=9.9
H22K **Ishtalitna Cre** 25.39 45 P P 22 41 06.9 +0.4
baz=268,SNR=22
SKT **Skwentna** 25.41 54 P P 22 41 07.5 +0.9
SKT **Skwentna** 25.41 54 P P 22 41 06.5 -0.1
baz=276,SNR=8.6
G22K **Bettles** 25.41 43 P P 22 41 06.4 -0.1
baz=265
E22K **Anaktuvuk Pass** 25.43 40 P P 22 41 07.2 +0.3
E22K **Anaktuvuk Pass** 25.43 40 P P 22 41 06.8 0.0
baz=262,SNR=17
Q20K **Shuyak Island** 25.49 62 P P 22 41 07.9 +0.6
baz=282
SYI **Shuyak Island** 25.49 62 P P 22 41 08.6 +1.3
SYI IAmb IAmb 22 41 10.9
comp=Z,42nm,0.8s
INU **Inuyama** 25.53 230 P P 22 41 07.7 -0.2
INU IAmb IAmb 22 41 14.8
comp=Z,25nm,0.7s
BPAW **Bear Paw Mtn.** 25.54 49 P P 22 41 08.2 +0.5
BPAW **Bear Paw Mtn.** 25.54 49 P P 22 41 08.0 +0.3
baz=272,SNR=9.7
KDAK **Kodiak Island** 25.57 64 P P 22 41 07.8 -0.2
KDAK **Kodiak Island** 25.57 64 P P 22 41 07.6 -0.4
comp=Z,14nm,0.6s,baz=285,slow=12,SNR=16
KDAK LR LR 22 50 49.7
comp=Z,192nm,21.5s,baz=243,slow=35
comp=Z,14nm,0.6s
KDAK **Kodiak Island** 25.57 64 ⇑*i*P P 22 41 07.8 -0.2
KDAK pmax pmax
comp=Z,27nm,0.9s
KDAK **Kodiak Island** 25.57 64 P P 22 41 08.9 +0.8
baz=284
KTH **Kantishna Hill** 25.58 51 P P 22 41 09.1 +0.8
MLY **Manley** 25.64 47 P P 22 41 09.5 +0.8
MLY **Manley** 25.64 47 P P 22 41 09.4 +0.8
baz=270,SNR=6.1
HOM **Homer** 25.67 60 P P 22 41 09.1 +0.1
baz=280
BOD **Bodaibo** 25.83 296 *e*P P 22 41 08.5 -1.9
SUA **Susitna One** 25.84 55 P P 22 41 10.8 +0.2
SUA **Susitna One** 25.84 55 P P 22 41 10.4 -0.2
baz=277
TRF **Thorofare Moun** 25.87 51 P P 22 41 11.6 +0.6
TRF **Thorofare Moun** 25.87 51 P P 22 41 11.4 +0.5
baz=274,SNR=12
CNPM **China Poot** 25.90 60 P P 22 41 10.5 -0.6
COLD **Coldfoot** 25.95 42 P P 22 41 11.1 -0.4
COLD **Coldfoot** 25.95 42 P P 22 41 11.0 -0.4
baz=266,SNR=9.0
CUT **Chulitna** 25.96 53 P P 22 41 11.6 0.0
CUT IAmb IAmb 22 41 12.8
comp=Z,41nm,0.9s
CUT **Chulitna** 25.96 53 P P 22 41 11.7 +0.2
baz=276
D23K **Nanushuk River** 25.97 38 P P 22 41 12.5 +0.9
D23K **Nanushuk River** 25.97 38 P P 22 41 11.2 -0.4
baz=262
G23K **Bananza Creek** 25.98 43 P P 22 41 11.7 -0.1
G23K **Bananza Creek** 25.98 43 P P 22 41 11.7 -0.1
baz=267,SNR=8.1
BRLK **Bradley Lake** 26.03 59 P P 22 41 12.0 -0.2
C23K **Itkillik River** 26.13 36 P P 22 41 13.5 +0.5
C23K IAmb IAmb 22 41 55.4
comp=Z,40nm,1.1s
C23K **Itkillik River** 26.13 36 P P 22 41 13.4 +0.5
baz=260,SNR=6.5
H23K **Yukon River** 26.14 45 P P 22 41 13.3 +0.1
H23K IAmb IAmb 22 41 42.0
comp=Z,50nm,1.1s
H23K **Yukon River** 26.14 45 P P 22 41 14.0 +0.8
baz=269,SNR=16
BWN **Browne** 26.20 49 P P 22 41 15.4 +1.8
BWN IAmb IAmb 22 41 48.2
comp=Z,27nm,0.9s
I23K **Minto, Yukon-K** 26.22 47 P P 22 41 14.3 +0.5
I23K **Minto, Yukon-K** 26.22 47 P P 22 41 14.6 +0.7
baz=271,SNR=11
E23K **Chandalar** 26.25 40 P P 22 41 14.4 +0.3
baz=265,SNR=14
E23K **Chandalar** 26.25 40 P P 22 41 14.1 -0.1
TOLK **Toolik Lake Re** 26.32 39 P P 22 41 15.4 +0.6
TOLK **Toolik Lake Re** 26.32 39 P P 22 41 15.0 +0.2
baz=264,SNR=7.4
NEA2 **Nenana** 26.36 48 P P 22 41 15.6 +0.5
NEA2 **Nenana** 26.36 48 P P 22 41 15.4 +0.2
baz=272,SNR=12
RC01 **Rabbit Creek A** 26.37 56 P P 22 41 15.6 +0.3
MCK **McKinley** 26.46 50 P P 22 41 16.7 +0.7
MCK **McKinley** 26.46 50 P P 22 41 16.7 +0.7
MCK pmax pmax
comp=Z,17nm,1.0s
MCK **McKinley** 26.46 50 P P 22 41 16.2 +0.1
baz=274,SNR=6.6
RND **Reindeer** 26.52 51 P P 22 41 16.9 +0.2
RND **Reindeer** 26.52 51 P P 22 41 16.9 +0.2
RND pmax pmax
comp=Z,18nm,1.0s
PMR **Palmer** 26.59 55 P P 22 41 18.3 +1.1
PMR **Palmer** 26.59 55 P P 22 41 18.3 +1.1
PMR pmax pmax
comp=Z,8.0nm,0.9s
PMR **Palmer** 26.59 55 P P 22 41 17.9 +0.8
baz=278
D24K **Happy Valley** 26.65 38 P P 22 41 18.9 +1.2
D24K **Happy Valley** 26.65 38 P P 22 41 17.8 +0.1
baz=263
GHO **Glory Hole Cre** 26.66 54 P P 22 41 18.3 +0.4
E24K **Your Creek** 26.67 40 P P 22 41 18.4 +0.5
E24K **Your Creek** 26.67 40 P P 22 41 18.4 +0.5
baz=266,SNR=17
SEW **Seward** 26.68 58 P P 22 41 17.0 -1.0
SEW IAmb IAmb 22 41 18.8
comp=Z,34nm,1.0s
SEW **Seward** 26.68 58 P P 22 41 18.1 +0.1
baz=281
C24K **Franklin Bluff** 26.77 37 P P 22 41 19.5 +0.8
C24K IAmb IAmb 22 42 02.6
comp=Z,34nm,1.0s
C24K **Franklin Bluff** 26.77 37 P P 22 41 18.8 +0.1
baz=262
WRH **Wood River Hil** 26.78 48 P P 22 41 19.5 +0.5
WRH IAmb IAmb 22 41 20.9
comp=Z,33nm,0.9s
H24K **Noodor Dome** 26.83 45 P P 22 41 19.4 0.0
H24K **Noodor Dome** 26.83 45 P P 22 41 20.0 +0.6
baz=271,SNR=9.1
F24K **Squaw Lake** 26.86 42 P P 22 41 19.6 -0.1
F24K **Squaw Lake** 26.86 42 P P 22 41 20.1 +0.4
baz=268,SNR=7.6
COLA **College** 26.87 47 P P 22 41 20.7 +1.1
COLA **College** 26.87 47 *d*/*i*P P 22 41 20.4 +0.8
COLA pmax pmax
comp=Z,20nm,1.1s
COLA **College** 26.87 47 P P 22 41 19.9 +0.2
baz=273
CCB **Clear Creek Bu** 26.90 48 P P 22 41 20.2 +0.2
KNK **Knik Glacier** 26.93 55 P P 22 41 20.8 +0.5
KNK IAmb IAmb 22 41 21.9
comp=Z,40nm,0.8s
KNK **Knik Glacier** 26.93 55 P P 22 41 20.8 +0.5
baz=279,SNR=13
G24K **Hadweenzic Riv** 27.00 43 P P 22 41 21.4 +0.6
G24K **Hadweenzic Riv** 27.00 43 P P 22 41 21.6 +0.8
baz=270,SNR=26
POKR **Poker Plat Res** 27.04 47 P P 22 41 21.7 +0.5
POKR **Poker Plat Res** 27.04 47 P P 22 41 20.5 -0.7
baz=273
PWL **Port Wells** 27.08 56 P P 22 41 21.7 0.0
PWL IAmb IAmb 22 41 22.6
comp=Z,53nm,1.0s
PWL **Port Wells** 27.08 56 P P 22 41 21.0 -0.7
baz=280,SNR=22
M23K **Glacier View** 27.22 54 P P 22 41 22.8 -0.2
baz=279
HDA **Harding Lake** 27.28 48 P P 22 41 22.8 -0.6
HDA **Harding Lake** 27.28 48 P P 22 41 22.9 -0.5
baz=274,SNR=12
ILAR **Eielson Array** 27.29 48 P P 22 41 23.7 +0.3
comp=Z,12nm,0.8s,baz=267,slow=7.9,SNR=103
ILAR pP pP 22 41 47.9 +0.2
comp=Z,5.1nm,0.9s,baz=267,slow=8.7,SNR=4.9
ILAR ScP ScP 22 48 09.0 -0.7
comp=Z,0.5nm,0.8s,baz=298,slow=5.1,SNR=4.7
comp=Z,12nm,0.8s
SCM **Sheep Creek Mo** 27.40 54 P P 22 41 25.0 +0.4
SCM IAmb IAmb 22 41 26.2
comp=Z,38nm,0.8s
SCM **Sheep Creek Mo** 27.40 54 P P 22 41 25.0 +0.4
SCM pmax pmax
comp=Z,38nm,0.8s
SCM **Sheep Creek Mo** 27.40 54 P P 22 41 24.9 +0.4
baz=279,SNR=21
D25K **Kavik River** 27.54 38 IAmb IAmb 22 42 24.9
comp=Z,31nm,0.7s
D25K **Kavik River** 27.54 38 P P 22 41 25.7 0.0
baz=266,SNR=22
G25K **Bearman Lake** 27.54 43 P P 22 41 26.0 +0.4
baz=271
H25L **Birch Creek** 27.66 44 P P 22 41 27.5 +0.8
baz=272
GLI **Glacier Island** 27.68 56 P P 22 41 26.7 -0.2
baz=281,SNR=5.8
F25K **Christian Rive** 27.72 41 P P 22 41 27.5 +0.1
baz=270,SNR=6.5
PRP **Porcupine Dome** 27.82 46 IAmb IAmb 22 41 30.3
comp=Z,28nm,0.8s
PRP **Porcupine Dome** 27.82 46 P P 22 41 28.5 +0.2
baz=274,SNR=44
K24K **Donnelly Dome** 27.85 50 IAmb IAmb 22 41 29.4
comp=Z,17nm,0.8s
K24K **Donnelly Dome** 27.85 50 P P 22 41 28.0 -0.5
baz=277,SNR=6.2
FYU **Fort Yukon** 27.89 44 P P 22 41 29.1 +0.3
M24K **Tolsona, Glenn** 27.90 53 IAmb IAmb 22 42 06.7
comp=Z,42nm,1.0s
M24K **Tolsona, Glenn** 27.90 53 P P 22 41 29.2 +0.2
baz=280,SNR=6.0
J25K **Salcha River,** 27.95 48 P P 22 41 28.8 -0.6
J25K **Salcha River,** 27.95 48 P P 22 41 28.7 -0.7
baz=275,SNR=16
HIN **Hinchinbrook I** 28.06 57 IAmb IAmb 22 41 31.7
comp=Z,21nm,0.9s
PAX **Paxson** 28.09 51 P P 22 41 31.1 +0.5
PAX **Paxson** 28.09 51 P P 22 41 31.2 +0.5
PAX pmax pmax
comp=Z,12nm,1.3s
PAX **Paxson** 28.09 51 P P 22 41 30.2 -0.5
baz=278,SNR=6.9
KLU **Klutina** 28.12 54 P P 22 41 31.6 +0.6
KLU **Klutina** 28.12 54 P P 22 41 31.4 +0.4
baz=281,SNR=6.9
BMAR **Burnt Mountain** 28.13 42 P P 22 41 31.5 +0.6
DIV **Divide** 28.26 55 P P 22 41 33.0 +0.8
DIV IAmb IAmb 22 41 33.9
comp=Z,17nm,0.8s
RIDG **Independent Ri** 28.27 50 P P 22 41 31.4 -0.8
RIDG **Independent Ri** 28.27 50 P P 22 41 31.5 -0.8
baz=277
F26K **Sheenjek River** 28.30 41 P P 22 41 32.6 +0.1
F26K **Sheenjek River** 28.30 41 P P 22 41 33.1 +0.7
baz=271,SNR=5.3
HARP **HAARP** 28.32 52 P P 22 41 32.9 +0.2
baz=280
KSRS **Korea Array** 28.35 246 P P 22 41 32.8 -0.3
comp=Z,3.1nm,0.7s,baz=46,slow=8.7,SNR=15
KSRS PcP PcP 22 44 44.4 +1.5
comp=Z,1.9nm,0.7s,baz=3.4,slow=2.4,SNR=8.0
KSRS ScP ScP 22 48 15.2 +1.8
comp=Z,1.5nm,0.7s,baz=58,slow=2.1,SNR=4.1
KSRS LR LR 22 52 51.7
comp=Z,21μm,18.0s,baz=45,slow=36
comp=Z,3.1nm,0.7s
Q23K **Middleton Isla** 28.35 59 P P 22 41 33.6 +0.6
Q23K IAmb IAmb 22 41 34.9
comp=Z,37nm,0.8s
Q23K **Middleton Isla** 28.35 59 P P 22 41 33.3 +0.4
baz=284
KSAR **Wonju Array Be** 28.38 246 P P 22 41 32.5 -0.8
KSAR **Wonju Array Be** 28.38 246 P P 22 41 32.5 -0.8
EYAK **Cordova Ski Ar** 28.39 56 P P 22 41 33.9 +0.6
EYAK **Cordova Ski Ar** 28.39 56 P P 22 41 33.9 +0.6
baz=283
G26K **Porcupine Rive** 28.45 43 P P 22 41 34.4 +0.7
G26K IAmb IAmb 22 41 41.5
comp=Z,13nm,0.6s
G26K **Porcupine Rive** 28.45 43 P P 22 41 33.8 0.0
baz=272,SNR=17
C27K **Jago River** 28.50 37 P P 22 41 34.3 +0.2
C27K **Jago River** 28.50 37 P P 22 41 34.6 +0.5
baz=268,SNR=6.5
SCRK **Sand Creek** 28.62 49 P P 22 41 34.7 -0.7
SCRK IAmb IAmb 22 41 36.1
comp=Z,23nm,0.9s
SCRK **Sand Creek** 28.62 49 P P 22 41 35.1 -0.3
baz=278,SNR=26
DOT **Dot Lake** 28.63 50 P P 22 41 34.9 -0.5
N25K **Chitina, Valde** 28.72 54 P P 22 41 36.5 +0.2
N25K **Chitina, Valde** 28.72 54 P P 22 41 36.7 +0.4
baz=282,SNR=10
J26L **Joseph Creek** 28.73 48 P P 22 41 36.0 -0.4
J26L **Joseph Creek** 28.73 48 P P 22 41 35.9 -0.5
baz=277
I26K **Coal Creek Min** 28.82 46 P P 22 41 36.3 -0.7
I26K **Coal Creek Min** 28.82 46 P P 22 41 36.5 -0.5
baz=276
BMRM **Bremner River** 28.85 55 IAmb IAmb 22 41 39.3
comp=Z,28nm,0.8s
BMRM **Bremner River** 28.85 55 P P 22 41 37.9 +0.5
baz=283,SNR=9.0
MENT **Mentasta** 28.89 51 P P 22 41 38.0 +0.3
RAGM **Ragged Mountai** 28.95 57 P P 22 41 39.1 +0.8
RAGM IAmb IAmb 22 41 42.0
comp=Z,21nm,0.8s
L26K **Log Cabin Wild** 29.04 51 P P 22 41 39.2 +0.2
L26K **Log Cabin Wild** 29.04 51 P P 22 41 39.6 +0.5
baz=280
GLB **Gilahina Butte** 29.13 54 P P 22 41 40.3 +0.5
HMT **Hamilton** 29.16 57 P P 22 41 40.8 +0.7
E27K **Coleen River** 29.25 40 P P 22 41 40.5 -0.4
E27K **Coleen River** 29.25 40 P P 22 41 40.0 -0.8
baz=272
G27K **Doyon Strip** 29.30 43 P P 22 41 41.8 +0.5
baz=274,SNR=7.3
M26K **Nabesna, AK** 29.31 52 P P 22 41 42.2 +0.7
M26K **Nabesna, AK** 29.31 52 P P 22 41 42.5 +1.0
baz=281,SNR=14
VRDI **Verde Repeater** 29.34 55 P P 22 41 42.8 +0.9
H27K **Steamboat Moun** 29.40 44 P P 22 41 43.1 +0.9
H27K **Steamboat Moun** 29.40 44 P P 22 41 42.6 +0.4
baz=276,SNR=15
BERG **Berg Lake** 29.42 56 P P 22 41 42.5 +0.2
BERG IAmb IAmb 22 41 44.7
comp=Z,61nm,1.6s
I27K **Kandik River** 29.43 45 P P 22 41 43.0 +0.5
baz=277,SNR=7.5
K27K **Chicken** 29.44 49 P P 22 41 42.1 -0.4
K27K IAmb IAmb 22 41 44.2
comp=Z,22nm,0.8s
K27K **Chicken** 29.44 49 P P 22 41 42.8 +0.3
baz=279
TJN **Taejon** 29.45 245 P P 22 41 43.0 +0.1
TJN **Taejon** 29.45 245 P P 22 41 43.0 +0.1
SUCK **Suckling Hills** 29.46 57 P P 22 41 43.8 +1.0
SUCK IAmb IAmb 22 41 45.3
comp=Z,43nm,1.5s
D27M **Malcolm River** 29.46 38 P P 22 41 43.5 +0.8
D27M IAmb IAmb 22 42 49.8
comp=Z,11nm,0.4s
D27M **Malcolm River** 29.46 38 P P 22 41 42.9 +0.1
baz=271
MCARA **McCarthy VSAT** 29.51 54 P P 22 41 44.4 +1.3
MCARA **McCarthy VSAT** 29.51 54 P P 22 41 43.9 +0.7
baz=283
CRQM **Cirque** 29.60 55 P P 22 41 44.6 +0.4
CRQM IAmb IAmb 22 41 46.5
comp=Z,33nm,0.8s
CRQE **Cirque** 29.62 55 P P 22 41 45.3 +0.9
baz=284,SNR=10
L27K **Beaver Creek,** 29.72 51 P P 22 41 45.9 +0.8
L27K IAmb IAmb 22 41 47.5
comp=Z,29nm,0.9s
L27K **Beaver Creek,** 29.72 51 P P 22 41 46.1 +1.1
baz=281,SNR=45
BCAR **Beaver Creek A** 29.73 51 P P 22 41 46.2 +1.0
TGL **Tana Glacier** 29.75 55 P P 22 41 46.3 +0.9
WAX **Waxell Ridge** 29.81 56 P P 22 41 47.0 +1.1
WAX IAmb IAmb 22 41 48.3
comp=Z,16nm,0.7s
M27K **Edge Creek, AK** 29.83 52 P P 22 41 47.2 +1.0
M27K IAmb IAmb 22 41 49.0
comp=Z,29nm,0.9s
M27K **Edge Creek, AK** 29.83 52 P P 22 41 46.9 +0.7
baz=282,SNR=34
SNH **Sunshine Point** 29.89 56 P P 22 41 48.5 +2.0
F28M **Old Crow** 29.93 41 P P 22 41 47.2 +0.3
baz=275
E28M **Babbage River** 30.00 39 P P 22 41 47.8 +0.4
baz=273
ISLE **Juniper Island** 30.02 56 P P 22 41 48.4 +0.5
I28M **Miner Creek** 30.14 46 P P 22 41 49.5 +0.6
I28M **Miner Creek** 30.14 46 P P 22 41 49.9 +1.0
baz=278,SNR=24
BARN **Barnard Glacie** 30.23 54 P P 22 41 51.2 +1.5
BARN IAmb IAmb 22 41 52.2
comp=Z,17nm,0.8s
JNU **Nakatsue** 30.23 237 P P 22 41 51.4 +1.5
GRNC **Granite Creek** 30.26 55 P P 22 41 51.4 +1.3
GRNC IAmb IAmb 22 41 52.3
comp=Z,14nm,0.7s
BVCY **Beaver Creek** 30.28 52 P P 22 41 51.4 +1.3
baz=283,SNR=9.5
MESA **MESA** 30.31 56 P P 22 41 51.2 +0.7
MESA IAmb IAmb 22 41 53.1
comp=Z,32nm,0.8s
MESA PcP 22 44 49.5 +1.7
MESA **MESA** 30.31 56 P P 22 41 51.2 +0.7
baz=286,SNR=6.9
YAH **Yahtse** 30.36 56 P P 22 41 52.0 +1.0
YAH IAmb IAmb 22 41 53.5
comp=Z,24nm,0.8s
CTG **Chitna Glacier** 30.40 55 P P 22 41 52.1 +0.9
baz=285,SNR=8.0
CTGM **Chitina Glacie** 30.40 55 P P 22 41 52.9 +1.6
CTGM IAmb IAmb 22 41 53.6
comp=Z,20nm,0.8s
LOGN **Logan Glacier** 30.60 55 P P 22 41 53.3 +0.4
LOGN IAmb IAmb 22 41 55.1
comp=Z,17nm,0.7s
DAWY **Dawson** 30.60 48 P P 22 41 53.5 +0.6
DAWY **Dawson** 30.60 48 P P 22 41 53.3 +0.5
baz=281
YUK3 **Moose Creek** 30.61 53 P P 22 41 53.9 +0.7
baz=284
E29M **Blow River** 30.61 40 P P 22 41 53.1 +0.3
baz=275
TABL **Table Mountain** 30.63 56 IAmb IAmb 22 41 55.5
comp=Z,28nm,0.8s
H29M **Whitestone** 30.67 44 P P 22 41 54.1 +0.8
H29M **Whitestone** 30.67 44 P P 22 41 53.9 +0.5
baz=278,SNR=10
XLT **XiLinHaoTe** 30.69 268 *e*P P 22 41 53.0 -0.9
XLT pmax pmax
comp=Z,6.0nm,1.4s
XLT pmax pmax
comp=Z,240nm,5.5s
G29M **Pine Creek** 30.72 42 P P 22 41 55.0 +1.1
G29M IAmb IAmb 22 42 33.4
comp=Z,21nm,1.1s
G29M **Pine Creek** 30.72 42 P P 22 41 54.1 +0.3
baz=277,SNR=9.2
I29M **Ogilvie Camp,** 30.83 46 P P 22 41 54.9 +0.1
I29M IAmb IAmb 22 41 56.7
comp=Z,19nm,0.9s
I29M **Ogilvie Camp,** 30.83 46 P P 22 41 54.9 +0.1
baz=280,SNR=17
O28M **Mount Upton** 30.99 55 P P 22 41 57.4 +0.8
O28M IAmb IAmb 22 41 58.8
comp=Z,24nm,0.8s
O28M **Mount Upton** 30.99 55 P P 22 41 56.9 +0.3
baz=286,SNR=13
J29N **Klondike Camp** 31.03 47 P P 22 41 57.4 +0.7
YUK8 **Steele Glacier** 31.06 54 P P 22 41 57.0 -0.1
baz=285
PCA **Pinnacle** 31.15 56 P P 22 41 58.7 +0.9
PINM **Pinnacle** 31.15 56 P P 22 41 58.5 +0.8
baz=287,SNR=11
EPYK **Eagle Plains** 31.31 43 P P 22 41 59.3 +0.3
EPYK **Eagle Plains** 31.31 43 P P 22 41 59.4 +0.4
baz=279,SNR=8.3
L29M **L29M** 31.35 50 P P 22 42 00.7 +1.3

L29M IAmb IAmb 22 42 02.3
comp=Z,35nm,0.8s
L29M L29M 31.35 50 P **P** **22 42 00.8 +1.3**
baz=284,SNR=39
M29M Somme Creek 31.36 51 P **P** **22 42 00.8 +1.2**
M29M IAmb IAmb 22 42 02.3
comp=Z,15nm,0.7s
M29M Somme Creek 31.36 51 P **P** **22 42 00.7 +1.2**
baz=284,SNR=26
G30M tAoh Zraii Nji 31.41 42 P **P** **22 42 00.3 +0.4**
G30M tAoh Zraii Nji 31.41 42 P **P** **22 42 00.2 +0.2**
baz=279,SNR=5.4
K29M Barlow Dome 31.45 48 P **P** **22 42 01.2 +0.8**
baz=283,SNR=7.8
F30M Barrier River 31.49 41 P **P** **22 42 02.2 +1.7**
F30M Barrier River 31.49 41 P **P** **22 42 01.5 +1.0**
baz=278,SNR=6.5
BCPM Bancas Point 31.49 56 P **P** **22 42 01.6 +1.0**
YUK4 Talbot Arm 31.56 53 P **P** **22 42 02.1 +0.7**
baz=286,SNR=5.4
I30M Mount Dempster 31.65 46 P **P** **22 42 02.4 +0.3**
I30M IAmb IAmb 22 42 04.0
comp=Z,23nm,0.8s
I30M Mount Dempster 31.65 46 P **P** **22 42 02.5 +0.3**
baz=282,SNR=40
PNL Peninsula 31.69 56 P **P** **22 42 02.6 +0.2**
PNL Peninsula 31.69 56 P **P** **22 42 02.6 +0.2**
baz=288,SNR=11
J30M Hart River 31.80 47 P **P** **22 42 04.0 +0.5**
J30M Hart River 31.80 47 P **P** **22 42 03.7 +0.2**
baz=283
YUK6 Outpost Mounta 31.81 54 P **P** **22 42 04.3 +0.7**
baz=287,SNR=11
O29M Mount Kennedy 31.89 55 P **P** **22 42 05.3 +1.0**
O29M IAmb IAmb 22 42 46.0
comp=Z,18nm,0.7s
O29M Mount Kennedy 31.89 55 P **P** **22 42 04.7 +0.3**
baz=288
M30M Minto, Yukon 32.08 50 P **P** **22 42 06.8 +1.0**
M30M Minto, Yukon 32.08 50 P **P** **22 42 06.9 +1.1**
baz=285,SNR=8.8
G31M Satah River 32.18 42 P **P** **22 42 06.8 +0.3**
baz=280
INK Inuvik 32.23 39 P **P** **22 42 07.2 +0.2**
INK Inuvik 32.23 39 P **P** **22 42 07.2 +0.2**
INK pmax pmax
comp=Z,12nm,1.2s
INK Inuvik 32.23 39 P **P** **22 42 07.5 +0.5**
baz=279,SNR=5.3
HYT Haines Junctio 32.24 54 P **P** **22 42 08.6 +1.2**
HYT IAmb IAmb 22 42 10.1
comp=Z,20nm,0.8s
HYT Haines Junctio 32.24 54 P **P** **22 42 07.9 +0.5**
baz=288,SNR=29
N30M Aishikik Lake 32.25 53 P **P** **22 42 07.8 +0.4**
N30M Aishikik Lake 32.25 53 P **P** **22 42 07.5 +0.1**
baz=287,SNR=5.5
F31M Tsiigehtchic 32.29 41 P **P** **22 42 08.4 +0.9**
F31M Tsiigehtchic 32.29 41 P **P** **22 42 07.9 +0.4**
baz=280
H31M Peel River 32.37 44 P **P** **22 42 08.6 +0.3**
H31M Peel River 32.37 44 P **P** **22 42 08.9 +0.6**
baz=282,SNR=6.0
P29M Windy Craggy 32.50 56 P **P** **22 42 10.5 +1.0**
P29M IAmb IAmb 22 42 12.2
comp=Z,11nm,0.7s
P29M Windy Craggy 32.50 56 P **P** **22 42 10.7 +1.1**
baz=289,SNR=5.9
P30M Million Dollar 32.72 55 P **P** **22 42 12.6 +1.2**
baz=289
N31M Braeburn, Yuko 32.84 52 P **P** **22 42 14.1 +1.6**
N31M Braeburn, Yuko 32.84 52 P **P** **22 42 13.8 +1.3**
baz=288,SNR=5.8
BJI Beijing 33.07 262 P **P** **22 42 14.7 +0.1**
BJI pP **pP** **22 42 39.6 0.0**
BJI pmax pmax
comp=Z,2.0nm,0.8s
PLBC Pleasant Camp 33.22 56 P **P** **22 42 17.1 +1.4**
baz=290
M31M Drury Creek, Y 33.26 51 P **P** **22 42 17.5 +1.4**
M31M IAmb IAmb 22 42 19.1
comp=Z,17nm,0.8s
M31M Drury Creek, Y 33.26 51 P **P** **22 42 18.0 +2.0**
baz=288,SNR=9.3
WHY Whitehorse 33.52 53 P **P** **22 42 19.6 +1.1**
WHY Whitehorse 33.52 53 P **P** **22 42 19.7 +1.3**
baz=290,SNR=13
SKAG Skagway 33.72 56 P **P** **22 42 21.8 +1.8**
SKAG IAmb IAmb 22 42 23.4
comp=Z,18nm,0.8s
SKAG Skagway 33.72 56 P **P** **22 42 21.5 +1.5**
baz=291,SNR=6.9
S31K Pelican 33.83 58 P **P** **22 42 22.2 +1.2**
S31K Pelican 33.83 58 P **P** **22 42 22.2 +1.2**
baz=292
SONM Songino Array 34.05 281 P **P** **22 42 22.0 -1.2**
comp=Z,1.0nm,0.5s,baz=46,slow=7.9,SNR=8.0
SONM pP **pP** **22 42 44.6 -3.6**
comp=Z,1.6nm,0.7s,baz=71,slow=5.0,SNR=5.1
SONM PcP **PcP** **22 44 58.4 +0.2**
comp=Z,6.7nm,0.7s,baz=76,slow=1.5,SNR=16
SONM ScP **ScP** **22 48 34.4 +1.9**
comp=Z,2.9nm,0.7s,baz=65,slow=2.5,SNR=11
N32M Quiet Lake 34.18 52 P **P** **22 42 25.4 +1.3**
baz=290
BESE Bessie Mountai 34.27 57 P **P** **22 42 26.7 +1.8**
BESE IAmb IAmb 22 42 28.0
comp=Z,23nm,0.9s
A36M Sachs Harbour 34.42 32 P **P** **22 42 26.9 +0.9**
baz=280
P32M Atlin 34.44 55 P **P** **22 42 28.3 +2.0**
P32M Atlin 34.44 55 P **P** **22 42 27.3 +1.0**
baz=292
ZAK Zakamensk 34.47 287 *e*P **P** **22 42 23.9 -2.9**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
MMPY Sheldon Lake, 34.51 49 P **P** **22 42 27.9 +1.0**
MMPY IAmb IAmb 22 42 30.0
comp=Z,13nm,0.8s
MMPY Sheldon Lake, 34.51 49 P **P** **22 42 28.2 +1.2**
baz=289,SNR=15
R32K Eaglecrest 34.55 57 P **P** **22 42 29.0 +1.8**
R32K IAmb IAmb 22 42 30.6
comp=Z,18nm,0.9s
R32K Eaglecrest 34.55 57 P **P** **22 42 28.9 +1.7**
baz=293
SIT Sitka 34.63 60 P **P** **22 42 29.9 +2.0**
SIT IAmb IAmb 22 42 31.7
comp=Z,26nm,1.0s
SIT Sitka 34.63 60 P **P** **22 42 29.9 +2.0**
SIT pmax pmax
comp=Z,26nm,1.0s
SIT Sitka 34.63 60 P **P** **22 42 29.7 +1.8**
baz=294
P33M Teslin, Yukon 34.63 54 P **P** **22 42 29.9 +1.9**
P33M Teslin, Yukon 34.63 54 P **P** **22 42 29.4 +1.4**
baz=291
S32K Killisnoo 34.84 59 P **P** **22 42 30.2 +0.6**
S32K Killisnoo 34.84 59 P **P** **22 42 31.3 +1.6**
baz=294
HHC Hu-ho-hao-te 35.21 268 *e*P **P** **22 42 33.0 -0.2**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.4s
H11N2 WAKE ISLAND Hy 35.27 170 T T 23 20 03.8
baz=355,slow=76,SNR=454
H11N3 WAKE ISLAND Hy 35.28 170 T T 23 20 04.1
baz=355,slow=76,SNR=153
H11N1 WAKE ISLAND Hy 35.28 170 T T 23 20 08.9
baz=355,slow=76,SNR=803
Q32M Nakina River 35.36 55 P **P** **22 42 35.8 +1.3**
Q32M Nakina River 35.36 55 P **P** **22 42 35.7 +1.3**
baz=293,SNR=5.1
R33M Jennings River 35.81 54 P **P** **22 42 39.7 +1.5**
baz=294,SNR=7.8
U33K Whale Pass 36.14 60 P **P** **22 42 42.6 +1.9**
baz=296
TGTN Hyland Airport 36.22 50 P **P** **22 42 42.5 +0.9**
baz=292
BTO Baotou 36.26 269 *e*P **P** **22 42 40.5 -1.7**
BTO pP **pP** **22 43 05.8 -1.7**
BTO sP **sP** **22 43 18.7 -1.7**
BTO PP **PP** **22 44 05.3 -1.3**
BTO pmax pmax
comp=Z,33nm,1.3s
BTO pmax pmax
comp=Z,560nm,7.0s
S34M Telegraph Cree 36.34 57 P **P** **22 42 43.7 +1.2**
S34M Telegraph Cree 36.34 57 P **P** **22 42 43.9 +1.4**
baz=295
CRAG Craig 36.43 61 P **P** **22 42 44.9 +1.6**
baz=297
H11S1 WAKE ISLAND Hy 36.46 171 T T 23 21 30.3
baz=352,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 36.47 171 T T 23 21 27.9
baz=352,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 36.48 171 T T 23 21 49.4
baz=352,slow=76,SNR=8.1
WTLY Watson Lake, Y 36.53 52 P **P** **22 42 45.8 +1.6**
DLBC Dease Lake 36.65 55 LR LR 22 58 39.2
comp=Z,110nm,18.4s,baz=305,slow=37
DLBC Dease Lake 36.65 55 P **P** **22 42 46.6 +1.4**
baz=295,SNR=8.7
JOW Kunigami 36.71 234 P **P** **22 42 46.7 +0.7**
T35M Bob Quinn 37.17 58 P **P** **22 42 52.0 +2.3**
T35M IAmb IAmb 22 42 54.2
comp=Z,37nm,1.4s
T35M Bob Quinn 37.17 58 P **P** **22 42 51.0 +1.3**
baz=297,SNR=6.3
V35K Ketchikan 37.26 61 P **P** **22 42 51.0 +0.7**
V35K Ketchikan 37.26 61 P **P** **22 42 52.3 +2.0**
baz=298
NJ2 Nanjing 37.30 250 *e*P **P** **22 42 51.0 +0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.8s
DIB Dawson Inlet, 37.84 64 P **P** **22 42 56.5 +1.2**
KOTAN Kotaneelee Air 38.67 51 P **P** **22 43 04.3 +2.1**
baz=297
TOAD Toad River Com 38.72 53 P **P** **22 43 04.2 +1.6**
baz=297,SNR=20
HG4B Hotspring 38.98 65 P **P** **22 43 06.2 +1.5**
EUNU Eureka 40.20 14 P **P** **22 43 15.2 +0.5**
EUNU Eureka 40.20 14 *i*P **P** **22 43 14.4 -0.3**
BBB Bella Bella 40.64 63 P **P** **22 43 20.0 +1.5**
BBB Bella Bella 40.64 63 LR LR 22 59 17.0
comp=Z,72nm,18.1s,baz=359,slow=35
ALE Alert 41.19 8 P **P** **22 43 23.5 +0.8**
HOLB Holberg 41.48 65 P **P** **22 43 27.1 +1.6**
HOLB IAmb IAmb 22 43 28.5
comp=Z,23nm,0.9s
YKAW3 Yellowknife Wh 41.55 44 P **P** **22 43 26.5 +0.7**
YKAW3 IAmb IAmb 22 43 28.0
comp=Z,11nm,0.8s
YKA Yellowknife Ar 41.59 44 P **P** **22 43 26.1 0.0**
comp=Z,6.1nm,0.8s,baz=304,slow=8.3,SNR=8.0
comp=Z,6.1nm,0.8s
YKA Yellowknife Ar 41.59 44*c*eP **P** **22 43 27.7 +1.5**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YHNB Yeheng 41.88 240 P **P** **22 43 30.7 +1.7**
ZAA0 Zalesovo Array 42.32 302 P **P** **22 43 29.7 -2.5**
ZALV Zalesovo Beam 42.32 302 P **P** **22 43 29.2 -3.0**
ZALV Zalesovo Beam 42.32 302 P **P** **22 43 29.4 -2.8**
comp=Z,3.8nm,0.6s,baz=52,slow=7.7,SNR=16
ZALV PcP **PcP** **22 45 23.8 +0.2**
comp=Z,4.5nm,0.6s,baz=47,slow=2.4,SNR=10
ZALV Zalesovo Beam 42.32 302 *i*P **P** **22 43 28.8 -3.4**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
GTA Gaotai 42.95 275 *e*P **P** **22 43 36.2 -1.5**
GTA pP pP 22 43 59.2 -4.3
GTA PcP **PcP** **22 45 27.1 +0.9**
GTA ScP **ScP** **22 49 08.5 +1.9**
GTA ScS **ScS** **22 53 24.8 -1.7**
GTA pmax pmax
comp=Z,15nm,1.3s
CBB Campbell River 43.28 65 P **P** **22 43 41.4 +1.3**
CBB IAmb IAmb 22 43 43.2
comp=Z,28nm,1.6s
OZB Mount Ozzard 43.85 66 P **P** **22 43 46.4 +1.7**
OZB IAmb IAmb 22 43 47.6
comp=Z,20nm,1.0s
CLRS Cowichan Lake 44.66 65 P **P** **22 43 51.9 +0.9**
CLRS IAmb IAmb 22 43 53.9
comp=Z,24nm,1.0s
LLLB Lillooet 44.75 62 P **P** **22 43 53.1 +1.3**
LLLB IAmb IAmb 22 43 54.9
comp=Z,26nm,1.0s
C03A Quillayute Air 44.96 66 P **P** **22 43 54.7 +1.4**
C03A IAmb IAmb 22 43 57.0
comp=Z,38nm,1.2s
TULEG Thule 45.20 15 *i*P **P** **22 43 54.4 -0.5**
TULEG IAmb IAmb 22 44 14.9
comp=Z,15nm,0.9s
KBS Kingsbay 45.29 352 *e*P **P** **22 43 56.0 +0.4**
KBS Kingsbay 45.29 352 *i*P **P** **22 43 54.0 -1.6**
A04D Lummi Island 45.46 65 P **P** **22 43 59.0 +1.6**
SPA0 Spitsbergen Ar 45.57 350 *e*P **P** **22 43 57.7 -0.2**
SPITS Spitsbergen Ar 45.57 350 P **P** **22 43 57.3 -0.6**
comp=Z,22nm,0.5s,baz=59,slow=9.8,SNR=90
comp=Z,22nm,0.5s
SPITS Spitsbergen Ar 45.57 350 P **P** **22 43 57.2 -0.6**
SPITS pmax pmax
comp=Z,29nm,0.6s
SPB2 Spitsbergen Ar 45.57 350 P **P** **22 43 57.1 -0.8**
NLWA Neilton Lookou 45.67 67 P **P** **22 44 00.5 +1.4**
NLWA IAmb IAmb 22 44 02.2
comp=Z,27nm,1.1s
WISH Wishkah 45.90 67 P **P** **22 44 02.6 +1.8**
WISH IAmb IAmb 22 44 04.2
comp=Z,24nm,1.1s
GNW Green Mountain 46.12 66 P **P** **22 44 03.9 +1.4**
E03A Lebam 46.37 67 P **P** **22 44 06.2 +1.8**
E03A IAmb IAmb 22 44 07.4
comp=Z,32nm,1.0s
NEEM North Greenlan 46.55 9 *i*P **P** **22 44 04.0 -1.9**
NEEM IAmb IAmb 22 44 06.4
comp=Z,48nm,1.0s
F03A Seaside 46.76 68 P **P** **22 44 08.9 +1.4**
F03A IAmb IAmb 22 45 18.7
comp=Z,18nm,0.7s
D05A Enumclaw 46.80 66 P **P** **22 44 09.6 +1.7**
D05A IAmb IAmb 22 44 10.9
comp=Z,37nm,1.2s
WMQ Urumqi 46.91 288 *e*P **P** **22 44 10.3 +1.4**
WMQ LR LR
comp=Z,160nm,18.7s
HEBO Mount Hebo 47.11 69 P **P** **22 44 11.9 +1.5**
HEBO IAmb IAmb 22 44 13.3
comp=Z,30nm,1.1s
LON Longmire 47.17 66 P **P** **22 44 11.9 +1.1**
LON Longmire 47.17 66 P **P** **22 44 11.9 +1.1**
LON pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 47.30 301 P **P** **22 44 09.1 -2.6**
KURK Kurchatov 47.30 301 P **P** **22 44 09.8 -1.9**
KURK Kurchatov 47.30 301*c i*P **P** **22 44 09.4 -2.3**
KURK pmax pmax
comp=Z,25nm,0.6s
KURK Kurchatov 47.30 301 P **P** **22 44 09.7 -2.0**
KURK PcP **PcP** **22 45 40.5 -0.3**
G03D McMinnville, O 47.38 69 P **P** **22 44 13.6 +1.2**
KURBB Kurchatov Arra 47.40 301 P **P** **22 44 09.9 -2.5**
comp=Z,23nm,0.6s,baz=57,slow=8.0,SNR=45
KURBB PcP **PcP** **22 45 40.9 -0.3**
comp=Z,6.1nm,0.6s,baz=51,slow=3.5,SNR=11
KURBB LR LR 23 05 38.0
comp=Z,144nm,18.6s,baz=206,slow=38
comp=Z,23nm,0.6s
MHA Mahukona 47.41 119 P **P** **22 44 14.6 +1.8**
MHA Mahukona 47.41 119 P **P** **22 44 14.6 +1.8**
BLKN Baker Lake 47.42 35 P **P** **22 44 12.8 +0.3**
B08A Colville Reser 47.44 63 P **P** **22 44 13.7 +0.8**
B08A IAmb IAmb 22 44 15.2
comp=Z,19nm,0.8s
LTY Liberty 47.45 65 P **P** **22 44 13.3 +0.3**
LTY IAmb IAmb 22 44 15.3
comp=Z,24nm,1.5s
HPAH Hawaii Prepara 47.64 119 P **P** **22 44 15.9 +1.1**
COR Corvallis 47.76 69 P **P** **22 44 16.5 +1.2**
COR IAmb IAmb 22 44 18.6
comp=Z,46nm,1.4s
COR Corvallis 47.76 69 P **P** **22 44 16.5 +1.2**
COR pmax pmax
comp=Z,46nm,1.4s
I02E Swisshome, OR 47.78 70 P **P** **22 44 16.6 +1.1**
I02E IAmb IAmb 22 44 18.6
comp=Z,26nm,1.3s
G04A Mulino 47.80 68 P **P** **22 44 16.4 +0.7**
G04A IAmb IAmb 22 44 18.1
comp=Z,18nm,0.8s
HUH Hualalai 47.86 120 P **P** **22 44 17.9 +1.2**
MK31 Makanchi Array 47.91 295*c i*P **P** **22 44 13.8 -2.7**
MKAR Makanchi Array 47.91 295 P **P** **22 44 13.9 -2.5**
comp=Z,5.2nm,0.5s,baz=53,slow=6.8,SNR=35
MKAR PcP **PcP** **22 45 42.9 -0.2**
comp=Z,2.2nm,0.7s,baz=64,slow=4.2,SNR=4.0
comp=Z,5.2nm,0.5s
POHA Pohakuloa 47.95 119 P **P** **22 44 18.7 +1.3**
MAKZ Makanchi 48.06 295 P **P** **22 44 15.2 -2.5**
MXC Moxie City 48.08 65 P **P** **22 44 19.2 +1.4**
MXC IAmb IAmb 22 44 20.4
comp=Z,29nm,1.6s
H04D Lebanon 48.11 69 P **P** **22 44 19.5 +1.5**
H04D IAmb IAmb 22 44 20.9
comp=Z,13nm,0.9s
BUCK Buck Mountain 48.19 69 P **P** **22 44 20.4 +1.6**
BUCK IAmb IAmb 22 44 21.9
comp=Z,27nm,1.2s
MLH Mauna Loa 48.25 119 P **P** **22 44 20.4 +0.8**
H04A Detroit Lake 48.30 68 P **P** **22 44 20.1 +0.5**
H04A IAmb IAmb 22 44 22.0
comp=Z,16nm,1.1s
I03D Drain, OR 48.32 70 P **P** **22 44 21.3 +1.6**
I03D IAmb IAmb 22 44 22.7
comp=Z,19nm,1.2s
E07A Sunnyside 48.32 65 P **P** **22 44 20.7 +1.0**
KEBM Edson Butte 48.33 72 P **P** **22 44 21.6 +1.7**
KEBM IAmb IAmb 22 44 23.0
comp=Z,24nm,1.0s
WAH2 Wahluke Slope 48.35 65 P **P** **22 44 20.7 +0.8**
WAH2 IAmb IAmb 22 44 21.9
comp=Z,46nm,1.5s
J01E Myrtle Point 48.36 71 P **P** **22 44 21.9 +1.9**
J01E IAmb IAmb 22 44 23.2
comp=Z,27nm,1.0s
HATHI Halema'uma'u T 48.37 119 P **P** **22 44 21.4 +0.9**
PUH Pauahi 48.44 119 P **P** **22 44 22.8 +1.9**
KNHH Kane Nui o Ham 48.45 119 P **P** **22 44 22.9 +1.8**
STCH Steam Cracks 48.47 119 P **P** **22 44 22.4 +1.3**
D08A Wollman Farm, 48.49 64 P **P** **22 44 21.9 +0.9**
JOKA Jonika Flow 48.49 119 P **P** **22 44 21.9 +0.6**
HAWA Hanford 48.60 65 P **P** **22 44 22.5 +0.7**
NEW Newport 48.64 62 P **P** **22 44 22.7 +0.6**
NEW Newport 48.64 62 LR LR 23 05 57.6
comp=Z,35nm,18.2s,baz=334,slow=37
NEW Newport 48.64 62 P **P** **22 44 22.7 +0.6**
NEW pmax pmax
comp=Z,11nm,1.1s
F07A Phinny Hill Vi 48.72 66 P **P** **22 44 23.2 +0.6**
E08A Dider Farm, El 48.78 65 P **P** **22 44 24.5 +1.3**
KBO Bosley Butte 48.83 72 P **P** **22 44 25.9 +2.2**
KBO IAmb IAmb 22 44 27.1
comp=Z,22nm,1.2s
I05D Terrebonne, OR 48.99 68 P **P** **22 44 26.2 +1.3**
I05D IAmb IAmb 22 44 26.8
comp=Z,10nm,0.7s
BBOR Butler Butte 49.22 71 P **P** **22 44 28.1 +1.3**
BBOR IAmb IAmb 22 44 29.9
comp=Z,27nm,1.3s
E09A Wood Farm, Sta 49.25 64 P **P** **22 44 27.4 +0.7**
E09A IAmb IAmb 22 44 28.8
comp=Z,24nm,0.8s
L02F Cave Junction 49.25 72 P **P** **22 44 28.0 +1.2**
L02F IAmb IAmb 22 44 30.0
comp=Z,17nm,1.2s
KSXB Camp Six Broad 49.27 72 P **P** **22 44 28.6 +1.5**
KSXB IAmb IAmb 22 44 30.5
comp=Z,21nm,1.1s
J04A Umpqua Nationa 49.30 70 P **P** **22 44 29.6 +2.2**
KRMB Red Mountain 49.47 73 P **P** **22 44 30.4 +1.8**
KRMB IAmb IAmb 22 44 32.0
comp=Z,15nm,1.1s
PINE Pine Mountain 49.56 69 P **P** **22 44 30.8 +1.3**
PINE IAmb IAmb 22 44 32.4
comp=Z,25nm,1.2s
LNOR Lincton Mounta 49.60 65 P **P** **22 44 29.9 +0.5**
G08A Pilot Rock 49.63 66 P **P** **22 44 30.3 +0.5**
KRPM Rodgers 49.65 73 P **P** **22 44 31.6 +1.7**
KRPM IAmb IAmb 22 44 33.4
comp=Z,37nm,1.5s
J05D Fort Rock, OR 49.74 69 P **P** **22 44 31.6 +0.8**
BVAR Borovoye Array 49.76 308 P **P** **22 44 28.6 -2.0**
comp=Z,10nm,0.5s,baz=60,slow=7.7,SNR=74
BVAR PcP **PcP** **22 45 49.6 -0.2**
comp=Z,4.7nm,0.3s,baz=52,slow=3.4,SNR=12
BVAR ScP **ScP** **22 49 34.3 -0.3**
comp=Z,2.6nm,0.7s,baz=56,slow=3.7,SNR=7.2
BVAR LR LR 23 07 54.6
comp=Z,103nm,18.0s,baz=24,slow=39
comp=Z,10nm,0.5s
BRVK Borovoye 49.79 308 P **P** **22 44 28.5 -2.2**
BRVK IAmb IAmb 22 45 50.6
comp=Z,12nm,0.8s
BRVK Borovoye 49.79 308 P **P** **22 44 29.1 -1.6**
BRVK Borovoye 49.79 308 *i*P **P** **22 44 29.1 -1.6**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 49.79 308 P **P** **22 44 29.0 -1.6**
BRVK PcP **PcP** **22 45 48.4 -1.4**
JCC Jacoby Creek, 49.88 73 P **P** **22 44 32.9 +1.4**
JCC IAmb IAmb 22 44 35.0
comp=Z,15nm,0.9s
L04D Klamath Falls 49.88 71 P **P** **22 44 33.0 +1.3**
K04D Chiloquin, OR 49.91 70 P **P** **22 44 33.4 +1.4**
YBH Yreka Blue Hor 49.98 72 P **P** **22 44 33.8 +1.3**
YBH IAmb IAmb 22 44 35.9
comp=Z,24nm,1.4s
YBH Yreka Blue Hor 49.98 72 P **P** **22 44 33.8 +1.3**
YBH pmax pmax
comp=Z,24nm,1.4s
KHMM Horse Mountain 50.00 73 P **P** **22 44 34.7 +2.0**
KHMM IAmb IAmb 22 44 36.3
comp=Z,29nm,1.2s
F10A Beach Ranch, E 50.08 64 P **P** **22 44 33.9 +0.7**
F10A IAmb IAmb 22 44 35.3
comp=Z,9.6nm,0.8s
KMPM Mount Pierce 50.10 74 P **P** **22 44 35.5 +2.1**
KMPM IAmb IAmb 22 44 37.7
comp=Z,27nm,1.2s
UPNV Upernavik 50.18 14 *i*P **P** **22 44 31.8 -1.6**
UPNV IAmb IAmb 22 44 34.0
comp=Z,18nm,0.8s
KMRM Mail Ridge 50.46 74 P **P** **22 44 37.9 +1.8**
KMRM IAmb IAmb 22 44 39.8
comp=Z,19nm,1.0s
BMO Blue Mountains 50.79 65 P **P** **22 44 39.1 +0.6**
BMO IAmb IAmb 22 44 40.9
comp=Z,9.5nm,0.8s
BMO Blue Mountains 50.79 65 P **P** **22 44 39.1 +0.6**
BMO pmax pmax
comp=Z,9.0nm,0.9s
KCPM Cahto Peak 50.90 74 P **P** **22 44 40.1 +0.6**
O02D Mt. Diablo Mer 51.00 73 P **P** **22 44 41.5 +1.4**
O02D IAmb IAmb 22 44 43.7
comp=Z,18nm,1.1s
PZH PanZhiHua 51.14 261 P **P** **22 44 42.3 +0.9**
J08A Circle Bar Ran 51.18 67 P **P** **22 44 42.3 +0.8**
J08A IAmb IAmb 22 44 44.2
comp=Z,10nm,1.1s
MSO Missoula 51.20 61 P **P** **22 44 42.2 +0.6**
HATC Hat Creek Radi 51.30 72 IAmb IAmb 22 44 45.6
comp=Z,32nm,1.4s
PLID Pearl Lake 51.32 64 P **P** **22 44 43.4 +0.8**
PLID IAmb IAmb 22 44 44.9
comp=Z,15nm,0.7s
FFC Flin Flon 51.50 47 P **P** **22 44 43.7 +0.2**
FFC Flin Flon 51.50 47 P **P** **22 44 43.7 +0.2**
FFC pmax pmax
comp=Z,9.0nm,1.1s
OVMT Ovando 51.52 61 P **P** **22 44 44.6 +0.6**
HOPS Hopland Field 51.66 75 P **P** **22 44 46.2 +1.2**
HOPS IAmb IAmb 22 44 48.1
comp=Z,32nm,1.4s
BPMT Black Pine Rid 51.72 61 P **P** **22 44 46.5 +0.9**
WVOR Wild Horse Val 51.73 68 P **P** **22 44 46.8 +1.2**
WVOR IAmb IAmb 22 44 48.3
comp=Z,9.8nm,0.9s
WVOR Wild Horse Val 51.73 68 P **P** **22 44 46.8 +1.2**
WVOR pmax pmax
comp=Z,10.0nm,0.9s
ARA0 ARCESS Array S 51.85 342 *e*P **P** **22 44 44.5 -1.5**
ARCES ARCESS Array B 51.85 342 P **P** **22 44 44.1 -1.8**
comp=Z,1.1nm,0.3s,baz=39,slow=8.7,SNR=23

ARCES PcP **PcP** **22 45 57.5 +0.3**
comp=Z,4.1nm,0.7s,baz=40,slow=4.0,SNR=7.6
comp=Z,1.1nm,0.3s
LYMT Lyon Mountain 51.95 60 P **P** **22 44 48.4 +1.1**
GDXM Geysers 51.95 75 P **P** **22 44 49.0 +1.8**
GDXM IAmb IAmb 22 44 50.8
comp=Z,20nm,1.2s
ORV Oroville 52.15 73 P **P** **22 44 49.3 +0.7**
ORV IAmb IAmb 22 44 50.8
comp=Z,16nm,1.1s
ORV Oroville 52.15 73 P **P** **22 44 49.3 +0.7**
ORV pmax pmax
comp=Z,17nm,1.2s
SUMG Summit 52.23 7 P **P** **22 44 49.6 +0.4**
SUMG Summit 52.23 7 P **P** **22 44 49.6 +0.4**
SUMG pmax pmax
comp=Z,30nm,0.8s
EGMT Eagleton 52.49 58 P **P** **22 44 51.7 +0.6**
EGMT IAmb IAmb 22 44 53.0
comp=Z,12nm,0.9s
MFID Camas Ranch 52.55 66 P **P** **22 44 52.6 +0.9**
MFID IAmb IAmb 22 44 54.1
comp=Z,14nm,1.2s
ARTI Arti 52.62 317 P **P** **22 44 50.8 -1.0**
ARTI Arti 52.62 317 LR LR 23 09 54.9
comp=Z,70nm,18.2s,baz=34,slow=39
ARTI Arti 52.62 317 *d* iP **P** **22 44 50.8 -1.0**
ARTI *PP **pP** **22 45 19.1 +0.6**
ARTI 22 45 58.7
ARTI S **S** **22 52 08.9 -1.2**
ARTI SS **SS** **22 55 43.9 -5.1**
ARTI pmax pmax
comp=Z,12nm,0.6s
ARTI Arti 52.62 317 P **P** **22 44 50.7 -1.1**
ARTI PcP **PcP** **22 45 59.6 -0.7**
LRM Limekiln Ridge 52.65 61 P **P** **22 44 53.5 +1.0**
JETT Jettan, Norway 52.71 344 *e*P **P** **22 44 51.4 -1.0**
KTK1 Kautokeino 52.72 342 *e*P **P** **22 44 51.1 -1.3**
AFDM Forest Hills D 52.87 73 P **P** **22 44 55.1 +1.1**
AFDM IAmb IAmb 22 44 56.7
comp=Z,15nm,1.2s
DLMT Dillon 52.89 62 P **P** **22 44 55.0 +0.9**
DLMT IAmb IAmb 22 44 56.6
comp=Z,14nm,1.1s
MCMT McKenzie Canyo 53.13 63 P **P** **22 44 56.4 +0.3**
PAHR Pah Rah Range 53.21 71 P **P** **22 44 58.1 +1.5**
PAHR IAmb IAmb 22 44 59.5
comp=Z,17nm,0.9s
BOZ Bozeman (W) 53.22 61 P **P** **22 44 57.7 +1.1**
BOZ IAmb IAmb 22 44 59.0
comp=Z,10nm,0.7s
BOZ Bozeman (W) 53.22 61 P **P** **22 44 57.7 +1.1**
BOZ pmax pmax
comp=Z,10.0nm,0.7s
CMB Columbia Colle 53.84 74 P **P** **22 45 02.6 +1.5**
CMB IAmb IAmb 22 45 04.2
comp=Z,30nm,1.5s
CMB Columbia Colle 53.84 74 P **P** **22 45 02.6 +1.5**
CMB pmax pmax
comp=Z,30nm,1.5s
QLMT Earthquake Lak 53.85 62 P **P** **22 45 02.2 +0.9**
SLVN Son La 53.95 255 P **P** **22 45 01.5 -0.6**
SLVN IAmb IAmb 22 45 04.3
comp=Z,8.1nm,0.7s
YHL Hebgen Lake 53.97 62 P **P** **22 45 03.4 +1.2**
YHL IAmb IAmb 22 45 04.9
comp=Z,16nm,1.0s
WAKR Walker 54.03 72 P **P** **22 45 04.1 +1.5**
YHB Horse Butte 54.03 62 P **P** **22 45 03.3 +0.7**
ILULI Ilulissat 54.13 14 P **P** **22 45 02.1 -0.5**
ILULI IAmb IAmb 22 45 03.2
comp=Z,19nm,0.8s
ILULI Ilulissat 54.13 14 P **P** **22 45 02.1 -0.5**
ILULI pmax pmax
comp=Z,19nm,0.8s
SAO San Andreas Ge 54.15 75 P **P** **22 45 04.7 +1.4**
SAO IAmb IAmb 22 45 08.4
comp=Z,9.7nm,0.9s
SAO San Andreas Ge 54.15 75 P **P** **22 45 04.7 +1.4**
SAO pmax pmax
comp=Z,10.0nm,0.9s
YHH Holmes Hill 54.18 61 P **P** **22 45 04.8 +1.1**
YNR Norris Junctio 54.32 61 P **P** **22 45 06.1 +1.4**
YNR IAmb IAmb 22 45 07.9
comp=Z,12nm,0.9s
KIRV Kirov 54.35 323 LR LR 23 09 25.7
comp=Z,78nm,20.2s,baz=37,slow=37
KIRV Kirov 54.35 323 *d* iP **P** **22 45 03.8 -0.6**
YFT Old Faithful 54.42 62 P **P** **22 45 07.8 +2.4**
RYN Ryan 54.44 72 P **P** **22 45 07.1 +1.5**
YNE Yellowstone No 54.45 61 P **P** **22 45 06.2 +0.6**
YNE IAmb IAmb 22 45 08.2
comp=Z,17nm,0.8s
BBGB Big Mountain B 54.51 75 P **P** **22 45 07.2 +1.2**
LKWY Lake 54.56 61 P **P** **22 45 08.2 +1.7**
LKWY Lake 54.56 61 P **P** **22 45 08.2 +1.7**
LKWY pmax pmax
comp=Z,27nm,0.7s
YMP Mirror Lake Pl 54.56 61 P **P** **22 45 08.1 +1.6**
YMP IAmb IAmb 22 45 09.5
comp=Z,14nm,1.0s
NVAR Mina Array Bea 54.71 72 P **P** **22 45 09.6 +2.0**
NVAR Mina Array Bea 54.71 72 P **P** **22 45 09.8 +2.3**
comp=Z,22nm,0.7s,baz=301,slow=7.4,SNR=129
comp=Z,22nm,0.7s
LHV Little Huntoon 54.72 72 P **P** **22 45 09.7 +2.3**
ELK Elko 54.73 68 P **P** **22 45 09.6 +1.9**
ELK IAmb IAmb 22 45 10.8
comp=Z,14nm,0.8s
ELK Elko 54.73 68 P **P** **22 45 09.6 +1.9**
ELK pmax pmax
comp=Z,14nm,0.8s
RLMT Red Lodge 54.74 60 P **P** **22 45 09.3 +1.6**
NV11 Mina Array Sit 54.79 72 P **P** **22 45 09.0 +0.9**
NV11 IAmb IAmb 22 45 11.3
comp=Z,19nm,0.8s
AAK Ala-Archa 54.80 296 P **P** **22 45 07.0 -1.1**
AAK IAmb IAmb 22 45 08.9
comp=Z,12nm,0.7s
AAK Ala-Archa 54.80 296 LR LR 23 09 42.1
comp=Z,79nm,20.3s,baz=31,slow=37
AAK Ala-Archa 54.80 296 P **P** **22 45 08.0 -0.1**
AAK Ala-Archa 54.80 296 *c* iP **P** **22 45 08.0 -0.1**
AAK pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 54.80 296 P **P** **22 45 07.9 -0.2**
AAK Ala-Archa 54.80 296 P **P** **22 45 08.3 +0.2**
AAK PcP **PcP** **22 46 09.6 +0.5**
DGMT Dagmar 54.85 54 P **P** **22 45 08.6 +0.4**
DGMT IAmb IAmb 22 45 12.0
comp=Z,10nm,0.9s
FXWY Fox Creek 54.90 62 P **P** **22 45 10.3 +1.4**
FXWY IAmb IAmb 22 45 11.9
comp=Z,11nm,0.8s
PMPB Monarch Peak 54.90 75 P **P** **22 45 11.1 +2.2**
STEI Steigen 55.00 345 *e*P **P** **22 45 08.3 -0.6**
TPAW Teton Pass 55.04 63 P **P** **22 45 11.6 +1.6**
TPAW IAmb IAmb 22 45 13.2
comp=Z,10nm,0.8s
LOF Lofoten 55.06 346 *e*P **P** **22 45 08.5 -0.9**
LOHW Long Hollow 55.13 62 P **P** **22 45 12.2 +1.6**
LOHW IAmb IAmb 22 45 13.7
comp=Z,12nm,0.9s
LAO LASA Array 55.14 57 P **P** **22 45 12.3 +1.9**
SNOW Snow King Moun 55.16 62 P **P** **22 45 13.2 +2.4**
SNOW IAmb IAmb 22 45 14.2
comp=Z,16nm,1.2s
HVU Hansel Valley 55.30 65 P **P** **22 45 13.7 +2.0**
HVU IAmb IAmb 22 45 14.8
comp=Z,9.9nm,0.8s
HVU Hansel Valley 55.30 65 P **P** **22 45 13.7 +2.0**
HVU pmax pmax
comp=Z,10.0nm,0.8s
AHID Auburn Hatcher 55.48 63 P **P** **22 45 14.9 +1.9**
AHID IAmb IAmb 22 45 15.9
comp=Z,13nm,1.0s
FAUS Fauske 55.50 345 *e*P **P** **22 45 11.4 -1.1**
TPH Tonopah 55.55 71 P **P** **22 45 15.6 +2.0**
TPH Tonopah 55.55 71 P **P** **22 45 15.6 +2.0**
TPH pmax pmax
comp=Z,30nm,0.8s
DSP Deep Springs 55.65 72 P **P** **22 45 15.8 +1.7**
DSP IAmb IAmb 22 45 17.8
comp=Z,19nm,1.0s

TIN Tinemaha, Big 55.73 73 P **P** **22 45 16.9 +2.1**
TIN Tinemaha, Big 55.73 73 P **P** **22 45 16.9 +2.1**
MZP Montezuma Peak 55.73 72 P **P** **22 45 16.8 +1.8**
MZP IAmb IAmb 22 45 17.9
comp=Z,8.4nm,0.8s
KLMR Klimovskoe 55.76 330 *e*P **P** **22 45 11.9 -2.6**
KLMR pmax pmax
comp=Z,37nm,1.6s
FRB Frobisher Bay 55.76 24 *i* P **P** **22 45 12.9 -1.5**
BGU Big Grassy Mou 55.78 66 P **P** **22 45 16.5 +1.4**
BGU IAmb IAmb 22 45 17.6
comp=Z,7.7nm,0.7s
HWUT Hardware Ranch 56.06 65 P **P** **22 45 18.9 +1.8**
GMN Gold Mountain 56.09 72 P **P** **22 45 19.2 +1.7**
GMN IAmb IAmb 22 45 20.7
comp=Z,12nm,0.8s
VES Vestal, Richgr 56.13 74 P **P** **22 45 19.0 +1.4**
KSH Kashi 56.24 292 P **P** **22 45 22.5 +4.1**
KSH pP pP 22 45 49.8 +4.3
KSH pmax pmax
comp=Z,9.0nm,0.8s
R11B Troy Canyon, C 56.25 70 P **P** **22 45 20.0 +1.4**
CWC Cottonwood Cre 56.26 73 P **P** **22 45 20.1 +1.5**
CWC IAmb IAmb 22 45 21.2
comp=Z,12nm,0.8s
JOF Joensuu 56.26 335 *e*P **P** **22 45 17.1 -0.9**
PD31 Pinedale Array 56.27 62 P **P** **22 45 19.6 +0.9**
PD31 IAmb IAmb 22 45 21.4
comp=Z,17nm,0.9s
PDAR Pinedale Array 56.27 62 P **P** **22 45 19.9 +1.1**
PDAR Pinedale Array 56.27 62 P **P** **22 45 20.4 +1.7**
comp=Z,13nm,0.8s,baz=324,slow=2.8,SNR=77
PDAR pP **pP** **22 45 45.1 -0.4**
comp=Z,1.0nm,0.5s,baz=300,slow=4.8,SNR=2.4
PDAR LR LR 23 09 12.7
comp=Z,28nm,18.0s,baz=350,slow=36
comp=Z,13nm,0.8s
VAGH Vaagaholmen 56.41 345 *e*P **P** **22 45 17.9 -1.1**
SPR3 Spring Creek 3 56.46 69 P **P** **22 45 21.6 +1.4**
TCUT Toone Canyon 56.49 65 P **P** **22 45 21.4 +1.0**
TCUT IAmb IAmb 22 45 23.4
comp=Z,16nm,0.7s
KK31 Karatay Array 56.53 299 P **P** **22 45 18.0 -2.3**
KK31 IAmb IAmb 22 45 20.5
comp=Z,13nm,0.6s
KK31 Karatay Array 56.53 299 P **P** **22 45 18.0 -2.3**
KK31 pmax pmax
comp=Z,13nm,0.6s
KKAR Karatay Array 56.53 299 P **P** **22 45 18.4 -1.9**
KKAR Karatay Array 56.53 299 P **P** **22 45 18.4 -1.9**
ARSB Arslanbob 56.53 296 P **P** **22 45 20.2 -0.3**
ARSB IAmb IAmb 22 45 22.1
comp=Z,12nm,0.7s
ARSB Arslanbob 56.53 296 P **P** **22 45 20.2 -0.3**
ARSB pmax pmax
comp=Z,12nm,0.7s
ISA Isabella, Lake 56.60 74 P **P** **22 45 21.9 +0.9**
ISA IAmb IAmb 22 45 23.2
comp=Z,12nm,0.8s
ISA Isabella, Lake 56.60 74 P **P** **22 45 21.9 +0.9**
ISA pmax pmax
comp=Z,12nm,0.9s
CTU Camp Tracy 56.62 65 P **P** **22 45 22.1 +1.0**
CTU IAmb IAmb 22 45 23.9
comp=Z,19nm,0.8s
S11A Rachel 56.67 71 P **P** **22 45 22.9 +1.3**
MOR8 Moi Rana 56.75 344 *e*P **P** **22 45 19.3 -2.2**
WCT Wildcat Mounta 56.81 72 P **P** **22 45 23.4 +1.0**
WCT IAmb IAmb 22 45 25.3
comp=Z,12nm,0.7s
JLU Jordanelle 56.84 65 P **P** **22 45 23.5 +0.7**
JLU IAmb IAmb 22 45 25.3
comp=Z,9.4nm,0.8s
MPMC Manual Prospec 56.86 73 P **P** **22 45 24.5 +1.6**
MPMC IAmb IAmb 22 45 25.9
comp=Z,21nm,1.2s
TPNV Topopah Spring 56.90 72 P **P** **22 45 24.2 +1.0**
TPNV Topopah Spring 56.90 72 P **P** **22 45 24.2 +1.0**
TPNV pmax pmax
comp=Z,32nm,1.2s
FURC Furnace Creek, 56.91 72 P **P** **22 45 24.0 +1.0**
CLC China Lake 56.98 73 P **P** **22 45 25.1 +1.5**
CLC China Lake 56.98 73 P **P** **22 45 25.1 +1.5**
CLC pmax pmax
comp=Z,19nm,0.8s
SOEG Soedalen 57.00 5 *i* P **P** **22 45 22.5 -0.7**
SOEG IAmb IAmb 22 45 24.1
comp=Z,24nm,1.2s
LEIR Leirfjorden 57.01 345 *e*P **P** **22 45 21.9 -1.3**
PSUT Pine Spring 57.06 69 P **P** **22 45 25.5 +1.2**
PSUT IAmb IAmb 22 45 32.7
comp=Z,8.8nm,0.7s
AKTO Aktyubinsk 57.08 312 LR LR 23 12 33.8
comp=Z,53nm,19.0s,baz=110,slow=39
AB31 Akbulak array 57.10 310 P **P** **22 45 23.0 -1.2**
AB31 IAmb IAmb 22 46 18.5
comp=Z,15nm,0.9s
ABKAR Akbulak array 57.10 310 P **P** **22 45 22.8 -1.4**
MPU Maple Canyon 57.17 66 P **P** **22 45 26.8 +1.7**
MPU IAmb IAmb 22 45 28.2
comp=Z,18nm,0.8s
LRMC Laurel Mtn Rad 57.18 74 P **P** **22 45 26.9 +1.8**
WSHM Spangler Hills 57.20 74 P **P** **22 45 26.7 +1.6**
GWY Greenwater Val 57.23 72 P **P** **22 45 27.2 +1.7**
PRN Pahroc Range 57.23 70 P **P** **22 45 27.3 +1.9**
OSI Osito Audit: C 57.23 75 P **P** **22 45 26.7 +1.3**
BSUT Blindstream Ca 57.25 65 P **P** **22 45 27.4 +1.5**
QSM Queen of Sheba 57.28 73 P **P** **22 45 27.4 +1.8**
TPO Tropico Hills 57.31 75 P **P** **22 45 27.7 +1.7**
CCCA Chr Cany lake 57.32 74 P **P** **22 45 26.6 +0.6**
MDND Maddock 57.42 52 P **P** **22 45 28.3 +1.8**
SHOC Shoshone, Teco 57.65 72 P **P** **22 45 30.0 +1.8**
TCRU Three Creeks R 57.76 68 P **P** **22 45 30.8 +1.5**
GSC Goldstone, Bar 57.80 73 P **P** **22 45 30.6 +1.2**
GSC Goldstone, Bar 57.80 73 P **P** **22 45 30.6 +1.2**
GSC pmax pmax
comp=Z,24nm,0.9s
SHPR Sheep Range 57.82 71 P **P** **22 45 31.4 +1.7**
PASC Pasadena Art C 57.86 75 P **P** **22 45 30.9 +1.2**
E28A Huff 57.86 54 P **P** **22 45 30.3 +0.8**
MWC Mount Wilson 57.89 75 P **P** **22 45 31.6 +1.4**
MWC Mount Wilson 57.89 75 P **P** **22 45 31.6 +1.4**
MWC pmax pmax
comp=Z,37nm,1.3s
K22A Casper 57.90 60 P **P** **22 45 31.4 +1.3**
K22A IAmb IAmb 22 45 32.5
comp=Z,22nm,1.2s
TMUT Trail Mountain 57.92 66 P **P** **22 45 31.8 +1.4**
MSU Marysvale 57.97 68 P **P** **22 45 32.4 +1.6**
MSU Marysvale 57.97 68 P **P** **22 45 32.4 +1.6**
P17A Butcher Ranch, 58.04 66 P **P** **22 45 32.4 +1.2**
CCUT Cedar City 58.04 69 P **P** **22 45 32.8 +1.6**
CCUT IAmb IAmb 22 45 34.2
comp=Z,12nm,0.8s
RSSD Black Hills 58.06 58 P **P** **22 45 32.5 +1.2**
RSSD Black Hills 58.06 58 P **P** **22 45 32.5 +1.2**
RSSD pmax pmax
comp=Z,30nm,0.8s
RSSD Black Hills 58.06 58 P **P** **22 45 33.0 +1.7**
BFSC Mount Baldy Ra 58.10 75 P **P** **22 45 33.1 +1.5**
SZCU Shurtz Canyon 58.15 69 P **P** **22 45 33.9 +1.9**
SZCU IAmb IAmb 22 45 34.4
comp=Z,7.2nm,0.8s
P18A Preston Nutter 58.19 65 P **P** **22 45 34.3 +2.0**
P18A IAmb IAmb 22 45 36.4
comp=Z,9.8nm,0.7s
Q16A Castle Valley 58.21 67 P **P** **22 45 34.0 +1.6**
Q16A IAmb IAmb 22 45 35.5
comp=Z,16nm,0.9s
MTPU Mount Pierson 58.31 68 P **P** **22 45 34.3 +1.0**
MTPU IAmb IAmb 22 45 36.7
comp=Z,7.0nm,0.8s
MTPC Mountain Pass 58.35 72 P **P** **22 45 34.7 +1.3**
MTPC IAmb IAmb 22 45 36.3
comp=Z,20nm,1.1s
SRU San Rafael Swe 58.42 66 P **P** **22 45 35.7 +1.9**
SRU San Rafael Swe 58.42 66 P **P** **22 45 35.7 +1.9**
SRU pmax pmax
comp=Z,33nm,0.7s
KEF Keuruu 58.42 338 *e*P **P** **22 45 31.9 -1.3**
LCMT Little Creek M 58.50 69 P **P** **22 45 35.2 +0.9**
LCMT IAmb IAmb 22 45 37.6
comp=Z,22nm,1.2s
V12A Nelson 58.56 72 P **P** **22 45 36.5 +1.8**

V12A IAmb IAmb 22 45 37.9
comp=Z,15nm,0.8s
EPLO Experimental L 58.66 47 P **P** **22 45 35.6 +0.5**
EPLO IAmb IAmb 22 45 36.8
comp=Z,10nm,0.9s
NSS Namsos 58.66 345 *e*P **P** **22 45 33.7 -1.1**
ELS Elsinore Mount 58.67 75 P **P** **22 45 36.7 +1.3**
PKCU Pink Cliffs 58.68 68 P **P** **22 45 37.2 +1.3**
PKCU IAmb IAmb 22 45 39.4
comp=Z,16nm,0.8s
KNB Kanab 58.72 69 P **P** **22 45 37.3 +1.4**
KNB IAmb IAmb 22 45 39.3
comp=Z,12nm,0.9s
KNB Kanab 58.72 69 P **P** **22 45 37.3 +1.4**
KNB pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 58.75 258 P **P** **22 45 35.4 -0.7**
CHTO Chiang Mai 58.75 258 P **P** **22 45 36.2 +0.2**
CHTO Chiang Mai 58.75 258 P **P** **22 45 35.4 -0.7**
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 58.75 258 P **P** **22 45 35.8 -0.3**
AGMN Agassiz Nation 58.77 49 P **P** **22 45 36.4 +0.6**
AGMN IAmb IAmb 22 45 37.7
comp=Z,11nm,0.9s
FIA1 FINESS Array S 58.78 337 P **P** **22 45 34.5 -1.2**
FINES FINESS Array B 58.78 337 P **P** **22 45 34.5 -1.2**
FINES FINESS Array B 58.78 337 P **P** **22 45 34.9 -0.9**
comp=Z,13nm,0.5s,baz=32,slow=7.7,SNR=136
FINES PcP **PcP** **22 46 23.8 -0.3**
comp=Z,3.3nm,0.7s,baz=58,slow=4.7,SNR=5.2
FINES LR LR 23 14 23.1
comp=Z,32nm,19.4s,baz=18,slow=40
comp=Z,13nm,0.5s
O20A White River Ci 58.86 64 P **P** **22 45 38.0 +1.2**
CM31 Chiang Mai Arr 59.03 258 P **P** **22 45 37.8 -0.2**
CM31 IAmb IAmb 22 45 40.5
comp=Z,15nm,0.8s
CMAR Chiang Mai Arr 59.03 258 P **P** **22 45 37.8 -0.3**
CMAR Chiang Mai Arr 59.03 258 P **P** **22 45 38.0 0.0**
comp=Z,12nm,0.7s,baz=25,slow=6.7,SNR=55
CMAR PcP **PcP** **22 46 26.6 +0.9**
comp=Z,3.8nm,0.5s,baz=11,slow=3.3,SNR=6.3
CMAR ScP **ScP** **22 50 17.8 +2.1**
comp=Z,0.7nm,0.3s,baz=43,slow=4.4,SNR=4.5
CMAR LR LR 23 14 06.7
comp=Z,32nm,18.3s,baz=45,slow=39
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 59.03 258 *c* eP **P** **22 45 38.2 +0.1**
CMAR pmax pmax
comp=Z,13nm,0.7s
ISOG Isortoq, Green 59.05 10 *i* P **P** **22 45 35.8 -1.6**
ISOG IAmb IAmb 22 45 37.6
comp=Z,15nm,0.6s
DANC Danby, Needles 59.07 73 P **P** **22 45 39.8 +1.6**
HAYD Hayden 59.09 63 P **P** **22 45 39.6 +1.1**
HAYD IAmb IAmb 22 47 38.0
comp=Z,13nm,1.4s
HMU Henry Mountain 59.16 67 P **P** **22 45 40.3 +1.2**
BELC Belle Mtn. Jos 59.20 74 P **P** **22 45 40.1 +0.9**
BELC IAmb IAmb 22 45 41.5
comp=Z,14nm,0.7s
PFO Pinyon Flats O 59.23 74 P **P** **22 45 40.4 +1.0**
PFO IAmb IAmb 22 45 41.8
comp=Z,10.0nm,0.9s
PFO Pinyon Flats O 59.23 74 P **P** **22 45 40.4 +1.0**
PFO pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 59.23 74 P **P** **22 45 40.9 +1.5**
PMD Palm Desert 59.25 74 P **P** **22 45 40.5 +1.1**
DPP Dos Picos Cty 59.42 75 P **P** **22 45 41.8 +1.2**
U15A North Rim 59.44 69 P **P** **22 45 42.6 +1.5**
U15A IAmb IAmb 22 45 44.2
comp=Z,9.2nm,0.9s
BORC Borrego Spring 59.51 75 P **P** **22 45 42.7 +1.5**
BORC IAmb IAmb 22 45 43.9
comp=Z,16nm,0.9s
W13A Hualapai Mount 59.56 71 P **P** **22 45 43.2 +1.5**
W13A IAmb IAmb 22 45 44.5
comp=Z,10nm,0.9s
IRM Iron Mountain 59.56 73 P **P** **22 45 42.7 +1.2**
GAR Garm 59.62 295 P **P** **22 45 39.7 -2.3**
PV21 Cone Mtn., Par 59.64 65 P **P** **22 45 43.8 +1.5**
PV21 IAmb IAmb 22 45 44.9
comp=Z,12nm,0.7s
PV23 Carpenter Ridg 59.70 65 P **P** **22 45 44.3 +1.5**
PV10 Paradox Valley 59.74 65 P **P** **22 45 44.7 +1.7**
PV14 Lion Creek, Pa 59.75 65 P **P** **22 45 44.3 +1.3**
PV22 Blue Mesa, Par 59.76 65 P **P** **22 45 44.1 +1.0**
BC3 Big Chuckawall 59.76 74 P **P** **22 45 44.1 +1.1**
BC3 IAmb IAmb 22 45 45.0
comp=Z,11nm,0.7s
PV04 Paradox Valley 59.80 65 P **P** **22 45 44.7 +1.4**
PV20 West Nyswonger 59.80 65 P **P** **22 45 44.4 +1.0**
PV19 Morning Glory 59.82 66 P **P** **22 45 42.5 -1.1**
PV16 Nyswonger Mesa 59.85 65 P **P** **22 45 44.9 +1.1**
PV17 East Wray Mesa 59.85 66 P **P** **22 45 44.9 +1.2**
PV11 David Mesa, Pa 59.89 65 P **P** **22 45 45.1 +1.2**
PV07 Paradox Valley 59.90 65 P **P** **22 45 45.3 +1.3**
PV07 IAmb IAmb 22 45 46.7
comp=Z,16nm,0.9s
PV18 Skein Mesa, Pa 59.91 66 P **P** **22 45 45.5 +1.4**
BRDH Bariadhala 59.91 267 LR LR 23 16 01.4
comp=Z,124nm,18.4s,baz=215,slow=40
PV12 Saucer Basin, 59.91 65 P **P** **22 45 45.1 +0.9**
TKX Tecate 59.93 75 P **P** **22 45 45.5 +1.5**
PV05 Paradox Valley 59.93 66 P **P** **22 45 45.5 +1.3**
PV03 Paradox Valley 59.93 65 P **P** **22 45 45.6 +1.3**
PV13 Radium Mtn., P 60.02 66 P **P** **22 45 45.9 +1.0**
PV02 Paradox Valley 60.03 65 P **P** **22 45 45.8 +0.8**
PV15 Paradox Valley 60.06 65 P **P** **22 45 46.0 +0.8**
MYLDM Lahad Datu 60.08 231 P **P** **22 45 45.9 +0.7**
CBX Cerro Bola 60.09 76 P **P** **22 45 46.9 +1.6**
RAF Rauma 60.12 338 *e*P **P** **22 45 44.4 -0.4**
PV01 Paradox Valley 60.17 65 P **P** **22 45 46.3 +0.4**
PV01 IAmb IAmb 22 45 48.0
comp=Z,6.9nm,0.7s
BLYC Blythe 60.21 73 P **P** **22 45 46.8 +0.9**
YUH Yuha Desert 60.25 75 P **P** **22 45 47.1 +0.9**
YUH IAmb IAmb 22 45 48.8
comp=Z,18nm,1.0s
MEF Metsahovi 60.26 337 *e*P **P** **22 45 44.0 -1.9**
KKM Kota Kinabalu 60.36 234 P **P** **22 45 46.9 -0.4**
F33A 5 Mile Ranch, 60.44 52 P **P** **22 45 48.5 +1.2**
ISCO Idaho Springs 60.47 62 P **P** **22 45 49.3 +1.3**
ISCO IAmb IAmb 22 45 51.3
comp=Z,17nm,1.1s
ISCO Idaho Springs 60.47 62 P **P** **22 45 49.3 +1.3**
ISCO pmax pmax
comp=Z,17nm,1.2s
SIMJ Simiganj 60.56 296 P **P** **22 45 47.6 -0.8**
SIMJ PcP **PcP** **22 46 31.5 -0.3**
SIMJ ScP **ScP** **22 50 22.7 +0.3**
GLA Glamis 60.56 74 P **P** **22 45 49.9 +1.5**
GLA Glamis 60.56 74 P **P** **22 45 49.9 +1.5**
GLA pmax pmax
comp=Z,25nm,0.8s
ARBE Arbavere 60.58 335 *e*P **P** **22 45 46.2 -1.8**
WUAZ Wupatki 60.62 69 P **P** **22 45 50.3 +1.4**
WUAZ IAmb IAmb 22 45 52.2
comp=Z,24nm,1.1s
ESJX Sierra Juarez 60.72 75 P **P** **22 45 50.5 +0.9**
MVCO Mesa Verde 60.89 66 P **P** **22 45 51.4 +0.5**
MVCO IAmb IAmb 22 45 53.5
comp=Z,11nm,0.7s
Y14A Wickenburg 60.91 72 P **P** **22 45 52.0 +1.3**
Y14A IAmb IAmb 22 45 53.7
comp=Z,16nm,1.0s
EYMN Ely 60.93 47 P **P** **22 45 50.9 +0.2**
EYMN IAmb IAmb 22 45 52.2
comp=Z,18nm,1.2s
VSU Vasula 61.26 335 *e*P **P** **22 45 50.8 -1.8**
VTX Valle De La Tr 61.27 76 P **P** **22 45 54.9 +1.6**
K30B Basset 61.28 56 P **P** **22 45 54.3 +1.1**
Q24A Divide 61.33 62 P **P** **22 45 55.3 +1.4**
Q24A IAmb IAmb 22 45 57.2
comp=Z,9.7nm,0.9s
113A Mohawk Valley, 61.36 73 P **P** **22 45 54.3 +0.6**
113A IAmb IAmb 22 45 56.4
comp=Z,7.2nm,0.8s
S22A 4UR Ranch, Cre 61.37 64 P **P** **22 45 55.3 +1.2**
S22A IAmb IAmb 22 45 57.4
comp=Z,13nm,1.0s
OBN Obninsk 61.38 327 P **P** **22 45 52.9 -0.6**

OBN **Obninsk** 61.38 327 ⇓*i*P **P** 22 45 52.7 -0.8
OBN *e**PP **pP** 22 46 23.6 +2.7
OBN *e* 22 46 34.1
OBN *e**SP **PcP** 22 46 38.3 +3.7
OBN *e* 22 48 08.7
OBN *e*PPP PPP 22 49 36.7
OBN *e*S **S** 22 54 03.6 -1.4
OBN *e*SS **SS** 22 58 04.9 -1.5
OBN pmax pmax
comp=Z,38nm,2.0s
OBN MLR MLR
comp=Z,5.0nm,1.0s
X16A **Lo Mia Camp, P** 61.40 70 P **P** 22 45 55.1 +0.8
X16A IAmb IAmb 22 45 57.5
comp=Z,12nm,0.8s
OGNE **Ogallala** 61.41 59 P **P** 22 45 55.2 +1.1
W18A **Petrified Fore** 61.80 68 P **P** 22 45 58.7 +1.8
W18A IAmb IAmb 22 46 00.1
comp=Z,18nm,1.0s
NC303 **NORSAR Array S** 61.87 344 P **P** 22 45 56.1 -0.7
NC303 IAmb IAmb 22 45 57.2
comp=Z,16nm,1.1s
ECSD **EROS Data Cent** 61.90 53 P **P** 22 45 57.4 +0.1
ECSD IAmb IAmb 22 45 58.9
comp=Z,9.6nm,0.8s
NC204 **NORSAR Array S** 61.92 344 P **P** 22 45 56.2 -0.9
NC405 **NORSAR Array S** 61.92 344 P **P** 22 45 56.8 -0.3
E38A **The Farm, Brul** 61.95 48 P **P** 22 45 57.3 -0.2
E38A IAmb IAmb 22 45 58.7
comp=Z,11nm,0.8s
UPP **Uppsala** 62.03 340 *e*P **P** 22 45 57.4 -0.4
NIL **Nilore** 62.04 289 P **P** 22 45 57.8 -0.6
NIL **Nilore** 62.04 289 P **P** 22 45 56.8 -1.5
NIL **Nilore** 62.04 289 P **P** 22 45 57.8 -0.6
NIL pmax pmax
comp=Z,28nm,0.7s
NB201 **NORSAR Array S** 62.05 344 P **P** 22 45 57.2 -0.7
SDCO **Great Sand Dun** 62.06 64 P **P** 22 45 59.9 +1.1
NB2 **NORSAR Subarra** 62.07 344 P **P** 22 45 57.4 -0.7
comp=Z,16nm,0.8s,baz=22,slow=6.9
NB2 PCP **PcP** 22 46 37.4 0.0
comp=Z,2.3nm,0.7s,baz=27,slow=4.4
NB2 **NORSAR Subarra** 62.07 344 P **P** 22 45 57.4 -0.7
baz=22,slow=6.9
NOA **NORSAR Array B** 62.07 344 P **P** 22 45 57.3 -0.8
comp=Z,5.8nm,0.6s,baz=18,slow=7.5,SNR=50
NOA PcP **PcP** 22 46 37.1 -0.3
comp=Z,3.2nm,0.7s,baz=23,slow=4.2,SNR=8.6
comp=Z,5.8nm,0.6s
X18A **Snowflake** 62.13 69 P **P** 22 46 00.8 +1.7
NBO00 **NORSAR Array S** 62.15 344 P **P** 22 45 57.9 -0.7
NBO00 IAmb IAmb 22 45 59.9
comp=Z,14nm,0.9s
NC602 **NORSAR Array S** 62.31 344 *e*P **P** 22 45 58.8 -0.9
NAO01 **NORSAR Array S** 62.31 344 P **P** 22 45 59.1 -0.6
SPMN **Marine on St.** 62.48 50 P **P** 22 46 01.6 +0.6
SPMN IAmb IAmb 22 46 42.2
comp=Z,7.4nm,0.7s
214A **Organ Pipe Nat** 62.50 73 P **P** 22 46 02.1 +0.7
214A IAmb IAmb 22 46 04.3
comp=Z,16nm,0.9s
HFS **Hagfors** 62.51 342 P **P** 22 45 59.7 -1.3
comp=Z,12nm,0.5s,baz=41,slow=4.7,SNR=101
HFS PcP **PcP** 22 46 39.0 -0.1
comp=Z,3.4nm,0.5s,baz=79,slow=3.2,SNR=3.9
comp=Z,12nm,0.5s
KSCO **Kaye Shedlock'** 62.58 61 P **P** 22 46 03.4 +1.4
KSCO IAmb IAmb 22 46 04.4
comp=Z,14nm,0.9s
LPSR **Galich'ya Gora** 62.72 324 *e*P **P** 22 46 00.1 -2.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
TOLI2 **Tolitoli** 62.72 227 P **P** 22 46 02.9 -0.1
TOLI2 IAmb IAmb 22 46 04.5
comp=Z,14nm,0.8s
SKAR **Skarslia** 62.86 345 *e*P **P** 22 46 03.2 -0.2
VRH **Novokhopyorsk** 62.91 322 *e*P **P** 22 46 00.7 -3.1
VRH pmax pmax
comp=Z,8.0nm,0.8s
BGNE **Belgrade** 62.95 56 P **P** 22 46 04.9 +0.6
T25A **Trinidad** 63.09 63 P **P** 22 46 06.9 +1.4
T25A IAmb IAmb 22 46 08.0
comp=Z,16nm,1.2s
I37A **Lemond, Waseca** 63.15 51 P **P** 22 46 06.7 +1.1
TUC **Tucson** 63.35 71 P **P** 22 46 08.3 +1.2
TUC **Tucson** 63.35 71 P **P** 22 46 08.4 +1.2
TUC pmax pmax
comp=Z,11nm,1.1s
L34A **Svendsen Farm,** 63.37 54 P **P** 22 46 07.5 +0.4
COWI **Conover** 63.38 47 P **P** 22 46 07.9 +0.9
COWI IAmb IAmb 22 46 46.8
comp=Z,26nm,1.4s
KBL **Kabul** 63.64 293 P **P** 22 46 07.1 -2.1
KBL IAmb IAmb 22 46 08.7
comp=Z,15nm,0.7s
KBL **Kabul** 63.64 293 P **P** 22 46 07.4 -1.8
KBL **Kabul** 63.64 293 P **P** 22 46 07.1 -2.1
KBL pmax pmax
comp=Z,15nm,0.7s
KONO **Kongsberg** 63.65 344 *e*P **P** 22 46 08.4 -0.1
ANMO **Albuquerque** 63.69 66 P **P** 22 46 10.8 +1.4
ANMO IAmb IAmb 22 46 12.1
comp=Z,9.7nm,0.8s
ANMO **Albuquerque** 63.69 66 P **P** 22 46 10.6 +1.2
ANMO IAmb IAmb 22 46 12.1
comp=Z,10nm,0.8s
ANMO **Albuquerque** 63.69 66 P **P** 22 46 10.8 +1.4
ANMO IAmb IAmb 22 46 12.2
comp=Z,10.0nm,0.8s
ANMO **Albuquerque** 63.69 66 LR LR 23 13 51.5
comp=Z,78nm,18.3s,baz=80,slow=36
ANMO **Albuquerque** 63.69 66 P **P** 22 46 10.8 +1.4
ANMO pmax pmax
comp=Z,10.0nm,0.8s
ANMO **Albuquerque** 63.69 66 P **P** 22 46 11.2 +1.8
ANMO pP **pP** 22 46 37.3 +0.4
VSR **Storozhevoye** 63.80 323 *e*P P 22 46 04.7 -4.9
VSR pmax pmax
comp=Z,6.0nm,0.9s
SCHQ **Schefferville** 63.93 28 P **P** 22 46 10.1 -0.3
comp=Z,5.4nm,0.6s,baz=296,slow=5.2,SNR=7.6
comp=Z,5.4nm,0.6s
HNR **Honiara** 63.96 181 LR LR 23 10 43.2
comp=Z,22nm,18.9s,baz=336,slow=33
STRU **Stroemstad** 63.98 343 *i*P **P** 22 46 10.6 -0.1
SBM **South Baldy** 64.04 67 P **P** 22 46 14.0 +2.0
DUN6 **Lazy B Ranch** 64.09 70 P **P** 22 46 13.8 +1.8
DUN6 IAmb IAmb 22 46 15.1
comp=Z,28nm,0.9s
Y22D **IRIS PASSCAL I** 64.10 67 P **P** 22 46 13.3 +1.2
Y22D **IRIS PASSCAL I** 64.10 67 P **P** 22 46 14.2 +2.0
baz=320
VSVD **Vaisvydziai** 64.17 335 *e*P **P** 22 46 10.5 -1.4
CBKS **Cedar Bluff** 64.18 59 P **P** 22 46 12.5 +0.1
CBKS IAmb IAmb 22 46 15.7
comp=Z,18nm,0.9s
CBKS **Cedar Bluff** 64.18 59 P **P** 22 46 12.5 +0.1
CBKS pmax pmax
comp=Z,18nm,1.0s
Y22A **Socorro** 64.18 67 P **P** 22 46 14.2 +1.5
Y22A IAmb IAmb 22 46 16.0
comp=Z,17nm,0.9s
CRNM **Carthage** 64.30 67 P **P** 22 46 14.2 +0.8
NACGM **Naroch** 64.40 333 *e*P **P** 22 46 13.5 0.0
MNK **Minsk** 64.46 332 *i*P **P** 22 46 13.3 -0.6
comp=E,10.0nm,0.8s
MNK *i*P **P** 22 46 13.3 -0.6
comp=N,6.0nm,0.9s
MNK *i*P **P** 22 46 13.3 -0.6
comp=Z,23nm,0.8s,baz=28
MNK *i*PP **PP** 22 48 36.6 +0.3
MNK *i*PPP PPP 22 50 08.2
MNK *i*sS **sS** 22 55 28.6 -2.4
MNK *i*SS **SS** 22 58 55.2 +0.7
MNK *i*SSS SSS 23 02 05.8
MNK *i*LR LR 23 14 41.9
MNK **Minsk** 64.46 332 *i*P **P** 22 46 13.3 -0.6
MNK *i**PP **pP** 22 46 43.0 +1.4
MNK *i* 22 48 36.5
MNK *i*PPP PPP 22 50 08.1
MNK *i*S **S** 22 54 43.0 -0.5
MNK *i*SS **SS** 22 58 55.1 +0.7
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
RTBA **Rita Blanca** 64.49 63 P **P** 22 46 14.6 +0.1
RTBA IAmb IAmb 22 46 16.4
comp=Z,20nm,0.8s
PABE **Paberze** 64.59 335 P **P** 22 46 13.4 -1.2
PABE IAmb IAmb 22 46 15.2
comp=Z,10nm,0.7s
PABE **Paberze** 64.59 335 *e*P **P** 22 46 13.5 -1.2
PBUR **Paburge** 64.61 336 *e*P **P** 22 46 14.2 -0.7
121A **Cookes Peak, D** 64.82 69 P **P** 22 46 17.7 +0.9
121A IAmb IAmb 22 46 20.2
comp=Z,14nm,1.0s
SCIA **State Center** 64.89 52 P **P** 22 46 17.6 +0.7
319A **Douglas** 64.89 71 P **P** 22 46 18.9 +1.6
BORU **Boraas** 65.03 342 *i*P **P** 22 46 17.0 -0.5
SBUM **Sibu** 65.39 236 P **P** 22 46 21.8 +1.3
ONAU **Onsala** 65.41 342 *i*P **P** 22 46 19.0 -0.9
FABU **Falkenberg** 65.64 342 *i*P **P** 22 46 20.7 -0.8
BLEU **Blekinge** 65.69 340 *i*P **P** 22 46 20.3 -1.5
HSIG 65.78 74 P **P** 22 46 24.4 +1.5
HSIG IAmb IAmb 22 46 25.6
comp=Z,18nm,1.3s
DEL **Delary** 65.92 341 *i*P **P** 22 46 23.0 -0.3
EPT **El Paso** 66.09 69 P **P** 22 46 26.2 +1.3
EPT IAmb IAmb 22 46 27.5
comp=Z,41nm,1.6s
SUW **Suwalki** 66.13 334 *e*P pP 22 46 53.8 +1.3
NOKA **Waynoka** 66.27 60 P **P** 22 46 25.9 0.0
NOKA IAmb IAmb 22 46 27.1
comp=Z,16nm,0.9s
MSTX **Muleshoe** 66.38 64 P **P** 22 46 27.5 +0.8
MSTX IAmb IAmb 22 46 28.7
comp=Z,21nm,0.9s
BIGH **Upper Bighouse** 66.44 351 *e*P **P** 22 46 26.8 +0.3
BJUU **Bjuv** 66.45 341 *i*P **P** 22 46 26.5 -0.2
ELIS **Ellis County** 66.47 61 P **P** 22 46 27.6 +0.4
ELIS IAmb IAmb 22 48 04.4
comp=Z,13nm,0.5s
OK038 **West end E0370** 66.49 60 P **P** 22 46 27.4 +0.2
OK038 IAmb IAmb 22 46 28.6
comp=Z,17nm,0.8s
CPRX **Cap Rock** 66.53 66 P **P** 22 46 29.2 +1.5
P38A **Dawn** 66.54 54 P **P** 22 46 27.8 +0.3
P38A IAmb IAmb 22 46 29.0
comp=Z,21nm,0.9s
SRIT **Nakonsritamara** 66.69 251 P **P** 22 46 28.6 -0.2
MNTX **Cornudas Mount** 66.75 68 P **P** 22 46 30.2 +1.1
MNTX IAmb IAmb 22 46 31.9
comp=Z,19nm,0.9s
SMWD **Samnorwood** 66.80 62 P **P** 22 46 30.5 +1.1
SMWD IAmb IAmb 22 46 31.4
comp=Z,23nm,0.8s
CROK **Carrier** 66.84 59 P **P** 22 46 29.9 +0.3
CROK IAmb IAmb 22 46 30.6
comp=Z,15nm,1.1s
N41A **Harden Midland** 66.92 52 P **P** 22 46 29.9 0.0
N41A IAmb IAmb 22 46 31.1
comp=Z,24nm,1.1s
BSD **Bornholm Skovb** 66.99 340 *e*P **P** 22 46 29.4 -0.7
BSD **Bornholm Skovb** 66.99 340 *i*P **P** 22 46 29.8 -0.3
BSD IAmb IAmb 22 46 30.7
comp=Z,19nm,0.8s
CLN7 **Carlsbad 7** 67.04 66 P **P** 22 46 32.2 +1.3
HTMS **Hat Mesa** 67.08 66 P **P** 22 46 32.2 +0.9
CSTR **Hydro, Custer** 67.17 60 P **P** 22 46 31.8 +0.1
KSM **Kuching** 67.17 237 P **P** 22 46 32.8 +1.0
T35A **Sooner Cattle** 67.25 58 P **P** 22 46 32.0 -0.1
MCD **Coleburn Disti** 67.28 351 *e*P **P** 22 46 32.1 +0.2
MCD IAmb IAmb 22 46 32.7
comp=Z,51nm,0.6s
P40A **Paris** 67.31 53 P **P** 22 46 32.8 +0.4
P40A IAmb IAmb 22 46 34.0
comp=Z,19nm,0.9s
AKASG **Malin Array Be** 67.44 329 P **P** 22 46 32.3 -0.8
AKASG **Malin Array Be** 67.44 329 P **P** 22 46 31.8 -1.2
comp=Z,7.1nm,0.5s,baz=30,slow=6.5,SNR=31
AKASG pP **PcP** 22 46 58.3 -1.4
comp=Z,2.4nm,0.5s,baz=35,slow=4.7,SNR=3.9
AKASG LR LR 23 18 58.0
comp=Z,50nm,20.2s,baz=47,slow=38
comp=Z,7.1nm,0.5s
AKBB **Malin Array Si** 67.44 329 P **P** 22 46 31.7 -1.3
AKBB IAmb IAmb 22 46 32.7
comp=Z,7.7nm,0.7s
AKBB **Malin Array Si** 67.44 329*d* *i*P **P** 22 46 32.0 -1.0
AKBB pmax pmax
comp=Z,8.0nm,0.8s
KIEV **Kiev** 67.45 329 P **P** 22 46 31.4 -1.7
KIEV IAmb IAmb 22 46 32.7
comp=Z,7.0nm,0.6s
KIEV **Kiev** 67.45 329 ⇓P **P** 22 46 32.2 -0.9
KIEV **Kiev** 67.45 329 P **P** 22 46 31.4 -1.7
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV **Kiev** 67.45 329 *i*P **P** 22 46 30.9 -2.1
SNR=7.8
KIEV **Kiev** 67.45 329 P **P** 22 46 32.0 -1.1
KIEV PcP **PcP** 22 46 58.5 -1.2
GOF **Gofitskoye** 67.50 317 *ce*P **P** 22 46 33.5 -0.1
DKNS **Dickens** 67.57 63 P **P** 22 46 34.8 +0.5
DKNS IAmb IAmb 22 46 36.1
comp=Z,13nm,0.8s
M44A **Midewin, Midew** 67.63 49 P **P** 22 46 34.5 +0.1
M44A IAmb IAmb 22 47 20.7
comp=Z,34nm,1.3s
OK029 **Liberty Lake** 67.67 59 P **P** 22 46 35.2 +0.4
OK029 IAmb IAmb 22 46 36.2
comp=Z,14nm,1.0s
VHRN **Van Horn** 67.67 68 P **P** 22 46 36.1 +1.1
VHRN IAmb IAmb 22 46 37.8
comp=Z,16nm,0.8s
KPL **Plockton** 67.72 352 *e*P **P** 22 46 35.2 +0.5
QUOK **Quay** 67.74 59 P **P** 22 46 34.8 -0.4
POST **Post** 67.74 64 P **P** 22 46 36.0 +0.7
HDIL **Hopedale** 67.75 51 P **P** 22 46 35.1 0.0
HDIL IAmb IAmb 22 46 36.1
comp=Z,16nm,0.6s
PECS **Pecos** 67.82 67 P **P** 22 46 36.8 +1.0
PECS IAmb IAmb 22 46 38.2
comp=Z,29nm,1.5s
STKI **Sintang** 67.83 235 P **P** 22 46 37.2 +1.3
comp=Z,90nm,1.1s
WMOK **Wichita Mounta** 67.83 61 P **P** 22 46 36.4 +0.6
WMOK IAmb IAmb 22 46 37.8
comp=Z,20nm,0.9s
WMOK **Wichita Mounta** 67.83 61 P **P** 22 46 36.4 +0.6
WMOK pmax pmax
comp=Z,20nm,0.9s
OK052 **Battle Ridge R** 67.83 59 P **P** 22 46 35.4 -0.4
DRUM **Mains of Drumt** 67.86 350 *e*P **P** 22 46 35.6 0.0
ODSA **Odessa** 67.93 65 P **P** 22 46 37.0 +0.4
ODSA IAmb IAmb 22 46 38.6
comp=Z,14nm,0.9s
SN07 **Snyder 07** 68.04 64 P **P** 22 46 38.0 +0.8
DEOK **Depew** 68.10 59 P **P** 22 46 37.6 +0.1
DEOK IAmb IAmb 22 46 39.0
comp=Z,18nm,1.2s
FNO **Franklin** 68.12 60 P **P** 22 46 37.6 0.0
R40A **Maddies Statio** 68.20 54 IAmb IAmb 22 46 39.2
comp=Z,24nm,1.0s
APMT **Aspermont** 68.25 63 P **P** 22 46 38.9 +0.4
APMT IAmb IAmb 22 46 40.0
comp=Z,18nm,0.9s
P43A **Skaggs, Pawnee** 68.38 52 P **P** 22 46 39.5 +0.4
P43A IAmb IAmb 22 46 40.2
comp=Z,9.5nm,0.8s
TUL3 **Leonard** 68.40 58 P **P** 22 46 39.6 +0.3
TUL3 IAmb IAmb 22 46 40.8
comp=Z,9.0nm,0.7s
MNHN **Monahans** 68.43 66 P **P** 22 46 40.5 +0.8
MNHN IAmb IAmb 22 46 41.7
comp=Z,22nm,0.7s
INVG **Invergeldie, C** 68.49 351 *e*P **P** 22 46 39.4 -0.1
INVG IAmb IAmb 22 46 40.2
comp=Z,24nm,0.5s
SADO **Sadowa** 68.51 42 LR LR 23 18 48.7
comp=Z,43nm,19.4s,baz=158,slow=38
KVAR **Kislovodsk Arr** 68.56 317 LR LR 23 20 15.2
comp=Z,39nm,19.2s,baz=278,slow=39
KIV **Kislovodsk** 68.56 317 P **P** 22 46 39.4 -0.9
KIV IAmb IAmb 22 46 45.9
comp=Z,11nm,0.5s
KIV **Kislovodsk** 68.56 317 P **P** 22 46 39.5 -0.9
KIV **Kislovodsk** 68.56 317 ⇑P **P** 22 46 39.6 -0.8
KIV **Kislovodsk** 68.56 317 *e*P **P** 22 46 40.4 +0.1
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,32nm,17.0s
KIV **Kislovodsk** 68.56 317 P **P** 22 46 40.1 -0.3
U38A **Gravette** 68.67 57 P **P** 22 46 40.9 0.0
KBZ **Khabaz** 68.67 317 P **P** 22 46 41.0 +0.2
comp=Z,9.9nm,0.8s,baz=81,slow=4.3,SNR=23
KBZ LR LR 23 20 36.6
comp=Z,56nm,18.9s,baz=20,slow=39
comp=Z,9.9nm,0.8s
KBZ **Khabaz** 68.67 317*d* *i*P **P** 22 46 41.4 +0.6
KBZ pmax pmax
comp=Z,13nm,0.9s
KBZ MLR MLR
comp=Z,10.0nm,4.0s
BEL **Belsk** 68.72 335 *e*P **P** 22 46 41.2 +0.3
ALPN **Alpine** 68.72 67 P **P** 22 46 42.6 +1.0
ALPN IAmb IAmb 22 46 43.8
comp=Z,13nm,0.8s
WTFS **Witchita Falls** 68.76 61 P **P** 22 46 42.4 +0.9
WTFS IAmb IAmb 22 46 43.1
comp=Z,14nm,1.0s
LAWE **Loch Awe, Argy** 68.77 352 *e*P **P** 22 46 41.5 +0.2
LAWE IAmb IAmb 22 46 42.0
comp=Z,37nm,0.6s
SGCY **Sterling City** 68.84 65 P **P** 22 46 43.1 +1.0
SGCY IAmb IAmb 22 46 44.2
comp=Z,19nm,0.9s
ESY **Stoneypath** 68.86 350 *e*P **P** 22 46 41.8 -0.1
CCM **Cathedral Cave** 68.87 54 P **P** 22 46 42.4 +0.2
CCM **Cathedral Cave** 68.87 54 P **P** 22 46 42.4 +0.2
CCM pmax pmax
comp=Z,12nm,1.0s
KULM **Kulim** 68.87 248 P **P** 22 46 42.9 +0.4
HHAR **Hobbs** 69.01 57 P **P** 22 46 42.8 -0.4
HHAR IAmb IAmb 22 46 44.1
comp=Z,18nm,0.8s
ABTX **Abilene, Hawle** 69.05 63 P **P** 22 46 43.9 +0.4
ABTX IAmb IAmb 22 46 45.2
comp=Z,16nm,0.8s
MGMO **Mountain Grove** 69.11 55 P **P** 22 46 43.4 -0.4
PGBU **Glenifferbraes** 69.14 351 *e*P **P** 22 46 43.8 +0.2
PGBU IAmb IAmb 22 46 45.0
comp=Z,202nm,0.9s
FVM **French Village** 69.31 53 P **P** 22 46 45.0 +0.1
FVM IAmb IAmb 22 46 46.3
comp=Z,21nm,1.1s
FVM **French Village** 69.31 53 P **P** 22 46 45.0 +0.1
FVM pmax pmax
comp=Z,21nm,1.2s
IPM **Ipoh** 69.35 247 P **P** 22 46 45.4 0.0
EKA **Eskdalemuir Ar** 69.49 350 P **P** 22 46 45.6 -0.1
comp=Z,26nm,0.8s,baz=17,slow=5.5,SNR=50
comp=Z,26nm,0.8s
ESK **Eskdalemuir** 69.51 350 P **P** 22 46 46.1 +0.3
TX31 **Lajitas Ar. Si** 69.52 68 P **P** 22 46 47.7 +1.2
TX31 IAmb IAmb 22 46 49.0
comp=Z,23nm,0.7s
TXAR **Lajitas Array** 69.52 68 P **P** 22 46 48.0 +1.5
comp=Z,16nm,0.6s,baz=299,slow=4.7,SNR=197
TXAR pP **pP** 22 47 13.3 -0.9
comp=Z,8.9nm,0.9s,baz=308,slow=6.1,SNR=5.6
comp=Z,16nm,0.6s
PLPT **Palo Pinto** 69.59 62 P **P** 22 46 47.3 +0.6
OZNA **Ozona** 69.62 65 P **P** 22 46 47.7 +0.7
RUE **Ruedersdorf** 69.70 339 *e*P **P** 22 46 47.7 +0.7
comp=Z,59nm,1.4s,baz=17,slow=6.1
LVV **L'vov** 69.71 332 P **P** 22 46 46.4 -0.8
NEWG **New Galloway** 69.80 351 *e*P **P** 22 46 47.6 0.0
NEWG IAmb IAmb 22 46 48.2
comp=Z,26nm,0.9s
SAND **Sanderson** 69.86 67 P **P** 22 46 49.6 +1.1
SAND IAmb IAmb 22 46 50.7
comp=Z,18nm,1.1s
LPIG **La Paz** 69.96 77 LR LR 23 13 41.8
comp=Z,27nm,21.7s,baz=20,slow=32
SORM **Soroca** 69.98 328 ⇓P **P** 22 46 48.1 -0.8
SORM **Soroca** 69.98 328 P **P** 22 46 48.0 -0.8
CLGH **Cloghs, Cushen** 70.00 352 *e*P **P** 22 46 48.9 +0.1
SIUC **Southern Illin** 70.08 53 P **P** 22 46 49.9 +0.2
SIUC IAmb IAmb 22 46 50.5
comp=Z,10nm,0.6s
IDGL **Inch Island, C** 70.11 353 *e*P **P** 22 46 49.7 +0.2
IDGL IAmb IAmb 22 46 50.4
comp=Z,64nm,0.7s
MYKOM **Kota Tinggi** 70.14 243 P **P** 22 46 49.7 -0.5
SANVU **Saraoutou** 70.14 174 P **P** 22 46 53.2 +3.2
FCAR **Ozark Folk Cen** 70.20 56 P **P** 22 46 50.3 0.0
FCAR IAmb IAmb 22 46 51.3
comp=Z,14nm,0.9s
KESW **Keswick, Cumbr** 70.22 350 *e*P **P** 22 46 50.2 +0.1
KESW IAmb IAmb 22 46 51.2
comp=Z,70nm,0.7s
KWP **Kalwaria Pacla** 70.24 333 *e*P **P** 22 46 50.5 +0.1
KWP **Kalwaria Pacla** 70.24 333 P **P** 22 46 50.7 +0.3
PBMO **Poplar Bluff** 70.28 54 P **P** 22 46 50.8 -0.1
HPIG 70.32 71 P **P** 22 46 52.2 +0.7
HPIG IAmb IAmb 22 47 20.7
comp=Z,35nm,1.8s
FLTG **Flechtingen** 70.34 341 *e*P **P** 22 46 51.1 +0.2
comp=Z,38nm,1.8s,baz=17,slow=6.1
FLTG *e*pP **PcP** 22 47 11.1 -0.8
NRDL **Niedersach Rie** 70.40 342 *e*P **P** 22 46 51.7 +0.5
comp=Z,42nm,1.7s,baz=17,slow=6.1
BRDY **Brady** 70.45 63 P **P** 22 46 52.7 +0.7
OJC **Ojcow** 70.45 335 *e*P **P** 22 46 51.7 0.0
OJC **Ojcow** 70.45 335 P **P** 22 46 50.8 -0.9
OJC **Ojcow** 70.45 335 P **P** 22 46 50.8 -0.9
LCAR **Lake Charles** 70.51 55 P **P** 22 46 53.4 +1.1
MIAR **Mount Ida** 70.58 58 P **P** 22 46 52.8 +0.1
MIAR **Mount Ida** 70.58 58 P **P** 22 46 52.8 +0.1
MIAR pmax pmax
comp=Z,14nm,1.1s
WHAR **Wooly Hollow** 70.60 56 P **P** 22 46 53.1 +0.2
ASSE **Asse, Remlinge** 70.64 341 *e*P **P** 22 46 53.4 +0.7
comp=Z,20nm,1.1s,baz=17,slow=6.1
JCT **Junction City** 70.67 65 P **P** 22 46 53.8 +0.4
JCT IAmb IAmb 22 46 55.2
comp=Z,24nm,0.9s
JCT **Junction City** 70.67 65 P **P** 22 46 53.8 +0.4
JCT pmax pmax
comp=Z,24nm,0.9s
PARMO **Parma** 70.69 54 P **P** 22 46 54.3 +0.9
KSP **Ksiaz** 70.70 337 *e*P **P** 22 46 52.9 -0.3
KSP **Ksiaz** 70.70 337 P **P** 22 46 53.4 +0.2
TREL **Terrell** 70.78 60 P **P** 22 46 54.3 +0.3
TREL IAmb IAmb 22 48 57.7
comp=Z,17nm,0.6s
WIM **Isle of Man** 70.80 351 *e*P **P** 22 46 53.9 +0.1
STHS **Stebnicka Huta** 70.82 333 *e*P **P** 22 46 54.3 +0.3
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS **Stebnicka Huta** 70.82 333 *e*P **P** 22 46 54.2 +0.3
GNI **Garni** 70.90 313 P **P** 22 46 55.4 +0.6
GNI **Garni** 70.90 313 LR LR 23 23 47.6
comp=Z,38nm,18.3s,baz=36,slow=41
GNI **Garni** 70.90 313 ⇓*i*P **P** 22 46 55.6 +0.8
GNI pmax pmax
comp=Z,14nm,1.6s
GNI **Garni** 70.90 313 P **P** 22 46 55.2 +0.4
MILM **Milestii Mici** 70.92 327 ⇑P **P** 22 46 53.7 -0.9
MILM **Milestii Mici** 70.92 327 P **P** 22 46 53.6 -0.9
LHMI **Lhok Sumawe** 70.94 251 P **P** 22 46 55.7 +0.6
CLL **Collm** 70.97 339 P **P** 22 46 54.1 -0.7
CLL IAmb IAmb 22 46 55.7
comp=Z,36nm,1.2s
CLL **Collm** 70.97 339 ⇑*i*P **P** 22 46 54.4 -0.4
CLL *e* 22 47 14.0
CLL pmax pmax
comp=Z,32nm,1.2s
CLL **Collm** 70.97 339 *e*P **P** 22 46 55.1 +0.3
comp=Z,35nm,1.2s,baz=17,slow=6.1
CLL *e*pP **PcP** 22 47 14.0 -0.5
CLL **Collm** 70.97 339 ⇑*i*P **P** 22 46 54.4 -0.4
comp=Z,32nm,1.2s
CLL *e*PcP **PcP** 22 47 14.0 -0.5
OSTC **Ostas** 70.98 337 *e*P **P** 22 46 55.0 +0.1
OSTC **Ostas** 70.98 337 *e*P **P** 22 46 55.0 +0.1
X40A **Basin Creek Fa** 70.98 57 P **P** 22 46 55.6 +0.4

WCI Wyandotte Cave 70.99 50 P **P** **22 46 54.6 -0.5**
WCI Wyandotte Cave 70.99 50 P **P** **22 46 54.6 -0.5**
WCI pmax pmax
comp=Z,9.0nm,0.8s
CHVC Chvalec 70.99 337 *eP* **P** **22 46 55.2 +0.2**
CHVC Chvalec 70.99 337 *eP* **P** **22 46 55.2 +0.2**
KOLS Kolonicke sedl 71.00 333 *eP* **P** **22 46 55.0 0.0**
KOLS pmax pmax
comp=Z,10.0nm,0.6s
KOLS Kolonicke sedl 71.00 333 *eP* **P** **22 46 55.0 0.0**
NIE Niedzica 71.06 334 *eP* **P** **22 46 56.0 +0.6**
DRIO Del Rio 71.08 66 P **P** **22 46 56.4 +0.6**
DRIO IAmb IAmb 22 46 57.5
comp=Z,15nm,0.9s
UPC Upice 71.08 337 *eP* **P** **22 46 55.8 +0.3**
UPC Upice 71.08 337 *eP* **P** **22 46 55.8 +0.3**
PEBM Pemiscott Bayo 71.09 54 P **P** **22 46 56.5 +0.8**
GNAR Gosnell 71.14 54 P **P** **22 46 57.0 +0.9**
DPC Dobruska-Polom 71.15 337 *eP* **P** **22 46 56.7 +0.7**
DPC Dobruska-Polom 71.15 337 *eP* **P** **22 46 56.7 +0.7**
BRG Berggiesshubel 71.18 339 *eP* **P** **22 46 57.0 +0.9**
comp=Z,7.0nm,0.7s,baz=17,slow=6.1
BRG Berggiesshubel 71.18 339 *i* P **P** **22 46 56.7 +0.6**
BRG Amp 22 46 57.4
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 71.18 339 Amp 22 47 16.4
comp=Z,3.7nm,0.7s
BRG P **PcP** **22 47 14.7 -0.8**
STEB Steborice 71.20 336 *eP* **P** **22 46 56.6 +0.3**
SOEI Soe 71.29 218 P **P** **22 46 58.5 +1.2**
SOEI IAmb IAmb 22 47 28.7
comp=Z,19nm,0.7s
KRLC Kraliky 71.31 337 *eP* **P** **22 46 57.3 +0.4**
KRLC Kraliky 71.31 337 *eP* **P** **22 46 57.3 +0.4**
NEUB Neuenburg 71.31 340 *eP* **P** **22 46 57.3 +0.5**
comp=Z,13nm,0.6s,baz=17,slow=6.1
GTTG Gottingen 71.33 341 *eP* **P** **22 46 57.8 +0.8**
comp=Z,29nm,1.4s,baz=17,slow=6.1
BUR08 Bucovina Ar. S 71.36 330 P **P** **22 46 56.8 -0.5**
BURAR Bucovina Array 71.38 330 P **P** **22 46 56.7 -0.8**
BURAR IAmb IAmb 22 46 57.8
comp=Z,11nm,0.6s
BURAR Bucovina Array 71.38 330 ⇓P **P** **22 46 57.2 -0.3**
BURAR Bucovina Array 71.38 330 P **P** **22 46 57.1 -0.3**
MORC Moravsky Berou 71.41 336 *eP* **P** **22 46 57.4 -0.1**
MORC Moravsky Berou 71.41 336 ⇓P **P** **22 46 58.3 +0.7**
MORC Moravsky Berou 71.41 336 P **P** **22 46 58.2 +0.7**
RICC Richard 71.46 338 *eP* **P** **22 46 58.5 +0.7**
TSI Tuntungan 71.49 249 P **P** **22 46 58.3 -0.1**
WLAR White Oak Lake 71.50 58 P **P** **22 46 58.8 +0.5**
WLAR IAmb IAmb 22 47 00.1
comp=Z,18nm,1.1s
WME Myndd Eilian 71.51 351 *eP* **P** **22 46 57.7 -0.3**
LANS Liptovska Anna 71.52 334 *eP* **P** **22 46 59.0 +0.8**
LANS pmax pmax
comp=Z,10.0nm,0.6s
LANS Liptovska Anna 71.52 334 *eP* **P** **22 46 59.0 +0.8**
435B Jarrell 71.58 63 P **P** **22 46 59.9 +1.1**
435B IAmb IAmb 22 47 01.3
comp=Z,16nm,0.9s
TRSU Trosnyk 71.58 332 P **P** **22 46 58.3 -0.2**
T47A Sharon Grove 71.64 51 P **P** **22 46 59.4 +0.3**
HNDO Hondo 71.69 65 P **P** **22 46 59.8 +0.3**
BMR Baia Mare 71.81 331 ⇓P **P** **22 47 00.4 +0.4**
BMR Baia Mare 71.81 331 P **P** **22 47 00.3 +0.4**
CWF Charnwood Fore 71.86 349 *eP* **P** **22 47 00.0 0.0**
MOX Moxa 71.88 340 *eP* **P** **22 47 01.0 +0.7**
comp=Z,26nm,1.3s,baz=17,slow=6.1
PSI Prapat 71.89 248 P **P** **22 47 00.8 -0.1**
PSI pmax pmax
comp=Z,40nm,0.7s
PRU Pruhonice 71.89 338 *eP* **P** **22 47 01.0 +0.7**
PRU Pruhonice 71.89 338 *eP* **P** **22 47 01.0 +0.7**
GOPC GO Pecny, Ondr 71.91 338 *eP* **P** **22 47 00.6 +0.1**
GOPC GO Pecny, Ondr 71.91 338 *eP* **P** **22 47 00.6 +0.1**
FOEL Foel Wylfa 71.91 350 *eP* **P** **22 46 60.0 -0.4**
FOEL IAmb IAmb 22 47 01.2
comp=Z,32nm,0.8s
BUG Bochum--Univer 71.91 343 *eP* **P** **22 47 00.8 +0.4**
comp=Z,31nm,1.2s,baz=17,slow=6.1
TANN Tannenbergstha 71.92 339 *eP* **P** **22 47 01.3 +0.7**
comp=Z,23nm,1.6s,baz=17,slow=6.1
MTN Manton Dam 71.92 211 P **P** **22 47 01.8 +1.0**
MTN IAmb IAmb 22 47 07.0
comp=Z,14nm,0.7s
KASTN Kahler Asten 71.94 342 *eP* **P** **22 47 01.4 +0.7**
comp=Z,25nm,1.3s,baz=17,slow=6.1
TESR Tescani 71.95 329 ⇓P **P** **22 47 00.4 -0.4**
RPSI Rantau Prapat 71.97 248 P **P** **22 47 00.8 -0.5**
UBBA Unterbreizbach 72.02 341 *eP* **P** **22 47 01.7 +0.7**
comp=Z,47nm,1.8s,baz=17,slow=6.1
VRAC Vranov 72.07 336 *eP* **P** **22 47 01.6 +0.2**
VRAC Vranov 72.07 336 ⇓P **P** **22 47 02.4 +0.9**
VRAC Vranov 72.07 336 P **P** **22 47 02.3 +0.9**
ARCR ARCALIA 72.11 330 ⇓P **P** **22 47 01.7 0.0**
GHRR 72.13 328 ⇓P **P** **22 47 02.4 +0.6**
JAVC Velka Javorina 72.23 336 *eP* **P** **22 47 03.5 +1.0**
NATX Nacogdoches 72.28 60 P **P** **22 47 04.1 +1.1**
NATX IAmb IAmb 22 47 05.1
comp=Z,20nm,0.8s
VYHS Vyhne 72.29 335 *eP* **P** **22 47 03.1 +0.3**
VYHS pmax pmax
comp=Z,6.0nm,0.6s
VYHS Vyhne 72.29 335 *eP* **P** **22 47 03.1 +0.3**
KRUC Moravsky 72.34 336 *eP* **P** **22 47 03.4 +0.3**
MANZ Manzenberg 72.40 339 *eP* **P** **22 47 04.1 +0.7**
comp=Z,4.6nm,1.5s,baz=17,slow=6.1
ZVC Zvikov 72.48 338 *eP* **P** **22 47 04.6 +0.7**
VRI Vrincioaia 72.51 328 ⇓P **P** **22 47 04.1 -0.1**
VRI Vrincioaia 72.51 328 P **P** **22 47 04.0 -0.1**
PLOR Plostina 72.55 328 ⇑P **P** **22 47 04.6 +0.2**
PLOR Plostina 72.55 328 P **P** **22 47 04.6 +0.2**
PSZ Piszkesteto 72.55 334 P **P** **22 47 04.9 +0.5**
PSZ Piszkesteto 72.55 334 P **P** **22 47 04.9 +0.5**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
TURR Turia 72.55 329 ⇑P **P** **22 47 04.9 +0.5**
OZUR 72.58 329 ⇓P **P** **22 47 04.6 -0.1**
ROTZ Rotzenmuhle 72.59 339 *eP* **P** **22 47 05.3 +0.8**
comp=Z,3.3nm,1.2s,baz=17,slow=6.1
OXF Oxford 72.61 55 P **P** **22 47 05.3 +0.5**
OXF IAmb IAmb 22 47 06.5
comp=Z,43nm,1.3s
OXF Oxford 72.61 55 P **P** **22 47 05.3 +0.5**
OXF pmax pmax
comp=Z,43nm,1.3s
T50A Nancy 72.63 50 P **P** **22 47 05.2 +0.2**
U49A Red Boiling Sp 72.63 51 P **P** **22 47 05.6 +0.6**
U49A IAmb IAmb 22 48 30.8
comp=Z,14nm,0.4s
MLDN Muldoon 72.64 63 P **P** **22 47 05.4 +0.3**
MLDN IAmb IAmb 22 47 07.1
comp=Z,23nm,0.7s
COVR Voineasa-Covas 72.69 329 ⇓P **P** **22 47 05.9 +0.7**
CFR Carcaliu 72.69 327 ⇓P **P** **22 47 04.8 -0.3**
CFR Carcaliu 72.69 327 P **P** **22 47 04.8 -0.3**
CLTN Cedars of Leba 72.73 51 P **P** **22 47 05.9 +0.3**
IWEX Carrickbyrne, 72.74 352 *eP* **P** **22 47 05.6 +0.3**
KOPT Kop Dagi 72.76 316 P **P** **22 47 06.6 +0.6**
KOPT IAmb IAmb 22 47 10.1
comp=Z,15nm,0.9s
MCH1 Michaelchurch 72.77 350 *eP* **P** **22 47 05.5 0.0**
MCH1 IAmb IAmb 22 47 06.2
comp=Z,28nm,0.9s
V48A Smith Brothers 72.80 52 P **P** **22 47 06.6 +0.6**
DOPR Dopca 72.82 329 ⇓P **P** **22 47 06.0 0.0**
MARR Marisel-Cluj 72.83 331 ⇑P **P** **22 47 05.8 -0.3**
DRGR 72.84 331 ⇑P **P** **22 47 05.9 -0.2**
DRGR 72.84 331 P **P** **22 47 05.9 -0.2**
BKNI Bangkinang 72.84 245 P **P** **22 47 04.4 +1.0**
PLAL Pickwick Lake 72.85 53 IAmb IAmb 22 47 07.6
comp=Z,12nm,0.8s
GRA1 Grafenberg Arr 72.86 340 P **P** **22 47 06.2 0.0**
GRA1 IAmb IAmb 22 47 07.9
comp=Z,17nm,0.8s
GRF Grafenberg Arr 72.86 340 P **P** **22 47 06.2 0.0**
GRF pmax pmax
comp=Z,17nm,0.8s
GRF Grafenberg Arr 72.86 340 *eP* **P** **22 47 07.3 +1.1**
comp=Z,16nm,0.8s,baz=17,slow=6.1
GRFO Grafenberg 72.86 340 P **P** **22 47 06.5 +0.3**
GRFO IAmb IAmb 22 47 07.8
comp=Z,17nm,0.9s
GRFO Grafenberg 72.86 340 P **P** **22 47 06.5 +0.3**
GRFO pmax pmax
comp=Z,17nm,0.9s
TNS Taunus Mts 72.88 342 *eP* **P** **22 47 07.0 +0.7**
comp=Z,40nm,1.5s,baz=17,slow=6.1
MONM Monmouth 72.90 350 *eP* **P** **22 47 06.3 0.0**
MONM IAmb IAmb 22 47 07.5
comp=Z,31nm,0.7s
KHC Kasperske Hory 72.91 338 ⇑*i*P **P** **22 47 07.1 +0.6**
KHC pmax pmax
comp=Z,17nm,1.3s
KHC Kasperske Hory 72.91 338 *eP* **P** **22 47 06.6 +0.1**
MEM Membach 72.92 344 *dP* **P** **22 47 06.0 -0.5**
comp=Z,44nm,0.9s
BTNL Ternell 72.93 344 *dP* **P** **22 47 06.9 +0.3**
comp=Z,29nm,0.9s
UCC Uccle 73.00 345 *dP* **P** **22 47 06.6 -0.3**
comp=Z,11nm,1.0s
UCC *d*PcP **PcP** **22 47 23.1 -0.1**
BSTI Sart Tilman 73.02 344 *dP* **P** **22 47 07.8 +0.8**
comp=Z,5.2nm,1.0s
CKRC Cesky Krumlov 73.04 338 *eP* **P** **22 47 07.7 +0.5**
CKRC Cesky Krumlov 73.04 338 *eP* **P** **22 47 07.7 +0.5**
WET Wettzell 73.04 339 *eP* **P** **22 47 08.3 +1.0**
comp=Z,9.5nm,0.8s,baz=17,slow=6.1
SRO Srobarova 73.05 335 *eP* **P** **22 47 09.5 +2.3**
SRO Srobarova 73.05 335 *eP* **P** **22 47 09.5 +2.3**
MLR Muntele Rosu 73.08 329 P **P** **22 47 07.3 -0.4**
MLR IAmb IAmb 22 47 08.9
comp=Z,10.0nm,0.6s
MLR Muntele Rosu 73.08 329 LR LR 23 23 52.2
comp=Z,50nm,18.5s,baz=24,slow=40
MLR Muntele Rosu 73.08 329 ⇑P **P** **22 47 08.3 +0.6**
MLR Muntele Rosu 73.08 329 P **P** **22 47 07.3 -0.4**
MLR pmax pmax
comp=Z,10.0nm,0.6s
HKT Hockley 73.14 62 P **P** **22 47 08.6 +0.6**
HKT Hockley 73.14 62 P **P** **22 47 08.6 +0.6**
HKT pmax pmax
comp=Z,9.0nm,1.2s
GEC2 GERESS Array S 73.15 338 P **P** **22 47 08.1 +0.1**
GEC2 GERESS Array S 73.15 338 *eP* **P** **22 47 08.6 +0.6**
comp=Z,10nm,0.7s,baz=17,slow=6.1
GERES GERESS Array B 73.15 338 P **P** **22 47 07.6 -0.4**
GERES GERESS Array B 73.15 338 P **P** **22 47 08.1 +0.1**
comp=Z,5.1nm,0.5s,baz=31,slow=5.9,SNR=40
GERES LR LR 23 24 26.0
comp=Z,63nm,18.6s,baz=79,slow=40
comp=Z,5.1nm,0.5s
BHOU Houvegnez 73.17 344 *dP* **P** **22 47 08.3 +0.4**
comp=Z,14nm,0.8s
HARR Harsova 73.19 327 ⇑P **P** **22 47 08.3 +0.1**
HARR Harsova 73.19 327 P **P** **22 47 08.2 +0.1**
TIRR Tirgusor 73.25 327 P **P** **22 47 08.1 -0.4**
TIRR Tirgusor 73.25 327 P **P** **22 47 08.1 -0.4**
TIRR pmax pmax
comp=Z,10.0nm,1.1s
BGES Gesves 73.29 344 *dP* **P** **22 47 08.5 -0.1**
comp=Z,10nm,1.0s
GURO Guroymak-BITLI 73.38 314 P **P** **22 47 09.3 -0.3**
VOIR 73.40 329 ⇓P **P** **22 47 10.0 +0.5**
VOIR 73.40 329 P **P** **22 47 09.9 +0.5**
BMRD Maredsous 73.42 344 *dP* **P** **22 47 09.5 +0.2**
comp=Z,15nm,0.9s
RCHB Rochefort 73.49 344 *dP* **P** **22 47 09.9 +0.1**
comp=Z,10.0nm,1.2s
CONA Conrad Observa 73.53 336 *i* P **P** **22 47 11.4 +1.2**
comp=Z,14nm,1.5s,SNR=5.1
ARR Arges 73.59 330 ⇓P **P** **22 47 11.3 +0.8**
SIRR Siria 73.61 332 ⇓P **P** **22 47 11.0 +0.4**
SWET Sewanee 73.64 52 P **P** **22 47 10.6 -0.4**
SWET IAmb IAmb 22 47 11.9
comp=Z,11nm,0.7s
RONA Rosalia, Austr 73.64 336 *i* P **P** **22 47 12.2 +1.3**
comp=Z,8.8nm,0.5s
DOU Doubes 73.65 344 *dP* **P** **22 47 10.6 -0.1**
comp=Z,11nm,0.9s
PMBI Palembang 73.70 240 P **P** **22 47 13.3 +1.8**
ICOR Ion Corvin 73.75 327 ⇑P **P** **22 47 12.1 +0.7**
WLF Walferdange 73.81 343 *dP* **P** **22 47 14.2 +2.5**
comp=Z,11nm,1.0s
GSI Gunungsitoli 73.86 249 P **P** **22 47 12.3 -0.2**
GSI Gunungsitoli 73.86 249 P **P** **22 47 12.5 0.0**
W50A Signal Mountai 73.93 51 P **P** **22 47 12.4 -0.3**
SURR Surduc 73.95 331 ⇓P **P** **22 47 13.5 +0.9**
MOA Molln 73.97 337 *i* P **P** **22 47 11.6 -1.1**
comp=Z,0.2nm,0.4s
HBVL Hebbronville 73.99 66 P **P** **22 47 15.4 +2.3**
HBVL IAmb IAmb 22 47 17.3
comp=Z,24nm,1.2s
TOKA Tokat 74.07 319 P **P** **22 47 14.2 +0.7**
GZR Gura Zlata 74.10 331 ⇑P **P** **22 47 13.2 -0.3**
GZR Gura Zlata 74.10 331 P **P** **22 47 13.2 -0.3**
STU Stuttgart 74.13 341 P **P** **22 47 13.6 0.0**
STU IAmb IAmb 22 47 14.8
comp=Z,21nm,1.2s
STU Stuttgart 74.13 341 P **P** **22 47 13.6 0.0**
STU pmax pmax
comp=Z,21nm,1.2s
STU Stuttgart 74.13 341 *eP* **P** **22 47 14.2 +0.6**
comp=Z,64nm,1.3s,baz=17,slow=6.1
BZS Buzias 74.22 332 ⇑P **P** **22 47 13.9 -0.3**
BZS Buzias 74.22 332 P **P** **22 47 13.8 -0.3**
ARSA Arzberg 74.25 336 P **P** **22 47 14.3 0.0**
ARSA Arzberg 74.25 336 *i* P **P** **22 47 15.2 +0.9**
comp=Z,0.5nm,0.4s,SNR=5.3
BIOA Bad Ischl, Aus 74.26 338 *i* P **P** **22 47 15.1 +0.8**
comp=Z,2.9nm,0.5s
146A Union 74.31 55 P **P** **22 47 16.6 +1.8**
FPAL Fort Paine 74.35 52 P **P** **22 47 14.8 -0.3**
U54A Nelsons Funny 74.37 48 P **P** **22 47 15.7 +0.4**
RJOB Jochberg 74.40 338 *eP* **P** **22 47 16.2 +1.0**
comp=Z,12nm,1.0s,baz=17,slow=6.1
ARPR Arapgir-MALATY 74.41 317 P **P** **22 47 15.4 -0.1**
MORH Mrgy, Hungar 74.45 334 ⇓P **P** **22 47 15.4 -0.1**
S57A Dark Hollow, R 74.53 45 P **P** **22 47 16.2 +0.1**
Y49A Blount Mountai 74.55 53 P **P** **22 47 16.2 0.0**
LESA Schwarzleotal 74.72 338 *i* P **P** **22 47 18.1 +1.0**
comp=Z,1.0nm,0.4s
BFO Black Forest 74.72 341 P **P** **22 47 16.6 -0.4**
BFO IAmb IAmb 22 47 17.5
comp=Z,10nm,0.7s
BFO Black Forest 74.72 341 P **P** **22 47 16.6 -0.4**
BFO pmax pmax
comp=Z,10.0nm,0.7s
BFO Black Forest 74.72 341 *eP* **P** **22 47 17.6 +0.5**
comp=Z,10nm,0.8s,baz=17,slow=6.1
SOKA Soboth 74.90 336 *i* P **P** **22 47 18.7 +0.6**
comp=Z,3.5nm,0.5s,SNR=12
KBA Koelnbreinsper 74.90 338 *i* P **P** **22 47 19.7 +1.5**
comp=Z,23nm,1.1s
PERS Pernice 74.92 336 *i* P **P** **22 47 18.6 +0.4**
MARD Mardin 74.95 314 P **P** **22 47 18.7 0.0**
MARD IAmb IAmb 22 47 33.3
comp=Z,12nm,0.6s
WATA Walderalm 75.03 339 *i* P **P** **22 47 19.7 +0.7**
comp=Z,8.9nm,0.6s,SNR=6.7
ECH Echery 75.04 342 P **P** **22 47 18.7 -0.2**
ECH IAmb IAmb 22 47 20.1
comp=Z,19nm,1.0s
ECH Echery 75.04 342 P **P** **22 47 18.7 -0.2**
ECH pmax pmax
comp=Z,19nm,1.0s
RETA Reutte 75.06 340 *i* P **P** **22 47 19.3 +0.2**
comp=Z,4.8nm,0.8s
NGCH Negor - Chabah 75.07 293 P **P** **22 47 18.6 -0.7**
WTTA Wattenberg 75.09 339 *i* P **P** **22 47 20.3 +0.9**
comp=Z,9.3nm,0.6s,SNR=6.8
MOTA Moosalm 75.12 339 *eP* **P** **22 47 19.5 -0.1**
comp=Z,21nm,1.1s,SNR=6.3
OBKA Obir 75.17 337 *i* P **P** **22 47 20.4 +0.7**
comp=Z,31nm,1.5s,SNR=19
SQTA Sankt Quirin 75.22 339 *i* P **P** **22 47 20.9 +0.9**
comp=Z,18nm,0.8s,SNR=7.8
MYKA Terra Mystica 75.26 337 *i* P **P** **22 47 20.6 +0.3**
comp=Z,8.9nm,0.7s,SNR=6.7
KNRA Kununurra 75.32 212 P **P** **22 47 21.6 +1.0**
ZAIG Zacatecas 75.32 71 P **P** **22 47 22.5 +1.2**
MDSI Maura Dua 75.34 240 P **P** **22 47 20.5 -0.4**
PLVB Pleven 75.39 329 ⇓P **P** **22 47 20.9 -0.1**
ABTA Abfaltersbach 75.40 338 *i* P **P** **22 47 21.4 +0.4**
comp=Z,20nm,1.0s,SNR=9.6
ELND Elena 75.42 328 ⇓P **P** **22 47 20.5 -0.6**
DAVA Damuels 75.42 340 *eP* **P** **22 47 21.8 +0.5**
comp=Z,17nm,1.4s
FETA Feichten 75.51 339 *i* P **P** **22 47 22.7 +0.9**
comp=Z,21nm,1.1s,SNR=7.8
BNN Bunyan 75.59 319 P **P** **22 47 21.6 -0.7**
BNN IAmb IAmb 22 47 23.7
comp=Z,12nm,0.8s
CADS Cadrg 75.62 337 *i* P **P** **22 47 21.6 -0.7**
BR131 Keskin Array S 75.65 321 P **P** **22 47 22.4 -0.3**
BR131 Keskin Array S 75.65 321 P **P** **22 47 21.6 -1.0**
BR131 Keskin Array S 75.65 321 P **P** **22 47 22.4 -0.3**
BR131 pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 75.65 321 P **P** **22 47 22.6 0.0**
comp=Z,6.7nm,0.6s,baz=64,slow=3.7,SNR=54
comp=Z,6.7nm,0.6s
BRTR Keskin Array B 75.65 321 *ce*P **P** **22 47 22.8 +0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.6s
STAL STALIGIAL 75.82 338 P **P** **22 47 22.4 -0.9**
CIMO Cimolais 75.83 338 P **P** **22 47 22.9 -0.5**
CIMO IAmb IAmb 22 47 25.7
comp=Z,25nm,1.7s
ANTO Ankara 75.83 321 P **P** **22 47 23.9 +0.3**
ANTO IAmb IAmb 22 47 24.9
comp=Z,12nm,0.8s
ANTO Ankara 75.83 321 P **P** **22 47 24.0 +0.3**
ANTO Ankara 75.83 321 ⇑P **P** **22 47 24.5 +0.9**
ANTO Ankara 75.83 321 P **P** **22 47 23.9 +0.3**
ANTO pmax pmax
comp=Z,12nm,0.8s
MDUB Mudurnu 75.87 323 P **P** **22 47 23.8 0.0**
MDUB IAmb IAmb 22 47 25.8
comp=Z,22nm,1.1s
SABO M.te Sabotino 75.89 337 P **P** **22 47 22.5 -1.3**
SABO IAmb IAmb 22 47 23.6
comp=Z,27nm,1.8s
BOJS Bojanci 75.95 336 *i* P **P** **22 47 24.1 +0.1**
FUORN Ofenpass-Fuorn 75.99 340 P **P** **22 47 24.9 +0.3**
FUORN IAmb IAmb 22 47 26.5
comp=Z,16nm,0.9s
BOVS Bovan 76.02 331 ⇓P **P** **22 47 24.0 -0.5**
TRI Trieste 76.10 337 P **P** **22 47 23.1 -1.8**
TRI Trieste 76.10 337 P **P** **22 47 23.1 -1.8**
TRI pmax pmax
comp=Z,7.0nm,0.6s
CTI Castel Tesino 76.25 339 P **P** **22 47 25.3 -0.6**
CTI IAmb IAmb 22 47 26.5
comp=Z,18nm,0.5s
CTI Castel Tesino 76.25 339 P **P** **22 47 25.3 -0.6**
CTI pmax pmax
comp=Z,18nm,0.5s
TUE Stuetta 76.31 340 P **P** **22 47 26.4 0.0**
TUE IAmb IAmb 22 47 28.0
comp=Z,18nm,0.6s
152A Waverly Hall 76.32 52 P **P** **22 47 26.1 -0.3**
GAZ Gaziantep 76.52 317 P **P** **22 47 27.8 +0.2**
DZM Mont Dzumac 76.67 175 P **P** **22 47 30.4 +2.1**
DZM IAmb IAmb 22 47 32.1
comp=Z,20nm,1.1s
SENIN Lac Senin/Sane 76.80 342 P **P** **22 47 28.8 -0.4**
SHME Shamm 77.14 297 P **P** **22 47 29.8 -1.2**
SHME Shamm 77.14 297 P **P** **22 47 29.0 -2.1**
RDO Rodhopi 77.15 327 P **P** **22 47 30.6 -0.2**
RDO IAmb IAmb 22 47 31.9
comp=Z,11nm,0.7s
PEHC Pehcevo 77.38 329 *i* P **P** **22 47 31.5 -0.8**
SKO Skopje 77.62 330 *i* P **P** 22 47 38.7 +5.1
MDH Madha 77.67 296 P **P** **22 47 32.1 -1.9**
MASF Masafi 77.68 296 P **P** **22 47 33.0 -1.2**
WR8 Warramunga Arr 77.79 205 P **P** **22 47 35.4 +0.8**
PDG Podgorica 77.81 332 IAmb IAmb 22 47 39.3
comp=Z,19nm,0.8s
PDG Podgorica 77.81 332 ⇓P **P** **22 47 34.3 -0.2**
UMQ Umm Al-Quwin 77.81 297 P **P** **22 47 33.1 -1.7**
WRA Warramunga Arr 77.82 206 P **P** **22 47 35.3 +0.6**
WRA Warramunga Arr 77.82 206 P **P** **22 47 35.5 +0.8**
comp=Z,7.0nm,0.9s,baz=20,slow=5.9,SNR=43
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 77.82 206 *i* P **P** **22 47 35.7 +1.0**
WRA pmax pmax
comp=Z,4.0nm,0.6s
VAY Valandovo 77.89 329 *i* P **P** **22 47 35.5 +0.5**
UOSS Minazif 78.01 296 P **P** **22 47 34.2 -1.7**
UOSS IAmb IAmb 22 47 34.9
comp=Z,18nm,0.5s
UOSS Minazif 78.01 296 P **P** **22 47 34.2 -1.7**
UOSS Minazif 78.01 296 *i* P **P** **22 47 34.7 -1.2**
SNR=6.6
ZCCA Zocca 78.01 338 P **P** **22 47 36.6 +0.9**
HATD Hatta, Dubai 78.14 296 P **P** **22 47 35.3 -1.4**
HATD Hatta, Dubai 78.14 296 P **P** **22 47 35.2 -1.5**
BIDO Bidbid 78.16 294 P **P** **22 47 36.2 -0.5**
BNI Bardonecchia 78.18 342 P **P** **22 47 37.1 +0.4**
BNI IAmb IAmb 22 47 39.0
comp=Z,12nm,0.8s
BNI Bardonecchia 78.18 342 P **P** **22 47 37.1 +0.4**
BNI pmax pmax
comp=Z,12nm,0.8s
NAZ Nazwa, Dubai 78.25 297 P **P** **22 47 36.3 -0.9**
NAZ Nazwa, Dubai 78.25 297 P **P** **22 47 35.9 -1.4**
ASHO Ashiyiah 78.30 296 P **P** **22 47 36.1 -1.5**
ASHO Ashiyiah 78.30 296 P **P** **22 47 35.4 -2.1**
SSB Saint Sauveur 78.33 343 P **P** **22 47 37.6 +0.1**
SSB IAmb IAmb 22 47 39.1
comp=Z,18nm,0.8s
SSB Saint Sauveur 78.33 343 P **P** **22 47 37.6 +0.1**
SSB pmax pmax
comp=Z,18nm,0.8s
MSSA Maissana 78.34 339 P **P** **22 47 36.8 -0.8**
MSSA IAmb IAmb 22 47 38.5
comp=Z,34nm,1.0s
FAQ Al Faqa, Dubai 78.49 297 P **P** **22 47 37.3 -1.4**
FAQ Al Faqa, Dubai 78.49 297 P **P** **22 47 37.2 -1.4**
SOHO SOHO 78.50 295 P **P** **22 47 37.2 -1.4**
SOHO SOHO 78.50 295 P **P** **22 47 37.1 -1.4**
HOQ Hoqain 78.54 295 P **P** **22 47 37.7 -1.2**
SNR=6.0
SMDO Samad 78.57 294 P **P** **22 47 38.7 -0.5**
JLN Jalan Bani Buh 78.58 292 P **P** **22 47 39.3 +0.2**
OHR Ohrid 78.60 330 *i* P **P** **22 47 39.2 +0.2**
ASUD Al Ashush, Dub 78.72 297 P **P** **22 47 39.0 -0.8**
FNA Florina 78.74 330 P **P** **22 47 39.1 -0.7**
FNA Florina 78.74 330 P **P** **22 47 39.1 -0.7**
FNA pmax pmax
comp=Z,4.0nm,0.8s
OSSC Osservatorio P 78.74 338 P **P** **22 47 39.5 -0.2**
OSSC IAmb IAmb 22 47 40.7
comp=Z,22nm,0.6s
KBD Kabd 78.75 305 P **P** **22 47 38.6 -1.3**
AJN Ajban 78.95 297 P **P** **22 47 39.5 -1.5**
ALNE Al Ain 78.97 296 P **P** **22 47 39.8 -1.4**
ALNE Al Ain 78.97 296 *i* P **P** **22 47 39.6 -1.6**
SNR=6.4
JMDO Jabal Madar 79.11 293 P **P** **22 47 41.0 -1.0**
SNR=13
ARQ Araqi 79.15 295 P **P** **22 47 41.1 -1.1**
SNR=12
CAMP Campotosto 79.19 336 P **P** **22 47 42.5 +0.2**
CAMP IAmb IAmb 22 47 44.0
comp=Z,22nm,0.9s
CESX Cesi 79.31 337 P **P** **22 47 42.0 -0.8**
CESX IAmb IAmb 22 47 44.0
comp=Z,12nm,0.7s
SGRT San Giovanni R 79.36 334 P **P** **22 47 42.8 -0.4**
SGRT IAmb IAmb 22 47 43.2
comp=Z,16nm,0.7s
AQU L'Aquila 79.37 336 P **P** **22 47 44.5 +1.3**
AQU pmax pmax
comp=Z,22nm,0.9s
INTR Introdacqua 79.57 336 IAmb IAmb 22 47 45.9
comp=Z,18nm,0.7s
CSS Mathiatis 79.96 319 P **P** **22 47 46.0 -0.5**
CSS IAmb IAmb 22 47 47.0
comp=Z,19nm,0.8s
MZWR Madinat Zayed 80.18 297 P **P** **22 47 46.0 -1.8**
ACER Acerenza 80.22 334 P **P** **22 47 48.1 +0.3**
ACER IAmb IAmb 22 47 51.5
comp=Z,30nm,0.8s
MHTO MHTO 80.31 293 P **P** **22 47 48.0 -0.5**
SNR=11
UMZA Um Al Zommool 80.38 296 P **P** **22 47 47.0 -1.8**
MMAI Mount Meron Ar 80.86 316 P **P** **22 47 51.1 -0.3**
comp=Z,6.1nm,0.6s,baz=34,slow=6.1,SNR=19
comp=Z,6.1nm,0.6s
SMRA Abu-Samra 80.92 300 P **P** **22 47 50.2 -1.5**

CUC	**Castrocucco**	**81.00 334**	IAmb	IAmb	22 47 54.4		
	comp=Z,15nm,0.9s						
MZR	**Muzera**	**81.01 297**	P	**P**	**22 47 51.3**	**-0.9**	
MZR	**Muzera**	**81.01 297**	*i* P	**P**	**22 47 50.5**	**-1.7**	
	SNR=7.2						
CEST	**Esterri de Car**	**81.47 345**	P	**P**	**22 47 55.1**	**+0.6**	
CEST			IAmb	IAmb	22 47 58.2		
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**81.50 205**	P	**P**	**22 47 56.0**	**+1.5**	
ASAR	**Alice Springs**	**81.50 205**	P	**P**	**22 47 55.8**	**+1.2**	
	comp=Z,5.5nm,0.7s,baz=16,slow=5.2,SNR=49						
ASAR			pP	**pP**	**22 48 23.6**	**+0.6**	
	comp=Z,1.0nm,0.5s,baz=8.8,slow=4.5,SNR=2.6						
	comp=Z,5.5nm,0.7s						
TIP	**Timpagrande**	**81.52 333**	P	**P**	**22 47 54.7**	**0.0**	
TIP	**Timpagrande**	**81.52 333**	⇓P	**P**	**22 47 55.4**	**+0.7**	
ITM	**Ithomi**	**81.90 328**	P	**P**	**22 47 55.1**	**-1.7**	
ITM			IAmb	IAmb	22 47 56.1		
	comp=Z,12nm,0.6s						
GHAJ	**Ghor Haditha**	**82.30 315**	P	**P**	**22 47 58.8**	**0.0**	
GHAJ			IAmb	IAmb	22 48 10.0		
	comp=Z,12nm,0.8s						
CEL	**Celeste**	**82.61 333**	P	**P**	**22 47 59.5**	**-1.0**	
CEL			IAmb	IAmb	22 48 01.5		
	comp=Z,13nm,0.7s						
VSL	**Villasalto**	**83.00 338**	P	**P**	**22 48 01.8**	**-0.6**	
VSL			IAmb	IAmb	22 48 03.8		
	comp=Z,21nm,1.2s						
PGAV	**Gavieira, Arco**	**83.20 352**	*e*P	**P**	**22 48 04.4**	**+0.9**	
PBRG	**Braganca**	**83.23 351**	*e*P	**P**	**22 48 05.0**	**+1.4**	
PPT	**Papeete**	**83.41 133**	LR	LR	23 15 27.4		
	comp=Z,41nm,20.9s,baz=344,slow=28						
POLO	**Lamas de Olo**	**83.75 352**	*e*P	**P**	**22 48 07.2**	**+0.8**	
POLO			*i* IAmb	IAmb	22 48 09.1		
	comp=Z,26nm,1.6s						
PVRL	**Vila Real**	**83.84 351**	*e*P	**P**	**22 48 07.7**	**+1.0**	
MVO	**Moncorvo**	**83.89 351**	*e*P	**P**	**22 48 07.9**	**+0.9**	
DOK	**Doka**	**84.29 294**	P	**P**	**22 48 08.3**	**-0.9**	
PVIS	**Viseu**	**84.41 352**	*e*P	**P**	**22 48 10.6**	**+0.9**	
RAYN	**Ar Rayn**	**84.56 304**	P	**P**	**22 48 09.1**	**-1.5**	
RAYN			IAmb	IAmb	22 48 10.5		
	comp=Z,21nm,0.8s						
RAYN	**Ar Rayn**	**84.56 304**	P	**P**	**22 48 09.7**	**-1.0**	
RAYN	**Ar Rayn**	**84.56 304**	P	**P**	**22 48 09.1**	**-1.5**	
RAYN			pmax	pmax			
	comp=Z,21nm,0.8s						
RAYN	**Ar Rayn**	**84.56 304**	*i* P	**P**	**22 48 09.2**	**-1.5**	
	SNR=21						
COI	**Coimbra**	**84.96 352**	*e*P	**P**	**22 48 13.1**	**+0.8**	
ESBB	**Sonseca Array**	**85.04 348**	P	**P**	**22 48 13.5**	**+0.7**	
ESBB			IAmb	IAmb	22 48 14.7		
	comp=Z,26nm,1.0s						
ESDC	**Sonseca Array**	**85.04 348**	P	**P**	**22 48 12.8**	**0.0**	
ESDC			IAmb	IAmb	22 48 14.7		
	comp=Z,20nm,0.9s						
ESDC	**Sonseca Array**	**85.04 348**	P	**P**	**22 48 13.6**	**+0.8**	
	comp=Z,18nm,0.8s,baz=1.8,slow=5.1,SNR=83						
	comp=Z,18nm,0.8s						
WHFO	**Wadi Hawf**	**85.06 294**	P	**P**	**22 48 11.7**	**-1.4**	
	SNR=25						
PCAS	**Casmilo, Conde**	**85.12 352**	*e*P	**P**	**22 48 14.0**	**+0.9**	
RBK	**Rabkut**	**85.17 294**	P	**P**	**22 48 12.6**	**-1.2**	
PAB	**San Pablo**	**85.22 349**	P	**P**	**22 48 14.0**	**+0.3**	
PAB			IAmb	IAmb	22 48 15.5		
	comp=Z,13nm,0.9s						
PAB	**San Pablo**	**85.22 349**	P	**P**	**22 48 14.0**	**+0.3**	
PAB			pmax	pmax			
	comp=Z,13nm,0.9s						
PCBR	**Castelo Branco**	**85.24 351**	*e*P	**P**	**22 48 14.5**	**+0.8**	
PCBR			*i* IAmb	IAmb	22 48 15.4		
	comp=Z,38nm,1.5s						
WDD	**Wied Dalam**	**85.26 333**	P	**P**	**22 48 12.2**	**-1.7**	
ABTO	**Aybut**	**85.78 294**	P	**P**	**22 48 15.5**	**-1.2**	
PESTR	**Estremoz**	**86.22 351**	*e*P	**P**	**22 48 18.8**	**+0.2**	
EVO	**Evora**	**86.59 351**	*e*P	**P**	**22 48 21.0**	**+0.6**	
KEST	**Kesra**	**86.61 337**	P	**P**	**22 48 20.3**	**-0.3**	
KEST			IAmb	IAmb	22 48 21.8		
	comp=Z,12nm,0.8s						
KEST	**Kesra**	**86.61 337**	P	**P**	**22 48 20.6**	**0.0**	
	comp=Z,13nm,0.8s,baz=335,slow=1.1,SNR=19						
	comp=Z,13nm,0.8s						
PBAR	**Barrancos**	**86.85 351**	*e*P	**P**	**22 48 22.0**	**+0.3**	
PBAR			*i* IAmb	IAmb	22 48 26.9		
	comp=Z,27nm,1.6s						
PBEJ	**Beja**	**87.08 351**	*e*P	**P**	**22 48 23.0**	**+0.2**	
PCVE	**Castro Verde**	**87.48 351**	*e*P	**P**	**22 48 25.2**	**+0.5**	
TBI	**Tubuai**	**88.61 136**	*e*LR	LR	23 16 39.8		
	comp=Z,329nm,27.2s						
CAN	**Canberra**	**90.32 190**	P	**P**	**22 48 39.0**	**+1.3**	
CAN	**Canberra**	**90.32 190**	P	**P**	**22 48 39.1**	**+1.3**	
TORD	**Torodi Ar. Bea**	**110.10 338**	PKiKP	**PKiKP**	**22 54 08.3**	**-0.1**	
	comp=Z,1.0nm,0.3s,baz=338,slow=3.6,SNR=1.8						
DBIC	**Dimbokro**	**117.65 344**	PKP	**PKPdf**	**22 54 22.7**	**-0.1**	
	comp=Z,2.1nm,0.6s,baz=93,slow=0.9,SNR=2.0						
VNDA	**Vanda**	**132.02 180**	PKP	**PKiKP**	**22 54 50.6**	**+1.2**	
	comp=Z,0.5nm,0.8s,baz=312,slow=4.2,SNR=2.2						
VNDA			SKPbc	**SKPab**	**22 58 05.4**	**+0.3**	
	comp=Z,1.5nm,0.9s,baz=301,slow=2.9,SNR=6.5						
BOSA	**Boshof**	**138.85 291**	PKhKP	PKPpre	22 54 55.1		
	comp=Z,2.2nm,0.9s,baz=2.3,slow=1.6,SNR=1.7						
MAW	**Mawson**	**141.63 218**	PKhKP	PKPpre	22 55 04.0		
	comp=Z,1.4nm,0.7s,baz=34,slow=3.6,SNR=2.6						
MAW			SKP		22 58 33.6		
	comp=Z,4.3nm,0.9s,baz=306,slow=2.5,SNR=6.5						
PLCA	**Paso Flores**	**143.49 89**	PKhKP	PKPpre	22 55 08.6		
	comp=Z,2.1nm,0.8s,baz=180,slow=1.4,SNR=5.7						
QSPA	**South Pole Qui**	**144.52 180**	PKP	PKPbc	22 55 10.9	+0.4	
	comp=Z,6.0nm,0.5s,baz=312,slow=0.7,SNR=106						
SNAA	**Sanae**	**161.66 196**	PKPab	**PKPab**	**22 56 22.2**	**+0.4**	
	comp=Z,1.2nm,0.8s,baz=191,slow=5.2,SNR=5.6						

IDC 09 22:54:31.2±6.1, 18°09S×176°35W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=306.3km s-min=54.9km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.53 259**		P	P	23 03 00.3	-0.6
	0.5nm,0.5s,baz=96,slow=7.6,SNR=16						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**46.63 254**		P	P	23 03 02.1	+0.4
	2.4nm,0.6s,baz=92,slow=8.2,SNR=34						
	2.4nm,0.6s						
GERES	**GERESS Array B**	**148.25 347**		PKPbc	PKPbc	23 14 18.7	-0.7
	0.4nm,0.7s,baz=48,slow=1.5,SNR=2.6						

*NOU **09** 23:13:26.0,33°.77S×178°.90W,h258km,mb4.3/8, South of Kermadec Islands*
*WEL **09** 23:13:34.1±0.5,34°.5±4°×18°.0W±°, h12km, M5.0/18, mB5.6/5, ML4.9/24, MLv4.9/18, Mw(mB)5.1/5, Error ellipse: s-maj=10.7km s-min=3.9km az=110.8, confirmed*
*IDC **09** 23:13:36.2±5.3, 33°.79S×179°.91E, h85km±42km, mb3.9/6, mbtmp4.3/7, Error ellipse: s-maj=38.9km s-min=19.8km az=61.0*
*NEIC **09** 23:13:37.9±2.0, 33°.94S±0°.06×179°.9E±0°.2, h85km±7km, mb4.9/12, Error ellipse: s-maj=18.2km s-min=9.0km az=91.0*

ISC 09 23:13:37.5±0.5, 34°.08S±0°.06×179°.79W±0°.08, h100km, n95, σ1s71/104, mb4.6/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.81 203**		Pn	**Pn**	**23 14 34.9**	**+0.8**
MXZ	**Matakaoa Point**	**3.81 203**		P	**Pn**	**23 14 35.1**	**+1.0**
MXZ	**Matakaoa Point**	**3.81 203**		P	**Pn**	**23 14 34.6**	**+0.6**
MXZ				S	**Sn**	**23 15 16.3**	**-1.5**
WMGZ	**Waiomatatini S**	**4.01 201**		P	**Pn**	**23 14 38.1**	**+1.3**
WMGZ				S	**Sn**	**23 15 22.7**	**0.0**
PKGZ	**Pakihiroa**	**4.16 204**		P	**Pn**	**23 14 39.4**	**+0.5**
PKGZ				S	**Sn**	**23 15 24.9**	**-1.5**
HAZ	**Te Kaha**	**4.17 208**		P	**Pn**	**23 14 39.5**	**+0.6**
HAZ				S	**Sn**	**23 15 26.9**	**+0.3**
WIZ	**White Island**	**4.23 215**		P	**Pn**	**23 14 41.7**	**+2.0**
WIZ				S	**Sn**	**23 15 27.5**	**-0.6**
PUZ	**Puketiti**	**4.29 201**		P	**Pn**	**23 14 41.2**	**+0.6**
PUZ				S	**Sn**	**23 15 27.7**	**-1.9**
RUGZ	**Raukumara Rang**	**4.39 207**		P	**Pn**	**23 14 42.2**	**+0.2**
GRZ	**Great Barrier**	**4.46 240**		P	**Pn**	**23 14 43.3**	**+1.4**
TWGZ	**Tauwhareparae**	**4.47 203**		P	**Pn**	**23 14 43.9**	**+0.8**
TWGZ				S	**Sn**	**23 15 33.8**	**-0.2**
KUZ	**Kuaotunu**	**4.53 233**		P	**Pn**	**23 14 45.8**	**+1.9**
KUZ	**Kuaotunu**	**4.53 233**		P	**Pn**	**23 14 45.7**	**+1.9**
CNGZ	**Carnagh Statio**	**4.69 200**		P	**Pn**	**23 14 46.1**	**+0.1**
TKGZ	**Te Karaka**	**4.75 203**		P	**Pn**	**23 14 46.9**	**+0.1**
TKGZ				S	**Sn**	**23 15 38.4**	**-2.3**
MWZ	**Matawai**	**4.77 206**		P	**Pn**	**23 14 47.1**	**0.0**
MWZ				S	**Sn**	**23 15 39.0**	**-2.2**
OPRZ	**Ohinepanea**	**4.79 217**		P	**Pn**	**23 14 48.8**	**+1.5**
MARZ	**Manawahe**	**4.84 215**		P	**Pn**	**23 14 49.6**	**+1.6**
MARZ				S	**Sn**	**23 15 41.9**	**-1.1**
TGRZ	**Tauranga**	**4.86 220**		P	**Pn**	**23 14 50.5**	**+2.3**
URZ	**Urewera**	**4.87 210**		P	**Pn**	**23 14 47.4**	**-1.0**
	94nm,0.3s,baz=18,slow=1.8,SNR=145						
URZ				S	**Sn**	**23 15 40.3**	**-3.2**
	166nm,0.5s,baz=191,slow=20,SNR=12						
URZ	**Urewera**	**4.87 210**		P	**Pn**	**23 14 48.1**	**-0.3**
URZ	**Urewera**	**4.87 210**		P	**Pn**	**23 14 48.9**	**+0.4**
URZ				S	**Sn**	**23 15 42.4**	**-1.2**
EDRZ	**Edgecumbe**	**4.91 214**		P	**Pn**	**23 14 50.1**	**+1.1**
WIAZ	**Waiheke Island**	**4.96 235**		P	**Pn**	**23 14 51.0**	**+1.5**
RAGZ	**Rawiri**	**4.96 206**		P	**Pn**	**23 14 49.7**	**+0.1**
RAGZ				S	**Sn**	**23 15 45.2**	**-0.6**
RIGZ	**Rimuhau**	**5.03 202**		P	**Pn**	**23 14 50.3**	**-0.2**
GLKZ	**Green Lake**	**5.06 19**		P	Pn	23 14 45.7	-5.3
GLKZ				S	**Sn**	**23 15 43.1**	**-5.0**
MKAZ	**Moumakai**	**5.11 232**		P	**Pn**	**23 14 53.7**	**+2.1**
TARZ	**Mount Tarawera**	**5.12 215**		P	**Pn**	**23 14 54.0**	**+2.0**
WCZ	**Waipu Caves**	**5.16 247**		P	**Pn**	**23 14 54.0**	**+1.6**
PRGZ	**Paritu Road**	**5.19 201**		P	**Pn**	**23 14 51.7**	**-1.1**
MUGZ	**Murupara**	**5.20 211**		P	**Pn**	**23 14 52.7**	**-0.2**
MUGZ				S	**Sn**	**23 15 48.8**	**-2.8**
RRRZ	**Republican Roa**	**5.20 214**		P	**Pn**	**23 14 54.5**	**+1.6**
RTZ	**Ruatahuna**	**5.23 209**		Pn	**Pn**	**23 14 53.0**	**-0.4**
RTZ				Sn	**Sn**	**23 15 51.2**	**-1.2**
RTZ	**Ruatahuna**	**5.23 209**		P	**Pn**	**23 14 53.0**	**-0.4**
SNGZ	**Shannon Statio**	**5.24 205**		P	**Pn**	**23 14 53.9**	**+0.5**
TOZ	**Tahuroa Road**	**5.28 225**		P	**Pn**	**23 14 56.4**	**+2.4**
KNZ	**Kokohu**	**5.34 202**		P	**Pn**	**23 14 53.3**	**-1.5**
MHGZ	**Mahia Peninsul**	**5.40 199**		P	**Pn**	**23 14 54.8**	**-0.8**
WTAZ	**Waiatarua**	**5.41 237**		P	**Pn**	**23 14 58.8**	**+3.0**
AWAZ	**Awhitu Peninsu**	**5.43 235**		P	**Pn**	**23 14 58.8**	**+2.8**
OUZ	**Omahuta**	**5.57 256**		P	**Pn**	**23 14 58.7**	**+0.8**
OUZ	**Omahuta**	**5.57 256**		P	**Pn**	**23 14 58.8**	**+0.9**
TLZ	**Tolley Road**	**5.68 220**		P	**Pn**	**23 15 01.0**	**+1.5**
BKZ	**Black Stump Fm**	**5.89 209**		P	**Pn**	**23 15 00.7**	**-1.7**
BKZ	**Black Stump Fm**	**5.89 209**		P	**Pn**	**23 15 00.9**	**-1.5**
HIZ	**Hauiti**	**6.19 223**		P	**Pn**	**23 15 08.3**	**+2.0**
NGZ	**Ngauruhoe**	**6.30 215**		P	**Pn**	**23 15 08.1**	**+0.1**
BFZ	**Birch Farm**	**7.31 204**		P	**Pn**	**23 15 18.0**	**-3.5**
SNZO	**South Karori**	**8.44 210**		P	**Pn**	**23 15 32.7**	**-4.1**
QRZ	**Quartz Range**	**9.09 220**		P	**Pn**	**23 15 42.0**	**-3.8**
CTZ	**Chatham Island**	**9.96 167**		P	**Pn**	**23 15 56.0**	**-1.4**
RPZ	**Rata Peaks**	**11.97 214**		P	Pn	23 16 18.8	-5.9
	3.5nm,0.3s,baz=28,slow=4.2,SNR=6.9						
RPZ				S	Sn	23 18 21.8	-14
	9.9nm,0.5s,baz=338,slow=20,SNR=7.5						
PPTF	**Pamatai, Papee**	**31.61 66**		P	**P**	**23 19 53.7**	**+2.6**
CTAO	**Charters Tower**	**33.12 286**		P	**P**	**23 20 03.1**	**-1.1**
BBOO	**Buckleboo**	**36.65 259**		P	**P**	**23 20 35.3**	**+0.8**
COEN	**Coen**	**39.02 292**		P	**P**	**23 20 55.3**	**+0.8**
COEN				IAmb	IAmb	23 21 55.1	
	comp=Z,40nm,1.8s						
AS31	**Alice Springs**	**41.55 272**		P	**P**	**23 21 14.3**	**-1.1**
ASAR	**Alice Springs**	**41.56 272**		P	**P**	**23 21 14.9**	**-0.5**
ASAR	**Alice Springs**	**41.56 272**		P	**P**	**23 21 13.9**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=114,slow=7.3,SNR=21						
ASAR				PcP	**PcP**	**23 23 09.4**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=96,slow=3.6,SNR=5.5						
	comp=Z,2.0nm,0.5s						
WR8	**Warramunga Arr**	**42.74 277**		P	**P**	**23 21 23.2**	**-1.8**
WR8				IAmb	IAmb	23 22 25.1	
	comp=Z,19nm,1.6s						
WRAB	**Tennant Creek**	**42.88 277**		P	**P**	**23 21 22.0**	**-4.1**
WRAB				IAmb	IAmb	23 21 39.8	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**42.88 277**		P	**P**	**23 21 24.2**	**-2.0**
WRA	**Warramunga Arr**	**42.88 277**		P	**P**	**23 21 24.2**	**-2.0**
	comp=Z,1.7nm,0.4s,baz=118,slow=7.7,SNR=30						
WRA				PcP	**PcP**	**23 23 13.8**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=119,slow=2.8,SNR=2.5						
	comp=Z,1.7nm,0.4s						
WB0	**Warramunga Arr**	**42.92 277**		P	**P**	**23 21 24.7**	**-1.8**
WB0				IAmb	IAmb	23 21 48.8	
	comp=Z,23nm,1.6s						
KNRA	**Kununurra**	**49.61 278**		P	**P**	**23 22 18.3**	**-0.6**
KNRA				IAmb	IAmb	23 23 16.1	
	comp=Z,35nm,1.8s						
QSPA	**South Pole Qui**	**56.04 180**		P	**P**	**23 23 09.1**	**+3.4**
QSPA				IAmb	IAmb	23 24 57.2	
	comp=Z,23nm,1.9s						
QSPA	**South Pole Qui**	**56.04 180**		P	**P**	**23 23 09.7**	**+3.9**
	comp=Z,2.7nm,0.8s,baz=8.3,slow=1.6,SNR=20						
	comp=Z,2.7nm,0.8s						
MAW	**Mawson**	**68.34 201**		P	**P**	**23 24 28.3**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=131,slow=6.7,SNR=11						
	comp=Z,2.0nm,0.6s						
SNAA	**Sanae**	**74.53 179**		P	**P**	**23 25 06.6**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=217,slow=11,SNR=8.7						
	comp=Z,0.3nm,0.3s						
H03S2	**Juan Fernandez**	**79.69 124**		T	T	00 54 01.6	
	baz=234,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**79.70 124**		T	T	00 54 03.1	
	baz=234,slow=74,SNR=8.9						
H03S3	**Juan Fernandez**	**79.71 124**		T	T	00 54 00.8	
	baz=234,slow=74,SNR=8.7						
H03N3	**Juan Fernandez**	**79.91 123**		T	T	00 54 14.6	
	baz=238,slow=72,SNR=23						
H03N2	**Juan Fernandez**	**79.91 123**		T	T	00 54 12.8	
	baz=238,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**79.92 123**		T	T	00 54 09.1	
	baz=238,slow=72,SNR=20						
PETK	**Petropavlovsk-**	**89.01 347**		P	**P**	**23 26 20.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=116,slow=7.9,SNR=5.8						
	comp=Z,1.6nm,0.6s						
MTPC	**Mountain Pass**	**91.59 47**		P	**P**	**23 26 34.3**	**+1.0**
MKAR	**Makanchi Array**	**118.94 309**		PKP	**PKPdf**	**23 32 12.4**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=20,slow=0.5,SNR=1.9						
KURBB	**Kurchatov Array**	**122.48 312**		PKP	**PKPdf**	**23 32 19.2**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=115,slow=1.8,SNR=4.7						
BVAR	**Borovoye Array**	**127.92 314**		PKP	**PKPdf**	**23 32 30.1**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=112,slow=3.9,SNR=3.2						
ARCES	**ARCESS Array B**	**141.81 346**		PKhKP	PKPpre	23 32 52.1	
	comp=Z,1.7nm,0.9s,baz=44,slow=3.2,SNR=5.2						
KBZ	**Khabaz**	**145.74 299**		PKPbc	**PKPdf**	**23 33 03.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=117,slow=4.5,SNR=4.9						
GURO	**Guroymak-BITLI**	**146.22 290**			**PKPbc**	**23 33 06.6**	**+0.1**
MARD	**Mardin**	**147.07 287**			**PKPbc**	**23 33 09.0**	**+0.1**
FINES	**FINESS Array B**	**147.99 337**		PKPbc	**PKPbc**	**23 33 09.9**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=30,slow=4.1,SNR=49						
MMAI	**Mount Meron Ar**	**150.74 278**		PKPbc	**PKPbc**	**23 33 18.3**	**0.0**
	comp=Z,1.6nm,0.5s,baz=91,slow=6.7,SNR=8.2						
NB2	**NORSAR Subarra**	**152.10 349**		PKP	**PKPbc**	**23 33 20.3**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=16,slow=4.0						
NOA	**NORSAR Array B**	**152.10 349**		PKPbc	**PKPbc**	**23 33 20.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=14,slow=2.4,SNR=5.6						
DBIC	**Dimbokro**	**152.33 169**		PKPbc	**PKiKP**	**23 33 23.4**	**+0.8**
	comp=Z,4.7nm,1.1s,baz=146,slow=3.6,SNR=1.7						
HFS	**Hagfors**	**152.48 345**		PKPbc	**PKPbc**	**23 33 20.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=67,slow=3.9,SNR=7.9						
BRTR	**Keskin Array B**	**152.78 292**		PKPbc	**PKPbc**	**23 33 21.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=130,slow=3.8,SNR=4.2						
AKASG	**Malin Array Be**	**153.13 317**		PKPbc	**PKPbc**	**23 33 21.8**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=58,slow=2.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**159.12 184**		PKPab	**PKPab**	**23 34 02.2**	**+0.7**
	comp=Z,2.4nm,0.4s,baz=174,slow=4.9,SNR=1.9						
CLL	**Collm**	**160.43 335**		*e*PKPab	**PKPab**	**23 34 08.0**	**+1.6**

*IDC **09** 23:18:46.0±1.0,20°.13N×121°.68E, h0km, mb3.6/6, mbtmp3.7/8, ML4.0/2, Error ellipse: s-maj=43.6km s-min=17.9km az=70.0*
*NEIC **09** 23:18:52.9±1.8,20°.35N±0°.09×121°.71E±0°.10, h50km±9km, mb4.1/6, Error ellipse: s-maj=14.4km s-min=12.4km az=224.0*
*JMA **09** 23:18:56.1±0.9,21°.1N±4°×12°.2E±°, h32km, MV4.3/7, PHILIPPINE ISL REGION*

ISC 09 23:18:51.0±0.9, 20°.24N±0°.07×121°.78E±0°.10, h35km, n41, σ1s32/36, mb3.8/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.65 346**		P	**Pn**	**23 19 33.9**	**+2.7**
TWG	**Pinlang**	**2.65 346**		Pn	**Pn**	**23 19 30.6**	**-0.7**
YULB	**Yu-li**	**3.17 352**		Pn	**Pn**	**23 19 38.9**	**+0.6**
YULB	**Yu-li**	**3.17 352**		P	**Pn**	**23 19 40.0**	**+1.6**
TPUB	**Ta-pu**	**3.23 341**		Pn	**Pn**	**23 19 39.4**	**+0.2**
TPUB	**Ta-pu**	**3.23 341**		P	Pn	23 19 46.2	+7.0
SSLB	**Suanglung**	**3.61 348**			**Pn**	**23 19 44.5**	**0.0**
SSLB	**Suanglung**	**3.61 348**		P	Pn	23 19 49.0	+4.5
NACB	**Ninganchiao**	**3.92 358**		Pn	**Pn**	**23 19 49.1**	**+0.4**
NACB	**Ninganchiao**	**3.92 358**		P	**Pn**	**23 19 49.8**	**+1.1**
YOJ	**Yonaguni jima**	**4.36 15**		Pn	**Pn**	**23 19 55.2**	**+0.6**
YHNB	**Yeheng**	**4.43 355**		Pn	**Pn**	**23 19 57.1**	**+1.4**
YHNB	**Yeheng**	**4.43 355**		P	Pn	23 19 59.0	+3.3
IRIF	**Iriomote-Funau**	**4.46 24**		P	**Pn**	**23 19 58.5**	**+2.4**
IRIF				*e*S	**Sn**	**23 20 46.0**	**-0.8**
JKRS	**Kuro-shima**	**4.49 27**		*e*P	**Pn**	**23 19 59.0**	**+2.5**
JKRS				*e*S	**Sn**	**23 20 46.7**	**-0.7**
JIJ	**Ishigaki jima**	**4.65 28**		P	**Pn**	**23 20 00.6**	**+1.9**
JIJ				*e*S	**Sn**	**23 20 50.0**	**-1.6**
JISG	**Ishigakijimahi**	**4.92 28**		P	**Pn**	**23 20 04.2**	**+1.7**
JISG				*e*S	**Sn**	**23 20 56.0**	**-2.2**
HKPS	**Hong Kong Po S**	**7.40 287**		Pn	**Pn**	**23 20 36.7**	**+0.1**
JOW	**Kunigami**	**8.87 41**		Pn	**Pn**	**23 20 56.9**	**+0.3**
JOW	**Kunigami**	**8.87 41**		Pn	**Pn**	**23 20 57.9**	**+1.3**
	4.9nm,0.3s,baz=218,slow=17,SNR=1.7						
	11nm,0.3s						
KSRS	**Korea Array**	**17.97 16**		P	**P**	**23 22 57.6**	**-0.7**
	0.2nm,0.3s,baz=196,slow=11,SNR=2.4						
	0.7nm,0.4s						
KNRA	**Kununurra**	**36.34 169**		P	**P**	**23 25 51.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**38.29 174**			**P**	**23 26 09.3**	**+1.1**
FITZ				IAmb	IAmb	23 26 48.8	
	comp=Z,3.6nm,1.4s						
MKAR	**Makanchi Array**	**41.60 319**		P	**P**	**23 26 34.6**	**-0.9**
MKAR	**Makanchi Array**	**41.60 319**		P	**P**	**23 26 34.9**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=113,slow=8.3,SNR=5.9						
	comp=Z,0.4nm,0.5s						
WB0	**Warramunga Arr**	**41.64 162**		P	**P**	**23 26 35.0**	**-1.0**
WB0				IAmb	IAmb	23 26 55.5	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**41.79 162**		P	**P**	**23 26 37.4**	**+0.1**
WRA	**Warramunga Arr**	**41.79 162**		P	**P**	**23 26 36.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=343,slow=7.7,SNR=14						
	comp=Z,0.5nm,0.4s						
WR8	**Warramunga Arr**	**41.84 162**		P	**P**	**23 26 36.8**	**-0.9**
WR8				IAmb	IAmb	23 26 60.0	
	comp=Z,6.8nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**42.30 83**		T	T	00 12 01.9	
	baz=282,slow=76,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**42.31 83**		T	T	00 12 02.9	
	baz=282,slow=76,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**42.31 84**		T	T	00 11 49.7	
	baz=281,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**42.32 84**		T	T	00 11 58.5	
	baz=281,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**42.32 83**		T	T	00 11 55.8	
	baz=282,slow=76,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**42.33 84**		T	T	00 11 58.2	
	baz=281,slow=75,SNR=18						
ZALV	**Zalesovo Beam**	**43.87 329**		P	**P**	**23 26 55.0**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=136,slow=9.2,SNR=1.5	

baz=38,slow=23,SNR=1.4

NOA Lg Lg 23 26 13.6
baz=38,slow=22,SNR=1.7
comp=Z,0.2nm,0.8s

IDC 09 23:37:10.4±3.9, 19°38N×145°67E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=189.7km s-min=29.4km az=86.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.63**	**196**	P	P	23 44 52.1	-0.2
	0.7nm,0.8s,baz=16,slow=8.0,SNR=3.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**44.30**	**196**	P	P	23 45 22.1	-0.1
	0.3nm,0.6s,baz=18,slow=6.5,SNR=5.1						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**65.94**	**320**	P	P	23 47 59.7	+1.5
	0.2nm,0.4s,baz=96,slow=8.9,SNR=1.9						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**86.26**	**335**	P	P	23 49 52.4	-1.4
	0.7nm,0.8s,baz=68,slow=5.9,SNR=4.3						
	0.7nm,0.8s						

*DJA **10** 00:03:15.8±0.5,9°S±3°×12°4E±°, h67km±8km, M4.2/7, mb4.5/3, MLv4.1/7*

ISC 10 00:03:15.8±1.0, 9°16S±0°09×124°20E±0°07, h74km, n22, σ1°21/24, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.59**	**174**	P	**Pn**	**00 03 31.1**	**+1.1**
SOEI	**Soe**	**0.59**	**174**	S	**Sn**	**00 03 42.8**	**+2.4**
SOEI	**Soe**	**0.59**	**174**	P	**Pn**	**00 03 30.8**	**+0.8**
BATI	**Baumata**	**1.17**	**207**	P	**Pn**	**00 03 37.9**	**+1.3**
BATI				S	**Sn**	**00 03 52.9**	**+0.8**
MMRI	**Maumere**	**2.01**	**285**	P	**Pn**	**00 03 49.2**	**+1.5**
MMRI	**Maumere**	**2.01**	**285**	S	**Sn**	**00 04 14.4**	**+2.4**
MMRI	**Maumere**	**2.01**	**285**	P	**Pn**	**00 03 48.7**	**+1.0**
MMRI				S	**Sn**	**00 04 12.6**	**+0.6**
EDFI	**Ende, Flores**	**2.52**	**279**	P	**Pn**	**00 03 55.6**	**+1.0**
EDFI				S	**Sn**	**00 04 24.1**	**-0.2**
WBSI	**Waikabubak, Su**	**4.77**	**264**	P	**Pn**	**00 04 24.8**	**-0.4**
BKSI	**Bulukumba**	**5.56**	**313**	P	**Pn**	**00 04 37.0**	**+1.0**
	0.1nm14nm,0.8s						
PLAI	**Plampang**	**6.36**	**273**	P	**Pn**	**00 04 48.2**	**+1.3**
PLAI	**Plampang**	**6.36**	**273**	S	**Sn**	**00 05 56.5**	**-1.6**
PLAI	**Plampang**	**6.36**	**273**	P	**Pn**	**00 04 47.8**	**+0.9**
	0.3nm84nm,0.7s						
DRS	**Darwin Rock St**	**7.34**	**117**	P	**Pn**	**00 05 00.2**	**-0.1**
MTN	**Manton Dam**	**7.72**	**119**	P	**Pn**	**00 05 04.7**	**-0.9**
KDU	**Kakadu**	**8.84**	**114**	P	**Pn**	**00 05 20.3**	**-0.5**
JAGI	**Jajag, Banyuwa**	**9.96**	**273**	P	**Pn**	**00 05 35.7**	**-0.4**
FAKI	**Fak Fak**	**10.12**	**53**	P	Pn	00 05 43.5	+5.1
AS01	**Alice Springs**	**17.17**	**148**	P	**Pn**	**00 07 10.5**	**-0.5**
MEEK	**Meekatharra**	**18.17**	**196**	P	**P**	**00 07 21.0**	**-1.5**
QIS	**Mount Isa**	**18.69**	**129**	P	**Pn**	**00 07 30.0**	**+0.6**
COEN	**Coen**	**19.18**	**106**	P	**Pn**	**00 07 35.7**	**+0.4**

NNC 10 00:28:28.3±12.0, 37°07N×70°61E, h0km, mb3.9, mpv3.7, 1C-1D, Error ellipse: s-maj=210.4km s-min=77.8km az=107.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.03**	**359**	P	Pn	00 29 58.7	-0.1
	3.3nm,0.4s,baz=177,slow=13,SNR=67						
KK31				⇓S	Sn	00 31 09.7	+1.2
	8.7nm,0.5s						
AB31	**Akbulak array**	**14.44**	**331**	P	Pn	00 31 52.0	-1.8
	0.6nm,0.5s,baz=136,slow=14,SNR=22						
AKTO	**Aktyubinsk**	**16.13**	**330**	⇑P	P	00 32 18.4	-1.3
	2.8nm,0.9s						

*IDC **10** 00:33:46.3±1.0,56°24N×161°67E, h0km, mb3.7/9, mbtmp3.6/10, ML2.8/1, MS3.0/3, Error ellipse: s-maj=28.6km s-min=18.9km az=148.0*
*KRSC **10** 00:33:49.6±0.4,55°77N×162°01E, h60km±12km, Ml4.2*
*MOS **10** 00:33:50.3±0.7,55°83N×162°07E, h54km, mb4.0/5, Error ellipse: s-maj=9.3km s-min=4.5km az=71.5*

ISC 10 00:33:51.7±0.8, 55°80N±0°03×162°01E±0°03, h48km±8km, n103, σ1°34/130, mb3.7/13, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.60**	**40**	PN	**Pn**	**00 34 03.8**	**-0.3**
KBG				S	**Sn**	**00 34 13.7**	**+0.8**
KBG	**Krutoberegovo**	**0.60**	**40**	*e*P	**Pn**	**00 34 03.8**	**-0.3**
KBG				*e*S	**Sn**	**00 34 13.8**	**+0.8**
KBTR	**Krutoberegovo**	**0.61**	**48**	PN	**Pn**	**00 34 04.1**	**-0.1**
KBTR	**Krutoberegovo**	**0.61**	**48**	*i* P	**Pn**	**00 34 04.2**	**-0.1**
ZLN	**Zelenaya**	**0.71**	**288**	PN	**Pn**	**00 34 05.4**	**-0.2**
ZLN	**Zelenaya**	**0.71**	**288**	*e*P	**Pn**	**00 34 05.5**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**0.75**	**281**	PN	**Pn**	**00 34 05.9**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**0.75**	**281**	*e*P	**Pn**	**00 34 05.9**	**-0.3**
CIRR	**Tsirk**	**0.78**	**294**	PN	**Pn**	**00 34 06.1**	**-0.4**
CIRR	**Tsirk**	**0.78**	**294**	*e*P	**Pn**	**00 34 06.2**	**-0.4**
SMKR	**Semkarok**	**0.84**	**339**	PN	**Pn**	**00 34 07.1**	**-0.2**
SMKR				S	**Sn**	**00 34 19.1**	**+0.4**
SMKR	**Semkarok**	**0.84**	**339**	*e*P	**Pn**	**00 34 07.1**	**-0.2**
SMKR				*e*S	**Sn**	**00 34 19.1**	**+0.4**
BZMR	**Bezymyannaya**	**0.86**	**279**	PN	**Pn**	**00 34 07.4**	**-0.3**
BZMR	**Bezymyannaya**	**0.86**	**279**	*e*P	**Pn**	**00 34 07.4**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.87**	**281**	PN	**Pn**	**00 34 07.7**	**-0.1**
BZWR	**Bezymyannyi-We**	**0.87**	**281**	*e*P	**Pn**	**00 34 07.7**	**-0.1**
KLY	**Klyuchi**	**0.92**	**305**	PN	**Pn**	**00 34 06.3**	**-1.9**
KLY				S	**Sn**	**00 34 17.9**	**-2.5**
KLY	**Klyuchi**	**0.92**	**305**	*e*P	**Pn**	**00 34 06.4**	**-1.9**
KLY				*e*S	**Sn**	**00 34 17.9**	**-2.5**
KIRR	**Kirishev**	**0.95**	**280**	PN	**Pn**	**00 34 08.7**	**-0.2**
KIRR				S	**Sn**	**00 34 21.3**	**-0.1**
KIRR	**Kirishev**	**0.95**	**280**	*e*P	**Pn**	**00 34 08.7**	**-0.2**
KIRR				*e*S	**Sn**	**00 34 21.4**	**-0.1**
SRKR	**Sorokina**	**0.97**	**332**	*e*S	**Sn**	**00 34 22.3**	**+0.4**
KMNR	**Kamenistaya**	**1.00**	**268**	PN	**Pn**	**00 34 09.6**	**+0.1**
KMNR	**Kamenistaya**	**1.00**	**268**	*e*P	**Pn**	**00 34 09.7**	**+0.1**
KPT	**Kopyto**	**1.02**	**280**	PN	**Pn**	**00 34 09.6**	**-0.1**
KPT				S	**Sn**	**00 34 23.5**	**+0.5**
KPT	**Kopyto**	**1.02**	**280**	*e*P	**Pn**	**00 34 09.6**	**-0.1**
KPT				*e*S	**Sn**	**00 34 23.5**	**+0.5**
TUMD	**Tumrok D**	**1.09**	**237**	PN	**Pn**	**00 34 10.3**	**-0.4**
TUMD				S	**Sn**	**00 34 23.9**	**-0.8**
TUMD	**Tumrok D**	**1.09**	**237**	*e*P	**Pn**	**00 34 10.3**	**-0.4**
TUMD				*e*S	**Sn**	**00 34 23.9**	**-0.8**
KOZ	**Kozyrevsk**	**1.23**	**283**	PN	**Pn**	**00 34 13.0**	**+0.5**
KOZ				S	**Sn**	**00 34 29.3**	**+1.4**
KOZ	**Kozyrevsk**	**1.23**	**283**	*e*P	**Pn**	**00 34 13.1**	**+0.5**
KOZ				*e*S	**Sn**	**00 34 29.4**	**+1.4**
MKZ	**Mys Kozlova**	**1.26**	**187**	PN	**Pn**	**00 34 12.3**	**-0.6**
MKZ				S	**Sn**	**00 34 28.3**	**-0.3**
MKZ	**Mys Kozlova**	**1.26**	**187**	*e*P	**Pn**	**00 34 12.3**	**-0.6**
MKZ				*e*S	**Sn**	**00 34 28.4**	**-0.3**
SRDR	**Sredinnyy**	**1.38**	**293**	PN	**Pn**	**00 34 15.0**	**+0.4**
SRDR				S	**Sn**	**00 34 32.1**	**+0.3**
SRDR	**Sredinnyy**	**1.38**	**293**	*e*P	**Pn**	**00 34 15.1**	**+0.4**
SRDR				*e*S	**Sn**	**00 34 32.2**	**+0.3**
ESO	**Esso**	**1.87**	**275**	PN	**Pn**	**00 34 20.9**	**-0.3**
ESO	**Esso**	**1.87**	**275**	*e*P	**Pn**	**00 34 21.0**	**-0.3**
KII	**Karymskiy**	**2.31**	**221**	PN	**Pn**	**00 34 27.8**	**+0.6**
KII	**Karymskiy**	**2.31**	**221**	*e*P	**Pn**	**00 34 27.9**	**+0.6**
BKI	**Bering**	**2.33**	**103**	PN	**Pn**	**00 34 28.1**	**+0.6**
BKI				S	**Sn**	**00 34 55.1**	**+0.2**
BKI	**Bering**	**2.33**	**103**	*e*P	**Pn**	**00 34 28.1**	**+0.6**
BKI				*e*S	**Sn**	**00 34 55.2**	**+0.2**
SPN	**Mys Shipunski**	**2.95**	**204**	PN	**Pn**	**00 34 35.3**	**-0.6**
SPN				S	**Sn**	**00 35 09.1**	**-1.0**
SPN	**Mys Shipunski**	**2.95**	**204**	*e*P	**Pn**	**00 34 35.4**	**-0.6**
SPN				*e*S	**Sn**	**00 35 09.1**	**-1.0**
NLC	**Nalytchevo**	**3.06**	**212**	PN	**Pn**	**00 34 37.7**	**+0.2**
NLC				S	**Sn**	**00 35 12.6**	**-0.2**
NLC	**Nalytchevo**	**3.06**	**212**	*e*P	**Pn**	**00 34 37.8**	**+0.2**
NLC				*e*S	**Sn**	**00 35 12.6**	**-0.2**
SDLR	**Sedlovina**	**3.12**	**217**	PN	**Pn**	**00 34 39.1**	**+0.7**
SDLR	**Sedlovina**	**3.12**	**217**	*e*P	**Pn**	**00 34 39.1**	**+0.7**
KRX	**Arik**	**3.13**	**220**	PN	**Pn**	**00 34 39.9**	**+1.3**
KRX	**Arik**	**3.13**	**220**	*e*P	**Pn**	**00 34 39.9**	**+1.3**
KRER	**Koryakskii**	**3.14**	**219**	PN	**Pn**	**00 34 40.1**	**+1.3**
KRER	**Koryakskii**	**3.14**	**219**	*e*P	**Pn**	**00 34 40.1**	**+1.3**
SMAR	**Somma**	**3.16**	**218**	PN	**Pn**	**00 34 39.9**	**+0.9**
SMAR	**Somma**	**3.16**	**218**	*e*P	**Pn**	**00 34 40.0**	**+0.9**
GNL	**Ganaly**	**3.16**	**230**	PN	**Pn**	**00 34 39.4**	**+0.4**
GNL	**Ganaly**	**3.16**	**230**	*e*P	**Pn**	**00 34 39.5**	**+0.4**
AVH	**Avacha**	**3.18**	**218**	PN	**Pn**	**00 34 40.7**	**+1.5**
AVH	**Avacha**	**3.18**	**218**	*e*P	**Pn**	**00 34 40.7**	**+1.5**
KOK	**Koryaka**	**3.19**	**219**	PN	**Pn**	**00 34 40.6**	**+1.2**
KOK	**Koryaka**	**3.19**	**219**	*e*P	**Pn**	**00 34 40.7**	**+1.2**
UGLR	**Uglovaya**	**3.19**	**217**	PN	**Pn**	**00 34 40.6**	**+1.1**
UGLR	**Uglovaya**	**3.19**	**217**	*e*P	**Pn**	**00 34 40.6**	**+1.1**
DALK	**Dalny**	**3.37**	**216**	PN	**Pn**	**00 34 42.5**	**+0.8**
DALK	**Dalny**	**3.37**	**216**	*e*P	**Pn**	**00 34 42.5**	**+0.8**
PET	**Petropavlovsk**	**3.40**	**217**	*e*PN	**Pn**	**00 34 43.1**	**+0.9**
PET				*e*S	**Sn**	**00 35 22.4**	**+1.1**
PET				pmax	pmax		
	comp=Z,64nm,0.6s						
PET				smax	smax		
	comp=E,159nm,0.5s						
PET				smax	smax		
	comp=N,179nm,0.5s						
PET	**Petropavlovsk**	**3.40**	**217**	*e*P	**Pn**	**00 34 43.1**	**+0.9**
PET				*e*S	**Sn**	**00 35 22.0**	**+0.7**
PALN	**Palana**	**3.48**	**342**	PN	**Pn**	**00 34 46.6**	**+3.4**
PALN	**Palana**	**3.48**	**342**	*e*P	**Pn**	**00 34 46.7**	**+3.4**
OSSR	**Ossora**	**3.50**	**9**	PN	**Pn**	**00 34 43.8**	**+0.2**
OSSR	**Ossora**	**3.50**	**9**	*e*P	**Pn**	**00 34 43.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**3.69**	**225**	*d i*PN	**Pn**	**00 34 47.0**	**+0.8**
PETK	**Petropavlovsk-**	**3.69**	**225**	Pn	**Pn**	**00 34 46.3**	**+0.1**
	comp=N,3.3nm,0.3s,baz=58,slow=16,SNR=37						
PETK				Sn	**Sn**	**00 35 36.4**	**+8.0**
	comp=N,3.7nm,0.3s,baz=290,slow=27,SNR=5.1						
PETK				LR	LR	00 36 31.9	
	comp=N,96nm,19.9s,baz=57,slow=43						
	comp=N,5.0nm,0.4s						
KRMR	**Karymshinskiy**	**3.74**	**219**	PN	**Pn**	**00 34 48.1**	**+1.2**
KRMR				S	**Sn**	**00 35 32.6**	**+2.9**
KRMR	**Karymshinskiy**	**3.74**	**219**	*e*P	**Pn**	**00 34 48.2**	**+1.2**
KRMR				*e*S	**Sn**	**00 35 32.6**	**+2.9**
RUS	**Russkaya**	**3.95**	**213**	PN	**Pn**	**00 34 49.6**	**-0.1**
RUS				S	**Sn**	**00 35 34.1**	**-0.7**
RUS	**Russkaya**	**3.95**	**213**	*e*P	**Pn**	**00 34 49.6**	**-0.1**
RUS				*e*S	**Sn**	**00 35 34.2**	**-0.7**
GRL	**Gorelyy**	**3.99**	**217**	PN	**Pn**	**00 34 51.3**	**+0.9**
GRL	**Gorelyy**	**3.99**	**217**	*e*P	**Pn**	**00 34 51.4**	**+0.9**
MTVR	**Mutnovka**	**4.01**	**216**	PN	**Pn**	**00 34 52.2**	**+1.5**
MTVR	**Mutnovka**	**4.01**	**216**	*e*P	**Pn**	**00 34 52.2**	**+1.5**
ASAK	**Asacha**	**4.19**	**217**	PN	**Pn**	**00 34 54.7**	**+1.6**
ASAK	**Asacha**	**4.19**	**217**	*e*P	**Pn**	**00 34 54.8**	**+1.6**
MA2	**Magadan**	**7.11**	**307**	*i* PN	**Pn**	**00 35 34.9**	**+1.9**
BILL	**Bilibino**	**12.44**	**7**	*i* PN	**Pn**	**00 36 46.0**	**+0.2**
YSS	**Yuzhno-Sakhali**	**14.89**	**242**	*i* P	**Pn**	**00 37 18.9**	**0.0**
ASAJ	**Asahikawa**	**17.04**	**235**	LR	LR	00 44 46.2	
	comp=N,53nm,19.6s,baz=10,slow=38						
TIXI	**Tiksi**	**21.16**	**331**	*i* P	**P**	**00 38 33.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**22.32**	**251**	*i* P	**P**	**00 38 43.6**	**-1.4**
MAJO	**Matsushiro**	**25.13**	**230**	*i* P	**P**	**00 39 11.5**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MJAR	**Matsushiro Arr**	**25.13**	**230**	P	**P**	**00 39 14.2**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=44,slow=7.3,SNR=1.4						
	comp=Z,0.8nm,0.3s						
COLA	**College**	**25.73**	**49**	⇓*i* P	**P**	**00 39 15.8**	**-1.3**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**26.15**	**49**	P	**P**	**00 39 21.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=271,slow=8.9,SNR=5.0						
	comp=Z,0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**36.20**	**172**	T	T	01 20 02.1	
	baz=357,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**36.22**	**172**	T	T	01 20 03.7	
	baz=357,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**36.22**	**172**	T	T	01 20 06.2	
	baz=357,slow=76,SNR=17						
KURK	**Kurchatov**	**47.28**	**301**	P	**P**	**00 42 19.2**	**-0.6**
KURBB	**Kurchatov Arra**	**47.38**	**301**	P	**P**	**00 42 19.2**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=55,slow=8.2,SNR=1.7						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**53.83**	**73**	P	**P**	**00 43 11.4**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=283,slow=7.4,SNR=5.0						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**55.27**	**64**	P	**P**	**00 43 21.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=294,slow=4.5,SNR=5.1						
	comp=Z,0.3nm,0.3s						
FINES	**FINESS Array B**	**58.07**	**337**	P	**P**	**00 43 37.7**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=32,slow=7.6,SNR=4.2						
	comp=Z,1.0nm,0.8s						
PFO	**Pinyon Flats O**	**58.39**	**76**	*i* P	**P**	**00 43 39.7**	**-2.4**
OBN	**Obninsk**	**60.83**	**328**	*e*P	**P**	**00 43 58.3**	**-0.1**
OBN				*e**PP	**pP**	**00 44 14.4**	**+2.4**
OBN				*e*		00 44 43.1	
OBN				*e*		00 46 10.6	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**61.24**	**344**	P	**P**	**00 43 59.1**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=17,slow=6.9,SNR=2.0						
	comp=Z,0.6nm,0.9s						
HFS	**Hagfors**	**61.70**	**343**	P	**P**	**00 44 01.5**	**-2.8**
	comp=Z,0.7nm,0.7s,baz=41,slow=4.6,SNR=5.6						
	comp=Z,0.7nm,0.7s						
TXAR	**Lajitas Array**	**68.59**	**69**	P	**P**	**00 44 50.6**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=348,slow=4.8,SNR=3.5						
	comp=Z,0.3nm,0.5s						
MLR	**Muntele Rosu**	**72.50**	**329**	LR	LR	01 19 03.8	
	comp=Z,16nm,19.1s,baz=74,slow=38						

*UCR **10** 01:09:22.4±1.0, 10°23N×86°45W, h5km±14km, MW3.5*
*CATAC **10** 01:09:26.0±1.0, 10°N±5°×8°6W±°, h51km±14km, M3.0/6, MLv3.0/6, Error ellipse: s-maj=14.2km s-min=10.6km az=90.6, confirmed*

ISC 10 01:09:22.2±2.5, 10°07N±0°07×86°4W±0°1, h17km, n37, σ0°77/41, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.85**	**77**	*e*P	**Pn**	**01 09 39.5**	**+0.1**
JUD3	**Juan Diaz 3**	**0.88**	**84**	*e*P	**Pn**	**01 09 40.3**	**+0.4**
INDI	**Punta indio, G**	**0.93**	**102**	P	**Pg**	**01 09 42.2**	**+1.8**
INDI				S	**Sn**	**01 09 53.7**	**+0.1**
CMARA	**Lajas Hojancha**	**0.99**	**93**	*e*P	**Pb**	**01 09 39.5**	**-1.4**
CMARA	**Lajas Hojancha**	**0.99**	**93**	S	**Sb**	**01 09 54.0**	**+0.2**
ALIBA	**Liberia Airpor**	**1.01**	**59**	*e*P	**Pg**	**01 09 41.7**	**-0.1**
ALIBA				*e*S	**Sg**	**01 09 56.3**	**+1.2**
ELI1	**Hacienda Flor**	**1.03**	**56**	*e*P	**Pg**	**01 09 42.1**	**-0.1**
ELI1	**Hacienda Flor**	**1.03**	**56**	P	**Pg**	**01 09 42.1**	**-0.1**
ELI1	**Hacienda Flor**	**1.03**	**56**	S	**Sb**	**01 09 55.4**	**+0.5**
LAPC	**Finca la Perla**	**1.20**	**55**	*e*P	**Pn**	**01 09 43.6**	**-0.7**
GPS3	**Bodega del ICE**	**1.25**	**57**	*e*P	**Pg**	**01 09 48.3**	**+2.0**
GPS2	**Hotel Rincn d**	**1.26**	**57**	*e*P	**Pn**	**01 09 44.8**	**-0.3**
GPS1	**Guardaparques**	**1.27**	**56**	*e*P	**Pn**	**01 09 44.9**	**-0.4**
VORI	**VORI**	**1.30**	**55**	*e*P	**Pn**	**01 09 45.2**	**-0.6**
COLC	**Colonia**	**1.34**	**64**	*e*P	**Pn**	**01 09 46.2**	**0.0**
BUAI	**Buenos Aires**	**1.34**	**53**	*e*P	**Pn**	**01 09 46.4**	**+0.2**
PEJA	**Penjamo Buenos**	**1.37**	**53**	*e*P	**Pn**	**01 09 46.7**	**+0.2**
CUI	**Cuipilapa**	**1.37**	**65**	*e*P	**Pn**	**01 09 46.8**	**+0.1**
MESS	**Mesas**	**1.38**	**61**	*e*P	**Pn**	**01 09 46.9**	**0.0**
INVE	**Universidad In**	**1.40**	**73**	*e*P	**Pb**	**01 09 47.8**	**-0.2**
CARN	**Rivas**	**1.42**	**39**	*e*P	**Pn**	**01 09 47.1**	**-0.1**
CARN	**Rivas**	**1.42**	**39**	P	**Pb**	**01 09 48.5**	**+0.2**
CARN				S	**Sn**	**01 10 04.6**	**-1.0**
MOTZ	**Rio Naranjo**	**1.47**	**65**	*e*P	**Pb**	**01 09 48.5**	**-0.6**
JTS	**Las Juntas de**	**1.47**	**81**	*e*P	**Pb**	**01 09 48.7**	**-0.3**
JTS	**Las Juntas de**	**1.47**	**81**	P	**Pb**	**01 09 48.5**	**-0.6**
JTS				S	**Sn**	**01 10 04.6**	**-2.2**
TIMP	**Tierras Morena**	**1.48**	**70**	*e*P	**Pn**	**01 09 48.4**	**+0.3**
VMAR	**Armenia, Volca**	**1.49**	**60**	*e*P	**Pn**	**01 09 48.6**	**+0.3**
TENO	**El Achiote**	**1.56**	**66**	*e*P	**Pn**	**01 09 48.9**	**-0.3**
QUEB	**Quebradon, Cot**	**1.60**	**70**	*e*P	**Pb**	**01 09 50.8**	**-0.7**
JAPN	**Al SSO del Vol**	**1.62**	**27**	*e*P	**Pn**	**01 09 50.4**	**+0.4**
JAPN	**Al SSO del Vol**	**1.62**	**27**	P	**Pn**	**01 09 50.6**	**+0.6**
CASO	**Castillo**	**1.71**	**78**	*e*P	**Pb**	**01 09 52.8**	**-0.4**
VARE2	**V. Arenal**	**1.73**	**77**	*e*P	**Pb**	**01 09 53.5**	**0.0**
PICV	**PH. Pirrs**	**2.24**	**101**	*e*P	**Pb**	**01 10 02.2**	**-0.1**
ACON	**Acoyapa**	**2.25**	**33**	*e*P	**Pn**	**01 09 57.8**	**-0.9**
PISJ	**San Jernim**	**2.31**	**101**	*e*P	**Pg**	**01 10 06.7**	**0.0**
PIEC	**Cerro El Cedra**	**2.47**	**100**	*e*P	**Pb**	**01 10 05.3**	**-1.1**

*AEIC **10** 01:25:38.3±1.4, 55°48N±0°01×159°98W±0°04, h13km±4km, Error ellipse: s-maj=3.4km s-min=1.2km az=112.0*

NEIC 10 01:25:38.5±1.7, 55°49N±0°02×160°00W±0°03, h16km±5km, ML2.8/12, ML2.4(AEIC), Error ellipse: s-maj=3.5km s-min=1.7km az=154.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.31**	**244**		Pg	01 25 44.8	-0.1
SDPT					Sb	01 25 50.0	-0.3
SDPT	**Sand Point**	**0.31**	**244**	IAML		01 25 52.6	
	comp=E,751nm,0.7s						
SDPT				IAML		01 25 53.6	
	comp=N,726nm,0.5s						
VNKR	**Veniaminof 5**	**0.65**	**33**		Pg	01 25 50.9	-0.5
VNKR					Sb	01 26 00.2	-0.1
CNBA	**Chernabura Isl**	**0.71**	**161**		Pg	01 25 52.0	-0.3
CNBA					Sb	01 26 02.0	+0.2
CNBA	**Chernabura Isl**	**0.71**	**161**	IAML		01 26 05.1	
	comp=N,362nm,0.4s						
CNBA				IAML		01 26 05.2	
	comp=E,386nm,0.2s						
VNSS	**Veniaminof 8**	**0.80**	**22**		Pg	01 25 54.2	+0.1
VNFG	**Fog Glacier, M**	**0.84**	**17**		Pb	01 25 54.5	-0.2
VNFG					Sn	01 26 07.1	-0.6
VNFG	**Fog Glacier, M**	**0.84**	**17**	IAML		01 26 10.3	
	comp=E,246nm,0.8s						
VNFG				IAML		01 26 11.5	
	comp=N,292nm,0.4s						
VNHG	**Veniaminof 1**	**0.87**	**32**		Pb	01 25 55.3	0.0
PS1A	**Pavlof South-1**	**1.00**	**267**		Pb	01 25 56.8	-0.6
PS1A					Sg	01 26 11.0	+0.1
PS4A	**Pavlof South-4**	**1.07**	**263**		Pb	01 25 57.9	-0.7
PS4A					Sb	01 26 12.6	+0.2
DOL	**Dolgoi Island**	**1.12**	**253**		Pb	01 25 58.4	-1.1
DOL					Sb	01 26 13.7	0.0
PN7A	**Pavlof North-7**	**1.14**	**268**		Pn	01 25 59.6	-0.3
PN7A					Sg	01 26 15.9	+0.5
S12K	**Black Hills**	**1.19**	**281**		Pb	01 26 00.6	-0.1
S12K				IAML		01 26 17.9	
	comp=E,306nm,0.3s						
S12K	**Black Hills**	**1.19**	**281**		Sg	01 26 17.1	0.0
CHGN	**Chignik**	**1.21**	**47**		Pn	01 26 00.5	-0.2
CHGN				IAML		01 26 18.4	
	comp=E,179nm,0.1s						
DT1	**Dutton Round H**	**1.36**	**255**		Pn	01 26 02.4	-0.3
DT1					Sn	01 26 20.5	+0.1
FALS	**False Pass**	**2.06**	**254**		Pn	01 26 13.3	+0.9
FALS					Sb	01 26 39.3	-1.5
ISLZ	**Isanotski Laza**	**2.27**	**252**		Pn	01 26 16.3	+1.0
ISLZ					Sb	01 26 46.3	-0.5
CNTC	**Contact Creek**	**3.58**	**37**		Pn	01 26 35.1	+1.7
AHB	**Akutan Harbor**	**3.64**	**250**		Pn	01 26 35.6	+1.6
O15K	**Ungalikthiuk R**	**3.70**	**1**		Pn	01 26 36.6	+1.7
O14K	**Tigyukauivet M**	**3.84**	**350**	Pn	Pn	01 26 36.7	-0.1
N14K	**Kuskokwak Cree**	**4.54**	**349**	Pn	Pn	01 26 47.1	+0.6
KDAK	**Kodiak Island**	**4.70**	**58**	Pn	Pn	01 26 50.8	+2.3

*UCR **10** 01:31:05.1±1.4, 9°74N×86°25W, h0km±5km, MW4.0*
*CATAC **10** 01:31:07.5±0.5, 10°N±3°×8°6W±°, h20km±3km, M4.0/26, MLv4.0/26, Error ellipse: s-maj=6.6km s-min=3.4km az=24.2, confirmed*

ISC 10 01:31:06.1±1.9, 9°72N±0°06×86°23W±0°05, h10km±10km, n109, σ0°78/125, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.73**	**78

BOAB	**BOACO BROADBAN**	**2.77**	**11**	P		**Pn**	**01 31 51.1**	**+0.5**
BOAB	**BOACO BROADBAN**	**2.77**	**11**	S		**Sn**	**01 32 25.5**	**+1.4**
CNGA	**Al SSO del Vol**	**2.80**	**351**	P		**Pn**	**01 31 51.6**	**+0.5**
CNGA				S		**Sn**	**01 32 23.6**	**-1.3**
CNGN	**Cerro Negro**	**2.80**	**351**	*eP*		**Pn**	**01 31 51.4**	**+0.3**
CNGN	**Cerro Negro**	**2.80**	**351**	P		**Pn**	**01 31 51.5**	**+0.3**
PACN	**Al O del Volca**	**2.82**	**349**	P		**Pn**	**01 31 52.3**	**+0.9**
ROCN	**Rota Cerro Neg**	**2.83**	**350**	P		**Pn**	**01 31 52.0**	**+0.5**
POLN	**Al Sur del Vol**	**2.97**	**349**	P		**Pn**	**01 31 54.2**	**+0.8**
POLN				S		**Sn**	**01 32 29.9**	**+0.8**
DRK0	**Durika**	**2.98**	**98**	*eP*		**Pn**	**01 31 53.7**	**0.0**
DRK0	**Durika**	**2.98**	**98**	S		**Sn**	**01 32 27.9**	**-1.6**
DRK0	**Durika**	**2.98**	**98**	P		**Pn**	**01 31 53.9**	**+0.3**
VERH	**Veragua Rainfo**	**3.00**	**86**	*eP*		**Pn**	**01 31 54.5**	**+0.7**
CRIN	**San Cristobal**	**3.07**	**345**	*eP*		**Pn**	**01 31 55.2**	**+0.4**
ESPN	**Las Esperanzas**	**3.11**	**37**	*eP*		**Pn**	**01 31 55.4**	**+0.1**
MATN	**Matagalpa**	**3.21**	**5**	P		**Pn**	**01 31 56.4**	**-0.3**
MATN	**Matagalpa**	**3.21**	**5**	S		**Sn**	**01 32 33.9**	**-1.2**
CEUA	**Cerro Uatsi, L**	**3.24**	**91**	*eP*		**Pn**	**01 31 58.8**	**+1.6**
CSGN	**Cosiguina Volc**	**3.49**	**338**	*eP*		**Pn**	**01 32 01.4**	**+0.8**
CSGN	**Cosiguina Volc**	**3.49**	**338**	P		**Pn**	**01 32 01.5**	**+0.8**
CSGN				S		**Sn**	**01 32 40.9**	**-1.2**
POTN	**Potosi Cosigui**	**3.49**	**339**	P		**Pn**	**01 32 02.3**	**+1.7**
POTN				S		**Sn**	**01 32 42.3**	**+0.3**
BANCO	**falda S V. Bar**	**3.79**	**105**	*eP*		**Pn**	**01 32 05.9**	**+1.2**
RCPN	**Sur Rio San Ju**	**3.79**	**2**	P		**Pn**	**01 32 04.9**	**+0.2**
CNCH	**Conchagua**	**3.87**	**336**	P		**Pn**	**01 32 06.7**	**+0.8**
CNCH	**Conchagua**	**3.87**	**336**	S		**Sn**	**01 32 50.4**	**-1.1**
LCND	**La Caada**	**3.92**	**336**	P		**Pn**	**01 32 07.3**	**+0.8**
RBALA	**Bur**	**4.11**	**101**	*eP*		**Pn**	**01 32 09.9**	**+0.9**

NEIC ***10*** *01:35:11.3±0.6, 35°.281N±0°.010×97°.75W±0°.01, h7km±1km, Error ellipse: s-maj=1.6km s-min=1.4km az=107.0*

NEIC 10 01:35:11.2±0.6, 35°.286N±0°.007×97°.747W±0°.010, h5km±1km, mb_Lg1.8/8, ML1.9/13, ML1.9/40, Error ellipse: s-maj=2.0km s-min=1.6km az=346.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.27**	**62**		Pg	01 35 17.3	+0.7
FNO	**Franklin**	**0.28**	**96**		Pg	01 35 17.6	+0.8
BCOK	**Bluff Creek, N**	**0.39**	**17**		Pg	01 35 19.2	+0.5
BCOK					Sg	01 35 24.4	+0.6
OK029	**Liberty Lake**	**0.56**	**25**		Pg	01 35 22.3	+0.2
OK029					Sg	01 35 30.2	+0.8
OK029	58nm,0.6s			IAML		01 35 36.0	
WMOK	**Wichita Mounta**	**1.01**	**237**		Pg	01 35 29.7	-0.9
WMOK					Sg	01 35 43.5	-0.3
OK052	**Battle Ridge R**	**1.04**	**47**		Pg	01 35 31.1	-0.1
OK052					Sb	01 35 45.3	-0.5
OK052	49nm,0.4s			IAML		01 35 53.7	
DEOK	**Depew**	**1.16**	**61**		Pg	01 35 32.9	-0.6
DEOK					Sb	01 35 49.4	+0.2
DEOK	comp=N,26nm,0.4s			IAML		01 35 53.1	
DEOK	comp=E,26nm,0.1s			IAML		01 35 53.2	
QUOK	**Quay**	**1.22**	**43**		Pg	01 35 33.9	-0.8
QUOK					Sb	01 35 50.9	0.0
CROK	**Carrier**	**1.23**	**351**		Pg	01 35 34.0	-0.8
CROK					Sb	01 35 51.0	-0.2
LOOK	**Love County**	**1.37**	**160**		Pn	01 35 36.8	-0.2
SMWD	**Samnorwood**	**2.05**	**266**		Pn	01 35 47.1	+0.6
SMWD	comp=Z,5.3nm,0.8s			IAmb_Lg		01 36 20.2	
PLPT	**Palo Pinto** comp=Z,4.0nm,1.0s	**2.51**	**191**	IAmb_Lg		01 36 36.2	
MIAR	**Mount Ida** comp=Z,2.7nm,1.0s	**3.51**	**101**	IAmb_Lg		01 37 11.2	

NOU 10 01:56:17.2, 14°.74S×167°.06E, h107km, MLv4.3/14, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.72**	**169**	P	Pn	01 56 36.8	+1.4
SANVU	**Saraoutou**	**0.72**	**169**	S	Sn	01 56 50.8	+1.7
VLAKA	**Lakatoro**	**1.40**	**166**	P	Pn	01 56 43.4	+0.7
VLAKA	**Lakatoro**	**1.40**	**166**	P	Sn	01 57 02.9	+0.9
DVP	**Devils Point**	**3.16**	**160**	P	Pn	01 57 04.9	-0.4
YATNC	**Mamie plateau,**	**7.28**	**181**	P	Pn	01 58 00.5	-0.5
DZM	**Mont Dzumac**	**7.32**	**184**	P	Pn	01 58 01.4	-0.1
OUENC	**Ouen Island, N**	**7.64**	**182**	P	Pn	01 58 05.7	-0.1

SNET ***10*** *02:11:25.1±1.6, 12°.76N×88°.63W, h47km, ML4.2*
CATAC ***10*** *02:11:26.3±0.4, 13°.N±3°×8°.9W±°, h31km±4km, M4.2/34, MLv4.2/34, Error ellipse: s-maj=6.6km s-min=1.9km az=28.5, confirmed*
UCR ***10*** *02:11:32.4±1.0, 11°.87N×88°.73W, h20km±999km, MW3.9*

ISC 10 02:11:26.3±1.2, 12°.85N±0°.04×88°.62W±0°.03, h26km±12km, n94, σ0°.91/124, 8C-16D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.65**	**10**	⇓*iP*	**Pb**	**02 11 39.8**	**+0.6**
TECA				*eP*	**Pb**	**02 11 39.8**	**+0.6**
TECA				*eS*	**Sn**	**02 11 49.9**	**+0.3**
LCY	**Lacayo**	**0.65**	**29**	*eP*	**Pb**	**02 11 39.7**	**+0.6**
VSM	**San Miguel**	**0.66**	**30**	⇓*iP*	**Pn**	**02 11 40.2**	**-0.1**
PACA	**Pacayal**	**0.68**	**25**	*eP*	**Pb**	**02 11 40.3**	**+0.7**
PACA				*eS*	**Sn**	**02 11 50.5**	**+0.3**
PACA	**Pacayal**	**0.68**	**25**	⇓P	**Pb**	**02 11 40.0**	**+0.4**
BLLM	**Bellamira**	**0.69**	**32**	⇑*iP*	**Pb**	**02 11 40.2**	**+0.4**
TECO	**Alcaldia de Te**	**0.70**	**347**	*eP*	**Pb**	**02 11 40.3**	**+0.3**
TECO				*eS*	**Sn**	**02 11 50.6**	**0.0**
TECO	**Alcaldia de Te**	**0.70**	**347**	⇓P	**Pb**	**02 11 40.1**	**+0.1**
CNRM	**Centro Naciona**	**0.75**	**35**	*eP*	**Pb**	**02 11 40.6**	**-0.3**
CNRM				*eS*	**Sn**	**02 11 52.8**	**+0.8**
CNRM	**Centro Naciona**	**0.75**	**35**	P	**Pb**	**02 11 41.0**	**+0.1**
PQSS	**Presa 15 de Se**	**0.77**	**4**	*eP*	**Pb**	**02 11 41.4**	**+0.3**
SNVI	**San Vicente**	**0.79**	**344**	*eP*	**Pb**	**02 11 41.6**	**+0.2**
UESV	**Universidad de**	**0.80**	**348**	*eP*	**Pb**	**02 11 41.6**	**0.0**
UESV				*eS*	**Sn**	**02 11 53.7**	**+0.6**
UESV	**Universidad de**	**0.80**	**348**	⇓P	**Pb**	**02 11 41.5**	**-0.2**
LCND	**La Caada**	**0.84**	**57**	*eP*	**Pb**	**02 11 42.0**	**-0.4**
LCND				*eP*	**Pn**	**02 11 42.1**	**-0.5**
LCND				*eS*	**Sb**	**02 11 53.9**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.85**	**353**	⇓*iP*	**Pb**	**02 11 42.6**	**+0.1**
SCLA				*eS*	**Sn**	**02 11 55.5**	**+1.0**
SCLA	**Alcaldia de Sa**	**0.85**	**353**	S	**Sn**	**02 11 54.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.85**	**353**	⇓P	**Pb**	**02 11 42.5**	**-0.1**
CNCH	**Conchagua**	**0.87**	**61**	*eP*	**Pb**	**02 11 42.4**	**-0.5**
CNCH				*eS*	**Sn**	**02 11 54.9**	**-0.1**
CNCH	**Conchagua**	**0.87**	**61**	S	**Sn**	**02 11 55.1**	**+0.1**
CNCH	**Conchagua**	**0.87**	**61**	⇓P	**Pb**	**02 11 42.1**	**-0.8**
LFRS	**El Faro**	**0.88**	**330**	*eP*	**Pb**	**02 11 42.7**	**-0.4**
PAVA	**Las Pavas**	**0.91**	**340**	*eP*	**Pb**	**02 11 43.3**	**-0.2**
PAVA				*eS*	**Sn**	**02 11 56.4**	**+0.4**
PAVA	**Las Pavas**	**0.91**	**340**	S	**Sb**	**02 11 55.8**	**+0.5**
PAVA	**Las Pavas**	**0.91**	**340**	⇓P	**Pb**	**02 11 43.1**	**-0.5**
LALI	**Alcalda de L**	**0.93**	**313**	*eP*	**Pb**	**02 11 43.2**	**-0.7**
LALI				*eS*	**Sb**	**02 11 54.8**	**-1.1**
LALI	**Alcalda de L**	**0.93**	**313**	P	**Pb**	**02 11 43.1**	**-0.7**
LOMA	**Loma Larga**	**0.95**	**326**	*eP*	**Pn**	**02 11 43.7**	**-0.6**
LOMA				*eS*	**Sb**	**02 11 56.8**	**+0.2**
LOMA	**Loma Larga**	**0.95**	**326**	⇓P	**Pn**	**02 11 43.6**	**-0.6**
AEIL	**Aeropuerto Ilo**	**0.97**	**330**	*eP*	**Pn**	**02 11 44.3**	**-0.1**
AEIL				*eS*	**Sn**	**02 11 58.4**	**+1.0**
LBRS	**Las Brisas**	**0.97**	**335**	*eP*	**Pn**	**02 11 44.5**	**+0.1**
CAHU	**Cacacuatique**	**0.99**	**23**	*eP*	**Pn**	**02 11 44.3**	**-0.5**
LFU	**La Fuente**	**1.01**	**331**	*eP*	**Pn**	**02 11 44.8**	**-0.2**
CSGN	**Cosiguina Volc**	**1.04**	**83**	P	**Pb**	**02 11 44.8**	**-0.6**
CSGN				S	**Sb**	**02 11 59.1**	**+0.1**
UEES	**Universidad Ev**	**1.05**	**325**	*eP*	**Pn**	**02 11 45.3**	**-0.3**
UEES				*eS*	**Sb**	**02 11 59.1**	**-0.2**
UEES	**Universidad Ev**	**1.05**	**325**	P	**Pn**	**02 11 45.0**	**-0.5**
UEES	**Universidad Ev**	**1.05**	**325**	S	**Sb**	**02 11 58.4**	**-1.0**
PIC2	**El Picacho**	**1.08**	**325**	*eP*	**Pn**	**02 11 46.3**	**+0.1**
PIC2				*eS*	**Sb**	**02 12 00.6**	**+0.2**
BOQS	**Boqueron**	**1.09**	**324**	*eP*	**Pn**	**02 11 46.0**	**-0.2**
BOQS				*eS*	**Sb**	**02 11 60.0**	**-0.6**
PMON	**Piamonte**	**1.09**	**322**	P	**Pn**	**02 11 45.9**	**-0.2**
PMON	**Piamonte**	**1.09**	**322**	S	**Sb**	**02 11 59.9**	**-0.6**
POTN	**Potosi Cosigui**	**1.09**	**82**	⇑P	**Pn**	**02 11 46.4**	**+0.4**
POTN				S	**Sb**	**02 11 59.8**	**-0.6**
JAYA	**Jayaque - finc**	**1.14**	**315**	*eP*	**Pn**	**02 11 45.9**	**-0.9**
JAYA				*eS*	**Sn**	**02 12 01.7**	**+0.1**
JAYA	**Jayaque - finc**	**1.14**	**315**	⇓P	**Pn**	**02 11 45.9**	**-0.9**
CEVE	**Cerro Verde**	**1.38**	**315**	*eP*	**Pn**	**02 11 50.4**	**+0.2**
CEVE				*eS*	**Sb**	**02 12 09.6**	**+0.7**
CEVE	**Cerro Verde**	**1.38**	**315**	P	**Pn**	**02 11 50.2**	**0.0**
CEVE	**Cerro Verde**	**1.38**	**315**	S	**Sn**	**02 12 08.6**	**+0.8**
CRIN	**San Cristobal**	**1.54**	**96**	S	**Sn**	**02 12 11.1**	**-0.2**
CRIN	**San Cristobal**	**1.54**	**96**	⇑P	**Pn**	**02 11 51.8**	**-0.4**
NUBE	**Las Nubes**	**1.54**	**313**	*eP*	**Pn**	**02 11 51.9**	**-0.5**
NUBE				*eS*	**Sn**	**02 12 10.9**	**-0.7**
NUBE	**Las Nubes**	**1.54**	**313**	⇓P	**Pn**	**02 11 51.8**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.63**	**316**	S	**Sn**	**02 12 13.8**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.63**	**316**	P	**Pn**	**02 11 53.5**	**0.0**
FAME	**Alcaldia de Sa**	**1.68**	**306**	S	**Sn**	**02 12 14.0**	**-0.8**
FAME	**Alcaldia de Sa**	**1.68**	**306**	⇓P	**Pn**	**02 11 53.6**	**-0.5**
MTO3	**Montecristo**	**1.70**	**335**	*eP*	**Pn**	**02 11 54.0**	**-0.6**
MTO3	**Montecristo**	**1.70**	**335**	⇓P	**Pn**	**02 11 54.0**	**-0.6**
POLN	**Al Sur del Vol**	**1.77**	**96**	⇑P	**Pn**	**02 11 54.5**	**-0.9**
POLN				S	**Sn**	**02 12 15.5**	**-1.7**
TGUH	**Tegucigalpa,Un**	**1.77**	**47**	⇓P	**Pn**	**02 11 54.8**	**-0.7**
PACN	**Al O del Volca**	**1.81**	**101**	P	**Pn**	**02 11 55.2**	**-0.7**
ESQI	**Esquipulas**	**1.84**	**338**	*eP*	**Pn**	**02 11 56.3**	**-0.1**
ESQI				*eS*	**Sn**	**02 12 18.6**	**-0.2**
ESQI	**Esquipulas**	**1.84**	**338**	⇓P	**Pn**	**02 11 56.2**	**-0.1**
ROCN	**Rota Cerro Neg**	**1.86**	**100**	⇑P	**Pn**	**02 11 55.6**	**-1.0**
ROCN				S	**Sn**	**02 12 18.7**	**-0.5**
CNGA	**Al SSO del Vol**	**1.90**	**101**	P	**Pn**	**02 11 56.7**	**-0.5**
CNGA				S	**Sn**	**02 12 19.8**	**-0.6**
CNGN	**Cerro Negro**	**1.90**	**100**	S	**Sn**	**02 12 20.7**	**+0.3**
CNGN	**Cerro Negro**	**1.90**	**100**	P	**Pn**	**02 11 56.0**	**-1.2**
MOMN	**Momotombo**	**2.07**	**102**	P	**Pn**	**02 11 58.5**	**-1.1**
MOMN				S	**Sn**	**02 12 24.8**	**+0.2**
COPN	**Copaltepe**	**2.09**	**108**	P	**Pn**	**02 11 58.7**	**-1.0**
MOM2	**El Cardon**	**2.12**	**101**	P	**Pn**	**02 11 59.3**	**-0.9**
OCON	**Estacion meteo**	**2.22**	**69**	P	**Pn**	**02 12 00.3**	**-1.3**
SAPS	**Ciudad Sandino**	**2.26**	**107**	P	**Pn**	**02 12 01.5**	**-0.7**
SAPS	**Ciudad Sandino**	**2.26**	**107**	S	**Sn**	**02 12 28.6**	**-0.6**
APQ3	**Volcan Apoyequ**	**2.27**	**105**	P	**Pn**	**02 12 01.6**	**-0.6**
APQ3				S	**Sn**	**02 12 28.8**	**-0.5**
APQ2	**Apoyeque**	**2.33**	**106**	P	**Pn**	**02 12 02.4**	**-0.6**
APQ2				S	**Sn**	**02 12 30.2**	**-0.7**
TISN	**Laguna Tiscapa**	**2.40**	**107**	P	**Pn**	**02 12 03.5**	**-0.5**
UNAN	**Cigeo UNAN**	**2.41**	**108**	P	**Pn**	**02 12 03.6**	**-0.5**
UNAN				S	**Sn**	**02 12 31.8**	**-1.0**
RCVN	**Varillal2**	**2.47**	**73**	⇑P	**Pn**	**02 12 04.0**	**-1.1**
RCPN	**Sur Rio San Ju**	**2.54**	**74**	P	**Pn**	**02 12 05.0**	**-1.1**
NANN	**Nandasmo**	**2.60**	**110**	S	**Sn**	**02 12 36.9**	**-0.7**
MATN	**Matagalpa**	**2.62**	**88**	⇑P	**Pn**	**02 12 05.1**	**-2.1**
BOAB	**BOACO BROADBAN**	**2.91**	**98**	⇑P	**Pn**	**02 12 09.6**	**-1.4**
PISJ	**San Jernim**	**5.45**	**126**	*eP*	**Pn**	**02 12 50.5**	**+4.4**
LCR2	**La Lucha 2**	**5.48**	**124**	*eP*	**Pn**	**02 12 49.1**	**+2.5**
LCR2				*eS*	**Sn**	**02 13 47.8**	**-1.1**
PIEC	**Cerro El Cedra**	**5.58**	**125**	*eP*	**Pn**	**02 12 50.0**	**+1.9**
VERH	**Veragua Rainfo**	**6.06**	**118**	*eP*	**Pn**	**02 12 57.9**	**+3.5**
SAJE	**San Jernim**	**6.11**	**124**	*eP*	**Pn**	**02 12 56.6**	**+1.5**
EDPE	**Pejibaye, P**	**6.17**	**126**	*eP*	**Pn**	**02 12 57.7**	**+1.9**
LAES	**El Progreso Va**	**6.26**	**119**	*eP*	**Pn**	**02 12 59.9**	**+2.8**
DRK0	**Durika**	**6.37**	**124**	*eP*	**Pn**	**02 13 00.3**	**+1.6**
CEUA	**Cerro Uatsi, L**	**6.43**	**119**	*eP*	**Pn**	**02 13 02.0**	**+2.5**
FIMO	**Fila Mora**	**6.44**	**126**	*eP*	**Pn**	**02 13 01.7**	**+2.1**
ALCO	**Alturas Coton,**	**6.88**	**124**	*eP*	**Pn**	**02 13 07.0**	**+1.2**
BANCO	**falda S V. Bar**	**7.26**	**124**	*eP*	**Pn**	**02 13 12.2**	**+1.2**
BQTLY	**Boquete Panama**	**7.29**	**123**	*eP*	**Pn**	**02 13 12.9**	**+1.5**

RSNC 10 02:31:33.9±0.0, 7°N±1°×7°3W±°, h149km±1km, M3.1, mb3.5, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	P	Pn	02 31 54.0	-0.5
BARC				S	Sn	02 32 09.7	-0.4
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	02 31 55.7	0.0
BRJC				S	Sn	02 32 12.9	+0.6
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	02 31 56.8	0.0
PAMC				S	Sn	02 32 14.0	-0.2
RUSC	**La Rusia**	**0.92**	**176**	P	Pn	02 31 57.8	-0.8
RUSC				S	Sn	02 32 16.4	-0.9
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	02 32 00.6	-1.0
PTBC				S	Sn	02 32 21.8	-1.0
OCAC	**Ocana**	**1.42**	**353**	P	Pn	02 32 02.6	-0.1
OCAC				S	Sn	02 32 24.9	+0.1
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	02 32 06.4	-0.5
ZARC				S	Sn	02 32 32.1	-0.2
NORC	**Norcasia**	**2.12**	**234**	P	Pn	02 32 09.8	-0.6
NORC				S	Sn	02 32 37.9	-0.6
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	02 32 13.5	+0.7
ROSC				S	Sn	02 32 43.7	+1.0
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	02 32 14.8	+0.1
HELC				S	Sn	02 32 46.4	+0.4
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	02 32 14.6	-0.4
CVER				S	Sn	02 32 46.2	-0.4
URES	**San Jos de Ur**	**2.54**	**292**	P	Pn	02 32 14.8	-0.7
URES				S	Sn	02 32 45.8	-1.0
GUY2C	**Guyana, Caldas**	**2.71**	**234**	P	Pn	02 32 18.2	+0.1
GUY2C				S	Sn	02 32 51.8	-0.3
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	02 32 17.2	-1.0
VILC				S	Sn	02 32 52.1	-0.3
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	02 32 21.7	+0.3
CBOC				S	Sn	02 32 57.4	-0.7
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	02 32 21.5	-0.4
DBBC				S	Sn	02 32 57.6	-1.4
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	02 32 24.0	+0.1
ARGC				S	Sn	02 33 03.1	+0.4
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	02 32 23.2	-1.2
SDV				S	Sn	02 33 00.7	-2.7
PRAC	**Prado**	**3.54**	**209**	P	Pn	02 32 27.4	-0.8
PRAC				S	Sn	02 33 08.9	-1.4
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	02 32 28.1	-0.5
ORTC				S	Sn	02 33 10.9	-0.1
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	02 32 27.7	-0.8
APAC				S	Sn	02 33 09.1	-1.8
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	02 32 29.6	-0.1
PLMC				S	Sn	02 33 12.2	-0.7
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	02 32 28.3	-1.5
SJCC				S	Sn	02 33 09.6	-3.5
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	02 32 30.7	-0.4
URMC				S	Sn	02 33 14.7	-0.7
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	02 32 34.5	-2.1
CRJC				S	Sn	02 33 22.7	-2.7
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	02 32 36.7	-0.9
YOTC				S	Sn	02 33 26.8	-0.2
SMRC	**Santa Marta, M**	**4.45**	**346**	P	Pn	02 32 39.3	-0.7
SMRC				S	Sn	02 33 27.0	-4.5
MACC	**Macarena, Meta**	**4.70**	**189**	P	Pn	02 32 40.7	-2.7
MACC				S	Sn	02 33 32.4	-5.1
URIC	**Uribia, Colomb**	**4.98**	**13**	P	Pn	02 32 44.2	-2.9
URIC				S	Sn	02 33 40.6	-3.6
JAMC	**Jamundi, Valle** 3.0nm,0.4s	**5.01**	**225**	P	Pn	02 32 48.7	+1.0
JAMC	3.0nm,0.4s			S	Sn	02 33 44.9	-0.4
POPC	**Popayan, Colom** 4.4nm,1.0s	**5.51**	**220**	P	Pn	02 32 54.0	-0.4
POPC	4.4nm,1.0s			S	Sn	02 33 57.3	0.0
FLOC	**Florencia**	**5.77**	**206**	P	Pn	02 32 57.7	+0.1
FLOC				S	Sn	02 34 02.8	-0.3
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	02 33 04.9	+0.3
BBAC				S	Sn	02 34 14.6	-0.9

GCG ***10*** *02:37:27.7±1.0, 14°.37N×91°.86W, h72km±9km, MD3.6, ML3.4*
CATAC ***10*** *02:37:30.2±0.7, 14°N±6°×9°2W±°, h1km±4km, M3.0/6, MLv3.0/6, Error ellipse: s-maj=12.6km s-min=5.1km az=21.7, confirmed*

ISC 10 02:37:27.4±2.2, 14°.2N±0°.2×91°.9W±0°.1, h55km±23km, n16, σ2°.08/23, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.39**	**28**	P	**Pn**	**02 37 38.3**	**+0.4**
RTAL				S	**Sn**	**02 37 45.4**	**0.0**
SMCA	**Catarina**	**0.70**	**345**	*iP*	**Pn**	**02 37 40.6**	**-0.8**
SMCA				*iS*	**Sn**	**02 37 51.2**	**-0.4**
SMCA	comp=E,331nm,0.1s			IAML		02 37 52.0	
SOKI	**Kika Raxquin**	**0.79**	**36**	*iP*	**Pn**	**02 37 43.8**	**+0.9**
SOKI				*iS*	**Sn**	**02 37 56.4**	**+2.2**
THIG		**0.81**	**333**	*iS*	**Sn**	**02 37 53.6**	**-0.6**
ESSG	**Sabana Grande**	**1.04**	**79**	*iP*	**Pn**	**02 37 46.6**	**+0.7**
ESSG				*iS*	**Sn**	**02 38 00.8**	**+1.3**
FG8	**Yepocapa, Chim**	**1.28**	**86**	*iP*	**Pn**	**02 37 45.6**	**-3.6**
FG8				*iS*	**Sn**	**02 37 59.7**	**-5.7**
FG16	**Alotenango, Sa**	**1.33**	**86**	*iP*	**Pn**	**02 37 46.7**	**-3.2**
FG16	comp=N,3µm,0.2s			IAML		02 38 06.2	
FAME	**Alcaldia de Sa**	**1.84**	**100**	P	**Pn**	**02 37 57.8**	**+1.2**
FAME	**Alcaldia de Sa**	**1.84**	**100**	S	**Sn**	**02 38 17.5**	**-1.4**
SLOZ	**Alcaldia de Sa**	**2.04**	**94**	S	**Sn**	**02 38 24.0**	**+0.3**
SLOZ	**Alcaldia de Sa**	**2.04**	**94**	P	**Pn**	**02 38 01.1**	**+1.7**
NUBE	**Las Nubes**	**2.06**	**97**	*iP*	**Pn**	**02 38 01.6**	**+1.9**
NUBE				*iS*	**Sn**	**02 38 25.2**	**+0.8**
NUBE	**Las Nubes**	**2.06**	**97**	P	**Pn**	**02 38 01.3**	**+1.6**
NUBE	**Las Nubes**	**2.06**	**97**	S	**Sn**	**02 38 23.7**	**-0.6**
JAYA	**Jayaque - finc**	**2.42**	**102**	*iP*	**Pn**	**02 38 06.1**	**+1.5**
JAYA				*iS*	**Sn**	**02 38 33.8**	**+0.6**
JAYA	**Jayaque - finc**	**2.42**	**102**	P	**Pn**	**02 38 05.8**	**+1.1**

GCMT ***10*** *03:04:48.0±0.4, 7°.78N±0°.02×37°.08W±0°.02, h18km±1km, MW4.8/82, Moment Tensor Solution. s11,c12; s82,c111; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.13±.08; Mθθ=0.10±.08; Mφφ=0.22±.07; Mrθ=0.24±.20; Mrφ=-1.67±.08; Mθφ=0.49±.19; Best double couple: M₀1.76900×10¹⁶ NP1:φ=274.00000°, δ73.00000°, λ=-172.00000°. NP2: φs=182.00000°, δ82.00000°, λ=-17.00000°. Principal axes: T 1.7650, Plg6.0000°, Azm229.0000°; N 0.0080, Plg71.0000°, Azm338.0000°; P -1.7730, Plg17.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate source*

ISC 10 03:04:47.0±4.8, 7°.8N±0°.4×37°.6W±0°.4, h10km, n13, σ1°.03/13, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMAB	**Tom-Au,PA,Br**	**14.57**	**227**	*eP*	**Pn**	**03 08 13.9**	**+0.6**
PRPB	**Parauapebas**	**18.48**	**222**	*eP*	**P**	**03 09 02.5**	**-0.8**
SMTB	**Santa Maria do**	**19.32**	**211**	*eP*	**P**	**03 09 11.3**	**-1.2**
SDBA	**SAO DESIDERIO**	**21.34**	**200**	*eP*	**P**	**03 09 32.6**	**-1.9**
ITTB	**Itaituba**	**21.78**	**237**	*eP*	**P**	**03 09 39.0**	**-0.2**
NPGB	**Novo Progresso**	**23.06**	**231**	*eP*	**P**	**03 09 53.6**	**+0.7**
BOAV	**Boa Vista**	**23.48**	**258**	*eP*	**P**	**03 09 57.1**	**0.0**
JANB	**Januaria**	**23.66**	**196**	*eP*	**P**	**03 10 00.6**	**+1.8**
SNDB	**Serra Nova Dou**	**23.91**	**215**	*eP*	**P**	**03 10 01.9**	**+0.6**
CLDB	**Colider**	**25.94**	**225**	*eP*	**P**	**03 10 19.7**	**-0.1**
PDRB	**Porto dos Gac**	**27.11**	**225**	*eP*	**P**	**03 10 30.4**	**+0.1**
BBSD	**Serra de San D**	**33.69**	**222**	*eP*	**P**	**03 11 28.8**	**+0.3**
LPAZ	**La Paz**	**38.57**	**232**	*eP*	**P**	**03 12 10.2**	**-0.8**

**CATAC 10 03:37:21.4±0

MORC				*e*Sg		**Sb**	**03 39 20.5**	**-0.7**
	comp=Z,40nm,0.6s,baz=335							
VRAC	**Vranov**	**2.36**	**172**	*e*Pn		**Pn**	**03 38 56.0**	**+0.1**
	baz=353							
VRAC				*e*Sg		**Sb**	**03 39 29.2**	**+0.2**
	comp=Z,21nm,0.6s,baz=353							
VRAC	**Vranov**	**2.36**	**172**	*e*PN		**Pn**	**03 38 56.1**	**+0.1**
VRAC				*e*SG		**Sb**	**03 39 29.3**	**+0.2**
ZVC	**Zvikov**	**2.52**	**209**	*e*SG		**Sg**	**03 39 35.7**	**-1.0**
KRUC	**Moravsky**	**2.59**	**175**	*e*Pn		**Pn**	**03 38 59.2**	**+0.1**
	baz=357							
KRUC				*e*Sg		**Sb**	**03 39 36.7**	**+1.0**
	comp=Z,26nm,0.9s,baz=357							
OJC	**Ojcow**	**2.75**	**120**	*e*Pn		**Pn**	**03 39 00.2**	**-1.1**
OJC				*e*Pg		**Pg**	**03 39 08.6**	**-0.1**
OJC				*e*Sg		**Sg**	**03 39 44.6**	**+0.4**
JAVC	**Velka Javorina**	**2.97**	**159**	*e*Pn		**Pn**	**03 39 04.1**	**-0.2**
	baz=341							
JAVC				*e*Sg		**Sb**	**03 39 48.2**	**+1.7**
	comp=Z,29nm,0.8s,baz=341							
JAVC	**Velka Javorina**	**2.97**	**159**	*e*PN		**Pn**	**03 39 04.2**	**-0.1**
JAVC				*e*SG		**Sb**	**03 39 48.3**	**+1.7**
KHC	**Kasperske Hory**	**2.98**	**213**	*e*PN		**Pn**	**03 39 04.7**	**+0.2**
KHC				*e*PG		**Pb**	**03 39 11.2**	**+1.3**
KHC				*e*SN		**Sn**	**03 39 40.6**	**-0.3**
KHC				*e*SG		**Sb**	**03 39 48.8**	**+1.9**
	comp=Z,14nm,0.4s							
CKRC	**Cesky Krumlov**	**3.05**	**203**	*e*PN		**Pn**	**03 39 06.3**	**+0.9**
CKRC				*e*PG		**Pb**	**03 39 12.3**	**+1.3**
CKRC				*e*SG		**Sb**	**03 39 51.2**	**+2.5**
	comp=Z,52nm,1.6s							
GERES	**GERESS Array B**	**3.19**	**209**	Pn		**Pn**	**03 39 08.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=30,slow=13,SNR=28							
GERES				Lg		Lg	03 39 55.3	
	comp=Z,0.6nm,0.3s,baz=30,slow=27,SNR=10							
	comp=Z,2.9nm,0.4s							
LANS	**Liptovska Anna**	**3.31**	**138**	*e*PN		**Pn**	**03 39 09.6**	**+0.7**
LANS				*e*PG		**Pg**	**03 39 18.6**	**-0.7**
LANS				*e*SG		**Sg**	**03 40 01.7**	**-0.4**
MODS	**Modra-Piesok**	**3.37**	**166**	*e*SG		**Sg**	**03 40 01.1**	**-2.9**
NIE	**Niedzica**	**3.50**	**128**	*e*Pg		**Pg**	**03 39 22.4**	**-0.4**
NIE				*e*Sg		**Sg**	**03 40 09.3**	**+1.1**
BSD	**Bornholm Skovb**	**3.54**	**349**	*i* P		**Pn**	**03 39 12.0**	**-0.1**
BSD				*i* S		**Sn**	**03 39 52.2**	**-2.4**
BSD				IAML			03 40 15.9	
	comp=Z,1.1nm,0.3s							
VYHS	**Vyhne**	**3.62**	**150**	*e*PN		**Pn**	**03 39 13.2**	**0.0**
VYHS				*e*PG		**Pg**	**03 39 24.9**	**-0.3**
VYHS				*e*SG		**Sg**	**03 40 10.1**	**-2.0**
CONA	**Conrad Observa**	**3.72**	**182**	*i* Pn		**Pn**	**03 39 15.4**	**+0.7**
	comp=Z,1.2nm,0.2s							
CONA				*e*Sg		**Sg**	**03 40 14.2**	**-1.2**
	comp=Z,17nm,0.5s							
RONA	**Rosalia, Austr**	**3.95**	**178**	*i* Sn		**Sn**	**03 40 04.2**	**-0.7**
	comp=Z,2.1nm,0.3s							
RONA				*e*Sg		**Sg**	**03 40 20.6**	**-2.2**
	comp=Z,4.4nm,0.3s							
MOA	**Molln**	**3.98**	**198**	*i* Pn		**Pn**	**03 39 18.7**	**+0.6**
	comp=Z,6.2nm,0.3s							
MOA				*i* Sn		**Sn**	**03 40 02.9**	**-2.6**
	comp=Z,1.7nm,0.4s							
MOA				*e*Sg		**Sg**	**03 40 20.9**	**-2.7**
	comp=Z,7.4nm,0.5s							
STHS	**Stebnicka Huta**	**3.98**	**122**	*e*PN		**Pn**	**03 39 18.6**	**+0.4**
STHS				*e*PG		**Pg**	**03 39 32.9**	**+0.8**
STHS				*e*SG		**Sg**	**03 40 26.7**	**+3.0**
BIOA	**Bad Ischl, Aus**	**4.26**	**203**	*i* Pn		**Pn**	**03 39 22.6**	**+0.5**
	comp=Z,2.9nm,0.2s							
BIOA				*i* Sg		**Sg**	**03 40 33.1**	**+0.3**
	comp=Z,8.4nm,0.3s							
ARSA	**Arzberg**	**4.41**	**185**	*i* Pn		**Pn**	**03 39 24.5**	**+0.3**
	comp=Z,1.2nm,0.2s							
ARSA				*i* Pg		**Pg**	**03 39 39.1**	**-1.4**
	comp=Z,1.1nm,0.2s							
ARSA				*e*Sg		**Sg**	**03 40 38.3**	**+0.6**
	comp=Z,16nm,0.7s							
BLEU	**Blekinge**	**4.67**	**358**	*i* P		**Pn**	**03 39 29.9**	**+2.3**
BLEU				*i* S		**Sn**	**03 40 21.5**	**-0.9**
LESA	**Schwarzleotal**	**4.77**	**209**	*i* Pn		**Pn**	**03 39 29.5**	**+0.4**
	comp=Z,0.3nm,0.1s							
LESA				*e*Sg		**Sg**	**03 40 49.0**	**0.0**
	comp=Z,6.3nm,0.4s							
BJUU	**Bjuv**	**4.79**	**339**	*i* P		**Pn**	**03 39 30.9**	**+1.7**
BJUU				*i* S		**Sn**	**03 40 23.1**	**-2.3**
KOLS	**Kolonicke sedl**	**4.81**	**122**	*e*PN		**Pn**	**03 39 29.2**	**-0.4**
KOLS				*e*PG		**Pg**	**03 39 47.6**	**-0.4**
DEL	**Delary**	**5.01**	**346**	*i* P		**Pn**	**03 39 32.4**	**+0.2**
DEL				*i* S		**Sn**	**03 40 28.5**	**-2.2**
SOKA	**Soboth**	**5.02**	**188**	*i* Pn		**Pn**	**03 39 33.3**	**+0.8**
	comp=Z,0.5nm,0.2s							
SOKA				*e*Sg		**Sg**	**03 40 54.4**	**-2.7**
	comp=Z,3.7nm,0.7s							
WATA	**Walderalm**	**5.22**	**216**	*i* Pn		**Pn**	**03 39 36.5**	**+1.2**
	comp=Z,0.4nm,0.1s							
OBKA	**Obir**	**5.24**	**192**	Sg		**Sg**	**03 41 05.7**	**+1.6**
	comp=Z,8.0nm,0.7s							
WTTA	**Wattenberg**	**5.25**	**215**	*i* Pn		**Pn**	**03 39 36.1**	**+0.2**
	comp=Z,0.9nm,0.2s							
WTTA				*e*Sg		**Sg**	**03 41 02.8**	**-1.8**
	comp=Z,3.7nm,0.4s							
RETA	**Reutte**	**5.41**	**222**	*e*Pn		**Pn**	**03 39 38.0**	**+0.1**
	comp=Z,0.3nm,0.2s							
RETA				*e*Sg		**Sg**	**03 41 08.9**	**-0.8**
	comp=Z,4.5nm,0.5s							
ABTA	**Abfaltersbach**	**5.43**	**207**	*i* Pn		**Pn**	**03 39 38.5**	**+0.4**
	comp=Z,0.9nm,0.4s							
ABTA				Sg		**Sg**	**03 41 08.7**	**-1.5**
	comp=Z,8.4nm,1.0s							
AKASG	**Malin Array Be**	**8.32**	**91**	Pn		**Pn**	**03 40 18.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=284,slow=12,SNR=3.0							
FINES	**FINESS Array B**	**11.25**	**25**	Pn		**Pn**	**03 40 57.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=13,SNR=4.5							
	comp=Z,1.1nm,0.8s							

BGR ***10*** *03:41:18.8, 6.˚60N×36.˚85W, h33km, mb5.2, Ms4.5*
MOS ***10*** *03:41:19.3± 1.1, 7.˚59N×37.˚01W, h10km, mb5.2/53, MS4.5/11, Error ellipse: s-maj=9.2km s-min=5.1km az=53.7*
IDC ***10*** *03:41:19.4± 0.4, 7.˚59N×37.˚01W, h0km, mb4.6/31, mbtmp4.6/32, ML4.5/1, MS4.5/73, Error ellipse: s-maj=15.2km s-min=9.5km az=134.0*
NEIC ***10*** *03:41:21.9± 2.3, 7.˚56N± 0.˚09×37.˚06W± 0.˚09, h10km± 1km, mb5.1/468, Mwb5.3/29, Mww5.3/19, Error ellipse: s-maj=16.2km s-min=13.6km az=151.0, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr=2.62; Mθθ=0.29; Mφφ=2.91; Mrθ=-1.33; Mθφ=-9.29; Mφr=0.54; Fault plane solution: Mo=9.80000×1016 NP1:φs=95.11000°, δ=88.88000°, λ=-171.24000°. NP2:φs=4.94000°, δ=81.24000°, λ=-1.14000°. Principal axes: T 10.8589, Plg5.0000°, Azm230.0000°; N -2.6604, Plg81.0000°, Azm102.0000°; P -8.1986, Plg7.0000°, Azm320.0000°;*
NEIC ***10*** *03:41:22, 7.˚56N×37.˚07W, h12km*
NEIC ***10*** *03:41:22, 7.˚56N×37.˚07W, h12km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 1017Nm; Mrr=-0.04; Mθθ=-0.01; Mφφ=0.05; Mrθ=0.41; Mθφ=-1.03; Mφr=0.02; Fault plane solution: Mo=1.11000×1017 NP1: φs=180.43000°, δ=68.49000°, λ=-2.15000°. NP2:φs=271.21000°, δ=88.00000°, λ=-158.48000°. Principal axes: T 1.1190, Plg14.0000°, Azm44.0000°; N -0.0183, Plg68.0000°, Azm276.0000°; P -1.1007, Plg16.0000°, Azm138.0000°;*
NEIC ***10*** *03:41:22, 7.˚56N×37.˚05W, h10km*
GCMT ***10*** *03:41:22.9± 0.1, 7.˚77N± 0.˚01×37.˚09W± 0.˚01, h16km, MW5.4/140, Moment Tensor Solution. s112,c201; s140,c276; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr=0.15± .02; Mθθ=-0.08± .02; Mφφ=0.22± .02; Mrθ=0.16± .05; Mθφ=-1.62± .02; Mφr=0.20± .05; Best double couple: Mo=1.64900×1017 NP1:φs=273.0000°, δ=82.00000°, λ=-174.00000°. NP2:φs=182.00000°, δ=84.00000°, λ=-8.00000°. Principal axes: T 1.7010, Plg1.0000°, Azm228.0000°; N -0.1050, Plg80.0000°, Azm325.0000°; P -1.5970, Plg10.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC **10 03:41:21.0± 0.3, 7.˚60N± 0.˚05×37.˚20W± 0.˚05, h10km, n903, σ1.˚88/679, mb5.1/334, MS4.6/86, 19C-15D, Central Mid-Atlantic Ridge**

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

NBCL	**Cascavel-CE**	**11.80**	**185**	*e*P		**Pn**	**03 44 10.2**	**+0.7**
NBPB	**Pedra_Branca-C**	**13.27**	**190**	*e*P		**Pn**	**03 44 29.4**	**-0.3**
RCBR	**Riachuelo**	**13.40**	**174**			**Pn**	**03 44 32.0**	**+0.4**
RCBR	**Riachuelo**	**13.40**	**174**	Pn		**Pn**	**03 44 32.6**	**+1.1**
	2.4nm,0.3s,baz=359,slow=20,SNR=38							
RCBR				Sn		Sn	03 46 46.1	-15
	1.4nm,0.3s,baz=10,slow=21,SNR=7.3							
RCBR				LR		LR	03 48 24.3	
	comp=Z,1µm,19.8s,baz=360,slow=32							
	10nm,0.5s							
RCBR	**Riachuelo**	**13.40**	**174**	*e*P		**Pn**	**03 44 31.2**	**-0.4**
TMAB	**Tom-Au,PA,Br**	**14.71**	**228**	*e*P		**Pn**	**03 44 49.2**	**-0.2**
SACV	**Santiago Islan**	**15.20**	**60**			Pn	03 44 47.9	-8.0
MDP	**Montagnes des**	**15.55**	**262**	Pn		**Pn**	**03 44 58.1**	**-2.5**
	1.4nm,0.3s,baz=60,slow=14,SNR=29							
MDP				Sn		Sn	03 47 36.2	-17
	0.7nm,0.3s,baz=20,slow=10.0,SNR=2.4							
MDP				LR		LR	03 49 41.0	
	comp=Z,2µm,21.7s,baz=70,slow=32							
NBAN	**Anadia - AL**	**17.18**	**177**	*e*P		**P**	**03 45 25.7**	**+2.7**
PRPB	**Parauapebas**	**18.59**	**223**	*e*P		**P**	**03 45 38.8**	**+0.2**
SMTB	**Santa Maria do**	**19.36**	**213**	*e*P		**P**	**03 45 47.8**	**+0.8**
MAL2	**Monte Alegre,**	**19.45**	**241**			**P**	**03 45 46.8**	**-1.3**
MBO	**M'Bour**	**20.98**	**70**	P		**P**	**03 46 05.1**	**+0.5**
SDBA	**SAO DESIDERIO**	**21.30**	**201**	*e*P		**P**	**03 46 08.9**	**+0.8**
ITTB	**Itaituba**	**21.99**	**238**	*e*P		**P**	**03 46 15.2**	**-0.3**
CMC01	**Camacan, BA**	**22.93**	**186**	*e*P		**P**	**03 46 28.4**	**+2.9**
NPGB	**Novo Progresso**	**23.23**	**232**	*e*P		**P**	**03 46 28.3**	**-0.4**
JANB	**Januaria**	**23.59**	**197**	*e*P		**P**	**03 46 32.7**	**+0.5**
BOAV	**Boa Vista**	**23.80**	**259**			**P**	**03 46 34.2**	**0.0**
BOAV				IAmb		IAmb	03 46 37.1	
	comp=Z,61nm,0.9s							
BOAV	**Boa Vista**	**23.80**	**259**	*e*P		**P**	**03 46 33.6**	**-0.7**
BOAV	**Boa Vista**	**23.80**	**259**	P		**P**	**03 46 33.7**	**-0.6**
	comp=Z,2µmcomp=Z,97nm,2.0s							
SNDB	**Serra Nova Dou**	**23.97**	**216**	*e*P		**P**	**03 46 36.5**	**+0.5**
GUA01	**Guaratinga, BA**	**24.17**	**186**	*e*P		**P**	**03 46 38.4**	**+0.7**
GDSD	**La Dsirade Is**	**24.88**	**293**	P		**P**	**03 46 46.9**	**+2.7**
GDSD				IAmb		IAmb	03 46 52.9	
	comp=Z,81nm,1.2s							
BDFB	**Brasilia**	**25.46**	**205**			**P**	**03 46 49.9**	**+0.3**
BDFB	**Brasilia**	**25.46**	**205**	P		**P**	**03 46 49.6**	**+0.1**
	comp=Z,30nm,1.0s,baz=32,slow=10,SNR=23							
BDFB				LR		LR	03 55 47.8	
	comp=Z,2µm,21.1s,baz=25,slow=34							
	comp=Z,30nm,1.0s							
BDFB	**Brasilia**	**25.46**	**205**	P		**P**	**03 46 49.9**	**+0.3**
BDFB				pmax		pmax		
	comp=Z,76nm,1.0s							
MACA	**Manacapuru-AM**	**25.76**	**246**	P		**P**	**03 46 52.7**	**+0.5**
MACA	**Manacapuru-AM**	**25.76**	**246**	*e*P		**P**	**03 46 53.2**	**+1.0**
CLDB	**Colider**	**26.07**	**225**	*e*P		**P**	**03 46 54.5**	**-0.5**
SJMB	**Sao Joao De Ma**	**26.43**	**189**	*e*P		**P**	**03 46 59.5**	**+1.2**
DIAM	**Diamantina, MG**	**26.52**	**194**	*e*P		**P**	**03 46 59.7**	**+0.6**
RIB01	**Linhares ES**	**26.93**	**187**	*e*P		**P**	**03 47 06.2**	**+3.4**
PCRV	**Puerto La Cruz**	**27.22**	**277**	LR		LR	03 57 19.1	
	comp=Z,636nm,20.3s,slow=35							
PDRB	**Porto dos Gac**	**27.24**	**226**	*e*P		**P**	**03 47 06.2**	**+0.6**
ARAG	**Araguaiana, MT**	**27.31**	**212**	*e*P		**P**	**03 47 07.3**	**+1.2**
H10N3	**ASCENSION HYDR**	**27.34**	**124**	T		T	04 15 51.4	
	baz=304,slow=75,SNR=74							
H10N2	**ASCENSION HYDR**	**27.34**	**124**	T		T	04 15 51.8	
	baz=304,slow=75,SNR=37							
H10N1	**ASCENSION HYDR**	**27.36**	**124**	T		T	04 15 52.9	
	baz=304,slow=75,SNR=82							
PMNB	**Patos De Minas**	**27.53**	**199**	*e*P		**P**	**03 47 09.9**	**+1.7**
IPMB	**Ipameri, GO**	**27.65**	**203**	*e*P		**P**	**03 47 10.5**	**+1.3**
H10S3	**ASCENSION HYDR**	**27.84**	**126**	T		T	04 16 36.7	
	baz=300,slow=74,SNR=99							
H10S2	**ASCENSION HYDR**	**27.85**	**126**	T		T	04 16 38.0	
	baz=280,slow=74,SNR=85							
BSCB	**Bom Sucesso**	**29.38**	**195**	*e*P		**P**	**03 47 25.7**	**+1.1**
TEFE	**Tefe**	**29.52**	**249**	*e*P		**P**	**03 47 26.7**	**+0.8**
SALV	**Santo Antonio**	**29.68**	**218**	*e*P		**P**	**03 47 28.3**	**+1.0**
SJG	**San Juan**	**30.05**	**293**	P		**P**	**03 47 32.2**	**+1.6**
SJG				IAmb		IAmb	03 47 45.6	
	comp=Z,56nm,1.4s							
SJG	**San Juan**	**30.05**	**293**	LR		LR	03 57 27.8	
	comp=Z,1µm,19.9s,baz=104,slow=32							
SJG	**San Juan**	**30.05**	**293**	P		**P**	**03 47 32.2**	**+1.6**
SJG				pmax		pmax		
	comp=Z,56nm,1.4s							
ITRB	**Iturama**	**30.07**	**205**	*e*P		**P**	**03 47 32.5**	**+1.8**
VAS01	**Vassouras-RJ**	**30.32**	**192**	*e*P		**P**	**03 47 35.8**	**+2.8**
CELP	**Cerrillos**	**30.43**	**293**			**P**	**03 47 33.8**	**-0.2**
CELP				IAmb		IAmb	03 47 47.2	
	comp=Z,34nm,0.8s							
OBIP	**Obispado Ponce**	**30.45**	**293**	P		**P**	**03 47 35.9**	**+1.7**
OBIP				IAmb		IAmb	03 47 43.0	
	comp=Z,33nm,1.0s							
BAUV	**El Baul**	**30.55**	**275**	P		**P**	**03 47 35.8**	**+0.7**
BAUV				IAmb		IAmb	03 47 53.1	
	comp=Z,49nm,1.1s							
BB19B	**Bebedouro**	**30.59**	**201**	*e*P		**P**	**03 47 36.9**	**+1.5**
UUPR	**Utuado, UPR, P**	**30.61**	**293**	P		**P**	**03 47 35.8**	**+0.2**
VILB	**Vilhena**	**30.65**	**228**			**P**	**03 47 37.3**	**+1.4**
VILB				IAmb		IAmb	03 48 30.9	
	comp=Z,43nm,1.3s							
VILB	**Vilhena**	**30.65**	**228**	*e*P		**P**	**03 47 37.3**	**+1.4**
SGC2	**Sao Gabriel da**	**30.68**	**257**	P		**P**	**03 47 36.6**	**+0.4**
	comp=Z,11nm,1.5s							
PMOZ	**Porto Moniz, M**	**31.21**	**34**	*e*LQ		LQ	03 54 18.7	
PMOZ				*e*LR		LR	03 55 29.6	
PMOZ				*i* IAMs_20		IAMs_20	03 57 02.0	
	comp=Z,748nm,22.0s							
PMOZ				*e*T		T	04 19 12.7	
FUL	**Funchal**	**31.25**	**34**	*e*T		T	04 19 19.3	
PMAR	**Madeira**	**31.30**	**34**	*e*T		T	04 19 21.3	
RCLB	**Rio Claro- Sao**	**31.51**	**199**	*e*P		**P**	**03 47 45.9**	**+2.4**
PTLB	**Pontes e Lacer**	**31.58**	**223**			**P**	**03 47 45.0**	**+1.0**
PTLB	**Pontes e Lacer**	**31.58**	**223**	*e*P		**P**	**03 47 45.5**	**+1.5**
DBIC	**Dimbokro**	**32.10**	**90**	P		**P**	**03 47 46.5**	**-2.2**
	comp=Z,11nm,0.8s,baz=303,slow=10,SNR=8.1							
DBIC				LR		LR	03 58 30.6	
	comp=Z,608nm,18.5s,baz=285,slow=32							
	comp=Z,11nm,0.8s							
PCMB	**Pacaembu**	**32.14**	**205**	*e*P		**P**	**03 47 50.4**	**+1.4**
RPRD	**Ribas do Rio P**	**32.28**	**210**	*e*P		**P**	**03 47 52.2**	**+2.0**
SPB	**Sao Paulo**	**32.58**	**198**	*e*P		**P**	**03 47 53.6**	**+0.9**
FRTB	**Fartura**	**33.05**	**201**	*e*P		**P**	**03 47 58.6**	**+1.6**
SDV	**Santo Domingo**	**33.11**	**275**	LR		LR	04 02 26.3	
	comp=Z,506nm,18.9s,baz=83,slow=38							
PET01	**Itanhaem-SP**	**33.19**	**197**	*e*P		**P**	**03 47 58.9**	**+0.8**
SIV	**San Ignacio**	**33.29**	**225**	P		**P**	**03 48 00.4**	**+1.2**
	comp=Z,12nm,0.7s,baz=58,slow=9.7,SNR=57							
SIV				LR		LR	04 00 41.7	
	comp=Z,2µm,20.8s,baz=69,slow=35							
	comp=Z,12nm,0.7s							
AQDB	**Aquidauana**	**33.31**	**213**			**P**	**03 47 59.9**	**+0.7**
AQDB				IAmb		IAmb	03 49 15.9	
	comp=Z,55nm,1.7s							
AQDB	**Aquidauana**	**33.31**	**213**	*e*P		**P**	**03 48 00.4**	**+1.2**
LDASE	**Londrina, Braz**	**33.68**	**203**	*e*P		**P**	**03 48 03.9**	**+1.4**
TRCB	**Terra Rica**	**33.78**	**206**	*e*P		**P**	**03 48 04.8**	**+1.4**
BBSD	**Serra de San D**	**33.80**	**223**	*e*P		**P**	**03 48 05.0**	**+1.5**
BDQN	**Bodoquena, MS**	**33.86**	**214**	*e*P		**P**	**03 48 05.6**	**+1.5**
URIC	**Uribia, Colomb**	**34.52**	**280**	P		**P**	**03 48 09.0**	**-0.9**
	comp=Z,25nm,1.4s							
TBTG	**Tabatinga, AM**	**34.67**	**251**	P		**P**	**03 48 11.6**	**+0.4**
TBTG	**Tabatinga, AM**	**34.67**	**251**	*e*P		**P**	**03 48 12.0**	**+0.8**
TBTG	**Tabatinga, AM**	**34.67**	**251**	P		**P**	**03 48 14.9**	**+3.7**
SDDR	**Presa de Saban**	**34.98**	**292**	P		**P**	**03 48 14.9**	**+1.1**
SDDR	**Presa de Saban**	**34.98**	**292**	P		P	03 48 08.6	-5.3
AMBA	**Amambai (Brazi**	**34.98**	**209**	*e*P		**P**	**03 48 15.1**	**+1.4**
PAMC	**Pamplona, Colo**	**35.19**	**272**	P		**P**	**03 48 14.5**	**-1.8**
PTGB	**Pitanga**	**35.24**	**204**	*e*P		**P**	**03 48 17.2**	**+1.1**
MURT	**Porto Murtinho**	**35.31**	**214**	*e*P		**P**	**03 48 17.8**	**+1.2**
GRTK	**Grand Turk**	**35.53**	**297**	P		**P**	**03 48 18.9**	**+0.4**
	comp=Z,73nm,0.9s							
RUSC	**La Rusia**	**35.67**	**270**	P		**P**	**03 48 21.9**	**+1.5**
RUSC				IAmb		IAmb	03 48 27.2	
	comp=Z,42nm,1.2s							
RUSC	**La Rusia**	**35.67**	**270**	P		**P**	**03 48 21.9**	**+1.5**
	comp=Z,517ncomp=Z,34nm,1.5s							
BARC	**Barichara**	**35.72**	**271**	P		**P**	**03 48 21.9**	**+1.4**
OCAC	**Ocana**	**35.77**	**274**	P		**P**	**03 48 18.6**	**-2.3**
	comp=Z,34nm,0.9s							
ACRG	**Accra**	**36.79**	**91**	P		**P**	**03 48 31.1**	**+1.6**
ACRG				IAmb		IAmb	03 48 38.4	
	comp=Z,53nm,1.1s							
MACC	**Macarena, Meta**	**36.90**	**263**	P		**P**	**03 48 30.1**	**-0.3**
	comp=Z,524nmcomp=Z,43nm,1.3s							
PTBC	**PUERTO BERRIO,**	**36.98**	**271**	P		**P**	**03 48 28.6**	**-2.5**
ROSC	**El Rosal**	**37.00**	**268**	P		**P**	**03 48 32.9**	**+1.3**
	comp=Z,18nm,0.6s,baz=100,slow=6.9,SNR=13							
	comp=Z,18nm,0.6s							
ROSC	**El Rosal**	**37.00**	**268**	P		**P**	**03 48 32.4**	**+0.8**
	comp=Z,41nm,1.0s							
SJPY	**San Joaquin**	**37.27**	**209**	*e*P		**P**	**03 48 35.0**	**+1.7**
NORC	**Norcasia**	**37.47**	**269**	P		**P**	**03 48 34.7**	**-0.6**
	comp=Z,21nm,0.9s							
ITAB	**Concordia**	**37.53**	**202**	*e*P		**P**	**03 48 37.5**	**+2.1**
AVE	**Averroes**	**37.59**	**43**	P		**P**	**03 48 36.1**	**+0.2**
PRAC	**Prado**	**37.69**	**266**	P		**P**	**03 48 37.5**	**+0.4**
	comp=Z,23nm,1.6s							
GUY2C	**Guyana, Caldas**	**37.99**	**269**	P		**P**	**03 48 39.9**	**-0.3**
	comp=Z,17nm,1.3s							
ORTC	**Ortega, Tolima**	**38.02**	**267**	P		**P**	**03 48 39.9**	**0.0**
	comp=Z,619nmcomp=Z,39nm,1.4s							
HELC	**Santa Helena**	**38.07**	**270**	P		**P**	**03 48 40.3**	**-0.4**
	comp=Z,364nmcomp=Z,22nm,1.6s							
PTLC	**Puerto Leguiza**	**38.20**	**261**	P		**P**	**03 48 43.1**	**+1.7**
	comp=Z,39nm,1.4s							
CZSB	**Cruzeiro do Su**	**38.54**	**247**	*e*P		**P**	**03 48 43.9**	**-0.3**
CZSB	**Cruzeiro do Su**	**38.54**	**247**	P		**P**	**03 48 43.4**	**-0.8**
	comp=Z,74nm,1.4s							
CBOC	**Ciudad Bolivar**	**38.58**	**270**	P		**P**	**03 48 44.2**	**-0.5**
	comp=Z,23nm,1.0s							
TORD	**Torodi Ar. Bea**	**38.62**	**79**	P		**P**	**03 48 43.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**38.62**	**79**	P		**P**	**03 48 42.6**	**-2.3**
	comp=Z,10nm,0.6s,baz=277,slow=8.1,SNR=140							
TORD				PP		**PnPn**	**03 50 14.7**	**-0.7**
	comp=Z,9.2nm,1.1s,baz=258,slow=13,SNR=3.9							
TORD				LR		LR	04 02 23.0	
	comp=Z,2µm,21.7s,baz=262,slow=33							
	comp=Z,10nm,0.6s							
DBBC	**Dabeiba**	**38.69**	**272**	P		**P**	**03 48 45.2**	**-0.4**
NMDO	**Nuevo Mundo**	**38.73**	**293**	IAmb		IAmb	03 49 11.1	
	comp=Z,31nm,1.1s							
LPAZ	**La Paz**	**38.74**	**232**	P		**P**	**03 48 47.2**	**+0.7**
	comp=Z,18nm,0.7s,baz=44,slow=8.0,SNR=44							
LPAZ				LR		LR	04 03 57.0	
	comp=Z,1µm,21.8s,baz=43,slow=35							
	comp=Z,18nm,0.7s							
LPAZ	**La Paz**	**38.74**	**232**	*e*P		**P**	**03 48 46.9**	**+0.4**
LPAZ	**La Paz**	**38.74**	**232**	P		**P**	**03 48 47.3**	**+0.7**
	comp=Z,43nm,1.1s							
FLOC	**Florencia**	**38.77**	**263**	P		**P**	**03 48 47.2**	**+1.0**
	comp=Z,11nm,1.2s							
PLMC	**San Jos del P**	**38.93**	**268**	P		**P**	**03 48 46.8**	**-0.8**
	comp=Z,49nm,0.7s							
CPUP	**Villa Florida**	**38.98**	**209**	P		**P**	**03 48 48.2**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=59,slow=0.2,SNR=4.8							
CPUP				LR		LR	04 04 27.1	
	comp=Z,384nm,18.9s,baz=254,slow=36							
	comp=Z,1.0nm,0.7s							
CPUP	**Villa Florida**	**38.98**	**209**	*e*P		**P**	**03 48 49.3**	**+1.6**
CNLB	**Canela**	**38.99**	**199**	*e*P		**P**	**03 48 49.3**	**+1.5**
APAC	**Apartado, Choc**	**39.01**	**273**	P		**P**	**03 48 48.5**	**+0.3**
	comp=Z,19nm,0.9s							
MDT	**Midelt**	**39.27**	**46**	LR		LR	04 04 51.6	
	comp=Z,769nm,18.1s,baz=242,slow=36							
MORF	**Marmelete**	**39.31**	**37**	*e*P		**P**	**03 48 49.9**	**-0.6**
MORF				IAmb		IAmb

PGAV eLR LR 04 00 54.2
PGAV i IAMs_20 IAMs_20 04 02 37.1
comp=Z,726nm,24.0s
MVO Moncorvo 42.84 34 eS S **03 55 47.5 +3.5**
MVO eSS SS **03 59 02.7 +7.4**
MVO eLQ LQ 03 59 47.8
MVO eLR LR 04 01 01.1
MVO i IAMs_20 IAMs_20 04 03 18.6
comp=Z,1µm,20.0s
COHC Cochancay 43.13 258 P P **03 49 21.0 -1.2**
PAB San Pablo 43.34 38 P P **03 49 23.0 -0.6**
PAB San Pablo 43.34 38 P P **03 49 23.0 -0.6**
PAB pmax pmax
comp=Z,15nm,1.1s
PBRG Braganca 43.44 33 eP P **03 49 24.1 -0.2**
PBRG i IAmb IAmb 03 49 24.7
comp=Z,60nm,1.3s
ATAH Atahualpa 43.61 251 P P **03 49 27.1 +0.6**
comp=Z,13nm,1.1s,baz=86,slow=11,SNR=7.3
ATAH LR LR 04 09 22.1
comp=Z,924nm,18.1s,baz=67,slow=38
comp=Z,13nm,1.1s
ESDC Sonseca Array 43.66 38 P P **03 49 25.2 -1.0**
ESDC Sonseca Array 43.66 38 P P **03 49 25.1 -1.0**
comp=Z,8.1nm,1.1s,baz=232,slow=7.9,SNR=23
ESDC LR LR 04 04 44.2
comp=Z,880nm,19.1s,baz=232,slow=32
comp=Z,8.1nm,1.1s
TAM Tamanrasset 43.72 65 IAmb IAmb 03 49 28.6
comp=Z,40nm,0.8s
NNA Nana 43.96 244 LR LR 04 07 45.9
comp=Z,1µm,21.6s,baz=66,slow=36
NNA Nana 43.96 244 i P P **03 49 27.8 -1.1**
NNA pmax pmax
comp=Z,32nm,1.1s
MCRA Macar, Loja 44.29 256 P P **03 49 30.3 -1.2**
DRLN Deer Lake 44.89 341 IAmb IAmb 03 49 38.8
comp=Z,33nm,1.1s
M65A Busby, Falmout 44.96 324 P P **03 49 36.1 -0.3**
baz=129
GO02 Mina Guanaco 45.33 223 IAmb IAmb 03 49 41.2
comp=Z,35nm,0.9s
UCCT U. Connecticut 46.03 323 IAmb IAmb 03 49 54.5
comp=Z,23nm,1.0s
BATG Bathurst New B 46.57 333 IAmb IAmb 03 49 58.6
comp=Z,28nm,1.0s
WUPA West Chester U 47.05 319 IAmb IAmb 03 49 58.7
comp=Z,34nm,1.7s
G62A West of Eustis 47.28 328 IAmb IAmb 03 49 57.9
comp=Z,27nm,1.2s
V58A Windy Hill, Pi 47.45 313 IAmb IAmb 03 49 60.0
comp=Z,33nm,1.4s
E62A Clayton Lake 47.73 330 IAmb IAmb 03 50 01.4
comp=Z,19nm,1.1s
D62A Allapoint, All 47.82 331 IAmb IAmb 03 50 08.5
comp=Z,35nm,1.5s
BIRD Birdtown, Kers 47.97 310 IAmb IAmb 03 50 21.1
comp=Z,19nm,1.0s
J59A Piesco 48.38 324 IAmb IAmb 03 50 08.6
comp=Z,22nm,1.2s
JSC Jenkinsville 48.43 310 IAmb IAmb 03 50 16.0
comp=Z,12nm,0.9s
FRNY Flat Rock 48.69 326 IAmb IAmb 03 50 09.0
comp=Z,41nm,1.5s
M57A Sunshine Farm, 48.78 320 IAmb IAmb 03 50 57.1
comp=Z,43nm,1.7s
CO01 Juntas del Tor 48.94 219 IAmb IAmb 03 50 10.4
comp=Z,21nm,1.0s
Q56A Snyder Ridge, 48.98 316 IAmb IAmb 03 50 32.2
comp=Z,23nm,1.1s
CFA Coronel Fontan 48.99 216 P P **03 50 08.2 +0.1**
CFA LR LR 04 10 40.5
comp=Z,4.4nm,0.6s,baz=39,slow=6.6,SNR=14
comp=Z,477nm,20.3s,baz=38,slow=36
comp=Z,4.4nm,0.6s
V55A Taylorsville 49.02 312 IAmb IAmb 03 50 29.4
comp=Z,31nm,1.4s
HODGE Hodges 49.17 309 P P **03 50 10.5 +1.0**
HODGE IAmb IAmb 03 50 18.8
comp=Z,34nm,1.5s
ZON Zonda 49.20 216 IAmb IAmb 03 50 26.2
comp=Z,42nm,1.5s
154A Montrose 49.26 307 IAmb IAmb 03 50 19.8
comp=Z,32nm,1.0s
R55A Marlinton 49.28 315 IAmb IAmb 03 50 15.1
comp=Z,43nm,1.7s
L56A Greenwood 49.48 321 P P **03 50 14.0 +2.2**
LDAQ Lac Daran 49.51 330 P P **03 50 13.6 +1.7**
LDAQ IAmb IAmb 03 50 14.9
comp=Z,40nm,1.4s
U54A Nelsons Funny 49.74 312 IAmb IAmb 03 50 29.8
comp=Z,32nm,1.4s
BG3 Lake Jocassee 49.97 310 IAmb IAmb 03 50 22.4
comp=Z,27nm,1.1s
TRQ Mont Tremblant 50.08 327 P P **03 50 16.8 +0.5**
TRQ IAmb IAmb 03 50 40.5
comp=Z,31nm,1.4s
PAOC Oil Creek Stat 50.52 319 IAmb IAmb 03 50 34.9
comp=Z,22nm,0.9s
152A Waverly Hall 50.56 306 IAmb IAmb 03 50 24.3
comp=Z,24nm,1.5s
TKL Tuckaleechee C 50.86 310 LR LR 04 07 17.2
comp=Z,716nm,21.7s,baz=120,slow=30
KEST Kesra 50.87 50 P P **03 50 22.9 +0.5**
KEST IAmb IAmb 03 50 26.5
comp=Z,26nm,1.0s
KEST Kesra 50.87 50 P P **03 50 21.8 -0.6**
comp=Z,21nm,0.9s,baz=268,slow=5.0,SNR=15
KEST LR LR 04 12 38.3
comp=Z,1µm,18.9s,baz=233,slow=37
comp=Z,21nm,0.9s
O53A New Philadelph 50.93 317 IAmb IAmb 03 50 49.6
comp=Z,52nm,1.4s
TRQA Tornquist 50.96 205 P P **03 50 22.9 -0.1**
TRQA Tornquist 50.96 205 P P **03 50 22.9 -0.1**
TRQA pmax pmax
comp=Z,18nm,1.2s
Q52A Bidwell 51.09 315 IAmb IAmb 03 50 50.7
comp=Z,25nm,1.2s
VA03 San Esteban 51.18 216 IAmb IAmb 03 50 39.5
comp=Z,45nm,1.2s
P52A Corning 51.28 316 IAmb IAmb 03 50 45.6
comp=Z,31nm,1.2s
O52A Adamsville 51.30 316 IAmb IAmb 03 50 46.0
comp=Z,42nm,1.2s
MT08 Bocatoma Ro 51.36 215 IAmb IAmb 03 50 34.0
comp=Z,28nm,1.0s
250A Grady 51.59 305 IAmb IAmb 03 50 42.0
comp=Z,26nm,1.2s
MT16 CCHEN 51.64 216 IAmb IAmb 03 50 29.5
comp=Z,28nm,0.8s
LMEL Las Melosas 51.76 215 IAmb IAmb 03 50 41.5
comp=Z,47nm,1.5s
SADO Sadowa 51.87 323 LR LR 04 08 10.0
comp=Z,387nm,20.0s,baz=139,slow=31
W50A Signal Mountai 51.87 309 IAmb IAmb 03 50 39.0
comp=Z,55nm,1.6s
Q51A Peebles 51.87 314 IAmb IAmb 03 50 38.1
comp=Z,17nm,0.9s
SSB Saint Sauveur 52.02 37 P P **03 50 31.0 +0.1**
SSB IAmb IAmb 03 50 32.6
comp=Z,25nm,1.0s
SSB Saint Sauveur 52.02 37 P P **03 50 31.0 +0.1**
SSB pmax pmax
comp=Z,25nm,1.0s
BO04 La Punta 52.09 215 P P **03 50 31.7 +0.2**
ACSO Alum Creek Sta 52.13 316 IAmb IAmb 03 50 52.7
comp=Z,25nm,1.1s
R50A Paris 52.27 313 IAmb IAmb 03 50 49.0
comp=Z,39nm,1.6s
SWET Sewanee 52.35 309 IAmb IAmb 03 50 49.5
comp=Z,31nm,1.4s
MT01 Popeta 52.37 216 IAmb IAmb 03 50 34.7
comp=Z,23nm,0.9s
VSL Villasalto 52.37 45 P P **03 50 33.6 +0.1**
VSL IAmb IAmb 03 50 34.4
comp=Z,21nm,1.2s
BO01 Tunca 52.65 215 IAmb IAmb 03 50 47.4
comp=Z,30nm,1.2s
U49A Red Boiling Sp 52.68 311 IAmb IAmb 03 50 51.0
comp=Z,27nm,1.4s
SCHQ Schefferville 52.72 339 IAmb IAmb 03 50 44.1
comp=Z,44nm,1.4s
SCHQ Schefferville 52.72 339 P P **03 50 37.5 +1.7**
comp=Z,11nm,0.9s,baz=139,slow=6.2,SNR=8.9
SCHQ LR LR 04 09 21.0
comp=Z,288nm,21.3s,baz=146,slow=32
comp=Z,11nm,0.9s
BO02 Sierra Bellavi 52.77 215 IAmb IAmb 03 50 37.9
comp=Z,26nm,0.8s
VLDQ Val d'Or 52.80 327 IAmb IAmb 03 50 41.1
comp=Z,22nm,1.3s
R49A Shelbyville 52.89 313 IAmb IAmb 03 50 53.5
comp=Z,43nm,1.6s
X48A Hartselle 52.97 308 IAmb IAmb 03 50 47.0
comp=Z,34nm,1.6s
BNI Bardonecchia 53.19 38 IAmb IAmb 03 50 41.1
comp=Z,25nm,1.1s
BNI Bardonecchia 53.19 38 P P **03 50 40.5 +0.9**
BNI pmax pmax
comp=Z,20nm,1.3s
V48A Smith Brothers 53.21 309 IAmb IAmb 03 50 46.0
comp=Z,15nm,0.9s
Z47A Carrollton 53.41 306 IAmb IAmb 03 50 45.2
comp=Z,44nm,1.6s
AAM Ann Arbor 53.51 318 P P **03 50 44.5 +2.7**
AAM Ann Arbor 53.51 318 P P **03 50 44.5 +2.7**
AAM pmax pmax
comp=Z,119nm,1.7s
P48A Milroy 53.53 314 IAmb IAmb 03 51 05.1
comp=Z,20nm,1.2s
WCI Wyandotte Cave 53.69 312 P P **03 50 46.0 +2.8**
WCI IAmb IAmb 03 50 55.3
comp=Z,15nm,0.8s
WCI Wyandotte Cave 53.69 312 P P **03 50 46.0 +2.8**
WCI pmax pmax
comp=Z,15nm,0.8s
T47A Sharon Grove 53.85 311 IAmb IAmb 03 50 52.8
comp=Z,28nm,1.0s
PLAL Pickwick Lake 53.94 308 IAmb IAmb 03 50 53.3
comp=Z,19nm,1.2s
SENIN Lac Senin/Sane 54.23 37 IAmb IAmb 03 50 52.5
comp=Z,17nm,0.9s
CCIG Comitan 54.30 285 IAmb IAmb 03 51 11.5
comp=Z,32nm,1.1s
MSSA Maissana 54.59 40 IAmb IAmb 03 50 50.3
comp=Z,28nm,1.1s
EKA Eskdalemuir Ar 54.74 23 P P **03 50 49.3 -1.4**
comp=Z,6.3nm,0.8s,baz=224,slow=4.7,SNR=7.8
comp=Z,6.3nm,0.8s
EKA Eskdalemuir Ar 54.74 23 P P **03 50 49.9 -0.7**
EKA pmax pmax
comp=Z,71nm,1.9s
DOU Dourbes 54.79 32 dP P **03 50 49.9 -1.2**
comp=Z,19nm,0.9s
P46A Rosedale 54.86 314 IAmb IAmb 03 51 08.3
comp=Z,19nm,0.8s
BMRD Maredsous 55.00 32 dP P **03 50 51.7 -0.9**
UCC Uccle 55.09 31 dP P **03 50 52.4 -0.8**
ECH Echery 55.13 35 P P **03 50 53.2 -0.4**
RCHB Rochefort 55.16 32 dP P **03 50 52.5 -1.2**
comp=Z,12nm,1.0s
BGES Gesves 55.22 32 dP P **03 50 53.8 -0.4**
comp=Z,12nm,0.8s
VAE Valguarnera 55.29 49 LR LR 04 13 06.8
comp=Z,1µm,20.8s,baz=292,slow=35
BCLA Clavier 55.35 32 dP P **03 50 54.4 -0.7**
comp=Z,10nm,1.0s
OSSC Osservatorio P 55.35 41 P P **03 50 55.0 -0.3**
BSTI Sart Tilman 55.58 32 dP P **03 50 56.7 -0.1**
comp=Z,2.7nm,1.0s
S44A Carbondale 55.70 311 IAmb IAmb 03 51 13.2
comp=Z,16nm,0.9s
MEM Membach 55.83 32 dP P **03 50 58.2 -0.3**
comp=Z,17nm,0.9s
MEM dpP pP **03 51 01.0 +0.4**
BFO Black Forest 55.85 35 P P **03 50 58.3 -0.5**
BFO IAmb IAmb 03 51 03.4
comp=Z,28nm,1.1s
BFO Black Forest 55.85 35 P P **03 50 58.3 -0.5**
BFO pmax pmax
comp=Z,28nm,1.1s
CESX Cesi 55.86 43 IAmb IAmb 03 51 03.7
comp=Z,13nm,0.9s
CGM3 Cape Girardeau 55.88 310 IAmb IAmb 03 51 13.2
comp=Z,44nm,2.0s
BTNL Ternell 55.88 32 dP P **03 50 58.5 -0.4**
comp=Z,15nm,1.1s
Q44A Meyer Farm, Va 55.92 312 IAmb IAmb 03 51 10.8
comp=Z,22nm,0.8s
DAVOX Davos/Dischmat 55.98 37 LR LR 04 11 07.4
comp=Z,1µm,21.5s,baz=256,slow=32
DAVA Damuels 56.23 37 eP P **03 51 00.8 -0.9**
comp=Z,21nm,1.1s,SNR=7.2
AQU L'Aquila 56.31 44 P P **03 51 02.7 +0.4**
AQU pmax pmax
comp=Z,19nm,1.1s
FDMO Fiordimonte 56.37 43 IAmb IAmb 03 51 22.9
comp=Z,30nm,1.4s
FETA Feichten 56.61 37 eP P **03 51 03.2 -1.2**
comp=Z,15nm,1.1s,SNR=8.7
FVM French Village 56.67 311 IAmb IAmb 03 51 15.5
comp=Z,9.9nm,0.7s
CTI Canal Tesino 56.73 39 IAmb IAmb 03 51 08.1
comp=Z,16nm,0.7s
RETA Reutte 56.85 37 eP P **03 51 04.9 -1.1**
comp=Z,21nm,1.3s,SNR=9.8
MOTA Moosalm 56.99 37 i P P **03 51 05.2 -1.9**
comp=Z,18nm,0.9s
SQTA Sankt Quirin 56.99 37 i P P **03 51 05.6 -1.5**
comp=Z,21nm,0.7s,SNR=12
PLCA Paso Flores 57.05 210 P P **03 51 07.6 +0.1**
comp=Z,10nm,1.0s,baz=33,slow=9.2,SNR=9.6
PLCA LR LR 04 15 48.2
comp=Z,1µm,18.1s,baz=44,slow=36
comp=Z,10nm,1.0s
PLCA Paso Flores 57.05 210 eP P **03 51 08.0 +0.5**
CUC Castrocucco 57.16 47 IAmb IAmb 03 51 10.8
comp=Z,19nm,1.0s
UALR University of 57.25 307 IAmb IAmb 03 51 16.6
comp=Z,22nm,1.1s
WATA Walheim 57.27 37 eP P **03 51 07.5 -1.5**
comp=Z,12nm,0.8s,SNR=7.6
WTTA Wattenberg 57.27 38 i P P **03 51 07.7 -1.4**
comp=Z,16nm,1.1s,SNR=7.8
CCM Cathedral Cave 57.31 311 P P **03 51 10.9 +1.6**
CCM IAmb IAmb 03 51 24.1
comp=Z,19nm,1.1s
CCM Cathedral Cave 57.31 311 P P **03 51 10.9 +1.6**
CCM pmax pmax
comp=Z,19nm,1.1s
CIMO Cimolais 57.33 39 IAmb IAmb 03 51 14.1
comp=Z,18nm,1.2s
WHAR Wooly Hollow 57.34 307 IAmb IAmb 03 51 40.5
comp=Z,24nm,1.4s
LR05 Currie 57.41 211 IAmb IAmb 03 51 10.8
comp=Z,16nm,0.7s
STAL STALIGIAL 57.48 39 IAmb IAmb 03 51 13.8
comp=Z,21nm,1.1s
BRJN Brijuni 57.57 41 eP P **03 51 08.0 -3.0**
ABTA Abtaitersbach 57.57 38 i P P **03 51 10.1 -1.1**
comp=Z,23nm,1.2s,SNR=11
TIP Timpagrande 57.59 48 IAmb IAmb 03 51 15.0
comp=Z,18nm,1.2s
MGMO Mountain Grove 57.82 309 IAmb IAmb 03 51 20.4
comp=Z,16nm,1.1s
N41A Harden Midland 57.86 314 IAmb IAmb 03 51 23.6
comp=Z,25nm,0.9s
TRI Trieste 57.91 40 IAmb IAmb 03 51 17.6
comp=Z,26nm,1.1s
ANGG Ammassalik, Gr 57.92 360 IAmb IAmb 03 51 17.7
comp=Z,26nm,1.1s
LESA Schwarzleotal 57.98 38 eP P **03 51 12.6 -1.4**
comp=Z,18nm,1.2s,SNR=11
R40A Maddies Statio 58.15 311 IAmb IAmb 03 51 23.2
comp=Z,40nm,1.6s
GRFO Grafenberg 58.18 35 P P **03 51 14.7 -0.6**
GRFO Grafenberg 58.18 35 P P **03 51 14.7 -0.6**
GRFO pmax pmax
comp=Z,84nm,1.7s
GRF Grafenberg Arr 58.18 35 eP P **03 51 14.6 -0.7**
comp=Z,24nm,1.1s,baz=237,slow=6.8
GRF eS S 03 59 27.1 +10
GRF eL L 04 11 48.2
comp=Z,350nm,20.5s
MYKA Terra Mystica 58.22 39 i P P **03 51 14.9 -0.8**
comp=Z,33nm,1.4s,SNR=13
KBA Koelnbreinsper 58.23 38 i P P **03 51 15.1 -0.8**
comp=Z,17nm,1.0s
P40A Paris 58.35 312 IAmb IAmb 03 51 27.4
comp=Z,18nm,0.8s
LJU Ljubljana 58.53 40 i P P **03 51 17.4 -0.4**
L40A Anamosa 58.58 315 IAmb IAmb 03 51 32.6
comp=Z,38nm,1.5s
BIOA Bad Ischl, Aus 58.68 38 eP P **03 51 17.0 -1.8**
comp=Z,15nm,1.3s,SNR=11
OBKA Obir 58.74 39 eP P **03 51 18.8 -0.5**
comp=Z,31nm,1.3s,SNR=17
I40A Norwalk 58.81 317 IAmb IAmb 03 51 35.3
comp=Z,11nm,0.8s
OZLJ Ozalj 58.96 41 eP P **03 51 20.2 -0.5**
KIJV Kijevo 58.97 43 eP P **03 51 20.2 -0.7**
SOKA Soboth 59.11 39 eP P **03 51 21.0 -0.9**
comp=Z,23nm,1.2s,SNR=19
MOA Molln 59.13 38 eP P **03 51 20.5 -1.4**
comp=Z,21nm,1.3s,SNR=7.8
HKT Hockley 59.13 300 d i P P **03 51 21.9 -0.2**
HKT pmax pmax
comp=Z,8.0nm,1.2s
PERS Pernice 59.15 39 i P P **03 51 21.1 -1.1**
GERES GERESS Array B 59.23 37 P P **03 51 20.8 -1.8**
GERES GERESS Array B 59.23 37 P P **03 51 21.6 -1.1**
comp=Z,3.5nm,0.9s,baz=242,slow=5.7,SNR=12
GERES LR LR 04 13 16.0
comp=Z,475nm,21.9s,baz=260,slow=32
comp=Z,3.5nm,0.9s
A050A Klekovaca 59.23 42 eP P **03 51 22.3 -0.5**
KHC Kasperske Hory 59.28 36 eP P **03 51 21.5 -1.5**
KHC eS S **03 59 36.6 +5.3**
KHC MLR MLR
comp=Z,700nm,21.8s
KHC Kasperske Hory 59.28 36 eP P **03 51 21.5 -1.5**
KHC eS S **03 59 36.6 +5.3**
KHC AMS AMS 04 10 50.0
comp=Z,700nm,21.8s
STON Ston 59.46 44 eP P **03 51 23.4 -0.8**
P38A Dawn 59.47 312 IAmb IAmb 03 51 30.8
comp=Z,18nm,1.1s
CKRC Cesky Krumlov 59.57 37 eP P **03 51 24.3 -0.7**
CKRC eS S **03 59 32.1 -3.0**
CKRC MLR MLR
comp=Z,1µm,23.0s
CKRC Cesky Krumlov 59.57 37 eP P **03 51 24.3 -0.7**
CKRC eS S **03 59 32.1 -3.0**
CKRC AMS AMS 04 12 30.0
comp=Z,1µm,23.0s
ARSA Arzberg 59.65 39 IAmb IAmb 03 51 33.2
comp=Z,14nm,1.2s
ARSA Arzberg 59.65 39 eP P **03 51 23.9 -1.6**
comp=Z,8.7nm,1.0s
A051A Mrakovica 59.67 42 eP P **03 51 24.7 -1.1**
BLY Banja Luka 59.76 42 eP P **03 51 25.9 -0.4**
ZVC Zvikov 59.78 36 eP P **03 51 24.1 -2.3**
ZVC eS S **03 59 41.0 +3.4**
ZVC AMS AMS 04 10 50.0
comp=Z,600nm,16.3s
KOGS Kog 59.79 40 i P P **03 51 25.7 -0.8**
MOSL Moslavina 59.80 41 eP P **03 51 26.0 -0.6**
CLL Collm 59.96 34 eP P **03 51 27.0 -0.5**
CLL i *SP sP **03 51 31.5 +1.1**
CLL pmax pmax
comp=Z,12nm,1.4s
CLL MLR MLR
comp=Z,700nm,20.7s
SFJD Kangerlussuaq 60.01 354 LR LR 04 13 56.9
comp=Z,128nm,18.0s,baz=170,slow=33
CONA Conrad Observa 60.14 38 eP P **03 51 28.0 -1.0**
comp=Z,26nm,1.7s,SNR=13
KLINJ Klinje 60.17 44 eP P **03 51 30.9 +1.6**
TSUM Tsumeb 60.18 117 P P **03 51 29.6 -0.2**
TSUM IAmb IAmb 03 51 47.7
comp=Z,29nm,1.4s
TSUM Tsumeb 60.18 117 LR LR 04 11 16.5
comp=Z,767nm,21.8s,baz=322,slow=30
PRU Pruhonice 60.22 36 eP P **03 51 25.9 -3.5**
PRU eS S **03 59 46.3 +3.0**
PRU MLR MLR
comp=Z,500nm,21.2s
PRU Pruhonice 60.22 36 eP P **03 51 25.9 -3.5**
PRU eS S **03 59 46.3 +3.0**
PRU AMS AMS 04 10 30.0
comp=Z,500nm,21.2s
TUL3 Leonard 60.26 307 IAmb IAmb 03 51 37.1
comp=Z,19nm,1.0s
BRG Berggiesshubel 60.28 35 eP P **03 51 29.9 +0.1**
BRG Amp 03 51 33.5
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 60.28 35 P P 03 51 38.9 +9.1
BRG Amp 03 51 41.5
comp=Z,13nm,1.4s
BRG Berggiesshubel 60.28 35 S S **03 59 45.0 +1.0**
RONA Rosalia, Austr 60.31 39 i P P **03 51 29.0 -1.1**
comp=Z,30nm,1.1s,SNR=15
GOPC GO Pecny, Ondr 60.33 36 AMS AMS 04 11 40.0
comp=Z,600nm,20.8s
FRB Frobisher Bay 60.38 345 LR LR 04 13 18.9
comp=Z,416nm,21.5s,baz=143,slow=32
PDG Podgorica 60.40 45 IAmb IAmb 03 51 36.1
comp=Z,24nm,1.0s
TREC Trest 60.48 37 AMS AMS 04 12 50.0
comp=Z,900nm,23.8s
KRUC Moravsky 60.92 37 eP P **03 51 32.8 -1.4**
ZST Bratislava 61.01 38 eP P **03 51 35.0 +0.2**
ZST Bratislava 61.01 38 eP P **03 51 35.0 +0.2**
T35A Sooner Cattle 61.05 308 IAmb IAmb 03 51 43.1
comp=Z,27nm,1.3s
OK052 Battle Ridge R 61.08 307 IAmb IAmb 03 51 42.8
comp=Z,17nm,0.9s
OHR Ohrid 61.12 47 i P P **03 51 36.2 +0.4**
VRAC Vranov 61.14 37 LR LR 04 14 23.6
comp=Z,696nm,21.8s,baz=251,slow=32
VRAC Vranov 61.14 37 eP P **03 51 34.6 -1.1**
MODS Modra-Piesok 61.18 38 eP P **03 51 32.3 -3.7**
MODS pmax pmax
comp=Z,45nm,1.2s
MODS Modra-Piesok 61.18 38 eP P **03 51 32.3 -3.7**
MORH Mrgy, Hungar 61.24 41 eP P **03 51 35.3 -1.1**
UPC Upice 61.30 36 AMS AMS 04 11 40.0
comp=Z,500nm,20.2s
SMOL Smolenice 61.33 38 eP P **03 51 37.0 0.0**
SMOL pmax pmax
comp=Z,16nm,1.6s
CHVC Chvalec 61.36 36 eP P **03 51 37.1 -0.1**
CHVC MLR MLR
comp=Z,500nm,22.9s
CHVC Chvalec 61.36 36 eP P **03 51 37.1 -0.1**
CHVC AMS AMS 04 11 20.0
comp=Z,500nm,22.9s
DPC Dobruska-Polom 61.41 36 eP P **03 51 36.0 -1.6**
DPC eS S **03 59 58.4 -0.2**
DPC MLR MLR
comp=Z,500nm,23.3s
DPC Dobruska-Polom 61.41 36 eP P **03 51 36.0 -1.6**
DPC eS S **03 59 58.4 -0.2**
DPC AMS AMS 04 11 50.0
comp=Z,500nm,23.3s
OSTC Ostas 61.44 36 eP P **03 51 36.8 -0.9**
OSTC MLR MLR
comp=Z,400nm,18.0s
OSTC Ostas 61.44 36 eP P **03 51 36.8 -0.9**
OSTC AMS AMS 04 11 40.0
comp=Z,400nm,18.4s
FNA Florina 61.45 48 IAmb IAmb 03 51 38.9
comp=Z,20nm,1.4s
KRLC Kraliky 61.57 36 AMS AMS 04 13 00.0
comp=Z,500nm,17.9s
KSP Ksiaz 61.60 35 eP P **03 51 37.9 -0.8**
SRO Srobarova 61.61 39 eP P **03 51 40.0 +1.1**
SRO pmax pmax
comp=Z,38nm,1.2s
SRO Srobarova 61.61 39 eP P **03 51 40.0 +1.1**
SKO Skopje 61.82 46 i P P **03 51 40.3 -0.1**
MORC Moravsky Berou 61.90 37 IAmb IAmb 03 51 45.6
comp=Z,17nm,1.4s
MORC Moravsky Berou 61.90 37 eP P **03 51 40.1 -0.7**
MORC Moravsky Berou 61.90 37 P P **03 51 41.6 +0.8**
MORC pmax pmax
comp=Z,11nm,3.0s
MAUC Maruska 61.91 37 eP P **03 51 41.3 +0.4**
833A Chaparral WMA, 61.98 298 IAmb IAmb 03 51 50.4
comp=Z,24nm,1.1s
BRDY Brady 62.03 301 IAmb IAmb 03 51 54.3
comp=Z,29nm,1.4s
STEB Steborice 62.10 37 eP P **03 51 44.5 +2.4**
VYHS Vyhne 62.19 39 eP P **03 51 41.5 -1.3**
VYHS pmax pmax
comp=Z,15nm,1.5s
VYHS Vyhne 62.19 39 eP P **03 51 41.5 -1.3**
OKC Ostrava-Krasne 62.28 37 eS S **04 00 11.0 +1.5**

VAY	Valandovo	62.46	47	*i* P		P	03 51 40.6	-4.1
JCT	Junction City	62.60	300	IAmb	IAmb	03 51 58.0		
	comp=Z,13nm,1.0s							
JCT	Junction City	62.60	300	P	P	03 51 47.0	+1.1
PSZ	Piszkesteto	62.64	39	P	P	03 51 45.1	-0.7
PSZ	Piszkesteto	62.64	39	P	P	03 51 45.2	-0.7
PSZ				pmax	pmax			
	comp=Z,27nm,1.1s							
PEHC	Pehcevo	62.82	47	*i* P	P	03 51 46.2	-1.0
LANS	Liptovska Anna	62.82	38	*e*P	P	03 51 47.6	+0.6
LANS				pmax	pmax			
	comp=Z,4.0nm,1.1s							
LANS	Liptovska Anna	62.82	38	*e*P	P	03 51 47.6	+0.6
ECSD	EROS Data Cent	62.86	315	IAmb	IAmb	03 52 10.3		
	comp=Z,14nm,1.1s							
IDI	Anoyia	62.92	54	LR	LR	04 18 43.6		
	comp=Z,751nm,21.7s,baz=265,slow=36							
VTS	Vitosha	63.27	46	P	P	03 51 47.0	-3.3
APMT	Aspermont	63.28	303	IAmb	IAmb	03 51 58.3		
	comp=Z,21nm,1.3s							
MMB	Musomishta	63.37	47	P	P	03 51 49.5	-1.4
PLNA	Plana	63.37	46	P	P	03 51 51.0	+0.1
OJC	Ojcow	63.41	37	*e*P	P	03 51 50.9	0.0
NIE	Niedzica	63.42	38	*e*P	P	03 51 51.7	+0.7
AGMN	Agassiz Nation	63.76	321	P	P	03 51 54.8	+1.5
AGMN				IAmb	IAmb	03 52 06.3		
	comp=Z,27nm,1.6s							
OZNA	Ozona	63.79	301	IAmb	IAmb	03 52 07.0		
	comp=Z,16nm,1.2s							
MPEP	Malo Peshtene	63.82	45	P	P	03 51 53.0	-0.7
DKNS	Dickens	63.99	304	P	P	03 51 56.5	+1.4
DKNS				IAmb	IAmb	03 52 02.4		
	comp=Z,9.1nm,0.8s							
GRTLG	Ghanzi	64.13	118	IAmb	IAmb	03 52 03.7		
	comp=Z,16nm,1.1s							
RZN	Rozhen	64.13	47	P	P	03 51 54.5	-1.5
NC602	NORSAR Array S	64.17	24	IAmb	IAmb	03 51 59.6		
	comp=Z,20nm,1.1s							
NB2	NORSAR Subarra	64.21	24	P	P	03 51 55.2	-0.8
	comp=Z,32nm,1.4s,baz=236,slow=6.9							
NB2	NORSAR Subarra	64.21	24	P	P	03 51 55.2	-0.8
	baz=236,slow=6.9							
NOA	NORSAR Array B	64.21	24	P	P	03 51 55.7	-0.3
	comp=Z,8.6nm,0.9s,baz=236,slow=6.7,SNR=16							
NOA				LR	LR	04 14 46.3		
	comp=Z,362nm,21.8s,baz=230,slow=31							
	comp=Z,8.6nm,0.9s							
ULM	Lac du Bonnet	64.43	323	*d* *i*P	P	03 51 58.0	+0.4
KOLS	Kolonicke sedl	64.48	39	*e*P	P	03 51 58.0	+0.1
KOLS				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KOLS	Kolonicke sedl	64.48	39	*e*P	P	03 51 58.0	+0.1
SAND	Sanderson	64.54	299	IAmb	IAmb	03 52 11.1		
	comp=Z,34nm,1.6s							
KDZ	Kurdzhali	64.55	47	P	P	03 51 56.0	-2.6
TRSU	Trosnyk	64.64	40	P	P	03 51 58.5	-0.5
HFS	Hagfors	64.74	25	P	P	03 51 58.2	-1.2
	comp=Z,3.5nm,0.6s,baz=213,slow=4.9,SNR=11							
HFS				LR	LR	04 15 02.3		
	comp=Z,385nm,21.6s,baz=241,slow=31							
	comp=Z,3.5nm,0.6s							
ALN	Alexandroupoli	64.91	48	IAmb	IAmb	03 52 01.8		
	comp=Z,20nm,1.1s							
SUMG	Summit	64.92	360	P	P	03 52 00.8	-0.1
SUMG	Summit	64.92	360	P	P	03 52 00.8	-0.1
SUMG				pmax	pmax			
	comp=Z,36nm,0.9s							
KWP	Kalwaria Pacla	64.97	38	*e*P	P	03 52 01.3	+0.2
ODSA	Odessa	65.14	302	IAmb	IAmb	03 52 14.6		
	comp=Z,16nm,1.1s							
TXAR	Lajitas Array	65.82	299	P	P	03 52 07.5	+0.3
	comp=Z,1.1nm,0.6s,baz=96,slow=6.7,SNR=16							
TXAR				LR	LR	04 20 29.2		
	comp=Z,68nm,21.8s,baz=80,slow=36							
	comp=Z,1.1nm,0.6s							
JMIC	Jan Mayen	65.85	10	LR	LR	04 13 32.9		
	comp=Z,262nm,21.8s,baz=234,slow=29							
LVV	L'vov	65.85	38	P	P	03 52 05.8	-1.0
ALPN	Alpine	65.89	300	IAmb	IAmb	03 52 13.6		
	comp=Z,11nm,0.8s							
MLR	Muntele Rosu	65.89	43	LR	LR	04 19 41.1		
	comp=Z,366nm,20.2s,baz=269,slow=35							
MLR	Muntele Rosu	65.89	43	P	P	03 52 07.1	-0.3
BURAR	Bucovina Array	65.96	41	P	P	03 52 07.3	-0.4
BURAR	Bucovina Array	65.96	41	P	P	03 52 07.3	-0.4
BURAR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PECS	Pecos	66.18	301	IAmb	IAmb	03 52 14.0		
	comp=Z,35nm,2.0s							
MANT	Manisa	66.37	51	IAmb	IAmb	03 52 14.2		
	comp=Z,19nm,0.9s							
PRD	Provadia	66.38	46	P	P	03 52 10.0	-0.4
SUW	Suwalki	66.72	34	*e*P	P	03 52 11.3	-0.9
SUW	Suwalki	66.72	34	P	P	03 52 11.6	-0.7
SUW	Suwalki	66.72	34	P	P	03 52 11.6	-0.7
PHPEN	Phepeng	66.98	122	P	P	03 52 14.4	-0.2
PHPEN				IAmb	IAmb	03 52 15.3		
	comp=Z,28nm,1.4s							
VHRN	Van Horn	67.08	300	IAmb	IAmb	03 52 26.5		
	comp=Z,10nm,1.0s							
HORU	Horodok	67.17	40	P	P	03 52 16.3	+1.0
T25A	Trinidad	67.30	307	IAmb	IAmb	03 52 25.9		
	comp=Z,11nm,1.0s							
ISCO	Idaho Springs	68.61	310	IAmb	IAmb	03 53 04.4		
	comp=Z,18nm,1.4s							
ISCO	Idaho Springs	68.61	310	P	P	03 52 27.7	+2.8
LSZ	Lusaka	68.65	110	P	P	03 52 24.6	-0.7
LSZ				IAmb	IAmb	03 52 35.9		
	comp=Z,12nm,1.1s							
LSZ	Lusaka	68.65	110	LR	LR	04 17 00.3		
	comp=Z,307nm,20.9s,baz=306,slow=31							
LSZ	Lusaka	68.65	110	P	P	03 52 24.6	-0.7
LSZ				pmax	pmax			
	comp=Z,12nm,1.1s							
MDUB	Mudurnu	68.69	50	P	P	03 52 24.6	-0.6
ANMO	Albuquerque	68.69	304	P	P	03 52 27.0	+1.6
ANMO	Albuquerque	68.69	304	LR	LR	04 18 37.9		
	comp=Z,928nm,21.5s,baz=192,slow=32							
ANMO	Albuquerque	68.69	304	P	P	03 52 27.0	+1.6
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
LPHEP	Lephephe	68.84	119	P	P	03 52 26.9	+0.5
LBTB	Lobatse	69.15	120	LR	LR	04 16 33.5		
	comp=Z,432nm,21.9s,baz=284,slow=31							
KIEV	Kiev	69.28	39	P	P	03 52 26.8	-1.7
KIEV				IAmb	IAmb	03 52 32.6		
	comp=Z,17nm,1.0s							
KIEV	Kiev	69.28	39	P	P	03 52 26.8	-1.7
KIEV				pmax	pmax			
	comp=Z,17nm,1.0s							
AKASG	Malin Array Be	69.29	39	P	P	03 52 26.2	-2.3
AKASG				IAmb	IAmb	03 52 32.4		
	comp=Z,15nm,1.4s							
AKASG	Malin Array Be	69.29	39	P	P	03 52 27.1	-1.4
	comp=Z,11nm,0.8s,baz=262,slow=5.8,SNR=17							
AKASG				LR	LR	04 20 12.0		
	comp=Z,241nm,21.8s,baz=248,slow=34							
	comp=Z,11nm,0.8s							
AKASG	Malin Array Be	69.29	39	*ce*P	P	03 52 27.7	-0.8
AKASG				pmax	pmax			
	comp=Z,11nm,0.8s							
AKBB	Malin Array Si	69.29	39	IAmb	IAmb	03 52 32.6		
	comp=Z,18nm,0.9s							
AKBB	Malin Array Si	69.29	39	⇑*i*P	P	03 52 26.9	-1.6
AKBB				pmax	pmax			
	comp=Z,18nm,1.0s							
FFC	Flin Flon	69.39	326	P	P	03 52 30.3	+1.3
FFC				IAmb	IAmb	03 53 03.2		
	comp=Z,19nm,1.1s							
FFC	Flin Flon	69.39	326	P	P	03 52 30.3	+1.3
FFC				pmax	pmax			
	comp=Z,19nm,1.1s							
MNK	Minsk	69.49	34	*i* P	P	03 52 28.3	-1.4
MNK				*i*		03 54 58.2		
MNK				*i* PPP	PPP	03 56 38.4		
MNK				*i* S	S	04 01 35.9	-1.4
MNK				*i* SS	SS	04 06 04.8	+0.2
MNK				pmax	pmax			
	comp=Z,18nm,0.9s							
MNK				pmax	pmax			
	comp=E,13nm,0.9s							
MNK				pmax	pmax			
	comp=N,12nm,0.8s							
MNK				MLR	MLR			
	comp=Z,133nm,17.0s							
121A	Cookes Peak, D	69.59	302	P	P	03 52 33.2	+2.2
ANTO	Ankara	69.82	50	P	P	03 52 31.8	-0.3
ANTO				IAmb	IAmb	03 52 35.7		
	comp=Z,18nm,1.1s							
ANTO	Ankara	69.82	50	P	P	03 52 31.8	-0.3
ANTO				pmax	pmax			
	comp=Z,19nm,1.1s							
VSU	Vasula	70.08	30⇑	*i*P	P	03 52 32.3	-0.9
VSU				pmax	pmax			
	comp=Z,22nm,2.0s							
BOSA	Boshof	70.10	124	P	P	03 52 32.8	-1.3
	comp=Z,14nm,1.0s,baz=334,slow=4.9,SNR=9.1							
BOSA				LR	LR	04 17 11.2		
	comp=Z,170nm,21.2s,baz=297,slow=31							
	comp=Z,14nm,1.0s							
MATP	Matopo	70.30	115	LR	LR	04 18 41.7		
	comp=Z,132nm,18.4s,baz=285,slow=32							
BR131	Keskin Array S	70.45	51	IAmb	IAmb	03 52 39.5		
	comp=Z,20nm,0.8s							
BR131	Keskin Array S	70.45	51	*c* *i*P	P	03 52 35.3	-0.8
BRTR	Keskin Array B	70.45	51	P	P	03 52 35.6	-0.5
BRTR	Keskin Array B	70.45	51	P	P	03 52 35.9	-0.3
	comp=Z,12nm,0.8s,baz=255,slow=5.7,SNR=30							
BRTR				PP	PP	03 55 10.2	-1.9	
	comp=Z,1.0nm,0.5s,baz=258,slow=6.2,SNR=4.2							
BRTR				LR	LR	04 23 21.4		
	comp=Z,354nm,21.5s,baz=256,slow=36							
	comp=Z,12nm,0.8s							
O20A	White River Ci	70.65	310	IAmb	IAmb	03 53 01.7		
	comp=Z,23nm,1.2s							
FINES	FINESS Array B	70.76	27	P	P	03 52 36.2	-1.2
	comp=Z,5.7nm,0.8s,baz=245,slow=4.0,SNR=20							
FINES				LR	LR	04 20 18.4		
	comp=Z,483nm,21.0s,baz=245,slow=33							
	comp=Z,5.7nm,0.8s							
EIL	Elat	70.78	61	LR	LR	04 23 00.2		
	comp=Z,969nm,21.2s,baz=267,slow=35							
PV02	Paradox Valley	70.84	308	IAmb	IAmb	03 52 45.2		
	comp=Z,9.9nm,0.9s							
TULEG	Thule	71.00	353	IAmb	IAmb	03 52 57.0		
	comp=Z,23nm,1.1s							
PV19	Morning Glory	71.04	308	IAmb	IAmb	03 54 35.9		
	comp=Z,15nm,0.8s							
PV10	Paradox Valley	71.09	308	IAmb	IAmb	03 53 05.5		
	comp=Z,23nm,1.3s							
PV05	Paradox Valley	71.11	308	IAmb	IAmb	03 52 44.7		
	comp=Z,41nm,1.9s							
MMAI	Mount Meron Ar	71.32	58	P	P	03 52 41.4	0.0
	comp=Z,8.8nm,0.9s,baz=300,slow=1.8,SNR=6.4							
MMAI				LR	LR	04 23 50.0		
	comp=Z,261nm,21.9s,baz=266,slow=36							
	comp=Z,8.8nm,0.9s							
X18A	Snowflake	71.53	304	IAmb	IAmb	03 52 53.6		
	comp=Z,14nm,1.0s							
LPIG	La Paz	71.54	293	LR	LR	04 25 03.6		
	comp=Z,83nm,18.9s,baz=78,slow=37							
PDAR	Pinedale Array	71.93	312	P	P	03 52 44.7	-0.4
PDAR	Pinedale Array	71.93	312	P	P	03 52 47.7	+2.5
	comp=Z,0.9nm,0.7s,baz=106,slow=5.3,SNR=7.7							
PDAR				LR	LR	04 20 13.6		
	comp=Z,353nm,22.0s,baz=106,slow=32							
	comp=Z,0.9nm,0.7s							
RLMT	Red Lodge	72.01	315	IAmb	IAmb	03 53 09.8		
	comp=Z,32nm,1.4s							
BNN	Bunyan	72.07	52	IAmb	IAmb	03 52 54.5		
	comp=Z,18nm,1.0s							
TUC	Tucson	72.11	301	P	P	03 52 49.1	+2.9
TUC	Tucson	72.11	301	P	P	03 52 49.1	+2.9
TUC				pmax	pmax			
	comp=Z,8.0nm,1.1s							
P18A	Preston Nutter	72.14	309	IAmb	IAmb	03 53 12.7		
	comp=Z,23nm,1.2s							
LODK	Lodwar	72.28	89	IAmb	IAmb	03 52 55.0		
	comp=Z,15nm,1.0s							
YNE	Yellowknife No	72.51	315	IAmb	IAmb	03 53 12.7		
	comp=Z,22nm,1.2s							
ASF	Jabal al Asfar	72.54	59	LR	LR	04 27 34.1		
	comp=Z,188nm,18.4s,baz=316,slow=38							
YMP	Mirror Lake Pl	72.59	314	IAmb	IAmb	03 53 13.9		
	comp=Z,28nm,1.1s							
TOKA	Tokat	72.68	50	IAmb	IAmb	03 52 53.5		
	comp=Z,12nm,1.0s							
LOHW	Long Hollow	72.78	313	IAmb	IAmb	03 53 14.9		
	comp=Z,18nm,1.1s							
TMUT	Trail Mountain	72.85	309	IAmb	IAmb	03 52 55.8		
	comp=Z,45nm,2.0s							
AHID	Auburn Hatcher	73.06	312	IAmb	IAmb	03 53 15.7		
	comp=Z,34nm,1.4s							
JLU	Jordanelle	73.14	310	IAmb	IAmb	03 52 58.3		
	comp=Z,15nm,1.1s							
TCUT	Toone Canyon	73.15	311	IAmb	IAmb	03 53 14.7		
	comp=Z,17nm,0.8s							
HWUT	Hardware Ranch	73.30	311	IAmb	IAmb	03 53 16.7		
	comp=Z,21nm,0.9s							
YHB	Horse Butte	73.32	314	IAmb	IAmb	03 53 18.3		
	comp=Z,32nm,1.3s							
CTU	Camp Tracy	73.37	310	P	P	03 52 56.2	+2.5
U15A	North Rim	73.54	306	P	P	03 52 56.0	+1.2
ARCES	ARCESS Array B	73.57	19	P	P	03 52 52.3	-1.7
ARCES				IAmb	IAmb	03 52 57.8		
	comp=Z,16nm,1.1s							
ARCES	ARCESS Array B	73.57	19	P	P	03 52 52.5	-1.6
	comp=Z,10nm,0.9s,baz=242,slow=5.1,SNR=12							
ARCES				LR	LR	04 21 02.6		
	comp=Z,340nm,19.8s,baz=248,slow=32							
	comp=Z,10nm,0.9s							
ARCES	ARCESS Array B	73.57	19	P	P	03 52 52.3	-1.7
ARCES				pmax	pmax			
	comp=Z,16nm,1.1s							
TCRU	Three Creeks R	73.77	308	IAmb	IAmb	03 53 22.1		
	comp=Z,31nm,1.4s							
ANN	Anapa	73.78	46	*e*P	P	03 52 52.6	-3.1
ANN				*i* *e*PP	pP	03 52 55.9	-1.9
ANN				*e*PP	sP	03 52 56.1	-2.5
ANN				*e*S	SKiKP	04 02 23.8	-1.8
ANN				*e*SS	SS	04 07 03.6	-7.2
ANN				pmax	pmax			
	comp=Z,34nm,0.9s							
KNB	Kanab	73.99	306	P	P	03 52 59.0	+1.6
KNB	Kanab	73.99	306	P	P	03 52 59.0	+1.6
KNB				pmax	pmax			
	comp=Z,6.0nm,1.1s							
Y14A	Wickenburg	74.03	303	P	P	03 52 58.9	+1.3
KEV	Kevo	74.14	19	P	P	03 52 56.7	-0.6
KEV	Kevo	74.14	19	P	P	03 52 56.7	-0.6
KEV				pmax	pmax			
	comp=Z,29nm,0.9s							
HVU	Hansel Valley	74.22	311	IAmb	IAmb	03 53 22.6		
	comp=Z,30nm,1.7s							
BGU	Big Grassy Mou	74.36	310	IAmb	IAmb	03 53 24.6		
	comp=Z,38nm,1.4s							
RES	Resolute Bay	74.49	347	LR	LR	04 21 54.8		
	comp=Z,110nm,19.9s,baz=130,slow=33							
OBN	Obninsk	74.53	35	LR	LR	04 21 50.9		
	comp=Z,243nm,21.4s,baz=187,slow=33							
OBN	Obninsk	74.53	35	*e*P	P	03 53 00.5	+0.6
OBN				*e*		03 53 14.2		
OBN				*e*		03 55 46.6		
OBN				*e*PPP	PPP	03 57 33.5		
OBN				pmax	pmax			
	comp=Z,17nm,1.1s							
OBN				MLR	MLR			
	comp=Z,274nm,19.0s							
KMBO	Kilima Mbogo	74.75	93	LR	LR	04 22 16.2		
	comp=Z,316nm,21.7s,baz=278,slow=33							
PMSA	Palmer Station	74.91	192	*e*P	P	03 53 04.0	+2.2
MOS	Moscow	75.22	34	*e*P	P	03 53 02.5	-1.4
MOS				*e*		03 53 12.3		
MOS				pmax	pmax			
	comp=Z,41nm,1.0s							
BLYC	Blythe	75.29	303	P	P	03 53 06.2	+1.4
BLYC				IAmb	IAmb	03 53 12.0		
	comp=Z,17nm,1.2s							
SOC	Sochi	75.32	47	*e*P	P	03 53 04.9	+0.2
SOC				*e*		03 55 50.1		
SOC				*e*PPP	PPP	03 57 35.2		
SOC				*e*S	S	04 02 46.7	+2.2
SOC				*e*SS	SS	04 07 37.9	+3.6
SOC				*e*SSS	SSS	04 10 42.5		
SOC				pmax	pmax			
	comp=Z,41nm,0.9s							
SOC				MLR	MLR			
	comp=Z,140nm,18.0s							
SPITS	Spitsbergen Ar	75.52	10	LR	LR	04 18 32.1		
	comp=Z,263nm,21.8s,baz=232,slow=30							
VSLR	Vesyoloye	75.55	47	*d* *i*P	P	03 53 06.0	0.0
VSLR				pmax	pmax			
	comp=Z,19nm,0.9s							
VSR	Storozhevoye	75.57	39	*e*P	P	03 53 07.8	+1.8
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
LPSR	Galich'ya Gora	75.57	38	*e*P	P	03 53 03.3	-2.7
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VORD	Divnogorie	75.63	39	*e*P	P	03 53 06.3	0.0
VORD				pmax	pmax			
	comp=Z,20nm,0.9s							
GUZR	Guzeripl'	75.64	47⇑	*e*P	P	03 53 06.3	-0.3
RPOR	Krasnaya Polya	75.73	47	*e*P	P	03 53 07.0	-0.1
IRM	Iron Mountain	75.81	303	P	P	03 53 09.7	+1.9
MARD	Mardin	75.88	54	IAmb	IAmb	03 53 12.2		
	comp=Z,19nm,0.9s							
ELK	Elko	76.02	310	LR	LR	04 25 21.4		
	comp=Z,381nm,18.8s,baz=82,slow=35							
MFID	Camas Ranch	76.56	313	IAmb	IAmb	03 53 32.4		
	comp=Z,26nm,1.8s							
GURO	Guroymak-BITLI	76.89	52	IAmb	IAmb	03 53 18.3		
	comp=Z,20nm,1.2s							
PFO	Pinyon Flats O	76.91	303	LR	LR	04 24 21.7		
	comp=Z,256nm,20.7s,baz=88,slow=34							
PFO	Pinyon Flats O	76.91	303⇑	*i*P	P	03 53 14.0	-0.1
PFO				pmax	pmax			
	comp=Z,10.0nm,1.4s							
KLMR	Klimovskoe	76.93	29	*e*P	P	03 53 11.7	-1.8
KLMR				pmax	pmax			
	comp=Z,79nm,1.4s							
VRH	Novokhoyorsk	77.17	39	*e*P	P	03 53 13.7	-1.4
VRH				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SHA1	Shidzhatmaz	77.46	47⇓	*i*P	P	03 53 16.8	-0.4
YKA	Yellowknife Ar	77.48	332	P	P	03 53 17.2	+0.6
	comp=Z,2.4nm,0.8s,baz=96,slow=5.7,SNR=3.4							
YKA				LR	LR	04 23 21.1		
	comp=Z,511nm,21.1s,baz=106,slow=32							
	comp=Z,2.4nm,0.8s							
KIV	Kislovodsk	77.49	47	P	P	03 53 15.7	-1.5
KIV	Kislovodsk	77.49	47	*e*P	P	03 53 15.4	-1.8
KIV				pmax	pmax			
	comp=Z,26nm,1.1s							
KIV				MLR	MLR			
	comp=Z,146nm,18.0s							
KVAR	Kislovodsk Arr	77.50	47	LR	LR	04 28 26.4		
	comp=Z,122nm,20.5s,baz=200,slow=36							
TPH	Tonopah	77.51	307	IAmb	IAmb	03 53 24.3		
	comp=Z,19nm,1.0s							
KBZ	Khabaz	77.64	47	P	P	03 53 18.2	+0.4
	comp=Z,22nm,0.9s,baz=306,slow=6.4,SNR=15							
KBZ				LR	LR	04 27 14.7		
	comp=Z,134nm,21.8s,baz=288,slow=36							
	comp=Z,22nm,0.9s							
KBZ	Khabaz	77.64	47⇑	*i*P	P	03 53 17.8	0.0
KBZ				pmax	pmax			
	comp=Z,23nm,0.9s							
NEW	Newport	77.66	318	LR	LR	04 24 40.5		
	comp=Z,164nm,20.0s,baz=102,slow=33							
BMO	Blue Mountains	77.67	314	IAmb	IAmb	03 53 42.9		
	comp=Z,32nm,1.6s							
GOF	Gofitskoye	77.77	46	*ce*P	P	03 53 18.1	-0.5
PYA1	Pyatigorsk	77.79	47⇑	*i*P	P	03 53 17.9	-0.9
RPN	Rapa Nui	77.79	240	LR	LR	04 23 38.6		
	comp=Z,375nm,21.6s,baz=104,slow=33							
NVAR	Mina Array Bea	78.36	308	P	P	03 53 22.3	0.0
NVAR	Mina Array Bea	78.36	308	P	P	03 53 23.2	+0.9
	comp=Z,2.9nm,1.0s,baz=97,slow=4.6,SNR=12							
NVAR				LR	LR	04 26 25.6		
	comp=Z,134nm,18.8s,baz=91,slow=34							
	comp=Z,2.9nm,1.0s							
J08A	Circle Bar Ran	78.49	313	IAmb	IAmb	03 53 47.5		
	comp=Z,20nm,1.3s							
LHV	Little Huntoon	78.52	307	IAmb	IAmb	03 53 40.0		
	comp=Z,20nm,1.1s							
RYN	Ryan	78.53	308	P	P	03 53 25.5	+2.3
ISA	Isabella, Lake	78.54	305	P	P	03 53 24.9	+1.8
ISA	Isabella, Lake	78.54	305	P	P	03 53 24.9	+1.8
ISA				pmax	pmax			
	comp=Z,12nm,1.0s							
WVOR	Wild Horse Val	78.60	312	IAmb	IAmb	03 53 48.1		
	comp=Z,29nm,1.3s							
ATD	Arta Tunnel	78.81	80	LR	LR	04 26 08.0		
	comp=Z,14nm,21.0s,baz=253,slow=34							
GNI	Garni	78.99	51	LR	LR	04 28 58.5		
	comp=Z,272nm,21.6s,baz=286,slow=36							
GNI	Garni	78.99	51	*e*P	P	03 53 25.0	-0.7
GNI				pmax	pmax			
	comp=Z,15nm,1.2s							
MXC	Moxie City	79.78	316	P	P	03 53 32.9	+3.2
G06A	Carlson Farm,	80.03	315	P	P	03 53 33.2	+2.1
G06A				IAmb	IAmb	03 53 56.0		
	comp=Z,30nm,1.5s							
PINE	Pine Mountain	80.28	313	P	P	03 53 33.9	+1.2
PMPB	Monarch Peak	80.41	305	P	P	03 53 35.4	+2.0
PMPB				IAmb	IAmb	03 53 40.3		
	comp=Z,23nm,0.9s							
AFDM	Forest Hills D	80.44	308		P	03 53 34.1	+0.8
VNA1	Neumayer--Stat	80.49	171	⇑P	P	03 53 33.6	+0.8
	comp=Z,7.1nm,0.8s							
J05D	Fort Rock, OR	80.50	313	P	P	03 53 32.2	-1.5
VNA3	Neumayer Olymp	80.79	171	⇑P	P	03 53 35.3	+0.8
	comp=Z,12nm,0.8s							
MAK	Makhachkala	81.00	48	*e*P	P	03 53 29.8	-6.4
MAK				*e*PPP	PPP	03 58 30.6		
MAK				*e*S	S	04 03 35.8	-10	
MAK				*e*SS	SS	04 08 55.9	-3.9
MAK				MLR	MLR			
	comp=Z,323nm,17.0s							
J04A	Umpqua Nationa	81.14	313	IAmb	IAmb	03 53 43.6		
	comp=Z,16nm,0.8s							
L04D	Klamath Falls	81.33	312	IAmb	IAmb	03 54 02.1		
	comp=Z,44nm,1.6s							
WRGLY	Wrigley	81.58	333	IAmb	IAmb	03 53 49.1		
	comp=Z,17nm,0.9s							
WRGLY	Wrigley	81.58	333	P	P	03 53 39.5	+0.7
	baz=90							
YBH	Yreka Blue Hor	81.65	311	LR	LR	04 26 33.0		
	comp=Z,26nm,22.0s,baz=94,slow=33							
KIRV	Kirov	81.80	32	LR	LR

comp=Z,20nm,1.0s
TROLL **Troll, Antarti** 83.57 168 ⇑P P 03 53 49.5 +0.3
comp=Z,166nm,0.9s
TGTN **Hyland Airport** 83.89 331 P P 03 53 50.3 -0.7
baz=85
BBB **Bella Bella** 84.62 322 LR LR 04 28 06.1
comp=Z,186nm,19.5s,baz=73,slow=33
DLBC **Dease Lake** 85.06 328 LR LR 04 27 40.9
comp=Z,307nm,21.3s,baz=63,slow=33
DLBC **Dease Lake** 85.06 328 P P 03 53 57.3 +0.2
baz=84,SNR=6.9
MMPY **Sheldon Lake,** 85.18 332 IAmb IAmb 03 54 25.6
comp=Z,32nm,1.9s
MMPY **Sheldon Lake,** 85.18 332 P P 03 53 55.8 -1.8
baz=83
INK **Inuvik** 85.33 338 IAmb IAmb 03 54 08.4
comp=Z,13nm,0.9s
INK **Inuvik** 85.33 338 LR LR 04 29 07.6
comp=Z,664nm,19.8s,baz=84,slow=34
INK **Inuvik** 85.33 338 P P 03 53 57.7 -0.4
baz=81,SNR=8.6
T35M **Bob Quinn** 85.35 327 P P 03 53 57.1 -1.3
baz=83
BELA **Belgrano 2** 85.36 179 P P 03 53 58.1 +0.1
BELA IAmb IAmb 03 54 09.2
comp=Z,14nm,1.1s
R33M **Jennings River** 85.44 329 IAmb IAmb 03 54 11.8
comp=Z,18nm,1.2s
R33M **Jennings River** 85.44 329 P P 03 53 57.6 -1.3
baz=83,SNR=8.8
F31M **Tsiigehtchic** 85.55 337 P P 03 53 57.6 -1.5
baz=81
S34M **Telegraph Cree** 85.71 328 IAmb IAmb 03 54 12.3
comp=Z,16nm,1.1s
S34M **Telegraph Cree** 85.71 328 P P 03 53 59.5 -0.7
baz=82
G31M **Satah River** 85.83 337 P P 03 53 59.6 -1.0
baz=80,SNR=8.0
H31M **Peel River** 86.05 336 IAmb IAmb 03 54 35.9
comp=Z,26nm,1.2s
H31M **Peel River** 86.05 336 P P 03 54 00.5 -1.3
baz=80,SNR=6.6
Q32M **Nakina River** 86.16 329 IAmb IAmb 03 54 14.7
comp=Z,15nm,1.1s
Q32M **Nakina River** 86.16 329 P P 03 54 01.7 -1.0
baz=82
N32M **Quiet Lake** 86.23 331 P P 03 54 01.4 -1.4
baz=81
P33M **Teslin, Yukon** 86.25 330 IAmb IAmb 03 54 14.0
comp=Z,13nm,0.8s
P33M **Teslin, Yukon** 86.25 330 P P 03 54 01.6 -1.3
baz=81,SNR=18
F30M **Barrier River** 86.29 338 IAmb IAmb 03 54 13.9
comp=Z,20nm,1.1s
F30M **Barrier River** 86.29 338 P P 03 54 00.5 -2.4
baz=79
V35K **Ketchikan** 86.32 325 P P 03 54 01.3 -1.9
baz=82
WRAK **Wrangell Islan** 86.57 326 IAmb IAmb 03 54 16.1
comp=Z,15nm,1.1s
WRAK **Wrangell Islan** 86.57 326 P P 03 54 03.2 -1.2
baz=81
G30M **tAoh Zraii Nji** 86.58 337 P P 03 54 02.5 -1.9
baz=79
M31M **Drury Creek, Y** 86.68 332 P P 03 54 03.7 -1.2
baz=80,SNR=7.6
P32M **Atlin** 86.79 330 P P 03 54 04.6 -1.0
baz=80
ARTI **Arti** 86.81 34 P P 03 54 04.9 -0.8
ARTI IAmb IAmb 03 54 10.9
comp=Z,13nm,1.0s
ARTI **Arti** 86.81 34 LR LR 04 29 41.2
comp=Z,374nm,21.4s,baz=270,slow=34
ARTI **Arti** 86.81 34*c i* P P 03 54 06.0 +0.3
ARTI 03 57 24.3
ARTI S SKSac 04 04 31.6 -1.1
ARTI pmax pmax
comp=Z,13nm,1.0s
EPYK **Eagle Plains** 86.89 337 IAmb IAmb 03 54 16.9
comp=Z,21nm,1.2s
EPYK **Eagle Plains** 86.89 337 P P 03 54 04.0 -1.9
baz=78,SNR=6.9
E29M **Blow River** 86.91 339 IAmb IAmb 03 54 16.6
comp=Z,22nm,1.6s
E29M **Blow River** 86.91 339 P P 03 54 04.2 -1.7
baz=77
I30M **Mount Dempster** 86.99 335 IAmb IAmb 03 54 17.1
comp=Z,11nm,1.2s
I30M **Mount Dempster** 86.99 335 P P 03 54 04.6 -1.9
baz=78
U33K **Whale Pass** 87.04 326 P P 03 54 06.0 -0.8
baz=81
J30M **Hart River** 87.10 335 IAmb IAmb 03 54 18.1
comp=Z,13nm,1.4s
J30M **Hart River** 87.10 335 P P 03 54 05.8 -1.2
baz=78
DIB **Dawson Inlet,** 87.13 323 IAmb IAmb 03 54 19.1
comp=Z,14nm,1.1s
CRAG **Craig** 87.15 325 P P 03 54 05.7 -1.6
baz=81
WHY **Whitehorse** 87.18 331 IAmb IAmb 03 54 26.2
comp=Z,16nm,1.1s
WHY **Whitehorse** 87.18 331 P P 03 54 06.4 -1.1
baz=80
G29M **Pine Creek** 87.28 337 P P 03 54 06.2 -1.6
baz=77
R32K **Eaglecrest** 87.43 328 P P 03 54 07.1 -1.5
baz=80
E28M **Babbage River** 87.45 339 P P 03 54 07.5 -1.1
baz=76
N31M **Braeburn, Yuko** 87.46 332 P P 03 54 08.2 -0.6
baz=79
AKTO **Aktyubinsk** 87.51 40 LR LR 04 32 09.9
comp=Z,189nm,20.2s,baz=260,slow=35
H29M **Whitestone** 87.58 337 P P 03 54 08.6 -0.7
baz=77
S32K **Killisnoo** 87.60 328 P P 03 54 08.2 -1.2
baz=80
SKAG **Skagway** 87.63 330 P P 03 54 09.0 -0.5
baz=79
M30M **Minto, Yukon** 87.71 333 P P 03 54 09.1 -0.8
baz=78
K29M **Barlow Dome** 87.76 334 P P 03 54 09.4 -0.8
baz=77
D27M **Malcolm River** 87.78 340 P P 03 54 08.4 -1.9
baz=74
F28M **Old Crow** 87.82 338 P P 03 54 09.9 -0.4
baz=75
J29N **Klondike Camp** 87.92 335 P P 03 54 09.6 -1.3
baz=77
SVE **Sverdlovsk** 87.97 33 *e* P P 03 54 12.4 +1.2
SVE pmax pmax
comp=Z,10.0nm,1.0s
SIT **Sitka** 88.08 327 P P 03 54 10.9 -0.8
baz=79
N30M **Aishikik Lake** 88.08 332 P P 03 54 10.9 -0.9
baz=78
PLBC **Pleasant Camp** 88.15 330 P P 03 54 10.2 -1.8
baz=78
L29M **L29M** 88.19 333 P P 03 54 11.1 -1.1
baz=77
E27K **Coleen River** 88.29 339 P P 03 54 11.5 -1.2
baz=74
P30M **Million Dollar** 88.30 330 P P 03 54 11.5 -1.4
baz=78
S31K **Pelican** 88.38 328 P P 03 54 11.2 -1.9
baz=78
I28M **Miner Creek** 88.39 336 IAmb IAmb 03 54 32.9
comp=Z,21nm,1.9s
I28M **Miner Creek** 88.39 336 P P 03 54 12.5 -0.7
baz=75
HYT **Haines Junctio** 88.41 331 P P 03 54 11.8 -1.7
baz=77
M29M **Somme Creek** 88.49 333 P P 03 54 12.0 -1.8
baz=76,SNR=5.1
DAWY **Dawson** 88.51 335 P P 03 54 12.6 -1.1
baz=76
C27K **Jago River** 88.60 340 IAmb IAmb 03 54 24.8
comp=Z,9.9nm,0.8s
C27K **Jago River** 88.60 340 P P 03 54 12.9 -1.1
baz=72
G27K **Doyon Strip** 88.70 337 P P 03 54 13.8 -0.7
baz=74
P29M **Windy Craggy** 88.79 330 P P 03 54 14.1 -1.0
baz=77
YUK6 **Outpost Mounta** 88.80 331 P P 03 54 13.2 -2.2
baz=76
H27K **Steamboat Moun** 88.81 337 IAmb IAmb 03 54 25.2
comp=Z,8.4nm,0.8s
H27K **Steamboat Moun** 88.81 337 P P 03 54 14.0 -1.1
baz=74,SNR=5.8
YUK4 **Talbot Arm** 88.84 332 P P 03 54 14.1 -1.4
baz=76
C26K **Camden Bay** 88.90 341 P P 03 54 14.3 -1.1
baz=71
AB31 **Akbulak array** 88.94 41 IAmb IAmb 03 54 20.4
comp=Z,8.3nm,1.0s
ABKAR **Akbulak array** 88.94 41 P P 03 54 14.2 -1.8
I27K **Kandik River** 89.02 336 P P 03 54 14.1 -2.0
baz=74
O29M **Mount Kennedy** 89.05 331 P P 03 54 15.0 -1.5
baz=76
F26K **Sheenjek River** 89.36 339 IAmb IAmb 03 54 28.4
comp=Z,6.8nm,0.8s
F26K **Sheenjek River** 89.36 339 P P 03 54 16.0 -1.7
baz=71
G26K **Porcupine Rive** 89.46 338 P P 03 54 15.7 -2.4
baz=72
YUK3 **Moose Creek** 89.57 332 P P 03 54 17.1 -1.8
baz=75
BVCY **Beaver Creek** 89.58 333 P P 03 54 17.4 -1.4
baz=74
D25K **Kavik River** 89.59 340 P P 03 54 16.8 -1.9
baz=69
BMAR **Burn Mountain** 89.60 338 P P 03 54 19.6 +0.8
PNL **Peninsula** 89.60 330 P P 03 54 17.7 -1.2
baz=76
K27K **Chicken** 89.66 335 P P 03 54 17.8 -1.3
baz=73
O28M **Mount Upton** 89.71 331 P P 03 54 17.6 -2.2
baz=75
I26K **Coal Creek Min** 89.72 336 IAmb IAmb 03 54 37.5
comp=Z,12nm,1.1s
I26K **Coal Creek Min** 89.72 336 P P 03 54 17.5 -1.9
baz=72
BCAR **Beaver Creek A** 89.81 334 P P 03 54 18.7 -1.1
L27K **Beaver Creek,** 89.83 334 P P 03 54 17.8 -2.2
baz=74
PINM **Pinnacle** 89.91 331 P P 03 54 18.0 -2.5
baz=75
F25K **Christian Rive** 89.93 339 P P 03 54 18.7 -1.7
baz=70
M27K **Edge Creek, AK** 90.05 333 IAmb IAmb 03 54 32.0
comp=Z,9.6nm,1.0s
M27K **Edge Creek, AK** 90.05 333 P P 03 54 18.7 -2.4
baz=73,SNR=6.5
J26L **Joseph Creek** 90.14 335 P P 03 54 19.0 -2.5
baz=72
CTG **Chitna Glacier** 90.20 332 P P 03 54 20.1 -1.8
baz=74
C24K **Franklin Bluff** 90.20 341 P P 03 54 19.7 -1.7
baz=67
G25K **Bearpaw Lake** 90.39 338 P P 03 54 20.6 -1.7
baz=70
H25L **Birch Creek** 90.45 337 P P 03 54 21.4 -1.3
baz=70
D24K **Happy Valley** 90.46 341 P P 03 54 21.1 -1.6
baz=67
SCRK **Sand Creek** 90.48 335 P P 03 54 21.6 -1.5
baz=72
L26K **Log Cabin Wild** 90.50 334 P P 03 54 21.6 -1.5
baz=72
M26K **Nabesna, AK** 90.54 333 P P 03 54 21.4 -1.9
baz=72
PRP **Porcupine Dome** 90.60 337 P P 03 54 21.9 -1.7
baz=70
MESA **MESA** 90.71 331 P P 03 54 22.5 -1.7
baz=73
C23K **Itkillik River** 90.76 341 P P 03 54 22.8 -1.3
baz=65
E24K **Your Creek** 90.77 340 P P 03 54 22.9 -1.3
baz=67
F24K **Squaw Lake** 90.77 339 P P 03 54 22.2 -2.1
baz=68
J25K **Salcha River,** 90.84 336 P P 03 54 22.3 -2.3
baz=70
MCARA **McCarthy VSAT** 90.86 332 P P 03 54 22.8 -1.9
baz=72
TOLK **Toolik Lake Re** 90.91 340 P P 03 54 23.1 -1.8
baz=66
RIDG **Independent Ri** 90.92 335 P P 03 54 23.4 -1.7
baz=71
G24K **Hadweenzic Riv** 90.92 338 P P 03 54 23.1 -1.8
baz=68
CRQE **Cirque** 91.08 332 P P 03 54 24.1 -1.8
baz=72
D23K **Nanushuk River** 91.15 341 P P 03 54 23.6 -2.4
baz=65
E23K **Chandalar** 91.16 340 P P 03 54 24.3 -1.8
baz=66
K24K **Donnelly Dome** 91.28 335 P P 03 54 25.2 -1.5
baz=70
H24K **Noodor Dome** 91.39 337 P P 03 54 25.8 -1.4
baz=68
ILAR **Eielson Array** 91.40 336 P P 03 54 29.6 +2.4
ILAR **Eielson Array** 91.40 336 P P 03 54 28.1 +0.9
comp=Z,1.2nm,0.9s,baz=55,slow=3.6,SNR=7.1
ILAR PP PP 03 58 05.1 +0.8
comp=Z,0.8nm,0.9s,baz=70,slow=5.8,SNR=4.8
ILAR LR LR 04 32 29.8
comp=Z,391nm,20.1s,baz=63,slow=34
comp=Z,1.2nm,0.9s
ILAR **Eielson Array** 91.40 336 P P 03 54 29.6 +2.4
B22K **Teshekpuk Lake** 91.41 342 P P 03 54 25.3 -1.7
baz=63
PAX **Paxson** 91.44 334 P P 03 54 25.5 -2.0
baz=70
POKR **Poker Plat Res** 91.49 337 P P 03 54 26.2 -1.4
baz=68
HARP **HAARP** 91.49 334 P P 03 54 25.6 -2.1
baz=70
N25K **Chitina, Valde** 91.50 333 P P 03 54 26.1 -1.7
baz=71
A22K **Sinclair Lake** 91.55 343 P P 03 54 25.2 -2.5
baz=61
HDA **Harding Lake** 91.55 336 P P 03 54 25.9 -1.9
baz=69
COLD **Coldfoot** 91.70 339 P P 03 54 27.1 -1.5
baz=66
BMRM **Bremner River** 91.72 332 P P 03 54 27.2 -1.6
baz=71
COLA **College** 91.74 336 ⇑*i* P P 03 54 29.4 +0.7
COLA pmax pmax
comp=Z,6.0nm,1.5s
COLA **College** 91.74 336 P P 03 54 26.5 -2.2
baz=68
D22K **Ayikyak River** 91.84 341 P P 03 54 26.8 -2.3
baz=63
G23K **Bananza Creek** 91.85 338 P P 03 54 26.8 -2.5
baz=66
A21K **Barrow** 91.86 344 P P 03 54 26.8 -2.3
baz=60
E22K **Anaktuvuk Pass** 91.88 340 P P 03 54 27.3 -2.1
baz=64
H23K **Yukon River** 92.03 338 IAmb IAmb 03 54 34.3
comp=Z,23nm,1.8s
H23K **Yukon River** 92.03 338 P P 03 54 28.3 -1.8
baz=66
M24K **Tolsona, Glenn** 92.04 334 P P 03 54 27.6 -2.6
baz=70
B21K **Ikpikpuk River** 92.11 342 P P 03 54 28.1 -2.2
baz=62
KLU **Klutina** 92.14 333 P P 03 54 28.7 -2.1
baz=70
I23K **Minto, Yukon-K** 92.23 337 P P 03 54 29.0 -1.9
baz=67
F22K **John River** 92.28 340 P P 03 54 28.8 -2.4
baz=64
G22K **Bettles** 92.30 339 P P 03 54 28.7 -2.5
baz=65
SYO **Syowa Base** 92.35 159⇑ *e* PcP PcP 03 54 32.3 +0.3
C21K **Knifeblade Rid** 92.38 341 P P 03 54 29.3 -2.3
baz=61
EYAK **Cordova Ski Ar** 92.38 332 P P 03 54 29.5 -2.3
baz=70
E21K **Killik River** 92.46 341 P P 03 54 30.2 -1.9
baz=62
MCK **McKinley** 92.62 336 P P 03 54 30.8 -2.0
baz=67
SCM **Sheep Creek Mo** 92.65 334 P P 03 54 30.2 -2.9
baz=69
B20K **Meade River** 92.69 343 P P 03 54 30.7 -2.3
baz=59
H22K **Ishtalitna Cre** 92.69 338 P P 03 54 30.3 -2.8
baz=65
MLY **Manley** 92.81 337 P P 03 54 31.7 -2.0
baz=65
F21K **Alatna River** 92.86 340 P P 03 54 32.2 -1.7
baz=63
GLI **Glacier Island** 92.89 333 P P 03 54 32.6 -1.6
baz=69
Q23K **Middleton Isla** 93.05 331 P P 03 54 33.4 -1.4
baz=70
D20K **Ettivluk River** 93.18 341 P P 03 54 34.1 -1.2
baz=60
G21K **Allakaket** 93.19 339 P P 03 54 34.1 -1.3
baz=63
I21K **Tanana** 93.22 337 P P 03 54 34.5 -1.1
baz=64
E20K **Nigu River** 93.27 341 P P 03 54 34.1 -1.7
baz=60
TRF **Thorofare Moun** 93.28 336 P P 03 54 34.3 -1.8
baz=66
BPAW **Bear Paw Mtn.** 93.30 336 P P 03 54 34.5 -1.5
baz=65
H21K **Melozitna Rive** 93.32 338 P P 03 54 34.7 -1.4
baz=63
PWL **Port Wells** 93.46 333 P P 03 54 34.7 -2.1
baz=68
IMAR **Indian Mountai** 93.52 338 P P 03 54 38.4 +1.5
PMR **Palmer** 93.53 334 P P 03 54 34.7 -2.3
baz=67
CUT **Chulitna** 93.70 335 P P 03 54 36.1 -1.7
baz=66
A19K **Wainwright** 93.71 344 P P 03 54 35.7 -2.0
baz=55
F20K **Avaraart Lake** 93.71 340 P P 03 54 35.4 -2.3
baz=61
D19K **Kuna River** 93.76 342 P P 03 54 36.2 -1.8
baz=58
C19K **Lookout Ridge** 93.89 342 P P 03 54 36.5 -2.1
baz=57
CHUM **Lake Minchumin** 93.92 336 P P 03 54 36.9 -1.9
baz=64
RC01 **Rabbit Creek A** 94.00 333 P P 03 54 37.7 -1.5
baz=66
E19K **Redstone River** 94.02 340 P P 03 54 37.7 -1.5
baz=59
CAST **Castle Rocks** 94.03 336 P P 03 54 37.3 -2.1
baz=64
H20K **Anotleneega Mo** 94.17 338 P P 03 54 38.2 -1.7
baz=62
SEW **Seward** 94.26 332 P P 03 54 38.4 -2.0
baz=67
SUA **Susitna One** 94.30 334 P P 03 54 38.5 -2.2
baz=66
BRVK **Borovoye** 94.30 35 *ce* P P 03 54 41.9 +1.1
BRVK pmax pmax
comp=Z,7.0nm,1.5s
PPLA **Purkeypile** 94.30 335 P P 03 54 38.6 -2.1
baz=64
I20K **Naaghedeneel** 94.35 338 P P 03 54 39.1 -1.6
baz=62
BVAR **Borovoye Array** 94.37 35 LR LR 04 37 39.1
comp=Z,239nm,18.5s,baz=289,slow=36
B18K **Kokolik River** 94.40 343 P P 03 54 39.1 -1.8
baz=55
SKT **Skwentna** 94.42 334 P P 03 54 39.2 -2.0
baz=65
J20K **Nowata River** 94.51 337 P P 03 54 39.2 -2.3
baz=62
F19K **Shaleruckik Mo** 94.52 340 P P 03 54 39.6 -1.9
baz=59
C18K **Utukok River** 94.63 342 P P 03 54 39.9 -2.1
baz=55
G19K **Purcell Mounta** 94.64 339 P P 03 54 40.6 -1.5
baz=59
H19K **Roundabout Mou** 94.72 339 P P 03 54 40.8 -1.6
baz=60
K20K **Telida** 94.86 336 P P 03 54 41.5 -1.7
baz=62
N20K **Mount Spurr** 95.05 334 P P 03 54 42.5 -1.7
baz=64
E18K **Tukpahlearik C** 95.14 341 P P 03 54 42.8 -1.5
baz=56
M20K **Styx River** 95.14 335 P P 03 54 42.3 -2.2
baz=63
J19K **Poorman** 95.17 337 P P 03 54 42.4 -2.1
baz=61
L20K **Farewell, AK** 95.19 335 P P 03 54 43.5 -1.1
baz=63
GCSA **Galena City Sc** 95.27 338 P P 03 54 43.2 -1.7
baz=60
F18K **Selawik** 95.28 340 P P 03 54 42.8 -2.2
baz=57
G18K **Tagagawik** 95.31 339 P P 03 54 43.2 -2.0
baz=58
C17K **DeLong Mountai** 95.32 343 P P 03 54 43.0 -2.1
baz=54
HOM **Homer** 95.45 332 P P 03 54 43.0 -2.9
baz=65
RDOG **Red Dog Mine** 95.49 342 P P 03 54 42.9 -3.0
baz=54
H18K **Honhosa River** 95.60 339 P P 03 54 44.0 -2.5
baz=58
M19K **Big River Lodg** 95.66 335 P P 03 54 44.0 -2.9
baz=62
O20K **Slope Mountain** 95.72 333 P P 03 54 44.5 -2.7
baz=64
E17K **Hotham Inlet** 95.72 341 P P 03 54 44.4 -2.6
baz=55
L19K **White Mountain** 95.73 335 P P 03 54 44.3 -2.9
baz=62
D17K **Noatak River** 95.76 342 P P 03 54 44.6 -2.6
baz=54
J18K **Innoko River** 95.85 337 P P 03 54 44.8 -2.9
baz=60
F17K **Baldwin Pennin** 95.90 340 P P 03 54 45.1 -2.7
baz=56
C16K **Lisburne Hills** 96.08 343 P P 03 54 46.2 -2.3
baz=52
P19K **Oil Pt** 96.18 333 P P 03 54 46.3 -3.0
baz=64
N19K **Bonanza Creek** 96.21 334 P P 03 54 45.8 -3.7
baz=62
G17K **Kiwalik Mounta** 96.22 340 P P 03 54 46.8 -2.5
baz=56
H17K **Granite Mounta** 96.28 339 P P 03 54 46.1 -3.4
baz=57
L18K **Granite Mounta** 96.46 336 P P 03 54 47.5 -3.0
baz=60
M18K **Stony River** 96.46 335 P P 03 54 48.2 -2.3
baz=61
Q19K **Cape Douglas,** 96.70 332 P P 03 54 49.0 -2.6
baz=63
KDAK **Kodiak Island** 96.70 331 LR LR 04 35 21.5
comp=Z,360nm,21.3s,baz=55,slow=34
KDAK **Kodiak Island** 96.70 331 P P 03 54 49.2 -2.4
baz=64
J17K **VABM Dome** 96.80 337 P P 03 54 49.5 -2.4
baz=58
K17K **Iditarod** 96.85 337 P P 03 54 50.1 -2.1
baz=59
G16K **Koyuk River** 96.87 340 P P 03 54 48.3 -3.9
baz=55
N18K **Kilae Creek** 96.88 334 P P 03 54 49.2 -3.2
baz=61
O18K **Koktuh Hills** 96.98 333 P P 03 54 49.2 -3.7
baz=62
I17K **Unalakleet** 97.14 338 P P 03 54 49.6 -3.9
baz=56
L17K **Donlin** 97.16 336 P P 03 54 48.1 -5.5
baz=59
M17K **Holitna River** 97.18 335 P P 03 54 48.0 -5.7
baz=60
P18K **Big Mountain,** 97.21 333 P P 03 54 48.9 -5.0
baz=62
H16K **Elim** 97.27 339 P P 03 54 50.6 -3.4
baz=55
OHAK **Old Harbor** 97.29 330 P P 03 54 50.6 -3.7
baz=64
J16K **Anvik River** 97.44 338 P P 03 54 50.9 -3.9
baz=56
F15K **North Star Dit** 97.45 341 P P 03 54 51.2 -3.7
baz=52
Q18K **Katmai Hardscr** 97.46 332 P P 03 54 50.6 -4.6
baz=62
N17K **Nushagak Hills** 97.52 334 P P 03 54 51.5 -3.7
baz=60
QSPA **South Pole Qui** 97.62 180 LR LR 04 37 17.8
comp=Z,126nm,18.1s,baz=184,slow=34
G15K **Niukluk** 97.68 340 P P 03 54 53.2 -2.7
baz=53
R18K **Karluk** 97.70 331 P P 03 54 53.2 -2.9

	baz=63							
P17K	**Kvichak River**	**97.85**	**333**	P	**P**	**03 54 53.9**	**-2.8**
	baz=61							
O17K	**Koliganek Bris**	**97.85**	**334**	P	**P**	**03 54 53.7**	**-3.1**
	baz=60							
M16K	**Timber Creek**	**98.01**	**335**	P	**P**	**03 54 54.1**	**-3.3**
	baz=58							
SII	**Sitkinak Islan**	**98.03**	**330**	P	**P**	**03 54 54.3**	**-3.4**
	baz=63							
Q17K	**Contact Creek**	**98.05**	**332**	P	**P**	**03 54 54.9**	**-2.9**
	baz=61							
F14K	**Arctic Creek**	**98.15**	**341**	P	P	03 54 54.2	-3.8
	baz=51							
Q16K	**King Salmon**	**98.20**	**333**	P	**P**	**03 54 55.1**	**-3.2**
	baz=61							
N16K	**Nishlik Lake**	**98.22**	**335**	P	P	03 54 53.4	-5.1
	baz=58							
K15K	**Wolf Creek Mou**	**98.34**	**337**	P	P	03 54 55.1	-3.8
	baz=56							
O16K	**Kokwok River B**	**98.38**	**334**	P	P	03 54 54.8	-4.3
	baz=59							
ANM	**Nome**	**98.40**	**340**	P	P	03 54 54.4	-4.8
	baz=52							
R17L	**Mt. Peulik Vol**	**98.57**	**332**	P	P	03 54 56.1	-4.0
	baz=61							
TNA	**Tin City**	**98.60**	**341**	P	P	03 54 55.5	-4.4
	baz=49							
L15K	**Ungalak Mounta**	**98.67**	**337**	P	P	03 54 55.1	-5.3
	baz=56							
J14K	**Nanvaranak Lak**	**98.85**	**338**	P	P	03 54 56.6	-4.5
	baz=54							
M15K	**Kasigluk River**	**98.90**	**335**	P	P	03 54 56.6	-4.8
	baz=57							
N15K	**Kwethluk River**	**98.94**	**335**	P	**Pdif**	**03 54 55.8**	**-5.9**
	baz=57							
O15K	**Ungalikthiuk R**	**99.36**	**334**	P	**Pdif**	**03 54 58.9**	**-4.6**
	baz=58							
M14K	**Bethel**	**99.39**	**336**	P	**Pdif**	**03 54 58.0**	**-5.6**
	baz=56							
N14K	**Kuskokwak Cree**	**99.74**	**335**	P	**Pdif**	**03 54 59.3**	**-5.8**
	baz=56							
K13K	**Kusilvak Mount**	**99.75**	**338**	P	**Pdif**	**03 54 59.1**	**-6.1**
	baz=53							
O14K	**Tigyukauivet M**	**99.94**	**334**	P	**Pdif**	**03 55 01.0**	**-5.1**
	baz=56							
KURBB	**Kurchatov Arra**	**99.95**	**36**	P	**Pdif**	**03 55 06.9**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=290,slow=5.7,SNR=1.8							
KURBB				LR	LR	04 41 11.1		
	comp=Z,191nm,18.6s,baz=208,slow=36							
	comp=Z,0.4nm,0.8s							
KURK	**Kurchatov**	**99.96**	**36**	P	**Pdif**	**03 55 06.9**	**+0.5**
RKT	**Rikitea**	**100.06**	**248**	*e*LR	LR	04 27 37.7		
	comp=Z,3µm,29.8s							
M13K	**Dall Lake**	**100.14**	**336**	P	**Pdif**	**03 55 00.3**	**-6.6**
	baz=54							
S14K	**Fog Glacier**	**100.76**	**331**	P	**Pdif**	**03 55 03.7**	**-6.3**
	baz=58							
GAMB	**Gambell**	**101.01**	**341**	P	**Pdif**	**03 55 05.1**	**-5.6**
	baz=46							
M11K	**Mekoryuk**	**101.29**	**337**	P	**Pdif**	**03 55 05.9**	**-6.1**
	baz=52							
CHNA	**Chernabura Isl**	**101.54**	**330**	P	**Pdif**	**03 55 08.7**	**-4.7**
	baz=58							
SDPT	**Sand Point**	**101.70**	**331**	P	**Pdif**	**03 55 09.1**	**-4.9**
	baz=58							
S12K	**Black Hills**	**102.26**	**332**	P	**Pdif**	**03 55 11.3**	**-5.2**
	baz=56							
SPIA	**Saint Paul Isl**	**104.97**	**336**	P	**Pdif**	**03 55 23.5**	**-5.0**
	baz=48							
UNV	**Unalaska Valle**	**105.44**	**332**	P	**PKiKP**	**03 59 38.6**	**-5.7**
	baz=53							
NIKH	**Nikolski High**	**107.09**	**332**	P	**PKiKP**	**03 59 43.6**	**-3.8**
	baz=51							
WMQ	**Urumqi**	**108.65**	**39**	Pdif	**Pdif**	**03 55 46.8**	**+1.5**
WMQ				LR	LR			
	comp=N,570nm,20.1s							
WMQ				LR	LR			
	comp=Z,300nm,21.1s							
TBI	**Tubuai**	**113.39**	**248**	*e*S	SKKSac	04 07 39.7	-14	
	comp=Z,689nm,28.8s							
TBI				*e*SS	**SS**	**04 16 32.5**	**-5.4**	
	comp=Z,829nm,29.8s							
TBI	**Tubuai**	**113.39**	**248**	*e*LR	LR	04 33 54.5		
	comp=Z,1µm,26.0s							
TBI				*e*LR	LR	04 34 00.5		
	comp=Z,2µm,36.8s							
HHC	**Hu-ho-hao-te**	**123.87**	**28**	*e*P	**PKPdf**	**04 00 16.1**	**-3.9**
HHC				LR	LR			
	comp=N,490nm,15.1s							
HHC				LR	LR			
	comp=E,360nm,15.7s							
HHC				LR	LR			
	comp=Z,500nm,15.5s							
BNX	**BinXian**	**125.14**	**13**	⇑P	**PKiKP**	**04 00 24.8**	**+2.3**
BNX				pmax	pmax			
	comp=Z,8.0nm,1.4s							
PZH	**PanZhiHua**	**127.70**	**48**	PKP	**PKPdf**	**04 00 27.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**129.58**	**59**	PKP	**PKPdf**	**04 00 32.0**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=293,slow=3.9,SNR=4.4							
NJ2	**Nanjing**	**134.42**	**29**	*e*P	**PKPdf**	**04 00 38.9**	**-1.2**
NJ2				pmax	pmax			
	comp=Z,12nm,0.5s							
DZM	**Mont Dzumac**	**153.06**	**235**	*e*LR	LR	04 52 13.5		
	comp=Z,284nm,24.8s							
ASAR	**Alice Springs**	**161.89**	**153**	PKP	**PKPdf**	**04 01 24.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=191,slow=0.9,SNR=2.8							
WRA	**Warramunga Arr**	**165.24**	**147**	PKP	**PKPdf**	**04 01 27.3**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=223,slow=1.8,SNR=4.4							

IDC ***10*** *04:05:23.7±2.2, 13°.10N×120°.69E, h65km±25km, mb3.4/6, mbtmp3.7/6, Error ellipse: s-maj=42.8km s-min=16.8km az=65.0*

ISC 10 04:05:20.0±1.1, 12°.98N±0°.10×120°.5E±0°.2, h27km, n7, σ1§11/8, mb3.7/6, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.19**	**20**	P	**Pb**	**04 05 43.1**	**+1.2**
	1µm,0.5s,baz=221,slow=4.0,SNR=15						
TGY				S	**Sb**	**04 05 56.4**	**-0.6**
	1µm,0.6s,baz=237,slow=21,SNR=7.0						
CMAR	**Chiang Mai Arr**	**21.47**	**287**	P	**P**	**04 10 08.1**	**+1.4**
	0.9nm,0.3s,baz=95,slow=8.1,SNR=7.3						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**35.42**	**157**	P	**P**	**04 12 13.8**	**-0.3**
	0.4nm,0.5s,baz=336,slow=9.7,SNR=8.2						
	0.4nm,0.5s						
SONM	**Songino Array**	**36.70**	**344**	P	**P**	**04 12 24.3**	**-0.6**
	1.0nm,0.6s,baz=166,slow=9.5,SNR=6.8						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**38.70**	**160**	P	**P**	**04 12 42.1**	**+0.3**
	1.1nm,0.6s,baz=340,slow=7.1,SNR=16						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**46.52**	**324**	P	**P**	**04 13 44.1**	**-1.0**
	0.4nm,0.7s,baz=155,slow=7.5,SNR=2.7						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**49.62**	**333**	P	**P**	**04 14 08.1**	**-0.9**
	0.7nm,0.4s,baz=120,slow=5.7,SNR=2.9						
	0.7nm,0.4s						

IDC ***10*** *04:06:17.3±0.9, 36°.09N×27°.55E, h0km, mb3.8/9, mbtmp3.7/17, ML3.4/7, MS4.1/2, Error ellipse: s-maj=17.2km s-min=14.8km az=10.0*

ISK ***10*** *04:06:18.9, 35°.96N×27°.72E, h7km, ML3.8/38*

NIC ***10*** *04:06:19.7, 35°.62N×27°.72E, h0km, Ml3.4/13*

THE ***10*** *04:06:19.5, 36°.N±2°.×2°.8E±°.°, h3km±6km, M3.5/9, MLh3.5/9*

ATH ***10*** *04:06:19.4, 36°.00N×27°.50E, h8km±1km, ML3.5/7, Manual Solution by F.Xalaris First location: 2019/08/10 04:07:31, This location: 2019/08/10 12:49:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

AFAD ***10*** *04:06:21.8, 36°.05N×27°.62E, h12km±3km, MW3.8*

ISC 10 04:06:19.4±0.9, 36°.00N±0°.02×27°.56E±0°.02, h15km±7km, n131, σ1§44/181, mb3.7/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.51**	**64**	Pg	**Pg**	**04 06 29.3**	**-0.2**
ARG	**Arkhangelos**	**0.51**	**64**	P	**Pg**	**04 06 29.3**	**-0.2**
ARG				S	**Sg**	**04 06 37.0**	**+0.6**
ARG	**Arkhangelos**	**0.51**	**64**	P	**Pg**	**04 06 29.2**	**-0.3**
ARG				S	**Sg**	**04 06 36.6**	**+0.2**
ARG				AML	AML	04 06 38.4	
	16nm,0.3s						
ARG				AML	AML	04 06 39.1	
	20nm,0.2s						
ARG	**Arkhangelos**	**0.51**	**64**	P	**Pg**	**04 06 29.4**	**-0.2**
ARG				S	**Sg**	**04 06 37.1**	**+0.8**
KARP	**Karpathos**	**0.55**	**216**	Pg	**Pg**	**04 06 29.8**	**-0.5**
KARP				Sg	**Sg**	**04 06 36.9**	**-0.8**
KARP	**Karpathos**	**0.55**	**216**	P	**Pg**	**04 06 29.8**	**-0.5**
KARP				S	**Sg**	**04 06 37.2**	**-0.4**
KARP	**Karpathos**	**0.55**	**216**	P	**Pg**	**04 06 29.4**	**-0.8**
KARP				S	**Sg**	**04 06 37.3**	**-0.4**
KARP				AML	AML	04 06 41.2	
	12nm,0.4s						
KARP				AML	AML	04 06 42.1	
	8.9nm,0.2s						
KARP	**Karpathos**	**0.55**	**216**	P	**Pg**	**04 06 29.8**	**-0.5**
KARP				S	**Sg**	**04 06 36.6**	**-1.0**
YAZI	**Mula-Dat§a-**	**0.69**	**353**	P	**Pg**	**04 06 32.5**	**-0.3**
YAZI				S	**Sb**	**04 06 43.0**	**+0.5**
RODB	**Rodos**	**0.70**	**50**	P	**Pb**	**04 06 33.5**	**+0.2**
RODB				S	**Sb**	**04 06 43.1**	**+0.3**
RDI1	**Rhodes Town Ha**	**0.70**	**50**	P	**Pb**	**04 06 33.9**	**+0.5**
RDI1				S	**Sb**	**04 06 43.5**	**+0.6**
DAT	**Datca**	**0.73**	**1**	Pg	**Pb**	**04 06 34.4**	**+0.5**
DAT				Sg	**Sb**	**04 06 44.6**	**+0.8**
DAT	**Datca**	**0.73**	**1**	P	**Pb**	**04 06 34.1**	**+0.2**
DAT				S	**Sb**	**04 06 44.8**	**+0.9**
DATC	**Datca-Mugla**	**0.77**	**6**	Pg	**Pb**	**04 06 34.9**	**+0.5**
TURN	**Turunc**	**0.95**	**35**	P	**Pg**	**04 06 37.1**	**-0.7**
KLNA	**Kalymnos**	**1.07**	**334**	P	**Pg**	**04 06 39.5**	**-0.5**
KLNA				S	**Sg**	**04 06 53.8**	**-0.2**
BDRM	**Kayabasi**	**1.07**	**355**	P	**Pg**	**04 06 39.5**	**-0.5**
BDRM				S	**Sg**	**04 06 53.3**	**-0.7**
ASTA	**Astypalaia**	**1.12**	**300**	P	**Pg**	**04 06 39.9**	**-1.0**
ASTA				S	**Sg**	**04 06 54.7**	**-0.8**
YKAV	**Yalikavak-Bodr**	**1.15**	**349**	Pn	**Pn**	**04 06 42.0**	**+1.0**
MULA	**Mugla, Merkez-**	**1.40**	**26**	P	**Pn**	**04 06 45.7**	**+1.2**
MULA				S	**Sb**	**04 07 01.3**	**-1.8**
ZKR	**Zakros**	**1.40**	**232**	Pn	**Pn**	**04 06 45.1**	**+0.6**
ZKR				Sn	**Sg**	**04 07 04.4**	**-0.2**
ZKR	**Zakros**	**1.40**	**232**	P	**Pn**	**04 06 44.8**	**+0.4**
ZKR	**Zakros**	**1.40**	**232**	P	**Pn**	**04 06 45.0**	**+0.6**
ZKR				S	**Sg**	**04 07 05.9**	**+1.2**
ZKR				AML	AML	04 07 07.4	
	2.5nm,0.4s						
ZKR				AML	AML	04 07 11.8	
	1.7nm,0.7s						
ZKR	**Zakros**	**1.40**	**232**	P	**Pn**	**04 06 45.0**	**+0.6**
ZKR				S	**Sb**	**04 07 03.4**	**+0.3**
SABU	**Mula-Dalaman**	**1.41**	**54**	P	**Pn**	**04 06 45.5**	**+1.0**
SABU				S	**Sb**	**04 07 02.2**	**-1.0**
IZZE	**Mula-Seydike**	**1.42**	**71**	P	**Pn**	**04 06 45.8**	**+1.1**
IZZE				S	**Sb**	**04 07 02.8**	**-0.7**
SIT2	**Siteia**	**1.42**	**237**	P	**Pb**	**04 06 46.0**	**+0.4**
DDIM	**Aydin, Didim**	**1.48**	**350**	P	**Pb**	**04 06 47.5**	**+0.9**
KSL	**Kastellorizon**	**1.65**	**84**	P	**Pb**	**04 06 48.4**	**+1.6**
KSL	**Kastellorizon**	**1.65**	**84**	P	**Pb**	**04 06 49.7**	**+0.2**
KSL				S	**Sg**	**04 07 12.3**	**-0.1**
KSL				AML	AML	04 07 22.1	
	0.8nm,0.8s						
KSL				AML	AML	04 07 25.5	
	1.3nm,0.6s						
KSL	**Kastellorizon**	**1.65**	**84**	P	**Pb**	**04 06 49.6**	**+0.2**
AYDN	**Tasoluk**	**1.68**	**9**	P	**Pn**	**04 06 48.7**	**+0.3**
CAME	**Cameli-Denizli**	**1.69**	**56**	Pn	**Pb**	**04 06 50.4**	**0.0**
GCAM	**G?zelcaml?**	**1.72**	**351**	P	**Pn**	**04 06 49.1**	**+0.3**
THERA	**Ancient Thera,**	**1.72**	**283**	P	**Pn**	**04 06 49.1**	**+0.2**
THERA				S	**Sb**	**04 07 13.6**	**+1.3**
DNZT	**Denizli-Tavas-**	**1.74**	**42**	P	**Pb**	**04 06 51.7**	**+0.5**
DNZT				S	**Sb**	**04 07 14.2**	**+1.3**
NPS	**Neapolis**	**1.75**	**246**	P	**Pn**	**04 06 49.3**	**+0.1**
NPS	**Neapolis**	**1.75**	**246**	P	**Pn**	**04 06 49.4**	**+0.2**
THR6	**Thira Island,**	**1.78**	**282**	P	**Pn**	**04 06 50.3**	**+0.6**
THR3	**Thira Island,**	**1.79**	**284**	P	**Pn**	**04 06 50.0**	**+0.2**
SNT5	**Nea Kammeni, S**	**1.79**	**284**	P	**Pn**	**04 06 49.7**	**-0.2**
SMG	**Samos**	**1.80**	**342**	P	**Pn**	**04 06 49.9**	**0.0**
SMG	**Samos**	**1.80**	**342**	P	**Pn**	**04 06 50.0**	**0.0**
CAEL	**Denizli, Camel**	**1.81**	**51**	P	**Pb**	**04 06 53.3**	**+1.0**
CAEL				S	**Sn**	**04 07 14.9**	**+1.9**
TAVA	**DENIZLI_Tavas**	**1.83**	**36**	P	**Pb**	**04 06 53.3**	**+0.7**
KNIK	**Mula-Seydike**	**1.83**	**62**	P	**Pb**	**04 06 52.8**	**+0.1**
ESEN	**Aydn-Nazilli**	**1.91**	**19**	P	**Pn**	**04 06 52.6**	**+1.2**
ESEN				S	**Sn**	**04 07 15.8**	**+0.7**
DEMR	**Demre-Antalya**	**1.92**	**82**	Pn	**Pn**	**04 06 52.8**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**1.96**	**8**	Pn	**Pn**	**04 06 53.7**	**+1.4**
DNIZ	**Denizli-Tavas-**	**2.01**	**36**	P	**Pb**	**04 06 55.9**	**+0.1**
GOLH	**Golhisar**	**2.03**	**52**	P	**Pb**	**04 06 56.4**	**+0.3**
GOLH				S	**Sb**	**04 07 22.7**	**+1.4**
APMY	**Acipayam-Deniz**	**2.03**	**43**	Pn	**Pn**	**04 06 54.8**	**+1.6**
NAZL	**Nazilli-Aydin**	**2.05**	**16**	Pn	**Pn**	**04 06 54.2**	**+0.8**
GMLD	**Gumuldur**	**2.14**	**346**	Pn	**Pn**	**04 06 56.7**	**+2.1**
IACM	**Heraklion**	**2.14**	**252**	P	**Pn**	**04 06 56.0**	**+1.4**
IZMR	**zmir-demi**	**2.16**	**8**	P	**Pn**	**04 06 55.3**	**+0.4**
IZMR				S	**Sn**	**04 07 17.5**	**-3.9**
AKUM	**Antalya-Kumluc**	**2.28**	**81**	P	**Pn**	**04 06 57.2**	**+0.8**
AKUM				S	**Sn**	**04 07 23.5**	**-0.8**
IDI	**Anoyia**	**2.29**	**253**	Pn	**Pn**	**04 06 57.0**	**+0.3**
IDI	**Anoyia**	**2.29**	**253**	P	**Pn**	**04 06 57.0**	**+0.3**
IDI	**Anoyia**	**2.29**	**253**	Pn	**Pn**	**04 06 57.0**	**+0.3**
	22nm,0.3s,baz=35,slow=8.3,SNR=70						
IDI				Sn	**Sn**	**04 07 24.4**	**-0.1**
	40nm,0.3s,baz=226,slow=12,SNR=17						
IDI				LR	LR	04 07 36.2	
	comp=Z,83nm,19.6s,baz=261,slow=34						
IDI	**Anoyia**	**2.29**	**253**	P	**Pn**	**04 06 56.9**	**+0.2**
KIRA	**zmir-Kiraz**	**2.30**	**17**	P	**Pn**	**04 06 57.8**	**+0.9**
KIRA				S	**Sn**	**04 07 21.6**	**-3.4**
ODEM	**Odemis-Izmir**	**2.31**	**10**	Pn	**Pn**	**04 06 58.8**	**+1.7**
INCE	**Denizli-Bozkur**	**2.35**	**43**	P	**Pb**	**04 07 00.8**	**-0.7**
INCE				S	**Sb**	**04 07 29.9**	**-0.7**
ZEYE	**Izmir, Urla-Ze**	**2.39**	**340**	P	**Pn**	**04 06 56.4**	**-1.6**
ZEYE				S	**Sn**	**04 07 27.4**	**+0.3**
BLCB	**Balcova**	**2.42**	**350**	Pn	**Pn**	**04 07 00.4**	**+2.0**
URLA	**Izmir**	**2.48**	**342**	P	**Pn**	**04 06 59.2**	**-0.1**
URLA				S	**Sb**	**04 07 35.1**	**+1.0**
KEMT	**Kemer-ANTALYA**	**2.50**	**75**	Pn	**Pn**	**04 07 01.1**	**+1.6**
PRNS	**Prines Rethymn**	**2.57**	**257**	P	**Pn**	**04 07 01.3**	**+0.8**
PRNS	**Prines Rethymn**	**2.57**	**257**	P	**Pn**	**04 07 01.6**	**+1.2**
MANT	**Manisa**	**2.61**	**17**	P	**Pn**	**04 07 01.9**	**+0.6**
MANT				S	**Sn**	**04 07 28.8**	**-4.2**
BRDR	**BURDUR-Merkez**	**2.63**	**49**	P	**Pb**	**04 07 05.3**	**-1.0**
BRDR				S	**Sb**	**04 07 37.6**	**-0.8**
ANTB	**Antalya**	**2.65**	**69**	Pn	**Pn**	**04 07 03.5**	**+1.8**
KULA	**Kula-Manisa**	**2.66**	**19**	Pn	**Pn**	**04 07 03.9**	**+2.0**
CHOS	**Chios island**	**2.67**	**334**	Pn	**Pn**	**04 07 04.1**	**+2.1**
BUCA	**Burdur, Bucak-**	**2.75**	**60**	P	**Pn**	**04 07 06.1**	**+3.0**
BUCA				S	**Sn**	**04 07 35.9**	**-0.3**
BASM	**Basmaki-Afyon**	**2.77**	**45**	Pn	**Pn**	**04 07 05.1**	**+1.8**
PASA	**Karahalli, USA**	**2.81**	**33**	P	**Pn**	**04 07 05.8**	**+1.9**
PASA				S	**Sn**	**04 07 36.2**	**-1.3**
KARB	**zmir-Karabur**	**2.81**	**341**	P	**Pn**	**04 07 00.6**	**-3.3**
AKHS	**Akhisar**	**2.88**	**4**	P	**Pn**	**04 07 04.4**	**-0.4**
GORD	**Gordes-Manisa**	**2.95**	**9**	Pn	**Pn**	**04 07 07.9**	**+2.1**
USAK	**Uak-Merkez**	**2.95**	**23**	P	**Pn**	**04 07 07.2**	**+1.4**
ZEDA	**zmir-Bergama**	**2.99**	**353**	P	**Pn**	**04 07 06.9**	**+0.6**
ISP	**Isparta**	**2.99**	**52**	Pn	**Pn**	**04 07 08.5**	**+2.0**
IZMD	**zmir-Dikili-**	**3.02**	**351**	P	**Pn**	**04 07 06.9**	**+0.1**
KZIL	**AFYON_Kizioren**	**3.06**	**42**	P	**Pn**	**04 07 10.0**	**+2.6**
KZIL				S	**Sn**	**04 07 44.5**	**+0.7**
GVD	**Gavdhos**	**3.06**	**249**	Pn	**Pn**	**04 07 09.1**	**+1.8**
GVD	**Gavdhos**	**3.06**	**249**	P	**Pn**	**04 07 09.9**	**+2.7**
SOMA	**Soma-Manisa**	**3.15**	**360**	Pn	**Pn**	**04 07 11.0**	**+2.4**
DEMI	**Demirci**	**3.18**	**17**	P	**Pn**	**04 07 09.7**	**+0.7**
DEMI				S	**Sn**	**04 07 41.2**	**-5.5**
MNVG	**Manavgat-Antal**	**3.21**	**75**	Pn	**Pn**	**04 07 11.3**	**+2.0**
SIMA	**Simav-Kutahya**	**3.28**	**20**	Pn	**Pn**	**04 07 12.7**	**+2.3**
SHAP	**Saphane-Kutahy**	**3.30**	**23**	Pn	**Pn**	**04 07 12.9**	**+2.3**
SMAA	**Simav-Kutahya**	**3.30**	**20**	Pn	**Pn**	**04 07 13.1**	**+2.5**
GEDZ	**Gediz**	**3.38**	**25**	Pn	**Pn**	**04 07 14.3**	**+2.6**
SIGR	**SIGRI**	**3.48**	**338**	Pn	**Pn**	**04 07 15.7**	**+2.7**
SDAG	**Sultandagi-AFY**	**3.62**	**47**	Pn	**Pn**	**04 07 17.7**	**+2.6**
YAYO	**Edremit-Balk**	**3.63**	**354**	Pn	**Pn**	**04 07 17.8**	**+2.7**
KTHA	**Kythira Island**	**3.65**	**275**	Pn	**Pn**	**04 07 16.6**	**+1.2**
ALAN	**Alanya-ANTALYA**	**3.66**	**80**	Pn	**Pn**	**04 07 17.5**	**+2.0**
SEYD	**Seydisehir-KON**	**3.72**	**67**	Pn	**Pn**	**04 07 18.8**	**+2.4**
TVSB	**Tavsanli**	**3.76**	**23**	Pn	**Pn**	**04 07 18.8**	**+1.8**
BLVD	**Bolvadin-AFYON**	**3.97**	**44**	Pn	**Pn**	**04 07 22.4**	**+2.6**
AKMS	**Akamas**	**4.02**	**103**	P	**Pn**	**04 07 20.8**	**+0.4**
AKMS				S	**Sn**	**04 08 06.7**	**-0.6**
AKMS				AML	AML	04 08 14.4	
	0.3nm,0.4s						
AKMS				AML	AML	04 08 14.8	
	0.4nm,0.3s						
HDMB	**Hadim**	**4.09**	**75**	Pn	**Pn**	**04 07 23.7**	**+2.1**
ALFC	**Alefka**	**4.19**	**100**	P	**Pn**	**04 07 22.9**	**+0.1**
ALFC				S	**Sn**	**04 08 11.4**	**-0.2**
ALFC				AML	AML	04 08 15.1	
	0.3nm,0.3s						
ALFC				AML	AML	04 08 18.5	
	0.2nm,0.4s						
NATA	**Nata**	**4.27**	**105**	P	**Pn**	**04 07 24.3**	**+0.3**
NATA				S	**Sn**	**04 08 13.3**	**-0.3**
NATA				AML	AML	04 08 23.6	
	0.7nm,0.6s						
NATA				AML	AML	04 08 24.3	
	0.7nm,0.4s						
TROD	**Troodos**	**4.46**	**102**	P	**Pn**	**04 07 26.3**	**-0.4**
TROD				S	**Sn**	**04 08 19.0**	**+0.6**
TROD				AML	AML	04 08 29.9	
	0.2nm,0.4s						
TROD				AML	AML	04 08 29.9	
	0.1nm,0.4s						
APOL	**The Sanctuary**	**4.54**	**105**	S	**Sn**	**04 08 20.2**	**+0.2**
APOL				AML	AML	04 08 26.6	
	0.2nm,0.4s						
APOL				AML	AML	04 08 30.2	
	0.2nm,0.6s						
XYLS	**Xyliatos**	**4.59**	**101**	P	**Pn**	**04 07 28.3**	**0.0**
XYLS				S	**Sn**	**04 08 21.8**	**+0.5**
XYLS				AML	AML	04 08 24.4	
	0.2nm,0.3s						
XYLS				AML	AML	04 08 27.5	
	0.2nm,0.3s						
ASGA	**Asgata**	**4.80**	**103**	P	**Pn**	**04 07 31.4**	**+0.2**
ASGA				S	**Sn**	**04 08 27.0**	**+0.4**
ASGA				AML	AML	04 08 33.0	
	0.2nm,0.4s						
ASGA				AML	AML	04 08 35.0	
	0.2nm,0.3s						
CSS	**Mathiatis**	**4.82**	**101**	P	**Pn**	**04 07 31.8**	**+0.3**
CSS				S	**Sn**	**04 08 28.6**	**+1.4**
CSS				AML	AML	04 08 32.1	
	0.1nm,0.5s						
CSS				AML	AML	04 08 40.7	
	0.1nm,0.5s						
MVOU	**Mavrovouni**	**5.05**	**99**	P	**Pn**	**04 07 34.2**	**-0.5**
MVOU				S	**Sn**	**04 08 34.0**	**+1.3**
MVOU				AML	AML	04 08 38.4	
	0.1nm,0.4s						
MVOU				AML	AML	04 08 42.2	
	0.1nm,0.4s						
BRTR	**Keskin Array B**	**6.08**	**50**	Pn	**Pn**	**04 07 50.9**	**+1.9**
	0.6nm,0.3s,baz=220,slow=15,SNR=16						
BRTR				Sn	**Sn**	**04 08 57.1**	**-1.2**
	baz=286,slow=24						
	1.1nm,0.3s						
MMAI	**Mount Meron Ar**	**7.13**	**112**	Pn	**Pn**	**04 08 02.9**	**-0.3**
	3.8nm,0.3s,baz=311,slow=12,SNR=17						
MMAI				Sn	**Sn**	**04 09 25.4**	**+1.4**
	7.1nm,0.3s,baz=331,slow=5.0,SNR=7.8						
	1.9nm,0.3s						
ASF	**Jabal al Asfar**	**8.63**	**114**	Pn	**Pn**	**04 08 24.1**	**+0.1**
	0.3nm,0.3s,baz=3.1,slow=24,SNR=1.9						
ASF				Sn	**Sn**	**04 10 01.2**	**+0.1**
	0.4nm,0.3s,baz=99,slow=23,SNR=2.0						
	0.8nm,0.3s						
EIL	**Elat**	**8.86**	**133**	Pn	**Pn**	**04 08 27.2**	**+0.3**
	0.7nm,0.3s,baz=336,slow=12,SNR=7.3						
EIL				Sn	**Sn**	**04 09 60.0**	**-6.5**
	1.2nm,0.3s,baz=194,slow=20,SNR=6.8						
	1.0nm,0.4s						
MLR	**Muntele Rosu**	**9.56**	**353**	Pn	**Pn**	**04 08 35.0**	**-1.7**
	0.1nm,0.3s,baz=19,slow=22,SNR=1.0						
	0.5nm,0.3s						
KEST	**Kesra**	**14.77**	**274**	Pn	**Pn**	**04 09 48.6**	**+0.7**
	0.3nm,0.3s,baz=68,slow=16,SNR=5.6						
	1.2nm,0.6s						
GERES	**GERESS Array B**	**16.38**	**326**	Pn	**Pn**	**04 10 10.3**	**+1.4**
	baz=123,slow=9.8,SNR=4.7						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**25.48**	**358**	P	**P**	**04 11 45.5**	**-1.2**
	1.0nm,0.8s,baz=183,slow=9.2,SNR=7.8						
	1.0nm,0.8s						
HFS	**Hagfors**	**25.76**	**344**	P	**P**	**04 11 48.5**	**-0.8**
	2.7nm,0.9s,baz=146,slow=10,SNR=8.9			

EMAZ					Sg		Sn	04 08 56.2	+0.8
EMAZ					*i* IVmb_Lg			04 08 57.5	
PBRG	**Braganca**	**1.04**	**114**		*e*P		**Pn**	**04 08 42.1**	**-0.4**
PBRG					*e*S		**Sn**	**04 08 55.8**	**-0.6**
PBRG					*i* IAML			04 08 57.3	
PBRG					*i* IAML			04 08 57.8	
PBRG					*i* IAML			04 08 57.8	
PTO	**Porto**	**1.18**	**202**		*e*P		**Pn**	**04 08 42.8**	**-1.6**
PTO					*e*S		**Sb**	**04 08 58.7**	**-1.3**
PTO					*i* IAML			04 08 59.8	
PTO					*i* IAML			04 09 00.2	
PTO					*i* IAML			04 09 00.4	
EPON	**Pontenova**	**1.26**	**30**	⇑	Pn		**Pn**	**04 08 44.9**	**-0.6**
EPON					Pg		**Pb**	**04 08 46.8**	**+0.3**
EPON					Sg		**Sb**	**04 09 02.6**	**+0.3**
EPON					*i* IVmb_Lg			04 09 05.1	
MVO	**Moncorvo**	**1.30**	**145**	⇓	*e*Pn		**Pb**	**04 08 45.9**	**-1.4**
MVO					*e*Pg		**Pn**	**04 08 47.3**	**+1.2**
MVO					*e*Sg		**Sb**	**04 09 04.1**	**+0.6**
MVO					*i* IAML			04 09 05.5	
MVO					*i* IAML			04 09 05.5	
MVO					*i* IAML			04 09 05.9	
PVIS	**Viseu**	**1.52**	**177**		*e*Pn		**Pb**	**04 08 49.0**	**-1.9**
PVIS					*e*Sg		**Sb**	**04 09 11.0**	**+1.2**
EJUZ	**Juzbado, Salam**	**1.97**	**125**		Pn		**Pb**	**04 08 56.0**	**-2.5**
EJUZ					Pg		Pn	04 08 59.6	+4.3
EJUZ					Sn		**Sn**	**04 09 18.0**	**-1.2**
EJUZ					Sg		**Sb**	**04 09 23.4**	**+0.9**
COI	**Coimbra**	**2.05**	**189**		*e*Pg		**Pb**	**04 09 01.1**	**+1.2**
COI					*e*Sg		**Sb**	**04 09 27.1**	**+2.2**
COI					*i* IAML			04 09 31.9	
COI					*i* IAML			04 09 33.2	
COI					*i* IAML			04 09 33.4	
PCAS	**Casmilo, Conde**	**2.21**	**190**		*e*Pn		**Pn**	**04 08 59.1**	**+0.6**
PCAS					*e*Pg		**Pb**	**04 09 02.5**	**-0.2**
PCAS					*e*Sg		**Sb**	**04 09 32.8**	**+3.2**
PCAS					*i* IAML			04 09 34.3	
PCAS					*i* IAML			04 09 35.3	
PCAS					*i* IAML			04 09 38.4	
EARI	**Arriondas**	**2.32**	**62**		Pn		**Pn**	**04 09 00.6**	**+0.4**
EARI					Pg		**Pb**	**04 09 06.1**	**+1.5**
EARI					Sn		**Sn**	**04 09 27.4**	**-0.6**
EARI					Sg		**Sb**	**04 09 35.6**	**+2.7**
EARI					*i* IVmb_Lg			04 09 40.7	
PCBR	**Castelo Branco**	**2.43**	**170**		*e*Pn		**Pn**	**04 09 01.6**	**+0.1**
PCBR					*e*Sn		**Sn**	**04 09 30.2**	**-0.2**
PCBR					*e*Sg		**Sb**	**04 09 39.1**	**+3.3**
PCBR					*i* IAML			04 09 41.8	
PCBR					*i* IAML			04 09 42.5	
PCBR					*i* IAML			04 09 43.5	
EPLA	**Plasencia**	**2.62**	**145**		Pn		**Pn**	**04 09 04.2**	**0.0**
EPLA					Pg		**Pb**	**04 09 10.6**	**+1.0**
EPLA					Sn		**Sn**	**04 09 33.8**	**-1.4**
EPLA					Sg		**Sb**	**04 09 43.2**	**+1.9**
EPLA					*i* IVmb_Lg			04 09 45.8	
PSARD	**Sardoal**	**2.64**	**182**		*e*Pn		**Pn**	**04 09 04.7**	**+0.3**
PSARD					*e*Pg		**Pb**	**04 09 13.6**	**+3.7**
PSARD					*e*Sg		**Sb**	**04 09 45.6**	**+3.7**
PSARD					*i* IAML			04 09 49.2	
PSARD					*i* IAML			04 09 50.6	
PSARD					*i* IAML			04 09 51.0	
PMRV	**Marv??o**	**2.85**	**170**		*e*Pn		**Pn**	**04 09 07.3**	**0.0**
PMRV					*e*Sn		**Sn**	**04 09 40.0**	**-0.8**
PMRV					*e*Sg		**Sb**	**04 09 51.9**	**+4.0**
PMRV					*i* IAML			04 09 55.2	
PMRV					*i* IAML			04 09 55.4	
PMRV					*i* IAML			04 09 55.4	
ALT03	**Santillana del**	**3.08**	**67**		Pg		**Pb**	**04 09 18.4**	**+0.9**
ALT03					Sn		**Sn**	**04 09 47.2**	**+0.6**
ALT03					Sg		**Sb**	**04 09 58.7**	**+4.1**
ALT01	**Santillana del**	**3.08**	**67**		Pn		**Pn**	**04 09 11.5**	**+1.0**
ALT01					Pg		**Pb**	**04 09 18.2**	**+0.7**
ALT01					Sn		**Sn**	**04 09 47.5**	**+0.9**
ALT01					Sg		**Sb**	**04 09 58.8**	**+4.1**
ALT02	**Santillana del**	**3.09**	**67**		Pg		**Pb**	**04 09 18.1**	**+0.6**
ALT02					Sn		**Sn**	**04 09 47.4**	**+0.7**
ALT02					Sg		**Sb**	**04 09 59.6**	**+4.8**
PMTG	**Montargil**	**3.17**	**183**		*e*Pn		**Pn**	**04 09 11.8**	**+0.1**
PMTG					*e*Sn		**Sn**	**04 09 47.9**	**-0.8**
PMTG					*e*Sg		**Sb**	**04 10 01.5**	**+4.3**
PMTG					*i* IAML			04 10 06.0	
PMTG					*i* IAML			04 10 06.2	
PMTG					*i* IAML			04 10 06.7	
GUD	**Guadarrama**	**3.31**	**117**		Pn		**Pn**	**04 09 13.8**	**-0.1**
GUD					Pg		**Pb**	**04 09 22.1**	**+0.6**
GUD					Sn		**Sn**	**04 09 52.0**	**-0.5**
GUD					Sg		**Sb**	**04 10 04.8**	**+3.4**
GUD					*i* IVmb_Lg			04 10 09.4	
PESTR	**Estremoz**	**3.38**	**174**		Sn		**Sn**	**04 09 51.7**	**-2.3**
PESTR					Pn		**Pn**	**04 09 14.4**	**-0.2**
PESTR	**Estremoz**	**3.38**	**174**		*e*Pn		**Pn**	**04 09 14.7**	**0.0**
PESTR					*e*Sn		**Sn**	**04 09 52.4**	**-1.6**
PESTR					*e*Sg		**Sb**	**04 10 07.6**	**+4.3**
PESTR					*i* IAML			04 10 10.8	
PESTR					*i* IAML			04 10 14.3	
PESTR					*i* IAML			04 10 15.0	
PESTR	**Estremoz**	**3.38**	**174**		P		**Pn**	**04 09 14.7**	**0.0**
PESTR	**Estremoz**	**3.38**	**174**		S		**Sb**	**04 10 07.6**	**+4.3**
PMAFR	**Mafra**	**3.42**	**197**		Pn		**Pn**	**04 09 14.7**	**-0.5**
PMAFR					Sn		**Sn**	**04 09 53.7**	**-1.2**
PMAFR	**Mafra**	**3.42**	**197**		*e*Pn		**Pn**	**04 09 15.7**	**+0.6**
PMAFR					*e*Sn		**Sn**	**04 09 54.4**	**-0.5**
PMAFR					*e*Sg		**Sb**	**04 10 08.1**	**+3.8**
PMAFR					*i* IAML			04 10 13.3	
PMAFR					*i* IAML			04 10 13.4	
PMAFR					*i* IAML			04 10 13.6	
PARRA	**Arraiolos**	**3.51**	**193**		*e*Pn		**Pn**	**04 09 15.2**	**-1.2**
PARRA					*e*Sn		**Sn**	**04 09 53.9**	**-3.2**
PARRA					*e*Sg		**Sb**	**04 10 09.1**	**+2.3**
PARRA					*i* IAML			04 10 12.3	
PARRA					*i* IAML			04 10 14.8	
PARRA					*i* IAML			04 10 15.5	
ELAN	**Lanestosa**	**3.52**	**72**		Pn		**Pn**	**04 09 17.2**	**+0.6**
ELAN					Pg		**Pb**	**04 09 24.1**	**-0.8**
ELAN					Sn		**Sn**	**04 09 57.9**	**+0.4**
ELAN					Sg		**Sb**	**04 10 07.9**	**+0.7**
ELAN					*i* IVmb_Lg			04 10 16.1	
EBAD	**Badajoz**	**3.56**	**167**		Pn		**Pn**	**04 09 17.0**	**-0.1**
EBAD					Sn		**Sn**	**04 09 55.6**	**-2.9**
EBAD	**Badajoz**	**3.56**	**167**		Pn		**Pn**	**04 09 17.0**	**-0.1**
EBAD					Sn		**Sn**	**04 09 55.7**	**-2.7**
EBAD					Sg		**Sb**	**04 10 14.2**	**+5.8**
EBAD					*i* IVmb_Lg			04 10 18.2	
EVO	**Evora**	**3.70**	**180**		Pn		**Pn**	**04 09 18.8**	**-0.2**
EVO					Sn		**Sn**	**04 09 58.6**	**-3.3**
EVO	**Evora**	**3.70**	**180**		*e*Pn		**Pn**	**04 09 19.3**	**+0.2**
EVO					*e*Sn		**Sn**	**04 10 00.6**	**-1.3**
EVO					*e*Sg		**Sb**	**04 10 17.9**	**+5.5**
EVO					*i* IAML			04 10 21.5	
EVO					*i* IAML			04 10 24.4	
EVO					*i* IAML			04 10 25.0	
PAB	**San Pablo**	**3.87**	**133**		Pn		**Pn**	**04 09 21.4**	**-0.1**
PAB					Pn		Pb	04 09 22.4	-8.6
PAB					Sn		**Sn**	**04 10 05.4**	**-0.7**
PAB					Sg		**Sb**	**04 10 22.3**	**+5.0**
PAB					Sg			04 10 22.6	
ESBB	**Sonseca Array**	**4.00**	**128**		Pn		**Pn**	**04 09 23.3**	**+0.1**
ESBB					Sn		**Sn**	**04 10 08.3**	**-1.0**
ESBB					Sg		**Sb**	**04 10 26.6**	**+5.6**
ESDC	**Sonseca Array**	**4.00**	**128**		Pn		**Pn**	**04 09 23.1**	**0.0**
ESDC					Sn		**Sn**	**04 10 08.3**	**-0.9**
ESDC					Sg		**Sb**	**04 10 26.6**	**+5.5**
ESDC					*i* IVmb_Lg			04 10 32.2	
UCM	**Universidad Co**	**4.08**	**117**		Pn		**Pn**	**04 09 24.8**	**+0.5**
UCM					Sn		**Sn**	**04 10 09.5**	**-1.8**
PBAR	**Barrancos**	**4.13**	**169**		Pn		**Pn**	**04 09 24.8**	**-0.1**
PBAR					Sn		**Sn**	**04 10 10.0**	**-2.3**
PBAR	**Barrancos**	**4.13**	**169**	⇑	*e*Pn		**Pn**	**04 09 25.2**	**+0.3**
PBAR					*e*Sn		**Sn**	**04 10 10.2**	**-2.2**
PBAR					*e*Sg		**Sb**	**04 10 32.0**	**+7.4**
PBAR					*i* IAML			04 10 37.2	
PBAR					*i* IAML			04 10 38.1	
PBAR					*i* IAML			04 10 41.4	
PBEJ	**Beja**	**4.21**	**178**		*e*Pn		**Pn**	**04 09 26.3**	**+0.3**
PBEJ					*e*Sn		**Sn**	**04 10 12.1**	**-2.3**
PBEJ					*e*Sg		**Sb**	**04 10 33.1**	**+6.1**
PBEJ					*i* IAML			04 10 39.6	
PBEJ					*i* IAML			04 10 39.6	
PBEJ					*i* IAML			04 10 42.5	
MESJ	**Messejana**	**4.40**	**182**		*e*Pn		**Pn**	**04 09 28.9**	**+0.3**
MESJ					*e*S		**Sn**	**04 10 16.2**	**-2.8**
MESJ					IAML			04 10 46.6	
	comp=N,17nm,0.6s								
MESJ	**Messejana**	**4.40**	**182**	⇑	*e*Pn		**Pn**	**04 09 29.0**	**+0.3**
MESJ					*e*Sn		**Sn**	**04 10 16.3**	**-2.8**
MESJ					*e*Sg		Sb	04 10 41.9	+9.5
MESJ					*i* IAML			04 10 46.7	
MESJ					*i* IAML			04 10 50.1	
MESJ					*i* IAML			04 10 53.7	
EMIN	**Mina Concepcio**	**4.58**	**167**		Pn		**Pn**	**04 09 31.0**	**-0.2**
EMIN					Sn		**Sn**	**04 10 19.2**	**-4.4**
EMIN	**Mina Concepcio**	**4.58**	**167**		Pn		**Pn**	**04 09 31.4**	**+0.3**
EMIN					Sn		**Sn**	**04 10 20.7**	**-2.9**
EMIN					Sg		Sb	04 10 45.3	+7.5
EMIN					*i* IVmb_Lg			04 10 51.5	
PCVE	**Castro Verde**	**4.60**	**180**		Pn		**Pn**	**04 09 30.9**	**-0.5**
PCVE					Sn		**Sn**	**04 10 20.4**	**-3.7**
PCVE	**Castro Verde**	**4.60**	**180**		*e*Pn		**Pn**	**04 09 31.6**	**+0.2**
PCVE					*e*Sn		**Sn**	**04 10 23.1**	**-1.0**
PCVE					*e*Sg		Sb	04 10 46.1	+7.8
PCVE					*i* IAML			04 10 52.6	
PCVE					*i* IAML			04 10 58.2	
PCVE					*i* IAML			04 10 58.7	
ECAB	**El Cabril**	**4.61**	**154**		Pn		**Pn**	**04 09 31.2**	**-0.3**
ECAB					Sn		**Sn**	**04 10 20.9**	**-3.4**
ECAB	**El Cabril**	**4.61**	**154**		Pn		**Pn**	**04 09 31.1**	**-0.4**
ECAB					Sn		**Sn**	**04 10 20.8**	**-3.6**
ECAB					Sg		Sb	04 10 46.8	+8.2
ECAB					*i* IVmb_Lg			04 10 54.6	
ETOR	**Torete**	**4.69**	**106**		Pn		**Pn**	**04 09 32.4**	**-0.4**
ETOR					Sg		Sb	04 10 49.7	+8.6
ETOR					*i* IVmb_Lg			04 10 59.0	
PSIM	**Granatula de C**	**4.71**	**135**		Pn		**Pn**	**04 09 32.8**	**-0.1**
PSIM					Sn		**Sn**	**04 10 24.4**	**-2.5**
PSIM					Sg		Sb	04 10 49.0	+7.4
EGRO	**El Granado**	**4.72**	**175**		Pn		**Pn**	**04 09 32.5**	**-0.5**
EGRO					Sn		**Sn**	**04 10 23.6**	**-3.3**
EGRO	**El Granado**	**4.72**	**175**		Pn		**Pn**	**04 09 32.9**	**-0.1**
EGRO					Sn		**Sn**	**04 10 23.3**	**-3.6**
EGRO					Sg		Sb	04 10 51.1	+10
EGRO					*i* IVmb_Lg			04 10 58.4	
EARA	**Aranguren**	**4.79**	**81**		Sn		**Sn**	**04 10 27.1**	**-1.7**
EARA					Sg		Sb	04 10 52.2	+8.4
PVAQ	**Vaqueiros**	**4.83**	**177**		Pn		**Pn**	**04 09 34.3**	**-0.3**
PVAQ	**Vaqueiros**	**4.83**	**177**		*e*Pn		**Pn**	**04 09 34.7**	**+0.1**
PVAQ					*e*Sn		**Sn**	**04 10 26.1**	**-3.7**
PVAQ					*e*Sg		Sb	04 10 53.2	+8.2
PVAQ					*i* IAML			04 10 59.0	
PVAQ					*i* IAML			04 11 01.8	
PVAQ					*i* IAML			04 11 02.2	
PVAQ	**Vaqueiros**	**4.83**	**177**		P		**Pn**	**04 09 33.8**	**-0.8**
PVAQ	**Vaqueiros**	**4.83**	**177**		S		**Sb**	**04 10 42.0**	**-3.1**
EADA	**Adamuz**	**4.84**	**146**		Pn		**Pn**	**04 09 33.8**	**-1.0**
EADA					Sn		**Sn**	**04 10 27.2**	**-2.9**
EADA	**Adamuz**	**4.84**	**146**		Pn		**Pn**	**04 09 34.7**	**-0.1**
EADA					Sn		**Sn**	**04 10 28.5**	**-1.6**
EADA					Sg		Sb	04 10 55.7	+10
EADA					*i* IVmb_Lg			04 11 04.9	
EALK	**Alkurruntz**	**4.89**	**76**		Pn		**Pn**	**04 09 36.9**	**+1.4**
EALK					Sn		**Sn**	**04 10 31.8**	**+0.4**
EALK					Sg		Sb	04 10 59.1	+12
MORF	**Marmelete**	**4.95**	**186**		*e*Sn		**Sn**	**04 10 30.6**	**-2.2**
MORF					*e*Sg		Sb	04 10 59.4	+11
MORF					*i* IAML			04 11 01.3	
MORF					*i* IAML			04 11 03.7	
MORF					*i* IAML			04 11 06.2	
PBDV	**Barranco-do-Ve**	**4.99**	**179**		Pn		**Pn**	**04 09 36.4**	**-0.3**
PBDV					Sn		**Sn**	**04 10 29.7**	**-4.0**
PBDV	**Barranco-do-Ve**	**4.99**	**179**		*e*Pn		**Pn**	**04 09 37.2**	**+0.5**
PBDV					*e*Sn		**Sn**	**04 10 30.9**	**-2.7**
PBDV					*e*Sg		Sb	04 11 01.2	+12
PBDV					*i* IAML			04 11 06.8	
PBDV					*i* IAML			04 11 08.2	
PBDV					*i* IAML			04 11 09.6	
EORO	**Oroz-Betelu**	**5.00**	**80**		Pn		**Pn**	**04 09 37.4**	**+0.4**
EORO					Sn		**Sn**	**04 10 32.9**	**-1.0**
EORO					Sg		Sb	04 10 59.8	+10
EORO					*i* IVmb_Lg			04 11 12.5	
SJPF	**Ste Jean**	**5.08**	**78**		*e*Pn		**Pn**	**04 09 38.3**	**+0.3**
SJPF					*e*Sn		**Sn**	**04 10 32.4**	**-3.6**
SJPF					*e*Sg		Sb	04 11 01.7	+10
	comp=N,10nm,0.4s								
E0901	**Celadas (Terue**	**5.47**	**106**		Pn		**Pn**	**04 09 43.8**	**+0.3**
E0901					Sg		Sb	04 11 17.7	+14
E0901					*i* IVmb_Lg			04 11 32.3	
E0802	**Ubeda,Jaen**	**5.51**	**138**		Sg		Sb	04 11 12.8	+8.3
ETSF	**Etsaut**	**5.55**	**81**		*e*Pn		**Pn**	**04 09 45.9**	**+1.4**
ETSF	**Etsaut**	**5.55**	**81**		*e*Pg		Pb	04 10 05.7	+6.2
ETSF					*e*Sn		**Sn**	**04 10 44.9**	**-2.6**
ETSF					*e*Sg		Sb	04 11 14.3	+8.7
	comp=N,5.8nm,0.4s								
ESPR	**Espera**	**5.62**	**162**		Sn		**Sn**	**04 10 45.8**	**-3.3**
ESPR					Sg		Sb	04 11 20.1	+13
ESAC	**San Caprasio**	**5.65**	**93**		Pn		**Pn**	**04 09 46.3**	**+0.4**
ESAC					Sg		Sb	04 11 22.0	+14
ESAC					*i* IVmb_Lg			04 11 32.5	
EQES	**Quesada**	**5.83**	**138**		Pn		**Pn**	**04 09 47.6**	**-0.8**
EQES					Sg		Sb	04 11 25.8	+12
EGOR	**Sierra Gorda,**	**5.94**	**148**		Sg		Sb	04 11 30.1	+13
ECHE	**Chera**	**5.96**	**114**		Pn		**Pn**	**04 09 49.4**	**-0.7**
ECHE					Sg		Sb	04 11 31.2	+14
ECHE					*i* IVmb_Lg			04 11 42.5	
EMOS	**Mosqueruela**	**5.98**	**106**		Pn		**Pn**	**04 09 50.7**	**+0.2**
EMOS					Sn		**Sn**	**04 10 55.5**	**-2.8**
EVIV	**Cofrentes, Val**	**6.02**	**117**		Pn		**Pn**	**04 09 50.0**	**-0.9**
EVIV					Sg		Sb	04 11 31.8	+13
EVIV					*i* IVmb_Lg			04 11 40.5	
EQUE	**Quentar**	**6.14**	**143**		Sg		Sb	04 11 39.0	+16
EPF	**Esparros**	**6.21**	**80**		*e*Pn		**Pn**	**04 09 54.0**	**+0.4**
EPF					*e*Sn		**Sn**	**04 11 00.2**	**-3.7**
EPF					*e*Sg		Sb	04 11 35.6	+11
	comp=N,2.0nm,0.3s								
ELGU	**Los Guajares,**	**6.34**	**146**		Pn		**Pn**	**04 09 57.7**	**+2.2**
ELGU					Sg		Sb	04 11 44.5	+16
ERTA	**Horta de San J**	**6.39**	**99**		Sn		**Sn**	**04 11 09.9**	**+1.7**
ERTA					Sg		Sb	04 11 46.5	+17
QUIF	**Quistinic**	**6.63**	**29**		*e*Pn		**Pn**	**04 09 58.1**	**-1.2**
QUIF					*e*Sn		**Sn**	**04 11 07.7**	**-6.4**
	comp=N,7.7nm,0.4s								
AFON	**Font Roja**	**6.72**	**120**		Sg		Sb	04 11 56.2	+17
EPOB	**Poblet**	**6.86**	**94**		Sg		Sb	04 11 52.6	+9.4
LFF	**La Frestale**	**6.91**	**64**		*e*Pn		**Pn**	**04 10 03.3**	**+0.2**
LFF					*e*Sn		**Sn**	**04 11 16.6**	**-4.2**
	comp=N,6.9nm,0.5s								
ROSF	**Rostrenen**	**6.96**	**27**		*e*Pn		**Pn**	**04 10 02.8**	**-0.9**
ROSF					*e*Sn		**Sn**	**04 11 16.2**	**-5.8**
	comp=N,3.2nm,0.2s								
MFF	**Saint Martin d**	**7.12**	**50**		*e*Pn		**Pn**	**04 10 04.8**	**-1.2**
MFF	**Saint Martin d**	**7.12**	**50**		*e*Pn		**Pn**	**04 10 05.0**	**-1.0**
	baz=240								
MFF					*e*Sn		**Sn**	**04 11 19.6**	**-6.6**
	comp=N,1.9nm,0.3s								
MFF					*e*Sn		Sb	04 11 19.7	-31
	comp=N,3.9nm,0.3s								
SGMF	**Saint Gilles**	**7.14**	**31**		*e*Pn		**Pn**	**04 10 05.8**	**-0.5**
SGMF					*e*Sn		**Sn**	**04 11 23.0**	**-3.6**
	comp=N,3.1nm,0.2s								
RJF	**Les Rejaudoux**	**7.55**	**63**		*e*Pn		**Pn**	**04 10 12.0**	**+0.1**
RJF					*e*Sn		**Sn**	**04 11 31.5**	**-5.2**
	comp=N,0.7nm,0.2s								
MTLF	**Montolieu**	**7.61**	**78**		*e*Pn		**Pn**	**04 10 12.4**	**-0.3**
MTLF					*e*Sn		**Sn**	**04 11 33.0**	**-5.1**
	comp=N,2.9nm,0.5s								
CAF	**Calviac**	**7.80**	**66**		*e*Pn		**Pn**	**04 10 14.1**	**-1.2**
CAF					*e*Sn		**Sn**	**04 11 36.9**	**-5.9**
	comp=N,1.9nm,0.3s								
LASF	**Ste Croix**	**8.87**	**74**		*e*Pn		**Pn**	**04 10 30.1**	**+0.1**
LASF					*e*Sn		**Sn**	**04 12 03.9**	**-5.3**
	comp=N,0.7nm,0.4s								
MD31	**MD31**	**9.70**	**164**		P		**Pn**	**04 10 41.3**	**-0.2**
MDT	**Midelt**	**9.79**	**163**		P		**Pn**	**04 10 41.6**	**-1.1**

*IDC **10** 04:22:11.8±4.4,58°60S×26°16W,h158km±42km,mb4.0/10, mbtmp4.5/12,Error ellipse: s-maj=17.2km s-min=13.4km az=51.0*
*NEIC **10** 04:22:13.9±0.9,58°7S±0°1×26°1W±0°2,h178km±6km, mb4.5/23,Error ellipse: s-maj=15.2km s-min=12.3km az=151.0*

ISC 10 04:22:11.1±0.4,58°72S±0°07×26°01W±0°08,h150km,n70, σ1§90/57,mb4.5/14,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.30**	**303**	Pn	**Pn**	**04 23 57.5**	**+2.5**
VNA1	**Neumayer--Stat**	**14.08**	**155**	S	Sn	04 27 51.2	-8.2
VNA1	**Neumayer--Stat**	**14.08**	**155** ⇑	P	**Pn**	**04 25 25.7**	**+2.1**
	comp=Z,31nm,0.8s						
VNA3	**Neumayer Olymp**	**14.26**	**158**	S	Sn	04 27 53.0	-11
VNA3	**Neumayer Olymp**	**14.26**	**158** ⇑	P	Pn	04 25 24.0	-1.9
	comp=Z,19nm,0.5s						
ESPZ	**Base Esperanza**	**15.61**	**239**	Pn	**Pn**	**04 25 42.1**	**-0.5**
ESPZ				IAmb	IAmb	04 25 45.5	
	comp=Z,48nm,1.2s						
SNAA	**Sanae**	**16.05**	**153**	S	S	04 28 38.0	-8.4
SNAA	**Sanae**	**16.05**	**153** ⇑	P	**Pn**	**04 25 47.8**	**-0.2**
	comp=Z,469nm,0.7s						
SNAA	**Sanae**	**16.05**	**153**	P	**Pn**	**04 25 48.2**	**+0.2**
SNAA				IAmb	IAmb	04 25 50.2	
	comp=Z,28nm,0.9s						
SNAA	**Sanae**	**16.05**	**153**	P	**Pn**	**04 25 48.4**	**+0.3**
	comp=Z,20nm,0.8s,baz=307,slow=11,SNR=186						
SNAA				S	**S**	**04 28 40.3**	**-6.1**
	comp=Z,1.4nm,0.4s,baz=28,slow=19,SNR=3.0						
TROLL	**Troll, Antarti**	**17.58**	**151** ⇑	P	**P**	**04 26 04.7**	**-0.8**
	comp=Z,592nm,0.6s						
TROLL	**Troll, Antarti**	**17.58**	**151** ⇑	S	**S**	**04 29 17.5**	**-2.8**
	comp=Z,119nm,0.7s						
PMSA	**Palmer Station**	**18.76**	**235**	P	**P**	**04 26 19.2**	**+1.1**
PMSA				IAmb	IAmb	04 26 19.6	
	comp=Z,37nm,0.7s						
PMSA	**Palmer Station**	**18.76**	**235**	P	**P**	**04 26 18.7**	**+0.5**
	comp=Z,34nm,0.7s,baz=68,slow=6.9,SNR=11						
EFI	**East Falkland**	**19.46**	**277**	P	**P**	**04 26 25.7**	**-0.1**
BELA	**Belgrano 2**	**19.46**	**185**	P	**P**	**04 26 25.3**	**-0.4**
BELA				IAmb	IAmb	04 26 30.2	
	comp=Z,14nm,1.0s						
MG02	**Cerro Sombrero**	**24.68**	**265**	P	**P**	**04 27 15.9**	**-1.8**
MG05	**Puerto Natales**	**26.98**	**265**	P	**P**	**04 27 36.2**	**-2.1**
TRQA	**Tornquist**	**31.01**	**296**	P	**P**	**04 28 13.5**	**-0.8**
TRQA				IAmb	IAmb	04 28 15.6	
	comp=Z,7.7nm,1.0s						
QSPA	**South Pole Qui**	**31.52**	**180**	P	**P**	**04 28 20.3**	**+1.7**
QSPA				IAmb	IAmb	04 28 21.0	
	comp=Z,6.5nm,0.6s						
QSPA	**South Pole Qui**	**31.52**	**180**	P	**P**	**04 28 20.2**	**+1.6**
	comp=Z,6.1nm,0.5s,baz=244,slow=0.4,SNR=92						
	comp=Z,6.1nm,0.5s						
PLCA	**Paso Flores**	**33.16**	**283**	P	**P**	**04 28 32.0**	**-1.0**
PLCA				IAmb	IAmb	04 28 32.1	
	comp=Z,10nm,0.9s						
PLCA	**Paso Flores**	**33.16**	**283**	P	**P**	**04 28 31.4**	**-1.7**
	comp=Z,8.5nm,0.7s,baz=145,slow=7.3,SNR=25						
	comp=Z,8.5nm,0.7s						
BI05	**Punta Hualpn**	**37.53**	**285**	P	**P**	**04 29 09.6**	**-0.6**
MAW	**Mawson**	**37.64**	**141**	P	**P**	**04 29 10.9**	**+0.1**
	comp=Z,9.0nm,0.9s,baz=233,slow=8.3,SNR=26						
	comp=Z,9.0nm,0.9s						
BO04	**La Punta**	**38.43**	**290**	P	**P**	**04 29 16.4**	**-1.6**
BO04				IAmb	IAmb	04 29 27.0	
	comp=Z,16nm,1.2s						
PEL	**Peldehue**	**39.15**	**291**	P	**P**	**04 29 23.4**	**-0.6**
PEL				IAmb	IAmb	04 29 24.1	
	comp=Z,21nm,0.6s						
VNDA	**Vanda**	**43.93**	**182**	P	**P**	**04 30 03.8**	**+1.6**
VNDA				IAmb	IAmb	04 30 04.3	
	comp=Z,5.1nm,0.6s						
VNDA	**Vanda**	**43.93**	**182**	P	**P**	**04 30 03.8**

s-min=26.8km az=108.0
NEIC ***10*** *04:47:44.9±0.9, 10.75S±0.08×165.8E±0.2, h35km±1km, mb4.4/10, Error ellipse: s-maj=26.9km s-min=11.7km az=283.0*

ISC 10 04:47:43.8±1.0, 10.83S±0.09×165.7E±0.1, h30km, n21, σ1s26/20, mb4.3/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.82**	**162**		**Pn**	**04 48 55.2**	**+0.9**
HNR	**Honiara**	**5.83**	**283**	Pn	**Pn**	**04 49 07.6**	**-0.6**
	27nm,0.3s,baz=151,slow=4.5,SNR=2.6						
HNR				LR	LR	04 51 27.6	
	comp=Z,293nm,18.7s,baz=85,slow=40						
	118nm,0.4s						
DZM	**Mont Dzumac**	**11.20**	**176**		**Pn**	**04 50 23.1**	**+1.1**
DZM	**Mont Dzumac**	**11.20**	**176**	Pn	**Pn**	**04 50 23.0**	**+1.0**
	0.8nm,0.3s,baz=295,slow=18,SNR=24						
DZM				Sn	**Sn**	**04 52 23.3**	**-3.0**
	2.7nm,0.3s,baz=154,slow=23,SNR=12						
	3.6nm,0.5s						
ONTNC	**Ouen Toro**	**11.44**	**176**	Pn	**Pn**	**04 50 27.8**	**+2.6**
EIDS	**Eidsvold**	**20.03**	**222**	P	Pn	04 52 16.4	+0.1
EIDS				IAmb	IAmb	04 52 17.0	
	comp=Z,12nm,0.8s						
MANU	**Manus Island**	**20.19**	**294**	P	**P**	**04 52 17.2**	**+1.0**
MANU				IAmb	IAmb	04 52 19.4	
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**20.86**	**241**	P	**P**	**04 52 24.9**	**+1.4**
CTAO				IAmb	IAmb	04 52 29.6	
	comp=Z,23nm,1.4s						
BKZ	**Black Stump Fm**	**29.82**	**163**	P	**P**	**04 53 48.4**	**+0.1**
WR8	**Warramunga Arr**	**31.37**	**249**	P	**P**	**04 54 01.7**	**-0.5**
WB0	**Warramunga Arr**	**31.43**	**250**	P	**P**	**04 54 01.9**	**-0.8**
WB0				IAmb	IAmb	04 54 20.9	
	comp=Z,8.8nm,1.3s						
WRA	**Warramunga Arr**	**31.52**	**249**	P	**P**	**04 54 02.4**	**-1.0**
	comp=Z,5.0nm,1.0s,baz=82,slow=9.1,SNR=13						
	comp=Z,5.0nm,1.0s						
ASAR	**Alice Springs**	**32.85**	**243**	P	**P**	**04 54 14.1**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=73,slow=9.4,SNR=28						
	comp=Z,3.1nm,0.7s						
BBOO	**Buckleboo**	**34.95**	**227**	P	**P**	**04 54 33.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.39**	**255**	P	**P**	**04 55 11.3**	**+0.1**
MA2	**Magadan**	**71.19**	**352**	LR	LR	05 24 42.3	
	comp=Z,42nm,19.9s,baz=174,slow=31						
K15K	**Wolf Creek Mou**	**77.23**	**15**	P	**P**	**04 59 34.0**	**-0.6**
K15K				IAmb	IAmb	05 00 05.7	
	comp=Z,7.4nm,1.5s						
SONM	**Songino Array**	**78.47**	**324**	P	**P**	**04 59 41.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=140,slow=5.8,SNR=4.3						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**79.17**	**180**	P	**P**	**04 59 46.3**	**+0.6**
QSPA				IAmb	IAmb	04 59 49.6	
	comp=Z,7.3nm,1.2s						
QSPA	**South Pole Qui**	**79.17**	**180**	P	**P**	**04 59 45.9**	**+0.2**
	comp=Z,4.1nm,1.0s,baz=4.1,slow=2.7,SNR=7.1						
	comp=Z,4.1nm,1.0s						
ILAR	**Eielson Array**	**83.32**	**19**	P	**P**	**05 00 07.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=234,slow=6.1,SNR=7.7						
	comp=Z,0.6nm,0.7s						

SDD ***10*** *04:48:11.7±2.3, 17.42N×68.87W, h15km±33km, MD3.1, ML2.6, MW2.7*
NEIC ***10*** *04:48:18.7±1.0, 18.5N±0.1×68.74W±0.06, h150km±12km, ML2.7/6, Md2.8/8(RSPR), Error ellipse: s-maj=16.1km s-min=8.5km az=186.0*
OSPL ***10*** *04:48:19.4±1.1, 17.13N×68.79W, h0km±61km, ML2.7*
RSPR ***10*** *04:48:19.2, 18.52N×68.78W, h146km, MD2.8/8*

ISC 10 04:48:18.6±1.8, 18.5N±0.1×68.78W±0.03, h144km±13km, n35, σ1s13/42, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.14**	**23**	⇓*e*P	**Pn**	**04 48 38.5**	**+0.5**
HIDR	**Higuey Centro**	**0.14**	**23**	*e*S	**Sn**	**04 48 53.6**	**+0.8**
HIDR	**Higuey Centro**	**0.14**	**23**	*i* P	Pn	04 48 31.7	-6.3
HIDR				*e*Sg	**Sn**	**04 48 48.3**	**-4.6**
HIDR				IAML		04 48 55.2	
	comp=N,129nm,0.2s						
MIDR	**Miches**	**0.58**	**334**	⇑*e*Pg	**Pn**	**04 48 38.9**	**-0.8**
MIDR				*e*Sg	**Sn**	**04 48 57.2**	**+1.4**
DR12	**Loma Pena Alta**	**0.66**	**300**	Pn	**Pn**	**04 48 40.6**	**+0.4**
DR12				Sn	**Sn**	**04 48 57.4**	**+0.7**
HATOM	**Hato Mayor del**	**0.66**	**300**	*e*Sg	**Sn**	**04 48 56.1**	**-0.6**
HATOM				IAML		04 48 58.3	
	comp=N,38nm,0.3s						
SMDR	**Samana, DR**	**0.91**	**335**	⇑*e*P	**Pn**	**04 48 43.1**	**+1.0**
SMDR	**Samana, DR**	**0.91**	**335**	*e*S	**Sn**	**04 49 00.0**	**+0.1**
IDE	**Isla Desecheo**	**1.24**	**93**		**Pn**	**04 48 45.5**	**+0.5**
IDE					**Sn**	**04 49 06.0**	**+0.8**
IDE	**Isla Desecheo**	**1.24**	**93**	⇑*e*P	**Pn**	**04 48 45.5**	**+0.5**
IDE	**Isla Desecheo**	**1.24**	**93**	*e*S	**Sn**	**04 49 06.0**	**+0.8**
BANI	**BANI**	**1.50**	**268**	Pn	**Pn**	**04 48 48.6**	**+0.8**
AGPR	**Aguadilla, PR**	**1.58**	**89**		**Pn**	**04 48 48.6**	**+0.1**
AGPR					**Sn**	**04 49 11.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.58**	**89**	IAML		04 49 31.2	
	comp=E,58nm,2.4s						
AGPR				IAML		04 49 35.9	
	comp=N,48nm,1.8s						
AGPR	**Aguadilla, PR**	**1.58**	**89**	⇓*e*P	**Pn**	**04 48 48.6**	**+0.1**
AGPR	**Aguadilla, PR**	**1.58**	**89**	*e*S	**Sn**	**04 49 11.5**	**+0.1**
AGPR	**Aguadilla, PR**	**1.58**	**89**	⇓*e*Sg	**Sn**	**04 49 10.8**	**-0.6**
AGPR				IAML		04 49 37.9	
	comp=N,61nm,2.1s						
CRPR	**Cabo Rojo, PR**	**1.65**	**106**		**Pn**	**04 48 49.7**	**+0.5**
CRPR					**Sn**	**04 49 13.4**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.65**	**106**	IAML		04 50 05.0	
	comp=E,21nm,2.2s						
CRPR	**Cabo Rojo, PR**	**1.65**	**106**	⇑*e*P	**Pn**	**04 48 49.7**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.65**	**106**	*i* P	**Pn**	**04 48 49.4**	**+0.1**
CRPR				*e*S	**Sn**	**04 49 13.1**	**+0.3**
CRPR				IAML		04 49 13.1	
	comp=Z,32nm,1.8s						
MLPR	**Magueyes Islan**	**1.72**	**106**	⇑*e*P	**Pn**	**04 48 51.4**	**+1.3**
MLPR	**Magueyes Islan**	**1.72**	**106**	*e*S	**Sn**	**04 49 14.6**	**+0.5**
AOPR	**Arecibo Observ**	**1.92**	**93**		**Sn**	**04 49 17.1**	**-1.3**
AOPR	**Arecibo Observ**	**1.92**	**93**	*e*S	**Sn**	**04 49 17.1**	**-1.3**
AOPR	**Arecibo Observ**	**1.92**	**93**	*i* P	Pn	04 48 47.6	-4.9
AOPR				⇑*e*Sg	**Sn**	**04 49 16.9**	**-1.6**
AOPR				IAML		04 49 19.2	
	comp=N,40nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.96**	**96**		**Sn**	**04 49 18.6**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.96**	**96**	*e*S	**Sn**	**04 49 18.6**	**-0.7**
EMPR	**Esperanza - Ma**	**2.13**	**89**	Pn	**Pn**	**04 48 55.7**	**+0.8**
EMPR				IAML		04 49 52.8	
	comp=E,86nm,2.5s						
ECPR	**Experimental S**	**2.30**	**93**	⇑*e*P	**Pn**	**04 48 57.3**	**+0.4**
ECPR	**Experimental S**	**2.30**	**93**	*e*S	**Sn**	**04 49 24.2**	**-2.2**
PODR	**Polo**	**2.40**	**263**	*i* P	**Pn**	**04 48 59.0**	**+0.7**
PODR				*e*S	**Sn**	**04 49 29.0**	**+0.1**
LOVI	**El Cajuil, Ovi**	**2.55**	**255**	*i* P	**Pn**	**04 48 60.0**	**0.0**
LOVI				*e*S	**Sn**	**04 49 30.3**	**-1.6**
LOVI				IAML		04 49 32.8	
	comp=Z,80nm,0.9s						
REDR	**Restauracion**	**2.58**	**286**	*i* P	**Pn**	**04 49 00.0**	**-0.3**
LOBH	**Bahia de las A**	**2.79**	**258**	*i* P	**Pn**	**04 49 03.7**	**+0.7**
LOBH				*e*S	**Sn**	**04 49 36.9**	**-0.3**
LOBH				IAML		04 49 37.7	
	comp=Z,28nm,4.8s						

IDC ***10*** *04:58:13.8±1.2, 8.68S×107.37E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=42.4km s-min=17.9km az=59.0*
DJA ***10*** *04:58:23.6±0.5, 8.3S±3.1×10.8E±1.1, h17km±4km, M4.2/17, mb4.4/1, MLv4.1/17*

ISC 10 04:58:23.4±2.5, 8.33S±0.09×108.2E±0.04, h27km±19km, n25, σ1s20/25, mb3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.59**	**22**	P	**Pn**	**04 58 36.1**	**+0.1**
CMJI				S	**Sb**	**04 58 43.3**	**+0.1**
KPJI	**Karang Pucung**	**1.21**	**35**	P	**Pn**	**04 58 44.7**	**+0.1**
KPJI				S	**Sn**	**04 59 00.6**	**+0.5**
CNJI	**Cibinong**	**1.49**	**313**	P	**Pn**	**04 58 48.0**	**-0.4**
LEM	**Lembang**	**1.61**	**338**	Pn	**Pn**	**04 58 49.1**	**-1.2**
	118nm,0.3s,baz=279,slow=8.8,SNR=19						
LEM				Sn	**Sb**	**04 59 11.9**	**-0.8**
	165nm,0.3s,baz=260,slow=20,SNR=9.5						
LEM	**Lembang**	**1.61**	**338**	P	**Pn**	**04 58 50.8**	**+0.6**
LEM				S	**Sb**	**04 59 11.7**	**-0.9**
SKJI	**Sukabumi**	**2.12**	**308**	P	**Pn**	**04 58 58.5**	**+1.5**
SKJI				S	**Sn**	**04 59 24.6**	**+2.1**
DBJI	**Dramaga**	**2.30**	**320**	P	**Pn**	**04 59 00.8**	**+1.3**
DBJI				S	**Sn**	**04 59 28.5**	**+1.6**
UGM	**Wanagama**	**2.31**	**80**	P	**Pn**	**04 59 00.6**	**+0.9**
SMRI	**Semarang**	**2.54**	**60**	P	**Pn**	**04 59 04.5**	**+1.7**
SMRI				S	**Sn**	**04 59 34.3**	**+1.4**
WOJI	**Wonogiri, Jawa**	**2.71**	**80**	P	**Pn**	**04 59 05.9**	**+0.7**
PCJI	**Pacitan**	**2.92**	**88**	P	**Pn**	**04 59 09.6**	**+1.5**
CGJI	**Cibinong**	**3.04**	**304**	P	**Pn**	**04 59 10.8**	**+1.1**
TBJI	**Tambak Boyo**	**3.89**	**67**	P	**Pn**	**04 59 22.0**	**+0.6**
GRJI	**Gresik**	**4.45**	**72**	P	**Pn**	**04 59 30.0**	**+1.0**
GMJI	**Gumukmas**	**5.16**	**90**	P	**Pn**	**04 59 39.8**	**+0.9**
WRA	**Warramunga Arr**	**27.78**	**117**	P	**P**	**05 04 09.5**	**-0.8**
	0.3nm,0.8s,baz=291,slow=11,SNR=5.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**28.93**	**125**	P	**P**	**05 04 19.2**	**-1.4**
	0.3nm,0.5s,baz=303,slow=9.0,SNR=4.7						
	0.3nm,0.5s						
H08S2	**Diego Garcia H**	**35.39**	**269**	T	T	05 42 47.6	
	baz=93,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**35.40**	**269**	T	T	05 42 31.9	
	baz=93,slow=75,SNR=79						
H08S1	**Diego Garcia H**	**35.41**	**269**	T	T	05 43 03.8	
	baz=93,slow=75,SNR=53						
STKA	**Stephens Creek**	**38.85**	**132**	P	**P**	**05 05 45.4**	**-1.1**
	1.2nm,0.4s,baz=304,slow=7.3,SNR=4.1						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**59.55**	**340**	P	P	05 08 19.1	-5.3
	0.4nm,0.5s,baz=143,slow=7.0,SNR=4.3						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**65.12**	**345**	P	P	05 08 55.6	-6.0
	0.3nm,0.4s,baz=157,slow=7.8,SNR=2.2						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**69.06**	**337**	P	P	05 09 19.6	-7.0
	0.3nm,0.3s,baz=192,slow=4.3,SNR=1.9						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**83.62**	**312**	P	P	05 10 44.4	-5.4
	0.5nm,0.7s,baz=107,slow=7.9,SNR=4.8						
	0.5nm,0.7s						

IDC ***10*** *05:01:13.1±9.1, 3.08N×128.84E, h229km±98km, mb3.4/9, mbtmp3.9/9, Error ellipse: s-maj=47.7km s-min=17.3km az=85.0*

ISC 10 05:01:10.3±0.9, 3.1N±0.1×128.8E±0.4, h200km, n9, σ0s52/9, mb3.8/9, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.31**	**188**	P	**P**	**05 05 41.7**	**0.0**
	1.3nm,0.4s,baz=5.9,slow=11,SNR=2.7						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**23.55**	**167**	P	**P**	**05 06 02.5**	**-0.2**
	0.4nm,0.3s,baz=342,slow=10,SNR=14						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**27.07**	**170**	P	**P**	**05 06 34.6**	**0.0**
	0.6nm,0.3s,baz=344,slow=6.8,SNR=8.7						
	0.6nm,0.3s						
MJAR	**Matsushiro Arr**	**34.37**	**13**	P	**P**	**05 07 38.5**	**+0.2**
	1.6nm,0.5s,baz=186,slow=8.8,SNR=6.5						
	1.6nm,0.5s						
STKA	**Stephens Creek**	**36.86**	**162**	P	**P**	**05 07 59.8**	**+0.2**
	1.9nm,0.7s,baz=350,slow=6.1,SNR=2.1						
	1.9nm,0.7s						
SONM	**Songino Array**	**48.57**	**340**	P	**P**	**05 09 34.1**	**+0.5**
	0.5nm,0.7s,baz=155,slow=4.8,SNR=2.0						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**59.26**	**325**	P	**P**	**05 10 51.0**	**+0.1**
	0.6nm,0.6s,baz=114,slow=8.0,SNR=6.2						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**68.98**	**327**	P	**P**	**05 11 54.0**	**+0.1**
	0.8nm,0.4s,baz=78,slow=6.7,SNR=4.3						
	0.8nm,0.4s						
ARCES	**ARCESS Array B**	**91.74**	**340**	P	**P**	**05 13 53.8**	**-1.1**
	3.0nm,1.0s,baz=64,slow=5.6,SNR=3.8						
	3.0nm,1.0s						

IDC ***10*** *05:10:47.1±5.4, 21.57N×143.58E, h193km±50km, mb3.3/10, mbtmp3.9/11, Error ellipse: s-maj=35.0km s-min=12.0km az=82.0*

ISC 10 05:10:47.5±1.0, 21.6N±0.1×143.6E±0.3, h200km, n12, σ0s83/14, mb3.5/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.65**	**344**	P	**Pn**	**05 14 17.9**	**+0.4**
	1.7nm,0.3s,baz=162,slow=8.7,SNR=9.7						
KSRS	**Korea Array**	**20.86**	**323**	P	**P**	**05 15 13.1**	**-0.8**
	0.9nm,0.6s,baz=143,slow=11,SNR=5.0						
	0.9nm,0.6s						
SONM	**Songino Array**	**39.69**	**320**	P	**P**	**05 18 00.3**	**0.0**
	0.3nm,0.4s,baz=134,slow=8.4,SNR=4.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.23**	**193**	P	**P**	**05 18 21.4**	**+0.3**
	0.9nm,0.3s,baz=14,slow=9.2,SNR=35						
	0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**43.16**	**205**	P	**P**	**05 18 28.9**	**+0.4**
	3.4nm,0.6s,baz=7.6,slow=5.2,SNR=16						
	3.4nm,0.6s						
ASAR	**Alice Springs**	**45.93**	**192**	P	**P**	**05 18 50.1**	**-0.4**
	0.4nm,0.4s,baz=15,slow=6.5,SNR=8.1						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**54.56**	**322**	P	**P**	**05 19 55.1**	**+0.3**
	0.5nm,0.5s,baz=93,slow=7.2,SNR=2.2						
ZALV				PcP	**PcP**	**05 20 54.2**	**-1.1**
	0.7nm,0.5s,baz=133,slow=5.4,SNR=3.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**55.08**	**313**	P	**P**	**05 20 00.5**	**+1.7**
	0.2nm,0.5s,baz=90,slow=9.5,SNR=4.3						
MKAR				PcP	**PcP**	**05 20 56.4**	**-1.2**
	0.5nm,0.4s,baz=68,slow=6.0,SNR=5.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.89**	**317**	P	**P**	**05 20 19.0**	**+0.6**
	0.9nm,0.4s,baz=97,slow=7.6,SNR=4.6						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**61.98**	**27**	P	**P**	**05 20 46.1**	**+0.1**
	0.4nm,0.8s,baz=264,slow=6.1,SNR=3.3						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**63.03**	**320**	P	**P**	**05 20 53.1**	**0.0**
	1.8nm,0.4s,baz=97,slow=8.1,SNR=7.3						
	1.8nm,0.4s						
PLCA	**Paso Flores**	**145.37**	**131**	PKPbc	**PKPab**	**05 30 02.8**	**+0.4**
	1.8nm,0.6s,baz=229,slow=6.0,SNR=9.1						

IDC ***10*** *05:12:29.1±0.7, 53.60N×161.75E, h0km, mb3.9/13, mbtmp3.9/15, ML3.5/2, MS3.2/1, Error ellipse: s-maj=22.2km s-min=14.1km az=157.0*
KRSC ***10*** *05:12:29.4±1.3, 53.37N×162.13E, h40km±19km, Ml4.2*
MOS ***10*** *05:12:31.5±0.7, 53.37N×162.09E, h50km, mb4.2/6, Error ellipse: s-maj=6.6km s-min=4.8km az=94.2*
NEIC ***10*** *05:12:31.6±1.1, 53.50N±0.07×161.8E±0.1, h10km±2km, mb4.0/13, Error ellipse: s-maj=12.5km s-min=11.4km az=189.0*

ISC 10 05:12:32.6±1.2, 53.43N±0.04×162.03E±0.04, h31km±8km, n139, σ1s26/152, mb4.0/24, 6C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.15**	**351**	PN	**Pn**	**05 12 51.0**	**-1.5**
MKZ				S	**Sn**	**05 13 05.4**	**-1.7**
MKZ	**Mys Kozlova**	**1.15**	**351**	*e*P	**Pn**	**05 12 51.1**	**-1.5**
MKZ				*e*S	**Sn**	**05 13 05.4**	**-1.7**
SPN	**Mys Shipunski**	**1.25**	**256**	PN	**Pn**	**05 12 52.8**	**-1.1**
SPN				S	**Sn**	**05 13 08.4**	**-1.3**
SPN	**Mys Shipunski**	**1.25**	**256**	*e*P	**Pn**	**05 12 52.8**	**-1.1**
SPN				*e*S	**Sn**	**05 13 08.5**	**-1.3**
NLC	**Nalytchevo**	**1.63**	**262**	PN	**Pn**	**05 12 58.3**	**-0.8**
NLC				S	**Sn**	**05 13 18.3**	**-0.8**
NLC	**Nalytchevo**	**1.63**	**262**	*e*P	**Pn**	**05 12 58.4**	**-0.8**
NLC				*e*S	**Sn**	**05 13 18.4**	**-0.8**
KII	**Karymskiy**	**1.65**	**293**	PN	**Pn**	**05 12 59.0**	**-0.5**
KII	**Karymskiy**	**1.65**	**293**	*e*P	**Pn**	**05 12 59.0**	**-0.5**
SDLR	**Sedlovina**	**1.89**	**267**	PN	**Pn**	**05 13 02.4**	**-0.5**
SDLR	**Sedlovina**	**1.89**	**267**	*e*P	**Pn**	**05 13 02.4**	**-0.5**
UGLR	**Uglovaya**	**1.94**	**265**	PN	**Pn**	**05 13 03.3**	**-0.1**
UGLR	**Uglovaya**	**1.94**	**265**	*e*P	**Pn**	**05 13 03.4**	**-0.1**
SMAR	**Somma**	**1.94**	**266**	PN	**Pn**	**05 13 03.0**	**-0.6**
SMAR	**Somma**	**1.94**	**266**	*e*P	**Pn**	**05 13 03.1**	**-0.6**
KRER	**Koryakskii**	**1.97**	**268**	PN	**Pn**	**05 13 03.4**	**-0.6**
KRER	**Koryakskii**	**1.97**	**268**	*e*P	**Pn**	**05 13 03.5**	**-0.6**
AVH	**Avacha**	**1.98**	**267**	PN	**Pn**	**05 13 04.0**	**0.0**
AVH	**Avacha**	**1.98**	**267**	*e*P	**Pn**	**05 13 04.0**	**0.0**
DALK	**Dalny**	**2.01**	**260**	PN	**Pn**	**05 13 02.9**	**-1.4**
DALK	**Dalny**	**2.01**	**260**	*e*P	**Pn**	**05 13 03.0**	**-1.4**
TUMD	**Tumrok D**	**2.02**	**332**	PN	**Pn**	**05 13 03.7**	**-0.9**
TUMD				S	**Sn**	**05 13 28.9**	**+0.1**
TUMD	**Tumrok D**	**2.02**	**332**	*e*P	**Pn**	**05 13 03.7**	**-0.9**
TUMD				*e*S	**Sn**	**05 13 29.0**	**+0.1**
KRX	**Arik**	**2.03**	**269**	PN	**Pn**	**05 13 04.1**	**-0.6**
KRX	**Arik**	**2.03**	**269**	*e*P	**Pn**	**05 13 04.2**	**-0.6**
KOK	**Koryaka**	**2.04**	**268**	PN	**Pn**	**05 13 04.6**	**-0.2**
KOK	**Koryaka**	**2.04**	**268**	*e*P	**Pn**	**05 13 04.7**	**-0.2**
PET	**Petropavlovsk**	**2.07**	**260**		**Pn**	**05 13 05.0**	**-0.2**
PET	**Petropavlovsk**	**2.07**	**260**	PN	**Pn**	**05 13 04.3**	**-0.9**
PET				S	**Sn**	**05 13 28.9**	**-1.0**
PET	**Petropavlovsk**	**2.07**	**260**	*e*P	**Pn**	**05 13 04.3**	**-0.9**
PET				*e*S	**Sn**	**05 13 29.0**	**-1.0**
RUS	**Russkaya**	**2.35**	**246**	PN	**Pn**	**05 13 08.1**	**-0.9**
RUS				S	**Sn**	**05 13 36.3**	**-0.5**
RUS	**Russkaya**	**2.35**	**246**	*e*P	**Pn**	**05 13 08.1**	**-0.9**
RUS				*e*S	**Sn**	**05 13 36.4**	**-0.5**
KRMR	**Karymshinskiy**	**2.42**	**257**	PN	**Pn**	**05 13 10.7**	**+0.6**
KRMR	**Karymshinskiy**	**2.42**	**257**	*e*P	**Pn**	**05 13 10.7**	**+0.6**
GNL	**Ganaly**	**2.45**	**278**	PN	**Pn**	**05 13 11.1**	**+0.5**
GNL	**Ganaly**	**2.45**	**278**	*e*P	**Pn**	**05 13 11.1**	**+0.5**
MTVR	**Mutnovka**	**2.51**	**249**	PN	**Pn**	**05 13 11.3**	**-0.1**
MTVR	**Mutnovka**	**2.51**	**249**	*e*P	**Pn**	**05 13 11.4**	**-0.1**
GRL	**Gorelyy**	**2.55**	**251**	PN	**Pn**	**05 13 12.1**	**+0.2**
GRL	**Gorelyy**	**2.55**	**251**	*e*P	**Pn**	**05 13 12.1**	**+0.2**
KMNR	**Kamenistaya**	**2.56**	**337**	PN	**Pn**	**05 13 13.5**	**+1.5**
KMNR	**Kamenistaya**	**2.56**	**337**	*e*P	**Pn**	**05 13 13.5**	**+1.5**
PEA0B	**Petropavlovsk-**	**2.62**	**265**		**Pn**	**05 13 12.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.62**	**265**	PN	**Pn**	**05 13 13.3**	**+0.5**
PEA0B				S	**Sn**	**05 13 44.1**	**+0.5**
PETK	**Petropavlovsk-**	**2.62**	**265**	Pn	**Pn**	**05 13 12.7**	**-0.2**
	6.0nm,0.3s,baz=92,slow=16,SNR=77						
PETK				Sn	**Sn**	**05 13 42.7**	**-0.9**
	12nm,0.3s,baz=80,slow=20,SNR=6.5						
	28nm,0.8s						
BZGR	**Bezymyannyi-Gr**	**2.64**	**343**	PN	**Pn**	**05 13 13.4**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.64**	**343**	*e*P	**Pn**	**05 13 13.5**	**+0.3**
BZMR	**Bezymyannaya**	**2.67**	**341**	PN	**Pn**	**05 13 15.1**	**+1.5**
BZMR	**Bezymyannaya**	**2.67**	**341**	*e*P	**Pn**	**05 13 15.1**	**+1.5**
ZLN	**Zelenaya**	**2.69**	**345**	PN	**Pn**	**05 13 15.6**	**+1.8**
ZLN	**Zelenaya**	**2.69**	**345**	*e*P	**Pn**	**05 13 15.7**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.70**	**341**	PN	**Pn**	**05 13 15.9**	**+1.9**
BZWR	**Bezymyannyi-We**	**2.70**	**341**	*e*P	**Pn**	**05 13 15.9**	**+1.9**
ASAK	**Asacha**	**2.71**	**249**	PN	**Pn**	**05 13 14.8**	**+0.7**
ASAK	**Asacha**	**2.71**	**249**	*e*P	**Pn**	**05 13 14.8**	**+0.7**
KIRR	**Kirishev**	**2.72**	**340**	PN	**Pn**	**05 13 15.8**	**+1.6**
KIRR	**Kirishev**	**2.72**	**340**	*e*P	**Pn**	**05 13 15.8**	**+1.6**
KPT	**Kopyto**	**2.75**	**338**	PN	**Pn**	**05 13 15.5**	**+0.8**
KPT	**Kopyto**	**2.75**	**338**	*e*P	**Pn**	**05 13 15.5**	**+0.8**
CIRR	**Tsirk**	**2.80**	**345**	PN	**Pn**	**05 13 16.8**	**+1.5**
CIRR	**Tsirk**	**2.80**	**345**	*e*P	**Pn**	**05 13 16.9**	**+1.5**
KBTR	**Krutoberegovo**	**2.83**	**9**	PN	**Pn**	**05 13 15.6**	**0.0**
KBTR	**Krutoberegovo**	**2.83**	**9**	*e*P	**Pn**	**05 13 15.7**	**0.0**
KBG	**Krutoberegovo**	**2.86**	**8**	PN	**Pn**	**05 13 15.0**	**-1.1**
KBG	**Krutoberegovo**	**2.86**	**8**	*e*P	**Pn**	**05 13 15.0**	**-1.1**
BKI	**Bering**	**2.92**	**51**	PN	**Pn**	**05 13 16.4**	**-0.4**
BKI				S	**Sn**	**05 13 48.8**	**-2.0**
BKI	**Bering**	**2.92**	**51**	*e*P	**Pn**	**05 13 16.4**	**-0.4**
BKI				*e*S	**Sn**	**05 13 48.8**	**-2.0**
KOZ	**Kozyrevsk**	**2.92**	**335**	PN	**Pn**	**05 13 18.2**	**+1.3**
KOZ	**Kozyrevsk**	**2.92**	**335**	*e*P	**Pn**	**05 13 18.3**	**+1.3**
APC	**Apacha**	**2.98**	**262**	PN	**Pn**	**05 13 19.4**	**+1.8**
APC	**Apacha**	**2.98**	**262**	*e*P	**Pn**	**05 13 19.5**	**+1.8**
KLY	**Klyuchi**	**3.00**	**345**	PN	**Pn**	**05 13 18.4**	**+0.4**
KLY	**Klyuchi**	**3.00**	**345**	*e*P	**Pn**	**05 13 18.4**	**+0.4**
ESO	**Esso**	**3.17**	**324**	PN	**Pn**	**05 13 20.0**	**-0.3**
ESO	**Esso**	**3.17**	**324**	*e*P	**Pn**	**05 13 20.0**	**-0.3**
SMKR	**Semkarok**	**3.18**	**354**	PN	**Pn**	**05 13 22.8**	**+2.3**
SMKR	**Semkarok**	**3.18**	**354**	*e*

comp=Z,5.0nm,1.3s
NVAR **Mina Array Bea** 54.53 72 P P 05 22 00.1 +2.3
comp=Z,0.7nm,0.5s,baz=303,slow=6.6,SNR=6.0
comp=Z,0.7nm,0.5s
KIRV **Kirov** 55.81 324⇑ *i*P P 05 22 05.7 -0.6
PDAR **Pinedale Array** 56.34 62 P P 05 22 13.1 +2.4
comp=Z,1.0nm,0.8s,baz=304,slow=3.4,SNR=7.9
comp=Z,1.0nm,0.8s
ULM **Lac du Bonnet** 57.74 48⇑ *i*P P 05 22 18.3 -1.8
PFO **Pinyon Flats O** 58.99 74 *i* P P 05 22 26.8 -2.5
PFO pmax pmax
comp=Z,2.0nm,1.2s
CMAR **Chiang Mai Arr** 59.39 260 P P 05 22 33.1 +1.1
comp=Z,0.8nm,0.3s,baz=40,slow=6.2,SNR=1.2
comp=Z,0.8nm,0.3s
FINES **FINESS Array B** 60.27 337 P P 05 22 36.9 -0.6
comp=Z,1.2nm,0.7s,baz=33,slow=6.0,SNR=5.2
comp=Z,1.2nm,0.7s
FINES **FINESS Array B** 60.27 337 *e*P P 05 22 35.7 -1.8
FINES pmax pmax
comp=Z,1.0nm,0.5s
OBN **Obninsk** 62.85 328 *e*P P 05 22 53.3 -1.7
OBN *e**PP pP 05 23 03.8 +0.5
OBN *e* 05 23 30.2
OBN *e* 05 25 12.5
OBN pmax pmax
comp=Z,3.0nm,0.8s
NB2 **NORSAR Subarra** 63.54 345 P P 05 22 58.9 -0.6
comp=Z,0.5nm,0.6s,baz=21,slow=6.9
NOA **NORSAR Array B** 63.54 345 P P 05 22 59.0 -0.6
comp=Z,0.7nm,0.7s,baz=16,slow=4.1,SNR=5.0
comp=Z,0.7nm,0.7s
NOA **NORSAR Array B** 63.54 345 P P 05 22 59.0 -0.6
TXAR **Lajitas Array** 69.43 68 P P 05 23 39.9 +2.2
comp=Z,1.0nm,0.8s,baz=309,slow=6.3,SNR=9.3
comp=Z,1.0nm,0.8s
WRA **Warramunga Arr** 76.89 207 P P 05 24 22.1 +0.6
comp=Z,0.9nm,0.7s,baz=19,slow=6.1,SNR=7.0
comp=Z,0.9nm,0.7s
WRA **Warramunga Arr** 76.89 207 *e*P P 05 24 22.8 +1.3
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR **Alice Springs** 80.55 206 P P 05 24 43.2 +1.5
comp=Z,1.0nm,0.7s,baz=17,slow=5.3,SNR=8.4
comp=Z,1.0nm,0.7s
QSPA **South Pole Qui** 143.17 180 PKhKP PKPpre 05 31 58.9
comp=Z,0.9nm,0.8s,baz=304,slow=1.7,SNR=5.8

---

*IDC **10** 05:26:11.8±7.5, 33.75S×180.00E, h42km±60km, mb3.6/4, mbtmp4.0/5, ML4.4/1, Error ellipse: s-maj=51.0km s-min=24.3km az=58.0*
*WEL **10** 05:26:16.1±0.6, 34.5S×18.0W±1.2, h12km, M4.8/13, mB5.4/8, ML5.0/19, MLv4.8/13, Mw(mB)4.8/8, Error ellipse: s-maj=16.9km s-min=4.2km az=112.6, confirmed*
*NOU **10** 05:26:54.2, 36.31S×178.17E, h74km, MLv3.5/5, Off E. Coast of N. Island, N.Z.*
ISC 10 05:26:15.5±0.9, 34.21S±0.06×179.37W±0.09, h53km, n92, σ1ᵗ97/96, mb3.9/5, 3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.84**	**209**	P	**Pn**	**05 27 16.1**	**+4.0**
MXZ	**Matakaoa Point**	**3.84**	**209**	P	**Pn**	05 27 16.2	+4.2
MXZ				S	**Sn**	**05 27 56.7**	**+0.8**
WMGZ	**Waiomatatini S**	**4.02**	**206**	P	**Pn**	**05 27 18.0**	**+3.4**
WMGZ				S	**Sn**	**05 28 03.0**	**+2.5**
PKGZ	**Pakihiroa**	**4.19**	**209**	P	**Pn**	**05 27 19.0**	**+2.1**
HAZ	**Te Kaha**	**4.22**	**212**	P	**Pn**	**05 27 19.7**	**+2.4**
RUGZ	**Raukumara Rang**	**4.44**	**212**	P	**Pn**	**05 27 22.2**	**+1.7**
TWGZ	**Tauwhareparae**	**4.50**	**208**	P	**Pn**	**05 27 23.8**	**+2.6**
KUZ	**Kuaotunu**	**4.74**	**236**	P	**Pn**	**05 27 26.2**	**+1.8**
KUZ	**Kuaotunu**	**4.74**	**236**	P	**Pn**	05 27 25.6	+1.2
TKGZ	**Te Karaka**	**4.78**	**207**	P	**Pn**	**05 27 28.4**	**+3.4**
TKGZ				S	**Sn**	**05 28 18.2**	**-0.8**
MWZ	**Matawai**	**4.82**	**210**	P	**Pn**	**05 27 26.2**	**+0.7**
MWZ				S	**Sn**	**05 28 19.1**	**-1.0**
OPRZ	**Ohinepanea**	**4.90**	**221**	P	**Pn**	**05 27 29.1**	**+2.4**
URZ	**Urewera**	**4.94**	**214**	P	**Pn**	**05 27 27.0**	**-0.1**
	14nm,0.3s,baz=264,slow=4.6,SNR=108						
URZ				S	**Sn**	**05 28 21.3**	**-1.7**
	80nm,0.3s,baz=166,slow=19,SNR=17						
	31nm,0.3s						
URZ	**Urewera**	**4.94**	**214**	P	**Pn**	**05 27 27.6**	**+0.4**
URZ	**Urewera**	**4.94**	**214**	P	**Pn**	**05 27 27.7**	**+0.6**
URZ				S	**Sn**	**05 28 21.1**	**-1.9**
MARZ	**Manawahe**	**4.94**	**219**	P	**Pn**	**05 27 30.7**	**+3.5**
RAGZ	**Rawiri**	**5.00**	**210**	P	**Pn**	**05 27 31.5**	**+3.4**
RAGZ				S	**Sn**	**05 28 24.9**	**+0.3**
RIGZ	**Rimuhau**	**5.05**	**206**	P	**Pn**	**05 27 30.8**	**+2.1**
GLKZ	**Green Lake**	**5.09**	**14**	P	**Pn**	**05 27 27.9**	**-1.3**
GLKZ				S	**Sn**	**05 28 23.7**	**-2.9**
RIZ	**Raoul Island**	**5.10**	**14**	P	**Pn**	**05 27 28.9**	**-0.5**
PRGZ	**Paritu Road**	**5.20**	**204**	P	**Pn**	**05 27 32.3**	**+1.6**
MUGZ	**Murupara**	**5.28**	**215**	P	**Pn**	**05 27 33.6**	**+1.8**
SNGZ	**Shannon Statio**	**5.28**	**209**	P	**Pn**	**05 27 33.6**	**+1.8**
SNGZ				S	**Sn**	**05 28 30.3**	**-1.0**
RTZ	**Ruatahuna**	**5.29**	**213**	P	**Pn**	**05 27 33.3**	**+1.3**
RTZ				S	**Sn**	**05 28 29.1**	**-2.6**
KNZ	**Kokohu**	**5.36**	**206**	P	**Pn**	**05 27 34.4**	**+1.6**
KNZ				S	**Sn**	**05 28 30.5**	**-2.7**
MHGZ	**Mahia Peninsul**	**5.39**	**203**	P	**Pn**	**05 27 35.2**	**+1.8**
TOZ	**Tahuroa Road**	**5.44**	**228**	P	**Pn**	**05 27 36.4**	**+2.4**
PRRZ	**Plateau Road**	**5.48**	**217**	P	**Pn**	**05 27 36.9**	**+2.3**
PRRZ				S	**Sn**	**05 28 34.1**	**-2.1**
RAHZ	**Arahi**	**5.49**	**210**	P	**Pn**	**05 27 36.2**	**+1.4**
RAHZ				S	**Sn**	**05 28 34.6**	**-2.0**
MTHZ	**Maungataniwha**	**5.55**	**212**	P	**Pn**	**05 27 37.2**	**+1.6**
MTHZ				S	**Sn**	**05 28 34.1**	**-3.8**
ALRZ	**Allen Road**	**5.55**	**217**	P	**Pn**	**05 27 37.5**	**+2.0**
WHHZ	**Waihua**	**5.57**	**208**	P	**Pn**	**05 27 38.5**	**+2.7**
WHHZ				S	**Sn**	**05 28 36.6**	**-1.8**
MRHZ	**Matea Rd**	**5.72**	**215**	P	**Pn**	**05 27 39.1**	**+1.1**
NMHZ	**Naumai**	**5.76**	**211**	P	**Pn**	**05 27 39.2**	**+0.7**
ARHZ	**Aropaoanui**	**5.83**	**209**	P	**Pn**	**05 27 39.9**	**+0.7**
ARHZ				S	**Sn**	**05 28 42.9**	**-1.9**
OUZ	**Omahuta**	**5.88**	**258**	P	Pn	05 27 51.4	+11
OUZ	**Omahuta**	**5.88**	**258**	P	**Pn**	**05 27 40.7**	**+0.6**
BKZ	**Black Stump Fm**	**5.96**	**213**	P	**Pn**	**05 27 41.3**	**+0.1**
BKZ	**Black Stump Fm**	**5.96**	**213**	P	**Pn**	**05 27 41.6**	**+0.4**
BKZ				S	**Sn**	**05 28 44.0**	**-4.1**
MCHZ	**McNeill Hill**	**6.10**	**210**	P	**Pn**	**05 27 44.4**	**+1.3**
MCHZ				S	**Sn**	**05 28 50.1**	**-1.4**
CKHZ	**Cape Kidnapper**	**6.13**	**207**	P	**Pn**	**05 27 44.8**	**+1.2**
CKHZ				S	**Sn**	**05 28 49.0**	**-3.3**
KWHZ	**Kaweka Forest**	**6.20**	**212**	P	**Pn**	**05 27 44.8**	**+0.3**
KWHZ				S	**Sn**	**05 28 50.2**	**-3.8**
TMVZ	**Te Maari**	**6.29**	**218**	P	**Pn**	**05 27 47.1**	**+1.3**
ETVZ	**East Tongariro**	**6.31**	**217**	P	**Pn**	**05 27 46.6**	**+0.6**
KRVZ	**Karewarewa**	**6.31**	**218**	P	**Pn**	**05 27 47.8**	**+1.7**
KAHZ	**Kahuranaki**	**6.33**	**207**	P	**Pn**	**05 27 46.7**	**+0.5**
NNVZ	**North Ngauruho**	**6.35**	**218**	P	**Pn**	**05 27 48.5**	**+1.8**
SNVZ	**South Ngauruho**	**6.38**	**217**	P	**Pn**	**05 27 48.3**	**+1.2**
KRHZ	**Kereru**	**6.41**	**211**	P	**Pn**	**05 27 46.6**	**-0.7**
FWVZ	**Far West T-bar**	**6.48**	**218**	P	**Pn**	**05 27 49.7**	**+1.2**
MOVZ	**Moawhango**	**6.50**	**216**	P	**Pn**	**05 27 49.2**	**+0.7**
WNVZ	**Wahianoa**	**6.51**	**217**	P	**Pn**	**05 27 49.5**	**+0.7**
PXZ	**Pawanui**	**6.54**	**206**	P	**Pn**	**05 27 49.4**	**+0.3**
PNHZ	**Pukenui**	**6.70**	**211**	P	**Pn**	**05 27 49.6**	**-1.7**
WPHZ	**Waipukurau**	**6.73**	**209**	P	**Pn**	**05 27 51.9**	**+0.2**
PRHZ	**Porangahau**	**6.83**	**207**	P	**Pn**	**05 27 52.3**	**-0.8**
DVHZ	**Dannevirke**	**7.04**	**209**	P	**Pn**	**05 27 54.6**	**-1.4**
ANWZ	**Angora Road**	**7.06**	**207**	P	**Pn**	**05 27 56.1**	**-0.1**
POWZ	**Post Office Ro**	**7.28**	**211**	P	**Pn**	**05 27 58.5**	**-0.7**
PRWZ	**Pori Road**	**7.34**	**209**	P	**Pn**	**05 27 59.4**	**-0.7**
BFZ	**Birch Farm**	**7.34**	**207**	P	**Pn**	**05 27 59.2**	**-0.8**
MRZ	**Mangatainoka R**	**7.59**	**210**	P	**Pn**	**05 28 00.9**	**-2.6**
HOWZ	**Holdsworth Sta**	**7.81**	**210**	P	**Pn**	**05 28 04.3**	**-2.2**
TMWZ	**Te Maipa**	**7.84**	**207**	P	**Pn**	**05 28 05.7**	**-1.2**
OGWZ	**Otaki Gorge**	**7.89**	**212**	P	**Pn**	**05 28 04.9**	**-2.6**
MTW	**Mount Morrison**	**8.04**	**209**	P	**Pn**	**05 28 07.0**	**-2.6**
KIW	**Kapiti Island**	**8.04**	**213**	P	Pn	05 28 06.6	-3.0
TRWZ	**Traveller**	**8.17**	**207**	P	**Pn**	**05 28 09.5**	**-1.9**
CAW	**Cannon Point**	**8.17**	**211**	P	Pn	05 28 08.6	-2.9
PAWZ	**Paruwai Farm**	**8.26**	**208**	P	Pn	05 28 09.7	-2.9
MSWZ	**Moikau Station**	**8.36**	**209**	P	Pn	05 28 10.8	-3.2
PLWZ	**Palliser**	**8.48**	**208**	P	Pn	05 28 12.4	-3.3
CTZ	**Chatham Island**	**9.75**	**168**	P	Pn	05 28 42.4	+9.5
CTZ				S	**Sn**	**05 30 18.4**	**-2.5**
KHZ	**Kahutara**	**9.90**	**212**	P	Pn	05 28 30.0	-5.1
ASAR	**Alice Springs**	**41.91**	**272**	P	P	05 33 54.2	-6.8
	0.4nm,0.6s,baz=112,slow=7.2,SNR=7.2						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.24**	**277**	P	P	05 34 04.8	-7.1
	0.4nm,0.3s,baz=117,slow=7.6,SNR=10						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**55.91**	**180**	P	**P**	**05 35 50.0**	**+2.3**
	3.6nm,1.1s,baz=1.8,slow=4.8,SNR=13						
	3.6nm,1.1s						
TROLL	**Troll, Antarti**	**74.06**	**181**	⇓P	**P**	**05 37 45.3**	**-0.3**
	comp=Z,47nm,0.5s						
SNAA	**Sanae**	**74.38**	**179**	⇓P	**P**	**05 37 46.4**	**-0.9**
	comp=Z,16nm,0.4s						
SNAA	**Sanae**	**74.38**	**179**	P	**P**	**05 37 46.9**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=207,slow=9.0,SNR=18						
	comp=Z,0.6nm,0.4s						
VNA3	**Neumayer Olymp**	**74.58**	**177**	⇓P	**P**	**05 37 48.1**	**-0.4**
	comp=Z,1.6nm,0.3s						
H03S2	**Juan Fernandez**	**79.33**	**124**	T	T	07 06 40.9	
	baz=234,slow=74,SNR=9.4						
H03S1	**Juan Fernandez**	**79.34**	**124**	T	T	07 06 40.0	
	baz=234,slow=74,SNR=8.5						
H03S3	**Juan Fernandez**	**79.35**	**124**	T	T	07 06 35.8	
	baz=234,slow=74,SNR=9.4						
H03N3	**Juan Fernandez**	**79.54**	**123**	T	T	07 06 49.8	
	baz=238,slow=72,SNR=25						
H03N2	**Juan Fernandez**	**79.55**	**123**	T	T	07 06 48.7	
	baz=238,slow=72,SNR=18						
H03N1	**Juan Fernandez**	**79.56**	**123**	T	T	07 06 51.0	
	baz=238,slow=72,SNR=19						
ARCES	**ARCESS Array B**	**142.03**	**346**	PKhKP	PKPpre	05 45 31.8	
	comp=Z,1.6nm,0.8s,baz=67,slow=3.0,SNR=4.0						
FINES	**FINESS Array B**	**148.25**	**337**	PKPbc	**PKPdf**	**05 45 50.2**	**-1.2**
	comp=Z,2.0nm,0.5s,baz=37,slow=4.2,SNR=26						
NB2	**NORSAR Subarra**	**152.30**	**349**	PKP	**PKPdf**	**05 46 01.0**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.30**	**349**	PKPbc	**PKPdf**	**05 46 00.1**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=17,slow=4.1,SNR=3.7						
HFS	**Hagfors**	**152.69**	**346**	PKPbc	**PKPdf**	**05 46 00.2**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=57,slow=2.6,SNR=3.5						

---

*THE **10** 05:31:25.6, 39.3N±0.8×2.1E±, h14km±2km, M2.9/19, MLh2.9/19*
*TIR **10** 05:31:25.9, 39.27N×20.68E, h41km±1km, Ml3.2/3*
*ATH **10** 05:31:25.3, 39.28N×20.85E, h16km±1km, ML2.9/13, Manual Solution by F.Xalaris First location: 2019/08/10 05:32:25, This location: 2020/10/16 06:40:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
ISC 10 05:31:25.8±0.9, 39.27N±0.02×20.88E±0.02, h15km±7km, n46, σ0ᵗ91/73, 5C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTB	**Arta**	**0.14**	**145**	P	**Pg**	**05 31 29.6**	**0.0**
ARTB				S	**Sb**	**05 31 32.9**	**+0.1**
PRMD	**Pramanda**	**0.31**	**33**	P	**Pg**	**05 31 32.2**	**-0.2**
PRMD				S	**Sb**	**05 31 37.8**	**-0.3**
PRMD	**Pramanda**	**0.31**	**33**	P	**Pg**	**05 31 32.1**	**-0.2**
PRMD				S	**Sb**	**05 31 37.5**	**-0.6**
TETR	**Tetrakomo, Epi**	**0.32**	**76**	P	**Pg**	**05 31 32.2**	**-0.3**
TETR				S	**Sg**	**05 31 37.5**	**+0.5**
TETR	**Tetrakomo, Epi**	**0.32**	**76**	P	**Pg**	**05 31 32.0**	**-0.4**
TETR				S	**Sg**	**05 31 37.4**	**+0.3**
JAN	**Janina**	**0.39**	**357**	P	**Pg**	**05 31 33.3**	**-0.4**
JAN				S	**Sb**	**05 31 40.3**	**+0.1**
AMPL	**Ampelaki**	**0.43**	**143**	P	**Pg**	**05 31 33.9**	**-0.6**
AMPL				S	**Sb**	**05 31 42.0**	**+0.6**
TSLK	**Tsoukalades, L**	**0.48**	**201**	P	**Pg**	**05 31 35.2**	**0.0**
TSLK				S	**Sn**	**05 31 44.5**	**-1.6**
LKD2	**Lefkada island**	**0.51**	**200**	⇑Pg	**Pg**	**05 31 35.6**	**-0.3**
LKD2				Sg	**Sn**	**05 31 45.6**	**-1.3**
LKD2	**Lefkada island**	**0.51**	**200**	P	**Pg**	**05 31 35.6**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.57**	**194**	P	**Pg**	**05 31 36.4**	**-0.7**
EVGl	**Lefkada island**	**0.67**	**195**	P	**Pg**	**05 31 38.1**	**-0.8**
EVR	**Evrytania**	**0.81**	**116**	P	**Pb**	**05 31 40.8**	**-0.7**
EVR				S	**Sn**	**05 31 54.7**	**+0.3**
EVR	**Evrytania**	**0.81**	**116**	P	**Pb**	**05 31 40.8**	**-0.7**
EVR				S	**Sb**	**05 31 53.4**	**+1.1**
PVO	**Paravola**	**0.82**	**142**	P	**Pb**	**05 31 39.8**	**-2.0**
PVO				S	**Sn**	**05 31 57.1**	**+2.4**
PVO	**Paravola**	**0.82**	**142**	P	**Pb**	**05 31 41.7**	**-0.1**
PVO				S	**Sg**	**05 31 53.9**	**+1.3**
FSK	**Fiskardo**	**0.84**	**197**	P	**Pb**	**05 31 41.1**	**-1.1**
FSK				S	**Sn**	**05 31 56.6**	**+1.4**
FSK	**Fiskardo**	**0.84**	**197**	P	**Pb**	**05 31 41.1**	**-1.1**
FSK				S	**Sb**	**05 31 52.9**	**-0.4**
SRN	**Sarande**	**0.91**	**312**	⇑Pg	**Pb**	**05 31 42.2**	**-1.1**
SRN				Sg	**Sg**	**05 31 55.1**	**-0.4**
SRN				AML	AML	05 32 03.8	
	0.5nm,0.3s						
THL	**Klokotos Trika**	**0.93**	**71**	P	**Pb**	**05 31 43.0**	**-0.6**
THL				S	**Sg**	**05 31 56.5**	**+0.5**
THL	**Klokotos Trika**	**0.93**	**71**	P	**Pb**	**05 31 43.3**	**-0.3**
THL				S	**Sg**	**05 31 56.5**	**+0.5**
KEK	**Kerkira**	**0.95**	**298**	P	**Pn**	**05 31 47.8**	**+3.3**
PENT	**Pentalofos**	**0.95**	**12**	P	**Pb**	**05 31 43.4**	**-0.6**
PENT				S	**Sg**	**05 31 57.0**	**+0.4**
PENT	**Pentalofos**	**0.95**	**12**	P	**Pb**	**05 31 43.4**	**-0.6**
PENT				S	**Sg**	**05 31 56.4**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.01**	**104**	P	**Pb**	**05 31 44.7**	**-0.2**
ANX	**Ano Chora**	**1.06**	**129**	P	**Pb**	**05 31 45.2**	**-0.6**
ANX	**Ano Chora**	**1.06**	**129**	P	**Pb**	**05 31 45.7**	**-0.1**
DMLN	**Damoulianata-K**	**1.10**	**201**	P	**Pg**	**05 31 46.6**	**-0.4**
VLS	**Valsamata**	**1.11**	**192**	P	**Pn**	**05 31 46.7**	**-0.1**
TYRN	**Tyrnavos**	**1.14**	**67**	P	**Pn**	**05 31 46.6**	**-0.6**
AXS	**Araxos**	**1.14**	**160**	P	**Pn**	**05 31 46.9**	**-0.2**
NEST	**Nestorio**	**1.15**	**6**	⇑Pg	**Pn**	**05 31 46.8**	**-0.6**
NEST				Sg	**Sg**	**05 32 04.1**	**+1.0**
NEST				AML	AML	05 32 10.6	
	1.6nm,0.4s						
NEST	**Nestorio**	**1.15**	**6**	P	**Pb**	**05 31 47.3**	**-0.2**
AGG	**Agios Georgios**	**1.16**	**102**	P	**Pn**	**05 31 46.9**	**-0.5**
AGG				S	**Sg**	**05 32 04.7**	**+1.5**
EFP	**Efpalio**	**1.16**	**136**	P	**Pg**	**05 31 48.1**	**-0.1**
KZN	**Kozani**	**1.24**	**33**	P	**Pn**	**05 31 48.6**	**-0.1**
RLS	**Riolos of Patr**	**1.29**	**159**	P	**Pb**	**05 31 49.9**	**+0.1**
KALE	**Kalithea**	**1.32**	**131**	P	**Pb**	**05 31 50.2**	**-0.1**
KBN	**Korca**	**1.35**	**357**	⇑Pg	**Pb**	**05 31 50.5**	**-0.4**
KBN				Sg	**Sg**	**05 32 08.6**	**-1.0**
ORTH	**Orthonies,Zaky**	**1.42**	**186**	P	**Pb**	**05 31 51.8**	**-0.2**
FNA	**Florina**	**1.56**	**14**	⇓Pg	**Pb**	**05 31 54.6**	**+0.2**
FNA				Sg	**Sg**	**05 32 16.1**	**0.0**
OHR	**Ohrid**	**1.84**	**358**	*i* Pn	**Pb**	**05 31 59.9**	**+0.7**
OHR				*e*Sn	**Sg**	**05 32 24.9**	**-0.3**
VAY	**Valandovo**	**2.42**	**32**	*i* Pn	**Pn**	**05 32 03.7**	**-1.2**
VAY				*e*Sn	**Sb**	**05 32 36.8**	**-2.0**
PUK	**Puka**	**2.87**	**345**	⇑Pn	**Pn**	**05 32 12.4**	**+1.3**
PUK				Sn	**Sn**	**05 32 47.2**	**+1.8**
PUK				AML	AML	05 32 48.5	
	0.4nm,0.7s						
NOCI	**Noci**	**3.30**	**299**	⇓Pn	**Pn**	**05 32 17.4**	**+0.5**
SGRT	**San Giovanni R**	**4.63**	**304**	Pn	**Pn**	**05 32 35.3**	**0.0**

---

*IDC **10** 05:37:01.4±5.9, 36.55N×71.19E, h212km±50km, mb3.2/6, mbtmp3.8/11, MS3.4/1, Error ellipse: s-maj=49.0km s-min=19.9km az=36.0*
ISC 10 05:36:59.3±1.3, 36.5N±0.1×71.0E±0.1, h188km, n20, σ1ᵗ83/22, mb3.4/6, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**6.51**	**18**	P	**Pn**	**05 38 35.3**	**+2.2**
	SNR=5.8						
KK31	**Karatay Array**	**6.60**	**357**	Pn	**Pn**	**05 38 35.8**	**+1.7**
	1.5nm,0.2s,baz=174,slow=13,SNR=46						
KK31				⇑Sn	**Sn**	**05 39 44.9**	**-4.2**
	4.2nm,0.3s,baz=183,slow=21,SNR=3.5						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**05 38 37.8**	**+2.3**
	17nm,0.3s,baz=198,slow=4.3,SNR=20						
AAK				S	**Sn**	**05 39 50.2**	**-1.4**
	6.3nm,0.3s,baz=325,slow=22,SNR=18						
AAK	**Ala-Archa**	**6.69**	**23**	P	**Pn**	**05 38 37.6**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**6.69**	**23**	⇓Pn	**Pn**	**05 38 37.2**	**+1.8**
	3.8nm,0.4s						
AAK				⇑Sn	**Sn**	**05 39 50.6**	**-1.0**
	8.3nm,0.6s						
KBK	**Karagaybulak**	**6.86**	**25**	P	**Pn**	**05 38 40.0**	**+2.4**
	SNR=8.7						
ULHL	**Ulahol**	**7.02**	**34**	P	**Pn**	**05 38 41.5**	**+1.6**
	SNR=11						
USP	**Ospenovka**	**7.27**	**21**	P	**Pn**	**05 38 44.8**	**+1.9**
	SNR=9.3						
TKM2	**Tokmak 2**	**7.32**	**28**	P	**Pn**	**05 38 46.2**	**+2.5**
	SNR=12						
MKAR	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**05 40 00.4**	**-0.2**
	1.0nm,0.7s,baz=209,slow=12,SNR=6.6						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**Pn**	**05 40 40.6**	**+0.4**
	0.5nm,0.5s,baz=157,slow=7.8,SNR=2.6						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**Pn**	**05 40 44.0**	**+0.8**
	2.6nm,0.5s,baz=154,slow=9.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.91**	**24**	P	**P**	**05 41 16.5**	**+0.3**
	1.0nm,0.3s,baz=220,slow=10,SNR=6.7						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**05 43 54.4**	**+0.1**
	0.5nm,0.4s,baz=123,slow=9.4,SNR=5.9						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**05 44 24.4**	**-0.2**
	0.7nm,0.5s,baz=106,slow=8.9,SNR=8.1						
	0.7nm,0.5s						
HFS	**Hagfors**	**43.06**	**322**	P	**P**	**05 44 40.6**	**+0.4**
	1.4nm,0.7s,baz=98,slow=10,SNR=2.3						
	1.4nm,0.7s						
YAK	**Yakutsk**	**43.96**	**35**	LR	LR	06 02 15.4	
	comp=Z,49nm,21.7s,baz=150,slow=34						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**05 44 50.5**	**-0.1**
	0.7nm,0.7s,baz=101,slow=7.3,SNR=3.3						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**82.00**	**122**	P	**P**	**05 48 56.9**	**-1.5**
	0.4nm,0.7s,baz=333,slow=4.7,SNR=2.4						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**84.26**	**125**	P	**P**	**05 49 08.9**	**-1.0**
	0.5nm,0.7s,baz=311,slow=5.3,SNR=6.3						
	0.5nm,0.7s						

---

*NEIC **10** 05:38:46.2±0.9, 36.76N±0.02×98.073W±0.009, h7km±1km, Error ellipse: s-maj=3.2km s-min=2.7km az=3.0*
NEIC 10 05:38:46.2±0.9, 36.76N±0.02×98.070W±0.002, h5km±1km, mb_Lg2.7/101, ML3.2/38, ML2.9/39, Error ellipse: s-maj=3.1km s-min=2.8km az=356.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.19**	**62**		Pg	05 38 50.6	+0.6
KAN14	**Manchester OK**	**0.21**	**24**		Pg	05 38 50.9	+0.5
KAN14				IAML		05 38 54.3	
	comp=N,7μm,0.2s						
CROK	**Carrier**	**0.27**	**165**		Pg	05 38 51.8	+0.5
CROK				IAML		05 38 56.0	
	comp=E,3μm,0.3s						
OK038	**West end E0370**	**0.61**	**243**		Pg	05 38 58.0	+0.1
OK038					Sg	05 39 06.6	+0.7
OK038				IAML		05 39 17.0	
	comp=E,2μm,0.3s						
BLOK	**Blackwell**	**0.69**	**90**		Pg	05 38 59.4	0.0
BLOK					Sg	05 39 08.6	+0.3
BLOK				IAML		05 39 15.9	
	comp=N,944nm,0.2s						
BLOK				IAML		05 39 17.3	
	comp=E,1μm,0.2s						
NOKA	**Waynoka**	**0.70**	**260**		Pg	05 38 59.6	-0.1
NOKA					Sg	05 39 09.2	+0.3
NOKA				IAML		05 39 15.9	
	comp=N,770nm,0.2s						
OK029	**Liberty Lake**	**1.08**	**152**		Pg	05 39 06.6	-0.4
OK029					Sg	05 39 19.8	-1.2
OK029				IAML		05 39 27.5	
	comp=N,349nm,0.2s						
BCOK	**Bluff Creek, N**	**1.16**	**161**		Pg	05 39 07.8	-0.7
BCOK					Sg	05 39 23.6	+0.1
CSTR	**Hydro, Custer**	**1.22**	**204**		Pg	05 39 09.3	-0.3
CSTR					Sb	05 39 26.1	+0.3
ADOK	**Arcadia Dam**	**1.24**	**153**		Pg	05 39 09.3	-0.7
QUOK	**Quay**	**1.25**	**118**		Pg	05 39 09.6	-0.5
QUOK					Sb	05 39 26.6	0.0
T35A	**Sooner Cattle**	**1.26**	**82**		Pg	05 39 09.6	-0.8
T35A					Sg	05 39 26.6	-0.1
T35A				IAML		05 39 30.2	
	comp=N,375nm,0.2s						
OK052	**Battle Ridge R**	**1.28**	**126**		Pg	05 39 09.9	-0.7
OK052					Sg	05 39 27.2	0.0
ELIS	**Ellis County**

OZNA	**Ozona**	**6.35**	**204**	IAmb_Lg		05 42 18.1
	comp=Z,10nm,0.8s					
MNHN	**Monahans**	**6.66**	**217**	IAmb_Lg		05 42 19.4
	comp=Z,7.9nm,0.9s					
ISCO	**Idaho Springs**	**6.66**	**299**	IAmb_Lg		05 42 29.2
	comp=Z,7.8nm,0.8s					
CGM3	**Cape Girardeau**	**6.75**	**83**	IAmb_Lg		05 42 17.9
	comp=Z,6.6nm,0.9s					
143A	**Socs Landing,**	**6.82**	**124**	IAmb_Lg		05 42 40.2
	comp=Z,15nm,1.0s					
S44A	**Carbondale**	**7.09**	**80**	IAmb_Lg		05 42 37.6
	comp=Z,11nm,0.8s					
SIUC	**Southern Illin**	**7.13**	**80**	IAmb_Lg		05 42 44.0
	comp=Z,11nm,0.8s					
HNDO	**Hondo**	**7.28**	**188**	IAmb_Lg		05 42 43.6
	comp=Z,11nm,1.0s					
L40A	**Anamosa**	**7.49**	**43**	IAmb_Lg		05 42 54.2
	comp=Z,12nm,0.9s					
SAND	**Sanderson**	**7.59**	**208**	IAmb_Lg		05 43 08.3
	comp=Z,7.2nm,0.8s					
DRIO	**Del Rio**	**7.62**	**197**	IAmb_Lg		05 42 53.7
	comp=Z,6.5nm,0.8s					
ALPN	**Alpine**	**7.88**	**218**	IAmb_Lg		05 43 09.1
	comp=Z,6.3nm,0.9s					
VHRN	**Van Horn**	**8.28**	**226**	IAmb_Lg		05 43 27.2
	comp=Z,5.9nm,0.9s					
L42A	**Oliver_Polo**	**8.35**	**49**	IAmb_Lg		05 43 15.3
	comp=Z,11nm,0.7s					
F33A	**5 Mile Ranch,**	**9.17**	**8**	IAmb_Lg		05 43 43.6
	comp=Z,4.5nm,0.8s					

IDC ***10*** *05:53:49.8±1.3,4.°24S×152.°88E, h0km, mb3.6/5, mbtmp3.6/5, MS3.3/3, Error ellipse: s-maj=56.0km s-min=26.2km az=112.0*

ISC 10 05:53:55.4±1.2,**4.°3S**±0.°2×**152.°8E**±0.°4,**h35**km,**n13,** σ1**§13/6,mb3.7/5,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.57**	**227**	LR	LR	05 58 34.5	
	comp=Z,73nm,21.1s,baz=22,slow=37						
HNR	**Honiara**	**8.77**	**126**	LR	LR	05 59 09.1	
	comp=Z,108nm,20.9s,baz=305,slow=37						
WRA	**Warramunga Arr**	**23.80**	**228**	P	**P**	**05 59 05.4**	**+0.2**
	1.4nm,0.6s,baz=52,slow=9.9,SNR=14 1.4nm,0.6s						
ASAR	**Alice Springs**	**26.54**	**222**	P	**P**	**05 59 30.8**	**+0.6**
	0.1nm,0.3s,baz=55,slow=8.5,SNR=11 0.1nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**27.57**	**30**	T	T	06 28 48.6	
	baz=206,slow=76						
H11N3	**WAKE ISLAND Hy**	**27.58**	**30**	T	T	06 28 44.4	
	baz=206,slow=76						
H11N2	**WAKE ISLAND Hy**	**27.58**	**30**	T	T	06 28 32.6	
	baz=206,slow=76						
RAR	**Rarotonga**	**49.01**	**114**	LR	LR	06 21 08.4	
	comp=Z,210nm,18.6s,baz=138,slow=34						
SONM	**Songino Array**	**65.87**	**328**	P	**P**	**06 04 37.8**	**+0.1**
	0.4nm,0.5s,baz=148,slow=6.5,SNR=2.8 0.4nm,0.5s						
VNDA	**Vanda**	**73.36**	**178**	P	**P**	**06 05 23.2**	**-0.1**
	0.5nm,0.6s,baz=4.2,slow=5.3,SNR=4.1 0.5nm,0.6s						
ILAR	**Eielson Array**	**81.67**	**22**	P	**P**	**06 06 10.6**	**+0.7**
	0.3nm,0.8s,baz=226,slow=4.8,SNR=2.5 0.3nm,0.8s						
H02S2	**DAWSON INLET T**	**84.32**	**36**	T	T	07 39 10.0	
	SNR=150						
GERES	**GERESS Array B**	**123.59**	**329**	PKP	**PKPdf**	**06 12 47.8**	**-1.7**
	0.6nm,0.8s,baz=47,slow=4.5,SNR=3.6						

GCMT 10 05:58:42.0±0.1,**49.°67S**±0.°01×**116.°11W**±0.°01,**h15**km±1km, **MW5.2**/128,**Moment Tensor Solution. s93,c146; s128,c219; Duration: 1**§0 **Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-1.35±.14; $M_{\theta\theta}$4.20±.16; $M_{\phi\phi}$-2.86±.15; $M_{r\theta}$0.93±.26; $M_{\theta\phi}$8.16±.14; $M_{\phi r}$1.28±.27; **Best double couple:** $M_0$9.01300×10^{16} **NP1:**ϕ_s102.00000°,δ81.00000°, λ2.00000°. **NP2:**ϕ_s12.00000°,δ88.00000°,λ171.00000°. **Principal axes:** T 9.7590, Plg8.0000°, Azm326.0000°; N -1.5020, Plg81.0000°, Azm179.0000°; P -8.2670, Plg5.0000°, Azm57.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

JMA ***10*** *06:06:15.6±0.1,24.°9N±1.°0×122.°3E±0.°4, h0km, MV3.7/11, TAIWAN REGION*
TAP ***10*** *06:06:15.9,24.°96N×122.°28E, h14km, ML3.8, C*
IDC ***10*** *06:06:23.9±2.1,23.°42N×121.°98E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=355.7km s-min=28.9km az=70.0*

ISC 10 06:06:15.1±1.0,**24.°94N**±0.°02×**122.°36E**±0.°02,**h12**km±8km, **n122,** σ0§**77**/194,**mb3.6**/3,**3C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.34**	**281**	P	**Pg**	**06 06 22.0**	**+0.1**
TWB1				*i* S	**Sg**	**06 06 26.4**	**-0.1**
EGS		**0.40**	**256**	P	**Pg**	**06 06 22.9**	**0.0**
EGS				S	**Sb**	**06 06 29.0**	**-0.4**
SXI1	**Grass Mountain**	**0.46**	**289**	*i* P	**Pb**	**06 06 24.7**	**-0.4**
SXI1				*i* S	**Sg**	**06 06 30.9**	**+0.5**
TIPB	**Shuangxi**	**0.48**	**274**	P	**Pg**	**06 06 24.8**	**+0.3**
TIPB				*i* S	**Sg**	**06 06 30.4**	**-0.6**
NTC	**Toucheng**	**0.48**	**260**	*e*P	**Pn**	**06 06 28.1**	**+0.3**
EOS2	**EOS2**	**0.53**	**192**	P	**Pb**	**06 06 27.1**	**+0.9**
EOS2				S	**Sb**	**06 06 35.2**	**+1.4**
NWF	**Wu-fen Shan**	**0.54**	**284**	P	**Pb**	**06 06 26.6**	**+0.2**
NWF				S	**Sg**	**06 06 33.0**	**+0.2**
WFSB	**Wu-fen Shan**	**0.54**	**284**	P	**Pb**	**06 06 26.4**	**0.0**
WFSB				S	**Sg**	**06 06 33.4**	**+0.7**
TWC	**Suao**	**0.57**	**234**	*e*P	**Pg**	**06 06 26.0**	**-0.1**
TWC				S	**Sg**	**06 06 33.4**	**-0.2**
TNOU	**National Taiwa**	**0.57**	**292**	*i* P	**Pb**	**06 06 26.6**	**-0.3**
TNOU				S	**Sg**	**06 06 34.0**	**+0.3**
ILA	**Ilan**	**0.58**	**253**	*e*P	**Pn**	**06 06 28.9**	**-0.1**
ILA				S	**Sg**	**06 06 34.6**	**+0.6**
ESAO	**Su ao**	**0.59**	**232**	*i* P	**Pg**	**06 06 26.7**	**+0.1**
ESAO				*i* S	**Sg**	**06 06 34.5**	**+0.1**
EOS3	**EOS3**	**0.65**	**183**	P	**Pn**	**06 06 29.2**	**-0.7**
EOS3				*i* S	**Sn**	**06 06 39.3**	**-0.8**
TWE	**Neicheng**	**0.66**	**251**	*e*P	**Pg**	**06 06 28.0**	**0.0**
TWE				*e*S	**Sg**	**06 06 36.0**	**-0.7**
TWA	**Mucha**	**0.70**	**273**	*i* P	**Pb**	**06 06 29.3**	**+0.1**
TWA				*i* S	**Sg**	**06 06 38.3**	**+0.4**
NHY	**Taipei**	**0.72**	**278**	P	**Pg**	**06 06 29.1**	**0.0**
EWUT	**Wuta**	**0.72**	**227**	*i* P	**Pg**	**06 06 29.1**	**0.0**
EWUT				S	**Sb**	**06 06 39.4**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.72**	**256**	*e*P	**Pb**	**06 06 29.4**	**-0.1**
FUSB				S	**Sb**	**06 06 39.6**	**+0.2**
JYNG	**Yonagunijimaku**	**0.73**	**132**	*e*P	**Pb**	**06 06 29.9**	**+0.2**
JYNG				*e*S	**Sb**	**06 06 40.2**	**+0.7**
PCYT	**Pengchaiyu**	**0.73**	**340**	*e*P	**Pn**	**06 06 30.9**	**-0.4**
PCYT				S	**Sb**	**06 06 40.4**	**+0.6**
YM08	**YM08**	**0.74**	**290**	P	**Pb**	**06 06 29.5**	**-0.4**
YM08				*e*S	**Sg**	**06 06 38.6**	**-0.4**
YM01	**YM01**	**0.74**	**286**	P	**Pb**	**06 06 30.1**	**+0.2**
YM01				*e*S	**Sb**	**06 06 40.0**	**-0.1**
NHDH	**Xindian Distri**	**0.75**	**272**	*e*P	**Pb**	**06 06 30.4**	**+0.3**
NHDH				*e*S	**Sg**	**06 06 39.3**	**-0.2**
ENA	**Nanau**	**0.76**	**228**	*i* P	**Pb**	**06 06 29.9**	**-0.3**
ENA				*e*S	**Sb**	**06 06 40.5**	**+0.1**
TWY	**Chenhua**	**0.76**	**296**	P	**Pb**	**06 06 30.6**	**+0.4**
TWY				*i* S	**Sb**	**06 06 40.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.76**	**129**	P	**Pb**	**06 06 30.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.76**	**129**	*e*P	**Pb**	**06 06 30.6**	**+0.3**
YOJ				S	**Sn**	**06 06 42.1**	**-1.0**
YOJ	**Yonaguni jima**	**0.76**	**129**	*e*P	**Pb**	**06 06 30.4**	**+0.1**
YOJ				*e*S	**Sn**	**06 06 42.0**	**-1.1**
ZUZH	**Zhuzihu**	**0.77**	**287**	*e*P	**Pb**	**06 06 30.5**	**+0.2**
ZUZH				S	**Sg**	**06 06 40.2**	**+0.2**
TAP	**Taipei**	**0.78**	**277**	*i* P	**Pb**	**06 06 30.6**	**+0.1**
TAP				*i* S	**Sb**	**06 06 40.7**	**-0.3**
ENTT	**Nioudou**	**0.78**	**247**	P	**Pg**	**06 06 30.1**	**0.0**
ENTT				*e*S	**Sn**	**06 06 42.5**	**-0.9**
TATO	**Taipei**	**0.79**	**273**	P	**Pb**	**06 06 30.7**	**0.0**
TATO	**Taipei**	**0.79**	**273**	S	**Sb**	**06 06 41.1**	**-0.2**
NWLT	**Wulai**	**0.79**	**258**	P	**Pb**	**06 06 30.6**	**-0.2**
NWLT				S	**Sg**	**06 06 40.4**	**-0.4**
EOS4	**EOS4**	**0.82**	**182**	*e*P	**Pn**	**06 06 31.9**	**-0.2**
EOS4				*e*S	**Sn**	**06 06 43.2**	**-0.7**
EAHA	**Aohua**	**0.83**	**223**	P	**Pg**	**06 06 31.0**	**0.0**
EAHA				S	**Sg**	**06 06 41.6**	**-0.3**
NTST	**Danshui**	**0.85**	**285**	*e*P	**Pn**	**06 06 32.8**	**0.0**
NTST				*i* S	**Sb**	**06 06 43.8**	**+0.6**
LATG	**Datong**	**0.85**	**242**	P	**Pg**	**06 06 31.5**	**-0.1**
LATG				S	**Sb**	**06 06 43.7**	**+0.3**
TWS1	**Kuangyinshan**	**0.86**	**281**	*i* P	**Pb**	**06 06 32.1**	**+0.1**
TWS1				S	**Sb**	**06 06 43.7**	**+0.2**
YHNB	**Yeheng**	**0.93**	**253**	P	**Pg**	**06 06 32.7**	**-0.3**
YHNB	**Yeheng**	**0.93**	**253**	P	**Pg**	**06 06 32.8**	**-0.2**
YHNB				*e*S	**Sb**	**06 06 45.8**	**+0.3**
NNSB	**Datong**	**1.02**	**240⇑**	*e*P	**Pg**	**06 06 34.2**	**-0.6**
NNSB				*e*S	**Sb**	**06 06 48.8**	**+0.6**
ETL	**Fush Village**	**1.02**	**221**	P	**Pg**	**06 06 34.4**	**-0.5**
ETL				S	**Sg**	**06 06 47.9**	**-0.3**
NACB	**Ninganchiao**	**1.03**	**222**	P	**Pg**	**06 06 34.4**	**-0.5**
NACB	**Ninganchiao**	**1.03**	**222**	S	**Sg**	**06 06 47.7**	**-0.6**
NACB	**Ninganchiao**	**1.03**	**222**	P	**Pg**	**06 06 34.6**	**-0.4**
NACB				*i* S	**Sg**	**06 06 47.8**	**-0.6**
NCUH	**Zhongli**	**1.06**	**272**	P	**Pn**	**06 06 36.1**	**+0.3**
NCUH				S	**Sg**	**06 06 49.0**	**-0.4**
ETLH	**Xiulin Townshi**	**1.08**	**228**	*e*P	**Pg**	**06 06 35.2**	**-0.7**
ETLH				S	**Sg**	**06 06 49.6**	**-0.4**
KSHI	**Guanxi Townshi**	**1.08**	**262**	P	**Pg**	**06 06 35.9**	**-0.1**
KSHI				S	**Sg**	**06 06 49.9**	**-0.2**
TWD	**Chiawan**	**1.10**	**219**	⇑P	**Pn**	**06 06 36.2**	**-0.1**
TWD				S	**Sg**	**06 06 50.5**	**-0.1**
NFF	**Wufeng Townshi**	**1.17**	**255**	P	**Pb**	**06 06 36.9**	**-0.3**
NFF				*i* S	**Sb**	**06 06 51.9**	**-0.4**
HWA	**Hwalien**	**1.18**	**216**	*e*P	**Pg**	**06 06 39.2**	**+1.4**
HWA				*e*S	**Sn**	**06 06 57.4**	**+4.1**
FUSS	**Fushou**	**1.22**	**236**	P	**Pn**	**06 06 38.1**	**-0.1**
FUSS				*e*S	**Sn**	**06 06 55.9**	**+1.0**
ETM	**Tongmen**	**1.25**	**219**	*i* P	**Pg**	**06 06 38.7**	**-0.4**
ETM				*e*S	**Sb**	**06 06 53.9**	**-0.7**
LIOB	**Emei**	**1.25**	**257**	P	**Pn**	**06 06 37.8**	**-0.6**
LIOB				S	**Sb**	**06 06 54.2**	**-0.5**
SBCB	**Hsinchu**	**1.25**	**263**	*e*P	**Pg**	**06 06 40.8**	**+1.6**
SBCB				*e*S	**Sn**	**06 06 55.6**	**+0.5**
NSTT	**Nanjuang**	**1.27**	**256**	*e*P	**Pg**	**06 06 39.9**	**+0.4**
NSTT				*e*S	**Sn**	**06 06 55.9**	**+0.3**
WHF	**Hehuan Shan**	**1.27**	**232**	P	**Pg**	**06 06 39.5**	**0.0**
WHF				S	**Sb**	**06 06 55.3**	**-0.3**
TEYL	**Yanliau Villag**	**1.27**	**213**	*e*P	**Pn**	**06 06 37.3**	**-1.3**
TEYL				*e*S	**Sg**	**06 06 56.2**	**+0.1**
TWT	**Tachien**	**1.27**	**238**	⇑P	**Pb**	**06 06 39.1**	**+0.1**
TWT				*e*S	**Sb**	**06 06 55.3**	**-0.2**
TDCB	**Techi**	**1.29**	**238**	P	**Pn**	**06 06 39.0**	**+0.1**
TDCB				*e*S	**Sg**	**06 06 57.5**	**+0.9**
SHUL	**Shoufeng**	**1.36**	**212**	P	**Pb**	**06 06 40.2**	**-0.2**
SHUL				*e*S	**Sg**	**06 07 00.7**	**+1.9**
IRIF	**Iriomote-Funau**	**1.39**	**115**	*e*S	**Sg**	**06 07 01.1**	**+1.3**
ESL	**Shilin**	**1.40**	**217**	*e*P	**Pn**	**06 06 40.4**	**0.0**
ESL				*e*S	**Sg**	**06 07 00.4**	**+0.2**
WHP	**Taichung City**	**1.44**	**243**	P	**Pg**	**06 06 42.7**	**-0.1**
WHP				S	**Sn**	**06 07 00.1**	**+0.1**
OWD	**Renai**	**1.46**	**228**	*e*P	**Pn**	**06 06 41.6**	**+0.3**
OWD				*e*S	**Sg**	**06 07 02.0**	**0.0**
WUSB	**Renai**	**1.47**	**230**	P	**Pb**	**06 06 42.5**	**+0.1**
WUSB				S	**Sb**	**06 07 01.9**	**+0.7**
WARBT	**Fenglin Townsh**	**1.50**	**216**	P	**Pn**	**06 06 41.9**	**0.0**
WARBT				S	**Sb**	**06 07 02.3**	**+0.3**
EGFH	**Guangfu**	**1.52**	**214**	P	**Pb**	**06 06 43.2**	**-0.1**
EGFH				S	**Sb**	**06 07 03.1**	**+0.6**
NSY	**Sanyi**	**1.54**	**251**	*e*P	**Pg**	**06 06 45.9**	**+1.2**
NSY				*e*S	**Sg**	**06 07 04.8**	**+0.1**
WCS	**Beigang Elemen**	**1.58**	**236**	P	**Pg**	**06 06 44.9**	**-0.6**
WCS				*e*S	**Sb**	**06 07 04.2**	**0.0**
HATJ	**Hateruma jima**	**1.59**	**123**	*e*S	**Sg**	**06 07 06.3**	**+0.2**
JKRS	**Kuro-shima**	**1.66**	**115**	*e*P	**Pg**	**06 06 46.6**	**-0.3**
HGSD	**Ruisui**	**1.67**	**211**	*e*P	**Pn**	**06 06 44.3**	**+0.1**
HGSD				*e*S	**Sb**	**06 07 07.7**	**+0.9**
EHYH	**Wanrong**	**1.71**	**213**	P	**Pn**	**06 06 45.4**	**+0.8**
EHYH				*e*S	**Sn**	**06 07 05.0**	**-1.5**
EHY	**Hungye**	**1.71**	**214**	*e*P	**Pn**	**06 06 43.9**	**-0.9**
EHY				*i* S	**Sn**	**06 07 06.4**	**-0.1**
TYC	**Yuchr**	**1.71**	**233**	⇓P	**Pb**	**06 06 46.3**	**-0.2**
TYC				*e*S	**Sn**	**06 07 06.8**	**+0.3**
SSLB	**Suanglung**	**1.72**	**228**	P	**Pb**	**06 06 46.0**	**-0.6**
SSLB	**Suanglung**	**1.72**	**228**	S	**Sg**	**06 07 09.6**	**-0.8**
SSLB	**Suanglung**	**1.72**	**228**	P	**Pb**	**06 06 46.4**	**-0.2**
SSLB				*e*S	**Sb**	**06 07 08.6**	**+0.5**
TCU	**Taichung**	**1.72**	**243**	*e*P	**Pg**	**06 06 49.0**	**+0.9**
JIJ	**Ishigaki jima**	**1.73**	**109**	*e*S	**Sg**	**06 07 11.4**	**+0.8**
JISG	**Ishigakijimahi**	**1.81**	**101**	*e*P	**Pg**	**06 06 49.1**	**-0.8**
YULB	**Yu-li**	**1.82**	**212**	P	**Pn**	**06 06 45.6**	**-0.6**
YULB	**Yu-li**	**1.82**	**212**	*i* P	**Pn**	**06 06 45.6**	**-0.6**
YULB				*e*S	**Sn**	**06 07 08.9**	**-0.3**
WHYT	**Xinyi Township**	**1.85**	**228**	P	**Pb**	**06 06 48.9**	**+0.1**
TWF1	**Yuli**	**1.85**	**212**	*e*P	**Pn**	**06 06 45.9**	**-0.8**
TWF1				*i* S	**Sn**	**06 07 09.9**	**-0.2**
WJS	**Zhushan**	**1.85**	**233**	P	**Pb**	**06 06 49.2**	**+0.3**
WJS				*e*S	**Sg**	**06 07 15.0**	**+0.2**
WNT	**Mingjian**	**1.85**	**236**	P	**Pb**	**06 06 49.4**	**+0.5**
FULB	**Fuli**	**1.99**	**209**	P	**Pn**	**06 06 48.5**	**0.0**
ALS	**Alishan**	**2.01**	**225**	P	**Pb**	**06 06 51.2**	**-0.4**
ALS				*e*S	**Sg**	**06 07 18.4**	**-1.3**
CHN5	**Tsauling**	**2.03**	**229**	*i* P	**Pb**	**06 06 51.2**	**-0.8**
CHKT	**Chengkung**	**2.04**	**206**	P	**Pn**	**06 06 50.1**	**+0.8**
CHKT				*e*S	**Sn**	**06 07 15.2**	**+0.5**
EHD	**Haiduan**	**2.07**	**211**	*e*P	**Pn**	**06 06 49.0**	**-0.7**
WDLH	**Douliu**	**2.07**	**233**	P	**Pb**	**06 06 52.2**	**-0.4**
ELDTW	**Lidau**	**2.13**	**215**	P	**Pn**	**06 06 50.6**	**0.0**
EDH	**Donghe**	**2.18**	**206**	P	**Pn**	**06 06 51.8**	**+0.6**
EDH				*e*S	**Sn**	**06 07 15.2**	**-2.9**
WTK	**Tuku**	**2.19**	**236**	P	**Pn**	**06 06 52.8**	**+1.6**
WCKO	**Fanlu**	**2.19**	**227**	P	**Pb**	**06 06 53.9**	**-0.7**
TPUB	**Ta-pu**	**2.27**	**224**	P	**Pb**	**06 06 54.9**	**-1.1**
TPUB	**Ta-pu**	**2.27**	**224**	P	**Pb**	**06 06 54.9**	**-1.1**
STYH	**Taoyuan**	**2.28**	**220**	P	**Pn**	**06 06 54.0**	**+1.5**
STYT	**Tauyuan**	**2.29**	**220**	P	**Pn**	**06 06 54.1**	**+1.3**
LONT	**Longtian**	**2.31**	**209**	P	**Pn**	**06 06 53.8**	**+0.8**
WTP	**Ta-pu**	**2.32**	**224**	P	**Pb**	**06 06 56.0**	**-0.8**
WSL	**Shuilin Townsh**	**2.40**	**234**	P	**Pn**	**06 06 55.6**	**+1.4**
SNST	**Tainan City**	**2.41**	**225**	P	**Pn**	**06 06 55.9**	**+1.6**
TWG	**Pinlang**	**2.42**	**209**	*e*P	**Pn**	**06 06 55.0**	**+0.6**
TWGBT	**Beinan**	**2.42**	**209**	P	**Pn**	**06 06 54.0**	**+0.3**
CHN1	**Nanshi**	**2.42**	**224**	P	**Pb**	**06 06 56.8**	**-1.8**
ICHU	**Yijhu**	**2.46**	**231**	*e*P	**Pb**	**06 06 58.1**	**-1.1**
MATB	**Ma-tsu**	**2.49**	**299**	*e*P	**Pn**	**06 06 54.3**	**-1.1**
VWUC	**VWUC**	**2.64**	**272**	*e*P	**Pn**	**06 06 57.2**	**-0.2**
SSD	**Sandimen**	**2.69**	**216**	P	**Pb**	**06 07 01.0**	**-2.2**
TSMG	**Majia**	**2.72**	**215**	*i* P	**Pn**	**06 07 00.7**	**+2.1**
XPSS	**Dashiqiu**	**2.78**	**316**	*e*P	**Pn**	**06 06 59.1**	**-0.2**
MASBT	**Mashibuluo**	**2.80**	**215**	P	**Pn**	**06 07 01.9**	**+2.1**
TAWH	**Dawu Township**	**2.92**	**208**	P	**Pn**	**06 07 02.4**	**+1.1**
SCZT	**Fangliau**	**3.01**	**212**	P	**Pn**	**06 07 03.8**	**+1.2**
SONM	**Songino Array**	**26.11**	**335**	P	P	06 12 10.8	+22
	0.3nm,0.3s,baz=131,slow=6.5,SNR=1.6 0.3nm,0.3s						
WRA	**Warramunga Arr**	**46.11**	**164**	P	**P**	**06 14 38.9**	**-0.4**
	1.4nm,0.7s,baz=345,slow=8.2,SNR=9.7 1.4nm,0.7s						
ASAR	**Alice Springs**	**49.60**	**166**	P	**P**	**06 15 06.7**	**+0.3**
	0.5nm,0.7s,baz=344,slow=9.1,SNR=4.9 0.5nm,0.7s						

JMA ***10*** *06:28:26.1±0.3,35.°1N×137.°7E±.°, h328km±2km, MV3.3/40, CENTRAL AICHI PREF*
IDC ***10*** *06:28:28.0±0.8,35.°18N×136.°69E, h313km±6km, mb3.1/10, mbtmp3.8/12, Error ellipse: s-maj=19.5km s-min=15.3km az=123.0*

ISC 10 06:28:27.8±0.8,**35.°10N**±0.°10×**136.°77E**±0.°08,**h313**km±6km, **n35,** σ0§**65**/40,**mb3.5**/10,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEG	**Eigenji**	**0.31**	**278**	P	**Pn**	**06 29 07.8**	**+0.3**
INU	**Inuyama**	**0.33**	**39**	P	**Pn**	**06 29 07.6**	**+0.1**
JAO	**Obara**	**0.44**	**67**	P	**Pn**	**06 29 08.0**	**+0.2**
JYTA	**Yamagatataniai**	**0.50**	**357**	*e*P	**Pn**	**06 29 08.1**	**+0.3**
JYTA				*e*S	**S**	**06 29 40.2**	**+0.5**
JGF	**Kuroka**	**0.70**	**43**	P	**Pn**	**06 29 08.4**	**0.0**
JIE	**Ise**	**0.70**	**184**	P	**Pn**	**06 29 08.5**	**0.0**
HMMJ	**Hamamatsu 2**	**0.82**	**107**	*e*P	**Pn**	**06 29 08.8**	**0.0**
JNY	**Yasuok**	**0.93**	**73**	P	**Pn**	**06 29 09.4**	**+0.1**
JNY				*e*S	**S**	**06 29 43.0**	**+0.5**
JKN2	**Miekihoku**	**0.95**	**206**	P	**Pn**	**06 29 09.2**	**-0.2**
JWT	**Wachi**	**1.14**	**280**	P	**Pn**	**06 29 10.2**	**+0.1**
JWT				*e*S	**S**	**06 29 43.0**	**-1.0**
JKG	**Kaga**	**1.23**	**343**	*e*P	**Pn**	**06 29 10.6**	**+0.1**
MAJO	**Matsushiro**	**1.86**	**39**	P	**Pn**	**06 29 14.9**	**+0.3**
MJAR	**Matsushiro Arr**	**1.86**	**39**	P	**Pn**	**06 29 15.2**	**+0.6**
	18nm,0.4s,baz=207,slow=7.2,SNR=60						
MJAR				S	**S**	**06 29 52.2**	**+0.2**
	2.7nm,0.6s,baz=227,slow=13,SNR=5.7						
JRY	**Ryogami san**	**1.97**	**62**	P	**Pn**	**06 29 15.9**	**+0.5**
JRY				*e*S	**S**	**06 29 53.8**	**+0.3**
JAG	**Ashikaga**	**2.56**	**58**	P	**Pn**	**06 29 19.3**	**-1.0**
JMN	**Monobe**	**2.75**	**241**	P	**Pn**	**06 29 21.7**	**-0.5**
BSO4	**Boso 4**	**2.93**	**91**	*e*P	**Pn**	**06 29 22.7**	**-0.9**
JYT	**Yasato**	**3.01**	**67**	P	**Pn**	**06 29 22.8**	**-1.6**
JSD	**Sado**	**3.17**	**22**	P	**Pn**	**06 29 26.5**	**+0.5**
JMM	**Marumori**	**4.26**	**48**	P	**Pn**	**06 29 36.6**	**-0.8**
JNU	**Nakatsue**	**5.27**	**250**	P	**Pn**	**06 29 48.8**	**-0.2**
	19nm,0.8s,baz=60,slow=6.7,SNR=7.7						
JNU	**Nakatsue**	**5.27**	**250**	P	**Pn**	**06 29 48.7**	**-0.2**
JTM	**Tenmabayashi**	**6.62**	**30**	P	**Pn**	**06 30 04.2**	**-0.4**
KSRS	**Korea Array**	**7.52**	**291**	P	**Pn**	**06 30 16.1**	**+0.6**
	1.5nm,0.5s,baz=112,slow=12,SNR=5.3						
ERM	**Erimo**	**8.53**	**34**	P	**Pn**	**06 30 26.0**	**-1.7**
ILAR	**Eielson Array**	**53.12**	**31**	P	**P**	**06 37 13.8**	**+0.3**
	0.4nm,0.5s,baz=268,slow=5.7,SNR=6.0 0.4nm,0.5s						
WRA	**Warramunga Arr**	**54.78**	**183**	P	**P**	**06 37 26.6**	**+0.7**
	0.7nm,0.3s,baz=0.0,slow=7.6,SNR=12 0.7nm,0.3s						
ARCES	**ARCESS Array B**	**64.46**	**339**	P	**P**	**06 38 30.3**	**-0.5**
	2.2nm,0.8s,baz=61,slow=8.5,SNR=5.5 2.2nm,0.8s						
FINES	**FINESS Array B**	**68.73**	**331**	P	**P**	**06 38 57.2**	**-0.5**
	1.3nm,0.8s,baz=125,slow=9.6,SNR=4.0 1.3nm,0.8s						
AKASG	**Malin Array Be**	**73.47**	**321**	P	**P**	**06 39 25.6**	**-0.7**
	0.4nm,0.5s,baz=56,slow=5.6,SNR=2.9 0.4nm,0.5s						
HFS	**Hagfors**	**74.25**	**334**	P	**P**	**06 39 29.8**	**-0.7**
	0.6nm,0.5s,baz=64,slow=6.6,SNR=5.1 0.6nm,0.5s						
NOA	**NORSAR Array B**	**74.46**	**336**	P	**P**	**06 39 31.6**	**-0.2**
	0.2nm,0.3s,baz=53,slow=7.7,SNR=1.5 0.2nm,0.3s						
NVAR	**Mina Array Bea**	**79.14**	**51**	P	**P**	**06 39 59.6**	**+1.1**
	0.1nm,0.3s,baz=316,slow=2.8,SNR=2.2 0.1nm,0.3s						
PDAR	**Pinedale Array**	**81.68**	**43**	P	**P**	**06 40 11.3**	**-0.5**
	0.2nm,0.6s,baz=306,slow=8.5,SNR=1.4 0.2nm,0.6s						
TXAR	**Lajitas Array**	**94.26**	**50**	P	**P**	**06 41 12.4**	**+0.3**
	0.4nm,0.7s,baz=323,slow=5.5,SNR=3.9 0.4nm,0.7s						

IDC ***10*** *06:34:32.6±1.0,20.°79N×122.°00E, h0km, mb3.9/10, mbtmp3.9/11, ML3.4/1, MS3.5/3, Error ellipse: s-maj=30.1km s-min=18.4km az=69.0*

ISC 10 06:34:37.6±1.0,**20.°8N**±0.°1×**122.°0E**±0.°2,**h35**km,**n20,** σ0§**52/11,mb3.8/10,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**14.09**	**165**	LR	LR	06 43 01.3	
	comp=Z,115nm,20.8s,baz=178,slow=36						
JNU	**Nakatsue**	**14.59**	**31**	LR	LR	06 43

HIDR					IAML		06 36 33.2	
	comp=N,33nm,0.2s							
HIDR					IAML		06 36 33.2	
	comp=N,33nm,0.2s							
HATOM	**Hato Mayor del**	**2.06**	**289**	*i* P		**Pn**	**06 36 19.6**	**+0.4**
HATOM					IAML		06 36 31.9	
	comp=N,8.8nm,0.2s							

CFUSG ***10*** *06:39:38.2, 41°.90N×26°.60E, h10km, mb3.3/2, MD3.3/2, Bulgaria Magtype MSH 3.2 from 2 stations*
ISK ***10*** *06:39:38.7, 41°.88N×26°.49E, h13km, ML3.6/28*
SOF ***10*** *06:39:39.9, 41°.95N±0°.01×26°.43E±0°.01, h20km±4km, MD3.5/14*
THE ***10*** *06:39:39.2, 42°N±2°×2°7E±°, h4km±3km, M3.4/12, MLh3.4/12*
IDC ***10*** *06:39:40.0±2.1, 41°.96N×26°.79E, h0km, mb3.6/2, mbtmp3.5/7, ML3.0/5, Error ellipse: s-maj=32.2km s-min=9.5km az=55.0*
AFAD ***10*** *06:39:40.7, 41°.84N×26°.63E, h20km±2km, MW3.6*
NAO ***10*** *06:39:41.8, 40°.96N×22°.45E, h10km, mb3.7*
BEO ***10*** *06:39:41.2±0.5, 41°.96N×26°.39E, h11km±3km, ML3.2/15*

ISC 10 06:39:39.4±0.9, **41°.89N**±0°.02×**26°.51E**±0°.02, **h12**km±7km, **n172**, σ0°**96**/223, **37C-17D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EDRB	**Edirne**	**0.18**	**103**	Pg		**Pg**	**06 39 43.5**	**+0.1**
EDRB				Sg		**Sg**	**06 39 46.1**	**-0.2**
KIRK	**Kırklareli**	**0.46**	**103**	P		**Pg**	**06 39 48.5**	**+0.2**
KIRK				S		**Sg**	**06 39 54.1**	**-0.2**
KIRK				*i*	IAML		06 39 55.0	
	comp=N,2μm,0.2s							
KIRK				*i*	IAML		06 39 57.0	
	comp=E,878nm,0.2s							
JMB	**Yambol**	**0.60**	**2**	Pg		**Pg**	**06 39 51.0**	**-0.1**
JMB				Sg		**Sg**	**06 39 59.4**	**+0.3**
JMB	**Yambol**	**0.60**	**2**	P		**Pg**	**06 39 51.0**	**-0.1**
JMB				S		**Sg**	**06 39 59.1**	**0.0**
JMB	**Yambol**	**0.60**	**2**	P		**Pg**	**06 39 50.9**	**-0.2**
JMB				S		**Sg**	**06 39 59.4**	**+0.3**
JMB	**Yambol**	**0.60**	**2**	*e*Pg		**Pg**	**06 39 51.0**	**-0.1**
JMB				*e*Sg		**Sg**	**06 39 58.9**	**-0.2**
ARMN	**Kirklareli, Me**	**0.69**	**92**	P		**Pg**	**06 39 52.7**	**-0.1**
ARMN				S		**Sg**	**06 40 00.9**	**-0.9**
ARMN				*i*	IAML		06 40 05.0	
	comp=N,2μm,0.3s							
ARMN				*i*	IAML		06 40 05.0	
	comp=E,2μm,0.2s							
DIM	**Dimitrovgrad**	**0.71**	**283**	P		**Pg**	**06 39 52.8**	**-0.3**
DIM	**Dimitrovgrad**	**0.71**	**283**	P		**Pg**	**06 39 53.0**	**-0.1**
DIM				S		**Sg**	**06 40 02.8**	**+0.4**
UKOP	**Uzunkopru-Edir**	**0.76**	**173**	Pg		**Pg**	**06 39 54.5**	**+0.4**
PHSR	**Pinarhisar**	**0.80**	**108**	Pg		**Pg**	**06 39 54.7**	**-0.2**
PHSR	**Pinarhisar**	**0.80**	**108**	⇑P		**Pg**	**06 39 53.3**	**-1.7**
PHSR				⇓S		**Sg**	**06 40 04.7**	**-0.8**
KDZ	**Kurdzhali**	**0.91**	**254**	Pg		**Pg**	**06 39 56.4**	**-0.5**
KDZ				Sg		**Sg**	**06 40 09.3**	**+0.5**
KDZ	**Kurdzhali**	**0.91**	**254**	P		**Pg**	**06 39 56.3**	**-0.7**
KDZ				S		**Sg**	**06 40 09.5**	**+0.7**
KDZ	**Kurdzhali**	**0.91**	**254**	P		**Pg**	**06 39 56.2**	**-0.7**
KDZ				S		**Sg**	**06 40 09.7**	**+1.0**
RDO	**Rodhopi**	**1.04**	**225**	Pg		**Pb**	**06 39 58.5**	**-0.7**
RDO				Sg		**Sg**	**06 40 12.9**	**+0.1**
RDO	**Rodhopi**	**1.04**	**225**	P		**Pb**	**06 39 58.7**	**-0.6**
RDO				S		**Sg**	**06 40 13.0**	**+0.1**
VIZE	**Kirklareli, Vi**	**1.05**	**107**	P		**Pg**	**06 39 59.3**	**-0.2**
VIZE				S		**Sg**	**06 40 12.9**	**-0.2**
VIZE				*i*	IAML		06 40 17.0	
	comp=N,1μm,0.2s							
VIZE				*i*	IAML		06 40 17.0	
	comp=E,1μm,0.3s							
ALN	**Alexandroupoli**	**1.05**	**199**	Pg		**Pb**	**06 39 58.8**	**-0.6**
ALN				Sg		**Sg**	**06 40 13.7**	**+0.5**
ALN	**Alexandroupoli**	**1.05**	**199**	P		**Pb**	**06 39 58.8**	**-0.6**
ALN				S		**Sg**	**06 40 13.2**	**+0.1**
KESN	**Edirne-Kesan**	**1.07**	**173**	P		**Pg**	**06 39 60.0**	**0.0**
KESN				S		**Sg**	**06 40 14.8**	**+0.9**
KESN				*i*	IAML		06 40 16.0	
	comp=N,3μm,0.3s							
KESN				*i*	IAML		06 40 16.0	
	comp=E,2μm,0.6s							
ELND	**Elena**	**1.14**	**336**	⇑P		**Pb**	**06 40 00.5**	**-0.5**
TKR	**Tekirdag**	**1.19**	**139**	Pn		**Pb**	**06 40 01.2**	**-0.6**
ERIK	**Erikli-Kesan**	**1.22**	**180**	Pn		**Pn**	**06 40 01.9**	**-0.3**
ERIK				Sn		**Sb**	**06 40 17.9**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.22**	**192**	P		**Pn**	**06 40 02.2**	**0.0**
CAVK				S		**Sg**	**06 40 19.7**	**+1.0**
CAVK				*i*	IAML		06 40 24.0	
	comp=N,2μm,0.8s							
CAVK				*i*	IAML		06 40 26.0	
	comp=E,1μm,0.7s							
CAVK	**Edirne/Enez-Ca**	**1.22**	**192**	⇑P		**Pn**	**06 40 00.5**	**-1.7**
SART	**Tekirdag**	**1.30**	**157**	P		**Pn**	**06 40 03.4**	**0.0**
SART				S		**Sn**	**06 40 21.9**	**+1.1**
SART				*i*	IAML		06 40 22.0	
	comp=N,575nm,0.5s							
SART				*i*	IAML		06 40 23.0	
	comp=E,1μm,0.6s							
ENZZ	**Sultanice-Enez**	**1.31**	**192**	Pn		**Pn**	**06 40 02.8**	**-0.6**
PLD	**Plovdiv**	**1.33**	**282**	Pn		**Pn**	**06 40 03.4**	**-0.4**
PLD	**Plovdiv**	**1.33**	**282**	P		**Pn**	**06 40 03.7**	**-0.1**
PLD	**Plovdiv**	**1.33**	**282**	P		**Pn**	**06 40 04.2**	**+0.4**
PLD				S		**Sb**	**06 40 22.1**	**+0.7**
PLD	**Plovdiv**	**1.33**	**282**	*e*Pg		**Pn**	**06 40 04.1**	**+0.3**
PLD				*e*Sg		**Sb**	**06 40 21.9**	**+0.5**
RZN	**Rozhen**	**1.33**	**262**	P		**Pn**	**06 40 04.0**	**0.0**
RZN				S		**Sb**	**06 40 21.1**	**-0.5**
RZN	**Rozhen**	**1.33**	**262**	P		**Pn**	**06 40 04.1**	**+0.1**
ROIA	**ROIAK**	**1.37**	**28**	P		**Pb**	**06 40 05.3**	**+0.4**
CTYL	**Yalikoy Yolu**	**1.40**	**107**	Pn		**Pn**	**06 40 04.4**	**-0.3**
CTYL	**Yalikoy Yolu**	**1.40**	**107**	⇑P		**Pn**	**06 40 04.3**	**-0.3**
SZH	**Strazhitsa**	**1.43**	**344**	P		**Pn**	**06 40 05.0**	**-0.2**
SZH				S		**Sn**	**06 40 23.6**	**-0.3**
SZH	**Strazhitsa**	**1.43**	**344**	P		**Pn**	**06 40 05.7**	**+0.5**
PRD	**Provadia**	**1.44**	**27**	P		**Pn**	**06 40 05.8**	**+0.6**
PRD				S		**Sn**	**06 40 24.3**	**+0.3**
SLVT	**Silivri**	**1.44**	**117**	Pn		**Pn**	**06 40 05.4**	**+0.2**
LOZB	**Loznitsa**	**1.48**	**2**	⇑P		**Pn**	**06 40 06.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.49**	**181**	Pn		**Pn**	**06 40 05.6**	**-0.3**
NEF	**NEVSHA**	**1.49**	**22**	P		**Pn**	**06 40 06.6**	**+0.6**
AVR	**AVREN**	**1.50**	**35**	P		**Pn**	**06 40 06.8**	**+0.7**
MRMT	**Marmara Adasi**	**1.52**	**147**	Pn		**Pn**	**06 40 06.4**	**-0.1**
PVL	**Pavlikeni**	**1.58**	**322**	P		**Pb**	**06 40 09.1**	**+0.6**
PVL				S		**Sg**	**06 40 30.0**	**-0.2**
SMTH	**Samothraki Isl**	**1.59**	**208**	P		**Pn**	**06 40 07.5**	**+0.1**
KRBG	**Karabiga-Canak**	**1.61**	**158**	Pn		**Pn**	**06 40 07.2**	**-0.4**
CTKS	**Kestanelik-??a**	**1.64**	**113**	Pn		**Pn**	**06 40 07.8**	**-0.2**
RAZG	**Razgrad**	**1.68**	**0**	⇑P		**Pn**	**06 40 08.8**	**+0.2**
KAVA	**Kavala**	**1.74**	**240**	P		**Pn**	**06 40 09.1**	**-0.3**
GADA	**Gvkgeada**	**1.76**	**195**	Pn		**Pn**	**06 40 09.1**	**-0.5**
GADA	**Gvkgeada**	**1.76**	**195**	P		**Pn**	**06 40 09.3**	**-0.3**
GOAD	**anakkale-G¶**	**1.78**	**195**	P		**Pn**	**06 40 09.8**	**-0.2**
GOAD				S		**Sn**	**06 40 33.2**	**+0.7**
GOAD				*i*	IAML		06 40 42.0	
	comp=N,400nm,0.3s							
GOAD				*i*	IAML		06 40 45.0	
	comp=E,563nm,0.6s							
COMU	**Canakkale**	**1.79**	**181**	Pn		**Pn**	**06 40 09.9**	**-0.2**
CNKL	**anakkale-Mer**	**1.82**	**183**	P		**Pn**	**06 40 10.3**	**-0.2**
CNKL				S		**Sn**	**06 40 33.4**	**-0.1**
CNKL				*i*	IAML		06 40 38.0	
	comp=N,112nm,0.8s							
CNKL				*i*	IAML		06 40 53.0	
	comp=E,126nm,1.0s							
PGB	**Panagyurishte**	**1.84**	**291**	P		**Pn**	**06 40 11.0**	**+0.2**
BGKT	**Bogazkoy**	**1.84**	**112**	Pn		**Pn**	**06 40 10.6**	**-0.2**
EDC	**Edincik**	**1.85**	**146**	Pn		**Pn**	**06 40 10.7**	**-0.2**
ECEA	**Canakkale, Ece**	**1.86**	**188**	P		**Pn**	**06 40 11.1**	**+0.1**
ECEA				*i*	IAML		06 40 44.0	
	comp=N,507nm,1.0s							
ECEA				*i*	IAML		06 40 48.0	
	comp=E,412nm,0.6s							
THAS	**Thassos island**	**1.86**	**227**	P		**Pn**	**06 40 10.3**	**-0.7**
BAND	**Balkesir-Ban**	**1.95**	**141**	P		**Pn**	**06 40 12.8**	**+0.6**
BAND				S		**Sn**	**06 40 36.9**	**+0.3**
BAND				*i*	IAML		06 40 42.0	
	comp=N,200nm,0.3s							
BAND				*i*	IAML		06 40 43.0	
	comp=E,225nm,0.3s							
BAND	**Balkesir-Ban**	**1.95**	**141**	⇑P		**Pn**	**06 40 10.8**	**-1.5**
YENI	**Yenice-Canakka**	**2.03**	**164**	Pn		**Pn**	**06 40 12.9**	**-0.5**
PLVB	**Pleven**	**2.04**	**318**	⇓P		**Pn**	**06 40 12.7**	**-0.9**
GONE	**Gonen-Balikesi**	**2.04**	**154**	Pn		**Pn**	**06 40 13.4**	**-0.2**
EZN	**Ezine**	**2.06**	**184**	Pn		**Pn**	**06 40 13.6**	**-0.3**
EZN	**Ezine**	**2.06**	**184**	P		**Pn**	**06 40 13.6**	**-0.3**
EZN	**Ezine**	**2.06**	**184**	⇑P		**Pn**	**06 40 11.9**	**-2.0**
KALB	**Balgarevo**	**2.07**	**42**	⇑P		**Pn**	**06 40 15.2**	**+1.3**
BOZC	**Bozcaada**	**2.07**	**190**	P		**Pn**	**06 40 14.0**	**0.0**
BOZC				S		**Sn**	**06 40 40.3**	**+0.6**
BOZC				*i*	IAML		06 40 48.0	
	comp=E,189nm,0.7s							
BOZC				*i*	IAML		06 40 52.0	
	comp=N,132nm,0.9s							
ISK	**Istanbul-Kandi**	**2.09**	**112**	Pn		**Pn**	**06 40 13.1**	**-1.1**
KAVV	**Kandilli-Istan**	**2.09**	**112**	Pn		**Pn**	**06 40 13.3**	**-0.9**
MMB	**Musomishta**	**2.09**	**262**	P		**Pn**	**06 40 14.6**	**+0.3**
MMB	**Musomishta**	**2.09**	**262**	P		**Pn**	**06 40 14.8**	**+0.5**
PSN	**Preselentsi**	**2.12**	**34**	P		**Pn**	**06 40 15.4**	**+0.8**
EZNE	**Ezine-Canakkal**	**2.13**	**183**	Pn		**Pn**	**06 40 14.7**	**-0.1**
KCTX	**Karacabey (Bur**	**2.14**	**139**	Pn		**Pn**	**06 40 14.9**	**0.0**
BAYC	**CANAKKALE_Bayr**	**2.14**	**179**	P		**Pn**	**06 40 15.4**	**+0.4**
BAYC				S		**Sn**	**06 40 42.6**	**+1.1**
BAYC				*i*	IAML		06 40 44.0	
	comp=N,116nm,0.4s							
BAYC				*i*	IAML		06 40 44.0	
	comp=E,114nm,0.3s							
ARMT	**Armutlu**	**2.21**	**126**	Pn		**Pn**	**06 40 15.9**	**0.0**
LIA	**Limnos Island**	**2.23**	**207**	P		**Pn**	**06 40 15.6**	**-0.5**
BLKS	**Balkesir-Sus**	**2.30**	**151**	P		**Pn**	**06 40 17.4**	**+0.3**
BLKS				S		**Sn**	**06 40 46.0**	**+0.7**
BLKS				*i*	IAML		06 41 00.0	
	comp=E,99nm,0.6s							
BLKS				*i*	IAML		06 41 01.0	
	comp=N,116nm,0.7s							
YAYO	**Edremit-Balk**	**2.31**	**169**	Pn		**Pn**	**06 40 17.5**	**+0.2**
SRS	**Serrai**	**2.32**	**252**	P		**Pn**	**06 40 17.4**	**0.0**
SRS	**Serrai**	**2.32**	**252**	*e*Pn		**Pn**	**06 40 17.1**	**-0.3**
SRS				*e*Sn		**Sn**	**06 40 46.5**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.35**	**129**	Pn		**Pn**	**06 40 17.8**	**0.0**
PLNA	**Plana**	**2.36**	**285**	P		**Pn**	**06 40 18.4**	**+0.3**
SGRR	**Singureni**	**2.37**	**351**	⇑P		**Pn**	**06 40 17.5**	**-0.5**
ICOR	**Ion Corvin**	**2.42**	**23**	⇑P		**Pn**	**06 40 19.2**	**+0.4**
COPA	**Copaceanca**	**2.44**	**338**	⇑P		**Pn**	**06 40 18.0**	**-0.9**
TSMN	**Mangalia Port-**	**2.45**	**38**	⇓P		**Pn**	**06 40 20.5**	**+1.3**
OUR	**Ouranopolis**	**2.46**	**232**	Pn		**Pn**	**06 40 19.1**	**-0.1**
MANR	**Mangalia**	**2.46**	**38**	⇑P		**Pn**	**06 40 19.1**	**-0.2**
SILT	**Sile**	**2.47**	**106**	Pn		**Pn**	**06 40 19.8**	**+0.4**
SILT	**Sile**	**2.47**	**106**	⇑P		**Pn**	**06 40 17.4**	**-2.0**
SILT				⇓S		**Sn**	**06 40 49.0**	**-0.5**
MPEP	**Malo Peshtene**	**2.51**	**307**	P		**Pn**	**06 40 20.3**	**+0.3**
KKB	**Krupnik**	**2.52**	**270**	P		**Pn**	**06 40 20.7**	**+0.5**
YLV	**Yalova**	**2.53**	**120**	Pn		**Pn**	**06 40 20.4**	**0.0**
VTS	**Vitosha**	**2.54**	**288**	P		**Pn**	**06 40 20.5**	**0.0**
VTS	**Vitosha**	**2.54**	**288**	*e*Pn		**Pn**	**06 40 21.0**	**+0.5**
VTS				*e*Sn		**Sn**	**06 40 51.6**	**+0.3**
LEHL	**Lehliu**	**2.59**	**5**	⇑P		**Pn**	**06 40 22.4**	**+1.3**
MFTR	**Murfatlar**	**2.69**	**31**	⇓P		**Pn**	**06 40 22.7**	**+0.3**
CVDA	**Cernavoda**	**2.69**	**24**	⇓P		**Pn**	**06 40 22.4**	**-0.1**
SULR		**2.80**	**356**	⇑P		**Pn**	**06 40 24.3**	**+0.4**
ADVT	**Abdulvahap**	**2.84**	**120**	Pn		**Pn**	**06 40 24.9**	**+0.4**
HUMR	**Humele**	**2.87**	**338**	⇓P		**Pn**	**06 40 25.1**	**+0.3**
TLBR	**Topalu**	**2.88**	**22**	⇓P		**Pn**	**06 40 26.0**	**+0.8**
VALD	**Valchedram**	**2.89**	**310**	*e*P		**Pb**	**06 40 29.1**	**-1.7**
TIRR	**Tirgusor**	**2.92**	**28**	⇑P		**Pn**	**06 40 26.3**	**+0.7**
HARR	**Harsova**	**2.99**	**20**	⇑P		**Pn**	**06 40 26.4**	**-0.2**
VAY	**Valandovo**	**3.00**	**260**	*e*Pn		**Pn**	**06 40 28.2**	**+1.4**
VAY				*e*Sn		**Sg**	**06 41 15.2**	**-0.6**
PGOR	**Pogoanele**	**3.04**	**6**	⇑P		**Pn**	**06 40 28.3**	**+1.1**
BOSS	**Bosilegrad**	**3.05**	**283**	*e*Pn		**Pn**	**06 40 28.7**	**+1.2**
BOSS				*e*Sn		**Sn**	**06 41 03.7**	**-0.2**
ZAPS	**Zavoj**	**3.18**	**297**	*e*Pn		**Pn**	**06 40 29.6**	**+0.4**
ZAPS				*e*Sn		**Sn**	**06 41 07.1**	**+0.1**
ISR	**Istrita**	**3.23**	**0**	⇑P		**Pn**	**06 40 30.7**	**+0.7**
BLKB	**Belogradchik**	**3.31**	**303**	*e*Pn		**Pn**	**06 40 31.2**	**+0.2**
BLKB				*e*Sn		**Sn**	**06 41 09.7**	**-0.6**
JURR	**Jurilovca**	**3.36**	**30**	⇑P		**Pn**	**06 40 31.6**	**0.0**
CFR	**Carcaliu**	**3.50**	**19**	⇑P		**Pn**	**06 40 33.8**	**+0.3**
NEHR	**Nehoiu**	**3.54**	**358**	⇓P		**Pn**	**06 40 33.5**	**-0.7**
BARS	**Barje**	**3.60**	**287**	*e*Pn		**Pn**	**06 40 36.1**	**+1.2**
BARS	**Barje**	**3.60**	**287**	*e*Pn		**Pn**	**06 40 35.7**	**+0.8**
MLR	**Muntele Rosu**	**3.62**	**354**	Pn		**Pn**	**06 40 37.4**	**+2.0**
	2.9nm,0.3s,baz=208,slow=2.3,SNR=12							
MLR					Sn	**Sn**	**06 41 21.4**	**+3.2**
	8.8nm,0.3s,baz=122,slow=14,SNR=6.7							
MLR					Lg	Lg	06 41 34.0	
	17nm,0.3s,baz=163,slow=6.0,SNR=6.6							
	9.9nm,0.5s							
MLR	**Muntele Rosu**	**3.62**	**354**	⇑P		**Pn**	**06 40 36.0**	**+0.6**
MLR	**Muntele Rosu**	**3.62**	**354**	*e*Pn		**Pn**	**06 40 37.8**	**+2.4**
BISRR	**Bisoca**	**3.66**	**2**	⇑P		**Pn**	**06 40 36.1**	**+0.3**
ZAGS	**Zajecar**	**3.68**	**303**	*e*Pn		**Pn**	**06 40 37.2**	**+1.1**
ZAGS				*e*Sn		**Sn**	**06 41 17.7**	**-1.7**
TLCR		**3.70**	**26**	⇑P		**Pn**	**06 40 36.6**	**+0.2**
VOIR		**3.70**	**344**	⇓P		**Pn**	**06 40 37.3**	**+0.8**
ARR	**Arges**	**3.73**	**339**	⇓P		**Pn**	**06 40 37.1**	**+0.2**
BOVS	**Bovan**	**3.94**	**298**	⇑P		**Pn**	**06 40 38.9**	**-0.8**
BOVS	**Bovan**	**3.94**	**298**	*e*Pn		**Pn**	**06 40 41.5**	**+1.8**
BOVS				*e*Sn		**Sn**	**06 41 20.8**	**-5.0**
COVR	**Voineasa-Covas**	**3.96**	**357**	⇓P		**Pn**	**06 40 40.2**	**+0.2**
PLOR	**Plostina**	**3.96**	**1**	⇓P		**Pn**	**06 40 41.0**	**+1.0**
VRI	**Vrincioaia**	**3.98**	**2**	⇓P		**Pn**	**06 40 40.5**	**+0.3**
PANC	**Panciu**	**4.01**	**6**	⇑P		**Pn**	**06 40 41.3**	**+0.7**
FNA	**Florina**	**4.02**	**256**	*e*Pn		**Pn**	**06 40 41.2**	**+0.5**
FNA				*e*Sn		**Sn**	**06 41 28.3**	**+0.6**
LOT	**Lotru**	**4.08**	**332**	⇑P		**Pn**	**06 40 41.6**	**0.0**
TNR	**Turnu Rosu**	**4.09**	**338**	⇑P		**Pn**	**06 40 41.7**	**-0.1**
DOPR	**Dopca**	**4.16**	**349**	⇓P		**Pn**	**06 40 42.1**	**-0.5**
TURR	**Turia**	**4.18**	**355**	⇑P		**Pn**	**06 40 44.0**	**+1.0**
HERR	**Herculane**	**4.22**	**316**	⇓P		**Pn**	**06 40 42.7**	**-0.8**
OZUR		**4.24**	**353**	⇑P		**Pn**	**06 40 44.2**	**+0.5**
KUBS	**Kucevo**	**4.34**	**307**	*e*Pn		**Pn**	**06 40 43.7**	**-1.5**
OHR	**Ohrid**	**4.36**	**262**	*e*Pn		**Pn**	**06 40 45.9**	**+0.5**
OHR				*e*Sn		**Sg**	**06 41 57.0**	**-2.1**
GZR	**Gura Zlata**	**4.43**	**324**	⇑P		**Pn**	**06 40 46.2**	**-0.2**
GZR	**Gura Zlata**	**4.43**	**324**	*e*Pn		**Pn**	**06 40 47.0**	**+0.6**
ONER	**Baraj Valea Uz**	**4.45**	**359**	⇑P		**Pn**	**06 40 46.2**	**-0.5**
GOCS	**Kraljevo Serbi**	**4.47**	**294**	*e*Pn		**Pn**	**06 40 47.6**	**+0.5**
MDVR	**Moldovita**	**4.54**	**311**	⇑P		**Pn**	**06 40 47.7**	**-0.2**
MDVR	**Moldovita**	**4.54**	**311**	*e*Pn		**Pn**	**06 40 47.8**	**-0.1**
TESR	**Tescani**	**4.62**	**1**	⇑P		**Pn**	**06 40 49.4**	**+0.3**
GRUS	**Gruza**	**4.70**	**297**	*e*Pn		**Pn**	**06 40 51.1**	**+1.0**
GRUS				*e*Sn		**Sn**	**06 41 42.6**	**-1.9**
VRSS	**Vrsac**	**4.96**	**312**	*e*Pn		**Pn**	**06 40 54.0**	**+0.3**
VRSS				*e*Sn		**Sn**	**06 41 48.6**	**-2.4**
IVAS	**Ivanjica**	**4.97**	**292**	*e*Pn		**Pn**	**06 40 53.3**	**-0.6**
SURR	**Surduc**	**5.00**	**322**	⇑P		**Pn**	**06 40 53.4**	**-0.8**
TRUS	**Trudelj**	**5.04**	**300**	*e*Pn		**Pn**	**06 40 54.8**	**0.0**
BZS	**Buzias**	**5.14**	**318**	⇑P		**Pn**	**06 40 55.2**	**-0.9**
BZS	**Buzias**	**5.14**	**318**	*e*Pn		**Pn**	**06 40 55.8**	**-0.3**
AVAS	**Avala Beograd**	**5.20**	**305**	*e*Pn		**Pn**	**06 40 56.6**	**-0.3**
BBLS	**Lazi&#263i**	**5.58**	**293**	*e*Pn		**Pn**	**06 41 00.8**	**-1.4**
TEKS	**Tekeris**	**5.75**	**300**	*e*Pn		**Pn**	**06 41 04.0**	**-0.5**
BURAR	**Bucovina Array**	**5.80**	**351**	⇓P		**Pn**	**06 41 05.9**	**+0.6**
BRTR	**Keskin Array B**	**5.83**	**109**	Pn		**Pn**	**06 41 06.0**	**+0.2**
	0.4nm,0.3s,baz=282,slow=15,SNR=9.8							
BRTR					Sn	**Sn**	**06 42 10.4**	**-2.1**
	0.3nm,0.3s,baz=77,slow=26,SNR=4.0							
	0.9nm,0.5s							
SEV	**Sevastopol'**	**5.87**	**61**	*e*P		**Pn**	**06 41 04.9**	**-1.2**
SEV					Pm		06 41 12.1	
	comp=Z,5.0nm,0.3s							
SEV				*e*S		**Sn**	**06 42 11.4**	**-1.9**
SEV					Sm		06 42 15.0	
	comp=N,13nm,0.5s							
SEV					Sm		06 42 15.0	
	comp=E,13nm,0.5s							
SUDU	**Sudak**	**6.88**	**61**	*e*P		**Pn**	**06 41 20.1**	**+0.1**
SUDU					Pm		06 41 23.3	
	comp=Z,22nm,0.5s							
SUDU				*e*S		**Sn**	**06 42 38.2**	**+0.1**
SUDU					Sm		06 42 42.6	
	comp=N,23nm,0.4s							
SUDU					Sm		06 42 42.6	
	comp=E,12nm,0.4s							
AKASG	**Malin Array Be**	**9.01**	**11**	Pn		**Pn**	**06 41 49.6**	**+0.4**
	comp=E,0.9nm,0.3s,baz=201,slow=12,SNR=4.4							
AKASG					Sn	**Sn**	**06 43 24.5**	**-6.1**
	comp=E,1.5nm,0.3s,baz=202,slow=21,SNR=5.0							
	comp=E,0.2nm,0.3s							
FINES	**FINESS Array B**	**19.59**	**359**	P		**P**	**06 44 07.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=173,slow=13,SNR=3.9							
	comp=E,1.8nm,1.0s							
HFS	**Hagfors**	**19.90**	**341**	P		**P**	**06 44 11.8**	**+1.3**
	comp=E,0.2nm,0.3s,baz=140,slow=9.4,SNR=4.8							
	comp=E,2.0nm,0.8s							
NB2	**NORSAR Subarra**	**21.31**	**339**	P		**P**	**06 44 27.5**	**+1.7**
	comp=Z,4.5nm,1.1s,baz=156,slow=11							
NOA	**NORSAR Array B**	**21.31**	**339**	P		**P**	**06 44 26.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=145,slow=11,SNR=4.7							
	comp=Z,0.7nm,0.8s							
ARTI	**Arti**	**25.12**	**44**	P		**P**	**06 45 05.9**	**+2.1**
	comp=Z,1.8nm,0.3s,baz=240,slow=8.1,SNR=3.4							
	comp=Z,1.8nm,0.3s							

MOS ***10*** *06:43:10.8±1.1, 37°.17N×71°.62E, h116km, mb5.4/51, Error ellipse: s-maj=4.1km s-min=3.0km az=99.6*
BJI ***10*** *06:43:10.4, 37°.16N×71°.63E, h100km, mB5.6/33, mb5.6/79*
IDC ***10*** *06:43:11.6±1.9, 37°.06N×71°.66E, h113km±16km, mb4.8/34, mbtmp5.2/37, MS3.9/46, Error ellipse: s-maj=10.8km s-min=7.6km az=179.0*
BGR ***10*** *06:43:11.9, 37°.38N×72°.19E, h114km±1km, mb4.9*
NEIC ***10*** *06:43:12.3±1.3, 37°.17N±0°.06×71°.53E±0°.08, h111km±6km, mb5.4/151, Mww5.3/16, Error ellipse: s-maj=9.2km s-min=8.3km az=71.0*
NEIC ***10*** *06:43:12.5, 37°.18N×71°.49E, h110km*
NEIC ***10*** *06:43:12.5, 37°.28N×71°.11E, h110km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.89; $M_{\phi\phi}$0.16; $M_{r\theta}$0.13; $M_{\theta\phi}$0.71; $M_{\phi r}$-0.34; Fault plane solution: $M_0$1.15000×10^{17} NP1: ϕ_s267.23000°, δ46.01000°, λ44.45000°. NP2: ϕ_s142.97000°, δ59.75000°, λ126.49000°. Principal axes: T 0.9171, Plg58.0000°, Azm105.0000°; N 0.3666, Plg31.0000°, Azm303.0000°; P -1.2837, Plg8.0000°, Azm208.0000°;*
GCMT ***10*** *06:43:13.3±0.2, 37°.03N±0°.01×71°.57E±0°.01, h126km±1km, MW5.3/128, Moment Tensor Solution. s89,c118; s128,c256; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.29±.02; $M_{\theta\theta}$-0.78±.02; $M_{\phi\phi}$0.49±.02; $M_{r\theta}$0.40±.01; $M_{\theta\phi}$0.14±.02; $M_{\phi r}$-0.63±.01; Best double couple: $M_0$1.01900×10^{17} NP1:ϕ_s238.00000°, δ41.00000°, λ17.00000°. NP2:ϕ_s135.00000°, δ79.00000°, λ130.00000°. Principal axes: T 1.0410, Plg42.0000°, Azm83.0000°; N -0.0440, Plg39.0

HNLY IAML 06 46 18.5
comp=N,4μm,0.6s
KNDC Almaty 7.38 32 ⇓P Pn 06 44 57.8 +2.1
comp=N,1μm,0.5s
KNDC ⇓S Sn 06 46 35.0 +17
comp=N,1μm,1.1s
KNDC Almaty 7.38 32 PN Pn 06 44 57.8 +2.1
SMLA Simla 7.48 141 *e*P **Pn 06 44 57.5 +0.5**
SMLA eS **Sn 06 46 15.9 -4.4**
SMLA IAML 06 46 17.1
comp=E,4μm,0.6s
SMLA IAML 06 46 17.1
comp=N,4μm,0.7s
PRZ Przheval'sk 7.51 42 Pn 06 44 58.6 +1.0
PRZ Przheval'sk 7.51 42 PN **Pn 06 44 58.6 +1.0**
CGRH CHANDIGARH 7.62 144 *e*P **Pn 06 44 59.8 +0.8**
CGRH eS **Sn 06 46 20.6 -3.0**
CGRH IAML 06 46 22.8
comp=N,1μm,0.6s
CGRH IAML 06 46 23.2
comp=E,2μm,0.3s
KUU Kurty 7.71 26 *e*PN **Pn 06 45 00.1 0.0**
KUU Kurty 7.71 26 *e*P **Pn 06 45 00.1 0.0**
KLP Kalpa 7.76 133 *e*P **Pn 06 45 02.2 +1.1**
KLP eS **Sn 06 46 23.5 -4.1**
KLP IAML 06 46 25.6
comp=E,2μm,0.6s
KLP IAML 06 46 25.6
comp=N,4μm,0.6s
CHKK Chushkaly 7.92 29 *e*PN **Pn 06 45 03.1 +0.2**
CHKK Chushkaly 7.92 29 *e*P **Pn 06 45 03.1 +0.2**
SATY Saty 7.93 39 *e*PN **Pn 06 45 03.4 +0.3**
SATY Saty 7.93 39 *e*P **Pn 06 45 03.4 +0.3**
SATY eS **Sn 06 46 31.4 +0.2**
BTLS Baital 8.18 12 *e*PN **Pn 06 45 06.0 -0.4**
BTLS Baital 8.18 12 *e*P **Pn 06 45 06.1 -0.4**
UZB Uzynbulak 8.30 41 *e*PN **Pn 06 45 08.5 +0.3**
UZB Uzynbulak 8.30 41 *e*P **Pn 06 45 08.6 +0.3**
KPKS Kokpek 8.36 38 *e*PN **Pn 06 45 09.2 +0.2**
KPKS Kokpek 8.36 38 *e*P **Pn 06 45 09.2 +0.2**
SHLS Shalkode 8.54 42 *e*PN **Pn 06 45 15.2 +3.7**
SHLS Shalkode 8.54 42 *e*P **Pn 06 45 15.2 +3.7**
SHLS eS **Sn 06 46 52.5 +6.3**
DDI Dehra Dun 8.58 140 *e*P **Pn 06 45 12.9 +0.8**
DDI eS **Sn 06 46 41.5 -5.7**
DDI IAML 06 46 46.6
comp=E,1μm,0.2s
DDI IAML 06 46 46.7
comp=N,2μm,0.2s
PDGK Podgornoye 8.68 41 ⇑P **Pn 06 45 13.5 +0.2**
comp=N,523nm,1.1s
PDGK Podgornoye 8.68 41 PN **Pn 06 45 13.5 +0.2**
GNR GANAUR 9.10 149 *e*P **Pn 06 45 19.8 +0.8**
GNR eS **Sn 06 46 53.5 -6.1**
GNR IAML 06 46 55.4
comp=N,2μm,0.3s
GNR IAML 06 46 55.7
comp=E,3μm,0.4s
BKNR BIKANER 9.12 171 *e*P **Pn 06 45 18.6 -0.7**
BKNR eS **Sn 06 46 54.2 -5.9**
BKNR IAML 06 46 56.9
comp=E,2μm,0.2s
BKNR IAML 06 46 57.2
comp=N,2μm,0.3s
JOSI Joshimath 9.24 132 *e*P **Pn 06 45 21.8 +0.7**
JOSI eS **Sn 06 46 58.0 -5.4**
JOSI IAML 06 47 03.0
comp=N,3μm,0.4s
JOSI IAML 06 47 03.4
comp=E,2μm,0.3s
JHJR Jhajjar 9.42 152 *e*P **Pn 06 45 23.9 +0.6**
JHJR eS **Sn 06 47 03.4 -4.0**
JHJR IAML 06 47 03.8
comp=N,2μm,0.3s
JHJR IAML 06 47 04.0
comp=E,2μm,0.3s
TDK Taldyqorghan 9.44 31 *e*P **Pn 06 45 23.2 -0.3**
TDK Taldyqorghan 9.44 31 *e*P **Pn 06 45 23.3 -0.3**
BHGR Bahadurgarh 9.46 150 *e*P **Pn 06 45 24.6 +0.7**
BHGR eS **Sn 06 47 02.7 -5.7**
BHGR IAML 06 47 06.6
comp=N,3μm,0.2s
NDI New Delhi 9.57 149 *e*P **Pn 06 45 25.8 +0.3**
NDI eS **Sn 06 47 05.6 -5.6**
NDI IAML 06 47 06.2
comp=E,3μm,0.2s
NDI IAML 06 47 06.3
comp=N,2μm,0.3s
NPLP NPLP New Delhi 9.60 149 *e*P **Pn 06 45 25.8 +0.1**
NPLP eS **Sn 06 47 05.4 -6.3**
NPLP IAML 06 47 07.7
comp=N,1μm,0.2s
NPLP IAML 06 47 08.1
comp=E,2μm,0.3s
LDR Lodi Road 9.66 149 *e*P **Pn 06 45 27.5 +0.9**
LDR eS **Sn 06 47 06.6 -6.7**
LDR IAML 06 47 12.8
comp=N,1μm,0.4s
LDR IAML 06 47 13.1
comp=E,2μm,0.3s
JMIU JAMIA UNIVERSI 9.71 149 *e*P **Pn 06 45 28.3 +1.0**
JMIU eS **Sn 06 47 09.4 -5.1**
JMIU IAML 06 47 13.0
comp=E,2μm,0.2s
JMIU IAML 06 47 13.0
comp=N,3μm,0.2s
AYAN Aya Nagar 9.72 150 *e*P **Pn 06 45 27.0 -0.4**
AYAN eS **Sn 06 47 08.4 -6.2**
AYAN IAML 06 47 10.8
comp=N,2μm,0.2s
AYAN IAML 06 47 11.0
comp=E,2μm,0.3s
ASOR Ausora 9.75 146 *e*P **Pn 06 45 28.6 +0.8**
ASOR eS **Sn 06 47 11.0 -4.5**
ASOR IAML 06 47 13.4
comp=N,2μm,0.3s
ASOR IAML 06 47 13.6
comp=E,2μm,0.2s
KUDL Kundal 9.78 154 *e*P **Pn 06 45 26.8 -1.5**
KUDL eS **Sn 06 47 09.4 -6.8**
KUDL IAML 06 47 12.2
comp=N,2μm,0.6s
KUDL IAML 06 47 12.2
comp=E,1μm,0.3s
TKRD Thakurdwara 9.94 140 *e*P **Pn 06 45 29.4 -1.0**
TKRD eS **Sn 06 47 14.8 -5.2**
TKRD IAML 06 47 17.7
comp=N,2μm,0.4s
TKRD IAML 06 47 17.9
comp=E,1μm,0.5s
JASL Jaisalmer 10.12 184 *e*P **Pn 06 45 31.5 -1.5**
JASL eS **Sn 06 47 20.3 -4.3**
JASL IAML 06 47 21.7
comp=E,2μm,0.4s
JASL IAML 06 47 21.7
comp=N,1μm,0.6s
UGON Onchagaon 10.19 147 *e*P **Pn 06 45 33.9 0.0**
UGON eS **Sn 06 47 19.2 -7.1**
UGON IAML 06 47 22.3
comp=N,2μm,0.3s
UGON IAML 06 47 22.3
comp=E,1μm,0.2s
PTH Pithoragarh 10.37 134 *e*P **Pn 06 45 35.5 -1.0**
PTH eS **Sn 06 47 23.9 -6.8**
PTH IAML 06 47 25.8
comp=N,2μm,0.2s
LGTI Lohaghat 10.46 134 *e*P **Pn 06 45 36.2 -1.3**
LGTI eS **Sn 06 47 25.4 -7.2**
LGTI IAML 06 47 26.7
comp=E,1μm,0.5s
LGTI IAML 06 47 28.1
comp=N,2μm,0.2s
AJM Ajmer 10.85 166 *e*P **Pn 06 45 42.7 -0.2**
AJM eS **Sn 06 47 38.0 -4.4**
AJM IAML 06 47 39.4
comp=E,1μm,0.3s
AJM IAML 06 47 39.8
comp=N,1μm,0.3s
AGRA Agra 11.15 150 *e*P **Pn 06 45 47.0 +0.1**
AGRA eS **Sn 06 47 43.4 -6.2**
AGRA IAML 06 47 48.2
comp=N,1μm,0.3s
AGRA IAML 06 47 48.7
comp=E,1μm,0.4s

MK31 Makanchi Array 12.54 36 ⇑P **Pn 06 46 03.9 -1.3**
comp=E,136nm,0.7s,baz=216,slow=11,SNR=682
MK31 Makanchi Array 12.54 36 *c i*P **Pn 06 46 04.1 -1.1**
MKAR Makanchi Array 12.54 36 **Pn 06 46 04.1 -1.1**
MKAR Makanchi Array 12.54 36 P **Pn 06 46 05.2 0.0**
comp=E,139nm,0.7s,baz=223,slow=14,SNR=353
MKAR Makanchi Array 12.54 36 P **Pn 06 46 04.1 -1.1**
UDPR Udaipur 12.56 171 *e*P **Pn 06 46 04.8 -0.8**
UDPR eS **Sn 06 48 16.1 -7.8**
UDPR IAML 06 48 18.1
comp=E,1μm,0.2s
UDPR IAML 06 48 18.2
comp=N,1μm,0.2s
LKN LUCKNOW 12.91 140 *e*P **Pn 06 46 08.3 -1.8**
LKN eS Sn 06 48 22.5 -10
LKN IAML 06 48 26.1
comp=N,1μm,0.2s
LKN IAML 06 48 26.1
comp=E,1μm,0.1s
BRZS Berezniki 12.94 3 *e*P **Pn 06 46 08.2 -2.2**
JHNI Jhansi 12.97 151 *e*P **Pn 06 46 09.4 -1.5**
JHNI eS Sn 06 48 22.8 -11
JHNI IAML 06 48 24.4
comp=E,1μm,0.3s
JHNI IAML 06 48 24.4
comp=N,1μm,0.1s
GUNA GUNA 13.29 157 *e*P **Pn 06 46 12.4 -2.9**
GUNA eS Sn 06 48 32.1 -9.5
GUNA IAML 06 48 33.2
comp=N,3μm,0.2s
GUNA IAML 06 48 33.6
comp=E,2μm,0.6s
BNDA BANDA 13.72 145 *e*P **Pn 06 46 18.7 -2.0**
BNDA eS Sn 06 48 40.2 -12
BNDA IAML 06 48 41.2
comp=N,4μm,0.5s
BNDA IAML 06 48 41.4
comp=E,5μm,0.4s
BHUJ Bhuj 13.86 188 *e*P **Pn 06 46 20.7 -1.9**
BHUJ eS Sn 06 48 43.8 -12
BHUJ IAML 06 48 46.5
comp=E,1μm,0.8s
BHUJ IAML 06 48 47.4
comp=N,2μm,0.3s
WMQ Urumqi 13.96 56 *e*P **Pn 06 46 23.4 -0.4**
WMQ S **Sn 06 48 55.8 -1.7**
WMQ pmax pmax
comp=N,190nm,0.9s
WMQ pmax pmax
comp=N,1μm,3.7s
ZSN Zaisan 14.25 39 *e*P **Pn 06 46 27.3 -0.2**
ZSN Zaisan 14.25 39 *e*P **Pn 06 46 27.3 -0.2**
GKPR Gorakhpur 14.35 132 *e*P **P 06 46 35.7 +2.9**
GKPR eS **Sn 06 49 00.9 -6.0**
GKPR IAML 06 49 02.1
comp=N,2μm,0.3s
GKPR IAML 06 49 02.1
comp=E,3μm,0.4s
KURBB Kurchatov Arra 14.43 18 P **Pn 06 46 27.2 -2.5**
comp=E,59nm,0.8s,baz=212,slow=12,SNR=81
KURBB S **S 06 49 15.3 -6.0**
comp=E,19nm,0.9s,baz=203,slow=26,SNR=2.3
KURBB Kurchatov Arra 14.43 18 ⇓P **Pn 06 46 26.0 -3.8**
comp=E,464nm,0.7s
KURBB Kurchatov Arra 14.43 18 P **Pn 06 46 25.9 -3.8**
KURK Kurchatov 14.54 18 *c i*P **Pn 06 46 27.2 -3.9**
BHPL Bhopal 14.64 158 *e*P **Pn 06 46 31.9 -0.8**
BHPL eS Sn 06 49 04.1 -10
BHPL IAML 06 49 08.0
comp=N,1μm,0.5s
BHPL IAML 06 49 09.6
comp=E,1μm,0.6s
NGCH Negor - Chabah 14.71 221 P **Pn 06 46 34.0 +0.6**
AB31 Akbulak array 14.86 329 **Pn 06 46 31.0 -4.1**
AB31 Akbulak array 14.86 329 ⇓P **Pn 06 46 31.1 -4.0**
comp=E,206nm,0.6s,baz=139,slow=12,SNR=2532
AB31 Akbulak array 14.86 329 *e*P **Pn 06 46 31.1 -4.0**
ABKAR Akbulak array 14.86 329 P **Pn 06 46 31.5 -3.6**
NRDN NARMADA NAGAR 15.07 160 *e*P **P 06 46 39.6 -1.1**
NRDN eS **Sn 06 49 14.5 -10**
NRDN IAML 06 49 18.4
comp=N,2μm,0.8s
NRDN IAML 06 49 18.6
comp=E,2μm,0.6s
BVA0 Borovoye Array 15.99 357 ⇑P **Pn 06 46 46.6 -2.7**
comp=E,191nm,0.9s,baz=167,slow=10,SNR=120
BVA0 Borovoye Array 15.99 357 *i* P **Pn 06 46 46.6 -2.7**
BVAR Borovoye Array 15.99 357 P **Pn 06 46 47.1 -2.2**
comp=E,155nm,0.7s,baz=162,slow=13,SNR=139
BVAR LR LR 06 53 28.6
comp=E,697nm,21.1s,baz=184,slow=39
BRVK Borovoye 16.03 357 P **Pn 06 46 47.4 -2.3**
BRVK Borovoye 16.03 357 *d i*P **Pn 06 46 47.6 -2.2**
AKTO Aktyubinsk 16.57 328 P **Pn 06 46 54.5 -2.0**
comp=E,133nm,0.5s,baz=136,slow=10,SNR=142
AKTO S Sn 06 49 45.9 -14
comp=E,171nm,0.8s,baz=248,slow=20,SNR=6.2
AKTO LR LR 06 53 07.0
comp=E,464nm,20.6s,baz=66,slow=36
AKTO Aktyubinsk 16.57 328 ⇓P **Pn 06 46 54.3 -2.1**
comp=E,297nm,1.0s
AKTO Aktyubinsk 16.57 328 P **Pn 06 46 54.3 -2.1**
AKTO S Sn 06 49 44.8 -15
GAYA Gaya 16.86 133 *e*P **Pn 06 47 00.4 +0.2**
GAYA eS Sn 06 49 51.9 -16
GAYA IAML 06 49 52.8
comp=N,2μm,0.2s
GAYA IAML 06 49 52.9
comp=E,2μm,0.3s
NGP Nagpur 17.11 156 *e*P **Pn 06 47 02.8 -0.6**
NGP eS Sn 06 49 59.9 -14
NGP IAML 06 50 05.5
comp=E,2μm,0.5s
NGP IAML 06 50 05.5
comp=N,2μm,0.9s
SHME Shamm 17.15 235 P **Pn 06 47 03.4 -0.3**
SNR=72
SHME Shamm 17.15 235 *i* P **Pn 06 47 03.5 -0.3**
SNR=72
GTK Tadong 17.31 119 *e*P **P 06 47 04.9 -0.8**
GTK eS Sn 06 50 01.9 -17
GTK IAML 06 50 06.8
comp=N,3μm,0.6s
GTK IAML 06 50 06.9
comp=E,4μm,0.6s
BLSP Bilaspur 17.43 146 *e*P **Pn 06 47 08.8 +1.6**
BLSP eS Sn 06 50 09.9 -11
BLSP IAML 06 50 10.8
comp=E,2μm,0.5s
BLSP IAML 06 50 11.4
comp=N,2μm,0.5s
MDH Madha 17.57 232 P **P 06 47 07.5 -0.9**
SNR=17
MDH Madha 17.57 232 *i* P **P 06 47 07.2 -1.2**
SNR=37
MASF Masafi 17.61 233 P **P 06 47 09.0 +0.1**
SNR=33
MASF S **S 06 50 26.3 -0.1**
MSFE Esma-Masafi 17.62 233 *i* P **P 06 47 09.2 +0.3**
SNR=88
WSAR Wadi Sarin 17.76 223 P **Pn 06 47 11.1 0.0**
comp=N,0.7nm,0.6s,baz=59,slow=24,SNR=102
WSAR LR LR 06 55 09.3
comp=N,4.5nm,18.1s,baz=62,slow=40
BIDO Bidbid 17.81 225 P **P 06 47 11.5 +0.4**
SNR=12
UMQ Umm Al-Quwin 17.82 234 P **Pn 06 47 12.0 +0.1**
SNR=7.0
UMQ S **S 06 50 28.1 -2.6**
LSA Lhasa 17.85 109 P **P 06 47 11.7 -0.3**
LSA S S 06 50 18.8 -13
LSA LR LR
comp=N,730nm,10.4s
LSA LR LR
comp=N,1μm,6.2s
UOSS Minazif 17.88 232 P **P 06 47 11.4 -0.5**
UOSS Minazif 17.88 232 *i* P **Pn 06 47 12.6 0.0**
SNR=18
HATD Hatta, Dubai 18.01 232 P **Pn 06 47 14.0 -0.3**
SNR=34
HATD S **S 06 50 33.8 -0.8**
HATD Hatta, Dubai 18.01 232 *i* P **P 06 47 13.2 -0.1**
SNR=73
BOK Bokaro 18.02 133 *e*P **Pn 06 47 16.1 +1.8**
BOK eS S 06 50 20.3 -14

BOK IAML 06 50 23.1
comp=N,1μm,0.5s
BOK IAML 06 50 23.1
comp=E,2μm,0.6s
SHBG Sahibganj 18.07 126 *e*P **P 06 47 14.0 +0.1**
SHBG eS S 06 50 20.7 -15
SHBG IAML 06 50 26.1
comp=N,2μm,0.5s
SHBG IAML 06 50 26.3
comp=E,2μm,0.6s
WBK Wadi Bani Khal 18.09 221 P **Pn 06 47 16.5 +1.4**
SNR=18
LKRN Lenkeran, Azer 18.12 282 P **Pn 06 47 17.5 +2.2**
ASHO Ashiyiah 18.16 232 P **Pn 06 47 16.1 +0.1**
SNR=79
ASHO S **S 06 50 36.3 -1.3**
ASHO Ashiyiah 18.16 232 *i* P **Pn 06 47 15.8 -0.3**
SNR=234
NAZ Nazwa, Dubai 18.20 233 P **Pn 06 47 16.1 -0.3**
SNR=21
NAZ Nazwa, Dubai 18.20 233 *i* P **P 06 47 15.9 +0.6**
SNR=52
SMDO Samad 18.22 224 P **Pn 06 47 17.4 +0.6**
SNR=15
HOQ Hoqain 18.23 227 P **Pn 06 47 16.5 -0.3**
SNR=12
JLN Jalan Bani Buh 18.24 219 P **Pn 06 47 17.6 +0.7**
SNR=19
KNTI KHUNTI 18.25 136 *e*P **P 06 47 11.3 -4.7**
KNTI eS S 06 50 12.9 -27
KNTI IAML 06 50 16.9
comp=N,2μm,0.2s
KNTI IAML 06 50 17.0
comp=E,1μm,0.2s
SOHO SOHO 18.27 229 *i* P **P 06 47 15.2 -0.9**
SNR=26
FAQ Al Faqa, Dubai 18.41 233 P **P 06 47 18.0 +0.3**
SNR=20
FAQ S **S 06 50 42.8 +0.3**
FAQ Al Faqa, Dubai 18.41 233 *i* P **P 06 47 17.9 +0.3**
SNR=29
JHSG JHARSUGUGA 18.52 142 *e*P **Pn 06 47 23.2 +2.9**
JHSG eS S 06 50 31.6 -13
JHSG IAML 06 50 38.1
comp=E,3μm,0.6s
POO Poona 18.56 173 *e*P **Pn 06 47 23.8 +3.0**
POO eS S 06 50 33.0 -13
POO IAML 06 50 33.5
comp=E,1μm,0.3s
POO IAML 06 50 33.9
comp=N,1μm,0.7s
GOMU GeErMu 18.62 86 P **Pn 06 47 22.1 +0.4**
GOMU S **Sn 06 50 49.7 -0.5**
GOMU pmax pmax
comp=N,29nm,0.8s
GOMU LR LR
comp=N,520nm,8.7s
GOMU LR LR
comp=N,180nm,8.8s
GOMU LR LR
comp=N,220nm,8.6s
ASUD Al Ashush, Dub 18.67 233 P **Pn 06 47 21.4 -0.6**
SNR=23
ASUD Al Ashush, Dub 18.67 233 *i* P **P 06 47 21.0 +0.6**
SNR=46
JMDO Jabal Madar 18.74 222 P **Pn 06 47 23.1 +0.2**
SNR=27
ALNE Al Ain 18.81 231 P **P 06 47 22.9 +0.9**
SNR=47
ALNE S **S 06 50 51.1 +0.5**
ALNE Al Ain 18.81 231 *i* P **P 06 47 22.4 +0.3**
SNR=102
ARQ Araqi 18.88 228 P **Pn 06 47 24.3 -0.2**
SNR=16
AJN Ajban 18.93 234 P **P 06 47 24.0 +0.7**
SNR=19
AJN Ajban 18.93 234 *i* P **P 06 47 23.8 +0.5**
SNR=59
BSY Bisya 18.94 225 P **Pn 06 47 25.4 +0.1**
SNR=15
ZAA0 Zalesovo Array 19.20 24 P **P 06 47 25.3 -0.7**
ZALV Zalesovo Beam 19.20 24 P **P 06 47 24.9 -1.1**
ZALV Zalesovo Beam 19.20 24 P **P 06 47 25.7 -0.2**
comp=N,505nm,0.7s,baz=224,slow=10,SNR=756
MAK Makhachkala 19.37 295 *e*P **P 06 47 26.8 -1.2**
MAK eS **S 06 51 00.9 -0.5**
MAK pmax pmax
comp=Z,222nm,1.2s
MAK MLR MLR
comp=Z,1μm,13.0s
SEKA Sheki 19.39 290 P **Pn 06 47 29.9 -0.5**
MNGR Mingechevir, A 19.45 289 P **Pn 06 47 31.6 +0.6**
KAD Karad 19.80 173 *e*P **Pn 06 47 39.3 +4.0**
KAD eS **S 06 51 02.6 -7.7**
KAD IAML 06 51 06.3
comp=N,1μm,0.5s
KAD IAML 06 51 06.8
comp=E,1μm,0.7s
MHTO MHTO 19.95 220 P **Pn 06 47 36.0 -1.0**
SNR=13
GANJ Ganja 20.02 288 P Pn 06 47 37.7 0.0
JRN Qarnain Island 20.09 238 P **P 06 47 35.0 -0.9**
SNR=9.1
GUWA GUWAHATI 20.18 117 *e*P Pn 06 47 39.5 -0.2
GUWA eS **S 06 51 10.2 -7.5**
GUWA IAML 06 51 15.2
comp=N,1μm,0.7s
GUWA IAML 06 51 15.4
comp=E,2μm,0.8s
HYB Hyderabad 20.49 161 *e*P **P 06 47 41.6 +1.3**
HYB IVmB_BB 06 47 44.7
comp=Z,5μm,1.4s
HYB epP **sP 06 48 09.8 -4.5**
HYB eS **S 06 51 28.1 +4.1**
NAX Nakhchivan 20.66 284 P Pn 06 47 45.0 -0.3
SHL Shillong 20.70 118 P **P 06 47 43.5 +0.9**
SHL Shillong 20.70 118 *e*P Pn 06 47 52.3 +6.4
SHL eS **S 06 51 21.4 -6.8**
SHL IAML 06 51 22.2
comp=N,1μm,0.8s
SHL IAML 06 51 22.5
comp=E,2μm,0.7s
SHL Shillong 20.70 118 P **P 06 47 43.5 +0.9**
TEZP TEZPUR 20.73 114 *e*P Pn 06 47 52.5 +6.4
TEZP eS **S 06 51 21.8 -6.6**
TEZP IAML 06 51 25.3
comp=E,1μm,0.4s
BWNR Bhubaneshwar 20.77 140 *e*P Pn 06 47 53.1 +6.5
BWNR eS **S 06 51 27.2 -2.2**
BWNR IAML 06 51 30.2
comp=N,1μm,0.5s
BWNR IAML 06 51 31.7
comp=E,1μm,0.7s
SHMA Al-Shehemyia 20.83 243 P **P 06 47 43.6 -0.2**
SNR=11
SHMA S **S 06 51 28.2 -2.1**
MZR Muzera 21.00 233 P **P 06 47 44.8 -0.9**
SNR=18
MZR Muzera 21.00 233 *i* P **P 06 47 44.6 -1.2**
SNR=30
SVE Sverdlovsk 21.10 343 *e*P **P 06 47 46.1 -0.4**
SVE eS **S 06 51 35.4 +0.2**
SVE pmax pmax
comp=Z,221nm,0.9s
GNI Garni 21.22 287 P **P 06 47 49.8 +1.7**
GNI Garni 21.22 287 P **P 06 47 50.4 +2.4**
comp=Z,53nm,0.6s,baz=355,slow=1.3,SNR=24
comp=Z,53nm,0.6s
GNI Garni 21.22 287 *d i*P **P 06 47 50.6 +2.5**
GNI pmax pmax
comp=Z,160nm,1.6s
ARTI Arti 21.29 339 P **P 06 47 47.4 -1.1**
ARTI Arti 21.29 339 P **P 06 47 48.5 0.0**
comp=Z,44nm,0.6s,baz=156,slow=7.8,SNR=36
comp=Z,44nm,0.6s
ARTI Arti 21.29 339 *c i*P **P 06 47 48.4 -0.1**
ARTI 06 48 19.6
ARTI S **S 06 51 38.9 -0.1**
ARTI pmax pmax
comp=Z,74nm,0.8s
TRNA Turayna 21.35 241 P **P 06 47 48.2 -1.2**
SNR=8.4
TRNA S **S 06 51 36.7 -3.9**
SMRA Abu-Samra 21.62 241 P **P 06 47 51.4 -0.8**
SNR=15
SMRA S **S 06 51 42.0 -3.7**

TRLG **Trialeti** 21.73 290 P **P** 06 47 54.7 +1.1
VIS **Vishakhapatnam** 21.84 149 *e*P P 06 48 10.1 +15
VIS *e*S **S** **06 51 49.1 -0.7**
VIS IAML 06 51 52.7
comp=E,1µm,0.7s
VIS IAML 06 51 52.7
comp=N,1µm,0.6s
KOHI **KOHIMA** 22.21 114 *e*P P 06 48 10.6 +12
KOHI *e*S **S** **06 51 57.3 +0.8**
KOHI IAML 06 52 01.2
comp=N,2µm,0.8s
GTA **Gaotai** 22.22 75 ⇑P **P** **06 47 59.9 +1.2**
GTA S **S** **06 51 57.3 +0.8**
GTA pmax pmax
comp=N,97nm,1.0s
GTA pmax pmax
comp=N,2µm,6.0s
GTA LR LR
comp=N,750nm,5.6s
GTA LR LR
comp=N,590nm,4.8s
GTA LR LR
comp=N,380nm,10.0s
AZL **Aizawl** 22.43 120 *e*P P 06 48 16.9 +16
AZL *e*S **S** **06 51 59.1 -1.0**
AZL IAML 06 52 09.4
comp=N,2µm,0.8s
BRDH **Bariadhala** 22.44 124 LR LR 06 57 13.5
comp=N,258nm,19.2s,baz=322,slow=38
GEVA **Gevas** 22.62 282 P **P** **06 48 03.8 +0.9**
IMP **Imphal** 22.62 116 *e*P **P** **06 48 05.4 +2.6**
IMP *e*S **S** **06 52 07.2 +4.1**
IMP IAML 06 52 07.6
comp=E,1µm,0.1s
IMP IAML 06 52 07.6
comp=N,1µm,0.2s
BELG **Belogornoye** 22.79 320 P **P** **06 48 03.7 -0.4**
comp=N,297nm,1.0s,baz=346,slow=1.2,SNR=17
comp=N,297nm,1.0s
KBZ **Khabaz** 22.81 296 P **P** **06 48 03.7 -0.8**
comp=N,4.4nm,0.6s,baz=119,slow=5.7,SNR=8.7
comp=N,4.4nm,0.6s
KIV **Kislovodsk** 22.99 296 P **P** **06 48 05.7 -0.7**
KIV **Kislovodsk** 22.99 296 ⇑P **P** **06 48 07.5 +1.2**
KIV **Kislovodsk** 22.99 296 *e*P **P** **06 48 06.2 -0.2**
KIV *e*S **S** **06 52 08.4 -0.3**
KIV pmax pmax
comp=Z,27nm,0.9s
KIV MLR MLR
comp=Z,175nm,14.0s
KIV **Kislovodsk** 22.99 296 P **P** **06 48 06.6 +0.2**
comp=Z,1µmcomp=Z,149nm,0.8s
GURO **Guroymak-BITLI** 23.40 283 P **P** **06 48 11.8 +1.5**
DOK **Doka** 23.95 225 P **P** **06 48 15.8 +0.6**
DMTO **DMTO** 24.24 222 P **P** **06 48 18.3 +0.5**
KOPT **Kop Dagi** 24.48 287 P **P** **06 48 21.7 +1.5**
MARD **Mardin** 24.54 280 P **P** **06 48 21.9 +1.4**
WHFO **Wadi Hawf** 24.71 224 P **P** **06 48 22.5 +0.3**
ERBR **Yeremizino-Bor** 24.80 300 *e*P **P** **06 48 24.4 +1.7**
ERBR *e**PP **pP** **06 48 47.2 +0.7**
ERBR *e*S **S** **06 52 41.7 +4.2**
ERBR pmax pmax
comp=Z,52nm,0.9s
RBK **Rabkut** 24.81 223 P **P** **06 48 23.2 +0.1**
SOC **Sochi** 25.09 295 *e*P **P** **06 48 23.5 -1.9**
SOC *e**PP **pP** **06 48 49.1 -0.1**
SOC *e**SP **sP** **06 49 03.0 +1.2**
SOC *e*S **S** **06 52 40.5 -1.7**
SOC *e**SS **sS** **06 53 21.5 -2.9**
SOC pmax pmax
comp=Z,18nm,0.7s
MOY **Mondy** 25.35 45 *e*P **P** **06 48 29.8 +2.0**
MOY pmax pmax
comp=Z,256nm,2.1s
ABTO **Aybut** 25.43 224 P **P** **06 48 30.3 +1.5**
SNR=5.8
VRH **Novokhopyorsk** 25.50 313 *e*P **P** **06 48 26.8 -2.1**
VRH *e**PP **pP** **06 48 52.6 -0.2**
VRH pmax pmax
comp=Z,40nm,0.9s
LZH **Lanzhou** 25.82 82 ⇑P **P** **06 48 34.8 +2.6**
LZH pP pP 06 48 52.0 -4.7
LZH PP **PnPn** **06 49 14.5 -1.2**
LZH SS SS 06 54 04.5 -41
LZH ScP **ScP** **06 55 26.3 -2.6**
LZH pmax pmax
comp=Z,300nm,1.3s
LZH pmax pmax
comp=Z,880nm,4.1s
TNCH **TengChong** 25.87 110 P **P** **06 48 35.0 +2.2**
TNCH sP sP 06 49 12.1 +2.2
TNCH pmax pmax
comp=Z,230nm,0.5s
TNCH pmax pmax
comp=Z,620nm,3.5s
KIRV **Kirov** 25.97 333*c i*P **P** **06 48 33.5 +0.4**
RAYN **Ar Rayn** 26.19 246 P **P** **06 48 34.5 -1.0**
RAYN **Ar Rayn** 26.19 246 P **P** **06 48 34.5 -1.0**
RAYN pmax pmax
comp=Z,206nm,0.9s
RAYN **Ar Rayn** 26.19 246 *i* P **P** **06 48 35.5 -0.1**
SNR=102
ZAK **Zakamensk** 26.24 49 *e*P **P** **06 48 37.0 +1.2**
ZAK pmax pmax
comp=Z,83nm,1.6s
ANN **Anapa** 26.83 298 *e*P **P** **06 48 40.5 -0.5**
ANN *e**PP **pP** **06 49 04.4 -0.5**
ANN *e*S **S** **06 53 09.8 +0.3**
ANN pmax pmax
comp=Z,20nm,0.6s
VORD **Divnogorie** 26.85 311 *e*P **P** **06 48 40.3 -0.8**
VORD *e**PP **pP** **06 49 05.0 -0.1**
VORD pmax pmax
comp=Z,20nm,1.0s
VSR **Storozhevoye** 27.00 312 *e*P **P** **06 48 41.6 -0.9**
VSR *e**PP **pP** **06 49 06.1 -0.4**
VSR pmax pmax
comp=Z,30nm,0.8s
CD2 **Chengdu** 27.25 93 P **P** **06 48 47.2 +2.2**
CD2 pmax pmax
comp=Z,90nm,0.8s
GAZ **Gaziantep** 27.37 281 P **P** **06 48 47.0 +0.9**
IRK **Irkutsk** 27.45 46 *e*P **P** **06 48 47.8 +1.3**
IRK *e* 06 49 12.3
IRK *e* 06 53 20.3
IRK pmax pmax
comp=Z,154nm,1.4s
TOKA **Tokat** 27.53 288 P **P** **06 48 46.0 -1.4**
SONM **Songino Array** 27.60 56 P **P** **06 48 49.4 +1.3**
SONM IAmb IAmb 06 48 56.6
comp=Z,69nm,1.0s
SONM **Songino Array** 27.60 56 P **P** **06 48 49.9 +1.9**
comp=Z,34nm,0.5s,baz=266,slow=9.7,SNR=185
SONM LR LR 07 00 08.8
comp=Z,478nm,20.3s,baz=261,slow=37
comp=Z,34nm,0.5s
SONM **Songino Array** 27.60 56 P **P** **06 48 49.4 +1.3**
SONM pmax pmax
comp=Z,69nm,1.0s
LPSR **Galich'ya Gora** 27.62 315 *e*P **P** **06 48 45.8 -2.2**
LPSR *e**PP **pP** **06 49 11.3 -0.7**
LPSR pmax pmax
comp=Z,50nm,1.0s
ULN **Ulaanbaatar** 28.04 56 P **P** **06 48 53.0 +1.0**
ULN IAmb IAmb 06 48 55.2
comp=Z,86nm,0.6s
ULN **Ulaanbaatar** 28.04 56*c i*P **P** **06 48 53.6 +1.6**
ULN pmax pmax
comp=Z,79nm,0.6s
BNN **Bunyan** 28.17 285 P **P** **06 48 54.2 +0.9**
ASF **Jabal al Asfar** 28.90 271 P **P** **06 49 01.1 +1.4**
comp=Z,5.2nm,0.8s,baz=95,slow=8.7,SNR=8.2
ASF LR LR 07 04 00.6
comp=Z,209nm,20.5s,baz=51,slow=43
comp=Z,5.2nm,0.8s
KMI **Kunming** 29.04 105 P **P** **06 49 03.0 +1.8**
KMI pmax pmax
comp=Z,34nm,0.8s
BZK **Bozkurt** 29.29 291 P **P** **06 49 02.1 -0.8**
BZK IAmb IAmb 06 49 29.8
comp=Z,80nm,0.9s
BZK **Bozkurt** 29.29 291 ⇑P **P** **06 49 04.2 +1.4**
BZK **Bozkurt** 29.29 291 P **P** **06 49 03.4 +0.5**
comp=Z,97nm,0.9s
MOS **Moscow** 29.56 320 *e*P **P** **06 49 04.2 -0.9**

MOS *e* 06 49 29.4
MOS *e* 06 49 47.1
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,127nm,0.8s
KIRS **Kirsehir-Merke** 29.62 286 ⇑P **P** **06 49 07.3 +1.3**
BR131 **Keskin Array S** 29.76 287 P **P** **06 49 07.5 +0.2**
BR131 **Keskin Array S** 29.76 287 P **P** **06 49 07.5 +0.2**
BR131 pmax pmax
comp=Z,22nm,0.8s
BRTR **Keskin Array B** 29.76 287 P **P** **06 49 07.4 +0.1**
BRTR **Keskin Array B** 29.76 287 P **P** **06 49 08.6 +1.3**
comp=Z,9.5nm,0.6s,baz=105,slow=7.8,SNR=55
BRTR LR LR 07 04 53.7
comp=Z,118nm,20.0s,baz=112,slow=44
comp=Z,9.5nm,0.6s
BR104 **Keskin Array S** 29.76 287 P **P** **06 49 08.3 +1.0**
comp=Z,202nmcomp=Z,23nm,0.8s
BR104 pP **pP** **06 49 31.4 -0.1**
comp=Z,202nmcomp=Z,23nm,0.8s
BR106 **Keskin Array S** 29.77 287 P **P** **06 49 08.4 +1.0**
comp=Z,183nmcomp=Z,23nm,0.8s
BR105 **Keskin Array S** 29.78 287 P **P** **06 49 08.2 +0.7**
comp=Z,233nmcomp=Z,27nm,0.9s
MMAI **Mount Meron Ar** 29.83 273 P **P** **06 49 08.4 +0.5**
comp=Z,1.2nm,0.4s,baz=77,slow=3.6,SNR=8.4
OBN **Obninsk** 29.86 318 P **P** **06 49 07.7 -0.1**
OBN **Obninsk** 29.86 318 P **P** **06 49 08.1 +0.4**
comp=Z,156nm,0.6s,baz=6.9,slow=2.2,SNR=22
OBN LR LR 07 01 50.3
comp=Z,440nm,19.6s,baz=230,slow=38
OBN **Obninsk** 29.86 318 ⇑P **P** **06 49 08.3 +0.5**
OBN **Obninsk** 29.86 318*c i*P **P** **06 49 08.0 +0.3**
OBN *i* *PP **pP** **06 49 34.3 +2.3**
OBN *i* 06 50 09.3
OBN *i* 06 52 08.9
OBN *e*S **S** **06 53 55.3 -1.5**
OBN *e**SS **sS** **06 54 40.7 +1.3**
OBN *e*SS **SnSn** **06 55 38.9 0.0**
OBN pmax pmax
comp=Z,125nm,0.6s
OBN MLR MLR
comp=Z,301nm,16.0s
OBN **Obninsk** 29.86 318 P **P** **06 49 08.0 +0.3**
comp=Z,2µmcomp=Z,225nm,0.7s
BTO **Baotou** 29.95 71 *e*P **P** **06 49 10.1 +1.2**
BTO pP **pP** **06 49 34.2 +0.8**
BTO sP **sP** **06 49 47.6 +1.5**
BTO PP **PnPn** **06 50 10.8 +0.8**
BTO S **S** **06 53 59.1 +0.2**
BTO sS **sS** **06 54 39.1 -2.5**
BTO SS **ScP** **06 55 39.8 -1.6**
BTO pmax pmax
comp=Z,450nm,1.3s
BTO pmax pmax
comp=Z,820nm,4.3s
CHTO **Chiang Mai** 30.04 120 P **P** **06 49 09.7 -0.1**
CHTO **Chiang Mai** 30.04 120 P **P** **06 49 11.8 +2.0**
CHTO **Chiang Mai** 30.04 120 P **P** **06 49 09.7 -0.1**
CHTO pmax pmax
comp=Z,23nm,0.9s
CHTO **Chiang Mai** 30.04 120 P **P** **06 49 11.5 +1.7**
CM31 **Chiang Mai Arr** 30.28 120 P **P** **06 49 13.4 +1.4**
CMAR **Chiang Mai Arr** 30.28 120 P **P** **06 49 12.4 +0.5**
CMAR **Chiang Mai Arr** 30.28 120 P **P** **06 49 13.3 +1.4**
comp=Z,22nm,0.8s,baz=307,slow=8.4,SNR=68
CMAR LR LR 07 04 33.6
comp=Z,73nm,18.5s,baz=295,slow=42
comp=Z,22nm,0.8s
XAN **Xi'an** 30.36 84 ⇑P **P** **06 49 14.0 +1.5**
XAN pmax pmax
comp=Z,280nm,1.0s
ANTO **Ankara** 30.39 287 P **P** **06 49 13.3 +0.6**
ANTO **Ankara** 30.39 287 ⇑P **P** **06 49 14.2 +1.4**
ANTO **Ankara** 30.39 287 P **P** **06 49 13.4 +0.6**
ANTO pmax pmax
comp=Z,43nm,1.2s
ANTO **Ankara** 30.39 287 P **P** **06 49 13.4 +0.6**
comp=Z,249nmcomp=Z,8.6nm,0.9s
PALK **Pallekele** 30.78 162 P **P** **06 49 18.2 +1.9**
PALK IAmb IAmb 06 50 20.5
comp=Z,158nm,1.6s
PALK **Pallekele** 30.78 162 LR LR 07 02 03.7
comp=Z,430nm,18.1s,baz=342,slow=37
PALK **Pallekele** 30.78 162 P **P** **06 49 18.2 +1.9**
PALK pmax pmax
comp=Z,158nm,1.7s
HHC **Hu-ho-hao-te** 31.09 71 *e*P **P** **06 49 21.2 +2.2**
HHC sP sP 06 49 58.9 +2.7
HHC PP **PP** **06 50 28.4 -2.6**
HHC pmax pmax
comp=Z,82nm,1.0s
HHC pmax pmax
comp=Z,240nm,3.7s
HHC LR LR
comp=Z,500nm,12.4s
HHC LR LR
comp=Z,350nm,12.7s
HHC LR LR
comp=Z,430nm,12.3s
KLMR **Klimovskoe** 31.25 330 *e*P **P** **06 49 18.4 -1.6**
KLMR *e**PP **pP** **06 49 42.1 -2.4**
KLMR pmax pmax
comp=Z,61nm,1.3s
EIL **Elat** 31.37 267 P **P** **06 49 21.7 +0.3**
comp=Z,6.2nm,0.7s,baz=44,slow=6.4,SNR=8.9
EIL LR LR 07 05 07.1
comp=Z,305nm,19.6s,baz=66,slow=42
comp=Z,6.2nm,0.7s
GYA **Guiyang** 31.44 99 ⇑P **P** **06 49 24.2 +2.0**
GYA pP pP 06 49 50.5 +3.9
GYA S **S** **06 54 21.5 -1.0**
GYA pmax pmax
comp=Z,140nm,0.9s
GYA pmax pmax
comp=Z,940nm,4.8s
GYA LR LR
comp=Z,490nm,4.6s
GYA LR LR
comp=Z,650nm,7.0s
GYA LR LR
comp=Z,880nm,5.2s
NE56 **Odesa** 31.52 301 P **P** **06 49 22.8 +0.3**
SAHE **Sakarya_HENDEK** 31.74 290 ⇑P **P** **06 49 26.0 +1.4**
SLVN **Son La** 32.04 110 P **P** **06 49 28.9 +1.5**
SLVN IAmb IAmb 06 49 31.1
comp=Z,38nm,0.8s
SLVN **Son La** 32.04 110 P **P** **06 49 29.9 +2.5**
TIY **Taiyuan** 32.24 76 *e*P **P** **06 49 31.0 +1.9**
TIY pmax pmax
comp=Z,91nm,0.8s
ISP **Isparta** 32.47 284⇑ *e*P **P** **06 49 31.0 -0.1**
ISP pmax pmax
comp=Z,13nm,0.7s
AK09 **Malin Array Si** 32.95 308 P **P** **06 49 35.1 +0.1**
AK09 pP **pP** **06 49 59.6 +0.2**
AK10 **Malin Array Si** 32.97 308 P **P** **06 49 35.2 0.0**
AK08 **Malin Array Si** 32.97 308 P **P** **06 49 35.3 +0.1**
AK07 **Malin Array Si** 32.99 308 P **P** **06 49 35.3 -0.1**
AK06 **Malin Array Si** 33.00 308 P **P** **06 49 35.1 -0.3**
AKASG **Malin Array Be** 33.00 308 P **P** **06 49 35.3 -0.1**
AKASG IAmb IAmb 06 50 01.8
comp=Z,103nm,1.1s
AKASG **Malin Array Be** 33.00 308 P **P** **06 49 35.4 0.0**
comp=Z,9.8nm,0.5s,baz=82,slow=7.1,SNR=63
AKASG PcP **PcP** **06 52 16.2 -0.6**
comp=Z,12nm,0.7s,baz=79,slow=3.7,SNR=4.7
AKASG ScP **ScP** **06 55 50.4 -1.0**
comp=Z,3.0nm,0.7s,baz=77,slow=3.3,SNR=4.3
AKASG LR LR 07 06 18.9
comp=Z,156nm,19.2s,baz=81,slow=42
comp=Z,9.8nm,0.5s
AKASG **Malin Array Be** 33.00 308 P **P** **06 49 35.3 -0.1**
AKASG pmax pmax
comp=Z,103nm,1.1s
AKBB **Malin Array Si** 33.00 308 P **P** **06 49 34.9 -0.5**
AKBB IAmb IAmb 06 50 01.6
comp=Z,45nm,0.8s
AKBB **Malin Array Si** 33.00 308*c i*P **P** **06 49 35.2 -0.2**
AKBB pmax pmax
comp=Z,20nm,0.6s
AKBB **Malin Array Si** 33.00 308 P **P** **06 49 34.9 -0.5**
AK05 **Malin Array Si** 33.00 308 P **P** **06 49 35.1 -0.4**
AK01 **Malin Array Si** 33.01 308 P **P** **06 49 35.2 -0.3**

AK02 **Malin Array Si** 33.01 308 P **P** **06 49 35.2 -0.3**
AK03 **Malin Array Si** 33.01 308 P **P** **06 49 35.1 -0.4**
KIEV **Kiev** 33.01 308 P **P** **06 49 34.9 -0.6**
KIEV IAmb IAmb 06 50 01.6
comp=Z,40nm,0.8s
KIEV **Kiev** 33.01 308 ⇑P **P** **06 49 35.4 -0.1**
KIEV **Kiev** 33.01 308 P **P** **06 49 34.9 -0.6**
KIEV pmax pmax
comp=Z,40nm,0.8s
KIEV **Kiev** 33.01 308 *i* P **P** **06 49 35.3 -0.3**
SNR=25
KIEV **Kiev** 33.01 308 P **P** **06 49 35.1 -0.4**
comp=Z,255nm,1.1s
KIEV **Kiev** 33.01 308 P **P** **06 49 35.5 -0.1**
KIEV pP **pP** **06 50 00.9 +1.0**
LYN **LuoYang** 33.03 82⇑*i*P **P** **06 49 38.7 +2.8**
LYN pmax pmax
comp=Z,340nm,1.3s
LYN pmax pmax
comp=Z,690nm,4.4s
AK11 **Malin Array Si** 33.03 308 P **P** **06 49 35.4 -0.3**
AK12 **Malin Array Si** 33.04 308 P **P** **06 49 35.4 -0.4**
AK04 **Malin Array Si** 33.04 308 P **P** **06 49 35.4 -0.4**
AK15 **Malin Array Si** 33.06 308 P **P** **06 49 35.5 -0.5**
AK14 **Malin Array Si** 33.07 308 P **P** **06 49 35.6 -0.4**
AK16 **Malin Array Si** 33.07 308 P **P** **06 49 35.6 -0.4**
AK23 **Malin Array Si** 33.07 308 P **P** **06 49 35.6 -0.4**
AK13 **Malin Array Si** 33.09 308 P **P** **06 49 35.8 -0.4**
AK18 **Malin Array Si** 33.10 308 P **P** **06 49 35.9 -0.4**
AK17 **Malin Array Si** 33.10 308 P **P** **06 49 35.9 -0.4**
AK22 **Malin Array Si** 33.11 308 P **P** **06 49 35.9 -0.4**
AK21 **Malin Array Si** 33.13 308 P **P** **06 49 36.1 -0.4**
CFR **Carcaliu** 33.43 298 ⇑P **P** **06 49 39.5 +0.3**
CFR **Carcaliu** 33.43 298 P **P** **06 49 39.5 +0.3**
CTYL **Yalikoy Yolu** 33.59 291 ⇓P **P** **06 49 41.0 +0.3**
HARR **Harsova** 33.59 297 ⇓P **P** **06 49 41.0 +0.4**
HARR **Harsova** 33.59 297 P **P** **06 49 41.0 +0.4**
ICOR **Ion Corvin** 33.71 296 ⇑P **P** **06 49 42.8 +1.1**
LUBAR **Lubar, Ukraine** 33.85 306 P **P** **06 49 41.9 -0.9**
MANT **Manisa** 33.86 286 P **P** **06 49 44.3 +1.0**
MANT IAmb IAmb 06 50 09.8
comp=Z,35nm,0.9s
MI28 **Mi28,Pidlybu** 34.01 308 P **P** **06 49 43.8 -0.4**
HNS **HongShan** 34.07 76 ⇑P **P** **06 49 47.1 +2.2**
HNS pmax pmax
comp=Z,130nm,1.0s
XLT **XiLinHaoTe** 34.16 64 *e*P **P** **06 49 47.9 +2.2**
XLT pP pP 06 50 11.0 +0.5
XLT sP sP 06 50 25.1 +2.0
XLT PP **PP** **06 51 09.8 +4.9**
XLT PcP **PcP** **06 52 23.6 +3.2**
XLT pmax pmax
comp=Z,42nm,1.3s
XLT pmax pmax
comp=Z,270nm,5.3s
VRI **Vrincioaia** 34.40 299 ⇑P **P** **06 49 48.8 +1.2**
VRI **Vrincioaia** 34.40 299 P **P** **06 49 48.8 +1.2**
VRI **Vrincioaia** 34.40 299 P **P** **06 49 48.9 +1.2**
comp=Z,826nmcomp=Z,66nm,1.2s
BISRR **Bisoca** 34.42 299 ⇑P **P** **06 49 48.5 +0.6**
TESR **Tescani** 34.44 300 ⇓P **P** **06 49 49.0 +1.0**
TESR **Tescani** 34.44 300 P **P** **06 49 48.7 +0.7**
comp=Z,745nmcomp=Z,80nm,1.1s
PLOR5 **Plostina Array** 34.45 299 P **P** **06 49 49.4 +1.3**
PLOR **Plostina** 34.45 299 ⇓P **P** **06 49 49.3 +1.1**
PLOR **Plostina** 34.45 299 P **P** **06 49 49.2 +1.1**
MNK **Minsk** 34.47 315 *i* P **P** **06 49 48.2 0.0**
baz=102
MNK *i* pP **pP** **06 50 09.6 -3.0**
MNK *i* PP **PnPn** **06 51 06.6 0.0**
MNK *i* S **S** **06 55 08.7 +0.1**
MNK *i* SS **SnSn** **06 57 30.5 0.0**
MNK *i* LR LR 07 04 29.1
MNK *i* LRM MLR 07 06 15.7
comp=Z,360nm,17.3s
MNK *i* LRM MLR 07 06 48.7
comp=N,456nm,18.3s
MNK *i* LRM MLR 07 06 59.3
comp=E,532nm,20.0s
MNK **Minsk** 34.47 315 *i* P **P** **06 49 48.1 0.0**
MNK *i* *PP **pP** **06 50 09.6 -3.0**
MNK *i* 06 51 06.5
MNK *i* S **S** **06 55 08.7 +0.1**
MNK *i* SS **SnSn** **06 57 30.5 0.0**
MNK MLR MLR
comp=Z,360nm,17.0s
MNK MLR MLR
comp=N,456nm,18.0s
MNK MLR MLR
comp=E,532nm,20.0s
ISR **Istrita** 34.56 298 ⇑P **P** **06 49 49.9 +0.8**
ISR **Istrita** 34.56 298 P **P** **06 49 49.9 +0.8**
BOD **Bodaibo** 34.59 39 *e*P **P** **06 49 49.3 +0.2**
BOD pmax pmax
comp=Z,111nm,1.1s
ONER **Baraj Valea Uz** 34.62 300 ⇑P **P** **06 49 50.8 +1.2**
LOZB **Loznitsa** 34.64 295 ⇑P **P** **06 49 51.4 +1.6**
BJI **Beijing** 34.69 71 P **P** **06 49 52.2 +2.1**
BJI pmax pmax
comp=Z,29nm,0.7s
BJI pmax pmax
comp=Z,150nm,6.5s
NEHR **Nehoiu** 34.72 298 ⇑P **P** **06 49 51.7 +1.3**
PRAR **RASCA** 34.73 302 ⇑P **P** **06 49 51.6 +1.1**
PUL **Pulkovo** 34.76 324⇓ *e*P **P** **06 49 51.4 +0.9**
PUL pmax pmax
comp=Z,81nm,0.8s
COVR **Voineasa-Covas** 34.77 299 ⇑P **P** **06 49 50.7 -0.1**
GULI **GuiLin** 34.92 98 P **P** **06 49 53.7 +1.3**
GULI pmax pmax
comp=Z,170nm,0.8s
GULI pmax pmax
comp=Z,520nm,5.7s
MLR **Muntele Rosu** 34.96 299 P **P** **06 49 54.1 +1.5**
MLR **Muntele Rosu** 34.96 299 LR LR 07 08 11.0
comp=Z,241nm,18.3s,baz=86,slow=43
MLR **Muntele Rosu** 34.96 299 ⇑P **P** **06 49 54.0 +1.3**
MLR **Muntele Rosu** 34.96 299 P **P** **06 49 54.1 +1.5**
MLR pmax pmax
comp=Z,129nm,1.0s
RNPP5 **Staryi Chortor** 35.16 309 P **P** **06 49 54.1 0.0**
RNPP9 **Sopachiv** 35.18 309 P **P** **06 49 54.3 +0.1**
NACGM **Naroch** 35.18 315 *e*P **P** **06 49 54.9 +0.7**
comp=Z,59nm,0.9s,baz=102
RNPP8 **Varash** 35.19 309 P **P** **06 49 54.4 +0.1**
ELND **Elena** 35.20 294 ⇑P **P** **06 49 55.6 +1.0**
EZN **Ezine** 35.31 289 P **P** **06 49 53.7 -1.8**
DOPR **Dopca** 35.33 299 ⇑P **P** **06 49 57.2 +1.6**
BURAR **Bucovina Array** 35.42 302 P **P** **06 49 56.5 0.0**
BURAR IAmb IAmb 06 50 23.9
comp=Z,51nm,0.9s
BURAR **Bucovina Array** 35.42 302 ⇑P **P** **06 49 57.1 +0.6**
BURAR **Bucovina Array** 35.42 302 P **P** **06 49 57.1 +0.6**
VOIR 35.59 299 ⇓P **P** **06 49 59.5 +1.4**
VOIR 35.59 299 P **P** **06 49 59.4 +1.4**
KARP **Karpathos** 35.63 281 P **P** **06 49 59.0 +0.6**
KARP **Karpathos** 35.63 281 *e*P **P** **06 49 59.0 +0.6**
JOF **Joensuu** 35.65 329 *e*P **P** **06 49 58.1 0.0**
ISAL **Salakas** 35.68 316 *e*P **P** **06 49 58.8 +0.3**
RDO **Rodhopi** 35.69 291 P **P** **06 49 59.5 +0.8**
WHN **Wuhan** 35.85 88 P **P** **06 50 02.3 +2.1**
WHN pmax pmax
comp=Z,760nm,1.4s
ARR **Arges** 35.89 298 ⇑P **P** **06 50 01.9 +1.4**
ARCR **ARCALIA** 36.01 301 ⇑P **P** **06 50 02.8 +1.4**
VSU **Vasula** 36.07 321*c i*P **P** **06 50 00.9 -0.9**
VSU pmax pmax
comp=Z,72nm,0.7s
VSU **Vasula** 36.07 321 *e*P **P** **06 50 00.8 -1.0**
TNR **Turnu Rosu** 36.13 299 ⇑P **P** **06 50 04.1 +1.6**
TNR **Turnu Rosu** 36.13 299 P **P** **06 50 04.1 +1.6**
TIA **Tai'an** 36.24 77 P **P** **06 50 05.5 +1.9**
TIA pmax pmax
comp=Z,160nm,1.3s
LVV **L'vov** 36.24 306 P **P** **06 49 59.7 -3.7**
ATD **Arta Tunnel** 36.27 233 P **P** **06 50 05.3 +1.3**
ATD IAmb IAmb 06 50 06.9
comp=Z,74nm,1.1s
MORS **Morshin** 36.31 305 P **P** **06 50 04.1 +0.1**
LOT **Lotru** 36.49 299 ⇓P **P** **06 50 05.8 +0.1**
CJR **Cluj-Napoca** 36.54 301 ⇑P **P** **06 50 06.9 +0.8**
CJR **Cluj-Napoca** 36.54 301 P **P** **06 50 06.8 +0.8**
BMR **Baia Mare** 36.58 302 ⇑P **P** **06 50 05.7 -0.6**

BMR	Baia Mare	36.58	302	P	P	06 50 05.7	-0.6
ARBE	Arbavere	36.73	322	eP	P	06 50 08.0	+0.7
MARR	Marisel-Cluj	36.87	301	⇓P	P	06 50 10.3	+1.4
PABE	Paberze	36.88	316	P	P	06 50 08.4	-0.3
PABE				IAmb	IAmb	06 50 52.5	
	comp=Z,29nm,0.7s						
PABE	Paberze	36.88	316	eP	P	06 50 09.1	+0.5
TRSU	Trosnyk	36.94	303	P	P	06 50 10.3	+1.1
VSVD	Vaisvydziai	36.98	316	eP	P	06 50 10.2	+0.7
KWP	Kalwaria Pacla	37.10	306	eP	P	06 50 12.5	+1.9
SUW	Suwalki	37.11	313	eP	P	06 50 10.7	+0.1
LVZ	Lovozero	37.13	338	P	P	06 50 10.4	-0.3
LVZ	Lovozero	37.13	338	c iP	P	06 50 10.8	0.0
LVZ				pmax	pmax		
	comp=Z,88nm,0.8s						
LVZ	Lovozero	37.13	338	P	P	06 50 10.8	0.0
DRGR		37.15	301	P	P	06 50 13.8	+2.6
DRGR				pmax	pmax		
	comp=Z,107nm,1.1s						
GZR	Gura Zlata	37.19	299	⇑P	P	06 50 12.3	+0.7
GZR	Gura Zlata	37.19	299	P	P	06 50 12.2	+0.7
FIA1	FINESS Array S	37.31	326	P	P	06 50 12.2	-0.1
FINES	FINESS Array B	37.31	326	P	P	06 50 12.3	+0.1
FINES	FINESS Array B	37.31	326	P	P	06 50 12.6	+0.4
	comp=Z,43nm,0.7s,baz=112,slow=8.9,SNR=268						
FINES				LR	LR	07 06 18.0	
	comp=Z,369nm,19.9s,baz=105,slow=37						
	comp=Z,43nm,0.7s						
APA	Apatity	37.32	337	eP	P	06 50 10.6	-1.7
APA				e*PP	pP	06 50 40.6	+3.3
APA				eS	S	06 55 50.6	-1.2
APA				MLR	MLR		
	comp=Z,942nm,5.1s						
KOLS	Kolonicke sedl	37.38	304	eP	P	06 50 14.0	+1.0
KOLS				pmax	pmax		
	comp=Z,14nm,0.7s						
KOLS	Kolonicke sedl	37.38	304	eP	P	06 50 14.0	+1.0
KOLS				epP	pP	06 50 40.3	+2.5
IDI	Anoyia	37.49	282	P	P	06 50 12.8	-1.4
HERR	Herculane	37.49	298	⇓P	P	06 50 14.4	+0.4
SURR	Surduc	37.62	299	⇑P	P	06 50 16.5	+1.4
MEF	Metsahovi	37.72	323	eP	P	06 50 15.9	+0.2
QIZ	Qiongzhong	37.89	108	P	P	06 50 18.5	+0.8
QIZ				pP	pP	06 50 42.2	-0.7
QIZ				sP	sP	06 50 54.5	-1.0
QIZ				S	S	06 56 02.4	+0.9
QIZ				PcS	PcS	06 56 20.3	-0.6
QIZ				pmax	pmax		
	comp=Z,39nm,0.8s						
SIRR	Siria	37.90	300	⇑P	P	06 50 19.2	+1.7
MSF	Maaselka	37.92	333	P	P	06 50 15.2	-2.2
BZS	Buzias	37.99	299	⇑P	P	06 50 19.5	+1.3
BZS	Buzias	37.99	299	P	P	06 50 19.4	+1.3
MDVR	Moldovita	38.00	298	⇓P	P	06 50 19.4	+1.0
SRIT	Nakonsritamara	38.02	131	P	P	06 50 19.6	+0.9
SRIT				IAmb	IAmb	06 51 06.8	
	comp=Z,40nm,1.0s						
SRIT	Nakonsritamara	38.02	131	P	P	06 50 21.1	+2.4
STHS	Stebnicka Huta	38.05	305	eP	P	06 50 18.8	+0.1
STHS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
STHS	Stebnicka Huta	38.05	305	eP	P	06 50 18.8	+0.1
STHS				epP	pP	06 50 44.8	+1.3
KEF	Keuruu	38.09	326	eP	P	06 50 19.1	+0.3
PBUR	Paburge	38.10	316	eP	P	06 50 19.4	+0.5
SLIT	Slitere, Latvi	38.17	319	eP	P	06 50 18.7	+0.8
AGG	Agios Georgios	38.51	288	P	P	06 50 24.1	+1.4
NIE	Niedzica	38.67	305	eP	P	06 50 25.6	+1.7
FNA	Florina	38.85	291	P	P	06 50 25.5	-0.1
FNA	Florina	38.85	291	P	P	06 50 25.5	-0.1
FNA				pmax	pmax		
	comp=Z,18nm,0.7s						
NJ2	Nanjing	38.89	83	⇓iP	P	06 50 28.2	+2.3
NJ2				pmax	pmax		
	comp=Z,130nm,0.6s						
OJC	Ojcow	38.98	307	eP	P	06 50 27.1	+0.7
OJC	Ojcow	38.98	307	P	P	06 50 26.4	-0.1
OJC	Ojcow	38.98	307	P	P	06 50 26.4	-0.1
PSZ	Piszkesteto	39.00	303	P	P	06 50 25.4	-1.3
PSZ	Piszkesteto	39.00	303	⇑P	P	06 50 27.6	+0.9
PSZ	Piszkesteto	39.00	303	P	P	06 50 25.4	-1.3
PSZ				pmax	pmax		
	comp=Z,38nm,1.0s						
PSZ	Piszkesteto	39.00	303	eP	P	06 50 27.7	+1.0
DL2	Dalian	39.05	72	P	P	06 50 29.1	+2.0
DL2				pmax	pmax		
	comp=Z,160nm,0.8s						
RAF	Rauma	39.18	324	eP	P	06 50 27.7	-0.2
LANS	Liptovska Anna	39.22	305	eP	P	06 50 29.9	+1.4
LANS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LANS	Liptovska Anna	39.22	305	eP	P	06 50 29.9	+1.4
LANS				epP	pP	06 50 55.9	+2.5
HKPS	Hong Kong Po S	39.43	100	P	P	06 50 32.2	+1.7
HKPS	Hong Kong Po S	39.43	100	P	P	06 50 33.0	+2.5
VYHS	Vyhne	39.67	304	eP	P	06 50 33.4	+1.2
VYHS				pmax	pmax		
	comp=Z,16nm,1.3s						
VYHS	Vyhne	39.67	304	eP	P	06 50 33.4	+1.2
SNY	Shenyang	39.89	67	⇓P	P	06 50 35.2	+1.1
SNY				pmax	pmax		
	comp=Z,26nm,0.5s						
VADS	Vadso	39.98	339	eP	P	06 50 35.1	+0.7
MORH	Mrgy, Hungar	39.99	300	⇑P	P	06 50 35.4	+0.6
SRO	Srobarova	40.07	303	eP	P	06 50 38.6	+3.2
SRO				pmax	pmax		
	comp=Z,30nm,0.8s						
SRO	Srobarova	40.07	303	eP	P	06 50 38.6	+3.2
PDG	Podgorica	40.11	294	P	P	06 50 35.8	-0.1
MAUC	Maruska	40.28	305	eP	P	06 50 38.6	+1.3
MAUC				epP	pP	06 51 04.2	+1.9
STEB	Steborice	40.29	306	eP	P	06 50 38.2	+0.9
STEB				epP	pP	06 51 01.0	-1.3
JAVC	Velka Javorina	40.42	305	eP	P	06 50 40.4	+2.0
JAVC				epP	pP	06 51 06.2	+2.8
MORC	Moravsky Berou	40.45	306	P	P	06 50 38.3	-0.4
MORC				IAmb	IAmb	06 51 06.5	
	comp=Z,49nm,1.0s						
MORC	Moravsky Berou	40.45	306	eP	P	06 50 39.5	+0.8
MORC				epP	pP	06 51 05.5	+1.9
MORC	Moravsky Berou	40.45	306	⇑P	P	06 50 39.8	+1.1
MORC	Moravsky Berou	40.45	306	P	P	06 50 38.3	-0.4
MORC				pmax	pmax		
	comp=Z,49nm,1.0s						
KEV	Kevo	40.48	338	P	P	06 50 38.9	+0.4
KEV				sP	sP	06 51 17.4	+1.2
SJUU	Sjulsmark	40.57	331	eP	P	06 50 39.5	+0.2
GKP	Gorka Klasztor	40.59	311	eP	P	06 50 39.3	-0.3
GKP	Gorka Klasztor	40.59	311	eP	P	06 50 40.4	+0.7
SMOL	Smolenice	40.60	304	eP	P	06 50 40.9	+1.0
SMOL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MODS	Modra-Piesok	40.71	304	eP	P	06 50 38.8	-2.0
MODS				pmax	pmax		
	comp=Z,28nm,1.2s						
MODS	Modra-Piesok	40.71	304	eP	P	06 50 38.8	-2.0
MODS				epP	pP	06 51 04.9	-0.9
ARA0	ARCESS Array S	40.83	337	⇑eP	P	06 50 42.1	+0.6
ARCES	ARCESS Array B	40.83	337	P	P	06 50 41.4	0.0
ARCES				IAmb	IAmb	06 50 43.0	
	comp=Z,115nm,1.1s						
ARCES	ARCESS Array B	40.83	337	P	P	06 50 42.1	+0.6
	comp=Z,58nm,0.5s,baz=114,slow=8.6,SNR=539						
ARCES				LR	LR	07 08 58.4	
	comp=Z,478nm,18.1s,baz=114,slow=38						
	comp=Z,58nm,0.5s						
ARCES	ARCESS Array B	40.83	337	P	P	06 50 41.4	0.0
ARCES				pmax	pmax		
	comp=Z,115nm,1.1s						
CN2	Changchun	40.90	63	P	P	06 50 43.4	+1.1
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
KRLC	Kraliky	40.92	306	eP	P	06 50 43.5	+0.9
KRLC				e*PP	pP	06 51 09.3	+1.7
KRLC	Kraliky	40.92	306	eP	P	06 50 43.5	+0.9
KRLC				epP	pP	06 51 09.3	+1.7
UPP	Uppsala	40.95	321	eP	P	06 50 42.6	0.0
VRAC	Vranov	41.09	305	LR	LR	07 09 04.8	
	comp=Z,102nm,21.9s,baz=86,slow=38						
VRAC	Vranov	41.09	305	eP	P	06 50 45.2	+1.3
VRAC				epP	pP	06 51 11.2	+2.2
SSE	Sheshan	41.09	83	P	P	06 50 45.5	+1.4
SSE				pmax	pmax		
	comp=Z,82nm,1.4s						
SSE				pmax	pmax		
	comp=Z,690nm,3.6s						
KSP	Ksiaz	41.20	308	eP	P	06 50 45.6	+0.9
DPC	Dobruska-Polom	41.20	307	eP	P	06 50 46.0	+1.1
DPC	Dobruska-Polom	41.20	307	eP	P	06 50 46.0	+1.1
KRUC	Moravsky	41.24	305	eP	P	06 50 46.3	+1.2
KRUC				epP	pP	06 51 12.3	+2.1
OSTC	Ostas	41.26	307	eP	P	06 50 46.5	+1.2
OSTC	Ostas	41.26	307	eP	P	06 50 46.5	+1.2
ZEA	Zeya	41.31	48	eP	P	06 50 47.7	+2.1
ZEA				pmax	pmax		
	comp=E,50nm,0.7s						
ZEA				pmax	pmax		
	comp=N,30nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.8s						
ZEA				pmax	pmax		
	comp=E,100nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.3s						
KTK1	Kautokeino	41.32	336	⇑eP	P	06 50 45.7	+0.2
CHVC	Chvalec	41.36	307	eP	P	06 50 47.3	+1.2
CHVC	Chvalec	41.36	307	eP	P	06 50 47.3	+1.2
UPC	Upice	41.40	307	eP	P	06 50 47.5	+1.1
UPC				e*PP	pP	06 51 13.4	+2.0
UPC	Upice	41.40	307	eP	P	06 50 47.5	+1.1
UPC				epP	pP	06 51 13.4	+2.0
RONA	Rosalia, Austr	41.43	303	eP	P	06 50 47.6	+0.9
	comp=Z,13nm,0.8s,SNR=6.9						
RONA				i pP	pP	06 51 13.3	+1.5
	comp=Z,45nm,1.1s						
RONA				eScP	ScP	06 56 22.3	-0.8
	comp=Z,3.3nm,0.9s						
HEH	HeiHe	41.50	53	eP	P	06 50 48.7	+1.5
HEH				pmax	pmax		
	comp=Z,360nm,0.8s						
BLEU	Blekinge	41.53	316	i P	P	06 50 46.7	-0.6
KOGS	Kog	41.61	301	i P	P	06 50 48.6	+0.5
KOGS				i pP	pP	06 51 14.6	+1.3
CONA	Conrad Observa	41.70	303	i P	P	06 50 50.1	+1.1
	comp=Z,22nm,0.8s,SNR=14						
CONA				i pP	pP	06 51 15.7	+1.6
	comp=Z,82nm,1.1s						
HAMF	Hammerfest	41.90	338	eP	P	06 50 51.1	+1.0
BNX	BinXian	41.97	60	⇑P	P	06 50 52.3	+1.2
BNX				pmax	pmax		
	comp=Z,52nm,1.1s						
BSD	Bornholm Skovb	41.99	314	eP	P	06 50 50.7	-0.4
BSD	Bornholm Skovb	41.99	314	i P	P	06 50 50.6	-0.4
BSD				IAmb	IAmb	06 51 37.2	
	comp=Z,36nm,0.8s						
ARSA	Arzberg	42.01	302	P	P	06 50 50.8	-0.6
ARSA	Arzberg	42.01	302	eP	P	06 50 52.2	+0.8
	comp=Z,6.2nm,0.7s,SNR=5.2						
ARSA				i pP	pP	06 51 17.7	+1.2
	comp=Z,26nm,1.2s						
ARSA				i ScP	ScP	06 56 25.5	+0.1
	comp=Z,8.6nm,1.4s						
IPM	Ipoh	42.14	133	P	P	06 50 54.1	+1.3
IPM	Ipoh	42.14	133	P	P	06 50 54.0	+1.2
GOPC	GO Pecny, Ondr	42.22	306	eP	P	06 50 54.1	+1.0
GOPC	GO Pecny, Ondr	42.22	306	eP	P	06 50 54.1	+1.0
PVCC	Panska Ves	42.31	307	epP	pP	06 51 21.0	+1.9
PSI	Prapat	42.33	137	LR	LR	07 12 24.3	
	comp=Z,174nm,18.8s,baz=296,slow=41						
PSI	Prapat	42.33	137	P	P	06 50 55.9	+1.4
PSI	Prapat	42.33	137	P	P	06 50 55.3	+0.8
PSI				pmax	pmax		
	comp=Z,27nm,0.8s						
MATE	Matera	42.35	292	eP	P	06 50 53.5	-0.7
PRU	Pruhonice	42.37	306	eP	P	06 50 55.3	+1.0
PRU				e*PP	pP	06 51 21.6	+2.2
PRU	Pruhonice	42.37	306	eP	P	06 50 55.3	+1.0
PRU				epP	pP	06 51 21.6	+2.2
PRU				eXS	sS	06 57 51.9	+0.3
SOKA	Soboth	42.41	302	eP	P	06 50 55.8	+1.0
	comp=Z,20nm,0.9s,SNR=17						
SOKA				i pP	pP	06 51 21.5	+1.6
	comp=Z,58nm,1.1s						
SOKA				i ScP	ScP	06 56 27.0	0.0
	comp=Z,8.8nm,1.4s						
RPSI	Rantau Prapat	42.42	137	P	P	06 50 55.3	+0.3
JETT	Jettan, Norway	42.46	336	eP	P	06 50 55.4	+0.6
DEL	Delary	42.61	316	i P	P	06 50 56.0	-0.1
CKRC	Cesky Krumlov	42.63	305	eP	P	06 50 57.3	+0.8
CKRC	Cesky Krumlov	42.63	305	eP	P	06 50 57.3	+0.8
ZVC	Zvikov	42.65	306	eP	P	06 50 57.9	+1.4
ZVC				epP	pP	06 51 23.4	+1.7
TIP	Timpagrande	42.67	290	P	P	06 50 56.6	-0.4
BRG	Berggiesshubel	42.69	308	eP	P	06 50 59.0	+2.2
	comp=Z,22nm,0.7s,baz=83,slow=8.0						
BRG				epP	pP	06 51 25.2	+3.1
	baz=84,slow=7.9						
BRG	Berggiesshubel	42.69	308	⇑iP	P	06 50 58.5	+1.6
BRG				Amp		06 50 59.0	
	comp=Z,22nm,0.7s						
BRG	Berggiesshubel	42.69	308	P	P	06 51 01.9	+5.1
BRG				Amp		06 51 02.2	
	comp=Z,12nm,0.6s						
BRG	Berggiesshubel	42.69	308	P	P	06 51 06.1	+9.3
BRG				Amp		06 51 07.0	
	comp=Z,12nm,0.6s						
BRG	Berggiesshubel	42.69	308	sS	sS	06 58 00.0	+3.8
RUE	Ruedersdorf	42.69	310	eP	P	06 50 57.0	+0.2
RUE	Ruedersdorf	42.69	310	eP	P	06 50 57.9	+1.1
	comp=Z,52nm,1.2s,baz=83,slow=8.0						
RUE				epP	pP	06 51 24.0	+1.9
	baz=84,slow=7.9						
OBKA	Obir	42.77	301	i P	P	06 50 58.7	+1.1
	comp=Z,24nm,1.4s,SNR=11						
OBKA				i pP	pP	06 51 24.5	+1.7
	comp=Z,40nm,1.1s						
OBKA				eScP	ScP	06 56 28.5	0.0
	comp=Z,2.9nm,0.8s						
MOA	Molln	42.77	303	i P	P	06 50 58.2	+0.6
	comp=Z,14nm,0.8s,SNR=8.4						
MOA				i pP	pP	06 51 23.9	+1.1
	comp=Z,44nm,1.0s						
SGRT	San Giovanni R	42.80	294	P	P	06 50 56.9	-1.1
LUNU	Lund	42.83	315	i P	P	06 50 57.7	-0.2
LJU	Ljubljana	42.85	301	i P	P	06 50 59.5	+1.3
LJU				i pP	pP	06 51 25.1	+1.6
LJU				ePcP	PcP	06 52 47.7	+0.3
LJU				i pPcP		06 53 17.8	
LJU				i ScP	ScP	06 56 28.9	+0.2
ACER	Acerenza	42.88	293	P	P	06 50 58.9	+0.3
ACER				IAmb	IAmb	06 51 28.8	
	comp=Z,41nm,0.7s						
GSI	Gunungsitoli	42.88	140	P	P	06 51 00.1	+1.4
GSI	Gunungsitoli	42.88	140	P	P	06 51 01.9	+3.1
RGN	Rugen	42.91	313	epP	pP	06 51 26.5	+2.7
	baz=84,slow=7.9						
HFS	Hagfors	42.95	321	P	P	06 50 59.0	+0.2
	comp=Z,65nm,0.4s,baz=98,slow=11,SNR=494						
	comp=Z,65nm,0.4s						
GEC2	GERESS Array S	43.03	305	P	P	06 51 00.0	+0.3
GEC2	GERESS Array S	43.03	305	eP	P	06 51 01.1	+1.3
	comp=Z,3.9nm,0.7s,baz=83,slow=8.0						
GEC2				epP	pP	06 51 27.2	+2.3
	baz=84,slow=7.9						
GERES	GERESS Array B	43.03	305	P	P	06 50 59.7	0.0
GERES	GERESS Array B	43.03	305	P	P	06 51 00.4	+0.6
	comp=Z,2.9nm,0.5s,baz=80,slow=7.2,SNR=29						
GERES				PcP	PcP	06 52 47.8	-0.3
	comp=Z,6.7nm,0.8s,baz=98,slow=2.8,SNR=5.6						
	comp=Z,2.9nm,0.5s						
KHC	Kasperske Hory	43.08	305	eP	P	06 51 01.2	+1.1
KHC				e*PP	pP	06 51 27.6	+2.3
KHC	Kasperske Hory	43.08	305	eP	P	06 51 01.2	+1.1
KHC				epP	pP	06 51 27.6	+2.3
KHC				eXS	sS	06 57 57.6	-4.6
CUC	Castrocucco	43.17	292	P	P	06 51 01.1	+0.2
CUC				IAmb	IAmb	06 51 30.1	
	comp=Z,77nm,0.7s						
YAK	Yakutsk	43.22	36	P	P	06 51 00.8	-0.1
YAK	Yakutsk	43.22	36	LR	LR	07 09 47.7	
	comp=Z,334nm,21.0s,baz=179,slow=37						
YAK	Yakutsk	43.22	36	eP	P	06 51 00.8	-0.1
YAK				e*PP	pP	06 51 23.7	-3.0
YAK				e		06 52 43.2	
YAK				ePPP	PPP	06 53 20.5	
YAK				eS	S	06 57 21.2	+1.6
YAK				e		07 00 47.0	
YAK				eSSS	SSS	07 01 23.6	
YAK				pmax	pmax		
	comp=Z,304nm,0.9s						
YAK				pmax	pmax		
	comp=N,26nm,1.3s						
YAK				pmax	pmax		
	comp=E,42nm,1.5s						
YAK				pmax	pmax		
	comp=Z,82nm,1.5s						
YAK				pmax	pmax		
	comp=N,147nm,4.9s						
YAK				pmax	pmax		
	comp=E,106nm,2.7s						
YAK				smax	smax		
	comp=E,114nm,1.8s						
YAK				smax	smax		
	comp=N,86nm,2.0s						
YAK	Yakutsk	43.22	36	P	P	06 51 01.2	+0.3
BIOA	Bad Ischl, Aus	43.22	303	i P	P	06 51 01.7	+0.5
	comp=N,6.1nm,0.4s,SNR=6.6						
BIOA				i pP	pP	06 51 27.5	+1.1
	comp=N,33nm,1.0s						
BIOA				i ScP	ScP	06 56 29.3	-0.9
	comp=N,5.3nm,0.9s						
INCN	Inchon	43.23	72	P	P	06 51 02.9	+1.5
INCN				IAmb	IAmb	06 51 03.8	
	comp=Z,37nm,0.7s						
INCN	Inchon	43.23	72	P	P	06 51 02.9	+1.5
INCN				pmax	pmax		
	comp=Z,37nm,0.7s						
CLL	Collm	43.24	309	P	P	06 51 01.3	+0.1
CLL	Collm	43.24	309	i P	P	06 51 01.4	+0.1
CLL				i *PP	pP	06 51 27.5	+0.9
CLL				e		06 52 49.0	
CLL				eS	S	06 57 22.0	+1.7
CLL				e*SS	sS	06 58 04.0	-0.4
CLL				pmax	pmax		
	comp=Z,17nm,0.7s						
CLL	Collm	43.24	309	eP	P	06 51 02.4	+1.1
	comp=Z,16nm,0.7s,baz=83,slow=8.0						
CLL				epP	pP	06 51 28.7	+2.1
	baz=84,slow=7.9						
CLL	Collm	43.24	309	i P	P	06 51 01.4	+0.1
	comp=Z,17nm,0.7s						
CLL				i pP	pP	06 51 27.5	+0.9
	comp=Z,52nm,1.1s						
CLL				i x	x	06 51 30.1	
CLL				ePP	PP	06 52 44.0	+0.4
CLL				ePcP	PcP	06 52 49.0	+0.4
CLL				ex	x	06 52 51.0	
CLL				epPP		06 53 03.0	
CLL				epPP		06 53 18.0	
CLL				eS	S	06 57 22.0	+1.7
CLL				esS	sS	06 58 04.0	-0.4
CLL				eSS	SS	07 00 36.0	-1.0
CLL				esSS		07 01 06.0	
CLL				ex	x	07 02 24.0	
BORU	Boraas	43.26	318	i P	P	06 51 01.0	-0.3
FABU	Falkenberg	43.26	317	i P	P	06 51 01.8	+0.4
CADS	Cadrg	43.37	301	i P	P	06 51 03.0	+0.6
CADS				i pP	pP	06 51 28.5	+0.9
MYKA	Terra Mystica	43.37	302	i P	P	06 51 03.4	+0.9
	comp=Z,11nm,1.0s,SNR=8.5						
MYKA				i pP	pP	06 51 29.1	+1.4
	comp=Z,22nm,1.0s						
TRI	Trieste	43.43	300	P	P	06 51 02.8	-0.1
TRI				IAmb	IAmb	06 51 30.3	
	comp=Z,86nm,1.5s						
TRI	Trieste	43.43	300	P	P	06 51 02.8	-0.1
TRI				pmax	pmax		
	comp=Z,86nm,1.5s						
KBA	Koelnbreinsper	43.50	302	i P	P	06 51 04.2	+0.5
	comp=Z,7.8nm,0.9s						
KBA				i pP	pP	06 51 30.0	+1.1
	comp=Z,37nm,1.2s						
SABO	M.te Sabotino	43.50	301	P	P	06 51 03.7	+0.2
WET	Wettzell	43.53	305	eP	P	06 51 05.3	+1.5
	comp=Z,4.7nm,1.0s,baz=83,slow=8.0						
WET				epP	pP	06 51 31.4	+2.4
	baz=84,slow=7.9						
FAUS	Fauske	43.55	332	eP	P	06 51 04.0	+0.5
CEL	Celeste	43.57	289	P	P	06 51 04.7	+0.5
MOR8	Moi Rana	43.59	330	eP	P	06 51 03.7	-0.2
TANN	Tannenbergstha	43.66	307	eP	P	06 51 06.3	+1.5
	comp=Z,11nm,1.2s,baz=83,slow=8.0						
TANN				epP	pP	06 51 32.5	+2.4
	baz=84,slow=7.9						
MDJ	Mudanjiang	43.68	61	P	P	06 51 05.4	+0.5
MDJ				pmax	pmax		
	comp=Z,56nm,0.9s						
ONAU	Onsala	43.71	317	i P	P	06 51 04.8	-0.1
STEI	Steigen	43.71	333	eP	P	06 51 05.2	+0.4
RJOB	Jochberg	43.77	303	eP	P	06 51 06.7	+1.0
	comp=Z,5.7nm,0.6s,baz=83,slow=8.0						
PAOL	Paolisi	43.83	294	P	P	06 51 06.3	0.0
ROTZ	Rotzenmuhle	43.90	306	eP	P	06 51 08.7	+2.1
	comp=Z,3.0nm,1.0s,baz=83,slow=8.0						
ROTZ				epP	pP	06 51 34.9	+2.9
	baz=84,slow=7.9						
LESA	Schwarzleotal	43.90	303	i P	P	06 51 07.2	+0.4
	comp=Z,14nm,0.5s,SNR=12						
LESA				i pP	pP	06 51 33.0	+1.0
	comp=Z,60nm,1.2s						
LESA				eScP	ScP	06 56 32.4	-0.6
	comp=Z,6.2nm,1.3s						
MANZ	Manzenberg	43.94	307	eP	P	06 51 08.9	+1.9
	comp=Z,2.1nm,0.9s,baz=83,slow=8.0						
MANZ				epP	pP	06 51 35.0	+2.7
	baz=84,slow=7.9						
NC405	NORSAR Array S	44.01	323	P	P	06 51 07.2	-0.2
NEUB	Neuenburg	44.02	308	eP	P	06 51 08.9	+1.4
	comp=Z,32nm,0.8s,baz=83,slow=8.0						
NEUB				epP	pP	06 51 35.1	+2.2
	baz=84,slow=7.9						
STAL	STALIGIAL	44.06	301	P	P	06 51 08.1	+0.1
STAL				IAmb	IAmb	06 51 35.0	
	comp=Z,76nm,1.4s						
NC602	NORSAR Array S	44.06	322	P	P	06 51 06.8	-1.0
NC602				IAmb	IAmb	06 51 08.6	
	comp=Z,64nm,0.9s						
NC602	NORSAR Array S	44.06	322	⇑iP	P	06 51 07.5	-0.2
SSLB	Suanglung	44.08	93	P	P	06 51 09.7	+1.3
SSLB				IAmb	IAmb	06 51 12.6	
	comp=Z,87nm,1.0s						
INTR	Introdacqua	44.08	295	P	P	06 51 07.8	-0.4
LEIR	Leirfjorden	44.10	330	i iP	P	06 51 08.1	+0.2
ABTA	Abfaltersbach	44.12	302	i P	P	06 51 08.4	-0.1
	comp=Z,9.6nm,0.6s						
ABTA				i pP	pP	06 51 34.5	+0.7
	comp=Z,24nm,1.2s						
ABTA				i ScP	ScP	06 56 33.2	-0.8
	comp=Z,5.0nm,1.0s						
TJN	Taejon	44.12	73	P	P	06 51 10.4	+1.9

GUMA Gualdo di Mace 44.25 297 P P 06 51 08.9 -0.6
FLTG Flechtingen 44.26 310 eP P 06 51 10.4 +1.0
comp=Z,51nm,0.7s,baz=83,slow=8.0
FLTG epP pP 06 51 36.6 +1.8
baz=84,slow=7.9
NSS Namsos 44.30 328 eP P 06 51 09.5 0.0
CAMP Campotosto 44.32 296 P P 06 51 10.3 +0.1
AQU L'Aquila 44.36 296 P P 06 51 13.5 +3.0
AQU pmax pmax
comp=Z,28nm,1.0s
LOF Lofoten 44.38 333 eP P 06 51 10.0 -0.1
NAO01 NORSAR Array S 44.39 322 P P 06 51 09.7 -0.7
NAO01 IAmb IAmb 06 51 11.6
comp=Z,86nm,0.9s
OSL Oslo 44.42 321 eP P 06 51 10.9 +0.4
FDMO Fiordimonte 44.44 297 P P 06 51 11.3 +0.3
FDMO IAmb IAmb 06 51 38.9
comp=Z,131nm,1.5s
NBO00 NORSAR Array S 44.46 323 P P 06 51 10.3 -0.6
NRCA Norcia 44.46 296 P P 06 51 11.3 0.0
NRCA IAmb IAmb 06 51 56.2
comp=Z,50nm,1.0s
NC204 NORSAR Array S 44.48 323 P P 06 51 10.5 -0.6
NC204 IAmb IAmb 06 51 12.1
comp=Z,102nm,1.0s
GRA1 Grafenberg Arr 44.54 306 P P 06 51 11.2 -0.5
GRA1 IAmb IAmb 06 51 41.3
comp=Z,82nm,1.2s
GRF Grafenberg Arr 44.54 306 P P 06 51 11.3 -0.5
GRF pmax pmax
comp=Z,82nm,1.2s
GRF Grafenberg Arr 44.54 306 *eP* **P 06 51 14.0 +2.3**
comp=Z,62nm,1.4s,baz=83,slow=8.0
GRF epP pP 06 51 40.2 +3.1
baz=84,slow=7.9
GRFO Grafenberg 44.54 306 P P 06 51 11.1 -0.6
GRFO IAmb IAmb 06 51 41.3
comp=Z,76nm,1.2s
GRFO Grafenberg 44.54 306 P P 06 51 11.1 -0.6
GRFO pmax pmax
comp=Z,76nm,1.2s
WTTA Wattenberg 44.62 303 *i* P P 06 51 12.6 -0.1
comp=Z,7.2nm,0.6s,SNR=6.6
WTTA *i* pP pP 06 51 38.4 +0.5
comp=Z,54nm,1.2s
WTTA *i* ScP ScP 06 56 34.9 -1.2
comp=Z,6.5nm,0.9s
TWG Pinlang 44.65 94 P P 06 51 14.6 +1.7
WATA Walderalm 44.65 303 *i* P P 06 51 12.4 -0.4
comp=Z,8.2nm,0.6s
WATA *i* pP pP 06 51 38.3 +0.2
comp=Z,45nm,1.2s
FUR Furstenfeldbru 44.72 304 *eP* P 06 51 14.9 +1.7
comp=Z,84nm,1.5s,baz=83,slow=8.0
FUR epP pP 06 51 41.1 +2.5
baz=84,slow=7.9
CTI Castel Tesino 44.83 301 P P 06 51 14.0 -0.2
CTI IAmb IAmb 06 51 41.4
comp=Z,104nm,1.6s
CTI Castel Tesino 44.83 301 P P 06 51 14.0 -0.2
CTI pmax pmax
comp=Z,104nm,1.6s
BJO1 Bjornoya 44.89 342 eP P 06 51 14.7 +0.6
CESX Cesi 44.90 296 P P 06 51 15.1 +0.5
CESX IAmb IAmb 06 51 42.2
comp=Z,55nm,1.0s
SQTA Sankt Quirin 44.92 303 *i* P P 06 51 14.7 -0.2
comp=Z,14nm,0.7s,SNR=5.7
SQTA *i* pP pP 06 51 40.4 +0.2
comp=Z,64nm,1.8s
SQTA *i* ScP ScP 06 56 36.7 -0.6
comp=Z,7.7nm,1.1s
NRDL Niedersach Rie 44.93 310 *eP* P 06 51 16.4 +1.8
comp=Z,17nm,0.8s,baz=83,slow=8.0
NRDL epP pP 06 51 42.8 +2.7
baz=84,slow=7.9
PSTR Posyet 44.96 64*ceP* P 06 51 17.0 +1.9
MOTA Moosalm 44.97 303 *eP* P 06 51 15.0 -0.3
comp=Z,21nm,1.0s,SNR=7.6
MOTA *i* pP pP 06 51 40.9 +0.3
comp=Z,31nm,0.9s
MOTA *i* ScP ScP 06 56 37.2 -0.4
comp=Z,6.8nm,0.8s
KONO Kongsberg 44.98 321 P P 06 51 14.7 -0.3
KONO IAmb IAmb 06 51 16.4
comp=Z,52nm,0.8s
KONO Kongsberg 44.98 321*c iP* P 06 51 14.7 -0.3
KONO pmax pmax
comp=Z,42nm,0.7s
KONO Kongsberg 44.98 321 *eP* P 06 51 14.9 -0.1
KONO Kongsberg 44.98 321 P P 06 51 15.1 +0.1
RAFF Raffo Rosso 45.04 288 P P 06 51 18.1 +2.2
TIXI Tiksi 45.06 22 P P 06 51 15.3 -0.2
TIXI Tiksi 45.06 22 LR LR 07 10 38.0
comp=Z,287nm,21.9s,baz=142,slow=36
TIXI Tiksi 45.06 22*c iP* P 06 51 15.7 +0.2
TIXI pmax pmax
comp=Z,226nm,0.7s
TIXI Tiksi 45.06 22 P P 06 51 16.0 +0.4
GTTG Gottingen 45.12 309 *eP* P 06 51 17.9 +1.7
comp=Z,38nm,0.9s,baz=83,slow=8.0
GTTG epP pP 06 51 44.3 +2.6
baz=84,slow=7.9
RETA Reutte 45.17 303 *i* P P 06 51 16.6 -0.2
comp=Z,10nm,0.9s
RETA *i* pP pP 06 51 43.0 +0.8
comp=Z,15nm,0.9s
RETA *i* ScP ScP 06 56 36.5 -1.7
comp=Z,7.0nm,0.9s
UBBA Unterbreizbach 45.18 308 *eP* P 06 51 18.0 +1.4
comp=Z,9.4nm,0.5s,baz=83,slow=8.0
UBBA epP pP 06 51 44.3 +2.2
baz=84,slow=7.9
MUD Monsted U'grnd 45.22 316 *i* P P 06 51 16.0 -0.9
MSHR Mys Shultsa 45.23 64*c iP* P 06 51 19.0 +1.7
MSHR pmax pmax
comp=Z,40nm,0.7s
FETA Feichten 45.27 303 *i* P P 06 51 17.5 -0.3
comp=Z,14nm,1.1s,SNR=9.8
FETA *i* pP pP 06 51 43.4 +0.3
comp=Z,38nm,1.4s
FETA *i* ScP ScP 06 56 38.9 +0.1
comp=Z,9.5nm,1.0s
RETH Rethem/Aller, 45.36 311 *eP* P 06 51 19.7 +1.6
comp=Z,8.8nm,0.9s,baz=83,slow=8.0
RETH epP pP 06 51 46.0 +2.4
baz=84,slow=7.9
USA0B Ussuriysk Arra 45.45 61 P P 06 51 19.7 +0.7
USA0B Ussuriysk Arra 45.45 61 P P 06 51 19.7 +0.7
USA0B pmax pmax
comp=Z,20nm,0.8s
USRK Ussuriysk Ar. 45.45 61 P P 06 51 19.4 +0.4
comp=Z,18nm,0.7s,baz=263,slow=9.4,SNR=18
USRK PP PP 06 53 09.8 +2.6
comp=Z,14nm,1.0s,baz=292,slow=10,SNR=5.3
comp=Z,18nm,0.7s
HOMB Homborsund 45.54 319 *i* P P 06 51 19.3 -0.1
BKNI Bangkinang 45.55 137 P P 06 51 20.9 +0.9
VLA Vladivostok 45.62 63‖ *iP* P 06 51 22.0 +1.7
VLA pmax pmax
comp=Z,123nm,0.8s
OSSC Osservatorio P 45.63 298 P P 06 51 19.9 -0.6
OSSC IAmb IAmb 06 51 48.6
comp=Z,88nm,1.1s
SKAR Skarsla 45.65 322 *eP* P 06 51 21.2 +0.8
FUORN Ofenpass-Fuorn 45.66 302 P P 06 51 20.7 -0.2
DAVA Damuels 45.80 303 *i* P P 06 51 22.0 +0.2
comp=Z,40nm,0.5s,SNR=12
DAVA epP pP 06 51 48.5 +1.1
comp=Z,48nm,0.7s
DAVA *i* ScP ScP 06 56 39.9 -1.1
comp=Z,9.7nm,1.0s
DAVOX Davos/Dischmat 45.89 303 P P 06 51 22.7 0.0
comp=Z,23nm,0.6s,baz=105,slow=7.2,SNR=69
DAVOX LR LR 07 13 10.0
comp=Z,242nm,20.4s,baz=68,slow=39
comp=Z,23nm,0.6s
MYKOM Kota Tinggi 45.96 132 P P 06 51 24.6 +1.3
MYKOM IAmb IAmb 06 51 26.3
comp=Z,81nm,1.2s
MYKOM Kota Tinggi 45.96 132 P P 06 51 25.6 +2.3
STU Stuttgart 45.99 305 *eP* P 06 51 24.6 +1.5
comp=Z,59nm,1.3s,baz=83,slow=8.0
STU epP pP 06 51 50.9 +2.2
baz=84,slow=7.9
MOL Molde 46.08 325 *eP* P 06 51 24.2 +0.6

KASTN Kahler Asten 46.12 309 *eP* P 06 51 25.5 +1.3
comp=Z,5.4nm,0.8s,baz=83,slow=8.0
KASTN epP pP 06 51 51.8 +2.0
baz=84,slow=7.9
TNS Taunus Mts 46.24 307 *eP* P 06 51 26.6 +1.4
comp=Z,8.9nm,0.8s,baz=83,slow=8.0
TNS epP pP 06 51 53.1 +2.3
baz=84,slow=7.9
BTDF Bukit Timah Da 46.26 133 P P 06 51 28.0 +2.4
TUE Stuetta 46.31 302 P P 06 51 25.1 -0.9
IBBN Ibbenburen 46.38 310 *eP* P 06 51 27.8 +1.7
comp=Z,29nm,0.8s,baz=83,slow=8.0
IBBN epP pP 06 51 54.1 +2.4
baz=84,slow=7.9
ODD1 Odda 46.48 321 *eP* P 06 51 27.9 +1.0
BFO Black Forest 46.63 305 P P 06 51 28.3 +0.1
BFO IAmb IAmb 06 51 55.7
comp=Z,113nm,1.9s
BFO Black Forest 46.63 305 P P 06 51 28.3 +0.1
BFO pmax pmax
comp=Z,113nm,1.9s
BFO Black Forest 46.63 305 *ep*P pP 06 51 55.5 +1.7
baz=84,slow=7.9
HSPB Hornsund (broa 46.73 345 *eP* P 06 51 29.9 +1.3
BUG Bochum--Univer 46.80 309 *eP* P 06 51 31.0 +1.6
comp=Z,24nm,1.1s,baz=83,slow=8.0
BUG epP pP 06 51 57.3 +2.3
baz=84,slow=7.9
SPB2 Spitsbergen Ar 47.06 347 P P 06 51 32.2 +1.0
SPB2 IAmb IAmb 06 52 13.3
comp=Z,62nm,0.8s
SPA0 Spitsbergen Ar 47.07 347 *eP* P 06 51 32.5 +1.3
SPITS Spitsbergen Ar 47.07 347 P P 06 51 32.2 +1.0
comp=Z,22nm,0.5s,baz=117,slow=10,SNR=54
SPITS LR LR 07 16 35.0
comp=Z,167nm,18.3s,baz=44,slow=43
comp=Z,22nm,0.5s
BER Bergen 47.12 322 *eP* P 06 51 32.1 +0.3
GRNR Gornyy 47.16 52‖ *iP* P 06 51 33.6 +1.3
GRNR pmax pmax
comp=Z,50nm,0.7s
GRNR MLR MLR
comp=E,210nm,16.0s
GRNR MLR MLR
comp=N,120nm,14.0s
ASK Askoy 47.19 322 *eP* P 06 51 32.8 +0.5
LODK Lodwar 47.21 234 P P 06 51 33.9 +0.8
LODK Lodwar 47.21 234 P P 06 51 34.3 +1.1
SNR=6.1
FOO Floro 47.24 323 *eP* P 06 51 33.2 +0.6
ECH Echery 47.42 305 P P 06 51 34.2 -0.2
ECH Echery 47.42 305 P P 06 51 34.2 -0.2
ECH pmax pmax
comp=Z,40nm,1.6s
MEM Membach 47.72 308 *dP* P 06 51 37.3 +0.8
comp=Z,16nm,1.0s
SENIN Lac Senin/Sane 47.72 302 P P 06 51 36.3 -0.6
SENIN IAmb IAmb 06 52 10.2
comp=Z,35nm,0.7s
WLF Walferdange 47.80 307 P P 06 51 37.9 +0.7
WLF IAmb IAmb 06 52 05.8
comp=Z,42nm,0.9s
WLF Walferdange 47.80 307 P P 06 51 37.9 +0.7
WLF pmax pmax
comp=Z,42nm,0.9s
WLF Walferdange 47.80 307 *eP* P 06 51 39.1 +1.9
comp=Z,32nm,0.8s,baz=83,slow=8.0
WLF epP pP 06 52 05.6 +2.7
baz=84,slow=7.9
JNU Nakatsue 47.96 76 P P 06 51 39.5 +0.8
JNU IAmb IAmb 06 51 42.3
comp=Z,85nm,1.1s
JNU Nakatsue 47.96 76 LR LR 07 14 12.9
comp=Z,141nm,20.1s,baz=287,slow=39
JNU Nakatsue 47.96 76 P P 06 51 40.3 +1.6
VSL Villasalto 48.07 293 P P 06 51 38.8 -0.7
KBS Kingsbay 48.18 347 P P 06 51 40.0 +0.2
KBS Kingsbay 48.18 347*c iP* P 06 51 40.7 +1.0
KBS pmax pmax
comp=Z,62nm,0.8s
KBS Kingsbay 48.18 347 *eP* P 06 51 40.8 +1.0
KBS Kingsbay 48.18 347 *i* P P 06 51 39.8 0.0
KBS Kingsbay 48.18 347 P P 06 51 40.7 +1.0
KBS pP pP 06 52 06.5 +0.9
BCLA Clavier 48.20 308 *dP* P 06 51 45.7 +5.4
BNI Bardonecchia 48.45 301 P P 06 51 42.4 -0.1
BNI IAmb IAmb 06 52 23.3
comp=Z,88nm,1.3s
BNI Bardonecchia 48.45 301 P P 06 51 42.4 -0.1
BNI pmax pmax
comp=Z,88nm,1.3s
BMRD Maredsous 48.55 308 *dP* P 06 51 44.6 +1.6
DOU Dourbes 48.70 308 *dP* P 06 51 44.5 +0.3
comp=Z,14nm,1.2s
KEST Kesra 49.35 288 P P 06 51 50.1 +0.8
KEST IAmb IAmb 06 52 19.3
comp=Z,49nm,0.9s
KEST Kesra 49.35 288 P P 06 51 50.4 +1.0
comp=Z,12nm,0.7s,baz=87,slow=4.9,SNR=18
KEST LR LR 07 16 16.8
comp=Z,137nm,21.4s,baz=217,slow=40
comp=Z,12nm,0.7s
NKL Nikolayevsk 49.36 48 *eP* P 06 51 46.9 -2.2
NKL *eS* S 06 58 42.9 -4.7
NKL smax smax
comp=E,627nm,5.6s
NKL smax smax
comp=N,261nm,2.9s
KMBO Kilima Mbogo 49.59 228 P P 06 51 52.0 +0.4
comp=N,28nm,0.8s,baz=42,slow=12,SNR=42
comp=N,28nm,0.8s
KMBO Kilima Mbogo 49.59 228*d iP* P 06 51 52.8 +1.2
SSB Saint Sauveur 49.85 302 P P 06 51 52.7 -0.4
SSB IAmb IAmb 06 52 21.1
comp=Z,56nm,1.1s
SSB Saint Sauveur 49.85 302 P P 06 51 52.7 -0.4
SSB pmax pmax
comp=Z,56nm,1.1s
SSB Saint Sauveur 49.85 302 P P 06 51 53.5 +0.4
SSB pP pP 06 52 19.7 +0.8
JMN Monobe 50.05 74 P P 06 51 55.1 +0.4
JMN IAmb IAmb 06 51 59.5
comp=Z,51nm,0.8s
JMN Monobe 50.05 74 P P 06 51 56.5 +1.8
KIBK Kibwezi 50.10 226 P P 06 51 55.8 +0.6
KSM Kuching 50.23 126 P P 06 51 57.6 +1.5
KSM IAmb IAmb 06 52 07.3
comp=Z,31nm,0.7s
KSM Kuching 50.23 126 P P 06 51 58.1 +1.9
SBUM Sibu 50.77 123 P P 06 52 01.7 +1.6
SBUM Sibu 50.77 123 P P 06 52 02.4 +2.2
KKM Kota Kinabalu 50.99 116 P P 06 52 03.7 +1.7
KKM Kota Kinabalu 50.99 116 P P 06 52 04.6 +2.6
TYV Tymovskoe 51.02 50 *eP* P 06 52 03.0 +1.4
TYV pmax pmax
comp=Z,38nm,0.7s
TYV pmax pmax
comp=Z,200nm,3.3s
UGL Uglegorsk 51.08 53 *eP* P 06 52 03.1 +1.0
UGL pmax pmax
comp=Z,200nm,0.7s
EDMD Edmundbyers 51.68 315 *eP* P 06 52 06.7 +0.1
EDMD IAmb IAmb 06 52 07.2
comp=Z,188nm,1.5s
JSD Sado 51.77 67 P P 06 52 07.5 +0.1
INU Inuyama 51.83 71 P P 06 52 09.7 +1.8
INU IAmb IAmb 06 52 12.6
comp=Z,44nm,0.9s
INU Inuyama 51.83 71 P P 06 52 10.1 +2.2
MCD Coleburn Disti 51.84 319 *eP* P 06 52 07.2 -0.4
MCD IAmb IAmb 06 52 08.7
comp=Z,70nm,0.7s
JGF Kuroka 51.99 71 P P 06 52 09.9 +0.7
BIGH Upper Bighouse 52.01 320 *eP* P 06 52 09.2 +0.3
BIGH IAmb IAmb 06 52 10.3
comp=Z,44nm,0.7s
YSS Yuzhno-Sakhali 52.08 55 P P 06 52 10.6 +1.0
YSS Yuzhno-Sakhali 52.08 55*ceP* P 06 52 10.2 +0.6
YSS *e**PP pP 06 52 36.5 +0.5
YSS *e**SP sP 06 52 46.2 -2.0
YSS *e* 06 54 13.2
YSS *eS* S 06 59 24.2 -1.2
YSS *eSS* SS 07 02 54.7 -8.8
YSS pmax pmax
comp=Z,200nm,2.2s
YSS pmax pmax
comp=Z,90nm,0.8s
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzhno-Sakhali 52.08 55 P P 06 52 10.3 +0.6
EDI Edinburgh 52.13 317 *eP* P 06 52 09.9 +0.1
EDI IAmb IAmb 06 52 10.5
comp=Z,41nm,0.7s
EKA Eskdalemuir Ar 52.24 316 P P 06 52 10.6 -0.1
comp=Z,20nm,0.7s,baz=76,slow=6.4,SNR=45
comp=Z,20nm,0.7s
MJB9 Matsu-Tunnel 52.27 69 P P 06 52 11.8 +0.5
MJB9 IAmb IAmb 06 52 14.3
comp=Z,47nm,0.8s
MAJO Matsushiro 52.27 69 P P 06 52 11.6 +0.4
MAJO IAmb IAmb 06 52 13.3
comp=Z,50nm,0.8s
MAJO Matsushiro 52.27 69 P P 06 52 11.4 +0.2
MAJO Matsushiro 52.27 69 P P 06 52 11.6 +0.4
MAJO pmax pmax
comp=Z,50nm,0.8s
ESK Eskdalemuir 52.27 316 P P 06 52 11.0 +0.1
ESK pP pP 06 52 38.3 +1.2
MJAR Matsushiro Arr 52.27 69 P P 06 52 11.6 +0.4
comp=Z,34nm,0.9s,baz=291,slow=9.8,SNR=61
comp=Z,34nm,0.9s
JMIC Jan Mayen 52.28 336 LR LR 07 15 00.9
comp=Z,151nm,19.9s,baz=86,slow=36
KESW Keswick, Cumbr 52.38 315 *eP* P 06 52 11.9 +0.2
KESW IAmb IAmb 06 52 13.1
comp=Z,42nm,0.9s
INVG Invergeldie, C 52.50 317 *eP* P 06 52 12.2 -0.4
ASAJ Asahikawa 52.83 59 LR LR 07 15 42.0
comp=Z,190nm,20.2s,baz=270,slow=37
PGBU Glenifferbraes 52.87 317 *eP* P 06 52 15.6 +0.2
PGBU IAmb IAmb 06 52 16.6
comp=Z,89nm,0.8s
NEWG New Galloway 52.89 316 *eP* P 06 52 15.8 +0.3
NEWG IAmb IAmb 06 52 16.5
comp=Z,54nm,0.8s
CEST Esterri de Car 52.92 299 P P 06 52 16.0 -0.1
CEST IAmb IAmb 06 52 44.5
comp=Z,70nm,1.0s
MCH1 Michaelchurch 52.94 312 *eP* P 06 52 15.4 -0.5
MCH1 IAmb IAmb 06 52 16.5
comp=Z,42nm,0.7s
LLW Llanuwchllyn 53.12 313 *eP* P 06 52 17.5 +0.3
KPL Plockton 53.16 319 *eP* P 06 52 17.1 -0.2
KPL IAmb IAmb 06 52 18.1
comp=Z,72nm,0.9s
GAL1 Galloway 53.22 315 *eP* P 06 52 17.8 -0.1
MYLDM Lahad Datu 53.23 115 P P 06 52 20.8 +2.3
LAWE Loch Awe, Argy 53.27 317 *eP* P 06 52 18.6 +0.4
LAWE IAmb IAmb 06 52 19.2
comp=Z,65nm,1.1s
NOR Nord 53.35 349 *i* P P 06 52 18.2 -0.3
NOR IAmb IAmb 06 52 19.5
comp=Z,24nm,0.9s
MA2 Magadan 53.61 38 P P 06 52 21.0 +0.3
MA2 IAmb IAmb 06 52 22.2
comp=Z,35nm,0.9s
MA2 Magadan 53.61 38 LR LR 07 15 18.9
comp=Z,398nm,18.1s,baz=243,slow=36
MA2 Magadan 53.61 38 P P 06 52 21.3 +0.6
MA2 Magadan 53.61 38*c iP* P 06 52 20.9 +0.3
MA2 pmax pmax
comp=Z,36nm,0.8s
MA2 Magadan 53.61 38 P P 06 52 21.3 +0.6
MA2 PcP PcP 06 53 25.0 -0.8
JMM Marumori 53.70 67 P P 06 52 21.8 +0.1
JMM Marumori 53.70 67 P P 06 52 21.9 +0.3
ERM Erimo 53.91 61 P P 06 52 23.6 +0.5
ERM IAmb IAmb 06 52 32.4
comp=Z,35nm,0.7s
ERM Erimo 53.91 61 P P 06 52 23.6 +0.5
ERM pmax pmax
comp=Z,35nm,0.7s
DAG Danmarks Havn 54.34 344 P P 06 52 26.5 +0.8
DAG pmax pmax
comp=Z,79nm,1.0s
DAG Danmarks Havn 54.34 344 *i* P P 06 52 25.6 -0.2
DAG IAmb IAmb 06 52 27.1
comp=Z,77nm,1.1s
ILTH Belurgan, Co L 54.35 315 P P 06 52 25.9 -0.2
ILTH Belurgan, Co L 54.35 315 *eP* P 06 52 25.8 -0.3
DSB Dublin 54.59 314 P P 06 52 28.0 +0.1
IDGL Inch Island, C 54.73 316 P P 06 52 29.5 +0.7
IDGL Inch Island, C 54.73 316 *eP* P 06 52 29.6 +0.7
JHJ Hachijo jima 2 54.81 72 LR LR 07 17 56.0
comp=Z,122nm,18.5s,baz=306,slow=38
IWEX Carrickbyrne, 55.07 313 P P 06 52 32.2 +0.8
YUK Yuzh-Kuril'sk 55.07 58‖ *eP* P 06 52 33.6 +2.1
DBG Daneborg 55.23 341 *i* P P 06 52 32.9 +0.8
DBG IAmb IAmb 06 52 34.3
comp=Z,26nm,1.1s
IGLA Glengowla, Co 56.26 315 P P 06 52 40.1 +0.3
ESDC Sonseca Array 57.65 298 P P 06 52 49.4 -0.6
ESDC IAmb IAmb 06 53 18.2
comp=Z,43nm,1.1s
ESDC Sonseca Array 57.65 298 P P 06 52 49.8 -0.2
comp=Z,12nm,0.6s,baz=55,slow=7.5,SNR=104
comp=Z,12nm,0.6s
TOLI2 Tolitoli 57.67 117 P P 06 52 51.9 +1.6
PAB San Pablo 57.98 298 P P 06 52 50.6 -1.7
TAM Tamanrasset 57.99 276 P P 06 52 53.4 +0.7
BORG Borgarnes 58.38 330 LR LR 07 18 54.1
comp=Z,129nm,19.6s,baz=90,slow=37
ALE Alert 58.54 354 P P 06 52 56.1 +0.6
ALE PcP PcP 06 53 46.0 +1.4
PBRG Braganca 58.74 301 *eP* P 06 52 57.9 +0.4
PBRG *i* IAmb IAmb 06 53 04.2
comp=Z,31nm,2.1s
MVO Moncorvo 59.19 300 *eP* P 06 53 01.4 +0.7
MVO *i* IAmb IAmb 06 53 19.0
comp=Z,32nm,1.4s
MVO *ep*P pP 06 53 28.3 +0.8
PEA0B Petropavlovsk- 59.21 44‖ *iP* P 06 53 00.0 -0.5
PETK Petropavlovsk- 59.21 44 P P 06 52 59.9 -0.6
PETK Petropavlovsk- 59.21 44 P P 06 52 59.4 -1.2
comp=Z,9.0nm,0.6s,baz=292,slow=2.4,SNR=17
comp=Z,9.0nm,0.6s
PETK Petropavlovsk- 59.21 44 P P 06 52 59.9 -0.6
PVRL Vila Real 59.62 301 *ep*P pP 06 53 31.4 +1.0
POLO Lamas de Olo 59.63 301 *eP* P 06 53 04.2 +0.5
POLO *ep*P pP 06 53 31.6 +1.0
POLO *i* IAmb IAmb 06 53 59.7
comp=Z,41nm,1.6s
PCAB Cabril 59.66 301 *eP* P 06 53 04.7 +0.9
PCAB *i* IAmb IAmb 06 53 06.2
comp=Z,99nm,1.7s
PCAB *ep*P pP 06 53 32.0 +1.4
PGAV Gavieira, Arco 59.72 302 *eP* P 06 53 04.9 +0.6
PGAV *i* IAmb IAmb 06 53 13.9
comp=Z,89nm,1.7s
PGAV *ep*P pP 06 53 32.2 +1.1
PVIS Viseu 59.98 300 *eP* P 06 53 07.0 +1.0
PVIS *ep*P pP 06 53 34.0 +1.2
PCBR Castelo Branco 60.05 299 *ep*P pP 06 53 35.2 +1.9
PCBR *i* IAmb IAmb 06 53 35.5
comp=Z,44nm,1.3s
PMRV Marv??o 60.17 299 *eP* P 06 53 08.4 +1.1
PMRV *ep*P pP 06 53 35.3 +1.2
PMRV *i* IAmb IAmb 06 53 36.9
comp=Z,83nm,1.4s
PBAR Barrancos 60.46 297 *eP* P 06 53 10.0 +0.7
PBAR *ep*P pP 06 53 36.4 +0.3
PBAR *i* IAmb IAmb 06 53 38.2
comp=Z,122nm,1.2s
PESTR Estremoz 60.55 298 *eP* P 06 53 10.7 +0.7
PESTR *ep*P pP 06 53 37.2 +0.4
PESTR *i* IAmb IAmb 06 53 38.7
comp=Z,70nm,1.0s
COI Coimbra 60.55 300 *eP* P 06 53 10.6 +0.8
COI *ep*P pP 06 53 37.8 +1.1
COI *i* IAmb IAmb 06 53 39.2
comp=Z,119nm,1.4s
NEEM North Greenlan 60.60 348 *i* P P 06 53 10.1 +0.1
NEEM IAmb IAmb 06 53 11.6
comp=Z,72nm,0.8s
PSARD Sardoal 60.63 299 *eP* P 06 53 11.6 +1.1
PSARD *ep*P pP 06 53 38.1 +0.8
PSARD *i* IAmb IAmb 06 53 39.6
comp=Z,87nm,1.2s
PCAS Casmilo, Conde 60.67 300 *ep*P pP 06 53 38.7 +1.1

SUMG Summit 60.70 341 P P 06 53 11.5 +0.6
SUMG Summit 60.70 341 P P 06 53 11.5 +0.6
SUMG pmax pmax
comp=Z,110nm,0.8s
SOEG Soedalen 60.70 335 *i* P P 06 53 10.7 +0.3
SOEG IAmb IAmb 06 53 12.7
comp=Z,45nm,1.0s
PMTG Montargil 60.91 299 *e*P P 06 53 12.9 +0.6
PMTG *e*pP **pP** 06 53 39.7 +0.5
PMTG *i* IAmb IAmb 06 53 41.1
comp=Z,38nm,1.3s
EVO Evora 60.99 298 *e*P P 06 53 13.5 +0.6
EVO *e*pP **pP** 06 53 39.9 +0.2
EVO *i* IAmb IAmb 06 53 42.6
comp=Z,56nm,1.5s
PBEJ Beja 61.11 298 *e*P P 06 53 14.3 +0.6
PBEJ *e*pP **pP** 06 53 41.5 +1.0
PBEJ *i* IAmb IAmb 06 53 43.3
comp=Z,91nm,1.2s
PVAQ Vaqueiros 61.28 297 P P 06 53 14.7 -0.1
PVAQ Vaqueiros 61.28 297 *e*P P 06 53 15.6 +0.8
PVAQ *e*pP **pP** 06 53 42.5 +0.8
PVAQ *i* IAmb IAmb 06 53 43.8
comp=Z,121nm,1.1s
KAPI Kappang 61.31 122 P P 06 53 15.6 +0.3
KAPI Kappang 61.31 122‖ *e*P P 06 53 15.4 +0.1
KAPI pmax pmax
comp=Z,28nm,0.8s
KAPI Kappang 61.31 122 P P 06 53 15.4 +0.1
KAPI pP **pP** 06 53 46.5 +4.2
PCVE Castro Verde 61.40 297 *e*P P 06 53 16.5 +0.8
PCVE *e*pP **pP** 06 53 43.0 +0.4
PCVE *i* IAmb IAmb 06 53 44.6
comp=Z,49nm,1.4s
MESJ Messejana 61.44 297 *e*P P 06 53 16.4 +0.4
MESJ IAmb IAmb 06 53 17.9
comp=Z,26nm,1.0s
MESJ *e*pP **pP** 06 53 42.2 -0.6
MESJ Messejana 61.44 297 *e*P P 06 53 17.0 +1.1
MESJ *e*pP **pP** 06 53 43.7 +0.9
MESJ *i* IAmb IAmb 06 53 45.6
comp=Z,84nm,1.2s
MESJ Messejana 61.44 297 *e*P P 06 53 16.4 +0.4
MESJ *e**PP **pP** 06 53 42.2 -0.6
PBDV Barranco-do-Ve 61.50 297 *e*P P 06 53 17.2 +0.8
PBDV *e*pP **pP** 06 53 44.3 +1.0
PBDV *i* IAmb IAmb 06 53 45.5
comp=Z,150nm,1.1s
PARRA Arraiolos 61.59 299 *e*P P 06 53 13.6 -3.4
PARRA *e*pP **pP** 06 53 39.5 -4.3
PARRA *i* IAmb IAmb 06 53 40.9
comp=Z,32nm,1.2s
PMAFR Mafra 61.70 299 *e*pP pP 06 53 45.6 +1.0
PTEO Sao Teotonio 61.93 297 *e*P P 06 53 20.0 +0.7
PTEO *e*pP **pP** 06 53 47.1 +1.0
PTEO *i* IAmb IAmb 06 53 48.4
comp=Z,156nm,1.3s
PFVI Vila Bisbo 62.19 297 *e*pP pP 06 53 48.5 +0.7
TNTI Ternate 62.71 112 P P 06 53 25.8 +1.1
SANI Sanana 63.60 115 P P 06 53 31.4 +0.9
KULLO Kullorsuaq 63.65 347 *i* P P 06 53 29.9 -0.1
KULLO IAmb IAmb 06 53 31.4
comp=Z,70nm,0.8s
TULEG Thule 63.97 350 *i* P P 06 53 31.5 -0.6
TULEG IAmb IAmb 06 53 33.2
comp=Z,178nm,1.4s
ANGG Ammassalik, Gr 64.14 334 P P 06 53 33.6 +0.3
ANGG Ammassalik, Gr 64.14 334 *i* P P 06 53 33.1 -0.2
ANGG IAmb IAmb 06 53 34.9
comp=Z,77nm,0.9s
ISOG Isortoq, Green 64.64 334 *i* P P 06 53 35.7 -0.9
ISOG IAmb IAmb 06 53 37.4
comp=Z,27nm,0.9s
UPNV Upernavik 64.73 345 *i* P P 06 53 37.3 +0.2
UPNV IAmb IAmb 06 53 38.5
comp=Z,53nm,0.7s
UMMG Uummannaq 65.30 342 *i* P P 06 53 40.5 -0.3
UMMG IAmb IAmb 06 53 42.0
comp=Z,32nm,0.8s
ILULI Ilulissat 66.05 341 P P 06 53 46.0 +0.4
ILULI Ilulissat 66.05 341 P P 06 53 46.0 +0.4
ILULI pmax pmax
comp=Z,123nm,0.8s
ILULI Ilulissat 66.05 341 *i* P P 06 53 45.9 +0.3
ILULI IAmb IAmb 06 53 47.1
comp=Z,116nm,0.7s
LSZ Lusaka 66.21 226 P P 06 53 47.5 +0.1
LSZ IAmb IAmb 06 53 48.6
comp=Z,30nm,0.7s
LSZ Lusaka 66.21 226 LR LR 07 26 22.4
comp=Z,68nm,18.3s,baz=63,slow=39
LSZ Lusaka 66.21 226 P P 06 53 47.6 +0.1
LSZ pmax pmax
comp=Z,30nm,0.7s
LSZ Lusaka 66.21 226 P P 06 53 47.7 +0.2
LSZ pP **pP** 06 54 16.0 +1.2
TORD Torodi Ar. Bea 66.24 269 P P 06 53 46.7 -1.1
TORD Torodi Ar. Bea 66.24 269 P P 06 53 46.6 -1.1
comp=Z,14nm,0.6s,baz=36,slow=6.3,SNR=16
comp=Z,14nm,0.6s
A19K Wainwright 66.48 17 P P 06 53 49.3 +1.0
baz=316,SNR=5.0
A21K Barrow 66.64 15 P P 06 53 49.9 +0.5
baz=320
GDH Godhavn 66.65 342 *i* P P 06 53 49.1 -0.3
GDH IAmb IAmb 06 53 50.6
comp=Z,62nm,1.1s
C16K Lisburne Hills 66.76 20 P P 06 53 50.6 +0.4
baz=313,SNR=20
B18K Kokolik River 66.91 18 P P 06 53 52.3 +1.2
baz=316,SNR=18
C17K DeLong Mountai 67.20 19 P P 06 53 53.8 +0.8
baz=315,SNR=23
A22K Sinclair Lake 67.23 15 P P 06 53 53.9 +0.8
baz=321
SFJD Kangerlussuaq 67.42 339 P P 06 53 54.8 +0.4
SFJD IAmb IAmb 06 53 55.7
comp=Z,56nm,0.9s
SFJD Kangerlussuaq 67.42 339 LR LR 07 23 44.1
comp=Z,112nm,20.7s,baz=52,slow=36
SFJD Kangerlussuaq 67.42 339 P P 06 53 54.8 +0.4
SFJD pmax pmax
comp=Z,56nm,0.9s
SFJD Kangerlussuaq 67.42 339 *i* P P 06 53 53.9 -0.5
SFJD IAmb IAmb 06 53 55.4
comp=Z,59nm,0.9s
SFJD Kangerlussuaq 67.42 339 P P 06 53 54.9 +0.5
B20K Meade River 67.53 16 P P 06 53 55.7 +0.7
baz=320
RDOG Red Dog Mine 67.57 19 P P 06 53 55.4 +0.1
baz=315
C18K Utukok River 67.58 18 P P 06 53 55.8 +0.3
C18K IAmb IAmb 06 53 56.9
comp=Z,82nm,0.9s
C18K Utukok River 67.58 18 P P 06 53 56.0 +0.5
baz=317,SNR=32
C19K Lookout Ridge 67.64 18 P P 06 53 56.9 +1.0
baz=318,SNR=68
D17K Noatak River 67.77 20 P P 06 53 57.1 +0.5
baz=315,SNR=75
GAMB Gambell 67.78 25 P P 06 53 56.7 0.0
GAMB Gambell 67.78 25 P P 06 53 57.2 +0.5
baz=310,SNR=12
SOEI Soe 67.81 122 P P 06 53 57.2 -0.5
SOEI Soe 67.81 122 P P 06 53 58.8 +1.1
comp=Z,134nm,0.7s
TNA Tin City 67.85 23 P P 06 53 57.5 +0.4
TNA Tin City 67.85 23 P P 06 53 57.8 +0.7
baz=312,SNR=14
B22K Teshekpuk Lake 68.08 15 P P 06 53 59.3 +0.8
baz=322
RES Resolute Bay 68.18 356 P P 06 53 58.9 -0.1
RES Resolute Bay 68.18 356 P P 06 53 58.9 -0.1
RES pmax pmax
comp=Z,21nm,0.7s
SHEM Shemya Is, Ala 68.20 40 LR LR 07 24 02.7
comp=Z,79nm,19.5s,baz=294,slow=36
B21K Ikpikpuk River 68.39 16 P P 06 54 00.8 +0.4
B21K Ikpikpuk River 68.39 16 P P 06 54 01.3 +0.9
baz=322,SNR=36
F14K Arctic Creek 68.40 22 P P 06 54 01.6 +1.0
baz=313
D19K Kuna River 68.46 18 P P 06 54 01.1 +0.2
D19K Kuna River 68.46 18 P P 06 54 01.4 +0.5
baz=319,SNR=97

POIN Pond Inlet 68.52 351 P P 06 54 02.1 +0.9
POIN IAmb IAmb 06 54 03.0
comp=Z,50nm,0.8s
E17K Hotham Inlet 68.56 20 P P 06 54 01.8 +0.3
baz=316,SNR=25
E18K Tukpahlearik C 68.63 19 P P 06 54 02.5 +0.6
baz=317,SNR=71
D20K Etivluk River 68.65 17 P P 06 54 02.4 +0.3
D20K Etivluk River 68.65 17 P P 06 54 02.6 +0.5
baz=320,SNR=45
C21K Knifeblade Rid 68.72 16 P P 06 54 03.3 +0.8
baz=322,SNR=27
F15K North Star Dit 68.74 22 P P 06 54 03.4 +0.8
F15K North Star Dit 68.74 22 P P 06 54 03.6 +0.9
baz=315,SNR=95
FAKI Fak Fak 68.79 111 P P 06 54 04.3 +0.6
FAKI IAmb IAmb 06 54 05.7
comp=Z,162nm,1.8s
FAKI Fak Fak 68.79 111 P P 06 54 04.4 +0.6
C23K Itkillik River 69.06 14 P P 06 54 05.0 +0.5
C23K Itkillik River 69.06 14 P P 06 54 05.7 +1.2
baz=325,SNR=36
E20K Nigu River 69.10 17 P P 06 54 05.5 +0.6
baz=321,SNR=96
F17K Baldwin Pennin 69.18 20 P P 06 54 06.3 +0.9
baz=317,SNR=42
ANM Nome 69.32 23 P P 06 54 06.7 +0.4
ANM IAmb IAmb 06 54 08.4
comp=Z,46nm,0.8s
ANM Nome 69.32 23 P P 06 54 06.7 +0.4
ANM pmax pmax
comp=Z,46nm,0.8s
ANM Nome 69.32 23 P P 06 54 07.3 +1.1
baz=314,SNR=15
D22K Ayikyak River 69.40 16 P P 06 54 07.1 +0.3
D22K IAmb IAmb 06 54 08.5
comp=Z,87nm,1.1s
D22K Ayikyak River 69.40 16 P P 06 54 07.4 +0.7
baz=324,SNR=34
G15K Niuluk 69.43 22 P P 06 54 07.6 +0.7
baz=315,SNR=37
E19K Redstone River 69.47 18 P P 06 54 07.4 +0.2
baz=320,SNR=45
E21K Killik River 69.47 16 P P 06 54 07.4 +0.3
baz=322
F18K Selawik 69.50 19 P P 06 54 07.7 +0.4
baz=318,SNR=58
C24K Franklin Bluff 69.53 14 P P 06 54 08.4 +1.0
baz=327
NRS Narsarsuaq 69.61 333 P P 06 54 08.3 +0.2
NRS IAmb IAmb 06 54 09.6
comp=Z,62nm,0.8s
NRS Narsarsuaq 69.61 333 P P 06 54 08.3 +0.2
NRS pmax pmax
comp=Z,62nm,0.8s
NRS Narsarsuaq 69.61 333 *i* P P 06 54 08.0 -0.1
NRS IAmb IAmb 06 54 09.5
comp=Z,57nm,0.7s
G16K Koyuk River 69.64 21 P P 06 54 09.0 +0.9
baz=316
NUUK Nuuk 69.71 337 *i* P P 06 54 08.3 -0.3
NUUK IAmb IAmb 06 54 09.8
comp=Z,37nm,0.9s
D23K Nanushuk River 69.76 15 P P 06 54 09.6 +0.7
baz=325
F19K Shaleruckik Mo 69.81 19 P P 06 54 08.5 -0.7
F19K Shaleruckik Mo 69.81 19 P P 06 54 08.9 -0.3
baz=320,SNR=28
KSANE Kasane 69.97 227 P P 06 54 11.5 +0.5
KSANE IAmb IAmb 06 54 41.0
comp=Z,36nm,0.9s
D24K Happy Valley 69.98 14 P P 06 54 10.9 +0.7
baz=327,SNR=7.9
G17K Kiwalik Mounta 70.04 21 P P 06 54 11.2 +0.5
baz=318,SNR=65
C26K Camden Bay 70.05 13 P P 06 54 12.1 +1.4
baz=330,SNR=6.0
PMAR Madeira 70.13 296 *e*P P 06 54 13.1 +1.1
PMAR *e*pP **pP** 06 54 40.6 +1.1
PMAR *i* IAmb IAmb 06 54 42.4
comp=Z,323nm,1.3s
F20K Avaraart Lake 70.16 18 P P 06 54 11.2 -0.1
baz=321
MATP Matopo 70.17 223 LR LR 07 26 31.2
comp=Z,39nm,18.7s,baz=62,slow=37
E22K Anaktuvuk Pass 70.20 16 P P 06 54 11.7 0.0
E22K IAmb IAmb 06 54 13.0
comp=Z,72nm,1.1s
E22K Anaktuvuk Pass 70.20 16 P P 06 54 11.9 +0.3
baz=324,SNR=48
H16K Elim 70.22 22 P P 06 54 12.4 +0.7
baz=317,SNR=23
TOLK Toolik Lake Re 70.25 15 P P 06 54 12.1 +0.1
TOLK Toolik Lake Re 70.25 15 P P 06 54 12.7 +0.7
baz=326,SNR=76
PMOZ Porto Moniz, M 70.28 297 *e*pP **pP** 06 54 41.0 +0.8
PMOZ *i* IAmb IAmb 06 54 43.1
comp=Z,159nm,1.4s
G18K Tagagawik 70.29 20 P P 06 54 11.8 -0.5
G18K Tagagawik 70.29 20 P P 06 54 12.1 -0.1
baz=319,SNR=21
D25K Kavik River 70.30 13 P P 06 54 13.2 +1.0
baz=329,SNR=76
C27K Jago River 70.52 12 P P 06 54 14.9 +1.4
baz=331,SNR=48
G19K Purcell Mounta 70.52 19 P P 06 54 13.9 +0.3
baz=320,SNR=70
F21K Alatna River 70.56 17 P P 06 54 14.2 +0.3
baz=323
IVI Ivlut 70.58 334 P P 06 54 14.4 +0.5
A36M Sachs Harbour 70.60 5 P P 06 54 14.8 +0.9
baz=346,SNR=195
F22K John River 70.62 16 P P 06 54 15.1 +0.8
baz=324
H17K Granite Mounta 70.67 21 P P 06 54 15.2 +0.6
baz=319,SNR=38
E23K Chandalar 70.73 15 P P 06 54 15.5 +0.6
baz=326,SNR=46
H18K Honhosa River 70.94 20 P P 06 54 16.4 +0.2
baz=320,SNR=27
E24K Your Creek 70.95 15 P P 06 54 16.9 +0.7
baz=327
G21K Allakaket 71.12 17 P P 06 54 16.2 -1.0
G21K IAmb IAmb 06 54 18.0
comp=Z,44nm,0.8s
G21K Allakaket 71.12 17 P P 06 54 17.0 -0.2
baz=323,SNR=45
H19K Roundabout Mou 71.16 19 P P 06 54 18.0 +0.6
baz=321,SNR=65
J14K Nanvaranak Lak 71.19 24 P P 06 54 18.2 +0.5
J14K IAmb IAmb 06 54 19.1
comp=Z,49nm,0.6s
J14K Nanvaranak Lak 71.19 24 P P 06 54 18.6 +1.0
baz=316,SNR=51
I17K Unalakleet 71.23 22 P P 06 54 18.1 +0.2
I17K IAmb IAmb 06 54 20.0
comp=Z,47nm,1.1s
I17K Unalakleet 71.23 22 P P 06 54 19.0 +1.1
baz=318,SNR=13
G22K Bettles 71.26 17 P P 06 54 18.2 +0.2
baz=325
COLD Coldfoot 71.30 16 P P 06 54 18.0 -0.2
COLD IAmb IAmb 06 54 19.9
comp=Z,99nm,1.1s
COLD Coldfoot 71.30 16 P P 06 54 18.8 +0.6
baz=326,SNR=22
D27M Malcolm River 71.31 12 P P 06 54 19.5 +1.1
baz=333
K13K Kusilvak Mount 71.42 25 P P 06 54 19.9 +0.9
baz=316,SNR=30
F24K Squaw Lake 71.54 15 P P 06 54 20.4 +0.6
baz=328,SNR=18
D28M Stokes Point 71.59 11 P P 06 54 21.4 +1.5
baz=335
H20K Anotleneega Mo 71.59 19 P P 06 54 20.4 +0.2
baz=322,SNR=112
GCSA Galena City Sc 71.66 20 P P 06 54 21.1 +0.7
baz=321,SNR=40
J16K Anvik River 71.71 22 P P 06 54 21.9 +1.0
baz=318,SNR=48
G23K Bananza Creek 71.76 16 P P 06 54 21.6 +0.4
baz=326,SNR=45
F25K Christian River 71.93 14 P P 06 54 23.2 +1.1
baz=330,SNR=71
H21K Melozitna River 71.98 18 P P 06 54 22.8 +0.3
baz=324,SNR=72
M11K Mekoryuk 71.98 26 P P 06 54 24.0 +1.6
baz=315,SNR=7.2
J17K VABM Dome 72.08 21 P P 06 54 23.6 +0.6
baz=320,SNR=20
E28M Babbage River 72.12 12 P P 06 54 23.9 +0.7
E28M IAmb IAmb 06 54 24.9
comp=Z,37nm,0.8s
E28M Babbage River 72.12 12 P P 06 54 24.3 +1.1
baz=334,SNR=48
F26K Sheenjek River 72.13 14 P P 06 54 24.0 +0.7
baz=331,SNR=38
H22K Ishtalitna Cre 72.13 17 P P 06 54 23.9 +0.6
baz=325,SNR=35
E27K Coleen River 72.15 12 P P 06 54 24.5 +1.1
baz=333,SNR=58
K15K Wolf Creek Mou 72.16 23 P P 06 54 24.3 +0.7
K15K Wolf Creek Mou 72.16 23 P P 06 54 24.9 +1.3
baz=318,SNR=23
I20K Naaghedeneel 72.25 19 P P 06 54 24.1 +0.1
I20K IAmb IAmb 06 54 25.8
comp=Z,112nm,1.1s
I20K Naaghedeneel 72.25 19 P P 06 54 24.9 +0.9
baz=323,SNR=37
G24K Hadweenzic Riv 72.33 15 P P 06 54 25.4 +0.9
baz=328,SNR=54
L14K Kuka Creek 72.50 24 P P 06 54 26.3 +0.8
L14K IAmb IAmb 06 54 27.7
comp=Z,49nm,0.8s
L14K Kuka Creek 72.50 24 P P 06 54 26.8 +1.3
baz=317,SNR=38
G25K Bearman Lake 72.55 15 P P 06 54 27.1 +1.3
baz=329,SNR=40
I21K Tanana 72.57 18 P P 06 54 26.5 +0.6
baz=325,SNR=20
E29M Blow River 72.57 11 P P 06 54 26.9 +1.1
baz=336,SNR=78
J19K Poorman 72.59 20 P P 06 54 26.8 +0.7
baz=322,SNR=86
H23K Yukon River 72.61 17 P P 06 54 27.2 +1.1
baz=327,SNR=88
L15K Ungalak Mounta 72.63 24 P P 06 54 27.2 +0.9
baz=318,SNR=19
SPIA Saint Paul Isl 72.67 30 P P 06 54 27.2 +0.7
baz=312
J18K Innoko River 72.70 21 P P 06 54 26.8 0.0
J18K IAmb IAmb 06 54 28.2
comp=Z,40nm,0.8s
J18K Innoko River 72.70 21 P P 06 54 27.3 +0.6
baz=321,SNR=64
K17K Iditarod 72.83 22 P P 06 54 27.8 +0.3
K17K IAmb IAmb 06 54 29.3
comp=Z,81nm,0.9s
K17K Iditarod 72.83 22 P P 06 54 28.4 +0.9
baz=320,SNR=78
J20K Nowinta River 72.84 19 P P 06 54 28.0 +0.5
J20K IAmb IAmb 06 54 29.2
comp=Z,62nm,0.8s
J20K Nowinta River 72.84 19 P P 06 54 28.2 +0.7
baz=323,SNR=99
G26K Porcupine Rive 72.85 14 P P 06 54 28.6 +1.1
baz=331,SNR=22
M13K Dall Lake 72.95 25 P P 06 54 30.0 +1.8
baz=317,SNR=12
F28M Old Crow 72.96 12 P P 06 54 29.1 +0.9
baz=334,SNR=44
H24K Noodor Dome 72.97 16 P P 06 54 28.9 +0.5
H24K IAmb IAmb 06 54 30.2
comp=Z,43nm,0.8s
H24K Noodor Dome 72.97 16 P P 06 54 29.2 +0.9
baz=328,SNR=61
MLY Manley 73.00 17 P P 06 54 28.5 0.0
MLY Manley 73.00 17 P P 06 54 28.9 +0.4
baz=326,SNR=48
H25L Birch Creek 73.04 15 P P 06 54 29.8 +1.2
baz=330,SNR=15
M14K Bethel 73.17 24 P P 06 54 30.2 +0.8
M14K Bethel 73.17 24 P P 06 54 30.8 +1.3
baz=318,SNR=64
I23K Minto, Yukon-K 73.22 17 P P 06 54 30.1 +0.4
I23K IAmb IAmb 06 54 31.5
comp=Z,57nm,0.9s
I23K Minto, Yukon-K 73.22 17 P P 06 54 30.4 +0.7
baz=327,SNR=71
INK Inuvik 73.27 10 LR LR 07 29 52.0
comp=Z,34nm,19.4s,baz=45,slow=38
INK Inuvik 73.27 10 P P 06 54 30.6 +0.7
INK Inuvik 73.27 10 P P 06 54 30.6 +0.7
baz=339,SNR=111
L17K Donlin 73.28 22 P P 06 54 31.2 +1.1
baz=320,SNR=32
ADK Adak 73.28 37 P P 06 54 28.2 -2.1
P08K Saint George I 73.34 30 P P 06 54 31.9 +1.3
baz=313
G27K Doyon Strip 73.37 13 P P 06 54 31.7 +1.0
baz=333,SNR=78
K20K Telida 73.52 20 P P 06 54 32.4 +0.8
baz=324,SNR=118
MBWA Marble Bar 73.54 134 P P 06 54 32.3 +0.2
MBWA IAmb IAmb 06 54 33.1
comp=Z,44nm,0.8s
MBWA Marble Bar 73.54 134 P P 06 54 32.1 -0.1
comp=Z,69nm,1.0s
MBWA Marble Bar 73.54 134 P P 06 54 32.7 +0.6
CHUM Lake Minchumin 73.55 19 P P 06 54 32.3 +0.6
baz=325,SNR=73
F30M Barrier River 73.61 11 P P 06 54 32.9 +0.9
baz=338,SNR=52
M15K Kasigluk River 73.63 24 P P 06 54 33.4 +1.2
baz=319,SNR=45
POKR Poker Plat Res 73.69 16 P P 06 54 33.2 +0.7
baz=328,SNR=16
L18K Granite Mounta 73.69 21 P P 06 54 33.2 +0.7
baz=322,SNR=40
BPAW Bear Paw Mtn. 73.71 18 P P 06 54 32.7 +0.1
baz=326,SNR=58
PRP Porcupine Dome 73.75 15 P P 06 54 33.8 +0.8
baz=330,SNR=29
NEA2 Nenana 73.76 17 P P 06 54 33.1 +0.2
baz=327,SNR=57
COLA College 73.80 16 P P 06 54 33.7 +0.6
COLA College 73.80 16*c* *i* P P 06 54 33.2 +0.1
COLA pmax pmax
comp=Z,126nm,0.9s
COLA College 73.80 16 P P 06 54 33.5 +0.4
baz=328
N14K Kuskokwak Cree 73.88 25 P P 06 54 34.9 +1.3
baz=318,SNR=16
G29M Pine Creek 73.90 12 P P 06 54 33.7 0.0
G29M Pine Creek 73.90 12 P P 06 54 34.5 +0.8
baz=336,SNR=33
H27K Steamboat Moun 73.91 13 P P 06 54 34.8 +1.0
baz=333,SNR=76
M16K Timber Creek 73.93 23 P P 06 54 35.4 +1.4
baz=320,SNR=27
CAST Castle Rocks 73.99 19 P P 06 54 34.7 +0.4
baz=325,SNR=170
F31M Tsiigehtchic 74.06 10 P P 06 54 35.0 +0.5
baz=339,SNR=20
ILAR Eielson Array 74.10 16 P P 06 54 34.4 -0.5
comp=Z,29nm,0.9s,baz=319,slow=4.8,SNR=181
ILAR PP PP 06 57 22.9 +2.0
comp=Z,6.6nm,0.9s,baz=320,slow=7.5,SNR=4.4
ILAR LR LR 07 31 00.9
comp=Z,49nm,18.5s,baz=330,slow=39
comp=Z,29nm,0.9s
M17K Holitna River 74.11 22 P P 06 54 36.3 +1.3
baz=321,SNR=41
G30M tAoh Zraii Nji 74.12 11 P P 06 54 35.2 +0.1
baz=337,SNR=42
N15K Kwethluk River 74.22 24 P P 06 54 37.1 +1.4
baz=319,SNR=18
L19K White Mountain 74.24 21 P P 06 54 36.6 +0.8
baz=323,SNR=46
DRS Darwin Rock St 74.27 119 P P 06 54 37.1 +0.5
L20K Farewell, AK 74.28 20 P P 06 54 36.4 +0.4
baz=324,SNR=65
PPLA Purkeypile 74.39 19 P P 06 54 36.9 +0.1
baz=325,SNR=43
HDA Harding Lake 74.40 16 P P 06 54 35.8 -0.9
baz=329,SNR=26
N16K Nishlik Lake 74.41 23 P P 06 54 38.3 +1.5
baz=320,SNR=33
TRF Thorofare Moun 74.42 18 P P 06 54 36.5 -0.5
baz=326,SNR=26
I26K Coal Creek Min 74.42 14 P P 06 54 37.3 +0.5
baz=332
I27K Kandik River 74.46 14 P P 06 54 37.7 +0.7
baz=333,SNR=56

G31M	**Satah River** baz=339,SNR=61	74.47	10	P		P	06 54 37.4	+0.4
H29M	**Whitestone** baz=336,SNR=96	74.48	12	P		P	06 54 38.0	+0.9
M18K	**Stony River** baz=322,SNR=28	74.52	22	P		P	06 54 38.1	+0.8
MCK	**McKinley** baz=328,SNR=31	74.52	17	P		P	06 54 37.4	+0.1
O14K	**Tigyukauivet M** baz=319,SNR=5.2	74.52	25	P		P	06 54 38.4	+1.0
J25K	**Salcha River,** baz=330,SNR=66	74.57	16	P		P	06 54 37.4	-0.3
M19K	**Big River Lodg** baz=324,SNR=26	74.60	21	P		P	06 54 38.8	+1.0
GENI	**Genyem**	74.60	105	P		P	06 54 40.1	+1.5
EPYK	**Eagle Plains** baz=337,SNR=26	74.61	11	P		P	06 54 37.9	0.0
N17K	**Nushagak Hills** baz=322,SNR=22	74.87	23	P		P	06 54 40.8	+1.4
I28M	**Miner Creek** baz=334,SNR=83	74.91	13	P		P	06 54 40.0	+0.3
JAY	**Jayapura** comp=Z,61nm,20.9s,baz=350,slow=38	74.97	105	LR		LR	07 30 03.4	
M20K	**Styx River** baz=324	74.97	20	P		P	06 54 40.0	-0.1
J26L	**Joseph Creek** baz=332,SNR=83	75.05	15	P		P	06 54 40.7	+0.2
O15K	**Ungalikthiuk R** baz=320,SNR=17	75.06	25	P		P	06 54 41.5	+1.0
KNRA	**Kununurra** comp=Z,76nm,0.8s	75.10	123	P		P	06 54 41.6	+0.3
N18K	**Kilae Creek** baz=323,SNR=17	75.14	22	P		P	06 54 42.1	+1.1
K24K	**Donnelly Dome** baz=330,SNR=76	75.19	16	P		P	06 54 40.8	-0.4
DBIC	**Dimbokro** comp=Z,4.2nm,0.6s,baz=76,slow=5.3,SNR=7.0	75.24	267	P		P	06 54 41.7	-0.6
DBIC	comp=Z,89nm,20.7s,baz=91,slow=38 comp=Z,4.2nm,0.6s			LR		LR	07 31 27.8	
I29M	**Ogilvie Camp,** baz=336	75.28	12	P		P	06 54 41.6	-0.1
CUT	**Chulitna** baz=327,SNR=15	75.30	19	P		P	06 54 41.2	-0.6
O16K	**Kokwok River B** baz=321,SNR=33	75.31	24	P		P	06 54 43.4	+1.4
SKT	**Skwentna** baz=326,SNR=96	75.32	20	P		P	06 54 41.6	-0.4
SCRK	**Sand Creek** baz=331,SNR=73	75.42	15	P		P	06 54 42.9	+0.2
LBTB	**Lobatse** comp=Z,43nm,18.7s,baz=33,slow=36	75.44	222	LR		LR	07 29 08.0	
RIDG	**Independent Ri** baz=331,SNR=96	75.45	16	P		P	06 54 42.3	-0.5
N19K	**Bonanza Creek** baz=324,SNR=25	75.45	21	P		P	06 54 43.5	+0.6
O17K	**Koliganek Bris** baz=322,SNR=18	75.49	23	P		P	06 54 44.0	+1.0
H31M	**Peel River** baz=339,SNR=88	75.50	11	P		P	06 54 43.3	+0.3
KDU	**Kakadu**	75.55	118	P		P	06 54 44.2	+0.3
TSUM	**Tsumeb** comp=Z,106nm,19.1s,baz=144,slow=39	75.66	232	LR		LR	07 32 06.3	
I30M	**Mount Dempster** baz=337,SNR=134	75.73	12	P		P	06 54 44.7	+0.3
K27K	**Chicken** baz=333	75.77	15	P		P	06 54 45.4	+0.8
N20K	**Mount Spurr** baz=325	75.78	20	P		P	06 54 44.3	-0.4
P16K	**Nushagak River** baz=321	75.78	24	P		P	06 54 45.6	+1.0
SPCR	**Spurr Chakacha** baz=325	75.78	20	P		P	06 54 44.1	-0.6
M22K	**Willow** baz=327,SNR=20	75.88	19	P		P	06 54 44.6	-0.6
SUA	**Susitna One** baz=326,SNR=51	75.96	19	P		P	06 54 45.5	-0.3
PAX	**Paxson** baz=330,SNR=78	75.98	17	P		P	06 54 45.8	0.0
O19K	**Port Alsworth** baz=324,SNR=5.4	76.00	22	P		P	06 54 46.4	+0.6
O18K	**Koktuh Hills** baz=323,SNR=9.8	76.00	22	P		P	06 54 47.1	+1.2
J29N	**Klondike Camp** baz=336	76.12	13	P		P	06 54 47.4	+0.8
NIKH	**Nikolski High** baz=314	76.14	33	P		P	06 54 44.8	-1.9
P17K	**Kvichak River** baz=322,SNR=30	76.15	23	P		P	06 54 48.0	+1.3
DAWY	**Dawson** baz=335,SNR=80	76.26	13	P		P	06 54 47.7	+0.3
PMR	**Palmer**	76.28	19	P		P	06 54 47.0	-0.3
PMR	**Palmer** baz=328,SNR=31	76.28	19	P		P	06 54 47.1	-0.3
J30M	**Hart River** baz=337,SNR=71	76.33	12	P		P	06 54 48.5	+0.7
P18K	**Big Mountain,** baz=323,SNR=13	76.37	23	P		P	06 54 48.7	+0.6
MENT	**Mentasta**	76.40	16	P		P	06 54 48.9	+0.8
L26K	**Log Cabin Wild** baz=332,SNR=23	76.40	16	P		P	06 54 48.6	+0.5
CAPN	**Captain Cook N** baz=326	76.43	20	P		P	06 54 48.1	-0.2
M23K	**Glacier View** baz=329,SNR=62	76.46	18	P		P	06 54 48.2	-0.3
Q16K	**King Salmon** baz=322,SNR=19	76.49	24	P		P	06 54 49.6	+1.0
UNV	**Unalaska Valle**	76.52	31	P		P	06 54 48.2	-0.7
UNV	**Unalaska Valle** baz=316	76.52	31	P		P	06 54 47.5	-1.3
SCM	**Sheep Creek Mo** baz=329,SNR=42	76.52	18	P		P	06 54 49.0	+0.1
RC01	**Rabbit Creek A** baz=327,SNR=25	76.54	19	P		P	06 54 48.7	-0.2
HARP	**HAARP** baz=331,SNR=63	76.55	17	P		P	06 54 50.0	+1.0
M24K	**Tolsona, Glenn** baz=330,SNR=40	76.57	17	P		P	06 54 50.0	+0.8
O20K	**Slope Mountain** baz=325,SNR=8.0	76.58	21	P		P	06 54 48.5	-0.8
KNK	**Knik Glacier** baz=328,SNR=5.3	76.60	19	P		P	06 54 49.4	+0.2
L27K	**Beaver Creek,** baz=333,SNR=59	76.69	15	P		P	06 54 50.7	+0.9
P19K	**Oil Pt** baz=325,SNR=6.0	76.76	22	P		P	06 54 49.6	-0.6
K29M	**Barlow Dome** baz=337,SNR=92	76.81	13	P		P	06 54 51.2	+0.7
S12K	**Black Hills** baz=319	76.91	28	P		P	06 54 50.4	-0.7
M26K	**Nabesna, AK** baz=332,SNR=12	77.03	16	P		P	06 54 52.2	+0.5
Q18K	**Katmai Hardscr** baz=324,SNR=13	77.03	23	P		P	06 54 51.2	-0.7
O22K	**Cooper Landing** baz=327	77.06	20	P		P	06 54 51.4	-0.4
R16K	**Pilot Point** baz=322	77.06	25	P		P	06 54 51.6	-0.3
Q17K	**Contact Creek** baz=323	77.07	24	P		P	06 54 51.5	-0.6
PWL	**Port Wells** baz=328,SNR=12	77.10	19	P		P	06 54 51.9	-0.2
KLU	**Klutina** baz=330,SNR=29	77.16	17	P		P	06 54 53.0	+0.5
HOM	**Homer** baz=326	77.22	21	P		P	06 54 52.7	0.0
Q19K	**Cape Douglas,** baz=324	77.23	22	P		P	06 54 51.3	-1.5
MEEK	**Meekatharra** comp=Z,63nm,0.8s	77.23	138	P		P	06 54 53.0	-0.3
MEEK	**Meekatharra**	77.23	138	P		P	06 54 53.2	0.0
M27K	**Edge Creek, AK** baz=333,SNR=69	77.31	15	P		P	06 54 54.4	+1.0
MAYO	**Mayo, Yukon** baz=338,SNR=14	77.32	12	P		P	06 54 53.9	+0.6
L29M	**L29M** baz=336,SNR=64	77.37	13	P		P	06 54 54.4	+0.8
N25K	**Chitina, Valde** baz=331,SNR=17	77.37	17	P		P	06 54 54.2	+0.5
S14K	**Fog Glacier** baz=320	77.38	26	P		P	06 54 52.9	-1.0
GLI	**Glacier Island** baz=329,SNR=15	77.40	18	P		P	06 54 53.6	-0.1
R17L	**Mt. Peulik Vol** baz=323,SNR=5.4	77.42	24	P		P	06 54 53.5	-0.4
SEW	**Seward** baz=328,SNR=11	77.45	20	P		P	06 54 53.5	-0.5
BVCY	**Beaver Creek** baz=334,SNR=38	77.47	15	P		P	06 54 55.2	+1.1
SDPT	**Sand Point** baz=320	77.76	27	P		P	06 54 54.7	-1.1
CHGN	**Chignik** baz=321	77.77	26	P		P	06 54 54.9	-0.9
MORW	**Morawa** comp=Z,94nm,0.8s	77.86	141	P		P	06 54 56.2	-0.4
MORW	**Morawa**	77.86	141	P		P	06 54 56.4	-0.2
Q20K	**Shuyak Island** baz=326,SNR=6.3	77.86	22	P		P	06 54 56.1	-0.2
M29M	**Somme Creek** baz=336,SNR=49	77.92	14	P		P	06 54 57.8	+1.0
MCARA	**McCarthy VSAT** baz=332,SNR=12	77.93	16	P		P	06 54 57.2	+0.5
BMRM	**Bremner River** baz=331,SNR=26	77.93	17	P		P	06 54 57.2	+0.4
EYAK	**Cordova Ski Ar**	78.02	18	P		P	06 54 57.8	+0.7
EYAK	**Cordova Ski Ar** baz=330,SNR=27	78.02	18	P		P	06 54 57.9	+0.7
R18K	**Karluk** baz=324	78.08	23	P		P	06 54 56.7	-0.9
M30M	**Minto, Yukon** baz=337,SNR=34	78.11	13	P		P	06 54 58.1	+0.4
YUK3	**Moose Creek** baz=334,SNR=19	78.13	15	P		P	06 54 58.5	+0.4
CRQE	**Cirque** baz=332,SNR=12	78.47	17	P		P	06 55 00.3	+0.5
CHNA	**Chernabura Isl**	78.49	27	P		P	06 54 59.5	-0.3
CHNA	**Chernabura Isl** baz=321,SNR=28	78.49	27	P		P	06 54 59.2	-0.6
KDAK	**Kodiak Island** comp=Z,112nm,19.3s,baz=338,slow=37	78.49	22	LR		LR	07 31 58.1	
KDAK	**Kodiak Island**	78.49	22	P		P	06 55 00.0	+0.3
KDAK	**Kodiak Island** baz=326	78.49	22	P		P	06 55 00.1	+0.3
BOSA	**Boshof** comp=Z,7.4nm,0.8s,baz=43,slow=5.3,SNR=19	78.50	221	P		P	06 54 59.8	-0.6
BOSA	comp=Z,36nm,21.7s,baz=28,slow=34 comp=Z,7.4nm,0.8s			LR		LR	07 28 00.5	
CTG	**Chitna Glacier** baz=334,SNR=24	78.67	16	P		P	06 55 01.7	+0.8
YUK8	**Steele Glacier** baz=335	78.72	15	P		P	06 55 01.6	+0.2
OHAK	**Old Harbor**	78.73	23	P		P	06 55 01.7	+0.6
OHAK	**Old Harbor** baz=325,SNR=25	78.73	23	P		P	06 55 01.5	+0.4
Q23K	**Middleton Isla** baz=330,SNR=5.7	78.84	19	P		P	06 55 02.2	+0.6
M31M	**Drury Creek, Y** baz=339	78.87	12	P		P	06 55 02.3	+0.4
YUK4	**Talbot Arm** baz=336,SNR=15	78.89	14	P		P	06 55 02.8	+0.6
MMPY	**Sheldon Lake,** baz=342,SNR=29	78.97	11	P		P	06 55 03.5	+1.1
SII	**Sitkinadi Islan**	78.99	24	P		P	06 55 03.5	+0.9
SII	**Sitkinak Islan** baz=324	78.99	24	P		P	06 55 03.1	+0.5
BGLC	**Bering Glacier** baz=332	78.99	17	P		P	06 55 03.2	+0.8
N30M	**Aishikik Lake** baz=337,SNR=30	79.08	14	P		P	06 55 04.0	+0.9
O28M	**Mount Upton** baz=335,SNR=21	79.09	15	P		P	06 55 04.1	+0.7
CHIR	**Chirikof Islan** baz=323	79.11	25	P		P	06 55 03.6	+0.3
MESA	**MESA** baz=333,SNR=10	79.24	16	P		P	06 55 05.0	+0.9
N31M	**Braeburn, Yuko** baz=338,SNR=70	79.30	13	P		P	06 55 04.7	+0.5
YUK6	**Outpost Mounta** baz=336,SNR=15	79.31	14	P		P	06 55 05.3	+0.8
WRGLY	**Wrigley** baz=348,SNR=40	79.33	7	P		P	06 55 05.5	+1.2
BLDU	**Ballidu** comp=Z,91nm,0.9s	79.45	142	P		P	06 55 04.0	-1.4
BLDU	**Ballidu**	79.45	142	P		P	06 55 04.3	-1.0
HYT	**Haines Junctio** baz=337,SNR=118	79.59	14	P		P	06 55 06.7	+0.8
PINM	**Pinnacle** baz=335,SNR=26	79.69	16	P		P	06 55 07.2	+0.8
O29M	**Mount Kennedy** baz=336,SNR=6.1	79.86	15	P		P	06 55 07.5	+0.1
N32M	**Quiet Lake** baz=340,SNR=18	80.08	12	P		P	06 55 08.4	-0.1
WHY	**Whitehorse** baz=339,SNR=24	80.23	13	P		P	06 55 09.2	-0.2
PNL	**Peninsula**	80.26	15	P		P	06 55 10.1	+0.6
PNL	**Peninsula** baz=335,SNR=36	80.26	15	P		P	06 55 10.4	+1.0
MUN	**Mundaring** comp=Z,44nm,1.4s	80.32	143	P		P	06 55 08.8	-1.1
MUN	**Mundaring**	80.32	143	P		P	06 55 09.1	-0.9
P30M	**Million Dollar** baz=327	80.34	14	P		P	06 55 10.6	+0.6
TGTN	**Hyland Airport** baz=344,SNR=13	80.43	10	P		P	06 55 11.5	+1.1
P29M	**Windy Craggy** baz=337,SNR=16	80.64	15	P		P	06 55 11.9	+0.5
YKA	**Yellowknife Ar** comp=Z,56nm,0.8s,baz=352,slow=6.0,SNR=106	80.67	3	P		P	06 55 11.8	+0.3
YKA	comp=Z,56nm,20.5s,baz=338,slow=38 comp=Z,56nm,0.8s			LR		LR	07 34 12.0	
KLBR	**Kellerberrin** comp=Z,175nm,0.7s	80.77	141	P		P	06 55 11.4	-0.9
KLBR	**Kellerberrin**	80.77	141	P		P	06 55 11.3	-1.1
P33M	**Teslin, Yukon** baz=341,SNR=104	81.01	12	P		P	06 55 13.6	+0.1
PLBC	**Pleasant Camp** baz=338,SNR=75	81.08	14	P		P	06 55 14.6	+0.8
SKAG	**Skagway**	81.27	14	P		P	06 55 15.5	+0.8
SKAG	**Skagway** baz=339,SNR=27	81.27	14	P		P	06 55 15.8	+1.0
P32M	**Atlin** baz=340,SNR=24	81.44	13	P		P	06 55 16.0	+0.2
NWAO	**Narrogin (SRO)**	81.60	143	P		P	06 55 15.5	-1.2
NWAO	**Narrogin (SRO)**	81.60	143	P		P	06 55 15.8	-0.9
NWAO	**Narrogin (SRO)**	81.60	143	P		P	06 55 15.9	-0.8
WTLY	**Watson Lake, Y** baz=344,SNR=18	81.72	10	P		P	06 55 17.6	+0.4
SCHQ	**Schefferville** comp=Z,30nm,0.9s,baz=19,slow=4.0,SNR=21	81.78	337	P		P	06 55 17.8	+0.2
SCHQ	comp=Z,74nm,18.3s,baz=32,slow=35 comp=Z,30nm,0.9s			LR		LR	07 31 19.8	
WRA	**Warramunga Arr** comp=Z,12nm,0.7s,baz=324,slow=5.0,SNR=121	81.85	122	P		P	06 55 17.9	-0.5
WRA	comp=Z,2.6nm,0.7s,baz=130,slow=2.3,SNR=26 comp=Z,12nm,0.7s			PKKPbc		PKKPbc	07 13 48.5	+0.4
WRAB	**Tennant Creek** comp=Z,18nm,0.8s	81.85	122	*ce*P pmax		P pmax	06 55 17.7	-0.7
R33M	**Jennings River** baz=342,SNR=65	82.09	11	P		P	06 55 19.7	+0.4
Q32M	**Nakina River** baz=341,SNR=43	82.29	12	P		P	06 55 21.0	+0.6
KOTAN	**Kotaneelee Air** baz=348,SNR=6.7	82.30	8	P		P	06 55 20.8	+0.6
S31K	**Pelican** baz=338	82.49	15	P		P	06 55 22.0	+0.8
R32K	**Eaglecrest** baz=339,SNR=20	82.53	14	P		P	06 55 22.6	+1.2
JIS	**Juneau Island**	82.55	14	P		P	06 55 22.5	+1.0
LIRD	**Liard River Hi** baz=346,SNR=9.5	82.77	9	P		P	06 55 23.4	+0.8
RKGY	**Rocky Gully**	82.84	144	P		P	06 55 22.4	-0.8
DLBC	**Dease Lake** baz=343,SNR=38	83.15	11	P		P	06 55 25.5	+0.8
S32K	**Killisnoo** baz=339,SNR=14	83.27	14	P		P	06 55 26.0	+0.8
TOAD	**Toad River Com** baz=347,SNR=37	83.42	9	P		P	06 55 26.5	+0.5
S34M	**Telegraph Cree** baz=342,SNR=66	83.47	12	P		P	06 55 27.3	+1.1
SIT	**Sitka**	83.51	14	P		P	06 55 27.5	+1.1
SIT	**Sitka** baz=339,SNR=9.4	83.51	14	P		P	06 55 27.5	+1.1
AS31	**Alice Springs**	84.15	125	P		P	06 55 29.3	-0.9
ASAR	**Alice Springs** comp=Z,14nm,0.6s,baz=311,slow=5.0,SNR=177	84.15	125	P		P	06 55 29.2	-1.0
ASAR	comp=Z,1.7nm,0.6s,baz=128,slow=2.7,SNR=20			PKKPbc		PKKPbc	07 13 43.0	0.0
ASAR	comp=Z,0.9nm,0.9s,baz=130,slow=2.9,SNR=5.6 comp=Z,14nm,0.6s			PKPPKP		P'P'df	07 21 46.6	-2.0
AS01	**Alice Springs**	84.18	125	P		P	06 55 29.8	-0.6
T35M	**Bob Quinn** baz=343,SNR=19	84.51	12	P		P	06 55 32.7	+1.1
WRAK	**Wrangell Islan** baz=341,SNR=22	84.68	13	P		P	06 55 33.4	+1.0
U33K	**Whale Pass** baz=340	84.83	14	P		P	06 55 34.0	+0.9
CRAG	**Craig** baz=340	85.44	14	P		P	06 55 36.9	+0.7
V35K	**Ketchikan** baz=342	85.85	13	P		P	06 55 38.2	0.0
QIS	**Mount Isa**	85.88	119	P		P	06 55 38.0	-0.9
QIS	**Mount Isa**	85.88	119	P		P	06 55 38.5	-0.4
FFC	**Flin Flon**	88.42	356	P		P	06 55 50.8	+0.1
BBB	**Bella Bella** comp=Z,36nm,18.6s,baz=13,slow=39	89.47	12	LR		LR	07 41 13.5	
CTA	**Charters Tower**	90.31	115	P		P	06 56 00.4	+0.4
HNR	**Honiara** comp=Z,26nm,21.1s,baz=348,slow=35	94.27	99	LR		LR	07 38 49.8	
SADO	**Sadowa** comp=Z,38nm,18.1s,baz=354,slow=37	94.37	340	LR		LR	07 41 07.4	
STKA	**Stephens Creek** comp=Z,2.0nm,0.6s,baz=322,slow=6.3,SNR=5.5 comp=Z,2.0nm,0.6s	94.71	127	P		P	06 56 19.4	-0.6
PDAR	**Pinedale Array** comp=Z,1.4nm,0.8s,baz=46,slow=2.8,SNR=8.1	100.55	1	P		Pdif	06 56 46.4	-0.2
PDAR	comp=Z,1.4nm,0.9s,baz=349,slow=6.1,SNR=5.1			PP		PP	07 00 51.4	-2.1
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.6s,baz=358,slow=3.6,SNR=4.3	104.33	8	Pdiff		Pdif	06 57 03.9	+0.4
NVAR	comp=Z,1.1nm,0.7s,baz=315,slow=1.5,SNR=3.5			PKiKP		PKiKP	07 01 18.9	-0.6
DZM	**Mont Dzumac** comp=Z,71nm,24.2s	106.64	105	*e*LR		LR	07 32 35.1	
TXAR	**Lajitas Array** comp=Z,0.8nm,0.7s,baz=10.0,slow=2.1,SNR=7.4	113.81	356	PKiKP		PKiKP	07 01 37.2	-0.2
TXAR	comp=Z,0.6nm,0.8s,baz=175,slow=5.0,SNR=4.8			PKKPbc		PKKPbc	07 12 18.6	-0.7
TROLL	**Troll, Antarti** comp=Z,348nm,0.8s	118.80	199	⇑P		PKPdf	07 01 44.2	-1.3
SNAA	**Sanae** comp=Z,41nm,0.7s	120.10	201	⇑P		PKPdf	07 01 46.2	-1.7
SNAA	**Sanae** comp=Z,1.7nm,0.8s,baz=136,slow=3.6,SNR=10	120.10	201	PKP		PKPdf	07 01 46.7	-1.3
VNA1	**Neumayer--Stat** comp=Z,7.5nm,0.9s	121.26	203	⇑P		PKPdf	07 01 49.4	-0.7
VNA3	**Neumayer Olymp** comp=Z,9.4nm,0.8s	121.92	202	⇑P		PKPdf	07 01 50.4	-1.0
VNDA	**Vanda** comp=Z,0.9nm,0.7s,baz=267,slow=5.6,SNR=5.6	125.90	164	PKP		PKiKP	07 01 59.7	+0.4
QSPA	**South Pole Qui** comp=Z,5.2nm,0.9s,baz=273,slow=0.7,SNR=13	125.82	180	PKP		PKPdf	07 01 59.6	-1.4
ROSC	**El Rosal** comp=Z,44nm,0.8s,baz=139,slow=1.9,SNR=22	127.61	315	PKP		PKiKP	07 02 05.1	0.0
TEFE	**Tefe**	127.84	299	*e*P		PKPdf	07 02 03.6	-0.9
SALV	**Santo Antonio**	129.06	280	*e*P		PKPdf	07 02 06.1	-0.6
TBTG	**Tabatinga, AM**	131.94	304	*e*P		PKPdf	07 02 12.2	0.0
BDQN	**Bodoquena, MS**	132.40	276	*e*P		PKPdf	07 02 12.9	0.0
OTAV	**Otavalo**	133.71	316	*e*P		PKPdf	07 02 14.1	-2.1
CPUP	**Villa Florida** comp=Z,0.7nm,0.7s,baz=279,slow=5.0,SNR=5.6	135.74	269	PKP		PKPdf	07 02 17.8	-1.2
LPAZ	**La Paz** comp=Z,2.1nm,0.8s,baz=27,slow=4.5,SNR=5.1	138.92	289	PKP		PKPdf	07 02 24.8	-1.1
TAOE	**Nuku Hiva Isla** comp=Z,669nm,26.3s	139.80	54	*e*LR		LR	07 47 48.0	
TBI	**Tubuai** comp=Z,626nm,36.2s	142.23	81	*e*LR		LR	07 49 11.8	
PLCA	**Paso Flores** comp=Z,20nm,1.1s,baz=21,slow=3.4,SNR=11	150.50	251	PKPbc		PKPbc	07 02 50.0	+0.1
RKT	**Rikitea** comp=Z,3μm,32.5s	153.22	66	*e*LR		LR	07 54 15.7	

AEIC ***10*** *06:53:43.5±1.5,51.9N±0.1×174.27W±0.09, h44km±9km, Error ellipse: s-maj=19.6km s-min=7.0km az=167.0*

NEIC 10 06:53:43.5±0.7,52.1N±0.2×174.3W±0.1, h66km±6km, ML2.0(AEIC), Error ellipse: s-maj=28.6km s-min=3.7km az=153.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	0.14	21		Sn	06 54 00.4	-0.2
ATKA	**Atka Island**	0.14	21	Pn	Pn	06 53 52.6	-0.8
GSIG	**Igitkin Island**	1.02	266		Pn	06 54 01.9	-0.1
GSIG					Sn	06 54 16.2	+0.4
GSMY	**Great Sitkin M**	1.10	269		Pn	06 54 03.0	-0.1
GSMY					Sn	06 54 17.8	+0.2
GSTR	**Great Sitkin T**	1.10	272		Pn	06 54 03.1	0.0
GSTR					Sn	06 54 17.9	+0.3
ETKA	**Kagalaska Isla**	1.33	262		Pn	06 54 05.8	-0.2
ETKA					Sn	06 54 23.5	+0.4
ADAG	**Mount Adagdak**	1.44	267		Pn	06 54 08.2	+0.7
ADAG					Sn	06 54 27.0	+1.5
ADK	**Adak**	1.50	264		Pn	06 54 08.4	+0.1
KNWB	**Kanaga Island**	1.79	264	Pn	Pn	06 54 10.8	-1.3
NIKH	**Nikolski High**	3.43	73	Pn	Pn	06 54 34.3	-0.2
P08K	**Saint George I**	5.32	29	Pn	Pn	06 54 60.0	-0.2

RSNC 10 06:56:32.7±0.0,7°N±1°×7°3W±°, h142km±2km, M2.0, mb3.7, ML1.9, MLv2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	0.21	189	P	Pn	06 56 51.8	-0.6
BARC				S	Sn	06 57 06.9	-0.4
BRJC	**Barrancabermej**	0.61	286	P	Pn	06 56 53.7	-0.1
BRJC				S	Sn	06 57 10.1	+0.3
PAMC	**Pamplona, Colo**	0.70	40	P	Pn	06 56 55.0	+0.1
PAMC				S	Sn	06 57 11.5	-0.3
RUSC	**La Rusia**	0.90	176	P	Pn	06 56 55.6	-0.9
RUSC				S	Sn	06 57 14.1	-0.4
PTBC	**PUERTO BERRIO,**	1.32	259	P	Pn	06 56 58.4	-1.4
PTBC				S	Sn	06 57 19.0	-1.5
OCAC	**Ocana**	1.44	353	P	Pn	06 57 00.2	-1.0
OCAC				S	Sn	06 57 22.5	-0.5
ZARC	**Zaragoza, Cauc**	1.83	292	P	Pn	06 57 05.0	-0.4
ZARC				S	Sn	06 57 29.6	-0.8
NORC	**Norcasia**	2.10	234	P	Pn	06 57 09.4	+0.7
NORC				S	Sn	06 57 36.2	-0.1
ROSC	**El Rosal**	2.27	211	P	Pn	06 57 11.2	+0.2
ROSC				S	Sn	06 57 41.0	+0.6
HELC	**Santa Helena**	2.44	256	P	Pn	06 57 14.0	+0.9
HELC				S	Sn	06 57 44.5	+0.5
UREC	**San Jos de Ur**	2.55	292	P	Pn	06 57 13.1	-0.9
UREC				S	Sn	06 57 44.4	-1.5
GUY2C	**Guyana, Caldas**	2.70	235	P	Pn	06 57 17.0	+0.5
GUY2C				S	Sn	06 57 51.5	+1.4
CBOC	**Ciudad Bolivar**	2.99	252	P	Pn	06 57 20.8	+1.0
CBOC				S	Sn	06 57 55.3	-0.9
ARGC	**Ariguani, Magd**	3.23	340	P	Pn	06 57 23.1	+0.4
ARGC				S	Sn	06 58 01.6	+0.2
PRAC	**Prado**	3.52	210	P	Pn	06 57 25.9	-0.7
PRAC				S	Sn	06 58 07.7	-0.6
ORTC	**Ortega, Tolima**	3.55	216	P	Pn	06 57 26.8	-0.1
ORTC				S	Sn	06 58 09.4	+0.4
PLMC	**San Jos del P**	3.64	239	P	Pn	06 57 28.0	-0.1
PLMC				S	Sn	06 58 10.6	-0.5
SJCC	**San Jacinto, C**	3.67	327	P	Pn	06 57 26.5	-2.1
SJCC				S	Sn	06 58 08.6	-3.3
URIC	**Uribia, Colomb**	5.00	13	P	Pn	06 57 42.7	-3.3
URIC				S	Sn	06 58 44.9	+1.7

SNET ***10*** *06:59:29.7±2.4, 13.26N±87.90W, h4km, ML2.8*

CATAC 10 06:59:29.6±0.2,13°N±2°×8°8W±°, h8km±1km, M2.5/12, MLv2.5/12, 2C, Error ellipse: s-maj=4.5km s-min=2.2km az=22.9, confirmed, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	0.07	36	⇑*i*P	Pg	06 59 32.2	+0.6
LCND				*e*P	Pg	06 59 32.2	+0.6
LCND				*e*S	Sg	06 59 34.2	+1.3
LCND	**La Caada**	0.07	36	P	Pg	06 59 32.2	+0.7
CNCH	**Conchagua**	0.10	77	⇑*i*P	Pg	06 59 32.6	+0.6
CNCH				*e*S	Sg	06 59 34.5	+0.7
CNCH	**Conchagua**

CSGN				S	Sb	06 59 45.8	-1.1
POTN	**Potosi Cosigui**	**0.48**	**121**	P	Pb	06 59 40.3	0.0
POTN				S	Sb	06 59 47.0	-0.6
PQSS	**Presa 15 de Se**	**0.71**	**301**	P	Pb	06 59 43.8	-0.4
PQSS	**Presa 15 de Se**	**0.71**	**301**	S	Sb	06 59 53.9	-0.3
SCLA	**Alcaldia de Sa**	**0.89**	**300**	P	Pg	06 59 46.6	-0.2
SCLA	**Alcaldia de Sa**	**0.89**	**300**	S	Sb	06 59 59.9	+0.4
TGUH	**Tegucigalpa,Un**	**1.02**	**39**	P	Pg	06 59 48.9	-0.4
TGUH				S	Sb	07 00 03.1	-0.1
PAVA	**Las Pavas**	**1.08**	**295**	P	Pg	06 59 50.0	-0.3
PAVA	**Las Pavas**	**1.08**	**295**	S	Sb	07 00 05.1	+0.2
POLN	**Al Sur del Vol**	**1.25**	**119**	P	Pn	06 59 52.2	-1.1
POLN				S	Sg	07 00 09.9	+0.2
YUSH	**Yuscaran**	**1.27**	**57**	P	Pn	06 59 53.1	-0.6
YUSH	**Yuscaran**	**1.27**	**57**	S	Sb	07 00 10.0	-0.2
ROCN	**Rota Cerro Neg**	**1.37**	**122**	P	Pn	06 59 54.2	-0.8
ROCN				S	Sb	07 00 12.7	-0.4
PMON	**Piamonte**	**1.42**	**289**	S	Sb	07 00 14.0	-0.7
PMON	**Piamonte**	**1.42**	**289**	P	Pn	06 59 55.7	-0.1
JAYA	**Jayaque - finc**	**1.53**	**285**	*e*P	Pn	06 59 57.2	-0.1
JAYA				*e*S	Sg	07 00 18.9	+0.1

RSNC 10 07:23:37.6±0.4, 2°S±2°×7°8W±°, h189km±5km, M3.6, mB4.3, mb3.9, ML3.1, MLv3.9, Mw(mB)3.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**0.69**	**318**	P	Pn	07 24 06.2	+1.4
PIAT				S	Sn	07 24 26.5	+0.7
COHC	**Cochancay**	**1.74**	**237**	P	Pn	07 24 13.2	+0.6
COHC				S	Sn	07 24 40.5	+0.7
OTAV	**Otavalo**	**1.85**	**339**	P	Pn	07 24 15.6	+1.3
PAC1	**Pacto, Paraso**	**2.02**	**331**	P	Pn	07 24 17.0	+1.2
PPLP	**Puerto Lpez**	**2.97**	**269**	P	Pn	07 24 26.9	+0.5
PPLP				S	Sn	07 25 03.4	-1.1
CRUC	**La Cruz**	**3.17**	**16**	P	Pn	07 24 31.3	+2.1
PTLC	**Puerto Leguiza**	**3.44**	**61**	P	Pn	07 24 30.1	-1.9
PTLC				S	Sn	07 25 10.0	-4.6
TUMC	**Tumaco**	**3.44**	**344**	P	Pn	07 24 33.5	+1.5
TUMC				S	Sn	07 25 14.6	-0.1
BBAC	**Balboa, Cauca**	**3.55**	**9**	P	Pn	07 24 34.5	+0.8
BBAC				S	Sn	07 25 20.6	+3.0
MCRA	**Macar, Loja**	**3.56**	**217**	P	Pn	07 24 32.7	-0.9
MCRA				S	Sn	07 25 15.5	-2.0
FLOC	**Florencia**	**3.75**	**35**	P	Pn	07 24 36.5	+0.6
FLOC				S	Sn	07 25 19.9	-1.7
POPC	**Popayan, Colom**	**4.18**	**16**	P	Pn	07 24 42.2	+0.7
POPC				S	Sn	07 25 33.0	+1.3
GARC	**Garzon, Huila**	**4.34**	**32**	P	Pn	07 24 44.6	+1.0
GR1C	**Gorgona, Isla**	**4.50**	**355**	P	Pn	07 24 46.8	+1.4
GR1C				S	Sn	07 25 35.2	-3.4
JAMC	**Jamundi, Valle**	**4.83**	**13**	P	Pn	07 24 50.2	+0.4
JAMC				S	Sn	07 25 45.1	-1.5
MACC	**Macarena, Meta** 0.1nm30nm,0.8s	**5.37**	**47**	P	Pn	07 24 57.5	+0.9
YOTC	**Yotoco, Valle** 6.9nm,0.6s	**5.65**	**15**	P	Pn	07 24 59.0	-1.3
YOTC				S	Sn	07 26 03.3	-2.2
	6.9nm,0.6s						
PRAC	**Prado** 11nm,0.8s	**5.95**	**29**	P	Pn	07 25 05.0	+0.8
ORTC	**Ortega, Tolima** 53nm,1.0s	**5.96**	**25**	P	Pn	07 25 04.9	+0.6
PIZC	**Pizarro, Choco** 221nm,1.1s	**6.45**	**4**	P	Pn	07 25 11.7	+1.1
PIZC				S	Sn	07 26 21.7	-2.4
	221nm,1.1s						
PLMC	**San Jos del P** 462nm4.2nm,0.5s	**6.55**	**13**	P	Pn	07 25 10.0	-2.0
PLMC				S	Sn	07 26 22.1	-4.6
	462nm4.2nm,0.5s						
CZSB	**Cruzeiro do Su**	**8.00**	**141**	P	Pn	07 25 30.8	-0.1

*IDC **10** 07:25:22.7±0.5, 30°92S×59°30E, h0km, mb4.1/19, mbtmp4.1/19, MS3.5/1, Error ellipse: s-maj=21.3km s-min=15.9km az=81.0*
*NEIC **10** 07:25:24.3±0.6, 30°94S±0°10×59°3E±0°1, h10km±1km, mb4.8/14, Error ellipse: s-maj=22.3km s-min=5.6km az=222.0*

ISC 10 07:25:24.1±0.5, 30°89S±0°09×59°28E±0°10, h10km, n50, σ0°68/41, mb4.3/24, 1C, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**14.32**	**306**	Pn	**Pn**	**07 28 47.2**	**+0.1**
ABPO	**Ambohimpanom**	**16.08**	**315**	Pn	**Pn**	**07 29 10.8**	**+0.2**
H04N2	**CROZET ISLANDS** baz=24,slow=75,SNR=61	**16.32**	**199**	T	T	07 46 02.6	
H04N1	**CROZET ISLANDS** baz=24,slow=75,SNR=66	**16.32**	**199**	T	T	07 46 03.3	
H04N3	**CROZET ISLANDS** baz=24,slow=75,SNR=67	**16.34**	**199**	T	T	07 46 08.1	
POGA	**Pongola**	**24.32**	**271**	P	**P**	**07 30 40.7**	**-1.4**
POGA	comp=Z,54nm,1.7s			IAmb	IAmb	07 30 48.4	
H08S1	**Diego Carcia H** baz=204	**26.21**	**31**	T	T	07 58 23.4	
H08S2	**Diego Garcia H** baz=204	**26.22**	**31**	T	T	07 58 20.1	
H08S3	**Diego Garcia H** baz=204	**26.23**	**31**	T	T	07 58 24.0	
BOSA	**Boshof**	**29.56**	**266**	P	**P**	**07 31 29.3**	**-0.1**
BOSA	comp=Z,24nm,1.5s			IAmb	IAmb	07 31 42.0	
BOSA	**Boshof** comp=Z,1.4nm,0.6s,baz=107,slow=12,SNR=1.6 comp=Z,1.4nm,0.6s	**29.56**	**266**	P	**P**	**07 31 29.5**	**+0.1**
PHDHD	**Phuduhudu**	**32.98**	**281**	P	**P**	**07 31 59.1**	**-0.4**
PHDHD	comp=Z,16nm,1.1s			IAmb	IAmb	07 32 00.9	
KGCAE	**Kacgae**	**33.91**	**275**	P	**P**	**07 32 07.0**	**-0.5**
MAW	**Mawson** comp=Z,1.3nm,0.8s,baz=358,slow=15,SNR=2.5	**36.81**	**178**	P	**P**	**07 32 31.9**	**+0.1**
MAW	comp=Z,79nm,20.6s,baz=326,slow=30 comp=Z,1.3nm,0.8s			LR	LR	07 43 50.1	
TSUM	**Tsumeb**	**39.32**	**277**	P	**P**	**07 32 53.1**	**-0.6**
TSUM	comp=Z,26nm,1.4s			IAmb	IAmb	07 32 55.9	
SYO	**Syowa Base**	**39.81**	**191↑**	*e*P	**P**	**07 32 58.4**	**+1.4**
H01W2	**Cape Leeuwin H** baz=258,slow=74,SNR=15	**45.76**	**110**	T	T	08 22 34.2	
H01W3	**Cape Leeuwin H** baz=258,slow=74,SNR=13	**45.76**	**110**	T	T	08 22 32.7	
H01W1	**Cape Leeuwin H** baz=258,slow=74,SNR=13	**45.77**	**110**	T	T	08 22 33.6	
SNAA	**Sanae**	**52.28**	**201**	P	**P**	**07 34 34.6**	**-0.7**
SNAA	**Sanae** comp=Z,1.4nm,0.8s,baz=99,slow=6.6,SNR=10 comp=Z,1.4nm,0.8s	**52.28**	**201**	P	**P**	**07 34 35.1**	**-0.3**
QSPA	**South Pole Qui**	**59.27**	**180**	P	**P**	**07 35 25.5**	**-0.2**
QSPA	comp=Z,6.1nm,1.1s			IAmb	IAmb	07 35 35.6	
QSPA	**South Pole Qui** comp=Z,2.5nm,0.9s,baz=248,slow=1.6,SNR=7.8 comp=Z,2.5nm,0.9s	**59.27**	**180**	P	**P**	**07 35 25.9**	**+0.2**
CM31	**Chiang Mai Arr**	**62.13**	**43**	P	**P**	**07 35 44.5**	**-1.1**
CM31	comp=Z,11nm,0.9s			IAmb	IAmb	07 35 48.1	
CMAR	**Chiang Mai Arr**	**62.13**	**43**	P	**P**	**07 35 45.2**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,6.7nm,0.8s,baz=230,slow=7.2,SNR=26 comp=Z,6.7nm,0.8s	**62.13**	**43**	P	**P**	**07 35 46.6**	**+1.0**
MMRI	**Maumere**	**62.44**	**83**	P	**P**	**07 35 47.9**	**+0.1**
VNDA	**Vanda** comp=Z,0.9nm,0.9s,baz=261,slow=5.7,SNR=4.1 comp=Z,0.9nm,0.9s	**62.75**	**166**	P	**P**	**07 35 49.5**	**+0.5**
SHL	**Shillong**	**64.22**	**33**	P	**P**	**07 35 59.2**	**-0.4**
ASAR	**Alice Springs** comp=Z,1.0nm,0.8s,baz=238,slow=5.6,SNR=10.0 comp=Z,1.0nm,0.8s	**65.61**	**104**	P	**P**	**07 36 08.2**	**-0.4**
ASF	**Jabal al Asfar** comp=Z,3.7nm,0.8s,baz=126,slow=8.0,SNR=4.4 comp=Z,3.7nm,0.8s	**66.21**	**339**	P	**P**	**07 36 12.8**	**+0.6**
WRA	**Warramunga Arr**	**67.56**	**100**	P	**P**	**07 36 20.4**	**-0.7**
WRA	**Warramunga Arr** comp=Z,1.6nm,1.0s,baz=240,slow=5.1,SNR=5.8 comp=Z,1.6nm,1.0s	**67.56**	**100**	P	**P**	**07 36 20.8**	**-0.4**
WR8	**Warramunga Arr**	**67.69**	**101**	P	**P**	**07 36 20.9**	**-1.0**
WR8	comp=Z,20nm,1.6s			IAmb	IAmb	07 37 24.5	
TORD	**Torodi Ar. Bea**	**70.52**	**299**	P	**P**	**07 36 39.0**	**-0.5**
TORD	comp=Z,9.1nm,1.9s			IAmb	IAmb	07 37 38.2	
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.3s,baz=128,slow=5.8,SNR=1.5 comp=Z,1.1nm,0.3s	**70.52**	**299**	P	**P**	**07 36 39.2**	**-0.3**
BRTR	**Keskin Array B**	**74.19**	**340**	P	**P**	**07 37 00.9**	**-0.1**
BRTR	**Keskin Array B** comp=Z,1.9nm,0.9s,baz=153,slow=6.3,SNR=7.1 comp=Z,1.9nm,0.9s	**74.19**	**340**	P	**P**	**07 37 01.3**	**+0.3**
AB31	**Akbulak array**	**79.79**	**0**	P	**P**	**07 37 32.2**	**+0.1**
ABKAR	**Akbulak array**	**79.79**	**0**	P	**P**	**07 37 32.8**	**+0.6**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.8s,baz=209,slow=5.8,SNR=6.3 comp=Z,0.8nm,0.8s	**82.92**	**12**	P	**P**	**07 37 49.2**	**+0.5**
BVAR	**Borovoye Array** comp=Z,1.3nm,0.8s,baz=187,slow=4.9,SNR=4.9 comp=Z,1.3nm,0.8s	**84.12**	**7**	P	**P**	**07 37 56.1**	**+1.2**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=157,slow=3.4,SNR=4.5 comp=Z,0.2nm,0.3s	**85.47**	**341**	P	**P**	**07 38 00.9**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.8s,baz=216,slow=4.8,SNR=5.3 comp=Z,2.0nm,0.8s	**87.34**	**15**	P	**P**	**07 38 10.7**	**-0.1**
SONM	**Songino Array** comp=Z,1.1nm,0.8s,baz=212,slow=4.9,SNR=4.6 comp=Z,1.1nm,0.8s	**89.05**	**30**	P	**P**	**07 38 19.1**	**-0.1**
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=143,slow=5.9,SNR=3.5 comp=Z,0.3nm,0.4s	**89.20**	**332**	P	**P**	**07 38 19.6**	**-0.3**
DAVOX	**Davos/Dischmat** comp=Z,0.9nm,0.3s,baz=107,slow=11,SNR=4.7 comp=Z,0.9nm,0.3s	**89.23**	**329**	P	**P**	**07 38 20.8**	**+0.5**
ESDC	**Sonseca Array** comp=Z,1.0nm,0.8s,baz=131,slow=5.0,SNR=6.4 comp=Z,1.0nm,0.8s	**91.50**	**316**	P	**P**	**07 38 32.6**	**+1.8**
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=336,slow=1.6,SNR=4.5	**142.39**	**18**	PKP	**PKPdf**	**07 44 56.5**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,2.8nm,0.9s,baz=9.8,slow=2.3,SNR=4.1	**148.14**	**355**	PKPbc	**PKPbc**	**07 45 09.0**	**-0.4**

*OTT **10** 07:25:41.3±0.1, 72.02°N×64.45°W, h18km, ML3.2/6, 228km northeast from Clyde River, Nu Eastern Arctic Background Seismic Zone.*
*DNK **10** 07:25:44.6±2.3, 71.94°N×64.29°W, h36km±11km, ML2.0*

ISC 10 07:25:37.5±0.9, 71°95N±0°05×64°37W±0°04, h10km, n20, σ2°75/32, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPNV	**Upernavik**	**2.64**	**68**	*i* P	**Pn**	**07 26 22.8**	**+2.8**
UPNV				*i* S	**Sn**	**07 26 51.4**	**-0.6**
UPNV	comp=Z,43nm,0.1s			IAML		07 26 53.4	
KULLO	**Kullorsuaq**	**3.35**	**35**	PN	**Pn**	**07 26 32.0**	**+2.2**
KULLO				SN	**Sn**	**07 27 09.6**	**+0.1**
KULLO	comp=Z,9.0nm,0.0s			Trac		07 27 10.1	
KULLO	**Kullorsuaq**	**3.35**	**35**	*i* P	**Pn**	**07 26 32.4**	**+2.6**
KULLO				*i* S	**Sn**	**07 27 07.9**	**-1.7**
KULLO	comp=Z,21nm,0.1s			IAML		07 27 09.3	
NUUG	**Nuugaatsiaq**	**3.54**	**91**	*i* P	**Pn**	**07 26 34.6**	**+2.2**
NUUG				*i* S	**Sn**	**07 27 12.1**	**-2.1**
NUUG	comp=Z,13nm,0.2s			IAML		07 27 15.0	
UMMG	**Uummannaq**	**4.14**	**102**	*i* P	**Pn**	**07 26 43.5**	**+2.8**
UMMG				*i*		07 27 09.0	
UMMG				*i* S	**Sn**	**07 27 26.4**	**-2.6**
UMMG	comp=Z,9.0nm,0.3s			IAML		07 27 30.4	
POIN	**Pond Inlet**	**4.21**	**287**	PN	**Pn**	**07 26 45.2**	**+3.6**
POIN				SN	**Sn**	**07 27 29.1**	**-1.6**
POIN	comp=Z,6.3nm,0.1s			Trac		07 27 34.7	
GDH	**Godhavn**	**4.52**	**122**	*i* P	**Pn**	**07 26 49.1**	**+3.3**
GDH				*i* S	**Sn**	**07 27 35.2**	**-3.0**
TULEG	**Thule**	**4.76**	**347**	*i* P	**Pn**	**07 26 51.7**	**+2.5**
TULEG				*i* S	**Sn**	**07 27 43.6**	**-0.7**
TULEG	comp=Z,3.1nm,0.2s			IAML		07 27 45.0	
ILULI	**Ilulissat**	**5.21**	**115**	PN	**Pn**	**07 26 59.2**	**+3.9**
ILULI				SN	**Sn**	**07 27 54.8**	**-0.4**
ILULI	comp=Z,1.4nm,0.1s			Trac		07 27 58.6	
ILULI	**Ilulissat**	**5.21**	**115**	*e*P	**Pn**	**07 26 59.1**	**+3.9**
ILULI				*i* S	**Sn**	**07 27 52.5**	**-2.7**
ILULI	comp=Z,2.0nm,0.2s			IAML		07 28 15.9	
ILON	**Igloolik, Nuna**	**6.34**	**254**	PN	**Pn**	**07 27 13.0**	**+2.2**
ILON				SN	**Sn**	**07 28 20.6**	**-2.5**
ILON	comp=Z,1.9nm,0.1s			Trac		07 28 48.8	
NEEM	**North Greenlan**	**6.52**	**26**	*i* P	**Pn**	**07 27 16.9**	**+3.3**
NEEM				*i* S	**Sn**	**07 28 24.3**	**-3.7**
NEEM	comp=Z,7.3nm,0.2s			IAML		07 28 28.0	
SFJD	**Kangerlussuaq**	**6.92**	**129**	*i* S	Sn	07 28 31.9	-5.5
SUMG	**Summit**	**7.90**	**73**	*i* P	**Pn**	**07 27 35.0**	**+2.4**
SUMG				*i* S	Sn	07 28 56.0	-6.1
FRB	**Frobisher Bay**	**8.39**	**193**	SN	**Sn**	**07 29 10.6**	**-3.0**
FRB				SN	**Sn**	**07 29 11.4**	**-2.2**
FRB	comp=Z,2.6nm,0.1s			Trac		07 29 27.1	
FRB	**Frobisher Bay**	**8.39**	**193**	*i* S	Sn	07 29 07.5	-6.0
RES	**Resolute Bay**	**9.12**	**302**	PN	**Pn**	**07 27 50.7**	**+1.9**
RES				SN	**Sn**	**07 29 25.6**	**-5.7**
RES	comp=Z,11nm,0.8s			Trac		07 29 41.8	
DBG	**Daneborg**	**12.79**	**59**	*i* P	**Pn**	**07 28 38.4**	**-0.6**
DBG				*e*S	Sn	07 30 47.1	-14
DBG	comp=Z,0.3nm,0.2s			IAML		07 30 53.7	
DAG	**Danmarks Havn**	**12.90**	**48**	*i* P	**Pn**	**07 28 40.2**	**-0.3**
DAG				*e*S	Sn	07 30 49.5	-14
DAG	comp=Z,0.7nm,0.2s			IAML		07 30 56.4	
BLKN	**Baker Lake**	**13.87**	**253**	PN	**Pn**	**07 28 54.8**	**+1.1**
BLKN				SN	Sn	07 31 19.9	-7.5
BLKN	comp=Z,0.2nm,0.0s			Trac		07 32 03.4	

*UPA **10** 07:26:55.9±0.8, 8°31N×82°83W, h21km±3km, MD3.7, MW3.7*
*UCR **10** 07:26:55.7±1.2, 8°28N×82°82W, h15km±3km, MW3.6*

ISC 10 07:26:54.4±1.1, 8°30N±0°05×82°85W±0°03, h32km±6km, n67, σ1°20/84, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.10**	**196↑**	*i*P	**Pb**	**07 26 59.9**	**-0.1**
PTPM				*e*S	**Sb**	**07 27 04.2**	**+0.4**
PTPA	**Petro Terminal**	**0.10**	**191**	*e*P	**Pb**	**07 26 59.8**	**-0.2**
PTPA				*e*S	**Sb**	**07 27 04.4**	**+0.5**
LESP3	**La Esperanza,**	**0.12**	**30**	*e*P	**Pb**	**07 26 60.0**	**-0.1**
LESP3				*e*S	**Sb**	**07 27 03.3**	**-0.7**
LPPC	**Paso Canoas**	**0.23**	**3**	*e*P	**Pb**	**07 27 01.2**	**+0.1**
LPPC				*e*S	**Sn**	**07 27 06.3**	**+0.1**
NELY	**Ciudad Neily**	**0.36**	**345**	*e*P	**Pn**	**07 27 03.2**	**-0.1**
NELY				*e*S	**Sn**	**07 27 09.7**	**+0.3**
DMCAL	**E. de Neily**	**0.37**	**9**	*e*P	**Pn**	**07 27 03.8**	**+0.2**
DVD	**David**	**0.42**	**72**	*e*P	**Pb**	**07 27 04.2**	**+0.6**
DVD				*e*S	**Sn**	**07 27 10.9**	**+0.1**
PEDE3	**Pedregal, Chir**	**0.43**	**79**	*e*P	**Pb**	**07 27 04.2**	**+0.3**
PEDE3				*e*S	**Sb**	**07 27 10.8**	**+0.4**
FITO	**Golfito**	**0.44**	**317**	*e*P	**Pb**	**07 27 03.9**	**-0.1**
FITO				*e*S	**Sb**	**07 27 10.8**	**+0.2**
PRISO	**Paraso**	**0.44**	**36**	*e*P	**Pn**	**07 27 04.9**	**+0.3**
LOCO3	**Loma Colorada,**	**0.44**	**76**	*e*P	**Pn**	**07 27 04.8**	**+0.3**
LOCO3				*e*S	**Sn**	**07 27 11.1**	**-0.3**
EDAD	**Golfito**	**0.47**	**318**	*e*P	**Pb**	**07 27 04.3**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.47**	**74**	*e*P	**Pb**	**07 27 04.9**	**+0.4**
LOMA3				*e*S	**Sn**	**07 27 11.8**	**-0.4**
JEFFS	**S de V. Baru**	**0.48**	**41**	*e*P	**Pn**	**07 27 05.6**	**+0.5**
CLLRA	**Cordillera,**	**0.49**	**28**	*e*P	**Pn**	**07 27 05.8**	**+0.4**
CGUAY	**Guayabal, Coch**	**0.52**	**73**	*e*P	**Pb**	**07 27 05.7**	**+0.5**
BANCO	**falda S V. Bar**	**0.52**	**38**	*e*P	**Pn**	**07 27 06.2**	**+0.4**
PTAR3	**Potrerillos Ar**	**0.52**	**42**	*e*P	**Pn**	**07 27 06.1**	**+0.3**
PTAR3				*e*S	**Sn**	**07 27 14.5**	**+1.0**
VITO	**San Vito**	**0.53**	**347**	*e*P	**Pn**	**07 27 06.6**	**+0.8**
SCLRA	**Santa Clara, W**	**0.53**	**7**	*e*P	**Pn**	**07 27 06.8**	**+0.9**
BC3P	**Paso Ancho**	**0.56**	**25**	*e*P	**Pn**	**07 27 06.7**	**+0.3**
BC3P				*e*S	**Sn**	**07 27 15.4**	**+0.7**

BQTLY	**Boquete Panama**	**0.59**	**40**	*e*P	**Pn**	**07 27 07.1**	**+0.3**
BQSF3	**Alto Boquete,**	**0.60**	**43**	*e*P	**Pn**	**07 27 07.2**	**+0.4**
BQSF3				*e*S	**Sn**	**07 27 16.6**	**+1.0**
WILLF	**Boquete**	**0.60**	**43**	*e*P	**Pn**	**07 27 07.0**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.63**	**40**	*e*P	**Pn**	**07 27 07.4**	**+0.1**
LNBQ3				*e*S	**Sn**	**07 27 16.4**	**0.0**
DAP26	**falda E V. Bar**	**0.64**	**41**	*e*P	**Pn**	**07 27 07.3**	**-0.1**
ALCO	**Alturas Coton,**	**0.64**	**1**	*e*P	**Pn**	**07 27 07.8**	**+0.3**
PSOM3	**Paja de Sombre**	**0.65**	**54**	*e*P	**Pn**	**07 27 07.5**	**+0.2**
PSOM3				*e*S	**Sn**	**07 27 16.8**	**+0.3**
FIMO	**Fila Mora**	**0.84**	**324**	*e*P	**Pb**	**07 27 11.4**	**+0.7**
PBNVO	**Pueblo Nuevo,**	**0.87**	**48**	*e*P	**Pb**	**07 27 11.0**	**-0.1**
RBALA	**Bur**	**0.90**	**50**	*e*P	**Pb**	**07 27 11.6**	**+0.1**
CHGR2	**Aguacate**	**0.94**	**48**	*e*P	**Pn**	**07 27 07.1**	**-4.3**
CHGR2				*e*S	**Sn**	**07 27 16.4**	**-7.4**
BURE	**Buenos Aires**	**0.99**	**331**	*e*P	**Pb**	**07 27 13.4**	**+0.4**
DRK0	**Durika**	**1.03**	**338**	*e*P	**Pb**	**07 27 14.4**	**+0.6**
DRK0				*e*S	**Sb**	**07 27 28.5**	**+1.4**
DRK0	**Durika**	**1.03**	**338**	*e*P	**Pb**	**07 27 14.4**	**+0.6**
EDPE	**Pejibaye, P**	**1.11**	**320**	*e*P	**Pb**	**07 27 15.6**	**+0.5**
KKNTU	**Kakint²**	**1.16**	**63**	*e*P	**Pn**	**07 27 15.1**	**+0.6**
SAJE	**San Jernim**	**1.22**	**328**	*e*P	**Pb**	**07 27 17.4**	**+0.3**
CVEJO	**Cerro Viej**	**1.26**	**92**	*e*P	**Pn**	**07 27 16.3**	**+0.5**
CEUA	**Cerro Uatsi, L**	**1.31**	**356**	*e*P	**Pb**	**07 27 20.0**	**+1.5**
LAES	**El Progreso Va**	**1.46**	**352**	*e*P	**Pb**	**07 27 21.9**	**+0.9**
VERH	**Veragua Rainfo**	**1.65**	**348**	*e*P	**Pb**	**07 27 24.0**	**-0.2**
GMAL	**Guarumal, Vera**	**1.69**	**108**	*e*P	**Pn**	**07 27 23.1**	**+1.4**
LLNJ	**Naranjito**	**1.70**	**313**	*e*P	**Pb**	**07 27 25.0**	**0.0**
PIEC	**Cerro El Cedra**	**1.71**	**320**	*e*P	**Pb**	**07 27 24.6**	**-0.7**
PITB	**Pirrs, San**	**1.78**	**319**	*e*P	**Pb**	**07 27 27.1**	**+0.6**
TURIB	**Turrialba**	**1.79**	**333**	*e*P	**Pb**	**07 27 26.6**	**-0.1**
VINA	**Juan Vinas**	**1.81**	**331**	*e*P	**Pb**	**07 27 26.8**	**-0.3**
PISJ	**San Jernim**	**1.82**	**316**	*e*P	**Pb**	**07 27 30.0**	**+2.8**
LCR2	**La Lucha 2**	**1.83**	**321**	*e*P	**Pb**	**07 27 26.1**	**-1.2**
RVSTA	**Santa Teresita**	**1.84**	**335**	*e*P	**Pb**	**07 27 27.4**	**0.0**
PCAYA	**Pacayas**	**1.86**	**329**	*e*P	**Pb**	**07 27 27.4**	**-0.5**
RESJ	**San Isidro (Tu**	**1.89**	**336**	*e*P	**Pb**	**07 27 27.9**	**-0.3**
PAR1A	**Puntarenas Pro**	**1.89**	**313**	*e*P	**Pb**	**07 27 28.0**	**-0.2**
CVTV	**Tajo**	**1.91**	**332**	*e*P	**Pb**	**07 27 28.6**	**-0.2**
CVTQ	**Turrialba Volc**	**1.92**	**332**	*e*P	**Pb**	**07 27 28.4**	**-0.6**
VTR0	**Volcan Turrial**	**1.93**	**332**	*e*P	**Pb**	**07 27 27.5**	**-1.6**
CVTR	**Volcan Turrial**	**1.93**	**332**	*e*P	**Pb**	**07 27 29.2**	**+0.1**
ACOS	**Acosta**	**1.97**	**319**	*e*P	**Pn**	**07 27 26.3**	**+0.6**
HDC	**Heredia**	**2.10**	**324**	*e*P	**Pb**	**07 27 32.3**	**+0.4**
HEME	**Heredia, Merce**	**2.11**	**323**	*e*P	**Pb**	**07 27 32.4**	**+0.4**
BELE	**Belen**	**2.12**	**322**	*e*P	**Pb**	**07 27 32.3**	**0.0**
ATEO	**Atenas**	**2.25**	**318**	*e*P	**Pb**	**07 27 33.8**	**-0.6**
SOCE	**Pocosol**	**2.70**	**320**	*e*P	**Pb**	**07 27 40.7**	**-1.5**
FORC	**Fortuna**	**2.80**	**320**	*e*P	**Pb**	**07 27 43.5**	**-0.2**
VARE2	**V. Arenal**	**2.83**	**319**	*e*P	**Pb**	**07 27 42.9**	**-1.4**
JTS	**Las Juntas de**	**2.86**	**314**	*e*P	**Pb**	**07 27 42.2**	**-2.6**

*MCSM **10** 07:28:58.7±0.7, 35°N±6°×2°5E±°, h10km±4km, mb4.1, mB4.7, Mw(mB)3.9*
*IDC **10** 07:28:58.8±1.1, 34°59N×25°14E, h0km, mb3.9/9, mbtmp3.8/16, ML3.6/7, Error ellipse: s-maj=18.4km s-min=9.8km az=59.0*
*ISK **10** 07:29:02.7, 34°76N×25°08E, h16km, ML3.7/16*
*HLW **10** 07:29:02.4, 34°76N×25°21E, h32km±40km, Md4.2, MI3.3*
*ATH **10** 07:29:02.1, 34°66N×25°07E, h12km±2km, ML3.9/11, Manual Solution by M.Charalampakis First location: 2019/08/10 07:30:07, This location: 2019/08/10 07:39:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **10** 07:29:03.9, 35°N±3°×2°5E±°, h13km±2km, M3.8/7, MLh3.8/7*

ISC 10 07:29:02.5±1.1, 34°68N±0°04×25°12E±0°03, h27km±9km, n101, σ1°56/122, mb3.7/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.48**	**324**	P	**Pb**	**07 29 12.1**	**-0.5**
TMBK				S	**Sb**	**07 29 18.2**	**-1.1**
TMBK	**Timbaki Herakl**	**0.48**	**324**	P	**Pb**	**07 29 12.1**	**-0.5**
TMBK				S	**Sb**	**07 29 18.5**	**-0.8**
IACM	**Heraklion**	**0.62**	**357**	P	**Pb**	**07 29 15.4**	**+0.5**
IACM				S	**Sb**	**07 29 23.9**	**+0.6**
IACM	**Heraklion**	**0.62**	**357**	P	**Pb**	**07 29 14.8**	**-0.1**
IACM				S	**Sb**	**07 29 23.3**	**0.0**
IDI	**Anoyia**	**0.63**	**343**	Pg	**Pb**	**07 29 14.1**	**-0.9**
IDI				Sg	**Sb**	**07 29 22.2**	**-1.4**
IDI	**Anoyia**	**0.63**	**343**	P	**Pb**	**07 29 14.2**	**-0.8**
IDI				S	**Sb**	**07 29 22.4**	**-1.2**
IDI	**Anoyia** 157nm,0.3s,baz=188,slow=10,SNR=250	**0.63**	**343**	Pg	**Pb**	**07 29 14.1**	**-0.9**
IDI	1µm,0.3s,baz=244,slow=14,S

ZAF	Zafarana	8.30	128	P		Pn	07 31 00.7	-0.3
ZNM	Zenema	8.45	127	P		Pn	07 31 03.5	+0.4
BRTR	Keskin Array B	8.46	51	Pn		Pn	07 31 04.3	+1.0
	0.1nm,0.3s,baz=225,slow=13,SNR=4.9							
	0.7nm,0.5s							
MMAI	Mount Meron Ar	8.72	98	Pn		Pn	07 31 05.7	-1.2
	2.3nm,0.3s,baz=271,slow=13,SNR=9.2							
MMAI				Sn		Sn	07 32 40.2	-4.1
	4.6nm,0.3s,baz=262,slow=27,SNR=6.8							
	1.2nm,0.3s							
ASUT		9.13	141	P		Pn	07 31 12.6	+0.1
GRB	Gharib	9.15	132	P		Pn	07 31 11.9	-0.9
EIL	Elat	9.72	118	Pn		Pn	07 31 20.2	-0.3
	2.1nm,0.3s,baz=314,slow=2.2,SNR=25							
EIL				Sn		Sn	07 33 00.8	-7.9
	1.4nm,0.3s,baz=314,slow=19,SNR=6.8							
	4.7nm,0.4s							
ASF	Jabal al Asfar	10.16	101	Pn		Pn	07 31 25.9	-0.7
	0.4nm,0.3s,baz=315,slow=22,SNR=5.1							
ASF				Sn		Sn	07 33 15.8	-4.0
	0.4nm,0.3s,baz=203,slow=23,SNR=1.8							
	1.9nm,0.6s							
GTR	Jabal at Tayr	10.28	151	P		Pn	07 31 29.5	+1.2
AK07	Malin Array Si	16.14	9	P		Pn	07 32 47.6	+0.3
AK06	Malin Array Si	16.17	9	P		Pn	07 32 48.0	+0.3
AK10	Malin Array Si	16.19	9	P		Pn	07 32 48.2	+0.2
AK14	Malin Array Si	16.20	9	P		Pn	07 32 48.3	+0.2
AK05	Malin Array Si	16.20	9	P		Pn	07 32 48.3	+0.1
AK09	Malin Array Si	16.21	10	P		Pn	07 32 48.4	+0.2
AK12	Malin Array Si	16.22	9	P		Pn	07 32 48.6	+0.2
AK08	Malin Array Si	16.23	9	P		Pn	07 32 48.6	+0.2
AK02	Malin Array Si	16.24	9	P		Pn	07 32 48.8	+0.2
AK16	Malin Array Si	16.24	9	P		Pn	07 32 48.8	+0.2
AK17	Malin Array Si	16.25	9	P		Pn	07 32 48.9	+0.2
AK11	Malin Array Si	16.26	9	P		Pn	07 32 49.0	+0.2
AK15	Malin Array Si	16.27	9	P		Pn	07 32 49.1	+0.1
AK01	Malin Array Si	16.28	9	P		Pn	07 32 49.2	+0.1
KIEV	Kiev	16.28	9	P		Pn	07 32 49.3	+0.2
	40nm,0.8s							
AK19	Malin Array Si	16.28	9	P		Pn	07 32 49.3	+0.2
AKASG	Malin Array Be	16.29	9	Pn		Pn	07 32 50.3	+1.1
	0.8nm,0.3s,baz=203,slow=11,SNR=10							
	0.2nm,0.3s							
AKBB	Malin Array Si	16.29	9	P		Pn	07 32 49.3	+0.1
KBZ	Khabaz	16.45	51	Pn		P	07 32 56.2	+2.4
	0.2nm,0.3s,baz=232,slow=8.4,SNR=22							
	8.6nm,0.8s							
GERES	GERESS Array B	16.49	333	Pn		P	07 32 53.9	-0.4
	baz=145,slow=12,SNR=13							
	1.7nm,0.6s							
ESDC	Sonseca Array	23.64	291	P		P	07 34 12.0	+0.4
	1.0nm,0.8s,baz=84,slow=9.3,SNR=5.5							
	1.0nm,0.8s							
HFS	Hagfors	26.53	347	P		P	07 34 36.8	-0.9
	1.6nm,0.8s,baz=153,slow=9.7,SNR=1.8							
	1.6nm,0.8s							
FINES	FINESS Array B	26.79	1	P		P	07 34 37.8	-2.1
	0.4nm,0.4s,baz=179,slow=9.3,SNR=5.1							
EKA	Eskdalemuir Ar	28.41	325	P		P	07 34 55.4	+0.9
	0.9nm,0.5s,baz=123,slow=10,SNR=3.7							
	0.9nm,0.5s							
TORD	Torodi Ar. Bea	30.16	230	P		P	07 35 10.8	+0.4
	3.4nm,0.4s,baz=39,slow=10,SNR=3.2							
	3.4nm,0.4s							
ARCES	ARCESS Array B	34.91	0	P		P	07 35 52.0	+0.6
	1.8nm,0.8s,baz=178,slow=8.6,SNR=1.2							
	1.8nm,0.8s							
KURBB	Kurchatov Arra	41.45	51	P		P	07 36 47.3	+0.6
	0.7nm,0.4s,baz=278,slow=8.7,SNR=7.3							
	0.7nm,0.4s							
MKAR	Makanchi Array	44.07	56	P		P	07 37 08.6	+0.5
	0.4nm,0.3s,baz=267,slow=8.2,SNR=11							
	0.4nm,0.3s							
ZALV	Zalesovo Beam	45.36	46	P		P	07 37 18.1	-0.1
	0.6nm,0.3s,baz=266,slow=7.7,SNR=2.2							
	0.6nm,0.3s							
SONM	Songino Array	59.82	50	P		P	07 39 05.6	+0.1
	0.3nm,0.5s,baz=283,slow=6.4,SNR=1.5							
	0.3nm,0.5s							

IDC ***10*** *07:32:26.7±4.3, 11°.68S×166°.42E, h107km±37km, mb3.7/10, mbtmp4.1/11, Error ellipse: s-maj=31.4km s-min=17.9km az=74.0*

NEIC ***10*** *07:32:28.4±0.8, 11°.67S±0°.10×166°.7E±0°.1, h122km±6km, mb4.3/13, Error ellipse: s-maj=21.3km s-min=8.4km az=54.0*

NOU ***10*** *07:32:30.3, 11°.70S×166°.16E, h93km, MLv5.0/9, Santa Cruz Islands*

ISC 10 07:32:25.5±0.7, 11°.63S±0°.07×166°.7E±0°.1, h100km, n40, σ1s20/36, mb4.1/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	1.23	321	P	Pn	07 32 49.8	+1.2
LUES	Luesalemba Tem	1.23	321	P	Sn	07 33 07.2	+1.2
SANVU	Saraoutou	3.83	173		Pn	07 33 24.7	+2.3
HURO	Huro Makira	4.85	283	P	Pn	07 33 33.9	-2.4
HURO	Huro Makira	4.85	283	S	Sn	07 34 25.3	-6.1
NGOA	Tingoa Renbel	6.51	270	P	Pn	07 33 56.7	-2.1
NGOA	Tingoa Renbel	6.51	270	S	Sn	07 35 03.0	-8.6
ALEG	Aligegeo Malai	6.57	295	P	Pn	07 33 58.9	-0.7
ALEG	Aligegeo Malai	6.57	295	S	Sn	07 35 06.7	-6.4
HNR	Honiara	6.99	288	Pn	Pn	07 34 08.6	+3.2
TATA	Tatamba Isabel	7.52	295	P	Pn	07 34 11.4	-1.2
DZM	Mont Dzumac	10.39	181	Pn	Pn	07 34 53.1	+1.5
DZM	Mont Dzumac	10.39	181	P	Pn	07 34 53.8	+2.1
	3.1nm,0.4s,baz=337,slow=7.1,SNR=33						
DZM				S	Sn	07 36 43.5	-2.7
	3.6nm,0.6s,baz=277,slow=14,SNR=3.8						
ONTNC	Ouen Toro	10.62	181	Pn	Pn	07 34 56.4	+1.6
EIDS	Eidsvold	20.13	225	P	P	07 36 52.1	+0.4
EIDS				IAmb	IAmb	07 36 55.2	
	comp=Z,16nm,1.4s						
ARMA	Armidale	23.35	215	P	P	07 37 25.7	+0.4
ARMA				IAmb	IAmb	07 37 26.4	
	comp=Z,31nm,1.5s						
BKZ	Black Stump Fm	28.77	164	P	P	07 38 13.8	-0.1
TUWZ	Tuamarina	30.36	169	P	P	07 38 28.0	+0.1
WRA	Warramunga Arr	32.18	251	P	P	07 38 41.4	-2.8
	comp=Z,0.6nm,0.6s,baz=84,slow=9.3,SNR=3.6						
WRA				pP	pP	07 39 06.5	+1.5
	comp=Z,0.4nm,0.6s,baz=80,slow=8.5,SNR=2.3						
WRA				PcP	PcP	07 41 30.6	-0.3
	comp=Z,0.6nm,0.6s,baz=68,slow=3.1,SNR=6.2						
	comp=Z,0.6nm,0.6s						
ASAR	Alice Springs	33.38	245	P	P	07 38 52.0	-2.7
	comp=Z,0.8nm,0.7s,baz=65,slow=10,SNR=7.7						
ASAR				pP	pP	07 39 17.4	+1.1
	comp=Z,0.6nm,0.6s,baz=76,slow=8.7,SNR=3.6						
ASAR				PcP	PcP	07 41 33.5	-0.7
	comp=Z,1.1nm,0.9s,baz=90,slow=3.6,SNR=6.5						
	comp=Z,0.8nm,0.7s						
FITZ	Fitzroy Crossi	40.14	256	P	P	07 39 50.5	-1.5
JMN	Monobe	54.87	326	P	P	07 41 45.7	-0.1
MJAR	Matsushiro Arr	54.92	332	P	P	07 41 45.2	-0.8
	comp=Z,0.6nm,0.5s,baz=144,slow=10,SNR=4.7						
	comp=Z,0.6nm,0.5s						
KSRS	Korea Array	60.89	325	P	P	07 42 27.4	-0.3
	comp=Z,1.3nm,0.6s,baz=129,slow=6.3,SNR=4.2						
	comp=Z,1.3nm,0.6s						
VNDA	Vanda	65.93	181	P	P	07 42 59.9	-0.5
VNDA				IAmb	IAmb	07 43 02.1	
	comp=Z,3.9nm,1.4s						
VNDA	Vanda	65.93	181	P	P	07 43 00.2	-0.3
	comp=Z,0.8nm,0.7s,baz=348,slow=5.5,SNR=5.5						
	comp=Z,0.8nm,0.7s						
SBA	Scott Base	66.22	180	P	P	07 43 02.7	+0.4
CMAR	Chiang Mai Arr	73.21	293	P	P	07 43 46.4	+0.2
	comp=Z,2.8nm,0.7s,baz=128,slow=4.7,SNR=12						
	comp=Z,2.8nm,0.7s						
M16K	Timber Creek	77.35	16	P	P	07 44 09.2	+0.2
M16K				IAmb	IAmb	07 44 12.0	
	comp=Z,3.2nm,1.0s						
QSPA	South Pole Qui	78.38	180	P	P	07 44 15.0	0.0
QSPA				IAmb	IAmb	07 44 16.9	
	comp=Z,11nm,1.2s						
QSPA	South Pole Qui	78.38	180	P	P	07 44 15.5	+0.5
	comp=Z,5.1nm,0.8s,baz=339,slow=0.7,SNR=15						
	comp=Z,5.1nm,0.8s						
L18K	Granite Mounta	78.95	17	P	P	07 44 18.9	+1.0
L19K	White Mountain	79.45	17	P	P	07 44 21.5	+0.9
SONM	Songino Array	79.69	323	P	P	07 44 21.7	-0.7
	comp=Z,0.8nm,0.5s,baz=116,slow=5.4,SNR=2.5						
	comp=Z,0.8nm,0.5s						
C18K	Utukok River	83.25	11	P	P	07 44 40.9	+0.4
C18K				IAmb	IAmb	07 45 20.3	
	comp=Z,9.5nm,1.3s						
D19K	Kuna River	83.73	12	P	P	07 44 43.6	+0.5
D19K				IAmb	IAmb	07 45 20.5	
	comp=Z,9.0nm,1.3s						
ILAR	Eielson Array	83.77	18	P	P	07 44 43.9	+0.7
	comp=Z,0.3nm,0.6s,baz=226,slow=4.3,SNR=5.3						
	comp=Z,0.3nm,0.6s						
MKAR	Makanchi Array	94.59	317	P	P	07 45 34.8	-0.3
	comp=Z,0.3nm,0.6s,baz=87,slow=5.8,SNR=8.8						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	117.13	346	PKP	PKPdf	07 50 56.8	-1.7
	comp=Z,3.9nm,1.0s,baz=51,slow=1.8,SNR=3.5						
BOSA	Boshof	125.33	222	PKP	PKPdf	07 51 15.5	-0.1
	comp=Z,1.7nm,0.7s,baz=84,slow=9.3,SNR=3.7						

NNC ***10*** *07:35:06.5±5.0, 41°.76N×46°.26E, h0km, mb5.0, Error ellipse: s-maj=91.0km s-min=42.4km az=106.0*

NSSP ***10*** *07:35:07.3, 41°.60N×46°.57E, h10km, Ms4.9*

AZER ***10*** *07:35:07.9, 41°.55N×46°.46E, h5km, ml4.9*

TIF ***10*** *07:35:08.8, 41°.58N×46°.72E, h20km*

IDC ***10*** *07:35:08.2±0.4, 41°.59N×46°.56E, h0km, mb4.4/32, mbtmp4.4/45, ML3.8/10, MS3.9/46, Error ellipse: s-maj=8.5km s-min=6.2km az=148.0*

MOS ***10*** *07:35:09.1, 41°.56N×46°.60E, h9km, MPVA5.4*

NEIC ***10*** *07:35:10.3±1.0, 41°.66N±0°.07×46°.61E±0°.10, h10km±1km, mb4.9/95, Error ellipse: s-maj=12.7km s-min=11.0km az=254.0*

NORS ***10*** *07:35:10.7, 41°.65N×46°.62E, h7km, MPVA5.5*

DRS ***10*** *07:35:11.5, 41°.66N×46°.66E, h18km*

NAO ***10*** *07:35:18.5, 41°.58N×46°.59E, h10km, mb4.5*

ISC 10 07:35:09.7±0.7, 41°.58N±0°.01×46°.54E±0°.01, h12km±4km, n852, σ1s93/967, mb4.8/123, MS4.0/39, 53C-25D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	Zakatala	0.09	45	P	Pg	07 35 13.0	+0.6
ZKTA				S	Sg	07 35 15.2	+0.8
VSHL	Vashlovani	0.36	197	P	Pn	07 35 19.9	-1.0
TLTR	Tlyarata	0.55	345	ePG	Pb	07 35 21.5	+0.1
TLTR				eS	Sb	07 35 29.8	+0.5
SEKA	Sheki	0.62	126	Pg	Pg	07 35 21.5	-0.2
SEKA				Sg	Sb	07 35 30.8	-0.3
SEKA	Sheki	0.62	126	PG	Pg	07 35 21.5	-0.2
GNBR	Gunib	0.87	21	ePg	Pn	07 35 27.6	-0.2
GNBR				eSg	Sn	07 35 40.3	-0.3
GNBR	Gunib	0.87	21	ePG	Pn	07 35 27.7	-0.2
GNBR				eS	Sn	07 35 40.4	-0.2
DGRG	David-gareji	0.88	262	P	Pn	07 35 28.9	+0.9
DGRG				S	Sn	07 35 43.9	+3.0
DGRG	David-gareji	0.88	262	PG	Pn	07 35 29.0	+0.9
DGRG				S	Sn	07 35 43.9	+3.0
AKT	Akhty	0.90	96	ePg	Pg	07 35 26.8	-0.5
AKT				eSg	Sg	07 35 38.0	-0.5
AKT	Akhty	0.90	96	ePG	Pg	07 35 26.5	-0.5
AKT				eS	Sg	07 35 38.0	-0.8
MNGR	Mingechevir, A	0.90	153	P	Pn	07 35 27.9	-0.4
MNGR				S	Sn	07 35 42.2	+1.0
MNGR	Mingechevir, A	0.90	153	PG	Pn	07 35 27.8	-0.4
GANJ	Ganja	0.94	190	P	Pg	07 35 27.8	-0.1
GANJ				S	Sn	07 35 41.8	-0.6
GANJ	Ganja	0.94	190	PG	Pg	07 35 27.8	-0.1
XNZR	Khunzakh	0.97	7	ePg	Pn	07 35 30.1	+0.7
XNZR				eSg	Sn	07 35 44.4	+1.2
HNZR	Khunzah	0.99	8	ePG	Pn	07 35 30.1	+0.5
HNZR				eS	Sn	07 35 44.4	+0.7
QZX	Qazax, Azerbai	1.02	240	P	Pn	07 35 29.8	-0.1
QZX				S	Sn	07 35 45.0	+0.9
GDB	GEDABAY	1.04	215	P	Pg	07 35 29.5	-0.2
GDB				S	Sg	07 35 43.2	-0.1
ARKR	Arakani	1.08	18	ePg	Pn	07 35 31.5	+0.7
ARKR				eSg	Sn	07 35 47.2	+1.5
ARKR	Arakani	1.08	18	ePG	Pn	07 35 31.6	+0.8
ARKR				eS	Sn	07 35 47.2	+1.5
ARKR				pmax	pmax		
	comp=Z,4μm,0.3s						
BTLR	Botlikh	1.11	348	ePg	Pn	07 35 32.1	+0.9
BTLR				eSg	Sn	07 35 47.6	+1.0
BTLR	Botlikh	1.11	348	ePG	Pn	07 35 32.2	+1.0
BTLR				eS	Sn	07 35 47.8	+1.3
UNCR	Uncukul	1.15	9	ePg	Pg	07 35 33.1	+1.2
UNCR				eSg	Sn	07 35 49.8	+2.2
UNCR	Uncukul	1.15	9	ePG	Pg	07 35 33.1	+1.2
UNCR				eS	Sn	07 35 49.7	+2.2
UNCR				pmax	pmax		
	comp=Z,8μm,0.9s						
QBL	Gabala	1.16	122	P	Pb	07 35 31.7	-0.1
QBL				S	Sn	07 35 50.6	+2.8
KSMR	Kasumkent	1.19	88	ePG	Pg	07 35 32.9	+0.3
KSMR				eS	Sn	07 35 50.3	+1.8
KSMR				pmax	pmax		
	comp=Z,5μm,0.3s						
LSVT	Lusahovit	1.21	238	⇓iP	Pn	07 35 32.4	-0.2
LSVT				⇓iS	Sn	07 35 49.6	+0.6
XNQ	Khinaliq	1.27	108	Pn	Pn	07 35 33.5	0.0
XNQ				Sn	Sg	07 35 53.4	+2.7
KRNR	Karanay	1.28	12	ePg	Pg	07 35 35.0	+0.7
KRNR				eSg	Sg	07 35 53.4	+2.5
KRNR	Karanay	1.28	12	ePG	Pg	07 35 35.0	+0.7
KRNR				eS	Sg	07 35 53.4	+2.5
KRNR				pmax	pmax		
	comp=Z,2μm,0.3s						
QSAR	Qusar	1.30	92	Pn	Pg	07 35 34.4	-0.2
QSAR				Sn	Sg	07 35 56.2	+4.7
BTNK	Botanikuri	1.31	275	PG	Pg	07 35 34.9	+0.1
BTNK				S	Sg	07 35 54.2	+2.4
SEAG	Tbilisi Sea	1.31	279	PG	Pg	07 35 36.0	+1.1
BUJR	Buynaksk	1.32	19	ePg	Pg	07 35 35.9	+0.9
BUJR				eSg	Sg	07 35 54.5	+2.4
BUJR	Buynaksk	1.32	19	ePG	Pg	07 35 35.9	+0.9
BUJR				eS	Sg	07 35 54.5	+2.4
TBLG	Delisi	1.36	277	P	Pg	07 35 35.6	-0.2
TBLG				S	Sg	07 35 56.4	+3.0
TBLG	Delisi	1.36	277	PG	Pg	07 35 35.6	-0.2
TBLG				S	Sg	07 35 56.4	+3.0
BRDA	Brd	1.40	159	P	Pg	07 35 36.5	-0.1
BRDA				Sn	Sg	07 35 58.2	+3.5
DRN	Derbent	1.41	71	ePg	Pg	07 35 37.2	+0.4
DRN				eSg	Sg	07 35 56.8	+1.6
DRN	Derbent	1.41	71	ePG	Pg	07 35 37.2	+0.4
DRN				eS	Sg	07 35 57.3	+2.1
DRN				pmax	pmax		
	comp=Z,9μm,0.4s						
IML	Ismayilli	1.47	122	Pn	Pb	07 35 36.5	-0.4
IML				Sn	Sg	07 35 58.5	+1.6
QUBA	Quba, Azerbaij	1.48	98	Pn	Pg	07 35 37.8	-0.4
QUBA				Sn	Sg	07 36 00.4	+2.9
SHTL	Shatili	1.49	317	P	Pb	07 35 37.8	+0.3
SHTL	Shatili	1.49	317	PN	Pb	07 35 37.8	+0.3
DLMR	Dylym	1.49	3	ePg	Pg	07 35 39.2	+0.8
DLMR				eSg	Sg	07 36 00.9	+3.1
DLMR	Dylym	1.49	3	ePG	Pg	07 35 39.2	+0.8
DLMR				eS	Sg	07 36 00.8	+3.1
DLMR				pmax	pmax		
	comp=Z,4μm,0.3s						
AGDM	Agdam	1.53	163	Pn	Pb	07 35 37.9	-0.1
AGDM				Sn	Sg	07 36 00.2	+1.3
MAK	Makhachkala	1.56	27	ePg	Pg	07 35 40.0	+0.4
MAK				eSg	Sg	07 36 01.6	+1.8
MAK	Makhachkala	1.56	27	ePG	Pg	07 35 40.0	+0.4
MAK				eS	Sg	07 36 01.7	+1.8
ZRD	Zardab	1.56	146	Pn	Pb	07 35 38.9	+0.4
ZRD				Sn	Sg	07 36 02.3	+2.5
AYRK	Ayrk	1.57	202	eP	Pb	07 35 38.6	-0.1
AYRK				eS	Sg	07 36 01.6	+1.5
KZRT	Kazreti	1.62	264	P	Pn	07 35 37.1	-1.1
KZRT				S	Sb	07 35 59.8	-0.2
KZRT	Kazreti	1.62	264	PN	Pn	07 35 37.1	-1.1
KDMR	Kurdemir	1.73	133	Pn	Pb	07 35 41.1	-0.3
KDMR				Sn	Sg	07 36 05.4	+0.1
PQL	Pirkuli	1.74	116	Pn	Pb	07 35 41.6	-0.1
PQL				Sn	Sg	07 36 08.2	+2.6
SRTK	Saratovka	1.75	254	⇑iP	Pn	07 35 40.8	+0.8
SRTK				⇑iS	Sb	07 36 04.5	+0.8
KANR	Karaman	1.77	23	ePg	Pg	07 35 44.7	+1.2
KANR				eSg	Sg	07 36 09.7	+3.3
KANR	Karaman	1.77	23	ePN	Pg	07 35 44.7	+1.2
KANR				eS	Sg	07 36 09.7	+3.3
TRLG	Trialeti	1.83	270	P	Pn	07 35 42.2	+1.0
TRLG				S	Sg	07 36 07.7	-0.8
TRLG	Trialeti	1.83	270	PN	Pn	07 35 42.2	+1.0
SIZA	Siyzn	1.85	105	Pn	Pb	07 35 43.9	+0.4
SIZA				Sn	Sg	07 36 11.8	+2.7
KAPZ	Kaputan	1.87	229	⇑iP	Pb	07 35 44.0	0.0
KAPZ				⇓iS	Sg	07 36 11.2	+1.2
KMGR	Komgaron	1.93	321	ePg	Pg	07 35 47.0	+0.3
KMGR				eSg	Sg	07 36 13.3	+1.5
KMGR	Komgaron	1.93	321	ePN	Pg	07 35 48.2	+1.5
KMGR				eS	Sg	07 36 14.9	+3.1
ATGJ	Altiaghaj	1.95	111	Pn	Pg	07 35 46.6	-0.4
ATGJ				Sn	Sg	07 36 14.4	+2.0
GNI	Garni	1.97	224		Pb	07 35 45.2	-0.5
GNI	Garni	1.97	224	P	Pb	07 35 44.9	-0.7
GNI				S	Sb	07 36 11.6	+1.3
GNI	Garni	1.97	224	Pg	Pb	07 35 46.3	+0.7
	comp=Z,1μm,0.3s,baz=26,slow=1.5,SNR=1068						
GNI				Lg	Lg	07 36 13.0	
	comp=Z,913nm,0.3s,baz=24,slow=22,SNR=9.1						
GNI	Garni	1.97	224	P	Pb	07 35 45.7	0.0
GNI				S	Sb	07 36 10.6	+0.3
GNI	Garni	1.97	224	⇓iP	Pb	07 35 45.4	-0.2
GNI				⇓iS	Sg	07 36 14.2	+1.1
GNI	Garni	1.97	224	i Pg	Pb	07 35 45.5	-0.2
GNI				eSg	Sg	07 36 14.3	+1.1
GNI	Garni	1.97	224	Pn	Pb	07 35 45.5	-0.2
BLQ	Beylaqan	2.01	157	Pn	Pn	07 35 44.4	+0.9
BLQ				Sn	Sb	07 36 11.8	+0.6
VLKR	Vladikavkaz	2.02	317	ePg	Pg	07 35 49.1	+0.7
VLKR				eSg	Sg	07 36 15.5	+1.0
VLKR	Vladikavkaz	2.02	317	ePN	Pg	07 35 49.1	+0.7
VLKR				eS	Sg	07 36 15.5	+1.0
VAYK	Vayk	2.06	205	i P	Pb	07 35 46.7	-0.5
VAYK				i S	Sg	07 36 15.6	-0.4
LACR	Lac	2.08	308	ePg	Pb	07 35 48.4	+0.9
LACR				eSg	Sg	07 36 17.8	+1.2
LACR	Lac	2.08	308	ePN	Pg	07 35 48.8	-0.8
LACR				eS	Sg	07 36 18.5	+1.9
GBS	Qobustan	2.09	119	Pn	Pb	07 35 48.1	+0.4
GBS				Sn	Sg	07 36 16.7	-0.3
KMOZ	Kamo	2.09	250	⇓iP	Pb	07 35 46.9	-0.9
KMOZ				⇓iS	Sg	07 36 16.9	-0.1
AMBZ	Amberd	2.10	236	⇑iP	Pb	07 35 48.0	+0.2
AMBZ				⇑iS	Sg	07 36 17.2	+0.2
NRKZ	NAREK	2.12	223	⇓iP	Pb	07 35 48.2	0.0
NRKZ				⇓iS	Sg	07 36 18.6	+0.7
QRD	Qoradiz	2.19	164	Pg	Pn	07 35 47.1	+1.1
QRD				Sn	Sb	07 36 16.6	+0.1
ALIG	Mtskhetisjvari	2.22	285	P	Pb	07 35 48.4	-1.5
ALIG				S	Sg	07 36 19.4	-1.7
ALIG	Mtskhetisjvari	2.22	285	PN	Pb	07 35 48.4	-1.5
ALIG				S	Sg	07 36 19.4	-1.7
BGD	Bogdanovka	2.23	263	P	Pn	07 35 47.6	+0.8
BGD	Bogdanovka	2.23	263	PN	Pn	07 35 47.6	+0.8
SAAT	Saatly	2.23	139	Pn	Pn	07 35 47.2	+0.7
SAAT				Sn	Sb	07 36 16.4	-1.1
HYR	Heyderabad	2.26	215	Pn	Pb	07 35 49.7	-0.7
HYR				Sn	Sb	07 36 18.3	0.0
ARUZ	Aruch	2.26	236	⇑iP	Pb	07 35 50.5	0.0
ARUZ				⇑iS	Sg	07 36 22.6	+0.3
AKH	Akhalkalaki	2.29	267	P	Pb	07 35 49.8	-1.4
AKH				S	Sb	07 36 19.8	+0.2
AKH	Akhalkalaki	2.29	267	P	Pb	07 35 49.7	-1.4
AKH	Akhalkalaki	2.29	267	ePn	Pb	07 35 49.5	-1.6
AKH				eSn	Sb	07 36 20.1	+0.5
AKH	Akhalkalaki	2.29	267	ePN	Pb	07 35 49.5	-1.6
AKH				eS	Sb	07 36 20.1	+0.5
SBZ	Shahbuz	2.30	199	Pn	Pb	07 35 50.1	-1.2
SBZ				Sn	Sn	07 36 17.6	+1.6
BTKR	Batakoyurt	2.32	321	ePN	Pg	07 35 53.0	-1.2
BTKR				eS	Sb	07 36 22.2	+1.9
EGVZ	Egvard	2.35	180	⇑iP	Sg	07 36 50.2	+25
EGVZ				⇑iS	Sb	07 36 20.9	-0.1
METS	Metsamor	2.35	233	eP	Pb	07 35 51.7	-0.3
METS				eS	Sg	07 36 24.5	-0.6
TASB	TASBURUN-IGDIR	2.36	228	P	Pb	07 35 50.6	-1.6
TASB				S	Sb	07 36 21.2	-0.2
KORR	Kora	2.37	310	ePn	Pb	07 35 51.7	-0.7
KORR				eSn	Sb	07 36 23.8	+2.1
KORR	Kora	2.37	310	ePN	Pg	07 35 54.2	-1.0
KORR				eS	Sg	07 36 27.0	+1.1
ALIB	&Aumlli-Bayram	2.48	130	Pn	Pb	07 35 53.7	-0.4
ALIB				Sg	Sg	07 36 28.1	-1.0
GARIG	Gari	2.50	295	P	Pb	07 35 53.9	-0.8
TRKR	Terskaya	2.53	329	ePn	Pb	07 35 54.4	-0.6
TRKR

SHA1 eS Sb 07 36 55.2 -1.6
BEYR Belyy Ugol+ 3.66 313 ePn Pn 07 36 08.1 +1.8
BEYR eSn Sn 07 36 54.0 +4.5
BEYR Belyy Ugol+ 3.66 313 ePN Pn 07 36 08.1 +1.8
BEYR eS Sn 07 36 54.0 +4.5
BCA Borcka 3.69 270 eP Pn 07 36 10.1 +3.4
KIV0 Kislovodsk Arr 3.70 311 ePn Pn 07 36 09.2 +2.4
KIV0 eSn Sn 07 36 53.4 +3.0
KVAR Kislovodsk Arr 3.70 311 Pn Pn 07 36 08.9 +2.1
baz=284,slow=21
KVAR Lg Lg 07 37 05.5
baz=227,slow=15
KVAR LR LR 07 37 41.7
comp=Z,1µm,20.9s,baz=354,slow=42
comp=Z,9.8nm,0.4s
KIV Kislovodsk 3.70 311 Pn 07 36 07.3 +0.5
KIV Kislovodsk 3.70 311 P Pb 07 36 11.6 -3.5
KIV S Sb 07 36 58.0 -2.0
KIV Kislovodsk 3.70 311 ePn Pn 07 36 09.3 +2.5
KIV eSn Sb 07 36 55.9 -4.0
KIV Kislovodsk 3.70 311 ePN Pn 07 36 10.9 +4.1
KIV eS Sb 07 36 56.6 -3.3
KIV pmax pmax
comp=Z,149nm,1.1s
KIV MLR MLR
comp=Z,413nm,8.0s
KOPR Koprukoy-ERZUR 3.89 248 eP Pn 07 36 12.5 +3.0
MLAZ Malazgirt-MUS 3.90 233 eP Pn 07 36 12.7 +3.1
DOMR Dombai 4.02 297 ePn Pn 07 36 15.4 +4.1
DOMR eSn Sb 07 37 06.3 -3.0
DOMR Dombai 4.02 297 ePN Pn 07 36 15.4 +4.1
DOMR eS Sb 07 37 06.3 -3.0
ALER Alexandrovskoy 4.14 321 ePn Pn 07 36 15.8 +2.9
ALER eSn Sn 07 37 05.2 +4.0
ALER Alexandrovskoy 4.14 321 ePN Pn 07 36 15.8 +2.9
ALER eS Sn 07 37 05.2 +4.0
GEVA Gevas 4.22 220 Pn Pn 07 36 15.2 +1.3
AKDM Akdamar-Van 4.24 221 eP Pn 07 36 17.2 +2.9
GOF Gofitskoye 4.31 325 ePN Pn 07 36 17.8 +2.7
GOF eS Sn 07 37 10.0 +4.6
GURO Guroymak-BITLI 4.59 230 Pn 07 36 21.5 +2.4
GURO Guroymak-BITLI 4.59 230 eP Pn 07 36 22.4 +3.3
BAYT Aydıntepe-Bayb 4.98 258 eP Pn 07 36 28.0 +3.5
RPOR Krasnaya Polya 5.09 297⇑ *i*PN Pn 07 36 30.0 +4.2
VSLR Vesyoloye 5.16 294⇑ *e*PN Pn 07 36 31.6 +4.8
GUZR Guzeripl' *de*P Pn 07 36 33.5 +4.6
SVAN Silvan-Diyarba 5.35 232 eP Pn 07 36 33.2 +3.8
SOC Sochi 5.42 294 eP Pn 07 36 32.8 +2.5
SOC *e* 07 37 37.5
SOC MLR MLR
comp=Z,911nm,14.0s
ERBR Yeremizino-Bor 6.03 315 eP Pn 07 36 44.4 +5.7
ERBR eS Sb 07 37 58.9 -8.0
ERBR pmax pmax
comp=Z,49nm,1.3s
ERBR MLR MLR
comp=Z,1µm,15.0s
ERBR MLR MLR
comp=N,3µm,13.0s
MARD Mardin 6.16 228 Pn 07 36 43.5 +2.9
ANN Anapa 7.39 299 eP Pn 07 37 00.9 +3.5
ANN eS Sn 07 38 28.7 +7.5
ANN pmax pmax
comp=Z,19nm,0.7s
ANN MLR MLR
comp=N,560nm,12.0s
ANN MLR MLR
comp=E,1µm,13.0s
ANN MLR MLR
comp=Z,819nm,14.0s
TOKA Tokat 7.72 264 Pn Pn 07 37 03.7 +1.8
BNN Bunyan 8.62 255 Pn 07 37 17.8 +3.3
KIRS Kirsehir-Merke 9.94 260⇑ P Pn 07 37 38.2 +5.8
BR131 Keskin Array S 9.98 264 Pn 07 37 34.5 +1.5
BR131 Keskin Array S 9.98 264 *c iP* Pn 07 37 38.5 +5.5
BRTR Keskin Array B 9.98 264 Pn 07 37 34.8 +1.8
BRTR Keskin Array B 9.98 264 Pn Pn 07 37 38.6 +5.6
comp=Z,0.1nm,0.3s,baz=84,slow=7.5,SNR=8.6
BRTR LR LR 07 40 55.7
comp=Z,125nm,20.8s,baz=26,slow=35
comp=Z,2.1nm,0.9s
VRH Novokhopyorsk 10.18 343 eP Pn 07 37 33.5 -2.1
VORD Divnogorie 10.64 334 eP Pn 07 37 40.5 -1.4
BELG Belogornoye 10.85 4 Pn Pn 07 37 43.1 -1.6
comp=Z,20nm,0.3s,baz=16,slow=4.9,SNR=11
BELG Sn Sn 07 39 42.0 -3.9
comp=Z,11nm,0.3s,baz=175,slow=23,SNR=8.4
VSR Storozhevoye 10.90 335 eP Pn 07 37 43.6 -1.8
MDUB Mudurnu 11.64 270 Pn Pn 07 37 56.2 +0.5
AKTO Aktyubinsk 11.91 38 Pn Pn 07 37 58.2 -1.1
comp=Z,3.0nm,0.3s,baz=231,slow=11,SNR=38
AKTO Sn Sn 07 40 06.1 -5.9
comp=Z,2.9nm,0.3s,baz=230,slow=12,SNR=1.8
AKTO LR LR 07 43 58.1
comp=Z,1µm,18.9s,baz=276,slow=45
comp=Z,34nm,0.8s
AKTO Aktyubinsk 11.91 38⇑ Pn Pn 07 37 57.7 -1.6
comp=Z,54nm,0.8s
AKTO ⇓Sn Sn 07 40 14.7 +2.7
comp=Z,81nm,0.8s
AB31 Akbulak array 12.14 46 Pn 07 38 00.3 -2.1
AB31 Akbulak array 12.14 46 Pn Pn 07 38 00.9 -1.5
comp=Z,14nm,0.5s,baz=236,slow=16,SNR=280
AB31 ⇑Sn Sn 07 40 15.4 -2.3
comp=Z,111nm,1.1s,baz=243,slow=20,SNR=6.1
AB31 Akbulak array 12.14 46 P Pn 07 38 00.9 -1.5
AB31 07 40 17.7
ABKAR Akbulak array 12.14 46 Pn 07 38 01.5 -0.9
ASF Jabal al Asfar 12.14 222 Pn Pn 07 38 04.8 +2.2
comp=Z,0.1nm,0.3s,baz=16,slow=5.2,SNR=6.7
ASF LR LR 07 43 25.0
comp=Z,541nm,19.2s,baz=60,slow=41
comp=Z,2.1nm,0.5s
LPSR Galich'ya Gora 12.18 337 eP Pn 07 38 02.4 -0.5
MMAI Mount Meron Ar 12.30 230 Pn Pn 07 38 06.3 +1.5
comp=Z,0.4nm,0.3s,baz=44,slow=14,SNR=1.6
MMAI LR LR 07 43 41.2
comp=Z,493nm,18.6s,baz=30,slow=42
comp=Z,1.5nm,0.7s
GHAJ Ghor Haditha 13.52 224 Pn Pn 07 38 22.4 +1.2
CFR Carcaliu 13.86 291⇑ P Pn 07 38 29.5 +3.7
CFR Carcaliu 13.86 291 P Pn 07 38 29.5 +3.7
ICOR Ion Corvin 13.98 287⇑ P P 07 38 32.1 -3.4
MANT Manisa 14.12 263 Pn Pn 07 38 32.1 +2.5
VASR Vaslui 14.38 297⇑ P P 07 38 36.7 -3.3
VRI Vrincioaia 14.95 293⇑ P P 07 38 44.2 -2.1
VRI Vrincioaia 14.95 293 P P 07 38 44.2 -2.1
ISR Istrita 14.97 290⇑ P P 07 38 44.6 -2.0
ISR Istrita 14.97 290 P P 07 38 44.6 -2.0
AK09 Malin Array Si 14.97 313 P Pn 07 38 41.0 0.0
AK10 Malin Array Si 14.98 313 P Pn 07 38 41.2 +0.1
AK07 Malin Array Si 14.98 313 P Pn 07 38 41.2 +0.1
AK08 Malin Array Si 14.99 313 P Pn 07 38 41.4 +0.1
PLOR Plostina 15.00 293 ⇓P P 07 38 45.4 -1.6
PLOR Plostina 15.00 293 P P 07 38 45.3 -1.6
AK06 Malin Array Si 15.00 313 P Pn 07 38 41.5 +0.1
AK02 Malin Array Si 15.03 313 P Pn 07 38 42.4 +0.6
AKASG Malin Array Be 15.05 313 Pn 07 38 43.1 +1.1
AKASG IAmb IAmb 07 38 50.1
comp=Z,27nm,1.0s
AKASG Malin Array Be 15.05 313 Pn Pn 07 38 41.7 -0.3
comp=Z,1.5nm,0.3s,baz=124,slow=14,SNR=16
AKASG LR LR 07 44 41.6
comp=Z,246nm,18.1s,baz=122,slow=38
AKASG Malin Array Be 15.05 313 P Pn 07 38 43.1 +1.1
AKASG pmax pmax
comp=Z,27nm,1.0s
AKBB Malin Array Si 15.05 313 Pn 07 38 42.9 +0.9
AKBB Malin Array Si 15.05 313 P Pn 07 38 42.9 +0.9
AKBB pmax pmax
comp=Z,105nm,1.3s
KIEV Kiev 15.05 313 Pn 07 38 42.8 +0.7
KIEV Kiev 15.05 313⇑ P Pn 07 38 43.7 +1.6
KIEV Kiev 15.05 313 P Pn 07 38 43.6 +1.6
OBN Obninsk 15.06 337 Pn 07 38 39.2 -2.9
OBN Obninsk 15.06 337 Pn Pn 07 38 38.6 -3.5
comp=Z,3.6nm,0.3s,baz=270,slow=19,SNR=8.7
OBN LR LR 07 44 27.3
comp=Z,234nm,19.7s,baz=242,slow=37
comp=Z,19nm,0.5s
OBN Obninsk 15.06 337⇑ *e*P Pn 07 38 38.8 -3.3
OBN *e*S Sn 07 41 30.2 +1.5
OBN pmax pmax
comp=Z,34nm,1.1s
OBN MLR MLR
comp=Z,833nm,15.0s
TESR Tescani 15.12 296⇑ P P 07 38 46.0 -2.2
TESR Tescani 15.12 296 P Pn 07 38 44.0 +1.0
comp=Z,58nm,1.4s
EIL Elat 15.14 222 Pn Pn 07 38 45.6 +2.2
comp=Z,0.1nm,0.3s,baz=54,slow=6.7,SNR=4.4
EIL LR LR 07 45 28.0
comp=Z,748nm,18.1s,baz=64,slow=41
comp=Z,1.4nm,0.7s
NEHR Nehoiu 15.18 291 ⇓P P 07 38 47.1 -1.9
ONER Baraj Valea Uz 15.26 295⇑ P P 07 38 48.3 -1.4
COVR Voineasa-Covas 15.30 293⇑ P P 07 38 48.6 -1.7
MOS Moscow 15.33 341 *e*P Pn 07 38 41.5 -4.2
MOS *e*S Sn 07 41 34.9 -0.4
MOS pmax pmax
comp=Z,83nm,1.0s
MOS MLR MLR
comp=Z,900nm,16.0s
ELND Elena 15.36 282⇑ P P 07 38 50.0 -1.0
MLR Muntele Rosu 15.43 292 Pn 07 38 49.5 +2.2
MLR Muntele Rosu 15.43 292 Pn Pn 07 38 48.6 +1.3
comp=Z,0.2nm,0.3s,baz=38,slow=3.5,SNR=3.5
MLR LR LR 07 46 42.6
comp=Z,546nm,20.3s,baz=85,slow=45
comp=Z,1.2nm,0.4s
MLR Muntele Rosu 15.43 292 ⇓P P 07 38 50.8 -1.0
MLR Muntele Rosu 15.43 292 P P 07 38 50.8 -1.0
LUBAR Lubar, Ukraine 15.51 309 P Pn 07 38 48.6 +0.5
OZUR 15.63 294 ⇓P P 07 38 52.8 -1.2
DOPR Dopca 15.88 293⇑ P P 07 38 56.8 0.0
VOIR 16.05 291⇑ P P 07 38 59.0 +0.3
VOIR 16.05 291 P P 07 38 59.0 +0.3
KARP Karpathos 16.30 255 P P 07 39 00.4 -1.0
comp=Z,110nm,1.3s
BURAR Bucovina Array 16.32 299 Pn 07 38 59.3 +0.6
BURAR Bucovina Array 16.32 299⇑ P P 07 39 01.5 -0.2
BURAR Bucovina Array 16.32 299 P P 07 39 01.5 -0.2
ARR Arges 16.34 291⇑ P P 07 39 02.2 +0.4
KSV Kosov 16.60 301 P Pn 07 39 02.0 -0.2
ARTI Arti 16.70 23 Pn 07 39 01.7 -1.7
ARTI IAmb IAmb 07 39 10.8
comp=Z,100nm,0.9s
ARTI Arti 16.70 23 Pn Pn 07 39 01.8 -1.5
comp=Z,37nm,0.5s,baz=214,slow=9.1,SNR=36
ARTI Sn Sn 07 42 02.8 -5.8
comp=Z,1.7nm,0.3s,baz=45,slow=23,SNR=4.2
ARTI LR LR 07 47 45.0
comp=Z,1µm,18.2s,baz=213,slow=45
ARTI Arti 16.70 23 P Pn 07 39 00.8 -2.6
ARTI S Sn 07 42 02.4 -6.2
LOT Lotru 16.95 291 ⇓P P 07 39 09.6 +1.0
KIRV Kirov 17.12 5 P Pn 07 39 04.6 -4.0
comp=Z,37nm,0.6s,baz=186,slow=11,SNR=19
KIRV S Sn 07 42 12.5 -6.4
comp=Z,50nm,0.8s,baz=172,slow=23,SNR=3.8
KIRV Kirov 17.12 5*c iP* Pn 07 39 04.2 -4.5
RNPP5 Staryi Chortor 17.15 311 P P 07 39 10.2 -0.5
CHM Chimkent 17.17 80 *e*P Pn 07 39 08.5 -0.9
CHM Chimkent 17.17 80 *e*P Pn 07 39 08.6 -0.9
RNPP8 Varash 17.22 312 P P 07 39 10.9 -0.6
CJR Cluj-Napoca 17.22 295⇑ P P 07 39 13.0 +1.4
CJR Cluj-Napoca 17.22 295 P P 07 39 13.0 +1.4
RNPP9 Sopachiv 17.23 312 P P 07 39 11.0 -0.6
BRLS Borolday 17.29 77 *e*P Pn 07 39 08.9 -2.0
BRLS Borolday 17.29 77 *e*P Pn 07 39 08.9 -2.0
SHME Shamm 17.40 150 P P 07 39 13.3 -0.3
IUG Iuzhnay 17.50 80 *e*P Pn 07 39 12.5 -1.1
IUG Iuzhnay 17.50 80 *e*P Pn 07 39 12.6 -1.1
MARR Marisel-Cluj 17.54 295⇑ P P 07 39 16.9 +1.7
GZR Gura Zlata 17.64 290 ⇓P P 07 39 18.5 +2.2
GZR Gura Zlata 17.64 290 P P 07 39 18.4 +2.2
LVV L'vov 17.70 305 P P 07 39 20.6 +3.8
SVE Sverdlovsk 17.77 26*de*P Pn 07 39 13.2 -3.5
SVE *e*S Sn 07 42 28.4 -6.1
SVE pmax pmax
comp=Z,204nm,1.3s
SVE MLR MLR
comp=Z,2µm,14.0s
KK31 Karatay Array 17.78 77 P Pn 07 39 15.1 -1.9
KK31 Karatay Array 17.78 77 P Pn 07 39 15.2 -1.9
comp=Z,11nm,0.5s,baz=284,slow=12,SNR=93
KK31 Karatay Array 17.78 77 *i* P Pn 07 39 15.1 -1.9
KKAR Karatay Array 17.78 77 P Pn 07 39 15.2 -1.8
KKAR Karatay Array 17.78 77 P Pn 07 39 15.2 -1.8
DRGR 17.84 295 P P 07 39 24.0 +5.6
MNK Minsk 17.89 323 *i* P P 07 39 18.7 -0.2
comp=Z,52nm,0.9s,baz=128
MNK *i* PP PnPn 07 39 29.7 +0.8
MNK *i* PPP PPP 07 39 37.5
MNK *i* S Sn 07 42 39.6 +2.1
MNK *i* SS SnSn 07 42 54.2 +3.2
MNK *i* SSS SSS 07 42 56.8
MNK *i* LQ LQ 07 44 57.6
MNK *i* LRM MLR 07 47 42.0
MNK *i* LRM MLR 07 47 44.4
comp=E,40nm,0.9s
MNK *i* LRM MLR 07 47 45.9
comp=N,44nm,1.2s
MNK Minsk 17.89 323 *i* P P 07 39 18.7 -0.2
MNK *i* S Sn 07 42 39.6 +2.1
MNK pmax pmax
comp=Z,52nm,0.9s
MNK MLR MLR
comp=E,40nm,1.0s
MNK MLR MLR
comp=N,44nm,1.0s
MASF Masafi 18.02 151 P P 07 39 21.7 +1.2
SNR=7.3
RAYN Ar Rayn 18.02 183 P Pn 07 39 19.3 -0.8
RAYN Ar Rayn 18.02 183 P Pn 07 39 19.9 -0.2
RAYN Ar Rayn 18.02 183 P Pn 07 39 19.7 -0.4
IDI Anoyia 18.07 257 P P 07 39 23.1 +2.1
IDI Anoyia 18.07 257 P P 07 39 21.3 +0.3
comp=N,2.0nm,0.3s,baz=344,slow=6.8,SNR=5.4
SURR Surduc 18.13 292 ⇓P P 07 39 24.2 +2.7
NAZ Nazwa, Dubai 18.20 153 P P 07 39 23.7 +1.3
GAR Garm 18.31 90 P P 07 39 23.7 -0.1
GAR IAmb IAmb 07 39 31.0
comp=Z,69nm,0.7s
BOVS Bovan 18.38 285 ⇓P P 07 39 27.5 +3.1
DZA Taraz 18.39 78 *e*P P 07 39 23.7 -0.8
DZA Taraz 18.39 78 *e*P P 07 39 23.7 -0.8
ASUD Al Ashush, Dub 18.42 154 P Pn 07 39 25.6 +0.7
UOSS Minazif 18.43 151 P P 07 39 24.5 -0.4
KWP Kalwaria Pacla 18.46 304 *e*P Pn 07 39 27.9 +2.6
BZS Buzias 18.47 291⇑ P Pn 07 39 27.6 +2.2
BZS Buzias 18.47 291 P Pn 07 39 27.6 +2.2
SIRR Siria 18.50 293⇑ P Pn 07 39 27.7 +2.0
HATD Hatta, Dubai 18.51 152 P Pn 07 39 26.5 +0.5
KOLS Kolonicke sedl 18.55 302 *e*P Pn 07 39 30.7 +4.3
KOLS Kolonicke sedl 18.55 302 *e*P Pn 07 39 30.7 +4.3
ASHO Ashiyiah 18.61 152 P P 07 39 27.1 0.0
NACGM Naroch 18.64 322 *e*P P 07 39 26.2 -0.9
comp=Z,17nm,0.8s,baz=127
KBL Kabul 19.03 104 P Pn 07 39 32.7 +0.1
SNR=10
SOHO SOHO 19.29 151 P P 07 39 34.9 +0.5
STHS Stebnicka Huta 19.32 303 *e*P Pn 07 39 39.3 +3.6
STHS Stebnicka Huta 19.32 303 *e*P Pn 07 39 39.3 +3.6
BRVK Borovoye 19.67 46 P P 07 39 37.9 -0.5
BRVK IAmb IAmb 07 39 49.2
comp=Z,48nm,0.6s
BRVK Borovoye 19.67 46 P P 07 39 38.8 +0.4
BRVK Borovoye 19.67 46 P P 07 39 37.9 -0.5
BRVK pmax pmax
comp=Z,49nm,0.6s
BVA0 Borovoye Array 19.71 46⇑ P P 07 39 37.9 -1.0
comp=Z,38nm,0.8s
BVA0 Borovoye Array 19.71 46 P P 07 39 37.8 -1.1
BVAR Borovoye Array 19.71 46 P P 07 39 38.8 -0.1
comp=Z,0.5nm,0.3s,baz=243,slow=8.7,SNR=32
BVAR S S 07 43 14.0 -6.9
comp=Z,12nm,1.0s,baz=242,slow=25,SNR=2.8
BVAR LR LR 07 48 41.4
comp=Z,484nm,18.3s,baz=241,slow=41
comp=Z,24nm,0.5s
KLMR Klimovskoe 19.78 350 *e*P P 07 39 39.7 +0.2
KLMR *e* 07 43 22.8
KLMR pmax pmax
comp=Z,95nm,1.3s
ARSB Arslanbob 19.80 82 P P 07 39 40.0 -0.1
ARSB Arslanbob 19.80 82 P P 07 39 40.0 -0.1
ARSB pmax pmax
comp=Z,24nm,1.0s
PSZ Piszkesteto 19.90 298 P Pn 07 39 43.0 +0.3
PSZ Piszkesteto 19.90 298 P Pn 07 39 43.0 +0.3
PSZ pmax pmax
comp=Z,11nm,0.8s
SUW Suwalki 19.91 317 *e*P P 07 39 41.4 +0.3
SUW Suwalki 19.91 317 P P 07 39 41.3 +0.3
SUW Suwalki 19.91 317 P P 07 39 41.3 +0.3
NIE Niedzica 19.92 302 *e*P Pn 07 39 45.3 +2.4
BRZS Berezniki 20.00 56 *e*P P 07 39 41.8 -0.2
BRZS Berezniki 20.00 56 *e*P P 07 39 41.9 -0.2
ARQ Araqi 20.02 152 P P 07 39 43.2 +0.8
SNR=7.1
HOQ Hoqain 20.08 150 P Pn 07 39 44.0 -0.8
EKS2 Erkin-Say 20.21 78 P Pn 07 39 45.5 -0.9
SNR=18
PDG Podgorica 20.27 282 P Pn 07 39 46.5 -0.5
PDG Podgorica 20.27 282⇑ P Pn 07 39 48.0 +1.1
BTLS Baital 20.27 71 *e*P P 07 39 44.6 -0.4
BTLS Baital 20.27 71 *e*P P 07 39 44.7 -0.4
PABE Paberze 20.31 321 P P 07 39 45.2 0.0
PABE IAmb IAmb 07 39 56.0
comp=Z,24nm,0.7s
BEL Belsk 20.32 309 *e*P Pn 07 39 47.3 -0.2
LANS Liptovska Anna 20.40 301 *e*P Pn 07 39 50.1 +1.6
LANS Liptovska Anna 20.40 301 *e*P Pn 07 39 50.1 +1.6
OJC Ojcow 20.43 304 *e*P Pn 07 39 49.0 +0.2
OJC Ojcow 20.43 304 P P 07 39 46.8 +0.1
OJC Ojcow 20.43 304 P P 07 39 46.8 +0.1
OJC Ojcow 20.43 304 P Pn 07 39 48.9 +0.1
comp=Z,29nm,0.8s
USP Ospenovka 20.68 76 P P 07 39 48.9 -0.7
SNR=7.7
VYHS Vyhne 20.69 299 *e*P Pn 07 39 52.4 +0.5
VYHS Vyhne 20.69 299 *e*P Pn 07 39 52.4 +0.5
AAK Ala-Archa 20.73 78 P P 07 39 50.2 -0.1
AAK Ala-Archa 20.73 78 P P 07 39 50.2 -0.1
comp=Z,11nm,0.4s,baz=258,slow=8.1,SNR=20
AAK LR LR 07 49 04.9
comp=Z,244nm,22.0s,baz=280,slow=40
comp=Z,11nm,0.4s
AAK Ala-Archa 20.73 78 P P 07 39 50.6 +0.3
AAK Ala-Archa 20.73 78 P P 07 39 51.3 +1.0
SNR=8.8
AAK Ala-Archa 20.73 78*c iP* P 07 39 50.9 +0.6
AAK pmax pmax
comp=Z,33nm,1.0s
SGDS Sogindy 20.76 75 *e*P P 07 39 49.8 -0.6
BSY Bisya 20.80 151 P P 07 39 51.5 +0.5
BSY P P 07 39 51.5 +0.5
FRU1 Bishkek 20.82 77 P P 07 39 50.8 -0.2
FRU1 IAmb IAmb 07 39 53.2
comp=Z,36nm,0.8s
FRU1 Bishkek 20.82 77 P P 07 39 50.8 -0.2
FRU1 pmax pmax
comp=Z,36nm,0.8s
SMDO Samad 20.83 149 P P 07 39 52.3 +0.9
SNR=5.8
WSAR Wadi Sarin 20.90 147 P P 07 39 53.1 +1.1
comp=Z,0.1nm,0.6s,baz=346,slow=24,SNR=7.3
VSU Vasula 21.02 330*ce*P P 07 39 51.5 -1.5
VSU pmax pmax
comp=Z,78nm,1.3s
KBK Karagaybulak 21.07 78 P P 07 39 54.3 +0.4
SNR=13
JMDO Jabal Madar 21.48 150 P P 07 39 59.1 +0.9
MAUC Maruska 21.49 301 *e*P P 07 40 02.9 +4.7
JAVC Velka Javorina 21.51 300 *e*P P 07 40 03.0 +4.6
TKM2 Tokmak 2 21.51 77 P P 07 39 58.6 0.0
SNR=21
BLY Banja Luka 21.59 288⇑ P P 07 40 01.8 +2.5
MODS Modra-Piesok 21.70 298 *e*P P 07 40 01.6 +1.2
MODS Modra-Piesok 21.70 298 *e*P P 07 40 01.6 +1.2
MORC Moravsky Berou 21.75 302 P P 07 40 01.6 +0.6
MORC Moravsky Berou 21.75 302 *e*P P 07 40 02.4 +1.4
MORC Moravsky Berou 21.75 302 P P 07 40 01.6 +0.6
MORC pmax pmax
comp=Z,14nm,1.0s
KUU Kurty 21.96 74 *e*P P 07 40 02.9 -0.4
KUU pmax pmax
comp=Z,46nm,0.8s
KUU Kurty 21.96 74 *e*P P 07 40 02.9 -0.4
comp=Z,46nm,0.8s
ULHL Ulahol 22.07 78 P P 07 40 02.0 -2.6
SNR=6.5
VRAC Vranov 22.28 300 P P 07 40 07.9 +1.3
comp=Z,2.2nm,0.5s,baz=116,slow=11,SNR=3.3
VRAC LR LR 07 50 26.6
comp=Z,274nm,18.8s,baz=82,slow=41
comp=Z,2.2nm,0.5s
VRAC Vranov 22.28 300 *e*P P 07 40 08.0 +1.3
RONA Rosalia, Austr 22.28 296 P P 07 40 09.0 +2.3
comp=Z,4.6nm,1.0s
KRLC Kraliky 22.29 303 *e*P P 07 40 08.7 +1.9
KRLC MLR MLR
comp=Z,300nm,17.0s
KRLC Kraliky 22.29 303 *e*P P 07 40 08.7 +1.9
KRLC AMS AMS 07 49 50.0
comp=Z,300nm,17.0s
KRUC Moravsky 22.37 300 *e*P P 07 40 10.2 +2.6
KSH Kashi 22.42 85 P P 07 40 06.5 -1.8
KSH pmax pmax
comp=Z,29nm,0.8s
CHKK Chushkaly 22.43 74 *e*P P 07 40 08.1 -0.2
CHKK Chushkaly 22.43 74 *e*P P 07 40 08.1 -0.2
AAA Alma-Ata 22.44 76 *e*P P 07 40 08.0 -0.5
AAA pmax pmax
comp=Z,43nm,1.3s
AAA Alma-Ata 22.44 76 *e*P P 07 40 08.1 -0.5
comp=Z,43nm,1.3s
TNSS Tian-Shan 22.48 76 *e*P P 07 40 08.5 -0.8
TNSS Tian-Shan 22.48 76 *e*P P 07 40 08.5 -0.8
NIL Nilore 22.53 102 P P 07 40 09.4 -0.1
NIL IAmb IAmb 07 40 31.3
comp=Z,35nm,0.8s
NIL Nilore 22.53 102 P P 07 40 09.4 -0.1
NIL pmax pmax
comp=Z,35nm,0.9s
CONA Conrad Observa 22.59 297 *e*P P 07 40 12.0 +1.9
comp=Z,8.7nm,0.9s
DPC Dobruska-Polom 22.63 303 *e*P P 07 40 16.6 +6.1
DPC *e*S S 07 44 21.5 +3.4
DPC MLR MLR
comp=Z,300nm,14.9s
DPC Dobruska-Polom 22.63 303 *e*P P 07 40 16.6 +6.1
DPC *e*S S 07 44 21.5 +3.4
DPC AMS AMS 07 50 40.0
comp=Z,300nm,14.9s
DPC Dobruska-Polom 22.63 303 P P 07 40 11.5 +1.0
comp=Z,18nm,1.1s
MHTO MHTO 22.69 151 P P 07 40 12.0 +0.9
OSTC Ostas 22.74 304 *e*P P 07 40 18.9 +7.3
OSTC Ostas 22.74 304 *e*P P 07 40 18.9 +7.3
KSP Ksiaz 22.75 304 *e*P P 07 40 18.2 +6.5
KSP Ksiaz 22.75 304 P P 07 40 12.7 +1.1
comp=Z,25nm,1.9s
ARSA Arzberg 22.78 295 P P 07 40 12.1 +0.1
ARSA Arzberg 22.78 295 *i* P P 07 40 13.1 +1.1
comp=Z,5.7nm,1.1s
KDJ Kajisay 22.78 78 P P 07 40 11.6 -0.6
KDJ IAmb IAmb 07 40 30.1
comp=Z,62nm,1.3s
KDJ Kajisay 22.78 78 P P 07 40 11.6 -0.6
KDJ pmax pmax
comp=Z,62nm,1.3s
BOJS Bojanci 22.94 290 *i* P P 07 40 17.1 +3.5
ACER Acerenza 22.99 278 P P 07 40 14.7 +0.4
ACER IAmb IAmb 07 40 31.8
comp=Z,20nm,0.7s
SOKA Soboth 23.09 293 *i* P P 07 40 17.4 +2.1
comp=Z,9.7nm,0.7s
CUC Castrocucco 23.26 276 P P 07 40 18.4 +1.4
CUC IAmb IAmb 07 40 35.9
comp=Z,31nm,1.1s
TARG Taragay, Kyrgy 23.30 79 P P 07 40 17.6 -0.3
TARG Taragay, Kyrgy 23.30 79 P P 07 40 17.6 -0.3
TARG pmax pmax
comp=Z,18nm,1.0s
TDK Taldyqorghan 23.37 71 *e*P P 07 40 17.6 -0.5
TDK pmax pmax
comp=Z,21nm,0.7s
TDK Taldyqorghan 23.37 71 *e*P P 07 40 17.6 -0.5
comp=Z,21nm,0.7s

OBKA Obir 23.42 293 *i* P P 07 40 20.5 +1.8
comp=Z,12nm,1.2s
FIA1 FINESS Array S 23.43 335 P P 07 40 18.0 -0.4
FINES FINESS Array B 23.43 335 P P 07 40 18.3 -0.1
FINES FINESS Array B 23.43 335 P P 07 40 17.5 -0.9
comp=Z,4.8nm,0.5s,baz=146,slow=11,SNR=24
FINES S S 07 44 30.1 -1.3
comp=Z,4.2nm,0.8s,baz=123,slow=26,SNR=2.2
FINES LR LR 07 50 07.8
comp=Z,681nm,18.8s,baz=140,slow=38
comp=Z,4.8nm,0.5s
FINES FINESS Array B 23.43 335 P P 07 40 18.3 -0.1
SATY Saty 23.54 76 *eP* P 07 40 19.6 -0.3
SATY Saty 23.54 76 *eP* P 07 40 19.6 -0.3
MOA Molln 23.66 296 *eP* P 07 40 21.9 +1.0
comp=Z,2.9nm,0.8s
PRU Pruhonice 23.70 302 AMS AMS 07 51 30.0
comp=Z,300nm,13.1s
CKRC Cesky Krumlov 23.71 299 *eP* P 07 40 24.2 +2.8
CKRC *eS* S 07 44 44.3 +8.2
CKRC Cesky Krumlov 23.71 299 *eP* P 07 40 24.2 +2.8
CKRC *eS* S 07 44 44.3 +8.2
KURBB Kurchatov Arra 23.80 57 P P 07 40 22.1 0.0
comp=Z,6.8nm,0.7s,baz=267,slow=11,SNR=37
KURBB LR LR 07 51 07.1
comp=Z,717nm,18.0s,baz=228,slow=40
comp=Z,6.8nm,0.7s
KURBB Kurchatov Arra 23.80 57 ⇑P P 07 40 20.7 -1.5
comp=Z,81nm,1.2s
KURBB Kurchatov Arra 23.80 57 P P 07 40 20.7 -1.5
ZVC Zvikov 23.85 300 *eP* P 07 40 23.7 +1.0
ZVC AMS AMS 07 51 20.0
comp=Z,300nm,13.7s
KURK Kurchatov 23.87 57 P P 07 40 22.3 -0.6
KURK IAmb IAmb 07 40 36.0
comp=Z,47nm,0.9s
KURK Kurchatov 23.87 57 P P 07 40 23.3 +0.4
KURK Kurchatov 23.87 57 ⇑P P 07 40 22.5 -0.3
comp=Z,57nm,1.0s
KURK Kurchatov 23.87 57 *c iP* P 07 40 22.8 -0.1
KURK pmax pmax
comp=Z,62nm,1.0s
UZB Uzynbulak 23.98 75 *eP* P 07 40 23.9 -0.2
UZB Uzynbulak 23.98 75 *eP* P 07 40 23.9 -0.2
TRI Trieste 23.98 291 P P 07 40 24.8 +0.9
TRI IAmb IAmb 07 40 40.8
comp=Z,15nm,0.8s
TRI Trieste 23.98 291 P P 07 40 24.8 +0.9
TRI pmax pmax
comp=Z,15nm,0.8s
MYKA Terra Mystica 24.05 293 *eP* P 07 40 26.2 +1.5
comp=Z,4.2nm,0.5s
BIOA Bad Ischl, Aus 24.07 296 *eP* P 07 40 26.3 +1.4
comp=Z,8.3nm,1.6s
SABO M.te Sabotino 24.08 292 P P 07 40 25.0 0.0
SABO IAmb IAmb 07 40 42.0
comp=Z,32nm,0.9s
GEC2 GERESS Array S 24.11 299 P P 07 40 25.8 +0.5
GERES GERESS Array B 24.11 299 P P 07 40 25.9 +0.6
GERES GERESS Array B 24.11 299 P P 07 40 26.1 +0.8
comp=Z,3.1nm,0.5s,baz=97,slow=9.6,SNR=27
comp=Z,3.1nm,0.5s
KHC Kasperske Hory 24.22 299⇑ *eP* P 07 40 26.9 +0.7
KHC pmax pmax
comp=Z,10.0nm,1.1s
KHC Kasperske Hory 24.22 299 *eP* P 07 40 27.3 +1.1
KHC *eS* S 07 44 58.0 +14
KHC Kasperske Hory 24.22 299 P P 07 40 26.6 +0.4
comp=Z,8.1nm,1.2s
BRG Berggiesshubel 24.22 304 *eP* P 07 40 29.8 +3.7
BRG Amp 07 40 34.9
comp=Z,5.5nm,0.8s
BRG Berggiesshubel 24.22 304 S S 07 44 51.0 +6.8
KBA Koelnbreinsper 24.26 294 *i P* P 07 40 28.2 +1.5
comp=Z,27nm,1.1s
INTR Introdacqua 24.26 282 P P 07 40 26.4 -0.3
PDGK Podgornoye 24.29 75 ⇑P P 07 40 26.5 -0.6
comp=Z,21nm,0.7s
PDGK Podgornoye 24.29 75 P P 07 40 26.5 -0.6
SHLS Shalkode 24.29 75 *eP* P 07 40 29.7 +2.7
SHLS Shalkode 24.29 75 *eP* P 07 40 29.8 +2.7
WHFO Wadi Hawf 24.38 163 P P 07 40 27.6 -0.2
CAMP Campotosto 24.54 283 P P 07 40 29.8 +0.6
AQU L'Aquila 24.57 283 P P 07 40 31.5 +2.0
comp=Z,24nm,1.1s
FDMO Fiordimonte 24.69 285 P P 07 40 30.9 +0.3
FDMO IAmb IAmb 07 40 48.4
comp=Z,28nm,1.1s
STAL STALIGIAL 24.70 292 P P 07 40 30.5 -0.1
STAL IAmb IAmb 07 40 46.9
comp=Z,21nm,1.1s
NRCA Norcia 24.70 284 P P 07 40 32.3 +1.6
NRCA IAmb IAmb 07 40 57.0
comp=Z,28nm,1.2s
BLEU Blekinge 24.72 317 *i P* P 07 40 30.4 -0.1
BLEU IAmb IAmb 07 40 31.7
comp=Z,30nm,1.4s
LESA Schwarzleotal 24.72 295 *i P* P 07 40 32.0 +1.2
comp=Z,17nm,0.4s
BSD Bornholm Skovb 24.75 314 *i P* P 07 40 29.6 -1.3
BSD IAmb IAmb 07 40 51.9
comp=Z,53nm,1.2s
ABTA Abfaltersbach 24.82 294 *i* P P 07 40 32.7 +0.9
comp=Z,13nm,1.2s
ABTO Aybut 24.83 164 P P 07 40 32.0 0.0
CLL Collm 24.88 304 P P 07 40 32.3 +0.2
CLL IAmb IAmb 07 40 45.7
comp=Z,18nm,0.9s
CLL Collm 24.88 304 *i* P P 07 40 32.9 +0.8
CLL *i* 07 40 40.8
CLL *eS* S 07 44 59.0 +4.2
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 24.88 304 P P 07 40 33.8 +1.7
comp=Z,21nm,1.2s
CLL Collm 24.88 304 *i P* P 07 40 32.9 +0.8
comp=Z,15nm,1.0s
CLL *i* x x 07 40 40.8
comp=Z,19nm,0.9s
CLL *i* x x 07 40 44.0
CLL *i* x x 07 40 53.1
CLL *eS* S 07 44 59.0 +4.2
CLL *eSS* SnSn 07 45 38.0 -4.2
CLL *eSSS* SSS 07 46 02.0
CLL *ex* x 07 46 35.0
RBK Rabkut 24.88 162 P P 07 40 31.9 -0.5
CIMO Cimolais 24.88 293 P P 07 40 32.7 +0.5
CIMO IAmb IAmb 07 40 48.2
comp=Z,23nm,1.3s
WTTA Wattenberg 25.42 295 *eP* P 07 40 38.0 +0.7
comp=Z,9.6nm,0.5s
CTI Castel Tesino 25.44 292 P P 07 40 37.3 -0.1
CTI Castel Tesino 25.44 292 P P 07 40 37.3 -0.1
CTI pmax pmax
comp=Z,13nm,1.0s
WATA Walderalm 25.46 295 *i P* P 07 40 38.9 +1.3
comp=Z,23nm,1.6s
LUNU Lund 25.71 314 *i P* P 07 40 41.0 +1.4
LUNU *i* 07 40 59.9
SQTA Sankt Quirin 25.71 295 *i P* P 07 40 41.1 +1.3
comp=Z,6.7nm,0.5s
DEL Delary 25.78 316 *i P* P 07 40 37.9 -2.3
MOTA Moosalm 25.79 295 *i P* P 07 40 40.7 +0.1
comp=Z,10.0nm,0.7s
MAKZ Makanchi 25.79 66 P P 07 40 31.0 -10
OSSC Osservatorio P 25.96 286 P P 07 40 42.0 0.0
OSSC IAmb IAmb 07 40 45.1
comp=Z,23nm,1.0s
MK31 Makanchi Array 26.01 66 ⇑P P 07 40 42.9 +0.4
comp=Z,23nm,0.7s,baz=274,slow=6.9,SNR=139
MK31 Makanchi Array 26.01 66 *c iP* P 07 40 42.7 +0.2
MKAR Makanchi Array 26.01 66 P P 07 40 42.1 -0.4
MKAR Makanchi Array 26.01 66 P P 07 40 42.9 +0.4
comp=Z,25nm,0.8s,baz=275,slow=7.5,SNR=53
MKAR LR LR 07 52 15.1
comp=Z,145nm,21.5s,baz=266,slow=40
comp=Z,25nm,0.8s
FETA Feichten 26.04 294 *i P* P 07 40 43.3 +0.3
comp=Z,3.8nm,0.6s
BJUU Bjuv 26.08 315 *i P* P 07 40 43.9 +1.0
FUORN Ofenpass-Fuorn 26.38 293 P P 07 40 46.5 +0.5
DAVA Damuels 26.62 295 *eP* P 07 40 48.9 +0.8
comp=Z,6.2nm,0.5s
DAVOX Davos/Dischmat 26.63 294 P P 07 40 49.3 +1.0
comp=Z,5.7nm,0.7s,baz=94,slow=9.5,SNR=11

DAVOX LR LR 07 52 35.1
comp=Z,153nm,18.9s,baz=74,slow=39
comp=Z,5.7nm,0.7s
BORU Boraas 26.77 318 *i P* P 07 40 50.4 +1.2
TUE Stuetta 27.02 293 P P 07 40 51.7 0.0
TUE Stuetta 27.02 293 P P 07 40 52.4 +0.7
comp=Z,34nm,1.5s
ONAU Onsala 27.11 318 *i P* P 07 40 52.7 +0.5
HFS Hagfors 27.40 324 P P 07 40 55.0 +0.2
comp=Z,7.4nm,0.7s,baz=124,slow=10,SNR=14
HFS LR LR 07 53 31.7
comp=Z,268nm,18.4s,baz=121,slow=40
comp=Z,7.4nm,0.7s
ZSN Zaisan 27.75 65 *eP* P 07 40 58.0 -0.1
ZSN Zaisan 27.75 65 *eP* P 07 40 58.0 -0.1
OVD Ostervraa, Den 27.96 317 *i P* P 07 41 02.3 +2.5
OVD IAmb IAmb 07 41 05.1
comp=Z,49nm,1.3s
STRU Stroemstad 28.08 321 *i P* P 07 41 02.3 +1.4
ZAA0 Zalesovo Array 28.19 51 P P 07 41 01.0 -0.9
ZAA0 IAmb IAmb 07 41 42.0
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 28.19 51 P P 07 41 01.2 -0.7
ZALV Zalesovo Beam 28.19 51 P P 07 41 01.5 -0.4
comp=Z,2.7nm,0.5s,baz=260,slow=10,SNR=8.8
ZALV LR LR 07 52 41.9
comp=Z,165nm,21.9s,baz=254,slow=37
comp=Z,2.7nm,0.5s
ZALV Zalesovo Beam 28.19 51 *i P* P 07 41 03.9 +2.0
ZALV pmax pmax
comp=Z,3.0nm,0.5s
SENIN Lac Senin/Sane 28.43 293 P P 07 41 04.1 -0.3
NC405 NORSAR Array S 28.71 325 P P 07 41 06.0 -0.6
NC405 IAmb IAmb 07 42 02.2
comp=Z,20nm,0.8s
NB201 NORSAR Array S 28.87 324 P P 07 41 07.3 -0.6
NB201 IAmb IAmb 07 42 05.1
comp=Z,32nm,1.2s
NB2 NORSAR Subarra 28.90 324 P P 07 41 07.6 -0.6
comp=Z,7.8nm,1.1s,baz=116,slow=9.3
NOA NORSAR Array B 28.90 324 P P 07 41 08.3 +0.1
comp=Z,0.5nm,0.5s,baz=130,slow=8.7,SNR=9.1
NOA LR LR 07 52 51.1
comp=Z,85nm,21.6s,baz=115,slow=37
comp=Z,0.5nm,0.5s
BNI Bardonecchia 29.01 290 P P 07 41 10.1 +0.6
BNI Bardonecchia 29.01 290 P P 07 41 10.1 +0.6
BNI pmax pmax
comp=Z,62nm,1.9s
KEST Kesra 29.46 271 P P 07 41 15.0 +1.4
comp=Z,1.8nm,0.5s,baz=4.1,slow=3.1,SNR=4.6
comp=Z,1.8nm,0.5s
ARCES ARCESS Array B 30.10 345 P P 07 41 18.3 -0.4
ARCES ARCESS Array B 30.10 345 P P 07 41 18.9 +0.2
comp=Z,6.9nm,1.0s,baz=155,slow=10,SNR=18
comp=Z,6.9nm,1.0s
ARCES ARCESS Array B 30.10 345 P P 07 41 18.3 -0.4
ARCES pmax pmax
comp=Z,73nm,1.9s
ATD Arta Tunnel 30.11 187 LR LR 07 54 05.3
comp=Z,10nm,20.1s,baz=360,slow=38
WMQ Urumqi 30.11 72 *eP* P 07 41 21.0 +1.8
WMQ LR LR
comp=Z,430nm,14.5s
WMQ LR LR
comp=Z,530nm,14.5s
WMQ LR LR
comp=Z,270nm,14.5s
SSB Saint Sauveur 30.47 291 P P 07 41 22.5 +0.1
SSB Saint Sauveur 30.47 291 P P 07 41 22.5 +0.1
SSB pmax pmax
comp=Z,20nm,0.4s
CEST Esterri de Car 33.32 287 P P 07 41 47.9 +0.4
EKA Eskdalemuir Ar 34.93 310 P P 07 42 01.1 0.0
comp=Z,3.8nm,0.6s,baz=98,slow=8.0,SNR=11
comp=Z,3.8nm,0.6s
EVN Everest 35.45 100 P P 07 42 06.5 -0.1
ESDC Sonseca Array 37.94 284 P P 07 42 27.0 -0.1
comp=Z,2.0nm,0.4s,baz=59,slow=8.6,SNR=27
ESDC ScP ScP 07 48 31.6 +1.4
comp=Z,0.8nm,1.0s,baz=20,slow=4.7,SNR=4.8
ESDC LR LR 08 00 59.7
comp=Z,68nm,18.6s,baz=48,slow=41
comp=Z,2.0nm,0.4s
SPB2 Spitsbergen Ar 38.67 350 P P 07 42 33.3 +0.6
SPITS Spitsbergen Ar 38.68 350 P P 07 42 33.6 +0.8
comp=Z,8.6nm,0.5s,baz=140,slow=8.9,SNR=37
comp=Z,8.6nm,0.5s
SPITS Spitsbergen Ar 38.68 350 P P 07 42 33.1 +0.3
SPITS pmax pmax
comp=Z,97nm,1.5s
TAM Tamanrasset 39.01 254 P P 07 42 37.6 +1.3
TAM IAmb IAmb 07 42 39.1
comp=Z,16nm,0.5s
TAM Tamanrasset 39.01 254 P P 07 42 37.6 +1.3
TAM pmax pmax
comp=Z,16nm,0.5s
GTA Gaotai 40.04 75 *eP* P 07 42 45.1 +0.3
GTA pP pP 07 42 49.0 +0.4
GTA pmax pmax
comp=Z,15nm,1.0s
GTA LR LR
comp=Z,250nm,12.3s
GTA LR LR
comp=Z,260nm,10.8s
GTA LR LR
comp=Z,330nm,12.7s
SHL Shillong 40.53 99 P P 07 42 48.8 -0.2
SHL Shillong 40.53 99 P P 07 42 48.8 -0.2
SHL pmax pmax
comp=Z,16nm,0.4s
SONM Songino Array 42.06 60 P P 07 43 01.6 +0.3
comp=Z,0.8nm,0.4s,baz=280,slow=8.1,SNR=4.2
SONM LR LR 08 01 39.2
comp=Z,167nm,20.9s,baz=289,slow=38
comp=Z,0.8nm,0.4s
ULN Ulaanbaatar 42.49 60 P P 07 43 04.3 -0.5
ULN Ulaanbaatar 42.49 60⇓ *eP* P 07 43 04.8 0.0
ULN pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 43.33 194 P P 07 43 13.6 +1.6
comp=Z,1.6nm,0.2s,baz=214,slow=20,SNR=10.0
KMBO LR LR 08 02 09.8
comp=Z,176nm,19.3s,baz=90,slow=37
comp=Z,1.6nm,0.2s
BORG Borgarnes 44.07 325 LR LR 08 03 21.9
comp=Z,159nm,18.3s,baz=99,slow=38
LZH Lanzhou 44.28 78 *eP* P 07 43 21.4 +2.0
LZH sP sP 07 43 32.4 +7.8
LZH pmax pmax
comp=Z,21nm,1.2s
CD2 Chengdu 46.60 84 P P 07 43 39.2 +1.4
CD2 pmax pmax
comp=Z,20nm,0.9s
PZH PanZhiHua 47.38 90 P P 07 43 45.3 +1.3
HHC Hu-ho-hao-te 47.85 68 *eP* P 07 43 47.0 -0.5
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,170nm,4.5s
TORD Torodi Ar. Bea 48.12 247 P P 07 43 49.3 -0.3
TORD Torodi Ar. Bea 48.12 247 P P 07 43 49.2 -0.3
comp=Z,2.9nm,0.6s,baz=39,slow=7.6,SNR=9.7
TORD LR LR 08 08 19.3
comp=Z,90nm,18.0s,baz=346,slow=41
comp=Z,2.9nm,0.6s
TIXI Tiksi 48.79 25 P P 07 43 54.3 +0.2
TIXI Tiksi 48.79 25⇓ *iP* P 07 43 54.7 +0.6
TIXI pmax pmax
comp=Z,22nm,1.3s
KMI Kunming 48.89 91 P P 07 43 56.7 +0.9
KMI pmax pmax
comp=Z,20nm,0.8s
SUMG Summit 49.45 337 P P 07 43 58.9 -0.7
SUMG IAmb IAmb 07 44 05.4
comp=Z,11nm,1.0s
SUMG Summit 49.45 337 P P 07 43 58.9 -0.7
SUMG pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 49.80 101 P P 07 44 02.1 -0.4
CHTO Chiang Mai 49.80 101 P P 07 44 02.1 -0.4
CHTO pmax pmax
comp=Z,12nm,0.4s
CMAR Chiang Mai Arr 50.02 101 P P 07 44 04.5 +0.3
comp=Z,3.6nm,0.6s,baz=303,slow=8.2,SNR=16
comp=Z,3.6nm,0.6s
YAK Yakutsk 51.30 37⇓ *eP* P 07 44 12.9 -0.3

YAK pmax pmax
comp=Z,14nm,0.7s
SLVN Son La 51.95 94 P P 07 44 19.1 +0.3
SLVN IAmb IAmb 07 44 20.8
comp=Z,11nm,1.0s
HEH HeiHe 54.32 51 *eP* P 07 44 36.3 +0.6
HEH pmax pmax
comp=Z,26nm,0.8s
SFJD Kangerlussuaq 55.17 332 LR LR 08 08 38.9
comp=Z,290nm,18.4s,baz=52,slow=36
EUNU Eureka 55.79 351 P P 07 44 46.3 +0.2
EUNU IAmb IAmb 07 44 51.5
comp=Z,12nm,0.8s
BNX BinXian 56.27 56 ⇑P P 07 44 47.4 -2.5
BNX pmax pmax
comp=Z,7.0nm,0.7s
NJ2 Nanjing 57.13 74 *eP* P 07 44 55.3 -0.9
NJ2 pmax pmax
comp=Z,36nm,0.5s
DBIC Dimbokro 57.23 247 P P 07 44 57.0 -0.1
comp=Z,3.3nm,0.4s,baz=81,slow=7.8,SNR=9.6
comp=Z,3.3nm,0.4s
USRK Ussuriysk Ar. 59.86 56 P P 07 45 14.9 -0.2
comp=Z,4.7nm,0.8s,baz=300,slow=6.2,SNR=4.8
USRK LR LR 08 11 54.3
comp=Z,67nm,18.3s,baz=319,slow=37
comp=Z,4.7nm,0.8s
SEY Seymchan 60.38 30 P P 07 45 19.6 +1.2
comp=Z,14nm,0.8s,baz=292,slow=6.0,SNR=11
comp=Z,14nm,0.8s
SEY Seymchan 60.38 30 *c iP* P 07 45 19.5 +1.2
SEY pmax pmax
comp=Z,24nm,1.0s
KSRS Korea Array 60.67 64 P P 07 45 20.8 0.0
comp=Z,1.9nm,0.7s,baz=289,slow=6.7,SNR=6.8
comp=Z,1.9nm,0.7s
MA2 Magadan 61.62 34 P P 07 45 27.0 +0.2
comp=Z,8.6nm,0.7s,baz=330,slow=10,SNR=4.0
comp=Z,8.6nm,0.7s
MA2 Magadan 61.62 34 *d iP* P 07 45 27.6 +0.7
MA2 pmax pmax
comp=Z,22nm,1.1s
MA2 Magadan 61.62 34 P P 07 45 26.3 -0.6
FRB Frobisher Bay 63.21 333 LR LR 08 13 22.1
comp=Z,221nm,18.4s,baz=70,slow=36
YSS Yuzhno-Sakhali 64.79 49⇑ *eP* P 07 45 48.0 0.0
YSS pmax pmax
comp=Z,24nm,1.5s
TSUM Tsumeb 66.15 210 LR LR 08 16 34.3
comp=Z,163nm,18.0s,baz=242,slow=38
A21K Barrow 66.20 8 P P 07 45 54.8 -1.9
baz=341
ASAJ Asahikawa 66.32 51 P P 07 45 57.9 -0.1
comp=Z,5.6nm,0.6s,baz=302,slow=5.4,SNR=5.5
ASAJ LR LR 08 17 28.4
comp=Z,119nm,20.1s,baz=324,slow=38
comp=Z,5.6nm,0.6s
A36M Sachs Harbour 66.59 357 P P 07 45 59.2 0.0
A36M Sachs Harbour 66.59 357 P P 07 45 57.8 -1.5
baz=6.6,SNR=15
A22K Sinclair Lake 66.67 8 P P 07 45 57.5 -2.2
baz=342
A19K Wainwright 66.73 10 P P 07 45 57.8 -2.3
baz=338
B20K Meade River 67.39 9 P P 07 46 02.0 -2.3
baz=341
B18K Kokolik River 67.41 11 P P 07 46 02.0 -2.5
baz=337
B22K Teshekpuk Lake 67.45 7 P P 07 46 00.7 -4.0
baz=344
C16K Lisburne Hills 67.89 12 P P 07 46 04.2 -3.3
baz=335
C19K Lookout Ridge 67.95 10 P P 07 46 05.9 -2.1
baz=339
MAJO Matsushiro 68.02 60⇓ *eP* P 07 46 07.3 -1.6
MAJO pmax pmax
comp=Z,9.0nm,1.2s
MJAR Matsushiro Arr 68.02 60 P P 07 46 08.1 -0.8
comp=Z,0.6nm,0.3s,baz=314,slow=6.2,SNR=2.0
MJAR LR LR 08 18 16.6
comp=Z,251nm,18.6s,baz=314,slow=38
comp=Z,0.6nm,0.3s
B21K Ikpikpuk River 68.03 8 P P 07 46 04.6 -3.8
baz=343
C17K DeLong Mountai 68.04 11 P P 07 46 04.9 -3.7
baz=336,SNR=5.5
C18K Utukok River 68.16 11 P P 07 46 09.8 +0.4
C18K Utukok River 68.16 11 P P 07 46 06.7 -2.6
baz=338,SNR=13
C23K Itkillik River 68.19 6 P P 07 46 07.4 -2.0
baz=346
C24K Franklin Bluff 68.45 6 P P 07 46 12.3 +1.3
C24K Franklin Bluff 68.45 6 P P 07 46 09.8 -1.2
baz=348
C21K Knifeblade Rid 68.46 8 P P 07 46 08.8 -2.3
baz=343
RDOG Red Dog Mine 68.47 11 P P 07 46 08.9 -2.3
baz=337
SCHQ Schefferville 68.47 325 LR LR 08 16 15.9
comp=Z,101nm,18.2s,baz=56,slow=36
C26K Camden Bay 68.50 4 P P 07 46 08.9 -2.5
baz=351
PETK Petropavlovsk- 68.64 37 P P 07 46 11.0 -1.5
comp=Z,5.1nm,0.9s,baz=327,slow=2.5,SNR=3.7
comp=Z,5.1nm,0.9s
D20K Etivluk River 68.68 9 P P 07 46 13.1 +0.5
D20K IAmb IAmb 07 46 18.3
comp=Z,7.4nm,0.8s
D20K Etivluk River 68.68 9 P P 07 46 10.2 -2.3
baz=342
D19K Kuna River 68.71 10 P P 07 46 13.1 +0.4
D19K Kuna River 68.71 10 P P 07 46 09.5 -3.2
baz=340,SNR=8.2
D17K Noatak River 68.77 12 P P 07 46 11.8 -1.3
baz=336,SNR=20
C27K Jago River 68.86 4 P P 07 46 14.3 +0.7
C27K IAmb IAmb 07 46 16.2
comp=Z,11nm,1.1s
C27K Jago River 68.86 4 P P 07 46 12.6 -1.0
baz=352
D22K Ayikyak River 68.94 7 P P 07 46 13.7 -0.4
D22K IAmb IAmb 07 46 52.9
comp=Z,17nm,1.4s
D22K Ayikyak River 68.94 7 P P 07 46 11.8 -2.3
baz=345
D24K Happy Valley 69.00 6 P P 07 46 15.1 +0.6
D24K Happy Valley 69.00 6 P P 07 46 12.2 -2.3
baz=348
D25K Kavik River 69.01 5 P P 07 46 15.7 +1.1
D25K Kavik River 69.01 5 P P 07 46 11.1 -3.5
baz=350,SNR=8.0
D23K Nanushuk River 69.03 7 P P 07 46 15.4 +0.7
D23K IAmb IAmb 07 46 20.7
comp=Z,8.2nm,0.8s
D23K Nanushuk River 69.03 7 P P 07 46 10.8 -4.0
baz=346
LBTB Lobatse 69.04 200 LR LR 08 18 22.1
comp=Z,145nm,18.0s,baz=17,slow=38
TGY Tagaytay City 69.15 89 LR LR 08 16 45.9
comp=Z,259nm,21.3s,baz=198,slow=36
E20K Nigu River 69.17 9 P P 07 46 13.5 -2.1
baz=342
E21K Killik River 69.23 8 P P 07 46 12.2 -3.8
baz=344
D28M Stokes Point 69.34 2 P P 07 46 14.9 -1.7
baz=356
D27M Malcolm River 69.36 3 P P 07 46 17.6 +0.8
D27M IAmb IAmb 07 46 19.1
comp=Z,11nm,1.4s
D27M Malcolm River 69.36 3 P P 07 46 16.2 -0.6
baz=354
E18K Tukpahlearik C 69.39 11 P P 07 46 16.9 0.0
E18K Tukpahlearik C 69.39 11 P P 07 46 15.6 -1.3
baz=338,SNR=14
TOLK Toolik Lake Re 69.45 6 P P 07 46 17.8 +0.5
TOLK Toolik Lake Re 69.45 6 P P 07 46 14.2 -3.1
baz=347
E17K Hotham Inlet 69.53 11 P P 07 46 15.2 -2.5
baz=338
E22K Anaktuvuk Pass 69.74 7 P P 07 46 19.2 +0.1
E22K IAmb IAmb 07 46 24.1
comp=Z,9.4nm,1.1s
E22K Anaktuvuk Pass 69.74 7 P P 07 46 16.3 -2.9
baz=345
E19K Redstone River 69.80 10 P P 07 46 19.8 +0.3
E19K Redstone River 69.80 10 P P 07 46 18.2 -1.3
baz=341,SNR=35

TNA	Tin City	69.89	15	P	P	07 46 17.5	-2.5	
	baz=333							
E23K	Chandalar	70.01	6	P	P	07 46 18.7	-2.1	
	baz=347							
E28M	Babbage River	70.05	2	P	P	07 46 21.0	0.0	
E28M				IAmb	IAmb	07 46 23.2		
	comp=Z,10nm,1.1s							
E28M	Babbage River	70.05	2	P	P	07 46 20.0	-1.0	
	baz=355,SNR=7.2							
E24K	Your Creek	70.09	6	P	P	07 46 18.9	-2.4	
	baz=348							
F17K	Baldwin Pennin	70.21	11	P	P	07 46 20.4	-1.5	
	baz=338							
F14K	Arctic Creek	70.26	14	P	P	07 46 21.8	-0.5	
	baz=334							
F18K	Selawik	70.29	11	P	P	07 46 21.2	-1.2	
	baz=339							
E29M	Blow River	70.31	2	P	P	07 46 23.0	+0.5	
E29M				IAmb	IAmb	07 46 24.8		
	comp=Z,16nm,1.1s							
E29M	Blow River	70.31	2	P	P	07 46 21.1	-1.5	
	baz=356,SNR=15							
F22K	John River	70.32	8	P	P	07 46 20.9	-1.8	
	baz=345							
F19K	Shaleruckim Mo	70.33	10	P	P	07 46 20.2	-2.5	
	baz=341							
F15K	North Star Dit	70.34	13	P	P	07 46 22.5	-0.3	
	baz=336,SNR=7.6							
F20K	Avaraart Lake	70.38	9	P	P	07 46 21.2	-1.8	
	baz=342							
E27K	Coleen River	70.39	3	P	P	07 46 23.8	+0.7	
E27K	Coleen River	70.39	3	P	P	07 46 21.6	-1.6	
	baz=354,SNR=12							
INK	Inuvik	70.44	0	LR	LR	08 24 10.2		
	comp=Z,66nm,18.6s,baz=49,slow=42							
INK	Inuvik	70.44	0	P	P	07 46 21.4	-1.9	
	baz=360							
F21K	Alatna River	70.46	8	P	P	07 46 22.2	-1.3	
	baz=344							
F24K	Squaw Lake	70.68	6	P	P	07 46 23.6	-1.3	
	baz=348,SNR=5.8							
GAMB	Gambell	70.70	17	P	P	07 46 22.4	-2.5	
	baz=330							
F26K	Sheenjek River	70.75	4	P	P	07 46 23.0	-2.3	
	baz=352,SNR=7.9							
F25K	Christian Rive	70.77	5	P	P	07 46 22.8	-2.6	
	baz=350							
COLD	Coldfoot	70.78	7	P	P	07 46 23.9	-1.5	
	baz=347							
G22K	Bettles	70.95	7	P	P	07 46 25.2	-1.3	
	baz=346							
G16K	Koyuk River	71.01	12	P	P	07 46 25.4	-1.5	
	baz=337							
F28M	Old Crow	71.03	3	P	P	07 46 26.7	-0.3	
F28M				IAmb	IAmb	07 46 28.9		
	comp=Z,10nm,1.1s							
F28M	Old Crow	71.03	3	P	P	07 46 24.7	-2.3	
	baz=355,SNR=8.7							
G19K	Purcell Mounta	71.07	10	P	P	07 46 27.4	+0.1	
G19K				IAmb	IAmb	07 46 32.7		
	comp=Z,9.5nm,0.8s							
G19K	Purcell Mounta	71.07	10	P	P	07 46 25.7	-1.6	
	baz=341,SNR=12							
G18K	Tagagawik	71.10	11	P	P	07 46 27.0	-0.5	
G18K				IAmb	IAmb	07 46 32.5		
	comp=Z,4.7nm,0.8s							
G18K	Tagagawik	71.10	11	P	P	07 46 25.1	-2.3	
	baz=340,SNR=9.4							
G15K	Niukluk	71.10	13	P	P	07 46 25.9	-1.5	
	baz=336							
F30M	Barrier River	71.13	1	P	P	07 46 26.3	-1.2	
	baz=358,SNR=7.1							
G21K	Allakaket	71.14	8	P	P	07 46 26.4	-1.3	
	baz=344,SNR=9.4							
G17K	Kiwalik Mounta	71.18	12	P	P	07 46 27.1	-0.8	
	baz=339,SNR=14							
ANM	Nome	71.26	14	P	P	07 46 27.1	-1.3	
	baz=335							
G23K	Bananza Creek	71.30	7	P	P	07 46 26.1	-2.6	
	baz=347							
F31M	Tsiigehtchic	71.31	0	P	P	07 46 26.4	-2.2	
	baz=360							
G26K	Porcupine Rive	71.52	4	P	P	07 46 31.0	+1.1	
G26K				IAmb	IAmb	07 46 39.7		
	comp=Z,11nm,0.8s							
G26K	Porcupine Rive	71.52	4	P	P	07 46 27.1	-2.7	
	baz=352,SNR=16							
G24K	Hadweenzic Riv	71.52	6	P	P	07 46 26.9	-3.1	
	baz=349,SNR=8.1							
G25K	Bearman Lake	71.55	5	P	P	07 46 28.1	-2.0	
	baz=350							
IMAR	Indian Mountai	71.63	9	P	P	07 46 30.4	-0.2	
H16K	Elim	71.73	13	P	P	07 46 29.2	-2.0	
	baz=338							
H19K	Roundabout Mou	71.74	10	P	P	07 46 29.8	-1.5	
	baz=342,SNR=6.5							
G30M	tAoh Zraii Nji	71.75	1	P	P	07 46 31.0	-0.4	
G30M				IAmb	IAmb	07 46 32.8		
	comp=Z,9.4nm,1.1s							
G30M	tAoh Zraii Nji	71.75	1	P	P	07 46 30.4	-1.1	
	baz=358,SNR=5.5							
G27K	Doyon Strip	71.76	3	P	P	07 46 32.5	+1.1	
G27K				IAmb	IAmb	07 46 34.1		
	comp=Z,14nm,1.1s							
G27K	Doyon Strip	71.76	3	P	P	07 46 30.9	-0.6	
	baz=354,SNR=15							
G29M	Pine Creek	71.79	2	P	P	07 46 31.7	+0.1	
G29M				IAmb	IAmb	07 46 37.1		
	comp=Z,11nm,1.1s							
G29M	Pine Creek	71.79	2	P	P	07 46 28.5	-3.0	
	baz=356,SNR=7.7							
H17K	Granite Mounta	71.82	12	P	P	07 46 28.5	-3.3	
	baz=339							
G31M	Satah River	71.83	0	P	P	07 46 29.3	-2.5	
	baz=359,SNR=7.4							
H18K	Honhosa River	71.84	11	P	P	07 46 31.9	0.0	
H18K				IAmb	IAmb	07 46 56.5		
	comp=Z,14nm,1.6s							
H18K	Honhosa River	71.84	11	P	P	07 46 28.8	-3.1	
	baz=341							
H22K	Ishtalitna Cre	71.97	8	P	P	07 46 30.1	-2.6	
	baz=346,SNR=7.7							
H20K	Anotleneega Mo	71.97	9	P	P	07 46 30.1	-2.6	
	baz=343,SNR=14							
H21K	Melozitna Rive	72.05	8	P	P	07 46 30.8	-2.3	
	baz=345,SNR=5.1							
H25L	Birch Creek	72.07	5	P	P	07 46 30.0	-3.3	
	baz=350,SNR=5.5							
H23K	Yukon River	72.21	7	P	P	07 46 30.0	-4.1	
	baz=347,SNR=8.9							
H24K	Noodor Dome	72.34	6	P	P	07 46 31.6	-3.4	
	baz=349							
H27K	Steamboat Moun	72.35	3	P	P	07 46 32.1	-2.8	
	baz=354,SNR=9.3							
EPYK	Eagle Plains	72.36	1	P	P	07 46 33.0	-2.1	
	baz=357,SNR=11							
GCSA	Galena City Sc	72.43	10	P	P	07 46 32.4	-3.0	
	baz=342							
H29M	Whitestone	72.47	2	P	P	07 46 32.9	-2.8	
	baz=356,SNR=10							
BOSA	Boshof	72.56	200	P	P	07 46 37.2	+0.6	
	comp=Z,2.5nm,0.8s,baz=46,slow=7.2,SNR=4.0							
BOSA				LR	LR	08 20 18.1		
	comp=Z,124nm,18.2s,baz=22,slow=37							
	comp=Z,2.5nm,0.8s							
I21K	Tanana	72.60	8	P	P	07 46 32.6	-3.8	
	baz=346							
I17K	Unalakleet	72.68	12	P	P	07 46 32.1	-4.8	
	baz=339							
I20K	Naaghedeneel	72.69	9	P	P	07 46 34.2	-2.8	
	baz=344							
PRP	Porcupine Dome	72.83	5	P	P	07 46 34.0	-4.0	
	baz=350							
MLY	Manley	72.87	8		P	07 46 38.4	+0.2	
MLY				IAmb	IAmb	07 46 40.5		
	comp=Z,16nm,1.4s							
MLY	Manley	72.87	8	P	P	07 46 33.5	-4.6	
	baz=346,SNR=8.5							
I23K	Minto, Yukon-K	72.89	7	P	P	07 46 35.1	-3.0	
	baz=348,SNR=5.3							
H31M	Peel River	72.95	0	P	P	07 46 35.5	-3.1	
	baz=359,SNR=7.1							
I27K	Kandik River	72.97	4	P	P	07 46 37.1	-1.6	
	baz=354,SNR=9.8							
POKR	Poker Plat Res	73.08	6	P	P	07 46 37.5	-1.8	
	baz=349							
I26K	Coal Creek Min	73.19	4	P	P	07 46 36.6	-3.3	
	baz=352							
I28M	Miner Creek	73.19	3	P	P	07 46 38.2	-1.9	
	baz=355,SNR=15							
J14K	Nanvaranak Lak	73.26	14	P	P	07 46 39.3	-1.0	
	baz=337							
J16K	Anvik River	73.26	12	P	P	07 46 38.3	-2.1	
	baz=339,SNR=8.5							
COLA	College	73.29	6	*c i* P	P	07 46 40.8	+0.3	
COLA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
COLA	College	73.29	6	P	P	07 46 38.5	-2.0	
	baz=349							
J19K	Poorman	73.32	10	P	P	07 46 38.9	-1.8	
	baz=343,SNR=10.0							
J20K	Nowinta River	73.33	9	P	P	07 46 39.2	-1.5	
	baz=344							
I29M	Ogilvie Camp,	73.33	2	P	P	07 46 39.0	-1.8	
	baz=356							
J17K	VABM Dome	73.40	12	P	P	07 46 38.6	-2.6	
	baz=340							
NEA2	Nenana	73.46	7	P	P	07 46 38.7	-2.8	
	baz=348							
ILAR	Eielson Array	73.47	6	P	P	07 46 42.1	+0.5	
	comp=Z,0.9nm,0.9s,baz=352,slow=4.8,SNR=7.7							
	comp=Z,0.9nm,0.9s							
I30M	Mount Dempster	73.51	1	P	P	07 46 39.8	-2.2	
	baz=358,SNR=28							
J18K	Innoko River	73.68	11	P	P	07 46 40.0	-2.8	
	baz=342							
J25K	Salcha River,	73.74	5	P	P	07 46 41.4	-1.9	
	baz=351							
BPAW	Bear Paw Mtn.	73.76	8	P	P	07 46 39.5	-3.9	
	baz=346							
K13K	Kusilvak Mount	73.80	15	P	P	07 46 39.8	-3.8	
	baz=336							
HDA	Harding Lake	73.82	6	P	P	07 46 40.9	-2.8	
	baz=350							
CHUM	Lake Minchumin	73.82	9	P	P	07 46 40.9	-2.8	
	baz=345,SNR=9.2							
J26L	Joseph Creek	73.96	5	P	P	07 46 43.0	-1.7	
	baz=352							
K15K	Wolf Creek Mou	74.04	13		P	07 46 45.5	+0.5	
K15K				IAmb	IAmb	07 46 50.9		
	comp=Z,9.3nm,0.9s							
K15K	Wolf Creek Mou	74.04	13	P	P	07 46 42.9	-2.1	
	baz=338							
K20K	Telida	74.13	9		P	07 46 46.0	+0.5	
K20K	Telida	74.13	9	P	P	07 46 44.2	-1.3	
	baz=344							
K17K	Iditarod	74.16	12	P	P	07 46 43.6	-2.1	
	baz=341,SNR=7.6							
J30M	Hart River	74.17	1	P	P	07 46 44.9	-0.9	
	baz=358,SNR=15							
J29N	Klondike Camp	74.25	2	P	P	07 46 45.1	-1.1	
	baz=356							
CAST	Castle Rocks	74.30	9	P	P	07 46 46.5	-0.1	
	baz=346,SNR=20							
MCK	McKinley	74.32	7	P	P	07 46 46.0	-0.6	
	baz=348							
SCRK	Sand Creek	74.46	5	P	P	07 46 47.6	+0.1	
	baz=352,SNR=9.1							
TRF	Thorofare Moun	74.46	8	P	P	07 46 46.9	-0.8	
	baz=347							
K24K	Donnelly Dome	74.51	6	P	P	07 46 46.9	-0.8	
	baz=350,SNR=14							
K27K	Chicken	74.52	4	P	P	07 46 47.2	-0.5	
	baz=353							
DAWY	Dawson	74.60	3	P	P	07 46 47.7	-0.6	
	baz=355,SNR=15							
L15K	Ungalak Mounta	74.62	13	P	P	07 46 47.0	-1.3	
	baz=338							
RIDG	Independent Ri	74.64	5	P	P	07 46 47.7	-0.9	
	baz=351,SNR=6.1							
L17K	Donlin	74.71	12	P	P	07 46 47.8	-1.1	
	baz=341							
L14K	Kuka Creek	74.72	14		P	07 46 48.4	-0.5	
L14K				IAmb	IAmb	07 46 54.6		
	comp=Z,6.8nm,0.8s							
L14K	Kuka Creek	74.72	14	P	P	07 46 47.6	-1.3	
	baz=338							
PPLA	Purkeypile	74.80	9	P	P	07 46 49.1	-0.5	
	baz=346							
L18K	Granite Mounta	74.87	11	P	P	07 46 49.3	-0.5	
	baz=342							
K29M	Barlow Dome	74.87	2	P	P	07 46 49.1	-0.9	
	baz=357,SNR=17							
M11K	Mekoryuk	74.91	16	P	P	07 46 49.7	-0.3	
	baz=335							
L20K	Farewell, AK	75.00	10	P	P	07 46 49.5	-1.1	
	baz=344,SNR=11							
L19K	White Mountain	75.16	10	P	P	07 46 49.4	-2.1	
	baz=344							
YKA	Yellowknife Ar	75.17	351	P	P	07 46 51.8	+0.2	
	comp=Z,4.5nm,0.8s,baz=12,slow=6.9,SNR=7.2							
	comp=Z,4.5nm,0.8s							
WRGLY	Wrigley	75.24	355	P	P	07 46 50.7	-1.2	
	baz=7.7							
PAX	Paxson	75.36	6	P	P	07 46 50.6	-2.2	
	baz=351							
M14K	Bethel	75.40	14	P	P	07 46 51.1	-1.8	
	baz=338							
L26K	Log Cabin Wild	75.44	5	P	P	07 46 51.6	-1.6	
	baz=352,SNR=6.8							
M13K	Dall Lake	75.45	15	P	P	07 46 51.4	-1.8	
	baz=337							
M19K	Big River Lodg	75.49	10	P	P	07 46 51.8	-1.6	
	baz=344,SNR=7.3							
BCAR	Beaver Creek A	75.49	4		P	07 46 54.1	+0.6	
L27K	Beaver Creek,	75.49	4	P	P	07 46 51.6	-1.8	
	baz=354,SNR=10.0							
M17K	Holitna River	75.54	12	P	P	07 46 49.9	-3.8	
	baz=342,SNR=13							
L29M	L29M	75.59	2	P	P	07 46 52.7	-1.3	
	baz=356,SNR=8.3							
M16K	Timber Creek	75.66	12	P	P	07 46 53.1	-1.3	
	baz=340,SNR=9.0							
M20K	Styx River	75.67	9	P	P	07 46 53.1	-1.4	
	baz=345							
M15K	Kasigluk River	75.68	13	P	P	07 46 53.7	-0.8	
	baz=339							
M18K	Stony River	75.69	11	P	P	07 46 53.7	-0.8	
	baz=343							
SKT	Skwentna	75.76	9	P	P	07 46 52.9	-2.1	
	baz=346,SNR=12							
HARP	HAARP	75.95	6	P	P	07 46 53.7	-2.3	
	baz=351							
M26K	Nabesna, AK	76.09	5	P	P	07 46 54.0	-2.9	
	baz=353,SNR=7.9							
MMPY	Sheldon Lake,	76.14	359	P	P	07 46 54.8	-2.3	
	baz=1.6,SNR=9.4							
M22K	Willow	76.14	8	P	P	07 46 53.3	-3.8	
	baz=347							
M24K	Tolsona, Glenn	76.16	6	P	P	07 46 54.1	-3.1	
	baz=350							
M30M	Minto, Yukon	76.16	2	P	P	07 46 54.2	-3.1	
	baz=357,SNR=6.7							
BVCY	Beaver Creek	76.19	4	P	P	07 46 53.6	-3.8	
	baz=354,SNR=7.9							
M27K	Ed Creek, AK	76.19	4	P	P	07 46 55.1	-2.5	
	baz=354,SNR=7.8							
N16K	Nishlik Lake	76.21	13	P	P	07 46 54.4	-3.1	
	baz=341							
N14K	Kuskokwak Cree	76.22	14	P	P	07 46 55.8	-1.8	
	baz=339							
M29M	Somme Creek	76.25	2	P	P	07 46 56.7	-1.2	
	baz=356							
N15K	Kwethluk River	76.28	13	P	P	07 46 56.6	-1.3	
	baz=340							
SCM	Sheep Creek Mo	76.33	7	P	P	07 46 56.4	-1.9	
	baz=349							
SUA	Susitna One	76.36	8	P	P	07 46 58.0	-0.4	
	baz=347,SNR=19							
PMR	Palmer	76.40	8	P	P	07 46 59.3	+0.8	
	baz=348							
N17K	Nushagak Hills	76.41	12	P	P	07 46 58.6	0.0	
	baz=342							
N20K	Mount Spurr	76.44	9	P	P	07 46 57.8	-1.1	
	baz=346							
SPCR	Spurr Chakacha	76.44	9	P	P	07 46 58.5	-0.4	
	baz=346							
N18K	Kilae Creek	76.46	11	P	P	07 46 55.9	-3.1	
	baz=343							
N19K	Bonanza Creek	76.53	10	P	P	07 46 57.8	-1.7	
	baz=344,SNR=11							
M31M	Drury Creek, Y	76.57	0	P	P	07 46 57.8	-1.8	
	baz=359							
KNK	Knik Glacier	76.64	7	P	P	07 46 59.9	-0.1	
	baz=348							
N25K	Chitina, Valde	76.77	5	P	P	07 47 01.4	+0.6	
	baz=351							
KLU	Klutina	76.78	6	P	P	07 47 01.5	+0.6	
	baz=350,SNR=9.9							
RC01	Rabbit Creek A	76.83	8	P	P	07 47 01.2	+0.2	
	baz=348							
YUK3	Moose Creek	76.84	3	P	P	07 47 02.6	+1.2	
	baz=355,SNR=11							
O14K	Tigyukauivet M	76.93	14	P	P	07 47 01.3	-0.3	
	baz=339							
MCARA	McCarthy VSAT	77.10	5	P	P	07 47 03.5	+1.0	
	baz=353							
O17K	Koliganek Bris	77.14	12	P	P	07 47 02.0	-0.8	
	baz=342							
O19K	Port Alsworth	77.15	11	P	P	07 47 02.3	-0.5	
	baz=344							
O16K	Kokwok River B	77.16	13	P	P	07 47 04.3	+1.5	
	baz=341							
TGTN	Hyland Airport	77.16	357	P	P	07 47 03.2	+0.2	
	baz=3.9							
PWL	Port Wells	77.20	7	P	P	07 47 02.1	-1.1	
	baz=349							
O15K	Ungalikthiuk R	77.26	14	P	P	07 47 04.2	+0.7	
	baz=340							
N31M	Braeburn, Yuko	77.27	1	P	P	07 47 04.3	+0.7	
	baz=358							
N30M	Ashikik Lake	77.28	2	P	P	07 47 03.8	+0.2	
	baz=357							
GLI	Glacier Island	77.29	7	P	P	07 47 03.3	-0.3	
	baz=350							
YUK4	Talbot Arm	77.34	3	P	P	07 47 02.4	-1.8	
	baz=356							
O18K	Koktuh Hills	77.35	11	P	P	07 47 03.2	-0.8	
	baz=343							
BMRM	Bremner River	77.41	6	P	P	07 47 04.2	-0.1	
	baz=351							
O20K	Slope Mountain	77.48	10	P	P	07 47 03.6	-1.1	
	baz=345							
CTG	Chitna Glacier	77.61	4	P	P	07 47 06.9	+1.3	
	baz=354							
N32M	Quiet Lake	77.63	360	P	P	07 47 06.0	+0.4	
	baz=0.2							
CRQE	Cirque	77.72	5	P	P	07 47 07.8	+1.6	
	baz=353,SNR=7.4							
EYAK	Cordova Ski Ar	77.73	6	P	P	07 47 06.8	+0.8	
	baz=351							
YUK6	Outpost Mounta	77.76	2	P	P	07 47 05.5	-1.1	
	baz=356							
P18K	Big Mountain,	77.79	11	P	P	07 47 05.9	-0.6	
	baz=343							
P17K	Kvichak River	77.80	12	P	P	07 47 06.9	+0.5	
	baz=343							
P19K	Oil Pt	77.82	10	P	P	07 47 05.8	-0.8	
	baz=345							
SEW	Seward	77.83	8	P	P	07 47 06.1	-0.5	
	baz=348							
O28M	Mount Upton	77.86	3	P	P	07 47 07.0	-0.1	
	baz=355							
HYT	Haines Junctio	77.90	2	P	P	07 47 07.5	+0.3	
	baz=357,SNR=12							
HOM	Homer	78.01	9	P	P	07 47 08.1	+0.5	
	baz=346							
WHY	Whitehorse	78.11	1	P	P	07 47 08.2	-0.1	
	baz=359							
KOTAN	Kotaneelee Air	78.36	355	P	P	07 47 10.1	+0.5	
	baz=7.1							
MESA	MESA	78.36	4	P	P	07 47 09.1	-0.8	
	baz=354							
O29M	Mount Kennedy	78.39	3	P	P	07 47 09.7	-0.2	
	baz=356							
Q19K	Cape Douglas,	78.46	11	P	P	07 47 10.1	-0.1	
	baz=345							
PINM	Pinnacle	78.53	3	P	P	07 47 11.8	+1.1	
	baz=355							
Q18K	Katmai Hardscr	78.54	11	P	P	07 47 11.6	+0.8	
	baz=344							
P33M	Teslin, Yukon	78.57	360	P	P	07 47 11.2	+0.4	
	baz=0.4,SNR=5.6							
WTLY	Watson Lake, Y	78.59	358	P	P	07 47 11.2	+0.2	
	baz=3.5							
P30M	Million Dollar	78.62	2	P	P	07 47 11.5	+0.4	
	baz=357							
Q17K	Contact Creek	78.78	12	P	P	07 47 11.6	-0.4	
	baz=343							
Q23K	Middleton Isla	78.79	7	P	P	07 47 12.7	+0.8	
	baz=350							
Q20K	Shuyak Island	78.94	10	P	P	07 47 13.0	+0.2	
	baz=346							
PNL	Peninsula	79.00	3	P	P	07 47 13.3	+0.2	
	baz=355							
P29M	Windy Craggy	79.09	2	P	P	07 47 12.8	-0.8	
	baz=357							
LIRD	Liard River Hi	79.19	356	P	P	07 47 12.9	-1.2	
	baz=5.5							
P32M	Atlin	79.19	0	P	P	07 47 13.4	-0.8	
	baz=360							
PLBC	Pleasant Camp	79.30	2	P	P	07 47 14.2	-0.5	
	baz=358,SNR=7.3							
R17L	Mt. Peulik Vol	79.31	12	P	P	07 47 13.3	-1.6	
	baz=343							
SKAG	Skagway	79.31	1	P	P	07 47 15.3	+0.5	
	baz=358							
R33M	Jennings River	79.37	359	P	P	07 47 15.9	+0.6	
	baz=1.8,SNR=5.6							
TOAD	Toad River Com	79.70	356	P	P	07 47 17.0	0.0	
	baz=6.2,SNR=15							
KDAK	Kodiak Island	79.72	10	LR	LR	08 28 55.6		
	comp=Z,86nm,18.0s,baz=326,slow=40							
KDAK	Kodiak Island	79.72	10	P	P	07 47 16.8	-0.3	
	baz=346							
Q32M	Nakina River	79.82	359	P	P	07 47 17.6	-0.3	
	baz=0.8,SNR=6.4							
DLBC	Dease Lake	80.31	358	LR	LR	08 27 06.6		
	comp=Z,66nm,20.4s,baz=332,slow=39							
DLBC	Dease Lake	80.31	358	P	P	07 47 20.8	+0.4	
	baz=2.5,SNR=6.5							
R32K	Eaglecrest	80.51	1	P	P	07 47 20.1	-1.3	
	baz=359							
S31K	Pelican	80.80	1	P	P	07 47 21.4	-1.5	
	baz=358							
UNV	Unalaska Valle	80.80	19	P	P	07 47 20.9	-2.0	
	baz=336							
S34M	Telegraph Cree	80.86	359	P	P	07 47 22.7	-0.5	
	baz=1.7							
SADO	Sadowa	81.24	324	LR	LR	08 23 58.2		
	comp=Z,76nm,18.0s,baz=4.0,slow=36							
S32K	Killisnoo	81.32	1	P	P	07 47 25.1	-0.5	
	baz=359							
CHNA	Chernabura Isl	81.40	15	P	P	07 47 25.6	-0.5	
	baz=340							
SIT	Sitka	81.72	1	P	P	07 47 25.3	-2.5	
	baz=358							
T35M	Bob Quinn	81.77	358	P	P	07 47 27.8	-0.3	
	baz=2.4							
WRAK	Wrangell Islan	82.37	359	P	P	07 47 30.2	-1.0	
	baz=0.8							
CRAG	Craig	83.33	360	P	P	07 47 35.4	-0.7	
	baz=0.2							
V35K	Ketchikan	83.45	359	P	P	07 47 27.5	-9.3	
	baz=1.3							
BBB	Bella Bella	86.50	357	LR	LR	08 29 18.1		
	comp=Z,42nm,21.1s,baz=34,slow=38							
NEW	Newport	89.38	349	LR	LR	08 29 16.5		
	comp=Z,83nm,20.0s,baz=10.0,slow=36							
TKL	Tuckaleechee C	90.67	322	LR	LR	08 29 54.4		
	comp=Z,108nm,19.0s,baz=26,slow=36							
D08A	Wollman Farm,	90.81	350		P	07 48 13.7	+0.9	
D08A				IAmb	IAmb	07 48 14.9		
	comp=Z,9.1nm,1.1s							
RLMT	Red Lodge	91.01	343		P	07 48 14.5	+0.5	
RLMT				IAmb	IAmb	07 48 16.5		
	comp=Z,5.4nm,0.9s							
PDAR	Pinedale Array	93.31	343	P	P	07 48 25.1	+0.3	
	comp=Z,0.6nm,0.9s,baz=93,slow=3.0,SNR=4.5							
PDAR				LR	LR	08 32 48.4		
	comp=Z,63nm,18.2s,baz=3.0,slow=37							
	comp=Z,0.6nm,0

TBI	**Tubuai**	**157.43**	**41**	eLR	LR	08 47 58.0	
	comp=Z,467nm,29.8s						
TBI				eLR	LR	08 47 58.6	
	comp=Z,917nm,31.0s						

IDC 10 07:44:51.6±4.1, 5°57′S×148°69′E, h0km, mb3.2/1, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=127.1km s-min=38.3km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**202**	Pn	Pn	07 45 56.4	+0.8
	31nm,0.7s,baz=21,slow=13,SNR=10						
PMG				Sn	Sn	07 46 43.9	-0.5
	6.5nm,0.3s,baz=60,slow=20,SNR=13						
WRA	**Warramunga Arr**	**19.97**	**223**	P	Pn	07 49 26.9	-0.5
	0.4nm,0.3s,baz=48,slow=11,SNR=31						
	3.1nm,0.6s						
ASAR	**Alice Springs**	**22.94**	**217**	P	P	07 49 56.8	-0.9
	0.8nm,0.9s,baz=48,slow=9.6,SNR=5.9						
	0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**146.61**	**285**	PKPbc	PKPdf	08 04 35.3	+0.5
	1.0nm,0.3s,baz=102,slow=1.7,SNR=1.0						

CATAC 10 07:55:36.0±0.4, 11°N±2°×8°6′W±°, h79km±4km, M3.2/17, MLv3.2/17, 13D, Error ellipse: s-maj=7.7km s-min=3.7km az=65.0, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.31**	**63**	⇓P	Pn	07 55 49.5	+1.2
CARN				S	Sn	07 56 00.5	+3.2
ARIN	**Rivas**	**0.41**	**356**	P	Pn	07 55 49.5	+0.6
ARIN	**Rivas**	**0.41**	**356**	S	Sn	07 56 00.3	+1.8
ELI1	**Hacienda Flor**	**0.47**	**148**	S	Sn	07 56 03.1	+3.8
ELI1	**Hacienda Flor**	**0.47**	**148**	P	Pn	07 55 51.1	+1.7
JAPN	**Al SSO del Vol**	**0.49**	**15**	⇓P	Pn	07 55 51.0	+1.4
JAPN				S	Sn	07 56 01.8	+2.2
MORN	**Al O del Volca**	**0.52**	**17**	⇓P	Pn	07 55 50.7	+0.8
MORN				S	Sn	07 56 02.9	+2.8
NADN	**Granada**	**0.73**	**342**	⇓P	Pn	07 55 52.6	+0.6
NADN				S	Sn	07 56 05.6	+1.8
UPAL	**Upala**	**0.79**	**101**	⇓P	Pn	07 55 53.3	+0.7
NANN	**Nandasmo**	**0.94**	**341**	S	Sn	07 56 10.5	+2.5
NANN	**Nandasmo**	**0.94**	**341**	⇓P	Pn	07 55 55.7	+1.4
SABN	**Sabanita**	**0.97**	**339**	⇓P	Pn	07 55 54.2	-0.5
ACON	**Acoyapa**	**1.10**	**34**	S	Sn	07 56 12.1	+0.7
ACON	**Acoyapa**	**1.10**	**34**	⇓P	Pn	07 55 56.1	-0.2
UNAN	**Cigeo UNAN**	**1.15**	**337**	⇓P	Pn	07 55 57.1	+0.2
UNAN				S	Sn	07 56 13.6	+1.1
WILN	**Americas 2**	**1.17**	**341**	⇓P	Pn	07 55 57.2	+0.1
WILN				S	Sn	07 56 13.7	+0.8
TISN	**Laguna Tiscapa**	**1.18**	**337**	P	Pn	07 55 57.5	+0.2
INDI	**Punta indio, G**	**1.21**	**166**	S	Sn	07 56 13.9	+0.1
INDI	**Punta indio, G**	**1.21**	**166**	⇓P	Pn	07 55 57.9	+0.3
SAPS	**Ciudad Sandino**	**1.26**	**332**	P	Pn	07 55 58.5	+0.2
SAPS	**Ciudad Sandino**	**1.26**	**332**	S	Sn	07 56 15.9	+1.0
COPN	**Copaltepe**	**1.36**	**326**	⇓P	Pn	07 55 59.5	-0.1
BOAB	**BOACO BROADBAN**	**1.40**	**6**	S	Sn	07 56 18.7	+0.6
BOAB	**BOACO BROADBAN**	**1.40**	**6**	⇓P	Pn	07 55 59.9	-0.1
CNGA	**Al SSO del Vol**	**1.69**	**329**	P	Pn	07 56 04.0	+0.2
CNGA				S	Sn	07 56 25.1	+0.3
ROCN	**Rota Cerro Neg**	**1.73**	**328**	P	Pn	07 56 04.4	0.0
ROCN				S	Sn	07 56 26.1	+0.3

*IDC **10** 08:03:17.5±0.9, 23°59′N×121°59′E, h0km, mb3.8/10, mbtmp3.8/10, MS3.5/5, Error ellipse: s-maj=31.6km s-min=18.8km az=66.0*
*TAP **10** 08:03:18.6, 23°66′N×121°51′E, h3km, ML4.1, C*
ISC 10 08:03:19.2±0.8, 23°65′N±0°01′×121°54′E±0°02, h7km±5km, n160, σ0°89/244, mb3.8/10, MS3.4/5, 3C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.06**	**3**	⇑iP	Pg	08 03 20.5	-0.4
TEGC				S	Sg	08 03 22.2	0.0
EGFH	**Guangfu**	**0.10**	**283**	⇑iP	Pg	08 03 20.8	-0.7
EGFH				eS	Sg	08 03 22.7	-0.4
SHUL	**Shoufeng**	**0.14**	**10**	⇓iP	Pg	08 03 22.4	+0.2
SHUL				eS	Sg	08 03 25.1	+0.9
WARBT	**Fenglin Townsh**	**0.16**	**298**	⇓iP	Pg	08 03 21.7	-0.7
WARBT				S	Sg	08 03 23.3	-1.4
HGSD	**Ruisui**	**0.18**	**214**	⇓iP	Pg	08 03 23.3	+0.4
HGSD				S	Sg	08 03 27.2	+1.8
ESL	**Shilin**	**0.19**	**331**	⇓iP	Pg	08 03 22.5	-0.6
ESL				eS	Sg	08 03 25.2	-0.5
TEYL	**Yanliau Villag**	**0.23**	**14**	eP	Pg	08 03 24.9	+1.2
TEYL				eS	Sg	08 03 29.2	+2.4
EHYH	**Wanrong**	**0.23**	**229**	⇑P	Pg	08 03 23.8	0.0
EHYH				eS	Sg	08 03 27.8	+0.9
EHY	**Hungye**	**0.24**	**235**	⇓iP	Pg	08 03 23.5	-0.4
EHY				eS	Sg	08 03 28.7	+1.5
ETM	**Tongmen**	**0.32**	**353**	⇓iP	Pg	08 03 25.1	-0.3
ETM				eS	Sg	08 03 31.0	+1.2
YULB	**Yu-li**	**0.33**	**221**	P	Pb	08 03 26.5	-0.9
YULB	**Yu-li**	**0.33**	**221**	P	Pn	08 03 33.7	+3.3
YULB	**Yu-li**	**0.33**	**221**	⇓P	Pb	08 03 25.6	-1.9
YULB				S	Sb	08 03 31.0	-2.0
ECBN	**Changbin**	**0.34**	**193**	eP	Pb	08 03 26.9	-0.6
ECBN				eS	Sb	08 03 32.9	-0.2
HWA	**Hwalien**	**0.34**	**11**	eP	Pb	08 03 26.2	-1.3
HWA				eS	Sb	08 03 32.2	-0.9
EYUL	**Yuli**	**0.36**	**214**	eP	Pb	08 03 26.9	-0.9
EYUL				eS	Sb	08 03 34.7	+1.1
TWF1	**Yuli**	**0.36**	**217**	⇓P	Pb	08 03 26.4	-1.6
TWF1				eS	Sb	08 03 33.9	0.0
VWDT	**VWDT**	**0.38**	**287**	⇓iP	Pg	08 03 26.4	-0.1
VWDT				S	Sg	08 03 31.7	+0.1
TWD	**Chiawan**	**0.44**	**7**	⇓iP	Pg	08 03 27.5	-0.2
TWD				S	Sg	08 03 33.5	+0.1
OWD	**Renai**	**0.45**	**313**	⇓iP	Pg	08 03 27.6	-0.4
OWD				eS	Sg	08 03 34.1	+0.1
CHKH	**Chenggong**	**0.47**	**196**	eP	Pb	08 03 28.9	-0.8
CHKH				eS	Sb	08 03 36.9	0.0
FULB	**Fuli**	**0.50**	**207**	eP	Pn	08 03 30.9	-1.9
FULB				eS	Sb	08 03 38.8	+1.1
WUSB	**Renai**	**0.52**	**312**	⇓iP	Pg	08 03 29.1	-0.1
WUSB				eS	Sg	08 03 35.8	-0.2
ETL	**Fush Village**	**0.52**	**9**	eP	Pg	08 03 28.8	-0.4
NACB	**Ninganchiao**	**0.53**	**6**	P	Pg	08 03 29.3	-0.1
NACB	**Ninganchiao**	**0.53**	**6**	iP	Pg	08 03 28.9	-0.5
NACB				eS	Sb	08 03 38.7	+0.1
SSLB	**Suanglung**	**0.55**	**285**	P	Pg	08 03 29.8	0.0
SSLB	**Suanglung**	**0.55**	**285**	S	Sg	08 03 36.8	-0.3
SSLB	**Suanglung**	**0.55**	**285**	⇓iP	Pg	08 03 29.5	-0.3
SSLB				eS	Sg	08 03 36.8	-0.3
WHF	**Hehuan Shan**	**0.56**	**334**	⇓iP	Pg	08 03 29.5	-0.6
WHF				eS	Sg	08 03 36.7	-0.6
ETLH	**Xiulin Townshi**	**0.56**	**355**	eP	Pg	08 03 29.5	-0.6
ETLH				eS	Sg	08 03 37.7	+0.3
CHKT	**Chengkung**	**0.57**	**196**	eP	Pb	08 03 30.5	-0.9
CHKT				iS	Sb	08 03 40.5	+0.9
EHD	**Haiduan**	**0.58**	**212**	eP	Pb	08 03 30.6	-1.0
EHD				eS	Sb	08 03 39.8	-0.3
ECS	**Chishang**	**0.62**	**208**	eP	Pn	08 03 33.6	-0.7
WHYT	**Xinyi Township**	**0.63**	**275**	iP	Pb	08 03 31.3	-1.2
WHYT				iS	Sg	08 03 40.0	+0.5
SMLT	**Sun Moon Lake**	**0.63**	**292**	⇓iP	Pg	08 03 31.1	-0.2
SMLT				eS	Sg	08 03 39.3	-0.3
FUSS	**Fushou**	**0.66**	**336**	⇓iP	Pg	08 03 31.7	-0.2
FUSS				eS	Sg	08 03 40.5	0.0
ELDTW	**Lidau**	**0.66**	**227**	P	Pg	08 03 31.3	-0.6
ELDTW				eS	Sb	08 03 41.4	-1.1
TYC	**Yuchr**	**0.67**	**293**	⇓iP	Pg	08 03 31.9	-0.2
TYC				eS	Sg	08 03 41.4	+0.5
ALS	**Alishan**	**0.68**	**259**	⇓iP	Pb	08 03 32.5	-1.1
ALS				iS	Sb	08 03 43.0	-0.4
TWT	**Tachien**	**0.69**	**331**	⇓iP	Pg	08 03 32.4	-0.1
TWT				eS	Sg	08 03 41.1	-0.4
TDCB	**Techi**	**0.70**	**330**	⇓iP	Pg	08 03 32.4	-0.2
TDCB				eS	Sg	08 03 41.4	-0.3
EDH	**Donghe**	**0.70**	**198**	eP	Pb	08 03 32.8	-0.9
EDH				eS	Sb	08 03 44.2	+0.6
WCS	**Beigang Elemen**	**0.70**	**306**	⇓iP	Pb	08 03 32.8	-1.0
WCS				eS	Sb	08 03 43.2	-0.4
EAHA	**Aohua**	**0.71**	**15**	eP	Pg	08 03 32.5	-0.2
EAHA				eS	Sb	08 03 44.0	+0.3
WJS	**Zhushan**	**0.76**	**284**	eP	Pn	08 03 35.3	-1.1
WJS				eS	Sb	08 03 45.8	+0.5
CHN5	**Tsauling**	**0.79**	**267**	⇓iP	Pb	08 03 34.8	-0.5
CHN5				eS	Sb	08 03 45.2	-1.0
NNSB	**Datong**	**0.79**	**350**	⇓iP	Pg	08 03 34.0	-0.5
NNSB				eS	Sb	08 03 46.3	0.0
ENA	**Nanau**	**0.80**	**13**	eP	Pb	08 03 35.4	0.0
ENA				eS	Sb	08 03 47.1	+0.6
WNT	**Mingjian**	**0.81**	**287**	eP	Pb	08 03 35.9	+0.2
WNT				eS	Sb	08 03 47.5	+0.7
LONT	**Longtian**	**0.82**	**207**	eP	Pb	08 03 34.8	-1.0
LONT				eS	Sb	08 03 47.1	0.0
WHP	**Taichung City**	**0.83**	**319**	⇓P	Sg	08 03 35.1	-0.9
WHP				eS	Sg	08 03 46.0	+0.1
STYH	**Taoyuan**	**0.84**	**236**	eP	Pb	08 03 35.7	-0.4
STYH				eS	Sb	08 03 47.6	-0.1
EOS4	**EOS4**	**0.86**	**56**	eP	Pb	08 03 35.7	-0.5
EOS4				S	Sn	08 03 48.5	-1.4
WCKO	**Fanlu**	**0.88**	**257**	eP	Pb	08 03 36.6	-0.1
WCKO				eS	Sb	08 03 49.2	+0.5
LATG	**Datong**	**0.89**	**359**	⇓P	Pg	08 03 35.6	-0.7
LATG				eS	Sb	08 03 49.5	+0.5
WGK	**Gukeng**	**0.89**	**273**	eP	Pn	08 03 37.5	-0.6
WGK				eS	Sn	08 03 50.7	-0.7
TPUB	**Ta-pu**	**0.90**	**248**	P	Pn	08 03 37.5	-0.8
TPUB	**Ta-pu**	**0.90**	**248**	S	Sn	08 03 51.2	-0.3
TPUB	**Ta-pu**	**0.90**	**248**	eP	Pb	08 03 36.9	-0.2
TPUB				eS	Sb	08 03 49.6	+0.3
CHN4	**Tsaushan**	**0.91**	**252**	P	Pn	08 03 37.8	-0.6
CHN4				eS	Sb	08 03 50.1	+0.4
WDLH	**Douliu**	**0.92**	**273**	eP	Pn	08 03 37.9	-0.5
WDLH				eS	Sb	08 03 49.5	-0.2
WDL	**Douliou City**	**0.92**	**275**	eP	Pb	08 03 37.9	-0.5
WDL				eS	Sb	08 03 49.4	-0.4
TWGBT	**Beinan**	**0.92**	**207**	P	Pn	08 03 38.6	0.0
TWGBT	**Beinan**	**0.92**	**207**	eP	Pg	08 03 35.6	-1.3
TWG	**Pinlang**	**0.93**	**208**	eP	Pg	08 03 35.7	-1.2
TCU	**Taichung**	**0.93**	**303**	eP	Pn	08 03 38.6	-0.1
WTP	**Ta-pu**	**0.94**	**245**	iP	Pn	08 03 37.9	-0.9
WTP				S	Sn	08 03 51.8	-0.6
EOS3	**EOS3**	**0.96**	**48**	eP	Pn	08 03 38.1	-0.8
ESAO	**Su ao**	**0.97**	**17**	eP	Pb	08 03 38.2	0.0
LDUT	**Ludao**	**0.97**	**184**	eP	Pn	08 03 38.4	-0.8
TWQ1	**Liyutan**	**0.99**	**315**	eP	Pn	08 03 39.3	-0.2
ENTT	**Nioudou**	**0.99**	**2**	eP	Pb	08 03 37.9	-0.8
ENTT				eS	Sb	08 03 52.7	+0.7
WCHH	**Zhanghua**	**0.99**	**296**	eP	Pn	08 03 39.0	-0.5
WCHH				eS	Sn	08 03 53.5	-0.3
EOS2	**EOS2**	**1.00**	**39**	eP	Pn	08 03 39.1	-0.3
WCH1	**Changhua City**	**1.00**	**295**	eP	Pn	08 03 39.4	-0.2
WCH1				eS	Sn	08 03 53.8	-0.2
TWC	**Suao**	**1.00**	**17**	eP	Pb	08 03 38.1	-0.7
TWC				eS	Sb	08 03 51.9	-0.3
CHY	**Chiayi**	**1.03**	**262**	eP	Pn	08 03 39.9	-0.1
CHY				eS	Sn	08 03 54.3	-0.4
YHNB	**Yeheng**	**1.03**	**352**	P	Pb	08 03 38.9	-0.5
YHNB	**Yeheng**	**1.03**	**352**	eP	Pb	08 03 39.0	-0.4
YHNB				eS	Sb	08 03 53.3	+0.1
CHN1	**Nanshi**	**1.03**	**244**	P	Pn	08 03 40.0	-0.1
CHN1				S	Sn	08 03 55.8	+0.9
SNST	**Tainan City**	**1.04**	**246**	eP	Pn	08 03 41.0	+0.8
SNST				iS	Sn	08 03 56.1	+1.1
NSY	**Sanyi**	**1.04**	**317**	eP	Pb	08 03 39.2	-0.4
WTK	**Tuku**	**1.05**	**273**	eP	Pn	08 03 40.3	0.0
WTK				eS	Sn	08 03 55.4	+0.2
NFF	**Wufeng Townshi**	**1.05**	**339**	eP	Pb	08 03 39.4	-0.4
NFF				eS	Sg	08 03 52.3	-0.8
TWE	**Neicheng**	**1.08**	**6**	eP	Pb	08 03 39.9	-0.2
TWE				eS	Sb	08 03 55.3	+0.9
WDJ	**Dajia District**	**1.08**	**311**	eP	Pn	08 03 41.1	+0.5
WDJ				eS	Sb	08 03 55.4	+1.0
NSTT	**Nanjuang**	**1.10**	**334**	eP	Pn	08 03 40.6	-0.3
NSTT				eS	Sg	08 03 54.5	0.0
LIOB	**Emei**	**1.10**	**335**	eP	Pb	08 03 40.2	-0.4
LIOB				eS	Sb	08 03 56.0	+0.8
FUSB	**Fushanzhiwuyua**	**1.11**	**2**	eP	Pg	08 03 40.0	-0.5
FUSB				eS	Sb	08 03 55.7	+0.2
NMLH	**Miaoli**	**1.12**	**323**	eP	Pn	08 03 41.4	+0.1
NMLH				eS	Sb	08 03 56.5	+0.9
NWLT	**Wulai**	**1.13**	**358**	eP	Pb	08 03 40.5	-0.5
NWLT				eS	Sg	08 03 54.8	-0.7
WTCT	**Ta-ch'eng**	**1.17**	**281**	eP	Pn	08 03 41.5	-0.4
WTCT				eS	Sb	08 03 57.9	+0.8
ECL	**Taimali**	**1.17**	**207**	eP	Pb	08 03 41.1	-0.7
KSHI	**Guanxi Townshi**	**1.17**	**344**	eP	Pn	08 03 41.7	-0.3
ICHU	**Yijhu**	**1.19**	**256**	eP	Pn	08 03 42.9	+0.7
ICHU				eS	Sn	08 04 00.1	+1.6
WSF	**Szhu**	**1.21**	**270**	eP	Pn	08 03 42.1	-0.3
WSF				eS	Sn	08 03 59.0	0.0
WSL	**Shuilin Townsh**	**1.21**	**264**	eP	Pn	08 03 42.8	+0.4
WSL				eS	Sn	08 04 00.5	+1.4
CHN3	**Shinhua**	**1.22**	**242**	eP	Pn	08 03 44.1	+1.6
SCST	**Cishan**	**1.22**	**232**	iP	Pn	08 03 44.2	+1.6
SCST				eS	Sn	08 04 03.0	+3.6
SSD	**Sandimen**	**1.22**	**223**	eP	Pn	08 03 42.5	-0.1
SSD				eS	Sn	08 04 00.4	+0.9
NTC	**Toucheng**	**1.23**	**12**	eP	Pn	08 03 43.5	+0.7
NTC				eS	Sn	08 04 00.6	+0.9
TSMG	**Majia**	**1.24**	**221**	eP	Pn	08 03 42.8	-0.2
TSMG				eS	Sn	08 04 00.1	+0.2
SBCB	**Hsinchu**	**1.25**	**336**	eP	Pn	08 03 43.6	+0.6
CHN8	**Yiju**	**1.25**	**257**	eP	Pn	08 03 43.1	0.0
CHN8				eS	Sn	08 04 02.5	+2.5
SHHT	**Tainan City**	**1.26**	**241**	eP	Pn	08 03 45.5	+2.3
HSN	**Hsinchu**	**1.26**	**336**	eP	Pn	08 03 44.0	+0.8
TWM1	**Shoushan**	**1.31**	**232**	iP	Pn	08 03 46.7	+2.8
TWM1				eS	Sn	08 04 04.1	+2.5
SCLT	**Jiali**	**1.32**	**249**	eP	Pb	08 03 43.7	-0.6
SCLT				eS	Sn	08 04 04.0	+2.3
MASBT	**Mashibuluo**	**1.32**	**219**	eP	Pg	08 03 43.0	-1.6
MASBT				eS	Sn	08 04 02.6	+0.7
TATO	**Taipei**	**1.32**	**358**	P	Pb	08 03 45.1	+0.7
SGLT	**Jiouru**	**1.33**	**227**	eP	Pb	08 03 46.0	+1.6
TWA	**Mucha**	**1.33**	**2**	eP	Pb	08 03 44.2	-0.2
TIPB	**Shuangxi**	**1.35**	**11**	eP	Pb	08 03 44.3	-0.4
NCUH	**Zhongli**	**1.36**	**346**	eP	Pb	08 03 45.7	+0.8
TAW	**Tawu**	**1.41**	**205**	eP	Pb	08 03 45.9	+0.1
TAW				eS	Sn	08 04 05.2	+1.2
TWB1	**Santiao Chiao**	**1.42**	**17**	eP	Pg	08 03 46.2	-0.2
TSCK	**Chigu Township**	**1.42**	**250**	eP	Pg	08 03 46.4	-0.1
TSCK				eS	Sn	08 04 07.3	+3.3
TAWH	**Dawu Township**	**1.43**	**205**	eP	Pg	08 03 46.1	-0.5
NWF	**Wu-fen Shan**	**1.44**	**9**	eP	Pg	08 03 47.8	+1.0
TWS1	**Kuangyinshan**	**1.45**	**356**	eP	Pn	08 03 45.8	-0.1
SXI1	**Grass Mountain**	**1.48**	**12**	eP	Pb	08 03 46.3	-0.7
YM01	**YM01**	**1.50**	**1**	eP	Pb	08 03 46.8	-0.5
ZUZH	**Zhuzihu**	**1.51**	**0**	eP	Pb	08 03 47.1	-0.5
SCZT	**Fangliau**	**1.52**	**214**	iP	Pg	08 03 48.4	0.0
SCZT				eS	Sg	08 04 08.1	-0.1
YM08	**YM08**	**1.54**	**2**	eP	Pb	08 03 47.2	-0.7
YM08				eS	Sn	08 04 07.5	+0.2
YOJ	**Yonaguni jima**	**1.57**	**59**	eP	Pn	08 03 47.1	-0.3
YOJ				eS	Sg	08 04 09.1	-0.8
WDGT	**Dungji**	**1.77**	**258**	eP	Pn	08 03 50.2	+0.1
WDGT				eS	Sg	08 04 14.7	-1.2
PHUB	**P'eng-hu**	**1.81**	**266**	eP	Pn	08 03 50.5	-0.2
PHUB				eS	Sn	08 04 13.9	0.0
PNG	**Penghu**	**1.82**	**268**	eP	Pn	08 03 51.0	+0.1
PNG				eS	Sn	08 04 16.9	+0.2
TWK1	**Hengchun**	**1.82**	**202**	eP	Pn	08 03 51.1	+0.2
TWK1				eS	Sn	08 04 15.5	-0.3
VCHM	**Qimei**	**1.98**	**258**	eP	Pn	08 03 52.7	-0.4
VCHM				eS	Sb	08 04 19.7	-0.8
VWUC	**VWUC**	**2.33**	**306**	eP	Pn	08 03 58.2	+0.3
PTMZ	**Houxiangcun**	**2.60**	**303**	eP	Pn	08 04 01.5	-0.2
MATB	**Ma-tsu**	**2.88**	**330**	eP	Pn	08 04 05.1	-0.4
KNM	**Kinmen**	**2.94**	**286**	eP	Pn	08 04 07.8	+1.5
MHZQ	**Yeshan**	**3.34**	**318**	eP	Pn	08 04 11.8	0.0
AXDP	**Jialang**	**3.49**	**292**	eP	Pn	08 04 13.4	-0.3
XPSS	**Dashiqiu**	**3.49**	**340**	eP	Pn	08 04 13.6	-0.3
KSRS	**Korea Array**	**14.82**	**20**	Pn	Pn	08 06 50.8	+1.7
	0.2nm,0.3s,baz=200,slow=14,SNR=7.2						
CMAR	**Chiang Mai Arr**	**21.70**	**261**	P	P	08 08 11.7	+0.8
	2.3nm,0.6s,baz=64,slow=9.0,SNR=13						
	2.3nm,0.6s						
GUMO	**Guam**	**24.23**	**110**	LR	LR	08 18 51.8	
	comp=Z,30nm,18.8s,baz=228,slow=39						
SONM	**Songino Array**	**26.99**	**337**	P	P	08 09 00.7	-0.9
	0.9nm,0.7s,baz=146,slow=5.9,SNR=3.8						
SONM				LR	LR	08 20 36.9	
	comp=Z,69nm,18.6s,baz=142,slow=38						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**38.95**	**316**	P	P	08 10 45.7	-0.1
	1.7nm,0.8s,baz=117,slow=9.3,SNR=5.0						
	1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**40.87**	**327**	P	P	08 11 01.0	-0.6
	0.7nm,0.3s,baz=114,slow=7.3,SNR=5.6						
	0.7nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**42.20**	**86**	T	T	08 56 09.6	
	baz=283,slow=74,SNR=79						
H11N2	**WAKE ISLAND Hy**	**42.20**	**86**	T	T	08 56 08.6	
	baz=283,slow=74,SNR=105						
H11N3	**WAKE ISLAND Hy**	**42.21**	**86**	T	T	08 56 09.6	
	baz=283,slow=74,SNR=104						
H11S3	**WAKE ISLAND Hy**	**42.31**	**88**	T	T	08 56 18.0	
	baz=284,slow=74,SNR=131						
H11S1	**WAKE ISLAND Hy**	**42.32**	**88**	T	T	08 56 18.4	
	baz=284,slow=74,SNR=46						
H11S2	**WAKE ISLAND Hy**	**42.33**	**88**	T	T	08 56 18.1	
	baz=284,slow=74,SNR=35						
KURBB	**Kurchatov Arra**	**42.73**	**320**	P	P	08 11 16.4	-0.5
	0.9nm,0.8s,baz=107,slow=9.4,SNR=5.2						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**45.09**	**163**	P	P	08 11 33.8	-2.3
	0.8nm,0.6s,baz=345,slow=8.7,SNR=7.1						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**48.54**	**165**	P	P	08 12 02.4	-0.8
	0.7nm,0.8s,baz=341,slow=6.5,SNR=5.9						
	0.7nm,0.8s						
KVAR	**Kislovodsk Arr**	**66.17**	**309**	LR	LR	08 47 14.5	
	comp=Z,257nm,18.2s,baz=93,slow=40						
ILAR	**Eielson Array**	**69.54**	**27**	P	P	08 14 28.9	+0.5
	0.6nm,0.7s,baz=276,slow=5.6,SNR=12						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**72.07**	**330**	P	P	08 14 43.5	-0.3
	0.9nm,0.8s,baz=77,slow=6.1,SNR=3.8						
	0.9nm,0.8s						
BRTR	**Keskin Array B**	**73.75**	**307**	P	P	08 14 55.0	+0.7
	0.4nm,0.5s,baz=97,slow=5.8,SNR=2.4						
	0.4nm,0.5s						
HFS	**Hagfors**	**78.19**	**331**	LR	LR	08 53 43.5	
	comp=Z,18nm,21.0s,baz=55,slow=39						
NOA	**NORSAR Array B**	**78.85**	**332**	LR	LR	08 53 53.2	
	comp=Z,19nm,20.3s,baz=60,slow=38						

IDC 10 08:10:23.6±4.5, 3°88N×128°46E, h0km, mb3.9/4, mbtmp3.9/4, MS3.1/2, Error ellipse: s-maj=429.7km s-min=27.1km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.27**	**318**	LR	LR	08 13 07.8	
	comp=Z,137nm,20.1s,baz=347,slow=38						
ASAR	**Alice Springs**	**27.89**	**169**	P	P	08 16 15.4	0.0
	0.2nm,0.4s,baz=336,slow=8.7,SNR=5.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.43**	**324**	P	P	08 20 20.4	-0.9
	0.8nm,0.6s,baz=121,slow=7.3,SNR=7.6						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**61.25**	**332**	P	P	08 20 39.5	-0.9
	1.1nm,0.5s,baz=126,slow=7.7,SNR=6.5						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**62.55**	**327**	P	P	08 20 50.7	+1.5
	1.4nm,0.8s,baz=120,slow=7.2,SNR=7.9						
	1.4nm,0.8s						
KIRV	**Kirov**	**80.99**	**329**	LR	LR	09 02 05.9	
	comp=Z,19nm,18.3s,baz=151,slow=38						

IDC 10 08:11:51.1±833.0, 54°77N×39°87E, h0km, Error ellipse: s-maj=335.5km s-min=53.5km az=143.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.47**	**324**	I	I	08 27 10.

comp=E,5μm,0.7s
SFX ⇑e 08 29 06.0
PPXB Puerto Peasco 0.55 79 eP Pg **08 28 55.2 -0.2**
PPXB eS Sg **08 29 02.4 -0.2**
PPXB IAML 08 29 03.8
comp=E,6μm,0.6s
PPXB ⇑e 08 29 03.8
PPXB ⇓e 08 29 04.7
PPXB IAML 08 29 04.7
comp=N,6μm,0.2s
ECBX El Chinero 0.72 290 eP Pg **08 28 58.0 -0.7**
ECBX eS Sg **08 29 08.6 +0.6**
ECBX IAML 08 29 26.6
comp=N,2μm,0.8s
ECBX e 08 29 26.6
PIX Pinacate 0.76 64⇓eP Pg **08 28 58.5 -1.0**
PIX eS Sg **08 29 09.0 -0.3**
PIX IAML 08 29 09.9
comp=E,4μm,0.4s
PIX ⇓e 08 29 10.0
PIX IAML 08 29 10.0
comp=N,6μm,0.5s
SPIG San Pedro Mart 1.05 260⇓eP Pb **08 29 04.1 -1.8**
SPIG eS Sb **08 29 18.7 -1.5**
RITX Riito Sonora 1.11 328 IAML 08 29 48.3
comp=E,5μm,0.9s
RITX ⇓e 08 29 48.3
RHX Rio Hardy 1.26 316⇓eP Pn **08 29 05.1 -4.4**
RHX eS Sb **08 29 22.3 -3.6**
RHX ⇑e 08 29 52.0
RHX IAML 08 29 52.0
comp=E,1μm,0.9s
RHX IAML 08 29 52.3
comp=N,1μm,0.6s
RHX ⇓e 08 29 52.3
SLRCX San Luis Rio C 1.28 343 eP Pn **08 29 07.7 -2.1**
VTX Valle De La Tr 1.31 278⇓iP Pn **08 29 07.7 -2.6**
VTX eS Sb **08 29 26.4 -1.2**
PESCX Ej. Pescaderos 1.34 334 eP Pn **08 29 09.5 -1.1**
PESCX eS Sn **08 29 27.6 -1.4**
SLGB San Luis Gonza 1.40 185 IAML 08 30 03.4
comp=N,819nm,1.2s
SQX San Quintin 1.53 245⇓eP Pn **08 29 11.7 -1.5**
SQX IAML 08 29 55.5
comp=N,832nm,0.5s
PFO Pinyon Flats O 3.02 323 Pg Pb **08 29 39.6 +0.2**
comp=N,1.2nm,0.3s,baz=138,slow=12,SNR=11
PFO Lg Lg 08 30 26.9
comp=N,5.1nm,0.3s,baz=216,slow=8.1,SNR=4.7
PFO LR LR 08 30 41.8
comp=N,130nm,20.9s,baz=146,slow=37
ANMO Albuquerque 7.53 58 Pn Pn **08 30 38.5 +2.7**
comp=N,0.2nm,0.3s,baz=325,slow=14,SNR=4.1
ANMO Pg Pg 08 31 02.9 -6.2
comp=N,0.1nm,0.3s,baz=326,slow=11,SNR=4.9
ANMO Lg Lg 08 32 41.9
comp=N,0.4nm,0.3s,baz=94,slow=22,SNR=3.5
comp=N,0.5nm,0.3s
NVAR Mina Array Bea 7.92 336 Pn Pn **08 30 45.1 +3.9**
comp=N,0.3nm,0.6s,baz=156,slow=14,SNR=2.7
NVAR Lg Lg 08 33 08.1
comp=N,0.1nm,0.3s,baz=155,slow=33,SNR=1.3
TXAR Lajitas Array 9.35 99 Pn Pn **08 31 00.3 -0.5**
comp=N,0.1nm,0.3s,baz=280,slow=13,SNR=7.5
TXAR Lg Lg 08 33 37.7
comp=N,0.5nm,0.3s,baz=287,slow=33,SNR=8.1
comp=N,0.6nm,0.7s
ELK Elko 9.53 356 Pn Pn **08 31 05.5 +2.2**
comp=N,0.1nm,0.3s,baz=177,slow=14,SNR=4.2
ELK Lg Lg 08 33 51.1
baz=241,slow=7.3,SNR=3.3
comp=N,0.4nm,0.4s
PDAR Pinedale Array 12.11 17 Pn Pn 08 31 44.6 +5.9
comp=N,0.1nm,0.3s,baz=197,slow=14,SNR=2.5
PDAR Lg Lg 08 35 14.2
baz=187,slow=34,SNR=1.5
comp=N,0.2nm,0.5s
YBH Yreka Blue Hor 12.49 329 Pn Pn **08 31 46.2 +2.6**
baz=165,slow=3.4,SNR=1.5
NEW Newport 17.16 354 Pn P **08 32 48.9 +1.4**
comp=N,0.1nm,0.3s,baz=182,slow=14,SNR=4.0
comp=N,1.7nm,0.9s
JTS Las Juntas de 34.24 121 LR LR 08 50 31.5
comp=N,37nm,19.7s,baz=343,slow=38
ILAR Eielson Array 39.16 339 P P **08 36 14.9 +1.2**
comp=N,0.6nm,0.9s,baz=139,slow=10,SNR=6.1
comp=N,0.6nm,0.9s

TRN 10 08:31:20.7,17˝.34N×62˝.73W,h165km,MD3.9,Near East of St. Kitts.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.01**	**212**	*eP*		Pn		08 31 44.0	+1.3
SKI				*eS*		Sn		08 32 00.6	+1.2
SKOC	**St. Kitts, UWI**	**0.05**	**180**	*eP*		Pn		08 31 42.5	-0.1
SKOC				*eS*		Sn		08 32 00.4	+1.0
MBWH		**0.79**	**139**	*eP*		Pn		08 31 46.7	+1.2
MBWH				*eS*		Sn		08 32 05.4	+1.0
ANWB	**Willy Bob**	**0.96**	**70**	*eP*		Pn		08 31 48.8	+2.3
ANWB				*eS*		Sn		08 32 07.4	+1.0
DHSZ	**Broadband at M**	**1.41**	**139**	*eP*		Pn		08 31 51.4	+0.8
DHSZ				*eS*		Sn		08 32 14.5	+1.0
ATGZ	**Broadband at L**	**1.57**	**142**	*eP*		Pn		08 31 53.2	+1.1
ATGZ				*eS*		Sn		08 32 17.0	+0.6
MMLZ	**Guadeloupe Bro**	**1.65**	**142**	*eP*		Pn		08 31 53.8	+0.9
MMLZ				*eS*		Sn		08 32 18.5	+0.8
TBG	**Guadaloupe-3**	**1.81**	**145**	*eP*		Pn		08 31 55.3	+0.6
TBG				*eS*		Sn		08 32 22.4	+1.5
DSDZ	**La Diserade, G**	**1.90**	**122**	*eP*		Pn		08 31 56.2	+0.6
DSDZ				*eS*		Sn		08 32 21.9	-0.6
DWS	**Wesley**	**2.23**	**142**	*eP*		Pn		08 31 59.9	+0.5
DWS				*eS*		Sn		08 32 28.1	-1.2
DSLB	**Salisbury**	**2.27**	**146**	*eP*		Pn		08 32 00.7	+0.7
DSLB				*eS*		Sn		08 32 30.6	+0.2
BIM	**Bigot**	**3.23**	**150**	*eP*		Pn		08 32 13.5	+1.8
BIM				*eS*		Sn		08 32 52.0	+0.8
SLBI	**Saint Lucia, B**	**3.71**	**153**	*eP*		Pn		08 32 19.1	+1.4
AOPR	**Arecibo Observ**	**3.96**	**285**	*eP*		Pn		08 32 21.9	+1.0
AOPR				*eS*		Sn		08 33 06.4	-1.3
SVB	**Belmont**	**4.29**	**160**	*eP*		Pn		08 32 25.7	+0.4
BBGH	**Gun Hill**	**5.18**	**143**	*eP*		Pn		08 32 38.7	+1.9
BBGH				*eS*		Sn		08 33 33.9	-2.5

NIED ***10*** *08:39:22.5,37˝.54N×134˝.75E,h396km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.20; Mθθ0.14; Mφφ-0.35; Mrθ0.25; Mθφ0.44; Mφr-1.56; Fault plane solution: M₀1.65000×10¹⁵ NP1: φs287.00000°,δ14.00000°,λ24.00000°. NP2: φs173.00000°,δ84.00000°,λ103.00000°.*

JMA ***10*** *08:39:22.5±0.2,37˝.5N±0.8×134˝.8E±0˝.9,h396km±1km, MV3.5/32,SEA OF JAPAN*

NEIC ***10*** *08:39:23.8±1.1,37˝.6N±0˝.1×134˝.7E±0˝.1,h376km±12km, mb4.0/20,Error ellipse: s-maj=21.1km s-min=12.0km az=160.0*

IDC ***10*** *08:39:23.6±0.7,37˝.57N×134˝.64E,h383km±8km,mb3.4/17, mbtmp4.1/23,Error ellipse: s-maj=11.5km s-min=9.8km az=172.0*

ISC 10 08:39:23.7±0.5,37˚.56N±0˚.06×134˚.72E±0˚.05,h385km, n330,σ1$20/340,mb3.9/28,1D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOI	**OKI**	**1.73**	**224**	P		Pn		**08 40 16.6**	**-0.1**
JHG	**Hegura jima**	**1.77**	**80**	P		Pn		**08 40 16.7**	**0.0**
JKG	**Kaga**	**1.81**	**134**	P		Pn		**08 40 17.1**	**-0.1**
JSZ	**Suzu**	**2.10**	**92**	P		Pn		**08 40 19.1**	**+0.2**
JSZ				S		S		**08 41 03.9**	**+0.5**
JWT	**Wachi**	**2.33**	**166**	P		Pn		**08 40 20.4**	**-0.2**
JWT				S		S		**08 41 05.1**	**-1.4**
JYTA	**Yamagatataniai**	**2.54**	**140**	P		Pn		**08 40 21.8**	**-0.3**
JYTA				S		S		**08 41 07.6**	**-1.6**
JSD	**Sado**	**2.84**	**79**	P		Pn		**08 40 24.0**	**-0.3**
JSD	**Sado**	**2.84**	**79**	P		Pn		**08 40 24.1**	**-0.3**
JHS	**Saijyo**	**2.86**	**207**	P		Pn		**08 40 24.6**	**-0.2**
INU	**Inuyama**	**2.88**	**139**			Pn		**08 40 23.4**	**-1.4**
INU	**Inuyama**	**2.88**	**139**	P		Pn		**08 40 24.1**	**-0.7**
JGF	**Kuroka**	**2.88**	**132**			Pn		**08 40 23.5**	**-1.4**
JGF	**Kuroka**	**2.88**	**132**	P		Pn		**08 40 24.3**	**-0.6**
MJB9	**Matsu-Tunnel**	**2.96**	**109**			Pn		**08 40 24.9**	**-0.5**
MAJO	**Matsushiro**	**2.96**	**109**			Pn		**08 40 24.2**	**-1.2**
MAJO	**Matsushiro**	**2.96**	**109**	P		Pn		**08 40 25.3**	**-0.2**
MAT	**Matsushiro**	**2.96**	**109**	P		Pn		**08 40 25.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.97**	**109**			Pn		**08 40 24.9**	**-0.6**
MJAR	**Matsushiro Arr**	**2.97**	**109**	P		Pn		**08 40 25.6**	**+0.1**
	125nm,0.8s,baz=290,slow=9.3,SNR=320								
MJAR					S		S	**08 41 16.6**	**+1.2**
	2.5nm,0.4s,baz=198,slow=41,SNR=0.7								
JGT2	**ShimaneMisato**	**3.06**	**216**	P		Pn		**08 40 26.1**	**-0.2**
JIE	**Ise**	**3.54**	**152**	P		Pn		**08 40 30.6**	**0.0**
JIE					eS	S		**08 41 23.4**	**-1.3**
JRY	**Ryogami san**	**3.69**	**113**	P		Pn		**08 40 31.4**	**-0.5**
JMN	**Monobe**	**3.88**	**190**			Pn		**08 40 33.2**	**-0.7**
JMN	**Monobe**	**3.88**	**190**	P		Pn		**08 40 34.1**	**+0.2**
JOD2	**Odawara 2**	**4.20**	**122**	P		Pn		**08 40 36.0**	**-0.9**
JOD2					S	S		**08 41 35.0**	**-1.1**
JMM	**Marumori**	**4.82**	**84**			Pn		**08 40 42.2**	**-0.8**
JMM	**Marumori**	**4.82**	**84**	P		Pn		**08 40 42.3**	**-0.8**
JTO	**Tosashimizu**	**4.94**	**199**	*eP*		Pn		**08 40 43.7**	**-0.8**
JTU	**Tsushima**	**5.27**	**237**	P		Pn		**08 40 47.0**	**-0.8**
JMK	**Ichinoseki**	**5.30**	**73**	P		Pn		**08 40 46.9**	**-1.1**
JMK					S	S		**08 41 54.1**	**-2.5**
KSRS	**Korea Array**	**5.41**	**271**	P		Pn		**08 40 50.2**	**+1.0**
	16nm,0.7s,baz=94,slow=12,SNR=51								
JNU	**Nakatsue**	**5.43**	**217**			Pn		**08 40 49.0**	**-0.6**
JNU	**Nakatsue**	**5.43**	**217**	P		Pn		**08 40 49.6**	**0.0**
	21nm,0.5s,baz=94,slow=0.8,SNR=22								
JNU					S	S		**08 41 59.2**	**-0.2**
	11nm,1.0s,baz=67,slow=21,SNR=0.9								
JNU	**Nakatsue**	**5.43**	**217**	P		Pn		**08 40 49.7**	**0.0**
KSAR	**Wonju Array Be**	**5.44**	**271**	Pn		Pn		**08 40 49.4**	**-0.2**
KS19	**Wonju Array Si**	**5.45**	**272**			Pn		**08 40 48.9**	**-0.8**
JOSM	**Okushiri--Mats**	**5.81**	**37**	P		Pn		**08 40 53.7**	**+0.2**
BSO1	**Boso 1**	**5.83**	**118**	P		Pn		**08 40 51.6**	**-1.8**
BSO1					S	S		**08 42 02.8**	**-3.6**
JTM	**Tenmabayashi**	**5.89**	**55**			Pn		**08 40 54.2**	**-0.3**
JTM	**Tenmabayashi**	**5.89**	**55**	P		Pn		**08 40 54.1**	**-0.3**
JOT	**Ohata**	**6.21**	**50**	P		Pn		**08 40 57.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**6.95**	**344**	P		P		**08 41 07.0**	**-0.1**
	2.6nm,0.6s,baz=156,slow=11,SNR=5.1								
ERM	**Erimo**	**7.87**	**53**			Pn		**08 41 14.9**	**-1.8**
ERM	**Erimo**	**7.87**	**53**	P		Pn		**08 41 15.1**	**-1.7**
JEM	**Erimo**	**7.87**	**53**	P		Pn		**08 41 15.7**	**-1.1**
ASAJ	**Asahikawa**	**8.86**	**40**	P		Pn		**08 41 26.7**	**-1.5**
	28nm,0.6s,baz=222,slow=9.7,SNR=38								
ASAJ					S	S		**08 43 01.9**	**-8.5**
	32nm,0.7s,baz=292,slow=32,SNR=12								
JKA	**Kamikawa-asahi**	**8.86**	**40**			Pn		**08 41 26.4**	**-1.9**
BNX	**BinXian**	**9.84**	**329**	⇓P		Pn		**08 41 39.6**	**0.0**
BNX					pmax	pmax			
	comp=Z,12nm,0.7s								
JOW	**Kunigami**	**12.00**	**209**	P		P		**08 42 03.6**	**-0.4**
	comp=Z,45nm,0.9s,baz=168,slow=12,SNR=3.8								
XLT	**XiLinHaoTe**	**15.47**	**300**	*eP*		P		**08 42 41.6**	**-0.2**
XLT					sP	sP		08 44 12.9	-12
XLT					pmax	pmax			
	comp=Z,17nm,0.6s								
HHC	**Hu-ho-hao-te**	**18.24**	**288**	*eP*		P		**08 43 11.0**	**-0.4**
HHC					pmax	pmax			
	comp=Z,10.0nm,0.6s								
HHC					pmax	pmax			
	comp=Z,140nm,5.0s								
SONM	**Songino Array**	**23.10**	**305**	P		P		**08 43 56.6**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=113,slow=11,SNR=12								
	comp=Z,3.1nm,0.7s								
GTA	**Gaotai**	**27.29**	**285**	*eP*		P		**08 44 32.9**	**-1.9**
GTA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
WMQ	**Urumqi**	**35.82**	**295**	*eP*		P		**08 45 50.6**	**+2.3**
CMAR	**Chiang Mai Arr**	**36.58**	**249**	P		P		**08 45 55.0**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=43,slow=8.1,SNR=4.9								
	comp=Z,1.3nm,0.3s								
ZALV	**Zalesovo Beam**	**37.62**	**312**	P		P		**08 46 02.1**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=91,slow=8.7,SNR=4.5								
	comp=Z,1.5nm,0.4s								
SHL	**Shillong**	**38.11**	**264**	P		P		**08 46 06.3**	**-1.4**
MKAR	**Makanchi Array**	**39.29**	**301**	P		P		**08 46 16.1**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=86,slow=8.3,SNR=17								
	comp=Z,1.8nm,0.5s								
SPIA	**Saint Paul Isl**	**40.79**	**43**	P		P		**08 46 30.7**	**+1.9**
	baz=266								
KURK	**Kurchatov**	**41.38**	**307**			P		**08 46 32.6**	**-1.1**
KURK					IAmb	IAmb		08 46 34.9	
	comp=Z,6.3nm,0.7s								
KURBB	**Kurchatov Arra**	**41.45**	**307**	P		P		**08 46 33.3**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=86,slow=8.1,SNR=26								
	comp=Z,4.7nm,0.7s								
NIKH	**Nikolski High**	**41.48**	**50**	P		P		**08 46 36.3**	**+1.9**
	baz=272								
TNA	**Tin City**	**43.09**	**31**	P		P		**08 46 48.4**	**+1.4**
	baz=258								
M11K	**Mekoryuk**	**43.14**	**39**	P		P		**08 46 48.8**	**+1.2**
	baz=266								
F14K	**Arctic Creek**	**43.73**	**31**	P		P		**08 46 53.7**	**+1.6**
	baz=260								
ANM	**Nome**	**43.98**	**33**	P		P		**08 46 55.5**	**+1.3**
	baz=262								
K13K	**Kusilvak Mount**	**44.01**	**36**	P		P		**08 46 55.6**	**+1.2**
	baz=265								
F15K	**North Star Dit**	**44.45**	**31**	P		P		**08 46 59.3**	**+1.4**
	baz=262								
M13K	**Dall Lake**	**44.56**	**39**	P		P		**08 46 59.6**	**+1.0**
	baz=268								
J14K	**Nanvaranak Lak**	**44.59**	**35**	P		P		**08 46 59.9**	**+1.0**
	baz=266								
G15K	**Niukluk**	**44.61**	**32**	P		P		**08 47 00.5**	**+1.4**
	baz=263								
C16K	**Lisburne Hills**	**44.64**	**27**	P		P		**08 47 00.0**	**+0.8**
	baz=259								
L14K	**Kuka Creek**	**44.92**	**37**	P		P		**08 47 02.6**	**+1.1**
	baz=268								
M14K	**Bethel**	**45.25**	**38**	P		P		**08 47 04.8**	**+0.8**
	baz=269								
S12K	**Black Hills**	**45.33**	**45**	P		P		**08 47 05.5**	**+0.7**
	baz=274								
H16K	**Elim**	**45.33**	**33**	P		P		**08 47 05.8**	**+1.1**
	baz=265								
G16K	**Koyuk River**	**45.36**	**32**	P		P		**08 47 05.8**	**+0.9**
	baz=264								
D17K	**Noatak River**	**45.37**	**28**	P		P		**08 47 06.0**	**+1.1**
	baz=261								
N14K	**Kuskokwak Cree**	**45.38**	**39**	P		P		**08 47 05.8**	**+0.7**
	baz=270								
C17K	**DeLong Mountai**	**45.46**	**27**	P		P		**08 47 06.7**	**+1.1**
	baz=260								
K15K	**Wolf Creek Mou**	**45.50**	**36**	P		P		**08 47 06.9**	**+0.9**
	baz=268								
L15K	**Ungalak Mounta**	**45.50**	**37**	P		P		**08 47 06.7**	**+0.7**
	baz=268								
O14K	**Tigyukauivet M**	**45.60**	**40**	P		P		**08 47 07.5**	**+0.7**
	baz=271								
E17K	**Hotham Inlet**	**45.77**	**29**	P		P		**08 47 08.9**	**+0.9**
	baz=263								
M15K	**Kasigluk River**	**45.88**	**38**	P		P		**08 47 09.9**	**+1.0**
	baz=270,SNR=5.2								
F17K	**Baldwin Pennin**	**45.92**	**30**	P		P		**08 47 10.0**	**+0.8**
	baz=264								
I17K	**Unalakleet**	**45.95**	**34**	P		P		**08 47 10.3**	**+0.9**
	baz=267								
J16K	**Anvik River**	**45.97**	**35**	P		P		**08 47 10.4**	**+0.8**
	baz=268								
G17K	**Kiwalik Mounta**	**46.08**	**32**	P		P		**08 47 11.5**	**+1.1**
	baz=266								
B18K	**Kokolik River**	**46.10**	**26**	P		P		**08 47 11.2**	**+0.7**
	baz=261								
N15K	**Kwethluk River**	**46.18**	**39**	P		P		**08 47 12.1**	**+0.8**
	baz=271								
C18K	**Utukok River**	**46.21**	**27**	P		P		**08 47 12.4**	**+0.9**
	baz=262								
BVAR	**Borovoye Array**	**46.24**	**311**	P		P		**08 47 11.1**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=86,slow=8.2,SNR=6.0								
	comp=Z,1.2nm,0.4s								
E18K	**Tukpahlearik C**	**46.28**	**29**	P		P		**08 47 12.6**	**+0.7**
E18K	**Tukpahlearik C**	**46.28**	**29**	P		P		**08 47 13.1**	**+1.2**
	baz=264								
O15K	**Ungalikthiuk R**	**46.34**	**40**	P		P		**08 47 13.6**	**+1.0**
	baz=272								
H17K	**Granite Mounta**	**46.35**	**32**	P		P		**08 47 13.5**	**+1.0**
	baz=267								
A19K	**Wainwright**	**46.49**	**25**	P		P		**08 47 14.5**	**+1.0**
	baz=261								
F18K	**Selawik**	**46.57**	**30**	P		P		**08 47 15.0**	**+0.8**
	baz=265								
J17K	**VABM Dome**	**46.66**	**35**	P		P		**08 47 16.6**	**+1.7**
J17K	**VABM Dome**	**46.66**	**35**	P		P		**08 47 15.8**	**+0.9**
	baz=269								
M16K	**Timber Creek**	**46.72**	**38**	P		P		**08 47 16.3**	**+0.9**
	baz=271								
CHNA	**Chernabura Isl**	**46.81**	**46**	P		P		**08 47 17.3**	**+1.2**
	baz=277								
N16K	**Nishlik Lake**	**46.83**	**39**	P		P		**08 47 17.6**	**+1.3**
	baz=272								
C19K	**Lookout Ridge**	**46.85**	**27**	P		P		**08 47 17.2**	**+0.9**
	baz=263								
G18K	**Tagagawik**	**46.93**	**31**			P		**08 47 17.3**	**+0.4**
G18K	**Tagagawik**	**46.93**	**31**	P		P		**08 47 17.8**	**+0.8**
	baz=267,SNR=7.6								
K17K	**Iditarod**	**47.01**	**35**	P		P		**08 47 19.0**	**+1.5**
	baz=270,SNR=5.7								
L17K	**Donlin**	**47.01**	**36**	P		P		**08 47 18.8**	**+1.2**
	baz=271								
H18K	**Honhosa River**	**47.02**	**32**	P		P		**08 47 18.9**	**+1.2**
	baz=268,SNR=5.2								
O16K	**Kokwok River B**	**47.21**	**40**	P		P		**08 47 20.6**	**+1.5**
	baz=273								
P16K	**Nushagak River**	**47.30**	**40**	P		P		**08 47 21.1**	**+1.3**
	baz=274								
CHGN	**Chignik**	**47.31**	**44**	P		P		**08 47 20.7**	**+0.8**
	baz=276								
D19K	**Kuna River**	**47.32**	**28**	P		P		**08 47 21.0**	**+1.1**
	baz=265								
F19K	**Shaleruckik Mo**	**47.33**	**30**	P		P		**08 47 20.7**	**+0.8**
	baz=267								
M17K	**Holitna River**	**47.44**	**37**	P		P		**08 47 21.9**	**+1.0**
	baz=272								
E19K	**Redstone River**	**47.58**	**29**	P		P		**08 47 22.8**	**+0.9**
	baz=267,SNR=6.0								
N17K	**Nushagak Hills**	**47.61**	**38**	P		P		**08 47 23.3**	**+1.1**
	baz=273								
R16K	**Pilot Point**	**47.64**	**42**	P		P		**08 47 23.5**	**+1.1**
	baz=276								
O17K	**Koliganek Bris**	**47.70**	**39**	P		P		**08 47 23.8**	**+0.9**
	baz=274								
J18K	**Innoko River**	**47.72**	**34**	P		P		**08 47 24.2**	**+1.2**
	baz=271								
L18K	**Granite Mounta**	**47.77**	**36**	P		P		**08 47 24.6**	**+1.3**
	baz=272								
B20K	**Meade River**	**47.79**	**26**	P		P		**08 47 24.7**	**+1.3**
	baz=265								
H19K	**Roundabout Mou**	**47.83**	**32**	P		P		**08 47 25.0**	**+1.3**
	baz=269,SNR=19								
D20K	**Etivluk River**	**47.88**	**27**	P		P		**08 47 25.2**	**+1.0**
	baz=266								
E20K	**Nigu River**	**48.01**	**28**	P		P		**08 47 26.4**	**+1.2**
	baz=267,SNR=5.5								
P17K	**Kvichak River**	**48.08**	**40**	P		P		**08 47 26.9**	**+1.2**
	baz=275								
A21K	**Barrow**	**48.10**	**24**	P		P		**08 47 27.0**	**+1.2**
	baz=264								
F20K	**Avaraart Lake**	**48.15**	**30**	P		P		**08 47 27.4**	**+1.3**
	baz=269								
J19K	**Poorman**	**48.19**	**34**	P		P		**08 47 27.8**	**+1.2**
	baz=272,SNR=8.4								
M18K	**Stony River**	**48.21**	**37**	P		P		**08 47 28.1**	**+1.3**
	baz=274								
N18K	**Kilae Creek**	**48.24**	**38**	P		P		**08 47 28.2**	**+1.2**
	baz=274								
R17L	**Mt. Peulik Vol**	**48.28**	**42**	P		P		**08 47 28.3**	**+1.0**
	baz=277								
Q17K	**Contact Creek**	**48.46**	**41**	P		P		**08 47 29.7**	**+0.9**
	baz=276								
H20K	**Anotleneega Mo**	**48.48**	**32**	P		P		**08 47 29.7**	**+1.0**
	baz=271								
C21K	**Knifeblade Rid**	**48.57**	**27**	P		P		**08 47 30.5**	**+1.2**
	baz=268								
L19K	**White Mountain**	**48.63**	**36**	P		P		**08 47 30.8**	**+0.9**
	baz=274								
O18K	**Koktuh Hills**	**48.65**	**39**	P		P		**08 47 30.9**	**+0.8**
	baz=276								
B21K	**Ikpikpuk River**	**48.65**	**26**	P		P		**08 47 30.9**	**+1.1**
	baz=267								
I20K	**Naaghedeneel**	**48.67**	**33**	P		P		**08 47 31.3**	**+1.2**
	baz=272								
J20K	**Nowinta River**	**48.84**	**33**	P		P		**08 47 32.3**	**+0.9**
	baz=273,SNR=5.9								
E21K	**Killik River**	**48.84**	**28**	P		P		**08 47 32.1**	**+0.7**
	baz=269								
M19K	**Big River Lodg**	**48.87**	**36**	P		P		**08 47 32.9**	**+1.3**
	baz=274								
Q18K	**Katmai Hardscr**	**48.88**	**41**	P		P		**08 47 33.2**	**+1.3**
	baz=277								
K20K	**Telida**	**48.91**	**34**	P		P		**08 47 33.2**	**+1.2**
	baz=274,SNR=6.8								
N19K	**Bonanza Creek**	**48.91**	**38**	P		P		**08 47 33.2**	**+1.1**
	baz=275								
CHIR	**Chirikof Islan**	**48.93**	**45**	P		P		**08 47 33.4**	**+1.2**
	baz=279								
F21K	**Alatna River**	**49.02**	**29**	P		P		**08 47 33.9**	**+1.1**
	baz=271								
G21K	**Allakaket**	**49.03**	**30**	P		P		**08 47 33.9**	**+1.1**
	baz=271,SNR=8.1								
O19K	**Port Alsworth**	**49.05**	**39**	P		P		**08 47 34.1**	**+1.1**
	baz=276								
L20K	**Farewell, AK**	**49.06**	**36**	P		P		**08 47 34.3**	**+1.1**
	baz=274								
B22K	**Teshekpuk Lake**	**49.09**	**25**	P		P		**08 47 34.3**	**+1.1**
	baz=268								
R18K	**Karluk**	**49.31**	**42**	P		P		**08 47 35.9**	**+0.9**
	baz=278								
D22K	**Ayikyak River**	**49.32**	**27**	P		P		**08 47 36.3**	**+1.3**
	baz=270								
H21K	**Melozitna Rive**	**49.34**	**31**	P		P		**08 47 36.2**	**+1.1**
	baz=273								
M20K	**Styx River**	**49.46**	**36**	P		P		**08 47 37.2**	**+1.0**
	baz=276								
F22K	**John River**	**49.52**	**29**	P		P		**08 47 37.5**	**+1.0**
	baz=272								
Q19K	**Cape Douglas,**	**49.55**	**40**	P		P		**08 47 37.2**	**+0.4**
	baz=278								
SII	**Sitkinak Islan**	**49.61**	**43**	P		P		**08 47 38.1**	**+0.8**
	baz=279								
E22K	**Anaktuvuk Pass**	**49.65**	**28**	P		P		**08 47 38.4**	**+1.0**
	baz=271								
CHUM	**Lake Minchumin**	**49.66**	**34**	P		P		**08 47 38.6**	**+1.1**
	baz=275								
P19K	**Oil Pt**	**49.66**	**39**	P		P		**08 47 38.2**	**+0.6**
	baz=277								
I21K	**Tanana**	**49.71**	**32**	P		P		**08 47 38.8**	**+0.9**
	baz=274								
CAST	**Castle Rocks**	**49.80**	**34**	

baz=275,SNR=9.0
D24K **Happy Valley** 50.70 27 P P 08 47 46.4 +1.3
baz=273
C24K **Franklin Bluff** 50.71 26 P P 08 47 46.4 +1.2
baz=273
CUT **Chulitna** 50.74 36 P P 08 47 46.6 +1.1
baz=278
I23K **Minto, Yukon-K** 50.81 32 P P 08 47 47.3 +1.3
baz=276
E24K **Your Creek** 50.90 28 P P 08 47 47.8 +1.1
baz=274
M22K **Willow** 50.90 36 P P 08 47 47.7 +1.0
baz=278
NEA2 **Nenana** 51.00 33 P P 08 47 48.7 +1.2
baz=277
MCK **McKinley** 51.17 34 P P 08 47 50.2 +1.5
baz=278
F24K **Squaw Lake** 51.17 29 P P 08 47 49.8 +1.1
baz=275
RC01 **Rabbit Creek A** 51.18 37 P P 08 47 49.6 +0.8
baz=279
H24K **Noodor Dome** 51.35 31 P P 08 47 51.4 +1.3
baz=277
PMR **Palmer** 51.39 36 P P 08 47 51.0 +0.8
baz=279
G24K **Hadweenzic Riv** 51.41 30 P P 08 47 51.9 +1.5
baz=276,SNR=6.7
SEW **Seward** 51.48 38 P P 08 47 51.2 +0.2
baz=280
COLA **College** 51.48 32 P P 08 47 52.0 +1.0
baz=278
D25K **Kavik River** 51.56 26 P P 08 47 52.4 +0.8
baz=275
POKR **Poker Plat Res** 51.63 32 P P 08 47 52.8 +0.7
baz=278
KNK **Knik Glacier** 51.73 37 P P 08 47 53.4 +0.5
baz=280
PWL **Port Wells** 51.89 37 P P 08 47 54.4 +0.3
baz=280
ILAR **Eielson Array** 51.91 32 P P 08 47 54.3 +0.2
comp=Z,1.2nm,0.5s,baz=267,slow=6.1,SNR=24
comp=Z,1.2nm,0.5s
HDA **Harding Lake** 51.94 33 P P 08 47 54.5 +0.2
baz=279
G25K **Bearman Lake** 51.95 30 P P 08 47 55.9 +1.6
baz=278
C26K **Camden Bay** 52.01 26 P P 08 47 56.0 +1.3
baz=276
M23K **Glacier View** 52.01 36 P P 08 47 56.3 +1.4
baz=280
F25K **Christian Rive** 52.02 29 P P 08 47 56.6 +1.7
baz=277
H25L **Birch Creek** 52.13 30 P P 08 47 56.7 +1.1
baz=278
SCM **Sheep Creek Mo** 52.19 36 P P 08 47 57.2 +0.9
baz=280
PRP **Porcupine Dome** 52.36 31 P P 08 47 58.9 +1.3
baz=279
C27K **Jago River** 52.46 26 P P 08 47 59.1 +1.1
baz=278
GLI **Glacier Island** 52.48 37 P P 08 47 59.2 +0.9
baz=281
ARTI **Arti** 52.49 317 P P 08 47 57.7 -0.8
comp=Z,2.8nm,0.3s,baz=155,slow=2.9,SNR=7.0
comp=Z,2.8nm,0.3s
P23K **Montague Islan** 52.51 38 P P 08 47 59.4 +0.9
baz=282
K24K **Donnelly Dome** 52.54 33 P P 08 47 59.4 +0.7
baz=280
F26K **Sheenjek River** 52.57 28 P P 08 47 59.8 +0.9
baz=279
J25K **Salcha River,** 52.58 32 P P 08 48 00.2 +1.2
baz=280
M24K **Tolsona, Glenn** 52.68 36 P P 08 48 01.1 +1.3
baz=281
G26K **Porcupine Rive** 52.83 29 P P 08 48 02.2 +1.5
baz=280,SNR=5.5
PAX **Paxson** 52.83 34 P P 08 48 01.6 +0.6
baz=281
KLU **Klutina** 52.92 36 P P 08 48 01.9 +0.3
baz=282
RIDG **Independent Ri** 52.96 33 P P 08 48 02.2 +0.4
baz=281
HARP **HAARP** 53.09 35 P P 08 48 03.4 +0.7
baz=282
SCRK **Sand Creek** 53.29 33 P P 08 48 04.5 +0.3
baz=282
J26L **Joseph Creek** 53.36 32 P P 08 48 05.1 +0.4
baz=282
I26K **Coal Creek Min** 53.38 31 P P 08 48 05.3 +0.6
baz=281
E27K **Coleen River** 53.44 28 P P 08 48 06.2 +1.0
baz=280
D27M **Malcolm River** 53.48 26 P P 08 48 06.6 +1.1
baz=280
N25K **Chitina, Valde** 53.51 36 P P 08 48 06.9 +1.0
baz=283
BMRM **Bremner River** 53.65 37 P P 08 48 07.9 +1.1
baz=283
G27K **Doyon Strip** 53.68 29 P P 08 48 08.3 +1.4
baz=281
L26K **Log Cabin Wild** 53.77 34 P P 08 48 08.8 +1.2
baz=283
H27K **Steamboat Moun** 53.85 30 P P 08 48 09.8 +1.7
baz=282
I27K **Kandik River** 53.94 31 P P 08 48 10.5 +1.6
baz=282
M26K **Nabesna, AK** 54.07 35 P P 08 48 11.2 +1.4
baz=284
K27K **Chicken** 54.10 33 P P 08 48 11.0 +1.1
baz=283
E28M **Babbage River** 54.11 27 P P 08 48 10.9 +1.0
baz=282
F28M **Old Crow** 54.19 28 P P 08 48 11.5 +1.0
baz=282
D28M **Stokes Point** 54.24 26 P P 08 48 11.8 +1.1
baz=282
MCARA **McCarthy VSAT** 54.30 36 P P 08 48 12.9 +1.6
baz=284
CRQE **Cirque** 54.42 37 P P 08 48 13.4 +1.0
baz=285
L27K **Beaver Creek,** 54.43 34 P 08 48 13.6 +1.2
L27K IAmb IAmb 08 48 14.8
comp=Z,5.6nm,0.8s
L27K **Beaver Creek,** 54.43 34 P P 08 48 13.7 +1.4
baz=284
BCAR **Beaver Creek A** 54.45 34 P 08 48 13.7 +1.2
BGLC **Bering Glacier** 54.49 38 P P 08 48 14.0 +1.3
baz=285
M27K **Edge Creek, AK** 54.58 35 P P 08 48 14.6 +1.1
M27K IAmb IAmb 08 48 15.8
comp=Z,5.4nm,0.8s
M27K **Edge Creek, AK** 54.58 35 P P 08 48 14.9 +1.4
baz=284
I28M **Miner Creek** 54.66 31 P 08 48 15.4 +1.5
I28M IAmb IAmb 08 48 16.6
comp=Z,5.0nm,0.7s
I28M **Miner Creek** 54.66 31 P P 08 48 15.6 +1.6
baz=284
E29M **Blow River** 54.74 27 P P 08 48 15.6 +1.2
E29M **Blow River** 54.74 27 P P 08 48 15.7 +1.3
baz=284
BVCY **Beaver Creek** 55.03 34 P P 08 48 17.8 +1.3
baz=285
G29M **Pine Creek** 55.06 29 P P 08 48 18.1 +1.5
baz=284
H29M **Whitestone** 55.10 30 P P 08 48 18.4 +1.5
baz=285
CTG **Chitna Glacier** 55.20 36 P P 08 48 18.9 +1.1
baz=286
DAWY **Dawson** 55.23 32 P P 08 48 19.1 +1.1
baz=285
I29M **Ogilvie Camp,** 55.34 31 P P 08 48 19.8 +1.0
baz=285
EPYK **Eagle Plains** 55.70 29 P P 08 48 22.5 +1.2
baz=286
F30M **Barrier River** 55.71 28 P P 08 48 22.4 +1.1
baz=286
G30M **tAoh Zraii Nji** 55.72 28 P P 08 48 22.4 +1.0
baz=286
O28M **Mount Upton** 55.79 36 P P 08 48 23.2 +1.0
baz=287
L29M **L29M** 56.04 33 P P 08 48 25.7 +2.0
baz=287
K29M **Barlow Dome** 56.09 32 P P 08 48 25.7 +1.5
baz=287
M29M **Somme Creek** 56.09 34 P P 08 48 25.7 +1.6
M29M IAmb IAmb 08 48 26.9
comp=Z,3.7nm,0.7s
M29M **Somme Creek** 56.09 34 P P 08 48 25.8 +1.7
baz=287
I30M **Mount Dempster** 56.16 30 P P 08 48 25.7 +1.1
baz=287
INK **Inuvik** 56.33 27 P P 08 48 26.1 +0.6
baz=287
YUK4 **Talbot Arm** 56.34 35 P P 08 48 27.0 +1.0
baz=288
J30M **Hart River** 56.37 31 P P 08 48 26.8 +0.7
baz=287
G31M **Satah River** 56.47 28 P P 08 48 26.7 +0.2
baz=288
PNL **Peninsula** 56.50 37 P P 08 48 28.2 +1.3
baz=288
YUK6 **Outpost Mounta** 56.59 36 P P 08 48 28.6 +0.9
baz=288
O29M **Mount Kennedy** 56.69 36 P P 08 48 29.4 +1.0
baz=288
M30M **Minto, Yukon** 56.79 34 P P 08 48 30.3 +1.4
baz=288
H31M **Peel River** 56.79 30 P P 08 48 29.3 +0.4
baz=288
MAYO **Mayo, Yukon** 56.86 32 P P 08 48 31.1 +1.8
baz=288
N30M **Atshikik Lake** 57.01 35 P P 08 48 31.3 +0.8
baz=289
HYT **Haines Junctio** 57.03 36 P P 08 48 32.4 +1.7
baz=289
WRA **Warramunga Arr** 57.19 180 P P 08 48 31.6 -0.5
comp=Z,0.3nm,0.4s,baz=355,slow=7.5,SNR=9.6
comp=Z,0.3nm,0.4s
P29M **Windy Craggy** 57.31 37 P P 08 48 34.1 +1.6
baz=289
P30M **Million Dollar** 57.51 36 P P 08 48 35.3 +1.4
baz=290
N31M **Braeburn, Yuko** 57.60 35 P P 08 48 35.4 +0.9
baz=290
A36M **Sachs Harbour** 57.74 21 P P 08 48 35.7 +0.5
baz=292
M31M **Drury Creek, Y** 57.97 34 P P 08 48 37.3 +0.3
baz=290
PLBC **Pleasant Camp** 58.02 37 P P 08 48 39.0 +1.6
baz=291
WHY **Whitehorse** 58.30 35 P P 08 48 40.8 +1.4
baz=291
SKAG **Skagway** 58.52 37 P P 08 48 42.0 +1.2
baz=291
S31K **Pelican** 58.63 39 P P 08 48 42.5 +1.0
baz=292
N32M **Quiet Lake** 58.93 34 P P 08 48 44.7 +1.0
baz=292
MMPY **Sheldon Lake,** 59.17 32 P P 08 48 46.7 +1.5
baz=293
P32M **Atlin** 59.23 36 P P 08 48 47.1 +1.4
baz=292
R32K **Eaglecrest** 59.35 38 P P 08 48 48.1 +1.7
baz=293
P33M **Teslin, Yukon** 59.41 35 P P 08 48 48.6 +1.7
baz=293
SIT **Sitka** 59.42 39 P P 08 48 48.8 +1.9
baz=293
S32K **Killisnoo** 59.64 39 P P 08 48 50.3 +1.9
baz=293
Q32M **Nakina River** 60.16 37 P P 08 48 53.8 +1.6
baz=294
R33M **Jennings River** 60.60 36 P P 08 48 56.7 +1.7
baz=295
ASAR **Alice Springs** 60.90 181 P P 08 48 57.0 -0.3
comp=Z,0.3nm,0.8s,baz=2.5,slow=7.1,SNR=2.3
comp=Z,0.3nm,0.8s
TGTN **Hyland Airport** 60.90 33 P P 08 48 58.5 +1.6
baz=296
U33K **Whale Pass** 60.92 40 P P 08 48 58.7 +1.8
baz=295
S34M **Telegraph Cree** 61.15 37 P P 08 49 00.2 +1.8
baz=295
CRAG **Craig** 61.19 40 P P 08 49 00.7 +1.9
baz=295
WTLY **Watson Lake, Y** 61.29 35 P P 08 49 00.7 +1.3
baz=296
DLBC **Dease Lake** 61.45 37 P P 08 49 02.1 +1.5
baz=296
T35M **Bob Quinn** 61.98 38 P P 08 49 06.0 +1.9
baz=296
LIRD **Liard River Hi** 62.82 35 P P 08 49 11.2 +1.7
baz=298
TOAD **Toad River Com** 63.48 35 P P 08 49 14.9 +1.1
baz=299
FINES **FINESS Array B** 65.78 330 P P 08 49 28.1 -0.2
comp=Z,1.0nm,0.8s,baz=62,slow=5.2,SNR=6.1
comp=Z,1.0nm,0.8s
YKA **Yellowknife Ar** 65.96 28 P P 08 49 29.8 +0.3
comp=Z,2.1nm,0.8s,baz=304,slow=6.0,SNR=4.0
comp=Z,2.1nm,0.8s
SUMG **Summit** 70.06 358 P P 08 49 55.9 +0.8
SUMG IAmb IAmb 08 49 56.9
comp=Z,5.8nm,1.0s
AKASG **Malin Array Be** 70.53 319 P P 08 49 57.5 -0.2
comp=Z,0.8nm,0.6s,baz=50,slow=6.2,SNR=3.7
comp=Z,0.8nm,0.6s
HFS **Hagfors** 71.31 333 P P 08 50 01.8 -0.4
comp=Z,1.2nm,0.7s,baz=45,slow=5.0,SNR=4.3
comp=Z,1.2nm,0.7s
PINE **Pine Mountain** 73.97 47 P 08 50 19.8 +1.5
J05D **Fort Rock, OR** 74.11 47 P P 08 50 20.3 +1.3
J05D IAmb IAmb 08 50 21.4
comp=Z,3.6nm,1.1s
JTMT **Jette** 75.18 41 P 08 50 25.8 +0.8
BMO **Blue Mountains** 75.39 44 P 08 50 27.0 +0.8
BMO IAmb IAmb 08 50 28.1
comp=Z,2.6nm,0.8s
DLMT **Dillon** 77.62 42 P 08 50 39.5 +0.9
CMB **Columbia Colle** 77.81 51 P 08 50 40.3 +0.6
CMB IAmb IAmb 08 50 41.4
comp=Z,2.2nm,0.7s
BOZ **Bozeman (W)** 77.97 41 P P 08 50 41.5 +1.0
NVAR **Mina Array Bea** 78.84 50 P P 08 50 46.7 +1.2
comp=Z,1.0nm,0.6s,baz=298,slow=4.7,SNR=12
comp=Z,1.0nm,0.6s
RLMT **Red Lodge** 79.52 40 P 08 50 49.5 +0.5
PDAR **Pinedale Array** 80.99 42 P P 08 50 57.2 +0.4
comp=Z,1.5nm,0.8s,baz=291,slow=1.4,SNR=14
comp=Z,1.5nm,0.8s
P18A **Preston Nutter** 82.77 45 P P 08 51 07.1 +1.0
P18A IAmb IAmb 08 51 08.2
comp=Z,3.4nm,0.8s
TXAR **Lajitas Array** 93.89 48 P P 08 51 59.9 +1.1
comp=Z,0.7nm,0.7s,baz=306,slow=5.5,SNR=8.2
comp=Z,0.7nm,0.7s
LPAZ **La Paz** 150.75 50 PKPbc PKPbc 08 58 32.2 0.0
comp=Z,0.4nm,0.4s,baz=307,slow=5.1,SNR=3.6

*NNC **10** 08:43:36.0±5.0,36°.47N×70°.05E,h0km,mb4.4,mpv4.1, Error ellipse: s-maj=46.2km s-min=33.0km az=145.0*
*IDC **10** 08:43:44.4±5.7,36°.71N×70°.14E,h120km±42km,mb3.4/8, mbtmp3.9/13,MS3.6/3,Error ellipse: s-maj=53.7km s-min=26.9km az=160.0*
ISC 10 08:43:49.4±1.6,36°.8N±0°.1×70°.5E±0°.1,h200km,n26, σ2°.50/28,mb3.7/8,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor** SNR=11	6.21	29	P		Sn	08 46 36.9	+5.7
KK31	**Karatay Array** 13nm,0.4s,baz=181,slow=12,SNR=177	6.27	360	⇑P		Pn	08 45 16.1	-3.9
KK31	5.8nm,0.4s,baz=186,slow=22,SNR=6.4			⇑S		Sn	08 46 32.9	+1.0
EKS2	**Erkin-Say** SNR=13	6.34	22	P		Pn	08 45 17.8	-3.2
AAK	**Ala-Archa** 13nm,0.3s,baz=175,slow=5.9,SNR=9.1	6.56	27	P		Pn	08 45 21.2	-2.7
AAK	19nm,0.4s,baz=117,slow=22,SNR=12			S		Sn	08 46 39.3	+0.4
AAK	**Ala-Archa** SNR=6.9	6.56	27	P		Pn	08 45 20.8	-3.2
AAK	**Ala-Archa** 2.9nm,0.4s	6.56	27	⇓P		Pn	08 45 20.6	-3.3
AAK	11nm,0.5s			⇑S		Sn	08 46 41.5	+2.6
CHMS	**Chumysh** SNR=12	6.96	26	P		Pn	08 45 25.8	-3.2
USP	**Ospenovka** SNR=23	7.12	24	P		Pn	08 45 28.1	-3.0
TKM2	**Tokmak 2** SNR=5.4	7.22	31	P		Pn	08 45 29.5	-3.2
MKAR **Makanchi Array** 13.26 38 P P 08 46 51.6 -1.2
0.5nm,0.6s,baz=225,slow=12,SNR=11
MKAR LR LR 08 51 44.6
comp=Z,36nm,18.2s,baz=96,slow=36
AB31 **Akbulak array** 14.61 332 P Pn 08 47 04.3 -2.3
2.7nm,0.3s,baz=160,slow=13,SNR=208
KURBB **Kurchatov Arra** 14.94 20 P P 08 47 12.4 +1.0
3.9nm,0.8s,baz=202,slow=13,SNR=17
BVAR **Borovoye Array** 16.20 360 P Pn 08 47 26.2 +0.4
1.9nm,0.4s,baz=179,slow=13,SNR=9.0
AKTO **Aktyubinsk** 16.30 330 P P 08 47 25.8 -0.7
2.7nm,0.3s,baz=136,slow=12,SNR=12
AKTO S S 08 50 26.5 -0.4
1.3nm,0.4s,baz=228,slow=5.9,SNR=2.5
AKTO **Aktyubinsk** 16.30 330 ⇓P P 08 47 26.6 +0.2
2.5nm,0.6s
ZALV **Zalesovo Beam** 19.78 26 P Pn 08 48 07.5 -0.7
33nm,0.4s,baz=218,slow=11,SNR=101
ARTI **Arti** 21.21 341 P P 08 48 20.7 +1.5
2.7nm,0.8s,baz=149,slow=8.4,SNR=4.0
2.7nm,0.8s
KBZ **Khabaz** 22.11 297 P P 08 48 27.6 -0.8
0.8nm,0.3s,baz=104,slow=8.3,SNR=3.8
0.8nm,0.3s
BRTR **Keskin Array B** 28.97 287 P P 08 49 31.5 +1.2
0.5nm,0.6s,baz=80,slow=9.4,SNR=3.1
0.5nm,0.6s
AKASG **Malin Array Be** 32.44 309 P P 08 50 00.5 +0.1
0.3nm,0.4s,baz=104,slow=9.3,SNR=4.3
0.3nm,0.4s
FINES **FINESS Array B** 37.00 326 P P 08 50 41.4 +2.1
1.3nm,0.7s,baz=112,slow=9.1,SNR=5.3
1.3nm,0.7s
ARCES **ARCESS Array B** 40.69 338 P P 08 51 12.2 +2.4
2.4nm,0.9s,baz=111,slow=6.8,SNR=6.4
2.4nm,0.9s
HFS **Hagfors** 42.57 322 P P 08 51 26.7 +1.5
1.5nm,0.6s,baz=116,slow=9.8,SNR=6.1
1.5nm,0.6s
NOA **NORSAR Array B** 43.89 323 P P 08 51 38.3 +2.5
0.3nm,0.5s,baz=99,slow=8.1,SNR=2.0
0.3nm,0.5s
TGY **Tagaytay City** 50.16 103 LR LR 09 16 16.7
comp=Z,432nm,21.4s,baz=208,slow=39
GUMO **Guam** 69.52 88 LR LR 09 26 00.2
comp=Z,33nm,21.8s,baz=236,slow=36

*UCR **10** 08:47:14.7±0.8, 10°.29N×84°.46W,h87km±1km,MW3.6*
*CATAC **10** 08:47:15.4±0.5, 10°N±2°×8°4W±°, h74km±4km,M3.0/9, MLv3.0/9,Error ellipse: s-maj=6.8km s-min=3.9km az=54.7, confirmed*
ISC 10 08:47:15.4±1.4,10°.24N±0°.04×84°.49W±0°.04,h86km±6km, n109,σ0°59/120,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QUEU	**Ciudad Quesada**	0.10	33	eP		Pn	08 47 27.6	-0.1
QUEU				eS		Sn	08 47 37.5	+0.7
VPL1	**V. Platanar**	0.12	83	eP		Pn	08 47 27.8	-0.1
VPL2	**V. Platanar**	0.12	58	eP		Pn	08 47 27.7	-0.2
VPL2				eS		Sn	08 47 37.5	+0.5
SRA1	**San Ramn**	0.16	177	eP		Pn	08 47 27.2	-0.7
SRA1				eS		Sn	08 47 37.1	0.0
SOCE	**Pocosol**	0.19	317	eP		Pn	08 47 27.8	-0.1
SOCE				eS		Sn	08 47 37.5	+0.4
SOCE	**Pocosol**	0.19	317	P		Pn	08 47 27.8	-0.1
PALD	**Palmares**	0.19	165	eP		Pn	08 47 27.4	-0.6
PALD				eS		Sn	08 47 37.3	0.0
TCS1	**Tacares**	0.27	137	eP		Pn	08 47 27.9	-0.3
TCS1				eS		Sn	08 47 38.2	+0.4
TCS1	**Tacares**	0.27	137	P		Pn	08 47 28.0	-0.3
ATEO	**Atenas**	0.28	158	eP		Pn	08 47 27.7	-0.6
ATEO				eS		Sn	08 47 37.7	-0.2
FORC	**Fortuna**	0.29	321	eP		Pn	08 47 28.1	-0.1
FORC				eS		Sn	08 47 38.5	+0.7
VACR	**Volcan Arenal**	0.30	321	eP		Pn	08 47 28.2	-0.1
VACR				eS		Sn	08 47 38.6	+0.7
ARZA	**Esparza**	0.31	216	eP		Pn	08 47 28.1	-0.3
CASO	**Castillo**	0.31	308	eP		Pn	08 47 28.4	-0.1
CASO				eS		Sn	08 47 38.8	+0.7
VARE2	**V. Arenal**	0.32	314	eP		Pn	08 47 28.6	0.0
VARE2				eS		Sn	08 47 39.1	+0.9
CEDE	**Laguna Cedeo**	0.32	319	eP		Pn	08 47 28.6	0.0
MTEVE	**Monteverde**	0.34	283	eP		Pn	08 47 28.6	-0.2
UELA	**Alajuela**	0.35	129	eP		Pn	08 47 27.6	-1.2
REZ	**Monterrey de S**	0.35	324	eP		Pn	08 47 28.9	-0.2
TABAC	**Tabacon**	0.38	313	eP		Pn	08 47 28.9	0.0
BELE	**Belen**	0.40	132	eP		Pn	08 47 28.6	-0.5
HEME	**Heredia, Merce**	0.42	125	eP		Pn	08 47 28.9	-0.4
SANTA	**Santa Ana**	0.43	136	eP		Pn	08 47 28.6	-0.7
HDC	**Heredia**	0.44	123	eP		Pn	08 47 29.0	-0.3
JTS	**Las Juntas de**	0.46	276	eP		Pn	08 47 29.1	-0.3
JUNT	**Juntas**	0.47	275	eP		Pn	08 47 29.2	-0.3
COVE	**Coope Vega, Sa**	0.48	10	P		Pn	08 47 29.1	-0.5
COVE	**Coope Vega, Sa**	0.48	10	S		Sn	08 47 40.2	+0.1
TIBA	**Tibas**	0.49	124	eP		Pn	08 47 29.6	-0.2
CENT	**San Jose**	0.51	128	eP		Pn	08 47 29.5	-0.4
LUJA	**Lujan**	0.52	127	eP		Pn	08 47 29.3	-0.7
LUPE	**Guadalupe**	0.52	124	eP		Pn	08 47 29.8	-0.2
ECI	**Escuela Centro**	0.52	125	eP		Pn	08 47 29.8	-0.3
TILA	**Tilaran**	0.53	295	eP		Pn	08 47 29.9	0.0
AMPA	**Desamparados**	0.54	129	eP		Pn	08 47 29.6	-0.6
ACOS	**Acosta**	0.55	144	eP		Pn	08 47 26.2	-4.0
CORON	**Coronado**	0.55	119	eP		Pn	08 47 30.0	-0.3
QUEB	**Quebradon, Cot**	0.55	313	eP		Pn	08 47 30.0	-0.2
CVIMO	**Finca Echandi**	0.58	112	eP		Pn	08 47 30.1	-0.5
TRIO	**Tres Rios**	0.59	125	eP		Pn	08 47 30.1	-0.6
INVE	**Universidad In**	0.61	292	eP		Pn	08 47 30.8	+0.1
TIMP	**Tierras Morena**	0.62	303	eP		Pn	08 47 30.8	-0.1
TENO	**El Achiote**	0.67	314	eP		Pn	08 47 31.4	+0.1
PICV	**PH. Pirrs**	0.68	155	eP		Pn	08 47 30.8	-0.5
PAR1A	**Puntarenas Pro**	0.68	160	eP		Pn	08 47 31.6	+0.3
VICA	**Volcano Irazu**	0.68	112	eP		Pn	08 47 31.1	-0.7
LCR2	**La Lucha 2**	0.69	136	eP		Pn	08 47 31.1	-0.6
LCR2	**La Lucha 2**	0.69	136	S		Sn	08 47 44.1	+0.4
LCR2	**La Lucha 2**	0.69	136	P		Pn	08 47 31.0	-0.7
PILE	**Guapiles**	0.69	92	eP		Pn	08 47 31.1	-0.4
PISJ	**San Jernim**	0.70	149	eP		Pn	08 47 33.5	+1.8
RAFA	**San Farael, Vo**	0.72	113	eP		Pn	08 47 32.1	+0.1
MOTZ	**Rio Naranjo**	0.72	308	eP		Pn	08 47 32.4	+0.4
REPA	**Paraso**	0.73	124	eP		Pn	08 47 31.8	-0.2
PITB	**Pirrs, San**	0.74	142	eP		Pn	08 47 31.5	-0.6
RAZU	**San Marcos de**	0.74	142	eP		Pn	08 47 31.9	-0.2
PCAYA	**Pacayas**	0.74	116	eP		Pn	08 47 31.9	-0.2
CVTQ	**Turrialba Volc**	0.75	108	eP		Pn	08 47 32.0	-0.4
CARI	**Cariari**	0.75	81	eP		Pn	08 47 31.8	-0.2
CVTR	**Volcan Turrial**	0.75	107	eP		Pn	08 47 31.9	-0.6
VTR0	**Volcan Turrial**	0.75	107	eP		Pn	08 47 31.8	-0.7
CVTV	**Tajo**	0.76	108	eP		Pn	08 47 31.9	-0.6
CUI	**Cuipilapa**	0.78	302	eP		Pn	08 47 32.5	+0.1
NYURE	**Nandayure**	0.79	252	eP		Pn	08 47 32.3	-0.1
PIEC	**Cerro El Cedra**	0.81	140	eP		Pn	08 47 32.3	-0.6
VINA	**Juan Vinas**	0.81	115	eP		Pn	08 47 32.7	-0.1
BAGA	**Bagaces**	0.81	291	eP		Pn	08 47 32.9	+0.2
COLC	**Colonia**	0.82	301	eP		Pn	08 47 32.9	0.0
UPAL	**Upala**	0.83	322	P		Pn	08 47 32.7	-0.1
UPAL	**Upala**	0.83	322	S		Sn	08 47 46.1	+0.2
VMAR	**Armenia, Volca**	0.84	313	eP		Pn	08 47 33.1	+0.1
LLNJ	**Nanjnito**	0.85	153	eP		Pn	08 47 33.4	+0.3
MESS	**Mesas**	0.85	306	eP		Pn	08 47 33.3	+0.1
TURIB	**Turrialba**	0.86	113	eP		Pn	08 47 32.8	-0.4
RESJ	**San Isidro (Tu**	0.86	104	eP		Pn	08 47 33.1	-0.2
RVSTA	**Santa Teresita**	0.87	108	eP		Pn	08 47 33.3	-0.1
RVLA	**Villa Bonita**	0.90	98	eP		Pn	08 47 33.4	-0.1
CMARA	**Lajas Hojancha**	0.95	257	eP		Pn	08 47 34.1	-0.2
CMARA	**Lajas Hojancha**	0.95	257	S		Sn	08 47 48.1	-0.3
CMARA	**Lajas Hojancha**	0.95	257	P		Pn	08 47 34.0	-0.3
IRES	**Siquirres**	0.98	98	eP		Pn	08 47 34.2	-0.3
VRLE	**La Escondida,**	1.02	302	eP		Pn	08 47 35.1	0.0
JUD3	**Juan Diaz 3**	1.04	266	eP		Pn	08 47 35.6	+0.3
BUAI	**Buenos Aires**	1.04	307	eP		Pn	08 47 35.2	-0.1
INDI	**Punta indio, G**	1.07	250	P		Pn	08 47 35.0	-0.5
INDI	**Punta indio, G**	1.07	250	S		Sn	08 47 49.7	-1.0
LAPC	**Finca la Perla**	1.07	299	eP		Pn	08 47 35.4	-0.2
SACU	**Santa Cruz**	1.08	271	eP		Pn	08 47 36.0	+0.3
ALIBA	**Liberia Airpor**	1.10	289	eP		Pn	08 47 36.3	+0.3
SAJE	**San Jernim**	1.31	133	eP		Pn	08 47 38.1	-0.7
VERH	**Veragua Rainfo**	1.31	104	eP		Pn	08 47 38.2	-0.5
EDPE	**Pejibaye, P**	1.41	140	eP		Pn	08 47 40.0	+0.2
OCHAL	**Ojochal**	1.41	144	S		Sn	08 47 59.1	+0.9
OCHAL	**Ojochal**	1.41	144	P		Pn	08 47 40.0	+0.3

LAES	**El Progreso Va**	**1.50**	**108**	*eP*	**Pn**	**08 47 41.0 +0.2**
BURE	**Buenos Aires**	**1.55**	**133**	*eP*	**Pn**	**08 47 41.6 0.0**
DRK0	**Durika**	**1.56**	**128**	*eP*	**Pn**	**08 47 41.5 -0.5**
DRK0	**Durika**	**1.56**	**128**	P	**Pn**	**08 47 41.6 -0.3**
DRK0	**Durika**	**1.56**	**128**	S	**Sn**	**08 48 02.2 +0.1**
CEUA	**Cerro Uatsi, L**	**1.64**	**112**	*eP*	**Pn**	**08 47 43.7 +0.8**
FIMO	**Fila Mora**	**1.67**	**138**	*eP*	**Pn**	**08 47 43.8 +0.5**
EDP2	**Potrero Grande**	**1.78**	**133**	*eP*	**Pn**	**08 47 44.7 +0.2**
ACON	**Acoyapa**	**1.84**	**339**	*eP*	**Pn**	**08 47 44.7 -0.8**
ACON	**Acoyapa**	**1.84**	**339**	S	**Sn**	**08 48 07.7 -0.6**
ACON	**Acoyapa**	**1.84**	**339**	P	**Pn**	**08 47 44.6 -0.8**
ESPN	**Las Esperanzas**	**1.95**	**5**	*eP*	**Pn**	**08 47 46.7 -0.1**
ALCO	**Alturas Coton,**	**2.08**	**128**	*eP*	**Pn**	**08 47 48.1 -0.6**
BANCO	**falda S V. Bar**	**2.45**	**128**	*eP*	**Pn**	**08 47 53.5 -0.2**
BOAB	**BOACO BROADBAN**	**2.48**	**332**	P	**Pn**	**08 47 53.6 -0.3**

*FUNV **10** 08:58:28.1, 10˚.62N×72˚.53W, h4km, MW2.8*
*RSNC **10** 08:58:29.4±0.0, 11˚.4N×7˚.3W±˚, h20km±6km, M1.9, ML1.8, MLv2.5*

ISC 10 08:58:27.7±1.4,**10˚.63N**±0˚.04×**72˚.54W**±0˚.04,**h20**km±7km,
n11,σ1§**15**/21,**1D**,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.51**	**319**	P	**Pb**	**08 58 38.1**	**0.0**
CRJC				S	**Sb**	**08 58 45.5**	**+0.4**
MCQV	**Machiques**	**0.58**	**179**	⇓*i*P	**Pg**	**08 58 38.8**	**-0.5**
MCQV				*e*S	**Sb**	**08 58 47.6**	**+0.7**
URIC	**Uribia, Colomb**	**1.19**	**27**	P	**Pg**	**08 58 50.2**	**-0.7**
URIC				S	**Sg**	**08 59 07.3**	**+0.7**
ARGC	**Ariguani, Magd**	**1.84**	**246**	P	**Pn**	**08 58 57.3**	**-1.0**
ARGC				S	**Sn**	**08 59 19.3**	**-1.7**
OCAC	**Ocana**	**2.50**	**198**	P	**Pn**	**08 59 07.5**	**+0.1**
OCAC				S	**Sn**	**08 59 36.5**	**-0.9**
SJCC	**San Jacinto, C**	**2.69**	**255**	P	**Pn**	**08 59 10.8**	**+0.8**
SJCC				S	**Sn**	**08 59 43.7**	**+1.5**
CAPV	**Capacho**	**2.76**	**175**	*eP*	**Pn**	**08 59 12.6**	**+1.5**
CAPV				*e*S	**Sn**	**08 59 44.9**	**+1.0**
PAMC	**Pamplona, Colo**	**3.27**	**183**	P	**Pn**	**08 59 19.9**	**+1.5**
PAMC				S	**Sb**	**09 00 03.2**	**-1.9**
PTBC	**PUERTO BERRIO,**	**4.48**	**205**	P	**Pn**	**08 59 35.0**	**+0.4**
PTBC				S	**Sn**	**09 00 27.0**	**+0.7**
BAUV	**El Baul**	**4.74**	**110**	*eP*	**Pn**	**08 59 38.3**	**+0.1**
BAUV				*e*S	**Sn**	**09 00 31.1**	**-1.5**
BENV	**Beln**	**4.91**	**97**	*eP*	**Pn**	**08 59 41.3**	**+0.7**

*NEIC **10** 09:06:29.3±1.4, 40˚.749N±0˚.007×121˚.55W±0˚.02, h11km±3km, Error ellipse: s-maj=2.4km s-min=1.1km az=89.0*

NCEDC 10 09:06:29.5±2.1,**40˚.74N**±0˚.01×**121˚.50W**±0˚.03,**h12**km±4km,
Md3.1/26,**ML2.6**/62(NEIC),**Error ellipse: s-maj=3.1km s-min=1.9km az=78.0**,**Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATC	**Hat Creek Radi**	**0.08**	**18**	Pg	Pg	09 06 32.1	-0.1
LMEM	**Manzanita Entr**	**0.21**	**196**		Pg	09 06 34.1	+0.1
LRDM	**Redding Peak**	**0.27**	**174**		Pg	09 06 35.1	0.0
LDBM	**Digger Butte**	**0.38**	**216**		Pg	09 06 36.9	-0.1
LSHM	**Sage Hen Hill**	**0.42**	**278**		Pg	09 06 37.8	-0.4
LTIM	**Timbered Crate**	**0.44**	**1**		Pg	09 06 38.3	+0.1
O03E	**Paynes Creek**	**0.50**	**208**	Pg	Pg	09 06 38.9	-0.4
O03E				IAML		09 06 49.3	
	comp=N,808nm,0.6s						
O03E	**Paynes Creek**	**0.50**	**208**		Sg	09 06 45.5	-0.4
LCMM	**Colby Mountain**	**0.59**	**182**		Pg	09 06 40.8	-0.2
LBFM	**Black Fox Moun**	**0.68**	**334**		Pg	09 06 42.2	-0.5
LTCM	**Tuscan Springs**	**0.71**	**222**		Pg	09 06 42.9	-0.4
M03C	**McCloud**	**0.72**	**319**		Pg	09 06 42.8	-0.6
LGBM	**Gray Butte**	**0.81**	**319**		Pn	09 06 46.4	-0.5
LMHM	**Little Mount H**	**0.85**	**352**		Pg	09 06 45.3	-0.7
LASM	**Arnica Sink**	**0.86**	**356**		Pg	09 06 45.3	-0.9
LGMM	**Garner Mountai**	**0.90**	**344**		Pg	09 06 46.2	-0.7
LMPM	**Military Pass**	**0.90**	**326**		Pg	09 06 46.3	-0.7
N02D	**Trinity Center**	**0.95**	**285**	Pg	Pg	09 06 46.4	-1.4
LBKM	**Bonanza King**	**0.95**	**292**		Pg	09 06 45.9	-1.9
LCSM	**College of the**	**0.96**	**315**		Pg	09 06 46.8	-1.2
LHEM	**Herd Peak**	**1.04**	**329**		Pg	09 06 48.7	-1.0
M04C	**Macdoel**	**1.08**	**346**		Pb	09 06 49.3	-0.8
OGOM	**Van Goodin Ran**	**1.08**	**185**		Pb	09 06 49.2	-1.0
WEAV	**Weaverville**	**1.13**	**271**		Pb	09 06 49.2	-1.9
O02D	**Mt. Diablo Mer**	**1.13**	**241**		Pb	09 06 49.6	-1.5
O02D	**Mt. Diablo Mer**	**1.13**	**241**	Pg	Pb	09 06 49.4	-1.6
O02D				IAML		09 07 07.3	
	comp=E,130nm,0.6s						
O02D				IAML		09 07 11.5	
	comp=N,157nm,0.6s						
LBPM	**Beegum Peak**	**1.14**	**249**		Pb	09 06 49.3	-1.8
KPK	**Kanaka Peak**	**1.16**	**173**		Pb	09 06 50.4	-1.2
ORV	**Oroville**	**1.18**	**180**		Pb	09 06 51.5	-0.3
GROM	**Round Mountain**	**1.22**	**228**		Pn	09 06 50.6	-1.9
M02C	**Callahan**	**1.22**	**303**		Pn	09 06 50.4	-2.0
M02C	**Callahan**	**1.22**	**303**		Pn	09 06 50.7	-1.7
M02C				IAML		09 07 08.5	
	comp=E,91nm,0.3s						
M02C				IAML		09 07 11.2	
	comp=N,109nm,0.7s						
TULE	**Intermountain**	**1.23**	**1**	Pn	Pn	09 06 52.0	-0.5
B040	**Montague**	**1.30**	**328**		Pn	09 06 52.5	-1.0
B040	**Montague**	**1.30**	**328**		Pn	09 06 52.5	-0.9
KHBM	**Hayfork Bally**	**1.31**	**267**		Pn	09 06 52.4	-1.4
KHBM				IAML		09 07 17.0	
	comp=E,174nm,0.5s						
KHBM				IAML		09 07 18.6	
	comp=N,202nm,0.7s						
GVV	**Valley View**	**1.32**	**224**		Pn	09 06 52.5	-1.4
YBH	**Yreka Blue Hor**	**1.35**	**318**		Pn	09 06 53.1	-1.2
YBH				IAML		09 07 12.7	
	comp=N,106nm,0.4s						
YBH				IAML		09 07 12.9	
	comp=E,108nm,0.4s						
OSTM	**Stimpson Lane**	**1.37**	**183**		Pn	09 06 54.0	-0.4
GCK	**Clark Valley**	**1.39**	**211**		Pn	09 06 54.5	-0.2
CHCM	**Honcut**	**1.40**	**180**		Pn	09 06 54.5	-0.3
SFRE	**Sierra Foothil**	**1.48**	**175**		Pn	09 06 55.9	-0.1
OSUM	**Sutter Buttes**	**1.49**	**191**		Pn	09 06 55.8	-0.3
HOG	**Hogback Mounta**	**1.51**	**354**		Pn	09 06 56.7	+0.1
SUTB	**Sutter Butte**	**1.52**	**189**	Pn	Pn	09 06 56.4	-0.2
GFC	**Funks Creek**	**1.53**	**204**		Pn	09 06 56.6	-0.1
KBNM	**Bluenose Ridge**	**1.55**	**238**		Pn	09 06 56.7	-0.3
KOMM	**Orleans Mounta**	**1.58**	**291**		Pn	09 06 57.1	-0.3
L04D	**Klamath Falls**	**1.60**	**338**	Pn	Pn	09 06 58.0	+0.2
L04D				IAML		09 07 30.4	
	comp=E,55nm,0.7s						
PEAR	**Peavine Mounta**	**1.63**	**133**		Pn	09 06 58.7	+0.5
DONR	**Donner Summit**	**1.65**	**147**		Pn	09 06 59.1	+0.6
KHMM	**Horse Mountain**	**1.70**	**275**		Pb	09 07 00.6	-0.2
KHMM				IAML		09 07 29.3	
	comp=E,100nm,0.8s						
KHMM				IAML		09 07 31.0	
	comp=N,93nm,0.8s						
LKVW	**Lakeview**	**1.71**	**29**		Pn	09 06 60.0	+0.6
KRKM	**Rackout Spring**	**1.75**	**228**		Pn	09 07 00.5	+0.8
KMRM	**Mail Ridge**	**1.76**	**254**		Pb	09 07 01.0	-0.8
KMRM				IAML		09 07 32.9	
	comp=E,87nm,0.7s						
KMRM				IAML		09 07 34.8	
	comp=N,100nm,0.7s						
KCRM	**Chalk Rock**	**1.80**	**261**		Pn	09 07 01.3	+0.9
AFDM	**Forest Hills D**	**1.83**	**167**		Pn	09 07 01.5	+0.7
AFDM				IAML		09 07 26.8	
	comp=E,60nm,0.4s						
K04D	**Chiloquin, OR**	**1.90**	**354**		Pn	09 07 01.9	+0.1
GHGM	**Hogback Ridge**	**1.90**	**213**		Pn	09 07 02.4	+0.6
KCPM	**Cahto Peak**	**1.91**	**237**		Pn	09 07 02.3	+0.3
KCPM				IAML		09 07 35.9	
	comp=N,39nm,0.9s						
KCPM				IAML		09 07 52.8	
	comp=E,51nm,0.7s						
PAHR	**Pah Rah Range**	**1.92**	**122**		Pn	09 07 03.1	+1.0
PAHR				IAML		09 07 31.6	
	comp=E,31nm,0.5s						
JCC	**Jacoby Creek,**	**1.93**	**273**		Pn	09 07 02.9	+0.8
JCC				IAML		09 07 38.0	
	comp=N,54nm,1.1s						
JCC				IAML		09 07 38.3	
	comp=E,74nm,1.1s						
BRIC	**Briceland Vine**	**1.94**	**252**		Pn	09 07 03.0	+0.8
KRMB	**Red Mountain**	**1.98**	**294**		Pn	09 07 04.2	+1.2
KRMB				IAML		09 07 38.1	
	comp=E,37nm,1.1s						
KRMB				IAML		09 07 39.3	
	comp=N,39nm,0.9s						
KMPM	**Mount Pierce**	**2.02**	**262**		Pn	09 07 04.5	+1.0
KMPM				IAML		09 07 43.5	
	comp=E,81nm,0.8s						
K05A	**Summer Lake**	**2.04**	**13**		Pn	09 07 03.0	-0.9
K05A				IAML		09 07 31.1	
	comp=N,76nm,1.2s						
L02F	**Cave Junction**	**2.08**	**312**		Pb	09 07 06.0	-1.3
L02F				IAML		09 07 42.1	
	comp=N,37nm,0.9s						
L02F				IAML		09 07 48.8	
	comp=E,34nm,0.8s						
KSXB	**Camp Six Broad**	**2.10**	**302**		Pn	09 07 05.8	+1.2
KSXB				IAML		09 07 44.3	
	comp=N,55nm,1.0s						
KSXB				IAML		09 07 44.4	
	comp=E,43nm,0.9s						
HOPS	**Hopland Field**	**2.12**	**215**		Pn	09 07 04.8	0.0
BBOR	**Butler Butte**	**2.32**	**338**		Pn	09 07 08.1	+0.4
CVS	**Carmenet Viney**	**2.50**	**198**	Pn	Pn	09 07 10.1	+0.1
K02D	**Willamette Mer**	**2.54**	**321**		Pn	09 07 12.7	+2.0
K02D				IAML		09 07 53.8	
	comp=E,16nm,1.3s						
WVOR	**Wild Horse Val**	**2.73**	**51**		Pn	09 07 13.0	-0.4
WVOR				IAML		09 08 03.9	
	comp=E,12nm,0.9s						
WVOR				IAML		09 08 06.8	
	comp=E,12nm,0.8s						
MCCM	**Marconi Confer**	**2.80**	**203**	Pn	Pn	09 07 13.6	-0.5
KEBM	**Edson Butte**	**3.01**	**316**	Pn	Pn	09 07 17.0	-0.1
J01E	**Myrtle Point**	**3.03**	**324**		Pn	09 07 17.2	0.0
J08A	**Circle Bar Ran**	**3.45**	**40**	Pn	Pn	09 07 23.5	+0.3

GCG 10 09:51:57.1±1.0,**13˚.64N×90˚.96W**,**h4**km±32km,**MD3.8**,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.18**	**77**	*eP*	Pg	09 52 18.9	-0.8
JAYA	**Jayaque - finc**	**1.47**	**89**	*eP*	Pn	09 52 23.0	-1.5
JAYA				*e*S	Sb	09 52 44.2	0.0

*TIF **10** 10:00:19.3, 41˚.54N×46˚.69E, h18km±1km*
*AZER **10** 10:00:19.9, 41˚.58N×46˚.48E, h11km, ml3.4*
*MOS **10** 10:00:19.9, 41˚.56N×46˚.64E, h15km, MPVA4.3*
*NSSP **10** 10:00:21.0, 41˚.57N×46˚.45E, h10km, Ms3.4*
*DRS **10** 10:00:21.9, 41˚.62N×46˚.71E, h18km*
*NORS **10** 10:00:21.2, 41.61N×46˚.64E, h8km, MPVA4.2*

ISC 10 10:00:21.4±0.8,**41˚.56N**±0˚.01×**46˚.60E**±0˚.01,**h11**km±6km,
n116,σ1§**25**/227,**9C-5D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.08**	**12**	P	**Pg**	**10 00 23.6**	**-0.2**
ZKTA				S	**Sg**	**10 00 25.9**	**+0.2**
VSHL	**Vashlovani**	**0.36**	**205**	P	**Pb**	**10 00 30.5**	**+0.7**
SEKA	**Sheki**	**0.57**	**128**	Pg	**Pb**	**10 00 32.3**	**-1.1**
SEKA				Sg	**Sb**	**10 00 41.7**	**+0.1**
TLTR	**Tlyarata**	**0.57**	**341**	*e*Pg	**Pg**	**10 00 32.0**	**-0.6**
TLTR				*e*Sg	**Sb**	**10 00 41.0**	**-0.8**
TLTR	**Tlyarata**	**0.57**	**341**	*e*PG	**Pg**	**10 00 32.4**	**-0.2**
TLTR				*e*S	**Sb**	**10 00 41.1**	**-0.8**
TLTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKT	**Akhty**	**0.85**	**95**	*e*Pg	**Pb**	**10 00 37.3**	**-1.0**
AKT				*e*Sg	**Sb**	**10 00 48.5**	**-1.2**
AKT	**Akhty**	**0.85**	**95**	*e*PG	**Pb**	**10 00 37.3**	**-1.0**
AKT				*e*S	**Sb**	**10 00 48.5**	**-1.2**
MNGR	**Mingechevir, A**	**0.87**	**155**	P	**Pn**	**10 00 38.4**	**-1.1**
MNGR				S	**Sn**	**10 00 52.7**	**+0.5**
GNBR	**Gunib**	**0.87**	**18**	*e*Pg	**Pn**	**10 00 38.4**	**-1.3**
GNBR				*e*Sg	**Sn**	**10 00 51.8**	**-0.6**
GNBR	**Gunib**	**0.87**	**18**	*e*PG	**Pn**	**10 00 38.5**	**-1.1**
GNBR				*e*S	**Sn**	**10 00 51.8**	**-0.6**
GNBR				pmax	pmax		
	comp=Z,181nm,0.3s						
DGRG	**David-gareji**	**0.93**	**264**	P	**Pg**	**10 00 39.5**	**+0.3**
DGRG				S	**Sn**	**10 00 54.9**	**+1.2**
DGRG	**David-gareji**	**0.93**	**264**	PG	**Pg**	**10 00 39.6**	**+0.3**
DGRG				S	**Sn**	**10 00 54.9**	**+1.2**
GANJ	**Ganja**	**0.94**	**193**	P	**Pb**	**10 00 38.5**	**-1.1**
GANJ				S	**Sg**	**10 00 52.4**	**+0.7**
URKR	**Urkarakh**	**0.98**	**52**	*e*Pg	**Pn**	**10 00 40.0**	**-1.2**
URKR				*e*Sg	**Sn**	**10 00 55.0**	**-0.2**
URKR	**Urkarakh**	**0.98**	**52**	*e*PG	**Pn**	**10 00 40.0**	**-1.2**
URKR				*e*S	**Sn**	**10 00 54.9**	**-0.2**
URKR				pmax	pmax		
	comp=Z,181nm,0.4s						
XNZR	**Khunzakh**	**0.98**	**5**	*e*Pg	**Pn**	**10 00 40.6**	**-0.7**
XNZR				*e*Sg	**Sn**	**10 00 55.0**	**-0.3**
HNZR	**Khunzah**	**1.00**	**5**	*e*PG	**Pn**	**10 00 40.8**	**-0.7**
HNZR				*e*S	**Sn**	**10 00 55.8**	**+0.1**
HNZR				pmax	pmax		
	comp=Z,143nm,0.6s						
QZX	**Qazax, Azerbai**	**1.05**	**242**	P	**Pb**	**10 00 40.4**	**-1.2**
QZX				S	**Sb**	**10 00 55.9**	**+0.5**
GDB	**GEDABAY**	**1.05**	**218**	P	**Pb**	**10 00 40.1**	**-1.6**
GDB				S	**Sb**	**10 00 54.8**	**-0.8**
ARKR	**Arakani**	**1.08**	**16**	*e*Pg	**Pg**	**10 00 42.0**	**-0.2**
ARKR				*e*Sg	**Sn**	**10 00 58.1**	**+0.5**
ARKR	**Arakani**	**1.08**	**16**	*e*PG	**Pg**	**10 00 42.0**	**-0.2**
ARKR				*e*S	**Sn**	**10 00 58.1**	**+0.5**
ARKR				pmax	pmax		
	comp=Z,195nm,0.4s						
QBL	**Gabala**	**1.12**	**123**	P	**Pg**	**10 00 43.0**	**+0.2**
QBL				S	**Sn**	**10 01 00.1**	**+1.7**
BTLR	**Botlikh**	**1.14**	**346**	*e*Pg	**Pg**	**10 00 42.8**	**-0.5**
BTLR				*e*Sg	**Sn**	**10 00 58.4**	**-0.5**
BTLR	**Botlikh**	**1.14**	**346**	*e*PG	**Pg**	**10 00 43.3**	**+0.1**
BTLR				*e*S	**Sn**	**10 00 59.9**	**+0.9**
KSMR	**Kasumkent**	**1.15**	**87**	*e*Pg	**Pg**	**10 00 43.5**	**+0.1**
KSMR				*e*Sg	**Sn**	**10 00 59.0**	**-0.2**
KSMR	**Kasumkent**	**1.15**	**87**	*e*PG	**Pg**	**10 00 43.5**	**+0.1**
KSMR				*e*S	**Sn**	**10 00 59.0**	**-0.2**
UNCR	**Uncukul**	**1.16**	**7**	*e*Pg	**Pg**	**10 00 43.5**	**-0.2**
UNCR				*e*Sg	**Sg**	**10 01 00.5**	**+1.7**
UNCR	**Uncukul**	**1.16**	**7**	*e*PG	**Pg**	**10 00 43.5**	**-0.2**
UNCR				*e*S	**Sg**	**10 01 00.5**	**+1.7**
XNQ	**Khinaliq**	**1.22**	**108**	Pg	**Pg**	**10 00 43.9**	**-1.0**
XNQ				Sg	**Sg**	**10 01 02.2**	**+1.5**
LSVT	**Lusahovit**	**1.24**	**239**	⇓*i*P	**Pn**	**10 00 43.0**	**-1.7**
LSVT				⇑*i*S	**Sb**	**10 01 00.1**	**-0.8**
QSAR	**Qusar**	**1.25**	**92**	Pn	**Pg**	**10 00 45.2**	**-0.2**
QSAR				Sn	**Sg**	**10 01 05.0**	**+3.4**
KRNR	**Karanay**	**1.29**	**10**	*e*Pg	**Pg**	**10 00 45.1**	**-1.0**
KRNR				*e*Sg	**Sg**	**10 01 04.2**	**+1.4**
KRNR	**Karanay**	**1.29**	**10**	*e*PG	**Pg**	**10 00 45.1**	**-1.0**
KRNR				*e*S	**Sg**	**10 01 04.2**	**+1.4**
KRNR				pmax	pmax		
	comp=Z,149nm,0.3s						
BUJR	**Buynaksk**	**1.32**	**16**	*e*PG	**Pg**	**10 00 45.7**	**-1.0**
BUJR				*e*S	**Sg**	**10 01 04.8**	**+1.0**
BTNK	**Botanikuri**	**1.36**	**276**	PG	**Pb**	**10 00 46.5**	**-0.3**
BTNK				S	**Sg**	**10 01 05.4**	**+0.4**
SEAG	**Tbilisi Sea**	**1.36**	**279**	P	**Pb**	**10 00 47.1**	**+0.2**
SEAG				S	**Sg**	**10 01 06.8**	**+1.6**
SEAG	**Tbilisi Sea**	**1.36**	**279**	PG	**Pb**	**10 00 47.1**	**+0.2**
SEAG				S	**Sg**	**10 01 06.8**	**+1.6**
BRDA	**Brd**	**1.37**	**161**	Pn	**Pb**	**10 00 46.6**	**-0.4**
BRDA				Sn	**Sg**	**10 01 08.5**	**+3.2**
DRN	**Derbent**	**1.38**	**70**	*e*Pg	**Pg**	**10 00 47.3**	**-0.4**
DRN				*e*Sg	**Sg**	**10 01 05.9**	**+0.2**
DRN	**Derbent**	**1.38**	**70**	*e*PG	**Pg**	**10 00 48.0**	**+0.2**
DRN				*e*S	**Sg**	**10 01 06.9**	**+1.3**
TBLG	**Delisi**	**1.41**	**278**	P	**Pn**	**10 00 46.8**	**-0.1**
TBLG				S	**Sg**	**10 01 06.7**	**+0.1**
TBLG	**Delisi**	**1.41**	**278**	PG	**Pn**	**10 00 46.8**	**-0.1**
TBLG				S	**Sg**	**10 01 06.7**	**+0.1**
IML	**Ismayilli**	**1.42**	**122**	Pn	**Pb**	**10 00 47.4**	**-0.4**
IML				Sn	**Sg**	**10 01 09.1**	**+2.1**
QUBA	**Quba, Azerbaij**	**1.44**	**98**	Pn	**Pg**	**10 00 48.9**	**-0.1**
QUBA				Sn	**Sg**	**10 01 11.2**	**+3.6**
AGDM	**Agdam**	**1.50**	**165**	Pn	**Pb**	**10 00 48.8**	**-0.4**
AGDM				Sn	**Sg**	**10 01 10.9**	**+1.2**
DLMR	**Dylym**	**1.51**	**1**	*e*PG	**Pb**	**10 00 48.8**	**-0.6**
DLMR				*e*S	**Sg**	**10 01 10.6**	**+0.7**
DLMR				pmax	pmax		
	comp=Z,108nm,0.2s						
ZRD	**Zardab**	**1.52**	**147**	Pn	**Pg**	**10 00 49.8**	**-0.7**
ZRD				Sn	**Sg**	**10 01 11.8**	**+1.6**
SHTL	**Shatili**	**1.54**	**316**	P	**Pn**	**10 00 48.5**	**-0.4**
SHTL				S	**Sg**	**10 01 10.2**	**-0.6**
SHTL	**Shatili**	**1.54**	**316**	PG	**Pn**	**10 00 48.5**	**-0.4**
SHTL				S	**Sg**	**10 01 10.2**	**-0.6**
MAK	**Makhachkala**	**1.55**	**25**	*e*Pg	**Pg**	**10 00 51.9**	**+0.7**
MAK				*e*Sg	**Sg**	**10 01 11.6**	**+0.3**
MAK	**Makhachkala**	**1.55**	**25**	*e*PG	**Pg**	**10 00 51.8**	**+0.7**
MAK				*e*S	**Sg**	**10 01 11.6**	**+0.3**
AYRK	**Ayrk**	**1.57**	**203**	⇓*i*P	**Pn**	**10 00 49.2**	**-0.2**
AYRK				⇓*i*S	**Sb**	**10 01 10.7**	**+0.2**
KZRT	**Kazreti**	**1.66**	**265**	P	**Pn**	**10 00 48.6**	**-1.9**
KZRT				S	**Sn**	**10 01 10.4**	**-1.5**
KZRT	**Kazreti**	**1.66**	**265**	PN	**Pn**	**10 00 48.6**	**-1.9**
KDMR	**Kurdemir**	**1.69**	**134**	Pg	**Pn**	**10 00 50.0**	**-0.8**
KDMR				Sn	**Sg**	**10 01 16.4**	**+0.9**
PQL	**Pirkuli**	**1.69**	**116**	Pn	**Pg**	**10 00 52.3**	**-1.5**
PQL				Sn	**Sg**	**10 01 17.6**	**+1.8**
KANR	**Karaman**	**1.76**	**22**	*e*Pg	**Pg**	**10 00 57.1**	**+2.0**
KANR				*e*Sg	**Sg**	**10 01 20.9**	**+2.9**
KANR	**Karaman**	**1.76**	**22**	*e*PN	**Pg**	**10 00 57.1**	**+2.0**
KANR				*e*S	**Sg**	**10 01 20.9**	**+2.9**
SRTK	**Saratovka**	**1.79**	**255**	⇑*i*P	**Pn**	**10 00 51.6**	**-0.7**
SRTK				⇑*i*S	**Sn**	**10 01 15.5**	**+0.4**
SIZA	**Siyzn**	**1.80**	**105**	Pn	**Pg**	**10 00 55.6**	**-0.3**
SIZA				Sn	**Sg**	**10 01 20.5**	**+1.4**
TRLG	**Trialeti**	**1.88**	**270**	P	**Pn**	**10 00 53.5**	**0.0**
TRLG				S	**Sb**	**10 01 18.6**	**-0.6**
TRLG	**Trialeti**	**1.88**	**270**	PN	**Pn**	**10 00 53.5**	**0.0**
ATGJ	**Altiaghaj**	**1.90**	**111**	Pn	**Pb**	**10 00 55.1**	**-0.9**
ATGJ				Sn	**Sg**	**10 01 20.8**	**-1.6**
KAPZ	**Kaputan**	**1.90**	**230**	⇑*i*P	**Pn**	**10 00 54.7**	**+0.8**
KAPZ				⇑*i*S	**Sb**	**10 01 20.1**	**+0.2**
KMGR	**Komgaron**	**1.97**	**320**	*e*Pg	**Pg**	**10 00 58.5**	**-0.7**
KMGR				*e*Sg	**Sg**	**10 01 24.5**	**-0.2**
KMGR	**Komgaron**	**1.97**	**320**	*e*PN	**Pg**	**10 00 58.8**	**-0.4**
KMGR				*e*S	**Sg**	**10 01 25.4**	**+0.6**
BLQ	**Beylaqan**	**1.98**	**158**	Pn	**Pb**	**10 00 55.8**	**-1.5**
BLQ				Sn	**Sg**	**10 01 23.3**	**-1.6**
GNI	**Garni**	**1.99**	**226**	⇑*i*P	**Pb**	**10 00 57.0**	**-0.6**
GNI				⇑*i*S	**Sg**	**10 01 25.6**	**+0.2**
GNI	**Garni**	**1.99**	**226**	*e*Pg	**Pb**	**10 00 57.1**	**-0.6**
GNI				*e*Sg	**Sg**	**10 01 25.8**	**+0.3**
GNI	**Garni**	**1.99**	**226**	*e*PN	**Pb**	**10 00 57.1**	**-0.6**
GNI				*e*S	**Sg**	**10 01 25.8**	**+0.3**
GBS	**Qobustan**	**2.05**	**119**	Pn	**Pb**	**10 00 57.6**	**-1.0**
GBS				Sn	**Sg**	**10 01 25.8**	**-1.4**
VLKR	**Vladikavkaz**	**2.06**	**317**	*e*Pg	**Pb**	**10 00 59.5**	**+0.7**
VLKR				*e*Sg	**Sb**	**10 01 25.1**	**+0.7**
VLKR	**Vladikavkaz**	**2.06**	**317**	*e*PN	**Pg**	**10 00 59.8**	**-1.0**
VLKR				*e*S	**Sg**	**10 01 29.2**	**+1.7**
VAYK	**Vayk**	**2.07**	**206**	*i* P	**Pb**	**10 00 57.5**	**-1.4**
VAYK				*i* S	**Sb**	**10 01 25.1**	**+0.4**
AMBZ	**Amberd**	**2.12**	**237**	*e*P	**Pb**	**10 00 59.4**	**-0.6**
AMBZ				*e*S	**Sb**	**10 01 28.6**	**+2.1**
LACR	**Lac**	**2.13**	**307**	*e*Pg	**Pb**	**10 00 59.2**	**-0.8**
LACR				*e*Sg	**Sg**	**10 01 28.1**	**-1.7**
LACR	**Lac**	**2.13**	**307**	*e*PN	**Pb**	**10 00 59.2**	**-0.8**
LACR				*e*S	**Sg**	**10 01 28.1**	**-1.7**
KMOZ	**Kamo**	**2.13**	**251**	⇓*i*P	**Pn**	**10 00 58.1**	**+1.0**
KMOZ				⇓*i*S	**Sb**	**10 01 26.7**	**+0.1**
NRKZ	**NAREK**	**2.15**	**224**	*e*P	**Pb**	**10 00 59.6**	**-0.7**
NRKZ				*e*S	**Sg**	**10 01 29.5**	**-0.7**
QRD	**Qoradiz**	**2.17**	**165**	Pn	**Pn**	**10 00 58.1**	**+0.7**
QRD				Sn	**Sb**	**10 01 27.9**	**+0.4**
HYR

TWG	**Pinlang**	**0.41**	**313**	*i*	P	**Pn**	**10 11 02.6**	**-0.3**	WUSB					S	**Sn**	**10 11 34.2**	**+0.8**	OLKF				MSG			11 10 05.9	
TWG					eS	**Sn**	**10 11 12.6**	**-2.2**	**WTK**	**Tuku**	**1.48**	**321**		P	**Pn**	**10 11 13.5**	**+0.1**		comp=Z,16nm,0.2s							
EDH	**Donghe**	**0.45**	**349**	*i*	P	**Pn**	**10 11 03.4**	**+0.3**	WTK					S	**Sn**	**10 11 33.5**	**+0.2**	OLKF				SN	**Sn**	**11 10 11.4**	**+3.1**
EDH					eS	**Sn**	**10 11 15.4**	**+0.4**	**WNT**	**Mingjian**	**1.49**	**334**		P	**Pn**	**10 11 14.0**	**+0.4**	**KU6**	**Riekki**	**1.53**	**188**	PG	**Pg**	**11 09 54.4**	**-0.1**
LONT	**Longtian**	**0.45**	**326**	*i*	P	**Pn**	**10 11 03.0**	**-0.2**	WNT					S	**Sn**	**10 11 33.8**	**+0.2**	KU6				MSG			11 10 13.2	
LONT					S	**Sn**	**10 11 14.8**	**-0.3**	**WNT1**	**Nantou City**	**1.52**	**334**		P	**Pn**	**10 11 14.6**	**+0.6**		comp=Z,6.6nm,0.2s							
TAW	**Tawu**	**0.50**	**249**	*eP*		**Pn**	**10 11 03.5**	**+0.1**	WNT1					S	**Sn**	**10 11 35.1**	**+0.9**	KU6				SN	**Sn**	**11 10 15.2**	**+0.8**
TAW					*i* S	**Sn**	**10 11 15.2**	**-0.4**	**WPL**	**Puli Township**	**1.53**	**345**		P	**Pn**	**10 11 14.5**	**+0.4**	**LVZ**	**Lovozero**	**1.66**	**75**	S	**Sn**	**11 10 16.9**	**-0.6**
TAWH	**Dawu Township**	**0.51**	**248**	*eP*		**Pn**	**10 11 03.7**	**+0.2**	WPL					*eS*	**Sn**	**10 11 34.9**	**+0.5**	**LVZ**	**Lovozero**	**1.66**	**75**	PG	**Pb**	**11 09 56.2**	**-0.3**
TAWH					S	**Sn**	**10 11 15.6**	**-0.2**	**WSF**	**Szhu**	**1.54**	**316**		P	**Pn**	**10 11 14.0**	**-0.2**	LVZ				SN	**Sn**	**11 10 17.2**	**-0.2**
LAY	**Lan-yu**	**0.51**	**164**	*i*	P	**Pn**	**10 11 02.8**	**-0.8**	WSF					S	**Sn**	**10 11 34.2**	**-0.5**	**MSF**	**Maaselka**	**1.72**	**199**	PN	**Pg**	**11 09 58.0**	**-0.1**
LAY					S	**Sn**	**10 11 14.4**	**-1.4**	**TWD**	**Chiawan**	**1.55**	**7**	*i*	P	**Pn**	**10 11 14.6**	**+0.3**		baz=13							
LYUB	**Lan-yu**	**0.56**	**162**	*i*	P	**Pn**	**10 11 02.6**	**-1.2**	TWD					*eS*	**Sn**	**10 11 33.7**	**-1.1**	MSF				SG	**Sg**	**11 10 20.8**	**+0.3**
LYUB					eS	**Sn**	**10 11 14.0**	**-2.3**	**DPDB**	**Guoxing**	**1.55**	**344**		P	**Pn**	**10 11 14.5**	**0.0**	**RNF**	**Rovaniemi**	**1.96**	**244**	PG	**Pb**	**11 10 01.4**	**-0.3**
CHKT	**Chengkung**	**0.56**	**357**	*eP*		**Pn**	**10 11 04.6**	**+0.7**	DPDB					S	**Sn**	**10 11 35.8**	**+0.7**		baz=62							
CHKT					*i* S	**Sn**	**10 11 16.8**	**+0.3**	**WCS**	**Beigang Elemen**	**1.58**	**344**	*eP*		**Pn**	**10 11 15.1**	**+0.4**	**KU1**	**Kurvinen**	**2.01**	**190**	PG	**Pb**	**11 10 02.6**	**0.0**
ECS	**Chishang**	**0.58**	**344**	*eP*		**Pn**	**10 11 04.5**	**+0.4**	WCS					*i* S	**Sn**	**10 11 36.1**	**+0.5**	**KU2**	**Taivalkoski**	**2.03**	**206**	PG	**Pb**	**11 10 03.0**	**+0.1**
ECS					*i* S	**Sn**	**10 11 17.8**	**+1.0**	**WYL**	**Yuanlin Townsh**	**1.61**	**332**		P	**Pn**	**10 11 15.6**	**+0.6**	**RANF**	**Ranua**	**2.10**	**225**	PB	**Pb**	**11 10 03.2**	**-0.9**
EHD	**Haiduan**	**0.64**	**344**	*eP*		**Pn**	**10 11 03.8**	**-0.7**	WYL					S	**Sn**	**10 11 36.7**	**+0.5**		baz=45							
EHD					eS	**Sn**	**10 11 16.0**	**-1.6**	**WHF**	**Hehuan Shan**	**1.61**	**356**	*eP*		**Pn**	**10 11 16.2**	**+0.8**	RANF				SG	**Sg**	**11 10 31.7**	**-0.8**
SLIU	**Shizi**	**0.64**	**240**	*i*	P	**Pn**	**10 11 05.0**	**+0.4**	WHF					*eS*	**Sn**	**10 11 36.4**	**-0.5**	**TERR**	**Teriberka**	**2.41**	**44**	P	**Pn**	**11 10 06.4**	**+0.6**
SLIU					eS	**Sn**	**10 11 17.8**	**+0.3**	**ETL**	**Fush Village**	**1.63**	**7**	P		**Pn**	**10 11 15.7**	**+0.3**	TERR				S	**Sb**	**11 10 38.6**	**-0.9**
CHKH	**Chenggong**	**0.65**	**360**	*eP*		**Pn**	**10 11 05.1**	**+0.5**	ETL					S	**Sn**	**10 11 35.8**	**-0.9**	**KLF**	**Kolari**	**2.51**	**266**	PB	**Pn**	**11 10 08.3**	**+1.2**
CHKH					*i* S	**Sn**	**10 11 18.7**	**+1.0**	**WWF**	**Wufeng**	**1.63**	**337**		P	**Pn**	**10 11 15.7**	**+0.4**	KLF				MSG			11 10 40.4	
FULB	**Fuli**	**0.67**	**352**	*eP*		**Pn**	**10 11 05.5**	**+0.7**	WWF					S	**Sn**	**10 11 38.0**	**+1.2**		comp=Z,6.6nm,0.2s							
FULB					eS	**Sn**	**10 11 19.1**	**+1.1**	**NACB**	**Ninganchiao**	**1.64**	**6**	P		**Pn**	**10 11 15.2**	**-0.2**	KLF				SG	**Sg**	**11 10 44.4**	**-1.3**
MASBT	**Mashibuluo**	**0.71**	**276**	*eP*		**Pn**	**10 11 05.8**	**+0.6**	**NACB**	**Ninganchiao**	**1.64**	**6**	S		**Sn**	**10 11 35.5**	**-1.5**	**KEV**	**Kevo**	**2.55**	**332**	*eP*	**Pn**	**11 10 09.3**	**+1.6**
MASBT					*i* S	**Sn**	**10 11 18.5**	**-0.1**	**NACB**	**Ninganchiao**	**1.64**	**6**	*i*	P	**Pn**	**10 11 15.4**	**0.0**	**VADS**	**Vadso**	**2.62**	**352**	P	**Pn**	**11 10 10.5**	**+1.8**
TSMG	**Majia**	**0.72**	**284**	P		**Pn**	**10 11 05.8**	**+0.7**	NACB					*eS*	**Sn**	**10 11 35.4**	**-1.5**	VADS				S	**Sn**	**11 10 42.6**	**+1.5**
TSMG					S	**Sn**	**10 11 18.5**	**-0.2**	**RLNB**	**Erlin**	**1.66**	**325**	P		**Pn**	**10 11 15.6**	**0.0**	**VADS**	**Vadso**	**2.62**	**352**	*eP*	**Pn**	**11 10 09.3**	**+0.6**
SMST	**Manzhou Townsh**	**0.73**	**226**	*i*	P	**Pn**	**10 11 05.8**	**+0.5**	RLNB					S	**Sn**	**10 11 36.6**	**-0.6**	**HEF**	**Hetta**	**2.69**	**292**	PN	**Pn**	**11 10 10.5**	**+0.8**
SMST					S	**Sn**	**10 11 17.5**	**-1.4**	**ETLH**	**Xiulin Townshi**	**1.67**	**3**	*eP*		**Pn**	**10 11 15.6**	**-0.2**	HEF				MSG			11 10 45.0	
SCZT	**Fangliau**	**0.74**	**258**	*i*	P	**Pn**	**10 11 05.8**	**+0.4**	ETLH					*eS*	**Sn**	**10 11 38.0**	**+0.4**		comp=Z,5.4nm,0.2s							
SCZT					*i* S	**Sn**	**10 11 18.7**	**-0.3**	**WTCT**	**Ta-ch'eng**	**1.68**	**322**	*eP*		**Pn**	**10 11 15.5**	**-0.3**	HEF				SG	**Sb**	**11 10 47.2**	**-0.4**
SSD	**Sandimen**	**0.74**	**287**	*i*	P	**Pn**	**10 11 06.0**	**+0.6**	WTCT					*i* S	**Sn**	**10 11 37.9**	**+0.2**	**ARA0**	**ARCESS Array S**	**2.70**	**320**	PN	**Pn**	**11 10 11.2**	**+1.4**
SSD					S	**Sn**	**10 11 19.0**	**0.0**	**FUSS**	**Fushou**	**1.71**	**355**	*eP*		**Pn**	**10 11 17.9**	**+1.3**	ARA0				SG	**Sb**	**11 10 47.6**	**-0.2**
ELDTW	**Lidau**	**0.74**	**332**	*i*	P	**Pn**	**10 11 06.0**	**+0.4**	FUSS					*i* S	**Sn**	**10 11 40.4**	**+1.5**	**ARCES**	**ARCESS Array B**	**2.70**	**320**	PN	**Pn**	**11 10 11.2**	**+1.5**
ELDTW					S	**Sn**	**10 11 19.4**	**+0.1**	**WCH1**	**Changhua City**	**1.72**	**333**	P		**Pn**	**10 11 16.8**	**+0.5**		comp=Z,0.3nm,0.3s,baz=139,slow=16,SNR=43							
ECBN	**Changbin**	**0.78**	**4**	*eP*		**Pn**	**10 11 06.3**	**+0.6**	WCH1					*eS*	**Sn**	**10 11 39.6**	**+1.0**	ARCES				Sn	**Sn**	**11 10 44.1**	**+1.1**
ECBN					*i* S	**Sn**	**10 11 20.5**	**+0.8**	**WCHH**	**Zhanghua**	**1.72**	**334**	*eP*		**Pn**	**10 11 17.1**	**+0.7**		comp=Z,0.8nm,0.3s,baz=140,slow=26,SNR=18							
TSEB	**Hengchuen, Pin**	**0.78**	**216**	*eP*		**Pn**	**10 11 07.0**	**+1.2**	WCHH					S	**Sn**	**10 11 39.5**	**+0.8**		comp=Z,0.9nm,0.2s							
TSEB					S	**Sn**	**10 11 21.5**	**+1.8**	**TWT**	**Tachien**	**1.72**	**353**	*eP*		**Pn**	**10 11 17.8**	**+1.1**	**ARCES**	**ARCESS Array B**	**2.70**	**320**	P	**Pn**	**11 10 11.2**	**+1.5**
TWKBT	**Hengchun**	**0.80**	**223**	*i*	P	**Pn**	**10 11 06.6**	**+0.7**	TWT					*i* S	**Sn**	**10 11 40.1**	**+1.0**	ARCES				S	**Sb**	**11 10 47.3**	**-0.5**
TWKBT					*i* S	**Sn**	**10 11 20.0**	**-0.1**	**TDCB**	**Techi**	**1.73**	**353**	*eP*		**Pn**	**10 11 17.4**	**+0.8**	**TOF**	**Tornio**	**2.82**	**242**	PN	**Pn**	**11 10 12.2**	**+0.9**
TWK1	**Hengchun**	**0.81**	**223**	*i*	P	**Pn**	**10 11 06.6**	**+0.6**	TDCB					*eS*	**Sn**	**10 11 41.0**	**+2.0**	TOF				MSG			11 10 49.4	
TWK1					*i* S	**Sn**	**10 11 20.7**	**+0.5**	**TCU**	**Taichung**	**1.74**	**338**	P		**Pn**	**10 11 16.8**	**+0.1**		comp=Z,2.1nm,0.2s							
HEN	**Hengchun**	**0.81**	**229**	*eP*		**Pn**	**10 11 06.9**	**+0.9**	TCU					S	**Sn**	**10 11 39.9**	**+0.9**	TOF				SG	**Sg**	**11 10 54.0**	**-1.6**
HEN					eS	**Sn**	**10 11 21.2**	**+1.1**	**WDGT**	**Dungji**	**1.76**	**295**	*i*	P	**Pn**	**10 11 16.5**	**-0.3**	**PAJU**	**Pajala**	**2.88**	**263**	P	**Pn**	**11 10 13.5**	**+1.2**
EYUL	**Yuli**	**0.81**	**355**	*eP*		**Pn**	**10 11 07.9**	**+1.8**	WDGT					*i* S	**Sn**	**10 11 37.5**	**-2.0**	**PAJU**	**Pajala**	**2.88**	**263**	PN	**Pn**	**11 10 13.2**	**+0.9**
EYUL					S	**Sn**	**10 11 20.6**	**+0.3**	**WHP**	**Taichung City**	**1.79**	**347**	*eP*		**Pn**	**10 11 18.0**	**+0.7**	**KTK1**	**Kautokeino**	**3.05**	**302**	PN	**Pn**	**11 10 16.0**	**+1.4**
TWF1	**Yuli**	**0.82**	**353**	*i*	P	**Pn**	**10 11 05.8**	**-0.3**	WHP					S	**Sn**	**10 11 41.3**	**+1.1**	KTK1				SG	**Sb**	**11 10 59.3**	**+1.3**
TWF1					eS	**Sn**	**10 11 18.7**	**-1.8**	**EAHA**	**Aohua**	**1.81**	**10**	*eP*		**Pn**	**10 11 16.4**	**-1.2**	**OUL**	**Oulu**	**3.06**	**219**	PB	**Pb**	**11 10 18.0**	**-2.4**
STYH	**Taoyuan**	**0.85**	**318**	P		**Pn**	**10 11 07.2**	**+0.7**	EAHA					*eS*	**Sn**	**10 11 40.5**	**-0.2**		baz=31							
STYH					*i* S	**Sn**	**10 11 21.7**	**+0.7**	**NNSB**	**Datong**	**1.89**	**360**	*eP*		**Pn**	**10 11 19.6**	**+1.0**	**LANU**	**Lannavaara**	**3.24**	**283**	P	**Pn**	**11 10 18.2**	**+1.0**
YULB	**Yu-li**	**0.86**	**354**	P		**Pn**	**10 11 05.9**	**-0.7**	NNSB					S	**Sn**	**10 11 43.4**	**+0.8**	**LANU**	**Lannavaara**	**3.24**	**283**	PN	**Pn**	**11 10 18.1**	**+1.0**
YULB	**Yu-li**	**0.86**	**354**	*i*	P	**Pn**	**10 11 06.1**	**-0.5**	**TWQ1**	**Liyutan**	**1.90**	**342**	*eP*		**Pn**	**10 11 18.6**	**0.0**	LANU				SG	**Sb**	**11 11 04.7**	**+1.4**
YULB					*i* S	**Sn**	**10 11 19.7**	**-1.5**	TWQ1					*eS*	**Sn**	**10 11 44.2**	**+1.7**	**KALU**	**Kalix**	**3.27**	**242**	P	**Pn**	**11 10 18.4**	**+0.9**
SGLT	**Jiouru**	**0.86**	**283**	⇓P		**Pn**	**10 11 06.9**	**+0.4**	**ENA**	**Nanau**	**1.91**	**9**	P		**Pn**	**10 11 19.6**	**+0.7**	**KALU**	**Kalix**	**3.27**	**242**	PN	**Pn**	**11 10 18.4**	**+0.9**
SGLT					*eS*	**Sn**	**10 11 23.6**	**+2.5**	ENA					*eS*	**Sn**	**10 11 41.3**	**-1.6**	**RMF**	**Romuvaara**	**3.34**	**184**	PN	**Pn**	**11 10 20.1**	**+1.5**
STYT	**Tauyuan**	**0.86**	**317**	P		**Pn**	**10 11 07.0**	**+0.4**	**EWUT**	**Wuta**	**1.93**	**10**	P		**Pn**	**10 11 19.8**	**+0.7**	**ERTU**	**Ertsjaerv**	**3.37**	**257**	P	**Pn**	**11 10 20.5**	**+1.5**
STYT					S	**Sn**	**10 11 21.2**	**0.0**	EWUT					*eS*	**Sn**	**10 11 43.4**	**-0.1**	**ERTU**	**Ertsjaerv**	**3.37**	**257**	PN	**Pn**	**11 10 20.1**	**+1.1**
SCST	**Cishan**	**0.91**	**293**	P		**Pn**	**10 11 07.9**	**+0.9**	**WDJ**	**Dajia District**	**1.94**	**339**	P		**Pn**	**10 11 19.6**	**+0.5**	**OBF4**	**Vikkela, Lumij**	**3.48**	**221**	PN	**Pn**	**11 10 21.9**	**+1.5**
SCST					S	**Sn**	**10 11 22.5**	**+0.6**	WDJ					S	**Sn**	**10 11 45.0**	**+1.5**		baz=32							
SGST	**Jiashian**	**0.93**	**306**	*eP*		**Pn**	**10 11 07.1**	**-0.2**	**VCHM**	**Qimei**	**1.94**	**291**	*eP*		**Pn**	**10 11 19.1**	**0.0**	**DUNU**	**Dundret**	**3.83**	**268**	P	**Pn**	**11 10 26.6**	**+1.2**
SGST					*eS*	**Sn**	**10 11 21.6**	**-0.7**	VCHM					*i* S	**Sn**	**10 11 41.9**	**-1.6**	**KUA**	**Kurravaara**	**3.86**	**281**	P	**Pn**	**11 10 26.6**	**+1.0**
TWM1	**Shoushan**	**0.95**	**288**	*eP*		**Pn**	**10 11 09.0**	**+1.6**	**EOS3**	**EOS3**	**1.94**	**26**	*eP*		**Pn**	**10 11 19.8**	**+0.8**	**KIF**	**Kilpisjarvi**	**3.87**	**297**	PN	**Pn**	**11 10 27.2**	**+1.5**
TWM1					S	**Sn**	**10 11 25.0**	**+2.4**	EOS3					*eS*	**Sn**	**10 11 44.5**	**+1.2**		baz=108							
HGSD	**Ruisui**	**0.95**	**1**	P		**Pn**	**10 11 08.2**	**+0.7**	**PHUB**	**P'eng-hu**	**1.94**	**300**	*i*	P	**Pn**	**10 11 18.8**	**-0.4**	**KOVU**	**Salmi**	**3.94**	**285**	P	**Pn**	**11 10 28.1**	**+1.3**
HGSD					*i* S	**Sn**	**10 11 24.1**	**+1.3**	PHUB					*i* S	**Sn**	**10 11 41.5**	**-2.1**	**OUF**	**Merijarvi**	**3.94**	**219**	PN	**Pn**	**11 10 28.3**	**+1.5**
EHYH	**Wanrong**	**0.96**	**357**	P		**Pn**	**10 11 07.3**	**-0.2**	**PNG**	**Penghu**	**1.98**	**302**	*i*	P	**Pn**	**10 11 19.3**	**-0.5**		baz=32							
EHYH					S	**Sn**	**10 11 21.6**	**-1.2**	PNG					*i* S	**Sn**	**10 11 42.5**	**-2.0**	**OBF0**	**Syolatti, Pyha**	**3.96**	**222**	PN	**Pn**	**11 10 29.3**	**+2.3**
WLCH	**Liuqiu**	**0.96**	**259**	*eP*		**Pn**	**10 11 09.7**	**+2.2**	**LATG**	**Datong**	**2.00**	**3**	*eP*		**Pn**	**10 11 21.8**	**+1.7**	**HARU**	**Harads**	**3.97**	**254**	P	**Pn**	**11 10 27.8**	**+0.6**
WLCH					eS	**Sn**	**10 11 27.1**	**+4.2**	LATG					*eS*	**Sn**	**10 11 47.6**	**+2.5**	**RATU**	**Laukkuluspa**	**4.14**	**279**	P	**Pn**	**11 10 30.5**	**+1.0**
EHY	**Hungye**	**0.97**	**356**	*i*	P	**Pn**	**10 11 07.2**	**-0.5**	**EOS2**	**EOS2**	**2.03**	**22**	P		**Pn**	**10 11 20.8**	**+0.6**	**I37NO**	**I37NO**	**4.64**	**295**	I	I	11 38 40.0	
EHY					*i* S	**Sn**	**10 11 21.7**	**-1.4**	EOS2					*eS*	**Sn**	**10 11 47.1**	**+1.7**		baz=104,slow=319,SNR=2.7							
TWP	**Hsiaoliuchiu**	**0.98**	**259**	*eS*		**Pn**	**10 11 26.6**	**+3.4**	**NMLH**	**Miaoli**	**2.07**	**344**	*eP*		**Pn**	**10 11 20.8**	**-0.1**	**JOF**	**Joensuu**	**4.66**	**175**	SN	**Sn**	**11 11 29.8**	**-1.5**
SNJT	**Kaohsiung City**	**1.01**	**283**	*eP*		**Pn**	**10 11 07.4**	**-0.6**	NMLH					S	**Sn**	**10 11 46.8**	**+0.2**	**FAUS**	**Fauske**	**5.82**	**275**	P	**Pn**	**11 10 51.5**	**-1.1**
SNJT					*i* S	**Sn**	**10 11 25.9**	**+2.3**	**ESAO**	**Su ao**	**2.07**	**11**	P		**Pn**	**10 11 21.3**	**+0.4**	FAUS				S	**Sn**	**11 11 58.4**	**-1.4**
KAU	**Kaohsiung**	**1.01**	**272**	P		**Pn**	**10 11 08.6**	**+0.6**	ESAO					*eS*	**Sn**	**10 11 46.6**	**0.0**	**FINES**	**FINESS Array B**	**6.40**	**199**	Pn	**Pn**	**11 11 03.1**	**+2.6**
KAU					*eS*	**Sn**	**10 11 27.0**	**+3.3**	**ENTT**	**Nioudou**	**2.10**	**4**	*eP*		**Pn**	**10 11 22.1**	**+0.8**		comp=Z,0.1nm,0.3s,baz=9.7,slow=10,SNR=2.5							
WTP	**Ta-pu**	**1.01**	**315**	*i*	P	**Pn**	**10 11 08.6**	**+0.4**	ENTT					*eS*	**Sn**	**10 11 47.7**	**+0.4**	FINES				Sn	**Sn**	**11 12 13.1**	**-1.1**
WTP					*i* S	**Sn**	**10 11 23.0**	**-0.9**	**NFF**	**Wufeng Townshi**	**2.10**	**353**	*eP*		**Pn**	**10 11 24.3**	**+2.9**		comp=Z,0.1nm,0.3s,baz=18,slow=23,SNR=1.7							
CHN1	**Nanshi**	**1.03**	**309**	*i*	P	**Pn**	**10 11 08.7**	**+0.4**	NFF					*eS*	**Sn**	**10 11 47.9**	**+0.4**	FINES				Lg	Lg	11 12 44.7		
CHN1					*i* S	**Sn**	**10 11 24.4**	**+0.1**	**TWC**	**Suao**	**2.11**	**11**	P		**Pn**	**10 11 21.9**	**+0.6**		comp=Z,0.2nm,0.3s,baz=21,slow=27,SNR=5.4							
YUS	**Yu-Shan**	**1.04**	**337**	*eP*		**Pn**	**10 11 09.9**	**+1.1**	TWC					*eS*	**Sn**	**10 11 47.5**	**+0.1**		comp=Z,1.3nm,0.8s							
YUS					S	**Sn**	**10 11 25.8**	**+1.6**	**NSTT**	**Nanjuang**	**2.12**	**350**	P		**Pn**	**10 11 22.1**	**+0.6**	**HFS**	**Hagfors**	**10.44**	**233**	Pn	**Pn**	**11 11 51.5**	**-4.3**
TPUB	**Ta-pu**	**1.04**	**317**	P		**Pn**	**10 11 08.6**	**+0.2**	NSTT					*eS*	**Sn**	**10 11 47.5**	**-0.2**		comp=Z,0.1nm,0.3s,baz=37,slow=15,SNR=1.2							
TPUB	**Ta-pu**	**1.04**	**317**	S		**Pn**	**10 11 24.2**	**-0.3**	**YHNB**	**Yeheng**	**2.13**	**359**	P		**Pn**	**10 11 22.9**	**+1.2**		comp=Z,1.3nm,0.8s							
TPUB	**Ta-pu**	**1.04**	**317**	*i*	P	**Pn**	**10 11 08.7**	**+0.3**	**YHNB**	**Yeheng**	**2.13**	**359**	*eP*		**Pn**	**10 11 23.9**	**+2.2**									
TPUB					*i* S	**Sn**	**10 11 23.7**	**-0.8**	YHNB					*eS*	**Sn**	**10 11 49.2**	**+1.2**									
SNST	**Tainan City**	**1.07**	**310**	*i*	P	**Pn**	**10 11 09.0**	**+0.3**	**LIOB**	**Emei**	**2.13**	**351**	*eP*		**Pn**	**10 11 22.1**	**+0.4**									
SNST					*i* S	**Sn**	**10 11 24.7**	**-0.3**	LIOB					*eS*	**Sn**	**10 11 48.4**	**+0.4**									
SHHT	**Tainan City**	**1.08**	**297**	*eP*		**Pn**	**10 11 11.0**	**+2.2**	**TWE**	**Neicheng**	**2.19**	**6**	P		**Pn**	**10 11 23.6**	**+1.2**									
SHHT					*eS*	**Sn**	**10 11 24.8**	**-0.4**	TWE					S	**Sn**	**10 11 49.5**	**+0.2**									
CHN3	**Shinhua**	**1.09**	**300**	*eP*		**Pn**	**10 11 10.5**	**+1.5**	**FUSB**	**Fushanzhiwuyua**	**2.22**	**4**	*eP*		**Pn**	**10 11 23.9**	**+1.1**									
CHN3					*i* S	**Sn**	**10 11 27.7**	**+2.3**	FUSB					*eS*	**Sn**	**10 11 49.9**	**-0.3**									
CHN4	**Tsaushan**	**1.10**	**318**	*eP*		**Pn**	**10 11 09.4**	**+0.4**	**NWLT**	**Wulai**	**2.23**	**2**	P		**Pn**	**10 11 24.1**	**+1.1**									
CHN4					*eS*	**Sn**	**10 11 25.2**	**-0.4**	NWLT					*eS*	**Sn**	**10 11 50.8**	**+0.3**									
TWK	**Hsinying**	**1.11**	**311**	*i*	P	**Pn**	**10 11 09.5**	**+0.2**	**KSHI**	**Guanxi Townshi**	**2.24**	**355**	*eS*		**Sn**	**10 11 52.7**	**+2.1**									
TWK					*eS*	**Sn**	**10 11 25.6**	**-0.3**	**ILA**	**Ilan**	**2.24**	**8**	*eS*		**Sn**	**10 11 52.5**	**+1.9**									
ALS	**Alishan**	**1.11**	**331**	*i*	P	**Pn**	**10 11 09.8**	**+0.3**	**HSN**	**Hsinchu**	**2.29**	**350**	*eS*		**Sn**	**10 11 51.4**	**-0.3**									
ALS					*i* S	**Sn**	**10 11 26.7**	**+0.4**	**NHDH**	**Xindian Distri**	**2.42**	**3**	*eP*		**Pn**	**10 11 28.7**	**+3.3**									
EGFH	**Guangfu**	**1.13**	**1**	*eP*		**Pn**	**10 11 09.6**	**-0.2**	**NCJH**	**Zhongli**	**2.43**	**355**	*eS*		**Sn**	**10 11 55.5**	**+0.5**									
EGFH					*eS*	**Sn**	**10 11 25.2**	**-1.0**	**TIPB**	**Shuangxi**	**2.46**	**9**	P		**Pn**	**10 11 27.1**	**+1.2**									
WCKO	**Fanlu**	**1.16**	**321**	*eP*		**Pn**	**10 11 09.8**	**+0.1**	TIPB					*eS*	**Sn**	**10 11 56.8**	**+1.1**									
WCKO					S	**Sn**	**10 11 26.4**	**-0.3**	**TWB1**	**Santiao Chiao**	**2.52**	**12**	S		**Sn**	**10 11 57.5**	**+0.5**									
WARBT	**Fenglin Townsh**	**1.18**	**359**	*eP*		**Pn**	**10 11 09.4**	**-0.5**	**NWF**	**Wu-fen Shan**	**2.55**	**8**	*eS*		**Sn**	**10 11 59.0**	**+1.2**									
WARBT					S	**Sn**	**10 11 25.9**	**-1.2**	**SXI1**	**Grass Mountain**	**2.59**	**10**	*eP*		**Pn**	**10 11 29.5**	**+1.8**									
SSHA	**Shanhua**	**1.19**	**301**	*eP*		**Pn**	**10 11 12.1**	**+2.1**	SXI1					*eS*	**Sn**	**10 12 01.4**	**+2.7**									
SSHA					*eS*	**Sn**	**10 11 29.8**	**+2.6**	**YM01**	**YM01**	**2.60**	**3**	P		**Pn**	**10 11 28.5**	**+0.6**									
TAI1	**Yung-k'ang**	**1.19**	**295**	*eP*		**Pn**	**10 11 11.2**	**+1.2**	YM01					*eS*	**Sn**	**10 11 58.6**	**-0.5**									
TAI1					S	**Sn**	**10 11 28.2**	**+0.9**	**ZUZH**	**Zhuzihu**	**2.62**	**3**	*eP*		**Pn**	**10 11 29.2**	**+1.2**									
TAI	**Tainan**	**1.20**	**293**	P		**Pn**	**10 11 10.6**	**+0.5**	ZUZH					*eS*	**Sn**	**10 11 59.2**	**-0.3**									
TAI					*eS*	**Sn**	**10 11 28.2**	**+0.8**	**VWUC**	**VWUC**	**3.03**	**324**	*eP*		**Pn**	**10 11 32.7**	**-0.7**									
VWDT	**VWDT**	**1.24**	**349**	*i*	P	**Pn**	**10 11 11.8**	**+1.2**	VWUC					*eS*	**Sn**	**10 12 06.8**	**-2.2**									
VWDT					S	**Sn**	**10 11 29.2**	**+0.9**	**PTMZ**	**Houxiangcun**	**3.25**	**321**	*eP*		**Pn**	**10 11 36.2**	**-0.1**									
CHN5	**Tsauling**	**1.25**	**328**	*i*	P	**Pn**	**10 11 10.9**	**+0.1**	PTMZ					*eS*	**Sn**	**10 12 12.1**	**-2.3**									
CHN5					*i* S	**Sn**	**10 11 28.1**	**-0.6**	**KNM**	**Kinmen**	**3.31**	**305**	P		**Pn**	**10 11 38.3**	**+1.2**									
SHUL	**Shoufeng**	**1.26**	**7**	*eP*		**Pn**	**10 11 11.1**	**+0.3**	KNM					S	**Sn**	**10 12 16.5**	**+0.9**									
SHUL					S	**Sn**	**10 11 29.0**	**+1.2**	**ZPLA**	**Ao Xicun**	**3.63**	**293**	P		**Pn**	**10 11 47.6**	**+0.1**									
WHYT	**Xinyi Township**	**1.26**	**337**	*i*	P	**Pn**	**10 11 11.0**	**0.0**	ZPLA					S	**Sn**	**10 12 22.6**	**-0.9**									
WHYT					S	**Sn**	**10 11 28.6**	**-0.2**	**MATB**	**Ma-tsu**	**3.84**	**340**	*eP*		**Pn**	**10 11 43.4**	**-0.8**									
ESL	**Shilin**	**1.27**	**1**	*eP*		**Pn**	**10 11 10.4**	**-0.6**	MATB					*eS*	**Sn**	**10 12 24.9**	**-3.5**									
ESL					S	**Sn**	**10 11 27.6**	**-1.5**	**DSXP**	**Dongshan**	**3.84**	**288**	*eP*		**Pn**	**10 11 44.0**	**-0.3**									
SCLT	**Jiali**	**1.28**	**300**	*eP*		**Pn**	**10 11 11.7**	**+0.6**	DSXP					*eS*	**Sn**	**10 12 26.7**	**-1.8**									
SCLT					*i* S	**Sn**	**10 11 29.7**	**+0.6**	**MSUT**	**Lienchiang**	**3.86**	**340**	P		**Pn**	**10 11 45.0**	**+0.5**									
CHN2	**Minshiung**	**1.31**	**320**	*eP*		**Pn**	**10 11 11.8**	**+0.4**	MSUT					*eS*	**Sn**	**10 12 26.7**	**-2.3**									
CHN2					*eS*	**Sn**	**10 11 30.2**	**+0.5**	**AXDP**	**Jialang**	**3.93**	**308**	*eP*		**Pn**	**10 11 44.5**	**-0.9**									
SSLB	**Suanglung**	**1.31**	**342**	P		**Pn**	**10 11 11.4**	**-0.1**	AXDP					*eS*	**Sn**	**10 12 28.3**	**-2.2**									
SSLB	**Suanglung**	**1.31**	**342**	S		**Sn**	**10 11 29.8**	**-0.1**	**MHZQ**	**Yeshan**	**4.16**	**329**	*eP*		**Pn**	**10 11 48.2**	**-0.4**									
SSLB	**Suanglung**	**1.31**	**342**	P		**Pn**	**10 11 11.7**	**+0.1**	MHZQ					*eS*	**Sn**	**10 12 34.4**	**-1.7**						

UNCR					*e*S		**Sn**	**11 23 27.8 +0.5**
LSVT	**Lusahovit**	**1.21**	**239**		*e*P		**Pn**	**11 23 10.5 -1.0**
LSVT					*e*S		**Sg**	**11 23 27.8 +0.3**
XNQ	**Khinaliq**	**1.24**	**107**		Pg		**Pn**	**11 23 11.3 -0.8**
XNQ					Sn		**Sn**	**11 23 32.5 +3.5**
QSAR	**Qusar**	**1.28**	**91**		Pn		**Pg**	**11 23 12.5 -0.5**
QSAR					Sn		**Sg**	**11 23 34.0 +4.5**
KRNR	**Karanay**	**1.31**	**11**		*e*PG		**Pn**	**11 23 12.5 -0.4**
KRNR					*e*S		**Sg**	**11 23 31.2 +0.6**
KRNR					pmax	pmax		
	comp=Z,116nm,0.4s							
BTNK	**Botanikuri**	**1.33**	**277**		PG		**Pb**	**11 23 13.3 -0.2**
BTNK					S		**Sg**	**11 23 33.9 +2.6**
SEAG	**Tbilisi Sea**	**1.34**	**280**		P		**Pg**	**11 23 14.4 +0.3**
SEAG					S		**Sg**	**11 23 34.2 +2.7**
SEAG	**Tbilisi Sea**	**1.34**	**280**		PG		**Pg**	**11 23 14.4 +0.3**
SEAG					S		**Sg**	**11 23 34.2 +2.7**
BUJR	**Buynaksk**	**1.34**	**17**		*e*Pg		**Pn**	**11 23 13.0 -0.3**
BUJR					*e*Sg		**Sg**	**11 23 32.2 +0.5**
BUJR	**Buynaksk**	**1.34**	**17**		*e*PG		**Pn**	**11 23 13.0 -0.3**
BUJR					*e*S		**Sg**	**11 23 32.2 +0.5**
BRDA	**Brd**	**1.36**	**160**		Pn		**Pg**	**11 23 14.6 0.0**
BRDA					Sn		**Sg**	**11 23 35.2 +2.9**
TBLG	**Delisi**	**1.38**	**278**		P		**Pb**	**11 23 14.1 -0.3**
TBLG					S		**Sg**	**11 23 34.5 +1.6**
TBLG	**Delisi**	**1.38**	**278**		PG		**Pb**	**11 23 14.1 -0.3**
TBLG					S		**Sg**	**11 23 34.5 +1.6**
DRN	**Derbent**	**1.41**	**69**		*e*Pg		**Pb**	**11 23 14.3 -0.5**
DRN					*e*Sg		**Sg**	**11 23 34.2 +0.4**
DRN	**Derbent**	**1.41**	**69**		*e*PG		**Pg**	**11 23 14.9 -0.2**
DRN					*e*S		**Sg**	**11 23 35.5 +1.7**
IML	**Ismayilli**	**1.43**	**121**		Pn		**Pb**	**11 23 15.0 -0.3**
IML					Sn		**Sg**	**11 23 37.1 +2.5**
QUBA	**Quba, Azerbaij**	**1.46**	**97**		Pn		**Pg**	**11 23 16.2 -0.3**
QUBA					Sn		**Sg**	**11 23 38.5 +2.9**
AGDM	**Agdam**	**1.49**	**164**		Pn		**Pb**	**11 23 16.2 -0.1**
AGDM					Sn		**Sg**	**11 23 38.2 +1.8**
ZRD	**Zardab**	**1.52**	**146**		Pn		**Pg**	**11 23 17.1 -0.6**
ZRD					Sn		**Sg**	**11 23 39.1 +1.7**
DLMR	**Dylym**	**1.53**	**2**		*e*Pg		**Pg**	**11 23 17.6 -0.1**
DLMR					*e*Sg		**Sg**	**11 23 37.3 -0.3**
DLMR	**Dylym**	**1.53**	**2**		*e*PG		**Pg**	**11 23 17.6 -0.1**
DLMR					*e*S		**Sg**	**11 23 37.3 -0.3**
SHTL	**Shatili**	**1.53**	**317**		P		**Pn**	**11 23 15.8 -0.2**
SHTL					S		**Sg**	**11 23 37.8 +0.1**
SHTL	**Shatili**	**1.53**	**317**		PG		**Pn**	**11 23 15.8 -0.2**
SHTL					S		**Sg**	**11 23 37.8 +0.1**
AYRK	**Ayrk**	**1.54**	**203**		*e*P		**Pb**	**11 23 16.7 -0.6**
AYRK					*e*S		**Sg**	**11 23 39.2 +1.0**
MAK	**Makhachkala**	**1.58**	**26**		*e*Pg		**Pb**	**11 23 16.8 -1.0**
MAK					*e*Sg		**Sg**	**11 23 38.9 -0.4**
MAK	**Makhachkala**	**1.58**	**26**		*e*PG		**Pb**	**11 23 17.0 -0.7**
MAK					*e*S		**Sg**	**11 23 38.8 -0.4**
MAK					pmax	pmax		
	comp=Z,254nm,0.3s							
MAK					smax	smax		
	comp=E,1μm,0.4s							
MAK					smax	smax		
	comp=E,1μm,0.4s							
KZRT	**Kazreti**	**1.63**	**265**		P		**Pn**	**11 23 15.6 -1.7**
KZRT					S		**Sn**	**11 23 37.9 -0.6**
KZRT	**Kazreti**	**1.63**	**265**		PN		**Pn**	**11 23 15.6 -1.7**
KDMR	**Kurdemir**	**1.69**	**133**		Sn		**Sg**	**11 23 43.6 +0.7**
PQL	**Pirkuli**	**1.71**	**116**		Pn		**Pb**	**11 23 19.6 -0.5**
PQL					Sn		**Sg**	**11 23 45.2 +1.8**
SRTK	**Saratovka**	**1.75**	**255**		*e*P		**Pn**	**11 23 19.0 0.0**
SRTK					*e*S		**Sb**	**11 23 42.8 -0.2**
KANR	**Karaman**	**1.79**	**22**		*e*Pg		**Pg**	**11 23 25.4 +2.6**
KANR					*e*Sg		**Sg**	**11 23 47.7 +1.8**
KANR	**Karaman**	**1.79**	**22**		*e*PN		**Pg**	**11 23 25.4 +2.6**
KANR					*e*S		**Sg**	**11 23 47.7 +1.8**
SIZA	**Siyzn**	**1.82**	**104**		Pn		**Pg**	**11 23 22.8 -0.6**
SIZA					Sn		**Sg**	**11 23 47.2 +0.1**
TRLG	**Trialeti**	**1.85**	**271**		P		**Pn**	**11 23 20.8 +0.4**
TRLG					S		**Sb**	**11 23 46.1 +0.5**
TRLG	**Trialeti**	**1.85**	**271**		PN		**Pn**	**11 23 20.8 +0.4**
KAPZ	**Kaputan**	**1.87**	**230**		*e*P		**Pb**	**11 23 22.1 -0.7**
KAPZ					*e*S		**Sg**	**11 23 47.8 -0.7**
ATGJ	**Altiaghaj**	**1.92**	**110**		Pn		**Pb**	**11 23 23.7 +0.1**
ATGJ					Sn		**Sb**	**11 23 48.2 +0.6**
GNI	**Garni**	**1.96**	**225**		Pg		**Pb**	**11 23 24.3 -0.1**
	comp=E,39nm,0.3s,baz=33,slow=2.0,SNR=58							
GNI					Lg	Lg		11 23 50.8
	comp=E,43nm,0.3s,baz=229,slow=18,SNR=7.6							
GNI	**Garni**	**1.96**	**225**	⇓	*i*P		**Pb**	**11 23 24.5 +0.1**
GNI				⇓	*i*S		**Sg**	**11 23 53.4 +1.8**
GNI	**Garni**	**1.96**	**225**		*e*Pg		**Pb**	**11 23 23.9 -0.5**
GNI					*e*Sg		**Sg**	**11 23 52.5 +0.9**
GNI	**Garni**	**1.96**	**225**		*e*PN		**Pb**	**11 23 23.9 -0.5**
GNI					*e*S		**Sg**	**11 23 52.5 +0.9**
KKGR	**Komgaron**	**1.97**	**321**		*e*PN		**Pg**	**11 23 26.7 +0.5**
KMGR					*e*S		**Sg**	**11 23 56.0 +4.3**
BLQ	**Beylaqan**	**1.97**	**157**		Pn		**Pb**	**11 23 23.2 -1.3**
BLQ					Sn		**Sg**	**11 23 50.5 -1.4**
VAYK	**Vayk**	**2.04**	**205**		*i*P		**Pb**	**11 23 25.0 -0.7**
VAYK					*i*S		**Sg**	**11 23 53.0 -1.0**
GRS	**Goris**	**2.05**	**185**	⇓	*i*P		**Pn**	**11 23 23.0 -0.1**
GRS				⇓	*i*S		**Sb**	**11 23 51.0 -0.4**
VLKR	**Vladikavkaz**	**2.05**	**318**		*e*PN		**Pg**	**11 23 27.5 -0.3**
VLKR					*e*S		**Sg**	**11 23 56.1 +1.7**
GBS	**Qobustan**	**2.06**	**118**		Sn		**Sg**	**11 23 54.0 -0.7**
AMBZ	**Amberd**	**2.09**	**237**		*e*P		**Pb**	**11 23 26.9 +0.3**
AMBZ					*e*S		**Sg**	**11 23 56.0 +0.3**
KMOZ	**Kamo**	**2.10**	**251**		*e*P		**Pb**	**11 23 25.6 -1.2**
KMOZ					*e*S		**Sb**	**11 23 54.1 +1.2**
NRKZ	**NAREK**	**2.11**	**224**		*e*P		**Pb**	**11 23 27.0 +0.1**
NRKZ					*e*S		**Sg**	**11 23 56.2 -0.2**
LACR	**Lac**	**2.12**	**308**		*e*Pg		**Pb**	**11 23 26.6 -0.4**
LACR					*e*Sg		**Sg**	**11 23 56.1 -0.4**
LACR	**Lac**	**2.12**	**308**		*e*PN		**Pb**	**11 23 26.6 -0.4**
LACR					*e*S		**Sg**	**11 23 56.1 -0.4**
QRD	**Qoradiz**	**2.16**	**164**		Pn		**Pb**	**11 23 25.8 -1.8**
QRD					Sn		**Sb**	**11 23 55.4 +1.0**
HYR	**Heyderabad**	**2.24**	**216**		Pg		**Pb**	**11 23 28.8 -0.2**
HYR					Sn		**Sb**	**11 23 56.7 -0.1**
ALIG	**Mtskhetisjvari**	**2.25**	**285**		P		**Pb**	**11 23 27.5 -1.7**
ALIG					S		**Sb**	**11 23 56.6 -0.5**
ALIG	**Mtskhetisjvari**	**2.25**	**285**		PN		**Pb**	**11 23 27.5 -1.7**
ALIG					S		**Sb**	**11 23 56.6 -0.5**
ARUZ	**Aruch**	**2.26**	**237**		*e*P		**Pb**	**11 23 28.5 -0.9**
ARUZ					*e*S		**Sb**	**11 23 59.3 +1.9**
SBZ	**Shahbuz**	**2.28**	**200**		Pn		**Pb**	**11 23 28.4 -1.4**
SBZ					Sg		**Sg**	**11 24 01.1 -0.6**
AKH	**Akhalkalaki**	**2.31**	**268**		P		**Pb**	**11 23 28.9 -1.5**
AKH					S		**Sb**	**11 23 59.2 +0.2**
AKH	**Akhalkalaki**	**2.31**	**268**		*e*Pn		**Pn**	**11 23 28.4 +1.6**
AKH					*e*Sn		**Sb**	**11 23 57.8 -1.2**
AKH	**Akhalkalaki**	**2.31**	**268**		PN		**Pb**	**11 23 28.9 -1.5**
AKH					S		**Sb**	**11 23 59.2 +0.2**
EGVZ	**Egvard**	**2.31**	**180**		*e*P		**Pb**	**11 23 28.9 -1.5**
EGVZ					*e*S		**Sb**	**11 23 59.4 +0.3**
METS	**Metsamor**	**2.34**	**234**		*e*P		**Pb**	**11 23 30.3 -0.5**
METS					*e*S		**Sb**	**11 24 01.5 +1.7**
ARNR	**Ardon**	**2.35**	**315**		*e*Pn		**Pb**	**11 23 32.0 +1.1**
ARNR					*e*Sn		**Sb**	**11 24 00.9 +0.9**
ARNR	**Ardon**	**2.35**	**315**		*e*PN		**Pb**	**11 23 32.0 +1.1**
ARNR					*e*S		**Sb**	**11 24 00.9 +0.9**
BTKR	**Batakoyurt**	**2.36**	**321**		*e*PN		**Pg**	**11 23 34.7 +1.0**
BTKR					*e*S		**Sg**	**11 24 03.6 -0.7**
KORR	**Kora**	**2.41**	**311**		*e*PN		**Pb**	**11 23 33.0 +1.1**
KORR					*e*S		**Sb**	**11 24 01.7 0.0**
ALIB	**&Aumlli-Bayram**	**2.44**	**130**		Pg		**Pb**	**11 23 32.4 0.0**
ALIB					Sg		**Sg**	**11 24 07.0 +0.1**
NAX	**Nakhchivan**	**2.50**	**199**		Pg		**Pb**	**11 23 34.3 +0.8**
NAX					Sn		**Sb**	**11 24 03.7 -0.8**
NAX	**Nakhchivan**	**2.50**	**199**		PN		**Pb**	**11 23 31.7 -1.9**
IGDI	**IGDIR**	**2.52**	**229**		Pg		**Pb**	**11 23 32.3 -1.6**
IGDI					Sn		**Sb**	**11 24 03.5 -1.5**
VNNZ	**Vanand**	**2.53**	**236**		*e*P		**Pb**	**11 23 33.6 -0.4**
VNNZ					*e*S		**Sg**	**11 24 08.0 -1.7**
GARIG	**Gari**	**2.54**	**296**		P		**Pb**	**11 23 33.8 -0.3**
GARIG					S		**Sg**	**11 24 07.9 -2.0**
ORD	**Ordubad**	**2.65**	**190**		Pg		**Pb**	**11 23 35.2 -0.8**
ORD					Sg		**Sg**	**11 24 11.9 -1.6**
LSNR	**Lesken**	**2.67**	**311**		*e*PN		**Pb**	**11 23 37.2 +0.9**
LSNR					*e*S		**Sb**	**11 24 10.1 +1.0**
GLBA	**Clilabad**	**2.69**	**148**		Pn		**Pn**	**11 23 33.1 +1.4**
GLBA					Sn		**Sb**	**11 24 08.2 -1.6**
PRTR	**Priterechnaya**	**2.77**	**323**		*e*PN		**Pb**	**11 23 37.5 -0.6**
PRTR					*e*S		**Sb**	**11 24 10.4 -1.7**
TKB	**Tkibuli**	**2.78**	**288**		P		**Pb**	**11 23 36.6 -1.6**
TKB					S		**Sb**	**11 24 14.0 +1.6**
TKB	**Tkibuli**	**2.78**	**288**		PN		**Pb**	**11 23 36.6 -1.6**
TKB					S		**Sb**	**11 24 14.0 +1.6**
YRD	**Yardimli**	**2.92**	**153**		Pn		**Pn**	**11 23 35.8 +0.6**
YRD					Sn		**Sn**	**11 24 12.6 +2.2**
NCK	**Nalchik**	**2.94**	**313**	⇓	*e*PN		**Pn**	**11 23 37.3 +2.1**
NCK					*e*S		**Sn**	**11 24 12.4 +1.9**
NCK					pmax	pmax		
	comp=Z,66nm,0.2s							
NCK					smax	smax		
	comp=Z,84nm,0.3s							
LRK	**Lerik**	**3.20**	**154**		Pn		**Pn**	**11 23 40.6 +1.6**
LRK					Sn		**Sn**	**11 24 19.8 +2.6**
LKRN	**Lenkeran, Azer**	**3.30**	**148**		Sn		**Sn**	**11 24 21.7 +2.3**
NEUR	**Neytrino**	**3.34**	**302**		*e*PN		**Pn**	**11 23 37.8 -3.0**
ASTR	**Astara**	**3.44**	**149**		Pn		**Pn**	**11 23 43.1 +1.1**
ASTR					Sn		**Sn**	**11 24 25.2 +2.5**
KBZ	**Khabaz**	**3.48**	**310**		Pn		**Pb**	**11 23 47.2 -2.8**
	comp=Z,1.0nm,0.3s,baz=150,slow=8.1,SNR=8.9							
KBZ					Lg	Lg		11 24 39.8
	comp=Z,1.7nm,0.3s,baz=109,slow=9.8,SNR=5.6							
	comp=Z,1.4nm,0.3s							
KBZ	**Khabaz**	**3.48**	**310**		*e*PN		**Pb**	**11 23 49.2 -0.8**
KBZ					*e*S		**Sb**	**11 24 35.4 +3.1**
SHA1	**Shidzhatmaz**	**3.62**	**309**		*e*PN		**Pb**	**11 23 53.0 +0.3**
SHA1					*e*S		**Sn**	**11 24 31.5 +3.8**
KIV	**Kislovodsk**	**3.74**	**311**		*e*PN		**Pn**	**11 23 45.6 -0.7**
KIV					*e*S		**Sn**	**11 24 31.0 +0.7**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
KIV					MLR	MLR		
	comp=Z,7.0nm,8.0s							
AKTO	**Aktyubinsk**	**11.93**	**38**		Pn		**Pn**	**11 25 37.5 -0.9**
	comp=Z,0.5nm,0.3s,baz=223,slow=14,SNR=3.6							
AKTO					Sn		**Sn**	**11 27 46.5 -4.9**
	comp=Z,0.3nm,0.3s,baz=65,slow=22,SNR=1.4							
	comp=Z,1.1nm,0.3s							
OBN	**Obninsk**	**15.09**	**337**		*e*P		**Pn**	**11 26 23.0 +1.4**
OBN					pmax	pmax		
	comp=Z,7.0nm,0.4s							
OBN					MLR	MLR		
	comp=Z,47nm,5.0s							
ARTI	**Arti**	**16.72**	**23**		Pn		**Pn**	**11 26 43.2 +0.6**
	comp=Z,0.6nm,0.3s,baz=207,slow=13,SNR=3.6							
	comp=Z,2.6nm,0.5s							
BVAR	**Borovoye Array**	**19.72**	**46**		P		**P**	**11 27 16.5 -1.5**
	comp=Z,0.1nm,0.3s,baz=245,slow=9.1,SNR=5.5							
	comp=Z,1.6nm,0.7s							
FINES	**FINESS Array B**	**23.46**	**335**		P		**P**	**11 27 58.9 +1.1**
	comp=Z,0.5nm,0.5s,baz=138,slow=10,SNR=3.7							
	comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**23.80**	**57**		P		**P**	**11 27 59.9 -1.3**
	comp=Z,0.4nm,0.7s,baz=263,slow=11,SNR=5.8							
	comp=Z,0.4nm,0.7s							
KURK	**Kurchatov**	**23.87**	**56**		P		**P**	**11 27 59.9 -2.0**
CLL	**Collm**	**24.91**	**305**		*e*P		**P**	**11 28 12.0 +0.6**
CLL	**Collm**	**24.91**	**305**		*e*P		**P**	**11 28 12.0 +0.6**
MKAR	**Makanchi Array**	**26.01**	**66**		P		**P**	**11 28 20.9 -0.5**
	comp=Z,1.0nm,0.7s,baz=267,slow=9.1,SNR=6.5							
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**26.01**	**66**		*i*P		**P**	**11 28 23.3 +1.9**
BFO	**Black Forest**	**27.68**	**297**		*i*P		**P**	**11 28 35.2 -1.3**

IDC ***10*** *11:23:18.6±6.3, 15.°89S×176.°82W, h0km, mb4.3/5, mbtmp4.3/5, Error ellipse: s-maj=160.2km s-min=48.1km az=29.0*
NEIC ***10*** *11:24:27.5±1.8, 17.°70S±0.°10×178.°5W±0.°1, h571km±16km, mb4.0/15, Error ellipse: s-maj=21.3km s-min=10.8km az=61.0*

ISC 10 11:24:26.2±0.9, **17.°7S**±0.°2×**178.°6W**±0.°1, **h547km**, **n29,** σ0°.**89**/27, **mb4.1**/14, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.18**	**269**	P		P	11 25 46.1 +3.8
FUTU	**Fugatoga**	**3.40**	**8**	P		P	11 25 47.2 +3.4
AFI	**Afiamalu**	**7.58**	**61**	P		P	11 26 19.8 0.0
NIUE	**Niue**	**8.36**	**101**	P		P	11 26 28.0 +0.6
SANVU	**Saraoutou**	**13.78**	**277**	P		P	11 27 24.6 +1.3
PINNC	**Pinnes Island**	**13.97**	**247**	P		P	11 27 25.9 +0.7
DZM	**Mont Dzumac**	**14.71**	**250**	P		P	11 27 33.2 +0.2
ONTNC	**Ouen Toro**	**14.77**	**249**	P		P	11 27 35.3 +2.0
EIDS	**Eidsvold**	**29.16**	**250**	P		P	11 29 43.7 0.0
EIDS				IAmb	IAmb	11 30 12.4	
	comp=Z,6.5nm,1.1s						
ARMA	**Armidale**	**29.88**	**239**	P		P	11 29 50.8 +0.9
CTAO	**Charters Tower**	**33.29**	**260**	P		P	11 30 18.7 -0.4
CTAO				IAmb	IAmb	11 30 19.0	
	comp=Z,3.0nm,0.7s						
CAN	**Canberra**	**33.68**	**232**	P		P	11 30 21.8 -0.4
CAN				IAmb	IAmb	11 30 24.3	
	comp=Z,4.4nm,0.9s						
COEN	**Coen**	**36.91**	**270**	P		P	11 30 49.5 +0.3
COEN				IAmb	IAmb	11 30 50.1	
	comp=Z,6.1nm,0.8s						
STKA	**Stephens Creek**	**38.56**	**241**	P		P	11 31 02.9 +0.5
STKA	**Stephens Creek**	**38.56**	**241**	P		P	11 31 03.0 +0.5
	comp=Z,2.6nm,0.4s,baz=78,slow=7.5,SNR=12						
	comp=Z,2.6nm,0.4s						
INKA	**Innaminka**	**38.65**	**248**	P		P	11 31 03.9 +0.7
INKA				IAmb	IAmb	11 31 04.1	
	comp=Z,2.0nm,0.8s						
BBOO	**Buckleboo**	**43.34**	**241**	P		P	11 31 40.2 -0.2
WR8	**Warramunga Arr**	**44.33**	**259**	P		P	11 31 47.3 -0.9
WR8				IAmb	IAmb	11 31 55.5	
	comp=Z,2.5nm,0.9s						
WB0	**Warramunga Arr**	**44.45**	**260**	P		P	11 31 48.0 -1.2
WB0				IAmb	IAmb	11 31 48.6	
	comp=Z,4.3nm,0.9s						
WRA	**Warramunga Arr**	**44.48**	**259**	P		P	11 31 48.2 -1.2
WRA	**Warramunga Arr**	**44.48**	**259**	P		P	11 31 48.1 -1.4
	comp=Z,1.4nm,0.4s,baz=92,slow=6.9,SNR=71						
	comp=Z,1.4nm,0.4s						
AS31	**Alice Springs**	**44.66**	**254**	P		P	11 31 50.4 -0.5
AS31				IAmb	IAmb	11 31 50.8	
	comp=Z,5.4nm,0.7s						
ASAR	**Alice Springs**	**44.66**	**254**	P		P	11 31 50.6 -0.3
ASAR	**Alice Springs**	**44.66**	**254**	P		P	11 31 50.3 -0.5
	comp=Z,14nm,0.4s,baz=90,slow=7.6,SNR=477						
	comp=Z,14nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.87**	**260**	P		P	11 32 51.6 -0.1
	comp=Z,0.8nm,0.4s,baz=94,slow=5.8,SNR=8.9						
	comp=Z,0.8nm,0.4s						
MORW	**Morawa**	**60.39**	**246**	P		P	11 33 41.6 -1.5
MORW				IAmb	IAmb	11 34 00.6	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**72.36**	**180**	P		P	11 34 57.5 +0.9
QSPA	**South Pole Qui**	**72.36**	**180**	P		P	11 34 57.1 +0.4
	comp=Z,0.8nm,0.9s,baz=355,slow=1.4,SNR=1.3						
	comp=Z,0.8nm,0.9s						
BELA	**Belgrano 2**	**82.40**	**173**	P		P	11 35 49.9 -0.8

IDC 10 11:31:33.5±14.0, **0.°11S**×**124.°92E**, **h0km**, **mb3.9**/3, **mbtmp4.0**/4, **ML3.9**/1, **Error ellipse: s-maj=230.3km s-min=116.3km az=137.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.89**	**178**	P		11 35 45.0	+0.4
	0.3nm,0.3s,baz=3.9,slow=12,SNR=8.4						
	3.9nm,1.0s						
WRA	**Warramunga Arr**	**21.76**	**155**	P		11 36 26.6	-0.3
	1.7nm,0.6s,baz=333,slow=11,SNR=19						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**24.99**	**160**	P		11 36 58.7	-0.4
	1.5nm,0.3s,baz=333,slow=8.1,SNR=72						
	1.5nm,0.3s						
STKA	**Stephens Creek**	**35.31**	**155**	P		11 38 30.8	+0.4
	3.8nm,1.2s,baz=333,slow=6.8,SNR=1.7						
	3.8nm,1.2s						

GCG ***10*** *11:43:46.3±0.9, 14.°16N×91.°40W, h64km±7km, MD3.4, ML3.9*
CATAC ***10*** *11:43:46.5±0.5, 14.°N±4.°×9.°1W±.°, h37km±5km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=8.8km s-min=2.8km az=26.4, confirmed*

ISC 10 11:43:47.6±1.8, **14.°1N**±0.°2×**91.°37W**±0.°08, **h47km**±35km, **n20,** σ1°.**70**/20, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.50**	**321**	P		**Pn**	**11 43 58.4 -0.3**
RTAL				S		**Sn**	**11 44 07.8 +1.1**
ESSG	**Sabana Grande**	**0.58**	**64**	*i* P		**Pn**	**11 43 59.8 +0.1**
ESSG				*i* S		**Sn**	**11 44 10.2 +1.7**
ESSG				IAML			11 44 10.4
	comp=E,4μm,0.3s						
SOKI	**Kika Raxquin**	**0.69**	**357**	*i* P		Pn	11 44 01.3 -0.2
SOKI				*i* S		**Sn**	**11 44 13.0 +1.6**
SOKI				IAML			11 44 13.9
	comp=N,2μm,0.2s						
FG8	**Yepocapa, Chim**	**0.79**	**81**	*i* P		Pn	11 43 59.4 -3.3
FG8				*i* S		**Sn**	**11 44 09.8 -3.8**
FG16	**Alotenango, Sa**	**0.84**	**80**	*i* P		Pn	11 44 00.3 -3.1
FG16				*i* S		**Sn**	**11 44 11.3 -3.6**
FG16				IAML			11 44 13.3
	comp=N,23μm,0.2s						
SMCA	**Catarina**	**0.99**	**317**	*i* P		Pn	11 44 04.0 -1.2
SMCA				*i* S		**Sn**	**11 44 16.6 -1.6**
SMCA				IAML			11 44 18.6
	comp=N,513nm,0.1s						
QUIS	**Sacapulas**	**1.18**	**13**	*i* P		Pn	11 44 07.8 -0.2
FAME	**Alcaldia de Sa**	**1.35**	**102**	S		**Sn**	**11 44 25.9 -0.8**
FAME	**Alcaldia de Sa**	**1.35**	**102**	P		**Pn**	**11 44 09.7 -0.3**
SLOZ	**Alcaldia de Sa**	**1.54**	**94**	S		**Sn**	**11 44 33.3 +1.7**
SLOZ	**Alcaldia de Sa**	**1.54**	**94**	P		**Pn**	**11 44 12.6 -0.2**
LOAL	**Lomas de Alarc**	**1.55**	**95**	P		**Pn**	**11 44 12.8 -0.1**
LOAL	**Lomas de Alarc**	**1.55**	**95**	S		**Sn**	**11 44 33.0 +1.2**
NUBE	**Las Nubes**	**1.56**	**98**	*i* P		**Pn**	**11 44 13.5 +0.4**
NUBE				*i* S		**Sn**	**11 44 33.3 +1.1**
CEVE	**Cerro Verde**	**1.72**	**100**	S		**Sn**	**11 44 37.7 +1.4**
CEVE	**Cerro Verde**	**1.72**	**100**	P		Pn	11 44 14.9 -0.5
JAYA	**Jayaque - finc**	**1.92**	**104**	S		**Sn**	**11 44 41.7 +0.5**
MTO3	**Montecristo**	**1.97**	**82**	*i* P		Pn	11 44 17.9 -0.8
PMON	**Piamonte**	**2.04**	**102**	S		**Sn**	**11 44 44.8 +0.9**
PMON	**Piamonte**	**2.04**	**102**	P		**Pn**	**11 44 19.3 -0.3**

BJI ***10*** *12:01:27.2, 6.°23S×129.°86E, h30km, mB5.5/15, mb4.9/58, Ms4.9/19, Ms7 4.5/25*
MOS ***10*** *12:01:29.6±0.7, 5.°67S×129.°52E, h13km, mb5.3/38, Error ellipse: s-maj=9.7km s-min=5.4km az=117.0*
IDC ***10*** *12:01:29.1±0.5, 5.°71S×129.°61E, h0km, mb4.7/24, mbtmp4.7/30, ML4.9/5, MS4.3/57, Error ellipse: s-maj=15.3km s-min=11.3km az=84.0*
NEIC ***10*** *12:01:31.7, 5.°77S×129.°75E, h30km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17Nm; Mrr-0.22; Mθθ-1.34; Mφφ1.56; Mrθ-0.11; Mrφ0.71; Mθφ0.18; Fault plane solution: M0 1.64000×10^17 NP1:φs59.02000°, δ82.17000°, λ-1.34000°. NP2:φs148.21000°, δ88.67000°, λ-172.17000°. Principal axes: T 1.7327, Plg5.0000°, Azm283.0000°; N -0.2109, Plg82.0000°, Azm158.0000°; P -1.5218, Plg6.0000°, Azm13.0000°;*
NEIC ***10*** *12:01:31.7, 5.°57S×129.°55E, h30km*
NEIC ***10*** *12:01:33.5±1.1, 5.°58S±0.°05×129.°56E±0.°05, h21km±4km, mb5.1/102, Mww5.4/26, Error ellipse: s-maj=8.5km s-min=5.5km az=125.0*
DJA ***10*** *12:01:34.9±0.2, 6.°S±1.°×13.°0E±.°, h36km±2km, M5.2/94, mb5.3/94, mB5.7/52, MLv5.4/22, Mw(mB)5.2/52, MwMwp5.0/26, Mwp5.3/26*
GCMT ***10*** *12:01:34.5±0.1, 5.°57S±0.°01×129.°56E±0.°01, h18km, MW5.3/128, Moment Tensor Solution. s99,c165; s128,c227; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.04±.02; Mθθ-1.03±.02; Mφφ1.07±.02; Mrθ0.02±.04; Mrφ0.53±.01; Mθφ0.25±.04; Best double couple: M0 1.19800×10^17 NP1:φs59.00000°, δ81.00000°, λ6.00000°. NP2:φs328.00000°, δ84.00000°, λ171.00000°. Principal axes: T 1.2410, Plg11.0000°, Azm283.0

WBSI Waikabubak, Su 10.85 248 P **Pn** **12 04 09.0 +2.5**
comp=Z,133nm,1.4s

GENI Genyem 10.98 75 P **Pn** **12 04 08.9 +0.6**
GENI Genyem 10.98 75 P **Pn** **12 04 09.2 +0.9**
comp=Z,5µmcomp=Z,179nm,0.8s

TOLI2 Tolitoli 11.04 307 **Pn** **12 04 08.4 -0.6**
TOLI2 Tolitoli 11.04 307 P **Pn** **12 04 11.9 +2.9**
MPSI Mapaga 11.33 301 P **Pn** **12 04 15.4 +2.4**
comp=Z,5µmcomp=Z,72nm,0.9s

JAY Jayapura 11.52 75 Pn **Pn** **12 04 14.1 -1.6**
comp=Z,1.9nm,0.3s,baz=230,slow=12,SNR=11

JAY Sn **Sn** **12 06 23.3 -1.3**
comp=Z,0.4nm,0.3s,baz=318,slow=5.5,SNR=3.7

JAY LR LR 12 10 15.5
comp=Z,374nm,20.7s,baz=239,slow=46
comp=Z,7.6nm,0.5s

JAY Jayapura 11.52 75 P **Pn** **12 04 17.1 +1.4**
PLAI Plampang 12.13 254 P **Pn** **12 04 27.1 +3.1**
PLAI Plampang 12.13 254 P **Pn** **12 04 26.7 +2.7**
comp=Z,4µmcomp=Z,287nm,1.4s

FITZ Fitzroy Crossi 12.98 197 **Pn** **12 04 32.5 -3.1**
FITZ Fitzroy Crossi 12.98 197 P **Pn** **12 04 32.5 -3.1**
FITZ Fitzroy Crossi 12.98 197 Pn **Pn** **12 04 32.7 -2.9**
comp=Z,4.5nm,0.3s,baz=27,slow=10.0,SNR=132

FITZ Sn **Sn** **12 06 53.1 -7.2**
comp=Z,3.6nm,0.3s,baz=68,slow=7.5,SNR=4.8

FITZ LR LR 12 10 16.0
comp=Z,1µm,19.7s,baz=9.0,slow=41
comp=Z,61nm,0.6s

DAV Davao City (W) 13.22 342 LR LR 12 10 38.4
comp=Z,3µm,18.9s,baz=128,slow=41

SMKI Samarinda 13.37 292 P **Pn** **12 04 44.2 +3.2**
BKB Balikpapan 13.37 288 Pn **Pn** **12 04 41.6 +0.7**
BKB Balikpapan 13.37 288 P **Pn** **12 04 45.4 +4.4**
BKB Balikpapan 13.37 288 P **Pn** **12 04 44.4 +3.4**
WB0 Warramunga Arr 14.82 162 Pn Pn 12 04 55.5 -5.2
WRAB Tennant Creek 14.97 162 **Pn** 12 04 57.9 -4.8
WRAB Tennant Creek 14.97 162 P Pn 12 04 57.9 -4.8
WRAB pmax pmax
comp=Z,62nm,1.0s

WRA Warramunga Arr 14.97 162 **Pn** 12 04 57.3 -5.5
WRA Warramunga Arr 14.97 162 Pn Pn 12 04 58.3 -4.5
comp=Z,6.3nm,0.3s,baz=339,slow=12,SNR=312

WRA Sn Sn 12 07 38.9 -10
comp=Z,5.3nm,0.3s,baz=330,slow=26,SNR=8.3

WRA LR LR 12 11 04.0
comp=Z,2µm,19.6s,baz=345,slow=39

WRA Warramunga Arr 14.97 162 *i*P Pn 12 04 58.0 -4.8
WRA pmax pmax
comp=Z,25nm,0.5s

WR8 Warramunga Arr 15.03 162 Pn **Pn** **12 04 59.5 -4.1**
WR8 IAmb IAmb 12 05 12.5
comp=Z,49nm,0.6s

MYLDM Lahad Datu 15.41 314 **Pn** **12 05 06.3 -2.3**
MYLDM IAmb IAmb 12 05 13.6
comp=Z,120nm,1.2s

MYLDM Lahad Datu 15.41 314 P **P** **12 05 12.4 -0.8**
JAGI Jajag, Banyuwa 15.56 259 Pn **Pn** **12 05 10.1 -0.6**
JAGI IAmb IAmb 12 05 17.8
comp=Z,247nm,2.0s

JAGI Jajag, Banyuwa 15.56 259 P **P** **12 05 14.0 -1.0**
JAGI Jajag, Banyuwa 15.56 259 P **P** **12 05 13.9 -1.0**
comp=Z,62nm,0.9s

KMMI Kalianget 15.58 264 P **P** **12 05 13.9 -1.2**
comp=Z,5µmcomp=Z,165nm,1.0s

COEN Coen 15.75 123 **Pn** **12 05 11.8 -1.2**
COEN IAmb IAmb 12 05 18.8
comp=Z,165nm,1.0s

COEN Coen 15.75 123 P **Pn** **12 05 11.5 -1.5**
comp=Z,0.0nmcomp=Z,138nm,1.2s

COEN Coen 15.75 123 P **Pn** **12 05 11.5 -1.5**
GMJI Gumukmas 16.23 260 P **P** **12 05 21.5 -0.8**
comp=Z,99nm,1.2s

GRJI Gresik 17.04 265 P **P** **12 05 32.1 +0.8**
comp=Z,4µmcomp=Z,6µmcomp=Z,381nm,1.1s

TBJI Tambak Boyo 17.66 265 P **P** **12 05 40.1 +1.9**
comp=Z,408nm,1.7s

KKM Kota Kinabalu 17.67 311 P **Pn** **12 05 37.5 +0.1**
KKM IAmb IAmb 12 05 41.4
comp=Z,156nm,1.0s

KKM Kota Kinabalu 17.67 311 P **P** **12 05 39.5 +1.1**
QIS Mount Isa 17.76 148 P **Pn** **12 05 37.5 -1.0**
comp=Z,187nm,0.9s

QIS Mount Isa 17.76 148 P **Pn** **12 05 37.5 -1.0**
PMG Port Moresby 17.83 103 P **Pn** **12 05 39.9 +0.5**
PMG IAmb IAmb 12 05 42.3
comp=Z,279nm,1.1s

PMG Port Moresby 17.83 103 P **Pn** **12 05 38.1 -1.3**
comp=Z,154nm,0.9s,baz=286,slow=5.5,SNR=64

PMG LR LR 12 14 25.6
comp=Z,1µm,19.3s,baz=292,slow=44

PMG Port Moresby 17.83 103 P **P** **12 05 40.2 +0.1**
PMG Port Moresby 17.83 103 P **P** **12 05 40.1 0.0**
PMG Port Moresby 17.83 103 P **Pn** **12 05 39.9 +0.5**
PMG pmax pmax
comp=Z,279nm,1.1s

NGJI Ngawi 18.08 264 P **P** **12 05 46.1 +3.3**
comp=Z,154nm,1.5s

MANU Manus Island 18.10 79 P **P** **12 05 43.2 +0.1**
MBWA Marble Bar 18.16 211 P **Pn** **12 05 41.9 -1.5**
MBWA Marble Bar 18.16 211 P **Pn** **12 05 41.8 -1.5**
MBWA Marble Bar 18.16 211 P **Pn** **12 05 43.9 +0.6**
AS31 Alice Springs 18.42 167 P **P** **12 05 43.9 -2.7**
AS31 Alice Springs 18.42 167 P **P** **12 05 43.4 -3.1**
ASAR Alice Springs 18.42 167 P **P** **12 05 44.0 -2.5**
ASAR Alice Springs 18.42 167 P **P** **12 05 44.3 -2.3**
comp=Z,7.6nm,0.3s,baz=332,slow=8.9,SNR=161

ASAR S Sn 12 09 01.2 -11
comp=Z,8.9nm,0.6s,baz=354,slow=28,SNR=4.8

ASAR LR LR 12 13 31.9
comp=Z,1µm,19.8s,baz=342,slow=39
comp=Z,39nm,0.7s

PCJI Pacitan 18.44 261 P **P** **12 05 46.0 -0.8**
comp=Z,165nm,1.1s

WOJI Wonogiri, Jawa 18.65 262 P **Pn** **12 05 50.2 +0.8**
comp=Z,329nm,1.3s

STKI Sintang 18.93 287 P **Pn** **12 05 54.5 +1.6**
comp=Z,129nm,1.4s

MTSU Mount Surprise 19.02 132 P **P** **12 05 53.6 +0.3**
comp=Z,48nm,0.7s

MTSU Mount Surprise 19.02 132 P **P** **12 05 53.7 +0.4**
SBUM Sibu 19.10 294 P **P** **12 05 54.8 +0.7**
SBUM IAmb IAmb 12 05 59.1
comp=Z,124nm,1.0s

SBUM Sibu 19.10 294 P **Pn** **12 05 56.6 +1.7**
KSM Kuching 20.49 290 P **P** **12 06 10.6 +1.3**
KSM Kuching 20.49 290 P Pn 12 06 11.0 -0.4
KPJI Karang Pucung 20.58 264 P Pn 12 06 12.2 -0.3
comp=Z,222nm,1.7s

JCJI Jatiwangi 21.20 267 P **P** **12 06 19.6 +2.6**
TGY Tagaytay City 21.39 336 P **P** **12 06 20.4 +1.5**
comp=Z,142nm,0.3s,baz=173,slow=8.1,SNR=1.7

TGY LR LR 12 15 42.5
comp=Z,758nm,20.2s,baz=115,slow=40

CTA Charters Tower 21.67 133 P **P** **12 06 23.5 +1.5**
CTAO Charters Tower 21.67 133 P **P** **12 06 23.1 +1.1**
CTAO IAmb IAmb 12 06 34.1
comp=Z,117nm,1.1s

CTAO Charters Tower 21.67 133 P **P** **12 06 23.6 +1.5**
CTAO Charters Tower 21.67 133 P **P** **12 06 23.1 +1.1**
CTAO pmax pmax
comp=Z,117nm,1.2s

BBJI Bungbulang 21.86 264 P **P** **12 06 23.5 -0.6**
LEM Lembang 21.86 266 P **P** **12 06 24.8 +0.6**
comp=Z,150nm,0.9s,baz=90,slow=10.0,SNR=15

LEM LR LR 12 15 02.7
comp=Z,1µm,22.0s,baz=112,slow=37
comp=Z,150nm,0.9s

LEM Lembang 21.86 266 P **P** **12 06 25.9 +1.7**
comp=Z,5µmcomp=Z,290nm,1.1s

TPI Tanjungpandan 22.04 277 P **P** **12 06 26.6 +0.6**
comp=Z,2µmcomp=Z,91nm,1.6s

CNJI Cibinong 22.36 264 P **P** **12 06 28.1 -1.4**
GIRL Giralia 22.49 220 P **P** **12 06 33.1 +2.4**
comp=Z,53nm,0.9s

RABL Rabaul 22.55 87 P **P** **12 06 32.0 +0.5**
DBJI Dramaga 22.71 266 P **P** **12 06 33.7 +0.5**
comp=Z,208nm,1.9s

SKJI Sukabumi 22.92 265 P **P** **12 06 35.2 -0.2**
SBJI Serang 23.33 268 P **P** **12 06 38.7 -0.8**
comp=Z,288nm,1.3s

MEEK Meekatharra 23.37 205 P **P** **12 06 40.5 +0.6**
CGJI Cibinong 23.77 266 P **P** **12 06 42.0 -1.9**
comp=Z,3µmcomp=Z,281nm,1.3s

GUMO Guam 24.39 38 LR LR 12 16 51.1
comp=Z,505nm,21.1s,baz=216,slow=38

KLI Kotabumi 24.62 271 P **P** **12 06 51.5 -0.4**
comp=Z,89nm,0.7s

PMBI Palembang 24.88 275 P **P** **12 06 54.5 +0.4**
PMBI Palembang 24.88 275 P **P** **12 06 57.5 +3.4**
PMBI Palembang 24.88 275 P **P** **12 06 55.9 +1.8**
KASI Kota Agung 24.96 269 P **P** **12 06 52.9 -2.0**
comp=Z,70nm,1.0s

QLP Quilpie 25.11 148 P **P** **12 06 57.0 +1.0**
comp=Z,105nm,0.7s

QLP Quilpie 25.11 148 P **P** **12 06 57.5 +1.5**
MDSI Maura Dua 25.32 271 P **P** **12 06 57.4 -0.7**
comp=Z,2µmcomp=Z,106nm,1.4s

LWLI Liwa 25.41 270 P **P** **12 06 58.6 -0.5**
comp=Z,247nm,1.3s

TPRI Tanjung Pinang 25.84 284 P **P** **12 07 03.9 +1.0**
LHSI Lahat 26.02 273 P **P** **12 07 04.5 0.0**
comp=Z,187nm,1.4s

MORW Morawa 26.61 207 P **P** **12 07 10.2 +0.6**
MORW IAmb IAmb 12 07 33.9
comp=Z,42nm,1.0s

MORW Morawa 26.61 207 P **P** **12 07 11.3 +1.7**
comp=Z,45nm,1.2s

MORW Morawa 26.61 207 P **P** **12 07 11.4 +1.7**
KMBL Kambalda 26.61 195 P **P** **12 07 07.9 -1.8**
BTDF Bukit Timah Da 26.68 284 P **P** **12 07 12.2 +1.7**
MYKOM Kota Tinggi 26.73 285 P **P** **12 07 10.2 -0.7**
MYKOM IAmb IAmb 12 07 16.5
comp=Z,64nm,1.0s

MYKOM Kota Tinggi 26.73 285 P **P** **12 07 11.3 +0.4**
BLDU Ballidu 27.65 204 P **P** **12 07 20.6 +1.5**
comp=Z,20nm,0.8s

BBOO Buckleboo 27.72 168 P **P** **12 07 20.4 +0.9**
BBOO IAmb IAmb 12 07 34.6
comp=Z,48nm,1.0s

BBOO Buckleboo 27.72 168 P **P** **12 07 20.1 +0.5**
comp=Z,54nm,0.7s

BBOO Buckleboo 27.72 168 P **P** **12 07 20.5 +0.9**
KLBR Kellerberrin 28.11 202 P **P** **12 07 23.6 +0.5**
comp=Z,82nm,0.6s

KLBR Kellerberrin 28.11 202 P **P** **12 07 24.3 +1.2**
WHYH Whyalla 28.27 166 P **P** **12 07 26.1 +1.6**
STKA Stephens Creek 28.44 158 P **P** **12 07 26.5 +0.4**
STKA Stephens Creek 28.44 158 P **P** **12 07 26.5 +0.4**
comp=Z,157nm,0.8s

STKA Stephens Creek 28.44 158 P **P** **12 07 25.4 -0.6**
comp=Z,6.5nm,0.7s,baz=323,slow=10,SNR=9.3

STKA LR LR 12 19 41.0
comp=Z,2µm,20.5s,baz=331,slow=38
comp=Z,6.5nm,0.7s

STKA Stephens Creek 28.44 158 P **P** **12 07 27.1 +1.0**
STKA Stephens Creek 28.44 158 P **P** **12 07 26.5 +0.4**
HTT Hallett 29.00 164 P **P** **12 07 31.1 0.0**
comp=Z,11nm,2.4s

MUN Mundaring 29.05 204 P **P** **12 07 32.2 +0.7**
comp=Z,33nm,1.2s

MUN Mundaring 29.05 204 P **P** **12 07 32.7 +1.2**
BKNI Bangkinang 29.10 281 P **P** **12 07 30.9 -1.2**
PDSI Padang 29.43 278 P **P** **12 07 33.8 -1.3**
comp=Z,51nm,1.1s

NWAO Narrogin (SRO) 29.50 201 P **P** **12 07 35.5 0.0**
NWAO IAmb IAmb 12 07 48.0
comp=Z,40nm,0.9s

NWAO Narrogin (SRO) 29.50 201 P **P** **12 07 36.1 +0.6**
comp=Z,75nm,1.3s

NWAO Narrogin (SRO) 29.50 201 LR LR 12 20 43.5
comp=Z,1µm,20.1s,baz=26,slow=39

NWAO Narrogin (SRO) 29.50 201 P **P** **12 07 36.5 +1.0**
NWAO Narrogin (SRO) 29.50 201 P **P** **12 07 35.5 0.0**
NWAO pmax pmax
comp=Z,40nm,1.0s

PPI Padang Panjang 29.57 279 P **P** **12 07 35.5 -0.8**
comp=Z,1µmcomp=Z,57nm,1.0s

CMSA Cobar Meteorol 29.88 152 P **P** **12 07 39.2 +0.4**
comp=Z,56nm,1.0s

CMSA Cobar Meteorol 29.88 152 P **P** **12 07 40.3 +1.4**
IPM Ipoh 30.22 289 P **P** **12 07 42.2 +0.1**
IPM IAmb IAmb 12 07 43.4
comp=Z,46nm,1.4s

HNR Honiara 30.34 99 LR LR 12 22 04.3
comp=Z,501nm,19.6s,baz=284,slow=41

MNSI Mandailing Nat 30.62 281 P **P** **12 07 44.9 -0.7**
comp=Z,19nm,0.7s

KULM Kulim 30.85 290 **P** **12 07 46.4 -1.2**
KULM Kulim 30.85 290 P **P** **12 07 48.0 +0.4**
RKGY Rokky Gully 31.11 200 P **P** **12 07 50.8 +1.1**
comp=Z,84nm,1.6s

QIZ Qiongzhong 31.27 322 P **P** **12 07 49.8 -1.5**
QIZ S **S** **12 12 57.3 -0.8**
QIZ pmax pmax
comp=Z,46nm,1.2s

QIZ LR LR
comp=Z,540nm,11.3s

QIZ LR LR
comp=Z,1µm,12.1s

RPSI Rantau Prapat 31.71 284 **P** **12 07 54.7 -0.5**
RPSI IAmb IAmb 12 07 55.8
comp=Z,47nm,1.3s

PSI Prapat 31.74 285 LR LR 12 21 40.3
comp=Z,2µm,20.9s,baz=156,slow=38

PSI Prapat 31.74 285 P **P** **12 07 54.9 -0.7**
PSI Prapat 31.74 285 P **P** **12 07 54.7 -0.9**
PSI pmax pmax
comp=Z,47nm,1.3s

JOW Kunigami 32.28 358 LR LR 12 19 31.8
comp=Z,1µm,21.4s,baz=167,slow=33

ARPS Mount Arapiles 32.98 162 P **P** **12 08 06.7 +0.7**
CAN Canberra 34.56 151 P **P** **12 08 21.0 +1.1**
comp=Z,42nm,1.0s

CAN Canberra 34.56 151 P **P** **12 08 21.4 +1.5**
JCJ Chichijima 34.74 20 LR LR 12 20 13.9
comp=Z,662nm,21.4s,baz=181,slow=32

SLVN Son La 36.76 318 IAmb IAmb 12 08 58.5
comp=Z,110nm,2.0s

SLVN Son La 36.76 318 P **P** **12 08 40.3 +1.3**
SANVU Saraoutou 38.20 108 P **P** **12 08 50.5 -0.7**
SANVU Saraoutou 38.20 108 P **P** **12 08 52.8 +1.6**
CMAR Chiang Mai Arr 38.53 309 P **P** **12 08 53.7 -0.3**
CMAR Chiang Mai Arr 38.53 309 **P** **12 08 54.0 +0.1**
CMAR Chiang Mai Arr 38.53 309 P **P** **12 08 54.7 +0.7**
comp=Z,7.8nm,0.9s,baz=140,slow=7.4,SNR=32

CMAR LR LR 12 26 10.3
comp=Z,342nm,19.7s,baz=115,slow=38
comp=Z,7.8nm,0.9s

JNU Nakatsue 38.55 2 P **P** **12 08 53.3 -0.6**
JNU IAmb IAmb 12 08 55.4
comp=Z,41nm,1.0s

JNU Nakatsue 38.55 2 LR LR 12 24 25.7
comp=Z,830nm,19.2s,baz=178,slow=36

JNU Nakatsue 38.55 2 P **P** **12 08 54.6 +0.7**
CHTO Chiang Mai 38.74 310 P **P** **12 08 56.0 +0.3**
CHTO IAmb IAmb 12 08 57.5
comp=Z,39nm,1.1s

CHTO Chiang Mai 38.74 310 P **P** **12 08 56.6 +0.9**
CHTO Chiang Mai 38.74 310 P **P** **12 08 56.0 +0.3**
CHTO pmax pmax
comp=Z,39nm,1.1s

NJ2 Nanjing 38.83 345 *e*P **P** **12 08 58.1 +1.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s

GYA Guiyang 38.86 326 ⇑P **P** **12 08 58.1 +1.4**
GYA S **S** **12 14 53.7 -1.3**
GYA pmax pmax
comp=Z,24nm,1.2s

GYA pmax pmax
comp=Z,1µm,5.2s

GYA LR LR
comp=Z,310nm,4.4s

GYA LR LR
comp=Z,610nm,5.3s

GYA LR LR
comp=Z,370nm,5.2s

DZM Mont Dzumac 39.20 118 P **P** **12 08 59.6 -0.1**
DZM Mont Dzumac 39.20 118 *e*P **P** **12 08 59.0 -0.7**
comp=Z,49nm,1.1s

DZM *e*S **S** **12 15 00.3 0.0**
comp=Z,393nm,31.8s

DZM *e*SS **SnSn** **12 17 48.2 -5.2**
comp=Z,596nm,24.9s

DZM *e*LR LR 12 19 34.9
comp=Z,2µm,33.2s

DZM Mont Dzumac 39.20 118 P **P** **12 09 00.6 +0.9**
JMN Monobe 39.35 6 P **P** **12 09 00.3 -0.3**
JMN IAmb IAmb 12 09 02.9
comp=Z,38nm,0.9s

JMN Monobe 39.35 6 P **P** **12 09 01.6 +1.0**
OUENC Ouen Island, N 39.66 119 P **P** **12 09 04.5 +1.1**

JHJ Hachijo jima 2 39.73 13 LR LR 12 23 21.0
comp=Z,987nm,19.4s,baz=185,slow=33

KMI Kunming 40.19 321 P **P** **12 09 09.9 +1.9**
KMI pmax pmax
comp=Z,28nm,1.5s

KMI LR LR
comp=Z,500nm,19.9s

PINNC Pines Island, 40.26 119 P **P** **12 09 07.6 -0.7**
PINNC IAmb IAmb 12 09 34.2
comp=Z,67nm,1.2s

INU Inuyama 41.35 9 P **P** **12 09 16.8 -0.4**
INU IAmb IAmb 12 09 40.0
comp=Z,48nm,1.3s

JGF Kuroka 41.65 10 P **P** **12 09 19.8 +0.1**
JGF IAmb IAmb 12 09 20.4
comp=Z,50nm,1.4s

JGF Kuroka 41.65 10 P **P** **12 09 19.9 +0.3**
PZH PanZhiHua 41.80 321 P **P** **12 09 23.3 +2.2**
TJN Taejon 41.83 357⇑*e*P **P** **12 09 22.2 +1.2**
MJAR Matsushiro Arr 42.71 10 P **P** **12 09 27.9 -0.4**
MJAR Matsushiro Arr 42.71 10 P **P** **12 09 27.6 -0.6**
comp=Z,21nm,0.9s,baz=187,slow=9.5,SNR=34

MJAR LR LR 12 27 01.6
comp=Z,507nm,19.6s,baz=200,slow=36
comp=Z,21nm,0.9s

MJAR Matsushiro Arr 42.71 10 P **P** **12 09 27.9 -0.4**
MJAR pmax pmax
comp=Z,9.0nm,1.0s

MAJO Matsushiro 42.72 10 P **P** **12 09 27.5 -0.7**
MAJO IAmb IAmb 12 09 29.2
comp=Z,27nm,0.8s

MAJO Matsushiro 42.72 10 P **P** **12 09 28.1 -0.2**
MAJO Matsushiro 42.72 10*d i*P **P** **12 09 27.6 -0.7**
MAJO pmax pmax
comp=Z,28nm,0.9s

MJB9 Matsu-Tunnel 42.72 10 P **P** **12 09 28.4 +0.1**
MJB9 IAmb IAmb 12 09 30.2
comp=Z,27nm,0.9s

KSAR Wonju Array Be 42.87 358 **P** **12 09 29.9 +0.4**
KSAR Wonju Array Be 42.87 358 P **P** **12 09 29.9 +0.4**
KSRS Korea Array 42.88 358 P **P** **12 09 29.7 +0.2**
comp=Z,4.5nm,1.0s,baz=174,slow=11,SNR=15
comp=Z,4.5nm,1.0s

TNCH TengChong 42.90 317 *e*P **P** **12 09 30.8 +0.6**
TNCH S **S** **12 15 55.7 +0.3**
TNCH ScS **ScS** **12 19 29.9 -2.1**
TNCH pmax pmax
comp=Z,76nm,0.4s

TNCH pmax pmax
comp=Z,210nm,4.0s

TNCH LR LR
comp=Z,500nm,12.9s

KS19 Wonju Array Si 42.93 358 P **P** **12 09 29.6 -0.4**
CD2 Chengdu 43.92 327 P **P** **12 09 37.9 -0.3**
CD2 S **S** **12 16 09.9 0.0**
CD2 pmax pmax
comp=Z,20nm,1.0s

XAN Xi'an 44.02 335 ⇓P **P** **12 09 38.6 -0.3**
XAN pP pwP 12 09 48.6 +1.8
XAN pmax pmax
comp=Z,16nm,0.8s

JMM Marumori 44.51 13 P **P** **12 09 42.5 -0.2**
JMM Marumori 44.51 13 P **P** **12 09 43.6 +0.9**
HNS HongShan 44.99 343 ⇑P **P** **12 09 47.2 +0.7**
HNS pmax pmax
comp=Z,16nm,0.8s

BRDH Bariadhala 46.55 309 LR LR 12 31 23.0
comp=Z,614nm,21.4s,baz=130,slow=38

BJI Beijing 47.08 346 P **P** **12 10 02.9 -0.1**
BJI pmax pmax
comp=Z,6.0nm,1.2s

SHL Shillong 47.97 312 **P** **12 10 09.7 -0.7**
SHL IAmb IAmb 12 10 10.6
comp=Z,26nm,1.0s

SHL Shillong 47.97 312 P **P** **12 10 09.7 -0.7**
SHL pmax pmax
comp=Z,26nm,1.0s

LZH Lanzhou 48.00 332 *e*P **P** **12 10 11.6 +1.2**
LZH sP pwP 12 10 20.0 +1.7
LZH S **S** **12 17 02.2 -6.4**
LZH pmax pmax
comp=Z,27nm,1.3s

LZH LR LR
comp=Z,570nm,20.1s

LZH LR LR
comp=Z,450nm,15.5s

LZH LR LR
comp=Z,800nm,20.3s

PSTR Posyet 48.06 1*ce*P **P** **12 10 11.7 +1.2**
MSVF Nonsavu 48.83 109⇓*i*P **P** **12 10 18.2 +1.1**
MSVF pmax pmax
comp=Z,27nm,1.0s

HHC Hu-ho-hao-te 49.11 342 *e*P **P** **12 10 20.0 +1.2**
HHC pmax pmax
comp=Z,10.0nm,0.6s

HHC pmax pmax
comp=Z,56nm,4.4s

HHC LR LR
comp=Z,280nm,11.9s

HHC LR LR
comp=Z,320nm,11.8s

HHC LR LR
comp=Z,290nm,13.8s

CN2 Changchun 49.33 356 P **P** **12 10 20.7 +0.4**
CN2 sP pwP 12 10 35.8 +7.6
CN2 pmax pmax
comp=Z,10.0nm,1.3s

CN2 LR LR
comp=Z,460nm,14.0s

CN2 LR LR
comp=Z,490nm,14.0s

CN2 LR LR
comp=Z,440nm,16.0s

USA0B Ussuriysk Arra 49.64 2 P **P** **12 10 23.0 +0.4**
USA0B Ussuriysk Arra 49.64 2 P **P** **12 10 23.0 +0.4**
USA0B pmax pmax
comp=Z,79nm,2.0s

USRK Ussuriysk Ar. 49.64 2 P **P** **12 10 22.8 +0.1**
comp=Z,11nm,0.9s,baz=187,slow=7.2,SNR=11

USRK LR LR 12 30 41.5
comp=Z,273nm,20.9s,baz=185,slow=35
comp=Z,11nm,0.9s

MDJ Mudanjiang 50.01 0 P **P** **12 10 26.4 +0.9**
MDJ S **S** **12 17 37.1 +0.8**
MDJ pmax pmax
comp=Z,13nm,0.6s

MDJ LR LR
comp=Z,740nm,24.2s

PALK Pallekele 50.42 284 LR LR 12 33 12.9
comp=Z,390nm,19.6s,baz=112,slow=38

XLT XiLinHaoTe 50.78 347 *e*P **P** **12 10 31.7 +0.3**
XLT pP pwP 12 10 43.1 +3.8
XLT sP sP 12 10 50.7 +17
XLT PcP **PcP** **12 11 49.0 +0.6**
XLT pmax pmax
comp=Z,12nm,0.9s

XLT LR LR
comp=Z,400nm,18.3s

XLT LR LR
comp=Z,320nm,15.7s

ASAJ Asahikawa 50.88 12 LR LR 12 29 28.0
comp=Z,346nm,21.9s,baz=208,slow=33

BNX BinXian 51.17 358 ⇑P **P** **12 10 34.5 +0.3**
BNX pmax pmax
comp=Z,8.0nm,1.4s

GTA Gaotai 52.57 331 *e*P **P** **12 10 46.4 +1.4**
GTA pmax pmax
comp=Z,16nm,1.2s

RPZ Rata Peaks 52.58 143 LR LR 12 33 01.1
comp=Z,737nm,20.0s,baz=307,slow=36

TUWZ Tuamarina 53.19 139 P **P** **12 10 49.8 +0.4**
YSS Yuzhno-Sakhali 53.63 11⇑*i*P **P** **12 10 53.2 +0.7**
YSS pmax pmax
comp=Z,10.0nm,0.7s

URZ Urewera 53.92 134 LR LR 12 33 50.9
comp=Z,836nm,20.1s,baz=305,slow=36

RAO Raoul Island 54.78 122 LR LR 12 32 32.6
comp=Z,563nm,20.9s,baz=309,slow=34

HEH HeiHe 55.68 358 *e*P **P** **12 11 07.9 +0.6**
HEH pmax pmax
comp=Z,16nm,0.9s

ULN Ulaanbaatar 56.83 342*de*P **P** **12 11 17.3 +1.5**
ULN pmax pmax
comp=Z,9.0nm,0.8s

SONM Songino Array 57.01 342 P **P** **12 11 17.4 +0.4**
SONM IAmb IAmb 12 11 37.7

comp=Z,49nm,1.9s
SONM Songino Array 57.01 342 P **P** 12 11 18.0 +1.0
comp=Z,3.1nm,0.8s,baz=167,slow=7.4,SNR=17
SONM LR LR 12 37 19.3
comp=Z,202nm,21.4s,baz=153,slow=38
comp=Z,3.1nm,0.8s
SONM Songino Array 57.01 342 P **P** 12 11 17.4 +0.4
SONM pmax pmax
comp=Z,49nm,1.9s
TYV Tymovskoe 57.38 10 *e*P **P** 12 11 20.6 +1.2
TYV *e*S **S** 12 19 21.9 +5.9
TYV pmax pmax
comp=Z,8.0nm,1.2s
TYV pmax pmax
comp=Z,200nm,3.5s
TYV smax smax
comp=N,400nm,5.9s
TYV smax smax
comp=E,200nm,5.9s
ZEA Zeya 59.17 358 *e*P **P** 12 11 32.7 +0.8
ZEA pmax pmax
comp=Z,10.0nm,0.9s
ZAK Zakamensk 60.23 341 *e*P **P** 12 11 40.1 +0.7
ZAK pmax pmax
comp=Z,10.0nm,1.9s
CASY Casey 61.99 189 P **P** 12 11 51.8 +0.9
WMQ Urumqi 62.02 327 *e*P **P** 12 11 52.7 +1.1
WMQ LR LR
comp=Z,490nm,18.9s
WMQ LR LR
comp=Z,260nm,24.5s
MOY Mondy 62.08 340 *e*P **P** 12 11 54.0 +2.1
MOY pmax pmax
comp=Z,31nm,2.4s
PEA0B Petropavlovsk- 63.16 19 P **P** 12 11 59.7 +0.8
PEA0B Petropavlovsk- 63.16 19 P **P** 12 11 59.7 +0.8
PEA0B pmax pmax
comp=Z,59nm,1.5s
PETK Petropavlovsk- 63.16 19 **P** 12 11 59.1 +0.1
PETK Petropavlovsk- 63.16 19 P **P** 12 12 00.2 +1.3
comp=Z,14nm,1.0s,baz=211,slow=5.2,SNR=12
PETK LR LR 12 35 11.9
comp=Z,190nm,21.0s,baz=203,slow=32
comp=Z,14nm,1.0s
PET Petropavlovsk 63.39 19 *ce*P **P** 12 12 01.3 +0.8
BOD Bodaibo 64.48 351 *e*P **P** 12 12 07.6 +0.1
BOD pmax pmax
comp=Z,34nm,1.9s
ZSN Zaisan 65.88 328 *e*P **P** 12 12 17.4 +0.5
ZSN Zaisan 65.88 328 *e*P **P** 12 12 17.5 +0.5
NIL Nilore 66.00 311 P **P** 12 12 17.3 -0.7
NIL IAmb IAmb 12 12 18.7
comp=Z,15nm,0.9s
NIL Nilore 66.00 311 P **P** 12 12 17.3 -0.7
NIL pmax pmax
comp=Z,15nm,0.9s
SHLS Shalkode 66.38 322 *e*P **P** 12 12 19.0 -1.3
SHLS pmax pmax
comp=Z,13nm,1.2s
SHLS Shalkode 66.38 322 *e*P **P** 12 12 19.0 -1.3
comp=Z,13nm,1.2s
UZB Uzynbulak 66.64 322 *c i*P **P** 12 12 22.3 +0.3
UZB pmax pmax
comp=Z,13nm,1.2s
UZB Uzynbulak 66.64 322⇑ *i*P **P** 12 12 22.4 +0.3
comp=Z,14nm,1.2s
TARG Taragay, Kyrgy 66.64 320 IAmb IAmb 12 12 33.9
comp=Z,15nm,1.2s
KSH Kashi 66.72 317 P **P** 12 12 23.6 +1.0
KSH pmax pmax
comp=Z,23nm,1.0s
MK31 Makanchi Array 66.85 327 *c i*P **P** 12 12 23.1 0.0
MKAR Makanchi Array 66.85 327 **P** 12 12 23.5 +0.4
MKAR Makanchi Array 66.85 327 P **P** 12 12 23.8 +0.7
comp=Z,8.8nm,0.8s,baz=127,slow=7.9,SNR=29
MKAR LR LR 12 42 37.9
comp=Z,148nm,22.0s,baz=119,slow=37
comp=Z,8.8nm,0.8s
SATY Saty 66.97 322 *c i*P **P** 12 12 24.5 +0.4
SATY pmax pmax
comp=Z,12nm,0.9s
SATY Saty 66.97 322⇑ *i*P **P** 12 12 24.6 +0.4
comp=Z,12nm,0.9s
MAKZ Makanchi 67.03 327 P **P** 12 12 24.7 +0.4
MAKZ IAmb IAmb 12 12 25.7
comp=Z,18nm,1.1s
MAKZ Makanchi 67.03 327 P **P** 12 12 24.7 +0.4
MAKZ pmax pmax
comp=Z,19nm,1.1s
MA2 Magadan 67.14 12 P **P** 12 12 24.9 +0.2
MA2 IAmb IAmb 12 12 51.6
comp=Z,22nm,1.1s
MA2 Magadan 67.14 12 LR LR 12 41 31.9
comp=Z,120nm,19.8s,baz=202,slow=36
MA2 Magadan 67.14 12⇑ *i*P **P** 12 12 26.0 +1.3
MA2 pmax pmax
comp=Z,43nm,2.2s
KDJ Kajisay 67.25 320 P **P** 12 12 25.6 -0.4
KDJ IAmb IAmb 12 12 27.8
comp=Z,21nm,1.1s
KDJ Kajisay 67.25 320 P **P** 12 12 25.6 -0.4
KDJ pmax pmax
comp=Z,21nm,1.1s
YAK Yakutsk 67.45 0 P **P** 12 12 26.9 +0.3
YAK Yakutsk 67.45 0 P **P** 12 12 27.6 +1.1
comp=Z,42nm,0.7s,baz=250,slow=0.6,SNR=11
YAK LR LR 12 40 41.5
comp=Z,120nm,21.9s,baz=180,slow=35
comp=Z,42nm,0.7s
YAK Yakutsk 67.45 0 *e*P **P** 12 12 27.0 +0.4
YAK *e**PP **pwP** 12 12 37.1 +2.5
YAK *e* 12 12 53.4
YAK *e* 12 14 55.0
YAK *e*PPP PPP 12 16 33.2
YAK *e*S **S** 12 21 20.7 -1.8
YAK *e* 12 22 21.7
YAK *e*SS **SS** 12 25 39.0 -4.0
YAK *e*SSS SSS 12 28 39.4
YAK pmax pmax
comp=Z,55nm,1.1s
YAK pmax pmax
comp=N,17nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.9s
YAK pmax pmax
comp=Z,131nm,4.9s
YAK pmax pmax
comp=N,132nm,5.5s
YAK pmax pmax
comp=E,136nm,6.4s
YAK smax smax
comp=E,195nm,4.8s
YAK smax smax
comp=N,102nm,4.3s
TNSS Tian-Shan 67.87 321 *e*P **P** 12 12 30.0 -0.1
TNSS Tian-Shan 67.87 321 *e*P **P** 12 12 30.1 -0.1
AAA Alma-Ata 67.97 321 *e*P **P** 12 12 30.8 +0.4
AAA Alma-Ata 67.97 321 *e*P **P** 12 12 30.9 +0.4
TDK Taldyqorghan 68.03 323 *e*P **P** 12 12 31.1 +0.5
TDK pmax pmax
comp=Z,19nm,1.0s
TDK Taldyqorghan 68.03 323 *e*P **P** 12 12 31.1 +0.5
comp=Z,19nm,1.0s
KUU Kurty 68.69 322 *e*P **P** 12 12 35.2 +0.4
KUU Kurty 68.69 322 *e*P **P** 12 12 35.3 +0.4
FRU1 Bishkek 69.22 320 P **P** 12 12 38.5 +0.4
FRU1 Bishkek 69.22 320 P **P** 12 12 38.6 +0.4
FRU1 pmax pmax
comp=Z,47nm,0.4s
AAK Ala-Archa 69.22 320 P **P** 12 12 38.5 +0.1
AAK IAmb IAmb 12 12 40.2
comp=Z,18nm,0.9s
AAK Ala-Archa 69.22 320 LR LR 12 46 32.9
comp=Z,99nm,19.2s,baz=117,slow=39
AAK Ala-Archa 69.22 320 *c i*P **P** 12 12 39.3 +1.0
AAK pmax pmax
comp=Z,23nm,1.0s
SHEM Shemya Is, Ala 69.25 27 LR LR 12 38 27.8
comp=Z,278nm,22.0s,baz=210,slow=32
SMY Shemya 69.25 27 P **P** 12 12 38.6 +0.6
SMY Shemya 69.25 27 P **P** 12 12 38.6 +0.6
SMY pmax pmax
comp=Z,267nm,1.5s
ARSB Arslanbob 69.59 318 P **P** 12 12 40.8 +0.2
ARSB Arslanbob 69.59 318 P **P** 12 12 40.8 +0.2
ARSB pmax pmax
comp=Z,42nm,1.0s
RAR Rarotonga 69.96 110 LR LR 12 41 28.9
comp=Z,67nm,21.4s,baz=276,slow=34
ZAA0 Zalesovo Array 70.17 334 P **P** 12 12 44.0 +0.3
ZAA0 IAmb IAmb 12 12 44.5
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 70.17 334 P **P** 12 12 43.6 -0.1
ZALV Zalesovo Beam 70.17 334 P **P** 12 12 43.9 +0.2
comp=Z,5.7nm,0.7s,baz=119,slow=5.2,SNR=23
ZALV LR LR 12 45 29.4
comp=Z,109nm,19.8s,baz=138,slow=38
comp=Z,5.7nm,0.7s
GAR Garm 70.40 315 P **P** 12 12 45.7 +0.1
SEY Seymchan 70.54 11 LR LR 12 42 53.8
comp=Z,108nm,20.7s,baz=146,slow=35
SEY Seymchan 70.54 11 *d i*P **P** 12 12 46.8 +1.0
SEY pmax pmax
comp=Z,27nm,0.9s
BTLS Baital 70.69 322 *e*P **P** 12 12 47.2 +0.2
BTLS Baital 70.69 322 *e*P **P** 12 12 47.2 +0.2
KURBB Kurchatov Arra 71.12 328 P **P** 12 12 49.9 +0.4
comp=Z,15nm,1.0s,baz=128,slow=5.2,SNR=76
comp=Z,15nm,1.0s
KURK Kurchatov 71.13 329 P **P** 12 12 49.7 +0.1
KURK Kurchatov 71.13 329 P **P** 12 12 49.7 +0.1
KURK pmax pmax
comp=Z,29nm,1.0s
DZA Taraz 71.40 319 *e*P **P** 12 12 51.7 +0.2
DZA Taraz 71.40 319 *e*P **P** 12 12 51.7 +0.2
IUG Iuzhnay 71.93 318 *e*P **P** 12 12 54.9 +0.1
IUG pmax pmax
comp=Z,26nm,0.9s
IUG Iuzhnay 71.93 318 *e*P **P** 12 12 54.9 +0.1
comp=Z,26nm,0.9s
KK31 Karatay Array 72.03 319 P **P** 12 12 55.1 -0.2
KK31 IAmb IAmb 12 12 56.6
comp=Z,24nm,1.2s
KK31 Karatay Array 72.03 319 P **P** 12 12 55.1 -0.2
KK31 pmax pmax
comp=Z,24nm,1.2s
KKAR Karatay Array 72.03 319 P **P** 12 12 54.8 -0.5
KKAR Karatay Array 72.03 319 P **P** 12 12 54.8 -0.5
BRLS Borolday 72.44 318 *c i*P **P** 12 12 57.9 +0.2
BRLS Borolday 72.44 318⇑ *i*P **P** 12 12 58.0 +0.2
VNDA Vanda 73.86 173 P **P** 12 13 05.5 0.0
comp=Z,0.7nm,0.5s,baz=315,slow=7.7,SNR=7.8
VNDA LR LR 12 46 15.6
comp=Z,404nm,18.1s,baz=345,slow=36
comp=Z,0.7nm,0.5s
BRZS Berezniki 73.94 326 *e*P **P** 12 13 06.8 +0.4
BRZS Berezniki 73.94 326 *e*P **P** 12 13 06.8 +0.4
MAW Mawson 76.07 201 P **P** 12 13 19.9 +1.5
comp=Z,2.6nm,1.1s
MAW Mawson 76.07 201 P **P** 12 13 17.6 -0.8
comp=Z,2.8nm,0.8s,baz=47,slow=5.7,SNR=6.4
MAW LR LR 12 45 36.5
comp=Z,247nm,18.4s,baz=66,slow=35
comp=Z,2.8nm,0.8s
BVAR Borovoye Array 76.68 328 P **P** 12 13 22.8 +0.7
comp=Z,8.2nm,0.9s,baz=132,slow=6.2,SNR=33
comp=Z,8.2nm,0.9s
BRVK Borovoye 76.75 328 P **P** 12 13 22.2 -0.3
BRVK Borovoye 76.75 328 *c i*P **P** 12 13 22.6 +0.1
BRVK pmax pmax
comp=Z,17nm,1.1s
TIXI Tiksi 77.12 360 P **P** 12 13 23.9 -0.2
TIXI IAmb IAmb 12 13 43.9
comp=Z,14nm,0.8s
TIXI Tiksi 77.12 360 P **P** 12 13 24.4 +0.2
comp=Z,5.8nm,0.6s,baz=180,slow=2.1,SNR=5.4
TIXI LR LR 12 46 34.9
comp=Z,352nm,22.0s,baz=196,slow=35
comp=Z,5.8nm,0.6s
TIXI Tiksi 77.12 360⇓ *e*P **P** 12 13 24.3 +0.2
TIXI pmax pmax
comp=Z,11nm,1.7s
UOSS Minazif 77.42 297 P **P** 12 13 26.3 -0.7
UOSS IAmb IAmb 12 13 28.1
comp=Z,54nm,1.6s
HPO Honuapo 77.64 69 P **P** 12 13 30.2 +2.0
TBI Tubuai 79.51 113 *e*S **S** 12 23 41.2 +0.6
comp=Z,305nm,24.2s
TBI *e*SS **SS** 12 28 41.6 -6.8
comp=Z,592nm,33.2s
TBI *e*LQ LQ 12 35 01.3
comp=Z,2μm,41.0s
TBI *e*LR LR 12 38 13.3
comp=Z,2μm,34.2s
TBI *e*LR LR 12 38 14.3
comp=Z,1μm,25.2s
PPT Papeete 79.62 107 LR LR 12 46 07.9
comp=Z,69nm,20.0s,baz=271,slow=34
AB31 Akbulak array 81.17 322 P **P** 12 13 46.8 -0.1
AKTO Aktyubinsk 82.73 322 P **P** 12 13 55.1 +0.1
comp=Z,3.9nm,0.4s,baz=94,slow=3.9,SNR=15
AKTO LR LR 12 54 24.8
comp=Z,113nm,21.9s,baz=83,slow=38
comp=Z,3.9nm,0.4s
SVE Severdlovsk 83.38 329 *e*P **P** 12 13 58.6 +0.4
SDPT Sand Point 83.39 33 P **P** 12 13 58.4 +0.1
QSPA South Pole Qui 84.35 180 P **P** 12 14 02.1 -1.1
comp=Z,1.1nm,0.5s,baz=195,slow=0.5,SNR=17
QSPA LR LR 12 53 15.8
comp=Z,139nm,18.2s,baz=358,slow=37
comp=Z,1.1nm,0.5s
ARTI Arti 84.40 328 P **P** 12 14 03.5 +0.1
ARTI IAmb IAmb 12 14 04.3
comp=Z,22nm,1.3s
ARTI Arti 84.40 328 P **P** 12 14 03.6 +0.1
comp=Z,7.0nm,0.9s,baz=138,slow=2.7,SNR=9.0
comp=Z,7.0nm,0.9s
ARTI Arti 84.40 328 *c i*P **P** 12 14 03.4 -0.1
ARTI S **S** 12 24 26.2 -3.4
ARTI SS **SS** 12 29 57.2 -2.6
ARTI pmax pmax
comp=Z,21nm,1.4s
L14K Kuka Creek 84.46 27 IAmb IAmb 12 14 38.4
comp=Z,15nm,1.1s
SYO Syowa Base 84.79 201⇓ *e*P **P** 12 14 06.4 +1.2
SYO Syowa Base 84.79 201⇓ *e*PcP **P** 12 14 09.2 +4.0
SYO Syowa Base 84.79 201⇓ *e*pP pP 12 14 14.0 +7.0
K15K Wolf Creek Mou 85.33 26 IAmb IAmb 12 14 19.8
comp=Z,19nm,1.4s
M16K Timber Creek 86.04 28 IAmb IAmb 12 14 23.7
comp=Z,12nm,1.1s
RAYN Ar Rayn 86.80 294 P **P** 12 14 15.8 -0.5
RAYN IAmb IAmb 12 14 17.3
comp=Z,16nm,1.0s
RAYN Ar Rayn 86.80 294 P **P** 12 14 15.8 -0.5
RAYN pmax pmax
comp=Z,16nm,1.0s
K17K Iditarod 86.88 26 IAmb IAmb 12 14 38.9
comp=Z,14nm,1.1s
L18K Granite Mounta 87.44 27 IAmb IAmb 12 15 12.7
comp=Z,15nm,1.4s
ATD Arta Tunnel 87.92 282 LR LR 12 51 04.3
comp=Z,6.4nm,21.1s,baz=15,slow=34
N19K Bonanza Creek 88.07 28 IAmb IAmb 12 14 58.5
comp=Z,12nm,1.1s
KDAK Kodiak Island 88.27 32 LR LR 12 51 49.7
comp=Z,73nm,18.5s,baz=242,slow=34
M19K Big River Lodg 88.39 27 IAmb IAmb 12 14 51.8
comp=Z,9.9nm,1.1s
KIRV Kirov 89.64 329 *ce*P **P** 12 14 27.6 -1.2
GNI Garni 89.64 310 LR LR 13 01 45.6
comp=Z,53nm,19.6s,baz=106,slow=40
GNI Garni 89.64 310 *ce*P **P** 12 14 30.6 +1.0
GNI pmax pmax
comp=Z,20nm,1.4s
I23K Minto, Yukon-K 91.31 25 IAmb IAmb 12 14 46.8
comp=Z,16nm,1.5s
KBZ Khabaz 91.44 314 P **P** 12 14 37.1 -0.5
comp=Z,2.4nm,0.9s,baz=209,slow=4.1,SNR=5.6
KBZ LR LR 13 01 33.3
comp=Z,50nm,20.1s,baz=70,slow=39
comp=Z,2.4nm,0.9s
SHA1 Shidzhatmaz 91.62 314⇑ *e*P **P** 12 14 38.7 -0.1
KIV Kislovodsk 91.62 314 *e*P **P** 12 14 39.3 +0.7
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,33nm,20.0s
CCB Clear Creek Bu 91.88 25 IAmb IAmb 12 14 48.9
comp=Z,10nm,1.4s
KMBO Kilima Mbogo 92.20 269 P **P** 12 14 41.1 -1.0
comp=Z,1.5nm,0.3s,baz=79,slow=15,SNR=3.0
KMBO LR LR 12 53 20.4
comp=Z,189nm,19.6s,baz=103,slow=34
comp=Z,1.5nm,0.3s
ILAR Eielson Array 92.29 25 P **P** 12 14 40.0 -1.1
comp=Z,0.5nm,0.6s,baz=263,slow=4.3,SNR=5.7
ILAR LR LR 12 51 01.3
comp=Z,65nm,21.7s,baz=262,slow=32
comp=Z,0.5nm,0.6s
G24K Hadweenzic Riv 92.33 23 IAmb IAmb 12 14 54.2
comp=Z,8.4nm,1.1s
BMAR Burnt Mountain 93.55 23 **P** 12 14 47.9 +1.0
J26L Joseph Creek 93.68 26 P **P** 12 14 47.5 -0.1
SOC Sochi 93.73 313 *e*P **P** 12 14 43.8 -4.4
SOC *e* 12 18 30.6
SOC *e*PPP PPP 12 20 33.2
SOC *e*S **SKSac** 12 25 18.0 -5.1
SOC *e*SS **SS** 12 32 11.1 -4.9
SOC *e*SSS SSS 12 35 57.1
BCAR Beaver Creek A 94.35 27 **P** 12 14 51.0 +0.3
H27K Steamboat Moun 94.66 24 IAmb IAmb 12 15 03.8
comp=Z,8.9nm,1.1s
KLMR Klimovskoe 94.89 331 *e*P P 12 14 43.8 -9.3
KLMR pmax pmax
comp=Z,10.0nm,1.3s
ASF Jabal al Asfar 95.22 302 LR LR 13 05 51.7
comp=Z,141nm,18.4s,baz=137,slow=40
I28M Miner Creek 95.28 25 IAmb IAmb 12 15 06.4
comp=Z,8.1nm,1.0s
TROLL Troll, Antarti 95.39 194⇑P **P** 12 14 56.9 +1.4
comp=Z,44nm,0.6s
DAWY Dawson 95.47 26 **P** 12 14 56.1 +0.3
DAWY IAmb IAmb 12 15 32.1
comp=Z,9.4nm,1.2s
OBN Obninsk 96.29 325 *e*P **P** 12 14 58.5 -1.1
OBN *e* 12 18 54.1
OBN *e*PPP PPP 12 20 59.5
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,115nm,22.0s
MMAI Mount Meron Ar 96.52 302 LR LR 13 06 59.0
comp=Z,133nm,18.4s,baz=102,slow=41
EIL Elat 96.76 299 LR LR 13 06 15.9
comp=Z,107nm,18.5s,baz=72,slow=40
J30M Hart River 96.80 26 IAmb IAmb 12 15 24.5
comp=Z,12nm,1.6s
SNAA Sanae 96.90 194⇑P **P** 12 15 02.3 +0.1
comp=Z,32nm,0.8s
SNAA Sanae 96.90 194 P **P** 12 15 02.0 -0.2
comp=Z,0.3nm,0.6s,baz=236,slow=21,SNR=1.1
SNAA LR LR 13 00 15.3
comp=Z,204nm,18.0s,baz=131,slow=36
comp=Z,0.3nm,0.6s
SNAA Sanae 96.90 194 P **P** 12 15 02.0 -0.2
INK Inuvik 97.75 22 LR LR 12 56 43.9
comp=Z,66nm,20.9s,baz=251,slow=34
BRTR Keskin Array B 98.12 309 P **P** 12 15 07.3 -1.2
comp=Z,0.6nm,0.7s,baz=133,slow=6.1,SNR=4.1
BRTR LR LR 13 05 58.3
comp=Z,61nm,20.2s,baz=111,slow=39
comp=Z,0.6nm,0.7s
BRTR Keskin Array B 98.12 309 *i* P **P** 12 15 08.1 -0.4
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MATP Matopo 98.37 248 LR LR 12 56 22.8
comp=Z,46nm,19.4s,baz=80,slow=34
LSZ Lusaka 99.45 254 LR LR 12 56 05.4
comp=Z,182nm,21.6s,baz=140,slow=33
BOSA Boshof 99.79 240 LR LR 12 53 28.4
comp=Z,183nm,21.2s,baz=96,slow=31
MNK Minsk 101.34 324 *i* P **Pdif** 12 15 20.5 -1.8
MNK *i* 12 19 30.3
MNK *i* PPP PPP 12 21 38.8
MNK *i* S **SKSac** 12 26 00.0 -1.7
MNK *i* SS **SS** 12 34 04.8 +2.2
MNK *i* SSS SSS 12 37 57.3
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,21nm,0.8s
MNK MLR MLR
comp=N,142nm,23.0s
MNK MLR MLR
comp=E,88nm,17.0s
MNK MLR MLR
comp=Z,176nm,23.0s
CLL Collm 110.81 323 *i* PKIKP **PKiKP** 12 20 08.0 +3.7
CLL pmax pmax
comp=Z,88nm,3.0s
TXAR Lajitas Array 124.58 58 PKP **PKPdf** 12 20 29.9 -1.5
comp=Z,0.4nm,0.7s,baz=295,slow=3.5,SNR=3.6
TXAR Lajitas Array 124.58 58 PKIKP **PKPdf** 12 20 30.0 -1.5
CPUP Villa Florida 147.54 168 PKPbc **PKPbc** 12 21 15.9 -0.3
comp=Z,0.4nm,0.3s,baz=17,slow=6.6,SNR=5.6
GO01 Chusmiza 148.81 144 **PKiKP** 12 21 22.2 +0.4
PB16 IPOC Station P 149.65 142 **PKiKP** 12 21 25.0 +1.3
LPAZ La Paz 152.06 141 PKPbc **PKiKP** 12 21 29.1 +0.4
comp=Z,1.8nm,0.4s,baz=192,slow=3.4,SNR=7.4

ISU ***10*** *12:07:32,39˚.69N×73˚.04E,h15km*
KRNET ***10*** *12:07:33.7±0.1,40˚.02N×73˚.02E,h11km,mb2.9*
ISC 10 12:07:34.9±2.1,40˚.07N±0˚.09×73˚.01E±0˚.04,h1km±12km, n9,σ1ş20/18,5C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.48**	**340**⇑	*e*P	**Pg**	**12 07 44.0**	**-0.2**
OHH			⇑	*e*S	**Sg**	**12 07 51.6**	**+1.2**
FRG	**Fergana**	**0.98**	**288**	P	**Pg**	**12 07 54.2**	**+0.5**
FRG				S	**Sn**	**12 08 10.3**	**-0.1**
SALK	**Salom-Alik**	**1.02**	**37**⇓	*e*P	**Pg**	**12 07 53.8**	**-0.7**
SALK			⇓	*e*S	**Sb**	**12 08 08.3**	**-1.2**
CHMI	**Chimion**	**1.15**	**280**	P	**Pb**	**12 07 56.6**	**-1.0**
CHMI				S	**Sn**	**12 08 15.0**	**+0.4**
ARSB	**Arslanbob**	**1.25**	**359**⇓	*e*P	**Pn**	**12 07 58.1**	**-1.6**
ARSB			⇓	*e*S	**Sb**	**12 08 16.1**	**0.0**
TRKS	**Terek-Say**	**2.03**	**316**⇓	*e*P	**Pn**	**12 08 10.4**	**0.0**
TRKS			⇓	*e*S	**Sn**	**12 08 37.1**	**+0.6**
AAK	**Ala-Archa**	**2.80**	**23**	⇑Pn	**Pb**	**12 08 26.5**	**+0.8**
	0.5nm,0.3s						
AAK				⇑Sn	**Sg**	**12 09 04.4**	**-0.4**
	0.9nm,0.4s						
ULHL	**Ulahol**	**3.27**	**47**⇓	*i*P	**Pn**	**12 08 28.2**	**+0.8**
ULHL			⇓	*e*S	**Sn**	**12 09 07.9**	**+0.8**
KK31	**Karatay Array**	**3.56**	**329**	⇑Pn	**Pn**	**12 08 33.6**	**+2.4**
	0.3nm,0.2s,baz=142,slow=16,SNR=7.7						
KK31				⇓Sn	**Sb**	**12 09 20.1**	**-2.2**
	0.8nm,0.3s,baz=144,slow=24						

IDC ***10*** *12:25:59.9±2.1,6˚.53S×129˚.96E,h146km±21km,mb3.8/13, mbtmp4.4/19,Error ellipse: s-maj=17.0km s-min=11.2km az=75.0*
DJA ***10*** *12:26:01.9±0.2,7˚.2S×13˚.0E±˚,h186km±4km,M4.5/20, mb4.5/20,mB5.1/10,MLv4.8/17,Mw(mB)4.4/10*
NEIC ***10*** *12:26:02.0±1.7,6˚.47S±0˚.03×130˚.12E±0˚.08,h168km±7km, mb4.5/30,Error ellipse: s-maj=12.1km s-min=3.9km az=93.0*
ISC 10 12:26:00.1±0.4,6˚.56S±0˚.04×129˚.99E±0˚.05,h146km,n121, σ1ş71/118,mb4.4/27,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.92**	**137**		Pn	12 26 38.2	+4.1
SAUI				Sn	**Sn**	**12 27 02.9**	**+2.7**
SAUI	**Saumlaki**	**1.92**	**137**	P	Pn	12 26 38.5	+4.4
SAUI	**Saumlaki**	**1.92**	**137**	P	Pn	12 26 38.2	+4.1
SAUI				S	**Sn**	**12 27 07.2**	**+7.1**
BNDI	**Bandanaira**	**2.03**	**358**	P	**Pn**	**12 26 39.7**	**+4.3**
BNDI	**Bandanaira**	**2.03**	**358**	P	**Pn**	**12 26 39.1**	**+3.7**
MSAI	**Masohi**	**3.37**	**342**	P	**Pn**	**12 26 55.5**	**+3.4**
MSAI				S	**Sn**	**12 27 36.1**	**+3.8**
AAI	**Ambon**	**3.37**	**328**	P	**Pn**	**12 26 55.9**	**+3.8**
FAKI	**Fak Fak**	**4.26**	**32**		**Pn**	**12 27 04.2**	**+0.4**
FAKI				Sn	**Sn**	**12 27 51.6**	**-1.7**
FAKI	**Fak Fak**	**4.26**	**32**	P	**Pn**	**12 27 04.6**	**+0.8**
NLAI	**Namlea**	**4.38**	**319**	P	Pn	12 27 10.4	+5.1
KMPI	**Kaimana, Papua**	**4.69**	**52**	P	**Pn**	**12 27 11.2**	**+1.8**
SWI	**Sorong**	**5.80**	**13**	P	**Pn**	**12 27 24.5**	**+0.3**
DRS	**Darwin Rock St**	**5.90**	**171**	P	**Pn**	**12 27 27.2**	**+1.7**
SANI	**Sanana**	**6.00**	**318**	P	Pn	12 27 31.1	+4.2
SANI	**Sanana**	**6.00**	**318**	S	**Sn**	**12 28 36.7**	**+2.0**
SANI	**Sanana**	**6.00**	**318**	P	**Pn**	**12 27 29.9**	**+3.0**
	0.2nm53nm,0.6s						

MTN	Manton Dam	6.34 170		Pn	12 27 33.0	+1.6
MTN	Manton Dam	6.34 170	P	Pn	12 27 32.6	+1.2
SOEI	Soe	6.49 240		Pn	12 27 36.3	+2.7
SOEI	Soe	6.49 240	P	Pn	12 27 36.2	+2.7
	0.8nm1μm83nm,0.7s					
RKPI	Ransiki, Papua	6.53 40	P	Pn	12 27 35.1	+1.2
KDU	Kakadu	6.56 158	P	Pn	12 27 35.8	+1.5
BATI	Baumata	7.23 240	P	Pn	12 27 44.5	+1.2
	70nm,0.5s,baz=125,slow=1.4,SNR=10.0					
BATI		S		Sn	12 29 03.0	-1.2
	129nm,0.4s,baz=148,slow=21,SNR=12					
BATI	Baumata	7.23 240	P	Pn	12 27 45.7	+2.4
	0.8nm2μm89nm,0.6s					
BBSI	Bau Bau	7.45 278	P	Pn	12 27 49.9	+3.6
	0.4nm119nm,1.1s					
MMRI	Maumere	7.95 255	Pn	Pn	12 27 57.8	+4.8
BAKI	Biak	8.11 49	P	Pn	12 27 56.9	+1.9
EDFI	Ende, Flores	8.51 255	P	Pn	12 28 03.3	+2.8
KNRA	Kununurra	9.14 187		Pn	12 28 08.5	-0.2
BKSI	Bulukumba	9.89 277	P	Pn	12 28 21.8	+3.0
	20nm,1.1s					
APSI	Ampana	10.04 304	P	Pn	12 28 23.6	+2.8
	68nm,1.1s					
SPSI	Sidrap Palu	10.50 284	P	Pn	12 28 37.9	+11
MRSI	Marisa	10.65 311	P	Pn	12 28 30.2	+1.3
	1μm185nm,1.0s					
WBSI	Waikabubak, Su	10.93 253	P	Pn	12 28 34.2	+1.6
	32nm,1.0s					
JAY	Jayapura	11.41 70	P	Pn	12 28 39.1	+0.1
	7.1nm,1.0s,baz=264,slow=7.7,SNR=4.0					
TOLI2	Tolitoli	11.94 309	Pn	Pn	12 28 45.7	-0.2
TOLI2	Tolitoli	11.94 309	P	Pn	12 28 48.2	+2.4
MPSI	Mapaga	12.18 304	P	Pn	12 28 50.2	+1.2
	15nm,0.9s					
FITZ	Fitzroy Crossi	12.22 200		Pn	12 28 47.9	-1.6
FITZ	Fitzroy Crossi	12.22 200	P	Pn	12 28 48.7	-0.8
	14nm,0.3s,baz=20,slow=9.6,SNR=109					
FITZ		S		Sn	12 30 54.5	-10
	47nm,0.8s,baz=100,slow=18,SNR=10.0					
FITZ	Fitzroy Crossi	12.22 200	P	Pn	12 28 49.1	-0.4
PLAI	Plampang	12.31 259	P	Pn	12 28 50.0	-0.6
PLAI	Plampang	12.31 259	P	Pn	12 28 52.2	+1.6
	32nm,0.6s					
WRAB	Tennant Creek	13.95 163		Pn	12 29 10.0	-1.7
WRA	Warramunga Arr	13.96 163		Pn	12 29 08.8	-3.0
WRA	Warramunga Arr	13.96 163	P	Pn	12 29 10.7	-1.1
	13nm,0.7s,baz=347,slow=13,SNR=57					
WRA		S		Sn	12 31 34.2	-12
	22nm,0.8s,baz=343,slow=22,SNR=13					
COEN	Coen	14.90 121		Pn	12 29 22.4	-1.2
COEN	Coen	14.90 121	P	P	12 29 25.1	-0.6
JAGI	Jajag, Banyuwa	15.81 262	Pn	Pn	12 29 33.8	-1.2
QIS	Mount Isa	16.75 147	P	Pn	12 29 47.7	+1.4
PMG	Port Moresby	17.24 101	P	P	12 29 49.3	-2.2
PMG		IAmb	IAmb		12 30 02.8	
	comp=Z,17nm,0.9s					
PMG	Port Moresby	17.24 101	P	Pn	12 29 51.9	-0.3
	comp=Z,8.5nm,0.8s,baz=278,slow=7.1,SNR=2.7					
ASAR	Alice Springs	17.42 168	P	Pn	12 29 55.0	+0.6
	comp=Z,11nm,0.5s,baz=339,slow=9.6,SNR=233					
ASAR		S		S	12 33 01.9	-5.5
	comp=Z,7.2nm,0.7s,baz=358,slow=26,SNR=6.5					
AS01	Alice Springs	17.43 168	P	Pn	12 29 55.0	+0.6
MBWA	Marble Bar	17.58 213	P	Pn	12 29 56.4	+0.1
MBWA		IAmb	IAmb		12 29 56.9	
	comp=Z,18nm,0.8s					
MBWA	Marble Bar	17.58 213	P	Pn	12 29 56.1	-0.2
MTSU	Mount Surprise	18.10 131	P	Pn	12 30 03.0	+0.5
KKM	Kota Kinabalu	18.60 312	P	Pn	12 30 07.4	-1.1
KKM		IAmb	IAmb		12 30 12.1	
	comp=Z,56nm,1.4s					
KKM	Kota Kinabalu	18.60 312	P	Pn	12 30 07.1	-1.3
SBUM	Sibu	19.87 296	P	P	12 30 19.4	-0.7
SBUM		IAmb	IAmb		12 30 23.2	
	comp=Z,10nm,0.8s					
CTAO	Charters Tower	20.74 132	P	P	12 30 28.4	-1.0
CTAO		IAmb	IAmb		12 30 34.1	
	comp=Z,10nm,0.8s					
CTAO	Charters Tower	20.74 132	P	Pn	12 30 31.1	-2.4
KSM	Kuching	21.20 291	P	P	12 30 35.2	+0.7
GIRL	Giralia	22.05 222		P	12 30 44.0	+0.7
BBJI	Bungbulang	22.19 266	P	P	12 30 44.8	0.0
MEEK	Meekatharra	22.71 207	P	P	12 30 50.2	+0.5
QLP	Quilpie	24.09 147	P	P	12 31 03.5	+1.2
MORW	Morawa	25.97 209	P	P	12 31 19.9	+0.7
MORW		IAmb	IAmb		12 31 22.3	
	comp=Z,25nm,1.2s					
BBOO	Buckleboo	26.72 169	P	P	12 31 25.7	-0.3
BBOO	Buckleboo	26.72 169	P	P	12 31 26.3	+0.3
BLDU	Ballidu	26.98 206	P	P	12 31 29.6	+1.3
KLBR	Kellerberrin	27.40 203	P	P	12 31 32.1	0.0
STKA	Stephens Creek	27.42 158	P	P	12 31 32.7	+0.5
	comp=Z,6.3nm,0.4s,baz=341,slow=7.9,SNR=22					
	comp=Z,6.3nm,0.4s					
STKA	Stephens Creek	27.42 158	P	P	12 31 32.6	+0.4
EIDS	Eidsvold	27.50 135	P	P	12 31 32.3	-0.8
EIDS		IAmb	IAmb		12 31 41.0	
	comp=Z,16nm,1.4s					
HTT	Hallett	27.99 164	P	P	12 31 38.3	+1.0
NWAO	Narrogin (SRO)	28.79 203	P	P	12 31 44.6	+0.2
NWAO	Narrogin (SRO)	28.79 203	P	P	12 31 44.5	+0.2
CMSA	Cobar Meteorol	28.86 151	P	P	12 31 46.1	+1.1
ALEG	Aligegeo Malai	30.51 96	P	P	12 32 00.9	+1.1
ARMA	Armidale	31.25 142	P	P	12 32 05.9	-0.3
ARMA		IAmb	IAmb		12 32 27.8	
	comp=Z,12nm,1.3s					
KULM	Kulim	31.56 291	P	P	12 32 10.0	+0.9
CAN	Canberra	33.54 151	P	P	12 32 24.9	-1.2
CAN	Canberra	33.54 151	P	P	12 32 26.9	+0.8
CORO	Coronation Par	37.95 159	P	P	12 33 04.0	+0.5
CMAR	Chiang Mai Arr	39.45 310	P	P	12 33 16.1	-0.3
	comp=Z,2.2nm,0.6s,baz=137,slow=7.4,SNR=16					
	comp=Z,2.2nm,0.6s					
CHTO	Chiang Mai	39.65 310	P	P	12 33 18.1	0.0
NJ2	Nanjing	39.84 345	eP	P	12 33 20.1	+0.8
NJ2		pmax	pmax			
	comp=Z,20nm,0.6s					
PZH	PanZhiHua	42.79 321	P	P	12 33 45.5	+1.8
MAJO	Matsushiro	43.57 10	P	P	12 33 47.0	-2.6
MAJO		IAmb	IAmb		12 34 08.7	
	comp=Z,11nm,1.2s					
MJAR	Matsushiro Arr	43.57 10	P	P	12 33 48.2	-1.4
	comp=Z,1.7nm,0.7s,baz=190,slow=9.8,SNR=6.6					
	comp=Z,1.7nm,0.7s					
KSRS	Korea Array	43.83 358	P	P	12 33 51.2	-0.5
	comp=Z,0.8nm,0.7s,baz=174,slow=9.1,SNR=5.4					
	comp=Z,0.8nm,0.7s					
LZH	Lanzhou	49.02 332	eP	P	12 34 34.8	+2.4
LZH		pP	pwP		12 35 12.8	+3.4
LZH		pmax	pmax			
	comp=Z,18nm,1.2s					
HHC	Hu-ho-hao-te	50.13 342	eP	P	12 34 41.0	+0.3
HHC		pmax	pmax			
	comp=Z,34nm,0.6s					
HHC		pmax	pmax			
	comp=Z,180nm,5.2s					
USRK	Ussuriysk Ar.	50.56 2	P	P	12 34 43.2	-0.4
	comp=Z,1.3nm,0.6s,baz=181,slow=8.3,SNR=2.1					
	comp=Z,1.3nm,0.6s					
EVN	Everest	53.98 312	P	P	12 35 09.1	-0.9
EVN		IAmb	IAmb		12 35 10.1	
	comp=Z,6.5nm,0.7s					
SONM	Songino Array	58.03 341	P	P	12 35 37.7	-0.2
	comp=Z,0.6nm,0.5s,baz=165,slow=6.0,SNR=4.1					
	comp=Z,0.6nm,0.5s					
MKAR	Makanchi Array	67.86 327	P	P	12 36 42.5	-0.1
	comp=Z,9.1nm,0.5s,baz=120,slow=7.9,SNR=111					
	comp=Z,9.1nm,0.5s					
KDJ	Kajisay	68.23 320	P	P	12 36 45.6	+0.3
KDJ		IAmb	IAmb		12 36 55.9	
	comp=Z,6.8nm,1.1s					
AAK	Ala-Archa	70.20 320	P	P	12 36 56.6	-0.8
AAK		IAmb	IAmb		12 36 58.6	
	comp=Z,6.2nm,0.6s					
ARSB	Arslanbob	70.56 318		P	12 36 59.5	-0.2
ZAA0	Zalesovo Array	71.19 334	P	P	12 37 01.8	-1.1
ZALV	Zalesovo Beam	71.19 334	P	P	12 37 01.8	-1.1
ZALV	Zalesovo Beam	71.19 334	P	P	12 37 01.7	-1.2
	comp=Z,1.6nm,0.6s,baz=143,slow=6.2,SNR=6.2					
	comp=Z,1.6nm,0.6s					
GAR	Garm	71.35 315	P	P	12 37 02.5	-1.9
KURBB	Kurchatov Arra	72.13 328	P	P	12 37 08.2	-0.5
	comp=Z,2.4nm,0.6s,baz=128,slow=5.1,SNR=35					
	comp=Z,2.4nm,0.6s					
SIMJ	Simiganj	72.14 314	P	P	12 37 09.0	-0.2
SIMJ		IAmb	IAmb		12 37 09.9	
	comp=Z,7.3nm,0.7s					
KURK	Kurchatov	72.14 329	P	P	12 37 07.7	-1.0
VNDA	Vanda	72.88 173	P	P	12 37 12.9	+0.2
VNDA	Vanda	72.88 173	P	P	12 37 12.6	-0.1
	comp=Z,0.8nm,0.6s,baz=323,slow=6.6,SNR=8.9					
	comp=Z,0.8nm,0.6s					
KK31	Karatay Array	73.01 319	P	P	12 37 13.0	-1.1
KK31		IAmb	IAmb		12 37 14.6	
	comp=Z,9.0nm,1.3s					
KKAR	Karatay Array	73.01 319	P	P	12 37 13.0	-1.0
SBA	Scott Base	73.77 172	P	P	12 37 17.6	-0.2
MAW	Mawson	75.35 201	P	P	12 37 27.0	-0.1
	comp=Z,0.9nm,0.4s,baz=81,slow=9.2,SNR=3.7					
	comp=Z,0.9nm,0.4s					
BVAR	Borovoye Array	77.69 328	P	P	12 37 39.9	-0.6
	comp=Z,1.7nm,0.8s,baz=134,slow=6.4,SNR=7.1					
	comp=Z,1.7nm,0.8s					
TIXI	Tiksi	78.06 360	P	P	12 37 41.6	-0.6
TIXI		IAmb	IAmb		12 38 01.4	
	comp=Z,4.6nm,0.8s					
AB31	Akbulak array	82.16 322	P	P	12 38 03.9	-0.7
ABKAR	Akbulak array	82.16 322	P	P	12 38 03.6	-1.0
QSPA	South Pole Qui	83.41 180	P	P	12 38 11.2	+0.2
QSPA	South Pole Qui	83.41 180	P	P	12 38 11.2	+0.2
	comp=Z,1.1nm,0.6s,baz=289,slow=1.1,SNR=11					
	comp=Z,1.1nm,0.6s					
RAYN	Ar Rayn	87.56 294	P	P	12 38 31.6	-0.8
RAYN		IAmb	IAmb		12 38 33.0	
	comp=Z,3.3nm,0.8s					

DJA 10 12:51:58.0±0.3, 4°S±3°×13°3E±°, h10km, M3.8/7, mb3.9/1, MLv3.7/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	Kaimana, Papua	0.64	25	P	Pg	12 52 09.4	-1.0
KMPI				S	Sg	12 52 16.2	-2.5
FAKI	Fak Fak	1.76	318	P	Pn	12 52 28.2	-0.4
FAKI				S	Sb	12 52 52.1	-0.6
RKPI	Ransiki, Papua	2.81	15	P	Pn	12 52 43.7	+0.6

DJA 10 12:55:16.3±0.5, 10°S±5°×11°9E±°, h32km±5km, M3.8/7, mb4.2/1, MLv3.7/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	Waikabubak, Su	0.39	64	P	Pb	12 55 25.2	0.0
WBSI				S	Sn	12 55 35.2	+3.2
WBSI	Waikabubak, Su	0.39	64	P	Pb	12 55 24.6	-0.6
WSI	Waingapu	1.25	84	P	Pn	12 55 35.5	-2.0
WSI				S	Sb	12 55 54.4	-0.6
BASI	Baing, Sumba	1.57	105	S	Sn	12 56 02.3	+1.1
PLAI	Plampang	1.58	308	P	Pn	12 55 42.6	+0.4
PLAI				S	Sn	12 56 02.0	+0.4
PLAI	Plampang	1.58	308	P	Pn	12 55 43.1	+0.9
EDFI	Ende, Flores	2.82	68	P	Pn	12 55 59.8	+0.5
BSSI	Bau Bau, Buton	3.92	22	P	Pn	12 56 12.9	-1.4
BSSI				S	Sn	12 57 00.4	+1.2
BKSI	Bulukumba	4.59	14	P	Pn	12 56 23.7	+0.2
JAGI	Jajag, Banyuwa	5.01	285	P	Pn	12 56 28.8	-0.5

*IDC **10** 12:59:14.9±0.8, 0.37N×120.18E, h563km±10km, mb3.5/20, mbtmp4.5/23, Error ellipse: s-maj=15.4km s-min=6.9km az=66.0*
*NEIC **10** 12:59:15.6±1.3, 0.37N±0.07×120.14E±0.08, h567km±8km, mb4.6/44, Error ellipse: s-maj=15.0km s-min=3.7km az=45.0*
*DJA **10** 12:59:16.4±0.4, 0°N±3°×12°0E±°, h539km±4km, M4.4/17, mB4.9/9, mb4.6/13, MLv4.4/17, Mw(mB)4.2/9, MwMwp5.9/1, Mwp6.0/1*

ISC 10 12:59:14.2±0.3, 0.37N±0.05×120.14E±0.05, h550km, n149, σ1§11/160, mb4.4/39, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	Mapaga	0.25	262	P	P	13 00 21.5	+2.2
TOLI2	Tolitoli	0.97	41		P	13 00 22.5	+2.0
TOLI2	Tolitoli	0.97	41	P	P	13 00 22.4	+2.0
TOLI2	Tolitoli	0.97	41	S	S	13 01 16.3	+2.1
MRSI	Marisa	1.80	87	P	P	13 00 24.0	+1.0
MRSI				S	S	13 01 18.7	-0.2
APSI	Ampana	1.98	130	P	P	13 00 25.7	+1.9
LUWI	Luwuk	2.98	118	P	P	13 00 30.1	+1.0
SPSI	Sidrap Palu	4.33	185	P	P	13 00 39.6	+1.0
BNSI	Bone	4.74	180	P	P	13 00 42.2	+0.3
MYLDM	Lahad Datu	5.05	341		P	13 00 47.8	+3.4
MYLDM	Lahad Datu	5.05	341	P	P	13 00 46.8	+2.4
KAPI	Kappang	5.37	184	P	P	13 00 48.9	+1.7
KAPI	Kappang	5.37	184	P	P	13 00 49.3	+2.1
	36nm,0.4s,baz=326,slow=8.2,SNR=34						
KAPI				S	S	13 02 04.3	+1.2
	3.2nm,0.3s,baz=43,slow=19,SNR=0.9						
KAPI	Kappang	5.37	184	P	P	13 00 49.2	+2.1
KAPI	Kappang	5.37	184	S	S	13 02 05.4	+2.3
BKSI	Bulukumba	5.66	180	P	P	13 00 50.7	+1.0
	0.2nm473nm62nm,0.7s						
SGSI	Sangihe	6.31	58	P	P	13 00 57.6	+1.9
SANI	Sanana	6.32	112	P	P	13 00 56.3	+0.5
SANI	Sanana	6.32	112	P	P	13 00 55.9	+0.1
	0.2nm1μm72nm,0.9s						
SANI				S	S	13 02 17.0	-1.9
	0.2nm1μm72nm,0.9s						
KKM	Kota Kinabalu	6.86	325		P	13 01 02.1	+1.2
KKM	Kota Kinabalu	6.86	325	P	P	13 01 01.6	+0.6
TNTI	Ternate	7.24	87		P	13 01 05.2	+0.7
TNTI	Ternate	7.24	87	P	P	13 01 05.0	+0.5
TNTI	Ternate	7.24	87	P	P	13 01 05.9	+1.4
	0.7nm2μm106nm,0.5s						
SBUM	Sibu	8.18	285		P	13 01 14.9	+1.1
MMRI	Maumere	9.19	167		P	13 01 22.7	-1.2
MMRI	Maumere	9.19	167	P	P	13 01 24.9	+1.0
	58nm,0.7s						
EDFI	Ende, Flores	9.19	170	P	P	13 01 25.1	+1.0
KSM	Kuching	9.89	276	P	P	13 01 31.7	+0.6
JAGI	Jajag, Banyuwa	10.62	214	P	P	13 01 40.5	+1.9
JAGI	Jajag, Banyuwa	10.62	214	P	P	13 01 39.9	+1.3
SOEI	Soe	10.87	158		P	13 01 42.3	+1.0
SOEI	Soe	10.87	158	P	P	13 01 42.9	+1.7
SOEI	Soe	10.87	158	S	S	13 03 42.8	+0.7
BATI	Baumata	11.08	162	P	P	13 01 44.3	+1.0
	153nm,0.4s,baz=50,slow=1.2,SNR=17						
BATI				S	S	13 03 45.1	-0.7
	27nm,0.4s,baz=281,slow=16,SNR=8.0						
FAKI	Fak Fak	12.54	105	P	P	13 01 59.2	+0.8
FAKI	Fak Fak	12.54	105	P	P	13 02 00.0	+1.6
FAKI	Fak Fak	12.54	105	S	S	13 04 14.6	+1.1
UGM	Wanagama	12.64	229	P	P	13 02 00.0	+0.6
UGM	Wanagama	12.64	229	P	P	13 02 00.3	+0.9
LEM	Lembang	14.40	240	P	P	13 02 18.6	+0.9
	102nm,0.7s,baz=32,slow=14,SNR=9.6						
BBJI	Bungbulang	14.69	238	P	P	13 02 21.3	+0.7
MYKOM	Kota Tinggi	16.35	275	P	P	13 02 38.1	+1.0
MYKOM		IAmb	IAmb			13 02 39.5	
	comp=Z,18nm,0.9s						
DRS	Darwin Rock St	16.61	140	P	P	13 02 39.7	+0.3
MTN	Manton Dam	17.07	141		P	13 02 43.8	+0.2
MTN		IAmb	IAmb			13 02 43.8	
	comp=Z,23nm,0.7s						
MTN	Manton Dam	17.07	141	P	P	13 02 43.6	0.0
MNAI	Manna	17.80	255	P	P	13 02 51.3	+0.9
MNAI	Manna	17.80	255	P	P	13 02 51.1	+0.7
KDU	Kakadu	17.83	137	P	P	13 02 50.5	-0.1
KNRA	Kununurra	18.08	152		P	13 02 53.3	+0.5
FITZ	Fitzroy Crossi	19.14	164	P	P	13 03 02.8	+0.4
FITZ		IAmb	IAmb			13 03 04.2	
	comp=Z,7.1nm,1.0s						
FITZ	Fitzroy Crossi	19.14	164	P	P	13 03 03.1	+0.7
	comp=Z,27nm,0.6s,baz=350,slow=7.8,SNR=62						
IPM	Ipoh	19.53	282		P	13 03 06.8	+0.7
IPM	Ipoh	19.53	282	P	P	13 03 07.5	+1.4
KULM	Kulim	20.07	284	P	P	13 03 11.2	+0.2
KULM		IAmb	IAmb			13 03 15.5	
	comp=Z,38nm,1.3s						
KULM	Kulim	20.07	284	P	P	13 03 11.6	+0.6
RPSI	Rantau Prapat	21.33	276	P	P	13 03 23.2	+0.7
PSI	Prapat	21.34	277	P	P	13 03 23.2	+0.5
	comp=Z,3.8nm,0.3s,baz=155,slow=14,SNR=3.9						
	comp=Z,3.8nm,0.3s						
MBWA	Marble Bar	21.41	181	P	P	13 03 22.4	-0.6
MBWA		IAmb	IAmb			13 03 43.5	
	comp=Z,29nm,1.5s						
WRAB	Tennant Creek	24.52	146		P	13 03 50.4	-0.4
WRAB		IAmb	IAmb			13 03 50.8	
	comp=Z,17nm,0.7s						
WRA	Warramunga Arr	24.52	146		P	13 03 49.2	-1.6
WRA	Warramunga Arr	24.52	146	P	P	13 03 50.0	-0.8
	comp=Z,16nm,0.6s,baz=328,slow=9.4,SNR=142						
WRA		PcP		PcP		13 07 09.1	-1.2
	comp=Z,0.6nm,0.5s,baz=303,slow=3.2,SNR=2.2						
WRA		ScP		ScP		13 09 55.3	-2.0
	comp=Z,0.6nm,0.4s,baz=322,slow=2.8,SNR=9.2						
	comp=Z,16nm,0.6s						
COEN	Coen	26.89	123	P	P	13 04 11.2	-0.6
COEN		IAmb	IAmb			13 04 16.2	
	comp=Z,12nm,1.4s						
COEN	Coen	26.89	123	P	P	13 04 11.5	-0.3
MEEK	Meekatharra	26.89	183	P	P	13 04 11.8	+0.1
ASAR	Alice Springs	27.38	152		P	13 04 16.1	+0.1
ASAR	Alice Springs	27.38	152	P	P	13 04 15.9	-0.1
	comp=Z,9.5nm,0.7s,baz=346,slow=14,SNR=96						
ASAR		PcP		PcP		13 07 16.4	-0.5
	comp=Z,1.5nm,0.6s,baz=337,slow=2.9,SNR=6.7						
ASAR		S		S		13 08 17.1	-0.8
	comp=Z,0.5nm,0.7s,baz=334,slow=18,SNR=4.3						
ASAR		ScP		ScP		13 10 04.0	-1.7
	comp=Z,3.6nm,0.8s,baz=343,slow=2.6,SNR=20						
	comp=Z,9.5nm,0.7s						
AS01	Alice Springs	27.40	152	P	P	13 04 16.4	+0.2
CMAR	Chiang Mai Arr	27.50	312	P	P	13 04 17.9	+0.8
	comp=Z,2.5nm,0.5s,baz=137,slow=7.2,SNR=17						
CMAR		ScP		ScP		13 10 03.6	-2.6
	comp=Z,0.4nm,0.3s,baz=128,slow=3.5,SNR=4.4						
	comp=Z,2.5nm,0.5s						
QIS	Mount Isa	28.20	139	P	P	13 04 22.9	-0.3
PMG	Port Moresby	28.60	111	P	P	13 04 27.1	+0.3
PMG		IAmb	IAmb			13 04 27.5	
	comp=Z,17nm,0.7s						
PMG	Port Moresby	28.60	111	P	P	13 04 26.4	-0.4
	comp=Z,20nm,0.8s,baz=6.6,slow=3.7,SNR=8.9						
	comp=Z,20nm,0.8s						
MORW	Morawa	29.54	187	P	P	13 04 34.4	-0.3
MORW		IAmb	IAmb			13 04 35.6	
	comp=Z,9.3nm,0.8s						
MORW	Morawa	29.54	187	P	P	13 04 34.9	+0.3
MTSU	Mount Surprise	30.06	129	P	P	13 04 39.9	+0.6
BLDU	Ballidu	30.99	186	P	P	13 04 46.9	-0.2
PZH	PanZhiHua	31.44	327	P	P	13 04 53.3	+2.1
NJ2	Nanjing	31.53	358	eP	P	13 04 54.3	+2.6
NJ2		pmax	pmax				
	comp=Z,8.0nm,0.6s						
KLBR	Kellerberrin	31.87	184	P	P	13 04 54.7	+0.1
CTAO	Charters Tower	32.68	130		P	13 05 02.8	+1.1
CTAO		IAmb	IAmb			13 05 03.2	
	comp=Z,18nm,0.9s						
CTAO	Charters Tower	32.68	130	P	P	13 05 02.4	+0.7
NWAO	Narrogin (SRO)	33.24	184		P	13 05 06.5	+0.4
NWAO	Narrogin (SRO)	33.24	184	P	P	13 05 06.4	+0.2
QLP	Quilpie	35.45	141	P	P	13 05 25.3	+0.5
BBOO	Buckleboo	36.26	157	P	P	13 05 31.4	0.0
BBOO	Buckleboo	36.26	157	P	P	13 05 31.0	-0.4
KSAR	Wonju Array Be	37.57	10	P	P	13 05 42.6	+0.6
KSRS	Korea Array	37.59	10	P	P	13 05 41.8	-0.3
	comp=Z,2.0nm,0.9s,baz=187,slow=10,SNR=4.3						
	comp=Z,2.0nm,0.9s						
STKA	Stephens Creek	37.96	150		P	13 05 46.0	+0.6
STKA	Stephens Creek	37.96	150	P	P	13 05 45.0	-0.4
	comp=Z,21nm,0.6s,baz=323,slow=8.8,SNR=38						
	comp=Z,21nm,0.6s						
STKA	Stephens Creek	37.96	150	P	P	13 05 46.0	+0.6
HTT	Hallett	37.99	154	P	P	13 05 46.1	+0.5
EIDS	Eidsvold	39.36	133	P	P	13 05 56.5	-0.3
EIDS		IAmb	IAmb			13 06 12.7	
	comp=Z,14nm,1.4s						
MAJO	Matsushiro	39.70	23	P	P	13 06 00.4	+1.1
MJAR	Matsushiro Arr	39.70	23	P	P	13 05 58.1	-1.2
	comp=Z,1.5nm,0.7s,baz=190,slow=8.7,SNR=6.1						
	comp=Z,1.5nm,0.7s						
CMSA	Cobar Meteorol	39.92	145	P	P	13 06 02.2	+1.1
LSA	Lhasa	40.16	319	P	P	13 06 03.6	-0.1
LSA		IAmb	IAmb			13 06 06.1	
	comp=Z,9.3nm,0.6s						
HHC	Hu-ho-hao-te	41.03	350	eP	P	13 06 13.0	+3.0
HHC		pmax	pmax				
	comp=Z,12nm,0.5s						
HHC		pmax	pmax				
	comp=Z,120nm,4.5s						
NGOA	Tingoa Renbel	41.38	108	P	P	13 06 12.3	-0.8
ALEG	Aligegeo Malai	41.40	104	P	P	13 06 12.2	-1.1
JMM	Marumori	41.88	25	P	P	13 06 16.3	-0.3
JMM		IAmb	IAmb			13 06 45.0	
	comp=Z,44nm,1.5s						
EVN	Everest	42.09	314		P	13 06 18.6	-0.6
EVN		IAmb	IAmb			13 06 20.5	
	comp=Z,5.9nm,0.6s						
ARMA	Armidale	42.83	138	P	P	13 06 26.4	+2.1
ARMA		IAmb	IAmb			13 06 47.3	
	comp=Z,38nm,1.4s						
ARMA	Armidale	42.83	138	P	P	13 06 24.1	-0.3
JTM	Tenmabayashi	44.49	23	P	P	13 06 36.4	-0.5
CAN	Canberra	44.56	146	P	P	13 06 38.8	+1.1
CAN	Canberra	44.56	146	P	P	13 06 37.2	-0.4
CNB	Canberra Magne	44.77	145	P	P	13 06 39.2	0.0
USRK	Ussuriysk Ar.	44.89	12	P	P	13 06 39.9	0.0
	comp=Z,1.7nm,0.6s,baz=205,slow=6.7,SNR=4.7	

LVA				IAmb	IAmb	13 10 35.6	
	comp=Z,32nm,1.4s						
KBZ	**Khabaz**	**80.53 314**	P	**P**		**13 10 29.1**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=111,slow=8.6,SNR=3.9						
	comp=Z,1.5nm,0.8s						
VNDA	**Vanda**	**81.02 172**	P	**P**		**13 10 30.8**	**-0.5**
VNDA	**Vanda**	**81.02 172**	P	**P**		**13 10 31.0**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=312,slow=7.5,SNR=13						
	comp=Z,2.2nm,0.8s						
J18K	**Innoko River**	**86.59 27**	P	**P**		**13 10 58.9**	**-0.3**
QSPA	**South Pole Qui**	**90.31 180**	P	**P**		**13 11 16.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=304,slow=4.1,SNR=10						
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**91.28 339**	P	**P**		**13 11 18.7**	**-2.1**
	comp=Z,2.5nm,0.9s,baz=46,slow=7.2,SNR=4.0						
	comp=Z,2.5nm,0.9s						
FINES	**FINESS Array B**	**91.63 331**	P	**P**		**13 11 20.1**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.8,SNR=3.7						
	comp=Z,0.7nm,0.6s						

*IDC **10** 13:14:23.7±2.0,3.˚17N×96.˚41E,h0km,mb3.6/5, mbtmp3.6/6,ML3.1/1, Error ellipse: s-maj=65.7km s-min=19.2km az=45.0*

ISC 10 13:14:28.0±1.7,3.˚3N±0.˚3×96.˚6E±0.˚2,h25km,n18,σ0.78/7, mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**2.40**	**101**	Pn		**Pn**	**13 15 06.5**	**+0.6**
	4.0nm,0.3s,baz=297,slow=9.4,SNR=9.2							
PSI				Sn		**Sb**	**13 15 39.5**	**-0.4**
	1.5nm,0.3s,baz=313,slow=21,SNR=1.6							
	8.2nm,0.3s							
H08S2	**Diego Garcia H**	**26.36**	**246**	T		T	13 45 22.7	
	baz=66,slow=75,SNR=21							
H08S3	**Diego Garcia H**	**26.36**	**246**	T		T	13 45 28.3	
	baz=66,slow=75,SNR=96							
H08S1	**Diego Carcia H**	**26.37**	**246**	T		T	13 45 24.2	
	baz=66,slow=75,SNR=38							
H01W3	**Cape Leeuwin H**	**41.40**	**158**	T		T	14 05 42.3	
	baz=332,slow=76,SNR=4.4							
H01W2	**Cape Leeuwin H**	**41.41**	**158**	T		T	14 05 50.5	
	baz=332,slow=76,SNR=5.2							
H01W1	**Cape Leeuwin H**	**41.41**	**158**	T		T	14 05 44.9	
	baz=332,slow=76,SNR=4.6							
WRA	**Warramunga Arr**	**43.68**	**123**	P		**P**	**13 22 30.3**	**-1.0**
	0.3nm,0.8s,baz=302,slow=9.0,SNR=1.7							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**45.09**	**346**	P		**P**	**13 22 42.1**	**0.0**
	1.3nm,0.5s,baz=165,slow=8.7,SNR=13							
	1.3nm,0.5s							
ASAR	**Alice Springs**	**45.16**	**128**	P		**P**	**13 22 43.6**	**+0.5**
	0.5nm,0.8s,baz=284,slow=9.4,SNR=4.3							
	0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**49.57**	**345**	P		**P**	**13 23 16.3**	**-0.6**
	0.6nm,0.7s,baz=169,slow=7.3,SNR=9.0							
	0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**51.42**	**351**	P		**P**	**13 23 31.3**	**+0.5**
	1.0nm,0.5s,baz=168,slow=9.1,SNR=4.3							
	1.0nm,0.5s							
H04N2	**CROZET ISLANDS**	**63.14**	**213**	T		T	14 31 34.2	
	baz=51,slow=75,SNR=63							
H04N1	**CROZET ISLANDS**	**63.15**	**213**	T		T	14 31 35.0	
	baz=51,slow=75,SNR=68							
H04N3	**CROZET ISLANDS**	**63.16**	**213**	T		T	14 31 33.7	
	baz=51,slow=75,SNR=71							
H04S1	**CROZET ISLANDS**	**63.50**	**213**	T		T	14 31 55.7	
	baz=50,slow=75,SNR=10							
H04S3	**CROZET ISLANDS**	**63.51**	**213**	T		T	14 32 17.0	
	baz=50,slow=75,SNR=14							
H04S2	**CROZET ISLANDS**	**63.51**	**213**	T		T	14 32 05.1	
	baz=50,slow=75,SNR=13							

*NOU **10** 13:24:17.5,22.˚01S×169.˚92E,h0km,MLv4.2/15, Southeast of Loyalty Islands*
*IDC **10** 13:24:18.6±3.9,20.˚73S×169.˚43E,h0km,mb3.4/2, mbtmp3.5/3,ML3.8/1,MS2.7/1,Error ellipse: s-maj=173.3km s-min=28.6km az=147.0*

ISC 10 13:24:18.7±1.5,22.˚1S±0.˚1×170.˚1E±0.˚1,h25km,n21, σ0.74/21,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PINNC	**Pines Island,**	**2.48**	**257**	P		**Pn**	**13 24 56.9**	**-0.6**
PINNC	**Pines Island,**	**2.48**	**257**	S		**Sn**	**13 25 28.4**	**+1.4**
INH	**Isangel**	**2.63**	**344**	P		**Pn**	**13 24 59.4**	**-0.2**
YATNC	**Mamie plateau,**	**2.94**	**270**	P		**Pn**	**13 25 03.1**	**-0.8**
YATNC	**Mamie plateau,**	**2.94**	**270**	S		**Sn**	**13 25 38.1**	**-0.4**
OUENC	**Ouen Island, N**	**3.00**	**263**	P		**Pn**	**13 25 04.6**	**-0.1**
OUENC	**Ouen Island, N**	**3.00**	**263**	S		**Sn**	**13 25 41.5**	**+1.6**
ONTNC	**Ouen Toro**	**3.35**	**266**	P		**Pn**	**13 25 09.7**	**+0.2**
ONTNC	**Ouen Toro**	**3.35**	**266**	S		**Sn**	**13 25 49.4**	**+0.8**
DZM	**Mont Dzumac**	**3.36**	**270**	Pn		**Pn**	**13 25 09.9**	**+0.2**
	12nm,0.3s,baz=104,slow=18,SNR=884							
DZM				Sn		**Sn**	**13 25 47.5**	**-1.4**
	8.1nm,0.3s,baz=112,slow=19,SNR=13							
	22nm,0.3s							
DZM	**Mont Dzumac**	**3.36**	**270**	P		**Pn**	**13 25 10.0**	**+0.3**
DZM	**Mont Dzumac**	**3.36**	**270**	S		**Sn**	**13 25 48.7**	**-0.1**
DVP	**Devils Point**	**4.69**	**338**	P		**Pn**	**13 25 27.9**	**+0.1**
VLAKA	**Lakatoro**	**6.45**	**337**	P		**Pn**	**13 25 52.0**	**-0.1**
SANVU	**Saraoutou**	**7.14**	**337**	P		**Pn**	**13 26 02.0**	**+0.4**
HNR	**Honiara**	**15.90**	**321**	LR		LR	13 31 43.0	
	comp=Z,32nm,21.1s,baz=210,slow=31							
ASAR	**Alice Springs**	**33.30**	**260**	P		**P**	**13 30 54.7**	**+0.1**
	0.4nm,0.8s,baz=78,slow=8.9,SNR=4.4							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**33.37**	**267**	P		**P**	**13 30 54.3**	**-1.0**
	0.2nm,0.4s,baz=98,slow=8.2,SNR=5.4							
	0.2nm,0.4s							
HFS	**Hagfors**	**138.50**	**342**	PKP		**PKiKP**	**13 43 43.7**	**-0.1**
	3.1nm,0.9s,baz=38,slow=7.3,SNR=2.3							
EKA	**Eskdalemuir Ar**	**146.42**	**353**	PKPbc		**PKPdf**	**13 43 55.8**	**-0.1**
	1.2nm,0.4s,baz=1.2,slow=2.8,SNR=13							
GERES	**GERESS Array B**	**147.35**	**331**	PKPbc		**PKPdf**	**13 43 58.4**	**+0.6**
	0.4nm,0.5s,baz=51,slow=4.3,SNR=3.8							

*GUC **10** 13:26:31.5±0.7,23.˚00S×68.˚79W,h115km±5km,ML3.3*
*SJA **10** 13:26:31.1±0.6,23.˚00S×68.˚74W,h111km±2km,ML3.2, MW3.6*

ISC 10 13:26:31.2±1.4,22.˚99S±0.˚03×68.˚72W±0.˚05,h118km±9km, n35,σ1.01/53,2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AF01	**San Pedro de A**	**0.50**	**86**	*e*P		**Pn**	**13 26 49.1**	**-0.2**
AF01				*e*S		**Sn**	**13 27 02.1**	**-0.7**
AF01				IAML			13 27 04.7	
	comp=E,2μm,0.2s							
AF01	**San Pedro de A**	**0.50**	**86**	*e*P		**Pn**	**13 26 49.0**	**-0.2**
AF01				*e*S		**Sn**	**13 27 02.4**	**-0.5**
AF01				IAML			13 27 12.2	
	comp=Z,749nm,0.2s							
PB06	**IPOC Station P**	**0.84**	**289**	⇑*i*P		**Pn**	**13 26 51.8**	**+0.1**
PB06				*e*S		**Sn**	**13 27 06.5**	**-0.6**
PB06				IAML			13 27 07.2	
	comp=N,1μm,0.1s							
PB06	**IPOC Station P**	**0.84**	**289**	*e*P		**Pn**	**13 26 51.6**	**-0.1**
PB06				*e*S		**Sn**	**13 27 07.0**	**-0.1**
PB06				IAML			13 27 11.1	
	comp=Z,683nm,0.1s							
PB09	**IPOC Station P**	**1.28**	**338**	*e*P		**Pn**	**13 26 57.0**	**+0.7**
PB09				*e*S		**Sn**	**13 27 15.9**	**+0.8**
PB09				IAML			13 27 16.3	
	comp=N,346nm,0.2s							
PB09	**IPOC Station P**	**1.28**	**338**	*e*P		**Pn**	**13 26 56.9**	**+0.7**
PB09				*e*S		**Sn**	**13 27 15.3**	**+0.2**
PB09				IAML			13 27 17.0	
	comp=Z,238nm,0.3s							
PB03	**IPOC Station P**	**1.34**	**314**	*e*P		**Pn**	**13 26 56.9**	**0.0**
PB03				*e*S		**Sn**	**13 27 15.6**	**-0.6**
PB03				IAML			13 27 16.7	
	comp=E,447nm,0.2s							
PB03	**IPOC Station P**	**1.34**	**314**	*e*P		**Pn**	**13 26 57.0**	**+0.1**
PB03				*e*S		**Sn**	**13 27 16.3**	**+0.1**
PB03				IAML			13 27 18.2	
	comp=Z,412nm,0.1s							
PB05	**IPOC Station P**	**1.38**	**275**	⇑*i*P		**Pn**	**13 26 57.3**	**+0.1**
PB05				*e*S		**Sn**	**13 27 17.1**	**+0.2**
PB05	**IPOC Station P**	**1.38**	**275**	*e*P		**Pn**	**13 26 57.3**	**+0.1**
PB05				*e*S		**Sn**	**13 27 16.6**	**-0.3**
PB05				IAML			13 27 25.3	
	comp=Z,93nm,0.5s							
PB10	**IPOC Station P**	**1.77**	**252**	*e*P		**Pn**	**13 27 02.6**	**+0.9**
PB10				*e*S		**Sn**	**13 27 24.4**	**-0.5**
PB10	**IPOC Station P**	**1.77**	**252**	*e*P		**Pn**	**13 27 02.1**	**+0.4**
PB10				*e*S		**Sn**	**13 27 27.7**	**+2.8**
PB02	**IPOC Station P**	**1.99**	**326**	*e*P		**Pn**	**13 27 04.8**	**+0.3**
PB02	**IPOC Station P**	**1.99**	**326**	*e*P		**Pn**	**13 27 04.8**	**+0.3**
PB02				*e*S		**Sn**	**13 27 30.3**	**+0.4**
PB02				IAML			13 27 35.6	
	comp=Z,342nm,0.1s							
PB01	**IPOC Station P**	**2.06**	**340**	*e*P		**Pn**	**13 27 05.8**	**+0.3**
PB01				*e*S		**Sn**	**13 27 31.8**	**+0.2**
PB01				IAML			13 27 32.7	
	comp=E,273nm,0.2s							
PB01	**IPOC Station P**	**2.06**	**340**	*e*P		**Pn**	**13 27 05.8**	**+0.3**
PB01				*e*S		**Sn**	**13 27 31.5**	**-0.1**
PB01				IAML			13 27 32.5	
	comp=Z,151nm,0.2s							
PB14	**IPOC Station P**	**2.25**	**223**	*e*P		**Pn**	**13 27 08.6**	**+0.6**
PB14	**IPOC Station P**	**2.25**	**223**	*e*P		**Pn**	**13 27 08.6**	**+0.6**
PB14				*e*S		**Sn**	**13 27 35.9**	**-0.2**
PB14				IAML			13 27 37.8	
	comp=Z,128nm,0.2s							
GO02	**Mina Guanaco**	**2.31**	**200**	*e*P		**Pn**	**13 27 09.4**	**+0.6**
GO02				*e*S		**Sn**	**13 27 38.2**	**+0.7**
GO02	**Mina Guanaco**	**2.31**	**200**	*e*P		**Pn**	**13 27 09.4**	**+0.6**
GO02				*e*S		**Sn**	**13 27 37.4**	**-0.1**
GO02				IAML			13 27 40.5	
	comp=Z,166nm,0.1s							
SALTA		**2.50**	**120**	*e*P		Pn	13 27 01.2	-10
PATCX	**Punta Patache**	**2.53**	**328**	*e*P		**Pn**	**13 27 12.6**	**+1.1**
PATCX	**Punta Patache**	**2.53**	**328**	*e*P		**Pn**	**13 27 12.5**	**+1.1**
PATCX				*e*S		Sn	13 27 32.2	-10
PATCX				IAML			13 27 37.6	
	comp=Z,50nm,0.5s							
TA01	**Diego Aracena**	**2.77**	**330**	*e*P		**Pn**	**13 27 15.6**	**+1.1**
TA01				*e*S		Sn	13 27 36.5	-11
TA01				IAML			13 28 09.7	
	comp=Z,58nm,0.6s							
HMBC	**Humberstone**	**2.91**	**338**	*e*P		**Pn**	**13 27 17.2**	**+0.8**
HMBC	**Humberstone**	**2.91**	**338**	*e*P		**Pn**	**13 27 17.0**	**+0.6**
HMBC				*e*S		**Sn**	**13 27 46.8**	**-4.3**
HMBC				IAML			13 28 14.9	
	comp=Z,64nm,0.4s							
TA02	**Huaiquique**	**3.01**	**334**	*e*S		Sn	13 27 36.8	-16
TA02				IAML			13 28 05.4	
	comp=Z,73nm,0.1s							
YJA	**Yavi**	**3.07**	**75**	*e*P		Pn	13 27 23.8	+5.0
PB11	**IPOC Station P**	**3.33**	**345**	*e*P		**Pn**	**13 27 21.3**	**-0.7**
PB11				*e*S		Sn	13 27 45.7	-15
PB11				IAML			13 28 25.3	
	comp=Z,25nm,1.1s							
GO01	**Chusmiza**	**3.33**	**352**	*e*P		**Pn**	**13 27 22.8**	**+0.4**
GO01				*e*S		Sn	13 27 47.9	-14
GO01				IAML			13 27 55.4	
	comp=Z,25nm,0.2s							
AZAP	**Zapla**	**3.57**	**111**	*e*P		**Pn**	**13 27 26.8**	**+1.7**
AZAP				IAML			13 28 23.5	
	comp=Z,16nm,3.6s							
AC01	**Pan de Azucar**	**3.58**	**208**	*e*P		**Pn**	**13 27 24.4**	**-0.8**
AC01	**Pan de Azucar**	**3.58**	**208**	*e*P		**Pn**	**13 27 24.3**	**-0.8**
AC01				*e*S		**Sn**	**13 28 05.3**	**-1.7**
AC01				IAML			13 28 07.6	
	comp=Z,40nm,1.3s							
AC02	**Maricunga**	**3.85**	**185**	*e*P		**Pn**	**13 27 30.2**	**+1.0**
AC02				*e*S		Sn	13 28 01.7	-12
AC02				IAML			13 28 22.2	
	comp=Z,16nm,1.4s							
GO03	**Copiapo**	**4.79**	**196**	*e*P		**Pn**	**13 27 40.4**	**-0.9**
GO03				*e*S		**Sn**	**13 28 34.7**	**-1.2**
GO03				IAML			13 28 56.3	
	comp=Z,21nm,2.2s							

*DJA **10** 13:26:43.9±0.2,9.˚S±3.˚×171.˚0E±.˚, h62km±3km,M5.0/50, mb4.9/50,mB5.5/14,MLv4.9/28,Mw(mB)5.0/14*
*NEIC **10** 13:26:45.6±2.2,8.˚40S±0.˚08×110.˚20E±0.˚07,h95km±6km, mb4.5/29,Error ellipse: s-maj=12.1km s-min=8.8km az=214.0*
*IDC **10** 13:26:46.2±1.4,8.˚19S×110.˚26E,h98km±13km,mb4.1/21, mbtmp4.4/24,MS3.2/14,Error ellipse: s-maj=15.3km s-min=9.3km az=44.0*

ISC 10 13:26:44.0±0.8,8.˚54S±0.˚05×110.˚16E±0.˚04,h81km±7km, n186,σ1.971/180,mb4.4/46,4C,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UGM	**Wanagama**	**0.72**	**30**			**Pn**	**13 27 00.6**	**+0.6**
UGM				Sn		**Sn**	**13 27 13.3**	**+1.5**
UGM	**Wanagama**	**0.72**	**30**	P		**Pn**	**13 27 00.8**	**+0.8**
UGM	**Wanagama**	**0.72**	**30**	P		**Pn**	**13 27 00.8**	**+0.8**
UGM				S		**Sn**	**13 27 12.2**	**+0.3**
WOJI	**Wonogiri, Jawa**	**1.03**	**47**	P		**Pn**	**13 27 03.9**	**+0.5**
WOJI				S		**Sn**	**13 27 18.2**	**+0.2**
PCJI	**Pacitan**	**1.06**	**71**	P		**Pn**	**13 27 04.8**	**+1.0**
PCJI				S		**Sn**	**13 27 19.9**	**+1.2**
SMRI	**Semarang**	**1.51**	**11**			**Pn**	**13 27 11.3**	**+1.8**
SMRI	**Semarang**	**1.51**	**11**	P		**Pn**	**13 27 11.8**	**+2.3**
SMRI	**Semarang**	**1.51**	**11**	P		**Pn**	**13 27 11.5**	**+2.0**
KPJI	**Karang Pucung**	**1.71**	**315**	P		**Pn**	**13 27 13.1**	**+1.0**
NGJI	**Ngawi**	**1.74**	**48**	P		**Pn**	**13 27 14.6**	**+2.2**
TBJI	**Tambak Boyo**	**2.39**	**44**	P		**Pn**	**13 27 23.0**	**+1.8**
BBJI	**Bungbulang**	**2.71**	**293**	P		**Pn**	**13 27 25.5**	**0.0**
JCJI	**Jatiwangi**	**2.77**	**317**	P		**Pn**	**13 27 25.1**	**-1.2**
GRJI	**Gresik**	**2.81**	**55**	P		**Pn**	**13 27 28.7**	**+1.9**
LEM	**Lembang**	**3.04**	**304**	P		**Pn**	**13 27 31.8**	**+1.7**
	444nm,0.8s,baz=126,slow=9.0,SNR=24							
LEM				S		**Sn**	**13 28 06.8**	**+1.2**
	382nm,0.6s,baz=352,slow=15,SNR=4.5							
LEM	**Lembang**	**3.04**	**304**	P		**Pn**	**13 27 31.5**	**+1.4**
CNJI	**Cibinong**	**3.24**	**292**	P		**Pn**	**13 27 32.2**	**-0.5**
GMJI	**Gumukmas**	**3.26**	**86**	P		**Pn**	**13 27 34.8**	**+1.9**
BWJI	**Bawean**	**3.65**	**43**	P		**Pn**	**13 27 40.2**	**+1.9**
SKJI	**Sukabumi**	**3.88**	**293**	P		**Pn**	**13 27 42.2**	**+0.8**
DBJI	**Dramaga**	**3.92**	**300**	P		**Pn**	**13 27 42.3**	**+0.5**
JAGI	**Jajag, Banyuwa**	**3.95**	**89**			**Pn**	**13 27 43.8**	**+1.5**
JAGI	**Jajag, Banyuwa**	**3.95**	**89**	P		**Pn**	**13 27 43.9**	**+1.6**
JAGI	**Jajag, Banyuwa**	**3.95**	**89**	P		**Pn**	**13 27 43.4**	**+1.1**
KMMI	**Kalianget**	**4.05**	**69**	P		**Pn**	**13 27 44.7**	**+1.1**
SBJI	**Serang**	**4.67**	**301**	P		**Pn**	**13 27 53.5**	**+1.5**
XMI	**Christmas Isla**	**4.80**	**246**	P		**Pn**	**13 27 52.4**	**-1.5**
CGJI	**Cibinong**	**4.83**	**293**	P		**Pn**	**13 27 54.6**	**+0.4**
DNP	**Denpasar**	**5.00**	**92**	P		**Pn**	**13 27 58.2**	**+1.7**
SRBI	**Singaraja**	**5.02**	**85**	P		**Pn**	**13 27 57.9**	**+1.1**
	1.4nm5μm308nm,0.8s							
TPI	**Tanjungpandan**	**6.27**	**336**	P		**Pn**	**13 28 16.0**	**+2.1**
	0.3nm44nm,1.4s							
KASI	**Kota Agung**	**6.37**	**298**	P		**Pn**	**13 28 16.2**	**+0.9**
	51nm,1.0s							
LWLI	**Liwa**	**7.00**	**300**	P		**Pn**	**13 28 25.5**	**+1.5**
	0.8nm152nm,0.7s							
MDSI	**Maura Dua**	**7.18**	**304**	P		**Pn**	**13 28 26.8**	**+0.4**
	0.2nm57nm,1.2s							
PLAI	**Plampang**	**7.54**	**93**	P		**Pn**	**13 28 32.7**	**+1.5**
PLAI	**Plampang**	**7.54**	**93**	P		**Pn**	**13 28 32.1**	**+0.9**
LHSI	**Lahat**	**8.09**	**305**	P		**Pn**	**13 28 40.5**	**+1.7**
	51nm,0.8s							
MNAI	**Manna**	**8.28**	**300**	Pn		**Pn**	**13 28 41.4**	**0.0**
MNAI	**Manna**	**8.28**	**300**	P		**Pn**	**13 28 41.6**	**+0.2**
MNAI	**Manna**	**8.28**	**300**	P		**Pn**	**13 28 41.3**	**-0.1**
	289nm,1.2s							
STKI	**Sintang**	**8.65**	**9**	P		**Pn**	**13 28 49.8**	**+3.3**
KSI	**Kapahiang**	**8.96**	**302**	P		**Pn**	**13 28 51.4**	**+0.7**
WBSI	**Waikabubak, Su**	**9.18**	**98**	P		**Pn**	**13 28 50.6**	**-3.1**
	2μm107nm,0.7s							
WSI	**Waingapu**	**10.07**	**97**	P		**Pn**	**13 29 04.8**	**-1.0**
KAPI	**Kappang**	**10.15**	**70**	P		**Pn**	**13 29 06.3**	**-0.5**
	48nm,1.0s,baz=247,slow=11,SNR=14							
KAPI				LR		LR	13 33 35.1	
	comp=Z,156nm,19.7s,baz=286,slow=41							
BKSI	**Bulukumba**	**10.39**	**73**	P		**Pn**	**13 29 12.1**	**+1.9**
	37nm,0.8s							
BASI	**Baing, Sumba**	**10.41**	**100**	P		**Pn**	**13 29 11.6**	**+1.1**
BSSI	**Bau Bau, Buton**	**10.52**	**78**	P		**Pn**	**13 29 13.8**	**+1.9**
	93nm,0.8s							
SPSI	**Sidrap Palu**	**10.58**	**65**	P		**Pn**	**13 29 13.7**	**+1.0**
	29nm,1.0s							
BNSI	**Bone**	**10.70**	**68**	P		**Pn**	**13 29 16.7**	**+2.2**
	47nm,1.2s							
EDFI	**Ende, Flores**	**11.40**	**92**	P		**Pn**	**13 29 21.2**	**-2.9**
	2μm108nm,0.7s							
MMRI	**Maumere**	**11.94**	**91**			**Pn**	**13 29 28.5**	**-2.8**
MMRI	**Maumere**	**11.94**	**91**	P		**Pn**	**13 29 29.4**	**-1.9**
	2μm78nm,0.6s							
MPSI	**Mapaga**	**13.11**	**48**	P		**P**	**13 29 50.5**	**-3.7**
	1μm46nm,0.8s							
BATI	**Baumata**	**13.43**	**98**	P		**Pn**	**13 29 50.5**	**-0.8**
	51nm,0.3s,baz=273,slow=6.1,SNR=9.4							
BATI				S		**Sn**	**13 32 11.2**	**-7.7**
	30nm,0.5s,baz=51,slow=18,SNR=3.0							
BATI	**Baumata**	**13.43**	**98**	P		**Pn**	**13 29 48.6**	**-2.7**
	106nm,0.8s							
APSI	**Ampana**	**13.72**	**57**	P		**Pn**	**13 29 56.7**	**+1.5**
	51nm,0.9s							
SOEI	**Soe**	**13.98**	**96**			**Pn**	**13 29 56.9**	**-1.7**
SOEI	**Soe**	**13.98**	**96**	P		**Pn**	**13 29 56.7**	**-1.9**
TOLI2	**Tolitoli**	**14.28**	**48**			**P**	**13 30 09.4**	**+2.1**
TOLI2	**Tolitoli**	**14.28**	**48**	P		**P**	**13 30 06.0**	**-1.3**
GIRL	**Giralia**	**14.56**	**165**	Pn		Pn	13 30 03.4	-2.5
GIRL	**Giralia**	**14.56**	**165**	P		Pn	13 30 03.6	-2.3
	comp=Z,59nm,1.9s							
MRSI	**Marisa**	**14.77**	**53**	P		**P**	**13 30 13.1**	**+0.5**
	comp=Z,68nm,0.9s							
MBWA	**Marble Bar**	**15.57**	**145**			**Pn**	**13 30 17.0**	**-1.9**
MBWA	**Marble Bar**	**15.57**	**145**	P		**Pn**	**13 30 17.7**	**-1.3**
	comp=Z,27nm,2.6s							
MBWA	**Marble Bar**	**15.57**	**145**	P		**Pn**	**13 30 18.2**	**-0.8**
PSI	**Prapat**	**15.89**	**315**	LR		LR	13 37 03.0	
	comp=Z,174nm,19.6s,baz=146,slow=39							
PSAC1	**Pilbara Seismi**	**15.91**	**145**	P		**Pn**	**13 30 21.7**	**-1.6**
	comp=Z,16nm,2.7s							
PSAA2	**Pilbara Seismi**	**15.96**	**145**	P		**Pn**	**13 30 22.6**	**-1.2**
	comp=Z,22nm,2.5s							
PSAB2	**Pilbara Seismi**	**15.96**	**145**	P		**Pn**	**13 30 22.7**	**-1.1**
	comp=Z,17nm,0.9s							
PSAA1	**Pilbara Seismi**	**15.96**	**145**	P		**Pn**	**13 30 22.9**	**-0.9**
	comp=Z,18nm,2.5s							
PSA00	**Pilbara Seismi**	**15.97**	**145**	Pn		**Pn**	**13 30 23.3**	**-0.6**
PSA00				IAmb		IAmb	13 30 34.4	
	comp=Z,22nm,1.1s							
PSA00	**Pilbara Seismi**	**15.97**	**145**	P		**Pn**	**13 30 23.0**	**-0.9**
	comp=Z,17nm,0.7s							
PSAB3	**Pilbara Seismi**	**15.99**	**145**	P		**Pn**	**13 30 23.3**	**-0.9**
	comp=Z,20nm,1.4s							
PSAC2	**Pilbara Seismi**	**15.99**	**145**	P		**Pn**	**13 30 23.6**	**-0.6**
	comp=Z,15nm,2.5s							
SANI	**Sanana**	**17.02**	**69**	P		**P**	**13 30 37.6**	**0.0**
	comp=Z,53nm,1.2s							
KCSI	**Kotacane, Aceh**	**17.21**	**314**	P		**P**	**13 30 41.5**	**+1.7**
NLAI	**Namlea**	**17.65**	**74**	P		**Pn**	**13 30 47.1**	**+2.4**
	comp=Z,6μmcomp=Z,62nm,0.7s							
FITZ	**Fitzroy Crossi**	**17.79**	**124**			**P**	**13 30 47.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.79**	**124**	P		**P**	**13 30 47.4**	**+1.2**
	comp=Z,2.4nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.79**	**124**	P		**Pn**	**13 30 48.0**	**+1.5**
	comp=Z,6.3nm,0.5s,baz=299,slow=9.0,SNR=26							
FITZ				S		Sn	13 33 48.7	-16
	comp=Z,4.6nm,0.3s,baz=190,slow=21,SNR=7.6							
FITZ				LR		LR	13 38 05.5	
	comp=Z,77nm,19.1s,baz=327,slow=38							
FITZ	**Fitzroy Crossi**	**17.79**	**124**	P		**Pn**	**13 30 47.9**	**+1.5**
AAI	**Ambon**	**18.56**	**76**	P		**Pn**	**13 30 55.5**	**-0.3**
	comp=Z,1μmcomp=Z,116nm,0.7s							
MSAI	**Masohi**	**19.36**	**76**	P		**Pn**	**13 31 04.1**	**-1.1**
	comp=Z,54nm,0.8s							
TNTI	**Ternate**	**19.48**	**62**	P		**Pn**	**13 31 06.9**	**+0.2**
	comp=Z,51nm,0.9s							
KNRA	**Kununurra**	**19.51**	**113**			**P**	**13 31 05.6**	**+0.6**
KNRA				IAmb		IAmb	13 31 09.2	
	comp=Z,20nm,0.7s							
KNRA	**Kununurra**	**19.51**	**113**	P		**P**	**13 31 06.7**	**+1.7**
	comp=Z,35nm,0.6s							
MEEK	**Meekatharra**	**19.70**	**157**	P		**P**	**13 31 09.2**	**+2.2**
	comp=Z,27nm,1.1s							
MEEK	**Meekatharra**	**19.70**	**157**	P		**P

CMSA	**Cobar Meteorol**	**40.17**	**130**	P		**P**		**13 34 14.9**	**+2.4**
NJ2	**Nanjing**	**41.21**	**11**	*e*P		**P**		**13 34 22.7**	**+1.8**
NJ2				pmax		pmax			
	comp=Z,61nm,0.5s								
EVN	**Everest**	**42.74**	**329**	P		**P**		**13 34 30.1**	**-4.1**
CAN	**Canberra**	**44.36**	**133**	P		**P**		**13 34 45.2**	**-1.3**
CAN				IAmb		IAmb		13 34 59.9	
	comp=Z,7.1nm,0.9s								
JNU	**Nakatsue**	**45.89**	**24**	P		**P**		**13 34 57.2**	**-1.4**
JNU				IAmb		IAmb		13 34 59.4	
	comp=Z,11nm,1.1s								
KSRS	**Korea Array**	**48.68**	**19**	P		**P**		**13 35 20.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=193,slow=8.3,SNR=2.6								
HHC	**Hu-ho-hao-te**	**49.16**	**1**	*e*P		**P**		**13 35 25.2**	**+1.3**
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,200nm,6.1s								
JHJ	**Hachijo jima 2**	**50.11**	**33**	LR		LR		13 56 37.8	
	comp=Z,25nm,20.6s,baz=224,slow=36								
MJAR	**Matsushiro Arr**	**52.01**	**29**	P		**P**		**13 35 42.2**	**-3.1**
MJAR	**Matsushiro Arr**	**52.01**	**29**	P		**P**		**13 35 43.2**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=197,slow=7.7,SNR=11								
MJAR				LR		LR		13 57 32.4	
	comp=Z,11nm,19.2s,baz=186,slow=36								
	comp=Z,2.3nm,0.8s								
JMM	**Marumori**	**54.31**	**30**	P		**P**		**13 35 58.2**	**-3.9**
WMQ	**Urumqi**	**55.96**	**341**	*e*P		**P**		**13 36 15.3**	**+1.3**
WMQ				LR		LR			
	comp=Z,140nm,23.7s								
SONM	**Songino Array**	**56.23**	**357**	P		**P**		**13 36 14.8**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=158,slow=4.2,SNR=1.2								
SONM				LR		LR		14 05 50.9	
	comp=Z,15nm,18.7s,baz=154,slow=42								
	comp=Z,0.4nm,0.5s								
CASY	**Casey**	**57.65**	**180**	P		**P**		**13 36 26.4**	**+0.9**
CASY				IAmb		IAmb		13 36 27.8	
	comp=Z,6.4nm,1.1s								
ASAJ	**Asahikawa**	**60.08**	**26**	LR		LR		14 05 05.1	
	comp=Z,14nm,18.8s,baz=253,slow=38								
MKAR	**Makanchi Array**	**60.43**	**338**	P		**P**		**13 36 42.2**	**-2.8**
	comp=Z,0.6nm,0.5s,baz=148,slow=8.0,SNR=7.8								
	comp=Z,0.6nm,0.5s								
H04N2	**CROZET ISLANDS**	**62.18**	**222**	T		T		14 44 42.2	
	baz=72,slow=75,SNR=113								
H04N1	**CROZET ISLANDS**	**62.19**	**222**	T		T		14 44 44.2	
	baz=72,slow=75,SNR=119								
H04N3	**CROZET ISLANDS**	**62.20**	**222**	T		T		14 44 39.9	
	baz=72,slow=75,SNR=112								
RPZ	**Rata Peaks**	**63.23**	**135**	P		**P**		**13 37 05.7**	**+1.7**
	comp=Z,44nm,1.2s,baz=38,slow=17,SNR=2.8								
	comp=Z,44nm,1.2s								
KURBB	**Kurchatov Arra**	**65.00**	**338**	P		**P**		**13 37 13.7**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=154,slow=6.0,SNR=5.6								
	comp=Z,0.4nm,0.4s								
KURK	**Kurchatov**	**65.04**	**338**	P		**P**		**13 37 13.3**	**-2.3**
ZALV	**Zalesovo Beam**	**65.84**	**344**	P		**P**		**13 37 18.5**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=132,slow=8.4,SNR=2.2								
	comp=Z,0.5nm,0.3s								
BKZ	**Black Stump Fm**	**66.33**	**129**	P		**P**		**13 37 24.7**	**+0.4**
RTZ	**Ruatahuna**	**66.63**	**128**	P		**P**		**13 37 25.8**	**-0.4**
MAW	**Mawson**	**66.84**	**198**	P		**P**		**13 37 28.8**	**+1.9**
	comp=Z,2.6nm,0.7s,baz=61,slow=5.7,SNR=8.8								
	comp=Z,2.6nm,0.7s								
BVAR	**Borovoye Array**	**70.03**	**336**	P		**P**		**13 37 45.8**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=145,slow=5.4,SNR=4.7								
	comp=Z,1.0nm,0.7s								
AB31	**Akbulak array**	**72.35**	**328**			**P**		**13 37 59.4**	**-1.7**
AB31				IAmb		IAmb		13 38 00.5	
	comp=Z,2.2nm,0.6s								
ABKAR	**Akbulak array**	**72.35**	**328**			**P**		**13 37 59.5**	**-1.6**
PETK	**Petropavlovsk-**	**73.45**	**28**	P		**P**		**13 38 06.6**	**-0.9**
PETK	**Petropavlovsk-**	**73.45**	**28**	P		**P**		**13 38 05.8**	**-1.8**
	comp=Z,1.8nm,0.6s,baz=83,slow=1.5,SNR=2.4								
	comp=Z,1.8nm,0.6s								
VNDA	**Vanda**	**73.89**	**170**	P		**P**		**13 38 10.6**	**+0.8**
VNDA				IAmb		IAmb		13 38 12.8	
	comp=Z,8.3nm,1.1s								
VNDA	**Vanda**	**73.89**	**170**	P		**P**		**13 38 11.8**	**+2.1**
	comp=Z,5.1nm,0.8s,baz=310,slow=5.3,SNR=28								
	comp=Z,5.1nm,0.8s								
SBA	**Scott Base**	**74.96**	**169**			**P**		**13 38 16.1**	**+0.2**
SBA				IAmb		IAmb		13 38 19.9	
	comp=Z,8.4nm,1.0s								
SYO	**Syowa Base**	**75.16**	**201**	⇑*e*P		**P**		**13 38 18.6**	**+1.4**
LSZ	**Lusaka**	**80.10**	**256**	LR		LR		14 10 29.5	
	comp=Z,35nm,18.8s,baz=182,slow=33								
QSPA	**South Pole Qui**	**81.45**	**180**			**P**		**13 38 52.3**	**+0.1**
QSPA	**South Pole Qui**	**81.45**	**180**	P		**P**		**13 38 54.9**	**+2.7**
	comp=Z,15nm,0.9s,baz=289,slow=0.5,SNR=60								
	comp=Z,15nm,0.9s								
BOSA	**Boshof**	**81.52**	**242**	P		**P**		**13 38 53.1**	**-0.1**
BOSA	**Boshof**	**81.52**	**242**	P		**P**		**13 38 54.4**	**+1.1**
	comp=Z,4.2nm,0.8s,baz=99,slow=4.5,SNR=5.3								
	comp=Z,4.2nm,0.8s								
MMAI	**Mount Meron Ar**	**82.04**	**305**	P		**P**		**13 38 56.3**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=87,slow=6.8,SNR=4.2								
	comp=Z,1.8nm,0.5s								
BR131	**Keskin Array S**	**85.19**	**311**			**P**		**13 39 11.5**	**-0.4**
BR131				IAmb		IAmb		13 39 12.5	
	comp=Z,5.4nm,0.7s								
BRTR	**Keskin Array B**	**85.19**	**311**			**P**		**13 39 10.6**	**-1.2**
BRTR	**Keskin Array B**	**85.19**	**311**	P		**P**		**13 39 11.4**	**-0.4**
	comp=Z,3.4nm,0.6s,baz=138,slow=6.8,SNR=26								
	comp=Z,3.4nm,0.6s								
TROLL	**Troll, Antarti**	**87.30**	**197**	⇑P		**P**		**13 39 23.4**	**+1.8**
	comp=Z,20nm,0.2s								
SNAA	**Sanae**	**88.98**	**197**	⇑P		**P**		**13 39 31.6**	**+2.1**
	comp=Z,57nm,0.6s								
SNAA	**Sanae**	**88.98**	**197**			**P**		**13 39 29.0**	**-0.5**
SNAA				IAmb		IAmb		13 39 32.2	
	comp=Z,3.1nm,0.7s								
SNAA	**Sanae**	**88.98**	**197**	P		**P**		**13 39 31.7**	**+2.2**
	comp=Z,4.1nm,0.9s,baz=158,slow=5.5,SNR=24								
	comp=Z,4.1nm,0.9s								
VNA2	**Neumayer--Watz**	**90.63**	**197**	⇑P		**P**		**13 39 39.1**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=112,slow=4.8								
AKASG	**Malin Array Be**	**90.85**	**321**	P		**P**		**13 39 37.0**	**-1.5**
	comp=Z,0.8nm,0.5s,baz=91,slow=4.3,SNR=4.7								
	comp=Z,0.8nm,0.5s								
BELA	**Belgrano 2**	**91.52**	**187**	P		**P**		**13 39 41.4**	**+0.2**
FINES	**FINESS Array B**	**94.61**	**331**	P		**P**		**13 39 53.3**	**-2.2**
	comp=Z,1.0nm,0.8s,baz=181,slow=5.6,SNR=2.3								
	comp=Z,1.0nm,0.8s								

*HEL **10** 13:39:23.8±0.2, 67.°69N×34.°12E, h0km, ML1.9, Suspected explosion*
*KOLA **10** 13:39:24.4, 67.°68N×34.°19E, h0km, ML2.2, Error ellipse: s-maj=3.4km s-min=1.4km az=120.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **10** 13:39:26.7±2.7, 67.°61N×33.°54E, h0km, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=30.4km s-min=12.3km az=74.0*
ISC 10 13:39:22.5±0.9, **67.°63N**±0.°03×**34.°26E**±0.°04, **h0**km, **n31,** σ1§**58**/52, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.31**	**28**	P	**Pg**	**13 39 29.0**	**+0.6**
LVZ				S	**Sg**	**13 39 33.2**	**+0.8**
LVZ	**Lovozero**	**0.31**	**28**	PG	**Pg**	**13 39 29.1**	**+0.7**
	baz=225						
LVZ				SG	**Sg**	**13 39 29.6**	**-2.8**
APA	**Apatity**	**0.33**	**260**	P	**Pb**	**13 39 30.5**	**-0.8**
APA				S	**Sg**	**13 39 34.7**	**+1.5**
APA0	**Apatity Array**	**0.49**	**268**	P	**Pg**	**13 39 31.6**	**-0.2**
APA0				S	**Sg**	**13 39 38.2**	**+0.1**
KVDA	**Kovda**	**1.09**	**211**	P	**Pb**	**13 39 44.0**	**-0.1**
KVDA				S	**Sb**	**13 39 59.2**	**+0.4**
TERR	**Teriberka**	**1.61**	**11**	P	**Pn**	**13 39 51.4**	**-0.7**
TERR				S	**Sn**	**13 40 12.7**	**-0.9**
VRF	**Varrio**	**1.78**	**276**	PG	**Pn**	**13 39 54.6**	**+0.1**
VRF				MSG		13 40 15.1	
	comp=Z,13nm,0.2s						
VRF				SN	**Sn**	**13 40 17.0**	**-0.9**
OLKF	**Oulanka, Finla**	**2.32**	**238**	PG	**Pb**	**13 40 04.4**	**-0.8**
OLKF				MSG		13 40 32.2	
	comp=Z,5.1nm,0.2s						
OLKF				SG	**Sg**	**13 40 35.8**	**-1.1**
KU6	**Riekki**	**2.36**	**229**	PB	**Pn**	**13 40 04.1**	**+1.6**
KU6				MSG		13 40 33.8	
	comp=Z,3.8nm,0.2s						
KU6				SG	**Sg**	**13 40 37.3**	**-1.0**
RAJF	**Raja-Jooseppi**	**2.39**	**294**	PG	**Pn**	**13 40 04.0**	**+1.1**
RAJF				SG	**Sb**	**13 40 34.9**	**-1.5**
MSF	**Maaselka**	**2.69**	**233**	PB	**Pb**	**13 40 10.1**	**-1.5**
MSF				SG	**Sb**	**13 40 45.8**	**+0.7**
KU1	**Kurvinen**	**2.80**	**224**	PB	**Pb**	**13 40 12.0**	**-1.3**
VADS	**Vadso**	**3.07**	**327**	P	**Pn**	**13 40 12.1**	**-0.1**
VADS				S	**Sn**	**13 40 49.2**	**-0.3**
VADS	**Vadso**	**3.07**	**327**	*e*P	**Pn**	**13 40 12.8**	**+0.7**
KU2	**Taivalkoski**	**3.08**	**234**	PB	**Pb**	**13 40 17.6**	**-0.5**
	baz=51						
RANF	**Ranua**	**3.37**	**245**	PG	**Pb**	**13 40 22.6**	**-0.4**
RANF				SG	**Sb**	**13 41 06.0**	**+1.5**
RNF	**Rovaniemi**	**3.38**	**256**	PN	**Pn**	**13 40 17.2**	**+0.7**
RNF				SN	**Sn**	**13 40 58.9**	**+1.7**
KEV	**Kevo**	**3.40**	**312**	*e*P	**Pn**	**13 40 17.2**	**+0.5**
ARA0	**ARCESS Array S**	**3.74**	**305**	PN	**Pn**	**13 40 21.4**	**0.0**
ARCES	**ARCESS Array B**	**3.74**	**305**	Pn	**Pn**	**13 40 21.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=123,slow=15,SNR=31						
ARCES				Pg	**Pb**	**13 40 29.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=118,slow=14,SNR=16						
ARCES				Sn	**Sn**	**13 41 04.2**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=118,slow=29,SNR=6.7						
ARCES				Lg	Lg	13 41 16.5	
	comp=Z,0.5nm,0.3s,baz=120,slow=34,SNR=4.2						
	comp=Z,0.9nm,0.5s						
ARCES	**ARCESS Array B**	**3.74**	**305**	P	**Pn**	**13 40 21.2**	**-0.1**
ARCES				S	**Sn**	**13 41 05.2**	**-0.8**
RMF	**Romuvaara**	**3.86**	**209**	PN	**Pn**	**13 40 24.6**	**+1.6**
	baz=22						
KLF	**Kolari**	**3.99**	**269**	PG	**Pb**	**13 40 34.9**	**+1.3**
KLF				SG	**Sg**	**13 41 26.2**	**-4.4**
HEF	**Hetta**	**4.06**	**286**	PN	**Pn**	**13 40 25.8**	**-0.1**
HEF				SG	**Sb**	**13 41 27.0**	**+2.5**
TOF	**Tornio**	**4.22**	**253**	SG	**Sg**	**13 41 33.5**	**-4.4**
KTK1	**Kautokeino**	**4.32**	**294**	PN	**Pn**	**13 40 31.0**	**+1.6**
KTK1				SG	**Sb**	**13 41 34.1**	**+2.3**
PAJU	**Pajala**	**4.36**	**267**	PG	**Pb**	**13 40 41.2**	**+1.3**
	baz=74						
PAJU				SN	**Sn**	**13 41 21.8**	**+0.4**
LANU	**Lannavaara**	**4.67**	**281**	PN	**Pn**	**13 40 33.4**	**-0.8**
LANU				SG	**Sb**	**13 41 46.1**	**+4.4**
I37NO	**I37NO**	**5.97**	**291**	I	I	14 14 00.0	
	baz=98,slow=315,SNR=2.8						
FINES	**FINESS Array B**	**7.13**	**213**	Pn	**Pn**	**13 41 08.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=1.6						
FINES				Lg	Lg	13 43 05.0	
	comp=Z,0.4nm,0.3s,baz=31,slow=23,SNR=3.3						
	comp=Z,0.9nm,0.8s						
FAUS	**Fauske**	**7.28**	**277**	S	**Sn**	**13 42 30.9**	**-2.2**

*SOME **10** 13:42:05.2, 41.°92N×82.°20E, h15km*
*NNC **10** 13:42:07.8±3.3, 42.°14N×82.°23E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=31.3km s-min=18.0km az=1.0*
ISC 10 13:42:08.3±2.7, **42.°0N**±0.°1×**82.°08E**±0.°09, **h14**km, **n14,** σ1§**59**/20, **3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.25**	**302**	Pg	**Pn**	**13 42 45.1**	**-0.2**
	35nm,0.2s						
SHLS				Lg	Lg	13 43 13.2	
	197nm,0.6s						
SHLS	**Shalkode**	**2.25**	**302**	*e*P	**Pn**	**13 42 44.8**	**-0.5**
	20nm,0.1s						
SHLS				*e*S	**Sn**	**13 43 14.0**	**+1.0**
	194nm,0.4s						
PDGK	**Podgornoye**	**2.33**	**306**	⇓Pn	**Pb**	**13 42 49.4**	**-0.7**
	5.2nm,0.6s						
PDGK				⇓Sn	**Sb**	**13 43 21.7**	**+2.9**
	41nm,0.5s						
UZB	**Uzunbulak**	**2.53**	**298**	Pg	**Pb**	**13 42 53.7**	**0.0**
	4.8nm,0.3s						
UZB				Lg	Lg	13 43 29.3	
	23nm,0.3s						
UZB	**Uzunbulak**	**2.53**	**298**	*e*P	**Pb**	**13 42 54.0**	**+0.3**
	4.5nm,0.1s						
UZB				*e*S	**Sg**	**13 43 29.7**	**-0.1**
	28nm,0.2s						
KPKS	**Kokpek**	**2.90**	**301**	Pg	**Pb**	**13 42 59.3**	**-0.6**
	3.1nm,0.1s						
KPKS				Lg	Lg	13 43 37.6	
	15nm,0.4s						
SATY	**Saty**	**2.91**	**292**	Pg	**Pb**	**13 42 59.7**	**-0.5**
	3.2nm,0.2s						
SATY				Lg	Lg	13 43 38.6	
	19nm,0.1s						
KNOS	**Konyrlen**	**3.17**	**319**	Pg	**Pb**	**13 43 03.9**	**-0.6**
	2.7nm,0.1s						
KNOS				Lg	Lg	13 43 45.6	
	9.6nm,0.3s						
ARXS	**Arharly**	**3.82**	**307**	Pg	**Pb**	**13 43 17.1**	**+1.6**
	2.3nm,0.3s						
ARXS				Lg	Lg	13 44 08.2	
	11nm,0.5s						
TNSS	**Tian-Shan**	**3.93**	**287**	*e*P	**Pb**	**13 43 19.7**	**+2.0**
	0.1nm,0.0s						
TNSS				*e*S	**Sg**	**13 44 13.6**	**-1.1**
	1.6nm,0.2s						
KTBS	**Karatobe**	**4.32**	**295**	Pg	**Pb**	**13 43 26.5**	**+2.4**
	1.8nm,0.7s						
KTBS				Lg	Lg	13 44 24.5	
	9.1nm,0.6s						
KST	**Kastek**	**4.64**	**285**	Pg	**Pg**	**13 43 35.1**	**-2.1**
	2.4nm,0.7s						
KST				Lg	Lg	13 44 39.2	
	4.7nm,0.6s						
KST	**Kastek**	**4.64**	**285**	*e*P	**Pb**	**13 43 32.4**	**+2.9**
	2.2nm,0.2s						
KST				*e*S	**Sg**	**13 44 35.8**	**-1.5**
	7.2nm,0.5s						
MK31	**Makanchi Array**	**4.79**	**2**	Pn	**Pn**	**13 43 19.2**	**-0.9**
	0.3nm,0.2s,baz=190,slow=13,SNR=33						
MK31				Pg	**Pb**	**13 43 33.7**	**+1.6**
	1.0nm,0.3s,baz=178,slow=15,SNR=11						
MK31				⇓Lg	Lg	13 44 31.8	
	8.3nm,0.7s,baz=174,slow=28,SNR=4.9						

*SOME **10** 14:21:02.2, 41.°07N×83.°42E, h10km*
*NNC **10** 14:21:13.7±3.0, 41.°58N×83.°45E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=31.8km s-min=19.2km az=16.0*
ISC 10 14:21:04.2±4.0, **41.°4N**±0.°2×**83.°6E**±0.°1, **h10**km, **n12,** σ2§**48**/14, **4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.56**	**302**	Pg	**Pg**	**14 22 08.7**	**-3.6**
	7.6nm,0.2s						
SHLS				Lg	Lg	14 22 53.1	
	49nm,0.6s						
SHLS	**Shalkode**	**3.56**	**302**	*e*P	**Pb**	**14 22 04.2**	**-3.1**
	2.2nm,0.1s						
SHLS				*e*S	**Sb**	**14 22 53.7**	**+3.2**
	49nm,0.5s						
PDGK	**Podgornoye**	**3.62**	**304**	⇓Pn	**Pg**	**14 22 10.4**	**-3.3**
	5.8nm,0.7s						
PDGK				⇓Sn	**Sb**	**14 22 49.8**	**-2.7**
	18nm,0.7s						
UZB	**Uzunbulak**	**3.84**	**299**	Pg	**Pg**	**14 22 18.1**	**+0.3**
	2.1nm,0.3s						
UZB				Lg	Lg	14 23 08.7	
	12nm,0.3s						
UZB	**Uzunbulak**	**3.84**	**299**	*e*P	**Pb**	**14 22 13.3**	**+1.2**
	0.8nm,0.1s						
UZB				*e*S	**Sg**	**14 23 09.2**	**+1.8**
	12nm,0.3s						
KPKS	**Kokpek**	**4.20**	**302**	Pg	**Pg**	**14 22 24.5**	**-0.2**
	2.2nm,0.3s						
KPKS				Lg	Lg	14 23 19.1	
	19nm,0.4s						
SATY	**Saty**	**4.21**	**296**	Pg	**Pg**	**14 22 27.6**	**+2.7**
SATY				Lg	Lg	14 23 23.8	
	14nm,0.2s						
KURS	**Kuram**	**4.54**	**300**	Pg	Pg	14 22 35.0	+3.7
	3.4nm,0.4s						
KURS				Lg	Lg	14 23 36.7	
	6.0nm,0.9s						
TNSS	**Tian-Shan**	**5.21**	**291**	Pg	**Pg**	**14 22 45.6**	**+1.5**
	1.2nm,0.3s						
TNSS				Lg	Lg	14 23 56.0	
	1.5nm,0.5s						
MK31	**Makanchi Array**	**5.51**	**351**	⇓Pg	**Pg**	**14 22 51.0**	**+1.2**
	0.3nm,0.3s,baz=169,slow=16,SNR=4.8						
MK31				⇓Lg	Lg	14 23 59.9	
	3.7nm,0.5s,baz=160,slow=29,SNR=4.1						
KTBS	**Karatobe**	**5.62**	**297**	Pg	**Pg**	**14 22 52.7**	**+0.8**
	1.4nm,0.8s						
KTBS				Lg	Lg	14 24 07.4	
	7.2nm,0.6s						
KST	**Kastek**	**5.91**	**289**	Pg	**Pg**	**14 22 56.9**	**-0.5**
	1.5nm,0.5s						
KST				Lg	Lg	14 24 14.5	
	4.6nm,0.6s						

*IDC **10** 14:43:01.9±1.7, 0.°54S×127.°76E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=157.2km s-min=20.7km az=68.0*
*DJA **10** 14:43:06.3±0.3, 1.°S±2.°×12.°8E±.°, h10km, M4.0/10, mb4.6/4, MLv3.8/10*
ISC 10 14:43:03.4±0.8, **0.°81S**±0.°05×**127.°94E**±0.°09, **h19**km, **n14,** σ1§**86**/15, **mb4.1/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.67**	**340**	P	**Pn**	**14 43 31.2**	**-0.4**
TNTI				S	**Sb**	**14 43 53.7**	**-0.5**
SANI	**Sanana**	**2.31**	**238**	P	**Pn**	**14 43 40.5**	**+0.1**
NLAI	**Namlea**	**2.56**	**199**	P	**Pb**	**14 43 47.5**	**-1.2**
NLAI				S	**Sb**	**14 44 19.4**	**-0.3**
MSAI	**Masohi**	**2.71**	**159**	P	**Pg**	**14 43 52.6**	**-2.8**
FAKI	**Fak Fak**	**4.79**	**116**	P	**Pn**	**14 44 13.9**	**-0.7**
MRSI	**Marisa**	**6.13**	**282**	P	**Pn**	**14 44 32.9**	**-0.1**
	0.1nm23nm,0.6s						
APSI	**Ampana**	**6.29**	**269**	P	**Pn**	**14 44 34.5**	**-0.7**
	69nm,0.7s						
SPSI	**Sidrap Palu**	**8.74**	**249**	P	**Pn**	**14 45 09.0**	**+0.1**
BKSI	**Bulukumba**	**9.00**	**240**	P	Pn	14 45 21.5	+9.1
WRA	**Warramunga Arr**	**20.02**	**162**	P	**Pn**	**14 47 39.6**	**+2.5**
	2.1nm,0.7s,baz=340,slow=11,SNR=11						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**23.45**	**166**	P	**P**	**14 48 16.4**	**+4.6**
	5.1nm,0.8s,baz=344,slow=11,SNR=23						
	5.1nm,0.8s						
MKAR	**Makanchi Array**	**61.96**	**326**	P	**P**	**14 53 22.8**	**+0.6**
	1.2nm,0.7s,baz=117,slow=8.4,SNR=9.5						
	1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**66.20**	**328**	P	**P**	**14 53 48.1**	**-1.7**
	0.6nm,0.6s,baz=126,slow=5.9,SNR=7.6						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**71.77**	**328**	P	**P**	**14 54 23.9**	**-0.5**
	1.4nm,0.8s,baz=110,slow=7.8,SNR=4.2						
	1.4nm,0.8s						

NOU 10 15:14:57.3, 22.°36S×171.°25E, h0km, mb5.0/14, **Southeast of Loyalty Islands, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**3.35**	**326**	P	Pn	15 15 51.7	+0.7
PINNC	**Pines Island,**	**3.53**	**265**	P	Pn	15 15 53.4	0.0
PINNC	**Pines Island,**	**3.53**	**265**	S	Sn	15 16 37.2	+1.4
YATNC	**Mamie plateau,**	**4.05**	**273**	P	Pn	15 15 59.6	-1.0
YATNC	**Mamie plateau,**	**4.05**	**273**	S	Sn	15 16 47.5	-1.3
OUENC	**Ouen Island, N**	**4.08**	**268**	P	Pn	15 16 00.8	-0.2
OUENC	**Ouen Island, N**	**4.08**	**268**	S	Sn	15 16 50.8	+1.3
ONTNC	**Ouen Toro**	**4.44**	**270**	P	Pn	15 16 06.6	+0.7
ONTNC	**Ouen Toro**	**4.44**	**270**	S	Sn	15 16 59.4	+1.0
DZM	**Mont Dzumac**	**4.46**	**273**	P	Pn	15 16 06.1	-0.2
DZM	**Mont Dzumac**	**4.46**	**273**	S	Sn	15 16 59.8	+0.7
DVP	**Devils Point**	**5.44**	**327**	P	Pn	15 16 19.9	+0.3

*AFAD **10** 15:19:12.8, 38.°26N×37.°36E, h7km±2km, ML3.3*
*ISK **10** 15:19:13.2, 38.°25N×37.°39E, h4km, ML3.4/21*
ISC 10 15:19:13.1±1.2, **38.°23N**±0.°02×**37.°37E**±0.°03, **h6**km±10km, **n30,** σ1§**25/44, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.44**	**81**	P	**Pg**	**15 19 21.4**	**-0.2**
AKCD				*i* IAML		15 19 28.0	
	comp=Z,4μm,0.2s						
AKCD				S	**Sg**	**15 19 28.5**	**+1.1**
AKCD				*i* IAML		15 19 29.0	
	comp=E,6μm,0.3s						
AKCD				*i* IAML		15 19 30.0	
	comp=N,9μm,0.2s						
AKCA	**Adyaman/G¶l**	**0.50**	**150**	P	**Pg**	**15 19 23.3**	**+0.5**
AKCA				*i* IAML		15 19 31.0	
	comp=N,4μm,0.6s						
AKCA				*i* IAML		15 19 31.0	
	comp=E,5μm,0.7s						
AKCA				S	**Sb**	**15 19 31.1**	**-0.9**
AKCA				*i* IAML		15 19 32.0	
	comp=Z,2μm,0.6s						
HEKM	**Malatya_Hekimh**	**0.79**	**35**	P	**Pg**	**15 19 27.9**	**-0.5**
HEKM				S	**Sb**	**15 19 40.6**	**+0.1**
HEKM				*i* IAML		15 19 42.0	
	comp=Z,512nm,0.2s						
HEKM				*i* IAML		15 19 42.0	
	comp=N,2μm,0.3s						
HEKM				*i* IAML		15 19 42.0	
	comp=E,2μm,0.4s						
AZEY	**Adyaman-Merk**	**0.81**	**121**	P	**Pg**	**15 19 29.0**	**+0.4**
AZEY				*i* IAML		15 19 41.0	
	comp=N,888nm,0.2s						
AZEY				S	**Sb**	**15 19 41.2**	**+0.4**
AZEY				*i* IAML		15 19 42.0	
	comp=E,1μm,0.3s						
AZEY				*i* IAML		15 19 43.0	
	comp=Z,722nm,0.6s

KOZK	**Kozakli-Nevseh**	**2.19 297**	Pn	**Pb**	**15 19 52.0**	**-1.2**
GULA	**Gulagac**	**2.47 274**	Pn	**Pb**	**15 19 55.8**	**-2.2**
MERS	**Mersin**	**2.64 240**	Pn	**Pb**	**15 19 58.6**	**-2.3**
YESY	**Yesilyurt**	**2.90 262**	Pn	**Pb**	**15 20 02.3**	**-3.0**
SVAN	**Silvan-Diyarba**	**3.02 90**	Pn	**Pn**	**15 20 03.3**	**+1.9**
BAYT	**Aydıntepe-Bayb**	**3.04 44**	Pn	**Pn**	**15 20 03.3**	**+1.4**
SERE	**Sereflikochisa**	**3.07 285**	Pn	**Pn**	**15 20 04.2**	**+2.0**
KAMT	**Kaman**	**3.08 293**	Pn	**Pn**	**15 20 04.3**	**+2.0**

RSNC 10 15:40:35.7±0.0, 8°N±1°×7°3W±°, h38km±1km, M3.2, mb4.0, ML2.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCC	**Aguachica**	**0.11**	**303**	P	Pn	15 40 41.3	-6.2
AGCC				S	Sn	15 40 46.5	-12
OCAC	**Ocana**	**0.27**	**141**	P	Pn	15 40 42.7	-1.4
OCAC				S	Sn	15 40 49.0	-2.4
VMM05	**San Martn**	**0.54**	**187**	P	Pn	15 40 46.2	-0.9
VMM05				S	Sn	15 40 53.8	-1.2
EZNC	**La Esperanza**	**0.84**	**168**	P	Pn	15 40 49.9	-1.1
EZNC				S	Sn	15 41 01.5	-0.7
VMM07	**Puerto Wilches**	**1.14**	**198**	P	Pn	15 40 53.9	-1.2
VMM07				S	Sn	15 41 09.4	-0.1
VMM09	**Lebrija**	**1.33**	**171**	P	Pn	15 40 56.8	-1.1
VMM09				S	Sn	15 41 13.6	-0.8
PAMC	**Pamplona, Colo**	**1.35**	**145**	P	Pn	15 40 58.2	-0.3
PAMC				S	Sn	15 41 16.2	+0.8
BRJC	**Barrancabermej**	**1.49**	**190**	P	Pn	15 40 58.2	-1.7
BRJC				S	Sn	15 41 16.6	-1.5
ARGC	**Ariguani, Magd**	**1.59**	**332**	P	Pn	15 40 59.9	-1.4
ARGC				S	Sn	15 41 19.3	-1.2
ZARC	**Zaragoza, Cauc**	**1.66**	**235**	P	Pn	15 40 59.7	-2.5
ZARC				S	Sn	15 41 18.7	-3.6
VMM10	**El Carmen**	**1.69**	**188**	P	Pn	15 41 00.7	-2.0
VMM10				S	Sn	15 41 21.5	-1.6
BARC	**Barichara**	**1.87**	**171**	P	Pn	15 41 04.1	-1.3
BARC				S	Sn	15 41 27.2	-0.7
PTBC	**PUERTO BERRIO,**	**2.13**	**207**	P	Pn	15 41 05.9	-2.9
PTBC				S	Sn	15 41 31.0	-2.9
UREC	**San Jos de Ur**	**2.14**	**251**	P	Pn	15 41 07.6	-1.3
UREC				S	Sn	15 41 32.4	-1.8
SJCC	**San Jacinto, C**	**2.20**	**311**	P	Pn	15 41 09.6	-0.2
SJCC				S	Sn	15 41 36.1	+0.3
RUSC	**La Rusia**	**2.57**	**171**	P	Pn	15 41 14.3	-1.0
RUSC				S	Sn	15 41 44.5	-1.1
CRJC	**Cerrejon, Guaj**	**2.62**	**13**	P	Pn	15 41 13.9	-1.7
CRJC				S	Sn	15 41 44.6	-1.7
SMRC	**Santa Marta, M**	**2.79**	**345**	P	Pn	15 41 17.8	-0.1
SMRC				S	Sn	15 41 47.0	-3.3
LCBC	**Los crdobas,**	**2.87**	**278**	P	Pn	15 41 18.7	-0.3
LCBC				S	Sn	15 41 52.5	+0.2
HELC	**Santa Helena**	**3.02**	**222**	P	Pn	15 41 20.8	-0.5
HELC				S	Sn	15 41 56.3	-0.2
DBBC	**Dabeiba**	**3.05**	**242**	P	Pn	15 41 20.7	-0.8
DBBC				S	Sn	15 41 56.2	-0.6
APAC	**Apartado, Choc**	**3.11**	**260**	P	Pn	15 41 21.9	-0.3
APAC				S	Sn	15 41 58.0	-0.1
NORC	**Norcasia**	**3.18**	**206**	P	Pn	15 41 22.1	-1.1
NORC				S	Sn	15 41 57.8	-2.1
URIC	**Uribia, Colomb**	**3.55**	**24**	P	Pn	15 41 22.3	-6.0
URIC				S	Sn	15 42 05.6	-3.5
CBOC	**Ciudad Bolivar**	**3.59**	**224**	P	Pn	15 41 29.0	+0.1
GUY2C	**Guyana, Caldas**	**3.71**	**210**	P	Pn	15 41 30.1	-0.8
GUY2C				S	Sn	15 42 10.5	-3.0
VILC	**Villavicencio,**	**4.31**	**183**	P	Pn	15 41 39.7	+0.8
VILC				S	Sn	15 42 29.1	+1.0
PTGC	**Puerto Gaitan,**	**4.43**	**162**	P	Pn	15 41 38.3	-2.2
PTGC				S	Sn	15 42 26.6	-4.2
PLMC	**San Jos del P**	**4.48**	**218**	P	Pn	15 41 41.3	+0.1
PLMC				S	Sn	15 42 31.3	-0.9
ORTC	**Ortega, Tolima**	**4.84**	**201**	P	Pn	15 41 45.3	-0.7
ORTC				S	Sn	15 42 40.2	-0.7
PRAC	**Prado**	**4.91**	**197**	P	Pn	15 41 47.9	+0.9
PRAC				S	Sn	15 42 42.1	-0.5
YOTC	**Yotoco, Valle**	**5.27**	**213**	P	Pn	15 41 51.5	-0.5
YOTC				S	Sn	15 42 51.4	-0.2

JMA 10 15:40:53.0±0.2, 25°N±2°×123°4E±0°6, h57km±3km, MV1.5/5, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.36**	**131**	P	Pn	15 41 03.1	-0.2
IRIF				S	Sn	15 41 10.8	+0.2
YOJ	**Yonaguni jima**	**0.40**	**254**	P	Pn	15 41 03.6	0.0
YOJ				S	Sn	15 41 11.2	0.0
JKRS	**Kuro-shima**	**0.63**	**122**	P	Pn	15 41 06.3	+0.2
JKRS				S	Sn	15 41 16.4	+0.7
JIJ	**Ishigaki jima**	**0.68**	**108**	P	Pn	15 41 06.7	-0.1
JIJ				S	Sn	15 41 17.0	+0.1
JISG	**Ishigakijimahi**	**0.80**	**89**	P	Pn	15 41 08.5	+0.2
JISG				S	Sn	15 41 20.1	+0.6

TAP 10 15:41:00.5, 23.83N×121.52E, h36km±1km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.06**	**141**	*e*P	Pn	15 41 06.7	+0.2
SHUL				*e*S	Sn	15 41 11.2	+0.6
ESL	**Shilin**	**0.08**	**256**	*e*P	Pn	15 41 06.7	0.0
ESL				S	Sn	15 41 10.8	-0.1
ETM	**Tongmen**	**0.13**	**348**	*e*P	Pn	15 41 06.8	-4.9
ETM				*i* S	Sn	15 41 11.1	-11
WARBT	**Fenglin Townsh**	**0.17**	**227**	*e*P	Pn	15 41 06.2	-4.1
WARBT				*e*S	Sn	15 41 10.6	-9.2
EGFH	**Guangfu**	**0.19**	**208**	*e*P	Pn	15 41 07.7	-2.2
EGFH				*e*S	Sn	15 41 10.9	-7.9
TWD	**Chiawan**	**0.25**	**15**	*e*P	Pn	15 41 08.6	-0.1
TWD				S	Sn	15 41 13.3	-2.9
OWD	**Renai**	**0.34**	**291**	P	Pn	15 41 09.2	+0.2
OWD				S	Sn	15 41 14.9	-0.9
NACB	**Ninganchiao**	**0.34**	**11**	P	Pn	15 41 09.5	+0.6
NACB				*e*S	Sn	15 41 14.3	-1.3
HGSD	**Ruisui**	**0.35**	**195**	P	Pn	15 41 08.5	-0.5
HGSD				S	Sn	15 41 16.0	+0.4
VWDT	**VWDT**	**0.36**	**257**	*e*P	Pn	15 41 09.7	+0.7
VWDT				*i* S	Sn	15 41 15.4	-0.2
ETLH	**Xiulin Townshi**	**0.37**	**354**	P	Pn	15 41 08.8	-0.5
ETLH				*e*S	Sn	15 41 14.7	-1.4
EHY	**Hungye**	**0.37**	**209**	P	Pn	15 41 09.4	+0.2
EHY				*e*S	Sn	15 41 13.8	-2.1
EHYH	**Wanrong**	**0.38**	**206**	*e*S	Sn	15 41 13.6	-2.3
WHF	**Hehuan Shan**	**0.39**	**323**	*e*P	Pn	15 41 10.6	+0.7
WHF				S	Sn	15 41 16.4	-0.6
WUSB	**Renai**	**0.40**	**293**	*i* P	Pn	15 41 09.8	0.0
WUSB				S	Sn	15 41 16.4	-0.1
FUSS	**Fushou**	**0.48**	**328**	*e*P	Pn	15 41 11.3	+0.2
FUSS				S	Sn	15 41 18.6	+0.1
YULB	**Yu-li**	**0.49**	**205**	P	Pn	15 41 10.6	-0.3
YULB				*e*S	Sn	15 41 15.7	-2.5
WHYT	**Xinyi Township**	**0.63**	**258**	*e*P	Pn	15 41 13.3	+0.3
WHYT				*e*S	Sn	15 41 23.0	+1.1
FULB	**Fuli**	**0.67**	**198**	*e*P	Pn	15 41 13.1	-0.5
FULB				S	Sn	15 41 23.0	+0.3
YHNB	**Yeheng**	**0.84**	**351**	*i* P	Pn	15 41 16.0	0.0
YHNB				*e*S	Sn	15 41 27.1	-0.1

*IDC **10** 15:50:56.9±13.0, 19.80S×177.97W, h607km±119km, mb3.3/3, mbtmp4.3/4, Error ellipse: s-maj=126.1km s-min=46.1km az=113.0*
ISC 10 15:50:55.3±2.8, 19.8S±0.5×177.8W±0.4, h600km, n6, σ0°65/7, mb4.2/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.94**	**259**	P	**P**	**15 54 03.8**	**+0.7**
	4.6nm,0.6s,baz=111,slow=19,SNR=14						
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**15 58 17.8**	**-0.6**
	5.2nm,0.5s,baz=88,slow=8.3,SNR=182						
ASAR				PcP	**PcP**	**15 59 46.9**	**+0.3**
	0.4nm,0.4s,baz=107,slow=4.0,SNR=4.5 5.2nm,0.5s						
WRA	**Warramunga Arr**	**44.93**	**261**	P	**P**	**15 58 17.6**	**-0.9**
	3.3nm,0.4s,baz=98,slow=7.8,SNR=94 3.3nm,0.4s						
MJAR	**Matsushiro Arr**	**69.79**	**323**	P	**P**	**16 01 06.7**	**0.0**
	0.4nm,0.5s,baz=116,slow=8.3,SNR=4.5 0.4nm,0.5s						
BRTR	**Keskin Array B**	**146.54**	**313**	PKPbc	**PKPbc**	**16 09 31.1**	**+0.2**
	0.2nm,0.5s,baz=106,slow=3.6,SNR=3.7						
GERES	**GERESS Array B**	**149.59**	**345**	PKPbc	**PKPbc**	**16 09 38.0**	**-0.1**
	0.5nm,0.6s,baz=20,slow=1.1,SNR=5.0						

*THE **10** 16:19:42.8, 38°N±1°×2°1E±°, h4km±1km, M2.8/20, MLh2.8/20*
*ATH **10** 16:19:42.1, 37°58N×20°72E, h15km±1km, ML2.9/18, Manual Solution by G.Panopoulou First location: 2019/08/10 16:20:41, This location: 2019/08/10 21:10:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
ISC 10 16:19:41.9±1.2, 37.58N±0.04×20.73E±0.04, h10km±6km, n48, σ0°49/73, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.11**	**38**	P	**Pg**	**16 19 44.5**	**-0.1**
KRI1				S	**Sg**	**16 19 45.8**	**-0.7**
LTHK	**Lithakia**	**0.15**	**32**	P	**Pg**	**16 19 45.4**	**+0.2**
LTHK				S	**Sg**	**16 19 47.3**	**-0.4**
LTHK	**Lithakia**	**0.15**	**32**	P	**Pg**	**16 19 45.5**	**+0.2**
LTHK				S	**Sg**	**16 19 47.7**	**+0.1**
KYPS	**Kipseli, Zakin**	**0.25**	**17**	P	**Pg**	**16 19 47.9**	**+0.9**
KYPS				S	**Sg**	**16 19 51.5**	**+1.0**
ORTH	**Orthonies,Zaky**	**0.27**	**354**	S	**Sg**	**16 19 52.0**	**+0.8**
ORTH	**Orthonies,Zaky**	**0.27**	**354**	P	**Pg**	**16 19 48.1**	**+0.7**
ORTH				S	**Sg**	**16 19 51.9**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**0.45**	**45**	P	**Pg**	**16 19 51.1**	**+0.5**
CLEM				S	**Sg**	**16 19 56.9**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.50**	**3**	P	**Pg**	**16 19 51.9**	**+0.3**
RTZL				S	**Sg**	**16 19 59.3**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.55**	**348**	P	**Pg**	**16 19 53.0**	**+0.4**
PSDA				S	**Sg**	**16 19 59.8**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.55**	**348**	P	**Pg**	**16 19 52.9**	**+0.4**
PSDA				S	**Sg**	**16 19 59.9**	**+0.1**
VLS	**Valsamata**	**0.61**	**349**	P	**Pg**	**16 19 53.8**	**+0.1**
VLS				S	**Sg**	**16 20 02.5**	**+0.7**
VLS	**Valsamata**	**0.61**	**349**	P	**Pg**	**16 19 53.8**	**+0.1**
VLS				S	**Sg**	**16 20 02.4**	**+0.7**
ARG2	**Argostoli**	**0.63**	**342**	P	**Pg**	**16 19 54.6**	**+0.5**
ARG2				S	**Sg**	**16 20 03.4**	**+1.1**
DMLN	**Damoulianata-K**	**0.72**	**337**	P	**Pg**	**16 19 56.1**	**+0.3**
DMLN				S	**Sb**	**16 20 07.4**	**+0.9**
DMLN	**Damoulianata-K**	**0.72**	**337**	P	**Pg**	**16 19 56.0**	**+0.3**
DMLN				S	**Sg**	**16 20 05.6**	**+0.4**
RLS	**Riolos of Patr**	**0.75**	**50**	P	**Pg**	**16 19 56.7**	**+0.3**
RLS				S	**Sg**	**16 20 06.0**	**-0.2**
RLS	**Riolos of Patr**	**0.75**	**50**	P	**Pg**	**16 19 56.4**	**0.0**
RLS				S	**Sg**	**16 20 06.8**	**+0.6**
AXS	**Araxos**	**0.80**	**39**	P	**Pg**	**16 19 57.1**	**-0.3**
AXS				S	**Sg**	**16 20 08.1**	**+0.4**
DRO	**Drossia**	**0.86**	**64**	P	**Pg**	**16 19 58.9**	**+0.5**
DRO				S	**Sb**	**16 20 10.7**	**+0.2**
FSK	**Fiskardo**	**0.89**	**351**	P	**Pg**	**16 19 58.6**	**-0.5**
FSK				S	**Sg**	**16 20 11.0**	**+0.3**
ITM	**Ithomi**	**1.03**	**112**	P	**Pg**	**16 20 01.7**	**0.0**
ITM	**Ithomi**	**1.03**	**112**	P	**Pg**	**16 20 01.5**	**-0.2**
ITM				S	**Sb**	**16 20 16.0**	**+0.6**
PYL2	**Kinigos**	**1.04**	**130**	P	**Pg**	**16 20 01.7**	**-0.1**
PYL2				S	**Sg**	**16 20 15.6**	**+0.3**
EVGI	**Lefkada island**	**1.04**	**357**	P	**Pg**	**16 20 01.3**	**-0.6**
EVGI	**Lefkada island**	**1.04**	**357**	P	**Pg**	**16 20 01.2**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.13**	**359**	P	**Pb**	**16 20 03.1**	**-0.5**
LKD2	**Lefkada island**	**1.21**	**357**	P	**Pb**	**16 20 04.5**	**-0.5**
LKD2	**Lefkada island**	**1.21**	**357**	P	**Pb**	**16 20 04.3**	**-0.6**
LKD2				S	**Sb**	**16 20 19.8**	**-0.9**
PVO	**Paravola**	**1.21**	**31**	P	**Pb**	**16 20 04.9**	**-0.1**
PVO	**Paravola**	**1.21**	**31**	P	**Pb**	**16 20 04.8**	**-0.1**
PVO				S	**Sb**	**16 20 19.9**	**-0.7**
KLV	**Kalavryta, Ach**	**1.22**	**67**	P	**Pb**	**16 20 04.9**	**-0.2**
KLV	**Kalavryta, Ach**	**1.22**	**67**	P	**Pb**	**16 20 04.8**	**-0.2**
KLV				S	**Sb**	**16 20 20.9**	**0.0**
TSLK	**Tsoukalades, L**	**1.25**	**357**	P	**Pn**	**16 20 04.9**	**-0.5**
TSLK				S	**Sb**	**16 20 20.6**	**-1.0**
EFP	**Efpalio**	**1.25**	**47**	P	**Pn**	**16 20 05.5**	**0.0**
EFP	**Efpalio**	**1.25**	**47**	P	**Pn**	**16 20 05.4**	**-0.1**
GUR	**Goura**	**1.32**	**74**	P	**Pn**	**16 20 06.7**	**+0.1**
SERG	**Sergoula**	**1.34**	**51**	P	**Pn**	**16 20 06.4**	**-0.2**
KALE	**Kalithea**	**1.38**	**53**	P	**Pg**	**16 20 08.9**	**+0.5**
KALE	**Kalithea**	**1.38**	**53**	P	**Pn**	**16 20 07.0**	**-0.3**
ANX	**Ano Chora**	**1.38**	**42**	P	**Pn**	**16 20 07.3**	**-0.1**
ANX	**Ano Chora**	**1.38**	**42**	P	**Pn**	**16 20 07.1**	**-0.2**
EVR	**Evrytania**	**1.58**	**32**	P	**Pn**	**16 20 10.6**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.81**	**37**	P	**Pn**	**16 20 12.8**	**-0.4**
TETR	**Tetrakomo, Epi**	**1.81**	**13**	P	**Pb**	**16 20 15.0**	**-0.2**
TETR	**Tetrakomo, Epi**	**1.81**	**13**	P	**Pn**	**16 20 13.1**	**-0.2**
AXAR	**Agios Charalam**	**1.93**	**51**	P	**Pn**	**16 20 14.6**	**-0.2**
VLI	**Veliai**	**1.96**	**115**	P	**Pn**	**16 20 15.5**	**+0.3**
VIL2	**Platees**	**2.10**	**72**	P	**Pn**	**16 20 17.1**	**-0.1**

IDC 10 16:54:16.3±2.9, 30.62S×177.52W, h0km, mb3.6/2, mbtmp3.8/3, ML2.7/1, Error ellipse: s-maj=65.3km s-min=28.4km az=108.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.41**	**346**	Pn	Pn	16 54 42.5	-0.7
	96nm,0.3s,baz=66,slow=17,SNR=5.8						
RAO				Sn	Sg	16 54 56.3	-5.3
	368nm,0.3s,baz=45,slow=23,SNR=11						
URZ	**Urewera**	**8.81**	**209**	Pn	Pn	16 56 23.2	-1.7
	0.1nm,0.3s,baz=27,slow=9.0,SNR=1.3						
URZ				Sn	Sn	16 58 01.5	-3.4
	0.8nm,0.3s,baz=213,slow=23,SNR=7.8 12nm,0.9s						
ASAR	**Alice Springs**	**43.51**	**267**	P	P	17 02 21.9	+0.1
	0.2nm,0.4s,baz=106,slow=7.5,SNR=14 0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.52**	**272**	P	P	17 02 29.9	0.0
	0.4nm,0.2s,baz=111,slow=8.0,SNR=27 0.4nm,0.2s						
FINES	**FINESS Array B**	**145.50**	**340**	PKPbc	PKPdf	17 13 55.2	-0.4
	1.4nm,0.5s,baz=39,slow=3.9,SNR=14						

*PRE **10** 16:58:24.7±1.0, 27.03S×26.62E, h2km, ML3.9*
*IDC **10** 16:58:26.4±0.6, 26.98S×26.47E, h0km, mb4.2/14, mbtmp4.3/17, ML2.3/1, MS3.0/3, Error ellipse: s-maj=20.2km s-min=9.8km az=92.0*
*NEIC **10** 16:58:26.6±1.6, 27.00S±0.05×26.60E±0.05, h5km±1km, mb4.6/10, Error ellipse: s-maj=8.9km s-min=7.0km az=44.0*
*BGSI **10** 16:58:27.7±1.2, 27.12S×26.68E, h10km±31km, ML4.0*
ISC 10 16:58:26.3±0.3, 27.01S±0.03×26.60E±0.04, h5km, n160, σ1°76/186, mb4.4/30, 4C, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**1.48**	**41**	*e*P	**Pn**	**16 58 52.9**	**-0.8**
HRAO				*e*S	**Sn**	**16 59 13.2**	**-0.4**
HRAO				IAML		16 59 14.4	
	comp=Z,732nm,0.6s						
BOSA	**Boshof**	**1.99**	**216**	Pn	**Pn**	**16 59 01.1**	**+0.3**
BOSA	**Boshof**	**1.99**	**216**	Pn	**Pn**	**16 59 01.4**	**+0.6**
	comp=Z,63nm,0.3s,baz=40,slow=13,SNR=609						
BOSA				Lg	Lg	16 59 27.9	
	comp=Z,778nm,0.3s,baz=315,slow=19,SNR=73						
BOSA	**Boshof**	**1.99**	**216**	*e*P	**Pn**	**16 59 00.3**	**-0.5**
BOSA				*e*S	**Sn**	**16 59 26.0**	**-0.2**
BOSA				IAML		16 59 29.6	
	comp=Z,2μm,0.3s						
LBTB	**Lobatse**	**2.18**	**335**	Pn	**Pn**	**16 59 03.6**	**+0.2**
	comp=Z,478nm,0.4s,baz=158,slow=14,SNR=807						
LBTB				Lg	Lg	16 59 33.2	
	comp=Z,183nm,0.3s,baz=58,slow=22,SNR=51						
LBTB				LR	LR	16 59 34.3	
	comp=Z,37nm,18.0s,baz=154,slow=32						
LBTB	**Lobatse**	**2.18**	**335**	*e*P	**Pn**	**16 59 03.6**	**+0.2**
LBTB				*e*S	**Sn**	**16 59 31.5**	**+0.7**
LBTB				IAML		16 59 34.2	
	comp=Z,721nm,0.6s						
CRLN	**Carolina, Mapu**	**3.23**	**73**	*e*P	**Pn**	**16 59 17.2**	**-0.7**
CRLN				*e*S	**Sn**	**16 59 56.1**	**-0.7**
CRLN				IAML		17 00 08.7	
	comp=Z,96nm,0.7s						
SKOMA	**Sekoma**	**3.46**	**315**	*i* P	**Pn**	**16 59 21.1**	**+0.2**
SKOMA				IAML		17 00 16.0	
	comp=N,584nm,0.6s						
LPHEP	**Lephephe**	**3.69**	**349**	*i* P	**Pn**	**16 59 25.0**	**+0.8**
LPHEP				*i* S	**Sn**	**17 00 06.3**	**-1.8**
LPHEP				IAML		17 00 22.5	
	comp=E,299nm,0.9s						
LPHEP	**Lephephe**	**3.69**	**349**		**Pn**	**16 59 23.8**	**-0.3**
LPHEP					**Pb**	**16 59 32.7**	**+0.6**
PHPEN	**Phepeng**	**3.69**	**294**	*i* P	**Pn**	**16 59 24.6**	**+0.4**
PHPEN	**Phepeng**	**3.69**	**294**	Pn	**Pn**	**16 59 24.4**	**+0.2**
KDWAN	**Kaudwane**	**4.02**	**334**	*i* P	**Pn**	**16 59 29.0**	**+0.4**
KDWAN				*i* S	**Sn**	**17 00 15.6**	**-0.6**
KDWAN				IAML		17 00 33.1	
	comp=N,1μm,0.3s						
KSTD	**Kokstad**	**4.31**	**147**	*e*P	**Pn**	**16 59 32.5**	**-0.2**
KSTD				*e*S	**Sn**	**17 00 20.4**	**-3.0**
KSTD				IAML		17 00 48.9	
	comp=Z,211nm,0.4s						
MREMI	**Moremi**	**4.49**	**10**	*i* P	**Pn**	**16 59 35.4**	**+0.3**
MREMI				*i* S	**Sn**	**17 00 25.1**	**-2.6**
MREMI				IAML		17 00 47.4	
	comp=N,732nm,0.3s						
MREMI	**Moremi**	**4.49**	**10**		**Pn**	**16 59 35.6**	**+0.6**
MREMI					**Pb**	**16 59 46.6**	**+0.9**
POGA	**Pongola**	**4.56**	**95**		**Pn**	**16 59 36.0**	**0.0**
POGA					**Pb**	**16 59 47.3**	**+0.4**
HOED	**Hoedspruit, Li**	**4.69**	**57**	*e*P	**Pn**	**16 59 37.6**	**-0.2**
HOED				*e*S	**Sn**	**17 00 29.5**	**-3.0**
HOED				IAML		17 00 57.5	
	comp=Z,133nm,0.7s						
ALKP	**Alkanpan, Nort**	**4.82**	**232**	*e*P	**Pn**	**16 59 39.9**	**+0.2**
ALKP				*e*S	**Sn**	**17 00 33.6**	**-2.3**
ALKP				IAML		17 00 57.9	
	comp=Z,688nm,0.3s						
BFON	**Badsfontein, M**	**5.41**	**207**	*e*P	**Pn**	**16 59 47.3**	**-0.4**
BFON				*e*S	**Sn**	**17 00 47.3**	**-3.2**
BFON				IAML		17 01 19.6	
	comp=Z,397nm,0.4s						
GRAF	**Camdeboo Natio**	**5.56**	**199**	*e*P	**Pn**	**16 59 49.9**	**+0.1**
GRAF				*e*S	**Sn**	**17 00 52.0**	**-2.3**
GRAF				IAML		17 01 27.8	
	comp=Z,525nm,0.7s						
KGCAE	**Kacgae**	**5.75**	**315**	*i* P	**Pn**	**16 59 53.1**	**+0.7**
KGCAE				IAML		17 01 30.9	
	comp=N,527nm,0.9s						
KGCAE	**Kacgae**	**5.75**	**315**		**Pn**	**16 59 53.2**	**+0.8**
BRAK	**Brakfontein**	**5.75**	**213**	*e*P	**Pn**	**16 59 52.3**	**-0.1**
BRAK				*e*S	**Sn**	**17 00 54.9**	**-3.9**
BRAK				IAML		17 01 37.0	
	comp=Z,294nm,0.5s						
AUGR	**Augrabies**	**5.77**	**253**	*e*P	**Pn**	**16 59 52.3**	**-0.3**
AUGR				*e*S	**Sn**	**17 00 56.3**	**-3.0**
AUGR				IAML		17 01 25.5	
	comp=Z,388nm,0.4s						
BROLN	**Tlhalogang**	**5.92**	**7**	*i* P	**Pn**	**16 59 54.8**	**0.0**
BROLN				IAML		17 02 01.8	
	comp=N,124nm,1.7s						
ARMS	**Ukamas**	**6.18**	**259**	*e*P	**Pn**	**16 59 58.5**	**+0.2**
ARMS				*e*S	**Sn**	**17 01 05.9**	**-3.5**
GRHM	**Grahamstown, E**	**6.25**	**182**		**Pn**	**16 59 59.0**	**-0.3**
GRHM				Pg	**Pg**	**17 00 24.1**	**-1.9**
GRHM	**Grahamstown, E**	**6.25**	**182**	*e*P	**Pn**	**16 59 59.4**	**+0.1**
GRHM				*e*S	**Sn**	**17 01 06.8**	**-4.3**
GRHM				IAML		17 01 46.6	
	comp=Z,87nm,0.5s						
GRAN	**Grantham**	**6.53**	**215**	*e*P	**Pn**	**17 00 03.0**	**-0.2**
GRAN				*e*S	**Sn**	**17 01 13.8**	**-4.3**
GRAN				IAML		17 01 53.7	
	comp=Z,299nm,0.4s						
FRAZ	**Fraserburg**	**6.67**	**221**	*e*P	**Pn**	**17 00 05.6**	**+0.5**
FRAZ				*e*S	**Sn**	**17 01 17.7**	**-3.9**
FRAZ				IAML		17 01 58.3	
	comp=Z,192nm,0.6s						
MATP	**Matopo**	**6.78**	**15**	LR	LR	17 02 46.1	
	comp=Z,69nm,18.3s,baz=196,slow=38						
PHDHD	**Phuduhudu**	**7.04**	**344**	*i* P	**Pn**	**17 00 10.4**	**+0.2**
PHDHD				IAML		17 02 18.8	
	comp=N,370nm,1.0s						
KOOLE	**Kule**	**7.05**	**303**	*i* P	**Pn**	**17 00 09.4**	**-1.0**
KOOLE				IAML		17 02 17.0	
	comp=E,319nm,0.8s						
KOOLE	**Kule**	**7.05**	**303**		**Pn**	**17 00 09.6**	**-0.8**
KOOLE				Pg	**Pb**	**17 00 32.9**	**+3.5**
BUFB	**Buffelsbos**	**7.30**	**192**	*e*P	**Pn**	**17 00 13.9**	**+0.4**
BUFB				*e*S	**Sn**	**17 01 31.9**	**-4.8**
BUFB				IAML		17 02 19.5	
	comp=Z,94nm,0.5s						
KROM	**Kromhout**	**7.31**	**193**	*e*P	**Pn**	**17 00 13.3**	**-0.4**
KROM				*e*S	**Sn**	**17 01 32.7**	**-4.5**
KROM				IAML		17 02 19.6	
	comp=Z,530nm,0.4s						
SUR	**Sutherland**	**7.35**	**222**		**Pn**	**17 00 15.2**	**+0.7**
SUR	**Sutherland**	**7.35**	**222**	*e*P	**Pn**

QSPA	**South Pole Qui**	**63.18**	**180**	P		**P**		**17 08 55.4**	**+0.1**
QSPA				IAmb		IAmb		17 08 58.1	
	comp=Z,8.8nm,1.2s								
QSPA	**South Pole Qui**	**63.18**	**180**	P		**P**		**17 08 56.2**	**+1.0**
	comp=Z,3.8nm,1.1s,baz=231,slow=6.3,SNR=8.5								
	comp=Z,3.8nm,1.1s								
BRTR	**Keskin Array B**	**66.71**	**6**	P		**P**		**17 09 19.8**	**+1.4**
	comp=Z,1.2nm,1.0s,baz=184,slow=7.1,SNR=5.2								
	comp=Z,1.2nm,1.0s								
BDFB	**Brasilia**	**69.57**	**262**	P		**P**		**17 09 37.2**	**+0.3**
	comp=Z,4.9nm,0.9s,baz=106,slow=2.7,SNR=5.3								
	comp=Z,4.9nm,0.9s								
ESDC	**Sonseca Array**	**72.20**	**336**	P		**P**		**17 09 52.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=158,slow=6.6,SNR=9.2								
	comp=Z,1.4nm,0.8s								
VNDA	**Vanda**	**72.36**	**171**	P		**P**		**17 09 53.0**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=242,slow=5.2,SNR=5.7								
	comp=Z,0.9nm,0.7s								
SBA	**Scott Base**	**72.76**	**172**	P		**P**		**17 09 57.6**	**+2.5**
OBKA	**Obir**	**73.98**	**351**	*i* P		**P**		**17 10 04.4**	**+1.8**
	comp=Z,6.5nm,1.7s								
SOKA	**Soboth**	**74.08**	**352**	*e*P		**P**		**17 10 05.3**	**+2.0**
	comp=Z,1.9nm,0.6s								
BURAR	**Bucovina Array**	**74.29**	**359**	P		**P**		**17 10 04.5**	**+0.1**
BURAR				IAmb		IAmb		17 10 07.8	
	comp=Z,3.0nm,1.0s								
ABTA	**Abfaltersbach**	**74.51**	**350**	*e*P		**P**		**17 10 07.6**	**+1.9**
	comp=Z,3.1nm,1.0s								
FETA	**Feichten**	**75.07**	**349**	*i* P		**P**		**17 10 10.2**	**+1.1**
	comp=Z,3.9nm,1.1s								
LESA	**Schwarzleotal**	**75.14**	**350**	*i* P		**P**		**17 10 10.6**	**+1.2**
	comp=Z,2.2nm,0.8s								
WTTA	**Wattenberg**	**75.15**	**350**	*e*P		**P**		**17 10 10.6**	**+1.1**
	comp=Z,3.8nm,0.8s								
SQTA	**Sankt Quirin**	**75.18**	**349**	*e*P		**P**		**17 10 10.8**	**+1.2**
	comp=Z,6.4nm,1.3s								
CONA	**Conrad Observa**	**75.21**	**353**	*i* P		**P**		**17 10 11.8**	**+2.0**
	comp=Z,4.7nm,1.0s								
MOTA	**Moosalm**	**75.32**	**349**	*e*P		**P**		**17 10 12.2**	**+1.7**
	comp=Z,3.3nm,0.9s								
MOA	**Molln**	**75.33**	**351**	*e*P		**P**		**17 10 12.1**	**+1.7**
	comp=Z,2.1nm,0.9s								
GERES	**GERESS Array B**	**76.39**	**351**	P		**P**		**17 10 17.4**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=197,slow=4.2,SNR=5.0								
	comp=Z,1.0nm,0.8s								
KIEV	**Kiev**	**77.39**	**2**	P		**P**		**17 10 22.0**	**0.0**
KIEV				IAmb		IAmb		17 10 23.8	
	comp=Z,5.0nm,1.0s								
AKASG	**Malin Array Be**	**77.40**	**2**	P		**P**		**17 10 22.3**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=187,slow=5.2,SNR=12								
	comp=Z,2.3nm,0.8s								
AKBB	**Malin Array Si**	**77.40**	**2**	P		**P**		**17 10 22.0**	**0.0**
AKBB				IAmb		IAmb		17 10 23.8	
	comp=Z,6.0nm,1.1s								
PLCA	**Paso Flores**	**77.92**	**230**	P		**P**		**17 10 25.9**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=104,slow=8.3,SNR=2.3								
	comp=Z,2.1nm,1.0s								
KK31	**Karatay Array**	**80.61**	**31**	P		**P**		**17 10 39.8**	**0.0**
KK31				IAmb		IAmb		17 10 42.4	
	comp=Z,5.2nm,1.1s								
KKAR	**Karatay Array**	**80.61**	**31**	P		**P**		**17 10 39.6**	**-0.3**
LPAZ	**La Paz**	**86.83**	**253**	P		**P**		**17 11 13.7**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=109,slow=4.6,SNR=4.7								
	comp=Z,3.3nm,1.0s								
FINES	**FINESS Array B**	**88.14**	**360**	P		**P**		**17 11 18.4**	**+0.9**
	comp=Z,3.7nm,1.0s,baz=193,slow=4.3,SNR=5.6								
	comp=Z,3.7nm,1.0s								
ASAR	**Alice Springs**	**93.61**	**119**	P		**P**		**17 11 45.6**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=228,slow=4.7,SNR=5.0								
	comp=Z,0.3nm,0.9s								
TXAR	**Lajitas Array**	**136.36**	**285**	PKP		**PKiKP**		**17 17 50.9**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=122,slow=1.9,SNR=4.6								
M30M	**Minto, Yukon**	**142.77**	**347**	P		**PKPdf**		**17 17 56.5**	**-3.7**
	baz=18								
L27K	**Beaver Creek,**	**143.15**	**351**	P		PKPbc		17 17 57.5	-0.2
	baz=13								
M29M	**Somme Creek**	**143.21**	**348**	P		PKPbc		17 17 58.1	0.0
	baz=16								
M27K	**Edge Creek, AK**	**143.83**	**351**			PKPbc		17 18 00.3	+0.4
M27K	**Edge Creek, AK**	**143.83**	**351**	P		PKPbc		17 18 00.4	+0.5
	baz=12								
N30M	**Aishikik Lake**	**143.85**	**347**	P		**PKPdf**		**17 18 01.4**	**-0.8**
	baz=17								
M26K	**Nabesna, AK**	**143.94**	**352**	P		PKPbc		17 18 00.8	+0.8
	baz=11								
R33M	**Jennings River**	**144.10**	**341**			PKPbc		17 18 01.5	+0.7
R33M	**Jennings River**	**144.10**	**341**	P		**PKiKP**		**17 18 04.6**	**-1.7**
	baz=23								
K17K	**Iditarod**	**144.15**	**4**	P		**PKPdf**		**17 18 02.5**	**0.0**
	baz=356								
YUK3	**Moose Creek**	**144.17**	**350**	P		**PKPdf**		**17 18 02.4**	**-0.5**
	baz=14								
YUK4	**Talbot Arm**	**144.26**	**348**	P		**PKPdf**		**17 18 02.4**	**-0.7**
	baz=16,SNR=5.4								
K13K	**Kusilvak Mount**	**144.28**	**9**	P		**PKPdf**		**17 18 04.0**	**+1.3**
	baz=350								
HYT	**Haines Junctio**	**144.51**	**347**	P		**PKPdf**		**17 18 03.8**	**+0.4**
	baz=17,SNR=8.9								
YUK8	**Steele Glacier**	**144.51**	**349**	P		**PKPdf**		**17 18 03.5**	**-0.1**
	baz=15								
L20K	**Farewell, AK**	**144.53**	**0**	P		**PKPdf**		**17 18 03.5**	**+0.2**
	baz=0.7								
YUK6	**Outpost Mounta**	**144.57**	**347**	P		**PKPdf**		**17 18 03.8**	**+0.1**
	baz=16								
DLBC	**Dease Lake**	**144.58**	**339**	P		**PKPdf**		**17 18 05.0**	**+1.4**
	baz=24								
L18K	**Granite Mounta**	**144.72**	**3**	P		**PKPdf**		**17 18 04.1**	**+0.6**
	baz=358								
L17K	**Donlin**	**144.73**	**4**	P		**PKPdf**		**17 18 04.0**	**+0.4**
	baz=356								
L19K	**White Mountain**	**144.82**	**1**	P		**PKPdf**		**17 18 03.5**	**-0.3**
	baz=360,SNR=5.7								
Q32M	**Nakina River**	**144.84**	**341**	P		**PKiKP**		**17 18 06.1**	**-1.8**
	baz=22								
N25K	**Chitina, Valde**	**144.91**	**353**	P		**PKPdf**		**17 18 04.2**	**+0.2**
	baz=9.9								
L15K	**Ungalak Mounta**	**144.91**	**7**	P		**PKPdf**		**17 18 03.5**	**-0.4**
	baz=353								
MCARA	**McCarthy VSAT**	**144.93**	**351**	P		**PKPdf**		**17 18 03.8**	**-0.2**
	baz=12,SNR=9.8								
SCM	**Sheep Creek Mo**	**144.94**	**355**	P		**PKPdf**		**17 18 04.0**	**0.0**
	baz=7.2,SNR=5.4								
SKT	**Skwentna**	**145.01**	**358**	P		**PKPdf**		**17 18 03.9**	**-0.2**
	baz=3.0,SNR=11								
M23K	**Glacier View**	**145.01**	**355**	P		**PKPdf**		**17 18 04.6**	**+0.4**
	baz=6.8								
P30M	**Million Dollar**	**145.03**	**346**	P		**PKPdf**		**17 18 05.7**	**+1.4**
	baz=18								
O28M	**Mount Upton**	**145.07**	**349**	P		**PKPdf**		**17 18 05.3**	**+0.7**
	baz=14,SNR=5.4								
CTG	**Chitna Glacier**	**145.08**	**350**	P		**PKPdf**		**17 18 05.4**	**+1.0**
	baz=13								
M19K	**Big River Lodg**	**145.10**	**1**	P		**PKPbc**		**17 18 03.2**	**-0.5**
	baz=0.2								
L14K	**Kuka Creek**	**145.11**	**8**	P		**PKPdf**		**17 18 05.1**	**+0.9**
	baz=352								
M20K	**Styx River**	**145.13**	**360**	P		**PKPbc**		**17 18 02.7**	**-1.2**
	baz=1.4								
KLU	**Klutina**	**145.16**	**354**	P		**PKPab**		**17 18 04.1**	**0.0**
	baz=8.6,SNR=7.4								
M22K	**Willow**	**145.19**	**357**	P		**PKPdf**		**17 18 04.5**	**+0.2**
	baz=4.4								
O29M	**Mount Kennedy**	**145.20**	**347**	P		**PKPdf**		**17 18 06.5**	**+1.8**
	baz=16								
SKAG	**Skagway**	**145.24**	**344**	P		**PKiKP**		**17 18 07.6**	**-0.9**
	baz=19								
PMR	**Palmer**	**145.30**	**356**	P		**PKPbc**		**17 18 04.3**	**-0.1**
	baz=5.4								
KNK	**Knik Glacier**	**145.44**	**356**	P		**PKPab**		**17 18 05.9**	**+0.8**
	baz=6.1								
M18K	**Stony River**	**145.49**	**2**	P		**PKPab**		**17 18 05.5**	**+0.4**
	baz=359,SNR=7.6								
PLBC	**Pleasant Camp**	**145.49**	**345**	P		**PKiKP**		**17 18 07.5**	**-1.4**
	baz=18								
M11K	**Mekoryuk**	**145.50**	**11**	P		**PKiKP**		**17 18 07.7**	**-1.2**
	baz=348								
SUA	**Susitna One**	**145.50**	**358**	P		**PKPab**		**17 18 06.1**	**+0.7**
	baz=3.8,SNR=6.2								
M17K	**Holitna River**	**145.51**	**3**	P		**PKPab**		**17 18 05.7**	**+0.4**
	baz=357,SNR=6.7								
BMRM	**Bremner River**	**145.53**	**352**	P		**PKPab**		**17 18 06.1**	**+0.7**
	baz=9.9								
CRQE	**Cirque**	**145.54**	**351**	P		**PKPab**		**17 18 07.0**	**+1.4**
	baz=11								
P29M	**Windy Craggy**	**145.64**	**346**	P		**PKiKP**		**17 18 08.5**	**-0.8**
	baz=17								
M14K	**Bethel**	**145.77**	**7**	P		**PKPab**		**17 18 07.5**	**+1.3**
	baz=353								
M16K	**Timber Creek**	**145.79**	**5**	P		**PKPab**		**17 18 07.0**	**+0.7**
	baz=356								
RC01	**Rabbit Creek A**	**145.84**	**357**	P		**PKPab**		**17 18 07.4**	**+0.9**
	baz=4.8								
GLI	**Glacier Island**	**145.87**	**355**	P		**PKPbc**		**17 18 06.2**	**+0.1**
	baz=7.4								
MESA	**MESA**	**145.92**	**350**	P		**PKPab**		**17 18 08.3**	**+1.2**
	baz=13								
M15K	**Kasigluk River**	**145.96**	**6**	P		**PKPab**		**17 18 08.0**	**+1.0**
	baz=354								
PWL	**Port Wells**	**145.98**	**356**	P		**PKPab**		**17 18 07.7**	**+0.6**
	baz=6.2								
N19K	**Bonanza Creek**	**146.20**	**1**	P		**PKPab**		**17 18 07.7**	**-0.3**
	baz=0.1								
N18K	**Kilae Creek**	**146.29**	**2**	P		**PKiKP**		**17 18 10.0**	**-0.6**
	baz=359								
N16K	**Nishlik Lake**	**146.34**	**5**	P		**PKiKP**		**17 18 10.4**	**-0.4**
	baz=356								
N17K	**Nushagak Hills**	**146.39**	**3**	P		**PKiKP**		**17 18 10.1**	**-0.6**
	baz=357								
N15K	**Kwethluk River**	**146.53**	**6**	P		**PKPab**		**17 18 10.0**	**+0.8**
	baz=354								
P23K	**Montague Islan**	**146.76**	**355**	P		**PKiKP**		**17 18 11.0**	**-0.5**
	baz=7.2								
O17K	**Koliganek Bris**	**147.15**	**3**	P		**PKiKP**		**17 18 12.9**	**+0.6**
	baz=356								
Q23K	**Middleton Isla**	**147.23**	**353**	P		**PKiKP**		**17 18 15.2**	**+2.7**
	baz=8.2								
O16K	**Kokwok River B**	**147.27**	**4**	P		**PKiKP**		**17 18 13.9**	**+1.3**
	baz=356								
TPH	**Tonopah**	**147.75**	**299**			**PKPdf**		**17 18 07.5**	**-2.3**
DSP	**Deep Springs**	**148.45**	**298**			**PKiKP**		**17 18 16.6**	**+0.8**
NVAR	**Mina Array Bea**	**148.53**	**300**	PKPbc		**PKiKP**		**17 18 16.6**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=127,slow=2.1,SNR=13								
WAKR	**Walker**	**149.39**	**301**			**PKiKP**		**17 18 19.0**	**+1.1**

*IDC **10** 16:59:15.8±6.2,30.°60N×57.°35E, h0km, mb3.5/4, mbtmp3.5/5,ML3.6/1, Error ellipse: s-maj=122.5km s-min=33.8km az=173.0*
*TEH **10** 16:59:16.4,30.°68N×57.°35E, h9km±24km*
ISC 10 16:59:17.0±1.8,30.°68N±0.°05×57.°36E±0.°04, h3km±14km, n38,σ0°95/38, mb3.4/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRM1	**Kerman Provinc**	**0.20**	**204**	Pg	**Pg**	**16 59 20.9**	**0.0**
ZRDN	**Zarand Kerman**	**0.77**	**292**	Pg	**Pg**	**16 59 31.2**	**-0.5**
KHGB	**Koh Gabri**	**0.82**	**248**	Pg	**Pg**	**16 59 32.3**	**-0.5**
CHMN	**Cheshme madani**	**0.83**	**169**	Pg	**Pg**	**16 59 32.5**	**-0.5**
KRBR	**Kerman**	**0.87**	**217**	Pg	**Pg**	**16 59 33.6**	**-0.1**
NGRK	**Negar Kerman**	**1.17**	**208**	Pg	**Pg**	**16 59 39.2**	**-0.3**
KBAM	**BAM**	**1.81**	**148**	Pn	**Pn**	**16 59 49.6**	**+0.5**
IKOO	**Kooshan**	**2.23**	**38**	Pn	**Pn**	**16 59 55.6**	**+0.5**
TPRV	**Parvadeh(Tabas**	**2.41**	**346**	Pn	**Pn**	**16 59 57.5**	**+0.1**
NHDN	**Nehbandan**	**2.41**	**72**	Pn	**Pn**	**16 59 58.4**	**+0.9**
IMEH	**Mehriz**	**2.46**	**287**	Pn	**Pn**	**16 59 59.0**	**+0.6**
ITEG	**Tejag**	**2.50**	**28**	Pn	**Pn**	**16 59 59.6**	**+0.8**
TKDS	**Koohdasht(Taba**	**2.93**	**356**	Pn	**Pn**	**17 00 05.2**	**+0.7**
IDAH	**Dahanechah**	**2.96**	**46**	Pn	**Pn**	**17 00 06.0**	**+0.9**
ICHK	**Chekchek**	**2.97**	**302**	Pn	**Pn**	**17 00 06.0**	**+0.7**
AFRZ	**Afriz**	**3.07**	**27**	Pn	**Pn**	**17 00 07.7**	**+1.1**
TNSJ	**Nastanj**	**3.33**	**349**	Pn	**Pn**	**17 00 10.9**	**+0.8**
GENO	**Geno**	**3.44**	**198**	Pn	**Pn**	**17 00 13.0**	**+1.4**
SHRT	**Shahrakht**	**3.86**	**39**	Pn	**Pn**	**17 00 18.6**	**+1.2**
ANAR	**Anarak**	**3.97**	**310**	Pn	**Pn**	**17 00 19.8**	**+0.8**
TAPT	**Tabas- Tapeh t**	**4.19**	**358**	Pn	**Pn**	**17 00 23.1**	**+1.1**
IRAM	**Ramesheh**	**4.41**	**286**	Pn	**Pn**	**17 00 25.5**	**+0.4**
IZEF	**Zefreh**	**4.82**	**299**	Pn	**Pn**	**17 00 31.8**	**+1.1**
KLNJ	**Kolanjah**	**4.97**	**275**	Pn	**Pn**	**17 00 34.7**	**+1.8**
KRSH	**Karshahi**	**5.50**	**308**	Pn	**Pn**	**17 00 40.8**	**+0.7**
ISFB	**Sefidab**	**5.67**	**312**	Pn	**Pn**	**17 00 43.5**	**+1.3**
SBZV	**Sabzevar**	**5.69**	**2**	Pn	**Pn**	**17 00 44.0**	**+1.3**
JRKH	**Jarkhoshk**	**5.78**	**25**	Pn	**Pn**	**17 00 44.7**	**+1.0**
QAMS	**Qamsar**	**5.90**	**303**	Pn	**Pn**	**17 00 47.3**	**+1.7**
IPAY	**Payeh**	**5.91**	**13**	Pn	**Pn**	**17 00 47.0**	**+1.3**
IAKL	**Akhelmad**	**6.01**	**11**	Pn	**Pn**	**17 00 48.2**	**+1.0**
IDMV	**Damavand**	**6.62**	**319**	Pn	**Pn**	**17 00 56.6**	**+1.1**
AKTO	**Aktyubinsk**	**19.74**	**1**	P	**P**	**17 03 48.1**	**+0.4**
	0.2nm,0.3s,baz=182,slow=8.1,SNR=4.9						
	1.3nm,0.6s						
BRTR	**Keskin Array B**	**21.33**	**301**	P	**P**	**17 04 05.5**	**+0.2**
	1.6nm,0.9s,baz=123,slow=11,SNR=9.6						
	1.6nm,0.9s						
MKAR	**Makanchi Array**	**25.08**	**43**	P	**P**	**17 04 42.8**	**0.0**
	0.6nm,0.8s,baz=241,slow=7.6,SNR=3.9						
	0.6nm,0.8s						
AKASG	**Malin Array Be**	**28.96**	**322**	P	**P**	**17 05 16.5**	**-1.0**
	0.2nm,0.3s,baz=108,slow=8.9,SNR=1.6						
	0.2nm,0.3s						
GERES	**GERESS Array B**	**37.54**	**312**	P	**P**	**17 06 32.0**	**-0.5**
	1.1nm,0.8s,baz=108,slow=8.7,SNR=3.9						
	1.1nm,0.8s						
CLL	**Collm**	**38.57**	**315**	*e*P	**P**	**17 06 40.0**	**-0.9**

*SJA **10** 17:16:02.5±0.7,31.°75S×71.°57W, h21km±2km, ML4.5, MW4.4*
*IDC **10** 17:16:05.0±0.4,31.°75S×71.°62W, h43km±3km, mb4.2/9, mbtmp4.5/13, ML4.4/4, MS3.3/11, Error ellipse: s-maj=13.2km s-min=10.6km az=5.0*
*GUC **10** 17:16:04.4±0.9,31.°77S×71.°39W, h54km±5km, ML4.7*
*NEIC **10** 17:16:05.6,31.°75S×71.°43W, h49km*
*NEIC **10** 17:16:05.6±1.5,31.°751S±0.°008×71.°44W±0.°07, h49km±5km, mb4.7/89, Mwr4.4/42, ML4.7(GUC), Error ellipse: s-maj=8.7km s-min=1.2km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.74; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-4.22; $M_{r\theta}$0.52; $M_{\theta\phi}$0.77; $M_{\phi r}$-3.42; Fault plane solution: M_o5.73000×10^{15} NP1: ϕ_s347.45000°,δ26.45000°,λ87.48000°. NP2: ϕ_s170.26000°,δ63.58000°,λ91.25000°. Principal axes: T 5.9041, Plg71.0000°, Azm83.0000°; N -0.3692, Plg1.0000°, Azm350.0000°; P -5.5350, Plg19.0000°, Azm259.0000°;*
*VAO **10** 17:16:16.5±0.7,31.°34S×70.°94W, h120km, mb4.4*
ISC 10 17:16:04.5±0.4,31.°72S±0.°02×71.°53W±0.°04, h44km±3km, n265,σ1°65/286, mb4.7/48, MS3.5/8, 8C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.69**	**41**		**Pn**	**17 16 18.6**	**+0.6**
CO02				Sn	**Sn**	**17 16 28.1**	**+0.3**
CO02	**Combarbal**	**0.69**	**41**	*i*P	**Pn**	**17 16 18.7**	**+0.7**
CO02				*e*S	**Sn**	**17 16 28.2**	**+0.5**
CO02	**Combarbal**	**0.69**	**41**	*e*P	**Pn**	**17 16 18.6**	**+0.6**
CO02				*e*S	**Sn**	**17 16 27.9**	**+0.2**
VA06	**Catapilco**	**0.86**	**167**		**Pn**	**17 16 20.1**	**-0.1**
VA06				Sn	**Sn**	**17 16 30.7**	**-0.9**
VA06	**Catapilco**	**0.86**	**167**	*i*P	**Pn**	**17 16 20.3**	**+0.1**
VA06				*e*S	**Sn**	**17 16 30.9**	**-0.8**
VA06				IAML		17 16 33.1	
	comp=E,92μm,0.3s						
CO06	**Fray Jorge**	**1.05**	**355**		**Pn**	**17 16 24.1**	**+1.3**
CO06				Sn	**Sn**	**17 16 39.0**	**+2.7**
CO06	**Fray Jorge**	**1.05**	**355**	*i*P	**Pn**	**17 16 24.2**	**+1.3**
CO06				IAML		17 16 43.4	
	comp=E,16μm,0.3s						
CO03	**El Pedregal**	**1.14**	**39**		**Pn**	**17 16 24.9**	**+0.8**
CO03				Sn	**Sn**	**17 16 39.1**	**+0.5**
CO03	**El Pedregal**	**1.14**	**39**	*i*P	**Pn**	**17 16 25.0**	**+0.8**
CO03				*e*S	**Sn**	**17 16 38.9**	**+0.3**
CO03				IAML		17 16 40.5	
	comp=E,50μm,0.3s						
CO03	**El Pedregal**	**1.14**	**39**	*e*P	**Pn**	**17 16 25.0**	**+0.8**
CO03				*e*S	**Sn**	**17 16 40.5**	**+1.9**
CO03				IAML		17 16 42.0	
	comp=Z,8μm,0.4s						
VA01	**Torpederas**	**1.30**	**184**		**Pn**	**17 16 26.9**	**+0.7**
VA01				Sn	**Sn**	**17 16 42.6**	**+0.2**
VA01	**Torpederas**	**1.30**	**184**	*i*P	**Pn**	**17 16 27.0**	**+0.7**
VA01				*i* S	**Sn**	**17 16 43.3**	**+0.9**
VA01	**Torpederas**	**1.30**	**184**	*e*P	**Pn**	**17 16 26.4**	**+0.2**
VA01				*e*S	**Sn**	**17 16 44.5**	**+2.1**
VA01				IAML		17 16 46.0	
	comp=Z,6μm,0.6s						
ROCH	**El Roble**	**1.32**	**161**	*i*P	**Pn**	**17 16 27.2**	**+0.5**
ROCH				*i* S	**Sn**	**17 16 43.6**	**+0.3**
ROC1	**El Roble**	**1.32**	**161**	*e*P	**Pn**	**17 16 27.2**	**+0.4**
ROC1				*e*S	**Sn**	**17 16 44.3**	**+1.0**
VA03	**San Esteban**	**1.33**	**142**		**Pn**	**17 16 26.8**	**+0.1**
VA03				Sn	**Sn**	**17 16 42.6**	**-0.7**
VA03	**San Esteban**	**1.33**	**142**	*i*P	**Pn**	**17 16 27.0**	**+0.3**
VA03				*i* S	**Sn**	**17 16 43.1**	**-0.1**
VA03				IAML		17 16 46.0	
	comp=E,36μm,0.2s						
VA03	**San Esteban**	**1.33**	**142**	*e*P	**Pn**	**17 16 26.4**	**-0.4**
VA03				*e*S	**Sn**	**17 16 44.9**	**+1.6**
VA03				IAML		17 16 46.9	
	comp=Z,14μm,0.5s						
MT02	**Curacav**	**1.57**	**168**		**Pn**	**17 16 30.2**	**+0.3**
MT02				Sn	**Sn**	**17 16 48.2**	**-0.8**
MT02	**Curacav**	**1.57**	**168**	*e*P	**Pn**	**17 16 30.3**	**+0.3**
MT02				*i* S	**Sn**	**17 16 51.0**	**+2.0**
MT02	**Curacav**	**1.57**	**168**	*e*P	**Sn**	**17 16 29.6**	**-0.3**
MT02				*e*S	**Sn**	**17 16 51.6**	**+2.6**
MT02				IAML		17 16 54.5	
	comp=Z,5μm,0.3s						
PEL	**Peldehue**	**1.58**	**154**		**Pn**	**17 16 30.6**	**+0.4**
PEL				Sn	**Sn**	**17 16 49.7**	**+0.1**
PEL	**Peldehue**	**1.58**	**154**	*i*P	**Pn**	**17 16 30.9**	**+0.7**
PEL				*i* S	**Sn**	**17 16 50.7**	**+1.1**
PEL	**Peldehue**	**1.58**	**154**	*e*P	Pn	17 16 25.1	-5.1
GO04	**Tololo Observa**	**1.67**	**22**		**Pn**	**17 16 32.9**	**+1.4**
GO04				Sn	**Sn**	**17 16 52.5**	**+0.6**
GO04	**Tololo Observa**	**1.67**	**22**	*e*P	**Pn**	**17 16 32.9**	**+1.4**
GO04				*i* S	**Sn**	**17 16 55.9**	**+4.0**
GO04	**Tololo Observa**	**1.67**	**22**	*e*P	**Pn**	**17 16 32.6**	**+1.0**
MT10	**Hacienda Santa**	**1.76**	**152**	*i*P	**Pn**	**17 16 33.5**	**+0.8**
MT10				*e*S	**Sn**	**17 16 54.2**	**+0.3**
MT10				IAML		17 16 57.3	
	comp=E,31μm,0.3s						
MT05	**Renca**	**1.79**	**158**		**Pn**	**17 16 33.8**	**+0.8**
MT05				Sn	**Sn**	**17 16 54.6**	**0.0**
MT05	**Renca**	**1.79**	**158**	*i*P	**Pn**	**17 16 33.9**	**+0.8**
MT05				*i* S	**Sn**	**17 16 55.6**	**+1.0**
MT05	**Renca**	**1.79**	**158**	*e*P	**Pn**	**17 16 33.4**	**+0.3**
MT05				*e*S	**Sn**	**17 16 58.2**	**+3.6**
MT05				IAML		17 17 00.1	
	comp=Z,5μm,0.6s						
CO05	**La Serena**	**1.82**	**8**		**Pn**	**17 16 35.1**	**+1.8**
CO05				Sn	**Sn**	**17 16 57.8**	**+2.7**
CO05	**La Serena**	**1.82**	**8**	*e*P	**Pn**	**17 16 35.2**	**+1.8**
CO05				IAML		17 17 04.2	
	comp=E,9μm,0.4s						
MT14	**Cerro Cal¡n**	**1.86**	**154**	*e*P	**Pn**	**17 16 35.0**	**+0.9**
MT14				*i* S	**Sn**	**17 16 57.7**	**+1.2**
MT14				IAML		17 17 10.8	
	comp=E,19μm,0.5s						
MT16	**CCHEN**	**1.90**	**154**		**Pn**	**17 16 34.9**	**+0.3**
MT16				Sn	**Sn**	**17 16 57.7**	**+0.4**
MT16	**CCHEN**	**1.90**	**154**	*e*P	**Pn**	**17 16 35.4**	**+0.9**
MT16				*i* S	**Sn**	**17 16 58.1**	**+0.8**
MT16				IAML		17 17 10.3	
	comp=N,6μm,0.5s						
RTLS	**Leoncito**	**1.90**	**93**	*e*P	**Pn**	**17 16 36.9**	**+2.1**
RTLS				IAML		17 17 06.2	
	comp=Z,5μm,0.5s						
FCH	**Farellones**	**1.91**	**147**	*i*P	**Pn**	**17 16 35.5**	**+0.6**
FCH				*i* S	**Sn**	**17 16 59.2**	**+1.3**
MT04	**Ro Olivares**	**2.05**	**145**	*e*P	**Pn**	**17 16 37.9**	**+1.2**
MT04				*e*S	**Sn**	**17 17 02.5**	**+1.4**
MT04	**Ro Olivares**	**2.05**	**145**	*e*P	**Pn**	**17 16 38.0**	**+1.3**
MT04				*e*S	**Sn**	**17 17 04.7**	**+3.6**
MT04				IAML		17 17 07.0	
	comp=Z,2μm,0.6s						
MT15	**Las Vizcachas**	**2.06**	**156**	*e*P	**Pn**	**17 16 37.4**	**+0.7**
MT15				*e*S	**Sn**	**17 17 02.8**	**+1.6**
MT15				IAML		17 17 14.0	
	comp=E,12μm,0.3s						
MT09	**Talagante**	**2.10**	**168**		**Pn**	**17 16 38.6**	**+1.3**
MT09				Sn	**Sn**	**17 17 02.6**	**+0.4**
MT09	**Talagante**	**2.10**	**168**	*i*P	**Pn**	**17 16 38.6**	**+1.3**
MT09				*i* S	**Sn**	**17 17 03.6**	**+1.3**
MT09				IAML		17 17 09.7	
	comp=N,8μm,0.3s						
CO01	**Juntas del Tor**	**2.13**	**36**		**Pn**	**17 16 40.1**	**+2.2**
CO01				Sn	**Sn**	**17 17

BO02	**Sierra Bellavi**	**3.12**	**169**	*eP*		**Pn**	**17 16 52.8**	**+1.5**
BO02				IAML			17 17 48.2	
	comp=Z,2μm,0.5s							
GO05	**Hualane**	**3.29**	**186**	*eP*		**Pn**	**17 16 56.0**	**+2.3**
GO05	**Hualane**	**3.29**	**186**	*eP*		**Pn**	**17 16 56.1**	**+2.5**
AGUA	**GUANDACOL**	**3.44**	**50**	*eP*		**Pn**	**17 16 59.7**	**+4.0**
AGUA				IAML			17 17 55.6	
	comp=Z,2μm,0.5s							
AC04	**Llanos de Chal**	**3.53**	**7**			**Pn**	**17 16 58.0**	**+1.1**
AC04	**Llanos de Chal**	**3.53**	**7**	*eP*		**Pn**	**17 16 58.1**	**+1.2**
RFA	**San Rafael**	**3.98**	**141**	*eS*		Sn	17 18 08.1	+20
RFA				*eS*		Sn	17 18 08.1	+20
ML02	**Panimavida**	**4.03**	**179**			**Pn**	**17 17 03.7**	**0.0**
ML02	**Panimavida**	**4.03**	**179**	*eP*		**Pn**	**17 17 05.5**	**+1.8**
GO03	**Copiapo**	**4.27**	**16**			**Pn**	**17 17 08.3**	**+1.3**
GO03	**Copiapo**	**4.27**	**16**	*eP*		**Pn**	**17 17 08.8**	**+1.7**
AC06	**Mina Casimiro**	**4.47**	**14**			**Pn**	**17 17 10.5**	**+0.7**
BI05	**Punta Hualpn**	**5.20**	**195**			**Pn**	**17 17 18.8**	**-1.0**
AC02	**Maricunga**	**5.30**	**24**			**Pn**	**17 17 22.9**	**+1.2**
AC01	**Pan de Azucar**	**5.62**	**9**			**Pn**	**17 17 25.2**	**-0.4**
VA04	**Juan Fernndez**	**6.45**	**251**			**Pn**	**17 17 36.9**	**0.0**
H03N1	**Juan Fernandez**	**6.46**	**253**	T		T	17 24 20.3	
	baz=82,slow=73,SNR=2439							
H03N3	**Juan Fernandez**	**6.48**	**253**	T		T	17 24 20.9	
	baz=82,slow=73,SNR=3034							
H03N2	**Juan Fernandez**	**6.48**	**253**	T		T	17 24 20.9	
	baz=82,slow=73,SNR=2999							
H03S3	**Juan Fernandez**	**6.56**	**249**	T		T	17 24 22.4	
	baz=82,slow=75							
H03S1	**Juan Fernandez**	**6.56**	**249**	T		T	17 24 22.6	
	baz=82,slow=75							
H03S2	**Juan Fernandez**	**6.58**	**249**	T		T	17 24 24.9	
	baz=82,slow=75							
GO02	**Mina Guanaco**	**6.76**	**15**			**Pn**	**17 17 40.7**	**-0.8**
PB14	**IPOC Station P**	**7.14**	**8**	Pn		**Pn**	**17 17 45.8**	**-1.0**
LR03	**Panguipulli**	**7.92**	**185**			**Pn**	**17 17 55.3**	**-1.7**
PB10	**IPOC Station P**	**8.22**	**6**			**Pn**	**17 17 58.5**	**-2.8**
LR04	**Corral**	**8.28**	**190**	Pn		**Pn**	**17 17 59.7**	**-2.3**
LR05	**Currie**	**8.50**	**182**	Pn		**Pn**	**17 18 04.3**	**-0.7**
PB05	**IPOC Station P**	**8.91**	**8**			Pn	17 18 06.2	-4.8
PLCA	**Paso Flores**	**9.03**	**175**	P		**Pn**	**17 18 13.2**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=341,slow=12,SNR=26							
PLCA				LR		LR	17 22 14.4	
	comp=Z,116nm,21.4s,baz=286,slow=41							
	comp=Z,2.1nm,0.5s							
PB06	**IPOC Station P**	**9.15**	**11**			Pn	17 18 09.3	-4.8
PB03	**IPOC Station P**	**9.77**	**10**			Pn	17 18 17.3	-5.3
PB09	**IPOC Station P**	**10.10**	**12**			Pn	17 18 23.2	-3.9
PB02	**IPOC Station P**	**10.46**	**8**			Pn	17 18 28.5	-3.6
PB01	**IPOC Station P**	**10.79**	**10**			Pn	17 18 32.0	-4.6
PATCX	**Punta Patache**	**10.93**	**7**			Pn	17 18 33.7	-4.7
TA01	**Diego Aracena**	**11.18**	**7**	Pn		Pn	17 18 37.5	-4.3
HMBC	**Humberstone**	**11.49**	**8**			**Pn**	**17 18 44.4**	**-1.8**
PB08	**IPOC Station P**	**11.73**	**11**			**Pn**	**17 18 48.2**	**-1.5**
PB11	**IPOC Station P**	**12.03**	**8**			**Pn**	**17 18 51.0**	**-2.6**
GO01	**Chusmiza**	**12.19**	**10**			**Pn**	**17 18 52.6**	**-3.4**
PB16	**IPOC Station P**	**13.46**	**8**			**Pn**	**17 19 12.0**	**-1.4**
CPUP	**Villa Florida**	**13.53**	**70**	P		**Pn**	**17 19 12.0**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=323,slow=13,SNR=9.7							
CPUP				S		**Sn**	**17 21 38.4**	**-4.5**
	comp=Z,2.8nm,0.8s,baz=163,slow=15,SNR=3.2							
CPUP				LR		LR	17 24 50.8	
	comp=Z,44nm,21.3s,baz=100,slow=39							
PB18	**Visviri**	**14.20**	**8**			**Pn**	**17 19 21.7**	**-1.7**
SJPY	**San Joaquin**	**15.13**	**68**	*eP*		**Pn**	**17 19 35.3**	**-0.1**
PLTB	**Pedras Altas**	**15.25**	**95**	Pn		**Pn**	**17 19 30.7**	**-6.2**
PLTB				IAmb		IAmb	17 19 54.9	
	comp=Z,42nm,1.5s							
LPAZ	**La Paz**	**15.68**	**12**	Pn		**Pn**	**17 19 38.8**	**-4.2**
LPAZ	**La Paz**	**15.68**	**12**	P		**Pn**	**17 19 44.1**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=183,slow=5.8,SNR=23							
	comp=Z,6.4nm,0.6s							
LPAZ	**La Paz**	**15.68**	**12**	*eP*		**Pn**	**17 19 44.5**	**+1.5**
MURT	**Porto Murtinho**	**15.96**	**54**	*eP*		**Pn**	**17 19 45.8**	**-0.2**
AMBA	**Amambai (Brazi**	**17.09**	**63**	*eP*		**Pn**	**17 19 59.9**	**-0.4**
BDQN	**Bodoquena, MS**	**17.36**	**53**	*eP*		**Pn**	**17 20 04.2**	**+0.5**
ITAB	**Concordia**	**17.47**	**80**	Pn		**Pn**	**17 20 02.8**	**-2.2**
ITAB	**Concordia**	**17.47**	**80**	*eP*		**P**	**17 20 05.8**	**+0.1**
BBSD	**Serra de San D**	**17.54**	**37**	*eP*		**Pn**	**17 20 06.2**	**+0.4**
AQDB	**Aquidauana**	**18.07**	**56**	*eP*		**P**	**17 20 12.5**	**+0.1**
SIV	**San Ignacio**	**18.33**	**34**	P		**P**	**17 20 15.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=202,slow=9.5,SNR=68							
	comp=Z,12nm,0.5s							
PTGB	**Pitanga**	**18.50**	**73**	*eP*		**Pn**	**17 20 17.6**	**-0.2**
GO09	**Cerro Castillo**	**19.54**	**182**	P		**P**	**17 20 26.5**	**-1.8**
GO09				IAmb		IAmb	17 20 48.0	
	comp=Z,47nm,1.2s							
PTLB	**Pontes e Lacer**	**19.75**	**38**			**P**	**17 20 30.3**	**-0.5**
PTLB	**Pontes e Lacer**	**19.75**	**38**	*eP*		**P**	**17 20 29.9**	**-0.9**
LDASE	**Londrina, Braz**	**19.89**	**70**	*eP*		**P**	**17 20 31.3**	**-1.0**
PCMB	**Pacaembu**	**20.69**	**66**	*eP*		**P**	**17 20 40.3**	**-0.7**
FRTB	**Fartura**	**21.16**	**72**	*eP*		**P**	**17 20 44.8**	**-1.3**
SALV	**Santo Antonio**	**21.36**	**46**	*eP*		**P**	**17 20 47.6**	**-0.5**
VILB	**Vilhena**	**21.39**	**32**			**P**	**17 20 47.0**	**-1.6**
VILB				IAmb		IAmb	17 21 05.4	
	comp=Z,27nm,0.8s							
VILB	**Vilhena**	**21.39**	**32**	*eP*		**P**	**17 20 48.3**	**-0.2**
EFI	**East Falkland**	**22.26**	**157**	P		**P**	**17 20 56.6**	**-0.9**
ITRB	**Ituzaingo**	**22.47**	**63**	*eP*		**P**	**17 21 01.1**	**+0.9**
SPB	**Sao Paulo**	**22.79**	**75**	*eP*		**P**	**17 21 04.1**	**+0.9**
BB19B	**Bebedouro**	**23.13**	**68**	*eP*		**P**	**17 21 06.5**	**-0.5**
VAO	**Valinhos**	**23.44**	**74**	P		**P**	**17 21 07.6**	**-2.4**
ARAG	**Araguaiana, MT**	**24.02**	**53**	*eP*		**P**	**17 21 14.6**	**-0.8**
PDRB	**Porto dos Gac**	**24.23**	**38**	*eP*		**P**	**17 21 16.9**	**-0.5**
IPMB	**Ipameri, GO**	**25.12**	**63**	*eP*		**P**	**17 21 23.9**	**-1.6**
ATAH	**Atahualpa**	**25.29**	**344**	LR		LR	17 29 40.1	
	comp=Z,33nm,18.9s,baz=166,slow=32							
CLDB	**Colider**	**25.34**	**38**	*eP*		**P**	**17 21 27.1**	**-0.4**
PMNB	**Patos De Minas**	**26.16**	**66**	*eP*		**P**	**17 21 33.7**	**-1.3**
BDFB	**Brasilia**	**26.74**	**59**			**P**	**17 21 38.6**	**-1.6**
BDFB				IAmb		IAmb	17 21 41.3	
	comp=Z,22nm,0.8s							
BDFB	**Brasilia**	**26.74**	**59**	P		**P**	**17 21 40.0**	**-0.3**
	comp=Z,19nm,0.7s,baz=225,slow=7.2,SNR=22							
BDFB				pP		**pP**	**17 21 52.9**	**+0.8**
	comp=Z,6.1nm,0.6s,baz=189,slow=5.4,SNR=2.9							
	comp=Z,19nm,0.7s							
SNDB	**Serra Nova Dou**	**27.09**	**48**	*eP*		**P**	**17 21 43.0**	**-0.3**
JANB	**Januaria**	**29.86**	**63**	*eP*		**P**	**17 22 07.0**	**-1.0**
SJMB	**Sao Joao De Ma**	**30.25**	**72**	*eP*		**P**	**17 22 10.7**	**-0.6**
SDBA	**SAO DESIDERIO**	**31.13**	**58**	*eP*		**P**	**17 22 18.6**	**-0.7**
SMTB	**Santa Maria do**	**31.81**	**50**	*eP*		**P**	**17 22 25.2**	**0.0**
ESPZ	**Base Esperanza**	**33.01**	**168**	P		**P**	**17 22 35.4**	**+0.4**
PMSA	**Palmer Station**	**33.40**	**174**	LR		LR	17 36 18.3	
	comp=Z,62nm,18.7s,baz=348,slow=36							
MAL2	**Monte Alegre,**	**33.78**	**32**	P		**P**	**17 22 41.9**	**-0.4**
BOAV	**Boa Vista**	**35.51**	**19**			**P**	**17 22 56.8**	**-0.4**
BOAV				IAmb		IAmb	17 22 58.0	
	comp=Z,6nm,0.6s							
BOAV	**Boa Vista**	**35.51**	**19**	*eP*		**P**	**17 22 57.1**	**-0.1**
RUSC	**La Rusia**	**37.44**	**357**			**P**	**17 23 14.3**	**+0.1**
RUSC				IAmb		IAmb	17 23 17.3	
	comp=Z,13nm,0.9s							
NBAN	**Anadia - AL**	**39.34**	**64**	*eP*		**P**	**17 23 28.6**	**-1.1**
BAUV	**El Baul**	**40.57**	**5**	P		**P**	**17 23 38.7**	**-1.1**
BAUV				IAmb		IAmb	17 23 40.8	
	comp=Z,18nm,0.9s							
MPOM	**Morne Pois Mar**	**47.03**	**14**	P		**P**	**17 24 30.9**	**-0.8**
FDF	**Fort de France**	**47.25**	**14**	P		**P**	**17 24 31.9**	**-1.6**
BELA	**Belgrano 2**	**49.04**	**170**	P		**P**	**17 24 47.6**	**+0.9**
BELA				IAmb		IAmb	17 24 48.5	
	comp=Z,4.0nm,0.7s							
BELA				PcP		**PcP**	**17 26 10.1**	**+0.4**
PDPR	**Patillas Dam,**	**49.74**	**7**	P		**P**	**17 24 51.9**	**-0.6**
CELP	**Cerrillos**	**49.74**	**6**	P		**P**	**17 24 51.8**	**-0.8**
VNA3	**Neumayer Olymp**	**51.31**	**159**	⇑P		**P**	**17 25 04.3**	**+0.5**
	comp=Z,7.2nm,0.7s							
VNA1	**Neumayer--Stat**	**51.60**	**158**	⇑P		**P**	**17 25 07.4**	**+1.4**
	comp=Z,4.5nm,0.8s							
SNAA	**Sanae**	**53.53**	**158**	⇑P		**P**	**17 25 20.9**	**+0.5**
	comp=Z,170nm,0.7s							
SNAA	**Sanae**	**53.53**	**158**			**P**	**17 25 20.3**	**-0.1**
SNAA				IAmb		IAmb	17 25 21.8	
	comp=Z,7.0nm,0.8s							
SNAA				PcP		**PcP**	**17 26 25.6**	**-1.0**
SNAA	**Sanae**	**53.53**	**158**	P		**P**	**17 25 20.3**	**-0.1**
	comp=Z,5.5nm,0.6s,baz=273,slow=7.4,SNR=57							
SNAA				pP		**pP**	**17 25 33.2**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=272,slow=5.1,SNR=9.1							
SNAA				sP		**sP**	**17 25 39.2**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=256,slow=6.3,SNR=5.6							
SNAA				LR		LR	17 46 16.8	
	comp=Z,40nm,20.9s,baz=283,slow=34							
	comp=Z,5.5nm,0.6s							

TEIG	**Tepich**	**54.09**	**340**			**P**	**17 25 25.8**	**+0.9**
TROLL	**Troll, Antarti**	**55.24**	**159**	⇑P		**P**	**17 25 33.5**	**+0.6**
	comp=Z,182nm,0.6s							
QSPA	**South Pole Qui**	**58.51**	**180**			**P**	**17 25 57.8**	**+1.7**
QSPA				IAmb		IAmb	17 25 58.7	
	comp=Z,5.5nm,0.8s							
QSPA	**South Pole Qui**	**58.51**	**180**	P		**P**	**17 25 58.1**	**+2.0**
	comp=Z,5.5nm,0.8s,baz=282,slow=10,SNR=3.4							
QSPA				pP		**pP**	**17 26 09.3**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=163,slow=1.6,SNR=3.8							
	comp=Z,5.5nm,0.8s							
656A	**Willston**	**61.65**	**349**	P		**P**	**17 26 18.7**	**+0.9**
152A	**Waverly Hall**	**65.25**	**348**	P		**P**	**17 26 41.4**	**-0.1**
152A				IAmb		IAmb	17 26 42.7	
	comp=Z,5.6nm,0.9s							
HNDO	**Hondo**	**66.38**	**334**	P		**P**	**17 26 48.8**	**-0.1**
HNDO				IAmb		IAmb	17 26 51.9	
	comp=Z,6.4nm,0.8s							
X51A	**Calhoun**	**67.12**	**348**	P		**P**	**17 26 53.8**	**+0.4**
BG3	**Lake Jocassee**	**67.23**	**350**	IAmb		IAmb	17 26 55.9	
	comp=Z,7.3nm,1.0s							
X48A	**Hartselle**	**67.43**	**346**	P		**P**	**17 26 55.5**	**+0.1**
X48A				IAmb		IAmb	17 26 57.2	
	comp=Z,10.0nm,0.9s							
W50A	**Signal Mountai**	**67.82**	**348**	IAmb		IAmb	17 27 00.7	
	comp=Z,7.7nm,0.8s							
V53A	**Saluda**	**67.87**	**350**	IAmb		IAmb	17 26 59.4	
	comp=Z,5.5nm,0.8s							
SAND	**Sanderson**	**67.88**	**332**			**P**	**17 26 59.9**	**+1.5**
SAND				IAmb		IAmb	17 27 01.3	
	comp=Z,6.9nm,1.1s							
CPCT	**Cooper Cave**	**67.93**	**349**	IAmb		IAmb	17 27 00.7	
	comp=Z,9.5nm,1.1s							
TXAR	**Lajitas Array**	**67.97**	**330**	P		**P**	**17 27 00.8**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=153,slow=11,SNR=12							
TXAR				pP		**pP**	**17 27 12.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=166,slow=5.9,SNR=5.2							
	comp=Z,1.0nm,0.7s							
V48A	**Smith Brothers**	**68.63**	**347**	IAmb		IAmb	17 27 04.8	
	comp=Z,15nm,1.1s							
CLTN	**Cedars of Leba**	**68.88**	**347**	IAmb		IAmb	17 27 06.2	
	comp=Z,4.3nm,0.7s							
MNHN	**Monahans**	**69.35**	**332**	IAmb		IAmb	17 27 10.1	
	comp=Z,4.5nm,0.8s							
T47A	**Sharon Grove**	**69.89**	**347**	IAmb		IAmb	17 27 12.3	
	comp=Z,17nm,1.4s							
LCAR	**Lake Charles**	**69.91**	**343**			**P**	**17 27 11.2**	**+0.4**
LCAR				IAmb		IAmb	17 27 12.9	
	comp=Z,10nm,1.0s							
APMT	**Aspermont**	**70.10**	**335**	IAmb		IAmb	17 27 15.5	
	comp=Z,5.7nm,0.8s							
SN07	**Snyder 07**	**70.18**	**334**	IAmb		IAmb	17 27 14.7	
	comp=Z,6.6nm,1.1s							
PBMO	**Poplar Bluff**	**70.41**	**344**	P		**P**	**17 27 13.8**	**-0.1**
PBMO				IAmb		IAmb	17 27 15.6	
	comp=Z,11nm,1.1s							
HHAR	**Hobbs**	**70.84**	**341**	IAmb		IAmb	17 27 18.4	
	comp=Z,6.6nm,0.9s							
P57A	**Homestead Farm**	**71.10**	**355**	IAmb		IAmb	17 27 21.2	
	comp=Z,8.6nm,1.0s							
FVM	**French Village**	**71.56**	**344**			**P**	**17 27 21.1**	**+0.3**
FVM				IAmb		IAmb	17 27 23.3	
	comp=Z,11nm,1.0s							
MSTX	**Muleshoe**	**71.67**	**333**	IAmb		IAmb	17 27 24.3	
	comp=Z,8.8nm,0.9s							
SMWD	**Samnorwood**	**71.75**	**335**	IAmb		IAmb	17 27 24.3	
	comp=Z,12nm,1.1s							
CCM	**Cathedral Cave**	**71.82**	**344**	P		**P**	**17 27 22.8**	**+0.4**
CCM				IAmb		IAmb	17 27 24.8	
	comp=Z,12nm,0.9s							
T35A	**Sooner Cattle**	**72.18**	**339**	IAmb		IAmb	17 27 27.3	
	comp=Z,8.7nm,1.0s							
P40A	**Paris**	**73.41**	**344**			**P**	**17 27 31.8**	**0.0**
N47A	**Urbana**	**73.42**	**349**	IAmb		IAmb	17 27 32.2	
	comp=Z,9.1nm,0.6s							
P38A	**Dawn**	**73.87**	**342**	IAmb		IAmb	17 27 36.1	
	comp=Z,6.7nm,0.8s							
DBIC	**Dimbokro**	**74.05**	**72**	P		**P**	**17 27 35.9**	**-0.2**
	comp=Z,9.1nm,0.7s,baz=239,slow=5.6,SNR=10.0							
DBIC				pP		**pP**	**17 27 48.7**	**-0.6**
	comp=Z,5.3nm,0.7s,baz=236,slow=3.8,SNR=2.7							
DBIC				LR		LR	17 56 48.1	
	comp=Z,27nm,21.6s,baz=210,slow=33							
	comp=Z,9.1nm,0.7s							
T25A	**Trinidad**	**75.09**	**333**	IAmb		IAmb	17 27 45.3	
	comp=Z,5.6nm,1.0s							
MAW	**Mawson**	**75.23**	**164**	P		**P**	**17 27 43.0**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=206,slow=9.5,SNR=5.2							
MAW				LR		LR	18 01 02.3	
	comp=Z,23nm,18.2s,baz=308,slow=36							
	comp=Z,2.4nm,0.6s							
L40A	**Anamosa**	**75.63**	**345**	P		**P**	**17 27 45.0**	**+0.4**
DANC	**Danby, Needles**	**77.84**	**324**	IAmb		IAmb	17 28 02.3	
	comp=Z,4.8nm,0.9s							
ECSD	**EROS Data Cent**	**78.52**	**342**			**P**	**17 28 00.8**	**-0.1**
ECSD				IAmb		IAmb	17 28 02.8	
	comp=Z,11nm,0.9s							
TPNV	**Topopah Spring**	**80.10**	**325**	P		**P**	**17 28 10.3**	**+0.4**
BOSA	**Boshof**	**80.75**	**118**	P		**P**	**17 28 13.7**	**0.0**
	comp=Z,3.0nm,0.8s,baz=220,slow=2.6,SNR=6.1							
	comp=Z,3.0nm,0.8s							
DSP	**Deep Springs**	**81.28**	**324**	P		**P**	**17 28 16.7**	**+0.8**
HWUT	**Hardware Ranch**	**81.77**	**331**	IAmb		IAmb	17 28 20.9	
	comp=Z,3.7nm,0.7s							
PDAR	**Pinedale Array**	**81.94**	**333**	P		**P**	**17 28 20.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=166,slow=7.6,SNR=4.3							
	comp=Z,0.3nm,0.3s							
LHV	**Little Huntoon**	**82.23**	**324**	IAmb		IAmb	17 28 24.4	
	comp=Z,3.7nm,0.9s							
NVAR	**Mina Array Bea**	**82.27**	**325**			**P**	**17 28 22.2**	**+0.7**
NVAR	**Mina Array Bea**	**82.27**	**325**	P		**P**	**17 28 23.8**	**+2.3**
	comp=Z,2.1nm,0.8s,baz=167,slow=6.2,SNR=8.4							
NVAR				pP		**pP**	**17 28 35.2**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=156,slow=7.1,SNR=5.0							
	comp=Z,2.1nm,0.8s							
ELK	**Elko**	**82.66**	**328**			**P**	**17 28 24.0**	**+0.6**
LBTB	**Lobatse**	**82.87**	**115**	LR		LR	18 01 45.8	
	comp=Z,41nm,19.9s,baz=200,slow=33							
TORD	**Torodi Ar. Bea**	**83.03**	**70**	P		**P**	**17 28 25.8**	**+0.2**
PLID	**Pearl Lake**	**86.48**	**330**	P		**P**	**17 28 43.0**	**+0.5**
PLID				IAmb		IAmb	17 28 44.9	
	comp=Z,2.7nm,0.8s							
OVMT	**Ovando**	**86.87**	**333**	P		**P**	**17 28 44.9**	**+0.5**
YBH	**Yreka Blue Hor**	**86.97**	**324**	P		**P**	**17 28 45.2**	**+0.2**
PINE	**Pine Mountain**	**87.67**	**327**			**P**	**17 28 48.4**	**0.0**
PINE				IAmb		IAmb	17 28 51.4	
	comp=Z,5.3nm,0.8s							
LSZ	**Lusaka**	**90.10**	**108**	LR		LR	18 06 12.4	
	comp=Z,21nm,19.0s,baz=154,slow=33							
BBB	**Bella Bella**	**97.09**	**329**	LR		LR	18 09 14.8	
	comp=Z,34nm,18.2s,baz=270,slow=33							
ASAR	**Alice Springs**	**119.79**	**207**	PKP		**PKPdf**	**17 34 50.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=126,slow=1.5,SNR=20							
ASAR				pPKP		**pPKPdf**	**17 35 02.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=145,slow=2.0,SNR=2.7							
BRTR	**Keskin Array B**	**120.33**	**60**	PKP		**PKPdf**	**17 34 50.8**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=160,slow=3.9,SNR=4.2							
BRTR				pPKP		**pPKPdf**	**17 35 04.0**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=132,slow=40,SNR=2.9							
BRTR				sPKP			17 35 09.2	
	comp=Z,0.3nm,0.7s,baz=276,slow=2.4,SNR=1.8							
WRA	**Warramunga Arr**	**122.95**	**209**	PKP		**PKPdf**	**17 34 56.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=158,slow=1.5,SNR=37							
WRA				pPKP		**pPKPdf**	**17 35 09.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=155,slow=1.8,SNR=3.0							
H11S2	**WAKE ISLAND Hyl**	**126.21**	**271**	T		T	19 53 55.5	
	baz=117,slow=74							
H11S1	**WAKE ISLAND Hyl**	**126.22**	**271**	T		T	19 53 56.1	
	baz=117,slow=74							
H11S3	**WAKE ISLAND Hyl**	**126.23**	**271**	T		T	19 53 56.8	
	baz=117,slow=74							
H11N3	**WAKE ISLAND Hyl**	**126.56**	**272**	T		T	19 54 20.1	
	baz=116,slow=76							
H11N1	**WAKE ISLAND Hyl**	**126.58**	**272**	T		T	19 54 25.5	
	baz=116,slow=76							
H11N2	**WAKE ISLAND Hyl**	**126.58**	**272**	T		T	19 54 23.9	
	baz=116,slow=76							
BRVK	**Borovoye**	**145.23**	**41**			**PKPbc**	**17 35 36.7**	**+0.1**
BVAR	**Borovoye Array**	**145.30**	**41**	PKPbc		**PKPab**	**17 35 38.1**	**+1.1**
	comp=Z,6.8nm,0.5s,baz=304,slow=3.3,SNR=24							
BVAR				pPKPbc		pPKPab	17 35 51.2	+0.7
	comp=Z,9.4nm,0.5s,baz=314,slow=2.9,SNR=22							
YAK	**Yakutsk**	**146.72**	**342**			**PKPdf**	**17 35 40.4**	**+1.4**
KK31	**Karatay Array**	**148.03**	**58**			**PKPdf**	**17 35 41.8**	**-0.1**
KKAR	**Karatay Array**	**148.03**	**58**			**PKPdf**	**17 35 42.0**	**+0.1**
GAR	**Garm**	**148.22**	**66**			**PKPdf**	**17 35 42.2**	**-0.3**
ARSB	**Arslanbob**	**150.09**	**61**			**PKPdf**	**17 35 46.2**	**+0.7**

NIL	**Nilore**	**150.38**	**77**			**PKPbc**	**17 35 49.5**	**-1.8**
KURBB	**Kurchatov Arra**	**150.90**	**41**	PKPbc		**PKPbc**	**17 35 52.4**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=302,slow=3.0,SNR=20							
KURBB				pPKPbc		**sPKPdf**	**17 36 05.1**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=299,slow=3.0,SNR=12							
KURK	**Kurchatov**	**150.90**	**41**			**PKPbc**	**17 35 51.1**	**-0.8**
ZAA0	**Zalesovo Array**	**152.06**	**30**			**PKPbc**	**17 35 54.0**	**-0.4**
ZALV	**Zalesovo Beam**	**152.06**	**30**			**PKPbc**	**17 35 54.2**	**-0.3**
ZALV	**Zalesovo Beam**	**152.06**	**30**	PKPbc		**PKPbc**	**17 35 54.9**	**+0.4**
	comp=Z,7.9nm,0.5s,baz=305,slow=3.2,SNR=40							
ZALV				pPKPbc		**sPKPdf**	**17 36 08.3**	**+1.9**
	comp=Z,13nm,0.6s,baz=302,slow=3.5,SNR=22							
MK31	**Makanchi Array**	**154.91**	**46**	PKPbc		**PKPbc**	**17 35 59.2**	**-1.8**
MKAR	**Makanchi Array**	**154.91**	**46**	PKPbc		**PKPbc**	**17 35 59.8**	**-1.1**
MKAR	**Makanchi Array**	**154.91**	**46**	PKPbc		**PKPbc**	**17 36 01.1**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=312,slow=2.0,SNR=7.4							
MKAR				pPKPbc		**sPKPdf**	**17 36 14.1**	**+3.3**
	comp=Z,2.2nm,0.7s,baz=293,slow=2.0,SNR=12							
MJAR	**Matsushiro Arr**	**154.97**	**289**	PKP		**PKPdf**	**17 35 52.2**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.5,SNR=4.2							

*IDC **10** 17:51:36.8±0.8, 1°.94S×139°.72E, h0km, mb3.6/7, mbtmp3.6/8, ML3.8/1, MS3.3/1, Error ellipse: s-maj=17.1km s-min=10.5km az=37.0*

ISC 10 17:51:41.7±0.9, 2°.02S±0°.09×139°.8E±0°.1, h35km, n10, σ2°.5 15/13, mb3.6/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.03**	**119**	Pg		**Pn**	**17 51 58.4**	**-1.3**
	201nm,0.3s,baz=255,slow=10,SNR=1400							
JAY				Lg		Lg	17 52 14.4	
	552nm,0.3s,baz=125,slow=18,SNR=18							
JAY				LR		LR	17 52 21.7	
	comp=Z,137nm,20.3s,baz=290,slow=39							
WRA	**Warramunga Arr**	**18.60**	**196**	P		**Pn**	**17 55 56.2**	**-0.3**
	0.3nm,0.3s,baz=18,slow=12,SNR=13							
WRA				S		**Sn**

*SOME **10** 18:20:54.8, 44°.00N×77°.05E, h15km*
ISC 10 18:20:54.3±1.1, 44°.02N±0°.05×77°.04E±0°.03, h23km±8km, n18, σ0s50/36, 1C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**0.17**	**194**	*eP*	**Pb**	**18 20 59.5**	**0.0**
	12nm,0.0s						
CHKK				*eS*	**Sb**	**18 21 02.9**	**0.0**
	290nm,0.1s						
KTBS	**Karatobe**	**0.40**	**221**	P	**Pb**	**18 21 03.0**	**+0.2**
	9.6nm,0.1s						
KTBS				S	**Sb**	**18 21 09.1**	**+0.4**
	58nm,0.2s						
KUU	**Kurty**	**0.52**	**256**	P	**Pb**	**18 21 04.8**	**-0.1**
	4.6nm,0.1s						
KUU				S	**Sb**	**18 21 11.9**	**-0.2**
	7.7nm,0.1s						
KUU	**Kurty**	**0.52**	**256**	*eP*	**Pb**	**18 21 04.8**	**-0.1**
	3.1nm,0.1s						
KUU				*eS*	**Sb**	**18 21 11.9**	**-0.2**
	9.0nm,0.1s						
ARXS	**Arharly**	**0.60**	**71**	P	**Pb**	**18 21 06.1**	**0.0**
	4.5nm,0.1s						
ARXS				S	**Sb**	**18 21 14.4**	**+0.1**
	5.4nm,0.3s						
KOTS	**Kotyrbulak**	**0.79**	**176**	P	**Pn**	**18 21 09.6**	**-0.5**
	3.1nm,0.1s						
KOTS				S	**Sn**	**18 21 20.4**	**-0.9**
	25nm,0.1s						
KOTS	**Kotyrbulak**	**0.79**	**176**	*eP*	**Pn**	**18 21 09.7**	**-0.5**
	3.5nm,0.1s						
KOTS				*eS*	**Sn**	**18 21 20.4**	**-0.9**
	25nm,0.1s						
TNSS	**Tian-Shan**	**0.98**	**184**	*eP*	**Pn**	**18 21 12.7**	**-0.4**
	0.1nm,0.0s						
TNSS				*eS*	**Sb**	**18 21 25.5**	**-0.1**
	0.6nm,0.1s						
MTBS	**Maitube**	**0.99**	**207**	P	**Pb**	**18 21 13.2**	**+0.3**
	2.1nm,0.1s						
MTBS				S	**Sn**	**18 21 26.4**	**0.0**
	25nm,0.2s						
MTBS	**Maitube**	**0.99**	**207**	*eP*	**Pb**	**18 21 13.2**	**+0.3**
	0.8nm,0.1s						
MTBS				*eS*	**Sn**	**18 21 26.4**	**0.0**
	11nm,0.1s						
KRBS	**Karabastau**	**1.04**	**252**	P	**Pn**	**18 21 13.7**	**+0.2**
	0.8nm,0.1s						
KRBS				S	**Sn**	**18 21 27.2**	**-0.2**
	1.5nm,0.1s						
DGS	**Degeres**	**1.21**	**230**	P	**Pb**	**18 21 16.7**	**+0.2**
	2.7nm,0.1s						
DGS				S	**Sb**	**18 21 32.3**	**+0.6**
	7.7nm,0.3s						
KST	**Kastek**	**1.25**	**219**	P	**Pb**	**18 21 17.7**	**+0.3**
	1.3nm,0.1s						
KST				S	**Sb**	**18 21 34.1**	**+1.0**
	8.2nm,0.2s						
KST	**Kastek**	**1.25**	**219**	*eP*	**Pb**	**18 21 17.7**	**+0.3**
	1.3nm,0.1s						
KST				*eS*	**Sb**	**18 21 34.3**	**+1.1**
	7.9nm,0.2s						
KPKS	**Kokpek**	**1.31**	**114**	P	**Pb**	**18 21 18.3**	**0.0**
	0.5nm,0.2s						
KPKS				S	**Sb**	**18 21 35.1**	**+0.4**
	4.9nm,0.2s						
SATY	**Saty**	**1.38**	**134**	P	**Pb**	**18 21 19.6**	**+0.1**
	2.9nm,0.1s						
SATY				S	**Sb**	**18 21 37.4**	**+0.6**
	17nm,0.1s						
KNOS	**Konyrlen**	**1.57**	**77**	P	**Pb**	**18 21 23.0**	**+0.2**
	1.5nm,0.2s						
KNOS				S	**Sb**	**18 21 43.2**	**+0.8**
	3.1nm,0.3s						
PDGK	**Podgornoye**	**1.90**	**110**	⇑Pn	**Pb**	**18 21 28.6**	**+0.1**
	0.3nm,0.5s						
PDGK				⇓Sn	**Sb**	**18 21 52.8**	**+0.9**
	1.3nm,0.4s						

*GCG **10** 18:45:42.2±3.8, 17°.14N×94°.39W, h106km±78km, MD4.6, ML4.2*
*NEIC **10** 18:45:43.6±2.0, 16°.98N±0°.06×94°.33W±0°.05, h127km±5km, mb4.1/18, Md4.4/82(MEX), Error ellipse: s-maj=8.4km s-min=5.8km az=203.0*
*MEX **10** 18:45:44.0±0.7, 16°.95N×94°.36W, h132km±4km, MD4.4*
ISC 10 18:45:43.5±0.7, 16°.95N±0°.03×94°.35W±0°.02, h131km±5km, n108, σ2s32/186, mb4.1/8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UXUV	**UXUV**	**0.41**	**27**		**Pn**	**18 46 01.8**	**-0.5**
UXUV					**Sn**	**18 46 14.8**	**-1.7**
UXUV	**UXUV**	**0.41**	**27**	*i* P	**Pn**	**18 46 01.8**	**-0.5**
UXUV				*eS*	**Sn**	**18 46 14.8**	**-1.7**
NILT	**Santiago Nilte**	**0.46**	**214**		**Pn**	**18 46 02.4**	**-0.1**
NILT					**Sn**	**18 46 16.8**	**-0.1**
NILT	**Santiago Nilte**	**0.46**	**214**	*eP*	**Pn**	**18 46 02.4**	**-0.1**
NILT				*eS*	**Sn**	**18 46 16.9**	**-0.1**
CMIG	**Matias Romero**	**0.54**	**285**		**Pn**	**18 46 02.6**	**-0.3**
CMIG					**Sn**	**18 46 16.7**	**-0.9**
CMIG	**Matias Romero**	**0.54**	**285**	*i* P	**Pn**	**18 46 02.6**	**-0.3**
CMIG				*eS*	**Sn**	**18 46 16.7**	**-0.9**
TUIG	**Tuzandepetl**	**1.08**	**356**	*eP*	**Pn**	**18 46 06.8**	**-0.5**
TUIG				*eS*	**Sn**	**18 46 24.5**	**-0.9**
TGIG		**1.18**	**98**		**Pn**	**18 46 07.8**	**-0.6**
TGIG					**Sn**	**18 46 25.6**	**-1.7**
TGIG		**1.18**	**98**	*eP*	**Pn**	**18 46 07.8**	**-0.6**
TGIG				*eS*	**Sn**	**18 46 25.6**	**-1.7**
TGIG		**1.18**	**98**	*i* P	**Pn**	**18 46 07.9**	**-0.6**
TGIG				*i* S	**Sn**	**18 46 24.8**	**-2.5**
TGIG				IAML		18 46 26.7	
	comp=E,3μm,0.6s						
TGBT	**Tuxtla Gutierr**	**1.21**	**98**		**Pn**	**18 46 08.2**	**-0.4**
TGBT					**Sn**	**18 46 26.2**	**-1.5**
TGBT	**Tuxtla Gutierr**	**1.21**	**98**	*eP*	**Pn**	**18 46 08.2**	**-0.4**
TGBT				*eS*	**Sn**	**18 46 26.2**	**-1.5**
NEUV	**Arroyo Zacate**	**1.58**	**299**		**Pn**	**18 46 12.1**	**-0.5**
NEUV					**Sn**	**18 46 33.3**	**-1.6**
NEUV	**Arroyo Zacate**	**1.58**	**299**	*eP*	**Pn**	**18 46 12.1**	**-0.5**
NEUV				*eS*	**Sn**	**18 46 33.3**	**-1.6**
PCIG		**1.64**	**139**		**Pn**	**18 46 13.0**	**-0.4**
PCIG					**Sn**	**18 46 35.2**	**-0.9**
PCIG		**1.64**	**139**	*eP*	**Pn**	**18 46 13.0**	**-0.4**
PCIG				*eS*	**Sn**	**18 46 35.2**	**-0.9**
VHSA	**Villahermosa**	**1.69**	**52**		**Sn**	**18 46 35.7**	**-1.4**
VHSA	**Villahermosa**	**1.69**	**52**	*eS*	**Sn**	**18 46 35.7**	**-1.4**
PMUV	**Sontecomapan**	**1.75**	**335**		**Pn**	**18 46 13.6**	**-1.0**
PMUV					**Sn**	**18 46 36.8**	**-1.7**
PMUV	**Sontecomapan**	**1.75**	**335**	*eP*	**Pn**	**18 46 13.6**	**-1.0**
PMUV				*eS*	**Sn**	**18 46 36.8**	**-1.7**
HUIG	**Huatulco**	**2.06**	**235**		**Pn**	**18 46 16.0**	**-2.3**
HUIG					**Sn**	**18 46 43.7**	**-1.3**
HUIG	**Huatulco**	**2.06**	**235**	*i* P	**Pn**	**18 46 16.0**	**-2.3**
HUIG				*eS*	**Sn**	**18 46 43.7**	**-1.3**
HUIG	**Huatulco**	**2.06**	**235**	*i* P	**Pn**	**18 46 16.1**	**-2.3**
HUIG				*i* S	**Sn**	**18 46 43.4**	**-1.6**
HUIG				IAML		18 46 45.1	
	comp=N,2μm,0.2s						
CCIG	**Comitan**	**2.22**	**107**		**Pn**	**18 46 19.1**	**-1.3**
CCIG	**Comitan**	**2.22**	**107**	*eP*	**Pn**	**18 46 19.7**	**-0.7**
CCIG				*eS*	**Sn**	**18 46 47.8**	**-0.9**
CCIG	**Comitan**	**2.22**	**107**	*i* P	**Pn**	**18 46 20.5**	**0.0**
CCIG				*i* S	**Sn**	**18 46 46.6**	**-2.1**
CCIG				IAML		18 46 51.4	
	comp=N,770nm,0.4s						
OXLC	**Oaxaca**	**2.26**	**273**		**Pn**	**18 46 20.9**	**0.0**
OXLC					**Sn**	**18 46 48.9**	**-0.7**
OXLC	**Oaxaca**	**2.26**	**273**	*eP*	**Pn**	**18 46 20.9**	**0.0**
OXLC				*eS*	**Sn**	**18 46 48.9**	**-0.7**
OXBJ	**Oaxaca**	**2.28**	**273**		**Pn**	**18 46 21.7**	**+0.5**
OXBJ					**Sn**	**18 46 49.6**	**-0.5**
OXBJ	**Oaxaca**	**2.28**	**273**	*eP*	**Pn**	**18 46 21.7**	**+0.5**
OXBJ				*eS*	**Sn**	**18 46 49.6**	**-0.5**
OXIG	**Oaxaca**	**2.29**	**273**		**Pn**	**18 46 21.7**	**+0.3**
OXIG					**Sn**	**18 46 50.2**	**-0.1**
VHO	**Vista Hermosa**	**2.29**	**273**	*eP*	**Pn**	**18 46 21.7**	**+0.3**
VHO				*eS*	**Sn**	**18 46 50.2**	**-0.1**
PAVE	**Pavencul**	**2.72**	**130**		**Pn**	**18 46 26.6**	**-0.2**
PAVE					**Sn**	**18 46 55.3**	**-4.8**
PAVE	**Pavencul**	**2.72**	**130**	*eP*	**Pn**	**18 46 26.6**	**-0.2**
PAVE				*eS*	**Sn**	**18 46 55.3**	**-4.8**
PATR	**El Naranjo**	**2.73**	**132**		**Pn**	**18 46 26.5**	**-0.4**
PATR					**Sn**	**18 46 59.0**	**-1.3**
PATR	**El Naranjo**	**2.73**	**132**	*eP*	**Pn**	**18 46 26.5**	**-0.4**
PATR				*eS*	**Sn**	**18 46 59.0**	**-1.3**
TOIG	**Toxpalan**	**2.83**	**294**		**Pn**	**18 46 27.9**	**-0.2**
TOIG					**Sn**	**18 47 02.2**	**-0.4**
TOIG	**Toxpalan**	**2.83**	**294**	*eP*	**Pn**	**18 46 27.9**	**-0.2**
TOIG				*eS*	**Sn**	**18 47 02.2**	**-0.4**
PEIG	**Puerto Escondi**	**2.85**	**251**		**Pn**	**18 46 25.8**	**-2.5**
PEIG					**Sn**	**18 47 00.5**	**-2.3**
PEIG	**Puerto Escondi**	**2.85**	**251**	*eP*	**Pn**	**18 46 25.8**	**-2.5**
PEIG				*eS*	**Sn**	**18 47 00.5**	**-2.3**
YOIG	**Yosondua**	**3.07**	**269**		**Pn**	**18 46 31.2**	**-0.1**
YOIG					**Sn**	**18 47 07.4**	**-0.7**
YOIG	**Yosondua**	**3.07**	**269**	*eP*	**Pn**	**18 46 31.2**	**-0.1**
YOIG				*eS*	**Sn**	**18 47 07.4**	**-0.7**
HUEH	**Huehuetenango**	**3.18**	**120**		**Pn**	**18 46 32.8**	**+0.1**
TPIG	**Tehuac#an**	**3.23**	**297**		**Pn**	**18 46 33.8**	**+0.5**
TPIG					**Sn**	**18 47 11.5**	**-0.2**
TPIG	**Tehuac#an**	**3.23**	**297**	*eP*	**Pn**	**18 46 33.8**	**+0.5**
TPIG				*eS*	**Sn**	**18 47 11.5**	**-0.2**
TXIG	**Tlaxiaco**	**3.29**	**276**		**Pn**	**18 46 34.6**	**+0.5**
TXIG					**Sn**	**18 47 11.8**	**-1.6**
TXIG	**Tlaxiaco**	**3.29**	**276**	*eP*	**Pn**	**18 46 34.6**	**+0.5**
TXIG				*eS*	**Sn**	**18 47 11.8**	**-1.6**
JAUV	**Jalcomulco**	**3.35**	**316**		**Pn**	**18 46 33.2**	**-1.6**
JAUV					**Sn**	**18 47 10.8**	**-3.7**
JAUV	**Jalcomulco**	**3.35**	**316**	*eP*	**Pn**	**18 46 33.2**	**-1.6**
JAUV				*eS*	**Sn**	**18 47 10.8**	**-3.7**
LVIG	**Laguna Verde**	**3.39**	**325**	*eP*	**Pn**	**18 46 33.0**	**-2.2**
LVIG				*eS*	**Sn**	**18 47 10.2**	**-5.1**
HLIG	**Huajuapan de L**	**3.42**	**285**		**Pn**	**18 46 36.5**	**+0.7**
HLIG					**Sn**	**18 47 14.4**	**-1.8**
HLIG	**Huajuapan de L**	**3.42**	**285**	*eP*	**Pn**	**18 46 36.5**	**+0.7**
HLIG				*eS*	**Sn**	**18 47 14.4**	**-1.8**
POHV	**Veracruz**	**3.50**	**307**		**Pn**	**18 46 37.3**	**+0.2**
POHV					**Sn**	**18 47 11.2**	**-7.4**
POHV	**Veracruz**	**3.50**	**307**	*eP*	**Pn**	**18 46 37.3**	**+0.2**
POHV				*eS*	**Sn**	**18 47 11.2**	**-7.4**
RTAL	**Retalhuleu**	**3.51**	**133**	Pn	**Pn**	**18 46 36.2**	**-0.7**
RTAL	**Retalhuleu**	**3.51**	**133**	*eP*	**Pn**	**18 46 37.7**	**+0.8**
RTAL				*eS*	**Sn**	**18 47 10.0**	**-8.2**
SCIG	**Sabancuy**	**3.61**	**56**	*eP*	**Pn**	**18 46 35.9**	**-2.3**
SCIG				*eS*	**Sn**	**18 47 15.5**	**-5.1**
SCIG	**Sabancuy**	**3.61**	**56**	*i* P	**Pn**	**18 46 36.1**	**-2.1**
SCIG				*i* S	**Sn**	**18 47 14.7**	**-5.9**
PNIG	**Pinotepa**	**3.67**	**262**		**Pn**	**18 46 36.9**	**-2.1**
PNIG					**Sn**	**18 47 19.1**	**-2.7**
PNIG	**Pinotepa**	**3.67**	**262**	*eP*	**Pn**	**18 46 36.9**	**-2.1**
PNIG				*eS*	**Sn**	**18 47 19.1**	**-2.7**
TLIG	**Tlapa**	**4.08**	**279**		**Pn**	**18 46 44.6**	**+0.1**
TLIG	**Tlapa**	**4.08**	**279**	*eP*	**Pn**	**18 46 44.8**	**+0.3**
TLIG				*eS*	**Sn**	**18 47 29.0**	**-2.8**
MGIG	**Malinaltepec**	**4.11**	**275**		**Pn**	**18 46 45.1**	**+0.1**
MGIG					**Sn**	**18 47 30.6**	**-2.1**
MGIG	**Malinaltepec**	**4.11**	**275**	*eP*	**Pn**	**18 46 45.1**	**+0.1**
MGIG				*eS*	**Sn**	**18 47 30.6**	**-2.1**
PETF	**Flores**	**4.29**	**90**	*eS*	**Sn**	**18 47 32.3**	**-4.2**
CXUV	**Coxquihui**	**4.44**	**317**		**Pn**	**18 46 48.5**	**-0.7**
CXUV					**Sn**	**18 47 37.7**	**-2.6**
CXUV	**Coxquihui**	**4.44**	**317**	*eP*	**Pn**	**18 46 48.5**	**-0.7**
CXUV				*eS*	**Sn**	**18 47 37.7**	**-2.6**
PPM	**Popocatepetl**	**4.59**	**298**	*eP*	**Pn**	**18 46 54.1**	**+2.6**
PPM				*eS*	**Sn**	**18 47 46.9**	**+2.5**
PPIG	**Popocatepetl**	**4.59**	**298**		**Pn**	**18 46 54.1**	**+2.6**
PPIG					**Sn**	**18 47 46.9**	**+2.4**
CRIG	**Cruz Grande**	**4.59**	**268**		**Pn**	**18 46 49.7**	**-1.4**
CRIG					**Sn**	**18 47 40.2**	**-3.5**
CRIG	**Cruz Grande**	**4.59**	**268**	*eP*	**Pn**	**18 46 49.7**	**-1.4**
CRIG				*eS*	**Sn**	**18 47 40.2**	**-3.5**
YAIG	**Yautepec**	**4.88**	**294**		**Pn**	**18 46 56.7**	**+1.5**
YAIG					**Sn**	**18 47 48.3**	**-2.7**
YAIG	**Yautepec**	**4.88**	**294**	*eP*	**Pn**	**18 46 56.7**	**+1.5**
YAIG				*eS*	**Sn**	**18 47 48.3**	**-2.7**
DAIG	**Los Arroyos**	**5.08**	**272**		**Pn**	**18 46 56.9**	**-0.8**
DAIG					**Sn**	**18 47 52.6**	**-2.8**
DAIG	**Los Arroyos**	**5.08**	**272**	*eP*	**Pn**	**18 46 56.9**	**-0.8**
DAIG				*eS*	**Sn**	**18 47 52.6**	**-2.8**
MEIG	**Mezcala**	**5.13**	**282**		**Pn**	**18 46 59.3**	**+0.9**
MEIG					**Sn**	**18 47 52.9**	**-3.9**
MEIG	**Mezcala**	**5.13**	**282**	*eP*	**Pn**	**18 46 59.3**	**+0.9**
MEIG				*eS*	**Sn**	**18 47 52.9**	**-3.9**
MAVM	**Malinalco, Edo**	**5.29**	**293**		**Pn**	**18 47 02.5**	**+1.7**
MAVM					**Sn**	**18 48 02.0**	**+1.1**
MAVM	**Malinalco, Edo**	**5.29**	**293**	*eP*	**Pn**	**18 47 02.5**	**+1.7**
MAVM				*eS*	**Sn**	**18 48 02.0**	**+1.1**
MTO3	**Montecristo**	**5.43**	**117**	Pn	**Pn**	**18 47 01.3**	**-1.3**
CAIG	**El Cayaco**	**5.67**	**272**		**Pn**	**18 47 04.6**	**-1.0**
CAIG					**Sn**	**18 48 04.3**	**-5.3**
CAIG	**El Cayaco**	**5.67**	**272**	*eP*	**Pn**	**18 47 04.6**	**-1.0**
CAIG				*eS*	**Sn**	**18 48 04.3**	**-5.3**
ARIG	**Puente Sto Nin**	**5.88**	**284**		**Pn**	**18 47 10.0**	**+1.6**
ARIG					**Sn**	**18 48 11.3**	**-3.4**
ARIG	**Puente Sto Nin**	**5.88**	**284**	*eP*	**Pn**	**18 47 10.0**	**+1.6**
ARIG				*eS*	**Sn**	**18 48 11.3**	**-3.4**
TEIG	**Tepich**	**6.61**	**60**		**Pn**	**18 47 15.2**	**-3.1**
ZIIG	**Zihuatanejo**	**6.83**	**277**		**Pn**	**18 47 21.2**	**-0.1**
ZIIG					**Sn**	**18 48 30.8**	**-6.9**
ZIIG	**Zihuatanejo**	**6.83**	**277**	*eP*	**Pn**	**18 47 21.2**	**-0.1**
ZIIG				*eS*	**Sn**	**18 48 30.8**	**-6.9**
SOR	**Soroa**	**12.14**	**60**	Pn	**Pn**	**18 48 28.5**	**-3.8**
435B	**Jarrell**	**14.08**	**348**	P	**P**	**18 49 01.4**	**+0.6**
Z47A	**Carrollton**	**17.14**	**18**	P	**Pn**	**18 49 38.8**	**+3.7**
WMOK	**Wichita Mounta**	**18.15**	**348**	P	**P**	**18 49 45.2**	**-0.6**
SMWD	**Samnorwood**	**18.83**	**345**	P	**P**	**18 49 53.5**	**+0.3**
SMWD				IAmb	IAmb	18 49 58.9	
	comp=Z,9.6nm,0.6s						
FCAR	**Ozark Folk Cen**	**18.97**	**6**	P	**P**	**18 49 53.0**	**-1.6**
121A	**Cookes Peak, D**	**19.71**	**324**	P	**P**	**18 50 04.6**	**+1.7**
Y22A	**Socorro**	**20.36**	**329**	P	**P**	**18 50 10.4**	**+0.5**
Y22A				IAmb	IAmb	18 50 12.7	
	comp=Z,4.9nm,0.9s						
BNM	**Barren Site**	**20.37**	**330**	P	**P**	**18 50 11.6**	**+1.6**
RTBA	**Rita Blanca**	**20.79**	**341**	P	**P**	**18 50 14.1**	**-0.3**
T25A	**Trinidad**	**21.99**	**338**	P	**P**	**18 50 27.8**	**+0.6**
SFIN	**Lafayette**	**24.18**	**14**		**P**	**18 50 53.8**	**+6.3**
PV13	**Radium Mtn., P**	**24.66**	**332**	P	**P**	**18 50 54.1**	**+1.8**
PV13				IAmb	IAmb	18 50 55.9	
	comp=Z,4.2nm,0.7s						
PV02	**Paradox Valley**	**24.66**	**332**	P	**P**	**18 50 54.4**	**+2.1**
PV02				IAmb	IAmb	18 50 56.0	
	comp=Z,7.4nm,0.7s						
PV03	**Paradox Valley**	**24.75**	**332**	P	**P**	**18 50 55.8**	**+2.7**
PV03				IAmb	IAmb	18 50 56.6	
	comp=Z,3.6nm,0.6s						
PV04	**Paradox Valley**	**24.89**	**332**	P	**P**	**18 50 57.4**	**+3.1**
PV04				IAmb	IAmb	18 51 27.4	
	comp=Z,5.4nm,0.9s						
F10A	**Beach Ranch, E**	**34.65**	**332**	P	**P**	**18 52 20.9**	**+0.5**
F10A				IAmb	IAmb	18 52 23.4	
	comp=Z,2.3nm,0.7s						
YKA	**Yellowknife Ar**	**47.66**	**347**	P	**P**	**18 54 05.5**	**-0.8**
YKAW3	**Yellowknife Wh**	**47.72**	**347**	P	**P**	**18 54 05.8**	**-0.9**
YKAW3				IAmb	IAmb	18 54 06.2	
	comp=Z,3.3nm,0.8s						
M30M	**Minto, Yukon**	**54.28**	**337**	P	**P**	**18 54 56.9**	**+1.0**
M30M				IAmb	IAmb	18 55 30.1	
	comp=Z,3.2nm,1.4s						
M29M	**Somme Creek**	**54.83**	**337**	P	**P**	**18 55 01.0**	**+1.1**
M29M				IAmb	IAmb	18 55 01.8	
	comp=Z,2.0nm,0.7s						

*NEIC **10** 19:05:08.4±1.6, 43°.84N±0°.05×105°.30W±0°.08, h0km±1km, ML3.3/60, Error ellipse: s-maj=9.8km s-min=7.3km az=118.0*
*IDC **10** 19:05:09.0±3.0, 43°.92N×105°.52W, h0km, mbtmp3.0/3, ML3.9/3, Error ellipse: s-maj=39.9km s-min=18.0km az=3.0*
ISC 10 19:05:10.4±1.1, 43°.84N±0°.06×105°.33W±0°.06, h0km, n36, σ0s90/35, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**73**		**Pg**	**19 05 28.7**	**-0.4**
K22A	**Casper**	**1.48**	**217**		**Pn**	**19 05 35.9**	**-2.5**
K22A				IAML		19 06 00.8	
	697nm,0.3s						
K22A				IAML		19 06 01.4	
	640nm,0.3s						
LAO	**LASA Array**	**2.92**	**348**		**Pn**	**19 05 57.0**	**-1.1**
LAO				IAML		19 06 50.4	
	164nm,0.3s						
RLMT	**Red Lodge**	**3.09**	**296**		**Pn**	**19 06 01.1**	**+0.4**
RLMT				IAML		19 06 55.9	
	84nm,0.3s						
RLMT				IAML		19 06 57.8	
	98nm,0.3s						
PD31	**Pinedale Array**	**3.27**	**252**	Pn	**Pn**	**19 06 03.1**	**0.0**
PDAR	**Pinedale Array**	**3.27**	**252**	Pn	**Pn**	**19 06 03.0**	**0.0**
	7.6nm,0.3s,baz=70,slow=16,SNR=41						
PDAR				Lg	Lg	19 06 47.5	
	21nm,0.3s,baz=74,slow=32,SNR=9.4						
	10nm,0.3s						
YNE	**Yellowstone No**	**3.55**	**291**		**Pn**	**19 06 07.1**	**+0.2**
YNE				IAML		19 07 02.0	
	comp=E,83nm,0.3s						
YNE				IAML		19 07 03.6	
	comp=N,75nm,0.6s						
YMP	**Mirror Lake Pl**	**3.58**	**286**		**Pn**	**19 06 07.7**	**+0.2**
HAYD	**Hayden**	**3.62**	**204**		**Pn**	**19 06 08.4**	**+0.6**
OGNE	**Ogallala**	**3.79**	**139**		**Pn**	**19 06 10.0**	**-0.1**
LOHW	**Long Hollow**	**3.83**	**268**		**Pn**	**19 06 11.0**	**+0.2**
SNOW	**Snow King Moun**	**3.95**	**266**		**Pn**	**19 06 12.1**	**-0.4**
SNOW				IAML		19 07 34.3	
	comp=N,46nm,1.3s						
SNOW				IAML		19 07 53.7	
	comp=N,34nm,1.1s						
ISCO	**Idaho Springs**	**4.04**	**183**		**Pn**	**19 06 13.3**	**-0.6**
YHH	**Holmes Hill**	**4.07**	**285**		**Pn**	**19 06 12.5**	**-1.8**
TPAW	**Teton Pass**	**4.09**	**267**		**Pn**	**19 06 15.4**	**+0.9**
TPAW				IAML		19 07 37.8	
	comp=N,26nm,1.1s						
TPAW				IAML		19 07 43.4	
	comp=N,40nm,1.1s						
FXWY	**Fox Creek**	**4.13**	**269**		**Pn**	**19 06 15.9**	**+0.9**
E28A	**Huff**	**4.27**	**49**		**Pn**	**19 06 17.3**	**+0.6**
YHB	**Horse Butte**	**4.31**	**284**		**Pn**	**19 06 16.1**	**-1.3**
YHB				IAML		19 07 32.0	
	comp=N,19nm,0.9s						
YHL	**Hebgen Lake**	**4.32**	**286**		**Pn**	**19 06 16.1**	**-1.4**
YHL				IAML		19 07 34.7	
	comp=N,34nm,1.1s						
YHL				IAML		19 08 10.0	
	comp=E,22nm,1.2s						
K30B	**Basset**	**4.34**	**104**		**Pn**	**19 06 18.2**	**+0.6**
QLMT	**Earthquake Lak**	**4.49**	**285**	Pn	**Pn**	**19 06 20.5**	**+0.6**
DGMT	**Dagmar**	**4.70**	**9**		**Pn**	**19 06 22.4**	**-0.1**
BOZ	**Bozeman (W)**	**4.82**	**294**		**Pn**	**19 06 23.4**	**-0.9**
BOZ				IAML		19 07 47.2	
	comp=E,13nm,0.8s						
BOZ				IAML		19 07 50.7	
	comp=E,18nm,0.6s						
HWUT	**Hardware Ranch**	**5.11**	**246**		**Pn**	**19 06 27.9**	**-0.4**
HWUT				IAML		19 08 08.2	
	comp=E,34nm,0.8s						
EGMT	**Eagleton**	**5.20**	**325**		**Pn**	**19 06 29.2**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.24**	**156**		**Pn**	**19 06 29.1**	**-1.0**
TCUT	**Toone Canyon**	**5.25**	**241**		**Pn**	**19 06 31.5**	**+1.1**
DLMT	**Dillon**	**5.41**	**289**		**Pn**	**19 06 32.8**	**+0.4**
HRY	**Holter Researc**	**5.41**	**304**		**Pn**	**19 06 32.6**	**+0.2**
PV22	**Blue Mesa, Par**	**5.91**	**207**		**Pn**	**19 06 39.1**	**-0.2**
SDCO	**Great Sand Dun**	**6.09**	**181**	Pn	**Pn**	**19 06 41.3**	**-0.6**
S22A	**4UR Ranch, Cre**	**6.19**	**191**	Pn	**Pn**	**19 06 43.2**	**-0.2**
ECSD	**EROS Data Cent**	**6.31**	**88**		**Pn**	**19 06 43.7**	**-1.0**
I56US	**NEWPORT INFRAS**	**9.31**	**302**	I	I	20 00 30.0	
	baz=113,slow=309,SNR=2.0						
NVAR	**Mina Array Bea**	**11.17**	**245**	Pn	**Pn**	**19 07 52.8**	**+1.2**
	comp=E,0.1nm,0.3s,baz=37,slow=15,SNR=2.6						
	comp=E,0.4nm,0.5s						
TXAR	**Lajitas Array**	**14.54**	**174**	Pn	**Pn**	**19 08 38.7**	**+1.1**
	comp=E,0.1nm,0.3s,baz=354,slow=14,SNR=1.4						
TXAR				Lg	Lg	19 12 35.9	
	comp=E,0.1nm,0.3s,baz=341,slow=38,SNR=1.5						
	comp=E,0.1nm,0.4s						

*NEIC **10** 19:06:47.8±1.6, 28°.22S±0°.04×67°.42W±0°.08, h123km±5km, mb4.7/50, Error ellipse: s-maj=10.3km s-min=5.8km az=93.0*
*SJA **10** 19:06:47.3±0.8, 28°.19S×67°.48W, h151km±4km, ML4.4, MW4.3*
*VAO **10** 19:06:49.3±1.2, 28°.09S×67°.30W, h128km±8km, mb4.5*
*IDC **10** 19:06:49.2±0.5, 28°.27S×67°.40W, h137km±4km, mb4.0/12, mbtmp4.2/17, MS2.8/3, Error ellipse: s-maj=17.0km s-min=8.6km az=99.0*
ISC 10 19:06:48.4±0.5, 28°.20S±0°.03×67°.48W±0°.03, h136km±4km, n198, σ1s12/224, mb4.6/33, 4C-1D, La Rioja Province

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

CO03	**El Pedregal**	**3.84**	**226**	*eP*		**Pn**	**19 07 46.3**	**+0.1**	
CO03				*eS*		**Sn**	**19 08 32.5**	**+1.4**	
CO03				IAML			19 08 35.2		
	comp=Z,343nm,0.2s								
SLA	**San Lorenzo**	**3.89**	**28**	*eP*		Pn	19 07 29.9	-17	
RTLS	**Leoncito**	**3.92**	**203**	*eP*		**Pn**	**19 07 48.0**	**+0.5**	
RTLS				*eS*		**Sn**	**19 08 33.8**	**+0.5**	
RTLS				IAML			19 08 57.5		
	comp=Z,350nm,0.7s								
TCA	**Tanti**	**4.01**	**142**	*eP*		**Pn**	**19 07 48.5**	**+0.1**	
TCA				*eS*		**Sn**	**19 08 34.6**	**-0.5**	
TCA				IAML			19 08 48.2		
	comp=Z,246nm,0.7s								
CO02	**Combarbal**	**4.28**	**225**			**Pn**	**19 07 51.1**	**-1.0**	
CO02	**Combarbal**	**4.28**	**225**	*eP*		**Pn**	**19 07 51.4**	**-0.7**	
CO02				*eS*		**Sn**	**19 08 41.5**	**-0.2**	
CO02				IAML			19 08 43.5		
	comp=Z,361nm,0.5s								
CO06	**Fray Jorge**	**4.38**	**235**			**Pn**	**19 07 51.3**	**-2.0**	
PB14	**IPOC Station P**	**4.42**	**323**			**Pn**	**19 07 54.3**	**+0.1**	
PB14	**IPOC Station P**	**4.42**	**323**	*eP*		**Pn**	**19 07 54.0**	**-0.2**	
PB14				*eS*		**Sn**	**19 08 43.6**	**-1.6**	
PB14				IAML			19 08 45.6		
	comp=Z,444nm,0.6s								
MRA	**San Martin**	**4.47**	**161**	*eS*		Sn	19 08 29.0	-17	
MRA				IAML			19 08 44.8		
	comp=Z,460nm,0.5s								
AZAP	**Zapla**	**4.51**	**29**	*eS*		Sn	19 08 33.0	-14	
AZAP				IAML			19 08 50.5		
	comp=Z,280nm,0.8s								
AAGR	**Agrelo**	**5.01**	**193**	*eS*		Sn	19 08 41.5	-17	
AAGR				*eS*			19 08 57.5		
AF01	**San Pedro de A**	**5.26**	**353**		Pn	**Pn**	**19 08 05.2**	**-0.2**	
VA03	**San Esteban**	**5.27**	**209**			**Pn**	**19 08 04.9**	**-0.3**	
PB10	**IPOC Station P**	**5.43**	**329**			**Pn**	**19 08 06.6**	**-0.7**	
VA06	**Catapilco**	**5.46**	**216**			**Pn**	**19 08 05.6**	**-2.0**	
PEL	**Peldehue**	**5.65**	**208**			**Pn**	**19 08 09.7**	**-0.6**	
MT08	**Bocatoma Ro**	**5.67**	**202**			**Pn**	**19 08 12.4**	**+1.8**	
PB06	**IPOC Station P**	**5.79**	**340**			**Pn**	**19 08 12.1**	**-0.1**	
MT16	**CCHEN**	**5.83**	**206**			**Pn**	**19 08 12.5**	**-0.2**	
PB05	**IPOC Station P**	**5.86**	**335**			**Pn**	**19 08 12.2**	**-1.0**	
MT05	**Renca**	**5.89**	**208**	Pn		**Pn**	**19 08 13.4**	**-0.1**	
MT02	**Curacav**	**5.95**	**211**			**Pn**	**19 08 12.2**	**-2.0**	
LMEL	**Las Melosas**	**6.10**	**202**			**Pn**	**19 08 16.6**	**+0.3**	
MT09	**Talagante**	**6.32**	**208**			**Pn**	**19 08 18.1**	**-1.2**	
BO04	**La Punta**	**6.37**	**204**			**Pn**	**19 08 19.2**	**-0.6**	
PB03	**IPOC Station P**	**6.46**	**341**			**Pn**	**19 08 20.5**	**-0.8**	
MT01	**Popeta**	**6.51**	**209**	Pn		**Pn**	**19 08 19.4**	**-2.3**	
PB09	**IPOC Station P**	**6.57**	**346**			**Pn**	**19 08 22.8**	**0.0**	
BO01	**Tunca**	**6.90**	**206**	Pn		**Pn**	**19 08 24.6**	**-2.4**	
BO02	**Sierra Bellavi**	**7.15**	**202**			**Pn**	**19 08 28.8**	**-1.7**	
PB02	**IPOC Station P**	**7.19**	**342**			**Pn**	**19 08 29.8**	**-1.3**	
PB01	**IPOC Station P**	**7.35**	**345**			**Pn**	**19 08 32.7**	**-0.6**	
PATCX	**Punta Patache**	**7.74**	**341**	Pn		**Pn**	**19 08 37.4**	**-1.0**	
PB11	**IPOC Station P**	**8.63**	**346**	Pn		**Pn**	**19 08 48.5**	**-2.0**	
CPUP	**Villa Florida**	**9.22**	**81**	Pn		**Pn**	**19 08 56.1**	**-2.1**	
CPUP	**Villa Florida**	**9.22**	**81**	P		**Pn**	**19 08 56.2**	**-1.9**	
	comp=Z,4.0nm,0.8s,baz=120,slow=12,SNR=17								
CPUP				LR		LR	19 13 15.4		
	comp=Z,14nm,21.6s,baz=159,slow=42								
SJPY	**San Joaquin**	**10.67**	**75**	*eP*		**Pn**	**19 09 17.2**	**-0.3**	
TRQA	**Tornquist**	**10.86**	**156**			**Pn**	**19 09 19.1**	**-0.9**	
LPAZ	**La Paz**	**11.87**	**357**	Pn		**Pn**	**19 09 33.0**	**-1.0**	
LPAZ	**La Paz**	**11.87**	**357**	P		**Pn**	**19 09 34.6**	**+0.6**	
	comp=Z,0.7nm,0.4s,baz=127,slow=7.5,SNR=4.0								
LPAZ				LR		LR	19 14 53.2		
	comp=Z,77nm,19.4s,baz=148,slow=40								
LPAZ	**La Paz**	**11.87**	**357**	*eP*		**Pn**	**19 09 33.3**	**-0.7**	
AMBA	**Amambai (Brazi**	**12.43**	**68**	*eP*		**Pn**	**19 09 40.9**	**+0.1**	
CPSB	**Cacapava Do Su**	**12.45**	**104**	*eP*		**Pn**	**19 09 39.2**	**-1.7**	
BDQN	**Bodoquena, MS**	**12.45**	**54**	*eP*		**Pn**	**19 09 39.4**	**-1.6**	
PLTB	**Pedras Altas**	**12.54**	**110**			**Pn**	**19 09 40.1**	**-2.0**	
PLTB	**Pedras Altas**	**12.54**	**110**	*eP*		**Pn**	**19 09 40.1**	**-2.0**	
BBSD	**Serra de San D**	**12.65**	**31**	*eP*		**Pn**	**19 09 42.3**	**-1.4**	
PLCA	**Paso Flores**	**12.76**	**191**	Pn		**Pn**	**19 09 42.5**	**-2.4**	
PLCA	**Paso Flores**	**12.76**	**191**	P		**Pn**	**19 09 43.4**	**-1.5**	
	comp=Z,2.9nm,1.1s,baz=7.9,slow=14,SNR=12								
AQDB	**Aquidauana**	**13.20**	**57**			**Pn**	**19 09 49.5**	**-1.1**	
SIV	**San Ignacio**	**13.52**	**27**	P		**Pn**	**19 09 54.2**	**-0.6**	
	comp=Z,1.8nm,0.6s,baz=183,slow=12,SNR=5.6								
ITAB	**Concordia**	**13.63**	**90**			**Pn**	**19 09 55.2**	**-1.0**	
ITAB	**Concordia**	**13.63**	**90**	*eP*		**Pn**	**19 09 54.9**	**-1.3**	
PTGB	**Pitanga**	**14.23**	**79**	*eP*		**Pn**	**19 10 04.0**	**0.0**	
TRCB	**Terra Rica**	**14.44**	**71**			**Pn**	**19 10 06.4**	**-0.1**	
TRCB	**Terra Rica**	**14.44**	**71**	*eP*		**Pn**	**19 10 05.5**	**-1.0**	
LL01	**San Ignacio de**	**14.71**	**195**	P		**P**	**19 10 11.3**	**-0.9**	
RPRD	**Ribas do Rio P**	**14.71**	**62**	*eP*		**Pn**	**19 10 08.7**	**-1.3**	
PTLB	**Pontes e Lacer**	**14.86**	**33**	*eP*		**Pn**	**19 10 11.4**	**-0.3**	
PCMB	**Pacaembu**	**16.10**	**70**	*eP*		**Pn**	**19 10 26.6**	**-0.5**	
SALV	**Santo Antonio**	**16.39**	**44**	*eP*		**Pn**	**19 10 29.4**	**-1.3**	
VILB	**Vilhena**	**16.62**	**26**			**Pn**	**19 10 32.6**	**-0.9**	
COYC	**Coyhaique**	**17.72**	**191**			**P**	**19 10 44.6**	**-0.9**	
COYC				IAmb		IAmb	19 10 48.8		
	comp=Z,33nm,0.9s								
ITRB	**Iturama**	**17.77**	**65**	*eP*		**P**	**19 10 46.4**	**+0.1**	
SPB	**Sao Paulo**	**18.61**	**80**	*eP*		**P**	**19 10 55.7**	**+0.4**	
BB19B	**Bebedouro**	**18.62**	**72**	*eP*		**P**	**19 10 55.1**	**-0.4**	
RCLB	**Rio Claro- Sao**	**18.92**	**77**	*eP*		**P**	**19 10 58.1**	**-0.7**	
ARAG	**Araguaiana, MT**	**19.10**	**53**	*eP*		**P**	**19 11 00.4**	**-0.2**	
VAO	**Valinhos**	**19.20**	**79**			**P**	**19 11 01.2**	**-0.7**	
VAO				IAmb		IAmb	19 11 03.3		
	comp=Z,27nm,0.5s								
VAO	**Valinhos**	**19.20**	**79**	*eP*		**P**	**19 11 01.7**	**-0.2**	
PDRB	**Porto dos Gac**	**19.33**	**34**	*eP*		**P**	**19 11 01.7**	**-1.5**	
AY03	**Cochrane**	**19.44**	**191**	P		**P**	**19 11 03.5**	**-0.7**	
AY03				IAmb		IAmb	19 11 05.8		
	comp=Z,29nm,0.8s								
PARB	**Parabuna**	**20.26**	**81**	*eP*		**P**	**19 11 12.7**	**-0.6**	
IPMB	**Ipameri, GO**	**20.41**	**64**	*eP*		**P**	**19 11 13.9**	**-1.0**	
CLDB	**Colider**	**20.42**	**35**	*eP*		**P**	**19 11 13.0**	**-2.0**	
SLP01	**Ubatuba-SP**	**20.67**	**81**	*eP*		**P**	**19 11 17.7**	**0.0**	
CZSB	**Cruzeiro do Su**	**20.95**	**345**	P		**P**	**19 11 20.8**	**+0.2**	
CZSB				IAmb		IAmb	19 11 25.1		
	comp=Z,41nm,1.0s								
PMNB	**Patos De Minas**	**21.55**	**68**	*eP*		**P**	**19 11 25.8**	**-1.4**	
BDFB	**Brasilia**	**21.92**	**59**	P		**P**	**19 11 29.6**	**-1.5**	
BDFB	**Brasilia**	**21.92**	**59**	P		**P**	**19 11 29.7**	**-1.3**	
	comp=Z,3.8nm,0.4s,baz=229,slow=10,SNR=7.5								
	comp=Z,3.8nm,0.4s								
SNDB	**Serra Nova Dou**	**22.13**	**46**	*eP*		**P**	**19 11 29.8**	**-3.3**	
GO09	**Cerro Castillo**	**23.34**	**188**	P		**P**	**19 11 44.8**	**+0.6**	
GO09				IAmb		IAmb	19 11 47.4		
	comp=Z,32nm,1.1s								
DIAM	**Diamantina, MG**	**23.95**	**71**	*eP*		**P**	**19 11 50.9**	**+0.5**	
EFI	**East Falkland**	**24.49**	**166**	P		**P**	**19 11 54.4**	**-0.3**	
JANB	**Januaria**	**25.14**	**63**	*eP*		**P**	**19 11 59.8**	**-1.2**	
ITTB	**Itaituba**	**26.20**	**27**	*eP*		**P**	**19 12 10.7**	**+0.1**	
BOAV	**Boa Vista**	**31.14**	**14**			**P**	**19 12 54.6**	**+0.3**	
BOAV	**Boa Vista**	**31.14**	**14**	*eP*		**P**	**19 12 54.1**	**-0.3**	
RUSC	**La Rusia**	**34.32**	**350**			**P**	**19 13 22.5**	**-0.1**	
RUSC				IAmb		IAmb	19 13 24.0		
	comp=Z,8.5nm,0.7s								
BAUV	**El Baul**	**36.93**	**359**			**P**	**19 13 43.0**	**-1.3**	
BAUV				IAmb		IAmb	19 13 44.6		
	comp=Z,13nm,0.8s								
FDF	**Fort de France**	**43.12**	**9**	P		**P**	**19 14 34.1**	**-1.2**	
CELP	**Cerrillos**	**46.01**	**1**	P		**P**	**19 14 57.1**	**-1.1**	
CELP				IAmb		IAmb	19 15 21.1		
	comp=Z,29nm,1.3s								
SJG	**San Juan**	**46.05**	**2**	LR		LR	19 35 21.5		
	comp=Z,28nm,19.6s,baz=146,slow=37								
BELA	**Belgrano 2**	**51.96**	**172**	P		**P**	**19 15 43.7**	**+0.8**	
BELA				IAmb		IAmb	19 15 45.0		
	comp=Z,8.6nm,0.8s								
TEIG	**Tepich**	**52.17**	**335**	P		**P**	**19 15 45.4**	**+0.3**	
TEIG				IAmb		IAmb	19 15 46.0		
	comp=Z,10nm,0.7s								
SOR	**Soroa**	**52.86**	**342**	P		**P**	**19 15 50.3**	**+0.1**	
SOR				IAmb		IAmb	19 15 51.5		
	comp=Z,5.2nm,0.8s								
VNA3	**Neumayer Olymp**	**53.35**	**160**	⇑P		**P**	**19 15 54.0**	**+0.7**	
	comp=Z,13nm,0.7s								
VNA1	**Neumayer--Stat**	**53.58**	**159**	⇑P		**P**	**19 15 55.4**	**+0.5**	
	comp=Z,11nm,0.9s								
SNAA	**Sanae**	**55.56**	**160**	⇑P		**P**	**19 16 09.3**	**+0.1**	
	comp=Z,205nm,0.6s								
SNAA	**Sanae**	**55.56**	**160**	P		**P**	**19 16 09.7**	**+0.5**	
SNAA	**Sanae**	**55.56**	**160**	P		**P**	**19 16 09.7**	**+0.5**	
	comp=Z,6.9nm,0.5s,baz=283,slow=7.5,SNR=65								
	comp=Z,6.9nm,0.5s								
TROLL	**Troll, Antarti**	**57.28**	**160**	⇑P		**P**	**19 16 22.0**	**+0.5**	
	comp=Z,700nm,0.9s								
553A	**Crawfordville**	**60.28**	**343**	P		**P**	**19 16 43.2**	**+0.8**	
QSPA	**South Pole Qui**	**62.02**	**180**	P		**P**	**19 16 55.9**	**+1.8**	
QSPA	**South Pole Qui**	**62.02**	**180**	P		**P**	**19 16 56.0**	**+1.9**	
	comp=Z,16nm,0.8s,baz=167,slow=1.5,SNR=101								
	comp=Z,16nm,0.8s								
JSC	**Jenkinsville**	**63.50**	**347**	P		**P**	**19 17 04.0**	**+0.1**	
JSC				IAmb		IAmb	19 17 05.4		
	comp=Z,6.3nm,0.9s								
833A	**Chaparral WMA,**	**63.98**	**329**	P		**P**	**19 17 08.6**	**+1.3**	
833A				IAmb		IAmb	19 17 09.7		
	comp=Z,12nm,0.8s								
W57A	**Gilead**	**64.11**	**349**	P		**P**	**19 17 08.3**	**+0.4**	
W57A				IAmb		IAmb	19 17 09.5		
	comp=Z,7.6nm,0.8s								
X51A	**Calhoun**	**64.55**	**344**	P		**P**	**19 17 11.1**	**+0.3**	
X48A	**Hartselle**	**65.00**	**342**	P		**P**	**19 17 14.1**	**+0.3**	
X48A				IAmb		IAmb	19 17 14.9		
	comp=Z,7.3nm,0.9s								
TKL	**Tuckaleechee C**	**65.35**	**345**	P		**P**	**19 17 15.8**	**-0.2**	
TKL				IAmb		IAmb	19 17 16.8		
	comp=Z,6.8nm,0.9s								
BRDY	**Brady**	**66.34**	**331**			**P**	**19 17 22.9**	**+0.4**	
CLTN	**Cedars of Leba**	**66.37**	**343**	P		**P**	**19 17 22.7**	**+0.2**	
CLTN				IAmb		IAmb	19 17 23.5		
	comp=Z,5.8nm,0.7s								
TXAR	**Lajitas Array**	**66.86**	**326**	P		**P**	**19 17 27.0**	**+1.1**	
	comp=Z,0.6nm,0.6s,baz=152,slow=12,SNR=6.1								
	comp=Z,0.6nm,0.6s								
WHAR	**Wooly Hollow**	**67.35**	**338**	P		**P**	**19 17 29.2**	**+0.5**	
RLO	**Rose Lookout**	**69.08**	**336**	P		**P**	**19 17 39.5**	**+0.1**	
RLO				IAmb		IAmb	19 17 41.0		
	comp=Z,7.9nm,0.6s								
CCM	**Cathedral Cave**	**69.57**	**340**	P		**P**	**19 17 43.0**	**+0.5**	
DBIC	**Dimbokro**	**69.58**	**70**	P		**P**	**19 17 42.2**	**-0.8**	
DBIC	**Dimbokro**	**69.58**	**70**	P		**P**	**19 17 42.2**	**-0.8**	
	comp=Z,2.4nm,0.6s,baz=258,slow=7.7,SNR=3.8								
	comp=Z,2.4nm,0.6s								
SYO	**Syowa Base**	**69.81**	**158**	⇓*e*P		**P**	**19 17 44.0**	**+0.4**	
VNDA	**Vanda**	**70.51**	**190**	P		**P**	**19 17 47.4**	**-0.4**	
	comp=Z,2.4nm,0.9s,baz=132,slow=3.2,SNR=6.5								
	comp=Z,2.4nm,0.9s								
PKME	**Peaks-Kenny Pk**	**73.13**	**359**	P		**P**	**19 18 04.5**	**+0.9**	
PKME				IAmb		IAmb	19 18 06.2		
	comp=Z,15nm,1.1s								
T25A	**Trinidad**	**73.67**	**330**	P		**P**	**19 18 07.9**	**+0.6**	
LMN	**Caledonia Moun**	**73.74**	**2**	P		**P**	**19 18 07.8**	**+0.6**	
LMN				IAmb		IAmb	19 18 28.7		
	comp=Z,11nm,1.1s								
SUR	**Sutherland**	**74.17**	**118**	P		**P**	**19 18 11.4**	**+0.8**	
D62A	**Allapoint, All**	**74.94**	**359**	P		**P**	**19 18 15.1**	**+1.0**	
D62A				IAmb		IAmb	19 18 16.4		
	comp=Z,10nm,0.9s								
BATG	**Bathurst New B**	**75.13**	**1**	P		**P**	**19 18 16.4**	**+1.1**	
BATG				IAmb		IAmb	19 18 25.7		
	comp=Z,24nm,1.5s								
ISCO	**Idaho Springs**	**76.40**	**331**			**P**	**19 18 23.6**	**+0.6**	
ECSD	**EROS Data Cent**	**76.41**	**339**	P		**P**	**19 18 22.4**	**-0.2**	
TSUM	**Tsumeb**	**76.97**	**105**	P		**P**	**19 18 26.6**	**0.0**	
KOOLE	**Kule**	**77.55**	**109**	P		**P**	**19 18 30.5**	**+0.7**	
MAW	**Mawson**	**77.57**	**163**	P		**P**	**19 18 29.4**	**+0.5**	
	comp=Z,5.4nm,0.8s,baz=220,slow=7.4,SNR=9.8								
	comp=Z,5.4nm,0.8s								
GRHM	**Grahamstown, E**	**78.05**	**121**	P		**P**	**19 18 33.1**	**+0.8**	
P18A	**Preston Nutter**	**78.36**	**328**	P		**P**	**19 18 35.2**	**+1.3**	
BOSA	**Boshof**	**79.23**	**117**	P		**P**	**19 18 39.2**	**+0.2**	
BOSA				IAmb		IAmb	19 18 39.9		
	comp=Z,5.7nm,0.6s								
BOSA	**Boshof**	**79.23**	**117**	P		**P**	**19 18 39.6**	**+0.7**	
	comp=Z,6.1nm,0.6s,baz=262,slow=4.0,SNR=22								
	comp=Z,6.1nm,0.6s								
HWUT	**Hardware Ranch**	**80.53**	**328**			**P**	**19 18 45.9**	**+0.4**	
HWUT				IAmb		IAmb	19 18 47.8		
	comp=Z,8.3nm,0.9s								
PDAR	**Pinedale Array**	**80.54**	**330**			**P**	**19 18 46.4**	**+0.8**	
PDAR	**Pinedale Array**	**80.54**	**330**	P		**P**	**19 18 46.6**	**+1.0**	
	comp=Z,2.8nm,0.8s,baz=120,slow=6.3,SNR=12								
PDAR				pP		**pP**	**19 19 22.1**	**+1.5**	
	comp=Z,0.3nm,0.3s,baz=109,slow=3.3,SNR=1.4								
	comp=Z,2.8nm,0.8s								
LBTB	**Lobatse**	**81.10**	**114**	P		**P**	**19 18 49.1**	**+0.1**	
LBTB				IAmb		IAmb	19 18 50.2		
	comp=Z,7.4nm,0.7s								
NVAR	**Mina Array Bea**	**81.55**	**322**	P		**P**	**19 18 51.4**	**+0.3**	
NVAR	**Mina Array Bea**	**81.55**	**322**	P		**P**	**19 18 51.7**	**+0.7**	
	comp=Z,0.9nm,0.7s,baz=182,slow=6.8,SNR=4.4								
	comp=Z,0.9nm,0.7s								
ELK	**Elko**	**81.65**	**325**			**P**	**19 18 52.7**	**+1.1**	
FXWY	**Fox Creek**	**81.88**	**330**	P		**P**	**19 18 53.3**	**+0.6**	
MCMT	**McKenzie Canyo**	**83.63**	**329**	P		**P**	**19 19 03.5**	**+1.8**	
ESDC	**Sonseca Array**	**89.72**	**44**	P		**P**	**19 19 32.3**	**+1.1**	
	comp=Z,0.7nm,0.9s,baz=222,slow=6.1,SNR=3.7								
ESDC				pP		**pP**	**19 20 07.6**	**+1.4**	
	comp=Z,0.4nm,0.8s,baz=218,slow=5.6,SNR=2.0								
	comp=Z,0.7nm,0.9s								
YKA	**Yellowknife Ar**	**97.90**	**340**	P		Pdif	19 20 08.4	+0.4	
	comp=Z,1.2nm,0.9s,baz=136,slow=4.6,SNR=6.6								
	comp=Z,1.2nm,0.9s								
MMAI	**Mount Meron Ar**	**114.85**	**65**	PKP		**PKiKP**	**19 25 13.5**	**+0.3**	
	comp=Z,1.0nm,0.6s,baz=197,slow=1.5,SNR=7.2								
AKASG	**Malin Array Be**	**115.36**	**44**	PKP		**PKiKP**	**19 25 13.3**	**-0.2**	
	comp=Z,0.4nm,0.4s,baz=269,slow=2.5,SNR=2.4								
BRTR	**Keskin Array B**	**115.50**	**57**	PKP		**PKiKP**	**19 25 14.8**	**+0.5**	
	comp=Z,0.3nm,0.5s,baz=184,slow=2.0,SNR=4.0								
KBZ	**Khabaz**	**123.13**	**54**	PKP		**PKiKP**	**19 25 28.3**	**-0.6**	
	comp=Z,2.7nm,0.9s,baz=0.0,slow=1.0,SNR=4.2								
ASAR	**Alice Springs**	**124.47**	**204**	PKP		**PKiKP**	**19 25 31.8**	**-0.7**	
	comp=Z,3.3nm,0.7s,baz=133,slow=1.7,SNR=46								
ASAR				pPKP		**pPKPdf**	**19 26 08.6**	**-0.3**	
	comp=Z,0.3nm,0.5s,baz=132,slow=1.5,SNR=1.6								
WRA	**Warramunga Arr**	**127.70**	**206**	PKP		**PKiKP**	**19 25 38.4**	**-0.5**	
	comp=Z,4.6nm,0.8s,baz=168,slow=1.7,SNR=34								
WRA				pPKP		**pPKPdf**	**19 26 14.0**	**-1.0**	
	comp=Z,0.8nm,0.5s,baz=172,slow=1.7,SNR=2.7								
BVAR	**Borovoye Array**	**140.35**	**39**	PKhKP		PKPpre	19 25 56.7		
	comp=Z,1.4nm,0.5s,baz=300,slow=3.3,SNR=8.3								
BVAR				PKP		**PKPdf**	**19 26 01.4**	**+0.5**	
	comp=Z,1.4nm,0.5s,baz=318,slow=1.9,SNR=7.6								
YAK	**Yakutsk**	**144.31**	**346**	PKPdf		**PKPdf**	**19 26 06.7**	**-0.8**	
YAK	**Yakutsk**	**144.31**	**346**	PKP		**PKPdf**	**19 26 06.6**	**-0.9**	
	comp=Z,27nm,0.7s,baz=82,slow=0.2,SNR=18								
ARSB	**Arslanbob**	**145.27**	**57**			**PKPab**	**19 26 10.5**	**+0.1**	
KURBB	**Kurchatov Arra**	**145.95**	**39**	PKPbc		**PKPab**	**19 26 12.5**	**+0.1**	
	comp=Z,3.7nm,0.3s,baz=298,slow=3.3,SNR=30								
KURBB				pPKPbc		pPKPab	19 26 49.0	+0.8	
	comp=Z,1.1nm,0.5s,baz=298,slow=3.9,SNR=2.2								
KURK	**Kurchatov**	**145.95**	**39**	PKPdf		**PKPab**	**19 26 11.6**	**-0.9**	
AAK	**Ala-Archa**	**146.13**	**55**	PKPbc		**PKPab**	**19 26 13.3**	**-0.3**	
ZALV	**Zalesovo Beam**	**147.25**	**31**	PKPbc		**PKPbc**	**19 26 14.7**	**-0.7**	
	comp=Z,22nm,0.6s,baz=297,slow=4.1,SNR=68								
ZALV				pPKPbc		**pPKPbc**	**19 26 52.1**	**+0.3**	
	comp=Z,4.5nm,0.6s,baz=299,slow=3.7,SNR=3.6								
MKAR	**Makanchi Array**	**149.94**	**44**	PKPbc		**PKiKP**	**19 26 23.4**	**+0.1**	
	comp=Z,16nm,0.7s,baz=310,slow=2.3,SNR=101								
MKAR				pPKPbc		**pPKPbc**	**19 26 59.5**	**+0.3**	
	comp=Z,2.3nm,0.7s,baz=306,slow=3.0,SNR=2.5								
MJAR	**Matsushiro Arr**	**156.81**	**298**	PKPab		**PKPab**	**19 26 59.0**	**+1.0**	
	comp=Z,0.9nm,0.8s,baz=148,slow=2.0,SNR=4.7								
SONM	**Songino Array**	**159.82**	**12**	PKPab		**PKPab**	**19 27 11.9**	**+1.1**	
	comp=Z,1.4nm,0.7s,baz=329,slow=3.5,SNR=6.2								
CMAR	**Chiang Mai Arr**	**164.22**	**125**	PKP		**PKPdf**	**19 26 37.4**	**+1.2**	
	comp=Z,1.0nm,0.9s,baz=298,slow=3.1,SNR=4.8								

*IDC **10** 19:10:02.3±2.8, 42.67N×144.41E, h53km±23km, mb3.4/11, mbtmp3.7/13, ML2.6/1, MS3.0/2, Error ellipse: s-maj=24.8km s-min=16.2km az=78.0*

*MOS **10** 19:10:02.6±1.1, 42.58N×144.18E, h73km, mb4.6/1, Error ellipse: s-maj=14.9km s-min=8.7km az=68.7*

*NIED **10** 19:10:03.2, 42.64N×144.12E, h62km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.51; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-2.08; $M_{r\theta}$-3.11; $M_{\theta\phi}$-0.06; $M_{\phi r}$-1.63; Fault plane solution: $M_0$4.01000×10¹⁴ NP1: ϕ_s5.00000°, δ20.00000°, λ47.00000°. NP2:ϕ_s230.00000°, δ75.00000°, λ104.00000°.*

*JMA **10** 19:10:03.2±0.1, 42.6N±0.4×144.1E±0.4, h62km±1km, MD3.8/35, MV3.8/35, SE OFF TOKACHI*

JMA Felt I J1 at SE OFF TOKACHI .

*SKHL **10** 19:10:03.5±0.1, 42.60N×144.20E, h76km±3km, mb4.9/6*

ISC 10 19:10:03.2±0.8, 42°60N±0'05×144°16E±0'03, h60km±6km, n58, σ1°902/72, mb3.6/11, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
					Op	ISC	h	m	s ISC
JOB	**Onbets**	**0.38**	**321**	*i* P		**Pn**	**19 10 14.1**		**0.0**
JOB				S		**Sn**	**19 10 21.5**		**-0.4**
JOB	**Onbets**	**0.38**	**321**	A		A	19 10 14.1		
	comp=N,6.0nm,0.9s,comp=E,14nm,0.3s								
JAK	**Akkeshi**	**0.56**	**45**	*i* P		**Pn**	**19 10 15.8**		**0.0**
JAK				S		**Sn**	**19 10 25.1**		**+0.1**
JAK	**Akkeshi**	**0.56**	**45**	A		A	19 10 15.8		
	comp=N,10.0nm,0.3s,comp=E,16nm,0.3s								
JCH	**Churui**	**0.59**	**271**	*i* P		**Pn**	**19 10 16.1**		**-0.1**
JCH				S		**Sn**	**19 10 24.9**		**-0.7**
JCH	**Churui**	**0.59**	**271**	A		A	19 10 16.1		
	comp=N,6.0nm,1.1s,comp=E,5.0nm,1.1s								
AKK	**Akkeshi**	**0.65**	**50**	*i* P		**Pn**	**19 10 16.8**		**-0.1**
AKK				AMB		AMB	19 10 17.2		
	comp=E,570nm,0.2s								
AKK				*e*S		**Sn**	**19 10 26.7**		**-0.2**
AKK				A		A	19 10 27.1		
	comp=E,1μm,0.6s								
AKK				A		A	19 10 27.1		
	comp=E,9μm,0.6s								
JTHR	**Tokachihiroo**	**0.71**	**244**	⇓*i* P		**Pn**	**19 10 17.7**		**+0.1**
JTHR				⇓S		**Sn**	**19 10 28.5**		**+0.4**
JAR	**Ashorobuto**	**0.75**	**338**	*i* P		**Pn**	**19 10 17.9**		**-0.2**
JAR				S		**Sn**	**19 10 28.2**		**-0.8**
JAR	**Ashorobuto**	**0.75**	**338**	A		A	19 10 17.9		
	comp=N,15nm,0.3s,comp=E,9.0nm,0.3s								
JKHN	**Kushirohamanak**	**0.88**	**57**	*i* P		**Pn**	**19 10 19.9**		**+0.2**
JKHN				S		**Sn**	**19 10 32.2**		**+0.4**
JEM	**Erimo**	**0.95**	**232**	P		**Pn**	**19 10 20.4**		**-0.2**
JNK	**

baz=327,slow=76,SNR=88
ZALV Zalesovo Beam 39.95 308 P **P** 19 17 32.8 +1.4
comp=E,0.7nm,0.6s,baz=77,slow=7.8,SNR=4.0
comp=E,0.7nm,0.6s
MKAR Makanchi Array 43.18 298 P **P** 19 17 58.4 +0.5
comp=E,0.2nm,0.4s,baz=78,slow=9.5,SNR=4.7
comp=E,0.2nm,0.4s
ILAR Eielson Array 43.70 35 P **P** 19 17 59.2 -2.6
comp=E,0.2nm,0.6s,baz=276,slow=7.3,SNR=1.8
comp=E,0.2nm,0.6s
BVAR Borovoye Array 48.54 309 P **P** 19 18 40.5 +0.5
comp=E,0.7nm,0.3s,baz=81,slow=9.9,SNR=7.7
comp=E,0.7nm,0.3s
FINES FINESS Array B 64.88 332 P **P** 19 20 35.4 -0.2
comp=E,0.5nm,0.3s,baz=40,slow=6.5,SNR=13
comp=E,0.5nm,0.3s
ASAR Alice Springs 66.61 190 P **P** 19 20 48.4 +1.2
comp=E,0.4nm,0.8s,baz=7.1,slow=7.2,SNR=5.2
comp=E,0.4nm,0.8s
HFS Hagfors 69.87 336 P **P** 19 21 07.0 -0.2
comp=E,1.0nm,0.7s,baz=46,slow=6.4,SNR=4.7
comp=E,1.0nm,0.7s
HFS Hagfors 69.87 336 P **P** 19 21 07.0 -0.2
PDAR Pinedale Array 72.31 48 P **P** 19 21 22.2 -0.4
comp=E,0.2nm,0.4s,baz=296,slow=7.6,SNR=1.7
comp=E,0.2nm,0.4s
EKA Eskdalemuir Ar 78.56 342 P **P** 19 21 58.0 +0.2
comp=E,0.8nm,0.6s,baz=23,slow=6.2,SNR=1.8
comp=E,0.8nm,0.6s
TXAR Lajitas Array 85.10 54 P **P** 19 22 31.5 -1.3
comp=E,0.3nm,0.6s,baz=317,slow=6.7,SNR=3.8
comp=E,0.3nm,0.6s

*NNC **10** 19:14:47.6±0.3, 43°.39N×77°.95E, h0km, mb2.4, mpv3.0,*
Error ellipse: s-maj=3.5km s-min=1.8km az=1.0
*KRNET **10** 19:14:48.1±0.1, 43°.40N×77°.97E, h17km, mb3.0*
*SOME **10** 19:14:48.9, 43°.38N×77°.93E, h10km*
ISC 10 19:14:49.2±0.8, 43°.38N±0°.03×77°.92E±0°.02, h10km, n32,
σ2s 00/64, 6C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KURS	**Kuram**	**0.21**	**60**	P		**Pg**	**19 14 52.3**	**-1.3**
	35nm,0.1s							
KURS				S		**Sg**	**19 14 55.0**	**-1.7**
	17nm,0.1s							
KURS	**Kuram**	**0.21**	**60**	*eP*		**Pg**	**19 14 52.3**	**-1.3**
KURS				*eS*		**Sg**	**19 14 54.9**	**-1.7**
SATY	**Saty**	**0.48**	**132**	P		**Pg**	**19 14 57.4**	**-1.2**
	5.3nm,0.1s							
SATY				S		**Sg**	**19 15 03.6**	**-1.2**
	213nm,0.1s							
SATY	**Saty**	**0.48**	**132**	*eP*		**Pg**	**19 14 57.4**	**-1.2**
SATY				*eS*		**Sg**	**19 15 03.7**	**-1.2**
KPKS	**Kokpek**	**0.56**	**81**	P		**Pg**	**19 14 58.6**	**-1.5**
	0.3nm,0.1s							
KPKS				S		**Sg**	**19 15 05.9**	**-1.6**
	21nm,0.2s							
KPKS	**Kokpek**	**0.56**	**81**	*eP*		**Pg**	**19 14 58.6**	**-1.5**
KPKS				*eS*		**Sg**	**19 15 05.9**	**-1.6**
TNSS	**Tian-Shan**	**0.79**	**244**	P		**Pg**	**19 15 04.2**	**-0.3**
TNSS				S		**Sb**	**19 15 15.3**	**-0.9**
TNSS	**Tian-Shan**	**0.79**	**244**	*eP*		**Pg**	**19 15 04.2**	**-0.3**
	0.4nm,0.0s							
TNSS				*eS*		**Sb**	**19 15 15.2**	**-1.0**
	5.5nm,0.1s							
CHKK	**Chushkaly**	**0.83**	**305**	*eP*		**Pg**	**19 15 03.8**	**-1.3**
	3.3nm,0.0s							
CHKK				*eS*		**Sg**	**19 15 14.5**	**-1.4**
	12nm,0.1s							
ARXS	**Arharly**	**0.83**	**355**	P		**Pg**	**19 15 03.7**	**-1.6**
	7.4nm,0.1s							
ARXS				S		**Sg**	**19 15 14.5**	**-1.7**
	9.7nm,0.2s							
ARXS	**Arharly**	**0.83**	**355**	*eP*		**Pg**	**19 15 03.7**	**-1.6**
ARXS				*eS*		**Sg**	**19 15 14.5**	**-1.7**
UZB	**Uzynbulak**	**0.84**	**106**	P		**Pg**	**19 15 03.4**	**-1.9**
	4.6nm,0.1s							
UZB				S		**Sg**	**19 15 14.0**	**-2.3**
	12nm,0.1s							
UZB	**Uzynbulak**	**0.84**	**106**	*eP*		**Pg**	**19 15 03.4**	**-1.9**
UZB				*eS*		**Sg**	**19 15 14.0**	**-2.3**
UZB	**Uzynbulak**	**0.84**	**106**	*eP*		**Pg**	**19 15 03.4**	**-1.9**
	4.6nm,0.1s							
UZB				*eS*		**Sg**	**19 15 14.0**	**-2.3**
	16nm,0.1s							
KTBS	**Karatobe**	**0.96**	**291**	P		**Pg**	**19 15 06.6**	**-1.1**
	3.7nm,0.1s							
KTBS				S		**Sg**	**19 15 19.4**	**-0.7**
	20nm,0.3s							
KTBS	**Karatobe**	**0.96**	**291**	*eP*		**Pg**	**19 15 06.6**	**-1.1**
KTBS				*eS*		**Sg**	**19 15 19.5**	**-0.7**
MTBS	**Maitube**	**1.12**	**257**	P		**Pb**	**19 15 09.9**	**-0.8**
	10nm,0.1s							
MTBS				S		**Sb**	**19 15 25.1**	**-0.2**
	14nm,0.2s							
MTBS	**Maitube**	**1.12**	**257**	*eP*		**Pb**	**19 15 09.9**	**-0.8**
MTBS				*eS*		**Sb**	**19 15 25.1**	**-0.2**
MTBS	**Maitube**	**1.12**	**257**	*eP*		**Pb**	**19 15 09.9**	**-0.8**
	10nm,0.1s							
MTBS				*eS*		**Sb**	**19 15 25.1**	**-0.2**
	14nm,0.2s							
PDGK	**Podgornoye**	**1.15**	**92**	⇑P		**Pb**	**19 15 08.7**	**-2.5**
	1.1nm,0.4s							
PDGK				⇑S		**Sg**	**19 15 23.2**	**-2.9**
	2.0nm,0.3s							
SHLS	**Shalkode**	**1.15**	**101**	P		**Pn**	**19 15 14.5**	**+3.1**
	1.9nm,0.1s							
SHLS				S		**Sn**	**19 15 33.0**	**+5.7**
	8.2nm,0.2s							
SHLS	**Shalkode**	**1.15**	**101**	*eP*		**Pn**	**19 15 14.8**	**+3.4**
SHLS				*eS*		**Sn**	**19 15 33.5**	**+6.2**
SHLS	**Shalkode**	**1.15**	**101**	*eP*		**Pn**	**19 15 14.8**	**+3.4**
	1.6nm,0.1s							
SHLS				*eS*		**Sn**	**19 15 33.5**	**+6.2**
	5.9nm,0.1s							
KDJ	**Kajisay**	**1.36**	**204**	⇓*eP*		**Pn**	**19 15 14.1**	**-0.4**
KDJ				⇓*eS*		**Sn**	**19 15 32.3**	**-0.4**
KST	**Kastek**	**1.47**	**257**	P		**Pb**	**19 15 15.8**	**-0.9**
	4.3nm,0.2s							
KST				S		**Sb**	**19 15 35.2**	**-0.3**
	4.9nm,0.3s							
KST	**Kastek**	**1.47**	**257**	*eP*		**Pg**	**19 15 16.5**	**-0.9**
	3.3nm,0.1s							
KST				*eS*		**Sg**	**19 15 36.4**	**-0.1**
	4.9nm,0.3s							
DGS	**Degeres**	**1.57**	**266**	P		**Pb**	**19 15 17.3**	**-1.1**
	3.9nm,0.1s							
DGS				S		**Sb**	**19 15 37.8**	**-0.7**
	9.1nm,0.3s							
DGS	**Degeres**	**1.57**	**266**	*eP*		**Pb**	**19 15 18.0**	**-0.5**
DGS				*eS*		**Sg**	**19 15 38.9**	**-0.9**
KRBS	**Karabastau**	**1.66**	**282**	P		**Pb**	**19 15 19.1**	**-0.9**
	4.6nm,0.2s							
KRBS				S		**Sb**	**19 15 40.8**	**-0.2**
	3.4nm,0.3s							
ULHL	**Ulahol**	**1.68**	**228**	⇓*eP*		**Pb**	**19 15 19.3**	**-1.0**
ULHL				⇓*eS*		**Sg**	**19 15 42.2**	**-0.9**
TKM2	**Tokmak 2**	**1.76**	**256**	⇑*eP*		**Pb**	**19 15 20.6**	**-1.1**
TKM2				⇑*eS*		**Sg**	**19 15 44.7**	**-1.1**
KBK	**Karagaybulak**	**2.30**	**253**	⇑*eP*		**Pn**	**19 15 28.0**	**+0.7**
KBK				⇑*eS*		**Sb**	**19 15 57.6**	**-1.7**

*IDC **10** 19:15:13.8±1.3, 54°.88N×164°.84E, h0km, mb3.6/7,*
mbtmp3.6/8, ML2.5/1, Error ellipse: s-maj=39.0km
s-min=21.0km az=153.0
*KRSC **10** 19:15:15.7±1.1, 54°.86N×164°.62E, h48km±24km, Ml3.8*
ISC 10 19:15:17.4±1.7, 54°.91N±0°.05×164°.71E±0°.07, h24km±16km,
n43, σ1s 29/52, mb3.6/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BKI	**Bering**	**0.79**	**67**	*eP*		**Pb**	**19 15 32.0**	**-0.4**
BKI				*eS*		**Sb**	**19 15 43.1**	**+0.5**
KBTR	**Krutoberegovo**	**1.69**	**321**	*eP*		**Pn**	**19 15 43.4**	**-1.9**
KBTR				*eS*		**Sn**	**19 16 04.0**	**-2.1**
MKZ	**Mys Kozlova**	**1.76**	**260**	*eP*		**Pn**	**19 15 45.4**	**-0.9**
MKZ				*eS*		**Sn**	**19 16 05.7**	**-2.2**
KBG	**Krutoberegovo**	**1.77**	**321**	*eP*		**Pn**	**19 15 44.7**	**-1.7**
KBG				*eS*		**Sn**	**19 16 06.1**	**-1.9**
ZLN	**Zelenaya**	**2.49**	**298**	*eP*		**Pn**	**19 15 57.2**	**+0.9**
TUMD	**Tumrok D**	**2.50**	**279**	*eP*		**Pn**	**19 15 56.9**	**+0.5**
TUMD				*eS*		**Sn**	**19 16 26.7**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.51**	**296**	*eP*		**Pn**	**19 15 57.1**	**+0.3**
CIRR	**Tsirk**	**2.56**	**300**	*eP*		**Pn**	**19 15 58.1**	**+0.7**
BZMR	**Bezymyannaya**	**2.62**	**295**	*eP*		**Pn**	**19 15 58.7**	**+0.5**
BZWR	**Bezymyannyi-We**	**2.62**	**296**	*eP*		**Pn**	**19 15 59.1**	**+0.8**
KMNR	**Kamenistaya**	**2.69**	**290**	*eP*		**Pn**	**19 16 00.0**	**+0.8**
KLY	**Klyuchi**	**2.70**	**303**	*eP*		**Pn**	**19 15 58.0**	**-1.2**
KLY				*eS*		**Sn**	**19 16 30.3**	**-0.7**
KIRR	**Kirishev**	**2.70**	**295**	*eP*		**Pn**	**19 16 00.4**	**+1.0**
KPT	**Kopyto**	**2.77**	**294**	*eP*		**Pn**	**19 16 01.5**	**+1.2**
KOZ	**Kozyrevsk**	**2.98**	**295**	*eP*		**Pn**	**19 16 04.5**	**+1.3**
SRDR	**Sredinnyy**	**3.17**	**299**	*eP*		**Pn**	**19 16 06.9**	**+1.3**
SPN	**Mys Shipunski**	**3.31**	**239**	*eP*		**Pn**	**19 16 06.3**	**-1.2**
SPN				*eS*		**Sn**	**19 16 42.6**	**-3.5**
ESO	**Esso**	**3.57**	**289**	*eP*		**Pn**	**19 16 11.7**	**+0.5**
ESO				*eS*		**Sn**	**19 16 51.9**	**-0.7**
SDLR	**Sedlovina**	**3.80**	**247**	*eP*		**Pn**	**19 16 14.4**	**0.0**
SMAR	**Somma**	**3.85**	**247**	*eP*		**Pn**	**19 16 16.1**	**+0.9**
KRER	**Koryakskii**	**3.86**	**248**	*eP*		**Pn**	**19 16 16.4**	**+1.1**
UGLR	**Uglovaya**	**3.86**	**246**	*eP*		**Pn**	**19 16 16.5**	**+1.2**
AVH	**Avacha**	**3.88**	**247**	*eP*		**Pn**	**19 16 16.6**	**+1.1**
KRX	**Arik**	**3.89**	**249**	*eP*		**Pn**	**19 16 16.3**	**+0.6**
KOK	**Koryaka**	**3.92**	**248**	*eP*		**Pn**	**19 16 17.0**	**+0.8**
DALK	**Dalny**	**3.99**	**244**	*eP*		**Pn**	**19 16 15.9**	**-1.0**
DALK				*eS*		**Sn**	**19 17 00.4**	**-2.4**
PET	**Petropavlovsk**	**4.04**	**245**	*eP*		**Pn**	**19 16 17.8**	**+0.2**
PET				*eS*		**Sn**	**19 17 02.4**	**-1.8**
GNL	**Ganaly**	**4.15**	**256**	*eP*		**Pn**	**19 16 20.3**	**+1.1**
KRMR	**Karymshinskiy**	**4.42**	**245**	*eP*		**Pn**	**19 16 23.7**	**+0.9**
KRMR				*eS*		**Sn**	**19 17 11.5**	**-1.9**
PETK	**Petropavlovsk-**	**4.51**	**249**	Pn		**Pn**	**19 16 24.6**	**+0.5**
	1.2nm,0.3s,baz=69,slow=17,SNR=12							
PETK				Sn		**Sn**	**19 17 13.6**	**-2.1**
	1.4nm,0.3s,baz=31,slow=23,SNR=5.3							
	3.0nm,0.5s							
MTVR	**Mutnovka**	**4.58**	**241**	*eP*		**Pn**	**19 16 25.5**	**+0.4**
GRL	**Gorelyy**	**4.59**	**242**	*eP*		**Pn**	**19 16 26.6**	**+1.2**
ASAK	**Asacha**	**4.78**	**241**	*eP*		**Pn**	**19 16 29.2**	**+1.4**
TIXI	**Tiksi**	**22.68**	**331**	P		**P**	**19 20 17.0**	**+0.4**
	1.3nm,0.4s,baz=124,slow=12,SNR=3.8							
	1.3nm,0.4s							
ILAR	**Eielson Array**	**25.59**	**48**	P		**P**	**19 20 44.5**	**+0.3**
	0.9nm,0.8s,baz=253,slow=8.0,SNR=8.0							
	0.9nm,0.8s							
MJAR	**Matsushiro Arr**	**25.82**	**236**	P		**P**	**19 20 46.4**	**-0.1**
	0.7nm,0.7s,baz=35,slow=9.3,SNR=2.5							
	0.7nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**35.16**	**176**	T		T	20 00 33.7	
	baz=359,slow=76,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**35.17**	**176**	T		T	20 00 41.9	
	baz=359,slow=76,SNR=5.9							
H11N1	**WAKE ISLAND Hy**	**35.17**	**176**	T		T	20 00 36.9	
	baz=359,slow=76,SNR=6.9							
MKAR	**Makanchi Array**	**49.80**	**297**	P		**P**	**19 24 08.0**	**+0.3**
	0.4nm,0.7s,baz=60,slow=8.5,SNR=5.3							
	0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**61.19**	**261**	P		**P**	**19 25 31.7**	**+1.8**
	0.4nm,0.4s,baz=52,slow=7.8,SNR=1.7							
	0.4nm,0.4s							
NOA	**NORSAR Array B**	**62.51**	**346**	P		**P**	**19 25 38.7**	**+0.4**
	0.6nm,0.8s,baz=18,slow=6.9,SNR=2.7							
	0.6nm,0.8s							
TXAR	**Lajitas Array**	**67.44**	**71**	P		**P**	**19 26 10.4**	**-0.5**
	0.3nm,0.7s,baz=330,slow=5.1,SNR=2.4							
	0.3nm,0.7s							

*SOME **10** 19:28:12.3, 41°.82N×82°.12E, h10km*
*NNC **10** 19:28:14.4±3.1, 42°.04N×82°.14E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=26.1km s-min=15.6km az=172.0
ISC 10 19:28:15.1±2.3, 42°.0N±0°.1×82°.05E±0°.07, h14km, n24,
σ2s 03/36, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.21**	**301**	Pg		**Pn**	**19 28 52.2**	**+0.7**
	70nm,0.2s							
SHLS				Lg		Lg	19 29 20.1	
	353nm,0.5s							
SHLS	**Shalkode**	**2.21**	**301**	*eP*		**Pn**	**19 28 51.6**	**+0.1**
	70nm,0.2s							
SHLS				*eS*		**Sn**	**19 29 20.6**	**+1.8**
	388nm,0.3s							
PDGK	**Podgornoye**	**2.29**	**305**	⇑Pn		**Pb**	**19 28 56.0**	**-0.1**
	7.1nm,0.5s							
PDGK				⇑Sn		**Sg**	**19 29 28.8**	**+0.2**
	31nm,0.3s							
UZB	**Uzynbulak**	**2.50**	**297**	Pg		**Pg**	**19 29 01.8**	**-1.1**
	13nm,0.2s							
UZB				Lg		Lg	19 29 36.4	
	40nm,0.3s							
UZB	**Uzynbulak**	**2.50**	**297**	*eP*		**Pb**	**19 29 00.9**	**+1.2**
	10nm,0.1s							
UZB				*eS*		**Sg**	**19 29 36.4**	**+1.2**
	48nm,0.1s							
KPKS	**Kokpek**	**2.86**	**301**	Pg		**Pb**	**19 29 05.6**	**-0.3**
	0.2nm,0.2s							
KPKS				Lg		Lg	19 29 43.0	
	113nm,0.6s							
SATY	**Saty**	**2.88**	**292**	Pg		**Pg**	**19 29 09.0**	**-1.2**
	9.7nm,0.1s							
SATY				Lg		Lg	19 29 48.8	
	54nm,0.3s							
KURS	**Kuram**	**3.20**	**298**	Pg		**Pb**	**19 29 12.7**	**+0.9**
	6.0nm,0.4s							
KURS				Lg		Lg	19 29 54.4	
	22nm,0.7s							
ARXS	**Arharly**	**3.78**	**307**	Pg		**Pb**	**19 29 24.2**	**+2.6**
	4.9nm,0.2s							
ARXS				Lg		Lg	19 30 14.9	
	25nm,0.6s							
KOTS	**Kotyrbulak**	**3.83**	**290**	*eP*		**Pb**	**19 29 25.6**	**+3.0**
	5.3nm,0.3s							
KOTS				*eS*		**Sg**	**19 30 18.2**	**0.0**
	35nm,0.5s							
TNSS	**Tian-Shan**	**3.90**	**287**	Pg		**Pb**	**19 29 25.9**	**+2.0**
	2.1nm,0.5s							
TNSS				Lg		Lg	19 30 17.6	
	3.9nm,0.6s							
TNSS	**Tian-Shan**	**3.90**	**287**	*eP*		**Pb**	**19 29 26.3**	**+2.4**
	0.4nm,0.0s							
TNSS				*eS*		**Sg**	**19 30 19.6**	**-0.7**
	3.5nm,0.3s							
TDK	**Taldyqorghan**	**3.97**	**319**	*eP*		**Pg**	**19 29 29.1**	**-2.1**
	14nm,0.1s							
TDK				*eS*		**Sg**	**19 30 24.7**	**+2.1**
	40nm,0.3s							
CHKK	**Chushkaly**	**4.13**	**298**	*eP*		**Pb**	**19 29 30.7**	**+3.1**
	4.8nm,0.1s							
CHKK				*eS*		**Sg**	**19 30 27.2**	**-0.6**
	19nm,0.3s							
KTBS	**Karatobe**	**4.28**	**295**	Pg		**Pg**	**19 29 34.5**	**-2.6**
	3.1nm,0.3s							
KTBS				Lg		Lg	19 30 31.8	
	30nm,0.5s							
MTBS	**Maitube**	**4.29**	**287**	Pg		**Pb**	**19 29 31.0**	**+0.6**
	1.5nm,0.1s							
MTBS				Lg		Lg	19 30 26.0	
	17nm,0.5s							
MTBS	**Maitube**	**4.29**	**287**	*eP*		**Pb**	**19 29 33.4**	**+3.1**
	2.2nm,0.1s							
MTBS				*eS*		**Sg**	**19 30 32.2**	**-0.6**
	9.3nm,0.2s							
KUU	**Kurty**	**4.58**	**296**	Pg		**Pg**	**19 29 39.9**	**-2.9**
	2.3nm,0.0s							
KUU				Lg		Lg	19 30 41.3	
	22nm,0.3s							
KUU	**Kurty**	**4.58**	**296**	*eP*		**Pb**	**19 29 38.9**	**+3.7**
	1.1nm,0.1s							
KUU				*eS*		**Sg**	**19 30 41.5**	**-0.7**
	14nm,0.4s							
KST	**Kastek**	**4.61**	**285**	Pg		**Pb**	**19 29 36.8**	**+1.0**
	1.6nm,0.3s							
KST				Lg		Lg	19 30 36.5	
	10nm,0.5s							
KST	**Kastek**	**4.61**	**285**	*eP*		**Pb**	**19 29 39.4**	**+3.7**
	1.0nm,0.2s							
KST				*eS*		**Sg**	**19 30 42.5**	**-0.5**
	9.5nm,0.5s							
MK31	**Makanchi Array**	**4.76**	**2**	⇓Pn		**Pn**	**19 29 26.4**	**0.0**
	0.2nm,0.2s,baz=176,slow=15,SNR=5.3							
MK31				Pg		**Pb**	**19 29 40.5**	**+2.3**
	2.0nm,0.3s,baz=176,slow=15,SNR=9.8							
MK31				⇑Sn		**Sn**	**19 30 18.8**	**-2.5**
	0.8nm,0.2s,baz=192,slow=30,SNR=3.9							
MK31				⇓Lg		Lg	19 30 39.2	
	2.8nm,0.3s,baz=175,slow=27,SNR=4.1							
DGS	**Degeres**	**4.78**	**287**	Pg		**Pg**	**19 29 43.2**	**-3.5**
	2.0nm,0.4s							
DGS				Lg		Lg	19 30 47.4	
	14nm,0.4s							
ZSN	**Zaisan**	**5.77**	**19**	Pg		**Pb**	**19 29 57.2**	**+1.7**
	3.5nm,0.3s							
ZSN				Lg		Lg	19 31 11.3	
	12nm,1.0s							

GCG 10 19:34:36.1±2.2, 15°.70N×89°.84W, h13km±30km, MD3.6,
ML3.1, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PETF	**Flores**	**1.21**	**359**	*i* P		Pn	19 34 57.3	-1.5
PETF				*i* S		Sb	19 35 14.2	-0.3
PETF				IAML			19 35 18.1	
	comp=N,271nm,0.7s							
QUIS	**Sacapulas**	**1.28**	**252**	*i* S		Sg	19 35 17.1	-0.2
QUIS				IAML			19 35 24.5	
	comp=E,366nm,0.3s							
MTO3	**Montecristo**	**1.37**	**160**	*e*P		Pn	19 35 00.5	-0.7
SARH	**Santa Rosa de**	**1.39**	**131**	*i* P		Pn	19 35 01.1	-0.2
SARH				*i* S		Sg	19 35 20.5	-0.4

*TAP **10** 19:50:20.9, 23°.66N×121°.50E, h3km, ML3.5, C*
*JMA **10** 19:50:20.3±0.2, 23°.6N±0°.3×121°.6E±0°.7, h1km±1km,*
MV3.5/10, TAIWAN REGION
ISC 10 19:50:21.4±0.8, 23°.65N±0°.01×121°.55E±0°.02, h8km±5km,
n133, σ0s 80/179, 1C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.06**	**356**	⇑*i*P		**Pg**	**19 50 23.0**	**-0.3**
TEGC				S		**Sg**	**19 50 24.7**	**+0.1**
EGFH	**Guangfu**	**0.11**	**283**	*i* P		**Pg**	**19 50 22.7**	**-1.2**
SHUL	**Shoufeng**	**0.14**	**7**	*i* P		**Pg**	**19 50 24.9**	**+0.5**
SHUL				S		**Sg**	**19 50 28.6**	**+2.0**
WARBT	**Fenglin Townsh**	**0.16**	**297**	⇓*i*P		**Pg**	**19 50 23.7**	**-1.1**
HGSD	**Ruisui**	**0.19**	**216**	*i* P		**Pg**	**19 50 25.6**	**+0.3**
HGSD				S		**Sg**	**19 50 29.7**	**+1.9**
ESL	**Shilin**	**0.20**	**329**	⇓*i*P		**Pg**	**19 50 24.6**	**-0.8**
ESL				S		**Sg**	**19 50 27.2**	**-1.0**
TEYL	**Yanliau Villag**	**0.23**	**12**	P		**Pg**	**19 50 26.3**	**+0.4**
EHYH	**Wanrong**	**0.24**	**231**	P		**Pg**	**19 50 25.7**	**-0.4**
EHY	**Hungye**	**0.25**	**236**	P		**Pg**	**19 50 25.4**	**-0.9**
EHY				*e*S		**Sg**	**19 50 29.2**	**-0.4**
ETM	**Tongmen**	**0.32**	**352**	P		**Pg**	**19 50 27.3**	**-0.5**
ETM				S		**Sg**	**19 50 32.0**	**-0.1**
HWA	**Hwalien**	**0.34**	**9**	P		**Pb**	**19 50 28.6**	**-1.1**
ECBN	**Changbin**	**0.34**	**195**	P		**Pb**	**19 50 28.7**	**-1.0**
ECBN				S		**Sb**	**19 50 35.3**	**0.0**
YULB	**Yu-li**	**0.34**	**222**	P		**Pg**	**19 50 27.5**	**-0.6**
YULB	**Yu-li**	**0.34**	**222**	S		**Sg**	**19 50 32.7**	**+0.2**
YULB	**Yu-li**	**0.34**	**222**	P		**Pg**	**19 50 27.5**	**-0.6**
YULB				S		**Sg**	**19 50 33.0**	**+0.5**
EYUL	**Yuli**	**0.36**	**215**	*e*P		**Pb**	**19 50 29.0**	**-1.1**
TWF1	**Yuli**	**0.37**	**218**	*e*P		**Pg**	**19 50 28.3**	**-0.3**
VWDT	**VWDT**	**0.39**	**286**	P		**Pg**	**19 50 28.4**	**-0.5**
VWDT				S		**Sg**	**19 50 34.3**	**+0.2**
TWD	**Chiawan**	**0.44**	**6**	*e*P		**Pg**	**19 50 29.9**	**0.0**
OWD	**Renai**	**0.46**	**312**	P		**Pg**	**19 50 29.7**	**-0.7**
OWD				S		**Sg**	**19 50 36.2**	**-0.2**
CHKH	**Chenggong**	**0.47**	**197**	*e*P		**Pb**	**19 50 31.2**	**-0.8**
CHKH				*e*S		**Sb**	**19 50 38.9**	**-0.2**
FULB	**Fuli**	**0.50**	**207**	*e*P		**Pb**	**19 50 32.5**	**0.0**
FULB				*e*S		**Sb**	**19 50 39.4**	**-0.5**
ETL	**Fush Village**	**0.52**	**8**	*e*P		**Pg**	**19 50 31.3**	**-0.1**
WUSB	**Renai**	**0.52**	**312**	*e*P		**Pg**	**19 50 31.1**	**-0.4**
WUSB				*e*S		**Sg**	**19 50 38.4**	**-0.1**
NACB	**Ninganchiao**	**0.53**	**5**	P		**Pg**	**19 50 31.3**	**-0.3**
NACB	**Ninganchiao**	**0.53**	**5**	S		**Sg**	**19 50 37.3**	**-1.3**
NACB	**Ninganchiao**	**0.53**	**5**	*e*P		**Pg**	**19 50 31.3**	**-0.3**
NACB				*e*S		**Sb**	**19 50 40.2**	**-0.5**
SSLB	**Suanglung**	**0.56**	**285**	P		**Pg**	**19 50 31.5**	**-0.7**
SSLB	**Suanglung**	**0.56**	**285**	S		**Sg**	**19 50 39.4**	**-0.2**
SSLB	**Suanglung**	**0.56**	**285**	*i* P		**Pg**	**19 50 31.6**	**-0.7**
SSLB				S		**Sg**	**19 50 38.7**	**-0.9**
WHF	**Hehuan Shan**	**0.56**	**333**	P		**Pg**	**19 50 31.5**	**-0.8**
WHF				*e*S		**Sg**	**19 50 41.0**	**+0.5**
ETLH	**Xiulin Townshi**	**0.56**	**354**	P		**Pg**	**19 50 31.7**	**-0.6**
CHKT	**Chengkung**	**0.57**	**197**	P		**Pb**	**19 50 32.8**	**-0.8**
CHKT				S		**Sb**	**19 50 42.3**	**+0.4**
EHD	**Haiduan**	**0.58**	**212**	*e*P		**Pb**	**19 50 32.6**	**-1.3**
ECS	**Chishang**	**0.62**	**209**	*e*P		**Pb**	**19 50 34.5**	**-0.1**
WHYT	**Xinyi Township**	**0.64**	**275**	*e*P		**Pg**	**19 50 33.2**	**-0.5**
WHYT				*e*S		**Sg**	**19 50 42.0**	**0.0**
SMLT	**Sun Moon Lake**	**0.64**	**292**	*i* P		**Pg**	**19 50 33.2**	**-0.5**
SMLT				S		**Sg**	**19 50 42.2**	**+0.2**
ELDTW	**Lidau**	**

ICHU				eS		Sn	19 51 02.8	+1.9
WSF	**Szhu**	**1.21**	**270**	P		Pn	19 50 44.4	-0.3
WSF				eS		Sn	19 51 02.1	+0.8
WSL	**Shuilin Townsh**	**1.21**	**265**	eP		Pn	19 50 44.6	-0.1
WSL				eS		Sn	19 51 02.0	+0.7
CHN3	**Shinhua**	**1.22**	**243**	eP		Pn	19 50 46.2	+1.4
SCST	**Cishan**	**1.23**	**232**	eP		Pn	19 50 45.9	+1.0
SSD	**Sandimen**	**1.23**	**223**	eP		Pn	19 50 44.7	-0.2
TSMG	**Majia**	**1.25**	**222**	eP		Pn	19 50 46.8	+1.6
SBCB	**Hsinchu**	**1.25**	**336**	eP		Pn	19 50 46.4	+1.2
CHN8	**Yiju**	**1.26**	**257**	eP		Pn	19 50 45.9	+0.6
CHN8				S		Sn	19 51 03.9	+1.4
SHHT	**Tainan City**	**1.26**	**241**	eP		Pn	19 50 47.6	+2.2
HSN	**Hsinchu**	**1.27**	**336**	eP		Pn	19 50 46.9	+1.5
TWM1	**Shoushan**	**1.32**	**232**	eP		Pn	19 50 48.1	+1.7
TATO	**Taipei**	**1.33**	**358**	P		Pb	19 50 46.8	+0.2
MASBT	**Mashibuluo**	**1.33**	**219**	eP		Pg	19 50 45.3	-1.5
TWA	**Mucha**	**1.33**	**2**	eP		Pb	19 50 47.0	+0.4
SGLT	**Jiouru**	**1.33**	**227**	eP		Pb	19 50 48.5	+1.8
TIPB	**Shuangxi**	**1.35**	**11**	eP		Pb	19 50 47.4	+0.5
NCUH	**Zhongli**	**1.36**	**346**	eP		Pb	19 50 48.1	+1.0
TAW	**Tawu**	**1.41**	**205**	eP		Pg	19 50 47.7	-0.8
TWB1	**Santiao Chiao**	**1.42**	**16**	eP		Pg	19 50 49.9	+1.3
SNJT	**Kaohsiung City**	**1.42**	**232**	eP		Pg	19 50 50.0	+1.3
TSCK	**Chigu Township**	**1.43**	**250**	eP		Pg	19 50 49.1	+0.2
TSCK				eS		Sn	19 51 10.1	+3.4
TWS1	**Kuangyinshan**	**1.45**	**355**	eP		Pg	19 50 49.7	+0.4
SXI1	**Grass Mountain**	**1.47**	**12**	eP		Pg	19 50 49.7	0.0
YM01	**YM01**	**1.50**	**1**	eP		Pg	19 50 49.3	-0.8
ZUZH	**Zhuzihu**	**1.51**	**360**	eP		Pg	19 50 50.8	+0.4
SCZT	**Fangliau**	**1.53**	**214**	eP		Pg	19 50 50.5	-0.2
YM08	**YM08**	**1.54**	**2**	eP		Pg	19 50 50.4	-0.5
YOJ	**Yonaguni jima**	**1.57**	**58**	eP		Pn	19 50 49.9	+0.3
YOJ				S		Sg	19 51 11.5	-0.3
YOJ	**Yonaguni jima**	**1.57**	**58**	eP		Pn	19 50 49.4	-0.2
SMST	**Manzhou Townsh**	**1.74**	**202**	eS		Sb	19 51 15.1	-0.6
WDGT	**Dungji**	**1.77**	**258**	*i* P		Pn	19 50 51.1	-1.3
WDGT				*i* S		Sb	19 51 15.9	-0.7
PHUB	**P'eng-hu**	**1.81**	**266**	eP		Pb	19 50 54.6	-0.3
PHUB				S		Sg	19 51 18.2	-1.5
PNG	**Penghu**	**1.83**	**268**	eP		Pb	19 50 54.5	-0.6
PNG				eS		Sg	19 51 19.1	-1.0
IRIF	**Iriomote-Funau**	**2.11**	**71**	eP		Pn	19 50 56.9	-0.2
IRIF				eS		Sn	19 51 24.2	+0.7
JIJ	**Ishigaki jima**	**2.48**	**73**	eP		Pn	19 51 01.5	-0.6
JIJ				eS		Sn	19 51 32.4	-0.2
JISG	**Ishigakijimahi**	**2.70**	**69**	eP		Pn	19 51 04.3	-0.8
JISG				eS		Sn	19 51 37.1	-0.8
ZPLA	**Ao Xicun**	**3.49**	**275**	eP		Pn	19 51 16.4	+0.5
AXDP	**Jialang**	**3.49**	**292**	eP		Pn	19 51 15.7	-0.4
XPSS	**Dashiqiu**	**3.49**	**340**	eP		Pn	19 51 17.7	+1.6
XPSS				eS		Sn	19 51 59.2	+1.6

NEIC ***10*** *19:59:39.9±1.1, 43.76N±0.04×105.34W±0.08, h0km±1km, ML3.4/56, Error ellipse: s-maj=10.4km s-min=5.6km az=300.0*
IDC ***10*** *19:59:42.3±1.1, 43.99N×105.79W, h0km, mb3.7/4, mbtmp3.5/10, ML3.6/6, MS2.9/3, Error ellipse: s-maj=16.4km s-min=11.0km az=140.0*
ISC 10 19:59:40.8±0.8, 43.79N±0.05×105.31W±0.07, h0km, n46, σ0s57/42, mb3.8/4, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.97**	**70**		**Pb**	**20 00 00.1**	**-0.6**
K22A	**Casper**	**1.45**	**218**		**Pn**	**20 00 06.5**	**-1.9**
K22A				IAML		20 00 31.5	
	420nm,0.3s						
K22A				IAML		20 00 34.5	
	494nm,0.4s						
LAO	**LASA Array**	**2.97**	**348**		**Pn**	**20 00 29.0**	**-0.2**
LAO				IAML		20 01 20.6	
	172nm,0.8s						
LAO				IAML		20 01 21.4	
	162nm,0.8s						
RLMT	**Red Lodge**	**3.13**	**296**	Pn	**Pn**	**20 00 32.0**	**+0.4**
RLMT				IAML		20 01 26.7	
	77nm,0.7s						
PD31	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**20 00 33.9**	**+0.4**
PDAR	**Pinedale Array**	**3.27**	**253**	Pn	**Pn**	**20 00 34.0**	**+0.4**
	3.7nm,0.3s,baz=65,slow=15,SNR=70						
PDAR				Lg	Lg	20 01 17.4	
	3.0nm,0.3s,baz=88,slow=16,SNR=4.0 12nm,0.5s						
HAYD	**Hayden**	**3.58**	**205**		**Pn**	**20 00 38.7**	**+0.9**
YNE	**Yellowstone No**	**3.58**	**291**		**Pn**	**20 00 37.1**	**-0.8**
YNE				IAML		20 01 38.3	
	comp=N,103nm,1.6s						
YNE				IAML		20 01 40.8	
	comp=E,81nm,0.7s						
YMP	**Mirror Lake Pl**	**3.61**	**287**		**Pn**	**20 00 38.4**	**+0.1**
YMP				IAML		20 01 50.3	
	comp=N,117nm,0.7s						
OGNE	**Ogallala**	**3.74**	**138**		**Pn**	**20 00 39.8**	**0.0**
LOHW	**Long Hollow**	**3.85**	**269**		**Pn**	**20 00 42.1**	**+0.7**
SNOW	**Snow King Moun**	**3.97**	**267**		**Pn**	**20 00 43.5**	**+0.4**
SNOW				IAML		20 02 03.2	
	comp=N,63nm,0.9s						
SNOW				IAML		20 02 11.3	
	comp=N,55nm,0.8s						
ISCO	**Idaho Springs**	**4.00**	**183**		**Pn**	**20 00 43.5**	**-0.1**
ISCO				IAML		20 01 54.7	
	comp=N,39nm,0.8s						
YHH	**Holmes Hill**	**4.10**	**286**		**Pn**	**20 00 45.0**	**-0.1**
TPAW	**Teton Pass**	**4.11**	**268**		**Pn**	**20 00 45.8**	**+0.7**
TPAW				IAML		20 02 18.2	
	comp=N,48nm,0.7s						
FXWY	**Fox Creek**	**4.15**	**270**		**Pn**	**20 00 46.3**	**+0.7**
O20A	**White River Ci**	**4.26**	**212**		**Pn**	**20 00 47.5**	**+0.3**
E28A	**Huff**	**4.29**	**48**		**Pn**	**20 00 47.5**	**+0.2**
YHL	**Hebgen Lake**	**4.35**	**286**		**Pn**	**20 00 48.4**	**0.0**
YHL				IAML		20 02 11.3	
	comp=E,47nm,0.8s						
YHL				IAML		20 02 29.9	
	comp=N,41nm,0.9s						
SUSD	**Miller**	**4.62**	**80**		**Pn**	**20 00 51.8**	**-0.1**
BOZ	**Bozeman (W)**	**4.86**	**294**		**Pn**	**20 00 55.3**	**+0.1**
BOZ				IAML		20 02 16.8	
	comp=N,24nm,0.7s						
HWUT	**Hardware Ranch**	**5.10**	**247**		**Pn**	**20 00 58.6**	**0.0**
HWUT				IAML		20 02 36.5	
	comp=N,38nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.18**	**156**		**Pn**	**20 00 59.1**	**-0.7**
BSUT	**Blindstream Ca**	**5.20**	**233**		**Pn**	**20 01 00.4**	**+0.2**
BSUT				IAML		20 02 40.7	
	comp=N,20nm,0.7s						
BSUT				IAML		20 02 41.2	
	comp=E,23nm,0.8s						
TCUT	**Toone Canyon**	**5.25**	**241**		**Pn**	**20 01 01.2**	**+0.5**
EGMT	**Eagleton**	**5.25**	**325**		**Pn**	**20 01 00.9**	**+0.3**
DLMT	**Dillon**	**5.44**	**289**		**Pn**	**20 01 03.0**	**-0.2**
MCMT	**McKenzie Canyo**	**5.51**	**283**		**Pn**	**20 01 04.5**	**+0.1**
P18A	**Preston Nutter**	**5.56**	**223**		**Pn**	**20 01 05.4**	**+0.3**
PV22	**Blue Mesa, Par**	**5.87**	**208**		**Pn**	**20 01 09.5**	**+0.3**
SDCO	**Great Sand Dun**	**6.04**	**161**	Pn	**Pn**	**20 01 11.9**	**+0.3**
S22A	**4UR Ranch, Cre**	**6.15**	**191**		**Pn**	**20 01 13.4**	**+0.2**
ECSD	**EROS Data Cent**	**6.29**	**88**		**Pn**	**20 01 14.8**	**-0.1**
HLID	**Hailey**	**6.61**	**271**		**Pn**	**20 01 19.8**	**+0.5**
ELK	**Elko**	**7.97**	**251**	Pn	**Pn**	**20 01 37.0**	**-1.1**
	comp=E,0.1nm,0.3s,baz=49,slow=16,SNR=4.0						
ELK				Lg	Lg	20 03 44.2	
	comp=E,0.1nm,0.3s,baz=286,slow=15,SNR=1.3						
ELK				LR	LR	20 05 23.5	
	comp=E,28nm,21.1s,baz=64,slow=44 comp=E,0.9nm,0.6s						
NEW	**Newport**	**9.36**	**303**	Pn	Pn	20 01 52.1	-4.8
	comp=E,0.4nm,0.3s,baz=93,slow=4.8,SNR=2.8						
NEW				Lg	Lg	20 04 21.0	
	comp=E,0.1nm,0.3s,baz=184,slow=23,SNR=1.1 comp=E,1.1nm,0.4s						
I56US	**NEWPORT INFRAS**	**9.36**	**303**	I	I	20 57 20.0	
	baz=116,slow=311,SNR=14						
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn	**Pn**	**20 02 22.8**	**+0.9**
	comp=E,0.2nm,0.3s,baz=45,slow=9.4,SNR=5.6 comp=E,0.7nm,0.6s						
TXAR	**Lajitas Array**	**14.49**	**174**	Pn	**P**	**20 03 14.7**	**+0.5**
	baz=348,slow=12,SNR=5.2						
TXAR				Lg	Lg	20 07 20.8	
	baz=229,slow=31 comp=E,0.3nm,0.6s						
BBB	**Bella Bella**	**17.37**	**307**	LR	LR	20 11 00.8	
	comp=E,50nm,19.5s,baz=353,slow=40						

YKA	**Yellowknife Ar**	**19.51**	**347**	P		**P**	**20 04 09.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=162,slow=8.7,SNR=4.4 comp=E,0.4nm,0.7s							
ILAR	**Eielson Array**	**31.21**	**327**	P		**P**	**20 06 01.3**	**-0.2**
	comp=E,0.2nm,0.5s,baz=116,slow=8.3,SNR=1.7 comp=E,0.2nm,0.5s							
MJAR	**Matsushiro Arr**	**81.45**	**313**	LR		LR	20 49 07.3	
	comp=E,18nm,19.0s,baz=217,slow=37							
ZALV	**Zalesovo Beam**	**82.25**	**354**	P		**P**	**20 12 02.8**	**-0.9**
	comp=E,0.8nm,0.6s,baz=352,slow=5.2,SNR=5.1 comp=E,0.8nm,0.6s							
SONM	**Songino Array**	**84.58**	**339**	P		**P**	**20 12 16.6**	**+0.7**
	comp=E,0.3nm,0.6s,baz=50,slow=2.3,SNR=1.9 comp=E,0.3nm,0.6s							
MKAR	**Makanchi Array**	**89.55**	**355**	P		**P**	**20 12 40.0**	**+0.1**
	comp=E,0.5nm,0.7s,baz=16,slow=4.2,SNR=4.9 comp=E,0.5nm,0.7s							

ISK ***10*** *20:16:00.3, 38.90N×40.06E, h3km, ML3.5/22*
AFAD ***10*** *20:16:01.2, 38.88N×40.08E, h7km±3km, MW3.6*
IDC ***10*** *20:16:01.3±1.0, 39.10N×39.96E, h0km, mb3.4/1, mbtmp3.2/7, ML3.0/6, Error ellipse: s-maj=19.4km s-min=9.4km az=167.0*
ISC 10 20:16:02.0±0.7, 38.92N±0.03×40.08E±0.02, h10km, n41, σ1s40/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.30**	**224**	P	**Pg**	**20 16 07.2**	**-0.8**
KOVA				S	**Sg**	**20 16 11.8**	**-0.2**
KOVA				*i* IAML		20 16 12.0	
	comp=N,9μm,0.5s						
KOVA				*i* IAML		20 16 12.0	
	comp=E,2μm,0.4s						
TNCL	**Tunceli-Merkez**	**0.46**	**295**	P	**Pg**	**20 16 10.6**	**-0.4**
TNCL				S	**Sb**	**20 16 17.8**	**-1.5**
TNCL				*i* IAML		20 16 18.0	
	comp=N,1μm,0.6s						
TNCL				*i* IAML		20 16 18.0	
	comp=E,1μm,0.5s						
YEDI	**Yedisu-Bingol**	**0.63**	**35**	Pg	**Pg**	**20 16 13.8**	**-0.5**
YEDI				Sg	**Sb**	**20 16 23.5**	**-0.7**
SLHN	**Bingol, Solhan**	**0.74**	**87**	P	**Pg**	**20 16 15.2**	**-1.1**
SLHN				S	**Sb**	**20 16 27.1**	**-0.1**
SLHN				*i* IAML		20 16 28.0	
	comp=E,3μm,0.4s						
SLHN				*i* IAML		20 16 33.0	
	comp=N,3μm,0.9s						
KARO	**Karliova-Bingo**	**0.85**	**62**	Pg	**Pg**	**20 16 17.4**	**-1.0**
KARO				Sg	**Sb**	**20 16 30.0**	**-0.5**
ELZG	**Elazig**	**0.95**	**244**	P	**Pg**	**20 16 18.4**	**-2.0**
ELZG				*i* IAML		20 16 38.0	
	comp=N,907nm,0.7s						
ELZG				*i* IAML		20 16 38.0	
	comp=E,1μm,0.6s						
MUSM	**Mu-Merkez**	**1.14**	**99**	P	**Pb**	**20 16 21.9**	**-1.8**
MUSM				S	**Sg**	**20 16 38.1**	**-0.5**
MUSM				*i* IAML		20 16 41.0	
	comp=N,326nm,0.8s						
MUSM				*i* IAML		20 16 46.0	
	comp=E,196nm,0.4s						
KOPT	**Kop Dagi**	**1.14**	**16**	P	**Pn**	**20 16 24.1**	**-0.2**
KOPT				*i* IAML		20 16 51.0	
	comp=E,374nm,0.8s						
KOPT				*i* IAML		20 16 55.0	
	comp=N,419nm,0.6s						
SVAN	**Silvan-Diyarba**	**1.17**	**131**	Pn	**Pb**	**20 16 23.4**	**-0.8**
SVAN				Sn	**Sg**	**20 16 39.5**	**0.0**
SVAN	**Silvan-Diyarba**	**1.17**	**131**	P	**Pb**	**20 16 23.1**	**-1.1**
SVAN				S	**Sb**	**20 16 39.0**	**-0.4**
SVAN				*i* IAML		20 16 43.0	
	comp=N,555nm,0.6s						
SVAN				*i* IAML		20 16 46.0	
	comp=E,528nm,0.9s						
ILIC	**ilic-Erzincan**	**1.29**	**295**	Pn	**Pn**	**20 16 25.1**	**-1.1**
ILIC				Sn	**Sn**	**20 16 43.6**	**0.0**
ARPR	**Arapgir-MALATY**	**1.37**	**278**	Pn	**Pn**	**20 16 26.3**	**-1.0**
ARPR				Sn	**Sg**	**20 16 46.2**	**+0.1**
BTMN	**Batman**	**1.39**	**137**	P	**Pn**	**20 16 27.0**	**-0.5**
BTMN				S	**Sg**	**20 16 46.7**	**0.0**
BTMN				*i* IAML		20 16 47.0	
	comp=E,1μm,0.6s						
BTMN				*i* IAML		20 16 50.0	
	comp=N,2μm,0.4s						
ERZM	**Erzurum**	**1.40**	**45**	P	**Pg**	**20 16 28.7**	**-0.2**
ERZM				S	**Sg**	**20 16 49.8**	**+2.6**
BAYT	**Aydıntepe-Bayb**	**1.47**	**2**	Pn	**Pb**	**20 16 29.2**	**-0.4**
BAYT				Sn	**Sg**	**20 16 49.6**	**+0.2**
GURO	**Guroymak-BITLI**	**1.57**	**103**	Pn	**Pn**	**20 16 30.2**	**+0.1**
GURO				Sn	**Sg**	**20 16 52.1**	**-0.4**
BLIS	**Bitlis-Merkez**	**1.67**	**107**	P	**Pb**	**20 16 32.0**	**-1.0**
BLIS				S	**Sg**	**20 16 55.9**	**+0.1**
BLIS				*i* IAML		20 17 00.0	
	comp=E,451nm,0.6s						
SRTM	**Siirt_Merkez**	**1.72**	**122**	P	**Pn**	**20 16 32.3**	**+0.2**
SRTM				S	**Sg**	**20 16 56.4**	**-0.9**
SRTM				*i* IAML		20 17 07.0	
	comp=E,571nm,0.6s						
SRTM				*i* IAML		20 17 08.0	
	comp=N,614nm,0.6s						
KOPR	**Koprukoy-ERZUR**	**1.74**	**52**	Pn	**Pb**	**20 16 33.1**	**-1.1**
MLAZ	**Malazgirt-MUS**	**1.94**	**83**	Pn	**Pn**	**20 16 35.7**	**+0.6**
CHOM	**Cayeli-Rize**	**2.24**	**13**	Pn	**Pn**	**20 16 39.9**	**+0.8**
AKDM	**Akdamar-Van**	**2.35**	**104**	Pn	**Pn**	**20 16 41.4**	**+0.6**
AGRB	**Hanur-Agry**	**2.35**	**73**	Pn	**Pn**	**20 16 41.5**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.40**	**46**	Pn	**Pn**	**20 16 42.2**	**+0.7**
RSDY	**Resadiye-TOKAT**	**2.59**	**306**	Pn	**Pn**	**20 16 44.4**	**+0.5**
SVSK	**Karacayir**	**2.59**	**294**	Pn	**Pn**	**20 16 44.5**	**+0.7**
BCA	**Borcka**	**2.79**	**25**	Pn	**Pn**	**20 16 47.7**	**+1.0**
GAZ	**Gaziantep**	**2.86**	**233**	Pn	**Pn**	**20 16 47.9**	**+0.2**
CLDR	**Caldiran**	**3.00**	**85**	Pn	**Pn**	**20 16 50.8**	**+1.0**
TOKT	**Tokat**	**3.07**	**298**	Pn	**Pn**	**20 16 51.2**	**+0.7**
CUKT	**Cukurca**	**3.25**	**120**	Pn	**Pn**	**20 16 53.9**	**+0.8**
BNN	**Bunyan**	**3.30**	**270**	Pn	**Pn**	**20 16 54.5**	**+0.6**
GNI	**Garni**	**3.81**	**70**	Pn	**Pn**	**20 17 02.2**	**+1.4**
GNI	**Garni**	**3.81**	**70**	Pn	**Pn**	**20 17 04.4**	**+3.6**
	2.0nm,0.3s,baz=270,slow=6.1,SNR=10.0						
GNI				Pg	**Pg**	**20 17 12.0**	**-2.9**
	2.2nm,0.3s,baz=278,slow=8.2,SNR=5.9						
GNI				Lg	Lg	20 18 04.3	
	0.5nm,0.3s,baz=296,slow=23,SNR=1.4 5.1nm,0.6s						
BRTR	**Keskin Array B**	**5.06**	**281**	Pn	**Pn**	**20 17 18.6**	**+0.6**
	0.5nm,0.3s,baz=98,slow=13,SNR=21						
BRTR				Lg	Lg	20 18 39.1	
	baz=101,slow=24 3.4nm,0.6s						
KBZ	**Khabaz**	**5.25**	**23**	Pn	**Pn**	**20 17 20.9**	**+0.4**
	0.1nm,0.3s,baz=216,slow=8.7,SNR=1.4 0.7nm,0.5s						
KVAR	**Kislovodsk Arr**	**5.40**	**20**	Pn	**Pn**	**20 17 22.9**	**+0.2**
	baz=192,slow=19 1.8nm,0.7s						
MMAI	**Mount Meron Ar**	**7.00**	**214**	Pn	**Pn**	**20 17 45.8**	**+1.2**
	1.2nm,0.3s,baz=58,slow=12,SNR=8.2						
MMAI				Lg	Lg	20 19 40.8	
	0.7nm,0.3s,baz=40,slow=47,SNR=1.7 0.9nm,0.5s						
ASF	**Jabal al Asfar**	**7.21**	**202**	Pn	**Pn**	**20 17 49.0**	**+1.5**
	0.6nm,0.3s,baz=0.0,slow=2.0,SNR=6.5						
ASF				Sn	**Sn**	**20 19 16.4**	**+6.8**
	0.2nm,0.3s,baz=61,slow=22,SNR=1.2						
ASF				Lg	Lg	20 19 46.2	
	0.6nm,0.3s,baz=169,slow=6.2,SNR=5.4 0.9nm,0.3s						
EIL	**Elat**	**10.15**	**206**	Lg	Lg	20 21 25.0	
	0.1nm,0.3s,baz=326,slow=21,SNR=2.3						
FINES	**FINESS Array B**	**24.16**	**343**	P	**P**	**20 21 18.4**	**+0.4**
	1.0nm,0.8s,baz=146,slow=13,SNR=4.1 1.0nm,0.8s						

IDC ***10*** *20:22:40.5±1.1, 33.35N×139.43E, h0km, mb3.5/3, mbtmp3.5/5, ML2.9/2, Error ellipse: s-maj=40.4km s-min=11.6km az=36.0*
JMA ***10*** *20:22:43.4±0.1, 33.5N±0.3×139.9E, h33km±2km, MV3.0/23, NEAR HACHIJOJIMA ISLAND*
ISC 10 20:22:43.9±1.1, 33.50N±0.04×139.41E±0.07, h27km±10km, n18, σ1s00/21, mb3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMKN	**Mikurajimanish**	**0.42**	**20**	P	**Pb**	**20 22 52.8**	**-0.1**
JMKN				S	**Sb**	**20 22 59.7**	**+0.7**

JHJ	**Hachijo jima 2**	**0.49**	**140**	Pn		**Pb**	**20 22 53.9**	**-0.1**
	373nm,0.3s,baz=69,slow=8.6,SNR=57							
JHJ				Sn		**Sn**	**20 23 02.1**	**-0.6**
	197nm,0.3s,baz=60,slow=22,SNR=6.0							
JHJ2	**Mitsune**	**0.51**	**139**	*i* P		**Pb**	**20 22 53.9**	**-0.5**
JHCJ	**Hachijojimakas**	**0.53**	**143**	P		**Pb**	**20 22 54.1**	**-0.6**
JHCJ				S		**Sb**	**20 23 01.6**	**-0.4**
JKO	**Kozu shima**	**0.73**	**342**	S		**Sn**	**20 23 07.3**	**-1.4**
JIM2	**Oshima 3**	**1.22**	**1**	eP		**Pn**	**20 23 05.3**	**0.0**
JIZS	**Izushimoda**	**1.30**	**340**	P		**Pn**	**20 23 06.1**	**-0.1**
JIZS				S		**Sb**	**20 23 24.0**	**+0.1**
TK02	**Tokai 2**	**1.45**	**288**	P		**Pn**	**20 23 07.2**	**-0.9**
KTJ3	**Kamata3**	**1.46**	**349**	P		**Pb**	**20 23 09.0**	**-1.4**
KTJ3				S		**Sb**	**20 23 28.1**	**-0.5**
BSO3	**Boso 3**	**1.59**	**35**	P		**Pn**	**20 23 10.6**	**+0.6**
MJAR	**Matsushiro Arr**	**3.20**	**342**	Pn		**Pn**	**20 23 33.2**	**+0.8**
	0.1nm,0.3s,baz=161,slow=12,SNR=24							
MJAR				Sn		**Sb**	**20 24 19.0**	**+0.6**
	0.1nm,0.3s,baz=144,slow=27,SNR=5.0 4.9nm,0.7s							
JNU	**Nakatsue**	**7.16**	**269**	Pn		**Pn**	**20 24 28.6**	**+1.8**
	0.5nm,0.3s,baz=107,slow=7.1,SNR=5.3 5.9nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.03**	**112**	T		T	20 57 39.2	
	baz=305,slow=75,SNR=6.6							
H11N1	**WAKE ISLAND Hy**	**28.04**	**112**	T		T	20 57 41.3	
	baz=305,slow=75,SNR=3.1							
H11N3	**WAKE ISLAND Hy**	**28.05**	**112**	T		T	20 57 41.3	
	baz=305,slow=75,SNR=5.3							
SONM	**Songino Array**	**28.60**	**310**	P		**P**	**20 28 39.7**	**+1.8**
	0.7nm,1.0s,baz=120,slow=10,SNR=3.2 0.7nm,1.0s							
MKAR	**Makanchi Array**	**44.70**	**305**	P		**P**	**20 30 55.1**	**+0.6**
	0.4nm,0.7s,baz=88,slow=8.5,SNR=3.7 0.4nm,0.7s							
WRA	**Warramunga Arr**	**53.36**	**186**	P		**P**	**20 31 59.5**	**-1.5**
	0.3nm,0.6s,baz=1.4,slow=7.3,SNR=1.6 0.3nm,0.6s							

MOS ***10*** *21:11:07.7±0.9, 0.67S×99.42E, h40km, mb5.8/109, Error ellipse: s-maj=7.0km s-min=3.5km az=118.5*
BJI ***10*** *21:11:08.0, 0.80S×99.40E, h40km, mB5.5/36, mb5.2/77, Ms4.9/63, Ms7 4.8/61*
NEIC ***10*** *21:11:09.7±1.6, 0.74S±0.07×99.39E±0.07, h37km±3km, mb5.6/183, Mww5.2/15, Error ellipse: s-maj=10.9km s-min=8.8km az=49.0*
DJA ***10*** *21:11:10.0±0.2, 1.1S±9.9E±, h43km±2km, M5.2/109, mb5.3/109, mB5.7/45, MLv5.6/24, Mw(mB)5.2/45, MwMwp5.0/13, Mwp5.2/13*
GCMT ***10*** *21:11:11.7±0.1, 0.87S±0.01×99.20E±0.01, h40km, MW5.2/105, Moment Tensor Solution. s103,c164; s105,c169; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr0.84±.02; Mθθ-0.38±.01; Mφφ-0.46±.01; Mrθ0.14±.01; Mθφ0.44±.01; Mφr-0.15±.01; Best double couple: M0 0.87600×10^17 NP1:φs318.00000°, δ38.00000°, λ91.00000°. NP2:φs137.00000°, δ52.00000°, λ90.00000°. Principal axes: T 0.8630, Plg83.0000°, Azm44.0000°; N 0.0250, Plg0.0000°, Azm138.0000°; P -0.8890, Plg7.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***10*** *21:11:11.8±1.1, 0.67S×99.47E, h60km±9km, mb4.9/37, mbtmp5.2/40, MS4.4/51 Error ellipse: s-maj=11.6km s-min=8.2km az=69.0*
NEIC ***10*** *21:11:11, 0.76S×99.36E, h40km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16Nm; Mrr9.07; Mθθ-5.01; Mφφ-4.06; Mrθ0.85; Mθφ3.32; Mφr-0.64; Fault plane solution: M0 8.61000×10^16 NP1: φs311.31000°, δ41.43000°, λ90.64000°. NP2: φs130.46000°, δ48.57000°, λ89.43000°. Principal axes: T 9.1408, Plg86.0000°, Azm34.0000°; N -1.1878, Plg0.0000°, Azm131.0000°; P -7.9530, Plg4.0000°, Azm221.0000°;*
NEIC ***10*** *21:11:11, 0.76S×99.36E, h40km*
BGR ***10*** *21:11:15.0, 0.75S×98.16E, h48km, mb5.7, mB_BB6.0, Ms4.3*
BKK ***10*** *21:11:22.2±3.2, 0.7N±28.×10.0E±1.6, h10km, M5.5/13, mB5.8/7, mb5.7/10, Mjma5.3/13, ML5.7/6, MLv5.6/6, Mw(mB)5.3/7, MwMwp3.8/2, Mwp4.3/2*
ISC 10 21:11:09.4±0.2, 0.77S±0.03×99.36E±0.03, h43km±1km, h43km:pP-P, n1405, σ1s22/1478, mb5.5/325, MS4.5/80, 127C-27D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.61**	**206**	P	**Pn**	**21 11 21.0**	**-0.8**
SISI				S	**Sn**	**21 11 29.0**	**-1.6**
PPI	**Padang Panjang**	**1.08**	**73**	P	**Pn**	**21 11 30.1**	**+2.0**
PDSI	**Padang**	**1.11**	**97**	P	**Pn**	**21 11 29.9**	**+1.4**
PDSI				S	**Sn**	**21 11 44.5**	**+1.9**
PBSI	**Pulau Batu**	**1.30**	**303**	P	**Pn**	**21 11 30.5**	**-0.5**
MNSI	**Mandailing Nat**	**1.57**	**8**	P	**Pn**	**21 11 36.7**	**+1.9**
BKNI	**Bangkinang**	**2.00**	**57**	P	**Pn**	**21 11 43.3**	**+2.6**
PPSI	**

SBUM	**Sibu**	13.25	76			**Pn**		**21 14 15.9 +1.0**
SBUM	**Sibu**	13.25	76	P		**Pn**		**21 14 17.4 +2.4**
WOJI	**Wonogiri, Jawa**	13.49	122	P		**Pn**		**21 14 18.0 -0.3**
	98nm,1.6s							
NGJI	**Ngawi**	13.72	119	P		**Pn**		**21 14 22.5 +1.0**
	173nm,1.3s							
PCJI	**Pacitan**	13.89	122	P		**Pn**		**21 14 21.1 -2.6**
	93nm,1.1s							
PBA	**Port Blair**	13.99	332	Pn		**Pn**		**21 14 25.7 +0.6**
PBA	**Port Blair**	13.99	332	P		**P**		**21 14 31.4 -0.7**
GRJI	**Gresik**	14.43	115	P		**Pn**		**21 14 31.9 +0.8**
	150nm,0.9s							
KHLT	**Khaolaem Dam**	15.49	357	P		**P**		**21 14 48.3 -0.5**
DLV	**Lat**	15.55	35			**Pn**		**21 14 46.8 +0.9**
DLV				IAmb		IAmb		21 14 52.0
	comp=Z,550nm,1.6s							
KMMI	**Kalianget**	15.84	114	P		**Pn**		**21 14 49.7 +0.2**
	comp=Z,95nm,1.0s							
GMJI	**Gumukmas**	15.88	118	P		**Pn**		**21 14 49.5 -0.6**
JAGI	**Jajag, Banyuwa**	16.60	118	P		**Pn**		**21 14 57.6 -1.5**
	comp=Z,47nm,0.7s							
SRBI	**Singaraja**	17.38	115	P		**P**		**21 15 09.7 -0.1**
	comp=Z,101nm,1.4s							
BKB	**Balikpapan**	17.54	92	P		**P**		**21 15 12.4 +0.9**
	comp=Z,3μmcomp=Z,5μmcomp=Z,252nm,1.2s							
SMKI	**Samarinda**	17.85	89	P		**P**		**21 15 15.7 +0.7**
	comp=Z,3μmcomp=Z,4μmcomp=Z,166nm,1.1s							
KKM	**Kota Kinabalu**	18.14	68	P		**Pn**		**21 15 19.5 +1.2**
KKM	**Kota Kinabalu**	18.14	68	P		**Pn**		**21 15 19.5 +1.2**
CM31	**Chiang Mai Arr**	19.11	359	P		**Pn**		**21 15 29.6 -0.4**
CMAR	**Chiang Mai Arr**	19.11	359	P		**P**		**21 15 28.5 -0.3**
CMAR	**Chiang Mai Arr**	19.11	359	P		**P**		**21 15 28.7 -0.1**
	comp=Z,22nm,0.9s,baz=179,slow=9.6,SNR=66							
CMAR				S		**Sn**		**21 18 57.8 -5.6**
	comp=Z,1.8nm,0.9s,baz=169,slow=14,SNR=1.4							
CMAR				PcP		**PcP**		**21 19 52.3 +0.2**
	comp=Z,11nm,0.9s,baz=180,slow=1.5,SNR=10							
CMAR				ScP		**ScP**		**21 23 23.7 -1.0**
	comp=Z,2.2nm,0.8s,baz=162,slow=2.0,SNR=4.6							
CMAR				LR		LR		21 23 28.7
	comp=Z,3μm,18.8s,baz=180,slow=39							
CHTO	**Chiang Mai**	19.47	359	P		**Pn**		**21 15 33.4 -0.8**
CHTO	**Chiang Mai**	19.47	359	P		**Pn**		**21 15 34.2 0.0**
CHTO				S		**Sn**		**21 19 12.3 +0.4**
CHTO	**Chiang Mai**	19.47	359	P		**Pn**		**21 15 34.0 -0.2**
CHTO	**Chiang Mai**	19.47	359	P		**Pn**		**21 15 33.4 -0.8**
CHTO				pmax		pmax		
	comp=Z,55nm,1.2s							
PLAI	**Plampang**	20.00	114	P		**P**		**21 15 36.1 -2.5**
	comp=Z,52nm,0.8s							
MYLDM	**Lahad Datu**	20.01	73			Pn		21 15 41.4 +0.7
MYLDM				IAmb		IAmb		21 15 55.2
	comp=Z,483nm,1.1s							
MYLDM	**Lahad Datu**	20.01	73	P		**P**		**21 15 39.3 +0.7**
PALK	**Pallekele**	20.26	294	P		Pn		21 15 43.2 -0.5
PALK	**Pallekele**	20.26	294	P		Pn		21 15 43.6 -0.1
	comp=Z,135nm,0.9s,baz=112,slow=11,SNR=45							
PALK				S		S		21 19 15.1 -11
	comp=Z,27nm,0.6s,baz=195,slow=12,SNR=10							
PALK				LR		LR		21 22 23.5
	comp=Z,2μm,21.6s,baz=113,slow=33							
	comp=Z,135nm,0.9s							
PALK	**Pallekele**	20.26	294	P		Pn		21 15 44.3 +0.6
PALK				S		**S**		**21 19 26.9 +0.3**
PALK	**Pallekele**	20.26	294	P		Pn		21 15 43.2 -0.5
PALK				pmax		pmax		
	comp=Z,145nm,0.9s							
PCI	**Palu**	20.47	91	P		Pn		21 15 45.5 -0.6
	comp=Z,4μmcomp=Z,242nm,1.4s							
MPSI	**Mapaga**	20.56	87	P		Pn		21 15 47.1 -0.1
	comp=Z,2μmcomp=Z,170nm,1.3s							
SPSI	**Sidrap Palu**	20.63	99	P		**P**		**21 15 46.4 +1.0**
	comp=Z,1μmcomp=Z,107nm,1.5s							
KAPI	**Kappang**	20.79	102	P		**P**		**21 15 47.8 +0.7**
KAPI				IAmb		IAmb		21 15 57.6
	comp=Z,238nm,1.3s							
KAPI	**Kappang**	20.79	102	P		Pn		21 15 48.5 -1.3
	comp=Z,38nm,0.6s,baz=279,slow=5.9,SNR=31							
KAPI				S		S		21 19 25.4 -12
	comp=Z,5.6nm,0.9s,baz=248,slow=19,SNR=1.5							
KAPI				LR		LR		21 24 32.2
	comp=Z,1μm,19.7s,baz=281,slow=39							
	comp=Z,38nm,0.6s							
KAPI	**Kappang**	20.79	102	P		Pn		21 15 49.4 -0.5
KAPI				S		**S**		**21 19 33.1 -3.9**
KAPI	**Kappang**	20.79	102	P		**P**		**21 15 48.5 +1.4**
KAPI	**Kappang**	20.79	102	*ce*		**P**		**21 15 47.8 +0.7**
KAPI				pmax		pmax		
	comp=Z,225nm,1.3s							
BNSI	**Bone**	21.03	100	P		**P**		**21 15 51.9 +2.2**
	comp=Z,4μmcomp=Z,395nm,1.2s							
BKSI	**Bulukumba**	21.21	103	P		**P**		**21 15 53.1 +1.4**
	comp=Z,2μmcomp=Z,213nm,1.2s							
BSSI	**Bau, Buton**	21.75	105	P		**P**		**21 15 57.8 +0.4**
	comp=Z,2μmcomp=Z,106nm,1.4s							
WBSI	**Waikabubak, Su**	21.79	115	P		**P**		**21 15 53.4 -4.5**
	comp=Z,73nm,0.9s							
QIZ	**Qiongzhong**	22.21	27	P		**P**		**21 16 04.2 +1.9**
QIZ				sP		**sP**		**21 16 15.9 -2.4**
QIZ				S		**S**		**21 20 07.9 +3.5**
QIZ				pmax		pmax		
	comp=Z,110nm,1.0s							
QIZ				LR		LR		
	comp=Z,1μm,14.2s							
QIZ				LR		LR		
	comp=Z,4μm,13.6s							
APSI	**Ampana**	22.28	91	P		**P**		**21 16 05.2 +2.0**
	comp=Z,3μmcomp=Z,224nm,1.2s							
SLVN	**Son La**	22.42	11	P		**P**		**21 16 04.9 +0.3**
SLVN	**Son La**	22.42	11	P		**P**		**21 16 05.8 +1.2**
MRSI	**Marisa**	22.61	87	P		**P**		**21 16 07.7 +1.0**
	comp=Z,3μmcomp=Z,247nm,0.8s							
WSI	**Waingapu**	22.62	114	P		**P**		**21 16 04.7 -2.1**
	comp=Z,154nm,1.4s							
LUWI	**Luwuk**	23.41	91	P		**P**		**21 16 15.7 +0.9**
EDFI	**Ende, Flores**	23.60	110	P		**P**		**21 16 12.9 -3.8**
BBSI	**Bau Bau**	23.63	102	P		**P**		**21 16 18.1 +1.2**
	comp=Z,3μmcomp=Z,218nm,1.1s							
MMRI	**Maumere**	24.08	110	P		**P**		**21 16 18.0 -3.1**
	comp=Z,50nm,1.2s							
BRDH	**Bariadhala**	24.49	343	LR		LR		21 28 10.7
	comp=Z,1μm,20.1s,baz=164,slow=42							
TNCH	**TengChong**	25.66	358	P		**P**		**21 16 36.6 +1.1**
TNCH				pP		pP		21 16 46.9 +0.1
TNCH				PP		**PnPn**		**21 17 20.5 +7.1**
TNCH				S		**S**		**21 21 01.0 -0.3**
TNCH				SS		**SnSn**		**21 22 09.4 +11**
TNCH				pmax		pmax		
	comp=Z,88nm,1.0s							
TNCH				pmax		pmax		
	comp=Z,610nm,5.0s							
TNCH				LR		LR		
	comp=Z,2μm,14.0s							
TNCH				LR		LR		
	comp=Z,770nm,15.8s							
TNCH				LR		LR		
	comp=Z,3μm,17.5s							
KMI	**Kunming**	25.95	7	⇑P		**P**		**21 16 39.8 +1.6**
KMI				pP		pP		21 16 49.3 -0.1
KMI				sP		sP		21 16 53.2 -1.3
KMI				S		**S**		**21 21 08.0 +2.1**
KMI				pmax		pmax		
	comp=Z,65nm,1.0s							
KMI				LR		LR		
	comp=Z,1μm,19.8s							
KMI				LR		LR		
	comp=Z,640nm,16.7s							
KMI				LR		LR		
	comp=Z,1μm,11.7s							
TGY	**Tagaytay City**	25.98	55	LR		LR		21 27 07.5
	comp=Z,2μm,20.8s,baz=264,slow=37							
GIRL	**Giralia**	26.11	147	P		**P**		**21 16 41.8 +2.4**
	comp=Z,48nm,2.2s							
SOEI	**Soe**	26.33	111	P		**P**		**21 16 39.2 -2.5**
	comp=Z,67nm,0.8s							
SGSI	**Sangihe**	26.52	80	P		**P**		**21 16 45.4 +2.1**
SANI	**Sanana**	26.65	93	P		**P**		**21 16 44.6 +0.2**
	comp=Z,24nm,1.0s							
SHL	**Shillong**	27.17	345	P		**P**		**21 16 48.9 -0.2**
SHL	**Shillong**	27.17	345	P		**P**		**21 16 49.7 +0.6**
	SNR=33							
SHL	**Shillong**	27.17	345	P		**P**		**21 16 48.9 -0.2**
SHL				pmax		pmax		
	comp=Z,232nm,0.9s							
PZH	**PanZhiHua**	27.21	5	P		**P**		**21 16 50.6 +1.1**
PZH				S		**S**		**21 21 28.3 +2.6**
PZH				pmax		pmax		
	comp=Z,20nm,1.3s							
PZH				pmax		pmax		
	comp=Z,270nm,5.0s							
PZH				LR		LR		
	comp=Z,1μm,21.4s							
PZH				LR		LR		
	comp=Z,850nm,18.8s							
PZH				LR		LR		
	comp=Z,1μm,22.4s							
HYB	**Hyderabad**	27.33	312	*e*P		**P**		**21 16 50.9 +0.4**
HYB				*es*P		**sP**		**21 17 06.2 -0.5**
HYB				*e*S		**S**		**21 21 29.1 +1.6**
H08S2	**Diego Garcia H**	27.64	255	T		T		21 45 01.3
	baz=76,slow=75,SNR=206							
H08S3	**Diego Garcia H**	27.64	255	T		T		21 44 50.4
	baz=76,slow=75,SNR=5361							
H08S1	**Diego Garcia H**	27.66	255	T		T		21 45 01.8
	baz=76,slow=75,SNR=499							
NLAI	**Namlea**	27.82	95	P		**P**		**21 16 56.5 +1.5**
	comp=Z,67nm,0.9s							
GYA	**Guiyang**	27.97	14	⇓P		**P**		**21 16 57.1 +0.9**
GYA				S		**S**		**21 21 38.3 +0.7**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,450nm,4.6s							
GYA				LR		LR		
	comp=Z,2μm,17.9s							
GYA				LR		LR		
	comp=Z,1μm,13.8s							
GYA				LR		LR		
	comp=Z,2μm,22.2s							
GULI	**GuiLin**	28.01	22	*e*P		P		21 17 02.5 +6.0
GULI				pmax		pmax		
	comp=Z,12nm,1.2s							
GULI				pmax		pmax		
	comp=Z,840nm,4.3s							
GULI				LR		LR		
	comp=Z,1μm,20.6s							
GULI				LR		LR		
	comp=Z,1μm,18.4s							
GULI				LR		LR		
	comp=Z,2μm,18.4s							
MBWA	**Marble Bar**	28.39	137	P		**P**		**21 16 59.8 0.0**
MBWA	**Marble Bar**	28.39	137	P		**P**		**21 17 00.8 +1.0**
	comp=Z,27nm,2.8s							
MBWA	**Marble Bar**	28.39	137	P		**P**		**21 17 00.8 +1.0**
AAI	**Ambon**	28.95	96	P		**P**		**21 17 05.2 +0.2**
	comp=Z,49nm,0.9s							
MSAI	**Masohi**	29.65	95	P		**P**		**21 17 11.7 +0.5**
	comp=Z,54nm,0.9s							
FITZ	**Fitzroy Crossi**	31.03	125	P		**P**		**21 17 22.3 -1.0**
FITZ	**Fitzroy Crossi**	31.03	125	P		**P**		**21 17 22.3 -1.0**
	comp=Z,6.2nm,1.1s							
FITZ	**Fitzroy Crossi**	31.03	125	LR		LR		21 30 10.0
	comp=Z,713nm,21.7s,baz=308,slow=37							
FITZ	**Fitzroy Crossi**	31.03	125	P		**P**		**21 17 22.5 -0.8**
LSA	**Lhasa**	31.30	346	P		**P**		**21 17 26.8 +0.7**
LSA				pmax		pmax		
	comp=Z,79nm,1.0s							
MEEK	**Meekatharra**	31.69	146	P		**P**		**21 17 30.4 +1.4**
	comp=Z,53nm,1.2s							
MEEK	**Meekatharra**	31.69	146	P		**P**		**21 17 29.6 +0.5**
CD2	**Chengdu**	31.79	7	P		**P**		**21 17 30.0 +0.2**
CD2				pmax		pmax		
	comp=Z,30nm,0.4s							
CD2				LR		LR		
	comp=Z,3μm,14.0s							
CD2				LR		LR		
	comp=Z,2μm,10.8s							
CD2				LR		LR		
	comp=Z,2μm,13.3s							
SWI	**Sorong**	31.89	90	P		**P**		**21 17 31.2 +0.2**
	comp=Z,71nm,1.0s							
YULB	**Yu-li**	32.12	40	P		**P**		**21 17 34.1 +1.2**
YULB	**Yu-li**	32.12	40	P		**P**		**21 17 33.9 +1.0**
SSLB	**Suanglung**	32.19	39	P		**P**		**21 17 33.8 +0.4**
SSLB				IAmb		IAmb		21 17 54.4
	comp=Z,107nm,1.1s							
MORW	**Morawa**	32.33	152	P		**P**		**21 17 35.2 +0.6**
MORW				IAmb		IAmb		21 17 51.3
	comp=Z,131nm,1.9s							
MORW	**Morawa**	32.33	152	P		**P**		**21 17 36.5 +1.9**
	comp=Z,35nm,1.9s							
KNRA	**Kununurra**	32.57	119	P		**P**		**21 17 34.5 -2.4**
KNRA						**PcP**		**21 20 23.3 +0.5**
KNRA	**Kununurra**	32.57	119	P		**P**		**21 17 34.2 -2.6**
NACB	**Ninganchiao**	32.87	40	P		**P**		**21 17 40.3 +0.9**
FAKI	**Fak Fak**	32.94	94	P		**P**		**21 17 40.1 -0.1**
	comp=Z,1μmcomp=Z,98nm,1.4s							
TATO	**Taipei**	33.38	38	P		**P**		**21 17 46.2 +2.4**
MTN	**Manton Dam**	33.69	112	P		**P**		**21 17 44.5 -2.2**
BLDU	**Ballidu**	33.94	153	P		**P**		**21 17 50.5 +1.8**
	comp=Z,22nm,1.8s							
BLDU	**Ballidu**	33.94	153	P		**P**		**21 17 49.4 +0.7**
WHN	**Wuhan**	34.26	23	P		**P**		**21 17 51.0 -0.4**
WHN				pmax		pmax		
	comp=Z,54nm,0.8s							
RKPI	**Ransiki, Papua**	34.81	92	P		**P**		**21 17 56.9 +0.4**
	comp=Z,120nm,1.1s							
MUN	**Mundaring**	34.88	154	P		**P**		**21 17 58.6 +1.9**
	comp=Z,45nm,1.4s							
MUN	**Mundaring**	34.88	154	P		**P**		**21 17 58.5 +1.7**
KLBR	**Kellerberrin**	35.24	152	P		**P**		**21 18 01.7 +1.8**
	comp=Z,42nm,1.0s							
XAN	**Xi'an**	35.77	14	⇓P		**P**		**21 18 04.4 -0.1**
XAN				pP		pP		21 18 12.4 -3.7
XAN				S		**S**		**21 23 34.4 -4.5**
XAN				pmax		pmax		
	comp=Z,66nm,1.0s							
XAN				pmax		pmax		
	comp=Z,350nm,11.0s							
XAN				LR		LR		
	comp=Z,3μm,15.1s							
XAN				LR		LR		
	comp=Z,1μm,18.2s							
XAN				LR		LR		
	comp=Z,4μm,16.5s							
NWAO	**Narrogin (SRO)**	36.13	154	P		**P**		**21 18 08.1 +0.5**
NWAO				IAmb		IAmb		21 18 10.5
	comp=Z,51nm,1.1s							
NWAO	**Narrogin (SRO)**	36.13	154	P		**P**		**21 18 09.1 +1.5**
	comp=Z,69nm,1.5s							
NWAO	**Narrogin (SRO)**	36.13	154	LR		LR		21 31 35.8
	comp=Z,815nm,21.1s,baz=296,slow=34							
NWAO	**Narrogin (SRO)**	36.13	154	P		**P**		**21 18 09.6 +2.1**
NWAO	**Narrogin (SRO)**	36.13	154	P		**P**		**21 18 08.8 +1.3**
NWAO	**Narrogin (SRO)**	36.13	154	P		**P**		**21 18 08.1 +0.5**
NWAO				pmax		pmax		
	comp=Z,51nm,1.2s							
H01W3	**Cape Leeuwin H**	36.63	159	T		T		21 56 14.3
	baz=335,slow=76,SNR=40							
H01W2	**Cape Leeuwin H**	36.64	159	T		T		21 56 15.7
	baz=335,slow=76,SNR=45							
H01W1	**Cape Leeuwin H**	36.65	159	T		T		21 56 10.9
	baz=335,slow=76,SNR=35							
BAKI	**Biak**	36.74	91	P		**P**		**21 18 13.3 +0.3**
	comp=Z,39nm,0.8s							
LZH	**Lanzhou**	36.91	6	*e*P		**P**		**21 18 15.2 +0.9**
LZH				pP		sP		21 18 28.4 -2.4
LZH				sP		pP		21 18 35.1 +9.3
LZH				PcP		**PcP**		**21 20 36.7 +1.5**
LZH				S		**S**		**21 23 57.6 +1.2**
LZH				pmax		pmax		
	comp=Z,44nm,1.2s							
LZH				LR		LR		
	comp=Z,1μm,15.5s							
LZH				LR		LR		
	comp=Z,1μm,15.1s							
LZH				LR		LR		
	comp=Z,2μm,15.1s							
GOMU	**GeErMu**	37.03	354	P		**P**		**21 18 16.1 +0.6**
GOMU				S		**S**		**21 23 55.7 -2.9**
GOMU				pmax		pmax		
	comp=Z,11nm,1.0s							
GOMU				LR		LR		
	comp=Z,390nm,18.4s							
GOMU				LR		LR		
	comp=Z,240nm,18.1s							
GOMU				LR		LR		
	comp=Z,510nm,18.4s							
KMBL	**Kambalda**	37.15	147	P		**P**		**21 18 15.4 -0.9**
	comp=Z,41nm,1.3s							
LYN	**LuoYang**	37.23	18	⇓*i*P		**P**		**21 18 17.8 +1.0**
LYN				pP		sP		21 18 32.2 -1.3
LYN				PcP		**PcP**		**21 20 36.9 +0.9**
LYN				pmax		pmax		
	comp=Z,140nm,0.8s							
LYN				LR		LR		
	comp=Z,1μm,19.2s							
LYN				LR		LR		
	comp=Z,1μm,17.2s							
LYN				LR		LR		
	comp=Z,2μm,19.9s							
RKGY	**Rocky Gully**	37.47	156	P		**P**		**21 18 20.0 +1.1**
	comp=Z,67nm,1.2s							
NJ2	**Nanjing**	37.50	28	*e*P		**P**		**21 18 21.5 +2.4**
NJ2				pmax		pmax		
	comp=Z,14nm,0.8s							
JOW	**Kunigami**	39.09	43	P		**P**		**21 18 31.8 -0.9**
JOW				IAmb		IAmb		21 19 57.9
	comp=Z,113nm,1.3s							
JOW	**Kunigami**	39.09	43	LR		LR		21 34 08.1
	comp=Z,276nm,20.6s,baz=241,slow=35							
WB9	**Warramunga Arr**	39.14	121	P		**P**		**21 18 31.7 -1.5**
WRA	**Warramunga Arr**	39.16	121	P		**P**		**21 18 32.1 -1.2**
WRA	**Warramunga Arr**	39.16	121	P		**P**		**21 18 32.2 -1.2**
	comp=Z,15nm,0.7s,baz=297,slow=8.2,SNR=131							
WRA				PcP		**PcP**		**21 20 42.0 -0.4**
	comp=Z,8.5nm,0.6s,baz=300,slow=3.3,SNR=9.1							
WRA				S		**S**		**21 24 24.2 -6.6**
	comp=Z,4.2nm,1.1s,baz=293,slow=17,SNR=7.6							
WRA				LR		LR		21 37 41.6
	comp=Z,453nm,20.4s,baz=308,slow=41							
	comp=Z,15nm,0.7s							
WRAB	**Tennant Creek**	39.17	121	P		**P**		**21 18 32.6 -0.8**
WRAB	**Tennant Creek**	39.17	121	P		**P**		**21 18 32.6 -0.8**
WRAB				pmax		pmax		
	comp=Z,71nm,1.3s							
SMPI	**Sarmi**	39.35	92	P		**P**		**21 18 35.2 +0.2**
	comp=Z,82nm,1.4s							
GTA	**Gaotai**	39.99	1	⇑P		**P**		**21 18 41.6 +1.5**
GTA				pP		pP		21 18 49.3 -2.4
GTA				PcP		**PcP**		**21 20 45.9 +1.2**
GTA				ScP		**ScP**		**21 24 31.6 +1.1**
GTA				S		**S**		**21 24 42.6 -0.2**
GTA				pmax		pmax		
	comp=Z,110nm,1.4s							
GTA				pmax		pmax		
	comp=Z,360nm,6.8s							
GTA				LR		LR		
	comp=Z,710nm,17.5s							
GTA				LR		LR		
	comp=Z,1μm,15.5s							
GTA				LR		LR		
	comp=Z,940nm,18.3s							
AS13	**Alice Springs**	40.47	127	P		**P**		**21 18 44.1 -0.1**
	comp=Z,70nm,0.8s							
AS31	**Alice Springs**	40.49	127	P		**P**		**21 18 44.0 -0.3**
AS31	**Alice Springs**	40.49	127	P		**P**		**21 18 44.2 -0.2**
	comp=Z,17nm,0.8s							
ASAR	**Alice Springs**	40.49	127	P		**P**		**21 18 44.2 -0.1**
	comp=Z,36nm,0.7s,baz=300,slow=8.4,SNR=243							
ASAR				PcP		**PcP**		**21 20 47.3 +0.8**
	comp=Z,16nm,0.9s,baz=300,slow=2.5,SNR=13							
ASAR				ScP		**ScP**		**21 24 29.6 -3.1**
	comp=Z,2.3nm,1.0s,baz=297,slow=3.5,SNR=4.4							
ASAR				S		**S**		**21 24 45.7 -4.9**
	comp=Z,1.8nm,0.8s,baz=299,slow=15,SNR=6.9							
ASAR				LR		LR		21 38 13.4
	comp=Z,523nm,19.8s,baz=302,slow=40							
	comp=Z,36nm,0.7s							
AS01	**Alice Springs**	40.52	127	P		**P**		**21 18 44.2 -0.5**
HNS	**HongShan**	40.55	19	⇓P		**P**		**21 18 45.4 +0.8**
HNS				pmax		pmax		
	comp=Z,40nm,0.9s							
HNS				LR		LR		
	comp=Z,1μm,15.3s							
HNS				LR		LR		
	comp=Z,950nm,14.1s							
JAY	**Jayapura**	41.36	93	LR		LR		21 38 55.9
	comp=Z,254nm,21.9s,baz=254,slow=40							
JAY	**Jayapura**	41.36	93	P		**P**		**21 18 50.3 -1.4**
	comp=Z,44nm,0.9s							
NIL	**Nilore**	42.14	327	P		**P**		**21 18 57.9 +0.1**
NIL	**Nilore**	42.14	327	P		**P**		**21 18 58.4 +0.6**
NIL	**Nilore**	42.14	327	P		**P**		**21 18 57.9 +0.1**
NIL				pmax		pmax		
	comp=Z,179nm,0.8s							
BTO	**Baotou**	42.31	12	*e*P		**P**		**21 19 00.7 +1.6**
BTO				pP		**sP**		**21 19 13.1 -2.7**
BTO				sP		**pP**		**21 19 18.4 +7.6**
BTO				PP		**PP**		**21 20 42.9 +5.1**
BTO				S		**S**		**21 25 19.7 +2.5**
BTO				SS		**SS**		**21 28 25.4 -1.7**
BTO				pmax		pmax		
	comp=Z,45nm,1.6s							
BTO				pmax		pmax		
	comp=Z,630nm,7.5s							
BTO				LR		LR		
	comp=Z,3μm,20.4s							
BTO				LR		LR		
	comp=Z,2μm,16.2s							
BTO				LR		LR		
	comp=Z,3μm,19.4s							
HHC	**Hu-ho-hao-te**	42.89	14	*e*P		**P**		**21 19 05.9 +2.1**
HHC				sP		sP		21 19 19.7 -0.8
HHC				S		**S**		**21 25 25.1 -0.6**
HHC				sS		sS		21 25 42.9 -2.0
HHC				pmax		pmax		
	comp=Z,14nm,0.5s							
HHC				pmax		pmax		
	comp=Z,130nm,4.7s							
HHC				LR		LR		
	comp=Z,2μm,15.5s							
HHC				LR		LR		
	comp=Z,430nm,15.5s							
HHC				LR		LR		
	comp=Z,2μm,16.7s							
BJI	**Beijing**	43.43	19	P		**P**		**21 19 08.2 +0.2**
BJI				sP		**sP**		**21 19 26.4 +1.6**
BJI				S		**S**		**21 25 33.2 -0.1**
BJI				pmax		pmax		
	comp=Z,21nm,1.2s							
BJI				pmax		pmax		
	comp=Z,68nm,5.9s							
BJI				LR		LR		
	comp=Z,480nm,13.7s							
BJI				LR		LR		
	comp=Z,260nm,19.0s							
BJI				LR		LR		
	comp=Z,500nm,15.4s							
QIS	**Mount Isa**	43.95	119	P		**P**		**21 19 11.6 -1.0**
	comp=Z,23nm,1.9s							
QIS	**Mount Isa**	43.95	119	P		**P**		**21 19 12.5 -0.1**
DL2	**Dalian**	44.47	25	P		**P**		**21 19 17.3 +0.9**
DL2				pmax		pmax		
	comp=Z,66nm,1.2s							
DL2				LR		LR		
	comp=Z,1μm,14.7s							
DL2				LR		LR		
	comp=Z,1μm,17.1s							
JNU	**Nakatsue**	44.92	38	P		**P**		**21 19 20.0 -0.2**
JNU				IAmb		IAmb		21 19 39.1
	comp=Z,118nm,1.0s							
JNU	**Nakatsue**	44.92	38	LR

WMQ pP pP 21 19 33.7 -3.6
WMQ sP sP 21 19 40.1 -2.1
WMQ S **S** **21 26 06.6 +1.5**
WMQ sS sS 21 26 22.4 -2.0
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,470nm,5.3s
WMQ LR LR
comp=Z,520nm,21.5s
WMQ LR LR
comp=Z,300nm,23.9s
KSAR Wonju Array Be 46.28 32 P **P** **21 19 30.4 -0.3**
KSAR Wonju Array Be 46.28 32 P **P** **21 19 30.4 -0.3**
KSRS Korea Array 46.31 32 P **P** **21 19 30.7 -0.3**
comp=Z,26nm,0.9s,baz=224,slow=7.9,SNR=46
comp=Z,26nm,0.9s
KS19 Wonju Array Si 46.31 32 P **P** **21 19 30.8 -0.3**
SMDO Samad 46.65 303 P **P** **21 19 35.3 +1.2**
SNR=5.1
BIDO Bidbid 46.77 304 P **P** **21 19 37.0 +2.1**
SNR=12
XLT XiLinHaoTe 46.92 17 *eP* **P** **21 19 35.8 0.0**
XLT pP pP 21 19 48.3 +0.5
XLT sP sP 21 19 55.9 +3.1
XLT PcP **PcP** **21 21 07.9 -0.1**
XLT PP **PP** **21 21 22.9 -3.8**
XLT pmax pmax
comp=Z,25nm,1.4s
XLT pmax pmax
comp=Z,180nm,5.0s
XLT LR LR
comp=Z,79nm,17.0s
XLT LR LR
comp=Z,240nm,17.0s
XLT LR LR
comp=Z,670nm,15.3s
BBOO Buckleboo 46.97 136 P **P** **21 19 36.4 +0.1**
BBOO IAmb IAmb 21 19 38.3
comp=Z,122nm,1.6s
BBOO Buckleboo 46.97 136 P **P** **21 19 37.0 +0.7**
comp=Z,44nm,1.9s
BBOO Buckleboo 46.97 136 P **P** **21 19 37.0 +0.7**
KDJ Kajisay 47.17 337 P **P** **21 19 38.9 +1.0**
KDJ Kajisay 47.17 337 P **P** **21 19 38.9 +1.0**
KDJ pmax pmax
comp=Z,203nm,1.0s
JMN Monobe 47.22 40 P **P** **21 19 38.8 +0.6**
JMN IAmb IAmb 21 20 00.1
comp=Z,109nm,1.0s
JMN Monobe 47.22 40 P **P** **21 19 39.0 +0.8**
SHLS Shalkode 47.24 340 *eP* **P** **21 19 37.4 -1.0**
SHLS pmax pmax
comp=Z,61nm,0.9s
SHLS Shalkode 47.24 340 *eP* **P** **21 19 37.4 -1.0**
comp=Z,61nm,0.9s
GUMO Guam 47.29 71 P **P** **21 19 38.3 -0.8**
GUMO Guam 47.29 71 LR LR 21 38 11.9
comp=Z,84nm,21.7s,baz=259,slow=34
GUMO Guam 47.29 71 P **P** **21 19 38.3 -0.8**
GUMO pmax pmax
comp=Z,512nm,1.3s
MTSU Mount Surprise 47.39 114 P **P** **21 19 40.0 +0.2**
comp=Z,7.7nm,1.4s
MTSU Mount Surprise 47.39 114 P **P** **21 19 39.8 0.0**
UZB Uzynbulak 47.39 340 *eP* **P** **21 19 39.6 +0.1**
UZB pmax pmax
comp=Z,27nm,0.6s
UZB Uzynbulak 47.39 340 *eP* **P** **21 19 39.6 +0.1**
comp=Z,27nm,0.6s
PDGK Podgornoye 47.39 340 P **P** **21 19 40.8 +1.3**
HOQ Hoqain 47.48 304 P **P** **21 19 42.9 +2.5**
SNR=6.5
SATY Saty 47.52 339 *eP* **P** **21 19 40.6 0.0**
SATY *eS* **S** **21 26 32.3 -0.4**
SATY pmax pmax
comp=Z,60nm,1.0s
SATY Saty 47.52 339 *eP* **P** **21 19 40.7 +0.1**
comp=Z,60nm,1.0s
SATY *eS* **S** **21 26 32.3 -0.4**
ULHL Ulahol 47.64 337 P **P** **21 19 42.9 +1.3**
SNR=39
OHH Osh 47.70 333 P **P** **21 19 42.5 +0.5**
OHH pmax pmax
comp=Z,93nm,1.2s
GAR Garm 47.72 329 P **P** **21 19 42.0 -0.2**
SNY Shenyang 47.73 24 ⇓P **P** **21 19 41.5 -0.5**
SNY pmax pmax
comp=Z,27nm,1.1s
SNY pmax pmax
comp=Z,410nm,4.2s
SNY LR LR
comp=Z,540nm,14.7s
SNY LR LR
comp=Z,1μm,13.9s
SNY LR LR
comp=Z,750nm,13.3s
KPKS Kokpek 47.78 340 *eP* **P** **21 19 42.4 -0.1**
KPKS Kokpek 47.78 340 *eP* **P** **21 19 42.5 -0.1**
MANU Manus Island 48.00 92 P **P** **21 19 43.8 -0.8**
MANU IAmb IAmb 21 20 05.9
comp=Z,114nm,1.9s
TNSS Tian-Shan 48.04 338 *eP* **P** **21 19 44.5 -0.4**
TNSS Tian-Shan 48.04 338 *eP* **P** **21 19 44.6 -0.4**
SIMJ Simiganj 48.15 328 P **P** **21 19 44.9 -0.7**
SIMJ Simiganj 48.15 328 P **P** **21 19 45.3 -0.3**
SIMJ sP **sP** **21 19 60.0 -2.2**
SIMJ PcP **PcP** **21 21 13.4 +0.9**
AAA Alma-Ata 48.20 338 *eP* **P** **21 19 45.7 0.0**
AAA pmax pmax
comp=Z,62nm,0.9s
AAA Alma-Ata 48.20 338 *eP* **P** **21 19 45.8 0.0**
comp=Z,62nm,0.9s
ARSB Arslanbob 48.25 333 P **P** **21 19 46.9 +0.6**
ARSB Arslanbob 48.25 333 P **P** **21 19 46.9 +0.6**
ARSB pmax pmax
comp=Z,265nm,1.1s
PMG Port Moresby 48.32 102 P **P** **21 19 46.1 -0.9**
PMG IAmb IAmb 21 19 48.2
comp=Z,22nm,0.7s
PMG Port Moresby 48.32 102 P **P** **21 19 47.6 +0.6**
PMG Port Moresby 48.32 102*c iP* **P** **21 19 46.8 -0.2**
PMG pmax pmax
comp=Z,18nm,0.6s
UCH Uchtor 48.32 335 P **P** **21 19 48.9 +1.7**
SNR=6.8
SOHO SOHO 48.35 304 *i* P **P** **21 19 48.0 +0.8**
SNR=9.6
TKM2 Tokmak 2 48.46 337 P **P** **21 19 49.2 +1.3**
SNR=27
KBK Karagaybulak 48.50 336 P **P** **21 19 50.1 +1.9**
SNR=40
AAK Ala-Archa 48.67 336 P **P** **21 19 50.2 +0.7**
AAK IAmb IAmb 21 20 14.1
comp=Z,48nm,1.0s
AAK Ala-Archa 48.67 336 LR LR 21 42 29.6
comp=Z,380nm,20.4s,baz=154,slow=39
AAK Ala-Archa 48.67 336 P **P** **21 19 51.2 +1.7**
SNR=10
AAK Ala-Archa 48.67 336*c iP* **P** **21 19 50.9 +1.4**
AAK pmax pmax
comp=Z,133nm,2.5s
AAK Ala-Archa 48.67 336 *i* P **P** **21 19 50.9 +1.4**
SNR=10
AAK Ala-Archa 48.67 336 P **P** **21 19 51.0 +1.5**
AAK pP **pP** **21 19 58.1 -3.2**
AAK sP **sP** **21 20 03.3 -2.9**
AAK PcP **PcP** **21 21 14.4 +0.1**
CHKK Chushkaly 48.73 339 *eP* **P** **21 19 49.9 +0.2**
CHKK Chushkaly 48.73 339 *eP* **P** **21 19 49.9 +0.2**
FRU1 Bishkek 48.76 336 P **P** **21 19 50.9 +0.9**
FRU1 IAmb IAmb 21 19 52.9
comp=Z,99nm,1.2s
FRU1 Bishkek 48.76 336 P **P** **21 19 50.9 +0.9**
FRU1 pmax pmax
comp=Z,99nm,1.2s
SONM Songino Array 48.80 6 P **P** **21 19 50.8 +0.5**
SONM Songino Array 48.80 6 P **P** **21 19 51.3 +1.0**
comp=Z,33nm,0.9s,baz=190,slow=8.6,SNR=101
SONM PcP **PcP** **21 21 14.8 +0.1**
comp=Z,18nm,0.8s,baz=191,slow=4.9,SNR=1.9
SONM ScP **ScP** **21 25 05.1 -1.2**
comp=Z,2.8nm,1.0s,baz=174,slow=4.1,SNR=4.1
SONM S **S** **21 26 43.4 -7.1**
comp=Z,0.2nm,0.3s,baz=154,slow=24,SNR=0.7
SONM LR LR 21 42 44.7
comp=Z,920nm,19.1s,baz=184,slow=39
comp=Z,33nm,0.9s
SONM Songino Array 48.80 6 P **P** **21 19 50.8 +0.5**
SONM pmax pmax
comp=Z,191nm,1.7s
CHMS Chumysh 48.87 336 P **P** **21 19 52.0 +1.2**
SNR=26
ULN Ulaanbaatar 48.90 7 P **P** **21 19 51.1 0.0**
ULN IAmb IAmb 21 20 10.8
comp=Z,35nm,0.8s
ULN Ulaanbaatar 48.90 7 P **P** **21 19 52.1 +0.9**
ULN Ulaanbaatar 48.90 7*c iP* **P** **21 19 52.1 +0.9**
ULN pmax pmax
comp=Z,77nm,1.5s
ULN Ulaanbaatar 48.90 7 P **P** **21 19 52.0 +0.8**
UOSS Minazif 48.97 305 P **P** **21 19 51.4 -0.5**
UOSS Minazif 48.97 305 P **P** **21 19 51.8 -0.1**
UOSS Minazif 48.97 305 P **P** **21 19 52.1 +0.2**
HATD Hatta, Dubai 48.98 304 P **P** **21 19 53.2 +1.3**
SNR=5.7
HATD Hatta, Dubai 48.98 304 *i* P **P** **21 19 53.0 +1.0**
SNR=7.4
ALNE Al Ain 48.98 303 P **P** **21 19 53.3 +1.3**
SNR=13
ALNE Al Ain 48.98 303 *i* P **P** **21 19 53.0 +1.0**
SNR=73
ASHO Ashiyiah 48.98 304 P **P** **21 19 53.3 +1.2**
ASHO Ashiyiah 48.98 304 P **P** **21 19 53.1 +1.0**
EKS2 Erkin-Say 48.99 335 P **P** **21 19 53.5 +1.6**
SNR=115
KUU Kurty 49.00 338 *eP* **P** **21 19 51.9 +0.1**
KUU pmax pmax
comp=Z,56nm,1.3s
KUU Kurty 49.00 338 *eP* **P** **21 19 51.9 +0.1**
comp=Z,56nm,1.3s
MDH Madha 49.04 305 *i* P **P** **21 19 51.7 -0.8**
SNR=6.6
JWT Wachi 49.17 40 P **P** **21 19 53.5 +0.2**
MSFE Esma-Masafi 49.18 305 *i* P **P** **21 19 54.8 +1.3**
SNR=7.6
MASF Masafi 49.18 305 P **P** **21 19 55.2 +1.6**
USP Ospenovka 49.19 336 P **P** **21 19 54.6 +1.3**
SNR=68
TDK Taldyqorghan 49.23 340 *eP* **P** **21 19 53.7 +0.1**
TDK pmax pmax
comp=Z,37nm,0.8s
TDK Taldyqorghan 49.23 340 *eP* **P** **21 19 53.7 +0.1**
comp=Z,38nm,0.8s
TRKS Terek-Say 49.26 332 P **P** **21 19 54.6 +0.6**
TRKS pmax pmax
comp=Z,40nm,1.0s
HTT Hallett 49.31 135 P **P** **21 19 55.4 +1.0**
comp=Z,13nm,2.4s
HTT Hallett 49.31 135 P **P** **21 19 55.4 +1.0**
FAQ Al Faqa, Dubai 49.39 304 P **P** **21 19 56.1 +1.0**
SNR=6.0
FAQ Al Faqa, Dubai 49.39 304 *i* P **P** **21 19 56.1 +1.0**
SNR=17
NAZ Nazwa, Dubai 49.43 304 *i* P **P** **21 19 56.0 +0.6**
SNR=10
SHME Shamm 49.49 306 P **P** **21 19 56.9 +1.0**
SHME Shamm 49.49 306 *i* P **P** **21 19 56.7 +0.8**
SNR=10
ASUD Al Ashush, Dub 49.56 304 P **P** **21 19 59.2 +2.9**
SNR=5.3
ASUD Al Ashush, Dub 49.56 304 *i* P **P** **21 19 57.9 +1.5**
SNR=12
JCJ Chichijima 49.63 53 LR LR 21 40 58.9
comp=Z,323nm,19.5s,baz=110,slow=36
ZSN Zaisan 49.67 347 *eP* **P** **21 19 57.1 +0.3**
ZSN *eS* **S** **21 27 02.5 0.0**
ZSN pmax pmax
comp=Z,41nm,0.9s
ZSN Zaisan 49.67 347 *eP* **P** **21 19 57.2 +0.3**
comp=Z,41nm,0.9s
ZSN *eS* **S** **21 27 02.5 0.0**
MK31 Makanchi Array 49.69 345*c iP* **P** **21 19 57.6 +0.6**
MKAR Makanchi Array 49.69 345 P **P** **21 19 57.7 +0.7**
MKAR Makanchi Array 49.69 345 P **P** **21 19 57.8 +0.8**
comp=Z,82nm,0.7s,baz=157,slow=8.6,SNR=618
MKAR S **S** **21 27 01.4 -1.3**
comp=Z,0.8nm,0.8s,baz=169,slow=16,SNR=5.5
MKAR LR LR 21 44 51.9
comp=Z,238nm,20.7s,baz=157,slow=41
comp=Z,82nm,0.7s
CTA Charters Tower 49.70 116 P **P** **21 19 57.9 +0.3**
comp=Z,0.8nm,1.3s
CTAO Charters Tower 49.70 116 P **P** **21 19 56.5 -1.0**
CTAO Charters Tower 49.70 116 P **P** **21 19 56.5 -1.0**
CTAO pmax pmax
comp=Z,33nm,1.1s
MAKZ Makanchi 49.78 344 P **P** **21 19 57.7 0.0**
MAKZ IAmb IAmb 21 19 59.6
comp=Z,58nm,0.8s
MAKZ Makanchi 49.78 344 P **P** **21 19 57.7 0.0**
MAKZ pmax pmax
comp=Z,58nm,0.8s
MAKZ Makanchi 49.78 344 P **P** **21 19 58.5 +0.7**
MAKZ sP **sP** **21 20 13.5 -0.9**
AJN Ajban 49.82 304 *i* P **P** **21 19 59.0 +0.6**
SNR=7.6
CN2 Changchun 50.13 25 P **P** **21 19 59.5 -0.9**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,580nm,14.0s
CN2 LR LR
comp=Z,1μm,16.0s
QLP Quilpie 50.17 125 P **P** **21 20 01.7 +0.7**
comp=Z,136nm,0.8s
QLP Quilpie 50.17 125 P **P** **21 20 01.7 +0.7**
DZA Taraz 50.24 333 *eP* **P** **21 20 01.6 +0.3**
DZA Taraz 50.24 333 *eP* **P** **21 20 01.6 +0.3**
INU Inuyama 50.25 41 P **P** **21 20 00.7 -0.8**
INU Inuyama 50.25 41 P **P** **21 20 01.2 -0.3**
INU Inuyama 50.25 41 P **P** **21 20 00.8 -0.6**
IUG Iuzhnay 50.26 332 *eP* **P** **21 20 01.7 +0.1**
IUG pmax pmax
comp=Z,49nm,1.0s
IUG Iuzhnay 50.26 332 *eP* **P** **21 20 01.7 +0.1**
comp=Z,49nm,1.0s
STKA Stephens Creek 50.44 132 P **P** **21 20 03.4 +0.4**
STKA Stephens Creek 50.44 132 P **P** **21 20 03.4 +0.4**
comp=Z,168nm,1.1s
STKA Stephens Creek 50.44 132 P **P** **21 20 03.8 +0.8**
comp=Z,10nm,0.5s,baz=305,slow=9.0,SNR=31
STKA LR LR 21 41 38.2
comp=Z,486nm,21.9s,baz=291,slow=36
comp=Z,10nm,0.5s
STKA Stephens Creek 50.44 132 P **P** **21 20 03.4 +0.4**
STKA Stephens Creek 50.44 132 P **P** **21 20 03.4 +0.4**
STKA pmax pmax
comp=Z,235nm,1.2s
MZR Muzera 50.49 301 P **P** **21 20 05.0 +1.5**
MZR Muzera 50.49 301 *i* P **P** **21 20 04.2 +0.7**
SNR=17
CHM Chimkent 50.60 332 *eP* **P** **21 20 04.2 +0.2**
CHM pmax pmax
comp=Z,20nm,0.7s
CHM Chimkent 50.60 332 *eP* **P** **21 20 04.2 +0.2**
comp=Z,20nm,0.7s
JGF Kuroka 50.62 40 P **P** **21 20 03.7 -0.6**
JGF IAmb IAmb 21 20 24.9
comp=Z,47nm,1.1s
JGF Kuroka 50.62 40 P **P** **21 20 03.9 -0.4**
KK31 Karatay Array 50.78 333 P **P** **21 20 05.3 -0.1**
KK31 IAmb IAmb 21 20 07.1
comp=Z,145nm,1.8s
KK31 Karatay Array 50.78 333 P **P** **21 20 05.3 -0.1**
KK31 pmax pmax
comp=Z,145nm,1.8s
KKAR Karatay Array 50.78 333 P **P** **21 20 05.2 -0.1**
KKAR Karatay Array 50.78 333 P **P** **21 20 05.2 -0.1**
BTLS Baital 50.85 337*c iP* **P** **21 20 06.0 +0.2**
BTLS Baital 50.85 337*i iP* **P** **21 20 06.1 +0.2**
BRLS Borolday 51.03 332*c iP* **P** **21 20 06.5 -0.7**
BRLS Borolday 51.03 332⇑*i iP* **P** **21 20 06.6 -0.7**
ZAK Zakamensk 51.07 3 *eP* **P** **21 20 07.9 +0.4**
ZAK pmax pmax
comp=Z,28nm,1.3s
MAJO Matsushiro 51.74 40 P **P** **21 20 12.4 -0.3**
MAJO Matsushiro 51.74 40*ceP* **P** **21 20 11.6 -1.1**
MAJO pmax pmax
comp=Z,26nm,0.9s
MJB9 Matsu-Tunnel 51.74 40 P **P** **21 20 12.4 -0.3**
MJAR Matsushiro Arr 51.74 40 P **P** **21 20 11.9 -0.8**
MJAR Matsushiro Arr 51.74 40 P **P** **21 20 11.9 -0.8**
comp=Z,18nm,1.1s,baz=233,slow=7.5,SNR=32
MJAR LR LR 21 44 54.3
comp=Z,232nm,18.2s,baz=238,slow=39
comp=Z,18nm,1.1s
JRN Qarnain Island 51.75 303 P **P** **21 20 13.8 +0.8**
MOY Mondy 52.27 1 *eP* **P** **21 20 17.3 +0.9**
MOY pmax pmax
comp=Z,81nm,2.1s
BNX BinXian 52.52 25 ⇑P **P** **21 20 17.7 -0.6**
BNX pmax pmax
comp=Z,39nm,0.7s
MDJ Mudanjiang 52.58 27 P **P** **21 20 18.6 -0.1**
MDJ pmax pmax
comp=Z,17nm,1.3s
RABL Rabaul 52.85 95 P **P** **21 20 20.4 -0.9**
IRK Irkutsk 52.99 4 *eP* **P** **21 20 22.5 +0.9**
IRK pmax pmax
comp=Z,178nm,1.6s
TRNA Turayna 53.06 302 P **P** **21 20 23.4 +0.8**
CMSA Cobar Meteorol 53.38 130 P **P** **21 20 25.5 +0.6**
comp=Z,75nm,1.8s
CMSA Cobar Meteorol 53.38 130 P **P** **21 20 25.5 +0.6**
USA0B Ussuriysk Arra 53.39 29 P **P** **21 20 24.3 -0.4**
USA0B IAmb IAmb 21 20 38.5
comp=Z,60nm,0.9s
USA0B Ussuriysk Arra 53.39 29 P **P** **21 20 24.3 -0.4**
USA0B pmax pmax
comp=Z,60nm,1.0s
USRK Ussuriysk Ar. 53.39 29 P **P** **21 20 24.6 -0.1**
comp=Z,35nm,0.8s,baz=225,slow=5.3,SNR=34
USRK LR LR 21 46 10.6
comp=Z,911nm,18.1s,baz=217,slow=39
comp=Z,35nm,0.8s
SMRA Abu-Samra 53.39 302 P **P** **21 20 25.6 +0.6**
SHMA Al-Shehemyia 53.67 303 P **P** **21 20 27.8 +0.7**
SAKB Bahrain 54.08 303 P **P** **21 20 30.8 +0.8**
OPO Ambohidratompo 54.13 248 LR LR 21 39 59.1
comp=Z,128nm,18.9s,baz=195,slow=32
KURBB Kurchatov Arra 54.20 344 P **P** **21 20 31.0 +0.5**
comp=Z,28nm,0.9s,baz=160,slow=6.5,SNR=115
KURBB PcP **PcP** **21 21 35.3 +0.8**
comp=Z,13nm,0.7s,baz=153,slow=4.1,SNR=6.9
KURBB PP **PP** **21 22 32.4 -0.3**
comp=Z,2.4nm,0.2s,baz=161,slow=8.6,SNR=4.1
KURBB S **S** **21 28 01.0 -3.6**
comp=Z,1.2nm,0.9s,baz=148,slow=15,SNR=3.5
KURBB LR LR 21 48 25.5
comp=Z,309nm,18.4s,baz=162,slow=41
comp=Z,28nm,0.9s
KURK Kurchatov 54.26 344 P **P** **21 20 31.2 +0.3**
KURK IAmb IAmb 21 20 32.9
comp=Z,94nm,1.1s
KURK Kurchatov 54.26 344 P **P** **21 20 32.1 +1.1**
KURK Kurchatov 54.26 344*c iP* **P** **21 20 31.6 +0.7**
KURK pmax pmax
comp=Z,110nm,1.1s
KURK Kurchatov 54.26 344 P **P** **21 20 31.6 +0.7**
KURK sP **sP** **21 20 47.2 -0.5**
VOI Vohitsoka 55.30 244 P **P** **21 20 39.7 +0.6**
VOI IAmb IAmb 21 22 07.2
comp=Z,116nm,1.8s
BRZS Berezniki 55.49 339 *eP* **P** **21 20 40.1 +0.2**
BRZS Berezniki 55.49 339 *eP* **P** **21 20 40.1 +0.2**
EIDS Eidsvold 55.52 121 P **P** **21 20 40.5 -0.1**
EIDS IAmb IAmb 21 20 54.8
comp=Z,42nm,1.2s
EIDS Eidsvold 55.52 121 P **P** **21 20 40.8 +0.3**
comp=Z,33nm,0.7s
EIDS Eidsvold 55.52 121 P **P** **21 20 40.7 +0.1**
ZAA0 Zalesovo Array 55.85 350 P **P** **21 20 42.8 +0.4**
ZALV Zalesovo Beam 55.85 350 P **P** **21 20 42.9 +0.6**
ZALV Zalesovo Beam 55.85 350 P **P** **21 20 43.1 +0.7**
comp=Z,123nm,0.7s,baz=162,slow=6.5,SNR=528
ZALV ScP **ScP** **21 25 35.3 -1.3**
comp=Z,3.2nm,0.9s,baz=158,slow=4.7,SNR=4.2
ZALV S **S** **21 28 25.7 -0.9**
comp=Z,4.6nm,0.7s,baz=158,slow=16,SNR=12
ZALV LR LR 21 47 03.6
comp=Z,268nm,19.4s,baz=152,slow=39
comp=Z,123nm,0.7s
ZALV Zalesovo Beam 55.85 350 *i* P **P** **21 20 43.0 +0.6**
ZALV pmax pmax
comp=Z,148nm,0.8s
JTM Tenmabayashi 56.07 38 P **P** **21 20 45.0 +0.8**
HEH HeiHe 56.21 21 *eP* **P** **21 20 44.5 -0.5**
HEH pmax pmax
comp=Z,15nm,1.3s
ATD Arta Tunnel 57.45 284 LR LR 21 41 06.9
comp=Z,16nm,21.5s,baz=61,slow=31
CAN Canberra 57.50 132 P **P** **21 20 55.0 +0.5**
CAN IAmb IAmb 21 21 27.4
comp=Z,53nm,1.3s
CAN Canberra 57.50 132 P **P** **21 20 55.6 +1.1**
comp=Z,32nm,1.7s
CAN Canberra 57.50 132 P **P** **21 20 55.8 +1.2**
CAN Canberra 57.50 132 P **P** **21 20 55.0 +0.5**
CAN pmax pmax
comp=Z,53nm,1.3s
CAN Canberra 57.50 132 P **P** **21 20 55.7 +1.1**
RAYN Ar Rayn 57.59 299 P **P** **21 20 55.1 -0.3**
RAYN IAmb IAmb 21 20 56.3
comp=Z,29nm,0.8s
RAYN Ar Rayn 57.59 299 P **P** **21 20 55.5 +0.1**
RAYN Ar Rayn 57.59 299 P **P** **21 20 55.1 -0.3**
RAYN pmax pmax
comp=Z,29nm,0.8s
RAYN Ar Rayn 57.59 299 *i* P **P** **21 20 55.2 -0.2**
SNR=35
RAYN Ar Rayn 57.59 299 ⇑P **P** **21 20 55.4 0.0**
KBD Kabd 57.60 306 P **P** **21 20 55.6 +0.4**
ARMA Armidale 57.63 126 P **P** **21 20 56.8 +1.1**
ARMA IAmb IAmb 21 20 58.1
comp=Z,45nm,1.1s
ARMA Armidale 57.63 126 P **P** **21 20 56.9 +1.3**
comp=Z,40nm,1.8s
ARMA Armidale 57.63 126 P **P** **21 20 56.4 +0.8**
BVA0 Borovoye Array 58.82 340 P **P** **21 21 02.5 -0.9**
BVAR Borovoye Array 58.82 340 P **P** **21 21 02.9 -0.4**
comp=Z,23nm,0.7s,baz=143,slow=8.9,SNR=121
BVAR S **S** **21 29 03.1 -2.6**
comp=Z,2.7nm,0.8s,baz=140,slow=15,SNR=8.3
BVAR LR LR 21 49 01.0
comp=Z,263nm,20.3s,baz=155,slow=39
comp=Z,23nm,0.7s
BRVK Borovoye 58.88 340 P **P** **21 21 03.3 -0.5**
BRVK IAmb IAmb 21 21 22.2
comp=Z,25nm,0.7s
BRVK Borovoye 58.88 340 P **P** **21 21 03.8 0.0**
BRVK Borovoye 58.88 340*c iP* **P** **21 21 03.4 -0.4**
BRVK pmax pmax
comp=Z,52nm,1.7s
BRVK Borovoye 58.88 340 ⇑P **P** **21 21 03.5 -0.3**
BRVK sP **sP** **21 21 20.2 -0.5**
ASAJ Asahikawa 58.98 35 P **P** **21 21 04.1 -0.4**
comp=Z,9.2nm,0.5s,baz=233,slow=6.5,SNR=22
comp=Z,9.2nm,0.5s
ASAJ Asahikawa 58.98 35 P **P** **21 21 04.7 +0.1**
ASAJ pmax pmax
comp=Z,267nm,2.0s
JKA Kamikawa-asahi 58.98 35 P **P** **21 21 04.7 +0.1**
ZEA Zeya 59.05 19 *eP* **P** **21 21 05.0 +0.1**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA MLR MLR
comp=E,200nm,16.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
BOD Bodaibo 59.58 9 *eP* **P** **21 21 08.6 +0.2**
BOD pmax pmax
comp=Z,100nm,1.6s
GRNR Gornyy 60.24 26⇑*i iP* **P** **21 21 13.3 +0.1**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
GRNR MLR MLR
comp=E,470nm,15.0s
GRNR MLR MLR
comp=N,450nm,13.0s
GRNR MLR MLR
comp=Z,950nm,14.0s

AB31 Akbulak array 60.27 331 P **P** **21 21 13.0 -0.4**
AB31 IAmb IAmb 21 21 14.2
comp=Z,64nm,0.8s
AB31 Akbulak array 60.27 331 *i* P **P** **21 21 13.0 -0.4**
ABKAR Akbulak array 60.27 331 P **P** **21 21 13.2 -0.2**
TATA Tatamba Isabel 60.66 99 P **P** **21 21 16.7 0.0**
LKRN Lenkeran, Azer 60.77 316 P **P** **21 21 17.7 +0.7**
YSS Yuzhno-Sakhali 60.79 33 P **P** **21 21 16.8 -0.1**
YSS IAmb IAmb 21 21 37.1
comp=Z,60nm,0.9s
YSS Yuzhno-Sakhali 60.79 33 *e*P **P** **21 21 17.1 +0.1**
YSS *e*S **S** **21 29 26.7 -4.5**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS MLR MLR
comp=Z,300nm,15.0s
HNR Honiara 60.87 100 P **P** **21 21 17.4 -0.7**
HNR Honiara 60.87 100 LR LR 21 50 07.9
comp=Z,121nm,19.1s,baz=274,slow=38
HNR Honiara 60.87 100 P **P** **21 21 17.5 -0.7**
HNR pmax pmax
comp=Z,119nm,0.8s
FURI Furi 61.20 281 P **P** **21 21 21.2 +0.4**
KIBK Kibwezi 61.31 268 P **P** **21 21 21.3 0.0**
H04N2 CROZET ISLANDS 61.41 216 T T 22 27 14.8
baz=57,slow=75,SNR=826
H04N1 CROZET ISLANDS 61.42 216 T T 22 27 15.3
baz=57,slow=75,SNR=807
H04N3 CROZET ISLANDS 61.42 216 T T 22 27 13.9
baz=57,slow=75,SNR=954
H04S1 CROZET ISLANDS 61.71 215 T T 22 27 31.1
baz=56,slow=75,SNR=67
H04S3 CROZET ISLANDS 61.72 215 T T 22 27 28.1
baz=56,slow=75,SNR=1066
H04S2 CROZET ISLANDS 61.73 215 T T 22 27 29.3
baz=56,slow=75,SNR=60
AKTO Aktyubinsk 61.98 331 LR LR 21 50 20.5
comp=Z,288nm,21.5s,baz=176,slow=38
AKTO Aktyubinsk 61.98 331 P **P** **21 21 24.2 -0.8**
KMBO Kilima Mbogo 62.10 269 P **P** **21 21 28.0 +1.2**
comp=Z,14nm,0.9s,baz=86,slow=16,SNR=22
KMBO LR LR 21 43 23.3
comp=Z,589nm,21.4s,baz=104,slow=31
comp=Z,14nm,0.9s
KMBO Kilima Mbogo 62.10 269 *i* P **P** **21 21 28.2 +1.4**
KMBO pmax pmax
comp=Z,14nm,0.9s
MNGR Mingechevir, A 62.88 318 P **P** **21 21 31.9 +0.7**
SEKA Sheki 63.00 318 P **P** **21 21 32.3 +0.2**
TYV Tymovskoe 63.20 29 *e*P **P** **21 21 34.6 +1.5**
TYV pmax pmax
comp=Z,300nm,5.3s
TYV pmax pmax
comp=Z,16nm,1.4s
NAX Nakhchivan 63.27 315 P **P** **21 21 34.4 +0.5**
GANJ Ganja 63.34 317 P **P** **21 21 34.9 +0.6**
LODK Lodwar 64.10 274 P **P** **21 21 40.4 +0.6**
LODK Lodwar 64.10 274 P **P** **21 21 42.1 +2.2**
GNI Garni 64.21 316 P **P** **21 21 40.5 +0.3**
GNI Garni 64.21 316 LR LR 21 50 43.3
comp=Z,157nm,21.8s,baz=116,slow=37
GNI Garni 64.21 316*c* *i*P **P** **21 21 40.7 +0.6**
GNI pmax pmax
comp=Z,97nm,1.3s
GNI Garni 64.21 316 P **P** **21 21 40.5 +0.3**
GNI Garni 64.21 316 P **P** **21 21 40.8 +0.6**
comp=Z,947nmcomp=Z,83nm,1.3s
GNI Garni 64.21 316 P **P** **21 21 41.1 +1.0**
GNI sP **sP** **21 21 56.3 -0.9**
GNI PcP **PcP** **21 22 15.5 +0.7**
GEVA Gevas 64.65 314 P **P** **21 21 42.9 -0.2**
GEVA IAmb IAmb 21 21 59.1
comp=Z,57nm,0.9s
TRLG Trialeti 65.24 317 P **P** **21 21 47.4 +0.5**
SVE Sverdlovsk 65.31 338*d* *i*P **P** **21 21 47.1 +0.3**
SVE pmax pmax
comp=Z,109nm,1.3s
SVE MLR MLR
comp=Z,412nm,21.0s
GURO Guroymak-BITLI 65.49 313 P **P** **21 21 48.6 +0.1**
CASY Casey 65.85 175 P **P** **21 21 51.0 +0.9**
CASY IAmb IAmb 21 22 07.8
comp=Z,57nm,1.4s
CASY Casey 65.85 175 ⇑P **P** **21 21 51.7 +1.6**
CASY pP **pP** **21 22 02.7 +0.5**
ARTI Arti 65.88 336 P **P** **21 21 50.0 -0.5**
ARTI IAmb IAmb 21 21 50.6
comp=Z,46nm,0.6s
ARTI Arti 65.88 336 LR LR 21 52 56.9
comp=Z,529nm,21.1s,baz=132,slow=38
ARTI Arti 65.88 336*c* *i*P **P** **21 21 50.0 -0.5**
ARTI *PP **sP** **21 22 05.5 -2.0**
ARTI 21 22 21.2
ARTI S **S** **21 30 33.5 -0.8**
ARTI pmax pmax
comp=Z,74nm,1.3s
ARTI MLR MLR
comp=Z,513nm,19.0s
ARTI Arti 65.88 336 ⇑P **P** **21 21 50.2 -0.3**
ARTI sP **sP** **21 22 06.3 -1.2**
MARD Mardin 65.95 312 P **P** **21 21 51.5 -0.1**
NCK Nalchik 66.41 319*c* *i*P **P** **21 21 54.8 +0.6**
NCK pmax pmax
comp=Z,51nm,0.7s
YAK Yakutsk 66.73 15 P **P** **21 21 54.7 -1.1**
YAK IAmb IAmb 21 22 16.1
comp=Z,88nm,1.0s
YAK Yakutsk 66.73 15 P **P** **21 21 54.9 -0.9**
comp=Z,14nm,0.4s,baz=213,slow=8.9,SNR=19
YAK S **S** **21 30 39.5 -4.8**
comp=Z,2.4nm,0.4s,baz=246,slow=20,SNR=1.4
comp=Z,14nm,0.4s
YAK Yakutsk 66.73 15 *e*P **P** **21 21 53.5 -2.3**
YAK *e**PP **sP** **21 22 12.5 -0.3**
YAK *e* 21 22 21.2
YAK *e* 21 24 20.0
YAK *e*PPP PPP 21 25 56.3
YAK *e*S **S** **21 30 37.7 -6.7**
YAK *e**SS **pS** **21 31 02.0 +2.4**
YAK *e* 21 31 41.9
YAK *e*SSS SSS 21 37 58.0
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=N,31nm,1.3s
YAK pmax pmax
comp=E,34nm,1.8s
YAK pmax pmax
comp=Z,126nm,4.2s
YAK pmax pmax
comp=N,90nm,4.7s
YAK pmax pmax
comp=E,83nm,5.3s
YAK smax smax
comp=N,176nm,3.9s
YAK smax smax
comp=E,89nm,4.1s
YAK Yakutsk 66.73 15 P **P** **21 21 54.9 -0.9**
YAK pP **pP** **21 22 07.5 -0.5**
KBZ Khabaz 66.97 319 P **P** **21 21 58.1 +0.4**
comp=E,59nm,0.8s,baz=119,slow=5.7,SNR=104
KBZ LR LR 21 54 39.6
comp=E,204nm,20.3s,baz=114,slow=39
comp=E,59nm,0.8s
KBZ Khabaz 66.97 319*c* *i*P **P** **21 21 57.9 +0.2**
KBZ pmax pmax
comp=Z,83nm,0.9s
SHA1 Shidzhatmaz 67.13 319*c* *i*P **P** **21 21 59.3 +0.2**
KOPT Kop Dagi 67.14 314 P **P** **21 21 59.2 -0.1**
KOPT IAmb IAmb 21 22 16.5
comp=Z,54nm,0.9s
KIV Kislovodsk 67.20 319 P **P** **21 21 59.7 +0.4**
KIV Kislovodsk 67.20 319 P **P** **21 21 59.9 +0.5**
KIV Kislovodsk 67.20 319 ⇑P **P** **21 21 59.2 -0.2**
KIV Kislovodsk 67.20 319 *e*P **P** **21 21 57.3 -2.1**
KIV *e*S **S** **21 30 49.0 -2.1**
KIV pmax pmax
comp=Z,80nm,1.0s
KIV pmax pmax
comp=Z,82nm,4.4s
KIV MLR MLR
comp=Z,94nm,17.0s
KIV Kislovodsk 67.20 319 *i* P **P** **21 21 59.5 +0.2**
SNR=32
KIV Kislovodsk 67.20 319 P **P** **21 21 59.3 -0.1**
comp=Z,969nmcomp=Z,108nm,1.0s
KIV Kislovodsk 67.20 319 P **P** **21 21 59.6 +0.2**
KIV pP **pP** **21 22 11.3 -0.3**
KIV PcP **PcP** **21 22 26.8 -0.3**
ASF Jabal al Asfar 67.36 305 LR LR 21 53 48.7
comp=Z,216nm,18.0s,baz=132,slow=38
GOF Gofitskoye 67.45 320*ce* P **P** **21 22 00.9 +0.2**
GHAJ Ghor Haditha 68.22 304 P **P** **21 22 06.2 +0.3**
GHAJ IAmb IAmb 21 22 07.8
comp=Z,72nm,0.9s
EIL Elat 68.33 302 LR LR 21 52 27.2
comp=Z,630nm,18.7s,baz=85,slow=36
BALJ Balqa 68.37 305 P **P** **21 22 07.2 +0.4**
BALJ IAmb IAmb 21 22 22.7
comp=Z,91nm,1.3s
SANVU Saraoutou 68.45 106 P **P** **21 22 07.2 -0.4**
SANVU IAmb IAmb 21 22 09.6
comp=Z,65nm,1.3s
SANVU Saraoutou 68.45 106 P **P** **21 22 08.4 +0.8**
DZM Mont Dzumac 68.52 113 P **P** **21 22 08.0 0.0**
DZM IAmb IAmb 21 22 44.7
comp=Z,46nm,1.4s
DZM Mont Dzumac 68.52 113 *e*P P 21 22 00.7 -7.3
comp=Z,53nm,1.2s
DZM *e*S **S** **21 31 10.0 +2.4**
comp=Z,121nm,25.7s
DZM *e*SS **SS** **21 35 28.2 -4.1**
comp=Z,88nm,23.3s
DZM *e*LR LR 21 42 58.0
comp=Z,514nm,26.4s
DZM Mont Dzumac 68.52 113 P **P** **21 22 08.9 +0.9**
GAZ Gaziantep 68.59 311 P **P** **21 22 08.7 +0.5**
GAZ IAmb IAmb 21 22 23.8
comp=Z,79nm,0.9s
VLAKA Lakatoro 68.72 107 P **P** **21 22 10.0 +0.7**
VSLR Vesyoloye 68.77 318*c* *i*P **P** **21 22 09.0 -0.1**
VSLR pmax pmax
comp=Z,186nm,1.2s
MMAI Mount Meron Ar 68.81 306 P **P** **21 22 10.8 +1.2**
comp=Z,24nm,0.8s,baz=106,slow=7.8,SNR=43
MMAI LR LR 21 54 03.5
comp=Z,250nm,19.3s,baz=104,slow=37
comp=Z,24nm,0.8s
OUENC Ouen Island, N 68.93 114 P **P** **21 22 11.0 +0.5**
SOC Sochi 69.02 318 *e*P **P** **21 22 07.6 -3.0**
SOC *e* 21 24 40.8
SOC *e*PPP PPP 21 26 21.0
SOC *e*S **S** **21 31 08.7 -3.9**
SOC *e*SS **SS** **21 35 41.9 +2.7**
SOC pmax pmax
comp=Z,110nm,0.8s
ERBR Yeremizino-Bor 69.36 320 *e*P **P** **21 22 11.8 -0.9**
ERBR *e**PP **pP** **21 22 25.3 +0.3**
ERBR *e*S **S** **21 31 16.1 -0.4**
ERBR pmax pmax
comp=Z,90nm,0.9s
PINNC Pines Island, 69.51 114 P **P** **21 22 14.3 +0.3**
PINNC IAmb IAmb 21 23 11.5
comp=Z,67nm,1.3s
POGA Pongola 69.86 241 P **P** **21 22 17.1 +0.9**
POGA IAmb IAmb 21 22 18.7
comp=Z,52nm,1.1s
BNN Bunyan 70.14 312 P **P** **21 22 17.6 -0.2**
BNN IAmb IAmb 21 22 18.9
comp=Z,38nm,1.0s
TOKA Tokat 70.14 314 P **P** **21 22 17.9 +0.3**
SKR Severo-Kuril's 70.22 34 *e*P **P** **21 22 17.8 0.0**
SKR *e*S **S** **21 31 26.4 +0.1**
SKR pmax pmax
comp=Z,128nm,1.1s
SKR pmax pmax
comp=Z,200nm,9.9s
SKR MLR MLR
comp=Z,600nm,18.0s
VRH Novokhopyorsk 70.96 326 *e*P **P** **21 22 18.7 -3.6**
VRH *e**PP **pP** **21 22 32.6 -2.1**
VRH pmax pmax
comp=Z,60nm,0.9s
CSS Mathiatis 70.98 307 P **P** **21 22 22.4 -0.5**
CSS IAmb IAmb 21 22 24.4
comp=Z,106nm,1.2s
CSS Mathiatis 70.98 307 P **P** **21 22 23.1 +0.3**
comp=Z,834nmcomp=Z,75nm,1.3s
KIRV Kirov 71.00 335 LR LR 21 56 10.9
comp=Z,270nm,19.8s,baz=132,slow=38
KIRV Kirov 71.00 335*c* *i*P **P** **21 22 22.2 -0.2**
ANN Anapa 71.00 318 *e*P **P** **21 22 20.9 -1.8**
ANN *e**PP **pP** **21 22 35.3 +0.2**
ANN *e* 21 25 00.6
ANN *e*S **S** **21 31 33.8 -1.9**
ANN *e*SS **SS** **21 36 09.7 +0.2**
ANN pmax pmax
comp=Z,34nm,1.1s
MAW Mawson 71.31 194 P **P** **21 22 26.0 +1.9**
MAW Mawson 71.31 194 P **P** **21 22 26.0 +1.9**
comp=Z,23nm,1.0s,baz=30,slow=9.6,SNR=27
MAW LR LR 21 46 36.2
comp=Z,667nm,22.0s,baz=32,slow=30
comp=Z,23nm,1.0s
LSZ Lusaka 71.64 254 P **P** **21 22 27.3 -0.1**
LSZ IAmb IAmb 21 22 29.5
comp=Z,91nm,1.9s
LSZ Lusaka 71.64 254 LR LR 21 48 53.4
comp=Z,706nm,21.1s,baz=100,slow=32
LSZ Lusaka 71.64 254 P **P** **21 22 28.2 +0.8**
LSZ Lusaka 71.64 254 P **P** **21 22 27.3 -0.1**
LSZ pmax pmax
comp=Z,91nm,2.0s
KIRS Kirsehir-Merke 71.66 312 ⇓P **P** **21 22 26.0 -1.0**
DRV Dumont d'Urvil 71.67 164 P **P** **21 22 27.1 +0.8**
DRV pP **pP** **21 22 36.4 -2.1**
MATP Matopo 71.82 249 LR LR 21 48 39.7
comp=Z,396nm,22.0s,baz=70,slow=31
BR104 Keskin Array S 72.02 312 P **P** **21 22 27.9 -1.3**
comp=Z,197nmcomp=Z,24nm,0.9s
BR131 Keskin Array S 72.03 312 P **P** **21 22 28.0 -1.2**
BR131 Keskin Array S 72.03 312 P **P** **21 22 28.8 -0.5**
SNR=16
BR131 Keskin Array S 72.03 312 P **P** **21 22 28.0 -1.2**
BR131 pmax pmax
comp=Z,22nm,0.8s
BRTR Keskin Array B 72.03 312 P **P** **21 22 28.5 -0.8**
BRTR Keskin Array B 72.03 312 P **P** **21 22 28.3 -0.9**
comp=Z,14nm,0.8s,baz=131,slow=6.8,SNR=112
BRTR LR LR 21 56 00.0
comp=Z,97nm,21.9s,baz=108,slow=37
comp=Z,14nm,0.8s
BRTR Keskin Array B 72.03 312 *i* P **P** **21 22 28.5 -0.8**
BRTR pmax pmax
comp=Z,15nm,0.8s
BR105 Keskin Array S 72.05 312 P **P** **21 22 28.4 -1.0**
comp=Z,231nmcomp=Z,26nm,0.9s
BR106 Keskin Array S 72.05 312 P **P** **21 22 28.4 -1.0**
comp=Z,210nmcomp=Z,25nm,1.0s
MA2 Magadan 72.19 25 P **P** **21 22 29.7 +0.1**
MA2 Magadan 72.19 25 P **P** **21 22 29.1 -0.5**
comp=Z,10nm,0.8s,baz=255,slow=5.6,SNR=8.7
comp=Z,10nm,0.8s
MA2 Magadan 72.19 25 P **P** **21 22 30.3 +0.7**
MA2 Magadan 72.19 25*c* *i*P **P** **21 22 29.4 -0.2**
MA2 pmax pmax
comp=Z,50nm,1.3s
MA2 Magadan 72.19 25 P **P** **21 22 29.4 -0.2**
comp=Z,548nmcomp=Z,48nm,1.3s
PEA0B Petropavlovsk- 72.20 33 P **P** **21 22 29.3 -0.5**
PEA0B Petropavlovsk- 72.20 33 P **P** **21 22 29.3 -0.5**
PEA0B pmax pmax
comp=Z,32nm,1.0s
PETK Petropavlovsk- 72.20 33 P **P** **21 22 29.2 -0.6**
PETK Petropavlovsk- 72.20 33 P **P** **21 22 29.1 -0.7**
comp=Z,8.5nm,0.6s,baz=233,slow=6.1,SNR=23
PETK LR LR 21 56 31.9
comp=Z,483nm,18.9s,baz=96,slow=38
comp=Z,8.5nm,0.6s
PETK Petropavlovsk- 72.20 33 P **P** **21 22 29.2 -0.6**
VORD Divnogorie 72.24 325 *e*P **P** **21 22 27.5 -2.5**
VORD *e**PP **pP** **21 22 40.3 -2.1**
VORD pmax pmax
comp=Z,40nm,0.9s
VSR Storozhevoye 72.41 325 *e*P **P** **21 22 28.2 -2.9**
VSR *e**PP **pP** **21 22 42.2 -1.3**
VSR pmax pmax
comp=Z,50nm,0.9s
BZK Bozkurt 72.42 315 P **P** **21 22 31.3 -0.1**
BZK Bozkurt 72.42 315 ⇑P **P** **21 22 31.2 -0.1**
BZK Bozkurt 72.42 315 P **P** **21 22 32.0 +0.7**
comp=Z,246nm,1.0s
PET Petropavlovsk 72.67 33 P **P** **21 22 32.4 -0.1**
PET IAmb IAmb 21 22 38.2
comp=Z,56nm,1.0s
PET Petropavlovsk 72.67 33 P **P** **21 22 32.4 -0.1**
PET Petropavlovsk 72.67 33 *e*P **P** **21 22 32.5 -0.1**
PET *e*S **S** **21 31 55.9 +1.3**
PET pmax pmax
comp=Z,60nm,0.6s
PET Petropavlovsk 72.67 33 P **P** **21 22 32.1 -0.5**
comp=Z,59nm,0.7s
ANTO Ankara 72.70 312 P **P** **21 22 32.1 -1.0**
ANTO IAmb IAmb 21 22 33.9
comp=Z,42nm,1.0s
ANTO Ankara 72.70 312 P **P** **21 22 33.1 0.0**
ANTO Ankara 72.70 312 ⇓P **P** **21 22 32.7 -0.4**
ANTO Ankara 72.70 312 P **P** **21 22 32.1 -1.0**
ANTO pmax pmax
comp=Z,42nm,1.0s
ANTO Ankara 72.70 312 P **P** **21 22 32.4 -0.7**
comp=Z,323nmcomp=Z,27nm,1.3s
BROLN Tlhalogang 72.97 248 *i* P **P** **21 22 36.1 +0.9**
MREMI Moremi 73.02 247 *i* P **P** **21 22 36.5 +1.0**
MREMI Moremi 73.02 247 P **P** **21 22 35.7 +0.2**
MREMI IAmb IAmb 21 22 37.5
comp=Z,64nm,1.0s
LPSR Galich'ya Gora 73.12 326 *e*P **P** **21 22 33.2 -2.1**
LPSR *e**PP **pP** **21 22 47.0 -0.7**
LPSR pmax pmax
comp=Z,70nm,0.9s
CIDE Kastamonu/Cide 73.15 314 ⇑P **P** **21 22 34.6 -1.1**
SIM Simferopol' 73.27 318*c* *i*P **P** **21 22 36.1 -0.2**
SIM *e* 21 22 53.0
SIM *e*S **S** **21 31 58.0 -3.8**
SIM pmax pmax
comp=Z,206nm,1.3s
KHAM Kharkiv 73.65 323 P **P** **21 22 38.7 +0.2**
ISP Isparta 73.88 310 P **P** **21 22 39.0 -1.2**
ISP Isparta 73.88 310*ce* P **P** **21 22 38.9 -1.3**
ISP pmax pmax
comp=Z,26nm,1.0s
MDUB Mudurnu 74.04 313 P **P** **21 22 40.8 -0.3**
MSZ Milford Sound 74.33 136 P **P** **21 22 44.5 +2.0**
LPHEP Lephephe 74.56 246 *i* P **P** **21 22 45.4 +0.9**
LPHEP Lephephe 74.56 246 P **P** **21 22 44.8 +0.4**
LPHEP IAmb IAmb 21 22 46.7
comp=Z,67nm,1.1s
WHZ Wether Hill Ro 74.66 138 P **P** **21 22 45.6 +1.1**
KSANE Kasane 74.73 252 *i* P **P** **21 22 47.0 +1.5**
KSANE Kasane 74.73 252 P **P** **21 22 46.1 +0.6**
SEY Seymchan 74.74 22 P **P** **21 22 43.8 -0.7**
comp=Z,11nm,0.9s,baz=234,slow=9.6,SNR=9.2
comp=Z,11nm,0.9s
SEY Seymchan 74.74 22*c* *i*P **P** **21 22 44.4 -0.1**
SEY pmax pmax
comp=Z,32nm,1.1s
TIXI Tiksi 74.76 9 P **P** **21 22 43.6 -0.8**
TIXI IAmb IAmb 21 22 49.7
comp=Z,65nm,1.1s
TIXI Tiksi 74.76 9 P **P** **21 22 43.7 -0.8**
comp=Z,32nm,1.0s,baz=206,slow=5.6,SNR=49
TIXI S **S** **21 32 13.3 -4.1**
baz=295,slow=19,SNR=8.9
comp=Z,32nm,1.0s
TIXI Tiksi 74.76 9 P **P** **21 22 43.6 -0.8**
TIXI pmax pmax
comp=Z,65nm,1.1s
LBTB Lobatse 74.97 244 P **P** **21 22 47.4 +0.6**
LBTB IAmb IAmb 21 22 49.0
comp=Z,49nm,1.2s
LBTB Lobatse 74.97 244 LR LR 21 51 53.9
comp=Z,937nm,18.5s,baz=92,slow=32
LBTB Lobatse 74.97 244 P **P** **21 22 47.4 +0.6**
MOS Moscow 75.12 329 *e*P **P** **21 22 46.3 -0.6**
MOS *e* 21 22 59.4
MOS *e* 21 23 04.9
MOS *e* 21 25 34.1
MOS *e*S **S** **21 32 21.5 -0.6**
MOS pmax pmax
comp=Z,200nm,0.9s
MOS pmax pmax
comp=Z,168nm,0.8s
MOS pmax pmax
comp=E,100nm,0.9s
MOS pmax pmax
comp=E,44nm,0.8s
GRHM Grahamstown, E 75.38 236 P **P** **21 22 49.3 +0.4**
GRHM IAmb IAmb 21 24 15.5
comp=Z,88nm,1.5s
ARG Arkhangelos 75.39 308 P **P** **21 22 48.5 -0.4**
ARG IAmb IAmb 21 23 08.3
comp=Z,122nm,1.3s
ARG Arkhangelos 75.39 308 P **P** **21 22 48.5 -0.4**
ARG pmax pmax
comp=Z,122nm,1.3s
YLV Yalova 75.41 312 P **P** **21 22 48.1 -0.9**
comp=Z,1µmcomp=Z,101nm,1.0s
OBN Obninsk 75.42 328 P **P** **21 22 48.0 -0.5**
OBN Obninsk 75.42 328 LR LR 21 59 23.9
comp=Z,187nm,21.6s,baz=144,slow=38
OBN Obninsk 75.42 328 ⇑P **P** **21 22 47.5 -1.0**
OBN Obninsk 75.42 328*c* *i*P **P** **21 22 48.4 -0.2**
OBN *i* 21 23 01.5
OBN *e* 21 23 06.4
OBN *e* 21 25 36.5
OBN *e*PPP PPP 21 27 24.3
OBN *e*S **S** **21 32 25.7 +0.3**
OBN *e*SS **SS** **21 37 17.7 +1.2**
OBN pmax pmax
comp=Z,181nm,1.3s
OBN MLR MLR
comp=Z,175nm,20.0s
OBN Obninsk 75.42 328 P **P** **21 22 48.1 -0.5**
comp=Z,1µmcomp=Z,120nm,1.2s
PHDHD Phuduhudu 75.50 249 P **P** **21 22 49.9 0.0**
PHDHD IAmb IAmb 21 22 52.0
comp=Z,56nm,1.1s
MANT Manisa 75.54 310 P **P** **21 22 49.5 -0.5**
KDWAN Kaudwane 75.66 246 *i* P **P** **21 22 51.9 +1.1**
BOSA Boshof 75.69 241 P **P** **21 22 51.0 +0.1**
BOSA IAmb IAmb 21 22 52.7
comp=Z,88nm,1.4s
BOSA Boshof 75.69 241 P **P** **21 22 51.6 +0.7**
comp=Z,25nm,0.9s,baz=82,slow=6.9,SNR=34
BOSA LR LR 21 50 05.8
comp=Z,668nm,21.6s,baz=78,slow=31
comp=Z,25nm,0.9s
BOSA Boshof 75.69 241 P **P** **21 22 51.0 +0.1**
BOSA pmax pmax
comp=Z,88nm,1.4s
TUZ Tuapeka 75.81 137 P **P** **21 22 52.8 +1.7**
LBZ Lake Benmore 75.83 136 P **P** **21 22 52.2 +1.0**
WVZ Waitaha Valley 75.93 134 P **P** **21 22 52.9 +1.1**
KARP Karpathos 76.03 307 P **P** **21 22 52.6 +0.1**
KARP Karpathos 76.03 307 P **P** **21 22 52.7 +0.1**
comp=Z,1µmcomp=Z,194nm,0.9s
RPZ Rata Peaks 76.29 135 LR LR 21 54 26.9
comp=Z,280nm,21.0s,baz=306,slow=34
INZ Inchbonnie 76.36 134 P **P** **21 22 55.2 +0.9**
CTYL Yalikoy Yolu 76.42 313 ⇑P **P** **21 22 54.5 -0.1**
KLMR Klimovskoe 76.45 334 *e*P **P** **21 22 53.0 -1.4**
KLMR *e* 21 25 44.9
KLMR pmax pmax
comp=Z,152nm,1.5s
PURM Purcari 76.58 318 P **P** **21 22 55.1 -0.2**
comp=Z,4µmcomp=Z,155nm,1.0s
MANR Mangalia 76.76 315 ⇑P **P** **21 22 56.7 +0.2**
JURR Jurilovca 76.79 316 ⇑P **P** **21 22 56.1 -0.5**
QRZ Quartz Range 76.79 132 P **P** **21 22 57.9 +1.1**
QRZ Quartz Range 76.79 132 P **P** **21 22 58.3 +1.5**
PHSR Pinarhisar 77.01 313 ⇓P **P** **21 22 57.7 -0.3**
TIRR Tirgusor 77.03 316 P **P** **21 22 57.6 -0.4**
TIRR IAmb IAmb 21 22 58.9
comp=Z,44nm,0.9s
TIRR Tirgusor 77.03 316 ⇑P **P** **21 22 58.0 0.0**
TIRR Tirgusor 77.03 316 P **P** **21 22 57.6 -0.4**
TIRR pmax pmax
comp=Z,44nm,0.9s
TIRR Tirgusor 77.03 316 P **P** **21 22 57.8 -0.2**
comp=Z,629nmcomp=Z,60nm,0.9s
MRNZ Matariki Terra 77.07 132 P **P** **21 22 59.0 +0.7**
TPGR Topolog 77.13 316 ⇑P **P** **21 22 57.4 -1.1**
BAL3X Bal3x, Balta 77.13 320 P **P** **21 22 57.5 -1.0**

THZ Tophouse 77.24 133 P P 21 22 59.9 +0.6
THZ IAmb IAmb 21 23 01.2
comp=Z,77nm,1.0s
THZ Tophouse 77.24 133 P P 21 23 00.5 +1.1
TLBR Topalu 77.31 316 ⇑P P 21 22 59.6 +0.1
ICOR Ion Corvin 77.38 316 ⇑P P 21 22 59.4 -0.5
MILM Milestii Mici 77.38 319⇑ iP P 21 22 58.9 -0.9
comp=Z,260nm,1.7s
MILM i pP pP 21 23 12.0 -0.3
MILM Milestii Mici 77.38 319 ⇑P P 21 22 59.3 -0.6
MILM Milestii Mici 77.38 319c iP P 21 22 59.0 -0.9
MILM i *PP pP 21 23 12.0 -0.3
MILM pmax pmax
comp=Z,260nm,1.7s
KIS Kishinev 77.40 319⇑ iP P 21 22 59.0 -1.0
comp=Z,150nm,2.7s
KIS Kishinev 77.40 319c iP P 21 22 59.0 -1.0
KIS pmax pmax
comp=Z,150nm,2.7s
KIS Kishinev 77.40 319 P P 21 22 59.1 -1.0
comp=Z,46nm,0.9s
CFR Carcaliu 77.40 317 ⇑P P 21 22 59.4 -0.6
CFR Carcaliu 77.40 317 P P 21 22 59.4 -0.6
HARR Harsova 77.42 316 ⇑P P 21 23 00.1 -0.1
HARR Harsova 77.42 316 P P 21 23 00.0 -0.1
PHPEN Phepeng 77.49 244 P P 21 23 01.5 +0.4
PHPEN IAmb IAmb 21 23 03.1
comp=Z,52nm,1.1s
NNZ Nelson 77.50 132 P P 21 23 01.4 +0.7
EZN Ezine 77.52 311 ⇑P P 21 23 00.2 -0.6
EZN Ezine 77.52 311 P P 21 23 00.2 -0.6
EZN Ezine 77.52 311 P P 21 23 00.0 -0.8
comp=Z,35nm,1.1s
NEF NEVSHA 77.56 315 iP P 21 23 00.9 -0.1
GVZ Greta Valley S 77.56 134 iP P 21 23 01.9 +0.9
VLDR Vladesti 77.60 317 ⇑P P 21 23 00.8 -0.3
GMARE Gumare 77.67 250 P P 21 23 02.7 +0.5
GMARE IAmb IAmb 21 23 04.7
comp=Z,43nm,1.2s
VARL Varlezi 77.77 317 ⇑P P 21 23 02.3 +0.2
IDI Anoyia 77.80 306 P P 21 23 02.3 -0.3
IDI IAmb IAmb 21 23 03.9
comp=Z,47nm,0.8s
KHZ Kahutara 77.82 133 P P 21 23 02.5 0.0
KHZ Kahutara 77.82 133 P P 21 23 03.1 +0.6
KGCAE Kacgae 77.87 247 iP P 21 23 04.4 +1.2
KGCAE Kacgae 77.87 247 P P 21 23 03.5 +0.2
KGCAE IAmb IAmb 21 23 05.6
comp=Z,104nm,1.2s
ALN Alexandroupoli 77.94 312 P P 21 23 02.7 -0.5
ALN IAmb IAmb 21 23 04.1
comp=Z,46nm,1.1s
ALN Alexandroupoli 77.94 312 P P 21 23 02.7 -0.5
ALN pmax pmax
comp=Z,46nm,1.1s
VASR Vaslui 77.99 318 ⇑P P 21 23 03.7 +0.4
SORM Soroca 78.00 320 ⇑P P 21 23 03.1 -0.2
SORM Soroca 78.00 320 P P 21 23 03.0 -0.2
SORM Soroca 78.00 320 P P 21 23 02.9 -0.4
comp=Z,1µmcomp=Z,130nm,1.0s
LOZB Loznitsa 78.06 315 ⇓P P 21 23 03.8 0.0
AK09 Malin Array Si 78.07 322 P P 21 23 02.8 -0.8
AK10 Malin Array Si 78.09 322 P P 21 23 03.1 -0.6
AK08 Malin Array Si 78.09 322 P P 21 23 03.1 -0.7
GHRR 78.11 317 ⇓P P 21 23 03.5 -0.5
AK06 Malin Array Si 78.11 322 P P 21 23 03.2 -0.7
AKASG Malin Array Be 78.13 322 P P 21 23 02.8 -1.1
AKASG Malin Array Be 78.13 322 P P 21 23 03.2 -0.7
comp=Z,14nm,0.9s,baz=90,slow=5.4,SNR=62
AKASG LR LR 22 01 34.6
comp=Z,180nm,20.9s,baz=106,slow=39
comp=Z,14nm,0.9s
AKASG Malin Array Be 78.13 322 iP P 21 23 03.4 -0.6
AKASG pmax pmax
comp=Z,23nm,0.9s
AKBB Malin Array Si 78.13 322 P P 21 23 03.3 -0.7
AKBB IAmb IAmb 21 23 04.6
comp=Z,40nm,1.1s
AKBB Malin Array Si 78.13 322 P P 21 23 03.3 -0.7
AKBB pmax pmax
comp=Z,40nm,1.1s
AKBB Malin Array Si 78.13 322 P P 21 23 03.0 -1.0
AK01 Malin Array Si 78.14 322 P P 21 23 03.0 -1.0
KIEV Kiev 78.14 322 P P 21 23 03.0 -0.9
KIEV Kiev 78.14 322 ⇑P P 21 23 03.4 -0.6
KIEV Kiev 78.14 322 P P 21 23 03.1 -0.9
KIEV pmax pmax
comp=Z,36nm,1.1s
KIEV Kiev 78.14 322 iP P 21 23 03.3 -0.8
SNR=24
KIEV Kiev 78.14 322 P P 21 23 03.2 -0.8
comp=Z,2µmcomp=Z,135nm,1.0s
MKAZ Moumakai 78.22 128 P P 21 23 07.0 +2.2
AK22 Malin Array Si 78.24 322 P P 21 23 03.6 -1.0
PANC Panciu 78.24 317 ⇓P P 21 23 05.0 +0.3
ODBI Odobesti 78.28 317 P P 21 23 05.9 +1.0
comp=Z,18nm,0.9s
RDO Rodhopi 78.37 312 P P 21 23 04.9 -0.7
BISRR Bisoca 78.47 317 ⇓P P 21 23 06.9 +0.8
WAZ Wanganui 78.47 130 P P 21 23 08.0 +1.9
ISR Istrita 78.48 316 ⇑P P 21 23 06.6 +0.4
ISR Istrita 78.48 316 P P 21 23 06.6 +0.4
ELND Elena 78.48 314 ⇑P P 21 23 05.2 -0.9
SNZO South Karori 78.50 132 P P 21 23 06.5 +0.3
VRI Vrincioaia 78.53 317 ⇑P P 21 23 07.0 +0.7
VRI Vrincioaia 78.53 317 P P 21 23 07.0 +0.7
VRI Vrincioaia 78.53 317 P P 21 23 06.8 +0.5
comp=Z,1µmcomp=Z,120nm,1.3s
PLOR5 Plostina Array 78.56 317 P P 21 23 07.0 +0.4
comp=Z,1µmcomp=Z,91nm,1.7s
PLOR Plostina 78.58 317 ⇑P P 21 23 06.4 -0.2
PLOR Plostina 78.58 317 P P 21 23 06.4 -0.2
SULR 78.59 316 ⇑P P 21 23 06.9 +0.3
KDZ Kurdzhali 78.61 313 iP P 21 23 06.4 -0.5
KUZ Kuaotunu 78.61 127 P P 21 23 07.6 +0.6
KUZ Kuaotunu 78.61 127 P P 21 23 08.6 +1.6
GRTLG Ghanzi 78.68 248 iP P 21 23 08.8 +1.0
GRTLG Ghanzi 78.68 248 P P 21 23 08.2 +0.3
NEHR Nehoiu 78.72 317 ⇓P P 21 23 07.2 -0.2
TESR Tescani 78.73 318 ⇑P P 21 23 07.0 -0.3
TESR Tescani 78.73 318 P P 21 23 07.8 +0.4
comp=Z,2µmcomp=Z,152nm,1.2s
NDNU Novodnistrovsk 78.75 320 P P 21 23 07.2 -0.2
SYO Syowa Base 78.82 199⇑ iP P 21 23 09.0 +1.6
SYO Syowa Base 78.82 199⇑ ipP pP 21 23 21.0 +1.2
LUBAR Lubar, Ukraine 78.83 321 P P 21 23 06.8 -1.1
COVR Voineasa-Covas 78.88 317 ⇑P P 21 23 08.3 +0.1
MLR Muntele Rosu 78.98 317 P P 21 23 09.4 +0.4
MLR Muntele Rosu 78.98 317 ⇑P P 21 23 09.6 +0.7
MLR Muntele Rosu 78.98 317 P P 21 23 09.4 +0.4
MLR pmax pmax
comp=Z,118nm,1.0s
MLR Muntele Rosu 78.98 317 P P 21 23 09.6 +0.7
comp=Z,1µmcomp=Z,119nm,1.2s
MRZ Mangatainoka R 79.05 131 P P 21 23 10.3 +1.0
TURR Turia 79.05 317 ⇑P P 21 23 09.6 +0.4
RZN Rozhen 79.07 313 iP P 21 23 09.2 -0.4
MI28 Mi28_Pidlybu 79.14 322 P P 21 23 08.9 -0.6
PRAR RASCA 79.20 319 ⇑P P 21 23 10.0 0.0
OZUR 79.22 317 ⇑P P 21 23 09.8 -0.3
BOSR Bodos 79.30 317 ⇑P P 21 23 10.7 +0.1
KMPD K-Podol'skiy 79.32 320 P P 21 23 09.8 -0.8
DOPR Dopca 79.46 317 ⇑P P 21 23 10.9 -0.5
PLVB Pleven 79.48 314 ⇑P P 21 23 11.1 -0.5
HORU Horodok 79.50 320 P P 21 23 10.9 -0.6
HORU Horodok 79.50 320 P P 21 23 11.3 -0.2
BKZ Black Stump Fm 79.54 130 P P 21 23 12.2 +0.1
BKZ IAmb IAmb 21 23 13.6
comp=Z,78nm,0.8s
BKZ Black Stump Fm 79.54 130 P P 21 23 11.9 -0.2
BKZ Black Stump Fm 79.54 130 P P 21 23 12.5 +0.5
BFZ Birch Farm 79.56 131 P P 21 23 12.6 +0.5
BFZ Birch Farm 79.56 131 P P 21 23 13.0 +0.9
VOIR 79.58 316 ⇑P P 21 23 11.3 -1.0
VOIR 79.58 316 P P 21 23 11.2 -1.0
VOIR 79.58 316 P P 21 23 11.4 -0.8
comp=Z,17nm,0.9s
PGB Panagyurishte 79.63 313 iP P 21 23 12.1 -0.4
KOOLE Kule 79.72 247 iP P 21 23 14.6 +1.0
KOOLE Kule 79.72 247 P P 21 23 14.2 +0.6
VLAD Vladila 79.75 315 ⇑P P 21 23 13.5 +0.5
MMB Musomishta 79.77 312 iP P 21 23 16.6 +3.3
ARR Arges 79.86 316 ⇑P P 21 23 13.5 -0.1

URZ Urewera 79.90 129 LR LR 22 00 14.4
comp=Z,318nm,20.3s,baz=270,slow=37
URZ Urewera 79.90 129 P P 21 23 14.7 +0.7
URZ Urewera 79.90 129 P P 21 23 14.0 +0.1
SUR Sutherland 79.92 237 P P 21 23 15.3 +0.8
SUR IAmb IAmb 21 23 17.5
comp=Z,51nm,0.9s
SUR Sutherland 79.92 237 P P 21 23 16.6 +2.1
BURAR Bucovina Array 79.92 319 P P 21 23 14.9 +0.8
BURAR IAmb IAmb 21 23 16.6
comp=Z,81nm,0.8s
BURAR Bucovina Array 79.92 319 ⇑P P 21 23 15.2 +1.2
BURAR Bucovina Array 79.92 319 P P 21 23 15.2 +1.2
PXZ Pawanui 79.93 130 P P 21 23 15.3 +1.2
SOH Sokhos 79.94 312 P P 21 23 13.6 -0.6
SOH pmax pmax
comp=Z,40nm,1.4s
MNK Minsk 79.96 326 iP P 21 23 13.5 -0.4
MNK i *PP pP 21 23 26.8 +0.4
MNK i 21 26 14.9
MNK i PPP PPP 21 28 03.9
MNK i S S 21 33 13.6 -0.9
MNK i SS SS 21 38 25.9 +1.0
MNK i SSS SSS 21 41 51.9
MNK pmax pmax
comp=Z,119nm,0.9s
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,66nm,1.0s
MNK MLR MLR
comp=E,117nm,19.0s
MNK MLR MLR
comp=N,96nm,21.0s
MNK MLR MLR
comp=Z,56nm,15.0s
MPEP Malo Peshtene 80.10 314 iP P 21 23 15.1 +0.1
TNR Turnu Rosu 80.16 317 ⇑P P 21 23 14.8 -0.5
TNR Turnu Rosu 80.16 317 P P 21 23 14.7 -0.5
TGMR Targu Mures 80.16 317 ⇑P P 21 23 15.5 +0.2
PLNA Piana 80.17 313 iP P 21 23 15.5 0.0
KSV Kosov 80.17 319 P P 21 23 15.3 +0.1
THE Thessaloniki 80.20 311 P P 21 23 14.6 -0.9
THE pmax pmax
comp=Z,28nm,1.4s
MWZ Matawai 80.24 129 P P 21 23 16.0 +0.2
PUL Pulkovo 80.25 331d iP P 21 23 16.4 +1.1
PUL pmax pmax
comp=Z,146nm,1.0s
KKB Krupnik 80.28 313 iP P 21 23 15.3 -0.7
RNPP5 Staryi Chortor 80.31 322 P P 21 23 15.7 -0.2
VTS Vitosha 80.33 313 iP P 21 23 16.2 -0.2
RNPP9 Sopachiv 80.35 322 P P 21 23 15.3 -0.8
RNPP8 Varash 80.35 322 P P 21 23 15.3 -0.8
HAZ Te Kaha 80.37 128 P P 21 23 16.3 -0.2
ARCR ARCALIA 80.39 318 ⇑P P 21 23 17.1 +0.7
AGG Agios Georgios 80.42 310 P P 21 23 15.1 -1.7
AGG pmax pmax
comp=Z,28nm,1.6s
VAY Valandovo 80.60 312 iP P 21 23 17.1 -0.6
STNU Starunia 80.62 320 P P 21 23 16.6 -1.0
RAKU Rahkiv 80.70 319 P P 21 23 18.2 +0.1
PUZ Puketiti 80.78 128 P P 21 23 18.1 -0.7
CJR Cluj-Napoca 80.83 317 ⇓P P 21 23 19.3 +0.5
CJR Cluj-Napoca 80.83 317 P P 21 23 19.3 +0.5
CBBR Cluj-Babes-Bol 80.87 318 ⇑P P 21 23 18.1 -0.9
BMR Baia Mare 81.08 318 ⇑P P 21 23 20.8 +0.7
BMR Baia Mare 81.08 318 P P 21 23 20.8 +0.7
MORS Morshin 81.10 320 P P 21 23 21.1 +0.9
MARR Marisel-Cluj 81.14 317 ⇑P P 21 23 21.2 +0.6
DEV Deva 81.14 317 ⇑P P 21 23 20.2 -0.3
DEV Deva 81.14 317 P P 21 23 20.2 -0.3
GZR Gura Zlata 81.14 316 ⇑P P 21 23 19.9 -0.8
GZR Gura Zlata 81.14 316 P P 21 23 19.8 -0.8
LVV L'vov 81.15 321 P P 21 23 21.0 +0.6
MEZ Mezhgor'ye 81.23 319 P P 21 23 21.5 +0.6
HERR Herculane 81.31 316 ⇑P P 21 23 20.8 -0.6
MESR Meseneni 81.34 318 ⇑P P 21 23 22.1 +0.6
KORU Korolevo 81.41 319 P P 21 23 22.5 +0.7
LVZ Lovozero 81.42 340 P P 21 23 21.1 -0.4
LVZ IAmb IAmb 21 23 22.1
comp=Z,30nm,0.7s
LVZ Lovozero 81.42 340c iP P 21 23 21.5 0.0
LVZ pmax pmax
comp=Z,102nm,1.8s
LVZ Lovozero 81.42 340 P P 21 23 22.1 +0.6
comp=Z,66nm,0.7s
DRGR 81.44 317 ⇑P P 21 23 22.7 +0.5
DRGR 81.44 317 P P 21 23 22.6 +0.5
TRSU Trosnyk 81.51 319 P P 21 23 23.6 +1.3
BRIU Brid 81.52 319 P P 21 23 22.9 +0.5
SKO Skopje 81.54 313 iP P 21 23 21.9 -0.8
BOVS Bovan 81.61 314 ⇑P P 21 23 22.8 -0.2
VSU Vasula 81.63 330de P P 21 23 21.6 -1.1
VSU pmax pmax
comp=Z,79nm,1.0s
BERU Beregovo 81.74 319 P P 21 23 24.1 +0.5
MUKU Mukachevo 81.75 319 P P 21 23 24.5 +0.9
MDVR Moldovita 81.78 315 ⇑P P 21 23 23.1 -0.8
OHR Ohrid 81.89 312 iP P 21 23 24.1 -0.5
KWP Kalwaria Pacla 81.96 320 eP P 21 23 25.3 +0.6
KWP epP pP 21 23 36.7 -0.5
KWP Kalwaria Pacla 81.96 320 P P 21 23 25.4 +0.7
KWP Kalwaria Pacla 81.96 320 P P 21 23 25.5 +0.7
comp=Z,69nm,1.1s
HOLU Holmets 81.97 319 P P 21 23 25.2 +0.5
TSUM Tsumeb 81.98 251 P P 21 23 25.7 0.0
TSUM Tsumeb 81.98 251 LR LR 21 56 28.8
comp=Z,490nm,19.4s,baz=86,slow=33
BZS Buzias 81.99 316 ⇑P P 21 23 25.2 +0.3
BZS Buzias 81.99 316 P P 21 23 25.2 +0.3
UZHM Uzhgorod 82.05 319 P P 21 23 25.9 +0.8
SIRR Siria 82.06 317 ⇑P P 21 23 26.0 +0.6
KOLS Kolonicke sedl 82.11 320 eP P 21 23 26.6 +1.1
KOLS e 21 23 40.2
KOLS pmax pmax
comp=Z,135nm,0.9s
KOLS Kolonicke sedl 82.11 320 eP P 21 23 26.6 +1.1
KOLS e 21 23 40.2
BORR Bors 82.11 318 ⇑P P 21 23 25.3 -0.2
PABE Paberze 82.39 326 P P 21 23 26.5 -0.3
PABE IAmb IAmb 21 23 28.3
comp=Z,70nm,1.1s
SUW Suwalki 82.52 325 eP P 21 23 27.6 +0.1
SUW epP pP 21 23 40.4 +0.4
SUW Suwalki 82.52 325 P P 21 23 27.3 -0.2
SUW Suwalki 82.52 325 P P 21 23 27.3 -0.2
WIN Windhoek 82.56 247 P P 21 23 28.9 +0.2
WIN Windhoek 82.56 247 P P 21 23 28.9 +0.2
WIN pmax pmax
comp=Z,26nm,0.9s
FIA1 FINESS Array S 82.74 332 P P 21 23 28.7 +0.3
FINES FINESS Array B 82.74 332 P P 21 23 28.4 0.0
FINES FINESS Array B 82.74 332 P P 21 23 28.9 +0.4
comp=Z,34nm,0.6s,baz=102,slow=5.8,SNR=226
FINES PKKPbc PKKPbc 21 41 53.4 -2.0
comp=Z,2.6nm,1.0s,baz=278,slow=1.0,SNR=8.6
comp=Z,34nm,0.6s
MSF Maaselka 82.76 337 P P 21 23 29.3 +0.7
MSF pmax pmax
comp=Z,139nm,1.1s
IVA Berane 82.81 313⇑ iP P 21 23 29.1 -0.3
STHS Stebnicka Huta 82.86 320 eP P 21 23 29.9 +0.5
STHS e 21 23 43.4
STHS pmax pmax
comp=Z,51nm,0.9s
STHS Stebnicka Huta 82.86 320 eP P 21 23 29.9 +0.5
STHS e 21 23 43.4
KOME Kolasin 83.08 313⇑ iP P 21 23 30.6 -0.2
ULC Ulcinj 83.16 312⇑ iP P 21 23 30.5 -0.7
KECS Kecovo 83.20 319 eP P 21 23 32.0 +0.8
KECS e 21 23 43.8
KECS pmax pmax
comp=Z,34nm,0.9s
KECS Kecovo 83.20 319 eP P 21 23 32.0 +0.8
KECS e 21 23 43.8
PDG Podgorica 83.21 313⇑ iP P 21 23 31.0 -0.4
PLE Pljevlja 83.23 314⇑ iP P 21 23 31.6 0.0
DRME Dracevica, Mon 83.24 312⇑ iP P 21 23 31.3 -0.2
RUDO Rudo 83.28 314 eP P 21 23 32.2 +0.5
NIE Niedzica 83.47 320 eP P 21 23 33.5 +0.9
NIE epP pP 21 23 45.1 0.0

NIE Niedzica 83.47 320 P P 21 23 33.2 +0.6
comp=Z,23nm,1.1s
CEME Cevo 83.48 313⇑ iP P 21 23 32.3 -0.5
VNDA Vanda 83.48 169 P P 21 23 32.7 +0.6
VNDA Vanda 83.48 169 P P 21 23 33.2 +1.1
comp=Z,5.7nm,0.8s,baz=302,slow=6.7,SNR=23
VNDA LR LR 21 55 22.2
comp=Z,203nm,21.4s,baz=308,slow=32
comp=Z,5.7nm,0.8s
VNDA Vanda 83.48 169 P P 21 23 32.7 +0.6
VNDA pmax pmax
comp=Z,33nm,1.6s
PSZ Piszkesteto 83.51 318 P P 21 23 32.8 -0.1
PSZ IAmb IAmb 21 23 34.5
comp=Z,55nm,1.1s
PSZ Piszkesteto 83.51 318 ⇑P P 21 23 33.0 +0.1
PSZ Piszkesteto 83.51 318 P P 21 23 32.8 -0.1
PSZ pmax pmax
comp=Z,55nm,1.1s
BEL Belsk 83.55 322 eP P 21 23 33.3 +0.4
BEL epP pP 21 23 46.0 +0.6
UPM Unac-Piva 83.57 313⇑ iP P 21 23 33.0 -0.4
BRY Bratogost 83.80 313⇑ iP P 21 23 34.1 -0.5
OJC Ojcow 83.91 321 eP P 21 23 35.1 +0.3
OJC epP pP 21 23 48.7 +1.4
OJC Ojcow 83.91 321 P P 21 23 34.9 +0.1
OJC Ojcow 83.91 321 P P 21 23 34.9 +0.1
OJC Ojcow 83.91 321 P P 21 23 35.5 +0.7
comp=Z,48nm,1.3s
TREB Trebinje 83.91 313⇑ iP P 21 23 34.2 -0.8
LANS Liptovska Anna 83.97 319 eP P 21 23 36.0 +0.8
LANS e 21 23 49.5
LANS pmax pmax
comp=Z,10.0nm,1.1s
LANS Liptovska Anna 83.97 319 eP P 21 23 36.0 +0.8
LANS e 21 23 49.5
MORH Mrgy, Hungar 84.13 316⇑ iP P 21 23 36.0 0.0
MORH Mrgy, Hungar 84.13 316 ⇓P P 21 23 36.2 +0.2
MORH Mrgy, Hungar 84.13 316 P P 21 23 35.9 0.0
comp=Z,599nmcomp=Z,35nm,1.2s
VYHS Vyhne 84.29 319 eP P 21 23 37.1 +0.3
VYHS e 21 23 49.2
VYHS pmax pmax
comp=Z,40nm,1.2s
VYHS Vyhne 84.29 319 eP P 21 23 37.1 +0.3
VYHS e 21 23 49.2
STON Ston 84.41 313⇑ iP P 21 23 36.5 -0.9
SRO Srobarova 84.55 318 eP P 21 23 40.6 +2.5
SRO pmax pmax
comp=Z,57nm,1.1s
SRO Srobarova 84.55 318 eP P 21 23 40.6 +2.5
SBA Scott Base 84.58 169 P P 21 23 39.0 +1.4
SBA Scott Base 84.58 169 P P 21 23 39.0 +1.4
SBA pmax pmax
comp=Z,14nm,1.0s
KEV Kevo 84.67 341 P P 21 23 38.4 +0.2
KEV IAmb IAmb 21 23 40.0
comp=Z,79nm,1.2s
KEV Kevo 84.67 341 P P 21 23 38.4 +0.2
KEV pmax pmax
comp=Z,79nm,1.2s
TIP Timpagrande 84.75 309 P P 21 23 39.8 +0.4
TIP IAmb IAmb 21 23 41.5
comp=Z,56nm,1.2s
TIP Timpagrande 84.75 309 P P 21 23 39.9 +0.5
comp=Z,589nmcomp=Z,28nm,1.1s
OKC Ostrava-Krasne 84.91 320 eP P 21 23 40.8 +0.9
OKC Ostrava-Krasne 84.91 320 eP P 21 23 40.8 +0.9
MATE Matera 84.92 311 ⇑P P 21 23 40.1 +0.1
BLY Banja Luka 84.98 315⇑ iP P 21 23 40.8 +0.5
BLY Banja Luka 84.98 315 ⇑P P 21 23 40.7 +0.5
MAUC Maruska 85.06 320 eP P 21 23 41.2 +0.5
JAVC Velka Javorina 85.10 319 eP P 21 23 42.2 +1.3
ARCES ARCESS Array B 85.11 340 P P 21 23 40.9 +0.4
ARCES ARCESS Array B 85.11 340 P P 21 23 40.9 +0.4
comp=Z,14nm,0.5s,baz=105,slow=4.5,SNR=115
comp=Z,14nm,0.5s
STEB Steborice 85.17 320 eP P 21 23 41.9 +0.7
STEB epP pP 21 23 55.7 +2.0
A051A Mrakovica 85.20 315⇑ iP P 21 23 41.4 -0.1
SMOL Smolenice 85.22 319 eP P 21 23 42.1 +0.6
MORC Moravsky Berou 85.30 320 P P 21 23 41.9 0.0
MORC IAmb IAmb 21 23 43.9
comp=Z,54nm,1.2s
MORC Moravsky Berou 85.30 320 eP P 21 23 42.3 +0.4
MORC Moravsky Berou 85.30 320 P P 21 23 41.9 0.0
MORC pmax pmax
comp=Z,54nm,1.2s
MODS Modra-Piesok 85.31 318 eP P 21 23 39.4 -2.5
MODS e 21 23 53.3
MODS pmax pmax
comp=Z,111nm,1.2s
MODS Modra-Piesok 85.31 318 eP P 21 23 39.4 -2.5
MODS e 21 23 53.3
CEL Celeste 85.34 308 P P 21 23 42.9 +0.5
CEL Celeste 85.34 308 P P 21 23 42.8 +0.5
comp=Z,1µmcomp=Z,98nm,1.3s
MOSL Moslavina 85.37 316⇑ iP P 21 23 42.1 -0.2
ZST Bratislava 85.40 318 eP P 21 23 43.2 +0.8
ZST Bratislava 85.40 318 eP P 21 23 43.2 +0.8
A050A Klekovaca 85.41 315⇑ iP P 21 23 42.1 -0.5
BEHE Becsehely 85.44 317 P P 21 23 43.3 +0.7
BEHE IAmb IAmb 21 23 44.8
comp=Z,44nm,1.0s
BEHE Becsehely 85.44 317⇑ iP P 21 23 43.6 +1.0
KIJV Kijevo 85.46 314⇑ iP P 21 23 42.5 -0.3
ACER Acerenza 85.51 311 P P 21 23 43.6 +0.5
KOGS Kog 85.80 317 iP P 21 23 44.8 +0.5
KOGS i pP pP 21 23 58.2 +1.3
KRLC Kraliky 85.82 320 eP P 21 23 45.5 +1.0
KRLC e*PP pP 21 23 58.5 +1.5
KRLC Kraliky 85.82 320 eP P 21 23 45.5 +1.0
KRLC epP pP 21 23 58.5 +1.5
VRAC Vranov 85.86 319 eP P 21 23 45.0 +0.4
VRAC Vranov 85.86 319 ⇑P P 21 23 45.2 +0.6
VRAC Vranov 85.86 319 P P 21 23 45.2 +0.6
RONA Rosalia, Austr 85.89 318 iP P 21 23 45.2 +0.3
comp=Z,12nm,0.9s,SNR=6.3
GKP Gorka Klasztor 85.90 323 eP P 21 23 45.3 +0.6
GKP epP pP 21 23 58.7 +1.5
KRUC Moravsky 85.96 319 eP P 21 23 45.3 +0.2
DPC Dobruska-Polom 86.14 320 eP P 21 23 47.1 +1.1
DPC e*PP sP 21 24 01.1 -2.2
DPC Dobruska-Polom 86.14 320 eP P 21 23 47.1 +1.1
DPC epP sP 21 24 01.1 -2.2
DPC Dobruska-Polom 86.14 320 P P 21 23 46.5 +0.5
comp=Z,49nm,1.9s
CONA Conrad Observa 86.20 318 iP P 21 23 46.7 +0.2
comp=Z,15nm,1.0s,SNR=11
CONA epP pP 21 24 00.4 +1.3
comp=Z,12nm,1.1s
KSP Ksiaz 86.21 321 eP P 21 23 47.4 +1.1
KSP epP pP 21 24 00.3 +1.5
KSP Ksiaz 86.21 321 P P 21 23 46.8 +0.5
comp=Z,47nm,1.1s
OSTC Ostas 86.23 321 eP P 21 23 47.5 +1.1
OSTC Ostas 86.23 321 eP P 21 23 47.5 +1.1
OZLJ Ozalj 86.27 316⇑ iP P 21 23 47.1 +0.4
UPC Upice 86.35 321 eP P 21 23 47.9 +0.9
UPC Upice 86.35 321 eP P 21 23 47.9 +0.9
ARSA Arzberg 86.37 317 P P 21 23 47.3 0.0
ARSA IAmb IAmb 21 23 49.2
comp=Z,36nm,1.1s
ARSA Arzberg 86.37 317 iP P 21 23 47.9 +0.7
comp=Z,46nm,1.4s,SNR=21
ARSA i pP pP 21 24 01.9 +2.1
comp=Z,23nm,1.0s
TREC Trest 86.58 319 eP P 21 23 48.8 +0.6
TREC Trest 86.58 319 eP P 21 23 48.8 +0.6
PERS Pernice 86.60 317 iP P 21 23 49.0 +0.6
PERS i pP pP 21 24 02.4 +1.4
SOKA Soboth 86.66 317 iP P 21 23 49.4 +0.7
comp=Z,49nm,1.1s,SNR=41
SOKA i pP pP 21 24 03.2 +1.9
comp=Z,40nm,1.1s
ADK Adak 86.86 38 P P 21 23 50.1 +0.7
ADK pmax pmax
comp=Z,159nm,1.4s
OBKA Obir 86.98 316 iP P 21 23 50.9 +0.6
comp=Z,26nm,1.1s,SNR=17
OBKA i pP pP 21 24 03.5 +0.6
comp=Z,19nm,0.9s
CEY Cerknica 87.01 316 iP P 21 23 50.4 0.0

GOPC GO Pecny, Ondr 87.08 320 *e*P **P** **21 23 51.4 +0.8**
GOPC *e**PP **pP** **21 24 05.1 +1.9**
GOPC GO Pecny, Ondr 87.08 320 *e*P **P** **21 23 51.4 +0.8**
GOPC *e*pP **pP** **21 24 05.1 +1.9**
PRU Pruhonice 87.25 320 *e*P **P** **21 23 52.3 +0.9**
PRU Pruhonice 87.25 320 *e*P **P** **21 23 52.3 +0.9**
MOA Molln 87.27 318 *i* P **P** **21 23 51.7 +0.1**
comp=Z,12nm,0.9s,SNR=7.1
MOA *i* pP **pP** **21 24 05.5 +1.3**
comp=Z,20nm,1.2s
PVCC Panska Ves 87.27 320 *e*P **P** **21 23 52.8 +1.3**
PVCC Panska Ves 87.27 320 *e*P **P** **21 23 52.8 +1.3**
CKRC Cesky Krumlov 87.31 319 *e*P **P** **21 23 52.8 +1.0**
CKRC Cesky Krumlov 87.31 319 *e*P **P** **21 23 52.8 +1.0**
BRJN Brijuni 87.42 315⇑ *i*P **P** **21 23 52.3 0.0**
ZVC Zvikov 87.43 319 *e*P **P** **21 23 53.0 +0.7**
ZVC *e*pP **pP** **21 24 04.9 0.0**
AQU L'Aquila 87.52 312 P **P** **21 23 53.6 +0.6**
AQU pmax pmax
comp=Z,110nm,1.2s
AQU L'Aquila 87.52 312 P **P** **21 23 53.4 +0.4**
comp=Z,862nmcomp=Z,89nm,1.2s
RICC Richard 87.57 320 *e*P **P** **21 23 54.1 +1.2**
MYKA Terra Mystica 87.61 317 *i* P **P** **21 23 53.7 +0.3**
comp=Z,18nm,0.8s,SNR=13
MYKA *i* pP **pP** **21 24 06.9 +1.0**
comp=Z,18nm,1.4s
BIOA Bad Ischl, Aus 87.68 318 *i* P **P** **21 23 53.6 0.0**
comp=Z,25nm,1.2s,SNR=13
BIOA *i* pP **pP** **21 24 07.1 +1.0**
comp=Z,23nm,1.1s
BRG Berggiesshubel 87.69 321 *e*P **P** **21 23 55.5 +2.0**
comp=Z,32nm,0.9s,baz=93,slow=4.7
BRG Berggiesshubel 87.69 321⇑ *i*P **P** **21 23 55.2 +1.7**
BRG Amp 21 23 56.4
comp=Z,32nm,0.9s
BRG pP **sP** **21 24 08.8 -1.9**
BRG Amp 21 24 09.7
comp=Z,30nm,1.0s
GEC2 GERESS Array S 87.71 319 P **P** **21 23 53.8 0.0**
GEC2 GERESS Array S 87.71 319 *e*P **P** **21 23 54.9 +1.1**
comp=Z,140nm,1.5s,baz=93,slow=4.7
GEC2 *e*pP **sP** **21 24 08.9 -2.2**
baz=92,slow=4.7
GERES GERESS Array B 87.71 319 P **P** **21 23 53.9 0.0**
GERES GERESS Array B 87.71 319 P **P** **21 23 54.3 +0.5**
comp=Z,16nm,0.7s,baz=95,slow=4.5,SNR=126
comp=Z,16nm,0.7s
KHC Kasperske Hory 87.81 319*c* *i*P **P** **21 23 54.5 +0.4**
KHC pmax pmax
comp=Z,15nm,0.8s
KHC Kasperske Hory 87.81 319 *e*P **P** **21 23 54.6 +0.4**
KHC *e*pP **pP** **21 24 08.9 +2.1**
KHC Kasperske Hory 87.81 319 P **P** **21 23 54.6 +0.4**
comp=Z,21nm,0.8s
KBA Koelnbreinsper 87.84 317 *e*P **P** **21 23 54.3 -0.2**
comp=Z,20nm,1.2s
KBA *i* pP **pP** **21 24 08.4 +1.2**
comp=Z,12nm,0.8s
RUE Ruedersdorf 87.91 322 *e*P **P** **21 23 55.8 +1.4**
comp=Z,272nm,1.2s,baz=93,slow=4.7
RUE *e*pP **sP** **21 24 09.7 -2.0**
baz=92,slow=4.7
STAL STALIGIAL 88.23 316 P **P** **21 23 56.2 -0.1**
RJOB Jochberg 88.25 318 *e*P **P** **21 23 56.4 +0.1**
comp=Z,17nm,0.9s,baz=93,slow=4.7
WET Wettzell 88.27 319 *e*P **P** **21 23 57.5 +1.2**
comp=Z,33nm,0.9s,baz=93,slow=4.7
WET *e*pP **sP** **21 24 11.4 -2.2**
baz=92,slow=4.7
CLL Collm 88.31 321 P **P** **21 23 56.6 +0.1**
CLL IAmb IAmb 21 23 58.3
comp=Z,54nm,1.1s
CLL Collm 88.31 321⇑ *i*P **P** **21 23 56.8 +0.4**
CLL *i **PP **pP** **21 24 09.3 +0.3**
CLL pmax pmax
comp=Z,59nm,1.1s
CLL Collm 88.31 321 P **P** **21 23 56.9 +0.5**
comp=Z,773nmcomp=Z,50nm,1.2s
CLL Collm 88.31 321 *e*P **P** **21 23 57.4 +0.9**
comp=Z,53nm,1.1s,baz=93,slow=4.7
CLL *e*pP **sP** **21 24 11.3 -2.4**
baz=92,slow=4.7
CLL Collm 88.31 321⇑ *i*P **P** **21 23 56.8 +0.4**
comp=Z,59nm,1.1s
CLL *i* pP **pP** **21 24 09.3 +0.3**
CLL *e*PP **PP** **21 27 24.0 -0.3**
CLL *e*S S 21 34 48.0 +10
CLL *e*SS **SS** **21 40 36.0 +7.6**
CLL *ex* x 21 45 30.0
LESA Schwarzleotal 88.31 317 *i* P **P** **21 23 56.5 -0.2**
comp=Z,17nm,0.6s,SNR=13
LESA *i* pP **pP** **21 24 10.0 +0.8**
comp=Z,22nm,1.1s
RGN Rugen 88.32 324 *e*P **P** **21 23 58.1 +1.7**
comp=Z,284nm,1.3s,baz=93,slow=4.7
ABTA Abfaltersbach 88.39 317 *i* P **P** **21 23 57.0 -0.1**
comp=Z,22nm,1.1s,SNR=13
ABTA *i* pP **pP** **21 24 10.7 +1.0**
comp=Z,24nm,1.0s
CIMO Cimolais 88.42 316 P **P** **21 23 57.4 +0.3**
HFS Hagfors 88.50 330 P **P** **21 23 57.7 +0.5**
comp=Z,38nm,0.8s,baz=93,slow=7.2,SNR=44
comp=Z,38nm,0.8s
TANN Tannenbergstha 88.61 320 *e*P **P** **21 23 59.2 +1.2**
comp=Z,51nm,1.5s,baz=93,slow=4.7
TANN *e*pP **sP** **21 24 13.0 -2.2**
baz=92,slow=4.7
AFI Afiamalu 88.71 104 P **P** **21 23 59.2 0.0**
AFI pmax pmax
comp=Z,330nm,1.9s
ROTZ Rotzenmuhle 88.74 320 *e*P **P** **21 24 00.1 +1.6**
comp=Z,7.5nm,0.9s,baz=93,slow=4.7
ROTZ *e*pP **sP** **21 24 14.0 -1.8**
baz=92,slow=4.7
MANZ Manzenberg 88.82 320 *e*P **P** **21 24 00.6 +1.7**
comp=Z,16nm,1.0s,baz=93,slow=4.7
MANZ *e*pP **sP** **21 24 14.5 -1.7**
baz=92,slow=4.7
WTTA Wattenberg 89.02 317 *i* P **P** **21 24 00.1 0.0**
comp=Z,47nm,0.9s,SNR=21
WTTA *i* pP **pP** **21 24 13.9 +1.2**
comp=Z,38nm,1.1s
WATA Walderalm 89.06 317 *i* P **P** **21 24 00.0 -0.2**
comp=Z,35nm,1.1s,SNR=19
WATA *i* pP **pP** **21 24 13.9 +1.0**
comp=Z,36nm,1.4s
NEUB Neuenburg 89.08 321 *e*P **P** **21 24 01.2 +1.2**
comp=Z,94nm,0.9s,baz=93,slow=4.7
OSSC Osservatorio P 89.16 313 P **P** **21 23 59.4 -1.2**
OSSC IAmb IAmb 21 24 01.1
comp=Z,22nm,1.1s
MOX Moxa 89.16 320 P **P** **21 24 01.4 +0.9**
MOX pmax pmax
comp=Z,42nm,1.3s
MOX Moxa 89.16 320 *e*P **P** **21 24 01.8 +1.3**
comp=Z,106nm,1.6s,baz=93,slow=4.7
MOX *e*L L 22 06 57.9
comp=Z,118nm,21.6s
QSPA South Pole Qui 89.18 180 P **P** **21 24 01.8 +1.4**
QSPA IAmb IAmb 21 24 04.0
comp=Z,42nm,1.2s
QSPA South Pole Qui 89.18 180 P **P** **21 24 02.4 +2.0**
comp=Z,16nm,1.0s,baz=300,slow=3.6,SNR=44
QSPA PKKPbc **PKKPdf** **21 41 37.6 +2.2**
comp=Z,2.0nm,0.8s,baz=136,slow=3.7,SNR=8.7
QSPA LR LR 22 00 02.2
comp=Z,356nm,20.1s,baz=315,slow=33
comp=Z,16nm,1.0s
EDA Edea 89.26 274 P **P** **21 24 01.5 -0.2**
EDA IAmb IAmb 21 24 03.5
comp=Z,32nm,1.1s
FUR Furstenfeldbru 89.29 318 *e*P **P** **21 24 01.8 +0.7**
comp=Z,55nm,1.2s,baz=93,slow=4.7
FUR *e*pP **pP** **21 24 15.8 +2.0**
baz=92,slow=4.7
SQTA Sankt Quirin 89.30 317 *i* P **P** **21 24 01.5 +0.1**
comp=Z,34nm,0.8s,SNR=19
SQTA *i* pP **pP** **21 24 15.2 +1.2**
comp=Z,24nm,1.0s
SPB2 Spitsbergen Ar 89.31 348 P **P** **21 24 00.3 -0.3**
SPITS Spitsbergen Ar 89.31 348 P **P** **21 24 00.7 +0.1**
comp=Z,47nm,0.6s,baz=99,slow=8.9,SNR=78
comp=Z,47nm,0.6s
SPITS Spitsbergen Ar 89.31 348 P **P** **21 24 00.5 -0.1**
SPITS pmax pmax
comp=Z,138nm,1.1s
HSPB Hornsund (broa 89.35 347 *e*P **P** **21 24 01.4 +0.5**
HSPB *e*pP **pP** **21 24 14.7 +1.2**
GRA1 Grafenberg Arr 89.38 320 P **P** **21 24 01.9 +0.4**
GRF Grafenberg Arr 89.38 320 P **P** **21 24 02.0 +0.4**
GRF pmax pmax
comp=Z,66nm,1.0s
GRF Grafenberg Arr 89.38 320 *e*P **P** **21 24 03.1 +1.6**
comp=Z,62nm,1.0s,baz=93,slow=4.7
GRF *e*pP **sP** **21 24 17.0 -1.8**
baz=92,slow=4.7
GRF *e*L L 22 17 29.6
comp=Z,104nm,19.3s
GRFO Grafenberg 89.38 320 P **P** **21 24 01.8 +0.3**
GRFO Grafenberg 89.38 320 P **P** **21 24 01.8 +0.3**
GRFO pmax pmax
comp=Z,61nm,1.0s
MOTA Moosalm 89.38 317 *i* P **P** **21 24 01.8 0.0**
comp=Z,44nm,0.9s,SNR=22
MOTA *i* pP **pP** **21 24 15.6 +1.2**
comp=Z,43nm,1.0s
GORT1 Trebel 89.44 323 *e*P **P** **21 24 03.1 +1.5**
comp=Z,85nm,1.2s,baz=93,slow=4.7
GORT1 *e*pP **sP** **21 24 17.0 -1.9**
baz=92,slow=4.7
FLTG Flechtingen 89.46 322 *e*P **P** **21 24 02.4 +0.6**
comp=Z,36nm,0.9s,baz=93,slow=4.7
FLTG *e*pP **pP** **21 24 16.3 +1.9**
baz=92,slow=4.7
NC602 NORSAR Array S 89.60 331 P **P** **21 24 02.2 0.0**
NC602 IAmb IAmb 21 24 03.2
comp=Z,38nm,1.2s
RETA Reutte 89.62 317 *i* P **P** **21 24 03.1 +0.4**
comp=Z,46nm,0.8s,SNR=17
RETA *i* pP **pP** **21 24 16.9 +1.6**
comp=Z,40nm,1.0s
FETA Feichten 89.63 317 *i* P **P** **21 24 03.5 +0.5**
comp=Z,31nm,1.0s,SNR=15
FETA *i* pP **pP** **21 24 17.2 +1.7**
comp=Z,25nm,1.1s
NB2 NORSAR Subarra 89.77 331 P **P** **21 24 03.1 0.0**
comp=Z,60nm,1.7s,baz=94,slow=4.6
NB2 NORSAR Subarra 89.77 331 P **P** **21 24 03.1 0.0**
baz=94,slow=4.6
NOA NORSAR Array B 89.77 331 P **P** **21 24 03.3 +0.2**
comp=Z,8.7nm,1.0s,baz=92,slow=4.5,SNR=17
NOA PP **PP** **21 27 33.1 -2.6**
comp=Z,0.9nm,0.8s,baz=90,slow=8.4,SNR=3.3
NOA LR LR 22 08 48.2
comp=Z,218nm,20.7s,baz=100,slow=38
comp=Z,8.7nm,1.0s
ASSE Asse, Remlinge 89.80 322 *e*P **P** **21 24 04.6 +1.3**
comp=Z,70nm,1.1s,baz=93,slow=4.7
ASSE *e*pP **sP** **21 24 18.6 -2.0**
baz=92,slow=4.7
FUORN Ofenpass-Fuorn 89.94 316 P **P** **21 24 05.2 +0.6**
NRDL Niedersach Rie 90.15 322 *e*P **P** **21 24 06.8 +1.9**
comp=Z,106nm,1.2s,baz=93,slow=4.7
NRDL *e*pP **sP** **21 24 20.8 -1.5**
baz=92,slow=4.7
UBBA Unterbreizbach 90.19 321 *e*P **P** **21 24 06.6 +1.5**
comp=Z,21nm,0.8s,baz=93,slow=4.7
DAVA Damuels 90.21 317 *i* PcP **PcP** **21 24 06.4 -0.4**
comp=Z,81nm,0.8s,SNR=23
DAVA *i* pP **pP** **21 24 20.3 +2.0**
comp=Z,74nm,1.0s
GAMB Gambell 90.21 26 P **P** **21 24 05.3 +0.2**
GAMB IAmb IAmb 21 24 07.0
comp=Z,27nm,1.4s
GAMB Gambell 90.21 26 P **P** **21 24 05.0 0.0**
baz=269
GTTG Gottingen 90.22 321 *e*P **P** **21 24 06.8 +1.4**
comp=Z,67nm,1.0s,baz=93,slow=4.7
GTTG *e*pP **sP** **21 24 20.7 -2.0**
baz=92,slow=4.7
KBS Kingsbay 90.25 349 P **P** **21 24 04.5 -0.5**
KBS IAmb IAmb 21 24 06.0
comp=Z,41nm,1.0s
KBS Kingsbay 90.25 349 P **P** **21 24 04.5 -0.5**
KBS pmax pmax
comp=Z,41nm,1.0s
KEST Kesra 90.46 306 P **P** **21 24 08.4 +1.4**
KEST Kesra 90.46 306 P **P** **21 24 08.7 +1.7**
comp=Z,79nm,1.0s,baz=94,slow=2.1,SNR=116
KEST LR LR 22 07 52.9
comp=Z,99nm,20.2s,baz=177,slow=38
comp=Z,79nm,1.0s
KONO Kongsberg 90.54 329 P **P** **21 24 07.0 +0.3**
KONO IAmb IAmb 21 24 15.2
comp=Z,40nm,1.2s
KONO Kongsberg 90.54 329 P **P** **21 24 07.0 +0.3**
KONO pmax pmax
comp=Z,40nm,1.3s
TUE Stuetta 90.57 316 P **P** **21 24 07.8 +0.4**
comp=Z,118nm,1.1s
RETH Rethen/Aller, 90.61 323 *e*P **P** **21 24 08.7 +1.6**
comp=Z,70nm,1.4s,baz=93,slow=4.7
STU Stuttgart 90.69 319 P **P** **21 24 07.7 +0.1**
STU IAmb IAmb 21 24 08.9
comp=Z,27nm,0.8s
STU Stuttgart 90.69 319 P **P** **21 24 07.7 +0.1**
STU pmax pmax
comp=Z,27nm,0.8s
STU Stuttgart 90.69 319 *e*P **P** **21 24 08.7 +1.1**
comp=Z,68nm,0.8s,baz=93,slow=4.7
STU *e*pP **sP** **21 24 22.6 -2.4**
baz=92,slow=4.7
SPIA Saint Paul Isl 90.86 33 P **P** **21 24 07.6 -0.6**
baz=270
TNS Taunus Mts 91.18 320 *e*P **P** **21 24 11.4 +1.4**
comp=Z,71nm,0.9s,baz=93,slow=4.7
KASTN Kahler Asten 91.19 321 *e*P **P** **21 24 11.4 +1.4**
comp=Z,35nm,1.0s,baz=93,slow=4.7
KASTN *e*pP **sP** **21 24 25.3 -1.9**
baz=92,slow=4.7
P08K Saint George I 91.24 34 P **P** **21 24 08.5 -1.5**
baz=270
BFO Black Forest 91.26 318 P **P** **21 24 10.3 -0.1**
BFO Black Forest 91.26 318 P **P** **21 24 10.3 -0.1**
BFO pmax pmax
comp=Z,37nm,0.8s
BFO Black Forest 91.26 318 *e*P **P** **21 24 11.1 +0.7**
comp=Z,37nm,0.9s,baz=93,slow=4.7
TROLL Troll, Antarti 91.39 198⇑ P **P** **21 24 12.7 +2.1**
comp=Z,262nm,1.1s
IBBN Ibbenburen 91.59 322 *e*P **P** **21 24 13.3 +1.6**
comp=Z,57nm,1.4s,baz=93,slow=4.7
IBBN *e*pP **sP** **21 24 27.3 -1.7**
baz=92,slow=4.7
NIKH Nikolski High 91.69 37 P **P** **21 24 11.3 -0.9**
baz=271
TNA Tin City 91.83 25 P **P** **21 24 12.3 -0.2**
baz=272
BUG Bochum--Univer 91.91 321 *e*P **P** **21 24 14.6 +1.4**
comp=Z,29nm,1.0s,baz=93,slow=4.7
BUG *e*pP **sP** **21 24 28.6 -1.9**
baz=92,slow=4.7
SENIN Lac Senin/Sane 91.98 316 P **P** **21 24 14.5 +0.5**
SENIN IAmb IAmb 21 24 16.9
comp=Z,28nm,0.8s
ECH Echery 92.05 318 P **P** **21 24 14.3 +0.4**
ECH IAmb IAmb 21 24 16.1
comp=Z,37nm,1.0s
ECH Echery 92.05 318 P **P** **21 24 14.4 +0.4**
ECH pmax pmax
comp=Z,37nm,1.0s
BNI Bardonecchia 92.44 315 P **P** **21 24 15.9 -0.1**
BNI IAmb IAmb 21 24 36.5
comp=Z,19nm,1.0s
BNI Bardonecchia 92.44 315 P **P** **21 24 15.9 -0.1**
BNI pmax pmax
comp=Z,19nm,1.0s
F14K Arctic Creek 92.50 25 P **P** **21 24 15.6 0.0**
baz=274
BTNL Ternell 92.65 320 *d*P **P** **21 24 17.3 +0.6**
comp=Z,7.9nm,1.2s
WLF Walferdange 92.67 319 P **P** **21 24 16.4 -0.4**
WLF IAmb IAmb 21 24 19.2
comp=Z,45nm,1.2s
WLF Walferdange 92.67 319 P **P** **21 24 16.4 -0.4**
WLF pmax pmax
comp=Z,45nm,1.2s
WLF Walferdange 92.67 319 *d*P **P** **21 24 17.8 +1.0**
comp=Z,17nm,1.2s
WLF Walferdange 92.67 319 *e*P **P** **21 24 18.3 +1.5**
comp=Z,38nm,1.1s,baz=93,slow=4.7
C16K Lisburne Hills 92.68 22 P **P** **21 24 16.1 -0.3**
C16K IAmb IAmb 21 24 37.0
comp=Z,22nm,1.1s
C16K Lisburne Hills 92.68 22 P **P** **21 24 16.5 0.0**
baz=275
MEM Membach 92.73 320 *d*P **P** **21 24 17.3 +0.2**
comp=Z,7.7nm,0.0s
M11K Mekoryuk 92.87 30 P **P** **21 24 18.3 +0.9**
baz=274
ANM Nome 92.96 26 P **P** **21 24 18.4 +0.6**
baz=274
UNV Unalaska Valle 93.07 36 P **P** **21 24 17.4 -1.1**
UNV Unalaska Valle 93.07 36 P **P** **21 24 18.5 0.0**
baz=273
SNAA Sanae 93.10 198⇑ P **P** **21 24 18.9 +0.5**
comp=Z,70nm,1.0s
SNAA Sanae 93.10 198 P **P** **21 24 18.7 +0.2**
SNAA Sanae 93.10 198 P **P** **21 24 19.1 +0.6**
comp=Z,2.8nm,0.9s,baz=101,slow=6.7,SNR=8.3
SNAA PKKP **PKKPdf** **21 41 26.4 -1.6**
comp=Z,1.1nm,0.8s,baz=281,slow=2.9,SNR=6.4
SNAA LR LR 22 00 45.9
comp=Z,355nm,19.3s,baz=94,slow=32
comp=Z,2.8nm,0.9s
SNAA Sanae 93.10 198*c* *e*P **P** **21 24 20.0 +1.6**
SNAA pmax pmax
comp=Z,20nm,3.1s
F15K North Star Dit 93.17 24 P **P** **21 24 19.0 +0.2**
baz=275
BCLA Clavier 93.19 320 *d*P **P** **21 24 19.4 +0.3**
comp=Z,8.9nm,1.3s
RCHB Rochefort 93.25 320 *d*P **P** **21 24 19.8 +0.4**
comp=Z,4.4nm,0.9s
BGES Gesves 93.33 320 *d*P **P** **21 24 19.5 -0.3**
comp=Z,7.6nm,1.2s
C17K DeLong Mountai 93.46 22 P **P** **21 24 20.3 +0.2**
baz=277
AKUT Akutan 93.48 36 P **P** **21 24 19.4 -1.0**
G15K Niukluk 93.50 25 P **P** **21 24 20.3 0.0**
baz=276
K13K Kusilvak Mount 93.50 28 P **P** **21 24 20.9 +0.6**
K13K IAmb IAmb 21 24 22.4
comp=Z,35nm,1.2s
K13K Kusilvak Mount 93.50 28 P **P** **21 24 21.2 +0.8**
baz=275
D17K Noatak River 93.59 22 P **P** **21 24 21.4 +0.8**
baz=277,SNR=15
RDOG Red Dog Mine 93.61 22 P **P** **21 24 20.9 +0.2**
baz=277
DOU Dourbes 93.66 320 *d*P **P** **21 24 21.3 0.0**
comp=Z,8.6nm,1.2s
UCC Uccle 93.77 321 *d*P **P** **21 24 24.6 +2.8**
B18K Kokolik River 93.84 21 P **P** **21 24 22.7 +0.9**
baz=278,SNR=6.9
TAM Tamanrasset 93.84 293 P **P** **21 24 23.3 +0.3**
TAM IAmb IAmb 21 24 25.4
comp=Z,24nm,1.0s
TAM Tamanrasset 93.84 293 P **P** **21 24 23.3 +0.3**
TAM pmax pmax
comp=Z,24nm,1.0s
J14K Nanvaranak Lak 93.94 27 P **P** **21 24 22.7 +0.5**
J14K IAmb IAmb 21 24 24.2
comp=Z,28nm,1.3s
J14K Nanvaranak Lak 93.94 27 P **P** **21 24 23.0 +0.7**
baz=276
SSB Saint Sauveur 93.95 315 P **P** **21 24 23.1 +0.2**
SSB IAmb IAmb 21 24 23.9
comp=Z,12nm,0.7s
SSB Saint Sauveur 93.95 315 P **P** **21 24 23.1 +0.2**
SSB pmax pmax
comp=Z,12nm,0.7s
A19K Wainwright 93.97 20 P **P** **21 24 23.2 +0.9**
baz=279
E17K Hotham Inlet 94.15 23 P **P** **21 24 23.9 +0.6**
baz=278,SNR=8.8
G16K Koyuk River 94.16 25 P **P** **21 24 23.5 +0.2**
G16K IAmb IAmb 21 24 24.9
comp=Z,22nm,0.9s
G16K Koyuk River 94.16 25 P **P** **21 24 23.7 +0.4**
baz=277
C18K Utukok River 94.16 21 P **P** **21 24 23.5 +0.2**
baz=278,SNR=7.1
M13K Dall Lake 94.28 30 P **P** **21 24 24.9 +1.0**
baz=276
H16K Elim 94.30 25 P **P** **21 24 24.2 +0.3**
baz=277,SNR=11
F17K Baldwin Pennin 94.46 23 P **P** **21 24 25.1 +0.5**
baz=278
L14K Kuka Creek 94.50 29 P **P** **21 24 26.0 +1.1**
baz=277
E18K Tukpahlearik C 94.57 22 P **P** **21 24 25.9 +0.7**
baz=279,SNR=10
C19K Lookout Ridge 94.66 21 P **P** **21 24 26.3 +0.7**
baz=280,SNR=8.3
G17K Kiwalik Mounta 94.85 24 P **P** **21 24 27.0 +0.6**
baz=279,SNR=17
M14K Bethel 94.92 29 P **P** **21 24 27.6 +0.8**
baz=277
K15K Wolf Creek Mou 94.92 28 P **P** **21 24 27.9 +1.0**
baz=278
L15K Ungalak Mounta 95.03 28 P **P** **21 24 28.0 +0.7**
baz=278
VNA1 Neumayer--Stat 95.06 199⇑ P **P** **21 24 28.7 +1.3**
comp=Z,4.1nm,1.0s
F18K Selawik 95.07 23 P **P** **21 24 28.0 +0.6**
baz=280,SNR=20
I17K Unalakleet 95.07 26 P **P** **21 24 28.4 +0.9**
baz=279,SNR=5.3
N14K Kuskokwak Cree 95.16 30 P **P** **21 24 28.7 +0.7**
baz=277
J16K Anvik River 95.20 27 P **P** **21 24 29.2 +1.0**
baz=279,SNR=34
A21K Barrow 95.21 18 P **P** **21 24 29.2 +1.2**
baz=283
H17K Granite Mounta 95.24 25 P **P** **21 24 29.0 +0.7**
baz=279,SNR=17
D19K Kuna River 95.30 21 P **P** **21 24 29.0 +0.5**
baz=281,SNR=11
B20K Meade River 95.32 20 P **P** **21 24 29.2 +0.7**
baz=282
O14K Tigyukauivet M 95.46 31 P **P** **21 24 29.5 +0.2**
baz=278
M15K Kasigluk River 95.55 29 P **P** **21 24 30.4 +0.6**
baz=278,SNR=12
G18K Tagagawik 95.59 24 P **P** **21 24 29.9 0.0**
baz=281,SNR=6.4
F19K Shaleruckik Mo 95.76 23 P **P** **21 24 30.8 +0.2**
baz=282,SNR=13
D20K Etivluk River 95.79 21 P **P** **21 24 31.3 +0.6**
baz=283,SNR=15
A22K Sinclair Lake 95.80 18 P **P** **21 24 31.2 +0.6**
baz=285
E19K Redstone River 95.84 22 P **P** **21 24 31.6 +0.7**
baz=282,SNR=9.6
H18K Honhosa River 95.85 25 P **P** **21 24 31.2 +0.1**
baz=281,SNR=13
J17K VABM Dome 95.86 26 P **P** **21 24 31.9 +0.7**
baz=280,SNR=16
N15K Kwethluk River 95.92 30 P **P** **21 24 32.2 +0.7**
baz=279,SNR=10
E20K Nigu River 96.05 21 P **P** **21 24 32.2 +0.3**
baz=283,SNR=12
G19K Purcell Mounta 96.17 23 P **P** **21 24 33.1 +0.6**
baz=282,SNR=12
O15K Ungalikthiuk R 96.20 31 P **P** **21 24 33.1 +0.4**
baz=279
B21K Ikpikpuk River 96.27 20 P **P** **21 24 33.4 +0.6**
baz=285
M16K Timber Creek 96.33 29 P **P** **21 24 34.0 +0.7**
baz=280,SNR=9.4
C21K Knifeblade Rid 96.33 20 P **P** **21 24 33.8 +0.6**
baz=285,SNR=7.0
K17K Iditarod 96.33 27 P **P** **21 24 34.1 +0.8**
baz=281,SNR=22
SDPT Sand Point 96.42 34 P **P** **21 24 32.8 -1.0**
baz=278
L17K Donlin 96.44 28 P **P** **21 24 34.5 +0.7**
baz=281,SNR=15
B22K Teshekpuk Lake 96.48 19 P **P** **21 24 34.1 +0.4**
baz=286
F20K Avaraart Lake 96.50 22 P **P** **21 24 34.4 +0.5**
baz=284,SNR=16
N16K Nishlik Lake 96.52 29 P **P** **21 24 35.3 +1.1**
baz=280,SNR=14
GCSA Galena City Sc 96.55 25 P **P** **21 24 35.1 +0.9**
baz=282
H19K Roundabout Mou 96.56 24 P **P** **21 24 35.1 +0.9**
baz=283,SNR=39
S14K Fog Glacier 96.80 33 P **P** **21 24 35.6 0.0**

	baz=279							
E21K	**Killik River**	96.80	21	P	**P**	21 24 35.7	+0.4	
	baz=285							
J18K	**Innoko River**	96.89	26	P	**P**	21 24 36.4	+0.5	
	baz=282,SNR=15							
M17K	**Holitna River**	96.98	28	P	**P**	21 24 37.2	+1.0	
	baz=281,SNR=9.1							
CHNA	**Chernabura Isl**	97.00	35	P	**P**	21 24 35.9	-0.5	
	baz=279							
CNBA	**Chernabura Isl**	97.00	35	P	**P**	21 24 35.7	-0.7	
O16K	**Kokwok River B**	97.01	30	P	Pdif	21 24 36.6	+0.1	
	baz=280							
D22K	**Ayikyak River**	97.14	20	P	Pdif	21 24 37.5	+0.6	
	baz=287							
P16K	**Nushagak River**	97.16	31	P	Pdif	21 24 37.2	+0.1	
	baz=280							
L18K	**Granite Mounta**	97.17	27	P	Pdif	21 24 37.8	+0.6	
	baz=282,SNR=15							
H20K	**Anotleneega Mo**	97.21	24	P	Pdif	21 24 38.0	+0.7	
	baz=284,SNR=21							
J19K	**Poorman**	97.25	25	P	Pdif	21 24 38.3	+0.8	
	baz=283,SNR=19							
N17K	**Nushagak Hills**	97.28	29	P	Pdif	21 24 38.6	+0.9	
	baz=281							
F21K	**Alatna River**	97.31	22	P	Pdif	21 24 37.8	+0.1	
	baz=286,SNR=10							
O17K	**Koliganek Bris**	97.47	30	P	Pdif	21 24 38.9	+0.4	
	baz=281							
G21K	**Allakaket**	97.49	23	P	Pdif	21 24 38.9	+0.4	
	baz=286,SNR=24							
IMAR	**Indian Mountai**	97.53	23	P	Pdif	21 24 38.9	+0.2	
I20K	**Naaghedeneel**	97.54	25	P	Pdif	21 24 39.4	+0.7	
	baz=284,SNR=8.6							
C23K	**Itkillik River**	97.54	19	P	Pdif	21 24 39.9	+1.3	
	baz=289							
R16K	**Pilot Point**	97.65	32	P	Pdif	21 24 39.4	+0.1	
	baz=281							
E22K	**Anaktuvuk Pass**	97.66	21	P	Pdif	21 24 39.5	+0.2	
	baz=287							
F22K	**John River**	97.71	22	P	Pdif	21 24 40.0	+0.5	
	baz=287,SNR=7.1							
M18K	**Stony River**	97.72	28	P	Pdif	21 24 40.3	+0.7	
	baz=283,SNR=8.9							
EKA	**Eskdalemuir Ar**	97.75	326	P	Pdif	21 24 40.1	+0.2	
	comp=Z,4.6nm,0.8s,baz=73,slow=6.4,SNR=6.8							
EKA				PP	**PP**	21 28 39.4	+1.3	
	comp=Z,4.9nm,1.1s,baz=81,slow=9.5,SNR=4.5							
	comp=Z,4.6nm,0.8s							
EKA	**Eskdalemuir Ar**	97.75	326	P	Pdif	21 24 39.9	0.0	
EKA				pmax	pmax			
	comp=Z,55nm,1.6s							
D23K	**Nanushuk River**	97.80	20	P	Pdif	21 24 40.5	+0.6	
	baz=288							
J20K	**Nowinta River**	97.84	25	P	Pdif	21 24 40.8	+0.7	
	baz=285,SNR=10							
N18K	**Kilae Creek**	97.87	29	P	Pdif	21 24 40.6	+0.2	
	baz=283,SNR=5.5							
Q16K	**King Salmon**	97.91	31	P	Pdif	21 24 40.9	+0.4	
	baz=282							
P17K	**Kvichak River**	97.92	30	P	Pdif	21 24 40.7	+0.2	
	baz=282							
H21K	**Melozitna Rive**	98.00	23	P	Pdif	21 24 41.6	+0.8	
	baz=286,SNR=20							
L19K	**White Mountain**	98.01	27	P	Pdif	21 24 41.8	+0.8	
	baz=284,SNR=7.8							
K20K	**Telida**	98.08	26	P	Pdif	21 24 41.9	+0.6	
	baz=285,SNR=16							
G22K	**Bettles**	98.13	22	P	Pdif	21 24 41.6	+0.2	
	baz=287,SNR=6.8							
C24K	**Franklin Bluff**	98.21	19	P	Pdif	21 24 42.0	+0.3	
	baz=290							
R17L	**Mt. Peulik Vol**	98.28	32	P	Pdif	21 24 42.4	+0.2	
	baz=282							
TOLK	**Toolik Lake Re**	98.29	20	P	Pdif	21 24 42.3	+0.2	
	baz=290							
M19K	**Big River Lodg**	98.29	27	P	Pdif	21 24 42.9	+0.7	
	baz=284,SNR=6.2							
D24K	**Happy Valley**	98.37	20	P	Pdif	21 24 43.2	+0.8	
	baz=290							
L20K	**Farewell, AK**	98.38	27	P	Pdif	21 24 42.9	+0.3	
	baz=285,SNR=6.6							
O18K	**Koktuh Hills**	98.39	29	P	Pdif	21 24 43.0	+0.3	
	baz=283							
Q17K	**Contact Creek**	98.39	31	P	Pdif	21 24 43.2	+0.4	
	baz=282							
I21K	**Tanana**	98.46	24	P	Pdif	21 24 43.2	+0.4	
	baz=287							
E23K	**Chandalar**	98.47	21	P	Pdif	21 24 43.5	+0.5	
	baz=289							
P18K	**Big Mountain,**	98.48	30	P	**P**	21 24 42.9	-0.2	
	baz=283							
H22K	**Ishtalitna Cre**	98.49	23	P	Pdif	21 24 43.3	+0.3	
	baz=287,SNR=14							
N19K	**Bonanza Creek**	98.51	28	P	Pdif	21 24 43.7	+0.4	
	baz=284,SNR=9.5							
COLD	**Coldfoot**	98.53	22	P	Pdif	21 24 43.1	0.0	
	baz=289							
CHUM	**Lake Minchumin**	98.69	25	P	Pdif	21 24 44.3	+0.5	
	baz=286,SNR=5.7							
G23K	**Bananza Creek**	98.76	22	P	Pdif	21 24 44.6	+0.4	
	baz=289,SNR=7.6							
Q18K	**Katmai Hardscr**	98.76	31	P	**P**	21 24 44.3	-0.1	
	baz=283							
E24K	**Your Creek**	98.86	21	P	Pdif	21 24 45.1	+0.4	
	baz=290							
M20K	**Styx River**	98.88	27	P	Pdif	21 24 44.9	0.0	
	baz=285,SNR=6.0							
CAST	**Castle Rocks**	98.92	26	P	**P**	21 24 44.7	-0.3	
CAST				IAmb	IAmb	21 25 07.2		
	comp=Z,12nm,1.0s							
CAST	**Castle Rocks**	98.92	26	P	Pdif	21 24 45.2	+0.3	
	baz=286,SNR=15							
MLY	**Manley**	99.01	24	P	**Pdif**	21 24 45.3	-0.1	
	baz=288							
PPLA	**Purkeypile**	99.02	26	P	**Pdif**	21 24 45.5	-0.1	
	baz=286							
CHIR	**Chirikof Islan**	99.05	34	P	**Pdif**	21 24 45.5	-0.2	
	baz=282							
D25K	**Kavik River**	99.12	19	P	**Pdif**	21 24 46.0	+0.2	
	baz=293							
BPAW	**Bear Paw Mtn.**	99.19	25	P	**Pdif**	21 24 45.6	-0.6	
BPAW	**Bear Paw Mtn.**	99.19	25	P	**Pdif**	21 24 46.4	+0.2	
	baz=288,SNR=14							
H23K	**Yukon River**	99.23	23	P	**Pdif**	21 24 46.8	+0.5	
	baz=289,SNR=6.2							
F24K	**Squaw Lake**	99.27	21	P	**Pdif**	21 24 46.5	+0.1	
	baz=291							
R18K	**Karluk**	99.29	32	P	**Pdif**	21 24 46.7	+0.1	
	baz=283							
C26K	**Camden Bay**	99.35	18	P	**Pdif**	21 24 47.0	+0.3	
	baz=294							
Q19K	**Cape Douglas,**	99.38	30	P	**Pdif**	21 24 47.0	-0.1	
	baz=284							
P19K	**Oil Pt**	99.41	29	P	**Pdif**	21 24 47.1	-0.1	
	baz=285							
N20K	**Mount Spurr**	99.48	28	P	**Pdif**	21 24 47.3	-0.3	
	baz=286							
SPCR	**Spurr Chakacha**	99.48	28	P	**Pdif**	21 24 47.2	-0.4	
	baz=286							
I23K	**Minto, Yukon-K**	99.53	24	P	**Pdif**	21 24 47.1	-0.4	
	baz=289							
SKT	**Skwentna**	99.58	27	P	**Pdif**	21 24 47.2	-0.7	
	baz=287,SNR=5.9							
O20K	**Slope Mountain**	99.59	29	P	**Pdif**	21 24 47.5	-0.6	
	baz=285							
SII	**Sitkinak Islan**	99.67	33	P	**Pdif**	21 24 48.2	-0.2	
	baz=283							
TRF	**Thorofare Moun**	99.68	25		**Pdif**	21 24 47.7	-0.9	
TRF	**Thorofare Moun**	99.68	25	P	**Pdif**	21 24 48.3	-0.3	
	baz=288							
G24K	**Hadweenzic Riv**	99.72	22	P	**Pdif**	21 24 48.4	0.0	
	baz=291							
NEA2	**Nenana**	99.83	24	P	**Pdif**	21 24 48.7	-0.2	
	baz=289							
C27K	**Jago River**	99.85	18	P	**Pdif**	21 24 49.2	+0.2	
	baz=295							
OHAK	**Old Harbor**	99.99	32	P	**Pdif**	21 24 49.5	-0.3	
	baz=284							
F25K	**Christian Rive**	100.04	21	P	**Pdif**	21 24 49.9	0.0	
	baz=293							
SUA	**Susitna One**	100.08	27	Pdif	**Pdif**	21 24 49.5	-0.8	
SUA	**Susitna One**	100.08	27	P	**Pdif**	21 24 49.9	-0.4	
	baz=287,SNR=6.3							
Q20K	**Shuyak Island**	100.09	30	P	**Pdif**	21 24 50.2	-0.1	
	baz=285							
CAPN	**Captain Cook N**	100.10	28	P	**Pdif**	21 24 50.1	-0.1	
	baz=287							
MCK	**McKinley**	100.17	25	P	**Pdif**	21 24 50.1	-0.5	
	baz=289							
HOM	**Homer**	100.18	29	P	**Pdif**	21 24 50.7	+0.1	
	baz=286							
G25K	**Bearman Lake**	100.20	22	P	**Pdif**	21 24 50.6	+0.1	
	baz=292							
KDAK	**Kodiak Island**	100.21	31	P	**Pdif**	21 24 50.6	-0.1	
	baz=285							
M22K	**Willow**	100.28	27	P	**Pdif**	21 24 51.1	+0.1	
	baz=288							
POKR	**Poker Flat Res**	100.30	23	P	**Pdif**	21 24 51.2	+0.1	
	baz=291							
BMAR	**Burnt Mountain**	100.48	21	Pdif	**Pdif**	21 24 52.1	+0.2	
H25L	**Birch Creek**	100.49	22	P	**Pdif**	21 24 52.2	+0.3	
	baz=293							
F26K	**Sheenjek River**	100.52	20	P	**Pdif**	21 24 52.4	+0.3	
	baz=294							
ILAR	**Eielson Array**	100.64	24	P	**Pdif**	21 24 52.4	-0.2	
	comp=Z,0.3nm,0.6s,baz=287,slow=3.7,SNR=2.5							
ILAR				PP	**PP**	21 28 58.8	-1.0	
	comp=Z,1.9nm,1.1s,baz=291,slow=7.5,SNR=4.3							
ILAR				PKKPbc	**PKKPbc**	21 41 06.9	-2.5	
	comp=Z,0.6nm,0.5s,baz=108,slow=2.9,SNR=6.0							
RC01	**Rabbit Creek A**	100.66	28	P	**Pdif**	21 24 52.9	+0.1	
	baz=288							
ESDC	**Sonseca Array**	100.74	310	Pdif	**Pdif**	21 24 53.0	-0.7	
ESDC	**Sonseca Array**	100.74	310	P	**Pdif**	21 24 53.7	0.0	
	comp=Z,1.2nm,0.8s,baz=73,slow=4.9,SNR=8.7							
ESDC				PP	**PP**	21 28 58.9	-2.6	
	comp=Z,1.1nm,0.9s,baz=79,slow=8.2,SNR=4.4							
ESDC				PKKPbc	**PKKPbc**	21 41 08.4	+0.1	
	comp=Z,1.0nm,1.0s,baz=267,slow=2.6,SNR=4.8							
HDA	**Harding Lake**	100.75	24	P	**Pdif**	21 24 53.1	+0.1	
	baz=291							
PMR	**Palmer**	100.78	27	P	**Pdif**	21 24 53.3	+0.1	
	baz=289							
D27M	**Malcolm River**	100.89	18	P	**Pdif**	21 24 53.8	0.0	
	baz=298							
PRP	**Porcupine Dome**	100.90	23	P	**Pdif**	21 24 53.9	0.0	
	baz=293							
G26K	**Porcupine Rive**	100.96	21	P	**Pdif**	21 24 54.1	+0.1	
	baz=295							
SEW	**Seward**	101.11	28	P	**Pdif**	21 24 54.7	0.0	
	baz=288							
KNK	**Knik Glacier**	101.14	27	P	**Pdif**	21 24 55.1	+0.2	
	baz=289							
E27K	**Coleen River**	101.18	19	P	**Pdif**	21 24 55.5	+0.5	
	baz=297							
J25K	**Salcha River,**	101.31	23	P	**Pdif**	21 24 56.0	+0.3	
	baz=293							
M23K	**Glacier View**	101.35	27	P	**Pdif**	21 24 56.1	+0.3	
	baz=290							
PWL	**Port Wells**	101.39	28	P	**Pdif**	21 24 56.2	+0.2	
	baz=289							
K24K	**Donnelly Dome**	101.45	24	P	**Pdif**	21 24 56.6	+0.4	
	baz=292							
SCM	**Sheep Creek Mo**	101.51	26	P	**Pdif**	21 24 56.8	+0.2	
	baz=290							
D28M	**Stokes Point**	101.55	18	P	**Pdif**	21 24 56.8	+0.4	
	baz=300							
E28M	**Babbage River**	101.65	19	P	**Pdif**	21 24 57.2	+0.2	
	baz=299							
G27K	**Doyon Strip**	101.78	21	P	**Pdif**	21 24 57.8	+0.1	
	baz=297							
RIDG	**Independent Ri**	101.86	24	P	**Pdif**	21 24 58.1	0.0	
	baz=293							
I26K	**Coal Creek Min**	101.89	22	P	**Pdif**	21 24 58.3	+0.2	
	baz=295							
PAX	**Paxson**	101.90	25	P	**Pdif**	21 24 58.3	0.0	
	baz=292							
M24K	**Tolsona, Glenn**	101.92	26	P	**Pdif**	21 24 58.4	0.0	
	baz=292							
GLI	**Glacier Island**	101.95	27	P	**Pdif**	21 24 58.5	0.0	
	baz=290							
F28M	**Old Crow**	102.02	20	P	**Pdif**	21 24 58.7	0.0	
	baz=299							
J26L	**Joseph Creek**	102.07	23	P	**Pdif**	21 24 58.9	-0.2	
	baz=294							
H27K	**Steamboat Moun**	102.09	21	P	**Pdif**	21 24 58.8	-0.3	
	baz=297							
P23K	**Montague Islan**	102.11	28	P	**Pdif**	21 24 59.5	+0.3	
	baz=290							
SCRK	**Sand Creek**	102.11	24	P	**Pdif**	21 24 58.9	-0.4	
	baz=294							
HARP	**HAARP**	102.25	25	P	**Pdif**	21 24 59.6	-0.2	
	baz=293							
KLU	**Klutina**	102.26	26	P	**Pdif**	21 24 59.7	-0.2	
	baz=292							
E29M	**Blow River**	102.28	19	P	**Pdif**	21 24 59.8	0.0	
	baz=301							
I27K	**Kandik River**	102.34	22	P	**Pdif**	21 25 00.1	0.0	
	baz=302							
EYAK	**Cordova Ski Ar**	102.69	27	P	**Pdif**	21 25 01.5	-0.2	
	baz=292							
L26K	**Log Cabin Wild**	102.77	25	P	**Pdif**	21 25 01.9	-0.2	
	baz=294							
N25K	**Chitina, Valde**	102.80	26	P	**Pdif**	21 25 02.0	-0.4	
	baz=293							
Q23K	**Middleton Isla**	102.81	29	P	**Pdif**	21 25 02.2	-0.1	
	baz=291							
K27K	**Chicken**	102.86	23	P	**Pdif**	21 25 02.3	-0.2	
	baz=296							
G29M	**Pine Creek**	103.00	20	P	**Pdif**	21 25 02.9	-0.1	
	baz=300							
I28M	**Miner Creek**	103.03	22	P	**Pdif**	21 25 03.1	-0.2	
	baz=298							
BMRM	**Bremner River**	103.05	27	P	**Pdif**	21 25 02.7	-0.7	
	baz=293							
M26K	**Nabesna, AK**	103.17	25	P	**Pdif**	21 25 03.5	-0.4	
	baz=295							
H29M	**Whitestone**	103.22	21	P	**Pdif**	21 25 03.9	-0.2	
	baz=300							
F30M	**Barrier River**	103.37	19	P	**Pdif**	21 25 04.5	-0.2	
	baz=302							
L27K	**Beaver Creek,**	103.38	24	P	**Pdif**	21 25 04.6	-0.2	
	baz=296							
A36M	**Sachs Harbour**	103.54	13	P	**Pdif**	21 25 05.3	0.0	
	baz=314							
G30M	**tAoh Zraii Nji**	103.57	19	P	**Pdif**	21 25 05.4	-0.2	
	baz=302							
MCARA	**McCarthy VSAT**	103.58	26	P	**Pdif**	21 25 05.5	-0.2	
	baz=294							
SUMG	**Summit**	103.65	348	Pdif	**Pdif**	21 25 06.1	-0.2	
SUMG	**Summit**	103.65	348	P	**Pdif**	21 25 06.1	-0.2	
M27K	**Edge Creek, AK**	103.66	25	P	**Pdif**	21 25 05.9	-0.4	
	baz=296							
I29M	**Ogilvie Camp,**	103.67	21	P	**Pdif**	21 25 05.8	-0.2	
	baz=300							
INK	**Inuvik**	103.69	18	P	**Pdif**	21 25 05.9	-0.2	
	baz=305							
EPYK	**Eagle Plains**	103.72	20	P	**Pdif**	21 25 05.9	-0.4	
	baz=301							
CRQE	**Cirque**	103.81	27	P	**Pdif**	21 25 06.6	-0.4	
	baz=294							
DAWY	**Dawson**	103.89	23	P	**Pdif**	21 25 06.9	-0.2	
	baz=298							
BGLC	**Bering Glacier**	103.98	27	P	**Pdif**	21 25 07.4	-0.1	
	baz=294							
BVCY	**Beaver Creek**	104.06	25	P	**Pdif**	21 25 08.0	+0.1	
	baz=297							
F31M	**Tsiigehtchic**	104.12	19	P	**Pdif**	21 25 07.9	-0.1	
	baz=304							
J29N	**Klondike Camp**	104.15	22	P	**Pdif**	21 25 08.2	-0.1	
	baz=300							
G31M	**Satah River**	104.24	19	P	**Pdif**	21 25 08.5	0.0	
	baz=304							
I30M	**Mount Dempster**	104.44	21	P	**Pdif**	21 25 09.4	-0.2	
	baz=302							
CTG	**Chitna Glacier**	104.50	26	P	**Pdif**	21 25 09.7	-0.4	
	baz=296							
YUK3	**Moose Creek**	104.52	25	P	**Pdif**	21 25 09.7	-0.5	
	baz=297							
MESA	**MESA**	104.57	27	P	**Pdif**	21 25 09.9	-0.5	
	baz=295							
K29M	**Barlow Dome**	104.72	23	P	**Pdif**	21 25 10.5	-0.4	
	baz=300							
J30M	**Hart River**	104.80	22	P	**Pdif**	21 25 10.9	-0.4	
	baz=301							
H31M	**Peel River**	104.84	20	P	**Pdif**	21 25 11.1	-0.2	
	baz=304							
L29M	**L29M**	104.85	23	P	**Pdif**	21 25 11.1	-0.3	
	baz=299							
M29M	**Somme Creek**	105.04	24	P	**Pdif**	21 25 12.0	-0.3	
	baz=299							
YUK8	**Steele Glacier**	105.04	25	P	**Pdif**	21 25 11.9	-0.7	
	baz=297							
O28M	**Mount Upton**	105.09	26	P	**PKiKP**	21 29 26.9	-0.3	
	baz=297							
PINM	**Pinnacle**	105.37	27	P	**PKiKP**	21 29 27.5	0.0	
	baz=297							
MAYO	**Mayo, Yukon**	105.47	22	P	**PKiKP**	21 29 28.0	+0.5	
	baz=302							
YUK4	**Talbot Arm**	105.49	25	P	**PKiKP**	21 29 27.8	-0.1	
	baz=298							
M30M	**Minto, Yukon**	105.65	24	P	**PKiKP**	21 29 28.1	+0.3	
	baz=300							
YUK6	**Outpost Mounta**	105.80	25	P	**PKiKP**	21 29 28.3	-0.1	
	baz=299							
PNL	**Peninsula**	105.95	27	P	**PKiKP**	21 29 28.6	+0.1	
	baz=297							
O29M	**Mount Kennedy**	106.02	26	P	**PKiKP**	21 29 28.7	0.0	
	baz=298							
N30M	**Aishikik Lake**	106.09	25	P	**PKiKP**	21 29 29.0	+0.3	
	baz=300							
HYT	**Haines Junctio**	106.23	25	P	**PKiKP**	21 29 29.3	+0.2	
	baz=299							
N31M	**Braeburn, Yuko**	106.62	24	P	**PKiKP**	21 29 30.0	+0.3	
	baz=301							
P29M	**Windy Craggy**	106.71	26	P	**PKiKP**	21 29 30.0	+0.1	
	baz=299							
M31M	**Drury Creek, Y**	106.80	23	P	**PKiKP**	21 29 30.2	+0.3	
	baz=303							
P30M	**Million Dollar**	106.81	26	P	**PKiKP**	21 29 30.2	+0.2	
	baz=300							
PLBC	**Pleasant Camp**	107.40	26	P	**PKiKP**	21 29 31.6	+0.5	
	baz=300							
WHY	**Whitehorse**	107.42	25	P	**PKiKP**	21 29 31.6	+0.3	
	baz=302							
MMPY	**Sheldon Lake,**	107.77	22	P	**PKiKP**	21 29 32.0	+0.2	
	baz=306							
SKAG	**Skagway**	107.86	26	P	**PKiKP**	21 29 32.5	+0.5	
	baz=301							
N32M	**Quiet Lake**	107.90	24	P	**PKiKP**	21 29 32.3	+0.2	
	baz=304							
R31K	**City Hall, Gus**	108.21	27	P	**PKiKP**	21 29 33.0	+0.4	
	baz=300							
S31K	**Pelican**	108.21	28	P	**PKiKP**	21 29 32.9	+0.2	
	baz=300							
P32M	**Atlin**	108.49	25	P	**PKiKP**	21 29 33.5	+0.3	
	baz=303							
P33M	**Teslin, Yukon**	108.53	25	P	**PKiKP**	21 29 33.4	+0.1	
	baz=304							
R32K	**Eaglecrest**	108.83	27	P	**PKiKP**	21 29 34.1	+0.2	
	baz=302							
TBI	**Tubuai**	109.07	115	*e*S	SKKSac	21 37 21.0	+17	
	comp=Z,1µm,34.2s							
TBI				*e*SS	**SS**	21 45 25.2	+4.5	
	comp=Z,570nm,44.2s							
TBI	**Tubuai**	109.07	115	*e*LQ	LQ	21 56 58.5		
	comp=Z,2µm,35.0s							
TBI				*e*LR	LR	22 01 35.9		
	comp=Z,972nm,30.0s							
TBI				*e*LR	LR	22 01 41.2		
	comp=Z,1µm,22.5s							
SIT	**Sitka**	109.09	28	P	**PKiKP**	21 29 34.7	+0.4	
	baz=300							
S32K	**Killisnoo**	109.23	28	P	**PKiKP**	21 29 34.9	+0.3	
	baz=301							
Q32M	**Nakina River**	109.45	26	P	**PKiKP**	21 29 35.4	+0.1	
	baz=304							
TGTN	**Hyland Airport**	109.55	22	P	**PKiKP**	21 29 35.4	+0.2	
	baz=308							
R33M	**Jennings River**	109.76	25	P	**PKiKP**	21 29 35.8	+0.1	
	baz=305							
PPT2	**Papeete2**	109.80	109	*e*P	**Pdif**	21 25 32.2	-2.2	
	comp=Z,50nm,30.0s							
PPT2	**Papeete2**	109.80	109	*e*PP	PP	21 30 00.6	-8.6	
	comp=Z,42nm,28.0s							
PPT2				*e*S	**SKKSac**	21 37 14.0	+4.6	
	comp=Z,47nm,28.5s							
PPT2				*e*SS	SS	21 45 13.6	-17	
	comp=Z,1µm,48.2s							
PPT2	**Papeete2**	109.80	109	*e*LQ	LQ	21 57 19.8		
	comp=Z,421nm,24.2s							
PPT2				*e*LR	LR	22 02 02.1		
	comp=Z,398nm,24.8s							
PPT2				*e*LR	LR	22 02 03.6		
	comp=Z,493nm,24.0s							
WRGLY	**Wrigley**	110.12	19	P	**PKiKP**	21 29 36.3	+0.3	
	baz=314							
WTLY	**Watson Lake, Y**	110.22	23	P	**PKiKP**	21 29 36.7	+0.3	
	baz=308							
S34M	**Telegraph Cree**	110.54	26	P	**PKiKP**	21 29 37.3	+0.3	
	baz=305							
U33K	**Whale Pass**	110.62	28	P	**PKiKP**	21 29 37.7	+0.6	
	baz=302							
DLBC	**Dease Lake**	110.72	25	P	**PKiKP**	21 29 38.0	+0.5	
	baz=306							
WRAK	**Wrangell Islan**	110.82	28	P	**PKiKP**	21 29 38.1	+0.5	
	baz=303							
CRAG	**Craig**	110.96	29	P	**PKiKP**	21 29 38.3	+0.5	
	baz=302							
T35M	**Bob Quinn**	111.47	27	P	**PKiKP**	21 29 39.3	+0.4	
	baz=305							
V35K	**Ketchikan**	111.76	29	P	**PKiKP**	21 29 39.8	+0.4	
	baz=303							
TOAD	**Toad River Com**	112.43	23	P	**PKiKP**	21 29 40.9	+0.2	
	baz=311							
YKA	**Yellowknife Ar**	113.38	16	PKiKP	**PKiKP**	21 29 42.1	-0.2	
	comp=Z,0.6nm,0.6s,baz=329,slow=2.8,SNR=8.2							
YKA				PP	**PP**	21 30 31.1	-1.9	
	comp=Z,0.2nm,0.3s,baz=321,slow=6.5,SNR=4.8							
YKA				PKKPbc	**PKKPbc**	21 40 26.0	-3.6	
	comp=Z,1.0nm,1.0s,baz=137,slow=3.1,SNR=4.7							
YKA				PKKPab	**PKKPab**	21 40 35.4	0.0	
	comp=Z,0.3nm,0.3s,baz=131,slow=2.5,SNR=6.5							
BLKN	**Baker Lake**	115.61	7		**PKiKP**	21 29 45.8	-0.7	
TAOE	**Nuku Hiva Isla**	119.95	101	*e*LR	LR	22 06 40.0		
	comp=Z,382nm,23.6s							
GNW	**Green Mountain**	120.77	32		**PKiKP**	21 29 57.1	+0.1	
RKT	**Rikitea**	122.11	118	*e*LR	LR	22 07 39.1		
	comp=Z,3µm,37.2s							
BUCK	**Buck Mountain**	122.74	35		**PKiKP**	21 30 01.5	+0.3	
KBO	**Bosley Butte**	123.16	38	PKPdf	**PKiKP**	21 30 02.4	+0.3	
HAWA	**

	comp=Z,20nm,0.7s,baz=312,slow=4.4,SNR=162							
BO04	**La Punta**	**144.16**	**194**		PKPbc	21 30 39.6	+0.3	
LMEL	**Las Melosas**	**144.19**	**195**		**PKPdf**	**21 30 40.9**	**-0.5**	
MT01	**Popeta**	**144.43**	**193**		PKPbc	21 30 40.8	+0.7	
MT08	**Bocatoma Ro**	**144.53**	**195**	PKPdf	**PKPdf**	**21 30 42.0**	**-0.1**	
HPIG		**144.57**	**41**		PKPbc	21 30 41.3	+0.3	
MT16	**CCHEN**	**144.67**	**195**		**PKPdf**	**21 30 41.5**	**-0.6**	
ARCO	**CERRO ARCO**	**144.79**	**197**	*eP*	**PKPdf**	**21 30 42.3**	**-0.2**	
CPUP	**Villa Florida**	**144.91**	**218**		PKPbc	21 30 42.1	+0.3	
CPUP	**Villa Florida**	**144.91**	**218**	PKPbc	**PKPdf**	**21 30 42.7**	**0.0**	
	comp=Z,23nm,0.9s,baz=110,slow=6.9,SNR=86							
PEL	**Peldehue**	**144.98**	**195**	PKPbc	**PKPdf**	**21 30 42.4**	**-0.3**	
PEL	**Peldehue**	**144.98**	**195**	PKIKP	**PKPdf**	**21 30 42.4**	**-0.3**	
MT02	**Curacav**	**144.99**	**194**	PKPbc	**PKPdf**	**21 30 42.5**	**-0.2**	
ASAL	**Salagasta**	**144.99**	**198**	*eP*	**PKPdf**	**21 30 42.9**	**+0.1**	
BBSR	**BB Station**	**145.16**	**336**		**PKPdf**	**21 30 42.7**	**-0.2**	
AUSP	**Uspallata**	**145.50**	**197**	*eP*	**PKPab**	**21 30 45.1**	**+1.0**	
VA06	**Catapilco**	**145.69**	**194**	PKPdf	**PKPbc**	**21 30 44.0**	**-0.1**	
SMTB	**Santa Maria do**	**145.71**	**253**	*eP*	**PKPab**	**21 30 45.1**	**-0.1**	
RTLS	**Leoncito**	**145.87**	**197**	*eP*	**PKPab**	**21 30 46.3**	**+0.7**	
ZON	**Zonda**	**145.91**	**198**	PKPdf	**PKPdf**	**21 30 44.1**	**-0.1**	
ZON	**Zonda**	**145.91**	**198**	PKP2	**PKPdf**	**21 30 44.2**	**-0.1**	
RPRD	**Ribas do Rio P**	**146.21**	**230**	*eP*	**PKPbc**	**21 30 46.1**	**0.0**	
Y58A	**Scranton**	**147.03**	**359**		**PKPdf**	**21 30 46.0**	**0.0**	
ARAG	**Araguaiana, MT**	**147.15**	**239**	*eP*	**PKPdf**	**21 30 47.1**	**+0.5**	
ACLC	**CERRO LA CRUZ**	**147.25**	**202**	*eP*	**PKPdf**	**21 30 47.7**	**+0.9**	
TMAB	**Tom-Au,PA,Br**	**147.32**	**264**	*eP*	**PKPdf**	**21 30 48.1**	**+1.1**	
ACDV	**Cuesta del Vie**	**147.33**	**199**	*eP*	**PKPbc**	**21 30 49.4**	**+0.2**	
HKT	**Hockley**	**147.58**	**25**		**PKPdf**	**21 30 48.1**	**+1.1**	
HKT	**Hockley**	**147.58**	**25**	PKP2	**PKPdf**	**21 30 48.1**	**+1.1**	
CYA	**Choya**	**147.66**	**205**	*eP*	**PKPbc**	**21 30 50.6**	**+0.5**	
AQDB	**Aquidauana**	**147.72**	**228**	PKPbc	**PKPbc**	**21 30 50.4**	**0.0**	
AGUA	**GUANDACOL**	**147.75**	**200**	*eP*	**PKPbc**	**21 30 50.3**	**-0.1**	
AANI	**Anillaco**	**147.79**	**203**	*eP*	**PKiKP**	**21 30 52.0**	**-0.5**	
SNDB	**Serra Nova Dou**	**148.23**	**246**	*eP*	**PKPdf**	**21 30 50.1**	**+1.5**	
VCA	**Vinchina**	**148.33**	**201**	*eP*	**PKPbc**	**21 30 52.0**	**0.0**	
MURT	**Porto Murtinho**	**148.34**	**224**	*eP*	**PKPdf**	**21 30 49.5**	**+0.9**	
BDQN	**Bodoquena, MS**	**148.51**	**227**	*eP*	**PKPdf**	**21 30 49.7**	**+0.8**	
TINO	**Tinogasta**	**148.71**	**203**	*eP*	**PKPab**	**21 30 58.3**	**+1.8**	
LCO	**Las Campanas**	**148.90**	**197**		**PKPbc**	**21 30 54.2**	**+0.6**	
LCO	**Las Campanas**	**148.90**	**197**	PKP2	**PKPbc**	**21 30 54.2**	**+0.6**	
AC02	**Maricunga**	**150.40**	**201**		**PKPdf**	**21 30 50.8**	**-1.5**	
ALOL	**LOMAS DE OLMED**	**150.69**	**212**	||*eP*	**PKPdf**	**21 30 46.6**	**-5.7**
AZAP	**Zapla**	**150.92**	**210**	*eP*	**PKPbc**	**21 30 58.3**	**-0.3**	
PTLB	**Pontes e Lacer**	**153.33**	**232**	PKPdf	**PKPdf**	**21 30 55.8**	**-0.5**	
PTLB				PKPbc	**PKPbc**	**21 31 03.7**	**-0.2**	
PTLB				PKPab	**pKPbc**	**21 31 16.9**	**+0.1**	
MAL2	**Monte Alegre,**	**153.40**	**264**	PKPdf	**PKPdf**	**21 30 56.6**	**0.0**	
VILB	**Vilhena**	**155.57**	**235**	PKPdf	**PKPdf**	**21 30 59.3**	**-0.3**	
LPAZ	**La Paz**	**159.03**	**216**	PKPdf	**PKPdf**	**21 31 04.9**	**+0.3**	
LPAZ	**La Paz**	**159.03**	**216**	PKP	**PKPdf**	**21 31 04.8**	**+0.2**	
	comp=Z,7.1nm,0.9s,baz=95,slow=4.6,SNR=20							
LPAZ	**La Paz**	**159.03**	**216**	PKIKP	**PKPdf**	**21 31 04.9**	**+0.3**	
BOAV	**Boa Vista**	**159.83**	**275**	PKPdf	**PKPdf**	**21 31 04.7**	**-0.2**	
ROSC	**El Rosal**	**172.51**	**303**	PKP	**PKPdf**	**21 31 15.6**	**+0.3**	
	comp=Z,9.1nm,0.4s,baz=75,slow=11,SNR=10							

JMA 10 21:19:32.2±0.3, 37°2'N±0'.9 × 14°4'E±', h46km, MV3.7/28, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.20**	**301**	P	Pn	21 20 07.2	+1.0
JIO	**Ouri**	**2.35**	**303**	P	Pn	21 20 09.5	+1.2
JFK	**Kawauchi**	**2.39**	**275**	S	Sn	21 20 37.8	+0.9
JMST	**Minamisoumatoc**	**2.42**	**283**	P	Pn	21 20 10.1	+0.8
JMK	**Ichinoseki**	**2.72**	**311**	*eP*	Pn	21 20 14.6	+1.2
JMK				*eS*	Sn	21 20 46.4	+1.4
JOTO	**OTAMA OYAMA**	**2.83**	**278**	P	Pn	21 20 17.3	+2.4
JOTO				*eS*	Sn	21 20 50.0	+2.1
JOM	**Ohasama**	**3.04**	**319**	P	Pn	21 20 19.0	+1.3
JOM				*eS*	Sn	21 20 54.1	+1.3
JYK	**Kaneyama**	**3.25**	**303**	*eP*	Pn	21 20 22.6	+1.9
JAG	**Ashikaga**	**3.62**	**259**	P	Pn	21 20 26.9	+1.1
JRY	**Ryogami san**	**4.16**	**255**	*eP*	Pn	21 20 34.1	+0.9
JRY				*eS*	Sn	21 21 19.4	-1.2
JOD2	**Odawara 2**	**4.32**	**245**	*eS*	Sn	21 21 21.9	-2.5
JCH	**Churui**	**5.42**	**356**	*eP*	Pn	21 20 49.6	-0.9
JCH				*eS*	Sn	21 21 47.6	-3.8
NEM2	**Nemuro 2**	**6.32**	**13**	*eP*	Pn	21 20 59.5	-3.3
NEM2				*eS*	Sn	21 22 06.0	-7.6

ATH 10 21:20:13.9, 38°42'N×20°50'E, h6km±1km, ML2.1/17, Manual Solution by G.Panopoulou First location: 2019/08/10 21:21:16, This location: 2019/08/10 22:27:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.07**	**51**	P	Pg	21 20 15.9	+0.3
FSK				S	Sg	21 20 17.1	+0.3
DMLN	**Damoulianata-K**	**0.20**	**209**	P	Pg	21 20 18.2	+0.2
DMLN				S	Sg	21 20 21.5	+0.8
EVGI	**Lefkada island**	**0.24**	**31**	P	Pg	21 20 18.8	+0.2
EVGI				S	Sg	21 20 22.7	+0.9
VLS	**Valsamata**	**0.25**	**163**	P	Pg	21 20 19.0	+0.2
VLS				S	Sg	21 20 23.3	+1.1
DRAG	**Dragano-Lefkad**	**0.27**	**13**	P	Pg	21 20 19.4	-0.1
DRAG				S	Sg	21 20 23.6	+0.7
PSDA	**Pessada-Kefalo**	**0.31**	**167**	P	Pg	21 20 20.1	+0.1
PSDA				S	Sg	21 20 24.6	+0.5
LKD2	**Lefkada island**	**0.39**	**19**	P	Pg	21 20 21.3	-0.2
LKD2				S	Sg	21 20 27.5	+0.9
TSLK	**Tsoukalades, L**	**0.42**	**17**	P	Pg	21 20 22.0	-0.1
TSLK				S	Sg	21 20 28.3	+0.5
ORTH	**Orthonies,Zaky**	**0.59**	**164**	P	Pg	21 20 24.9	-0.3
ORTH				S	Sg	21 20 33.9	+1.0
KYPS	**Kipseli, Zakin**	**0.65**	**157**	P	Pg	21 20 26.5	0.0
KYPS				S	Sg	21 20 35.8	+0.9
AXS	**Araxos**	**0.73**	**107**	P	Pg	21 20 27.8	-0.1
AXS				S	Sg	21 20 38.0	+0.7
CLEM	**Kyllini,Ilia,G**	**0.73**	**136**	P	Pg	21 20 28.1	+0.2
CLEM				S	Sg	21 20 38.0	+0.7
LTHK	**Lithakia**	**0.76**	**159**	P	Pg	21 20 27.9	-0.5
LTHK				S	Sg	21 20 38.0	-0.2
PVO	**Paravola**	**0.83**	**76**	P	Pg	21 20 30.0	+0.1
PVO				S	Sg	21 20 41.2	+0.5
RLS	**Riolos of Patr**	**0.84**	**115**	P	Pg	21 20 29.8	-0.3
RLS				S	Sg	21 20 41.0	0.0
DRO	**Drossia**	**1.06**	**116**	P	Pg	21 20 34.0	-0.3
DRO				S	Sb	21 20 48.6	-0.2
EFP	**Efpalio**	**1.11**	**89**	P	Pg	21 20 34.3	-0.8
EFP				S	Sb	21 20 50.0	-0.1
TETR	**Tetrakomo, Epi**	**1.11**	**33**	P	Pn	21 20 35.8	-0.2
TETR				S	Sb	21 20 49.9	-0.3
ANX	**Ano Chora**	**1.13**	**81**	P	Pn	21 20 36.3	0.0
ANX				S	Sg	21 20 50.2	0.0
EVR	**Evrytania**	**1.14**	**64**	P	Pg	21 20 35.2	-0.6
EVR				S	Sb	21 20 51.8	+0.6
KLV	**Kalavryta, Ach**	**1.35**	**105**	P	Pn	21 20 38.5	-0.9
KLV				S	Sn	21 20 57.6	-0.1
KEK	**Kerkira**	**1.40**	**337**	P	Pb	21 20 40.5	0.0
MAKR	**Makrakomi, Fth**	**1.41**	**65**	P	Pn	21 20 40.1	0.0
GUR	**Goura**	**1.53**	**108**	P	Pn	21 20 41.6	-0.3
AGG	**Agios Georgios**	**1.56**	**67**	P	Pn	21 20 42.3	+0.2
THL	**Klokotos Trika**	**1.65**	**45**	P	Pb	21 20 44.0	-0.6
ITM	**Ithomi**	**1.68**	**137**	P	Pb	21 20 44.5	-0.7
TYRN	**Tyrnavos**	**1.87**	**46**	P	Pn	21 20 46.9	+0.5

KRSC 10 21:26:21.6±1.6, 48°12'N×156°05'E, h40km±34km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.57**	**1**	*eP*	Pn	21 27 03.5	+2.9
SKR				*eS*	Sn	21 27 33.5	+2.9
PAU	**Pauzhetka**	**3.39**	**8**	*eP*	Pn	21 27 15.8	+3.9
PAU				*eS*	Sn	21 27 55.0	+4.3
MIPR	**Malaya Ipel'ka**	**4.19**	**6**	*eP*	Pn	21 27 26.1	+3.2
ASAK	**Asacha**	**4.43**	**15**	*eP*	Pn	21 27 30.8	+4.5
MTVR	**Mutnovka**	**4.58**	**17**	*eP*	Pn	21 27 33.5	+5.1
MTVR				*eS*	Sn	21 28 25.6	+5.2
RUS	**Russkaya**	**4.60**	**19**	*eP*	Pn	21 27 33.2	+4.7
RUS				*eS*	Sn	21 28 24.8	+4.3
GRL	**Gorelyy**	**4.62**	**16**	*eP*	Pn	21 27 34.1	+5.1
AVH	**Avacha**	**5.43**	**17**	*eP*	Pn	21 27 44.6	+4.6
KOK	**Koryaka**	**5.43**	**17**	*eP*	Pn	21 27 45.5	+5.5
KRX	**Arik**	**5.50**	**16**	*eP*	Pn	21 27 46.2	+5.2
SPN	**Mys Shipunski**	**5.59**	**25**	*eP*	Pn	21 27 47.4	+5.3
SPN				*eS*	Sn	21 28 50.1	+5.1
GNL	**Ganaly**	**5.71**	**11**	*eP*	Pn	21 27 48.2	+4.4
MKZ	**Mys Kozlova**	**7.36**	**27**	*eP*	Pn	21 28 10.1	+3.8

*TEH **10** 21:38:10.6, 39°.79N×54°.07E, h10km*
*IDC **10** 21:38:13.3±1.9, 40°.18N×53°.97E, h0km, mb3.4/5, mbtmp3.6/11, ML3.3/6, MS4.0/1, Error ellipse: s-maj=31.6km s-min=10.3km az=174.0*
*NNC **10** 21:38:22.4±6.7, 40°.77N×54°.02E, h0km, mb3.8, Error ellipse: s-maj=75.6km s-min=53.2km az=93.0*

ISC 10 21:38:11.8±0.8, 39°.96N±0°.07×54°.13E±0°.05, h10km, n48, σ2s06/54, mb3.7/3, 3C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**2.76**	**146**	Pn	**Pn**	**21 38 55.5**	**-0.7**
IMND	**Minoodasht**	**2.88**	**159**	Pn	**Pn**	**21 38 56.8**	**-0.9**
IGLO	**Ghaloghah**	**3.46**	**184**	Pn	**Pn**	**21 39 03.8**	**-2.1**
IKIA	**Kiasar**	**3.77**	**186**	Pn	**Pn**	**21 39 08.7**	**-1.4**
IPRN	**Peran**	**3.97**	**201**	Pn	**Pn**	**21 39 10.3**	**-2.6**
IALA	**Alasht**	**4.01**	**196**	Pn	**Pn**	**21 39 11.9**	**-1.6**
SIZA	**Siyzn**	**4.14**	**287**	Pn	**Pn**	**21 39 17.6**	**+2.5**
ISFR	**Sfrayin**	**4.20**	**133**	Pn	**Pn**	**21 39 16.1**	**0.0**
IEMG	**Emamgholi**	**4.35**	**124**	Pn	**Pn**	**21 39 17.8**	**-0.5**
IFIR	**Firoozkooh**	**4.45**	**195**	Pn	**Pn**	**21 39 18.6**	**-1.0**
SBZV	**Sabzevar**	**4.50**	**141**	Pn	**Pn**	**21 39 20.1**	**-0.1**
QUB	**Quba**	**4.61**	**290**	Pn	**Pn**	**21 39 23.6**	**+2.0**
ILAS	**Lasjerd**	**4.67**	**192**	Pn	**Pn**	**21 39 21.4**	**-1.1**
IDMV	**Damavand**	**4.68**	**201**	Pn	**Pn**	**21 39 21.7**	**-1.1**
QBL	**Gabala**	**4.90**	**284**	Pn	**Pn**	**21 39 26.5**	**+0.9**
IAKL	**Akelmad**	**4.95**	**131**	Pn	**Pn**	**21 39 26.1**	**-0.3**
GRMI	**Germi**	**4.97**	**259**	Pn	**Pn**	**21 39 25.5**	**-1.0**
IPAY	**Payeh**	**5.19**	**131**	Pn	**Pn**	**21 39 29.4**	**-0.4**
IKRD	**Kardeh**	**5.29**	**125**	Pn	**Pn**	**21 39 30.7**	**-0.4**
IVRN	**Varamin**	**5.31**	**202**	Pn	**Pn**	**21 39 30.7**	**-0.6**
QABG	**Abgarm-Qazvin**	**5.57**	**222**	Pn	**Pn**	**21 39 33.6**	**-1.3**
TAPT	**Tabas- Tapeh t**	**5.61**	**154**	Pn	**Pn**	**21 39 35.1**	**-0.3**
IHRS	**Heris**	**5.75**	**256**	Pn	**Pn**	**21 39 36.4**	**-1.0**
IHSH	**Hashtrud**	**6.00**	**246**	Pn	**Pn**	**21 39 40.2**	**-0.6**
VSHL	**Vashlovani**	**6.02**	**285**	P	**Pn**	**21 39 43.8**	**+2.9**
VSHL				S	**Sn**	**21 40 49.6**	**-0.3**
HGHA	**Hamedan- Ghaye**	**6.12**	**225**	Pn	**Pn**	**21 39 41.6**	**-0.9**
KRSH	**Karshahi**	**6.19**	**196**	Pn	**Pn**	**21 39 42.4**	**-1.0**
JRKH	**Jarkhoshk**	**6.36**	**128**	Pn	**Pn**	**21 39 45.1**	**-0.6**
TKDS	**Koohdasht(Taba**	**6.77**	**158**	Pn	**Pn**	**21 39 50.5**	**-0.9**
DGRG	**David-gareji**	**6.82**	**285**	P	**Pn**	**21 39 54.8**	**+2.9**
DGRG				S	**Sn**	**21 41 09.4**	**-0.2**
ISHB	**Shabestar**	**6.83**	**259**	Pn	**Pn**	**21 39 52.4**	**+0.1**
GNI	**Garni**	**7.21**	**275**	Pn	**Pn**	**21 40 00.0**	**+2.7**
	0.9nm,0.3s,baz=84,slow=9.2,SNR=2.2						
GNI				Sn	**Sn**	**21 41 21.8**	**+2.5**
	0.3nm,0.3s,baz=83,slow=8.1,SNR=1.9 3.0nm,0.4s						
TPRV	**Parvadeh(Tabas**	**7.22**	**163**	Pn	**Pn**	**21 39 57.0**	**-0.4**
KBZ	**Khabaz**	**9.19**	**298**	Pn	**Pn**	**21 40 24.3**	**-0.1**
	0.1nm,0.3s,baz=108,slow=4.3,SNR=2.3						
KBZ				Sn	**Sn**	**21 42 03.0**	**-4.7**
	0.5nm,0.3s,baz=110,slow=10.0,SNR=4.1 0.6nm,0.3s						
KVAR	**Kislovodsk Arr**	**9.41**	**299**	Pn	**Pn**	**21 40 26.0**	**-1.4**
	baz=108,slow=20						
KVAR				Sn	**Sn**	**21 42 07.1**	**-6.2**
	baz=115,slow=18 1.5nm,0.8s						
AB31	**Akbulak array**	**10.17**	**22**	P	**Pn**	**21 40 39.3**	**+1.6**
	0.6nm,0.3s,baz=208,slow=14,SNR=20						
AB31				⇑S	**Sn**	**21 42 26.7**	**-5.0**
	1.2nm,0.3s,baz=210,slow=23,SNR=10.0						
AKTO	**Aktyubinsk**	**10.82**	**13**	Pn	**Pn**	**21 40 49.1**	**+2.4**
	1.0nm,0.3s,baz=196,slow=8.8,SNR=8.4						
AKTO				Sn	Sn	21 42 42.6	-5.2
	0.9nm,0.3s,baz=107,slow=18,SNR=5.8						
AKTO	**Aktyubinsk**	**10.82**	**13**	⇑P	**Pn**	**21 40 49.5**	**+2.8**
	0.9nm,0.4s						
AKTO				⇑S	**Sn**	**21 42 44.2**	**-3.6**
	1.8nm,0.5s						
BELG	**Belogornoye**	**13.22**	**342**	Pn	**Pn**	**21 41 19.8**	**+0.5**
	0.6nm,0.3s,baz=127,slow=20,SNR=2.5						
BELG				Sn	Sn	21 43 38.9	-7.5
	1.0nm,0.3s,baz=196,slow=16,SNR=6.9 4.3nm,0.7s						
ARTI	**Arti**	**16.68**	**8**	Pn	**Pn**	**21 42 07.5**	**+2.2**
	0.4nm,0.3s,baz=188,slow=9.3,SNR=5.4						
ARTI				Sn	Sn	21 45 01.3	-9.1
	0.2nm,0.3s,baz=194,slow=19,SNR=1.6 4.2nm,0.8s						
BVA0	**Borovoye Array**	**17.15**	**35**	||P	**P**	**21 42 14.4**	**+1.4**
	1.9nm,0.8s,baz=229,slow=10.0,SNR=12						
BVAR	**Borovoye Array**	**17.15**	**35**	Pn	**Pn**	**21 42 09.8**	**-1.6**
	0.1nm,0.3s,baz=227,slow=9.9,SNR=10						
BVAR				Sn	Sn	21 45 11.5	-11
	baz=230,slow=37,SNR=2.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**20.11**	**50**	P	**P**	**21 42 48.1**	**+2.5**
	0.3nm,0.6s,baz=252,slow=12,SNR=2.5 0.3nm,0.6s						
AKASG	**Malin Array Be**	**20.44**	**310**	P	**P**	**21 42 48.9**	**-0.3**
	0.4nm,0.3s,baz=110,slow=10.0,SNR=5.6 0.4nm,0.3s						
MKAR	**Makanchi Array**	**21.50**	**62**	P	**P**	**21 43 02.8**	**+2.1**
	0.6nm,0.5s,baz=258,slow=11,SNR=9.3 0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**24.95**	**46**	P	**P**	**21 43 36.7**	**+1.7**
	0.8nm,0.4s,baz=252,slow=9.6,SNR=5.8 0.8nm,0.4s						
FINES	**FINESS Array B**	**27.51**	**331**	P	**P**	**21 44 00.3**	**+2.2**
	2.8nm,1.1s,baz=124,slow=12,SNR=3.4 2.8nm,1.1s						
MDT	**Midelt**	**47.09**	**281**	LR	LR	22 09 19.3	
	comp=Z,178nm,21.8s,baz=80,slow=40						

*IDC **10** 21:38:53.6±0.5, 52°.35N×168°.45W, h0km, mb5.0/38, mbtmp5.0/40, ML4.5/2, MS4.3/35, Error ellipse: s-maj=14.7km s-min=10.2km az=162.0*
*NEIC **10** 21:38:54.7, 52°.18N×168°.25W, h11km*
*NEIC **10** 21:38:54.8, 52°.18N×168°.23W, h14km*
*NEIC **10** 21:38:54.7±1.7, 52°.17N±0°.05×168°.25W±0°.05, h11km±3km, mb5.0/204, ML4.5/20, Mwr4.9/14, Mww4.9/36, ML4.3(AEIC), Error ellipse: s-maj=7.1km s-min=4.6km az=176.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.59; Mθθ-1.37; Mϕϕ0.78; Mrθ2.11; Mθϕ-0.16; Mϕr1.38; Fault plane solution: M₀2.79000×10¹⁶ NP1: ϕs305.29000°, δ20.73000°, λ157.72000°. NP2: ϕs56.25000°, δ82.29000°, λ70.70000°. Principal axes: T 2.6152, Plg49.0000°, Azm305.0000°; N 0.3164, Plg19.0000°, Azm59.0000°; P -2.9315, Plg35.0000°, Azm163.0000°;*
*MOS **10** 21:38:54.8±1.0, 52°.25N×168°.29W, h22km, mb5.3/102, MS4.3/7 Error ellipse: s-maj=6.5km s-min=4.1km az=98.0*
*NEIC **10** 21:38:54.8, 51°.88N×168°.56W, h14km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr2.56; Mθθ-2.31; Mϕϕ-0.24; Mrθ1.65; Mθϕ-1.35; Mϕr0.25; Fault plane solution: M₀3.25000×10¹⁶ NP1: ϕs232.11000°, δ31.08000°, λ71.20000°. NP2:ϕs73.78000°, δ60.74000°, λ100.99000°. Principal axes: T 3.0691, Plg72.0000°, Azm10.0000°; N 0.3374, Plg10.0000°, Azm248.0000°; P -3.4065, Plg15.0000°, Azm156.0000°;*
*BJI **10** 21:38:55.8, 52°.68N×169°.05W, h10km, mB5.4/17, mb5.2/53, Ms5.0/28, Ms7 4.7/28*
*AEIC **10** 21:38:56.2±2.0, 52°.13N±0°.03×168°.21W±0°.05, h26km±3km, Error ellipse: s-maj=4.8km s-min=4.1km az=60.0*
*GCMT **10** 21:38:57.7±0.2, 52°.08N±0°.01×168°.44W±0°.03, h17km, MW5.0/103, Moment Tensor Solution. s51,c68; s103,c162; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.17±.14; Mθθ-2.88±.10; Mϕϕ-0.29±.09; Mrθ2.75±.25; Mθϕ-1.21±.06; Mϕr0.91±.24; Best double couple: M₀4.36300×10¹⁶ NP1:ϕs246.00000°, δ24.00000°, λ86.00000°. NP2:ϕs71.00000°, δ66.00000°, λ92.00000°. Principal axes: T 4.2720, Plg69.0000°, Azm345.0000°; N 0.1760, Plg2.0000°, Azm250.0000°; P -4.4550, Plg21.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **10** 21:39:06.9, 53°.70N×167°.38W, h33km, mb5.0, Ms4.1*

ISC 10 21:38:55.7±0.5, 52°.25N±0°.04×168°.27W±0°.03, h17km±2km, h17km:pP-P, n1176, σ1s07/1192, mb5.1/271, MS4.4/51, 69C-40D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.81**	**334**		**Pn**	**21 39 11.9**	**-0.3**
NIKH					**Sg**	**21 39 22.5**	**+0.4**
NIKH				IAML		21 39 29.0	
	comp=N,17μm,1.2s						
NIKH				IAML		21 39 30.2	
	comp=E,15μm,0.6s						
NIKH	**Nikolski High**	**0.81**	**334**	P	**Pn**	**21 39 12.5**	**+0.2**
NIKH	**Nikolski High**	**0.81**	**334**	S	**Sn**	**21 39 24.5**	**+0.7**
NIKH	**Nikolski High**	**0.81**	**334**	P	**Pn**	**21 39 12.4**	**+0.2**
	baz=154						
CLCO	**Concord Point,**	**1.04**	**302**		**Pn**	**21 39 15.4**	**0.0**
CLCO					**Pg**	**21 39 15.8**	**0.0**
CLCO					**Sn**	**21 39 30.7**	**+1.2**
CLCO					**Sg**	**21 39 31.8**	**+2.4**
CLES	**Cleveland East**	**1.15**	**301**	Pn	**Pn**	**21 39 16.8**	**-0.1**
CLES					**Sn**	**21 39 31.9**	**-0.3**
CLES				IAML		21 39 45.6	
	comp=N,13μm,0.8s						
OKCE	**Okmok Cone E**	**1.18**	**3**		**Pg**	**21 39 18.4**	**0.0**
OKCE					**Pb**	**21 39 19.0**	**+1.4**
OKCE					**Sg**	**21 39 35.9**	**+2.0**
OKNC	**Okmok New Cone**	**1.21**	**4**		**Pg**	**21 39 19.1**	**0.0**
OKNC					**Sg**	**21 39 37.3**	**+2.5**
MAPS	**Pakushin South**	**1.75**	**27**		**Pn**	**21 39 25.5**	**+0.2**
MAPS					**Pb**	**21 39 26.4**	**-1.0**
MAPS					**Sb**	**21 39 49.4**	**+0.3**
MAPS					**Sg**	**21 39 51.8**	**+0.3**
MGOD	**Makushin Gods**	**1.76**	**28**		**Pn**	**21 39 25.7**	**+0.3**
MGOD					**Pb**	**21 39 26.4**	**-1.2**
MGOD					**Sb**	**21 39 49.7**	**+0.3**
MGOD					**Sg**	**21 39 52.5**	**+0.1**
MREP	**Makushin Rep't**	**1.81**	**30**		**Pn**	**21 39 26.9**	**+0.7**
UNV	**Unalaska Valle**	**1.92**	**33**		**Pn**	**21 39 28.0**	**+0.4**
UNV					**Sn**	**21 39 51.7**	**+0.5**
UNV	**Unalaska Valle**	**1.92**	**33**	P	**Pn**	**21 39 28.1**	**+0.6**
	baz=213						
MTBL	**Makushin Table**	**1.97**	**29**		**Sb**	**21 39 56.3**	**+0.9**
AKMO	**Akutan Morgan**	**2.29**	**36**		**Sb**	**21 40 02.7**	**-1.8**
AKRB	**Akutan Reef Bi**	**2.30**	**34**		**Sb**	**21 40 03.4**	**-1.4**
AKRB					**Sn**	**21 40 04.0**	**+3.3**
ZRO	**Akutan Zero**	**2.30**	**36**		**Pn**	**21 39 33.8**	**+1.0**
ZRO					**Pb**	**21 39 34.5**	**-2.3**
AKBBA	**Akutan Broad B**	**2.32**	**36**		**Pn**	**21 39 35.1**	**+2.0**
AKBBA					**Sb**	**21 40 06.4**	**+0.9**
AKV	**Akutan Volcano**	**2.33**	**36**		**Pn**	**21 39 35.0**	**+1.7**
AKV					**Sb**	**21 40 06.8**	**+0.9**
LVA	**Lava Point**	**2.34**	**34**		**Pn**	**21 39 34.4**	**+1.1**
LVA						21 40 20.1	
	comp=E,3μm,0.7s			IAML			
AHB	**Akutan Harbor**	**2.38**	**37**		**Pn**	**21 39 35.2**	**+1.3**
AKUT	**Akutan**	**2.41**	**38**		**Pn**	**21 39 35.3**	**+1.0**
AKUT	**Akutan**	**2.41**	**38**		**Sn**	**21 40 05.0**	**+1.6**
AKUT	**Akutan**	**2.41**	**38**	P	**Pn**	**21 39 35.3**	**+1.0**
AKUT	**Akutan**	**2.41**	**38**	S	**Sb**	**21 40 08.0**	**0.0**
WECS	**Westdahl Cape**	**3.10**	**41**		**Pn**	**21 39 45.2**	**+1.5**
WESE	**West Dahl East**	**3.13**	**43**		**Pn**	**21 39 45.4**	**+1.0**
WEBT	**Westdahl Beart**	**3.15**	**41**		**Pn**	**21 39 46.0**	**+1.5**
SSBA	**Shishaldin**	**3.54**	**43**		**Pn**	**21 39 51.2**	**+1.4**
SSLS	**Shishaldin Sou**	**3.55**

SII Sitkinak Islan 9.27 57 Pn Pn 21 41 08.8 +0.3
SII Sitkinak Islan 9.27 57 P Pn 21 41 10.1 +1.6
SII Sitkinak Islan 9.27 57 P Pn 21 41 08.5 0.0
baz=248
Q17K Contact Creek 9.28 45 P Pn 21 41 08.6 -0.1
baz=234,SNR=20
CNTC Contact Creek 9.28 45 Pn 21 41 10.7 +2.1
O16K Kokwok River B 9.30 34 Pn 21 41 10.8 +1.9
O16K Kokwok River B 9.30 34 P Pn 21 41 09.2 +0.3
baz=222,SNR=11
ANCK Angle Creek 9.41 46 Pn 21 41 11.8 +1.4
M15K Kasigluk River 9.44 23 Pn 21 41 13.8 +3.1
M15K Kasigluk River 9.44 23 P Pn 21 41 11.8 +1.1
baz=209,SNR=9.7
ACHA Angle Creek He 9.49 46 Pn 21 41 13.9 +2.4
KABU Katmai Buttres 9.55 46 Pn 21 41 14.2 +1.9
R18K Karluk 9.57 51 P Pn 21 41 12.6 +0.2
baz=242
L14K Kuka Creek 9.61 16 Pn 21 41 15.5 +2.5
L14K Kuka Creek 9.61 16 P Pn 21 41 13.2 +0.1
baz=201
P17K Kvichak River 9.63 39 P Pn 21 41 13.8 +0.5
baz=228,SNR=6.5
KAKN Katmai Knife C 9.66 46 Pn 21 41 16.0 +2.1
N16K Nishlik Lake 9.77 29 Pn 21 41 18.0 +2.7
N16K Nishlik Lake 9.77 29 P Pn 21 41 15.4 +0.1
baz=216,SNR=30
O17K Koliganek Bris 9.78 35 Pn 21 41 18.0 +2.6
O17K Koliganek Bris 9.78 35 P Pn 21 41 16.2 +0.8
baz=224,SNR=37
Q18K Katmai Hardscr 9.88 44 P Pn 21 41 17.7 +0.8
baz=235,SNR=21
K13K Kusilvak Mount 9.90 10 Pn 21 41 19.5 +2.4
K13K Kusilvak Mount 9.90 10 P Pn 21 41 18.2 +1.2
baz=193,SNR=7.2
OHAK Old Harbor 9.98 54 Pn 21 41 17.6 -0.6
OHAK Old Harbor 9.98 54 P Pn 21 41 18.1 -0.1
OHAK Old Harbor 9.98 54 P Pn 21 41 18.7 +0.5
baz=246,SNR=11
L15K Ungalak Mounta 10.14 19 P Pn 21 41 21.1 +0.8
baz=204,SNR=8.7
M16K Timber Creek 10.17 27 P Pn 21 41 20.4 -0.3
baz=214
P18K Big Mountain, 10.23 41 P Pn 21 41 22.2 +0.6
baz=231,SNR=12
N17K Nushagak Hills 10.31 32 P Pn 21 41 23.5 +0.9
baz=221,SNR=18
O18K Koktuh Hills 10.54 39 P Pn 21 41 26.1 +0.3
baz=229,SNR=24
KDAK Kodiak Island 10.56 52 Pn Pn 21 41 25.2 -0.9
comp=N,6.0nm,0.3s,baz=252,slow=6.4,SNR=81
KDAK Sn Sn 21 43 18.5 -5.3
comp=N,0.4nm,0.3s,baz=156,slow=20,SNR=1.9
KDAK Kodiak Island 10.56 52*c iP* Pn 21 41 25.7 -0.4
KDAK Kodiak Island 10.56 52 P Pn 21 41 25.9 -0.1
baz=245
Q19K Cape Douglas, 10.63 45 P Pn 21 41 27.4 +0.4
baz=237,SNR=12
K15K Wolf Creek Mou 10.70 17 P Pn 21 41 28.9 +1.0
baz=203,SNR=14
SHEM Shemya Is, Ala 10.76 280 Pn Pn 21 41 29.0 +0.1
comp=N,10.0nm,0.3s,baz=45,slow=4.3,SNR=6.6
SHEM LR LR 21 45 29.9
comp=N,2µm,20.9s,baz=122,slow=37
comp=N,34nm,0.6s
SMY Shemya 10.76 280 Pn Pn 21 41 29.7 +0.9
SMY Shemya 10.76 280 P Pn 21 41 29.7 +0.9
J14K Nanvaranak Lak 10.82 12 P Pn 21 41 29.8 +0.2
baz=195
N18K Kilae Creek 10.86 34 P Pn 21 41 30.6 +0.5
baz=224,SNR=12
M17K Holitna River 10.91 29 P Pn 21 41 31.2 +0.5
baz=217
Q20K Shuyak Island 11.02 48 P Pn 21 41 32.5 +0.1
baz=241,SNR=6.9
O19K Port Alsworth 11.10 39 P Pn 21 41 33.6 +0.2
baz=230,SNR=5.3
P19K Oil Pt 11.21 43 Pn 21 41 36.2 +1.2
P19K Oil Pt 11.21 43 P Pn 21 41 34.4 -0.5
baz=235
L17K Donlin 11.27 25 P Pn 21 41 35.8 +0.1
baz=213
N19K Bonanza Creek 11.44 36 P Pn 21 41 38.0 -0.2
baz=227,SNR=31
M18K Stony River 11.47 31 P Pn 21 41 37.4 -1.1
baz=222,SNR=34
GAMB Gambell 11.70 352 Pn 21 41 43.0 +1.5
GAMB Gambell 11.70 352 P Pn 21 41 41.0 -0.6
baz=170
O20K Slope Mountain 11.70 42 P Pn 21 41 40.1 -1.7
baz=234
K17K Iditarod 11.76 23 P Pn 21 41 41.6 -0.8
baz=211
L18K Granite Mounta 11.78 27 P Pn 21 41 41.8 -0.8
baz=217,SNR=8.7
J16K Anvik River 11.78 17 P Pn 21 41 42.3 -0.4
baz=204
RED Redoubt Volcan 11.84 40 Pn 21 41 44.3 +0.7
HOM Homer 11.88 45 P Pn 21 41 43.3 -0.8
baz=238
CNPM China Poot 11.99 46 Pn 21 41 45.6 -0.1
J17K VABM Dome 12.18 20 P Pn 21 41 48.3 +0.1
baz=208,SNR=13
M19K Big River Lodg 12.24 32 P Pn 21 41 49.1 +0.1
baz=224,SNR=20
BRLK Bradley Lake 12.27 45 Pn 21 41 49.4 -0.1
L19K White Mountain 12.29 31 P Pn 21 41 49.3 -0.5
baz=222,SNR=7.7
I17K Unalakleet 12.32 16 P Pn 21 41 49.6 -0.5
baz=202
ANM Nome 12.44 6 P Pn 21 41 51.5 -0.2
baz=188
N20K Mount Spurr 12.54 38 P Pn 21 41 52.4 -0.7
baz=231
SPCR Spurr Chakacha 12.54 38 P Pn 21 41 52.2 -1.0
baz=231
SPU Mount Spurr 12.59 38 Pn 21 41 55.0 +1.2
M20K Styx River 12.65 34 P Pn 21 41 54.3 -0.4
baz=227,SNR=48
CAPN Captain Cook N 12.70 41 Pn Pn 21 41 56.8 +1.6
CAPN Captain Cook N 12.70 41 P Pn 21 41 54.4 -0.8
baz=235
J18K Innoko River 12.79 24 P Pn 21 41 56.3 -0.1
baz=214,SNR=10
H16K Elim 12.81 12 P Pn 21 41 56.4 -0.3
baz=197
L20K Farewell, AK 12.82 31 P Pn 21 41 56.8 -0.1
baz=223,SNR=27
SLKM Skilak Lake 12.94 43 Pn 21 41 58.3 -0.3
G15K Niukluk 12.96 8 P Pn 21 41 58.8 0.0
baz=192
SEW Seward 13.06 46 Pn 21 41 59.4 -0.9
SEW Seward 13.06 46 P Pn 21 41 59.8 -0.5
baz=241,SNR=6.9
SUA Susitna One 13.26 39 Pn 21 42 02.9 -0.1
SUA Susitna One 13.26 39 P Pn 21 42 03.4 +0.3
baz=234,SNR=56
SKT Skwentna 13.28 36 Pn 21 42 04.3 +1.1
SKT Skwentna 13.28 36 P Pn 21 42 03.5 +0.2
baz=230,SNR=28
FIS Fire Island 13.29 41 Pn 21 42 03.3 +0.1
F14K Arctic Creek 13.30 4 P Pn 21 42 03.5 +0.1
baz=185
TNA Tin City 13.35 1 Pn 21 42 06.2 +2.0
TNA Tin City 13.35 1 P Pn 21 42 04.4 +0.3
baz=181
K20K Telida 13.42 28 P Pn 21 42 05.2 +0.1
baz=220,SNR=29
H17K Granite Mounta 13.43 15 P Pn 21 42 05.0 -0.2
baz=202
RC01 Rabbit Creek A 13.45 42 P Pn 21 42 05.0 -0.5
baz=237,SNR=11
J19K Poorman 13.50 24 P Pn 21 42 05.1 -1.0
baz=215,SNR=17
G16K Koyuk River 13.52 11 P Pn 21 42 06.1 -0.4
baz=196
F15K North Star Dit 13.62 6 Pn 21 42 09.4 +1.6
F15K North Star Dit 13.62 6 P Pn 21 42 07.8 0.0
baz=189
PPLA Purkeypile 13.67 32 Pn 21 42 11.0 +2.4
PPLA Purkeypile 13.67 32 P Pn 21 42 08.8 +0.2
baz=226,SNR=23
M22K Willow 13.67 39 P Pn 21 42 08.0 -0.6
baz=234
GCSA Galena City Sc 13.84 21 P Pn 21 42 10.8 +0.1
baz=210,SNR=5.9
G17K Kiwalik Mounta 13.84 13 P Pn 21 42 09.4 -1.5
baz=200
H18K Honhosa River 13.90 18 P Pn 21 42 11.3 -0.3
baz=206,SNR=25
PWL Port Wells 13.92 44 Pn 21 42 09.6 -2.3
PWL Port Wells 13.92 44 P Pn 21 42 10.0 -1.9
baz=240,SNR=20
P23K Montague Islan 13.94 48 P Pn 21 42 10.1 -2.0
baz=245
PMR Palmer 13.97 40 Pn 21 42 12.3 -0.3
PMR Palmer 13.97 40 P Pn 21 42 15.8 +3.2
PMR Palmer 13.97 40 P Pn 21 42 12.3 -0.3
PMR Palmer 13.97 40 P Pn 21 42 12.1 -0.5
baz=236
CUT Chulitna 14.01 36 Pn Pn 21 42 12.5 -0.7
CUT Chulitna 14.01 36 P Pn 21 42 12.0 -1.2
baz=231
J20K Nowinta River 14.03 26 P Pn 21 42 13.6 +0.2
baz=218,SNR=35
CAST Castle Rocks 14.07 31 Pn 21 42 14.3 +0.3
CAST Castle Rocks 14.07 31 P Pn 21 42 13.7 -0.3
baz=225,SNR=83
KNK Knik Glacier 14.15 42 Pn 21 42 13.9 -1.1
KNK Knik Glacier 14.15 42 P Pn 21 42 14.3 -0.7
baz=238,SNR=11
GHO Glory Hole Cre 14.15 40 Pn 21 42 13.7 -1.5
Q23K Middleton Isla 14.21 51 P Pn 21 42 14.5 -1.3
baz=249
CHUM Lake Minchumin 14.34 29 P Pn 21 42 16.3 -1.3
baz=223,SNR=29
I20K Naaghedeneel 14.44 24 P Pn 21 42 17.7 -1.3
baz=216
GLI Glacier Island 14.46 45 Pn 21 42 16.9 -2.4
GLI Glacier Island 14.46 45 P Pn 21 42 17.3 -2.0
baz=242,SNR=18
HIN Hinchinbrook I 14.51 47 Pn 21 42 18.2 -1.9
G18K Tagagawik 14.52 16 Pn 21 42 20.4 +0.3
G18K Tagagawik 14.52 16 P Pn 21 42 19.6 -0.6
baz=204,SNR=24
KTH Kantishna Hill 14.54 32 Pn 21 42 20.8 +0.3
H19K Roundabout Mou 14.61 20 P Pn 21 42 20.2 -1.0
baz=210,SNR=16
M23K Glacier View 14.64 41 P Pn 21 42 20.0 -1.8
baz=238,SNR=29
F17K Baldwin Pennin 14.66 11 P Pn 21 42 20.3 -1.7
baz=197,SNR=7.8
FID Port Fidalgo 14.67 46 Pn 21 42 19.2 -3.1
TRF Thorofare Moun 14.68 33 Pn 21 42 22.5 0.0
TRF Thorofare Moun 14.68 33 P Pn 21 42 20.8 -1.7
baz=228,SNR=14
SCM Sheep Creek Mo 14.83 42 Pn 21 42 22.6 -1.8
SCM Sheep Creek Mo 14.83 42 P Pn 21 42 22.6 -1.8
SCM Sheep Creek Mo 14.83 42 P Pn 21 42 22.5 -1.8
baz=239,SNR=71
BPAW Bear Paw Mtn. 14.90 30 Pn 21 42 25.8 +0.5
BPAW Bear Paw Mtn. 14.90 30 P Pn 21 42 24.4 -0.9
baz=225,SNR=62
EYAK Cordova Ski Ar 14.91 47 Pn 21 42 24.0 -1.4
EYAK Cordova Ski Ar 14.91 47 P Pn 21 42 25.8 +0.3
EYAK Cordova Ski Ar 14.91 47 P Pn 21 42 24.1 -1.4
baz=246,SNR=11
H20K Anoteneega Mo 14.92 22 P Pn 21 42 24.5 -1.1
baz=213,SNR=13
F18K Selwik 15.02 13 P Pn 21 42 25.9 -0.9
baz=201,SNR=22
G19K Purcell Mounta 15.02 18 P Pn 21 42 26.4 -0.6
baz=207,SNR=7.0
RND Reindeer 15.15 35 Pn 21 42 28.2 -0.4
RND Reindeer 15.15 35 P Pn 21 42 28.2 -0.4
RND pmax pmax
comp=Z,11nm,0.7s
DIV Divide 15.15 45 Pn 21 42 26.1 -2.6
E17K Hotham Inlet 15.21 10 P Pn 21 42 28.2 -1.2
baz=195
KLU Klutina 15.25 44 Pn Pn 21 42 27.5 -2.5
KLU IAmb IAmb 21 42 29.7
comp=Z,97nm,0.9s
KLU Klutina 15.25 44 P Pn 21 42 28.0 -2.0
baz=242,SNR=86
KAIM Kayak Island 15.30 51 Pn 21 42 29.3 -1.3
MCK McKinley 15.32 34 Pn 21 42 30.4 -0.5
MCK McKinley 15.32 34 P Pn 21 42 30.4 -0.5
MCK pmax pmax
comp=Z,12nm,0.9s
MCK McKinley 15.32 34 P Pn 21 42 28.1 -2.8
baz=230,SNR=6.6
I21K Tanana 15.40 26 P Pn 21 42 30.2 -1.7
baz=220,SNR=43
BWN Browne 15.44 32 Pn Pn 21 42 31.3 -1.1
M24K Tolsona, Glenn 15.44 42 P Pn 21 42 31.4 -1.0
baz=240,SNR=73
HMT Hamilton 15.52 49 Pn 21 42 31.8 -1.7
HMT IAmb IAmb 21 42 41.7
comp=Z,60nm,1.2s
F19K Shaleruckik Mo 15.53 16 P Pn 21 42 33.2 -0.3
baz=205,SNR=18
H21K Melozitna Rive 15.56 24 P Pn 21 42 33.9 -0.1
baz=218,SNR=99
IMAR Indian Mountai 15.59 22 P 21 42 36.5 -2.0
BMRM Bremner River 15.60 47 Pn 21 42 32.4 -2.1
BMRM Bremner River 15.60 47 P Pn 21 42 32.7 -1.9
baz=246,SNR=22
MLY Manley 15.64 28 Pn 21 42 36.1 +1.0
MLY IAmb IAmb 21 42 40.5
comp=Z,95nm,0.8s
MLY Manley 15.64 28 P Pn 21 42 35.0 -0.1
baz=229,SNR=100
E18K Tukpahlearik C 15.68 11 P Pn 21 42 35.7 +0.2
baz=198,SNR=6.8
D17K Noatak River 15.70 7 P Pn 21 42 35.6 -0.2
baz=192
BERG Berg Lake 15.80 49 Pn 21 42 35.7 -1.3
BERG IAmb IAmb 21 42 38.9
comp=Z,35nm,0.5s
NEA2 Nenana 15.85 31 Pn 21 42 37.4 -0.3
NEA2 Nenana 15.85 31 P Pn 21 42 37.9 +0.3
baz=228,SNR=18
N25K Chitina, Valde 15.87 45 P Pn 21 42 36.5 -1.5
baz=244,SNR=40
HARP HAARP 15.99 42 P Pn 21 42 39.0 -0.6
baz=241,SNR=27
RDOG Red Dog Mine 16.07 7 Pn Pn 21 42 40.7 +0.3
RDOG Red Dog Mine 16.07 7 P Pn 21 42 40.9 +0.5
baz=192
F20K Avaraart Lake 16.08 18 P Pn 21 42 41.0 +0.4
baz=209,SNR=15
WRH Wood River Hil 16.08 33 Pn 21 42 38.9 -1.8
G21K Allakaket 16.09 22 P Pn 21 42 40.4 -0.4
baz=214,SNR=33
H22K Ishtalitna Cre 16.11 25 P Pn 21 42 41.4 +0.3
baz=220,SNR=42
SNH Sunshine Point 16.13 51 Pn 21 42 41.2 -0.2
SNH IAmb IAmb 21 42 50.1
comp=Z,147nm,0.8s
I23K Minto, Yukon-K 16.14 30 P Pn 21 42 41.4 0.0
baz=226,SNR=62
C16K Lisburne Hills 16.14 4 P Pn 21 42 40.9 -0.5
baz=186
GLB Gilahina Butte 16.14 46 Pn 21 42 39.6 -1.9
PAX Paxson 16.16 40 P Pn 21 42 40.4 -1.3
PAX pmax pmax
comp=Z,19nm,0.6s
PAX Paxson 16.16 40 P Pn 21 42 40.2 -1.6
baz=239,SNR=31
E19K Redstone River 16.18 15 P Pn 21 42 41.1 -0.9
baz=205,SNR=8.5
CRQM Cirque 16.18 48 Pn 21 42 41.6 -0.6
CRQM IAmb IAmb 21 42 49.8
comp=Z,86nm,0.8s
CRQE Cirque 16.20 48 P Pn 21 42 41.7 -0.7
baz=249,SNR=11
VRDI Verde Repeater 16.21 47 Pn 21 42 40.9 -1.7
CCB Clear Creek Bu 16.29 32 Pn 21 42 41.9 -1.5
TGL Tana Glacier 16.33 49 Pn 21 42 43.4 -0.5
TGL IAmb IAmb 21 42 51.2
comp=Z,103nm,0.7s
COLA College 16.42 32 P Pn 21 42 44.6 -0.4
COLA College 16.42 32 P Pn 21 42 45.6 +0.6
COLA College 16.42 32 P Pn 21 42 44.4 -0.6
baz=229
HDA Harding Lake 16.43 34 P Pn 21 42 43.9 -1.3
baz=232,SNR=10
C17K DeLong Mountai 16.46 7 P Pn 21 42 45.1 -0.5
baz=191
MCARA McCarthy VSAT 16.47 46 P Pn 21 42 44.4 -1.2
baz=247,SNR=18
K24K Donnelly Dome 16.49 37 P Pn 21 42 44.6 -1.3
baz=236,SNR=16
MESA MESA 16.56 51 Pn Pn 21 42 46.6 -0.3
MESA IAmb IAmb 21 42 55.0
comp=Z,106nm,0.8s
MESA MESA 16.56 51 P Pn 21 42 45.4 -1.5
baz=253,SNR=25
H23K Yukon River 16.57 28 P Pn 21 42 46.0 -0.8
baz=224,SNR=59
ILAR Eielson Array 16.68 33 Pn 21 42 46.3 -2.0
ILAR Eielson Array 16.68 33 Pn Pn 21 42 46.2 -2.1
comp=Z,0.5nm,0.3s,baz=233,slow=13,SNR=62
ILAR Sn Sn 21 45 45.6 -7.2
comp=Z,0.1nm,0.3s,baz=245,slow=25,SNR=1.5
comp=Z,9.9nm,0.9s
F21K Alatna River 16.68 20 P Pn 21 42 48.4 +0.1
baz=213,SNR=15
POKR Poker Plat Res 16.72 32 Pn 21 42 48.4 -0.4
POKR Poker Plat Res 16.72 32 P Pn 21 42 47.8 -1.0
baz=229,SNR=9.2
C18K Utukok River 16.80 9 P Pn 21 42 49.6 -0.2
baz=195
RIDG Independent Ri 16.80 38 P Pn 21 42 49.7 -0.3
baz=238,SNR=14
GRNC Granite Creek 16.82 49 Pn 21 42 50.1 -0.1
GRNC IAmb IAmb 21 42 56.7
comp=Z,114nm,0.7s
MENT Mentasta 16.84 41 P Pn 21 42 50.8 +0.5
G22K Bettles 16.88 23 P Pn 21 42 49.9 -1.0
baz=217
M26K Nabesna, AK 16.89 43 P Pn 21 42 50.4 -0.7
baz=244,SNR=104
D19K Kuna River 17.01 13 P Pn 21 42 51.9 -0.6
baz=202
L26K Log Cabin Wild 17.03 41 P Pn 21 42 52.1 -0.6
baz=242,SNR=73
H24K Noodor Dome 17.06 29 P Pn 21 42 53.4 +0.2
baz=227,SNR=43
E20K Nigu River 17.08 15 P Pn 21 42 53.5 +0.2
baz=206,SNR=17
CTG Chitna Glacier 17.08 49 P Pn 21 42 53.4 -0.2
baz=251,SNR=48
G23K Bananza Creek 17.09 25 P Pn 21 42 53.4 -0.2
baz=221,SNR=64
J25K Salcha River, 17.10 35 P Pn 21 42 52.5 -1.1
baz=234,SNR=82
LOGN Logan Glacier 17.20 49 Pn 21 42 55.1 +0.1
LOGN IAmb IAmb 21 43 00.8
comp=Z,66nm,0.8s
F22K John River 17.20 21 P Pn 21 42 54.6 -0.3
baz=215
SCRK Sand Creek 17.25 38 P Pn 21 42 55.0 -0.6
baz=238,SNR=43
M27K Edge Creek, AK 17.35 44 P Pn 21 42 56.0 -0.8
baz=246,SNR=102
PINM Pinnacle 17.35 52 P Pn 21 42 56.4 -0.4
baz=255,SNR=13
C19K Lookout Ridge 17.40 10 P Pn 21 42 56.4 -1.0
baz=198
D20K Etivluk River 17.43 14 P Pn 21 42 58.1 +0.5
baz=204,SNR=19
B18K Kokolik River 17.44 8 P Pn 21 42 57.6 -0.1
baz=193
COLD Coldfoot 17.44 24 P P 21 42 58.6 -0.4
COLD Coldfoot 17.44 24 P Pn 21 42 58.2 +0.3
baz=219,SNR=15
O28M Mount Upton 17.56 50 P Pn 21 42 59.2 -0.5
baz=253,SNR=53
PRP Porcupine Dome 17.59 32 P Pn 21 42 57.8 -2.1
baz=232,SNR=17
BCPM Bancas Point 17.62 53 Pn 21 42 59.0 -1.1
BCPM IAmb IAmb 21 43 07.2
comp=Z,43nm,0.6s
E21K Killik River 17.63 18 P Pn 21 42 58.9 -1.3
baz=210
L27K Beaver Creek, 17.66 42 P Pn 21 42 58.7 -1.9
baz=244,SNR=44
PNL Peninsula 17.67 54 P Pn 21 43 00.9 +0.1
PNL Peninsula 17.67 54 P Pn 21 42 59.6 -1.1
baz=258,SNR=17
BCAR Beaver Creek A 17.68 42 Pn 21 42 59.6 -1.3
J26L Joseph Creek 17.68 37 P Pn 21 42 59.8 -1.2
baz=238,SNR=136
YUK3 Moose Creek 17.75 47 P Pn 21 43 01.0 -0.9
baz=250,SNR=59
G24K Hadweenzic Riv 17.78 28 P Pn 21 43 01.5 -0.5
baz=225,SNR=49
E22K Anaktuvuk Pass 17.80 20 P Pn 21 43 02.4 +0.1
baz=215,SNR=8.5
BVCY Beaver Creek 17.81 44 P Pn 21 43 01.7 -0.7
baz=248,SNR=13
YUK8 Steele Glacier 17.91 49 P Pn 21 43 02.8 -1.1
baz=252,SNR=21
H25L Birch Creek 17.98 30 P Pn 21 43 03.3 -1.1
baz=229,SNR=5.2
K27K Chicken 18.01 39 P Pn 21 43 03.8 -1.0
baz=241
C21K Knifeblade Rid 18.12 16 P Pn 21 43 06.0 -0.1
baz=207,SNR=12
O29M Mount Kennedy 18.21 52 P Pn 21 43 06.6 -1.0
baz=257,SNR=32
G25K Bearman Lake 18.22 29 P Pn 21 43 07.0 -0.4
baz=228,SNR=16
E23K Chandalar 18.23 23 P P 21 43 07.9 +0.1
baz=219,SNR=16
D22K Ayikyak River 18.25 18 P P 21 43 08.7 +0.8
baz=212,SNR=8.2
F24K Squaw Lake 18.25 25 P P 21 43 08.7 +0.7
baz=223,SNR=19
I26K Coal Creek Min 18.27 35 P Pn 21 43 06.3 -1.8
baz=236
A19K Wainwright 18.32 8 P Pn 21 43 07.7 -0.9
baz=194
FYU Fort Yukon 18.35 30 P P 21 43 08.5 -0.5
FYU IAmb IAmb 21 43 13.4
comp=Z,151nm,1.6s
YUK4 Talbot Arm 18.44 49 P Pn 21 43 11.0 +0.6
baz=254,SNR=27
YUK6 Outpost Mounta 18.47 50 P P 21 43 09.9 -0.7
baz=255,SNR=36
P29M Windy Craggy 18.49 54 P P 21 43 10.3 -0.3
baz=260,SNR=19
E24K Your Creek 18.52 24 P P 21 43 10.9 0.0
baz=221,SNR=29
B20K Meade River 18.55 12 P P 21 43 10.7 -0.4
baz=202
B21K Ikpikpuk River 18.56 15 P P 21 43 11.0 -0.2
baz=207,SNR=10
TOLK Toolik Lake Re 18.70 21 P Pn 21 43 13.2 -0.1
TOLK Toolik Lake Re 18.70 21 P Pn 21 43 13.4 +0.1
baz=218,SNR=8.2
D23K Nanushuk River 18.72 20 P P 21 43 13.2 +0.1
baz=215,SNR=7.4
HYT Haines Junctio 18.85 51 P Pn 21 43 15.4 +0.2
HYT IAmb IAmb 21 43 22.4
comp=Z,62nm,0.7s
HYT Haines Junctio 18.85 51 P P 21 43 14.3 -0.4
baz=257,SNR=106
M29M Somme Creek 18.86 46 P P 21 43 14.3 -0.5
baz=251,SNR=106
F25K Christian Rive 18.92 27 P P 21 43 13.9 -1.4
baz=227,SNR=21
P30M Million Dollar 18.97 53 P P 21 43 14.9 -1.0
baz=259
I27K Kandik River 18.97 35 P P 21 43 15.1 -0.8
baz=238,SNR=26
G26K Porcupine Rive 19.04 30 P P 21 43 15.7 -0.9
baz=231,SNR=12
S31K Pelican 19.07 60 P P 21 43 15.0 -1.9
baz=266,SNR=8.5
DAWY Dawson 19.08 41 P P 21 43 17.3 +0.2
DAWY Dawson 19.08 41 P P 21 43 16.0 -1.1
baz=245,SNR=28
BMAR Burnt Mountain 19.11 28 P P 21 43 16.6 -0.8
PLBC Pleasant Camp 19.16 55 P P 21 43 16.6 -1.3
baz=262,SNR=48
N30M Aishikik Lake 19.20 49 P P 21 43 17.6 -0.9
baz=255,SNR=173
L29M L29M 19.23 44 P P 21 43 18.1 -0.6
baz=249,SNR=54
D24K Happy Valley 19.27 21 P P 21 43 18.2 -0.9
baz=218,SNR=12
H27K Steamboat Moun 19.34 33 P P 21 43 18.8 -1.2
baz=236,SNR=41
B22K Teshekpuk Lake 19.39 15 P P 21 43 19.8 -0.5
baz=208
F26K Sheenjek River 19.41 28 P P 21 43 21.0 +0.3
baz=229,SNR=17
C23K Itkillik River 19.45 18 P Pn 21 43 21.8 -0.5

baz=214,SNR=14
I28M **Miner Creek** 19.50 36 P P 21 43 21.5 -0.2
baz=241,SNR=46
SIT **Sitka** 19.53 63 P P 21 43 22.2 +0.2
SIT **Sitka** 19.53 63 P Pn 21 43 24.8 +1.5
SIT **Sitka** 19.53 63 P P 21 43 22.2 +0.2
SIT pmax pmax
comp=Z,27nm,0.8s
SIT **Sitka** 19.53 63 P P 21 43 21.3 -0.7
baz=270,SNR=9.1
G27K **Doyon Strip** 19.63 32 P P 21 43 22.7 -0.3
baz=235,SNR=26
M30M **Minto, Yukon** 19.64 46 P P 21 43 23.2 0.0
baz=253,SNR=59
SKAG **Skagway** 19.68 56 Pn
SKAG IAmb IAmb 21 43 27.6
comp=Z,62nm,0.8s
SKAG **Skagway** 19.68 56 P Pn 21 43 26.1 +1.0
SKAG **Skagway** 19.68 56 P P 21 43 24.0 +0.4
baz=263,SNR=18
J29N **Klondike Camp** 19.70 40 P P 21 43 24.0 +0.1
baz=246
C24K **Franklin Bluff** 19.75 20 P P 21 43 24.3 0.0
baz=217
K29M **Barlow Dome** 19.75 42 P P 21 43 24.3 -0.1
baz=248,SNR=39
A22K **Sinclair Lake** 19.75 13 P P 21 43 24.4 +0.1
baz=205
N31M **Braeburn, Yuko** 19.81 50 P P 21 43 24.3 -0.9
baz=257,SNR=91
A21K **Barrow** 19.84 11 P P 21 43 24.8 -0.5
baz=201
S32K **Killisnoo** 19.94 62 P P 21 43 27.2 +0.7
S32K **Killisnoo** 19.94 62 P P 21 43 24.8 -1.6
baz=269,SNR=13
D25K **Kavik River** 19.97 23 P P 21 43 26.7 0.0
baz=222,SNR=16
PET **Petropavlovsk** 19.99 285 P P 21 43 26.6 -0.4
PET IAmb IAmb 21 43 27.8
comp=Z,74nm,0.7s
PET **Petropavlovsk** 19.99 285 P Pn 21 43 28.6 -0.2
PET **Petropavlovsk** 19.99 285 *e*P P 21 43 27.0 -0.1
PET *e*S S 21 46 59.3 -12
PET pmax pmax
comp=Z,119nm,0.7s
PET pmax pmax
comp=Z,200nm,11.0s
PET MLR MLR
comp=Z,500nm,20.0s
PET **Petropavlovsk** 19.99 285 P P 21 43 26.8 -0.3
comp=Z,108nm,1.2s
R32K **Eaglecrest** 20.00 59 P P 21 43 26.1 -1.0
baz=267
BILL **Bilibino** 20.02 332 P P 21 43 27.6 +0.3
BILL IAmb IAmb 21 43 33.8
comp=Z,70nm,1.2s
I29M **Ogilvie Camp,** 20.06 38 P P 21 43 26.9 -0.8
baz=243,SNR=73
JIS **Juneau Island** 20.07 59 P Pn 21 43 30.5 +0.8
WHY **Whitehorse** 20.08 52 P P 21 43 27.7 -0.4
baz=260,SNR=89
H29M **Whitestone** 20.44 35 P P 21 43 31.3 -0.5
baz=241,SNR=38
E27K **Coleen River** 20.47 29 P P 21 43 32.4 +0.3
baz=232,SNR=12
J30M **Hart River** 20.50 41 P P 21 43 32.6 0.0
baz=248,SNR=24
P32M **Atlin** 20.51 55 P P 21 43 31.6 -1.1
baz=264,SNR=19
PEA0B **Petropavlovsk-** 20.54 286 P P 21 43 32.6 -0.4
PEA0B **Petropavlovsk-** 20.54 286 P P 21 43 32.6 -0.4
PEA0B pmax pmax
comp=Z,110nm,0.7s
PETK **Petropavlovsk-** 20.54 286 P P 21 43 32.1 -1.0
PETK **Petropavlovsk-** 20.54 286 P P 21 43 32.2 -0.9
comp=Z,82nm,0.5s,baz=78,slow=10,SNR=250
comp=Z,82nm,0.5s
M31M **Drury Creek, Y** 20.62 48 P P 21 43 34.8 +1.0
baz=256,SNR=57
F28M **Old Crow** 20.66 31 P P 21 43 33.5 -0.7
baz=236,SNR=22
I30M **Mount Dempster** 20.74 39 P P 21 43 33.8 -1.4
baz=246,SNR=40
C26K **Camden Bay** 20.75 23 P P 21 43 34.9 -0.3
baz=223
U33K **Whale Pass** 20.78 65 P P 21 43 34.3 -1.2
baz=274,SNR=5.7
CRAG **Craig** 20.84 67 P Pn 21 43 39.1 +0.4
CRAG **Craig** 20.84 67 P P 21 43 35.0 -1.2
baz=276
C27K **Jago River** 20.84 24 P P 21 43 36.1 0.0
baz=226,SNR=17
G29M **Pine Creek** 20.90 34 P P 21 43 36.2 -0.6
baz=240,SNR=154
N32M **Quiet Lake** 21.03 51 P P 21 43 38.7 +0.4
baz=261
P33M **Teslin, Yukon** 21.03 54 P P 21 43 39.3 +0.9
baz=263,SNR=12
EPYK **Eagle Plains** 21.10 36 P P 21 43 38.0 -1.0
baz=243,SNR=78
WRAK **Wrangell Islan** 21.19 64 P P 21 43 40.4 +0.4
WRAK **Wrangell Islan** 21.19 64 P P 21 43 39.9 -0.1
baz=274
Q32M **Nakina River** 21.21 57 P P 21 43 41.1 +0.7
baz=267,SNR=22
D27M **Malcolm River** 21.31 27 P P 21 43 42.1 +0.8
baz=231,SNR=12
E28M **Babbage River** 21.33 29 P P 21 43 41.2 -0.2
baz=234,SNR=13
G30M **tAoh Zraii Nji** 21.55 35 P P 21 43 41.9 -1.9
baz=242,SNR=39
DIB **Dawson Inlet,** 21.56 73 P P 21 43 43.8 -0.2
E29M **Blow River** 21.71 30 P P 21 43 43.9 -1.6
baz=237,SNR=22
V35K **Ketchikan** 21.71 67 P P 21 43 43.2 -2.3
baz=277,SNR=7.5
H31M **Peel River** 21.75 38 P P 21 43 44.2 -1.7
baz=248,SNR=69
S34M **Telegraph Cree** 21.79 60 P P 21 43 44.7 -1.7
baz=271
MOBC **Moresby Island** 21.87 73 P P 21 43 47.8 +0.3
R33M **Jennings River** 21.90 56 P P 21 43 45.3 -2.4
baz=267,SNR=35
D28M **Stokes Point** 21.99 28 P P 21 43 46.8 -1.6
baz=234
F30M **Barrier River** 22.00 33 P P 21 43 47.3 -1.3
baz=242,SNR=23
SKR **Severo-Kuril's** 22.11 280 ‖ *e*P P 21 43 50.9 +1.0
MMPY **Sheldon Lake,** 22.13 48 P P 21 43 49.4 -0.7
baz=259,SNR=106
G31M **Satah River** 22.22 36 P P 21 43 49.2 -1.7
baz=245,SNR=18
T35M **Bob Quinn** 22.31 63 P P 21 43 51.0 -1.0
baz=274
DLBC **Dease Lake** 22.37 59 P P 21 43 52.2 -0.6
baz=270,SNR=14
F31M **Tsiigehtchic** 22.62 35 P P 21 43 54.1 -1.1
baz=245
WTLY **Watson Lake, Y** 23.02 54 P P 21 44 00.2 +0.6
WTLY **Watson Lake, Y** 23.02 54 P P 21 43 59.7 +0.1
baz=268,SNR=5.9
INK **Inuvik** 23.08 33 LR LR 21 54 04.1
comp=Z,896nm,18.7s,baz=238,slow=40
INK **Inuvik** 23.08 33 P P 21 43 59.1 -0.8
baz=243,SNR=20
SEY **Seymchan** 23.25 313 LR LR 21 53 19.2
comp=Z,1µm,18.8s,baz=117,slow=38
SEY **Seymchan** 23.25 313 *c i*P P 21 44 01.1 -0.6
SEY pmax pmax
comp=Z,45nm,1.0s
TGTN **Hyland Airport** 23.37 51 P P 21 44 04.0 +0.9
baz=265,SNR=13
MA2 **Magadan** 23.77 304 P P 21 44 06.0 -0.8
MA2 **Magadan** 23.77 304 LR LR 21 55 07.6
comp=Z,874nm,18.1s,baz=127,slow=41
MA2 **Magadan** 23.77 304 P P 21 44 09.3 +2.4
MA2 **Magadan** 23.77 304 *d i*P P 21 44 07.6 +0.7
MA2 pmax pmax
comp=Z,16nm,0.7s
MA2 **Magadan** 23.77 304 P P 21 44 06.1 -0.8
comp=Z,27nm,0.7s
LIRD **Liard River Hi** 24.39 56 P P 21 44 13.8 +1.1
baz=272
TOAD **Toad River Com** 24.86 58 P P 21 44 17.9 +0.9
baz=273,SNR=9.5
KOTAN **Kotaneelee Air** 25.40 54 P P 21 44 22.8 +1.0
baz=272

WRGLY **Wrigley** 25.75 47 P P 21 44 26.0 +1.1
baz=266,SNR=16
A36M **Sachs Harbour** 27.20 28 P P 21 44 39.7 +1.7
baz=246
LLLB **Lillooet** 28.59 75 P 21 44 50.3 -0.4
NLWA **Neilton Lookou** 28.70 82 P P 21 44 51.4 -0.2
YKA **Yellowknife Ar** 29.81 49 P P 21 45 01.7 +0.4
YKA **Yellowknife Ar** 29.81 49 P P 21 45 02.5 +1.3
comp=Z,2.5nm,0.7s,baz=272,slow=8.9,SNR=25
YKA PcP PcP 21 48 04.4 +0.3
comp=Z,2.1nm,0.7s,baz=288,slow=2.3,SNR=8.9
YKA ScP ScP 21 51 45.9 +0.8
comp=Z,0.8nm,0.8s,baz=279,slow=3.4,SNR=4.7
YKA LR LR 21 59 15.2
comp=Z,1µm,18.7s,baz=274,slow=41
comp=Z,2.5nm,0.7s
TYV **Tymovskoe** 30.08 287 *e*P P 21 45 03.6 -0.2
TYV pmax pmax
comp=Z,100nm,3.6s
TYV pmax pmax
comp=Z,14nm,1.1s
COR **Corvallis** 30.39 86 P P 21 45 06.2 -0.4
COR IAmb IAmb 21 45 23.1
comp=Z,21nm,0.8s
COR **Corvallis** 30.39 86 P P 21 45 06.2 -0.4
COR pmax pmax
comp=Z,21nm,0.9s
YUK **Yuzh-Kuril'sk** 31.23 273 *de*P P 21 45 13.9 -0.1
YSS **Yuzhno-Sakhali** 31.68 280 P P 21 45 18.7 +0.8
YSS **Yuzhno-Sakhali** 31.68 280 ⇑ *i*P P 21 45 17.9 0.0
YSS pmax pmax
comp=Z,18nm,1.3s
HAWA **Hanford** 31.80 81 P P 21 45 20.4 +1.4
HAWA IAmb IAmb 21 45 43.2
comp=Z,19nm,1.3s
YBH **Yreka Blue Hor** 32.30 91 P P 21 45 23.8 +0.2
YBH IAmb IAmb 21 45 40.3
comp=Z,10nm,0.8s
YBH **Yreka Blue Hor** 32.30 91 LR LR 21 55 33.4
comp=Z,20nm,20.6s,baz=289,slow=31
YBH **Yreka Blue Hor** 32.30 91 P P 21 45 23.8 +0.2
YBH pmax pmax
comp=Z,10.0nm,0.8s
NEW **Newport** 32.38 76 P P 21 45 24.6 +0.4
NEW **Newport** 32.38 76 LR LR 21 56 37.5
comp=Z,388nm,20.9s,baz=302,slow=33
NEW **Newport** 32.38 76 P P 21 45 24.6 +0.4
NEW pmax pmax
comp=Z,8.0nm,0.7s
TIXI **Tiksi** 33.18 329 P P 21 45 30.2 -0.6
TIXI IAmb IAmb 21 45 31.4
comp=Z,9.7nm,0.8s
TIXI **Tiksi** 33.18 329 ⇑ *e*P P 21 45 30.2 -0.6
TIXI pmax pmax
comp=Z,9.0nm,0.7s
JKA **Kamikawa-asahi** 33.19 276 P P 21 45 31.0 -0.2
ASAJ **Asahikawa** 33.19 276 LR LR 21 58 32.5
comp=Z,674nm,20.9s,baz=80,slow=36
ASAJ **Asahikawa** 33.19 276 P P 21 45 31.0 -0.2
ASAJ pmax pmax
comp=Z,48nm,1.1s
HATC **Hat Creek Radi** 33.60 91 P P 21 45 36.1 +1.2
HATC IAmb IAmb 21 45 51.2
comp=Z,26nm,0.8s
GRNR **Gornyy** 33.75 290 ⇑ *i*P P 21 45 35.5 -0.5
GRNR pmax pmax
comp=Z,40nm,1.0s
GRNR MLR MLR
comp=E,380nm,16.0s
YAK **Yakutsk** 33.76 311 P P 21 45 34.0 -1.9
YAK **Yakutsk** 33.76 311 LR LR 22 00 07.7
comp=E,1µm,18.1s,baz=120,slow=38
YAK **Yakutsk** 33.76 311 *e*P P 21 45 34.0 -1.9
YAK *e**PP pP 21 45 40.0 0.0
YAK *e* 21 46 45.2
YAK *e* 21 48 13.7
YAK *e*S S 21 50 56.2 -2.1
YAK *e*SS SnSn 21 53 01.6 -1.2
YAK *e* 21 55 57.7
YAK pmax pmax
comp=Z,67nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,106nm,4.2s
YAK pmax pmax
comp=N,167nm,5.7s
YAK pmax pmax
comp=E,305nm,8.6s
YAK smax smax
comp=E,133nm,5.2s
YAK smax smax
comp=N,129nm,5.2s
YAK MLR MLR
comp=Z,2µm,24.0s
YAK MLR MLR
comp=N,704nm,23.0s
YAK MLR MLR
comp=E,1µm,24.0s
BMO **Blue Mountains** 33.92 82 P P 21 45 38.2 +0.5
BMO **Blue Mountains** 33.92 82 P P 21 45 38.2 +0.5
BMO pmax pmax
comp=Z,8.0nm,1.1s
ERM **Erimo** 34.00 272 P P 21 45 38.3 +0.1
ERM **Erimo** 34.00 272 *de*P P 21 45 38.9 +0.7
ERM pmax pmax
comp=Z,53nm,1.0s
PLID **Pearl Lake** 34.59 81 P P 21 45 43.4 -0.3
MSO **Missoula** 34.96 77 P P 21 45 46.7 0.0
MSO IAmb IAmb 21 46 06.3
comp=Z,33nm,1.8s
OVMT **Ovando** 35.41 76 P P 21 45 50.7 +0.2
PAHR **Pah Rah Range** 35.54 91 P P 21 45 52.3 +0.5
PAHR IAmb IAmb 21 46 07.5
comp=Z,10nm,0.8s
RES **Resolute Bay** 36.19 26 LR LR 22 03 06.6
comp=Z,554nm,20.6s,baz=300,slow=40
NVAR **Mina Array Bea** 36.99 92 P P 21 46 04.2 -0.1
NVAR **Mina Array Bea** 36.99 92 P P 21 46 06.1 +1.9
comp=Z,3.4nm,0.9s,baz=310,slow=8.2,SNR=13
NVAR PcP PcP 21 48 26.3 +1.2
comp=Z,0.9nm,0.8s,baz=322,slow=3.0,SNR=1.3
comp=Z,3.4nm,0.9s
ELK **Elko** 37.47 86 P P 21 46 07.8 -0.5
ELK **Elko** 37.47 86 P P 21 46 07.8 -0.5
ELK pmax pmax
comp=Z,4.0nm,0.9s
ZEA **Zeya** 37.65 299 *e*P P 21 46 08.5 -0.9
BLKN **Baker Lake** 37.67 43 P P 21 46 10.0 +0.5
BLKN IAmb IAmb 21 46 11.1
comp=Z,23nm,0.7s
H11N2 **WAKE ISLAND Hy** 37.79 220 T T 22 27 32.9
baz=24
H11N3 **WAKE ISLAND Hy** 37.80 220 T T 22 26 53.6
baz=24,slow=74
H11N1 **WAKE ISLAND Hy** 37.81 220 T T 22 27 00.6
baz=24,slow=74
YHH **Holmes Hill** 37.86 78 P P 21 46 13.0 +1.3
TPH **Tonopah** 37.87 91 P P 21 46 11.7 0.0
TPH **Tonopah** 37.87 91 P P 21 46 11.7 0.0
TPH pmax pmax
comp=Z,8.0nm,1.1s
JMM **Marumori** 37.94 268 P P 21 46 14.6 +2.6
VES **Vestal, Richgr** 38.16 96 P P 21 46 13.5 -0.5
VES IAmb IAmb 21 46 37.1
comp=Z,17nm,1.0s
HVU **Hansel Valley** 38.37 83 P P 21 46 16.2 +0.3
HVU **Hansel Valley** 38.37 83 P P 21 46 16.2 +0.3
HVU pmax pmax
comp=Z,7.0nm,0.8s
AHID **Auburn Hatcher** 38.83 81 P P 21 46 19.7 0.0
H11S1 **WAKE ISLAND Hy** 38.97 220 T T 22 27 59.8
baz=23,slow=74
H11S2 **WAKE ISLAND Hy** 38.99 220 T T 22 28 00.8
baz=23,slow=74
H11S3 **WAKE ISLAND Hy** 38.99 220 T T 22 28 35.6
baz=23,SNR=285
HEH **HeiHe** 39.12 294 *e*P P 21 46 20.1 -1.7
HEH pmax pmax
comp=Z,36nm,1.1s
TPNV **Topopah Spring** 39.18 92 P P 21 46 22.6 -0.1
TPNV **Topopah Spring** 39.18 92 P P 21 46 22.6 -0.1
TPNV pmax pmax
comp=Z,10.0nm,0.9s

DUG **Dugway, Tooele** 39.28 85 P P 21 46 23.5 0.0
DUG **Dugway, Tooele** 39.28 85 P P 21 46 23.5 0.0
DUG pmax pmax
comp=Z,8.0nm,1.0s
JSD **Sado** 39.38 271 P P 21 46 24.5 +0.3
USA0B **Ussuriysk Arra** 39.58 283 P P 21 46 24.6 -1.1
USA0B **Ussuriysk Arra** 39.58 283 P P 21 46 24.6 -1.1
USA0B pmax pmax
comp=Z,8.0nm,0.7s
USRK **Ussuriysk Ar.** 39.58 283 P P 21 46 24.1 -1.6
USRK **Ussuriysk Ar.** 39.58 283 P P 21 46 24.5 -1.2
comp=Z,6.5nm,0.5s,baz=54,slow=9.1,SNR=26
USRK PcP PcP 21 48 34.0 +1.4
comp=Z,4.6nm,0.9s,baz=101,slow=3.9,SNR=4.6
USRK LR LR 22 05 05.7
comp=Z,358nm,18.9s,baz=65,slow=40
comp=Z,6.5nm,0.5s
PDAR **Pinedale Array** 39.76 80 P P 21 46 28.3 +0.8
PDAR **Pinedale Array** 39.76 80 P P 21 46 29.0 +1.5
comp=Z,8.3nm,0.7s,baz=308,slow=8.7,SNR=76
comp=Z,8.3nm,0.7s
VLA **Vladivostok** 40.24 281 ‖ *e*P P 21 46 31.4 +0.2
VLA pmax pmax
comp=Z,43nm,1.0s
MAJO **Matsushiro** 40.37 269 P P 21 46 32.1 -0.3
MAJO IAmb IAmb 21 46 34.6
comp=Z,44nm,0.9s
MAJO **Matsushiro** 40.37 269 P P 21 46 33.8 +1.4
MAJO **Matsushiro** 40.37 269 ‖ *e*P P 21 46 32.3 -0.1
MAJO pmax pmax
comp=Z,43nm,0.9s
MJAR **Matsushiro Arr** 40.37 269 P P 21 46 31.9 -0.5
MJAR **Matsushiro Arr** 40.37 269 P P 21 46 32.0 -0.4
comp=Z,12nm,0.9s,baz=51,slow=7.5,SNR=28
MJAR PcP PcP 21 48 35.5 +0.1
comp=Z,4.0nm,1.0s,baz=58,slow=1.6,SNR=4.9
MJAR LR LR 22 03 12.9
comp=Z,486nm,20.6s,baz=57,slow=36
comp=Z,12nm,0.9s
MJAR **Matsushiro Arr** 40.37 269 P P 21 46 31.9 -0.5
MJAR pmax pmax
comp=Z,14nm,1.1s
MDJ **Mudanjiang** 40.78 285 P P 21 46 34.0 -1.6
MDJ pmax pmax
comp=Z,15nm,0.7s
MSHR **Mys Shultsa** 40.99 281 ‖ *e*P P 21 46 37.0 -0.4
MSHR pmax pmax
comp=Z,49nm,1.3s
PSTR **Posyet** 41.16 282 *d i*P P 21 46 39.4 +0.6
PFO **Pinyon Flats O** 41.26 96 ‖ *e*P P 21 46 43.0 +3.1
PFO pmax pmax
comp=Z,14nm,1.5s
BNX **BinXian** 41.45 288 ⇑ P P 21 46 39.4 -1.8
BNX pmax pmax
comp=Z,39nm,0.8s
JGF **Kuroka** 41.50 268 P P 21 46 41.7 -0.1
JGF IAmb IAmb 21 46 43.6
comp=Z,20nm,1.0s
JGF **Kuroka** 41.50 268 P P 21 46 42.5 +0.7
W13A **Hualapai Mount** 41.84 92 P P 21 46 45.0 +0.2
O20A **White River Ci** 42.11 82 P P 21 46 47.4 +0.5
O20A IAmb IAmb 21 47 05.5
comp=Z,44nm,1.0s
HAYD **Hayden** 42.47 81 P P 21 46 49.9 0.0
HAYD IAmb IAmb 21 47 06.2
comp=Z,11nm,0.6s
WUAZ **Wupatki** 43.11 90 P P 21 46 55.3 +0.3
ULM **Lac du Bonnet** 43.61 63 ⇑ *e*P P 21 47 01.8 +3.2
CN2 **Changchun** 43.69 286 P P 21 46 58.6 -0.8
CN2 pmax pmax
comp=Z,50nm,0.6s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,470nm,14.0s
CN2 LR LR
comp=Z,690nm,20.0s
MVCO **Mesa Verde** 43.78 86 P P 21 47 00.3 -0.2
HIA **Hailar** 43.91 296 P P 21 47 00.5 -0.6
HIA IAmb IAmb 21 47 01.4
comp=Z,15nm,0.7s
HIA **Hailar** 43.91 296 P P 21 47 00.5 -0.6
HIA pmax pmax
comp=Z,15nm,0.7s
ISCO **Idaho Springs** 43.91 81 P P 21 47 01.5 -0.1
ISCO **Idaho Springs** 43.91 81 P P 21 47 01.5 -0.1
ISCO pmax pmax
comp=Z,9.0nm,1.3s
AGMN **Agassiz Nation** 44.67 65 P P 21 47 06.9 -0.2
NEEM **North Greenlan** 44.92 16 *i*P P 21 47 09.2 +0.1
NEEM IAmb IAmb 21 47 10.2
comp=Z,19nm,0.7s
SDCO **Great Sand Dun** 45.27 83 P P 21 47 12.9 +0.4
TUC **Tucson** 45.62 93 P P 21 47 14.7 -0.4
TUC **Tucson** 45.62 93 P P 21 47 14.7 -0.4
TUC pmax pmax
comp=Z,12nm,1.4s
KSRS **Korea Array** 46.09 278 P P 21 47 19.1 +0.6
comp=Z,25nm,0.8s,baz=53,slow=7.6,SNR=66
KSRS PcP PcP 21 48 55.1 +0.6
comp=Z,3.1nm,0.9s,baz=63,slow=4.3,SNR=3.7
comp=Z,25nm,0.8s
KS19 **Wonju Array Si** 46.09 278 P P 21 47 19.1 +0.5
KSAR **Wonju Array Be** 46.12 278 P P 21 47 18.2 -0.6
KSAR **Wonju Array Be** 46.12 278 P P 21 47 18.2 -0.6
ANMO **Albuquerque** 46.51 86 P P 21 47 22.4 +0.3
ANMO **Albuquerque** 46.51 86 LR LR 22 06 14.7
comp=Z,335nm,18.1s,baz=42,slow=35
ANMO **Albuquerque** 46.51 86 P P 21 47 22.4 +0.3
ANMO pmax pmax
comp=Z,6.0nm,1.1s
Y22D **IRIS PASSCAL I** 46.80 88 P P 21 47 25.2 +0.8
baz=312
UPNV **Upernavik** 46.85 22 *i*P P 21 47 24.6 +0.5
UPNV IAmb IAmb 21 47 25.2
comp=Z,25nm,1.0s
INCN **Inchon** 46.85 279 P P 21 47 23.8 -0.8
INCN **Inchon** 46.85 279 P P 21 47 26.1 +1.5
INCN **Inchon** 46.85 279 P P 21 47 23.8 -0.8
INCN pmax pmax
comp=Z,85nm,1.0s
ECSD **EROS Data Cent** 46.88 71 P P 21 47 24.1 -0.5
ECSD IAmb IAmb 21 47 42.4
comp=Z,6.1nm,0.7s
TJN **Taejon** 47.13 277 P P 21 47 26.3 -0.4
TJN **Taejon** 47.13 277 P P 21 47 27.8 +1.1
TJN **Taejon** 47.13 277 P P 21 47 26.3 -0.4
TJN pmax pmax
comp=Z,1µm,2.0s
JNU **Nakatsue** 47.14 271 P P 21 47 27.1 +0.2
JNU **Nakatsue** 47.14 271 P P 21 47 26.9 0.0
comp=Z,31nm,0.9s,baz=48,slow=15,SNR=13
JNU LR LR 22 07 20.9
comp=Z,219nm,20.8s,baz=49,slow=36
comp=Z,31nm,0.9s
JNU **Nakatsue** 47.14 271 P P 21 47 28.8 +1.9
NUUG **Nuugaatsiaq** 48.35 23 *i*P P 21 47 35.0 -0.7
NUUG IAmb IAmb 21 47 36.4
comp=Z,21nm,0.9s
XLT **XiLinHaoTe** 49.07 292 *e*P P 21 47 40.7 -1.1
XLT pP pP 21 47 46.4 +0.4
XLT sP pwP 21 47 50.6 -0.1
XLT PcP PcP 21 49 06.1 +0.9
XLT PP PP 21 49 37.4 +2.3
XLT pmax pmax
comp=Z,17nm,0.8s
XLT pmax pmax
comp=Z,220nm,6.6s
XLT LR LR
comp=Z,51nm,14.0s
XLT LR LR
comp=Z,500nm,15.3s
XLT LR LR
comp=Z,690nm,17.0s
KBS **Kingsbay** 49.08 360 *i*P P 21 47 42.4 +1.1
SPITS **Spitsbergen Ar** 49.80 359 P P 21 47 46.5 -0.3
comp=Z,6.5nm,0.6s,baz=34,slow=5.9,SNR=18
comp=Z,6.5nm,0.6s
SPITS **Spitsbergen Ar** 49.80 359 P P 21 47 46.6 -0.3
SPITS pmax pmax
comp=Z,41nm,1.4s
DAG **Danmarks Havn** 49.81 9 *i*P P 21 47 46.6 -0.2
DAG IAmb IAmb 21 47 47.3
comp=Z,19nm,0.6s
GDH **Godhavn** 49.82 25 *i*P P 21 47 47.4 +0.5

GDH IAmb IAmb 21 47 48.8
comp=Z,11nm,0.7s
IRK Irkutsk 50.30 307 *e*P **P** **21 47 49.8 -1.1**
IRK pmax pmax
comp=Z,39nm,0.9s
SUMG Summit 50.69 17 P **P** **21 47 54.6 +0.5**
SUMG Summit 50.69 17 P **P** **21 47 54.6 +0.5**
SUMG pmax pmax
comp=Z,42nm,0.9s
WMOK Wichita Mounta 51.33 81 P **P** **21 47 59.6 +0.6**
WMOK IAmb IAmb 21 48 17.1
comp=Z,12nm,0.8s
WMOK Wichita Mounta 51.33 81 P **P** **21 47 59.6 +0.6**
WMOK pmax pmax
comp=Z,12nm,0.9s
BJI Beijing 51.45 288 P **P** **21 48 00.0 +0.3**
BJI PcP **PcP** **21 49 14.4 +0.5**
BJI ScP **ScP** **21 53 08.5 -1.0**
BJI S **S** **21 55 14.6 -4.1**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=Z,320nm,18.3s
BJI LR LR
comp=Z,300nm,15.2s
BJI LR LR
comp=Z,400nm,18.0s
BJT Baijiatuau 51.47 288 P **P** **21 47 59.6 -0.3**
BJT IAmb IAmb 21 48 01.1
comp=Z,15nm,0.8s
BJT Baijiatuau 51.47 288 P **P** **21 47 59.6 -0.3**
BJT pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 51.57 301 P **P** **21 48 00.1 -0.6**
ULN Ulaanbaatar 51.57 301*c i*P **P** **21 48 00.2 -0.5**
ULN pmax pmax
comp=Z,19nm,0.6s
DBG Daneborg 51.91 11 *i* P **P** **21 48 02.3 -0.4**
DBG IAmb IAmb 21 48 03.0
comp=Z,28nm,0.7s
ZAK Zakamensk 51.94 306 *e*P **P** **21 48 02.4 -0.9**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
SONM Songino Array 51.94 301 P **P** **21 48 03.3 -0.1**
SONM IAmb IAmb 21 48 04.7
comp=Z,17nm,0.9s
SONM Songino Array 51.94 301 P **P** **21 48 02.9 -0.5**
comp=Z,9.8nm,0.7s,baz=49,slow=6.6,SNR=49
SONM PcP **PcP** **21 49 15.7 -0.1**
comp=Z,2.7nm,0.7s,baz=63,slow=3.0,SNR=2.3
SONM LR LR 22 13 29.8
comp=Z,344nm,18.1s,baz=57,slow=40
comp=Z,9.8nm,0.7s
SONM Songino Array 51.94 301 P **P** **21 48 03.3 -0.1**
SONM pmax pmax
comp=Z,17nm,0.9s
TX31 Lajitas Ar. Si 52.07 90 P **P** **21 48 05.0 +0.4**
TX31 IAmb IAmb 21 48 23.0
comp=Z,32nm,1.6s
TXAR Lajitas Array 52.07 90 P **P** **21 48 06.4 +1.8**
comp=Z,5.4nm,0.9s,baz=315,slow=6.4,SNR=20
comp=Z,5.4nm,0.9s
SFJD Kangerlussuaq 52.18 26 P **P** **21 48 05.1 +0.3**
SFJD IAmb IAmb 21 48 06.5
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 52.18 26 P **P** **21 48 05.1 +0.3**
SFJD pmax pmax
comp=Z,17nm,0.9s
MOY Mondy 52.26 308 *e*P **P** **21 48 05.5 -0.2**
MOY pmax pmax
comp=Z,51nm,1.3s
JOW Kunigami 53.16 267 LR LR 22 09 42.3
comp=Z,131nm,21.3s,baz=218,slow=35
HHAR Hobbs 53.21 76 P **P** **21 48 12.1 -0.8**
HHC Hu-ho-hao-te 53.59 292 *e*P **P** **21 48 15.6 -0.1**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,270nm,4.8s
HHC LR LR
comp=Z,440nm,13.6s
HHC LR LR
comp=Z,440nm,13.7s
HHC LR LR
comp=Z,460nm,15.3s
CCM Cathedral Cave 53.62 73 P **P** **21 48 14.8 -0.9**
CCM Cathedral Cave 53.62 73 P **P** **21 48 14.9 -0.9**
CCM pmax pmax
comp=Z,7.0nm,0.9s
JCT Junction City 53.64 86 **P** **21 48 16.0 -0.1**
JCT IAmb IAmb 21 48 33.3
comp=Z,9.5nm,0.8s
JCT Junction City 53.64 86 P **P** **21 48 16.0 -0.1**
JCT pmax pmax
comp=Z,10.0nm,0.8s
HNS HongShan 54.06 287 ⇑P **P** **21 48 20.1 +1.1**
HNS pmax pmax
comp=Z,98nm,0.9s
HNS LR LR
comp=Z,330nm,12.9s
HNS LR LR
comp=Z,640nm,13.3s
HNS LR LR
comp=Z,610nm,14.5s
VLDQ Val d'Or 54.58 55 P **P** **21 48 21.0 -1.7**
VLDQ IAmb IAmb 21 48 52.9
comp=Z,11nm,1.1s
BTO Baotou 54.63 292 *e*P **P** **21 48 23.6 +0.3**
BTO pP **pP** **21 48 28.2 +0.6**
BTO sP **sP** **21 48 30.6 +1.2**
BTO S **S** **21 55 59.1 -3.1**
BTO sS **sS** **21 56 08.4 -0.9**
BTO SS **SS** **21 59 42.1 -2.4**
BTO pmax pmax
comp=Z,89nm,0.9s
BTO pmax pmax
comp=Z,560nm,9.8s
BTO LR LR
comp=Z,1μm,13.0s
BTO LR LR
comp=Z,2μm,20.6s
BTO LR LR
comp=Z,2μm,18.0s
SCHQ Schefferville 55.06 44 P **P** **21 48 26.9 +0.8**
comp=Z,15nm,0.8s,baz=314,slow=10,SNR=10
comp=Z,15nm,0.8s
SCO Scoresbysund 55.19 13 P **P** **21 48 27.6 +0.9**
SCO Scoresbysund 55.19 13 P **P** **21 48 27.6 +0.9**
SCO pmax pmax
comp=Z,259nm,1.9s
NJ2 Nanjing 55.23 279 *e*P **P** **21 48 28.5 +0.9**
NJ2 pmax pmax
comp=Z,45nm,0.8s
SOEG Soedalen 55.67 18 *i* P **P** **21 48 30.2 0.0**
SOEG IAmb IAmb 21 48 31.1
comp=Z,16nm,0.8s
ISOG Isortoq, Green 56.28 23⇓*i*P **P** **21 48 34.2 -0.4**
ISOG IAmb IAmb 21 48 35.1
comp=Z,15nm,0.7s
HKT Hockley 56.44 83 P **P** **21 48 36.4 +0.2**
HKT IAmb IAmb 21 48 55.0
comp=Z,12nm,1.1s
HKT Hockley 56.44 83⇓*e*P **P** **21 48 37.0 +0.8**
HKT pmax pmax
comp=Z,14nm,1.4s
ANGG Ammassalik, Gr 56.54 22 P **P** **21 48 35.7 -0.8**
ANGG IAmb IAmb 21 48 37.0
comp=Z,23nm,1.1s
ANGG Ammassalik, Gr 56.54 22 *i* P **P** **21 48 36.1 -0.4**
ANGG IAmb IAmb 21 48 36.3
comp=Z,14nm,0.7s
OXF Oxford 57.12 75 P **P** **21 48 40.5 -0.5**
OXF Oxford 57.12 75 P **P** **21 48 40.5 -0.5**
IVI Ivigtut 57.26 30 P **P** **21 48 42.7 +1.1**
IVI Ivigtut 57.26 30 *i* P **P** **21 48 42.2 +0.6**
IVI IAmb IAmb 21 48 43.6
comp=Z,33nm,0.7s
VADS Vadso 57.27 353 *e*P **P** **21 48 41.6 0.0**
TRQ Mont Tremblant 57.32 55 P **P** **21 48 42.0 -0.4**
TRQ IAmb IAmb 21 48 43.3
comp=Z,12nm,1.1s
LYN LuoYang 57.33 286⇑*i*P **P** **21 48 43.2 +0.7**
LYN pP sP 21 48 49.1 +0.5
LYN pmax pmax
comp=Z,51nm,0.9s
R50A Paris 57.48 68 P **P** **21 48 43.0 -0.5**
R50A IAmb IAmb 21 48 58.2
comp=Z,9.0nm,0.9s
PLAL Pickwick Lake 57.58 73 P **P** **21 48 43.9 -0.4**
PLAL IAmb IAmb 21 48 45.0
comp=Z,11nm,0.7s
KEV Kevo 57.79 354 P **P** **21 48 45.0 -0.3**
KEV IAmb IAmb 21 48 45.9
comp=Z,23nm,0.8s
KEV Kevo 57.79 354 P **P** **21 48 45.0 -0.3**
KEV pmax pmax
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 57.96 318 P **P** **21 48 45.7 -1.0**
ZALV Zalesovo Beam 57.96 318 P **P** **21 48 46.1 -0.6**
ZALV Zalesovo Beam 57.96 318 P **P** **21 48 46.3 -0.4**
comp=Z,5.1nm,0.7s,baz=44,slow=6.7,SNR=18
ZALV PcP **PcP** **21 49 38.6 -0.1**
comp=Z,2.4nm,0.5s,baz=34,slow=5.2,SNR=5.3
ZALV LR LR 22 15 23.5
comp=Z,314nm,19.0s,baz=58,slow=38
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 57.96 318 *i* P **P** **21 48 46.4 -0.3**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ARA0 ARCESS Array S 58.11 354 *e*P **P** **21 48 47.4 -0.1**
ARCES ARCESS Array B 58.11 354 P **P** **21 48 47.3 -0.2**
ARCES IAmb IAmb 21 48 48.1
comp=Z,26nm,1.0s
ARCES ARCESS Array B 58.11 354 P **P** **21 48 46.6 -0.9**
comp=Z,14nm,0.8s,baz=10,slow=7.4,SNR=19
ARCES PcP **PcP** **21 49 39.1 +0.1**
comp=Z,6.7nm,0.9s,baz=26,slow=4.3,SNR=4.8
comp=Z,14nm,0.8s
ARCES ARCESS Array B 58.11 354 P **P** **21 48 47.3 -0.2**
ARCES pmax pmax
comp=Z,26nm,1.0s
TRO Tromso 58.31 357 *e*P **P** **21 48 49.2 +0.3**
JETT Jettan, Norway 58.34 356 *e*P **P** **21 48 49.3 +0.2**
KTK1 Kautokeino 58.75 355 *e*P **P** **21 48 51.5 -0.6**
FRNY Flat Rock 58.77 56 P **P** **21 48 51.9 -0.6**
FRNY IAmb IAmb 21 49 13.4
comp=Z,7.7nm,0.9s
LVZ Lovozero 58.95 350 P **P** **21 48 53.2 -0.2**
LVZ Lovozero 58.95 350*c i*P **P** **21 48 52.8 -0.6**
LVZ pmax pmax
comp=Z,70nm,1.3s
LVZ Lovozero 58.95 350 P **P** **21 48 53.1 -0.3**
comp=Z,79nm,0.9s
FPAL Fort Paine 59.34 72 P **P** **21 48 55.8 -0.8**
FPAL IAmb IAmb 21 48 57.6
comp=Z,8.6nm,0.8s
SSPA Standing Stone 59.43 62 P **P** **21 48 56.6 -0.5**
SSPA IAmb IAmb 21 48 58.4
comp=Z,12nm,0.8s
XAN Xi'an 59.78 288 ⇑P **P** **21 48 59.3 -0.4**
XAN pP pwP 21 49 07.8 -0.9
XAN pmax pmax
comp=Z,48nm,1.4s
SSLB Suanglung 59.88 271 P **P** **21 48 59.6 -0.9**
STEI Steigen 60.11 358 *e*P **P** **21 49 01.2 -0.1**
BLA Blacksburg 60.44 67 P **P** **21 49 03.5 -0.7**
BLA IAmb IAmb 21 49 19.1
comp=Z,17nm,0.9s
BLA Blacksburg 60.44 67 P **P** **21 49 03.5 -0.7**
BLA pmax pmax
comp=Z,17nm,1.0s
BORG Borgarnes 60.56 16 P **P** **21 49 06.0 +1.5**
BORG Borgarnes 60.56 16 LR LR 22 15 26.7
comp=Z,94nm,21.4s,baz=351,slow=36
BORG Borgarnes 60.56 16 P **P** **21 49 06.0 +1.5**
BORG pmax pmax
comp=Z,44nm,1.1s
FAUS Fauske 60.66 358 *e*P **P** **21 49 05.2 0.0**
GTA Gaotai 61.13 298 P **P** **21 49 08.5 -0.5**
GTA pP pP 21 49 11.8 -1.5
GTA pmax pmax
comp=Z,46nm,0.8s
GTA LR LR
comp=Z,470nm,15.5s
GTA LR LR
comp=Z,900nm,17.9s
GTA LR LR
comp=Z,910nm,19.9s
LZH Lanzhou 61.26 293 *e*P **P** **21 49 10.7 +0.8**
LZH sP sP 21 49 16.9 +0.9
LZH pmax pmax
comp=Z,64nm,1.2s
LZH LR LR
comp=Z,1μm,16.5s
LZH LR LR
comp=Z,770nm,15.8s
LZH LR LR
comp=Z,1μm,15.8s
GOGA Godfrey 61.39 72 P **P** **21 49 09.7 -0.9**
GOGA IAmb IAmb 21 49 25.1
comp=Z,9.3nm,1.1s
GOGA Godfrey 61.39 72 P **P** **21 49 09.7 -0.9**
GOGA pmax pmax
comp=Z,9.0nm,1.2s
MOR8 Moi Rana 61.89 359 *e*P **P** **21 49 12.2 -1.3**
LEIR Leirfjorden 61.96 359 *e*P **P** **21 49 14.0 +0.1**
ENH Enshi 62.13 284 P **P** **21 49 15.3 -0.4**
SJUU Sjulsmark 62.33 355 *e*P **P** **21 49 16.2 -0.2**
LMN Caledonia Moun 62.35 50 P **P** **21 49 17.2 +0.2**
ZSN Zaisan 62.73 313 *e*P **P** **21 49 19.4 0.0**
ZSN pmax pmax
comp=Z,9.0nm,0.6s
ZSN Zaisan 62.73 313 *e*P **P** **21 49 19.5 0.0**
comp=Z,8.6nm,0.6s
KURK Kurchatov 62.91 319 P **P** **21 49 20.2 -0.3**
KURK IAmb IAmb 21 49 21.3
comp=Z,13nm,0.8s
KURK Kurchatov 62.91 319 P **P** **21 49 20.2 -0.3**
KURK pmax pmax
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 63.02 319 P **P** **21 49 20.7 -0.5**
comp=Z,13nm,0.9s,baz=45,slow=7.4,SNR=59
KURBB LR LR 22 18 26.3
comp=Z,372nm,18.4s,baz=160,slow=38
comp=Z,13nm,0.9s
NSS Namsos 63.55 360 *e*P **P** **21 49 24.5 -0.1**
SVE Sverdlovsk 64.11 333*de*P **P** **21 49 28.9 +0.6**
SVE pmax pmax
comp=Z,35nm,1.1s
WMQ Urumqi 64.13 309 *e*P **P** **21 49 32.4 +3.6**
WMQ LR LR
comp=Z,820nm,17.7s
WMQ LR LR
comp=Z,490nm,13.7s
WMQ LR LR
comp=Z,340nm,15.1s
JOF Joensuu 64.14 350 *e*P **P** **21 49 28.4 0.0**
BVAR Borovoye Array 64.19 325 P **P** **21 49 28.8 -0.1**
comp=Z,29nm,0.7s,baz=41,slow=7.1,SNR=100
BVAR LR LR 22 20 35.7
comp=Z,992nm,18.1s,baz=47,slow=39
comp=Z,29nm,0.7s
BRVK Borovoye 64.20 325 P **P** **21 49 29.0 0.0**
BRVK Borovoye 64.20 325*c i*P **P** **21 49 28.8 -0.2**
BRVK pmax pmax
comp=Z,30nm,1.0s
MK31 Makanchi Array 64.37 314 P **P** **21 49 29.6 -0.6**
MK31 IAmb IAmb 21 49 30.5
comp=Z,11nm,0.8s
MK31 Makanchi Array 64.37 314 P **P** **21 49 29.7 -0.6**
MK31 pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 64.37 314 P **P** **21 49 29.6 -0.7**
MKAR Makanchi Array 64.37 314 P **P** **21 49 29.3 -1.1**
comp=Z,13nm,0.7s,baz=46,slow=6.6,SNR=75
MKAR LR LR 22 18 47.0
comp=Z,522nm,18.1s,baz=30,slow=37
comp=Z,13nm,0.7s
MKAR Makanchi Array 64.37 314 P **P** **21 49 29.6 -0.7**
MAKZ Makanchi 64.50 314 P **P** **21 49 30.5 -0.7**
MAKZ IAmb IAmb 21 49 31.3
comp=Z,12nm,0.7s
MAKZ Makanchi 64.50 314 P **P** **21 49 30.5 -0.7**
MAKZ pmax pmax
comp=Z,12nm,0.7s
KLMR Klimovskoe 65.07 345 *e*P **P** **21 49 32.8 -1.8**
KLMR pmax pmax
comp=Z,37nm,1.3s
ARTI Arti 65.11 334 P **P** **21 49 35.0 +0.1**
ARTI Arti 65.11 334 P **P** **21 49 35.0 +0.1**
comp=Z,42nm,0.6s,baz=31,slow=7.9,SNR=75
comp=Z,42nm,0.6s
ARTI Arti 65.11 334*c i*P **P** **21 49 34.9 0.0**
ARTI 21 50 07.2
ARTI 21 51 57.7
ARTI S **S** **21 58 17.8 +1.4**
ARTI SS **SS** **22 02 28.7 +1.1**
ARTI pmax pmax
comp=Z,36nm,0.6s
KIRV Kirov 65.35 339 P **P** **21 49 36.2 -0.2**
comp=Z,48nm,0.6s,baz=32,slow=1.5,SNR=20
comp=Z,48nm,0.6s
KEF Keuruu 65.45 353 *e*P **P** **21 49 36.7 -0.3**
MOL Molde 65.47 2 *e*P **P** **21 49 37.3 +0.1**
BRZS Berezniki 65.82 322 *e*P **P** **21 49 39.2 -0.4**
BRZS Berezniki 65.82 322 *e*P **P** **21 49 39.3 -0.4**
FIA1 FINESS Array S 66.08 353 P **P** **21 49 40.8 -0.3**
FINES FINESS Array B 66.08 353 P **P** **21 49 40.7 -0.3**
comp=Z,26nm,0.6s,baz=9.5,slow=7.2,SNR=173
comp=Z,26nm,0.6s
FINES FINESS Array B 66.08 353 *i* P **P** **21 49 40.9 -0.1**
FINES pmax pmax
comp=Z,26nm,0.6s
GOMU GeErMu 66.18 299 P **P** **21 49 42.5 -0.1**
GOMU pP pP 21 49 46.4 -0.6
GOMU sP pwP 21 49 51.7 0.0
GOMU pmax pmax
comp=Z,22nm,0.9s
GOMU LR LR
comp=Z,300nm,13.7s
GOMU LR LR
comp=Z,370nm,13.7s
GOMU LR LR
comp=Z,310nm,13.5s
GYA Guiyang 66.61 283⇓P **P** **21 49 46.1 +0.9**
GYA pmax pmax
comp=Z,34nm,1.1s
RAF Rauma 66.79 355 *e*P **P** **21 49 46.9 +1.3**
NC204 NORSAR Array S 66.82 1 P **P** **21 49 45.9 0.0**
NC204 IAmb IAmb 21 49 47.0
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 67.06 0 P **P** **21 49 47.5 +0.1**
comp=Z,9.6nm,0.7s,baz=1.3,slow=6.9
NB2 NORSAR Subarra 67.06 0 P **P** **21 49 47.5 +0.1**
baz=1.3,slow=6.9
NOA NORSAR Array B 67.06 0 P **P** **21 49 47.4 -0.1**
comp=Z,9.5nm,0.7s,baz=360,slow=6.3,SNR=45
NOA LR LR 22 21 01.4
comp=Z,87nm,18.3s,baz=105,slow=38
comp=Z,9.5nm,0.7s
PUL Pulkovo 67.33 350*de*P **P** **21 49 49.4 +0.4**
PUL pmax pmax
comp=Z,39nm,0.7s
NC602 NORSAR Array S 67.36 0 *e*P **P** **21 49 49.3 0.0**
SKAR Skarslia 67.39 2 *e*P **P** **21 49 50.0 +0.5**
MEF Metsahovi 67.42 353 *e*P **P** **21 49 49.4 -0.2**
TDK Taldyqorghan 67.47 315 *e*P **P** **21 49 50.3 0.0**
TDK pmax pmax
comp=Z,22nm,0.9s
TDK Taldyqorghan 67.47 315 *e*P **P** **21 49 50.3 0.0**
comp=Z,22nm,0.9s
HFS Hagfors 67.96 359 P **P** **21 49 52.7 -0.3**
comp=Z,24nm,0.5s,baz=14,slow=3.3,SNR=141
comp=Z,24nm,0.5s
ARBE Arbavere 68.07 352 *e*P **P** **21 49 54.0 +0.2**
KONO Kongsberg 68.44 1*ce*P **P** **21 49 56.6 +0.5**
KONO pmax pmax
comp=Z,49nm,1.6s
SHLS Shalkode 68.47 313 *e*P **P** **21 49 55.5 -1.2**
SHLS pmax pmax
comp=Z,11nm,0.8s
SHLS Shalkode 68.47 313 *e*P **P** **21 49 55.5 -1.2**
comp=Z,11nm,0.8s
UZB Uzynbulak 68.67 314*c i*P **P** **21 49 57.8 -0.2**
UZB pmax pmax
comp=Z,6.0nm,0.6s
UZB Uzynbulak 68.67 314⇑*i*P **P** **21 49 57.9 -0.2**
comp=Z,5.9nm,0.6s
VSU Vasula 68.97 352*c i*P **P** **21 49 58.4 -0.9**
VSU pmax pmax
comp=Z,56nm,0.6s
VSU Vasula 68.97 352 *e*P **P** **21 49 58.5 -0.8**
SATY Saty 69.01 314 *e*P **P** **21 50 00.0 -0.1**
SATY pmax pmax
comp=Z,11nm,1.1s
SATY Saty 69.01 314 *e*P **P** **21 50 00.1 -0.1**
comp=Z,11nm,1.1s
BTLS Baital 69.28 318*c i*P **P** **21 50 01.4 -0.2**
BTLS pmax pmax
comp=Z,9.0nm,0.8s
BTLS Baital 69.28 318⇑*i*P **P** **21 50 01.5 -0.2**
comp=Z,8.9nm,0.8s
PRZ Przheval'sk 69.47 314 P **P** **21 50 03.0 0.0**
PRZ Przheval'sk 69.47 314 P **P** **21 50 03.0 0.0**
PRZ pmax pmax
comp=Z,49nm,1.4s
PZH PanZhiHua 69.50 287 P **P** **21 50 04.1 +0.8**
AAA Alma-Ata 69.55 315 *e*P **P** **21 50 03.2 -0.1**
AAA pmax pmax
comp=Z,10.0nm,0.7s
AAA Alma-Ata 69.55 315 *e*P **P** **21 50 03.2 -0.1**
comp=Z,9.8nm,0.7s
TNSS Tian-Shan 69.67 315 *e*P **P** **21 50 04.1 -0.4**
TNSS Tian-Shan 69.67 315 *e*P **P** **21 50 04.1 -0.4**
DAV Davao City (W) 69.93 255 P **P** **21 50 06.5 +0.5**
comp=Z,162nm,0.3s,baz=53,slow=5.1,SNR=2.8
DAV LR LR 22 16 28.7
comp=Z,338nm,21.7s,baz=42,slow=32
KMI Kunming 69.95 285 P **P** **21 50 07.1 +0.8**
KMI pmax pmax
comp=Z,23nm,0.9s
SLIT Slitere, Latvi 70.14 354 *e*P **P** **21 50 06.7 +0.2**
MOS Moscow 70.26 345 *e*P **P** **21 50 06.3 -1.1**
MOS pmax pmax
comp=Z,100nm,0.6s
MOS pmax pmax
comp=Z,81nm,0.6s
KDJ Kajisay 70.30 314 P **P** **21 50 08.1 0.0**
KDJ IAmb IAmb 21 50 09.5
comp=Z,19nm,0.8s
KDJ Kajisay 70.30 314 P **P** **21 50 08.1 0.0**
KDJ pmax pmax
comp=Z,19nm,0.8s
TARG Taragay, Kyrgy 70.34 313 P **P** **21 50 09.3 +0.6**
TARG IAmb IAmb 21 50 10.9
comp=Z,12nm,0.6s
TARG Taragay, Kyrgy 70.34 313 P **P** **21 50 09.3 +0.6**
TARG pmax pmax
comp=Z,12nm,0.6s
TKM2 Tokmak 2 70.35 316 P **P** **21 50 08.8 +0.4**
SNR=5.5
BORU Boraas 70.47 359 *i* P **P** **21 50 08.4 -0.2**
USP Ospenovka 70.54 316 P **P** **21 50 10.0 +0.7**
SNR=11
ULHL Ulahol 70.62 315 P **P** **21 50 11.0 +0.9**
SNR=5.7
CHMS Chumysh 70.65 316 P **P** **21 50 10.3 +0.3**
SNR=7.1
ONAU Onsala 70.71 360 *i* P **P** **21 50 09.8 -0.3**
KBK Karagaybulak 70.84 316 P **P** **21 50 11.6 +0.2**
SNR=10
FRU1 Bishkek 70.86 316 P **P** **21 50 11.6 +0.2**
FRU1 Bishkek 70.86 316 P **P** **21 50 11.6 +0.2**
FRU1 pmax pmax
comp=Z,37nm,0.9s
AB31 Akbulak array 70.89 329 P **P** **21 50 11.5 +0.2**
ABKAR Akbulak array 70.89 329 P **P** **21 50 11.3 0.0**
OBN Obninsk 71.03 345 P **P** **21 50 11.6 -0.5**
OBN Obninsk 71.03 345 P **P** **21 50 11.7 -0.3**
comp=Z,42nm,0.6s,baz=68,slow=2.7,SNR=18
comp=Z,42nm,0.6s
OBN Obninsk 71.03 345 ⇑P **P** **21 50 11.6 -0.5**
OBN Obninsk 71.03 345*c i*P **P** **21 50 11.5 -0.6**
OBN *e**SP **sP** **21 50 18.0 -0.1**
OBN *i* 21 50 29.4
OBN *e* 21 52 48.2
OBN *e*PPP PPP 21 54 31.4
OBN *e*S **S** **21 59 27.5 +0.5**
OBN pmax pmax
comp=Z,36nm,0.6s
OBN MLR MLR
comp=Z,104nm,17.0s
comp=Z,74nm,0.7s
OBN Obninsk 71.03 345 P **P** **21 50 11.9 -0.2**
AAK Ala-Archa 71.05 316 P **P** **21 50 13.1 +0.4**
AAK IAmb IAmb 21 50 14.2
comp=Z,20nm,0.8s

AAK Ala-Archa 71.05 316 P **P** 21 50 12.6 -0.1
comp=Z,16nm,0.7s,baz=65,slow=4.0,SNR=16
AAK LR LR 22 23 18.3
comp=Z,390nm,18.7s,baz=38,slow=38
comp=Z,16nm,0.7s
AAK Ala-Archa 71.05 316 P **P** 21 50 13.4 +0.7
SNR=6.4
AAK Ala-Archa 71.05 316*c* *i*P **P** 21 50 13.1 +0.4
AAK pmax pmax
comp=Z,21nm,0.8s
FABU Falkenberg 71.11 359 *i* P **P** 21 50 11.2 -1.2
EKS2 Erkin-Say 71.34 317 P **P** 21 50 15.1 +0.7
SNR=18
PPT Papeete 71.40 161 LR LR 22 13 23.4
comp=Z,241nm,21.6s,baz=348,slow=29
BELG Belogornoye 71.45 338 P **P** 21 50 13.9 -0.7
comp=Z,56nm,0.9s,baz=0.0,slow=2.0,SNR=20
BELG LR LR 22 25 59.5
comp=Z,463nm,18.3s,baz=92,slow=40
comp=Z,56nm,0.9s
BELG Belogornoye 71.45 338*c* *i*P **P** 21 50 15.0 +0.3
BELG pmax pmax
comp=Z,10.0nm,0.9s
DEL Delary 71.63 359 *i* P **P** 21 50 15.0 -0.7
VSVD Vaisvydziai 71.66 353 *e*P **P** 21 50 16.1 +0.2
BLEU Blekinge 71.76 358 *i* P **P** 21 50 15.2 -1.2
ISAL Salakas 71.88 351 *e*P **P** 21 50 19.8 +2.6
BJUU Bjuv 72.03 359 *i* P **P** 21 50 16.7 -1.4
EKA Eskdalemuir Ar 72.07 9 P **P** 21 50 18.9 +0.5
comp=Z,11nm,0.9s,baz=351,slow=5.9,SNR=13
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 72.07 9 P **P** 21 50 18.6 +0.2
EKA pmax pmax
comp=Z,63nm,1.9s
IDID Didziasalis 72.08 351 *e*P **P** 21 50 16.1 -2.3
SLVN Son La 72.12 282 P **P** 21 50 19.9 +0.6
SLVN lAmb lAmb 21 50 22.2
comp=Z,16nm,1.0s
PABE Paberze 72.13 353 P **P** 21 50 19.4 +0.7
PABE Paberze 72.13 353 *e*P **P** 21 50 19.2 +0.5
KK31 Karatay Array 72.32 319 P **P** 21 50 19.9 -0.2
KK31 lAmb lAmb 21 50 21.2
comp=Z,19nm,0.8s
KK31 Karatay Array 72.32 319 P **P** 21 50 19.9 -0.2
KK31 pmax pmax
comp=Z,19nm,0.9s
KKAR Karatay Array 72.32 319 P **P** 21 50 19.9 -0.2
KKAR Karatay Array 72.32 319 P **P** 21 50 19.9 -0.2
BRLS Borolday 72.66 319 *e*P **P** 21 50 23.5 +1.4
BRLS Borolday 72.66 319 *e*P **P** 21 50 23.6 +1.4
MNK Minsk 72.77 350 *i* P **P** 21 50 22.9 +0.4
MNK *i* 21 53 04.6
MNK *i* PPP PPP 21 54 49.8
MNK *i* S **S** 21 59 48.0 +1.0
MNK *i* SS **SS** 22 04 28.6 +3.2
MNK pmax pmax
comp=Z,43nm,0.8s
MNK pmax pmax
comp=N,21nm,1.8s
MNK pmax pmax
comp=E,18nm,0.9s
MNK MLR MLR
comp=Z,204nm,18.0s
MNK MLR MLR
comp=E,285nm,19.0s
MNK MLR MLR
comp=N,170nm,19.0s
ARSB Arslanbob 72.78 316 P **P** 21 50 23.2 +0.2
ARSB lAmb lAmb 21 50 24.6
comp=Z,27nm,1.2s
ARSB Arslanbob 72.78 316 P **P** 21 50 23.2 +0.2
ARSB pmax pmax
comp=Z,27nm,1.2s
KSH Kashi 72.95 313 P **P** 21 50 27.8 +3.8
KSH pP sP 21 50 31.3 +1.1
KSH pmax pmax
comp=Z,40nm,0.9s
KSH LR LR
comp=Z,460nm,15.5s
KSH LR LR
comp=Z,400nm,18.6s
KSH LR LR
comp=Z,600nm,21.1s
LPSR Galich'ya Gora 73.05 343 *e*P **P** 21 50 21.7 -2.5
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 73.11 297 P **P** 21 50 26.0 +0.5
LSA lAmb lAmb 21 50 27.6
comp=Z,20nm,0.7s
LSA Lhasa 73.11 297 P **P** 21 50 26.0 +0.5
LSA pmax pmax
comp=Z,20nm,0.7s
IUG Iuzhnay 73.32 319 *e*P **P** 21 50 26.1 0.0
IUG pmax pmax
comp=Z,23nm,0.8s
IUG Iuzhnay 73.32 319 *e*P **P** 21 50 26.2 0.0
comp=Z,23nm,0.8s
CHM Chimkent 73.35 319 *e*P **P** 21 50 26.2 0.0
CHM Chimkent 73.35 319 *e*P **P** 21 50 26.3 0.0
SUW Suwalki 73.67 353 *e*P **P** 21 50 28.0 +0.1
SUW Suwalki 73.67 353 P **P** 21 50 27.7 -0.2
SUW Suwalki 73.67 353 P **P** 21 50 27.7 -0.2
SUW Suwalki 73.67 353 *e*P **P** 21 50 28.0 +0.1
VRH Novokhopyorsk 73.85 341 *e*P **P** 21 50 27.1 -1.9
VRH pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 74.33 342 *e*P **P** 21 50 29.3 -2.5
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 74.55 342 *e*P **P** 21 50 31.7 -1.3
VORD pmax pmax
comp=Z,20nm,0.8s
GKP Gorka Klasztor 74.75 357 *e*P **P** 21 50 34.1 0.0
GORT1 Trebel 75.13 0 *e*P **P** 21 50 37.9 +1.7
comp=Z,20nm,1.2s,baz=359,slow=5.7
RETH Rethem/Aller, 75.36 1 *e*P **P** 21 50 39.1 +1.5
comp=Z,18nm,1.1s,baz=359,slow=5.7
NRDL Niedersach Rie 75.62 1 *e*P **P** 21 50 40.5 +1.5
comp=Z,11nm,0.9s,baz=359,slow=5.7
RUE Ruedersdorf 75.63 359 *e*P **P** 21 50 40.6 +1.5
comp=Z,40nm,1.3s,baz=359,slow=5.7
IBBN Ibbenburen 75.76 3 *e*P **P** 21 50 41.4 +1.5
comp=Z,31nm,1.0s,baz=359,slow=5.7
FLTG Flechtingen 75.79 0 *e*P **P** 21 50 41.0 +0.9
comp=Z,12nm,0.9s,baz=359,slow=5.7
GAR Garm 75.84 317 P **P** 21 50 41.2 +0.3
SHL Shillong 75.90 293 P **P** 21 50 40.9 -0.6
SHL Shillong 75.90 293 P **P** 21 50 40.9 -0.6
NMDO Nuevo Mundo 75.98 75 P **P** 21 50 41.7 0.0
NMDO lAmb lAmb 21 50 55.2
comp=Z,14nm,0.9s
BEL Belsk 76.01 354 *e*P **P** 21 50 41.5 +0.1
RNPP9 Sopachiv 76.02 351 P **P** 21 50 41.9 +0.4
RNPP8 Varash 76.10 351 P **P** 21 50 41.7 -0.2
RNPP5 Staryi Chortor 76.20 351 P **P** 21 50 42.3 -0.2
AK21 Malin Array Si 76.31 349 P **P** 21 50 42.8 -0.3
AK23 Malin Array Si 76.31 349 P **P** 21 50 42.8 -0.3
MI28 Mi28,Pidlybu 76.31 350 P **P** 21 50 42.3 -0.9
AK22 Malin Array Si 76.32 349 P **P** 21 50 42.8 -0.4
AK03 Malin Array Si 76.33 349 P **P** 21 50 42.9 -0.4
AKASG Malin Array Be 76.36 349 P **P** 21 50 42.7 -0.7
AKASG Malin Array Be 76.36 349 P **P** 21 50 42.7 -0.7
comp=Z,17nm,0.5s,baz=17,slow=5.9,SNR=78
comp=Z,17nm,0.5s
AKASG Malin Array Be 76.36 349 *i* P **P** 21 50 42.9 -0.5
AKASG pmax pmax
comp=Z,18nm,0.5s
AKBB Malin Array Si 76.36 349*c* *i*P **P** 21 50 42.9 -0.5
AKBB pmax pmax
comp=Z,21nm,0.6s
AKBB Malin Array Si 76.36 349 P **P** 21 50 43.0 -0.5
KIEV Kiev 76.37 349 P **P** 21 50 42.7 -0.8
KIEV Kiev 76.37 349 ⇑P **P** 21 50 43.1 -0.3
KIEV Kiev 76.37 349 P **P** 21 50 42.7 -0.8
KIEV pmax pmax
comp=Z,28nm,0.5s
KIEV Kiev 76.37 349 P **P** 21 50 42.6 -0.8
comp=Z,2μmcomp=Z,171nm,0.7s
KKM Kota Kinabalu 76.38 262 P **P** 21 50 44.0 -0.2
GTTG Gottingen 76.57 1 *e*P **P** 21 50 46.2 +1.6
comp=Z,34nm,1.1s,baz=359,slow=5.7
BUG Bochum--Univer 76.61 3 *e*P **P** 21 50 45.9 +1.1
comp=Z,24nm,1.0s,baz=359,slow=5.7
SIMJ Simiganj 76.67 317 P **P** 21 50 45.8 +0.2
CLL Collm 76.81 359 P **P** 21 50 46.3 +0.4
CLL lAmb lAmb 21 50 47.7
comp=Z,16nm,1.1s
CLL Collm 76.81 359 *i* P **P** 21 50 46.5 +0.5
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 76.81 359 P **P** 21 50 45.7 -0.3
comp=Z,18nm,1.1s
CLL Collm 76.81 359 *e*P **P** 21 50 47.0 +1.0
comp=Z,15nm,1.1s,baz=359,slow=5.7
CLL Collm 76.81 359 *i* P **P** 21 50 46.5 +0.5
comp=Z,13nm,0.9s
EVN Everest 76.83 299 P **P** 21 50 46.9 -0.4
EVN lAmb lAmb 21 50 51.8
comp=Z,12nm,0.8s
KASTN Kahler Asten 76.88 2 *e*P **P** 21 50 47.8 +1.4
comp=Z,10.0nm,1.0s,baz=359,slow=5.7
NEUB Neuenburg 76.91 360 *e*P **P** 21 50 48.0 +1.5
comp=Z,16nm,0.6s,baz=359,slow=5.7
CHTO Chiang Mai 77.03 284 P **P** 21 50 47.6 -0.1
CHTO Chiang Mai 77.03 284 P **P** 21 50 47.6 -0.1
CHTO pmax pmax
comp=Z,52nm,1.7s
KSP Ksiaz 77.21 357 *e*P **P** 21 50 48.8 +0.6
KSP Ksiaz 77.21 357 P **P** 21 50 48.1 -0.1
comp=Z,21nm,1.0s
BRG Berggiesshubel 77.23 359 *e*P **P** 21 50 50.2 +1.9
comp=Z,11nm,1.0s,baz=359,slow=5.7
BRG Berggiesshubel 77.23 359 *e*P **P** 21 50 49.8 +1.4
BRG Amp 21 50 51.1
comp=Z,11nm,1.0s
UBBA Unterbreizbach 77.29 1 *e*P **P** 21 50 50.1 +1.5
comp=Z,33nm,1.8s,baz=359,slow=5.7
LUBAR Lubar, Ukraine 77.30 349 P **P** 21 50 47.9 -0.8
CM31 Chiang Mai Arr 77.30 284 P **P** 21 50 49.7 +0.4
CM31 lAmb lAmb 21 50 50.7
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 77.30 284 P **P** 21 50 49.8 +0.5
comp=Z,18nm,0.8s,baz=40,slow=6.3,SNR=78
CMAR LR LR 22 28 22.4
comp=Z,191nm,19.2s,baz=45,slow=38
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 77.30 284 *i* P **P** 21 50 50.0 +0.7
CMAR pmax pmax
comp=Z,19nm,0.8s
MEM Membach 77.40 4 *d*P **P** 21 50 48.8 -0.5
comp=Z,12nm,1.1s
BSTI Sart Tilman 77.41 4 *d*P **P** 21 50 50.7 +1.3
comp=Z,4.9nm,0.8s
BTNL Ternell 77.43 4 *d*P **P** 21 50 49.9 +0.4
comp=Z,10nm,1.1s
CHVC Chvalec 77.47 357 *e*P **P** 21 50 50.8 +1.1
CHVC Chvalec 77.47 357 *e*P **P** 21 50 50.8 +1.1
MOX Moxa 77.48 0 *e*P **P** 21 50 51.2 +1.5
comp=Z,20nm,1.1s,baz=359,slow=5.7
MOX *e*L L 22 25 35.6
comp=Z,92nm,19.2s
OSTC Ostas 77.50 357 *e*P **P** 21 50 50.9 +1.0
OSTC Ostas 77.50 357 *e*P **P** 21 50 50.9 +1.0
UPC Upice 77.55 357 *e*P **P** 21 50 51.3 +1.1
UPC Upice 77.55 357 *e*P **P** 21 50 51.3 +1.1
BCLA Clavier 77.56 4 *d*P **P** 21 50 50.1 -0.1
comp=Z,12nm,0.9s
RICC Richard 77.56 358 *e*P **P** 21 50 52.1 +1.9
BGES Gesves 77.58 4 *d*P **P** 21 50 50.8 +0.5
BMRD Maredsous 77.65 5 *d*P **P** 21 50 52.0 +1.2
comp=Z,17nm,1.0s
BHOU Houvegnez 77.66 4 *d*P **P** 21 50 50.9 +0.1
comp=Z,6.9nm,1.2s
OJC Ojcow 77.67 355 *e*P **P** 21 50 51.4 +0.5
OJC Ojcow 77.67 355 P **P** 21 50 51.1 +0.3
OJC Ojcow 77.67 355 P **P** 21 50 51.2 +0.3
OJC Ojcow 77.67 355 P **P** 21 50 50.8 -0.1
comp=Z,20nm,1.5s
DPC Dobruska-Polom 77.70 357 AMS AMS 22 32 20.0
comp=Z,200nm,19.9s
DPC Dobruska-Polom 77.70 357 P **P** 21 50 51.0 -0.1
comp=Z,29nm,1.2s
TANN Tannenbergstha 77.71 360 *e*P **P** 21 50 52.6 +1.5
comp=Z,7.8nm,1.1s,baz=359,slow=5.7
LVV L'vov 77.77 352 P **P** 21 50 52.0 +0.6
RCHB Rochefort 77.82 4 *d*P **P** 21 50 52.5 +0.9
comp=Z,15nm,1.0s
DOU Dourbes 77.85 5 *d*P **P** 21 50 52.7 +0.9
comp=Z,12nm,1.0s
TNS Taunus Mts 77.86 2 *e*P **P** 21 50 53.5 +1.5
comp=Z,12nm,0.8s,baz=359,slow=5.7
KRLC Kraliky 77.96 357 *e*P **P** 21 50 53.6 +1.1
KRLC Kraliky 77.96 357 *e*P **P** 21 50 53.6 +1.1
STEB Steborice 78.06 356 *e*P **P** 21 50 54.1 +1.1
KWP Kalwaria Pacla 78.06 353 *e*P **P** 21 50 53.5 +0.4
KWP Kalwaria Pacla 78.06 353 P **P** 21 50 52.8 -0.3
comp=Z,64nm,1.0s
PRU Pruhonice 78.11 358 *e*P **P** 21 50 54.3 +1.0
PRU MLR MLR
comp=Z,300nm,14.8s
PRU Pruhonice 78.11 358 *e*P **P** 21 50 54.3 +1.0
PRU AMS AMS 22 35 20.0
comp=Z,300nm,14.8s
COEN Coen 78.11 228 P **P** 21 50 53.9 +0.3
COEN lAmb lAmb 21 51 00.8
comp=Z,42nm,1.6s
MANZ Manzenberg 78.14 360 *e*P **P** 21 50 54.9 +1.5
comp=Z,1.8nm,1.1s,baz=359,slow=5.7
HORU Horodok 78.14 350 P **P** 21 50 53.1 -0.4
HORU Horodok 78.14 350 P **P** 21 50 53.2 -0.3
OKC Ostrava-Krasne 78.14 356 *e*P **P** 21 50 54.6 +1.2
OKC MLR MLR
comp=Z,200nm,20.0s
OKC Ostrava-Krasne 78.14 356 *e*P **P** 21 50 54.6 +1.2
OKC AMS AMS 22 34 50.0
comp=Z,200nm,20.0s
GOPC GO Pecny, Ondr 78.18 358 AMS AMS 22 36 50.0
comp=Z,300nm,12.4s
MORC Moravsky Berou 78.23 356 P **P** 21 50 54.2 +0.2
MORC lAmb lAmb 21 50 56.2
comp=Z,15nm,1.0s
MORC Moravsky Berou 78.23 356 *e*P **P** 21 50 54.9 +0.9
MORC Moravsky Berou 78.23 356 ⇑P **P** 21 50 55.1 +1.1
MORC Moravsky Berou 78.23 356 P **P** 21 50 54.2 +0.2
MORC pmax pmax
comp=Z,15nm,1.0s
BRDH Bariadhala 78.29 292 LR LR 22 29 30.0
comp=Z,362nm,18.2s,baz=38,slow=39
ROTZ Rotzenmuhle 78.36 360 *e*P **P** 21 50 56.4 +1.8
comp=Z,4.8nm,1.4s,baz=359,slow=5.7
STHS Stebnicka Huta 78.39 354 *e*P **P** 21 50 56.0 +1.2
STHS pmax pmax
comp=Z,25nm,1.2s
STHS Stebnicka Huta 78.39 354 *e*P **P** 21 50 56.0 +1.2
GRF Grafenberg Arr 78.43 0 *e*P **P** 21 50 57.0 +1.9
comp=Z,23nm,0.9s,baz=359,slow=5.7
GRFO Grafenberg 78.43 0 P **P** 21 50 55.7 +0.6
GRFO lAmb lAmb 21 50 57.7
comp=Z,24nm,0.9s
GRFO Grafenberg 78.43 0 P **P** 21 50 55.7 +0.6
GRFO pmax pmax
comp=Z,24nm,0.9s
NIE Niedzica 78.44 354 *e*P **P** 21 50 56.2 +1.0
NIE Niedzica 78.44 354 P **P** 21 50 54.9 -0.3
comp=Z,8.6nm,1.2s
MORS Morshin 78.46 352 P **P** 21 50 56.3 +1.1
MORS Morshin 78.46 352 P **P** 21 50 55.4 +0.2
MAUC Maruska 78.63 356 *e*P **P** 21 50 57.8 +1.6
NDNU Novodnistrovsk 78.65 349 P **P** 21 50 56.4 +0.1
ZVC Zvikov 78.66 358 *e*P **P** 21 50 57.8 +1.4
VRAC Vranov 78.73 357 *e*P **P** 21 50 57.8 +1.0
VRAC Vranov 78.73 357 ⇑P **P** 21 50 58.1 +1.3
VRAC Vranov 78.73 357 P **P** 21 50 58.5 +1.7
LANS Liptovska Anna 78.76 355 *e*P **P** 21 50 58.6 +1.7
LANS pmax pmax
comp=Z,25nm,1.3s
LANS Liptovska Anna 78.76 355 *e*P **P** 21 50 58.6 +1.7
KMPD K-Podol'skiy 78.78 350 P **P** 21 50 56.0 -1.0
TREC Trest 78.78 357 *e*P **P** 21 50 58.0 +1.0
TREC Trest 78.78 357 *e*P **P** 21 50 58.0 +1.0
KOLS Kolonicke sedl 78.79 353 *e*P **P** 21 50 58.0 +0.9
KOLS pmax pmax
comp=Z,22nm,1.5s
KOLS Kolonicke sedl 78.79 353 *e*P **P** 21 50 58.0 +0.9
STNU Starunia 78.83 351 P **P** 21 50 56.8 -0.5
WET Wettzell 78.98 359 *e*P **P** 21 50 60.0 +1.9
comp=Z,16nm,1.2s,baz=359,slow=5.7
KHC Kasperske Hory 78.98 359*c* *i*P **P** 21 50 59.5 +1.3
KHC pmax pmax
comp=Z,28nm,1.2s
KHC Kasperske Hory 78.98 359 *e*P **P** 21 50 59.4 +1.3
KHC AMS AMS 22 35 10.0
comp=Z,400nm,17.8s
KHC Kasperske Hory 78.98 359 P **P** 21 50 57.7 -0.5
comp=Z,23nm,1.4s
KRUC Moravsky 78.98 357 *e*P **P** 21 50 58.9 +0.8
SORM Soroca 78.99 349 ⇓P **P** 21 50 58.1 0.0
SORM Soroca 78.99 349 P **P** 21 50 58.1 0.0
SORM Soroca 78.99 349 P **P** 21 50 57.8 -0.3
comp=Z,30nm,1.0s
NIL Nilore 79.02 312 P **P** 21 50 59.1 +0.5
NIL Nilore 79.02 312 P **P** 21 50 59.1 +0.5
NIL pmax pmax
comp=Z,36nm,0.8s
MEZ Mezhgor'ye 79.11 352 P **P** 21 50 58.8 0.0
JAVC Velka Javorina 79.14 356 *e*P **P** 21 51 01.1 +2.0
KSV Kosov 79.17 351 P **P** 21 50 58.9 -0.2
HOLU Holmets 79.19 353 P **P** 21 50 59.2 0.0
MUKU Mukachevo 79.24 353 P **P** 21 50 59.5 0.0
GEC2 GERESS Array S 79.27 359 P **P** 21 51 00.4 +0.6
GEC2 lAmb lAmb 21 51 02.0
comp=Z,14nm,0.9s
GEC2 GERESS Array S 79.27 359 *e*P **P** 21 51 01.2 +1.4
comp=Z,13nm,0.9s,baz=359,slow=5.7
GERES GERESS Array B 79.27 359 P **P** 21 51 00.2 +0.4
GERES GERESS Array B 79.27 359 P **P** 21 51 00.5 +0.7
comp=Z,7.5nm,0.8s,baz=0.2,slow=5.2,SNR=53
comp=Z,7.5nm,0.8s
CKRC Cesky Krumlov 79.28 358 AMS AMS 22 37 30.0
comp=Z,300nm,14.1s
BRIU Brid 79.33 352 P **P** 21 51 00.0 0.0
ERBR Yeremizino-Bor 79.33 340 *e*P **P** 21 50 59.7 -0.4
ERBR *e**PP **pP** 21 51 02.1 -2.5
ERBR *e*S **S** 22 01 00.0 +0.4
ERBR pmax pmax
comp=Z,81nm,1.0s
STU Stuttgart 79.33 2 P **P** 21 51 00.6 +0.6
STU lAmb lAmb 21 51 02.1
comp=Z,12nm,0.8s
STU Stuttgart 79.33 2 P **P** 21 51 00.6 +0.6
STU pmax pmax
comp=Z,12nm,0.8s
STU Stuttgart 79.33 2 *e*P **P** 21 51 01.5 +1.4
STU Stuttgart 79.33 2 *e*P **P** 21 51 01.4 +1.4
comp=Z,30nm,0.8s,baz=359,slow=5.7
NSLU Nyzhne Selyshc 79.34 351 P **P** 21 51 00.5 +0.4
GOF Gofitskoye 79.39 338*c* *i*P **P** 21 51 01.5 +1.1
VYHS Vyhne 79.45 355 *e*P **P** 21 51 01.8 +1.1
VYHS pmax pmax
comp=Z,29nm,1.0s
VYHS Vyhne 79.45 355 *e*P **P** 21 51 01.8 +1.1
BERU Beregovo 79.46 353 P **P** 21 51 00.7 0.0
SMOL Smolenice 79.49 356 *e*P **P** 21 51 02.8 +1.9
SMOL pmax pmax
comp=Z,12nm,0.8s
KORU Korolevo 79.50 352 P **P** 21 51 00.9 0.0
RAKU Rahkiv 79.54 352 P **P** 21 51 00.2 -1.0
TRSU Trosnyk 79.57 352 P **P** 21 51 02.7 +1.4
TRSU Trosnyk 79.57 352 P **P** 21 51 01.5 +0.2
MODS Modra-Piesok 79.64 356 *e*P **P** 21 51 00.5 -1.2
MODS pmax pmax
comp=Z,93nm,1.2s
MODS Modra-Piesok 79.64 356 *e*P **P** 21 51 00.5 -1.2
BFO Black Forest 79.75 2 P **P** 21 51 02.5 +0.2
BFO lAmb lAmb 21 51 03.9
comp=Z,18nm,1.1s
BFO Black Forest 79.75 2 P **P** 21 51 02.6 +0.2
BFO pmax pmax
comp=Z,18nm,1.1s
BFO Black Forest 79.75 2 *e*P **P** 21 51 03.8 +1.4
comp=Z,19nm,1.1s,baz=359,slow=5.7
CLF Chambon-Foret 79.77 6 P **P** 21 51 03.1 +0.7
BUR08 Bucovina Ar. S 79.82 351 **P** 21 51 02.8 -0.1
BUR08 lAmb lAmb 21 51 04.3
comp=Z,8.8nm,0.8s
ECH Echery 79.83 3 P **P** 21 51 02.3 -0.5
ECH lAmb lAmb 21 51 05.0
comp=Z,22nm,0.9s
ECH Echery 79.83 3 P **P** 21 51 02.3 -0.5
ECH pmax pmax
comp=Z,22nm,0.9s
BURAR Bucovina Array 79.84 351 P **P** 21 51 03.2 +0.2
BURAR lAmb lAmb 21 51 04.3
comp=Z,14nm,0.7s
BURAR Bucovina Array 79.84 351 ⇑P **P** 21 51 02.5 -0.4
BURAR Bucovina Array 79.84 351 P **P** 21 51 03.2 +0.2
BMR Baia Mare 79.94 352 ⇑P **P** 21 51 04.0 +0.6
BMR Baia Mare 79.94 352 P **P** 21 51 03.9 +0.6
FUR Furstenfeldbru 79.96 0 *e*P **P** 21 51 05.3 +1.8
comp=Z,37nm,1.2s,baz=359,slow=5.7
PSZ Piszkesteto 79.96 354 P **P** 21 51 04.6 +1.0
PSZ lAmb lAmb 21 51 06.3
comp=Z,32nm,1.2s
PSZ Piszkesteto 79.96 354 ⇑P **P** 21 51 04.4 +0.8
PSZ Piszkesteto 79.96 354 P **P** 21 51 04.6 +1.0
PSZ pmax pmax
comp=Z,32nm,1.2s
PSZ Piszkesteto 79.96 354 *e*P **P** 21 51 05.2 +1.6
CONA Conrad Observa 80.14 357 *i* P **P** 21 51 06.1 +1.5
comp=Z,32nm,1.2s,SNR=15
KBL Kabul 80.15 315 P **P** 21 51 04.3 -0.7
KBL lAmb lAmb 21 51 05.5
comp=Z,24nm,0.8s
KBL Kabul 80.15 315 P **P** 21 51 04.3 -0.7
KBL pmax pmax
comp=Z,24nm,0.8s
SRO Srobarova 80.15 356 *e*P **P** 21 51 07.9 +3.4
SRO pmax pmax
comp=Z,26nm,1.2s
SRO Srobarova 80.15 356 *e*P **P** 21 51 07.8 +3.3
MOA Molln 80.25 358 *e*P **P** 21 51 06.0 +1.0
comp=Z,7.0nm,0.8s
RONA Rosalia, Austr 80.35 357 *i* pP **P** 21 51 07.3 +1.7
comp=Z,14nm,1.1s,SNR=7.2
RJOB Jochberg 80.39 359 *e*P **P** 21 51 07.5 +1.7
comp=Z,18nm,0.9s,baz=359,slow=5.7
BIOA Bad Ischl, Aus 80.42 359 *e*P **P** 21 51 07.3 +1.4
comp=Z,20nm,1.4s,SNR=11
ARCR ARCALIA 80.45 351 ⇑P **P** 21 51 07.4 +1.2
MESR Meseseni 80.51 352 ⇑P **P** 21 51 07.8 +1.3
KVAR Kislovodsk Arr 80.51 338 P **P** 21 51 07.7 +1.1
comp=Z,11nm,1.0s,baz=349,slow=16,SNR=6.4
comp=Z,11nm,1.0s
KIV Kislovodsk 80.52 338 P **P** 21 51 07.1 +0.4
KIV Kislovodsk 80.52 338 ⇓P **P** 21 51 07.0 +0.4
KIV Kislovodsk 80.52 338 *e*P **P** 21 51 07.6 +1.0
KIV pmax pmax
comp=Z,27nm,1.0s
KIV Kislovodsk 80.52 338 P **P** 21 51 06.7 +0.1
comp=Z,28nm,1.0s
VASR Vaslui 80.53 349 ⇓P **P** 21 51 07.1 +0.5
RETA Reutte 80.64 1 *i* P **P** 21 51 08.5 +1.3
comp=Z,13nm,0.8s,SNR=5.6
KBZ Khabaz 80.68 338 P **P** 21 51 08.5 +1.2
comp=Z,23nm,0.9s,baz=18,slow=2.1,SNR=31
comp=Z,23nm,0.9s
KBZ Khabaz 80.68 338*c* *i*P **P** 21 51 08.7 +1.3
KBZ pmax pmax
comp=Z,26nm,0.9s
LESA Schwarzleotal 80.70 359 *i* P **P** 21 51 08.9 +1.4
comp=Z,9.7nm,0.8s,SNR=9.7
SHA1 Shidzhatmaz 80.73 338 ⇓*e*P **P** 21 51 08.5 +0.5
NCK Nalchik 80.74 337 ⇑*e*P **P** 21 51 09.3 +1.6
NCK pmax pmax
comp=Z,76nm,0.9s
MOTA Moosalm 80.78 0 *e*P **P** 21 51 09.2 +1.2
comp=Z,24nm,0.8s,SNR=13
TESR Tescani 80.78 350 ⇓P **P** 21 51 08.2 +0.2
TESR Tescani 80.78 350 P **P** 21 51 07.8 -0.1
comp=Z,6.2nm,1.1s
WATA Walderalm 80.79 0 *i* P **P** 21 51 09.4 +1.3
comp=Z,21nm,0.8s,SNR=16
ANN Anapa 80.82 342 *e*P **P** 21 51 04.7 -3.4
ANN *e**PP **pP** 21 51 08.9 -3.7
ANN *e*S **S** 22 01 10.3 -4.9
ANN pmax pmax
comp=Z,54nm,0.9s
ARSA Arzberg 80.82 357 P **P** 21 51 09.3 +1.1
ARSA lAmb lAmb 21 51 10.9
comp=Z,16nm,0.9s
ARSA Arzberg 80.82 357 *i* pP **P** 21 51 09.9 +1.7
comp=Z,18nm,0.9s,SNR=12
DAVA Damuels 80.83 1 *i* pP pP 21 51 10.9 -1.9
comp=Z,9.7nm,0.9s
WTTA Wattenberg 80.86 0 *e*P **P** 21 51 10.1 +1.5

	comp=Z,29nm,0.7s,SNR=14								
DRGR		**80.89**	**352**	⇑P		**P**		**21 51 08.5**	**0.0**
DRGR		**80.89**	**352**	P		**P**		**21 51 08.9**	**+0.3**
CJR	**Cluj-Napoca**	**80.89**	**352**	⇑P		**P**		**21 51 09.8**	**+1.2**
CJR	**Cluj-Napoca**	**80.89**	**352**	P		**P**		**21 51 09.7**	**+1.2**
SQTA	**Sankt Quirin**	**80.91**	**0**	*i* P		**P**		**21 51 10.1**	**+1.4**
	comp=Z,36nm,0.8s,SNR=18								
MARR	**Marisel-Cluj**	**80.97**	**352**	⇑P		**P**		**21 51 09.3**	**+0.3**
KBA	**Koelnbreinsper**	**81.04**	**359**	*i* pP		**P**		**21 51 11.3**	**+1.9**
	comp=Z,84nm,1.2s								
FETA	**Feichten**	**81.10**	**1**	*e*P		**P**		**21 51 11.3**	**+1.4**
	comp=Z,28nm,0.8s,SNR=18								
GHRR		**81.14**	**349**	⇑P		**P**		**21 51 10.8**	**+1.0**
SIM	**Simferopol'**	**81.28**	**344**	*e*P		P		21 51 05.1	-5.5
SIM				*e*				21 51 13.0	
SIM				pmax		pmax			
	comp=Z,30nm,1.3s								
VLDR	**Vladesti**	**81.28**	**349**	⇑P		**P**		**21 51 11.1**	**+0.6**
OZUR		**81.29**	**350**	⇑P		**P**		**21 51 11.5**	**+0.9**
TURR	**Turia**	**81.31**	**350**	⇓P		**P**		**21 51 12.0**	**+1.2**
DAVOX	**Davos/Dischmat**	**81.33**	**1**	LR		LR		22 27 29.2	
	comp=Z,92nm,20.9s,baz=45,slow=36								
ABTA	**Abfaltersbach**	**81.38**	**359**	*e*P		**P**		**21 51 12.4**	**+1.2**
	comp=Z,21nm,0.8s,SNR=16								
SOKA	**Soboth**	**81.41**	**358**	*i* P		**P**		**21 51 12.8**	**+1.4**
	comp=Z,31nm,0.9s,SNR=36								
VRI	**Vrincioaia**	**81.41**	**349**	⇓P		**P**		**21 51 12.0**	**+0.6**
VRI	**Vrincioaia**	**81.41**	**349**	P		**P**		**21 51 11.9**	**+0.6**
VRI	**Vrincioaia**	**81.41**	**349**	P		**P**		**21 51 10.8**	**-0.5**
	comp=Z,5.3nm,0.8s								
PLOR	**Plostina**	**81.44**	**350**	⇓P		**P**		**21 51 12.3**	**+0.9**
PLOR	**Plostina**	**81.44**	**350**	P		**P**		**21 51 12.3**	**+0.9**
PLOR5	**Plostina Array**	**81.44**	**350**	P		**P**		**21 51 11.5**	**0.0**
	comp=Z,14nm,1.1s								
DOPR	**Dopca**	**81.46**	**350**	⇓P		**P**		**21 51 12.5**	**+1.0**
ODBI	**Odobesti**	**81.48**	**349**	P		**P**		**21 51 11.7**	**+0.1**
	comp=Z,5.3nm,0.5s								
MYKA	**Terra Mystica**	**81.48**	**359**	*i* P		**P**		**21 51 12.6**	**+0.9**
	comp=Z,17nm,1.2s,SNR=8.7								
SIRR	**Siria**	**81.49**	**353**	⇑P		**P**		**21 51 12.5**	**+0.8**
COVR	**Voineasa-Covas**	**81.49**	**350**	⇑P		**P**		**21 51 12.7**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**81.50**	**1**	P		**P**		**21 51 13.4**	**+1.3**
VSLR	**Vesyoloye**	**81.58**	**340**	*d* iP		**P**		**21 51 13.7**	**+1.5**
VSLR				pmax		pmax			
	comp=Z,30nm,1.0s								
OBKA	**Obir**	**81.59**	**358**	*e*P		**P**		**21 51 13.4**	**+1.1**
	comp=Z,24nm,0.8s,SNR=19								
KOGS	**Kog**	**81.60**	**357**	*i* P		**P**		**21 51 13.2**	**+1.0**
SENIN	**Lac Senin/Sane**	**81.69**	**3**	P		**P**		**21 51 13.7**	**+0.7**
MORH	**Mrgy, Hungar**	**81.73**	**355**	⇑P		**P**		**21 51 13.5**	**+0.6**
MORH	**Mrgy, Hungar**	**81.73**	**355**	P		**P**		**21 51 12.6**	**-0.3**
	comp=Z,3.9nm,1.6s								
TLCR		**81.83**	**348**	⇑P		**P**		**21 51 13.8**	**+0.3**
TLCR		**81.83**	**348**	P		**P**		**21 51 13.7**	**+0.3**
MLR	**Muntele Rosu**	**81.87**	**350**	LR		LR		22 33 44.2	
	comp=Z,112nm,18.2s,baz=18,slow=40								
MLR	**Muntele Rosu**	**81.87**	**350**	⇑P		**P**		**21 51 15.0**	**+1.1**
MLR	**Muntele Rosu**	**81.87**	**350**	P		**P**		**21 51 15.1**	**+1.2**
MLR	**Muntele Rosu**	**81.87**	**350**	P		**P**		**21 51 13.8**	**-0.1**
	comp=Z,11nm,0.9s								
CADS	**Cadrg**	**81.88**	**359**	*i* P		**P**		**21 51 14.2**	**+0.3**
CFR	**Carcaliu**	**81.93**	**348**	⇑P		**P**		**21 51 14.2**	**+0.3**
CFR	**Carcaliu**	**81.93**	**348**	P		**P**		**21 51 14.2**	**+0.3**
SEKA	**Sheki**	**81.96**	**334**	P		**P**		**21 51 13.2**	**-1.1**
SURR	**Surduc**	**81.97**	**353**	⇑P		**P**		**21 51 14.8**	**+0.6**
VOIR		**82.02**	**351**	⇓P		**P**		**21 51 15.1**	**+0.5**
VOIR		**82.02**	**351**	P		**P**		**21 51 15.5**	**+0.9**
VOIR		**82.02**	**351**	P		**P**		**21 51 14.3**	**-0.3**
	comp=Z,10nm,0.7s								
CTI	**Castel Tesino**	**82.08**	**0**	P		**P**		**21 51 15.5**	**+0.6**
CTI				IAmb		IAmb		21 51 16.6	
	comp=Z,19nm,1.0s								
CTI	**Castel Tesino**	**82.08**	**0**	P		**P**		**21 51 15.5**	**+0.6**
CTI				pmax		pmax			
	comp=Z,19nm,1.0s								
ARR	**Arges**	**82.13**	**351**	⇑P		**P**		**21 51 15.8**	**+0.7**
LOT	**Lotru**	**82.13**	**351**	⇑P		**P**		**21 51 14.9**	**-0.3**
SABO	**M.te Sabotino**	**82.13**	**359**	P		**P**		**21 51 14.8**	**-0.3**
SABO				IAmb		IAmb		21 51 16.6	
	comp=Z,9.6nm,0.9s								
BZS	**Buzias**	**82.14**	**353**	⇑P		**P**		**21 51 15.5**	**+0.4**
BZS	**Buzias**	**82.14**	**353**	P		**P**		**21 51 15.5**	**+0.4**
TPGR	**Topolog**	**82.21**	**348**	⇑P		**P**		**21 51 16.1**	**+0.6**
JURR	**Jurilovca**	**82.24**	**348**	⇑P		**P**		**21 51 16.8**	**+1.3**
GZR	**Gura Zlata**	**82.27**	**352**	⇓P		**P**		**21 51 16.3**	**+0.4**
GZR	**Gura Zlata**	**82.27**	**352**	P		**P**		**21 51 16.3**	**+0.4**
MNGR	**Mingechevir, A**	**82.40**	**334**	P		**P**		**21 51 15.7**	**-0.8**
HARR	**Harsova**	**82.43**	**348**	⇓P		**P**		**21 51 16.4**	**-0.2**
HARR	**Harsova**	**82.43**	**348**	P		**P**		**21 51 17.4**	**+0.8**
TLBR	**Topalu**	**82.56**	**348**	⇑P		**P**		**21 51 18.5**	**+1.2**
BOJS	**Bojanci**	**82.58**	**358**	*i* P		**P**		**21 51 18.2**	**+0.8**
TIRR	**Tirgusor**	**82.60**	**348**	P		**P**		**21 51 17.8**	**+0.3**
TIRR				IAmb		IAmb		21 51 19.0	
	comp=Z,18nm,0.7s								
TIRR	**Tirgusor**	**82.60**	**348**	⇑P		**P**		**21 51 18.1**	**+0.6**
TIRR	**Tirgusor**	**82.60**	**348**	P		**P**		**21 51 17.8**	**+0.3**
TIRR				pmax		pmax			
	comp=Z,18nm,0.7s								
TIRR	**Tirgusor**	**82.60**	**348**	P		**P**		**21 51 17.3**	**-0.2**
	comp=Z,29nm,0.8s								
SSB	**Saint Sauveur**	**82.65**	**5**	P		**P**		**21 51 18.3**	**+0.4**
SSB				IAmb		IAmb		21 51 20.4	
	comp=Z,14nm,0.9s								
SSB	**Saint Sauveur**	**82.65**	**5**	P		**P**		**21 51 18.3**	**+0.4**
SSB				pmax		pmax			
	comp=Z,14nm,0.9s								
GANJ	**Ganja**	**82.72**	**334**	P		**P**		**21 51 17.3**	**-1.0**
HERR	**Herculane**	**82.81**	**352**	⇑P		**P**		**21 51 18.5**	**-0.1**
GCPR	**Guaynabo City**	**82.94**	**69**			**P**		**21 51 19.4**	**-0.2**
GCPR				IAmb		IAmb		21 51 21.0	
	comp=Z,16nm,0.8s								
MDVR	**Moldovita**	**82.96**	**353**	⇑P		**P**		**21 51 19.9**	**+0.4**
KAPI	**Kappang**	**83.05**	**253**	P		**P**		**21 51 20.1**	**-0.1**
KAPI				IAmb		IAmb		21 51 21.9	
	comp=Z,9.2nm,0.8s								
KAPI	**Kappang**	**83.05**	**253**	*de*P		**P**		**21 51 21.3**	**+1.1**
KAPI				pmax		pmax			
	comp=Z,12nm,0.8s								
SGRR	**Singureni**	**83.12**	**350**	⇓P		**P**		**21 51 20.3**	**+0.1**
BLY	**Banja Luka**	**83.26**	**356**	⇓P		**P**		**21 51 21.6**	**+0.6**
KSM	**Kuching**	**83.58**	**264**	P		**P**		**21 51 22.8**	**-0.2**
GNI	**Garni**	**83.60**	**335**	P		**P**		**21 51 24.1**	**+1.1**
GNI	**Garni**	**83.60**	**335**	P		**P**		**21 51 24.4**	**+1.4**
	comp=Z,7.4nm,0.9s,baz=20,slow=15,SNR=4.5								
GNI				LR		LR		22 36 41.9	
	comp=Z,170nm,18.5s,baz=23,slow=42								
	comp=Z,7.4nm,0.9s								
GNI	**Garni**	**83.60**	**335**	*ce*P		**P**		**21 51 24.8**	**+1.8**
GNI				pmax		pmax			
	comp=Z,24nm,1.3s								
GNI	**Garni**	**83.60**	**335**	P		**P**		**21 51 23.8**	**+0.8**
	comp=Z,16nm,1.1s								
LKRN	**Lenkeran, Azer**	**83.84**	**332**	P		**P**		**21 51 23.2**	**-0.8**
PLVB	**Pleven**	**84.09**	**351**	⇑P		**P**		**21 51 25.4**	**+0.2**
BOVS	**Bovan**	**84.10**	**353**	⇑P		**P**		**21 51 25.4**	**+0.1**
NAX	**Nakhchivan**	**84.32**	**334**	P		**P**		**21 51 25.6**	**-1.0**
ELND	**Elena**	**84.41**	**350**	⇑P		**P**		**21 51 27.0**	**+0.2**
PGAV	**Gavieira, Arco**	**84.57**	**15**	*i* IAms_20		IAms_20		22 34 20.4	
	comp=Z,159nm,16.0s								
KOPT	**Kop Dagi**	**84.76**	**338**	P		**P**		**21 51 29.5**	**+0.4**
PBRG	**Braganca**	**84.96**	**14**	*e*P		**P**		**21 51 31.2**	**+1.5**
CEST	**Esterri de Car**	**85.09**	**8**	P		**P**		**21 51 31.6**	**+1.1**
POLO	**Lamas de Olo**	**85.22**	**15**	*e*P		**P**		**21 51 32.6**	**+1.5**
PDG	**Podgorica**	**85.47**	**354**	⇓P		**P**		**21 51 32.9**	**+0.7**
MVO	**Moncorvo**	**85.55**	**14**	*i* IAms_20		IAms_20		22 33 28.4	
	comp=Z,181nm,18.0s								
AQU	**L'Aquila**	**85.76**	**359**	P		**P**		**21 51 34.3**	**+0.6**
	comp=Z,38nm,0.8s								
SKO	**Skopje**	**85.78**	**353**	*i* P		**P**		**21 51 34.9**	**+1.2**
GURO	**Guroymak-BITLI**	**85.79**	**337**	P		**P**		**21 51 35.0**	**+0.9**
GURO				IAmb		IAmb		21 51 36.8	
	comp=Z,30nm,1.6s								
SAHE	**Sakarya_HENDEK**	**85.80**	**346**	⇓P		**P**		**21 51 35.5**	**+1.6**
PVIS	**Viseu**	**85.85**	**15**	*e*P		**P**		**21 51 35.4**	**+1.2**
RDO	**Rodhopi**	**86.21**	**350**	P		**P**		**21 51 36.4**	**+0.6**
YLV	**Yalova**	**86.29**	**347**	P		**P**		**21 51 36.8**	**+0.4**
	comp=Z,553nmcomp=Z,48nm,1.1s								
VAY	**Valandovo**	**86.33**	**352**	*i* P		**P**		**21 51 37.6**	**+1.2**
ALN	**Alexandroupoli**	**86.40**	**349**	P		**P**		**21 51 37.2**	**+0.4**
ALN	**Alexandroupoli**	**86.40**	**349**	P		**P**		**21 51 37.2**	**+0.4**
ALN				pmax		pmax			
	comp=Z,20nm,0.7s								
BR106	**Keskin Array S**	**86.43**	**343**	P		**P**		**21 51 37.5**	**+0.3**
	comp=Z,113nmcomp=Z,13nm,0.8s								
BR131	**Keskin Array S**	**86.43**	**343**	P		**P**		**21 51 38.1**	**+0.9**
BR131				IAmb		IAmb		21 51 39.6	
	comp=Z,14nm,0.8s								
BR131	**Keskin Array S**	**86.43**	**343**	*c* iP		**P**		**21 51 38.1**	**+0.9**
BRTR	**Keskin Array B**	**86.44**	**343**	P		**P**		**21 51 37.8**	**+0.6**
	comp=Z,9.5nm,0.7s,baz=13,slow=2.5,SNR=50								
	comp=Z,9.5nm,0.7s								
BRTR	**Keskin Array B**	**86.44**	**343**	*i* P		**P**		**21 51 38.2**	**+1.0**
BRTR				pmax		pmax			
	comp=Z,12nm,0.8s								
ANTO	**Ankara**	**86.44**	**344**	P		**P**		**21 51 38.7**	**+1.5**
ANTO	**Ankara**	**86.44**	**344**	⇑P		**P**		**21 51 38.8**	**+1.7**
ANTO	**Ankara**	**86.44**	**344**	P		**P**		**21 51 38.7**	**+1.5**
ANTO				pmax		pmax			
	comp=Z,34nm,0.9s								
ANTO	**Ankara**	**86.44**	**344**	P		**P**		**21 51 37.9**	**+0.7**
	comp=Z,193nmcomp=Z,23nm,0.8s								
BR105	**Keskin Array S**	**86.44**	**343**	P		**P**		**21 51 37.7**	**+0.4**
	comp=Z,135nmcomp=Z,16nm,0.8s								
BR104	**Keskin Array S**	**86.45**	**343**	P		**P**		**21 51 37.7**	**+0.4**
	comp=Z,136nmcomp=Z,17nm,0.8s								
KULM	**Kulim**	**86.52**	**274**	P		**P**		**21 51 37.9**	**+0.1**
OHR	**Ohrid**	**86.68**	**353**	*i* P		**P**		**21 51 39.3**	**+1.0**
IPM	**Ipoh**	**86.92**	**273**	P		**P**		**21 51 39.6**	**-0.2**
KIRS	**Kirsehir-Merke**	**86.96**	**343**	⇑P		**P**		**21 51 41.1**	**+1.4**
PMRV	**Marv??o**	**87.19**	**15**	*i* IAMs_20		IAMs_20		22 34 18.0	
	comp=Z,243nm,18.0s								
MARD	**Mardin**	**87.27**	**337**	P		**P**		**21 51 42.2**	**+0.9**
WB0	**Warramunga Arr**	**87.29**	**233**	P		**P**		**21 51 40.3**	**-0.9**
WB0				IAmb		IAmb		21 52 07.4	
	comp=Z,12nm,1.2s								
MATE	**Matera**	**87.37**	**356**	⇑P		**P**		**21 51 41.4**	**-0.1**
MATE	**Matera**	**87.37**	**356**	*e*P		**P**		**21 51 42.4**	**+0.8**
EZN	**Ezine**	**87.42**	**349**	P		**P**		**21 51 41.7**	**-0.1**
	comp=Z,542nmcomp=Z,32nm,0.7s								
ESBB	**Sonseca Array**	**87.43**	**12**	P		**P**		**21 51 41.7**	**-0.3**
ESBB				IAmb		IAmb		21 51 43.9	
	comp=Z,8.2nm,0.8s								
ESDC	**Sonseca Array**	**87.44**	**12**	P		**P**		**21 51 42.0**	**0.0**
ESDC				IAmb		IAmb		21 51 44.0	
	comp=Z,5.9nm,0.8s								
ESDC	**Sonseca Array**	**87.44**	**12**	P		**P**		**21 51 42.5**	**+0.6**
	comp=Z,7.5nm,0.7s,baz=351,slow=4.8,SNR=74								
ESDC				LR		LR		22 33 47.4	
	comp=Z,151nm,18.9s,baz=4.5,slow=38								
	comp=Z,7.5nm,0.7s								
WRAB	**Tennant Creek**	**87.45**	**232**	⇑*e*P		**P**		**21 51 45.6**	**+3.6**
WRAB				pmax		pmax			
	comp=Z,32nm,2.7s								
WRA	**Warramunga Arr**	**87.46**	**232**	P		**P**		**21 51 41.2**	**-0.9**
WRA	**Warramunga Arr**	**87.46**	**232**	P		**P**		**21 51 41.4**	**-0.7**
	comp=Z,4.3nm,0.7s,baz=27,slow=5.4,SNR=30								
	comp=Z,4.3nm,0.7s								
PAB	**San Pablo**	**87.51**	**12**	P		**P**		**21 51 43.1**	**+0.7**
GAZ	**Gaziantep**	**88.21**	**340**	P		**P**		**21 51 46.5**	**+0.8**
GAZ				IAmb		IAmb		21 51 50.9	
	comp=Z,11nm,1.0s								
PBAR	**Barrancos**	**88.47**	**15**	*e*P		**P**		**21 51 47.4**	**+0.6**
VSL	**Villasalto**	**88.61**	**2**	P		**P**		**21 51 47.9**	**+0.4**
VSL				IAmb		IAmb		21 51 49.2	
	comp=Z,7.7nm,0.9s								
ISP	**Isparta**	**88.81**	**345**	P		**P**		**21 51 48.2**	**-0.4**
ISP				IAmb		IAmb		21 51 49.9	
	comp=Z,13nm,0.8s								
ISP	**Isparta**	**88.81**	**345**	P		**P**		**21 51 48.2**	**-0.4**
ISP				pmax		pmax			
	comp=Z,13nm,0.8s								
PVAQ	**Vaqueiros**	**89.12**	**15**	*i* IAMs_20		IAMs_20		22 35 10.9	
	comp=Z,183nm,18.0s								
BAUV	**El Baul**	**89.20**	**77**	P		**P**		**21 51 50.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**90.38**	**240**	P		**P**		**21 51 55.3**	**-0.6**
AS31	**Alice Springs**	**90.84**	**231**	P		**P**		**21 51 57.9**	**-0.1**
ASAR	**Alice Springs**	**90.84**	**231**	P		**P**		**21 51 57.8**	**-0.2**
	comp=Z,7.5nm,0.7s,baz=32,slow=4.8,SNR=59								
	comp=Z,7.5nm,0.7s								
ASAR	**Alice Springs**	**90.84**	**231**	P		**P**		**21 51 57.9**	**-0.1**
CSS	**Mathiatis**	**91.12**	**342**	P		**P**		**21 51 59.3**	**0.0**
CSS				IAmb		IAmb		21 52 05.1	
	comp=Z,14nm,1.0s								
PMOZ	**Porto Moniz, M**	**91.58**	**24**	*i* IAMs_20		IAMs_20		22 37 06.6	
	comp=Z,126nm,18.0s								
IDI	**Anoyia**	**92.07**	**349**	LR		LR		22 39 05.7	
	comp=Z,46nm,18.1s,baz=300,slow=39								
KEST	**Kesra**	**92.36**	**2**	P		**P**		**21 52 05.1**	**0.0**
KEST				IAmb		IAmb		21 52 11.0	
	comp=Z,4.1nm,0.9s								
KEST	**Kesra**	**92.36**	**2**	P		**P**		**21 52 06.1**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=316,slow=0.5,SNR=9.8								
	comp=Z,3.5nm,0.8s								
MMAI	**Mount Meron Ar**	**92.60**	**340**	P		**P**		**21 52 06.7**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=18,slow=5.0,SNR=7.0								
MMAI				LR		LR		22 37 47.2	
	comp=Z,76nm,19.6s,baz=28,slow=38								
	comp=Z,4.1nm,0.7s								
BALJ	**Balqa**	**93.45**	**340**	P		**P**		**21 52 10.4**	**+0.3**
RPN	**Rapa Nui**	**94.30**	**130**	LR		LR		22 26 18.5	
	comp=Z,90nm,19.9s,baz=20,slow=30								
PALK	**Pallekele**	**96.87**	**291**	LR		LR		22 39 20.7	
	comp=Z,102nm,21.5s,baz=26,slow=38								
RAYN	**Ar Rayn**	**98.98**	**329**	P		**P**		**21 52 35.2**	**-0.2**
RAYN				IAmb		IAmb		21 52 36.3	
	comp=Z,4.6nm,0.8s								
RAYN	**Ar Rayn**	**98.98**	**329**	P		**P**		**21 52 35.2**	**-0.2**
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.8s								
QSPA	**South Pole Qui**	**142.01**	**180**	PKhKP		PKPpre		21 58 20.1	
	comp=Z,0.9nm,0.6s,baz=75,slow=2.0,SNR=10								
GRTLG	**Ghanzi**	**148.30**	**343**	*i* P		**PKiKP**		**21 58 42.0**	**-0.6**
LPHEP	**Lephephe**	**149.19**	**334**	*i* P		**PKiKP**		**21 58 44.0**	**-0.4**
KDWAN	**Kaudwane**	**149.52**	**336**	*i* P		**PKiKP**		**21 58 45.0**	**0.0**
KGCAE	**Kacgae**	**149.56**	**341**	*i* P		**PKiKP**		**21 58 45.2**	**0.0**
KOOLE	**Kule**	**150.07**	**344**	*i* P		**PKiKP**		**21 58 46.6**	**+0.4**
SKOMA	**Sekoma**	**150.78**	**337**	*i* P		**PKiKP**		**21 58 48.0**	**+0.4**
MAW	**Mawson**	**151.20**	**218**	PKPbc		**PKPbc**		**21 58 46.5**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=9.0,slow=0.7,SNR=9.5								
BOSA	**Bosnof**	**154.33**	**332**	PKPbc		**PKiKP**		**21 58 55.7**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=22,slow=3.7,SNR=5.7								
SNAA	**Sanae**	**159.46**	**167**	PKPab		**PKPab**		**21 59 29.2**	**-0.6**
	comp=Z,1.5nm,1.1s,baz=188,slow=6.5,SNR=3.0								

JMA ***10*** *21:39:23.4₀0.3,23.7N₀0.6×12.2E₀°, h0km, TAIWAN REGION*
IDC ***10*** *21:39:23.0₀0.9,23.56N×121.65E, h0km, mb3.6/9, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=24.3km s-min=18.2km az=64.0*
TAP ***10*** *21:39:24.6,23.72N×121.53E, h5km, ML4.2, B*
ISC 10 21:39:24.2₀0.9, 23.69N₀0.01×121.62E₀0.02, h4km±6km, n178, ₀0.82/284, mb3.6/9, 6C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.08**	**287**	⇑*i*P		**Pg**	**21 39 26.1**	**+0.2**
TEGC				*i* S		**Sg**	**21 39 27.1**	**0.0**
SHUL	**Shoufeng**	**0.12**	**331**	⇑*i*P		**Pg**	**21 39 27.1**	**+0.4**
SHUL				*i* S		**Sg**	**21 39 28.9**	**+0.7**
EGFH	**Guangfu**	**0.18**	**265**	*i* P		**Pg**	**21 39 27.3**	**-0.5**
EGFH				*i* S		**Sg**	**21 39 29.1**	**-1.1**
TEYL	**Yanliau Villag**	**0.18**	**353**	*e*P		**Pg**	**21 39 29.5**	**+1.7**
TEYL				S		**Sg**	**21 39 32.2**	**+1.9**
ESL	**Shilin**	**0.22**	**306**	⇓*i*P		**Pg**	**21 39 27.6**	**-0.9**
ESL				*i* S		**Sg**	**21 39 29.4**	**-1.9**
WARBT	**Fenglin Townsh**	**0.22**	**279**	⇓*i*P		**Pg**	**21 39 27.6**	**-0.9**
WARBT				*i* S		**Sg**	**21 39 29.6**	**-1.8**
HGSD	**Ruisui**	**0.27**	**224**	⇓*i*P		**Pb**	**21 39 30.9**	**-0.6**
HGSD				*i* S		**Sb**	**21 39 35.6**	**-0.8**
HWA	**Hwalien**	**0.29**	**357**	⇓P		**Pb**	**21 39 30.8**	**-1.2**
HWA				eS		**Sg**	**21 39 35.1**	**+1.3**
ETM	**Tongmen**	**0.30**	**337**	⇓*i*P		**Pg**	**21 39 29.9**	**-0.3**
ETM				eS		**Sg**	**21 39 33.1**	**-1.1**
EHYH	**Wanrong**	**0.32**	**233**	*i* P		**Pg**	**21 39 30.6**	**+0.1**
EHYH				eS		**Sg**	**21 39 34.2**	**-0.3**
EHY	**Hungye**	**0.33**	**237**	⇑*i*P		**Pg**	**21 39 30.5**	**-0.1**
EHY				eS		**Sg**	**21 39 35.3**	**+0.4**
TWD	**Chiawan**	**0.39**	**356**	⇓*i*P		**Pg**	**21 39 32.2**	**+0.3**
TWD				*i* S		**Sb**	**21 39 38.4**	**-1.7**
ECBN	**Changbin**	**0.40**	**203**	*i* P		**Pb**	**21 39 34.1**	**+0.2**
ECBN				S		**Sb**	**21 39 41.8**	**+1.6**
YULB	**Yu-li**	**0.42**	**226**	P		**Pb**	**21 39 33.6**	**-0.6**
YULB	**Yu-li**	**0.42**	**226**	S		**Sb**	**21 39 41.2**	**+0.4**
YULB	**Yu-li**	**0.42**	**226**	⇑*i*P		**Pg**	**21 39 32.6**	**+0.3**
YULB				S		**Sb**	**21 39 39.8**	**-1.1**
EYUL	**Yuli**	**0.44**	**220**	*e*P		**Pb**	**21 39 34.0**	**-0.5**
EYUL				S		**Sb**	**21 39 42.1**	**+0.7**
TWF1	**Yuli**	**0.45**	**222**	⇑*i*P		**Pb**	**21 39 33.4**	**-1.3**
TWF1				*e*S		**Sb**	**21 39 41.1**	**-0.6**
VWDT	**VWDT**	**0.45**	**279**	*i* P		**Pg**	**21 39 32.4**	**-0.5**
VWDT				*i* S		**Sg**	**21 39 37.6**	**-1.1**
ETL	**Fush Village**	**0.47**	**360**	P		**Pg**	**21 39 33.6**	**+0.3**
ETL				*e*S		**Sb**	**21 39 41.0**	**-1.4**
NACB	**Ninganchiao**	**0.49**	**357**	P		**Pg**	**21 39 33.6**	**0.0**
NACB	**Ninganchiao**	**0.49**	**357**	S		**Sb**	**21 39 42.2**	**-0.7**
NACB	**Ninganchiao**	**0.49**	**357**	⇓*i*P		**Pg**	**21 39 33.6**	**0.0**
NACB				S		**Sg**	**21 39 41.1**	**+1.1**
OWD	**Renai**	**0.49**	**303**	⇓*i*P		**Pg**	**21 39 32.9**	**-0.8**
OWD				S		**Sg**	**21 39 38.3**	**-1.8**
CHKH	**Chenggong**	**0.53**	**203**	*e*P		**Pb**	**21 39 36.6**	**+0.5**
CHKH				*e*S		**Sn**	**21 39 46.0**	**-1.9**
ETLH	**Xiulin Townshi**	**0.54**	**346**	*e*P		**Pg**	**21 39 34.4**	**-0.2**
WUSB	**Renai**	**0.56**	**303**	⇓*i*P		**Pg**	**21 39 34.4**	**-0.5**
WUSB				S		**Sg**	**21 39 40.8**	**-1.4**
WHF	**Hehuan Shan**	**0.56**	**324**	⇓*i*P		**Pg**	**21 39 34.4**	**-0.7**
WHF				*e*S		**Sg**	**21 39 41.6**	**-0.9**
FULB	**Fuli**	**0.57**	**212**	*e*P		**Pb**	**21 39 37.3**	**+0.6**
FULB				*e*S		**Sb**	**21 39 46.2**	**+0.9**
SSLB	**Suanglung**	**0.62**	**280**	P		**Pg**	**21 39 35.6**	**-0.6**
SSLB	**Suanglung**	**0.62**	**280**	⇓*i*P		**Pg**	**21 39 35.5**	**-0.6**
SSLB				S		**Sg**	**21 39 43.1**	**-1.2**
CHKT	**Chengkung**	**0.63**	**202**	*e*P		**Pb**	**21 39 37.9**	**+0.1**
CHKT				*e*S		**Sb**	**21 39 47.9**	**+1.0**
EAHA	**Aohua**	**0.65**	**9**	P		**Pb**	**21 39 37.3**	**-0.9**
EAHA				*e*S		**Sb**	**21 39 47.0**	**-0.5**
EHD	**Haiduan**	**0.66**	**216**	*e*P		**Pb**	**21 39 37.2**	**-1.0**
EHD				*e*S		**Sb**	**21 39 47.4**	**-0.4**
FUSS	**Fushou**	**0.66**	**328**	⇓*i*P		**Pg**	**21 39 36.5**	**-0.4**
FUSS				S		**Sg**	**21 39 43.6**	**-1.0**
SMLT

WSL	**Shuilin Townsh**	**1.29**	**263**	*e*P		**Pg**	**21 39 48.8**	**-0.2**
WSL				*i* S		**Sn**	**21 40 07.5**	**+0.8**
TIPB	**Shuangxi**	**1.29**	**8**	*e*P		**Pn**	**21 39 49.5**	**+0.4**
CHN3	**Shinhua**	**1.31**	**243**	*e*P		**Pn**	**21 39 50.5**	**+1.3**
CHN3				*e*S		**Sn**	**21 40 09.7**	**+2.7**
SSD	**Sandimen**	**1.31**	**225**	*e*P		**Pn**	**21 39 49.5**	**+0.3**
SSD				*e*S		**Sn**	**21 40 07.4**	**+0.3**
SCST	**Cishan**	**1.31**	**233**	P		**Pn**	**21 39 50.5**	**+1.3**
TSMG	**Majia**	**1.33**	**223**	*e*P		**Pb**	**21 39 50.4**	**+0.7**
TSMG				*e*S		**Sg**	**21 40 06.5**	**-0.4**
NCUH	**Zhongli**	**1.34**	**343**	*e*P		**Pb**	**21 39 50.3**	**+0.4**
NCUH				S		**Sn**	**21 40 09.4**	**+1.4**
CHN8	**Yiju**	**1.34**	**256**	*e*P		**Pb**	**21 39 50.1**	**+0.2**
CHN8				*i* S		**Sn**	**21 40 08.4**	**+0.5**
SSHA	**Shanhua**	**1.34**	**246**	*e*P		**Pb**	**21 39 51.5**	**+1.6**
SSHA				*e*S		**Sn**	**21 40 11.2**	**+3.2**
SHHT	**Tainan City**	**1.35**	**241**	*e*P		**Pb**	**21 39 51.0**	**+1.0**
TAP	**Taipei**	**1.35**	**355**	*e*P		**Pb**	**21 39 50.5**	**+0.4**
TAP				*e*S		**Sn**	**21 40 08.2**	**0.0**
TWB1	**Santiao Chiao**	**1.36**	**14**	*e*P		**Pb**	**21 39 50.5**	**+0.3**
NWF	**Wu-fen Shan**	**1.39**	**6**	*e*P		**Pb**	**21 39 50.7**	**-0.1**
NWF				*e*S		**Sg**	**21 40 08.4**	**-0.5**
WFSB	**Wu-fen Shan**	**1.39**	**6**	*e*P		**Pb**	**21 39 50.7**	**0.0**
WFSB				*e*S		**Sb**	**21 40 09.0**	**+0.2**
TWM1	**Shoushan**	**1.40**	**232**	*i* P		**Pb**	**21 39 52.7**	**+1.8**
TWM1				*e*S		**Sn**	**21 40 12.2**	**+2.7**
MASBT	**Mashibuluo**	**1.41**	**221**	*e*P		**Pn**	**21 39 50.4**	**-0.2**
MASBT				*e*S		**Sn**	**21 40 10.8**	**+1.3**
SCLT	**Jiali**	**1.41**	**249**	*e*P		**Pb**	**21 39 50.9**	**-0.1**
SCLT				*e*S		**Sn**	**21 40 12.1**	**+2.5**
SGLT	**Jiouru**	**1.41**	**228**	*e*P		**Pb**	**21 39 52.4**	**+1.2**
SGLT				*e*S		**Sn**	**21 40 12.2**	**+2.5**
SXI1	**Grass Mountain**	**1.42**	**9**	*e*P		**Pb**	**21 39 51.3**	**0.0**
SXI1				*e*S		**Sn**	**21 40 11.4**	**+1.3**
TWS1	**Kuangyinshan**	**1.42**	**352**	*e*P		**Pb**	**21 39 51.2**	**-0.1**
TWS1				*e*S		**Sn**	**21 40 11.0**	**+1.1**
TAI1	**Yung-k'ang**	**1.44**	**244**	*e*P		**Pb**	**21 39 52.6**	**+1.1**
YM01	**YM01**	**1.46**	**358**	*e*P		**Pb**	**21 39 51.8**	**-0.1**
YM01				S		**Sn**	**21 40 12.0**	**+1.2**
TNOU	**National Taiwa**	**1.47**	**5**	*e*P		**Pb**	**21 39 51.7**	**-0.3**
TNOU				*e*S		**Sn**	**21 40 11.4**	**+0.3**
ZUZH	**Zhuzihu**	**1.47**	**357**	*e*P		**Pn**	**21 39 51.3**	**-0.3**
ZUZH				*e*S		**Sn**	**21 40 11.5**	**+0.3**
NTST	**Danshui**	**1.48**	**354**	*e*P		**Pb**	**21 39 52.0**	**-0.3**
NTST				S		**Sn**	**21 40 13.2**	**+1.8**
TAW	**Tawu**	**1.48**	**207**	*e*P		**Pg**	**21 39 52.3**	**-0.3**
TAW				*e*S		**Sg**	**21 40 11.1**	**-0.7**
YOJ	**Yonaguni jima**	**1.48**	**58**	P		**Pb**	**21 39 53.9**	**+1.5**
YOJ	**Yonaguni jima**	**1.48**	**58**	*e*P		**Pb**	**21 39 52.7**	**+0.3**
YOJ				*e*S		**Sn**	**21 40 13.7**	**+2.2**
YOJ	**Yonaguni jima**	**1.48**	**58**	*e*P		**Pb**	**21 39 52.6**	**+0.2**
YM08	**YM08**	**1.50**	**359**	*e*P		**Pg**	**21 39 53.0**	**0.0**
YM08				*e*S		**Sn**	**21 40 12.5**	**+0.6**
TAWH	**Dawu Township**	**1.50**	**207**	*e*P		**Pg**	**21 39 52.4**	**-0.6**
TAWH				*e*S		**Sn**	**21 40 12.1**	**+0.3**
TSCK	**Chigu Township**	**1.51**	**250**	*e*P		**Pb**	**21 39 52.7**	**-0.1**
TSCK				*e*S		**Sg**	**21 40 12.9**	**+0.1**
SCZT	**Fangliau**	**1.60**	**215**	P		**Pg**	**21 39 54.7**	**-0.2**
LAY	**Lan-yu**	**1.64**	**182**	*e*P		**Pn**	**21 39 53.7**	**-0.1**
SLIU	**Shizi**	**1.65**	**208**	*e*P		**Pg**	**21 39 55.6**	**-0.2**
SLIU				*e*S		**Sg**	**21 40 17.6**	**+0.4**
WDGT	**Dungji**	**1.85**	**257**	*e*P		**Pn**	**21 39 56.2**	**-0.5**
HEN	**Hengchun**	**1.86**	**206**	*e*P		**Pg**	**21 39 59.2**	**-0.7**
PHUB	**P'eng-hu**	**1.89**	**265**	*e*P		**Pn**	**21 39 56.0**	**-1.3**
TWK1	**Hengchun**	**1.89**	**204**	*e*P		**Pb**	**21 39 58.5**	**-0.7**
PNG	**Penghu**	**1.90**	**267**	*e*P		**Pn**	**21 39 57.1**	**-0.3**
IRIF	**Iriomote-Funau**	**2.03**	**71**	*e*P		**Pb**	**21 40 00.7**	**-1.0**
VCHM	**Qimei**	**2.07**	**257**	*e*P		**Pn**	**21 39 58.7**	**-1.0**
VWUC	**VWUC**	**2.37**	**304**	*e*P		**Pn**	**21 40 02.9**	**-1.0**
JIJ	**Ishigaki jima**	**2.40**	**73**	*e*P		**Pn**	**21 40 04.9**	**+0.7**
JISG	**Ishigakijimahi**	**2.61**	**69**	*e*P		**Pn**	**21 40 07.7**	**+0.5**
JISG				*e*S		**Sn**	**21 40 39.0**	**-0.4**
PTMZ	**Houxiangcun**	**2.65**	**301**	*e*P		**Pn**	**21 40 06.9**	**-0.8**
MATB	**Ma-tsu**	**2.89**	**329**	*e*P		**Pn**	**21 40 10.8**	**-0.2**
KNM	**Kinmen**	**3.01**	**285**	*e*P		**Pn**	**21 40 14.1**	**+1.5**
MHZQ	**Yeshan**	**3.37**	**316**	*e*P		**Pn**	**21 40 17.5**	**-0.1**
XPSS	**Dashiqiu**	**3.48**	**338**	*e*P		**Pn**	**21 40 18.8**	**-0.4**
AXDP	**Jialang**	**3.55**	**291**	*e*P		**Pn**	**21 40 19.4**	**-0.6**
ZPLA	**Ao Xicun**	**3.56**	**275**	*e*P		**Pn**	**21 40 19.1**	**-1.1**
DSXP	**Dongshan**	**3.85**	**271**	*e*P		**Pn**	**21 40 23.1**	**-1.1**
SXFK	**Yanhouchang**	**4.51**	**308**	*e*P		**Pn**	**21 40 32.7**	**-0.6**
JOW	**Kunigami**	**6.79**	**61**	Pn		**Pn**	**21 41 04.3**	**-0.3**
	2.4nm,0.3s,baz=245,slow=19,SNR=1.3							
JOW				Sn		**Sn**	**21 42 22.3**	**-0.1**
	baz=309,slow=20							
	9.7nm,0.4s							
KSRS	**Korea Array**	**14.75**	**20**	Pn		**Pn**	**21 42 53.9**	**+0.3**
	0.7nm,0.8s,baz=209,slow=22,SNR=1.2							
CMAR	**Chiang Mai Arr**	**21.78**	**260**	P		**P**	**21 44 17.7**	**+0.5**
	1.4nm,1.0s,baz=70,slow=11,SNR=5.0							
	1.4nm,1.0s							
SONM	**Songino Array**	**26.98**	**337**	P		**P**	**21 45 07.7**	**+0.6**
	1.0nm,0.8s,baz=153,slow=9.7,SNR=4.9							
	1.0nm,0.8s							
MKAR	**Makanchi Array**	**38.98**	**316**	P		**P**	**21 46 50.5**	**-1.0**
	0.7nm,0.7s,baz=110,slow=7.7,SNR=9.0							
	0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**40.88**	**327**	P		**P**	**21 47 07.9**	**+0.7**
	1.0nm,0.6s,baz=111,slow=7.9,SNR=6.5							
	1.0nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**42.12**	**86**	T		T	22 32 14.7	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**42.12**	**86**	T		T	22 32 14.9	
	baz=283							
H11N3	**WAKE ISLAND Hy**	**42.13**	**86**	T		T	22 32 16.0	
	baz=283							
H11S3	**WAKE ISLAND Hy**	**42.23**	**88**	T		T	22 32 22.5	
	baz=284							
H11S1	**WAKE ISLAND Hy**	**42.24**	**88**	T		T	22 32 23.1	
	baz=284							
H11S2	**WAKE ISLAND Hy**	**42.25**	**88**	T		T	22 32 23.9	
	baz=284							
KURBB	**Kurchatov Arra**	**42.75**	**320**	P		**P**	**21 47 22.4**	**-0.1**
	0.8nm,0.7s,baz=109,slow=9.9,SNR=6.4							
	0.8nm,0.7s							
WRA	**Warramunga Arr**	**45.10**	**163**	P		**P**	**21 47 40.0**	**-1.7**
	0.6nm,0.5s,baz=344,slow=8.3,SNR=8.4							
	0.6nm,0.5s							
BVAR	**Borovoye Array**	**48.31**	**321**	P		**P**	**21 48 07.1**	**+0.5**
	0.8nm,0.7s,baz=92,slow=8.7,SNR=4.4							
	0.8nm,0.7s							
ASAR	**Alice Springs**	**48.56**	**165**	P		**P**	**21 48 06.7**	**-2.1**
	0.7nm,0.9s,baz=342,slow=8.2,SNR=5.6							
	0.7nm,0.9s							
ILAR	**Eielson Array**	**69.47**	**27**	P		**P**	**21 50 34.8**	**+1.4**
	0.3nm,0.7s,baz=309,slow=6.7,SNR=1.3							
	0.3nm,0.7s							

*IDC **10** 21:39:41.3±0.9,23°.62N×121°.68E,h0km,mb3.9/10,*
mbtmp3.9/12,ML3.8/2,Error ellipse: s-maj=23.3km
s-min=17.7km az=64.0
*TAP **10** 21:39:43.1,23°.72N×121°.52E,h5km,ML4.4,B*
*JMA **10** 21:39:44.9±0.2,23°.7N±0°.8×12°.1E±°,h18km±2km,*
MV3.7/11,TAIWAN REGION
ISC 10 21:39:43.5±0.7,23.72N±0°.01×121°.54E±0°.02,h9km±4km,
n104,σ0282/174,mb3.9/10,2C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.01**	**159**	⇑*i*P	**Pg**	**21 39 44.7**	**-0.4**
TEGC				*i* S	**Sg**	**21 39 45.7**	**-0.5**
SHUL	**Shoufeng**	**0.07**	**20**	⇑*i*P	**Sg**	**21 39 45.6**	**0.0**
SHUL				*i* S	**Sg**	**21 39 47.5**	**+0.3**
EGFH	**Guangfu**	**0.11**	**243**	*i* P	**Pg**	**21 39 45.9**	**-0.3**
EGFH				*i* S	**Sg**	**21 39 47.7**	**-0.4**
ESL	**Shilin**	**0.13**	**315**	⇓*i*P	**Pg**	**21 39 46.1**	**-0.4**
ESL				*i* S	**Sg**	**21 39 48.0**	**-0.7**
WARBT	**Fenglin Townsh**	**0.14**	**269**	⇓*i*P	**Pg**	**21 39 46.2**	**-0.4**
WARBT				*i* S	**Sg**	**21 39 48.2**	**-0.6**
TEYL	**Yanliau Villag**	**0.16**	**21**	*e*P	**Pg**	**21 39 48.1**	**+1.2**
TEYL				S	**Sg**	**21 39 52.4**	**+3.1**
ETM	**Tongmen**	**0.25**	**351**	*i* P	**Pg**	**21 39 48.4**	**-0.1**
ETM				*e*S	**Sg**	**21 39 52.1**	**+0.1**
HGSD	**Ruisui**	**0.25**	**204**	*e*P	**Pg**	**21 39 49.5**	**+0.9**
HGSD				*i* S	**Sg**	**21 39 54.2**	**+2.3**
HWA	**Hwalien**	**0.26**	**14**	*e*P	**Pg**	**21 39 49.2**	**+0.4**
HWA				*e*S	**Sb**	**21 39 53.6**	**-1.4**
EHYH	**Wanrong**	**0.28**	**218**	*e*P	**Pb**	**21 39 49.8**	**-0.9**
EHYH				*e*S	**Sg**	**21 39 52.8**	**-0.2**
EHY	**Hungye**	**0.29**	**223**	*e*P	**Pb**	**21 39 50.0**	**-0.9**
EHY				*e*S	**Sb**	**21 39 54.2**	**-1.6**
TWD	**Chiawan**	**0.36**	**9**	*i* P	**Pg**	**21 39 50.7**	**0.0**
TWD				*i* S	**Sb**	**21 39 57.0**	**-0.9**
VWDT	**VWDT**	**0.36**	**276**	*e*P	**Pb**	**21 39 52.0**	**-0.1**
VWDT				*i* S	**Sg**	**21 39 56.2**	**+0.7**
YULB	**Yu-li**	**0.39**	**214**	*e*P	**Pg**	**21 39 51.4**	**+0.1**
YULB				S	**Sb**	**21 39 58.4**	**-0.4**
OWD	**Renai**	**0.40**	**305**	*i* P	**Pg**	**21 39 51.5**	**0.0**
OWD				S	**Sg**	**21 39 56.9**	**0.0**
ECBN	**Changbin**	**0.41**	**191**	*i* P	**Pb**	**21 39 52.6**	**-0.2**
ECBN				S	**Sb**	**21 40 00.4**	**+1.2**
EYUL	**Yuli**	**0.42**	**208**	*e*P	**Pb**	**21 39 52.6**	**-0.5**
EYUL				S	**Sb**	**21 40 00.7**	**+1.1**
TWF1	**Yuli**	**0.43**	**211**	*i* P	**Pg**	**21 39 51.9**	**+0.1**
TWF1				*e*S	**Sb**	**21 39 59.6**	**-0.1**
ETL	**Fush Village**	**0.45**	**10**	P	**Pg**	**21 39 52.2**	**0.0**
ETL				*e*S	**Sb**	**21 39 59.6**	**-0.7**
NACB	**Ninganchiao**	**0.46**	**7**	*i* P	**Pg**	**21 39 52.1**	**-0.3**
NACB				S	**Sb**	**21 39 59.7**	**-0.9**
WUSB	**Renai**	**0.47**	**305**	*i* P	**Pb**	**21 39 53.0**	**-1.0**
WUSB				S	**Sg**	**21 39 59.4**	**+0.5**
ETLH	**Xiulin Townshi**	**0.49**	**354**	*e*P	**Pg**	**21 39 53.0**	**-0.1**
ETLH				*e*S	**Sg**	**21 39 59.5**	**0.0**
WHF	**Hehuan Shan**	**0.49**	**330**	*i* P	**Pg**	**21 39 53.0**	**-0.2**
WHF				*e*S	**Sg**	**21 40 00.2**	**+0.5**
SSLB	**Suanglung**	**0.54**	**277**	P	**Pg**	**21 39 53.2**	**-0.7**
SSLB				*e*S	**Sg**	**21 40 01.3**	**+0.3**
CHKH	**Chenggong**	**0.54**	**194**	*e*P	**Pb**	**21 39 55.2**	**+0.1**
CHKH				*e*S	**Sb**	**21 40 04.6**	**+1.6**
FUSS	**Fushou**	**0.59**	**333**	*e*P	**Pb**	**21 39 56.1**	**-0.1**
FUSS				*e*S	**Sg**	**21 40 03.2**	**+0.4**
SMLT	**Sun Moon Lake**	**0.60**	**286**	*e*P	**Pb**	**21 39 55.9**	**-0.4**
SMLT				S	**Sb**	**21 40 04.6**	**-0.4**
TWT	**Tachien**	**0.62**	**328**	*i* P	**Pb**	**21 39 55.9**	**-0.8**
TWT				S	**Sb**	**21 40 04.5**	**-1.2**
WHYT	**Xinyi Township**	**0.63**	**268**	*e*P	**Pb**	**21 39 56.2**	**-0.4**
WHYT				*e*S	**Sb**	**21 40 05.0**	**-0.6**
TDCB	**Techi**	**0.63**	**327**	*e*P	**Pg**	**21 39 55.6**	**-0.2**
TDCB				S	**Sg**	**21 40 04.1**	**-0.1**
EAHA	**Aohua**	**0.64**	**17**	*e*P	**Pg**	**21 39 55.4**	**-0.4**
EAHA				*e*S	**Sb**	**21 40 05.6**	**-0.2**
CHKT	**Chengkung**	**0.64**	**194**	*e*P	**Pb**	**21 39 56.4**	**-0.3**
CHKT				*e*S	**Sb**	**21 40 06.4**	**+0.7**
EHD	**Haiduan**	**0.64**	**208**	*e*P	**Pg**	**21 39 55.8**	**-0.1**
EHD				*e*S	**Sb**	**21 40 05.9**	**0.0**
WCS	**Beigang Elemen**	**0.66**	**301**	P	**Pb**	**21 39 56.8**	**-0.4**
WCS				*e*S	**Sb**	**21 40 05.9**	**-0.6**
ECS	**Chishang**	**0.69**	**205**	*e*P	**Pb**	**21 39 57.3**	**-0.4**
ECS				*e*S	**Sn**	**21 40 09.6**	**-0.6**
ALS	**Alishan**	**0.70**	**253**	*e*P	**Pb**	**21 39 58.4**	**+0.4**
ALS				*e*S	**Sb**	**21 40 07.8**	**-0.1**
ELDTW	**Lidau**	**0.71**	**222**	*e*P	**Pg**	**21 39 56.9**	**-0.3**
ELDTW				*e*S	**Sb**	**21 40 08.4**	**+0.4**
NNSB	**Datong**	**0.72**	**349**	*i* P	**Pg**	**21 39 57.4**	**0.0**
NNSB				*e*S	**Sb**	**21 40 07.8**	**-0.5**
ENA	**Nanau**	**0.73**	**15**	P	**Pg**	**21 39 57.5**	**-0.1**
ENA				*e*S	**Sb**	**21 40 09.5**	**+1.0**
WJS	**Zhushan**	**0.75**	**278**	*e*P	**Pn**	**21 39 59.9**	**-0.3**
WJS				*e*S	**Sb**	**21 40 10.3**	**+1.4**
EWUT	**Wuta**	**0.76**	**17**	*i* P	**Pg**	**21 39 58.0**	**-0.1**
EWUT				*e*S	**Sb**	**21 40 09.5**	**+0.2**
EDH	**Donghe**	**0.77**	**196**	*e*P	**Pg**	**21 39 58.5**	**+0.1**
EDH				*e*S	**Sb**	**21 40 10.9**	**+1.2**
WHP	**Taichung City**	**0.78**	**316**	*e*P	**Pb**	**21 39 58.8**	**-0.4**
WHP				*e*S	**Sb**	**21 40 09.3**	**-0.6**
WNT	**Mingjian**	**0.80**	**282**	*e*P	**Pn**	**21 40 00.6**	**-0.3**
WNT				*e*S	**Sn**	**21 40 11.9**	**-1.0**
LATG	**Datong**	**0.81**	**359**	*e*P	**Pg**	**21 39 59.8**	**-0.2**
LATG				*e*S	**Sb**	**21 40 11.1**	**+0.1**
EOS4	**EOS4**	**0.82**	**61**	*e*P	**Pb**	**21 40 00.1**	**+0.4**
EOS4				S	**Sb**	**21 40 12.0**	**+1.3**
STYH	**Taoyuan**	**0.89**	**232**	*e*P	**Pb**	**21 40 00.8**	**-0.2**
STYH				*e*S	**Sb**	**21 40 14.0**	**+1.0**
LONT	**Longtian**	**0.89**	**205**	*e*P	**Pb**	**21 40 01.0**	**-0.1**
LONT				*e*S	**Sb**	**21 40 12.7**	**-0.4**
WGK	**Gukeng**	**0.89**	**268**	*e*P	**Pn**	**21 40 02.5**	**+0.3**
WGK				S	**Sn**	**21 40 16.1**	**+0.9**
TCU	**Taichung**	**0.90**	**299**	*e*P	**Pn**	**21 40 02.4**	**+0.2**
TCU				*e*S	**Sn**	**21 40 14.4**	**-0.9**
ESAO	**Su ao**	**0.90**	**18**	*e*P	**Pb**	**21 40 01.8**	**+0.5**
ESAO				*e*S	**Sb**	**21 40 13.1**	**-0.2**
WCKO	**Fanlu**	**0.90**	**252**	*i* P	**Pn**	**21 40 02.2**	**-0.1**
WCKO				*e*S	**Sn**	**21 40 14.7**	**-0.8**
EOS3	**EOS3**	**0.91**	**52**	*e*P	**Pb**	**21 40 01.3**	**0.0**
WDL	**Douliou City**	**0.91**	**270**	*e*P	**Pn**	**21 40 02.8**	**+0.4**
WDL				*e*S	**Sn**	**21 40 14.8**	**+1.0**
WDLH	**Douliu**	**0.92**	**268**	*i* P	**Pn**	**21 40 02.7**	**+0.2**
WDLH				*e*S	**Sn**	**21 40 16.4**	**+0.6**
ENTT	**Nioudou**	**0.92**	**2**	P	**Pg**	**21 40 01.1**	**-0.1**
ENTT				*e*S	**Sb**	**21 40 14.7**	**+0.8**
TPUB	**Ta-pu**	**0.93**	**244**	P	**Pn**	**21 40 02.7**	**0.0**
TPUB				*e*S	**Sn**	**21 40 15.7**	**-0.5**
TWC	**Suao**	**0.93**	**18**	*e*P	**Pb**	**21 40 01.5**	**-0.3**
TWC				*e*S	**Sg**	**21 40 13.6**	**0.0**
TWQ1	**Liyutan**	**0.94**	**312**	*e*P	**Pn**	**21 40 03.5**	**+0.6**
TWQ1				*e*S	**Sn**	**21 40 15.8**	**-0.5**
CHN4	**Tsaushan**	**0.94**	**247**	*e*P	**Pn**	**21 40 02.8**	**-0.1**
CHN4				*e*S	**Sn**	**21 40 16.9**	**+0.4**
EOS2	**EOS2**	**0.94**	**42**	*e*P	**Pb**	**21 40 02.0**	**0.0**
YHNB	**Yeheng**	**0.96**	**351**	*i* P	**Pb**	**21 40 02.1**	**-0.2**
YHNB				*i* S	**Sb**	**21 40 15.0**	**-0.2**
WTP	**Ta-pu**	**0.97**	**241**	*e*P	**Pn**	**21 40 03.0**	**-0.3**
WTP				*i* S	**Sn**	**21 40 17.3**	**+0.1**
WCH1	**Changhua City**	**0.97**	**291**	*e*P	**Pn**	**21 40 03.6**	**+0.3**
WCH1				*i* S	**Sn**	**21 40 18.6**	**+1.4**
NFF	**Wufeng Townshi**	**0.99**	**337**	*e*P	**Pb**	**21 40 02.8**	**0.0**
NFF				*e*S	**Sn**	**21 40 17.1**	**-0.6**
TWGBT	**Beinan**	**0.99**	**205**	*e*P	**Pg**	**21 40 00.9**	**-1.6**
NSY	**Sanyi**	**0.99**	**315**	*e*P	**Pn**	**21 40 04.8**	**+1.2**
TWG	**Pinlang**	**0.99**	**206**	*e*P	**Pg**	**21 40 00.8**	**-1.7**
TWE	**Neicheng**	**1.00**	**7**	*e*P	**Pb**	**21 40 02.9**	**-0.2**
TWE				*e*S	**Sn**	**21 40 18.6**	**+0.6**
TTN	**Taitung**	**1.02**	**200**	*e*P	**Pn**	**21 40 03.9**	**-0.1**
TTN				*e*S	**Sn**	**21 40 19.6**	**+1.1**
NSTT	**Nanjuang**	**1.03**	**332**	*e*P	**Pn**	**21 40 04.0**	**-0.1**
NSTT				S	**Sb**	**21 40 17.6**	**+0.5**
WDJ	**Dajia District**	**1.03**	**308**	*e*P	**Pn**	**21 40 05.2**	**+1.1**
WDJ				*e*S	**Sn**	**21 40 19.5**	**+0.9**
FUSB	**Fushanzhiwuyua**	**1.04**	**3**	*e*P	**Pb**	**21 40 03.5**	**-0.1**
FUSB				*e*S	**Sb**	**21 40 18.5**	**+1.1**
CHY	**Chiayi**	**1.04**	**258**	*i* P	**Pn**	**21 40 06.0**	**+0.8**
CHY				*i* S	**Sn**	**21 40 20.6**	**+1.7**
WTK	**Tuku**	**1.05**	**269**	*e*P	**Pn**	**21 40 04.9**	**+0.5**
WTK				*e*S	**Sn**	**21 40 20.5**	**+1.3**
NMLH	**Miaoli**	**1.06**	**320**	*e*P	**Pn**	**21 40 05.8**	**+1.3**
NMLH				*e*S	**Sn**	**21 40 19.2**	**-0.3**
TWK	**Hsinying**	**1.06**	**245**	P	**Pn**	**21 40 04.8**	**+0.2**
SNST	**Tainan City**	**1.07**	**243**	*e*P	**Pn**	**21 40 05.2**	**+0.5**
SNST				S	**Sn**	**21 40 21.0**	**+1.3**
KSHI	**Guanxi Townshi**	**1.10**	**343**	*e*P	**Pn**	**21 40 05.8**	**+0.7**
KSHI				*e*S	**Sn**	**21 40 20.9**	**+0.4**
JYNG	**Yonagunijimaku**	**1.48**	**60**	*e*S	**Sn**	**21 40 29.8**	**+0.1**
YOJ	**Yonaguni jima**	**1.54**	**61**	*e*S	**Sn**	**21 40 31.6**	**+0.4**
IRIF	**Iriomote-Funau**	**2.10**	**73**	*e*S	**Sn**	**21 40 44.0**	**-1.0**
JKRS	**Kuro-shima**	**2.32**	**77**	*e*S	**Sn**	**21 40 49.8**	**-0.7**
JIJ	**Ishigaki jima**	**2.47**	**74**	*e*P	**Pn**	**21 40 24.1**	**+0.2**
JIJ				*e*S	**Sn**	**21 40 53.0**	**-1.1**
JISG	**Ishigakijimahi**	**2.68**	**71**	*e*P	**Pn**	**21 40 27.3**	**+0.5**
JISG				*e*S	**Sn**	**21 40 57.8**	**-1.5**
JMJ2	**Miyako jima3**	**3.61**	**73**	*e*S	**Sn**	**21 41 22.0**	**-0.3**
JOW	**Kunigami**	**6.84**	**62**	Pn	**Pn**	**21 41 21.1**	**-3.0**
	3.8nm,0.3s,baz=260,slow=17,SNR=5.8						
JOW				Sn	**Sn**	**21 42 40.7**	**-1.3**
	1.8nm,0.3s,baz=82,slow=23,SNR=1.2						
	13nm,0.4s						
KSRS	**Korea Array**	**14.75**	**20**	Pn	**Pn**	**21 43 13.0**	**+0.8**
	0.4nm,0.3s,baz=199,slow=11,SNR=11						
	1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.71**	**260**	P	**P**	**21 44 36.4**	**+1.3**
	2.4nm,0.8s,baz=75,slow=10,SNR=9.6						
	2.4nm,0.8s						
SONM	**Songino Array**	**26.92**	**337**	P	**P**	**21 45 26.7**	**+1.6**
	1.1nm,0.7s,baz=153,slow=9.9,SNR=5.0						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**38.89**	**316**	P	**P**	**21 47 10.3**	**+0.9**
	2.6nm,0.7s,baz=108,slow=10,SNR=6.6						
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**40.81**	**327**	P	**P**	**21 47 23.9**	**-1.2**
	2.2nm,0.8s,baz=122,slow=8.1,SNR=7.0						
	2.2nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**42.19**	**86**	T	T	22 32 33.1	
	baz=283,slow=75,SNR=129						
H11N2	**WAKE ISLAND Hy**	**42.19**	**86**	T	T	22 32 33.2	
	baz=283,slow=75,SNR=149						
H11N3	**WAKE ISLAND Hy**	**42.21**	**86**	T	T	22 32 34.4	
	baz=283,slow=75,SNR=83						
H11S3	**WAKE ISLAND Hy**	**42.31**	**88**	T	T	22 32 41.2	
	baz=284,slow=75						
H11S1	**WAKE ISLAND Hy**	**42.32**	**88**	T	T	22 32 41.5	
	baz=284,slow=75,SNR=157						
H11S2	**WAKE ISLAND Hy**	**42.33**	**88**	T	T	22 32 40.8	
	baz=284,slow=75,SNR=174						
KURBB	**Kurchatov Arra**	**42.67**	**320**	P	**P**	**21 47 40.9**	**+0.5**
	1.5nm,0.8s,baz=111,slow=8.8,SNR=7.8						
	1.5nm,0.8s						
WRA	**Warramunga Arr**	**45.16**	**163**	P	**P**	**21 47 58.7**	**-1.9**
	0.7nm,0.5s,baz=343,slow=8.0,SNR=7.2						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**48.24**	**321**	P	**P**	**21 48 24.7**	**+0.2**
	1.1nm,0.7s,baz=94,slow=9.1,SNR=4.7						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**48.61**	**165**	P	**P**	**21 48 25.6**	**-2.1**
	1.1nm,0.9s,baz=348,slow=8.3,SNR=7.9						
	1.1nm,0.9s						
ARTI	**Arti**	**55.76**	**323**	P	**P**	**21 49 20.1**	**-0.4**
	1.9nm,0.7s,baz=90,slow=6.1,SNR=3.8						
	1.9nm,0.7s						
ILAR	**Eielson Array**	**69.48**	**27**	P	**P**	**21 50 52.5**	**+0.5**
	0.3nm,0.5s,baz=308,slow=8.8,SNR=4.3						
	0.3nm,0.5s						

*JMA **10** 21:43:18.9±0.4,23°.7N±0°.8×12°.2E±°,h0km±3km,MV3.3/9,*
TAIWAN REGION
*TAP **10** 21:43:19.9,23°.74N×121°.53E,h4km,ML3.7,B*
ISC 10 21:43:20.4±0.8,23.72N±0°.01×121°.57E±0°.02,h8km±4km,
n152,σ1907/301,2C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03**	**252**	⇑P	**Pg**	**21 43 21.4**	**-0.5**
TEGC				S	**Sg**	**21 43 22.7**	**-0.2**
SHUL	**Shoufeng**	**0.07**	**353**	*i* P	**Pg**	**21 43

STYT			eS	Sn	21 43 52.8	-0.6		
WYL	**Yuanlin Townsh**	**0.94**	**285**	P	Pn	21 43 39.3	-0.6	
WYL				eS	Sn	21 43 53.9	+0.3	
WDLH	**Douliu**	**0.95**	**268**	*i* P	Pb	21 43 39.4	+0.2	
WDLH				eS	Sn	21 43 53.8	0.0	
TPUB	**Ta-pu**	**0.96**	**244**	*i* P	Pb	21 43 39.5	+0.2	
TPUB				eS	Sn	21 43 53.4	-0.7	
TWQ1	**Liyutan**	**0.96**	**311**	eP	Pn	21 43 40.2	-0.1	
TWQ1				eS	Sb	21 43 52.6	+0.3	
YHNB	**Yeheng**	**0.96**	**349**	*i* P	Pb	21 43 38.8	-0.7	
YHNB				S	Sg	21 43 50.7	-0.8	
CHN4	**Tsaushan**	**0.97**	**248**	P	Pb	21 43 39.6	+0.1	
CHN4				eS	Sn	21 43 54.4	+0.1	
WCHH	**Zhanghua**	**0.99**	**291**	*i* P	Pn	21 43 40.3	-0.3	
WCHH				eS	Sn	21 43 55.1	+0.2	
WTP	**Ta-pu**	**1.00**	**242**	eP	Pb	21 43 39.7	-0.3	
WTP				S	Sb	21 43 54.0	+0.7	
NFF	**Wufeng Townshi**	**1.00**	**336**	P	Pg	21 43 39.1	-0.5	
NFF				S	Sg	21 43 51.5	-1.2	
TWE	**Neicheng**	**1.00**	**5**	⇓P	Pb	21 43 39.6	-0.4	
TWE				eS	Sb	21 43 53.3	0.0	
TWG	**Pinlang**	**1.00**	**207**	eP	Pb	21 43 40.1	0.0	
TWG				eS	Sn	21 43 56.0	+0.8	
TWGBT	**Beinan**	**1.00**	**207**	eP	Pb	21 43 39.5	-0.6	
TWGBT				eS	Sn	21 43 55.6	+0.4	
NSY	**Sanyi**	**1.02**	**313**	eP	Pn	21 43 41.3	+0.3	
NSY				S	Sb	21 43 54.4	+0.6	
CHN2	**Minshiung**	**1.02**	**260**	eP	Pn	21 43 41.2	+0.1	
CHN2				eS	Sn	21 43 55.8	+0.2	
FUSB	**Fushanzhiwuyua**	**1.04**	**1**	eP	Pb	21 43 40.2	-0.4	
FUSB				S	Sb	21 43 54.3	-0.2	
TTN	**Taitung**	**1.04**	**202**	eP	Pn	21 43 41.3	0.0	
TTN				eS	Sn	21 43 57.0	+1.0	
LDUT	**Ludao**	**1.04**	**185**	eP	Pn	21 43 41.2	-0.2	
LDUT				eS	Sn	21 43 56.7	+0.5	
NSTT	**Nanjuang**	**1.05**	**330**	eP	Pb	21 43 40.7	-0.2	
NSTT				S	Sg	21 43 53.5	-0.6	
LIOB	**Emei**	**1.05**	**331**	P	Pn	21 43 41.0	-0.5	
LIOB				eS	Sb	21 43 54.4	-0.5	
ILA	**Ilan**	**1.05**	**9**	eP	Pn	21 43 40.9	-0.6	
ILA				eS	Sn	21 43 56.4	0.0	
NWLT	**Wulai**	**1.06**	**357**	*i* P	Pb	21 43 40.5	-0.5	
NWLT				eS	Sn	21 43 56.0	-0.5	
WDJ	**Dajia District**	**1.06**	**307**	eP	Pn	21 43 42.0	+0.5	
WDJ				eS	Sn	21 43 57.5	+1.0	
CHY	**Chiayi**	**1.08**	**258**	eP	Pn	21 43 41.5	-0.2	
CHY				eS	Sn	21 43 57.4	+0.5	
NMLH	**Miaoli**	**1.08**	**319**	eP	Pn	21 43 42.4	+0.5	
NMLH				eS	Sn	21 43 58.3	+1.2	
WTK	**Tuku**	**1.08**	**269**	eP	Pb	21 43 41.5	0.0	
WTK				*i* S	Sn	21 43 56.9	-0.3	
TWK	**Hsinying**	**1.09**	**246**	eP	Pb	21 43 41.5	-0.1	
TWK				eS	Sn	21 43 57.3	-0.1	
CHN1	**Nanshi**	**1.10**	**241**	*i* P	Pn	21 43 41.8	-0.3	
CHN1				*i* S	Sn	21 43 58.1	+0.6	
NJD	**Zhudong**	**1.10**	**337**	eP	Pn	21 43 44.1	+1.9	
NJD				S	Sn	21 43 57.4	-0.3	
SNST	**Tainan City**	**1.10**	**244**	eP	Pn	21 43 42.0	-0.2	
SNST				eS	Sn	21 43 58.3	+0.6	
SGST	**Jiashian**	**1.11**	**235**	eP	Pb	21 43 41.6	-0.2	
SGST				eS	Sn	21 43 58.6	+0.8	
RLNB	**Erlin**	**1.12**	**279**	eP	Pb	21 43 41.6	-0.5	
RLNB				eS	Sn	21 43 58.8	+0.7	
NJN	**Zhunan**	**1.16**	**326**	eP	Pb	21 43 42.2	-0.4	
NJN				eS	Sn	21 43 59.1	+0.2	
EGS		**1.17**	**16**	eP	Pn	21 43 45.2	+2.2	
EGS				eS	Sn	21 44 01.9	+2.7	
HSN1	**Hsinchu**	**1.17**	**334**	eP	Pn	21 43 44.2	+1.1	
HSN1				eS	Sn	21 43 59.4	+0.1	
WTCT	**Ta-ch'eng**	**1.19**	**277**	P	Pb	21 43 42.9	-0.4	
WTCT				eS	Sn	21 44 00.7	+0.9	
SBCB	**Hsinchu**	**1.20**	**334**	eP	Pn	21 43 45.0	+1.6	
SBCB				eS	Sn	21 44 02.6	+2.7	
HSN	**Hsinchu**	**1.21**	**333**	eP	Pn	21 43 44.7	+1.1	
HSN				S	Sn	21 44 00.6	+0.4	
ICHU	**Yijhu**	**1.24**	**254**	eP	Pn	21 43 44.1	0.0	
ICHU				eS	Sn	21 44 02.6	+1.7	
NHDH	**Xindian Distri**	**1.24**	**358**	P	Pn	21 43 44.2	+0.1	
NHDH				S	Sb	21 44 00.6	+0.3	
WSF	**Szhu**	**1.24**	**267**	P	Pn	21 43 44.1	0.0	
WSF				eS	Sn	21 44 02.4	+1.4	
WSL	**Shuilin Townsh**	**1.25**	**261**	eP	Pn	21 43 44.2	0.0	
WSL				S	Sn	21 44 03.1	+1.9	
ECL	**Taimali**	**1.25**	**207**	eP	Pn	21 43 44.5	+0.2	
ECL				eS	Sn	21 44 02.9	+1.6	
TWA	**Mucha**	**1.26**	**0**	P	Pn	21 43 44.4	+0.1	
TWA				eS	Sb	21 44 00.9	+0.1	
TIPB	**Shuangxi**	**1.27**	**10**	eP	Pn	21 43 44.6	+0.1	
TIPB				S	Sn	21 44 01.7	-0.1	
CHN3	**Shinhua**	**1.28**	**240**	eP	Pn	21 43 45.8	+1.1	
CHN3				eS	Sn	21 44 06.4	+4.4	
SCST	**Cishan**	**1.29**	**230**	P	Pn	21 43 45.7	+0.9	
SCST				eS	Sn	21 44 07.1	+4.9	
NCUH	**Zhongli**	**1.29**	**344**	eP	Pn	21 43 46.0	+1.2	
NCUH				S	Sn	21 44 04.9	+2.6	
SSD	**Sandimen**	**1.30**	**222**	eP	Pn	21 43 44.9	0.0	
SSD				eS	Sn	21 44 04.2	+1.8	
NTY	**Taoyuan**	**1.30**	**349**	P	Pn	21 43 45.2	+0.3	
NTY				eS	Sn	21 44 03.5	+1.1	
CHN8	**Yiju**	**1.30**	**254**	P	Pb	21 43 44.9	-0.3	
CHN8				eS	Sn	21 44 04.7	+2.1	
SSHA	**Shanhua**	**1.31**	**244**	eP	Pb	21 43 47.0	+1.6	
SSHA				eS	Sn	21 44 03.5	+0.7	
TAP	**Taipei**	**1.32**	**357**	P	Pb	21 43 45.2	-0.2	
TAP				eS	Sn	21 44 05.5	+2.6	
TSMG	**Majia**	**1.32**	**220**	P	Pb	21 43 45.4	-0.1	
TSMG				eS	Sn	21 44 04.9	+1.9	
SHHT	**Tainan City**	**1.32**	**239**	eP	Pb	21 43 46.9	+1.4	
SHHT				eS	Sn	21 44 04.3	+1.3	
TWB1	**Santiao Chiao**	**1.34**	**16**	P	Pb	21 43 46.1	+0.3	
TWB1				S	Sn	21 44 05.0	+1.6	
NWF	**Wu-fen Shan**	**1.36**	**8**	eP	Pb	21 43 48.4	+2.2	
NWF				eS	Sn	21 44 06.8	+2.8	
WFSB	**Wu-fen Shan**	**1.36**	**8**	eS	Sn	21 44 05.9	+2.0	
SCLT	**Jiali**	**1.38**	**247**	P	Pn	21 43 45.6	-0.4	
SCLT				eS	Sn	21 44 07.4	+3.1	
TWM1	**Shoushan**	**1.38**	**230**	eP	Pb	21 43 49.0	+2.4	
TWM1				S	Sn	21 44 08.3	+3.8	
TWS1	**Kuangyinshan**	**1.38**	**354**	P	Pb	21 43 46.2	-0.4	
TWS1				eS	Sn	21 44 08.7	+4.2	
SXI1	**Grass Mountain**	**1.40**	**11**	eP	Pb	21 43 48.2	+1.4	
SXI1				S	Sn	21 44 07.3	+2.3	
MASBT	**Mashibuluo**	**1.40**	**218**	eP	Pb	21 43 46.5	-0.3	
MASBT				S	Sn	21 44 06.1	+1.2	
SGLT	**Jiouru**	**1.40**	**225**	eP	Pb	21 43 46.5	-0.4	
SGLT				eS	Sn	21 44 06.3	+1.3	
YM01	**YM01**	**1.42**	**360**	eP	Pb	21 43 48.8	+1.5	
YM01				eS	Sn	21 44 07.1	+1.6	
TNOU	**National Taiwa**	**1.44**	**7**	P	Pg	21 43 47.1	-0.9	
TNOU				eS	Sn	21 44 07.8	+2.0	
NTST	**Danshui**	**1.44**	**356**	P	Pb	21 43 47.0	-0.6	
NTST				eS	Sn	21 44 09.1	+3.1	
YM08	**YM08**	**1.46**	**1**	eP	Pg	21 43 48.8	+0.3	
YM08				eS	Sn	21 44 07.5	+1.0	
TSCK	**Chigu Township**	**1.48**	**248**	eP	Pg	21 43 48.2	-0.5	
TSCK				eS	Sg	21 44 09.5	+1.5	
TAW	**Tawu**	**1.49**	**205**	eP	Pg	21 43 49.4	+0.4	
TAW				eS	Sg	21 44 08.5	+0.1	
YOJ	**Yonaguni jima**	**1.51**	**60**	P	Pn	21 43 47.6	-0.2	
YOJ				eS	Sg	21 44 08.6	-0.3	
TAWH	**Dawu Township**	**1.51**	**205**	eP	Pg	21 43 48.5	-0.9	
TAWH				eS	Sg	21 44 09.7	+0.7	
SCZT	**Fangliau**	**1.60**	**213**	eP	Pg	21 43 50.3	-0.9	
SCZT				eS	Sg	21 44 12.5	+0.6	
SLIU	**Shizi**	**1.66**	**206**	P	Pb	21 43 50.4	-0.8	
SLIU				S	Sb	21 44 12.5	+0.2	
WDGT	**Dungji**	**1.81**	**256**	eP	Pn	21 43 51.5	-0.4	
WDGT				eS	Sb	21 44 16.6	-0.2	
SMST	**Manzhou Townsh**	**1.82**	**202**	eP	Pn	21 43 50.6	-1.5	
SMST				*i* S	Sb	21 44 16.8	-0.2	
PHUB	**P'eng-hu**	**1.85**	**264**	eP	Pb	21 43 53.2	-1.2	
PHUB				eS	Sb	21 44 17.9	+0.3	
PNG	**Penghu**	**1.86**	**266**	eP	Pb	21 43 53.8	-0.8	
PNG				eS	Sb	21 44 18.0	0.0	
TWKBT	**Hengchun**	**1.90**	**202**	eP	Pn	21 43 52.4	-0.8	
TWKBT				eS	Sb	21 44 19.4	+0.1	
VCHM	**Qimei**	**2.03**	**256**	P	Pn	21 43 55.5	+0.6	
VCHM				S	Sn	21 44 20.6	+0.1	
VWUC	**VWUC**	**2.31**	**304**	eP	Pn	21 43 58.1	-0.7	
VWUC				eS	Sn	21 44 26.2	-1.3	
JIJ	**Ishigaki jima**	**2.44**	**74**	eS	Sn	21 44 29.8	-0.7	
PTMZ	**Houxiangcun**	**2.59**	**301**	eP	Pn	21 44 03.2	+0.5	
PTMZ				eS	Sn	21 44 33.1	-1.3	
JISG	**Ishigakijimahi**	**2.65**	**70**	eP	Pn	21 44 02.7	-0.7	
JISG				eS	Sn	21 44 33.8	-1.9	
MATB	**Ma-tsu**	**2.84**	**329**	P	Pn	21 44 06.4	+0.4	
MATB				eS	Sn	21 44 41.7	+1.3	
MHZQ	**Yeshan**	**3.31**	**316**	P	Pn	21 44 13.1	+0.6	
MHZQ				S	Sn	21 44 51.6	-0.5	
XPSS	**Dashiqiu**	**3.43**	**339**	eP	Pn	21 44 13.5	-0.8	
XPSS				eS	Sn	21 44 54.4	-0.7	
AXDP	**Jialang**	**3.49**	**290**	eP	Pn	21 44 14.5	-0.6	
AXDP				eS	Sn	21 44 57.4	+0.8	
ZPLA	**Ao Xicun**	**3.51**	**274**	eP	Pn	21 44 14.8	-0.5	
ZPLA				eS	Sn	21 44 57.8	+0.8	
DSXP	**Dongshan**	**3.80**	**271**	eP	Pn	21 44 19.0	-0.2	
DSXP				eS	Sn	21 45 03.9	-0.3	
SXFK	**Yanhouchang**	**4.45**	**308**	eP	Pn	21 44 27.4	-0.9	

IDC 10 21:46:39.0±2.8, 3°.17S×126°.28E, h0km, mb3.1/2, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=381.6km s-min=29.7km az=64.0, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.43**	**155**	P	Pn	21 50 55.2	-0.9
	0.1nm,0.3s,baz=332,slow=12,SNR=2.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**21.67**	**161**	P	P	21 51 31.9	+0.5
	0.2nm,0.4s,baz=339,slow=10,SNR=4.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**63.02**	**328**	P	P	21 57 07.8	-0.1
	0.2nm,0.5s,baz=126,slow=7.2,SNR=1.6						
	0.2nm,0.5s						

*IDC **10** 21:58:50.4±0.9, 5°.69S×146°.74E, h104km±7km, mb3.9/13, mbtmp4.2/16, Error ellipse: s-maj=20.4km s-min=12.2km az=78.0*

*NEIC **10** 21:58:51.8±2.3, 5°.90S±0°.06×146°.67E±0°.09, h103km±6km, mb4.6/30, Error ellipse: s-maj=13.1km s-min=8.6km az=87.0*

ISC 10 21:58:50.9±0.4, 5°.91S±0°.04×146°.65E±0°.07, h100km, n87, σ1§16/92, mb4.5/28, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52**	**172**		**Pn**	**21 59 43.5**	**-0.1**
PMG				Sn	**Sn**	**22 00 23.5**	**-0.9**
PMG	**Port Moresby**	**3.52**	**172**	P	**Pn**	**21 59 43.9**	**+0.3**
	164nm,0.4s,baz=356,slow=15,SNR=115						
PMG				S	**Sn**	**22 00 24.2**	**-0.2**
	310nm,0.4s,baz=41,slow=20,SNR=9.9						
MANU	**Manus Island**	**3.90**	**11**		**Pn**	**21 59 50.0**	**+1.2**
RABL	**Rabaul**	**5.75**	**73**		**Pn**	**22 00 14.2**	**+0.2**
JAY	**Jayapura**	**6.81**	**299**	P	**Pn**	**22 00 28.1**	**-0.3**
	4.9nm,0.5s,baz=113,slow=8.1,SNR=10.0						
JAY				S	**Sn**	**22 01 43.8**	**-0.8**
	6.1nm,0.6s,baz=40,slow=14,SNR=1.3						
COEN	**Coen**	**8.70**	**203**		**Pn**	**22 00 54.7**	**+0.6**
CTAO	**Charters Tower**	**14.10**	**182**	P	**P**	**22 02 10.3**	**-0.5**
MTN	**Manton Dam**	**16.78**	**245**		**Pn**	**22 02 40.9**	**+0.9**
WRA	**Warramunga Arr**	**18.38**	**219**	P	**P**	**22 02 58.7**	**+0.6**
WRA	**Warramunga Arr**	**18.38**	**219**	P	**P**	**22 02 59.1**	**+1.0**
	4.3nm,0.5s,baz=38,slow=11,SNR=58						
WRA				S	**S**	**22 06 20.1**	**-3.0**
	6.2nm,1.1s,baz=39,slow=21,SNR=8.2						
WRA				PcP	**PcP**	**22 07 24.4**	**-1.0**
	1.4nm,0.5s,baz=42,slow=2.0,SNR=6.3						
EIDS	**Eidsvold**	**19.82**	**168**		**P**	**22 03 15.2**	**+1.5**
EIDS				IAmb	IAmb	22 03 16.1	
	comp=Z,24nm,0.6s						
AS31	**Alice Springs**	**21.50**	**213**	P	**P**	**22 03 32.8**	**+0.9**
ASAR	**Alice Springs**	**21.50**	**213**	P	**P**	**22 03 33.0**	**+1.1**
ASAR	**Alice Springs**	**21.50**	**213**	P	**P**	**22 03 33.4**	**+1.5**
	comp=Z,5.3nm,0.5s,baz=38,slow=11,SNR=84						
ASAR				S	**S**	**22 07 24.0**	**-0.8**
	comp=Z,6.0nm,0.9s,baz=31,slow=20,SNR=7.3						
	comp=Z,5.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.82**	**238**		**P**	**22 03 56.2**	**+1.3**
FITZ				IAmb	IAmb	22 03 57.3	
	comp=Z,6.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.82**	**238**	P	**P**	**22 03 56.0**	**+1.1**
	comp=Z,23nm,0.4s,baz=60,slow=7.7,SNR=127						
	comp=Z,23nm,0.4s						
ARMA	**Armidale**	**24.83**	**170**	P	**P**	**22 04 04.8**	**+0.7**
ARMA				IAmb	IAmb	22 04 06.8	
	comp=Z,14nm,0.6s						
DZM	**Mont Dzumac**	**24.99**	**132**		**P**	**22 04 04.2**	**-1.4**
DZM				IAmb	IAmb	22 04 06.2	
	comp=Z,30nm,1.3s						
STKA	**Stephens Creek**	**26.27**	**190**	P	**P**	**22 04 17.5**	**+0.6**
STKA				IAmb	IAmb	22 04 18.1	
	comp=Z,30nm,0.7s						
STKA	**Stephens Creek**	**26.27**	**190**	P	**P**	**22 04 17.9**	**+0.9**
	comp=Z,4.1nm,0.5s,baz=11,slow=10,SNR=11						
	comp=Z,4.1nm,0.5s						
BBOO	**Buckleboo**	**28.53**	**199**	P	**P**	**22 04 37.4**	**+0.2**
CAN	**Canberra**	**29.35**	**176**	P	**P**	**22 04 44.6**	**0.0**
MBWA	**Marble Bar**	**30.16**	**237**	P	**P**	**22 04 52.6**	**+0.8**
TAU	**Tasmania Unive**	**36.86**	**179**	P	**P**	**22 05 50.5**	**+1.0**
MORW	**Morawa**	**36.97**	**228**	P	**P**	**22 05 50.8**	**0.0**
MORW				IAmb	IAmb	22 06 04.2	
	comp=Z,23nm,1.4s						
NWAO	**Narrogin (SRO)**	**38.36**	**222**	P	**P**	**22 06 02.5**	**+0.1**
URZ	**Urewera**	**42.44**	**144**	P	**P**	**22 06 36.3**	**+0.4**
HAZ	**Te Kaha**	**42.51**	**143**	P	**P**	**22 06 38.5**	**+2.1**
RTZ	**Ruatahuna**	**42.60**	**144**	P	**P**	**22 06 37.6**	**+0.3**
BKZ	**Black Stump Fm**	**42.69**	**145**	P	**P**	**22 06 38.2**	**+0.1**
BKZ				IAmb	IAmb	22 07 01.3	
	comp=Z,26nm,1.4s						
BKZ	**Black Stump Fm**	**42.69**	**145**	P	**P**	**22 06 38.5**	**+0.5**
JCZ	**Jackson Bay**	**42.69**	**156**	P	**P**	**22 06 39.6**	**+1.6**
MWZ	**Matawai**	**42.73**	**143**	P	**P**	**22 06 39.1**	**+0.7**
MSZ	**Milford Sound**	**42.87**	**158**	P	**P**	**22 06 40.7**	**+1.4**
PUZ	**Puketiti**	**43.00**	**143**	P	**P**	**22 06 40.9**	**+0.4**
TSZ	**Takapari Road**	**43.01**	**147**	P	**P**	**22 06 41.5**	**+0.9**
MRZ	**Mangatainoka R**	**43.23**	**147**	P	**P**	**22 06 42.5**	**+0.2**
KNZ	**Kokohu**	**43.27**	**144**	P	**P**	**22 06 43.0**	**+0.3**
RPZ	**Rata Peaks**	**43.35**	**154**	P	**P**	**22 06 43.8**	**+0.6**
KHZ	**Kahutara**	**43.48**	**151**	P	**P**	**22 06 44.3**	**+0.1**
LBZ	**Lake Benmore**	**43.52**	**155**	P	**P**	**22 06 44.8**	**+0.2**
MLZ	**Mavora Lakes**	**43.52**	**158**	P	**P**	**22 06 45.4**	**+0.7**
BFZ	**Birch Farm**	**43.60**	**147**	P	**P**	**22 06 45.6**	**+0.3**
GVZ	**Greta Valley S**	**43.66**	**152**	P	**P**	**22 06 45.9**	**+0.2**
TMZ	**Timaru**	**43.86**	**155**	P	**P**	**22 06 47.5**	**+0.1**
EAZ	**Earnscleugh**	**43.87**	**157**	P	**P**	**22 06 47.5**	**+0.1**
NJ2	**Nanjing**	**46.11**	**327**	eP	P	22 07 10.6	+5.4
NJ2				pmax	pmax		
	comp=Z,42nm,0.6s						
KSRS	**Korea Array**	**46.54**	**339**	P	**P**	**22 07 06.3**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=148,slow=8.6,SNR=3.1						
	comp=Z,1.2nm,0.7s						
KULM	**Kulim**	**47.25**	**283**	P	**P**	**22 07 14.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**52.90**	**298**	P	**P**	**22 07 56.3**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=109,slow=6.7,SNR=4.6						
	comp=Z,0.7nm,0.3s						
TIY	**Taiyuan**	**53.83**	**326**	eP	P	22 08 09.7	+6.0
TIY				pmax	pmax		
	comp=Z,300nm,5.4s						
PZH	**PanZhiHua**	**54.12**	**309**	P	P	22 08 11.7	+5.6
CD2	**Chengdu**	**54.96**	**314**	P	**P**	**22 08 15.3**	**+3.3**
HHC	**Hu-ho-hao-te**	**56.57**	**329**	eP	P	22 08 28.8	+5.4
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.3s						
XLT	**XiLinHaoTe**	**56.73**	**334**	eP	**P**	**22 08 26.5**	**+2.1**
XLT				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**64.15**	**331**	P	**P**	**22 09 13.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=134,slow=6.2,SNR=1.9						
	comp=Z,0.3nm,0.5s						
CASY	**Casey**	**65.25**	**195**	P	**P**	**22 09 21.8**	**+0.2**
CASY				IAmb	IAmb	22 09 22.8	
	comp=Z,3.7nm,0.7s						
VNDA	**Vanda**	**72.03**	**177**	P	**P**	**22 10 04.1**	**+0.5**
VNDA	**Vanda**	**72.03**	**177**	P	**P**	**22 10 04.5**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=344,slow=7.7,SNR=24						
	comp=Z,2.6nm,0.6s						
WMQ	**Urumqi**	**72.49**	**319**	eP	**P**	**22 10 10.9**	**+3.9**
WMQ				LR	LR		
	comp=N,790nm,15.3s						
WMQ				LR	LR		
	comp=E,500nm,14.5s						
WMQ				LR	LR		
	comp=Z,260nm,18.3s						
CNBA	**Chernabura Isl**	**75.11**	**29**	P	**P**	**22 10 20.7**	**-1.2**
CNBA				IAmb	IAmb	22 10 58.5	
	comp=Z,13nm,1.6s						
O14K	**Tigyukauivet M**	**76.92**	**25**	P	**P**	**22 10 31.5**	**-0.6**
O14K				IAmb	IAmb	22 10 33.8	
	comp=Z,6.7nm,1.1s						
MKAR	**Makanchi Array**	**77.20**	**321**	P	**P**	**22 10 32.5**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=103,slow=7.3,SNR=3.1						
MKAR				pP	**pP**	**22 11 00.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=109,slow=8.9,SNR=2.6						
	comp=Z,0.3nm,0.4s						
M14K	**Bethel**	**77.54**	**23**	P	**P**	**22 10 35.3**	**-0.2**
L14K	**Kuka Creek**	**77.62**	**22**	P	**P**	**22 10 35.8**	**-0.2**
L14K				IAmb	IAmb	22 10 37.0	
	comp=Z,12nm,1.6s						
ZALV	**Zalesovo Beam**	**78.75**	**328**	P	**P**	**22 10 39.7**	**-2.6**
	comp=Z,0.7nm,0.5s,baz=123,slow=5.9,SNR=4.4						
ZALV				pP	**pP**	**22 11 07.0**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=115,slow=5.8,SNR=3.5						
	comp=Z,0.7nm,0.5s						
H17K	**Granite Mounta**	**80.80**	**20**	P	**P**	**22 10 52.5**	**-0.7**
CNPM	**China Poot**	**81.42**	**27**	P	**P**	**22 10 55.7**	**-1.0**
CNPM				IAmb	IAmb	22 10 56.7	
	comp=Z,9.2nm,1.0s						
MAW	**Mawson**	**82.20**	**203**	P	**P**	**22 11 00.8**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=106,slow=8.9,SNR=9.6						
	comp=Z,2.7nm,0.6s						
D19K	**Kuna River**	**83.45**	**18**	P	**P**	**22 11 06.2**	**-0.9**
D19K				IAmb	IAmb	22 11 12.4	
	comp=Z,8.7nm,1.4s						
IMAR	**Indian Mountai**	**83.53**	**21**	P	**P**	**22 11 07.1**	**-0.3**
D20K	**Etivluk River**	**84.03**	**18**	P	**P**	**22 11 10.3**	**+0.3**
D20K				IAmb	IAmb	22 11 16.3	
	comp=Z,22nm,1.7s						
QSPA	**South Pole Qui**	**84.06**	**180**	P	**P**	**22 11 10.8**	**+0.4**
QSPA				IAmb	IAmb	22 11 11.9	
	comp=Z,6.1nm,0.8s						
QSPA	**South Pole Qui**	**84.06**	**180**	P	**P**	**22 11 10.6**	**+0.2**
	comp=Z,5.2nm,0.6s,baz=344,slow=0.8,SNR=35						
	comp=Z,5.2nm,0.6s						
ILAR	**Eielson Array**	**85.53**	**23**	P	**P**	**22 11 14.8**	**-2.8**
	comp=Z,1.8nm,0.8s,baz=257,slow=5.4,SNR=14						
	comp=Z,1.8nm,0.8s						
BVAR	**Borovoye Array**	**86.49**	**324**	P	**P**	**22 11 19.2**	**-3.4**
	comp=Z,0.3nm,0.6s,baz=98,slow=2.9,SNR=3.7						
BVAR				pP	**pP**	**22 11 48.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=103,slow=6.5,SNR=2.3						
	comp=Z,0.3nm,0.6s						
E27K	**Coleen River**	**88.76**	**21**	P	**P**	**22 11 33.4**	**+0.2**
E27K				IAmb	IAmb	22 11 42.7	
	comp=Z,13nm,1.8s						
K29M	**Barlow Dome**	**89.07**	**25**	P	**P**	**22 11 34.5**	**-0.3**
TROLL	**Troll, Antarti**	**98.82**	**191**	⇑P	**P**	**22 12 18.5**	**-0.9**
	comp=Z,68nm,0.9s						
CPUP	**Villa Florida**	**140.41**	**145**	PKP	**PKPdf**	**22 18 09.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=147,slow=1.1,SNR=2.8						
PTLB	**Pontes e Lacer**	**146.80**	**130**		**PKPdf**	**22 18 20.9**	**+0.3**
VILB	**Vilhena**	**147.40**	**125**		**PKPdf**	**22 18 23.0**	**+1.3**
VAO	**Valinhos**	**148.34**	**156**	PKPbc	**PKPbc**	**22 18 26.3**	**-0.4**
DBIC	**Dimbokro**	**151.66**	**273**	PKPbc	**PKPbc**	**22 18 34.7**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=124,slow=5.1,SNR=1.8						
BOAV	**Boa Vista**	**152.68**	**96**	PKPbc	**PKPbc**	**22 18 36.1**	**-1.0**
BDFB	**Brasilia**	**154.13**	**146**	PKPbc	**PKPbc**	**22 18 39.7**	**-0.6**
BDFB	**Brasilia**	**154.13**	**146**	PKPbc	**PKPbc**	**22 18 40.1**	**-0.2**
	comp=Z,4.7nm,0.4s,ba

EYUL	**Yuli**	**0.47**	**216**	P		**Pg**	**22 12 48.1**	**+0.2**
EYUL				*e*S		**Sg**	**22 12 55.8**	**+1.7**
TWF1	**Yuli**	**0.48**	**218**	*e*P		**Pg**	**22 12 47.5**	**-0.6**
TWF1				*e*S		**Sg**	**22 12 55.5**	**+1.2**
ETLH	**Xiulin Townshi**	**0.49**	**345**	⇓P		**Pg**	**22 12 48.1**	**-0.3**
ETLH				S		**Sg**	**22 12 54.8**	**0.0**
WHF	**Hehuan Shan**	**0.53**	**322**	⇓*i*P		**Pg**	**22 12 48.4**	**-0.6**
WHF				*e*S		**Sg**	**22 12 54.3**	**-1.7**
WUSB	**Renai**	**0.53**	**300**	⇓*i*P		**Pg**	**22 12 48.4**	**-0.6**
WUSB				S		**Sg**	**22 12 54.6**	**-1.4**
CHKH	**Chenggong**	**0.57**	**201**	*e*P		**Pg**	**22 12 50.3**	**+0.4**
CHKH				*e*S		**Sb**	**22 12 59.3**	**-0.1**
EAHA	**Aohua**	**0.61**	**10**	P		**Pb**	**22 12 51.1**	**-0.6**
EAHA				S		**Sb**	**22 13 00.6**	**+0.2**
FULB	**Fuli**	**0.61**	**210**	*e*P		**Pb**	**22 12 51.2**	**-0.5**
SSLB	**Suanglung**	**0.61**	**276**			**Pg**	**22 12 49.3**	**-1.3**
SSLB					Sg	**Sg**	**22 12 57.4**	**-1.3**
SSLB	**Suanglung**	**0.61**	**276**	P		**Pg**	**22 12 49.5**	**-1.2**
SSLB	**Suanglung**	**0.61**	**276**	⇑*i*P		**Pg**	**22 12 49.4**	**-1.2**
SSLB				*e*S		**Sg**	**22 12 55.1**	**-3.6**
FUSS	**Fushou**	**0.62**	**326**	⇓*i*P		**Pg**	**22 12 50.5**	**-0.3**
FUSS				*e*S		**Sg**	**22 12 58.7**	**-0.3**
TWT	**Tachien**	**0.66**	**322**	⇓P		**Pg**	**22 12 51.4**	**-0.2**
TWT				*i* S		**Sg**	**22 12 59.5**	**-0.7**
CHKT	**Chengkung**	**0.67**	**200**	*e*P		**Pg**	**22 12 52.0**	**+0.2**
CHKT				S		**Sb**	**22 13 02.1**	**-0.1**
TDCB	**Techi**	**0.67**	**321**	⇓*i*P		**Pg**	**22 12 51.4**	**-0.3**
TDCB				*e*S		**Sg**	**22 12 58.6**	**-1.9**
SMLT	**Sun Moon Lake**	**0.68**	**283**	⇑*i*P		**Pg**	**22 12 50.8**	**-1.0**
SMLT				*e*S		**Sg**	**22 12 59.4**	**-1.3**
EHD	**Haiduan**	**0.69**	**213**	*e*P		**Pg**	**22 12 51.0**	**-1.1**
EHD				*e*S		**Sg**	**22 13 01.7**	**+0.5**
WHYT	**Xinyi Township**	**0.70**	**267**	*e*P		**Pg**	**22 12 51.5**	**-0.8**
ENA	**Nanau**	**0.70**	**9**	P		**Pb**	**22 12 52.7**	**-0.7**
ENA				*e*S		**Sb**	**22 13 02.2**	**-1.0**
TYC	**Yuchr**	**0.72**	**284**	*i* P		**Pg**	**22 12 51.5**	**-1.2**
TYC				*e*S		**Sg**	**22 13 00.4**	**-1.6**
WCS	**Beigang Elemen**	**0.72**	**297**	*e*P		**Pg**	**22 12 52.3**	**-0.4**
WCS				*i* S		**Sg**	**22 13 01.1**	**-1.1**
EWUT	**Wuta**	**0.73**	**11**	*i* P		**Pb**	**22 12 53.3**	**-0.4**
EWUT				*e*S		**Sb**	**22 13 03.2**	**-0.7**
NNSB	**Datong**	**0.73**	**343**	⇓*i*P		**Pg**	**22 12 52.8**	**-0.1**
NNSB				*e*S		**Sg**	**22 13 01.5**	**-0.9**
ECS	**Chishang**	**0.73**	**210**	*e*P		**Pg**	**22 12 53.3**	**+0.4**
EOS4	**EOS4**	**0.75**	**59**	*e*P		**Pn**	**22 12 55.0**	**-0.4**
EOS4				*i* S		**Sn**	**22 13 06.8**	**+0.1**
ELDTW	**Lidau**	**0.77**	**226**	P		**Pg**	**22 12 52.4**	**-1.3**
ELDTW				*e*S		**Sg**	**22 13 04.0**	**+0.3**
ALS	**Alishan**	**0.78**	**254**	⇑P		**Pg**	**22 12 53.1**	**-0.7**
ALS				*i* S		**Sg**	**22 13 03.2**	**-0.8**
LATG	**Datong**	**0.81**	**354**	P		**Pb**	**22 12 54.3**	**-0.9**
LATG				*e*S		**Sb**	**22 13 06.7**	**+0.4**
EDH	**Donghe**	**0.81**	**201**	*e*P		**Pg**	**22 12 54.1**	**-0.2**
EDH				*e*S		**Sb**	**22 13 07.9**	**+1.7**
WJS	**Zhushan**	**0.82**	**277**	*e*P		**Pg**	**22 12 54.9**	**+0.3**
WJS				*e*S		**Sg**	**22 13 05.8**	**+0.5**
WHP	**Taichung City**	**0.82**	**312**	⇓*e*P		**Pg**	**22 12 54.3**	**-0.3**
WHP				*e*S		**Sg**	**22 13 04.1**	**-1.2**
EOS3	**EOS3**	**0.84**	**49**	*e*P		**Pn**	**22 12 56.9**	**0.0**
ESAO	**Su ao**	**0.87**	**14**	*e*P		**Pn**	**22 12 56.2**	**-1.1**
ESAO				*e*S		**Sb**	**22 13 08.3**	**+0.5**
WNT	**Mingjian**	**0.87**	**280**	*e*P		**Pg**	**22 12 55.6**	**+0.1**
WNT				*e*S		**Sg**	**22 13 07.5**	**+0.7**
EOS2	**EOS2**	**0.89**	**39**	*e*P		**Pn**	**22 12 58.1**	**+0.6**
ENTT	**Nioudou**	**0.91**	**357**	*e*P		**Pb**	**22 12 56.4**	**-0.4**
ENTT				*e*S		**Sb**	**22 13 08.3**	**-0.8**
LONT	**Longtian**	**0.94**	**209**	*e*P		**Pg**	**22 12 56.3**	**-0.8**
LONT				*e*S		**Sb**	**22 13 10.0**	**+0.1**
STYH	**Taoyuan**	**0.95**	**234**	*e*P		**Pg**	**22 12 56.4**	**-0.8**
STYH				*e*S		**Sg**	**22 13 08.8**	**-0.7**
TCU	**Taichung**	**0.96**	**296**	*e*P		**Pb**	**22 12 58.1**	**+0.4**
TCU				*e*S		**Sg**	**22 13 09.3**	**-0.3**
YHNB	**Yeheng**	**0.96**	**347**			**Pb**	**22 12 57.4**	**-0.4**
YHNB					Sg	**Sg**	**22 13 09.2**	**-0.6**
YHNB	**Yeheng**	**0.96**	**347**	P		**Pb**	**22 12 57.4**	**-0.4**
YHNB	**Yeheng**	**0.96**	**347**	S		**Sb**	**22 13 10.0**	**-0.7**
YHNB	**Yeheng**	**0.96**	**347**	*i* P		**Pb**	**22 12 57.6**	**-0.2**
YHNB				S		**Sg**	**22 13 09.5**	**-0.4**
WGK	**Gukeng**	**0.97**	**268**	⇑*i*P		**Pg**	**22 12 57.7**	**+0.2**
WGK				*e*S		**Sg**	**22 13 11.3**	**+1.2**
WCKO	**Fanlu**	**0.97**	**253**	*e*P		**Pg**	**22 12 57.4**	**-0.1**
WCKO				*e*S		**Sg**	**22 13 09.8**	**-0.4**
TWE	**Neicheng**	**0.99**	**3**	*e*P		**Pb**	**22 12 58.0**	**-0.1**
TWE				*e*S		**Sb**	**22 13 11.6**	**+0.2**
WDLH	**Douliu**	**0.99**	**268**	⇑*i*P		**Pg**	**22 12 58.2**	**+0.2**
WDLH				*e*S		**Sb**	**22 13 12.5**	**+0.1**
TPUB	**Ta-pu**	**1.00**	**245**			**Pg**	**22 12 57.4**	**-0.7**
TPUB	**Ta-pu**	**1.00**	**245**	P		**Pg**	**22 12 57.9**	**-0.2**
TPUB	**Ta-pu**	**1.00**	**245**	*e*P		**Pg**	**22 12 57.6**	**-0.5**
TPUB				*e*S		**Sg**	**22 13 11.2**	**0.0**
NFF	**Wufeng Townshi**	**1.01**	**333**	*e*P		**Pb**	**22 12 58.3**	**-0.3**
NFF				*e*S		**Sg**	**22 13 11.2**	**-0.1**
CHN4	**Tsaushan**	**1.01**	**248**	*e*P		**Pg**	**22 12 58.4**	**+0.1**
CHN4				*e*S		**Sg**	**22 13 12.1**	**+0.6**
FUSB	**Fushanzhiwuyua**	**1.03**	**358**	*e*P		**Pn**	**22 12 59.0**	**-0.6**
FUSB				*e*S		**Sb**	**22 13 12.8**	**+0.3**
WCHH	**Zhanghua**	**1.03**	**290**	P		**Pb**	**22 12 59.2**	**+0.3**
WCHH				S		**Sb**	**22 13 13.7**	**+1.0**
TWGBT	**Beinan**	**1.03**	**209**	P		**Pg**	**22 12 56.4**	**-2.3**
TWGBT	**Beinan**	**1.03**	**209**	*e*P		**Pg**	**22 12 56.1**	**-2.5**
TWG	**Pinlang**	**1.04**	**209**			**Pg**	**22 12 56.2**	**-2.5**
TWG	**Pinlang**	**1.04**	**209**	*e*P		**Pg**	**22 12 57.9**	**-0.8**
ILA	**Ilan**	**1.04**	**6**	*e*P		**Pn**	**22 12 59.3**	**-0.3**
ILA				*e*S		**Sn**	**22 13 13.8**	**-0.6**
WCH1	**Changhua City**	**1.04**	**289**	*e*P		**Pg**	**22 12 58.9**	**+0.2**
NSY	**Sanyi**	**1.04**	**311**	*e*P		**Pn**	**22 12 59.9**	**+0.2**
NSY				*e*S		**Sg**	**22 13 12.7**	**+0.4**
WTP	**Ta-pu**	**1.04**	**243**	⇑*i*P		**Pg**	**22 12 58.3**	**-0.5**
WTP				*e*S		**Sg**	**22 13 12.3**	**0.0**
NWLT	**Wulai**	**1.05**	**354**	P		**Pb**	**22 12 59.2**	**0.0**
NWLT				*i* S		**Sb**	**22 13 12.6**	**-0.6**
NSTT	**Nanjuang**	**1.06**	**328**	*e*P		**Pb**	**22 12 59.5**	**+0.1**
NSTT				*e*S		**Sg**	**22 13 12.2**	**-0.8**
LDUT	**Ludao**	**1.06**	**188**	*e*P		**Pg**	**22 12 57.5**	**-1.7**
LDUT				*e*S		**Sg**	**22 13 12.9**	**-0.1**
LIOB	**Emei**	**1.06**	**329**	*e*P		**Pb**	**22 12 59.5**	**0.0**
LIOB				*e*S		**Sg**	**22 13 12.7**	**-0.4**
WDJ	**Dajia District**	**1.09**	**305**	*e*P		**Pn**	**22 13 00.5**	**+0.2**
WDJ				*e*S		**Sb**	**22 13 14.6**	**+0.4**
NMLH	**Miaoli**	**1.10**	**317**	*e*P		**Pn**	**22 13 01.1**	**+0.5**
NMLH				*e*S		**Sg**	**22 13 14.2**	**-0.1**
KSHI	**Guanxi Townshi**	**1.12**	**339**	*i* P		**Pn**	**22 13 01.3**	**+0.5**
KSHI				*e*S		**Sb**	**22 13 15.8**	**+0.6**
CHY	**Chiayi**	**1.12**	**258**	*e*P		**Pg**	**22 12 60.0**	**-0.4**
CHY				*e*S		**Sg**	**22 13 14.9**	**+0.1**
WTK	**Tuku**	**1.13**	**268**	*e*P		**Pg**	**22 13 00.2**	**-0.3**
WTK				*e*S		**Sg**	**22 13 16.3**	**+1.2**
TWK	**Hsinying**	**1.14**	**246**	*e*P		**Pg**	**22 13 00.2**	**-0.4**
TWK				*e*S		**Sg**	**22 13 16.3**	**+0.9**
EGS		**1.15**	**14**	*e*P		**Pn**	**22 13 02.7**	**+1.6**
SNST	**Tainan City**	**1.15**	**244**	*e*P		**Pb**	**22 13 01.3**	**+0.4**
SNST				*e*S		**Sb**	**22 13 17.1**	**+1.2**
SBCB	**Hsinchu**	**1.21**	**331**	*e*P		**Pn**	**22 13 02.6**	**+0.6**
HSN	**Hsinchu**	**1.22**	**331**	*e*P		**Pn**	**22 13 03.8**	**+1.6**
HSN				*e*S		**Sb**	**22 13 18.9**	**+0.8**
NHDH	**Xindian Distri**	**1.23**	**356**	*e*P		**Pn**	**22 13 02.8**	**+0.5**
WTCT	**Ta-ch'eng**	**1.23**	**276**	*e*P		**Pg**	**22 13 01.8**	**-0.7**
WTCT				*i* S		**Sg**	**22 13 18.9**	**+0.4**
TWA	**Mucha**	**1.25**	**359**	*e*P		**Pn**	**22 13 03.0**	**+0.4**
TWA				*e*S		**Sn**	**22 13 19.4**	**-0.2**
TATO	**Taipei**	**1.25**	**355**			**Pn**	**22 13 02.5**	**-0.1**
TATO	**Taipei**	**1.25**	**355**	P		**Pn**	**22 13 02.4**	**-0.1**
TATO	**Taipei**	**1.25**	**355**	S		**Sn**	**22 13 19.2**	**-0.3**
TIPB	**Shuangxi**	**1.25**	**9**	*e*P		**Pn**	**22 13 02.9**	**+0.2**
TIPB				*e*S		**Sn**	**22 13 20.2**	**+0.5**
ECL	**Taimali**	**1.28**	**209**	*e*P		**Pg**	**22 13 03.1**	**-0.3**
ICHU	**Yijhu**	**1.28**	**254**	P		**Pg**	**22 13 02.9**	**-0.6**
ICHU				*e*S		**Sn**	**22 13 21.7**	**+1.2**
WSF	**Szhu**	**1.28**	**266**	*e*P		**Pg**	**22 13 02.9**	**-0.6**
WSF				*e*S		**Sg**	**22 13 20.4**	**+0.2**
WSL	**Shuilin Townsh**	**1.29**	**261**	*e*P		**Pg**	**22 13 03.0**	**-0.6**
WSL				*i* S		**Sb**	**22 13 21.4**	**+1.2**
NCUH	**Zhongli**	**1.29**	**342**	*e*P		**Pn**	**22 13 03.6**	**+0.4**
NCUH				*e*S		**Sn**	**22 13 22.9**	**+2.1**
TWB1	**Santiao Chiao**	**1.32**	**15**	*e*P		**Pn**	**22 13 04.6**	**+1.1**
TWB1				*e*S		**Sn**	**22 13 22.2**	**+0.9**
CHN3	**Shinhua**	**1.32**	**241**	*i* P		**Pb**	**22 13 04.5**	**+0.6**
CHN3				*e*S		**Sn**	**22 13 24.2**	**+2.8**
SCST	**Cishan**	**1.33**	**231**	*e*P		**Pn**	**22 13 04.2**	**+0.5**
SCST				*e*S		**Sn**	**22 13 24.4**	**+2.7**
SSD	**Sandimen**	**1.34**	**223**	*e*P		**Pn**	**22 13 03.3**	**-0.5**
NWF	**Wu-fen Shan**	**1.34**	**6**	*e*P		**Pb**	**22 13 04.9**	**+0.6**
NWF				*e*S		**Sn**	**22 13 22.9**	**+0.8**
WFSB	**Wu-fen Shan**	**1.34**	**6**	*e*P		**Pb**	**22 13 04.0**	**-0.2**
CHN8	**Yiju**	**1.35**	**254**	P		**Pn**	**22 13 03.8**	**-0.1**
CHN8				*i* S		**Sg**	**22 13 23.0**	**+0.8**
TSMG	**Majia**	**1.36**	**222**	*e*P		**Pn**	**22 13 03.9**	**-0.1**
TSMG				*e*S		**Sg**	**22 13 22.7**	**+0.2**
SHHT	**Tainan City**	**1.36**	**239**	*e*P		**Pb**	**22 13 05.1**	**+0.5**
TWS1	**Kuangyinshan**	**1.38**	**352**	*e*P		**Pb**	**22 13 05.3**	**+0.5**
TWS1				*e*S		**Sn**	**22 13 24.5**	**+1.7**
SXI1	**Grass Mountain**	**1.38**	**10**	*e*P		**Pb**	**22 13 05.4**	**+0.5**
JYNG	**Yonagunijimaku**	**1.41**	**59**	*e*S		**Sn**	**22 13 24.9**	**+1.4**
YM01	**YM01**	**1.41**	**358**	*e*P		**Pb**	**22 13 05.2**	**-0.3**
SCLT	**Jiali**	**1.42**	**247**	*e*P		**Pn**	**22 13 05.1**	**+0.2**
SCLT				*i* S		**Sn**	**22 13 25.6**	**+1.8**
TNOU	**National Taiwa**	**1.42**	**6**	*e*P		**Pb**	**22 13 05.4**	**-0.1**
ZUZH	**Zhuzihu**	**1.43**	**357**	*e*P		**Pb**	**22 13 05.7**	**0.0**
ZUZH				*e*S		**Sn**	**22 13 24.6**	**+0.5**
MASBT	**Mashibuluo**	**1.44**	**219**	*e*P		**Pn**	**22 13 05.0**	**-0.1**
MASBT				*e*S		**Sb**	**22 13 25.2**	**+0.9**
NTST	**Danshui**	**1.44**	**354**	*e*P		**Pg**	**22 13 07.1**	**+0.7**
SGLT	**Jiouru**	**1.44**	**226**	*e*P		**Pg**	**22 13 07.0**	**+0.5**
YM08	**YM08**	**1.45**	**359**	*e*P		**Pg**	**22 13 06.3**	**-0.3**
YOJ	**Yonaguni jima**	**1.47**	**60**			**Pb**	**22 13 06.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.47**	**60**	*e*P		**Pb**	**22 13 06.8**	**+0.5**
YOJ				*i* S		**Sn**	**22 13 27.1**	**+2.1**
YOJ	**Yonaguni jima**	**1.47**	**60**	*e*P		**Pb**	**22 13 07.1**	**+0.8**
YOJ				*e*S		**Sn**	**22 13 26.2**	**+1.3**
TAW	**Tawu**	**1.52**	**206**	*e*P		**Pn**	**22 13 04.4**	**-1.9**
TSCK	**Chigu Township**	**1.52**	**248**	*e*P		**Pn**	**22 13 06.9**	**+0.5**
TSCK				S		**Sb**	**22 13 28.2**	**+1.4**
TAWH	**Dawu Township**	**1.54**	**206**	*e*P		**Pn**	**22 13 07.0**	**+0.5**
SCZT	**Fangliau**	**1.64**	**214**	*i* P		**Pb**	**22 13 09.0**	**-0.2**
SCZT				*e*S		**Sn**	**22 13 30.3**	**+1.2**
LAY	**Lan-yu**	**1.69**	**182**	*e*P		**Pn**	**22 13 07.3**	**-1.3**
SLIU	**Shizi**	**1.69**	**207**	*e*P		**Pn**	**22 13 09.2**	**+0.6**
WDGT	**Dungji**	**1.86**	**256**	*e*P		**Pn**	**22 13 10.3**	**-0.6**
PHUB	**P'eng-hu**	**1.89**	**264**	*e*P		**Pn**	**22 13 10.7**	**-0.7**
PNG	**Penghu**	**1.90**	**266**	*e*P		**Pn**	**22 13 11.0**	**-0.5**
IRIF	**Iriomote-Funau**	**2.02**	**72**	*e*P		**Pb**	**22 13 13.8**	**-2.0**
IRIF				*e*S		**Sb**	**22 13 39.0**	**-2.1**
VWUC	**VWUC**	**2.34**	**303**	*e*P		**Pn**	**22 13 16.6**	**-1.1**
JIJ	**Ishigaki jima**	**2.39**	**74**	*e*S		**Sn**	**22 13 47.7**	**-0.1**
JISG	**Ishigakijimahi**	**2.60**	**70**	*e*P		**Pn**	**22 13 21.3**	**+0.1**
JISG				*e*S		**Sn**	**22 13 52.4**	**-0.6**
PTMZ	**Houxiangcun**	**2.63**	**300**	*e*P		**Pn**	**22 13 20.7**	**-0.8**
ZPLA	**Ao Xicun**	**3.55**	**274**	*e*P		**Pn**	**22 13 33.1**	**-1.1**
JOW	**Kunigami**	**6.77**	**61**	Pn		**Pn**	**22 14 17.9**	**-0.6**
JOW	**Kunigami**	**6.77**	**61**	Pn		**Pn**	**22 14 18.6**	**+0.1**
	1.9nm,0.3s,baz=292,slow=16,SNR=1.6							
JOW					Sn	**Sn**	**22 15 37.5**	**+1.7**
	1.4nm,0.3s,baz=185,slow=26,SNR=1.9							
	8.6nm,0.5s							
KSRS	**Korea Array**	**14.71**	**20**	Pn	P	**P**	**22 16 13.4**	**0.0**
	0.2nm,0.3s,baz=202,slow=11,SNR=9.0							
MJAR	**Matsushiro Arr**	**19.17**	**44**	P	P	**P**	**22 17 01.8**	**-1.0**
	0.1nm,0.3s,baz=230,slow=8.8,SNR=4.2							
	0.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**21.79**	**260**	P	P	**P**	**22 17 32.1**	**+0.7**
	1.8nm,0.8s,baz=73,slow=10,SNR=7.7							
	1.8nm,0.8s							
USA0B	**Ussuriysk Arra**	**22.12**	**20**	P	P	**P**	**22 17 36.8**	**+2.1**
SBUM	**Sibu**	**23.03**	**205**	P	P	**P**	**22 17 44.0**	**-0.5**
SONM	**Songino Array**	**26.94**	**337**	P	P	**P**	**22 18 22.8**	**+2.0**
	1.4nm,0.8s,baz=153,slow=9.7,SNR=5.1							
	1.4nm,0.8s							
MKAR	**Makanchi Array**	**38.94**	**316**	P	P	**P**	**22 20 04.4**	**-0.9**
MKAR	**Makanchi Array**	**38.94**	**316**	P	P	**P**	**22 20 05.3**	**+0.1**
	1.7nm,0.7s,baz=102,slow=11,SNR=9.3							
	1.7nm,0.7s							
ZALV	**Zalesovo Beam**	**40.84**	**327**	P		**P**	**22 20 20.9**	**0.0**
ZALV	**Zalesovo Beam**	**40.84**	**327**	P		**P**	**22 20 20.2**	**-0.6**
	1.2nm,0.6s,baz=111,slow=8.1,SNR=6.5							
	1.2nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**42.12**	**86**	T	T		23 05 27.3	
	baz=283,slow=74,SNR=81							
H11N2	**WAKE ISLAND Hy**	**42.12**	**86**	T	T		23 05 28.4	
	baz=283,slow=74,SNR=126							
H11N3	**WAKE ISLAND Hy**	**42.13**	**86**	T	T		23 05 29.4	
	baz=283,slow=74,SNR=64							
H11S3	**WAKE ISLAND Hy**	**42.23**	**88**	T	T		23 05 35.4	
	baz=284,slow=75,SNR=242							
H11S1	**WAKE ISLAND Hy**	**42.24**	**88**	T	T		23 05 36.0	
	baz=284,slow=75,SNR=159							
H11S2	**WAKE ISLAND Hy**	**42.25**	**88**	T	T		23 05 36.6	
	baz=284,slow=75,SNR=140							
KURK	**Kurchatov**	**42.69**	**320**	P	P	**P**	**22 20 36.9**	**+0.8**
KURBB	**Kurchatov Arra**	**42.71**	**320**	P	P	**P**	**22 20 36.0**	**-0.3**
	1.1nm,0.8s,baz=110,slow=8.2,SNR=8.7							
	1.1nm,0.8s							
WB0	**Warramunga Arr**	**44.99**	**163**	P		**P**	**22 20 53.8**	**-1.0**
WB0				IAmb	IAmb		22 21 08.3	
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**45.15**	**163**	P		**P**	**22 20 54.2**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=344,slow=8.7,SNR=8.0							
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**48.27**	**321**	P		**P**	**22 21 19.9**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=104,slow=5.4,SNR=5.6							
	comp=Z,0.5nm,0.5s							
ASAR	**Alice Springs**	**48.60**	**165**	P		**P**	**22 21 21.2**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=342,slow=5.8,SNR=5.5							
	comp=Z,0.7nm,0.9s							
AB31	**Akbulak array**	**54.04**	**315**	P		**P**	**22 22 03.2**	**-0.5**
ABKAR	**Akbulak array**	**54.04**	**315**	P		**P**	**22 22 03.2**	**-0.5**
ARTI	**Arti**	**55.80**	**323**	P		**P**	**22 22 17.0**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=90,slow=6.8,SNR=3.1							
	comp=Z,0.8nm,0.4s							
STKA	**Stephens Creek**	**58.50**	**160**	P		**P**	**22 22 35.1**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=323,slow=10,SNR=3.2							
	comp=Z,2.1nm,0.7s							
K13K	**Kusilvak Mount**	**61.70**	**31**	P		**P**	**22 22 58.6**	**+1.3**
K13K				IAmb	IAmb		22 23 00.5	
	comp=Z,1.9nm,0.8s							
K15K	**Wolf Creek Mou**	**63.18**	**31**	P		**P**	**22 23 08.5**	**+1.4**
K15K				IAmb	IAmb		22 23 19.4	
	comp=Z,4.4nm,1.1s							
E18K	**Tukpahlearik C**	**63.64**	**25**	P		**P**	**22 23 11.2**	**+1.1**
E18K				IAmb	IAmb		22 23 20.4	
	comp=Z,3.4nm,1.1s							
H17K	**Granite Mounta**	**63.89**	**28**	P		**P**	**22 23 12.3**	**+0.5**
H17K				IAmb	IAmb		22 23 14.9	
	comp=Z,2.9nm,1.0s							
N15K	**Kwethluk River**	**63.92**	**33**	P		**P**	**22 23 13.1**	**+1.0**
J17K	**VABM Dome**	**64.28**	**29**	P		**P**	**22 23 14.7**	**+0.3**
J17K				IAmb	IAmb		22 23 17.7	
	comp=Z,4.3nm,0.9s							
D19K	**Kuna River**	**64.59**	**24**	P		**P**	**22 23 16.5**	**+0.1**
D19K				IAmb	IAmb		22 23 20.5	
	comp=Z,3.0nm,0.7s							
CAST	**Castle Rocks**	**67.42**	**29**	P		**P**	**22 23 34.9**	**+0.3**
CAST				IAmb	IAmb		22 23 42.3	
	comp=Z,3.4nm,1.1s							
KDAK	**Kodiak Island**	**68.05**	**35**	P		**P**	**22 23 38.7**	**+0.1**
H23K	**Yukon River**	**68.14**	**26**	P		**P**	**22 23 39.8**	**+0.6**
H23K				IAmb	IAmb		22 23 41.2	
	comp=Z,5.3nm,1.1s							
SUA	**Susitna One**	**68.33**	**31**	P		**P**	**22 23 39.9**	**-0.7**
NEA2	**Nenana**	**68.55**	**28**	P		**P**	**22 23 41.4**	**-0.3**
NEA2				IAmb	IAmb		22 23 42.8	
	comp=Z,5.0nm,1.1s							
RND	**Reindeer**	**68.85**	**29**	P		**P**	**22 23 42.8**	**-0.9**
ILAR	**Eielson Array**	**69.43**	**27**	P		**P**	**22 23 45.4**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=284,slow=7.6,SNR=1.4							
	comp=Z,0.3nm,0.6s							
BMAR	**Burnt Mountain**	**69.78**	**24**	P		**P**	**22 23 50.7**	**+1.3**
SCM	**Sheep Creek Mo**	**69.86**	**30**	P		**P**	**22 23 49.8**	**-0.2**
K27K	**Chicken**	**71.64**	**27**	P		**P**	**22 24 00.7**	**0.0**
K27K				IAmb	IAmb		22 24 02.2	
	comp=Z,3.7nm,1.1s							
L27K	**Beaver Creek,**	**72.02**	**28**			**P**	**22 24 03.5**	**+0.5**
L27K				IAmb	IAmb		22 24 04.9	
	comp=Z,3.1nm,1.1s							
FINES	**FINESS Array B**	**72.04**	**330**	P		**P**	**22 24 03.8**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=116,slow=18,SNR=1.3							
	comp=Z,1.2nm,0.9s							
BCAR	**Beaver Creek A**	**72.04**	**28**			**P**	**22 24 03.7**	**+0.6**
HYT	**Haines Junctio**	**74.69**	**30**	P		**P**	**22 24 18.7**	**-0.2**
YKA	**Yellowknife Ar**	**83.23**	**23**	P		**P**	**22 25 05.1**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=316,slow=5.4,SNR=5.9							
	comp=Z,0.9nm,0.8s							

IDC 10 22:21:29.0±2.0, 6.76S×129.50E, h0km, mb3.7/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=80.3km s-min=27.4km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.88**	**198**	Pn	Pn	22 24 21.8	+2.0
	0.2nm,0.3s,baz=17,slow=11,SNR=13						
FITZ				Sn	Sn	22 26 24.9	-8.3
	0.7nm,0.3s,baz=351,slow=19,SNR=8.4						
	3.1nm,1.1s						
WRA	**Warramunga Arr**	**13.92**	**161**	Pn	Pn	22 24 45.8	-1.9
	0.4nm,0.3s,baz=337,slow=13,SNR=16						
WRA				Sn	Sn	22 27 09.6	-14
	0.3nm,0.3s,baz=41,slow=31,SNR=5.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**17.33**	**166**	P	Pn	22 25 32.3	-0.3
	0.1nm,0.3s,baz=1.9,slow=11,SNR=8.3						
ASAR				S	Sn	22 28 30.0	-16
	0.5nm,1.0s,baz=352,slow=24,SNR=4.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	22 32 28.6	0.0
	0.3nm,0.3s,baz=127,slow=6.4,SNR=8.9						
	0.3nm,0.3s						

*IDC **10** 22:27:47.5±11.0, 20.40S×175.93W, h283km±100km, mb3.7/3, mbtmp4.4/5, Error ellipse: s-maj=77.0km s-min=34.7km az=44.0*
ISC 10 22:27:44.6±2.2, 20.3S±0.2×175.9W±0.3, h250km, n7, σ1ꝑ47/7, mb3.8/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.59**	**261**	P	**P**	**22 31 24.1**	**

CMAR	**Chiang Mai Arr**	**51.36**	**298**	P		**P**	**22**	**46**	**44.1 -0.5**
CMAR	**Chiang Mai Arr**	**51.36**	**298**	P		**P**	**22**	**46**	**45.0 +0.4**
	comp=Z,1.9nm,0.3s,baz=113,slow=7.6,SNR=6.0								
	comp=Z,1.9nm,0.3s								
PZH	**PanZhiHua**	**52.51**	**309**	P		**P**	**22**	**46**	**54.7 +1.5**
BNX	**BinXian**	**52.73**	**344**	⇓P		**P**	**22**	**46**	**53.9 -0.4**
BNX				pmax	pmax				
	comp=Z,9.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**54.96**	**329**	*e*P		**P**	**22**	**47**	**13.0 +2.2**
HHC				pmax	pmax				
	comp=Z,13nm,0.6s								
HHC				pmax	pmax				
	comp=Z,130nm,5.8s								
LZH	**Lanzhou**	**56.27**	**320**	*e*P		**P**	**22**	**47**	**21.6 +1.2**
LZH				pP	pP		22	47	29.2 -3.6
LZH				pmax	pmax				
	comp=Z,25nm,1.3s								
GTA	**Gaotai**	**60.81**	**321**	*e*P		**P**	**22**	**47**	**53.3 +1.3**
GTA				pP	pP		22	47	59.3 -5.1
GTA				pmax	pmax				
	comp=Z,11nm,1.0s								
SONM	**Songino Array**	**62.56**	**331**	P		**P**	**22**	**48**	**02.9 -0.7**
SONM	**Songino Array**	**62.56**	**331**	P		**P**	**22**	**48**	**04.3 +0.8**
	comp=Z,0.6nm,0.5s,baz=157,slow=5.2,SNR=6.3								
	comp=Z,0.6nm,0.5s								
PALK	**Pallekele**	**65.79**	**280**	LR		LR	23	24	06.9
	comp=Z,21nm,18.5s,baz=110,slow=42								
CASY	**Casey**	**66.16**	**195**	P		**P**	**22**	**48**	**27.2 +0.6**
CASY				IAmb	IAmb		22	48	37.2
	comp=Z,5.4nm,1.0s								
WMQ	**Urumqi**	**70.86**	**320**	*e*P		**P**	**22**	**48**	**57.5 +1.0**
WMQ				LR	LR				
	comp=Z,140nm,24.2s								
VNDA	**Vanda**	**73.31**	**176**	P		**P**	**22**	**49**	**10.8 +0.3**
VNDA	**Vanda**	**73.31**	**176**	P		**P**	**22**	**49**	**10.4 -0.1**
	comp=Z,0.3nm,0.5s,baz=348,slow=7.3,SNR=4.8								
	comp=Z,0.3nm,0.5s								
MKAR	**Makanchi Array**	**75.57**	**321**			**P**	**22**	**49**	**23.4 -0.7**
MKAR	**Makanchi Array**	**75.57**	**321**	P		**P**	**22**	**49**	**23.6 -0.6**
	comp=Z,5.9nm,0.9s,baz=110,slow=6.7,SNR=37								
	comp=Z,5.9nm,0.9s								
TARG	**Taragay, Kyrgy**	**76.77**	**315**	P		**P**	**22**	**49**	**31.2 -0.5**
TARG				IAmb	IAmb		22	49	48.1
	comp=Z,4.3nm,0.9s								
L14K	**Kuka Creek**	**76.91**	**23**	P		**P**	**22**	**49**	**31.2 -0.2**
L14K				IAmb	IAmb		22	49	48.8
	comp=Z,3.9nm,1.0s								
ZAA0	**Zalesovo Array**	**77.13**	**328**			**P**	**22**	**49**	**31.7 -1.1**
ZAA0				IAmb	IAmb		22	49	33.1
	comp=Z,5.9nm,0.8s								
ZALV	**Zalesovo Beam**	**77.13**	**328**	P		**P**	**22**	**49**	**31.7 -1.1**
	comp=Z,5.8nm,0.8s,baz=109,slow=5.4,SNR=26								
	comp=Z,5.8nm,0.8s								
NIL	**Nilore**	**77.99**	**306**			**P**	**22**	**49**	**36.8 -1.4**
KURK	**Kurchatov**	**79.30**	**323**			**P**	**22**	**49**	**44.2 -0.7**
KURBB	**Kurchatov Arra**	**79.31**	**323**	P		**P**	**22**	**49**	**44.2 -0.8**
	comp=Z,3.2nm,0.9s,baz=109,slow=5.0,SNR=13								
	comp=Z,3.2nm,0.9s								
G18K	**Tagagawik**	**81.01**	**20**	P		**P**	**22**	**49**	**53.8 0.0**
E18K	**Tukpahlearik C**	**81.23**	**18**	P		**P**	**22**	**49**	**54.7 -0.3**
E18K				IAmb	IAmb		22	49	56.9
	comp=Z,2.7nm,0.8s								
J20K	**Nowinta River**	**81.75**	**23**			**P**	**22**	**49**	**58.3 +0.6**
J20K				IAmb	IAmb		22	50	11.5
	comp=Z,2.6nm,0.9s								
E19K	**Redstone River**	**82.33**	**19**			**P**	**22**	**50**	**01.5 +0.7**
E19K				IAmb	IAmb		22	50	14.8
	comp=Z,8.2nm,1.2s								
KKAR	**Karatay Array**	**82.34**	**314**			**P**	**22**	**50**	**00.2 -1.1**
CCB	**Clear Creek Bu**	**84.43**	**23**	P		**P**	**22**	**50**	**10.6 -0.9**
CCB				IAmb	IAmb		22	50	23.1
	comp=Z,3.9nm,1.0s								
ILAR	**Eielson Array**	**84.84**	**23**	P		**P**	**22**	**50**	**12.4 -1.3**
ILAR	**Eielson Array**	**84.84**	**23**	P		**P**	**22**	**50**	**12.7 -1.0**
	comp=Z,1.8nm,0.7s,baz=254,slow=5.0,SNR=21								
	comp=Z,1.8nm,0.7s								
BVAR	**Borovoye Array**	**84.86**	**324**	P		**P**	**22**	**50**	**13.9 -0.1**
	comp=Z,3.7nm,0.8s,baz=115,slow=6.7,SNR=16								
	comp=Z,3.7nm,0.8s								
QSPA	**South Pole Qui**	**85.28**	**180**	P		**P**	**22**	**50**	**16.9 +0.8**
QSPA				IAmb	IAmb		22	50	23.1
	comp=Z,6.2nm,1.3s								
QSPA	**South Pole Qui**	**85.28**	**180**	P		**P**	**22**	**50**	**16.3 +0.2**
	comp=Z,1.8nm,1.0s,baz=2.5,slow=3.3,SNR=5.2								
QSPA				LR		LR	23	29	20.4
	comp=Z,50nm,18.3s,baz=328,slow=36								
	comp=Z,1.8nm,1.0s								
J25K	**Salcha River,**	**85.39**	**24**			**P**	**22**	**50**	**16.3 -0.2**
J25K				IAmb	IAmb		22	50	17.2
	comp=Z,3.4nm,0.8s								
BCAR	**Beaver Creek A**	**86.38**	**26**	P		**P**	**22**	**50**	**22.2 +0.8**
BMAR	**Burnt Mountain**	**86.69**	**21**	P		**P**	**22**	**50**	**23.1 +0.2**
J30M	**Hart River**	**89.11**	**25**			**P**	**22**	**50**	**34.5 0.0**
J30M				IAmb	IAmb		22	50	45.2
	comp=Z,2.9nm,1.1s								
AB31	**Akbulak array**	**90.64**	**319**			**P**	**22**	**50**	**40.2 -1.7**
AB31				IAmb	IAmb		22	50	42.7
	comp=Z,4.3nm,1.3s								
ABKAR	**Akbulak array**	**90.64**	**319**	P		**P**	**22**	**50**	**40.5 -1.4**
ELK	**Elko**	**100.01**	**50**	LR		LR	23	25	37.9
	comp=Z,130nm,20.8s,baz=86,slow=29								

NOU 10 22:45:29.1,15°.05S×167°.32E,h115km,mb3.6/14,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
SANVU	**Saraoutou**	**0.41**	**196**	P	Pn	22	45	46.3	+0.3
VLAKA	**Lakatoro**	**1.05**	**175**	P	Pn	22	45	52.1	+0.8
VLAKA	**Lakatoro**	**1.05**	**175**	P	Sn	22	46	09.7	+1.7
DVP	**Devils Point**	**2.79**	**163**	P	Pn	22	46	12.6	+0.1
DVP	**Devils Point**	**2.79**	**163**	S	Sn	22	46	46.4	+0.6
YATNC	**Mamie plateau,**	**6.98**	**183**	P	Pn	22	47	09.6	+0.8
YATNC	**Mamie plateau,**	**6.98**	**183**	S	Sn	22	48	25.8	-1.0
DZM	**Mont Dzumac**	**7.03**	**187**	S	Sn	22	48	27.4	-0.7
DZM	**Mont Dzumac**	**7.03**	**187**	P	Pn	22	47	10.4	+0.8
ONTNC	**Ouen Toro**	**7.26**	**186**	P	Pn	22	47	13.9	+1.3
OUENC	**Ouen Island, N**	**7.34**	**183**	P	Pn	22	47	13.4	-0.3

*FUNV **10** 22:57:44.8, 10°.63N×62°.68W, h30km, MW3.4*
*TRN **10** 22:57:44.4, 9°.83N×62°.51W, h51km, MD2.9, Venezuela.*
ISC 10 22:57:42.7±1.6, 9°.7N±0°.1×62°.54W±0°.07, h35km, n6,
σ2s12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.39**	**44**	*e*P	**Pn**	**22**	**58**	**07.9**	**+2.2**
DMDM				*e*S	**Sn**	**22**	**58**	**22.9**	**+0.1**
TRN	**Trinidad (W)**	**1.46**	**50**	*e*P	**Pn**	**22**	**58**	**05.7**	**-0.9**
TRN				*e*S	**Sn**	**22**	**58**	**22.8**	**-1.8**
PCRV	**Puerto La Cruz**	**2.12**	**283**	*e*P	**Pn**	**22**	**58**	**15.3**	**-0.5**
PCRV				*e*S	**Sn**	**22**	**58**	**37.5**	**-3.5**
PCRV	**Puerto La Cruz**	**2.12**	**283**	*e*P	**Pn**	**22**	**58**	**18.6**	**+2.8**
PCRV				*e*S	**Sn**	**22**	**58**	**41.7**	**+0.7**
CACV	**CAICARA DEL OR**	**4.49**	**242**	*e*P	**Pn**	**22**	**58**	**49.6**	**+1.3**
CACV				*e*S	**Sn**	**22**	**59**	**37.8**	**-1.6**
BAUV	**El Baul**	**5.49**	**263**	*e*P	**Pn**	**22**	**59**	**03.6**	**+1.6**
BAUV				*e*S	**Sn**	**23**	**00**	**02.0**	**-2.0**

*KRSC **10** 23:17:13.9±1.8, 51°.68N×160°.74E, h49km±22km, Mc5.2, Ml5.0*
*IDC **10** 23:17:15.2±0.5, 51°.94N×160°.18E, h0km, mb4.6/32, mbtmp4.6/37, ML4.7/4, MS4.3/63, Error ellipse: s-maj=11.3km s-min=10.2km az=7.0*
*MOS **10** 23:17:16.7±1.1, 51°.74N×160°.37E, h29km, mb5.3/82, MS4.7/20, Error ellipse: s-maj=5.7km s-min=2.9km az=103.9*
*BJI **10** 23:17:17.0, 52°.28N×159°.68E, h10km, mB5.1/19, mb5.0/57, Ms5.2/49, Ms7 5.0/49*
*NEIC **10** 23:17:17.0±1.3, 51°.95N±0°.08×160°.25E±0°.10, h10km±1km, mb5.0/233, Error ellipse: s-maj=13.0km s-min=10.2km az=180.0*
*GCMT **10** 23:17:21.0±0.4, 51°.59N±0°.03×160°.81E±0°.05, h20km±1km, MW4.9/73, Moment Tensor Solution. s26,c30; s73,c100; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.36±.18; Mθθ -0.87±.10; Mφφ -1.49±.12; Mrθ 1.19±.19; Mrφ -0.78±.06; Mθφ 1.09±.18; Best double couple: M0 2.71800×10^16 NP1:φs 209.00000°, δ 27.00000°, λ 79.00000°. NP2: φs 42.00000°, δ 63.00000°, λ 96.00000°. Principal axes: T*

2.9030, Plg71.0000°, Azm324.0000°; N -0.3700, Plg5.0000°, Azm219.0000°; P -2.5320, Plg18.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*BGR **10** 23:17:28.3, 52°.89N×159°.96E, h33km, mb4.8, Ms4.5*
ISC 10 23:17:19.6±0.3, 51°.96N±0°.04×160°.38E±0°.03, h30km,
h34km:pP-P, n1020, σ1s33/1014, mb4.9/242, MS4.6/88,
64C-21D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
SPN	**Mys Shipunski**	**1.16**	**349**	PN	**Pn**	**23**	**17**	**39.8**	**0.0**
SPN				S	**Sb**	**23**	**17**	**57.3**	**+1.5**
SPN	**Mys Shipunski**	**1.16**	**349**	*e*P	**Pn**	**23**	**17**	**39.9**	**0.0**
SPN				*e*S	**Sb**	**23**	**17**	**57.3**	**+1.5**
RUS	**Russkaya**	**1.24**	**293**	PN	**Pn**	**23**	**17**	**40.3**	**-0.6**
RUS	**Russkaya**	**1.24**	**293**	*e*P	**Pn**	**23**	**17**	**40.4**	**-0.6**
NLC	**Nalytchevo**	**1.37**	**333**	PN	**Pn**	**23**	**17**	**43.7**	**+1.1**
NLC				S	**Sb**	**23**	**18**	**04.0**	**+2.4**
NLC	**Nalytchevo**	**1.37**	**333**	*e*P	**Pn**	**23**	**17**	**43.8**	**+1.1**
NLC				*e*S	**Sb**	**23**	**18**	**04.1**	**+2.4**
MTVR	**Mutnovka**	**1.45**	**292**	PN	**Pn**	**23**	**17**	**43.9**	**0.0**
MTVR	**Mutnovka**	**1.45**	**292**	*e*P	**Pn**	**23**	**17**	**44.0**	**0.0**
DALK	**Dalny**	**1.46**	**318**	PN	**Pn**	**23**	**17**	**44.9**	**+1.0**
DALK	**Dalny**	**1.46**	**318**	*e*P	**Pn**	**23**	**17**	**44.9**	**+1.0**
PET	**Petropavlovsk**	**1.50**	**316**		**Pn**	**23**	**17**	**45.2**	**+0.7**
PET	**Petropavlovsk**	**1.50**	**316**	*i*PN	**Pn**	**23**	**17**	**45.4**	**+0.9**
PET				*e*S	**Sb**	**23**	**18**	**07.2**	**+1.8**
PET				pmax	pmax				
	comp=Z,2μm,1.1s								
PET				smax	smax				
	comp=E,5μm,1.0s								
PET				smax	smax				
	comp=N,5μm,1.2s								
PET	**Petropavlovsk**	**1.50**	**316**	*e*P	**Pn**	**23**	**17**	**45.2**	**+0.7**
PET				*e*S	**Sb**	**23**	**18**	**08.8**	**+3.4**
PET	**Petropavlovsk**	**1.50**	**316**	Pg	**Pn**	**23**	**17**	**43.7**	**-0.8**
GRL	**Gorelyy**	**1.54**	**294**	PN	**Pn**	**23**	**17**	**46.0**	**+0.9**
GRL	**Gorelyy**	**1.54**	**294**	*e*P	**Pn**	**23**	**17**	**46.0**	**+0.9**
INSR	**Institute**	**1.55**	**316**	PN	**Pn**	**23**	**17**	**46.1**	**+1.0**
INSR	**Institute**	**1.55**	**316**	*e*P	**Pn**	**23**	**17**	**46.2**	**+1.0**
UGLR	**Uglovaya**	**1.57**	**323**	PN	**Pn**	**23**	**17**	**46.9**	**+1.4**
UGLR	**Uglovaya**	**1.57**	**323**	*e*P	**Pn**	**23**	**17**	**46.9**	**+1.4**
ASAK	**Asacha**	**1.58**	**287**	PN	**Pn**	**23**	**17**	**46.1**	**+0.4**
ASAK	**Asacha**	**1.58**	**287**	*i*P	**Pn**	**23**	**17**	**46.2**	**+0.4**
SDLR	**Sedlovina**	**1.60**	**326**	PN	**Pn**	**23**	**17**	**46.9**	**+0.9**
SDLR	**Sedlovina**	**1.60**	**326**	*e*P	**Pn**	**23**	**17**	**47.0**	**+0.9**
SMAR	**Somma**	**1.62**	**324**	PN	**Pn**	**23**	**17**	**47.4**	**+1.0**
SMAR	**Somma**	**1.62**	**324**	*e*P	**Pn**	**23**	**17**	**47.4**	**+1.0**
KRMR	**Karymshinskiy**	**1.63**	**303**	PN	**Pn**	**23**	**17**	**46.7**	**+0.5**
KRMR				S	**Sb**	**23**	**18**	**09.9**	**+0.8**
KRMR	**Karymshinskiy**	**1.63**	**303**	*e*P	**Pn**	**23**	**17**	**46.8**	**+0.5**
KRMR				*e*S	**Sb**	**23**	**18**	**10.0**	**+0.8**
AVH	**Avacha**	**1.65**	**323**	PN	**Pn**	**23**	**17**	**48.1**	**+1.5**
AVH	**Avacha**	**1.65**	**323**	*i*P	**Pn**	**23**	**17**	**48.1**	**+1.5**
KRER	**Koryakskii**	**1.67**	**324**	PN	**Pn**	**23**	**17**	**48.5**	**+1.5**
KRER	**Koryakskii**	**1.67**	**324**	*e*P	**Pn**	**23**	**17**	**48.5**	**+1.5**
KOK	**Koryaka**	**1.71**	**322**	PN	**Pn**	**23**	**17**	**48.7**	**+1.3**
KOK	**Koryaka**	**1.71**	**322**	*e*P	**Pn**	**23**	**17**	**48.7**	**+1.3**
KRX	**Arik**	**1.75**	**324**	PN	**Pn**	**23**	**17**	**49.5**	**+1.4**
KRX	**Arik**	**1.75**	**324**	*e*P	**Pn**	**23**	**17**	**49.5**	**+1.4**
I44RU	**PETROPAVLOVSK-**	**1.99**	**306**	Pn	**Pb**	**23**	**17**	**55.6**	**+0.4**
	baz=110,slow=19								
PEA0B	**Petropavlovsk-**	**2.00**	**306**		**Pn**	**23**	**17**	**52.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.00**	**306**	PN	**Pn**	**23**	**17**	**52.9**	**+1.5**
PETK	**Petropavlovsk-**	**2.00**	**306**		**Pn**	**23**	**17**	**51.7**	**+0.3**
PETK	**Petropavlovsk-**	**2.00**	**306**	Pn	**Pn**	**23**	**17**	**51.1**	**-0.3**
	comp=N,46nm,0.3s,baz=111,slow=17,SNR=432								
PETK	**Petropavlovsk-**	**2.00**	**306**	PN	**Pn**	**23**	**17**	**51.7**	**+0.3**
KII	**Karymskiy**	**2.16**	**345**	PN	**Pn**	**23**	**17**	**54.7**	**+1.1**
KII	**Karymskiy**	**2.16**	**345**	*e*P	**Pn**	**23**	**17**	**54.7**	**+1.1**
APC	**Apacha**	**2.20**	**297**	PN	**Pn**	**23**	**17**	**56.3**	**+2.3**
APC	**Apacha**	**2.20**	**297**	*e*P	**Pn**	**23**	**17**	**56.3**	**+2.3**
MIPR	**Malaya Ipel'ka**	**2.25**	**280**	PN	**Pn**	**23**	**17**	**55.5**	**+0.7**
MIPR	**Malaya Ipel'ka**	**2.25**	**280**	*e*P	**Pn**	**23**	**17**	**55.5**	**+0.7**
PAU	**Pauzhetka**	**2.27**	**259**	PN	**Pn**	**23**	**17**	**54.3**	**-0.7**
PAU	**Pauzhetka**	**2.27**	**259**	*e*P	**Pn**	**23**	**17**	**54.4**	**-0.7**
GNL	**Ganaly**	**2.28**	**321**	PN	**Pn**	**23**	**17**	**57.3**	**+2.0**
GNL	**Ganaly**	**2.28**	**321**	*e*P	**Pn**	**23**	**17**	**57.3**	**+2.0**
MKZ	**Mys Kozlova**	**2.73**	**17**	PN	**Pn**	**23**	**18**	**01.1**	**-0.2**
MKZ	**Mys Kozlova**	**2.73**	**17**	*e*P	**Pn**	**23**	**18**	**01.1**	**-0.2**
SKR	**Severo-Kuril's**	**2.96**	**246**	*e*PN	**Pn**	**23**	**18**	**03.1**	**-1.4**
SKR				*e*S	**Sn**	**23**	**18**	**36.7**	**-2.3**
SKR				pmax	pmax				
	comp=Z,670nm,0.8s								
SKR				smax	smax				
	comp=E,4μm,0.9s								
SKR				smax	smax				
	comp=N,4μm,1.0s								
SKR				MLR	MLR				
	comp=Z,10μm,11.0s								
SKR	**Severo-Kuril's**	**2.96**	**246**	*e*P	**Pn**	**23**	**18**	**03.2**	**-1.4**
SKR				*e*S	**Sn**	**23**	**18**	**37.9**	**-1.1**
TUMD	**Tumrok D**	**3.25**	**0**	PN	**Pn**	**23**	**18**	**09.6**	**+1.1**
TUMD	**Tumrok D**	**3.25**	**0**	*e*P	**Pn**	**23**	**18**	**09.6**	**+1.1**
KMNR	**Kamenistaya**	**3.81**	**359**	PN	**Pn**	**23**	**18**	**18.3**	**+2.1**
KMNR	**Kamenistaya**	**3.81**	**359**	*e*P	**Pn**	**23**	**18**	**18.4**	**+2.1**
BZMR	**Bezymyannaya**	**3.98**	**1**	PN	**Pn**	**23**	**18**	**20.6**	**+1.9**
BZMR	**Bezymyannaya**	**3.98**	**1**	*e*P	**Pn**	**23**	**18**	**20.7**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**3.99**	**3**	PN	**Pn**	**23**	**18**	**20.4**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**3.99**	**3**	*e*P	**Pn**	**23**	**18**	**20.5**	**+1.6**
KIRR	**Kirishev**	**4.00**	**360**	PN	**Pn**	**23**	**18**	**21.1**	**+2.2**
KIRR	**Kirishev**	**4.00**	**360**	*e*P	**Pn**	**23**	**18**	**21.2**	**+2.2**
BZWR	**Bezymyannyi-We**	**4.01**	**1**	PN	**Pn**	**23**	**18**	**21.7**	**+2.5**
BZWR	**Bezymyannyi-We**	**4.01**	**1**	*e*P	**Pn**	**23**	**18**	**21.7**	**+2.5**
KPT	**Kopyto**	**4.02**	**359**	PN	**Pn**	**23**	**18**	**20.7**	**+1.6**
KPT	**Kopyto**	**4.02**	**359**	*e*P	**Pn**	**23**	**18**	**20.7**	**+1.6**
ESO	**Esso**	**4.10**	**347**	PN	**Pn**	**23**	**18**	**22.3**	**+2.2**
ESO	**Esso**	**4.10**	**347**	*e*P	**Pn**	**23**	**18**	**22.3**	**+2.2**
KOZ	**Kozyrevsk**	**4.12**	**356**	PN	**Pn**	**23**	**18**	**22.1**	**+1.7**
KOZ	**Kozyrevsk**	**4.12**	**356**	*e*P	**Pn**	**23**	**18**	**22.2**	**+1.7**
CIRR	**Tsirk**	**4.17**	**3**	PN	**Pn**	**23**	**18**	**24.4**	**+3.1**
CIRR	**Tsirk**	**4.17**	**3**	*e*P	**Pn**	**23**	**18**	**24.4**	**+3.1**
SRDR	**Sredinnyy**	**4.38**	**355**	PN	**Pn**	**23**	**18**	**26.5**	**+2.4**
SRDR	**Sredinnyy**	**4.38**	**355**	*e*P	**Pn**	**23**	**18**	**26.5**	**+2.4**
KBTR	**Krutoberegovo**	**4.49**	**18**	PN	**Pn**	**23**	**18**	**26.8**	**+1.2**
KBTR	**Krutoberegovo**	**4.49**	**18**	*e*P	**Pn**	**23**	**18**	**26.8**	**+1.2**
BKI	**Bering**	**4.66**	**44**	PN	**Pn**	**23**	**18**	**25.7**	**-2.0**
BKI	**Bering**	**4.66**	**44**	*e*P	**Pn**	**23**	**18**	**25.8**	**-2.0**
BKI				*e*S	**Sn**	**23**	**19**	**16.0**	**-4.7**
SMKR	**Semkarok**	**4.68**	**7**	PN	**Pn**	**23**	**18**	**30.2**	**+2.0**
SMKR	**Semkarok**	**4.68**	**7**	*e*P	**Pn**	**23**	**18**	**30.2**	**+2.0**
SHEM	**Shemya Is, Ala**	**8.44**	**79**	Pn	**Pn**	**23**	**19**	**19.2**	**-0.5**
	comp=Z,10nm,0.3s,baz=355,slow=1.7,SNR=7.9								
SHEM				Sn	**Sn**	**23**	**20**	**46.3**	**-7.6**
	comp=Z,19nm,0.3s,baz=276,slow=18,SNR=6.6								
SHEM				LR	LR	23	21	55.7	
	comp=Z,896nm,21.9s,baz=238,slow=33								
	comp=Z,40nm,0.4s								
SMY	**Shemya**	**8.44**	**79**	Pn	**Pn**	**23**	**19**	**19.0**	**-0.7**
SMY	**Shemya**	**8.44**	**79**	PN	**Pn**	**23**	**19**	**19.0**	**-0.7**
MA2	**Magadan**	**9.35**	**328**	Pn	**Pn**	**23**	**19**	**33.2**	**+1.1**
MA2	**Magadan**	**9.35**	**328**	Pn	**Pn**	**23**	**19**	**34.5**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=130,slow=7.5,SNR=4.4								
MA2				LR	LR	23	24	16.5	
	comp=Z,2μm,18.8s,baz=137,slow=45								
	comp=Z,2.9nm,0.3s								
MA2	**Magadan**	**9.35**	**328**	⇑*e*PN	**Pn**	**23**	**19**	**34.7**	**+2.5**
MA2	**Magadan**	**9.35**	**328**	Pn	**Pn**	**23**	**19**	**31.4**	**-0.8**
	comp=Z,804nmcomp=Z,16nm,1.1s								
OKH	**Okha**	**10.70**	**285**	*c i*PN	**Pn**	**23**	**19**	**47.8**	**-2.8**
OKH				pmax	pmax				
	comp=Z,200nm,6.4s								
OKH				MLR	MLR				
	comp=Z,4μm,15.0s								
OKH				MLR	MLR				
	comp=E,4μm,17.0s								
OKH				MLR	MLR				
	comp=N,5μm,15.0s								
TYV	**Tymovskoe**	**11.13**	**271**	*e*PN	**Pn**	**23**	**19**	**58.5**	**+2.0**
TYV				*e*S	**Sn**	**23**	**22**	**06.2**	**+6.5**
TYV				pmax	pmax				
	comp=Z,18nm,1.5s								
TYV				smax	smax				
	comp=N,500nm,8.8s								
TYV				smax	smax				
	comp=E,300nm,8.8s								
TYV				MLR	MLR				
	comp=Z,3μm,14.0s								
TYV				MLR	MLR				
	comp=E,3μm,14.0s								

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
AMKA	**Amchitka**	**11.77**	**85**	Pn	**Pn**	**23**	**20**	**05.4**	**+0.1**
SEY	**Seymchan**	**11.80**	**342**	Pn	**Pn**	**23**	**20**	**08.8**	**+3.1**
	comp=E,7.6nm,0.9s,baz=157,slow=13,SNR=6.7								
SEY				LR	LR	23	25	04.3	
	comp=E,2μm,18.2s,baz=148,slow=40								
SEY	**Seymchan**	**11.80**	**342**	*ce*PN	**Pn**	**23**	**20**	**08.2**	**+2.5**
SEY				MLR	MLR				
	comp=Z,5μm,13.0s								
UGL	**Uglegorsk**	**12.01**	**263**	*de*PN	**P**	**23**	**20**	**19.6**	**-1.5**
UGL				*e*S	Sn	23	22	30.8	+10
UGL				pmax	pmax				
	comp=Z,1μm,5.9s								
UGL				smax	smax				
	comp=E,100nm,2.7s								
UGL				smax	smax				
	comp=N,500nm,5.3s								
UGL				MLR	MLR				
	comp=Z,4μm,15.0s								
UGL				MLR	MLR				
	comp=N,3μm,13.0s								
UGL				MLR	MLR				
	comp=E,3μm,11.0s								
YSS	**Yuzhno-Sakhali**	**12.50**	**253**		**Pn**	**23**	**20**	**14.9**	**-0.4**
YSS	**Yuzhno-Sakhali**	**12.50**	**253**	*e*PN	**Pn**	**23**	**20**	**16.0**	**+0.7**
YSS				*e*S	**Sn**	**23**	**22**	**37.7**	**+4.3**
YSS				pmax	pmax				
	comp=Z,30nm,1.0s								
YSS				pmax	pmax				
	comp=Z,400nm,5.5s								
YSS				MLR	MLR				
	comp=Z,2μm,15.0s								
YUK	**Yuzh-Kuril'sk**	**12.53**	**236**	PN	**Pn**	**23**	**20**	**19.4**	**+3.7**
YUK				S	**Sn**	**23**	**22**	**39.7**	**+5.6**
YUK				MLR	MLR				
	comp=Z,3μm,16.0s								
YUK				MLR	MLR				
	comp=N,2μm,14.0s								
YUK				MLR	MLR				
	comp=E,4μm,15.0s								
JKA	**Kamikawa-asahi**	**14.22**	**244**		**Pn**	**23**	**20**	**36.6**	**-2.2**
ASAJ	**Asahikawa**	**14.22**	**244**	Pn	**Pn**	**23**	**20**	**37.0**	**-1.8**
	comp=E,1.7nm,0.3s,baz=68,slow=14,SNR=17								
ASAJ				LR	LR	23	27	07.7	
	comp=E,1μm,19.3s,baz=56,slow=42								
	comp=E,18nm,0.6s								
GRNR	**Gornyy**	**15.00**	**275**	⇑*i*P	**P**	**23**	**20**	**54.5**	**+0.1**
GRNR				pmax	pmax				
	comp=Z,50nm,1.2s								
GRNR				MLR	MLR				
	comp=E,960nm,16.0s								
GRNR				MLR	MLR				
	comp=N,940nm,13.0s								
GRNR				MLR	MLR				
	comp=Z,790nm,14.0s								
ERM	**Erimo**	**15.36**	**236**	Pn	**Pn**	**23**	**20**	**50.2**	**-3.8**
ERM	**Erimo**	**15.36**	**236**	⇓*e*P	**Pn**	**23**	**20**	**49.7**	**-4.3**
ERM				pmax	pmax				
	comp=Z,83nm,1.2s								
BILL	**Bilibino**	**16.39**	**8**		**P

comp=Z,3µm,14.4s
MDJ LR LR
comp=Z,1µm,12.0s
MDJ LR LR
comp=Z,2µm,18.2s
ANM Nome 21.66 41 P P 23 22 06.6 -0.7
ANM IAmb IAmb 23 22 29.5
comp=Z,58nm,1.6s
ANM Nome 21.66 41 P P 23 22 06.6 -0.7
ANM pmax pmax
comp=Z,58nm,1.6s
ANM Nome 21.66 41 P P 23 22 06.2 -1.0
baz=251
J14K Nanvaranak Lak 21.93 47 P 23 22 10.3 +0.1
J14K Nanvaranak Lak 21.93 47 P P 23 22 09.2 -1.0
baz=257,SNR=7.1
PSTR Posyet 21.98 257⇓ eP P 23 22 08.8 -2.0
MJB9 Matsu-Tunnel 22.00 234 P P 23 22 11.1 -0.1
MJB9 IAmb IAmb 23 22 14.7
comp=Z,64nm,0.8s
MAJO Matsushiro 22.00 234 P 23 22 10.4 -0.7
MAJO IAmb IAmb 23 22 13.7
comp=Z,66nm,0.8s
MAJO Matsushiro 22.00 234 c iP P 23 22 10.5 -0.7
MAJO pmax pmax
comp=Z,69nm,0.8s
MJAR Matsushiro Arr 22.00 234 P P 23 22 10.3 -0.9
MJAR IAmb IAmb 23 22 26.8
comp=Z,45nm,0.9s
MJAR Matsushiro Arr 22.00 234 P P 23 22 10.8 -0.3
comp=Z,42nm,1.0s,baz=29,slow=8.7,SNR=42
MJAR LR LR 23 31 45.9
comp=Z,1µm,20.4s,baz=33,slow=40
comp=Z,42nm,1.0s
MJAR Matsushiro Arr 22.00 234 P P 23 22 10.3 -0.9
MJAR pmax pmax
comp=Z,45nm,0.9s
L14K Kuka Creek 22.08 50 P P 23 22 13.0 +1.2
L14K Kuka Creek 22.08 50 P P 23 22 10.8 -1.0
baz=262
G15K Niukluk 22.34 41 P P 23 22 14.4 -0.2
baz=252,SNR=7.6
F15K North Star Dit 22.34 39 P P 23 22 12.9 -1.7
baz=249
M14K Bethel 22.35 52 P P 23 22 15.2 +0.5
baz=264,SNR=12
N14K Kuskokwak Cree 22.41 54 P P 23 22 16.2 +0.8
baz=266,SNR=10
BNX BinXian 22.44 267 ⇓P P 23 22 12.7 -3.1
BNX pmax pmax
comp=Z,88nm,1.2s
O14K Tigyukauivet M 22.59 56 P P 23 22 17.7 +0.3
O14K IAmb IAmb 23 22 21.8
comp=Z,48nm,1.1s
O14K Tigyukauivet M 22.59 56 P P 23 22 17.8 +0.4
baz=268,SNR=11
L15K Ungalak Mounta 22.69 50 P P 23 22 18.9 +0.5
baz=262,SNR=12
K15K Wolf Creek Mou 22.77 48 P P 23 22 18.5 -0.7
baz=261,SNR=14
H16K Elim 22.97 42 P P 23 22 19.9 -1.3
baz=254
M15K Kasigluk River 22.97 52 P P 23 22 21.2 0.0
baz=265,SNR=29
G16K Koyuk River 23.14 40 P P 23 22 21.8 -1.1
baz=253
C16K Lisburne Hills 23.16 32 P P 23 22 22.7 -0.3
baz=243
JGF Kuroka 23.16 234 P P 23 22 22.0 -1.5
JGF IAmb IAmb 23 22 37.4
comp=Z,40nm,0.8s
N15K Kwethluk River 23.23 54 P P 23 22 23.6 -0.3
baz=267,SNR=14
SDPT Sand Point 23.23 66 P P 23 22 23.6 -0.3
SDPT Sand Point 23.23 66 P P 23 22 24.4 +0.5
baz=278
O15K Ungalikthiuk R 23.33 56 P P 23 22 25.4 +0.5
O15K IAmb IAmb 23 22 42.0
comp=Z,98nm,1.9s
O15K Ungalikthiuk R 23.33 56 P P 23 22 25.0 0.0
baz=270,SNR=9.4
J16K Anvik River 23.36 46 P P 23 22 25.6 +0.4
baz=259,SNR=6.3
I17K Unalakleet 23.44 44 P P 23 22 25.8 -0.1
baz=258
INU Inuyama 23.53 234 P 23 22 26.3 -0.8
S14K Fog Glacier 23.63 64 P P 23 22 28.2 +0.2
baz=276
D17K Noatak River 23.68 34 P P 23 22 28.4 +0.2
baz=247,SNR=6.7
CHNA Chernabura Isl 23.82 67 P P 23 22 29.3 -0.3
baz=280,SNR=18
CNBA Chernabura Isl 23.82 67 P P 23 22 28.9 -0.7
CNBA IAmb IAmb 23 22 36.1
comp=Z,56nm,1.2s
M16K Timber Creek 23.84 52 P P 23 22 30.0 +0.2
baz=266,SNR=22
G17K Kiwalik Mounta 23.85 40 P P 23 22 30.5 +0.6
baz=254,SNR=9.4
RDOG Red Dog Mine 23.88 34 P P 23 22 30.0 -0.1
RDOG IAmb IAmb 23 22 58.6
comp=Z,47nm,1.3s
RDOG Red Dog Mine 23.88 34 P P 23 22 30.2 +0.1
baz=246
E17K Hotham Inlet 23.89 36 P P 23 22 31.0 +0.7
baz=250,SNR=22
F17K Baldwin Pennin 23.89 38 P P 23 22 30.6 +0.4
F17K IAmb IAmb 23 22 34.3
comp=Z,63nm,1.6s
F17K Baldwin Pennin 23.89 38 P P 23 22 30.5 +0.3
baz=252,SNR=6.4
N16K Nishlik Lake 23.90 53 P P 23 22 30.7 +0.3
baz=268,SNR=22
C17K DeLong Mountai 23.96 33 P P 23 22 30.4 -0.5
baz=245
H17K Granite Mounta 24.01 42 P P 23 22 31.2 -0.1
baz=256,SNR=13
JHJ Hachijo jima 2 24.03 226 P P 23 22 32.5 +0.6
comp=Z,96nm,0.6s,baz=44,slow=14,SNR=1.9
JHJ LR LR 23 36 45.8
comp=Z,395nm,18.1s,baz=56,slow=49
comp=Z,96nm,0.6s
J17K VABM Dome 24.06 46 P P 23 22 32.2 +0.4
baz=261,SNR=16
TIXI Tiksi 24.19 336 P 23 22 32.3 -0.6
TIXI Tiksi 24.19 336 LR LR 23 31 50.6
comp=Z,860nm,19.2s,baz=145,slow=36
TIXI Tiksi 24.19 336 ceP P 23 22 31.6 -1.3
TIXI pmax pmax
comp=Z,128nm,0.9s
TIXI MLR MLR
comp=Z,2µm,15.0s
O16K Kokwok River B 24.22 55 P P 23 22 34.3 +0.9
O16K Kokwok River B 24.22 55 P P 23 22 32.9 -0.5
baz=270,SNR=6.0
L17K Donlin 24.25 49 P P 23 22 33.4 -0.1
baz=264,SNR=13
CHGN Chignik 24.26 63 P P 23 22 34.2 +0.5
P16K Nushagak River 24.28 57 P P 23 22 34.4 +0.5
P16K IAmb IAmb 23 22 57.7
comp=Z,51nm,0.9s
P16K Nushagak River 24.28 57 P P 23 22 34.8 +1.0
baz=272
K17K Iditarod 24.31 48 P P 23 22 34.9 +0.8
baz=263,SNR=14
E18K Tukpahlearik C 24.46 36 P P 23 22 36.4 +0.9
E18K Tukpahlearik C 24.46 36 P P 23 22 36.1 +0.6
baz=250
F18K Selawik 24.55 38 P P 23 22 36.2 -0.1
baz=253
R16K Pilot Point 24.58 60 P P 23 22 37.0 +0.4
baz=275
M17K Holitna River 24.60 51 P P 23 22 37.5 +0.8
M17K IAmb IAmb 23 22 41.4
comp=Z,33nm,1.0s
M17K Holitna River 24.60 51 P P 23 22 36.2 -0.6
baz=267,SNR=20
CN2 Changchun 24.61 265 P P 23 22 33.7 -3.3
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,2µm,14.0s
N17K Nushagak Hills 24.68 53 P P 23 22 37.4 -0.1
baz=269,SNR=9.7
H18K Honhosa River 24.70 42 P P 23 22 37.8 +0.2
baz=258
C18K Utukok River 24.70 33 P P 23 22 38.5 +0.7
C18K IAmb IAmb 23 23 06.0
comp=Z,20nm,0.8s
C18K Utukok River 24.70 33 P P 23 22 37.4 -0.3
baz=247,SNR=7.4
O17K Koliganek Bris 24.73 55 P P 23 22 37.8 -0.1
baz=271,SNR=9.3
G18K Tagagawik 24.75 40 P P 23 22 38.3 +0.2
baz=256
B18K Kokolik River 24.79 31 P P 23 22 38.0 -0.5
baz=245
Q16K King Salmon 24.99 57 P P 23 22 40.8 +0.5
baz=273,SNR=5.2
L18K Granite Mounta 25.01 49 P P 23 22 40.8 +0.4
baz=266,SNR=9.4
P17K Kvichak River 25.08 56 P P 23 22 41.9 +0.8
baz=272,SNR=11
J18K Innoko River 25.12 46 P P 23 22 42.1 +0.7
baz=263,SNR=16
R17L Mt. Peulik Vol 25.23 60 P P 23 22 42.5 0.0
baz=276
GCSA Galena City Sc 25.24 43 P P 23 22 43.3 +0.8
baz=260
N18K Kilae Creek 25.33 53 P P 23 22 44.1 +0.7
baz=270,SNR=20
F19K Shaleruckik Mo 25.34 38 P P 23 22 44.1 +0.8
F19K Shaleruckik Mo 25.34 38 P P 23 22 44.1 +0.8
baz=255,SNR=8.1
M18K Stony River 25.38 51 P P 23 22 44.2 +0.4
baz=268,SNR=10
A19K Wainwright 25.39 30 P P 23 22 44.3 +0.6
baz=244
C19K Lookout Ridge 25.41 33 P P 23 22 43.7 -0.5
baz=248
Q17K Contact Creek 25.42 58 P P 23 22 43.8 -0.6
baz=275,SNR=7.4
G19K Purcell Mounta 25.43 40 P P 23 22 44.0 -0.3
baz=257
H19K Roundabout Mou 25.56 41 P P 23 22 45.5 +0.1
baz=259,SNR=8.8
J19K Poorman 25.67 45 P P 23 22 46.4 0.0
baz=263,SNR=11
O18K Koktuh Hills 25.68 55 P P 23 22 46.2 -0.4
baz=272
P18K Big Mountain, 25.69 56 P P 23 22 45.4 -1.3
baz=273
HIA Hailar 25.69 280 P P 23 22 44.9 -1.9
HIA IAmb IAmb 23 22 47.1
comp=Z,50nm,0.7s
HIA Hailar 25.69 280 P P 23 22 44.9 -1.9
HIA pmax pmax
comp=Z,50nm,0.7s
D19K Kuna River 25.70 34 P P 23 22 45.9 -0.8
baz=251
E19K Redstone River 25.71 37 P P 23 22 46.7 -0.1
baz=254,SNR=11
ACHA Angle Creek He 25.72 58 P P 23 22 47.5 +0.5
Q18K Katmai Hardscr 25.85 57 P P 23 22 47.5 -0.8
baz=275,SNR=13
L19K White Mountain 25.86 49 P P 23 22 48.1 -0.2
baz=268,SNR=11
CHIR Chirikof Islan 25.88 64 P P 23 22 48.1 -0.3
baz=280
N19K Bonanza Creek 26.02 52 P P 23 22 50.8 +1.0
N19K IAmb IAmb 23 22 55.4
comp=Z,24nm,1.1s
N19K Bonanza Creek 26.02 52 P P 23 22 48.8 -0.9
baz=271,SNR=11
M19K Big River Lodg 26.07 50 P P 23 22 51.2 +1.1
M19K IAmb IAmb 23 23 09.3
comp=Z,19nm,1.1s
M19K Big River Lodg 26.07 50 P P 23 22 49.3 -0.9
baz=268,SNR=10.0
O19K Port Alsworth 26.11 54 P P 23 22 50.8 +0.4
O19K IAmb IAmb 23 23 21.6
comp=Z,55nm,1.8s
O19K Port Alsworth 26.11 54 P P 23 22 50.3 -0.1
baz=272
F20K Avaraart Lake 26.17 38 P P 23 22 50.2 -0.7
baz=257
H20K Anotleneega Mo 26.20 42 P P 23 22 50.5 -0.8
baz=261
R18K Karluk 26.26 60 P P 23 22 50.9 -0.9
baz=277
I20K Naaghedeneel 26.26 43 P P 23 22 51.3 -0.5
baz=263
K20K Telida 26.29 47 P P 23 22 51.2 -0.9
baz=266,SNR=13
D20K Etivluk River 26.29 34 P P 23 22 52.3 +0.2
D20K Etivluk River 26.29 34 P P 23 22 51.1 -1.0
baz=252
E20K Nigu River 26.31 35 P P 23 22 51.4 -0.8
baz=254
L20K Farewell, AK 26.33 49 P P 23 22 52.3 -0.2
baz=268,SNR=6.5
J20K Nowinta River 26.33 45 P P 23 22 52.0 -0.4
baz=264,SNR=12
Q19K Cape Douglas, 26.53 57 P P 23 22 55.1 +0.8
Q19K IAmb IAmb 23 23 04.2
comp=Z,42nm,1.3s
Q19K Cape Douglas, 26.53 57 P P 23 22 53.3 -1.1
baz=275
B20K Meade River 26.54 31 P P 23 22 55.4 +1.2
B20K IAmb IAmb 23 23 26.5
comp=Z,30nm,0.9s
B20K Meade River 26.54 31 P P 23 22 53.5 -0.7
baz=249
SII Sitkinak Islan 26.55 62 P P 23 22 55.8 +1.4
SII IAmb IAmb 23 23 02.1
comp=Z,56nm,1.1s
SII Sitkinak Islan 26.55 62 P P 23 22 53.2 -1.3
baz=280
M20K Styx River 26.67 50 P P 23 22 54.9 -0.7
baz=270,SNR=7.4
P19K Oil Pt 26.69 55 P P 23 22 55.1 -0.7
baz=274
ILSW Iliamna Southw 26.71 54 P P 23 22 56.6 +0.5
IMAR Indian Mountai 26.74 41 P P 23 22 56.8 +0.7
BOD Bodaibo 26.86 301 eP P 23 22 55.1 -2.2
BOD pmax pmax
comp=Z,51nm,1.6s
RED Redoubt Volcan 26.87 53 P P 23 22 58.8 +1.3
G21K Allakaket 26.92 40 P P 23 22 57.9 +0.1
baz=260
OHAK Old Harbor 26.93 60 P P 23 22 57.6 -0.2
OHAK IAmb IAmb 23 23 26.0
comp=Z,40nm,1.4s
OHAK Old Harbor 26.93 60 P P 23 22 58.0 +0.1
baz=279,SNR=8.5
O20K Slope Mountain 26.96 54 P P 23 22 57.8 -0.5
baz=274
KSRS Korea Array 26.97 250 P P 23 22 58.8 +0.3
comp=Z,4.6nm,0.9s,baz=46,slow=8.5,SNR=12
comp=Z,4.6nm,0.9s
KSAR Wonju Array Be 27.00 250 P P 23 22 57.9 -0.8
KSAR Wonju Array Be 27.00 250 P P 23 22 57.9 -0.8
C21K Knifeblade Rid 27.06 34 P P 23 22 58.7 -0.2
baz=254
F21K Alatna River 27.06 38 P P 23 22 59.5 +0.4
baz=259
H21K Melozitna Rive 27.07 42 P P 23 22 59.5 +0.4
baz=263,SNR=6.8
CHUM Lake Minchumin 27.11 46 P P 23 22 59.5 +0.1
baz=266
N20K Mount Spurr 27.12 51 P P 23 22 59.4 -0.3
baz=272
SPCR Spurr Chakacha 27.12 51 P P 23 22 59.9 +0.3
baz=272
PPLA Purkeypile 27.12 48 P P 23 23 00.8 +1.0
PPLA IAmb IAmb 23 23 32.9
comp=Z,61nm,1.5s
PPLA Purkeypile 27.12 48 P P 23 22 59.7 0.0
baz=269,SNR=7.6
E21K Killik River 27.15 35 P P 23 22 59.9 +0.1
baz=256
CAST Castle Rocks 27.19 47 P P 23 23 01.1 +0.9
CAST IAmb IAmb 23 23 18.9
comp=Z,42nm,2.0s
CAST Castle Rocks 27.19 47 P P 23 23 01.2 +1.0
baz=268
SPU Mount Spurr 27.19 51 P 23 23 01.4 +1.1
Q20K Shuyak Island 27.21 57 P P 23 23 01.0 +0.5
baz=277
KDAK Kodiak Island 27.22 59 P P 23 23 00.1 -0.4
KDAK Kodiak Island 27.22 59 LR LR 23 34 43.0
comp=Z,523nm,19.4s,baz=241,slow=38
KDAK Kodiak Island 27.22 59⇓ eP P 23 23 00.8 +0.3
KDAK pmax pmax
comp=Z,18nm,1.4s
KDAK Kodiak Island 27.22 59 P P 23 23 00.2 -0.2
baz=278
B21K Ikpikpuk River 27.25 33 P P 23 22 59.7 -0.9
baz=253
I21K Tanana 27.36 43 P P 23 23 00.5 -1.2
baz=264
SKT Skwentna 27.42 50 P P 23 23 03.6 +1.3
SKT Skwentna 27.42 50 P P 23 23 00.7 -1.6
baz=271
H22K Ishtalitna Cre 27.69 41 P P 23 23 03.6 -1.0
baz=264
BPAW Bear Paw Mtn. 27.71 45 P P 23 23 05.5 +0.7
BPAW Bear Paw Mtn. 27.71 45 P P 23 23 05.0 +0.2
baz=267,SNR=6.2
CNPM China Poot 27.71 55 P P 23 23 05.2 +0.3
KTH Kantishna Hill 27.71 46 P P 23 23 06.0 +1.0
KTH IAmb IAmb 23 23 24.4
comp=Z,42nm,1.4s
D22K Ayikyak River 27.72 35 P P 23 23 03.7 -1.2
baz=257
G22K Bettles 27.77 39 P P 23 23 05.1 -0.2
baz=262
SUA Susitna One 27.81 51 P P 23 23 06.1 +0.2
SUA Susitna One 27.81 51 P P 23 23 05.3 -0.6
baz=273
B22K Teshekpuk Lake 27.85 32 P P 23 23 05.2 -0.8
baz=253
BRLK Bradley Lake 27.86 54 P P 23 23 07.1 +0.8
BRLK IAmb IAmb 23 23 53.4
comp=Z,23nm,1.4s
E22K Anaktuvuk Pass 27.87 36 P P 23 23 05.6 -0.6
baz=259
MLY Manley 27.87 43 P P 23 23 05.7 -0.7
baz=266
TRF Thorofare Moun 28.00 47 P P 23 23 07.0 -0.5
baz=269
CUT Chulitna 28.01 49 P P 23 23 07.1 -0.4
baz=271
RC01 Rabbit Creek A 28.32 52 P 23 23 11.2 +1.0
RC01 Rabbit Creek A 28.32 52 P P 23 23 10.2 -0.1
baz=274
COLD Coldfoot 28.32 39 P P 23 23 11.2 +0.9
COLD Coldfoot 28.32 39 P P 23 23 09.7 -0.6
baz=262
G23K Bananza Creek 28.33 40 P P 23 23 09.1 -1.2
baz=263
BWN Browne 28.38 45 P P 23 23 12.7 +1.9
H23K Yukon River 28.43 42 P P 23 23 11.0 -0.3
baz=266
D23K Nanushuk River 28.44 35 P P 23 23 10.6 -0.7
baz=259
JNU Nakatsue 28.46 240 P P 23 23 11.8 0.0
JNU Nakatsue 28.46 240 P P 23 23 13.4 +1.6
comp=Z,28nm,1.0s,baz=49,slow=9.3,SNR=7.7
I23K Minto, Yukon-K 28.46 43 P P 23 23 11.3 -0.2
baz=267
SEW Seward 28.55 54 P P 23 23 11.9 -0.4
baz=276
NEA2 Nenana 28.56 44 P P 23 23 11.7 -0.7
baz=268
PMR Palmer 28.58 50 P P 23 23 11.7 -0.9
baz=274
MCK McKinley 28.61 46 P P 23 23 12.2 -0.6
baz=270
C23K Itkillik River 28.65 33 P P 23 23 12.0 -1.2
baz=257
E23K Chandalar 28.67 37 P P 23 23 12.1 -1.3
baz=261
TOLK Toolik Lake Re 28.78 36 P P 23 23 13.0 -1.4
baz=260
KNK Knik Glacier 28.91 51 P P 23 23 14.3 -1.3
KNK IAmb IAmb 23 23 44.0
comp=Z,23nm,1.2s
KNK Knik Glacier 28.91 51 P P 23 23 14.3 -1.3
baz=275
PWL Port Wells 29.02 52 P P 23 23 15.5 -1.0
baz=276
E24K Your Creek 29.09 37 P P 23 23 16.2 -0.9
baz=262
COLA College 29.09 44 P P 23 23 17.9 +0.8
COLA College 29.09 44 c iP P 23 23 18.3 +1.2
COLA pmax pmax
comp=Z,16nm,1.5s
COLA College 29.09 44 P P 23 23 16.7 -0.4
baz=269
H24K Noodor Dome 29.12 42 P P 23 23 16.7 -0.7
baz=267
D24K Happy Valley 29.13 35 P P 23 23 16.4 -1.0
baz=260
M23K Glacier View 29.23 50 P P 23 23 17.6 -0.8
baz=274
F24K Squaw Lake 29.25 38 P P 23 23 17.2 -1.4
baz=264
POKR Poker Plat Res 29.27 43 P P 23 23 17.5 -1.2
baz=269
C24K Franklin Bluff 29.28 34 P P 23 23 17.6 -1.1
baz=259
G24K Hadweenzic Riv 29.34 40 P P 23 23 20.3 +1.0
G24K Hadweenzic Riv 29.34 40 P P 23 23 18.3 -1.0
baz=266
SCM Sheep Creek Mo 29.42 50 P P 23 23 20.9 +0.8
SCM IAmb IAmb 23 23 59.9
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 29.42 50 P P 23 23 20.9 +0.8
SCM pmax pmax
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 29.42 50 P P 23 23 19.1 -1.0
baz=275
HDA Harding Lake 29.48 45 P P 23 23 19.3 -1.2
baz=270
ILAR Eielson Array 29.50 44 P P 23 23 20.6 -0.2
comp=Z,1.6nm,0.8s,baz=250,slow=7.0,SNR=17
ILAR LR LR 23 36 48.6
comp=Z,619nm,18.9s,baz=268,slow=40
comp=Z,1.6nm,0.8s
P23K Montague Islan 29.58 54 P P 23 23 20.7 -0.8
baz=278
GLI Glacier Island 29.62 52 P 23 23 21.6 -0.2
GLI Glacier Island 29.62 52 P P 23 23 20.7 -1.2
baz=277
G25K Bearman Lake 29.88 40 P P 23 23 22.7 -1.4
baz=267
M24K Tolsona, Glenn 29.94 49 P P 23 23 23.4 -1.3
baz=275
H25L Birch Creek 29.98 41 P P 23 23 23.8 -1.1
baz=268
K24K Donnelly Dome 30.01 46 P P 23 23 24.6 -0.7
baz=273
D25K Kavik River 30.02 35 P P 23 23 23.9 -1.4
baz=262
PRP Porcupine Dome 30.08 42 P P 23 23 26.1 +0.1
PRP Porcupine Dome 30.08 42 P P 23 23 25.1 -0.9
baz=270
F25K Christian Rive 30.11 38 P P 23 23 24.8 -1.4
baz=266
KLU Klutina 30.12 50 P P 23 23 25.3 -1.1
baz=276
J25K Salcha River, 30.16 44 P P 23 23 26.2 -0.4
baz=272
PAX Paxson 30.19 47 P P 23 23 27.2 +0.2
PAX Paxson 30.19 47 P P 23 23 27.2 +0.2
PAX pmax pmax
comp=Z,15nm,1.6s
PAX Paxson 30.19 47 P P 23 23 27.7 +0.7
baz=274
Q23K Middleton Isla 30.19 55 P P 23 23 27.6 +0.7
baz=280
DIV Divide 30.23 51 P P 23 23 27.4 +0.1
EYAK Cordova Ski Ar 30.32 52 P P 23 23 27.4 -0.6
EYAK Cordova Ski Ar 30.32 52 P P 23 23 27.5 -0.5
baz=278
XLT XiLinHaoTe 30.35 272 eP P 23 23 27.2 -1.4
XLT pP pP 23 23 31.1 -5.2
XLT PP **PnPn 23 24 23.8 -3.3**
XLT S S **23 28 28.4 +1.5**
XLT pmax pmax
comp=Z,15nm,0.8s
XLT pmax pmax
comp=Z,52nm,5.0s
XLT LR LR
comp=Z,130nm,20.4s
XLT LR LR
comp=Z,980nm,17.4s
XLT LR LR

comp=Z,2µm,11.9s
HARP HAARP 30.39 49 P P 23 23 29.4 +0.8
baz=276
RIDG Independent Ri 30.42 46 P P 23 23 29.7 +0.8
baz=274
BMAR Burnt Mountain 30.51 39 P P 23 23 30.1 +0.4
C26K Camden Bay 30.61 34 P P 23 23 30.4 0.0
baz=263
F26K Sheenjek River 30.69 38 P P 23 23 31.9 +0.6
baz=267
N25K Chitina, Valde 30.73 50 P P 23 23 32.6 +0.8
baz=277
SCRK Sand Creek 30.79 45 P P 23 23 32.9 +0.6
baz=274
G26K Porcupine Rive 30.80 40 P P 23 23 33.0 +0.8
baz=269
BMRM Bremner River 30.82 51 P P 23 23 33.8 +1.3
baz=278
J26L Joseph Creek 30.94 44 P P 23 23 33.8 +0.2
baz=273
C27K Jago River 30.99 34 P P 23 23 34.5 +0.7
baz=265
KAIM Kayak Island 31.07 53 P P 23 23 35.7 +1.0
KAIM IAmb IAmb 23 23 53.0
comp=Z,15nm,1.0s
KAIM Kayak Island 31.07 53 P P 23 23 35.3 +0.6
baz=280
I26K Coal Creek Min 31.08 43 P P 23 23 35.2 +0.6
baz=272
HMT Hamilton 31.08 52 P P 23 23 35.6 +0.8
HMT IAmb IAmb 23 24 25.6
comp=Z,24nm,1.5s
GLB Gilahina Butte 31.13 50 P P 23 23 35.7 +0.5
L26K Log Cabin Wild 31.15 47 P P 23 23 36.1 +0.8
baz=276
SUCK Suckling Hills 31.37 53 P P 23 23 38.4 +1.2
SUCK IAmb IAmb 23 24 26.9
comp=Z,18nm,1.2s
M26K Nabesna, AK 31.38 48 P P 23 23 37.7 +0.3
baz=277
MCARA McCarthy VSAT 31.51 50 P P 23 23 39.8 +1.3
MCARA McCarthy VSAT 31.51 50 P P 23 23 38.2 -0.3
baz=279
CRQM Cirque 31.56 51 P P 23 23 40.0 +0.8
CRQM IAmb IAmb 23 23 57.7
comp=Z,21nm,1.1s
CRQE Cirque 31.58 51 P P 23 23 38.9 -0.4
baz=280
BGLC Bering Glacier 31.60 53 P P 23 23 39.8 +0.5
baz=281
K27K Chicken 31.62 45 P P 23 23 39.2 -0.2
baz=275
G27K Doyon Strip 31.65 40 P P 23 23 39.4 -0.3
baz=271
E27K Coleen River 31.67 37 P P 23 23 39.7 -0.2
baz=269
I27K Kandik River 31.71 42 P P 23 23 39.6 -0.7
baz=273
H27K Steamboat Moun 31.71 41 P P 23 23 40.1 -0.2
baz=272
WAX Waxell Ridge 31.75 52 P P 23 23 41.4 +0.6
WAX IAmb IAmb 23 24 12.6
comp=Z,25nm,1.4s
SNH Sunshine Point 31.81 52 P P 23 23 42.2 +1.0
SNH IAmb IAmb 23 24 17.5
comp=Z,13nm,1.0s
L27K Beaver Creek, 31.84 47 P P 23 23 41.0 -0.4
baz=277,SNR=15
BCAR Beaver Creek A 31.86 47 P P 23 23 42.3 +0.7
M27K Edge Creek, AK 31.91 48 P P 23 23 41.8 -0.3
baz=278
D27M Malcolm River 31.93 35 P P 23 23 42.6 +0.4
baz=268
GRNC Granite Creek 32.23 51 P P 23 23 45.6 +0.5
GRNC IAmb IAmb 23 24 03.6
comp=Z,18nm,1.2s
MESA MESA 32.24 52 P P 23 23 44.8 -0.4
baz=282
F28M Old Crow 32.32 38 P P 23 23 45.4 -0.2
baz=272
BVCY Beaver Creek 32.37 48 P P 23 23 45.6 -0.4
baz=279
CTG Chitna Glacier 32.39 51 P P 23 23 46.0 -0.3
baz=281
I28M Miner Creek 32.41 42 P P 23 23 46.7 +0.1
baz=275
E28M Babbage River 32.44 36 P P 23 23 45.8 -0.8
baz=270
H11N2 WAKE ISLAND Hy 32.57 169 T T 23 58 00.3
baz=352,slow=76,SNR=72
H11N3 WAKE ISLAND Hy 32.58 169 T T 23 58 00.3
baz=352,slow=76,SNR=56
H11N1 WAKE ISLAND Hy 32.58 169 T T 23 57 59.5
baz=352,slow=76,SNR=80
TABL Table Mountain 32.59 52 P P 23 23 49.7 +1.5
TABL IAmb IAmb 23 24 53.0
comp=Z,69nm,1.9s
YUK3 Moose Creek 32.66 49 P P 23 23 48.6 -0.2
baz=280,SNR=5.8
D28M Stokes Point 32.73 35 P P 23 23 49.0 -0.1
baz=270
DAWY Dawson 32.79 45 P P 23 23 49.9 +0.1
baz=278
O28M Mount Upton 32.98 51 P P 23 23 51.2 -0.5
baz=282
H29M Whitestone 32.99 41 P P 23 23 51.2 -0.2
baz=275
E29M Blow River 33.04 37 P P 23 23 51.4 -0.5
baz=272
G29M Pine Creek 33.08 39 P P 23 23 51.8 -0.4
baz=274,SNR=5.7
YUK8 Steele Glacier 33.08 50 P P 23 23 51.8 -0.7
baz=281
PCA Pinnacle 33.09 52 P 23 23 53.0 +0.6
PCA IAmb IAmb 23 24 35.8
comp=Z,36nm,1.2s
PINM Pinnacle 33.09 52 P P 23 23 52.3 -0.2
baz=283
I29M Ogilvie Camp, 33.10 42 P P 23 23 52.2 -0.3
baz=276
J29N Klondike Camp 33.25 44 P P 23 23 53.6 -0.2
baz=278
M29M Somme Creek 33.46 48 P P 23 23 55.6 -0.1
baz=281
L29M L29M 33.49 46 P P 23 23 55.6 -0.3
baz=280,SNR=8.5
YUK4 Talbot Arm 33.59 50 P P 23 23 56.5 -0.5
baz=282
PNL Peninsula 33.61 53 P P 23 23 55.8 -1.2
baz=284
EPYK Eagle Plains 33.64 40 P P 23 23 57.1 -0.1
baz=276
K29M Barlow Dome 33.64 45 P P 23 23 56.9 -0.4
baz=279
IRK Irkutsk 33.73 293 *e*P P 23 23 56.0 -2.0
IRK pmax pmax
comp=Z,50nm,1.0s
H11S1 WAKE ISLAND Hy 33.75 169 T T 23 59 41.2
baz=352,slow=76,SNR=5.4
H11S3 WAKE ISLAND Hy 33.76 169 T T 23 59 27.6
baz=352,slow=76,SNR=4.7
H11S2 WAKE ISLAND Hy 33.77 169 T T 23 59 20.2
baz=352,slow=76,SNR=5.4
G30M tAoh Zraii Nji 33.78 39 P P 23 23 57.2 -1.1
baz=276
YUK6 Outpost Mounta 33.81 50 P P 23 23 58.9 -0.1
baz=283
O29M Mount Kennedy 33.86 51 P P 23 23 58.3 -1.0
baz=284
F30M Barrier River 33.89 38 P P 23 23 59.2 +0.1
F30M IAmb IAmb 23 24 30.9
comp=Z,10nm,0.9s
F30M Barrier River 33.89 38 P P 23 23 57.8 -1.4
baz=275
I30M Mount Dempster 33.92 42 P P 23 23 58.6 -1.1
baz=278
ULN Ulaanbaatar 33.94 285 P P 23 23 58.5 -1.6
ULN IAmb IAmb 23 23 59.8
comp=Z,12nm,1.1s
ULN Ulaanbaatar 33.94 285 P P 23 23 58.5 -1.6
ULN pmax pmax
comp=Z,12nm,1.1s
J30M Hart River 34.04 44 P P 23 23 59.8 -0.9
baz=279
M30M Minto, Yukon 34.20 47 P P 23 24 00.4 -1.6
baz=282
HYT Haines Junctio 34.25 50 P P 23 24 02.2 -0.4
baz=284
HYT Haines Junctio 34.25 50 P P 23 24 01.8 -0.7
baz=284
N30M Aishikik Lake 34.30 49 P P 23 24 02.3 -0.7
baz=283
SONM Songino Array 34.35 285 P P 23 24 01.5 -2.1
SONM Songino Array 34.35 285 P P 23 24 01.6 -1.9
comp=Z,1.3nm,0.5s,baz=65,slow=7.0,SNR=11
SONM PcP PcP 23 26 38.5 -0.4
comp=Z,2.8nm,0.9s,baz=61,slow=1.9,SNR=5.6
SONM LR LR 23 39 50.9
comp=Z,2µm,18.6s,baz=66,slow=40
comp=Z,1.3nm,0.5s
SONM Songino Array 34.35 285 P P 23 24 01.5 -2.1
SONM pmax pmax
comp=Z,5.0nm,1.2s
MAYO Mayo, Yukon 34.40 45 P P 23 24 03.4 -0.3
baz=281
P29M Windy Craggy 34.44 52 P P 23 24 03.6 -0.5
baz=285
G31M Satah River 34.55 39 P P 23 24 04.4 -0.5
baz=277
INK Inuvik 34.67 37 P P 23 24 06.1 +0.2
INK Inuvik 34.67 37 P P 23 24 06.1 +0.2
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 34.67 37 P P 23 24 05.4 -0.5
baz=276
H31M Peel River 34.68 41 P P 23 24 05.6 -0.5
baz=279
F31M Tsiigehtchic 34.69 38 P P 23 24 06.5 +0.4
baz=277
P30M Million Dollar 34.69 51 P P 23 24 06.1 -0.2
baz=285
JOW Kunigami 34.81 236 P P 23 24 06.3 -1.2
comp=Z,26nm,0.9s,baz=34,slow=11,SNR=2.0
comp=Z,26nm,0.9s
HHC Hu-ho-hao-te 34.82 271 *e*P P 23 24 07.9 +0.2
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,88nm,5.6s
HHC LR LR
comp=Z,1µm,15.8s
HHC LR LR
comp=Z,810nm,16.5s
HHC LR LR
comp=Z,2µm,16.1s
N31M Braeburn, Yuko 34.91 49 P P 23 24 08.4 +0.2
baz=284
HNS HongShan 34.97 264 ⇓P P 23 24 08.2 -0.7
HNS pmax pmax
comp=Z,76nm,1.2s
HNS LR LR
comp=Z,1µm,16.9s
HNS LR LR
comp=Z,2µm,18.0s
HNS LR LR
comp=Z,1µm,14.9s
ZAK Zakamensk 35.05 291 *e*P P 23 24 08.4 -1.2
ZAK pmax pmax
comp=Z,23nm,1.3s
PLBC Pleasant Camp 35.16 52 P P 23 24 10.4 +0.2
baz=286
M31M Drury Creek, Y 35.37 47 P P 23 24 11.7 -0.5
baz=284
WHY Whitehorse 35.54 50 P P 23 24 14.1 +0.5
WHY IAmb IAmb 23 24 33.1
comp=Z,32nm,1.1s
WHY Whitehorse 35.54 50 P P 23 24 14.4 +0.7
baz=286
SKAG Skagway 35.66 52 P P 23 24 15.9 +1.4
SKAG IAmb IAmb 23 24 47.9
comp=Z,42nm,1.6s
SKAG Skagway 35.66 52 P P 23 24 15.6 +1.0
baz=287
S31K Pelican 35.67 55 P P 23 24 14.9 +0.2
baz=288
MOY Mondy 35.82 294 *e*P P 23 24 15.3 -0.9
MOY pmax pmax
comp=Z,51nm,1.3s
BTO Baotou 35.92 272 *e*P P 23 24 16.8 -0.3
BTO pP pP 23 24 21.4 -3.5
BTO sP sP 23 24 23.8 -4.3
BTO pmax pmax
comp=Z,25nm,0.6s
BTO pmax pmax
comp=Z,380nm,8.0s
BTO LR LR
comp=Z,2µm,12.8s
BTO LR LR
comp=Z,3µm,15.9s
BTO LR LR
comp=Z,4µm,15.0s
NJ2 Nanjing 36.07 253 *e*P P 23 24 18.3 -0.1
NJ2 pmax pmax
comp=Z,36nm,0.6s
BESE Bessie Mountai 36.16 53 P 23 24 19.5 +0.5
BESE IAmb IAmb 23 25 03.5
comp=Z,24nm,1.3s
N32M Quiet Lake 36.25 49 P P 23 24 20.7 +1.1
baz=286
P32M Atlin 36.41 51 P P 23 24 22.6 +1.6
P32M Atlin 36.41 51 P P 23 24 21.6 +0.5
baz=288
R32K Eaglecrest 36.43 54 P P 23 24 21.4 +0.3
baz=289
SIT Sitka 36.43 56 P P 23 24 21.2 +0.1
baz=290
P33M Teslin, Yukon 36.65 50 P P 23 24 22.8 -0.3
baz=288
S32K Killisnoo 36.67 55 P P 23 24 23.8 +0.6
baz=290
MMPY Sheldon Lake, 36.67 46 P P 23 24 24.3 +1.0
MMPY Sheldon Lake, 36.67 46 P P 23 24 23.0 -0.3
baz=286,SNR=6.1
A36M Sachs Harbour 37.02 30 P P 23 24 25.7 -0.3
baz=278
Q32M Nakina River 37.31 52 P P 23 24 28.8 -0.1
baz=290,SNR=5.2
R33M Jennings River 37.80 51 P P 23 24 31.9 -1.0
baz=290,SNR=11
U33K Whale Pass 37.91 57 P P 23 24 34.1 +0.4
baz=293
CRAG Craig 38.16 58 P P 23 24 36.0 +0.2
baz=293
WRAK Wrangell Islan 38.19 56 P P 23 24 36.1 0.0
baz=293
LYN LuoYang 38.20 262 ⇓*i*P P 23 24 37.3 +0.9
LYN pP pP 23 24 42.2 -2.1
LYN sP sP 23 24 44.6 -2.9
LYN pmax pmax
comp=Z,80nm,0.9s
LYN LR LR
comp=Z,2µm,16.5s
LYN LR LR
comp=Z,2µm,18.6s
LYN LR LR
comp=Z,1µm,19.2s
S34M Telegraph Cree 38.24 53 P P 23 24 37.2 +0.7
S34M Telegraph Cree 38.24 53 P P 23 24 36.7 +0.2
baz=292
TGTN Hyland Airport 38.34 47 P P 23 24 37.2 -0.3
baz=289
DLBC Dease Lake 38.59 52 LR LR 23 41 39.4
comp=Z,205nm,18.5s,baz=284,slow=38
DLBC Dease Lake 38.59 52 P P 23 24 39.1 -0.5
baz=292
V35K Ketchikan 39.01 57 P P 23 24 42.6 -0.3
baz=294
T35M Bob Quinn 39.04 54 P P 23 24 44.9 +1.7
T35M IAmb IAmb 23 25 36.5
comp=Z,32nm,1.6s
T35M Bob Quinn 39.04 54 P P 23 24 42.6 -0.7
baz=293
DIB Dawson Inlet, 39.46 61 P P 23 24 48.1 +1.4
RUBB Prince Rupert 40.15 58 P P 23 24 53.8 +1.4
TOAD Toad River Com 40.74 50 P P 23 24 57.6 +0.2
baz=294,SNR=5.0
BBB Bella Bella 42.28 60 LR LR 23 43 56.7
comp=Z,236nm,18.2s,baz=302,slow=38
LZH Lanzhou 42.52 271 *e*P P 23 25 11.9 -0.5
LZH sP pP 23 25 18.8 -1.5
LZH S S 23 31 34.7 +2.0
LZH pmax pmax
comp=Z,26nm,1.3s
LZH LR LR
comp=Z,2µm,13.7s
LZH LR LR
comp=Z,1µm,13.4s
LZH LR LR
comp=Z,1µm,13.4s
GTA Gaotai 42.92 278 *e*P P 23 25 14.6 -0.9
GTA pP pP 23 25 22.0 -1.2
GTA PP PP 23 26 56.2 +1.0
GTA pmax pmax
comp=Z,14nm,1.0s
GTA LR LR
comp=Z,2µm,13.9s
GTA LR LR
comp=Z,1µm,14.7s
GTA LR LR
comp=Z,2µm,13.5s
ENH Enshi 42.97 260 P P 23 25 15.2 -0.8
ZAA0 Zalesovo Array 43.55 304 P P 23 25 17.8 -2.5
ZALV Zalesovo Beam 43.55 304 P P 23 25 17.7 -2.5
ZALV Zalesovo Beam 43.55 304 P P 23 25 17.8 -2.4
comp=Z,2.3nm,0.7s,baz=59,slow=5.7,SNR=13
ZALV PP PP 23 27 00.5 -1.0
comp=Z,2.4nm,0.8s,baz=64,slow=11,SNR=4.3
ZALV LR LR 23 44 56.6
comp=Z,463nm,18.1s,baz=58,slow=38
comp=Z,2.3nm,0.7s
ZALV Zalesovo Beam 43.55 304 *i* P P 23 25 18.1 -2.1
ZALV pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 43.89 42 P P 23 25 23.3 +0.4
YKA Yellowknife Ar 43.89 42 P P 23 25 24.0 +1.1
comp=Z,2.1nm,0.9s,baz=302,slow=8.3,SNR=12
comp=Z,2.1nm,0.9s
YKA Yellowknife Ar 43.89 42 *i* P P 23 25 25.5 +2.6
YKA pmax pmax
comp=Z,2.0nm,0.9s
CBB Campbell River 44.87 62 P P 23 25 30.6 -0.3
CD2 Chengdu 46.04 266 P P 23 25 41.1 +0.7
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 LR LR
comp=Z,1µm,14.6s
CD2 LR LR
comp=Z,2µm,15.2s
CD2 LR LR
comp=Z,1µm,14.0s
GULI GuiLin 46.07 254 P P 23 25 40.1 -0.6
GULI pmax pmax
comp=Z,35nm,1.0s
GULI pmax pmax
comp=Z,790nm,5.4s
CLRS Cowichan Lake 46.21 62 P P 23 25 42.2 +0.8
CLRS IAmb IAmb 23 25 59.3
comp=Z,12nm,1.0s
LLLB Lillooet 46.44 59 P P 23 25 44.5 +1.2
ZSN Zaisan 47.00 296 *e*P P 23 25 46.3 -1.4
ZSN Zaisan 47.00 296 *e*P P 23 25 46.3 -1.4
NLWA Neilton Lookou 47.17 64 P P 23 25 49.6 +0.5
NLWA IAmb IAmb 23 26 07.1
comp=Z,15nm,1.1s
WMQ Urumqi 47.52 290 *e*P P 23 25 52.0 +0.1
WMQ pP pP 23 25 57.2 -2.8
WMQ pmax pmax
comp=Z,54nm,0.9s
WMQ pmax pmax
comp=Z,270nm,4.1s
WMQ LR LR
comp=Z,2µm,11.7s
WMQ LR LR
comp=Z,3µm,12.7s
WMQ LR LR
comp=Z,1µm,14.1s
E03A Lebam 47.83 65 P P 23 25 54.0 -0.1
E03A IAmb IAmb 23 26 12.0
comp=Z,14nm,1.0s
TULEG Thule 48.01 14 P P 23 25 55.5 +0.3
TULEG IAmb IAmb 23 26 12.0
comp=Z,23nm,0.9s
KBS Kingsbay 48.03 352 P P 23 25 55.8 +0.5
KBS Kingsbay 48.03 352 P P 23 25 55.8 +0.5
KBS pmax pmax
comp=Z,44nm,0.9s
SPITS Spitsbergen Ar 48.28 351 P P 23 25 58.5 +1.2
comp=Z,15nm,0.5s,baz=53,slow=9.6,SNR=44
SPITS LR LR 23 47 50.0
comp=Z,574nm,18.2s,baz=22,slow=38
comp=Z,15nm,0.5s
SPITS Spitsbergen Ar 48.28 351 P P 23 25 57.7 +0.4
SPITS pmax pmax
comp=Z,239nm,1.3s
SPB2 Spitsbergen Ar 48.29 351 P P 23 25 57.8 +0.5
KURK Kurchatov 48.49 303 P P 23 25 57.4 -1.8
KURK Kurchatov 48.49 303 *c* *i*P P 23 25 57.2 -2.0
KURK pmax pmax
comp=Z,55nm,1.1s
KURK MLR MLR
comp=Z,939nm,15.0s
KURBB Kurchatov Arra 48.59 303 P P 23 25 58.2 -1.8
comp=Z,17nm,0.9s,baz=62,slow=7.9,SNR=63
KURBB LR LR 23 47 57.8
comp=Z,511nm,18.1s,baz=198,slow=38
comp=Z,17nm,0.9s
MK31 Makanchi Array 48.81 297 P P 23 26 00.0 -1.8
MK31 IAmb IAmb 23 26 01.2
comp=Z,34nm,1.7s
MK31 Makanchi Array 48.81 297 P P 23 26 00.0 -1.8
MK31 pmax pmax
comp=Z,34nm,1.7s
MKAR Makanchi Array 48.81 297 P P 23 25 59.6 -2.2
MKAR Makanchi Array 48.81 297 P P 23 25 59.8 -2.0
comp=Z,5.7nm,0.9s,baz=53,slow=6.9,SNR=30
MKAR LR LR 23 48 21.9
comp=Z,512nm,19.7s,baz=52,slow=38
comp=Z,5.7nm,0.9s
MKAR Makanchi Array 48.81 297 *i* P P 23 26 00.4 -1.4
MKAR pmax pmax
comp=Z,4.0nm,0.7s
HSPB Hornsund (broa 49.41 350 *e*P P 23 26 08.0 +2.1
BLKN Baker Lake 49.94 34 P P 23 26 10.9 +0.9
BLKN IAmb IAmb 23 26 34.6
comp=Z,16nm,1.0s
KBO Bosley Butte 50.08 70 P P 23 26 12.5 +1.0
KBO IAmb IAmb 23 26 30.0
comp=Z,18nm,1.2s
HAWA Hanford 50.16 63 P P 23 26 12.6 +0.6
NEW Newport 50.33 59 LR LR 23 47 15.2
comp=Z,129nm,19.2s,baz=336,slow=36
PZH PanZhiHua 50.41 263 P P 23 26 15.2 +0.9
PZH S S 23 33 27.6 +1.8
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,160nm,4.8s
PZH LR LR
comp=Z,530nm,19.0s
PZH LR LR
comp=Z,680nm,16.3s
PZH LR LR
comp=Z,670nm,18.6s
KMI Kunming 50.81 261 P P 23 26 17.4 0.0
KMI pmax pmax
comp=Z,28nm,1.4s
KMI LR LR
comp=Z,920nm,15.4s
KMI LR LR
comp=Z,750nm,15.8s
KMI LR LR
comp=Z,630nm,14.7s
QIZ Qiongzhong 51.20 250 P P 23 26 20.1 0.0
QIZ Qiongzhong 51.20 250 P P 23 26 21.1 +1.0
QIZ S S 23 33 40.0 +3.5
QIZ pmax pmax
comp=Z,83nm,1.4s
QIZ LR LR
comp=Z,580nm,10.3s
QIZ LR LR
comp=Z,1µm,12.9s
BVAR Borovoye Array 51.24 309 P P 23 26 18.4 -1.7
comp=Z,8.0nm,0.6s,baz=56,slow=7.9,SNR=48
BVAR LR LR 23 49 17.1
comp=Z,316nm,18.6s,baz=52,slow=38
comp=Z,8.0nm,0.6s
YBH Yreka Blue Hor 51.26 69 P P 23 26 21.2 +0.8
YBH IAmb IAmb 23 26 38.9
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 51.26 69 LR LR 23 47 21.1
comp=Z,13nm,18.6s,baz=290,slow=35

YBH	**Yreka Blue Hor**	**51.26**	**69**	P	**P**	**23 26 21.2**	**+0.8**
YBH				pmax	pmax		
	comp=Z,12nm,1.1s						
BRVK	**Borovoye**	**51.27**	**309**	P	**P**	**23 26 18.6**	**-1.7**
BRVK				IAmb	IAmb	23 26 20.5	
	comp=Z,23nm,1.1s						
BRVK	**Borovoye**	**51.27**	**309**	*c i*P	**P**	**23 26 18.6**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,24nm,1.0s						
BRVK				MLR	MLR		
	comp=Z,2µm,15.0s						
DAG	**Danmarks Havn**	**51.54**	**360**	P	**P**	**23 26 22.8**	**+0.8**
DAG				pmax	pmax		
	comp=Z,33nm,1.0s						
TDK	**Taldyqorghan**	**52.05**	**297**	*e*P	**P**	**23 26 24.9**	**-1.4**
TDK				pmax	pmax		
	comp=Z,27nm,1.1s						
TDK	**Taldyqorghan**	**52.05**	**297**	*e*P	**P**	**23 26 24.9**	**-1.4**
	comp=Z,27nm,1.1s						
JTMT	**Jette**	**52.15**	**58**	P	**P**	**23 26 27.7**	**+0.6**
BMO	**Blue Mountains**	**52.34**	**63**	P	**P**	**23 26 29.5**	**+1.0**
BMO	**Blue Mountains**	**52.34**	**63**	P	**P**	**23 26 29.5**	**+1.0**
BMO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SHLS	**Shalkode**	**52.64**	**295**	*e*P	**P**	**23 26 27.4**	**-3.3**
SHLS	**Shalkode**	**52.64**	**295**	*e*P	**P**	**23 26 27.5**	**-3.3**
UZB	**Uzynbulak**	**52.89**	**295**	*e*P	**P**	**23 26 31.2**	**-1.5**
UZB	**Uzynbulak**	**52.89**	**295**	*e*P	**P**	**23 26 31.2**	**-1.5**
PLID	**Pearl Lake**	**52.90**	**62**	P	**P**	**23 26 33.9**	**+1.1**
MSO	**Missoula**	**52.91**	**59**	P	**P**	**23 26 34.0**	**+1.4**
MSO				IAmb	IAmb	23 26 50.9	
	comp=Z,16nm,1.3s						
SLVN	**Son La**	**52.93**	**257**	P	**P**	**23 26 32.7**	**-0.4**
GDXM	**Geysers**	**53.10**	**72**	P	**P**	**23 26 35.3**	**+1.1**
DAV	**Davao City (W)**	**53.10**	**225**	LR	LR	23 51 07.4	
	comp=Z,71nm,19.6s,baz=36,slow=38						
SVE	**Sverdlovsk**	**53.23**	**317**	*e*P	**P**	**23 26 34.4**	**-0.3**
SVE				pmax	pmax		
	comp=Z,19nm,1.0s						
SATY	**Saty**	**53.29**	**295**	*e*P	**P**	**23 26 34.2**	**-1.4**
SATY	**Saty**	**53.29**	**295**	*e*P	**P**	**23 26 34.2**	**-1.4**
FFC	**Flin Flon**	**53.69**	**46**	P	**P**	**23 26 38.8**	**+0.6**
FFC				pmax	pmax		
	comp=Z,18nm,1.6s						
LVZ	**Lovozero**	**53.81**	**338**	P	**P**	**23 26 39.3**	**+0.3**
LVZ	**Lovozero**	**53.81**	**338⇓**	*e*P	**P**	**23 26 38.3**	**-0.7**
LVZ				pmax	pmax		
	comp=Z,87nm,2.8s						
KEV	**Kevo**	**53.95**	**342**	P	**P**	**23 26 39.7**	**-0.1**
KEV				IAmb	IAmb	23 26 41.0	
	comp=Z,20nm,0.9s						
KEV	**Kevo**	**53.95**	**342**	P	**P**	**23 26 39.7**	**-0.1**
KEV				pmax	pmax		
	comp=Z,20nm,0.9s						
AAA	**Alma-Ata**	**54.03**	**296**	*e*P	**P**	**23 26 39.5**	**-1.4**
AAA	**Alma-Ata**	**54.03**	**296**	*e*P	**P**	**23 26 39.6**	**-1.4**
TNSS	**Tian-Shan**	**54.12**	**296**	*e*P	**P**	**23 26 40.1**	**-1.9**
TNSS	**Tian-Shan**	**54.12**	**296**	*e*P	**P**	**23 26 40.1**	**-1.9**
ARCES	**ARCESS Array B**	**54.42**	**342**	P	**P**	**23 26 43.3**	**0.0**
ARCES				IAmb	IAmb	23 26 44.7	
	comp=Z,22nm,0.8s						
ARCES	**ARCESS Array B**	**54.42**	**342**	P	**P**	**23 26 43.5**	**+0.2**
	comp=Z,20nm,0.8s,baz=29,slow=8.3,SNR=27						
ARCES				LR	LR	23 54 41.2	
	comp=Z,222nm,18.3s,baz=27,slow=41						
	comp=Z,20nm,0.8s						
ARCES	**ARCESS Array B**	**54.42**	**342**	P	**P**	**23 26 43.3**	**0.0**
ARCES				pmax	pmax		
	comp=Z,22nm,0.9s						
ARTI	**Arti**	**54.45**	**318**	P	**P**	**23 26 42.5**	**-1.3**
ARTI				IAmb	IAmb	23 26 44.2	
	comp=Z,14nm,0.9s						
ARTI	**Arti**	**54.45**	**318**	LR	LR	23 52 14.9	
	comp=Z,463nm,18.1s,baz=38,slow=39						
ARTI	**Arti**	**54.45**	**318**	*c i*P	**P**	**23 26 43.3**	**-0.4**
ARTI				S	**S**	**23 34 21.5**	**+1.4**
ARTI				pmax	pmax		
	comp=Z,16nm,1.0s						
ARTI				MLR	MLR		
	comp=Z,1µm,15.0s						
TARG	**Taragay, Kyrgy**	**54.49**	**294**	P	**P**	**23 26 44.2**	**-0.5**
TARG	**Taragay, Kyrgy**	**54.49**	**294**	P	**P**	**23 26 44.2**	**-0.5**
TARG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KDJ	**Kajisay**	**54.58**	**295**	P	**P**	**23 26 43.9**	**-1.2**
KDJ	**Kajisay**	**54.58**	**295**	P	**P**	**23 26 43.9**	**-1.2**
LSA	**Lhasa**	**54.68**	**274**	P	**P**	**23 26 45.6**	**-0.7**
LSA				IAmb	IAmb	23 26 49.4	
	comp=Z,8.8nm,0.7s						
LSA	**Lhasa**	**54.68**	**274**	P	**P**	**23 26 45.6**	**-0.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HLID	**Hailey**	**54.76**	**62**	P	**P**	**23 26 47.0**	**+0.6**
BOZ	**Bozeman (W)**	**54.93**	**59**	P	**P**	**23 26 48.4**	**+0.9**
BOZ				IAmb	IAmb	23 27 06.3	
	comp=Z,19nm,1.5s						
BOZ	**Bozeman (W)**	**54.93**	**59**	P	**P**	**23 26 48.4**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,19nm,1.5s						
CMB	**Columbia Colle**	**55.02**	**71**	P	**P**	**23 26 49.7**	**+1.5**
CMB	**Columbia Colle**	**55.02**	**71**	P	**P**	**23 26 49.7**	**+1.5**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SUMG	**Summit**	**55.07**	**7**	P	**P**	**23 26 49.3**	**+0.9**
SUMG	**Summit**	**55.07**	**7**	P	**P**	**23 26 49.3**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,80nm,1.5s						
WAKR	**Walker**	**55.26**	**70**	P	**P**	**23 26 51.7**	**+1.6**
WAKR				IAmb	IAmb	23 27 08.4	
	comp=Z,14nm,1.1s						
AAK	**Ala-Archa**	**55.74**	**297**	P	**P**	**23 26 52.4**	**-1.1**
AAK				IAmb	IAmb	23 26 53.7	
	comp=Z,19nm,1.2s						
AAK	**Ala-Archa**	**55.74**	**297**	*ce*P	**P**	**23 26 52.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s						
AAK				MLR	MLR		
	comp=Z,910nm,15.0s						
YHH	**Holmes Hill**	**55.88**	**59**	P	**P**	**23 26 54.8**	**+0.3**
NVAR	**Mina Array Bea**	**55.97**	**70**	P	**P**	**23 26 55.7**	**+0.5**
NVAR	**Mina Array Bea**	**55.97**	**70**	P	**P**	**23 26 57.0**	**+1.8**
	comp=Z,3.2nm,0.9s,baz=297,slow=8.0,SNR=12						
	comp=Z,3.2nm,0.9s						
ELK	**Elko**	**56.17**	**66**	P	**P**	**23 26 57.8**	**+1.2**
ELK	**Elko**	**56.17**	**66**	LR	LR	23 49 08.0	
	comp=Z,94nm,19.1s,baz=304,slow=34						
ELK	**Elko**	**56.17**	**66**	P	**P**	**23 26 57.8**	**+1.2**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIRV	**Kirov**	**56.41**	**324**	LR	LR	23 55 53.6	
	comp=Z,683nm,18.0s,baz=41,slow=41						
KIRV	**Kirov**	**56.41**	**324**	*d i*P	**P**	**23 26 58.2**	**+0.5**
RLMT	**Red Lodge**	**56.49**	**58**	P	**P**	**23 27 00.2**	**+1.4**
RLMT				IAmb	IAmb	23 27 18.2	
	comp=Z,21nm,1.2s						
MSF	**Maaselka**	**56.73**	**338**	P	**P**	**23 27 01.0**	**+1.1**
MSF				pmax	pmax		
	comp=Z,110nm,1.1s						
JAY	**Jayapura**	**56.78**	**204**	LR	LR	23 49 52.8	
	comp=Z,187nm,20.4s,baz=6.0,slow=34						
SMPI	**Sarmi**	**56.80**	**206**	P	**P**	**23 27 05.3**	**+4.4**
TPH	**Tonopah**	**56.84**	**69**	P	**P**	**23 27 02.5**	**+1.1**
TPH				IAmb	IAmb	23 27 19.5	
	comp=Z,24nm,1.3s						
TPH	**Tonopah**	**56.84**	**69**	P	**P**	**23 27 02.5**	**+1.1**
TPH				pmax	pmax		
	comp=Z,24nm,1.3s						
HVU	**Hansel Valley**	**56.85**	**63**	P	**P**	**23 27 03.2**	**+1.9**
HVU				IAmb	IAmb	23 27 20.6	
	comp=Z,11nm,1.0s						
HVU	**Hansel Valley**	**56.85**	**63**	P	**P**	**23 27 03.2**	**+1.9**
HVU				pmax	pmax		
	comp=Z,11nm,1.0s						
ILULI	**Ilulissat**	**56.95**	**13**	P	**P**	**23 27 02.1**	**+0.7**
ILULI	**Ilulissat**	**56.95**	**13**	P	**P**	**23 27 02.1**	**+0.7**
ILULI				pmax	pmax		
	comp=Z,22nm,0.5s						
KSH	**Kashi**	**57.01**	**293**	P	**P**	**23 27 05.5**	**+3.0**
KSH				sP	sP	23 27 13.0	-0.9
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KSH				LR	LR		
	comp=Z,850nm,15.5s						
KSH				LR	LR		
	comp=Z,790nm,16.5s						
KSH				LR	LR		
	comp=Z,1µm,14.7s						
SHL	**Shillong**	**57.18**	**270**	P	**P**	**23 27 03.2**	**-0.6**
SHL	**Shillong**	**57.18**	**270**	P	**P**	**23 27 03.3**	**-0.6**
SHL				pmax	pmax		
	comp=Z,39nm,1.0s						
VES	**Vestal, Richgr**	**57.28**	**72**	P	**P**	**23 27 05.0**	**+0.7**
VES				IAmb	IAmb	23 27 19.2	
	comp=Z,14nm,1.1s						
ARSB	**Arslanbob**	**57.46**	**297**	P	**P**	**23 27 04.8**	**-0.8**
ARSB	**Arslanbob**	**57.46**	**297**	P	**P**	**23 27 04.8**	**-0.8**
KK31	**Karatay Array**	**57.59**	**300**	P	**P**	**23 27 05.3**	**-1.1**
KK31				IAmb	IAmb	23 27 06.2	
	comp=Z,9.7nm,0.9s						
KK31	**Karatay Array**	**57.59**	**300**	P	**P**	**23 27 05.3**	**-1.1**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KKAR	**Karatay Array**	**57.59**	**300**	P	**P**	**23 27 04.7**	**-1.7**
KKAR	**Karatay Array**	**57.59**	**300**	P	**P**	**23 27 04.7**	**-1.7**
HWUT	**Hardware Ranch**	**57.63**	**63**	P	**P**	**23 27 08.1**	**+1.2**
HWUT				IAmb	IAmb	23 27 26.3	
	comp=Z,10nm,1.1s						
CHTO	**Chiang Mai**	**57.85**	**259**	P	**P**	**23 27 08.4**	**-0.1**
CHTO	**Chiang Mai**	**57.85**	**259**	P	**P**	**23 27 08.4**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,46nm,1.0s						
PDAR	**Pinedale Array**	**57.93**	**60**	P	**P**	**23 27 10.0**	**+1.0**
PDAR	**Pinedale Array**	**57.93**	**60**	P	**P**	**23 27 10.6**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=311,slow=3.1,SNR=14						
	comp=Z,2.4nm,0.8s						
BRLS	**Borolday**	**58.01**	**300**	*e*P	**P**	**23 27 09.7**	**+0.4**
BRLS	**Borolday**	**58.01**	**300**	*e*P	**P**	**23 27 09.8**	**+0.4**
KLMR	**Klimovskoe**	**58.02**	**330**	*e*P	**P**	**23 27 06.5**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,53nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,1µm,16.0s						
CM31	**Chiang Mai Arr**	**58.13**	**259**	P	**P**	**23 27 11.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.13**	**259**	P	**P**	**23 27 10.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**58.13**	**259**	P	**P**	**23 27 11.3**	**+0.9**
	comp=Z,13nm,0.8s,baz=24,slow=7.1,SNR=52						
CMAR				LR	LR	23 54 11.4	
	comp=Z,276nm,18.2s,baz=50,slow=38						
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**58.13**	**259**	*i* P	**P**	**23 27 11.8**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,14nm,0.9s						
TPNV	**Topopah Spring**	**58.17**	**69**	P	**P**	**23 27 11.8**	**+1.1**
TPNV				IAmb	IAmb	23 27 27.1	
	comp=Z,11nm,1.1s						
TPNV	**Topopah Spring**	**58.17**	**69**	P	**P**	**23 27 11.8**	**+1.1**
TPNV				pmax	pmax		
	comp=Z,11nm,1.1s						
FRB	**Frobisher Bay**	**58.48**	**23**	LR	LR	23 56 05.6	
	comp=Z,425nm,19.1s,baz=5.5,slow=40						
IUG	**Iuzhnay**	**58.51**	**299**	*e*P	**P**	**23 27 11.5**	**-1.4**
IUG				pmax	pmax		
	comp=Z,11nm,0.7s						
IUG	**Iuzhnay**	**58.51**	**299**	*e*P	**P**	**23 27 11.6**	**-1.4**
	comp=Z,11nm,0.7s						
EVN	**Everest**	**58.58**	**276**	P	**P**	**23 27 13.5**	**-0.8**
CHM	**Chimkent**	**58.62**	**300**	*e*P	**P**	**23 27 12.3**	**-1.3**
CHM				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHM	**Chimkent**	**58.62**	**300**	*e*P	**P**	**23 27 12.3**	**-1.3**
	comp=Z,6.4nm,0.7s						
AB31	**Akbulak array**	**58.67**	**311**	P	**P**	**23 27 12.6**	**-1.2**
AB31				IAmb	IAmb	23 27 14.7	
	comp=Z,6.4nm,0.8s						
ABKAR	**Akbulak array**	**58.67**	**311**	P	**P**	**23 27 12.4**	**-1.3**
AKTO	**Aktyubinsk**	**58.72**	**313**	LR	LR	23 55 29.1	
	comp=Z,594nm,18.3s,baz=36,slow=39						
SFJD	**Kangerlussuaq**	**59.08**	**14**	LR	LR	23 56 13.9	
	comp=Z,293nm,18.3s,baz=357,slow=40						
BRDH	**Bariadhala**	**59.44**	**268**	LR	LR	23 55 37.6	
	comp=Z,394nm,18.4s,baz=44,slow=39						
MDND	**Maddock**	**59.46**	**50**	P	**P**	**23 27 20.6**	**+1.3**
RSSD	**Black Hills**	**59.89**	**56**	P	**P**	**23 27 23.1**	**+0.5**
RSSD	**Black Hills**	**59.89**	**56**	P	**P**	**23 27 23.1**	**+0.5**
RSSD				pmax	pmax		
	comp=Z,29nm,1.0s						
PFO	**Pinyon Flats O**	**60.38**	**72**	LR	LR	23 50 59.4	
	comp=Z,105nm,18.6s,baz=265,slow=34						
GAR	**Garm**	**60.54**	**297**	P	**P**	**23 27 25.9**	**-1.0**
MRSI	**Marisa**	**60.58**	**226**	P	**P**	**23 27 29.7**	**+2.4**
HAYD	**Hayden**	**60.73**	**61**	P	**P**	**23 27 29.8**	**+1.4**
HAYD				IAmb	IAmb	23 27 47.8	
	comp=Z,24nm,1.6s						
U15A	**North Rim**	**60.81**	**67**	P	**P**	**23 27 29.6**	**+0.5**
U15A				IAmb	IAmb	23 27 48.2	
	comp=Z,20nm,1.7s						
KEF	**Keuruu**	**60.89**	**338**	*e*P	**P**	**23 27 28.9**	**0.0**
FIA1	**FINESS Array S**	**61.23**	**337**	P	**P**	**23 27 31.2**	**+0.1**
FINES	**FINESS Array B**	**61.23**	**337**	P	**P**	**23 27 31.4**	**+0.2**
FINES	**FINESS Array B**	**61.23**	**337**	P	**P**	**23 27 31.6**	**+0.4**
	comp=Z,20nm,0.8s,baz=36,slow=7.8,SNR=42						
FINES				LR	LR	23 57 50.6	
	comp=Z,246nm,18.0s,baz=23,slow=40						
	comp=Z,20nm,0.8s						
SIMJ	**Simiganj**	**61.50**	**297**	P	**P**	**23 27 32.1**	**-1.4**
SIMJ				IAmb	IAmb	23 27 44.2	
	comp=Z,14nm,0.9s						
PUL	**Pulkovo**	**61.57**	**334⇑**	*e*P	**P**	**23 27 34.1**	**+0.7**
PUL				pmax	pmax		
	comp=Z,64nm,0.6s						
BELG	**Belogornoye**	**61.70**	**320**	*c i*P	**P**	**23 27 34.7**	**+0.3**
BELG				pmax	pmax		
	comp=Z,16nm,0.9s						
ESJX	**Sierra Juarez**	**61.82**	**73**	P	**P**	**23 27 36.8**	**+0.9**
ANGG	**Ammassalik, Gr**	**61.94**	**8**	P	**P**	**23 27 36.9**	**+1.0**
WUAZ	**Wupatki**	**61.98**	**67**	P	**P**	**23 27 37.6**	**+0.8**
WUAZ				IAmb	IAmb	23 27 56.1	
	comp=Z,20nm,1.4s						
ISCO	**Idaho Springs**	**62.13**	**60**	P	**P**	**23 27 38.8**	**+0.8**
ISCO				IAmb	IAmb	23 27 55.3	
	comp=Z,11nm,1.2s						
ISCO	**Idaho Springs**	**62.13**	**60**	P	**P**	**23 27 38.8**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,11nm,1.2s						
PMG	**Port Moresby**	**62.17**	**195**	LR	LR	23 51 59.6	
	comp=Z,115nm,19.9s,baz=314,slow=34						
MVCO	**Mesa Verde**	**62.40**	**64**	P	**P**	**23 27 40.8**	**+1.1**
MVCO				IAmb	IAmb	23 28 07.9	
	comp=Z,23nm,1.6s						
RAF	**Rauma**	**62.61**	**339**	*e*P	**P**	**23 27 40.6**	**+0.2**
NIL	**Nilore**	**62.67**	**290**	P	**P**	**23 27 41.0**	**-0.3**
NIL	**Nilore**	**62.67**	**290**	P	**P**	**23 27 41.0**	**-0.3**
NIL				pmax	pmax		
	comp=Z,51nm,1.0s						
MOS	**Moscow**	**62.71**	**328**	*e*P	**P**	**23 27 39.9**	**-1.3**
MOS				*e*		23 28 20.2	
MOS				*e*		23 29 56.9	
MOS				pmax	pmax		
	comp=Z,46nm,1.1s						
MOS				pmax	pmax		
	comp=Z,100nm,1.6s						
MEF	**Metsahovi**	**62.71**	**337**	*e*P	**P**	**23 27 41.0**	**-0.1**
S22A	**4UR Ranch, Cre**	**62.94**	**63**	P	**P**	**23 27 44.4**	**+1.0**
S22A				IAmb	IAmb	23 28 02.8	
	comp=Z,21nm,1.4s						
ARBE	**Arbavere**	**63.00**	**336**	*e*P	**P**	**23 27 41.3**	**-1.7**
EYMN	**Ely**	**63.12**	**46**	P	**P**	**23 27 45.2**	**+1.1**
EYMN				IAmb	IAmb	23 28 03.6	
	comp=Z,6.2nm,0.9s						
SBUM	**Sibu**	**63.53**	**236**	P	**P**	**23 27 47.4**	**+0.3**
SBUM				IAmb	IAmb	23 28 00.2	
	comp=Z,14nm,1.0s						
OBN	**Obninsk**	**63.57**	**328**	P	**P**	**23 27 46.2**	**-0.6**
OBN	**Obninsk**	**63.57**	**328**	LR	LR	23 57 56.5	
	comp=Z,407nm,19.9s,baz=340,slow=38						
OBN	**Obninsk**	**63.57**	**328**	*ce*P	**P**	**23 27 46.9**	**+0.1**
OBN				*e**PP	**sP**	**23 27 58.2**	**+0.1**
OBN				*e*		23 28 23.4	
OBN				*e*		23 30 04.2	
OBN				*e*S	**S**	**23 36 16.8**	**-1.3**
OBN				*e*SS	**SS**	**23 40 25.9**	**+1.3**
OBN				pmax	pmax		
	comp=Z,73nm,1.7s						
OBN				MLR	MLR		
	comp=Z,512nm,15.0s						
OBN	**Obninsk**	**63.57**	**328**	P	**P**	**23 27 47.3**	**+0.5**
	comp=Z,39nm,1.3s						
BORG	**Borgarnes**	**63.62**	**1**	LR	LR	23 56 07.5	
	comp=Z,118nm,18.7s,baz=352,slow=37						
VSU	**Vasula**	**63.65**	**335**	*c i*P	**P**	**23 27 47.0**	**-0.4**
VSU				pmax	pmax		
	comp=Z,34nm,0.8s						
VSU				MLR	MLR		
	comp=Z,648nm,15.0s						
VSU	**Vasula**	**63.65**	**335**	*e*P	**P**	**23 27 47.3**	**-0.1**
SDCO	**Great Sand Dun**	**63.66**	**62**	P	**P**	**23 27 49.4**	**+1.2**
SDCO				IAmb	IAmb	23 28 07.3	
	comp=Z,8.5nm,1.3s						
ECSD	**EROS Data Cent**	**63.88**	**52**	P	**P**	**23 27 49.7**	**+0.5**
ECSD				IAmb	IAmb	23 28 31.9	
	comp=Z,6.4nm,0.9s						
KBL	**Kabul**	**64.44**	**294**	P	**P**	**23 27 51.3**	**-1.9**
KBL				IAmb	IAmb	23 27 53.5	
	comp=Z,15nm,1.2s						
KBL	**Kabul**	**64.44**	**294**	P	**P**	**23 27 51.3**	**-1.9**
KBL				pmax	pmax		
	comp=Z,15nm,1.3s						
NC303	**NORSAR Array S**	**64.48**	**344**	P	**P**	**23 27 53.0**	**+0.2**
UPP	**Uppsala**	**64.56**	**340**	*e*P	**P**	**23 27 53.6**	**+0.3**
NB2	**NORSAR Subarra**	**64.68**	**344**	P	**P**	**23 27 54.6**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**64.68**	**344**	P	**P**	**23 27 54.4**	**+0.3**
	comp=Z,7.5nm,1.0s,baz=21,slow=6.6,SNR=14						
NOA				LR	LR	23 58 35.4	
	comp=Z,326nm,20.2s,baz=15,slow=38						
	comp=Z,7.5nm,1.0s						
LPSR	**Galich'ya Gora**	**64.81**	**325**	*e*P	**P**	**23 27 51.7**	**-3.4**
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
VRH	**Novokhopyorsk**	**64.92**	**322**	*e*P	**P**	**23 27 52.3**	**-3.5**
VRH				pmax	pmax		
	comp=Z,30nm,0.9s						
HFS	**Hagfors**	**65.08**	**342**	P	**P**	**23 27 56.2**	**-0.5**
	comp=Z,3.5nm,0.5s,baz=46,slow=4.3,SNR=20						
HFS				LR	LR	00 01 47.3	
	comp=Z,342nm,18.5s,baz=26,slow=41						
	comp=Z,3.5nm,0.5s						
ANMO	**Albuquerque**	**65.17**	**65**	P	**P**	**23 27 58.3**	**+0.3**
ANMO				IAmb	IAmb	23 28 16.1	
	comp=Z,7.0nm,1.2s						
ANMO	**Albuquerque**	**65.17**	**65**	P	**P**	**23 27 58.3**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KSM	**Kuching**	**65.35**	**238**	P	**P**	**23 27 58.9**	**-0.2**
KSM				IAmb	IAmb	23 28 17.7	
	comp=Z,17nm,1.0s						
Y22D	**IRIS PASSCAL I**	**65.55**	**66**	P	**P**	**23 28 01.1**	**+0.7**
	baz=317						
VSR	**Storozhevoye**	**65.86**	**324**	*e*P	**P**	**23 27 58.5**	**-3.3**
VSR				pmax	pmax		
	comp=Z,30nm,1.0s						
VORD	**Divnogorie**	**66.01**	**324**	*e*P	**P**	**23 28 00.9**	**-1.9**
VORD				pmax	pmax		
	comp=Z,30nm,1.0s						
ISAL	**Salakas**	**66.34**	**334**	*e*P	**P**	**23 28 05.0**	**+0.1**
IDID	**Didziasalis**	**66.40**	**333**	*e*P	**P**	**23 28 04.1**	**-1.1**
KAPI	**Kappang**	**66.44**	**225**	LR	LR	23 56 20.9	
	comp=Z,47nm,21.8s,baz=14,slow=35						
VSVD	**Vaisvydziai**	**66.57**	**335**	*e*P	**P**	**23 28 06.6**	**+0.3**
SCHQ	**Schefferville**	**66.58**	**28**	P	**P**	**23 28 07.0**	**+0.6**
	comp=Z,6.4nm,1.0s,baz=320,slow=11,SNR=3.0						
SCHQ				LR	LR	00 02 23.1	
	comp=Z,352nm,18.0s,baz=345,slow=41						
	comp=Z,6.4nm,1.0s						
MNK	**Minsk**	**66.78**	**332**	*i* P	**P**	**23 28 06.0**	**-1.7**
MNK				*i*		23 30 32.2	
MNK				*i* PPP	PPP	23 32 08.5	
MNK				*i* S	**S**	**23 36 55.3**	**-2.2**
MNK				*i* SS	**SS**	**23 41 15.9**	**+1.4**
MNK				pmax	pmax		
	comp=Z,49nm,0.9s						
MNK				pmax	pmax		
	comp=N,10.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,34nm,1.0s						
MNK				MLR	MLR		
	comp=N,420nm,16.0s						
MNK				MLR	MLR		
	comp=Z,990nm,16.0s						
MNK				MLR	MLR		
	comp=E,655nm,16.0s						
PABE	**Paberze**	**66.98**	**335**	P	**P**	**23 28 09.1**	**+0.2**
PABE	**Paberze**	**66.98**	**335**	*e*P	**P**	**23 28 09.7**	**+0.8**
IPM	**Ipoh**	**67.95**	**248**	P	**P**	**23 28 17.0**	**+1.3**
SUW	**Suwalki**	**68.52**	**334**	*e*P	**P**	**23 28 19.2**	**+0.5**
SUW	**Suwalki**	**68.52**	**334**	P	**P**	**23 28 18.5**	**-0.2**
SUW	**Suwalki**	**68.52**	**334**	P	**P**	**23 28 18.5**	**-0.2**
SUW	**Suwalki**	**68.52**	**334**	*e*P	**P**	**23 28 18.7**	**0.0**
EDFI	**Ende, Flores**	**68.98**	**221**	P	**P**	**23 28 25.2**	**+3.1**
	comp=E,14nm,1.4s						
VHRN	**Van Horn**	**69.08**	**67**	P	**P**	**23 28 24.1**	**+1.4**
MAK	**Makhachkala**	**69.09**	**314**	*e*P	**P**	**23 28 19.4**	**-3.0**
MAK				*e*		23 30 54.6	
MAK				*e*PPP	PPP	23 32 32.9	
MAK				*e*S	**S**	**23 37 23.8**	**-1.7**
MAK				*e*SS	**SS**	**23 41 51.8**	**+1.0**
MAK				MLR	MLR		
	comp=Z,2µm,15.0s						
GOF	**Gofitskoye**	**69.34**	**318**	*ce*P	**P**	**23 28 24.2**	**+0.2**
WMOK	**Wichita Mounta**	**69.53**	**60**	P	**P**	**23 28 26.6**	**+1.3**
WMOK				IAmb	IAmb	23 28 43.5	
	comp=Z,10.0nm,1.1s						
WMOK	**Wichita Mounta**	**69.53**	**60**	P	**P**	**23 28 26.6**	**+1.3**
WMOK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AK03	**Malin Array Si**	**69.66**	**329**	P	**P**	**23 28 25.8**	**0.0**
AK04	**Malin Array Si**	**69.68**	**329**	P	**P**	**23 28 25.9**	**0.0**
AKASG	**Malin Array Be**	**69.68**	**329**	P	**P**	**23 28 25.9**	**0.0**
AKASG	**Malin Array Be**	**

comp=Z,36nm,1.0s
SHA1 Shidzhatmaz 70.58 317*c i*P **P** **23 28 32.4 +0.5**
SEKA Sheki 70.62 313 P **P** **23 28 31.0 -1.0**
GKP Gorka Klasztor 70.69 338 *e*P P 23 28 42.0 +10
LUBAR Lubar, Ukraine 70.82 330 P **P** **23 28 33.2 +0.3**
SADO Sadowa 70.87 41 LR LR 00 00 22.0
comp=Z,130nm,19.8s,baz=324,slow=36
TXAR Lajitas Array 70.92 67 P **P** **23 28 35.1 +1.0**
comp=Z,0.9nm,0.6s,baz=305,slow=4.4,SNR=8.4
comp=Z,0.9nm,0.6s
LPIG La Paz 70.99 75 LR LR 23 58 37.2
comp=Z,33nm,18.6s,baz=252,slow=35
MNGR Mingechevir, A 71.02 312 P **P** **23 28 33.9 -0.4**
BEL Belsk 71.11 335 *e*P **P** **23 28 35.8 +1.1**
GANJ Ganja 71.47 313 P **P** **23 28 36.5 -0.6**
HYB Hyderabad 71.48 275 *e*P **P** **23 28 37.9 +0.5**
HYB *e*PcP **PcP** **23 28 56.9 +0.1**
TRLG Trialeti 71.74 315 P **P** **23 28 38.5 -0.4**
ANN Anapa 71.82 321 *e*P **P** **23 28 37.0 -2.0**
ANN *e**PP **sP** **23 28 50.9 +0.5**
ANN *e* 23 31 16.6
ANN *e*S **S** **23 37 54.3 -2.9**
ANN *e*SS **SS** **23 42 31.8 -0.7**
ANN pmax pmax
comp=Z,46nm,1.3s
HORU Horodok 71.85 330 P **P** **23 28 39.2 0.0**
LKRN Lenkeran, Azer 71.88 310 P **P** **23 28 39.0 -0.5**
VSLR Vesyoloye 71.89 319*c i*P **P** **23 28 40.0 +0.5**
VSLR pmax pmax
comp=Z,79nm,1.1s
SOC Sochi 71.92 319 *e*P P 23 28 35.0 -4.7
SOC *e* 23 31 20.2
SOC *e*PPP PPP 23 33 01.4
SOC *e*S **S** **23 37 50.5 -8.0**
SOC *e*SSS SSS 23 45 46.1
NDNU Novodnistrovsk 72.11 329 P **P** **23 28 40.9 +0.2**
SORM Soroca 72.20 328 P **P** **23 28 41.0 -0.2**
comp=Z,52nm,1.1s
EKA Eskdalemuir Ar 72.21 350 P **P** **23 28 41.9 +0.7**
comp=Z,2.5nm,0.8s,baz=25,slow=6.2,SNR=3.4
comp=Z,2.5nm,0.8s
EKA Eskdalemuir Ar 72.21 350 P **P** **23 28 42.2 +1.0**
EKA pmax pmax
comp=Z,79nm,2.0s
RUE Ruedersdorf 72.21 339 *e*P **P** **23 28 41.1 -0.1**
PBMO Poplar Bluff 72.24 53 P **P** **23 28 42.0 +0.2**
PBMO IAmb IAmb 23 28 59.6
comp=Z,19nm,1.4s
MIAR Mount Ida 72.41 56 P **P** **23 28 43.0 +0.3**
MIAR IAmb IAmb 23 28 50.6
comp=Z,16nm,1.4s
MIAR Mount Ida 72.41 56 P **P** **23 28 43.0 +0.3**
MIAR pmax pmax
comp=Z,16nm,1.5s
KMPD K-Podol'skiy 72.42 330 P **P** **23 28 42.6 0.0**
KWP Kalwaria Pacla 72.58 333 *e*P **P** **23 28 44.5 +0.9**
KWP Kalwaria Pacla 72.58 333 P **P** **23 28 44.3 +0.7**
comp=Z,96nm,1.3s
GNI Garni 72.58 314 P **P** **23 28 44.2 +0.3**
GNI Garni 72.58 314 LR LR 00 05 16.9
comp=Z,471nm,18.3s,baz=27,slow=40
GNI Garni 72.58 314*c i*P **P** **23 28 45.4 +1.5**
GNI pmax pmax
comp=Z,57nm,1.5s
GNI MLR MLR
comp=Z,578nm,17.0s
OJC Ojcow 72.84 335 *e*P **P** **23 28 46.1 +1.0**
OJC Ojcow 72.84 335 P **P** **23 28 45.6 +0.5**
OJC Ojcow 72.84 335 P **P** **23 28 45.6 +0.5**
STNU Starunia 72.89 331 P **P** **23 28 46.2 +0.8**
SIM Simferopol' 72.95 323 *e*P **P** **23 28 45.5 -0.3**
SIM *e* 23 29 03.0
SIM pmax pmax
comp=Z,34nm,1.3s
NAX Nakhchivan 73.03 313 P **P** **23 28 46.0 -0.5**
KSV Kosov 73.07 331 P **P** **23 28 47.0 +0.5**
PURM Purcari 73.09 327 P **P** **23 28 47.2 +0.6**
comp=Z,51nm,0.9s
KSP Ksiaz 73.16 337 *e*P **P** **23 28 47.9 +1.0**
KSP Ksiaz 73.16 337 P **P** **23 28 47.5 +0.6**
comp=Z,16nm,1.5s
STHS Stebnicka Huta 73.19 333 *e*P **P** **23 28 48.6 +1.4**
STHS *e* 23 29 02.2
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 73.19 333 *e*P **P** **23 28 48.6 +1.4**
STHS *e* 23 29 02.2
KOLS Kolonicke sedl 73.33 333 *e*P **P** **23 28 49.1 +1.1**
KOLS *e* 23 29 02.2
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 73.33 333 *e*P **P** **23 28 49.1 +1.1**
KOLS *e* 23 29 02.2
OSTC Ostas 73.44 337 AMS AMS 00 10 40.0
comp=Z,700nm,13.8s
NIE Niedzica 73.44 334 *e*P **P** **23 28 49.6 +0.9**
NIE Niedzica 73.44 334 P **P** **23 28 49.2 +0.5**
comp=Z,6.9nm,1.5s
CLL Collm 73.48 339 P **P** **23 28 48.7 -0.1**
CLL IAmb IAmb 23 29 17.4
comp=Z,17nm,0.9s
CLL Collm 73.48 339 *i* P **P** **23 28 49.0 +0.2**
CLL *i* 23 29 02.8
CLL *e*S **SKiKP** **23 38 24.0 +7.4**
CLL pmax pmax
comp=Z,26nm,1.4s
CLL MLR MLR
comp=Z,400nm,19.2s
CLL Collm 73.48 339 P **P** **23 28 49.5 +0.7**
comp=Z,22nm,1.3s
CLL Collm 73.48 339 *i* P **P** **23 28 49.0 +0.2**
comp=Z,26nm,1.4s
CLL *i* x x 23 29 02.8
CLL *i* x x 23 29 13.6
comp=Z,24nm,1.1s
CLL *e*S **SKiKP** **23 38 24.0 +7.4**
CLL *e*(SS) 23 43 48.0
CLL Lm MLR 00 03 00.0
comp=Z,400nm,19.2s
UPC Upice 73.53 337 AMS AMS 00 10 30.0
comp=Z,700nm,14.6s
DPC Dobruska-Polom 73.61 337 *e*P **P** **23 28 51.2 +1.5**
DPC AMS AMS 00 08 00.0
comp=Z,700nm,14.2s
OKC Ostrava-Krasne 73.62 336 AMS AMS 00 05 50.0
comp=Z,700nm,16.1s
STEB Steborice 73.63 336 *e*P **P** **23 28 51.1 +1.4**
STEB *ex* x 23 28 58.9
BURAR Bucovina Array 73.64 330 P **P** **23 28 50.4 +0.4**
BURAR IAmb IAmb 23 29 05.0
comp=Z,20nm,0.8s
BURAR Bucovina Array 73.64 330 ⇑P **P** **23 28 50.5 +0.4**
BURAR Bucovina Array 73.64 330 P **P** **23 28 50.4 +0.4**
BRG Berggiesshubel 73.68 339 *e*P **P** **23 28 51.9 +1.9**
BRG Amp 23 28 53.4
comp=Z,12nm,1.3s
BRG ⇑PP **PcP** **23 29 05.1 -0.5**
BRG Amp 23 29 06.4
comp=Z,4.6nm,0.9s
KRLC Kraliky 73.75 337 *e*P **P** **23 28 52.3 +1.8**
KRLC AMS AMS 00 06 00.0
comp=Z,700nm,14.8s
MORC Moravsky Berou 73.83 336 P **P** **23 28 51.2 +0.3**
MORC IAmb IAmb 23 29 20.0
comp=Z,13nm,1.0s
MORC Moravsky Berou 73.83 336 *e*P **P** **23 28 51.9 +0.9**
MORC Moravsky Berou 73.83 336 ⇑P **P** **23 28 52.0 +0.9**
MORC Moravsky Berou 73.83 336 P **P** **23 28 51.3 +0.3**
MORC pmax pmax
comp=Z,13nm,1.0s
PVCC Panska Ves 73.86 338 AMS AMS 00 07 00.0
comp=Z,1µm,15.1s
BERU Beregovo 73.86 332 P **P** **23 28 52.2 +1.1**
DZM Mont Dzumac 73.90 174 *e*LR LR 23 51 23.8
comp=Z,46nm,23.6s
DZM Mont Dzumac 73.90 174 *e*LR LR 23 51 23.8
comp=Z,169nm,21.9s
LANS Liptovska Anna 73.91 334 *e*P **P** **23 28 53.2 +1.8**
LANS *e* 23 29 07.5
LANS pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 73.91 334 *e*P **P** **23 28 53.2 +1.8**
LANS *e* 23 29 07.5
RICC Richard 73.95 338 AMS AMS 00 07 10.0
comp=Z,900nm,15.9s
BMR Baia Mare 74.11 331 ⇑P **P** **23 28 53.6 +0.9**
BMR Baia Mare 74.11 331 P **P** **23 28 53.5 +0.9**
TESR Tescani 74.17 329 ⇑P **P** **23 28 53.1 +0.1**
TESR Tescani 74.17 329 P **P** **23 28 54.1 +1.1**
comp=Z,49nm,1.2s
GHRR 74.33 328 P **P** **23 28 54.9 +1.0**
PRU Pruhonice 74.37 338 *e*P **P** **23 28 53.6 -0.4**
PRU AMS AMS 00 07 20.0
comp=Z,900nm,13.3s
GOPC GO Pecny, Ondr 74.38 338 AMS AMS 00 07 10.0
comp=Z,800nm,16.6s
ARCR ARCALIA 74.38 330 ⇑P **P** **23 28 54.7 +0.5**
VRAC Vranov 74.50 336 LR LR 00 05 35.9
comp=Z,442nm,19.1s,baz=22,slow=39
VRAC Vranov 74.50 336 *e*P **P** **23 28 56.1 +1.2**
VRAC Vranov 74.50 336 ⇑P **P** **23 28 56.3 +1.4**
VRAC Vranov 74.50 336 P **P** **23 28 56.3 +1.4**
TATR Tatarca 74.52 327 ⇑P **P** **23 28 56.6 +1.6**
KOPT Kop Dagi 74.55 316 P **P** **23 28 56.5 +0.9**
JAVC Velka Javorina 74.65 335 *e*P **P** **23 28 57.9 +2.1**
VYHS Vyhne 74.68 335 *e*P **P** **23 28 56.6 +0.7**
VYHS *e* 23 29 10.5
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 74.68 335 *e*P **P** **23 28 56.6 +0.7**
VYHS *e* 23 29 10.4
ODBI Odobesti 74.71 328 P **P** **23 28 56.9 +0.8**
comp=Z,27nm,1.1s
VRI Vrincioaia 74.72 328 ⇑P **P** **23 28 57.5 +1.2**
VRI Vrincioaia 74.72 328 P **P** **23 28 57.4 +1.2**
T50A Nancy 74.73 49 P **P** **23 28 57.0 +0.6**
PLOR Plostina 74.76 328 ⇑P **P** **23 28 56.1 -0.3**
PLOR Plostina 74.76 328 P **P** **23 28 56.1 -0.3**
KRUC Moravsky 74.78 336 *e*P **P** **23 28 57.7 +1.2**
TREC Trest 74.79 337 *e*P **P** **23 28 59.7 +3.2**
TREC *ex* x 23 29 08.9
TREC AMS AMS 00 06 40.0
comp=Z,700nm,13.1s
GEVA Gevas 74.84 314 P **P** **23 28 57.6 +0.4**
GEVA IAmb IAmb 23 28 59.4
comp=Z,29nm,1.2s
CFR Carcaliu 74.86 327 ⇑P **P** **23 28 57.2 +0.2**
CFR Carcaliu 74.86 327 P **P** **23 28 57.1 +0.2**
COVR Voineasa-Covas 74.91 329 ⇑P **P** **23 28 58.1 +0.8**
PSZ Piszkesteto 74.92 334 P **P** **23 28 58.1 +0.7**
PSZ Piszkesteto 74.92 334 ⇓P **P** **23 28 58.5 +1.1**
PSZ Piszkesteto 74.92 334 P **P** **23 28 58.1 +0.7**
PSZ pmax pmax
comp=Z,66nm,1.8s
PSZ Piszkesteto 74.92 334 *e*P **P** **23 28 57.5 +0.1**
CJR Cluj-Napoca 74.95 331 ⇑P **P** **23 28 58.2 +0.7**
CJR Cluj-Napoca 74.95 331 P **P** **23 28 58.2 +0.7**
ZVC Zvikov 74.96 338 *e*P **P** **23 28 57.5 0.0**
ZVC AMS AMS 00 07 40.0
comp=Z,800nm,15.2s
JURR Jurilovca 74.98 326 ⇑P **P** **23 28 57.6 0.0**
BISRR Bisoca 75.01 328 ⇑P **P** **23 28 58.1 +0.2**
BISRR Bisoca 75.01 328 P **P** **23 28 58.6 +0.7**
comp=Z,2µmcomp=Z,72nm,1.2s
SMOL Smolenice 75.03 335 *e*P **P** **23 28 59.8 +1.9**
SMOL pmax pmax
comp=Z,6.0nm,1.0s
TPGR Topolog 75.05 327 ⇑P **P** **23 28 58.3 +0.1**
DOPR Dopca 75.06 329 ⇑P **P** **23 28 59.4 +1.2**
WR8 Warramunga Arr 75.09 205 P **P** **23 28 59.4 +0.9**
WR8 IAmb IAmb 23 30 06.2
comp=Z,29nm,1.7s
GURO Guroymak-BITLI 75.10 314 P **P** **23 28 59.0 +0.3**
MARR Marisel-Cluj 75.12 331 ⇑P **P** **23 28 59.8 +1.2**
WRA Warramunga Arr 75.12 205 P **P** **23 28 56.9 -1.8**
comp=Z,3.3nm,1.1s,baz=18,slow=5.8,SNR=5.3
WRA LR LR 23 59 57.1
comp=Z,116nm,21.7s,baz=25,slow=34
comp=Z,3.3nm,1.1s
WRA Warramunga Arr 75.12 205 *i* P **P** **23 28 58.5 -0.2**
WRA pmax pmax
comp=Z,3.0nm,1.1s
DRGR 75.14 331 ⇑P **P** **23 28 59.2 +0.5**
DRGR 75.14 331 P **P** **23 28 59.2 +0.5**
MODS Modra-Piesok 75.20 336 *e*P **P** **23 28 57.3 -1.6**
MODS *e* 23 29 11.0
MODS Modra-Piesok 75.20 336 *e*P **P** **23 28 57.3 -1.6**
MODS *e* 23 29 11.0
MLR Muntele Rosu 75.31 329 P **P** **23 29 00.3 +0.6**
MLR Muntele Rosu 75.31 329 LR LR 00 08 14.6
comp=Z,769nm,18.8s,baz=26,slow=41
MLR Muntele Rosu 75.31 329 ⇑P **P** **23 29 01.2 +1.4**
MLR Muntele Rosu 75.31 329 P **P** **23 29 00.3 +0.6**
MLR pmax pmax
comp=Z,125nm,1.9s
MLR Muntele Rosu 75.31 329 P **P** **23 29 00.4 +0.6**
comp=Z,30nm,1.5s
HARR Harsova 75.36 327 ⇑P **P** **23 29 00.2 +0.3**
HARR Harsova 75.36 327 P **P** **23 29 00.1 +0.3**
GRA1 Grafenberg Arr 75.39 340 P **P** **23 29 01.1 +1.1**
GRA1 IAmb IAmb 23 29 29.6
comp=Z,39nm,1.3s
GRF Grafenberg Arr 75.39 340 P **P** **23 29 01.1 +1.1**
GRF pmax pmax
comp=Z,39nm,1.3s
GRF Grafenberg Arr 75.39 340 *e*P **P** **23 29 01.4 +1.5**
comp=Z,12nm,1.2s,baz=20,slow=5.1
GRF *e*S S 23 38 52.3 +15
GRF *e*L L 00 02 26.8
comp=Z,241nm,21.7s
GRFO Grafenberg 75.39 340 P **P** **23 29 00.6 +0.6**
GRFO IAmb IAmb 23 29 29.5
comp=Z,42nm,1.4s
GRFO Grafenberg 75.39 340 P **P** **23 29 00.6 +0.6**
GRFO pmax pmax
comp=Z,42nm,1.4s
KHC Kasperske Hory 75.39 338 *e*P **P** **23 29 01.6 +1.6**
KHC *e*PCP **sP** **23 29 12.3 +0.8**
KHC AMS AMS 00 07 50.0
comp=Z,1µm,14.4s
KHC Kasperske Hory 75.39 338 P **P** **23 29 00.8 +0.8**
comp=Z,14nm,1.2s
TIRR Tirgusor 75.41 327 P **P** **23 29 00.3 +0.2**
TIRR Tirgusor 75.41 327 P **P** **23 29 00.3 +0.2**
TIRR pmax pmax
comp=Z,46nm,1.1s
TIRR Tirgusor 75.41 327 P **P** **23 29 00.7 +0.6**
comp=Z,42nm,1.2s
SRO Srobarova 75.44 335 *e*P **P** **23 29 03.3 +3.0**
SRO *e* 23 29 17.1
SRO pmax pmax
comp=Z,14nm,1.3s
SRO Srobarova 75.44 335 *e*P **P** **23 29 03.3 +3.0**
SRO *e* 23 29 17.1
ISR Istrita 75.44 328 P **P** **23 29 01.0 +0.6**
CKRC Cesky Krumlov 75.51 338 *e*P **P** **23 29 02.4 +1.7**
CKRC *ex* x 23 29 12.4
CKRC AMS AMS 00 07 10.0
comp=Z,800nm,14.9s
BTNL Ternell 75.52 343 *d*P **P** **23 29 02.0 +1.2**
comp=Z,15nm,1.0s
MEM Membach 75.52 343 *d*P **P** **23 29 01.6 +0.9**
comp=Z,26nm,1.1s
MEM *d*PcP **pwP** **23 29 15.5 +1.4**
BSTI Sart Tilman 75.63 344 *d*P **P** **23 29 02.1 +0.9**
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 75.63 338 P **P** **23 29 02.0 +0.5**
GEC2 IAmb IAmb 23 29 30.5
comp=Z,9.6nm,1.1s
GERES GERESS Array B 75.63 338 P **P** **23 29 02.0 +0.5**
comp=Z,1.0nm,0.6s,baz=27,slow=6.1,SNR=10
GERES LR LR 00 05 21.0
comp=Z,235nm,21.3s,baz=24,slow=38
comp=Z,1.0nm,0.6s
VOIR 75.64 329 ⇑P **P** **23 29 02.3 +0.7**
VOIR 75.64 329 P **P** **23 29 02.2 +0.7**
SWET Sewanee 75.68 51 P **P** **23 29 01.7 -0.2**
SWET IAmb IAmb 23 29 36.5
comp=Z,8.1nm,1.0s
BHOU Houvegnez 75.77 343 *d*P **P** **23 29 03.0 +0.8**
comp=Z,12nm,1.1s
BCLA Clavier 75.83 344 *d*P **P** **23 29 03.2 +0.8**
comp=Z,12nm,1.1s
ARR Arges 75.83 330 ⇑P **P** **23 29 03.1 +0.4**
BGES Gesves 75.90 344 *d*P **P** **23 29 04.0 +1.2**
ICOR Ion Corvin 75.91 327 ⇓P **P** **23 29 04.0 +1.0**
SIRR Siria 75.92 332 ⇓P **P** **23 29 03.8 +0.7**
CONA Conrad Observa 75.97 336 *i* pP **P** **23 29 05.4 +2.0**
comp=Z,15nm,1.4s
TOKA Tokat 75.97 319 P **P** **23 29 04.2 +0.7**
BMRD Maredsous 76.03 344 *d*P **P** **23 29 04.9 +1.3**
comp=Z,11nm,1.2s
FITZ Fitzroy Crossi 76.05 214 P **P** **23 29 04.2 +0.3**
RONA Rosalia, Austr 76.07 336 *i* pP **P** **23 29 06.0 +2.0**
comp=Z,13nm,1.4s
SURR Surduc 76.25 331 ⇑P **P** **23 29 05.2 +0.3**
DOU Dourbes 76.26 344 *d*P **P** **23 29 03.3 -1.6**
comp=Z,6.9nm,1.0s
TKL Tuckaleechee C 76.34 49 LR LR 00 05 45.6
comp=Z,332nm,18.6s,baz=334,slow=38
GZR Gura Zlata 76.38 331 ⇑P **P** **23 29 06.3 +0.5**
GZR Gura Zlata 76.38 331 P **P** **23 29 06.2 +0.5**
MOA Molln 76.43 337 *i* pP **P** **23 29 07.9 +2.0**
comp=Z,6.2nm,1.4s
BZS Buzias 76.53 332 ⇑P **P** **23 29 06.7 +0.1**
BZS Buzias 76.53 332 P **P** **23 29 06.6 +0.1**
MARD Mardin 76.67 315 P **P** **23 29 07.5 -0.1**
ARSA Arzberg 76.68 336 P **P** **23 29 08.2 +0.8**
ARSA IAmb IAmb 23 29 37.1
comp=Z,12nm,1.2s
ARSA Arzberg 76.68 336 *i* pP **P** **23 29 09.2 +1.8**
comp=Z,10nm,1.3s
BIOA Bad Ischl, Aus 76.73 338 *i* P **P** **23 29 07.8 +0.2**
comp=Z,8.1nm,1.5s
COPA Copaceanca 76.75 329 ⇑P **P** **23 29 08.5 +0.7**
MORH Mrgy, Hungar 76.83 334 ⇑P **P** **23 29 08.4 +0.3**
HERR Herculane 76.96 331 ⇑P **P** **23 29 08.7 -0.3**
LOZB Loznitsa 76.98 327 ⇑P **P** **23 29 10.2 +1.1**
MDVR Moldovita 77.26 331 ⇑P **P** **23 29 11.6 +0.9**
BFO Black Forest 77.28 341 P **P** **23 29 10.7 0.0**
BFO IAmb IAmb 23 29 26.5
comp=Z,42nm,1.8s
BFO Black Forest 77.28 341 P **P** **23 29 10.7 0.0**
BFO pmax pmax
comp=Z,43nm,1.8s
SOKA Soboth 77.34 336 *i* pP **P** **23 29 12.8 +1.6**
comp=Z,20nm,1.8s
PERS Pernice 77.36 336 *i* P **P** **23 29 12.4 +1.1**
PERS *i* 23 29 25.8
KBA Koelnbreinsper 77.37 338 *i* pP **P** **23 29 13.6 +2.2**
comp=Z,14nm,0.7s
BNN Bunyan 77.47 319 P **P** **23 29 12.0 -0.1**
WATA Walderalm 77.53 339 *i* pP **P** **23 29 14.1 +1.7**
comp=Z,18nm,1.4s
RETA Reutte 77.57 339 *i* pP **P** **23 29 13.6 +1.2**
comp=Z,6.1nm,1.2s
WTTA Wattenberg 77.59 339 *i* pP **P** **23 29 14.7 +2.0**
comp=Z,16nm,1.3s
BR131 Keskin Array S 77.61 321 P **P** **23 29 13.2 +0.3**
BR131 Keskin Array S 77.61 321 P **P** **23 29 13.2 +0.3**
BR131 pmax pmax
comp=Z,39nm,1.4s
BRTR Keskin Array B 77.61 321 P **P** **23 29 12.6 -0.2**
BRTR Keskin Array B 77.61 321 P **P** **23 29 13.2 +0.3**
comp=Z,7.1nm,1.1s,baz=30,slow=4.5,SNR=16
BRTR LR LR 00 07 39.9
comp=Z,228nm,18.2s,baz=26,slow=39
comp=Z,7.1nm,1.1s
BRTR Keskin Array B 77.61 321 *i* P **P** **23 29 13.1 +0.3**
BRTR pmax pmax
comp=Z,7.0nm,1.1s
ECH Echery 77.61 342 P **P** **23 29 13.3 +0.7**
ECH IAmb IAmb 23 29 28.6
comp=Z,24nm,1.4s
ECH Echery 77.61 342 P **P** **23 29 13.3 +0.7**
ECH pmax pmax
comp=Z,24nm,1.4s
ELND Elena 77.61 328 ⇑P **P** **23 29 11.7 -0.9**
PLVB Pleven 77.61 329 ⇑P **P** **23 29 12.7 0.0**
OBKA Obir 77.61 337 *i* pP **P** **23 29 14.3 +1.5**
comp=Z,12nm,1.6s
MOTA Moosalm 77.63 339 *e*pP **P** **23 29 14.5 +1.6**
comp=Z,14nm,1.2s
MYKA Terra Mystica 77.72 337 *i* pP **P** **23 29 14.6 +1.3**
comp=Z,4.9nm,1.1s
SQTA Sankt Quirin 77.73 339 *i* pP **P** **23 29 15.7 +2.3**
comp=Z,13nm,1.2s
ANTO Ankara 77.81 321 P **P** **23 29 14.4 +0.5**
ANTO Ankara 77.81 321 P **P** **23 29 14.4 +0.5**
ANTO pmax pmax
comp=Z,64nm,1.4s
ABTA Abfaltersbach 77.88 338 *e*pP **P** **23 29 16.0 +1.8**
comp=Z,7.7nm,1.0s
MDUB Mudurnu 77.90 323 P **P** **23 29 14.2 -0.2**
PALK Pallekele 77.95 266 LR LR 00 09 53.6
comp=Z,148nm,18.1s,baz=47,slow=41
DAVA Damuels 77.95 340 *i* pP **P** **23 29 16.2 +1.6**
comp=Z,12nm,1.2s
KIRS Kirsehir-Merke 78.01 320 ⇑P **P** **23 29 14.7 -0.4**
FETA Feichten 78.02 339 *e*pP **P** **23 29 16.8 +1.7**
comp=Z,12nm,1.3s
BOVS Bovan 78.30 331 ⇑P **P** **23 29 16.1 -0.4**
GAZ Gaziantep 78.33 317 P **P** **23 29 16.8 0.0**
BOJS Bojanci 78.38 336 *i* P **P** **23 29 17.6 +0.7**
DAVOX Davos/Dischmat 78.43 340 LR LR 00 09 54.3
comp=Z,176nm,18.1s,baz=14,slow=40
FUORN Ofenpass-Fuorn 78.50 339 P **P** **23 29 18.0 +0.1**
FUORN IAmb IAmb 23 29 47.9
comp=Z,19nm,1.1s
CTI Castel Tesino 78.73 338 P **P** **23 29 18.9 -0.1**
CTI IAmb IAmb 23 29 38.7
comp=Z,12nm,1.0s
CTI Castel Tesino 78.73 338 P **P** **23 29 18.9 -0.1**
CTI pmax pmax
comp=Z,13nm,1.0s
ASAR Alice Springs 78.80 205 P **P** **23 29 19.2 -0.1**
ASAR Alice Springs 78.80 205 P **P** **23 29 19.4 +0.1**
comp=Z,1.2nm,0.8s,baz=21,slow=6.2,SNR=7.1
ASAR LR LR 00 02 34.1
comp=Z,103nm,21.0s,baz=324,slow=34
comp=Z,1.2nm,0.8s
TUE Stuetta 78.84 340 P **P** **23 29 19.9 +0.3**
TUE IAmb IAmb 23 29 43.1
comp=Z,17nm,0.9s
UOSS Minazif 78.94 296 P **P** **23 29 19.6 -0.7**
TAOE Nuku Hiva Isla 79.02 120 *e*LR LR 23 53 50.2
comp=Z,176nm,29.3s
PDG Podgorica 80.13 332 P **P** **23 29 26.0 -0.4**
PDG IAmb IAmb 23 30 01.5
comp=Z,13nm,0.9s
PDG Podgorica 80.13 332 ⇑P **P** **23 29 27.1 +0.7**
ZCCA Zocca 80.50 338 P **P** **23 29 28.8 +0.4**
ZCCA IAmb IAmb 23 29 59.5
comp=Z,23nm,1.0s
RAR Rarotonga 80.75 143 LR LR 00 05 56.5
comp=Z,106nm,18.6s,baz=324,slow=36
FNA Florina 81.00 330 P **P** **23 29 30.9 -0.3**
FNA Florina 81.00 330 P **P** **23 29 30.9 -0.3**
FNA pmax pmax
comp=Z,6.0nm,0.9s
NRCA Norcia 81.42 336 P **P** **23 29 33.9 +0.4**
PPT Papeete 81.75 132 LR LR 00 01 52.8
comp=Z,123nm,19.0s,baz=1.0,slow=33
PPT2 Papeete2 81.77 132 *e*S **S** **23 39 48.1 +1.7**
comp=Z,61nm,28.2s
PPT2 *e*SS **SS** **23 45 04.3 -0.9**
comp=Z,34nm,24.0s
PPT2 *e*LR LR 23 54 49.7
comp=Z,162nm,30.0s
PPT2 *e*LR LR 23 54 58.9
comp=Z,227nm,24.5s
CSS Mathiatis 81.84 319 P **P** **23 29 35.6 -0.2**
CSS IAmb IAmb 23 29 50.8
comp=Z,25nm,1.0s
MMAI Mount Meron Ar 82.65 316 P **P** **23 29 40.8 +0.8**
comp=Z,3.1nm,0.7s,baz=357,slow=3.3,SNR=5.6
MMAI LR LR 00 14 31.1
comp=Z,260nm,18.2s,baz=9.5,slow=42
comp=Z,3.1nm,0.7s
ASF Jabal al Asfar 82.72 315 LR LR 00 12 17.0
comp=Z,319nm,18.2s,baz=51,slow=40
BALJ Balqa 83.34 315 P **P** **23 29 43.2 -0.4**
TIP Timpagrande 83.86 332 P **P** **23 29 45.7 -0.5**
CMIG Matias Romero 85.47 68 LR LR 00 09 48.0
comp=Z,38nm,18.0s,baz=344,slow=37
EIL Elat 85.72 315 LR LR 00 12 54.6
comp=Z,168nm,18.5s,baz=46,slow=39
RAYN Ar Rayn 85.82 303 P **P** **23 29 55.9 -0.4**
RAYN IAmb IAmb 23 30 14.5
comp=Z,7.4nm,0.8s
RAYN Ar Rayn 85.82 303 P **P** **23 29 55.9 -0.4**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
PVRL Vila Real 86.57 351 *e*P **P** **23 30 01.2 +1.5**

MVO	**Moncorvo**	**86.61**	**351**	*e*P		**P**	**23 30 01.1**	**+1.2**
TBI	**Tubuai**	**86.86**	**135**	*e*S		**S**	**23 40 37.3**	**+0.4**
	comp=Z,550nm,26.8s							
TBI	**Tubuai**	**86.86**	**135**	*e*LR		LR	23 56 58.5	
	comp=Z,466nm,24.2s							
TBI				*e*LR		LR	23 57 27.1	
	comp=Z,910nm,27.0s							
PVIS	**Viseu**	**87.14**	**351**	*e*P		**P**	**23 30 03.5**	**+1.0**
ESBB	**Sonseca Array**	**87.73**	**348**	P		**P**	**23 30 05.0**	**-0.4**
ESBB				IAmb		IAmb	23 30 38.4	
	comp=Z,13nm,1.4s							
ESDC	**Sonseca Array**	**87.73**	**348**	P		**P**	**23 30 05.1**	**-0.2**
ESDC	**Sonseca Array**	**87.73**	**348**	P		**P**	**23 30 05.2**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=7.8,slow=4.6,SNR=15							
ESDC				LR		LR	00 15 10.3	
	comp=Z,108nm,18.6s,baz=22,slow=40							
	comp=Z,2.3nm,0.9s							
PMRV	**Marv??o**	**88.37**	**351**	*e*P		**P**	**23 30 09.4**	**+1.1**
KEST	**Kesra**	**89.07**	**337**	P		**P**	**23 30 11.9**	**+0.1**
KEST				IAmb		IAmb	23 30 34.0	
	comp=Z,13nm,1.1s							
KEST	**Kesra**	**89.07**	**337**	P		**P**	**23 30 11.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=297,slow=6.7,SNR=6.4							
KEST				LR		LR	00 16 18.0	
	comp=Z,219nm,19.1s,baz=6.7,slow=40							
	comp=Z,2.5nm,0.8s							
MDT	**Midelt**	**94.57**	**347**	LR		LR	00 17 06.5	
	comp=Z,94nm,20.9s,baz=42,slow=38							
ATD	**Arta Tunnel**	**97.14**	**299**	LR		LR	00 20 34.3	
	comp=Z,6.6nm,18.4s,baz=20,slow=39							
SJG	**San Juan**	**99.33**	**44**	LR		LR	00 16 06.2	
	comp=Z,72nm,21.8s,baz=333,slow=36							
DBIC	**Dimbokro**	**120.25**	**343**	PKP		**PKPdf**	**23 36 07.4**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=56,slow=7.3,SNR=2.3							
H03N2	**Juan Fernandez**	**134.02**	**90**	T		T	02 05 17.5	
	baz=314							
H03N1	**Juan Fernandez**	**134.04**	**90**	T		T	02 05 17.5	
	baz=314							
H03N3	**Juan Fernandez**	**134.04**	**90**	T		T	02 05 17.3	
	baz=314							
QSPA	**South Pole Qui**	**141.70**	**180**	PKP		**PKPdf**	**23 36 45.1**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=69,slow=1.4,SNR=1.3							
SYO	**Syowa Base**	**147.88**	**216**⇑	*e*PKPbc		**PKiKP**	**23 37 02.0**	**0.0**

NEIC ***10*** *23:19:13.1±0.7, 19°.28N±0°.02×155°.21W±0°.02, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.6km az=328.0*

HVO 10 23:19:13.0±0.7, 19°.31N±0°.02×155°.22W±0°.02, h8km±1km, ML3.7/41, ML3.8/42(NEIC), Error ellipse: s-maj=3.0km s-min=1.2km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PUH	**Pauahi**	**0.06**	**1**			Pg	23 19 15.3	+0.3
PUH					Sg	Sg	23 19 16.8	+0.4
PUH					IAML		23 19 17.0	
	comp=N,52μm,0.3s							
PUH					IAML		23 19 17.5	
	comp=E,37μm,0.3s							
KNHH	**Kane Nui o Ham**	**0.08**	**33**			Pg	23 19 15.6	+0.3
HLP	**Hilina Pali**	**0.09**	**261**			Pg	23 19 15.8	+0.5
HLP					Sg	Sg	23 19 17.8	+1.1
HLP					IAML		23 19 18.1	
	comp=E,55μm,0.6s							
HLP					IAML		23 19 18.1	
	comp=N,58μm,0.5s							
KKO	**Keanakako'i**	**0.10**	**332**			Pg	23 19 15.9	+0.4
KKO						Sg	23 19 17.9	+0.8
RIM	**Rim**	**0.10**	**328**			Pg	23 19 15.8	+0.4
RIM						Sg	23 19 18.3	+1.1
SDHHI	**Sand Hill**	**0.11**	**317**			Pg	23 19 15.8	+0.3
SDHHI						Sg	23 19 18.2	+0.9
BYL	**Byron's Ledge**	**0.11**	**338**			Pg	23 19 15.9	+0.3
BYL					IAML		23 19 18.3	
	comp=E,26μm,0.3s							
STCH	**Steam Cracks**	**0.12**	**49**			Pg	23 19 16.0	+0.4
STCH					Sg	Sg	23 19 18.1	+0.6
STCH					IAML		23 19 18.4	
	comp=E,38μm,0.2s							
STCH					IAML		23 19 18.5	
	comp=N,52μm,0.5s							
HATHI	**Halema'uma'u T**	**0.12**	**340**			Pg	23 19 16.1	+0.3
HATHI					Sg	Sg	23 19 18.3	+0.6
HATHI					IAML		23 19 18.8	
	comp=E,29μm,0.5s							
OBL	**Observatory Le**	**0.12**	**329**			Pg	23 19 16.2	+0.3
OBL						Sg	23 19 18.4	+0.6
WRMHI	**West Rim**	**0.12**	**321**			Pg	23 19 16.1	+0.3
WRMHI						Sg	23 19 18.8	+1.0
SBLHI	**Steaming Bluff**	**0.13**	**338**			Pg	23 19 16.1	+0.2
SBLHI						Sg	23 19 18.6	+0.7
UWB	**Uwekahuna Bluf**	**0.13**	**333**			Pg	23 19 16.1	+0.2
UWB						Sg	23 19 18.3	+0.4
NPOC	**North of Pu'u**	**0.13**	**51**			Pg	23 19 16.3	+0.4
NPOC						Sg	23 19 18.6	+0.7
JCUZ	**Jacuzzi**	**0.13**	**56**			Pg	23 19 16.3	+0.4
JCUZ						Sg	23 19 18.8	+0.9
UWE	**Uwekahuna**	**0.13**	**327**			Pg	23 19 16.2	+0.3
UWE					Sg	Sg	23 19 18.3	+0.2
UWE					IAML		23 19 19.4	
	comp=E,33μm,0.6s							
UWE					IAML		23 19 19.4	
	comp=N,24μm,0.8s							
HTC	**Hot Caves**	**0.18**	**247**			Pg	23 19 17.5	+0.7
JOKA	**Jonika Flow**	**0.23**	**58**			Pg	23 19 17.8	0.0
AIN	**Ainahou**	**0.24**	**285**			Pg	23 19 18.2	+0.4
AIN						Sg	23 19 21.9	+0.9
AIN					IAML		23 19 24.0	
	comp=E,18μm,0.3s							
AIN					IAML		23 19 24.1	
	comp=N,21μm,0.4s							
MLH	**Mauna Loa**	**0.24**	**319**			Pg	23 19 18.2	+0.2
MLH					Sg	Sg	23 19 22.0	+0.7
KHU	**Kahuku**	**0.38**	**260**			Pg	23 19 20.4	-0.1
KHU						Sg	23 19 26.6	+1.0
HMH	**Humu'ula Sheep**	**0.39**	**319**			Pg	23 19 20.6	-0.1
HMH						Sg	23 19 27.1	+1.4
HPO	**Honuapo**	**0.39**	**235**			Pg	23 19 20.0	-0.6
HPO						Sg	23 19 26.8	+1.1
MWH	**Mokuaweoweo**	**0.40**	**296**			Pg	23 19 20.8	-0.2
MWH					Sg	Sg	23 19 27.2	+0.9
MWH					IAML		23 19 28.3	
	comp=N,12μm,0.6s							
ALEP	**Alea Permanent**	**0.46**	**300**			Pg	23 19 21.7	-0.5
ALEP						Sg	23 19 29.1	+0.8
POHA	**Pohakuloa**	**0.54**	**326**			Pg	23 19 23.0	-0.5
POHA	**Pohakuloa**	**0.54**	**326**			Sg	23 19 30.4	-0.2
CPH	**Captain Cook**	**0.69**	**285**			Pg	23 19 24.5	-1.7
HUH	**Hualalai**	**0.69**	**303**			Pg	23 19 25.4	-1.0
HPAH	**Hawaii Prepara**	**0.85**	**328**	Pg		Pg	23 19 27.1	-2.3
HPAH					IAML		23 19 40.5	
	comp=N,3μm,0.2s							
MHA	**Mahukona**	**1.09**	**324**	Pg		Pg	23 19 30.6	-3.3
HLK	**Haleakala**	**1.74**	**326**			Pn	23 19 39.4	-4.4
KHLH	**Kahului Airpor**	**1.95**	**324**			Pn	23 19 42.9	-3.5

SJA ***10*** *23:36:39.8±0.7, 27°.89S×66°.78W, h183km±4km, ML4.8, MW4.7*

VAO ***10*** *23:36:40.9±1.2, 28°.11S×67°.00W, h159km±7km, mb5.2*

MOS ***10*** *23:36:41.5±1.2, 27°.96S×66°.83W, h146km, mb4.8/25, Error ellipse: s-maj=10.6km s-min=6.9km az=92.8*

NEIC ***10*** *23:36:42.3, 28°.12S×66°.81W, h150km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr=0.37; Mθθ-2.14; Mφφ2.51; Mrθ0.32; Mrφ-0.80; Mθφ-1.20; Fault plane solution: M0 2.78000×10^16 NP1: φs217.50000°, δ73.09000°, λ11.28000°. NP2: φs124.18000°, δ79.21000°, λ162.78000°. Principal axes: T 3.0896, Plg20.0000°, Azm80.0000°; N -0.8036, Plg70.0000°, Azm273.0000°; P -2.2859, Plg4.0000°, Azm172.0000°;*

NEIC ***10*** *23:36:42.3±1.6, 28°.03S±0°.05×66°.80W±0°.07, h142km±5km, mb4.9/107, Mww4.9/12, Mwr4.8(GUC) Error ellipse: s-maj=9.6km s-min=7.6km az=86.0*

NEIC ***10*** *23:36:42.3, 28°.02S×66°.81W, h150km*

IDC ***10*** *23:36:43.7±0.4, 28°.02S×66°.74W, h154km±3km, mb4.5/15, mbtmp4.8/21, MS3.5/7, Error ellipse: s-maj=12.9km s-min=8.1km az=101.0*

GUC ***10*** *23:36:45.1±0.5, 28°.01S×66°.83W, h153km±7km, ML4.8*

GCMT ***10*** *23:36:47.3±0.3, 28°.08S±0°.02×66°.95W±0°.03, h186km±3km, MW5.0/81, Moment Tensor Solution. s29,c30; s81,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.26±.14; Mθθ0.97±.16; Mφφ1.29±.21; Mrθ0.52±.10; Mrφ-1.51±.17; Mθφ-3.18±.15; Best double couple: M0 4.06200×10^16 NP1:φs116.00000°, δ25.00000°, λ-134.00000°. NP2: φs343.00000°, δ73.00000°, λ-72.00000°. Principal axes: T 3.9750, Plg26.0000°, Azm59.0000°; N 0.1710, Plg17.0000°, Azm157.0000°; P -4.1480, Plg59.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 23:36:42.8±0.3, 27°.97S±0°.03×66°.85W±0°.03, h151km±3km, h151km: pP-P, n449, σ1928/500, mb4.9/84, 26C-15D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AANI	**Anillaco**	**0.84**	**185**	*e*P		**Pn**	**23 37 02.5**	**-4.1**
CYA	**Choya**	**1.03**	**117**	*e*P		**Pn**	**23 37 09.5**	**+1.5**
CYA				*e*S		**Sn**	**23 37 29.3**	**+1.9**
CYA				IAML			23 37 30.7	
	comp=Z,4μm,0.6s							
VCA	**Vinchina**	**1.42**	**237**⇑	*i*P		**Pn**	**23 37 13.5**	**+1.7**
VCA				*i* S		**Sn**	**23 37 35.5**	**+1.5**
VCA	**Vinchina**	**1.42**	**237**	*e*P		**Pn**	**23 37 13.4**	**+1.7**
VCA				*e*S		**Sn**	**23 37 37.5**	**+3.5**
ACLC	**CERRO LA CRUZ**	**1.45**	**184**	*e*P		**Pn**	**23 37 13.6**	**+1.4**
ACLC				*e*S		**Sn**	**23 37 30.8**	**-3.9**
ACLC				IAML			23 37 36.2	
	comp=Z,7μm,1.0s							
GUSE	**Guasayan**	**1.77**	**88**	*e*P		**Pn**	**23 37 17.2**	**+1.7**
AHML	**Horco Molle**	**1.79**	**49**⇓	*i*P		**Pn**	**23 37 17.9**	**+2.1**
AHML				*i* S		**Sn**	**23 37 42.2**	**+1.3**
AHML	**Horco Molle**	**1.79**	**49**	*e*P		**Pn**	**23 37 17.8**	**+2.1**
AHML				*e*S		**Sn**	**23 37 38.0**	**-2.9**
AHML				IAML			23 37 43.4	
	comp=Z,4μm,0.7s							
FSA	**Cafayete**	**2.01**	**23**	*e*P		**Pn**	**23 37 15.8**	**-2.5**
FSA				*e*S		**Sn**	**23 37 44.4**	**-1.3**
AGUA	**GUANDACOL**	**2.09**	**223**	*e*P		**Pn**	**23 37 20.1**	**+1.0**
AGUA				*e*S		**Sn**	**23 37 49.4**	**+2.3**
AGUA				IAML			23 37 52.1	
	comp=Z,6μm,1.0s							
AC02	**Maricunga**	**2.32**	**299**			**Pn**	**23 37 24.6**	**+2.3**
AC02					Sn	**Sn**	**23 37 54.1**	**+1.5**
AC02	**Maricunga**	**2.32**	**299**⇑	*e*P		**Pn**	**23 37 24.7**	**+2.3**
AC02				IAML			23 38 06.8	
	comp=E,3μm,0.4s							
AC02	**Maricunga**	**2.32**	**299**	*e*P		**Pn**	**23 37 24.6**	**+2.3**
AC02				*e*S		Sn	23 38 06.8	+14
APLL	**PUNTA DE LOS L**	**2.43**	**173**	*e*P		**Pn**	**23 37 24.0**	**+0.8**
APLL				*e*S		**Sn**	**23 37 51.4**	**-2.9**
ACDV	**Cuesta del Vie**	**2.96**	**222**	*e*P		**Pn**	**23 37 30.7**	**+0.9**
ACDV				*e*P		**Pn**	**23 37 30.8**	**+1.0**
ACDV				*e*S		**Sn**	**23 38 07.7**	**+1.5**
ACDV				IAML			23 38 08.4	
	comp=E,2μm,0.4s							
GO03	**Copiapo**	**3.02**	**276**			**Pn**	**23 37 31.4**	**+0.8**
GO03					Sn	**Sn**	**23 38 06.7**	**-0.8**
GO03	**Copiapo**	**3.02**	**276**⇑	*i*P		**Pn**	**23 37 31.4**	**+0.8**
GO03				*i* S		**Sn**	**23 38 06.7**	**-0.8**
GO03	**Copiapo**	**3.02**	**276**	*e*P		**Pn**	**23 37 31.4**	**+0.8**
GO03				*e*S		**Sn**	**23 38 07.0**	**-0.6**
AC06	**Mina Casimiro**	**3.17**	**280**			**Pn**	**23 37 32.9**	**+0.5**
AC06					Sn	**Sn**	**23 38 09.0**	**-1.8**
AC06	**Mina Casimiro**	**3.17**	**280**⇑	*i*P		**Pn**	**23 37 32.8**	**+0.5**
AC06				*i* S		**Sn**	**23 38 08.8**	**-1.9**
AROD	**Rodeo**	**3.17**	**226**	*e*P		**Pn**	**23 37 34.0**	**+1.3**
AROD				*e*S		**Sn**	**23 38 13.2**	**+1.9**
ACCO	**Cerro Coronel**	**3.25**	**216**	*e*P		**Pn**	**23 37 34.1**	**+0.4**
ACCO				*e*S		**Sn**	**23 38 14.8**	**+1.8**
SLA	**San Lorenzo**	**3.46**	**21**	*e*P		Pn	23 37 20.3	-16
SLA				IAML			23 38 23.1	
	comp=Z,726nm,1.6s							
CO01	**Juntas del Tor**	**3.47**	**234**			**Pn**	**23 37 37.8**	**+1.3**
CO01					Sn	**Sn**	**23 38 18.1**	**0.0**
CO01	**Juntas del Tor**	**3.47**	**234**⇑	*i*P		**Pn**	**23 37 38.0**	**+1.5**
CO01				*e*S		**Sn**	**23 38 18.8**	**+0.7**
CO01				IAML			23 38 22.7	
	comp=N,1μm,0.3s							
CO01	**Juntas del Tor**	**3.47**	**234**	*e*P		**Pn**	**23 37 37.2**	**+0.7**
CO01				*e*S		**Sn**	**23 38 20.9**	**+2.8**
CO01				IAML			23 38 27.7	
	comp=Z,823nm,1.6s							
LCO	**Las Campanas**	**3.54**	**252**			**Pn**	**23 37 37.6**	**+0.2**
LCO					Sn	**Sn**	**23 38 18.5**	**-1.2**
LCO	**Las Campanas**	**3.54**	**252**	P		**Pn**	**23 37 37.1**	**-0.3**
LCO				S		**Sn**	**23 38 18.9**	**-0.9**
LCO	**Las Campanas**	**3.54**	**252**⇑	*e*P		**Pn**	**23 37 37.6**	**+0.2**
LCO	**Las Campanas**	**3.54**	**252**	*e*P		**Pn**	**23 37 37.8**	**+0.4**
LCO				*e*S		**Sn**	**23 38 19.6**	**-0.2**
RTLL	**Cerro Villicun**	**3.63**	**203**⇑	*i*P		**Pn**	**23 37 38.3**	**0.0**
RTLL	**Cerro Villicun**	**3.63**	**203**	*e*P		**Pn**	**23 37 38.4**	**0.0**
RTLL				*e*S		**Sn**	**23 38 20.1**	**-1.4**
RTLL				IAML			23 38 23.0	
	comp=Z,3μm,0.5s							
GO02	**Mina Guanaco**	**3.72**	**318**			**Pn**	**23 37 41.9**	**+2.0**
GO02	**Mina Guanaco**	**3.72**	**318**	*e*P		**Pn**	**23 37 41.8**	**+2.0**
GO02				*e*S		**Sn**	**23 38 24.8**	**+0.8**
GO02	**Mina Guanaco**	**3.72**	**318**	*e*P		**Pn**	**23 37 41.9**	**+2.0**
GO02				*e*S		Sn	23 38 12.5	-12
AC04	**Llanos de Chal**	**3.74**	**265**			**Pn**	**23 37 39.4**	**-0.3**
AC04	**Llanos de Chal**	**3.74**	**265**⇑	*i*P		**Pn**	**23 37 39.4**	**-0.3**
AC04				*i* S		**Sn**	**23 38 20.6**	**-3.2**
AC04	**Llanos de Chal**	**3.74**	**265**	*e*P		**Pn**	**23 37 39.5**	**-0.2**
AC04				*e*S		**Sn**	**23 38 22.4**	**-1.4**
AC04				IAML			23 38 25.6	
	comp=Z,2μm,0.3s							
AC01	**Pan de Azucar**	**3.81**	**298**			**Pn**	**23 37 41.0**	**+0.4**
AC01	**Pan de Azucar**	**3.81**	**298**⇑	*i*P		**Pn**	**23 37 40.9**	**+0.4**
AC01				*i* S		**Sn**	**23 38 22.5**	**-2.9**
AC01	**Pan de Azucar**	**3.81**	**298**	*e*P		**Pn**	**23 37 41.0**	**+0.4**
AC01				*e*S		**Sn**	**23 38 25.5**	**0.0**
AC01				IAML			23 38 28.3	
	comp=Z,1μm,0.6s							
CFA	**Coronel Fontan**	**3.82**	**198**	P		**Pn**	**23 37 40.5**	**-0.1**
	comp=Z,828nm,0.3s,baz=24,slow=10,SNR=7745							
CFA				S		**Sn**	**23 38 23.9**	**-1.8**
	comp=Z,820nm,0.3s,baz=323,slow=20,SNR=18							
CFA	**Coronel Fontan**	**3.82**	**198**	*e*P		**Pn**	**23 37 40.6**	**-0.1**
CFA				*e*S		**Sn**	**23 38 24.0**	**-0.9**
SJA	**San Juan**	**3.84**	**202**	*e*P		**Pn**	**23 37 41.4**	**+0.3**
SJA				*e*S		**Sn**	**23 38 26.6**	**+0.2**
SJA				IAML			23 38 39.1	
	comp=Z,1μm,1.5s							
TCA	**Tanti**	**3.88**	**150**	*e*P		**Pn**	**23 37 42.0**	**+0.3**
TCA	**Tanti**	**3.88**	**150**	*e*P		**Pn**	**23 37 42.1**	**+0.5**
TCA				*e*S		**Sn**	**23 38 25.8**	**-1.6**
TCA				IAML			23 38 27.0	
	comp=Z,748nm,1.4s							
ZON	**Zonda**	**3.90**	**204**			**Pn**	**23 37 41.8**	**-0.1**
ZON	**Zonda**	**3.90**	**204**	P		**Pn**	**23 37 41.8**	**-0.1**
ZON	**Zonda**	**3.90**	**204**	*e*P		**Pn**	**23 37 41.7**	**-0.1**
ZON				*e*S		**Sn**	**23 38 27.6**	**-0.2**
ZON				IAML			23 38 29.7	
	comp=Z,863nm,0.3s							
AZAP	**Zapla**	**4.06**	**24**	*e*P		**Pn**	**23 37 40.8**	**-3.4**
AZAP				*e*S		Sn	23 38 45.8	+14
AZAP				IAML			23 39 00.8	
	comp=Z,694nm,1.1s							
GO04	**Tololo Observa**	**4.09**	**237**			**Pn**	**23 37 44.0**	**-0.5**
GO04	**Tololo Observa**	**4.09**	**237**⇑	*i*P		**Pn**	**23 37 44.1**	**-0.5**
GO04				*i* S		**Sn**	**23 38 30.7**	**-1.8**
CO05	**La Serena**	**4.31**	**242**			**Pn**	**23 37 45.6**	**-1.4**
CO05	**La Serena**	**4.31**	**242**⇑	*i*P		**Pn**	**23 37 45.7**	**-1.4**
CO05				*i* S		**Sn**	**23 38 31.4**	**-5.7**
RTLS	**Leoncito**	**4.37**	**209**	*e*P		**Pn**	**23 37 48.0**	**-0.1**
CO03	**El Pedregal**	**4.40**	**229**			**Pn**	**23 37 48.0**	**-0.4**
CO03	**El Pedregal**	**4.40**	**229**⇑	*i*P		**Pn**	**23 37 48.0**	**-0.4**
CO03	**El Pedregal**	**4.40**	**229**	*e*P		**Pn**	**23 37 48.1**	**-0.4**
MRA	**San Martin**	**4.54**	**168**	*e*S		Sn	23 38 29.7	-13
MRA				IAML			23 38 41.8	
	comp=Z,950nm,0.7s							
PB14	**IPOC Station P**	**4.61**	**315**			**Pn**	**23 37 52.3**	**+0.9**
PB14	**IPOC Station P**	**4.61**	**315**	*e*P		**Pn**	**23 37 52.8**	**+1.3**
CO02	**Combarbal**	**4.84**	**227**			**Pn**	**23 37 53.0**	**-1.2**
CO02	**Combarbal**	**4.84**	**227**⇑	*e*P		**Pn**	**23 37 53.0**	**-1.2**
CO02	**Combarbal**	**4.84**	**227**	IAML			23 38 51.4	
	comp=Z,1μm,0.4s							
CO06	**Fray Jorge**	**4.97**	**236**			**Pn**	**23 37 53.5**	**-2.3**
PB10	**IPOC Station P**	**5.56**	**322**			**Pn**	**23 38 04.3**	**+0.6**
VA03	**San Esteban**	**5.75**	**213**			**Pn**	**23 38 05.1**	**-1.2**
PB06	**IPOC Station P**	**5.79**	**334**			**Pn**	**23 38 07.5**	**+0.6**
PB05	**IPOC Station P**	**5.93**	**329**			**Pn**	**23 38 09.3**	**+0.6**
VA06	**Catapilco**	**5.97**	**219**			**Pn**	**23 38 06.4**	**-2.8**
MT08	**Bocatoma Ro**	**6.10**	**206**			**Pn**	**23 38 10.8**	**-0.3**
PEL	**Peldehue**	**6.12**	**212**			**Pn**	**23 38 09.4**	**-1.8**
PEL	**Peldehue**	**6.12**	**212**	P		**Pn**	**23 38 09.4**	**-1.8**
MT16	**CCHEN**	**6.29**	**209**			**Pn**	**23 38 12.3**	**-1.1**
MT05	**Renca**	**6.36**	**211**			**Pn**	**23 38 12.6**	**-1.7**
MT02	**Curacav**	**6.43**	**214**			**Pn**	**23 38 12.6**	**-2.7**
PB03	**IPOC Station P**	**6.46**	**335**			**Pn**	**23 38 15.8**	**0.0**
VA01	**Torpederas**	**6.52**	**218**			**Pn**	**23 38 12.8**	**-3.5**
PB09	**IPOC Station P**	**6.52**	**340**			**Pn**	**23 38 16.9**	**+0.2**
LMEL	**Las Melosas**	**6.53**	**205**			**Pn**	**23 38 15.6**	**-1.0**
MT09	**Talagante**	**6.79**	**211**			**Pn**	**23 38 17.1**	**-3.1**
BO04	**La Punta**	**6.81**	**207**			**Pn**	**23 38 18.7**	**-1.7**
MT01	**Popeta**	**6.98**	**212**			**Pn**	**23 38 18.9**	**-3.7**
PB02	**IPOC Station P**	**7.18**	**337**			**Pn**	**23 38 24.5**	**-1.0**
PB01	**IPOC Station P**	**7.30**	**340**			**Pn**	**23 38 26.8**	**-0.3**
BO01	**Tunca**	**7.36**	**208**			**Pn**	**23 38 24.1**	**-3.4**
BO02	**Sierra Bellavi**	**7.58**	**205**			**Pn**	**23 38 28.6**	**-2.1**
PATCX	**Punta Patache**	**7.73**	**336**	Pn		**Pn**	**23 38 32.1**	**-0.6**
TA01	**Diego Aracena**	**7.97**	**337**	Pn		**Pn**	**23 38 35.2**	**-0.8**
PB08	**IPOC Station P**	**8.07**	**344**			**Pn**	**23 38 37.6**	**0.0**
HMBC	**Humberstone**	**8.15**	**339**			**Pn**	**23 38 37.1**	**-1.2**
GO01	**Chusmiza**	**8.54**	**345**			**Pn**	**23 38 43.3**	**-0.6**
PB11	**IPOC Station P**	**8.57**	**342**			**Pn**	**23 38 42.8**	**-1.2**
CPUP	**Villa Florida**	**8.64**	**81**	Pn		**Pn**	**23 38 43.9**	**-0.8**
CPUP	**Villa Florida**	**8.64**	**81**	P		**Pn**	**23 38 43.5**	**-1.2**
	comp=Z,3.6nm,0.4s,baz=286,slow=11,SNR=27							
CPUP					LR	LR	23 42 17.5	
	comp=Z,64nm,19.0s,baz=74,slow=39							
CPUP	**Villa Florida**	**8.64**	**81**	P		**Pn**	**23 38 43.9**	**-0.8**
PB16	**IPOC Station P**	**9.90**	**345**			**Pn**	**23 39 01.6**	**-0.4**
SJPY	**San Joaquin**	**10.07**	**75**	*e*P		**Pn**	**23 39 03.0**	**-0.8**
TRQA	**Tornquist**	**10.85**	**159**			**Pn**	**23 39 12.3**	**-1.7**
TRQA	**Tornquist**	**10.85**	**159**	P		**Pn**	**23 39 12.3**	**-1.7**
LPAZ	**La Paz**	**11.69**	**354**	P		**Pn**	**23 39 25.6**	**-0.1**
	comp=Z,25nm,0.5s,baz=140,slow=5.2,SNR=79							
LPAZ					S	**Sn**	**23 41 30.7**	**-4.6**
	comp=Z,13nm,0.7s,baz=184,slow=13,SNR=2.6							
LPAZ	**La Paz**	**11.69**	**354**	*e*P		**Pn**	**23 39 25.3**	**-0.4**
H03N1	**Juan Fernandez**	**11.72**	**239**	P		**Pn**	**23 39 23.9**	**-1.2**
	baz=102,slow=78,SNR=38							
H03N2	**Juan Fernandez**	**11.74**	**239**	P		**Pn**	**23 39 24.2**	**-1.1**
	baz=102,slow=78,SNR=38							
H03N3	**Juan Fernandez**	**11.74**	**239**	P		**Pn**	**23 39 24.1**	**-1.3**
	baz=102,slow=78,SNR=45							
VA04	**Juan Fernndez**	**11.74**	**238**			**Pn**	**23 39 23.2**	**-2.5**
AMBA	**Amambai (Brazi**	**11.83**	**68**	*e*P		**Pn**	**23 39 27.9**	**+1.0**
BDQN	**Bodoquena, MS**	**11.87**	**53**	*e*P		**Pn**	**23 39 26.9**	**-0.5**
H03S3	**Juan Fernandez**	**11.88**	**238**	P		**Pn**	**23 39 24.8**	**-2.4**
	baz=38,slow=19,SNR=8.9							
H03S1	**Juan Fernandez**	**11.89**	**238**	P		**Pn**	**23 39 24.6**	**-2.7**
	baz=38,slow=19,SNR=4.9							
H03S2	**Juan Fernandez**	**11.90**	**238**	P		**Pn**	**23 39 24.8**	**-2.7**
	baz=38,slow=19,SNR=6.1							
CPSB	**Cacapava Do Su**	**11.96**	**105**	*e*P		**Pn**	**23 39 27.0**	**-1.6**
PLTB	**Pedras Altas**	**12.10**	**111**	Pn		**Pn**	**23 39 28.8**	**-1.6**
PLTB	**Pedras Altas**	**12.10**	**111**	*e*P		**Pn**	**23 39 29.1**	**-1.3**
BBSD	**Serra de San D**	**12.18**	**30**	*e*P		**Pn**	**23 39 31.5**	**0.0**
LR03	**Panguipulli**	**12.49**	**200**			**Pn**	**23 39 32.9**	**-2.4**
AQDB	**Aquidauana**	**12.61**	**56**	Pn		**Pn**	**23 39 36.7**	**-0.3**
AQDB	**Aquidauana**	**12.61**	**56**	*e*P		**Pn**	**23 39 37.0**	**0.0**
LR05	**Currie**	**12.95**	**198**			**Pn**	**23 39 37.9**	**-3.3**
SIV	**San Ignacio**	**13.07**	**25**	P		**Pn**	**23 39 42.3**	**-0.7**
	comp=Z

JTS **Las Juntas de** 41.88 333 P **P** 23 44 18.4 +0.1
JTS pmax pmax
comp=Z,19nm,1.1s
FDF **Fort de France** 42.81 8 **P** 23 44 24.9 -1.0
FDF **Fort de France** 42.81 8 P **P** 23 44 24.9 -1.0
FDF pmax pmax
comp=Z,90nm,1.3s
BOAB **BOACO BROADBAN** 44.12 333 P **P** 23 44 36.4 +0.1
BOAB IAmb IAmb 23 44 38.1
comp=Z,32nm,1.0s
ABD **La Joyeuse, An** 44.49 7 P **P** 23 44 37.4 -1.7
CELP **Cerrillos** 45.78 0 **P** 23 44 48.6 -0.7
CELP IAmb IAmb 23 46 24.1
comp=Z,66nm,1.6s
TGUH **Tegucigalpa,Un** 46.23 332 **P** 23 44 53.5 +0.4
MTO3 **Montecristo** 47.43 330 P **P** 23 45 03.2 +0.6
MTO3 IAmb IAmb 23 45 04.8
comp=Z,30nm,0.8s
ESQI **Esquipulas** 47.57 330 P **P** 23 45 04.0 +0.6
HUEH **Huehuetenango** 49.22 328 P **P** 23 45 16.7 +0.5
PETF **Flores** 49.88 331 P **P** 23 45 21.0 +0.1
CCIG **Comitan** 50.35 328 P **P** 23 45 24.5 -0.2
CCIG IAmb IAmb 23 45 26.5
comp=Z,30nm,1.3s
BELA **Belgrano 2** 52.10 172 P **P** 23 45 36.8 0.0
BELA IAmb IAmb 23 45 38.8
comp=Z,25nm,0.8s
TEIG **Tepich** 52.21 334 **P** 23 45 38.0 -0.2
TEIG **Tepich** 52.21 334 P **P** 23 45 38.4 +0.2
SOR **Soroa** 52.82 341 P **P** 23 45 42.8 0.0
SOR IAmb IAmb 23 45 43.7
comp=Z,9.1nm,0.7s
SOR **Soroa** 52.82 341 P **P** 23 45 42.8 0.0
SOR pmax pmax
comp=Z,9.0nm,0.7s
VNA3 **Neumayer Olymp** 53.37 160 ⇑P **P** 23 45 46.8 +0.5
comp=Z,32nm,0.7s
VNA1 **Neumayer--Stat** 53.59 159 ⇑P **P** 23 45 48.6 +0.9
comp=Z,30nm,1.1s
TLIG **Tlapa** 54.70 322 **P** 23 45 57.5 +0.9
TLIG IAmb IAmb 23 45 59.9
comp=Z,12nm,0.8s
SNAA **Sanae** 55.58 160 ⇑P **P** 23 46 02.4 +0.2
comp=Z,515nm,0.6s
SNAA **Sanae** 55.58 160 **P** 23 46 01.8 -0.4
SNAA IAmb IAmb 23 46 03.7
comp=Z,26nm,0.8s
SNAA **Sanae** 55.58 160 P **P** 23 46 02.1 -0.1
comp=Z,200nm,0.6s,baz=283,slow=7.1,SNR=277
SNAA pP **pP** 23 46 39.6 +2.1
comp=Z,9.1nm,0.7s,baz=287,slow=11,SNR=4.6
comp=Z,200nm,0.6s
SNAA **Sanae** 55.58 160 *d* iP **P** 23 46 02.8 +0.6
SNAA pmax pmax
comp=Z,50nm,1.3s
TROLL **Troll, Antarti** 57.30 160 ⇑P **P** 23 46 14.9 +0.4
comp=Z,1μm,0.6s
553A **Crawfordville** 60.23 342 P **P** 23 46 34.9 0.0
ZAIG **Zacatecas** 61.10 322 P **P** 23 46 42.4 +1.0
ZAIG IAmb IAmb 23 46 45.0
comp=Z,19nm,1.1s
QSPA **South Pole Qui** 62.25 180 P **P** 23 46 49.8 +1.5
QSPA **South Pole Qui** 62.25 180 P **P** 23 46 49.4 +1.0
comp=Z,35nm,0.8s,baz=158,slow=1.8,SNR=212
comp=Z,35nm,0.8s
QSPA **South Pole Qui** 62.25 180 P **P** 23 46 49.9 +1.5
QSPA pP **PcP** 23 47 27.9 +1.1
GOGA **Godfrey** 63.05 344 P **P** 23 46 53.4 -0.4
GOGA **Godfrey** 63.05 344 P **P** 23 46 53.4 -0.4
GOGA pmax pmax
comp=Z,7.0nm,0.8s
HKT **Hockley** 63.91 332 P **P** 23 46 59.7 +0.3
HKT **Hockley** 63.91 332 ⇑ *e*P **P** 23 47 00.4 +0.9
HKT pmax pmax
comp=Z,14nm,1.4s
NATX **Nacogdoches** 65.04 334 P **P** 23 47 07.5 +0.7
CPCT **Cooper Cave** 65.25 344 P **P** 23 47 08.1 -0.1
CPCT IAmb IAmb 23 47 09.2
comp=Z,10nm,0.8s
Z41A **Richland Creek** 65.69 336 P **P** 23 47 11.2 +0.2
Z41A IAmb IAmb 23 47 14.1
comp=Z,21nm,0.7s
PLAL **Pickwick Lake** 65.75 341 **P** 23 47 10.7 -0.7
PLAL IAmb IAmb 23 47 12.0
comp=Z,9.5nm,0.8s
JCT **Junction City** 66.09 329 P **P** 23 47 14.2 +0.5
JCT **Junction City** 66.09 329 P **P** 23 47 14.2 +0.5
JCT pmax pmax
comp=Z,34nm,0.7s
TXAR **Lajitas Array** 66.99 325 P **P** 23 47 20.4 +0.9
comp=Z,5.1nm,0.8s,baz=147,slow=8.5,SNR=32
comp=Z,5.1nm,0.8s
MIAR **Mount Ida** 67.13 336 **P** 23 47 20.1 0.0
MIAR IAmb IAmb 23 47 21.9
comp=Z,23nm,1.2s
MIAR **Mount Ida** 67.13 336 P **P** 23 47 20.1 0.0
MIAR pmax pmax
comp=Z,23nm,1.2s
LOOK **Love County** 68.00 333 P **P** 23 47 26.1 +0.4
MVL **Millersville** 68.20 352 P **P** 23 47 27.3 +0.6
WCI **Wyandotte Cave** 68.33 344 P **P** 23 47 26.9 -0.6
WCI IAmb IAmb 23 47 27.6
comp=Z,8.4nm,0.7s
WCI **Wyandotte Cave** 68.33 344 P **P** 23 47 26.9 -0.6
WCI pmax pmax
comp=Z,8.0nm,0.7s
P52A **Corning** 68.75 347 P **P** 23 47 30.1 -0.1
P52A IAmb IAmb 23 47 31.2
comp=Z,13nm,0.8s
DBIC **Dimbokro** 68.98 70 P **P** 23 47 30.9 -1.2
DBIC IAmb IAmb 23 47 32.6
comp=Z,64nm,1.7s
DBIC **Dimbokro** 68.98 70 P **P** 23 47 31.5 -0.6
comp=Z,10nm,0.7s,baz=244,slow=4.0,SNR=14
DBIC pP **pP** 23 48 09.3 +0.1
comp=Z,8.1nm,0.8s,baz=233,slow=5.8,SNR=4.1
comp=Z,10nm,0.7s
DBIC **Dimbokro** 68.98 70 P **P** 23 47 30.9 -1.2
DBIC pmax pmax
comp=Z,64nm,1.7s
DBIC **Dimbokro** 68.98 70 P **P** 23 47 31.5 -0.6
DBIC PcP **PcP** 23 47 55.6 +0.2
DBIC pP **pP** 23 48 09.9 +0.7
WMOK **Wichita Mounta** 69.30 332 P **P** 23 47 33.6 -0.1
WMOK **Wichita Mounta** 69.30 332 P **P** 23 47 33.6 -0.1
WMOK pmax pmax
comp=Z,8.0nm,0.9s
ACSO **Alum Creek Sta** 69.50 347 P **P** 23 47 34.9 +0.2
ACSO IAmb IAmb 23 47 35.3
comp=Z,11nm,0.8s
CCM **Cathedral Cave** 69.55 340 P **P** 23 47 35.3 +0.2
CCM **Cathedral Cave** 69.55 340 P **P** 23 47 35.3 +0.2
CCM pmax pmax
comp=Z,32nm,0.8s
CCM **Cathedral Cave** 69.55 340 P **P** 23 47 35.5 +0.4
CCM pP **pP** 23 48 13.6 +0.9
MNTX **Cornudas Mount** 69.77 326 P **P** 23 47 36.9 +0.3
MNTX IAmb IAmb 23 47 37.8
comp=Z,14nm,1.0s
SYO **Syowa Base** 69.81 158 ‖ *i*P **P** 23 47 36.4 0.0
SYO **Syowa Base** 69.81 158 ‖ *e*pP pP 23 48 10.0 -3.2
SBA **Scott Base** 69.83 190 P **P** 23 47 37.1 +0.8
SBA **Scott Base** 69.83 190 P **P** 23 47 37.1 +0.8
SBA pmax pmax
comp=Z,17nm,1.6s
HSIG **70.66 320** **P** 23 47 43.1 +1.0
HSIG IAmb IAmb 23 47 44.9
comp=Z,29nm,1.0s
VNDA **Vanda** 70.83 190 P **P** 23 47 43.3 +0.9
VNDA **Vanda** 70.83 190 P **P** 23 47 44.0 +1.6
comp=Z,5.4nm,0.8s,baz=124,slow=4.6,SNR=29
comp=Z,5.4nm,0.8s
VNDA **Vanda** 70.83 190 P **P** 23 47 43.3 +0.9
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA **Vanda** 70.83 190 P **P** 23 47 43.8 +1.4
VNDA sP **sP** 23 48 32.7 -3.4
HDIL **Hopedale** 71.30 342 P **P** 23 47 45.3 -0.4
HDIL IAmb IAmb 23 47 46.3
comp=Z,25nm,0.8s
319A **Douglas** 71.54 323 **P** 23 47 49.0 +1.5
ANMO **Albuquerque** 72.92 327 P **P** 23 47 56.6 +0.9
ANMO **Albuquerque** 72.92 327 P **P** 23 47 56.6 +0.9
ANMO pmax pmax
comp=Z,11nm,0.9s

WBO **Williamsburg** 73.03 354 P **P** 23 47 56.1 +0.4
WBO IAmb IAmb 23 47 57.5
comp=Z,15nm,0.7s
TUC **Tucson** 73.07 322 P **P** 23 47 57.0 +0.5
TUC **Tucson** 73.07 322 P **P** 23 47 57.0 +0.5
TUC pmax pmax
comp=Z,8.0nm,1.0s
SUR **Sutherland** 73.79 118 P **P** 23 48 01.9 +0.9
TRQ **Mont Tremblant** 74.17 354 **P** 23 48 03.0 +0.4
TRQ IAmb IAmb 23 48 04.1
comp=Z,14nm,0.9s
WIN **Windhoek** 74.68 108 P **P** 23 48 05.9 -0.5
WIN IAmb IAmb 23 50 14.0
comp=Z,32nm,1.5s
WIN **Windhoek** 74.68 108 P **P** 23 48 05.9 -0.5
WIN pmax pmax
comp=Z,32nm,1.5s
SDCO **Great Sand Dun** 74.74 329 **P** 23 48 07.1 +0.8
PPT **Papeete** 75.71 258 P **P** 23 48 14.4 +2.3
comp=Z,58nm,0.8s,baz=72,slow=19,SNR=3.9
comp=Z,58nm,0.8s
MVCO **Mesa Verde** 75.72 327 **P** 23 48 13.0 +1.1
MVCO IAmb IAmb 23 48 14.6
comp=Z,17nm,1.0s
ECSD **EROS Data Cent** 76.40 338 **P** 23 48 15.5 +0.2
ECSD IAmb IAmb 23 48 16.7
comp=Z,20nm,0.9s
TSUM **Tsumeb** 76.49 105 **P** 23 48 16.3 -0.4
KOOLE **Kule** 77.10 109 *i* P **P** 23 48 20.6 +0.6
KOOLE **Kule** 77.10 109 P **P** 23 48 19.9 -0.1
KOOLE IAmb IAmb 23 48 21.2
comp=Z,22nm,0.7s
PFO **Pinyon Flats O** 77.22 319 *d* iP **P** 23 48 22.1 +1.8
PFO pmax pmax
comp=Z,21nm,1.0s
MAW **Mawson** 77.62 162 P **P** 23 48 22.4 +0.5
comp=Z,200nm,0.8s,baz=218,slow=6.9,SNR=34
comp=Z,200nm,0.8s
GRHM **Grahamstown, E** 77.69 121 P **P** 23 48 23.4 +0.3
PKCU **Pink Cliffs** 77.80 325 **P** 23 48 24.7 +1.0
PHPEN **Phepeng** 78.25 113 P **P** 23 48 26.5 +0.2
PHPEN IAmb IAmb 23 48 30.1
comp=Z,52nm,1.6s
GRTLG **Ghanzi** 78.65 108 *i* P **P** 23 48 29.1 +0.5
GRTLG **Ghanzi** 78.65 108 **P** 23 48 28.6 0.0
GRTLG IAmb IAmb 23 48 29.8
comp=Z,22nm,0.9s
EYMN **Ely** 78.75 343 **P** 23 48 28.1 -0.1
EYMN IAmb IAmb 23 48 30.1
comp=Z,24nm,1.6s
BOSA **Boshof** 78.83 116 P **P** 23 48 29.4 -0.1
BOSA IAmb IAmb 23 48 30.5
comp=Z,28nm,0.7s
BOSA **Boshof** 78.83 116 P **P** 23 48 29.7 +0.2
comp=Z,26nm,0.6s,baz=254,slow=3.8,SNR=92
BOSA pP **pP** 23 49 06.8 -0.3
comp=Z,8.3nm,0.9s,baz=263,slow=8.1,SNR=3.1
comp=Z,26nm,0.6s
BOSA **Boshof** 78.83 116 P **P** 23 48 29.4 -0.1
BOSA pmax pmax
comp=Z,28nm,0.7s
KGCAE **Kacgae** 78.83 110 *i* P **P** 23 48 29.9 +0.4
KGCAE **Kacgae** 78.83 110 P **P** 23 48 29.8 +0.2
KGCAE IAmb IAmb 23 48 32.0
comp=Z,16nm,0.9s
RSSD **Black Hills** 79.41 334 **P** 23 48 32.6 +0.4
RSSD **Black Hills** 79.41 334 P **P** 23 48 32.6 +0.4
RSSD pmax pmax
comp=Z,8.0nm,0.9s
TPNV **Topopah Spring** 79.52 322 P **P** 23 48 33.8 +0.9
TPNV **Topopah Spring** 79.52 322 P **P** 23 48 33.8 +0.9
TPNV pmax pmax
comp=Z,15nm,1.2s
SKOMA **Sekoma** 79.54 112 *i* P **P** 23 48 33.9 +0.5
AGMN **Agassiz Nation** 80.26 341 **P** 23 48 36.8 +0.5
AGMN IAmb IAmb 23 48 37.8
comp=Z,19nm,0.8s
PD31 **Pinedale Array** 80.62 330 P **P** 23 48 39.3 +0.5
PDAR **Pinedale Array** 80.62 330 **P** 23 48 39.3 +0.5
PDAR **Pinedale Array** 80.62 330 P **P** 23 48 39.6 +0.9
comp=Z,4.9nm,0.7s,baz=121,slow=7.0,SNR=24
comp=Z,4.9nm,0.7s
KDWAN **Kaudwane** 80.64 111 *i* P **P** 23 48 40.0 +0.8
HWUT **Hardware Ranch** 80.64 328 **P** 23 48 39.5 +0.7
HWUT IAmb IAmb 23 48 40.9
comp=Z,18nm,0.8s
LBTB **Lobatse** 80.68 113 P **P** 23 48 39.5 0.0
LBTB **Lobatse** 80.68 113 P **P** 23 48 39.5 0.0
LBTB pmax pmax
comp=Z,33nm,0.7s
TPH **Tonopah** 80.87 322 P **P** 23 48 41.1 +0.9
TPH **Tonopah** 80.87 322 P **P** 23 48 41.1 +0.9
TPH pmax pmax
comp=Z,21nm,1.5s
AHID **Auburn Hatcher** 81.32 329 P **P** 23 48 43.4 +1.0
AHID IAmb IAmb 23 48 44.5
comp=Z,23nm,1.1s
LPHEP **Lephephe** 81.63 112 *i* P **P** 23 48 45.2 +0.7
LPHEP **Lephephe** 81.63 112 **P** 23 48 44.4 -0.1
LPHEP IAmb IAmb 23 48 46.6
comp=Z,46nm,1.3s
SNOW **Snow King Moun** 81.71 329 **P** 23 48 45.1 +0.6
NVAR **Mina Array Bea** 81.72 322 **P** 23 48 45.2 +0.6
NVAR **Mina Array Bea** 81.72 322 P **P** 23 48 45.6 +0.9
comp=Z,1.3nm,0.6s,baz=151,slow=6.7,SNR=9.7
comp=Z,1.3nm,0.6s
ELK **Elko** 81.78 325 **P** 23 48 45.5 +0.6
ELK **Elko** 81.78 325 LR LR 00 19 57.0
comp=Z,72nm,21.0s,baz=270,slow=32
ELK **Elko** 81.78 325 P **P** 23 48 45.6 +0.6
ELK pmax pmax
comp=Z,6.0nm,0.8s
PHDHD **Phuduhudu** 81.95 108 *i* P **P** 23 48 47.0 +0.8
PHDHD **Phuduhudu** 81.95 108 P **P** 23 48 46.2 0.0
PHDHD IAmb IAmb 23 48 47.7
comp=Z,27nm,0.7s
SCHQ **Schefferville** 82.46 0 P **P** 23 48 47.9 +0.1
comp=Z,4.1nm,0.8s,baz=116,slow=5.4,SNR=3.6
comp=Z,4.1nm,0.8s
YNE **Yellowstone No** 82.60 331 P **P** 23 48 49.4 +0.3
YNE IAmb IAmb 23 48 51.2
comp=Z,23nm,1.3s
MREMI **Moremi** 83.29 112 *i* P **P** 23 48 53.9 +0.7
MREMI **Moremi** 83.29 112 **P** 23 48 53.2 +0.1
MREMI IAmb IAmb 23 48 54.7
comp=Z,18nm,0.8s
HLID **Hailey** 83.49 327 **P** 23 48 54.6 +1.0
HLID IAmb IAmb 23 48 56.2
comp=Z,14nm,0.9s
KSANE **Kasane** 83.56 107 *i* P **P** 23 48 55.7 +1.1
KSANE **Kasane** 83.56 107 **P** 23 48 54.3 -0.2
KSANE IAmb IAmb 23 48 56.4
comp=Z,16nm,0.9s
MCMT **McKenzie Canyo** 83.72 329 P **P** 23 48 56.3 +1.4
BROLN **Tlhalogang** 83.87 111 *i* P **P** 23 48 56.8 +0.6
DLMT **Dillon** 84.02 329 **P** 23 48 57.0 +0.8
DLMT IAmb IAmb 23 48 58.7
comp=Z,18nm,1.3s
MD01 **Midelt array s** 84.47 48 P **P** 23 48 59.5 +0.7
GDXM **Geysers** 84.51 319 P **P** 23 48 59.6 +0.9
EGMT **Eagleton** 84.89 333 P **P** 23 49 00.7 +0.2
PBDV **Barranco-do-Ve** 85.23 43 *e*P **P** 23 49 04.4 +2.1
J08A **Circle Bar Ran** 85.34 325 **P** 23 49 03.8 +1.0
J08A IAmb IAmb 23 49 05.3
comp=Z,24nm,1.0s
PCVE **Castro Verde** 85.41 43 *e*P **P** 23 49 05.1 +1.9
MESJ **Messejana** 85.44 43 P **P** 23 49 04.0 +0.7
MESJ IAmb IAmb 23 49 05.6
comp=Z,73nm,1.9s
MESJ **Messejana** 85.44 43 *e*P **P** 23 49 04.5 +1.2
MESJ **Messejana** 85.44 43 P **P** 23 49 04.0 +0.7
MESJ pmax pmax
comp=Z,73nm,1.9s
PARRA **Arraiolos** 85.59 42 *e*P **P** 23 49 08.7 +4.6
PBEJ **Beja** 85.77 43 *e*P **P** 23 49 06.3 +1.3
EVO **Evora** 86.01 42 *e*P **P** 23 49 08.0 +1.9
CASY **Casey** 86.03 179 **P** 23 49 06.6 +0.7
CASY IAmb IAmb 23 49 07.8
comp=Z,19nm,0.8s
TAM **Tamanrasset** 86.13 62 **P** 23 49 07.4 +0.1
TAM **Tamanrasset** 86.13 62 P **P** 23 49 07.4 +0.1
TAM pmax pmax
comp=Z,32nm,0.5s
PMTG **Montargil** 86.24 42 *e*P **P** 23 49 08.5 +1.3
PMTG *i* IAmb IAmb 23 49 09.4

comp=Z,26nm,1.2s
PBAR **Barrancos** 86.37 43 *e*P **P** 23 49 07.4 -0.4
PESTR **Estremoz** 86.48 42 **P** 23 49 08.8 +0.3
PESTR IAmb IAmb 23 49 11.2
comp=Z,14nm,0.9s
PESTR **Estremoz** 86.48 42 *e*P **P** 23 49 10.1 +1.6
PESTR *i* IAmb IAmb 23 49 11.4
comp=Z,23nm,1.1s
PSARD **Sardoal** 86.62 41 *e*P **P** 23 49 11.0 +1.9
J05D **Fort Rock, OR** 86.71 324 P **P** 23 49 10.0 +0.4
J05D IAmb IAmb 23 49 11.9
comp=Z,12nm,1.0s
PCAS **Casmilo, Conde** 86.72 41 *e*P **P** 23 49 09.3 -0.3
PCAS *i* IAmb IAmb 23 49 10.7
comp=Z,69nm,1.7s
COI **Coimbra** 86.87 41 *e*P **P** 23 49 13.1 +2.8
COI *i* IAmb IAmb 23 49 13.9
comp=Z,44nm,1.9s
PMRV **Marv??o** 86.96 42 *e*P **P** 23 49 12.7 +1.9
PCBR **Castelo Branco** 87.18 42 *e*P **P** 23 49 13.7 +2.0
LSZ **Lusaka** 87.29 106 **P** 23 49 14.7 +1.6
LSZ IAmb IAmb 23 49 16.7
comp=Z,13nm,0.9s
LSZ **Lusaka** 87.29 106 P **P** 23 49 14.7 +1.6
LSZ pmax pmax
comp=Z,13nm,0.9s
HAWA **Hanford** 88.03 327 **P** 23 49 16.5 +0.8
HAWA IAmb IAmb 23 49 17.8
comp=Z,8.2nm,0.8s
PCAB **Cabril** 88.08 40 *e*P **P** 23 49 19.1 +3.0
NEW **Newport** 88.25 329 P **P** 23 49 16.7 0.0
NEW **Newport** 88.25 329 P **P** 23 49 16.7 0.0
NEW pmax pmax
comp=Z,6.0nm,1.1s
MVO **Moncorvo** 88.30 41 *e*P **P** 23 49 18.3 +1.1
PBRG **Braganca** 88.87 40 *e*P **P** 23 49 22.7 +2.9
ESDC **Sonseca Array** 89.17 43 **P** 23 49 21.8 +0.5
ESDC **Sonseca Array** 89.17 43 P **P** 23 49 22.1 +0.8
comp=Z,1.4nm,0.8s,baz=239,slow=4.1,SNR=15
ESDC pP **pP** 23 50 00.6 +0.7
comp=Z,0.9nm,0.9s,baz=233,slow=4.2,SNR=2.9
comp=Z,1.4nm,0.8s
LTZ **Lake Taylor** 91.06 219 P **P** 23 49 30.7 +0.5
KEST **Kesra** 95.71 53 P **P** 23 49 52.1 +0.5
comp=Z,2.4nm,1.0s,baz=334,slow=8.9,SNR=5.0
comp=Z,2.4nm,1.0s
YKA **Yellowknife Ar** 97.88 340 P **P** 23 50 00.5 -0.1
comp=Z,1.8nm,0.8s,baz=133,slow=4.1,SNR=14
comp=Z,1.8nm,0.8s
BORG **Borgarnes** 98.95 18 LR LR 00 31 58.4
comp=Z,33nm,18.4s,baz=62,slow=34
MMAI **Mount Meron Ar** 114.25 64 PKiKP PKPdf 23 55 03.5 -1.1
comp=Z,1.8nm,0.9s,baz=215,slow=1.8,SNR=4.1
AKASG **Malin Array Be** 114.81 44 PKP PKPdf 23 55 04.6 -0.4
comp=Z,0.2nm,0.2s,baz=266,slow=2.7,SNR=5.3
AKBB **Malin Array Si** 114.81 44 ‖ *i* PKiKP PKPdf 23 55 03.2 -1.8
BR131 **Keskin Array S** 114.91 57 *i* PKiKP **PKiKP** **23 55 06.5 +0.7**
BRTR **Keskin Array B** 114.91 57 PKP **PKiKP** **23 55 06.3 +0.5**
comp=Z,1.1nm,0.8s,baz=182,slow=2.3,SNR=6.9
BRTR pPKP **pPKiKP** **23 55 48.0 +1.8**
comp=Z,1.2nm,0.8s,baz=218,slow=2.9,SNR=6.7
VSU **Vasula** 115.21 35 ‖ *i* PKiKP **PKPdf** **23 55 06.3 +0.8**
ARCES **ARCESS Array B** 116.72 23 PKP **PKPdf** **23 55 07.7 -0.5**
comp=Z,3.5nm,0.9s,baz=311,slow=5.5,SNR=4.3
PUL **Pulkovo** 117.28 34 ‖ *i* PKiKP **PKPdf** **23 55 09.3 -0.2**
OBN **Obninsk** 119.99 40 *e*PKiKP **PKiKP** **23 55 15.1 +0.2**
OBN *e* 23 55 53.6
OBN *e* 23 56 40.7
OBN *e*PPP PPP 23 59 15.3
OBN pmax pmax
comp=Z,4.0nm,1.0s
VSLR **Vesyoloye** 120.45 54 ⇑ *i* PKiKP **PKiKP** **23 55 17.0 +0.7**
KLMR **Klimovskoe** 121.93 34 *e*PKiKP **PKPdf** **23 55 18.0 -0.4**
KLMR pmax pmax
comp=Z,14nm,1.4s
SHA1 **Shidzhatmaz** 122.38 54 ‖ *i* PKiKP **PKiKP** **23 55 21.1 +0.7**
KIV **Kislovodsk** 122.43 54 *e*PKiKP **PKiKP** **23 55 20.2 -0.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ **Khabaz** 122.55 54 PKP **PKiKP** **23 55 20.9 +0.6**
comp=Z,2.4nm,0.8s,baz=237,slow=2.0,SNR=3.9
KBZ pPKP **pPKPdf** **23 56 02.2 +1.7**
comp=Z,4.8nm,1.0s,baz=285,slow=0.6,SNR=5.0
NCK **Nalchik** 123.01 54 ‖ *e*PKiKP **PKPdf** **23 55 21.2 +0.1**
AS31 **Alice Springs** 124.90 203 PKPdf **PKPdf** **23 55 24.9 -0.6**
ASAR **Alice Springs** 124.90 203 PKPdf **PKPdf** **23 55 24.8 -0.6**
ASAR **Alice Springs** 124.90 203 PKP **PKPdf** **23 55 25.0 -0.5**
comp=Z,6.5nm,0.7s,baz=136,slow=1.9,SNR=76
ASAR pPKP **pPKPdf** **23 56 07.2 +1.4**
comp=Z,1.7nm,0.6s,baz=132,slow=1.6,SNR=4.5
BELG **Belogornoye** 126.39 44 *c* iPKiKP **PKiKP** **23 55 27.9 +0.2**
KIRV **Kirov** 127.05 36 ⇑ *e*PKiKP **PKiKP** **23 55 29.4 +0.6**
WR8 **Warramunga Arr** 128.07 206 PKPdf **PKPdf** **23 55 31.2 -0.4**
WRA **Warramunga Arr** 128.14 206 PKPdf **PKPdf** **23 55 31.5 -0.3**
WRA **Warramunga Arr** 128.14 206 PKP **PKPdf** **23 55 31.6 -0.1**
comp=Z,7.9nm,0.6s,baz=166,slow=1.6,SNR=61
WRA pPKP **pPKPdf** **23 56 13.6 +1.6**
comp=Z,1.6nm,0.6s,baz=155,slow=1.8,SNR=3.6
WRAB **Tennant Creek** 128.15 206 ⇑ *i* PKiKP **PKPdf** **23 55 30.9 -0.8**
ARTI **Arti** 132.19 38 *i* PKiKP **PKPdf** **23 55 38.2 +0.1**
ARTI 23 58 02.2
ARTI SS SS 00 15 21.8 -6.1
FITZ **Fitzroy Crossi** 132.63 196 PKPdf **PKPdf** **23 55 39.8 -0.5**
AB31 **Akbulak array** 134.39 47 PKPdf **PKPdf** **23 55 42.9 +0.4**
ABKAR **Akbulak array** 134.39 47 PKPdf **PKPdf** **23 55 43.0 +0.5**
TIXI **Tiksi** 135.42 353 ‖ *e*PKiKP **PKPdf** **23 55 42.9 -0.9**
SEY **Seymchan** 136.75 335 *i* PKiKP **PKPdf** **23 55 46.8 +0.3**
SEY pmax pmax
comp=Z,10.0nm,0.9s
PET **Petropavlovsk** 138.27 320 ⇑ *e*PKiKP **PKPdf** **23 55 50.5 +0.9**
PETK **Petropavlovsk-** 138.79 320 PKP **PKPdf** **23 55 50.5 -0.1**
comp=Z,4.7nm,0.8s,baz=72,slow=4.7,SNR=5.9
BRVK **Borovoye** 139.75 39 PKPdf **PKiKP** **23 55 53.7 -1.0**
BRVK **Borovoye** 139.75 39 ‖ *i* PKiKP **PKiKP** **23 55 53.6 -1.1**
BVAR **Borovoye Array** 139.83 39 PKhKP PKPpre 23 55 43.3
comp=Z,1.2nm,0.8s,baz=270,slow=2.9,SNR=3.8
BVAR PKP **PKPdf** **23 55 53.2 +0.7**
comp=Z,2.5nm,0.5s,baz=291,slow=2.3,SNR=14
BVAR pPKP pPKPdf 23 56 32.6 -0.2
comp=Z,0.8nm,0.7s,baz=267,slow=2.7,SNR=1.6
EDFI **Ende, Flores** 142.57 194 PKP PKPpre 23 55 54.2
EDFI PKP **PKPdf** **23 55 55.3 -3.4**
EDFI PKP **PKiKP** **23 55 58.8 -3.1**
BAKI **Biak** 143.57 221 PKP **PKPdf** **23 55 59.3 -1.1**
BAKI PKP PKPbc 23 55 59.6 +1.5
BAKI PKP PKPab 23 56 00.4 +3.2
YAK **Yakutsk** 144.22 347 PKPdf PKPbc 23 55 59.1 +0.6
YAK **Yakutsk** 144.22 347 *d* iPKiKP PKPbc 23 55 58.5 -0.1
RKPI **Ransiki, Papua** 144.40 218 PKP PKPbc 23 56 01.0 +0.4
RKPI PKP **PKPdf** **23 56 01.5 -0.3**
KPJI **Karang Pucung** 144.67 173 PKP PKPbc 23 56 01.4 0.0
KPJI PKP **PKPdf** **23 56 02.2 -0.1**
ARSB **Arslanbob** 144.68 57 PKPbc **PKPdf** **23 56 01.8 +0.1**
ARSB **Arslanbob** 144.68 57 PKiKP **PKPdf** **23 56 01.8 +0.1**
CGJI **Cibinong** 144.87 167 PKP **PKPab** **23 56 01.9 -0.1**
CGJI PKP **PKPdf** **23 56 03.4 +0.8**
EKS2 **Erkin-Say** 145.02 55 P **PKPdf** **23 56 03.5 +1.4**
SNR=37
SMRI **Semarang** 145.09 175 PKP **PKPdf** **23 56 04.2 +1.2**
DBJI **Dramaga** 145.12 169 PKP **PKPdf** **23 56 04.0 +0.9**
USP **Ospenovka** 145.41 53 P **PKPab** **23 56 04.2 +0.8**
SNR=12
KURBB **Kurchatov Arra** 145.42 40 PKPbc **PKPab** **23 56 03.6 +0.5**
comp=Z,5.7nm,0.5s,baz=303,slow=3.8,SNR=69
KURBB pPKPbc **pPKPdf** **23 56 43.6 +0.8**
comp=Z,9.1nm,0.7s,baz=299,slow=3.6,SNR=8.2
KURK **Kurchatov** 145.43 39 PKP2 **PKPab** **23 56 03.6 +0.5**
AAK **Ala-Archa** 145.54 55 P **PKPab** **23 56 05.6 +1.6**
SNR=17
AAK **Ala-Archa** 145.54 55 *d* iPKP2 **PKPab** **23 56 05.4 +1.3**
UCH **Uchtor** 145.65 55 P **PKPab** **23 56 06.3 +1.4**
SNR=9.8
CHMS **Chumysh** 145.65 54 P **PKPab** **23 56 04.9 +0.6**
SNR=13
KASI **Kota Agung** 145.67 165 PKP **PKPdf** **23 56 04.1 +0.1**
KASI PKP **PKPab** **23 56 05.7 +0.7**
KBK **Karagaybulak** 145.87 54 P **PKPab** **23 56 06.1 +0.8**
SNR=18
NLAI **Namlea** 146.19 206 PKP **PKPdf** **23 56 04.9 0.0**
NLAI PKP **PKPab** **23 56 07.2 +0.2**
BKSI **Bulukumba** 146.22 193 PKP **PKPdf** **23 56 05.2 +0.3**
BKSI PKP **PKPbc** **23 56 06.5 +0.3**
SWI **Sorong** 146.47 214 PKP **PKPab** **23 56 08.1 0.0**
MDSI **Maura Dua** 146.59 164 PKP **PKPdf** **23 56 04.6 -1.0**

MDSI				PKP	**PKPbc**	**23 56 07.3**	**0.0**		
ZALV	**Zalesovo Beam**	**146.78**	**31**	PKPbc	**PKPbc**	**23 56 06.0**	**-0.6**		
	comp=Z,35nm,0.7s,baz=303,slow=3.5,SNR=72								
ZALV				pPKPbc	pPKPbc	23 56 46.8	+0.2		
	comp=Z,13nm,0.5s,baz=309,slow=3.5,SNR=6.5								
BNSI	**Bone**	**147.12**	**193**	PKP	**PKPdf**	**23 56 07.2**	**+0.7**		
BNSI				PKP	**PKPab**	**23 56 09.7**	**-0.9**		
KSH	**Kashi**	**147.23**	**60**	PKPbc	**PKPbc**	**23 56 07.6**	**-0.9**		
KSH				pPKP	pPKPab	23 56 49.5	-0.3		
SPSI	**Sidrap Palu**	**147.61**	**192**	PKP	**PKPdf**	**23 56 08.1**	**+0.8**		
SPSI				PKP	**PKiKP**	**23 56 11.3**	**-0.8**		
SANI	**Sanana**	**147.70**	**205**	PKP	**PKPdf**	**23 56 07.6**	**+0.2**		
SANI				PKP	**PKPbc**	**23 56 10.5**	**+0.1**		
YUK	**Yuzh-Kuril'sk**	**149.31**	**310**	*e*PKHKP	PKPpre	23 56 10.9			
MK31	**Makanchi Array**	**149.39**	**44**	*ce*PKHKP	PKPpre	23 56 11.8			
MKAR	**Makanchi Array**	**149.39**	**44**	PKPbc	**PKiKP**	**23 56 14.4**	**-0.4**		
	comp=Z,18nm,0.7s,baz=344,slow=1.1,SNR=82								
MKAR				pPKPbc	**pPKPbc**	**23 56 53.4**	**-0.5**		
	comp=Z,30nm,0.9s,baz=303,slow=2.7,SNR=2.9								
MKAR	**Makanchi Array**	**149.39**	**44**	*c i*PKHKP	PKPpre	23 56 11.8			
MKAR				pmax	pmax				
	comp=Z,18nm,0.7s								
LUWI	**Luwuk**	**149.71**	**199**	PKP	**PKPdf**	**23 56 09.4**	**-1.3**		
LUWI				PKP	**PKiKP**	**23 56 16.7**	**+0.3**		
YSS	**Yuzhno-Sakhali**	**150.08**	**317**	*e*PKIKP	**PKiKP**	**23 56 16.2**	**+0.1**		
YSS				*e*		23 56 58.1			
YSS				pmax	pmax				
	comp=Z,40nm,0.9s								
SBSI	**Sibolga**	**150.39**	**150**	PKP	**PKPbc**	**23 56 15.8**	**-1.3**		
SBSI				PKP	**PKiKP**	**23 56 18.1**	**+0.2**		
MPSI	**Mapaga**	**151.77**	**194**	PKP	**PKiKP**	**23 56 20.7**	**0.0**		
MJAR	**Matsushiro Arr**	**157.20**	**298**	PKPab	**PKPab**	**23 56 53.3**	**+0.9**		
	comp=Z,6.3nm,0.7s,baz=95,slow=3.1,SNR=14								
SONM	**Songino Array**	**159.48**	**13**	PKP	**PKPdf**	**23 56 23.8**	**+0.6**		
	comp=Z,3.7nm,1.0s,baz=309,slow=0.2,SNR=14								
SONM				PKPab	**pPKPdf**	**23 57 03.0**	**-0.9**		
	comp=Z,2.2nm,0.8s,baz=333,slow=3.1,SNR=6.9								
CMAR	**Chiang Mai Arr**	**163.88**	**123**	PKP	**PKPdf**	**23 56 26.9**	**-1.6**		
	comp=Z,1.6nm,0.9s,baz=236,slow=1.2,SNR=7.0								
CMAR				PKPab	**PKPab**	**23 57 21.4**	**-0.5**		
	comp=Z,0.6nm,0.3s,baz=243,slow=5.5,SNR=4.8								
GTA	**Gaotai**	**164.10**	**41**	PKP	**PKPdf**	**23 56 29.7**	**+1.4**		
GTA				pPKP	pPKPdf	23 57 12.1	+3.2		
KSRS	**Korea Array**	**164.40**	**311**	PKP2	**PKPab**	**23 57 24.9**	**+1.3**		
	comp=Z,2.7nm,0.6s,baz=49,slow=5.1,SNR=5.9								
KSRS	**Korea Array**	**164.40**	**311**	PKP2	**PKPab**	**23 57 25.0**	**+1.3**		
HHC	**Hu-ho-hao-te**	**167.09**	**5**	*e*P	**PKPdf**	**23 56 27.8**	**-2.8**		
PZH	**PanZhiHua**	**169.74**	**96**	PKP	**PKPdf**	**23 56 32.3**	**-0.5**		
NJ2	**Nanjing**	**173.60**	**311**	*e*P	**PKPdf**	**23 56 36.3**	**+2.0**		
NJ2				pmax	pmax				
	comp=Z,32nm,0.6s								

*SNET **11** 00:37:08.9±2.7, 13°.97N×91°.72W, h22km, ML4.3*
*GCG **11** 00:37:10.1±1.0, 13°.91N×91°.65W, h22km±4km, MD4.0, ML4.4*
*CATAC **11** 00:37:10.3±0.6, 14°N±3°×9°2W±°, h22km±4km, M4.2/15, MLv4.2/15, Error ellipse: s-maj=7.8km s-min=3.6km az=41.1, confirmed*
*IDC **11** 00:37:13.8±2.1, 14°.23N×91°.66W, h77km±21km, mb3.4/1, mbtmp3.7/4, MS2.6/1, Error ellipse: s-maj=27.0km s-min=13.3km az=31.0*

ISC 11 00:37:09.5±1.6, **13°.95N**±0°.06×**91°.67W**±0°.05, **h30**km±12km, **n49**, σ2**11**/61, **1D**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.57**	**357**	P	**Pn**	**00 37 23.4**	**+1.7**
RTAL				S	**Sn**	**00 37 31.6**	**+1.5**
SOKI	**Kika Raxquin**	**0.90**	**16**	*i* P	**Pn**	**00 37 27.8**	**+1.2**
SOKI				IAML		00 37 43.6	
	comp=E,7μm,0.6s						
ESSG	**Sabana Grande**	**0.92**	**62**	*e*P	**Pb**	**00 37 27.2**	**+0.3**
ESSG				*i* S	**Sn**	**00 37 40.1**	**+1.4**
ESSG				IAML		00 37 40.4	
	comp=E,6μm,0.3s						
SMCA	**Catarina**	**0.99**	**336**	*i* P	**Pb**	**00 37 28.0**	**0.0**
SMCA				IAML		00 37 41.4	
	comp=E,5μm,0.5s						
FG8	**Yepocapa, Chim**	**1.12**	**74**	*i* P	**Pn**	**00 37 26.8**	**-2.4**
FG8				*i* S	**Sb**	**00 37 39.4**	**-5.2**
THIG		**1.12**	**329**	*i* P	**Pn**	**00 37 30.2**	**+1.1**
THIG				IAML		00 37 45.9	
	comp=N,5μm,0.7s						
FG16	**Alotenango, Sa**	**1.17**	**74**	*e*P	**Pn**	**00 37 28.0**	**-2.0**
FG16				⇓ *i* S	**Sb**	**00 37 41.3**	**-4.7**
FG16				IAML		00 37 44.7	
	comp=E,65μm,0.2s						
GCG4	**OSOP**	**1.27**	**60**	*i* P	**Pb**	**00 37 33.4**	**+0.5**
GCG4				*i* S	**Sb**	**00 37 51.0**	**+2.0**
GCG4				IAML		00 37 52.9	
	comp=E,4μm,0.4s						
HUEH	**Huehuetenango**	**1.37**	**7**	*e*P	**Pb**	**00 37 34.6**	**0.0**
HUEH				*e*S	**Sb**	**00 37 53.5**	**+1.5**
HUEH	**Huehuetenango**	**1.37**	**7**	*e*P	**Pb**	**00 37 35.1**	**+0.4**
HUEH				IAML		00 37 56.5	
	comp=N,2μm,0.4s						
HUEH	**Huehuetenango**	**1.37**	**7**	P	**Pb**	**00 37 34.8**	**+0.1**
HUEH	**Huehuetenango**	**1.37**	**7**	S	**Sb**	**00 37 52.7**	**+0.7**
QUIS	**Sacapulas**	**1.45**	**23**	*e*P	**Pb**	**00 37 36.0**	**+0.1**
QUIS				*e*S	**Sb**	**00 37 55.9**	**+1.9**
QUIS				IAML		00 37 56.7	
	comp=E,15μm,0.4s						
FAME	**Alcaldia de Sa**	**1.61**	**94**	P	**Pn**	**00 37 36.5**	**+0.6**
FAME	**Alcaldia de Sa**	**1.61**	**94**	S	**Sn**	**00 37 57.0**	**+1.4**
SLOZ	**Alcaldia de Sa**	**1.83**	**87**	S	**Sn**	**00 38 03.5**	**+2.3**
SLOZ	**Alcaldia de Sa**	**1.83**	**87**	P	**Pn**	**00 37 40.5**	**+1.6**
LOAL	**Lomas de Alarc**	**1.83**	**88**	S	**Sn**	**00 38 03.8**	**+2.5**
LOAL	**Lomas de Alarc**	**1.83**	**88**	P	**Pn**	**00 37 41.0**	**+2.0**
NUBE	**Las Nubes**	**1.83**	**91**	*e*P	**Pn**	**00 37 40.7**	**+1.6**
NUBE	**Las Nubes**	**1.83**	**91**	*e*P	**Pn**	**00 37 40.2**	**+1.1**
NUBE	**Las Nubes**	**1.83**	**91**	P	**Pn**	**00 37 40.4**	**+1.3**
NUBE	**Las Nubes**	**1.83**	**91**	S	**Sn**	**00 38 03.0**	**+1.6**
CEVE	**Cerro Verde**	**1.99**	**93**	*e*P	**Pn**	**00 37 43.0**	**+1.6**
CEVE				*e*S	**Sb**	**00 38 09.1**	**-0.5**
CEVE	**Cerro Verde**	**1.99**	**93**	P	**Pn**	**00 37 43.1**	**+1.8**
CEVE	**Cerro Verde**	**1.99**	**93**	S	**Sn**	**00 38 07.6**	**+2.3**
JAYA	**Jayaque - finc**	**2.17**	**97**	*e*P	**Pn**	**00 37 45.1**	**+1.3**
JAYA				*e*S	**Sn**	**00 38 11.4**	**+1.6**
JAYA	**Jayaque - finc**	**2.17**	**97**	*i* P	**Pn**	**00 37 45.0**	**+1.2**
JAYA				*e*S	**Sn**	**00 38 11.1**	**+1.3**
JAYA	**Jayaque - finc**	**2.17**	**97**	P	**Pn**	**00 37 45.2**	**+1.3**
MTO3	**Montecristo**	**2.28**	**78**	*e*P	**Pn**	**00 37 46.3**	**+0.9**
MTO3	**Montecristo**	**2.28**	**78**	*i* P	**Pn**	**00 37 46.3**	**+0.9**
MTO3	**Montecristo**	**2.28**	**78**	P	**Pn**	**00 37 46.5**	**+1.2**
PMON	**Piamonte**	**2.30**	**96**	*e*P	**Pn**	**00 37 46.3**	**+0.8**
PMON	**Piamonte**	**2.30**	**96**	S	**Sn**	**00 38 15.3**	**+2.5**
PMON	**Piamonte**	**2.30**	**96**	P	**Pn**	**00 37 47.5**	**+2.0**
BOQS	**Boqueron**	**2.33**	**95**	*e*P	**Pn**	**00 37 47.1**	**+1.2**
ESQI	**Esquipulas**	**2.33**	**75**	P	**Pn**	**00 37 47.3**	**+1.3**
CCIG	**Comitan**	**2.37**	**349**	*e*P	**Pn**	**00 37 49.2**	**+2.7**
CCIG				IAML		00 38 24.5	
	comp=E,491nm,0.4s						
LOMA	**Loma Larga**	**2.44**	**97**	S	**Sn**	**00 38 18.5**	**+2.1**
LOMA	**Loma Larga**	**2.44**	**97**	P	**Pn**	**00 37 49.0**	**+1.5**
LFU	**La Fuente**	**2.49**	**94**	*e*P	**Pn**	**00 37 50.0**	**+2.0**
PETF	**Flores**	**3.42**	**30**	*i* P	**Pn**	**00 38 02.5**	**+1.6**
PETF	**Flores**	**3.42**	**30**	P	**Pn**	**00 38 02.5**	**+1.6**
CMIG	**Matias Romero**	**4.40**	**316**	P	**Pn**	**00 38 15.2**	**+0.8**
	comp=E,10nm,0.3s,baz=129,slow=8.5,SNR=56						
CMIG				S	**Sn**	**00 39 04.2**	**-0.5**
	comp=E,25nm,0.4s,baz=78,slow=20,SNR=7.1						
TEIG	**Tepich**	**7.03**	**27**	P	**Pn**	**00 38 51.5**	**+1.0**
	comp=E,0.1nm,0.3s,baz=133,slow=24,SNR=78						
TEIG				S	**Sn**	**00 40 06.4**	**-3.0**
	comp=E,0.2nm,0.7s,baz=308,slow=20,SNR=5.8						
JTS	**Las Juntas de**	**7.50**	**118**	P	Pn	00 39 01.8	+4.8
	comp=E,2.6nm,0.4s,baz=304,slow=15,SNR=1.2						
JTS				S	**Sn**	**00 40 28.9**	**+7.8**
	comp=E,1.6nm,0.4s,baz=286,slow=20,SNR=1.0						
JTS				LR	LR	00 41 47.5	
	comp=E,49nm,20.5s,baz=302,slow=36						
TXAR	**Lajitas Array**	**18.92**	**326**	P	**P**	**00 41 27.9**	**-0.2**
	comp=E,1.6nm,0.8s,baz=148,slow=12,SNR=11						
NVAR	**Mina Array Bea**	**33.91**	**321**	P	**P**	**00 43 47.6**	**-2.6**
	comp=E,0.8nm,0.8s,baz=129,slow=7.7,SNR=3.6						
	comp=E,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**146.14**	**342**	PKPbc	**PKPdf**	**00 56 44.0**	**-2.8**
	comp=E,0.6nm,0.4s,baz=340,slow=3.3,SNR=4.9						

*IDC **11** 01:03:47.2±1.2, 31°.10S×177°.43W, h0km, mb4.0/4, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=31.8km s-min=22.0km az=84.0*

ISC 11 01:03:50.7±1.2, **31°.24S**±0°.08×**177°.6W**±0°.2, **h27**km, **n11**, σ1**76**/13, **mb4.0/4**, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.99**	**353**	Pn	**Pn**	**01 04 21.1**	**-1.5**
	146nm,0.3s,baz=198,slow=20,SNR=8.1						
RAO				Sn	**Sn**	**01 04 45.7**	**-1.0**
	171nm,0.3s,baz=98,slow=23,SNR=4.4						
URZ	**Urewera**	**8.24**	**210**	Pn	**Pn**	**01 05 45.2**	**-3.1**
	0.5nm,0.3s,baz=102,slow=19,SNR=8.9						
URZ				Sn	**Sn**	**01 07 18.9**	**-1.6**
	1.0nm,0.3s,baz=342,slow=20,SNR=7.2						
RPZ	**Rata Peaks**	**15.34**	**213**	Pn	**Pn**	**01 07 24.7**	**-0.5**
	0.6nm,0.3s,baz=48,slow=12,SNR=2.6						
DZM	**Mont Dzumac**	**16.90**	**299**	Pn	**P**	**01 07 46.7**	**-0.6**
	0.1nm,0.3s,baz=120,slow=16,SNR=1.7						
	4.9nm,1.0s						
STKA	**Stephens Creek**	**34.61**	**258**	P	**P**	**01 10 39.2**	**+1.7**
	3.3nm,0.8s,baz=130,slow=17,SNR=3.1						
	3.3nm,0.8s						
ASAR	**Alice Springs**	**43.39**	**268**	P	**P**	**01 11 53.0**	**+1.9**
	1.2nm,0.7s,baz=109,slow=7.6,SNR=14						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**44.45**	**273**	P	**P**	**01 12 01.2**	**+1.5**
	1.2nm,0.6s,baz=114,slow=7.5,SNR=11						
	1.2nm,0.6s						
QSPA	**South Pole Qui**	**58.88**	**180**	P	**P**	**01 13 48.6**	**+1.7**
	1.1nm,0.6s,baz=2.6,slow=5.0,SNR=9.7						
	1.1nm,0.6s						
FINES	**FINESS Array B**	**146.04**	**340**	PKPbc	**PKPbc**	**01 23 26.9**	**-0.4**
	1.5nm,0.6s,baz=48,slow=2.8,SNR=10.0						
BRTR	**Keskin Array B**	**153.27**	**297**	PKPab	**PKPab**	**01 24 00.0**	**+1.7**
	0.6nm,0.8s,baz=90,slow=2.9,SNR=4.3						
ESDC	**Sonseca Array**	**170.12**	**30**	PKPab	**PKPab**	**01 25 10.7**	**-0.8**
	0.3nm,0.4s,baz=309,slow=1.9,SNR=2.8						

*UPA **11** 01:22:44.8±0.7, 9°.50N×79°.33W, h27km±3km, ML3.4, MW3.4*

CATAC 11 01:22:44.8±0.9, **10°N**±6°×**79°W**±°, **h18**km±6km, **M2.3/7, MLv2.3/7, Error ellipse: s-maj=13.3km s-min=8.9km az=10.3, confirmed, Panama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRIJ	**El Hiral**	**0.44**	**227**	*e*P	Pb	01 22 54.5	+0.5
FRIJ				*e*S	Sb	01 23 01.6	+1.3
GAMB1	**Gamboa**	**0.50**	**218**	*e*P	Pb	01 22 55.4	+0.3
GAMB1				*e*S	Sb	01 23 03.3	+1.2
UPA	**Univ. de Panam**	**0.55**	**194**	*e*P	Pg	01 22 53.8	-2.0
UPA				*e*S	Sb	01 23 04.2	+0.6
BCIP	**Isla Barro Col**	**0.56**	**231**	*e*P	Pb	01 22 56.3	+0.2
BCIP				AMP		01 22 56.5	
	comp=Z,5μm,0.1s						
BCIP				*e*S	Sb	01 23 05.0	+1.2
BCIP	**Isla Barro Col**	**0.56**	**231**	P	Pb	01 22 56.3	+0.2
BCIP				S	Sb	01 23 04.9	+1.2
ZANG	**Zanguenga, Cho**	**0.73**	**219**	*e*P	Pn	01 22 59.8	-0.5
ZANG				*e*S	Sn	01 23 10.6	-0.4
CHIT3	**Chitre**	**1.85**	**213**	*e*P	Pn	01 23 14.5	-1.2
CHIT3				AMP		01 23 15.3	
	comp=Z,189nm,0.0s						
CHIT3				*e*S	Sn	01 23 37.5	-1.2
AZU	**Azuero**	**1.92**	**207**	*e*P	Pn	01 23 15.5	-1.2
AZU				AMP		01 23 15.7	
	comp=Z,250nm,0.1s						
AZU				*e*S	Sn	01 23 38.9	-1.6

*IDC **11** 01:38:03.6±3.7, 36°.70S×179°.45W, h0km, mb4.0/2, mbtmp3.9/3, ML3.4/1, Error ellipse: s-maj=100.4km s-min=37.4km az=141.0*
*WEL **11** 01:38:06.1±1.0, 37°.5±11°×17°.9W±°, h33km, M3.9/12, ML4.2/17, MLv3.9/12, Error ellipse: s-maj=14.1km s-min=7.9km az=173.0, confirmed*

ISC 11 01:38:04.5±5.5, **37°.0S**±0°.1×**179°.2W**±0°.2, **h17**km±29km, **n25**, σ0**64**/33, **East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.08**	**253**	P	**Pn**	**01 38 38.3**	**-0.3**
MXZ				S	**Sn**	**01 39 04.3**	**+0.2**
WMGZ	**Waiomatatini S**	**2.09**	**245**	P	**Pn**	**01 38 38.9**	**+0.3**
WMGZ				S	**Sn**	**01 39 05.4**	**+1.2**
PUZ	**Puketiti**	**2.31**	**241**	P	**Pn**	**01 38 41.5**	**-0.2**
PUZ				S	**Sn**	**01 39 10.5**	**+0.8**
PKGZ	**Pakihiroa**	**2.35**	**247**	P	**Pn**	**01 38 42.5**	**+0.2**
HAZ	**Te Kaha**	**2.54**	**251**	P	**Pn**	**01 38 45.2**	**+0.4**
HAZ				S	**Sn**	**01 39 15.7**	**+0.5**
TWGZ	**Tauwhareparae**	**2.55**	**241**	P	**Pn**	**01 38 45.7**	**+0.7**
TWGZ				S	**Sn**	**01 39 15.9**	**+0.2**
CNGZ	**Carnagh Statio**	**2.56**	**233**	P	**Pn**	**01 38 45.3**	**+0.3**
RUGZ	**Raukumara Rang**	**2.68**	**247**	P	**Pn**	**01 38 47.9**	**+0.9**
TKGZ	**Te Karaka**	**2.77**	**237**	P	**Pn**	**01 38 47.7**	**-0.3**
TKGZ				S	**Sn**	**01 39 20.1**	**-0.9**
MWZ	**Matawai**	**2.94**	**241**	P	**Pn**	**01 38 51.6**	**+1.2**
MWZ				S	**Sn**	**01 39 24.1**	**-1.2**
RIGZ	**Rimuhau**	**2.97**	**233**	P	**Pn**	**01 38 50.7**	**-0.1**
PRGZ	**Paritu Road**	**3.02**	**229**	P	**Pn**	**01 38 51.1**	**-0.4**
MHGZ	**Mahia Peninsul**	**3.16**	**226**	P	**Pn**	**01 38 53.9**	**+0.5**
URZ	**Urewera**	**3.21**	**245**	Pn	**Pn**	**01 38 54.2**	**+0.2**
	4.5nm,0.3s,baz=62,slow=6.3,SNR=9.6						
URZ				Sn	**Sn**	**01 39 32.2**	**+0.4**
	23nm,0.3s,baz=68,slow=19,SNR=31						
	9.7nm,0.3s						
URZ	**Urewera**	**3.21**	**245**	P	**Pn**	**01 38 54.2**	**+0.2**
KNZ	**Kokohu**	**3.21**	**230**	P	**Pn**	**01 38 53.2**	**-0.9**
RTZ	**Ruatahuna**	**3.45**	**240**	P	**Pn**	**01 38 57.5**	**+0.1**
MUGZ	**Murupara**	**3.54**	**244**	P	**Pn**	**01 38 59.5**	**+0.9**
NMHZ	**Naumai**	**3.81**	**235**	P	**Pn**	**01 39 02.1**	**-0.3**
KUZ	**Kuaotunu**	**4.09**	**272**	P	**Pn**	**01 39 05.4**	**-0.8**
MKAZ	**Moumakai**	**4.52**	**267**	P	**Pn**	**01 39 12.3**	**+0.2**
CTZ	**Chatham Island**	**7.03**	**165**	P	**Pn**	**01 39 47.2**	**+0.7**
ASAR	**Alice Springs**	**42.21**	**275**	P	**P**	**01 45 56.9**	**+0.3**
	2.4nm,0.7s,baz=120,slow=7.9,SNR=18						
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**43.79**	**280**	P	**P**	**01 46 09.0**	**-0.4**
	0.9nm,0.6s,baz=120,slow=7.7,SNR=14						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**150.83**	**335**	PKPbc	**PKiKP**	**01 57 55.5**	**-0.1**
	1.8nm,0.9s,baz=44,slow=4.4,SNR=1.9						

*NCEDC **11** 01:41:32.5±3.4, 40°.41N±0°.03×125°.20W±0°.04, h-0km±4km, ML2.9/16, ML2.6/60(NEIC), Error ellipse: s-maj=5.6km s-min=4.2km az=47.0*

NEIC 11 01:41:31.4±1.5, **40°.36N**±0°.04×**125°.34W**±0°.05, **h10**km±2km, **Error ellipse: s-maj=7.6km s-min=6.3km az=226.0, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETL	**Petrolia**	**0.77**	**95**		Pb	01 41 47.2	+0.3
PETL					Sb	01 41 57.4	0.0
KCTM	**Capetown**	**0.78**	**81**		Pb	01 41 47.6	+0.6
KCTM					Sb	01 41 58.5	+0.9
KMPM	**Mount Pierce**	**0.94**	**86**		Pb	01 41 49.9	+0.1
KMPM					Sg	01 42 01.9	+0.3
JCC	**Jacoby Creek,**	**1.10**	**65**		Pb	01 41 51.5	-1.0
JCC				IAML		01 42 05.0	
	comp=N,173nm,0.6s						
JCC				IAML		01 42 05.3	
	comp=E,159nm,0.7s						
BRIC	**Briceland Vine**	**1.13**	**102**		Pb	01 41 53.0	-0.2
KCRM	**Chalk Rock**	**1.17**	**86**		Pb	01 41 53.3	-0.4
KMRM	**Mail Ridge**	**1.26**	**96**		Pn	01 41 54.7	-0.4
KMRM					Sb	01 42 11.7	+0.2
KRPM	**Rodgers**	**1.28**	**51**		Pn	01 41 54.2	-1.2
KRPM				IAML		01 42 10.4	
	comp=E,164nm,0.8s						
KHMM	**Horse Mountain**	**1.33**	**67**		Pn	01 41 55.5	-0.7
KHMM				IAML		01 42 12.5	
	comp=E,182nm,0.8s						
KBSM	**Bell Springs**	**1.41**	**108**		Pn	01 41 56.9	-0.4
KCPM	**Cahto Peak**	**1.51**	**116**		Pn	01 41 58.4	-0.2
KPPM	**Pickett Peak**	**1.51**	**90**		Pn	01 41 58.5	-0.3
KRMB	**Red Mountain**	**1.59**	**43**		Pn	01 41 58.3	-1.5
KFPM	**Farley Peak**	**1.64**	**115**		Pn	01 42 00.2	-0.2
KHBM	**Hayfork Bally**	**1.65**	**79**		Pn	01 41 59.9	-0.7
KHBM	**Hayfork Bally**	**1.65**	**79**	IAML		01 42 21.1	
	comp=E,93nm,0.5s						
KHBM				IAML		01 42 26.5	
	comp=N,83nm,0.5s						
GTC	**Three Chop Rid**	**1.68**	**124**		Pn	01 42 00.5	-0.4
KOMM	**Orleans Mounta**	**1.70**	**57**		Pn	01 42 00.3	-0.9
KBNM	**Bluenose Ridge**	**1.71**	**105**		Pn	01 42 01.3	-0.1
DCMP	**DeCamp, Califo**	**1.78**	**119**		Pn	01 42 01.9	-0.4
DCMP	**DeCamp, Califo**	**1.78**	**119**	Pn	Pn	01 42 01.7	-0.6
DCMP				IAML		01 42 14.3	
	comp=E,62nm,4.6s						
DCMP				IAML		01 42 15.9	
	comp=N,78nm,0.6s						
SIGP	**Signal Peak, C**	**1.79**	**32**		Pn	01 42 01.2	-1.3
WEAV	**Weaverville**	**1.84**	**77**		Pn	01 42 02.6	-0.6
KSXB	**Camp Six Broad**	**1.84**	**37**		Pn	01 42 01.9	-1.3
KSXB	**Camp Six Broad**	**1.84**	**37**	IAML		01 42 23.6	
	comp=E,60nm,0.7s						
KSXB				IAML		01 42 24.8	
	comp=N,66nm,0.6s						
KRKM	**Rackout Spring**	**1.84**	**115**		Pn	01 42 03.0	-0.2
LBPM	**Beegum Peak**	**1.88**	**91**		Pn	01 42 03.5	-0.2
GHOM	**Hamilton Openi**	**1.91**	**133**		Pn	01 42 04.3	+0.2
GWRM	**Wonder Ranch**	**1.95**	**126**		Pn	01 42 04.6	0.0
O02D	**Mt. Diablo Mer**	**1.96**	**95**		Pn	01 42 04.8	0.0
O02D				IAML		01 42 41.6	
	comp=N,45nm,0.8s						
KBO	**Bosley Butte**	**2.03**	**24**		Pn	01 42 05.0	-0.8
GGUM	**Gualala**	**2.07**	**136**		Pn	01 42 06.4	+0.1
GROM	**Round Mountain**	**2.10**	**101**		Pn	01 42 07.3	+0.6
N02D	**Trinity Center**	**2.10**	**72**		Pn	01 42 06.4	-0.3
N02D	**Trinity Center**	**2.10**	**72**		Pn	01 42 06.1	-0.6
GVV	**Valley View**	**2.13**	**105**		Pn	01 42 07.3	+0.2
M02C	**Callahan**	**2.15**	**61**	Pn	Pn	01 42 06.8	-0.6
LBKM	**Bonanza King**	**2.16**	**70**		Pn	01 42 07.2	-0.4
GSNM	**Snow Mountain**	**2.18**	**130**		Pn	01 42 08.3	+0.4
GALB	**Galbreath Wild**	**2.20**	**132**		Pn	01 42 08.2	+0.2
L02F	**Cave Junction**	**2.21**	**37**		Pn	01 42 07.9	-0.2
L02F				IAML		01 42 33.3	
	comp=N,41nm,0.6s						
L02F				IAML		01 42 34.3	
	comp=E,28nm,0.5s						
HOPS	**Hopland Field**	**2.22**	**127**		Pn	01 42 08.4	+0.1
HOPS				IAML		01 43 18.0	
	comp=N,28nm,1.2s						
GHGM	**Hogback Ridge**	**2.30**	**122**		Pn	01 42 09.1	-0.3
GPMM	**Pine Mountain**	**2.39**	**128**		Pn	01 42 11.7	+1.0
YBH	**Yreka Blue Hor**	**2.42**	**55**		Pn	01 42 10.9	-0.2
YBH				IAML		01 42 57.8	
	comp=N,46nm,0.6s						
LTCM	**Tuscan Springs**	**2.47**	**93**		Pg	01 42 18.5	-0.2
LSHM	**Sage Hen Hill**	**2.55**	**79**		Pn	01 42 13.3	+0.4
KEBM	**Edson Butte**	**2.62**	**16**	Pn	Pn	01 42 13.6	-0.3
KEBM				IAML		01 42 48.5	
	comp=N,24nm,0.6s						
KEBM				IAML		01 42 52.9	
	comp=E,21nm,1.0s						
K02D	**Willamette Mer**	**2.65**	**28**	IAML		01 42 45.3	
	comp=E,27nm,0.4s						
K02D				IAML		01 42 47.9	
	comp=N,24nm,0.4s						
MCCM	**Marconi Confer**	**2.92**	**138**		Pn	01 42 17.4	-0.6
MCCM				IAML		01 43 00.6	
	comp=E,22nm,1.3s						
MCCM				IAML		01 43 29.3	
	comp=N,19nm,1.9s						
L04D	**Klamath Falls**	**2.94**	**50**		Pn	01 42 20.3	+1.9
L04D				IAML		01 42 55.9	
	comp=N,33nm,0.9s						
L04D				IAML		01 43 17.1	
	comp=E,34nm,0.7s						
HATC	**Hat Creek Radi**	**2.99**	**80**		Pn	01 42 19.9	+1.0
HATC				IAML		01 43 39.0	
	comp=N,27nm,1.6s			

E28M IAML 01 46 13.0
comp=N,507nm,1.1s
E28M IAML 01 46 13.8
comp=E,506nm,0.9s
D28M Stokes Point 2.20 95 Pn 01 45 38.7 +1.6
BMAR Burnt Mountain 2.21 177 Pn 01 45 38.0 +0.6
E23K Chandalar 2.32 230 Pn 01 45 39.4 +0.4
F24K Squaw Lake 2.38 209 Pn 01 45 40.1 +0.4
F24K IAML 01 46 23.6
comp=N,285nm,0.7s
G26K Porcupine Rive 2.72 171 Pn 01 45 44.7 +0.4
G26K IAML 01 46 30.0
comp=E,366nm,0.8s
F28M Old Crow 2.74 135 Pn 01 45 45.2 +0.6
F28M IAML 01 46 29.8
comp=N,375nm,0.5s
F28M IAML 01 46 31.9
comp=E,274nm,1.1s
E29M Blow River 2.81 113 Pn 01 45 46.4 +0.8
E29M IAML 01 46 34.6
comp=E,327nm,0.7s
D22K Ayikyak River 2.87 259 Pn 01 45 46.5 +0.1
D22K IAML 01 46 40.8
comp=E,269nm,0.8s
E22K Anaktuvuk Pass 2.91 242 Pn 01 45 47.0 -0.1
B22K Teshekpuk Lake 3.02 288 Pn 01 45 49.2 +0.8
FYU Fort Yukon 3.08 182 IAML 01 46 47.3
comp=E,227nm,0.8s
G24K Hadweenzic Riv 3.09 199 Pn 01 45 49.5 0.0
G24K Hadweenzic Riv 3.09 199 IAML 01 46 40.4
comp=N,295nm,1.0s
G24K IAML 01 46 44.2
comp=E,262nm,0.7s
COLD Coldfoot 3.10 222 Pn 01 45 49.8 +0.2
COLD Coldfoot 3.10 222 IAML 01 46 38.3
comp=N,157nm,0.5s
H25L Birch Creek 3.39 186 Pn 01 45 53.7 +0.2
E21K Killik River 3.47 254 Pn 01 45 54.5 -0.2
E21K Killik River 3.47 254 IAML 01 46 59.6
comp=N,182nm,0.6s
G23K Bananza Creek 3.49 216 Pn 01 45 54.8 -0.2
G23K Bananza Creek 3.49 216 IAML 01 46 54.6
comp=N,116nm,0.7s
G23K IAML 01 46 55.0
comp=E,160nm,0.8s
C21K Knifeblade Rid 3.52 267 Pn 01 45 55.9 +0.5
H27K Steamboat Moun 3.64 158 IAML 01 47 15.2
comp=E,111nm,0.7s
G22K Bettles 3.66 225 Pn 01 45 57.3 +0.1
A22K Sinclair Lake 3.68 297 Pn 01 45 58.2 +0.8
H24K Noodor Dome 3.97 198 IAML 01 47 10.8
comp=N,96nm,0.8s
F21K Alatna River 3.98 237 IAML 01 47 16.4
comp=E,86nm,0.7s
PRP Porcupine Dome 4.13 184 Pn 01 46 03.6 -0.3
PRP Porcupine Dome 4.13 184 IAML 01 46 56.2
comp=N,112nm,0.5s
PRP IAML 01 46 56.5
comp=E,98nm,0.4s
G30M tAoh Zraii Nji 4.18 125 Pn 01 46 05.3 +0.9
G30M tAoh Zraii Nji 4.18 125 IAML 01 47 18.2
comp=N,100nm,0.9s
G30M IAML 01 47 18.8
comp=E,78nm,0.6s
H23K Yukon River 4.20 207 IAML 01 47 18.1
comp=N,102nm,0.8s
H23K IAML 01 47 19.2
comp=E,120nm,1.2s
H29M Whitestone 4.22 141 IAML 01 47 21.8
comp=E,117nm,0.9s
H29M IAML 01 47 22.2
comp=N,98nm,0.7s
I27K Kandik River 4.23 161 Pn 01 46 05.8 +0.6
B20K Meade River 4.26 281 Pn 01 46 06.3 +0.9
D20K Etivluk River 4.28 263 Pn 01 46 06.7 +0.9
D20K Etivluk River 4.28 263 IAML 01 47 37.0
comp=E,77nm,0.9s
D20K IAML 01 47 42.2
comp=N,91nm,1.4s
A21K Barrow 4.28 299 Pn 01 46 06.8 +1.1
INK Inuvik 4.31 102 Pn 01 46 07.0 +0.8
INK Inuvik 4.31 102 Pn **Pn 01 46 07.2 +1.0**
comp=N,1.4nm,0.3s,baz=303,slow=10,SNR=89
INK Sn **Sn 01 46 54.4 -2.0**
comp=N,11nm,0.3s,baz=217,slow=20,SNR=16
INK LR LR 01 47 31.0
comp=N,47nm,19.1s,baz=204,slow=36
comp=N,4.2nm,0.2s
I26K Coal Creek Min 4.39 170 IAML 01 47 27.4
comp=N,102nm,0.7s
G21K Allakaket 4.49 230 IAML 01 47 29.7
comp=E,62nm,0.5s
G21K IAML 01 47 32.2
comp=N,69nm,0.9s
EPYK Eagle Plains 4.49 133 Pn 01 46 09.2 +0.5
I28M Miner Creek 4.61 153 IAML 01 47 43.2
comp=E,56nm,1.3s
POKR Poker Plat Res 4.63 193 Pn 01 46 11.1 +0.4
POKR Poker Plat Res 4.63 193 IAML 01 47 31.2
comp=N,61nm,0.7s
POKR IAML 01 47 36.5
comp=E,71nm,0.9s
F31M Tsiigehtchic 4.65 113 Pn 01 46 11.5 +0.7
F31M Tsiigehtchic 4.65 113 IAML 01 47 32.0
comp=E,80nm,1.3s
F31M IAML 01 47 36.6
comp=N,63nm,1.3s
F20K Avaraart Lake 4.77 242 Pn 01 46 12.7 +0.3
G31M Satah River 4.79 119 IAML 01 47 40.6
comp=N,67nm,1.5s
I23K Minto, Yukon-K 4.81 203 IAML 01 47 38.9
comp=E,77nm,0.8s
I23K IAML 01 47 44.5
comp=N,68nm,1.4s
D19K Kuna River 4.87 263 IAML 01 47 50.4
comp=N,73nm,1.0s
ILAR Eielson Array 4.94 190 Pn **Pn 01 46 15.7 +0.9**
comp=N,1.2nm,0.3s,baz=4.3,slow=14,SNR=65
ILAR Sn **Sn 01 47 09.9 -2.0**
comp=N,4.6nm,0.3s,baz=5.5,slow=24,SNR=12
ILAR LR LR 01 48 52.4
comp=N,36nm,19.6s,baz=70,slow=45
comp=N,1.6nm,0.4s
I29M Ogilvie Camp, 4.97 146 IAML 01 47 24.5
comp=N,51nm,0.3s
I29M IAML 01 47 45.5
comp=E,49nm,1.3s
H21K Melozitna Rive 4.99 221 IAML 01 47 47.0
comp=E,41nm,0.7s
E19K Redstone River 5.02 250 IAML 01 47 46.0
comp=N,68nm,0.7s
E19K IAML 01 47 52.1
comp=E,52nm,0.9s
J25K Salcha River, 5.04 182 IAML 01 47 44.4
comp=E,49nm,0.9s
J26L Joseph Creek 5.17 174 IAML 01 47 21.1
comp=N,47nm,0.5s
J26L IAML 01 48 01.5
comp=E,40nm,0.9s
C19K Lookout Ridge 5.22 271 IAML 01 47 20.2
comp=E,38nm,0.5s
C19K IAML 01 48 18.6
comp=N,37nm,1.1s
I21K Tanana 5.23 215 Pn 01 46 18.9 +0.1
I21K Tanana 5.23 215 IAML 01 47 51.6
comp=N,58nm,1.1s
HDA Harding Lake 5.30 190 Pn 01 46 19.9 +0.1
HDA Harding Lake 5.30 190 IAML 01 47 48.4
comp=N,38nm,0.6s
HDA IAML 01 47 50.1
comp=E,47nm,0.7s
NEA2 Nenana 5.31 200 Pn 01 46 19.9 0.0
WRH Wood River Hil 5.32 195 Pn 01 46 20.1 0.0
WRH Wood River Hil 5.32 195 IAML 01 47 48.2
comp=E,44nm,0.7s
WRH IAML 01 48 03.0
comp=N,30nm,0.7s
I30M Mount Dempster 5.50 139 Pn 01 46 22.8 +0.1
F19K Shaleruckik Mo 5.54 246 Pn 01 46 22.5 -0.6
H31M Peel River 5.55 129 Pn 01 46 22.9 -0.3
A19K Wainwright 5.60 284 Pn 01 46 24.6 +0.8
SCRK Sand Creek 5.69 176 Pn 01 46 25.9 +0.7
K27K Chicken 5.73 167 Pn 01 46 26.6 +0.9
DAWY Dawson 5.99 156 Pn 01 46 30.1 +0.8
DOT Dot Lake 6.01 176 Pn 30.4 +0.8
BPAW Bear Paw Mtn. 6.04 206 Pn 01 46 30.0 +0.1

RND Reindeer 6.44 196 Pn 01 46 36.1 +0.6
CHUM Lake Minchumin 6.46 210 Pn 01 46 35.8 +0.1
K29M Barlow Dome 6.50 150 Pn 01 46 37.2 +0.9
KTH Kantishna Hill 6.55 204 Pn 01 46 37.2 +0.3
TRF Thorofare Moun 6.56 202 Pn 01 46 37.6 +0.4
CAST Castle Rocks 6.85 208 Pn 01 46 41.2 +0.1
A36M Sachs Harbour 6.89 61 Pn 01 46 41.4 -0.1
J19K Poorman 7.05 222 Pn 01 46 44.0 +0.2
K20K Telida 7.27 215 Pn 01 46 46.5 -0.3
G17K Kiwalik Mounta 7.29 243 Pn 01 46 46.6 -0.5
PPLA Purkeypile 7.36 207 Pn 01 46 48.6 +0.5
H17K Granite Mounta 7.46 238 Pn 01 46 49.2 -0.2
C16K Lisburne Hills 7.47 269 Pn 01 46 48.5 -1.0
J18K Innoko River 7.76 223 Pn 01 46 52.9 -0.6
M30M Minto, Yukon 7.80 151 Pn 01 46 54.4 +0.3
G16K Koyuk River 7.90 246 Pn 01 46 54.3 -1.1
L20K Farewell, AK 8.04 211 Pn 01 46 57.1 -0.3
YUK3 Moose Creek 8.09 165 Pn 01 46 59.4 +1.1
SKT Skwentna 8.14 203 Pn 01 46 59.7 +1.0
H16K Elim 8.38 242 Pn 01 47 01.2 -0.7
F15K North Star Dit 8.46 252 Pn 01 47 01.7 -1.3
L19K White Mountain 8.49 213 Pn 01 47 03.5 -0.1
K17K Iditarod 8.78 224 Pn 01 47 07.2 -0.3
L18K Granite Mounta 8.84 219 Pn 01 47 08.3 +0.1
MMPY Sheldon Lake, 8.92 135 Pn 01 47 10.1 +0.6
YUK6 Outpost Mounta 9.13 159 Pn 01 47 14.0 +1.5
F14K Arctic Creek 9.16 253 Pn 01 47 11.3 -1.3
L17K Donlin 9.28 222 Pn 01 47 14.0 -0.2
KDAK Kodiak Island 12.35 200 Pn **Pn 01 47 55.3 -0.9**
comp=N,0.1nm,0.3s,baz=302,slow=19,SNR=2.3
comp=N,2.6nm,1.0s
DLBC Dease Lake 12.93 143 Pn **Pn 01 48 03.9 -0.4**
comp=N,0.3nm,0.3s,baz=328,slow=14,SNR=2.9
comp=N,0.8nm,0.4s
YKA Yellowknife Ar 14.08 106 Pn **Pn 01 48 16.4 -3.4**
comp=N,0.4nm,0.3s,baz=310,slow=18,SNR=18
YKA Sn Sn 01 50 43.6 -12
comp=N,0.6nm,0.3s,baz=301,slow=18,SNR=8.3
comp=N,1.2nm,0.6s
RES Resolute Bay 15.68 49 Pn **Pn 01 48 38.9 -2.3**
comp=N,0.4nm,0.3s,baz=274,slow=12,SNR=1.7
RES Sn Sn 01 51 21.2 -13
comp=N,0.7nm,0.3s,baz=181,slow=18,SNR=6.1
comp=N,2.4nm,0.5s
PDAR Pinedale Array 32.43 127 P **P 01 51 32.4 +1.7**
comp=N,0.9nm,0.7s,baz=0.0,slow=7.7,SNR=7.9
comp=N,0.9nm,0.7s
NVAR Mina Array Bea 34.34 141 P **P 01 51 49.1 +1.7**
comp=N,0.4nm,0.7s,baz=344,slow=10,SNR=3.6
comp=N,0.4nm,0.7s
HFS Hagfors 49.63 14 P **P 01 53 50.0 -1.6**
comp=N,1.2nm,0.7s,baz=352,slow=8.7,SNR=4.1
comp=N,1.2nm,0.7s
KURBB Kurchatov Arra 55.94 328 P **P 01 54 40.9 +2.6**
comp=N,0.3nm,0.3s,baz=17,slow=6.9,SNR=3.1
comp=N,0.3nm,0.3s

*BGR **11** 01:55:27.2, 18°.50S×177°.72W, h500km*
*NOU **11** 01:55:30.5, 18°.04S×177°.58W, h686km, MLv4.3/6, Fiji Islands Region*
*IDC **11** 01:55:35.9±1.9, 18°.08S×178°.04W, h586km±22km, mb3.6/18, mbtmp4.4/20, Error ellipse: s-maj=13.7km s-min=12.2km az=120.0*
*NEIC **11** 01:55:38.2±2.4, 18°.1S±0°.1×178°.0W±0°.1, h609km±7km, mb4.3/199, Error ellipse: s-maj=20.4km s-min=16.4km az=122.0*

ISC 11 01:55:36.6±0.4, 18°.15S±0°.07×178°.02W±0°.07, h600km, n593, σ0.94/501, mb4.3/122, 41C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.76**	**263**	P	**P**	**01 56 50.0**	**+2.6**
TAVE	**Taveuni**	**2.30**	**308**	P	**P**	**01 56 54.9**	**+2.6**
DGTI	**Dogotuki**	**2.82**	**310**	P	**P**	**01 56 56.9**	**+2.0**
MSVF	**Nonsavu**	**3.77**	**276**		**P**	**01 57 03.4**	**+2.7**
MSVF	**Nonsavu**	**3.77**	**276**	P	**P**	**01 57 03.2**	**+2.6**
FUTU	**Fugatoga**	**3.82**	**358**		**P**	**01 57 02.2**	**+1.2**
FUTU	**Fugatoga**	**3.82**	**358**	P	**P**	**01 57 00.7**	**-0.3**
YSA	**Yasawairara**	**4.45**	**288**	P	**P**	**01 57 07.5**	**+2.2**
DZM	**Mont Dzumac**	**15.11**	**252**		**P**	**01 58 45.2**	**-0.8**
DZM				IAmb	IAmb	01 58 47.5	
	comp=Z,28nm,1.3s						
DZM	**Mont Dzumac**	**15.11**	**252**	P	**P**	**01 58 46.0**	**0.0**
	comp=Z,11nm,0.9s,baz=90,slow=17,SNR=15						
RAR	**Rarotonga**	**17.45**	**103**	P	**P**	**01 59 07.4**	**+0.1**
	comp=Z,22nm,1.0s,baz=220,slow=8.9,SNR=4.5						
URZ	**Urewera**	**20.49**	**191**	P	**P**	**01 59 33.4**	**-1.2**
	comp=Z,12nm,0.7s,baz=71,slow=0.9,SNR=6.6						
URZ				S	**S**	**02 02 40.0**	**-6.6**
	comp=Z,12nm,1.0s,baz=3.7,slow=20,SNR=1.7						
	comp=Z,12nm,0.7s						
MLZ	**Mavora Lakes**	**29.50**	**200**	P	**P**	**02 00 54.3**	**+0.4**
EIDS	**Eidsvold**	**29.54**	**250**	P	**P**	**02 00 55.2**	**+0.7**
EIDS				IAmb	IAmb	02 01 17.9	
	comp=Z,18nm,1.3s						
CTAO	**Charters Tower**	**33.78**	**261**	P	**P**	**02 01 30.9**	**+0.4**
CAN	**Canberra**	**33.86**	**233**	P	**P**	**02 01 31.5**	**+0.4**
PMG	**Port Moresby**	**34.87**	**280**		**P**	**02 01 41.0**	**+1.4**
COEN	**Coen**	**37.48**	**271**		**P**	**02 02 02.2**	**+1.1**
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**02 02 13.1**	**+1.2**
STKA	**Stephens Creek**	**38.84**	**242**	P	**P**	**02 02 13.1**	**+1.2**
	comp=Z,7.2nm,0.6s,baz=99,slow=12,SNR=9.7						
	comp=Z,7.2nm,0.6s						
BBOO	**Buckleboo**	**43.62**	**241**	P	**P**	**02 02 49.9**	**+0.4**
WRA	**Warramunga Arr**	**44.96**	**260**		**P**	**02 02 59.5**	**-0.4**
WRA	**Warramunga Arr**	**44.96**	**260**	P	**P**	**02 02 59.6**	**-0.4**
	comp=Z,8.0nm,0.6s,baz=96,slow=6.9,SNR=100						
WRA				PcP	**PcP**	**02 04 28.2**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=87,slow=3.9,SNR=6.6						
WRA				S	**S**	**02 08 49.0**	**-6.9**
	comp=Z,0.9nm,0.7s,baz=98,slow=13,SNR=2.3						
	comp=Z,8.0nm,0.6s						
ASAR	**Alice Springs**	**45.09**	**254**		**P**	**02 03 01.0**	**0.0**
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**02 03 00.9**	**0.0**
	comp=Z,19nm,0.7s,baz=89,slow=8.0,SNR=193						
ASAR				PcP	**PcP**	**02 04 28.4**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=106,slow=3.6,SNR=14						
ASAR				ScP	**ScP**	**02 07 26.5**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=94,slow=4.7,SNR=2.7						
ASAR				S	**S**	**02 08 54.9**	**-2.9**
	comp=Z,4.1nm,1.0s,baz=86,slow=15,SNR=16						
	comp=Z,19nm,0.7s						
MTN	**Manton Dam**	**49.16**	**269**	P	**P**	**02 03 30.8**	**-0.7**
KNRA	**Kununurra**	**50.84**	**264**	P	**P**	**02 03 43.0**	**-0.6**
KNRA				IAmb	IAmb	02 03 44.1	
	comp=Z,10nm,0.8s						
FAKI	**Fak Fak**	**50.99**	**281**	P	**P**	**02 03 45.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**53.36**	**261**	P	**P**	**02 04 02.1**	**+0.4**
SOEI	**Soe**	**56.45**	**270**		**P**	**02 04 24.6**	**+1.2**
MBWA	**Marble Bar**	**58.38**	**256**	P	**P**	**02 04 35.7**	**-0.5**
MBWA				IAmb	IAmb	02 04 39.7	
	comp=Z,50nm,1.5s						
SBA	**Scott Base**	**60.21**	**184**	P	**P**	**02 04 49.8**	**+2.5**
VNDA	**Vanda**	**60.24**	**185**	P	**P**	**02 04 49.0**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=10.0,slow=7.6,SNR=6.3						
	comp=Z,0.5nm,0.5s						
TOLI2	**Tolitoli**	**63.13**	**281**	P	**P**	**02 05 08.0**	**+0.5**
TOLI2				IAmb	IAmb	02 05 11.1	
	comp=Z,7.5nm,0.8s						
GIRL	**Giralia**	**63.18**	**253**	P	**P**	**02 05 08.7**	**+1.0**
JAGI	**Jajag, Banyuwa**	**66.41**	**269**	P	**P**	**02 05 26.8**	**-1.2**
JGF	**Kuroka**	**68.15**	**322**	P	**P**	**02 05 38.4**	**+0.1**
JGF				IAmb	IAmb	02 05 41.2	
	comp=Z,12nm,1.2s						
MJAR	**Matsushiro Arr**	**68.32**	**323**	P	**P**	**02 05 39.0**	**-0.2**
	comp=Z,7.9nm,0.8s,baz=156,slow=5.8,SNR=22						
	comp=Z,7.9nm,0.8s						
MAJO	**Matsushiro**	**68.32**	**323**		**P**	**02 05 39.3**	**+0.1**
MAJO				IAmb	IAmb	02 05 39.5	
	comp=Z,8.1nm,0.7s						
MJB9	**Matsu-Tunnel**	**68.33**	**323**	P	**P**	**02 05 40.3**	**+1.0**
MJB9				IAmb	IAmb	02 05 40.4	
	comp=Z,7.9nm,0.7s						
KIWB	**Kanaga Island**	**69.70**	**1**	P	**P**	**02 05 45.7**	**-1.4**
UGM	**Wanagama**	**70.01**	**268**	P	**P**	**02 05 49.8**	**0.0**
NIKH	**Nikolski High**	**71.26**	**6**	P	**P**	**02 05 55.5**	**-0.7**
	baz=189						
JKA	**Kamikawa-asahi**	**71.66**	**331**	P	**P**	**02 05 59.7**	**+0.9**
QSPA	**South Pole Qui**	**71.91**	**180**		**P**	**02 06 01.8**	**+1.7**
QSPA	**South Pole Qui**	**71.91**	**180**	P	**P**	**02 06 01.7**	**+1.6**
	comp=Z,3.2nm,0.6s,baz=86,slow=0.4,SNR=31						
	comp=Z,3.2nm,0.6s						
YULB	**Yu-li**	**72.21**	**303**	P	**P**	**02 06 01.7**	**-0.7**

UNV Unalaska Valle 72.38 7 P **P 02 06 01.7 -0.9**
UNV IAmb IAmb 02 06 29.3
comp=Z,20nm,1.2s
UNV Unalaska Valle 72.38 7 P **P 02 06 01.8 -0.9**
baz=191
SSLB Suanglung 72.68 303 P **P 02 06 04.1 -1.0**
KSM Kuching 73.08 277 P 02 06 08.0 +0.4
YSS Yuzhno-Sakhali 73.80 333 P **P 02 06 11.3 +0.4**
YSS IAmb IAmb 02 06 13.2
comp=Z,19nm,1.1s
PEA0B Petropavlovsk- 74.00 345 P **P 02 06 12.4 +0.5**
PETK Petropavlovsk- 74.00 345 P **P 02 06 12.3 +0.4**
PETK Petropavlovsk- 74.00 345 P **P 02 06 12.0 +0.1**
comp=Z,9.8nm,0.7s,baz=130,slow=7.7,SNR=15
comp=Z,9.8nm,0.7s
CHNA Chernabura Isl 74.37 11 P **P 02 06 12.5 -1.4**
baz=198
SDPT Sand Point 74.71 10 P **P 02 06 14.8 -1.0**
SDPT IAmb IAmb 02 06 15.7
comp=Z,12nm,0.8s
SDPT Sand Point 74.71 10 P **P 02 06 14.4 -1.4**
baz=197
P08K Saint George I 74.80 5 P **P 02 06 15.2 -1.1**
baz=188
KSRS Korea Array 75.12 318 P **P 02 06 19.8 +1.3**
comp=Z,1.2nm,0.5s,baz=142,slow=6.5,SNR=3.4
comp=Z,1.2nm,0.5s
SPIA Saint Paul Isl 75.31 4 P **P 02 06 18.2 -1.0**
baz=188
S14K Fog Glacier 75.76 10 P **P 02 06 20.6 -1.2**
baz=198
CHGN Chignik 75.98 11 P **P 02 06 22.3 -0.5**
CHGN IAmb IAmb 02 06 22.9
comp=Z,13nm,1.0s
CHIR Chirikof Islan 76.08 13 P **P 02 06 22.7 -0.6**
baz=202
KMRM Mail Ridge 76.96 40 P 02 06 30.6 +1.8
KMRM IAmb IAmb 02 06 31.2
comp=Z,8.3nm,0.9s
USRK Ussuriysk Ar. 77.02 326 P **P 02 06 28.8 0.0**
comp=Z,2.1nm,0.6s,baz=173,slow=4.3,SNR=2.3
comp=Z,2.1nm,0.6s
SII Sitkinak Islan 77.07 13 P **P 02 06 28.2 -0.6**
baz=203
R16K Pilot Point 77.33 11 P **P 02 06 29.7 -0.4**
baz=200
O02D Mt. Diablo Mer 77.49 40 P 02 06 33.4 +1.8
R17L Mt. Peulik Vol 77.62 12 P **P 02 06 31.0 -0.7**
baz=201
PLK4 Peulik 4 77.62 12 IAmb IAmb 02 06 33.0
comp=Z,15nm,0.8s
CMB Columbia Colle 77.76 43 P 02 06 33.4 +0.4
OHAK Old Harbor 77.87 13 IAmb IAmb 02 06 34.0
comp=Z,10nm,1.0s
OHAK Old Harbor 77.87 13 P **P 02 06 32.5 -0.6**
baz=204
R18K Karluk 77.94 13 P **P 02 06 32.9 -0.6**
baz=203
Q17K Contact Creek 78.30 12 P **P 02 06 35.1 -0.4**
baz=201
O14K Tigyukauivet M 78.33 9 P **P 02 06 34.9 -0.6**
baz=196
YBH Yreka Blue Hor 78.47 39 P 02 06 38.4 +1.5
O15K Ungalikthiuk R 78.47 9 P **P 02 06 35.4 -0.9**
baz=198
Q16K King Salmon 78.54 11 P **P 02 06 35.5 -1.1**
baz=201,SNR=15
KDAK Kodiak Island 78.54 14 P **P 02 06 35.7 -0.9**
baz=205
P16K Nushagak River 78.64 10 P **P 02 06 35.8 -1.3**
baz=199
Q18K Katmai Hardscr 78.83 12 P **P 02 06 37.2 -1.1**
baz=202,SNR=6.9
M11K Mekoryuk 78.84 6 P **P 02 06 37.6 -0.5**
baz=191
N14K Kuskokwak Cree 78.92 8 P **P 02 06 38.4 -0.2**
baz=196,SNR=6.6
DSP Deep Springs 78.98 45 P 02 06 40.4 +0.9
P17K Kvichak River 79.07 11 P **P 02 06 38.7 -0.7**
baz=201,SNR=5.7
O16K Kokwok River B 79.15 10 IAmb IAmb 02 06 39.7
comp=Z,7.9nm,1.0s
O16K Kokwok River B 79.15 10 P **P 02 06 38.5 -1.4**
baz=199,SNR=5.4
M13K Dall Lake 79.18 7 P **P 02 06 39.5 -0.4**
baz=194
NVAR Mina Array Bea 79.34 44 P **P 02 06 42.7 +1.0**
comp=Z,1.8nm,0.7s,baz=226,slow=9.3,SNR=12
comp=Z,1.8nm,0.7s
Q20K Shuyak Island 79.34 13 P **P 02 06 40.6 -0.3**
baz=205
Q19K Cape Douglas, 79.36 13 P **P 02 06 40.6 -0.5**
baz=204
N15K Kwethluk River 79.38 9 IAmb IAmb 02 06 42.4
comp=Z,8.5nm,0.9s
N15K Kwethluk River 79.38 9 P **P 02 06 40.8 -0.3**
baz=197
P18K Big Mountain, 79.48 12 IAmb IAmb 02 06 41.9
comp=Z,14nm,0.8s
P18K Big Mountain, 79.48 12 P **P 02 06 40.6 -1.0**
baz=202
O17K Koliganek Bris 79.49 11 P **P 02 06 40.7 -0.9**
baz=200
M14K Bethel 79.68 8 IAmb IAmb 02 06 43.9
comp=Z,13nm,1.2s
M14K Bethel 79.68 8 P **P 02 06 42.3 -0.3**
baz=196
J04A Umpqua Nationa 79.73 38 IAmb IAmb 02 06 45.6
comp=Z,13nm,0.8s
M15K Kasigluk River 79.80 9 P **P 02 06 42.9 -0.3**
baz=197,SNR=6.1
N16K Nishlik Lake 79.88 10 P **P 02 06 43.6 -0.1**
baz=198
O18K Koktuh Hills 79.91 11 P **P 02 06 43.4 -0.4**
baz=202,SNR=6.0
P19K Oil Pt 80.11 12 P **P 02 06 44.5 -0.5**
baz=204
L14K Kuka Creek 80.16 7 IAmb IAmb 02 06 46.6
comp=Z,11nm,1.1s
L14K Kuka Creek 80.16 7 P **P 02 06 45.3 +0.3**
baz=195,SNR=5.2
N17K Nushagak Hills 80.19 10 P **P 02 06 45.3 +0.1**
baz=200
J05D Fort Rock, OR 80.27 38 IAmb IAmb 02 06 48.5
comp=Z,10nm,0.9s
M16K Timber Creek 80.37 9 P **P 02 06 46.6 +0.4**
baz=198,SNR=16
O19K Port Alsworth 80.40 12 P **P 02 06 46.2 -0.2**
baz=203
ILSW Iliamna Southw 80.44 12 IAmb IAmb 02 06 46.8
comp=Z,15nm,0.8s
HOM Homer 80.45 13 P **P 02 06 47.5 +0.8**
baz=205
BNX BinXian 80.50 325 ⇑P **P 02 06 47.6 +0.4**
BNX pmax pmax
comp=Z,13nm,1.0s
K13K Kusilvak Mount 80.51 6 IAmb IAmb 02 06 48.5
comp=Z,9.5nm,1.2s
K13K Kusilvak Mount 80.51 6 P **P 02 06 47.6 +0.7**
baz=193
N18K Kilae Creek 80.56 11 P **P 02 06 48.0 +0.8**
baz=201
O20K Slope Mountain 80.63 13 P **P 02 06 48.0 +0.4**
baz=204
L15K Ungalak Mounta 80.64 8 P **P 02 06 47.8 +0.2**
baz=196,SNR=8.1
PINE Pine Mountain 80.75 38 IAmb IAmb 02 06 51.1
comp=Z,10.0nm,0.9s
RED Redoubt Volcan 80.91 12 IAmb IAmb 02 06 49.1
comp=Z,11nm,1.0s
N19K Bonanza Creek 80.94 11 P **P 02 06 49.4 +0.1**
baz=203
M17K Holitna River 80.97 10 P **P 02 06 49.8 +0.5**
baz=200,SNR=16
K15K Wolf Creek Mou 81.23 8 P **P 02 06 51.1 +0.5**
baz=196,SNR=23
M18K Stony River 81.33 11 P **P 02 06 51.6 +0.5**
baz=201
SEW Seward 81.35 14 P **P 02 06 51.8 +0.6**
baz=207
J14K Nanvaranak Lak 81.43 7 P **P 02 06 52.2 +0.7**
baz=194
Q23K Middleton Isla 81.51 16 P **P 02 06 52.2 +0.1**
baz=210
L17K Donlin 81.53 9 P **P 02 06 52.5 +0.4**
baz=199,SNR=10
SLKM Skilak Lake 81.53 13 IAmb IAmb 02 06 52.7
comp=Z,15nm,0.9s

TUC	**Tucson**	81.55	52	P	P	02 06 54.5	+1.4	
N20K	**Mount Spurr** baz=205	81.74	12	P	P	02 06 52.1	-1.3	
SPCR	**Spurr Chakacha** baz=205	81.74	12	P	P	02 06 51.8	-1.5	
P23K	**Montague Islan** baz=209	81.74	15	P	P	02 06 52.6	-0.6	
GAMB	**Gambell** baz=186	81.80	3	P	P	02 06 52.5	-0.9	
L18K	**Granite Mounta** comp=Z,8.6nm,0.8s	81.86	10	IAmb	IAmb	02 06 55.4		
L18K	**Granite Mounta** baz=200,SNR=10	81.86	10	P	P	02 06 53.1	-0.7	
BELA	**Belgrano 2**	81.88	173	P	P	02 06 53.5	-0.4	
J08A	**Circle Bar Ran** comp=Z,11nm,1.3s	81.96	39	IAmb	IAmb	02 06 56.9		
M19K	**Big River Lodg** baz=203	81.97	11	P	P	02 06 54.2	-0.2	
K17K	**Iditarod** baz=199	82.08	9	P	P	02 06 54.1	-0.8	
STLK	**Strandline Lak** comp=Z,6.1nm,0.8s	82.09	12	IAmb	IAmb	02 06 54.7		
L19K	**White Mountain** comp=Z,10nm,1.1s	82.14	11	IAmb	IAmb	02 06 57.1		
L19K	**White Mountain** baz=202,SNR=9.2	82.14	11	P	P	02 06 55.2	0.0	
RC01	**Rabbit Creek A** comp=Z,7.9nm,0.9s	82.16	13	IAmb	IAmb	02 06 56.0		
RC01	**Rabbit Creek A** baz=207	82.16	13	P	P	02 06 54.6	-0.7	
M20K	**Styx River** baz=204	82.18	12	P	P	02 06 54.7	-0.8	
D05A	**Enumclaw** comp=Z,21nm,1.3s	82.18	35	IAmb	IAmb	02 06 58.1		
PWL	**Port Wells** comp=Z,12nm,0.9s	82.28	14	IAmb	IAmb	02 06 56.3		
PWL	**Port Wells** baz=208,SNR=6.4	82.28	14	P	P	02 06 55.2	-0.8	
SUA	**Susitna One** comp=Z,8.3nm,0.7s	82.28	13	IAmb	IAmb	02 06 56.3		
SUA	**Susitna One** baz=206,SNR=12	82.28	13	P	P	02 06 55.2	-0.9	
J16K	**Anvik River** comp=Z,10.0nm,1.1s	82.30	8	IAmb	IAmb	02 06 57.6		
J16K	**Anvik River** baz=197,SNR=6.3	82.30	8	P	P	02 06 56.3	+0.2	
U15A	**North Rim** comp=Z,6.1nm,0.9s	82.40	48	IAmb	IAmb	02 06 59.9		
KAIM	**Kayak Island** comp=Z,13nm,0.9s	82.44	16	IAmb	IAmb	02 06 58.1		
KAIM	**Kayak Island** baz=212	82.44	16	P	P	02 06 57.0	+0.2	
CRAG	**Craig** baz=222	82.58	24	P	P	02 06 57.0	-0.6	
SKT	**Skwentna** baz=205	82.58	12	P	P	02 06 56.2	-1.3	
GLI	**Glacier Island** comp=Z,14nm,0.8s	82.59	15	IAmb	IAmb	02 06 57.8		
GLI	**Glacier Island** baz=210,SNR=6.1	82.59	15	P	P	02 06 56.7	-0.8	
L20K	**Farewell, AK** baz=203,SNR=6.0	82.59	11	P	P	02 06 57.0	-0.5	
J17K	**VABM Dome** comp=Z,5.6nm,0.8s	82.61	8	IAmb	IAmb	02 06 58.5		
J17K	**VABM Dome** baz=198,SNR=7.5	82.61	8	P	P	02 06 57.5	-0.1	
EYAK	**Cordova Ski Ar** baz=211	82.63	15	P	P	02 06 56.9	-0.7	
KNK	**Knik Glacier** baz=208	82.74	14	P	P	02 06 57.2	-1.0	
PMR	**Palmer** comp=Z,10.0nm,1.2s	82.74	13	IAmb	IAmb	02 06 58.8		
PMR	**Palmer** baz=208	82.74	13	P	P	02 06 58.2	0.0	
RAGM	**Ragged Mountai** comp=Z,14nm,1.2s	82.77	16	IAmb	IAmb	02 06 59.4		
I17K	**Unalakleet** baz=197	82.87	8	P	P	02 06 58.5	-0.3	
SIT	**Sitka** baz=220	82.96	22	P	P	02 06 59.2	-0.2	
J18K	**Innoko River** comp=Z,11nm,0.8s	83.03	9	IAmb	IAmb	02 07 00.8		
J18K	**Innoko River** baz=200,SNR=20	83.03	9	P	P	02 06 59.4	-0.3	
U33K	**Whale Pass** baz=222	83.06	23	P	P	02 07 00.0	+0.1	
V35K	**Ketchikan** baz=224	83.07	25	P	P	02 06 59.3	-0.7	
HAWA	**Hanford** comp=Z,5.9nm,0.9s	83.07	36	IAmb	IAmb	02 07 02.1		
DIV	**Divide** comp=Z,8.8nm,0.7s	83.13	15	IAmb	IAmb	02 07 00.8		
CUT	**Chulitna** baz=206	83.23	13	P	P	02 07 00.3	-0.4	
M23K	**Glacier View** baz=209	83.24	14	P	P	02 07 00.1	-0.7	
BMRM	**Bremner River** comp=Z,11nm,0.9s	83.28	16	IAmb	IAmb	02 07 01.8		
BMRM	**Bremner River** baz=212,SNR=6.0	83.28	16	P	P	02 07 00.2	-0.9	
PPLA	**Purkeypile** baz=205	83.29	12	P	P	02 07 01.1	0.0	
MESA	**MESA** baz=214,SNR=5.4	83.33	17	P	P	02 07 01.4	-0.1	
S31K	**Pelican** baz=220	83.34	21	P	P	02 07 01.6	+0.4	
SCM	**Sheep Creek Mo** baz=209,SNR=9.7	83.36	14	P	P	02 07 01.0	-0.4	
K20K	**Telida** comp=Z,11nm,0.8s	83.37	11	IAmb	IAmb	02 07 02.2		
K20K	**Telida** baz=203,SNR=16	83.37	11	P	P	02 07 00.8	-0.5	
KLU	**Klutina** baz=210	83.40	15	P	P	02 07 01.2	-0.5	
H16K	**Elim** baz=195	83.41	7	P	P	02 07 01.4	-0.1	
CRQM	**Cirque** comp=Z,14nm,1.0s	83.49	16	IAmb	IAmb	02 07 03.6		
CRQE	**Cirque** baz=213	83.50	16	P	P	02 07 02.1	-0.1	
S32K	**Killisnoo** baz=221	83.53	22	P	P	02 07 02.1	-0.1	
G15K	**Niukluk** baz=193,SNR=5.5	83.57	6	P	P	02 07 01.8	-0.4	
WRAK	**Wrangell Islan** baz=223	83.58	24	P	P	02 07 02.6	+0.1	
PNL	**Peninsula** baz=217	83.67	19	P	P	02 07 02.6	-0.4	
J19K	**Poorman** baz=201,SNR=5.0	83.70	10	P	P	02 07 03.0	+0.1	
PINM	**Pinnacle** baz=216	83.75	18	P	P	02 07 03.5	+0.1	
TABL	**Table Mountain** comp=Z,12nm,0.7s	83.78	17	IAmb	IAmb	02 07 04.7		
CAST	**Castle Rocks** comp=Z,12nm,0.9s	83.78	11	IAmb	IAmb	02 07 02.8		
CAST	**Castle Rocks** baz=205,SNR=21	83.78	11	P	P	02 07 01.8	-1.6	
TNA	**Tin City** baz=190	83.80	4	P	P	02 07 02.6	-0.8	
VRDI	**Verde Repeater** comp=Z,6.3nm,0.8s	83.80	16	IAmb	IAmb	02 07 04.6		
N25K	**Chitina, Valde** comp=Z,12nm,0.8s	83.83	15	IAmb	IAmb	02 07 04.6		
N25K	**Chitina, Valde** baz=212,SNR=15	83.83	15	P	P	02 07 03.1	-0.7	
F14K	**Arctic Creek** baz=191	83.83	5	P	P	02 07 03.6	0.0	
GRNC	**Granite Creek** comp=Z,9.0nm,1.0s	83.85	17	IAmb	IAmb	02 07 05.0		
M24K	**Tolsona, Glenn** baz=210	83.87	14	P	P	02 07 03.9	-0.1	
GLB	**Gilahina Butte** comp=Z,7.7nm,0.7s	83.89	16	IAmb	IAmb	02 07 04.8		
H17K	**Granite Mounta** baz=197	83.98	8	P	P	02 07 04.3	0.0	
MCARA	**McCarthy VSAT** baz=213	84.05	16	P	P	02 07 04.9	+0.2	
J20K	**Nowinta River** comp=Z,6.1nm,0.8s	84.11	10	IAmb	IAmb	02 07 05.9		
J20K	**Nowinta River** baz=203,SNR=10	84.11	10	P	P	02 07 04.4	-0.6	
KTH	**Kantishna Hill** comp=Z,7.1nm,0.8s	84.13	12	IAmb	IAmb	02 07 05.9		
G16K	**Koyuk River** baz=195	84.13	7	P	P	02 07 04.6	-0.5	
LOGN	**Logan Glacier** comp=Z,8.7nm,0.7s	84.13	17	IAmb	IAmb	02 07 15.7		
BARN	**Barnard Glacie** comp=Z,10nm,0.8s	84.14	17	IAmb	IAmb	02 07 06.5		
P29M	**Windy Craggy** comp=Z,7.7nm,0.8s	84.15	19	IAmb	IAmb	02 07 06.8		
P29M	**Windy Craggy** baz=218	84.15	19	P	P	02 07 04.9	-0.4	
CTG	**Chitna Glacier** baz=215	84.16	17	P	P	02 07 04.6	-0.8	
F10A	**Beach Ranch, E** comp=Z,6.6nm,0.9s	84.16	38	IAmb	IAmb	02 07 07.0		
TRF	**Thorofare Moun** baz=206	84.16	12	P	P	02 07 04.1	-1.3	
CHUM	**Lake Minchumin** baz=204,SNR=6.6	84.17	11	P	P	02 07 03.7	-1.5	
F15K	**North Star Dit** baz=193	84.21	6	P	P	02 07 04.6	-0.8	
GCSA	**Galena City Sc** baz=200	84.21	9	P	P	02 07 04.7	-0.7	
LYN	**LuoYang**	84.27	309	P	P	02 07 07.5	+1.1	
LYN	comp=Z,26nm,0.8s			pmax	pmax			
B08A	**Colville Reser** comp=Z,5.0nm,0.9s	84.32	35	IAmb	IAmb	02 07 07.4		
O28M	**Mount Upton** baz=216	84.32	18	P	P	02 07 04.8	-1.7	
HARP	**HAARP** baz=211	84.37	15	P	P	02 07 05.5	-0.9	
H18K	**Honhosa River** baz=199	84.39	8	P	P	02 07 05.0	-1.3	
O29M	**Mount Kennedy** baz=217	84.42	19	P	P	02 07 05.9	-0.8	
G17K	**Kiwalik Mounta** baz=196	84.43	7	P	P	02 07 05.6	-0.9	
PLBC	**Pleasant Camp** baz=219,SNR=5.0	84.45	20	P	P	02 07 06.8	+0.1	
BPAW	**Bear Paw Mtn.** baz=206	84.61	12	P	P	02 07 07.0	-0.5	
MCK	**McKinley** comp=Z,11nm,1.0s	84.69	13	IAmb	IAmb	02 07 08.1		
MCK	**McKinley** baz=208	84.69	13	P	P	02 07 07.1	-0.7	
P30M	**Million Dollar** baz=219	84.78	19	P	P	02 07 08.5	+0.1	
T35M	**Bob Quinn** baz=225	84.78	24	P	P	02 07 08.8	+0.3	
PAX	**Paxson** comp=Z,6.0nm,1.1s	84.79	14	IAmb	IAmb	02 07 08.7		
PAX	**Paxson** baz=211	84.79	14	P	P	02 07 07.5	-1.0	
SKAG	**Skagway** comp=Z,5.4nm,1.0s	84.79	20	IAmb	IAmb	02 07 10.4		
SKAG	**Skagway** baz=220	84.79	20	P	P	02 07 08.8	+0.4	
YUK8	**Steele Glacier** baz=216	84.86	17	P	P	02 07 08.5	-0.6	
M26K	**Nabesna, AK** comp=Z,8.4nm,0.9s	84.91	16	IAmb	IAmb	02 07 10.6		
M26K	**Nabesna, AK** baz=213	84.91	16	P	P	02 07 08.8	-0.2	
YUK6	**Outpost Mounta** baz=218	85.00	18	P	P	02 07 09.3	-0.3	
H19K	**Roundabout Mou** baz=200	85.01	9	P	P	02 07 08.7	-0.6	
G18K	**Tagagawik** baz=198	85.05	8	P	P	02 07 08.3	-1.2	
YUK3	**Moose Creek** baz=216,SNR=12	85.06	17	P	P	02 07 08.8	-1.2	
S34M	**Telegraph Cree** comp=Z,8.5nm,0.9s	85.12	23	IAmb	IAmb	02 07 11.9		
S34M	**Telegraph Cree** baz=224,SNR=7.4	85.12	23	P	P	02 07 09.9	-0.1	
HYT	**Haines Junctio** comp=Z,5.0nm,0.9s	85.16	19	IAmb	IAmb	02 07 11.7		
HYT	**Haines Junctio** baz=218,SNR=6.5	85.16	19	P	P	02 07 10.2	-0.1	
M27K	**Edge Creek, AK** comp=Z,10nm,1.0s	85.16	16	IAmb	IAmb	02 07 11.7		
M27K	**Edge Creek, AK** baz=214,SNR=8.9	85.16	16	P	P	02 07 10.7	+0.3	
H20K	**Anotleneega Mo** baz=202	85.22	9	P	P	02 07 10.3	0.0	
YUK4	**Talbot Arm** baz=217	85.23	18	P	P	02 07 10.6	-0.2	
Y22D	**IRIS PASSCAL I** baz=244	85.23	52	P	P	02 07 10.0	-1.4	
F17K	**Baldwin Pennin** baz=196	85.27	7	P	P	02 07 10.9	+0.4	
L26K	**Log Cabin Wild** baz=213	85.34	15	P	P	02 07 10.9	-0.1	
I21K	**Tanana** baz=205	85.41	11	P	P	02 07 10.2	-1.0	
NEA2	**Nenana** baz=208	85.43	12	P	P	02 07 09.7	-1.6	
P32M	**Atlin** baz=222	85.43	21	P	P	02 07 10.4	-1.2	
K24K	**Donnelly Dome** baz=211,SNR=7.8	85.44	14	P	P	02 07 10.4	-1.0	
Q32M	**Nakina River** baz=223,SNR=5.3	85.46	22	P	P	02 07 11.0	-0.9	
BVCY	**Beaver Creek** baz=215,SNR=9.6	85.48	16	P	P	02 07 11.1	-0.6	
G19K	**Purcell Mounta** baz=200	85.50	8	P	P	02 07 10.9	-0.8	
MLY	**Manley** baz=206	85.50	11	P	P	02 07 10.6	-1.1	
RIDG	**Independent Ri** comp=Z,6.8nm,1.0s	85.59	14	IAmb	IAmb	02 07 12.9		
RIDG	**Independent Ri** baz=211	85.59	14	P	P	02 07 11.7	-0.5	
F18K	**Selawik** baz=198	85.60	7	P	P	02 07 11.6	-0.5	
DOT	**Dot Lake** comp=Z,5.6nm,1.0s	85.70	14	IAmb	IAmb	02 07 13.4		
HDA	**Harding Lake** comp=Z,5.9nm,0.9s	85.70	13	IAmb	IAmb	02 07 12.9		
HDA	**Harding Lake** baz=209,SNR=5.1	85.70	13	P	P	02 07 11.7	-1.0	
H21K	**Melozitna Rive** baz=204	85.70	10	P	P	02 07 12.2	-0.5	
CCB	**Clear Creek Bu** comp=Z,13nm,1.2s	85.73	13	IAmb	IAmb	02 07 12.8		
L27K	**Beaver Creek,** baz=214	85.76	16	P	P	02 07 12.9	-0.2	
N30M	**Aishikik Lake** baz=219	85.78	18	P	P	02 07 13.1	-0.1	
TXAR	**Lajitas Array** comp=Z,2.3nm,0.8s,baz=255,slow=4.8,SNR=16	85.81	57	P	P	02 07 15.9	+1.7	
	comp=Z,2.3nm,0.8s							
E17K	**Hotham Inlet** baz=195	85.82	6	P	P	02 07 12.8	-0.4	
IMAR	**Indian Mountai**	85.85	10	P	P	02 07 12.9	-0.5	
WHY	**Whitehorse** comp=Z,8.8nm,0.9s	85.85	20	IAmb	IAmb	02 07 15.0		
WHY	**Whitehorse** baz=221	85.85	20	P	P	02 07 13.1	-0.5	
I23K	**Minto, Yukon-K** baz=207	85.87	12	P	P	02 07 13.6	+0.2	
DLBC	**Dease Lake** baz=225	85.90	23	P	P	02 07 13.9	+0.1	
COLA	**College** baz=209	85.92	12	P	P	02 07 14.1	+0.4	
SCRK	**Sand Creek** baz=212	86.00	14	P	P	02 07 14.2	0.0	
ILAR	**Eielson Array**	86.03	13		P	02 07 13.3	-1.0	
ILAR	**Eielson Array** comp=Z,2.6nm,0.7s,baz=233,slow=5.3,SNR=22	86.03	13	P	P	02 07 13.5	-0.7	
	comp=Z,2.6nm,0.7s							
F19K	**Shaleruckik Mo** baz=199,SNR=5.6	86.06	8	P	P	02 07 14.2	-0.1	
M29M	**Somme Creek** baz=217,SNR=7.1	86.16	17	P	P	02 07 15.0	-0.1	
H22K	**Ishtalitna Cre** baz=205,SNR=5.5	86.17	11	P	P	02 07 14.2	-0.6	
XLT	**XiLinHaoTe**	86.17	319	*e*P	P	02 07 16.4	+0.9	
XLT	comp=Z,13nm,0.8s			pmax	pmax			
P33M	**Teslin, Yukon** baz=222	86.19	21	P	P	02 07 15.0	-0.2	
N31M	**Braeburn, Yuko** comp=Z,12nm,1.1s	86.20	19	IAmb	IAmb	02 07 16.6		
N31M	**Braeburn, Yuko** baz=220	86.20	19	P	P	02 07 14.6	-0.6	
POKR	**Poker Plat Res** baz=209	86.22	12	P	P	02 07 14.1	-1.0	
J25K	**Salcha River,** comp=Z,3.1nm,0.8s	86.22	13	IAmb	IAmb	02 07 15.1		
J25K	**Salcha River,** baz=211,SNR=6.6	86.22	13	P	P	02 07 14.3	-1.0	
R33M	**Jennings River** baz=224	86.24	22	P	P	02 07 15.3	-0.2	
E18K	**Tukpahlearik C** comp=Z,5.0nm,0.9s	86.28	7	IAmb	IAmb	02 07 16.1		
E18K	**Tukpahlearik C** baz=197,SNR=6.4	86.28	7	P	P	02 07 15.1	-0.2	
D17K	**Noatak River** baz=194	86.30	6	P	P	02 07 16.1	+0.7	
G21K	**Allakaket** comp=Z,3.8nm,0.8s	86.38	10	IAmb	IAmb	02 07 16.5		
G21K	**Allakaket** baz=203,SNR=5.5	86.38	10	P	P	02 07 16.0	+0.2	
K27K	**Chicken** comp=Z,6.7nm,1.2s	86.50	15	IAmb	IAmb	02 07 18.1		
K27K	**Chicken** baz=214	86.50	15	P	P	02 07 16.9	+0.4	
J26L	**Joseph Creek** comp=Z,4.2nm,0.8s	86.54	14	IAmb	IAmb	02 07 18.8		
J26L	**Joseph Creek** baz=213,SNR=9.0	86.54	14	P	P	02 07 17.1	+0.3	
F20K	**Avaraart Lake** baz=201	86.54	9	P	P	02 07 16.2	-0.3	
XAN	**Xi'an**	86.70	307	P	P	02 07 19.4	+1.2	
XAN	comp=Z,21nm,1.2s			pmax	pmax			
E19K	**Redstone River** comp=Z,4.2nm,0.7s	86.72	8	IAmb	IAmb	02 07 18.1		
E19K	**Redstone River** baz=200	86.72	8	P	P	02 07 17.6	+0.2	
M30M	**Minto, Yukon** comp=Z,8.6nm,0.9s	86.75	18	IAmb	IAmb	02 07 18.7		
M30M	**Minto, Yukon** baz=219,SNR=17	86.75	18	P	P	02 07 17.8	+0.1	
H24K	**Noodor Dome** baz=208	86.77	12	P	P	02 07 18.0	+0.3	
L29M	**L29M** baz=218,SNR=12	86.78	17	P	P	02 07 18.1	+0.2	
PRP	**Porcupine Dome** comp=Z,5.5nm,1.3s	86.97	13	IAmb	IAmb	02 07 18.5		
PRP	**Porcupine Dome** baz=211	86.97	13	P	P	02 07 18.3	-0.5	
LOHW	**Long Hollow** comp=Z,6.6nm,1.4s	86.99	42	IAmb	IAmb	02 07 21.3		
F21K	**Alatna River** baz=203	87.04	9	P	P	02 07 18.6	-0.3	
C17K	**DeLong Mountai** baz=194	87.05	5	P	P	02 07 19.0	+0.1	
G22K	**Bettles** baz=205	87.08	10	P	P	02 07 19.2	+0.1	
G23K	**Bananza Creek** baz=206	87.14	11	P	P	02 07 19.3	-0.1	
M31M	**Drury Creek, Y** baz=221	87.18	19	P	P	02 07 19.9	+0.2	
DAWY	**Dawson** comp=Z,6.1nm,1.2s	87.21	16	IAmb	IAmb	02 07 21.0		
DAWY	**Dawson** baz=216,SNR=5.5	87.21	16	P	P	02 07 20.3	+0.5	
YHL	**Hebgen Lake** comp=Z,6.7nm,1.0s	87.22	41	IAmb	IAmb	02 07 23.3		
PDAR	**Pinedale Array**	87.27	43		P	02 07 20.9	+0.1	
PDAR	**Pinedale Array** comp=Z,1.4nm,0.7s,baz=238,slow=2.8,SNR=13	87.27	43	P	P	02 07 21.3	+0.4	
	comp=Z,1.4nm,0.7s							
BOZ	**Bozeman (W)** comp=Z,5.3nm,1.3s	87.31	40	IAmb	IAmb	02 07 22.8		
I26K	**Coal Creek Min** comp=Z,8.6nm,1.3s	87.31	14	IAmb	IAmb	02 07 21.2		
I26K	**Coal Creek Min** baz=213	87.31	14	P	P	02 07 20.6	+0.3	
WTLY	**Watson Lake, Y** baz=226	87.53	22	P	P	02 07 21.8	+0.3	
K29M	**Barlow Dome** comp=Z,10nm,1.4s	87.53	17	IAmb	IAmb	02 07 22.9		
K29M	**Barlow Dome** baz=218,SNR=6.7	87.53	17	P	P	02 07 21.6	+0.1	
COLD	**Coldfoot** comp=Z,5.5nm,0.8s	87.58	10	IAmb	IAmb	02 07 22.6		
COLD	**Coldfoot** baz=206	87.58	10	P	P	02 07 21.9	+0.5	
D19K	**Kuna River** baz=199	87.60	7	P	P	02 07 20.9	-0.7	
G24K	**Hadweenzic Riv** baz=209	87.61	12	P	P	02 07 21.6	0.0	
E20K	**Nigu River** baz=201,SNR=5.9	87.61	8	P	P	02 07 21.7	0.0	
HHC	**Hu-ho-hao-te**	87.70	314	*e*P	P	02 07 25.2	+2.4	
HHC	comp=Z,14nm,0.6s			pmax	pmax			
HHC	comp=Z,130nm,4.9s			pmax	pmax			
MAYO	**Mayo, Yukon** baz=220	87.80	17	P	P	02 07 23.3	+0.7	
I27K	**Kandik River** baz=214	87.92	14	P	P	02 07 23.3	+0.1	
G25K	**Bearman Lake** baz=210	87.93	12	P	P	02 07 23.5	+0.4	
D20K	**Etivluk River** comp=Z,7.9nm,1.1s	87.99	8	IAmb	IAmb	02 07 24.2		
D20K	**Etivluk River** baz=200	87.99	8	P	P	02 07 23.7	+0.4	
C19K	**Lookout Ridge** baz=198	88.01	7	P	P	02 07 23.0	-0.4	
TOAD	**Toad River Com** baz=229,SNR=6.2	88.02	24	P	P	02 07 24.2	+0.5	
B18K	**Kokolik River** baz=195	88.04	6	P	P	02 07 23.3	-0.2	
E21K	**Killik River** comp=Z,13nm,1.5s	88.09	9	IAmb	IAmb	02 07 25.5		
E21K	**Killik River** baz=203	88.09	9	P	P	02 07 23.3	-0.6	
E22K	**Anaktuvuk Pass** comp=Z,9.6nm,1.1s	88.13	10	IAmb	IAmb	02 07 24.9		
E22K	**Anaktuvuk Pass** baz=205	88.13	10	P	P	02 07 24.5	+0.4	
I28M	**Miner Creek** comp=Z,3.6nm,0.8s	88.19	15	IAmb	IAmb	02 07 25.1		
I28M	**Miner Creek** baz=216,SNR=5.7	88.19	15	P	P	02 07 24.5	0.0	
F24K	**Squaw Lake** comp=Z,4.4nm,0.8s	88.25	11	IAmb	IAmb	02 07 25.7		
F24K	**Squaw Lake** baz=208,SNR=5.5	88.25	11	P	P	02 07 25.0	+0.4	
E23K	**Chandalar** comp=Z,7.3nm,1.0s	88.42	10	IAmb	IAmb	02 07 26.4		
E23K	**Chandalar** baz=207	88.42	10	P	P	02 07 25.4	-0.1	
J30M	**Hart River** baz=219	88.43	17	P	P	02 07 26.2	+0.5	
H27K	**Steamboat Moun** comp=Z,4.3nm,1.0s	88.46	14	IAmb	IAmb	02 07 27.3		
H27K	**Steamboat Moun** baz=214	88.46	14	P	P	02 07 26.0	+0.4	
MMPY	**Sheldon Lake,** comp=Z,8.5nm,1.0s	88.47	20	IAmb	IAmb	02 07 27.3		
MMPY	**Sheldon Lake,** baz=224,SNR=9.4	88.47	20	P	P	02 07 25.5	-0.2	
RLMT	**Red Lodge** comp=Z,4.4nm,1.1s	88.55	41	IAmb	IAmb	02 07 28.8		
G26K	**Porcupine Rive** baz=212,SNR=5.2	88.57	13	P	P	02 07 25.9	-0.1	
E24K	**Your Creek** baz=208	88.63	11	P	P	02 07 25.8	-0.6	
C21K	**Knifeblade Rid** baz=202	88.64	8	P	P	02 07 25.2	-1.2	
D22K	**Ayikyak River** baz=204	88.68	9	P	P	02 07 26.4	-0.2	
TGTN	**Hyland Airport** baz=226	88.69	21	P	P	02 07 26.9	+0.1	
F25K	**Christian Rive** comp=Z,4.9nm,1.1s	88.74	12	IAmb	IAmb	02 07 27.7		
F25K	**Christian Rive** baz=211	88.74	12	P	P	02 07 26.6	-0.3	
BMAR	**Burnt Mountain**	88.81	12		P	02 07 27.8	+0.6	
G27K	**Doyon Strip** baz=214	88.91	14	P	P	02 07 27.2	-0.5	
A19K	**Wainwright** baz=196	88.92	6	P	P	02 07 27.5	-0.1	
I30M	**Mount Dempster** comp=Z,5.9nm,1.0s	88.92	16	IAmb	IAmb	02 07 28.7		
I30M	**Mount Dempster** baz=219,SNR=7.6	88.92	16	P	P	02 07 27.5	-0.4	
TOLK	**Toolik Lake Re** baz=207	88.95	10	P	P	02 07 27.6	-0.3	
D23K	**Nanushuk River** comp=Z,7.3nm,0.9s	89.07	10	IAmb	IAmb	02 07 32.9		
D23K	**Nanushuk River** baz=206	89.07	10	P	P	02 07 27.0	-1.4	
B21K	**Ikpikpuk River**	89.10	8	P	P	02 07 28.6	+0.2	

baz=202
F26K Sheenjek River 89.12 12 P P 02 07 28.3 -0.4
baz=212
B20K Meade River 89.14 7 P P 02 07 28.1 -0.5
baz=200
H29M Whitestone 89.20 15 P P 02 07 28.7 -0.3
baz=217,SNR=5.4
KOTAN Kotaneelee Air 89.31 24 P P 02 07 28.7 -0.9
baz=230
CMAR Chiang Mai Arr 89.31 290 P 02 07 31.3 +0.6
CMAR Chiang Mai Arr 89.31 290 P P 02 07 31.7 +1.1
comp=Z,2.9nm,0.8s,baz=118,slow=3.1,SNR=16
comp=Z,2.9nm,0.8s
D24K Happy Valley 89.53 10 P P 02 07 31.0 +0.5
baz=208
PZH PanZhiHua 89.60 298 P P 02 07 33.4 +1.5
EPYK Eagle Plains 89.73 15 P P 02 07 31.6 +0.1
baz=219,SNR=6.4
G29M Pine Creek 89.84 15 P P 02 07 31.1 -0.9
baz=218
C23K Itkillik River 89.86 9 P P 02 07 31.4 -0.5
baz=206
H31M Peel River 89.92 17 P P 02 07 31.7 -0.7
baz=221
B22K Teshekpuk Lake 89.92 8 P P 02 07 31.9 -0.3
baz=203
F28M Old Crow 89.97 14 P P 02 07 31.5 -1.1
baz=216
C24K Franklin Bluff 90.06 10 P P 02 07 32.9 0.0
baz=208
E27K Coleen River 90.06 13 P P 02 07 32.9 -0.1
baz=214
D25K Kavik River 90.10 11 P P 02 07 33.0 -0.2
baz=210
G30M tAoh Zraii Nji 90.33 15 P P 02 07 33.6 -0.7
baz=219,SNR=8.4
A22K Sinclair Lake 90.34 7 P P 02 07 34.0 -0.2
baz=202
SNAA Sanae 90.35 178 P P 02 07 34.3 -0.2
comp=Z,0.8nm,0.8s,baz=194,slow=8.3,SNR=5.6
comp=Z,0.8nm,0.8s
A21K Barrow 90.45 7 P P 02 07 34.6 0.0
baz=200
G31M Satah River 90.78 16 P P 02 07 35.6 -0.6
baz=221,SNR=7.6
E28M Babbage River 90.85 13 P P 02 07 36.3 -0.3
baz=216
C27K Jago River 90.85 11 P P 02 07 36.6 +0.1
baz=212
C26K Camden Bay 90.88 11 P P 02 07 36.1 -0.6
baz=211
F30M Barrier River 90.93 15 P P 02 07 36.2 -0.8
baz=220
E29M Blow River 91.04 14 P P 02 07 36.9 -0.5
baz=218
D27M Malcolm River 91.07 12 P P 02 07 37.7 +0.1
baz=215
F31M Tsiigehtchic 91.31 16 P P 02 07 38.3 -0.4
baz=222
INK Inuvik 92.02 15 P P 02 07 41.2 -0.7
baz=222,SNR=5.7
SONM Songino Array 93.97 319 P P 02 07 51.8 +0.2
comp=Z,0.3nm,0.5s,baz=119,slow=5.3,SNR=1.8
comp=Z,0.3nm,0.5s
YKA Yellowknife Ar 94.39 25 P P 02 07 51.9 -1.0
comp=Z,0.9nm,0.9s,baz=241,slow=4.2,SNR=5.3
comp=Z,0.9nm,0.9s
MKAR Makanchi Array 109.57 314 PKiKP PKiKP 02 12 58.8 -1.3
comp=Z,0.5nm,0.5s,baz=96,slow=1.2,SNR=4.8
KURBB Kurchatov Arra 112.31 318 PKiKP PKiKP 02 13 03.5 -1.5
comp=Z,0.9nm,0.7s,baz=88,slow=2.0,SNR=7.9
BVAR Borovoye Array 117.26 321 PKP PKPdf 02 13 13.3 -1.2
comp=Z,1.5nm,0.6s,baz=81,slow=1.0,SNR=9.1
ARCES ARCESS Array B 126.61 350 PKP PKPdf 02 13 31.2 -0.8
comp=Z,3.5nm,0.8s,baz=11,slow=0.8,SNR=8.7
FINES FINESS Array B 133.52 344 PKhKP PKPpre 02 13 39.3
comp=Z,2.0nm,0.9s,baz=80,slow=3.1,SNR=3.4
FINES PKP PKPdf 02 13 44.6 -0.6
comp=Z,1.4nm,0.7s,baz=80,slow=3.1,SNR=5.5
NOA NORSAR Array B 136.65 353 PKP PKiKP 02 13 52.4 -0.8
comp=Z,0.5nm,0.8s,baz=14,slow=3.9,SNR=1.5
HFS Hagfors 137.22 351 PKhKP PKPpre 02 13 44.4
comp=Z,1.6nm,0.8s,baz=41,slow=2.7,SNR=4.7
AKASG Malin Array Be 140.94 332 PKhKP PKPpre 02 13 53.2
comp=Z,6.8nm,1.0s,baz=44,slow=3.9,SNR=15
KIEV Kiev 140.95 332 ⇓P PKPpre 02 13 53.2
EKA Eskdalemuir Ar 142.67 5 PKhKP PKPpre 02 13 58.6
comp=Z,2.4nm,0.9s,baz=336,slow=2.8,SNR=5.6
SORM Soroca 143.18 330 ⇑P PKPbc 02 14 01.0 -0.8
PURM Purcari 143.53 327 ⇑P PKPdf 02 14 03.0 -1.0
PURM Purcari 143.53 327 PKP PKPbc 02 14 02.3 -0.6
KMPD K-Podol'skiy 143.73 332 PKP PKPbc 02 14 02.2 -1.2
MILM Milestii Mici 143.81 328 ⇑P PKPbc 02 14 02.8 -0.9
BNN Bunyan 144.09 312 PKPab 02 14 05.5 0.0
MORS Morshin 144.38 335 PKP PKPbc 02 14 04.8 -0.6
KWP Kalwaria Pacla 144.44 337 ePKP PKPab 02 14 05.5 -0.7
KWP Kalwaria Pacla 144.44 337 PKP PKPbc 02 14 05.0 -0.6
STNU Starunia 144.46 334 PKP PKPdf 02 14 04.6 -0.9
GORT1 Trebel 144.47 350 ePKPbc PKPab 02 14 06.4 +0.2
baz=15,slow=2.7
RUE Ruedersdorf 144.51 348 ePKPbc PKPab 02 14 06.1 -0.2
baz=15,slow=2.7
KSV Kosov 144.53 333 PKP PKPbc 02 14 05.2 -0.8
PRAR RASCA 144.73 331 ⇓P PKPab 02 14 06.9 -0.5
VLDR Vladesti 144.91 328 ⇑P PKPab 02 14 07.8 -0.4
OJC Ojcow 144.96 340 ePKP PKPdf 02 14 06.1 -0.2
OJC Ojcow 144.96 340 PKP PKPdf 02 14 05.8 -0.6
TLCR 144.98 326 ⇓P PKPab 02 14 07.9 -0.5
BURAR Bucovina Array 145.00 332 PKPab 02 14 08.0 -0.6
BURAR Bucovina Array 145.00 332 ⇑P PKPab 02 14 07.7 -0.9
MEZ Mezhgor'ye 145.02 335 PKP PKPbc 02 14 06.7 -0.7
GHRR 145.10 328 ⇑P PKPab 02 14 08.9 0.0
GHRR 145.10 328 PKP PKPbc 02 14 06.8 -0.9
FLTG Flechtingen 145.12 350 ePKPbc PKPab 02 14 07.9 -0.8
baz=15,slow=2.7
NRDL Niedersach Rie 145.13 351 ePKPbc PKPab 02 14 08.2 -0.5
baz=15,slow=2.7
RAKU Rahkiv 145.13 334 PKP PKPdf 02 14 06.0 -0.7
STHS Stebnicka Huta 145.15 338 ePKP PKPab 02 14 07.8 -1.2
TESR Tescani 145.15 330 ⇓P PKPbc 02 14 07.6 -0.2
TESR Tescani 145.15 330 PKP PKPbc 02 14 06.9 -1.0
KOLS Kolonicke sedl 145.17 336 ePKP PKPab 02 14 08.2 -0.9
BR131 Keskin Array S 145.21 315 PKPbc 02 14 08.3 -0.2
BRTR Keskin Array B 145.21 315 PKPbc PKPbc 02 14 08.4 0.0
BRTR Keskin Array B 145.21 315 PKPbc PKPbc 02 14 08.0 -0.5
comp=Z,5.7nm,0.8s,baz=120,slow=4.2,SNR=40
JURR Jurilovca 145.22 326 ⇑P PKPab 02 14 08.2 -1.2
BR106 Keskin Array S 145.22 315 PKP PKPdf 02 14 07.0 -0.3
BR105 Keskin Array S 145.23 315 PKP PKPdf 02 14 07.1 -0.2
IZVR Izvoarele 145.28 328 ⇑P PKiKP 02 14 09.9 -1.3
KIRS Kirsehir-Merke 145.31 314 ⇓P PKPbc 02 14 08.5 -0.1
CFR Carcaliu 145.34 327 ⇑P PKPab 02 14 08.6 -1.2
BRIU Brid 145.36 335 PKP PKPdf 02 14 07.0 -0.1
PANC Panciu 145.36 328 ⇓P PKPab 02 14 09.0 -0.9
MUKU Mukachevo 145.40 336 PKP PKPdf 02 14 07.0 -0.1
ASSE Asse, Remlinge 145.40 351 ePKPbc PKPab 02 14 09.0 -0.7
baz=15,slow=2.7
TPGR Topolog 145.40 326 ⇑P PKPab 02 14 09.1 -1.0
UZHM Uzhgorod 145.41 336 PKP PKPdf 02 14 07.1 0.0
KSP Ksiaz 145.44 344 ePKP PKPab 02 14 08.9 -1.2
KSP Ksiaz 145.44 344 PKP PKPdf 02 14 07.0 -0.1
HOLU Holmets 145.46 336 PKP PKPdf 02 14 07.1 -0.1
KORU Korolevo 145.46 335 PKP PKPdf 02 14 07.1 -0.1
NIE Niedzica 145.48 339 ePKP PKPab 02 14 09.4 -1.0
NIE Niedzica 145.48 339 PKP PKPdf 02 14 07.1 -0.2
VRI Vrincioaia 145.57 329 ⇑P PKPbc 02 14 09.0 -0.1
VRI Vrincioaia 145.57 329 PKP PKPdf 02 14 07.6 0.0
TRSU Trosnyk 145.58 335 PKP PKPdf 02 14 07.5 +0.1
BERU Beregovo 145.59 335 PKP PKPdf 02 14 07.5 +0.1
PLOR Plostina 145.62 329 ⇑P PKPbc 02 14 09.3 0.0
BMR Baia Mare 145.69 334 ⇓P PKPbc 02 14 09.5 +0.1
ANTO Ankara 145.71 316 PKPbc PKPab 02 14 10.1 -1.5
ANTO Ankara 145.71 316 ⇑P PKPbc 02 14 09.8 0.0
ANTO Ankara 145.71 316 PKP PKPdf 02 14 07.8 -0.3
OSTC Ostas 145.72 344 ePKP PKPab 02 14 10.4 -0.8
CLL Collm 145.77 348 PKP PKPdf 02 14 07.5 -0.2
CLL Collm 145.77 348 ePKPbc PKPab 02 14 10.1 -1.3
baz=15,slow=2.7
CLL Collm 145.77 348 ⇓iPKPbc PKPbc 02 14 09.4 -0.1
comp=Z,28nm,0.8s
HARR Harsova 145.77 326 ⇑P PKPab 02 14 10.1 -1.5
ARCR ARCALIA 145.78 332 ⇑P PKPab 02 14 10.3 -1.2
TURR Turia 145.78 330 ⇑P PKPab 02 14 10.5 -1.2
OKC Ostrava-Krasne 145.82 341 ePKP PKPab 02 14 10.2 -1.4
UPC Upice 145.82 344 ePKP PKPbc 02 14 10.0 +0.3
STEB Steborice 145.84 342 ePKP PKPbc 02 14 10.1 +0.4
STEB ex x 02 14 12.2
COVR Voineasa-Covas 145.84 329 ⇑P PKPbc 02 14 09.8 -0.2
OZUR 145.86 330 ⇑P PKPab 02 14 10.5 -1.5
DPC Dobruska-Polom 145.88 344 ePKP PKPab 02 14 10.4 -1.5
DPC Dobruska-Polom 145.88 344 PKP PKPdf 02 14 07.7 -0.3
BOSR Bodos 145.94 330 ⇑P PKPbc 02 14 10.2 0.0
BRG Berggiesshubel 145.98 346 ePKPbc PKPab 02 14 11.5 -0.7
baz=15,slow=2.7
BRG Berggiesshubel 145.98 346 ePKP PKPab 02 14 11.0 -1.2
BRG Amp 02 14 11.8
comp=Z,11nm,0.8s
LANS Liptovska Anna 145.99 339 ePKP PKPab 02 14 11.2 -1.2
KRLC Kraliky 146.00 343 ePKP PKPbc 02 14 10.6 +0.4
MORC Moravsky Berou 146.05 342 ePKP PKPbc 02 14 10.4 0.0
MORC Moravsky Berou 146.05 342 ⇑P PKPbc 02 14 10.8 +0.5
GTTG Gottingen 146.08 351 ePKPbc PKPab 02 14 11.1 -1.5
baz=15,slow=2.7
NEUB Neuenburg 146.10 349 ePKPbc PKPab 02 14 11.1 -1.5
baz=15,slow=2.7
DOPR Dopca 146.15 330 ⇑P PKiKP 02 14 11.4 -1.6
PVCC Panska Ves 146.16 346 ePKP PKPbc 02 14 10.7 +0.1
ISR Istrita 146.19 328 ⇑P PKPbc 02 14 11.3 +0.3
ISR Istrita 146.19 328 PKP PKPdf 02 14 08.4 -0.3
MLR Muntele Rosu 146.23 329 ⇑P PKPbc 02 14 10.4 -0.7
MLR Muntele Rosu 146.23 329 PKP PKPdf 02 14 08.7 -0.1
MAUC Maruska 146.33 341 ePKP PKiKP 02 14 11.7 -1.7
MESR Meseseni 146.33 334 ⇑P PKiKP 02 14 11.8 -1.5
CBBR Cluj-Babes-Bol 146.38 333 ⇑P PKiKP 02 14 11.5 +0.2
CJR Cluj-Napoca 146.40 333 ⇑P PKiKP 02 14 11.9 -1.7
MMAI Mount Meron Ar 146.58 303 PKPbc PKiKP 02 14 12.9 -1.6
comp=Z,7.1nm,0.6s,baz=70,slow=4.9,SNR=17
MARR Marisel-Cluj 146.63 333 ⇑P PKPbc 02 14 12.2 +0.1
PRU Pruhonice 146.67 345 ePKP PKPbc 02 14 12.3 +0.3
PRU ex x 02 14 15.2
MOX Moxa 146.68 349 ePKPbc PKiKP 02 14 12.7 -1.3
baz=15,slow=2.7
VOIR 146.70 330 ⇓P PKiKP 02 14 13.2 -1.0
DRGR 146.72 334 ⇓P PKPbc 02 14 12.2 -0.1
TANN Tannenbergstha 146.73 348 ePKPbc PKiKP 02 14 13.0 -1.1
baz=15,slow=2.7
VRAC Vranov 146.75 342 ePKP PKPbc 02 14 12.2 -0.1
VRAC Vranov 146.75 342 ⇑P PKiKP 02 14 12.7 -1.5
VYHS Vyhne 146.77 339 ePKP PKiKP 02 14 12.8 -1.5
JAVC Velka Javorina 146.83 341 ePKP PKiKP 02 14 13.6 -0.8
PSZ Piszkesteto 146.90 338 ⇑P PKPbc 02 14 12.9 +0.1
ARR Arges 146.95 330 ⇑P PKiKP 02 14 14.0 -0.8
KRUC Moravsky 147.03 342 ePKP PKPbc 02 14 12.9 -0.1
TREC Trest 147.07 344 ePKP PKPbc 02 14 13.3 +0.2
MANZ Manzenberg 147.21 348 ePKPbc PKiKP 02 14 14.4 -0.8
baz=15,slow=2.7
ZVC Zvikov 147.26 345 ePKP PKiKP 02 14 13.9 -1.3
ZVC ex x 02 14 18.1
DEV Deva 147.34 332 ⇓P PKiKP 02 14 14.4 -1.1
UCC Uccle 147.37 357 dPKP PKPbc 02 14 13.7 -0.1
MODS Modra-Piesok 147.38 341 ePKP PKPbc 02 14 11.7 -2.2
ROTZ Rotzenmuhle 147.40 348 ePKPbc PKiKP 02 14 14.9 -0.6
baz=15,slow=2.7
MEM Membach 147.45 355 dPKP PKPbc 02 14 13.7 -0.3
BSTI Sart Tilman 147.51 356 dPKP PKiKP 02 14 14.3 -1.4
SIRR Siria 147.57 334 ⇓P PKPbc 02 14 14.5 0.0
TNS Taunus Mts 147.58 352 ePKPbc PKiKP 02 14 15.1 -0.8
baz=15,slow=2.7
KHC Kasperske Hory 147.70 346 ePKP PKPbc 02 14 14.6 -0.2
GZR Gura Zlata 147.78 332 ⇑P PKPbc 02 14 14.9 -0.2
SURR Surduc 147.78 333 ⇑P PKPbc 02 14 15.0 -0.1
CKRC Cesky Krumlov 147.81 345 ePKP PKiKP 02 14 15.1 -1.3
GEC2 GERESS Array S 147.94 345 ePKPbc PKiKP 02 14 16.0 -0.8
baz=15,slow=2.7
GERES GERESS Array B 147.94 345 PKPbc PKPbc 02 14 15.3 -0.2
comp=Z,5.7nm,0.7s,baz=19,slow=3.2,SNR=31
ELND Elena 148.06 326 ⇓P PKPbc 02 14 14.5 -1.3
VLAD Vladila 148.06 329 ⇑P PKiKP 02 14 16.3 -0.7
BZS Buzias 148.11 333 ⇑P PKPbc 02 14 15.8 0.0
CONA Conrad Observa 148.20 342 iPKP PKiKP 02 14 16.3 -1.1
comp=Z,4.3nm,0.7s
RONA Rosalia, Austr 148.28 341 ePKP PKiKP 02 14 16.5 -1.0
comp=Z,3.6nm,0.7s,SNR=4.3
HERR Herculane 148.34 332 ⇑P PKiKP 02 14 16.3 -0.1
WLF Walferdange 148.38 355 dPKP PKiKP 02 14 16.7 -0.8
WLF Walferdange 148.38 355 ePKPbc PKiKP 02 14 17.7 +0.2
baz=15,slow=2.7
PLVB Pleven 148.40 328 ⇑P PKiKP 02 14 16.9 -0.9
MOA Molln 148.72 344 iPKP PKPbc 02 14 17.0 -0.3
comp=Z,1.8nm,0.7s
MDVR Moldovita 148.73 332 ⇓P PKPbc 02 14 17.1 -0.4
MORH Mrgy, Hungar 148.79 337 ePKP PKPbc 02 14 17.1 -0.4
MORH Mrgy, Hungar 148.79 337 ⇑P PKPbc 02 14 17.3 -0.2
STU Stuttgart 148.89 351 ePKPbc PKiKP 02 14 18.4 -0.2
baz=15,slow=2.7
BIOA Bad Ischl, Aus 149.02 345 ePKP PKPbc 02 14 17.7 -0.4
comp=Z,2.1nm,0.6s
FUR Furstenfeldbru 149.11 348 ePKPbc PKiKP 02 14 18.9 -0.2
baz=15,slow=2.7
BFO Black Forest 149.45 352 ePKPbc PKiKP 02 14 19.6 -0.2
baz=15,slow=2.7
LESA Schwarzleotal 149.51 346 iPKP PKPbc 02 14 18.9 -0.4
comp=Z,4.8nm,0.7s
BOVS Bovan 149.63 331 ⇑P PKiKP 02 14 19.5 -0.8
KBA Koelnbreinsper 149.67 345 iPKP PKPbc 02 14 18.8 -1.1
comp=Z,8.8nm,0.8s
WATA Walderalm 149.84 347 iPKP PKPbc 02 14 19.6 -0.6
comp=Z,6.6nm,0.7s
EZN Ezine 149.84 321 ⇑P PKPbc 02 14 17.6 -2.6
RETA Reutte 149.86 348 iPKP PKPbc 02 14 19.7 -0.4
comp=Z,4.0nm,0.8s,SNR=4.9
OBKA Obir 149.87 343 iPKP PKPbc 02 14 19.1 -1.1
comp=Z,1.8nm,1.0s
WTTA Wattenberg 149.90 347 iPKP PKPbc 02 14 19.8 -0.5
comp=Z,14nm,0.6s
MOTA Moosalm 149.93 348 iPKP PKPbc 02 14 19.8 -0.6
comp=Z,8.7nm,0.8s,SNR=9.4
MOSL Moslavina 149.98 339 ePKP PKiKP 02 14 20.2 -0.8
MYKA Terra Mystica 150.01 344 iPKP PKPbc 02 14 19.5 -1.0
comp=Z,7.4nm,0.7s,SNR=4.0
SQTA Sankt Quirin 150.03 347 iPKP PKPbc 02 14 20.1 -0.5
comp=Z,10nm,0.7s,SNR=8.3
ABTA Abfaltersbach 150.18 345 iPKP PKPbc 02 14 20.1 -0.8
comp=Z,14nm,0.7s,SNR=13
DAVA Damuels 150.22 349 iPKP PKiKP 02 14 20.8 -0.9
comp=Z,8.9nm,1.0s
LJU Ljubljana 150.30 342 iPKPbc PKiKP 02 14 20.8 -0.8
FETA Feichten 150.31 348 iPKP PKiKP 02 14 21.0 -0.8
comp=Z,7.4nm,0.8s
OZLJ Ozalj 150.40 341 ePKP PKPbc 02 14 20.7 -0.6
A051A Mrakovica 150.45 338 ePKP PKiKP 02 14 21.4 -0.6
BLY Banja Luka 150.58 338 ePKP PKiKP 02 14 21.9 -0.3
BLY Banja Luka 150.58 338 ⇓P PKPbc 02 14 21.2 -0.5
RUDO Rudo 150.67 334 ePKP PKPbc 02 14 21.1 -0.9
CTI Castel Tesino 151.04 346 PKiKP 02 14 22.6 -0.7
A050A Klekovaca 151.04 338 ePKP PKPbc 02 14 21.9 -1.0
TUE Stuetta 151.10 349 PKiKP 02 14 23.1 -0.4
KIJV Kijev 151.50 338 ePKP PKPbc 02 14 23.4 -0.5
PDG Podgorica 151.68 332 ⇑P PKiKP 02 14 23.9 -0.7
STON Ston 151.98 335 ePKP PKPdf 02 14 20.3 +2.5
ESDC Sonseca Array 157.94 12 PKP PKPdf 02 14 27.5 +1.6
comp=Z,0.4nm,1.0s,baz=332,slow=4.5,SNR=2.6
ESDC PKPab PKPab 02 15 02.6 -0.4
comp=Z,1.4nm,0.9s,baz=338,slow=5.0,SNR=7.1
KEST Kesra 161.31 341 PKPab PKPab 02 15 17.9 0.0
comp=Z,4.1nm,1.0s,baz=320,slow=1.8,SNR=8.4

*SDD **11** 02:04:49.4±1.0, 19°.88N×70°.77W, h12km±40km, MD3.3, ML2.5, MW2.9*
*OSPL **11** 02:04:55.6±1.3, 19°.90N×70°.54W, h0km±21km, ML1.7*
ISC 11 02:04:51.4±1.1, 19°.90N±0°.07×70°.51W±0°.07, h19km, n8, σ0°92/11, 2C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUDR	Luperon	0.42	270	ePg	Pg	02 04 52.8	-7.2
LOPP1	Punta Rusia, P	0.65	266	*i* P	Pn	02 05 05.9	+0.3
LOPP1				eS	Sn	02 05 15.5	+0.1
LOPP1				IAML		02 05 18.5	
comp=Z,40nm,1.6s							
DR08	Loma La Naviza	1.04	154	⇑ePg	Pb	02 05 09.6	-1.2
DR08				⇓eSg	Sb	02 05 24.4	+0.4
DR08				IAML		02 05 32.3	
comp=N,277nm,0.1s							
HATOM	Hato Mayor del	1.53	136	⇓ePg	Pb	02 05 19.3	+0.1
HATOM				eSg	Sb	02 05 39.9	+1.7
HATOM				IAML		02 05 42.0	
comp=N,22nm,1.5s							
MIDR Miches 1.65 123 ⇓ePg Pb 02 05 20.8 -0.4
MIDR IAML 02 06 17.9
comp=N,22nm,2.0s
GRTK Grand Turk 1.71 340 eS Sg 02 05 46.0 -0.7
LODU1 El Espartillar 1.79 211 *i* P Pg 02 05 25.9 +0.1
HIDR Higuey Centro 2.13 127 ⇑ePg Pb 02 05 29.6 +0.2
HIDR IAML 02 05 58.6
comp=N,46nm,0.1s
HIDR ⇓eSg Sg 02 05 58.8 -1.3

*DJA **11** 02:11:07.9±0.2, 7°.2S×10°.3E±°, h10km, M5.2/82, mb5.4/82, mMB5.7/61, MLv5.6/29, Mw(mB)5.2/61, MwMwp5.0/12, Mwp5.3/12*
*MOS **11** 02:11:07.0±0.7, 7°.18S×102°.88E, h9km, mb5.5/45, Error ellipse: s-maj=8.6km s-min=6.5km az=97.3*
*BJI **11** 02:11:08.0, 7°.20S×102°.90E, h8km, mB5.6/41, mb5.5/74, Ms5.5/60, Ms7 5.3/59*
*IDC **11** 02:11:08.1±0.4, 7°.15S×102°.97E, h0km, mb5.0/36, mbtmp5.0/38, ML4.8/2, MS4.4/41, Error ellipse: s-maj=12.7km s-min=9.2km az=51.0*
*NEIC **11** 02:11:10.4, 7°.11S×102°.91E, h18km*
*NEIC **11** 02:11:10.4, 7°.51S×102°.40E, h18km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}2.29; $M_{\theta\theta}$-1.68; $M_{\phi\phi}$-0.61; $M_{r\theta}$1.86; $M_{r\phi}$0.75; $M_{\theta\phi}$-4.75; Fault plane solution: $M_0$5.55000×10^{16} NP1: ϕ_s289.24000°, δ14.08000°, λ45.92000°. NP2: ϕ_s154.20000°, δ79.94000°, λ99.90000°. Principal axes: T 5.9566, Plg54.0000°, Azm76.0000°; N -0.9304, Plg10.0000°, Azm332.0000°; P -5.0263, Plg34.0000°, Azm236.0000°;*
*NEIC **11** 02:11:10.4±2.5, 7°.11S±0°.04×102°.91E±0°.06, h10km±1km, mb5.4/81, Mww5.1/14 Error ellipse: s-maj=10.0km s-min=5.8km az=109.0*
*GCMT **11** 02:11:12.4±0.2, 7°.44S±0°.02×102°.66E±0°.02, h15km, MW5.1/94, Moment Tensor Solution. s40,c47; s94,c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.49±.08; $M_{\theta\theta}$-1.35±.07; $M_{\phi\phi}$-1.14±.07; $M_{r\theta}$2.81±.24; $M_{r\phi}$1.26±.06; $M_{\theta\phi}$-4.01±.29; Best double couple: $M_0$5.49700×10^{16} NP1:ϕ_s302.00000°, δ14.00000°, λ69.00000°. NP2: ϕ_s144.00000°, δ77.00000°, λ95.00000°. Principal axes: T 5.5340, Plg58.0000°, Azm60.0000°; N -0.0730, Plg5.0000°, Azm322.0000°; P -5.4610, Plg32.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 02:11:11.3±0.5, 7°.21S±0°.03×102°.94E±0°.04, h23km±2km, h23km:pP-P, n514, σ1§70/530, mb5.4/158, MS4.5/63, 43C-11D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	Kota Agung	2.28	43	P	Pn	02 11 46.7	-0.9
LWLI	Liwa	2.44	27	P	Pn	02 11 49.2	-0.8
CGJI	Cibinong	2.80	78	P	Pn	02 11 53.9	-0.9
MNAI	Manna	2.83	0		Pn	02 11 53.6	-1.5
MNAI	Manna	2.83	0	P	Pn	02 11 53.6	-1.5
MNAI	Manna	2.83	0	S	Sn	02 12 28.0	-0.6
MNAI	Manna	2.83	0	P	Pn	02 11 53.7	-1.5
BLSI	Bandar Lampung	2.93	52	P	Pn	02 11 56.6	0.0
MDSI	Maura Dua	2.97	25	P	Pn	02 11 56.7	-0.5
KLI	Kotabumi	3.01	39	P	Pn	02 11 58.0	+0.3
SBJI	Serang	3.35	71	P	Pn	02 12 02.3	-0.1
LHSI	Lahat	3.41	10	P	Pn	02 12 03.0	-0.2
KSI	Kapahiang	3.55	354	P	Pn	02 12 03.6	-1.6
SKJI	Sukabumi	3.60	87	P	Pn	02 12 05.2	-0.6
TNG	Tangerang	3.83	75	P	Pn	02 12 08.9	0.0
DBJI	Dramaga	3.84	81	P	Pn	02 12 09.6	+0.5
CNJI	Cibinong	4.16	92	P	Pn	02 12 12.1	-1.4
PMBI	Palembang	4.63	23		Pn	02 12 18.8	-1.1
PMBI	Palembang	4.63	23	P	Pn	02 12 20.1	+0.2
PMBI	Palembang	4.63	23	P	Pn	02 12 19.8	-0.1
LEM	Lembang	4.66	86	Pn	Pn	02 12 21.3	+0.7
132nm,0.3s,baz=218,slow=5.5,SNR=78							
LEM				Sn	Sn	02 13 10.7	-3.4
41nm,0.3s,baz=282,slow=20,SNR=3.8							
LEM				LR	LR	02 13 44.7	
comp=Z,2μm,19.3s,baz=252,slow=34							
550nm,0.5s							
LEM	Lembang	4.66	86	P	Pn	02 12 20.7	+0.1
BBJI	Bungbulang	4.68	93	P	Pn	02 12 19.4	-1.4
PPSI	Pulau Pagai	5.29	326	P	Pn	02 12 27.4	-1.7
JCJI	Jatiwangi	5.34	83	P	Pn	02 12 29.8	0.0
4.9nm8μm12μm747nm,0.9s							
PPBI	Pangkal Pinang	5.94	33	P	Pn	02 12 38.1	+0.1
KPJI	Karang Pucung	5.95	92	P	Pn	02 12 38.3	+0.2
TPI	Tanjungpandan	6.45	47	P	Pn	02 12 45.0	0.0
5μm143nm,1.0s							
PDSI	Padang	6.72	338	P	Pn	02 12 46.1	-2.7
2.0nm4μm3μm214nm,0.6s							
DSRI	Dabo	6.88	14	P	Pn	02 12 49.5	-1.4
1.3nm5μm270nm,1.2s							
SISI	Saibi	6.99	327	P	Pn	02 12 50.3	-2.1
1.6nm3μm336nm,0.8s							
PPI	Padang Panjang	7.17	339	P	Pn	02 12 53.0	-1.9
1.4nm5μm3μm357nm,0.9s							
SMRI	Semarang	7.45	89		Pn	02 13 00.1	+1.4
SMRI	Semarang	7.45	89	P	Pn	02 13 00.4	+1.7
SMRI	Semarang	7.45	89	P	Pn	02 13 00.2	+1.4
UGM	Wanagama	7.55	96		Pn	02 12 58.8	-1.5
UGM	Wanagama	7.55	96	P	Pn	02 12 59.4	-0.8
UGM	Wanagama	7.55	96	P	Pn	02 12 59.2	-1.2
BKNI	Bangkinang	7.72	346		Pn	02 13 00.0	-2.4
BKNI	Bangkinang	7.72	346	P	Pn	02 13 00.4	-2.0
BKNI	Bangkinang	7.72	346	P	Pn	02 12 59.9	-2.5
2.1nm4μm291nm,0.8s							
COCO	West Island	7.79	230		Pn	02 13 02.2	-1.2
COCO	West Island	7.79	230	P	Pn	02 13 02.6	-0.8
COCO	West Island	7.79	230	P	Pn	02 13 02.2	-1.2
WOJI	Wonogiri, Jawa	7.94	95	P	Pn	02 13 04.4	-1.1
6μm593nm,0.9s							
TPRI	Tanjung Pinang	8.22	11	P	Pn	02 13 07.9	-1.5
222nm,0.9s							
PCJI	Pacitan	8.23	97	P	Pn	02 13 08.3	-1.1
811nm,1.7s							
NGJI	Ngawi	8.46	92	P	Pn	02 13 13.5	+0.9
7μm647nm,1.2s							
PBSI	Pulau Batu	8.49	327	P	Pn	02 13 10.7	-2.3
348nm,1.6s							
BTDF	Bukit Timah Da	8.55	6	P	Pn	02 13 14.2	+0.3
MNSI	Mandailing Nat	8.63	337	P	Pn	02 13 11.2	-3.7
2μm170nm,0.9s							
TBJI	Tambak Boyo	8.85	88	P	Pn	02 13 18.5	+0.5
462nm,0.9s							
MYKOM	Kota Tinggi	8.98	6		Pn	02 13 18.7	-1.1
MYKOM	Kota Tinggi	8.98	6	P	Pn	02 13 19.9	+0.1
GRJI	Gresik	9.47	89	P	Pn	02 13 27.5	+0.9
BWJI	Bawean	9.75	83	P	Pn	02 13 30.0	-0.4
GSI	Gunungsitoli	10.00	327			02 13 31.8	-2.1
GSI	Gunungsitoli	10.00	327	P	Pn	02 13 34.4	+0.6
GSI	Gunungsitoli	10.00	327	P	Pn	02 13 31.1	-2.7
3μm115nm,1.2s							
GMJI	Gumukmas	10.47	97	P	Pn	02 13 39.0	-1.1
3μm174nm,1.4s							
RPSI	Rantau Prapat	10.62	338			02 13 38.6	-3.7
RPSI					Sn	02 15 33.6	-7.0
RPSI	Rantau Prapat	10.62	338			02 13 38.5	-3.7
PSI	Prapat	10.72	338	Pn	Pn	02 13 38.6	-5.1
0.9nm,0.3s,baz=165,slow=9.1,SNR=7.8							
PSI				Sn	Sn	02 15 33.6	-10
baz=96,slow=16							
PSI	Prapat	10.72	338	P	Pn	02 13 38.5	-5.2
KMMI	Kalianget	10.95	90	P	Pn	02 13 46.0	-0.7
3μm173nm,1.0s							
STKI	Sintang	11.17	50	P	Pn	02 13 50.2	+0.4
222nm,1.0s							
JAGI	Jajag, Banyuwa	11.18	97			02 13 47.5	-2.4
JAGI	Jajag, Banyuwa	11

SRBI Singaraja 12.20 95 P Pn 02 14 02.0 -1.9
3µm256nm,1.0s
KULM Kulim 12.62 350 Pn 02 14 06.4 -3.3
KULM Kulim 12.62 350 P Pn 02 14 06.2 -3.5
KULM Kulim 12.62 350 S Sn 02 16 30.5 +0.9
SBUM Sibu 13.34 44 Pn 02 14 20.1 +0.7
SBUM Sibu 13.34 44 P Pn 02 14 19.3 -0.1
TWSI Taliwang, Sumb 13.89 97 P Pn 02 14 24.2 -2.9
1µm137nm,0.8s
PLAI Plampang 14.78 97 P Pn 02 14 38.7 -0.5
PLAI Plampang 14.78 97 P Pn 02 14 35.2 -4.0
2µm247nm,1.0s
BKB Balikpapan 15.12 68 Pn 02 14 41.9 -1.8
BKB IAmb IAmb 02 14 47.3
comp=Z,196nm,1.0s
BKB Balikpapan 15.12 68 P Pn 02 14 44.9 +1.3
BKB Balikpapan 15.12 68 P Pn 02 14 45.0 +1.3
comp=Z,3µmcomp=Z,5µmcomp=Z,458nm,1.2s
SMKI Samarinda 15.74 65 P Pn 02 14 53.0 +1.2
comp=Z,4µmcomp=Z,234nm,1.0s
SRIT Nakonsritamara 16.05 348 P Pn 02 14 49.0 -6.7
SRIT Nakonsritamara 16.05 348 P Pn 02 14 56.8 +1.1
KAPI Kappang 16.86 84 Pn 02 15 04.0 -2.2
KAPI Kappang 16.86 84 Pn Pn 02 15 03.6 -2.5
comp=Z,1.1nm,0.3s,baz=268,slow=11,SNR=6.7
KAPI LR LR 02 22 27.8
comp=Z,1µm,19.1s,baz=262,slow=40
comp=Z,6.1nm,0.4s
KAPI Kappang 16.86 84 P Pn 02 15 06.0 -0.1
KAPI Kappang 16.86 84 ⇓*e*P Pn 02 15 05.5 -0.6
SPSI Sidrap Palu 17.06 80 P Pn 02 15 07.4 -1.2
BNSI Bone 17.31 82 P Pn 02 15 10.7 -1.0
comp=Z,2µmcomp=Z,90nm,1.2s
WSI Waingapu 17.35 99 P Pn 02 15 11.1 -1.1
comp=Z,319nm,0.8s
BSSI Bau Bau, Buton 17.47 88 P Pn 02 15 13.7 0.0
comp=Z,2µmcomp=Z,175nm,1.4s
PCI Palu 17.97 70 P P 02 15 20.3 -0.1
comp=Z,482nm,1.4s
MPSI Mapaga 18.50 67 P P 02 15 25.9 -0.3
comp=Z,6µmcomp=Z,412nm,1.5s
EDFI Ende, Flores 18.64 96 P P 02 15 23.8 -4.0
comp=Z,83nm,0.8s
KKM Kota Kinabalu 18.68 46 IAmb IAmb 02 15 29.2
comp=Z,184nm,1.0s
KKM Kota Kinabalu 18.68 46 P P 02 15 28.0 -0.2
GIRL Giralia 18.81 146 P P 02 15 26.0 -3.5
GIRL Giralia 18.81 146 P P 02 15 26.3 -3.2
comp=Z,84nm,1.1s
MMRI Maumere 19.17 96 P P 02 15 32.2 -1.4
MMRI Maumere 19.17 96 P P 02 15 33.0 -0.5
MMRI Maumere 19.17 96 P P 02 15 32.5 -1.0
comp=Z,7µmcomp=Z,379nm,1.3s
BBSI Bau Bau 19.59 86 P P 02 15 38.2 +0.1
comp=Z,3µmcomp=Z,272nm,1.1s
TOLI2 Tolitoli 19.63 66 IAmb IAmb 02 15 41.2
comp=Z,245nm,1.1s
TOLI2 Tolitoli 19.63 66 P P 02 15 38.5 -0.1
APSI Ampana 19.68 72 P P 02 15 39.0 -0.1
comp=Z,4µmcomp=Z,357nm,1.2s
DLV Lat 19.81 16 P P 02 15 39.3 -1.4
DLV Lat 19.81 16 P Pn 02 15 41.9 -0.4
MYLDM Lahad Datu 19.81 52 P Pn 02 15 42.2 0.0
MRSI Marisa 20.44 69 P P 02 15 46.0 -1.4
comp=Z,2µmcomp=Z,171nm,1.3s
LUWI Luwuk 20.70 74 P P 02 15 48.3 -1.9
LUWI IAmb IAmb 02 16 01.4
comp=Z,194nm,1.1s
LUWI Luwuk 20.70 74 P P 02 15 50.1 -0.1
LUWI Luwuk 20.70 74 P P 02 15 49.5 -0.7
comp=Z,3µmcomp=Z,201nm,1.0s
BATI Baumata 20.70 100 P P 02 15 49.9 -0.4
comp=Z,264nm,0.7s,baz=286,slow=4.7,SNR=24
BATI S S 02 19 28.4 -12
comp=Z,116nm,0.8s,baz=291,slow=14,SNR=4.0
BATI LR LR 02 25 11.7
comp=Z,1µm,21.9s,baz=330,slow=41
comp=Z,264nm,0.7s
SOEI Soe 21.25 98 P P 02 15 56.1 -0.2
MBWA Marble Bar 21.36 132 P P 02 15 58.4 +1.1
MBWA Marble Bar 21.36 132 P P 02 15 57.8 +0.6
UBPT Khong Chiam 22.48 6 P P 02 16 06.8 -2.5
SANI Sanana 23.53 79 P P 02 16 18.4 -1.8
SANI Sanana 23.53 79 P P 02 16 18.7 -1.5
comp=Z,2µmcomp=Z,76nm,1.4s
NLAI Namlea 24.38 82 P P 02 16 26.6 -1.6
comp=Z,3µmcomp=Z,1µmcomp=Z,72nm,1.0s
MEEK Meekatharra 24.41 144 P P 02 16 27.6 -0.8
comp=Z,43nm,2.4s
MEEK Meekatharra 24.41 144 P P 02 16 28.8 +0.4
FITZ Fitzroy Crossi 24.62 118 P P 02 16 29.6 -0.8
FITZ Fitzroy Crossi 24.62 118 P P 02 16 30.6 +0.3
comp=Z,13nm,0.7s,baz=210,slow=3.0,SNR=13
FITZ S S 02 20 54.2 +3.7
comp=Z,7.6nm,0.9s,baz=346,slow=17,SNR=1.4
comp=Z,13nm,0.7s
MORW Morawa 25.01 152 P P 02 16 34.5 +0.7
TNTI Ternate 25.63 73 P P 02 16 36.6 -2.9
TNTI Ternate 25.63 73 P P 02 16 41.0 +1.5
TNTI Ternate 25.63 73 P P 02 16 38.1 -1.4
comp=Z,3µmcomp=Z,207nm,1.3s
CMAR Chiang Mai Arr 25.80 351 P P 02 16 41.6 +0.6
comp=Z,232nm,1.1s,baz=181,slow=7.3,SNR=79
CMAR LR LR 02 27 09.0
comp=Z,433nm,18.9s,baz=175,slow=37
CHTO Chiang Mai 26.15 351 P P 02 16 44.1 0.0
CHTO Chiang Mai 26.15 351 P P 02 16 44.7 +0.5
CHTO Chiang Mai 26.15 351 P P 02 16 44.2 0.0
CHTO pmax pmax
comp=Z,201nm,1.2s
KNRA Kununurra 26.65 111 P P 02 16 48.0 -0.7
KNRA IAmb IAmb 02 17 27.9
comp=Z,128nm,1.1s
KNRA Kununurra 26.65 111 P P 02 16 48.2 -0.6
comp=Z,93nm,0.8s
DAV Davao City (W) 26.67 58 P P 02 16 48.7 -0.2
comp=Z,96nm,0.3s,baz=221,slow=20,SNR=9.5
DAV LR LR 02 28 56.0
comp=Z,789nm,19.1s,baz=221,slow=40
QIZ Qiongzhong 26.94 15 P P 02 16 52.4 +1.1
QIZ S S 02 21 31.5 +4.2
QIZ pmax pmax
comp=Z,150nm,1.6s
QIZ pmax pmax
comp=Z,1µm,5.7s
QIZ LR LR
comp=Z,3µm,14.4s
QIZ LR LR
comp=Z,6µm,15.9s
MUN Mundaring 27.58 155 P P 02 16 57.6 +0.7
TGY Tagaytay City 27.70 40 P P 02 16 57.9 -0.3
comp=Z,113nm,0.3s,baz=216,slow=14,SNR=0.9
DRS Darwin Rock St 28.02 103 P P 02 17 00.8 -0.3
MTN Manton Dam 28.31 104 IAmb IAmb 02 17 45.4
comp=Z,75nm,1.1s
MTN Manton Dam 28.31 104 P P 02 17 03.3 -0.3
comp=Z,37nm,1.3s
SLVN Son La 28.38 2 P P 02 17 05.6 +1.4
SLVN Son La 28.38 2 P P 02 17 05.1 +0.9
NWAO Narrogin (SRO) 28.83 154 P P 02 17 07.7 -0.4
comp=Z,58nm,1.0s
NWAO Narrogin (SRO) 28.83 154 LR LR 02 27 57.5
comp=Z,555nm,19.4s,baz=292,slow=35
H01W3 Cape Leeuwin H 29.41 161 T T 02 48 08.3
baz=338,slow=76,SNR=35
H01W2 Cape Leeuwin H 29.42 161 T T 02 48 09.3
baz=338,slow=76,SNR=42
H01W1 Cape Leeuwin H 29.43 161 T T 02 48 36.7
baz=338,slow=76,SNR=52
FAKI Fak Fak 29.50 83 P P 02 17 14.9 +0.7
FAKI Fak Fak 29.50 83 P P 02 17 13.3 -0.9
comp=Z,2µmcomp=Z,81nm,1.3s
KDU Kakadu 29.58 103 P P 02 17 14.0 -0.9
comp=Z,50nm,0.8s
KDU Kakadu 29.58 103 P P 02 17 15.7 +0.8
KMBL Kambalda 29.85 146 P P 02 17 14.5 -2.7
comp=Z,18nm,1.7s
H08S2 Diego Garcia H 30.19 267 T T 02 49 47.6
baz=89,slow=74,SNR=18
H08S3 Diego Garcia H 30.20 267 T T 02 50 17.0
baz=89,slow=74,SNR=121
H08S1 Diego Carcia H 30.21 267 T T 02 50 09.5
baz=89,slow=74,SNR=24
BRDH Bariadhala 31.69 340 P P 02 17 33.3 -0.1
comp=Z,27nm,0.3s,baz=171,slow=18,SNR=3.9
BRDH LR LR 02 33 10.5
comp=Z,2µm,18.9s,baz=147,slow=42
comp=Z,27nm,0.3s
KMI Kunming 32.13 360 ⇑P P 02 17 39.2 +1.6
KMI S S 02 22 52.2 +3.0
KMI pmax pmax
comp=Z,130nm,1.5s
KMI pmax pmax
comp=Z,690nm,4.8s
KMI LR LR
comp=Z,6µm,11.4s
KMI LR LR
comp=Z,4µm,13.1s
KMI LR LR
comp=Z,8µm,11.8s
TNCH TengChong 32.33 352 *e*P P 02 17 39.5 +0.3
TNCH S S 02 22 53.3 +1.2
TNCH pmax pmax
comp=Z,1µm,3.5s
TNCH LR LR
comp=Z,4µm,10.6s
TNCH LR LR
comp=Z,5µm,10.7s
TNCH LR LR
comp=Z,7µm,12.3s
WB9 Warramunga Arr 32.96 115 P P 02 17 44.5 -0.2
WRA Warramunga Arr 32.97 116 P P 02 17 44.6 -0.2
WRA Warramunga Arr 32.97 116 P P 02 17 44.8 0.0
comp=Z,12nm,0.7s,baz=286,slow=11,SNR=75
comp=Z,12nm,0.7s
WRAB Tennant Creek 32.98 116 P P 02 17 45.2 +0.4
WRAB IAmb IAmb 02 17 59.7
comp=Z,40nm,0.9s
WRAB Tennant Creek 32.98 116 *c i*P P 02 17 44.9 +0.1
WRAB pmax pmax
comp=Z,34nm,0.8s
PZH PanZhiHua 33.53 358 P P 02 17 53.3 +3.7
BAKI Biak 33.60 81 P P 02 17 49.9 -0.4
comp=Z,1µmcomp=Z,28nm,1.0s
GYA Guiyang 33.66 6 ⇓P P 02 17 52.3 +1.5
GYA pmax pmax
comp=Z,130nm,1.2s
AS15 Alice Springs 33.92 122 P P 02 17 52.7 -0.4
comp=Z,27nm,1.1s
ASAR Alice Springs 33.92 122 P P 02 17 53.3 +0.2
ASAR Alice Springs 33.92 122 P P 02 17 53.1 0.0
comp=Z,10.0nm,0.9s,baz=292,slow=8.3,SNR=44
ASAR PcP PcP 02 20 32.5 +1.1
comp=Z,3.7nm,0.9s,baz=298,slow=2.0,SNR=3.0
ASAR LR LR 02 34 55.3
comp=Z,600nm,18.1s,baz=290,slow=42
comp=Z,10.0nm,0.9s
ASAR Alice Springs 33.92 122 P P 02 17 53.3 +0.2
AS01 Alice Springs 33.96 122 P P 02 17 53.5 +0.1
YULB Yu-li 35.31 30 P P 02 18 06.6 +1.6
YULB IAmb IAmb 02 18 09.9
comp=Z,88nm,1.3s
SSLB Suanglung 35.48 29 P P 02 18 06.5 0.0
SSLB IAmb IAmb 02 18 22.0
comp=Z,78nm,1.1s
SSLB Suanglung 35.48 29 P P 02 18 06.9 +0.5
SMPI Sarmi 36.02 83 P P 02 18 09.8 -1.4
comp=Z,52nm,1.0s
GENI Genyem 37.36 85 P P 02 18 22.9 +0.2
QIS Mount Isa 37.88 114 P P 02 18 27.4 +0.4
comp=Z,85nm,1.2s
QIS Mount Isa 37.88 114 P P 02 18 27.5 +0.4
JAY Jayapura 37.91 85 P P 02 18 25.2 -2.2
comp=Z,23nm,0.8s,baz=223,slow=5.6
JAY LR LR 02 36 49.5
comp=Z,298nm,18.4s,baz=346,slow=41
comp=Z,23nm,0.8s
JAY Jayapura 37.91 85 P P 02 18 25.0 -2.4
comp=Z,2µmcomp=Z,51nm,0.9s
CD2 Chengdu 37.91 1 P P 02 18 27.5 +0.4
CD2 S S 02 24 22.6 +5.0
CD2 pmax pmax
comp=Z,200nm,0.9s
CD2 pmax pmax
comp=Z,1µm,6.8s
CD2 LR LR
comp=Z,7µm,12.2s
CD2 LR LR
comp=Z,5µm,11.8s
CD2 LR LR
comp=Z,9µm,13.2s
WHN Wuhan 39.10 16 ⇑P P 02 18 37.5 +0.5
WHN pmax pmax
comp=Z,220nm,1.2s
COEN Coen 40.08 103 P P 02 18 44.0 -1.4
COEN Coen 40.08 103 P P 02 18 44.9 -0.6
comp=Z,56nm,1.6s
COEN Coen 40.08 103 P P 02 18 47.4 +1.9
XAN Xi'an 41.41 8 ⇑P P 02 18 56.5 +0.3
XAN S S 02 25 12.6 +2.6
XAN pmax pmax
comp=Z,380nm,1.0s
XAN pmax pmax
comp=Z,1µm,3.8s
XAN LR LR
comp=Z,4µm,12.7s
XAN LR LR
comp=Z,2µm,13.8s
XAN LR LR
comp=Z,4µm,13.8s
MTSU Mount Surprise 41.71 109 P P 02 18 59.3 +0.4
comp=Z,19nm,1.0s
MTSU Mount Surprise 41.71 109 P P 02 18 59.3 +0.4
JOW Kunigami 41.81 35 P P 02 18 58.9 -0.7
comp=Z,23nm,0.6s,baz=219,slow=10.0,SNR=4.2
comp=Z,23nm,0.6s
NJ2 Nanjing 41.89 20 ⇑P P 02 19 00.8 +0.7
NJ2 sP sP 02 19 09.4 +1.3
NJ2 pmax pmax
comp=Z,47nm,0.8s
NJ2 LR LR
comp=Z,2µm,13.3s
NJ2 LR LR
comp=Z,2µm,11.4s
NJ2 LR LR
comp=Z,2µm,11.4s
LYN LuoYang 42.50 12 ⇑*i*P P 02 19 06.0 +1.0
LYN S S 02 25 30.3 +4.3
LYN pmax pmax
comp=Z,310nm,1.1s
LYN pmax pmax
comp=Z,1µm,5.1s
LYN LR LR
comp=Z,4µm,14.4s
LYN LR LR
comp=Z,3µm,13.7s
LYN LR LR
comp=Z,5µm,13.4s
LZH Lanzhou 43.07 1 *e*P P 02 19 11.2 +1.3
LZH sP sP 02 19 19.2 +1.3
LZH S S 02 25 36.3 +1.6
LZH sS sS 02 25 45.9 +1.9
LZH pmax pmax
comp=Z,170nm,1.3s
LZH pmax pmax
comp=Z,680nm,4.1s
LZH LR LR
comp=Z,4µm,14.8s
LZH LR LR
comp=Z,4µm,14.1s
LZH LR LR
comp=Z,6µm,13.7s
STKA Stephens Creek 43.56 130 P P 02 19 14.7 +0.9
STKA Stephens Creek 43.56 130 P P 02 19 14.3 +0.5
comp=Z,11nm,0.7s,baz=302,slow=7.7,SNR=11
STKA LR LR 02 40 18.6
comp=Z,452nm,18.4s,baz=299,slow=40
comp=Z,11nm,0.7s
STKA Stephens Creek 43.56 130 P P 02 19 14.6 +0.9
STKA Stephens Creek 43.56 130 ⇑*i*P P 02 19 15.4 +1.6
QLP Quilpie 43.70 121 P P 02 19 16.2 +1.3
comp=Z,100nm,1.3s
QLP Quilpie 43.70 121 P P 02 19 15.4 +0.4
PMG Port Moresby 43.79 96 P P 02 19 15.7 -0.1
PMG IAmb IAmb 02 19 29.4
comp=Z,54nm,0.8s
PMG Port Moresby 43.79 96 LR LR 02 39 45.4
comp=Z,221nm,19.6s,baz=280,slow=39
PMG Port Moresby 43.79 96 P P 02 19 16.0 +0.1
PMG Port Moresby 43.79 96 P P 02 19 15.7 -0.1
PMG pmax pmax
comp=Z,54nm,0.8s
CTA Charters Tower 43.86 111 P P 02 19 15.4 -1.0
CTAO Charters Tower 43.86 111 P P 02 19 17.4 +1.0
CTAO IAmb IAmb 02 19 27.9
comp=Z,102nm,1.4s
CTAO Charters Tower 43.86 111 P P 02 19 16.9 +0.6
CTAO Charters Tower 43.86 111 P P 02 19 17.4 +1.0
CTAO pmax pmax
comp=Z,102nm,1.4s
MANU Manus Island 44.56 86 IAmb IAmb 02 19 24.3
comp=Z,83nm,1.4s
TIA Tai'an 45.20 16 P P 02 19 26.3 -0.4
TIA S S 02 26 03.2 -2.2
TIA pmax pmax
comp=Z,75nm,1.2s
TIA LR LR
comp=Z,2µm,14.1s
TIA LR LR
comp=Z,3µm,12.4s
TIA LR LR
comp=Z,5µm,12.8s
TIY Taiyuan 45.56 11 *e*P P 02 19 30.3 +0.7
TIY S S 02 26 16.6 +5.9
TIY pmax pmax
comp=Z,64nm,0.5s
TIY LR LR
comp=Z,2µm,11.0s
TIY LR LR
comp=Z,2µm,13.7s
TIY LR LR
comp=Z,2µm,13.1s
HNS HongShan 45.72 13 ⇑P P 02 19 31.1 +0.3
HNS pmax pmax
comp=Z,97nm,1.1s
HNS LR LR
comp=Z,1µm,12.1s
HNS LR LR
comp=Z,1µm,14.1s
HNS LR LR
comp=Z,2µm,16.9s
GTA Gaotai 46.47 357 P P 02 19 38.8 +1.9
GTA sP pwP 02 19 47.0 -1.0
GTA S S 02 26 25.5 +1.6
GTA SS SS 02 29 44.2 -6.0
GTA pmax pmax
comp=Z,81nm,1.8s
GTA pmax pmax
comp=Z,830nm,8.0s
GTA LR LR
comp=Z,3µm,14.3s
GTA LR LR
comp=Z,3µm,16.7s
GTA LR LR
comp=Z,5µm,15.9s
GUMO Guam 46.48 64 LR LR 02 43 18.5
comp=Z,53nm,18.1s,baz=258,slow=42
CMSA Cobar Meteorol 46.61 127 P P 02 19 37.1 -1.0
comp=Z,52nm,0.9s
CMSA Cobar Meteorol 46.61 127 P P 02 19 38.7 +0.7
JNU Nakatsue 48.10 32 P P 02 19 48.6 -1.0
HHC Hu-ho-hao-te 48.47 9 *e*P P 02 19 53.5 +1.1
HHC sP sP 02 20 01.4 +0.9
HHC PP PP 02 21 44.9 -0.5
HHC S S 02 26 54.3 +2.0
HHC sS pS 02 27 00.3 +0.8
HHC pmax pmax
comp=Z,90nm,1.2s
HHC pmax pmax
comp=Z,280nm,4.1s
HHC LR LR
comp=Z,3µm,13.0s
HHC LR LR
comp=Z,1µm,14.5s
HHC LR LR
comp=Z,3µm,13.0s
BJI Beijing 48.58 14 P P 02 19 53.5 +0.5
BJI pP pP 02 19 58.2 -0.5
BJI sP sP 02 20 01.0 -0.1
BJI PP PP 02 21 44.7 -1.5
BJI S S 02 26 55.2 +1.7
BJI pmax pmax
comp=Z,45nm,1.0s
BJI pmax pmax
comp=Z,190nm,7.2s
BJI LR LR
comp=Z,1µm,15.7s
BJI LR LR
comp=Z,790nm,14.4s
BJI LR LR
comp=Z,2µm,15.0s
TJN Taejon 49.04 26 ⇓*e*P P 02 19 55.3 -1.4
NIL Nilore 49.44 327 P 02 19 59.8 0.0
NIL IAmb IAmb 02 20 09.4
comp=Z,72nm,1.1s
NIL Nilore 49.44 327 P P 02 19 59.8 0.0
NIL pmax pmax
comp=Z,72nm,1.1s
YNG Young 49.76 129 P P 02 20 00.9 -1.4
comp=Z,32nm,0.9s
KSAR Wonju Array Be 50.16 26 P P 02 20 05.4 +0.2
KSAR Wonju Array Be 50.16 26 P P 02 20 05.4 +0.2
JMN Monobe 50.18 34 IAmb IAmb 02 20 06.2
comp=Z,89nm,1.2s
JMN Monobe 50.18 34 P P 02 20 05.2 -0.3
KSRS Korea Array 50.19 26 P P 02 20 05.8 +0.3
comp=Z,35nm,1.0s,baz=220,slow=7.7,SNR=48
comp=Z,35nm,1.0s
KS19 Wonju Array Si 50.21 26 IAmb IAmb 02 20 06.8
comp=Z,84nm,1.1s
XLT XiLinHaoTe 52.24 12 *e*P P 02 20 21.2 +0.4
XLT sP sP 02 20 29.0 +0.1
XLT S S 02 27 45.2 +0.6
XLT ScS ScS 02 30 10.0 +0.4
XLT pmax pmax
comp=Z,68nm,1.1s
XLT pmax pmax
comp=Z,270nm,8.3s
XLT LR LR
comp=Z,2µm,13.2s
XLT LR LR
comp=Z,2µm,13.6s
WMQ Urumqi 52.63 346 ⇑*i*P P 02 20 25.2 +1.5
WMQ sP pwP 02 20 34.3 -1.3
WMQ S S 02 27 52.4 +2.5
WMQ pmax pmax
comp=Z,160nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=Z,1µm,12.9s
WMQ LR LR
comp=Z,730nm,14.3s
WMQ LR LR
comp=Z,370nm,18.1s
KSH Kashi 52.76 334 P P 02 20 23.6 -1.3
KSH sP pP 02 20 30.3 -0.2
KSH S S 02 27 46.8 -5.2
KSH pmax pmax
comp=Z,27nm,0.8s
INU Inuyama 53.13 35 P P 02 20 27.5 0.0
SHLS Shalkode 54.48 339 *e*P P 02 20 35.8 -1.5
SHLS *e*S S 02 28 14.0 -1.1
SHLS Shalkode 54.48 339 *e*P P 02 20 35.9 -1.5
SHLS *e*S S 02 28 14.0 -1.1
UZB Uzynbulak 54.62 339 *e*P P 02 20 38.0 -0.4
UZB Uzynbulak 54.62 339 *e*P P 02 20 38.0 -0.4
MAJO Matsushiro 54.66 35 P P 02 20 35.8 -2.8
MAJO Matsushiro 54.66 35 P P 02 20 39.1 +0.5
MAJO Matsushiro 54.66 35 P P 02 20 35.8 -2.8
MAJO pmax pmax
comp=Z,26nm,1.3s
MAJO Matsushiro 54.66 35 ⇑*e*P P 02 20 35.4 -3.2
MAJO Matsushiro 54.66 35 pmax pmax
comp=Z,21nm,1.4s
CN2 Changchun 54.71 20 ⇑P P 02 20 38.3 -0.6
CN2 *e*pP pP 02 20 46.0 +1.4
CN2 *e*S S 02 28 16.2 -1.7
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,900nm,12.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR

comp=Z,1µm,13.0s
SATY Saty 54.77 338 *e*P **P 02 20 39.0 -0.5**
SATY *e*S **S 02 28 20.1 +1.0**
SATY Saty 54.77 338 *e*P **P 02 20 39.1 -0.5**
SATY *e*S **S 02 28 20.2 +1.0**
SONM Songino Array 54.89 3 P **P 02 20 41.1 +0.9**
SONM Songino Array 54.89 3 P **P 02 20 41.6 +1.3**
comp=Z,72nm,1.0s,baz=186,slow=7.0,SNR=65
SONM LR LR 02 45 21.3
comp=Z,365nm,19.9s,baz=180,slow=37
comp=Z,72nm,1.0s
ULN Ulaanbaatar 54.95 3 P **P 02 20 41.5 +0.8**
ULN IAmb IAmb 02 20 43.2
comp=Z,77nm,1.2s
ULN Ulaanbaatar 54.95 3*c i*P **P 02 20 41.8 +1.1**
ULN pmax pmax
comp=Z,77nm,1.3s
GAR Garm 55.03 329 P **P 02 20 40.5 -1.0**
GAR IAmb IAmb 02 21 19.3
comp=Z,40nm,1.0s
TNSS Tian-Shan 55.31 337 *e*P **P 02 20 43.0 -0.7**
TNSS Tian-Shan 55.31 337 *e*P **P 02 20 43.1 -0.7**
AAA Alma-Ata 55.47 337 *e*P **P 02 20 44.1 -0.3**
AAA Alma-Ata 55.47 337 *e*P **P 02 20 44.1 -0.3**
HATD Hatta, Dubai 55.59 307 P **P 02 20 44.6 -1.1**
PSTR Posyet 55.74 25*c i*P **P 02 20 46.0 -0.3**
JSD Sado 55.75 34 P **P 02 20 45.7 -0.8**
MSHR Mys Shultsa 55.83 25‖*e*P **P 02 20 46.5 -0.4**
MSFE Esma-Masafi 55.83 307 P P 02 20 41.7 -5.6
AAK Ala-Archa 55.97 335 P **P 02 20 48.5 +0.3**
comp=Z,3.9nm,0.5s,baz=209,slow=13,SNR=2.4
AAK LR LR 02 48 00.3
comp=Z,392nm,18.6s,baz=156,slow=40
comp=Z,3.9nm,0.5s
AAK Ala-Archa 55.97 335*c i*P **P 02 20 48.9 +0.7**
AAK pmax pmax
comp=Z,12nm,1.2s
NAZ Nazwa, Dubai 56.04 307 P **P 02 20 46.6 -2.3**
HNR Honiara 56.41 97 LR LR 02 48 17.5
comp=Z,132nm,18.9s,baz=292,slow=40
TDK Taldyqorghan 56.46 339 *e*P **P 02 20 51.1 -0.3**
TDK Taldyqorghan 56.46 339 *e*P **P 02 20 51.2 -0.3**
VLA Vladivostok 56.57 25*de*P **P 02 20 52.3 +0.1**
VLA pmax pmax
comp=Z,58nm,0.8s
ZSN Zaisan 56.72 345 *e*P **P 02 20 53.1 -0.2**
ZSN *e*S **S 02 28 46.0 +1.3**
ZSN pmax pmax
comp=Z,48nm,1.6s
ZSN Zaisan 56.72 345 *e*P **P 02 20 53.1 -0.2**
comp=Z,48nm,1.6s
ZSN *e*S **S 02 28 46.0 +1.3**
MK31 Makanchi Array 56.81 343*c i*P **P 02 20 53.8 -0.1**
MKAR Makanchi Array 56.81 343 P **P 02 20 54.1 +0.1**
MKAR Makanchi Array 56.81 343 P **P 02 20 53.9 0.0**
comp=Z,11nm,0.7s,baz=142,slow=6.7,SNR=28
MKAR LR LR 02 49 45.4
comp=Z,317nm,18.2s,baz=100,slow=41
comp=Z,11nm,0.7s
MKAR Makanchi Array 56.81 343 *i* P **P 02 20 54.0 +0.1**
MKAR pmax pmax
comp=Z,11nm,0.7s
MDJ Mudanjiang 56.90 22 P **P 02 20 54.6 0.0**
MDJ PcP **PcP 02 21 48.4 -1.5**
MDJ S **S 02 28 51.7 +4.6**
MDJ SS **SS 02 32 40.7 +4.8**
MDJ pmax pmax
comp=Z,28nm,1.2s
MDJ LR LR
comp=Z,970nm,15.5s
MDJ LR LR
comp=Z,2µm,13.1s
MDJ LR LR
comp=Z,2µm,13.1s
BNX BinXian 57.08 20 ⇑P **P 02 20 55.8 0.0**
BNX pmax pmax
comp=Z,190nm,1.0s
USA0B Ussuriysk Arra 57.50 24*c i*P **P 02 20 58.8 0.0**
USRK Ussuriysk Ar. 57.50 24 P **P 02 20 58.6 -0.2**
comp=Z,44nm,0.9s,baz=212,slow=5.5,SNR=41
comp=Z,44nm,0.9s
USRK Ussuriysk Ar. 57.50 24 P **P 02 20 58.7 -0.1**
DZA Taraz 57.55 333 *e*P **P 02 20 59.0 -0.3**
DZA Taraz 57.55 333 *e*P **P 02 20 59.0 -0.3**
IUG Iuzhnay 57.58 331 *e*P **P 02 20 59.2 -0.3**
IUG *e*S **S 02 28 57.6 +1.3**
IUG pmax pmax
comp=Z,55nm,1.4s
IUG Iuzhnay 57.58 331 *e*P **P 02 20 59.3 -0.3**
comp=Z,55nm,1.4s
IUG *e*S **S 02 28 57.7 +1.3**
CHM Chimkent 57.91 331 *e*P **P 02 21 01.5 -0.3**
CHM Chimkent 57.91 331 *e*P **P 02 21 01.5 -0.3**
KKAR Karatay Array 58.09 332 P **P 02 21 02.6 -0.4**
KKAR Karatay Array 58.09 332 P **P 02 21 02.6 -0.4**
BTLS Baital 58.13 336 *e*P **P 02 21 02.7 -0.5**
BTLS Baital 58.13 336 *e*P **P 02 21 02.8 -0.5**
BRLS Boroldoy 58.35 332 *e*P **P 02 21 03.6 -1.2**
BRLS Boroldoy 58.35 332 *e*P **P 02 21 03.7 -1.2**
H04N2 CROZET ISLANDS 58.51 219 T T 03 25 48.6
baz=64,slow=75,SNR=95
H04N1 CROZET ISLANDS 58.53 219 T T 03 25 42.1
baz=64,slow=75,SNR=126
H04N3 CROZET ISLANDS 58.53 219 T T 03 25 44.8
baz=64,slow=75,SNR=120
MOY Mondy 58.66 359 *e*P **P 02 21 08.0 +1.0**
MOY pmax pmax
comp=Z,95nm,2.0s
H04S1 CROZET ISLANDS 58.73 219 T T 03 25 55.7
baz=65,slow=75,SNR=13
H04S3 CROZET ISLANDS 58.75 219 T T 03 25 28.3
baz=65,slow=75,SNR=19
H04S2 CROZET ISLANDS 58.75 219 T T 03 25 52.4
baz=65,slow=75,SNR=16
CASY Casey 59.21 176 P **P 02 21 10.8 +0.4**
CASY IAmb IAmb 02 21 55.2
comp=Z,40nm,1.6s
IRK Irkutsk 59.23 1 *e*P **P 02 21 11.1 +0.4**
IRK pmax pmax
comp=Z,121nm,2.7s
KOUNC Koumac, New Ca 60.70 109 P **P 02 21 23.2 +1.7**
HEH HeiHe 61.04 18 *e*P **P 02 21 23.3 +0.1**
HEH pP **sP 02 21 31.6 +0.2**
HEH sP **pwP 02 21 36.2 +1.7**
HEH S **S 02 29 44.9 +4.3**
HEH pmax pmax
comp=Z,110nm,1.2s
HEH pmax pmax
comp=Z,350nm,4.7s
HEH LR LR
comp=Z,670nm,11.8s
HEH LR LR
comp=Z,890nm,13.6s
HEH LR LR
comp=Z,2µm,16.7s
ERM Erimo 61.22 33*ce*P **P 02 21 23.5 -1.0**
ERM pmax pmax
comp=Z,56nm,1.1s
KURBB Kurchatov Arra 61.35 343 P **P 02 21 25.2 0.0**
comp=Z,6.7nm,0.9s,baz=162,slow=6.1,SNR=16
KURBB LR LR 02 51 55.4
comp=Z,276nm,19.7s,baz=162,slow=40
comp=Z,6.7nm,0.9s
KURK Kurchatov 61.41 343 P **P 02 21 25.8 +0.1**
KURK IAmb IAmb 02 21 52.4
comp=Z,49nm,1.0s
KURK Kurchatov 61.41 343*c i*P **P 02 21 25.7 +0.1**
KURK pmax pmax
comp=Z,48nm,1.5s
BRZS Berezniki 62.74 339 *e*P **P 02 21 34.4 -0.2**
BRZS Berezniki 62.74 339 *e*P **P 02 21 34.5 -0.2**
DZM Mont Dzumac 62.80 111 *e*LR LR 02 40 13.4
comp=Z,355nm,25.1s
ZALV Zalesovo Beam 62.81 348 P **P 02 21 34.5 -0.5**
ZALV Zalesovo Beam 62.81 348 P **P 02 21 35.2 +0.2**
comp=Z,36nm,1.0s,baz=158,slow=4.8,SNR=36
ZALV PKP2bc 02 50 46.6
comp=Z,0.4nm,0.3s,baz=204,slow=3.3,SNR=3.7
ZALV LR LR 02 52 14.4
comp=Z,684nm,18.5s,baz=148,slow=39
comp=Z,36nm,1.0s
VLAKA Lakatoro 63.56 104 P **P 02 21 41.2 +0.4**
ZEA Zeya 64.09 16 *e*P **P 02 21 44.4 +0.9**
ZEA pmax pmax
comp=Z,200nm,2.3s
ZEA pmax pmax
comp=N,40nm,0.8s
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=Z,70nm,1.0s
YSS Yuzhno-Sakhali 64.45 29 P **P 02 21 44.9 -1.1**
YSS Yuzhno-Sakhali 64.45 29 P **P 02 21 46.2 +0.2**
YSS Yuzhno-Sakhali 64.45 29*ce*P **P 02 21 45.7 -0.3**
YSS *e**SP **sP 02 21 53.8 +0.1**
YSS *e*S **S 02 30 23.2 -0.3**
YSS *e*SS **SS 02 34 38.8 +4.6**
YSS pmax pmax
comp=Z,90nm,1.2s
YSS pmax pmax
comp=Z,2µm,4.0s
GRNR Gornyy 64.58 23⇑*i*P **P 02 21 47.2 +0.4**
GRNR pmax pmax
comp=Z,50nm,1.2s
KIBK Kibwezi 64.80 271 P **P 02 21 50.4 +1.3**
BOD Bodaibo 65.43 6 *e*P **P 02 21 51.9 -0.2**
BOD pmax pmax
comp=Z,95nm,1.2s
KMBO Kilima Mbogo 65.74 272 P **P 02 21 55.1 -0.2**
comp=Z,2.0nm,0.7s,baz=119,slow=4.8,SNR=5.1
KMBO LR LR 02 44 07.6
comp=Z,220nm,21.2s,baz=102,slow=30
comp=Z,2.0nm,0.7s
KUR Kuril'sk 65.91 33‖*e*P **P 02 21 53.9 -1.6**
MAW Mawson 66.04 196 P **P 02 21 57.3 +1.4**
comp=Z,6.6nm,1.1s
MAW Mawson 66.04 196 P **P 02 21 56.7 +0.7**
comp=Z,23nm,0.9s,baz=32,slow=7.1,SNR=27
MAW LR LR 02 44 29.3
comp=Z,466nm,21.1s,baz=48,slow=30
MAW PKP2bc 02 50 32.5
comp=Z,3.3nm,0.9s,baz=209,slow=4.1,SNR=4.1
comp=Z,23nm,0.9s
BVAR Borovoye Array 66.05 339 P **P 02 21 56.1 -0.2**
comp=Z,9.4nm,0.7s,baz=143,slow=8.4,SNR=24
BVAR PKP2bc 02 50 36.9
comp=Z,2.1nm,1.1s,baz=45,slow=2.3,SNR=4.2
BVAR LR LR 02 56 05.4
comp=Z,343nm,18.7s,baz=138,slow=41
comp=Z,9.4nm,0.7s
BRVK Borovoye 66.12 339 P **P 02 21 56.6 -0.1**
BRVK IAmb IAmb 02 22 11.2
comp=Z,19nm,1.0s
BRVK Borovoye 66.12 339*c i*P **P 02 21 56.5 -0.1**
BRVK pmax pmax
comp=Z,16nm,1.0s
TYV Tymovskoe 67.22 26 *e*P **P 02 22 04.6 +0.9**
TYV pmax pmax
comp=Z,200nm,4.0s
TYV pmax pmax
comp=Z,25nm,1.4s
AB31 Akbulak array 67.58 331 IAmb IAmb 02 22 29.4
comp=Z,33nm,0.9s
ABKAR Akbulak array 67.58 331 P **P 02 22 06.3 +0.2**
AKTO Aktyubinsk 69.30 331 P **P 02 22 16.6 -0.3**
comp=Z,7.8nm,0.9s,baz=127,slow=4.6,SNR=10
comp=Z,7.8nm,0.9s
AKT Akhty 69.93 319 *e*P **P 02 22 21.8 +0.8**
AKT pmax pmax
comp=Z,41nm,1.4s
MAK Makhachkala 70.81 320 *e*P P 02 22 20.8 -5.4
MAK *e*PPP PPP 02 26 41.3
MAK *e*S **S 02 31 32.9 -7.1**
MAK *e*SSS SSS 02 39 21.2
MAK pmax pmax
comp=Z,213nm,1.2s
YAK Yakutsk 72.07 13 P **P 02 22 32.9 -0.5**
YAK Yakutsk 72.07 13 LR LR 02 59 25.1
comp=Z,518nm,18.6s,baz=208,slow=40
YAK Yakutsk 72.07 13*c i*P **P 02 22 33.0 -0.5**
YAK *e**PP **pP 02 22 39.8 +0.4**
YAK *e* 02 22 52.2
YAK *e* 02 25 11.3
YAK *e*S **S 02 31 52.4 -1.4**
YAK *e* 02 32 37.9
YAK *e*SS **SS 02 36 28.1 -3.3**
YAK *e*SSS SSS 02 39 47.7
YAK pmax pmax
comp=Z,143nm,0.8s
YAK pmax pmax
comp=N,93nm,1.6s
YAK pmax pmax
comp=E,73nm,1.5s
YAK pmax pmax
comp=Z,124nm,2.7s
YAK pmax pmax
comp=N,78nm,3.3s
YAK pmax pmax
comp=E,96nm,4.0s
YAK smax smax
comp=E,63nm,3.3s
YAK smax smax
comp=N,186nm,3.3s
SVE Sverdlovsk 72.58 337 *e*P **P 02 22 37.2 +0.6**
SVE pmax pmax
comp=Z,49nm,1.1s
BKZ Black Stump Fm 72.74 129 P **P 02 22 38.9 +0.8**
BKZ IAmb IAmb 02 22 54.6
comp=Z,89nm,1.5s
BKZ Black Stump Fm 72.74 129 P **P 02 22 39.1 +1.0**
MARD Mardin 72.89 312 P **P 02 22 39.3 +0.2**
MARD IAmb IAmb 02 22 55.2
comp=Z,53nm,1.3s
MATP Matopo 72.97 251 LR LR 02 47 39.3
comp=Z,71nm,20.8s,baz=72,slow=30
RTZ Ruatahuna 73.07 128 P **P 02 22 41.6 +1.5**
RTZ IAmb IAmb 02 22 55.6
comp=Z,39nm,0.9s
URZ Urewera 73.15 128 LR LR 02 57 16.1
comp=Z,251nm,18.9s,baz=282,slow=38
ARTI Arti 73.16 336 P **P 02 22 40.5 +0.4**
ARTI IAmb IAmb 02 22 49.0
comp=Z,33nm,0.5s
ARTI Arti 73.16 336 P **P 02 22 40.3 +0.3**
comp=Z,18nm,0.8s,baz=153,slow=3.6,SNR=17
ARTI LR LR 02 58 10.6
comp=Z,249nm,20.0s,baz=128,slow=39
comp=Z,18nm,0.8s
ARTI Arti 73.16 336*c i*P **P 02 22 40.4 +0.4**
ARTI 02 22 56.0
ARTI 02 25 20.3
ARTI S **SKiKP 02 32 10.9 -0.1**
ARTI 02 32 44.2
ARTI SS **SS 02 36 52.8 +4.4**
ARTI pmax pmax
comp=Z,27nm,0.9s
LSZ Lusaka 73.47 256 P **P 02 22 44.2 +1.3**
LSZ Lusaka 73.47 256 LR LR 02 50 27.8
comp=Z,289nm,20.5s,baz=111,slow=32
LSZ Lusaka 73.47 256 P **P 02 22 44.2 +1.3**
LSZ pmax pmax
comp=Z,15nm,1.2s
NCK Nalchik 73.58 319‖*e*P **P 02 22 44.0 +1.2**
NCK pmax pmax
comp=Z,17nm,1.1s
MSVF Nonsavu 73.70 106⇑*e*P **P 02 22 43.5 -0.7**
MSVF pmax pmax
comp=Z,45nm,1.8s
MREMI Moremi 73.90 249 P **P 02 22 45.1 -0.2**
SYO Syowa Base 73.94 200‖*i*pP pP 02 22 48.6 -1.2
ASF Jabal al Asfar 74.00 306 LR LR 02 57 34.2
comp=Z,285nm,18.1s,baz=147,slow=38
BROLN Tlhalogang 74.04 250 *i* P **P 02 22 47.3 +1.1**
KBZ Khabaz 74.14 319 P **P 02 22 46.5 +0.4**
comp=Z,8.7nm,0.9s,baz=125,slow=7.6,SNR=6.8
comp=Z,8.7nm,0.9s
KBZ Khabaz 74.14 319*c i*P **P 02 22 46.6 +0.6**
KBZ pmax pmax
comp=Z,16nm,1.1s
SHA1 Shidzhatmaz 74.30 319‖*i*P **P 02 22 48.1 +0.8**
KIV Kislovodsk 74.37 319 *e*P **P 02 22 47.7 +0.1**
KIV *e*S **S 02 32 20.7 -0.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
GOF Gofitskoye 74.64 321*ce*P P 02 22 58.2 +9.2
GHAJ Ghor Haditha 74.79 305 P **P 02 22 51.5 +1.4**
GHAJ IAmb IAmb 02 23 06.9
comp=Z,44nm,1.2s
EIL Elat 74.79 303 LR LR 02 56 58.5
comp=Z,153nm,18.1s,baz=116,slow=37
BALJ Balqa 74.98 306 IAmb IAmb 02 22 53.9
comp=Z,46nm,1.5s
LPHEP Lephephe 75.34 248 *i* P **P 02 22 55.1 +1.5**
MMAI Mount Meron Ar 75.46 307 P **P 02 22 55.1 +1.0**
comp=Z,7.3nm,0.8s,baz=96,slow=6.8,SNR=9.8
MMAI LR LR 02 58 22.0
comp=Z,240nm,18.4s,baz=102,slow=38
comp=Z,7.3nm,0.8s
GAZ Gaziantep 75.47 311 IAmb IAmb 02 23 10.4
comp=Z,24nm,1.0s
LBTB Lobatse 75.54 246 LR LR 02 48 29.7
comp=Z,179nm,20.8s,baz=85,slow=30
BELG Belogornoye 75.67 329*c i*P **P 02 22 54.3 -0.4**
BELG pmax pmax
comp=Z,8.0nm,1.3s
PEA0B Petropavlovsk- 75.78 31*c i*P **P 02 22 55.1 -0.2**
PETK Petropavlovsk- 75.78 31 P **P 02 22 54.2 -1.1**
PETK Petropavlovsk- 75.78 31 P **P 02 22 54.8 -0.6**
comp=Z,13nm,0.9s,baz=258,slow=2.9,SNR=8.4
comp=Z,13nm,0.9s
BOSA Boshof 75.79 242 P **P 02 22 56.8 +0.7**
comp=Z,2.3nm,0.8s,baz=52,slow=9.9,SNR=3.8
BOSA LR LR 02 49 17.4
comp=Z,171nm,19.6s,baz=40,slow=30
comp=Z,2.3nm,0.8s
SOC Sochi 76.16 318 *e*P P 02 22 45.7 -12
SOC *e* 02 25 51.2
SOC *e*SS SS 02 37 29.9 -4.5
SOC *e*SSS SSS 02 40 53.5
SOC MLR MLR
comp=Z,107nm,17.0s
PET Petropavlovsk 76.21 31 P **P 02 22 56.9 -0.8**
PET Petropavlovsk 76.21 31 P **P 02 22 57.8 0.0**
PET Petropavlovsk 76.21 31 *e*P **P 02 22 57.4 -0.4**
PET *e*S **S 02 32 40.8 +0.1**
PET pmax pmax
comp=Z,74nm,1.2s
PET pmax pmax
comp=Z,200nm,9.4s
PET MLR MLR
comp=Z,200nm,17.0s
PET Petropavlovsk 76.21 31 P **P 02 22 57.0 -0.8**
comp=Z,60nm,1.2s
VNDA Vanda 76.52 169 P **P 02 23 00.1 +0.9**
comp=Z,9.6nm,0.8s,baz=291,slow=5.6,SNR=29
VNDA LR LR 02 51 21.6
comp=Z,139nm,21.1s,baz=314,slow=32
comp=Z,9.6nm,0.8s
ERBR Yeremizino-Bor 76.55 320 *e*P **P 02 22 57.0 -2.9**
ERBR *e* 02 25 50.2
ERBR *e*S **S 02 32 46.0 +1.2**
ERBR *e*SS **SS 02 37 41.3 +1.0**
ERBR pmax pmax
comp=Z,28nm,1.7s
MA2 Magadan 76.60 23 P **P 02 23 00.5 +0.6**
MA2 Magadan 76.60 23 P **P 02 23 00.1 +0.3**
comp=Z,44nm,1.1s,baz=221,slow=4.7,SNR=17
comp=Z,44nm,1.1s
MA2 Magadan 76.60 23 P **P 02 23 01.2 +1.3**
MA2 Magadan 76.60 23*c i*P **P 02 23 00.3 +0.4**
MA2 Magadan 76.60 23 P **P 02 23 00.3 +0.4**
comp=Z,1µmcomp=Z,88nm,1.3s
SBA Scott Base 77.61 169 P **P 02 23 07.2 +1.8**
SBA IAmb IAmb 02 23 30.1
comp=Z,41nm,1.4s
SBA Scott Base 77.61 169 P **P 02 23 07.2 +1.8**
SBA pmax pmax
comp=Z,41nm,1.5s
CSS Mathiatis 77.71 308 P **P 02 23 07.7 +1.0**
CSS IAmb IAmb 02 23 11.5
comp=Z,36nm,1.0s
CSS Mathiatis 77.71 308 P **P 02 23 07.2 +0.5**
comp=Z,40nm,1.1s
ANN Anapa 78.15 319 *e*P **P 02 23 06.6 -2.2**
ANN *e*S **S 02 33 01.6 -0.5**
ANN pmax pmax
comp=Z,28nm,0.9s
ANN MLR MLR
comp=Z,167nm,15.0s
VRH Novokhopyorsk 78.25 326 *e*P **P 02 23 07.5 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 78.30 335*c i*P **P 02 23 10.2 +0.9**
BR104 Keskin Array S 78.97 313 P **P 02 23 13.9 +0.2**
comp=Z,82nmcomp=Z,8.0nm,0.8s
BR131 Keskin Array S 78.98 313 IAmb IAmb 02 23 42.7
comp=Z,42nm,1.8s
BR131 Keskin Array S 78.98 313*c i*P **P 02 23 13.4 -0.4**
BRTR Keskin Array B 78.98 313 P **P 02 23 13.5 -0.2**
BRTR Keskin Array B 78.98 313 P **P 02 23 13.8 0.0**
comp=Z,4.4nm,0.9s,baz=137,slow=7.3,SNR=13
BRTR LR LR 03 00 46.4
comp=Z,140nm,18.1s,baz=124,slow=38
comp=Z,4.4nm,0.9s
BR105 Keskin Array S 78.99 313 P **P 02 23 13.7 -0.2**
comp=Z,80nmcomp=Z,9.7nm,1.8s
SEY Seymchan 79.38 21 P **P 02 23 15.9 +0.7**
comp=Z,8.3nm,0.9s,baz=232,slow=6.2,SNR=13
comp=Z,8.3nm,0.9s
SEY Seymchan 79.38 21 *e*P **P 02 23 14.4 -0.8**
SEY pmax pmax
comp=Z,63nm,1.7s
VSR Storozhevoye 79.69 325 *e*P **P 02 23 15.6 -1.6**
VSR pmax pmax
comp=Z,8.0nm,1.0s
GRTLG Ghanzi 79.73 250 *i* P **P 02 23 19.3 +1.0**
SIM Simferopol' 80.40 318 *e*P **P 02 23 21.6 +0.4**
SIM *e*S **S 02 33 25.1 -1.0**
SIM pmax pmax
comp=Z,16nm,1.1s
LPSR Galich'ya Gora 80.42 326 *e*P **P 02 23 20.1 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 80.53 8 P **P 02 23 20.4 -0.9**
TIXI IAmb IAmb 02 23 30.4
comp=Z,40nm,0.9s
TIXI Tiksi 80.53 8 LR LR 03 03 47.3
comp=Z,729nm,19.3s,baz=236,slow=39
TIXI Tiksi 80.53 8*ce*P **P 02 23 20.6 -0.7**
TIXI pmax pmax
comp=Z,52nm,1.2s
MDUB Mudurnu 80.99 313 IAmb IAmb 02 23 26.4
comp=Z,38nm,1.0s
YLV Yalova 82.35 313 P **P 02 23 32.1 +0.4**
comp=Z,652nmcomp=Z,39nm,1.2s
MOS Moscow 82.44 329 *e*P **P 02 23 31.5 -0.2**
MOS *e* 02 26 39.5
MOS *e*S **S 02 33 46.6 -0.1**
MOS *e*SSS SSS 02 42 39.0
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,66nm,1.1s
KARP Karpathos 82.72 307 P **P 02 23 34.4 +0.7**
comp=Z,102nm,1.0s
OBN Obninsk 82.73 328 P **P 02 23 33.0 -0.2**
OBN Obninsk 82.73 328 ‖P **P 02 23 34.4 +1.2**
OBN Obninsk 82.73 328*ce*P **P 02 23 33.9 +0.7**
OBN *e* 02 26 42.7
OBN *e*PPP PPP 02 28 38.5
OBN *e*S **S 02 33 45.8 -3.9**
OBN pmax pmax
comp=Z,95nm,1.3s
OBN Obninsk 82.73 328 P **P 02 23 33.6 +0.4**
comp=Z,62nm,1.3s
QSPA South Pole Qui 82.79 180 P **P 02 23 35.5 +1.9**
QSPA IAmb IAmb 02 23 51.1
comp=Z,46nm,1.1s
QSPA South Pole Qui 82.79 180 P **P 02 23 35.3 +1.7**
comp=Z,21nm,0.9s,baz=302,slow=2.1,SNR=36
QSPA LR LR 02 56 17.7
comp=Z,181nm,18.3s,baz=320,slow=33
comp=Z,21nm,0.9s
TSUM Tsumeb 83.30 252 P **P 02 23 36.8 -0.4**
TSUM Tsumeb 83.30 252 LR LR 02 55 11.6
comp=Z,236nm,20.7s,baz=140,slow=32
PURM Purcari 83.72 318 P **P 02 23 38.7 +0.2**
comp=Z,26nm,1.1s
KLMR Klimovskoe 83.76 334 *e*P **P 02 23 36.7 -1.7**
KLMR *e* 02 26 49.8
KLMR pmax pmax
comp=Z,59nm,1.3s
TIRR Tirgusor 84.11 316 P **P 02 23 40.8 +0.2**
comp=Z,9.1nm,0.8s
SORM Soroca 85.17 320 P **P 02 23 45.9 0.0**
comp=Z,18nm,1.0s
AK08 Malin Array Si 85.33 322 P **P 02 23 46.6 0.0**

AKASG Malin Array Be 85.37 322 P **P 02 23 46.9 +0.1**
comp=Z,3.1nm,1.0s,baz=90,slow=4.5,SNR=6.7
comp=Z,3.1nm,1.0s
AKBB Malin Array Si 85.37 322⇑ *e*P **P 02 23 45.6 -1.2**
AKBB pmax pmax
comp=Z,10.0nm,1.5s
AK01 Malin Array Si 85.37 322 P **P 02 23 47.4 +0.6**
AK03 Malin Array Si 85.38 322 P **P 02 23 47.0 +0.2**
ODBI Odobesti 85.39 317 P **P 02 23 47.3 +0.3**
comp=Z,5.4nm,1.0s
AK12 Malin Array Si 85.39 322 P **P 02 23 47.2 +0.3**
AK11 Malin Array Si 85.39 322 P **P 02 23 47.2 +0.3**
VRI Vrincioaia 85.63 317 P **P 02 23 48.7 +0.4**
comp=Z,18nm,0.9s
LUBAR Lubar, Ukraine 86.05 321 P **P 02 23 50.1 -0.1**
MLR Muntele Rosu 86.07 317 IAmb IAmb 02 24 07.1
comp=Z,55nm,1.4s
MLR Muntele Rosu 86.07 317 P **P 02 23 50.4 -0.2**
comp=Z,28nm,1.6s
TROLL Troll, Antarti 86.40 198 ⇑P **P 02 23 54.2 +2.4**
comp=Z,352nm,1.0s
KMPD K-Podol'skiy 86.50 320 P **P 02 23 52.4 -0.1**
BURAR Bucovina Array 87.08 319 P **P 02 23 56.2 +0.7**
BURAR Bucovina Array 87.08 319 P **P 02 23 56.2 +0.7**
MNK Minsk 87.25 326 *i* P **P 02 23 54.6 -1.4**
MNK *i* 02 27 18.6
MNK *i* PPP PPP 02 29 13.4
MNK *i* S **SKSac 02 34 21.6 -0.4**
MNK *i* SS **SS 02 40 21.0 +2.0**
MNK *i* SSS SSS 02 43 54.1
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK MLR MLR
comp=Z,117nm,17.0s
MNK MLR MLR
comp=E,133nm,16.0s
MNK MLR MLR
comp=N,58nm,15.0s
RNPP5 Staryi Chortor 87.54 322 P **P 02 23 57.5 0.0**
PUL Pulkovo 87.56 331⇑ *e*P **P 02 23 58.0 +0.7**
PUL pmax pmax
comp=Z,72nm,0.4s
RNPP9 Sopachiv 87.58 322 P **P 02 23 57.9 +0.2**
STNU Starunia 87.80 320 P **P 02 23 59.0 +0.2**
SNAA Sanae 88.12 198 ⇑P **P 02 24 02.3 +2.3**
comp=Z,285nm,0.9s
SNAA Sanae 88.12 198 P **P 02 24 01.5 +1.5**
SNAA IAmb IAmb 02 24 05.9
comp=Z,38nm,1.2s
SNAA Sanae 88.12 198 P **P 02 24 01.8 +1.7**
comp=Z,15nm,1.0s,baz=113,slow=6.3,SNR=21
SNAA LR LR 02 57 37.0
comp=Z,174nm,19.8s,baz=86,slow=32
comp=Z,15nm,1.0s
SNAA Sanae 88.12 198 *d i* P **P 02 24 01.7 +1.7**
SNAA pmax pmax
comp=Z,39nm,1.3s
MORS Morshin 88.29 320 P **P 02 24 01.3 +0.2**
MEZ Mezhgor'ye 88.39 319 P **P 02 24 02.0 +0.4**
LVZ Lovozero 88.65 339⇑ *e*P **P 02 24 02.3 -0.1**
LVZ pmax pmax
comp=Z,19nm,0.8s
LVZ Lovozero 88.65 339 P **P 02 24 02.8 +0.4**
BRIU Brid 88.68 319 P **P 02 24 03.4 +0.5**
VSU Vasula 88.95 329 *de*P **P 02 24 02.0 -1.9**
VSU pmax pmax
comp=Z,32nm,1.3s
KWP Kalwaria Pacla 89.15 320 *e*P **P 02 24 06.6 +1.4**
KWP *e*PP **PP 02 27 33.6 -2.1**
KOLS Kolonicke sedl 89.29 319 *e*P **P 02 24 08.0 +2.2**
KOLS pmax pmax
comp=Z,29nm,1.1s
KOLS Kolonicke sedl 89.29 319 *e*P **P 02 24 08.0 +2.2**
SUW Suwalki 89.80 324 *e*P **P 02 24 08.4 +0.3**
STHS Stebnicka Huta 90.04 320 *e*P **P 02 24 10.6 +1.2**
STHS Stebnicka Huta 90.04 320 *e*P **P 02 24 10.6 +1.2**
FINES FINESS Array B 90.05 332 P **P 02 24 09.3 +0.2**
comp=Z,3.9nm,0.7s,baz=115,slow=7.2,SNR=7.0
comp=Z,3.9nm,0.7s
VNA1 Neumayer--Stat 90.12 198 ⇑P **P 02 24 11.5 +2.2**
comp=Z,18nm,1.0s
PDG Podgorica 90.17 313 IAmb IAmb 02 24 26.0
comp=Z,37nm,1.2s
VNA3 Neumayer Olymp 90.31 197 ⇑P **P 02 24 12.5 +2.2**
comp=Z,3.9nm,0.8s
NIE Niedzica 90.65 320 *e*P **P 02 24 13.3 +1.1**
NIE *e*PP **PP 02 27 47.1 -0.5**
BEL Belsk 90.78 322 *e*P **P 02 24 13.7 +1.0**
OJC Ojcow 91.11 320 *e*P **P 02 24 15.2 +0.9**
OJC *e*PP **PP 02 27 53.0 +1.8**
SRO Srobarova 91.68 318 *e*P **P 02 24 19.9 +2.9**
SRO Srobarova 91.68 318 *e*P **P 02 24 19.9 +2.9**
BELA Belgrano 2 91.89 188 P **P 02 24 19.0 +1.6**
BELA IAmb IAmb 02 24 22.4
comp=Z,22nm,1.1s
ARCES ARCESS Array B 92.33 340 P **P 02 24 20.0 +0.5**
comp=Z,6.7nm,0.9s,baz=97,slow=6.2,SNR=7.0
comp=Z,6.7nm,0.9s
SMOL Smolenice 92.37 318 *e*P **P 02 24 22.7 +2.5**
MODS Modra-Piesok 92.45 318 *e*P **P 02 24 19.1 -1.5**
MODS Modra-Piesok 92.45 318 *e*P **P 02 24 19.1 -1.5**
KSP Ksiaz 93.41 321 *e*P **P 02 24 26.4 +1.5**
KSP *e*PP **PP 02 28 11.4 +2.1**
RAR Rarotonga 94.17 112 LR LR 03 07 07.8
comp=Z,32nm,19.9s,baz=262,slow=36
GERES GERESS Array B 94.86 318 P **P 02 24 31.6 -0.2**
comp=Z,1.2nm,1.0s,baz=180,slow=4.0,SNR=1.7
comp=Z,1.2nm,1.0s
BRG Berggiesshubel 94.90 321 P **P 02 24 28.1 -3.6**
BRG Amp 02 24 29.5
comp=Z,5.7nm,1.1s
BRG Berggiesshubel 94.90 321 P **P 02 24 35.1 +3.4**
BRG Amp 02 24 37.0
comp=Z,7.9nm,1.3s
CLL Collm 95.53 321 *e*P **P 02 24 38.0 +3.4**
CLL *e*S **S 02 35 45.0 -5.0**
CLL Collm 95.53 321 *e*Px Px 02 24 38.0
CLL *e*PP **PP 02 28 28.0 +2.3**
CLL *e*S **S 02 35 45.0 -5.0**
CLL *e*PPS PPS 02 37 52.0
CLL Lm MLR 03 16 00.0
comp=Z,200nm,19.1s
HFS Hagfors 95.81 330 P **P 02 24 35.3 -0.4**
comp=Z,4.4nm,1.0s,baz=50,slow=9.5,SNR=2.3
comp=Z,4.4nm,1.0s
SPITS Spitsbergen Ar 96.30 348 P **P 02 24 37.4 -0.2**
comp=Z,15nm,1.1s,baz=40,slow=2.5,SNR=2.7
SPITS LR LR 03 14 44.5
comp=Z,189nm,18.2s,baz=74,slow=40
comp=Z,15nm,1.1s
KEST Kesra 97.07 305 LR LR 03 11 04.8
comp=Z,156nm,18.1s,baz=323,slow=37
NOA NORSAR Array B 97.09 331 PP **PP 02 28 37.1 -0.4**
comp=Z,1.7nm,0.9s,baz=90,slow=7.4,SNR=4.1
NOA LR LR 03 12 36.3
comp=Z,146nm,18.9s,baz=75,slow=38
K13K Kusilvak Mount 97.44 28 IAmb IAmb 02 24 45.1
comp=Z,18nm,1.5s
G16K Koyuk River 98.47 25 IAmb IAmb 02 24 57.9
comp=Z,11nm,1.1s
TBI Tubuai 103.10 116 *e*S **Sdif 02 36 41.5 -14**
comp=Z,440nm,38.0s
TBI Tubuai 103.10 116 *e*LR LR 02 58 56.7
comp=Z,426nm,28.0s
PPT2 Papeete2 104.30 110 *e*S **Sdif 02 37 03.4 -2.2**
comp=Z,92nm,23.0s
PPT2 Papeete2 104.30 110 *e*LR LR 02 59 18.6
comp=Z,122nm,26.0s
PPT2 *e*LR LR 02 59 25.6
comp=Z,142nm,33.2s
ESDC Sonseca Array 107.57 309 PP **PP 02 29 57.2 +0.3**
comp=Z,1.3nm,0.9s,baz=83,slow=6.6,SNR=6.6
ESDC PKKP **PKKPdf 02 41 07.0 +0.9**
comp=Z,1.6nm,1.1s,baz=269,slow=5.9,SNR=4.8
TAOE Nuku Hiva Isla 115.14 103 *e*LR LR 03 04 22.9
comp=Z,75nm,24.0s
RKT Rikitea 115.89 120 *e*LR LR 03 04 42.9
comp=Z,18μm,35.2s
YKA Yellowknife Ar 118.40 19 PKP **PKPdf 02 29 56.3 -0.4**
comp=Z,0.9nm,1.0s,baz=336,slow=3.3,SNR=4.2
YKA PP **PP 02 31 09.8 -3.1**
comp=Z,0.6nm,0.9s,baz=313,slow=7.9,SNR=4.2

BUCK Buck Mountain 125.66 39 **PKiKP 02 30 13.4 +1.6**
L04D Klamath Falls 127.04 41 **PKiKP 02 30 14.8 +0.1**
NVAR Mina Array Bea 131.54 44 PKP **PKiKP 02 30 23.9 0.0**
comp=Z,0.7nm,0.7s,baz=285,slow=0.6,SNR=5.3
NVAR PP **PP 02 32 43.7 +1.8**
comp=Z,0.1nm,0.3s,baz=305,slow=5.7,SNR=1.9
NVAR SKPbc **SKPab 02 33 48.2 +0.5**
comp=Z,6.9nm,1.1s,baz=270,slow=4.2,SNR=14
PLCA Paso Flores 131.92 187 PP **PP 02 32 42.4 -0.5**
comp=Z,2.0nm,1.0s,baz=238,slow=5.9,SNR=3.2
PDAR Pinedale Array 134.47 34 PKP **PKiKP 02 30 29.4 -0.4**
comp=Z,0.9nm,0.8s,baz=122,slow=2.3,SNR=6.9
PDAR PP **PP 02 32 55.7 -4.5**
comp=Z,1.0nm,0.9s,baz=317,slow=7.8,SNR=4.6
CPUP Villa Florida 141.55 209 PKP **PKPdf 02 30 41.6 0.0**
comp=Z,0.5nm,1.1s,baz=207,slow=6.8,SNR=3.0
BDFB Brasilia 143.35 232 PKP **PKPdf 02 30 44.7 -0.5**
comp=Z,1.0nm,0.4s,baz=118,slow=4.0,SNR=3.3
K57A Scipio Center 144.62 359 PKPbc 02 30 45.2 0.0
L61B Northampton 144.69 354 **PKPab 02 30 45.0 -0.3**
T35A Sooner Cattle 145.52 28 **PKPab 02 30 49.6 +1.1**
TXAR Lajitas Array 146.66 45 PKPbc **PKPbc 02 30 51.5 -0.6**
comp=Z,19nm,0.9s,baz=182,slow=2.4,SNR=126
U38A Gravette 146.88 26 **PKPbc 02 30 51.6 -0.8**
MVL Millersville 147.34 359 **PKPbc 02 30 53.8 +0.2**
PLPT Palo Pinto 147.77 35 **PKiKP 02 30 56.2 -0.8**
LPAZ La Paz 155.04 201 PKP **PKPdf 02 31 04.7 +0.3**
comp=Z,2.4nm,1.1s,baz=148,slow=6.4,SNR=3.6
LPAZ PKPab **PKPab 02 31 28.2 -0.3**
comp=Z,3.2nm,1.0s,baz=109,slow=5.0,SNR=5.0

IDC ***11*** *02:13:23.6±0.5,30.34N×94.89E,h0km,mb4.5/27, mbtmp4.5/31,ML4.3/4,Error ellipse: s-maj=15.7km s-min=11.5km az=45.0*
BJI ***11*** *02:13:24.4,30.36N×94.85E,h8km,mB4.8/5,mb4.7/42, ML4.3/11,Ms4.3/18,Ms7 4.0/19*
MOS ***11*** *02:13:25.1±1.0,30.36N×94.89E,h18km,mb5.1/57,Error ellipse: s-maj=7.6km s-min=3.8km az=125.1*
NEIC ***11*** *02:13:26.3±2.2,30.35N±0.07×94.87E±0.09,h10km±1km, mb5.0/239,Error ellipse: s-maj=12.9km s-min=11.4km az=89.0*
NDI ***11*** *02:13:31.3±2.5,30.20N×94.56E,h16km±19km,ML4.7, MW4.7,mb5.0(NEIC)*
BGR ***11*** *02:13:32.9,30.34N×94.33E,h33km,mb5.1,Ms4.2*
ISC 11 02:13:25.6±0.3,30.27N±0.03×94.80E±0.04,h10km,n792,
σ1§15/719,mb5.0/228,MS3.6/6,65C-25D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**2.86**	**197**	*e*P		**Pb**		**02 14 16.8**	**0.0**
LSA	**Lhasa**	**3.22**	**261**			**Pn**		**02 14 20.8**	**+4.1**
LSA	**Lhasa**	**3.22**	**261**	Pn		**Pn**		**02 14 20.1**	**+3.4**
LSA				Sn		**Sb**		**02 15 03.7**	**+1.1**
LSA				LR		LR			
	comp=N,3μm,4.5s								
LSA				LR		LR			
	comp=Z,3μm,5.2s								
LSA	**Lhasa**	**3.22**	**261**	P		**Pn**		**02 14 20.8**	**+4.1**
TEZP	**TEZPUR**	**4.05**	**206**	*e*P		**Pn**		**02 14 30.9**	**+3.3**
TEZP				*e*S		**Sn**		**02 15 14.1**	**-0.9**
TEZP				IAML				02 15 16.5	
	comp=E,3μm,0.7s								
KOHI	**KOHIMA**	**4.58**	**188**	*e*P		**Pn**		**02 14 37.5**	**+2.5**
KOHI				*e*S		**Sn**		**02 15 26.4**	**-1.9**
KOHI				IAML				02 15 30.1	
	comp=N,3μm,0.9s								
GUWA	**GUWAHATI**	**4.90**	**215**	*e*P		**Pn**		**02 14 41.8**	**+2.5**
GUWA				*e*S		**Sn**		**02 15 34.4**	**-1.8**
GUWA				IAML				02 15 35.6	
	comp=N,1μm,0.4s								
GUWA				IAML				02 15 36.0	
	comp=E,1μm,0.5s								
SHL	**Shillong**	**5.35**	**210**			**Pn**		**02 14 47.7**	**+2.0**
SHL	**Shillong**	**5.35**	**210**	*e*P		**Pn**		**02 14 48.1**	**+2.3**
SHL				*e*S		**Sn**		**02 15 43.0**	**-4.5**
SHL				IAML				02 15 45.7	
	comp=N,1μm,0.1s								
SHL				IAML				02 15 45.9	
	comp=E,1μm,0.5s								
SHL	**Shillong**	**5.35**	**210**	P		**Pn**		**02 14 47.7**	**+2.0**
IMP	**Imphal**	**5.47**	**188**	*e*P		**Pn**		**02 14 50.0**	**+2.6**
IMP				*e*S		**Sn**		**02 15 50.1**	**-0.3**
IMP				IAML				02 15 50.9	
	comp=N,1μm,0.2s								
IMP				IAML				02 15 50.9	
	comp=E,1μm,0.2s								
GOMU	**GeErMu**	**5.91**	**0**	Pn		**Pn**		**02 14 54.1**	**+0.5**
GOMU				Sn		**Sn**		**02 16 04.3**	**+2.7**
GOMU				LR		LR			
	comp=E,1μm,8.1s								
GOMU				LR		LR			
	comp=E,660nm,8.1s								
GOMU				LR		LR			
	comp=E,710nm,8.4s								
TNCH	**TengChong**	**6.17**	**147**	Pn		**Pn**		**02 14 59.8**	**+2.7**
TNCH				Sg		**Sg**		**02 16 44.8**	**+0.9**
TNCH				smax		smax			
	comp=E,410nm,1.6s								
TNCH				smax		smax			
	comp=E,480nm,1.6s								
TNCH				LR		LR			
	comp=E,740nm,4.5s								
GTK	**Tadong**	**6.18**	**243**	*e*P		**Pn**		**02 14 58.0**	**+0.9**
GTK				*e*S		Sn		02 16 01.0	-7.0
GTK				IAML				02 16 01.8	
	comp=N,1μm,0.2s								
GTK				IAML				02 16 01.8	
	comp=E,2μm,0.2s								
AZL	**Aizawl**	**6.77**	**197**	*e*P		**Pn**		**02 15 07.3**	**+2.1**
AZL				*e*S		**Sn**		**02 16 18.9**	**-3.6**
AZL				IAML				02 16 22.2	
	comp=N,1μm,0.5s								
PZH	**PanZhiHua**	**7.17**	**120**	Pn		**Pn**		**02 15 13.6**	**+2.9**
PZH				Sn		Sn		02 16 42.1	+10
PZH				Sg		**Sg**		**02 17 09.1**	**-6.8**
PZH				smax		smax			
	comp=N,110nm,1.7s								
PZH				smax		smax			
	comp=N,80nm,1.8s								
EVN	**Everest**	**7.36**	**254**			**Pn**		**02 15 16.1**	**+2.4**
BRDH	**Bariadhala**	**8.07**	**201**	Pn		**Pn**		**02 15 24.2**	**+1.2**
	comp=N,15nm,0.3s,baz=61,slow=11,SNR=8.7								
BRDH				Sn		**Sn**		**02 16 57.0**	**+2.6**
	comp=N,12nm,0.3s,baz=66,slow=20,SNR=1.7								
	comp=N,59nm,0.5s								
KMI	**Kunming**	**8.70**	**124**	P		**Pn**		**02 15 34.3**	**+2.5**
KMI				smax		smax			
	comp=N,110nm,1.5s								
KMI				smax		smax			
	comp=N,62nm,1.4s								
KMI				LR		LR			
	comp=N,670nm,4.4s								
KMI				LR		LR			
	comp=N,790nm,5.2s								
KMI				LR		LR			
	comp=N,340nm,5.1s								
LZH	**Lanzhou**	**9.54**	**50**	*e*P		**Pn**		**02 15 46.5**	**+3.3**
LZH				sP				02 15 52.0	
LZH				pmax		pmax			
	comp=N,22nm,1.2s								
LZH				LR		LR			
	comp=N,820nm,8.6s								
LZH				LR		LR			
	comp=N,710nm,8.6s								
LZH				LR		LR			
	comp=N,900nm,9.6s								
GTA	**Gaotai**	**10.00**	**23**	*e*P		**Pn**		**02 15 50.3**	**+0.8**
GTA				sP				02 15 56.5	
GTA				pmax		pmax			
	comp=N,7.0nm,1.0s								
GTA				LR		LR			
	comp=N,560nm,8.4s								
GTA				LR		LR			
	comp=N,460nm,8.0s								
GTA				LR		LR			
	comp=N,730nm,9.6s								
GAYA	**Gaya**	**10.09**	**240**	*e*P		**Pn**		**02 15 51.8**	**+1.3**
GAYA				*e*S		Sn		02 17 33.7	-10
GAYA				IAML				02 17 34.5	
	comp=N,804nm,0.2s								
GAYA				IAML				02 17 34.8	
	comp=E,928nm,0.2s								
BOK	**Bokaro**	**10.23**	**233**	*e*P		**Pn**		**02 15 53.5**	**+0.9**

BOK *e*S Sn 02 17 38.6 -8.9
BOK IAML 02 17 39.3
comp=N,262nm,0.1s
BOK IAML 02 17 39.7
comp=E,378nm,0.5s
CHTO Chiang Mai 12.01 161 **Pn 02 16 19.6 +2.6**
CHTO Chiang Mai 12.01 161 P **Pn 02 16 19.6 +2.6**
CMAR Chiang Mai Arr 12.35 161 **Pn 02 16 23.3 +1.6**
CMAR Chiang Mai Arr 12.35 161 Pn **Pn 02 16 21.8 +0.2**
comp=E,0.5nm,0.3s,baz=327,slow=13,SNR=27
comp=E,8.8nm,1.0s
CMAR Chiang Mai Arr 12.35 161 *i* P **Pn 02 16 23.2 +1.6**
CMAR pmax pmax
comp=Z,9.0nm,1.0s
XAN Xi'an 12.54 69 *e*P Pn 02 16 18.6 -5.5
XAN pmax pmax
comp=Z,13nm,1.1s
LGTI Lohaghat 12.66 270 *e*P **Pn 02 16 27.5 +1.7**
LGTI *e*S Sn 02 18 39.4 -7.5
LGTI IAML 02 18 40.0
comp=E,29nm,0.2s
LGTI IAML 02 18 40.4
comp=N,82nm,0.2s
PTH Pithoragarh 12.68 270 *e*P **Pn 02 16 26.6 +0.5**
PTH *e*S Sn 02 18 35.2 -12
PTH IAML 02 18 35.9
comp=N,484nm,0.1s
BWNR Bhubaneshwar 12.83 221 *e*P **Pn 02 16 28.8 +0.7**
BWNR *e*S Sn 02 18 38.9 -12
BWNR IAML 02 18 39.6
comp=N,143nm,0.2s
BWNR IAML 02 18 39.9
comp=E,84nm,0.2s
JHSG JHARSUGUGA 13.04 232 *e*P **Pn 02 16 32.4 +1.4**
JHSG *e*S Sn 02 18 45.2 -11
JHSG IAML 02 18 45.7
comp=E,472nm,0.2s
HNLY HANLEY 13.73 285 *e*P **Pn 02 16 43.1 +2.2**
HNLY *e*S Sn 02 19 00.1 -14
HNLY IAML 02 19 35.1
comp=N,75nm,0.7s
WMQ Urumqi 14.66 339 *e*P **P 02 17 00.1 +0.7**
WMQ S **Sn 02 19 37.7 +2.1**
JHNI Jhansi 15.16 256 *e*P **Pn 02 17 00.5 +0.7**
JHNI *e*S Sn 02 19 32.9 -15
JHNI IAML 02 19 33.7
comp=N,56nm,0.2s
JHNI IAML 02 19 33.8
comp=E,45nm,0.2s
SMLA Simla 15.20 278 *e*P **Pn 02 17 01.7 +1.4**
SMLA *e*S Sn 02 19 34.3 -14
SMLA IAML 02 19 35.5
comp=N,94nm,0.2s
SMLA IAML 02 19 35.6
comp=E,123nm,0.3s
DHRM DHARAMSHALA 15.95 282 *e*P **Pn 02 17 12.7 +2.4**
DHRM *e*S Sn 02 19 50.6 -17
DHRM IAML 02 19 52.2
comp=N,182nm,0.3s
DHRM IAML 02 19 52.5
comp=E,157nm,0.2s
WHN Wuhan 16.87 84 ⇑P **Pn 02 17 21.0 -0.9**
WHN pmax pmax
comp=E,160nm,1.2s
HHC Hu-ho-hao-te 17.22 48 *e*P **P 02 17 27.0 -0.9**
HHC pmax pmax
comp=E,14nm,0.7s
HHC pmax pmax
comp=E,120nm,4.1s
SHLS Shalkode 17.76 321 *e*P **Pn 02 17 30.3 -2.7**
SHLS Shalkode 17.76 321 *e*P **Pn 02 17 30.3 -2.7**
TARG Taragay, Kyrgy 17.85 314 P **Pn 02 17 35.5 +1.0**
TARG Taragay, Kyrgy 17.85 314 P **Pn 02 17 35.5 +1.0**
TARG pmax pmax
comp=Z,85nm,1.2s
PDGK Podgornoye 17.86 321 P **Pn 02 17 32.3 -2.0**
PRZ Przheval'sk 17.93 317 P **P 02 17 37.3 +1.5**
PRZ Przheval'sk 17.93 317 P **P 02 17 37.3 +1.5**
PRZ pmax pmax
comp=Z,271nm,1.3s
KSH Kashi 17.96 306 P **P 02 17 36.7 +0.6**
KSH pmax pmax
comp=Z,26nm,1.5s
HNS HongShan 17.98 61 ⇑P **Pn 02 17 34.8 -0.9**
HNS pmax pmax
comp=E,16nm,0.8s
UZB Uzynbulak 17.99 320 *e*P **Pn 02 17 35.9 -0.1**
UZB Uzynbulak 17.99 320 *e*P **Pn 02 17 35.9 -0.1**
SATY Saty 18.29 319 *e*P **Pn 02 17 39.9 +0.4**
SATY Saty 18.29 319 *e*P **Pn 02 17 39.9 +0.4**
NIL Nilore 18.59 286 P **P 02 17 40.7 -2.3**
NIL IAmb IAmb 02 17 48.3
comp=Z,326nm,1.9s
NIL Nilore 18.59 286 P **P 02 17 40.7 -2.3**
NIL pmax pmax
comp=Z,326nm,2.0s
ZSN Zaisan 18.79 339 *e*P **P 02 17 45.3 +0.2**
ZSN Zaisan 18.79 339 *e*P **P 02 17 45.3 +0.2**
ULHL Ulahol 19.11 314 P **Pn 02 17 50.6 +1.0**
SNR=7.4
TNSS Tian-Shan 19.12 317 *e*P **P 02 17 49.4 +0.2**
TNSS Tian-Shan 19.12 317 *e*P **P 02 17 49.4 +0.2**
MK31 Makanchi Array 19.14 333 *de*P **P 02 17 47.7 -1.2**
MKAR Makanchi Array 19.14 333 P **P 02 17 47.3 -1.7**
comp=Z,0.7nm,0.3s,baz=136,slow=13,SNR=30
comp=Z,4.7nm,0.6s
MKAR Makanchi Array 19.14 333 P **P 02 17 47.4 -1.5**
AAA Alma-Ata 19.24 317 *i* P **Pn 02 17 51.2 +0.1**
ARXS Arharly 19.34 321 *e*P **P 02 17 51.5 +0.3**
TDK Taldyqorghan 19.56 323 *e*P **P 02 17 53.8 +0.3**
TDK Taldyqorghan 19.56 323 *e*P **P 02 17 53.8 +0.3**
TIA Tai'an 19.57 66 P **Pn 02 17 56.4 +1.4**
TIA pmax pmax
comp=Z,27nm,1.3s
HYB Hyderabad 19.58 233 *e*P **P 02 17 55.7 +1.7**
SONM Songino Array 19.67 24 P **P 02 17 54.4 -0.5**
SONM Songino Array 19.67 24 P **P 02 17 53.6 -1.2**
comp=Z,0.4nm,0.3s,baz=215,slow=9.7,SNR=70
comp=Z,25nm,1.1s
SONM Songino Array 19.67 24 P **P 02 17 54.4 -0.5**
SONM pmax pmax
comp=Z,40nm,1.2s
TKM2 Tokmak 2 19.87 315 P **P 02 17 58.2 +1.0**
SNR=5.6
ULN Ulaanbaatar 19.93 25 **P 02 17 57.4 -0.4**
ULN Ulaanbaatar 19.93 25 *ce*P **P 02 17 58.2 +0.5**
ULN pmax pmax
comp=Z,21nm,1.0s
KUU Kurty 19.98 318 *e*P **P 02 17 58.9 +0.7**
KUU Kurty 19.98 318 *e*P **P 02 17 58.9 +0.7**
KBK Karagaybulak 20.14 313 P Pn 02 18 02.2 +0.4
SNR=16
AAK Ala-Archa 20.41 313 P Pn 02 18 04.9 -0.2
AAK Ala-Archa 20.41 313 P **P 02 18 03.5 +0.6**
comp=Z,92nm,1.2s,baz=135,slow=7.6,SNR=49
comp=Z,92nm,1.2s
AAK Ala-Archa 20.41 313 P Pn 02 18 05.1 0.0
SNR=38
AAK Ala-Archa 20.41 313 *d i* P **P 02 18 04.6 +1.6**
AAK pmax pmax
comp=Z,174nm,1.3s
FRU1 Bishkek 20.41 313 P **P 02 18 03.9 +1.0**
FRU1 IAmb IAmb 02 18 06.7
comp=Z,83nm,1.2s
FRU1 Bishkek 20.41 313 P **P 02 18 03.9 +1.0**
FRU1 pmax pmax
comp=Z,83nm,1.2s
CHMS Chumysh 20.44 314 P **P 02 18 04.4 +1.2**
SNR=35
NJ2 Nanjing 20.65 79 *e*P **P 02 18 05.8 +0.3**
NJ2 pmax pmax
comp=Z,24nm,0.6s
USP Ospenovka 20.74 314 P **P 02 18 07.5 +1.1**
SNR=15
ARSB Arslanbob 20.80 308 **P 02 18 07.7 +0.5**
ARSB IAmb IAmb 02 18 10.2
comp=Z,73nm,1.2s
ARSB Arslanbob 20.80 308 P **P 02 18 07.7 +0.5**
ARSB pmax pmax
comp=Z,73nm,1.2s
EKS2 Erkin-Say 20.88 312 P **P 02 18 09.8 +1.7**
SNR=27
ZAK Zakamensk 21.07 15 *e*P **P 02 18 09.4 -0.6**
ZAK pmax pmax
comp=Z,36nm,1.2s

XLT	**XiLinHaoTe**	**21.67**	**45**	*e*P		**P**	**02 18 16.8**	**+0.3**
XLT				pP		sP	02 18 22.4	+0.4
XLT				PP		**PnPn**	**02 18 40.3**	**+3.1**
XLT				pmax		pmax		
	comp=Z,33nm,1.1s							
MOY	**Mondy**	**21.86**	**10**	*e*P		**P**	**02 18 19.1**	**+0.6**
MOY				pmax		pmax		
	comp=Z,59nm,1.7s							
GAR	**Garm**	**21.90**	**300**	P		**P**	**02 18 18.0**	**-1.0**
BTLS	**Baital**	**21.99**	**318**	*e*P		**P**	**02 18 19.7**	**0.0**
BTLS	**Baital**	**21.99**	**318**	*e*P		**P**	**02 18 19.8**	**0.0**
KBL	**Kabul**	**22.14**	**288**	P		**P**	**02 18 22.0**	**+0.3**
KBL				pmax		pmax		
	comp=Z,151nm,1.4s							
DZA	**Taraz**	**22.58**	**310**	*e*P		**P**	**02 18 26.3**	**+0.1**
DZA				pmax		pmax		
	comp=Z,37nm,1.4s							
DZA	**Taraz**	**22.58**	**310**	*e*P		**P**	**02 18 26.3**	**+0.1**
	comp=Z,37nm,1.4s							
SIMJ	**Simiganj**	**22.80**	**298**	P		**P**	**02 18 28.9**	**+0.2**
IRK	**Irkutsk**	**23.04**	**15**	*e*P		**P**	**02 18 31.0**	**+0.2**
IRK				pmax		pmax		
	comp=Z,73nm,1.2s							
IUG	**Iuzhnay**	**23.15**	**308**	*e*P		**P**	**02 18 32.8**	**+0.6**
IUG				pmax		pmax		
	comp=Z,43nm,1.3s							
IUG	**Iuzhnay**	**23.15**	**308**	*e*P		**P**	**02 18 32.9**	**+0.6**
	comp=Z,43nm,1.3s							
KK31	**Karatay Array**	**23.22**	**310**	P		**P**	**02 18 32.9**	**+0.1**
KK31				IAmb		IAmb	02 18 36.0	
	comp=Z,48nm,1.3s							
KK31	**Karatay Array**	**23.22**	**310**	*i* P		**P**	**02 18 32.9**	**+0.1**
KKAR	**Karatay Array**	**23.22**	**310**	P		**P**	**02 18 33.1**	**+0.3**
KKAR	**Karatay Array**	**23.22**	**310**	P		**P**	**02 18 33.1**	**+0.3**
CHM	**Chimkent**	**23.51**	**308**	*e*P		**P**	**02 18 36.6**	**+0.9**
CHM				pmax		pmax		
	comp=Z,28nm,1.4s							
CHM	**Chimkent**	**23.51**	**308**	*e*P		**P**	**02 18 36.6**	**+0.9**
	comp=Z,28nm,1.4s							
BRLS	**Boroldaу**	**23.63**	**309**	*e*P		**P**	**02 18 37.6**	**+0.6**
BRLS	**Boroldaу**	**23.63**	**309**	*e*P		**P**	**02 18 37.6**	**+0.6**
KURBB	**Kurchatov Arra**	**23.70**	**334**	P		**P**	**02 18 36.2**	**-1.2**
	comp=Z,29nm,1.1s,baz=144,slow=10,SNR=64							
	comp=Z,29nm,1.1s							
KURK	**Kurchatov**	**23.74**	**334**	P		**P**	**02 18 36.7**	**-1.2**
KURK				IAmb		IAmb	02 18 39.1	
	comp=Z,34nm,0.9s							
KURK	**Kurchatov**	**23.74**	**334**	*d* iP		**P**	**02 18 36.2**	**-1.7**
KURK				pmax		pmax		
	comp=Z,56nm,1.3s							
ZAA0	**Zalesovo Array**	**24.74**	**346**	IAmb		IAmb	02 18 49.9	
	comp=Z,59nm,1.5s							
ZALV	**Zalesovo Beam**	**24.74**	**346**	P		**P**	**02 18 46.6**	**-0.6**
ZALV	**Zalesovo Beam**	**24.74**	**346**	P		**P**	**02 18 46.0**	**-1.1**
	comp=Z,3.6nm,0.6s,baz=156,slow=11,SNR=22							
	comp=Z,3.6nm,0.6s							
ZALV	**Zalesovo Beam**	**24.74**	**346**	*i* P		**P**	**02 18 46.5**	**-0.6**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BRZS	**Berezniki**	**25.79**	**326**	*e*P		**P**	**02 18 57.2**	**+0.6**
BRZS	**Berezniki**	**25.79**	**326**	*e*P		**P**	**02 18 57.3**	**+0.6**
SNY	**Shenyang**	**25.85**	**56**	⇑P		**P**	**02 18 57.5**	**+0.3**
SNY				S		**S**	**02 23 29.8**	**+3.0**
SNY				pmax		pmax		
	comp=Z,20nm,1.2s							
SNY				LR		LR		
	comp=Z,320nm,5.2s							
SNY				LR		LR		
	comp=Z,420nm,4.8s							
SNY				LR		LR		
	comp=Z,310nm,4.7s							
CN2	**Changchun**	**27.77**	**52**	*e*P		**P**	**02 19 15.1**	**+0.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KSRS	**Korea Array**	**28.32**	**66**	P		**P**	**02 19 18.0**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=242,slow=13,SNR=2.4							
	comp=Z,0.5nm,0.4s							
KSRS	**Korea Array**	**28.32**	**66**	P		**P**	**02 19 18.0**	**-1.5**
BVA0	**Borovoye Array**	**28.89**	**329**	P		**P**	**02 19 24.4**	**0.0**
BVAR	**Borovoye Array**	**28.89**	**329**	P		**P**	**02 19 23.6**	**-0.8**
	comp=Z,9.0nm,0.9s,baz=120,slow=8.8,SNR=37							
	comp=Z,9.0nm,0.9s							
BRVK	**Borovoye**	**28.96**	**329**	P		**P**	**02 19 25.5**	**+0.5**
BRVK				IAmb		IAmb	02 19 27.7	
	comp=Z,31nm,1.1s							
BRVK	**Borovoye**	**28.96**	**329**	*d* iP		**P**	**02 19 25.2**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,42nm,1.2s							
BNX	**BinXian**	**29.72**	**50**	⇑P		**P**	**02 19 32.8**	**+0.9**
BNX				pmax		pmax		
	comp=Z,14nm,1.4s							
BKNI	**Bangkinang**	**30.36**	**168**	P		**P**	**02 19 39.4**	**+1.6**
KKM	**Kota Kinabalu**	**31.41**	**136**	P		**P**	**02 19 48.0**	**+0.8**
KKM				IAmb		IAmb	02 19 50.1	
	comp=Z,34nm,1.1s							
AB31	**Akbulak array**	**32.43**	**316**	*i* P		**P**	**02 19 56.4**	**+0.7**
ABKAR	**Akbulak array**	**32.43**	**316**	P		**P**	**02 19 56.5**	**+0.8**
ZEA	**Zeya**	**33.16**	**36**	*e*P		**P**	**02 20 02.9**	**+0.9**
ZEA				pmax		pmax		
	comp=Z,20nm,1.4s							
AKTO	**Aktyubinsk**	**34.04**	**317**	P		**P**	**02 20 09.7**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=122,slow=5.7,SNR=9.2							
	comp=Z,4.5nm,0.9s							
SVE	**Sverdlovsk**	**35.66**	**328**	⇓P		**P**	**02 20 24.9**	**+1.2**
SVE				pmax		pmax		
	comp=Z,61nm,1.4s							
TEY	**Ternei**	**35.81**	**54**	*e*P		**P**	**02 20 23.9**	**-1.2**
ARTI	**Arti**	**36.48**	**326**	P		**P**	**02 20 30.7**	**0.0**
ARTI				IAmb		IAmb	02 20 32.5	
	comp=Z,20nm,0.7s							
ARTI	**Arti**	**36.48**	**326**	P		**P**	**02 20 30.8**	**0.0**
	comp=Z,9.8nm,0.5s,baz=125,slow=4.8,SNR=15							
	comp=Z,9.8nm,0.5s							
ARTI	**Arti**	**36.48**	**326**	*d* iP		**P**	**02 20 30.8**	**+0.1**
ARTI							02 21 48.9	
ARTI				S		**S**	**02 26 14.6**	**+2.1**
ARTI				SS		**SnSn**	**02 28 42.2**	**+1.3**
ARTI				pmax		pmax		
	comp=Z,39nm,1.5s							
MJAR	**Matsushiro Arr**	**36.53**	**68**	P		**P**	**02 20 32.0**	**+0.6**
MJAR	**Matsushiro Arr**	**36.53**	**68**	P		**P**	**02 20 30.3**	**-1.2**
	comp=Z,2.8nm,0.9s,baz=223,slow=6.5,SNR=13							
	comp=Z,2.8nm,0.9s							
MJAR	**Matsushiro Arr**	**36.53**	**68**	P		**P**	**02 20 32.0**	**+0.6**
MJAR				pmax		pmax		
	comp=Z,26nm,1.6s							
YAK	**Yakutsk**	**39.02**	**25**	*e*P		**P**	**02 20 50.2**	**-1.9**
YAK				pmax		pmax		
	comp=Z,30nm,1.4s							
YAK				pmax		pmax		
	comp=N,10.0nm,0.9s							
YAK				pmax		pmax		
	comp=E,11nm,1.0s							
AKT	**Akhty**	**39.31**	**300**	*e*P		**P**	**02 20 54.8**	**-0.2**
AKT				*e*			02 23 02.1	
AKT				*e*S		**S**	**02 26 58.4**	**+2.4**
AKT				pmax		pmax		
	comp=Z,35nm,1.1s							
MAK	**Makhachkala**	**39.53**	**302**	*c* iP		P	02 20 51.9	-4.7
MAK				*e*			02 22 26.3	
MAK				*e*S		**S**	**02 26 51.6**	**-7.4**
MAK				*e*SS		**SS**	**02 29 44.0**	**-9.4**
MAK				pmax		pmax		
	comp=Z,208nm,1.2s							
MAK				MLR		MLR		
	comp=Z,92nm,13.0s							
SEKA	**Sheki**	**39.71**	**299**	P		**P**	**02 20 57.2**	**-1.0**
MNGR	**Mingechevir, A**	**39.80**	**299**	P		**P**	**02 20 58.6**	**-0.2**
ERM	**Erimo**	**40.28**	**59**	⇓P		**P**	**02 21 03.2**	**+0.4**
ERM				pmax		pmax		
	comp=Z,43nm,1.4s							
YSS	**Yuzhno-Sakhali**	**40.33**	**52**	P		**P**	**02 21 03.2**	**0.0**
YSS	**Yuzhno-Sakhali**	**40.33**	**52**	*e*P		**P**	**02 21 03.0**	**-0.2**
YSS				pmax		pmax		
	comp=Z,40nm,1.2s							
GANJ	**Ganja**	**40.38**	**298**	P		**P**	**02 21 03.3**	**-0.4**
BELG	**Belogornoye**	**40.83**	**317**	*d* iP		**P**	**02 21 06.9**	**-0.3**
BELG				pmax		pmax		
	comp=Z,8.0nm,1.3s							
NAX	**Nakhchivan**	**41.06**	**296**	P		**P**	**02 21 09.1**	**-0.4**
GNI	**Garni**	**41.60**	**298**	P		**P**	**02 21 15.5**	**+1.5**
GNI				IAmb		IAmb	02 21 19.8	
	comp=Z,40nm,1.2s							
GNI	**Garni**	**41.60**	**298**	*d* iP		**P**	**02 21 15.7**	**+1.7**
GNI				pmax		pmax		
	comp=Z,40nm,1.2s							
GNI	**Garni**	**41.60**	**298**	P		**P**	**02 21 13.8**	**-0.2**
	comp=Z,26nm,1.4s							
KIRV	**Kirov**	**41.80**	**326**	*d* iP		**P**	**02 21 15.3**	**+0.2**
TRLG	**Trialeti**	**42.04**	**300**	P		**P**	**02 21 18.9**	**+1.4**
NCK	**Nalchik**	**42.40**	**303**	⇑iP		**P**	**02 21 21.3**	**+1.0**
NCK				pmax		pmax		
	comp=Z,20nm,0.9s							
GOF	**Gofitskoye**	**42.83**	**305**	*c*eP		**P**	**02 21 24.6**	**+0.9**
KBZ	**Khabaz**	**42.91**	**303**	P		**P**	**02 21 24.4**	**0.0**
	comp=Z,2.4nm,0.9s,baz=59,slow=12,SNR=6.5							
	comp=Z,2.4nm,0.9s							
KBZ	**Khabaz**	**42.91**	**303**	⇑iP		**P**	**02 21 25.1**	**+0.7**
KBZ				pmax		pmax		
	comp=Z,13nm,1.6s							
KIV	**Kislovodsk**	**43.06**	**303**	P		**P**	**02 21 25.9**	**+0.1**
KIV				IAmb		IAmb	02 21 29.3	
	comp=Z,54nm,1.2s							
KIV	**Kislovodsk**	**43.06**	**303**	*e*P		**P**	**02 21 26.0**	**+0.2**
KIV				pmax		pmax		
	comp=Z,40nm,1.1s							
KIV				MLR		MLR		
	comp=Z,36nm,16.0s							
KIV	**Kislovodsk**	**43.06**	**303**	*i* P		**P**	**02 21 23.5**	**-2.3**
	SNR=7.0							
KIV	**Kislovodsk**	**43.06**	**303**	P		**P**	**02 21 25.7**	**-0.1**
	comp=Z,328nmcomp=Z,32nm,1.3s							
SHA1	**Shidzhatmaz**	**43.08**	**303**	*c* iP		**P**	**02 21 27.7**	**+1.6**
GURO	**Guroymak-BITLI**	**43.80**	**296**	IAmb		IAmb	02 21 35.4	
	comp=Z,50nm,1.4s							
RAYN	**Ar Rayn**	**44.20**	**274**	P		**P**	**02 21 35.0**	**-0.2**
RAYN				IAmb		IAmb	02 21 58.7	
	comp=Z,47nm,1.3s							
RAYN	**Ar Rayn**	**44.20**	**274**	P		**P**	**02 21 35.0**	**-0.2**
RAYN				pmax		pmax		
	comp=Z,47nm,1.3s							
VRH	**Novokhopyorsk**	**44.21**	**314**	*e*P		**P**	**02 21 31.4**	**-3.3**
VRH				pmax		pmax		
	comp=Z,20nm,1.2s							
ERBR	**Yeremizino-Bor**	**44.65**	**306**	*e*P		**P**	**02 21 38.0**	**-0.4**
ERBR				*e*PPP		PPP	02 23 57.2	
ERBR				pmax		pmax		
	comp=Z,49nm,1.5s							
VSLR	**Vesyoloye**	**44.99**	**303**	*c* iP		**P**	**02 21 42.3**	**+1.1**
VSLR				pmax		pmax		
	comp=Z,89nm,1.4s							
SOC	**Sochi**	**45.22**	**303**	*e*P		**P**	**02 21 42.0**	**-0.9**
SOC				*e*			02 23 27.0	
SOC				*e*PPP		PPP	02 24 10.0	
SOC				*e*S		**S**	**02 28 23.3**	**+0.4**
SOC				*e*SSS		SSS	02 32 31.7	
SOC				MLR		MLR		
	comp=Z,60nm,14.0s							
TIXI	**Tiksi**	**45.35**	**14**	P		**P**	**02 21 42.2**	**-1.4**
TIXI	**Tiksi**	**45.35**	**14**	P		**P**	**02 21 42.2**	**-1.4**
TIXI				pmax		pmax		
	comp=Z,41nm,1.1s							
VSR	**Storozhevoye**	**45.81**	**314**	*e*P		**P**	**02 21 43.8**	**-3.7**
VSR				pmax		pmax		
	comp=Z,20nm,1.2s							
LPSR	**Galich'ya Gora**	**46.09**	**316**	*e*P		**P**	**02 21 46.2**	**-3.5**
LPSR				pmax		pmax		
	comp=Z,40nm,1.1s							
ANN	**Anapa**	**46.82**	**305**	*e*P		**P**	**02 21 54.2**	**-1.3**
ANN				*e*PP		**pP**	**02 21 58.4**	**-1.2**
ANN				pmax		pmax		
	comp=Z,96nm,1.3s							
MOS	**Moscow**	**47.25**	**320**	*e*P		**P**	**02 21 58.7**	**0.0**
MOS				*e*			02 23 50.3	
MOS				*e*PPP		PPP	02 24 36.9	
MOS				*e*S		**S**	**02 28 53.2**	**+1.6**
MOS				pmax		pmax		
	comp=Z,200nm,1.6s							
MOS				pmax		pmax		
	comp=Z,92nm,1.3s							
KLMR	**Klimovskoe**	**47.27**	**327**	*e*P		**P**	**02 21 56.6**	**-2.2**
KLMR				pmax		pmax		
	comp=Z,91nm,1.4s							
MA2	**Magadan**	**47.30**	**35**	*de*P		**P**	**02 21 59.2**	**+0.2**
MA2				pmax		pmax		
	comp=Z,15nm,1.2s							
OBN	**Obninsk**	**47.76**	**319**	⇑*e*P		**P**	**02 22 03.1**	**+0.4**
OBN				*e*			02 23 53.6	
OBN				*e*PPP		PPP	02 24 42.7	
OBN				*e*S		S	02 29 18.2	+19
OBN				pmax		pmax		
	comp=Z,49nm,1.3s							
OBN				MLR		MLR		
	comp=Z,39nm,16.0s							
OBN	**Obninsk**	**47.76**	**319**	P		**P**	**02 22 02.4**	**-0.3**
	comp=Z,31nm,1.4s							
TOKA	**Tokat**	**47.88**	**299**	IAmb		IAmb	02 22 07.3	
	comp=Z,22nm,1.1s							
SEY	**Seymchan**	**48.84**	**31**	⇑*i* P		**P**	**02 22 11.4**	**+0.5**
SEY				pmax		pmax		
	comp=Z,11nm,1.3s							
SIM	**Simferopol'**	**49.16**	**305**	*e*P		**P**	**02 22 13.9**	**+0.2**
SIM				*e*S		**S**	**02 29 18.6**	**-0.5**
SIM				pmax		pmax		
	comp=Z,40nm,1.4s							
SIM				MLR		MLR		
	comp=Z,13µm,12.9s							
KIRS	**Kirsehir-Merke**	**50.01**	**298**	⇑P		**P**	**02 22 21.2**	**+0.9**
MMAI	**Mount Meron Ar**	**50.06**	**289**	P		**P**	**02 22 21.6**	**+0.8**
	comp=Z,6.1nm,1.1s,baz=36,slow=6.2,SNR=6.2							
	comp=Z,6.1nm,1.1s							
BR131	**Keskin Array S**	**50.13**	**298**	*c* iP		**P**	**02 22 21.6**	**+0.3**
BRTR	**Keskin Array B**	**50.13**	**298**	P		**P**	**02 22 21.1**	**-0.2**
BRTR	**Keskin Array B**	**50.13**	**298**	P		**P**	**02 22 21.5**	**+0.2**
	comp=Z,4.4nm,1.0s,baz=102,slow=5.5,SNR=20							
	comp=Z,4.4nm,1.0s							
BRTR	**Keskin Array B**	**50.13**	**298**	*i* P		**P**	**02 22 21.2**	**-0.1**
BRTR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BR104	**Keskin Array S**	**50.13**	**298**	P		**P**	**02 22 21.1**	**-0.2**
	comp=Z,59nmcomp=Z,5.4nm,1.3s							
BR106	**Keskin Array S**	**50.14**	**298**	P		**P**	**02 22 21.2**	**-0.2**
	comp=Z,58nmcomp=Z,6.2nm,1.3s							
BR105	**Keskin Array S**	**50.15**	**298**	P		**P**	**02 22 21.2**	**-0.2**
	comp=Z,71nmcomp=Z,7.7nm,1.1s							
PETK	**Petropavlovsk-**	**50.37**	**44**	P		**P**	**02 22 22.5**	**-0.3**
	comp=Z,7.0nm,1.0s,baz=199,slow=3.1,SNR=5.0							
	comp=Z,7.0nm,1.0s							
ANTO	**Ankara**	**50.75**	**299**	P		**P**	**02 22 25.5**	**-0.4**
ANTO	**Ankara**	**50.75**	**299**	P		**P**	**02 22 25.5**	**-0.4**
ANTO				pmax		pmax		
	comp=Z,68nm,1.2s							
ANTO	**Ankara**	**50.75**	**299**	P		**P**	**02 22 25.8**	**-0.1**
	comp=Z,240nmcomp=Z,24nm,1.3s							
LVZ	**Lovozero**	**51.16**	**335**	⇑*e*P		**P**	**02 22 28.2**	**-0.3**
LVZ				pmax		pmax		
	comp=Z,35nm,1.1s							
LVZ	**Lovozero**	**51.16**	**335**	P		**P**	**02 22 28.1**	**-0.4**
	comp=Z,29nm,1.3s							
NE56	**Odesa**	**51.26**	**308**	P		**P**	**02 22 29.4**	**-0.1**
JOF	**Joensuu**	**51.49**	**328**	*e*P		**P**	**02 22 31.3**	**+0.3**
APA	**Apatity**	**51.53**	**335**	*e*P		**P**	**02 22 29.7**	**-1.5**
APA				*e*			02 23 43.2	
APA				*e*			02 24 36.5	
APA				MLR		MLR		
	comp=Z,672nm,4.6s							
PURM	**Purcari**	**51.98**	**307**	P		**P**	**02 22 34.9**	**0.0**
	comp=Z,72nm,1.2s							
BAL3X	**Bal3x, Balta**	**52.03**	**309**	P		**P**	**02 22 35.1**	**-0.2**
AK09	**Malin Array Si**	**52.05**	**313**	P		**P**	**02 22 35.2**	**-0.1**
AK08	**Malin Array Si**	**52.06**	**313**	P		**P**	**02 22 34.9**	**-0.6**
AK10	**Malin Array Si**	**52.07**	**313**	P		**P**	**02 22 34.9**	**-0.6**
AK10				pP		**pP**	**02 22 38.4**	**-1.2**
AK03	**Malin Array Si**	**52.08**	**313**	P		**P**	**02 22 35.0**	**-0.6**
AKASG	**Malin Array Be**	**52.08**	**313**	P		**P**	**02 22 34.6**	**-0.9**
	comp=Z,19nm,1.1s,baz=81,slow=6.5,SNR=34							
	comp=Z,19nm,1.1s							
AKASG	**Malin Array Be**	**52.08**	**313**	*i* P		**P**	**02 22 35.2**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AKBB	**Malin Array Si**	**52.08**	**313**	*de*P		**P**	**02 22 35.0**	**-0.6**
AKBB				pmax		pmax		
	comp=Z,42nm,1.3s							
AKBB	**Malin Array Si**	**52.08**	**313**	P		**P**	**02 22 35.0**	**-0.6**
KIEV	**Kiev**	**52.09**	**313**	P		**P**	**02 22 34.6**	**-1.0**
KIEV				IAmb		IAmb	02 22 36.9	
	comp=Z,40nm,1.2s							
KIEV	**Kiev**	**52.09**	**313**	⇑P		**P**	**02 22 35.5**	**-0.2**
KIEV	**Kiev**	**52.09**	**313**	⇑P		**P**	**02 22 35.5**	**-0.2**
KIEV	**Kiev**	**52.09**	**313**	*i* P		**P**	**02 22 33.7**	**-2.0**
	SNR=27							
KIEV	**Kiev**	**52.09**	**313**	P		**P**	**02 22 35.0**	**-0.7**
	comp=Z,103nm,1.2s							
AK19	**Malin Array Si**	**52.22**	**313**	P		**P**	**02 22 35.9**	**-0.7**
MILM	**Milestii Mici**	**52.66**	**308**	⇑P		**P**	**02 22 39.0**	**-1.0**
MILM	**Milestii Mici**	**52.66**	**308**	⇑P		**P**	**02 22 39.0**	**-1.0**
MNK	**Minsk**	**52.76**	**318**	*i* P		**P**	**02 22 39.3**	**-1.2**
	comp=E,19nm,1.2s							
MNK				*i* P		**P**	**02 22 39.3**	**-1.2**
	comp=N,21nm,1.2s							
MNK				*i* P		**P**	**02 22 39.3**	**-1.2**
	comp=Z,27nm,1.1s,baz=88							
MNK				*i* PcP		**PcP**	**02 23 48.6**	**-1.5**
MNK				*i* PP		**PP**	**02 24 38.8**	**-0.9**
MNK				*i* PPP		PPP	02 25 42.6	
MNK				*i* S		**S**	**02 30 08.4**	**-0.1**
MNK				*i* ScS		**ScS**	**02 32 29.2**	**-1.1**
MNK				*i* SS		**SS**	**02 33 48.6**	**+1.8**
MNK				*i* SSS		SSS	02 35 35.0	
MNK				*i* LQ		LQ	02 41 21.2	
MNK				*i* LR		LR	02 45 56.9	
MNK				*i* LRM		MLR	02 47 43.0	
	comp=E,55nm,19.4s							
MNK				*i* LRM		MLR	02 48 20.4	
	comp=Z,37nm,19.3s							
MNK				*i* LRM		MLR	02 48 42.3	
	comp=N,21nm,12.2s							
MNK	**Minsk**	**52.76**	**318**	*i* P		**P**	**02 22 39.3**	**-1.2**
MNK				*i*			02 23 48.5	
MNK				*i*			02 24 38.7	
MNK				*i* PPP		PPP	02 25 42.6	
MNK				*i* S		**S**	**02 30 08.4**	**-0.1**
MNK				*i*			02 32 29.1	
MNK				*i* SS		**SS**	**02 33 48.5**	**+1.8**
MNK				*i* SSS		SSS	02 35 35.0	
MNK				pmax		pmax		
	comp=N,21nm,1.2s							
MNK				pmax		pmax		
	comp=Z,27nm,1.1s							
MNK				pmax		pmax		
	comp=E,19nm,1.2s							
MNK				MLR		MLR		
	comp=E,55nm,19.0s							
MNK				MLR		MLR		
	comp=Z,37nm,19.0s							
MNK				MLR		MLR		
	comp=N,21nm,12.0s							
SORM	**Soroca**	**52.85**	**310**	⇑P		**P**	**02 22 41.0**	**-0.3**
SORM	**Soroca**	**52.85**	**310**	⇑P		**P**	**02 22 41.0**	**-0.3**
SORM	**Soroca**	**52.85**	**310**	P		**P**	**02 22 40.8**	**-0.5**
	comp=N,18nm,1.2s							
ISP	**Isparta**	**52.87**	**297**	IAmb		IAmb	02 22 43.2	
	comp=Z,29nm,1.1s							
ISP	**Isparta**	**52.87**	**297**	⇑*e*P		**P**	**02 22 41.7**	**-0.1**
ISP				pmax		pmax		
	comp=Z,31nm,1.2s							
ISP	**Isparta**	**52.87**	**297**	*e*P		**P**	**02 22 41.9**	**+0.1**
MI28	**MI28,Pidlybu**	**53.05**	**313**	P		**P**	**02 22 42.7**	**-0.1**
LUBAR	**Lubar, Ukraine**	**53.07**	**312**	P		**P**	**02 22 42.8**	**-0.2**
TPGR	**Topolog**	**53.20**	**306**	⇑P		**P**	**02 22 44.4**	**+0.4**
YLV	**Yalova**	**53.20**	**300**	P		**P**	**02 22 43.9**	**-0.3**
	comp=Z,14nm,1.1s							
TIRR	**Tirgusor**	**53.26**	**305**	IAmb		IAmb	02 23 42.4	
	comp=Z,21nm,1.3s							
TIRR	**Tirgusor**	**53.26**	**305**	⇓P		**P**	**02 22 45.1**	**+0.7**
TIRR	**Tirgusor**	**53.26**	**305**	⇓P		**P**	**02 22 45.1**	**+0.7**
TIRR	**Tirgusor**	**53.26**	**305**	P		**P**	**02 22 44.1**	**-0.3**
	comp=Z,9.8nm,1.3s							
CFR	**Carcaliu**	**53.35**	**306**	⇑P		**P**	**02 22 45.4**	**+0.3**
CFR	**Carcaliu**	**53.35**	**306**	⇑P		**P**	**02 22 45.4**	**+0.3**
VSU	**Vasula**	**53.38**	**323**	⇑*i* P		**P**	**02 22 44.4**	**-0.6**
VSU				pmax		pmax		
	comp=Z,26nm,0.9s							
VSU	**Vasula**	**53.38**	**323**	*e*P		**P**	**02 22 45.4**	**+0.3**
NACGM	**Naroch**	**53.38**	**318**	*e*P		**P**	**02 22 45.9**	**+0.7**
	comp=Z,17nm,1.1s,baz=88							
NDNU	**Novodnistrovsk**	**53.45**	**310**	P		**P**	**02 22 45.3**	**-0.5**
HARR	**Harsova**	**53.56**	**305**	⇑P		**P**	**02 22 46.5**	**-0.2**
HARR	**Harsova**	**53.56**	**305**	⇑P		**P**	**02 22 46.5**	**-0.2**
GHRR		**53.73**	**307**	⇑P		**P**	**02 22 44.3**	**-3.6**
FINES	**FINESS Array B**	**53.79**	**326**	P		**P**	**02 22 47.9**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=94,slow=7.6,SNR=22							
	comp=Z,2.2nm,0.5s							
PANC	**Panciu**	**53.94**	**307**	⇑P		**P**	**02 22 51.7**	**+2.3**
ODBI	**Odobesti**	**54.02**	**307**	⇓P		**P**	**02 22 54.0**	**+4.0**
KMPD	**K-Podol'skiy**	**54.05**	**310**	P		**P**	**02 22 49.3**	**-0.9**
SGF	**Sodankyl**	**54.11**	**334**	P		**P**	**02 22 51.9**	**+1.6**
SGF				pmax		pmax		
	comp=Z,22nm,1.4s							
RNPP9	**Sopachiv**	**54.13**	**314**	P		**P**	**02 22 50.6**	**-0.1**
RNPP5	**Staryi Chortor**	**54.15**	**314**	P		**P**	**02 22 50.9**	**+0.1**
RNPP8	**Varash**	**54.16**	**314**	P		**P**	**02 22 50.7**	**-0.2**
TESR	**Tescani**	**54.19**	**308**	P		**P**	**02 22 50.7**	**-0.6**
	comp=Z,15nm,1.5s							
VRI	**Vrincioaia**	**54.23**	**307**	⇑P		**P**	**02 22 52.8**	**+1.2**
VRI	**Vrincioaia**	**54.23**	**307**	⇑P		**P**	**02 22 52.8**	**+1.2**
VRI	**Vrincioaia**	**54.23**	**307**	P		**P**	**02 22 51.4**	**-0.2**
	com

DEV Deva 56.86 308 ⇑P P 02 23 12.1 +1.7
DEV Deva 56.86 308 ⇑P P 02 23 12.1 +1.7
GZR Gura Zlata 57.04 307 P P 02 23 12.7 +0.9
BEL Belsk 57.24 315 eP P 02 23 13.0 0.0
STHS Stebnicka Huta 57.33 312 eP P 02 23 14.4 +0.6
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 57.33 312 eP P 02 23 14.4 +0.6
SURR Surduc 57.42 308 ⇑P P 02 23 15.2 +0.8
SIRR Siria 57.64 308 ⇑P P 02 23 16.8 +0.8
BZS Buzias 57.80 307 P P 02 23 18.2 +1.1
BZS pmax pmax
comp=Z,7.0nm,1.3s
MDVR Moldovita 57.91 306 ⇑P P 02 23 18.5 +0.6
NIE Niedzica 57.94 312 eP P 02 23 19.4 +1.3
NIE Niedzica 57.94 312 P P 02 23 20.0 +1.9
NIE Niedzica 57.94 312 P P 02 23 18.1 0.0
comp=Z,6.2nm,1.4s
OJC Ojcow 58.12 313 eP P 02 23 19.5 +0.3
OJC Ojcow 58.12 313 P P 02 23 20.3 +1.1
OJC Ojcow 58.12 313 P P 02 23 18.8 -0.4
comp=Z,14nm,1.4s
BOVS Bovan 58.16 305 ⇑P P 02 23 19.9 +0.2
PSZ Piszkesteto 58.49 310 IAmb IAmb 02 24 25.4
comp=Z,30nm,1.6s
PSZ Piszkesteto 58.49 310 P P 02 23 23.8 +1.8
PSZ pmax pmax
comp=Z,8.0nm,1.4s
PSZ Piszkesteto 58.49 310 eP P 02 23 21.8 -0.2
VYHS Vyhne 59.07 311 eP P 02 23 26.6 +0.7
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 59.07 311 eP P 02 23 26.6 +0.7
GKP Gorka Klasztor 59.14 317 eP P 02 23 25.4 -0.8
BUD Budapest 59.16 310 P P 02 23 28.9 +2.4
OKC Ostrava-Krasne 59.23 313 P P 02 23 29.0 +2.0
STEB Steborice 59.45 313 eP P 02 23 28.8 +0.3
MAIC Maruska 59.53 312 eP P 02 23 30.0 +0.8
MORC Moravsky Berou 59.63 313 IAmb IAmb 02 24 37.0
comp=Z,26nm,1.7s
MORC Moravsky Berou 59.63 313 eP P 02 23 29.8 0.0
MORC Moravsky Berou 59.63 313 ⇑P P 02 23 30.6 +0.7
MORC Moravsky Berou 59.63 313 ⇑P P 02 23 30.6 +0.7
MORH Mrgy, Hungar 59.69 309 ⇑P P 02 23 30.3 +0.1
MORH Mrgy, Hungar 59.69 309 P P 02 23 30.3 +0.1
comp=Z,10nm,1.4s
JAVC Velka Javorina 59.74 312 eP P 02 23 32.0 +1.4
HFS Hagfors 59.92 325 P P 02 23 31.4 -0.2
comp=Z,7.4nm,1.0s,baz=56,slow=11,SNR=6.1
comp=Z,7.4nm,1.0s
KRLC Kraliky 60.05 313 eP P 02 23 33.0 +0.3
KRLC Kraliky 60.05 313 eP P 02 23 33.0 +0.3
MODS Modra-Piesok 60.10 311 eP P 02 23 31.0 -2.1
MODS pmax pmax
comp=Z,25nm,1.3s
MODS Modra-Piesok 60.10 311 eP P 02 23 31.0 -2.1
KSP Ksiaz 60.19 314 eP P 02 23 34.4 +0.8
KSP Ksiaz 60.19 314 P P 02 23 35.1 +1.5
KSP Ksiaz 60.19 314 P P 02 23 32.8 -0.8
comp=Z,10nm,2.2s
PDG Podgorica 60.20 304 ⇑P P 02 23 32.5 -1.3
DPC Dobruska-Polom 60.28 314 eP P 02 23 34.6 +0.3
DPC Dobruska-Polom 60.28 314 eP P 02 23 34.6 +0.3
DPC Dobruska-Polom 60.28 314 P P 02 23 34.1 -0.2
comp=Z,9.9nm,1.3s
OSTC Ostas 60.30 314 eP P 02 23 35.2 +0.8
OSTC Ostas 60.30 314 eP P 02 23 35.2 +0.8
VRAC Vranov 60.34 312 eP P 02 23 35.0 +0.4
UPC Upice 60.44 314 eP P 02 23 36.1 +0.8
UPC Upice 60.44 314 eP P 02 23 36.1 +0.8
KRUC Moravsky 60.52 312 eP P 02 23 36.2 +0.3
NC303 NORSAR Array S 60.87 327 P P 02 23 38.2 +0.2
NC303 IAmb IAmb 02 23 40.0
comp=Z,22nm,1.1s
RONA Rosalia, Austr 60.90 311 eP P 02 23 38.7 +0.2
comp=Z,14nm,1.4s
NB2 NORSAR Subarra 60.98 326 P P 02 23 38.1 -0.7
comp=Z,22nm,1.2s,baz=80,slow=7.4
NB2 NORSAR Subarra 60.98 326 P P 02 23 39.4 +0.6
NOA NORSAR Array B 60.98 326 P P 02 23 37.3 -1.6
comp=Z,7.4nm,1.0s,baz=79,slow=6.8,SNR=10
comp=Z,7.4nm,1.0s
CONA Conrad Observa 61.13 311 eP P 02 23 40.1 -0.1
comp=Z,22nm,1.2s
KOGS Kog 61.24 309 eP P 02 23 40.6 -0.2
ARSA Arzberg 61.52 310 IAmb IAmb 02 23 44.5
comp=Z,13nm,1.3s
ARSA Arzberg 61.52 310 eP P 02 23 42.2 -0.5
comp=Z,10nm,1.4s
PTJ Puntijarka 61.57 309 P P 02 23 43.6 +0.4
BRG Berggiesshubel 61.63 315 eP P 02 23 44.5 +1.1
BRG Amp 02 23 46.2
comp=Z,12nm,1.3s
ZVC Zvikov 61.83 313 eP P 02 23 45.2 +0.4
CKRC Cesky Krumlov 61.91 312 eP P 02 23 45.9 +0.6
CKRC Cesky Krumlov 61.91 312 eP P 02 23 45.9 +0.6
SOKA Soboth 62.00 310 eP P 02 23 45.6 -0.4
comp=Z,17nm,1.7s
CLL Collm 62.10 315 iP P 02 23 47.0 +0.5
CLL pmax pmax
comp=Z,27nm,1.8s
CLL Collm 62.10 315 P P 02 23 46.8 +0.3
CLL Collm 62.10 315 iP P 02 23 47.0 +0.5
comp=Z,27nm,1.8s
CLL ePP PP 02 26 03.0 +0.1
CLL iSPP 02 26 09.3
MOA Molln 62.19 311 eP P 02 23 46.2 -1.0
comp=Z,6.8nm,1.0s
GEC2 GERESS Array S 62.29 313 IAmb IAmb 02 23 50.2
comp=Z,19nm,1.2s
GERES GERESS Array B 62.29 313 P P 02 23 47.7 -0.3
GERES GERESS Array B 62.29 313 P P 02 23 48.3 +0.3
comp=Z,2.9nm,0.8s,baz=64,slow=6.1,SNR=24
comp=Z,2.9nm,0.8s
KHC Kasperske Hory 62.30 313⇑iP P 02 23 48.5 +0.5
KHC pmax pmax
comp=Z,12nm,2.0s
KHC Kasperske Hory 62.30 313 eP P 02 23 48.3 +0.3
KHC Kasperske Hory 62.30 313 P P 02 23 48.1 +0.1
OBKA Obir 62.36 310 eP P 02 23 48.3 -0.2
comp=Z,5.1nm,1.3s
LJU Ljubljana 62.51 309 iP P 02 23 49.6 +0.2
MATE Matera 62.53 303 eP P 02 23 44.5 -5.1
BIOA Bad Ischl, Aus 62.64 311 eP P 02 23 49.5 -0.8
comp=Z,3.0nm,0.7s
CEY Cerknica 62.66 309 iP P 02 23 50.3 -0.1
WRA Warramunga Arr 62.77 138 P P 02 23 50.6 -0.7
comp=Z,3.9nm,0.9s,baz=330,slow=7.4,SNR=6.0
comp=Z,3.9nm,0.9s
WRA Warramunga Arr 62.77 138 iP P 02 23 52.5 +1.2
WRA pmax pmax
comp=Z,4.0nm,0.9s
SGRT San Giovanni R 62.90 304 IAmb IAmb 02 23 53.0
comp=Z,23nm,1.5s
MYKA Terra Mystica 62.93 310 eP P 02 23 51.8 -0.5
comp=Z,6.8nm,1.2s
TIP Timpagrande 62.94 301 P P 02 23 52.3 -0.2
comp=Z,439nmcomp=Z,12nm,1.4s
KMBO Kilima Mbogo 62.98 251 P P 02 23 52.9 -0.4
comp=Z,4.6nm,1.0s,baz=31,slow=11,SNR=4.4
comp=Z,4.6nm,1.0s
KMBO Kilima Mbogo 62.98 251 iP P 02 23 54.2 +1.0
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KBA Koelnbreinsper 63.00 311 eP P 02 23 52.2 -0.6
comp=Z,6.8nm,1.2s
LESA Schwarzleotal 63.34 311 eP P 02 23 54.3 -0.7
comp=Z,24nm,1.3s
GRF Grafenberg Arr 63.63 314 eP P 02 23 57.7 +1.0
comp=Z,18nm,1.2s,baz=79,slow=6.2
GRF eL L 03 16 27.5
comp=Z,160nm,21.2s
GRFO Grafenberg 63.63 314 P P 02 23 57.5 +0.8
GRFO Grafenberg 63.63 314 P P 02 23 57.5 +0.8
GRFO pmax pmax
comp=Z,32nm,1.4s
ABTA Abfaltersbach 63.64 310 eP P 02 23 56.1 -0.9
comp=Z,8.7nm,1.2s
STAL STALIGIAL 63.65 310 IAmb IAmb 02 23 57.8
comp=Z,21nm,1.2s
CIMO Cimolais 63.82 310 IAmb IAmb 02 23 59.6
comp=Z,20nm,1.1s
CEL Celeste 63.88 301 P P 02 23 58.5 -0.1
comp=Z,419nmcomp=Z,44nm,1.2s
PMG Port Moresby 63.90 120⇓eP P 02 23 59.5 +0.5
PMG pmax pmax
comp=Z,18nm,0.9s
WTTA Wattenberg 64.06 311 eP P 02 23 59.4 -0.5
comp=Z,14nm,1.5s
WATA Walderalm 64.08 311 eP P 02 23 59.2 -0.7
comp=Z,12nm,1.4s
INTR Introdacqua 64.12 305 IAmb IAmb 02 24 04.5
comp=Z,21nm,1.2s
CAMP Campotosto 64.31 306 IAmb IAmb 02 24 08.5
comp=Z,14nm,1.2s
SQTA Sankt Quirin 64.36 311 eP P 02 24 00.6 -1.2
comp=Z,14nm,1.3s
AQU L'Aquila 64.37 306 P P 02 24 02.8 +1.0
AQU pmax pmax
comp=Z,12nm,1.1s
AQU L'Aquila 64.37 306 P P 02 24 01.8 0.0
comp=Z,12nm,1.1s
FDMO Fiordimonte 64.38 306 IAmb IAmb 02 24 03.5
comp=Z,22nm,1.3s
MOTA Moosalm 64.39 311 eP P 02 24 01.1 -0.9
comp=Z,13nm,1.2s
NRCA Norcia 64.42 306 IAmb IAmb 02 24 04.0
comp=Z,21nm,1.4s
CTI Castel Tesino 64.42 310 P P 02 24 01.4 -0.8
CTI IAmb IAmb 02 24 03.1
comp=Z,11nm,1.2s
CTI Castel Tesino 64.42 310 P P 02 24 01.4 -0.8
CTI pmax pmax
comp=Z,11nm,1.2s
RETA Reutte 64.56 312 eP P 02 24 02.6 -0.4
comp=Z,15nm,1.3s
FETA Feichten 64.73 311 eP P 02 24 03.5 -0.7
comp=Z,14nm,1.2s
GAMB Gambell 64.79 29 P P 02 24 02.8 -1.3
baz=287
CESX Cesi 64.86 306 IAmb IAmb 02 24 06.1
comp=Z,19nm,1.4s
FUORN Ofenpass-Fuorn 65.16 311 IAmb IAmb 02 24 08.7
comp=Z,29nm,1.9s
STU Stuttgart 65.17 313 P P 02 24 08.3 +1.5
STU pmax pmax
comp=Z,49nm,1.5s
STU Stuttgart 65.17 313 eP P 02 24 07.2 +0.4
DAVA Damuels 65.20 312 eP P 02 24 06.8 -0.5
comp=Z,12nm,1.2s
ASAR Alice Springs 65.46 141 P P 02 24 09.4 +0.4
ASAR Alice Springs 65.46 141 P P 02 24 08.4 -0.6
comp=Z,4.8nm,0.9s,baz=323,slow=6.2,SNR=9.8
comp=Z,4.8nm,0.9s
ASAR Alice Springs 65.46 141 P P 02 24 09.4 +0.4
OSSC Osservatorio P 65.49 307 IAmb IAmb 02 24 10.2
comp=Z,16nm,1.3s
TNA Tin City 65.76 27 P P 02 24 10.4 +0.1
baz=290
C16K Lisburne Hills 65.77 24 P P 02 24 10.4 +0.1
baz=291
TUE Stuetta 65.80 311 P P 02 24 10.4 -0.9
TUE IAmb IAmb 02 24 24.2
comp=Z,13nm,1.2s
TUE Stuetta 65.80 311 P P 02 24 11.0 -0.3
comp=Z,39nm,1.4s
MSSA Maissana 66.41 309 IAmb IAmb 02 24 37.1
comp=Z,16nm,1.1s
F14K Arctic Creek 66.42 27 P P 02 24 14.7 +0.1
baz=291,SNR=6.1
C17K DeLong Mountai 66.44 23 P P 02 24 14.3 -0.5
baz=293
A19K Wainwright 66.44 21 P P 02 24 14.4 -0.3
baz=294
B18K Kokolik River 66.55 22 P P 02 24 15.2 -0.2
baz=294
RDOG Red Dog Mine 66.70 24 P P 02 24 15.7 -0.7
baz=293
D17K Noatak River 66.78 24 P P 02 24 16.4 -0.4
baz=293,SNR=7.7
F15K North Star Dit 66.98 26 IAmb IAmb 02 24 19.9
comp=Z,22nm,1.3s
F15K North Star Dit 66.98 26 P P 02 24 17.7 -0.5
baz=292,SNR=13
C18K Utukok River 67.04 23 IAmb IAmb 02 24 20.1
comp=Z,18nm,1.4s
C18K Utukok River 67.04 23 P P 02 24 17.9 -0.8
baz=294
ANM Nome 67.13 28 P P 02 24 18.8 -0.3
baz=292
A21K Barrow 67.29 19 P P 02 24 19.7 -0.4
baz=297
C19K Lookout Ridge 67.38 22 IAmb IAmb 02 24 23.6
comp=Z,18nm,1.4s
C19K Lookout Ridge 67.38 22 P P 02 24 20.3 -0.4
baz=296
E17K Hotham Inlet 67.47 24 P P 02 24 20.9 -0.3
baz=294,SNR=5.9
G15K Nuiluk 67.49 27 P P 02 24 20.6 -0.8
baz=293
SPIA Saint Paul Isl 67.67 36 P P 02 24 22.1 -0.6
baz=291
B20K Meade River 67.74 21 P P 02 24 23.1 +0.2
baz=297
E18K Tukpahlearik C 67.76 24 P P 02 24 23.1 0.0
baz=295
A22K Sinclair Lake 67.92 19 P P 02 24 23.6 -0.4
baz=299
F17K Baldwin Pennin 67.95 25 P P 02 24 24.3 0.0
baz=295,SNR=7.8
G16K Koyuk River 67.98 26 IAmb IAmb 02 24 26.1
comp=Z,18nm,1.1s
G16K Koyuk River 67.98 26 P P 02 24 24.3 -0.2
baz=295,SNR=12
BNI Bardonecchia 68.05 310 IAmb IAmb 02 24 34.0
comp=Z,14nm,1.3s
D19K Kuna River 68.13 22 IAmb IAmb 02 24 27.1
comp=Z,19nm,1.3s
D19K Kuna River 68.13 22 P P 02 24 25.3 -0.2
baz=297,SNR=6.1
VSL Villasalto 68.22 304 IAmb IAmb 02 24 27.8
comp=Z,13nm,1.2s
H16K Elim 68.34 27 P P 02 24 26.2 -0.6
baz=295,SNR=7.5
M11K Mekoryuk 68.40 32 P P 02 24 27.0 -0.2
baz=293
F18K Selawik 68.46 24 P P 02 24 27.1 -0.3
baz=296,SNR=5.8
K13K Kusilvak Mount 68.47 30 IAmb IAmb 02 24 29.0
comp=Z,15nm,1.2s
K13K Kusilvak Mount 68.47 30 P P 02 24 27.7 +0.1
baz=294,SNR=7.9
D20K Etivluk River 68.52 22 P P 02 24 27.9 +0.1
baz=298,SNR=12
G17K Kiwalik Mounta 68.58 26 P P 02 24 28.2 0.0
baz=296,SNR=10
J14K Nanvaranak Lak 68.60 29 IAmb IAmb 02 24 30.4
comp=Z,18nm,1.3s
J14K Nanvaranak Lak 68.60 29 P P 02 24 28.1 -0.3
baz=295,SNR=5.2
B22K Teshekpuk Lake 68.69 20 P P 02 24 28.4 -0.5
baz=300
B21K Ikpikpuk River 68.70 21 P P 02 24 28.7 -0.2
baz=300
E20K Nigu River 68.87 22 P P 02 24 29.7 -0.4
baz=299,SNR=7.3
C21K Knifeblade Rid 68.88 21 P P 02 24 29.7 -0.4
baz=300
E19K Redstone River 68.91 23 P P 02 24 29.8 -0.5
baz=298,SNR=6.1
F19K Shaleruckik Mo 69.01 24 IAmb IAmb 02 24 32.0
comp=Z,14nm,1.2s
F19K Shaleruckik Mo 69.01 24 P P 02 24 30.4 -0.6
baz=298,SNR=7.1
H17K Granite Mounta 69.11 26 P P 02 24 31.5 0.0
baz=297,SNR=13
G18K Tagagawik 69.14 25 P P 02 24 31.3 -0.4
baz=298,SNR=5.9
I17K Unalakleet 69.27 27 P P 02 24 32.4 -0.2
baz=296,SNR=6.7
E21K Killik River 69.49 22 IAmb IAmb 02 24 35.4
comp=Z,18nm,1.1s
E21K Killik River 69.49 22 P P 02 24 34.1 +0.2
baz=301
L14K Kuka Creek 69.57 30 IAmb IAmb 02 24 36.1
comp=Z,16nm,1.1s
L14K Kuka Creek 69.57 30 P P 02 24 34.7 +0.2
baz=296,SNR=8.5
J16K Anvik River 69.58 28 P P 02 24 35.0 +0.5
baz=297,SNR=22
G19K Purcell Mounta 69.58 24 IAmb IAmb 02 24 36.0
comp=Z,14nm,1.2s
G19K Purcell Mounta 69.58 24 P P 02 24 34.7 +0.2
baz=299,SNR=5.8
H18K Honhosa River 69.59 26 IAmb IAmb 02 24 36.0
comp=Z,14nm,1.1s
H18K Honhosa River 69.59 26 P P 02 24 35.0 +0.4
baz=298,SNR=9.0
F20K Avaraart Lake 69.62 23 IAmb IAmb 02 25 33.5
comp=Z,26nm,2.0s
F20K Avaraart Lake 69.62 23 P P 02 24 35.0 +0.4
baz=300
K15K Wolf Creek Mou 69.64 29 IAmb IAmb 02 24 36.9
comp=Z,16nm,1.2s
K15K Wolf Creek Mou 69.64 29 P P 02 24 35.3 +0.4
baz=296,SNR=6.7
D22K Ayikyak River 69.67 21 IAmb IAmb 02 24 37.0
comp=Z,15nm,1.1s
D22K Ayikyak River 69.67 21 P P 02 24 35.4 +0.4
baz=302
KEST Kesra 69.67 300 P P 02 24 35.0 -0.7
comp=Z,17nm,1.1s,baz=359,slow=1.9,SNR=19
comp=Z,17nm,1.1s
M13K Dall Lake 69.68 31 P P 02 24 35.2 +0.1
baz=296
C23K Itkillik River 69.78 20 P P 02 24 35.5 -0.1
baz=303,SNR=5.2
EKA Eskdalemuir Ar 69.93 323 P P 02 24 36.2 -0.6
comp=Z,14nm,1.2s,baz=89,slow=4.6,SNR=4.7
comp=Z,14nm,1.2s
L15K Ungalak Mounta 69.94 30 P P 02 24 36.6 -0.1
baz=297
NIKH Nikolski High 70.02 40 P P 02 24 37.0 -0.4
baz=294
H19K Roundabout Mou 70.11 25 P P 02 24 38.4 +0.6
baz=300,SNR=17
J17K VABM Dome 70.14 27 P P 02 24 38.2 +0.2
baz=298,SNR=12
M14K Bethel 70.15 31 P P 02 24 37.9 -0.1
baz=296,SNR=8.5
D23K Nanushuk River 70.24 20 P P 02 24 38.7 +0.2
baz=303,SNR=5.6
F21K Alatna River 70.28 23 P P 02 24 38.5 -0.3
baz=301,SNR=7.4
E22K Anaktuvuk Pass 70.34 21 P P 02 24 39.4 +0.2
baz=303,SNR=6.5
GCSA Galena City Sc 70.34 26 P P 02 24 39.4 +0.2
baz=299
C24K Franklin Bluff 70.40 19 P P 02 24 39.6 +0.2
baz=305
F22K John River 70.56 22 P P 02 24 40.9 +0.4
baz=302
N14K Kuskokwak Cree 70.64 31 P P 02 24 41.0 0.0
baz=297
G21K Allakaket 70.65 23 P P 02 24 41.0 -0.1
baz=302,SNR=6.9
D24K Happy Valley 70.69 20 P P 02 24 41.0 -0.2
baz=305
H20K Anotleneega Mo 70.70 24 P P 02 24 41.6 +0.2
baz=301,SNR=12
M15K Kasigluk River 70.73 30 P P 02 24 41.4 -0.1
baz=298,SNR=9.4
TOLK Toolik Lake Re 70.75 20 IAmb IAmb 02 24 43.4
comp=Z,14nm,1.1s
TOLK Toolik Lake Re 70.75 20 P P 02 24 41.3 -0.4
baz=304
K17K Iditarod 70.78 28 P P 02 24 41.8 0.0
baz=299,SNR=24
IMAR Indian Mountai 70.84 24 P P 02 24 42.3 +0.1
UNV Unalaska Valle 70.94 38 P P 02 24 43.3 +0.3
baz=295
J18K Innoko River 71.04 27 IAmb IAmb 02 24 44.9
comp=Z,18nm,1.1s
J18K Innoko River 71.04 27 P P 02 24 43.4 -0.1
baz=300,SNR=27
L17K Donlin 71.06 28 P P 02 24 44.5 +0.9
baz=299,SNR=9.6
E23K Chandalar 71.07 21 P P 02 24 43.8 +0.1
baz=304
G22K Bettles 71.10 22 P P 02 24 44.5 +0.8
baz=303
O14K Tigyukauivet M 71.14 32 IAmb IAmb 02 24 46.3
comp=Z,22nm,1.3s
O14K Tigyukauivet M 71.14 32 P P 02 24 44.5 +0.4
baz=298
J19K Poorman 71.19 26 IAmb IAmb 02 24 47.0
comp=Z,23nm,1.2s
J19K Poorman 71.19 26 P P 02 24 45.0 +0.6
baz=301,SNR=23
I20K Naaghedeneel 71.20 25 P P 02 24 44.7 +0.3
baz=301
N15K Kwethluk River 71.24 31 IAmb IAmb 02 24 46.4
comp=Z,14nm,1.1s
N15K Kwethluk River 71.24 31 P P 02 24 44.6 -0.1
baz=298,SNR=6.6
D25K Kavik River 71.29 19 IAmb IAmb 02 24 47.3
comp=Z,14nm,1.1s
D25K Kavik River 71.29 19 P P 02 24 45.0 0.0
baz=307
M16K Timber Creek 71.32 30 IAmb IAmb 02 24 47.7
comp=Z,22nm,1.3s
M16K Timber Creek 71.32 30 P P 02 24 45.9 +0.7
baz=299,SNR=9.6
C26K Camden Bay 71.34 18 P P 02 24 45.6 +0.5
baz=308
H21K Melozitna Rive 71.35 24 IAmb IAmb 02 24 47.7
comp=Z,21nm,1.3s
H21K Melozitna Rive 71.35 24 P P 02 24 45.5 +0.2
baz=302,SNR=12
COLD Coldfoot 71.36 22 P P 02 24 45.8 +0.5
baz=304,SNR=5.0
E24K Your Creek 71.41 21 IAmb IAmb 02 24 48.2
comp=Z,29nm,1.6s
E24K Your Creek 71.41 21 P P 02 24 46.3 +0.6
baz=305
J20K Nowinta River 71.65 26 IAmb IAmb 02 24 49.9
comp=Z,24nm,1.4s
J20K Nowinta River 71.65 26 P P 02 24 47.5 +0.4
baz=302,SNR=15
N16K Nishlik Lake 71.67 30 P P 02 24 48.0 +0.7
baz=299,SNR=7.2
L18K Granite Mounta 71.67 28 IAmb IAmb 02 24 49.1
comp=Z,14nm,1.3s
L18K Granite Mounta 71.67 28 P P 02 24 47.9 +0.6
baz=300,SNR=7.8
G23K Bananza Creek 71.71 22 P P 02 24 47.6 +0.1
baz=304,SNR=5.4
H22K Ishtalitna Cre 71.71 23 P P 02 24 48.0 +0.5
baz=304,SNR=9.3
M17K Holitna River 71.78 29 IAmb IAmb 02 24 51.0
comp=Z,24nm,1.3s
M17K Holitna River 71.78 29 P P 02 24 48.5 +0.5
baz=300,SNR=11
O15K Ungalikthiuk R 71.83 32 IAmb IAmb 02 24 49.5
comp=Z,16nm,1.2s
O15K Ungalikthiuk R 71.83 32 P P 02 24 48.5 +0.2
baz=299,SNR=6.1
C27K Jago River 71.85 18 P P 02 24 48.9 +0.6
baz=309
I21K Tanana 71.89 24 P P 02 24 48.9 +0.3
baz=303
F24K Squaw Lake 71.92 21 P P 02 24 48.9 +0.1
baz=306
K20K Telida 72.11 26 IAmb IAmb 02 24 52.1
comp=Z,15nm,1.2s
K20K Telida 72.11 26 P P 02 24 50.7 +0.7
baz=302,SNR=15
N17K Nushagak Hills 72.32 30 IAmb IAmb 02 24 53.9
comp=Z,16nm,1.4s
N17K Nushagak Hills 72.32 30 P P 02 24 51.4 +0.2
baz=300
H23K Yukon River 72.37 23 P P 02 24 52.1 +0.6
baz=305,SNR=5.7
O16K Kokwok River B 72.40 31 IAmb IAmb 02 24 53.4
comp=Z,21nm,1.2s
O16K Kokwok River B 72.40 31 P P 02 24 52.1 +0.5
baz=300,SNR=10
M18K Stony River 72.40 28 P P 02 24 52.2 +0.5
baz=301,SNR=8.6
MLY Manley 72.42 24 P P 02 24 52.3 +0.5
baz=304,SNR=6.9
L19K White Mountain 72.43 27 IAmb IAmb 02 24 53.9
comp=Z,20nm,1.2s
L19K White Mountain 72.43 27 P P 02 24 52.6 +0.7
baz=302,SNR=15
CHUM Lake Minchumin 72.49 25 P P 02 24 52.4 +0.3
baz=303,SNR=6.2
G24K Hadweenzic Riv 72.54 22 P P 02 24 52.9 +0.5
baz=307,SNR=5.7
F25K Christian Rive 72.56 20 P P 02 24 53.1 +0.4
baz=308,SNR=8.4
SUMG Summit 72.56 347 P P 02 24 52.7 -0.3

SUMG					IAmb	IAmb	02 24 54.6		
	comp=Z,17nm,1.4s								
SUMG	Summit	72.56	347		P	P	02 24 52.7	-0.3	
SUMG					pmax	pmax			
	comp=Z,17nm,1.4s								
CEST	Esterri de Car	72.62	309		IAmb	IAmb	02 24 55.8		
	comp=Z,25nm,1.2s								
L20K	Farewell, AK	72.66	27		P	P	02 24 52.9	-0.3	
	baz=302,SNR=14								
P16K	Nushagak River	72.72	31		P	P	02 24 53.4	-0.3	
	baz=300								
O17K	Koliganek Bris	72.75	30		P	P	02 24 53.5	-0.3	
	baz=301								
M19K	Big River Lodg	72.76	28		IAmb	IAmb	02 24 56.1		
	comp=Z,15nm,1.4s								
M19K	Big River Lodg	72.76	28		P	P	02 24 54.2	+0.4	
	baz=302,SNR=6.0								
N18K	Kilae Creek	72.79	29		IAmb	IAmb	02 24 56.0		
	comp=Z,15nm,1.2s								
N18K	Kilae Creek	72.79	29		P	P	02 24 53.7	-0.3	
	baz=301,SNR=8.5								
I23K	Minto, Yukon-K	72.83	23		P	P	02 24 54.5	+0.4	
	baz=306,SNR=8.9								
CAST	Castle Rocks	72.83	26		IAmb	IAmb	02 24 56.2		
	comp=Z,24nm,1.2s								
CAST	Castle Rocks	72.83	26		P	P	02 24 54.0	-0.2	
	baz=304,SNR=18								
D27M	Malcolm River	72.83	18		P	P	02 24 53.4	-0.8	
	baz=312								
BPAW	Bear Paw Mtn.	72.86	25		IAmb	IAmb	02 24 56.5		
	comp=Z,18nm,1.2s								
BPAW	Bear Paw Mtn.	72.86	25		P	P	02 24 54.7	+0.3	
	baz=304,SNR=18								
H24K	Noodor Dome	72.92	22		P	P	02 24 54.8	0.0	
	baz=307								
G25K	Bearman Lake	72.93	21		P	P	02 24 54.8	+0.1	
	baz=308								
F26K	Sheenjek River	72.95	20		P	P	02 24 55.0	+0.1	
	baz=309								
BMAR	Burnt Mountain	72.99	20		P	P	02 24 56.1	+1.0	
PPLA	Purkeypile	73.08	26		P	P	02 24 55.2	-0.7	
	baz=304,SNR=12								
KTH	Kantishna Hill	73.19	25		IAmb	IAmb	02 24 58.8		
	comp=Z,13nm,1.2s								
NEA2	Nenana	73.25	24		P	P	02 24 56.3	-0.4	
	baz=306,SNR=6.6								
M20K	Styx River	73.28	27		IAmb	IAmb	02 24 59.6		
	comp=Z,20nm,1.2s								
M20K	Styx River	73.28	27		P	P	02 24 56.1	-0.9	
	baz=303								
N19K	Bonanza Creek	73.31	29		IAmb	IAmb	02 24 59.1		
	comp=Z,14nm,1.2s								
N19K	Bonanza Creek	73.31	29		P	P	02 24 57.0	-0.2	
	baz=302,SNR=5.3								
FYU	Fort Yukon	73.33	21		IAmb	IAmb	02 25 00.1		
	comp=Z,26nm,1.4s								
H25L	Birch Creek	73.33	22		P	P	02 24 57.2	+0.1	
	baz=308								
P17K	Kvichak River	73.33	31		P	P	02 24 57.3	+0.1	
	baz=301								
D28M	Stokes Point	73.36	17		P	P	02 24 57.2	0.0	
	baz=314								
E27K	Coleen River	73.36	19		IAmb	IAmb	02 24 59.2		
	comp=Z,16nm,1.2s								
E27K	Coleen River	73.36	19		P	P	02 24 57.2	-0.1	
	baz=311								
S14K	Fog Glacier	73.37	34		P	P	02 24 57.3	-0.3	
	baz=300								
SDPT	Sand Point	73.37	35		P	P	02 24 57.5	0.0	
	baz=299								
TRF	Thorofare Moun	73.48	25		P	P	02 24 57.6	-0.6	
	baz=305								
POKR	Poker Plat Res	73.50	23		P	P	02 24 57.9	-0.3	
	baz=307								
COLA	College	73.51	23		P	P	02 24 58.6	+0.4	
COLA					IAmb	IAmb	02 24 58.8		
	comp=Z,16nm,0.9s								
COLA	College	73.51	23	*c i*	P	P	02 24 58.4	+0.3	
COLA					pmax	pmax			
	comp=Z,17nm,1.0s								
COLA	College	73.51	23		P	P	02 24 58.1	0.0	
	baz=307								
O18K	Kokhab Hills	73.52	30		P	P	02 24 58.1	-0.2	
	baz=302								
G26K	Porcupine Rive	73.53	21		IAmb	IAmb	02 25 00.7		
	comp=Z,15nm,1.2s								
G26K	Porcupine Rive	73.53	21		P	P	02 24 58.8	+0.5	
	baz=310,SNR=8.4								
E28M	Babbage River	73.65	18		IAmb	IAmb	02 25 01.4		
	comp=Z,16nm,1.1s								
E28M	Babbage River	73.65	18		P	P	02 24 58.9	-0.1	
	baz=313,SNR=6.4								
R16K	Pilot Point	73.66	32		P	P	02 24 59.1	0.0	
	baz=301								
O19K	Port Alsworth	73.71	29		P	P	02 24 59.0	-0.4	
	baz=303								
P18K	Big Mountain,	73.75	30		P	P	02 24 59.2	-0.6	
	baz=302								
MCK	McKinley	73.81	25		P	P	02 25 00.0	0.0	
	baz=306								
SKT	Skwentna	73.85	27		IAmb	IAmb	02 25 01.9		
	comp=Z,20nm,1.3s								
SKT	Skwentna	73.85	27		P	P	02 25 00.1	-0.2	
	baz=304,SNR=15								
PRP	Porcupine Dome	73.89	22		IAmb	IAmb	02 25 03.0		
	comp=Z,25nm,1.4s								
PRP	Porcupine Dome	73.89	22		P	P	02 25 00.6	0.0	
	baz=309,SNR=11								
ILAR	Eielson Array	73.90	23		P	P	02 24 59.1	-1.4	
ILAR	Eielson Array	73.90	23		P	P	02 24 59.2	-1.2	
	comp=Z,4.4nm,1.0s,baz=294,slow=5.0,SNR=30								
	comp=Z,4.4nm,1.0s								
N20K	Mount Spurr	74.02	28		P	P	02 25 01.5	+0.2	
	baz=304								
SPCR	Spurr Chakacha	74.02	28		P	P	02 25 01.4	0.0	
	baz=304								
Q17K	Contact Creek	74.06	31		P	P	02 25 01.6	-0.1	
	baz=302								
CHNA	Chernabura Isl	74.07	35		P	P	02 25 01.2	-0.4	
	baz=300								
CUT	Chulitna	74.09	26		P	P	02 25 01.4	-0.3	
	baz=305								
HDA	Harding Lake	74.10	23		P	P	02 25 00.9	-0.8	
	baz=308								
R17L	Mt. Peulik Vol	74.18	32		P	P	02 25 01.6	-0.7	
	baz=302								
F28M	Old Crow	74.23	19		IAmb	IAmb	02 25 04.8		
	comp=Z,15nm,1.1s								
F28M	Old Crow	74.23	19		P	P	02 25 02.2	-0.2	
	baz=313,SNR=9.0								
E29M	Blow River	74.24	18		P	P	02 25 01.9	-0.5	
	baz=314								
Q18K	Katmai Hardscr	74.25	31		P	P	02 25 02.0	-0.8	
	baz=303								
G27K	Doyon Strip	74.26	20		P	P	02 25 02.6	0.0	
	baz=312,SNR=11								
A36M	Sachs Harbour	74.30	12		P	P	02 25 02.3	-0.3	
	baz=325								
SUA	Susitna One	74.45	27		P	P	02 25 03.6	-0.3	
	baz=305,SNR=6.6								
P19K	Oil Pt	74.47	29		P	P	02 25 02.8	-1.2	
	baz=304								
O20K	Slope Mountain	74.48	29		P	P	02 25 02.9	-1.2	
	baz=304								
J25K	Salcha River,	74.51	23		P	P	02 25 03.0	-1.1	
	baz=309,SNR=5.6								
H27K	Steamboat Moun	74.69	20		IAmb	IAmb	02 25 07.8		
	comp=Z,26nm,1.2s								
H27K	Steamboat Moun	74.69	20		P	P	02 25 04.7	-0.4	
	baz=312,SNR=17								
Q19K	Cape Douglas,	74.69	30		P	P	02 25 04.4	-0.8	
	baz=304								
CAPN	Captain Cook N	74.69	28		P	P	02 25 04.5	-0.6	
	baz=305								
I26K	Coal Creek Min	74.79	22		P	P	02 25 04.9	-0.8	
	baz=311								
K24K	Donnelly Dome	74.88	24		IAmb	IAmb	02 25 07.4		
	comp=Z,30nm,1.2s								
K24K	Donnelly Dome	74.88	24		P	P	02 25 05.7	-0.6	
	baz=309,SNR=9.3								
GHO	Glory Hole Cre	74.98	26		IAmb	IAmb	02 25 08.2		
	comp=Z,19nm,1.6s								
PMR	Palmer	75.01	26		IAmb	IAmb	02 25 08.4		
	comp=Z,18nm,1.2s								
PMR	Palmer	75.01	26		P	P	02 25 06.7	-0.3	
	baz=306,SNR=7.1								
RC01	Rabbit Creek A	75.07	27		IAmb	IAmb	02 25 08.1		
	comp=Z,15nm,1.1s								
RC01	Rabbit Creek A	75.07	27		P	P	02 25 07.4	+0.1	
	baz=306,SNR=7.2								
I27K	Kandik River	75.08	21		P	P	02 25 07.1	-0.3	
	baz=312,SNR=20								
J26L	Joseph Creek	75.18	22		P	P	02 25 07.7	-0.4	
	baz=310,SNR=12								
G29M	Pine Creek	75.24	19		IAmb	IAmb	02 25 10.8		
	comp=Z,29nm,1.4s								
G29M	Pine Creek	75.24	19		P	P	02 25 08.3	0.0	
	baz=315,SNR=7.1								
RIDG	Independent Ri	75.24	23		IAmb	IAmb	02 25 09.7		
	comp=Z,22nm,1.3s								
RIDG	Independent Ri	75.24	23		P	P	02 25 08.0	-0.4	
	baz=310,SNR=8.7								
F30M	Barrier River	75.35	18		P	P	02 25 08.7	-0.2	
	baz=316,SNR=9.3								
KNK	Knik Glacier	75.37	26		P	P	02 25 08.4	-0.7	
	baz=307								
SCRK	Sand Creek	75.38	23		IAmb	IAmb	02 25 10.2		
	comp=Z,13nm,1.0s								
SCRK	Sand Creek	75.38	23		P	P	02 25 08.4	-0.8	
	baz=310,SNR=5.7								
Q20K	Shuyak Island	75.41	30		P	P	02 25 08.4	-1.0	
	baz=305								
INK	Inuvik	75.42	17		IAmb	IAmb	02 25 11.1		
	comp=Z,21nm,1.2s								
INK	Inuvik	75.42	17		P	P	02 25 08.7	-0.5	
	baz=318,SNR=9.5								
CHIR	Chirikof Islan	75.49	33		P	P	02 25 09.1	-0.7	
	baz=303								
PAX	Paxson	75.51	24		P	P	02 25 09.2	-0.8	
	baz=309								
SCM	Sheep Creek Mo	75.55	26		IAmb	IAmb	02 25 12.9		
	comp=Z,24nm,1.4s								
SCM	Sheep Creek Mo	75.55	26		P	P	02 25 09.4	-0.8	
	baz=308,SNR=7.2								
H29M	Whitestone	75.63	20		IAmb	IAmb	02 25 12.6		
	comp=Z,28nm,1.4s								
H29M	Whitestone	75.63	20		P	P	02 25 09.8	-0.7	
	baz=314,SNR=13								
G30M	tAoh Zraii Nji	75.69	18		P	P	02 25 10.1	-0.8	
	baz=316,SNR=17								
I28M	Miner Creek	75.70	21		IAmb	IAmb	02 25 12.6		
	comp=Z,13nm,1.1s								
I28M	Miner Creek	75.70	21		P	P	02 25 10.2	-0.8	
	baz=313,SNR=12								
PWL	Port Wells	75.76	27		P	P	02 25 09.7	-1.6	
	baz=307								
SII	Sitkinak Islan	75.76	32		P	P	02 25 10.4	-1.0	
	baz=304								
SEW	Seward	75.77	28		P	P	02 25 10.8	-0.5	
	baz=307								
KDAK	Kodiak Island	75.80	31		P	P	02 25 10.4	-1.2	
	baz=305								
OHAK	Old Harbor	75.80	31		P	P	02 25 10.0	-1.5	
	baz=304								
M24K	Tolsona, Glenn	75.80	25		P	P	02 25 10.4	-1.2	
	baz=309								
K27K	Chicken	75.98	22		IAmb	IAmb	02 25 15.3		
	comp=Z,17nm,1.4s								
K27K	Chicken	75.98	22		P	P	02 25 11.1	-1.5	
	baz=312								
HARP	HAARP	75.99	25		P	P	02 25 12.7	+0.1	
	baz=310								
EPYK	Eagle Plains	75.99	19		IAmb	IAmb	02 25 14.1		
	comp=Z,15nm,1.2s								
EPYK	Eagle Plains	75.99	19		P	P	02 25 11.9	-0.7	
	baz=316,SNR=6.3								
F31M	Tsiigehtchic	76.01	17		P	P	02 25 12.8	+0.2	
	baz=318								
STKA	Stephens Creek	76.09	140		P	P	02 25 14.0	+0.5	
	comp=Z,7.0nm,0.9s,baz=324,slow=15,SNR=3.4								
	comp=Z,7.0nm,0.9s								
GLI	Glacier Island	76.22	26		P	P	02 25 14.0	0.0	
	baz=308								
I29M	Ogilvie Camp,	76.25	20		IAmb	IAmb	02 25 16.4		
	comp=Z,8.3nm,0.4s								
G31M	Satah River	76.26	18		IAmb	IAmb	02 25 15.0		
	comp=Z,22nm,1.2s								
G31M	Satah River	76.26	18		P	P	02 25 13.7	-0.3	
	baz=318,SNR=8.8								
KLU	Klutina	76.28	26		IAmb	IAmb	02 25 16.6		
	comp=Z,26nm,1.3s								
KLU	Klutina	76.28	26		P	P	02 25 14.3	-0.1	
	baz=309,SNR=12								
FID	Port Fidalgo	76.54	26		IAmb	IAmb	02 25 17.6		
	comp=Z,17nm,1.4s								
P23K	Montague Islan	76.65	27		P	P	02 25 15.5	-0.9	
	baz=308								
N25K	Chitina, Valde	76.70	25		IAmb	IAmb	02 25 18.6		
	comp=Z,13nm,1.1s								
N25K	Chitina, Valde	76.70	25		P	P	02 25 16.4	-0.3	
	baz=310,SNR=10								
L27K	Beaver Creek,	76.72	23		IAmb	IAmb	02 25 19.0		
	comp=Z,17nm,1.2s								
L27K	Beaver Creek,	76.72	23		P	P	02 25 16.5	-0.3	
	baz=312,SNR=18								
BCAR	Beaver Creek A	76.73	23		P	P	02 25 17.4	+0.5	
M26K	Nabesna, AK	76.75	24		P	P	02 25 16.4	-0.6	
	baz=311,SNR=6.3								
HIN	Hinchinbrook I	76.75	27		IAmb	IAmb	02 25 18.6		
	comp=Z,14nm,1.1s								
DAWY	Dawson	76.83	21		P	P	02 25 17.0	-0.4	
	baz=314,SNR=7.6								
I30M	Mount Dempster	76.92	20		IAmb	IAmb	02 25 19.6		
	comp=Z,18nm,1.2s								
I30M	Mount Dempster	76.92	20		P	P	02 25 17.3	-0.7	
	baz=316,SNR=15								
EYAK	CordCova Ski Ar	76.95	26		P	P	02 25 17.7	-0.3	
	baz=309								
H31M	Peel River	77.07	19		P	P	02 25 18.6	-0.1	
	baz=318,SNR=18								
BMRM	Bremner River	77.11	26		IAmb	IAmb	02 25 20.5		
	comp=Z,16nm,1.0s								
BMRM	Bremner River	77.11	26		P	P	02 25 18.3	-0.7	
	baz=310,SNR=7.8								
M27K	Edge Creek, AK	77.17	24		IAmb	IAmb	02 25 21.8		
	comp=Z,13nm,1.1s								
M27K	Edge Creek, AK	77.17	24		P	P	02 25 18.8	-0.6	
	baz=312,SNR=14								
J30M	Hart River	77.40	20		P	P	02 25 19.5	-1.2	
	baz=316,SNR=8.4								
MCARA	McCarthy VSAT	77.42	25		IAmb	IAmb	02 25 22.6		
	comp=Z,11nm,1.0s								
MCARA	McCarthy VSAT	77.42	25		P	P	02 25 19.9	-0.8	
	baz=312								
ESDC	Sonseca Array	77.46	309		P	P	02 25 21.4	0.0	
ESDC	Sonseca Array	77.46	309		P	P	02 25 21.2	-0.2	
	comp=Z,8.9nm,1.2s,baz=47,slow=5.6,SNR=22								
	comp=Z,8.9nm,1.2s								
BVCY	Beaver Creek	77.48	23		P	P	02 25 21.2	+0.1	
	baz=313,SNR=8.7								
K29M	Barlow Dome	77.57	21		P	P	02 25 21.7	+0.1	
	baz=316,SNR=14								
PAB	San Pablo	77.78	309		P	P	02 25 24.6	+1.4	
PAB					IAmb	IAmb	02 25 25.3		
	comp=Z,19nm,1.4s								
PAB	San Pablo	77.78	309		P	P	02 25 24.6	+1.4	
PAB					pmax	pmax			
	comp=Z,19nm,1.5s								
CRQE	Cirque	77.81	25		P	P	02 25 22.2	-0.8	
	baz=312								
KAIM	Kayak Island	77.86	26		P	P	02 25 23.5	+0.4	
	baz=311								
L29M	L29M	77.90	22		P	P	02 25 23.4	-0.1	
	baz=315,SNR=11								
YUK3	Moose Creek	78.06	24		P	P	02 25 24.6	+0.1	
	baz=314,SNR=9.3								
M29M	Somme Creek	78.27	22		P	P	02 25 26.1	+0.5	
	baz=315,SNR=8.9								
CTG	Chitna Glacier	78.31	24		P	P	02 25 25.2	-0.6	
	baz=313								
LSZ	Lusaka	78.46	245		P	P	02 25 26.8	-0.5	
LSZ					IAmb	IAmb	02 25 29.1		
	comp=Z,29nm,1.4s								
LSZ	Lusaka	78.46	245		P	P	02 25 26.8	-0.5	
LSZ					pmax	pmax			
	comp=Z,29nm,1.4s								
MESA	MESA	78.62	25		P	P	02 25 27.1	-0.5	
	baz=312								
YUK8	Steele Glacier	78.64	24		P	P	02 25 27.4	-0.5	
	baz=314								
M30M	Minto, Yukon	78.71	22		P	P	02 25 27.8	-0.1	
	baz=316								
O28M	Mount Upton	78.85	24		P	P	02 25 27.9	-1.1	
	baz=318								
YUK4	Talbot Arm	78.98	23		P	P	02 25 29.1	-0.6	
	baz=315								
PINM	Pinnacle	79.29	25		P	P	02 25 30.5	-0.7	
	baz=314								
YUK6	Outpost Mounta	79.36	23		P	P	02 25 31.2	-0.6	
	baz=315								
N30M	Aishikik Lake	79.42	23		P	P	02 25 30.1	-1.8	
	baz=316,SNR=7.7								
HYT	Haines Junctio	79.74	23		P	P	02 25 32.5	-1.2	
	baz=316,SNR=9.6								
M31M	Drury Creek, Y	79.75	21		P	P	02 25 32.9	-0.6	
	baz=318								
O29M	Mount Kennedy	79.75	24		P	P	02 25 31.8	-1.9	
	baz=315								
N31M	Braeburn, Yuko	79.84	22		IAmb	IAmb	02 25 36.0		
	comp=Z,19nm,1.2s								
N31M	Braeburn, Yuko	79.84	22		P	P	02 25 33.4	-0.6	
	baz=317,SNR=12								
PNL	Peninsula	79.90	25		P	P	02 25 32.9	-1.5	
	baz=315								
MMPY	Sheldon Lake,	80.37	20		P	P	02 25 36.3	-0.7	
	baz=321,SNR=12								
P30M	Million Dollar	80.44	24		P	P	02 25 36.2	-1.1	
	baz=316								
P29M	Windy Craggy	80.52	24		P	P	02 25 36.8	-1.0	
	baz=316								
WHY	Whitehorse	80.74	22		P	P	02 25 38.1	-1.0	
	baz=318								
N32M	Quiet Lake	80.95	21		P	P	02 25 39.3	-0.8	
	baz=320								
PLBC	Pleasant Camp	81.13	24		P	P	02 25 39.6	-1.4	
	baz=317								
SKAG	Skagway	81.49	23		IAmb	IAmb	02 25 46.0		
	comp=Z,32nm,1.3s								
SKAG	Skagway	81.49	23		P	P	02 25 42.7	-0.1	
	baz=318,SNR=10								
P33M	Teslin, Yukon	81.75	22		P	P	02 25 43.7	-0.7	
	baz=320,SNR=5.7								
P32M	Atlin	81.94	23		IAmb	IAmb	02 25 47.6		
	comp=Z,16nm,1.4s								
P32M	Atlin	81.94	23		P	P	02 25 43.8	-1.5	
	baz=319,SNR=8.8								
TGTN	Hyland Airport	82.10	19		P	P	02 25 45.7	-0.5	
	baz=323								
S31K	Pelican	82.28	25		P	P	02 25 46.1	-0.9	
	baz=317								
KSANE	Kasane	82.28	244		P	P	02 25 47.2	-0.6	
R32K	Eaglecrest	82.65	24		P	P	02 25 48.5	-0.5	
	baz=319								
Q32M	Nakina River	82.90	22		P	P	02 25 49.3	-1.2	
	baz=320								
R33M	Jennings River	82.98	22		P	P	02 25 50.4	-0.5	
	baz=321,SNR=10								
WTLY	Watson Lake, Y	83.09	20		P	P	02 25 50.8	-0.5	
	baz=323,SNR=6.6								
S32K	Killisnoo	83.24	24		P	P	02 25 51.0	-1.0	
	baz=319								
SIT	Sitka	83.28	25		P	P	02 25 51.0	-1.3	
	baz=318								
DLBC	Dease Lake	84.04	22		P	P	02 25 54.6	-1.7	
	baz=322,SNR=6.4								
S34M	Telegraph Cree	84.09	23		P	P	02 25 55.1	-1.3	
	baz=321								
YKAW3	Yellowknife Wh	84.53	13		IAmb	IAmb	02 26 00.1		
	comp=Z,16nm,1.7s								
YKA	Yellowknife Ar	84.59	13		P	P	02 25 57.8	-1.1	
	comp=Z,3.9nm,1.2s,baz=343,slow=4.9,SNR=11								
	comp=Z,3.9nm,1.2s								
YKA	Yellowknife Ar	84.59	13	*i*	P	P	02 25 58.7	-0.2	
YKA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
YKAW1	Yellowknife Wh	84.62	13		IAmb	IAmb	02 25 60.0		
	comp=Z,6.9nm,1.1s								
U33K	Whale Pass	84.79	25		P	P	02 25 59.0	-0.9	
	baz=322								
WRAK	Wrangell Islan	84.83	24		P	P	02 25 59.7	-0.5	
	baz=320								
LPHEP	Lephephe	84.96	239		P	P	02 26 01.1	-0.3	
T35M	Bob Quinn	85.12	23		P	P	02 26 01.1	-0.6	
	baz=322								
TOAD	Toad River Com	85.17	20		P	P	02 26 01.5	-0.5	
	baz=326,SNR=5.3								
CRAG	Craig	85.28	25		P	P	02 26 02.0	-0.5	
	baz=320								
V35K	Ketchikan	85.94	25		P	P	02 26 05.3	-0.4	
	baz=321								
TORD	Torodi Ar. Bea	86.12	283		P	P	02 26 06.5	-0.9	
GRTLG	Ghanzi	87.35	244		P	P	02 26 14.4	+1.1	
GRTLG					IAmb	IAmb	02 26 16.0		
	comp=Z,29nm,1.3s								
SYO	Syowa Base	106.86	198	⫛ *e*	Pdiff	Pdif	02 27 44.1	+3.4	
SYO	Syowa Base	106.86	198	⫛ *e*	PKiKP	PKiKP	02 31 50.6	+0.1	
QSPA	South Pole Qui	120.06	180		PKP	PKPdf	02 32 15.2	-0.6	
	comp=Z,3.6nm,1.1s,baz=291,slow=2.8,SNR=3.5								
ROSC	El Rosal	143.57	342		PKP	PKPbc	02 32 59.8	+0.6	
	comp=Z,5.8nm,0.4s,baz=336,slow=9.8,SNR=4.5								

KRSC 11 02:26:07.0±1.3,56°15N×164°31E,h46^{km}±18^{km},MI3.9,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.84	274	*eP*	Pn	02 26 22.4	0.0
KBG	Krutoberegovo	0.90	277	*eP*	Pn	02 26 23.8	+0.6
KBG				*eS*	Sn	02 26 35.9	+0.7
BKI	Bering	1.34	135	*eP*	Pn	02 26 30.8	+1.6
BKI				*eS*	Sn	02 26 47.5	+1.8
SMKR	Semkarok	1.64	286	*eP*	Pn	02 26 36.0	+2.6
SRKR	Sorokina	1.82	287	*eS*	Sn	02 27 00.4	+2.8
ZLN	Zelenaya	1.97	267	*eP*	Pn	02 26 41.0	+3.1
CIRR	Tsirk	1.99	270	*eP*	Pn	02 26 40.9	+2.6
BZGR	Bezymyannyi-Gr	2.04	265	*eP*	Pn	02 26 42.0	+3.1
KLY	Klyuchi	2.05	276	*eP*	Pn	02 26 40.2	+1.3
KLY				*eS*	Sn	02 27 03.8	+0.6
BZWR	Bezymyannyi-We	2.15	266	*eP*	Pn	02 26 43.2	+2.8
BZMR	Bezymyannaya	2.15	266	*eP*	Pn	02 26 43.8	+3.2
MKZ	Mys Kozlova	2.18	224	*eP*	Pn	02 26 42.8	+2.2
MKZ				*eS*	Sn	02 27 08.3	+2.0
KIRR	Kirishev	2.23	266	*eP*	Pn	02 26 44.8	+3.2
KPT	Kopyto	2.30	267	*eP*	Pn	02 26 46.1	+3.6
KMNR	Kamenistaya	2.33	262	*eP*	Pn	02 26 46.0	+3.2
TUMD	Tumrok D	2.41	248	*eP*	Pn	02 26 47.5	+3.5
TUMD				*eS*	Sn	02 27 16.1	+3.9
KOZ	Kozyrevsk	2.49	270	*eP*	Pn

0.8nm,0.8s,baz=107,slow=7.9,SNR=5.4
0.8nm,0.8s
PETK Petropavlovsk- 50.52 44 P **P** **02 44 16.2 +0.9**
0.7nm,0.4s,baz=263,slow=10.0,SNR=1.5
0.7nm,0.4s
AKASG Malin Array Be 52.08 313 P **P** **02 44 26.9 -0.2**
1.2nm,0.7s,baz=77,slow=7.0,SNR=6.8
1.2nm,0.7s
NOA NORSAR Array B 61.01 326 P **P** **02 45 31.4 +0.9**
0.5nm,0.7s,baz=82,slow=6.8,SNR=3.3
0.5nm,0.7s
GERES GERESS Array B 62.29 313 P **P** **02 45 39.9 +0.6**
0.4nm,0.6s,baz=53,slow=8.8,SNR=4.0
0.4nm,0.6s
ASAR Alice Springs 65.44 140 P **P** **02 46 01.0 +0.8**
0.5nm,0.8s,baz=324,slow=6.5,SNR=4.8
0.5nm,0.8s

SCB ***11*** *02:56:52.7±1.2,20.98S×67.83W,h162km±8km, ML3.6/5, MW3.2, Error ellipse: s-maj=3.3km s-min=2.5km az=2.0*
SJA ***11*** *02:56:52.2±0.6,20.89S×68.01W,h179km±5km, ML3.3, MW3.5*
GUC ***11*** *02:56:54.3±0.7,20.92S×67.99W,h180km±6km, ML3.7*
ISC 11 02:56:52.1±1.5,20.96S±0.04×67.85W±0.04,
h178km±13km, n54, σ1s03/83, 3C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB08	**IPOC Station P**	**1.47**	**303**	*e*P		**Pn**	**02 57 24.7**	**+0.6**
PB08				*e*S		**Sn**	**02 57 48.2**	**-0.5**
PB08	**IPOC Station P**	**1.47**	**303**	*e*P		**Pn**	**02 57 24.6**	**+0.5**
PB08				*e*S		**Sn**	**02 57 48.8**	**+0.1**
PB08				IAML			02 57 50.6	
	comp=Z,133nm,0.6s							
PB08	**IPOC Station P**	**1.47**	**303**	Pg		**Pn**	**02 57 24.5**	**+0.5**
PB01	**IPOC Station P**	**1.53**	**267**	*e*P		**Pn**	**02 57 24.5**	**+0.2**
PB01				*e*S		**Sn**	**02 57 48.1**	**-1.1**
PB01				IAML			02 57 52.0	
	comp=N,445nm,0.2s							
PB01	**IPOC Station P**	**1.53**	**267**	*e*P		**Pn**	**02 57 24.5**	**+0.2**
PB01				*e*S		**Sn**	**02 57 49.3**	**+0.1**
PB01				IAML			02 57 52.1	
	comp=Z,264nm,0.2s							
PB01	**IPOC Station P**	**1.53**	**267**	Pg		**Pn**	**02 57 24.5**	**+0.2**
PB01				Sg		**Sn**	**02 57 48.4**	**-0.8**
PB01				IAML			02 57 52.0	
	comp=Z,454nm,0.2s							
PB09	**IPOC Station P**	**1.54**	**237**	*e*P		**Pn**	**02 57 26.0**	**+1.5**
PB09				*e*S		**Sn**	**02 57 50.3**	**+0.7**
PB09	**IPOC Station P**	**1.54**	**237**	Pg		**Pn**	**02 57 24.8**	**+0.3**
GO01	**Chusmiza**	**1.80**	**315**	*e*P		**Pn**	**02 57 27.8**	**+0.4**
GO01				*e*S		**Sn**	**02 57 54.4**	**-0.4**
GO01				IAML			02 58 00.5	
	comp=E,1μm,0.1s							
GO01	**Chusmiza**	**1.80**	**315**	*e*P		**Pn**	**02 57 27.1**	**-0.4**
GO01				*e*S		**Sn**	**02 57 58.9**	**+4.1**
GO01				IAML			02 58 03.6	
	comp=Z,140nm,0.1s							
GO01	**Chusmiza**	**1.80**	**315**	Pg		**Pn**	**02 57 27.9**	**+0.4**
PB02	**IPOC Station P**	**1.94**	**259**	↑*e*P		**Pn**	**02 57 29.2**	**+0.7**
PB02				*e*S		**Sn**	**02 57 55.5**	**-1.2**
PB02				IAML			02 57 56.7	
	comp=N,762nm,0.4s							
PB02	**IPOC Station P**	**1.94**	**259**	*e*P		**Pn**	**02 57 29.2**	**+0.7**
PB02				*e*S		**Sn**	**02 57 56.9**	**+0.2**
PB02	**IPOC Station P**	**1.94**	**259**	Pg		**Pn**	**02 57 29.0**	**+0.5**
PB02				Sg		**Sn**	**02 57 56.2**	**-0.5**
PB02				IAML			02 57 56.6	
	comp=N,648nm,0.4s							
AF01	**San Pedro de A**	**2.00**	**189**	*e*P		Pn	02 57 40.4	+11
AF01				IAML			02 58 25.0	
	comp=Z,46nm,0.8s							
HMBC	**Humberstone**	**2.03**	**289**	↓*e*P		**Pn**	**02 57 29.2**	**-0.2**
HMBC				*e*S		**Sn**	**02 57 56.7**	**-1.7**
HMBC				IAML			02 57 58.3	
	comp=N,496nm,0.2s							
HMBC	**Humberstone**	**2.03**	**289**	*e*P		**Pn**	**02 57 29.3**	**-0.2**
HMBC				*e*S		**Sn**	**02 57 56.9**	**-1.5**
HMBC				IAML			02 57 59.8	
	comp=Z,374nm,0.3s							
HMBC	**Humberstone**	**2.03**	**289**	Pg		**Pn**	**02 57 29.5**	**0.0**
PB11	**IPOC Station P**	**2.08**	**305**	↓*e*P		**Pn**	**02 57 30.1**	**+0.1**
PB11				*e*S		**Sn**	**02 57 57.9**	**-1.5**
PB11				IAML			02 58 01.1	
	comp=N,1μm,0.1s							
PB11	**IPOC Station P**	**2.08**	**305**	*e*P		**Pn**	**02 57 30.0**	**0.0**
PB11				*e*S		**Sn**	**02 57 59.1**	**-0.3**
PB11				IAML			02 58 01.0	
	comp=Z,247nm,0.1s							
PB11	**IPOC Station P**	**2.08**	**305**	Pg		**Pn**	**02 57 30.3**	**+0.3**
PB11				Sg		**Sn**	**02 57 58.3**	**-1.1**
PB11				IAML			02 58 01.0	
	comp=Z,648nm,0.2s							
PB03	**IPOC Station P**	**2.08**	**238**	*e*P		**Pn**	**02 57 30.7**	**+0.8**
PB03				*e*S		**Sn**	**02 57 58.6**	**-0.8**
PB03				IAML			02 57 59.8	
	comp=N,192nm,0.2s							
PB03	**IPOC Station P**	**2.08**	**238**	*e*P		**Pn**	**02 57 30.9**	**+0.8**
PB03				*e*S		**Sn**	**02 57 59.4**	**-0.1**
PB03				IAML			02 58 01.5	
	comp=Z,138nm,0.2s							
PB03	**IPOC Station P**	**2.08**	**238**	Pg		**Pn**	**02 57 30.8**	**+0.8**
PB03				Sg		**Sn**	**02 57 59.3**	**-0.1**
PB03				IAML			02 57 59.8	
	comp=Z,176nm,0.2s							
MOCB	**Mochara**	**2.08**	**98**	Pg		**Pn**	**02 57 30.6**	**+0.2**
MOCB				Sg		**Sn**	**02 57 59.0**	**-1.0**
MOCB				IAML			02 57 59.6	
	comp=Z,110nm,0.4s							
PATCX	**Punta Patache**	**2.16**	**273**	*i* P		**Pn**	**02 57 31.0**	**+0.2**
PATCX				*i* S		**Sn**	**02 57 59.2**	**-1.7**
PATCX				IAML			02 58 01.4	
	comp=N,469nm,0.2s							
TA01	**Diego Aracena**	**2.22**	**280**	↑*e*P		**Pn**	**02 57 31.1**	**-0.3**
TA01				*e*S		**Sn**	**02 57 59.8**	**-2.2**
TA01				IAML			02 58 01.1	
	comp=E,473nm,0.4s							
TA01	**Diego Aracena**	**2.22**	**280**	*e*P		**Pn**	**02 57 31.4**	**0.0**
TA01				*e*S		**Sn**	**02 58 00.5**	**-1.4**
TA01				IAML			02 58 01.7	
	comp=Z,172nm,0.6s							
TA02	**Huaiquique**	**2.25**	**287**	↑*e*P		**Pn**	**02 57 31.9**	**+0.2**
TA02				*e*S		**Sn**	**02 58 00.2**	**-2.3**
TA02	**Huaiquique**	**2.25**	**287**	*e*P		**Pn**	**02 57 32.0**	**+0.2**
TA02				IAML			02 58 05.1	
	comp=Z,389nm,0.1s							
PB06	**IPOC Station P**	**2.36**	**222**	*e*P		**Pn**	**02 57 34.5**	**+1.3**
PB06				*e*S		**Sn**	**02 58 05.2**	**0.0**
PB06				IAML			02 58 06.8	
	comp=E,247nm,0.1s							
PB06	**IPOC Station P**	**2.36**	**222**	*e*P		**Pn**	**02 57 35.0**	**+1.8**
PB06				*e*S		**Sn**	**02 58 06.0**	**+0.8**
PB06				IAML			02 58 09.7	
	comp=Z,79nm,0.3s							
PB06	**IPOC Station P**	**2.36**	**222**	Pg		**Pn**	**02 57 34.3**	**+1.1**
SOEO	**Opoqueri**	**2.39**	**359**	Pg		**Pn**	**02 57 34.7**	**+0.8**
PB05	**IPOC Station P**	**2.88**	**229**	*e*S		**Sn**	**02 58 15.0**	**-1.3**
PB05				IAML			02 58 16.4	
	comp=N,46nm,0.3s							
PB05	**IPOC Station P**	**2.88**	**229**	*e*P		**Pn**	**02 57 40.3**	**+1.0**
PB05				*e*S		**Sn**	**02 58 15.4**	**-0.8**
PB05				IAML			02 58 21.8	
	comp=Z,35nm,0.3s							
PB05	**IPOC Station P**	**2.88**	**229**	Pg		**Pn**	**02 57 40.2**	**+0.8**
AOVT	**TarijaAcel**	**2.99**	**102**	Pg		**Pn**	**02 57 40.9**	**+0.2**
SOET	**ToroToro**	**3.42**	**34**	Pg		**Pn**	**02 57 46.2**	**0.0**
PB10	**IPOC Station P**	**3.57**	**224**	*e*P		**Pn**	**02 57 48.8**	**+1.1**
PB10				*e*S		**Sn**	**02 58 29.8**	**-1.3**
PB10				IAML			02 58 33.0	
	comp=Z,34nm,1.9s							
PB10	**IPOC Station P**	**3.57**	**224**	Pg		**Pn**	**02 57 48.3**	**+0.6**
AOEA	**Aiquile**	**3.71**	**42**	Pg		**Pn**	**02 57 49.7**	**0.0**
BBOJ	**La Paz, Jacaqu**	**3.98**	**355**	Pg		**Pn**	**02 57 54.7**	**+1.3**
SOEJ	**Jacaque**	**3.98**	**355**	Pg		**Pn**	**02 57 54.5**	**+1.1**
BBOE	**La Paz, Chanca**	**4.13**	**358**	Pg		**Pn**	**02 57 57.1**	**+1.7**
AZAP	**Zapla**	**4.14**	**142**	*e*P		**Pn**	**02 57 55.6**	**+0.5**
AZAP				IAML			02 58 55.8	
	comp=Z,16nm,0.5s							
SLA	**San Lorenzo**	**4.32**	**150**	*e*P		**Pn**	**02 57 59.3**	**+1.9**
SLA				IAML			02 59 11.7	
	comp=Z,13nm,3.4s							
PB14	**IPOC Station P**	**4.34**	**212**	Pg		**Pn**	**02 57 57.6**	**-0.2**
BBOD	**La Paz, Gloria**	**4.36**	**350**	Pg		**Pn**	**02 57 59.7**	**+1.4**
GO02	**Mina Guanaco**	**4.48**	**201**	*e*P		**Pn**	**02 57 59.9**	**+0.4**
GO02				*e*S		**Sn**	**02 58 52.1**	**-0.3**
GO02				IAML			02 58 57.3	
	comp=Z,66nm,0.1s							
ALOL	**LOMAS DE OLMED**	**4.57**	**129**	*e*P		**Pn**	**02 57 59.9**	**-0.6**
ALOL				*e*S		**Sn**	**02 58 52.6**	**-1.4**
LPAZ	**La Paz**	**4.66**	**357**	*e*P		**Pn**	**02 58 03.2**	**+1.0**
LPAZ	**La Paz**	**4.66**	**357**	Pg		**Pn**	**02 58 03.1**	**+0.9**
BBOB	**La Paz, Bander**	**4.80**	**357**	Pg		**Pn**	**02 58 04.7**	**+0.7**

IDC ***11*** *03:17:43.3±0.7,47.85N×156.25E, h0km, mb4.2/34, mbtmp4.2/38, ML3.7/3, MS3.2/9, Error ellipse: s-maj=17.9km s-min=12.5km az=162.0*
MOS ***11*** *03:17:44.4±0.9,47.97N×156.30E, h15km, mb4.7/21, Error ellipse: s-maj=9.4km s-min=3.8km az=84.8*
KRSC ***11*** *03:17:45.0±1.4,48.03N×157.34E, h17km±44km, Ml4.8*
NEIC ***11*** *03:17:45.9±1.3,47.95N±0.07×156.15E±0.07, h10km±1km, mb4.5/39, Error ellipse: s-maj=13.1km s-min=5.7km az=207.0*
SKHL ***11*** *03:17:45.5±0.9,47.90N×156.10E, h32km±2km, mb5.2/4, ms4.5/3*
ISC 11 03:17:48.2±0.5,47.82N±0.06×156.31E±0.06, h35km, n254, σ1s93/266, mb4.4/78, MS3.5/10, 11C-10D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**2.87**	**358**	*e*PN		**Pn**	**03 18 29.5**	**-1.9**
SKR				*e*S		**Sn**	**03 19 01.3**	**-3.5**
SKR				pmax		pmax		
	comp=Z,163nm,0.6s							
SKR				smax		smax		
	comp=N,644nm,0.6s							
SKR				smax		smax		
	comp=E,878nm,0.6s							
SKR				MLR		MLR		
	comp=N,900nm,14.0s							
SKR				MLR		MLR		
	comp=Z,900nm,14.0s							
SKR				MLR		MLR		
	comp=E,900nm,13.0s							
SKR	**Severo-Kuril's**	**2.87**	**358**	*e*P		**Pn**	**03 18 30.4**	**-1.0**
SKR				*e*S		**Sn**	**03 19 02.7**	**-2.0**
SKR	**Severo-Kuril's**	**2.87**	**358**	*e*P		**Pn**	**03 18 29.2**	**-2.2**
SKR				AMB		AMB	03 18 33.2	
	comp=E,160nm,0.3s							
SKR				*e*S		**Sn**	**03 19 01.2**	**-3.5**
SKR				A		A	03 19 06.5	
	comp=E,650nm,0.5s							
SKR				A		A	03 19 06.5	
	comp=E,880nm,0.5s							
SKR				AMS		AMS	03 20 25.0	
	comp=E,900nm,9.0s							
SKR				AMS		AMS	03 20 25.0	
	comp=E,1μm,9.0s							
PAU	**Pauzhetka**	**3.67**	**5**	PN		**Pn**	**03 18 40.6**	**-1.7**
PAU				S		**Sn**	**03 19 21.8**	**-2.5**
PAU	**Pauzhetka**	**3.67**	**5**	*e*P		**Pn**	**03 18 40.7**	**-1.7**
PAU				*e*S		**Sn**	**03 19 21.8**	**-2.5**
PAU	**Pauzhetka**	**3.67**	**5**	*i* P		**Pn**	**03 18 40.8**	**-1.6**
PAU				AMB		AMB	03 19 07.5	
	comp=E,800nm,0.3s							
PAU				*i* S		**Sn**	**03 19 21.9**	**-2.5**
PAU				A		A	03 19 23.6	
	comp=E,2μm,0.5s							
PAU				A		A	03 19 23.6	
	comp=E,660nm,0.5s							
PAU				AMS		AMS	03 19 51.8	
	comp=E,1μm,10.0s							
PAU				AMS		AMS	03 19 51.8	
	comp=E,1μm,10.0s							
ASAK	**Asacha**	**4.69**	**12**	PN		**Pn**	**03 18 54.8**	**-1.6**
ASAK	**Asacha**	**4.69**	**12**	*e*P		**Pn**	**03 18 54.8**	**-1.6**
MTVR	**Mutnovka**	**4.83**	**14**	PN		**Pn**	**03 18 56.2**	**-2.2**
MTVR	**Mutnovka**	**4.83**	**14**	*e*P		**Pn**	**03 18 56.2**	**-2.2**
MTVR				*e*S		**Sn**	**03 19 49.2**	**-3.9**
RUS	**Russkaya**	**4.83**	**16**	PN		**Pn**	**03 18 55.6**	**-2.8**
RUS	**Russkaya**	**4.83**	**16**	*e*P		**Pn**	**03 18 55.6**	**-2.8**
RUS				*e*S		**Sn**	**03 19 48.9**	**-4.1**
GRL	**Gorelyy**	**4.88**	**13**	PN		**Pn**	**03 18 57.0**	**-2.0**
GRL	**Gorelyy**	**4.88**	**13**	*e*P		**Pn**	**03 18 57.0**	**-2.0**
APC	**Apacha**	**5.14**	**6**	PN		**Pn**	**03 19 02.3**	**-0.3**
APC	**Apacha**	**5.14**	**6**	*e*P		**Pn**	**03 19 02.4**	**-0.3**
KRMR	**Karymshinskiy**	**5.15**	**12**	PN		**Pn**	**03 19 00.8**	**-1.9**
KRMR	**Karymshinskiy**	**5.15**	**12**	*e*P		**Pn**	**03 19 00.9**	**-1.9**
KRMR				*e*S		**Sn**	**03 19 59.0**	**-2.0**
PEA0B	**Petropavlovsk-**	**5.37**	**9**			**Pn**	**03 19 04.8**	**-1.0**
PEA0B	**Petropavlovsk-**	**5.37**	**9**	*de*PN		**Pn**	**03 19 04.5**	**-1.3**
PETK	**Petropavlovsk-**	**5.37**	**9**	Pn		**Pn**	**03 19 03.8**	**-2.0**
	comp=E,4.6nm,0.3s,baz=186,slow=13,SNR=39							
PETK				Sn		**Sn**	**03 20 07.2**	**+0.8**
	comp=E,0.3nm,0.3s,baz=209,slow=13,SNR=1.4							
PETK				LR		LR	03 21 16.1	
	comp=E,178nm,21.2s,baz=215,slow=40							
	comp=E,17nm,0.5s							
PET	**Petropavlovsk**	**5.42**	**15**			**Pn**	**03 19 04.2**	**-2.2**
PET				Sn		**Sn**	**03 20 04.4**	**-3.2**
PET	**Petropavlovsk**	**5.42**	**15**	↑*i* PN		**Pn**	**03 19 04.4**	**-2.1**
PET				pmax		pmax		
	comp=Z,59nm,0.6s							
PET				MLR		MLR		
	comp=Z,200nm,8.0s							
PET	**Petropavlovsk**	**5.42**	**15**	*e*P		**Pn**	**03 19 04.3**	**-2.1**
PET				*e*S		**Sn**	**03 20 04.0**	**-3.6**
PET	**Petropavlovsk**	**5.42**	**15**	*i* P		**Pn**	**03 19 04.4**	**-2.1**
PET				AMB		AMB	03 19 20.8	
	comp=Z,50nm,0.3s							
PET				*i* S		**Sn**	**03 20 04.4**	**-3.2**
PET				A		A	03 20 05.4	
	comp=Z,230nm,0.5s							
PET				A		A	03 20 05.4	
	comp=Z,350nm,0.5s							
DALK	**Dalny**	**5.45**	**16**	PN		**Pn**	**03 19 04.5**	**-2.3**
DALK	**Dalny**	**5.45**	**16**	*e*P		**Pn**	**03 19 04.5**	**-2.3**
DALK				*e*S		**Sn**	**03 20 04.2**	**-4.0**
INSR	**Institute**	**5.46**	**15**	*e*S		**Sn**	**03 20 05.6**	**-2.8**
UGLR	**Uglovaya**	**5.63**	**16**	PN		**Pn**	**03 19 07.6**	**-1.8**
UGLR	**Uglovaya**	**5.63**	**16**	*e*P		**Pn**	**03 19 07.7**	**-1.8**
AVH	**Avacha**	**5.67**	**15**	PN		**Pn**	**03 19 08.9**	**-1.0**
AVH	**Avacha**	**5.67**	**15**	*e*P		**Pn**	**03 19 09.0**	**-1.0**
AVH	**Avacha**	**5.67**	**15**	*e*P		**Pn**	**03 19 08.9**	**-1.0**
KOK	**Koryaka**	**5.68**	**14**	PN		**Pn**	**03 19 09.1**	**-1.0**
KOK	**Koryaka**	**5.68**	**14**	*e*P		**Pn**	**03 19 09.1**	**-1.0**
KOK	**Koryaka**	**5.68**	**14**	*e*P		**Pn**	**03 19 09.1**	**-1.0**
SMAR	**Somma**	**5.68**	**15**	PN		**Pn**	**03 19 09.2**	**-0.9**
SMAR	**Somma**	**5.68**	**15**	*e*P		**Pn**	**03 19 09.3**	**-0.9**
SDLR	**Sedlovina**	**5.71**	**16**	PN		**Pn**	**03 19 07.6**	**-2.9**
SDLR	**Sedlovina**	**5.71**	**16**	*e*P		**Pn**	**03 19 07.6**	**-2.9**
KRER	**Koryakskii**	**5.71**	**15**	PN		**Pn**	**03 19 08.6**	**-2.0**
KRER	**Koryakskii**	**5.71**	**15**	*e*P		**Pn**	**03 19 08.7**	**-2.0**
KRX	**Arik**	**5.75**	**14**	PN		**Pn**	**03 19 10.1**	**-0.9**
KRX	**Arik**	**5.75**	**14**	*e*P		**Pn**	**03 19 10.1**	**-0.9**
SPN	**Mys Shipunski**	**5.79**	**23**	PN		**Pn**	**03 19 09.1**	**-2.4**
SPN	**Mys Shipunski**	**5.79**	**23**	*e*P		**Pn**	**03 19 09.2**	**-2.4**
SPN				*e*S		**Sn**	**03 20 11.4**	**-5.3**
GNL	**Ganaly**	**5.98**	**9**	PN		**Pn**	**03 19 13.3**	**-0.8**
GNL	**Ganaly**	**5.98**	**9**	*e*P		**Pn**	**03 19 13.4**	**-0.8**
KUR	**Kuril'sk**	**6.37**	**249**	*e*PN		**Pn**	**03 19 16.3**	**-3.2**
KUR				pmax		pmax		
	comp=Z,64nm,0.4s							
KUR				pmax		pmax		
	comp=N,23nm,0.2s							
KUR	**Kuril'sk**	**6.37**	**249**	*e*P		**Pn**	**03 19 17.6**	**-1.9**
KUR				AMB		AMB	03 19 20.6	
	comp=N,60nm,0.3s							
KUR				*e*S		**Sn**	**03 20 26.3**	**-4.7**
KUR				A		A	03 20 33.8	
	comp=N,160nm,0.4s							
KUR				A		A	03 20 33.8	
	comp=N,150nm,0.4s							
KUR				AMS		AMS	03 20 52.7	
	comp=N,4μm,10.0s							
KUR				AMS		AMS	03 20 52.7	
	comp=N,5μm,10.0s							
MKZ	**Mys Kozlova**	**7.56**	**25**	PN		**Pn**	**03 19 32.5**	**-3.2**
MKZ	**Mys Kozlova**	**7.56**	**25**	*e*P		**Pn**	**03 19 32.5**	**-3.2**
SHO	**Shikotan**	**7.71**	**243**	*e*PN		**Pn**	**03 19 36.0**	**-1.8**
SHO				pmax		pmax		
	comp=E,9.0nm,0.3s							
SHO				pmax		pmax		
	comp=Z,27nm,0.3s							
SHO				pmax		pmax		
	comp=N,10.0nm,0.2s							
SHO	**Shikotan**	**7.71**	**243**	*e*P		**Pn**	**03 19 36.2**	**-1.6**
SHO				AMB		AMB	03 19 52.3	
	comp=N,30nm,0.3s							
SHO				*e*S		**Sn**	**03 20 57.9**	**-5.9**
SHO				A		A	03 21 01.2	
	comp=N,80nm,0.3s							
SHO				A		A	03 21 01.2	
	comp=N,70nm,0.3s							
TUMD	**Tumrok D**	**7.82**	**17**	*e*S		**Sn**	**03 21 00.4**	**-6.3**
YUK	**Yuzh-Kuril'sk**	**8.21**	**246**	PN		**Pn**	**03 19 42.3**	**-2.4**
YUK	**Yuzh-Kuril'sk**	**8.21**	**246**	*e*P		**Pn**	**03 19 42.6**	**-2.1**
YUK				*e*S		**Sn**	**03 21 10.9**	**-5.2**
YUK				AMS		AMS	03 21 35.5	
	comp=N,2μm,13.0s							
YUK				AMS		AMS	03 21 35.5	
	comp=N,1μm,13.0s							
RUSJ	**Misakicho**	**8.55**	**248**	*e*PN		**Pn**	**03 19 48.0**	**-1.4**
NMR	**Nemuro--Hokkai**	**8.65**	**243**	↓*i* PN		**Pn**	**03 19 46.1**	**-4.6**
NMR	**Nemuro--Hokkai**	**8.65**	**243**	*i* P		**Pn**	**03 19 46.3**	**-4.4**
YSS	**Yuzhno-Sakhali**	**9.24**	**270**	*e*PN		**Pn**	**03 20 03.2**	**+4.4**
YSS				pmax		pmax		
	comp=Z,20nm,0.7s							
YSS	**Yuzhno-Sakhali**	**9.24**	**270**	*e*P		**Pn**	**03 19 56.8**	**-2.0**
YSS				AMB		AMB	03 19 57.4	
	comp=Z,20nm,0.2s							
KBTR	**Krutoberegovo**	**9.31**	**23**	PN		**Pn**	**03 19 57.9**	**-1.8**
KBTR	**Krutoberegovo**	**9.31**	**23**	*e*P		**Pn**	**03 19 57.9**	**-1.8**
TYV	**Tymovskoe**	**9.42**	**294**	*e*PN		**Pn**	**03 20 03.5**	**+2.2**
TYV				pmax		pmax		
	comp=Z,12nm,0.8s							
TYV				pmax		pmax		
	comp=Z,200nm,4.2s							
TYV	**Tymovskoe**	**9.42**	**294**	*e*P		**Pn**	**03 19 59.0**	**-2.3**
TYV				AMB		AMB	03 20 06.2	
	comp=Z,20nm,0.6s							
BKI	**Bering**	**9.53**	**36**	*e*S		Sn	03 21 37.7	-11
JKA	**Kamikawa-asahi**	**10.24**	**254**	Pn		**Pn**	**03 20 12.4**	**-0.1**
ASAJ	**Asahikawa**	**10.24**	**254**	Pn		**Pn**	**03 20 11.1**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=72,slow=18,SNR=8.2							
ASAJ				Sn		**Sn**	**03 22 08.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=173,slow=26,SNR=1.2							
ASAJ				LR		LR	03 23 25.8	
	comp=Z,59nm,21.2s,baz=7.5,slow=34							
	comp=Z,7.7nm,0.7s							
ASAJ	**Asahikawa**	**10.24**	**254**	PN		**Pn**	**03 20 12.4**	**-0.1**
ERM	**Erimo**	**10.98**	**243**	Pn		**Pn**	**03 20 20.5**	**-2.1**
ERM	**Erimo**	**10.98**	**243**	PN		**Pn**	**03 20 20.5**	**-2.1**
MA2	**Magadan**	**12.23**	**347**	LR		LR	03 25 16.4	
	comp=Z,128nm,18.8s,baz=184,slow=37							
JTM	**Tenmabayashi**	**12.97**	**243**	Pn		Pn	03 20 44.6	-5.3
SEY	**Seymchan**	**15.31**	**353**	↓*e*P		**Pn**	**03 21 20.0**	**-1.4**
SEY				pmax		pmax		
	comp=Z,9.0nm,1.6s							
SEY				MLR		MLR		
	comp=Z,216nm,14.0s							
USRK	**Ussuriysk Ar.**	**17.26**	**267**	P		**Pn**	**03 21 44.7**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=5.1							
	comp=Z,1.5nm,0.5s							
MJA0	**Matsu Arr-Jizo**	**17.45**	**236**	*e*P		**P**	**03 21 51.3**	**+1.6**
MAJO	**Matsushiro**	**17.47**	**236**	P		**P**	**03 21 50.1**	**+0.2**
MAJO	**Matsushiro**	**17.47**	**236**	↑*i* P		**P**	**03 21 51.3**	**+1.4**
MAJO				pmax		pmax		
	comp=Z,94nm,4.0s							
MJAR	**Matsushiro Arr**	**17.47**	**236**	P		**P**	**03 21 50.2**	**+0.3**
MJAR	**Matsushiro Arr**	**17.47**	**236**	P		**Pn**	**03 21 47.7**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=33,slow=9.5,SNR=12							
MJAR	**Matsushiro Arr**	**17.47**	**236**	P		**P**	**03 21 50.2**	**+0.3**
MJAR				pmax		pmax		
	comp=Z,3.0nm,1.1s							
MJB9	**Matsu-Tunnel**	**17.47**	**236**			**P**	**03 21 49.7**	**-0.3**
ZEA	**Zeya**	**19.23**	**299**	*e*P		**Pn**	**03 22 09.5**	**-0.7**
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ZEA				MLR		MLR		
	comp=Z,100nm,16.0s							
ZEA	**Zeya**	**19.23**	**299**	*e*P		**P**	**03 22 08.3**	**-0.7**
ZEA				AMB		AMB	03 22 13.8	
	comp=Z,10.0nm,0.7s							
YAK	**Yakutsk**	**20.69**	**323**	P		**P**	**03 22 24.6**	**-0.2**
YAK				IAmb		IAmb	03 22 28.7	
	comp=Z,22nm,0.8s							
YAK	**Yakutsk**	**20.69**	**323**	P		**P**	**03 22 24.7**	**-0.2**
	comp=Z,15nm,0.4s,baz=113,slow=7.7,SNR=6.2							
	comp=Z,15nm,0.4s							
YAK	**Yakutsk**	**20.69**	**323**	*e*P		**P**	**03 22 22.1**	**-2.7**
YAK				pmax		pmax		
	comp=Z,31nm,1.3s							
YAK				pmax		pmax		
	comp=N,7.0nm,1.6s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.2s							
KSRS	**Korea Array**	**23.19**	**254**	P		**P**	**03 22 52.4**	**+0.7**
	comp=E,7.3nm,0.8s,baz=49,slow=10,SNR=17							
KSRS				LR		LR	03 31

HYT	Haines Junctio	38.98	45	P		P		03 25 12.4	+1.6
LZH	Lanzhou	40.02	273	*e*P		P		03 25 21.1	+1.3
LZH				sP		pP		03 25 28.3	+0.4
LZH				pmax		pmax			
	comp=Z,24nm,1.2s								
R33M	Jennings River	42.51	46			P		03 25 41.9	+2.0
ZALV	Zalesovo Beam	43.76	306	P		P		03 25 48.2	-1.6
	comp=Z,1.3nm,0.4s,baz=56,slow=7.0,SNR=4.7								
ZALV				PcP		PcP		03 27 35.8	-0.3
	comp=Z,0.8nm,0.4s,baz=48,slow=2.1,SNR=4.0								
	comp=Z,1.3nm,0.4s								
ZALV	Zalesovo Beam	43.76	306	*e*P		P		03 25 48.7	-1.1
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.5s								
WMQ	Urumqi	46.56	292	*e*P		P		03 26 14.4	+2.0
WMQ				LR		LR			
	comp=Z,210nm,23.8s								
PZH	PanZhiHua	47.31	263	P		P		03 26 19.4	+0.9
MK31	Makanchi Array	48.38	298	P		P		03 26 25.9	-0.4
MK31				IAmb		IAmb		03 26 29.0	
	comp=Z,3.4nm,0.6s								
MK31	Makanchi Array	48.38	298	*de*P		P		03 26 26.0	-0.4
MKAR	Makanchi Array	48.38	298	P		P		03 26 26.2	-0.1
	comp=Z,3.3nm,0.6s,baz=64,slow=7.7,SNR=29								
	comp=Z,3.3nm,0.6s								
KURK	Kurchatov	48.58	304			P		03 26 27.6	-0.3
KURK				IAmb		IAmb		03 26 30.3	
	comp=Z,4.9nm,0.7s								
KURK	Kurchatov	48.58	304	⇑ *i*P		P		03 26 27.0	-0.8
KURK				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KURK	Kurchatov	48.58	304	*e*P		P		03 26 27.0	-0.8
KURBB	Kurchatov Arra	48.67	304	P		P		03 26 28.1	-0.4
	comp=Z,4.3nm,0.6s,baz=66,slow=8.3,SNR=17								
KURBB				PcP		PcP		03 27 53.5	+0.1
	comp=Z,0.4nm,0.3s,baz=65,slow=3.6,SNR=4.3								
	comp=Z,4.3nm,0.6s								
YKA	Yellowknife Ar	48.75	38	P		P		03 26 29.6	+0.7
	comp=Z,0.8nm,0.6s,baz=291,slow=11,SNR=5.9								
	comp=Z,0.8nm,0.6s								
YKA	Yellowknife Ar	48.75	38	*i* P		P		03 26 30.0	+1.0
YKA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
BVAR	Borovoye Array	51.85	310	P		P		03 26 52.1	-0.5
	comp=Z,2.3nm,0.4s,baz=64,slow=7.1,SNR=15								
BVAR				PcP		PcP		03 28 05.2	+0.2
	comp=Z,1.6nm,0.7s,baz=46,slow=4.3,SNR=4.1								
	comp=Z,2.3nm,0.4s								
BRVK	Borovoye	51.89	310	⇑ *e*P		P		03 26 51.4	-1.4
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.6s								
SPITS	Spitsbergen Ar	51.94	350	P		P		03 26 53.3	+0.4
	comp=Z,11nm,0.9s,baz=50,slow=7.8,SNR=5.8								
	comp=Z,11nm,0.9s								
SPITS	Spitsbergen Ar	51.94	350	P		P		03 26 53.2	+0.3
SPITS								03 26 53.3	
SPITS				pmax		pmax			
	comp=Z,23nm,1.2s								
TARG	Taragay, Kyrgy	53.82	295	IAmb		IAmb		03 27 07.9	
	comp=Z,3.6nm,0.6s								
CMAR	Chiang Mai Arr	54.73	258	P		P		03 27 14.4	+0.3
	comp=Z,1.2nm,0.3s,baz=30,slow=7.3,SNR=6.0								
	comp=Z,1.2nm,0.3s								
CMAR	Chiang Mai Arr	54.73	258	*e*P		P		03 27 16.3	+2.2
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
NEW	Newport	54.79	55	P		P		03 27 13.7	-0.6
NEW				IAmb		IAmb		03 27 15.3	
	comp=Z,2.7nm,0.5s								
NEW	Newport	54.79	55	P		P		03 27 13.7	-0.6
NEW				pmax		pmax			
	comp=Z,3.0nm,0.5s								
AAK	Ala-Archa	55.30	297	⇑ *i*P		P		03 27 19.1	+0.9
AAK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AAK	Ala-Archa	55.30	297	*e*P		P		03 27 19.1	+0.9
ARTI	Arti	55.79	318	P		P		03 27 19.5	-1.7
ARTI	Arti	55.79	318	P		P		03 27 20.4	-0.9
	comp=Z,3.9nm,0.5s,baz=69,slow=1.2,SNR=10.0								
	comp=Z,3.9nm,0.5s								
ARTI	Arti	55.79	318	*c i*P		P		03 27 21.0	-0.3
ARTI								03 28 16.6	
ARTI				S		S		03 35 07.1	+1.6
ARTI				SS		SS		03 38 48.8	-1.7
ARTI				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KSH	Kashi	56.24	293	P		P		03 27 28.1	+3.1
KSH				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KKAR	Karatay Array	57.38	300	P		P		03 27 33.1	+0.3
KKAR	Karatay Array	57.38	300	P		P		03 27 33.1	+0.3
ARCES	ARCESS Array B	57.55	342			P		03 27 34.1	+0.5
ARCES	ARCESS Array B	57.55	342	P		P		03 27 33.6	+0.1
	comp=Z,2.7nm,0.8s,baz=34,slow=8.8,SNR=8.6								
ARCES				LR		LR		03 55 21.4	
	comp=Z,26nm,21.6s,baz=74,slow=39								
	comp=Z,2.7nm,0.8s								
KIRV	Kirov	58.22	324	*de*P		P		03 27 39.3	+0.9
AB31	Akbulak array	59.40	311	P		P		03 27 47.2	+0.5
ABKAR	Akbulak array	59.40	311	P		P		03 27 47.2	+0.5
SUMG	Summit	59.47	5	P		P		03 27 48.6	+1.3
SUMG	Summit	59.47	5	P		P		03 27 48.7	+1.3
SUMG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
AKTO	Aktyubinsk	59.62	313	P		P		03 27 48.5	+0.2
	comp=Z,1.7nm,0.6s,baz=23,slow=4.5,SNR=5.6								
	comp=Z,1.7nm,0.6s								
NVAR	Mina Array Bea	60.01	65	P		P		03 27 52.2	+0.8
	comp=Z,1.9nm,0.9s,baz=294,slow=7.4,SNR=7.3								
	comp=Z,1.9nm,0.9s								
KLMR	Klimovskoe	60.30	330	*e*P		P		03 27 51.1	-1.7
KLMR				pmax		pmax			
	comp=Z,17nm,0.9s								
PDAR	Pinedale Array	62.35	56	P		P		03 28 07.8	+0.6
	comp=Z,0.2nm,0.4s,baz=318,slow=2.0,SNR=4.1								
	comp=Z,0.2nm,0.4s								
BELG	Belogornoye	63.16	319	P		P		03 28 12.1	0.0
	comp=Z,19nm,0.8s,baz=251,slow=1.8,SNR=7.5								
	comp=Z,19nm,0.8s								
BELG	Belogornoye	63.16	319	*d i*P		P		03 28 12.6	+0.5
BELG				pmax		pmax			
	comp=Z,4.0nm,1.0s								
FIA1	FINESS Array S	63.98	336	P		P		03 28 18.2	+0.8
FINES	FINESS Array B	63.98	336	P		P		03 28 18.1	+0.7
FINES	FINESS Array B	63.98	336	P		P		03 28 17.8	+0.4
	comp=Z,5.2nm,0.5s,baz=37,slow=7.7,SNR=75								
	comp=Z,5.2nm,0.5s								
PV10	Paradox Valley	65.56	59	IAmb		IAmb		03 28 30.6	
	comp=Z,4.9nm,1.0s								
OBN	Obninsk	65.64	327	⇑ *e*P		P		03 28 28.7	+0.4
OBN				*e*				03 29 00.8	
OBN				*e*				03 30 50.2	
OBN				pmax		pmax			
	comp=Z,30nm,2.2s								
OBN				MLR		MLR			
	comp=Z,30nm,15.0s								
OBN	Obninsk	65.64	327	*e*P		P		03 28 28.7	+0.4
VSU	Vasula	66.25	334	⇑ *e*P		P		03 28 31.9	-0.3
VSU				pmax		pmax			
	comp=Z,16nm,0.9s								
NC204	NORSAR Array S	67.77	343	P		P		03 28 42.4	+0.5
NB2	NORSAR Subarra	67.89	343	P		P		03 28 43.3	+0.6
	comp=Z,1.4nm,0.7s,baz=23,slow=6.5								
NB2	NORSAR Subarra	67.89	343	P		P		03 28 46.5	+3.8
NOA	NORSAR Array B	67.89	343	P		P		03 28 43.2	+0.5
	comp=Z,1.6nm,0.6s,baz=25,slow=6.4,SNR=11								
NOA				LR		LR		04 03 06.5	
	comp=Z,18nm,18.6s,baz=100,slow=40								
	comp=Z,1.6nm,0.6s								
NOA	NORSAR Array B	67.89	343	*e*P		P		03 28 43.5	+0.8
NOA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
HFS	Hagfors	68.19	341	P		P		03 28 45.1	+0.6
	comp=Z,3.2nm,0.7s,baz=68,slow=5.5,SNR=17								
	comp=Z,3.2nm,0.7s								
MNK	Minsk	69.16	331	*i* P		P		03 28 50.3	-0.3
MNK				*i*				03 29 14.2	
MNK				*i*				03 31 22.5	
MNK				*i* PPP		PPP		03 33 02.4	
MNK				*i* S		S		03 37 54.7	+1.2
MNK				*i*				03 38 49.6	
MNK				*i* SS		SS		03 42 21.5	+2.5
MNK				pmax		pmax			
	comp=Z,10.0nm,0.7s								
MNK				pmax		pmax			
	comp=N,7.0nm,0.8s								
MNK				pmax		pmax			
	comp=E,9.0nm,0.8s								
MNK				MLR		MLR			
	comp=E,80nm,16.0s								
MNK				MLR		MLR			
	comp=N,110nm,23.0s								
MNK				MLR		MLR			
	comp=Z,30nm,19.0s								
KIV	Kislovodsk	71.59	316	*e*P		P		03 29 07.0	+1.3
KIV				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KBZ	Khabaz	71.66	316	P		P		03 29 06.5	+0.6
	comp=Z,4.4nm,0.8s,baz=132,slow=2.5,SNR=9.1								
	comp=Z,4.4nm,0.8s								
KBZ	Khabaz	71.66	316	⇑ *e*P		P		03 29 06.8	+0.8
KBZ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KBZ	Khabaz	71.66	316	*e*P		P		03 29 06.8	+0.8
SHA1	Shidzhatmaz	71.77	316	⇑ *e*P		P		03 29 08.5	+1.5
AKASG	Malin Array Be	71.84	328	P		P		03 29 06.4	-0.6
	comp=Z,2.3nm,0.5s,baz=33,slow=6.3,SNR=10								
	comp=Z,2.3nm,0.5s								
AKASG	Malin Array Be	71.84	328	*e*P		P		03 29 06.7	-0.3
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
AKBB	Malin Array Si	71.84	328	P		P		03 29 06.8	-0.2
AKBB				IAmb		IAmb		03 29 08.8	
	comp=Z,3.5nm,0.7s								
AKBB	Malin Array Si	71.84	328	*de*P		P		03 29 06.6	-0.4
AKBB				pmax		pmax			
	comp=Z,14nm,2.4s								
KIEV	Kiev	71.85	328	P		P		03 29 06.9	-0.1
KIEV				IAmb		IAmb		03 29 08.8	
	comp=Z,3.2nm,0.7s								
KIEV	Kiev	71.85	328	P		P		03 29 06.9	-0.1
KIEV				pmax		pmax			
	comp=Z,3.0nm,0.7s								
GNI	Garni	73.47	312	LR		LR		04 04 26.0	
	comp=Z,14nm,20.6s,baz=84,slow=38								
ASAR	Alice Springs	73.95	201	P		P		03 29 20.5	+0.7
	comp=Z,0.8nm,0.6s,baz=5.8,slow=4.8,SNR=5.0								
	comp=Z,0.8nm,0.6s								
APMT	Aspermont	74.24	58	P		P		03 29 22.3	+0.7
APMT				IAmb		IAmb		03 29 22.8	
	comp=Z,4.1nm,0.7s								
TX31	Lajitas Ar. Si	75.07	63	P		P		03 29 27.5	+1.0
TX31				IAmb		IAmb		03 29 27.9	
	comp=Z,2.6nm,0.7s								
TXAR	Lajitas Array	75.07	63	P		P		03 29 27.3	+0.8
	comp=Z,2.6nm,0.7s,baz=302,slow=4.5,SNR=36								
	comp=Z,2.6nm,0.7s								
STHS	Stebnicka Huta	75.65	332	*e*P		P		03 29 32.5	+3.1
STHS	Stebnicka Huta	75.65	332	*e*P		P		03 29 32.5	+3.1
KOLS	Kolonicke sedl	75.74	331	*e*P		P		03 29 33.2	+3.3
KOLS	Kolonicke sedl	75.74	331	*e*P		P		03 29 33.2	+3.3
EKA	Eskdalemuir Ar	75.78	348	P		P		03 29 31.0	+1.0
	comp=Z,0.5nm,0.5s,baz=16,slow=6.0,SNR=6.4								
	comp=Z,0.5nm,0.5s								
EKA	Eskdalemuir Ar	75.78	348	P		P		03 29 31.0	+1.0
BURAR	Bucovina Array	75.86	328	P		P		03 29 31.3	+0.6
BURAR				IAmb		IAmb		03 29 36.1	
	comp=Z,2.0nm,0.6s								
OSTC	Ostas	76.17	335	*e*P		P		03 29 35.6	+3.3
OSTC	Ostas	76.17	335	*e*P		P		03 29 35.6	+3.3
STEB	Steborice	76.27	334	*e*P		P		03 29 34.4	+1.5
CLL	Collm	76.36	337	*e*P		P		03 29 34.0	+0.7
CLL	Collm	76.36	337	*e*P		P		03 29 34.0	+0.7
LANS	Liptovska Anna	76.45	332	*e*P		P		03 29 36.5	+2.5
LANS	Liptovska Anna	76.45	332	*e*P		P		03 29 36.5	+2.5
MORC	Moravsky Berou	76.48	334	P		P		03 29 37.3	+3.2
MORC				IAmb		IAmb		03 29 49.3	
	comp=Z,3.8nm,0.9s								
MORC	Moravsky Berou	76.48	334	*e*P		P		03 29 35.2	+1.1
MORC	Moravsky Berou	76.48	334	P		P		03 29 37.3	+3.2
MORC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
FCAR	Ozark Folk Cen	76.70	51	IAmb		IAmb		03 29 36.0	
	comp=Z,3.8nm,0.7s								
DRIO	Del Rio	76.81	61	P		P		03 29 37.6	+1.3
DRIO				IAmb		IAmb		03 29 38.3	
	comp=Z,3.9nm,1.0s								
PRU	Pruhonice	77.15	336	*e*P		P		03 29 42.1	+4.3
PRU	Pruhonice	77.15	336	*e*P		P		03 29 42.1	+4.3
VRAC	Vranov	77.17	334	P		P		03 29 38.7	+0.7
	comp=Z,1.9nm,0.5s,baz=4.9,slow=3.7,SNR=8.6								
VRAC				LR		LR		04 06 49.5	
	comp=Z,29nm,18.1s,baz=21,slow=38								
	comp=Z,1.9nm,0.5s								
VRAC	Vranov	77.17	334	*e*P		P		03 29 39.4	+1.4
VYHS	Vyhne	77.22	333	*e*P		P		03 29 41.8	+3.5
VYHS	Vyhne	77.22	333	*e*P		P		03 29 41.8	+3.5
MLR	Muntele Rosu	77.41	327	IAmb		IAmb		03 29 45.8	
	comp=Z,3.9nm,0.6s								
MLR	Muntele Rosu	77.41	327	P		P		03 29 39.8	+0.3
	comp=Z,2.4nm,0.6s,baz=45,slow=6.3,SNR=17								
	comp=Z,2.4nm,0.6s								
KRUC	Moravsky	77.45	334	*e*P		P		03 29 40.5	+0.9
TREC	Trest	77.51	335	*e*P		P		03 29 41.1	+1.2
TREC				*e*				03 29 44.8	
TREC	Trest	77.51	335	*e*P		P		03 29 41.1	+1.2
TREC				*ep*P		pP		03 29 44.8	-3.8
ZVC	Zvikov	77.74	336	*e*P		P		03 29 43.7	+2.5
ZVC				*ep*P		pP		03 29 46.7	-3.3
KHC	Kasperske Hory	78.19	336	*e*P		P		03 29 45.1	+1.4
KHC	Kasperske Hory	78.19	336	*e*P		P		03 29 45.1	+1.4
CKRC	Cesky Krumlov	78.27	335	*e*P		P		03 29 47.4	+3.3
CKRC	Cesky Krumlov	78.27	335	*e*P		P		03 29 47.4	+3.3
GERES	GERESS Array B	78.42	336	P		P		03 29 45.4	+0.3
	comp=Z,13nm,0.6s,baz=30,slow=5.2,SNR=13								
	comp=Z,1.3nm,0.6s								
CONA	Conrad Observa	78.63	334	*ep*P		P		03 29 47.3	+1.1
	comp=Z,1.6nm,0.9s								
MEM	Membach	78.68	341	*d*P		P		03 29 46.5	+0.2
RONA	Rosalia, Austr	78.70	334	*ep*P		P		03 29 48.5	+1.9
	comp=Z,3.9nm,1.0s								
BR131	Keskin Array S	79.07	319	⇑ *e*P		P		03 29 49.4	+0.5
BRTR	Keskin Array B	79.07	319	P		P		03 29 49.4	+0.5
	comp=Z,0.8nm,0.8s,baz=116,slow=2.9,SNR=5.2								
	comp=Z,0.8nm,0.8s								
MOA	Molln	79.16	335	*ep*P		P		03 29 50.5	+1.4
	comp=Z,2.5nm,1.0s								
BIOA	Bad Ischl, Aus	79.48	335	*ep*P		P		03 29 51.9	+1.1
	comp=Z,1.3nm,0.6s								
LESA	Schwarzleotal	79.99	336	*ep*P		P		03 29 55.3	+1.6
	comp=Z,1.6nm,0.8s								
KBA	Koelnbreinsper	80.12	335	*ep*P		P		03 29 56.1	+1.6
	comp=Z,3.9nm,1.0s								
OBKA	Obir	80.29	334	*ep*P		P		03 29 56.3	+1.0
	comp=Z,1.0nm,0.8s								
WATA	Walderalm	80.37	337	*e*P		P		03 29 55.9	+0.1
	comp=Z,2.7nm,0.8s								
WTTA	Wattenberg	80.42	336	*e*P		P		03 29 54.6	-1.5
	comp=Z,6.3nm,1.0s								
MOTA	Moosalm	80.49	337	*ep*P		P		03 29 57.3	+0.8
	comp=Z,7.4nm,1.1s								
SQTA	Sankt Quirin	80.58	337	*ep*P		P		03 29 57.9	+1.1
	comp=Z,5.5nm,1.2s								
ABTA	Abfaltersbach	80.66	336	*e*P		P		03 29 57.1	-0.2
	comp=Z,2.0nm,1.0s								
FETA	Feichten	80.89	337	*e*P		P		03 29 58.2	-0.4
	comp=Z,1.9nm,1.0s								
DAVOX	Davos/Dischmat	81.33	337	P		P		03 30 01.8	+0.8
	comp=Z,1.6nm,0.7s,baz=49,slow=2.4,SNR=7.4								
	comp=Z,1.6nm,0.7s								
ASF	Jabal al Asfar	83.64	312	P		P		03 30 14.0	+0.9
	comp=Z,1.1nm,0.8s,baz=3.9,slow=12,SNR=2.5								
	comp=Z,1.1nm,0.8s								
MMAI	Mount Meron Ar	83.70	314	P		P		03 30 14.0	+0.6
	comp=Z,1.3nm,0.5s,baz=44,slow=6.4,SNR=4.4								
	comp=Z,1.3nm,0.5s								
FDMO	Fiordimonte	83.89	334	IAmb		IAmb		03 30 28.5	
	comp=Z,4.7nm,1.0s								
ESDC	Sonseca Array	91.14	345	P		P		03 30 49.5	+0.3
	comp=Z,0.4nm,0.8s,baz=8.9,slow=4.6,SNR=4.0								
ESDC				LR		LR		04 17 46.5	
	comp=Z,15nm,20.1s,baz=6.5,slow=40								
	comp=Z,0.4nm,0.8s								
KEST	Kesra	91.73	334	P		P		03 30 52.5	+0.4
	comp=Z,1.3nm,0.9s,baz=30,slow=3.3,SNR=16								
	comp=Z,1.3nm,0.9s								
QSPA	South Pole Qui	137.55	180	PKP		PKPdf		03 37 06.2	-0.7
	comp=Z,0.8nm,0.8s,baz=11,slow=1.0,SNR=1.8								
CPUP	Villa Florida	146.04	63	PKPbc		PKPab		03 37 24.4	-0.4
	comp=Z,0.2nm,0.5s,baz=331,slow=1.2,SNR=3.5								
PLCA	Paso Flores	146.14	96	PKPbc		PKPdf		03 37 23.4	+0.2
	comp=Z,1.9nm,0.7s,baz=286,slow=3.2,SNR=5.7								

IDC ***11*** *03:29:17.5±0.6,41°.52N×46°.60E,h0km,mb4.0/18, mbtmp4.0/30,ML3.8/11,MS3.4/22, Error ellipse: s-maj=10.6km s-min=7.8km az=151.0*

NSSP ***11*** *03:29:18.3,41°.52N×46°.57E,h10km,Ms4.5*

AZER ***11*** *03:29:18.1,41°.57N×46°.47E,h6km,ml4.4*

MOS ***11*** *03:29:18.8,41°.54N×46°.59E,h10km,MPVA4.8*

DRS ***11*** *03:29:19.9,41°.53N×46°.58E,h18km*

TIF ***11*** *03:29:19.4,41°.57N×46°.55E,h11km*

NEIC ***11*** *03:29:20.3±2.5,41°.61N±0°.03×46°.7E±0°.1,h10km±1km, mb4.3/33, Error ellipse: s-maj=13.2km s-min=5.5km az=102.0*

NNC ***11*** *03:29:22.7±2.5,41°.47N×47°.38E,h0km,mb4.4, Error ellipse: s-maj=39.5km s-min=29.7km az=126.0*

ISC 11 03:29:20.2±0.8, 41°.56N±0°.01×46°.55E±0°.01, h13km±5km, n306,σ1§85/432, mb4.2/48, MS3.4/13, 27C-25D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZKTA	Zakatala	0.10	35	P		Pg		03 29 22.9	-0.4
ZKTA				S		Sg		03 29 25.1	-0.3
VSHL	Vashlovani	0.35	199	P		Pn		03 29 29.6	-1.3
VSHL				S		Sn		03 29 48.3	+11
TLTR	Tlyarata	0.57	345	*e*Pg		Pg		03 29 31.1	-0.3
TLTR				*e*Sg		Sg		03 29 39.4	+0.4
TLTR	Tlyarata	0.57	345	*e*PG		Pg		03 29 31.1	-0.3
TLTR				*e*S		Sg		03 29 39.3	+0.4
TLTR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
SEKA	Sheki	0.60	125	Pg		Pg		03 29 31.4	-0.6
SEKA				Sg		Sb		03 29 41.0	0.0
SEKA	Sheki	0.60	125	PG		Pg		03 29 31.0	-1.0
MNGR	Mingechevir, A	0.88	152	P		Pb		03 29 37.5	+0.1
MNGR				S		Sn		03 29 52.1	+1.2
MNGR	Mingechevir, A	0.88	152	PG		Pn		03 29 37.9	-0.4
GNBR	Gunib	0.89	20	*e*Pg		Pg		03 29 37.3	-0.1
GNBR				*e*Sg		Sb		03 29 50.2	+0.9
GNBR	Gunib	0.89	20	*de*PG		Pg		03 29 37.3	-0.1
GNBR				*e*S		Sn		03 29 50.9	-0.3
GNBR				pmax		pmax			
	comp=Z,603nm,0.2s								
GNBR				smax		smax			
	comp=N,5μm,0.6s								
DGRG	David-gareji	0.89	263	P		Pn		03 29 38.8	+0.3
DGRG				S		Sn		03 29 53.9	+2.7
DGRG	David-gareji	0.89	263	*e*PG		Pn		03 29 38.7	+0.3
DGRG				*e*S		Sn		03 29 53.8	+2.7
AKT	Akhty	0.89	95	*e*Pg		Pg		03 29 36.4	-1.1
AKT				*e*Sg		Sg		03 29 48.1	-1.1
AKT	Akhty	0.89	95	*e*PG		Pg		03 29 36.4	-1.1
AKT				*e*S		Sg		03 29 48.1	-1.1
AKT				pmax		pmax			
	comp=Z,517nm,0.2s								
GANJ	Ganja	0.93	191	P		Pb		03 29 37.7	-0.4
GANJ				S		Sn		03 29 51.4	-0.7
GANJ	Ganja	0.93	191	PG		Pb		03 29 37.6	-0.5
XNZR	Khunzakh	0.99	7	*e*Pg		Pn		03 29 39.8	-0.1
XNZR				*e*Sg		Sn		03 29 53.8	-0.1
HNZR	Khunzah	1.01	7	*e*PG		Pg		03 29 39.8	+0.1
HNZR				*e*S		Sn		03 29 53.8	-0.5
HNZR				pmax		pmax			
	comp=Z,2μm,0.3s								
URKR	Urkarakh	1.01	53	*e*Pg		Pb		03 29 39.3	-0.4
URKR				*e*Sg		Sg		03 29 53.2	+0.2
URKR	Urkarakh	1.01	53	*e*PG		Pb		03 29 39.3	-0.4
URKR				*e*S		Sg		03 29 53.2	+0.2
QZX	Qazax, Azerbai	1.02	241	P		Pb		03 29 39.5	-0.1
QZX				S		Sn		03 29 54.7	+0.5
GDB	GEDABAY	1.03	216	P		Pb		03 29 39.3	-0.6
GDB				S		Sg		03 29 53.8	+0.2
ARKR	Arakani	1.10	18	*e*Pg		Pb		03 29 41.1	0.0
ARKR				*e*Sg		Sn		03 29 57.2	+0.9
ARKR	Arakani	1.10	18	*e*PG		Pb		03 29 41.1	0.0
ARKR				*e*S		Sn		03 29 57.2	+0.9
BTLR	Botlikh	1.13	348	*e*Pg		Pn		03 29 41.8	0.0
BTLR				*e*Sg		Sn		03 29 57.5	+0.3
BTLR	Botlikh	1.13	348	*d i*PG		Pb		03 29 41.7	+0.1
BTLR				pmax		pmax			
	comp=Z,235nm,0.3s								
QBL	Gabala	1.15	122	P		Pb		03 29 41.5	-0.4
QBL				S		Sn		03 29 58.4	+0.9
UNCR	Uncukul	1.17	9	*e*Pg		Pg		03 29 42.6	-0.2
UNCR				*e*Sg		Sn		03 29 59.8	+1.7
UNCR

KANR **Karaman** 1.78 23 *e*Pg **Pg** 03 29 54.0 -0.3
KANR **Karaman** 1.78 23 *e*PN **Pg** 03 29 54.0 -0.3
KANR *e*S **Sg** 03 30 22.7 +5.2
TRLG **Trialeti** 1.83 270 P **Pn** 03 29 51.1 -0.4
TRLG S **Sb** 03 30 17.5 +0.9
TRLG **Trialeti** 1.83 270 *e*PN **Pn** 03 29 51.1 -0.4
SIZA **Siyzn** 1.84 104 Pg **Pg** 03 29 56.0 +0.6
SIZA Sn **Sg** 03 30 19.5 +0.3
KAPZ **Kaputan** 1.87 229⇓ *i*P **Pb** 03 29 53.8 -0.4
KAPZ ⇓ *i*S **Sg** 03 30 19.1 -1.2
ATGJ **Altiaghaj** 1.93 110 Pn **Pb** 03 29 55.5 +0.2
ATGJ Sg **Sg** 03 30 23.0 +0.6
KMGR **Komgaron** 1.95 321 *e*Pg **Pg** 03 29 58.0 +0.4
KMGR *e*Sg **Sg** 03 30 24.4 +1.5
KMGR **Komgaron** 1.95 321 *e*PN **Pg** 03 29 58.0 +0.4
KMGR *e*S **Sg** 03 30 24.4 +1.5
GNI **Garni** 1.96 225 **Pb** 03 29 55.3 -0.6
GNI **Garni** 1.96 225 Pn **Pb** 03 29 55.2 -0.7
comp=N,397nm,0.3s,baz=23,slow=1.7,SNR=726
GNI Sn **Sg** 03 30 23.0 -0.3
comp=N,264nm,0.3s,baz=330,slow=17,SNR=9.3
GNI LR LR 03 30 28.9
comp=N,212nm,18.2s,baz=122,slow=36
GNI **Garni** 1.96 225⇓ *i*P **Pb** 03 29 55.2 -0.6
GNI **Garni** 1.96 225 *e*Pg **Pb** 03 29 55.4 -0.6
GNI *e*Sg **Sg** 03 30 23.9 +0.5
GNI **Garni** 1.96 225 *d*PN **Pb** 03 29 55.0 -0.9
GNI *e*S **Sg** 03 30 24.9 +1.5
GNI pmax pmax
comp=Z,2µm,0.6s
BLQ **Beylaqan** 1.99 157 Pn **Pn** 03 29 54.2 +0.7
BLQ Sn **Sb** 03 30 21.9 +1.0
VLKR **Vladikavkaz** 2.03 318 *e*Pg **Pg** 03 29 58.8 -0.4
VLKR *e*Sg **Sg** 03 30 26.9 +1.2
VLKR **Vladikavkaz** 2.03 318 *e*PN **Pg** 03 29 58.8 -0.4
VLKR *e*S **Sg** 03 30 26.8 +1.2
VAYK **Vayk** 2.05 205 *i*P **Pb** 03 29 56.4 -0.8
VAYK *i*S **Sg** 03 30 24.5 -1.5
GRS **Goris** 2.06 185⇓ *i*P **Pb** 03 29 57.0 -0.5
GRS ⇓ *i*S **Sg** 03 30 25.0 -1.5
GBS **Qobustan** 2.08 119 Pn **Pb** 03 29 58.5 +0.7
GBS Sg **Sg** 03 30 27.1 0.0
AMBZ **Amberd** 2.09 237⇓ *i*P **Pb** 03 29 57.3 -0.9
AMBZ ⇑ *i*S **Sg** 03 30 27.0 -0.4
KMOZ **Kamo** 2.09 250⇑ *i*P **Pb** 03 29 57.5 -0.6
KMOZ ⇓ *i*S **Sg** 03 30 26.8 -0.7
LACR **Lac** 2.10 308 *e*Pg **Pb** 03 29 57.4 -0.8
LACR *e*Sg **Sg** 03 30 26.6 -1.1
LACR **Lac** 2.10 308 *e*PN **Pb** 03 29 57.4 -0.8
LACR *e*S **Sg** 03 30 26.6 -1.1
NRKZ **NAREK** 2.12 223⇑ *i*P **Pb** 03 29 58.5 +0.1
NRKZ ⇑ *i*S **Sg** 03 30 28.6 +0.4
QRD **Qoradiz** 2.18 164 Pn **Pn** 03 29 57.0 +0.9
QRD Sn **Sb** 03 30 26.7 +0.4
SAAT **Saatly** 2.21 139 Sn **Sn** 03 30 25.3 +1.5
BGD **Bogdanovka** 2.24 263 P **Pn** 03 29 58.8 +1.6
BGD S **Sb** 03 30 28.6 +0.4
BGD **Bogdanovka** 2.24 263 *e*PN **Pn** 03 29 58.7 +1.6
BGD *e*S **Sb** 03 30 28.6 +0.4
HYR **Heyderabad** 2.25 216 Pg **Pb** 03 29 59.7 -0.9
HYR Sn **Sb** 03 30 28.7 +0.4
ARUZ **Aruch** 2.25 236⇑ *i*P **Pb** 03 30 00.5 -0.3
ARUZ ⇑ *i*S **Sb** 03 30 30.6 +2.0
SBZ **Shahbuz** 2.29 200 Pn **Pb** 03 30 00.0 -1.4
SBZ Sg **Sb** 03 30 30.3 +0.7
AKH **Akhalkalaki** 2.30 267 P **Pb** 03 30 00.2 -1.4
AKH S **Sb** 03 30 30.5 +0.5
AKH **Akhalkalaki** 2.30 267 *e*Pn **Pn** 03 29 59.7 +1.8
AKH *e*Sn **Sb** 03 30 29.4 -0.5
AKH **Akhalkalaki** 2.30 267 *e*PN **Pb** 03 30 00.2 -1.4
AKH *e*S **Sb** 03 30 30.4 +0.5
EGVZ **Egvard** 2.33 180⇑ *i*P **Pn** 03 29 59.9 +1.6
EGVZ ⇓ *i*S **Sb** 03 30 30.8 0.0
METS **Metsamor** 2.34 234 *e*P **Pb** 03 30 01.4 -0.8
METS *e*S **Sb** 03 30 32.7 +1.6
BTKR **Batakoyurt** 2.34 321 *e*Pn **Pb** 03 30 01.7 -0.6
BTKR *e*Sn **Sb** 03 30 31.9 +0.8
BTKR **Batakoyurt** 2.34 321 *e*PN **Pb** 03 30 01.7 -0.6
BTKR *e*S **Sb** 03 30 31.9 +0.8
KORR **Kora** 2.39 311 *e*Pn **Pb** 03 30 01.4 -1.7
KORR *e*Sn **Sg** 03 30 35.3 -1.7
KORR **Kora** 2.39 311 *e*PN **Pb** 03 30 01.4 -1.7
KORR *e*S **Sg** 03 30 35.3 -1.7
ALIB **&Aumlli-Bayram** 2.46 130 Pn **Pb** 03 30 02.3 -1.9
ALIB Sn **Sb** 03 30 34.9 +0.6
NAX **Nakhchivan** 2.51 199 Pg **Pb** 03 30 03.0 -2.2
NAX Sg **Sb** 03 30 38.1 +2.1
NAX **Nakhchivan** 2.51 199 PN **Pb** 03 30 03.0 -2.2
IGDI **IGDIR** 2.52 229 Pn **Pn** 03 30 02.4 +1.5
IGDI Sn **Sb** 03 30 35.0 -1.4
VNNZ **Vanand** 2.53 236⇓ *i*P **Pb** 03 30 05.4 0.0
VNNZ ⇓ *i*S **Sg** 03 30 40.5 -0.9
TRKR **Terskaya** 2.54 329 *e*Pn **Pb** 03 30 04.0 -1.7
TRKR *e*Sn **Sb** 03 30 37.7 +0.8
TRKR **Terskaya** 2.54 329 *e*PN **Pb** 03 30 04.0 -1.7
TRKR *e*S **Sb** 03 30 37.7 +0.8
STDR **Stavd-Durt** 2.58 315 *e*PN **Pb** 03 30 04.8 -1.5
STDR *e*S **Sb** 03 30 37.8 -0.1
LSNR **Lesken** 2.65 311 *e*Pn **Pn** 03 30 04.7 +2.1
LSNR *e*Sn **Sb** 03 30 39.4 -0.5
LSNR **Lesken** 2.65 311 *e*PN **Pn** 03 30 04.7 +2.1
LSNR *e*S **Sb** 03 30 39.4 -0.5
ORD **Ordubad** 2.66 189 Pn **Pn** 03 30 05.0 +2.2
ORD Sg **Sb** 03 30 41.2 +1.0
GLBA **Clilabad** 2.71 148 Pn **Pn** 03 30 05.0 +1.6
GLBA Sn **Sb** 03 30 40.7 -0.9
PRTR **Priterechnaya** 2.76 323 *e*PN **Pb** 03 30 07.2 -2.1
PRTR *e*S **Sb** 03 30 43.4 +0.5
TKB **Tkibuli** 2.77 288 P **Pn** 03 30 06.4 +2.1
TKB S **Sb** 03 30 45.2 +1.9
TKB **Tkibuli** 2.77 288 *e*PN **Pn** 03 30 06.3 +2.1
TKB *e*S **Sb** 03 30 45.2 +1.9
NCK **Nalchik** 2.92 313 *e*Pn **Pb** 03 30 10.3 -1.7
NCK *e*Sn **Sn** 03 30 43.9 +2.7
NCK **Nalchik** 2.92 313 *e*PN **Pb** 03 30 10.3 -1.7
NCK *e*S **Sn** 03 30 43.9 +2.7
YRD **Yardimli** 2.94 153 Pn **Pn** 03 30 07.4 +0.7
YRD Sn **Sn** 03 30 45.0 +3.0
LRK **Lerik** 3.22 154 Pn **Pn** 03 30 11.5 +0.9
LRK Sn **Sn** 03 30 51.3 +2.5
KBTC **Kuba-Taba** 3.23 315 *e*Pn **Pb** 03 30 15.7 -1.7
KBTC *e*Sn **Sb** 03 30 54.2 -2.5
KBTC **Kuba-Taba** 3.23 315 *e*PN **Pb** 03 30 15.7 -1.7
KBTC *e*S **Sb** 03 30 54.2 -2.5
NEUR **Neytrino** 3.32 302 *e*Pn **Pn** 03 30 08.7 -3.3
NEUR *e*Sn **Sn** 03 30 47.8 -3.5
NEUR **Neytrino** 3.32 302 *e*PN **Pn** 03 30 08.7 -3.3
LKRN **Lenkeran, Azer** 3.32 148 Pn **Pn** 03 30 14.0 +2.2
LKRN Sn **Sn** 03 30 54.2 +3.2
LKRN **Lenkeran, Azer** 3.32 148 PN **Pn** 03 30 15.9 +2.2
ASTR **Astara** 3.45 149 Pn **Pn** 03 30 15.0 +1.3
ASTR Sn **Sn** 03 30 57.6 +3.2
KBZ **Khabaz** 3.46 310 Pn **Pn** 03 30 16.0 +2.4
comp=Z,2.4nm,0.3s,baz=154,slow=3.3,SNR=16
KBZ Lg Lg 03 31 07.7
comp=Z,3.3nm,0.3s,baz=336,slow=19,SNR=7.5
KBZ LR LR 03 31 19.7
comp=Z,99nm,19.8s,baz=122,slow=35
comp=Z,2.7nm,0.6s
KBZ **Khabaz** 3.46 310 *e*Pn **Pb** 03 30 17.7 -3.5
KBZ *e*Sn **Sb** 03 30 58.9 -4.2
KBZ **Khabaz** 3.46 310⇓ *e*PN **Pb** 03 30 17.7 -3.5
PYA1 **Pyatigorsk** 3.56 316 *e*Pn **Pn** 03 30 15.9 +0.7
PYA1 *e*Sn **Sn** 03 30 59.7 +2.5
PYA1 **Pyatigorsk** 3.56 316⇓ *e*PN **Pn** 03 30 18.6 +3.4
SHA1 **Shidzhatmaz** 3.60 309 *e*Pn **Pn** 03 30 19.4 +3.5
SHA1 *e*Sn **Sn** 03 31 01.9 +3.5
SHA1 **Shidzhatmaz** 3.60 309 *ce*PN **Pn** 03 30 19.2 +3.3
BATM **Batumi** 3.64 272 P **Pg** 03 30 27.4 -2.5
BATM S **Sb** 03 31 12.6 +4.2
BATM **Batumi** 3.64 272 *e*PN **Pg** 03 30 27.4 -2.5
BATM *e*S **Sb** 03 31 12.6 +4.2
BEYR **Belyy Ugol+** 3.68 313 *e*Pn **Pn** 03 30 19.3 +2.5
BEYR *e*Sn **Sn** 03 31 02.6 +2.6
BEYR **Belyy Ugol+** 3.68 313 *e*PN **Pn** 03 30 19.3 +2.5
BEYR *e*S **Sn** 03 31 02.6 +2.6
KIV0 **Kislovodsk Arr** 3.71 311 *e*Pn **Pn** 03 30 20.3 +3.0
KIV0 *e*Sn **Sb** 03 31 07.0 -3.6
KVAR **Kislovodsk Arr** 3.71 311 Pn **Pn** 03 30 20.0 +2.7
baz=269,slow=19
KVAR Lg Lg 03 31 16.0
baz=46,slow=33
KVAR LR LR 03 31 19.9
comp=Z,39nm,20.9s,baz=46,slow=32
comp=Z,4.1nm,0.4s
KIV **Kislovodsk** 3.72 311 **Pn** 03 30 16.8 -0.5
KIV **Kislovodsk** 3.72 311 *e*Pn **Pn** 03 30 20.7 +3.4
KIV *e*Sn **Sb** 03 31 07.0 -3.7
KIV **Kislovodsk** 3.72 311 *e*PN **Pn** 03 30 20.1 +2.8
KIV *e*S **Sn** 03 31 05.5 +4.5
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,87nm,8.0s
ALER **Alexandrovskoy** 4.16 322 *e*Pn **Pn** 03 30 24.9 +1.5
ALER *e*Sn **Sn** 03 31 16.2 +4.3
ALER **Alexandrovskoy** 4.16 322 *e*PN **Pn** 03 30 24.9 +1.5
ALER *e*S **Sn** 03 31 16.2 +4.3
KOPT **Kop Dagi** 4.84 253 **Pb** 03 30 47.2 +2.2
SOC **Sochi** 5.43 294 *e*P **Pn** 03 30 42.6 +1.8
SOC *e* 03 31 47.2
SOC MLR MLR
comp=Z,154nm,14.0s
MARD **Mardin** 6.16 228 **Pn** 03 30 54.7 +3.8
BRTR **Keskin Array B** 9.98 264 Pn **Pn** 03 31 45.2 +1.8
comp=Z,0.7nm,0.8s,baz=93,slow=10,SNR=4.0
BELG **Belogornoye** 10.87 4 Pn **Pn** 03 31 53.6 -1.6
comp=Z,1.8nm,0.3s,baz=346,slow=1.8,SNR=6.8
comp=Z,6.6nm,0.5s
BELG **Belogornoye** 10.87 4 *c i*P **Pn** 03 31 56.0 +0.8
AKTO **Aktyubinsk** 11.92 38 Pn **Pn** 03 32 07.6 -2.1
comp=Z,0.4nm,0.3s,baz=230,slow=11,SNR=16
AKTO LR LR 03 37 58.9
comp=Z,289nm,18.8s,baz=304,slow=44
comp=Z,7.8nm,0.8s
AKTO **Aktyubinsk** 11.92 38 ⇑P **Pn** 03 32 07.9 -1.8
comp=Z,12nm,0.8s
AKTO ⇑S **Sn** 03 34 21.8 -0.7
comp=Z,14nm,0.8s
AKTO **Aktyubinsk** 11.92 38 P **Pn** 03 32 07.9 -1.8
AKTO S **Sn** 03 34 21.8 -0.7
ASF **Jabal al Asfar** 12.13 223 LR LR 03 36 48.9
comp=Z,68nm,18.1s,baz=63,slow=37
AB31 **Akbulak array** 12.15 46 **Pn** 03 32 11.4 -1.4
AB31 **Akbulak array** 12.15 46 ⇑P **Pn** 03 32 11.1 -1.7
comp=Z,6.7nm,0.7s,baz=220,slow=10,SNR=54
AB31 ⇓S **Sn** 03 34 26.1 -1.9
comp=Z,4.7nm,0.7s,baz=249,slow=25,SNR=3.6
AB31 **Akbulak array** 12.15 46 P **Pn** 03 32 11.1 -1.7
AB31 S **Sn** 03 34 23.9 -4.1
ABKAR **Akbulak array** 12.15 46 **Pn** 03 32 10.8 -2.0
MMAI **Mount Meron Ar** 12.30 230 LR LR 03 36 55.2
comp=Z,59nm,20.6s,baz=11,slow=37
AKASG **Malin Array Be** 15.06 313 Pn **Pn** 03 32 49.4 -3.2
comp=Z,0.9nm,0.3s,baz=120,slow=14,SNR=20
AKASG LR LR 03 39 16.3
comp=Z,81nm,18.1s,baz=108,slow=40
comp=Z,0.3nm,0.4s
AKBB **Malin Array Si** 15.06 313 **Pn** 03 32 55.1 +2.6
AKBB IAmb IAmb 03 32 59.0
comp=Z,10nm,0.9s
AKBB **Malin Array Si** 15.06 313⇓ *e*P **Pn** 03 32 55.2 +2.6
AKBB pmax pmax
comp=Z,20nm,1.5s
KIEV **Kiev** 15.07 313 **Pn** 03 32 55.2 +2.6
KIEV IAmb IAmb 03 32 59.0
comp=Z,9.3nm,0.9s
KIEV **Kiev** 15.07 313 P **Pn** 03 32 55.2 +2.6
KIEV pmax pmax
comp=Z,9.0nm,1.0s
OBN **Obninsk** 15.08 337 Pn **Pn** 03 32 49.4 -3.3
comp=Z,1.2nm,0.3s,baz=83,slow=20,SNR=3.1
comp=Z,10nm,0.5s
OBN **Obninsk** 15.08 337⇑ *e*P **Pn** 03 32 52.5 -0.2
OBN *e*S **Sn** 03 35 47.5 +8.2
OBN pmax pmax
comp=Z,13nm,0.6s
OBN MLR MLR
comp=Z,254nm,14.0s
EIL **Elat** 15.13 222 Pn **Pn** 03 32 52.6 -1.0
comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=2.3
EIL LR LR 03 39 28.8
comp=Z,85nm,20.6s,baz=70,slow=40
comp=Z,1.3nm,0.8s
MOS **Moscow** 15.35 341 *e*P **Pn** 03 32 51.8 -4.4
MOS *e* 03 35 39.6
MOS pmax pmax
comp=Z,18nm,0.6s
MLR **Muntele Rosu** 15.45 292 Pn **Pn** 03 32 59.7 +1.9
comp=Z,0.1nm,0.3s,baz=73,slow=10,SNR=4.5
MLR LR LR 03 40 41.3
comp=Z,122nm,20.9s,baz=80,slow=44
comp=Z,0.5nm,0.7s
BURAR **Bucovina Array** 16.33 299 P **P** 03 33 14.3 +2.2
BURAR **Bucovina Array** 16.33 299 P **P** 03 33 14.3 +2.2
BURAR pmax pmax
comp=Z,5.0nm,0.9s
ARTI **Arti** 16.71 23 **Pn** 03 33 11.7 -2.1
ARTI **Arti** 16.71 23 Pn **Pn** 03 33 11.3 -2.5
comp=Z,2.3nm,0.3s,baz=203,slow=6.9,SNR=14
ARTI LR LR 03 41 56.0
comp=Z,190nm,18.6s,baz=218,slow=45
comp=Z,9.3nm,0.5s
ARTI **Arti** 16.71 23 P **Pn** 03 33 12.8 -1.0
ARTI S **Sn** 03 36 17.9 -1.2
ARTI MLR MLR
comp=Z,222nm,13.0s
KIRV **Kirov** 17.14 5 P **Pn** 03 33 19.6 +0.5
comp=Z,2.8nm,0.3s,baz=194,slow=17,SNR=7.2
KIRV LR LR 03 41 23.4
comp=Z,221nm,18.7s,baz=203,slow=42
comp=Z,8.5nm,0.5s
SIMJ **Simiganj** 17.42 92 P **P** 03 33 24.6 +0.4
KK31 **Karatay Array** 17.78 77 **Pn** 03 33 25.3 -1.9
KK31 **Karatay Array** 17.78 77 ⇑P **Pn** 03 33 25.2 -2.0
comp=Z,4.9nm,0.6s,baz=286,slow=12,SNR=20
KK31 ⇑S **Sn** 03 36 36.5 -8.6
comp=Z,5.7nm,0.8s,baz=285,slow=20,SNR=3.8
KK31 **Karatay Array** 17.78 77 *e*P **Pn** 03 33 25.2 -2.0
KKAR **Karatay Array** 17.78 77 **Pn** 03 33 25.2 -2.0
KKAR **Karatay Array** 17.78 77 P **Pn** 03 33 25.2 -2.0
SVE **Sverdlovsk** 17.78 26 *e*P **Pn** 03 33 23.4 -3.8
SVE *e*S **Sn** 03 36 38.9 -6.1
SVE pmax pmax
comp=Z,41nm,1.0s
SVE MLR MLR
comp=Z,419nm,14.0s
MNK **Minsk** 17.91 323 *i*P **P** 03 33 29.7 +0.4
comp=E,15nm,1.1s
MNK comp=N,13nm,0.9s *i*P **P** 03 33 29.7 +0.4
MNK comp=Z,4.0nm,0.8s,baz=128 *i*P **PnPn** 03 33 40.5 +1.0
MNK *i*PPP PPP 03 33 48.2
MNK *i*S **Sn** 03 36 50.9 +2.7
MNK *i*SS **SnSn** 03 37 05.9 +4.3
MNK *i*SSS SSS 03 37 18.6
MNK *i*LQ LQ 03 39 01.4
MNK *i*LR LR 03 40 18.9
MNK *i*LRM MLR 03 41 42.8
MNK comp=E,58nm,14.3s *i*LRM MLR 03 41 44.7
MNK comp=N,43nm,11.6s *i*LRM MLR 03 41 48.5
MNK comp=Z,94nm,12.8s **Minsk** 17.91 323 *i*P **P** 03 33 29.7 +0.4
MNK *i*S **Sn** 03 36 50.8 +2.7
MNK pmax pmax
comp=E,15nm,1.1s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,4.0nm,0.8s
MNK MLR MLR
comp=E,58nm,14.0s
MNK MLR MLR
comp=N,43nm,12.0s
MNK MLR MLR
comp=Z,94nm,13.0s
RAYN **Ar Rayn** 18.01 183 **Pn** 03 33 29.2 -1.0
RAYN **Ar Rayn** 18.01 183 P **Pn** 03 33 29.2 -1.0
RAYN pmax pmax
comp=Z,4.0nm,0.8s
GAR **Garm** 18.30 90 **P** 03 33 34.0 +0.1
GAR IAmb IAmb 03 33 40.9
comp=Z,19nm,0.6s
KOLS **Kolonicke sedl** 18.56 302 *e*P **P** 03 33 36.2 -0.4
KOLS **Kolonicke sedl** 18.56 302 *e*P **P** 03 33 36.2 -0.4
BRVK **Borovoye** 19.68 46 **P** 03 33 48.6 -0.1
BRVK IAmb IAmb 03 34 15.5
comp=Z,13nm,0.7s
BRVK **Borovoye** 19.68 46 ⇓P **P** 03 33 47.8 -1.0
comp=Z,11nm,0.7s
BRVK **Borovoye** 19.68 46 *ce*P **P** 03 33 48.2 -0.6
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BVA0 **Borovoye Array** 19.72 46 P **P** 03 33 48.2 -1.1
comp=Z,7.5nm,0.6s,baz=249,slow=8.9,SNR=28
BVA0 **Borovoye Array** 19.72 46 *i*P **P** 03 33 48.2 -1.1
BVA0 *i*S **S** 03 37 24.3 -6.9
BVAR **Borovoye Array** 19.72 46 P **P** 03 33 48.5 -0.8
comp=Z,0.2nm,0.3s,baz=246,slow=9.2,SNR=18
BVAR LR LR 03 42 34.0
comp=Z,103nm,18.8s,baz=243,slow=40
comp=Z,8.1nm,0.6s
KLMR **Klimovskoe** 19.80 350 *e*P **Pn** 03 33 51.5 0.0
KLMR *e* 03 37 35.6
KLMR pmax pmax
comp=Z,21nm,1.3s
ARSB **Arslanbob** 19.80 82 P **P** 03 33 50.2 -0.2
ARSB **Arslanbob** 19.80 82 P **P** 03 33 50.2 -0.2
ARSB pmax pmax
comp=Z,6.0nm,0.9s
OJC **Ojcow** 20.45 304 P Pn 03 33 59.3 0.0
OJC **Ojcow** 20.45 304 P Pn 03 33 59.3 0.0
VYHS **Vyhne** 20.70 299 *e*P **P** 03 34 02.5 +0.2
VYHS **Vyhne** 20.70 299 *e*P Pn 03 34 02.5 +0.2
AAK **Ala-Archa** 20.73 78 **P** 03 34 00.5 0.0
AAK IAmb IAmb 03 34 02.3
comp=Z,12nm,1.2s
AAK **Ala-Archa** 20.73 78 P **P** 03 33 57.8 -2.7
comp=Z,4.7nm,0.6s,baz=257,slow=9.0,SNR=6.9
comp=Z,4.7nm,0.6s
AAK **Ala-Archa** 20.73 78 ⇓ *i*P **P** 03 34 01.0 +0.5
AAK pmax pmax
comp=Z,6.0nm,0.7s
VSU **Vasula** 21.04 330⇓ *i*P **P** 03 34 05.0 +1.6
VSU pmax pmax
comp=Z,33nm,1.5s
MAUC **Maruska** 21.51 301 *e*P **P** 03 34 13.5 +4.9
STEB **Steborice** 21.65 303 *e*P **P** 03 34 11.1 +1.0
MODS **Modra-Piesok** 21.71 298 *e*P **P** 03 34 12.1 +1.3
MODS **Modra-Piesok** 21.71 298 *e*P **P** 03 34 12.1 +1.3
MORC **Moravsky Berou** 21.77 302 P **P** 03 34 12.1 +0.7
MORC **Moravsky Berou** 21.77 302 *e*P **P** 03 34 12.2 +0.7
MORC **Moravsky Berou** 21.77 302 P **P** 03 34 12.1 +0.7
MORC pmax pmax
comp=Z,3.0nm,0.9s
VRAC **Vranov** 22.29 301 LR LR 03 44 04.2
comp=Z,47nm,20.1s,baz=76,slow=40
KSH **Kashi** 22.41 85 P **P** 03 34 16.8 -1.7
KSH pP pP 03 34 20.8 -1.6
KSH sP sP 03 34 24.0 -0.2
KSH pmax pmax
comp=Z,7.0nm,0.7s
DPC **Dobruska-Polom** 22.65 303 *e*P **P** 03 34 26.3 +5.4
DPC **Dobruska-Polom** 22.65 303 *e*P **P** 03 34 26.3 +5.4
OSTC **Ostas** 22.76 304 *e*P **P** 03 34 28.1 +6.1
OSTC **Ostas** 22.76 304 *e*P **P** 03 34 28.1 +6.1
TARG **Taragay, Kyrgy** 23.30 79 IAmb IAmb 03 34 41.2
comp=Z,4.8nm,0.8s
FINES **FINESS Array B** 23.45 335 P **P** 03 34 27.8 -1.1
FINES **FINESS Array B** 23.45 335 P **P** 03 34 27.1 -1.8
comp=Z,2.2nm,0.7s,baz=148,slow=8.4,SNR=9.6
FINES LR LR 03 44 18.7
comp=Z,118nm,21.1s,baz=118,slow=38
comp=Z,2.2nm,0.7s
FINES **FINESS Array B** 23.45 335 P **P** 03 34 27.8 -1.1
CKRC **Cesky Krumlov** 23.72 299 *e*P **P** 03 34 33.5 +1.7
CKRC **Cesky Krumlov** 23.72 299 *e*P **P** 03 34 33.5 +1.7
KURBB **Kurchatov Arra** 23.80 57 P **P** 03 34 31.9 -0.6
comp=Z,2.2nm,0.9s,baz=266,slow=10,SNR=13
KURBB LR LR 03 45 18.5
comp=Z,138nm,19.3s,baz=178,slow=40
comp=Z,2.2nm,0.9s
KURBB **Kurchatov Arra** 23.80 57 ⇓P **P** 03 34 34.4 +1.9
comp=Z,11nm,0.7s
KURBB **Kurchatov Arra** 23.80 57 P **P** 03 34 34.4 +1.9
KURK **Kurchatov** 23.88 57 **P** 03 34 33.0 -0.1
KURK **Kurchatov** 23.88 57 ⇑P **P** 03 34 33.9 +0.7
comp=Z,10.0nm,0.6s
KURK **Kurchatov** 23.88 57⇑ *e*P **P** 03 34 33.8 +0.7
KURK pmax pmax
comp=Z,14nm,0.7s
GEC2 **GERESS Array S** 24.12 299 P **P** 03 34 36.6 +0.9
GERES **GERESS Array B** 24.12 299 P **P** 03 34 35.8 +0.2
GERES **GERESS Array B** 24.12 299 P **P** 03 34 36.0 +0.4
comp=Z,0.6nm,0.4s,baz=101,slow=9.1,SNR=11
comp=Z,0.6nm,0.4s
KHC **Kasperske Hory** 24.23 299⇓ *e*P **P** 03 34 39.0 +2.4
KHC pmax pmax
comp=Z,7.0nm,2.0s
KHC **Kasperske Hory** 24.23 299 *e*P **P** 03 34 40.3 +3.7
KBA **Koelnbreinsper** 24.27 294 *e*P **P** 03 34 38.0 +0.9
comp=Z,4.5nm,0.7s
PDGK **Podgornoye** 24.29 75 ⇑P **P** 03 34 35.9 -1.4
comp=Z,5.1nm,0.7s
PDGK **Podgornoye** 24.29 75 P **P** 03 34 35.9 -1.4
FDMO **Fiordimonte** 24.70 285 **P** 03 34 41.3 +0.4
FDMO IAmb IAmb 03 35 10.9
comp=Z,12nm,1.3s
LESA **Schwarzleotal** 24.73 295 *e*P **P** 03 34 41.8 +0.6
comp=Z,2.0nm,0.5s
ABTA **Abfaltersbach** 24.84 294 *e*P **P** 03 34 42.5 +0.3
comp=Z,1.5nm,0.7s
CLL **Collm** 24.89 305 *e*P **P** 03 34 43.0 +0.5
CLL *e* 03 34 51.0
CLL **Collm** 24.89 305 *e*P **P** 03 34 43.0 +0.5
CLL *ex* x 03 34 51.0
CIMO **Cimolais** 24.89 293 P **P** 03 34 43.7 +1.1
WTTA **Wattenberg** 25.44 295 *e*P **P** 03 34 47.8 +0.2
comp=Z,4.3nm,0.9s
WATA **Walderalm** 25.48 295 *e*P **P** 03 34 48.2 +0.2
comp=Z,0.9nm,0.5s
SQTA **Sankt Quirin** 25.73 295 *e*P **P** 03 34 50.6 +0.3
comp=Z,1.8nm,0.4s
MAKZ **Makanchi** 25.80 66 P **P** 03 34 49.4 -1.4
comp=Z,4.2nm,0.7s
MAKZ **Makanchi** 25.80 66 P **P** 03 34 49.4 -1.4
MOTA **Moosalm** 25.80 295 *e*P **P** 03 34 51.5 +0.6
comp=Z,1.8nm,0.7s
MK31 **Makanchi Array** 26.01 66 ⇑P **P** 03 34 52.9 +0.2
comp=Z,6.0nm,0.7s,baz=272,slow=6.8,SNR=48
MK31 **Makanchi Array** 26.01 66 *c i*P **P** 03 34 52.7 0.0
MKAR **Makanchi Array** 26.01 66 **P** 03 34 52.8 +0.1
MKAR **Makanchi Array** 26.01 66 P **P** 03 34 52.3 -0.4
comp=Z,1.5nm,0.7s,baz=270,slow=8.8,SNR=35
comp=Z,7.5nm,0.7s
FETA **Feichten** 26.06 294 *e*P **P** 03 34 53.6 +0.3
comp=Z,0.8nm,0.5s
DAVOX **Davos/Dischmat** 26.65 294 P **P** 03 34 58.7 +0.1
comp=Z,1.6nm,0.7s,baz=106,slow=13,SNR=4.5
DAVOX LR LR 03 46 21.6
comp=Z,49nm,18.5s,baz=76,slow=38
comp=Z,1.6nm,0.7s
MSSA **Maissana** 27.10 288 P **P** 03 35 02.5 -0.1
MSSA IAmb IAmb 03 35 20.8
comp=Z,13nm,1.3s
LVZ **Lovozero** 27.17 350⇓ *e*P **P** 03 35 05.2 +2.2
HFS **Hagfors** 27.41 324 P **P** 03 35 04.9 -0.2
comp=Z,4.3nm,0.9s,baz=119,slow=12,SNR=4.7
HFS LR LR 03 47 42.5
comp=Z,64nm,18.5s,baz=100,slow=40
comp=Z,4.3nm,0.9s
ZALV **Zalesovo Beam** 28.20 51 P **P** 03 35 10.8 -1.4
comp=Z,0.7nm,0.4s,baz=243,slow=9.8,SNR=4.2
comp=Z,0.7nm,0.4s
SENIN **Lac Senin/Sane** 28.45 293 P **P** 03 35 14.4 -0.4
SENIN IAmb IAmb 03 35 24.7
comp=Z,11nm,1.5s
NC405 **NORSAR Array S** 28.73 325 P **P** 03 35 17.6 +0.6
NB2 **NORSAR Subarra** 28.92 324 P **P** 03 35 17.7 -0.9
comp=Z,1.1nm,0.9s,baz=118,slow=8.6
NOA **NORSAR Array B** 28.92 324 P **P** 03 35 18.7 0.0
comp=Z,0.4nm,0.7s,baz=111,slow=8.6,SNR=1.6
NOA LR LR 03 48 30.0
comp=Z,42nm,18.4s,baz=95,slow=40
comp=Z,0.4nm,0.7s
BNI **Bardonecchia** 29.02 290 P **P** 03 35 20.5 +0.7
BNI IAmb IAmb 03 35 41.7
comp=Z,7.2nm,1.2s

BNI	**Bardonecchia**	**29.02**	**290**	P	**P**	**03 35 20.5**	**+0.7**
BNI				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KEST	**Kesra**	**29.47**	**271**	P	**P**	**03 35 23.9**	**0.0**
KEST				IAmb	IAmb	03 35 30.5		
	comp=Z,5.3nm,1.4s							
WMQ	**Urumqi**	**30.11**	**72**	*eP*	**P**	**03 35 31.0**	**+1.6**
WMQ				LR	LR			
	comp=Z,240nm,24.0s							
ARCES	**ARCESS Array B**	**30.12**	**345**	P	**P**	**03 35 28.6**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=156,slow=9.3,SNR=7.6							
	comp=Z,2.2nm,0.9s							
SSB	**Saint Sauveur**	**30.48**	**291**	P	**P**	**03 35 33.1**	**+0.4**
SSB				IAmb	IAmb	03 35 39.7		
	comp=Z,4.4nm,0.8s							
SSB	**Saint Sauveur**	**30.48**	**291**	P	**P**	**03 35 33.1**	**+0.4**
SSB				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CEST	**Esterri de Car**	**33.33**	**287**	P	**P**	**03 35 58.4**	**+0.6**
CEST				IAmb	IAmb	03 36 06.5		
	comp=Z,4.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**34.95**	**310**	P	**P**	**03 36 10.7**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=87,slow=8.7,SNR=6.4							
	comp=Z,0.8nm,0.5s							
ESDC	**Sonseca Array**	**37.95**	**284**	P	**P**	**03 36 36.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=58,slow=8.6,SNR=15							
	comp=Z,0.5nm,0.5s							
PAB	**San Pablo**	**38.27**	**284**		**P**	**03 36 39.4**	**-0.7**
PAB				IAmb	IAmb	03 36 39.8		
	comp=Z,4.8nm,1.2s							
PAB	**San Pablo**	**38.27**	**284**	P	**P**	**03 36 39.4**	**-0.7**
PAB				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SPITS	**Spitsbergen Ar**	**38.70**	**350**	P	**P**	**03 36 43.2**	**0.0**
	comp=Z,4.5nm,0.6s,baz=134,slow=12,SNR=13							
	comp=Z,4.5nm,0.6s							
SPITS	**Spitsbergen Ar**	**38.70**	**350**	P	**P**	**03 36 43.7**	**+0.5**
SPITS				pmax	pmax			
	comp=Z,29nm,1.3s							
TAM	**Tamanrasset**	**39.01**	**254**	P	**P**	**03 36 48.6**	**+2.0**
TAM				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SONM	**Songino Array**	**42.07**	**60**	LR	LR	03 56 34.8		
	comp=Z,109nm,19.4s,baz=266,slow=39							
ULN	**Ulaanbaatar**	**42.49**	**60**	*eP*	**P**	**03 37 15.9**	**+0.8**
ULN				pmax	pmax			
	comp=Z,10.0nm,2.0s							
KMBO	**Kilima Mbogo**	**43.31**	**194**	LR	LR	03 56 27.6		
	comp=Z,41nm,19.6s,baz=89,slow=38							
PZH	**PanZhiHua**	**47.38**	**90**	P	**P**	**03 37 55.1**	**+0.9**
HHC	**Hu-ho-hao-te**	**47.85**	**68**	*eP*	**P**	**03 37 56.9**	**-0.8**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,160nm,6.0s							
TIXI	**Tiksi**	**48.80**	**25**	LR	LR	04 02 47.2		
	comp=Z,111nm,18.9s,baz=302,slow=41							
XLT	**XiLinHaoTe**	**49.73**	**63**	*eP*	**P**	**03 38 12.3**	**+0.2**
XLT				pP	pP	03 38 17.0	+0.6	
XLT				pmax	pmax			
	comp=Z,5.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**50.01**	**101**	P	**P**	**03 38 13.8**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=304,slow=8.0,SNR=4.5							
	comp=Z,0.9nm,0.3s							
CMAR	**Chiang Mai Arr**	**50.01**	**101**	*i* P	**P**	**03 38 17.3**	**+2.9**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
DBIC	**Dimbokro**	**57.23**	**247**	P	**P**	**03 39 06.4**	**-0.9**
	comp=Z,3.5nm,0.9s,baz=36,slow=7.2,SNR=4.1							
	comp=Z,3.5nm,0.9s							
MA2	**Magadan**	**61.64**	**34**	LR	LR	04 10 48.0		
	comp=Z,59nm,18.4s,baz=294,slow=40							
MJAR	**Matsushiro Arr**	**68.02**	**60**	LR	LR	04 12 36.7		
	comp=Z,54nm,19.9s,baz=217,slow=38							
C18K	**Utukok River**	**68.18**	**11**	P	**P**	**03 40 20.4**	**+0.8**
SCHQ	**Schefferville**	**68.49**	**325**	LR	LR	04 10 25.7		
	comp=Z,28nm,18.6s,baz=196,slow=36							
PETK	**Petropavlovsk-**	**68.65**	**37**	P	**P**	**03 40 21.8**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=316,slow=12,SNR=1.7							
	comp=Z,1.6nm,0.8s							
E18K	**Tukpahlearik C**	**69.41**	**11**		**P**	**03 40 27.5**	**+0.3**
E19K	**Redstone River**	**69.82**	**10**	P	**P**	**03 40 30.5**	**+0.7**
IMAR	**Indian Mountai**	**71.64**	**9**	P	**P**	**03 40 41.0**	**0.0**
G31M	**Satah River**	**71.85**	**0**	P	**P**	**03 40 42.4**	**+0.3**
ILAR	**Eielson Array**	**73.48**	**6**	P	**P**	**03 40 51.0**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=352,slow=8.9,SNR=2.0							
	comp=Z,0.1nm,0.6s							
ILAR	**Eielson Array**	**73.48**	**6**	P	**P**	**03 40 51.0**	**-0.9**
I30M	**Mount Dempster**	**73.53**	**1**		**P**	**03 40 52.5**	**+0.1**
I30M				IAmb	IAmb	03 40 57.7		
	comp=Z,4.2nm,0.9s							
YKAW3	**Yellowknife Wh**	**75.13**	**351**	P	**P**	**03 41 01.7**	**+0.2**
YKAW3				IAmb	IAmb	03 41 06.6		
	comp=Z,2.3nm,0.7s							
YKA	**Yellowknife Ar**	**75.19**	**351**	P	**P**	**03 41 01.8**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=5.0,slow=6.7,SNR=6.2							
	comp=Z,1.5nm,0.9s							

*SJA **11** 03:48:46.6±0.7,21.°14S×68.°70W,h136km±4km,ML3.5, MW3.5*
*GUC **11** 03:48:48.5±0.7,21.°13S×68.°65W,h126km±3km,ML3.5*
ISC 11 03:48:47.0±1.4,**21.°16S**±0.°03×**68.72W**±0.°05, **h141**km±10km,**n35**,σ0s**99**/61,**1C-4D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.73**	**279**	*i* P	**Pn**	**03 49 08.5**	**-0.3**
PB01				*e*S	**Sn**	**03 49 24.1**	**-1.2**
PB01				IAML		03 49 25.4	
	comp=N,1μm,0.2s						
PB01	**IPOC Station P**	**0.73**	**279**	*e*P	Pn	03 48 57.0	-12
PB01				*e*S	**Sn**	**03 49 25.1**	**-0.1**
PB01				IAML		03 49 26.3	
	comp=Z,602nm,0.1s						
PB09	**IPOC Station P**	**0.80**	**217**	*e*P	**Pn**	**03 49 10.0**	**+0.6**
PB09				*e*S	**Sn**	**03 49 26.3**	**-0.2**
PB09				IAML		03 49 27.3	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**0.80**	**217**	*e*P	**Pn**	**03 49 10.0**	**+0.6**
PB09				*e*S	**Sn**	**03 49 26.1**	**-0.4**
PB09				IAML		03 49 27.2	
	comp=Z,1μm,0.5s						
PB08	**IPOC Station P**	**1.09**	**338**	*i* P	**Pn**	**03 49 12.1**	**-0.1**
PB08				*e*S	**Sn**	**03 49 30.1**	**-1.0**
PB08				IAML		03 49 31.1	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**1.09**	**338**	*e*P	**Pn**	**03 49 11.6**	**-0.5**
PB08				*e*S	**Sn**	**03 49 30.5**	**-0.7**
PB08				IAML		03 49 31.0	
	comp=Z,455nm,0.3s						
PB02	**IPOC Station P**	**1.11**	**261**	*i* P	**Pn**	**03 49 12.5**	**+0.6**
PB02				*e*S	**Sn**	**03 49 30.8**	**-0.2**
PB02				IAML		03 49 33.5	
	comp=N,2μm,0.2s						
PB02	**IPOC Station P**	**1.11**	**261**	*e*P	**Pn**	**03 49 12.6**	**+0.6**
PB02				*e*S	**Sn**	**03 49 31.1**	**+0.1**
PB02				IAML		03 49 35.3	
	comp=Z,2μm,0.3s						
PB03	**IPOC Station P**	**1.31**	**227**	*i* P	**Pn**	**03 49 14.7**	**+0.6**
PB03				*e*S	**Sn**	**03 49 34.3**	**-0.3**
PB03				IAML		03 49 35.2	
	comp=N,1μm,0.4s						
PB03	**IPOC Station P**	**1.31**	**227**	*e*P	**Pn**	**03 49 14.6**	**+0.6**
PB03				*e*S	**Sn**	**03 49 34.8**	**+0.1**
PB03				IAML		03 49 37.1	
	comp=Z,1μm,0.3s						
PATCX	**Punta Patache**	**1.38**	**284**	*i* P	**Pn**	**03 49 15.3**	**+0.6**
PATCX				*e*S	**Sn**	**03 49 35.8**	**0.0**
PATCX				IAML		03 49 38.5	
	comp=E,889nm,0.3s						
PATCX	**Punta Patache**	**1.38**	**284**	*e*P	**Pn**	**03 49 15.3**	**+0.6**
PATCX				*e*S	**Sn**	**03 49 36.4**	**+0.7**
PATCX				IAML		03 49 37.8	
	comp=Z,606nm,0.4s						
TA01	**Diego Aracena**	**1.49**	**293**	*e*P	**Pn**	**03 49 15.8**	**+0.2**
TA01				*e*S	**Sn**	**03 49 37.3**	**-0.3**
TA01	**Diego Aracena**	**1.49**	**293**	*e*P	**Pn**	**03 49 15.9**	**+0.2**
TA01				*e*S	**Sn**	**03 49 36.8**	**-0.8**
GO01	**Chusmiza**	**1.55**	**343**	*i* P	**Pn**	**03 49 16.9**	**0.0**
GO01	**Chusmiza**	**1.55**	**343**	*e*P	**Pn**	**03 49 17.2**	**+0.3**
GO01				*e*S	**Sn**	**03 49 39.2**	**-0.4**
GO01				IAML		03 49 41.1	
	comp=Z,443nm,0.4s						

TA02	**Huaiquique**	**1.59**	**303**	*e*P	**Pn**	**03 49 16.9**	**+0.1**
TA02	**Huaiquique**	**1.59**	**303**	*e*P	**Pn**	**03 49 17.1**	**+0.3**
TA02				*e*S	**Sn**	**03 49 39.0**	**-0.5**
TA02				IAML		03 49 45.0	
	comp=Z,400nm,0.3s						
PB11	**IPOC Station P**	**1.64**	**327**	*i* P	**Pn**	**03 49 17.3**	**-0.2**
PB11				*e*S	**Sn**	**03 49 39.9**	**-1.1**
PB11				IAML		03 49 41.0	
	comp=E,1μm,0.3s						
PB11	**IPOC Station P**	**1.64**	**327**	*e*P	**Pn**	**03 49 17.4**	**-0.1**
PB11				*e*S	**Sn**	**03 49 40.6**	**-0.3**
PB11				IAML		03 49 41.4	
	comp=Z,386nm,0.1s						
PB06	**IPOC Station P**	**1.73**	**207**	*i* P	**Pn**	**03 49 19.4**	**+0.8**
PB06				*e*S	**Sn**	**03 49 43.1**	**+0.3**
PB06				IAML		03 49 43.8	
	comp=E,646nm,0.5s						
PB06	**IPOC Station P**	**1.73**	**207**	*e*P	**Pn**	**03 49 18.8**	**+0.2**
PB06				*e*S	**Sn**	**03 49 43.4**	**+0.6**
PB06				IAML		03 49 44.4	
	comp=Z,270nm,0.3s						
AF01	**San Pedro de A**	**1.86**	**164**	*e*P	**Pn**	**03 49 18.7**	**-1.4**
AF01				*e*S	**Sn**	**03 49 50.0**	**+4.5**
AF01				IAML		03 50 01.0	
	comp=Z,132nm,0.9s						
PB05	**IPOC Station P**	**2.18**	**219**	*e*P	**Pn**	**03 49 24.7**	**+0.9**
PB05				IAML		03 49 57.8	
	comp=E,161nm,0.3s						
PB05	**IPOC Station P**	**2.18**	**219**	*e*P	**Pn**	**03 49 24.2**	**+0.4**
PB05				*e*S	**Sn**	**03 49 51.7**	**-0.4**
PB05				IAML		03 49 55.8	
	comp=Z,93nm,0.4s						
PB10	**IPOC Station P**	**2.90**	**216**	*e*P	**Pn**	**03 49 33.1**	**+0.4**
PB10				IAML		03 50 07.1	
	comp=E,66nm,0.4s						
PB10	**IPOC Station P**	**2.90**	**216**	*e*P	**Pn**	**03 49 33.2**	**+0.6**
PB10				*e*S	**Sn**	**03 50 04.7**	**-3.3**
PB10				IAML		03 50 26.8	
	comp=Z,54nm,0.4s						
PB16	**IPOC Station P**	**2.90**	**345**	*e*P	**Pn**	**03 49 34.2**	**+0.9**
PB16				IAML		03 50 12.4	
	comp=E,83nm,0.4s						
PB16	**IPOC Station P**	**2.90**	**345**	*e*P	**Pn**	**03 49 34.5**	**+1.2**
PB16				*e*S	**Sn**	**03 50 09.6**	**+0.6**
PB16				IAML		03 50 18.1	
	comp=Z,48nm,0.7s						
PB14	**IPOC Station P**	**3.79**	**204**	*e*P	**Pn**	**03 49 44.5**	**0.0**
PB14				*e*S	**Sn**	**03 50 29.1**	**0.0**
PB14				IAML		03 50 34.5	
	comp=Z,41nm,0.9s						
GO02	**Mina Guanaco**	**4.07**	**191**	*e*P	**Pn**	**03 49 48.5**	**+0.4**
GO02				IAML		03 51 09.0	
	comp=Z,50nm,0.9s						
AZAP	**Zapla**	**4.55**	**133**	*e*P	**Pn**	**03 49 55.2**	**+0.7**
AZAP				IAML		03 50 50.7	
	comp=Z,17nm,2.3s						
LPAZ	**La Paz**	**4.87**	**7**	*e*P	**Pn**	**03 50 00.6**	**+1.4**
ALOL	**LOMAS DE OLMED**	**5.12**	**122**	*e*P	**Pn**	**03 50 01.4**	**-0.4**
ALOL				*e*S	**Sn**	**03 50 58.6**	**-1.5**
AC01	**Pan de Azucar**	**5.26**	**199**	*e*P	**Pn**	**03 50 02.5**	**-1.2**
AC01				*e*S	**Sn**	**03 51 02.3**	**-1.3**
AC01				IAML		03 51 16.4	
	comp=Z,30nm,3.1s						

RSNC 11 03:57:57.7±0.0,**7.°N**±1.°×**7.°3W**±.°, **h148**km±1km, **M3.3, mb3.8, ML3.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**192**	P	Pn	03 58 17.7	-0.5
BARC				S	Sn	03 58 32.7	-1.0
BRJC	**Barrancabermej**	**0.63**	**283**	P	Pn	03 58 19.5	0.0
BRJC				S	Sn	03 58 36.7	+0.6
PAMC	**Pamplona, Colo**	**0.66**	**40**	P	Pn	03 58 20.4	+0.1
PAMC				S	Sn	03 58 37.4	-0.1
RUSC	**La Rusia**	**0.93**	**177**	P	Pn	03 58 21.6	-0.7
RUSC				S	Sn	03 58 40.2	-0.8
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	Pn	03 58 24.3	-1.3
PTBC				S	Sn	03 58 45.7	-1.1
OCAC	**Ocana**	**1.41**	**352**	P	Pn	03 58 25.9	-0.5
OCAC				S	Sn	03 58 48.4	0.0
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	Pn	03 58 30.5	-0.3
ZARC				S	Sn	03 58 55.8	-0.4
NORC	**Norcasia**	**2.14**	**234**	P	Pn	03 58 33.9	-0.5
NORC				S	Sn	03 59 01.6	-1.0
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	03 58 37.4	+0.6
ROSC				S	Sn	03 59 08.1	+1.3
HELC	**Santa Helena**	**2.47**	**255**	P	Pn	03 58 38.4	-0.3
HELC				S	Sn	03 59 10.4	+0.2
CVER	**Cruz Verde, Cu**	**2.48**	**202**	P	Pn	03 58 39.0	0.0
CVER				S	Sn	03 59 10.8	+0.1
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	03 58 38.4	-1.0
UREC				S	Sn	03 59 09.5	-2.1
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	Pn	03 58 42.7	+0.6
GUY2C				S	Sn	03 59 16.4	+0.1
VILC	**Villavicencio,**	**2.76**	**192**	P	Pn	03 58 40.8	-1.3
VILC				S	Sn	03 59 15.8	-0.6
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	03 58 45.5	+0.1
CBOC				S	Sn	03 59 22.3	0.0
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	03 58 45.3	-0.6
DBBC				S	Sn	03 59 21.4	-1.7
ARGC	**Ariguani, Magd**	**3.21**	**340**	P	Pn	03 58 47.9	+0.3
ARGC				S	Sn	03 59 25.8	-0.5
SDV	**Santo Domingo**	**3.21**	**50**	P	Pn	03 58 47.2	-0.6
SDV				S	Sn	03 59 24.5	-2.1
PRAC	**Prado**	**3.56**	**210**	P	Pn	03 58 51.3	-0.9
PRAC				S	Sn	03 59 33.7	-0.8
APAC	**Apartado, Choc**	**3.58**	**287**	P	Pn	03 58 51.8	-0.7
APAC				S	Sn	03 59 33.7	-1.3
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	Pn	03 58 51.9	-0.7
ORTC				S	Sn	03 59 35.4	+0.2
SJCC	**San Jacinto, C**	**3.66**	**326**	P	Pn	03 58 51.6	-2.0
SJCC				S	Sn	03 59 33.2	-3.7
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	03 58 53.3	-0.4
PLMC				S	Sn	03 59 38.6	+1.4
URMC	**La Uribe, Meta**	**3.77**	**199**	P	Pn	03 58 54.7	-0.3
URMC				S	Sn	03 59 39.0	-0.5
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	Pn	03 58 58.1	-2.2
CRJC				S	Sn	03 59 44.8	-4.1
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	Pn	03 59 01.0	-0.6
SMRC	**Santa Marta, M**	**4.44**	**346**	P	Pn	03 59 03.3	-0.4
SMRC				S	Sn	03 59 51.3	-3.8
MACC	**Macarena, Meta**	**4.71**	**189**	P	Pn	03 59 04.7	-2.6
MACC				S	Sn	03 59 56.9	-4.6
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	03 59 08.2	-2.5
URIC				S	Sn	04 00 07.3	-0.4
JAMC	**Jamundi, Valle** 11nm,0.6s	**5.04**	**225**	P	Pn	03 59 11.1	-0.7
POPC	**Popayan, Colom** 5.6nm,0.7s	**5.54**	**220**	P	Pn	03 59 18.1	-0.4
FLOC	**Florencia** 8.6nm,0.7s	**5.79**	**206**	P	Pn	03 59 21.6	-0.1
BBAC	**Balboa, Cauca**	**6.30**	**221**	P	Pn	03 59 29.0	+0.4

*GCG **11** 04:08:17.3±1.0,16.°90N×94.°83W,h37km±999km,MD3.8*
*MEX **11** 04:08:19.3±1.1,16.°50N×94.°58W,h15km±9km,MD3.8*
ISC 11 04:08:15.6±0.8,**16.°57N**±0.°04×**94.°62W**±0.°03,**h15**km±5km, **n14**,σ0s**95**/25,**Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NILT	**Santiago Nilte**	**0.01**	**138**	*i* P	**Pg**	**04 08 17.9**	**-0.3**
NILT				*e*S	**Sg**	**04 08 20.1**	**+0.2**
CMIG	**Matias Romero**	**0.57**	**334**	*i* P	**Pb**	**04 08 26.4**	**-1.0**
CMIG				*e*S	**Sb**	**04 08 34.0**	**-1.4**
UXUV	**UXUV**	**0.87**	**32**	*e*P	**Pn**	**04 08 33.2**	**-0.2**
UXUV				*e*S	**Sn**	**04 08 45.8**	**0.0**
TGIG		**1.45**	**82**	*e*P	**Pg**	**04 08 43.6**	**0.0**
TGIG				*e*S	**Sg**	**04 09 04.0**	**+1.5**
TGIG		**1.45**	**82**	*i* P	**Pg**	**04 08 43.8**	**+0.2**
TGIG				*i* S	**Sg**	**04 09 04.5**	**+2.0**
NEUV	**Arroyo Zacate**	**1.60**	**315**	*e*P	**Pn**	**04 08 44.0**	**+0.6**
NEUV				*e*S	**Sb**	**04 09 05.1**	**+0.2**
PCIG		**1.60**	**122**	*e*P	**Pb**	**04 08 45.2**	**+0.4**
PCIG				*e*S	**Sg**	**04 09 06.9**	**-0.3**
HUIG	**Huatulco**	**1.64**	**241**	*e*P	**Pn**	**04 08 43.9**	**+0.1**
HUIG				*e*S	**Sn**	**04 09 04.1**	**-0.5**
HUIG	**Huatulco**	**1.64**	**241**	*i* P	**Pn**	**04 08 44.1**	**+0.2**
CCIG	**Comitan**	**2.40**	**97**	*i* P	**Pg**	**04 09 00.1**	**-1.6**
PATR	**El Naranjo**	**2.72**	**122**	*e*P	**Pb**	**04 09 03.3**	**-0.8**
PATR				*e*S	**Sb**	**04 09 37.3**	**0.0**
PAVE	**Pavencul**	**2.72**	**120**	*e*S	**Sb**	**04 09 37.6**	**+0.2**
YOIG	**Yosondua**	**2.81**	**276**	*e*P	**Pb**	**04 09 06.3**	**+0.6**
YOIG				*e*S	**Sb**	**04 09 38.6**	**-1.6**
TXIG	**Tlaxiaco**	**3.09**	**283**	*e*P	**Pb**	**04 09 11.5**	**+1.1**
TXIG				*e*S	**Sn**	**04 09 42.0**	**+1.2**

*IDC **11** 04:30:19.6±1.6,31.°08S×177.°51W,h0km,mb3.9/4, mbtmp3.9/5,ML3.2/1,Error ellipse: s-maj=39.2km s-min=21.4km az=88.0*
ISC 11 04:30:23.4±1.5,**31.°18S**±0.°08×**177.°6W**±0.°3,**h27**km,**n7**, σ2s**01**/9,**mb4.0**/4,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.94**	**353**	Pn	**Pn**	**04 30 52.7**	**-2.0**
	84nm,0.3s,baz=122,slow=19,SNR=4.3						
RAO				Sn	**Sn**	**04 31 18.0**	**-0.2**
	143nm,0.3s,baz=78,slow=22,SNR=5.7						
URZ	**Urewera**	**8.28**	**210**	Pn	**Pn**	**04 32 21.0**	**-0.7**
	0.3nm,0.3s,baz=342,slow=12,SNR=1.9						
URZ				Sn	**Sn**	**04 33 51.1**	**-3.1**
	0.4nm,0.3s,baz=182,slow=21,SNR=2.5						
	15nm,1.0s						
STKA	**Stephens Creek**	**34.62**	**258**	P	**P**	**04 37 13.0**	**+2.6**
	1.8nm,0.7s,baz=126,slow=8.7,SNR=3.1						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**43.39**	**268**	P	**P**	**04 38 24.4**	**+0.6**
	0.9nm,0.7s,baz=105,slow=7.4,SNR=8.9						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**44.45**	**273**	P	**P**	**04 38 33.3**	**+0.9**
	1.0nm,0.6s,baz=112,slow=7.9,SNR=11						
	1.0nm,0.6s						
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**04 40 21.3**	**+1.3**
	1.6nm,1.0s,baz=41,slow=6.6,SNR=7.3						
	1.6nm,1.0s						
FINES	**FINESS Array B**	**145.99**	**340**	PKPbc	**PKPbc**	**04 49 59.3**	**-0.6**
	1.4nm,0.7s,baz=62,slow=3.8,SNR=9.6						

*VAO **11** 04:36:36.2±1.6,8.°69S×74.°53W,h141km±5km,mb4.7*
*NEIC **11** 04:36:37.7±1.4,8.°73S±0.°08×74.°51W±0.°07,h143km±8km, mb4.5/120,Error ellipse: s-maj=11.4km s-min=10.0km az=187.0*
*IDC **11** 04:36:37.0±0.6,8.°83S×74.°60W,h149km±5km,mb3.6/11, mbtmp4.2/15,Error ellipse: s-maj=11.4km s-min=9.2km az=37.0*
*OSUNB **11** 04:36:41.7±0.8,8.°64S×74.°11W,h159km±4km,mb4.6/27, Error ellipse: s-maj=3.8km s-min=7.0km az=0.0*
ISC 11 04:36:36.6±0.4,**8.°77S**±0.°05×**74.°53W**±0.°04,**h145**km,**n166**, σ1s**21**/137,**mb4.4**/57,**1C**,**Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.08**	**60**		**Pn**	**04 37 13.6**	**+1.2**
CZSB	**Cruzeiro do Su**	**2.08**	**60**	P	**Pn**	**04 37 13.6**	**+1.2**
CZSB				S	**Sn**	**04 37 41.6**	**+1.7**
CZSB	**Cruzeiro do Su**	**2.08**	**60**	*e*P	**Pn**	**04 37 12.0**	**-0.4**
NNA	**Nana**	**3.92**	**215**		**Pn**	**04 37 36.9**	**+1.1**
NNA	**Nana**	**3.92**	**215**	P	**Pn**	**04 37 36.2**	**+0.4**
	68nm,0.2s,baz=28,slow=8.0,SNR=98						
NNA				S	**Sn**	**04 38 20.0**	**-1.7**
	364nm,0.4s,baz=332,slow=23,SNR=15						
ATAH	**Atahualpa**	**4.16**	**293**	P	**Pn**	**04 37 39.5**	**+0.2**
	203nm,0.4s,baz=92,slow=4.3,SNR=555						
ATAH				S	**Sn**	**04 38 27.0**	**-0.8**
	140nm,0.6s,baz=338,slow=13,SNR=7.4						
TBTG	**Tabatinga, AM**	**6.47**	**45**		**Pn**	**04 38 08.9**	**-0.6**
TBTG	**Tabatinga, AM**	**6.47**	**45**	P	**Pn**	**04 38 08.9**	**-0.6**
TBTG				S	**Sn**	**04 39 17.9**	**-4.4**
TBTG	**Tabatinga, AM**	**6.47**	**45**	*e*P	**Pn**	**04 38 09.4**	**-0.1**
COHC	**Cochancay**	**7.83**	**323**		**Pn**	**04 38 25.6**	**-2.2**
LABB	**Lıbrea**	**8.76**	**94**	P	**Pn**	**04 38 38.7**	**-1.5**
LABB				S	**Sn**	**04 40 11.6**	**-6.0**
LPAZ	**La Paz**	**9.73**	**141**	P	**Pn**	**04 38 55.3**	**+1.6**
	3.1nm,0.4s,baz=330,slow=7.9,SNR=20						
LPAZ	**La Paz**	**9.73**	**141**	P	**Pn**	**04 38 55.3**	**+1.6**
LPAZ	**La Paz**	**9.73**	**141**	*e*P	**Pn**	**04 38 54.1**	**+0.4**
FLOC	**Florencia**	**10.35**	**354**		**Pn**	**04 38 57.8**	**-3.6**
PB16	**IPOC Station P**	**10.68**	**153**		**Pn**	**04 39 08.2**	**+1.9**
TEFE	**Tefe**	**11.14**	**63**	P	**Pn**	**04 39 10.0**	**-1.8**
TEFE	**Tefe**	**11.14**	**63**	*e*P	**Pn**	**04 39 09.7**	**-2.1**
SGC2	**Sao Gabriel da**	**11.40**	**42**	P	**Pn**	**04 39 11.8**	**-3.5**
PLMC	**San Jos del P** 13nm,0.7s	**13.70**	**353**	P	**P**	**04 39 49.5**	**+0.6**
GUY2C	**Guyana, Caldas** 19nm,0.7s	**13.93**	**357**	P	**P**	**04 39 54.6**	**+2.8**
CBOC	**Ciudad Bolivar** 13nm,0.9s	**14.62**	**354**	P	**P**	**04 39 58.2**	**-1.0**
RUSC	**La Rusia**	**14.64**	**6**		**P**	**04 40 00.0**	**+0.3**
RUSC	**La Rusia**	**14.64**	**6**	P	**P**	**04 40 00.4**	**+0.7**
	13nm,1

BDFB pP **pP** 04 42 35.3 +1.4
comp=Z,3.6nm,0.6s,baz=275,slow=11,SNR=3.6
comp=Z,4.6nm,0.6s
PAL2 UHE Estreito - 27.02 88 P **P**
IPMB Ipameri, GO 27.16 112 P **P** 04 42 06.5 -0.2
IPMB Ipameri, GO 27.16 112 *e*P **P** 04 42 06.5 -0.2
BAT2 UHE Batalha 27.67 111 P **P** 04 42 13.2 +1.9
CELP Cerrillos 27.81 16 P **P** 04 42 12.4 +0.1
ITAB Concordia 28.03 134 P **P** 04 42 14.6 +0.3
HUMP Col San Antoni 28.08 18 P **P** 04 42 15.0 +0.3
SDBA SAO DESIDERIO 29.33 100 P **P** 04 42 26.2 +0.2
PLTB Pedras Altas 30.02 143 P **P** 04 42 32.2 +0.3
JANB Januaria 30.20 105 P **P** 04 42 35.8 +2.1
JANB Januaria 30.20 105 *e*P **P** 04 42 33.0 -0.7
JQT1 Jequitai-MG 30.54 109 P **P** 04 42 37.8 +1.1
DIAM Diamantina, MG 31.41 111 P **P** 04 42 44.4 0.0
TEIG Tepich 31.83 335 P **P** 04 42 48.7 +0.8
RIB01 Linhares ES 34.66 111 P **P** 04 43 13.1 +0.6
HBVL Hebbronville 42.63 327 P **P** 04 44 19.9 +1.2
Y49A Blount Mountai 43.87 346 P **P** 04 44 27.2 -1.4
W57A Gilead 43.99 354 P **P** 04 44 29.8 +0.3
W57A IAmb IAmb 04 44 30.5
comp=Z,7.7nm,0.8s
W50A Signal Mountai 44.91 347 P **P** 04 44 36.2 -0.7
HNDO Hondo 44.93 329 P **P** 04 44 38.7 +1.6
DRIO Del Rio 45.54 327 IAmb IAmb 04 44 43.5
comp=Z,7.4nm,0.8s
V48A Smith Brothers 45.77 346 IAmb IAmb 04 44 43.5
comp=Z,7.5nm,0.8s
S57A Dark Hollow, R 46.47 355 IAmb IAmb 04 44 50.0
comp=Z,6.1nm,0.6s
UALR University of 46.48 340 IAmb IAmb 04 44 49.5
comp=Z,8.0nm,0.7s
TXAR Lajitas Array 47.16 325 P **P** 04 44 55.1 +0.4
comp=Z,1.9nm,0.6s,baz=149,slow=9.6,SNR=29
comp=Z,1.9nm,0.6s
PLPT Palo Pinto 47.16 332 IAmb IAmb 04 44 56.9
comp=Z,8.8nm,0.6s
MNHN Monahans 48.19 327 IAmb IAmb 04 45 04.2
comp=Z,6.6nm,0.6s
HHAR Hobbs 48.39 339 IAmb IAmb 04 45 04.3
comp=Z,5.1nm,0.8s
APMT Aspermont 48.43 331 IAmb IAmb 04 45 06.2
comp=Z,11nm,1.1s
MGMO Mountain Grove 48.62 341 IAmb IAmb 04 45 05.8
comp=Z,14nm,1.2s
TUL3 Leonard 48.75 337 P **P** 04 45 06.9 +0.2
TUL3 IAmb IAmb 04 45 07.7
comp=Z,7.7nm,0.7s
FNO Franklin 48.83 335 IAmb IAmb 04 45 08.4
comp=Z,7.2nm,0.6s
DEOK Depew 48.97 336 P **P** 04 45 08.7 +0.4
VHRN Van Horn 49.00 325 IAmb IAmb 04 45 10.4
comp=Z,6.5nm,0.8s
DKNS Dickens 49.09 331 IAmb IAmb 04 45 11.2
comp=Z,8.8nm,0.7s
MSTX Muleshoe 50.25 329 IAmb IAmb 04 45 19.4
comp=Z,8.2nm,1.0s
P40A Paris 50.73 342 IAmb IAmb 04 45 21.3
comp=Z,4.4nm,0.6s
BINY Binghamton 50.74 359 IAmb IAmb 04 45 23.3
comp=Z,11nm,0.8s
121A Cookes Peak, D 51.89 324 IAmb IAmb 04 45 32.9
comp=Z,8.5nm,1.1s
319A Douglas 51.97 322 IAmb IAmb 04 45 33.3
comp=Z,8.3nm,0.9s
ANMO Albuquerque 52.93 327 P **P** 04 45 39.1 +0.8
TUC Tucson 53.53 321 P **P** 04 45 43.6 +1.0
T25A Trinidad 53.57 330 IAmb IAmb 04 45 44.9
comp=Z,5.6nm,0.9s
X18A Snowflake 54.58 324 IAmb IAmb 04 45 52.3
comp=Z,4.8nm,0.9s
SDCO Great Sand Dun 54.59 330 IAmb IAmb 04 45 52.2
comp=Z,4.6nm,0.8s
S22A 4UR Ranch, Cre 55.25 329 IAmb IAmb 04 45 57.0
comp=Z,6.6nm,1.5s
X16A Lo Mia Camp, P 55.38 323 IAmb IAmb 04 45 58.1
comp=Z,3.7nm,0.6s
WUAZ Wupatki 56.10 324 IAmb IAmb 04 46 03.3
comp=Z,6.5nm,0.8s
SPMN Marine on St. 56.21 345 IAmb IAmb 04 46 01.2
comp=Z,5.8nm,0.9s
PV01 Paradox Valley 56.45 328 IAmb IAmb 04 46 05.5
comp=Z,5.6nm,1.0s
PV15 Paradox Valley 56.55 328 IAmb IAmb 04 46 07.0
comp=Z,5.6nm,0.9s
PV13 Radium Mtn., P 56.60 328 IAmb IAmb 04 46 06.3
comp=Z,7.4nm,1.0s
PV05 Paradox Valley 56.68 328 IAmb IAmb 04 46 06.6
comp=Z,4.7nm,0.9s
IRM Iron Mountain 57.48 320 IAmb IAmb 04 46 13.0
comp=Z,7.4nm,0.9s
KNB Kanab 57.99 324 IAmb IAmb 04 46 16.8
comp=Z,5.1nm,1.0s
RSSD Black Hills 59.04 336 P **P** 04 46 22.3 +0.8
RSSD IAmb IAmb 04 46 23.3
comp=Z,10nm,1.4s
TPNV Topopah Spring 59.98 322 IAmb IAmb 04 46 30.3
comp=Z,7.0nm,1.1s
SPR3 Spring Creek 3 60.21 325 P **P** 04 46 30.2 +0.3
PDAR Pinedale Array 60.43 331 P **P** 04 46 30.6 -0.5
comp=Z,0.8nm,0.6s,baz=138,slow=6.9,SNR=9.5
PDAR PcP **PcP** 04 47 14.2 -0.4
comp=Z,0.3nm,0.5s,baz=170,slow=2.2,SNR=2.4
comp=Z,0.8nm,0.6s
R11B Troy Canyon, C 60.50 324 P **P** 04 46 32.7 +1.1
R11B IAmb IAmb 04 46 33.9
comp=Z,5.5nm,1.4s
HWUT Hardware Ranch 60.56 329 P **P** 04 46 31.7 -0.3
HWUT IAmb IAmb 04 46 33.2
comp=Z,4.5nm,0.8s
NVAR Mina Array Bea 62.17 322 P **P** 04 46 43.4 +0.4
comp=Z,0.7nm,0.6s,baz=155,slow=6.7,SNR=4.8
comp=Z,0.7nm,0.6s
YNE Yellowstone No 62.34 332 IAmb IAmb 04 46 45.4
comp=Z,6.9nm,1.1s
YHB Horse Butte 62.70 331 IAmb IAmb 04 46 48.5
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 63.54 332 IAmb IAmb 04 46 53.4
comp=Z,6.9nm,1.4s
SCHQ Scheffer ville 63.70 5 pP pP 04 47 27.2 +0.1
comp=Z,3.8nm,0.7s,baz=213,slow=6.5,SNR=2.5
MFID Camas Ranch 64.06 328 IAmb IAmb 04 47 13.6
comp=Z,6.4nm,0.9s
MSO Missoula 65.53 331 IAmb IAmb 04 47 06.5
comp=Z,5.1nm,0.9s
KHMM Horse Mountain 66.98 321 IAmb IAmb 04 47 16.2
comp=Z,4.1nm,0.8s
KSXB Camp Six Broad 67.63 322 IAmb IAmb 04 47 21.1
comp=Z,4.9nm,0.9s
K02D Willamette Mer 68.01 323 IAmb IAmb 04 47 22.3
comp=Z,4.9nm,0.9s
DBIC Dimbokro 71.12 80 P **P** 04 47 39.6 -0.3
comp=Z,3.8nm,0.5s,baz=280,slow=6.1,SNR=13
DBIC pP **pP** 04 48 14.7 -0.6
comp=Z,3.6nm,0.5s,baz=266,slow=6.4,SNR=2.9
comp=Z,3.8nm,0.5s
DBIC Dimbokro 71.12 80 P **P** 04 47 39.6 -0.3
SNAA Sanae 76.00 162 P **P** 04 48 07.2 -0.3
comp=Z,0.5nm,0.7s,baz=278,slow=8.7,SNR=6.7
SNAA pP **pP** 04 48 44.1 +0.9
comp=Z,1.7nm,0.6s,baz=271,slow=6.5,SNR=5.7
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 77.47 342 P **P** 04 48 15.2 -0.4
comp=Z,1.8nm,0.8s,baz=137,slow=5.5,SNR=12
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 80.94 47 P **P** 04 48 36.0 +0.9
comp=Z,0.3nm,0.6s,baz=257,slow=6.4,SNR=5.1
comp=Z,0.3nm,0.6s
SUMG Summit 84.48 10 P **P** 04 48 53.6 +0.5
SUMG IAmb IAmb 04 48 54.5
comp=Z,6.9nm,0.7s
SYO Syowa Base 90.24 161⇑ *e*P **P** 04 49 18.2 -2.2
ILAR Eielson Array 90.49 336 P **P** 04 49 21.4 -0.2
comp=Z,0.4nm,0.4s,baz=117,slow=3.4,SNR=11
ILAR pP **pP** 04 49 59.8 +1.3
comp=Z,0.6nm,0.9s,baz=118,slow=6.3,SNR=3.0
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 131.99 16 PKP **PKiKP** 04 55 33.5 -0.4
comp=Z,0.6nm,0.3s,baz=349,slow=0.7,SNR=2.2
KURBB Kurchatov Array 132.69 23 PKP **PKPdf** 04 55 34.6 +0.4
comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=4.6
MKAR Makanchi Array 137.26 23 PKP **PKPdf** 04 55 43.2 +0.3
comp=Z,0.4nm,0.7s,baz=320,slow=6.6,SNR=2.9
ASAR Alice Springs 137.44 220 PKP **PKPdf** 04 55 43.1 -0.9
comp=Z,0.7nm,0.5s,baz=128,slow=1.8,SNR=9.1
ASAR pPKP **pPKPdf** 04 56 23.2 +0.6
comp=Z,0.3nm,0.7s,baz=123,slow=1.4,SNR=1.9
WRA Warramunga Arr 139.73 225 PKP **PKPdf** 04 55 48.8 +0.6
comp=Z,1.2nm,0.5s,baz=124,slow=2.1,SNR=16
WRA pPKP **pPKPdf** 04 56 27.6 +0.7
comp=Z,0.9nm,0.9s,baz=124,slow=1.8,SNR=2.7
KSRS Korea Array 144.96 328 PKPbc PKPbc 04 55 56.1 -0.4
comp=Z,1.9nm,0.7s,baz=27,slow=3.3,SNR=5.0
FITZ Fitzroy Crossi 146.69 217 PKPbc **PKPbc** 04 56 02.7 +0.4
comp=Z,7.2nm,0.8s,baz=158,slow=4.3,SNR=8.2

IDC 11 04:37:28.2±2.4, 2°10'N×125°20'E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=275.0km s-min=25.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.67**	**158**	P	P	04 42 41.6	0.0
	1.6nm,0.3s,baz=336,slow=9.9,SNR=28						
	1.6nm,0.3s						
ASAR	**Alice Springs**	**26.97**	**162**	P	P	04 43 11.2	-0.6
	0.4nm,0.6s,baz=339,slow=7.6,SNR=7.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.04**	**327**	P	P	04 47 23.6	+0.5
	0.2nm,0.3s,baz=126,slow=7.5,SNR=5.3						
	0.2nm,0.3s						

*DJA **11** 04:39:00.9±0.2, 7°S±2°×10°E±°, h10km, M5.1/79, mb5.2/79, mB5.6/44, MLv5.4/30, Mw(mB)5.1/44, MwMwp5.0/6, Mwp5.2/6*
*MOS **11** 04:39:01.6±1.0, 7.04S×103.03E, h12km, mb5.4/41, Error ellipse: s-maj=9.0km s-min=5.3km az=110.2*
*IDC **11** 04:39:01.0±0.4, 7.12S×103.02E, h0km, mb4.7/32, mbtmp4.7/35, ML4.2/3, MS4.2/25, Error ellipse: s-maj=15.0km s-min=9.8km az=57.0*
*BJI **11** 04:39:01.7, 7.20S×103.00E, h10km, mB5.4/37, mb5.3/79, Ms5.3/57, Ms7 5.0/57*
*NEIC **11** 04:39:03.1±2.6, 7.22S±0.07×102.94E±0.07, h10km±1km, mb5.3/66, Mww5.0/7, Error ellipse: s-maj=11.9km s-min=10.8km az=211.0*
*GCMT **11** 04:39:06.1±0.4, 7.42S±0.03×102.63E±0.03, h15km±1km, MW4.9/65, Moment Tensor Solution. s23,c27; s65,c84; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.92±.18; Mθθ -1.09±.11; Mϕϕ -0.83±.12; Mrθ 0.78±.23; Mϕθ 0.94±.06; Mϕr -1.37±.28; Best double couple: Mo 2.47700×10^16 NP1: ϕs 300.00000°, δ27.00000°, λ70.00000°. NP2: ϕs 143.00000°, δ65.00000°, λ100.00000°. Principal axes: T 2.5260, Plg69.0000°, Azm72.0000°; N -0.0990, Plg9.0000°, Azm319.0000°; P -2.4270, Plg19.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 04:39:02.6±0.3, 7.18S±0.04×103.00E±0.05, h10km, n388, σ1§54/385, mb5.2/139, MS4.4/46, 34C-9D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**2.22**	**42**	P	**Pn**	**04 39 39.5**	**0.0**
LWLI	**Liwa**	**2.40**	**26**	P	**Pn**	**04 39 42.0**	**0.0**
CGJI	**Cilinong**	**2.74**	**78**	P	**Pn**	**04 39 46.3**	**-0.3**
MNAI	**Manna**	**2.81**	**359**		**Pn**	**04 39 46.5**	**-1.0**
MNAI	**Manna**	**2.81**	**359**	P	**Pn**	**04 39 46.5**	**-1.0**
BLSI	**Bandar Lampung**	**2.87**	**51**	P	**Pn**	**04 39 49.1**	**+0.6**
MDSI	**Maura Dua**	**2.93**	**24**	P	**Pn**	**04 39 49.4**	**+0.2**
KLI	**Kotabumi**	**2.96**	**39**	P	**Pn**	**04 39 50.5**	**+0.9**
SBJI	**Serang**	**3.29**	**71**	P	**Pn**	**04 39 54.7**	**+0.5**
LHSI	**Lahat**	**3.38**	**9**	P	**Pn**	**04 39 55.8**	**+0.4**
KSI	**Kapahiang**	**3.53**	**353**	P	**Pn**	**04 39 56.2**	**-1.4**
SKJI	**Sukabumi**	**3.54**	**87**	P	**Pn**	**04 39 57.6**	**0.0**
TNG	**Tangerang**	**3.76**	**75**	P	**Pn**	**04 40 00.9**	**+0.2**
DBJI	**Dramaga**	**3.78**	**81**	P	**Pn**	**04 40 01.9**	**+0.9**
CNJI	**Cibinong**	**4.10**	**92**	P	**Pn**	**04 40 04.4**	**-1.0**
PMBI	**Palembang**	**4.58**	**23**		**Pn**	**04 40 12.5**	**+0.5**
PMBI	**Palembang**	**4.58**	**23**	P	**Pn**	**04 40 11.4**	**-0.6**
LEM	**Lembang**	**4.60**	**86**	Pn	**Pn**	**04 40 13.6**	**+1.2**
	64nm,0.3s,baz=210,slow=4.9,SNR=34						
LEM				Sn	**Sn**	**04 41 01.1**	**-4.9**
	26nm,0.3s,baz=77,slow=9.3,SNR=4.4						
LEM				LR	LR	04 41 37.2	
	comp=Z,2μm,18.9s,baz=242,slow=34						
	283nm,0.5s						
LEM	**Lembang**	**4.60**	**86**	P	**Pn**	**04 40 12.5**	**+0.1**
JCJI	**Jatiwangi**	**5.28**	**83**	P	**Pn**	**04 40 22.5**	**+0.9**
	2.9nm8μm445nm,0.9s						
PPSI	**Pulau Pagai**	**5.30**	**326**	P	**Pn**	**04 40 20.4**	**-1.5**
CMJI	**Cimerak**	**5.44**	**97**	P	**Pn**	**04 40 23.1**	**-0.7**
KPJI	**Karang Pucung**	**5.89**	**92**	P	**Pn**	**04 40 29.7**	**-0.3**
	2.1nm4μm5μm406nm,0.9s						
TPI	**Tanjungpandan**	**6.39**	**47**	P	**Pn**	**04 40 37.8**	**+0.9**
	3μm89nm,0.9s						
PDSI	**Padang**	**6.72**	**338**	P	**Pn**	**04 40 39.5**	**-1.9**
	1.4nm2μm199nm,0.7s						
DSRI	**Dabo**	**6.84**	**13**	P	**Pn**	**04 40 43.2**	**+0.1**
	1.0nm4μm217nm,1.1s						
SISI	**Saibi**	**7.00**	**326**	P	**Pn**	**04 40 42.7**	**-2.5**
	1.0nm264nm,0.9s						
PPI	**Padang Panjang**	**7.17**	**339**	P	**Pn**	**04 40 45.4**	**-2.1**
	0.9nm2μm242nm,0.9s						
SMRI	**Semarang**	**7.39**	**89**		**Pn**	**04 40 53.0**	**+2.4**
SMRI	**Semarang**	**7.39**	**89**	P	**Pn**	**04 40 52.9**	**+2.3**
UGM	**Wanagama**	**7.50**	**96**		**Pn**	**04 40 52.0**	**-0.1**
UGM	**Wanagama**	**7.50**	**96**	P	**Pn**	**04 40 51.9**	**-0.2**
COCO	**West Island**	**7.85**	**230**		**Pn**	**04 40 55.2**	**-1.6**
WOJI	**Wonogiri, Jawa**	**7.89**	**95**	P	**Pn**	**04 40 56.9**	**-0.5**
	5μm277nm,0.9s						
PCJI	**Pacitan**	**8.17**	**98**	P	**Pn**	**04 41 01.0**	**-0.3**
	5μm384nm,1.1s						
TPRI	**Tanjung Pinang**	**8.19**	**11**	P	**Pn**	**04 41 00.0**	**-1.6**
	157nm,0.8s						
NGJI	**Ngawi**	**8.40**	**92**	P	**Pn**	**04 41 05.0**	**+0.5**
PBSI	**Pulau Batu**	**8.50**	**326**	P	**Pn**	**04 41 03.5**	**-2.3**
	207nm,1.0s						
MNSI	**Mandailing Nat**	**8.63**	**337**	P	**Pn**	**04 41 04.7**	**-2.9**
	2μm98nm,0.8s						
MYKOM	**Kota Tinggi**	**8.96**	**5**		**Pn**	**04 41 12.6**	**+0.5**
GRJI	**Gresik**	**9.42**	**89**	P	**Pn**	**04 41 18.3**	**-0.1**
GSI	**Gunungsitoli**	**10.02**	**327**		**Pn**	**04 41 25.7**	**-0.9**
GSI	**Gunungsitoli**	**10.02**	**327**	P	**Pn**	**04 41 25.0**	**-1.7**
	67nm,0.9s						
GMJI	**Gumukmas**	**10.41**	**97**	P	**Pn**	**04 41 30.9**	**-1.1**
	149nm,1.1s						
RPSI	**Rantau Prapat**	**10.62**	**337**		**Pn**	**04 41 33.6**	**-1.3**
RPSI	**Rantau Prapat**	**10.62**	**337**		**Pn**	**04 41 34.6**	**-0.3**
RPSI					**Sn**	**04 43 27.5**	**-6.5**
PSI	**Prapat**	**10.72**	**338**	Pn	**Pn**	**04 41 34.6**	**-1.8**
	0.5nm,0.3s,baz=182,slow=14,SNR=5.7						
PSI				Sn	Sn	04 43 27.5	-9.1
	0.4nm,0.3s,baz=261,slow=22,SNR=1.2						
	16nm,0.9s						
KMMI	**Kalianget**	**10.89**	**90**	P	**Pn**	**04 41 38.4**	**-0.2**
	151nm,1.1s						
STKI	**Sintang**	**11.11**	**50**	P	**Pn**	**04 41 43.9**	**+2.3**
	75nm,0.7s						
JAGI	**Jajag, Banyuwa**	**11.13**	**97**		**Pn**	**04 41 40.4**	**-1.5**
JAGI	**Jajag, Banyuwa**	**11.13**	**97**	P	**Pn**	**04 41 40.4**	**-1.5**
	3μm253nm,1.2s						
ABJI	**Asem Bagus**	**11.16**	**94**	P	**Pn**	**04 41 42.7**	**+0.4**
KSM	**Kuching**	**11.28**	**41**		**Pn**	**04 41 44.2**	**+0.3**
TSI	**Tuntungan**	**11.50**	**337**	P	**Pn**	**04 41 44.4**	**-2.5**
	117nm,1.0s						
SNSI	**Sinabang, Aceh**	**11.62**	**325**	P	**Pn**	**04 41 46.9**	**-1.8**
	169nm,0.8s						
IPM	**Ipoh**	**11.75**	**350**		**Pn**	**04 41 51.2**	**+0.8**
KCSI	**Kotacane, Aceh**	**11.84**	**334**	P	**Pn**	**04 41 49.2**	**-2.5**
SRBI	**Singaraja**	**12.14**	**95**	P	**Pn**	**04 41 56.1**	**+0.3**
	153nm,0.9s						
KULM	**Kulim**	**12.61**	**349**		**Pn**	**04 41 58.6**	**-3.5**
SBUM	**Sibu**	**13.28**	**44**		**Pn**	**04 42 13.0**	**+1.7**
TWSI	**Taliwang, Sumb**	**13.84**	**97**	P	**Pn**	**04 42 17.5**	**-1.5**
	90nm,0.9s						
PLAI	**Plampang**	**14.73**	**97**	P	**Pn**	**04 42 28.7**	**-2.5**
	1μm156nm,1.0s						
BKB	**Balikpapan**	**15.05**	**68**		**Pn**	**04 42 37.3**	**+1.7**
BKB				IAmb	IAmb	04 42 44.6	
	comp=Z,170nm,1.1s						
BKB	**Balikpapan**	**15.05**	**68**	P	**Pn**	**04 42 36.4**	**+0.9**
	comp=Z,2μmcomp=Z,224nm,1.2s						
SMKI	**Samarinda**	**15.67**	**65**	P	**Pn**	**04 42 44.4**	**+0.7**
	comp=Z,148nm,1.1s						
WBSI	**Waikabubak, Su**	**16.40**	**100**	P	**Pn**	**04 42 52.6**	**-0.5**
	comp=Z,1μmcomp=Z,126nm,1.0s						
KAPI	**Kappang**	**16.80**	**84**		**Pn**	**04 42 56.3**	**-1.8**
KAPI	**Kappang**	**16.80**	**84**	Pn	**Pn**	**04 42 56.2**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=248,slow=3.5,SNR=5.5						
KAPI				LR	LR	04 50 21.0	
	comp=Z,675nm,18.9s,baz=262,slow=41						
	comp=Z,4.8nm,0.6s						
KAPI	**Kappang**	**16.80**	**84**	*d* P	**Pn**	**04 42 58.4**	**+0.3**
SPSI	**Sidrap Palu**	**17.00**	**80**	P	**Pn**	**04 43 00.2**	**-0.4**
BKSI	**Bulukumba**	**17.12**	**85**	P	**Pn**	**04 43 01.8**	**-0.4**
	comp=Z,72nm,0.9s						
BNSI	**Bone**	**17.25**	**82**	P	**Pn**	**04 43 03.1**	**-0.6**
	comp=Z,2μmcomp=Z,63nm,1.2s						
WSI	**Waingapu**	**17.29**	**99**	P	**Pn**	**04 43 02.7**	**-1.6**
	comp=Z,5μmcomp=Z,314nm,1.2s						
BSSI	**Bau Bau, Buton**	**17.41**	**88**	P	**Pn**	**04 43 05.0**	**-0.8**
	comp=Z,86nm,2.0s						
PCI	**Palu**	**17.91**	**70**	P	**Pn**	**04 43 13.0**	**+1.0**
	comp=Z,6μmcomp=Z,374nm,1.2s						
MPSI	**Mapaga**	**18.44**	**67**	P	**P**	**04 43 19.4**	**+0.9**
	comp=Z,4μmcomp=Z,263nm,1.4s						
EDFI	**Ende, Flores**	**18.58**	**96**	P	**P**	**04 43 18.6**	**-1.5**
	comp=Z,1μmcomp=Z,69nm,1.3s						
KKM	**Kota Kinabalu**	**18.62**	**45**	P	**P**	**04 43 20.1**	**-0.5**
KKM				IAmb	IAmb	04 43 21.9	
	comp=Z,145nm,1.1s						
MMRI	**Maumere**	**19.11**	**96**	P	**P**	**04 43 25.1**	**-0.7**
BBSI	**Bau Bau**	**19.53**	**86**	P	**P**	**04 43 29.9**	**-0.5**
	comp=Z,2μmcomp=Z,138nm,1.0s						
TOLI2	**Tolitoli**	**19.57**	**66**	P	**P**	**04 43 30.6**	**-0.3**
TOLI2				IAmb	IAmb	04 43 33.9	
	comp=Z,171nm,1.1s						
APSI	**Ampana**	**19.61**	**72**	P	**P**	**04 43 31.6**	**+0.3**
	comp=Z,2μmcomp=Z,253nm,1.1s						
DLV	**Lat**	**19.77**	**16**	P	**P**	**04 43 33.3**	**+0.1**
MRSI	**Marisa**	**20.37**	**69**	P	**P**	**04 43 39.3**	**-0.3**
	comp=Z,1μmcomp=Z,112nm,0.9s						
LUWI	**Luwuk**	**20.64**	**74**	P	**P**	**04 43 40.8**	**-1.7**
	comp=Z,3μmcomp=Z,137nm,1.1s						
BATI	**Baumata**	**20.65**	**100**	P	**P**	**04 43 43.1**	**+0.4**
	comp=Z,190nm,0.9s,baz=299,slow=1.9,SNR=10						
BATI				S	**S**	**04 47 26.0**	**-7.6**
	comp=Z,67nm,0.8s,baz=70,slow=12,SNR=1.9						
BATI				LR	LR	04 53 16.1	
	comp=Z,874nm,21.7s,baz=326,slow=41						
	comp=Z,190nm,0.9s						
BATI	**Baumata**	**20.65**	**100**	P	**P**	**04 43 43.2**	**+0.5**
SOEI	**Soe**	**21.19**	**98**	P	**P**	**04 43 48.0**	**-0.6**
SOEI	**Soe**	**21.19**	**98**	P	**P**	**04 43 48.1**	**-0.6**
SANI	**Sanana**	**23.47**	**79**	P	**P**	**04 44 11.5**	**-1.1**
	comp=Z,6μmcomp=Z,55nm,1.8s						
MEEK	**Meekatharra**	**24.39**	**144**	P	**P**	**04 44 21.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.58**	**118**	P	**P**	**04 44 23.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.58**	**118**	P	**P**	**04 44 22.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.58**	**118**	P	**P**	**04 44 23.1**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=306,slow=8.5,SNR=7.3						
FITZ				S	**S**	**04 48 47.0**	**+2.8**
	comp=Z,3.0nm,0.8s,baz=305,slow=9.1,SNR=1.4						
	comp=Z,7.0nm,0.8s						
TNTI	**Ternate**	**25.57**	**73**	P	**P**	**04 44 30.6**	**-1.4**
TNTI	**Ternate**	**25.57**	**73**	P	**P**	**04 44 30.4**	**-1.6**
	comp=Z,2μmcomp=Z,145nm,1.3s						
CM31	**Chiang Mai Arr**	**25.79**	**351**	P	**P**	**04 44 34.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**25.79**	**351**	P	**P**	**04 44 34.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**25.79**	**351**	P	**P**	**04 44 34.0**	**0.0**
	comp=Z,147nm,1.1s,baz=184,slow=8.4,SNR=167						
CMAR	**Chiang Mai Arr**	**25.79**	**351**	*i* P	**P**	**04 44 34.7**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,147nm,1.1s						
CHTO	**Chiang Mai**	**26.14**	**351**	P	**P**	**04 44 37.5**	**+0.4**
CHTO	**Chiang Mai**	**26.14**	**351**	P	**P**	**04 44 37.5**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,143nm,1.2s						
KNRA	**Kununurra**	**26.60**	**111**	P	**P**	**04 44 41.3**	**-0.1**
KNRA				IAmb	IAmb	04 44 56.2	
	comp=Z,64nm,0.9s						
KNRA	**Kununurra**	**26.60**	**111**	P	**P**	**04 44 41.1**	**-0.3**
	comp=Z,77nm,0.8s						
BLDU	**Ballidu**	**26.62**	**153**	P	**P**	**04 44 41.0**	**-0.4**
	comp=Z,9.9nm,2.0s						
QIZ	**Qiongzhong**	**26.91**	**14**	P	**P**	**04 44 46.4**	**+0.6**
QIZ				S	**S**	**04 49 24.7**	**+3.6**
QIZ				pmax	pmax		
	comp=Z,98nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,680nm,3.6s						
QIZ				LR	LR		
	comp=Z,2μm,15.9s						
QIZ				LR	LR		
	comp=Z,4μm,14.9s						
MTN	**Manton Dam**	**28.26**	**104**	P	**P**	**04 44 55.9**	**-0.3**
	comp=Z,23nm,1.1s						
SLVN	**Son La**	**28.35**	**2**	P	**P**	**04 44 58.0**	**+1.0**
SLVN				IAmb	IAmb	04 44 59.7	
	comp=Z,80nm,1.0s						
H01W3	**Cape Leeuwin H**	**29.41**	**161**	T	T	05 15 50.8	
	baz=338						
H01W2	**Cape Leeuwin H**	**29.43**	**161**	T	T	05 15 51.8	
	baz=338						
H01W1	**Cape Leeuwin H**	**29.43**	**161**	T	T	05 15 52.7	
	baz=338						
KDU	**Kakadu**	**29.53**	**103**	P	**P**	**04 45 07.2**	**-0.4**
	comp=Z,32nm,0.8s						
H08S2	**Diego Garcia H**	**30.25**	**267**	T	T	05 17 23.7	
	baz=90,slow=74						
H08S3	**Diego Garcia H**	**30.26**	**267**	T	T	05 17 40.9	
	baz=90						
H08S1	**Diego Carcia H**	**30.27**	**267**	T	T	05 17 44.7	
	baz=90,slow=74						
BRDH	**Bariadhala**	**31.69**	**340**	LR	LR	05 01 13.4	
	comp=Z,1μm,19.1s,baz=146,slow=42						
KMI	**Kunming**	**32.11**	**360 ⇑**	P	**P**	**04 45 32.7**	**+2.2**
KMI				S	**S**	**04 50 44.7**	**+1.6**
KMI				pmax	pmax		
	comp=Z,87nm,1.4s						
KMI				pmax	pmax		
	comp=Z,610nm,4.7s						
KMI				LR	LR		
	comp=Z,4μm,11.4s						
KMI				LR	LR		
	comp=Z,2μm,13.4s						
KMI				LR	LR		
	comp=Z,5μm,12.1s						
TNCH	**TengChong**	**32.31**	**352**	P	**P**	**04 45 33.6**	**+1.4**
TNCH				sP	pwP	04 45 39.1	-0.4
TNCH				S	**S**	**04 50 47.5**	**+1.3**
TNCH				pmax	pmax		
	comp=Z,430nm,3.5s						
TNCH				LR	LR		
	comp=Z,4μm,12.8s						
TNCH				LR	LR		
	comp=Z,2μm,10.8s						
TNCH				LR	LR		
	comp=Z,4μm,12.5s						
WB9	**Warramunga Arr**	**32.92**	**116**	P	**P**	**04 45

AS31 Alice Springs 33.88 122 P **P** **04 45 46.2 +0.3**
comp=Z,5.7nm,1.1s
AS07 Alice Springs 33.94 122 P **P** **04 45 45.8 -0.5**
comp=Z,14nm,1.2s
HYB Hyderabad 34.36 316 *e*P **P** **04 45 50.3 +0.3**
SSLB Suanglung 35.43 29 P **P** **04 45 59.0 -0.1**
SSLB IAmb IAmb 04 46 32.0
comp=Z,64nm,1.1s
QIS Mount Isa 37.84 114 P **P** **04 46 20.3 +0.5**
comp=Z,35nm,1.4s
JAY Jayapura 37.85 85 LR LR 05 03 11.1
comp=Z,428nm,19.9s,baz=340,slow=38
JAY Jayapura 37.85 85 P **P** **04 46 19.6 -0.4**
comp=Z,25nm,0.9s
CD2 Chengdu 37.88 1 ⇑P **P** **04 46 20.3 +0.3**
CD2 S **S** **04 52 15.7 +4.1**
CD2 pmax pmax
comp=Z,130nm,0.7s
CD2 LR LR
comp=Z,4μm,13.5s
CD2 LR LR
comp=Z,4μm,14.5s
CD2 LR LR
comp=Z,6μm,12.0s
LSA Lhasa 38.40 343 P **P** **04 46 25.5 +0.6**
LSA pmax pmax
comp=Z,50nm,0.9s
WHN Wuhan 39.06 16 ⇓P **P** **04 46 30.7 +0.9**
WHN pmax pmax
comp=Z,170nm,1.3s
COEN Coen 40.02 103 P **P** **04 46 38.4 +0.2**
COEN Coen 40.02 103 P **P** **04 46 37.6 -0.6**
comp=Z,34nm,1.5s
XAN Xi'an 41.38 7 ⇑P **P** **04 46 49.4 +0.3**
XAN pmax pmax
comp=Z,220nm,1.0s
XAN LR LR
comp=Z,2μm,15.4s
XAN LR LR
comp=Z,1μm,12.7s
XAN LR LR
comp=Z,3μm,13.9s
JOW Kunigami 41.76 35 P **P** **04 46 51.0 -1.3**
comp=Z,12nm,0.8s,baz=281,slow=23,SNR=1.8
comp=Z,12nm,0.8s
NJ2 Nanjing 41.85 20 *e*P **P** **04 46 55.4 +2.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,1μm,13.0s
NJ2 LR LR
comp=Z,1μm,11.8s
NJ2 LR LR
comp=Z,900nm,12.3s
LYN LuoYang 42.46 12 P **P** **04 46 58.7 +0.8**
LYN S **S** **04 53 23.7 +3.8**
LYN pmax pmax
comp=Z,190nm,1.1s
LYN pmax pmax
comp=Z,1μm,5.8s
LYN LR LR
comp=Z,2μm,15.1s
LYN LR LR
comp=Z,1μm,12.7s
LYN LR LR
comp=Z,3μm,15.8s
LZH Lanzhou 43.05 1 ⇑P **P** **04 47 04.2 +1.4**
LZH sP pwP 04 47 10.9 +0.7
LZH S **S** **04 53 30.2 +1.4**
LZH pmax pmax
comp=Z,120nm,1.3s
LZH pmax pmax
comp=Z,460nm,4.1s
LZH LR LR
comp=Z,3μm,13.1s
LZH LR LR
comp=Z,3μm,13.4s
LZH LR LR
comp=Z,4μm,12.7s
STKA Stephens Creek 43.53 130 P **P** **04 47 06.6 0.0**
comp=Z,84nm,1.4s
STKA Stephens Creek 43.53 130 P **P** **04 47 07.9 +1.2**
comp=Z,6.7nm,1.0s,baz=313,slow=11,SNR=3.7
comp=Z,6.7nm,1.0s
STKA Stephens Creek 43.53 130⇑ *e*P **P** **04 47 08.0 +1.3**
QLP Quilpie 43.66 121 P **P** **04 47 07.9 +0.1**
comp=Z,68nm,1.0s
PMG Port Moresby 43.74 96 P **P** **04 47 07.4 -1.2**
PMG IAmb IAmb 04 47 46.2
comp=Z,46nm,0.9s
PMG Port Moresby 43.74 96*c i*P **P** **04 47 08.7 +0.1**
PMG pmax pmax
comp=Z,52nm,1.2s
CTA Charters Tower 43.81 112 P **P** **04 47 09.0 -0.1**
comp=Z,0.6nm,1.2s
CTAO Charters Tower 43.81 112 P **P** **04 47 10.1 +1.0**
CTAO IAmb IAmb 04 47 20.5
comp=Z,58nm,1.6s
CTAO Charters Tower 43.81 112 P **P** **04 47 10.1 +1.0**
CTAO pmax pmax
comp=Z,58nm,1.6s
GOMU GeErMu 43.83 350 P **P** **04 47 10.5 +1.1**
GOMU pP sP 04 47 13.3 +1.4
GOMU sP pwP 04 47 17.3 +0.6
GOMU S **S** **04 53 48.0 +7.4**
GOMU pmax pmax
comp=Z,18nm,1.2s
GOMU LR LR
comp=Z,820nm,13.4s
GOMU LR LR
comp=Z,540nm,13.2s
GOMU LR LR
comp=Z,760nm,13.1s
MANU Manus Island 44.50 86 P **P** **04 47 14.7 0.0**
MANU IAmb IAmb 04 47 17.1
comp=Z,37nm,1.2s
TIA Tai'an 45.16 16 P **P** **04 47 19.1 -0.5**
TIA pmax pmax
comp=Z,45nm,1.2s
TIY Taiyuan 45.52 11 *e*P **P** **04 47 23.1 +0.6**
TIY pmax pmax
comp=Z,34nm,0.6s
HNS HongShan 45.68 13 ⇑P **P** **04 47 23.9 +0.3**
HNS pmax pmax
comp=Z,53nm,1.1s
HNS LR LR
comp=Z,710nm,13.3s
HNS LR LR
comp=Z,1μm,12.6s
HNS LR LR
comp=Z,1μm,16.5s
GTA Gaotai 46.45 357 P **P** **04 47 31.6 +1.7**
GTA sP pwP 04 47 39.9 +2.7
GTA S **S** **04 54 22.6 +4.6**
GTA pmax pmax
comp=Z,47nm,1.0s
GTA pmax pmax
comp=Z,490nm,5.6s
GTA LR LR
comp=Z,2μm,15.5s
GTA LR LR
comp=Z,2μm,16.7s
GTA LR LR
comp=Z,3μm,15.5s
CMSA Cobar Meteorol 46.58 127 P **P** **04 47 32.0 +1.0**
comp=Z,29nm,0.8s
JNU Nakatsue 48.05 32 P **P** **04 47 41.2 -1.2**
JNU Nakatsue 48.05 32 P **P** **04 47 41.6 -0.7**
comp=Z,33nm,1.0s,baz=206,slow=3.5,SNR=8.8
JNU LR LR 05 10 25.4
comp=Z,152nm,19.0s,baz=203,slow=39
comp=Z,33nm,1.0s
HHC Hu-ho-hao-te 48.44 9 *e*P **PKiKP** **04 55 59.0 -2.8**
HHC Hu-ho-hao-te 48.44 9 *e*P **P** **04 47 46.3 +1.0**
HHC sP pwP 04 47 53.8 +1.5
HHC PP **PP** **04 49 38.5 +0.3**
HHC S **S** **04 54 44.3 -2.0**
HHC sS sS 04 54 54.5 +4.7
HHC pmax pmax
comp=Z,66nm,1.3s
HHC pmax pmax
comp=Z,170nm,6.6s
HHC LR LR
comp=Z,220nm,12.2s
HHC LR LR
comp=Z,380nm,14.5s
HHC LR LR
comp=Z,280nm,14.5s
BJI Beijing 48.54 14 P **P** **04 47 46.2 +0.3**
BJI pP **sP** **04 47 50.8 +2.2**
BJI sP **pwP** **04 47 53.8 +0.9**
BJI S **S** **04 54 48.2 +0.8**
BJI pmax pmax
comp=Z,30nm,1.1s
BJI LR LR
comp=Z,750nm,15.3s
BJI LR LR
comp=Z,490nm,14.4s
BJI LR LR
comp=Z,920nm,15.6s
DL2 Dalian 49.01 19 P **P** **04 47 50.6 +1.0**
DL2 pmax pmax
comp=Z,120nm,1.8s
DL2 LR LR
comp=Z,1μm,16.4s
DL2 LR LR
comp=Z,1μm,19.8s
DL2 LR LR
comp=Z,1μm,13.7s
NIL Nilore 49.45 327 P **P** **04 47 52.7 -0.4**
NIL IAmb IAmb 04 48 20.2
comp=Z,37nm,1.0s
NIL Nilore 49.45 327 P **P** **04 47 52.7 -0.4**
NIL pmax pmax
comp=Z,37nm,1.0s
KSAR Wonju Array Be 50.12 26 P **P** **04 47 58.5 +0.5**
KSAR Wonju Array Be 50.12 26 P **P** **04 47 58.5 +0.5**
KSRS Korea Array 50.14 26 P **P** **04 47 58.0 -0.3**
comp=Z,20nm,1.0s,baz=217,slow=7.7,SNR=36
comp=Z,20nm,1.0s
KSRS Korea Array 50.14 26 P **P** **04 47 58.0 -0.3**
KS19 Wonju Array Si 50.16 26 P **P** **04 47 59.1 +0.7**
XLT XiLinHaoTe 52.21 12 *e*P **P** **04 48 14.0 +0.2**
XLT sP pwP 04 48 22.5 +1.7
XLT pmax pmax
comp=Z,42nm,1.0s
XLT pmax pmax
comp=Z,230nm,4.3s
XLT LR LR
comp=Z,1μm,11.9s
XLT LR LR
comp=Z,1μm,13.6s
KBL Kabul 52.46 324 P **P** **04 48 16.3 +0.3**
KBL pmax pmax
comp=Z,14nm,0.9s
WMQ Urumqi 52.62 346 *e*P **P** **04 48 18.8 +2.0**
WMQ sP pwP 04 48 26.9 +2.7
WMQ S **S** **04 55 45.3 +1.1**
WMQ pmax pmax
comp=Z,100nm,1.3s
WMQ pmax pmax
comp=Z,260nm,3.6s
WMQ LR LR
comp=Z,610nm,10.9s
WMQ LR LR
comp=Z,220nm,21.7s
KSH Kashi 52.77 334 P **P** **04 48 17.1 -1.0**
KSH pP sP 04 48 21.4 +0.7
KSH S **S** **04 55 42.3 -4.2**
KSH pmax pmax
comp=Z,14nm,0.9s
KSH LR LR
comp=Z,490nm,13.1s
KSH LR LR
comp=Z,250nm,14.1s
KSH LR LR
comp=Z,410nm,13.4s
TARG Taragay, Kyrgy 53.86 337 P **P** **04 48 27.4 +1.0**
TARG IAmb IAmb 04 49 10.2
comp=Z,22nm,1.0s
TARG Taragay, Kyrgy 53.86 337 P **P** **04 48 27.4 +1.0**
TARG pmax pmax
comp=Z,22nm,1.0s
KDJ Kajisay 54.45 337 IAmb IAmb 04 48 58.8
comp=Z,55nm,1.1s
SHLS Shalkode 54.48 339 *e*P **P** **04 48 29.1 -1.4**
SHLS Shalkode 54.48 339 *e*P **P** **04 48 29.1 -1.4**
MAJO Matsushiro 54.60 35‖ *e*P **P** **04 48 30.3 -1.1**
MAJO pmax pmax
comp=Z,28nm,2.3s
MJAR Matsushiro Arr 54.60 35 P **P** **04 48 28.5 -2.9**
MJAR Matsushiro Arr 54.60 35 P **P** **04 48 29.6 -1.9**
comp=Z,6.7nm,1.2s,baz=214,slow=7.9,SNR=10
comp=Z,6.7nm,1.2s
UZB Uzynbulak 54.62 339 *e*P **P** **04 48 31.6 0.0**
UZB pmax pmax
comp=Z,23nm,1.5s
UZB Uzynbulak 54.62 339 *e*P **P** **04 48 31.7 0.0**
comp=Z,23nm,1.5s
CN2 Changchun 54.67 20 ⇑P **P** **04 48 31.0 -0.7**
CN2 *e*sP pwP 04 48 38.0 -0.8
CN2 *e*S **S** **04 56 09.7 -2.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,800nm,12.0s
SATY Saty 54.77 338 *e*P **P** **04 48 32.7 0.0**
SATY pmax pmax
comp=Z,25nm,1.5s
SATY Saty 54.77 338 *e*P **P** **04 48 32.8 0.0**
comp=Z,25nm,1.5s
SONM Songino Array 54.86 3 P **P** **04 48 34.5 +1.3**
SONM IAmb IAmb 04 48 55.5
comp=Z,54nm,1.0s
SONM Songino Array 54.86 3 P **P** **04 48 34.1 +0.8**
comp=Z,32nm,1.0s,baz=185,slow=8.6,SNR=115
SONM LR LR 05 14 21.3
comp=Z,234nm,18.0s,baz=172,slow=39
comp=Z,32nm,1.0s
SONM Songino Array 54.86 3 P **P** **04 48 34.5 +1.3**
SONM pmax pmax
comp=Z,54nm,1.0s
ULN Ulaanbaatar 54.93 3 P **P** **04 48 34.5 +0.7**
ULN IAmb IAmb 04 48 36.1
comp=Z,46nm,1.2s
ULN Ulaanbaatar 54.93 3*c i*P **P** **04 48 34.7 +1.0**
ULN pmax pmax
comp=Z,44nm,1.2s
KPKS Kokpek 55.02 339 *e*P **P** **04 48 34.3 -0.2**
KPKS Kokpek 55.02 339 *e*P **P** **04 48 34.3 -0.2**
GAR Garm 55.05 329 P **P** **04 48 33.9 -0.9**
GAR IAmb IAmb 04 49 10.0
comp=Z,32nm,1.1s
TNSS Tian-Shan 55.31 337 *e*P **P** **04 48 36.6 -0.3**
TNSS Tian-Shan 55.31 337 *e*P **P** **04 48 36.7 -0.3**
AAA Alma-Ata 55.47 337 *e*P **P** **04 48 37.8 +0.2**
AAA Alma-Ata 55.47 337 *e*P **P** **04 48 37.8 +0.2**
PSTR Posyet 55.69 25⇑ *e*P **P** **04 48 38.2 -0.9**
AAK Ala-Archa 55.97 335⇑ *e*P **P** **04 48 41.8 +0.4**
AAK pmax pmax
comp=Z,12nm,1.5s
VLA Vladivostok 56.53 25⇑ *e*P **P** **04 48 44.2 -0.9**
VLA pmax pmax
comp=Z,49nm,0.9s
ZSN Zaisan 56.72 345 *e*P **P** **04 48 46.6 +0.2**
ZSN pmax pmax
comp=Z,48nm,1.7s
ZSN Zaisan 56.72 345 *e*P **P** **04 48 46.7 +0.2**
comp=Z,48nm,1.7s
MK31 Makanchi Array 56.81 343*c i*P **P** **04 48 47.0 -0.1**
MKAR Makanchi Array 56.81 343 P **P** **04 48 47.2 +0.1**
comp=Z,7.2nm,0.8s,baz=148,slow=7.0,SNR=38
MKAR LR LR 05 17 38.3
comp=Z,205nm,18.1s,baz=149,slow=41
comp=Z,7.2nm,0.8s
BNX BinXian 57.04 20 ⇑P **P** **04 48 48.5 -0.2**
BNX pmax pmax
comp=Z,110nm,1.0s
ZAK Zakamensk 57.33 0 *e*P **P** **04 48 50.8 0.0**
ZAK pmax pmax
comp=Z,15nm,1.3s
USA0B Ussuriysk Arra 57.46 24 IAmb IAmb 04 48 52.8
comp=Z,65nm,1.3s
USRK Ussuriysk Ar. 57.46 24 P **P** **04 48 51.3 -0.4**
comp=Z,30nm,1.0s,baz=219,slow=6.1,SNR=28
comp=Z,30nm,1.0s
IUG Iuzhnay 57.58 331 *e*P **P** **04 48 52.7 -0.1**
IUG Iuzhnay 57.58 331 *e*P **P** **04 48 52.7 -0.1**
KKAR Karatay Array 58.10 332 P **P** **04 48 55.9 -0.4**
KKAR Karatay Array 58.10 332 P **P** **04 48 55.9 -0.4**
H04N2 CROZET ISLANDS 58.57 219 T T 05 53 11.1
baz=65,slow=75,SNR=67
H04N1 CROZET ISLANDS 58.58 219 T T 05 53 06.0
baz=65,slow=75,SNR=87
H04N3 CROZET ISLANDS 58.58 219 T T 05 53 04.6
baz=65,slow=75,SNR=65
MOY Mondy 58.64 359 *e*P **P** **04 49 01.0 +1.0**
MOY pmax pmax
comp=Z,49nm,2.1s
IRK Irkutsk 59.20 1 *e*P **P** **04 49 04.2 +0.4**
IRK *e* 04 51 13.9
IRK pmax pmax
comp=Z,80nm,1.8s
HEH HeiHe 61.01 18 *e*P **P** **04 49 16.2 +0.1**
HEH pmax pmax
comp=Z,72nm,1.3s
HEH LR LR
comp=Z,790nm,12.7s
HEH LR LR
comp=Z,450nm,12.6s
HEH LR LR
comp=Z,1μm,14.7s
KURBB Kurchatov Arra 61.35 343 P **P** **04 49 18.4 -0.1**
comp=Z,4.7nm,1.0s,baz=162,slow=5.8,SNR=22
KURBB LR LR 05 19 48.1
comp=Z,196nm,19.2s,baz=169,slow=40
comp=Z,4.7nm,1.0s
KURK Kurchatov 61.40 343 P **P** **04 49 18.7 -0.1**
KURK IAmb IAmb 04 49 44.4
comp=Z,38nm,1.1s
KURK Kurchatov 61.40 343*c i*P **P** **04 49 18.4 -0.4**
KURK pmax pmax
comp=Z,48nm,1.3s
ASAJ Asahikawa 62.32 31 P **P** **04 49 24.8 -0.4**
comp=Z,9.9nm,0.9s,baz=271,slow=13,SNR=4.0
ASAJ LR LR 05 17 59.1
comp=Z,77nm,18.1s,baz=193,slow=38
comp=Z,9.9nm,0.9s
DZM Mont Dzumac 62.75 111 *e*LR LR 05 08 05.0
comp=Z,457nm,26.9s
ZALV Zalesovo Beam 62.80 348 P **P** **04 49 28.0 -0.1**
ZALV Zalesovo Beam 62.80 348 P **P** **04 49 28.1 0.0**
comp=Z,21nm,1.0s,baz=158,slow=4.3,SNR=62
ZALV LR LR 05 20 07.2
comp=Z,385nm,19.6s,baz=146,slow=39
comp=Z,21nm,1.0s
ZALV Zalesovo Beam 62.80 348 *i* P **P** **04 49 28.2 0.0**
ZALV pmax pmax
comp=Z,22nm,1.0s
RAYN Ar Rayn 63.89 300 P **P** **04 49 36.7 +0.7**
RAYN IAmb IAmb 04 49 51.6
comp=Z,20nm,1.2s
RAYN Ar Rayn 63.89 300 P **P** **04 49 36.7 +0.7**
RAYN pmax pmax
comp=Z,20nm,1.3s
ZEA Zeya 64.06 16 *e*P **P** **04 49 37.2 +0.7**
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,30nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.4s
ZEA pmax pmax
comp=Z,200nm,3.5s
YSS Yuzhno-Sakhali 64.40 29 P **P** **04 49 38.2 -0.7**
YSS Yuzhno-Sakhali 64.40 29*oe*P **P** **04 49 38.6 -0.3**
YSS *e*S **S** **04 58 19.6 +2.2**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS pmax pmax
comp=Z,200nm,4.2s
GRNR Gornyy 64.54 23⇑ *i*P **P** **04 49 39.9 +0.2**
GRNR pmax pmax
comp=Z,30nm,1.2s
BOD Bodaibo 65.40 6 *e*P **P** **04 49 44.7 -0.4**
BOD pmax pmax
comp=Z,64nm,1.2s
KMBO Kilima Mbogo 65.80 272 LR LR 05 12 01.2
comp=Z,107nm,21.8s,baz=101,slow=30
BVAR Borovoye Array 66.05 339 P **P** **04 49 49.0 -0.4**
comp=Z,5.0nm,0.8s,baz=145,slow=8.8,SNR=20
BVAR LR LR 05 23 58.4
comp=Z,233nm,18.2s,baz=139,slow=41
comp=Z,5.0nm,0.8s
MAW Mawson 66.08 196 P **P** **04 49 50.2 +0.8**
comp=Z,12nm,1.1s,baz=54,slow=7.3,SNR=10
comp=Z,12nm,1.1s
BRVK Borovoye 66.12 339 P **P** **04 49 49.4 -0.5**
BRVK Borovoye 66.12 339 P **P** **04 49 49.4 -0.5**
BRVK pmax pmax
comp=Z,11nm,0.9s
TYV Tymovskoe 67.17 26 *e*P **P** **04 49 57.2 +0.6**
TYV pmax pmax
comp=Z,19nm,1.6s
TYV pmax pmax
comp=Z,300nm,4.5s
AB31 Akbulak array 67.59 331 IAmb IAmb 04 50 08.9
comp=Z,22nm,0.8s
ABKAR Akbulak array 67.59 331 P **P** **04 49 59.2 -0.1**
AKT Akhty 69.95 319 *e*P **P** **04 50 18.3 +3.9**
AKT pmax pmax
comp=Z,35nm,1.2s
MAK Makhachkala 70.83 320 *e*P P 04 50 14.8 -4.8
MAK *e*PPP PPP 04 54 31.8
MAK *e*S **S** **04 59 27.1 -7.7**
MAK *e*SS **SS** **05 04 02.2 -5.3**
MAK *e*SSS SSS 05 07 17.0
MAK pmax pmax
comp=Z,165nm,1.4s
MAK MLR MLR
comp=Z,133nm,14.0s
YAK Yakutsk 72.04 13 P **P** **04 50 25.8 -0.6**
YAK Yakutsk 72.04 13 P **P** **04 50 26.1 -0.3**
comp=Z,79nm,0.8s,baz=218,slow=2.1,SNR=43
YAK LR LR 05 25 33.8
comp=Z,136nm,18.8s,baz=202,slow=39
YAK Yakutsk 72.04 13*c i*P **P** **04 50 25.6 -0.8**
YAK *e**PP **sP** **04 50 30.9 +1.7**
YAK *e* 04 50 43.9
YAK *e* 04 53 04.9
YAK *e*S **S** **04 59 47.5 -0.4**
YAK *e**SS **SKiKP** **05 00 12.0 +8.1**
YAK *e* 05 00 31.3
YAK *e*SS **SS** **05 04 25.1 -0.1**
YAK pmax pmax
comp=Z,113nm,1.2s
YAK pmax pmax
comp=N,56nm,1.6s
YAK pmax pmax
comp=E,32nm,1.3s
YAK pmax pmax
comp=Z,138nm,4.6s
YAK pmax pmax
comp=N,87nm,5.2s
YAK pmax pmax
comp=E,67nm,3.3s
YAK smax smax
comp=N,149nm,4.4s
YAK smax smax
comp=E,84nm,5.2s
SVE Sverdlovsk 72.58 337 *e*P **P** **04 50 30.4 +0.6**
SVE pmax pmax
comp=Z,48nm,1.4s
MARD Mardin 72.92 312 P **P** **04 50 33.1 +0.7**
MARD IAmb IAmb 04 51 00.0
comp=Z,14nm,0.8s
ARTI Arti 73.17 336 P **P** **04 50 33.4 +0.1**
ARTI IAmb IAmb 04 50 58.3
comp=Z,19nm,0.6s
ARTI Arti 73.17 336 *i* P **P** **04 50 33.0 -0.3**
ARTI pmax pmax
comp=Z,22nm,1.1s
LSZ Lusaka 73.53 256 LR LR 05 18 21.5
comp=Z,179nm,20.3s,baz=148,slow=32
SYO Syowa Base 73.98 200‖ *e*P **P** **04 50 38.2 +0.3**
SYO Syowa Base 73.98 200⇑ *i*pP pP 04 50 41.6 +2.0
SYO Syowa Base 73.98 200‖ *e*sP sP 04 50 43.6 +3.3
SYO Syowa Base 73.98 200⇑ *i*PcP **PcP** **04 50 53.3 +0.1**
ASF Jabal al Asfar 74.03 306 LR LR 05 25 18.6
comp=Z,195nm,18.2s,baz=143,slow=38
KBZ Khabaz 74.16 319 P **P** **04 50 39.2 -0.2**
comp=Z,4.6nm,0.9s,baz=80,slow=5.4,SNR=6.8

KBZ Khabaz 74.16 319 *c i*P P 04 50 39.4 0.0
KBZ pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 74.39 319 *e*P P 04 50 41.2 +0.3
KIV *e*S S 05 00 16.2 +0.5
KIV pmax pmax
comp=Z,7.0nm,1.1s
EIL Elat 74.83 303 LR LR 05 24 51.2
comp=Z,98nm,18.2s,baz=74,slow=37
MMAI Mount Meron Ar 75.50 307 P P 04 50 48.2 +0.7
comp=Z,6.0nm,1.0s,baz=254,slow=6.0,SNR=5.0
MMAI LR LR 05 26 15.4
comp=Z,156nm,18.5s,baz=101,slow=38
comp=Z,6.0nm,1.0s
BELG Belogornoye 75.68 329 *c e*P P 04 50 47.4 -0.6
BELG pmax pmax
comp=Z,6.0nm,1.2s
PETK Petropavlovsk- 75.73 31 P P 04 50 47.5 -0.9
comp=Z,6.1nm,0.9s,baz=208,slow=2.9,SNR=5.3
comp=Z,6.1nm,0.9s
PET Petropavlovsk 76.17 31 *e*P P 04 50 50.7 -0.1
PET *e*S S 05 00 32.4 -2.3
VNDA Vanda 76.53 169 P P 04 50 52.5 0.0
comp=Z,2.6nm,0.9s,baz=285,slow=6.3,SNR=9.7
comp=Z,2.6nm,0.9s
MA2 Magadan 76.56 23 P P 04 50 53.3 +0.4
MA2 Magadan 76.56 23 P P 04 50 52.8 -0.1
comp=Z,26nm,1.1s,baz=226,slow=4.9,SNR=9.6
comp=Z,26nm,1.1s
MA2 Magadan 76.56 23 *c i*P P 04 50 53.2 +0.4
MA2 pmax pmax
comp=Z,79nm,1.5s
MA2 Magadan 76.56 23 P P 04 50 52.9 0.0
comp=Z,43nm,1.2s
ERBR Yeremizino-Bor 76.57 320 *e*P P 04 50 51.9 -1.4
ERBR *e*S S 05 00 33.9 -5.7
ERBR pmax pmax
comp=Z,27nm,1.9s
RAO Raoul Island 77.02 118 LR LR 05 26 32.9
comp=Z,81nm,18.5s,baz=279,slow=37
CSS Mathiatis 77.74 308 P P 04 50 59.7 -0.4
CSS IAmb IAmb 04 51 15.8
comp=Z,23nm,1.0s
CSS Mathiatis 77.74 308 P P 04 50 59.7 -0.4
comp=Z,26nm,1.3s
ANN Anapa 78.17 319 *e*P P 04 51 00.7 -1.5
ANN *e*S S 05 00 54.7 -2.2
ANN pmax pmax
comp=Z,28nm,1.0s
VRH Novokhopyorsk 78.26 326 *e*P P 04 51 00.4 -2.2
VRH pmax pmax
comp=Z,10.0nm,1.0s
KIRV Kirov 78.30 335 LR LR 05 31 15.3
comp=Z,168nm,18.1s,baz=121,slow=40
KIRV Kirov 78.30 335 *c i*P P 04 51 03.1 +0.5
BR104 Keskin Array S 79.00 313 P P 04 51 06.5 -0.6
comp=Z,47nmcomp=Z,6.0nm,1.0s
BRTR Keskin Array B 79.00 313 P P 04 51 06.3 -0.8
comp=Z,2.4nm,0.9s,baz=127,slow=7.9,SNR=14
BRTR LR LR 05 28 57.4
comp=Z,94nm,18.0s,baz=122,slow=38
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 79.00 313 *i*P P 04 51 06.9 -0.3
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 79.01 313 *d i*P P 04 51 06.8 -0.4
BR105 Keskin Array S 79.02 313 P P 04 51 06.7 -0.6
comp=Z,46nmcomp=Z,6.1nm,1.2s
BR106 Keskin Array S 79.02 313 P P 04 51 06.7 -0.6
comp=Z,44nmcomp=Z,5.9nm,1.0s
SEY Seymchan 79.34 21 P P 04 51 07.6 -0.7
comp=Z,4.7nm,0.9s,baz=242,slow=6.0,SNR=12
comp=Z,4.7nm,0.9s
SEY Seymchan 79.34 21 ⇓ *i*P P 04 51 09.1 +0.8
SEY pmax pmax
comp=Z,40nm,1.5s
VORD Divnogorie 79.53 325 *e*P P 04 51 06.7 -2.9
VORD pmax pmax
comp=Z,6.0nm,1.0s
ANTO Ankara 79.67 313 P P 04 51 09.4 -1.3
comp=Z,4.5nm,1.2s
VSR Storozhevoye 79.71 325 *e*P P 04 51 08.0 -2.5
VSR pmax pmax
comp=Z,6.0nm,1.1s
LPSR Galich'ya Gora 80.43 326 *e*P P 04 51 11.7 -2.7
LPSR pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 80.50 8 P P 04 51 13.4 -1.0
TIXI IAmb IAmb 04 51 23.2
comp=Z,21nm,0.9s
TIXI Tiksi 80.50 8 P P 04 51 13.5 -0.9
comp=Z,19nm,1.0s,baz=205,slow=3.2,SNR=19
TIXI LR LR 05 31 40.4
comp=Z,460nm,18.2s,baz=242,slow=39
comp=Z,19nm,1.0s
TIXI Tiksi 80.50 8 *c e*P P 04 51 13.5 -0.9
TIXI pmax pmax
comp=Z,46nm,1.7s
ISP Isparta 80.75 310 ⇑ *e*P P 04 51 17.1 +0.5
ISP pmax pmax
comp=Z,8.0nm,1.1s
MDUB Mudurnu 81.02 313 IAmb IAmb 04 51 49.1
comp=Z,21nm,1.0s
YLV Yalova 82.38 312 P P 04 51 24.6 -0.5
comp=Z,388nmcomp=Z,25nm,1.0s
MOS Moscow 82.45 329 *e*P P 04 51 16.4 -8.6
MOS pmax pmax
comp=Z,36nm,0.7s
OBN Obninsk 82.74 328 *c e*P P 04 51 26.9 +0.3
OBN *e* 04 51 32.2
OBN *e* 04 54 36.6
OBN *e*SS SS 05 07 14.3 +7.3
OBN pmax pmax
comp=Z,61nm,1.3s
OBN MLR MLR
comp=Z,135nm,19.0s
OBN Obninsk 82.74 328 P P 04 51 26.3 -0.3
comp=Z,39nm,1.4s
QSPA South Pole Qui 82.81 180 P P 04 51 26.3 -0.7
QSPA IAmb IAmb 04 51 32.2
comp=Z,31nm,1.4s
QSPA South Pole Qui 82.81 180 P P 04 51 27.6 +0.6
comp=Z,6.9nm,1.0s,baz=310,slow=3.2,SNR=11
comp=Z,6.9nm,1.0s
TSUM Tsumeb 83.36 252 LR LR 05 21 33.3
comp=Z,159nm,22.0s,baz=140,slow=31
KLMR Klimovskoe 83.77 334 *e*P P 04 51 30.7 -1.0
KLMR *e* 04 54 43.0
KLMR pmax pmax
comp=Z,47nm,1.4s
TIRR Tirgusor 84.13 316 IAmb IAmb 04 51 35.4
comp=Z,20nm,1.5s
TIRR Tirgusor 84.13 316 P P 04 51 35.3 +1.3
TIRR pmax pmax
comp=Z,6.0nm,1.1s
TIRR Tirgusor 84.13 316 P P 04 51 33.6 -0.4
comp=Z,5.9nm,1.1s
SORM Soroca 85.19 320 P P 04 51 39.1 -0.2
comp=Z,11nm,1.0s
AK09 Malin Array Si 85.32 322 P P 04 51 38.7 -1.1
AK10 Malin Array Si 85.34 322 P P 04 51 38.8 -1.1
AK08 Malin Array Si 85.35 322 P P 04 51 38.9 -1.1
AK07 Malin Array Si 85.35 322 P P 04 51 38.9 -1.1
AK06 Malin Array Si 85.37 322 P P 04 51 39.0 -1.1
AKASG Malin Array Be 85.38 322 P P 04 51 39.2 -1.0
comp=Z,0.9nm,0.8s,baz=92,slow=4.3,SNR=8.4
comp=Z,0.9nm,0.8s
AKASG Malin Array Be 85.38 322 *i*P P 04 51 40.0 -0.1
AKASG pmax pmax
comp=Z,4.0nm,1.1s
AKBB Malin Array Si 85.38 322 ⇑ *e*P P 04 51 39.5 -0.7
AKBB pmax pmax
comp=Z,15nm,2.2s
AKBB Malin Array Si 85.38 322 P P 04 51 38.5 -1.6
AK01 Malin Array Si 85.39 322 P P 04 51 38.6 -1.6
KIEV Kiev 85.39 322 P P 04 51 38.8 -1.4
KIEV Kiev 85.39 322 P P 04 51 38.8 -1.4
KIEV pmax pmax
comp=Z,8.0nm,1.2s
KIEV Kiev 85.39 322 P P 04 51 38.5 -1.7
comp=Z,34nm,1.6s
AK03 Malin Array Si 85.39 322 P P 04 51 38.6 -1.6
AK12 Malin Array Si 85.41 322 P P 04 51 38.7 -1.6
AK11 Malin Array Si 85.41 322 P P 04 51 38.7 -1.6
AK04 Malin Array Si 85.43 322 P P 04 51 38.8 -1.6

AK16 Malin Array Si 85.45 322 P P 04 51 38.9 -1.6
LUBAR Lubar, Ukraine 86.06 321 P P 04 51 43.0 -0.6
MLR Muntele Rosu 86.09 317 IAmb IAmb 04 51 59.0
comp=Z,38nm,1.6s
TROLL Troll, Antarti 86.44 198 ⇑ P P 04 51 47.2 +2.0
comp=Z,152nm,0.9s
KMPD K-Podol'skiy 86.52 320 P P 04 51 44.8 -1.0
BURAR Bucovina Array 87.10 319 P P 04 51 49.8 +1.0
BURAR Bucovina Array 87.10 319 P P 04 51 49.8 +1.0
MNK Minsk 87.26 326 *i* P P 04 51 47.7 -1.6
MNK *i* 04 55 11.2
MNK *i* PPP PPP 04 57 05.8
MNK *i* S **SKSac** **05 02 14.4 -2.4**
MNK *i* 05 02 34.6
MNK *i* SS **SS** **05 08 12.7 -0.9**
MNK *i* SSS SSS 05 11 45.7
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=N,17nm,1.1s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=E,97nm,16.0s
KSV Kosov 87.36 319 P P 04 51 48.9 -1.1
RNPP5 Staryi Chortor 87.56 322 P P 04 51 49.8 -1.0
PUL Pulkovo 87.57 331 ⇓ *e*P P 04 51 51.8 +1.1
PUL pmax pmax
comp=Z,42nm,0.7s
RNPP9 Sopachiv 87.60 322 P P 04 51 50.0 -1.0
RNPP8 Varash 87.61 322 P P 04 51 50.0 -1.0
STNU Starunia 87.82 319 P P 04 51 51.1 -1.1
SNAA Sanae 88.16 198 ⇑ P P 04 51 54.5 +1.1
comp=Z,67nm,0.9s
SNAA Sanae 88.16 198 P P 04 51 54.8 +1.3
SNAA Sanae 88.16 198 P P 04 51 53.9 +0.4
comp=Z,2.0nm,0.7s,baz=120,slow=8.4,SNR=14
comp=Z,2.0nm,0.7s
SNAA Sanae 88.16 198 ⇓ *e*P P 04 51 55.0 +1.5
SNAA pmax pmax
comp=Z,29nm,1.8s
VSU Vasula 88.96 329 *c e*P P 04 51 56.8 -0.5
VSU pmax pmax
comp=Z,25nm,1.2s
APA Apatity 88.96 339 *e*P P 04 51 57.0 -0.1
APA MLR MLR
comp=Z,714nm,4.3s
KWP Kalwaria Pacla 89.17 320 *e*P P 04 51 59.9 +1.4
KOLS Kolonicke sedl 89.31 319 *e*P P 04 52 00.9 +1.7
KOLS Kolonicke sedl 89.31 319 *e*P P 04 52 00.9 +1.7
SUW Suwalki 89.81 324 *e*P P 04 52 01.8 +0.4
FINES FINESS Array B 90.06 332 P P 04 52 01.7 -0.7
comp=Z,2.7nm,0.9s,baz=103,slow=2.5,SNR=5.1
comp=Z,2.7nm,0.9s
VNA1 Neumayer--Stat 90.16 198 ⇑ P P 04 52 05.0 +2.2
comp=Z,6.6nm,1.0s
PDG Podgorica 90.19 313 IAmb IAmb 04 52 18.9
comp=Z,22nm,1.3s
NIE Niedzica 90.67 320 *e*P P 04 52 06.6 +1.1
OJC Ojcow 91.13 320 *e*P P 04 52 08.7 +1.0
VYHS Vyhne 91.47 319 *e*P P 04 52 10.3 +1.0
VYHS Vyhne 91.47 319 *e*P P 04 52 10.3 +1.0
BELA Belgrano 2 91.92 188 P P 04 52 10.7 -0.2
BELA IAmb IAmb 04 52 15.4
comp=Z,40nm,1.8s
ARCES ARCESS Array B 92.33 340 P P 04 52 13.4 +0.6
comp=Z,2.3nm,0.8s,baz=104,slow=4.0,SNR=3.6
comp=Z,2.3nm,0.8s
GERES GERESS Array B 94.89 318 P P 04 52 26.2 +1.1
comp=Z,0.2nm,0.4s,baz=112,slow=5.9,SNR=6.4
comp=Z,0.2nm,0.4s
HFS Hagfors 95.83 330 P P 04 52 30.1 +1.1
comp=Z,7.1nm,1.1s,baz=84,slow=7.4,SNR=2.7
comp=Z,7.1nm,1.1s
SPITS Spitsbergen Ar 96.29 348 LR LR 05 43 19.9
comp=Z,123nm,18.3s,baz=72,slow=40
KEST Kesra 97.10 305 LR LR 05 38 31.0
comp=Z,79nm,18.5s,baz=350,slow=37
K13K Kusilvak Mount 97.39 28 IAmb IAmb 04 52 37.9
comp=Z,6.1nm,1.1s
G16K Koyuk River 98.42 25 IAmb IAmb 04 52 51.2
comp=Z,12nm,1.4s
TBI Tubuai 103.06 116 *e*S **Sdif** **05 04 47.3 -2.2**
comp=Z,826nm,38.5s
TBI Tubuai 103.06 116 *e*LQ LQ 05 22 11.5
comp=Z,574nm,30.8s
TBI *e*LR LR 05 26 45.4
comp=Z,834nm,29.5s
TBI *e*LR LR 05 26 54.6
comp=Z,445nm,26.8s
PPT2 Papeete2 104.25 110 *e*SS SS 05 12 02.4 -14
comp=Z,89nm,24.0s
PPT2 Papeete2 104.25 110 *e*LQ LQ 05 22 54.2
comp=Z,127nm,27.2s
PPT2 *e*LR LR 05 27 23.3
comp=Z,78nm,22.8s
TAOE Nuku Hiva Isla 115.09 103 *e*LR LR 05 32 18.2
comp=Z,182nm,25.2s
YKA Yellowknife Ar 118.36 19 PKP **PKPdf** **04 57 50.0 0.0**
comp=Z,0.5nm,1.0s,baz=330,slow=2.5,SNR=2.5
YKA Yellowknife Ar 118.36 19 PKIKP **PKPdf** **04 57 50.0 0.0**
NVAR Mina Array Bea 131.48 44 PKP **PKPdf** **04 58 16.6 +0.4**
comp=Z,0.2nm,0.4s,baz=298,slow=3.1,SNR=1.8
NVAR SKPbc **SKPbc** **05 01 41.0 -0.7**
comp=Z,4.7nm,1.1s,baz=303,slow=4.5,SNR=11
PDAR Pinedale Array 134.42 34 PKP **PKPdf** **04 58 21.2 -0.5**
comp=Z,0.7nm,0.9s,baz=336,slow=1.8,SNR=5.5
SLBS Sierra La Lagu 144.39 59 **PKPab** **04 58 38.9 +0.7**
VHRN Van Horn 144.82 44 PKPbc 04 58 40.9 +1.2
L59A Walton 145.09 357 **PKPbc** **04 58 39.6 -0.5**
PAL Palisades 146.21 356 **PKPdf** **04 58 43.3 +0.7**
PAL Palisades 146.21 356 PKP2 **PKPdf** **04 58 43.3 +0.7**
N58A Sunbury 146.49 360 **PKPdf** **04 58 43.6 +0.5**
TXAR Lajitas Array 146.60 45 PKPbc **PKPbc** **04 58 45.3 +0.1**
comp=Z,8.8nm,0.8s,baz=230,slow=1.3,SNR=73
TUL3 Leonard 146.63 28 **PKPdf** **04 58 43.9 +0.4**
SSPA Standing Stone 146.68 1 **PKPdf** **04 58 44.5 +1.1**
DRIO Del Rio 148.64 42 **PKPbc** **04 58 51.1 +0.4**
LPAZ La Paz 155.08 201 PKPbc PKPdf 04 59 09.0 +11
comp=Z,1.7nm,0.9s,baz=69,slow=2.5,SNR=4.0

*NEIC **11** 04:52:37.3±2.5, 9.34N±0.07×126.06E±0.08, h50km±7km, mb4.6/124, Error ellipse: s-maj=12.1km s-min=9.3km az=73.0*
*IDC **11** 04:52:38.3±1.5, 9.34N×125.89E, h67km±14km, mb4.1/25, mbtmp4.4/30, MS3.7/8, Error ellipse: s-maj=19.0km s-min=8.5km az=80.0*
*BJI **11** 04:52:39.7, 9.23N×125.86E, h83km, mB5.5/5, mb4.7/19, Ms4.9/7, Ms7 4.7/6*
*DJA **11** 04:52:40.5±0.7, 9°N±5°×12°6E±°, h87km±5km, M5.2/41, mB5.8/7, mb4.8/41, MLv5.3/5, Mw(mB)5.4/7, MwMwp5.8/1, Mwp5.9/1*

ISC 11 04:52:38.5±0.3, **9.32N**±0.04×**126.03E**±0.07, **h67km, n413,** σ1§**10**/353, **mb4.6**/97, **1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
DAV	**Davao City (W)**	**2.28**	**191**		**Pn**	**04 53 12.1**	**-1.8**
DAV	**Davao City (W)**	**2.28**	**191**	P	**Pn**	**04 53 12.7**	**-1.2**
	341nm,0.3s,baz=67,slow=11,SNR=19						
DAV				S	**Sn**	**04 53 42.0**	**+1.1**
	3µm,1.0s,baz=196,slow=11,SNR=9.1						
SGSI	**Sangihe**	**5.62**	**185**	P	Pn	04 54 06.6	+7.1
TGY	**Tagaytay City**	**6.89**	**314**	P	**Pn**	**04 54 15.8**	**-1.2**
	105nm,0.4s,baz=100,slow=8.2,SNR=3.2						
MYLDM	**Lahad Datu**	**8.52**	**242**		**Pn**	**04 54 38.1**	**-1.2**
TNTI	**Ternate**	**8.60**	**171**	Pn	**Pn**	**04 54 38.4**	**-1.9**
TNTI	**Ternate**	**8.60**	**171**	P	**Pn**	**04 54 42.4**	**+2.1**
	76nm,1.1s						
MRSI	**Marisa**	**9.68**	**205**	P	**Pn**	**04 54 57.9**	**+2.8**
	35nm,1.0s						
LUWI	**Luwuk**	**10.79**	**198**	Pn	**Pn**	**04 55 11.0**	**+0.7**
APSI	**Ampana**	**11.06**	**203**	P	**Pn**	**04 55 18.6**	**+4.7**
	80nm,1.0s						
FAKI	**Fak Fak**	**13.65**	**153**	Pn	**Pn**	**04 55 46.8**	**-2.3**
BAKI	**Biak**	**14.49**	**136**	P	**P**	**04 56 02.5**	**-2.6**
	2µm64nm,0.9s						
SPSI	**Sidrap Palu**	**14.60**	**206**	P	**P**	**04 56 06.2**	**0.0**
	19nm,0.9s						
BNSI	**Bone**	**14.85**	**204**	P	**Pn**	**04 56 05.4**	**+0.5**
	58nm,1.1s						
SBUM	**Sibu**	**15.33**	**244**		**Pn**	**04 56 09.6**	**-1.5**
SBUM				IAmb	IAmb	04 56 17.6	

KAPI Kappang 15.55 204 **Pn** **04 56 13.4 -0.5**
KAPI Kappang 15.55 204 P **Pn** **04 56 12.6 -1.3**
comp=Z,16nm,1.0s,baz=4.1,slow=15,SNR=4.9
KAPI LR LR 05 02 31.7
comp=Z,438nm,18.2s,baz=20,slow=38
STKI Sintang 17.16 238 P P **04 56 37.9 +3.2**
comp=Z,31nm,0.8s
KSM Kuching 17.47 244 P **04 56 38.6 +0.4**
JOW Kunigami 17.55 7 P P **04 56 38.7 -0.2**
comp=Z,9.0nm,0.7s,baz=304,slow=12,SNR=3.7
GENI Genyem 18.40 129 P **Pn** **04 56 51.5 +2.3**
comp=Z,63nm,0.9s
EDFI Ende, Flores 18.46 194 P **Pn** **04 56 52.8 +2.8**
JAY Jayapura 18.77 128 P **Pn** **04 56 53.6 0.0**
comp=Z,16nm,1.0s,baz=327,slow=15,SNR=3.9
GUMO Guam 18.95 75 LR LR 05 04 20.4
comp=Z,177nm,20.4s,baz=258,slow=37
SOEI Soe 19.03 185 P **P** **04 56 54.1 -1.3**
SOEI Soe 19.03 185 P **Pn** **04 56 57.3 +0.5**
comp=Z,66nm,1.0s
BATI Baumata 19.54 187 P P **04 56 59.1 -1.7**
comp=Z,257nm,1.1s,baz=0.0,slow=3.0,SNR=5.1
BATI Baumata 19.54 187 P P **04 57 01.3 +0.4**
GMJI Gumukmas 21.50 216 P P **04 57 26.6 +4.6**
comp=Z,41nm,1.0s
SMRI Semarang 22.48 224 P P **04 57 33.2 +0.6**
SMRI Semarang 22.48 224 P P **04 57 34.0 +1.4**
comp=Z,126nm,1.2s
MTN Manton Dam 22.59 167 P P **04 57 33.8 +0.1**
MTN IAmb IAmb 04 57 36.1
comp=Z,25nm,0.8s
NJ2 Nanjing 23.58 345 *e*P P **04 57 45.2 +2.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KPJI Karang Pucung 23.74 226 P P **04 57 47.2 +2.3**
comp=Z,44nm,1.1s
MANU Manus Island 24.07 117 P P **04 57 47.7 -0.2**
MANU IAmb IAmb 04 57 49.7
comp=Z,23nm,1.1s
SLVN Son La 24.41 302 P P **04 57 51.3 +0.4**
SLVN IAmb IAmb 04 58 03.9
comp=Z,13nm,0.9s
DBJI Dramaga 24.85 231 P P **04 57 56.3 +1.3**
comp=Z,18µmcomp=Z,59nm,1.3s
KNRA Kununurra 24.98 174 P **04 57 54.6 -1.5**
SBJI Serang 25.07 233 P P **04 57 59.4 +2.5**
IPM Ipoh 25.27 261 P P **04 57 58.7 -0.2**
MDSI Maura Dua 25.73 239 P P **04 58 03.0 0.0**
comp=Z,27nm,1.4s
FITZ Fitzroy Crossi 27.25 181 P P **04 58 15.8 -0.7**
FITZ Fitzroy Crossi 27.25 181 P P **04 58 15.2 -1.3**
comp=Z,20nm,0.9s,baz=19,slow=12,SNR=12
comp=Z,20nm,0.9s
MNSI Mandailing Nat 27.65 254 P P **04 58 19.5 -0.7**
PSI Prapat 27.70 258 LR LR 05 11 05.6
comp=Z,230nm,19.6s,baz=114,slow=40
RPSI Rantau Prapat 27.73 258 P P **04 58 19.7 -1.3**
CMAR Chiang Mai Arr 27.78 292 P P **04 58 22.6 +1.2**
CMAR Chiang Mai Arr 27.78 292 P P **04 58 21.5 +0.1**
comp=Z,3.0nm,0.8s,baz=104,slow=7.9,SNR=12
CMAR PcP **PcP** **05 01 37.9 +1.3**
comp=Z,0.8nm,0.3s,baz=104,slow=2.7,SNR=4.8
CMAR LR LR 05 09 56.1
comp=Z,100nm,18.1s,baz=165,slow=38
comp=Z,3.0nm,0.8s
KSRS Korea Array 28.06 3 P P **04 58 24.4 +0.8**
comp=Z,1.1nm,0.6s,baz=180,slow=9.3,SNR=4.6
comp=Z,1.1nm,0.6s
PZH PanZhiHua 28.65 310 P P **04 58 31.7 +2.5**
COEN Coen 28.71 143 P **04 58 28.6 -1.1**
COEN IAmb IAmb 04 58 34.4
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 29.27 20 P P **04 58 32.7 -1.8**
comp=Z,2.4nm,0.8s,baz=198,slow=9.0,SNR=8.3
MJAR LR LR 05 08 23.8
comp=Z,189nm,21.3s,baz=206,slow=32
comp=Z,2.4nm,0.8s
GSI Gunungsitoli 29.40 256 P P **04 58 36.9 +1.0**
GSI Gunungsitoli 29.40 256 P P **04 58 35.8 -0.1**
WRA Warramunga Arr 30.21 164 P P **04 58 41.2 -1.6**
comp=Z,2.3nm,0.6s,baz=348,slow=9.5,SNR=13
WRA PcP **PcP** **05 01 42.7 +0.1**
comp=Z,1.1nm,0.8s,baz=339,slow=2.8,SNR=3.2
comp=Z,2.3nm,0.6s
BJI Beijing 31.83 346 P P **04 58 56.9 0.0**
BJI pmax pmax
comp=Z,5.0nm,1.1s
BJI LR LR
comp=Z,740nm,15.2s
BJI LR LR
comp=Z,490nm,12.7s
BJI LR LR
comp=Z,920nm,15.9s
ASAR Alice Springs 33.67 167 P P **04 59 12.3 -1.0**
ASAR Alice Springs 33.67 167 P P **04 59 12.2 -1.1**
comp=Z,2.6nm,0.7s,baz=348,slow=7.7,SNR=4.1
ASAR PcP **PcP** **05 01 52.0 0.0**
comp=Z,2.2nm,0.8s,baz=359,slow=2.7,SNR=6.6
comp=Z,2.6nm,0.7s
HHC Hu-ho-hao-te 33.92 340 *e*P P **04 59 18.9 +3.5**
HHC pmax pmax
comp=Z,13nm,0.6s
USRK Ussuriysk Ar. 35.13 7 P **04 59 25.7 +0.1**
USRK Ussuriysk Ar. 35.13 7 P P **04 59 25.9 +0.3**
comp=Z,16nm,0.9s,baz=203,slow=9.1,SNR=25
comp=Z,16nm,0.9s
USA0B Ussuriysk Arra 35.13 7 P P **04 59 26.0 +0.4**
MDJ Mudanjiang 35.30 4 P P **04 59 31.1 +4.0**
MDJ pmax pmax
comp=Z,19nm,2.0s
CTAO Charters Tower 35.36 146 P P **04 59 28.7 +0.8**
CTAO IAmb IAmb 04 59 38.2
comp=Z,14nm,1.1s
XLT XiLinHaoTe 35.52 348 *e*P P **04 59 28.5 -0.6**
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT LR LR
comp=Z,1µm,12.3s
XLT LR LR
comp=Z,1µm,13.6s
SHL Shillong 36.21 301 P P **04 59 34.8 -0.6**
BNX BinXian 36.31 2 ⇓ P P **04 59 37.0 +1.3**
BNX pmax pmax
comp=Z,6.0nm,0.8s
H11S3 WAKE ISLAND Hy 40.43 72 T T 05 43 02.0
baz=262,slow=74,SNR=339
H11S1 WAKE ISLAND Hy 40.44 72 T T 05 43 05.0
baz=262,slow=74,SNR=148
H11S2 WAKE ISLAND Hy 40.44 72 T T 05 43 03.3
baz=262,slow=74,SNR=110
H11N1 WAKE ISLAND Hy 40.79 71 T T 05 43 39.5
baz=265,slow=74,SNR=118
H11N2 WAKE ISLAND Hy 40.80 71 T T 05 43 37.5
baz=265,slow=74,SNR=112
H11N3 WAKE ISLAND Hy 40.81 71 T T 05 43 40.7
baz=265,slow=74,SNR=130
SONM Songino Array 41.82 340 P P **05 00 19.3 -2.5**
comp=Z,0.3nm,0.3s,baz=163,slow=5.6,SNR=2.6
comp=Z,0.3nm,0.3s
NWAO Narrogin (SRO) 42.84 191 P P **05 00 29.8 -0.3**
comp=Z,13nm,1.0s,baz=5.0,slow=8.2,SNR=4.7
comp=Z,13nm,1.0s
BBOO Buckleboo 42.97 168 P P **05 00 31.3 +0.2**
STKA Stephens Creek 43.59 161 P P **05 00 36.5 +0.3**
STKA Stephens Creek 43.59 161 P P **05 00 36.0 -0.2**
comp=Z,8.4nm,0.7s,baz=331,slow=8.3,SNR=15
comp=Z,8.4nm,0.7s
WMQ Urumqi 47.83 323 *e*P P **05 01 11.3 +1.7**
WMQ LR LR
comp=Z,690nm,12.9s
CAN Canberra 49.42 155 P P **05 01 23.5 +1.6**
PEA0B Petropavlovsk- 50.60 24 P P **05 01 33.5 +3.0**
PETK Petropavlovsk- 50.60 24 P P **05 01 33.2 +2.7**
PETK Petropavlovsk- 50.60 24 P P **05 01 32.2 +1.7**
comp=Z,6.6nm,0.7s,baz=209,slow=3.9,SNR=15
comp=Z,6.6nm,0.7s
MKAR Makanchi Array 52.64 323 P P **05 01 45.2 -0.6**
MKAR Makanchi Array 52.64 323 P P **05 01 45.5 -0.4**
comp=Z,4.3nm,0.8s,baz=116,slow=6.4,SNR=21
comp=Z,4.3nm,0.8s
KSH Kashi 53.69 313 P P **05 01 56.4 +2.5**
KSH pmax pmax
comp=Z,7.0nm,1.1s
NIL Nilore 54.07 305 P P **05 01 56.1 -0.5**
ZALV Zalesovo Beam 55.34 332 P P **05 02 04.8 -0.6**
ZALV Zalesovo Beam 55.34 332 P P **05 02 04.4 -1.0**

comp=Z,0.8nm,0.4s,baz=121,slow=5.7,SNR=5.3
comp=Z,0.8nm,0.4s
KURK Kurchatov 56.71 326 P P 05 02 15.2 -0.1
KURK IAmb IAmb 05 02 16.9
comp=Z,8.1nm,0.9s
KURBB Kurchatov Arra 56.72 326 P P 05 02 13.7 -1.5
comp=Z,3.0nm,0.7s,baz=126,slow=6.6,SNR=21
comp=Z,3.0nm,0.7s
GAR Garm 57.72 310 P P 05 02 22.5 -0.2
SHEM Shemya Is, Ala 58.08 32 LR LR 05 22 20.7
comp=Z,44nm,21.8s,baz=300,slow=31
KK31 Karatay Array 58.75 315 P P 05 02 28.6 -1.1
KKAR Karatay Array 58.75 315 P P 05 02 28.5 -1.2
TIXI Tiksi 62.30 1 P P 05 02 53.5 +0.2
BVAR Borovoye Array 62.31 326 P P 05 02 52.4 -1.3
comp=Z,4.4nm,0.8s,baz=126,slow=9.3,SNR=17
comp=Z,4.4nm,0.8s
BRVK Borovoye 62.38 326 P P 05 02 53.8 -0.4
BRVK IAmb IAmb 05 02 55.8
comp=Z,5.3nm,0.8s
THZ Tophouse 66.55 143 P P 05 03 22.0 +0.3
AB31 Akbulak array 67.44 320 P P 05 03 25.0 -2.1
ABKAR Akbulak array 67.44 320 P P 05 03 25.0 -2.1
NIKH Nikolski High 67.71 36 P P 05 03 29.4 +0.6
baz=255
SPIA Saint Paul Isl 68.11 32 P P 05 03 31.7 +0.5
baz=252
P08K Saint George I 68.31 32 P P 05 03 32.1 -0.3
baz=253
UNV Unalaska Valle 69.29 36 P P 05 03 39.8 +1.2
baz=257
GAMB Gambell 69.63 25 P P 05 03 41.9 +1.5
baz=249
ARTI Arti 69.97 327 P P 05 03 41.2 -1.6
ARTI IAmb IAmb 05 03 43.1
comp=Z,7.6nm,0.8s
M11K Mekoryuk 71.03 29 P P 05 03 50.1 +1.0
baz=255
TNA Tin City 71.76 24 P P 05 03 55.3 +1.9
baz=252
K13K Kusilvak Mount 72.15 28 P P 05 03 56.1 +0.3
baz=256
F14K Arctic Creek 72.37 24 P P 05 03 58.3 +1.2
baz=253
M13K Dall Lake 72.41 29 P P 05 03 58.3 +0.9
baz=258
ANM Nome 72.51 25 P P 05 03 57.6 -0.3
baz=254
J14K Nanvaranak Lak 72.84 27 P P 05 04 00.4 +0.6
baz=257
L14K Kuka Creek 72.93 29 P P 05 04 02.1 +1.7
L14K Kuka Creek 72.93 29 P P 05 04 01.0 +0.5
baz=258
SDPT Sand Point 73.01 35 P P 05 04 01.0 0.0
baz=262
F15K North Star Dit 73.11 24 P P 05 04 01.8 +0.4
baz=255
N14K Kuskokwak Cree 73.13 30 P P 05 04 01.7 +0.1
baz=259
M14K Bethel 73.15 29 P P 05 04 03.1 +1.3
M14K Bethel 73.15 29 P P 05 04 02.9 +1.1
baz=259
G15K Niukluk 73.17 25 P P 05 04 02.8 +1.0
baz=256
O14K Tigyukauivet M 73.22 31 P P 05 04 03.1 +0.9
baz=260
CHNA Chernabura Isl 73.45 36 P P 05 04 04.2 +0.6
baz=263
C16K Lisburne Hills 73.55 21 P P 05 04 03.4 -0.6
baz=253
L15K Ungalak Mounta 73.56 28 P P 05 04 04.2 +0.1
baz=259
K15K Wolf Creek Mou 73.66 28 P P 05 04 04.6 -0.1
baz=259
S14K Fog Glacier 73.66 34 P P 05 04 04.8 -0.2
baz=262
M15K Kasigluk River 73.76 29 P P 05 04 05.4 +0.1
baz=260
H16K Elim 73.83 25 P P 05 04 06.3 +0.6
baz=257
O15K Ungalikthiuk R 73.94 31 P P 05 04 07.0 +0.6
baz=261
G16K Koyuk River 73.95 24 P P 05 04 06.8 +0.4
baz=257
N15K Kwethluk River 73.96 30 IAmb IAmb 05 04 11.0
comp=Z,7.4nm,0.8s
N15K Kwethluk River 73.96 30 P P 05 04 06.4 -0.2
baz=261
D17K Noatak River 74.22 22 P P 05 04 08.1 +0.2
baz=256
J16K Anvik River 74.27 27 P P 05 04 08.8 +0.5
baz=259
CHGN Chignik 74.29 34 P P 05 04 08.9 +0.4
baz=263
I17K Unalakleet 74.34 26 P P 05 04 09.2 +0.5
baz=259
C17K DeLong Mountai 74.38 21 P P 05 04 09.4 +0.6
baz=255
E17K Hotham Inlet 74.54 23 P P 05 04 09.8 0.0
baz=257
F17K Baldwin Pennin 74.63 23 P P 05 04 10.4 +0.2
baz=258
M16K Timber Creek 74.65 29 IAmb IAmb 05 04 14.9
comp=Z,6.0nm,0.9s
M16K Timber Creek 74.65 29 P P 05 04 10.3 -0.2
baz=261
N16K Nishlik Lake 74.66 30 P P 05 04 10.6 0.0
baz=262
G17K Kiwalik Mounta 74.67 24 P P 05 04 10.9 +0.3
baz=259
P16K Nushagak River 74.85 31 P P 05 04 11.5 -0.2
baz=263
H17K Granite Mounta 74.87 25 P P 05 04 11.2 -0.5
baz=259
O16K Kokwok River B 74.87 31 IAmb IAmb 05 04 16.2
comp=Z,9.2nm,1.0s
O16K Kokwok River B 74.87 31 P P 05 04 11.4 -0.4
baz=262
J17K VABM Dome 74.96 27 P P 05 04 12.4 +0.1
baz=261
B18K Kokolik River 75.08 20 P P 05 04 12.2 -0.6
baz=256
E18K Tukpahlearik C 75.08 23 P P 05 04 12.9 -0.1
baz=258
L17K Donlin 75.12 28 P P 05 04 12.7 -0.6
baz=262
C18K Utukok River 75.13 21 P P 05 04 13.7 +0.5
baz=257
K17K Iditarod 75.21 28 P P 05 04 13.4 -0.4
baz=262
F18K Selawik 75.29 23 P P 05 04 13.8 -0.2
baz=259
O17K Koliganek Bris 75.40 31 P P 05 04 14.4 -0.4
baz=263
M17K Holitna River 75.43 29 P P 05 04 14.4 -0.6
baz=263
N17K Nushagak Hills 75.44 30 IAmb IAmb 05 04 20.1
comp=Z,6.9nm,1.0s
N17K Nushagak Hills 75.44 30 P P 05 04 15.1 0.0
baz=263
Q16K King Salmon 75.50 32 P P 05 04 15.2 -0.2
baz=264
A19K Wainwright 75.52 20 P P 05 04 14.7 -0.6
baz=257
R17L Mt. Peulik Vol 75.55 33 P P 05 04 15.3 -0.5
baz=264
H18K Honhosa River 75.56 25 P P 05 04 16.0 +0.3
baz=261
G18K Tagagawik 75.56 24 P P 05 04 15.6 -0.1
baz=260
P17K Kvichak River 75.67 31 P P 05 04 16.8 +0.4
baz=264
C19K Lookout Ridge 75.79 21 IAmb IAmb 05 04 30.3
comp=Z,10nm,1.1s
C19K Lookout Ridge 75.79 21 P P 05 04 18.3 +1.3
baz=259
Q17K Contact Creek 75.86 32 P P 05 04 17.3 -0.4
baz=265
L18K Granite Mounta 75.88 28 P P 05 04 18.0 +0.4
baz=263
J18K Innoko River 76.03 27 P P 05 04 18.4 0.0
baz=263
F19K Shaleruckik Mo 76.06 23 P P 05 04 18.9 +0.3
baz=261
N18K Kilae Creek 76.09 30 P P 05 04 19.0 +0.1
baz=264
GCSA Galena City Sc 76.12 26 P P 05 04 19.6 +0.7
baz=262
D19K Kuna River 76.20 22 IAmb IAmb 05 04 32.6
comp=Z,7.3nm,1.1s
D19K Kuna River 76.20 22 P P 05 04 19.9 +0.5
baz=260
M18K Stony River 76.21 29 P P 05 04 19.3 -0.2
baz=264
G19K Purcell Mounta 76.23 24 P P 05 04 19.2 -0.3
baz=262
CASY Casey 76.25 186 P P 05 04 20.5 +1.0
CASY IAmb IAmb 05 04 31.0
comp=Z,5.6nm,0.8s
P18K Big Mountain, 76.30 31 P P 05 04 19.8 -0.3
baz=265
O18K Koktuh Hills 76.35 31 P P 05 04 19.0 -1.3
baz=265
Q18K Katmai Hardscr 76.36 32 P P 05 04 19.9 -0.6
baz=265
E19K Redstone River 76.37 23 IAmb IAmb 05 04 31.8
comp=Z,12nm,1.1s
E19K Redstone River 76.37 23 P P 05 04 19.7 -0.5
baz=261
H19K Roundabout Mou 76.41 25 IAmb IAmb 05 04 32.0
comp=Z,5.8nm,0.8s
H19K Roundabout Mou 76.41 25 P P 05 04 20.4 -0.1
baz=262
J19K Poorman 76.57 26 P P 05 04 20.9 -0.6
baz=264
R18K Karluk 76.57 33 P P 05 04 21.9 +0.4
baz=266
SII Sitkinak Islan 76.65 34 P P 05 04 21.3 -0.8
baz=267
L19K White Mountain 76.73 28 P P 05 04 22.4 -0.1
baz=265
D20K Etivluk River 76.78 21 IAmb IAmb 05 04 34.7
comp=Z,8.8nm,0.9s
D20K Etivluk River 76.78 21 P P 05 04 22.9 +0.3
baz=262
B20K Meade River 76.79 20 P P 05 04 23.6 +1.0
baz=261
N19K Bonanza Creek 76.79 30 IAmb IAmb 05 04 34.7
comp=Z,6.2nm,0.9s
N19K Bonanza Creek 76.79 30 P P 05 04 23.2 +0.2
baz=265
E20K Nigu River 76.87 22 P P 05 04 24.1 +0.9
baz=262
F20K Avaraart Lake 76.89 23 P P 05 04 23.9 +0.7
baz=263
M19K Big River Lodg 76.93 29 P P 05 04 23.7 +0.2
baz=265
H20K Anotleneega Mo 77.05 25 P P 05 04 24.6 +0.4
baz=264
Q19K Cape Douglas, 77.08 32 P P 05 04 24.0 -0.5
baz=267
I20K Naaghedeneel 77.15 26 P P 05 04 25.0 +0.3
baz=264
A21K Barrow 77.18 19 P P 05 04 24.9 +0.2
baz=261
OHAK Old Harbor 77.18 33 IAmb IAmb 05 04 51.2
comp=Z,11nm,1.4s
OHAK Old Harbor 77.18 33 P P 05 04 25.5 +0.5
baz=267
K20K Telida 77.20 27 P P 05 04 25.6 +0.6
baz=265
L20K Farewell, AK 77.21 28 P P 05 04 25.3 +0.1
baz=266
J20K Nowinta River 77.23 26 P P 05 04 25.2 0.0
baz=265
P19K Oil Pt 77.34 31 P P 05 04 25.8 -0.1
baz=267
C21K Knifeblade Rid 77.50 21 P P 05 04 28.0 +1.4
baz=263
M20K Styx River 77.52 29 P P 05 04 27.0 +0.1
baz=266
KDAK Kodiak Island 77.58 33 P P 05 04 27.0 -0.2
KDAK Kodiak Island 77.58 33 P P 05 04 26.1 -1.1
baz=268
B21K Ikpikpuk River 77.61 21 P P 05 04 27.1 -0.1
baz=263
A22K Sinclair Lake 77.66 19 P P 05 04 27.8 +0.4
baz=263
O20K Slope Mountain 77.67 30 P P 05 04 27.6 -0.2
baz=267
RAYN Ar Rayn 77.70 292 P P 05 04 27.1 -1.6
RAYN IAmb IAmb 05 04 30.8
comp=Z,6.5nm,0.8s
G21K Allakaket 77.71 24 IAmb IAmb 05 04 39.3
comp=Z,9.1nm,1.2s
G21K Allakaket 77.71 24 P P 05 04 28.3 +0.5
baz=265
E21K Killik River 77.71 22 IAmb IAmb 05 04 39.8
comp=Z,5.3nm,0.9s
E21K Killik River 77.71 22 P P 05 04 28.1 +0.2
baz=264
Q20K Shuyak Island 77.72 32 P P 05 04 27.5 -0.5
baz=268
F21K Alatna River 77.78 23 P P 05 04 28.5 +0.2
baz=265
H21K Melozitna Rive 77.92 25 IAmb IAmb 05 04 40.6
comp=Z,10.0nm,1.5s
H21K Melozitna Rive 77.92 25 P P 05 04 30.3 +1.2
baz=266
CHUM Lake Minchumin 78.02 27 P P 05 04 28.9 -0.6
baz=267
PPLA Purkeypile 78.02 28 P P 05 04 29.4 -0.4
baz=267
CAST Castle Rocks 78.09 27 IAmb IAmb 05 04 41.1
comp=Z,4.3nm,0.8s
CAST Castle Rocks 78.09 27 P P 05 04 29.6 -0.5
baz=267,SNR=8.4
B22K Teshekpuk Lake 78.10 20 P P 05 04 29.6 -0.3
baz=263
D22K Ayikyak River 78.22 21 P P 05 04 31.1 +0.5
baz=265
I21K Tanana 78.24 25 IAmb IAmb 05 04 35.1
comp=Z,6.3nm,1.0s
I21K Tanana 78.24 25 P P 05 04 32.2 +1.5
baz=267,SNR=6.5
SKT Skwentna 78.28 29 P P 05 04 31.0 -0.1
baz=268
F22K John River 78.31 23 P P 05 04 31.6 +0.4
baz=266
E22K Anaktuvuk Pass 78.49 22 P P 05 04 33.2 +1.0
baz=266
H22K Ishtalitna Cre 78.53 25 P P 05 04 33.6 +1.2
baz=267,SNR=5.5
G22K Bettles 78.53 24 P P 05 04 33.6 +1.3
baz=267
BPAW Bear Paw Mtn. 78.61 26 IAmb IAmb 05 04 36.2
comp=Z,9.5nm,1.2s
BPAW Bear Paw Mtn. 78.61 26 P P 05 04 34.3 +1.4
baz=268
SUA Susitna One 78.64 29 IAmb IAmb 05 04 37.1
comp=Z,5.5nm,0.8s
SUA Susitna One 78.64 29 P P 05 04 34.2 +1.0
baz=268
KBZ Khabaz 78.67 313 LR LR 05 42 39.3
comp=Z,75nm,18.1s,baz=92,slow=38
MLY Manley 78.75 25 P P 05 04 35.4 +1.7
baz=268
CUT Chulitna 78.89 28 P P 05 04 36.1 +1.8
baz=269
TRF Thorofare Moun 78.90 27 P P 05 04 34.6 -0.1
baz=269
M22K Willow 78.94 29 P P 05 04 36.3 +1.7
baz=269
D23K Nanushuk River 78.95 21 P P 05 04 35.7 +1.1
baz=267
C23K Itkillik River 79.02 21 P P 05 04 36.7 +1.8
baz=267
COLD Coldfoot 79.06 23 P P 05 04 36.1 +0.8
baz=268
G23K Bananza Creek 79.11 24 IAmb IAmb 05 04 57.5
comp=Z,9.4nm,1.4s
G23K Bananza Creek 79.11 24 P P 05 04 36.2 +0.6
baz=268
RC01 Rabbit Creek A 79.12 29 P P 05 04 36.2 +0.5
baz=270
SEW Seward 79.25 31 P P 05 04 36.7 +0.3
baz=270
H23K Yukon River 79.28 25 P P 05 04 36.3 -0.3
baz=269
E23K Chandalar 79.31 22 P P 05 04 37.0 +0.3
baz=268
TOLK Toolik Lake Re 79.34 22 P P 05 04 37.6 +0.8
baz=268
I23K Minto, Yukon-K 79.34 25 P P 05 04 36.4 -0.4
baz=269
PMR Palmer 79.42 29 IAmb IAmb 05 04 59.1
comp=Z,9.9nm,1.4s
PMR Palmer 79.42 29 P P 05 04 37.4 +0.2
baz=270
NEA2 Nenana 79.46 26 P P 05 04 37.9 +0.4
baz=269
MCK McKinley 79.51 27 IAmb IAmb 05 04 48.2
comp=Z,7.7nm,0.8s
MCK McKinley 79.51 27 P P 05 04 38.8 +0.9
baz=270
RND Reindeer 79.55 27 IAmb IAmb 05 04 48.9
comp=Z,7.2nm,1.2s
GURO Guroymak-BITLI 79.58 308 IAmb IAmb 05 04 41.7
comp=Z,9.6nm,0.8s
D24K Happy Valley 79.63 21 P P 05 04 38.3 +0.1
baz=269
C24K Franklin Bluff 79.68 21 P P 05 04 36.8 -1.8
baz=269
E24K Your Creek 79.73 22 P P 05 04 37.9 -1.1
baz=269
KNK Knik Glacier 79.74 29 P P 05 04 38.3 -0.8
baz=271
PWL Port Wells 79.80 30 IAmb IAmb 05 04 43.9
comp=Z,9.6nm,0.8s
PWL Port Wells 79.80 30 P P 05 04 38.9 -0.6
baz=271
WRH Wood River Hil 79.88 26 IAmb IAmb 05 04 45.0
comp=Z,11nm,1.4s
F24K Squaw Lake 79.96 23 P P 05 04 40.5 +0.4
baz=270
H24K Noodor Dome 79.96 25 P P 05 04 40.4 +0.1
baz=270
COLA College 79.98 26 P P 05 04 39.6 -0.6
baz=270
CCB Clear Creek Bu 80.00 26 IAmb IAmb 05 04 45.2
comp=Z,9.6nm,1.4s
M23K Glacier View 80.08 29 P P 05 04 41.2 +0.3
baz=271
G24K Hadweenzic Riv 80.12 24 P P 05 04 42.7 +1.6
baz=270
POKR Poker Plat Res 80.16 25 P P 05 04 41.2 -0.1
baz=271
SCM Sheep Creek Mo 80.27 29 IAmb IAmb 05 04 46.2
comp=Z,7.0nm,1.0s
SCM Sheep Creek Mo 80.27 29 P P 05 04 42.0 0.0
baz=272
P23K Montague Islan 80.28 31 P P 05 04 42.1 +0.1
baz=272
HDA Harding Lake 80.38 26 IAmb IAmb 05 04 46.0
comp=Z,3.9nm,0.6s
HDA Harding Lake 80.38 26 P P 05 04 42.6 +0.1
baz=271
ILAR Eielson Array 80.40 26 P P 05 04 43.1 +0.5
comp=Z,1.6nm,0.7s,baz=245,slow=4.6,SNR=19
comp=Z,1.6nm,0.7s
GLI Glacier Island 80.41 30 IAmb IAmb 05 04 48.6
comp=Z,6.6nm,0.6s
GLI Glacier Island 80.41 30 P P 05 04 42.5 -0.1
baz=272
D25K Kavik River 80.50 21 P P 05 04 44.1 +1.1
baz=271
G25K Bearman Lake 80.67 24 P P 05 04 44.5 +0.6
baz=272
H25L Birch Creek 80.80 24 P P 05 04 44.8 +0.2
baz=272
M24K Tolsona, Glenn 80.81 28 P P 05 04 45.3 +0.4
baz=272
F25K Christian Rive 80.82 23 P P 05 04 45.5 +0.7
baz=272
Q23K Middleton Isla 80.84 31 P P 05 04 46.3 +1.4
baz=273
K24K Donnelly Dome 80.91 27 IAmb IAmb 05 04 55.2
comp=Z,8.1nm,0.9s
K24K Donnelly Dome 80.91 27 P P 05 04 46.7 +1.3
baz=272
PRP Porcupine Dome 80.95 25 P P 05 04 46.9 +1.2
baz=272
KLU Klutina 80.95 29 P P 05 04 47.0 +1.3
baz=273
C26K Camden Bay 80.99 20 P P 05 04 46.7 +1.1
baz=272
J25K Salcha River, 81.05 26 P P 05 04 46.8 +0.6
baz=273
EYAK Cordova Ski Ar 81.08 30 P P 05 04 47.2 +0.9
baz=273
PAX Paxson 81.09 28 P P 05 04 47.2 +0.8
baz=273
BMAR Burnt Mountain 81.23 23 P P 05 04 48.2 +1.2
HARP HAARP 81.27 28 P P 05 04 47.7 +0.5
baz=273
RIDG Independent Ri 81.33 27 IAmb IAmb 05 04 59.6
comp=Z,13nm,1.2s
RIDG Independent Ri 81.33 27 P P 05 04 48.0 +0.4
baz=273
F26K Sheenjek River 81.38 23 P P 05 04 48.1 +0.3
baz=273
C27K Jago River 81.43 21 P P 05 04 48.3 +0.4
baz=274
G26K Porcupine Rive 81.57 23 P P 05 04 49.9 +1.2
baz=274
N25K Chitina, Valde 81.58 29 P P 05 04 50.0 +1.0
baz=274
BMRM Bremner River 81.62 30 P P 05 04 50.0 +0.8
baz=274
SCRK Sand Creek 81.69 26 P P 05 04 50.6 +1.0
baz=274
KAIM Kayak Island 81.79 31 P P 05 04 51.5 +1.5
baz=274
J26L Joseph Creek 81.84 26 P P 05 04 51.1 +0.8
baz=274
I26K Coal Creek Min 81.95 25 P P 05 04 51.9 +1.2
baz=275
GLB Gilahina Butte 81.97 29 IAmb IAmb 05 04 55.6
comp=Z,5.0nm,1.0s
L26K Log Cabin Wild 82.05 27 P P 05 04 52.7 +1.3
baz=275
M26K Nabesna, AK 82.27 28 P P 05 04 53.0 +0.4
baz=275
E27K Coleen River 82.31 22 P P 05 04 53.5 +0.9
baz=276
BGLC Bering Glacier 82.34 30 P P 05 04 53.7 +0.9
baz=275
MCARA McCarthy VSAT 82.35 29 P P 05 04 54.4 +1.5
baz=275
CRQM Cirque 82.35 30 IAmb IAmb 05 05 15.6
comp=Z,6.4nm,0.7s
CRQE Cirque 82.38 30 P P 05 04 53.3 +0.1
baz=275
G27K Doyon Strip 82.42 24 P P 05 04 54.2 +0.9
baz=276
D27M Malcolm River 82.42 21 P P 05 04 53.1 -0.1
baz=276
K27K Chicken 82.53 26 IAmb IAmb 05 05 06.7
comp=Z,14nm,1.4s
K27K Chicken 82.53 26 P P 05 04 54.9 +1.1
baz=276
H27K Steamboat Moun 82.53 24 P P 05 04 55.1 +1.3
baz=276
I27K Kandik River 82.56 25 P P 05 04 54.9 +0.8
baz=276,SNR=11
L27K Beaver Creek, 82.74 27 P P 05 04 56.4 +1.4
baz=276
BCAR Beaver Creek A 82.76 27 P P 05 04 56.9 +1.8
M27K Edge Creek, AK 82.79 28 P P 05 04 56.3 +0.9
baz=276
MESA MESA 83.00 30 P P 05 04 56.9 +0.4
baz=276
E28M Babbage River 83.02 22 P P 05 04 57.4 +1.1
baz=278
F28M Old Crow 83.02 23 P P 05 04 56.2 -0.1
baz=277
CTG Chitna Glacier 83.21 29 P P 05 04 58.2 +0.6
baz=277,SNR=6.2
I28M Miner Creek 83.28 25 IAmb IAmb 05 05 19.7
comp=Z,7.5nm,0.9s
I28M Miner Creek 83.28 25 P P 05 04 58.5 +0.8
baz=278,SNR=6.1
LOGN Logan Glacier 83.39 30 IAmb IAmb 05 05 03.3
comp=Z,6.0nm,0.9s
YUK3 Moose Creek 83.53 29 P P 05 04 59.6 +0.3
baz=278
E29M Blow River 83.64 22 P P 05 04 59.8 +0.3
baz=279
DAWY Dawson 83.70 26 IAmb IAmb 05 05 11.5
comp=Z,9.6nm,1.3s
DAWY Dawson 83.70 26 P P 05 05 01.1 +1.2
baz=278,SNR=7.1
O28M Mount Upton 83.79 30 IAmb IAmb 05 05 24.7
comp=Z,5.9nm,0.9s

O28M	**Mount Upton** baz=278	**83.79**	**30**	P	**P**	**05 05 01.4 +0.6**
H29M	**Whitestone** comp=Z,7.4nm,1.0s	**83.80**	**24**	IAmb	IAmb	05 05 30.7
H29M	**Whitestone** baz=279	**83.80**	**24**	P	**P**	**05 05 01.2 +0.9**
G29M	**Pine Creek** baz=279	**83.83**	**23**	P	**P**	**05 05 01.2 +0.7**
PINM	**Pinnacle** baz=278	**83.85**	**30**	P	**P**	**05 05 01.7 +0.9**
YUK8	**Steele Glacier** baz=278	**83.92**	**29**	P	**P**	**05 05 01.0 -0.4**
I29M	**Ogilvie Camp,** comp=Z,11nm,1.1s	**83.96**	**25**	IAmb	IAmb	05 05 13.4
I29M	**Ogilvie Camp,** baz=279	**83.96**	**25**	P	**P**	**05 05 01.6 +0.4**
J29N	**Klondike Camp** baz=279	**84.14**	**26**	P	**P**	**05 05 03.4 +1.2**
PNL	**Peninsula** baz=279	**84.34**	**31**	P	**P**	**05 05 03.7 +0.5**
M29M	**Somme Creek** comp=Z,5.0nm,0.8s	**84.36**	**28**	IAmb	IAmb	05 05 09.4
M29M	**Somme Creek** baz=279,SNR=12	**84.36**	**28**	P	**P**	**05 05 03.8 +0.5**
BNN	**Bunyan** comp=Z,6.6nm,1.0s	**84.37**	**308**	IAmb	IAmb	05 05 06.0
L29M	**L29M** baz=279,SNR=9.8	**84.40**	**27**	P	**P**	**05 05 03.8 +0.3**
EPYK	**Eagle Plains** baz=280	**84.44**	**24**	P	**P**	**05 05 05.5 +1.9**
YUK4	**Talbot Arm** baz=279	**84.45**	**29**	P	**P**	**05 05 04.7 +0.7**
G30M	**tAoh Zraii Nji** comp=Z,7.7nm,1.1s	**84.52**	**23**	IAmb	IAmb	05 05 10.0
G30M	**tAoh Zraii Nji** baz=281	**84.52**	**23**	P	**P**	**05 05 04.4 +0.4**
K29M	**Barlow Dome** comp=Z,5.3nm,1.0s	**84.55**	**26**	IAmb	IAmb	05 05 16.9
K29M	**Barlow Dome** baz=280,SNR=5.4	**84.55**	**26**	P	**P**	**05 05 05.0 +0.7**
F30M	**Barrier River** baz=281	**84.56**	**22**	P	**P**	**05 05 05.1 +0.9**
YUK6	**Outpost Mounta** baz=279	**84.65**	**29**	P	**P**	**05 05 04.9 -0.1**
O29M	**Mount Kennedy** baz=279	**84.65**	**30**	P	**P**	**05 05 05.1 +0.2**
I30M	**Mount Dempster** comp=Z,6.0nm,0.8s	**84.78**	**25**	IAmb	IAmb	05 05 10.5
I30M	**Mount Dempster** baz=281	**84.78**	**25**	P	**P**	**05 05 05.4 -0.1**
J30M	**Hart River** comp=Z,9.5nm,1.3s	**84.93**	**25**	IAmb	IAmb	05 05 18.8
J30M	**Hart River** baz=281	**84.93**	**25**	P	**P**	**05 05 06.5 +0.2**
ARCES	**ARCESS Array B** comp=Z,2.6nm,0.7s,baz=77,slow=5.6,SNR=14 comp=Z,2.6nm,0.7s	**85.00**	**340**	P	**P**	**05 05 05.5 -0.8**
HYT	**Haines Junctio** comp=Z,3.7nm,0.8s	**85.08**	**29**	IAmb	IAmb	05 05 12.8
HYT	**Haines Junctio** baz=280	**85.08**	**29**	P	**P**	**05 05 07.5 +0.4**
M30M	**Minto, Yukon** comp=Z,4.0nm,1.1s	**85.10**	**27**	IAmb	IAmb	05 05 19.8
M30M	**Minto, Yukon** baz=281,SNR=6.1	**85.10**	**27**	P	**P**	**05 05 07.5 +0.5**
N30M	**Aishikik Lake** comp=Z,5.9nm,1.2s	**85.17**	**29**	IAmb	IAmb	05 05 19.5
N30M	**Aishikik Lake** baz=280	**85.17**	**29**	P	**P**	**05 05 07.1 -0.4**
P29M	**Windy Craggy** comp=Z,7.5nm,1.1s	**85.18**	**30**	IAmb	IAmb	05 05 16.7
P29M	**Windy Craggy** baz=280	**85.18**	**30**	P	**P**	**05 05 07.7 +0.3**
INK	**Inuvik** baz=283	**85.25**	**22**	P	**P**	**05 05 06.8 -0.7**
G31M	**Satah River** baz=282	**85.28**	**23**	P	**P**	**05 05 08.6 +0.9**
MAYO	**Mayo, Yukon** baz=281	**85.31**	**26**	P	**P**	**05 05 09.2 +1.2**
F31M	**Tsiigehtchic** baz=283	**85.37**	**22**	P	**P**	**05 05 09.7 +1.6**
P30M	**Million Dollar** baz=281	**85.47**	**30**	P	**P**	**05 05 09.9 +1.0**
H31M	**Peel River** comp=Z,5.6nm,0.9s	**85.50**	**24**	IAmb	IAmb	05 05 20.7
H31M	**Peel River** baz=283	**85.50**	**24**	P	**P**	**05 05 09.6 +0.6**
N31M	**Braeburn, Yuko** baz=282	**85.78**	**28**	P	**P**	**05 05 10.9 +0.4**
PLBC	**Pleasant Camp** baz=281	**85.90**	**30**	P	**P**	**05 05 12.0 +1.0**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,baz=92,slow=5.3,SNR=7.6 comp=Z,1.3nm,0.8s	**85.95**	**309**	P	**P**	**05 05 10.5 -1.3**
S31K	**Pelican** baz=282	**86.26**	**32**	P	**P**	**05 05 13.3 +0.6**
M31M	**Drury Creek, Y** baz=283	**86.27**	**28**	P	**P**	**05 05 13.7 +0.9**
WHY	**Whitehorse** baz=282	**86.38**	**29**	P	**P**	**05 05 15.0 +1.6**
FINES	**FINESS Array B** comp=Z,1.5nm,0.5s,baz=71,slow=4.3,SNR=14 comp=Z,1.5nm,0.5s	**86.61**	**332**	P	**P**	**05 05 12.8 -1.6**
A36M	**Sachs Harbour** baz=291	**86.89**	**17**	P	**P**	**05 05 17.3 +1.7**
SIT	**Sitka** baz=282	**86.93**	**33**	P	**P**	**05 05 15.9 -0.1**
R32K	**Eaglecrest** baz=283	**87.08**	**31**	P	**P**	**05 05 16.5 -0.3**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=75,slow=3.2,SNR=4.8 comp=Z,0.5nm,0.4s	**87.14**	**321**	P	**P**	**05 05 15.7 -1.6**
P32M	**Atlin** baz=284	**87.19**	**30**	P	**P**	**05 05 17.8 +0.4**
S32K	**Killisnoo** baz=283	**87.23**	**32**	P	**P**	**05 05 18.2 +0.7**
MMPY	**Sheldon Lake,** baz=286	**87.58**	**27**	P	**P**	**05 05 20.0 +0.8**
Q32M	**Nakina River** baz=285	**88.06**	**31**	P	**P**	**05 05 22.1 +0.4**
U33K	**Whale Pass** baz=284	**88.33**	**33**	P	**P**	**05 05 22.9 +0.2**
CRAG	**Craig** baz=284	**88.48**	**34**	P	**P**	**05 05 24.0 +0.5**
VNDA	**Vanda** comp=Z,4.0nm,0.7s,baz=315,slow=6.1,SNR=20 comp=Z,4.0nm,0.7s	**89.02**	**173**	P	**P**	**05 05 25.6 +0.1**
DLBC	**Dease Lake** comp=Z,37nm,21.5s,baz=279,slow=32	**89.33**	**31**	LR	LR	05 40 12.5
DLBC	**Dease Lake** baz=287	**89.33**	**31**	P	**P**	**05 05 28.3 +0.7**
KOTAN	**Kotaneelee Air** baz=292	**91.67**	**28**	P	**P**	**05 05 38.3 -0.1**
HFS	**Hagfors** comp=Z,4.2nm,1.0s,baz=97,slow=7.4,SNR=2.1 comp=Z,4.2nm,1.0s	**92.78**	**332**	P	**P**	**05 05 41.1 -2.3**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.9s,baz=65,slow=4.4,SNR=2.5 comp=Z,1.0nm,0.9s	**93.50**	**334**	P	**P**	**05 05 44.6 -2.2**
YKA	**Yellowknife Ar** comp=Z,1.3nm,0.8s,baz=303,slow=5.1,SNR=7.9 comp=Z,1.3nm,0.8s	**94.72**	**24**	P	**P**	**05 05 52.9 +0.6**
GERES	**GERESS Array B** comp=Z,0.3nm,0.7s,baz=76,slow=11,SNR=4.5 comp=Z,0.3nm,0.7s	**97.29**	**322**	P	Pdif	05 06 05.1 +0.6
PLCA	**Paso Flores** comp=Z,7.5nm,0.9s,baz=245,slow=3.4,SNR=15	**145.43**	**158**	PKPbc	**PKPab**	**05 12 10.3 +0.7**
CPUP	**Villa Florida** comp=Z,0.6nm,0.8s,baz=121,slow=2.1,SNR=3.5	**162.78**	**170**	PKPab	**PKPab**	**05 13 23.5 +0.9**
LPAZ	**La Paz** comp=Z,1.7nm,0.9s,baz=302,slow=2.4,SNR=5.5	**164.56**	**118**	PKP	**PKPdf**	**05 12 37.6 +1.2**

*IDC **11** 04:57:32.9±0.9,48°.98S×125°.16E,h0km,mb3.9/7, mbtmp4.0/7,MS4.0/23,Error ellipse: s-maj=46.9km s-min=17.5km az=99.0*
*GCMT **11** 04:57:35.0±0.3,49°.02S±0°.02×125°.01E±0°.05,h19km±1km, MW5.0/83,Moment Tensor Solution. s28,c29; s83,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.13±.23; $M_{\theta\theta}$2.67±.14; $M_{\phi\phi}$0.45±.13; $M_{r\theta}$1.89±.28; $M_{\theta\phi}$-0.79±.08; $M_{r\phi}$1.43±.38; Best double couple: $M_0$3.75900×10^{16} NP1:ϕs125.00000°,δ35.00000°,λ-53.00000°. NP2: ϕs262.00000°,δ63.00000°,λ-113.00000°. Principal axes: T 3.2810, Plg15.0000°, Azm8.0000°; N 0.9530, Plg20.0000°, Azm273.0000°; P -4.2360, Plg65.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function
ISC 11 04:57:33.6±0.8,49°.0S±0°.1×124°.8E±0°.3,h10km,n35, σ1s54/10,mb3.9/7,MS3.9/22,2C,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H** baz=158,slow=79,SNR=39	**16.15**	**327**	T	T	05 18 08.3	
H01W2	**Cape Leeuwin H** baz=158,slow=79,SNR=40	**16.15**	**327**	T	T	05 18 06.1	
H01W3	**Cape Leeuwin H** baz=158,slow=79,SNR=43	**16.17**	**327**	T	T	05 18 09.9	
NWAO	**Narrogin (SRO)** comp=Z,1μm,18.2s,baz=148,slow=32	**17.03**	**338**	LR	LR	05 06 37.1	
STKA	**Stephens Creek** 3.7nm,0.7s,baz=193,slow=14,SNR=3.4	**21.25**	**43**	P	**P**	**05 02 19.0**	**-0.8**
STKA	comp=Z,928nm,20.8s,baz=238,slow=32 3.7nm,0.7s			LR	LR	05 08 55.8	
ASAR	**Alice Springs** 2.0nm,0.9s,baz=192,slow=10,SNR=9.0 2.0nm,0.9s	**26.27**	**19**	P	**P**	**05 03 08.0**	**-1.1**
WRA	**Warramunga Arr** 0.9nm,1.1s,baz=194,slow=11,SNR=1.6	**29.97**	**18**	P	**P**	**05 03 41.9**	**-0.3**
WRA	comp=Z,1μm,20.3s,baz=172,slow=35 0.9nm,1.1s			LR	LR	05 14 46.9	
FITZ	**Fitzroy Crossi** comp=Z,634nm,19.4s,baz=155,slow=35	**30.82**	**1**	LR	LR	05 15 23.3	
VNDA	**Vanda** 2.9nm,0.9s,baz=307,slow=8.6,SNR=14	**31.92**	**166**	P	**P**	**05 03 59.5**	**+0.7**
VNDA	comp=Z,508nm,19.1s,baz=322,slow=34 2.9nm,0.9s			LR	LR	05 15 50.9	
BATI	**Baumata** comp=Z,458nm,18.2s,baz=216,slow=37	**38.67**	**358**	LR	LR	05 21 26.5	
QSPA	**South Pole Qui** 2.6nm,1.0s,baz=330,slow=8.1,SNR=5.1 2.6nm,1.0s	**41.13**	**180**	P	**P**	**05 05 18.2**	**+0.6**
PMG	**Port Moresby** comp=Z,172nm,18.6s,baz=232,slow=38	**43.66**	**33**	LR	LR	05 25 00.5	
KAPI	**Kappang** comp=Z,147nm,18.3s,baz=174,slow=37	**44.03**	**353**	LR	LR	05 24 24.6	
LEM	**Lembang** comp=Z,82nm,19.6s,baz=132,slow=34	**44.47**	**335**	LR	LR	05 22 35.7	
JAY	**Jayapura** comp=Z,394nm,21.3s,baz=191,slow=36	**48.26**	**21**	LR	LR	05 26 05.0	
TROLL	**Troll, Antarti** comp=Z,63nm,0.6s	**52.72**	**199**	⇑P	**P**	**05 06 44.9**	**-3.0**
SNAA	**Sanae** comp=Z,46nm,0.8s	**54.10**	**198**	⇑P	P	05 06 52.2	-5.8
SNAA	**Sanae** comp=Z,2.1nm,0.9s,baz=152,slow=7.8,SNR=8.6	**54.10**	**198**	P	**P**	**05 06 58.4**	**+0.4**
SNAA	comp=Z,588nm,20.5s,baz=121,slow=34 comp=Z,2.1nm,0.9s			LR	LR	05 28 37.8	
DAV	**Davao City (W)** comp=Z,98nm,21.8s,baz=162,slow=36	**55.83**	**1**	LR	LR	05 30 52.9	
PSI	**Prapat** comp=Z,62nm,18.1s,baz=168,slow=36	**56.27**	**328**	LR	LR	05 31 36.9	
H08S2	**Diego Garcia H** baz=148	**60.11**	**295**	T	T	06 13 19.4	
H08S1	**Diego Carcia H** baz=148	**60.12**	**295**	T	T	06 13 03.9	
H08S3	**Diego Garcia H** baz=148	**60.13**	**295**	T	T	06 13 02.2	
GUMO	**Guam** comp=Z,83nm,19.0s,baz=220,slow=37	**64.78**	**22**	LR	LR	05 37 07.4	
PMSA	**Palmer Station** comp=Z,161nm,19.2s,baz=187,slow=36	**66.36**	**176**	LR	LR	05 37 45.6	
PALK	**Pallekele** comp=Z,60nm,19.9s,baz=117,slow=31	**68.02**	**312**	LR	LR	05 32 54.0	
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.4s,baz=161,slow=7.5,SNR=4.3	**71.00**	**334**	P	**P**	**05 08 53.0**	**+1.6**
CMAR	comp=Z,65nm,20.4s,baz=150,slow=35 comp=Z,0.5nm,0.4s			LR	LR	05 38 52.4	
BRDH	**Bariadhala** comp=Z,64nm,20.2s,baz=158,slow=35	**77.25**	**329**	LR	LR	05 42 11.0	
MATP	**Matopo** comp=Z,52nm,18.6s,baz=131,slow=30	**78.88**	**252**	LR	LR	05 37 28.1	
JNU	**Nakatsue** comp=Z,40nm,19.8s,baz=194,slow=36	**81.92**	**5**	LR	LR	05 46 03.8	
MJAR	**Matsushiro Arr** comp=Z,61nm,20.9s,baz=184,slow=34	**85.98**	**11**	LR	LR	05 46 42.6	
USRK	**Usuriysk Ar.** comp=Z,45nm,19.7s,baz=179,slow=35	**93.02**	**5**	LR	LR	05 52 25.5	
ASAJ	**Asahikawa** comp=Z,27nm,19.0s,baz=192,slow=36	**94.02**	**13**	LR	LR	05 53 14.5	
YKA	**Yellowknife Ar** comp=Z,1.4nm,0.8s,baz=267,slow=3.6,SNR=10	**145.27**	**45**	PKPbc	**PKPab**	**05 17 11.1**	**+1.0**
EKA	**Eskdalemuir Ar** comp=Z,2.2nm,0.8s,baz=107,slow=4.5,SNR=4.2	**148.12**	**301**	PKPbc	**PKPab**	**05 17 20.4**	**-1.1**

*IDC **11** 05:08:19.8±1.1,31°.14S×177°.45W,h0km,mb3.9/5, mbtmp3.9/6,ML3.3/1,Error ellipse: s-maj=33.0km s-min=20.5km az=85.0*
ISC 11 05:08:23.8±1.0,31°.21S±0°.08×177°.7W±0°.2,h27km,n8, σ1s57/10,mb3.8/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 74nm,0.3s,baz=289,slow=23,SNR=4.4	**1.96**	**353**	Pn	**Pn**	**05 08 53.1**	**-2.2**
RAO	88nm,0.3s,baz=64,slow=21,SNR=2.3			Sn	**Sn**	**05 09 19.9**	**+0.9**
URZ	**Urewera** 0.4nm,0.3s,baz=8.8,slow=15,SNR=1.5	**8.25**	**210**	Pn	**Pn**	**05 10 20.7**	**-0.9**
URZ	0.2nm,0.3s,baz=146,slow=18,SNR=1.0 7.0nm,0.7s			Sn	**Sn**	**05 11 52.4**	**-1.4**
ASAR	**Alice Springs** 1.2nm,0.7s,baz=118,slow=7.7,SNR=7.1 1.2nm,0.7s	**43.37**	**268**	P	**P**	**05 16 25.7**	**+1.6**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=112,slow=7.9,SNR=9.4 0.5nm,0.3s	**44.43**	**273**	P	**P**	**05 16 34.3**	**+1.7**
QSPA	**South Pole Qui** 2.0nm,0.9s,baz=30,slow=4.7,SNR=6.6 2.0nm,0.9s	**58.91**	**180**	P	**P**	**05 18 21.9**	**+1.7**
SNAA	**Sanae** 1.3nm,1.0s,baz=194,slow=8.3,SNR=3.6 1.3nm,1.0s	**77.34**	**178**	P	**P**	**05 20 15.0**	**-0.7**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=227,slow=3.8,SNR=2.2 0.1nm,0.3s	**88.63**	**43**	P	**P**	**05 21 14.6**	**0.0**
FINES	**FINESS Array B** 1.2nm,0.7s,baz=48,slow=2.8,SNR=6.0	**146.00**	**340**	PKPbc	**PKPdf**	**05 27 59.7**	**+0.2**

IDC 11 05:27:56.1±11.0,14°.72S×163°.81E,h0km,mb4.0/3, mbtmp4.0/4,ML2.7/1,Error ellipse: s-maj=203.5km s-min=34.4km az=45.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=42,slow=15,SNR=1.5	**7.72**	**162**	Pn	Pn	05 29 50.0	+0.1
DZM	0.2nm,0.3s,baz=29,slow=13,SNR=2.2 3.9nm,0.7s			Sn	Sn	05 31 19.5	+1.3
STKA	**Stephens Creek** 1.5nm,0.5s,baz=42,slow=11,SNR=3.8 1.5nm,0.5s	**26.52**	**226**	P	P	05 33 34.8	-0.6
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=84,slow=9.2,SNR=7.2 0.8nm,0.7s	**28.59**	**255**	P	P	05 33 54.3	+0.1
ASAR	**Alice Springs** 1.3nm,0.5s,baz=80,slow=9.0,SNR=26 1.3nm,0.5s	**29.56**	**248**	P	P	05 34 03.1	+0.3

*NEIC **11** 05:42:21.4±0.9,19°.31N±0°.01×155°.225W±0°.003, h5km±1km,Error ellipse: s-maj=2.5km s-min=1.8km az=9.0*
HVO 11 05:42:20.8±0.7,19°.314N±0°.010×155°.216W±0°.008, h7km±1km,ML2.8/37,ML2.9/42(NEIC),Error ellipse: s-maj=1.6km s-min=1.0km az=155.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**0**		Pg	05 42 23.0	+0.3
PUH				Sg	Sg	05 42 24.6	+0.7
KNHH	**Kane Nui o Ham**	**0.08**	**34**		Pg	05 42 23.3	+0.4
HLP	**Hilina Pali**	**0.09**	**258**		Pg	05 42 23.6	+0.6
HLP				Sg	Sg	05 42 25.6	+1.1
KKO	**Keanakako'i**	**0.10**	**331**		Pg	05 42 23.6	+0.5
KKO					Sg	05 42 25.7	+0.9
RIM	**Rim**	**0.10**	**326**		Pg	05 42 23.6	+0.4
RIM					Sg	05 42 25.4	+0.5
SDHHI	**Sand Hill**	**0.10**	**316**		Pg	05 42 23.6	+0.3
SDHHI					Sg	05 42 25.7	+0.7
BYL	**Byron's Ledge**	**0.11**	**337**		Pg	05 42 23.6	+0.3
BYL	comp=N,3μm,0.7s			IAML		05 42 26.1	
STCH	**Steam Cracks**	**0.11**	**51**		Pg	05 42 23.7	+0.4
STCH				Sg	Sg	05 42 25.7	+0.6
STCH	comp=E,3μm,0.1s			IAML		05 42 26.1	
STCH	comp=N,5μm,0.3s			IAML		05 42 26.2	
HATHI	**Halema'uma'u T**	**0.12**	**339**		Pg	05 42 23.9	+0.4
HATHI	comp=E,3μm,0.5s			IAML		05 42 26.6	
OBL	**Observatory Le**	**0.12**	**328**		Pg	05 42 23.9	+0.4
WRMHI	**West Rim**	**0.12**	**319**		Pg	05 42 23.9	+0.3
WRMHI					Sg	05 42 26.3	+0.8
SBLHI	**Steaming Bluff**	**0.12**	**337**		Pg	05 42 23.8	+0.3
SBLHI					Sg	05 42 26.2	+0.7
UWB	**Uwekahuna Bluf**	**0.12**	**332**		Pg	05 42 23.9	+0.3
UWB					Sg	05 42 25.8	+0.3
NPOC	**North of Pu'u**	**0.13**	**52**		Pg	05 42 24.0	+0.4
NPOC					Sg	05 42 26.4	+0.8
JCUZ	**Jacuzzi**	**0.13**	**57**		Pg	05 42 24.0	+0.4
JCUZ					Sg	05 42 26.3	+0.7
UWE	**Uwekahuna**	**0.13**	**326**		Pg	05 42 24.0	+0.3
UWE	comp=E,4μm,0.5s			IAML		05 42 27.1	
UWE	comp=N,3μm,0.8s			IAML		05 42 27.2	
RSD	**Rainshed**	**0.16**	**339**		Pg	05 42 24.4	+0.2
RSD					Sg	05 42 27.3	+0.8
HTC	**Hot Caves**	**0.19**	**246**		Pg	05 42 25.3	+0.7
JOKA	**Jonika Flow**	**0.23**	**59**		Pg	05 42 25.5	0.0
JOKA					Sg	05 42 28.9	+0.2
JOKA	**Jonika Flow** comp=E,622nm,0.3s	**0.23**	**59**	IAML		05 42 32.3	
JOKA	comp=N,811nm,0.3s			IAML		05 42 32.6	
AIN	**Ainahou**	**0.23**	**284**		Pg	05 42 26.0	+0.4
AIN	comp=N,4μm,0.2s			IAML		05 42 31.8	
AIN	comp=E,3μm,0.2s			IAML		05 42 32.0	
MLH	**Mauna Loa**	**0.24**	**318**		Pg	05 42 26.0	+0.3
HMH	**Humu'ula Sheep**	**0.38**	**319**		Pg	05 42 28.4	0.0
HMH	**Humu'ula Sheep**	**0.38**	**319**		Sg	05 42 34.0	+0.5
KHU	**Kahuku**	**0.38**	**260**		Pg	05 42 28.2	-0.2
KHU					Sg	05 42 34.3	+0.8
HPO	**Honuapo**	**0.39**	**235**		Pg	05 42 28.9	+0.5
HPO	**Honuapo**	**0.39**	**235**		Sg	05 42 34.4	+0.8
MWH	**Mokuaweoweo**	**0.40**	**295**		Sg	05 42 34.6	+0.6
MWH	**Mokuaweoweo**	**0.40**	**295**		Pg	05 42 28.8	0.0
MWH	comp=E,3μm,0.6s			IAML		05 42 36.0	
MWH	comp=N,1μm,0.3s			IAML		05 42 37.0	
ALEP	**Alea Permanent**	**0.46**	**299**		Pg	05 42 29.4	-0.5
ALEP					Sg	05 42 36.5	+0.5
POHA	**Pohakuloa**	**0.53**	**326**		Pg	05 42 30.7	+0.5
POHA					Sg	05 42 38.3	+0.1
POHA	**Pohakuloa** comp=N,2μm,0.5s	**0.53**	**326**	IAML		05 42 38.9	
POHA	comp=N,2μm,0.4s			IAML		05 42 39.6	
CPH	**Captain Cook**	**0.69**	**285**		Pg	05 42 32.4	-1.6
HUH	**Hualalai**	**0.69**	**302**		Pg	05 42 34.3	+0.1
HUH	**Hualalai**	**0.69**	**302**		Sg	05 42 42.7	-0.6
HPAH	**Hawaii Prepara**	**0.84**	**328**		Pg	05 42 34.9	-2.2
HPAH					Sg	05 42 45.4	-2.7
HPAH	**Hawaii Prepara** comp=N,404nm,0.2s	**0.84**	**328**	IAML		05 42 48.2	
HPAH	comp=E,558nm,0.2s			IAML		05 42 48.2	
MHA	**Mahukona**	**1.08**	**323**		Pg	05 42 38.5	-3.2
MHA					Sg	05 42 51.6	-4.1
KHLH	**Kahului Airpor**	**1.94**	**324**		Pn	05 42 50.4	-3.8
WMR	**Waimanalo Ridg**	**3.06**	**311**		Pn	05 43 04.9	-4.7

*CNRM **11** 05:51:22.4,37°.09N×7°.35W,h7km,ML2.4*
*INMG **11** 05:51:23.7±2.0,37°.19N×7°.38W,h3km±4km,ML2.2,Error ellipse: s-maj=2.8km s-min=2.4km az=5.0, #DIST_RANGE: LOCAL #IPMA_REGION: E V.R.Sto Antonio*
*IGIL **11** 05:51:23.4,37°.19N×7°.38W,h3km,ML2.4*
*SFS **11** 05:51:23.5,37°.18N×7°.39W,h0km,ML2.5/13,ML2.4/13, MLv2.4/12*
*MDD **11** 05:51:23.7±0.3,37°.28N×7°.32W,h3km,mb_Lg2.5/13, Error ellipse: s-maj=3.0km s-min=1.8km az=8.0*
ISC 11 05:51:22.1±1.0,37°.23N±0°.02×7°.36W±0°.01,h11km±8km, n75,σ1s20/148,3D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAV	**Tavira**	**0.26**	**247**	*e*Pg	**Pg**	**05 51 27.5**	**+0.2**
PTAV				*e*Sg	**Sg**	**05 51 30.9**	**0.0**
PTAV				*i* IAML		05 51 34.5	
PTAV				*i* IAML		05 51 36.5	
EGRO	**El Granado**	**0.32**	**342**	Sg	**Sb**	**05 51 35.1**	**-0.1**
EGRO				Pg	**Pb**	**05 51 30.4**	**+0.5**
EGRO	**El Granado**	**0.32**	**342**	Pg	**Pb**	**05 51 30.5**	**+0.5**
EGRO				Sg	**Sg**	**05 51 33.9**	**+0.9**
EGRO				*i* IVmb_Lg		05 51 35.7	
PVAQ	**Vaqueiros**	**0.33**	**302**	Sg	**Sb**	**05 51 34.3**	**-1.2**
PVAQ				Pg	**Pb**	**05 51 29.6**	**-0.5**
PVAQ	**Vaqueiros**	**0.33**	**302**	*i*Pg	**Pb**	**05 51 29.7**	**-0.5**
PVAQ				*e*Sg	**Sb**	**05 51 34.3**	**-1.2**
PVAQ				*i* IAML		05 51 36.7	
PVAQ				*i* IAML		05 51 36.8	
PVAQ				*i* IAML		05 51 36.9	
PVAQ	**Vaqueiros**	**0.33**	**302**	P	**Pb**	**05 51 30.8**	**+0.6**
PVAQ	**Vaqueiros**	**0.33**	**302**	S	**Sb**	**05 51 36.7**	**+1.2**
PBDV	**Barranco-do-Ve**	**0.46**	**272**	Pg	**Pb**	**05 51 31.3**	**+0.2**
PBDV				Sg	**Sb**	**05 51 38.0**	**-1.1**
PBDV	**Barranco-do-Ve**	**0.46**	**272**	*i*Pg	**Pb**	**05 51 31.4**	**-0.8**
PBDV				*e*Sg	**Sb**	**05 51 38.1**	**-0.9**
PBDV				*i* IAML		05 51 39.8	
PBDV				*i* IAML		05 51 40.1	
PBDV				*i* IAML		05 51 40.8	
PFARO	**Faro**	**0.49**	**246**	*e*Sg	**Sb**	**05 51 41.2**	**+1.2**
ARNO	**Arenosillo**	**0.52**	**104**	Pg	**Pb**	**05 51 33.0**	**-0.2**
ARNO				Sg	**Sb**	**05 51 40.4**	**-0.4**
PCVE	**Castro Verde**	**0.67**	**307**	Pg	**Pb**	**05 51 35.6**	**-0.4**
PCVE				Sg	**Sb**	**05 51 45.6**	**+0.2**
PCVE	**Castro Verde**	**0.67**	**307**	*i*P	**Pb**	**05 51 35.6**	**-0.4**
PCVE				*e*S	**Sb**	**05 51 45.7**	**+0.4**
PCVE				*i* IAML		05 51 48.2	
PCVE				*i* IAML		05 51 50.0	
PCVE				*i* IAML		05 51 50.0	
PALBU	**Albufeira**	**0.72**	**260**	*e*Sg	**Sn**	**05 51 48.7**	**-0.6**
EMIN	**Mina Concepcio**	**0.77**	**45**	Pg	**Pb**	**05 51 38.4**	**+0.8**
EMIN				Sg	**Sb**	**05 51 49.3**	**+1.3**
EMIN	**Mina Concepcio**	**0.77**	**45**	Pg	**Pb**	**05 51 38.3**	**+0.8**
EMIN				Sg	**Sg**	**05 51 47.0**	**0.0**
EMIN				*i* IVmb_Lg		05 51 52.6	
PBEJ	**Beja**	**0.89**	**333**	*e*P	**Pb**	**05 51 40.3**	**+0.6**
PBEJ				*e*S	**Sn**	**05 51 53.4**	**-0.2**
PBEJ				*i* IAML		05 51 55.0	
PBEJ				*i* IAML		05 51 55.8	
PBEJ				*i* IAML		05 51 57.1	
MESJ	**Messejana**	**0.92**	**312**	*e*P	**Pb**	**05 51 39.9**	**-0.1**
MESJ				*e*S	**Sb**	**05 51 52.3**	**0.0**
MESJ	comp=N,51nm,0.2s			IAML		05 51 56.1	
MESJ	**Messejana**	**0.92**	**312**	*e*P	**Pb**	**05 51 40.0**	**-0.1**
MESJ				*e*S	**Sb**	**05 51 52.9**	**+0.5**
MESJ				*i* IAML		05 51 56.2	
MESJ				*i* IAML		05 51 56.7	
MESJ				*i* IAML		05 51 57.0	
PPOR	**Portimao**	**0.94**	**265**	*e*Sg	**Sn**	**05 51 55.1**	**+0.3**
PPOR				*i* IAML		05 52 02.7	
PBAR	**Barrancos**	**0.98**	**15**	Pg	**Pn**	**05 51 42.7**	**+0.8**
PBAR				Sg	**

PBAR				*i* IAML		05 51 58.5	
PBAR				*i* IAML		05 51 59.1	
PBAR				*i* IAML		05 51 59.4	
MORF	**Marmelete**	**1.03**	**275**	*eP*	**Pg**	**05 51 41.7**	**-0.3**
MORF				*eS*	**Sg**	**05 51 55.3**	**-0.1**
MORF				IAML		05 52 00.1	
	comp=N,125nm,0.2s						
MORF	**Marmelete**	**1.03**	**275**	*eP*	**Pn**	**05 51 42.8**	**+0.1**
MORF				*eS*	**Sn**	**05 51 57.4**	**+0.3**
MORF				*i* IAML		05 51 59.3	
MORF				*i* IAML		05 52 00.1	
MORF				*i* IAML		05 52 00.5	
PLAGO	**Lagos**	**1.07**	**263**	*eSg*	**Sn**	**05 51 58.2**	**+0.3**
PTEO	**Sao Teotonio**	**1.13**	**287**	*eP*	**Pb**	**05 51 49.3**	**+0.2**
PTEO				*eS*	**Sn**	**05 52 00.1**	**+0.6**
PTEO				*i* IAML		05 52 03.1	
PTEO				*i* IAML		05 52 03.5	
PTEO				*i* IAML		05 52 04.1	
PFVI	**Vila Bisbo**	**1.18**	**266**	Pg	**Pb**	**05 51 44.4**	**-0.1**
PFVI				Sg	**Sb**	**05 51 59.9**	**+0.1**
PFVI	**Vila Bisbo**	**1.18**	**266**	*eP*	**Pn**	**05 51 44.9**	**+0.4**
PFVI				*eS*	**Sn**	**05 52 00.7**	**+0.2**
PFVI				*i* IAML		05 52 03.0	
PFVI				*i* IAML		05 52 03.5	
PFVI				*i* IAML		05 52 03.9	
PFVI	**Vila Bisbo**	**1.18**	**266**	P	**Pn**	**05 51 45.0**	**+0.4**
PFVI	**Vila Bisbo**	**1.18**	**266**	S	**Sn**	**05 52 01.6**	**+1.0**
ESPR	**Espera**	**1.26**	**106**	Pg	**Pn**	**05 51 46.2**	**+0.6**
ESPR				Sg	**Sn**	**05 52 04.0**	**+1.4**
ESPR	**Espera**	**1.26**	**106**	Pg	**Pn**	**05 51 46.3**	**+0.6**
ESPR				Sg	**Sn**	**05 52 03.4**	**+0.8**
ESPR				*i* IVmb_Lg		05 52 06.5	
EVO	**Evora**	**1.40**	**339**	Pn	**Pg**	**05 51 49.0**	**-0.1**
EVO				Sn	**Sg**	**05 52 08.3**	**+1.1**
EVO	**Evora**	**1.40**	**339**	*eP*	**Pg**	**05 51 48.9**	**-0.2**
EVO				*eP*	**Pb**	**05 51 50.1**	**+1.7**
EVO				*eSn*	**Sg**	**05 52 06.9**	**-0.4**
EVO				*eSg*	**Sn**	**05 52 09.0**	**+2.8**
EVO				*i* IAML		05 52 11.0	
EVO				*i* IAML		05 52 12.0	
EVO				*i* IAML		05 52 12.0	
EBAD	**Badajoz**	**1.55**	**10**	Pn	**Pb**	**05 51 50.8**	**-0.1**
EBAD				Sn	**Sg**	**05 52 12.4**	**+0.3**
EBAD	**Badajoz**	**1.55**	**10**	Pg	**Pb**	**05 51 50.7**	**-0.2**
EBAD				Sg	**Sn**	**05 52 10.0**	**+0.1**
EBAD				*i* IVmb_Lg		05 52 15.9	
PESTR	**Estremoz**	**1.65**	**354**	Pn	**Pg**	**05 51 53.4**	**-0.4**
PESTR				Sn	**Sg**	**05 52 14.9**	**-0.2**
PESTR	**Estremoz**	**1.65**	**354**	*eSg*	**Sg**	**05 52 15.1**	**0.0**
PESTR				*i* IAML		05 52 20.2	
PESTR				*i* IAML		05 52 20.9	
PESTR				*i* IAML		05 52 24.5	
PESTR	**Estremoz**	**1.65**	**354**	P	**Pg**	**05 51 53.7**	**0.0**
PESTR	**Estremoz**	**1.65**	**354**	S	**Sg**	**05 52 17.6**	**+2.5**
ECAB	**El Cabril**	**1.76**	**61**	Pn	**Pb**	**05 51 54.6**	**+0.1**
ECAB				Sn	**Sb**	**05 52 17.2**	**+0.7**
ECAB	**El Cabril**	**1.76**	**61**	Pg	**Pb**	**05 51 54.2**	**-0.2**
ECAB				Sg	**Sb**	**05 52 17.1**	**+0.5**
ECAB				*i* IVmb_Lg		05 52 19.9	
PMTG	**Montargil**	**1.96**	**340**	*ePn*	**Pb**	**05 51 57.0**	**-0.9**
PMTG				*ePg*	**Pg**	**05 51 59.6**	**-0.1**
PMTG				*eSg*	**Sg**	**05 52 25.2**	**0.0**
PMTG				*i* IAML		05 52 28.6	
PMTG				*i* IAML		05 52 28.6	
PMTG				*i* IAML		05 52 30.6	
PARRA	**Arraiolos**	**2.07**	**321**	*ePn*	**Pn**	**05 51 52.5**	**-4.3**
PARRA				*ePg*	Pb	05 51 54.7	-5.0
PARRA				*eSn*	Sn	05 52 10.9	-12
PARRA				*eSg*	Sb	05 52 16.2	-9.2
PARRA				*i* IAML		05 52 18.9	
PARRA				*i* IAML		05 52 21.8	
PARRA				*i* IAML		05 52 23.3	
PMRV	**Marv??o**	**2.20**	**359**	*ePn*	**Pn**	**05 52 00.0**	**+1.4**
PMRV				*eSn*	**Sn**	**05 52 24.8**	**-1.0**
PMRV				*eSg*	**Sg**	**05 52 31.6**	**-1.1**
PMRV				*i* IAML		05 52 32.6	
PMRV				*i* IAML		05 52 36.5	
PMRV				*i* IAML		05 52 36.9	
PMAFR	**Mafra**	**2.30**	**319**	Pn	**Pb**	**05 52 02.2**	**-1.4**
PMAFR				Sn	**Sb**	**05 52 30.7**	**-1.3**
PMAFR	**Mafra**	**2.30**	**319**	*ePn*	**Pn**	**05 52 01.2**	**+1.2**
PMAFR				*ePg*	**Pg**	**05 52 05.6**	**-0.6**
PMAFR				*eSg*	**Sg**	**05 52 38.2**	**+2.3**
PMAFR				*i* IAML		05 52 40.6	
PMAFR				*i* IAML		05 52 45.2	
PMAFR				*i* IAML		05 52 49.0	
EADA	**Adamuz**	**2.40**	**66**	Pn	**Pb**	**05 52 03.7**	**-1.7**
EADA				Sn	**Sn**	**05 52 33.2**	**+2.3**
EADA	**Adamuz**	**2.40**	**66**	Pn	**Pn**	**05 52 02.2**	**+0.8**
EADA				Pg	**Pg**	**05 52 07.1**	**-1.0**
EADA				Sn	**Sn**	**05 52 29.6**	**-1.2**
EADA				Sg	**Sg**	**05 52 37.4**	**-1.8**
EADA				*i* IVmb_Lg		05 52 41.5	
PSARD	**Sardoal**	**2.45**	**345**	*ePn*	**Pn**	**05 52 03.9**	**+1.7**
PSARD				*ePg*	**Pg**	**05 52 09.0**	**-0.1**
PSARD				*eSn*	**Sn**	**05 52 28.6**	**-3.5**
PSARD				*eSg*	**Sg**	**05 52 39.7**	**-1.2**
PSARD				*i* IAML		05 52 43.9	
PSARD				*i* IAML		05 52 44.2	
PSARD				*i* IAML		05 52 44.8	
EGOR	**Sierra Gorda,**	**2.60**	**92**	Pn	**Pn**	**05 52 04.8**	**+0.5**
EGOR				Sn	**Sn**	**05 52 37.7**	**+1.7**
EGOR	**Sierra Gorda,**	**2.60**	**92**	Pn	**Pn**	**05 52 05.2**	**+0.9**
EGOR				Sn	**Sn**	**05 52 36.8**	**+0.8**
EGOR				*i* IVmb_Lg		05 52 48.6	
PCBR	**Castelo Branco**	**2.61**	**358**	*ePn*	**Pn**	**05 52 05.3**	**+1.0**
PCBR				*eSn*	**Sn**	**05 52 37.6**	**+1.6**
PCBR				*eSg*	**Sg**	**05 52 45.4**	**-0.6**
PCBR				*i* IAML		05 52 50.7	
PCBR				*i* IAML		05 52 51.0	
PCBR				*i* IAML		05 52 56.4	
PCAS	**Casmilo, Conde**	**2.96**	**343**	*ePn*	**Pb**	**05 52 12.5**	**-2.4**
PCAS				*ePg*	**Pg**	**05 52 19.4**	**+0.6**
PCAS				*eSn*	**Sn**	**05 52 41.5**	**-3.1**
PCAS				*eSg*	**Sg**	**05 52 56.9**	**-0.2**
PCAS				*i* IAML		05 53 02.1	
PCAS				*i* IAML		05 53 02.1	
PCAS				*i* IAML		05 53 03.9	
EPLA	**Plasencia**	**3.00**	**19**	Pn	**Pn**	**05 52 10.3**	**+0.6**
EPLA				Sn	**Sn**	**05 52 46.4**	**+0.6**
EPLA				Sg	**Sg**	**05 52 57.7**	**-1.0**
EPLA				*i* IVmb_Lg		05 53 03.6	
ELGU	**Los Guajares,**	**3.01**	**96**	Sn	**Sn**	**05 52 47.5**	**+1.6**
PSIM	**Granatula de C**	**3.26**	**60**	Pn	**Pn**	**05 52 14.1**	**+0.8**
PSIM				Sn	**Sn**	**05 52 51.1**	**-1.1**
PSIM				Sg	**Sg**	**05 53 05.2**	**-1.6**
PAB	**San Pablo**	**3.31**	**45**	Pn	**Pn**	**05 52 15.2**	**+1.2**
PAB				Sn	**Sn**	**05 52 53.8**	**+0.3**
PAB				Sg	**Sg**	**05 53 06.1**	**-2.4**
PAB				*i* IVmb_Lg		05 53 10.8	
PVIS	**Viseu**	**3.51**	**353**	*ePn*	**Pn**	**05 52 18.2**	**+1.5**
PVIS				*eSn*	**Sn**	**05 52 59.0**	**+0.8**
PVIS				*eSg*	**Sg**	**05 53 14.4**	**-0.4**
ESDC	**Sonseca Array**	**3.62**	**46**	Pn	**Pn**	**05 52 19.2**	**+1.0**
ESDC				Sn	**Sn**	**05 53 00.4**	**-0.6**
ESDC				Sg	**Sg**	**05 53 16.3**	**-2.0**
ESDC				*i* IVmb_Lg		05 53 23.4	
ESBB	**Sonseca Array**	**3.62**	**46**	Pn	**Pn**	**05 52 19.2**	**+1.0**
ESBB				Sn	**Sn**	**05 52 58.2**	**-2.7**
ESBB				Sg	**Sg**	**05 53 16.3**	**-2.1**
ZHG	**ZHG**	**3.82**	**171**	P	**Pn**	**05 52 21.5**	**+0.5**
ZHG	**ZHG**	**3.82**	**171**	S	**Sn**	**05 53 07.6**	**+1.7**
MVO	**Moncorvo**	**3.94**	**4**	*ePn*	**Pn**	**05 52 23.9**	**+1.2**
MVO				*eSn*	**Sn**	**05 53 07.9**	**-1.0**
MVO				*eSg*	**Sg**	**05 53 29.0**	**+0.4**
MVO				*i* IAML		05 53 31.4	
MVO				*i* IAML		05 53 32.2	
MVO				*i* IAML		05 53 36.9	
PVRL	**Vila Real**	**4.05**	**356**	*eSn*	**Sn**	**05 53 11.9**	**+0.3**
PVRL				*eSg*	**Sg**	**05 53 33.4**	**+1.1**
POLO	**Lamas de Olo**	**4.15**	**355**	*ePn*	**Pn**	**05 52 26.9**	**+1.2**
POLO				*eSn*	**Sn**	**05 53 13.4**	**-0.8**
PCAB	**Cabril**	**4.51**	**354**	*ePn*	**Pn**	**05 52 33.0**	**+2.6**
PCAB				*eSn*	**Sn**	**05 53 20.7**	**-2.1**
PCAB				*eSg*	**Sg**	**05 53 48.7**	**+1.9**
PBRG	**Braganca**	**4.60**	**6**	*eSg*	**Sg**	**05 53 49.3**	**-0.4**
PBRG				*i* IAML		05 53 51.5	
PBRG				*i* IAML		05 53 52.9	
PBRG				*i* IAML		05 54 03.2	

ELOB	**Lobios**	**4.67**	**354**	Pn	**Pn**	**05 52 33.6**	**+1.0**
ELOB				Sn	**Sn**	**05 53 24.5**	**-2.3**
MD31	**MD31**	**4.84**	**153**	P	**Pn**	**05 52 34.0**	**-1.1**
MD31	**MD31**	**4.84**	**153**	S	**Sn**	**05 53 30.4**	**-0.9**
MDT	**Midelt**	**4.95**	**152**	P	**Pn**	**05 52 35.8**	**-0.7**
MDT	**Midelt**	**4.95**	**152**	S	**Sn**	**05 53 32.9**	**-0.9**
OUZM	**OUZ**	**6.32**	**175**	P	**Pn**	**05 52 55.7**	**+0.3**
OUZM	**OUZ**	**6.32**	**175**	S	**Sn**	**05 54 09.1**	**+1.4**

NEIC ***11*** *05:52:07.0±1.3,58°.85N±0°.01×157°.34W±0°.04,h12km±6km, Error ellipse: s-maj=2.8km s-min=1.8km az=70.0*

AEIC 11 05:52:06.7±1.3,58°.84N±0°.02×157°.37W±0°.04,h11km±5km, ML3.2,ML3.5/14(NEIC),Error ellipse: s-maj=3.5km s-min=1.9km az=62.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
P16K	**Nushagak River**	**0.38**	**302**		Pg	05 52 14.1	0.0
P16K					Sb	05 52 20.3	-0.9
Q16K	**King Salmon**	**0.41**	**113**		Pg	05 52 15.3	+0.6
Q16K					Sb	05 52 21.7	-0.4
P17K	**Kvichak River**	**0.60**	**53**		Pg	05 52 18.4	0.0
O16K	**Kokwok River B**	**0.85**	**334**		Pg	05 52 22.0	-1.0
O16K				Sg	Sg	05 52 34.0	-0.1
O16K				IAML		05 52 38.2	
	comp=E,1μm,0.2s						
PLK5	**Peulik 5**	**0.88**	**162**		Pg	05 52 23.3	-0.3
PLK5					Sb	05 52 36.2	+0.5
O17K	**Koliganek Bris**	**0.95**	**9**		Pg	05 52 23.8	-1.3
O17K					Sg	05 52 36.9	-0.5
CNTC	**Contact Creek**	**0.97**	**126**		Pg	05 52 24.4	-1.0
CNTC					Sg	05 52 37.3	-0.6
PLK1	**Peulik 1**	**1.11**	**158**		Pb	05 52 27.5	-0.4
ANCK	**Angle Creek**	**1.18**	**122**		Pb	05 52 28.4	-0.6
ANCK					Sb	05 52 44.1	-0.1
PLBL	**Peulik Blue Cr**	**1.18**	**165**		Pb	05 52 28.3	-0.8
PLK2	**Peulik 2**	**1.21**	**152**		Pn	05 52 29.1	-0.4
PLK2					Sn	05 52 46.7	+0.8
KJL	**Kejulik**	**1.23**	**129**		Pn	05 52 29.6	-0.2
KABU	**Katmai Buttres**	**1.23**	**116**		Pn	05 52 29.5	-0.5
P18K	**Big Mountain,**	**1.24**	**62**		Pn	05 52 28.9	-1.1
ACHA	**Angle Creek He**	**1.24**	**119**		Pn	05 52 29.6	-0.5
ACHA				IAML		05 52 47.3	
	comp=E,711nm,0.3s						
ACHA				IAML		05 52 47.8	
	comp=N,793nm,0.4s						
KAHC	**Katmai Hardscr**	**1.25**	**98**		Pn	05 52 29.6	-0.5
KAHC					Sb	05 52 46.1	-0.3
R16K	**Pilot Point**	**1.28**	**185**		Pn	05 52 30.3	-0.1
R16K				Sn	Sg	05 52 47.7	0.0
R16K				IAML		05 52 49.9	
	comp=E,1μm,0.8s						
PLK3	**Peulik 3**	**1.29**	**153**		Pn	05 52 30.6	-0.1
PLK3					Sg	05 52 48.5	+0.3
O15K	**Ungalikthiuk R**	**1.31**	**286**		Pn	05 52 30.9	-0.1
O15K				Sn	Sb	05 52 47.8	-0.4
O15K				IAML		05 52 49.6	
	comp=N,888nm,0.5s						
O15K				IAML		05 52 50.3	
	comp=E,752nm,0.5s						
PLK4	**Peulik 4**	**1.32**	**156**		Pn	05 52 31.0	-0.2
PLK4	**Peulik 4**	**1.32**	**156**	Sg	Sg	05 52 49.3	+0.2
PLK4				IAML		05 52 51.5	
	comp=E,1μm,0.5s						
PLK4				IAML		05 52 52.0	
	comp=N,587nm,0.5s						
KAKN	**Katmai Knife C**	**1.33**	**113**		Pn	05 52 31.0	-0.2
CAHL	**Cahill**	**1.34**	**125**		Pn	05 52 31.1	-0.3
O18K	**Koktuh Hills**	**1.51**	**46**		Pn	05 52 33.6	-0.1
O18K					Sb	05 52 54.1	+0.2
KAHG	**Katmai Hook Gl**	**1.52**	**102**		Pn	05 52 33.9	0.0
N17K	**Nushagak Hills**	**1.70**	**3**		Pn	05 52 36.0	-0.3
N16K	**Nishlik Lake**	**1.79**	**337**		Pn	05 52 37.5	0.0
N15K	**Kwethluk River**	**1.93**	**315**		Pn	05 52 40.0	+0.6
Q19K	**Cape Douglas,**	**1.94**	**86**		Pn	05 52 39.7	+0.1
ANNE	**Aniakchak Nort**	**1.96**	**191**		Pn	05 52 40.0	+0.1
N18K	**Kilae Creek**	**2.00**	**21**		Pn	05 52 40.6	+0.2
O14K	**Tigyukauivet M**	**2.05**	**283**		Pn	05 52 41.5	+0.3
O19K	**Port Alsworth**	**2.07**	**47**		Pn	05 52 41.6	+0.3
ANPB	**Aniakchak Plen**	**2.10**	**194**		Pn	05 52 42.2	+0.4
AUCH	**Augustine Cone**	**2.10**	**74**		Pn	05 52 42.6	+0.8
P19K	**Oil Pt**	**2.28**	**67**		Pn	05 52 45.1	+0.8
M16K	**Timber Creek**	**2.33**	**341**		Pn	05 52 45.3	+0.3
ILSW	**Iliamna Southw**	**2.45**	**60**		Pn	05 52 46.9	+0.2
N14K	**Kuskokwak Cree**	**2.46**	**298**		Pn	05 52 47.4	+0.7
N19K	**Bonanza Creek**	**2.46**	**35**		Pn	05 52 47.1	+0.2
ILS	**Iliamna Low So**	**2.47**	**61**		Pn	05 52 47.2	+0.2
M15K	**Kasigluk River**	**2.51**	**319**		Pn	05 52 47.5	+0.2
IVE	**Iliamna Volcan**	**2.52**	**60**		Pn	05 52 48.0	+0.3
M17K	**Holitna River**	**2.58**	**359**		Pn	05 52 48.1	-0.2
CHGN	**Chignik**	**2.60**	**193**		Pn	05 52 49.5	+0.9
SYI	**Shuyak Island**	**2.61**	**93**		Pn	05 52 49.5	+0.7
OHAK	**Old Harbor**	**2.71**	**125**		Pn	05 52 51.0	+0.9
O20K	**Slope Mountain**	**2.73**	**61**		Pn	05 52 51.2	+0.7
KDAK	**Kodiak Island**	**2.74**	**111**		Pn	05 52 52.0	+1.5
M18K	**Stony River**	**2.77**	**16**		Pn	05 52 50.5	-0.6
RED	**Redoubt Volcan**	**2.83**	**54**		Pn	05 52 52.4	+0.6
RDWB	**Redoubt West**	**2.84**	**52**		Pn	05 52 52.3	+0.2
NCT	**North Crescent**	**2.84**	**51**		Pn	05 52 52.4	+0.3
SII	**Sitkinak Island**	**2.85**	**142**		Pn	05 52 53.2	+1.1
RDJH	**Redoubt Jeurge**	**2.91**	**51**		Pn	05 52 53.3	+0.3
DFR	**Drift River**	**2.96**	**51**		Pn	05 52 53.9	+0.3
M14K	**Bethel**	**3.01**	**312**		Pn	05 52 55.2	+1.0
HOM	**Homer**	**3.06**	**72**		Pn	05 52 56.0	+1.1
CNPM	**China Poot**	**3.23**	**75**		Pn	05 52 57.3	-0.1
L17K	**Donlin**	**3.34**	**353**		Pn	05 52 58.2	-0.6
L18K	**Granite Mounta**	**3.41**	**5**		Pn	05 52 59.4	-0.4
BRLK	**Bradley Lake**	**3.46**	**72**		Pn	05 53 00.7	+0.3
L15K	**Ungalak Mounta**	**3.51**	**326**		Pn	05 53 01.1	-0.1
SPU	**Mount Spurr**	**3.56**	**46**		Pn	05 53 03.0	+1.1
L19K	**White Mountain**	**3.58**	**19**		Pn	05 53 01.7	-0.4
SPCG	**Spurr Capps Gl**	**3.64**	**45**		Pn	05 53 04.0	+0.9
L14K	**Kuka Creek**	**3.66**	**316**		Pn	05 53 04.0	+0.8
M20K	**Styx River**	**3.71**	**33**		Pn	05 53 04.7	+0.7
STLK	**Strandline Lak**	**3.85**	**44**		Pn	05 53 06.8	+1.0
SDPT	**Sand Point**	**3.88**	**207**	Pn	Pn	05 53 06.3	0.0
K17K	**Iditarod**	**3.92**	**354**		Pn	05 53 06.5	-0.3
K15K	**Wolf Creek Mou**	**4.03**	**331**		Pn	05 53 09.2	+0.9
CNBA	**Chernabura Isl**	**4.21**	**198**	Pn	Pn	05 53 10.8	+0.2
SUA	**Susitna One**	**4.23**	**49**		Pn	05 53 12.2	+1.0
SEW	**Seward**	**4.24**	**69**	Pn	Pn	05 53 12.0	+0.9
SKT	**Skwentna**	**4.28**	**40**		Pn	05 53 12.8	+1.0
RC01	**Rabbit Creek A**	**4.46**	**56**	Pn	Pn	05 53 15.2	+1.1
J17K	**VABM Dome**	**4.65**	**351**		Pn	05 53 16.4	-0.4
J18K	**Innoko River**	**4.66**	**4**		Pn	05 53 16.6	-0.3
J16K	**Anvik River**	**4.73**	**342**		Pn	05 53 17.5	-0.4
M11K	**Mekoryuk**	**4.75**	**293**	Pn	Pn	05 53 18.6	+0.5
K13K	**Kusilvak Mount**	**4.76**	**314**		Pn	05 53 19.4	+1.1
PPLA	**Purkeypile**	**4.80**	**30**	Pn	Pn	05 53 20.1	+1.1
J14K	**Nanvaranak Lak**	**4.96**	**325**	Pn	Pn	05 53 21.5	+0.6
J19K	**Poorman**	**5.25**	**8**		Pn	05 53 24.6	-0.4
CAST	**Castle Rocks**	**5.26**	**27**		Pn	05 53 25.4	+0.2
I17K	**Unalakleet**	**5.32**	**344**	Pn	Pn	05 53 25.9	0.0
J20K	**Nowinta River**	**5.58**	**15**		Pn	05 53 29.4	-0.1
BPAW	**Bear Paw Mtn.**	**6.10**	**27**	Pn	Pn	05 53 37.2	+0.5
RNID	**Reindeer**	**6.17**	**38**	Pn	Pn	05 53 38.6	+1.0
H17K	**Granite Mounta**	**6.24**	**350**		Pn	05 53 39.0	+0.4
H18K	**Honhosa River**	**6.36**	**356**		Pn	05 53 40.1	-0.1
M24K	**Tolsona, Glenn**	**6.43**	**55**	Pn	Pn	05 53 42.1	+0.8
H19K	**Roundabout Mou**	**6.73**	**3**		Pn	05 53 44.9	-0.5
HMT	**Hamilton**	**6.83**	**72**	Pn	Pn	05 53 45.6	-1.1
ANM	**Nome**	**6.89**	**330**	Pn	Pn	05 53 47.9	+0.4
MLY	**Manley**	**6.96**	**24**	Pn	Pn	05 53 48.4	-0.1
G18K	**Tagagawik**	**7.11**	**356**	Pn	Pn	05 53 50.6	0.0
H21K	**Melozitna Rive**	**7.17**	**15**	Pn	Pn	05 53 50.8	-0.6
G19K	**Purcell Mounta**	**7.34**	**1**	Pn	Pn	05 53 53.0	-0.6
I23K	**Minto, Yukon-K**	**7.37**	**27**	Pn	Pn	05 53 54.4	+0.4
IMAR	**Indian Mountai**	**7.37**	**12**	Pn	Pn	05 53 54.0	-0.1
F15K	**North Star Dit**	**7.68**	**337**	Pn	Pn	05 53 59.6	+1.3
ILAR	**Eielson Array**	**7.75**	**35**	Pn	Pn	05 54 00.3	+1.1
G21K	**Allakaket**	**7.91**	**11**	Pn	Pn	05 54 01.7	+0.2
F19K	**Shaleruckik Mo**	**8.03**	**359**	Pn	Pn	05 54 02.9	-0.2
E19K	**Redstone River**	**8.66**	**0**	Pn	Pn	05 54 12.2	+0.5
BCAR	**Beaver Creek A**	**8.68**	**54**	Pn	Pn	05 54 12.2	+0.1
E18K	**Tukpahlearik C**	**8.74**	**352**	Pn	Pn	05 54 13.6	+0.7
E22K	**Anaktuvuk Pass**	**9.65**	**12**	Pn	Pn	05 54 26.0	+0.6
D19K	**Kuna River**	**9.70**	**358**	Pn	Pn	05 54 26.9	+0.9

IDC ***11*** *06:01:56.4±7.0,33°.62S×179°.80E,h123km±48km,mb3.5/5, mbtmp3.8/6,Error ellipse: s-maj=70.0km s-min=22.7km az=49.0*

WEL ***11*** *06:02:00.1±0.6,34°.5S±5°.×18°.0W±1°.1,h12km,M4.2/12, ML4.4/17,MLv4.2/12,Error ellipse: s-maj=15.9km s-min=3.7km az=110.2,confirmed*

ISC 11 06:01:55.4±0.9,33°.73S±0°.06×179°.5E±0°.2,h100km,n38, σ2°.36/46,mb3.7/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.95**	**194**	S	**Sn**	**06 03 42.5**	**+3.3**
WMGZ	**Waiomatatini S**	**4.18**	**192**	P	Pn	06 03 01.4	+4.5
WMGZ				S	**Sn**	**06 03 46.1**	**+1.5**
HAZ	**Te Kaha**	**4.26**	**199**	P	Pn	06 03 03.5	+5.5
HAZ				S	**Sn**	**06 03 49.5**	**+2.9**
PKGZ	**Pakihiroa**	**4.29**	**195**	P	**Pn**	**06 03 02.6**	**+4.1**
PKGZ				S	**Sn**	**06 03 49.2**	**+1.8**
PUZ	**Puketiti**	**4.45**	**193**	P	Pn	06 03 07.1	+6.4
PUZ				S	**Sn**	**06 03 52.3**	**+0.9**
TWGZ	**Tauwhareparae**	**4.61**	**195**	P	Pn	06 03 07.5	+4.7
TWGZ				S	**Sn**	**06 03 57.5**	**+2.3**
WCZ	**Waipu Caves**	**4.79**	**241**	P	Pn	06 03 14.3	+9.1
MWZ	**Matawai**	**4.87**	**199**	P	**Pn**	**06 03 09.0**	**+2.7**
MWZ				S	**Sn**	**06 04 01.7**	**+0.2**
TKGZ	**Te Karaka**	**4.89**	**196**	P	Pn	06 03 11.8	+5.2
TKGZ				S	**Sn**	**06 04 01.7**	**-0.2**
URZ	**Urewera**	**4.92**	**203**	P	**Pn**	**06 03 10.4**	**+3.4**
	19nm,1.0s,baz=261,slow=3.7,SNR=10						
URZ				S	**Sn**	**06 04 01.9**	**-0.8**
	11nm,0.3s,baz=95,slow=13,SNR=9.2						
URZ	**Urewera**	**4.92**	**203**	P	**Pn**	**06 03 10.8**	**+3.8**
URZ				S	**Sn**	**06 04 03.4**	**+0.7**
GLKZ	**Green Lake**	**4.96**	**27**	P	Pn	06 03 16.0	+8.4
GLKZ				S	Sn	06 04 15.8	+12
OUZ	**Omahuta**	**5.11**	**251**	P	Pn	06 03 25.3	+16
RIGZ	**Rimuhau**	**5.17**	**195**	P	**Pn**	**06 03 14.7**	**+4.3**
RIGZ				S	**Sn**	**06 04 08.4**	**-0.3**
SNGZ	**Shannon Statio**	**5.34**	**199**	P	Pn	06 03 17.8	+5.1
SNGZ				S	**Sn**	**06 04 11.2**	**-1.7**
PRGZ	**Paritu Road**	**5.35**	**194**	P	**Pn**	**06 03 16.1**	**+3.3**
PRGZ				S	**Sn**	**06 04 10.5**	**-2.7**
RAHZ	**Arahi**	**5.54**	**200**	P	**Pn**	**06 03 15.2**	**-0.1**
RAHZ				S	**Sn**	**06 04 15.5**	**-1.2**
MTHZ	**Maungataniwha**	**5.55**	**202**	P	**Pn**	**06 03 18.8**	**+3.2**
MTHZ				S	**Sn**	**06 04 17.4**	**-0.6**
MHGZ	**Mahia Peninsul**	**5.57**	**193**	P	**Pn**	**06 03 15.9**	**+0.2**
MHGZ				S	**Sn**	**06 04 14.6**	**-3.8**
WHHZ	**Waihua**	**5.65**	**198**	P	**Pn**	**06 03 20.9**	**+4.1**
WHHZ				S	**Sn**	**06 04 16.8**	**-3.5**
NMHZ	**Naumai**	**5.79**	**201**	P	**Pn**	**06 03 23.0**	**+4.2**
NMHZ				S	**Sn**	**06 04 24.8**	**+1.0**
ARHZ	**Aropaoanui**	**5.88**	**199**	P	**Pn**	**06 03 21.9**	**+1.8**
ARHZ				S	**Sn**	**06 04 23.9**	**-2.2**
MCHZ	**McNeill Hill**	**6.14**	**201**	P	**Pn**	**06 03 27.6**	**+4.1**
MCHZ				S	**Sn**	**06 04 29.7**	**-2.6**
KWHZ	**Kaweka Forest**	**6.21**	**203**	P	**Pn**	**06 03 24.1**	**-0.4**
KWHZ				S	**Sn**	**06 04 33.5**	**-0.4**
CKHZ	**Cape Kidnapper**	**6.23**	**198**	S	Sn	06 04 30.6	-4.0
KAHZ	**Kahuranaki**	**6.41**	**199**	P	**Pn**	**06 03 28.8**	**+1.5**
KAHZ				S	Sn	06 04 35.3	-3.7
KRHZ	**

AGDM	**Agdam**	**1.81**	**11**	P		**Pb**	**06 33 51.4**	**0.0**
AGDM				S		**Sg**	**06 34 15.7**	**-0.5**
MAKU	**Maku**	**1.85**	**304**	Pn		**Pb**	**06 33 52.2**	**-0.1**
HYR	**Heyderabad**	**1.97**	**315**	P		**Pb**	**06 33 53.8**	**-0.5**
HYR				S		**Sg**	**06 34 21.6**	**0.0**
GANJ	**Ganja**	**2.33**	**354**	P		**Pb**	**06 33 58.4**	**-1.9**
GANJ				S		**Sb**	**06 34 28.9**	**-0.3**
HAKT	**HAKKARI**	**2.46**	**253**	P		**Pb**	**06 34 03.2**	**+0.5**
HAKT				S		**Sg**	**06 34 35.1**	**-1.9**
GDB	**GEDABAY**	**2.49**	**344**	P		**Pb**	**06 34 01.8**	**-1.3**
GDB				S		**Sb**	**06 34 34.6**	**+0.7**
PQL	**Pirkuli**	**2.87**	**31**	P		**Pn**	**06 34 05.4**	**+1.1**
PQL				S		**Sb**	**06 34 42.7**	**-2.3**
QZX	**Qazax, Azerbai**	**2.90**	**340**	P		**Pn**	**06 34 05.8**	**+1.2**
QZX				S		**Sb**	**06 34 43.1**	**-2.5**
XNQ	**Khinaliq**	**3.06**	**21**	P		**Pn**	**06 34 08.8**	**+1.9**
XNQ				S		**Sn**	**06 34 46.2**	**+2.4**

IDC ***11*** *06:42:13.3±2.1, 36°.72N× 141°.76E, h0km, mb3.4/4, mbtmp3.3/5, ML2.4/1, Error ellipse: s-maj=49.7km s-min=26.7km az=48.0*

JMA ***11*** *06:42:14.4±0.3, 36°.3N±0°.6× 14°.2E±°, h65km, MV3.2/35, FAR E OFF IBARAKI PREF*

ISC 11 06:42:15.0±1.2, 36°.40N±0°.05× 141°.79E±0°.07, h19km, n18, σ1§63/21, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JHYU	**Hitachinakayam**	**0.97**	**267**	*eP*	**Pb**	**06**	**42**	**32.7**	**-0.6**
JHYU				*eS*	**Sg**	**06**	**42**	**47.6**	**+0.9**
JHO	**Hitachi**	**1.00**	**282**	*eP*	**Pb**	**06**	**42**	**33.3**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.06**	**312**	*eP*	**Pn**	**06**	**42**	**34.7**	**-0.2**
JIHU	**Itakohorinouch**	**1.11**	**247**	*eP*	**Pn**	**06**	**42**	**34.6**	**-0.9**
JFK	**Kawauchi**	**1.21**	**323**	*eP*	**Pg**	**06**	**42**	**37.6**	**-0.9**
JOTO	**OTAMA OYAMA**	**1.64**	**315**	*eP*	**Pb**	**06**	**42**	**43.8**	**-0.9**
JMM	**Marumori**	**1.66**	**332**	*eP*	**Pb**	**06**	**42**	**43.8**	**-1.3**
BSO1	**Boso 1**	**1.87**	**201**	*eP*	**Pn**	**06**	**42**	**43.0**	**-2.4**
JAG	**Ashikaga**	**1.89**	**271**	*eP*	**Pn**	**06**	**42**	**45.6**	**-0.6**
BSO3	**Boso 3**	**1.91**	**214**	*eP*	**Pn**	**06**	**42**	**44.3**	**-1.9**
JFY	**Yanaizu**	**1.95**	**302**	*eP*	**Pb**	**06**	**42**	**48.5**	**-1.4**
JKT	**Katashina**	**2.08**	**281**	*eP*	**Pn**	**06**	**42**	**49.5**	**+0.6**
JIO	**Ouri**	**2.08**	**350**	*eP*	**Pn**	**06**	**42**	**49.1**	**+0.3**
JIO				*eS*	**Sb**	**06**	**43**	**15.6**	**-2.0**
MJAR	**Matsushiro Arr**	**2.89**	**274**	Pn	**Pn**	**06**	**43**	**00.8**	**+0.8**
	0.6nm,0.3s,baz=98,slow=10,SNR=25								
MJAR				Sn	**Sn**	**06**	**43**	**34.0**	**-0.3**
	0.3nm,0.3s,baz=343,slow=21,SNR=5.7 4.3nm,0.5s								
MKAR	**Makanchi Array**	**44.71**	**303**	P	**P**	**06**	**50**	**25.8**	**-1.0**
	0.3nm,0.5s,baz=97,slow=7.5,SNR=3.8 0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**46.63**	**309**	P	**P**	**06**	**50**	**41.8**	**0.0**
	0.3nm,0.2s,baz=83,slow=7.7,SNR=2.6 0.3nm,0.2s								
WRA	**Warramunga Arr**	**56.48**	**188**	P	**P**	**06**	**51**	**59.5**	**+3.8**
	0.2nm,0.3s,baz=5.7,slow=7.4,SNR=6.4 0.2nm,0.3s								
ASAR	**Alice Springs**	**60.21**	**188**	P	**P**	**06**	**52**	**25.0**	**+3.2**
	0.1nm,0.5s,baz=13,slow=7.7,SNR=1.0 0.1nm,0.5s								

IDC ***11*** *06:58:58.0±1.4, 34°.37N× 25°.07E, h0km, mb3.9/12, mbtmp3.9/19, ML4.1/6, Error ellipse: s-maj=26.4km s-min=14.7km az=30.0*

ISK ***11*** *06:59:01.8, 34°.33N× 25°.02E, h18km, ML3.4/9*

ATH ***11*** *06:59:03.7, 34°.44N× 25°.02E, h21km±7km, ML3.5/10, Manual Solution by M.Charalampakis First location: 2019/08/11 07:00:11, This location: 2019/08/11 08:46:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 10 km; Longitude uncertainty: 3 km*

NAO ***11*** *06:59:05.5, 34°.95N× 24°.51E, h10km, mb3.6*

THE ***11*** *06:59:06.9, 35°.N±4°× 2°.5E±°, h33km±6km, M3.4/6, MLh3.4/6*

GII ***11*** *06:59:08.1±0.0, 34°.029N±0°.003× 25°.711E±0°.001, h20km, Mws3.8, confirmed*

ISC 11 06:58:58.7±1.6, 34°.20N±0°.06× 25°.10E±0°.03, h14km±9km, n100, σ2§10/115, mb3.8/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TMBK	**Timbaki Herakl**	**0.91**	**342**	P	**Pn**	**06**	**59**	**17.5**	**+0.4**
TMBK				S	**Sg**	**06**	**59**	**25.2**	**-3.1**
TMBK	**Timbaki Herakl**	**0.91**	**342**	P	**Pn**	**06**	**59**	**17.5**	**+0.4**
TMBK				S	**Sg**	**06**	**59**	**25.9**	**-2.4**
GVD	**Gavdhos**	**1.05**	**307**	Pg	**Pn**	**06**	**59**	**20.1**	**+1.1**
GVD				Sg	**Sb**	**06**	**59**	**33.2**	**+0.9**
GVD	**Gavdhos**	**1.05**	**307**	P	**Pn**	**06**	**59**	**20.5**	**+1.5**
GVD				S	**Sg**	**06**	**59**	**31.3**	**-1.5**
GVD	**Gavdhos**	**1.05**	**307**	P	**Pn**	**06**	**59**	**20.0**	**+1.1**
IDI	**Anoyia**	**1.09**	**351**	Pg	**Pn**	**06**	**59**	**20.8**	**+1.1**
IDI				Sg	**Sb**	**06**	**59**	**34.7**	**+1.1**
IDI	**Anoyia**	**1.09**	**351**	P	**Pn**	**06**	**59**	**20.4**	**+0.7**
IDI				S	**Sg**	**06**	**59**	**30.9**	**-3.3**
IDI	**Anoyia**	**1.09**	**351**	Pn	**Pb**	**06**	**59**	**20.1**	**+0.7**
	83nm,0.3s,baz=166,slow=23,SNR=192								
IDI				Sn	**Sg**	**06**	**59**	**33.3**	**-0.9**
	206nm,0.3s,baz=177,slow=21,SNR=13								
IDI	**Anoyia**	**1.09**	**351**	P	**Pb**	**06**	**59**	**20.1**	**+0.6**
IACM	**Heraklion**	**1.10**	**359**	P	**Pn**	**06**	**59**	**21.2**	**+1.6**
IACM				S	**Sg**	**06**	**59**	**30.4**	**-3.9**
IACM	**Heraklion**	**1.10**	**359**	P	**Pn**	**06**	**59**	**22.0**	**+2.4**
NPS	**Neapolis**	**1.14**	**21**	P	**Pn**	**06**	**59**	**21.9**	**+1.7**
NPS				S	**Sg**	**06**	**59**	**33.9**	**-1.6**
NPS	**Neapolis**	**1.14**	**21**	P	**Pn**	**06**	**59**	**21.7**	**+1.5**
PRNS	**Prines Rethymn**	**1.26**	**337**	P	**Pn**	**06**	**59**	**23.1**	**+1.2**
PRNS	**Prines Rethymn**	**1.26**	**337**	P	**Pn**	**06**	**59**	**23.2**	**+1.3**
ZKR	**Zakros**	**1.29**	**45**	Pn	**Pn**	**06**	**59**	**25.2**	**+2.9**
ZKR				Sn	**Sn**	**06**	**59**	**42.3**	**+2.9**
ZKR	**Zakros**	**1.29**	**45**	P	**Pn**	**06**	**59**	**26.3**	**+4.0**
ZKR	**Zakros**	**1.29**	**45**	P	**Pn**	**06**	**59**	**25.4**	**+3.1**
KNDR	**Palaiochora Ch**	**1.56**	**312**	Pn	**Pb**	**06**	**59**	**27.9**	**+0.6**
KNDR	**Palaiochora Ch**	**1.56**	**312**	P	**Pg**	**06**	**59**	**29.6**	**+1.0**
CHAN	**Chania**	**1.58**	**327**	P	**Pb**	**06**	**59**	**28.8**	**-0.3**
KARP	**Karpathos**	**2.16**	**51**	Pn	**Pb**	**06**	**59**	**38.0**	**+0.4**
KARP	**Karpathos**	**2.16**	**51**	P	**Pb**	**06**	**59**	**38.7**	**+1.1**
KARP	**Karpathos**	**2.16**	**51**	P	**Pb**	**06**	**59**	**38.6**	**+1.0**
THR5	**Thira Island,**	**2.22**	**5**	P	**Pn**	**06**	**59**	**36.6**	**+1.5**
ANKY	**Antikythira Is**	**2.22**	**319**	P	**Pb**	**06**	**59**	**38.4**	**-0.3**
SAP3	**Santorini-Thir**	**2.23**	**5**	P	**Pn**	**06**	**59**	**36.7**	**+1.4**
MHLO	**Agia Marina, M**	**2.54**	**347**	P	**Pn**	**06**	**59**	**40.8**	**+1.3**
MHLO	**Agia Marina, M**	**2.54**	**347**	P	**Pn**	**06**	**59**	**40.5**	**+1.0**
KTHA	**Kythira Island**	**2.64**	**321**	Pn	**Pn**	**06**	**59**	**42.7**	**+1.8**
VLI	**Veliai**	**3.07**	**325**	P	**Pn**	**06**	**59**	**48.1**	**+1.3**
ARG	**Arkhangelos**	**3.19**	**50**	Pn	**Pn**	**06**	**59**	**51.9**	**+3.5**
ARG	**Arkhangelos**	**3.19**	**50**	P	**Pn**	**06**	**59**	**51.7**	**+3.3**
DAT	**Datca**	**3.23**	**38**	Pn	**Pn**	**06**	**59**	**51.8**	**+2.8**
MET6	**Megalochori,Me**	**3.67**	**338**	P	**Pn**	**06**	**59**	**55.9**	**+0.9**
MET2	**Kameni Chora,**	**3.69**	**338**	P	**Pn**	**06**	**59**	**57.0**	**+1.7**
MET5	**Makryloggos,Me**	**3.69**	**338**	P	**Pn**	**06**	**59**	**58.4**	**+1.5**
KARY	**Karystos**	**3.86**	**352**	P	**Pn**	**06**	**59**	**58.7**	**+1.1**
ATHU	**Athens Univers**	**3.90**	**344**	P	**Pn**	**06**	**59**	**58.9**	**+0.7**
ATH	**Athens Observa**	**3.92**	**344**	P	**Pn**	**06**	**59**	**59.6**	**+1.1**
ITM	**Ithomi**	**3.94**	**320**	Pn	**Pn**	**06**	**59**	**59.8**	**+1.1**
ITM	**Ithomi**	**3.94**	**320**	P	**Pn**	**06**	**59**	**59.5**	**+0.8**
PTL	**Penteli**	**3.97**	**346**	P	**Pn**	**07**	**00**	**00.2**	**+1.1**
PARN1	**Fyli,Attica,Gr**	**4.06**	**344**	P	**Pn**	**07**	**00**	**01.9**	**+1.5**
FILI	**Fyli**	**4.07**	**344**	P	**Pn**	**07**	**00**	**01.6**	**+1.0**
KSL	**Kastellorizon**	**4.15**	**61**	P	**Pn**	**07**	**00**	**04.0**	**+2.4**
LTK	**Loutraki**	**4.18**	**336**	P	**Pn**	**07**	**00**	**03.4**	**+1.3**
CHOS	**Chios island**	**4.24**	**10**	P	**Pn**	**07**	**00**	**04.6**	**+1.6**
VIL2	**Platees**	**4.27**	**340**	P	**Pn**	**07**	**00**	**03.5**	**+0.2**
CSS	**Mathiatis**	**6.83**	**81**	P	**Pn**	**07**	**00**	**39.8**	**+1.4**
KZIT	**Kziot**	**8.51**	**110**	P	**Pn**	**07**	**01**	**03.8**	**+2.4**
KZIT	**Kziot**	**8.51**	**110**	S	**Sn**	**07**	**02**	**32.7**	**-4.5**
MMAI	**Mount Meron Ar**	**8.67**	**95**	Pn	**Pn**	**07**	**01**	**06.2**	**+2.4**
	2.3nm,0.3s,baz=279,slow=13,SNR=6.7								
MMAI				Sn	**Sn**	**07**	**02**	**36.9**	**-4.5**
	4.5nm,0.3s,baz=273,slow=28,SNR=7.9 0.6nm,0.3s								
BRTR	**Keskin Array B**	**8.77**	**49**	Pn	**Pn**	**07**	**01**	**06.7**	**+1.4**
	0.1nm,0.3s,baz=236,slow=13,SNR=4.3								
BRTR				Sn	**Sn**	**07**	**02**	**40.8**	**-3.2**
	baz=234,slow=15								
YTIR	**Yattir**	**8.89**	**106**	P	**Pn**	**07**	**01**	**08.8**	**+1.9**
YTIR	**Yattir**	**8.89**	**106**	S	**Sn**	**07**	**02**	**42.9**	**-3.9**
NATI	**Neve Ativ**	**8.91**	**93**	P	**Pn**	**07**	**01**	**09.4**	**+2.5**
NATI	**Neve Ativ**	**8.91**	**93**	S	**Sn**	**07**	**02**	**43.9**	**-3.1**
HMDT	**Nahal Hemdat**	**8.95**	**100**	P	**Pn**	**07**	**01**	**09.5**	**+2.0**
DSI	**Dead Sea**	**9.03**	**104**	P	**Pn**	**07**	**01**	**10.3**	**+1.7**
DSI	**Dead Sea**	**9.03**	**104**	S	**Sn**	**07**	**02**	**46.7**	**-3.4**
KRMI	**Paran Flat**	**9.12**	**114**	P	**Pn**	**07**	**01**	**11.6**	**+1.7**
KRMI	**Paran Flat**	**9.12**	**114**	S	**Sn**	**07**	**02**	**47.9**	**-4.3**
PRNI	**Paran**	**9.22**	**112**	P	**Pn**	**07**	**01**	**13.1**	**+1.9**
PRNI	**Paran**	**9.22**	**112**	S	**Sn**	**07**	**02**	**50.7**	**-4.1**
GHAJ	**Ghor Haditha**	**9.27**	**105**	P	**Pn**	**07**	**01**	**14.6**	**+2.7**
VAE	**Valguarnera**	**9.27**	**294**	Pn	**Pn**	**07**	**01**	**13.1**	**+1.1**
	3.8nm,0.5s,baz=122,slow=9.5,SNR=1.4								
VAE				Sn	**Sn**	**07**	**02**	**49.8**	**-6.4**
	2.0nm,0.3s,baz=105,slow=11,SNR=3.8								
HRFI	**Mount Harif**	**9.39**	**114**	P	**Pn**	**07**	**01**	**15.9**	**+2.3**
MBRI	**Mt Berech**	**9.42**	**115**	P	**Pn**	**07**	**01**	**16.0**	**+1.9**
EIL	**Elat**	**9.51**	**116**	Pn	**Pn**	**07**	**01**	**16.9**	**+1.7**
	1.0nm,0.3s,baz=308,slow=17,SNR=4.1								
EIL				Sn	**Sn**	**07**	**02**	**59.9**	**-2.0**
	0.9nm,0.3s,baz=248,slow=24,SNR=2.3 2.8nm,0.3s								
EIL2	**Elat**	**9.51**	**116**	P	**Pn**	**07**	**01**	**17.1**	**+1.9**
ASF	**Jabal al Asfar**	**10.09**	**98**	Pn	**Pn**	**07**	**01**	**24.8**	**+1.6**
	0.3nm,0.3s,baz=311,slow=9.2,SNR=3.5								
ASF				Sn	**Sn**	**07**	**03**	**12.1**	**-4.1**
	0.3nm,0.3s,baz=15,slow=9.7,SNR=2.0 1.0nm,0.4s								
ARSA	**Arzberg**	**14.90**	**334**	*eP*	**P**	**07**	**02**	**34.2**	**-0.4**
	2.0nm,0.5s								
RONA	**Rosalia, Austr**	**15.02**	**336**	*eP*	**P**	**07**	**02**	**35.8**	**-0.1**
	1.3nm,0.5s								
KBA	**Koelnbreinsper**	**15.63**	**329**	*i* P	**P**	**07**	**02**	**43.9**	**+1.1**
	1.1nm,0.5s								
ABTA	**Abfaltersbach**	**15.75**	**326**	*eP*	**P**	**07**	**02**	**44.6**	**+0.7**
	3.2nm,0.7s								
MOA	**Molln**	**15.87**	**332**	*eP*	**P**	**07**	**02**	**46.2**	**+0.9**
	2.8nm,0.6s								
LESA	**Schwarzleotal**	**16.18**	**328**	*eP*	**P**	**07**	**02**	**50.3**	**+1.5**
	1.9nm,0.4s								
VRAC	**Vranov**	**16.36**	**340**	Pn	**Pn**	**07**	**02**	**48.5**	**+0.7**
	0.4nm,0.3s,baz=132,slow=11,SNR=4.4 2.4nm,0.4s								
WTTA	**Wattenberg**	**16.53**	**326**	*e*Pn	**P**	**07**	**02**	**54.1**	**+1.3**
	6.0nm,0.9s								
WATA	**Walderalm**	**16.61**	**326**	*eP*	**P**	**07**	**02**	**55.9**	**+2.2**
	8.6nm,1.2s								
SQTA	**Sankt Quirin**	**16.70**	**325**	*e*Pn	**P**	**07**	**02**	**56.3**	**+1.8**
	1.1nm,0.4s								
AKASG	**Malin Array Be**	**16.76**	**9**	Pn	**Pn**	**07**	**02**	**51.8**	**-1.1**
	2.8nm,0.3s,baz=202,slow=10,SNR=19 0.9nm,0.3s								
KBZ	**Khabaz**	**16.76**	**50**	Pn	**Pn**	**07**	**02**	**53.4**	**+0.5**
	0.2nm,0.3s,baz=252,slow=6.4,SNR=6.1								
MOTA	**Moosalm**	**16.84**	**325**	*eP*	**P**	**07**	**02**	**59.5**	**+3.4**
	1.0nm,0.5s								
GERES	**GERESS Array B**	**16.91**	**333**	Pn	**Pn**	**07**	**02**	**54.6**	**-0.2**
	0.2nm,0.3s,baz=145,slow=12,SNR=49 6.0nm,0.6s								
DAVOX	**Davos/Dischmat**	**17.05**	**322**	Pn	**Pn**	**07**	**02**	**58.5**	**+1.7**
	0.2nm,0.3s,baz=131,slow=16,SNR=6.0								
ESDC	**Sonseca Array**	**23.81**	**292**	P	**P**	**07**	**04**	**12.2**	**+1.1**
	0.9nm,0.8s,baz=84,slow=8.9,SNR=6.7 0.9nm,0.8s								
HFS	**Hagfors**	**27.00**	**347**	P	**P**	**07**	**04**	**38.7**	**-1.1**
	2.6nm,0.8s,baz=150,slow=12,SNR=6.2 2.6nm,0.8s								
FINES	**FINESS Array B**	**27.26**	**1**	P	**P**	**07**	**04**	**40.3**	**-1.9**
	0.7nm,0.4s,baz=156,slow=11,SNR=5.7 0.7nm,0.4s								
NB2	**NORSAR Subarra**	**28.31**	**346**	P	**P**	**07**	**04**	**51.0**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=156,slow=9.3								
NOA	**NORSAR Array B**	**28.31**	**346**	P	**P**	**07**	**04**	**49.7**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=262,slow=5.3,SNR=4.3 comp=Z,0.6nm,0.7s								
EKA	**Eskdalemuir Ar**	**28.80**	**326**	P	**P**	**07**	**04**	**56.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=124,slow=9.3,SNR=6.4 comp=Z,0.4nm,0.4s								
ARCES	**ARCESS Array B**	**35.38**	**0**	P	**P**	**07**	**05**	**52.3**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=177,slow=9.7,SNR=1.9 comp=Z,1.4nm,0.7s								
BVAR	**Borovoye Array**	**37.04**	**45**	P	**P**	**07**	**06**	**08.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=264,slow=10.0,SNR=2.3 comp=Z,0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**41.76**	**50**	P	**P**	**07**	**06**	**48.4**	**+1.1**
	comp=Z,2.1nm,0.2s,baz=278,slow=8.7,SNR=5.5 comp=Z,2.1nm,0.2s								
SPITS	**Spitsbergen Ar**	**44.24**	**357**	P	**P**	**07**	**07**	**06.4**	**-0.7**
	comp=Z,8.8nm,1.0s,baz=153,slow=9.7,SNR=7.4 comp=Z,8.8nm,1.0s								
MKAR	**Makanchi Array**	**44.34**	**56**	P	**P**	**07**	**07**	**09.4**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=278,slow=6.5,SNR=10 comp=Z,0.9nm,0.5s								
ZALV	**Zalesovo Beam**	**45.70**	**45**	P	**P**	**07**	**07**	**19.5**	**+0.5**
	comp=Z,2.4nm,0.4s,baz=261,slow=9.4,SNR=9.3 comp=Z,2.4nm,0.4s								
ILAR	**Eielson Array**	**81.15**	**357**	P	**P**	**07**	**11**	**15.6**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=353,slow=3.8,SNR=2.4 comp=Z,0.2nm,0.7s								

SNET ***11*** *07:02:21.4±1.2, 12°.49N× 88°.05W, h42km, ML3.1*

CATAC ***11*** *07:02:22.5±0.3, 13°.N±2°× 8°.8W±°, h38km±4km, M3.0/19, MLv3.0/19, Error ellipse: s-maj=5.6km s-min=2.2km az=27.9, confirmed*

ISC 11 07:02:22.2±1.4, 12°.59N±0°.06× 88°.04W±0°.04, h60km±15km, n49, σ0§46/58, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CSGN	**Cosiguina Volc**	**0.61**	**50**	P	**Pn**	**07**	**02**	**35.2**	**-0.3**
CSGN				S	**Sn**	**07**	**02**	**45.0**	**-0.3**
POTN	**Potosi Cosigui**	**0.66**	**52**	P	**Pn**	**07**	**02**	**36.0**	**-0.1**
POTN				S	**Sn**	**07**	**02**	**45.7**	**-0.5**
CNCH	**Conchagua**	**0.71**	**16**	*eP*	**Pn**	**07**	**02**	**37.2**	**+0.3**
CNCH				*eS*	**Sn**	**07**	**02**	**47.7**	**+0.2**
CNCH	**Conchagua**	**0.71**	**16**	P	**Pn**	**07**	**02**	**36.8**	**0.0**
LCND	**La Caada**	**0.73**	**11**	*eP*	**Pn**	**07**	**02**	**36.8**	**-0.1**
LCND				*eS*	**Sn**	**07**	**02**	**47.9**	**+0.2**
LCND	**La Caada**	**0.73**	**11**	P	**Pn**	**07**	**02**	**36.9**	**-0.1**
LCY	**Lacayo**	**0.87**	**343**	*eP*	**Pn**	**07**	**02**	**39.2**	**+0.5**
BLLM	**Bellamira**	**0.87**	**347**	*eP*	**Pn**	**07**	**02**	**39.0**	**+0.2**
PACA	**Pacayal**	**0.92**	**343**	P	**Pn**	**07**	**02**	**39.6**	**+0.2**
PACA	**Pacayal**	**0.92**	**343**	S	**Sn**	**07**	**02**	**51.5**	**-0.6**
CRIN	**San Cristobal**	**0.97**	**83**	S	**Sn**	**07**	**02**	**54.6**	**+1.4**
CRIN	**San Cristobal**	**0.97**	**83**	P	**Pn**	**07**	**02**	**40.8**	**+0.7**
PQSS	**Presa 15 de Se**	**1.15**	**334**	P	**Pn**	**07**	**02**	**42.8**	**+0.6**
PQSS	**Presa 15 de Se**	**1.15**	**334**	S	**Sn**	**07**	**02**	**57.1**	**-0.1**
TECO	**Alcaldia de Te**	**1.19**	**323**	P	**Pn**	**07**	**02**	**42.7**	**-0.2**
TECO	**Alcaldia de Te**	**1.19**	**323**	S	**Sn**	**07**	**02**	**57.2**	**-1.0**
CHOHN	**Orocuina**	**1.24**	**44**	P	**Pn**	**07**	**02**	**43.4**	**-0.2**
CHOHN	**Orocuina**	**1.24**	**44**	S	**Sn**	**07**	**02**	**59.2**	**-0.2**
UESV	**Universidad de**	**1.27**	**325**	S	**Sn**	**07**	**03**	**00.3**	**+0.2**
CNGA	**Al SSO del Vol**	**1.31**	**94**	P	**Pn**	**07**	**02**	**44.6**	**+0.2**
CNGA				S	**Sn**	**07**	**03**	**00.9**	**-0.2**
CNGN	**Cerro Negro**	**1.31**	**94**	S	**Sn**	**07**	**03**	**00.8**	**-0.3**
CNGN	**Cerro Negro**	**1.31**	**94**	P	**Pn**	**07**	**02**	**44.8**	**+0.3**
PAVA	**Las Pavas**	**1.42**	**322**	S	**Sn**	**07**	**03**	**04.2**	**+0.4**
COPN	**Copaltepe**	**1.47**	**106**	P	**Pn**	**07**	**02**	**46.3**	**-0.2**
MOMN	**Momotombo**	**1.48**	**97**	P	**Pn**	**07**	**02**	**46.5**	**-0.2**
MOMN				S	**Sn**	**07**	**03**	**04.6**	**-0.5**
LBRS	**Las Brisas**	**1.51**	**320**	*eP*	**Pn**	**07**	**02**	**47.7**	**+0.6**
LOMA	**Loma Larga**	**1.52**	**314**	P	**Pn**	**07**	**02**	**47.3**	**-0.1**
LOMA	**Loma Larga**	**1.52**	**314**	S	**Sn**	**07**	**03**	**06.0**	**-0.3**
MOM2	**El Cardon**	**1.53**	**95**	P	**Pn**	**07**	**02**	**47.8**	**+0.5**
MOM2				S	**Sn**	**07**	**03**	**06.0**	**-0.2**
UDBS	**Universidad Do**	**1.56**	**316**	S	**Sn**	**07**	**03**	**07.3**	**+0.2**
MARCA	**Marcala la Paz**	**1.56**	**0**	P	**Pn**	**07**	**02**	**47.6**	**-0.4**
MARCA	**Marcala la Paz**	**1.56**	**0**	S	**Sn**	**07**	**03**	**07.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.64**	**27**	P	**Pn**	**07**	**02**	**49.4**	**+0.4**
TGUH				S	**Sn**	**07**	**03**	**08.9**	**-0.3**
SAPS	**Ciudad Sandino**	**1.65**	**104**	S	**Sn**	**07**	**03**	**09.0**	**-0.2**
SAPS	**Ciudad Sandino**	**1.65**	**104**	P	**Pn**	**07**	**02**	**50.0**	**+1.0**
PMON	**Piamonte**	**1.67**	**312**	P	**Pn**	**07**	**02**	**49.7**	**+0.3**
PMON	**Piamonte**	**1.67**	**312**	S	**Sn**	**07**	**03**	**09.7**	**-0.2**
JAYA	**Jayaque - finc**	**1.74**	**308**	*eP*	**Pn**	**07**	**02**	**49.9**	**-0.4**
JAYA				*eS*	**Sn**	**07**	**03**	**11.3**	**-0.2**
JAYA	**Jayaque - finc**	**1.74**	**308**	P	**Pn**	**07**	**02**	**50.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.74**	**308**	S	**Sn**	**07**	**03**	**10.7**	**-0.8**
TISN	**Laguna Tiscapa**	**1.79**	**104**	P	**Pn**	**07**	**02**	**50.9**	**+0.1**
YUSH	**Yuscaran**	**1.79**	**40**	P	**Pn**	**07**	**02**	**51.2**	**+0.2**
YUSH	**Yuscaran**	**1.79**	**40**	S	**Sn**	**07**	**03**	**13.1**	**+0.3**
UNAN	**Cigeo UNAN**	**1.79**	**105**	S	**Sn**	**07**	**03**	**12.5**	**-0.2**
MATN	**Matagalpa**	**2.09**	**80**	S	**Sn**	**07**	**03**	**18.8**	**-1.3**
MATN	**Matagalpa**	**2.09**	**80**	P	**Pn**	**07**	**02**	**54.8**	**-0.3**
NUBE	**Las Nubes**	**2.14**	**308**	P	**Pn**	**07**	**02**	**56.3**	**+0.5**
NUBE	**Las Nubes**	**2.14**	**308**	S	**Sn**	**07**	**03**	**21.5**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.32**	**93**	P	**Pn**	**07**	**02**	**58.1**	**0.0**

BGR ***11*** *07:02:29.1, 32°.69N× 26°.83E, h26km±6km, mb5.2, Ms4.4*

BJI ***11*** *07:02:46.4, 34°.36N× 24°.55E, h18km, mB5.4/11, mb4.9/44, Ms4.6/10, Ms7 4.3/11*

PDG ***11*** *07:02:49.9±0.1, 34°.54N× 25°.06E, h10km±7km, ML5.8/11, Error ellipse: s-maj=6.0km s-min=6.3km az=0.0*

NEIC ***11*** *07:02:49.8±1.8, 34°.31N±0°.08× 25°.00E±0°.07, h10km±1km, mb5.0/287, Error ellipse: s-maj=12.8km s-min=10.3km az=190.0*

MED_RC ***11*** *07:02:49.0±1.8, 34°.45N× 24°.88E, h10km, MW5.2/37, Moment Tensor Solution.Mantle waves: s37,c57; Duration: 1§3 Moment tensor: Scale 10^16Nm; Mrr-1.00±.17; Mθθ0.28±.11; Mϕϕ0.72±.12; Mrθ7.67±.25; Mθϕ-1.12±.14; Mϕr-1.90±.23; Best double couple: M◎8.03000×10^16 NP1:ϕs172.00000°, δ8.00000°, λ-23.00000°. NP2:ϕs285.00000°, δ87.00000°, λ-98.00000°. Principal axes: T 7.9500, Plg41.0000°, Azm22.0000°; N 0.1500, Plg8.0000°, Azm285.0000°; P -8.1000, Plg48.0000°, Azm186.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

HLW ***11*** *07:02:50.6, 34°.28N× 25°.20E, h17km±3km, Md4.5, Ml4.5*

MCSM ***11*** *07:02:50.5±0.6, 34°.N±3°× 2°.5E±°, h14km±3km, mb4.8, mB4.8, Mw(mB)4.1*

IDC ***11*** *07:02:51.8±2.5, 34°.39N× 25°.03E, h26km±16km, mb4.6/24, mbtmp4.8/36, ML4.4/10, MS4.2/69, Error ellipse: s-maj=11.7km s-min=10.8km az=167.0*

GCMT ***11*** *07:02:53.8±0.3, 34°.23N±0°.04× 25°.01E±0°.03, h18km±2km, MW5.3/59, Moment Tensor Solution. s44,c51; s59,c72; Duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr0.03±.03; Mθθ-0.13±.02; Mϕϕ0.09±.02; Mrθ1.27±.18; Mθϕ-0.09±.02; Mϕr-0.22±.04; Best double couple: M◎1.29700×10^17 NP1:ϕs203.00000°, δ6.00

DNZT S Sn 07 04 42.6 -2.3
ESEN Aydn-Nazilli 4.30 37 P Pn 07 03 59.2 +3.8
ESEN S Sn 07 04 43.7 -1.1
KYMI Kymi, Euboea I 4.32 349 P Pn 07 03 57.2 +1.4
DEMR Demre-Antalya 4.33 63 Pn Pn 07 03 59.4 +3.5
TAVA DENIZLI_Tavas 4.35 44 P Pn 07 04 00.1 +3.7
TAVA S Sn 07 04 44.0 -2.4
KLV Kalavryta, Ach 4.38 328 P Pn 07 03 58.6 +2.0
CAEL Denizli, Camel 4.38 50 P Pn 07 04 00.1 +3.4
CAEL S Sn 07 04 39.0 -8.0
CAEL *i* IAML 07 05 34.0
comp=E,2µm,1.1s
CAEL *i* IAML 07 05 42.0
comp=N,2µm,1.5s
KNIK Mula-Seydike 4.38 55 P Pn 07 03 59.5 +2.8
KNIK S Sn 07 04 44.8 -2.3
IZMR zmir-demi 4.39 31 P Pn 07 04 00.1 +3.3
KARB zmir-Karabur 4.40 13 P Pn 07 03 59.0 +2.1
NAZL Nazilli-Aydin 4.40 35 Pn Pn 07 03 59.7 +2.8
DNIZ Denizli-Tavas- 4.54 43 P Pn 07 04 02.3 +3.5
DNIZ S Sn 07 04 47.6 -3.3
ODEM Odemis-Izmir 4.56 31 Pn Pn 07 04 02.0 +2.9
APMY Acipayam-Deniz 4.58 47 Pn Pn 07 04 02.4 +2.9
GOLH Golhisar 4.60 50 P Pn 07 04 03.1 +3.4
GOLH S Sn 07 04 50.9 -1.5
GOLH *i* IAML 07 05 36.0
comp=N,665nm,1.8s
KIRA zmir-Kiraz 4.64 34 P Pn 07 04 03.7 +3.4
AKUM Antalya-Kumluc 4.69 64 P Pn 07 04 03.1 +2.3
AKUM S Sn 07 04 49.0 -5.5
RLS Riolos of Patr 4.71 322 P Pn 07 04 03.4 +2.3
EFP Efpalio 4.80 328 P Pn 07 04 05.0 +2.6
AXAR Agios Charalam 4.81 336 P Pn 07 04 04.0 +1.5
IZMD zmir-Dikili- 4.82 17 P Pn 07 04 05.3 +2.6
ZEDA zmir-Bergama 4.84 18 P Pn 07 04 05.9 +3.0
INCE Denizli-Bozkur 4.91 46 P Pn 07 04 07.0 +3.1
INCE S Sn 07 04 54.8 -5.2
ANX Ano Chora 4.93 329 P Pn 07 04 06.3 +2.0
MANT Manisa 4.95 33 Pn 07 04 07.8 +3.2
MANT Manisa 4.95 33 P Pn 07 04 07.5 +2.9
KEMT Kemer-ANTALYA 4.96 62 Pn Pn 07 04 07.7 +3.2
AKHS Akhisar 4.99 25 P Pn 07 04 08.1 +3.2
KULA Kula-Manisa 5.02 34 Pn Pn 07 04 08.5 +3.1
AYVA Ayvalik 5.08 14 P Pn 07 04 08.9 +2.7
PVO Paravola 5.12 327 P Pn 07 04 10.7 +3.9
SWA2 5.13 177 P Pn 07 04 05.1 -1.8
SWA2 S Sn 07 05 00.6 -4.8
GORD Gordes-Manisa 5.14 28 Pn Pn 07 04 10.4 +3.3
AGG Agios Georgios 5.15 335 ⇑P Pn 07 04 08.5 +1.3
NEO Neokhori 5.15 343 P Pn 07 04 08.7 +1.5
ANTB Antalya 5.16 59 Pn Pn 07 04 10.6 +3.3
KOCA Canakkale, Ayv 5.18 9 P Pn 07 04 09.5 +1.9
BRDR BURDUR-Merkez 5.19 49 P Pn 07 04 10.8 +3.0
MAKR Makrakomi, Fth 5.21 333 P Pn 07 04 11.2 +3.2
VLS Valsamata 5.27 317 P Pn 07 04 11.0 +2.2
PASA Karahalli, USA 5.30 40 P Pn 07 04 11.7 +2.4
PASA S Sn 07 05 03.0 -6.7
BUCA Burdur, Bucak- 5.31 55 P Pn 07 04 13.1 +3.7
BUCA S Sn 07 05 05.5 -4.3
BASM Basmaki-Afyon 5.33 47 Pn Pn 07 04 12.8 +3.1
USAK Uak-Merkez 5.34 35 P Pn 07 04 13.3 +3.4
BUHA Balikesir, Bur 5.35 16 P Pn 07 04 12.8 +2.9
STEP BALIKESIR_Sava 5.40 22 P Pn 07 04 14.7 +4.0
YAYO Edremit-Balk 5.45 16 Pn Pn 07 04 13.9 +2.6
BAYC CANAKKALE_Bayr 5.47 12 P Pn 07 04 13.9 +2.3
DEMI Demirci 5.48 31 P Pn 07 04 15.3 +3.5
EZN Ezine 5.52 10 Pn Pn 07 04 14.3 +2.1
EZN Ezine 5.52 10 ⇑P Pn 07 04 14.0 +1.8
EZN Ezine 5.52 10 P Pn 07 04 14.0 +1.8
ISP Isparta 5.56 50 Pn 07 04 14.7 +1.8
ISP Isparta 5.56 50 *i* P Pn 07 04 14.4 +1.5
ISP Isparta 5.56 50 ⇓P Pn 07 04 15.0 +2.1
ISP Isparta 5.56 50 P Pn 07 04 15.8 +2.9
ISP Isparta 5.56 50 P Pn 07 04 15.7 +2.8
KZIL AFYON_Kizioren 5.60 45 P Pn 07 04 15.8 +2.3
SIMA Simav-Kutahya 5.62 32 Pn Pn 07 04 16.9 +3.1
SHAP Saphane-Kutahy 5.69 34 Pn Pn 07 04 18.1 +3.5
BALY Balya 5.71 20 P Pn 07 04 17.8 +2.8
GEDZ Gediz 5.79 35 Pn Pn 07 04 18.0 +3.5
BKES Balkesir-Mer 5.80 22 P Pn 07 04 19.7 +3.6
AFYN Afyon-Dinar-K 5.83 47 P Pn 07 04 18.9 +2.3
BAGO Egridir - ISPA 5.83 50 P Pn 07 04 19.1 +2.5
BAGO S Sn 07 05 13.0 -10
GDZ Gediz 5.86 35 P Pn 07 04 20.2 +3.2
DURS Dursunbey 5.86 26 P Pn 07 04 20.2 +3.2
BLKS Balkesir-Sus 5.94 22 P Pn 07 04 21.6 +3.6
EMET Ktahya-Emet 6.01 33 P Pn 07 04 22.2 +3.0
TVSB Tavsanli 6.14 33 Pn Pn 07 04 24.5 +3.7
THE Thessaloniki 6.47 345 P Pn 07 04 27.2 +1.9
THE pmax pmax
comp=Z,116nm,1.1s
ALN Alexandroupoli 6.55 6 Pn 07 04 28.6 +2.2
ALN Alexandroupoli 6.55 6 P Pn 07 04 28.6 +2.2
ALN Alexandroupoli 6.55 6 ⇓P Pn 07 04 28.8 +2.4
SOH Sokhos 6.58 348 P Pn 07 04 28.9 +2.0
SOH pmax pmax
comp=Z,97nm,1.1s
HNAT Natroun 6.65 134 P Pn 07 04 26.8 -1.0
RDO Rodhopi 6.76 3 Pn 07 04 31.3 +2.0
RDO Rodhopi 6.76 3 ⇓P Pn 07 04 31.0 +1.7
CSS Mathiatis 6.79 83 Pn 07 04 30.4 +0.7
CSS Mathiatis 6.79 83 ⇑P Pn 07 04 30.1 +0.4
CSS Mathiatis 6.79 83 P Pn 07 04 29.5 -0.2
CSS Mathiatis 6.79 83 S Sn 07 05 42.3 -4.0
KEK Kerkira 6.81 323 Pn 07 04 31.7 +1.7
KEK Kerkira 6.81 323 ⇑P Pn 07 04 32.8 +2.8
SRS Serrai 6.83 350 P Pn 07 04 32.1 +1.8
SRS pmax pmax
comp=Z,107nm,1.2s
SRS Serrai 6.83 350 *e*Pn Pn 07 04 32.9 +2.6
KNT Kendrikon 7.00 346 P Pn 07 04 34.6 +2.1
KNT pmax pmax
comp=Z,140nm,1.0s
FNA Florina 7.05 336 Pn 07 04 34.5 +1.2
FNA Florina 7.05 336 P Pn 07 04 34.5 +1.2
FNA Florina 7.05 336 *e*Pn Pn 07 04 34.2 +0.9
FNA *e*Sn Sn 07 05 49.6 -3.2
FNA Florina 7.05 336 ⇓P Pn 07 04 34.3 +0.9
KOT Kottamia 7.21 126 P Pn 07 04 34.3 -1.3
KOT S Sn 07 05 52.0 -4.8
VAY Valandovo 7.22 345 *e*Pn Pn 07 04 38.6 +3.1
MMB Musomishta 7.24 352 *i* P Pn 07 04 39.6 +3.7
KDZ Kurdzhali 7.24 1 *i* P Pn 07 04 38.9 +3.0
RZN Rozhen 7.31 358 *i* P Pn 07 04 38.7 +1.7
HHAG Hagoal 7.38 125 P Pn 07 04 36.5 -1.3
PHSR Pinarhisar 7.48 14 ⇓P Pn 07 04 41.9 +2.7
CTYL Yalikoy Yolu 7.51 19 ⇑P Pn 07 04 43.1 +3.6
OHR Ohrid 7.54 334 *i* Pn Pn 07 04 41.5 +1.4
VLO Vlora 7.55 325 P Pn 07 04 40.0 0.0
VLO pmax pmax
comp=Z,135nm,0.7s
KKB Krupnik 7.61 349 *i* P Pn 07 04 43.6 +2.6
HFRF Wahat Farafira 7.71 158 P Pn 07 04 41.2 -1.2
HFRF S Sn 07 06 03.5 -5.5
PLD Plovdiv 7.76 358 *i* P Pn 07 04 45.0 +2.0
PLD Plovdiv 7.76 358 P Pn 07 04 45.2 +2.2
PLD pmax pmax
comp=Z,233nm,1.1s
MDUB Mudurnu 7.77 37 Pn 07 04 46.7 +3.5
SCTE Santa Cesarea 7.77 319 Pn 07 04 43.2 0.0
NBNS Bani Suef 7.79 136 P Pn 07 04 42.2 -1.2
NBNS S Sn 07 06 05.8 -5.2
SAHE Sakarya_HENDEK 7.90 33 ⇓P Pn 07 04 48.4 +3.4
ZAF Zafarana 8.11 127 P Pn 07 04 46.8 -1.0
ZAF S Sn 07 06 13.2 -5.5
SKO Skopje 8.12 340 *e*Pn Pn 07 04 49.4 +1.5
PHP Peshkopia 8.17 335 P Pn 07 04 48.9 +0.2
PHP pmax pmax
comp=Z,39nm,0.9s
JMB Yambol 8.17 7 *i* P Pn 07 04 50.2 +1.5
PLNA Plana 8.19 351 *i* P Pn 07 04 51.3 +2.3
SOI Samo 8.20 299 P Pn 07 04 49.0 -0.1
SOI pmax pmax
comp=Z,255nm,1.0s
ANTO Ankara 8.22 46 Pn 07 04 51.7 +2.4
ANTO Ankara 8.22 46 P Pn 07 04 51.7 +2.4
ANTO Ankara 8.22 46 ⇓P Pn 07 04 52.0 +2.6
ANTO Ankara 8.22 46 P Pn 07 04 51.9 +2.6
ANTO Ankara 8.22 46 ⇓P Pn 07 04 51.9 +2.6
ANTO Ankara 8.22 46 P Pn 07 04 51.7 +2.4
comp=Z,308nmcomp=Z,31nm,1.0s
TIP Timpagrande 8.24 308 ⇑P Pn 07 04 50.7 +1.0
ZNM Zenema 8.27 125 P Pn 07 04 49.0 -1.0
TAMRE El Minia 8.32 142 P Pn 07 04 49.8 -1.0
VTS Vitosha 8.36 350 *i* P Pn 07 04 53.2 +1.9
VTS Vitosha 8.36 350 *e*Pn Pn 07 04 54.3 +3.0
BOSS Bosilegrad 8.36 346 *e*Pn Pn 07 04 54.0 +2.7
CEL Celeste 8.39 300 Pn 07 04 51.4 -0.3
CEL Celeste 8.39 300 ⇓P Pn 07 04 51.2 -0.5
GMB Gambarie 8.40 299 P Pn 07 04 52.0 +0.1
GMB pmax pmax
comp=Z,515nm,0.8s
OFRI `Ofer 8.42 99 P Pn 07 04 51.3 -0.9
OFRI `Ofer 8.42 99 S Sn 07 06 21.1 -5.4
HNTI Hanita 8.47 96 P Pn 07 04 52.3 -0.5
HNTI Hanita 8.47 96 S Sn 07 06 22.6 -5.1
KIRS Kirsehir-Merke 8.50 54 ⇓P Pn 07 04 56.1 +2.8
KZIT Kziot 8.55 111 P Pn 07 04 53.3 -0.6
KZIT Kziot 8.55 111 S Sn 07 06 24.1 -5.6
ELND Elena 8.56 4 ⇑P Pn 07 04 55.8 +1.8
BLGI Bet Lehem HaGe 8.56 98 P Pn 07 04 53.3 -0.8
BLGI Bet Lehem HaGe 8.56 98 S Sn 07 06 24.9 -5.1
SLTI Sal'it 8.57 102 P Pn 07 04 53.5 -0.6
SLTI Sal'it 8.57 102 S Sn 07 06 24.4 -5.8
BR105 Keskin Array S 8.63 49 P Pn 07 04 56.5 +1.4
comp=Z,191nmcomp=Z,26nm,0.8s
BR104 Keskin Array S 8.64 50 P Pn 07 04 56.9 +1.7
comp=Z,197nmcomp=Z,16nm,1.0s
BR106 Keskin Array S 8.64 49 P Pn 07 04 57.6 +2.4
comp=Z,150nmcomp=Z,20nm,0.8s
BRTR Keskin Array B 8.65 49 Pn 07 04 57.0 +1.7
BRTR Keskin Array B 8.65 49 Pn Pn 07 04 57.0 +1.7
comp=Z,0.6nm,0.3s,baz=228,slow=15,SNR=16
BRTR Sn Sn 07 06 32.2 +0.1
comp=Z,0.9nm,0.3s,baz=3.2,slow=8.9,SNR=5.3
BRTR LR LR 07 09 21.9
comp=Z,3µm,18.9s,baz=237,slow=45
comp=Z,3.0nm,0.6s
BR131 Keskin Array S 8.65 49 Pn 07 04 57.2 +1.9
BR131 Keskin Array S 8.65 49 P Pn 07 04 57.4 +2.1
BR131 S Sn 07 06 37.5 +5.4
BR131 Keskin Array S 8.65 49 *i* P Pn 07 04 56.8 +1.5
MMC7 Mount Meron ar 8.66 96 P Pn 07 04 55.0 -0.6
MMA0B Mount Meron ar 8.68 96 P Pn 07 04 55.1 -0.6
MMA0B Mount Meron ar 8.68 96 S Sn 07 06 27.9 -4.9
MMAI Mount Meron Ar 8.68 96 Pn Pn 07 04 54.5 -1.2
comp=Z,7.3nm,0.3s,baz=272,slow=12,SNR=18
MMAI Sn Sn 07 06 30.0 -2.8
comp=Z,40nm,0.3s,baz=263,slow=27,SNR=10
comp=Z,8.5nm,0.3s
DQRL Deir Qamar 8.70 92 *e*P Pn 07 04 55.7 -0.3
AMAZ Amatzia 8.71 106 P Pn 07 04 55.3 -0.7
AMAZ Amatzia 8.71 106 S Sn 07 06 28.4 -5.1
BHL Bhannes 8.74 90 *e*P Pn 07 04 54.4 -2.2
SALP Salfit 8.74 102 P Pn 07 04 55.6 -1.0
SALP Salfit 8.74 102 S Sn 07 06 28.9 -5.6
WDD Wied Dalam 8.80 283 Pn 07 04 54.5 -2.8
WDD Wied Dalam 8.80 283 ⇑P Pn 07 04 56.7 -0.6
BARS Barje 8.81 344 *e*Pn Pn 07 04 58.3 +0.9
QRWL Qaraoun 8.81 92 *e*P Pn 07 04 54.9 -2.6
MMLI Mount Malkishu 8.83 100 P Pn 07 04 57.1 -0.5
MMLI Mount Malkishu 8.83 100 S Sn 07 06 31.1 -5.3
GEM Giv'at Ha'Em 8.85 95 ⇑P Pn 07 04 58.3 +0.3
GEM Giv'at Ha'Em 8.85 95 P Pn 07 04 56.8 -1.2
GEM Giv'at Ha'Em 8.85 95 S Sn 07 06 30.9 -6.1
ULC Ulcinj 8.87 330 *e*Pn Pn 07 04 56.5 -1.8
ULC *i* Sn Sn 07 06 29.7 -7.8
ASUT 8.89 140 P Pn 07 04 57.6 -1.0
SHBL Chebaa 8.89 94 *e*P Pn 07 04 58.5 -0.2
NATI Neve Ativ 8.90 94 P Pn 07 04 58.5 -0.1
NATI Neve Ativ 8.90 94 S Sn 07 06 33.9 -4.4
YTIR Yattir 8.93 107 P Pn 07 04 58.1 -1.0
YTIR Yattir 8.93 107 S Sn 07 06 33.4 -5.7
ZAHL Zahle 8.94 90 *e*P Pn 07 04 59.9 +0.6
RCY Rachaya 8.95 93 *e*P Pn 07 04 57.9 -1.5
HWQ Hawqa 8.96 88 *e*P Pn 07 04 59.4 -0.1
HMDT Nahal Hemdat 8.96 101 P Pn 07 04 58.6 -0.9
HMDT Nahal Hemdat 8.96 101 S Sn 07 06 34.6 -5.1
UJAP Al Uja 9.00 103 P Pn 07 04 59.5 -0.5
UJAP Al Uja 9.00 103 S Sn 07 06 35.1 -5.8
KSHT Keshet 9.02 96 P Pn 07 04 59.5 -0.8
KSHT Keshet 9.02 96 S Sn 07 06 36.4 -4.8
MPEP Malo Peshtene 9.03 354 *i* P Pn 07 05 03.7 +3.3
DSI Dead Sea 9.06 105 P Pn 07 04 59.8 -1.1
DSI Dead Sea 9.06 105 S Sn 07 06 36.6 -5.6
DRME Dracevica, Mon 9.08 331 *e*Pn Pn 07 05 00.0 -1.1
DRME Dracevica, Mon 9.08 331 *e*Pn Pn 07 04 59.5 -1.6
DRME *i* Sn Sn 07 06 34.7 -7.9
ZAPS Zavoj 9.09 348 *e*Pn Pn 07 05 03.6 +2.3
BEIL Beino 9.14 86 *e*P Pn 07 05 01.2 -0.7
MDBI Mazsada 9.14 107 P Pn 07 05 00.8 -1.1
MDBI Mazsada 9.14 107 S Sn 07 06 37.9 -6.1
MSBI Mazada 9.14 107 P Pn 07 05 01.0 -0.8
MSBI Mazada 9.14 107 S Sn 07 06 38.4 -5.6
MATE Matera 9.15 316 ⇓P Pn 07 04 59.2 -2.9
MATE Matera 9.15 316 ⇑P Pn 07 05 00.8 -1.2
KRMI Paran Flat 9.17 115 P Pn 07 05 01.6 -0.9
KRMI Paran Flat 9.17 115 S Sn 07 06 39.4 -5.6
RAFF Raffo Rosso 9.19 291 P Pn 07 05 01.2 -1.4
VAE Valguarnera 9.22 293 Pn Pn 07 05 01.4 -1.7
comp=Z,33nm,0.8s,baz=166,slow=2.8,SNR=10
VAE Sn Sn 07 06 41.6 -4.5
comp=Z,12nm,0.3s,baz=97,slow=12,SNR=5.4
RAZG Razgrad 9.24 6 ⇓P Pn 07 05 04.3 +1.0
PDG Podgorica 9.26 332 Pn 07 05 02.2 -1.3
PDG Podgorica 9.26 332 ⇓P Pn 07 05 01.5 -2.0
PDG Podgorica 9.26 332 *e*Pn Pn 07 05 01.9 -1.6
PDG *e*Sn Sn 07 06 40.3 -6.7
PDG Podgorica 9.26 332 ⇓P Pn 07 05 02.0 -1.6
PDG Podgorica 9.26 332 *e*Pn Pn 07 05 01.6 -2.0
PDG *i* Sn Sn 07 06 39.0 -8.0
TTG Podgorica 9.26 332 P Pn 07 05 02.1 -2.0
PRNI Paran 9.27 113 P Pn 07 05 03.2 -0.6
PRNI Paran 9.27 113 S Sn 07 06 42.4 -5.0
BUM Brajici-Budva 9.30 330 ⇓*i*Pn Pn 07 05 02.4 -1.7
BUM *i* Sn Sn 07 06 39.8 -8.2
CUC Castrocucco 9.30 310 Pn 07 05 04.1 0.0
CUC Castrocucco 9.30 310 ⇑P Pn 07 05 04.7 +0.5
GHAJ Ghor Haditha 9.31 106 Pn 07 05 03.9 -0.3
GHAJ Ghor Haditha 9.31 106 P Pn 07 05 03.0 -1.2
GHAJ Ghor Haditha 9.31 106 S Sn 07 06 42.5 -5.6
ZFRI Zfri 9.31 111 P Pn 07 05 03.0 -1.2
ZFRI Zfri 9.31 111 S Sn 07 06 42.4 -5.9
FKH Fakeheh 9.34 88 *e*P Pn 07 05 04.3 -0.5
VALD Valchedram 9.39 352 *i* P Pn 07 05 05.7 +0.4
IVA Berane 9.41 336 *e*Pn Pn 07 05 03.9 -1.8
IVA *i* Sn Sn 07 06 42.5 -8.4
HRFI Mount Harif 9.45 115 P Pn 07 05 05.6 -0.7
HRFI Mount Harif 9.45 115 S Sn 07 06 46.4 -5.4
TR2 Tor 2 9.47 127 P Pn 07 05 05.2 -1.3
MBRI Mt Berech 9.48 116 P Pn 07 05 06.0 -0.7
MBRI Mt Berech 9.48 116 S Sn 07 06 47.6 -5.0
CEME Cevo 9.49 331 *e*Pn Pn 07 05 05.0 -1.8
CEME *i* Sn Sn 07 06 44.5 -8.3
KOME Kolasin 9.53 334 *e*Pn Pn 07 05 06.7 -0.6
KOME Kolasin 9.53 334 *e*Pn Pn 07 05 05.5 -1.8
KOME *i* Sn Sn 07 06 45.2 -8.4
HKAT Jabal Katrina 9.56 125 P Pn 07 05 06.5 -1.5
EIL Elat 9.57 117 Pn Pn 07 05 06.9 -1.0
comp=Z,13nm,0.3s,baz=316,slow=2.2,SNR=24
EIL Sn Sn 07 06 49.0 -5.7
comp=Z,8.1nm,0.3s,baz=138,slow=22,SNR=4.4
comp=Z,47nm,0.4s
EIL Elat 9.57 117 ⇑P Pn 07 05 07.2 -0.7
HCY Herceg Novi 9.58 329 *e*Pn Pn 07 05 06.4 -1.6
HCY *i* Sn Sn 07 06 46.8 -8.2
BOVS Bovan 9.62 345 ⇑P Pn 07 05 08.7 +0.2
HBST Basata 9.66 120 P Pn 07 05 07.6 -1.5
NKME Niksic 9.66 332 *e*Pn Pn 07 05 07.5 -1.6
NKME *i* Sn Sn 07 06 48.7 -8.3
ZAGS Zajecar 9.68 347 *e*Pn Pn 07 05 11.0 +1.7
ACER Acerenza 9.69 314 Pn 07 05 09.6 +0.1
BNN Bunyan 9.71 60 Pn Pn 07 05 12.1 +2.3
NUB Nuweibaa 9.71 121 P Pn 07 05 09.4 -0.3
MRVN Minervino Murg 9.72 316 ⇑P Pn 07 05 08.1 -1.7
SJES Sjenica 9.73 337 *e*Pn Pn 07 05 09.2 -0.9
SJES *e*Sn Sn 07 06 52.5 -6.3
GOCS Kraljevo Serbi 9.75 341 *e*Pn Pn 07 05 09.5 -0.8
GOCS *e*Sn Sn 07 06 55.5 -3.6
TREB Trebinje 9.87 330 *e*Pn Pn 07 05 09.1 -2.8
TR1 Tor 1 9.87 128 P Pn 07 05 10.7 -1.3

BRY Bratogost 9.94 331 *e*Pn Pn 07 05 11.3 -1.7
BRY *i* Sn Sn 07 06 55.2 -8.7
ICOR Ion Corvin 9.94 11 ⇓P Pn 07 05 14.6 +1.7
IVAS Ivanjica 9.96 339 *e*Pn Pn 07 05 10.5 -2.7
IVAS *e*Sn Sn 07 06 57.8 -6.5
PLE Pljevlja 9.99 335 P Pn 07 05 11.8 -1.9
PLE Pljevlja 9.99 335 *e*Pn Pn 07 05 11.8 -1.9
PLE *i* Sn Sn 07 06 56.3 -8.8
GTR Jabal at Tayr 10.02 151 P Pn 07 05 12.6 -1.4
UPM Unac-Piva 10.05 333 *e*Pn Pn 07 05 12.8 -1.8
UPM *i* Sn Sn 07 06 57.9 -8.9
GRUS Gruza 10.09 342 *e*Pn Pn 07 05 14.7 -0.2
ASF Jabal al Asfar 10.10 99 Pn Pn 07 05 14.5 -0.7
comp=Z,2.4nm,0.3s,baz=338,slow=1.8,SNR=13
comp=Z,6.8nm,0.5s
MFTR Murfatlar 10.11 14 ⇑P Pn 07 05 16.8 +1.6
HUMR Humele 10.14 359 ⇑P Pn 07 05 16.2 +0.7
KLINJ Klinje 10.15 332 *e*Pn Pn 07 05 12.6 -3.2
HHRG Al Ghardaqah 10.18 132 P Pn 07 05 16.8 +0.6
RUDO Rudo 10.25 336 *e*Pn Pn 07 05 14.3 -2.8
SGRT San Giovanni R 10.43 318 Pn 07 05 18.1 -1.6
HARR Harsova 10.52 11 ⇑P Pn 07 05 21.5 +0.6
HARR Harsova 10.52 11 P Pn 07 05 21.4 +0.6
PAOL Paolisi 10.67 312 Pn Pn 07 05 22.9 0.0
HERR Herculane 10.69 350 ⇓P Pn 07 05 22.7 -0.4
MDVR Moldovita 10.71 347 ⇑P Pn 07 05 22.7 -0.8
ISR Istrita 10.78 5 ⇑P Pn 07 05 26.2 +1.7
ISR Istrita 10.78 5 P Pn 07 05 26.1 +1.7
TOKA Tokat 10.81 53 Pn Pn 07 05 26.9 +2.1
ARR Arges 10.98 358 ⇓P Pn 07 05 28.6 +1.4
VOIR 11.04 360 ⇑P Pn 07 05 28.5 +0.4
VOIR 11.04 360 P Pn 07 05 28.4 +0.4
NEHR Nehoiu 11.07 4 ⇓P Pn 07 05 30.0 +1.6
LOT Lotru 11.10 355 ⇓P Pn 07 05 29.7 +0.8
MLR Muntele Rosu 11.12 3 Pn 07 05 30.4 +1.3
MLR Muntele Rosu 11.12 3 Pn Pn 07 05 28.7 -0.4
comp=Z,0.1nm,0.3s,baz=161,slow=4.2,SNR=10.0
MLR LR LR 07 10 34.2
comp=Z,3µm,19.7s,baz=186,slow=42
comp=Z,11nm,1.1s
MLR Muntele Rosu 11.12 3 ⇓P Pn 07 05 30.8 +1.6
MLR Muntele Rosu 11.12 3 P Pn 07 05 30.7 +1.6
GZR Gura Zlata 11.15 351 ⇑P Pn 07 05 30.9 +1.4
GZR Gura Zlata 11.15 351 P Pn 07 05 30.8 +1.4
TNR Turnu Rosu 11.28 357 ⇑P Pn 07 05 31.3 +0.1
TNR Turnu Rosu 11.28 357 P Pn 07 05 31.3 +0.1
COVR Voineasa-Covas 11.48 4 ⇓P Pn 07 05 34.8 +0.8
PLOR Plostina 11.52 5 ⇑P Pn 07 05 36.0 +1.5
PLOR Plostina 11.52 5 P Pn 07 05 36.0 +1.5
VRI Vrincioaia 11.54 6 ⇑P Pn 07 05 37.2 +2.5
VRI Vrincioaia 11.54 6 P Pn 07 05 37.2 +2.5
BZS Buzias 11.54 348 ⇑P Pn 07 05 34.3 -0.4
BZS Buzias 11.54 348 P Pn 07 05 34.3 -0.4
BZS Buzias 11.54 348 ⇓P Pn 07 05 34.6 -0.1
SURR Surduc 11.59 350 ⇓P Pn 07 05 35.4 0.0
DEV Deva 11.61 352 ⇓P Pn 07 05 35.7 0.0
DEV Deva 11.61 352 P Pn 07 05 38.6 +2.8
DEV pmax pmax
comp=Z,33nm,0.8s
INTR Introdacqua 11.65 314 Pn 07 05 36.4 0.0
KIJV Kijevo 11.74 328 *e*Pn Pn 07 05 35.0 -2.6
BLY Banja Luka 12.02 332 *e*Pn Pn 07 05 38.8 -2.6
BLY Banja Luka 12.02 332 ⇓P Pn 07 05 39.5 -1.8
BLY Banja Luka 12.02 332 ⇑P Pn 07 05 39.3 -2.0
A050A Klekovaca 12.07 329 *e*Pn Pn 07 05 40.5 -1.6
SIRR Siria 12.16 349 ⇑P Pn 07 05 42.7 -0.6
TESR Tescani 12.18 5 ⇓P Pn 07 05 44.4 +1.0
CAMP Campotosto 12.26 315 Pn 07 05 44.4 -0.3
CJR Cluj-Napoca 12.38 355 ⇓P Pn 07 05 46.4 +0.1
CJR Cluj-Napoca 12.38 355 P Pn 07 05 46.3 +0.1
MARR Marisel-Cluj 12.38 354 ⇑P Pn 07 05 47.2 +0.9
DRGR 12.53 352 ⇓P Pn 07 05 48.5 +0.1
DRGR 12.53 352 P Pn 07 05 48.4 +0.1
NRCA Norcia 12.62 316 Pn 07 05 48.5 -1.1
SIM Simferopol' 12.62 31 *e*P P 07 06 00.5 -0.2
SIM pmax pmax
comp=Z,30nm,1.0s
GUMA Gualdo di Mace 12.63 317 Pn 07 05 49.6 -0.1
ARCR ARCALIA 12.71 358 ⇓P Pn 07 05 50.7 0.0
FDMO Fiordimonte 12.76 316 Pn 07 05 51.3 -0.2
CESX Cesi 12.80 314 Pn 07 05 51.5 -0.5
MORH Mrgy, Hungar 12.81 339 *e*Pn Pn 07 05 49.2 -2.9
MORH Mrgy, Hungar 12.81 339 P Pn 07 05 50.6 -1.5
comp=Z,17nm,0.9s
KOVH Kovagototos 12.86 338 ⇑P Pn 07 05 50.5 -2.2
KEST Kesra 13.00 280 Pn 07 05 53.1 -1.7
KEST Kesra 13.00 280 Pn Pn 07 05 53.7 -1.2
comp=Z,3.9nm,0.8s,baz=195,slow=1.3,SNR=10.0
MARD Mardin 13.04 73 Pn 07 05 57.2 +1.8
BURAR Bucovina Array 13.22 0 Pn 07 05 58.2 +0.4
BURAR Bucovina Array 13.22 0 P Pn 07 05 58.2 +0.4
MGAB Montegabbione 13.25 314 ⇓P Pn 07 06 01.2 +3.0
BMR Baia Mare 13.34 355 P Pn 07 06 00.5 +1.2
BMR pmax pmax
comp=Z,42nm,1.4s
AADN Adndan 13.45 154 P Pn 07 05 59.8 -1.2
PTJ Puntijarka 13.46 332 P Pn 07 05 57.6 -3.5
KOPT Kop Dagi 13.48 61 Pn Pn 07 06 01.8 +0.2
VSL Villasalto 13.59 297 Pn 07 06 00.9 -1.8
BEHE Becsehely 13.64 335 Pn 07 05 59.8 -3.6
BRJN Brijuni 13.67 324 *e*Pn Pn 07 06 01.4 -2.4
SORM Soroca 13.95 9 ⇑P Pn 07 06 09.7 +2.0
SORM Soroca 13.95 9 P Pn 07 06 09.7 +2.0
ANN Anapa 14.07 39 *e*P Pn 07 06 09.6 +0.3
ANN *e*S Sn 07 08 46.7 +2.1
ANN pmax pmax
comp=Z,11nm,0.6s
ANN MLR MLR
comp=Z,323nm,11.0s
PSZ Piszkesteto 14.08 345 Pn 07 06 07.7 -1.8
PSZ Piszkesteto 14.08 345 P Pn 07 06 07.7 -1.8
PSZ Piszkesteto 14.08 345 *e*P Pn 07 06 08.4 -1.1
PSZ Piszkesteto 14.08 345 ⇓P Pn 07 06 08.9 -0.6
OSSC Osservatorio P 14.12 314 Pn 07 06 09.7 -0.4
TRI Trieste 14.26 326 Pn 07 06 08.2 -3.4
TRI Trieste 14.26 326 P Pn 07 06 08.4 -3.4
NDNU Novodnistrovsk 14.30 6 P Pn 07 06 12.9 +0.4
VOJS Vojsko 14.45 327 *i* Pn Pn 07 06 13.9 -0.6
VOJS *e* 07 06 21.7
VOJS *e*Sn Sn 07 08 41.4 -13
SOKA Soboth 14.47 331 *e*Pn Pn 07 06 11.4 -3.4
comp=Z,23nm,0.6s,SNR=7.9
SOKA *i* P P 07 06 22.3 +0.9
comp=Z,80nm,1.0s
OBKA Obir 14.53 330 *e*Pn Pn 07 06 15.8 +0.1
comp=Z,1.4nm,0.2s,SNR=6.3
OBKA *e*P P 07 06 22.6 +0.5
comp=Z,48nm,1.2s
SOC Sochi 14.59 47 *e*P Pn 07 06 16.7 +0.3
SOC *e* 07 09 02.2
SOC MLR MLR
comp=Z,914nm,15.0s
PII Pisa 14.67 314 P P 07 06 23.1 -0.4
PII pmax pmax
comp=Z,29nm,0.9s
KOLS Kolonicke sedl 14.70 353 *e*P Pn 07 06 20.3 +2.5
KOLS Kolonicke sedl 14.70 353 *e*PN Pn 07 06 20.3 +2.5
ARSA Arzberg 14.75 334 Pn Pn 07 06 16.5 -2.2
ARSA Arzberg 14.75 334 *e*Pn Pn 07 06 15.7 -3.0
comp=Z,26nm,0.8s,SNR=7.3
ARSA *e*P P 07 06 25.5 +1.0
comp=Z,50nm,0.9s
ARSA Arzberg 14.75 334 ⇓P Pn 07 06 15.8 -2.8
VYHS Vyhne 14.86 344 *e*P Pn 07 06 19.6 -0.5
VYHS Vyhne 14.86 344 *e*PN Pn 07 06 19.6 -0.5
RONA Rosalia, Austr 14.87 336 *e*Pn Pn 07 06 20.3 +0.1
comp=Z,18nm,0.5s,SNR=18
GEVA Gevas 14.98 70 Pn Pn 07 06 22.8 +1.0
MYKA Terra Mystica 15.01 328 *e*Pn Pn 07 06 21.6 -0.5
comp=Z,0.9nm,0.2s,SNR=8.1
MYKA *e*P P 07 06 27.9 +0.5
comp=Z,20nm,1.0s
PGF Pioggiola 15.02 308 P P

STHS **Stebnicka Huta** 15.30 350 *e*P P 07 06 28.6 -1.9
STHS **Stebnicka Huta** 15.30 350 *e*PN P 07 06 28.6 -1.9
CIMO **Cimolais** 15.32 325 Pn 07 06 24.3 -1.9
KWP **Kalwaria Pacla** 15.35 354 *e*P Pn 07 06 28.0 +1.5
KWP *e*L L 07 12 11.3
comp=Z,1µm,25.7s
NIE **Niedzica** 15.44 348 *e*P Pn 07 06 29.3 +1.4
NIE *e*L L 07 12 18.1
comp=Z,793nm,24.9s
NIE **Niedzica** 15.44 348 P Pn 07 06 29.5 +1.7
NIE pmax pmax
comp=Z,12nm,0.9s
NIE **Niedzica** 15.44 348 P Pn 07 06 27.5 -0.3
comp=Z,12nm,0.9s
LVV **L'vov** 15.45 357 P P 07 06 35.4 +3.2
KBA **Koelnbreinsper** 15.49 329 *e*Pn Pn 07 06 24.9 -3.6
comp=Z,20nm,0.6s
KBA **Koelnbreinsper** 15.49 329 ⇑P Pn 07 06 25.8 -2.7
JAVC **Velka Javorina** 15.49 341 *e*PN Pn 07 06 29.0 +0.5
CTI **Castel Tesino** 15.52 323 Pn 07 06 27.1 -1.7
CTI IAmb IAmb 07 06 35.0
comp=Z,84nm,0.7s
CTI **Castel Tesino** 15.52 323 P Pn 07 06 27.2 -1.7
CTI pmax pmax
comp=Z,84nm,0.7s
ABTA **Abfaltersbach** 15.61 326 *e*Pn Pn 07 06 27.6 -2.5
comp=Z,0.3nm,0.1s
ABTA *e*P P 07 06 35.0 +1.0
comp=Z,91nm,0.7s
LUBAR **Lubar, Ukraine** 15.65 6 P Pn 07 06 29.7 -0.8
MOA **Molln** 15.72 332 *e*Pn Pn 07 06 28.5 -3.0
comp=Z,75nm,0.9s,SNR=37
MOA *e*P P 07 06 36.0 +0.7
comp=Z,80nm,0.9s
BIOA **Bad Ischl, Aus** 15.85 330 *e*Pn Pn 07 06 29.7 -3.3
comp=Z,1.1nm,0.1s
BIOA *e*P P 07 06 36.5 -0.2
comp=Z,37nm,1.0s
BOB **Bobbio (Coli)** 15.90 315 P P 07 06 37.3 0.0
BOB pmax pmax
comp=Z,33nm,1.0s
BOB **Bobbio (Coli)** 15.90 315 ⇑P P 07 06 36.0 -1.3
MAUC **Maruska** 15.92 342 *e*P Pn 07 06 33.1 -0.8
KRUC **Moravsky** 16.03 339 *e*PN Pn 07 06 35.1 -0.3
KRUC **Moravsky** 16.03 339 P Pn 07 06 36.7 +1.3
KRUC pmax pmax
comp=Z,56nm,0.9s
LESA **Schwarzleotal** 16.04 328 *e*Pn Pn 07 06 33.6 -2.0
comp=Z,84nm,0.9s,SNR=30
LESA *e*P P 07 06 40.0 +1.1
comp=Z,84nm,0.9s
VRAC **Vranov** 16.20 340 Pn Pn 07 06 37.6 +0.1
comp=Z,2.2nm,0.3s,baz=144,slow=9.6,SNR=29
VRAC LR LR 07 14 05.9
comp=Z,840nm,19.9s,baz=169,slow=42
comp=Z,70nm,0.8s
VRAC **Vranov** 16.20 340 *e*PN Pn 07 06 37.8 +0.3
VRAC **Vranov** 16.20 340 ⇓P Pn 07 06 38.0 +0.4
VRAC **Vranov** 16.20 340 P Pn 07 06 37.9 +0.4
RJOB **Jochberg** 16.23 329 *e*P P 07 06 43.0 +2.0
baz=143,slow=11
OKC **Ostrava-Krasne** 16.28 344 P Pn 07 06 38.6 +0.1
OKC pmax pmax
comp=Z,49nm,1.0s
ERBR **Yeremizino-Bor** 16.29 41 *e*P Pn 07 06 39.9 +1.2
ERBR *e*S Sn 07 09 42.6 +3.8
ERBR pmax pmax
comp=Z,278nm,0.8s
ERBR MLR MLR
comp=Z,863nm,20.0s
OJC **Ojcow** 16.30 348 *e*P Pn 07 06 37.8 -1.1
OJC *e*L L 07 13 03.1
comp=Z,1µm,24.1s
OJC **Ojcow** 16.30 348 Pn 07 06 38.1 -0.7
OJC **Ojcow** 16.30 348 P Pn 07 06 38.1 -0.7
OJC **Ojcow** 16.30 348 ⇓P Pn 07 06 38.0 -0.9
OJC **Ojcow** 16.30 348 P Pn 07 06 36.9 -1.9
comp=Z,13nm,1.2s
MORC **Moravsky Berou** 16.37 342 Pn 07 06 39.4 -0.3
MORC **Moravsky Berou** 16.37 342 *e*PN Pn 07 06 39.1 -0.6
MORC **Moravsky Berou** 16.37 342 ⇓P Pn 07 06 39.1 -0.6
MORC **Moravsky Berou** 16.37 342 P Pn 07 06 39.4 -0.3
MORC pmax pmax
comp=Z,18nm,0.8s
MORC **Moravsky Berou** 16.37 342 ⇑P Pn 07 06 39.2 -0.5
WTTA **Wattenberg** 16.39 326 P Pn 07 06 39.1 -1.1
WTTA pmax pmax
comp=Z,144nm,1.1s
WTTA **Wattenberg** 16.39 326 *e*Pn Pn 07 06 38.2 -2.0
comp=Z,80nm,1.0s,SNR=32
WTTA *e*P P 07 06 44.5 +1.6
comp=Z,110nm,0.9s
AK07 **Malin Array Si** 16.43 9 P Pn 07 06 40.3 -0.2
STEB **Steborice** 16.46 343 *e*P Pn 07 06 40.5 -0.3
AK06 **Malin Array Si** 16.47 9 P Pn 07 06 40.7 -0.2
WATA **Walderalm** 16.48 326 *e*Pn Pn 07 06 39.4 -1.8
comp=Z,26nm,0.6s,SNR=34
AK13 **Malin Array Si** 16.48 9 P Pn 07 06 40.5 -0.5
AK10 **Malin Array Si** 16.49 9 P Pn 07 06 41.0 -0.2
AK14 **Malin Array Si** 16.50 9 P Pn 07 06 41.0 -0.3
AK05 **Malin Array Si** 16.50 9 P Pn 07 06 41.0 -0.3
AK09 **Malin Array Si** 16.51 9 P Pn 07 06 41.1 -0.3
CKRC **Cesky Krumlov** 16.51 334 *e*P Pn 07 06 41.8 +0.3
CKRC MLR MLR
comp=Z,2µm,12.9s
CKRC **Cesky Krumlov** 16.51 334 *e*P Pn 07 06 41.8 +0.3
CKRC AMS AMS 07 14 00.0
comp=Z,2µm,12.9s
AK12 **Malin Array Si** 16.52 9 P Pn 07 06 41.2 -0.3
TREC **Trest** 16.52 337 *e*P Pn 07 06 40.7 -0.9
TREC **Trest** 16.52 337 *e*P Pn 07 06 40.7 -0.9
AK08 **Malin Array Si** 16.52 9 P Pn 07 06 41.3 -0.3
AK02 **Malin Array Si** 16.54 9 P Pn 07 06 41.5 -0.3
AK16 **Malin Array Si** 16.54 9 P Pn 07 06 41.5 -0.3
AK17 **Malin Array Si** 16.55 9 P Pn 07 06 41.6 -0.3
AK11 **Malin Array Si** 16.55 9 P Pn 07 06 41.7 -0.3
SQTA **Sankt Quirin** 16.56 325 *e*Pn Pn 07 06 40.6 -1.7
comp=Z,5.2nm,0.5s
SQTA *e*P P 07 06 46.4 +1.7
comp=Z,54nm,1.0s
AK15 **Malin Array Si** 16.57 9 P Pn 07 06 41.8 -0.3
AK01 **Malin Array Si** 16.57 9 P Pn 07 06 41.9 -0.3
KIEV **Kiev** 16.58 9 Pn 07 06 42.2 -0.1
KIEV **Kiev** 16.58 9 ⇑P Pn 07 06 42.1 -0.1
KIEV **Kiev** 16.58 9 P Pn 07 06 42.2 -0.1
KIEV pmax pmax
comp=Z,167nm,0.9s
KIEV **Kiev** 16.58 9 *i* P Pn 07 06 41.9 -0.4
SNR=12
KIEV **Kiev** 16.58 9 ⇓P Pn 07 06 41.8 -0.4
KIEV **Kiev** 16.58 9 P Pn 07 06 42.0 -0.3
comp=Z,6µmcomp=Z,806nm,0.9s
AK19 **Malin Array Si** 16.58 9 P Pn 07 06 41.9 -0.4
AK18 **Malin Array Si** 16.59 9 P Pn 07 06 42.0 -0.4
AKASG **Malin Array Be** 16.59 9 Pn 07 06 42.2 -0.2
AKASG **Malin Array Be** 16.59 9 Pn Pn 07 06 41.8 -0.6
comp=Z,60nm,0.8s,baz=202,slow=11,SNR=83
AKASG Sn Sn 07 09 48.4 +2.7
baz=198,slow=22
AKASG ScP ScP 07 15 02.7 -2.5
comp=Z,0.1nm,0.3s,baz=248,slow=1.1,SNR=4.2
AKASG **Malin Array Be** 16.59 9 *ce*P Pn 07 06 41.7 -0.7
AKASG pmax pmax
comp=Z,123nm,0.7s
AKBB **Malin Array Si** 16.59 9 Pn 07 06 42.0 -0.3
AKBB **Malin Array Si** 16.59 9 *ce*P Pn 07 06 40.9 -1.5
AKBB **Malin Array Si** 16.59 9 P Pn 07 06 42.0 -0.3
AK04 **Malin Array Si** 16.60 9 P Pn 07 06 41.3 -1.2
AK20 **Malin Array Si** 16.60 9 P Pn 07 06 41.3 -1.2
AK03 **Malin Array Si** 16.61 9 P Pn 07 06 42.0 -0.7
KIV **Kislovodsk** 16.61 50 P P 07 06 45.0 -0.3
KIV IAmb IAmb 07 06 53.0
comp=Z,88nm,0.8s
KIV **Kislovodsk** 16.61 50 P P 07 06 44.8 -0.4
KIV **Kislovodsk** 16.61 50 ⇓P P 07 06 46.1 +0.9
KIV **Kislovodsk** 16.61 50 *e*P P 07 06 45.0 -0.3
KIV *e*S S 07 09 52.8 -5.0
KIV pmax pmax
comp=Z,103nm,1.1s
KIV MLR MLR
comp=Z,552nm,14.0s
KIV **Kislovodsk** 16.61 50 P P 07 06 44.7 -0.6
KIV **Kislovodsk** 16.61 50 ⇑P P 07 06 47.0 +1.8
FUORN **Ofenpass-Fuorn** 16.61 322 Pn 07 06 41.1 -1.9

FUORN IAmb IAmb 07 06 48.8
comp=Z,94nm,0.8s
AK22 **Malin Array Si** 16.62 9 P Pn 07 06 42.0 -0.9
SAOF **Saorge** 16.63 310 P Pn 07 06 43.7 +0.6
SAOF pmax pmax
comp=Z,34nm,0.9s
AK23 **Malin Array Si** 16.63 9 P Pn 07 06 42.0 -1.0
AK21 **Malin Array Si** 16.64 9 P Pn 07 06 41.9 -1.1
GNI **Garni** 16.64 64 Pn P 07 06 46.6 +1.0
comp=Z,2.6nm,0.3s,baz=255,slow=3.2,SNR=7.9
GNI LR LR 07 14 35.8
comp=Z,3µm,18.4s,baz=272,slow=42
comp=Z,9.0nm,0.4s
GNI **Garni** 16.64 64 P Pn 07 06 43.4 +0.1
GNI P Pn 07 06 43.4 +0.1
GNI **Garni** 16.64 64 *i* P Pn 07 06 44.3 +1.0
KBZ **Khabaz** 16.64 51 Pn P 07 06 45.7 +0.3
comp=Z,1.1nm,0.3s,baz=257,slow=7.4,SNR=32
KBZ LR LR 07 14 59.6
comp=Z,1µm,19.8s,baz=258,slow=44
comp=Z,36nm,0.9s
KBZ **Khabaz** 16.64 51 *ce*P P 07 06 44.3 -1.1
MI28 **Mi28,Pidlybu** 16.65 6 P Pn 07 06 41.9 -1.2
FETA **Feichten** 16.66 324 *e*Pn Pn 07 06 42.8 -0.6
comp=Z,49nm,0.8s,SNR=27
FETA *e*P P 07 06 47.2 +1.5
comp=Z,110nm,1.4s
MOTA **Moosalm** 16.70 325 *e*Pn Pn 07 06 42.4 -1.7
comp=Z,15nm,0.5s,SNR=9.5
GEC2 **GERESS Array S** 16.76 333 Pn 07 06 44.1 -0.6
GEC2 IAmb IAmb 07 06 48.9
comp=Z,122nm,0.8s
GEC2 **GERESS Array S** 16.76 333 P Pn 07 06 43.7 -1.0
GEC2 pmax pmax
comp=Z,176nm,0.9s
GEC2 **GERESS Array S** 16.76 333 *e*P P 07 06 48.0 +1.1
comp=Z,123nm,0.8s,baz=143,slow=11
GEC2 *ep*P *pP* 07 06 53.3 +0.7
baz=142,slow=12
GERES **GERESS Array B** 16.76 333 Pn 07 06 44.4 -0.3
GERES **GERESS Array B** 16.76 333 Pn Pn 07 06 43.9 -0.8
comp=Z,0.4nm,0.3s,baz=154,slow=13,SNR=104
GERES LR LR 07 14 49.3
comp=Z,2µm,19.7s,baz=147,slow=43
GERES ScP **ScP** 07 15 03.9 -1.9
comp=Z,0.8nm,0.8s,baz=126,slow=1.8,SNR=5.5
GERES **GERESS Array B** 16.76 333 P Pn 07 06 44.4 -0.3
KRLC **Kraliky** 16.84 341 *e*P Pn 07 06 46.5 +0.8
KRLC MLR MLR
comp=Z,1µm,11.7s
KRLC **Kraliky** 16.84 341 *e*P Pn 07 06 46.5 +0.8
KRLC AMS AMS 07 14 30.0
comp=Z,1µm,11.7s
RNPP5 **Staryi Chortor** 16.85 2 P Pn 07 06 44.6 -1.1
DAVOX **Davos/Dischmat** 16.92 322 Pn Pn 07 06 46.6 -0.3
comp=Z,1.0nm,0.3s,baz=142,slow=9.8,SNR=25
DAVOX LR LR 07 15 17.4
comp=Z,851nm,19.7s,baz=125,slow=44
comp=Z,21nm,1.0s
RNPP2 **Kostyukhnivka** 16.95 2 P P 07 06 47.9 -0.9
RNPP8 **Varash** 16.96 2 P Pn 07 06 45.6 -1.5
RETA **Reutte** 16.97 325 *e*Pn Pn 07 06 46.9 -0.4
comp=Z,25nm,0.8s,SNR=7.7
RETA *e*P P 07 06 50.4 +1.3
comp=Z,23nm,0.7s
TUE **Stuetta** 17.00 320 Pn 07 06 47.2 -0.6
TUE **Stuetta** 17.00 320 ⇑P Pn 07 06 47.8 0.0
RNPP9 **Sopachiv** 17.03 2 P Pn 07 06 46.6 -1.4
KHC **Kasperske Hory** 17.04 333 *e*P Pn 07 06 47.2 -1.0
KHC MLR MLR
comp=Z,2µm,14.7s
KHC **Kasperske Hory** 17.04 333 *e*P Pn 07 06 47.2 -1.0
KHC *ep*P P 07 06 51.0 +1.1
KHC AMS AMS 07 14 10.0
comp=Z,2µm,14.7s
KHC **Kasperske Hory** 17.04 333 ⇓P Pn 07 06 47.1 -1.1
KHC **Kasperske Hory** 17.04 333 P Pn 07 06 46.4 -1.8
comp=Z,687nmcomp=Z,87nm,1.2s
ISO **Isola** 17.04 310 P P 07 06 49.3 -0.7
ISO pmax pmax
comp=Z,50nm,1.2s
ZVC **Zvikov** 17.08 335 *e*P Pn 07 06 48.1 -0.5
PZZ **Stroppo** 17.16 311 P Pn 07 06 49.4 -0.4
PZZ pmax pmax
comp=Z,23nm,1.0s
DPC **Dobruska-Polom** 17.21 341 *e*P Pn 07 06 50.6 +0.3
DPC **Dobruska-Polom** 17.21 341 *e*P Pn 07 06 50.6 +0.3
DPC **Dobruska-Polom** 17.21 341 P Pn 07 06 49.5 -0.8
comp=Z,453nmcomp=Z,38nm,0.9s
FUR **Furstenfeldbru** 17.22 327 P Pn 07 06 51.1 +0.6
FUR pmax pmax
comp=Z,245nm,1.0s
FUR **Furstenfeldbru** 17.22 327 *e*P P 07 06 53.7 +1.8
comp=Z,209nm,0.9s,baz=143,slow=11
FUR *ep*P *pwP* 07 06 59.2 -0.7
baz=142,slow=12
DAVA **Damuels** 17.26 323 *e*Pn Pn 07 06 51.2 +0.1
comp=Z,21nm,0.7s,SNR=28
DAVA **Damuels** 17.26 323 ⇓P Pn 07 06 51.1 +0.1
GOPC **GO Pecny, Ondr** 17.28 337 *e*P Pn 07 06 51.3 +0.1
GOPC **GO Pecny, Ondr** 17.28 337 *e*P Pn 07 06 51.3 +0.1
WET **Wettzell** 17.32 332 P P 07 06 53.3 +0.4
WET pmax pmax
comp=Z,191nm,1.1s
WET **Wettzell** 17.32 332 *e*P P 07 06 53.8 +0.9
comp=Z,159nm,1.0s,baz=143,slow=11
WET *ep*P *pP* 07 06 59.1 +0.4
baz=142,slow=12
GOF **Gofitskoye** 17.39 47 *ce*P P 07 07 00.7 +7.0
RSP **Reno Superiore** 17.40 313 P P 07 06 54.6 +0.6
RSP pmax pmax
comp=Z,10.0nm,0.8s
LLS **Linth-Limmern** 17.41 320 P P 07 06 54.7 +0.5
LLS pmax pmax
comp=Z,86nm,0.9s
OSTC **Ostas** 17.43 341 *e*P Pn 07 06 52.3 -0.7
OSTC **Ostas** 17.43 341 *e*P Pn 07 06 52.3 -0.7
PRU **Pruhonice** 17.43 337 *e*P Pn 07 06 52.9 -0.1
PRU MLR MLR
comp=Z,800nm,12.3s
PRU **Pruhonice** 17.43 337 *e*P Pn 07 06 52.9 -0.1
PRU AMS AMS 07 14 40.0
comp=Z,800nm,12.3s
UPC **Upice** 17.44 340 P Pn 07 06 52.8 -0.3
UPC pmax pmax
comp=Z,46nm,1.1s
UPC **Upice** 17.44 340 *e*P P 07 06 54.2 0.0
MMK **Mattmark** 17.50 317 P Pn 07 06 54.5 +0.4
MMK pmax pmax
comp=Z,8.0nm,0.8s
RRL **Rocca Remolon** 17.57 312 P P 07 06 56.0 0.0
RRL pmax pmax
comp=Z,33nm,1.0s
KSP **Ksiaz** 17.67 341 *e*P Pn 07 06 55.6 -0.3
KSP *e*L L 07 14 43.1
comp=Z,1µm,21.0s
KSP **Ksiaz** 17.67 341 P Pn 07 06 55.4 -0.5
KSP pmax pmax
comp=Z,36nm,0.9s
KSP **Ksiaz** 17.67 341 ⇑P Pn 07 06 55.6 -0.3
KSP **Ksiaz** 17.67 341 P Pn 07 06 55.1 -0.8
comp=Z,439nmcomp=Z,36nm,0.9s
BNI **Bardonecchia** 17.70 312 P Pn 07 06 56.9 +0.3
BNI **Bardonecchia** 17.70 312 P Pn 07 06 56.9 +0.3
BNI pmax pmax
comp=Z,46nm,1.7s
BNI **Bardonecchia** 17.70 312 ⇑P P 07 07 00.0 +2.7
BEL **Belsk** 17.73 351 *e*P Pn 07 06 56.2 -0.5
BEL *e*L L 07 14 54.5
comp=Z,30µm,19.2s
BEL **Belsk** 17.73 351 P P 07 06 58.6 +1.2
GRC1 **Grafenberg Arr** 17.75 329 P Pn 07 06 56.1 -0.8
GRC1 pmax pmax
comp=Z,91nm,1.1s
PVCC **Panska Ves** 17.89 338 P Pn 07 06 57.6 -1.0
PVCC pmax pmax
comp=Z,62nm,1.3s
PVCC **Panska Ves** 17.89 338 AMS AMS 07 14 50.0
comp=Z,600nm,13.5s
GRB1 **Grafenberg Arr** 18.00 330 P Pn 07 06 59.1 -1.0
GRB1 pmax pmax
comp=Z,339nm,0.9s
SENIN **Lac Senin/Sane** 18.05 317 P P 07 07 01.2 0.0
ORIF **Oris-en-Rattie** 18.13 311 P Pn 07 07 01.8 0.0
ORIF pmax pmax

comp=Z,23nm,0.9s
MANZ **Manzenberg** 18.29 332 *e*P P 07 07 04.3 +0.6
comp=Z,16nm,1.1s,baz=143,slow=11
BRG **Berggiesshubel** 18.39 337 P Pn 07 07 04.8 +0.1
BRG pmax pmax
comp=Z,39nm,1.0s
BRG **Berggiesshubel** 18.39 337 *e*P P 07 07 06.7 +1.9
comp=Z,31nm,0.9s,baz=143,slow=11
BRG *ep*P *pwP* 07 07 12.2 -0.6
baz=142,slow=12
BRG **Berggiesshubel** 18.39 337 Amp 07 07 07.6
comp=Z,31nm,0.9s
BRG **Berggiesshubel** 18.39 337 P Pn 07 07 11.7 +7.0
BRG Amp 07 07 13.0
comp=Z,18nm,0.8s
BRG **Berggiesshubel** 18.39 337 SS S 07 10 47.0 +14
BRG **Berggiesshubel** 18.39 337 *e*P Pn 07 07 05.2 +0.4
GRA1 **Grafenberg Arr** 18.41 330 P P 07 07 04.7 -0.3
GRA1 IAmb IAmb 07 07 06.5
comp=Z,103nm,0.9s
GRF **Grafenberg Arr** 18.41 330 P P 07 07 04.7 -0.3
GRF pmax pmax
comp=Z,103nm,0.9s
GRF **Grafenberg Arr** 18.41 330 *e*P Pn 07 07 05.8 +0.7
comp=Z,103nm,0.9s,baz=143,slow=11
GRF *ep*P *pwP* 07 07 12.6 -0.4
baz=142,slow=12
GRF *e*L L 07 15 58.6
comp=Z,1µm,19.6s
GRFO **Grafenberg** 18.41 330 P P 07 07 04.4 -0.5
GRFO IAmb IAmb 07 07 06.5
comp=Z,95nm,0.9s
GRFO **Grafenberg** 18.41 330 P P 07 07 04.4 -0.5
GRFO pmax pmax
comp=Z,95nm,0.9s
TANN **Tannenbergstha** 18.51 334 *e*P Pn 07 07 07.9 +1.6
comp=Z,118nm,1.0s,baz=143,slow=11
STU **Stuttgart** 18.62 325 P P 07 07 06.3 -0.9
STU **Stuttgart** 18.62 325 P P 07 07 06.3 -0.9
STU pmax pmax
comp=Z,58nm,0.8s
STU **Stuttgart** 18.62 325 *e*P P 07 07 07.3 +0.1
KIZ **Kirchzarten** 18.70 322 P P 07 07 07.5 -0.6
BFO **Black Forest** 18.73 323 P P 07 07 08.6 +0.1
BFO **Black Forest** 18.73 323 P P 07 07 08.6 +0.1
BFO pmax pmax
comp=Z,42nm,1.0s
BFO **Black Forest** 18.73 323 ⇓P Pn 07 07 08.9 -0.1
MOX **Moxa** 19.01 333 P Pn 07 07 12.0 -0.3
MOX pmax pmax
comp=Z,71nm,0.9s
MOX **Moxa** 19.01 333 *e*P Pn 07 07 13.0 +0.7
comp=Z,50nm,0.8s,baz=143,slow=11
MOX *e*L L 07 15 56.7
comp=Z,2µm,19.0s
CLL **Collm** 19.07 336 P P 07 07 11.8 -0.4
CLL **Collm** 19.07 336 *i* P P 07 07 11.7 -0.4
CLL pmax pmax
comp=Z,48nm,1.0s
CLL MLR MLR
comp=Z,800nm,18.9s
CLL **Collm** 19.07 336 P P 07 07 11.6 -0.5
comp=Z,47nm,1.1s
CLL **Collm** 19.07 336 *e*P Pn 07 07 12.8 -0.1
comp=Z,36nm,0.8s,baz=143,slow=11
CLL *ep*P **sP** 07 07 20.5 -0.1
baz=142,slow=12
CLL **Collm** 19.07 336 *i* P P 07 07 11.7 -0.4
CLL *i* Pmax 07 07 12.8
comp=Z,48nm,1.0s
CLL *es*P **pP** 07 07 17.0 -0.9
CLL *i* x x 07 07 19.5
CLL *es*PPP 07 08 38.0
CLL *e*S **S** 07 10 48.0 +1.2
CLL *ex* x 07 10 57.0
CLL *e*SS **SnSn** 07 11 08.0 +8.1
CLL LmV 07 15 00.0
comp=Z,800nm,18.9s
CLL Lmax 07 15 00.0
SSB **Saint Sauveur** 19.14 311 P P 07 07 12.2 -0.8
SSB **Saint Sauveur** 19.14 311 P P 07 07 12.2 -0.8
SSB pmax pmax
comp=Z,10.0nm,0.9s
SSB **Saint Sauveur** 19.14 311 ⇑P P 07 07 12.1 -0.8
AKT **Akhty** 19.16 62 *e*P P 07 07 11.2 -2.2
AKT *e*S S 07 10 50.2 +1.1
AKT pmax pmax
comp=Z,43nm,2.0s
AKT MLR MLR
comp=Z,1µm,21.0s
ECH **Echery** 19.25 321 P P 07 07 14.4 +0.2
ECH **Echery** 19.25 321 P P 07 07 14.4 +0.2
ECH pmax pmax
comp=Z,26nm,0.9s
ECH **Echery** 19.25 321 ⇓P P 07 07 14.4 +0.2
NEUB **Neuenburg** 19.41 334 *e*P Pn 07 07 17.9 +0.9
comp=Z,182nm,0.8s,baz=143,slow=11
MAK **Makhachkala** 19.42 57 *e*P P 07 07 14.2 -1.9
MAK *e*S S 07 10 52.6 -1.6
MAK pmax pmax
comp=Z,201nm,0.9s
MAK MLR MLR
comp=Z,869nm,19.0s
VSR **Storozhevoye** 19.67 27 *e*P P 07 07 18.2 -0.5
VSR pmax pmax
comp=Z,50nm,0.9s
SUW **Suwalki** 19.68 357 *e*P P 07 07 17.1 -1.6
SUW *e*S S 07 10 54.5 -4.8
SUW *e*L L 07 15 34.6
comp=Z,2µm,22.9s
SUW **Suwalki** 19.68 357 P P 07 07 17.4 -1.4
SUW **Suwalki** 19.68 357 P P 07 07 17.4 -1.4
SUW **Suwalki** 19.68 357 *e*P P 07 07 18.2 -0.6
SUW **Suwalki** 19.68 357 ⇓P P 07 07 17.3 -1.4
GKP **Gorka Klasztor** 19.70 346 *e*P P 07 07 19.4 +0.4
GKP *e*L L 07 15 34.4
comp=Z,1µm,22.8s
GKP **Gorka Klasztor** 19.70 346 P P 07 07 19.7 +0.7
GKP pmax pmax
comp=Z,128nm,0.7s
GKP **Gorka Klasztor** 19.70 346 *e*P Pn 07 07 19.9 -0.7
RUE **Ruedersdorf** 19.84 339 *e*P P 07 07 20.9 +0.4
RUE **Ruedersdorf** 19.84 339 ⇑P P 07 07 20.6 +0.1
RUE **Ruedersdorf** 19.84 339 *e*P P 07 07 20.6 +0.1
comp=Z,66nm,0.9s,baz=143,slow=11
KBD **Kabd** 19.86 99 P Pn 07 07 22.6 -0.1
MTLF **Montolieu** 19.91 303 P P 07 07 22.0 +0.6
MTLF pmax pmax
comp=Z,31nm,1.0s
MTLF **Montolieu** 19.91 303 ⇓P P 07 07 21.8 +0.4
LBL **Lubilhac** 19.93 309 P Pn 07 07 24.9 +1.4
LBL pmax pmax
comp=Z,17nm,1.9s
MNK **Minsk** 20.21 5 *i* P P 07 07 20.5 -4.1
comp=E,17nm,0.6s
MNK *i* P P 07 07 20.5 -4.1
comp=N,14nm,0.8s
MNK *i* P P 07 07 20.5 -4.1
comp=Z,40nm,0.8s,baz=187
MNK *i* PP **sP** 07 07 33.3 +0.1
MNK *i* PPP PPP 07 07 44.7
MNK *i* S S 07 11 08.0 -2.2
MNK *i* SS **SnSn** 07 11 26.5 -1.5
MNK *i* SSS SSS 07 11 39.5
MNK *i* LQ LQ 07 13 26.9
MNK *i* LR LR 07 14 43.1
MNK *i* LRM MLR 07 16 07.2
comp=Z,594nm,14.6s
MNK *i* LRM MLR 07 16 21.8
comp=E,524nm,14.9s
MNK *i* LRM MLR 07 16 21.8
comp=N,232nm,15.0s
MNK **Minsk** 20.21 5 *i* P P 07 07 20.5 -4.1
MNK *i* S S 07 11 08.0 -2.2
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,40nm,0.8s
MNK pmax pmax
comp=E,17nm,0.6s
MNK MLR MLR
comp=Z,594nm,15.0s
MNK MLR MLR
comp=N,232nm,15.0s
MNK MLR MLR

comp=E,524nm,15.0s
CEST Esterri de Car 20.36 301 P P 07 07 26.5 +0.1
CEST IAmb IAmb 07 07 32.2
comp=Z,77nm,1.0s
GTTG Gottingen 20.36 332 *eP* **P 07 07 27.2 +1.0**
comp=Z,444nm,0.9s,baz=143,slow=11
FLTG Flechtingen 20.52 335 ⇑P **P 07 07 27.2 -0.7**
FLTG Flechtingen 20.52 335 *eP* **P 07 07 27.7 -0.2**
comp=Z,170nm,0.9s,baz=143,slow=11
LOR Lormes 20.53 315 ⇓P **P 07 07 28.0 -0.1**
NACGM Naroch 20.55 3 *eP* **P 07 07 27.1 -1.2**
comp=Z,93nm,0.9s,baz=184
ASSE Asse, Remlinge 20.56 334 *eP* **P 07 07 28.5 +0.2**
comp=Z,40nm,0.9s,baz=143,slow=11
VRH Novokhopyorsk 20.68 31 *eP* **P 07 07 28.2 -1.5**
VRH pmax pmax
comp=Z,90nm,0.8s
WLF Walferdange 20.69 323 P **P 07 07 29.3 -0.5**
WLF Walferdange 20.69 323 P **P 07 07 29.3 -0.5**
WLF pmax pmax
comp=Z,136nm,1.0s
WLF Walferdange 20.69 323 *dP* **P 07 07 28.2 -1.7**
comp=Z,90nm,1.0s
WLF Walferdange 20.69 323 ⇑P **P 07 07 30.4 +0.6**
LPSR Galich'ya Gora 20.72 24 *eP* **P 07 07 27.4 -2.7**
LPSR pmax pmax
comp=Z,70nm,0.9s
KASTN Kahler Asten 20.73 329 *eP* **P 07 07 30.9 +0.6**
comp=Z,80nm,1.0s,baz=143,slow=11
RAYN Ar Rayn 20.82 116 P Pn 07 07 33.1 -0.9
RAYN Ar Rayn 20.82 116 P Pn 07 07 32.9 -1.1
RAYN Ar Rayn 20.82 116 P Pn 07 07 33.1 -0.9
RAYN pmax pmax
comp=Z,28nm,1.0s
RAYN Ar Rayn 20.82 116 *i* P Pn 07 07 33.2 -0.8
SNR=28
RAYN Ar Rayn 20.82 116 ⇓P Pn 07 07 33.7 -0.3
GORT1 Trebel 21.05 336 *eP* **P 07 07 33.1 -0.5**
comp=Z,66nm,1.1s,baz=143,slow=11
NRDL Niedersach Rie 21.06 334 *eP* **P 07 07 34.1 +0.4**
comp=Z,53nm,0.8s,baz=143,slow=11
PABE Paberze 21.14 358 P **P 07 07 33.7 -0.9**
PABE Paberze 21.14 358 *eP* **P 07 07 33.6 -0.9**
ISAL Salakas 21.20 2 *eP* **P 07 07 36.8 +1.5**
BHOU Houvegnez 21.22 325 *dP* **P 07 07 36.3 +0.8**
comp=Z,30nm,1.0s
BTNL Ternell 21.31 325 *dP* **P 07 07 37.3 +0.7**
comp=Z,76nm,0.9s
CART Cartagena 21.36 286 P **P 07 07 35.3 -1.8**
MEM Membach 21.39 325 P **P 07 07 38.2 +0.9**
MEM pmax pmax
comp=Z,167nm,0.9s
MEM Membach 21.39 325 *dP* **P 07 07 38.0 +0.7**
comp=Z,108nm,0.9s
BUG Bochum--Univer 21.39 328 P **P 07 07 37.8 +0.5**
BUG pmax pmax
comp=Z,88nm,0.8s
BUG Bochum--Univer 21.39 328 *eP* **P 07 07 38.0 +0.7**
comp=Z,72nm,0.9s,baz=143,slow=11
RCHB Rochefort 21.47 323 *dP* **P 07 07 37.8 -0.3**
RCHB *dPP* **PnPn 07 07 57.6 -1.0**
RETH Rethem/Aller, 21.53 333 *eP* **P 07 07 39.3 +0.6**
comp=Z,260nm,1.0s,baz=143,slow=11
BSTI Sart Tilman 21.58 325 *dP* **P 07 07 40.3 +1.0**
comp=Z,17nm,1.1s
BCLA Clavier 21.60 324 *dP* **P 07 07 40.1 +0.5**
comp=Z,30nm,0.9s
VSVD Vaisvydziai 21.62 358 *eP* **P 07 07 38.0 -1.7**
BEBN Eben Emael 21.67 325 *dP* **P 07 07 40.3 0.0**
comp=Z,39nm,0.8s
BGES Gesves 21.68 324 *dP* **P 07 07 40.4 -0.1**
comp=Z,21nm,0.9s
DOU Dourbes 21.75 322 *dP* **P 07 07 40.9 -0.3**
comp=Z,52nm,1.0s
PBUR Paburge 21.76 355 *eP* **P 07 07 40.0 -1.2**
BMRD Maredsous 21.79 323 *dP* **P 07 07 42.4 +0.8**
comp=Z,25nm,1.0s
BMRD *dPP* **PnPn 07 08 01.5 -1.5**
IBBN Ibbenburen 21.82 330 ⇓P **P 07 07 42.4 +0.5**
IBBN Ibbenburen 21.82 330 *eP* **P 07 07 42.4 +0.5**
comp=Z,81nm,1.0s,baz=143,slow=11
CLF Chambon-Foret 21.84 315 P **P 07 07 41.6 -0.6**
CLF IAmb IAmb 07 07 45.1
comp=Z,103nm,1.4s
CLF Chambon-Foret 21.84 315 ⇑P **P 07 07 43.0 +0.8**
OBN Obninsk 22.21 18 P **P 07 07 46.7 +0.6**
OBN Obninsk 22.21 18 P **P 07 07 47.2 +1.2**
comp=Z,48nm,0.5s,baz=328,slow=21,SNR=22
OBN LR LR 07 17 09.1
comp=Z,1μm,20.9s,baz=140,slow=39
comp=Z,48nm,0.5s
OBN Obninsk 22.21 18⇑ *eP* **P 07 07 44.1 -2.0**
OBN *e* 07 08 10.6
OBN *eS* S 07 11 32.8 -17
OBN pmax pmax
comp=Z,128nm,1.3s
OBN MLR MLR
comp=Z,1μm,17.0s
UCC Uccle 22.30 324 P **P 07 07 46.5 -0.7**
UCC IAmb IAmb 07 07 49.5
comp=Z,56nm,1.1s
UCC Uccle 22.30 324 P **P 07 07 46.5 -0.7**
UCC pmax pmax
comp=Z,56nm,1.1s
UCC Uccle 22.30 324 *dP* **P 07 07 46.4 -0.7**
comp=Z,31nm,1.1s
LUNU Lund 22.74 343 *i* P **P 07 07 48.0 -3.7**
BLEU Blekinge 22.84 347 *i* P **P 07 07 48.4 -4.3**
MOS Moscow 23.04 18 *eP* P 07 07 44.9 -10
MOS *e* 07 08 08.9
MOS *eS* S 07 11 51.2 -13
MOS pmax pmax
comp=Z,58nm,1.0s
MOS MLR MLR
comp=Z,1μm,14.0s
BJUU Bjuv 23.24 343 *i* P **P 07 07 55.3 -1.6**
DEL Delary 23.40 344 *i* P **P 07 07 55.0 -3.4**
SAKB Bahrain 23.47 104 P **P 07 08 00.4 +1.0**
ESBB Sonseca Array 23.76 291 P **P 07 08 01.1 -1.1**
ESDC Sonseca Array 23.76 291 P **P 07 08 01.5 -0.7**
ESDC Sonseca Array 23.76 291 P **P 07 08 01.9 -0.4**
comp=Z,16nm,0.8s,baz=82,slow=9.2,SNR=107
ESDC LR LR 07 18 32.4
comp=Z,282nm,21.0s,baz=89,slow=40
comp=Z,16nm,0.8s
SHMA Al-Shehemyia 23.86 104 P **P 07 08 04.3 +1.1**
PAB San Pablo 24.05 291 P **P 07 08 04.6 -0.4**
PAB San Pablo 24.05 291 P **P 07 08 04.6 -0.4**
PAB pmax pmax
comp=Z,23nm,1.0s
PAB San Pablo 24.05 291 ⇓P **P 07 08 04.9 -0.1**
VSU Vasula 24.11 2*ceP* **P 07 08 04.6 -0.6**
VSU pmax pmax
comp=Z,45nm,1.3s
VSU Vasula 24.11 2 *eP* **P 07 08 03.6 -1.7**
VSU Vasula 24.11 2 ⇑P **P 07 08 03.5 -1.7**
FABU Falkenberg 24.15 343 *i* P **P 07 08 04.0 -1.6**
BELG Belogornoye 24.16 35 *i* P **P 07 08 06.1 +0.4**
BELG pmax pmax
comp=Z,26nm,1.0s
SMRA Abu-Samra 24.27 106 P **P 07 08 06.3 -0.8**
TRNA Turayna 24.59 106 P **P 07 08 10.5 +0.6**
MUD Monsted U'grnd 24.63 339 *i* P **P 07 08 09.0 -1.0**
MUD IAmb IAmb 07 08 21.4
comp=Z,79nm,1.0s
ONAU Onsala 24.70 343 *i* P **P 07 08 09.0 -1.6**
BORU Boraas 24.71 344 *i* P **P 07 08 08.6 -2.1**
MD01 Midelt array s 24.89 275 P **P 07 08 09.5 -3.3**
MD31 MD31 24.89 275 P **P 07 08 11.0 -1.7**
JSA Saint Aubin 24.98 315 *eP* **P 07 08 13.1 -0.2**
JSA IAmb IAmb 07 08 14.2
comp=Z,70nm,0.9s
OVD Ostervraa, Den 25.07 341 *i* P **P 07 08 14.7 +0.8**
OVD IAmb IAmb 07 08 16.3
comp=Z,239nm,0.9s
ARBE Arbavere 25.07 1 *eP* **P 07 08 13.1 -0.9**
ROSF Rostrenen 25.29 312 ⇑P **P 07 08 15.7 -0.4**
ROSF Rostrenen 25.29 312 ⇑P **P 07 08 15.7 -0.4**
WOL Wolverton 25.47 320 *eP* **P 07 08 17.1 -0.5**
MEF Metsahovi 25.86 359 *eP* **P 07 08 20.3 -0.7**
SWN1 Swindon 25.89 320 *eP* **P 07 08 21.5 +0.1**
SWN1 IAmb IAmb 07 08 22.5
comp=Z,228nm,1.1s
UPP Uppsala 25.96 351 *eP* **P 07 08 20.6 -1.4**
PBRG Braganca 26.04 296 *eP* **P 07 08 22.9 -0.1**
PBRG *i* IAmb IAmb 07 08 25.6
comp=Z,43nm,1.2s
PBAR Barrancos 26.13 288 *eP* **P 07 08 24.0 +0.2**
PBAR *i* IAmb IAmb 07 08 25.6
comp=Z,47nm,2.0s
MVO Moncorvo 26.20 294 *eP* **P 07 08 24.7 +0.2**
MVO *i* IAmb IAmb 07 08 26.8
comp=Z,72nm,0.8s
MVO *e*LR LR 07 13 09.1
MVO *i* IAMs_20 IAMs_20 07 19 52.8
comp=Z,290nm,22.0s
STRD Stroud 26.22 320 *eP* **P 07 08 23.9 -0.6**
STRD IAmb IAmb 07 08 26.0
comp=Z,102nm,0.9s
CWF Charnwood Fore 26.29 322 *eP* **P 07 08 24.2 -0.9**
CWF IAmb IAmb 07 08 25.2
comp=Z,22nm,0.7s
STRU Stroemstad 26.34 344 *i* P **P 07 08 22.9 -2.5**
HOMB Homborsund 26.36 340 *i* P **P 07 08 24.4 -1.2**
PMRV Marv??o 26.40 291 *eP* **P 07 08 26.1 -0.1**
PMRV *i* IAmb IAmb 07 08 41.2
comp=Z,50nm,1.2s
PMRV *e*LR LR 07 13 31.9
PMRV *i* IAMs_20 IAMs_20 07 20 14.7
comp=Z,215nm,20.0s
PCBR Castelo Branco 26.47 291 *eP* **P 07 08 26.5 -0.4**
PCBR *i* IAmb IAmb 07 08 30.3
comp=Z,39nm,1.4s
PESTR Estremoz 26.55 289 P **P 07 08 26.6 -1.0**
PESTR IAmb IAmb 07 08 30.2
comp=Z,32nm,0.7s
PESTR Estremoz 26.55 289 *eP* **P 07 08 27.5 -0.2**
PESTR *i* IAmb IAmb 07 08 48.8
comp=Z,50nm,1.1s
PESTR Estremoz 26.55 289 ⇑P **P 07 08 27.6 0.0**
MONM Monmouth 26.59 320 *eP* **P 07 08 26.9 -0.9**
PVAQ Vaqueiros 26.70 286 *eP* **P 07 08 28.7 -0.2**
PVAQ *i* IAmb IAmb 07 08 37.5
comp=Z,31nm,1.7s
PVAQ *e*LR LR 07 14 11.9
PVAQ *i* IAMs_20 IAMs_20 07 22 40.3
comp=Z,141nm,20.0s
PVRL Vila Real 26.73 295 *eP* **P 07 08 29.2 0.0**
PVRL *i* IAmb IAmb 07 08 32.7
comp=Z,24nm,1.5s
RAF Rauma 26.75 356 *eP* **P 07 08 29.1 0.0**
PBEJ Beja 26.79 287 *eP* **P 07 08 32.2 +2.5**
PBEJ *i* IAmb IAmb 07 08 46.8
comp=Z,43nm,1.7s
POLO Lamas de Olo 26.79 295 *eP* **P 07 08 30.3 +0.4**
POLO *i* IAmb IAmb 07 08 37.5
comp=Z,14nm,1.2s
PVIS Viseu 26.82 293 *eP* **P 07 08 29.9 -0.2**
HFS Hagfors 26.83 347 P **P 07 08 28.2 -1.7**
comp=Z,8.5nm,0.5s,baz=164,slow=11,SNR=26
HFS LR LR 07 21 44.4
comp=Z,581nm,18.4s,baz=154,slow=42
comp=Z,8.5nm,0.5s
PBDV Barranco-do-Ve 26.88 286 *eP* **P 07 08 30.7 +0.1**
PBDV *i* IAmb IAmb 07 08 41.7
comp=Z,54nm,1.8s
EVO Evora 26.89 289 *eP* **P 07 08 30.7 +0.1**
EVO *i* IAmb IAmb 07 08 33.9
comp=Z,27nm,1.7s
PCVE Castro Verde 26.94 287 *eP* **P 07 08 32.1 +1.0**
PCVE *i* IAmb IAmb 07 08 43.8
comp=Z,42nm,1.5s
PCAB Cabril 26.99 296 *eP* **P 07 08 31.9 +0.3**
PCAB *i* IAmb IAmb 07 08 35.8
comp=Z,54nm,1.3s
PSARD Sardoal 27.00 291 *eP* **P 07 08 30.6 -1.0**
PSARD *i* IAmb IAmb 07 08 42.1
comp=Z,24nm,1.9s
PMTG Montargil 27.04 290 *eP* **P 07 08 33.8 +1.8**
PMTG *i* IAmb IAmb 07 08 55.4
comp=Z,36nm,1.5s
MESJ Messejana 27.08 287 *eP* **P 07 08 31.8 -0.5**
MESJ IAmb IAmb 07 08 38.5
comp=Z,13nm,0.8s
MESJ Messejana 27.08 287 *eP* **P 07 08 31.9 -0.4**
MESJ *i* IAmb IAmb 07 08 47.9
comp=Z,48nm,1.5s
FINES FINESS Array B 27.09 1 P **P 07 08 30.6 -1.6**
FINES FINESS Array B 27.09 1 P **P 07 08 30.6 -1.5**
comp=Z,23nm,0.8s,baz=148,slow=11,SNR=23
FINES LR LR 07 20 07.2
comp=Z,959nm,20.7s,baz=192,slow=38
comp=Z,23nm,0.8s
FIA1 FINESS Array S 27.09 1 P **P 07 08 30.4 -1.7**
PGAV Gavieira, Arco 27.20 296 *eP* **P 07 08 33.7 +0.2**
PGAV *i* IAmb IAmb 07 08 35.5
comp=Z,26nm,2.0s
COI Coimbra 27.20 292 IAmb IAmb 07 08 40.0
comp=Z,29nm,0.8s
COI Coimbra 27.20 292 *eP* **P 07 08 33.5 +0.1**
COI *i* IAmb IAmb 07 08 38.7
comp=Z,63nm,1.6s
MZR Muzera 27.25 107 P **P 07 08 35.3 +1.3**
MZR P **P 07 08 35.3 +1.3**
PCAS Casmilo, Conde 27.26 292 *eP* **P 07 08 34.1 +0.2**
PCAS *i* IAmb IAmb 07 08 42.6
comp=Z,25nm,1.3s
FOEL Foel Wylfa 27.34 321 *eP* **P 07 08 34.0 -0.5**
FOEL IAmb IAmb 07 08 35.4
comp=Z,61nm,1.1s
PTEO Sao Teotonio 27.49 286 *eP* **P 07 08 34.9 -1.1**
PTEO *i* IAmb IAmb 07 08 42.3
comp=Z,50nm,1.2s
PARRA Arraiolos 27.68 289 *eP* **P 07 08 30.6 -7.2**
PARRA *i* IAmb IAmb 07 08 55.8
comp=Z,44nm,1.6s
AJN Ajban 27.69 103 P **P 07 08 39.2 +1.2**
AJN P **P 07 08 39.2 +1.2**
NC602 NORSAR Array S 27.80 346 P **P 07 08 36.8 -1.8**
NC602 IAmb IAmb 07 08 41.3
comp=Z,23nm,0.8s
KEF Keuruu 27.81 360 *eP* **P 07 08 37.7 -0.9**
UMQ Umm Al-Quwin 27.81 100 P **P 07 08 41.0 +2.0**
UMQ P **P 07 08 41.0 +2.0**
ATD Arta Tunnel 27.90 140 LR LR 07 19 37.3
comp=Z,10nm,18.5s,baz=316,slow=36
ATD Arta Tunnel 27.90 140 P **P 07 08 41.6 +1.6**
ASUD Al Ashush, Dub 27.94 102 P **P 07 08 42.0 +1.8**
SNR=9.4
ASUD P **P 07 08 42.0 +1.8**
SNR=9.4
ASUD Al Ashush, Dub 27.94 102 *i* P **P 07 08 41.5 +1.3**
SNR=9.3
SHME Shamm 27.98 99 P **P 07 08 41.5 +0.9**
SHME P **P 07 08 41.5 +0.9**
SHME Shamm 27.98 99 P **P 07 08 41.3 +0.8**
NA001 NORSAR Array S 28.04 345 P **P 07 08 39.8 -0.9**
NAZ Nazwa, Dubai 28.05 101 P **P 07 08 42.6 +1.5**
NAZ P **P 07 08 42.6 +1.5**
NAZ Nazwa, Dubai 28.05 101 P **P 07 08 42.1 +0.9**
KLMR Klimovskoe 28.08 15 *eP* **P 07 08 38.1 -2.9**
KLMR pmax pmax
comp=Z,43nm,0.9s
KLMR MLR MLR
comp=Z,2μm,17.0s
FAQ Al Faqa, Dubai 28.10 102 P **P 07 08 42.6 +1.0**
FAQ P **P 07 08 42.6 +1.0**
FAQ Al Faqa, Dubai 28.10 102 P **P 07 08 42.5 +0.9**
NC405 NORSAR Array S 28.11 346 P **P 07 08 40.2 -1.1**
NB2 NORSAR Subarra 28.14 346 P **P 07 08 40.4 -1.3**
comp=Z,9.4nm,0.8s,baz=156,slow=9.3
NOA NORSAR Array B 28.14 346 P **P 07 08 40.9 -0.8**
comp=Z,9.8nm,0.9s,baz=158,slow=9.7,SNR=31
NOA LR LR 07 21 49.9
comp=Z,595nm,20.3s,baz=160,slow=40
comp=Z,9.8nm,0.9s
BANOM Banah 28.16 99 P **P 07 08 44.1 +1.9**
BANOM P **P 07 08 44.1 +1.9**
BANOM Banah 28.16 99 P **P 07 08 43.5 +1.3**
NC303 NORSAR Array S 28.28 346 P **P 07 08 42.0 -0.8**
MSFE Esma-Masafi 28.29 100 P **P 07 08 44.2 +0.8**
MDH Madha 28.43 100 P **P 07 08 45.9 +1.3**
MDH P **P 07 08 45.9 +1.3**
MDH Madha 28.43 100 P **P 07 08 45.8 +1.3**
NC204 NORSAR Array S 28.45 345 IAmb IAmb 07 09 08.3
comp=Z,37nm,1.4s
HATD Hatta, Dubai 28.50 101 P **P 07 08 46.3 +1.1**
HATD P **P 07 08 46.3 +1.1**
HATD Hatta, Dubai 28.50 101 P **P 07 08 46.0 +0.8**
ASHO Ashiyiah 28.50 101 P **P 07 08 46.1 +0.8**
SNR=8.6
ASHO P **P 07 08 46.1 +0.8**
SNR=8.6
ASHO Ashiyiah 28.50 101 P **P 07 08 46.0 +0.7**
UOSS Minazif 28.51 101 P **P 07 08 45.8 +0.5**
UOSS IAmb IAmb 07 08 56.5
comp=Z,20nm,0.8s
UOSS Minazif 28.51 101 P **P 07 08 45.7 +0.5**
UOSS P **P 07 08 45.7 +0.5**
UOSS Minazif 28.51 101 P **P 07 08 46.2 +0.9**
UOSS Minazif 28.51 101 ⇑P **P 07 08 45.9 +0.7**
ALNE Al Ain 28.55 103 P **P 07 08 46.8 +1.2**
SNR=6.9
ALNE P **P 07 08 46.8 +1.2**
SNR=6.9
ALNE Al Ain 28.55 103 *i* P **P 07 08 46.8 +1.2**
SNR=7.0
EKA Eskdalemuir Ar 28.66 326 P **P 07 08 46.1 -0.1**
comp=Z,26nm,0.8s,baz=125,slow=8.8,SNR=38
comp=Z,26nm,0.8s
ESK Eskdalemuir 28.67 326 P **P 07 08 46.1 -0.3**
ESK Eskdalemuir 28.67 326 *eP* **P 07 08 45.6 -0.8**
ESK Eskdalemuir 28.67 326 P **P 07 08 46.1 -0.3**
ESK pmax pmax
comp=Z,84nm,1.4s
ESK Eskdalemuir 28.67 326 ⇑P **P 07 08 46.5 +0.1**
AKTO Aktyubinsk 28.81 46 LR LR 07 24 01.4
comp=Z,748nm,20.5s,baz=228,slow=44
JOF Joensuu 28.82 6 *eP* **P 07 08 46.3 -1.3**
KIRV Kirov 29.11 26 LR LR 07 21 41.8
comp=Z,378nm,20.9s,baz=227,slow=39
KIRV Kirov 29.11 26*ceP* **P 07 08 49.9 -0.3**
SOHO SOHO 29.14 102 P **P 07 08 52.1 +1.2**
SOHO P **P 07 08 52.1 +1.2**
SOHO SOHO 29.14 102 *i* P **P 07 08 52.0 +1.2**
SNR=13
DSB Dublin 29.18 320 P **P 07 08 51.3 +0.4**
ARQ Araqi 29.51 104 P **P 07 08 55.5 +1.3**
SNR=18
ARQ P **P 07 08 55.5 +1.3**
SNR=18
AB31 Akbulak array 29.60 49 P **P 07 08 55.8 +1.2**
ABKAR Akbulak array 29.60 49 P **P 07 08 55.7 +1.0**
TORD Torodi Ar. Bea 29.97 231 P **P 07 08 57.5 -0.7**
HOQ Hoqain 30.03 102 P **P 07 08 59.3 +0.6**
HOQ P **P 07 08 59.3 +0.6**
BSY Bisya 30.34 104 P **P 07 09 02.9 +1.3**
BSY P **P 07 09 02.9 +1.3**
OUL Oulu 30.74 1 P **P 07 09 03.2 -1.4**
OUL pmax pmax
comp=Z,26nm,1.0s
SMDO Samad 30.87 103 P **P 07 09 07.4 +1.0**
SMDO P **P 07 09 07.4 +1.0**
RBK Rabkut 30.93 116 P **P 07 09 07.3 +0.5**
JMDO Jabal Madar 31.25 104 P **P 07 09 10.2 +0.6**
SNR=7.8
ARTI Arti 31.60 36 P **P 07 09 12.4 +0.2**
ARTI Arti 31.60 36 LR LR 07 24 20.3
comp=Z,336nm,18.4s,baz=278,slow=41
ARTI Arti 31.60 36*d* *iP* **P 07 09 12.0 -0.2**
ARTI 07 10 15.4
ARTI S **S 07 14 23.1 +3.4**
ARTI SS **SnSn 07 16 10.0 +4.1**
ARTI pmax pmax
comp=Z,34nm,0.8s
ARTI MLR MLR
comp=Z,371nm,15.0s
ARTI Arti 31.60 36 ⇑P **P 07 09 11.7 -0.5**
WBK Wadi Bani Khal 31.83 103 P **P 07 09 16.4 +1.7**
MHTO MHTO 31.85 106 P **P 07 09 16.6 +1.8**
MHTO P **P 07 09 16.6 +1.8**
JLN Jalan Bani Buh 32.41 103 P **P 07 09 20.8 +1.1**
JLN P **P 07 09 20.8 +1.1**
SVE Sverdlovsk 32.90 36*de* P **P 07 09 23.8 +0.1**
SVE pmax pmax
comp=Z,48nm,0.6s
SGF Sodankyl 33.12 1 P **P 07 09 25.3 -0.1**
SGF pmax pmax
comp=Z,25nm,1.6s
APA Apatity 33.58 6 *eP* **P 07 09 24.7 -4.7**
APA *e* 07 10 47.5
APA MLR MLR
comp=Z,1μm,12.5s
LVZ Lovozero 34.01 6 P **P 07 09 32.0 -1.2**
LVZ Lovozero 34.01 6*ceP* **P 07 09 33.4 +0.2**
LVZ pmax pmax
comp=Z,23nm,1.0s
LVZ Lovozero 34.01 6 ⇓P **P 07 09 32.1 -1.2**
ARCES ARCESS Array B 35.21 0 P **P 07 09 42.5 -1.1**
ARCES IAmb IAmb 07 09 57.7
comp=Z,54nm,1.8s
ARCES ARCESS Array B 35.21 0 P **P 07 09 41.9 -1.7**
comp=Z,8.9nm,0.8s,baz=188,slow=9.9,SNR=34
ARCES PcP **PcP 07 12 14.0 -0.1**
comp=Z,1.0nm,0.4s,baz=189,slow=3.2,SNR=5.0
ARCES LR LR 07 25 31.4
comp=Z,838nm,18.1s,baz=183,slow=39
comp=Z,8.9nm,0.8s
ARCES ARCESS Array B 35.21 0 P **P 07 09 42.5 -1.1**
ARCES pmax pmax
comp=Z,54nm,1.8s
BRLS Boroldav 35.59 62 *eP* **P 07 09 46.7 -0.5**
BRLS Boroldav 35.59 62 *eP* **P 07 09 46.8 -0.5**
IUG luzhnay 35.77 64 *eP* **P 07 09 49.1 +0.3**
IUG pmax pmax
comp=Z,8.0nm,0.9s
IUG luzhnay 35.77 64 *eP* **P 07 09 49.1 +0.3**
comp=Z,7.6nm,0.9s
KK31 Karatay Array 36.09 62 P **P 07 09 52.4 +0.9**
KK31 IAmb IAmb 07 10 05.7
comp=Z,23nm,1.1s
KK31 Karatay Array 36.09 62 P **P 07 09 52.4 +0.9**
KK31 pmax pmax
comp=Z,23nm,1.2s
KKAR Karatay Array 36.09 62 P **P 07 09 52.3 +0.8**
KKAR Karatay Array 36.09 62 P **P 07 09 52.3 +0.8**
GAR Garm 36.25 69 P **P 07 09 53.6 +0.6**
GAR IAmb IAmb 07 10 07.3
comp=Z,20nm,0.7s
DZA Taraz 36.70 63 *eP* **P 07 09 57.0 +0.3**
DZA pmax pmax
comp=Z,9.0nm,0.6s
DZA Taraz 36.70 63 *eP* **P 07 09 57.0 +0.3**
comp=Z,8.9nm,0.6s
BRVK Borovoye 36.85 46 P **P 07 09 58.9 +1.0**
BRVK Borovoye 36.85 46 P **P 07 09 58.5 +0.6**
BRVK P **P 07 09 58.5 +0.6**
BRVK Borovoye 36.85 46*ceP* **P 07 09 58.8 +1.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 36.85 46 ⇓P **P 07 09 58.8 +1.0**
BVAR Borovoye Array 36.91 46 P **P 07 09 58.8 +0.5**
comp=Z,8.8nm,0.8s,baz=264,slow=6.0,SNR=37
BVAR LR LR 07 28 05.7
comp=Z,389nm,21.6s,baz=254,slow=41
comp=Z,8.8nm,0.8s
KMBO Kilima Mbogo 37.11 160 LR LR 07 25 05.7
comp=Z,518nm,21.0s,baz=6.0,slow=36
BRZS Berezniki 37.85 51 *eP* **P 07 10 06.6 +0.3**
BRZS Berezniki 37.85 51 *eP* **P 07 10 06.6 +0.3**
ARSB Arslanbob 38.03 65 P **P 07 10 09.6 +1.4**
ARSB IAmb IAmb 07 10 22.0
comp=Z,35nm,1.1s
ARSB Arslanbob 38.03 65 P **P 07 10 09.6 +1.4**
ARSB pmax pmax
comp=Z,35nm,1.1s
KIBK Kibwezi 38.49 159 P **P 07 10 13.8 +1.7**
BTLS Baital 38.59 59 *eP* **P 07 10 12.9 +0.4**
BTLS Baital 38.59 59 *eP* **P 07 10 13.0 +0.4**
AAK Ala-Archa 39.04 63 P **P 07 10 16.8 +0.2**
AAK Ala-Archa 39.04 63 LR LR 07 30 10.2
comp=Z,298nm,18.6s,baz=290,slow=42
AAK Ala-Archa 39.04 63 P **P 07 10 16.1 -0.5**
AAK P **P 07 10 16.1 -0.5**
AAK Ala-Archa 39.04 63*ceP* **P 07 10 17.3 +0.7**
AAK pmax pmax
comp=Z,9.0nm,0.8s
DBIC Dimbokro 39.06 232 P **P 07 10 15.8 -1.0**
DBIC Dimbokro 39.06 232 P **P 07 10 15.4 -1.4**
comp=Z,15nm,0.8s,baz=52,slow=9.1,SNR=13
DBIC LR LR 07 29 32.0
comp=Z,822nm,19.4s,baz=48,slow=41
comp=Z,15nm,0.8s
DBIC Dimbokro 39.06 232 P **P 07 10 15.8 -1.0**

DBIC pmax pmax
comp=Z,19nm,0.9s
DBIC Dimbokro 39.06 232 ⇑P **P 07 10 15.6 -1.2**
FRU1 Bishkek 39.12 62 P **P 07 10 18.3 +1.1**
FRU1 Bishkek 39.12 62 P **P 07 10 18.3 +1.1**
FRU1 pmax pmax
comp=Z,21nm,0.4s
NIL Nilore 39.60 77 P **P 07 10 21.9 +0.6**
NIL IAmb IAmb 07 10 35.9
comp=Z,26nm,1.0s
NIL Nilore 39.60 77 P **P 07 10 21.7 +0.4**
NIL P **P 07 10 21.7 +0.4**
NIL Nilore 39.60 77 P **P 07 10 21.9 +0.6**
NIL pmax pmax
comp=Z,26nm,1.0s
KUU Kurty 40.28 61 *e*P **P 07 10 27.1 +0.3**
KUU pmax pmax
comp=Z,9.0nm,0.8s
KUU Kurty 40.28 61 *e*P **P 07 10 27.1 +0.3**
comp=Z,9.4nm,0.8s
KSH Kashi 40.52 67 P **P 07 10 28.4 -0.6**
KSH pP pP 07 10 34.3 -1.2
KSH sP sP 07 10 37.9 +0.1
KSH pmax pmax
comp=Z,7.0nm,1.3s
JMIC Jan Mayen 40.82 344 LR LR 07 29 37.4
comp=Z,188nm,18.9s,baz=262,slow=39
KDJ Kajisay 41.07 63 **P 07 10 34.6 +1.1**
KDJ Kajisay 41.07 63 P **P 07 10 34.6 +1.1**
KDJ pmax pmax
comp=Z,16nm,0.8s
BORG Borgarnes 41.22 332 LR LR 07 28 58.3
comp=Z,294nm,21.0s,baz=118,slow=38
ARXS Arharly 41.33 60 *e*P **P 07 10 35.9 +0.4**
KURBB Kurchatov Arra 41.64 50 P **P 07 10 38.8 +1.0**
comp=Z,9.1nm,0.3s,baz=278,slow=8.7,SNR=55
KURBB S **S 07 16 53.1 +0.3**
comp=Z,0.7nm,0.3s,baz=280,slow=17,SNR=7.6
KURBB LR LR 07 32 49.5
comp=Z,504nm,20.6s,baz=174,slow=43
comp=Z,9.1nm,0.3s
TDK Taldyqorghan 41.67 59 *e*P **P 07 10 38.6 +0.4**
TDK pmax pmax
comp=Z,8.0nm,0.6s
TDK Taldyqorghan 41.67 59 *e*P **P 07 10 38.6 +0.4**
comp=Z,8.1nm,0.6s
KURK Kurchatov 41.70 50 P **P 07 10 39.0 +0.7**
KURK Kurchatov 41.70 50 P **P 07 10 39.2 +0.9**
KURK P **P 07 10 39.2 +0.9**
KURK Kurchatov 41.70 50*ce*P **P 07 10 38.6 +0.3**
KURK pmax pmax
comp=Z,18nm,0.8s
KURK Kurchatov 41.70 50 ⇑P **P 07 10 39.0 +0.7**
SATY Saty 41.86 62 *e*P **P 07 10 40.2 +0.3**
SATY pmax pmax
comp=Z,7.0nm,0.8s
SATY Saty 41.86 62 *e*P **P 07 10 40.2 +0.3**
comp=Z,7.3nm,0.8s
UZB Uzynbulak 42.30 61 *e*P **P 07 10 43.6 +0.1**
UZB Uzynbulak 42.30 61 *e*P **P 07 10 43.7 +0.1**
SHLS Shalkode 42.62 61 *e*P **P 07 10 48.7 +2.7**
SHLS Shalkode 42.62 61 *e*P **P 07 10 48.8 +2.7**
MAKZ Makanchi 44.02 56 P **P 07 10 58.1 +0.9**
MAKZ Makanchi 44.02 56 P **P 07 10 58.1 +0.9**
MAKZ pmax pmax
comp=Z,11nm,1.0s
SPB2 Spitsbergen Ar 44.06 357 P **P 07 10 56.9 -0.2**
SPB2 IAmb IAmb 07 11 12.1
comp=Z,26nm,0.8s
SPITS Spitsbergen Ar 44.06 357 P **P 07 10 56.8 -0.3**
comp=Z,2.5nm,0.3s,baz=146,slow=12,SNR=17
SPITS LR LR 07 31 14.9
comp=Z,603nm,20.2s,baz=170,slow=39
comp=Z,2.5nm,0.3s
SPITS Spitsbergen Ar 44.06 357 P **P 07 10 56.9 -0.3**
SPITS pmax pmax
comp=Z,32nm,1.0s
MK31 Makanchi Array 44.23 56 P **P 07 11 00.1 +1.2**
MK31 IAmb IAmb 07 11 02.0
comp=Z,18nm,0.8s
MK31 Makanchi Array 44.23 56*ce*P **P 07 11 00.0 +1.1**
MKAR Makanchi Array 44.23 56 P **P 07 10 59.9 +1.0**
comp=Z,26nm,0.8s,baz=276,slow=6.5,SNR=80
MKAR LR LR 07 33 14.2
comp=Z,218nm,19.2s,baz=268,slow=41
comp=Z,26nm,0.8s
MKAR Makanchi Array 44.23 56*ce*P **P 07 10 59.9 +1.0**
MKAR pmax pmax
comp=Z,27nm,0.8s
KBS Kingsbay 44.99 356 P **P 07 11 04.7 +0.1**
KBS Kingsbay 44.99 356 P **P 07 11 04.7 +0.1**
KBS pmax pmax
comp=Z,32nm,0.8s
KBS Kingsbay 44.99 356 ⇓P **P 07 11 04.6 +0.1**
KBS Kingsbay 44.99 356 *i* P **P 07 11 04.1 -0.4**
ZAA0 Zalesovo Array 45.57 46 P **P 07 11 09.5 +0.1**
ZALV Zalesovo Beam 45.57 46 P **P 07 11 09.8 +0.4**
ZALV Zalesovo Beam 45.57 46 P **P 07 11 09.5 +0.1**
comp=Z,16nm,0.3s,baz=264,slow=9.5,SNR=60
ZALV LR LR 07 34 39.5
comp=Z,218nm,18.9s,baz=278,slow=42
comp=Z,16nm,0.3s
DBG Daneborg 45.65 344 *i* P **P 07 11 09.9 +0.2**
DBG IAmb IAmb 07 11 14.0
comp=Z,15nm,1.0s
SOEG Soedalen 46.22 334 *i* P **P 07 11 13.8 -0.5**
SOEG IAmb IAmb 07 11 16.2
comp=Z,16nm,0.8s
DAG Danmarks Havn 46.80 347 P **P 07 11 18.9 +0.1**
DAG pmax pmax
comp=Z,31nm,0.9s
DAG Danmarks Havn 46.80 347 ⇑P **P 07 11 18.6 -0.2**
DAG Danmarks Havn 46.80 347 *i* P **P 07 11 17.6 -1.2**
DAG IAmb IAmb 07 11 19.9
comp=Z,25nm,0.9s
WMQ Urumqi 48.43 59 *e*P **P 07 11 35.7 +3.7**
WMQ LR LR
comp=Z,510nm,23.9s
WMQ LR LR
comp=Z,390nm,24.1s
ISOG Isortoq, Green 48.59 330 *i* P **P 07 11 32.2 -0.6**
ISOG IAmb IAmb 07 11 34.0
comp=Z,25nm,1.0s
LSZ Lusaka 49.47 176 LR LR 07 33 39.0
comp=Z,382nm,18.6s,baz=352,slow=37
SUMG Summit 49.70 339 P **P 07 11 42.0 +0.3**
SUMG IAmb IAmb 07 11 43.0
comp=Z,14nm,0.8s
SUMG Summit 49.70 339 P **P 07 11 42.0 +0.3**
SUMG pmax pmax
comp=Z,14nm,0.8s
NOR Nord 49.71 353 ⇑P **P 07 11 40.6 -0.6**
NOR Nord 49.71 353 *i* P **P 07 11 39.6 -1.6**
NOR IAmb IAmb 07 11 42.0
comp=Z,38nm,0.9s
HYB Hyderabad 50.38 95 *e*P **P 07 11 47.6 +0.4**
EVN Everest 52.48 79 P **P 07 12 03.3 -0.2**
EVN IAmb IAmb 07 12 10.6
comp=Z,12nm,0.7s
IVI Ivigtut 52.63 324 P **P 07 12 02.8 -0.6**
IVI IAmb IAmb 07 12 05.0
comp=Z,27nm,1.0s
IVI Ivigtut 52.63 324 *i* P **P 07 12 02.1 -1.3**
IVI IAmb IAmb 07 12 04.7
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 53.35 332 LR LR 07 37 43.6
comp=Z,259nm,18.2s,baz=86,slow=39
ILULI Ilulissat 53.46 334 P **P 07 12 09.2 -0.2**
ILULI IAmb IAmb 07 12 22.2
comp=Z,22nm,1.0s
ILULI Ilulissat 53.46 334 P **P 07 12 09.2 -0.2**
ILULI pmax pmax
comp=Z,22nm,1.0s
ILULI Ilulissat 53.46 334 *i* P **P 07 12 08.6 -0.8**
ILULI IAmb IAmb 07 12 21.9
comp=Z,19nm,0.9s
NEEM North Greenlan 53.72 345 *i* P **P 07 12 11.2 -0.3**
NEEM IAmb IAmb 07 12 13.6
comp=Z,21nm,0.7s
TSUM Tsumeb 53.77 189 LR LR 07 38 54.6
comp=Z,2µm,18.6s,baz=330,slow=40
NUUK Nuuk 54.01 328 *i* P **P 07 12 11.3 -2.0**
NUUK IAmb IAmb 07 12 14.2
comp=Z,8.0nm,0.8s
GDH Godhavn 54.33 335 *i* P **P 07 12 14.8 -0.8**

GDH IAmb IAmb 07 12 23.7
comp=Z,15nm,0.8s
MATP Matopo 54.59 176 LR LR 07 35 33.3
comp=Z,171nm,19.9s,baz=6.5,slow=36
GRTLG Ghanzi 55.56 184 IAmb IAmb 07 12 26.6
comp=Z,13nm,0.8s
MOY Mondy 55.56 47 *e*P **P 07 12 26.6 +1.5**
GOMU GeErMu 55.76 67 P **P 07 12 28.3 +1.3**
GOMU pP pP 07 12 31.1 -2.4
GOMU sP sP 07 12 34.6 -1.3
GOMU pmax pmax
comp=Z,4.0nm,0.7s
MREMI Moremi 56.68 177 IAmb IAmb 07 12 34.5
comp=Z,15nm,0.8s
OPO Ambohidratompo 56.69 155 LR LR 07 37 04.3
comp=Z,157nm,20.9s,baz=174,slow=36
ZAK Zakamensk 57.29 48 *e*P **P 07 12 36.9 -0.4**
ZAK pmax pmax
comp=Z,11nm,0.9s
LPHEP Lephephe 57.43 179 P **P 07 12 38.9 +0.5**
LPHEP IAmb IAmb 07 12 39.9
comp=Z,15nm,0.8s
SHL Shillong 57.59 79 IAmb IAmb 07 12 52.5
comp=Z,17nm,1.2s
SHL Shillong 57.59 79 P **P 07 12 43.7 +3.8**
PALK Pallekele 57.69 104 LR LR 07 41 03.6
comp=Z,210nm,18.3s,baz=318,slow=40
TULEG Thule 57.78 344 IAmb IAmb 07 12 42.1
comp=Z,22nm,1.1s
TULEG Thule 57.78 344 *i* P **P 07 12 38.0 -2.3**
TULEG IAmb IAmb 07 12 41.2
comp=Z,16nm,1.0s
GTA Gaotai 58.36 61 *e*P **P 07 12 45.6 +0.5**
GTA pP pP 07 12 51.4 -0.4
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA LR LR
comp=Z,220nm,21.1s
GTA LR LR
comp=Z,250nm,17.9s
GTA LR LR
comp=Z,240nm,19.5s
BRDH Bariadhala 58.68 83 LR LR 07 45 09.3
comp=Z,130nm,18.2s,baz=286,slow=43
LBTB Lobatse 59.07 179 LR LR 07 39 02.5
comp=Z,328nm,21.2s,baz=356,slow=37
SONM Songino Array 60.01 50 P **P 07 12 57.0 +0.6**
SONM IAmb IAmb 07 13 08.0
comp=Z,8.9nm,1.0s
SONM Songino Array 60.01 50 P **P 07 12 57.1 +0.7**
comp=Z,8.5nm,0.8s,baz=282,slow=9.3,SNR=30
SONM LR LR 07 43 16.7
comp=Z,267nm,21.6s,baz=288,slow=40
comp=Z,8.5nm,0.8s
ULN Ulaanbaatar 60.41 50 P **P 07 12 59.6 +0.5**
ULN IAmb IAmb 07 13 01.6
comp=Z,13nm,1.0s
ULN Ulaanbaatar 60.41 50 *i* P **P 07 13 00.3 +1.1**
ULN pmax pmax
comp=Z,10.0nm,0.9s
BOD Bodaibo 61.09 38 *e*P **P 07 13 02.7 -0.7**
BOD pmax pmax
comp=Z,23nm,0.9s
FRB Frobisher Bay 61.32 330 LR LR 07 41 43.2
comp=Z,213nm,18.4s,baz=90,slow=38
TIXI Tiksi 61.91 20 LR LR 07 43 25.8
comp=Z,547nm,19.1s,baz=277,slow=39
BOSA Boshof 62.65 180 P **P 07 13 14.6 +0.3**
comp=Z,9.2nm,0.7s,baz=340,slow=6.6,SNR=15
BOSA LR LR 07 43 42.3
comp=Z,363nm,19.6s,baz=13,slow=39
comp=Z,9.2nm,0.7s
SCHQ Schefferville 63.76 320 P **P 07 13 21.2 -0.1**
comp=Z,14nm,0.7s,baz=69,slow=4.9,SNR=18
SCHQ LR LR 07 41 28.1
comp=Z,73nm,18.1s,baz=71,slow=36
comp=Z,14nm,0.7s
RES Resolute Bay 64.41 345 LR LR 07 42 55.8
comp=Z,162nm,18.8s,baz=38,slow=37
CD2 Chengdu 64.70 69 P **P 07 13 29.8 +1.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
PZH PanZhiHua 65.10 74 P **P 07 13 33.8 +3.1**
HHC Hu-ho-hao-te 66.10 56 *e*P **P 07 13 37.3 +0.4**
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,150nm,5.5s
HHC LR LR
comp=Z,280nm,16.8s
HHC LR LR
comp=Z,280nm,17.6s
HHC LR LR
comp=Z,210nm,16.0s
YAK Yakutsk 66.57 30 LR LR 07 45 57.6
comp=Z,143nm,19.8s,baz=297,slow=39
YAK Yakutsk 66.57 30*ce*P **P 07 13 40.0 +0.6**
YAK pmax pmax
comp=Z,11nm,0.7s
CMAR Chiang Mai Arr 66.69 83 P **P 07 13 41.0 +0.1**
comp=Z,1.1nm,0.3s,baz=297,slow=7.6,SNR=5.2
CMAR LR LR 07 51 05.5
comp=Z,53nm,18.9s,baz=295,slow=43
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 66.69 83 *i* P **P 07 13 43.4 +2.5**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
XAN Xi'an 67.21 64 P **P 07 13 46.7 +2.7**
XAN pmax pmax
comp=Z,13nm,1.0s
XLT XiLinHaoTe 67.77 51 *e*P **P 07 13 48.0 +0.6**
XLT pP pP 07 13 53.8 -0.5
XLT pmax pmax
comp=Z,14nm,0.6s
E62A Clayton Lake 68.83 313 IAmb IAmb 07 14 13.4
comp=Z,10nm,0.9s
ZEA Zeya 69.58 38 *e*P **P 07 13 59.8 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
RCBR Riachuelo 70.00 248 LR LR 07 45 11.1
comp=Z,111nm,20.4s,baz=68,slow=36
RCBR Riachuelo 70.00 248 *e*P **P 07 14 02.1 +0.5**
HEH HeiHe 71.46 41 *e*P **P 07 14 10.5 +0.5**
HEH pmax pmax
comp=Z,34nm,0.8s
A36M Sachs Harbour 71.91 351 P **P 07 14 12.6 +0.3**
baz=26
M65A Busby, Falmout 71.99 308 P **P 07 14 12.7 -0.7**
baz=60
TRQ Mont Tremblant 72.06 314 IAmb IAmb 07 14 32.8
comp=Z,16nm,1.2s
NBPB Pedra_Branca-C 72.67 251 *e*P **P 07 14 18.5 +0.7**
NBAN Anadia - AL 72.75 245 *e*P **P 07 14 19.8 +1.6**
CN2 Changchun 73.72 48 *e*P **P 07 14 24.5 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 73.86 45 ⇑P **P 07 14 24.6 +0.3**
BNX pmax pmax
comp=Z,19nm,0.9s
SEY Seymchan 74.29 22 LR LR 07 50 15.9
comp=Z,348nm,21.3s,baz=333,slow=38
SEY Seymchan 74.29 22 *e*P **P 07 14 26.3 -0.2**
SEY pmax pmax
comp=Z,13nm,1.3s
A21K Barrow 74.59 1 P **P 07 14 28.1 +0.1**
baz=359
A22K Sinclair Lake 74.92 0 P **P 07 14 29.5 -0.5**
baz=0.0
PSI Prapat 75.06 97 P **P 07 14 32.3 +0.3**
NJ2 Nanjing 75.45 61 *e*P **P 07 14 34.6 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
SADO Sadowa 75.56 315 LR LR 07 47 30.5
comp=Z,207nm,21.1s,baz=77,slow=36
B22K Teshekpuk Lake 75.58 359 P **P 07 14 32.6 -1.2**
baz=1.4
A19K Wainwright 75.62 2 P **P 07 14 33.0 -1.1**
baz=355
C26K Camden Bay 75.75 356 P **P 07 14 33.9 -0.9**
baz=8.6
B20K Meade River 75.90 1 P **P 07 14 35.4 -0.3**
baz=358
D28M Stokes Point 75.92 354 P **P 07 14 35.0 -0.7**
baz=14
C27K Jago River 75.98 356 P **P 07 14 35.7 -0.4**
baz=9.6
C23K Itkillik River 76.04 358 IAmb IAmb 07 14 38.7
comp=Z,13nm,0.8s
C23K Itkillik River 76.04 358 P **P 07 14 35.8 -0.7**
baz=3.8
L56A Greenwood 76.07 312 IAmb IAmb 07 14 50.1
comp=Z,14nm,0.9s
C24K Franklin Bluff 76.11 358 P **P 07 14 36.3 -0.6**
baz=5.4
D27M Malcolm River 76.17 355 IAmb IAmb 07 14 45.0
comp=Z,12nm,0.9s
D27M Malcolm River 76.17 355 P **P 07 14 36.9 -0.5**
baz=12
MA2 Magadan 76.20 25 LR LR 07 54 28.4
comp=Z,144nm,18.1s,baz=291,slow=41
MA2 Magadan 76.20 25*ce*P **P 07 14 37.8 +0.2**
MA2 pmax pmax
comp=Z,11nm,0.7s
N58A Sunbury 76.27 310 IAmb IAmb 07 15 05.1
comp=Z,22nm,1.3s
B21K Ikpikpuk River 76.30 360 IAmb IAmb 07 14 40.8
comp=Z,14nm,0.8s
B21K Ikpikpuk River 76.30 360 P **P 07 14 37.8 -0.2**
baz=0.3,SNR=8.4
INK Inuvik 76.38 352 IAmb IAmb 07 15 19.0
comp=Z,14nm,1.2s
INK Inuvik 76.38 352 LR LR 07 51 10.2
comp=Z,124nm,21.7s,baz=48,slow=38
INK Inuvik 76.38 352 P **P 07 14 38.5 +0.1**
INK Inuvik 76.38 352 P **P 07 14 37.8 -0.6**
baz=18
D25K Kavik River 76.42 357 P **P 07 14 37.9 -0.8**
baz=7.3
B18K Kokolik River 76.44 3 P **P 07 14 38.8 0.0**
baz=354
D24K Happy Valley 76.68 358 IAmb IAmb 07 17 17.8
comp=Z,9.5nm,0.7s
D24K Happy Valley 76.68 358 P **P 07 14 39.4 -0.7**
baz=5.3
E28M Babbage River 76.69 354 IAmb IAmb 07 15 03.3
comp=Z,11nm,1.0s
E28M Babbage River 76.69 354 P **P 07 14 39.5 -0.7**
baz=13
E29M Blow River 76.76 354 P **P 07 14 40.3 -0.3**
baz=14,SNR=12
C19K Lookout Ridge 76.76 2 P **P 07 14 40.5 -0.2**
baz=356
C21K Knifeblade Rid 76.77 360 P **P 07 14 40.6 0.0**
baz=0.2,SNR=6.3
D23K Nanushuk River 76.92 358 IAmb IAmb 07 15 06.3
comp=Z,16nm,1.1s
D23K Nanushuk River 76.92 358 P **P 07 14 41.2 -0.3**
baz=3.7
D22K Ayikyak River 77.04 359 IAmb IAmb 07 15 06.3
comp=Z,12nm,0.9s
D22K Ayikyak River 77.04 359 P **P 07 14 41.8 -0.4**
baz=2.0
MDP Montagnes des 77.04 267 LR LR 07 47 21.3
comp=Z,137nm,22.0s,baz=56,slow=35
C18K Utukok River 77.17 2 IAmb IAmb 07 14 50.0
comp=Z,12nm,0.8s
C18K Utukok River 77.17 2 P **P 07 14 43.4 +0.4**
baz=355,SNR=8.4
D20K Etivluk River 77.21 1 IAmb IAmb 07 15 07.4
comp=Z,13nm,0.8s
D20K Etivluk River 77.21 1 P **P 07 14 42.9 -0.3**
baz=359,SNR=9.4
TOLK Toolik Lake Re 77.21 358 IAmb IAmb 07 15 13.7
comp=Z,16nm,1.1s
TOLK Toolik Lake Re 77.21 358 P **P 07 14 43.5 +0.3**
baz=4.6
F31M Tsiigehtchic 77.24 352 P **P 07 14 42.8 -0.4**
baz=18
E27K Coleen River 77.26 355 IAmb IAmb 07 15 04.7
comp=Z,10nm,1.1s
E27K Coleen River 77.26 355 P **P 07 14 43.6 +0.1**
baz=11,SNR=6.2
C17K DeLong Mountai 77.27 3 P **P 07 14 43.7 +0.2**
baz=353,SNR=6.4
F30M Barrier River 77.30 353 P **P 07 14 44.0 +0.3**
baz=16,SNR=9.1
C16K Lisburne Hills 77.36 4 P **P 07 14 44.1 +0.1**
baz=351
D19K Kuna River 77.41 1 IAmb IAmb 07 15 04.5
comp=Z,17nm,0.9s
D19K Kuna River 77.41 1 P **P 07 14 44.3 0.0**
baz=357,SNR=9.1
USRK Ussuriysk Ar. 77.41 45 P **P 07 14 44.6 -0.1**
USRK Ussuriysk Ar. 77.41 45 P **P 07 14 44.9 +0.2**
comp=Z,14nm,0.7s,baz=290,slow=5.3,SNR=34
USRK LR LR 07 54 00.3
comp=Z,70nm,18.1s,baz=320,slow=40
comp=Z,14nm,0.7s
E21K Killik River 77.49 360 P **P 07 14 44.9 +0.1**
baz=0.9
TMAB Tom-Au,PA,Br 77.55 258 *e*P **P 07 14 47.0 +1.1**
E46A Sault Ste Mari 77.58 318 IAmb IAmb 07 15 04.8
comp=Z,14nm,0.9s
E20K Nigu River 77.67 0 P **P 07 14 45.8 0.0**
baz=359,SNR=12
F28M Old Crow 77.69 354 IAmb IAmb 07 15 31.3
comp=Z,12nm,1.1s
F28M Old Crow 77.69 354 P **P 07 14 45.8 0.0**
baz=13
RDOG Red Dog Mine 77.70 3 P **P 07 14 46.1 +0.2**
baz=353
E24K Your Creek 77.75 358 P **P 07 14 46.2 -0.1**
baz=5.5
E22K Anaktuvuk Pass 77.77 359 IAmb IAmb 07 14 53.4
comp=Z,9.7nm,0.8s
E22K Anaktuvuk Pass 77.77 359 P **P 07 14 46.5 +0.1**
baz=2.7,SNR=8.2
G31M Satah River 77.80 352 IAmb IAmb 07 14 47.5
comp=Z,8.8nm,0.8s
G31M Satah River 77.80 352 P **P 07 14 46.6 +0.2**
baz=17,SNR=5.3
E23K Chandalar 77.80 358 IAmb IAmb 07 14 58.3
comp=Z,14nm,0.9s
E23K Chandalar 77.80 358 P **P 07 14 46.6 0.0**
baz=4.6,SNR=8.0
GDU01 Guandu, BA 77.81 244 *e*P **P 07 14 47.3 0.0**
P57A Homestead Farm 77.85 310 IAmb IAmb 07 15 05.7
comp=Z,29nm,1.6s
F26K Sheenjek River 77.92 356 IAmb IAmb 07 14 49.8
comp=Z,11nm,1.1s
F26K Sheenjek River 77.92 356 P **P 07 14 47.9 +0.7**
baz=9.2,SNR=7.2
G30M tAoh Zrail Nji 77.96 353 IAmb IAmb 07 15 32.5
comp=Z,21nm,1.4s
G30M tAoh Zrail Nji 77.96 353 P **P 07 14 47.6 +0.2**
baz=16
D17K Noatak River 78.05 3 P **P 07 14 48.5 +0.7**
baz=353,SNR=8.1
F25K Christian Rive 78.10 356 IAmb IAmb 07 14 51.2
comp=Z,8.5nm,0.8s
F25K Christian Rive 78.10 356 P **P 07 14 48.9 +0.7**
baz=7.9,SNR=12
YKA Yellowknife Ar 78.18 342 P **P 07 14 48.0 -0.6**
comp=Z,1.3nm,0.9s,baz=29,slow=6.2,SNR=13
YKA LR LR 07 50 03.7
comp=Z,99nm,21.7s,baz=1.5,slow=36
comp=Z,1.3nm,0.9s
YKA Yellowknife Ar 78.18 342 *i* P **P 07 14 50.5 +1.9**
BMAR Burnt Mountain 78.21 356 P **P 07 14 49.2 +0.4**
G29M Pine Creek 78.21 353 IAmb IAmb 07 15 17.7
comp=Z,18nm,1.0s
G29M Pine Creek 78.21 353 P **P 07 14 49.0 +0.3**
baz=14,SNR=11
F24K Squaw Lake 78.28 357 P **P 07 14 49.9 +0.7**
F24K IAmb IAmb 07 14 51.9
comp=Z,12nm,0.8s
F24K Squaw Lake 78.28 357 P **P 07 14 49.6 +0.4**
baz=6.0,SNR=17
F22K John River 78.41 359 P **P 07 14 49.7 -0.1**
baz=2.4
E18K Tukpahlearik C 78.42 2 IAmb IAmb 07 15 13.8
comp=Z,9.6nm,0.8s
E18K Tukpahlearik C 78.42 2 P **P 07 14 50.0 +0.1**
baz=355,SNR=8.5
E19K Redstone River 78.46 1 P **P 07 14 50.4 +0.3**
baz=358,SNR=21
EPYK Eagle Plains 78.60 353 IAmb IAmb 07 15 07.1
comp=Z,11nm,1.0s
EPYK Eagle Plains 78.60 353 P **P 07 14 51.0 0.0**
baz=15,SNR=6.2
G27K Doyon Strip 78.62 355 P **P 07 14 51.7 +0.6**
baz=11,SNR=8.9
G26K Porcupine Rive 78.63 356 IAmb IAmb 07 14 53.9
comp=Z,14nm,0.9s
G26K Porcupine Rive 78.63 356 P **P 07 14 51.6 +0.6**

baz=9.4,SNR=13
COLD Coldfoot 78.65 358 P P 07 14 51.4 +0.2
baz=4.1,SNR=10
F21K Alatna River 78.71 359 P P 07 14 51.4 -0.1
baz=1.3
E17K Hotham Inlet 78.72 3 P P 07 14 51.5 0.0
baz=354
KSRS Korea Array 78.78 52 P P 07 14 52.1 -0.3
comp=Z,7.4nm,0.8s,baz=302,slow=5.0,SNR=18
comp=Z,7.4nm,0.8s
Q56A Snyder Ridge, 78.85 310 IAmb IAmb 07 14 54.6
comp=Z,17nm,1.0s
TBO Thunder Bay 78.87 322 IAmb IAmb 07 15 10.9
comp=Z,13nm,1.1s
H31M Peel River 78.88 352 IAmb IAmb 07 15 19.1
comp=Z,13nm,1.1s
H31M Peel River 78.88 352 P P 07 14 51.7 -0.8
baz=17
F20K Avaraart Lake 78.89 0 P P 07 14 52.1 -0.4
baz=359
H29M Whitestone 78.92 353 IAmb IAmb 07 15 34.4
comp=Z,19nm,1.2s
H29M Whitestone 78.92 353 P P 07 14 52.6 -0.1
baz=14,SNR=6.2
G25K Bearman Lake 78.95 356 P P 07 14 52.5 -0.3
baz=7.5
G22K Bettles 78.98 359 P P 07 14 52.6 -0.4
baz=3.0
G24K Hadweenzic Riv 79.08 357 IAmb IAmb 07 15 18.2
comp=Z,18nm,1.4s
G24K Hadweenzic Riv 79.08 357 P P 07 14 53.3 -0.3
baz=6.3
F19K Shaleruckik Mo 79.08 1 P P 07 14 53.4 -0.2
baz=358
G23K Bananza Creek 79.16 358 IAmb IAmb 07 14 56.5
comp=Z,11nm,0.9s
G23K Bananza Creek 79.16 358 P P 07 14 54.0 -0.1
baz=4.2,SNR=14
H27K Steamboat Moun 79.18 355 IAmb IAmb 07 15 17.8
comp=Z,13nm,1.0s
H27K Steamboat Moun 79.18 355 P P 07 14 54.0 -0.2
baz=11,SNR=12
F18K Selawik 79.27 2 P P 07 14 54.5 0.0
baz=356,SNR=6.0
F17K Baldwin Pennin 79.38 3 P P 07 14 55.1 0.0
baz=355
G21K Allakaket 79.42 359 IAmb IAmb 07 14 57.5
comp=Z,12nm,0.8s
G21K Allakaket 79.42 359 P P 07 14 55.3 -0.1
baz=1.3,SNR=14
H25L Birch Creek 79.43 356 P P 07 14 55.4 0.0
baz=7.7,SNR=9.2
WRGLY Wrigley 79.54 346 P P 07 14 56.9 +0.8
baz=26
I30M Mount Dempster 79.68 352 P P 07 14 57.1 +0.1
baz=16,SNR=13
I29M Ogilvie Camp, 79.75 353 IAmb IAmb 07 14 58.8
comp=Z,13nm,0.9s
I29M Ogilvie Camp, 79.75 353 P P 07 14 57.5 +0.3
baz=14,SNR=15
G19K Purcell Mounta 79.78 1 P P 07 14 58.0 +0.6
baz=358,SNR=12
I27K Kandik River 79.81 354 P P 07 14 57.6 0.0
baz=11,SNR=15
I28M Miner Creek 79.82 354 P P 07 14 56.8 -0.9
baz=13,SNR=5.8
TNA Tin City 79.87 5 P P 07 14 57.5 -0.3
baz=349
F15K North Star Dit 79.95 4 P P 07 14 58.2 -0.1
baz=352
IMAR Indian Mountai 79.96 360 P P 07 14 59.1 +0.7
H24K Noodor Dome 79.96 357 P P 07 14 58.3 -0.1
baz=6.0
P53A Whipple 79.97 311 IAmb IAmb 07 15 07.9
comp=Z,23nm,1.4s
G18K Tagagawik 80.01 2 IAmb IAmb 07 15 09.8
comp=Z,12nm,0.9s
G18K Tagagawik 80.01 2 P P 07 14 58.3 -0.3
baz=357,SNR=19
H22K Ishtalitna Cre 80.01 359 P P 07 14 59.3 +0.6
baz=3.0,SNR=18
H23K Yukon River 80.03 358 IAmb IAmb 07 15 01.5
comp=Z,14nm,0.9s
H23K Yukon River 80.03 358 P P 07 14 58.6 -0.2
baz=4.6,SNR=14
F14K Arctic Creek 80.07 5 P P 07 14 58.9 0.0
baz=350
PRP Porcupine Dome 80.16 356 P P 07 14 59.5 -0.1
baz=8.0,SNR=5.8
I26K Coal Creek Min 80.22 355 P P 07 14 59.9 +0.2
baz=9.9
H21K Melozitna Rive 80.27 359 IAmb IAmb 07 15 02.8
comp=Z,13nm,0.9s
H21K Melozitna Rive 80.27 359 P P 07 15 00.6 +0.5
baz=1.9,SNR=22
J30M Hart River 80.30 352 IAmb IAmb 07 15 42.0
comp=Z,18nm,1.1s
J30M Hart River 80.30 352 P P 07 15 00.5 +0.2
baz=16,SNR=13
G17K Kiwalik Mounta 80.34 2 P P 07 15 00.3 -0.1
baz=355,SNR=9.4
COWI Conover 80.37 320 IAmb IAmb 07 15 02.5
comp=Z,11nm,0.8s
G16K Koyuk River 80.38 3 P P 07 15 00.6 +0.1
baz=354,SNR=9.5
H19K Roundabout Mou 80.41 1 IAmb IAmb 07 15 03.0
comp=Z,12nm,0.9s
H19K Roundabout Mou 80.41 1 P P 07 15 01.0 +0.3
baz=359,SNR=16
H20K Anotleneega Mo 80.45 0 P P 07 15 01.2 +0.2
baz=0.1,SNR=18
POKR Poker Plat Res 80.66 357 IAmb IAmb 07 15 04.3
comp=Z,12nm,0.8s
POKR Poker Plat Res 80.66 357 P P 07 15 02.3 +0.2
baz=6.3,SNR=8.3
G15K Niukluk 80.69 4 P P 07 15 02.2 -0.1
baz=352,SNR=8.8
I23K Minto, Yukon-K 80.70 358 P P 07 15 02.9 +0.6
baz=4.7,SNR=9.4
I21K Tanana 80.74 359 IAmb IAmb 07 15 05.0
comp=Z,15nm,0.9s
I21K Tanana 80.74 359 P P 07 15 03.1 +0.6
baz=2.5,SNR=16
H18K Honhosa River 80.76 1 P P 07 15 03.0 +0.3
baz=357,SNR=8.0
MLY Manley 80.86 358 P P 07 15 03.7 +0.5
baz=3.6,SNR=13
COLA College 80.92 357 P P 07 15 04.2 +0.7
COLA College 80.92 357 P P 07 15 04.2 +0.7
COLA pmax pmax
comp=Z,11nm,0.3s
COLA College 80.92 357 P P 07 15 03.9 +0.5
baz=6.0
H17K Granite Mounta 80.93 2 P P 07 15 03.2 -0.3
baz=356
ILAR Eielson Array 80.98 357 P P 07 15 04.4 +0.6
ILAR Eielson Array 80.98 357 P P 07 15 03.7 -0.1
comp=Z,3.0nm,0.8s,baz=353,slow=3.9,SNR=39
ILAR LR LR 07 51 43.5
comp=Z,124nm,21.7s,baz=6.5,slow=36
comp=Z,3.0nm,0.8s
ILAR Eielson Array 80.98 357 P P 07 15 04.4 +0.6
SJG San Juan 81.01 286 LR LR 07 48 00.0
comp=Z,29nm,20.9s,baz=34,slow=34
ANM Nome 81.04 5 P P 07 15 04.1 -0.1
baz=351
J26L Joseph Creek 81.05 355 P P 07 15 03.9 -0.4
baz=9.6,SNR=9.3
J25K Salcha River, 81.05 356 P P 07 15 03.8 -0.5
baz=8.1
DAWY Dawson 81.12 353 P P 07 15 03.8 -0.8
baz=13,SNR=15
H16K Elim 81.14 3 P P 07 15 04.7 0.0
baz=354,SNR=7.7
K29M Barlow Dome 81.14 352 P P 07 15 04.8 0.0
baz=15
I20K Naaghedeneel 81.15 360 IAmb IAmb 07 15 16.1
comp=Z,19nm,0.9s
I20K Naaghedeneel 81.15 360 P P 07 15 04.3 -0.4
baz=0.5
GCSA Galena City Sc 81.19 1 P P 07 15 04.9 0.0
baz=358
MAYO Mayo, Yukon 81.19 352 P P 07 15 04.8 -0.3
baz=16,SNR=8.7
NEA2 Nenana 81.25 357 P P 07 15 05.5 +0.2
baz=5.0,SNR=12
GAMB Gambell 81.27 7 P P 07 15 04.9 -0.5
baz=346

HDA Harding Lake 81.34 357 IAmb IAmb 07 15 07.2
comp=Z,17nm,0.9s
HDA Harding Lake 81.34 357 P P 07 15 05.8 0.0
baz=6.7,SNR=17
K27K Chicken 81.40 354 P P 07 15 05.6 -0.4
baz=11
MMPY Sheldon Lake, 81.49 349 IAmb IAmb 07 15 26.2
comp=Z,12nm,1.1s
MMPY Sheldon Lake, 81.49 349 P P 07 15 06.1 -0.6
baz=20,SNR=11
YSS Yuzhno-Sakhali 81.56 38 eP P 07 15 08.1 +0.9
YSS eS S 07 25 20.8 +3.0
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,300nm,13.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,200nm,14.0s
SCRK Sand Creek 81.59 355 IAmb IAmb 07 15 26.5
comp=Z,14nm,1.2s
SCRK Sand Creek 81.59 355 P P 07 15 07.0 -0.2
baz=9.2,SNR=7.2
J20K Nowinta River 81.77 360 IAmb IAmb 07 15 10.3
comp=Z,13nm,0.9s
J20K Nowinta River 81.77 360 P P 07 15 08.0 0.0
baz=0.7,SNR=20
BPAW Bear Paw Mtn. 81.80 358 IAmb IAmb 07 15 09.5
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 81.80 358 P P 07 15 07.9 -0.3
baz=3.4,SNR=16
K24K Donnelly Dome 81.88 356 P P 07 15 08.3 -0.4
baz=7.7,SNR=9.5
RIDG Independent Ri 81.89 356 IAmb IAmb 07 15 27.2
comp=Z,15nm,1.1s
RIDG Independent Ri 81.89 356 P P 07 15 08.5 -0.3
baz=8.5,SNR=7.2
L29M L29M 81.92 352 P P 07 15 09.0 0.0
baz=14,SNR=8.7
DOT Dot Lake 81.92 355 IAmb IAmb 07 15 28.1
comp=Z,19nm,1.0s
J19K Poorman 81.96 0 P P 07 15 09.9 +0.9
J19K IAmb IAmb 07 15 11.4
comp=Z,14nm,1.0s
J19K Poorman 81.96 0 P P 07 15 09.2 +0.2
baz=360,SNR=29
I17K Unalakleet 81.96 3 P P 07 15 08.7 -0.3
baz=355
TGTN Hyland Airport 82.01 347 P P 07 15 09.4 0.0
baz=22
CHUM Lake Minchumin 82.05 359 P P 07 15 09.9 +0.4
baz=2.2,SNR=10.0
MCK McKinley 82.11 357 IAmb IAmb 07 15 11.2
comp=Z,13nm,1.0s
MCK McKinley 82.11 357 P P 07 15 09.6 -0.2
baz=5.1,SNR=7.9
JANB Januaria 82.21 246 eP P 07 15 11.7 +0.6
M30M Minto, Yukon 82.29 352 P P 07 15 11.0 +0.1
baz=15
BCAR Beaver Creek A 82.32 354 P P 07 15 12.2 +1.1
L27K Beaver Creek, 82.33 354 P P 07 15 11.1 +0.1
baz=11,SNR=12
M31M Drury Creek, Y 82.34 350 P P 07 15 11.3 +0.1
baz=17,SNR=9.3
KTH Kashna Hill 82.35 358 IAmb IAmb 07 15 22.5
comp=Z,17nm,1.2s
TRF Thorofare Moun 82.44 358 IAmb IAmb 07 15 29.5
comp=Z,15nm,1.1s
TRF Thorofare Moun 82.44 358 P P 07 15 11.9 +0.1
baz=3.9,SNR=10
KOTAN Kotaneelee Air 82.47 345 P P 07 15 12.2 +0.5
baz=25
J18K Innoko River 82.48 1 P P 07 15 12.1 +0.3
baz=359,SNR=6.8
L26K Log Cabin Wild 82.49 355 P P 07 15 12.2 +0.3
baz=9.7,SNR=6.9
J17K VABM Dome 82.50 2 IAmb IAmb 07 15 23.2
comp=Z,8.4nm,0.8s
J17K VABM Dome 82.50 2 P P 07 15 12.2 +0.3
baz=357,SNR=8.0
CAST Castle Rocks 82.51 359 IAmb IAmb 07 15 13.9
comp=Z,9.6nm,0.9s
CAST Castle Rocks 82.51 359 P P 07 15 12.1 +0.2
baz=2.4,SNR=20
J16K Anvik River 82.56 3 IAmb IAmb 07 15 14.8
comp=Z,16nm,1.1s
J16K Anvik River 82.56 3 P P 07 15 12.3 +0.1
baz=355,SNR=12
K20K Telida 82.59 360 P P 07 15 12.4 0.0
baz=0.8
M29M Somme Creek 82.61 352 P P 07 15 12.4 -0.2
baz=14,SNR=30
PAX Paxson 82.69 356 P P 07 15 12.8 -0.2
baz=7.9
BVCY Beaver Creek 82.88 353 P P 07 15 13.9 -0.1
baz=12,SNR=12
J14K Nanvaranak Lak 82.96 4 IAmb IAmb 07 15 16.5
comp=Z,12nm,1.0s
J14K Nanvaranak Lak 82.96 4 P P 07 15 14.4 +0.2
baz=353,SNR=5.9
M27K Edge Creek, AK 83.03 354 IAmb IAmb 07 15 33.9
comp=Z,12nm,1.0s
M27K Edge Creek, AK 83.03 354 P P 07 15 14.7 -0.1
baz=11,SNR=8.5
PPLA Purkeypile 83.04 359 P P 07 15 14.7 -0.1
baz=2.4,SNR=9.5
R49A Shelbyville 83.04 312 IAmb IAmb 07 15 42.0
comp=Z,11nm,1.0s
JFWS Jewell Farm 83.05 318 IAmb IAmb 07 15 36.9
comp=Z,8.0nm,0.8s
M26K Nabesna, AK 83.08 354 P P 07 15 15.4 +0.4
baz=10.0,SNR=5.2
N32M Quiet Lake 83.16 350 P P 07 15 15.4 0.0
baz=18
K17K Iditarod 83.20 2 IAmb IAmb 07 15 27.5
comp=Z,12nm,0.9s
K17K Iditarod 83.20 2 P P 07 15 15.7 +0.2
baz=357,SNR=12
N31M Braeburn, Yuko 83.22 351 IAmb IAmb 07 15 37.9
comp=Z,9.1nm,1.1s
N31M Braeburn, Yuko 83.22 351 P P 07 15 15.6 -0.1
baz=16
HARP HAARP 83.24 355 P P 07 15 15.7 0.0
baz=8.2
ASAJ Asahikawa 83.39 40 LR LR 07 57 41.6
comp=Z,190nm,18.8s,baz=342,slow=39
N30M Aishikik Lake 83.41 352 P P 07 15 16.8 +0.1
baz=15
WTLY Watson Lake, Y 83.42 347 P P 07 15 16.9 +0.1
baz=22
YUK3 Moose Creek 83.47 353 P P 07 15 16.8 -0.4
baz=12,SNR=15
L20K Farewell, AK 83.48 360 P P 07 15 17.1 +0.1
baz=0.9
CUT Chulitna 83.48 358 P P 07 15 17.3 +0.4
baz=4.0
K15K Wolf Creek Mou 83.52 3 IAmb IAmb 07 15 28.6
comp=Z,17nm,1.2s
K15K Wolf Creek Mou 83.52 3 P P 07 15 17.6 +0.4
baz=355,SNR=6.8
LIRD Liard River Hi 83.55 346 P P 07 15 17.5 +0.1
baz=24
M24K Tolsona, Glenn 83.59 356 P P 07 15 17.9 +0.3
baz=7.3
PETK Petropavlovsk- 83.62 27 LR LR 07 57 06.8
comp=Z,191nm,20.0s,baz=308,slow=39
K13K Kusilvak Mount 83.70 5 P P 07 15 18.6 +0.6
baz=352,SNR=5.4
YUK4 Talbot Arm 83.70 352 P P 07 15 17.8 -0.6
baz=14
L18K Granite Mounta 83.73 1 IAmb IAmb 07 15 25.9
comp=Z,6.4nm,0.8s
L18K Granite Mounta 83.73 1 P P 07 15 18.4 +0.2
baz=359,SNR=9.1
WCI Wyandotte Cave 83.77 312 P P 07 15 18.6 -0.3
WCI IAmb IAmb 07 15 46.4
comp=Z,10.0nm,0.8s
WCI Wyandotte Cave 83.77 312 P P 07 15 18.6 -0.3
WCI pmax pmax
comp=Z,10.0nm,0.8s
L19K White Mountain 83.78 360 IAmb IAmb 07 15 20.7
comp=Z,12nm,1.0s
L19K White Mountain 83.78 360 P P 07 15 18.5 0.0
baz=0.1,SNR=17
L17K Donlin 83.78 2 P P 07 15 18.5 -0.1
baz=357,SNR=10.0
TKL Tuckaleechee C 83.80 309 LR LR 07 54 51.2
comp=Z,120nm,18.4s,baz=58,slow=37
YUK8 Steele Glacier 83.88 353 P P 07 15 19.1 -0.3
baz=13
TOAD Toad River Com 83.89 345 P P 07 15 19.2 0.0
baz=24,SNR=6.9
WHY Whitehorse 83.89 350 P P 07 15 19.1 -0.1
baz=17
SCM Sheep Creek Mo 83.93 356 P P 07 15 19.4 0.0
baz=6.4,SNR=8.4
SKT Skwentna 83.94 358 P P 07 15 19.1 -0.3
baz=2.9,SNR=15
N25K Chitina, Valde 83.99 355 P P 07 15 19.8 +0.1
baz=8.6
M23K Glacier View 83.99 357 P P 07 15 19.7 +0.1
baz=6.0
P33M Teslin, Yukon 84.02 349 P P 07 15 19.7 -0.2
baz=18
M19K Big River Lodg 84.06 360 IAmb IAmb 07 15 38.1
comp=Z,25nm,1.8s
M19K Big River Lodg 84.06 360 P P 07 15 20.1 +0.1
baz=0.5
YUK6 Outpost Mounta 84.06 352 P P 07 15 19.9 -0.4
baz=14
M20K Styx River 84.07 359 P P 07 15 20.0 -0.1
baz=1.6
HYT Haines Junctio 84.08 352 IAmb IAmb 07 15 52.6
comp=Z,8.1nm,1.0s
HYT Haines Junctio 84.08 352 P P 07 15 20.5 +0.3
baz=14,SNR=8.8
MCARA McCarthy VSAT 84.09 354 P P 07 15 20.2 +0.1
baz=9.9
M22K Willow 84.13 358 P P 07 15 20.5 +0.3
baz=4.1,SNR=7.5
L15K Ungalak Mounta 84.13 3 P P 07 15 20.7 +0.4
baz=355,SNR=9.2
PCRV Puerto La Cruz 84.14 278 LR LR 07 50 37.8
comp=Z,36nm,21.9s,slow=34
KLU Klutina 84.19 356 IAmb IAmb 07 15 44.9
comp=Z,7.8nm,1.0s
KLU Klutina 84.19 356 P P 07 15 21.1 +0.3
baz=7.5
PMR Palmer 84.25 357 IAmb IAmb 07 15 22.8
comp=Z,17nm,1.2s
CTG Chitna Glacier 84.35 353 P P 07 15 21.6 0.0
baz=11
MDND Maddock 84.37 326 IAmb IAmb 07 15 46.1
comp=Z,14nm,1.1s
CPCT Cooper Cave 84.40 309 IAmb IAmb 07 15 45.3
comp=Z,15nm,1.4s
KNK Knik Glacier 84.41 357 P P 07 15 22.0 +0.3
baz=5.4
L14K Kuka Creek 84.41 4 P P 07 15 21.8 +0.1
baz=354
O28M Mount Upton 84.43 353 P P 07 15 22.0 -0.2
baz=12
STLK Strandline Lak 84.43 359 IAmb IAmb 07 15 34.3
comp=Z,8.2nm,0.7s
SUA Susitna One 84.44 358 P P 07 15 22.2 +0.2
baz=3.5
M18K Stony River 84.47 0 P P 07 15 21.9 -0.1
baz=359,SNR=8.1
R33M Jennings River 84.49 348 P P 07 15 22.4 +0.1
baz=20,SNR=7.8
M17K Holitna River 84.54 1 P P 07 15 22.6 +0.3
baz=358,SNR=11
GRNC Granite Creek 84.62 354 IAmb IAmb 07 15 46.8
comp=Z,8.8nm,0.9s
BMRM Bremner River 84.62 355 P P 07 15 23.2 +0.3
baz=8.6
P30M Million Dollar 84.69 351 P P 07 15 23.2 0.0
baz=15
O29M Mount Kennedy 84.71 352 P P 07 15 23.1 -0.4
baz=14
CRQE Cirque 84.72 354 P P 07 15 23.5 0.0
baz=9.9
N20K Mount Spurr 84.74 359 P P 07 15 23.5 0.0
baz=2.3
SPCR Spurr Chakacha 84.74 359 P P 07 15 23.6 +0.1
baz=2.3
P32M Atlin 84.75 349 P P 07 15 23.6 +0.1
baz=18
SPU Mount Spurr 84.75 359 IAmb IAmb 07 15 25.1
comp=Z,7.9nm,0.9s
RC01 Rabbit Creek A 84.78 357 P P 07 15 23.9 +0.3
baz=4.4
GLI Glacier Island 84.87 356 IAmb IAmb 07 15 49.0
comp=Z,10nm,1.1s
GLI Glacier Island 84.87 356 P P 07 15 24.6 +0.5
baz=6.6
M16K Timber Creek 84.88 2 IAmb IAmb 07 15 26.6
comp=Z,10.0nm,0.8s
M16K Timber Creek 84.88 2 P P 07 15 24.5 +0.4
baz=357,SNR=8.8
ITTB Itaituba 84.92 261 eP P 07 15 25.4 +0.3
SKR Severo-Kuril's 84.92 29 ceP P 07 15 23.0 -1.5
PWL Port Wells 84.95 357 P P 07 15 24.5 0.0
baz=5.5
M14K Bethel 85.03 3 P P 07 15 24.9 +0.1
baz=354
BOAV Boa Vista 85.06 270 eP P 07 15 27.4 +1.6
Y52A Lilburn 85.09 308 IAmb IAmb 07 16 09.0
comp=Z,11nm,1.2s
PINM Pinnacle 85.10 353 P P 07 15 26.1 +0.7
baz=12
SKAG Skagway 85.11 350 P P 07 15 26.1 +0.9
baz=16
EYAK Cordova Ski Ar 85.12 355 P P 07 15 25.6 +0.3
baz=7.7
Q32M Nakina River 85.12 348 IAmb IAmb 07 15 57.9
comp=Z,8.5nm,0.9s
Q32M Nakina River 85.12 348 P P 07 15 26.0 +0.4
baz=19
M11K Mekoryuk 85.12 6 P P 07 15 26.1 +0.8
baz=351
CAPN Captain Cook N 85.15 358 P P 07 15 25.8 +0.4
baz=3.2
M15K Kasigluk River 85.15 3 P P 07 15 25.0 -0.4
baz=355,SNR=6.6
N19K Bonanza Creek 85.15 360 IAmb IAmb 07 15 27.6
comp=Z,7.3nm,1.0s
N19K Bonanza Creek 85.15 360 P P 07 15 25.8 +0.2
baz=0.4,SNR=5.8
JOW Kunigami 85.17 61 LR LR 07 58 51.4
comp=Z,105nm,18.5s,baz=318,slow=39
MESA MESA 85.19 354 P P 07 15 25.5 -0.4
baz=11
DLBC Dease Lake 85.22 347 P P 07 15 26.1 +0.1
baz=20
PLBC Pleasant Camp 85.26 351 P P 07 15 26.2 +0.2
baz=15
P29M Windy Craggy 85.27 351 IAmb IAmb 07 15 48.8
comp=Z,8.2nm,1.1s
P29M Windy Craggy 85.27 351 P P 07 15 26.2 +0.1
baz=14
N18K Kilae Creek 85.28 0 IAmb IAmb 07 15 28.6
comp=Z,8.3nm,0.9s
N18K Kilae Creek 85.28 0 P P 07 15 26.4 +0.2
baz=359,SNR=8.4
M13K Dall Lake 85.29 4 P P 07 15 26.4 +0.2
baz=353
BGLC Bering Glacier 85.36 354 P P 07 15 26.5 0.0
baz=9.7
BDFB Brasilia 85.38 248 P P 07 15 27.9 +0.5
comp=Z,3.2nm,0.8s,baz=342,slow=6.0,SNR=3.8
BDFB LR LR 07 56 24.6
comp=Z,262nm,18.1s,baz=42,slow=38
comp=Z,3.2nm,0.8s
SLKM Skilak Lake 85.38 358 IAmb IAmb 07 15 48.9
comp=Z,13nm,1.0s
O22K Cooper Landing 85.39 357 P P 07 15 26.5 -0.1
baz=4.4
N17K Nushagak Hills 85.42 1 P P 07 15 27.2 +0.4
baz=358
PNL Peninsula 85.42 352 P P 07 15 26.8 -0.1
baz=13
N16K Nishlik Lake 85.44 2 P P 07 15 26.9 0.0
baz=357
KAIM Kayak Island 85.64 355 P P 07 15 28.2 +0.3
baz=8.8
V48A Smith Brothers 85.67 311 IAmb IAmb 07 15 55.2
comp=Z,9.9nm,1.2s
N15K Kwethluk River 85.70 3 P P 07 15 28.1 -0.1
baz=356
SEW Seward 85.75 357 IAmb IAmb 07 15 36.5
comp=Z,13nm,1.0s
SEW Seward 85.75 357 P P 07 15 28.6 +0.1
baz=4.6,SNR=7.2
P23K Montague Islan 85.77 356 P P 07 15 28.5 0.0

baz=6.3
O19K Port Alsworth 85.77 360 P P 07 15 28.7 +0.2
baz=0.6
E28A Huff 85.81 326 IAmb IAmb 07 15 30.5
comp=Z,13nm,1.0s
O20K Slope Mountain 85.87 359 P P 07 15 28.7 -0.4
baz=2.0
MAJO Matsushiro 85.87 48 P P 07 15 29.7 +0.2
MAJO Matsushiro 85.87 48 P P 07 15 29.7 +0.2
MAJO pmax pmax
comp=Z,36nm,1.6s
SIUC Southern Illin 85.87 314 IAmb IAmb 07 15 31.4
comp=Z,16nm,1.1s
MJAR Matsushiro Arr 85.87 48 P P 07 15 29.6 +0.1
MJAR Matsushiro Arr 85.87 48 P P 07 15 30.7 +1.1
comp=Z,9.4nm,1.0s,baz=305,slow=4.8,SNR=19
MJAR LR LR 07 59 33.4
comp=Z,114nm,19.9s,baz=318,slow=40
comp=Z,9.4nm,1.0s
N14K Kuskokwak Cree 85.87 3 P P 07 15 29.1 +0.1
baz=354
ECSD EROS Data Cent 85.88 322 IAmb IAmb 07 15 30.8
comp=Z,7.5nm,0.8s
S34M Telegraph Cree 85.92 348 IAmb IAmb 07 15 52.4
comp=Z,10nm,0.9s
S34M Telegraph Cree 85.92 348 P P 07 15 29.5 +0.2
baz=20,SNR=6.3
O18K Koktuh Hills 86.11 0 P P 07 15 30.7 +0.4
baz=360
R32K Eaglecrest 86.13 349 P P 07 15 30.2 -0.2
baz=17
BRLK Bradley Lake 86.14 358 IAmb IAmb 07 15 58.8
comp=Z,12nm,1.1s
O17K Koliganek Bris 86.18 1 P P 07 15 31.0 +0.5
baz=358
HOM Homer 86.27 358 P P 07 15 31.0 0.0
baz=2.8
Q23K Middleton Isla 86.27 356 P P 07 15 31.0 0.0
baz=7.2
P19K Oil Pt 86.31 359 P P 07 15 31.1 -0.2
baz=1.5
P40A Paris 86.32 316 IAmb IAmb 07 15 53.7
comp=Z,8.9nm,1.0s
O16K Kokwok River B 86.34 2 P P 07 15 31.3 -0.1
baz=357
FVM French Village 86.41 314 IAmb IAmb 07 15 43.3
comp=Z,9.4nm,0.7s
O14K Tigyukauivet M 86.56 3 P P 07 15 32.5 +0.1
baz=355
P18K Big Mountain, 86.58 0 P P 07 15 32.7 +0.1
baz=360
T35M Bob Quinn 86.63 347 P P 07 15 33.0 0.0
baz=20
X48A Hartselle 86.64 310 IAmb IAmb 07 15 52.3
comp=Z,8.4nm,0.8s
S31K Pelican 86.68 350 P P 07 15 32.9 -0.2
baz=15
O15K Ungalikthiuk R 86.70 3 P P 07 15 33.2 0.0
baz=356
P17K Kvichak River 86.77 1 P P 07 15 34.4 +0.9
baz=359
CCM Cathedral Cave 86.84 315 P P 07 15 34.7 +0.4
CCM Cathedral Cave 86.84 315 P P 07 15 34.7 +0.4
S32K Kilisnoo 86.91 349 P P 07 15 35.4 +1.2
baz=17
PLAL Pickwick Lake 86.94 311 IAmb IAmb 07 15 53.3
comp=Z,7.4nm,0.8s
Q19K Cape Douglas, 87.04 359 P P 07 15 35.5 +0.6
baz=1.1
P38A Dawn 87.09 317 IAmb IAmb 07 15 37.6
comp=Z,13nm,1.2s
Q18K Katmai Hardscr 87.32 0 P P 07 15 36.5 +0.2
baz=0.0
Q20K Shuyak Island 87.34 359 P P 07 15 36.4 +0.1
baz=2.2,SNR=5.7
SIT Sitka 87.42 349 P P 07 15 36.9 +0.3
baz=16
WRAK Wrangell Islan 87.55 348 P P 07 15 37.7 +0.5
baz=19
Q17K Contact Creek 87.70 1 P P 07 15 37.5 -0.7
baz=359
MGMO Mountain Grove 88.05 315 IAmb IAmb 07 15 55.3
comp=Z,6.5nm,0.9s
LCAR Lake Charles 88.12 313 IAmb IAmb 07 15 51.5
comp=Z,5.4nm,0.9s
KDAK Kodiak Island 88.17 359 P P 07 15 40.9 +0.6
KDAK Kodiak Island 88.17 359 LR LR 07 55 42.3
comp=Z,92nm,21.9s,baz=9.3,slow=36
KDAK Kodiak Island 88.17 359 P P 07 15 40.9 +0.6
KDAK pmax pmax
comp=Z,18nm,1.3s
KDAK Kodiak Island 88.17 359 P P 07 15 40.8 +0.6
baz=2.0
R18K Karluk 88.41 360 P P 07 15 41.8 +0.5
baz=0.5
V35K Ketchikan 88.45 347 P P 07 15 41.8 +0.2
baz=19
P08K Saint George I 88.52 8 P P 07 15 42.5 +0.6
baz=348
CRAG Craig 88.59 348 P P 07 15 42.9 +0.7
baz=18
OHAK Old Harbor 88.74 359 IAmb IAmb 07 15 45.1
comp=Z,10nm,0.9s
OHAK Old Harbor 88.74 359 P P 07 15 43.8 +0.9
baz=1.4,SNR=6.2
JHJ Hachijo jima 2 89.08 50 LR LR 07 59 35.2
comp=Z,85nm,18.8s,baz=282,slow=38
SHEM Shemya Is, Ala 89.13 18 LR LR 07 59 40.6
comp=Z,119nm,19.5s,baz=300,slow=38
RSSD Black Hills 89.21 326 P P 07 15 45.7 0.0
RSSD Black Hills 89.21 326 P P 07 15 45.7 0.0
RSSD pmax pmax
comp=Z,12nm,0.4s
SII Sitkinak Islan 89.42 360 P P 07 15 46.9 +0.7
baz=0.7
S14K Fog Glacier 89.61 3 P P 07 15 47.3 +0.2
baz=356
CHGN Chignik 89.63 2 P P 07 15 47.8 +0.7
baz=357
SDV Santo Domingo 89.75 281 LR LR 07 53 12.4
comp=Z,48nm,20.7s,baz=64,slow=34
S12K Black Hills 90.07 4 P P 07 15 49.5 +0.3
baz=354
SDPT Sand Point 90.50 3 P P 07 15 51.4 +0.2
baz=356
BBB Bella Bella 90.67 344 LR LR 07 58 30.2
comp=Z,75nm,19.2s,baz=36,slow=37
CHNA Chernabura Isl 91.06 3 P P 07 15 54.7 +0.9
baz=356
NEW Newport 91.07 336 LR LR 08 01 20.5
comp=Z,143nm,18.3s,baz=28,slow=38
UNV Unalaska Valle 91.56 7 P P 07 15 56.6 +0.4
baz=350
NIKH Nikolski High 92.16 8 P P 07 15 59.7 +0.8
baz=349
PDAR Pinedale Array 92.75 328 P P 07 16 01.6 -0.6
comp=Z,0.9nm,0.8s,baz=57,slow=5.5,SNR=9.0
PDAR PP PP 07 19 44.7 +1.3
comp=Z,0.5nm,0.8s,baz=50,slow=9.8,SNR=4.2
PDAR LR LR 07 59 14.2
comp=Z,189nm,21.3s,baz=22,slow=36
comp=Z,0.9nm,0.8s
SIV San Ignacio 95.80 255 LR LR 08 00 43.6
comp=Z,125nm,19.9s,baz=110,slow=36
ANMO Albuquerque 97.49 322 LR LR 08 03 00.9
comp=Z,186nm,18.8s,baz=128,slow=37
CPUP Villa Florida 98.65 244 LR LR 08 03 22.9
comp=Z,37nm,18.7s,baz=274,slow=37
YBH Yreka Blue Hor 98.70 336 LR LR 08 02 54.7
comp=Z,12nm,21.9s,baz=40,slow=36
SYO Syowa Base 103.64 175 ePdiff Pdif 07 16 51.0 +1.0
SYO Syowa Base 103.64 175 epPKiKP PKiKP 07 21 11.4 +3.3
WRA Warramunga Arr 116.53 97 PKP PKPdf 07 21 33.2 -0.7
comp=Z,0.5nm,0.6s,baz=319,slow=1.4,SNR=5.6
ASAR Alice Springs 117.94 101 PKP PKPdf 07 21 35.8 -0.9
comp=Z,0.7nm,0.7s,baz=318,slow=1.5,SNR=5.2
QSPA South Pole Qui 124.24 180 PKP PKPdf 07 21 47.4 0.0
comp=Z,2.1nm,0.9s,baz=251,slow=1.6,SNR=7.6
DZM Mont Dzumac 143.99 80 eLR LR 08 09 31.3
comp=Z,129nm,24.4s
TAOE Nuku Hiva Isla 151.22 329 eLR LR 08 12 51.3
comp=Z,242nm,27.4s
PPT2 Papeete2 162.62 343 eLR LR 08 18 07.6
comp=Z,147nm,27.2s
PPT2 eLR LR 08 18 12.0
comp=Z,152nm,23.2s
TBI Tubuai 168.03 335 eLR LR 08 20 32.2
comp=Z,970nm,25.8s
TBI eLR LR 08 20 33.0
comp=Z,561nm,33.2s

LJU 11 07:05:52.4, 46.11N×14.08E, h14km, ML0.5,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRNS	Crni Vrh	0.13	102	*i* Pg	Pg	07 05 56.0	-0.1
CRNS				*i* Sg	Sg	07 05 59.0	+0.5
CRNS				IAML		07 05 59.8	
	comp=Z,13nm,0.1s						
VOJS	Vojsko	0.15	240	*i* Pg	Pg	07 05 56.0	-0.3
VOJS				*i* Sg	Sg	07 05 59.2	+0.2
VOJS				IAML		07 06 00.9	
	comp=Z,5.9nm,0.1s						
GORS	Gorjuse	0.21	345	*i* Pg	Pg	07 05 57.1	-0.2
GORS				*i* Sg	Sg	07 06 00.9	+0.3
GORS				IAML		07 06 02.1	
	comp=Z,5.8nm,0.2s						
JAVS	Javornik	0.22	182	*i* Pg	Pg	07 05 57.2	-0.1
JAVS				IAML		07 06 02.4	
	comp=Z,3.9nm,0.1s						
CADS	Cadrg	0.26	297	*i* Pg	Pg	07 05 57.9	-0.1
CADS				*i* Sg	Sg	07 06 02.5	+0.6
CADS				IAML		07 06 03.3	
	comp=Z,7.2nm,0.2s						
DRE	Drenchia	0.31	282	*e*Pg	Pg	07 05 58.8	0.0
DRE				*e*Sg	Sb	07 06 04.0	-0.6
GBAS	Gorenja Brezov	0.31	124	*i* Pg	Pg	07 05 59.0	+0.1
GBAS				IAML		07 06 06.0	
	comp=Z,1.2nm,0.1s						
MOZS	Mozjanca	0.32	54	*i* Pg	Pb	07 05 59.6	-0.3
MOZS				IAML		07 06 07.4	
	comp=Z,3.9nm,0.2s						
SABO	M.te Sabotino	0.35	249	*e*Pg	Pg	07 05 59.5	-0.1
SABO				*e*Sg	Sg	07 06 05.1	+0.6

BGR ***11*** *07:20:50.3, 18.17S×177.65W, h500km*
IDC ***11*** *07:20:58.4±2.2, 17.99S×178.47W, h585km±26km,*
mb3.7/24, mbtmp4.5/26, Error ellipse: s-maj=13.0km
s-min=10.8km az=143.0
NEIC ***11*** *07:20:59.5±1.7, 17.9S±0.1×178.5W±0.1, h580km±7km,*
mb4.4/40, Error ellipse: s-maj=20.8km s-min=15.0km
az=145.0
ISC 11 07:20:58.4±0.3, 17.86S±0.06×178.56W±0.06, h579km,
n490, σ0.98/489, mb4.4/51, 27C-25D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.23	272		P	07 22 21.4	+4.1
FUTU	Fugatoga	3.56	7		P	07 22 23.1	+3.7
AFI	Afiamalu	7.62	60		P	07 22 54.6	+1.1
NIUE	Niue	8.29	100	P	P	07 23 00.2	+0.4
NIUE	Niue	8.29	100	P	P	07 22 58.9	-0.9
NIUE				S	S	07 24 45.9	+6.6
GLKZ	Green Lake	11.37	177	S	S	07 25 35.6	+0.1
PINNC	Pines Island,	13.96	248	P	P	07 23 57.8	+0.8
DZM	Mont Dzumac	14.70	251	P	P	07 24 06.0	+1.5
DZM	Mont Dzumac	14.70	251	P	P	07 24 04.5	0.0
	7.6nm,0.6s,baz=111,slow=22,SNR=10						
RAR	Rarotonga	18.02	104	P	P	07 24 33.7	-1.4
	19nm,0.9s,baz=255,slow=5.2,SNR=5.5						
OUZ	Omahuta	18.65	200	P	P	07 24 41.9	+1.3
OUZ				S	S	07 27 45.7	+4.6
WCZ	Waipu Caves	19.08	198	P	P	07 24 45.7	+1.2
HAZ	Te Kaha	20.08	188	P	P	07 24 51.5	-2.1
TWGZ	Tauwhareparae	20.47	188	P	P	07 24 55.9	-1.2
URZ	Urewera	20.68	190	P	P	07 24 55.9	-3.0
	17nm,0.7s,baz=339,slow=3.5,SNR=9.5						
	17nm,0.7s						
URZ	Urewera	20.68	190	P	P	07 24 55.3	-3.7
MWZ	Matawai	20.69	189	P	P	07 24 56.9	-2.3
BKZ	Black Stump Fm	21.66	190	P	P	07 25 03.4	-4.5
KRVZ	Karewarewa	21.75	192	P	P	07 25 09.3	+0.5
PKVZ	Pokaka	22.00	193	P	P	07 25 08.5	-2.4
PXZ	Pawanui	22.45	189	P	P	07 25 10.8	-4.1
MRZ	Mangatainoka R	23.28	191	P	P	07 25 19.7	-2.5
EIDS	Eidsvold	29.15	250	P	P	07 26 14.3	+0.4
EIDS				IAmb	IAmb	07 26 34.0	
	comp=Z,14nm,1.3s						
ARMA	Armidale	29.84	240	P	P	07 26 20.8	+0.8
CTAO	Charters Tower	33.31	260	P	P	07 26 50.4	+0.8
CTAO				IAmb	IAmb	07 27 18.2	
	comp=Z,23nm,1.4s						
CAN	Canberra	33.62	232	P	P	07 26 52.7	+0.8
COEN	Coen	36.96	270	P	P	07 27 21.3	+1.4
COEN				IAmb	IAmb	07 27 50.9	
	comp=Z,11nm,1.0s						
STKA	Stephens Creek	38.52	241	P	P	07 27 33.2	+0.8
STKA	Stephens Creek	38.52	241	P	P	07 27 32.1	-0.2
	comp=Z,5.3nm,0.8s,baz=102,slow=9.2,SNR=7.7						
	comp=Z,5.3nm,0.8s						
WRA	Warramunga Arr	44.50	259	P	P	07 28 19.7	+0.1
WRA	Warramunga Arr	44.50	259	P	P	07 28 19.4	-0.1
	comp=Z,2.2nm,0.5s,baz=95,slow=7.4,SNR=69						
WRA				PcP	PcP	07 29 49.6	-0.6
	comp=Z,2.9nm,0.7s,baz=87,slow=3.7,SNR=11						
	comp=Z,2.2nm,0.5s						
ASAR	Alice Springs	44.66	254	P	P	07 28 20.9	+0.1
	comp=Z,9.4nm,0.6s,baz=87,slow=8.3,SNR=146						
ASAR				PcP	PcP	07 29 50.0	-0.8
	comp=Z,3.4nm,0.5s,baz=102,slow=3.9,SNR=15						
ASAR				S	S	07 34 10.4	-5.6
	comp=Z,2.3nm,1.0s,baz=90,slow=15,SNR=10						
	comp=Z,9.4nm,0.6s						
KNRA	Kununurra	50.35	264	P	P	07 29 03.3	0.0
KNRA				IAmb	IAmb	07 29 36.4	
	comp=Z,17nm,1.2s						
FITZ	Fitzroy Crossi	52.89	261	P	P	07 29 20.0	-1.6
SOEI	Soe	55.92	270	P	P	07 29 44.2	+1.2
SOEI				IAmb	IAmb	07 29 54.2	
	comp=Z,22nm,0.8s						
MBWA	Marble Bar	57.94	256	P	P	07 29 56.2	-0.4
MBWA				IAmb	IAmb	07 30 21.2	
	comp=Z,28nm,1.5s						
MORW	Morawa	60.37	246	P	P	07 30 12.2	-0.4
MORW				IAmb	IAmb	07 30 44.8	
	comp=Z,26nm,1.5s						
SBA	Scott Base	60.46	184	P	P	07 30 13.5	+1.2
VNDA	Vanda	60.48	185	P	P	07 30 12.4	-0.1
	comp=Z,0.6nm,0.7s,baz=355,slow=8.1,SNR=6.5						
	comp=Z,0.6nm,0.7s						
GIRL	Giralia	62.77	253	P	P	07 30 28.9	+0.6
CASY	Casey	66.12	205	P	P	07 30 50.2	+1.5
MYLDM	Lahad Datu	66.16	284	P	P	07 30 49.8	-0.1
MYLDM				IAmb	IAmb	07 30 50.9	
	comp=Z,22nm,1.1s						
JGF	Kuroka	67.61	322	P	P	07 30 59.2	+0.8
JGF				IAmb	IAmb	07 30 59.4	
	comp=Z,21nm,1.4s						
MJAR	Matsushiro Arr	67.78	323	P	P	07 30 59.4	0.0
MJAR	Matsushiro Arr	67.78	323	P	P	07 30 59.3	0.0
	comp=Z,9.3nm,0.7s,baz=158,slow=5.7,SNR=27						
	comp=Z,9.3nm,0.7s						
MAJO	Matsushiro	67.78	323		P	07 30 59.7	+0.3
MAJO				IAmb	IAmb	07 30 59.9	
	comp=Z,10nm,0.6s						
MJB9	Matsu-Tunnel	67.78	323		P	07 31 00.6	+1.2
MJB9				IAmb	IAmb	07 31 00.9	
	comp=Z,9.5nm,0.6s						
KKM	Kota Kinabalu	68.59	284	P	P	07 31 05.4	+0.6
KKM				IAmb	IAmb	07 31 05.5	
	comp=Z,16nm,1.3s						
ADK	Adak	69.46	1	P	P	07 31 08.6	-0.4
UGM	Wanagama	69.50	268	P	P	07 31 10.0	-0.2
NIKH	Nikolski High	71.03	6	P	P	07 31 17.2	-1.1
	baz=190						
UNV	Unalaska Valle	72.16	7	P	P	07 31 23.5	-1.4
	baz=192						
QSPA	South Pole Qui	72.20	180	P	P	07 31 25.0	-0.2
	comp=Z,1.5nm,0.7s,baz=31,slow=0.3,SNR=12						
	comp=Z,1.5nm,0.7s						
KSM	Kuching	72.53	277		P	07 31 28.9	+1.0
PEA0B	Petropavlovsk-	73.59	345	P	P	07 31 33.8	+0.7
PEA0B				IAmb	IAmb	07 31 34.1	
	comp=Z,15nm,0.8s						
PETK	Petropavlovsk-	73.59	345	P	P	07 31 33.2	+0.1
	comp=Z,9.8nm,0.7s,baz=112,slow=7.2,SNR=26						
	comp=Z,9.8nm,0.7s						
CHNA	Chernabura Isl	74.19	11	P	P	07 31 34.8	-1.6
	baz=199						
SDPT	Sand Point	74.52	11	P	P	07 31 36.8	-1.5
	baz=198						
P08K	Saint George I	74.56	5	P	P	07 31 37.2	-1.2
	baz=189						
KSRS	Korea Array	74.56	318	P	P	07 31 40.4	+1.4
	comp=Z,1.1nm,0.4s,baz=127,slow=6.4,SNR=7.8						
	comp=Z,1.1nm,0.4s						
S12K	Black Hills	74.59	10	P	P	07 31 37.4	-1.3
	baz=196						
SPIA	Saint Paul Isl	75.07	5	P	P	07 31 40.2	-1.1
	baz=188						
S14K	Fog Glacier	75.57	11	P	P	07 31 43.1	-1.1
	baz=199						
CHGN	Chignik	75.80	11	P	P	07 31 45.0	-0.3
CHIR	Chirikof Islan	75.91	13	P	P	07 31 45.6	-0.4
	baz=202						
SAO	San Andreas Ge	76.49	44	P	P	07 31 50.9	+1.3
SAO				IAmb	IAmb	07 31 51.1	
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Ar.	76.49	326	P	P	07 31 50.9	+1.4
	comp=Z,3.0nm,0.7s,baz=125,slow=3.4,SNR=4.6						
	comp=Z,3.0nm,0.7s						
SII	Sitkinak Islan	76.91	14	P	P	07 31 51.0	-0.5
	baz=204						
KMPM	Mount Pierce	76.94	40	P	P	07 31 53.5	+1.4
KMRM	Mail Ridge	77.07	40	P	P	07 31 53.9	+1.1
KMRM				IAmb	IAmb	07 31 54.7	
	comp=Z,19nm,0.8s						
R16K	Pilot Point	77.15	11	P	P	07 31 52.0	-0.6
	baz=200						
MWC	Mount Wilson	77.41	48	P	P	07 31 55.2	+0.3
MWC				IAmb	IAmb	07 31 55.4	
	comp=Z,8.6nm,0.6s						
R17L	Mt. Peulik Vol	77.44	12	P	P	07 31 54.0	-0.4
	baz=202						
PLK4	Peulik 4	77.44	12		P	07 31 54.4	-0.1
VES	Vestal, Richgr	77.56	46	P	P	07 31 55.9	+0.4
VES				IAmb	IAmb	07 31 56.3	
	comp=Z,11nm,0.7s						
DPP	Dos Picos Cty	77.57	49	IAmb	IAmb	07 31 56.6	
	comp=Z,9.2nm,0.7s						
O02D	Mt. Diablo Mer	77.61	40		P	07 31 57.0	+1.2
OHAK	Old Harbor	77.72	14		P	07 31 55.4	-0.4
OHAK				IAmb	IAmb	07 31 56.4	
	comp=Z,12nm,0.8s						
OHAK	Old Harbor	77.72	14	P	P	07 31 55.5	-0.2
	baz=204						
R18K	Karluk	77.78	13	P	P	07 31 55.3	-0.8
	baz=203						
ISA	Isabella, Lake	77.89	46		P	07 31 57.7	+0.4
Q17K	Contact Creek	78.12	12	P	P	07 31 57.2	-0.9
	baz=202						
O14K	Tigyukauivet M	78.13	9	P	P	07 31 57.4	-0.5
	baz=197						
O15K	Ungalikthiuk R	78.28	10	P	P	07 31 59.0	+0.2
	baz=198						
Q16K	King Salmon	78.36	11	P	P	07 31 58.6	-0.6
	baz=201						
KDAK	Kodiak Island	78.39	14		P	07 31 59.3	-0.1
KDAK				IAmb	IAmb	07 32 00.9	
	comp=Z,13nm,0.9s						
KDAK	Kodiak Island	78.39	14	P	P	07 31 58.6	-0.7
	baz=205						
YBH	Yreka Blue Hor	78.58	39	P	P	07 32 01.6	+0.7
	comp=Z,0.6nm,0.8s,baz=186,slow=1.8,SNR=52						
	comp=Z,0.6nm,0.8s						
M11K	Mekoryuk	78.61	6	P	P	07 31 60.0	-0.5
	baz=192						
Q18K	Katmai Hardscr	78.66	12	P	P	07 32 00.1	-0.9
	baz=203						
N14K	Kuskokwak Cree	78.71	9	P	P	07 32 00.9	-0.1
	baz=196,SNR=14						
P17K	Kvichak River	78.89	11	P	P	07 32 01.3	-0.7
	baz=201						
M13K	Dall Lake	78.96	8	P	P	07 32 01.7	-0.6
	baz=195						
O16K	Kokwok River B	78.96	10	P	P	07 32 01.1	-1.3
	baz=200						
Q20K	Shuyak Island	79.18	14	P	P	07 32 03.2	-0.3
	baz=205						
N15K	Kwethluk River	79.18	9	P	P	07 32 03.2	-0.4
	baz=198						
Q19K	Cape Douglas,	79.20	13	P	P	07 32 03.2	-0.5
	baz=204						
P18K	Big Mountain,	79.30	12	P	P	07 32 03.4	-0.8
	baz=202						
O17K	Koliganek Bris	79.31	11	P	P	07 32 03.2	-0.9
	baz=201						
M14K	Bethel	79.47	8	P	P	07 32 05.0	0.0
	baz=196,SNR=5.5						
NVAR	Mina Array Bea	79.49	44		P	07 32 06.1	+0.2
NVAR	Mina Array Bea	79.49	44	P	P	07 32 06.2	+0.3
	comp=Z,6.1nm,0.8s,baz=224,slow=8.7,SNR=45						
	comp=Z,6.1nm,0.8s						
M15K	Kasigluk River	79.59	9	P	P	07 32 05.7	0.0
	baz=197,SNR=7.1						
N16K	Nishlik Lake	79.68	10	P	P	07 32 05.9	-0.3
	baz=199,SNR=5.8						
O18K	Koktuh Hills	79.73	12	P	P	07 32 05.9	-0.6
	baz=202						
L14K	Kuka Creek	79.94	8	P	P	07 32 07.4	-0.1
	baz=195						
P19K	Oil Pt	79.95	13	P	P	07 32 07.0	-0.6
	baz=204						
BNX	BinXian	79.97	325	P	P	07 32 08.7	+0.7
BNX				pmax	pmax		
	comp=Z,21nm,0.9s						
N17K	Nushagak Hills	80.00	11	P	P	07 32 07.3	-0.5
	baz=201						
M16K	Timber Creek	80.17	10	P	P	07 32 09.4	+0.7
	baz=199,SNR=19						
O19K	Port Alsworth	80.22	12	P	P	07 32 08.3	-0.6
	baz=203,SNR=7.2						
K13K	Kusilvak Mount	80.29	7	P	P	07 32 09.4	+0.1
	baz=193						
HOM	Homer	80.30	13	P	P	07 32 09.0	-0.4
	baz=206						
N18K	Kilae Creek	80.37	11	P	P	07 32 08.9	-0.9
	baz=202						
L15K	Ungalak Mounta	80.43	8	P	P	07 32 10.0	0.0
	baz=196,SNR=6.8						
O20K	Slope Mountain	80.47	13	P	P	07 32 09.6	-0.8
	baz=205						
N19K	Bonanza Creek	80.76	12	P	P	07 32 10.5	-1.4
	baz=203,SNR=8.2						
M17K	Holitna River	80.78	10	P	P	07 32 12.3	+0.5
	baz=200,SNR=15						
K15K	Wolf Creek Mou	81.01	8	P	P	07 32 13.9	+0.8
	baz=196,SNR=19						
MA2	Magadan	81.11	345	P	P	07 32 12.8	-0.8
	comp=Z,15nm,1.1s						
M18K	Stony River	81.14	11	P	P	07 32 13.7	0.0
	baz=202,SNR=6.0						
SEW	Seward	81.20	14	P	P	07 32 13.0	-0.9
	baz=208						
J14K	Nanvaranak Lak	81.20	7	P	P	07 32 13.8	-0.1
	baz=194						
L17K	Donlin	81.33	9	P	P	07 32 15.4	+0.7
	baz=199,SNR=11						
CAPN	Captain Cook N	81.40	13	P	P	07 32 15.1	+0.1
	baz=206						
O22K	Cooper Landing	81.47	14	P	P	07 32 14.8	-0.6
	baz=208						
GAMB	Gambell	81.54	3	P	P	07 32 16.0	+0.4
	baz=187						
N20K	Mount Spurr	81.57	13	P	P	07 32 15.4	-0.6
	baz=205						
P23K	Montague Islan	81.60	15	P	P	07 32 15.3	-0.8
	baz=210						
L18K	Granite Mounta	81.67	10	P	P	07 32 17.0	+0.6
	baz=201,SNR=15						
M19K	Big River Lodg	81.78	11	P	P	07 32 16.3	-0.7
	baz=203,SNR=7.5						
TUC	Tucson	81.78	52		P	07 32 18.1	+0.3
K17K	Iditarod	81.88	9	P	P	07 32 17.6	+0.1
	baz=199						
L19K	White Mountain	81.96	11	P	P	07 32 17.6	-0.2
	baz=203,SNR=15						
M20K	Styx River	82.00	12	P	P	07 32 17.3	-1.0
	baz=204						
RC01	Rabbit Creek A	82.00	14	P	P	07 32 17.5	-0.7
	baz=208,SNR=5.9						
J16K	Anvik River	82.09	8	P	P	07 32 18.7	+0.2
	baz=197,SNR=8.3						
SUA	Susitna One	82.12	13	P	P	07 32 17.5	-1.4
	baz=207,SNR=16						
PWL	Port Wells	82.12	14	P	P	07 32 17.8	-0.9
	baz=209,SNR=5.7						

KAIM **Kayak Island** 82.32 17 P P 07 32 18.0 -1.8
baz=213
BBB **Bella Bella** 82.34 29 P P 07 32 20.0 0.0
comp=Z,4.6nm,0.7s,baz=263,slow=4.9,SNR=12
comp=Z,4.6nm,0.7s
J17K **VABM Dome** 82.41 9 P P 07 32 20.5 +0.4
baz=199,SNR=9.3
L20K **Farewell, AK** 82.41 11 P P 07 32 19.2 -1.0
baz=204,SNR=11
SKT **Skwentna** 82.42 13 P P 07 32 19.3 -0.9
baz=206
GLI **Glacier Island** 82.44 15 P P 07 32 19.3 -1.1
baz=210,SNR=11
EYAK **Cordova Ski Ar** 82.50 16 P P 07 32 19.5 -1.0
baz=211
M22K **Willow** 82.51 13 P P 07 32 20.2 -0.4
baz=207,SNR=6.1
CRAG **Craig** 82.53 24 P P 07 32 19.7 -1.1
baz=223
KNK **Knik Glacier** 82.58 14 P P 07 32 20.5 -0.6
baz=209
PMR **Palmer** 82.59 14 P P 07 32 20.3 -0.7
baz=208,SNR=12
I17K **Unalakleet** 82.66 8 P P 07 32 21.2 -0.1
baz=197
ELK **Elko** 82.72 43 P P 07 32 22.6 +0.1
comp=Z,5.0nm,0.9s,baz=254,slow=5.2,SNR=20
comp=Z,5.0nm,0.9s
ANM **Nome** 82.79 6 P P 07 32 21.9 -0.1
baz=193
J18K **Innoko River** 82.83 10 P P 07 32 22.2 -0.1
baz=201,SNR=17
SIT **Sitka** 82.89 22 P P 07 32 22.2 -0.4
baz=221
U33K **Whale Pass** 83.00 24 P P 07 32 23.3 +0.1
baz=223,SNR=8.4
V35K **Ketchikan** 83.02 25 P P 07 32 23.6 +0.3
baz=224,SNR=6.4
CUT **Chulitna** 83.06 13 P P 07 32 22.3 -1.1
baz=207,SNR=5.6
PPLA **Purkeypile** 83.11 12 P P 07 32 23.4 -0.4
baz=205
BMRM **Bremner River** 83.15 16 P P 07 32 23.3 -0.6
baz=212,SNR=8.3
K20K **Telida** 83.18 11 P P 07 32 23.6 -0.5
baz=203
H16K **Elim** 83.19 7 P P 07 32 23.9 -0.1
baz=196,SNR=6.1
SCM **Sheep Creek Mo** 83.22 14 P P 07 32 23.6 -0.6
baz=210,SNR=20
MESA **MESA** 83.22 17 P P 07 32 24.2 -0.2
baz=215,SNR=5.4
S31K **Pelican** 83.25 21 P P 07 32 24.4 0.0
baz=220
KLU **Klutina** 83.26 15 P P 07 32 23.9 -0.6
baz=211
G15K **Niukluk** 83.34 6 P P 07 32 24.5 -0.2
baz=194,SNR=8.0
CRQE **Cirque** 83.37 17 P P 07 32 24.8 -0.4
baz=214
S32K **Killisnoo** 83.47 22 P P 07 32 25.1 -0.4
baz=222
J19K **Poorman** 83.51 10 P P 07 32 25.3 -0.3
baz=202,SNR=7.9
WRAK **Wrangell Islan** 83.52 24 P P 07 32 25.9 +0.1
baz=224,SNR=7.7
TNA **Tin City** 83.55 4 P P 07 32 25.4 -0.3
baz=190
PNL **Peninsula** 83.56 19 P P 07 32 25.6 -0.4
baz=217
F14K **Arctic Creek** 83.59 5 P P 07 32 25.7 -0.2
baz=192
CAST **Castle Rocks** 83.61 12 P P 07 32 24.2 -2.0
baz=205,SNR=32
PINM **Pinnacle** 83.64 18 P P 07 32 25.9 -0.6
baz=216
LYN **LuoYang** 83.68 309 P P 07 32 28.3 +1.2
LYN pmax pmax
comp=Z,30nm,0.9s
N25K **Chitina, Valde** 83.69 16 P P 07 32 25.8 -0.9
baz=212,SNR=21
M24K **Tolsona, Glenn** 83.73 15 P P 07 32 26.5 -0.3
baz=211,SNR=8.7
PSI **Prapat** 83.73 275 P P 07 32 27.3 -0.7
comp=Z,9.1nm,0.7s,baz=84,slow=2.6,SNR=4.5
comp=Z,9.1nm,0.7s
H17K **Granite Mounta** 83.76 8 P P 07 32 26.1 -0.7
baz=198
G16K **Koyuk River** 83.91 7 P P 07 32 27.1 -0.4
baz=195
MCARA **McCarthy VSAT** 83.92 16 P P 07 32 27.5 -0.2
baz=214
J20K **Nowinta River** 83.92 10 P P 07 32 27.5 -0.1
baz=203,SNR=10
F15K **North Star Dit** 83.97 6 P P 07 32 27.4 -0.5
baz=193
CHUM **Lake Minchumin** 83.99 11 P P 07 32 27.0 -0.9
baz=205,SNR=5.5
TRF **Thorofare Moun** 83.99 12 P P 07 32 26.8 -1.4
baz=207,SNR=37
GCSA **Galena City Sc** 84.01 9 P P 07 32 27.4 -0.6
baz=201
CTG **Chitna Glacier** 84.03 17 P P 07 32 27.9 -0.5
baz=215,SNR=5.8
P29M **Windy Craggy** 84.05 20 P P 07 32 28.3 -0.1
baz=219,SNR=6.6
R32K **Eaglecrest** 84.09 22 P P 07 32 28.2 -0.4
baz=222
H18K **Honhosa River** 84.18 8 P P 07 32 29.1 +0.2
baz=199
O28M **Mount Upton** 84.21 18 P P 07 32 29.0 -0.5
baz=216,SNR=6.7
G17K **Kiwalik Mounta** 84.21 7 P P 07 32 28.5 -0.5
baz=197
HARP **HAARP** 84.23 15 P P 07 32 28.6 -0.6
baz=212
O29M **Mount Kennedy** 84.32 19 P P 07 32 29.6 -0.2
baz=218
PLBC **Pleasant Camp** 84.36 20 P P 07 32 30.3 +0.4
baz=220,SNR=7.6
I20K **Naaghedeneel** 84.44 10 P P 07 32 29.9 -0.2
baz=203
MCK **McKinley** 84.52 13 P P 07 32 29.5 -1.2
baz=208,SNR=11
PAX **Paxson** 84.64 15 P P 07 32 30.2 -1.0
baz=211,SNR=6.9
P30M **Million Dollar** 84.68 20 P P 07 32 31.7 +0.2
baz=219
SKAG **Skagway** 84.70 21 P P 07 32 32.1 +0.6
baz=221
T35M **Bob Quinn** 84.74 24 P P 07 32 31.6 -0.3
baz=226
YUK8 **Steele Glacier** 84.74 18 P P 07 32 31.7 -0.3
baz=217,SNR=7.2
M26K **Nabesna, AK** 84.77 16 P P 07 32 31.4 -0.5
baz=214,SNR=16
H19K **Roundabout Mou** 84.81 9 P P 07 32 31.4 -0.5
baz=201
G18K **Tagagawik** 84.84 8 P P 07 32 32.3 +0.2
baz=199
YUK6 **Outpost Mounta** 84.89 18 P P 07 32 32.3 -0.4
baz=218
YUK3 **Moose Creek** 84.94 17 P P 07 32 32.7 -0.3
baz=216,SNR=5.7
H20K **Anotleneega Mo** 85.02 10 P P 07 32 33.1 +0.1
baz=202
M27K **Edge Creek, AK** 85.03 16 P P 07 32 33.3 0.0
baz=215,SNR=14
F17K **Baldwin Pennin** 85.04 7 P P 07 32 32.5 -0.5
baz=196
HYT **Haines Junctio** 85.06 19 P P 07 32 33.1 -0.3
baz=219
S34M **Telegraph Cree** 85.06 23 P P 07 32 33.7 +0.4
baz=225,SNR=15
YUK4 **Talbot Arm** 85.12 18 P P 07 32 33.8 0.0
baz=218
L26K **Log Cabin Wild** 85.20 15 P P 07 32 33.6 -0.3
baz=213,SNR=6.6
I21K **Tanana** 85.23 11 P P 07 32 33.2 -0.8
baz=205
NEA2 **Nenana** 85.26 12 P P 07 32 34.0 -0.1
baz=208
K24K **Donnelly Dome** 85.28 14 P P 07 32 33.8 -0.5
baz=211,SNR=13
G19K **Purcell Mounta** 85.29 9 P P 07 32 33.8 -0.5
baz=200
MLY **Manley** 85.32 11 P P 07 32 33.9 -0.6
baz=206
P32M **Atlin** 85.35 21 P P 07 32 35.0 +0.2
baz=222,SNR=5.9
BVCY **Beaver Creek** 85.35 17 P P 07 32 34.3 -0.4
baz=216,SNR=7.1
F18K **Selawik** 85.39 7 P P 07 32 33.9 -0.8
baz=198
Q32M **Nakina River** 85.39 22 P P 07 32 35.4 +0.2
baz=224,SNR=14
RIDG **Independent Ri** 85.44 14 P P 07 32 34.4 -0.8
baz=212,SNR=6.6
Y22D **IRIS PASSCAL I** 85.47 52 P P 07 32 34.1 -1.9
baz=245
H21K **Melozitna Rive** 85.52 10 P P 07 32 34.9 -0.4
baz=204
HDA **Harding Lake** 85.54 13 P P 07 32 35.2 -0.3
baz=210,SNR=8.1
NEW **Newport** 85.56 36 P P 07 32 35.4 -0.6
comp=Z,2.9nm,0.7s,baz=251,slow=6.6,SNR=7.8
comp=Z,2.9nm,0.7s
E17K **Hotham Inlet** 85.60 6 P P 07 32 35.2 -0.4
baz=196,SNR=5.9
L27K **Beaver Creek,** 85.62 16 P P 07 32 35.7 -0.3
baz=215,SNR=6.1
N30M **Aishikik Lake** 85.68 19 P P 07 32 35.6 -0.7
baz=219
I23K **Minto, Yukon-K** 85.69 12 P P 07 32 35.4 -0.7
baz=208
COLA **College** 85.76 13 P P 07 32 35.2 -1.2
baz=209
WHY **Whitehorse** 85.76 20 P P 07 32 36.1 -0.7
baz=221,SNR=6.2
DLBC **Dease Lake** 85.84 23 P P 07 32 36.7 -0.5
baz=226,SNR=5.7
SCRK **Sand Creek** 85.85 15 P P 07 32 36.3 -0.8
baz=213
F19K **Shaleruckik Mo** 85.85 8 P P 07 32 36.2 -0.7
baz=200
ILAR **Eielson Array** 85.87 13 P P 07 32 35.8 -1.3
comp=Z,3.3nm,0.5s,baz=222,slow=4.9,SNR=77
comp=Z,3.3nm,0.5s
H22K **Ishtalitna Cre** 85.98 11 P P 07 32 36.9 -0.7
baz=206,SNR=6.3
M29M **Somme Creek** 86.04 17 P P 07 32 38.0 -0.1
baz=218,SNR=9.3
POKR **Poker Flat Res** 86.06 13 P P 07 32 36.3 -1.6
baz=210
E18K **Tukpahlearik C** 86.06 7 P P 07 32 37.4 -0.5
baz=197,SNR=6.5
D17K **Noatak River** 86.07 6 P P 07 32 37.6 -0.3
baz=195
J25K **Salcha River,** 86.07 14 P P 07 32 37.0 -1.1
baz=211,SNR=16
TXAR **Lajitas Array** 86.09 58 P P 07 32 38.8 -0.3
comp=Z,8.1nm,0.8s,baz=214,slow=6.0,SNR=13
comp=Z,8.1nm,0.8s
N31M **Braeburn, Yuko** 86.10 19 P P 07 32 38.6 +0.3
baz=220,SNR=6.9
P33M **Teslin, Yukon** 86.11 21 P P 07 32 38.6 +0.2
baz=223,SNR=5.7
XAN **Xi'an** 86.11 307 P P 07 32 40.2 +1.2
XAN pmax pmax
comp=Z,23nm,1.1s
R33M **Jennings River** 86.17 22 P P 07 32 38.5 -0.3
baz=225,SNR=8.0
ANMO **Albuquerque** 86.18 52 P P 07 32 38.8 -0.7
comp=Z,4.8nm,1.0s,baz=284,slow=8.2,SNR=4.5
comp=Z,4.8nm,1.0s
G21K **Allakaket** 86.19 10 P P 07 32 38.1 -0.4
baz=204,SNR=8.9
H23K **Yukon River** 86.26 12 P P 07 32 38.6 -0.3
baz=208
F20K **Avaraart Lake** 86.34 9 P P 07 32 38.9 -0.3
baz=202
K27K **Chicken** 86.36 15 P P 07 32 39.3 -0.1
baz=214
J26L **Joseph Creek** 86.39 14 P P 07 32 39.7 +0.1
baz=213,SNR=17
C16K **Lisburne Hills** 86.43 5 P P 07 32 39.8 +0.2
baz=193
RDOG **Red Dog Mine** 86.43 6 P P 07 32 39.7 +0.1
baz=195
E19K **Redstone River** 86.51 8 P P 07 32 39.7 -0.3
baz=200,SNR=6.8
H24K **Noodor Dome** 86.59 12 P P 07 32 40.2 -0.3
baz=209
M30M **Minto, Yukon** 86.63 18 P P 07 32 40.6 -0.2
baz=219,SNR=25
L29M **L29M** 86.66 17 P P 07 32 41.1 +0.2
baz=218,SNR=11
N32M **Quiet Lake** 86.71 20 P P 07 32 40.9 -0.3
baz=223
PRP **Porcupine Dome** 86.81 13 P P 07 32 40.5 -1.2
baz=211
C17K **DeLong Mountai** 86.81 6 P P 07 32 40.6 -0.9
baz=195
F21K **Alatna River** 86.84 10 P P 07 32 40.7 -0.9
baz=204
G22K **Bettles** 86.89 10 P P 07 32 41.4 -0.4
baz=206
G23K **Bananza Creek** 86.96 11 P P 07 32 41.7 -0.5
baz=207
M31M **Drury Creek, Y** 87.07 19 P P 07 32 42.2 -0.7
baz=222
DAWY **Dawson** 87.08 16 P P 07 32 42.7 -0.1
baz=217,SNR=6.7
HHC **Hu-ho-hao-te** 87.13 315 *e*P P 07 32 45.0 +1.3
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,160nm,4.3s
I26K **Coal Creek Min** 87.16 14 P P 07 32 42.8 -0.3
baz=214
C18K **Utukok River** 87.17 6 P P 07 32 42.8 -0.4
baz=196
F22K **John River** 87.31 10 P P 07 32 43.3 -0.5
baz=205
D19K **Kuna River** 87.38 7 P P 07 32 43.7 -0.5
baz=199
H25L **Birch Creek** 87.39 13 P P 07 32 43.7 -0.5
baz=211
COLD **Coldfoot** 87.39 11 P P 07 32 43.7 -0.5
baz=207,SNR=7.3
E20K **Nigu River** 87.40 8 P P 07 32 44.0 -0.3
baz=201,SNR=10
K29M **Barlow Dome** 87.41 17 P P 07 32 44.7 +0.2
baz=219,SNR=7.5
PDAR **Pinedale Array** 87.42 43 P P 07 32 44.5 -0.6
comp=Z,4.1nm,0.6s,baz=223,slow=3.4,SNR=22
comp=Z,4.1nm,0.6s
G24K **Hadweenzic Riv** 87.43 12 P P 07 32 43.6 -0.7
baz=209
WTLY **Watson Lake, Y** 87.46 23 P P 07 32 43.7 -1.0
baz=227
MAYO **Mayo, Yukon** 87.68 18 P P 07 32 45.6 0.0
baz=220
J29N **Klondike Camp** 87.70 16 P P 07 32 45.3 -0.5
baz=218
G25K **Bearman Lake** 87.76 12 P P 07 32 45.3 -0.6
baz=211
I27K **Kandik River** 87.77 14 P P 07 32 45.3 -0.7
baz=215
D20K **Etivluk River** 87.77 8 P P 07 32 45.6 -0.4
baz=201
C19K **Lookout Ridge** 87.79 7 P P 07 32 46.0 0.0
baz=198
B18K **Kokolik River** 87.80 6 P P 07 32 46.0 0.0
baz=196
E21K **Killik River** 87.89 9 P P 07 32 46.0 -0.5
baz=203
E22K **Anaktuvuk Pass** 87.94 10 P P 07 32 46.5 -0.2
baz=205,SNR=7.0
TOAD **Toad River Com** 87.98 25 P P 07 32 46.8 -0.3
baz=230,SNR=11
LIRD **Liard River Hi** 88.00 24 P P 07 32 46.6 -0.6
baz=229
I28M **Miner Creek** 88.05 15 P P 07 32 47.5 +0.1
baz=216,SNR=7.0
F24K **Squaw Lake** 88.07 11 P P 07 32 47.1 -0.2
baz=209,SNR=8.2
E23K **Chandalar** 88.24 10 P P 07 32 48.0 -0.3
baz=207
H27K **Steamboat Moun** 88.31 14 P P 07 32 48.3 -0.3
baz=215
J30M **Hart River** 88.31 17 P P 07 32 48.1 -0.6
baz=220
MMPY **Sheldon Lake,** 88.37 20 P P 07 32 49.2 +0.3
baz=224,SNR=14
I29M **Ogilvie Camp,** 88.39 16 P P 07 32 48.5 -0.5
baz=218,SNR=7.3
G26K **Porcupine Rive** 88.40 13 P P 07 32 49.1 +0.3
baz=213,SNR=8.2
C21K **Knifeblade Rid** 88.43 8 P P 07 32 48.8 -0.2
baz=202
E24K **Your Creek** 88.45 11 P P 07 32 49.0 -0.1
baz=208
D22K **Ayikyak River** 88.48 9 P P 07 32 49.1 -0.2
baz=204,SNR=5.2
F25K **Christian Rive** 88.57 12 P P 07 32 49.8 +0.1
baz=211
BMAR **Burnt Mountain** 88.64 12 P 07 32 50.3 +0.2
A19K **Wainwright** 88.69 6 P P 07 32 50.2 +0.1
baz=197
CMAR **Chiang Mai Arr** 88.73 290 P P 07 32 52.8 +1.3
comp=Z,1.6nm,0.3s,baz=121,slow=3.2,SNR=17
comp=Z,1.6nm,0.3s
G27K **Doyon Strip** 88.75 14 P P 07 32 50.2 -0.4
baz=215
TOLK **Toolik Lake Re** 88.76 10 P P 07 32 50.4 -0.2
baz=207
I30M **Mount Dempster** 88.80 16 P P 07 32 50.5 -0.4
baz=220,SNR=11
D23K **Nanushuk River** 88.87 10 P P 07 32 50.7 -0.4
baz=206
B21K **Ikpikpuk River** 88.89 8 P P 07 32 50.4 -0.6
baz=203
B20K **Meade River** 88.92 7 P P 07 32 50.8 -0.4
baz=200
F26K **Sheenjek River** 88.96 12 P P 07 32 51.3 -0.2
baz=212
PZH **PanZhiHua** 89.00 298 P P 07 32 54.2 +1.4
H29M **Whitestone** 89.06 15 P P 07 32 51.5 -0.5
baz=218,SNR=8.7
KOTAN **Kotaneelee Air** 89.26 24 P P 07 32 52.3 -0.7
baz=231
D24K **Happy Valley** 89.34 10 P P 07 32 52.8 -0.4
baz=208
EPYK **Eagle Plains** 89.59 16 P P 07 32 54.2 -0.2
baz=219,SNR=5.5
C23K **Itkillik River** 89.66 9 P P 07 32 54.3 -0.4
baz=206
G29M **Pine Creek** 89.69 15 P P 07 32 54.2 -0.7
baz=218
B22K **Teshekpuk Lake** 89.71 8 P P 07 32 54.2 -0.7
baz=204
H31M **Peel River** 89.79 17 P P 07 32 54.5 -0.9
baz=222
F28M **Old Crow** 89.82 14 P P 07 32 55.0 -0.5
baz=216
C24K **Franklin Bluff** 89.87 10 P P 07 32 55.3 -0.2
baz=208
E27K **Coleen River** 89.90 13 P P 07 32 55.6 -0.3
baz=215
D25K **Kavik River** 89.92 11 P P 07 32 55.8 -0.1
baz=210
A22K **Sinclair Lake** 90.12 8 P P 07 32 56.2 -0.5
baz=202
G30M **tAoh Zraii Nji** 90.19 15 P P 07 32 56.7 -0.6
baz=220,SNR=9.1
A21K **Barrow** 90.22 7 P P 07 32 56.4 -0.8
baz=201
TROLL **Troll, Antarti** 90.36 180 ⇑P P 07 32 56.6 -1.7
comp=Z,95nm,0.6s
G31M **Satah River** 90.65 16 P P 07 32 58.7 -0.6
baz=222,SNR=12
SNAA **Sanae** 90.65 179 ⇑P P 07 32 57.3 -2.2
comp=Z,24nm,0.9s
SNAA **Sanae** 90.65 179 P P 07 32 57.7 -1.8
comp=Z,0.6nm,0.5s,baz=201,slow=9.7,SNR=18
comp=Z,0.6nm,0.5s
C27K **Jago River** 90.67 12 P P 07 32 58.7 -0.7
baz=213
E28M **Babbage River** 90.69 13 P P 07 32 58.9 -0.6
baz=217
C26K **Camden Bay** 90.70 11 P P 07 32 59.4 -0.1
baz=212
LZH **Lanzhou** 90.74 308 *e*P P 07 33 02.5 +1.8
LZH sP PcP 07 33 09.0 +7.7
LZH pmax pmax
comp=Z,19nm,1.3s
F30M **Barrier River** 90.79 15 P P 07 32 59.2 -0.7
baz=220
VNA3 **Neumayer Olymp** 90.80 176 ⇑P P 07 32 58.5 -1.7
comp=Z,2.8nm,0.6s
E29M **Blow River** 90.89 14 P P 07 32 59.8 -0.6
baz=218
D27M **Malcolm River** 90.90 13 P P 07 33 00.4 -0.1
baz=216
F31M **Tsiigehtchic** 91.18 16 P P 07 33 01.1 -0.6
baz=222,SNR=5.7
WRGLY **Wrigley** 91.43 22 P P 07 33 02.5 -0.4
baz=231
VNA1 **Neunayer--Stat** 91.47 177 ⇑P P 07 33 02.2 -0.9
comp=Z,3.0nm,0.9s
INK **Inuvik** 91.87 15 P P 07 33 04.0 -0.9
baz=222
SONM **Songino Array** 93.42 319 P P 07 33 12.3 -0.3
comp=Z,0.7nm,0.5s,baz=151,slow=3.2,SNR=4.4
comp=Z,0.7nm,0.5s
YKA **Yellowknife Ar** 94.35 25 P P 07 33 15.4 -0.9
comp=Z,1.2nm,0.7s,baz=203,slow=8.9,SNR=7.7
comp=Z,1.2nm,0.7s
ZALV **Zalesovo Beam** 108.10 322 PKiKP PKiKP 07 38 19.0 -1.8
comp=Z,1.1nm,0.6s,baz=87,slow=1.8,SNR=4.6
MKAR **Makanchi Array** 108.99 314 PKiKP PKiKP 07 38 20.9 -1.9
comp=Z,1.0nm,0.5s,baz=189,slow=0.7,SNR=17
KURBB **Kurchatov Arra** 111.74 318 PKiKP PKiKP 07 38 26.0 -1.8
comp=Z,1.7nm,0.7s,baz=92,slow=1.8,SNR=11
BVAR **Borovoye Array** 116.71 321 PKP PKPdf 07 38 35.9 -1.4
comp=Z,3.4nm,0.4s,baz=118,slow=1.0,SNR=22
ARCES **ARCESS Array B** 126.24 350 PKP PKPdf 07 38 53.2 -1.9
comp=Z,4.8nm,0.8s,baz=22,slow=1.1,SNR=12
FINES **FINESS Array B** 133.10 344 PKP PKPdf 07 39 06.8 -1.5
comp=Z,2.2nm,0.6s,baz=46,slow=2.4,SNR=12
NB2 **NORSAR Subarra** 136.31 353 PKPdf PKPdf 07 39 14.6 +0.2
comp=Z,0.2nm,0.4s,baz=27,slow=1.8
NOA **NORSAR Array B** 136.31 353 PKP PKPdf 07 39 13.1 -1.3
comp=Z,1.8nm,0.8s,baz=16,slow=4.2,SNR=5.2
HFS **Hagfors** 136.86 351 PKiKP PKPpre 07 39 05.7
comp=Z,1.3nm,0.4s,baz=72,slow=4.8,SNR=9.9
AKASG **Malin Array Be** 140.45 332 PKhKP PKPpre 07 39 15.0
comp=Z,1.5nm,0.5s,baz=43,slow=4.3,SNR=12
AKASG PKP PKPdf 07 39 21.9 -0.3
comp=Z,1.6nm,0.4s,baz=41,slow=3.1,SNR=7.4
RNPP9 **Sopachiv** 141.31 335 PKP PKPdf 07 39 22.8 -0.9
EKA **Eskdalemuir Ar** 142.43 4 PKhKP PKPpre 07 39 21.5
comp=Z,0.5nm,0.4s,baz=348,slow=3.4,SNR=4.4
BEL **Belsk** 142.81 340 *e*PKP PKPdf 07 39 23.7 -2.6
KWP **Kalwaria Pacla** 143.57 336 *e*PKP PKPbc 07 39 27.5 -0.4
VASR **Vaslui** 143.99 329 ⇑P PKPbc 07 39 27.8 -0.3
RUE **Ruedersdorf** 144.11 347 *e*PKPbc PKPbc 07 39 28.1 -0.1
baz=16,slow=2.7
VLDR **Vladesti** 144.39 327 ⇓P PKPdf 07 39 28.5 -0.7
BURAR **Bucovina Array** 144.50 332 ⇓P PKPbc 07 39 29.9 +0.1
OJC **Ojcow** 144.51 340 *e*PKP PKPdf 07 39 29.1 -0.3
GHRR 144.58 328 ⇓P PKPab 07 39 31.0 +0.4
TESR **Tescani** 144.64 329 ⇑P PKPdf 07 39 29.8 +0.1
BR131 **Keskin Array S** 144.64 315 PKPdf 07 39 29.9 -0.2
BRTR **Keskin Array B** 144.64 315 PKP PKPdf 07 39 29.9 -0.2
comp=Z,7.3nm,0.8s,baz=122,slow=3.8,SNR=44
STHS **Stebnicka Huta** 144.69 337 *e*PKP PKPdf 07 39 29.2 -0.5
JURR **Jurilovca** 144.69 325 ⇓P PKPbc 07 39 30.1 -0.2
KOLS **Kolnicke sedl** 144.70 336 *e*PKP PKPbc 07 39 30.2 0.0
KIRS **Kirsehir-Merke** 144.73 314 ⇑P PKPdf 07 39 30.3 +0.1
FLTG **Flechtingen** 144.75 350 *e*PKPbc PKPdf 07 39 29.8 +0.1
baz=16,slow=2.7
IZVR **Izvoarele** 144.76 327 ⇑P PKPab 07 39 31.1 -0.1
NRDL **Niedersach Rie** 144.77 351 *e*PKPbc PKPbc 07 39 30.1 0.0
baz=16,slow=2.7
CFR **Carcaliu** 144.81 327 ⇓P PKPbc 07 39 30.5 -0.1
TPGR **Topolog** 144.88 326 ⇑P PKPbc 07 39 30.7 -0.2
ONER **Baraj Valea Uz** 144.89 329 ⇑P PKPdf 07 39 30.4 +0.3
KSP **Ksiaz** 145.02 344 *e*PKP PKPbc 07 39 31.2 +0.1
NIE **Niedzica** 145.02 338 *e*PKP PKPbc 07 39 31.6 +0.4
VRI **Vrincioaia** 145.06 329 ⇑P PKPdf 07 39 30.9 +0.4
PLOR **Plostina** 145.11 329 ⇑P PKPdf 07 39 31.0 +0.4
ANTO **Ankara** 145.14 316 ⇓P PKPdf 07 39 30.9 0.0
HARR **Harsova** 145.25 326 ⇑P PKPbc 07 39 31.4 -0.5
IBBN **Ibbenburen** 145.26 353 *e*PKPbc PKPbc 07 39 31.6 -0.1
baz=16,slow=2.7
ARCR **ARCALIA** 145.28 332 ⇑P PKPbc 07 39 32.0 0.0
OSTC **Ostas** 145.30 343 *e*PKP PKPab 07 39 32.6 -0.6
COVR **Voineasa-Covas** 145.33 329 ⇓P PKPdf 07 39 31.4 +0.4
OKC **Ostrava-Krasne** 145.38 341 *e*PKP PKPbc 07 39 32.1 -0.1
CLL **Collm** 145.38 347 PKPbc 07 39 31.5 -0.6
CLL **Collm** 145.38 347 *e*PKPbc PKPbc 07 39 32.0 -0.1
baz=16,slow=2.7
CLL **Collm** 145.38 347 ⇑ *i*PKPbc PKPbc 07 39 31.6 -0.5

comp=Z,34nm,0.8s
CLL ePKPdf **pPKPdf** 07 41 45.0 -0.5
UPC Upice 145.40 344 ePKP **PKPbc** 07 39 32.3 +0.1
STEB Steborice 145.41 341 ePKP **PKPbc** 07 39 32.2 -0.1
DPC Dobruska-Polom 145.46 343 ePKP **PKPbc** 07 39 32.5 +0.1
MANR Mangalia 145.46 324 ⇓P **PKPbc** 07 39 33.0 +0.4
LANS Liptovska Anna 145.54 339 ePKP **PKPbc** 07 39 33.3 +0.6
KRLC Kraliky 145.57 342 ePKP **PKPbc** 07 39 32.8 0.0
BRG Berggiesshubel 145.58 346 ePKPbc **PKPbc** 07 39 33.4 +0.7
baz=16,slow=2.7
BRG Berggiesshubel 145.58 346⇓ePKPf **PKPdf** 07 39 31.8 +0.7
BRG Berggiesshubel 145.58 346 Amp 07 39 32.2
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 145.58 346 ⇑PKP **PKPbc** 07 39 33.3 +0.7
BRG Berggiesshubel 145.58 346 Amp 07 39 34.1
comp=Z,13nm,0.8s
MORC Moravsky Berou 145.62 341 ePKP **PKPbc** 07 39 32.5 -0.4
MORC Moravsky Berou 145.62 341 ⇓P **PKPdf** 07 39 31.5 +0.1
DOPR Dopca 145.64 330 ⇑P **PKPbc** 07 39 33.3 +0.2
MLR Muntele Rosu 145.71 329 ⇓P **PKPbc** 07 39 33.0 -0.5
GTTG Gottingen 145.71 351 ePKPbc **PKPbc** 07 39 33.1 +0.1
baz=16,slow=2.7
NEUB Neuenburg 145.72 348 ePKPbc **PKPbc** 07 39 33.0 0.0
baz=16,slow=2.7
CBBR Cluj-Babes-Bol 145.88 333 ⇑P **PKPbc** 07 39 33.9 +0.2
MAUC Maruska 145.89 341 ePKP **PKPbc** 07 39 33.7 0.0
CJR Cluj-Napoca 145.90 332 ⇓P **PKPbc** 07 39 34.0 +0.2
MMAI Mount Meron Ar 145.99 303 PKPbc **PKPbc** 07 39 34.7 +0.1
comp=Z,12nm,0.6s,baz=68,slow=4.6,SNR=20
MARR Marisel-Cluj 146.14 333 ⇑P **PKPbc** 07 39 34.2 -0.4
VOIR 146.19 330 ⇓P **PKPbc** 07 39 34.5 -0.2
DRGR 146.23 333 ⇑P **PKPbc** 07 39 34.1 -0.7
PRU Pruhonice 146.26 345 ePKP **PKPbc** 07 39 34.4 -0.2
GOPC GO Pecny, Ondr 146.26 344 ePKP **PKPbc** 07 39 34.7 0.0
MOX Moxa 146.29 348 ePKPbc **PKPbc** 07 39 34.6 -0.1
baz=16,slow=2.7
VRAC Vranov 146.32 342 ePKP **PKPbc** 07 39 34.5 -0.3
VRAC Vranov 146.32 342 ⇑P **PKPbc** 07 39 34.7 -0.2
VYHS Vyhne 146.32 339 ePKP **PKPbc** 07 39 34.7 -0.2
TANN Tannenbergstha 146.34 347 ePKPbc **PKPbc** 07 39 35.0 +0.1
baz=16,slow=2.7
JAVC Velka Javorina 146.38 341 ePKP **PKPbc** 07 39 35.8 +0.7
PSZ Piszkesteto 146.43 337 ⇑P **PKPbc** 07 39 34.9 -0.4
ARR Arges 146.44 330 ⇑P **PKPbc** 07 39 35.7 +0.4
KRUC Moravsky 146.59 342 ePKP **PKPbc** 07 39 35.2 -0.4
MANZ Manzenberg 146.82 347 ePKPbc **PKPbc** 07 39 36.3 +0.1
baz=16,slow=2.7
MODS Modra-Piesok 146.94 341 ePKP **PKPdf** 07 39 33.7 +0.1
ROTZ Rotzenmuhle 147.00 347 ePKPbc **PKPbc** 07 39 36.7 +0.1
baz=16,slow=2.7
UCC Uccle 147.05 357 dPKP **PKPbc** 07 39 36.1 -0.6
SIRR Siria 147.09 334 ⇑P **PKPbc** 07 39 36.1 -0.9
MEM Membach 147.12 355 dPKP **PKPbc** 07 39 36.4 -0.5
BTNL Ternell 147.13 354 dPKP **PKPbc** 07 39 36.4 -0.6
BSTI Sart Tilman 147.18 355 dPKP **PKPbc** 07 39 36.9 -0.2
TNS Taunus Mts 147.22 352 ePKPab **PKPab** 07 39 40.9 -0.1
baz=14,slow=4.0
GRF Grafenberg Arr 147.28 348 ePKPbc **PKPbc** 07 39 37.5 +0.1
baz=16,slow=2.7
GRF ePKPab **PKPab** 07 39 41.6 +0.4
baz=14,slow=4.0
GZR Gura Zlata 147.28 332 ⇑P **PKPdf** 07 39 35.8 +1.5
KHC Kasperske Hory 147.29 345 ePKP **PKPdf** 07 39 33.9 -0.3
KHC ex x 07 39 37.5
SURR Surduc 147.29 333 ⇓P **PKPbc** 07 39 36.8 -0.7
BCLA Clavier 147.37 355 dPKP **PKPab** 07 39 40.6 -0.8
CKRC Cesky Krumlov 147.39 344 ePKP **PKPdf** 07 39 34.4 +0.1
CKRC ex x 07 39 37.6
WET Wettzell 147.44 346 ePKPbc **PKPbc** 07 39 37.7 -0.2
baz=16,slow=2.7
WET ePKPab **PKPab** 07 39 42.4 +0.6
baz=14,slow=4.0
BMRD Maredsous 147.52 356 dPKP **PKPbc** 07 39 37.4 -0.5
GEC2 GERESS Array S 147.52 345 ePKPbc **PKPbc** 07 39 38.0 -0.2
baz=16,slow=2.7
GERES GERESS Array B 147.52 345 PKPbc **PKPbc** 07 39 37.6 -0.5
comp=Z,12nm,0.7s,baz=28,slow=3.2,SNR=23
BZS Buzias 147.62 333 ⇑P **PKPbc** 07 39 36.9 -1.5
DOU Dourbes 147.74 356 dPKP **PKPbc** 07 39 38.1 -0.4
CONA Conrad Observa 147.77 342 *i* PKP **PKPbc** 07 39 38.6 -0.2
comp=Z,6.5nm,0.6s,SNR=9.9
HERR Herculane 147.84 331 ⇓P **PKPbc** 07 39 37.8 -1.1
RONA Rosalia, Austr 147.84 341 *i* PKP **PKPbc** 07 39 38.7 -0.3
comp=Z,6.1nm,0.5s,SNR=10
WLF Walferdange 148.04 354 dPKP **PKPbc** 07 39 39.4 +0.1
WLF Walferdange 148.04 354 ePKPbc **PKPbc** 07 39 39.8 +0.4
baz=16,slow=2.7
WLF ePKPab **PKPab** 07 39 44.4 +0.2
baz=14,slow=4.0
MDVR Moldovita 148.23 332 ⇑P **PKPbc** 07 39 38.5 -1.5
MOA Molln 148.29 343 *i* PKP **PKPbc** 07 39 39.1 -1.0
comp=Z,1.2nm,0.4s
MORH Mrgy, Hungar 148.33 337 ⇓P **PKPbc** 07 39 38.3 -1.9
STU Stuttgart 148.53 350 ePKPbc **PKPbc** 07 39 40.5 -0.1
baz=16,slow=2.7
BIOA Bad Ischl, Aus 148.61 344 *i* PKP **PKPbc** 07 39 39.8 -1.0
comp=Z,1.6nm,0.3s
FUR Furstenfeldbru 148.72 347 ePKPbc **PKPbc** 07 39 40.9 -0.2
baz=16,slow=2.7
FUR ePKPab **PKPab** 07 39 47.4 +0.3
baz=14,slow=4.0
RJOB Jochberg 148.78 345 ePKPbc **PKPbc** 07 39 40.8 -0.4
baz=16,slow=2.7
RJOB ePKPab **PKPab** 07 39 48.2 +0.8
baz=14,slow=4.0
BFO Black Forest 149.09 351 ePKPbc **PKPbc** 07 39 41.7 -0.3
baz=16,slow=2.7
BFO ePKPab **PKPab** 07 39 48.4 -0.2
baz=14,slow=4.0
LESA Schwarzleotal 149.10 345 *i* PKP **PKPbc** 07 39 41.3 -0.8
comp=Z,6.7nm,0.7s
SOKA Soboth 149.14 342 *i* PKP **PKPbc** 07 39 41.2 -1.0
comp=Z,9.8nm,0.8s
PERS Pernice 149.15 341 *i* PKPbc **PKPbc** 07 39 41.0 -1.3
KBA Koelnbreinsper 149.25 344 *i* PKP **PKPbc** 07 39 41.3 -1.3
comp=Z,11nm,1.0s
OBKA Obir 149.44 342 *i* PKP **PKPbc** 07 39 41.7 -1.3
comp=Z,5.1nm,0.9s
WATA Walderalm 149.44 346 *i* PKP **PKPbc** 07 39 42.1 -0.9
comp=Z,11nm,0.6s,SNR=6.9
RETA Reutte 149.47 348 *i* PKP **PKPbc** 07 39 42.2 -0.8
comp=Z,5.3nm,0.6s
WTTA Wattenberg 149.50 346 *i* PKP **PKPbc** 07 39 42.2 -1.0
comp=Z,24nm,0.6s,SNR=14
MOTA Moosalm 149.54 347 *i* PKP **PKPbc** 07 39 42.3 -0.9
comp=Z,15nm,0.9s,SNR=6.4
MYKA Terra Mystica 149.58 343 *i* PKP **PKPbc** 07 39 41.8 -1.5
comp=Z,11nm,0.7s,SNR=5.4
SQTA Sankt Quirin 149.63 347 *i* PKP **PKPbc** 07 39 42.6 -0.8
comp=Z,15nm,0.6s,SNR=8.7
ABTA Abfaltersbach 149.77 345 *i* PKP **PKPbc** 07 39 42.5 -1.2
comp=Z,23nm,0.7s,SNR=10
DAVA Damuels 149.84 349 *i* PKP **PKPbc** 07 39 43.1 -0.8
comp=Z,16nm,1.1s,SNR=5.6
LJU Ljubljana 149.86 342 *i* PKPbc **PKPbc** 07 39 42.9 -1.0
FETA Feichten 149.92 347 *i* PKP **PKPbc** 07 39 43.5 -0.7
comp=Z,14nm,0.8s,SNR=7.1
BOJS Bojanci 150.12 340 *i* PKPbc **PKPbc** 07 39 43.9 -0.6
TUE Stuetta 150.72 349 **PKiKP** 07 39 46.5 -0.1
KARP Karpathos 151.18 313 PKPbc **PKPbc** 07 39 46.4 -0.9
FDMO Fiordimonte 153.02 341 **PKPab** 07 40 05.9 +0.6
NRCA Norcia 153.20 341 **PKPab** 07 40 06.6 +0.4
SGRT San Giovanni R 153.22 336 PKPbc **PKPbc** 07 39 50.7 -0.9
SGRT PKPab **PKPab** 07 40 06.2 -0.1
ESDC Sonseca Array 157.76 11 **PKPab** 07 40 25.4 -0.5
ESDC Sonseca Array 157.76 11 PKPab **PKPab** 07 40 24.3 -1.6
comp=Z,1.0nm,0.6s,baz=350,slow=3.1,SNR=9.4
DBIC Dimbokro 167.30 150 PKP **PKPdf** 07 39 56.6 -2.8
comp=Z,4.1nm,1.0s,baz=162,slow=7.7,SNR=3.5

PRU 11 07:23:52.7, 51.42N×16.12E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.83**	**183**	*e*PG	Pg	07 24 07.5	-1.2
CHVC				*e*SG	Sg	07 24 18.7	-0.7
OSTC	**Ostas**	**0.87**	**176**	*e*PG	Pg	07 24 09.1	-0.2
OSTC				*e*SG	Sg	07 24 20.9	+0.4
UPC	**Upice**	**0.92**	**184**	*e*PG	Pg	07 24 09.5	-0.7
UPC				*e*SG	Sg	07 24 21.7	-0.4
	7.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*PG	Pg	07 24 11.6	-1.7
DPC				*e*SG	Sg	07 24 26.7	-0.6
	2.6nm,0.2s						
PVCC Panska Ves 1.33 228 *e*PG Pg 07 24 15.9 -2.2
PVCC *e*SG Sg 07 24 35.1 -0.2
7.5nm,0.4s
KRLC Kraliky 1.41 162 *e*PG Pn 07 24 18.0 -1.7
KRLC *e*SG Sg 07 24 37.1 -0.9
3.1nm,0.3s
BRG Berggiesshubel 1.48 249 Pg Pn 07 24 19.1 -1.4
BRG Sg Sg 07 24 38.7 -1.4
BRG Amp 07 24 41.6
comp=Z,2.5nm,0.4s
MORC Moravsky Berou 1.88 151 *e*PN Pn 07 24 25.3 -0.8
MORC *e*SG Sb 07 24 51.9 0.0
KHC Kasperske Hory 2.81 216 *e*SG Sg 07 25 21.7 -1.3

*IDC **11** 07:25:47.3±11.0, 10.81N×73.70W, h0km, mbtmp4.0/1, ML2.6/1, Error ellipse: s-maj=737.1km s-min=39.6km az=89.0*
*FUNV **11** 07:25:50.6, 10.51N×72.77W, h3km, MW3.9*
*RSNC **11** 07:25:51.7±0.0, 10.1N×73W±°, h21km±2km, M3.3, mB4.4, mb4.2, ML3.1, Mw(mB)3.5*

ISC 11 07:25:49.8±1.6, 10.52N±0.03×72.84W±0.03, h19km±5km, n38, σ2.35/72, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**0.50**	**356**	P	**Pn**	**07 26 02.4**	**+0.3**
CRJC				S	**Sn**	**07 26 11.0**	**+0.7**
MCQV	**Machiques**	**0.56**	**147**	⇓*i*P	**Pb**	**07 26 00.5**	**-0.4**
MCQV				*e*S	**Sb**	**07 26 07.9**	**-0.5**
URIC	**Uribia, Colomb**	**1.44**	**35**	P	**Pg**	**07 26 17.0**	**-0.7**
URIC				S	**Sg**	**07 26 37.6**	**+1.0**
SMRC	**Santa Marta, M**	**1.50**	**295**	P	**Pb**	**07 26 17.3**	**+0.2**
SMRC				S	**Sn**	**07 26 35.4**	**+0.5**
ARGC	**Ariguani, Magd**	**1.53**	**245**	P	**Pn**	**07 26 16.9**	**+0.8**
ARGC				S	**Sn**	**07 26 36.5**	**+1.0**
OCAC	**Ocana**	**2.31**	**192**	P	**Pn**	**07 26 27.2**	**+0.1**
OCAC				S	**Sn**	**07 26 55.1**	**0.0**
SJCC	**San Jacinto, C**	**2.38**	**255**	P	**Pb**	**07 26 30.9**	**-1.2**
SJCC				S	**Sn**	**07 27 00.2**	**+3.5**
CAPV	**Capacho**	**2.69**	**169**	*e*P	**Pn**	**07 26 33.4**	**+1.1**
CAPV				*e*S	**Sn**	**07 27 06.4**	**+1.9**
SDV	**Santo Domingo**	**2.72**	**126**	P	**Pn**	**07 26 32.7**	**0.0**
SDV				S	**Sn**	**07 27 03.7**	**-1.4**
PAMC	**Pamplona, Colo**	**3.16**	**177**	P	**Pn**	**07 26 40.8**	**+1.8**
PAMC				S	**Sn**	**07 27 15.0**	**-1.5**
ZARC	**Zaragoza, Cauc**	**3.60**	**214**	P	**Pn**	**07 26 44.1**	**-0.6**
ZARC				S	**Sn**	**07 27 27.0**	**+0.2**
BRJC	**Barrancabermej**	**3.63**	**194**	P	**Pn**	**07 26 45.5**	**+0.4**
BRJC				S	**Sn**	**07 27 27.3**	**-0.2**
UREC	**San Jos de Ur**	**3.82**	**224**	P	**Pn**	**07 26 48.9**	**+1.2**
UREC				S	**Sn**	**07 27 33.6**	**+1.4**
BARC	**Barichara**	**3.91**	**185**	P	**Pn**	**07 26 49.9**	**+0.7**
BARC				S	**Sn**	**07 27 34.9**	**+0.1**
PTBC	**PUERTO BERRIO,**	**4.26**	**202**	P	**Pn**	**07 26 53.6**	**-0.2**
PTBC				S	**Sn**	**07 27 41.6**	**-1.5**
APAC	**Apartado, Choc**	**4.51**	**235**	P	**Pn**	**07 26 58.4**	**+1.2**
APAC				S	**Sn**	**07 27 52.2**	**+3.0**
RUSC	**La Rusia**	**4.60**	**183**	P	**Pn**	**07 26 58.7**	**-0.2**
RUSC				S	**Sn**	**07 27 52.4**	**+0.3**
DBBC	**Dabeiba**	**4.81**	**224**	P	**Pn**	**07 27 04.0**	**+2.6**
DBBC				S	**Sn**	**07 27 57.2**	**+0.5**
BAUV	**El Baul**	**4.99**	**108**	*e*P	**Pn**	**07 27 03.8**	**+0.1**
BAUV				*e*S	**Sn**	**07 27 57.8**	**-3.1**
HELC	**Santa Helena**	**5.05**	**212**	P	**Pn**	**07 27 06.5**	**+1.5**
HELC				S	**Sn**	**07 28 05.1**	**+2.0**
BENV	**Beln**	**5.19**	**96**	*e*P	**Pn**	**07 27 08.6**	**+1.9**
BENV				*e*S	**Sn**	**07 28 02.6**	**-3.5**
NORC	**Norcasia**	**5.31**	**202**	P	**Pn**	**07 27 10.2**	**+1.9**
NORC				S	**Sn**	**07 28 09.7**	**+0.6**
CBOC	**Ciudad Bolivar**	**5.59**	**214**	P	**Pn**	**07 27 14.5**	**+2.4**
TACV	**Tcata**	**5.74**	**93**	*e*P	**Pn**	**07 27 14.0**	**-0.1**
TACV				*e*S	**Sn**	**07 28 15.2**	**-4.3**
GUY2C	**Guyana, Caldas**	**5.82**	**206**	P	**Pn**	**07 27 16.8**	**+1.2**
	21nm,0.6s						
GUY2C				S	**Sn**	**07 28 26.2**	**+4.0**
	21nm,0.6s						
ROSC	**El Rosal**	**5.83**	**195**	Pn	**Pn**	**07 27 16.8**	**+1.1**
	3.3nm,0.3s,baz=164,slow=18,SNR=7.5						
ROSC				Sn	**Sn**	**07 28 28.5**	**+6.3**
	1.8nm,0.3s,baz=326,slow=23,SNR=6.9						
	9.4nm,0.5s						
ROSC	**El Rosal**	**5.83**	**195**	P	**Pn**	**07 27 16.8**	**+1.1**
	15nm,0.5s						
ROSC				S	**Sn**	**07 28 26.6**	**+4.4**
	15nm,0.5s						
CVER	**Cruz Verde, Cu**	**6.08**	**192**	P	**Pn**	**07 27 15.3**	**-3.9**
CVER				S	**Sn**	**07 28 29.0**	**+0.4**
VILC	**Villavicencio,**	**6.42**	**188**	P	**Pn**	**07 27 22.7**	**-0.9**
	270nm20nm,0.5s						
VILC				S	**Sn**	**07 28 40.6**	**+4.1**
	270nm20nm,0.5s						
PLMC	**San Jos del P**	**6.53**	**212**	P	**Pn**	**07 27 26.6**	**+1.5**
PLMC				S	**Sn**	**07 28 40.9**	**+1.7**
CACV	**CAICARA DEL OR**	**6.88**	**115**	*e*P	Pn	07 27 35.4	+5.6
CACV				*e*S	**Sn**	**07 28 54.4**	**+6.7**
ORTC	**Ortega, Tolima**	**6.98**	**200**	P	**Pn**	**07 27 31.0**	**-0.2**
	10nm,0.8s						
ORTC				S	**Sn**	**07 28 50.1**	**-0.2**
	10nm,0.8s						
BCIP	**Isla Barro Col**	**7.02**	**260**	P	**Pn**	**07 27 32.3**	**+0.6**
	31nm,1.7s						
BCIP				S	**Sn**	**07 28 45.8**	**-5.3**
	31nm,1.7s						
PRAC	**Prado**	**7.06**	**197**	P	**Pn**	**07 27 33.3**	**+1.1**
	10nm,0.7s						
PRAC				S	**Sn**	**07 28 53.2**	**+1.2**
	10nm,0.7s						
URMC	**La Uribe, Meta**	**7.38**	**192**	P	**Pn**	**07 27 37.8**	**+1.1**
URMC				S	**Sn**	**07 29 00.8**	**+0.7**
MACC	**Macarena, Meta**	**8.38**	**187**	P	**Pn**	**07 27 46.5**	**-3.9**
MACC				S	**Sn**	**07 29 17.4**	**-7.1**
ASAR	**Alice Springs**	**151.35**	**239**	PKPbc	**PKPbc**	**07 45 42.5**	**-0.7**
	0.5nm,0.7s,baz=101,slow=2.2,SNR=4.7						
WRA	**Warramunga Arr**	**152.19**	**247**	PKPbc	**PKPbc**	**07 45 44.1**	**-1.1**
	0.5nm,0.4s,baz=104,slow=2.8,SNR=15						

NEIC 11 07:26:20.3±1.1, 38.93N±0.05×99.16W±0.03, h5km±2km, mb_Lg3.0/134, Error ellipse: s-maj=9.6km s-min=3.4km az=19.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBKS	**Cedar Bluff**	**0.46**	**256**		Pg	07 26 26.9	-2.4
CBKS				Sg	Sg	07 26 34.4	-0.8
R32A	**Long Quarter,**	**0.61**	**145**		Pg	07 26 30.2	-1.9
R32A				Sg	Sg	07 26 39.5	-0.6
KAN14	**Manchester OK**	**2.18**	**154**		Pn	07 26 57.2	-0.1
KAN14				IAmb_Lg		07 27 31.3	
	comp=Z,86nm,0.9s						
NOKA	**Waynoka**	**2.29**	**175**		Pn	07 26 58.7	-0.2
GC02	**Grant County #**	**2.31**	**153**		Pn	07 26 58.6	-0.5
OK038	**West end E0370**	**2.47**	**172**		Pn	07 27 01.1	-0.1
CROK	**Carrier**	**2.59**	**158**	Pn	Pn	07 27 04.7	+1.8
BGNE	**Belgrade**	**2.60**	**17**	IAmb_Lg		07 27 49.4	
	comp=Z,58nm,0.7s						
BLOK	**Blackwell**	**2.66**	**144**		Pn	07 27 03.5	-0.3
KSCO	**Kaye Shedlock'**	**2.70**	**273**		Pn	07 27 02.8	-1.8
KSCO				IAmb_Lg		07 27 48.5	
	comp=Z,49nm,0.8s						
ELIS	**Ellis County**	**2.86**	**184**		Pn	07 27 06.2	-0.5
T35A	**Sooner Cattle**	**2.90**	**133**		Pn	07 27 08.1	+0.9
OGNE	**Ogallala**	**2.99**	**313**		Pn	07 27 05.1	-3.4
OGNE				IAmb_Lg		07 28 00.6	
	comp=Z,63nm,0.7s						
CSTR	**Hydro, Custer**	**3.30**	**173**	Pn	Pn	07 27 13.4	+0.7
QUOK	**Quay**	**3.37**	**144**	Pn	Pn	07 27 11.4	-2.2
OK052	**Battle Ridge R**	**3.48**	**147**	Pn	Pn	07 27 14.8	-0.3
OK052				IAmb_Lg		07 28 19.8	
	comp=Z,30nm,0.8s						
RTBA	**Rita Blanca**	**3.77**	**230**	IAmb_Lg		07 28 20.3	
	comp=Z,29nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**3.77**	**158**	IAmb_Lg		07 28 25.8	
	comp=Z,49nm,0.8s						
SMWD	**Samnorwood**	**3.91**	**193**	IAmb_Lg		07 28 26.7	
	comp=Z,37nm,0.9s						
WMOK	**Wichita Mounta**	**4.19**	**176**	Pn	Pn	07 27 24.7	-0.2
RLO	**Rose Lookout**	**4.29**	**129**	IAmb_Lg		07 28 35.5	
	comp=Z,46nm,0.8s						
U38A	**Gravette**	**4.53**	**122**	IAmb_Lg		07 28 54.8	
	comp=Z,37nm,1.1s						
Q24A	**Divide**	**4.67**	**272**	IAmb_Lg		07 28 60.0	
comp=Z,22nm,0.7s
S39A Bolivar 4.76 103 IAmb_Lg 07 28 53.5
comp=Z,25nm,0.8s
ISCO Idaho Springs 5.07 282 Pn 07 27 34.7 -2.7
ISCO IAmb_Lg 07 29 14.0
comp=Z,21nm,0.9s
SDCO Great Sand Dun 5.12 259 Pn 07 27 35.5 -2.4
ECSD EROS Data Cent 5.17 21 Pn 07 27 32.7 -5.7
R40A Maddies Statio 5.44 95 IAmb_Lg 07 29 19.6
comp=Z,16nm,0.8s
SUSD Miller 5.51 2 IAmb_Lg 07 29 14.4
comp=Z,21nm,0.8s
APMT Aspermont 5.64 188 Pn Pn 07 27 44.0 -0.9
MGMO Mountain Grove 5.72 106 IAmb_Lg 07 29 26.9
comp=Z,24nm,0.7s
MSTX Muleshoe 5.74 212 Pn Pn 07 27 45.6 -0.7
MSTX IAmb_Lg 07 29 36.0
comp=Z,18nm,0.8s
Z35A Perchaven, San 5.79 164 IAmb_Lg 07 29 33.3
comp=Z,20nm,1.1s
SN07 Snyder 07 5.99 194 IAmb_Lg 07 29 36.3
comp=Z,14nm,0.8s
PLPT Palo Pinto 6.14 173 Pn Pn 07 27 50.8 -0.9
S22A 4UR Ranch, Cre 6.14 261 Pn Pn 07 27 49.7 -2.3
S22A IAmb_Lg 07 29 42.9
comp=Z,16nm,1.2s
POST Post 6.15 199 IAmb_Lg 07 29 39.6
comp=Z,20nm,0.8s
MIAR Mount Ida 6.26 133 Pn Pn 07 27 52.2 -1.2
MIAR IAmb_Lg 07 29 44.0
comp=Z,22nm,0.8s
CCM Cathedral Cave 6.27 95 IAmb_Lg 07 29 41.9
comp=Z,14nm,0.7s
ABTX Abilene, Hawle 6.30 184 IAmb_Lg 07 29 45.3
comp=Z,21nm,1.2s
RSSD Black Hills 6.35 326 IAmb_Lg 07 29 42.1
comp=Z,19nm,0.9s
FCAR Ozark Folk Cen 6.37 116 IAmb_Lg 07 29 49.6
comp=Z,26nm,0.9s
HAYD Hayden 6.44 287 IAmb_Lg 07 29 54.6
comp=Z,14nm,1.0s
FW13 Cleburne 6.71 167 IAmb_Lg 07 30 04.2
comp=Z,11nm,0.8s
K22A Casper 6.71 306 IAmb_Lg 07 30 00.1
comp=Z,20nm,0.8s
X40A Basin Creek Fa 6.74 129 IAmb_Lg 07 29 59.7
comp=Z,18nm,0.8s
L40A Anamosa 6.81 60 IAmb_Lg 07 29 57.0
comp=Z,20nm,0.9s
FVM French Village 6.92 95 IAmb_Lg 07 29 59.6
comp=Z,16nm,0.8s
LCAR Lake Charles 6.98 112 IAmb_Lg 07 30 02.4
comp=Z,17nm,0.9s
WLAR White Oak Lake 7.15 135 IAmb_Lg 07 30 02.9
comp=Z,22nm,0.8s
SGCY Sterling City 7.18 193 IAmb_Lg 07 30 20.5
comp=Z,14nm,0.8s
PBMO Poplar Bluff 7.24 105 IAmb_Lg 07 30 19.1
comp=Z,20nm,0.8s
PV02 Paradox Valley 7.54 268 IAmb_Lg 07 30 26.8
comp=Z,14nm,1.0s
MVCO Mesa Verde 7.56 260 IAmb_Lg 07 30 24.9
comp=Z,9.3nm,0.9s
PV12 Saucer Basin, 7.57 268 IAmb_Lg 07 30 26.5
comp=Z,17nm,1.1s
Z41A Richland Creek 7.65 136 IAmb_Lg 07 30 29.2
comp=Z,15nm,0.9s
CGM3 Cape Girardeau 7.67 99 IAmb_Lg 07 30 30.3
comp=Z,15nm,0.7s
PV20 West Nyswonger 7.70 269 IAmb_Lg 07 30 38.0
comp=Z,14nm,0.9s
PV19 Morning Glory 7.71 268 IAmb_Lg 07 30 43.9
comp=Z,20nm,0.8s
PV23 Carpenter Ridg 7.72 270 IAmb_Lg 07 30 43.7
comp=Z,11nm,1.0s
E28A Huff 7.73 352 IAmb_Lg 07 30 26.5
comp=Z,17nm,0.7s
PV10 Paradox Valley 7.75 269 IAmb_Lg 07 30 37.3
comp=Z,9.6nm,0.9s
CCAR Cane Creek 7.78 128 IAmb_Lg 07 30 31.9
comp=Z,20nm,0.8s
L42A Oliver, Polo 7.87 64 IAmb_Lg 07 30 26.2
comp=Z,19nm,0.8s
SPMN Marine on St. 7.87 35 IAmb_Lg 07 30 33.7
comp=Z,16nm,0.9s
Y22A Socorro 8.02 234 IAmb_Lg 07 30 43.9
comp=Z,12nm,1.0s
NATX Nacogdoches 8.04 151 IAmb_Lg 07 30 57.1
comp=Z,12nm,0.8s
I40A Norwalk 8.11 50 IAmb_Lg 07 30 34.0
comp=Z,9.2nm,0.7s
435B Jarrell 8.23 170 IAmb_Lg 07 30 56.0
comp=Z,20nm,1.0s
MDND Maddock 8.92 358 IAmb_Lg 07 31 06.3
comp=Z,15nm,0.9s
OXF Oxford 8.98 116 IAmb_Lg 07 31 20.4
comp=Z,16nm,0.9s
Y45A Yeager Farm, C 9.25 120 IAmb_Lg 07 31 19.3
comp=Z,16nm,0.8s
EPT El Paso 9.32 222 IAmb_Lg 07 31 25.3
comp=Z,16nm,1.2s
LAO LASA Array 9.33 329 IAmb_Lg 07 31 23.2
comp=Z,8.6nm,0.9s
121A Cookes Peak, D 9.47 230 IAmb_Lg 07 31 23.0
comp=Z,15nm,1.2s

*SJA **11** 07:41:21.8±0.7, 25.03S×71.12W, h30km±3km, ML3.9, MW4.0*
*IDC **11** 07:41:22.4±0.7, 25.02S×70.74W, h0km, mb4.1/9, mbtmp4.0/12, ML3.6/3, MS3.4/3, Error ellipse: s-maj=27.1km s-min=17.1km az=99.0*
*NEIC **11** 07:41:25.9, 25.01S×70.94W, h30km*
*NEIC **11** 07:41:26.0±1.5, 25.003S±0.010×70.93W±0.09, h30km±5km, mb4.3/9, Mwr4.0/43, ML3.9(GUC), Error ellipse: s-maj=11.7km s-min=1.3km az=92.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.10; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-1.19; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.09; $M_{\phi r}$-0.39; Fault plane solution: $M_0$1.22000×10^{15} NP1:ϕ_s353.84000°, δ35.77000°, λ86.41000°. NP2:ϕ_s178.26000°, δ54.31000°, λ92.58000°. Principal axes: T 1.1648, Plg80.0000°, Azm99.0000°; N 0.0949, Plg2.0000°, Azm357.0000°; P -1.2596, Plg9.0000°, Azm266.0000°;*
*GUC **11** 07:41:26.3±0.7, 25.05S×70.82W, h34km±3km, ML3.9*

ISC 11 07:41:24.6±1.5, 25.00S±0.03×71.04W±0.06, h21km±10km, n92, σ1.965/111, mb4.2/13, 6C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.69**	**57**		**Pb**	**07 41 37.8**	**-0.3**
PB14				Sg	**Sb**	**07 41 46.9**	**-0.4**
PB14	**IPOC Station P**	**0.69**	**57**	⇓*i*P	**Pb**	**07 41 38.3**	**+0.2**
PB14				*i* S	**Sb**	**07 41 46.6**	**-0.7**
PB14	**IPOC Station P**	**0.69**	**57**	*e*P	**Pb**	**07 41 37.6**	**-0.5**
PB14				IAML		07 41 51.0	
	comp=Z,4μm,0.3s						
AC01	**Pan de Azucar**	**1.21**	**161**		**Pn**	**07 41 46.3**	**0.0**
AC01					**Sn**	**07 42 00.8**	**-1.4**
AC01	**Pan de Azucar**	**1.21**	**161**	⇑*e*P	**Pn**	**07 41 46.1**	**-0.2**
AC01				*e*S	**Sn**	**07 42 00.7**	**-1.4**
AC01				IAML		07 42 06.6	
	comp=E,4μm,0.2s						
AC01	**Pan de Azucar**	**1.21**	**161**	*e*P	**Pn**	**07 41 45.4**	**-1.0**
AC01				*e*S	**Sn**	**07 42 00.1**	**-2.0**
AC01				IAML		07 42 06.1	
	comp=Z,943nm,0.3s						
GO02	**Mina Guanaco**	**1.32**	**97**		**Pn**	**07 41 47.4**	**-0.7**
GO02				Sn	**Sn**	**07 42 02.8**	**-2.5**
GO02	**Mina Guana

PB05 IPOC Station P 2.27 20 *eP* **Pn 07 42 01.1 +0.1**
PB05 IAML 07 42 28.0
comp=N,567nm,0.2s
PB05 IPOC Station P 2.27 20 *eP* **Pn 07 42 00.5 -0.5**
PB05 *eS* Sb 07 42 43.5 +11
PB05 IAML 07 42 46.6
comp=Z,332nm,0.4s
AC06 Mina Casimiro 2.43 165 **Pn 07 42 03.9 +0.8**
AC06 Mina Casimiro 2.43 165 *eP* **Pn 07 42 03.6 +0.5**
AC06 IAML 07 42 46.6
comp=E,782nm,0.2s
AC02 Maricunga 2.51 137 *eP* **Pn 07 42 06.1 +1.4**
AC02 *eS* **Sn 07 42 34.6 -0.3**
AC02 Maricunga 2.51 137 *eP* **Pn 07 42 04.9 +0.2**
AC02 *eS* **Sn 07 42 35.6 +0.7**
AC02 IAML 07 42 35.9
comp=Z,924nm,0.4s
PB06 IPOC Station P 2.65 31 **Pn 07 42 06.9 +0.7**
PB06 IPOC Station P 2.65 31 *eP* **Pn 07 42 06.6 +0.4**
PB06 IAML 07 42 56.3
comp=N,546nm,0.4s
PB06 IPOC Station P 2.65 31 *eP* **Pn 07 42 06.3 0.0**
PB06 *eS* **Sb 07 42 50.7 +7.2**
PB06 IAML 07 42 53.8
comp=Z,609nm,0.8s
GO03 Copiapo 2.69 165 **Pn 07 42 07.3 +0.6**
GO03 Copiapo 2.69 165⇑ *eP* **Pn 07 42 07.2 +0.6**
GO03 IAML 07 42 55.2
comp=E,453nm,0.2s
GO03 Copiapo 2.69 165 *eP* **Pn 07 42 07.4 +0.7**
GO03 *eS* **Sb 07 42 44.6 +0.1**
GO03 IAML 07 42 57.9
comp=Z,435nm,1.1s
PB03 IPOC Station P 3.16 22 **Pn 07 42 13.6 +0.3**
PB03 IPOC Station P 3.16 22 *eP* **Pn 07 42 13.4 0.0**
PB03 IAML 07 42 49.7
comp=E,224nm,0.2s
PB03 IPOC Station P 3.16 22 *eP* **Pn 07 42 12.9 -0.4**
PB03 IAML 07 43 22.1
comp=Z,293nm,0.5s
AC04 Llanos de Chal 3.19 181 **Pn 07 42 12.4 -1.2**
AC04 Llanos de Chal 3.19 181 *eP* **Pn 07 42 12.4 -1.2**
AC04 *eS* **Sn 07 42 49.2 -1.8**
AC04 IAML 07 43 20.9
comp=Z,116nm,0.8s
AF01 San Pedro de A 3.31 53 *eP* **Pn 07 42 17.3 +1.8**
AF01 San Pedro de A 3.31 53 *eP* **Pn 07 42 17.4 +1.9**
AF01 *eS* **Sb 07 43 11.2 +8.3**
PB09 IPOC Station P 3.59 28 **Pn 07 42 20.3 +1.2**
PB09 IPOC Station P 3.59 28 *eP* **Pn 07 42 20.4 +1.2**
PB09 IPOC Station P 3.59 28 *eP* **Pn 07 42 19.8 +0.6**
PB09 IAML 07 43 27.5
comp=Z,472nm,0.7s
PB02 IPOC Station P 3.81 16 **Pn 07 42 22.3 +0.1**
PB02 IPOC Station P 3.81 16 *eP* **Pn 07 42 22.1 -0.1**
PB02 *eS* **Sn 07 43 04.2 -2.1**
PB02 IAML 07 43 05.3
comp=Z,302nm,0.4s
LCO Las Campanas 4.01 176 **Pn 07 42 24.8 -0.2**
LCO Las Campanas 4.01 176 *eP* **Pn 07 42 24.5 -0.5**
LCO *eS* **Sn 07 43 11.9 +0.4**
LCO IAML 07 43 32.4
comp=Z,217nm,0.3s
PB01 IPOC Station P 4.19 20 **Pn 07 42 27.8 +0.4**
PB01 IPOC Station P 4.19 20 *eP* **Pn 07 42 27.8 +0.4**
PB01 *eS* **Sn 07 43 13.3 -2.3**
PB01 IAML 07 43 16.2
comp=Z,167nm,0.5s
TA01 Diego Aracena 4.48 10 *eP* **Pn 07 42 31.7 +0.4**
TA01 *eS* **Sn 07 43 20.7 -2.1**
TA01 IAML 07 43 55.9
comp=Z,89nm,0.7s
VCA Vinchina 4.50 146 *eP* **Pn 07 42 30.6 -1.1**
VCA *eS* **Sn 07 43 25.4 +1.9**
VCA IAML 07 43 57.0
comp=Z,117nm,1.0s
AGUA GUANDACOL 5.01 154 *eP* **Pn 07 42 36.4 -2.3**
AGUA IAML 07 44 04.4
comp=Z,69nm,0.8s
CO01 Juntas del Tor 5.03 171 *eP* **Pn 07 42 39.9 +0.8**
CO01 *eS* **Sn 07 43 38.0 +1.3**
CO01 IAML 07 44 07.2
comp=Z,50nm,0.7s
PB08 IPOC Station P 5.14 20 *eP* **Pn 07 42 41.2 +0.5**
PB08 *eS* **Sn 07 43 36.3 -3.3**
PB08 IAML 07 44 07.9
comp=Z,64nm,1.1s
GO04 Tololo Observa 5.16 178 *eP* **Pn 07 42 40.0 -0.9**
GO04 *eS* **Sn 07 43 40.7 +0.8**
GO04 IAML 07 44 26.6
comp=Z,100nm,0.4s
PB11 IPOC Station P 5.37 14 **Pn 07 42 42.5 -1.1**
PB11 IPOC Station P 5.37 14 *eP* **Pn 07 42 42.2 -1.4**
PB11 *eS* **Sn 07 43 41.0 -3.9**
PB11 IAML 07 44 33.9
comp=Z,73nm,0.7s
GO01 Chusmiza 5.57 18 **Pn 07 42 47.1 +0.4**
CO03 El Pedregal 5.83 177 Pn **Pn 07 42 49.6 -0.3**
PB16 IPOC Station P 6.78 12 **Pn 07 43 04.3 +0.8**
CFA Coronel Fontan 7.03 160 Pn **Pn 07 43 06.3 0.0**
comp=Z,0.5nm,0.3s,baz=340,slow=15,SNR=20
CFA Sn **Sn 07 44 27.9 +2.2**
comp=Z,0.8nm,0.3s,baz=186,slow=20,SNR=2.1
comp=Z,1.2nm,0.3s
MT02 Curacav 8.23 181 Pn **Pn 07 43 21.3 -1.5**
MT09 Talagante 8.75 180 Pn **Pn 07 43 28.1 -1.9**
LPAZ La Paz 9.08 18 Pn **Pn 07 43 35.9 +0.8**
comp=Z,0.5nm,0.3s,baz=170,slow=4.9,SNR=24
LPAZ LR LR 07 47 30.8
comp=Z,140nm,19.4s,baz=196,slow=41
comp=Z,1.1nm,0.3s
H03N1 Juan Fernandez 10.86 217 T T 07 55 18.0
baz=45,slow=72,SNR=267
H03N2 Juan Fernandez 10.87 218 T T 07 55 20.4
baz=45,slow=72,SNR=210
H03N3 Juan Fernandez 10.88 217 T T 07 55 16.9
baz=45,slow=72,SNR=199
SIV San Ignacio 12.94 48 Pn **Pn 07 44 25.0 -2.3**
baz=248,slow=7.2,SNR=7.7
comp=Z,0.8nm,0.4s
TRQA Tornquist 15.12 152 **Pn 07 44 54.2 -2.8**
TRQA IAmb IAmb 07 45 03.0
comp=Z,11nm,0.8s
PLTB Pedras Altas 16.75 118 Pn **Pn 07 45 16.4 -1.6**
VAO Valinhos 22.08 90 P **P 07 46 16.3 -2.2**
VAO IAmb IAmb 07 46 27.9
comp=Z,9.7nm,1.1s
BDFB Brasilia 23.48 71 P **P 07 46 31.9 -1.3**
BDFB Brasilia 23.48 71 P **P 07 46 31.6 -1.5**
comp=Z,0.9nm,0.4s,baz=254,slow=9.6,SNR=3.7
comp=Z,0.9nm,0.4s
MACA Manacapuru-AM 23.89 26 P **P 07 46 35.8 -1.1**
MACA IAmb IAmb 07 46 38.4
comp=Z,5.2nm,0.6s
BAUV El Baul 33.86 5 P **P 07 48 05.6 -0.2**
PCRV Puerto La Cruz 35.51 11 LR LR 08 03 44.4
comp=Z,98nm,20.6s,slow=38
BELA Belgrano 2 55.59 171 P **P 07 50 59.0 +0.9**
BELA IAmb IAmb 07 51 00.1
comp=Z,3.0nm,0.9s
VNA3 Neumayer Olymp 57.43 160⇑P **P 07 51 11.5 +0.1**
comp=Z,2.9nm,0.7s
H06E1 SOCORRO T-PHAS 58.32 314 T T 08 54 59.3
SNR=5.5
SNAA Sanae 59.65 160⇑P **P 07 51 26.8 -0.1**
comp=Z,68nm,0.4s
SNAA Sanae 59.65 160 P **P 07 51 27.1 +0.1**
SNAA IAmb IAmb 07 51 28.0
comp=Z,6.7nm,1.1s
SNAA Sanae 59.65 160 P **P 07 51 27.0 +0.1**
comp=Z,2.8nm,0.5s,baz=286,slow=6.8,SNR=66
comp=Z,2.8nm,0.5s
TROLL Troll, Antarti 61.37 160⇑P **P 07 51 39.1 +0.4**
comp=Z,191nm,0.6s
SWET Sewanee 61.52 346 P **P 07 51 40.1 +0.1**
TXAR Lajitas Array 62.45 328 P **P 07 51 49.3 +2.8**
comp=Z,0.6nm,0.9s,baz=152,slow=5.7,SNR=5.0
comp=Z,0.6nm,0.9s
QSPA South Pole Qui 65.21 180 P **P 07 52 06.0 +1.7**
comp=Z,1.0nm,0.5s,baz=312,slow=1.2,SNR=19
comp=Z,1.0nm,0.5s
DBIC Dimbokro 71.61 73 P **P 07 52 44.5 -0.4**
comp=Z,2.4nm,0.5s,baz=246,slow=5.6,SNR=6.4
DBIC LR LR 08 21 13.2
comp=Z,24nm,22.0s,baz=157,slow=34
comp=Z,2.4nm,0.5s
VNDA Vanda 73.08 190 P **P 07 52 54.6 +2.0**
comp=Z,0.8nm,0.8s,baz=92,slow=5.0,SNR=3.9
comp=Z,0.8nm,0.8s
TORD Torodi Ar. Bea 80.36 71 P **P 07 53 34.5 -0.4**
MAW Mawson 81.55 164 P **P 07 53 40.6 +0.4**
comp=Z,2.2nm,0.7s,baz=223,slow=8.7,SNR=4.1
comp=Z,2.2nm,0.7s
BOSA Boshof 83.53 118 P **P 07 53 51.8 +0.2**
comp=Z,4.1nm,0.9s,baz=174,slow=5.0,SNR=4.1
comp=Z,4.1nm,0.9s
YKA Yellowknife Ar 93.84 341 P **P 07 54 40.6 +0.9**
comp=Z,0.7nm,0.7s,baz=134,slow=4.2,SNR=5.3
comp=Z,0.7nm,0.7s
ASAR Alice Springs 125.92 209 PKP **PKPdf 08 00 25.6 -0.1**
comp=Z,0.6nm,0.5s,baz=131,slow=1.7,SNR=9.9
H11S2 WAKE ISLAND Hyl 126.30 275 T T 10 19 57.7
baz=108,slow=75,SNR=102
H11S1 WAKE ISLAND Hyl 126.31 275 T T 10 19 58.9
baz=108,slow=75,SNR=73
H11S3 WAKE ISLAND Hyl 126.32 275 T T 10 20 00.3
baz=108,slow=75,SNR=57
WRA Warramunga Arr 128.96 211 PKP **PKiKP 08 00 32.7 +0.4**
comp=Z,0.3nm,0.9s,baz=150,slow=1.8,SNR=11
KURBB Kurchatov Arra 145.32 35 PKPbc **PKPdf 08 01 01.2 +0.6**
comp=Z,0.9nm,0.2s,baz=303,slow=3.6,SNR=7.8
ZALV Zalesovo Beam 145.94 26 PKPbc **PKPbc 08 01 02.8 +0.6**
comp=Z,3.7nm,0.6s,baz=304,slow=3.0,SNR=14
MKAR Makanchi Array 149.59 38 PKPbc **PKPbc 08 01 13.0 +0.5**
comp=Z,2.6nm,0.5s,baz=313,slow=2.8,SNR=29

IDC 11 07:42:35.5±26.0, 47.71N×153.97E, h167km±74km, mb3.3/4, mbtmp3.7/5, Error ellipse: s-maj=442.1km s-min=63.8km az=152.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.91**	**22**	P	Pn	07 44 01.0	0.0
	2.5nm,0.6s,baz=205,slow=12,SNR=15						
MKAR	**Makanchi Array**	**47.03**	**297**	P	P	07 50 49.7	-0.1
	0.2nm,0.5s,baz=51,slow=8.0,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**47.42**	**303**	P	P	07 50 52.4	-0.3
	0.6nm,0.4s,baz=67,slow=8.8,SNR=6.1						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**50.71**	**309**	P	P	07 51 17.7	+0.1
	0.8nm,0.4s,baz=73,slow=8.8,SNR=3.2						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**63.42**	**335**	P	P	07 52 46.6	0.0
	0.7nm,0.4s,baz=44,slow=5.8,SNR=6.1						
	0.7nm,0.4s						

IDC 11 07:57:25.8±3.4, 6.40S×130.24E, h110km±31km, mb3.6/7, mbtmp4.2/11, Error ellipse: s-maj=38.2km s-min=17.6km az=87.0
NEIC 11 07:57:28.7±1.4, 6.37S±0.08×130.1E±0.1, h139km±8km, mb4.4/9, Error ellipse: s-maj=15.9km s-min=11.3km az=97.0
DJA 11 07:57:29.5±0.2, 6.2S±2.3×130.0E±, h150km±4km, M4.6/18, mB5.2/7, mb4.5/18, MLv4.8/15, Mw(mB)4.5/7
ISC 11 07:57:28.7±0.5, 6.47S±0.05×130.11E±0.06, h146km, n49, σ1.9s57/52, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**142**	Pn	**Pn**	**07 58 04.5**	**+2.0**
SAUI				Sn	**Sn**	**07 58 29.0**	**+0.4**
SAUI	**Saumlaki**	**1.91**	**142**	P	**Pn**	**07 58 04.6**	**+2.0**
BNDI	**Bandanaira**	**1.95**	**354**	P	**Pn**	**07 58 02.9**	**-0.1**
BNDI				S	**Sn**	**07 58 30.4**	**+1.0**
MSAI	**Masohi**	**3.32**	**339**	P	**Pn**	**07 58 20.9**	**+0.8**
FAKI	**Fak Fak**	**4.12**	**31**		**Pn**	**07 58 28.9**	**-1.7**
FAKI	**Fak Fak**	**4.12**	**31**	P	**Pn**	**07 58 28.8**	**-1.7**
NLAI	**Namlea**	**4.39**	**317**	P	**Pn**	**07 58 35.3**	**+1.2**
KMPI	**Kaimana, Papua**	**4.54**	**52**	P	**Pn**	**07 58 36.3**	**+0.2**
SWI	**Sorong**	**5.69**	**12**	P	**Pn**	**07 58 49.7**	**-1.6**
	1.3nm53nm,0.8s						
SANI	**Sanana**	**6.01**	**317**	P	**Pn**	**07 58 57.6**	**+2.0**
	0.3nm2µm33nm,0.7s						
MTN	**Manton Dam**	**6.41**	**171**		**Pn**	**07 59 00.8**	**-0.1**
SOEI	**Soe**	**6.64**	**240**		**Pn**	**07 59 04.8**	**+0.7**
SOEI	**Soe**	**6.64**	**240**	P	**Pn**	**07 59 05.1**	**+1.0**
	0.7nm169nm,0.8s						
BATI	**Baumata**	**7.38**	**239**	P	**Pn**	**07 59 13.8**	**-0.1**
	134nm,0.5s,baz=268,slow=1.4,SNR=19						
BATI				S	**Sn**	**08 00 34.9**	**-1.5**
	59nm,0.3s,baz=114,slow=6.3,SNR=10						
BATI	**Baumata**	**7.38**	**239**	P	**Pn**	**07 59 14.2**	**+0.3**
BAKI	**Biak**	**7.96**	**49**	P	**Pn**	**07 59 23.1**	**+1.4**
	0.4nm70nm,1.0s						
EDFI	**Ende, Flores**	**8.64**	**254**	P	**Pn**	**07 59 32.3**	**+1.4**
KNRA	**Kununurra**	**9.24**	**188**		**Pn**	**07 59 37.5**	**-1.3**
WSI	**Waingapu**	**10.22**	**251**	P	**Pn**	**07 59 51.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.35**	**200**	P	**Pn**	**08 00 18.1**	**-1.7**
	15nm,0.5s,baz=32,slow=11,SNR=70						
FITZ				S	Sn	08 02 26.3	-10
	54nm,0.7s,baz=74,slow=15,SNR=9.5						
PLAI	**Plampang**	**12.44**	**258**	P	**Pn**	**08 00 19.7**	**-1.3**
	20nm,1.2s						
WB0	**Warramunga Arr**	**13.86**	**163**	Pn	**Pn**	**08 00 37.3**	**-1.8**
WRAB	**Tennant Creek**	**14.00**	**163**		**Pn**	**08 00 37.8**	**-3.1**
WRA	**Warramunga Arr**	**14.01**	**163**	Pn	Pn	08 00 37.3	-3.7
WRA	**Warramunga Arr**	**14.01**	**163**	P	**Pn**	**08 00 39.1**	**-1.9**
	3.6nm,0.3s,baz=346,slow=13,SNR=63						
WRA				S	Sn	08 03 06.0	-10
	6.9nm,0.5s,baz=349,slow=18,SNR=7.6						
WR8	**Warramunga Arr**	**14.07**	**163**	Pn	**Pn**	**08 00 39.4**	**-2.4**
COEN	**Coen**	**14.85**	**121**		**Pn**	**08 00 51.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.94**	**262**	P	**Pn**	**08 01 04.5**	**-0.7**
JAGI				IAmb	IAmb	08 01 05.0	
	comp=Z,36nm,1.2s						
AS31	**Alice Springs**	**17.48**	**168**	P	**P**	**08 01 23.3**	**+0.6**
ASAR	**Alice Springs**	**17.48**	**168**		**P**	**08 01 23.3**	**+0.6**
ASAR	**Alice Springs**	**17.48**	**168**	P	**P**	**08 01 24.6**	**+1.9**
	comp=Z,3.4nm,0.5s,baz=338,slow=9.7,SNR=39						
ASAR				S	**S**	**08 04 32.0**	**-5.3**
	comp=Z,1.9nm,0.5s,baz=359,slow=28,SNR=5.4						
MBWA	**Marble Bar**	**17.72**	**214**	P	**P**	**08 01 26.0**	**+0.7**
GIRL	**Giralia**	**22.20**	**222**	P	**P**	**08 02 14.5**	**+1.2**
CNJI	**Cibinong**	**22.83**	**267**	P	**P**	**08 02 19.4**	**0.0**
	comp=Z,40nm,1.3s						
NWAO	**Narrogin (SRO)**	**28.92**	**203**	P	**P**	**08 03 15.2**	**+1.1**
MJAR	**Matsushiro Arr**	**43.46**	**9**	P	**P**	**08 05 16.3**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=186,slow=9.4,SNR=6.1						
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**63.79**	**18**	P	**P**	**08 07 45.0**	**-0.1**
PETK	**Petropavlovsk-**	**63.79**	**18**	P	**P**	**08 07 46.4**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=182,slow=6.0,SNR=2.3						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**08 08 10.8**	**-0.4**
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**08 08 12.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=117,slow=8.1,SNR=12						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**72.12**	**328**	P	**P**	**08 08 37.7**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=123,slow=4.4,SNR=2.7						
	comp=Z,0.2nm,0.4s						
KKAR	**Karatay Array**	**73.02**	**319**	P	**P**	**08 08 42.4**	**-0.3**
MAW	**Mawson**	**75.48**	**201**	P	**P**	**08 08 58.1**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=51,slow=5.4,SNR=6.2						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**08 09 41.9**	**+1.8**
QSPA				IAmb	IAmb	08 10 14.8	
	comp=Z,5.6nm,1.4s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**08 09 41.4**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=195,slow=0.6,SNR=7.0						
	comp=Z,0.6nm,0.7s						
K13K	**Kusilvak Mount**	**84.36**	**26**	P	**P**	**08 09 43.3**	**-1.0**
K13K				IAmb	IAmb	08 09 50.0	
	comp=Z,3.9nm,1.0s						
TRF	**Thorofare Moun**	**91.11**	**26**	P	**P**	**08 10 14.8**	**-2.0**
SNAA	**Sanae**	**96.20**	**193**	P	**P**	**08 10 41.4**	**+1.5**
SNAA				IAmb	IAmb	08 11 10.9	
	comp=Z,3.6nm,1.3s						
SNAA	**Sanae**	**96.20**	**193**	P	**P**	**08 10 41.9**	**+1.9**
	comp=Z,0.9nm,1.1s,baz=103,slow=11,SNR=1.6						
	comp=Z,0.9nm,1.1s						

IDC 11 08:18:37.7±1.1, 34.34N×25.17E, h0km, mb3.9/8, mbtmp3.8/12, ML3.7/4, Error ellipse: s-maj=19.8km s-min=17.3km az=49.0
HLW 11 08:18:43.2, 34.04N×25.31E, h8km±2km, Md3.1, Ml2.8
THE 11 08:18:45.0, 35.8N×2.5E±, h10km±8km, M3.0/5, MLh3.0/5
ATH 11 08:18:45.2, 34.53N×25.06E, h21km±3km, ML3.0/7, Manual Solution by M.Charalampakis First location: 2019/08/11 08:19:46, This location: 2019/08/11 09:13:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km
AFAD 11 08:18:52.9, 35.03N×26.01E, h7km±3km, ML2.5
ISC 11 08:18:40.7±0.6, 34.27N±0.04×25.14E±0.04, h25km, n54, σ2.9s24/66, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.85**	**339**	S	**Sb**	**08 19 05.0**	**-2.9**
TMBK	**Timbaki Herakl**	**0.85**	**339**	P	**Pn**	**08 18 57.3**	**+0.4**
IACM	**Heraklion**	**1.03**	**357**	P	**Pn**	**08 18 59.8**	**+0.2**
IACM				S	**Sn**	**08 19 12.3**	**-0.9**
IACM	**Heraklion**	**1.03**	**357**	P	**Pb**	**08 19 01.5**	**+1.5**
GVD	**Gavdhos**	**1.03**	**303**	P	**Pb**	**08 19 00.8**	**+0.9**
GVD	**Gavdhos**	**1.03**	**303**	P	**Pb**	**08 19 01.5**	**+1.6**
IDI	**Anoyia**	**1.03**	**349**	P	**Pn**	**08 18 59.9**	**+0.2**
IDI				S	**Sn**	**08 19 11.3**	**-2.1**
IDI	**Anoyia**	**1.03**	**349**	Pn	**Pn**	**08 19 00.1**	**+0.4**
	41nm,0.3s,baz=165,slow=22,SNR=56						
IDI				Sn	**Sn**	**08 19 14.3**	**+0.9**
	85nm,0.3s,baz=233,slow=19,SNR=13						
IDI	**Anoyia**	**1.03**	**349**	P	**Pn**	**08 19 00.1**	**+0.4**
NPS	**Neapolis**	**1.06**	**22**	P	**Pn**	**08 19 01.6**	**+1.5**
NPS	**Neapolis**	**1.06**	**22**	P	**Pn**	**08 19 01.6**	**+1.5**
ZKR	**Zakros**	**1.23**	**46**	P	**Pn**	**08 19 05.6**	**+2.4**
KNDR	**Palaiochora Ch**	**1.53**	**309**	P	**Pb**	**08 19 09.0**	**+0.6**
KNDR	**Palaiochora Ch**	**1.53**	**309**	P	**Pb**	**08 19 09.2**	**+0.8**
CHAN	**Chania**	**1.53**	**324**	P	**Pn**	**08 19 08.4**	**-0.1**
KARP	**Karpathos**	**2.10**	**52**	P	**Pn**	**08 19 18.4**	**+4.1**
THERA	**Ancient Thera,**	**2.11**	**7**	P	**Pn**	**08 19 15.9**	**+1.5**
MHLO	**Agia Marina, M**	**2.48**	**346**	P	**Pn**	**08 19 21.1**	**+1.5**
SLUM	**Salum**	**2.77**	**179**	P	**Pn**	**08 19 24.6**	**+1.0**
SLUM				S	**Sn**	**08 19 54.7**	**-1.6**
TURN	**Turunc**	**3.56**	**45**	P	**Pn**	**08 19 36.5**	**+2.2**
TURN				S	Sn	08 20 09.2	-6.4
TURN				*i* IAML		08 20 18.0	
	comp=E,21nm,0.2s						
TURN				*i* IAML		08 20 32.0	
	comp=N,21nm,0.3s						
MULA	**Mugla, Merkez-**	**3.95**	**40**	P	**Pn**	**08 19 43.1**	**+3.3**
MULA				*i* IAML		08 20 17.0	
	comp=E,13nm,1.1s						
MULA				S	Sn	08 20 18.3	-7.0
MULA				*i* IAML		08 20 38.0	
	comp=N,15nm,0.8s						
IZZE	**Mula-Seydike**	**3.98**	**56**	P	**Pn**	**08 19 42.7**	**+2.5**
IZZE				S	Sn	08 20 20.4	-5.7
SABU	**Mula-Dalaman**	**4.03**	**50**	P	**Pn**	**08 19 43.5**	**+2.6**
SABU				S	**Sn**	**08 20 22.7**	**-4.6**
SABU				*i* IAML		08 20 39.0	
	comp=N,17nm,0.8s						
SABU				*i* IAML		08 20 39.0	
	comp=E,14nm,0.7s						
AYDN	**Tasoluk**	**4.05**	**33**	P	**Pn**	**08 19 44.5**	**+3.3**
DNZT	**Denizli-Tavas-**	**4.36**	**45**	P	**Pn**	**08 19 48.7**	**+3.2**
DNZT				S	**Sn**	**08 20 30.3**	**-5.2**
ESEN	**Aydn-Nazilli**	**4.38**	**36**	P	**Pn**	**08 19 48.7**	**+3.1**
ESEN				S	**Sn**	**08 20 33.0**	**-2.8**
ESEN				*i* IAML		08 20 49.0	
	comp=E,9.4nm,1.6s						
TAVA	**DENIZLI_Tavas**	**4.42**	**43**	P	**Pn**	**08 19 49.0**	**+2.6**
TAVA				S	**Sn**	**08 20 33.0**	**-4.1**
TAVA				*i* IAML		08 20 47.0	
	comp=N,9.1nm,0.5s						
TAVA				*i* IAML		08 20 47.0	
	comp=E,10.0nm,0.5s						
KNIK	**Mula-Seydike**	**4.44**	**53**	P	**Pn**	**08 19 49.1**	**+2.6**
KNIK				S	Sn	08 20 28.8	-8.6
KNIK				*i* IAML		08 20 42.0	
	comp=E,14nm,0.3s						
KNIK				*i* IAML		08 20 44.0	
	comp=N,14nm,0.5s						
IZMR	**zmir-demi**	**4.48**	**30**	P	**Pn**	**08 19 50.6**	**+3.6**
GOLH	**Golhisar**	**4.66**	**49**	P	**Pn**	**08 19 52.5**	**+3.0**
GOLH				S	Sn	08 20 37.0	-5.9
GOLH				*i* IAML		08 20 50.0	
	comp=E,18nm,0.3s						
GOLH				*i* IAML		08 20 55.0	
	comp=N,22nm,0.4s						
KIRA	**zmir-Kiraz**	**4.72**	**33**	P	**Pn**	**08 19 53.6**	**+3.1**
AKUM	**Antalya-Kumluc**	**4.72**	**63**	P	**Pn**	**08 19 52.4**	**+2.0**
AKUM				S	Sn	08 20 33.4	-11
AKUM				*i* IAML		08 20 50.0	
	comp=N,21nm,0.4s						
SWA2		**5.02**	**177**	P	**Pn**	**08 19 55.8**	**+1.3**
SWA2				S	**Sn**	**08 20 49.1**	**-2.6**
BUCA	**Burdur, Bucak-**	**5.36**	**54**	P	**Pn**	**08 20 02.4**	**+2.1**
BUCA				S	Sn	08 20 52.8	-7.3
BUCA				*i* IAML		08 21 06.0	
	comp=E,8.6nm,0.7s						
BUCA				*i* IAML		08 21 12.0	
	comp=N,6.3nm,0.5s						
HFRF	**Wahat Farafira**	**7.61**	**158**	P	**Pn**	**08 20 30.7**	**+0.7**
HFRF				S	**Sn**	**08 21 52.4**	**-3.1**
NBNS	**Bani Suef**	**7.71**	**135**	P	**Pn**	**08 20 32.5**	**+1.2**
NBNS				S	**Sn**	**08 21 53.6**	**-4.2**
ZNM	**Zenema**	**8.20**	**124**	P	**Pn**	**08 20 39.5**	**+1.4**
TAMRE	**El Minia**	**8.23**	**141**	P	**Pn**	**08 20 39.8**	**+1.2**
MMAI	**Mount Meron Ar**	**8.65**	**95**	Pn	**Pn**	**08 20 45.4**	**+1.0**
	1.2nm,0.3s,baz=253,slow=10,SNR=3.0						
MMAI				Sn	**Sn**	**08 22 17.1**	**-4.1**
	2.8nm,0.3s,baz=267,slow=28,SNR=6.6						
	0.7nm,0.4s						
ASUT		**8.80**	**139**	P	**Pn**	**08 20 47.7**	**+1.3**
HDK1	**Dakhla**	**9.45**	**156**	P	**Pn**	**08 20 56.1**	**+0.8**
EIL	**Elat**	**9.52**	**116**	Pn	**Pn**	**08 20 57.0**	**+0.9**
	0.6nm,0.3s,baz=16,slow=1.5,SNR=8.1						
	1.6nm,0.4s						
AKRG	**Al Kharijah**	**9.90**	**151**	P	**Pn**	**08 21 02.7**	**+1.2**
AKASG	**Malin Array Be**	**16.69**	**9**	Pn	**Pn**	**08 22 32.0**	**-0.7**
	1.1nm,0.3s,baz=203,slow=11,SNR=5.6						
	0.4nm,0.3s						
GERES	**GERESS Array B**	**16.86**	**333**	Pn	**Pn**	**08 22 35.5**	**+0.5**
	0.1nm,0.3s,baz=146,slow=12,SNR=22						
	2.4nm,0.6s						
OBN	**Obninsk**	**22.31**	**17**	P	**P**	**08 23 36.7**	**+0.6**
	19nm,0.4s,baz=336,slow=9.1,SNR=3.8						
	19nm,0.4s						
ESDC	**Sonseca Array**	**23.81**	**292**	P	**P**	**08 23 52.3**	**+0.6**
	0.5nm,0.8s,baz=87,slow=9.2,SNR=4.8						
	0.5nm,0.8s						
HFS	**Hagfors**	**26.93**	**347**	P	**P**	**08 24 18.2**	**-1.6**
	2.2nm,0.8s,baz=162,slow=10,SNR=5.1						
	2.2nm,0.8s						
EKA	**Eskdalemuir Ar**	**28.76**	**326**	P	**P**	**08 24 37.5**	**+1.4**
	0.3nm,0.4s,baz=121,slow=9.8,SNR=3.7						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**29.91**	**231**	P	**P**	**08 24 48.1**	**+1.3**
ARCES	**ARCESS Array B**	**35.32**	**0**	P	**P**	**08 25 32.3**	**-1.2**
	1.9nm,0.9s,baz=169,slow=10.0,SNR=4.6						
	1.9nm,0.9s						
KURBB	**Kurchatov Arra**	**41.70**	**50**	P	**P**	**08 26 26.5**	**-0.7**
	0.4nm,0.4s,baz=278,slow=8.8,SNR=4.9	

CLCO						Sn	08 20 30.0	-2.0
NIKH	**Nikolski High**	**1.63**	**50**			Pn	08 20 23.6	-1.1
NIKH				Sn		Sn	08 20 42.6	-1.9
NIKH				IAML			08 20 47.0	
	comp=N,1μm,0.5s							
NIKH				IAML			08 20 51.4	
	comp=E,1μm,0.5s							
ATKA	**Atka Island**	**2.04**	**279**			Pn	08 20 29.7	-0.7
ATKA	**Atka Island**	**2.04**	**279**			Sn	08 20 53.7	-1.0
OKSP	**Okmok Steeple**	**2.07**	**49**			Pn	08 20 37.6	-0.4
OKCE	**Okmok Cone E**	**2.24**	**47**			Pn	08 20 33.5	+0.4
OKTU	**Okmok Mt. Tuli**	**2.27**	**49**			Pn	08 20 33.7	+0.1
OKNC	**Okmok New Cone**	**2.28**	**47**			Pn	08 20 34.2	+0.5
MAPS	**Pakushin South**	**3.05**	**50**			Pn	08 20 44.9	+0.6
MGOD	**Makushin Gods**	**3.08**	**51**			Pn	08 20 45.6	+0.9
MGOD						Sn	08 21 20.8	+0.6
MREP	**Makushin Rep't**	**3.15**	**52**			Pn	08 20 46.8	+1.1
GSMY	**Great Sitkin M**	**3.18**	**274**			Pn	08 20 46.5	+0.4
GSTR	**Great Sitkin T**	**3.19**	**275**	Pn		Pn	08 20 46.9	+0.7
GSTR				IAML			08 21 37.4	
	comp=N,615nm,0.9s							
GSSP	**Great Sitkin S**	**3.26**	**275**			Pn	08 20 47.4	+0.3
UNV	**Unalaska Valle**	**3.28**	**53**			Pn	08 20 47.8	+0.4
UNV				IAML			08 21 40.0	
	comp=N,107nm,0.6s							
ETKA	**Kagalaska Isla**	**3.41**	**271**			Pn	08 20 48.7	-0.5
ADK	**Adak**	**3.58**	**271**			Pn	08 20 52.0	+0.6
ADK				IAML			08 21 48.9	
	comp=N,129nm,0.7s							
ADK				IAML			08 21 54.5	
	comp=N,132nm,0.6s							
AKRB	**Akutan Reef Bi**	**3.66**	**51**			Pn	08 20 54.6	+2.0
AKMO	**Akutan Morgan**	**3.66**	**52**			Pn	08 20 54.4	+1.8
KIWB	**Kanaga Island**	**3.87**	**271**			Pn	08 20 56.4	+1.0
KIWB				IAML			08 21 54.0	
	comp=E,152nm,0.8s							
KIWB				IAML			08 21 56.8	
	comp=N,139nm,0.6s							
KIMD	**Kanaga Island**	**3.93**	**270**			Pn	08 20 56.5	+0.2
TAPA	**Tanaga Point A**	**4.28**	**271**			Pn	08 21 01.6	+0.4
SPIA	**Saint Paul Isl**	**5.27**	**4**	Pn		Pn	08 21 15.2	+0.6
SPIA				IAML			08 22 56.9	
	comp=N,152nm,1.2s							
AMKA	**Amchitka**	**6.12**	**269**	Pn		Pn	08 21 27.5	+1.2
SDPT	**Sand Point**	**7.08**	**57**	Pn		Pn	08 21 40.8	+1.3
CNBA	**Chernabura Isl**	**7.36**	**62**	Pn		Pn	08 21 44.2	+0.8
CHGN	**Chignik**	**8.54**	**54**	Pn		Pn	08 22 00.5	+1.0
M11K	**Mekoryuk**	**8.87**	**15**	Pn		Pn	08 22 05.6	+1.7
O14K	**Tigyukauivet M**	**9.13**	**33**	Pn		Pn	08 22 09.7	+2.1
N14K	**Kuskokwak Cree**	**9.52**	**29**			Pn	08 22 14.9	+2.0
O15K	**Ungalikthiuk R**	**9.57**	**36**			Pn	08 22 15.6	+2.0
M14K	**Bethel**	**10.13**	**26**	Pn		Pn	08 22 22.7	+1.5
N15K	**Kwethluk River**	**10.22**	**32**			Pn	08 22 25.3	+2.8
L14K	**Kuka Creek**	**10.45**	**22**	Pn		Pn	08 22 26.4	+0.8
O16K	**Kokwok River B**	**10.52**	**38**			Pn	08 22 29.5	+2.9
K13K	**Kusilvak Mount**	**10.58**	**16**	Pn		Pn	08 22 29.0	+1.5
N17K	**Nushagak Hills**	**11.48**	**36**			Pn	08 22 42.7	+3.0
KDAK	**Kodiak Island**	**12.05**	**54**	Pn		Pn	08 22 46.7	-0.8
	comp=N,0.2nm,0.3s,baz=220,slow=4.3,SNR=14							
	comp=N,0.8nm,0.5s							
L18K	**Granite Mounta**	**12.85**	**31**			Pn	08 23 03.1	+4.7
ILAR	**Eielson Array**	**17.85**	**35**	P		Pn	08 24 01.9	-1.5
	comp=N,0.1nm,0.3s,baz=226,slow=9.4,SNR=7.7							
	comp=N,0.1nm,0.4s							
J25K	**Salcha River,**	**18.30**	**36**			P	08 24 09.8	+1.0
J25K				IAmb		IAmb	08 24 11.6	
	comp=Z,2.4nm,0.6s							
LOGN	**Logan Glacier**	**18.64**	**50**	P		P	08 24 13.7	+1.0
LOGN				IAmb		IAmb	08 24 22.3	
	comp=Z,2.9nm,0.5s							
M27K	**Edge Creek, AK**	**18.71**	**45**	P		P	08 24 13.9	+0.5
PEA0B	**Petropavlovsk-**	**19.06**	**286**	P		P	08 24 17.6	+0.5
PETK	**Petropavlovsk-**	**19.06**	**286**	P		P	08 24 17.9	+0.7
PETK	**Petropavlovsk-**	**19.06**	**286**	P		P	08 24 16.0	-1.1
	comp=Z,0.4nm,0.3s,baz=86,slow=14,SNR=9.2							
	comp=Z,0.9nm,0.4s							
F24K	**Squaw Lake**	**19.26**	**27**	P		P	08 24 19.8	+0.6
B21K	**Ikpikpuk River**	**19.32**	**17**	P		P	08 24 20.4	+0.6
B21K				IAmb		IAmb	08 24 25.1	
	comp=Z,7.3nm,1.1s							
FYU	**Fort Yukon**	**19.45**	**31**	P		P	08 24 22.4	+1.1
FYU				IAmb		IAmb	08 24 25.6	
	comp=Z,4.0nm,1.0s							
O29M	**Mount Kennedy**	**19.70**	**52**	P		P	08 24 25.6	+1.5
F25K	**Christian Rive**	**19.96**	**29**	P		P	08 24 26.5	-0.3
BMAR	**Burnt Mountain**	**20.18**	**30**	P		P	08 24 29.7	+0.5
M29M	**Somme Creek**	**20.25**	**46**	P		P	08 24 30.4	+0.3
C23K	**Itkillik River**	**20.29**	**20**	P		P	08 24 31.4	+1.0
C23K				IAmb		IAmb	08 24 33.2	
	comp=Z,8.3nm,1.1s							
HYT	**Haines Junctio**	**20.31**	**51**	P		P	08 24 33.4	+2.6
DAWY	**Dawson**	**20.38**	**41**	P		P	08 24 32.2	+0.8
DAWY				IAmb		IAmb	08 24 46.5	
	comp=Z,1.8nm,1.1s							
SKAG	**Skagway**	**21.20**	**55**			P	08 24 41.6	+1.4
H29M	**Whitestone**	**21.65**	**36**			P	08 24 44.9	0.0
H29M				IAmb		IAmb	08 25 14.1	
	comp=Z,2.8nm,0.8s							
J30M	**Hart River**	**21.81**	**41**	P		P	08 24 48.2	+1.3
J30M				IAmb		IAmb	08 25 08.9	
	comp=Z,1.7nm,1.1s							
G29M	**Pine Creek**	**22.08**	**35**	P		P	08 24 49.2	-0.4
G29M				IAmb		IAmb	08 25 10.5	
	comp=Z,6.6nm,1.5s							
MA2	**Magadan**	**22.60**	**305**	LR		LR	08 33 41.4	
	comp=Z,25nm,19.4s,baz=60,slow=37							
H11N2	**WAKE ISLAND Hy**	**36.53**	**217**	T		T	09 06 14.1	
	baz=22,slow=75,SNR=9.1							
H11N3	**WAKE ISLAND Hy**	**36.54**	**217**	T		T	09 06 12.2	
	baz=22,slow=75,SNR=13							
H11N1	**WAKE ISLAND Hy**	**36.55**	**217**	T		T	09 06 16.3	
	baz=22,slow=75,SNR=8.2							
H11S1	**WAKE ISLAND Hy**	**37.72**	**216**	T		T	09 07 53.0	
	baz=22,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**37.74**	**216**	T		T	09 07 49.8	
	baz=22,slow=76,SNR=8.6							
H11S3	**WAKE ISLAND Hy**	**37.74**	**216**	T		T	09 07 43.8	
	baz=22,slow=76,SNR=9.7							
PDAR	**Pinedale Array**	**41.42**	**78**	P		P	08 27 42.5	+1.4
	comp=Z,0.2nm,0.3s,baz=298,slow=5.4,SNR=4.3							
	comp=Z,0.2nm,0.3s							
TXAR	**Lajitas Array**	**53.71**	**87**	P		P	08 29 16.6	+0.3
	comp=Z,0.2nm,0.6s,baz=291,slow=3.9,SNR=3.5							
	comp=Z,0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**62.17**	**318**	P		P	08 30 14.1	-1.1
	comp=Z,0.4nm,0.6s,baz=44,slow=8.2,SNR=6.3							
	comp=Z,0.4nm,0.6s							
MKAR	**Makanchi Array**	**63.41**	**313**	P		P	08 30 21.2	-2.3
	comp=Z,0.2nm,0.4s,baz=51,slow=6.8,SNR=5.7							
	comp=Z,0.2nm,0.4s							
NOA	**NORSAR Array B**	**67.36**	**359**	P		P	08 30 47.5	-1.4
	comp=Z,0.2nm,0.4s,baz=1.4,slow=6.5,SNR=2.0							
	comp=Z,0.2nm,0.4s							
HFS	**Hagfors**	**68.22**	**358**	P		P	08 30 52.8	-1.4
	comp=Z,1.1nm,0.5s,baz=11,slow=3.0,SNR=14							
	comp=Z,1.1nm,0.5s							
EKA	**Eskdalemuir Ar**	**72.61**	**7**	P		P	08 31 19.9	-1.2
	comp=Z,0.8nm,0.8s,baz=347,slow=6.3,SNR=1.1							
	comp=Z,0.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**75.78**	**282**	P		P	08 31 40.6	+0.5
	comp=Z,0.8nm,0.3s,baz=32,slow=6.8,SNR=4.2							
	comp=Z,0.8nm,0.3s							
WRA	**Warramunga Arr**	**85.99**	**230**	P		P	08 32 33.7	-0.7
	comp=Z,0.5nm,0.8s,baz=38,slow=5.9,SNR=6.1							
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**89.39**	**229**	P		P	08 32 51.4	+0.8
	comp=Z,0.6nm,0.5s,baz=24,slow=5.1,SNR=18							
	comp=Z,0.6nm,0.5s							
QSPA	**South Pole Qui**	**141.70**	**180**	PKhKP		PKPpre	08 39 19.4	
	comp=Z,0.7nm,1.0s,baz=290,slow=1.6,SNR=6.5							

*CATAC **11** 08:24:18.9±0.7, 14°N±3°×9°2W±°, h16km±4km, M3.4/17, MLv3.4/17, Error ellipse: s-maj=7.4km s-min=3.3km az=31.6, confirmed*
*GCG **11** 08:24:20.9±1.7, 13°64N×91°65W, h28km±16km, MD4.2, MW3.2*
*SNET **11** 08:24:23.3±2.1, 13°78N×91°46W, h18km, ML3.4*

ISC 11 08:24:15.3±2.8, 13°4N±0°1×91°73W±0°09, h28km, n32, σ1°94°36, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTAL	**Retalhuleu**	**1.08**	**2**	P		**Pb**	**08 24 36.9**	**+1.5**
RTAL	**Retalhuleu**	**1.08**	**2**	S		**Sn**	**08 24 49.9**	**+1.3**

ESSG	**Sabana Grande**	**1.28**	**43**	*i* P		**Pb**	**08 24 40.1**	**+1.3**
FG8	**Yepocapa, Chim**	**1.40**	**54**	*i* P		**Pb**	**08 24 39.7**	**-1.0**
FG8				*i* S		**Sb**	**08 24 56.1**	**-2.1**
FG16	**Alotenango, Sa**	**1.44**	**55**	*i* P		**Pb**	**08 24 40.7**	**-0.9**
SMCA	**Catarina**	**1.45**	**347**	*i* P		**Pb**	**08 24 41.8**	**+0.2**
FAME	**Alcaldia de Sa**	**1.71**	**76**	P		**Pb**	**08 24 46.9**	**+0.8**
HUEH	**Huehuetenango**	**1.88**	**7**	*eP*		**Pb**	**08 24 50.1**	**+1.0**
HUEH	**Huehuetenango**	**1.88**	**7**	*i* P		**Pb**	**08 24 49.2**	**+0.1**
HUEH	**Huehuetenango**	**1.88**	**7**	P		**Pb**	**08 24 49.2**	**+0.1**
QUIS	**Sacapulas**	**1.94**	**18**	*i* P		**Pb**	**08 24 50.7**	**+0.7**
NUBE	**Las Nubes**	**1.95**	**76**	*i* P		**Pb**	**08 24 50.5**	**+0.2**
NUBE	**Las Nubes**	**1.95**	**76**	P		**Pb**	**08 24 50.2**	**0.0**
NUBE	**Las Nubes**	**1.95**	**76**	S		**Sb**	**08 25 14.9**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.98**	**73**	P		**Pb**	**08 24 51.3**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.98**	**73**	S		**Sb**	**08 25 16.2**	**+1.4**
CEVE	**Cerro Verde**	**2.08**	**79**	*eP*		**Pb**	**08 24 52.9**	**+0.3**
CEVE				*eS*		**Sb**	**08 25 17.8**	**-0.3**
CEVE	**Cerro Verde**	**2.08**	**79**	P		**Pb**	**08 24 53.0**	**+0.5**
JAYA	**Jayaque - finc**	**2.23**	**84**	*i* P		**Pb**	**08 24 55.2**	**+0.3**
JAYA				*i* S		**Sb**	**08 25 20.4**	**-1.7**
JAYA	**Jayaque - finc**	**2.23**	**84**	P		**Pb**	**08 24 55.5**	**+0.6**
PMON	**Piamonte**	**2.36**	**83**	P		**Pb**	**08 24 57.2**	**-0.1**
PMON	**Piamonte**	**2.36**	**83**	S		**Sb**	**08 25 25.9**	**-0.1**
MTO3	**Montecristo**	**2.49**	**67**	*eP*		**Pb**	**08 24 58.4**	**-0.9**
MTO3				*eS*		**Sb**	**08 25 28.1**	**-1.7**
MTO3	**Montecristo**	**2.49**	**67**	*i* P		**Pb**	**08 24 58.5**	**-0.9**
MTO3	**Montecristo**	**2.49**	**67**	P		**Pb**	**08 24 58.5**	**-0.9**
MTO3	**Montecristo**	**2.49**	**67**	S		**Sb**	**08 25 31.1**	**+1.3**
LOMA	**Loma Larga**	**2.49**	**85**	P		**Pb**	**08 24 59.5**	**0.0**
ESQI	**Esquipulas**	**2.57**	**64**	P		**Pb**	**08 25 00.0**	**-0.8**
PAVA	**Las Pavas**	**2.73**	**84**	P		**Pb**	**08 25 03.5**	**0.0**
CCIG	**Comitan**	**2.85**	**352**	*eP*		**Pb**	**08 25 03.2**	**-2.4**
CCIG	**Comitan**	**2.85**	**352**	P		**Pb**	**08 25 04.5**	**-1.1**
CCIG	**Comitan**	**2.85**	**352**	S		**Sb**	**08 25 40.0**	**-0.2**

*SFS **11** 08:55:07.3, 34°59N×8°80W, h25km, ML3.3/12, ML3.3/13, MLv3.3/13*
*MDD **11** 08:55:07.7±0.7, 34°59N×8°83W, h30km±9km, Mb4.1/16, M_mb3.5/16, Error ellipse: s-maj=6.2km s-min=3.5km az=70.0*
*CNRM **11** 08:55:07.4, 34°43N×8°84W, h79km, ML2.7*
*IGIL **11** 08:55:07.7, 34°59N×8°96W, h38km, ML1.5*
*INMG **11** 08:55:09.1±1.8, 34°60N×8°87W, h32km±12km, ML2.1, Error ellipse: s-maj=9.9km s-min=7.3km az=73.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos*

ISC 11 08:55:06.9±1.3, 34°62N±0°03×8°74W±0°06, h35km, n68, σ1°57/113, 10C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AVE	**Averroes**	**1.72**	**140**	P		**Pn**	**08 55 34.4**	**+0.1**
AVE				S		**Sn**	**08 55 56.7**	**+1.7**
ZHG	**ZHG**	**2.10**	**123**	P		**Pn**	**08 55 40.7**	**+1.1**
ZHG	**ZHG**	**2.10**	**123**	S		**Sn**	**08 56 05.3**	**+0.8**
PFVI	**Vila Bisbo**	**2.51**	**358**	P		**Pn**	**08 55 46.3**	**+1.1**
PFVI				S		**Sn**	**08 56 13.7**	**-0.9**
PFVI	**Vila Bisbo**	**2.51**	**358**	*eP*		**Pn**	**08 55 47.7**	**+2.5**
PFVI				*eS*		**Sn**	**08 56 13.7**	**-0.9**
PFVI				*i* IAML			08 56 26.1	
MORF	**Marmelete**	**2.68**	**1**	*eP*		**Pn**	**08 55 47.9**	**+0.3**
MORF	**Marmelete**	**2.68**	**1**	*eP*		**Pn**	**08 55 47.9**	**+0.3**
MORF				*eS*		**Sn**	**08 56 18.5**	**-0.3**
MORF				*i* IAML			08 56 23.4	
MORF				*i* IAML			08 56 23.6	
MORF				*i* IAML			08 56 29.0	
PBDV	**Barranco-do-Ve**	**2.70**	**14**	P		**Pn**	**08 55 50.2**	**+2.4**
PBDV				S		**Sn**	**08 56 21.3**	**+2.0**
PBDV	**Barranco-do-Ve**	**2.70**	**14**	*eP*		**Pn**	**08 55 50.6**	**+2.8**
PBDV				*eS*		**Sn**	**08 56 23.6**	**+4.3**
PBDV				*i* IAML			08 56 25.3	
PBDV				*i* IAML			08 56 25.4	
PBDV				*i* IAML			08 56 31.4	
PVAQ	**Vaqueiros**	**2.90**	**16**	S		**Sn**	**08 56 23.7**	**-0.5**
PVAQ				P		**Pn**	**08 55 51.2**	**+0.7**
PVAQ	**Vaqueiros**	**2.90**	**16**	*eP*		**Pn**	**08 55 51.6**	**+1.1**
PVAQ				*eS*		**Sn**	**08 56 24.7**	**+0.5**
PVAQ				*i* IAML			08 56 29.8	
PVAQ				*i* IAML			08 56 30.4	
PVAQ				*i* IAML			08 56 35.5	
PTEO	**Sao Teotonio**	**2.92**	**0**	*eP*		**Pn**	**08 55 53.4**	**+2.6**
PTEO				*eS*		**Sn**	**08 56 24.2**	**-0.5**
PTEO				*i* IAML			08 56 25.9	
PTEO				*i* IAML			08 56 27.4	
PTEO				*i* IAML			08 56 27.6	
PCVE	**Castro Verde**	**3.06**	**10**	*eP*		**Pn**	**08 55 54.0**	**+1.2**
PCVE				*eS*		**Sn**	**08 56 27.9**	**-0.2**
PCVE				*i* IAML			08 56 32.4	
PCVE				*i* IAML			08 56 34.3	
PCVE				*i* IAML			08 56 37.4	
EGRO	**El Granado**	**3.08**	**19**	P		**Pn**	**08 55 53.5**	**+0.5**
EGRO				S		**Sn**	**08 56 28.4**	**-0.3**
EGRO	**El Granado**	**3.08**	**19**	Pn		**Pn**	**08 55 54.2**	**+1.2**
EGRO				⇑*i*Vmb_VC			08 56 00.9	
	211nm,SNR=1.6							
EGRO				Sn		**Sn**	**08 56 26.7**	**-1.9**
MESJ	**Messejana**	**3.24**	**7**	*eP*		**Pn**	**08 55 56.0**	**+0.7**
MESJ				*eS*		**Sn**	**08 56 31.1**	**-1.5**
MESJ				IAML			08 56 33.7	
	comp=N,1.4nm,0.1s							
MESJ	**Messejana**	**3.24**	**7**	*eP*		**Pn**	**08 55 57.0**	**+1.8**
MESJ				*eS*		**Sn**	**08 56 31.6**	**-1.0**
MESJ				*i* IAML			08 56 39.1	
MESJ				*i* IAML			08 56 46.0	
MESJ				*i* IAML			08 56 48.5	
ESPR	**Espera**	**3.25**	**45**	P		**Pn**	**08 55 56.6**	**+1.3**
ESPR				S		**Sn**	**08 56 33.6**	**+0.9**
ESPR	**Espera**	**3.25**	**45**	Pn		**Pn**	**08 55 57.1**	**+1.8**
ESPR				⇑*i*Vmb_VC			08 55 57.3	
	comp=N,211nm,SNR=2.2							
ESPR				Sn		**Sn**	**08 56 31.9**	**-0.7**
PBEJ	**Beja**	**3.47**	**11**	*eP*		**Pn**	**08 56 00.6**	**+2.2**
PBEJ				*eS*		**Sn**	**08 56 38.4**	**+0.1**
PBEJ				*i* IAML			08 56 39.7	
PBEJ				*i* IAML			08 56 40.5	
PBEJ				*i* IAML			08 56 47.5	
OUK	**Oukaimeden**	**3.48**	**168**	P		**Pn**	**08 55 57.8**	**-1.1**
OUK	**Oukaimeden**	**3.48**	**168**	S		**Sn**	**08 56 36.9**	**-2.2**
EMIN	**Mina Concepcio**	**3.56**	**27**	P		**Pn**	**08 56 00.9**	**+1.3**
EMIN				S		**Sn**	**08 56 38.7**	**-1.7**
EMIN	**Mina Concepcio**	**3.56**	**27**	Pn		**Pn**	**08 56 01.8**	**+2.2**
EMIN				Sn		**Sn**	**08 56 39.5**	**-1.0**
MD31	**MD31**	**3.75**	**117**	P		**Pn**	**08 56 02.8**	**+0.5**
MD31	**MD31**	**3.75**	**117**	S		**Sn**	**08 56 45.5**	**+0.3**
PBAR	**Barrancos**	**3.80**	**21**	P		**Pn**	**08 56 03.5**	**+0.5**
PBAR				S		**Sn**	**08 56 45.7**	**-0.8**
PBAR	**Barrancos**	**3.80**	**21**	*eP*		**Pn**	**08 56 05.1**	**+2.1**
PBAR				*eS*		**Sn**	**08 56 46.4**	**-0.1**
PBAR				*i* IAML			08 56 48.6	
PBAR				*i* IAML			08 56 48.8	
PBAR				*i* IAML			08 57 02.5	
MDT	**Midelt**	**3.88**	**116**	P		**Pn**	**08 56 04.9**	**+0.8**
MDT	**Midelt**	**3.88**	**116**	S		**Sn**	**08 56 49.6**	**+1.0**
TIO	**Tiouine**	**3.89**	**161**	P		**Pn**	**08 56 04.4**	**+0.2**
TIO				S		**Sn**	**08 56 45.7**	**-3.1**
TIO	**Tiouine**	**3.89**	**161**	P		**Pn**	**08 56 03.6**	**-0.7**
TIO	**Tiouine**	**3.89**	**161**	S		**Sn**	**08 56 46.8**	**-1.9**
EVO	**Evora**	**3.95**	**8**	P		**Pn**	**08 56 05.4**	**+0.4**
EVO				S		**Sn**	**08 56 48.9**	**-1.2**
EVO	**Evora**	**3.95**	**8**	*eP*		**Pn**	**08 56 06.3**	**+1.4**
EVO				*eS*		**Sn**	**08 56 48.0**	**-2.0**
EVO				*i* IAML			08 56 50.4	
EVO				*i* IAML			08 56 50.5	
EVO				*i* IAML			08 56 51.0	
AKLM	**AKL**	**4.02**	**90**	P		**Pn**	**08 56 06.0**	**-0.1**
AKLM	**AKL**	**4.02**	**90**	S		**Sn**	**08 56 52.9**	**+0.9**
OUZM	**OUZ**	**4.06**	**155**	P		**Pn**	**08 56 05.8**	**-0.8**
OUZM	**OUZ**	**4.06**	**155**	S		**Sn**	**08 56 52.4**	**-0.5**
TTIG	**Tnine Tigouga,**	**4.07**	**176**	P		**Pn**	**08 56 04.9**	**-1.8**
TTIG	**Tnine Tigouga,**	**4.07**	**176**	S		**Sn**	**08 56 50.9**	**-2.3**
PARRA	**Arraiolos**	**4.20**	**357**	*eP*		**Pn**	**08 56 09.8**	**+1.4**
PARRA				*eS*		**Sn**	**08 56 55.6**	**-0.5**
PARRA				*i* IAML			08 56 58.2	
PARRA				*i* IAML			08 56 59.4	
PARRA				*i* IAML			08 57 01.5	
PESTR	**Estremoz**	**4.34**	**12**	S		**Sn**	**08 56 59.2**	**-0.5**
PESTR				P		**Pn**	**08 56 11.1**	**+0.7**
PESTR	**Estremoz**	**4.34**	**12**	*eP*		**Pn**	**08 56 12.0**	**+1.7**

PMAFR	**Mafra**	**4.35**	**354**	*eP*		**Pn**	**08 56 11.4**	**+0.9**
PMAFR				*eS*		**Sn**	**08 56 57.8**	**-2.1**
PMAFR				*i* IAML			08 57 03.6	
PMAFR				*i* IAML			08 57 08.1	
PMAFR				*i* IAML			08 57 14.6	
EBAD	**Badajoz**	**4.35**	**18**	P		**Pn**	**08 56 12.0**	**+1.5**
EBAD				S		**Sn**	**08 56 58.7**	**-1.3**
EBAD	**Badajoz**	**4.35**	**18**	Pn		**Pn**	**08 56 12.0**	**+1.5**
EBAD				⇑*i*Vmb_VC			08 56 13.1	
	comp=N,165nm,SNR=2.2							
EBAD				Sn		**Sn**	**08 56 59.9**	**-0.2**
ECAB	**El Cabril**	**4.37**	**37**	P		**Pn**	**08 56 11.4**	**+0.7**
ECAB				S		**Sn**	**08 56 57.8**	**-2.6**
ECAB	**El Cabril**	**4.37**	**37**	Pn		**Pn**	**08 56 11.7**	**+1.0**
ECAB				⇑*i*Vmb_VC			08 56 17.6	
	comp=N,105nm,SNR=2.1							
ECAB				Sn		**Sn**	**08 56 58.7**	**-1.7**
PMTG	**Montargil**	**4.46**	**5**	*eP*		**Pn**	**08 56 13.0**	**+1.1**
PMTG				*eS*		**Sn**	**08 57 00.8**	**-1.8**
PMTG				*i* IAML			08 57 04.6	
PMTG				*i* IAML			08 57 06.8	
PMTG				*i* IAML			08 57 14.5	
EGOR	**Sierra Gorda,**	**4.50**	**55**	Pn		**Pn**	**08 56 14.6**	**+1.8**
EGOR				Sn		**Sn**	**08 57 04.2**	**+0.2**
ELGU	**Los Guajares,**	**4.72**	**60**	Pn		**Pn**	**08 56 17.5**	**+1.8**
ELGU				⇑*i*Vmb_VC			08 56 17.7	
	comp=N,177nm,SNR=1.4							
ELGU				Sn		**Sn**	**08 57 07.9**	**-1.3**
EADA	**Adamuz**	**4.88**	**42**	S		**Sn**	**08 57 10.8**	**-2.2**
EADA				P		**Pn**	**08 56 18.6**	**+0.9**
EADA	**Adamuz**	**4.88**	**42**	Pn		**Pn**	**08 56 19.0**	**+1.2**
EADA				⇑*i*Vmb_VC			08 56 19.6	
	comp=N,121nm,SNR=2.3							
EADA				Sn		**Sn**	**08 57 11.3**	**-1.7**
PMRV	**Marv??o**	**4.92**	**12**	*eP*		**Pn**	**08 56 19.1**	**+0.7**
PMRV				*eS*		**Sn**	**08 57 12.9**	**-1.1**
PMRV				*i* IAML			08 57 15.2	
PMRV				*i* IAML			08 57 15.4	
PMRV				*i* IAML			08 57 22.6	
PSARD	**Sardoal**	**4.99**	**5**	*eP*		**Pn**	**08 56 20.0**	**+0.7**
PSARD				*eS*		**Sn**	**08 57 14.2**	**-1.6**
PSARD				*i* IAML			08 57 15.9	
PSARD				*i* IAML			08 57 16.0	
PSARD				*i* IAML			08 57 16.1	
JBK	**JBK**	**5.11**	**91**	P		**Pn**	**08 56 21.9**	**+0.8**
JBK	**JBK**	**5.11**	**91**	S		**Sn**	**08 57 18.3**	**-0.5**
PCAS	**Casmilo, Conde**	**5.43**	**2**	*eP*		**Pn**	**08 56 26.6**	**+1.3**
EQES	**Quesada**	**5.57**	**54**	Pn		**Pn**	**08 56 29.6**	**+2.2**
EQES				⇑*i*Vmb_VC			08 56 30.0	
	comp=N,88nm,SNR=1.2							
EQES				Sn		**Sn**	**08 57 29.0**	**-1.3**
PSIM	**Granatula de C**	**5.79**	**42**	Pn		**Pn**	**08 56 31.6**	**+1.2**
PSIM				Sn		**Sn**	**08 57 31.5**	**-4.1**
EPLA	**Plasencia**	**5.83**	**20**	Pn		**Pn**	**08 56 30.8**	**-0.1**
EPLA				⇑*i*Vmb_VC			08 56 38.0	
	comp=N,112nm,SNR=2.1							
EPLA				Sn		**Sn**	**08 57 34.2**	**-2.3**
PAB	**San Pablo**	**6.04**	**34**	Pn		**Pn**	**08 56 34.3**	**+0.6**
PAB				⇑*i*Vmb_VC			08 56 39.5	
	comp=N,70nm,SNR=1.5							
PAB				Sn

RUS	**Russkaya**	**4.91**	**24**	*e*P		**Pn**	**09 08 52.5**	**-0.6**
RUS				*e*S		**Sn**	**09 09 45.8**	**-3.1**
KRMR	**Karymshinskiy**	**5.18**	**20**	PN		**Pn**	**09 08 58.2**	**+1.5**
KRMR	**Karymshinskiy**	**5.18**	**20**	*e*P		**Pn**	**09 08 58.2**	**+1.5**
PEA0B	**Petropavlovsk-**	**5.35**	**16**			**Pn**	**09 09 00.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**5.35**	**16**	*i* PN		**Pn**	**09 08 59.8**	**+0.6**
PETK	**Petropavlovsk-**	**5.35**	**16**			**Pn**	**09 09 00.2**	**+1.0**
PETK	**Petropavlovsk-**	**5.35**	**16**	Pn		**Pn**	**09 09 00.3**	**+1.1**
	comp=N,2.9nm,0.3s,baz=199,slow=9.5,SNR=35							
PETK				LR		LR	09 11 25.7	
	comp=N,304nm,19.0s,baz=197,slow=43							
	comp=N,21nm,0.6s							
PET	**Petropavlovsk**	**5.48**	**22**	Pn		**Pn**	**09 09 01.0**	**+0.1**
PET	**Petropavlovsk**	**5.48**	**22**	*e*PN		**Pn**	**09 09 00.6**	**-0.3**
PET				MLR		MLR		
	comp=Z,200nm,15.0s							
PET	**Petropavlovsk**	**5.48**	**22**	*e*P		**Pn**	**09 09 00.2**	**-0.7**
PET				*e*S		**Sn**	**09 10 00.4**	**-2.6**
PET	**Petropavlovsk**	**5.48**	**22**	*e*P		**Pn**	**09 09 02.3**	**+1.4**
PET				AMB		AMB	09 09 13.2	
	comp=Z,20nm,0.3s							
PET				*e*S		**Sn**	**09 10 02.2**	**-0.8**
PET	**Petropavlovsk**	**5.48**	**22**	P		**Pn**	**09 09 00.2**	**-0.7**
	comp=Z,0.2nmcomp=Z,30nm,0.5s							
PET				S		**Sn**	**09 10 04.9**	**+1.9**
	comp=Z,0.2nmcomp=Z,30nm,0.5s							
DALK	**Dalny**	**5.51**	**23**	PN		**Pn**	**09 09 01.3**	**0.0**
DALK	**Dalny**	**5.51**	**23**	*e*P		**Pn**	**09 09 01.4**	**0.0**
UGLR	**Uglovaya**	**5.69**	**22**	PN		**Pn**	**09 09 05.8**	**+1.9**
UGLR	**Uglovaya**	**5.69**	**22**	*e*P		**Pn**	**09 09 05.8**	**+1.9**
AVH	**Avacha**	**5.72**	**21**	PN		**Pn**	**09 09 06.2**	**+1.9**
AVH	**Avacha**	**5.72**	**21**	*e*P		**Pn**	**09 09 06.2**	**+1.9**
KOK	**Koryaka**	**5.72**	**21**	PN		**Pn**	**09 09 05.8**	**+1.5**
KOK	**Koryaka**	**5.72**	**21**	*e*P		**Pn**	**09 09 05.9**	**+1.5**
SMAR	**Somma**	**5.74**	**22**	PN		**Pn**	**09 09 05.4**	**+0.8**
SMAR	**Somma**	**5.74**	**22**	*e*P		**Pn**	**09 09 05.5**	**+0.8**
KRER	**Koryakskii**	**5.76**	**21**	PN		**Pn**	**09 09 05.2**	**+0.3**
KRER	**Koryakskii**	**5.76**	**21**	*e*P		**Pn**	**09 09 05.2**	**+0.3**
SDLR	**Sedlovina**	**5.77**	**22**	PN		**Pn**	**09 09 05.3**	**+0.3**
SDLR	**Sedlovina**	**5.77**	**22**	*e*P		**Pn**	**09 09 05.4**	**+0.3**
KRX	**Arik**	**5.79**	**21**	PN		**Pn**	**09 09 06.6**	**+1.3**
KRX	**Arik**	**5.79**	**21**	*e*P		**Pn**	**09 09 06.6**	**+1.3**
KUR	**Kuril'sk**	**5.79**	**244**	*e*PN		**Pn**	**09 09 07.5**	**+2.3**
KUR				*e*S		**Sn**	**09 10 14.6**	**+4.0**
KUR				pmax	pmax			
	comp=Z,140nm,0.5s							
KUR				smax	smax			
	comp=E,91nm,0.6s							
KUR				smax	smax			
	comp=N,26nm,0.4s							
KUR	**Kuril'sk**	**5.79**	**244**	*e*P		**Pn**	**09 09 06.4**	**+1.2**
KUR				AMB	AMB		09 09 08.1	
	comp=N,140nm,0.4s							
KUR				*e*S		**Sn**	**09 10 09.9**	**-0.7**
KUR				A	A		09 10 17.9	
	comp=N,50nm,0.4s							
KUR				A	A		09 10 17.9	
	comp=N,150nm,0.4s							
NLC	**Nalytchevo**	**5.80**	**25**	PN		**Pn**	**09 09 05.0**	**-0.2**
NLC	**Nalytchevo**	**5.80**	**25**	*e*P		**Pn**	**09 09 05.1**	**-0.2**
NLC				*e*S		**Sn**	**09 10 05.6**	**-5.2**
SPN	**Mys Shipunski**	**5.94**	**29**	PN		**Pn**	**09 09 06.9**	**-0.3**
SPN	**Mys Shipunski**	**5.94**	**29**	*e*P		**Pn**	**09 09 07.0**	**-0.3**
SPN				*e*S		**Sn**	**09 10 10.6**	**-3.8**
GNL	**Ganaly**	**5.96**	**16**	PN		**Pn**	**09 09 09.7**	**+2.2**
GNL	**Ganaly**	**5.96**	**16**	*e*P		**Pn**	**09 09 09.8**	**+2.2**
SHO	**Shikotan**	**7.18**	**238**	*c i*PN		**Pn**	**09 09 25.6**	**+1.4**
SHO				pmax	pmax			
	comp=Z,32nm,0.4s							
SHO				pmax	pmax			
	comp=E,11nm,0.2s							
SHO	**Shikotan**	**7.18**	**238**	*i* P		**Pn**	**09 09 25.6**	**+1.4**
SHO				AMB	AMB		09 09 38.0	
	comp=E,40nm,0.4s							
SHO				*e*S		**Sn**	**09 10 42.1**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**7.64**	**242**	*e*PN		**Pn**	**09 09 31.7**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**7.64**	**242**	*e*P		**Pn**	**09 09 31.9**	**+1.3**
MKZ	**Mys Kozlova**	**7.72**	**29**	*e*S		**Sn**	**09 10 52.2**	**-5.8**
RUSJ	**Mísakicho**	**7.97**	**244**	⇓*i*PN		**Pn**	**09 09 38.3**	**+3.2**
GLVR	**Golovnino**	**8.02**	**242**	*e*PN		**Pn**	**09 09 35.8**	**+0.1**
NMR	**Nemuro--Hokkai**	**8.12**	**239**	⇓*i*PN		**Pn**	**09 09 35.5**	**-1.6**
NMR	**Nemuro--Hokkai**	**8.12**	**239**	*e*P		**Pn**	**09 09 36.0**	**-1.1**
YSS	**Yuzhno-Sakhali**	**8.53**	**268**			**Pn**	**09 09 44.6**	**+1.8**
YSS	**Yuzhno-Sakhali**	**8.53**	**268**	*e*PN		**Pn**	**09 09 46.4**	**+3.6**
YSS				*e*S		**Sn**	**09 11 24.2**	**+6.1**
YSS				pmax	pmax			
	comp=Z,30nm,0.7s							
YSS	**Yuzhno-Sakhali**	**8.53**	**268**	*e*P		**Pn**	**09 09 44.5**	**+1.7**
YSS				AMB	AMB		09 09 47.1	
	comp=Z,50nm,0.6s							
TYV	**Tymovskoe**	**8.70**	**294**	*e*PN		**Pn**	**09 09 47.7**	**+2.6**
TYV				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TYV				pmax	pmax			
	comp=Z,200nm,5.1s							
TYV	**Tymovskoe**	**8.70**	**294**	*e*P		**Pn**	**09 09 47.7**	**+2.6**
TYV				AMB	AMB		09 09 49.2	
	comp=Z,10.0nm,0.8s							
TYV				AMB	AMB		09 09 49.5	
	comp=Z,200nm,5.1s							
JKA	**Kamikawa-asahi**	**9.61**	**251**			**Pn**	**09 09 59.6**	**+2.0**
ASAJ	**Asahikawa**	**9.62**	**251**	Pn		**Pn**	**09 09 57.5**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=82,slow=14,SNR=20							
ASAJ				LR		LR	09 13 27.0	
	comp=Z,180nm,18.6s,baz=82,slow=37							
	comp=Z,28nm,0.8s							
ERM	**Erimo**	**10.44**	**240**	Pn		**Pn**	**09 10 09.0**	**0.0**
ERM	**Erimo**	**10.44**	**240**	*i* PN		**Pn**	**09 10 08.4**	**-0.5**
MA2	**Magadan**	**11.90**	**349**	LR		LR	09 15 43.8	
	comp=Z,110nm,18.9s,baz=120,slow=41							
JTM	**Tenmabayashi**	**12.43**	**240**	Pn		**Pn**	**09 10 32.2**	**-4.0**
SHEM	**Shemya Is, Ala**	**12.92**	**61**	LR		LR	09 16 11.1	
	comp=Z,21nm,19.7s,baz=266,slow=39							
JYT	**Yasato**	**16.19**	**229**			**Pn**	**09 11 26.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**16.56**	**265**	Pn		**Pn**	**09 11 29.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=67,slow=10,SNR=5.2							
	comp=Z,3.5nm,0.6s							
MAJO	**Matsushiro**	**16.99**	**234**	Pn		**Pn**	**09 11 34.7**	**-2.1**
MJAR	**Matsushiro Arr**	**16.99**	**234**	Pn		**Pn**	**09 11 34.1**	**-2.6**
	baz=29,slow=13,SNR=6.0							
MJAR				LR		LR	09 17 16.4	
	comp=Z,33nm,20.4s,baz=67,slow=34							
	comp=Z,1.4nm,0.8s							
MJB9	**Matsu-Tunnel**	**16.99**	**234**			**Pn**	**09 11 35.5**	**-1.3**
ZEA	**Zeya**	**18.51**	**299**	*i* P		**P**	**09 11 54.1**	**-1.0**
ZEA	**Zeya**	**18.51**	**299**	*e*P		**Pn**	**09 11 57.9**	**+2.5**
YAK	**Yakutsk**	**20.12**	**324**	LR		LR	09 19 51.2	
	comp=Z,55nm,19.4s,baz=130,slow=37							
YAK	**Yakutsk**	**20.12**	**324**	*i* P		**P**	**09 12 12.5**	**-0.1**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
KSRS	**Korea Array**	**22.56**	**252**	P		**P**	**09 12 36.6**	**-2.4**
	comp=Z,5.8nm,0.9s,baz=47,slow=11,SNR=15							
	comp=Z,5.8nm,0.9s							
KS19	**Wonju Array Si**	**22.57**	**252**	P		**P**	**09 12 36.6**	**-2.6**
KSAR	**Wonju Array Be**	**22.59**	**252**	P		**P**	**09 12 37.2**	**-2.2**
TIXI	**Tiksi**	**26.71**	**342**	LR		LR	09 24 46.4	
	comp=Z,70nm,18.6s,baz=136,slow=39							
TIXI	**Tiksi**	**26.71**	**342**	*i* P		**P**	**09 13 15.7**	**-2.0**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**29.73**	**157**	T		T	09 45 25.4	
	baz=345,slow=76,SNR=18							
H11N1	**WAKE ISLAND Hy**	**29.75**	**157**	T		T	09 45 25.1	
	baz=345,slow=76,SNR=31							
H11N3	**WAKE ISLAND Hy**	**29.75**	**157**	T		T	09 45 24.1	
	baz=345,slow=76,SNR=12							
C18K	**Utukok River**	**29.81**	**30**	P		**P**	**09 13 44.1**	**-1.4**
C18K				IAmb	IAmb		09 13 54.7	
	comp=Z,10nm,1.4s							
PLK4	**Peulik 4**	**30.18**	**53**	P		**P**	**09 13 49.9**	**+1.1**
PLK4				IAmb	IAmb		09 13 58.0	
	comp=Z,6.9nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**30.86**	**158**	T		T	09 46 55.0	
	baz=345,slow=76,SNR=171							
H11S3	**WAKE ISLAND Hy**	**30.87**	**158**	T		T	09 46 55.6	
	baz=345,slow=76,SNR=252							
H11S2	**WAKE ISLAND Hy**	**30.88**	**158**	T		T	09 46 51.3	
	baz=345,slow=76,SNR=137							
D20K	**Etivluk River**	**31.42**	**31**	P		**P**	**09 14 01.1**	**+1.6**
D20K				IAmb	IAmb		09 14 12.2	
	comp=Z,6.1nm,1.3s							
B20K	**Meade River**	**31.63**	**29**	P		**P**	**09 14 03.2**	**+1.9**
HHC	**Hu-ho-hao-te**	**31.66**	**273**	*e*P		**P**	**09 14 01.0**	**-1.1**
HHC				pmax	pmax			
	comp=Z,15nm,0.6s							
HHC				pmax	pmax			
	comp=Z,180nm,5.4s							
ULN	**Ulaanbaatar**	**31.88**	**288**	*i* P		**P**	**09 14 02.2**	**-1.8**
ULN				pmax	pmax			
	comp=Z,1.0nm,1.1s							
KDAK	**Kodiak Island**	**32.19**	**53**	P		**P**	**09 14 07.3**	**+1.0**
KDAK				IAmb	IAmb		09 14 29.0	
	comp=Z,9.1nm,1.4s							
SONM	**Songino Array**	**32.31**	**288**	LR		LR	09 28 08.8	
	comp=Z,82nm,21.1s,baz=106,slow=38							
B21K	**Ikpikpuk River**	**32.36**	**30**	P		**P**	**09 14 08.9**	**+1.2**
B21K				IAmb	IAmb		09 14 11.6	
	comp=Z,10nm,1.1s							
D22K	**Ayikyak River**	**32.84**	**32**	P		**P**	**09 14 12.6**	**+0.5**
D22K				IAmb	IAmb		09 14 44.7	
	comp=Z,9.9nm,1.4s							
E22K	**Anaktuvuk Pass**	**33.01**	**33**	P		**P**	**09 14 14.5**	**+1.0**
E22K				IAmb	IAmb		09 14 19.3	
	comp=Z,2.9nm,0.8s							
E24K	**Your Creek**	**34.24**	**34**	P		**P**	**09 14 25.5**	**+1.3**
ILAR	**Eielson Array**	**34.66**	**40**	P		**P**	**09 14 29.4**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=271,slow=9.5,SNR=4.1							
	comp=Z,0.2nm,0.6s							
D25K	**Kavik River**	**35.15**	**32**	P		**P**	**09 14 33.8**	**+1.7**
D25K				IAmb	IAmb		09 14 37.4	
	comp=Z,4.7nm,0.7s							
ZALV	**Zalesovo Beam**	**43.07**	**305**	LR		LR	09 33 52.1	
	comp=Z,37nm,20.8s,baz=70,slow=37							
PZH	**PanZhiHua**	**46.63**	**262**	P		**P**	**09 16 06.5**	**-0.7**
MK31	**Makanchi Array**	**47.66**	**297**	*ce*P		**P**	**09 16 13.0**	**-1.9**
MKAR	**Makanchi Array**	**47.66**	**297**			**P**	**09 16 12.8**	**-2.0**
MKAR	**Makanchi Array**	**47.66**	**297**			**P**	**09 16 13.9**	**-1.0**
	comp=Z,2.6nm,0.7s,baz=65,slow=7.8,SNR=23							
MKAR				LR		LR	09 39 13.5	
	comp=Z,37nm,18.7s,baz=9.0,slow=40							
	comp=Z,2.6nm,0.7s							
KURK	**Kurchatov**	**47.89**	**304**			**P**	**09 16 14.8**	**-1.7**
KURK	**Kurchatov**	**47.89**	**304**	*ce*P		**P**	**09 16 15.0**	**-1.5**
KURK				pmax	pmax			
	comp=Z,7.0nm,0.6s							
KURBB	**Kurchatov Arra**	**47.98**	**303**	P		**P**	**09 16 16.4**	**-0.9**
	comp=Z,7.4nm,0.6s,baz=67,slow=8.4,SNR=32							
	comp=Z,7.4nm,0.6s							
YKA	**Yellowknife Ar**	**49.05**	**38**	P		**P**	**09 16 26.0**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=291,slow=11,SNR=4.6							
	comp=Z,0.9nm,0.8s							
YKA	**Yellowknife Ar**	**49.05**	**38**	P		**P**	**09 16 26.0**	**+0.7**
BVAR	**Borovoye Array**	**51.19**	**309**	P		**P**	**09 16 40.7**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=56,slow=7.9,SNR=8.6							
	comp=Z,2.3nm,0.5s							
SHL	**Shillong**	**53.85**	**269**			**P**	**09 17 01.9**	**0.0**
SHL	**Shillong**	**53.85**	**269**	P		**P**	**09 17 01.9**	**0.0**
SHL				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**54.07**	**257**	P		**P**	**09 17 04.7**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=26,slow=6.7,SNR=4.7							
CMAR				LR		LR	09 42 28.1	
	comp=Z,24nm,18.0s,baz=100,slow=39							
	comp=Z,0.6nm,0.3s							
ARTI	**Arti**	**55.18**	**318**	*c i*P		**P**	**09 17 08.5**	**-2.4**
ARTI							09 18 08.2	
ARTI							09 19 08.6	
ARTI				S		**S**	**09 24 49.6**	**-2.5**
ARTI				SS		**SS**	**09 28 33.4**	**-2.2**
ARTI				pmax	pmax			
	comp=Z,7.0nm,1.7s							
ARCES	**ARCESS Array B**	**57.15**	**341**	LR		LR	09 47 22.2	
	comp=Z,47nm,18.6s,baz=72,slow=42							
AB31	**Akbulak array**	**58.74**	**310**			**P**	**09 17 34.9**	**-1.4**
AB31				IAmb	IAmb		09 17 36.1	
	comp=Z,2.0nm,0.6s							
SUMG	**Summit**	**59.35**	**5**			**P**	**09 17 41.6**	**+1.0**
SUMG	**Summit**	**59.35**	**5**	P		**P**	**09 17 41.6**	**+1.0**
SUMG				pmax	pmax			
	comp=Z,11nm,1.0s							
PDAR	**Pinedale Array**	**62.84**	**56**	P		**P**	**09 18 07.5**	**+2.9**
	comp=Z,0.6nm,0.8s,baz=270,slow=0.6,SNR=4.6							
	comp=Z,0.6nm,0.8s							
FINES	**FINESS Array B**	**63.52**	**335**	P		**P**	**09 18 08.2**	**-0.3**
FINES	**FINESS Array B**	**63.52**	**335**	P		**P**	**09 18 07.7**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=35,slow=7.0,SNR=9.7							
	comp=Z,1.2nm,0.5s							
SFJD	**Kangerlussuaq**	**63.66**	**11**	LR		LR	09 46 26.7	
	comp=Z,22nm,21.5s,baz=331,slow=37							
OBN	**Obninsk**	**65.09**	**326**	⇓P		**P**	**09 18 18.8**	**0.0**
OBN	**Obninsk**	**65.09**	**326**	⇑*e*P		**P**	**09 18 17.9**	**-0.9**
OBN				*e*			09 20 44.3	
OBN				*e*S		S	09 27 21.6	+22
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,30nm,15.0s							
OBN	**Obninsk**	**65.09**	**326**	*e*P		**P**	**09 18 17.9**	**-0.9**
NB2	**NORSAR Subarra**	**67.51**	**342**	P		**P**	**09 18 34.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**67.51**	**342**	P		**P**	**09 18 34.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=26,slow=6.5,SNR=3.7							
NOA				LR		LR	09 52 48.2	
	comp=Z,20nm,18.9s,baz=5.0,slow=40							
	comp=Z,0.9nm,0.7s							
HFS	**Hagfors**	**67.79**	**340**	P		**P**	**09 18 36.7**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=41,slow=4.1,SNR=20							
	comp=Z,1.9nm,0.5s							
WRA	**Warramunga Arr**	**70.18**	**201**	P		**P**	**09 18 53.9**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=8.5,slow=6.1,SNR=1.8							
	comp=Z,0.6nm,0.9s							
KIV	**Kislovodsk**	**70.96**	**315**	*e*P		P	09 18 50.7	-5.3
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,23nm,18.0s							
KBZ	**Khabaz**	**71.03**	**315**	*i* P		**P**	**09 18 54.4**	**-1.9**
KBZ				pmax	pmax			
	comp=Z,3.0nm,1.1s							
AK03	**Malin Array Si**	**71.29**	**327**	P		**P**	**09 18 55.8**	**-1.9**
AKASG	**Malin Array Be**	**71.31**	**327**	P		**P**	**09 18 57.5**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=34,slow=5.7,SNR=5.2							
	comp=Z,0.6nm,0.4s							
AK01	**Malin Array Si**	**71.32**	**327**	P		**P**	**09 18 57.0**	**-0.9**
AK11	**Malin Array Si**	**71.34**	**327**	P		**P**	**09 18 57.4**	**-0.7**
AK18	**Malin Array Si**	**71.35**	**327**	P		**P**	**09 18 57.3**	**-0.8**
AK15	**Malin Array Si**	**71.35**	**327**	P		**P**	**09 18 56.6**	**-1.5**
AK02	**Malin Array Si**	**71.35**	**327**	P		**P**	**09 18 57.4**	**-0.7**
AK20	**Malin Array Si**	**71.35**	**327**	P		**P**	**09 18 57.4**	**-0.7**
AK08	**Malin Array Si**	**71.35**	**327**	P		**P**	**09 18 57.4**	**-0.7**
AK19	**Malin Array Si**	**71.37**	**327**	P		**P**	**09 18 57.1**	**-1.1**
AK16	**Malin Array Si**	**71.37**	**327**	P		**P**	**09 18 57.1**	**-1.2**
AK10	**Malin Array Si**	**71.38**	**327**	P		**P**	**09 18 57.8**	**-0.5**
AK17	**Malin Array Si**	**71.38**	**327**	P		**P**	**09 18 56.9**	**-1.4**
AK14	**Malin Array Si**	**71.41**	**327**	P		**P**	**09 18 56.1**	**-2.4**
AK13	**Malin Array Si**	**71.44**	**327**	P		**P**	**09 18 57.5**	**-1.1**
RNPP5	**Staryi Chortor**	**72.05**	**329**	P		**P**	**09 19 02.4**	**+0.1**
LUBAR	**Lubar, Ukraine**	**72.48**	**327**	P		**P**	**09 19 04.4**	**-0.5**
BAL3X	**Bal3x, Balta**	**73.44**	**325**	P		**P**	**09 19 09.6**	**-1.0**
SORM	**Soroca**	**73.75**	**326**	P		**P**	**09 19 11.7**	**-0.7**
ASAR	**Alice Springs**	**73.87**	**200**	P		**P**	**09 19 15.0**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=11,slow=6.5,SNR=4.8							
	comp=Z,0.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**75.46**	**347**	P		**P**	**09 19 22.4**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=17,slow=5.2,SNR=8.2							
	comp=Z,1.2nm,0.5s							
TXAR	**Lajitas Array**	**75.62**	**62**	P		**P**	**09 19 25.8**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=309,slow=5.6,SNR=11							
	comp=Z,0.7nm,0.5s							
CLL	**Collm**	**75.92**	**337**	*i* P		**P**	**09 19 25.2**	**+0.3**
CLL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	**75.92**	**337**	*i* P		**P**	**09 19 25.2**	**+0.3**
	comp=Z,6.0nm,0.9s							
CLL				*e*PP		**PP**	**09 22 15.0**	**+0.4**
MORC	**Moravsky Berou**	**76.00**	**333**	⇓P		**P**	**09 19 26.8**	**+1.2**
MORC	**Moravsky Berou**	**76.00**	**333**	P		**P**	**09 19 26.7**	**+1.2**
PLOR	**Plostina**	**76.29**	**326**	⇓P		**P**	**09 19 28.5**	**+1.3**
PLOR	**Plostina**	**76.29**	**326**	P		**P**	**09 19 28.5**	**+1.3**
TPGR	**Topolog**	**76.44**	**324**	⇓P		**P**	**09 19 28.8**	**+0.7**
MLR	**Muntele Rosu**	**76.86**	**326**	⇓P		**P**	**09 19 32.0**	**+1.3**
MLR	**Muntele Rosu**	**76.86**	**326**	P		**P**	**09 19 31.9**	**+1.3**
VOIR		**77.24**	**327**	⇑P		**P**	**09 19 33.7**	**+1.1**
VOIR		**77.24**	**327**	P		**P**	**09 19 33.7**	**+1.1**
ICOR	**Ion Corvin**	**77.31**	**324**	⇑P		**P**	**09 19 34.1**	**+1.2**
KHC	**Kasperske Hory**	**77.73**	**335**	*ce*P		**P**	**09 19 33.6**	**-1.7**
KHC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
GERES	**GERESS Array B**	**77.95**	**335**	P		**P**	**09 19 37.5**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=32,slow=4.8,SNR=8.1							
	comp=Z,1.2nm,0.6s							
GZR	**Gura Zlata**	**78.11**	**328**	⇑P		**P**	**09 19 37.5**	**+0.1**
GZR	**Gura Zlata**	**78.11**	**328**	P		**P**	**09 19 37.5**	**+0.1**
BZS	**Buzias**	**78.32**	**329**	⇓P		**P**	**09 19 38.4**	**-0.1**
BZS	**Buzias**	**78.32**	**329**	P		**P**	**09 19 38.4**	**-0.1**
BR131	**Keskin Array S**	**78.46**	**318**	*i* P		**P**	**09 19 37.8**	**-1.8**
BRTR	**Keskin Array B**	**78.46**	**318**	P		**P**	**09 19 40.0**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=80,slow=2.9,SNR=8.8							
	comp=Z,1.5nm,0.8s							
ANTO	**Ankara**	**78.72**	**319**	P		**P**	**09 19 40.8**	**-0.2**
MMAI	**Mount Meron Ar**	**83.06**	**313**	P		**P**	**09 20 04.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=81,slow=5.2,SNR=4.2							
	comp=Z,2.3nm,0.6s							
ESDC	**Sonseca Array**	**90.78**	**344**	LR		LR	10 06 13.6	
	comp=Z,17nm,19.4s,baz=5.0,slow=39							
H03N2	**Juan Fernandez**	**137.31**	**91**	T		T	12 00 17.1	
	baz=310,slow=77,SNR=5.3							
H03N1	**Juan Fernandez**	**137.32**	**90**	T		T	12 00 13.0	
	baz=310,slow=77,SNR=6.2							
H03N3	**Juan Fernandez**	**137.32**	**91**	T		T	12 00 21.5	
	baz=310,slow=77,SNR=7.9							

*IDC **11** 09:19:58.9±5.0,36°42N×70°15E,h0km,mb3.9/5, mbtmp3.9/10,ML3.6/5,MS3.1/2,Error ellipse: s-maj=80.5km s-min=25.1km az=159.0*
ISC 11 09:20:05.9±3.0,37.0N±0°3×69°7E±0°2,h10km,n19, σ1°79/16,mb3.8/4,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.13**	**5**	⇓Pn		**Pn**	**09 21 33.3**		**-3.2**
	0.9nm,0.3s,baz=214,slow=56,SNR=18								
KK31				⇑Pg		**Pb**	**09 21 53.3**		**+0.5**
	5.2nm,0.6s,baz=189,slow=14,SNR=7.0								
KK31				⇑Lg		Lg	09 23 01.3		
	51nm,0.8s,baz=184,slow=25,SNR=8.5								
EKS2	**Ekin-Say**	**6.46**	**28**	P		Pn	09 21 45.4		+4.2
	SNR=5.4								
AAK	**Ala-Archa**	**6.72**	**32**	Pn		**Pn**	**09 21 45.5**		**+0.7**
	3.6nm,0.3s,baz=215,slow=8.9,SNR=16								
AAK				LR		LR	09 24 41.8		
	comp=Z,45nm,18.8s,baz=260,slow=40								
	9.7nm,0.3s								
AAK	**Ala-Archa**	**6.72**	**32**	P		**Pn**	**09 21 46.6**		**+1.8**
	SNR=9.3								
AAK	**Ala-Archa**	**6.72**	**32**	⇓Pn		**Pn**	**09 21 46.1**		**+1.3**
	4.0nm,0.5s								
AAK				⇑Lg		Lg	09 23 27.6		
	18nm,1.0s								
KBK	**Karagaybulak**	**6.94**	**34**	P		**Pn**	**09 21 49.4**		**+1.7**
	SNR=12								
CHMS	**Chumysh**	**7.13**	**31**	P		**Pn**	**09 21 52.2**		**+2.0**
	SNR=8.3								
ULHL	**Ulahol**	**7.26**	**42**	P		Pn	09 21 55.0		+2.7
	SNR=5.8								
TKM2	**Tokmak 2**	**7.44**	**35**	P		**Pn**	**09 21 56.2**		**+1.5**
	SNR=24								
MKAR	**Makanchi Array**	**13.53**	**40**	Pn		**P

MOMN				S	Sn	09 49 52.4	-0.1	
COPN	Copaltepe	2.32	109	P	Pn	09 49 24.5	-0.9	
SAPS	Ciudad Sandino	2.50	108	P	Pn	09 49 29.2	+1.3	
SAPS	Ciudad Sandino	2.50	108	S	Sn	09 49 55.4	-1.8	
RCVN	Varillal2	2.64	76	P	Pn	09 49 29.9	-0.1	
RCVN	Varillal2	2.64	76	S	Sn	09 49 59.9	-1.1	
RCPN	Sur Rio San Ju	2.73	78	P	Pn	09 49 30.2	-0.9	
RCPN	Sur Rio San Ju	2.73	78	S	Sn	09 49 59.9	-3.1	
MATN	Matagalpa	2.83	90	P	Pn	09 49 31.3	-1.3	
MATN	Matagalpa	2.83	90	S	Sn	09 50 04.5	-1.2	
BOAB	BOACO BROADBAN	3.13	99	P	Pn	09 49 35.9	-0.6	
CMARA	Lajas Hojancha	4.43	131	P	Pn	09 49 56.2	+1.7	
CMARA	Lajas Hojancha	4.43	131	S	Sn	09 50 43.1	-1.9	
JTS	Las Juntas de	4.63	124	P	Pn	09 49 59.1	+1.9	
JTS				S	Sn	09 50 49.7	0.0	
DRK0	Durika	6.60	123	P	Pn	09 50 27.0	+2.7	
DRK0	Durika	6.60	123	S	Sn	09 51 36.4	-1.8	

IDC 11 09:54:09.4±5.5, 4°05S×152°95E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=170.2km s-min=40.3km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.05	227	P	P	09 59 25.9	-0.7
	0.1nm,0.3s,baz=54,slow=9.6,SNR=7.1 0.1nm,0.3s						
ASAR	Alice Springs	26.80	222	P	P	09 59 52.4	+0.8
	0.3nm,0.6s,baz=53,slow=8.7,SNR=5.1 0.3nm,0.6s						
MKAR	Makanchi Array	79.87	319	P	P	10 06 20.1	-0.1
	0.2nm,0.4s,baz=96,slow=5.8,SNR=2.0 0.2nm,0.4s						

IDC 11 10:26:14.3±1.7, 0°60N×126°59E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=167.2km s-min=21.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.79	160	P	P	10 31 06.3	-1.7
	1.0nm,0.6s,baz=338,slow=11,SNR=9.9 1.0nm,0.6s						
ASAR	Alice Springs	25.15	164	P	P	10 31 42.5	+1.1
	0.6nm,0.4s,baz=341,slow=9.5,SNR=24 0.6nm,0.4s						
MKAR	Makanchi Array	60.05	326	P	P	10 36 23.4	+0.3
	0.8nm,0.5s,baz=116,slow=8.5,SNR=8.5 0.8nm,0.5s						
KURBB	Kurchatov Arra	64.29	328	P	P	10 36 51.0	-0.5
	0.4nm,0.2s,baz=131,slow=6.1,SNR=4.7 0.4nm,0.2s						

SJA ***11*** *10:27:33.2±1.5, 22°01S×67°04W, h184km, ML3.9, MW3.8*
IDC ***11*** *10:27:34.1±1.9, 21°96S×66°90W, h166km±18km, mb3.4/8, mbtmp3.8/11, Error ellipse: s-maj=28.7km s-min=11.9km az=81.0*
NEIC ***11*** *10:27:35.2±1.6, 22°07S±0°07×67°2W±0°1, h181km±6km, mb4.2/11, Error ellipse: s-maj=16.2km s-min=9.4km az=83.0*
GUC ***11*** *10:27:35.0±0.7, 22°06S×67°41W, h220km±7km, ML3.9*
SCB ***11*** *10:27:35.4±1.3, 22°10S×67°19W, h166km±14km, ML4.3/3, MW3.2, Error ellipse: s-maj=4.8km s-min=3.6km az=2.0*

ISC 11 10:27:35.5±0.7, 22°09S±0°04×67°24W±0°04, h188km±6km, n114, σ1§45/136, mb3.9/13, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.22	225		Pn	10 28 07.1	+1.0
AF01	San Pedro de A	1.22	225	eP	Pn	10 28 07.6	+1.5
AF01				IAML		10 28 34.1	
	comp=N,343nm,0.5s						
AF01	San Pedro de A	1.22	225	eP	Pn	10 28 08.2	+2.1
AF01				eS	Sn	10 28 32.5	+2.6
AF01				IAML		10 28 46.9	
	comp=Z,245nm,0.9s						
MOCB	Mochara	1.71	61	Pg	Pn	10 28 09.2	-1.5
PB09	IPOC Station P	1.88	279		Pn	10 28 12.3	+0.2
PB09	IPOC Station P	1.88	279	⇑iP	Pn	10 28 12.9	+0.7
PB09				eS	Sn	10 28 41.2	+0.7
PB09				IAML		10 28 46.2	
	comp=N,193nm,0.2s						
PB09	IPOC Station P	1.88	279	eP	Pn	10 28 12.9	+0.7
PB09				eS	Sn	10 28 43.4	+2.8
PB09				IAML		10 28 44.5	
	comp=Z,215nm,0.2s						
PB09	IPOC Station P	1.88	279	Pg	Pn	10 28 12.0	-0.1
PB06	IPOC Station P	2.25	254		Pn	10 28 16.6	+0.6
PB06	IPOC Station P	2.25	254	eP	Pn	10 28 16.2	+0.2
PB06				eS	Sn	10 28 47.2	-0.2
PB06				IAML		10 28 50.6	
	comp=E,504nm,0.2s						
PB06	IPOC Station P	2.25	254	eP	Pn	10 28 16.3	+0.3
PB06				eS	Sn	10 28 49.4	+1.9
PB06				IAML		10 28 51.2	
	comp=Z,292nm,0.3s						
PB06	IPOC Station P	2.25	254	Pg	Pn	10 28 15.9	-0.1
SALTA		2.28	159	eP	Pn	10 28 17.9	+1.2
SALTA				eP		10 28 18.1	
PB03	IPOC Station P	2.33	271		Pn	10 28 16.7	-0.3
PB03	IPOC Station P	2.33	271	eP	Pn	10 28 16.8	-0.2
PB03				IAML		10 28 49.8	
	comp=E,918nm,0.1s						
PB03	IPOC Station P	2.33	271	eP	Pn	10 28 17.1	+0.1
PB03				eS	Sn	10 28 49.4	+0.2
PB03				IAML		10 28 50.7	
	comp=Z,656nm,0.2s						
PB03	IPOC Station P	2.33	271	Pg	Pn	10 28 16.7	-0.3
PB01	IPOC Station P	2.34	296		Pn	10 28 16.3	-0.7
PB01	IPOC Station P	2.34	296	⇑iP	Pn	10 28 16.9	-0.1
PB01				IAML		10 28 50.0	
	comp=N,1μm,0.3s						
PB01	IPOC Station P	2.34	296	eP	Pn	10 28 16.9	-0.1
PB01				eS	Sn	10 28 49.5	+0.3
PB01				IAML		10 28 52.3	
	comp=Z,391nm,0.4s						
PB01	IPOC Station P	2.34	296	Pg	Pn	10 28 17.0	0.0
PB01				Sg	Sn	10 28 48.0	-1.2
PB01				IAML		10 28 50.4	
	comp=Z,717nm,0.2s						
AOVT	TarijaAcel	2.42	77	Pg	Pn	10 28 16.8	-1.2
PB02	IPOC Station P	2.59	287		Pn	10 28 19.6	-0.2
PB02	IPOC Station P	2.59	287	⇑iP	Pn	10 28 19.4	-0.4
PB02	IPOC Station P	2.59	287	eP	Pn	10 28 19.7	-0.2
PB02				eS	Sn	10 28 53.3	-1.0
PB02				IAML		10 28 54.6	
	comp=Z,995nm,0.2s						
PB02	IPOC Station P	2.59	287	Pg	Pn	10 28 19.7	-0.2
PB02				Sg	Sn	10 28 53.1	-1.2
PB02				IAML		10 28 54.2	
	comp=Z,2μm,0.2s						
PB08	IPOC Station P	2.64	317		Pn	10 28 21.1	+0.4
PB05	IPOC Station P	2.84	254		Pn	10 28 23.0	+0.1
PB05	IPOC Station P	2.84	254	eP	Pn	10 28 22.7	-0.1
PB05				IAML		10 28 59.4	
	comp=N,280nm,0.8s						
PB05	IPOC Station P	2.84	254	eP	Pn	10 28 22.9	+0.1
PB05				eS	Sn	10 28 58.0	-1.7
PB05				IAML		10 29 01.6	
	comp=Z,106nm,0.2s						
PB05	IPOC Station P	2.84	254	Pg	Pn	10 28 22.9	+0.1
AZAP	Zapla	2.92	137	eP	Pn	10 28 46.9	+23
PATCX	Punta Patache	3.00	294		Pn	10 28 24.0	-0.6
GO01	Chusmiza	3.03	322		Pn	10 28 25.6	+0.2
GO01	Chusmiza	3.03	322	eP	Pn	10 28 25.3	-0.1
GO01	Chusmiza	3.03	322	eP	Pn	10 28 25.6	+0.2
GO01				eS	Sn	10 29 06.1	+1.8
GO01				IAML		10 29 08.3	
	comp=Z,197nm,0.3s						
GO01	Chusmiza	3.03	322	Pg	Pn	10 28 25.6	+0.2
SLA	San Lorenzo	3.06	149	eP	Pn	10 28 26.4	+0.9
SLA				eS	Sn	10 29 05.1	+0.5
TA01	Diego Aracena	3.14	298		Pn	10 28 25.1	-1.1
TA01	Diego Aracena	3.14	298	⇑iP	Pn	10 28 25.2	-1.1
TA01	Diego Aracena	3.14	298	eP	Pn	10 28 25.3	-0.9
TA01				eS	Sn	10 29 03.3	-2.4
TA01				IAML		10 29 04.5	
	comp=Z,265nm,0.3s						
ASTB	Santa Barbara	3.16	126	eP	Pn	10 28 49.0	+22
PB11	IPOC Station P	3.24	315		Pn	10 28 26.7	-0.9
PB11	IPOC Station P	3.24	315	⇑iP	Pn	10 28 26.8	-0.9
PB11	IPOC Station P	3.24	315	eP	Pn	10 28 26.9	-0.7
PB11				eS	Sn	10 29 06.3	-2.0
PB11				IAML		10 29 10.8	
	comp=Z,159nm,0.2s						
PB11	IPOC Station P	3.24	315	Pg	Pn	10 28 26.9	-0.7
PB11				Sg	Sn	10 29 05.9	-2.4
PB11				IAML		10 29 07.7	
	comp=Z,586nm,0.2s						
TA02	Huaiquique	3.25	303		Pn	10 28 26.2	-1.4
TA02	Huaiquique	3.25	303	eP	Pn	10 28 26.4	-1.2
TA02	Huaiquique	3.25	303	eP	Pn	10 28 26.4	-1.2
TA02				eS	Sn	10 29 06.8	-1.5
TA02				IAML		10 29 08.4	
	comp=Z,305nm,0.1s						
PB10	IPOC Station P	3.37	245	Pn	Pn	10 28 29.5	+0.4
PB10	IPOC Station P	3.37	245	eP	Pn	10 28 29.5	+0.4
PB10	IPOC Station P	3.37	245	eP	Pn	10 28 29.9	+0.8
PB10				eS	Sn	10 29 08.2	-2.8
PB10				IAML		10 29 11.9	
	comp=Z,146nm,0.3s						
PB10	IPOC Station P	3.37	245	Pg	Pn	10 28 28.9	-0.2
SOEO	Opoqueri	3.56	350	Pg	Pn	10 28 32.2	+0.2
GO02	Mina Guanaco	3.74	215		Pn	10 28 34.5	+0.6
GO02	Mina Guanaco	3.74	215	eP	Pn	10 28 34.3	+0.4
GO02	Mina Guanaco	3.74	215	eP	Pn	10 28 34.6	+0.6
GO02				eS	Sn	10 29 20.2	+0.4
GO02				IAML		10 29 21.6	
	comp=Z,352nm,0.1s						
PB14	IPOC Station P	3.85	228		Pn	10 28 34.5	-0.8
PB14	IPOC Station P	3.85	228	eP	Pn	10 28 35.3	0.0
PB14	IPOC Station P	3.85	228	eP	Pn	10 28 35.5	+0.1
PB14				eS	Sn	10 29 20.6	-1.5
PB14				IAML		10 29 23.2	
	comp=Z,167nm,0.4s						
PB14	IPOC Station P	3.85	228	Pg	Pn	10 28 35.2	-0.1
FSA	Cafayete	4.16	164	eP	Pn	10 28 41.1	+1.9
SOET	ToroToro	4.18	19	Pg	Pn	10 28 38.1	-1.4
PB16	IPOC Station P	4.30	330		Pn	10 28 41.2	-0.1
PB16	IPOC Station P	4.30	330	iP	Pn	10 28 41.3	-0.1
PB16	IPOC Station P	4.30	330	Pg	Pn	10 28 41.5	+0.2
AOEA	Aiquile	4.32	26	Pg	Pn	10 28 40.0	-1.3
PB18	Visviri	4.95	334		Pn	10 28 50.2	+0.6
AC02	Maricunga	5.03	200		Pn	10 28 50.5	0.0
AC02	Maricunga	5.03	200	eP	Pn	10 28 51.1	+0.7
AC02				eS	Sn	10 29 46.2	-3.2
AC02				IAML		10 29 57.1	
	comp=Z,39nm,0.2s						
AC01	Pan de Azucar	5.07	217		Pn	10 28 49.6	-1.0
AC01	Pan de Azucar	5.07	217	eP	Pn	10 28 49.5	-1.1
AC01				eS	Sn	10 29 47.4	-2.4
AC01				IAML		10 29 49.7	
	comp=Z,59nm,0.3s						
BBOJ	La Paz, Jacaqu	5.17	350	Pg	Pn	10 28 52.9	+0.5
SOEJ	Jacaque	5.17	350	Pg	Pn	10 28 53.0	+0.6
BBOE	La Paz, Chanca	5.30	352	Pg	Pn	10 28 54.2	+0.1
BBOD	La Paz, Gloria	5.58	346	Pg	Pn	10 28 57.6	-0.1
LPAZ	La Paz	5.83	352	Pn	Pn	10 29 00.9	-0.2
LPAZ	La Paz	5.83	352	P	Pn	10 29 00.3	-0.8
	comp=Z,7.5nm,0.4s,baz=157,slow=4.6,SNR=46						
LPAZ				S	Sn	10 30 04.9	-3.6
	comp=Z,9.9nm,0.7s,baz=324,slow=13,SNR=6.8						
LPAZ	La Paz	5.83	352	Pg	Pn	10 29 00.8	-0.3
AC06	Mina Casimiro	5.96	208		Pn	10 28 59.5	-2.6
BBOB	La Paz, Bander	5.98	352	Pg	Pn	10 29 02.7	-0.2
GO03	Copiapo	6.12	206	Pn	Pn	10 29 01.7	-2.4
AC04	Llanos de Chal	7.01	209	Pn	Pn	10 29 12.4	-3.3
LCO	Las Campanas	7.57	204		Pn	10 29 20.7	-2.7
GO04	Tololo Observa	8.66	201	Pn	Pn	10 29 34.4	-3.3
CO03	El Pedregal	9.24	199	Pn	Pn	10 29 43.5	-1.6
CFA	Coronel Fontan	9.52	185	P	Pn	10 29 47.8	-0.8
	comp=Z,1.1nm,0.3s,baz=314,slow=16,SNR=21						
CFA				S	Sn	10 31 28.0	-6.9
	comp=Z,2.0nm,0.3s,baz=236,slow=20,SNR=9.9						
CO02	Combarbal	9.68	200	Pn	Pn	10 29 47.7	-3.1
VA03	San Esteban	11.03	195	Pn	Pn	10 30 07.0	-1.3
BO01	Tunca	12.71	195	Pn	Pn	10 30 28.4	-1.4
BO02	Sierra Bellavi	13.03	193	Pn	Pn	10 30 34.0	+0.2
ITAR	Concordia	14.65	113		P	10 30 54.2	-1.1
VAO	Valinhos	18.75	97	P	P	10 31 39.1	-1.3
PLCA	Paso Flores	18.80	188	P	P	10 31 41.8	+1.0
	comp=Z,3.6nm,0.9s,baz=359,slow=9.2,SNR=5.9						
MACA	Manacapuru-AM	19.86	20	P	P	10 31 50.1	-2.3
COHC	Cochancay	22.74	327	P	P	10 32 23.4	+1.7
FLOC	Florencia	24.92	340	P	P	10 32 40.9	-0.7
FLOC				IAmb	IAmb	10 32 42.6	
	comp=Z,7.0nm,0.8s						
RUSC	La Rusia	28.39	348	P	P	10 33 11.7	-1.4
RUSC				IAmb	IAmb	10 33 23.8	
	comp=Z,7.7nm,1.0s						
ESPZ	Base Esperanza	41.86	173	P	P	10 35 07.3	+0.6
ESPZ				IAmb	IAmb	10 35 20.0	
	comp=Z,3.4nm,1.1s						
TEIG	Tepich	46.81	332	P	P	10 35 46.6	+0.1
TEIG				IAmb	IAmb	10 35 59.6	
	comp=Z,14nm,1.1s						
SOR	Soroa	47.18	340	P	P	10 35 49.0	-0.4
SOR				IAmb	IAmb	10 36 20.1	
	comp=Z,13nm,1.3s						
SNAA	Sanae	61.22	161	P	P	10 37 30.4	+0.2
SNAA				IAmb	IAmb	10 38 02.8	
	comp=Z,3.7nm,1.4s						
SNAA	Sanae	61.22	161	P	P	10 37 31.3	+1.2
	comp=Z,1.2nm,0.6s,baz=274,slow=4.9,SNR=17 comp=Z,1.2nm,0.6s						
TXAR	Lajitas Array	62.01	324	P	P	10 37 36.7	+0.7
	comp=Z,0.1nm,0.5s,baz=145,slow=10,SNR=2.2 comp=Z,0.1nm,0.5s						
TX31	Lajitas Ar. Si	62.01	324	P	P	10 37 36.0	0.0
QSPA	South Pole Qui	68.10	180	P	P	10 38 17.3	+2.4
QSPA				IAmb	IAmb	10 38 38.9	
	comp=Z,5.9nm,1.4s						
QSPA	South Pole Qui	68.10	180	P	P	10 38 17.7	+2.8
	comp=Z,1.4nm,0.5s,baz=335,slow=1.0,SNR=28 comp=Z,1.4nm,0.5s						
PDAR	Pinedale Array	75.40	329	P	P	10 38 59.4	+0.7
	comp=Z,0.3nm,0.5s,baz=131,slow=8.1,SNR=5.1 comp=Z,0.3nm,0.5s						
TORD	Torodi Ar. Bea	76.10	69	P	P	10 39 01.6	-1.4
VNDA	Vanda	76.54	190	P	P	10 39 06.1	+1.7
	comp=Z,0.9nm,0.8s,baz=22,slow=2.7,SNR=5.0 comp=Z,0.9nm,0.8s						
NVAR	Mina Array Bea	76.92	321	P	P	10 39 09.4	+2.1
	comp=Z,0.4nm,0.8s,baz=139,slow=5.7,SNR=3.8 comp=Z,0.4nm,0.8s						
BOSA	Boshof	81.80	117	P	P	10 39 33.6	-0.4
	comp=Z,1.0nm,0.4s,baz=292,slow=3.2,SNR=5.3 comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	92.27	340	P	P	10 40 24.1	+0.5
	comp=Z,0.3nm,0.6s,baz=126,slow=7.0,SNR=4.6 comp=Z,0.3nm,0.6s						
MKAR	Makanchi Array	145.18	38	PKP	PKPab	10 46 51.6	+0.8
	comp=Z,0.4nm,0.6s,baz=288,slow=5.0,SNR=5.0						

IDC ***11*** *10:29:02.9±8.4, 52°08N×172°62W, h0km, mb3.2/2, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=148.9km s-min=59.3km az=100.0*
NEIC ***11*** *10:29:05.6±1.7, 51°87N±0°10×173°07W±0°05, h27km±8km, mb3.7/22, ML3.4/14, ML3.0(AEIC), Error ellipse: s-maj=13.8km s-min=4.7km az=180.0*
AEIC ***11*** *10:29:05.8±8.9, 52°54N±0°04×173°17W±0°08, h46km±7km, Error ellipse: s-maj=7.5km s-min=4.8km az=51.0*

ISC 11 10:29:08.1±0.9, 52°0N±0°1×173°13W±0°06, h59km, n68, σ1§19/65, mb3.5/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.68	286		Pn	10 29 20.7	-1.4
ATKA				IAML		10 29 38.6	
	comp=N,789nm,0.7s						
ATKA	Atka Island	0.68	286		Sn	10 29 31.6	-0.6
GSIG	Igitkin Island	1.73	270		Pn	10 29 33.9	-1.9
GSIG					Sn	10 29 55.9	-0.9
GSMY	Great Sitkin M	1.81	272		Pn	10 29 35.0	-1.9
GSMY					Sn	10 29 57.2	-1.6
GSTR	Great Sitkin T	1.81	273		Pn	10 29 35.6	-1.4
GSTD	Great Sitkin T	1.86	272		Pn	10 29 36.5	-1.3
GSTD					Sn	10 30 02.4	+2.2
GSCK	Great Sitkin C	1.87	271		Pn	10 29 36.1	-1.7
GSSP	Great Sitkin S	1.88	273		Pn	10 29 36.0	-1.9
ETKA	Kagalaska Isla	2.03	267		Pn	10 29 38.8	-1.2
ADAG	Mount Adagdak	2.15	270		Pn	10 29 40.2	-1.3
ADK	Adak	2.20	268		Pn	10 29 40.9	-1.4
ADK				IAML		10 30 13.0	
	comp=N,189nm,0.6s						
ADK				IAML		10 30 14.2	
	comp=N,176nm,0.5s						
ADK	Adak	2.20	268		Sn	10 30 08.3	0.0
KIWB	Kanaga Island	2.50	268		Pn	10 29 44.9	-1.4
KIWB				IAML		10 30 27.1	
	comp=N,187nm,0.6s						
KIWB				IAML		10 30 30.7	
	comp=E,151nm,0.5s						
KIKV	Kanaga Island	2.50	268		Pn	10 29 46.4	-0.1
KIMD	Kanaga Island	2.56	266		Pn	10 29 47.7	+0.5
NIKH	Nikolski High	2.78	68		Pn	10 29 47.3	-2.9
NIKH				IAML		10 30 35.2	
	comp=E,115nm,0.7s						
NIKH				IAML		10 30 36.8	
	comp=N,177nm,0.7s						
TAPA	Tanaga Point A	2.91	268		Pn	10 29 52.0	0.0
TASE	Tanaga Southea	3.04	268		Pn	10 29 54.0	+0.1
GANE	Gareloi Northe	3.50	269		Pn	10 29 59.4	-0.7
UNV	Unalaska Valle	4.41	63		Pn	10 30 11.2	-1.2
AMKA	Amchitka	4.75	265		Pn	10 30 15.9	-1.2
LVA	Lava Point	4.78	61	Pn	Pn	10 30 17.6	0.0
LVA				IAML		10 31 42.2	
	comp=E,35nm,1.4s						
SDPT	Sand Point	8.22	61	Pn	Pn	10 31 02.4	-2.1
M11K	Mekoryuk	9.22	22	Pn	Pn	10 31 18.1	-0.2
O14K	Tigyukauivet M	9.86	38	Pn	Pn	10 31 26.6	-0.4
N14K	Kuskokwak Cree	10.18	34	Pn	Pn	10 31 31.0	-0.2
O15K	Ungalikthiuk R	10.38	41	Pn	Pn	10 31 34.3	+0.2
N15K	Kwethluk River	10.92	37	Pn	Pn	10 31 40.7	-0.7
P16K	Nushagak River	11.07	45	Pn	Pn	10 31 43.2	-0.2
O16K	Kokwok River B	11.34	42	Pn	Pn	10 31 46.9	-0.3
N17K	Nushagak Hills	12.26	40	Pn	Pn	10 31 59.0	-0.7
Q19K	Cape Douglas,	13.00	50	Pn	Pn	10 32 10.3	+0.4
KDAK	Kodiak Island	13.13	56	Pn	Pn	10 32 09.2	-2.3
	comp=E,0.1nm,0.3s,baz=214,slow=6.9,SNR=4.0 comp=E,2.9nm,1.1s						
L18K	Granite Mounta	13.52	35	Pn	Pn	10 32 15.8	-1.0
J18K	Innoko River	14.37	31	Pn	Pn	10 32 29.1	+0.8
CNPM	China Poot	14.38	50	Pn	Pn	10 32 28.3	0.0
K20K	Telida	15.18	34	Pn	Pn	10 32 39.7	+1.1
SUA	Susitna One	15.41	43	Pn	Pn	10 32 42.4	+0.6
SUA				IAmb	IAmb	10 33 25.9	
	comp=Z,7.6nm,1.2s						
MLY	Manley	17.37	33	P	P	10 33 08.4	+1.7
I23K	Minto, Yukon-K	17.91	34	P	P	10 33 13.6	+1.0
H23K	Yukon River	18.25	32	P	Pn	10 33 17.9	+1.0
H23K				IAmb	IAmb	10 33 41.1	
	comp=Z,4.8nm,1.3s						
ILAR	Eielson Array	18.58	37	P	P	10 33 18.8	-1.2
	comp=Z,0.2nm,0.3s,baz=228,slow=8.7,SNR=10 comp=Z,0.3nm,0.6s						
H24K	Noodor Dome	18.81	33	P	Pn	10 33 23.5	-0.1
H24K				IAmb	IAmb	10 33 26.1	
	comp=Z,2.6nm,0.7s						
J25K	Salcha River,	19.07	38	P	P	10 33 24.9	-0.5
J25K				IAmb	IAmb	10 33 26.0	
	comp=Z,3.1nm,0.6s						
DOT	Dot Lake	19.16	41	P	P	10 33 26.5	+0.1
G24K	Hadweenzic Riv	19.45	31	P	Pn	10 33 32.0	+0.8
G24K				IAmb	IAmb	10 33 33.6	
	comp=Z,3.5nm,1.0s						
J26L	Joseph Creek	19.71	39	P	P	10 33 32.6	+0.2
J26L				IAmb	IAmb	10 33 33.8	
	comp=Z,3.4nm,0.7s						
E24K	Your Creek	20.01	27	P	Pn	10 33 37.9	0.0
BMAR	Burnt Mountain	20.80	31	P	P	10 33 45.1	+1.0
G26K	Porcupine Rive	20.80	33	P	P	10 33 45.3	+1.2
G26K				IAmb	IAmb	10 33 58.6	
	comp=Z,6.6nm,1.4s						
P29M	Windy Craggy	21.07	55	P	P	10 33 48.0	+0.8
P29M				IAmb	IAmb	10 33 49.7	
	comp=Z,4.0nm,0.8s						
M29M	Somme Creek	21.19	47	P	P	10 33 50.6	+2.1
HYT	Haines Junctio	21.33	52	P	P	10 33 50.9	+0.9
HYT				IAmb	IAmb	10 33 58.1	
	comp=Z,2.4nm,1.0s						
L29M	L29M	21.50	45	P	P	10 33 53.4	+1.7
L29M				IAmb	IAmb	10 34 09.5	
	comp=Z,2.6nm,1.1s						
I28M	Miner Creek	21.51	39		P	10 33 52.4	+0.6
I28M				IAmb	IAmb	10 33 54.2	
	comp=Z,2.8nm,0.8s						
K29M	Barlow Dome	21.96	44	P	P	10 33 58.0	+1.3
K29M				IAmb	IAmb	10 34 33.5	
	comp=Z,3.4nm,1.4s						
H11N2	WAKE ISLAND Hy	35.81	213	T	T	11 14 01.7	
	baz=21,slow=76,SNR=14						
H11N3	WAKE ISLAND Hy	35.82	213	T	T	11 14 04.0	
	baz=21,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	35.83	213	T	T	11 14 03.0	
	baz=21,slow=76,SNR=10						
H11S1	WAKE ISLAND Hy	37.01	213	T	T	11 15 26.1	
	baz=20,slow=76,SNR=9.2						
H11S2	WAKE ISLAND Hy	37.03	213	T	T	11 15 28.4	
	baz=20,slow=76,SNR=6.8						
H11S3	WAKE ISLAND Hy	37.03	213	T	T	11 15 29.9	
	baz=20,slow=76,SNR=4.4						
MJAR	Matsushiro Arr	37.36	265	P	P	10 36 15.0	+0.1
MJB9	Matsu-Tunnel	37.36	265	P	P	10 36 16.2	+1.3
MAJO	Matsushiro	37.37	265	P	P	10 36 16.4	+1.5
NVAR	Mina Array Bea	39.98	88	P	P	10 36 36.0	-1.1
	comp=Z,0.2nm,0.6s,baz=308,slow=16,SNR=2.2 comp=Z,0.2nm,0.6s						
PDAR	Pinedale Array	42.74	76	P	P	10 37 00.2	+0.7
	comp=Z,0.3nm,0.6s,baz=297,slow=6.5,SNR=3.8

UREC	**San Jos de Ur**	**2.62**	**291**	P		**Pn**	**11 00 51.1**	**-1.3**
UREC				S		**Sn**	**11 01 22.3**	**-3.3**
VILC	**Villavicencio,**	**2.76**	**193**	P		**Pn**	**11 00 54.5**	**+0.2**
VILC				S		**Sn**	**11 01 28.4**	**-0.5**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P		**Pn**	**11 00 55.0**	**+0.1**
GUY2C				S		**Sn**	**11 01 30.6**	**+0.7**
NIZA	**Niza - Manizal**	**2.96**	**234**	P		**Pn**	**11 00 57.5**	**+0.5**
NIZA				S		**Sn**	**11 01 34.9**	**+1.2**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P		**Pn**	**11 00 58.9**	**+0.6**
CBOC				S		**Sn**	**11 01 36.1**	**0.0**
DBBC	**Dabeiba**	**3.13**	**274**	P		**Pn**	**11 00 58.6**	**-0.3**
DBBC				S		**Sn**	**11 01 34.6**	**-2.5**
SDV	**Santo Domingo**	**3.17**	**49**	P		**Pn**	**11 01 00.1**	**+0.7**
SDV	**Santo Domingo**	**3.17**	**49**	P		**Pn**	**11 01 00.8**	**+1.3**
	129nm,0.4s,baz=233,slow=9.1,SNR=78							
SDV				S		**Sn**	**11 01 37.9**	**-0.3**
	554nm,0.7s,baz=251,slow=21,SNR=26							
SDV	**Santo Domingo**	**3.17**	**49**	*e*P		**Pn**	**11 00 57.9**	**-1.6**
SDV				*e*S		**Sn**	**11 01 36.1**	**-2.1**
SDV	**Santo Domingo**	**3.17**	**49**	P		**Pn**	**11 01 00.7**	**+1.3**
SDV				S		**Sn**	**11 01 37.9**	**-0.3**
ARGC	**Ariguani, Magd**	**3.24**	**339**	P		**Pn**	**11 01 01.1**	**+0.9**
ARGC				S		**Sn**	**11 01 39.4**	**-0.2**
PRAC	**Prado**	**3.57**	**211**	P		**Pn**	**11 01 04.8**	**+0.2**
PRAC				S		**Sn**	**11 01 45.8**	**-1.4**
PRAC	**Prado**	**3.57**	**211**	P		**Pn**	**11 01 04.4**	**-0.1**
PRAC				S		**Sn**	**11 01 46.0**	**-1.3**
ORTC	**Ortega, Tolima**	**3.61**	**217**	P		**Pn**	**11 01 05.0**	**0.0**
ORTC				S		**Sn**	**11 01 48.4**	**+0.3**
APAC	**Apartado, Choc**	**3.65**	**287**	P		**Pn**	**11 01 05.1**	**-0.3**
APAC				S		**Sn**	**11 01 45.8**	**-3.1**
SJCC	**San Jacinto, C**	**3.71**	**326**	P		**Pn**	**11 01 06.3**	**0.0**
SJCC				S		**Sn**	**11 01 46.7**	**-3.6**
SJCC	**San Jacinto, C**	**3.71**	**326**	P		**Pn**	**11 01 05.1**	**-1.2**
SJCC				S		**Sn**	**11 01 46.5**	**-3.9**
PLMC	**San Jos del P**	**3.72**	**240**	P		**Pn**	**11 01 06.5**	**+0.1**
PLMC				S		**Sn**	**11 01 45.0**	**-5.6**
URMC	**La Uribe, Meta**	**3.78**	**200**	P		**Pn**	**11 01 07.8**	**+0.6**
URMC				S		**Sn**	**11 01 50.0**	**-2.1**
LCBC	**Los crdobas,**	**3.85**	**302**	P		**Pn**	**11 01 08.2**	**+0.2**
LCBC				S		**Sn**	**11 01 50.6**	**-2.9**
CRJC	**Cerrejon, Guaj**	**4.18**	**2**	P		**Pn**	**11 01 11.5**	**-0.9**
CRJC				S		**Sn**	**11 01 59.4**	**-2.1**
GUVC	**San Jose del G**	**4.26**	**174**	P		**Pn**	**11 01 14.2**	**+0.7**
GUVC				S		**Sn**	**11 02 02.0**	**-1.3**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P		**Pn**	**11 01 13.4**	**-0.7**
YOTC				S		**Sn**	**11 02 00.9**	**-3.6**
SMRC	**Santa Marta, M**	**4.47**	**345**			**Pn**	**11 01 15.7**	**-0.5**
SMRC	**Santa Marta, M**	**4.47**	**345**	P		**Pn**	**11 01 16.2**	**+0.1**
SMRC				S		**Sn**	**11 02 04.4**	**-3.7**
PIZC	**Pizarro, Choco**	**4.65**	**247**	P		**Pn**	**11 01 17.1**	**-1.4**
PIZC				S		**Sn**	**11 02 11.1**	**-1.2**
MACC	**Macarena, Meta**	**4.70**	**190**	P		**Pn**	**11 01 18.2**	**-1.0**
MACC				S		**Sn**	**11 02 09.4**	**-4.2**
URI	**Uribia**	**4.97**	**12**	P		**Pn**	**11 01 21.5**	**-1.1**
URI				S		**Sn**	**11 02 17.5**	**-2.3**
URIC	**Uribia, Colomb**	**4.97**	**12**	P		**Pn**	**11 01 21.1**	**-1.6**
URIC				S		**Sn**	**11 02 16.0**	**-3.9**
GARC	**Garzon, Huila**	**5.20**	**208**	P		**Pn**	**11 01 25.3**	**-0.6**
	4um133nm,0.6s							
GARC				S		Sn	11 02 15.9	-10
	4um133nm,0.6s							
BAUV	**El Baul**	**5.41**	**67**			**Pn**	**11 01 27.2**	**-1.2**
POPC	**Popayan, Colom**	**5.57**	**220**	P		**Pn**	**11 01 30.9**	**+0.1**
	575nm77nm,0.8s							
FLOC	**Florencia**	**5.80**	**207**			**Pn**	**11 01 33.4**	**-0.4**
FLOC	**Florencia**	**5.80**	**207**	P		**Pn**	**11 01 32.5**	**-1.2**
FLOC				S		**Sn**	**11 02 41.2**	**+1.5**
FLOC	**Florencia**	**5.80**	**207**	P		**Pn**	**11 01 33.7**	**-0.1**
	1um137nm,1.0s							
BBAC	**Balboa, Cauca**	**6.33**	**221**	P		**Pn**	**11 01 40.9**	**0.0**
GR1C	**Gorgona, Isla**	**6.34**	**234**	P		**Pn**	**11 01 39.9**	**-0.9**
BCIP	**Isla Barro Col**	**7.10**	**290**	Pn		**Pn**	**11 01 48.6**	**-2.4**
BCIP	**Isla Barro Col**	**7.10**	**290**	P		**Pn**	**11 01 48.3**	**-2.7**
AZU	**Azuero**	**7.22**	**278**	P		**Pn**	11 01 47.5	-5.0
OTAV	**Otavalo**	**8.46**	**220**			**Pn**	**11 02 09.2**	**-0.3**
OTAV	**Otavalo**	**8.46**	**220**	*e*P		**Pn**	**11 02 08.9**	**-0.6**
OTAV				*e*S		**Sn**	**11 03 43.7**	**-0.3**
PAC1	**Pacto, Paraso**	**8.66**	**222**	P		**Pn**	**11 02 12.3**	**+0.4**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P		**Pn**	**11 02 17.4**	**+1.4**
	3.2nm,0.3s,baz=266,slow=3.7,SNR=8.3							
SGC2	**Sao Gabriel da**	**9.21**	**138**	P		**Pn**	**11 02 20.3**	**+1.3**
COHC	**Cochancay**	**11.10**	**214**			**Pn**	**11 02 44.6**	**+0.7**
LCR2	**La Lucha 2**	**11.21**	**286**			**Pn**	**11 02 46.0**	**+0.4**
BANI	**BANI**	**11.81**	**13**	Pn		**Pn**	**11 02 53.0**	**-0.3**
MTDJ	**Mount Denham**	**12.15**	**339**			**Pn**	**11 02 59.1**	**+1.4**
SDDR	**Presa de Saban**	**12.22**	**8**			**Pn**	**11 02 59.1**	**+0.5**
JTS	**Las Juntas de**	**12.25**	**287**	P		**Pn**	**11 03 02.7**	**+3.7**
	16nm,0.5s,baz=120,slow=1.6,SNR=15							
DR12	**Loma Pena Alta**	**12.43**	**16**	Pn		**Pn**	**11 03 00.9**	**-0.4**
CELP	**Cerrillos**	**12.86**	**29**	Pn		**Pn**	**11 03 05.4**	**-1.3**
BOAV	**Boa Vista**	**13.25**	**109**			**Pn**	**11 03 10.1**	**-1.6**
BOAV	**Boa Vista**	**13.25**	**109**	*e*P		**Pn**	**11 03 10.1**	**-1.6**
BOAV				*e*S		**Sn**	**11 05 35.3**	**-3.3**
TEFE	**Tefe**	**13.27**	**140**	*e*P		**Pn**	**11 03 10.6**	**-1.4**
CZSB	**Cruzeiro do Su**	**14.45**	**179**	*e*P		**Pn**	**11 03 25.1**	**-1.9**
ATAH	**Atahualpa**	**14.84**	**201**	P		**Pn**	**11 03 33.5**	**+1.3**
	7.5nm,0.7s,baz=31,slow=9.4,SNR=8.2							
MTO3	**Montecristo**	**17.69**	**297**	P		**Pn**	**11 04 07.4**	**+0.7**
CAMR	**Camarioca**	**18.02**	**335**	P		**P**	**11 04 09.4**	**+0.8**
CAMR				IAmb	IAmb		11 04 17.7	
	comp=Z,26nm,0.8s							
TEIG	**Tepich**	**19.89**	**314**	P		**P**	**11 04 30.1**	**+1.3**
ITTB	**Itaituba**	**20.56**	**122**	*e*P		**P**	**11 04 35.0**	**-1.1**
ITTB				*e*S		**S**	**11 08 16.6**	**-1.1**
CCIG	**Comitan**	**20.90**	**298**	P		**P**	**11 04 40.6**	**+0.6**
CCIG				IAmb	IAmb		11 04 43.7	
	comp=Z,8.9nm,0.6s							
NPGB	**Novo Progresso**	**22.40**	**128**	*e*P		**P**	**11 04 55.2**	**-0.1**
NPGB				*e*S		**S**	**11 08 49.6**	**-0.3**
VILB	**Vilhena**	**23.43**	**147**	P		**P**	**11 05 05.1**	**+0.3**
VILB	**Vilhena**	**23.43**	**147**	*e*P		**P**	**11 05 03.2**	**-1.6**
LPAZ	**La Paz**	**23.47**	**168**	P		**P**	**11 05 05.9**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=351,slow=7.0,SNR=14							
	comp=Z,3.9nm,0.7s							
LPAZ	**La Paz**	**23.47**	**168**	*e*P		**P**	**11 05 04.1**	**-1.7**
LPAZ				*e*S		**S**	**11 09 07.8**	**-0.4**
PDRB	**Porto dos Gac**	**24.48**	**138**	*e*P		**P**	**11 05 12.8**	**-1.6**
CLDB	**Colider**	**24.58**	**135**	*e*P		**P**	**11 05 15.0**	**-0.3**
PB16	**IPOC Station P**	**25.23**	**172**	P		**P**	**11 05 20.0**	**-1.7**
BBSD	**Serra de San D**	**26.84**	**153**	*e*P		**P**	**11 05 35.0**	**-0.6**
152A	**Waverly Hall**	**27.92**	**339**	P		**P**	**11 05 47.1**	**+2.1**
152A				IAmb	IAmb		11 05 48.0	
	comp=Z,6.8nm,0.7s							
GOGA	**Godfrey**	**28.17**	**341**	P		**P**	**11 05 48.5**	**+1.3**
GOGA				IAmb	IAmb		11 06 07.0	
	comp=Z,8.8nm,1.3s							
HODGE	**Hodges**	**28.58**	**344**	P		**P**	**11 05 53.0**	**+2.2**
HODGE				IAmb	IAmb		11 05 53.6	
	comp=Z,4.1nm,0.6s							
Z47A	**Carrollton**	**29.72**	**334**	P		**P**	**11 06 03.4**	**+2.4**
Z47A				IAmb	IAmb		11 06 03.9	
	comp=Z,8.3nm,0.8s							
X48A	**Hartselle**	**30.38**	**337**	P		**P**	**11 06 08.1**	**+1.3**
X48A				IAmb	IAmb		11 06 09.6	
	comp=Z,7.2nm,0.8s							
U54A	**Nelsons Funny**	**30.63**	**346**	P		**P**	**11 06 11.4**	**+2.3**
U54A				IAmb	IAmb		11 06 12.1	
	comp=Z,8.6nm,0.7s							
ARAG	**Araguaiana, MT**	**30.72**	**137**	*e*P		**P**	**11 06 10.0**	**0.0**
BDFB	**Brasilia**	**33.37**	**132**	P		**P**	**11 06 30.9**	**-2.4**
	comp=Z,1.9nm,0.6s,baz=289,slow=14,SNR=4.6							
	comp=Z,1.9nm,0.6s							
SDBA	**SAO DESIDERIO**	**33.89**	**124**	*e*P		**P**	**11 06 37.9**	**+0.2**
CCM	**Cathedral Cave**	**35.20**	**335**	P		**P**	**11 06 49.6**	**+1.0**
SFIN	**Lafayette**	**35.71**	**341**			**P**	**11 06 54.1**	**+1.2**
R40A	**Maddies Static**	**35.84**	**334**			**P**	**11 06 54.3**	**+0.1**
R40A				IAmb	IAmb		11 06 55.5	
	comp=Z,6.9nm,0.5s							
OK052	**Battle Ridge R**	**36.28**	**327**	P		**P**	**11 06 58.4**	**+0.4**
TXAR	**Lajitas Array**	**36.51**	**312**	P		**P**	**11 07 01.0**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=127,slow=8.6,SNR=40							
TXAR				PcP		**PcP**	**11 09 21.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=101,slow=3.2,SNR=3.9							
	comp=Z,2.6nm,0.7s							
CMC01	**Camacan, BA**	**39.88**	**124**	*e*P		**P**	**11 07 27.3**	**-0.9**
SDCO	**Great Sand Dun**	**42.59**	**321**			**P**	**11 07 51.7**	**+1.2**
EYMN	**Ely**	**43.89**	**342**			**P**	**11 08 01.0**	**+0.6**
EYMN				IAmb	IAmb		11 08 01.6	
	comp=Z,12nm,0.7s							
MVCO	**Mesa Verde**	**44.20**	**318**	P		**P**	**11 08 04.5**	**+1.2**
PDAR	**Pinedale Array**	**48.12**	**324**	P		**P**	**11 08 33.8**	**0.0**
PDAR	**Pinedale Array**	**48.12**	**324**	P		**P**	**11 08 34.7**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=126,slow=9.0,SNR=20							
	comp=Z,1.3nm,0.5s							
SCHQ	**Schefferville**	**48.14**	**5**	P		**P**	**11 08 34.1**	**+0.5**
	comp=Z,7.8nm,0.7s,baz=192,slow=8.0,SNR=10							
	comp=Z,7.8nm,0.7s							
DSP	**Deep Springs**	**50.83**	**313**	P		**P**	**11 08 55.7**	**+1.5**
MCMT	**McKenzie Canyo**	**51.26**	**324**	P		**P**	**11 08 58.9**	**+1.3**
NVAR	**Mina Array Bea**	**51.53**	**315**	P		**P**	**11 09 00.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=122,slow=7.1,SNR=13							
NVAR				PcP		**PcP**	**11 10 12.8**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=132,slow=4.8,SNR=4.3							
	comp=Z,1.3nm,0.7s							
KMPM	**Mount Pierce**	**56.45**	**315**	P		**P**	**11 09 36.3**	**+1.1**
KBO	**Bosley Butte**	**57.21**	**317**	P		**P**	**11 09 41.9**	**+1.4**
I03D	**Drain, OR**	**57.22**	**318**	P		**P**	**11 09 41.3**	**+0.8**
I03D				IAmb	IAmb		11 09 44.4	
	comp=Z,9.8nm,1.3s							
NLWA	**Neilton Lookou**	**59.14**	**322**	P		**P**	**11 09 54.6**	**+0.8**
YKA	**Yellowknife Ar**	**63.29**	**340**	P		**P**	**11 10 21.8**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=132,slow=6.1,SNR=36							
	comp=Z,3.7nm,0.6s							
YKAW3	**Yellowknife Wh**	**63.34**	**340**	P		**P**	**11 10 21.7**	**+0.1**
YKAW3				IAmb	IAmb		11 10 22.9	
	comp=Z,5.2nm,0.7s							
BBB	**Bella Bella**	**63.70**	**326**	P		**P**	**11 10 25.2**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=134,slow=4.0,SNR=5.5							
	comp=Z,2.9nm,0.8s							
DLBC	**Dease Lake**	**67.36**	**331**	P		**P**	**11 10 48.8**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=108,slow=8.6							
	comp=Z,1.4nm,0.6s							
SUMG	**Summit**	**68.98**	**11**	P		**P**	**11 10 58.1**	**+0.2**
N31M	**Braeburn, Yuko**	**71.22**	**333**	P		**P**	**11 11 12.4**	**+1.1**
N31M				IAmb	IAmb		11 11 14.4	
	comp=Z,4.1nm,0.7s							
SPITS	**Spitsbergen Ar**	**83.26**	**12**	P		**P**	**11 12 18.5**	**+0.4**
	comp=Z,5.5nm,1.0s,baz=253,slow=14,SNR=14							
	comp=Z,5.5nm,1.0s							
SNAA	**Sanae**	**90.32**	**163**	P		**P**	**11 12 51.2**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=260,slow=8.4,SNR=6.1							
	comp=Z,0.6nm,0.8s							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**11 19 39.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=118,slow=3.6,SNR=13							
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**	**11 19 42.6**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=108,slow=2.7,SNR=24							

IDC ***11*** *11:07:57.5±0.6,30.°39N×94.°94E, h0km, mb4.2/17, mbtmp4.2/21, ML4.0/4, Error ellipse: s-maj=23.6km s-min=13.4km az=56.0*

MOS ***11*** *11:07:58.7±1.0,30.°38N×94.°87E, h14km, mb4.7/20, Error ellipse: s-maj=9.7km s-min=5.2km az=124.6*

BJI ***11*** *11:07:59.6,30.°37N×94.°83E, h6km, mB4.7/8, mb4.5/24, ML4.1/5, Ms4.1/4, Ms7 4.1/3*

NDI ***11*** *11:07:59.6±2.6,30.°55N×94.°94E, h12km±20km, ML4.6, MW4.4, mb4.6(NEIC)*

NEIC ***11*** *11:08:00.6±1.4,30.°41N±0.°06×94.°87E±0.°07, h10km±1km, mb4.6/54, Error ellipse: s-maj=14.5km s-min=4.6km az=45.0*

ISC 11 11:07:59.8±0.4, 30.°39N±0.°04×94.°86E±0.°04, h10km, n439, σ1s64/463, mb4.5/60, 19C-11D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIRO	**ZIRO**	**2.98**	**197**	*e*P	**Pn**	**11 08 50.8**	**+3.5**
LSA	**Lhasa**	**3.29**	**259**	Pn	**Pn**	**11 08 53.5**	**+1.8**
LSA	**Lhasa**	**3.29**	**259**	Pn	**Pn**	**11 08 53.4**	**+1.7**
LSA				Sn	**Sb**	**11 09 41.5**	**+2.8**
LSA				LR	LR		
	comp=N,1μm,3.8s						
LSA				LR	LR		
	comp=Z,1μm,4.8s						
LSA	**Lhasa**	**3.29**	**259**	P	**Pn**	**11 08 53.5**	**+1.8**
ITAN	**ITANAGAR**	**3.38**	**197**	*e*P	**Pn**	**11 08 54.1**	**+1.5**
ITAN				*e*S	**Sn**	**11 09 36.0**	**+3.2**
ITAN				IAML		11 09 39.1	
	comp=E,3μm,0.7s						
JORH	**JORHAT**	**3.67**	**188**	*e*P	**Pn**	**11 08 59.8**	**+3.2**
JORH				*e*S	**Sn**	**11 09 43.3**	**+3.4**
JORH				IAML		11 09 44.5	
	comp=N,3μm,0.6s						
JORH				IAML		11 09 44.5	
	comp=E,3μm,0.2s						
TEZP	**TEZPUR**	**4.17**	**206**	*e*P	**Pn**	**11 09 05.5**	**+2.0**
TEZP				*e*S	**Sn**	**11 09 52.3**	**0.0**
TEZP				IAML		11 09 53.3	
	comp=E,3μm,0.3s						
KOHI	**KOHIMA**	**4.70**	**188**	*e*P	**Pn**	**11 09 12.1**	**+1.3**
KOHI				*e*S	**Sn**	**11 10 05.8**	**+0.3**
KOHI				IAML		11 10 13.4	
	comp=N,2μm,0.5s						
GUWA	**GUWAHATI**	**5.02**	**214**	*e*P	**Pn**	**11 09 15.9**	**+0.7**
GUWA				*e*S	**Sn**	**11 10 12.8**	**-0.5**
GUWA				IAML		11 10 16.6	
	comp=N,1μm,0.5s						
GUWA				IAML		11 10 17.1	
	comp=E,1μm,0.6s						
SHL	**Shillong**	**5.47**	**209**		**Pn**	**11 09 20.9**	**-0.7**
SHL	**Shillong**	**5.47**	**209**	*e*P	**Pn**	**11 09 20.9**	**-0.7**
SHL				*e*S	**Sn**	**11 10 22.4**	**-2.3**
SHL				IAML		11 10 26.0	
	comp=N,1μm,0.2s						
SHL				IAML		11 10 26.3	
	comp=E,1μm,0.4s						
SHL	**Shillong**	**5.47**	**209**	P	**Pn**	**11 09 20.9**	**-0.7**
IMP	**Imphal**	**5.59**	**189**	*e*P	**Pn**	**11 09 24.2**	**+1.0**
IMP				⇓*e*S	**Sn**	**11 10 26.9**	**-0.6**
IMP				IAML		11 10 29.4	
	comp=N,1μm,0.2s						
IMP				IAML		11 10 29.6	
	comp=E,1μm,0.3s						
TNCH	**TengChong**	**6.25**	**148**	*e*Pn	**Pn**	**11 09 31.7**	**-0.5**
TNCH				Sg	**Sg**	**11 11 19.0**	**-1.4**
TNCH				smax	smax		
	comp=E,190nm,0.9s						
TNCH				smax	smax		
	comp=E,180nm,0.9s						
GTK	**Tadong**	**6.28**	**242**	*e*P	**Pn**	**11 09 35.2**	**+2.6**
GTK				*e*S	**Sn**	**11 10 42.4**	**-2.1**
GTK				IAML		11 10 43.8	
	comp=N,908nm,0.2s						
GTK				IAML		11 10 43.9	
	comp=E,986nm,0.3s						
AZL	**Aizawl**	**6.90**	**197**	*e*P	**Pn**	**11 09 43.2**	**+2.1**
AZL				*e*S	**Sn**	**11 10 56.4**	**-3.3**
AZL				IAML		11 11 05.5	
	comp=N,797nm,0.7s						
PZH	**PanZhiHua**	**7.19**	**121**	Pn	**Pn**	**11 09 48.1**	**+3.0**
EVN	**Everest**	**7.43**	**353**	Pn	**Pn**	**11 09 49.2**	**+0.3**
BRDH	**Bariadhala**	**8.20**	**201**	Pn	**Pn**	**11 09 59.6**	**+0.8**
	comp=N,9.9nm,0.3s,baz=56,slow=4.7,SNR=5.3						
	comp=N,40nm,0.4s						
GTA	**Gaotai**	**9.88**	**23**	P	**Pn**	**11 10 20.7**	**-1.2**
GTA				pP		11 10 24.1	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.45**	**162**	Pn	**Pn**	**11 10 59.1**	**+2.0**
CMAR	**Chiang Mai Arr**	**12.45**	**162**	Pn	**Pn**	**11 10 56.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=334,slow=13,SNR=7.3						
	comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.45**	**162**	P	**Pn**	**11 10 59.1**	**+2.0**
XAN	**Xi'an**	**12.46**	**69**	*e*P	**Pn**	**11 10 58.2**	**+1.1**
ENH	**Enshi**	**12.64**	**87**	Pn	**Pn**	**11 10 59.8**	**+0.1**
WMQ	**Urumqi**	**14.56**	**339**	*e*P	**Pn**	**11 11 28.7**	**+2.7**
HHC	**Hu-ho-hao-te**	**17.10**	**48**	*e*P	**Pn**	**11 11 58.8**	**-0.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,70nm,4.6s						
TARG	**Taragay, Kyrgy**	**17.80**	**314**		**Pn**	**11 12 08.0**	**0.0**
TARG	**Taragay, Kyrgy**	**17.80**	**314**	P	**Pn**	**11 12 08.0**	**0.0**
TARG				pmax	pmax		
	comp=Z,24nm,1.1s						
PRZ	**Przheval'sk**	**17.88**	**317**	Pn	**Pn**	**11 12 07.6**	**-1.2**
PRZ				IAmb	IAmb	11 12 14.5	
	comp=Z,41nm,0.9s						
PRZ	**Przheval'sk**	**17.88**	**317**	P	**Pn**	**11 12 07.6**	**-1.2**
PRZ				pmax	pmax		
	comp=Z,41nm,0.9s						
KSH	**Kashi**	**17.93**	**306**	P	**P**	**11 12 11.4**	**+1.5**
KSH				sP	sP	11 12 16.9	+0.9
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KDJ	**Kajisay**	**18.41**	**314**		**Pn**	**11 12 13.9**	**-1.4**
KDJ				P	**Pn**	**11 12 13.9**	**-1.4**
				pmax	pmax		
	comp=Z,14nm,1.0s						
NIL	**Nilore**	**18.60**	**286**		**P**	**11 12 15.7**	**-1.6**
NIL	**Nilore**	**18.60**	**286**	P	**P**	**11 12 15.7**	**-1.6**
NIL				pmax	pmax		
	comp=Z,18nm,1.0s						
MK31	**Makanchi Array**	**19.06**	**333**	*ce*P	**P**	**11 12 21.9**	**-0.3**
MKAR	**Makanchi Array**	**19.06**	**333**		**P**	**11 12 21.5**	**-0.7**
MKAR	**Makanchi Array**	**19.06**	**333**	P	**P**	**11 12 21.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=146,slow=13,SNR=34						
	comp=Z,4.6nm,0.7s						
MKAR	**Makanchi Array**	**19.06**	**333**	P	**P**	**11 12 22.0**	**-0.2**
SONM	**Songino Array**	**19.55**	**24**	P	**P**	**11 12 28.8**	**+1.1**
SONM	**Songino Array**	**19.55**	**24**	P	**P**	**11 12 27.3**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=211,slow=13,SNR=15						
	comp=Z,4.7nm,0.8s						
SONM	**Songino Array**	**19.55**	**24**	P	**P**	**11 12 28.8**	**+1.1**
SONM				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HYB	**Hyderabad**	**19.69**	**233**	*e*P	**P**	**11 12 30.2**	**+0.9**
ULN	**Ulaanbaatar**	**19.81**	**25**	P	**P**	**11 12 29.4**	**-1.1**
ULN	**Ulaanbaatar**	**19.81**	**25**	*i* P	**P**	**11 12 31.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**20.37**	**312**		**P**	**11 12 38.1**	**+1.4**
AAK				IAmb	IAmb	11 12 43.5	
	comp=Z,19nm,0.9s						
AAK	**Ala-Archa**	**20.37**	**312**	P	**P**	**11 12 38.0**	**+1.3**
	comp=Z,13nm,0.8s,baz=125,slow=12,SNR=15						
	comp=Z,13nm,0.8s						
AAK	**Ala-Archa**	**20.37**	**312**	*ce*P	Pn	11 12 39.0	+0.3
AAK				pmax	pmax		
	comp=Z,32nm,1.3s						
OHH	**Osh**	**20.58**	**305**	P	**P**	**11 12 39.3**	**+0.4**
OHH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
NJ2	**Nanjing**	**20.59**	**79**	*e*P	**P**	**11 12 38.2**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
ARSB	**Arslanbob**	**20.76**	**308**	P	**P**	**11 12 41.4**	**+0.5**
ARSB	**Arslanbob**	**20.76**	**308**	P	**P**	**11 12 41.4**	**+0.5**
ARSB				pmax	pmax		
	comp=Z,22nm,1.3s						
ZAK	**Zakamensk**	**20.95**	**15**	*e*P	**P**	**11 12 42.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
XLT	**XiLinHaoTe**	**21.56**	**45**	*e*P	**P**	**11 12 50.7**	**+1.3**
XLT				pP	pP	11 12 54.9	+1.4
XLT				PP	**PnPn**	**11 13 17.9**	**+8.1**
XLT				pmax	pmax		
	comp=Z,16nm,0.6s						
GAR	**Garm**	**21.88**	**300**		**P**	**11 12 53.2**	**+0.3**
GAR				IAmb	IAmb	11 12 54.6	
	comp=Z,29nm,0.9s						
TRKS	**Terek-Say**	**22.11**	**307**	P	**P**	**11 12 56.3**	**+0.8**
KBL	**Kabul**	**22.15**	**288**	P	**P**	**11 12 56.6**	**+0.6**
KBL				pmax	pmax		
	comp=Z,46nm,1.2s						
KK31	**Karatay Array**	**23.18**	**310**		**P**	**11 13 07.8**	**+1.3**
KK31	**Karatay Array**	**23.18**	**310**	P	**P**	**11 13 07.8**	**+1.3**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KKAR	**Karatay Array**	**23.18**	**310**		**P**	**11 13 08.0**	**+1.4**
KKAR	**Karatay Array**	**23.18**	**310**	P	**P**	**11 13 08.0**	**+1.4**
KURBB	**Kurchatov Arra**	**23.62**	**333**	P	**P**	**11 13 09.7**	**-1.2**
	comp=Z,6.4nm,0.8s,baz=141,slow=10,SNR=53						
KURBB				PcP	**PcP**	**11 16 55.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=146,slow=1.7,

ANTO IAmb IAmb 11 17 03.8
comp=Z,8.9nm,0.9s
ANTO Ankara 50.73 299 P **P** **11 17 00.4 +0.5**
ANTO pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 52.03 313 P **P** **11 17 08.4 -1.0**
comp=Z,6.0nm,0.8s,baz=79,slow=6.8,SNR=23
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 52.03 313 *i* P **P** **11 17 09.6 +0.2**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 52.03 313 P **P** **11 17 09.5 +0.1**
AKBB IAmb IAmb 11 17 11.2
comp=Z,8.8nm,0.9s
AKBB Malin Array Si 52.03 313 *ce*P **P** **11 17 09.8 +0.4**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 52.05 313 ⇓P **P** **11 17 09.9 +0.4**
KIEV Kiev 52.05 313 P **P** **11 17 09.9 +0.4**
MNK Minsk 52.70 318 *i* P **P** **11 17 13.3 -1.0**
comp=E,11nm,0.8s
MNK *i* P **P** **11 17 13.3 -1.0**
comp=N,12nm,0.8s
MNK *i* P **P** **11 17 13.3 -1.0**
comp=Z,12nm,0.7s,baz=88
MNK *i* PcP **PcP** **11 18 22.6 -1.4**
MNK *i* PP **PP** **11 19 12.7 -0.6**
MNK *i* PPP PPP 11 20 16.5
MNK *i* S **S** **11 24 42.3 +0.3**
MNK *i* ScS **ScS** **11 27 03.1 -0.9**
MNK *i* SS **SS** **11 28 22.4 +2.3**
MNK *i* SSS SSS 11 30 08.7
MNK *i* LQ LQ 11 37 19.0
MNK *i* LR LR 11 39 55.7
MNK *i* LRM MLR 11 41 59.0
comp=Z,25nm,17.3s
MNK *i* LRM MLR 11 42 16.4
comp=N,185nm,23.6s
MNK *i* LRM MLR 11 42 33.9
comp=E,78nm,18.3s
MNK Minsk 52.70 318 *i* P **P** **11 17 13.2 -1.0**
MNK *i* 11 18 22.5
MNK *i* 11 19 12.6
MNK *i* PPP PPP 11 20 16.4
MNK *i* S **S** **11 24 42.2 +0.3**
MNK *i* 11 27 03.1
MNK *i* SS **SS** **11 28 22.3 +2.3**
MNK *i* SSS SSS 11 30 08.6
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=E,11nm,0.8s
MNK MLR MLR
comp=Z,25nm,17.0s
MNK MLR MLR
comp=N,185nm,24.0s
MNK MLR MLR
comp=E,78nm,18.0s
ISP Isparta 52.86 296 *ce*P **P** **11 17 17.1 +1.2**
ISP pmax pmax
comp=Z,11nm,1.7s
TPGR Topolog 53.16 305 ⇑P **P** **11 17 18.1 +0.2**
CFR Carcaliu 53.32 306 ⇑P **P** **11 17 19.3 +0.3**
CFR Carcaliu 53.32 306 P **P** **11 17 19.3 +0.3**
HARR Harsova 53.53 305 ⇓P **P** **11 17 21.5 +0.9**
HARR Harsova 53.53 305 P **P** **11 17 21.5 +0.9**
FINES FINESS Array B 53.72 326 P **P** **11 17 21.0 -0.7**
comp=Z,4.1nm,1.0s,baz=99,slow=6.0,SNR=11
comp=Z,4.1nm,1.0s
VRI Vrincioaia 54.20 307 ⇑P **P** **11 17 26.9 +1.4**
VRI Vrincioaia 54.20 307 P **P** **11 17 26.8 +1.4**
PLOR Plostina 54.25 307 ⇓P **P** **11 17 27.3 +1.3**
PLOR Plostina 54.25 307 P **P** **11 17 27.2 +1.3**
ONER Baraj Valea Uz 54.36 308 ⇓P **P** **11 17 28.3 +1.6**
MLR Muntele Rosu 54.80 307 **P** **11 17 30.4 +0.4**
MLR Muntele Rosu 54.80 307 ⇓P **P** **11 17 31.5 +1.5**
MLR Muntele Rosu 54.80 307 P **P** **11 17 31.4 +1.5**
BURAR Bucovina Array 54.97 309 ⇑P **P** **11 17 31.8 +0.6**
BURAR Bucovina Array 54.97 309 P **P** **11 17 31.7 +0.6**
DOPR Dopca 55.10 307 ⇑P **P** **11 17 33.9 +1.8**
MARR Marisel-Cluj 56.53 308 ⇓P **P** **11 17 43.2 +0.8**
DRGR 56.79 309 ⇑P **P** **11 17 44.9 +0.7**
DRGR 56.79 309 P **P** **11 17 44.8 +0.7**
SURR Surduc 57.39 307 ⇓P **P** **11 17 48.8 +0.5**
MDVR Moldovita 57.87 306 ⇓P **P** **11 17 53.0 +1.2**
MORC Moravsky Berou 59.59 313 ⇓P **P** **11 18 04.8 +1.1**
MORC Moravsky Berou 59.59 313 P **P** **11 18 04.7 +1.1**
MORH Mrgy, Hungar 59.66 309 ⇓P **P** **11 18 04.6 +0.5**
RONA Rosalia, Austr 60.86 311 *eP* **P** **11 18 12.6 +0.1**
comp=Z,2.5nm,1.2s
NB2 NORSAR Subarra 60.90 326 P **P** **11 18 12.1 -0.4**
comp=Z,8.1nm,1.1s,baz=80,slow=6.9
NOA NORSAR Array B 60.90 326 P **P** **11 18 10.9 -1.5**
comp=Z,2.1nm,0.8s,baz=79,slow=6.8,SNR=9.0
comp=Z,2.1nm,0.8s
NOA NORSAR Array B 60.90 326 P **P** **11 18 11.0 -1.5**
CONA Conrad Observa 61.09 311 *eP* **P** **11 18 13.3 -0.8**
comp=Z,3.2nm,0.8s
MOA Molln 62.15 311 *eP* **P** **11 18 20.3 -0.8**
comp=Z,2.8nm,0.9s
GERES GERESS Array B 62.25 312 P **P** **11 18 21.2 -0.7**
comp=Z,1.3nm,0.7s,baz=68,slow=4.6,SNR=9.5
comp=Z,1.3nm,0.7s
KHC Kasperske Hory 62.25 313 *i* P **P** **11 18 22.9 +1.1**
KHC pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 62.82 138 P **P** **11 18 24.4 -1.5**
comp=Z,1.4nm,0.7s,baz=323,slow=8.2,SNR=13
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 62.82 138 *i* P **P** **11 18 26.0 +0.1**
WRA pmax pmax
comp=Z,2.0nm,0.9s
LESA Schwarzleotal 63.30 311 *eP* **P** **11 18 28.1 -0.7**
comp=Z,5.6nm,1.1s
CUC Castrocucco 63.36 302 **P** **11 18 28.9 -0.4**
CEL Celeste 63.86 301 **P** **11 18 32.6 -0.1**
SQTA Sankt Quirin 64.31 311 *eP* **P** **11 18 35.3 -0.3**
comp=Z,3.1nm,0.9s
RETA Reutte 64.52 312 *eP* **P** **11 18 36.5 -0.4**
comp=Z,3.7nm,0.9s
GAMB Gambell 64.67 29 P **P** **11 18 36.7 -0.7**
baz=287
ASAR Alice Springs 65.52 141 P **P** **11 18 43.3 -0.2**
ASAR Alice Springs 65.52 141 P **P** **11 18 42.1 -1.4**
comp=Z,2.0nm,0.8s,baz=323,slow=6.3,SNR=23
comp=Z,2.0nm,0.8s
ASAR Alice Springs 65.52 141 P **P** **11 18 43.3 -0.2**
TNA Tin City 65.64 27 P **P** **11 18 42.9 -0.8**
baz=290
C16K Lisburne Hills 65.65 24 P **P** **11 18 43.2 -0.5**
baz=291
F14K Arctic Creek 66.29 27 P **P** **11 18 47.1 -0.8**
baz=291
C17K DeLong Mountai 66.32 23 P **P** **11 18 47.2 -0.9**
baz=293
A19K Wainwright 66.32 21 P **P** **11 18 47.0 -1.0**
baz=294
B18K Kokolik River 66.42 22 P **P** **11 18 48.2 -0.5**
baz=294
D17K Noatak River 66.65 24 P **P** **11 18 50.2 0.0**
baz=293
F15K North Star Dit 66.85 26 P **P** **11 18 51.3 -0.2**
baz=292
C18K Utukok River 66.92 23 P **P** **11 18 52.0 0.0**
C18K Utukok River 66.92 23 P **P** **11 18 51.3 -0.6**
baz=294
ANM Nome 67.01 28 P **P** **11 18 51.7 -0.9**
baz=292
SENIN Lac Senin/Sane 67.13 311 P **P** **11 18 54.1 +0.2**
SENIN IAmb IAmb 11 18 56.2
comp=Z,5.7nm,1.0s
A21K Barrow 67.17 19 P **P** **11 18 52.5 -0.9**
baz=297
C19K Lookout Ridge 67.25 22 P **P** **11 18 55.4 +1.3**
C19K IAmb IAmb 11 19 00.2
comp=Z,5.8nm,1.1s
C19K Lookout Ridge 67.25 22 P **P** **11 18 53.4 -0.7**
baz=296
E17K Hotham Inlet 67.35 24 P **P** **11 18 53.6 -1.0**
baz=294
G15K Niukluk 67.37 27 P **P** **11 18 54.1 -0.7**
baz=293
SPIA Saint Paul Isl 67.55 36 P **P** **11 18 55.5 -0.5**
baz=291
B20K Meade River 67.61 21 P **P** **11 18 55.7 -0.5**
baz=297
E18K Tukpahlearik C 67.64 24 P **P** **11 18 55.9 -0.6**
baz=295
A22K Sinclair Lake 67.79 19 P **P** **11 18 56.7 -0.6**
baz=299
F17K Baldwin Pennin 67.82 25 P **P** **11 18 57.2 -0.4**
baz=295
G16K Koyuk River 67.85 26 P **P** **11 18 57.0 -0.8**
baz=295
D19K Kuna River 68.00 22 P **P** **11 18 57.5 -1.3**
baz=297
P08K Saint George I 68.11 36 P **P** **11 18 58.9 -0.7**
baz=292
H16K Elim 68.22 27 P **P** **11 18 59.9 -0.2**
baz=295
M11K Mekoryuk 68.28 32 P **P** **11 18 59.3 -1.3**
baz=293
F18K Selawik 68.33 24 P **P** **11 19 00.4 -0.4**
baz=296
K13K Kusilvak Mount 68.34 30 P **P** **11 18 59.7 -1.3**
baz=294
D20K Etivluk River 68.39 22 P **P** **11 19 00.1 -1.2**
baz=298
G17K Kiwalik Mounta 68.45 26 P **P** **11 19 00.6 -1.1**
baz=296
J14K Nanvaranak Lak 68.47 29 P **P** **11 19 01.0 -0.8**
baz=294
B22K Teshekpuk Lake 68.57 20 P **P** **11 19 02.0 -0.3**
baz=300
B21K Ikpikpuk River 68.58 21 P **P** **11 19 01.5 -0.8**
baz=300
E20K Nigu River 68.75 22 P **P** **11 19 01.1 -2.4**
baz=299
C21K Knifeblade Rid 68.75 21 P **P** **11 19 02.8 -0.6**
baz=300
E19K Redstone River 68.78 23 P **P** **11 19 02.4 -1.3**
baz=298
F19K Shaleruckik Mo 68.89 24 P **P** **11 19 02.9 -1.4**
baz=298
H17K Granite Mounta 68.98 26 P **P** **11 19 05.5 +0.6**
H17K IAmb IAmb 11 19 07.4
comp=Z,4.4nm,0.8s
H17K Granite Mounta 68.98 26 P **P** **11 19 03.6 -1.3**
baz=297
G18K Tagagawik 69.01 25 P **P** **11 19 04.7 -0.5**
baz=298
I17K Unalakleet 69.15 27 P **P** **11 19 06.7 +0.7**
I17K Unalakleet 69.15 27 P **P** **11 19 03.8 -2.1**
baz=296
E21K Killik River 69.37 22 P **P** **11 19 05.4 -2.0**
baz=301
L14K Kuka Creek 69.45 30 P **P** **11 19 06.3 -1.5**
baz=296
J16K Anvik River 69.46 28 P **P** **11 19 08.6 +0.7**
J16K Anvik River 69.46 28 P **P** **11 19 06.1 -1.8**
baz=297
G19K Purcell Mounta 69.46 24 P **P** **11 19 05.7 -2.2**
baz=299
H18K Honhosa River 69.47 26 P **P** **11 19 06.6 -1.3**
baz=298
F20K Avaraart Lake 69.49 23 P **P** **11 19 06.8 -1.3**
baz=300
K15K Wolf Creek Mou 69.52 29 P **P** **11 19 08.9 +0.6**
K15K IAmb IAmb 11 19 10.3
comp=Z,3.7nm,0.9s
K15K Wolf Creek Mou 69.52 29 P **P** **11 19 07.0 -1.3**
baz=296
D22K Ayikyak River 69.55 21 P **P** **11 19 06.7 -1.8**
baz=302
M13K Dall Lake 69.55 31 P **P** **11 19 07.3 -1.2**
baz=296
C23K Ikpikpuk River 69.65 20 P **P** **11 19 07.5 -1.5**
baz=303
KEST Kesra 69.65 300 **P** **11 19 09.7 0.0**
KEST Kesra 69.65 300 P **P** **11 19 09.9 +0.1**
comp=Z,4.2nm,1.0s,baz=350,slow=5.2,SNR=5.4
comp=Z,4.2nm,1.0s
L15K Ungalak Mounta 69.81 30 P **P** **11 19 08.4 -1.8**
baz=297
NIKH Nikolski High 69.90 40 P **P** **11 19 09.0 -1.8**
baz=294
H19K Roundabout Mou 69.99 25 **P** **11 19 12.3 +1.2**
H19K IAmb IAmb 11 19 15.8
comp=Z,5.7nm,1.1s
H19K Roundabout Mou 69.99 25 P **P** **11 19 09.4 -1.7**
baz=299
J17K VABM Dome 70.02 27 P **P** **11 19 11.9 +0.5**
J17K IAmb IAmb 11 19 17.8
comp=Z,6.1nm,1.1s
J17K VABM Dome 70.02 27 P **P** **11 19 09.6 -1.8**
baz=298
M14K Bethel 70.02 31 P **P** **11 19 11.5 +0.1**
M14K Bethel 70.02 31 P **P** **11 19 09.9 -1.5**
baz=296
D23K Nanushuk River 70.11 20 P **P** **11 19 10.4 -1.5**
baz=303
F21K Alatna River 70.16 23 P **P** **11 19 12.8 +0.6**
F21K IAmb IAmb 11 19 15.6
comp=Z,7.6nm,1.5s
F21K Alatna River 70.16 23 P **P** **11 19 10.4 -1.8**
baz=301
E22K Anaktuvuk Pass 70.22 21 P **P** **11 19 11.0 -1.6**
baz=302
GCSA Galena City Sc 70.22 26 P **P** **11 19 11.0 -1.5**
baz=299
C24K Franklin Bluff 70.27 19 P **P** **11 19 11.1 -1.7**
baz=305
F22K John River 70.44 22 P **P** **11 19 12.6 -1.3**
baz=302
N14K Kuskokwak Cree 70.52 31 P **P** **11 19 12.7 -1.7**
baz=297
G21K Allakaket 70.52 23 P **P** **11 19 12.7 -1.8**
baz=302
D24K Happy Valley 70.56 20 P **P** **11 19 12.9 -1.7**
baz=305
H20K Anotleneega Mo 70.57 25 P **P** **11 19 12.8 -2.0**
baz=301
M15K Kasigluk River 70.61 30 P **P** **11 19 12.4 -2.6**
baz=298
TOLK Toolik Lake Re 70.63 21 P **P** **11 19 15.0 -0.1**
TOLK IAmb IAmb 11 19 17.3
comp=Z,5.2nm,0.9s
TOLK Toolik Lake Re 70.63 21 P **P** **11 19 12.9 -2.2**
baz=304
L16K Owhat River 70.65 29 P **P** **11 19 12.9 -2.4**
baz=298
K17K Iditarod 70.65 28 P **P** **11 19 15.6 +0.4**
K17K Iditarod 70.65 28 P **P** **11 19 13.6 -1.7**
baz=299,SNR=5.8
UNV Unaska Valle 70.82 38 P **P** **11 19 14.4 -2.0**
baz=295
J18K Innoko River 70.91 27 **P** **11 19 16.7 -0.1**
J18K IAmb IAmb 11 19 18.9
comp=Z,3.0nm,0.8s
J18K Innoko River 70.91 27 P **P** **11 19 14.7 -2.2**
baz=300
L17K Donlin 70.94 28 P **P** **11 19 14.6 -2.4**
baz=299
E23K Chandalar 70.94 21 P **P** **11 19 14.6 -2.4**
baz=304
G22K Bettles 70.97 22 P **P** **11 19 14.8 -2.3**
baz=303
O14K Tigyukauivet M 71.02 32 P **P** **11 19 15.7 -1.8**
baz=298
J19K Poorman 71.07 26 **P** **11 19 17.8 0.0**
J19K IAmb IAmb 11 19 20.3
comp=Z,4.0nm,0.9s
J19K Poorman 71.07 26 P **P** **11 19 16.2 -1.6**
baz=301,SNR=5.6
I20K Naaghedeneel 71.08 25 P **P** **11 19 16.5 -1.3**
baz=301
N15K Kwethluk River 71.11 31 P **P** **11 19 15.0 -3.1**
baz=298
D25K Kavik River 71.17 19 P **P** **11 19 15.1 -3.3**
baz=307
M16K Timber Creek 71.20 30 P **P** **11 19 15.9 -2.7**
baz=299
C26K Camden Bay 71.21 18 P **P** **11 19 16.2 -2.3**
baz=308
H21K Melozitna Rive 71.22 24 P **P** **11 19 16.3 -2.4**
baz=302
COLD Coldfoot 71.23 22 P **P** **11 19 16.1 -2.6**
baz=304
E24K Your Creek 71.28 21 P **P** **11 19 16.2 -2.9**
baz=305
J20K Nowinta River 71.53 26 P **P** **11 19 17.9 -2.6**
baz=302
N16K Nishlik Lake 71.54 30 P **P** **11 19 17.4 -3.3**
baz=299
L18K Granite Mounta 71.55 28 P **P** **11 19 18.5 -2.2**
baz=300
G23K Bananza Creek 71.58 22 P **P** **11 19 18.0 -2.9**
baz=304
H22K Ishtalitna Cre 71.59 23 P **P** **11 19 17.8 -3.1**
baz=304
M17K Holitna River 71.65 29 P **P** **11 19 18.9 -2.4**
baz=300
O15K Ungalikthiuk R 71.70 32 P **P** **11 19 19.2 -2.5**
baz=299
C27K Jago River 71.72 18 P **P** **11 19 19.2 -2.4**
baz=309
I21K Tanana 71.77 24 P **P** **11 19 19.8 -2.2**
baz=303
F24K Squaw Lake 71.80 21 P **P** **11 19 19.7 -2.5**
baz=306
K20K Telida 71.99 26 **P** **11 19 23.8 +0.4**
K20K IAmb IAmb 11 19 26.0
comp=Z,2.8nm,0.8s
K20K Telida 71.99 26 P **P** **11 19 21.5 -1.8**
baz=302
N17K Nushagak Hills 72.20 30 P **P** **11 19 22.2 -2.4**
baz=300
H23K Yukon River 72.25 23 P **P** **11 19 22.9 -1.9**
baz=305
O16K Kokwok River B 72.27 31 P **P** **11 19 23.0 -2.0**
baz=300
M18K Stony River 72.28 28 P **P** **11 19 22.9 -2.2**
baz=301
S12K Black Hills 72.29 35 P **P** **11 19 23.2 -2.1**
baz=298
MLY Manley 72.29 24 **P** **11 19 25.7 +0.5**
MLY Manley 72.29 24 P **P** **11 19 23.1 -2.1**
baz=304,SNR=5.4
L19K White Mountain 72.31 28 **P** **11 19 26.1 +0.8**
L19K IAmb IAmb 11 19 40.5
comp=Z,7.3nm,1.4s
L19K White Mountain 72.31 28 P **P** **11 19 23.7 -1.6**
baz=302,SNR=5.2
CHUM Lake Minchumin 72.36 25 P **P** **11 19 22.9 -2.6**
baz=303
G24K Hadweenzic Riv 72.41 22 P **P** **11 19 24.0 -1.8**
baz=307
F25K Christian Rive 72.44 20 P **P** **11 19 24.2 -1.8**
baz=308
L20K Farewell, AK 72.53 27 P **P** **11 19 24.8 -1.9**
baz=302
P16K Nushagak River 72.60 31 P **P** **11 19 24.7 -2.4**
baz=300
O17K Koliganek Bris 72.62 30 P **P** **11 19 24.8 -2.4**
baz=301
M19K Big River Lodg 72.64 28 P **P** **11 19 25.4 -1.8**
baz=302
N18K Kilae Creek 72.67 29 P **P** **11 19 25.3 -2.2**
baz=301
I23K Minto, Yukon-K 72.70 23 P **P** **11 19 25.6 -1.9**
baz=305
CAST Castle Rocks 72.71 26 **P** **11 19 28.9 +1.2**
CAST IAmb IAmb 11 19 40.0
comp=Z,7.1nm,1.4s
CAST Castle Rocks 72.71 26 P **P** **11 19 25.8 -1.9**
baz=304,SNR=5.1
D27M Malcolm River 72.71 18 P **P** **11 19 25.3 -2.3**
baz=312
BPAW Bear Paw Mtn. 72.73 25 P **P** **11 19 25.8 -2.0**
baz=304
H24K Noodor Dome 72.80 23 P **P** **11 19 26.0 -2.2**
baz=306
G25K Bearman Lake 72.81 21 P **P** **11 19 25.1 -3.0**
baz=308
F26K Sheenjek River 72.82 20 P **P** **11 19 25.4 -2.9**
baz=309
BMAR Burnt Mountain 72.86 20 **P** **11 19 29.1 +0.6**
PPLA Purkeypile 72.96 26 P **P** **11 19 26.2 -3.2**
baz=304
NEA2 Nenana 73.13 24 P **P** **11 19 27.7 -2.4**
baz=306,SNR=5.2
M20K Styx River 73.15 27 P **P** **11 19 27.8 -2.6**
baz=303
N19K Bonanza Creek 73.19 29 P **P** **11 19 27.8 -2.8**
baz=302
H25L Birch Creek 73.20 22 P **P** **11 19 27.9 -2.6**
baz=308
P17K Kvichak River 73.21 31 P **P** **11 19 27.5 -3.1**
baz=301
D28M Stokes Point 73.24 17 P **P** **11 19 28.3 -2.4**
baz=313
E27K Coleen River 73.24 19 P **P** **11 19 28.3 -2.5**
baz=311
S14K Fog Glacier 73.24 34 P **P** **11 19 28.2 -2.8**
baz=300
SDPT Sand Point 73.25 35 P **P** **11 19 28.5 -2.5**
baz=299
TRF Thorofare Moun 73.36 25 P **P** **11 19 29.2 -2.5**
baz=305
POKR Poker Plat Res 73.38 23 P **P** **11 19 29.1 -2.5**
baz=307
Q16K King Salmon 73.38 31 P **P** **11 19 28.8 -2.8**
baz=301
COLA College 73.38 23 P **P** **11 19 32.5 +0.9**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 73.38 23 P **P** **11 19 28.5 -3.1**
baz=307
O18K Koktuh Hills 73.39 30 P **P** **11 19 28.8 -3.0**
baz=302
G26K Porcupine Rive 73.41 21 P **P** **11 19 28.8 -2.9**
baz=310
E28M Babbage River 73.53 18 P **P** **11 19 30.0 -2.4**
baz=313
R16K Pilot Point 73.53 32 P **P** **11 19 29.9 -2.7**
baz=301
O19K Port Alsworth 73.59 29 P **P** **11 19 30.2 -2.6**
baz=303
P18K Big Mountain, 73.63 30 P **P** **11 19 30.2 -3.0**
baz=302
MCK McKinley 73.68 25 P **P** **11 19 30.5 -2.9**
baz=306
SKT Skwentna 73.73 27 P **P** **11 19 30.3 -3.4**
baz=304
PRP Porcupine Dome 73.77 22 P **P** **11 19 31.0 -3.1**
baz=309
ILAR Eielson Array 73.77 23 P **P** **11 19 33.7 -0.2**
comp=Z,1.8nm,0.8s,baz=296,slow=5.2,SNR=23
comp=Z,1.8nm,0.8s
N20K Mount Spurr 73.90 28 P **P** **11 19 31.5 -3.3**
baz=304
SPCR Spurr Chakacha 73.90 28 P **P** **11 19 31.5 -3.3**
baz=304
Q17K Contact Creek 73.94 31 P **P** **11 19 31.9 -3.3**
baz=302
CHNA Chernabura Isl 73.95 35 P **P** **11 19 31.6 -3.4**
baz=300
HDA Harding Lake 73.97 23 P **P** **11 19 32.5 -2.6**
baz=308
R17L Mt. Peulik Vol 74.06 32 P **P** **11 19 33.4 -2.4**
baz=302
F28M Old Crow 74.11 19 P **P** **11 19 34.1 -1.7**
baz=313
E29M Blow River 74.11 18 P **P** **11 19 33.4 -2.4**
baz=314
Q18K Katmai Hardscr 74.13 31 P **P** **11 19 34.2 -2.0**
baz=303
G27K Doyon Strip 74.14 20 P **P** **11 19 33.8 -2.3**
baz=312
A36M Sachs Harbour 74.17 12 P **P** **11 19 33.9 -2.1**
baz=325
SUA Susitna One 74.33 27 P **P** **11 19 34.5 -2.8**
baz=305
P19K Oil Pt 74.34 29 P **P** **11 19 35.3 -2.1**
baz=304
O20K Slope Mountain 74.36 29 P **P** **11 19 35.8 -1.7**
baz=304
J25K Salcha River, 74.39 23 P **P** **11 19 35.9 -1.7**
baz=309
H27K Steamboat Moun 74.56 20 **P** **11 19 39.8 +1.2**
H27K IAmb IAmb 11 19 41.6
comp=Z,6.3nm,0.8s
H27K Steamboat Moun 74.56 20 P **P** **11 19 36.1 -2.5**
baz=312,SNR=9.1
CAPN Captain Cook N 74.57 28 P **P** **11 19 36.3 -2.2**
baz=305
Q19K Cape Douglas, 74.57 30 P **P** **11 19 36.6 -2.1**
baz=304
I26K Coal Creek Min 74.67 22 **P** **11 19 39.7 +0.6**

I26K	Coal Creek Min	74.67	22	P		P	11 19 37.5	-1.6	
	baz=311								
K24K	Donnelly Dome	74.75	24	P		P	11 19 37.8	-1.9	
	baz=309								
PMR	Palmer	74.88	26	P		P	11 19 37.4	-2.9	
	baz=306								
RC01	Rabbit Creek A	74.94	27	P		P	11 19 38.3	-2.5	
	baz=306								
I27K	Kandik River	74.95	21	P		P	11 19 38.8	-2.0	
	baz=312,SNR=7.9								
R18K	Karluk	74.96	31	P		P	11 19 38.2	-2.7	
	baz=303								
HOM	Homer	75.01	29	P		P	11 19 38.7	-2.5	
	baz=305								
J26L	Joseph Creek	75.06	22	P		P	11 19 39.2	-2.3	
	baz=310								
G29M	Pine Creek	75.12	19	P		P	11 19 39.7	-2.0	
	baz=315								
RIDG	Independent Ri	75.12	23	P		P	11 19 39.7	-2.1	
	baz=310								
F30M	Barrier River	75.23	18	P		P	11 19 39.8	-2.5	
	baz=316								
KNK	Knik Glacier	75.25	26	P		P	11 19 40.5	-2.1	
	baz=307								
SCRK	Sand Creek	75.26	23	P		P	11 19 40.4	-2.2	
	baz=310,SNR=8.7								
Q20K	Shuyak Island	75.29	30	P		P	11 19 40.5	-2.3	
	baz=305								
INK	Inuvik	75.29	17	P		P	11 19 42.0	-0.6	
	comp=Z,3.7nm,0.9s,baz=352,slow=5.9,SNR=4.9								
	comp=Z,3.7nm,0.9s								
INK	Inuvik	75.29	17	P		P	11 19 42.0	-0.6	
INK	Inuvik	75.29	17	P		P	11 19 40.7	-2.0	
	baz=318								
O22K	Cooper Landing	75.31	28	P		P	11 19 40.8	-2.0	
	baz=306								
CHIR	Chirikof Islan	75.37	33	P		P	11 19 40.8	-2.5	
	baz=303								
PAX	Paxson	75.39	24	P		P	11 19 40.8	-2.6	
	baz=309								
SCM	Sheep Creek Mo	75.42	26	P		P	11 19 41.0	-2.6	
	baz=308								
H29M	Whitestone	75.50	20	P		P	11 19 41.9	-2.0	
	baz=314								
G30M	tAoh Zraii Nji	75.57	18	P		P	11 19 42.5	-1.8	
	baz=316,SNR=6.7								
I28M	Miner Creek	75.57	21	P		P	11 19 42.3	-2.2	
	baz=313								
PWL	Port Wells	75.63	27	P		P	11 19 42.2	-2.5	
	baz=307								
SII	Sitkinak Islan	75.64	32	P		P	11 19 43.4	-1.5	
	baz=304								
SEW	Seward	75.64	28	P		P	11 19 42.7	-2.0	
	baz=307								
KDAK	Kodiak Island	75.67	31	P		P	11 19 43.8	-1.2	
	baz=305								
M24K	Tolsona, Glenn	75.68	25	P		P	11 19 43.8	-1.3	
	baz=309								
OHAK	Old Harbor	75.68	31	P		P	11 19 43.6	-1.4	
	baz=304								
K27K	Chicken	75.86	22	P		P	11 19 44.8	-1.2	
	baz=312								
HARP	HAARP	75.86	25	P		P	11 19 45.0	-1.1	
	baz=310								
EPYK	Eagle Plains	75.87	19	P		P	11 19 45.0	-1.1	
	baz=316								
F31M	Tsiigehtchic	75.89	17	P		P	11 19 44.8	-1.2	
	baz=318								
G31M	Satah River	76.13	18	P		P	11 19 46.9	-0.5	
	baz=318								
KLU	Klutina	76.16	26	P		P	11 19 47.5	-0.4	
	baz=309								
P23K	Montague Islan	76.53	27	P		P	11 19 49.7	-0.2	
	baz=308								
N25K	Chitina, Valde	76.58	25	P		P	11 19 49.8	-0.4	
	baz=310								
L27K	Beaver Creek,	76.59	23	P		P	11 19 50.7	+0.5	
	baz=312,SNR=5.7								
BCAR	Beaver Creek A	76.60	23			P	11 19 51.1	+0.8	
M26K	Nabesna, AK	76.63	24	P		P	11 19 50.1	-0.4	
	baz=311								
DAWY	Dawson	76.70	22	P		P	11 19 50.8	0.0	
	baz=314								
I30M	Mount Dempster	76.80	20	P		P	11 19 51.4	-0.1	
	baz=316,SNR=6.0								
J29N	Klondike Camp	76.80	21	P		P	11 19 50.8	-0.6	
	baz=315								
EYAK	Cordova Ski Ar	76.82	26	P		P	11 19 51.3	-0.1	
	baz=309								
H31M	Peel River	76.94	19	P		P	11 19 52.1	-0.1	
	baz=318								
BMRM	Bremner River	76.98	26	P		P	11 19 51.7	-0.8	
	baz=310								
M27K	Edge Creek, AK	77.05	24	P		P	11 19 52.0	-0.9	
	baz=312								
J30M	Hart River	77.28	20	P		P	11 19 53.0	-1.1	
	baz=316								
MCARA	McCarthy VSAT	77.29	25	P		P	11 19 53.4	-0.8	
	baz=311								
Q23K	Middleton Isla	77.30	27	P		P	11 19 53.6	-0.6	
	baz=309								
BVCY	Beaver Creek	77.36	23	P		P	11 19 54.3	-0.2	
	baz=313								
ESDC	Sonseca Array	77.42	309	P		P	11 19 55.1	-0.2	
	comp=Z,1.0nm,1.0s,baz=51,slow=6.9,SNR=6.1								
	comp=Z,1.0nm,1.0s								
K29M	Barlow Dome	77.44	21			P	11 19 55.9	+0.8	
K29M					IAmb	IAmb	11 19 57.6		
	comp=Z,3.0nm,0.8s								
K29M	Barlow Dome	77.44	21	P		P	11 19 54.1	-1.0	
	baz=316,SNR=5.6								
CRQE	Cirque	77.69	25	P		P	11 19 55.9	-0.6	
	baz=312								
KAIM	Kayak Island	77.73	26	P		P	11 19 56.3	-0.3	
	baz=311								
L29M	L29M	77.78	22	P		P	11 19 56.5	-0.4	
	baz=315								
YUK3	Moose Creek	77.93	24	P		P	11 19 56.4	-1.6	
	baz=313								
MAYO	Mayo, Yukon	78.13	21	P		P	11 19 57.0	-1.8	
	baz=317								
M29M	Somme Creek	78.14	22	P		P	11 19 57.8	-1.2	
	baz=315								
CTG	Chitna Glacier	78.18	24	P		P	11 19 57.9	-1.4	
	baz=313								
MESA	MESA	78.49	25	P		P	11 19 59.6	-1.5	
	baz=312								
YUK8	Steele Glacier	78.52	24	P		P	11 20 00.2	-1.1	
	baz=314								
M30M	Minto, Yukon	78.59	22	P		P	11 20 00.8	-0.6	
	baz=316								
O28M	Mount Upton	78.72	24	P		P	11 20 01.2	-1.3	
	baz=314								
YUK4	Talbot Arm	78.86	23	P		P	11 20 02.1	-1.0	
	baz=315								
PINM	Pinnacle	79.17	25	P		P	11 20 03.7	-1.0	
	baz=314								
YUK6	Outpost Mounta	79.24	23	P		P	11 20 04.3	-1.0	
	baz=315								
N30M	Aishikik Lake	79.30	23	P		P	11 20 04.6	-0.8	
	baz=316								
HYT	Haines Junctio	79.62	23	P		P	11 20 06.2	-1.0	
	baz=316								
M31M	Drury Creek, Y	79.62	21	P		P	11 20 06.3	-0.7	
	baz=318								
O29M	Mount Kennedy	79.62	24	P		P	11 20 06.6	-0.6	
	baz=315								
N31M	Braeburn, Yuko	79.71	22	P		P	11 20 07.2	-0.4	
	baz=317								
PNL	Peninsula	79.78	25	P		P	11 20 07.3	-0.6	
	baz=315								
MMPY	Sheldon Lake,	80.25	20	P		P	11 20 10.2	-0.3	
	baz=321								
P30M	Million Dollar	80.31	24	P		P	11 20 10.5	-0.3	
	baz=316								
P29M	Windy Craggy	80.40	24	P		P	11 20 10.9	-0.4	
	baz=316								
WHY	Whitehorse	80.62	22	P		P	11 20 12.0	-0.5	
	baz=318								
N32M	Quiet Lake	80.83	21	P		P	11 20 12.4	-1.2	
	baz=320								
PLBC	Pleasant Camp	81.01	24	P		P	11 20 13.7	-0.8	
	baz=317								
SKAG	Skagway	81.36	23			P	11 20 17.6	+1.2	
SKAG					IAmb	IAmb	11 20 19.4		
	comp=Z,5.3nm,0.9s								
SKAG	Skagway	81.36	23	P		P	11 20 15.8	-0.6	
	baz=318								
P33M	Teslin, Yukon	81.63	22	P		P	11 20 17.5	-0.4	
	baz=320								
P32M	Atlin	81.81	23	P		P	11 20 18.3	-0.6	
	baz=319								
WRGLY	Wrigley	81.85	16	P		P	11 20 18.2	-0.7	
	baz=327								
S31K	Pelican	82.15	25	P		P	11 20 20.6	+0.1	
	baz=317								
R32K	Eaglecrest	82.53	24	P		P	11 20 22.2	-0.4	
	baz=319								
Q32M	Nakina River	82.77	23	P		P	11 20 23.7	-0.3	
	baz=320								
R33M	Jennings River	82.86	22	P		P	11 20 23.9	-0.5	
	baz=321								
S32K	Killisnoo	83.11	24	P		P	11 20 25.2	-0.3	
	baz=319								
SIT	Sitka	83.15	25	P		P	11 20 24.0	-1.7	
	baz=318								
DLBC	Dease Lake	83.91	22	P		P	11 20 29.0	-0.7	
	baz=322								
S34M	Telegraph Cree	83.96	23	P		P	11 20 29.2	-0.7	
	baz=321								
YKA	Yellowknife Ar	84.46	13	P		P	11 20 31.5	-0.9	
	comp=Z,1.0nm,0.9s,baz=327,slow=5.5,SNR=6.5								
	comp=Z,1.0nm,0.9s								
YKA	Yellowknife Ar	84.46	13	*ce*P		P	11 20 32.2	-0.2	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
U33K	Whale Pass	84.67	25	P		P	11 20 33.0	-0.5	
	baz=320								
WRAK	Wrangell Islan	84.71	24	P		P	11 20 32.3	-1.4	
	baz=320								
T35M	Bob Quinn	84.99	23	P		P	11 20 34.1	-1.2	
	baz=322								
TOAD	Toad River Com	85.05	20	P		P	11 20 33.7	-1.7	
	baz=326								
CRAG	Craig	85.16	25	P		P	11 20 34.6	-1.4	
	baz=320								
V35K	Ketchikan	85.82	25	P		P	11 20 38.1	-1.2	
	baz=321								

*AEIC **11** 11:09:09.0±2.6, 69°.11N±0°.03×144°.64W±0°.05, h13km±6km, ML3.4, ML3.6/128(NEIC), Error ellipse: s-maj=4.1km s-min=2.4km az=165.0*

*NEIC **11** 11:09:11.0±2.4, 69°.21N±0°.04×144°.69W±0°.04, h18km±6km, Error ellipse: s-maj=5.9km s-min=1.4km az=165.0*

*IDC **11** 11:09:12.9±3.4, 68°.99N×144°.60W, h0km, mb3.3/2, mbtmp3.3/5, ML3.2/3, MS2.9/1, Error ellipse: s-maj=44.3km s-min=19.3km az=140.0*

ISC 11 11:09:10.7±0.7, 69°.16N±0°.04×144°.64W±0°.03, h10km, n123, s0685/124, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
C27K	Jago River	0.57	35			Pg	Pg	11 09 21.7	-0.1
C27K				Sg		Sg	Sg	11 09 28.8	-0.5
D25K	Kavik River	0.64	286			Pg	Pg	11 09 21.8	-1.3
D25K				IAML				11 09 31.7	
	comp=E,3μm,0.3s								
D25K	Kavik River	0.64	286				Sg	11 09 30.0	-1.4
C26K	Camden Bay	0.77	353				Pg	11 09 25.5	0.0
C26K	Camden Bay	0.77	353	Sg			Sg	11 09 35.2	-0.3
D27M	Malcolm River	1.32	85				Pn	11 09 34.1	-1.0
D27M				Sn			Sb	11 09 51.1	-1.3
D27M				IAML				11 09 56.8	
	comp=N,960nm,0.7s								
D27M				IAML				11 09 58.1	
	comp=E,817nm,0.5s								
E27K	Coleen River	1.48	130				Pn	11 09 37.1	-0.3
E27K				Sn			Sn	11 09 56.8	0.0
E27K				IAML				11 09 59.6	
	comp=E,911nm,0.6s								
F26K	Sheenjek River	1.48	173				Pn	11 09 36.8	-0.6
F26K				IAML				11 10 00.9	
	comp=E,814nm,0.8s								
D24K	Happy Valley	1.50	272				Pn	11 09 37.5	0.0
C24K	Franklin Bluff	1.54	293				Pn	11 09 38.1	0.0
C24K	Franklin Bluff	1.54	293	IAML				11 10 04.1	
	comp=N,567nm,1.0s								
C24K				IAML				11 10 04.2	
	comp=E,559nm,0.6s								
F25K	Christian River	1.61	194				Pn	11 09 39.2	-0.1
F25K				IAML				11 10 04.9	
	comp=N,872nm,0.7s								
F25K				IAML				11 10 05.2	
	comp=E,792nm,0.8s								
BMAR	Burnt Mountain	1.74	179				Pb	11 09 42.2	-0.4
E24K	Your Creek	1.78	234				Pn	11 09 41.1	-0.4
TOLK	Toolik Lake Re	1.86	256				Pn	11 09 43.5	+0.9
TOLK				IAML				11 10 16.1	
	comp=N,493nm,0.9s								
TOLK	Toolik Lake Re	1.86	256				Sb	11 10 08.9	+1.0
E28M	Babbage River	1.93	104				Pn	11 09 43.9	+0.4
E28M				IAML				11 10 13.2	
	comp=E,354nm,0.5s								
E28M				IAML				11 10 15.3	
	comp=N,485nm,0.6s								
E28M	Babbage River	1.93	104				Sb	11 10 09.4	-0.6
F24K	Squaw Lake	2.04	218				Pn	11 09 45.1	0.0
D28M	Stokes Point	2.11	83				Pb	11 09 47.7	-1.2
E23K	Chandalar	2.13	241				Pn	11 09 47.1	+0.8
E23K				IAML				11 10 23.4	
	comp=E,336nm,0.7s								
D23K	Nanushuk River	2.18	268				Pn	11 09 48.0	+1.1
D23K				IAML				11 10 23.1	
	comp=N,243nm,0.7s								
C23K	Itkillik River	2.21	291				Pn	11 09 47.4	+0.1
G26K	Porcupine Rive	2.24	171				Pn	11 09 47.5	-0.2
G26K				IAML				11 10 24.5	
	comp=E,446nm,0.7s								
F28M	Old Crow	2.35	129				Pn	11 09 49.3	0.0
F28M				IAML				11 10 27.5	
	comp=N,247nm,0.4s								
G25K	Bearman Lake	2.47	194				Pn	11 09 50.3	-0.5
E29M	Blow River	2.57	104				Pn	11 09 53.7	+1.4
E29M				IAML				11 10 40.5	
	comp=N,293nm,0.7s								
G27K	Doyon Strip	2.62	153				Pn	11 09 52.7	-0.2
G24K	Hadweenzic Riv	2.69	205				Pn	11 09 53.1	-0.8
G24K				IAML				11 10 35.5	
	comp=E,251nm,0.8s								
G24K				IAML				11 10 40.8	
	comp=N,275nm,0.5s								
E22K	Anaktuvuk Pass	2.82	252				Pn	11 09 56.5	+0.7
E22K				IAML				11 10 43.6	
	comp=N,178nm,0.7s								
COLD	Coldfoot	2.84	230				Pn	11 09 56.7	+0.7
D22K	Ayikyak River	2.91	268				Pn	11 09 57.6	+0.7
D22K				IAML				11 10 51.0	
	comp=E,240nm,0.8s								
D22K				IAML				11 10 56.9	
	comp=N,226nm,0.9s								
H25L	Birch Creek	2.94	189				Pn	11 09 56.8	-0.5
H27K	Steamboat Moun	3.17	157				Pn	11 10 01.2	+0.6
H27K				IAML				11 10 58.7	
	comp=E,107nm,1.1s								
G23K	Bananza Creek	3.19	222				Pn	11 10 01.3	+0.5
G23K				IAML				11 11 02.6	
	comp=E,169nm,1.1s								
G23K				IAML				11 11 03.1	
	comp=N,120nm,0.7s								
B22K	Teshekpuk Lake	3.27	295	Pn			Pn	11 10 01.9	0.0
B22K				IAML				11 11 01.2	
	comp=E,148nm,1.0s								
G29M	Pine Creek	3.36	129				Pn	11 10 03.8	+0.7
B21K	Ikpikpuk River	3.56	282				Pn	11 10 05.2	-0.6
B21K				IAML				11 11 14.2	
	comp=N,109nm,1.1s								
B21K				IAML				11 11 17.0	
	comp=E,115nm,1.2s								
H24K	Noodor Dome	3.56	202				Pn	11 10 05.1	-0.8
H24K				IAML				11 11 08.6	
	comp=N,124nm,0.6s								
H24K				IAML				11 11 08.0	
	comp=E,95nm,1.1s								
C21K	Knifeblade Rid	3.62	275				Pn	11 10 07.3	+0.5
F30M	Barrier River	3.63	111				Pn	11 10 08.8	+2.0
F30M				IAML				11 10 55.4	
	comp=N,87nm,0.6s								
F30M				IAML				11 11 12.3	
	comp=E,112nm,0.6s								
PRP	Porcupine Dome	3.67	186				Pn	11 10 07.1	-0.4
PRP				IAML				11 11 11.2	
	comp=N,98nm,0.8s								
H29M	Whitestone	3.80	138				Pn	11 10 09.7	+0.6
H29M				IAML				11 11 20.3	
	comp=N,114nm,0.9s								
H29M				IAML				11 11 21.0	
	comp=E,103nm,0.7s								
F21K	Alatna River	3.83	244				Pn	11 10 10.7	+1.1
F21K				IAML				11 11 16.1	
	comp=N,61nm,0.7s								
G30M	tAoh Zraii Nji	3.84	121				Pn	11 10 10.2	+0.5
G30M				IAML				11 11 21.2	
	comp=N,73nm,0.9s								
H23K	Yukon River	3.84	212				Pn	11 10 09.4	-0.4
H23K				IAML				11 11 10.8	
	comp=N,93nm,0.7s								
H23K				IAML				11 11 15.1	
	comp=E,97nm,0.6s								
I26K	Coal Creek Min	3.91	171				Pn	11 10 11.3	+0.6
I26K				IAML				11 11 18.1	
	comp=E,98nm,0.8s								
A22K	Sinclair Lake	3.99	302				Pn	11 10 11.6	-0.2
EPYK	Eagle Plains	4.11	129				Pn	11 10 13.9	+0.5
INK	Inuvik	4.14	97				Pn	11 10 14.8	+1.0
INK	Inuvik	4.14	97	Pn			Pn	11 10 15.2	+1.4
	comp=E,0.7nm,0.3s,baz=289,slow=14,SNR=40								
INK				Sn			Sn	11 11 04.0	+1.8
	comp=E,4.1nm,0.3s,baz=273,slow=19,SNR=6.8								
	comp=E,1.8nm,0.3s								
H22K	Ishtalitna Cre	4.17	221				Pn	11 10 14.1	-0.2
POKR	Poker Plat Res	4.20	196				Pn	11 10 14.8	+0.1
POKR				IAML				11 11 35.1	
	comp=E,81nm,0.9s								
POKR	Poker Plat Res	4.20	196				Pn	11 10 15.0	+0.3
E20K	Nigu River	4.31	263				Pn	11 10 17.1	+0.9
D20K	Etivluk River	4.34	270				Pn	11 10 17.3	+0.7
D20K	Etivluk River	4.34	270	IAML				11 11 40.2	
	comp=N,45nm,0.8s								
F31M	Tsiigehtchic	4.40	108				Pn	11 10 18.1	+0.8
F31M				IAML				11 11 12.9	
	comp=N,49nm,0.5s								
F31M				IAML				11 11 36.8	
	comp=E,42nm,1.2s								
I23K	Minto, Yukon-K	4.43	207				Pn	11 10 17.2	-0.5
I23K				IAML				11 11 32.7	
	comp=N,58nm,0.9s								
B20K	Meade River	4.47	287				Pn	11 10 18.2	-0.1
COLA	College	4.48	198				Pn	11 10 19.0	+0.5
G31M	Satah River	4.49	115				Pn	11 10 19.0	+0.4
G31M				IAML				11 11 34.9	
	comp=E,70nm,0.8s								
ILAR	Eielson Array	4.49	192				Pn	11 10 18.5	-0.2
ILAR	Eielson Array	4.49	192	Pn			Pn	11 10 18.8	+0.1
	comp=E,1.3nm,0.3s,baz=6.4,slow=13,SNR=61								
ILAR				Sn			Sn	11 11 09.8	-1.1
	comp=E,2.2nm,0.3s,baz=8.3,slow=19,SNR=7.3								
ILAR				Lg		Lg		11 11 28.5	
	comp=E,4.6nm,0.3s,baz=8.2,slow=32,SNR=8.2								
	comp=E,3.0nm,0.5s								
J25K	Salcha River,	4.58	184				Pn	11 10 20.2	+0.3
J25K				IAML				11 11 35.3	
	comp=E,55nm,0.6s								
F20K	Avaraart Lake	4.66	248				Pn	11 10 21.8	+0.9
F20K				IAML				11 11 43.3	
	comp=N,37nm,0.9s								
J26L	Joseph Creek	4.70	174				Pn	11 10 22.1	+0.5
J26L				IAML				11 11 43.3	
	comp=E,34nm,0.9s								
CCB	Clear Creek Bu	4.70	197				Pn	11 10 21.3	-0.2
CCB				IAML				11 11 45.0	
	comp=E,39nm,0.9s								
H21K	Melozitna Rive	4.72	226				Pn	11 10 22.1	+0.4
H21K				IAML				11 11 43.2	
	comp=E,51nm,0.7s								
H21K				IAML				11 11 52.2	
	comp=N,42nm,1.1s								
IMAR	Indian Mountai	4.72	232				Pn	11 10 23.3	+1.5
MLY	Manley	4.78	213				Pn	11 10 22.6	-0.1
HDA	Harding Lake	4.86	192				Pn	11 10 23.5	-0.2
HDA				IAML				11 11 48.7	
	comp=N,51nm,0.6s								
WRH	Wood River Hil	4.90	198	IAML				11 11 49.2	
	comp=N,34nm,0.9s								
WRH				IAML				11 11 52.1	
	comp=E,44nm,0.8s								
NEA2	Nenana	4.91	203				Pn	11 10 23.9	-0.5
NEA2				IAML				11 11 52.7	
	comp=E,31nm,1.1s								
I21K	Tanana	4.91	219				Pn	11 10 23.4	-1.0
I30M	Mount Dempster	5.09	137				Pn	11 10 26.9	-0.1
I30M				IAML				11 11 27.8	
	comp=E,34nm,0.5s								
I30M				IAML				11 11 28.7	
	comp=N,27nm,0.4s								
H31M	Peel River	5.19	125				Pn	11 10 27.9	-0.4
H31M				IAML				11 12 03.5	
	comp=E,31nm,2.4s								
H31M				IAML				11 12 04.5	
	comp=N,29nm,0.8s								
SCRK	Sand Creek	5.21	177				Pn	11 10 30.0	+1.3
SCRK				IAML				11 11 57.6	
	comp=E,33nm,0.7s								
SCRK				IAML				11 12 04.5	
	comp=N,26nm,0.9s								
C19K	Lookout Ridge	5.34	276				Pn	11 10 30.5	+0.2
C19K				IAML				11 12 25.6	
	comp=E,23nm,1.7s								
C19K				IAML				11 12 33.0	
	comp=N,25nm,1.6s								
BWN	Browne	5.36	203				Pn	11 10 29.9	-0.6
K24K	Donnelly Dome	5.40	185				Pn	11 10 31.9	+0.8
RIDG	Independent Ri	5.44	181				Pn	11 10 32.3	+0.5
DAWY	Dawson	5.52	155				Pn	11 10 33.2	+0.4
DOT	Dot Lake	5.54	177				Pn	11 10 34.2	+1.1
G19K	Purcell Mounta	5.63	243				Pn	11 10 34.8	+0.6
J30M	Hart River	5.64	141				Pn	11 10 34.4	-0.2
BPAW	Bear Paw Mtn.	5.67	209				Pn	11 10 34.8	0.0
MCK	McKinley	5.71	200				Pn	11 10 35.4	0.0
A19K	Wainwright	5.81	288				Pn	11 10 36.9	+0.2
C18K	Utukok River	6.00	273				Pn	11 10 39.0	-0.3
K29M	Barlow Dome	6.05	149				Pn	11 10 40.4	+0.3
B18K	Kokolik River	6.09	280				Pn	11 10 40.4	-0.2
TRF	Thorofare Moun	6.17	204				Pn	11 10 41.8	+0.1
KTH	Kantishna Hill	6.17	207				Pn	11 10 41.4	-0.4
L26K	Log Cabin Wild	6.18	175				Pn	11 10 42.1	+0.2
F18K	Selawik	6.22	253				Pn	11 10 42.8	+0.5
PAX	Paxson	6.22	183				Pn	11 10 43.9	+1.3
BCAR	Beaver Creek A	6.23	168				Pn	11 10 42.5	-0.1
L27K	Beaver Creek,	6.23	168				Pn	11 10 42.9	+0.4
MENT	Mentasta	6.26	176				Pn	11 10 43.3	+0.3
J20K	Nowinta River	6.26	222				Pn	11 10 42.6	-0.3
CAST	Castle Rocks	6.49	211				Pn	11 10 46.0	-0.2
L29M	L29M	6.62	153				Pn	11 10 48.0	+0.1
E17K	Hotham Inlet	6.74	260				Pn	11 10 49.5	0.0
C17K	DeLong Mountai	6.75	273				Pn	11 10 48.9	-0.7
M26K	Nabesna, AK	6.82	174				Pn	11 10 52.4	+1.7
M27K	Edge Creek, AK	6.92	169				Pn	11 10 52.7	+0.5
D17K	Noatak River	6.95	267				Pn	11 10 51.5	-0.

az=24.2, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.61**	**47**	P	Pn	11 57 21.6	+0.4
CSGN				S	Sn	11 57 31.7	+1.9
POTN	**Potosi Cosigui**	**0.66**	**49**	P	Pn	11 57 22.4	+0.6
POTN				S	Sn	11 57 32.9	+1.9
CNCH	**Conchagua**	**0.73**	**14**	S	Sn	11 57 34.4	+1.6
CNCH	**Conchagua**	**0.73**	**14**	P	Pn	11 57 23.4	+0.7
LCND	**La Caada**	**0.76**	**9**	P	Pn	11 57 23.6	+0.6
PACA	**Pacayal**	**0.95**	**342**	S	Sn	11 57 38.9	+0.7
PACA	**Pacayal**	**0.95**	**342**	P	Pn	11 57 26.3	+0.5
CRIN	**San Cristobal**	**0.95**	**81**	S	Sn	11 57 40.9	+2.8
PQSS	**Presa 15 de Se**	**1.18**	**333**	P	Pn	11 57 29.3	+0.5
PQSS	**Presa 15 de Se**	**1.18**	**333**	S	Sn	11 57 44.9	+1.2
CHOHN	**Orocuina**	**1.24**	**42**	P	Pn	11 57 29.7	0.0
CHOHN	**Orocuina**	**1.24**	**42**	S	Sn	11 57 46.0	+0.7
CNGN	**Cerro Negro**	**1.29**	**92**	P	Pn	11 57 30.6	+0.3
CNGN	**Cerro Negro**	**1.29**	**92**	S	Sn	11 57 47.2	+0.9
COPN	**Copaltepe**	**1.44**	**105**	P	Pn	11 57 32.4	0.0
MOMN	**Momotombo**	**1.45**	**96**	P	Pn	11 57 32.6	+0.1
MOMN				S	Sn	11 57 50.2	-0.2
PAVA	**Las Pavas**	**1.46**	**322**	S	Sn	11 57 51.1	+0.5
MOM2	**El Cardon**	**1.50**	**94**	P	Pn	11 57 33.3	+0.1
MOM2				S	Sn	11 57 51.6	+0.1
LOMA	**Loma Larga**	**1.56**	**314**	P	Pn	11 57 34.2	+0.1
LOMA	**Loma Larga**	**1.56**	**314**	S	Sn	11 57 53.0	-0.1
TGUH	**Tegucigalpa,Un**	**1.66**	**26**	P	Pn	11 57 35.8	+0.4
TGUH				S	Sn	11 57 55.4	-0.1
PMON	**Piamonte**	**1.71**	**312**	P	Pn	11 57 36.6	+0.5
PMON	**Piamonte**	**1.71**	**312**	S	Sn	11 57 57.1	+0.4
UNAN	**Cigeo UNAN**	**1.76**	**104**	S	Sn	11 57 58.0	0.0
JAYA	**Jayaque - finc**	**1.77**	**308**	S	Sn	11 57 57.9	-0.4
JAYA	**Jayaque - finc**	**1.77**	**308**	P	Pn	11 57 37.1	+0.1
YUSH	**Yuscaran**	**1.80**	**39**	P	Pn	11 57 45.7	+0.2
YUSH	**Yuscaran**	**1.80**	**39**	S	Sn	11 57 59.0	+0.1
RCVN	**Varillal2**	**2.05**	**60**	P	Pn	11 57 41.4	+0.5
RCVN	**Varillal2**	**2.05**	**60**	S	Sn	11 58 06.0	+0.8

*IDC **11** 12:20:35.4±1.8, 28.˚63S×177.˚60W, h58^{km}±15^{km}, mb3.6/6, mbtmp3.9/6, MS3.0/4, Error ellipse: s-maj=29.7km s-min=25.9km az=169.0*

ISC 11 12:20:34.8±0.8, 28.˚5S±0.˚1×177.˚6W±0.˚2, h54^{km}, n22, σ0^{s}99/19, mb4.0/9, MS2.8/3, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**201**	P	**Pn**	**12 20 49.9**	**+0.3**
	2μm,0.2s,baz=74,slow=6.8,SNR=54						
RAO				S	**Sn**	**12 21 01.0**	**+0.6**
	8μm,0.3s,baz=4.2,slow=23,SNR=23						
RAO				LR	LR	12 21 06.8	
	comp=Z,241nm,19.2s,baz=340,slow=46						
DZM	**Mont Dzumac**	**15.79**	**290**	LR	LR	12 29 08.9	
	comp=Z,103nm,19.2s,baz=152,slow=32						
PPT	**Papeete**	**27.93**	**73**	LR	LR	12 34 49.4	
	comp=Z,14nm,19.8s,baz=324,slow=31						
PMG	**Port Moresby**	**38.17**	**293**	LR	LR	12 41 29.1	
	comp=Z,420nm,18.3s,baz=200,slow=33						
ASAR	**Alice Springs**	**43.59**	**265**	P	**P**	**12 28 34.4**	**+0.5**
	1.5nm,0.5s,baz=100,slow=6.6,SNR=54						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.41**	**270**	P	**P**	**12 28 40.7**	**+0.2**
	2.3nm,0.8s,baz=112,slow=6.4,SNR=19						
	2.3nm,0.8s						
QSPA	**South Pole Qui**	**61.57**	**180**	P	**P**	**12 30 46.7**	**+0.4**
	1.7nm,0.9s,baz=23,slow=3.4,SNR=4.6						
	1.7nm,0.9s						
KAPI	**Kappang**	**63.64**	**279**	LR	LR	12 58 54.5	
	comp=Z,6.3nm,19.4s,baz=46,slow=36						
TROLL	**Troll, Antarti**	**79.73**	**180**	⇑P	**P**	**12 32 35.7**	**-0.9**
	comp=Z,79nm,0.9s						
SNAA	**Sanae**	**80.01**	**178**	⇑P	**P**	**12 32 36.7**	**-1.3**
	comp=Z,20nm,0.8s						
SNAA	**Sanae**	**80.01**	**178**	P	**P**	**12 32 36.8**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=227,slow=5.9,SNR=5.0						
	comp=Z,0.7nm,0.8s						
VNA3	**Neumayer Olymp**	**80.14**	**176**	⇑P	**P**	**12 32 37.3**	**-1.4**
	comp=Z,2.8nm,0.8s						
VNA2	**Neumayer--Watz**	**80.58**	**177**	⇑P	**P**	**12 32 39.3**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=163,slow=5.5						
VNA1	**Neumayer--Stat**	**80.81**	**176**	⇑P	**P**	**12 32 41.2**	**-1.0**
	comp=Z,3.2nm,1.1s						
NVAR	**Mina Array Bea**	**86.63**	**43**	P	**P**	**12 33 13.7**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=221,slow=7.5,SNR=5.5						
	comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**91.08**	**57**	P	**P**	**12 33 34.6**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=252,slow=5.5,SNR=2.1						
	comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**120.05**	**314**	PKP	**PKPdf**	**12 39 18.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=114,slow=2.2,SNR=4.9						
BVAR	**Borovoye Array**	**125.31**	**317**	PKP	**PKPdf**	**12 39 28.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=94,slow=4.5,SNR=3.8						
NOA	**NORSAR Array B**	**146.96**	**352**	PKPbc	**PKPbc**	**12 40 10.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=15,slow=4.4,SNR=3.2						
HFS	**Hagfors**	**147.48**	**349**	PKPbc	**PKPbc**	**12 40 12.0**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=104,slow=3.1,SNR=5.0						
AKASG	**Malin Array Be**	**150.00**	**325**	PKPbc	**PKPbc**	**12 40 17.1**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=46,slow=2.6,SNR=6.9						
BRTR	**Keskin Array B**	**151.97**	**302**	PKPbc	**PKPbc**	**12 40 24.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=148,slow=4.1,SNR=4.5						

*AFAD **11** 12:35:05.3, 35.˚15N×27.˚84E, h7^{km}±2^{km}, MW4.0*
*IDC **11** 12:35:05.7±0.8, 35.˚15N×27.˚91E, h0^{km}, mb3.8/10, mbtmp3.9/21, ML3.5/9, MS2.8/2, Error ellipse: s-maj=18.4km s-min=12.9km az=172.0*
*HLW **11** 12:35:07.7, 35.˚30N×27.˚94E, h30^{km}±7^{km}, Md3.7, Ml3.4*
*NIC **11** 12:35:07.0, 35.˚12N×27.˚96E, h8^{km}±1^{km}, Ml3.6/13*
*ISK **11** 12:35:07.5, 35.˚20N×27.˚90E, h10^{km}, ML3.7/12*
*GII **11** 12:35:08.2±0.0, 34.˚928N±0.˚002×28.˚017E±0.˚001, h8^{km}, Mws3.8, confirmed*
*ATH **11** 12:35:09.0, 35.˚26N×27.˚93E, h8^{km}±6^{km}, ML3.6/6, Manual Solution by K.Orfanogiannaki First location: 2019/08/11 12:35:53, This location: 2019/08/11 13:01:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*THE **11** 12:35:09.3, 35˚N±5˚×2˚8E±˚, h4^{km}±11^{km}, M3.6/10, MLh3.6/10*

ISC 11 12:35:06.7±1.3, 35.˚13N±0.˚03×27.˚96E±0.˚02, h6^{km}±8^{km}, n179, σ1^{s}27/215, mb3.8/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.78**	**303**	Pg	**Pg**	**12 35 20.9**	**-0.6**
KARP				Sg	**Sg**	**12 35 31.6**	**-0.1**
KARP	**Karpathos**	**0.78**	**303**	P	**Pg**	**12 35 21.0**	**-0.6**
KARP				S	**Sg**	**12 35 30.3**	**-1.4**
KARP	**Karpathos**	**0.78**	**303**	P	**Pg**	**12 35 20.8**	**-0.8**
KARP				S	**Sb**	**12 35 33.6**	**+0.3**
KARP				AML	AML	12 35 38.0	
	11nm,0.4s						
KARP				AML	AML	12 35 42.5	
	13nm,0.5s						
KARP	**Karpathos**	**0.78**	**303**	P	**Pg**	**12 35 21.0**	**-0.5**
ARG	**Arkhangelos**	**1.10**	**7**	Pg	**Pb**	**12 35 28.1**	**+0.1**
ARG				Sg	**Sb**	**12 35 42.2**	**-0.4**
ARG	**Arkhangelos**	**1.10**	**7**	P	**Pg**	**12 35 27.8**	**+0.1**
ARG				S	**Sg**	**12 35 41.1**	**-0.8**
ARG	**Arkhangelos**	**1.10**	**7**	P	**Pg**	**12 35 27.7**	**0.0**
ARG				S	**Sn**	**12 35 44.2**	**+0.2**
ARG				AML	AML	12 35 51.5	
	5.8nm,0.4s						
ARG				AML	AML	12 35 55.1	
	4.7nm,0.4s						
ARG	**Arkhangelos**	**1.10**	**7**	P	**Pg**	**12 35 27.7**	**0.0**
ARG				S	**Sg**	**12 35 40.4**	**-1.6**
ZKR	**Zakros**	**1.43**	**270**	Pn	**Pn**	**12 35 33.7**	**+0.6**
ZKR	**Zakros**	**1.43**	**270**	P	**Pn**	**12 35 33.3**	**+0.2**
ZKR	**Zakros**	**1.43**	**270**	P	**Pn**	**12 35 33.1**	**0.0**
ZKR				S	**Sg**	**12 35 53.5**	**+1.0**
ZKR				AML	AML	12 35 59.7	
	1.8nm,0.5s						
ZKR				AML	AML	12 36 01.9	
	3.6nm,0.6s						
ZKR	**Zakros**	**1.43**	**270**	P	**Pg**	**12 35 35.3**	**+1.3**
ZKR				S	**Sg**	**12 35 53.6**	**+1.0**
YAZI	**Mula-Dat§a-**	**1.61**	**345**	P	**Pn**	**12 35 35.5**	**-0.1**
YAZI				S	**Sn**	**12 35 55.6**	**-1.0**
YAZI				*i* IAML		12 36 00.0	
	comp=E,810nm,0.5s						
YAZI				*i* IAML		12 36 03.0	
	comp=N,701nm,0.5s						
NISR	**Nisiros**	**1.63**	**336**	P	**Pn**	**12 35 35.5**	**-0.3**
NISR				S	**Sn**	**12 35 56.1**	**-1.1**
NISR	**Nisiros**	**1.63**	**336**	P	**Pb**	**12 35 36.9**	**-0.2**
DAT	**Datca**	**1.63**	**349**	Pn	**Pn**	**12 35 35.7**	**-0.3**
DAT	**Datca**	**1.63**	**349**	P	**Pn**	**12 35 36.3**	**+0.3**
DAT				S	**Sn**	**12 35 55.6**	**-1.7**
TURN	**Turunc**	**1.66**	**8**	P	**Pb**	**12 35 36.0**	**+0.3**
TURN				S	**Sg**	**12 35 59.2**	**-0.9**
TURN				*i* IAML		12 36 08.0	
	comp=N,642nm,0.4s						
TURN				*i* IAML		12 36 10.0	
	comp=E,500nm,0.4s						
IZZE	**Mula-Seydike**	**1.67**	**38**	P	**Pb**	**12 35 37.4**	**-0.3**
KSL	**Kastellorizon**	**1.67**	**52**	P	**Pb**	**12 35 37.6**	**-0.2**
KSL	**Kastellorizon**	**1.67**	**52**	P	**Pn**	**12 35 37.0**	**+0.6**
KSL				S	**Sb**	**12 35 59.3**	**+0.2**
KSL				AML	AML	12 36 07.9	
	0.5nm,0.6s						
KSL				AML	AML	12 36 27.5	
	0.8nm,0.8s						
KSL	**Kastellorizon**	**1.67**	**52**	P	**Pb**	**12 35 37.4**	**-0.4**
KSL				S	**Sb**	**12 35 58.9**	**-0.2**
SABU	**Mula-Dalaman**	**1.88**	**25**	P	**Pn**	**12 35 40.2**	**+0.8**
SABU				S	**Sg**	**12 36 08.3**	**+1.1**
SABU				*i* IAML		12 36 22.0	
	comp=E,356nm,0.5s						
SABU				*i* IAML		12 36 32.0	
	comp=N,367nm,0.7s						
NPS	**Neapolis**	**1.93**	**275**	P	**Pn**	**12 35 41.1**	**+1.1**
NPS	**Neapolis**	**1.93**	**275**	P	**Pn**	**12 35 41.6**	**+1.7**
BDRM	**Kayabasi**	**1.98**	**348**	P	**Pn**	**12 35 41.0**	**+0.3**
CAME	**Cameli-Denizli**	**2.12**	**31**	Pn	**Pn**	**12 35 43.8**	**+1.1**
MULA	**Mugla, Merkez-**	**2.15**	**8**	P	**Pb**	**12 35 45.7**	**+0.3**
MULA				S	**Sb**	**12 36 13.8**	**+0.9**
MULA				*i* IAML		12 36 22.0	
	comp=E,357nm,0.6s						
MULA				*i* IAML		12 36 25.0	
	comp=N,170nm,0.6s						
KNIK	**Mula-Seydike**	**2.16**	**37**	P	**Pn**	**12 35 44.8**	**+1.6**
AKUM	**Antalya-Kumluc**	**2.28**	**58**	P	**Pn**	**12 35 46.0**	**+1.2**
CAEL	**Denizli, Camel**	**2.28**	**29**	P	**Pb**	**12 35 46.9**	**-1.3**
DNZT	**Denizli-Tavas-**	**2.31**	**22**	P	**Pn**	**12 35 46.8**	**+1.4**
THERA	**Ancient Thera,**	**2.37**	**302**	P	**Pn**	**12 35 46.5**	**+0.5**
IACM	**Heraklion**	**2.37**	**275**	P	**Pn**	**12 35 47.3**	**+1.2**
IACM	**Heraklion**	**2.37**	**275**	P	**Pn**	**12 35 47.9**	**+1.8**
DDIM	**Aydin, Didim**	**2.40**	**346**	P	**Pg**	**12 35 52.3**	**-0.3**
DDIM				S	**Sb**	**12 36 19.0**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.46**	**18**	P	**Pn**	**12 35 48.5**	**+1.1**
TAVA				S	**Sb**	**12 36 21.6**	**-0.3**
TAVA				*i* IAML		12 36 32.0	
	comp=E,227nm,0.4s						
TAVA				*i* IAML		12 36 34.0	
	comp=N,216nm,0.5s						
GOLH	**Golhisar**	**2.47**	**31**	P	**Pb**	**12 35 49.9**	**-1.7**
IDI	**Anoyia**	**2.52**	**275**	P	**Pn**	**12 35 49.3**	**+1.1**
IDI	**Anoyia**	**2.52**	**275**	Pn	**Pn**	**12 35 49.1**	**+1.0**
	35nm,0.3s,baz=94,slow=13,SNR=43						
IDI				Sn	**Sb**	**12 36 23.7**	**+0.1**
	16nm,0.3s,baz=44,slow=13,SNR=5.6						
IDI	**Anoyia**	**2.52**	**275**	P	**Pn**	**12 35 50.3**	**+2.1**
AYDN	**Tasoluk**	**2.53**	**359**	P	**Pn**	**12 35 48.2**	**-0.2**
AYDN				S	**Sn**	**12 36 18.7**	**-0.8**
AYDN				*i* IAML		12 36 35.0	
	comp=N,245nm,0.7s						
AYDN				*i* IAML		12 36 39.0	
	comp=E,210nm,0.6s						
APMY	**Acipayam-Deniz**	**2.58**	**24**	Pn	**Pn**	**12 35 50.1**	**+1.1**
GCAM	**G?zelcaml?**	**2.63**	**347**	P	**Pn**	**12 35 51.5**	**+1.8**
DNIZ	**Denizli-Tavas-**	**2.64**	**19**	P	**Pn**	**12 35 51.5**	**+1.6**
ESEN	**Aydn-Nazilli**	**2.69**	**7**	P	**Pn**	**12 35 52.6**	**+2.2**
ESEN				S	**Sn**	**12 36 23.9**	**+0.8**
ESEN				*i* IAML		12 36 32.0	
	comp=E,123nm,0.8s						
ESEN				*i* IAML		12 36 40.0	
	comp=N,119nm,0.8s						
SMG	**Samos**	**2.73**	**341**	P	**Pn**	**12 35 51.5**	**+0.4**
SMG	**Samos**	**2.73**	**341**	P	**Pn**	**12 35 51.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**359**	Pn	**Pn**	**12 35 52.7**	**+0.4**
NAZL	**Nazilli-Aydin**	**2.84**	**5**	Pn	**Pn**	**12 35 53.4**	**+0.8**
INCE	**Denizli-Bozkur**	**2.89**	**26**	P	**Pn**	**12 35 54.8**	**+1.5**
INCE				S	**Sb**	**12 36 31.7**	**-2.6**
INCE				*i* IAML		12 36 49.0	
	comp=E,139nm,0.5s						
INCE				*i* IAML		12 36 56.0	
	comp=N,114nm,0.7s						
IZMR	**zmir-demi**	**3.00**	**360**	P	**Pn**	**12 35 56.1**	**+1.4**
IZMR				S	**Sn**	**12 36 28.1**	**-3.0**
IZMR				*i* IAML		12 36 51.0	
	comp=E,102nm,0.8s						
IZMR				*i* IAML		12 36 54.0	
	comp=N,75nm,0.7s						
BUCA	**Burdur, Bucak-**	**3.04**	**43**	P	**Pn**	**12 35 58.3**	**+3.0**
DGB	**zmir**	**3.05**	**344**	P	**Pn**	**12 35 54.8**	**-0.6**
DGB				S	**Sn**	**12 36 35.0**	**+2.9**
DGB				*i* IAML		12 36 55.0	
	comp=E,62nm,0.8s						
DGB				*i* IAML		12 37 06.0	
	comp=N,46nm,0.7s						
BRDR	**BURDUR-Merkez**	**3.08**	**33**	P	**Pn**	**12 35 57.5**	**+1.7**
KIRA	**zmir-Kiraz**	**3.08**	**6**	P	**Pn**	**12 35 57.5**	**+1.5**
ODEM	**Odemis-Izmir**	**3.15**	**2**	Pn	**Pn**	**12 35 57.2**	**+0.4**
GVD	**Gavdhos**	**3.19**	**266**	P	**Pn**	**12 35 58.5**	**+1.1**
GVD	**Gavdhos**	**3.19**	**266**	P	**Pn**	**12 35 59.1**	**+1.8**
CHAN	**Chania**	**3.23**	**278**	P	**Pn**	**12 35 59.4**	**+1.6**
BASM	**Basmaki-Afyon**	**3.26**	**31**	Pn	**Pn**	**12 35 59.9**	**+1.6**
ZEYE	**Izmir, Urla-Ze**	**3.32**	**340**	P	**Pn**	**12 36 01.4**	**+2.0**
ISP	**Isparta**	**3.39**	**37**	Pn	**Pn**	**12 36 01.2**	**+1.0**
ISP	**Isparta**	**3.39**	**37**	P	**Pn**	**12 36 01.7**	**+1.5**
MANT	**Manisa**	**3.39**	**8**	P	**Pn**	**12 35 59.7**	**-0.6**
URLA	**Izmir**	**3.41**	**342**	P	**Pn**	**12 36 01.4**	**+1.0**
KULA	**Kula-Manisa**	**3.43**	**9**	Pn	**Pn**	**12 36 00.8**	**+0.1**
PASA	**Karahalli, USA**	**3.44**	**20**	P	**Pn**	**12 36 01.9**	**+1.0**
KNDR	**Palaiochora Ch**	**3.50**	**273**	P	**Pn**	**12 36 03.6**	**+2.0**
AKMS	**Akamas**	**3.59**	**90**	P	**Pn**	**12 36 03.8**	**+0.9**
AKMS				S	**Sn**	**12 36 48.0**	**+2.5**
AKMS				AML	AML	12 36 50.5	
	0.4nm,0.4s						
AKMS				AML	AML	12 36 50.9	
	0.5nm,0.4s						
CHOS	**Chios island**	**3.60**	**335**	P	**Pn**	**12 36 03.1**	**+0.1**
BAGO	**Egridir - ISPA**	**3.66**	**38**	P	**Pb**	**12 36 08.8**	**-2.9**
USAK	**Uak-Merkez**	**3.68**	**13**	P	**Pn**	**12 36 04.4**	**+0.3**
AFYN	**Afyon-Dinar-K**	**3.75**	**32**	P	**Pn**	**12 36 08.3**	**+3.2**
AKHS	**Akhisar**	**3.75**	**358**	P	**Pn**	**12 36 03.8**	**-1.2**
GORD	**Gordes-Manisa**	**3.78**	**3**	Pn	**Pn**	**12 36 06.4**	**+0.9**
ALFC	**Alefka**	**3.80**	**88**	P	**Pn**	**12 36 06.3**	**+0.5**
ALFC				S	**Sn**	**12 36 52.5**	**+1.7**
ALFC				AML	AML	12 36 56.6	
	0.5nm,0.9s						
ALFC				AML	AML	12 37 06.4	
	0.4nm,0.4s						
NATA	**Nata**	**3.80**	**94**	P	**Pn**	**12 36 06.2**	**+0.4**
NATA				AML	AML	12 36 56.5	
	1.4nm,0.5s						
NATA				AML	AML	12 37 02.9	
	0.7nm,0.6s						
ZEDA	**zmir-Bergama**	**3.90**	**350**	P	**Pn**	**12 36 06.9**	**-0.2**
DEMI	**Demirci**	**3.96**	**9**	P	**Pn**	**12 36 08.1**	**+0.2**
TROD	**Troodos**	**4.03**	**91**	P	**Pn**	**12 36 09.0**	**0.0**
TROD				S	**Sn**	**12 36 58.1**	**+1.5**
TROD				AML	AML	12 37 07.2	
	0.4nm,0.6s						
TROD				AML	AML	12 37 08.2	
	0.3nm,0.5s						
YVAC	**Isparta, Yalva**	**4.10**	**39**	P	**Pn**	**12 36 10.5**	**+0.5**
GDZ	**Gediz**	**4.14**	**17**	P	**Pn**	**12 36 11.2**	**+0.7**
XYLS	**Xyliatos**	**4.18**	**90**	P	**Pn**	**12 36 11.3**	**+0.4**
XYLS				S	**Sn**	**12 37 01.7**	**+1.7**
XYLS				AML	AML	12 37 11.2	
	0.4nm,0.4s						
XYLS				AML	AML	12 37 14.0	
	0.2nm,0.6s						
SLUM	**Salum**	**4.29**	**213**	P	**Pn**	**12 36 12.8**	**+0.4**
SLUM				S	**Sn**	**12 37 01.2**	**-1.7**
ASGA	**Asgata**	**4.36**	**93**	P	**Pn**	**12 36 13.9**	**+0.5**
ASGA				S	**Sn**	**12 37 05.7**	**+1.3**
ASGA				AML	AML	12 37 11.0	
	0.4nm,0.7s						
ASGA				AML	AML	12 37 12.5	
	0.8nm,0.7s						
EMET	**Ktahya-Emet**	**4.38**	**14**	P	**Pn**	**12 36 14.0**	**+0.3**
CSS	**Mathiatis**	**4.41**	**91**	P	**Pn**	**12 36 14.6**	**+0.4**
CSS				S	**Sn**	**12 37 07.5**	**+1.8**
CSS				AML	AML	12 37 15.1	
	0.3nm,0.6s						
CSS				AML	AML	12 37 20.1	
	0.3nm,0.6s						
CSS	**Mathiatis**	**4.41**	**91**	P	**Pn**	**12 36 14.8**	**+0.7**
CSS	**Mathiatis**	**4.41**	**91**	S	**Sn**	**12 37 06.1**	**+0.3**
BYAT	**Afyon-Bayat**	**4.52**	**31**	P	**Pn**	**12 36 19.3**	**+3.6**
MVOU	**Mavrovouni**	**4.65**	**90**	P	**Pn**	**12 36 17.9**	**+0.5**
MVOU				AML	AML	12 37 26.1	
	0.1nm,0.5s						
MVOU				AML	AML	12 37 27.1	
	0.1nm,0.8s						
PARAL	**Paralimni**	**4.99**	**90**	P	**Pn**	**12 36 23.7**	**+1.7**
PARAL				AML	AML	12 37 40.0	
	0.2nm,1.0s						
PARAL				AML	AML	12 37 41.6	
	0.2nm,0.7s						
HNAT	**Natroun**	**5.92**	**157**	P	**Pn**	**12 36 35.8**	**+1.0**
HNAT				S	**Sn**	**12 37 42.2**	**-0.9**
KOT	**Kottamia**	**6.13**	**147**	P	**Pn**	**12 36 38.5**	**+0.8**
HHAG	**Hagoal**	**6.23**	**145**	P	**Pn**	**12 36 39.9**	**+0.8**
SWA2		**6.24**	**201**	P	**Pn**	**12 36 40.9**	**+1.7**
RYAN	**Fayoum**	**6.34**	**161**	P	**Pn**	**12 36 41.5**	**+0.9**
OFRI	**`Ofer**	**6.36**	**111**	P	**Pn**	**12 36 40.4**	**-0.4**
OFRI	**`Ofer**	**6.36**	**111**	S	**Sn**	**12 37 52.4**	**-1.3**
BRTR	**Keskin Array B**	**6.44**	**43**	Pn	**Pn**	**12 36 43.0**	**+0.8**
	0.3nm,0.3s,baz=226,slow=15,SNR=14						
BRTR				Sn	**Sn**	**12 37 57.8**	**+1.8**
	0.4nm,0.3s,baz=215,slow=26,SNR=5.1						
	1.7nm,0.6s						
DQRL	**Deir Qamar**	**6.45**	**101**	eP	**Pn**	**12 36 42.5**	**+0.3**
MMA0B	**Mount Meron ar**	**6.53**	**107**	P	**Pn**	**12 36 43.3**	**+0.1**
MMA0B	**Mount Meron ar**	**6.53**	**107**	S	**Sn**	**12 37 57.3**	**-0.7**
MMAI	**Mount Meron Ar**	**6.53**	**107**	Pn	**Pn**	**12 36 43.2**	**0.0**
	4.6nm,0.2s,baz=297,slow=13,SNR=31						
MMAI				Sn	**Sn**	**12 37 58.0**	**0.0**
	4.9nm,0.3s,baz=313,slow=16,SNR=1.9						
SLTI	**Sal'it**	**6.57**	**114**	P	**Pn**	**12 36 43.9**	**+0.1**
SLTI	**Sal'it**	**6.57**	**114**	S	**Sn**	**12 37 57.5**	**-1.4**
QRWL	**Qaraoun**	**6.58**	**102**	eP	**Pn**	**12 36 44.3**	**+0.3**
HWQ	**Hawqa**	**6.63**	**95**	eP	**Pn**	**12 36 44.9**	**+0.2**
GEM	**Giv'at Ha'Em**	**6.67**	**104**	P	**Pn**	**12 36 45.3**	**+0.2**
GEM	**Giv'at Ha'Em**	**6.67**	**104**	S	**Sn**	**12 38 00.9**	**-0.5**
ZAHL	**Zahle**	**6.67**	**99**	eP	**Pn**	**12 36 45.9**	**+0.7**
SHBL	**Chabaa**	**6.69**	**103**	eP	**Pn**	**12 36 45.4**	**-0.1**
NATI	**Neve Ativ**	**6.71**	**104**	P	**Pn**	**12 36 45.6**	**0.0**
NATI	**Neve Ativ**	**6.71**	**104**	S	**Sn**	**12 38 01.9**	**-0.4**
RCY	**Rachaya**	**6.72**	**102**	eP	**Pn**	**12 36 46.1**	**+0.1**
MMLI	**Mount Malkishu**	**6.77**	**111**	P	**Pn**	**12 36 46.5**	**0.0**
MMLI	**Mount Malkishu**	**6.77**	**111**	S	**Sn**	**12 38 02.8**	**-1.1**
BEIL	**Beino**	**6.79**	**93**	eP	**Pn**	**12 36 46.2**	**-0.6**
AMAZ	**Amatzia**	**6.83**	**120**	P	**Pn**	**12 36 47.2**	**-0.2**
AMAZ	**Amatzia**	**6.83**	**120**	S	**Sn**	**12 38 04.2**	**-1.3**
KZIT	**Kziot**	**6.85**	**126**	P	**Pn**	**12 36 47.1**	**-0.5**
KZIT	**Kziot**	**6.85**	**126**	S	**Sn**	**12 38 03.4**	**-2.5**
HMDT	**Nahal Hemdat**	**6.93**	**112**	P	**Pn**	**12 36 48.6**	**-0.1**
HMDT	**Nahal Hemdat**	**6.93**	**112**	S	**Sn**	**12 38 06.4**	**-1.4**
ZAF	**Zafarana**	**7.00**	**145**	P	**Pn**	**12 36 50.7**	**+1.0**
UJAP	**Al Uja**	**7.02**	**115**	P	**Pn**	**12 36 49.8**	**-0.1**
UJAP	**Al Uja**	**7.02**	**115**	S	**Sn**	**12 38 08.5**	**-1.5**
YTIR	**Yattir**	**7.07**	**120**	P	**Pn**	**12 36 50.8**	**+0.1**
YTIR	**Yattir**	**7.07**	**120**	S	**Sn**	**12 38 10.4**	**-1.1**
ZNM	**Zenema**	**7.08**	**143**	P	**Pn**	**12 36 51.7**	**+0.9**
DSI	**Dead Sea**	**7.15**	**118**	P	**Pn**	**12 36 51.6**	**-0.2**
DSI	**Dead Sea**	**7.15**	**118**	S	**Sn**	**12 38 11.6**	**-1.6**
**MSBI

RAO	**Raoul Island**	**1.18**	**359**	Pn	Pn	14 01 28.2	+0.2
	79nm,0.3s,baz=7.5,slow=16,SNR=6.0								
RAO				Sn	Sn	14 01 43.8	+0.5
	289nm,0.3s,baz=91,slow=23,SNR=9.0								
URZ	**Urewera**	**8.83**	**207**	Pn	Pn	14 03 11.1	-2.0
	0.4nm,0.3s,baz=265,slow=6.2,SNR=6.0								
URZ				Sn	Sn	14 04 50.6	-2.7
	0.8nm,0.3s,baz=72,slow=23,SNR=7.6								
	12nm,0.9s								
ASAR	**Alice Springs**	**43.20**	**267**	P	P	14 09 07.2	0.0
	0.3nm,0.6s,baz=103,slow=7.6,SNR=6.7								
	0.3nm,0.6s								
WRA	**Warramunga Arr**	**44.19**	**272**	P	P	14 09 15.4	+0.1
	0.3nm,0.3s,baz=111,slow=8.1,SNR=6.6								
	0.3nm,0.3s								
H03S2	**Juan Fernandez**	**80.37**	**123**	T	T	15 42 32.0			
	baz=238,slow=74,SNR=4.3								
H03S1	**Juan Fernandez**	**80.38**	**124**	T	T	15 42 33.4			
	baz=238,slow=74,SNR=3.4								
H03S3	**Juan Fernandez**	**80.38**	**123**	T	T	15 42 32.0			
	baz=238,slow=74,SNR=4.4								
H10N3	**ASCENSION HYDR**	**38.74**	**155**	T	T	16 56 29.2			
	baz=203,slow=74,SNR=3.7								
H10N1	**ASCENSION HYDR**	**38.74**	**155**	T	T	16 56 30.9			
	baz=203								
H10N2	**ASCENSION HYDR**	**38.75**	**155**	T	T	16 56 14.7			
	baz=203,slow=74,SNR=3.5								
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc	PKPbc	14 20 42.4	-0.3
	1.8nm,0.8s,baz=50,slow=6.5,SNR=4.8								

*LDG **11** 14:04:13.8±0.1,45.03N×6.72E,h8km,Md1.8/4,Ml2.5/22, Error ellipse: s-maj=1.8km s-min=1.1km az=81.0*
*GEN **11** 14:04:13.2,45.03N×6.74E,h7km,Ml2.0*
*ROM **11** 14:04:13.5±0.1,45.027N±0.006×6.75E±0.02,h9km±1km, ML1.9/25,Error ellipse: s-maj=1.7km s-min=0.7km az=259.0*
*STR **11** 14:04:14.0±0.3,45°N±2″×°±°,h3km,MLv2.0/7,LOCSAT earthModelID alpes_taup-2.11 preliminary*

ISC 11 14:04:13.8±0.8,45.03N±0.01×6.75E±0.02,h10km±4km, n78,σ0992/136,3C-2D,France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNI	**Bardonecchia**	**0.05**	**294**	P			**Pg**	**14 04 15.7**	**-0.4**
BNI				S			**Sg**	**14 04 16.9**	**-0.8**
BNI	**Bardonecchia**	**0.05**	**294**	⇓P			**Pg**	**14 04 15.7**	**-0.4**
BNI				S			**Sg**	**14 04 16.9**	**-0.8**
BNI				AML	AML				
	comp=E,683μm,0.2s								
BNI				AML	AML				
	comp=E,764μm,0.2s								
BNI				AML	AML				
	comp=E,684μm,0.2s								
BNI				AML	AML				
	comp=N,2110μm,0.1s								
BNI				AML	AML				
	comp=N,2180μm,0.1s								
BNI				AML	AML				
	comp=E,590μm,0.1s								
BNI				AML	AML				
	comp=N,2178μm,0.1s								
BNI				AML	AML				
	comp=E,598μm,0.1s								
BNI				AML	AML				
	comp=N,2113μm,0.1s								
RRL	**Rocca Remolon**	**0.12**	**164**	P			**Pg**	**14 04 16.8**	**0.0**
RRL				S			**Sg**	**14 04 19.0**	**0.0**
RRL	**Rocca Remolon**	**0.12**	**164**	⇓P			**Pg**	**14 04 16.8**	**0.0**
RRL				S			**Sg**	**14 04 19.0**	**0.0**
OGMO	**Fort Saint-Gob**	**0.18**	**347**	P			**Pg**	**14 04 17.8**	**-0.1**
OGMO				S			**Sg**	**14 04 20.6**	**+0.1**
MBDF	**Montbardon**	**0.30**	**176**	*e*Pg			**Pg**	**14 04 19.6**	**-0.4**
MBDF				*e*Sg			**Sg**	**14 04 23.8**	**-0.3**
	comp=N,79nm,0.2s								
RSP	**Reno Superiore**	**0.39**	**72**	P			**Pg**	**14 04 21.7**	**+0.2**
RSP				S			**Sg**	**14 04 27.3**	**+0.7**
RSP	**Reno Superiore**	**0.39**	**72**	⇑P			**Pg**	**14 04 21.8**	**+0.2**
RSP				S			**Sg**	**14 04 27.4**	**+0.7**
RSP				AML	AML				
	comp=E,408μm,0.1s								
RSP				AML	AML				
	comp=N,392μm,1.1s								
RSP				AML	AML				
	comp=N,392μm,1.1s								
RSP				AML	AML				
	comp=E,475μm,0.1s								
RSP				AML	AML				
	comp=N,434μm,1.1s								
RSP				AML	AML				
	comp=N,359μm,0.2s								
RSP				AML	AML				
	comp=N,400μm,0.1s								
RSP				AML	AML				
	comp=E,475μm,0.1s								
RSP				AML	AML				
	comp=E,408μm,0.1s								
BHB	**Bricherasio**	**0.41**	**117**	P			**Pg**	**14 04 22.2**	**+0.2**
BHB				S			**Sg**	**14 04 27.6**	**+0.1**
BHB	**Bricherasio**	**0.41**	**117**	⇑P			**Pg**	**14 04 22.2**	**+0.2**
BHB				S			**Sg**	**14 04 27.7**	**+0.3**
BHB				AML	AML				
	comp=N,625μm,0.1s								
BHB				AML	AML				
	comp=E,412μm,1.5s								
BHB				AML	AML				
	comp=E,392μm,0.2s								
BHB				AML	AML				
	comp=N,625μm,0.1s								
LPG	**La Plagne**	**0.47**	**1**	*e*Pg			**Pg**	**14 04 22.9**	**-0.2**
LPG				*e*Sg			**Sg**	**14 04 28.8**	**-0.5**
	comp=N,88nm,0.2s								
LPL	**La Plagne**	**0.49**	**359**	*e*Pg			**Pg**	**14 04 23.3**	**-0.1**
LPL				*e*Sg			**Sg**	**14 04 30.3**	**+0.5**
	comp=N,90nm,0.2s								
LSD	**Lago del Serru**	**0.51**	**33**	P			**Pg**	**14 04 23.9**	**0.0**
LSD				S			**Sg**	**14 04 30.7**	**+0.1**
LSD	**Lago del Serru**	**0.51**	**33**	⇑P			**Pg**	**14 04 23.9**	**0.0**
LSD				S			**Sg**	**14 04 30.8**	**+0.1**
LSD				AML	AML				
	comp=E,3μm,1.0s								
LSD				AML	AML				
	comp=N,467μm,0.2s								
LSD				AML	AML				
	comp=N,467μm,0.2s								
SURF	**Saint Ours**	**0.55**	**175**	P			**Pg**	**14 04 24.4**	**-0.2**
SURF				S			**Sg**	**14 04 32.4**	**+0.5**
PZZ	**Stroppo**	**0.59**	**153**	P			**Pg**	**14 04 24.8**	**-0.5**
PZZ				S			**Sg**	**14 04 32.8**	**-0.2**
PZZ	**Stroppo**	**0.59**	**153**	P			**Pg**	**14 04 24.7**	**-0.5**
PZZ				S			**Sg**	**14 04 33.1**	**+0.2**
PZZ				AML	AML				
	comp=N,382μm,1.0s								
PZZ				AML	AML				
	comp=E,626μm,0.7s								
PZZ				AML	AML				
	comp=N,374μm,0.2s								
PZZ				AML	AML				
	comp=E,621μm,0.2s								
JAUF	**Jausiers**	**0.60**	**180**	Pg			**Pg**	**14 04 25.0**	**-0.5**
JAUF				Sg			**Sg**	**14 04 33.9**	**+0.4**
ORIF	**Oris-en-Rattie**	**0.62**	**260**	*e*Pg			**Pg**	**14 04 25.1**	**-0.9**
ORIF				*e*Sg			**Sg**	**14 04 32.9**	**-1.3**
	comp=E,48nm,0.3s								
GRN	**Grenoble**	**0.74**	**287**	Pg			**Pg**	**14 04 27.9**	**-0.3**
GRN				Sg			**Sg**	**14 04 38.1**	**+0.3**
MRGE	**Morge**	**0.77**	**17**	P			**Pg**	**14 04 28.6**	**-0.2**
MRGE	**Morge**	**0.77**	**17**	P			**Pg**	**14 04 28.6**	**-0.2**
MRGE				AML	AML				
	comp=E,79μm,0.5s								
MRGE				AML	AML				
	comp=N,105μm,1.0s								
MRGE				AML	AML				
	comp=E,57μm,0.1s								
MRGE				AML	AML				
	comp=N,97μm,0.2s								
MONC	**Moncucco Torin**	**0.84**	**87**	P			**Pb**	**14 04 31.1**	**+0.6**
MONC	**Moncucco Torin**	**0.84**	**87**	P			**Pb**	**14 04 30.7**	**+0.1**
MONC				AML	AML				
	comp=E,152μm,0.2s								
MONC				AML	AML				
	comp=N,146μm,0.3s								
MONC				AML	AML				
	comp=N,146μm,0.3s								
MONC				AML	AML				
	comp=E,152μm,0.2s								
TRAV	**Traversella**	**0.86**	**55**	P			**Pg**	**14 04 30.2**	**-0.1**
TRAV				S			**Sb**	**14 04 42.3**	**-0.1**
TRAV	**Traversella**	**0.86**	**55**	P			**Pg**	**14 04 30.3**	**-0.1**
TRAV				S			**Sg**	**14 04 41.7**	**+0.2**
TRAV				AML	AML				
	comp=E,150μm,0.8s								
TRAV				AML	AML				
	comp=N,116μm,0.9s								
TRAV				AML	AML				
	comp=N,116μm,1.1s								
TRAV				AML	AML				
	comp=E,125μm,0.2s								
TRAV				AML	AML				
	comp=N,105μm,0.1s								
REMY	**Saint-Rhmy-en**	**0.86**	**20**	P			**Pg**	**14 04 30.4**	**-0.1**
REMY				S			**Sg**	**14 04 41.4**	**-0.2**
REMY	**Saint-Rhmy-en**	**0.86**	**20**	P			**Pg**	**14 04 30.2**	**-0.1**
REMY				AML	AML				
	comp=E,61μm,1.0s								
REMY				AML	AML				
	comp=N,76μm,0.6s								
REMY				AML	AML				
	comp=E,61μm,1.0s								
REMY				AML	AML				
	comp=N,76μm,0.6s								
REMY				AML	AML				
	comp=N,76μm,0.6s								
REMY				AML	AML				
	comp=E,50μm,0.3s								
ISO	**Isola**	**0.88**	**165**	P			**Pg**	**14 04 30.7**	**0.0**
ISO				S			**Sb**	**14 04 42.8**	**-0.1**
ISO	**Isola**	**0.88**	**165**	Pg			**Pg**	**14 04 30.1**	**-0.6**
ISO				Sg			**Sg**	**14 04 42.0**	**-0.1**
ENAUX	**Enaux**	**0.92**	**179**	Pg			**Pg**	**14 04 31.1**	**-0.5**
ENAUX				Sg			**Sg**	**14 04 43.8**	**+0.2**
ENR	**Entracque**	**0.94**	**149**	P			**Pg**	**14 04 31.2**	**-0.7**
ENR				S			**Sg**	**14 04 43.9**	**-0.2**
ENR	**Entracque**	**0.94**	**149**	P			**Pg**	**14 04 31.2**	**-0.7**
ENR				AML	AML				
	comp=E,78μm,0.3s								
ENR				AML	AML				
	comp=N,94μm,1.3s								
ENR				AML	AML				
	comp=E,78μm,1.7s								
ENR				AML	AML				
	comp=N,94μm,0.7s								
ENR				AML	AML				
	comp=N,72μm,0.2s								
ENR				AML	AML				
	comp=E,64μm,0.1s								
OGSM	**Saint Maurice**	**0.94**	**308**	Pg			**Pg**	**14 04 31.7**	**-0.2**
OGSM				Sg			**Sb**	**14 04 45.0**	**+0.3**
SPIF	**crte de Spivo**	**1.04**	**160**	Pg			**Pg**	**14 04 33.4**	**-0.3**
SPIF				Sg			**Sb**	**14 04 48.1**	**+0.5**
OGMY	**Moye**	**1.04**	**325**	Pg			**Pg**	**14 04 33.8**	**-0.1**
OGMY				Sg			**Sb**	**14 04 47.9**	**+0.2**
PIAF	**les Granges de**	**1.11**	**145**	Pg			**Pg**	**14 04 34.3**	**-0.8**
GBOS	**Grotte di Boss**	**1.11**	**135**	P			**Pg**	**14 04 34.4**	**-0.8**
GBOS				S			**Sg**	**14 04 48.2**	**-1.5**
DIX	**Grande Dixence**	**1.15**	**24**	Pg			**Pb**	**14 04 36.2**	**+0.2**
DIX				Sg			**Sb**	**14 04 51.6**	**+0.6**
TURF	**col de Turini**	**1.15**	**156**	Pg			**Pg**	**14 04 35.8**	**-0.2**
TURF				Sg			**Sb**	**14 04 51.5**	**+0.4**
BLAF	**les Blancs**	**1.19**	**205**	Pg			**Pn**	**14 04 36.7**	**+0.1**
BLAF				Sg			**Sn**	**14 04 52.7**	**-0.1**
SAOF	**Saorge**	**1.19**	**151**	P			**Pb**	**14 04 35.9**	**-0.6**
SAOF				AML	AML				
	comp=E,29μm,1.0s								
SAOF				AML	AML				
	comp=N,37μm,1.0s								
SAOF				AML	AML				
	comp=N,37μm,1.0s								
SAOF				AML	AML				
	comp=E,29μm,1.0s								
SAOF				AML	AML				
	comp=E,28μm,0.2s								
SAOF				AML	AML				
	comp=N,30μm,0.4s								
SAOF	**Saorge**	**1.19**	**151**	Pg			**Pb**	**14 04 36.1**	**-0.5**
SAOF				Sg			**Sb**	**14 04 52.7**	**+0.7**
SBF	**Sospel**	**1.27**	**157**	*e*Pg			**Pn**	**14 04 37.8**	**+0.1**
SBF				*e*Sg			**Sn**	**14 04 55.4**	**+0.6**
	comp=N,31nm,0.3s								
ESCA	**l'Escarene**	**1.28**	**159**	Pg			**Pn**	**14 04 37.9**	**+0.1**
ESCA				Sg			**Sn**	**14 04 55.9**	**+0.8**
CALF	**Calern**	**1.28**	**174**	Pg			**Pn**	**14 04 38.0**	**+0.1**
CALF				Sg			**Sn**	**14 04 56.0**	**+0.7**
TRIGF	**Trigance**	**1.31**	**191**	Pg			**Pg**	**14 04 38.8**	**-0.2**
TRIGF				Sg			**Sn**	**14 04 56.2**	**+0.4**
OG35	**Corcelles**	**1.31**	**321**	Pg			**Pb**	**14 04 38.7**	**+0.1**
OG35				Sg			**Sn**	**14 04 56.0**	**+0.3**
AIGLE	**Aigle**	**1.32**	**6**	Pg			**Pn**	**14 04 38.7**	**+0.3**
AIGLE				Sg			**Sn**	**14 04 57.6**	**+1.5**
MMK	**Mattmark**	**1.33**	**40**	P			**Pn**	**14 04 38.2**	**-0.5**
MMK				AML	AML				
	comp=N,8μm,1.2s								
MMK				AML	AML				
	comp=E,6μm,0.9s								
MMK				AML	AML				
	comp=N,8μm,0.8s								
MMK				AML	AML				
	comp=N,8μm,0.3s								
MMK				AML	AML				
	comp=E,5μm,0.2s								
QLNO	**Quiliano**	**1.34**	**121**	P			**Pn**	**14 04 38.4**	**-0.3**
QLNO	**Quiliano**	**1.34**	**121**	P			**Pn**	**14 04 38.3**	**-0.3**
QLNO				AML	AML				
	comp=E,32μm,1.5s								
QLNO				AML	AML				
	comp=N,35μm,1.3s								
QLNO				AML	AML				
	comp=E,32μm,0.5s								
QLNO				AML	AML				
	comp=N,35μm,0.7s								
QLNO				AML	AML				
	comp=N,28μm,0.4s								
QLNO				AML	AML				
	comp=E,28μm,0.3s								
SMRF	**Simiane la Rot**	**1.35**	**219**	*e*Pg			**Pg**	**14 04 39.5**	**-0.2**
SMRF				*e*Sg			**Sg**	**14 04 57.4**	**+0.2**
	comp=E,9.8nm,0.3s								
PCP	**Piancastagn**	**1.37**	**110**	P			**Pn**	**14 04 39.5**	**+0.3**
SENIN	**Lac Senin/Sane**	**1.39**	**16**	P			**Pb**	**14 04 40.2**	**+0.2**
RUSF	**Rustrel**	**1.42**	**220**	Pn			**Pb**	**14 04 40.5**	**+0.1**
RUSF				Sn			**Sg**	**14 05 00.3**	**+1.0**
VIVF	**Saint-Julien-l**	**1.48**	**264**	*e*Pg			**Pn**	**14 04 40.5**	**-0.1**
VIVF				*e*Sg			**Sn**	**14 04 58.7**	**-1.3**
	comp=E,4.4nm,0.2s								
ARTF	**Artigues**	**1.59**	**205**	Pn			**Pn**	**14 04 42.8**	**+0.7**
ARTF				Sn			**Sb**	**14 05 04.0**	**+0.4**
CABF	**La Chapelle**	**1.65**	**344**	*e*Pg			**Pn**	**14 04 43.6**	**+0.7**
CABF				*e*Sg			**Sg**	**14 05 07.9**	**+1.1**
	comp=E,7.9nm,0.3s								
LMR	**La Mourre**	**1.71**	**186**	*e*Pg			**Pb**	**14 04 45.1**	**-0.2**
LMR				*e*Sg			**Sb**	**14 05 07.0**	**+0.3**
	comp=E,6.1nm,0.2s								
LASF	**Ste Croix**	**2.27**	**246**	*e*P			**Pn**	**14 04 51.0**	**-0.5**
LASF				*e*Sn			**Sn**	**14 05 16.4**	**-3.2**
	comp=E,1.7nm,0.2s								
SMF	**Signal de Mont**	**2.59**	**310**	*e*P			**Pn**	**14 04 57.1**	**+1.2**
SMF	**Signal de Mont**	**2.59**	**310**	*e*Pg			**Pg**	**14 05 02.1**	**-1.4**
SMF				*e*Sg			**Sb**	**14 05 33.7**	**+1.3**
	comp=E,7.6nm,0.3s								
HINF	**Hinteralfeld**	**2.79**	**1**	*e*Pn			**Pn**	**14 04 57.9**	**-0.7**
HINF	**Hinteralfeld**	**2.79**	**1**	*e*Pg			**Pg**	**14 05 05.7**	**-1.6**
HINF				*e*Sg			**Sg**	**14 05 41.2**	**-2.2**
	comp=E,1.9nm,0.3s								
AVF	**Avril sur Loir**	**2.95**	**308**	*e*P			**Pn**	**14 05 00.9**	**+0.2**
AVF				*e*Sg			**Sb**	**14 05 44.1**	**+1.5**
	comp=E,3.6nm,0.3s								
PGF	**Pioggiola**	**2.97**	**146**	*e*Pn			**Pn**	**14 05 02.6**	**+1.5**
PGF				*e*Sn			**Sn**	**14 05 33.3**	**-3.6**
	comp=E,0.8nm,0.2s								
HAU	**Haudompre**	**2.99**	**355**	*e*P			**Pn**	**14 05 01.3**	**0.0**
HAU	**Haudompre**	**2.99**	**355**	*e*Pg			**Pg**	**14 05 09.2**	**-1.9**
HAU				*e*Sg			**Sg**	**14 05 48.0**	**-1.8**
	comp=E,4.2nm,0.3s								
LOR	**Lormes**	**3.00**	**319**	*e*P			**Pn**	**14 05 01.5**	**0.0**
	baz=139								
LOR				*e*Sg			**Sb**	**14 05 45.9**	**+1.7**
	comp=E,2.1nm,0.2s								
SSF	**Saint Saulge**	**3.04**	**313**	*e*P			**Pn**	**14 05 02.9**	**+1.0**
SSF	**Saint Saulge**	**3.04**	**313**	*e*Pg			**Pb**	**14 05 09.8**	**+1.9**
SSF				*e*Sg			**Sb**	**14 05 47.1**	**+2.1**
	comp=E,2.7nm,0.2s								
BGF	**Bois d'Agland**	**3.13**	**301**	*e*P			**Pn**	**14 05 03.6**	**+0.4**
BGF				*e*Sg			**Sg**	**14 05 52.4**	**-1.8**
	comp=E,8.6nm,0.4s								
CDF	**Champ du Feu**	**3.40**	**6**	*e*Pn			**Pn**	**14 05 06.0**	**-1.0**
CDF	**Champ du Feu**	**3.40**	**6**	*e*Pg			**Pg**	**14 05 17.2**	**-1.8**
CDF				*e*Sg			**Sg**	**14 06 01.1**	**-2.0**
	comp=E,1.1nm,0.3s								
TCF	**Toulx Ste Croi**	**3.42**	**293**	*e*P			**Pn**	**14 05 07.5**	**+0.3**
TCF				*e*Sg			**Sb**	**14 05 59.0**	**+2.9**
	comp=E,0.6nm,0.2s								
MTLF	**Montolieu**	**3.67**	**244**	*e*P			**Pn**	**14 05 10.7**	**+0.1**
ETSF	**Etsaut**	**5.69**	**251**	*e*P			**Pn**	**14 05 41.0**	**+2.6**

*NEIC **11** 15:02:40.8±0.3,28.26S±0.09×67.6W±0.1,h168km±25km, ML4.1/32,ML4.1(GUC),Error ellipse: s-maj=19.2km s-min=12.1km az=82.0*
*SJA **11** 15:02:40.7±0.6,28.25S×67.42W,h139km±3km,ML3.8, MW3.8*
*GUC **11** 15:02:41.4±0.5,28.21S×67.48W,h131km±7km,ML4.1*
*IDC **11** 15:02:41.1±2.1,28.30S×67.34W,h123km±18km,mb3.6/4, mbtmp3.8/7,Error ellipse: s-maj=30.2km s-min=16.8km az=118.0*

ISC 11 15:02:41.5±0.7,28.26S±0.03×67.46W±0.03,h139km±6km, n73,σ1940/101,mb3.9/4,2C-4D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AANI	**Anillaco**	**0.71**	**140**	*e*P			**Pn**	**15 03 02.8**	**-0.2**
AANI				*e*S			**Sn**	**15 03 18.3**	**-1.4**
VCA	**Vinchina**	**0.81**	**234**	⇑*i*P			**Pn**	**15 03 03.9**	**+0.1**
VCA				IAML				15 03 23.3	
	comp=E,5μm,0.3s								
VCA	**Vinchina**	**0.81**	**234**	*e*P			**Pn**	**15 03 03.9**	**+0.1**
VCA				*e*S			**Sn**	**15 03 21.1**	**+0.3**
VCA				IAML				15 03 23.3	
	comp=Z,3μm,0.2s								
ACLC	**CERRO LA CRUZ**	**1.24**	**159**	*e*P			**Pn**	**15 03 07.8**	**+0.1**
ACLC				*e*S			**Sn**	**15 03 27.0**	**-0.8**
ACLC				IAML				15 03 27.5	
	comp=Z,482nm,0.3s								
CYA	**Choya**	**1.47**	**97**	⇓*i*P			**Pn**	**15 03 10.1**	**+0.2**
CYA				*i* S			**Sn**	**15 03 30.2**	**-1.3**
CYA	**Choya**	**1.47**	**97**	*e*P			**Pn**	**15 03 09.9**	**0.0**
CYA				*e*S			**Sn**	**15 03 30.8**	**-0.8**
CYA				IAML				15 03 31.1	
	comp=Z,445nm,0.3s								
AGUA	**GUANDACOL**	**1.52**	**216**	*e*P			**Pn**	**15 03 10.7**	**+0.2**
AGUA				*e*S			**Sn**	**15 03 33.0**	**+0.2**
AC02	**Maricunga**	**2.06**	**313**				**Pn**	**15 03 17.3**	**+0.2**
AC02	**Maricunga**	**2.06**	**313**	⇑*e*P			**Pn**	**15 03 17.9**	**+0.8**
AC02				*e*S			**Sn**	**15 03 45.1**	**+0.7**
AC02	**Maricunga**	**2.06**	**313**	*e*P			**Pn**	**15 03 18.0**	**+0.9**
AC02				*e*S			**Sn**	**15 03 52.2**	**+7.9**
APLL	**PUNTA DE LOS L**	**2.28**	**159**	*e*P			**Pn**	**15 03 19.4**	**+0.1**
APLL				*e*S			**Sn**	**15 03 48.4**	**-0.1**
GUSE	**Guasayan**	**2.34**	**81**	*e*P			**Pn**	**15 03 20.0**	**-0.1**
AHML	**Horco Molle**	**2.39**	**53**	*i* P			**Pn**	**15 03 20.0**	**0.0**
AHML	**Horco Molle**	**2.39**	**53**	*e*P			**Pn**	**15 03 20.6**	**-0.2**
AHML				IAML				15 03 54.2	
	comp=Z,124nm,0.5s								
ACDV	**Cuesta del Vie**	**2.40**	**217**	*e*P			**Pn**	**15 03 21.4**	**+0.5**
ACDV				IAML				15 03 53.3	
	comp=Z,303nm,0.4s								
GO03	**Copiapo**	**2.55**	**284**				**Pn**	**15 03 22.2**	**-0.6**
GO03				Sn			**Sn**	**15 03 52.5**	**-1.9**
GO03				IAML				15 03 54.0	
	comp=N,603nm,0.3s								
GO03	**Copiapo**	**2.55**	**284**	⇓*i*P			**Pn**	**15 03 22.5**	**-0.2**
GO03				IAML				15 03 54.5	
	comp=E,1μm,0.3s								
GO03	**Copiapo**	**2.55**	**284**	*e*P			**Pn**	**15 03 21.8**	**-0.9**
GO03				*e*S			**Sn**	**15 03 53.1**	**-1.3**
AROD	**Rodeo**	**2.59**	**222**	*e*P			**Pn**	**15 03 24.3**	**+0.7**
AROD				*e*S			**Sn**	**15 03 57.1**	**+1.2**
ACCO	**Cerro Coronel**	**2.71**	**211**	*e*P			**Pn**	**15 03 25.4**	**+0.4**
ACCO				*e*S			**Sn**	**15 03 58.3**	**-0.3**
AC06	**Mina Casimiro**	**2.72**	**289**				**Pn**	**15 03 23.9**	**-1.0**
AC06	**Mina Casimiro**	**2.72**	**289**	*e*P			**Pn**	**15 03 24.5**	**-0.4**
CO01	**Juntas del Tor**	**2.87**	**233**				**Pn**	**15 03 27.2**	**+0.1**
CO01				IAML				15 04 04.6	
	comp=N,455nm,0.8s								
CO01				IAML				15 04 04.9	
	comp=E,424nm,0.5s								
CO01	**Juntas del Tor**	**2.87**	**233**	⇓*i*P			**Pn**	**15 03 28.1**	**+1.1**
CO01				*e*S			**Sn**	**15 04 03.7**	**+1.5**
CO01				IAML				15 04 04.8	
	comp=N,420nm,0.5s								
CO01	**Juntas del Tor**	**2.87**	**233**	*e*P			**Pn**	**15 03 27.5**	**+0.5**
CO01				*e*S			**Sn**	**15 04 04.2**	**+2.1**
CO01				IAML				15 04 04.6	
	comp=Z,165nm,1.4s								
LCO	**Las Campanas**	**2.95**	**255**				**Pn**	**15 03 27.2**	**-0.8**
LCO	**Las Campanas**	**2.95**	**255**	*e*P			**Pn**	**15 03 27.7**	**-0.3**
LCO	**Las Campanas**	**2.95**	**255**	*e*P			**Pn**	**15 03 27.8**	**-0.3**
LCO				*e*S			**Sn**	**15 04 03.1**	**-0.8**
RTLL	**Cerro Villicun**	**3.18**	**196**	*e*P			**Pn**	**15 03 31.0**	**+0.1**
RTLL				*e*S			**Sn**	**15 04 08.5**	**-0.5**
RTLL				IAML				15 04 10.3	
	comp=Z,253nm,0.7s								
AC04	**Llanos de Chal**	**3.19**	**270**				**Pn**	**15 03 29.9**	**-1.0**
AC04				IAML				15 04 07.0	
	comp=E,386nm,0.6s								
AC04				IAML				15 04 17.9	
	comp=N,267nm,0.4s								
AC04	**Llanos de Chal**	**3.19**	**270**	*e*P			**Pn**	**15 03 29.9**	**-1.0**
AC04				IAML				15 04 07.1	
	comp=E,344nm,0.3s								
AC04	**Llanos de Chal**	**3.19**	**270**	*e*P			**Pn**	**15 03 29.9**	**-1.0**
AC04				*e*S			**Sn**	**15 04 06.1**	**-3.0**
AC04				IAML				15 04 16.5	
	comp=Z,159nm,0.5s								
SJA	**San Juan**	**3.40**	**196**	*e*P			**Pn**	**15 03 34.0**	**+0.5**
SJA				*e*S			**Sn**	**15 04 14.0**	**+0.1**
SJA				IAML				15 04 46.0	
	comp=Z

CO02					IAML			15 04 36.1	
	comp=Z,187nm,0.2s								
CO06	**Fray Jorge**	**4.37**	**236**			**Pn**		**15 03 43.6**	**-2.6**
CO06					IAML			15 04 38.7	
	comp=N,154nm,0.5s								
CO06					IAML			15 04 40.0	
	comp=E,136nm,0.3s								
PB14	**IPOC Station P**	**4.48**	**323**			**Pn**		**15 03 46.5**	**-1.7**
PB14					IAML			15 04 40.5	
	comp=E,119nm,0.6s								
PB14					IAML			15 04 42.4	
	comp=N,117nm,0.8s								
PB14	**IPOC Station P**	**4.48**	**323**	*e*P		**Pn**		**15 03 47.7**	**-0.4**
PB14				*e*S		**Sn**		**15 04 38.6**	**-1.3**
PB14					IAML			15 04 45.7	
	comp=Z,54nm,0.4s								
AZAP	**Zapla**	**4.56**	**29**	*e*P		**Pn**		**15 03 49.0**	**-0.1**
AZAP				*e*S		Sn		15 04 29.8	-12
AZAP					IAML			15 04 35.4	
	comp=Z,73nm,0.9s								
VA03	**San Esteban**	**5.22**	**210**			**Pn**		**15 03 56.1**	**-1.6**
VA03					IAML			15 05 03.6	
	comp=N,100nm,0.5s								
VA03					IAML			15 05 06.7	
	comp=E,110nm,0.5s								
VA03	**San Esteban**	**5.22**	**210**	*e*P		**Pn**		**15 03 57.5**	**-0.2**
VA03				*e*S		**Sn**		**15 05 01.8**	**+4.5**
VA03					IAML			15 05 37.5	
	comp=Z,46nm,0.7s								
PB10	**IPOC Station P**	**5.49**	**329**	Pn		**Pn**		**15 03 59.5**	**-1.8**
MT05	**Renca**	**5.84**	**208**	Pn		**Pn**		**15 04 04.8**	**-1.2**
PB05	**IPOC Station P**	**5.93**	**335**	Pn		**Pn**		**15 04 05.4**	**-1.9**
BO02	**Sierra Bellavi**	**7.10**	**203**	Pn		**Pn**		**15 04 21.1**	**-1.9**
CPUP	**Villa Florida**	**9.21**	**80**	P		**Pn**		**15 04 48.8**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=113,slow=11,SNR=5.8								
TRQA	**Tornquist**	**10.79**	**156**	Pn		**Pn**		**15 05 11.2**	**-0.9**
PLTB	**Pedras Altas**	**12.50**	**110**	Pn		**Pn**		**15 05 33.2**	**-1.5**
SIV	**San Ignacio**	**13.56**	**27**	P		**Pn**		**15 05 49.3**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=211,slow=10,SNR=2.5								
SNAA	**Sanae**	**55.50**	**160**	P		**P**		**15 12 02.4**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=270,slow=6.2,SNR=9.8								
	comp=Z,0.9nm,0.8s								
DBIC	**Dimbokro**	**69.58**	**70**	P		**P**		**15 13 35.9**	**0.0**
	comp=Z,2.7nm,0.6s,baz=256,slow=3.5,SNR=8.5								
	comp=Z,2.7nm,0.6s								
BOSA	**Boshof**	**79.18**	**117**	P		**P**		**15 14 32.6**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=240,slow=1.8,SNR=7.4								
	comp=Z,1.2nm,0.3s								
PDAR	**Pinedale Array**	**80.60**	**330**	P		**P**		**15 14 39.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=118,slow=4.5,SNR=3.2								
	comp=Z,0.2nm,0.5s								
ASAR	**Alice Springs**	**124.42**	**204**	PKP		**PKiKP**		**15 21 25.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=137,slow=1.6,SNR=7.9								
WRA	**Warramunga Arr**	**127.65**	**206**	PKP		**PKiKP**		**15 21 31.6**	**0.0**
	comp=Z,0.5nm,0.9s,baz=176,slow=1.8,SNR=4.8								
KURBB	**Kurchatov Arra**	**145.98**	**40**	PKPbc		**PKPab**		**15 22 05.1**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=301,slow=3.3,SNR=14								
ZALV	**Zalesovo Beam**	**147.30**	**31**	PKPbc		**PKiKP**		**15 22 10.2**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=310,slow=3.6,SNR=15								
MKAR	**Makanchi Array**	**149.97**	**44**	PKPbc		**PKiKP**		**15 22 16.8**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=311,slow=2.8,SNR=16								

*IDC **11** 15:03:02.7±1.2,49°.23S×127°.22E,h0km,mb4.0/5, mbtmp4.0/5,MS3.3/6,Error ellipse: s-maj=92.3km s-min=18.3km az=98.0*

*NEIC **11** 15:03:04.5±0.8,49°.3S±0°.1×127°.4E±0°.7,h10km±2km, mb4.4/8,Error ellipse: s-maj=75.3km s-min=15.8km az=283.0*

ISC 11 15:03:04.0±1.0,**49°.2S**±0°.1×**127°.4E**±0°.4,**h10**km,**n21**, σ**0**s**52**/16,**mb4.2**/**7**,**MS3.2**/6,**2C**,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**17.66**	**25**	Pn	**Pn**	**15 07 09.6**	**-0.4**
BBOO				IAmb	IAmb	15 07 46.9	
	comp=Z,48nm,1.5s						
CASY	**Casey**	**19.18**	**201**		**Pn**	**15 07 28.4**	**+0.2**
STKA	**Stephens Creek**	**20.38**	**37**	LR	LR	15 14 04.5	
	comp=Z,98nm,21.2s,baz=204,slow=32						
ASAR	**Alice Springs**	**26.04**	**14**	P	**P**	**15 08 38.0**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=188,slow=9.0,SNR=61						
	comp=Z,2.3nm,0.4s						
AS31	**Alice Springs**	**26.04**	**14**	P	**P**	**15 08 37.7**	**+0.3**
WRA	**Warramunga Arr**	**29.76**	**13**	P	**P**	**15 09 10.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=192,slow=11,SNR=6.7						
	comp=Z,0.6nm,0.6s						
WB0	**Warramunga Arr**	**29.94**	**13**	P	**P**	**15 09 12.6**	**+0.4**
WB0				IAmb	IAmb	15 09 40.1	
	comp=Z,10nm,1.2s						
VNDA	**Vanda**	**31.27**	**166**	P	**P**	**15 09 23.3**	**-0.2**
VNDA				IAmb	IAmb	15 09 32.2	
	comp=Z,4.1nm,0.9s						
VNDA	**Vanda**	**31.27**	**166**	P	**P**	**15 09 23.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=317,slow=9.1,SNR=13						
VNDA				LR	LR	15 20 58.9	
	comp=Z,61nm,19.0s,baz=316,slow=34						
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**40.88**	**180**	P	**P**	**15 10 46.2**	**+0.4**
QSPA				IAmb	IAmb	15 10 55.9	
	comp=Z,4.1nm,0.8s						
QSPA	**South Pole Qui**	**40.88**	**180**	P	**P**	**15 10 46.4**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=313,slow=3.8,SNR=18						
	comp=Z,1.8nm,1.0s						
PMG	**Port Moresby**	**43.02**	**29**	LR	LR	15 29 03.3	
	comp=Z,26nm,18.4s,baz=198,slow=36						
HNR	**Honiara**	**48.10**	**46**	LR	LR	15 30 07.3	
	comp=Z,54nm,18.9s,baz=217,slow=34						
TROLL	**Troll, Antarti**	**53.02**	**199**	P	**P**	**15 12 20.4**	**-0.2**
	comp=Z,26nm,0.2s						
SNAA	**Sanae**	**54.36**	**197**	⇑P	**P**	**15 12 30.3**	**0.0**
	comp=Z,87nm,0.8s						
SNAA	**Sanae**	**54.36**	**197**	P	**P**	**15 12 29.0**	**-1.3**
SNAA	**Sanae**	**54.36**	**197**	P	**P**	**15 12 30.6**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=145,slow=12,SNR=15						
	comp=Z,1.8nm,0.7s						
VNA3	**Neumayer Olymp**	**55.98**	**195**	⇑P	**P**	**15 12 41.3**	**-0.6**
	comp=Z,1.5nm,0.7s						
PALK	**Pallekele**	**69.44**	**310**	LR	LR	15 40 09.9	
	comp=Z,31nm,18.8s,baz=120,slow=32						
CMAR	**Chiang Mai Arr**	**71.97**	**332**	LR	LR	15 46 17.8	
	comp=Z,8.0nm,19.3s,baz=235,slow=36						
HOPE	**Hope Point**	**75.95**	**190**	P	**P**	**15 14 50.3**	**-0.2**

IDC 11 15:09:01.3±3.2,**30°.31S**×**177°.50W**,**h0**km,**mb3.5**/2, **mbtmp3.5**/2,**Error ellipse: s-maj=66.0km s-min=25.6km az=96.0**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**341**	Pn	Pn	15 09 24.9	+0.7
	338nm,0.3s,baz=96,slow=7.3,SNR=16						
RAO				Sn	Sn	15 09 40.0	-0.4
	219nm,0.3s,baz=200,slow=24,SNR=6.4						
URZ	**Urewera**	**9.09**	**208**	Sn	Sn	15 12 50.9	-6.0
	0.5nm,0.3s,baz=296,slow=14,SNR=2.0						
ASAR	**Alice Springs**	**43.55**	**267**	P	P	15 17 07.5	+0.3
	0.5nm,0.8s,baz=107,slow=7.1,SNR=5.9						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.53**	**272**	P	P	15 17 14.4	-0.6
	0.3nm,0.3s,baz=110,slow=8.1,SNR=11						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc	PKPbc	15 28 38.7	-1.1
	2.0nm,0.9s,baz=21,slow=8.1,SNR=3.6						

*NEIC **11** 15:30:38.8±0.4,36°.291N±0°.006×97°.51W±0°.01,h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=211.0*

NEIC 11 15:30:38.8±0.4,**36°.286N**±0°.005×**97°.52W**±0°.01,**h5**km±1km, **mb_Lg2.5**/58,**ML2.7**/48,**ML2.5**/38,**Error ellipse: s-maj=2.6km s-min=1.6km az=292.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**300**		Pg	15 30 47.6	+0.4
CROK					Sg	15 30 53.6	+0.7
CROK				IAML		15 30 56.4	
	comp=E,510nm,0.3s						
OK029	**Liberty Lake**	**0.49**	**174**		Pg	15 30 48.7	+0.5
OK029					Sg	15 30 55.6	+1.0
OK029				IAML		15 30 55.8	
	comp=E,351nm,0.5s						
BLOK	**Blackwell**	**0.53**	**27**		Pg	15 30 49.2	+0.2
BLOK					Sg	15 30 57.0	+1.0
BLOK				IAML		15 30 57.1	
	comp=E,426nm,0.4s						
BLOK				IAML		15 31 04.9	
	comp=N,694nm,0.2s						
GC02	**Grant County #**	**0.63**	**334**		Pg	15 30 51.0	+0.1
GC02					Sg	15 30 59.8	+0.7
BCOK	**Bluff Creek, N**	**0.63**	**187**		Pg	15 30 51.4	+0.4
BCOK					Sg	15 31 00.1	+1.0
ADOK	**Arcadia Dam**	**0.64**	**169**		Pg	15 30 51.2	+0.1
OK052	**Battle Ridge R**	**0.65**	**117**		Pg	15 30 51.5	+0.3
OK052					Sg	15 31 00.3	+0.7
OK052				IAML		15 31 00.7	
	comp=N,405nm,0.4s						
QUOK	**Quay**	**0.66**	**100**		Pg	15 30 51.6	+0.1
QUOK					Sg	15 31 00.7	+0.6
QUOK				IAML		15 31 03.4	
	comp=E,256nm,0.2s						
KAN14	**Manchester OK**	**0.76**	**332**		Pg	15 30 53.4	0.0
KAN14					Sg	15 31 03.8	+0.5
KAN14				IAML		15 31 09.6	
	comp=N,273nm,0.1s						
OKCFA	**Oklahoma City**	**0.87**	**177**		Pg	15 30 55.6	+0.2
OKCFA					Sg	15 31 07.5	+0.8
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		Pg	15 30 55.7	0.0
OKCSW					Sb	15 31 07.9	-0.7
OKCSW				IAML		15 31 09.3	
	comp=N,263nm,0.3s						
DEOK	**Depew**	**0.94**	**118**		Pg	15 30 56.4	-0.4
DEOK					Sg	15 31 09.3	+0.5
DEOK				IAML		15 31 09.7	
	comp=N,204nm,0.3s						
OK038	**West end E0370**	**1.01**	**281**		Pg	15 30 57.8	-0.4
OK038					Sb	15 31 12.1	-0.3
T35A	**Sooner Cattle**	**1.02**	**52**		Pg	15 30 58.2	-0.2
T35A					Sg	15 31 11.8	+0.1
T35A				IAML		15 31 12.9	
	comp=N,216nm,0.3s						
T35A				IAML		15 31 12.9	
	comp=N,193nm,0.2s						
FNO	**Franklin**	**1.03**	**175**		Pg	15 30 58.2	-0.3
FNO					Sb	15 31 12.6	-0.4
FNO				IAML		15 31 14.3	
	comp=E,226nm,0.3s						
TUL3	**Leonard**	**1.45**	**105**		Pn	15 31 05.1	-0.5
ELIS	**Ellis County**	**1.56**	**262**		Pn	15 31 07.0	-0.2
RLO	**Rose Lookout**	**2.02**	**93**		Pn	15 31 13.7	+0.2
RLO				IAmb_Lg		15 31 42.5	
	comp=Z,15nm,0.9s						
LOOK	**Love County**	**2.31**	**173**		Pb	15 31 19.9	-0.9
LOOK				IAmb_Lg		15 31 56.4	
	comp=Z,18nm,0.7s						
SMWD	**Samnorwood**	**2.51**	**243**	IAmb_Lg		15 31 59.6	
	comp=Z,15nm,0.9s						
U38A	**Gravette**	**2.53**	**86**		Pn	15 31 20.8	+0.3
MIAR	**Mount Ida**	**3.66**	**117**		Pn	15 31 37.1	+1.1
DKNS	**Dickens**	**3.83**	**228**	IAmb_Lg		15 32 42.4	
	comp=Z,6.3nm,0.7s						
RTBA	**Rita Blanca**	**4.22**	**274**		Pn	15 31 46.0	+2.1
X40A	**Basin Creek Fa**	**4.22**	**114**	IAmb_Lg		15 32 57.2	
	comp=Z,6.6nm,0.8s						
SN07	**Snyder 07**	**4.23**	**222**	IAmb_Lg		15 33 00.1	
	comp=Z,7.4nm,0.7s						
MGMO	**Mountain Grove**	**4.30**	**77**	IAmb_Lg		15 32 56.0	
	comp=Z,9.0nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**102**	IAmb_Lg		15 33 01.4	
	comp=Z,9.9nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.38**	**94**	IAmb_Lg		15 33 01.0	
	comp=Z,6.6nm,0.8s						
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		15 33 11.7	
	comp=Z,8.6nm,0.8s						
POST	**Post**	**4.59**	**227**	IAmb_Lg		15 33 05.2	
	comp=Z,9.2nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.88**	**305**	IAmb_Lg		15 33 27.0	
	comp=Z,8.2nm,0.8s						
Z41A	**Richland Creek**	**4.92**	**127**	IAmb_Lg		15 33 24.6	
	comp=Z,12nm,0.8s						
LCAR	**Lake Charles**	**5.15**	**91**	IAmb_Lg		15 33 25.7	
	comp=Z,6.9nm,0.9s						
SGCY	**Sterling City**	**5.29**	**216**	IAmb_Lg		15 33 40.4	
	comp=Z,8.7nm,0.9s						
CCM	**Cathedral Cave**	**5.31**	**69**	IAmb_Lg		15 33 36.2	
	comp=Z,9.4nm,0.7s						
T25A	**Trinidad**	**5.61**	**281**	IAmb_Lg		15 33 45.1	
	comp=Z,6.7nm,0.9s						
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		15 33 46.2	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**5.73**	**83**	IAmb_Lg		15 33 44.4	
	comp=Z,9.3nm,0.9s						
L34A	**Svendsen Farm,**	**5.74**	**9**	IAmb_Lg		15 33 49.3	
	comp=Z,9.8nm,0.9s						
FVM	**French Village**	**5.91**	**71**	IAmb_Lg		15 33 50.4	
	comp=Z,12nm,0.8s						
JCT	**Junction City**	**6.10**	**199**	IAmb_Lg		15 33 56.6	
	comp=Z,9.0nm,1.0s						
OZNA	**Ozona**	**6.14**	**210**	IAmb_Lg		15 34 08.0	
	comp=Z,5.5nm,0.8s						
CGM3	**Cape Girardeau**	**6.38**	**79**	IAmb_Lg		15 34 02.7	
	comp=Z,9.8nm,0.7s						
Q24A	**Divide**	**6.62**	**296**	IAmb_Lg		15 34 13.8	
	comp=Z,6.0nm,0.7s						
DRIO	**Del Rio**	**7.32**	**202**	IAmb_Lg		15 34 46.6	
	comp=Z,2.9nm,0.8s						
Y22A	**Socorro**	**8.09**	**256**	IAmb_Lg		15 35 05.7	
	comp=Z,4.2nm,1.1s						
JFWS	**Jewell Farm**	**8.67**	**38**	IAmb_Lg		15 35 30.7	
	comp=Z,4.9nm,0.7s						
K22A	**Casper**	**9.43**	**315**	IAmb_Lg		15 35 47.3	
	comp=Z,5.7nm,1.1s						

*NEIC **11** 15:33:06.4±0.5,19°.35N±0°.02×155°.13W±0°.01,h5km±1km, Error ellipse: s-maj=4.4km s-min=2.5km az=164.0*

HVO 11 15:33:05.8±0.6,**19°.35N**±0°.03×**155°.12W**±0°.02,**h6**km±2km, **ML2.7**/38,**ML2.7**/42(NEIC),**Error ellipse: s-maj=4.3km s-min=1.1km az=150.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**19**		Pg	15 33 07.6	+0.4
JCUZ					Sg	15 33 09.2	+0.9
STCH	**Steam Cracks**	**0.04**	**346**		Sg	15 33 09.0	+0.7
STCH	**Steam Cracks**	**0.04**	**346**		Pg	15 33 07.5	+0.3
STCH				IAML		15 33 08.3	
	comp=E,4μm,0.1s						
STCH				IAML		15 33 09.2	
	comp=N,3μm,0.2s						
NPOC	**North of Pu'u**	**0.05**	**7**		Pg	15 33 07.8	+0.4
NPOC					Sg	15 33 09.3	+0.9
KNHH	**Kane Nui o Ham**	**0.06**	**302**		Pg	15 33 08.0	+0.5
PUH	**Pauahi**	**0.10**	**286**		Pg	15 33 08.4	+0.4
PUH					Sg	15 33 10.5	+0.9
PUH	**Pauahi**	**0.10**	**286**	IAML		15 33 10.7	
	comp=E,4μm,0.6s						
PUH				IAML		15 33 10.7	
	comp=N,3μm,0.7s						
JOKA	**Jonika Flow**	**0.14**	**51**		Pg	15 33 08.8	+0.2
JOKA					Sg	15 33 11.2	+0.6
JOKA	**Jonika Flow**	**0.14**	**51**	IAML		15 33 11.7	
	comp=E,1μm,0.7s						
JOKA				IAML		15 33 11.8	
	comp=N,2μm,0.7s						
BYL	**Byron's Ledge**	**0.15**	**295**		Sg	15 33 11.8	+0.8
BYL	**Byron's Ledge**	**0.15**	**295**		Pg	15 33 09.1	+0.1
BYL				IAML		15 33 12.4	
	comp=N,3μm,0.3s						
BYL				IAML		15 33 12.4	
	comp=E,4μm,0.5s						
KKO	**Keanakako'i**	**0.15**	**290**		Pg	15 33 09.3	+0.4
KKO					Sg	15 33 11.7	+0.6
HATHI	**Halema'uma'u T**	**0.16**	**299**		Sg	15 33 12.0	+0.7
HATHI	**Halema'uma'u T**	**0.16**	**299**		Pg	15 33 09.2	+0.1
HATHI				IAML		15 33 13.7	
	comp=E,2μm,0.7s						
HATHI				IAML		15 33 14.4	
	comp=N,2μm,0.5s						
RIM	**Rim**	**0.16**	**288**		Pg	15 33 09.4	+0.4
RIM					Sg	15 33 11.9	+0.6
SBLHI	**Steaming Bluff**	**0.17**	**299**		Sg	15 33 09.4	+0.2
SBLHI					Pg	15 33 12.1	+0.6
UWB	**Uwekahuna Bluf**	**0.17**	**297**		Sg	15 33 09.5	+0.2
UWB					Sg	15 33 12.4	+0.7
OBL	**Observatory Le**	**0.17**	**294**		Pg	15 33 09.7	+0.3
OBL					Sg	15 33 13.1	+1.3
SDHHI	**Sand Hill**	**0.17**	**284**		Pg	15 33 09.6	+0.3
SDHHI					Sg	15 33 12.6	+0.8
UWE	**Uwekahuna**	**0.18**	**294**		Pg	15 33 09.8	+0.3
UWE					Sg	15 33 13.1	+1.1
UWE	**Uwekahuna**	**0.18**	**294**	IAML		15 33 15.5	
	comp=N,2μm,0.8s						
UWE				IAML		15 33 15.7	
	comp=E,2μm,0.7s						
WRMHI	**West Rim**	**0.18**	**289**		Pg	15 33 09.8	+0.2
WRMHI					Sg	15 33 12.9	+0.8
HLP	**Hilina Pali**	**0.19**	**254**		Pg	15 33 10.1	+0.5
HLP					Sg	15 33 13.4	+1.2
HLP	**Hilina Pali**	**0.19**	**254**	IAML		15 33 14.7	
	comp=E,2μm,0.2s						
HLP				IAML		15 33 15.3	
	comp=N,2μm,0.5s						
RSD	**Rainshed**	**0.19**	**307**		Pg	15 33 10.0	+0.3
RSD					Sg	15 33 13.1	+0.8
HTC	**Hot Caves**	**0.29**	**248**		Pg	15 33 12.0	+0.6
MLH	**Mauna Loa**	**0.29**	**300**		Pg	15 33 11.8	+0.2
MLH					Sg	15 33 16.2	+0.6
MLH	**Mauna Loa**	**0.29**	**300**	IAML		15 33 17.6	
	comp=E,668nm,0.4s						
MLH				IAML		15 33 20.3	
	comp=N,647nm,0.2s						
AIN	**Ainahou**	**0.33**	**274**		Pg	15 33 12.4	+0.2
AIN					Sg	15 33 17.8	+1.2
AIN	**Ainahou**	**0.33**	**274**	IAML		15 33 19.2	
	comp=E,7μm,0.3s						
AIN				IAML		15 33 19.6	
	comp=N,6μm,0.3s						
HMH	**Humu'ula Sheep**	**0.43**	**306**		Pg	15 33 14.2	-0.1
HMH					Sg	15 33 21.0	+1.1
HMH	**Humu'ula Sheep**	**0.43**	**306**	IAML		15 33 22.0	
	comp=N,4μm,0.3s						
HMH				IAML		15 33 22.0	
	comp=E,4μm,0.3s						
MWH	**Mokuaweoweo**	**0.47**	**287**		Pg	15 33 15.0	-0.1
MWH					Sg	15 33 22.7	+1.4
MWH	**Mokuaweoweo**	**0.47**	**287**	IAML		15 33 23.8	
	comp=E,1μm,0.7s						
MWH				IAML		15 33 25.7	
	comp=N,1μm,0.6s						
KHU	**Kahuku**	**0.48**	**258**		Pg	15 33 14.8	-0.4
KHU					Sg	15 33 22.0	+0.5
ALEP	**Alea Permanent**	**0.54**	**291**		Pg	15 33 15.7	-0.4
ALEP					Sg	15 33 23.3	+0.1
POHA	**Pohakuloa**	**0.57**	**316**		Pg	15 33 16.2	-0.5
POHA					Sg	15 33 23.7	-0.5
POHA	**Pohakuloa**	**0.57**	**316**	IAML		15 33 25.3	
	comp=N,731nm,0.5s						
POHA				IAML		15 33 29.5	
	comp=N,796nm,0.7s						
HUH	**Hualalai**	**0.76**	**296**		Pg	15 33 19.3	-1.1
HUH					Sg	15 33 29.4	-0.9
CPH	**Captain Cook**	**0.77**	**281**		Pg	15 33 18.7	-1.9
HPAH	**Hawaii Prepara**	**0.87**	**321**		Pg	15 33 20.3	-2.2
HPAH	**Hawaii Prepara**	**0.87**	**321**	IAML		15 33 41.3	
	comp=N,279nm,0.6s						
MHA	**Mahukona**	**1.12**	**319**		Pg	15 33 24.0	-3.3
HLK	**Haleakala**	**1.76**	**323**		Pn	15 33 32.4	-4.7
HLK					Sn	15 33 52.7	-7.2
WMR	**Waimanalo Ridg**	**3.11**	**310**		Pn	15 33 50.7	-4.6

*SJA **11** 15:38:45.5±0.7,21°.56S×68°.43W,h147km,ML3.7,MW3.7*
*GUC **11** 15:38:46.6±0.8,21°.525×68°.53W,h142km±4km,ML3.6*

ISC 11 15:38:45.4±1.4,**21°.56S**±0°.03×**68°.45W**±0°.06, **h154**km±10km,**n39**,σ**1**s**30**/70,**8C**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.77**	**252**	⇑*i*P	**Pn**	**15 39 09.6**	**+0.5**
PB09				*e*S	**Sn**	**15 39 26.4**	**-0.6**
PB09				IAML		15 39 28.6	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**0.77**	**252**	*e*P	**Pn**	**15 39 09.4**	**+0.4**
PB09				*e*S	**Sn**	**15 39 26.5**	**-0.6**
PB09				IAML		15 39 27.6	
	comp=Z,1μm,0.5s						
PB01	**IPOC Station P**	**1.09**	**298**	⇑*i*P	**Pn**	**15 39 11.6**	**+0.1**
PB01				*e*S	**Sn**	**15 39 30.0**	**-1.4**
PB01	**IPOC Station P**	**1.09**	**298**	*e*P	**Pn**	**15 39 11.6**	**+0.1**
PB01				*e*S	**Sn**	**15 39 30.9**	**-0.5**
PB01				IAML		15 39 31.8	
	comp=Z,1μm,0.2s						
PB03	**IPOC Station P**	**1.30**	**248**	⇑*i*P	**Pn**	**15 39 14.0**	**+0.5**
PB03				*e*S	**Sn**	**15 39 34.4**	**-0.6**
PB03				IAML		15 39 35.2	
	comp=E,1μm,0.2s						
PB03	**IPOC Station P**	**1.30**	**248**	*e*P	**Pn**	**15 39 13.8**	**+0.3**
PB03				*e*S	**Sn**	**15 39 34.8**	**-0.2**
PB03				IAML		15 39 36.5	
	comp=Z,1μm,0.1s						
PB02	**IPOC Station P**	**1.37**	**280**	⇑*i*P	**Pn**	**15 39 14.5**	**+0.4**
PB02				*e*S	**Sn**	**15 39 35.2**	**-0.8**
PB02	**IPOC Station P**	**1.37**	**280**	*e*P	**Pn**	**15 39 14.4**	**+0.4**
PB02				*e*S	**Sn**	**15 39 35.7**	**-0.3**
PB02				IAML		15 39 36.3	
	comp=Z,2μm,0.4s						
AF01	**San Pedro de A**	**1.41**	**170**	*e*P	Pn	15 39 28.2	+14
AF01				*e*S	**Sn**	**15 39 36.4**	**-0.8**
AF01				IAML		15 39 55.0	
	comp=Z,337nm,0.5s						
PB06	**IPOC Station P**	**1.54**	**222**	⇑*i*P	**Pn**	**15 39 16.9**	**+0.9**
PB06				*e*S	**Sn**	**15 39 39.5**	**+0.2**
PB06	**IPOC Station P**	**1.54**	**222**	*e*P	**Pn**	**15 39 16.8**	**+0.9**
PB06				*e*S	**Sn**	**15 39 39.5**	**+0.2**
PB06				IAML		15 39 40.8	
	comp=Z,511nm,0.2s						
PB08	**IPOC Station P**	**1.56**	**335**	⇑*i*P	**Pn

PB10					IAML		15 40 05.5	
	comp=Z,89nm,0.2s							
SALTA		**3.29**	**144**	*eP*	**Pn**	**15 39 34.6**	**-2.5**	
SALTA				*eP*		15 39 34.7		
PB16	**IPOC Station P**	**3.36**	**343**	*eP*	**Pn**	**15 39 39.6**	**+1.5**	
PB16				*eS*	**Sn**	**15 40 19.6**	**+0.6**	
PB16	**IPOC Station P**	**3.36**	**343**	*eP*	**Pn**	**15 39 39.7**	**+1.6**	
PB16				*eS*	**Sn**	**15 40 11.5**	**-7.4**	
PB14	**IPOC Station P**	**3.54**	**210**	*eP*	**Pn**	**15 39 40.7**	**+0.6**	
PB14				*eS*	**Sn**	**15 40 22.0**	**-0.6**	
PB14				IAML		15 40 24.5		
	comp=Z,161nm,0.1s							
GO02	**Mina Guanaco**	**3.73**	**196**	*eP*	**Pn**	**15 39 43.7**	**+1.1**	
GO02				*eS*	**Sn**	**15 40 27.5**	**+0.4**	
AZAP	**Zapla**	**4.09**	**131**	*eP*	**Pn**	**15 39 48.9**	**+1.6**	
ALOL	**LOMAS DE OLMED**	**4.70**	**119**	*eP*	**Pn**	**15 39 55.3**	**+0.3**	
AC01	**Pan de Azucar**	**4.97**	**203**	*eP*	**Pn**	**15 39 58.2**	**-0.3**	
AC01				*eS*	**Sn**	**15 40 53.7**	**-1.9**	
AC01				IAML		15 40 55.1		
	comp=Z,40nm,1.1s							
LPAZ	**La Paz**	**5.25**	**3**	*eP*	**Pn**	**15 40 05.2**	**+2.3**	
AC02	**Maricunga**	**5.29**	**187**	*eP*	**Pn**	**15 40 05.5**	**+2.3**	
AC02				IAML		15 41 39.5		
	comp=Z,13nm,0.6s							

IDC ***11*** *15:40:17.3±0.8, 49°22'S×127°32'E, h0km, mb4.1/8, mbtmp4.1/8, MS3.6/21, Error ellipse: s-maj=54.1km s-min=16.2km az=97.0*
NEIC ***11*** *15:40:18.4±1.3, 49°19'S±0°09'×127°7'E±0°3, h10km±2km, mb4.4/11, Error ellipse: s-maj=32.6km s-min=9.6km az=247.0*

ISC 11 15:40:18.4±0.7, 49°22'S±0°09'×127°7'E±0°2, h10km, n41, σ0§98/22, mb4.2/13, MS3.6/20, 3C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W1	**Cape Leeuwin H**	**17.47**	**320**	T		T	16 02 01.3	
	baz=147,slow=74,SNR=131							
H01W2	**Cape Leeuwin H**	**17.47**	**320**	T		T	16 02 02.5	
	baz=147,slow=74,SNR=138							
H01W3	**Cape Leeuwin H**	**17.48**	**320**	T		T	16 02 19.8	
	baz=147,slow=74,SNR=89							
BBOO	**Buckleboo**	**17.54**	**24**			**Pn**	**15 44 22.3**	**-0.6**
BBOO				IAmb		IAmb	15 44 59.3	
	comp=Z,48nm,1.4s							
NWAO	**Narrogin (SRO)**	**18.07**	**330**	LR		LR	15 49 44.2	
	comp=Z,300nm,20.1s,baz=182,slow=31							
CASY	**Casey**	**19.28**	**201**	P		**P**	**15 44 42.6**	**-0.3**
STKA	**Stephens Creek**	**20.22**	**36**	P		**P**	**15 44 53.1**	**-0.3**
STKA	**Stephens Creek**	**20.22**	**36**	P		**P**	**15 44 53.7**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=229,slow=7.3,SNR=7.2							
STKA				LR		LR	15 51 28.7	
	comp=Z,230nm,20.9s,baz=204,slow=33							
	comp=Z,5.2nm,0.8s							
MORW	**Morawa**	**22.02**	**332**	P		**P**	**15 45 12.4**	**-0.5**
MORW				IAmb		IAmb	15 45 13.0	
	comp=Z,14nm,1.1s							
ASAR	**Alice Springs**	**25.97**	**13**	P		**P**	**15 45 51.4**	**+0.2**
	comp=Z,18nm,0.9s,baz=189,slow=8.9,SNR=131							
ASAR				LR		LR	15 56 19.2	
	comp=Z,26nm,18.1s,baz=180,slow=37							
	comp=Z,18nm,0.9s							
AS31	**Alice Springs**	**25.97**	**13**	P		**P**	**15 45 51.1**	**0.0**
AS31				IAmb		IAmb	15 45 52.9	
	comp=Z,4.9nm,0.7s							
WRA	**Warramunga Arr**	**29.69**	**13**	P		**P**	**15 46 24.7**	**+0.3**
WRA	**Warramunga Arr**	**29.69**	**13**	P		**P**	**15 46 24.3**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=194,slow=8.7,SNR=14							
	comp=Z,3.8nm,0.9s							
WR8	**Warramunga Arr**	**29.70**	**13**	P		**P**	**15 46 23.2**	**-1.3**
WR8				IAmb		IAmb	15 46 26.6	
	comp=Z,9.8nm,1.2s							
WRAB	**Tennant Creek**	**29.70**	**13**	P		**P**	**15 46 23.3**	**-1.2**
WRAB				IAmb		IAmb	15 46 26.0	
	comp=Z,5.6nm,0.8s							
WB0	**Warramunga Arr**	**29.87**	**13**	P		**P**	**15 46 25.3**	**-0.7**
WB0				IAmb		IAmb	15 46 33.4	
	comp=Z,6.1nm,1.1s							
VNDA	**Vanda**	**31.23**	**166**	P		**P**	**15 46 37.8**	**+0.2**
VNDA				IAmb		IAmb	15 46 40.9	
	comp=Z,3.1nm,0.9s							
VNDA	**Vanda**	**31.23**	**166**	P		**P**	**15 46 37.6**	**0.0**
	comp=Z,2.3nm,0.9s,baz=312,slow=8.2,SNR=10							
VNDA				LR		LR	15 58 14.1	
	comp=Z,131nm,19.1s,baz=325,slow=34							
	comp=Z,2.3nm,0.9s							
MAW	**Mawson**	**36.47**	**216**	LR		LR	15 59 22.2	
	comp=Z,57nm,19.7s,baz=79,slow=31							
BATI	**Baumata**	**39.04**	**354**	LR		LR	16 03 36.4	
	comp=Z,191nm,20.1s,baz=154,slow=36							
DZM	**Mont Dzumac**	**40.83**	**63**	LR		LR	16 01 08.0	
	comp=Z,119nm,20.2s,baz=208,slow=31							
QSPA	**South Pole Qui**	**40.90**	**180**	P		**P**	**15 48 01.3**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=210,slow=0.7,SNR=6.3							
QSPA				LR		LR	16 04 12.7	
	comp=Z,74nm,20.2s,baz=344,slow=35							
	comp=Z,1.8nm,1.1s							
PMG	**Port Moresby**	**42.89**	**29**	LR		LR	16 06 16.0	
	comp=Z,97nm,18.3s,baz=188,slow=36							
LEM	**Lembang**	**45.53**	**331**	LR		LR	16 04 47.1	
	comp=Z,60nm,20.4s,baz=184,slow=32							
HNR	**Honiara**	**47.92**	**45**	LR		LR	16 06 50.0	
	comp=Z,97nm,21.4s,baz=148,slow=33							
TROLL	**Troll, Antarti**	**53.11**	**199**	⇑P		**P**	**15 49 35.4**	**-0.3**
	comp=Z,74nm,0.7s							
SNAA	**Sanae**	**54.45**	**197**	⇑P		**P**	**15 49 44.0**	**-1.4**
	comp=Z,65nm,0.7s							
SNAA	**Sanae**	**54.45**	**197**	P		**P**	**15 49 45.7**	**+0.4**
SNAA	**Sanae**	**54.45**	**197**	P		**P**	**15 49 45.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=157,slow=11,SNR=16							
SNAA				LR		LR	16 11 53.2	
	comp=Z,90nm,18.3s,baz=97,slow=35							
	comp=Z,1.7nm,0.7s							
VNA3	**Neumayer Olymp**	**56.06**	**195**	⇑P		**P**	**15 49 54.1**	**-2.8**
	comp=Z,1.8nm,0.9s							
PSI	**Prapat**	**57.51**	**325**	LR		LR	16 12 55.3	
	comp=Z,36nm,18.9s,baz=106,slow=34							
PMSA	**Palmer Station**	**65.97**	**175**	LR		LR	16 18 48.9	
	comp=Z,52nm,18.7s,baz=184,slow=35							
PALK	**Pallekele**	**69.61**	**309**	LR		LR	16 14 00.1	
	comp=Z,46nm,21.6s,baz=144,slow=29							
CMAR	**Chiang Mai Anr**	**72.07**	**331**	P		**P**	**15 51 43.3**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=191,slow=4.8,SNR=4.7							
CMAR				LR		LR	16 21 53.2	
	comp=Z,14nm,20.9s,baz=170,slow=35							
	comp=Z,0.9nm,0.7s							
BOSA	**Boshof**	**76.39**	**242**	LR		LR	16 18 42.5	
	comp=Z,61nm,19.1s,baz=184,slow=30							
LBTB	**Lobatse**	**78.90**	**245**	LR		LR	16 20 45.5	
	comp=Z,51nm,18.7s,baz=133,slow=31							
MATP	**Matopo**	**80.60**	**250**	LR		LR	16 21 38.3	
	comp=Z,23nm,18.4s,baz=169,slow=31							
LSZ	**Lusaka**	**84.67**	**253**	LR		LR	16 24 06.5	
	comp=Z,30nm,19.0s,baz=155,slow=31							
MJAR	**Matsushiro Arr**	**85.89**	**8**	P		**P**	**15 52 59.5**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=181,slow=6.1,SNR=5.0							
	comp=Z,1.0nm,0.9s							
SONM	**Songino Array**	**98.42**	**346**	LR		LR	16 38 20.8	
	comp=Z,14nm,21.9s,baz=174,slow=35							
YKA	**Yellowknife Ar**	**144.11**	**45**	PKP		PKPbc	15 59 50.8	-0.2
	comp=Z,1.4nm,1.1s,baz=272,slow=3.8,SNR=4.1							

IDC 11 16:06:52.8±6.7, 19°25'S×176°43'W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=272.6km s-min=108.4km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**46.25**	**261**	P		P	16 15 20.4	+0.1
	0.9nm,0.3s,baz=97,slow=7.6,SNR=46							
	0.9nm,0.3s							
ASAR	**Alice Springs**	**46.25**	**255**	P		P	16 15 20.1	-0.2
	1.7nm,0.5s,baz=92,slow=8.3,SNR=87							
	1.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**54.67**	**261**	P		P	16 16 23.5	-0.5
	2.0nm,0.7s,baz=90,slow=5.1,SNR=1.8							
	2.0nm,0.7s							
AKASG	**Malin Array Be**	**142.61**	**333**	PKP		PKPdf	16 26 27.2	-0.6
	0.5nm,0.4s,baz=46,slow=4.0,SNR=6.3							

IDC ***11*** *16:12:07.8±1.4, 3°99S×127°59E, h0km, mb3.6/2, mbtmp3.8/5, ML3.4/3, MS2.2/1, Error ellipse: s-maj=49.4km s-min=27.5km az=68.0*
DJA ***11*** *16:12:10.2±0.4, 4°S±5°×12°8E±°, h10km±3km, M3.9/10, mb4.4/1, MLv3.7/10*

ISC 11 16:12:08.3±1.7, 3°87S±0°09×128°32E±0°04, h11km±12km, n13, σ0§91/14, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AAI	**Ambon**	**0.22**	**326**	P		**Pb**	**16 12 14.1**	**-0.2**
MSAI	**Masohi**	**0.80**	**50**	P		**Pg**	**16 12 23.3**	**-0.5**
NLAI	**Namlea**	**1.37**	**297**	P		**Pg**	**16 12 35.3**	**+0.7**
SANI	**Sanana**	**2.94**	**308**	P		**Pn**	**16 12 53.8**	**-1.2**
SANI				S		**Sn**	**16 13 30.8**	**+0.4**
FAKI	**Fak Fak**	**4.04**	**77**	P		**Pn**	**16 13 11.7**	**+1.6**
SWI	**Sorong**	**4.19**	**45**	P		**Pn**	**16 13 12.8**	**+0.6**
SWI				S		**Sn**	**16 14 00.8**	**-0.3**
LUWI	**Luwuk**	**6.21**	**297**	P		**Pn**	**16 13 40.6**	**+0.6**
KAPI	**Kappang**	**8.62**	**262**	LR		LR	16 17 52.9	
	comp=Z,18nm,20.2s,baz=88,slow=44							
JAY	**Jayapura**	**12.44**	**84**	Pn		**P**	**16 15 17.0**	**-0.5**
	0.8nm,0.3s,baz=123,slow=5.1,SNR=7.1							
	4.2nm,0.5s							
FITZ	**Fitzroy Crossi**	**14.38**	**190**	Pn		**Pn**	**16 15 31.4**	**-0.7**
	0.1nm,0.3s,baz=15,slow=12,SNR=1.8							
	2.6nm,1.0s							
WRA	**Warramunga Arr**	**17.02**	**160**	P		**Pn**	**16 16 07.8**	**+1.2**
	0.1nm,0.3s,baz=336,slow=13,SNR=4.7							
	0.8nm,0.8s							
ASAR	**Alice Springs**	**20.41**	**165**	P		Pn	16 16 48.5	+0.8
	5.0nm,0.7s,baz=345,slow=11,SNR=30							
ASAR				PcP		**PcP**	**16 20 58.1**	**0.0**
	0.3nm,0.6s,baz=0.0,slow=1.8,SNR=9.4							
	5.0nm,0.7s							
MKAR	**Makanchi Array**	**64.70**	**327**	P		**P**	**16 22 46.4**	**-0.1**
	0.2nm,0.5s,baz=120,slow=8.5,SNR=3.9							
	0.2nm,0.5s							

IDC ***11*** *16:38:43.8±2.2, 2°20N×126°26E, h0km, mb3.1/3, mbtmp3.1/3, MS3.0/1, Error ellipse: s-maj=180.0km s-min=28.3km az=65.0*
DJA ***11*** *16:38:48.4±0.3, 2°N±3°×127°7E±°, h10km, M3.1/6, MLv3.1/6*

ISC 11 16:38:49.9±2.0, 2°4N±0°3×127°0E±0°5, h53km, n6, σ1§18/6, mb2.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.65**	**165**	P		**Pn**	**16 39 16.4**	**-0.2**
SGSI	**Sangihe**	**1.92**	**312**	P		**Pn**	**16 39 21.1**	**+0.8**
SGSI				S		**Sn**	**16 39 42.3**	**-1.0**
PMG	**Port Moresby**	**23.29**	**120**	LR		LR	16 55 24.1	
	comp=Z,33nm,18.5s,baz=1.5,slow=42							
WRA	**Warramunga Arr**	**23.34**	**162**	P		**P**	**16 43 54.2**	**+0.5**
	0.3nm,0.6s,baz=340,slow=11,SNR=8.3							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**26.76**	**166**	P		**P**	**16 44 26.1**	**+1.2**
	0.2nm,0.8s,baz=342,slow=9.3,SNR=4.1							
	0.2nm,0.8s							
MKAR	**Makanchi Array**	**58.78**	**326**	P		**P**	**16 48 42.0**	**-0.8**
	0.1nm,0.4s,baz=127,slow=6.3,SNR=1.4							
	0.1nm,0.4s							

NEIC ***11*** *16:39:00.5±1.4, 23°73S±0°08×179°96W±0°09, h532km±8km, mb4.5/176, Error ellipse: s-maj=14.6km s-min=7.2km az=131.0*
IDC ***11*** *16:39:00.1±0.7, 23°81S×179°94E, h529km±7km, mb3.8/21, mbtmp4.7/23, Error ellipse: s-maj=10.2km s-min=9.8km az=4.0*

ISC 11 16:38:59.6±0.3, 23°80S±0°05×179°99E±0°06, h526km, n212, σ1§30/152, mb4.5/108, 13C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RIZ	**Raoul Island**	**5.73**	**161**	P		**P**	**16 40 35.4**	**+1.0**
RAO	**Raoul Island**	**5.74**	**161**	P		**P**	**16 40 35.9**	**+1.4**
RAO	**Raoul Island**	**5.74**	**161**	P		**P**	**16 40 34.8**	**+0.3**
	328nm,0.2s,baz=139,slow=12,SNR=5.2							
RAO				S		**S**	**16 41 47.9**	**-4.4**
	240nm,0.4s,baz=245,slow=23,SNR=1.2							
GLKZ	**Green Lake**	**5.75**	**161**	P		**P**	**16 40 35.6**	**+0.9**
GLKZ				S		**S**	**16 41 54.2**	**+1.8**
MSVF	**Nonsavu**	**6.31**	**343**			**P**	**16 40 41.3**	**+1.1**
FUTU	**Fugatoga**	**9.61**	**11**	P		**P**	**16 41 12.8**	**-0.5**
NIUE	**Niue**	**10.50**	**65**	P		**P**	**16 41 21.7**	**-0.8**
PINNC	**Pines Island,**	**11.60**	**273**			**P**	**16 41 36.2**	**+2.3**
AFI	**Afiamalu**	**12.55**	**40**	P		P	16 41 39.2	-4.9
AFI	**Afiamalu**	**12.55**	**40**	P		P	16 41 39.3	-4.8
DZM	**Mont Dzumac**	**12.60**	**275**	P		**P**	**16 41 46.0**	**+1.4**
DZM	**Mont Dzumac**	**12.60**	**275**	P		**P**	**16 41 45.8**	**+1.2**
	11nm,0.8s,baz=78,slow=20,SNR=7.9							
WCZ	**Waipu Caves**	**13.04**	**201**	P		**P**	**16 41 51.1**	**+2.2**
KUZ	**Kuaotunu**	**13.41**	**195**	P		**P**	**16 41 54.9**	**+2.2**
HAZ	**Te Kaha**	**14.04**	**187**	P		**P**	**16 42 00.0**	**+0.8**
WMGZ	**Waiomatatini S**	**14.04**	**185**	P		**P**	**16 42 00.9**	**+1.7**
TGRZ	**Tauranga**	**14.24**	**192**	P		**P**	**16 42 04.3**	**+2.9**
RUGZ	**Raukumara Rang**	**14.25**	**187**	P		**P**	**16 42 03.5**	**+1.9**
PUZ	**Puketiti**	**14.30**	**186**	P		**P**	**16 42 04.8**	**+2.8**
TOZ	**Tahuroa Road**	**14.40**	**194**	P		**P**	**16 42 04.6**	**+1.5**
TOZ	**Tahuroa Road**	**14.40**	**194**	P		**P**	**16 42 05.6**	**+2.5**
URZ	**Urewera**	**14.62**	**189**	P		**P**	**16 42 04.0**	**-1.3**
	43nm,0.7s,baz=273,slow=2.2,SNR=30							
URZ				S		**S**	**16 44 33.9**	**-4.5**
	24nm,0.8s,baz=48,slow=22,SNR=13							
URZ	**Urewera**	**14.62**	**189**	P		**P**	**16 42 04.1**	**-1.2**
SANVU	**Saraoutou**	**14.63**	**302**	P		**P**	**16 42 03.9**	**-1.8**
MWZ	**Matawai**	**14.64**	**188**	P		**P**	**16 42 06.4**	**+0.8**
RRRZ	**Republican Roa**	**14.79**	**191**	P		**P**	**16 42 08.5**	**+1.4**
HSRZ	**Hossack Road**	**14.81**	**192**	P		**P**	**16 42 10.2**	**+2.9**
HRRZ	**Handcock Road**	**14.88**	**191**	P		**P**	**16 42 09.8**	**+1.7**
RIGZ	**Rimuhau**	**14.98**	**187**	P		**P**	**16 42 10.0**	**+0.9**
KUTZ	**Kaahu Road**	**15.06**	**193**	P		**P**	**16 42 12.5**	**+2.5**
KNZ	**Kokohu**	**15.30**	**187**	P		**P**	**16 42 10.8**	**-1.5**
HIZ	**Hauiti**	**15.30**	**195**	P		**P**	**16 42 15.9**	**+3.4**
RITZ	**Rihia Road**	**15.53**	**192**	P		**P**	**16 42 15.2**	**+0.4**
BKZ	**Black Stump Fm**	**15.60**	**190**	P		**P**	**16 42 13.8**	**-1.8**
ARHZ	**Aropaoanui**	**15.62**	**189**	P		**P**	**16 42 15.3**	**-0.4**
VRZ	**Vera Road**	**15.91**	**195**	P		**P**	**16 42 20.5**	**+1.9**
PXZ	**Pawanui**	**16.39**	**189**	P		**P**	**16 42 21.6**	**-1.9**
BFZ	**Birch Farm**	**17.12**	**190**	P		**P**	**16 42 28.1**	**-2.3**
MRZ	**Mangatainoka R**	**17.21**	**191**	P		**P**	**16 42 29.3**	**-2.0**
QRZ	**Quartz Range**	**18.09**	**199**	P		**P**	**16 42 39.0**	**-0.4**
NNZ	**Nelson**	**18.23**	**196**	P		**P**	**16 42 39.4**	**-1.2**
THZ	**Tophouse**	**18.86**	**197**	P		**P**	**16 42 46.1**	**-0.3**
THZ	**Tophouse**	**18.86**	**197**	P		**P**	**16 42 45.4**	**-1.0**
OXZ	**Oxford**	**20.55**	**197**	P		**P**	**16 43 00.1**	**-1.6**
RPZ	**Rata Peaks**	**21.18**	**198**	P		**P**	**16 43 07.7**	**+0.3**
	10nm,0.8s,baz=59,slow=18,SNR=3.1							
	10nm,0.8s							
HNR	**Honiara**	**23.89**	**303**	P		**P**	**16 43 31.3**	**-0.7**
ARMA	**Armidale**	**26.05**	**249**	P		**P**	**16 43 52.4**	**+1.3**
EIDS	**Eidsvold**	**26.32**	**261**			**P**	**16 43 53.8**	**+0.4**
CAN	**Canberra**	**29.18**	**240**	P		**P**	**16 44 19.4**	**+1.0**
CTAO	**Charters Tower**	**31.47**	**270**			**P**	**16 44 38.5**	**+0.3**
TAU	**Tasmania Unive**	**32.99**	**227**	P		**P**	**16 44 51.3**	**+0.4**
RABL	**Rabaul**	**33.17**	**302**	P		**P**	**16 44 52.5**	**-0.3**
PMG	**Port Moresby**	**34.45**	**289**			**P**	**16 45 03.3**	**-0.3**
PMG	**Port Moresby**	**34.45**	**289**	P		**P**	**16 45 03.6**	**+0.1**
	63nm,0.8s,baz=118,slow=5.6,SNR=18							
	63nm,0.8s							
STKA	**Stephens Creek**	**34.75**	**248**			**P**	**16 45 06.2**	**+0.3**
STKA	**Stephens Creek**	**34.75**	**248**	P		**P**	**16 45 05.9**	**0.0**
	10nm,0.9s,baz=83,slow=11,SNR=12							
	10nm,0.9s							
BBOO	**Buckleboo**	**39.47**	**247**	P		**P**	**16 45 43.8**	**-0.8**
ASAR	**Alice Springs**	**42.04**	**261**	P		**P**	**16 46 05.0**	**-0.2**
	33nm,0.8s,baz=94,slow=8.1,SNR=186							
ASAR				PcP		**PcP**	**16 47 46.5**	**-1.5**
	4.6nm,0.9s,baz=96,slow=7.1,SNR=5.8							
ASAR				ScP		**ScP**	**16 50 50.2**	**+1.8**
	5.9nm,0.9s,baz=105,slow=3.5,SNR=20							
ASAR				S		**S**	**16 51 44.5**	**-2.0**
	0.7nm,0.7s,baz=98,slow=15,SNR=4.8							
	33nm,0.8s							
WRAB	**Tennant Creek**	**42.40**	**266**	P		**P**	**16 46 07.2**	**-0.9**
WRA	**Warramunga Arr**	**42.41**	**266**	P		**P**	**16 46 07.3**	**-0.8**
	39nm,0.8s,baz=97,slow=8.4,SNR=379							
WRA				ScP		**ScP**	**16 50 51.9**	**+1.9**
	5.4nm,0.9s,baz=103,slow=3.9,SNR=15							
WRA				S		**S**	**16 51 48.5**	**-3.2**
	0.7nm,0.9s,baz=100,slow=14,SNR=2.0							
	39nm,0.8s							
JAY	**Jayapura**	**43.47**	**293**	P		**P**	**16 46 16.1**	**-0.4**
	28nm,0.8s,baz=125,slow=2.7,SNR=19							
	28nm,0.8s							
JAY	**Jayapura**	**43.47**	**293**	P		**P**	**16 46 16.9**	**+0.4**
	33nm,1.1s							
GENI	**Genyem**	**43.88**	**293**	P		**P**	**16 46 19.6**	**-0.1**
	70nm,0.9s							
WAKE	**Wake Island**	**44.76**	**342**	P		**P**	**16 46 26.3**	**0.0**
PTCN	**Pitcairn Islan**	**45.25**	**102**	P		**P**	**16 46 31.3**	**+1.2**
SMPI	**Sarmi**	**45.43**	**292**	P		**P**	**16 46 32.4**	**+0.8**
	24nm,1.2s							
MTN	**Manton Dam**	**47.44**	**274**	P		**P**	**16 46 45.9**	**-0.9**
MTN				IAmb		IAmb	16 46 47.2	
	comp=Z,12nm,0.8s							
KNRA	**Kununurra**	**48.68**	**270**			**P**	**16 46 55.5**	**-0.5**
KNHH	**Kane Nui o Ham**	**49.28**	**32**	P		**P**	**16 47 00.4**	**-0.1**
HPAH	**Hawaii Prepara**	**49.60**	**31**	P		**P**	**16 47 02.5**	**-0.2**
DHH	**Diamond Head**	**49.74**	**28**	P		**P**	**16 47 03.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**50.83**	**266**			**P**	**16 47 12.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.83**	**266**	P		**P**	**16 47 12.1**	**+0.3**
	comp=Z,24nm,0.8s,baz=127,slow=7.3,SNR=40							
	comp=Z,24nm,0.8s							
SWI	**Sorong**	**52.41**	**288**	P		**P**	**16 47 23.1**	**-0.2**
SBA	**Scott Base**	**54.47**	**183**			**P**	**16 47 39.0**	**+2.1**
VNDA	**Vanda**	**54.47**	**185**	P		**P**	**16 47 38.0**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=348,slow=7.4,SNR=12							
VNDA				PcP		**PcP**	**16 48 32.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=0.3,slow=3.7,SNR=3.8							
	comp=Z,1.6nm,0.7s							
SOEI	**Soe**	**54.83**	**275**	P		**P**	**16 47 42.2**	**+1.6**
BATI	**Baumata**	**55.21**	**274**	P		**P**	**16 47 44.5**	**+1.3**
	comp=Z,30nm,0.6s,baz=175,slow=2.5,SNR=10.0							
	comp=Z,30nm,0.6s							
MBWA	**Marble Bar**	**55.38**	**260**			**P**	**16 47 43.4**	**-0.9**
MBWA				IAmb		IAmb	16 47 44.5	
	comp=Z,32nm,1.0s							
MORW	**Morawa**	**56.90**	**250**	IAmb		IAmb	16 47 55.0	
	comp=Z,47nm,1.4s							
EDFI	**Ende, Flores**	**57.56**	**275**	P		**P**	**16 47 58.9**	**-0.6**
	comp=Z,47nm,0.9s							
WSI	**Waingapu**	**58.49**	**273**	P		**P**	**16 48 05.8**	**+0.2**
GIRL	**Giralia**	**59.93**	**257**	P		**P**	**16 48 16.0**	**+0.8**
CASY	**Casey**	**60.19**	**206**	P		**P**	**16 48 15.8**	**-0.4**
PLAI	**Plampang**	**61.11**	**273**	P		**P**	**16 48 22.7**	**-0.4**
PCI	**Palu**	**62.48**	**282**	P		**P**	**16 48 33.7**	**+1.6**
	comp=Z,21nm,0.8s							
TOLI2	**Tolitoli**	**62.55**	**285**	P		**P**	**16 48 31.5**	**-0.9**
MPSI	**Mapaga**	**62.98**	**283**	P		**P**	**16 48 34.4**	**-0.9**
	comp=Z,30nm,1.4s							
QSPA	**South Pole Qui**	**66.28**	**180**	P		**P**	**16 48 57.0**	**+1.5**
QSPA				IAmb		IAmb	16 48 58.0	
	comp=Z,16nm,0.8s							
QSPA	**South Pole Qui**	**66.28**	**180**	P		**P**	**16 48 56.9**	**+1.5**
	comp=Z,13nm,0.7s,baz=351,slow=0.7,SNR=109							
QSPA				pP		**pwP**	**16 50 45.1**	**-0.7**
	comp=Z,4.7nm,1.0s,baz=37,slow=4.4,SNR=5.3							
	comp=Z,13nm,0.7s							
MJAR	**Matsushiro Arr**	**71.81**	**326**	P		**P**	**16 49 28.7**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=144,slow=4.0,SNR=5.4							
	comp=Z,1.2nm,0.8s							
KSM	**Kuching**	**72.08**	**280**	P		**P**	**16 49 30.2**	**-0.8**
MDSI	**Maura Dua**	**75.23**	**272**	P		**P**	**16 49 47.9**	**-1.0**
BELA	**Belgrano 2**	**76.53**	**173**	P		**P**	**16 49 54.5**	**-0.6**
MAW	**Mawson**	**77.84**	**200**	P		**P**	**16 50 02.5**	**+0.3**
	comp=Z,8.6nm,0.7s,baz=140,slow=5.9,SNR=26							
	comp=Z,8.6nm,0.7s							
KSRS	**Korea Array**	**78.17**	**320**	P		**P**	**16 50 05.1**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=143,slow=6.3,SNR=5.2							
	comp=Z,1.6nm,0.7s							
PETK	**Petropavlovsk-**	**79.00**	**347**	P		**P**	**16 50 09.3**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=226,slow=7.4,SNR=2.4							
	comp=Z,2.7nm,0.9

CCUT	Cedar City	87.42	47	P	P	16 50 50.7	-0.6
KNB	Kanab	87.50	48	IAmb	IAmb	16 50 53.5	
	comp=Z,7.9nm,1.1s						
U15A	North Rim	87.55	48	IAmb	IAmb	16 50 54.0	
	comp=Z,11nm,1.0s						
GNW	Green Mountain	87.66	35	IAmb	IAmb	16 50 53.5	
	comp=Z,9.1nm,1.0s						
WUAZ	Wupatki	87.70	49	IAmb	IAmb	16 50 54.5	
	comp=Z,8.0nm,1.1s						
CBB	Campbell River	87.99	32	IAmb	IAmb	16 50 55.2	
	comp=Z,8.6nm,1.0s						
L19K	White Mountain	88.02	12	IAmb	IAmb	16 50 54.2	
	comp=Z,9.2nm,1.0s						
BBB	Bella Bella	88.18	29	IAmb	IAmb	16 50 55.9	
	comp=Z,7.5nm,0.9s						
PWL	Port Wells	88.19	15	IAmb	IAmb	16 50 54.5	
	comp=Z,7.7nm,0.9s						
X18A	Snowflake	88.20	51	IAmb	IAmb	16 50 56.7	
	comp=Z,5.1nm,1.0s						
MTPU	Mount Pierson	88.47	47	IAmb	IAmb	16 50 58.7	
	comp=Z,8.9nm,1.0s						
CRAG	Craig	88.48	25	IAmb	IAmb	16 50 57.5	
	comp=Z,5.1nm,1.0s						
HAWA	Hanford	88.70	37	IAmb	IAmb	16 50 58.5	
	comp=Z,8.8nm,0.9s						
121A	Cookes Peak, D	88.77	54	IAmb	IAmb	16 50 59.9	
	comp=Z,6.1nm,1.1s						
J18K	Innoko River	88.90	10	IAmb	IAmb	16 50 58.1	
	comp=Z,4.5nm,0.9s						
V35K	Ketchikan	88.96	25	IAmb	IAmb	16 50 59.7	
	comp=Z,8.5nm,0.9s						
U33K	Whale Pass	88.96	24	IAmb	IAmb	16 50 59.6	
	comp=Z,9.2nm,0.9s						
BMRM	Bremner River	89.21	16	IAmb	IAmb	16 50 59.6	
	comp=Z,8.4nm,1.0s						
D08A	Wollman Farm,	89.43	37	IAmb	IAmb	16 51 01.7	
	comp=Z,5.7nm,0.9s						
WRAK	Wrangell Islan	89.48	24	P	P	16 51 00.4	+0.4
WRAK				IAmb	IAmb	16 51 01.8	
	comp=Z,6.2nm,0.8s						
CMAR	Chiang Mai Arr	89.49	290	P	P	16 51 00.7	-0.3
CMAR	Chiang Mai Arr	89.49	290	P	P	16 51 02.1	+1.1
	comp=Z,4.1nm,1.0s,baz=140,slow=3.3,SNR=18						
	comp=Z,4.1nm,1.0s						
Q16A	Castle Valley	89.61	47	IAmb	IAmb	16 51 04.2	
	comp=Z,5.1nm,0.9s						
CHTO	Chiang Mai	89.64	291	P	P	16 51 01.5	-0.2
CHTO				IAmb	IAmb	16 51 03.9	
	comp=Z,7.0nm,1.1s						
CAST	Castle Rocks	89.68	12	IAmb	IAmb	16 51 00.6	
	comp=Z,7.0nm,0.9s						
MPU	Maple Canyon	89.88	46	IAmb	IAmb	16 51 04.7	
	comp=Z,5.1nm,0.7s						
PLID	Pearl Lake	89.94	40	P	P	16 51 02.6	-0.2
PLID				IAmb	IAmb	16 51 03.9	
	comp=Z,8.4nm,1.5s						
HLID	Hailey	90.03	41	IAmb	IAmb	16 51 05.0	
	comp=Z,5.2nm,1.1s						
Y22A	Socorro	90.05	53	IAmb	IAmb	16 51 05.2	
	comp=Z,5.6nm,1.1s						
TRF	Thorofare Moun	90.06	13	IAmb	IAmb	16 51 02.7	
	comp=Z,4.3nm,0.8s						
HVU	Hansel Valley	90.08	44	IAmb	IAmb	16 51 04.8	
	comp=Z,6.8nm,0.9s						
CTU	Camp Tracy	90.15	45	IAmb	IAmb	16 51 05.1	
	comp=Z,7.8nm,1.0s						
P17A	Butcher Ranch,	90.18	46	IAmb	IAmb	16 51 06.3	
	comp=Z,9.3nm,1.1s						
RND	Reindeer	90.32	13	IAmb	IAmb	16 51 04.2	
	comp=Z,7.0nm,1.1s						
HHC	Hu-ho-hao-te	90.34	315	eP	P	16 51 05.6	+1.0
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
TXAR	Lajitas Array	90.39	58	P	P	16 51 06.1	+1.0
	comp=Z,3.3nm,0.7s,baz=205,slow=5.5,SNR=36						
TXAR				pP	pP	16 53 02.5	+2.0
	comp=Z,0.7nm,1.0s,baz=198,slow=4.4,SNR=3.5						
	comp=Z,3.3nm,0.7s						
P18A	Preston Nutter	90.59	46	IAmb	IAmb	16 51 07.4	
	comp=Z,4.4nm,1.0s						
PZH	PanZhiHua	90.63	299	P	P	16 51 06.8	+0.5
HWUT	Hardware Ranch	90.75	44	IAmb	IAmb	16 51 07.5	
	comp=Z,3.7nm,0.8s						
PV23	Carpenter Ridg	90.82	48	IAmb	IAmb	16 51 08.2	
	comp=Z,7.6nm,0.9s						
ALPN	Alpine	90.88	57	IAmb	IAmb	16 51 08.8	
	comp=Z,4.6nm,1.0s						
S34M	Telegraph Cree	91.02	24	IAmb	IAmb	16 51 09.1	
	comp=Z,4.1nm,0.9s						
SAND	Sanderson	91.87	58	IAmb	IAmb	16 51 12.8	
	comp=Z,5.5nm,1.0s						
ILAR	Eielson Array	91.94	14	P	P	16 51 10.0	-1.3
	comp=Z,0.5nm,0.8s,baz=206,slow=5.4,SNR=5.9						
ILAR				pP	pwP	16 53 10.4	+0.5
	comp=Z,0.7nm,0.8s,baz=207,slow=5.1,SNR=5.0						
	comp=Z,0.5nm,0.8s						
J26L	Joseph Creek	92.46	15	IAmb	IAmb	16 51 14.8	
	comp=Z,3.0nm,0.8s						
PDAR	Pinedale Array	92.63	44	P	P	16 51 15.1	-0.2
	comp=Z,1.7nm,0.8s,baz=224,slow=4.0,SNR=13						
	comp=Z,1.7nm,0.8s						
L29M	L29M	92.72	18	IAmb	IAmb	16 51 18.6	
	comp=Z,3.9nm,0.8s						
MKAR	Makanchi Array	112.08	313	PKiKP	PKiKP	16 56 33.8	-1.3
	comp=Z,0.3nm,0.4s,baz=192,slow=0.9,SNR=7.2						
KURBB	Kurchatov Arra	115.17	316	PKP	PKPdf	16 56 39.2	-1.6
	comp=Z,0.6nm,0.5s,baz=112,slow=1.8,SNR=6.3						
BVAR	Borovoye Array	120.36	319	PKP	PKPdf	16 56 49.9	-0.9
	comp=Z,1.5nm,0.3s,baz=106,slow=2.9,SNR=13						
ARCES	ARCESS Array B	131.79	348	PKP	PKPdf	16 57 11.1	-1.0
	comp=Z,0.7nm,0.5s,baz=101,slow=1.2,SNR=12						
FINES	FINESS Array B	138.35	341	PKP	PKPdf	16 57 23.7	-0.8
	comp=Z,0.7nm,0.3s,baz=83,slow=3.2,SNR=10						
FINES				SKPbc	SKPbc	17 00 09.2	-0.2
	comp=Z,3.6nm,1.0s,baz=350,slow=7.1,SNR=3.4						
NOA	NORSAR Array B	141.99	351	PKhKP	PKPpre	16 57 27.1	
	comp=Z,0.2nm,0.4s,baz=31,slow=3.2,SNR=1.5						
HFS	Hagfors	142.35	349	PKhKP	PKPpre	16 57 27.6	
	comp=Z,3.2nm,0.3s,baz=66,slow=3.7,SNR=37						
AKASG	Malin Array Be	144.89	327	PKP	PKPdf	16 57 35.8	-0.6
	comp=Z,2.0nm,0.3s,baz=46,slow=4.3,SNR=20						
AKASG				SKPbc	SKPbc	17 00 26.2	+0.1
	comp=Z,1.5nm,0.7s,baz=48,slow=2.5,SNR=2.8						
BRTR	Keskin Array B	147.51	307	PKPbc	PKPbc	16 57 44.0	-0.8
	comp=Z,3.3nm,0.6s,baz=142,slow=5.6,SNR=11						
MMAI	Mount Meron Ar	147.66	294	PKPbc	PKPbc	16 57 46.2	+0.9
	comp=Z,8.9nm,0.5s,baz=79,slow=6.0,SNR=28						
EKA	Eskdalemuir Ar	148.42	3	PKPbc	PKPbc	16 57 45.4	-1.0
	comp=Z,0.7nm,0.3s,baz=334,slow=2.5,SNR=14						
STEB	Steborice	150.45	336	⇑ePKP	PKPbc	16 57 51.4	-0.1
OSTC	Ostas	150.47	339	⇑ePKP	PKiKP	16 57 52.1	+0.1
DPC	Dobruska-Polom	150.61	338	⇑ePKP	PKiKP	16 57 52.3	-0.1
KRLC	Kraliky	150.68	338	⇑ePKP	PKPbc	16 57 52.3	+0.2
MAUC	Maruska	150.89	336	⇑ePKP	PKiKP	16 57 53.3	+0.3
ZVC	Zvikov	152.09	340	⇑ePKP	PKiKP	16 57 55.7	+0.3
KHC	Kasperske Hory	152.55	340	⇑ePKP	PKPbc	16 57 55.9	-0.4
CKRC	Cesky Krumlov	152.59	339	⇑ePKP	PKPbc	16 57 56.3	-0.1
GERES	GERESS Array B	152.76	340	PKPbc	PKPbc	16 57 56.4	-0.5
	comp=Z,0.4nm,0.6s,baz=48,slow=1.6,SNR=3.6						
ESDC	Sonseca Array	163.83	11	PKPab	PKPab	16 58 57.3	-1.2
	comp=Z,0.9nm,0.9s,baz=332,slow=4.4,SNR=5.3						

*PGC **11** 16:44:28.7±1.3,49.29N×119.93W,h0km,ML2.1/11,29km west of Oliver, Bc British Columbia, Canada Mining explosion.*
*SEA **11** 16:44:32.1±1.2,49.33N±0.02×119.75W±0.05,h-1km±6km, Error ellipse: s-maj=4.9km s-min=2.3km az=91.0*
NEIC 11 16:44:29.9±1.4**,49.30N**±0.04×**119.74W**±0.06**, h6**km±7km**, ML2.6**/20**, ML2.8**/17(SEA)**, Error ellipse: s-maj=6.4km s-min=5.0km az=53.0, British Columbia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B08A	Colville Reser	0.98	164		Pg	16 44 48.2	-0.5
B08A					Sg	16 45 01.3	-0.1
B08A				IAML		16 45 04.9	
	comp=N,146nm,0.1s						
B08A	Colville Reser	0.98	164	P	Pg	16 44 48.2	-0.5
B08A				S	Sg	16 45 01.2	-0.2
NLW	Nelson Butte	1.29	198		Pb	16 44 54.6	0.0
SHUK	Shuksan-Mt. Ba	1.35	251		Pn	16 44 55.0	-0.4
RPW	Rockport	1.45	235		Pn	16 44 56.6	-0.2
GPW	Glacier Peak	1.50	219		Pb	16 44 58.3	-0.1
MBW	Mount Baker	1.51	251		Pb	16 44 58.2	-0.3
WTV	Waterville	1.61	185		Pn	16 44 58.9	-0.1
SAW	Saint Andrews	1.62	172		Pn	16 44 59.5	+0.5
SLFW	Sugar Loaf	1.63	199		Pn	16 44 59.5	+0.2
WRW	Wenatchee Ridg	1.63	208		Pn	16 44 59.7	+0.4
ETW	Entiat	1.74	193		Pg	16 45 03.4	+0.1
C09A	Chrisman Ranch	1.79	146	Pn	Pn	16 45 01.3	-0.1
C09A				Sg	Sb	16 45 26.2	+0.5
JCW	Jim Creek	1.82	233	Pn	Pb	16 45 04.1	+0.4
LLLB	Lillooet	1.91	314		Pn	16 45 03.0	0.0
LLLB					Sn	16 45 27.3	0.0
LLLB				IAML		16 45 29.6	
	comp=E,61nm,0.5s						
LLLB				IAML		16 45 30.0	
	comp=N,60nm,0.6s						
LLLB	Lillooet	1.91	314	Pn	Pn	16 45 03.0	0.0
LLLB				Sg	Sn	16 45 27.9	+0.6
HTW	Haystack Looko	2.02	223		Sg	16 45 35.2	+0.6
NEW	Newport	2.02	120		Pn	16 45 05.2	+0.6
NEW				IAML		16 45 32.9	
	comp=N,55nm,0.5s						
NEW				IAML		16 45 33.2	
	comp=N,35nm,0.5s						
NEW	Newport	2.02	120		Sb	16 45 31.7	-0.7
OD2	Odessa Site #2	2.03	160		Pb	16 45 07.3	+0.1
WSLR	Whistler	2.22	293	Pn	Pn	16 45 08.7	+1.4
WSLR				Sg	Sb	16 45 37.5	-0.9
WPB	Watts Point	2.29	280	Pn	Pb	16 45 10.6	-1.0
WPB				Sg	Sb	16 45 40.3	+0.1
D08A	Wollman Farm,	2.31	166	Pn	Pn	16 45 07.9	-0.6
D08A				IAML		16 45 50.9	
	comp=N,34nm,0.1s						
SNB	Saturna Island	2.32	258	Sg	Sg	16 45 43.1	-1.2
B011	North Saanich	2.53	256	Sg	Sb	16 45 48.1	+1.1
B009	North Saanich	2.53	256	Sg	Sb	16 45 48.0	+1.0
B010	North Saanich	2.53	256	Sg	Sb	16 45 48.2	+1.2
PGC	Sidney	2.53	256	Sg	Sb	16 45 48.4	+1.3
WAH2	Wahluke Slope	2.55	177	Pn	Pn	16 45 11.6	-0.2
B013	Quilcene	2.58	236		Pn	16 45 11.2	-1.0
D05A	Enumclaw	2.59	216	Pg	Pg	16 45 18.7	-0.9
D05A				Sg	Sg	16 45 53.2	+0.1
GNW	Green Mountain	2.69	231	Pn	Pn	16 45 13.6	-0.1
FMW	Mount Fremont	2.70	209	Pn	Pb	16 45 17.1	-1.7
FMW				Pg	Pg	16 45 20.0	-1.6
FMW				Sg	Sg	16 45 55.3	-1.3
MXC	Moxie City	2.75	188	IAML		16 46 02.8	
	comp=E,24nm,0.6s						
HDW	Hoodsport	2.76	234	Pg	Pg	16 45 21.2	-1.5
HDW				Sg	Sg	16 45 57.5	-0.9
OBSR	Observation Ro	2.78	211		Pg	16 45 22.1	-1.0
SYMB	Survey Mountai	2.78	256	Pg	Pb	16 45 19.8	-0.1
SYMB				Sg	Sb	16 45 54.9	+0.7
GHW	Garrison Hill	2.83	218		Pb	16 45 18.2	-2.5
E08A	Dider Farm, El	2.85	170	IAML		16 46 02.3	
	comp=E,27nm,0.4s						
E08A				IAML		16 46 05.1	
	comp=N,15nm,0.3s						
LON	Longmire	2.91	209	Pg	Pg	16 45 24.1	-1.5
LON				Sg	Sg	16 46 01.5	-1.7
HAWA	Hanford	2.91	177		Pb	16 45 23.1	+0.8
CLRS	Cowichan Lake	2.93	262	Sg	Sb	16 45 58.2	-0.3
B926	Mesachie Lake	2.93	262	Sg	Sb	16 45 59.0	+0.5
TXB	Texada	3.09	279	Sg	Sb	16 46 04.6	+1.5
P403	Sandy Floe Qua	3.17	249		Pb	16 45 27.4	+0.8
PTRF	Port Renfrew	3.17	258	Sg	Sb	16 46 05.7	+0.1
CPW	Capitol Peak	3.25	226	Sg	Sg	16 46 11.8	-2.6
MGRB	Mount Grey	3.27	267	Sg	Sb	16 46 08.6	+0.1
J05D	Fort Rock, OR	6.11	190		Pb	16 46 19.4	+2.7
L04D	Klamath Falls	7.31	195		Pn	16 46 19.6	+2.3

*CATAC **11** 17:09:00.8±0.6, 10°N±3°×8°6W±°, h21km±5km, M3.9/19, MLv3.9/19, Error ellipse: s-maj=7.6km s-min=3.4km az=42.0, confirmed*
*UCR **11** 17:09:02.1±1.1, 10.33N×86.31W, h14km±6km, MW4.3*
ISC 11 17:09:02.1±1.7**, 10.26N**±0.05×**86.32W**±0.06**, h19**km±3km**, n81**, σ0**69/86, 7C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	0.72	90	eP	Pg	17 09 16.2	-0.1
JUD3	Juan Diaz 3	0.77	97	eP	Pb	17 09 16.9	0.0
ALIBA	Liberia Airpor	0.83	67	eP	Pg	17 09 18.2	-0.1
ELI1	Hacienda Flor	0.84	63	eP	Pn	17 09 18.8	-0.2
ELI1	Hacienda Flor	0.84	63	S	Sn	17 09 32.2	+1.4
ELI1	Hacienda Flor	0.84	63	⇑P	Pn	17 09 18.7	-0.2
NICO	Nicoya	0.87	98	eP	Pb	17 09 18.2	-0.2
NICO				eS	Sb	17 09 29.9	+0.2
INDI	Punta indio, G	0.89	116	S	Sb	17 09 30.2	-0.3
INDI	Punta indio, G	0.89	116	P	Pb	17 09 18.7	-0.2
CMARA	Lajas Hojancha	0.91	105	eP	Pb	17 09 18.9	-0.4
CMARA	Lajas Hojancha	0.91	105	P	Pb	17 09 19.0	-0.4
CMARA	Lajas Hojancha	0.91	105	S	Sb	17 09 31.0	-0.1
ERIA	Liberia	0.94	67	eP	Pb	17 09 19.6	-0.1
LAPC	Finca la Perla	1.00	60	eP	Pb	17 09 20.2	-0.7
LCRUZ	La Cruz	1.05	40	eP	Pb	17 09 21.1	-0.6
GPS3	Bodega del ICE	1.06	62	eP	Pg	17 09 23.7	+1.1
GPS2	Hotel Rincn d	1.07	63	eP	Pb	17 09 21.3	-0.7
BAGA	Bagaces	1.07	76	eP	Pb	17 09 21.6	-0.4
VRLE	La Escondida,	1.07	61	eP	Pb	17 09 21.2	-0.9
PG27	Guanacaste Pro	1.07	58	eP	Pb	17 09 21.4	-0.7
GPS1	Guardaparques	1.08	62	eP	Pb	17 09 21.4	-0.7
NYURE	Nandayure	1.08	104	eP	Pb	17 09 21.3	-0.9
VORI	VORI	1.10	60	eP	Pn	17 09 21.6	-1.0
BUAI	Buenos Aires	1.15	58	eP	Pn	17 09 23.4	+0.1
COLC	Colonia	1.17	70	eP	Pn	17 09 22.8	-0.6
PEJA	Penjamo Buenos	1.17	57	eP	Pn	17 09 23.0	-0.4
CUI	Cuipilapa	1.20	71	eP	Pn	17 09 23.5	-0.4
MESS	Mesas	1.20	67	eP	Pn	17 09 23.3	-0.7
CARN	Rivas	1.21	40	eP	Pn	17 09 22.8	-1.1
CARN	Rivas	1.21	40	⇑P	Pn	17 09 23.6	-0.3
CARN				S	Sn	17 09 40.8	+1.1
INVE	Universidad In	1.25	80	eP	Pn	17 09 24.3	-0.3
MOTZ	Rio Naranjo	1.29	71	eP	Pn	17 09 25.1	-0.1
VMAR	Armenia, Volca	1.30	65	eP	Pn	17 09 25.1	-0.2
TIMP	Tierras Morena	1.32	76	eP	Pn	17 09 24.9	-0.6
JUNT	Juntas	1.34	89	eP	Pn	17 09 25.4	-0.3
TILA	Tilaran	1.34	81	eP	Pn	17 09 25.2	-0.7
JTS	Las Juntas de	1.34	89	eP	Pn	17 09 25.3	-0.6
JTS	Las Juntas de	1.34	89	⇑P	Pn	17 09 25.4	-0.4
JTS				S	Sn	17 09 42.8	-0.3
TENO	El Achiote	1.39	72	eP	Pn	17 09 25.7	-0.8
JAPN	AI SSO del Vol	1.40	27	eP	Pn	17 09 27.0	+0.4
JAPN	AI SSO del Vol	1.40	27	P	Pn	17 09 27.1	+0.4
UPAL	Upala	1.43	64	P	Pn	17 09 27.0	0.0
UPAL	Upala	1.43	64	S	Sb	17 09 47.4	+1.4
MORN	AI O del Volca	1.44	27	⇑P	Pn	17 09 26.8	-0.3
MTEVE	Monteverde	1.47	88	eP	Pn	17 09 27.6	-0.1
NADN	Granada	1.50	11	P	Pn	17 09 27.0	-1.0
NADN				S	Sg	17 09 50.4	-0.3
CASO	Castillo	1.57	84	eP	Pn	17 09 29.6	+0.6
VARE2	V. Arenal	1.58	83	eP	Pn	17 09 29.8	+0.6
CEDE	Laguna Cedeo	1.60	82	eP	Pn	17 09 30.2	+0.8
VACR	Volcan Arenal	1.63	83	eP	Pn	17 09 30.4	+0.6
FORC	Fortuna	1.63	83	eP	Pn	17 09 30.6	+0.8
NANN	Nandasmo	1.68	7	P	Pn	17 09 31.2	+0.8
OROT	Orotina	1.80	101	eP	Pn	17 09 32.0	-0.1
UNAN	Cigeo UNAN	1.84	1	P	Pn	17 09 32.5	-0.1
SAPS	Ciudad Sandino	1.90	357	P	Pn	17 09 33.3	-0.1
VPL2	V. Platanar	1.91	89	eP	Pn	17 09 34.6	+0.9
VPL1	V. Platanar	1.92	90	eP	Pn	17 09 34.9	+1.0
COPN	Copaltepe	1.92	352	eP	Pn	17 09 33.1	-0.7
COPN	Copaltepe	1.92	352	⇑P	Pn	17 09 33.3	-0.5
ATEO	Atenas	1.93	98	eP	Pn	17 09 34.2	+0.3
ITAL	Pital	2.02	85	eP	Pn	17 09 35.3	+0.2
ACON	Acoyapa	2.03	33	eP	Pn	17 09 34.3	-1.0
ACON	Acoyapa	2.03	33	⇑P	Pn	17 09 34.4	-0.9
ACON	Acoyapa	2.03	33	S	Sb	17 10 03.4	+0.1
PAR1A	Puntarenas Pro	2.14	108	eP	Pn	17 09 37.9	+1.1
MOMN	Momotombo	2.14	354	P	Pn	17 09 36.6	-0.3
MOMN				S	Sn	17 10 03.4	+0.4
MOM2	El Cardon	2.17	356	P	Pn	17 09 37.2	+0.1
PICV	PH. Pirrs	2.19	107	eP	Pn	17 09 38.1	+0.7
CNGN	Cerro Negro	2.25	350	P	Pn	17 09 40.0	+1.6
BOAB	BOACO BROADBAN	2.26	16	⇑P	Pn	17 09 38.1	-0.4
LCR2	La Lucha 2	2.34	103	eP	Pn	17 09 40.7	+1.0
PIEC	Cerro El Cedra	2.41	105	eP	Pn	17 09 42.6	+1.9
CRIN	San Cristobal	2.53	344	P	Pn	17 09 42.2	0.0
CRIN	San Cristobal	2.53	344	S	Sn	17 10 12.3	-0.2
VTCV	VTCV, Calle Va	2.57	96	eP	Pb	17 09 46.5	-1.2
OCHAL	Ojochal	2.88	114	S	Sn	17 10 20.1	-1.0
OCHAL	Ojochal	2.88	114	P	Pn	17 09 47.3	+0.4
DRK0	Durika	3.19	108	eP	Pn	17 09 50.6	-0.8
DRK0	Durika	3.19	108	P	Pn	17 09 51.0	-0.4
DRK0	Durika	3.19	108	S	Sn	17 10 28.2	-0.8
RCPN	Sur Rio San Ju	3.25	4	P	Pn	17 09 51.9	-0.2

*SVSA **11** 17:35:01.5±1.5,36.85N×21.03W,h10km,ML5.1(INMG), Error ellipse: s-maj=13.7km s-min=5.7km az=23.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Falha da Glria*
*INMG **11** 17:35:04.3±4.4,37.01N×20.77W,h63km,ML4.2, #DIST_RANGE: REGIONAL #IPMA_REGION: Dorsal Acores-Gibraltar*
*CNRM **11** 17:35:11.4,36.53N×19.97W,h55km,ML5.1*
*IDC **11** 17:35:11.2±2.7,38.49N×19.57W,h0km,mb3.8/6, mbtmp3.8/7,ML4.6/1,MS3.1/6,Error ellipse: s-maj=58.9km s-min=46.2km az=174.0*
ISC 11 17:34:47.1±0.7**,36.97N**±0.06×**20.72W**±0.04**, h10**km**, n85, σ2926/78, mb3.8/8, MS3.0/6, 1C, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	3.48	272	eP	Pb	17 35 48.1	-0.7
PSMN				eS	Sn	17 36 22.8	+0.3
PSMN				i IAML		17 36 23.9	
PSMN				i IAML		17 36 25.9	
PSMN				i IAML		17 36 32.4	
PSMA	Santa Maria	3.53	272	eP	Pb	17 35 48.6	-1.0
PSMA				eS	Sn	17 36 24.0	+0.3
PSMA				i IAML		17 36 25.6	
PSMA				i IAML		17 36 29.7	
PSMA				i IAML		17 36 31.2	
BART	Pico Bartolome	3.63	284	eP	Pb	17 35 50.0	-1.4
BART				eS	Sn	17 36 26.4	0.0
BART				i IAML		17 36 28.0	
BART				i IAML		17 36 29.0	
BART				i IAML		17 36 30.5	
PPOV	Povoa§£o	3.69	284	eS	Sn	17 36 26.4	-1.2
PPOV				i IAML		17 36 28.0	
PPOV				i IAML		17 36 34.6	
PGRON	Lagoa das Cont	3.79	284	eP	Pb	17 35 53.2	-0.9
PGRON				eS	Sn	17 36 31.9	+1.7
PGRON				i IAML		17 36 32.8	
PGRON				i IAML		17 36 33.7	
PGRON				i IAML		17 36 35.8	
PCALD	Caldeiras da R	3.88	284	eS	Sn	17 36 34.2	+1.7
CMLA	Cha da Macela	3.91	283	eP	Pb	17 35 54.5	-1.5
CMLA				eS	Sn	17 36 34.5	+1.5
CMLA				i IAML		17 36 38.5	
CMLA				i IAML		17 36 40.4	
CMLA				i IAML		17 36 40.5	
PSET	Sete Cidades	4.07	284	eP	Pb	17 35 57.5	-1.3
PSET				eS	Sn	17 36 38.6	+1.5
PSET				i IAML		17 36 42.7	
PSET				i IAML		17 36 43.5	
PSET				i IAML		17 36 46.3	
PMOZ	Porto Moniz, M	5.05	144	eP	Pb	17 36 15.5	-0.1
PMOZ				eS	Sb	17 37 09.1	-7.3
PMOZ				i IAML		17 37 13.6	
PMOZ				i IAML		17 37 18.2	
PMOZ				i IAML		17 37 21.8	
PMOZ	Porto Moniz, M	5.05	144	P	Pb	17 36 15.2	-0.5
PMOZ	Porto Moniz, M	5.05	144	S	Sn	17 37 06.6	+5.1
PMAR	Madeira	5.27	142	eP	Pb	17 36 18.4	-1.0
PMAR				eS	Sn	17 37 12.5	+5.6
PMAR				i IAML		17 37 18.5	
PMAR				i IAML		17 37 20.0	
PMAR				i IAML		17 37 21.3	
PMAR	Madeira	5.27	142	P	Pb	17 36 18.2	-1.2
PMAR	Madeira	5.27	142	S	Sn	17 37 10.8	+3.9
PMPST	Porto Santo, M	5.30	136	eP	Pb	17 36 18.4	-1.3
PMPST				eS	Sn	17 37 13.7	+6.4
PMPST				i IAML		17 37 18.9	
PMPST				i IAML		17 37 23.2	
PMPST				i IAML		17 37 27.4	
PMPS	Porto Santo	5.31	136⇑	eP	Pb	17 36 18.8	-1.2
FUL	Funchal	5.34	143	eP	Pb	17 36 19.3	-1.2
FUL				eS	Sn	17 37 14.2	+5.8
FUL				i IAML		17 37 19.4	
FUL				i IAML		17 37 20.1	
FUL				i IAML		17 37 21.7	
PSCM	Serra do Cume	5.35	291	eP	Pb	17 36 14.4	-6.2
PSCM				eS	Sn	17 37 10.1	+1.5
PSCM				i IAML		17 37 11.3	
PSCM				i IAML		17 37 11.9	
PSCM				i IAML		17

PARRA				*i* IAML			17 39 10.8		
PARRA				*i* IAML			17 39 13.8		
PARRA				*i* IAML			17 39 15.3		
PFVI	**Vila Bisbo**	**9.51**	**85**	*eP*		Pn	17 37 13.4	+9.4	
PFVI				*eS*		**Sn**	**17 38 51.7**	**+0.7**	
PFVI				*i* IAML			17 38 56.6		
PFVI				*i* IAML			17 38 57.5		
PFVI				*i* IAML			17 38 58.0		
PTEO	**Sao Teotonio**	**9.58**	**83**	*eP*		Pn	17 37 13.6	+8.5	
PTEO				*eS*		**Sn**	**17 38 53.0**	**+0.2**	
PTEO				*i* IAML			17 38 59.4		
PTEO				*i* IAML			17 39 00.1		
PTEO				*i* IAML			17 39 01.6		
MORF	**Marmelete**	**9.64**	**84**	*eP*		Pn	17 37 15.1	+9.2	
MORF				*eS*		**Sn**	**17 38 54.3**	**0.0**	
MORF				*i* IAML			17 39 01.3		
MORF				*i* IAML			17 39 01.3		
MORF				*i* IAML			17 39 04.1		
MESJ	**Messejana**	**9.99**	**81**	*eP*		Pn	17 37 20.4	+10	
MESJ				*eS*		**Sn**	**17 39 05.2**	**+2.5**	
MESJ				*i* IAML			17 39 10.9		
MESJ				*i* IAML			17 39 11.4		
MESJ				*i* IAML			17 39 11.6		
PCAS	**Casmilo, Conde**	**10.06**	**68**	*eP*		Pn	17 37 19.4	+7.8	
PCAS				*eS*		**Sn**	**17 39 04.7**	**+0.2**	
PCAS				*i* IAML			17 39 07.7		
PCAS				*i* IAML			17 39 11.3		
PCAS				*i* IAML			17 39 12.4		
PMTG	**Montargil**	**10.08**	**74**	*eP*		Pn	17 37 20.2	+8.3	
PMTG				*eS*		**Sn**	**17 39 06.8**	**+1.8**	
PMTG				*i* IAML			17 39 10.0		
PMTG				*i* IAML			17 39 10.2		
PMTG				*i* IAML			17 39 11.4		
PCVE	**Castro Verde**	**10.13**	**82**	*eP*		Pn	17 37 21.1	+8.6	
PCVE				*eS*		**Sn**	**17 39 07.3**	**+1.2**	
PCVE				*i* IAML			17 39 11.9		
PCVE				*i* IAML			17 39 12.9		
PCVE				*i* IAML			17 39 14.8		
COI	**Coimbra**	**10.16**	**68**	*eP*		Pn	17 37 20.3	+7.4	
COI				*eS*		**Sn**	**17 39 08.3**	**+1.3**	
COI				*i* IAML			17 39 13.9		
COI				*i* IAML			17 39 15.7		
COI				*i* IAML			17 39 16.2		
EVO	**Evora**	**10.19**	**77**	*eP*		Pn	17 37 22.9	+10	
EVO				*eS*		**Sn**	**17 39 09.2**	**+1.6**	
EVO				*i* IAML			17 39 11.5		
EVO				*i* IAML			17 39 14.6		
EVO				*i* IAML			17 39 15.9		
PSARD	**Sardoal**	**10.22**	**71**	*eP*		Pn	17 37 21.8	+8.0	
PSARD				*eS*		**Sn**	**17 39 08.7**	**+0.3**	
PSARD				*i* IAML			17 39 15.8		
PSARD				*i* IAML			17 39 16.0		
PSARD				*i* IAML			17 39 18.8		
PBDV	**Barranco-do-Ve**	**10.22**	**85**	*eP*		Pn	17 37 24.4	+11	
PBDV				*eS*		**Sn**	**17 39 11.2**	**+2.7**	
PBDV				*i* IAML			17 39 14.7		
PBDV				*i* IAML			17 39 16.3		
PBDV				*i* IAML			17 39 19.2		
PBEJ	**Beja**	**10.27**	**80**	*eP*		Pn	17 37 23.8	+9.4	
PBEJ				*eS*		**Sn**	**17 39 11.2**	**+1.5**	
PBEJ				*i* IAML			17 39 17.0		
PBEJ				*i* IAML			17 39 17.0		
PBEJ				*i* IAML			17 39 17.6		
PVAQ	**Vaqueiros**	**10.39**	**84**	*eP*		Pn	17 37 25.7	+10	
PVAQ				*eS*		**Sn**	**17 39 15.0**	**+2.5**	
PVAQ				*i* IAML			17 39 18.8		
PVAQ				*i* IAML			17 39 22.6		
PVAQ				*i* IAML			17 39 23.5		
PESTR	**Estremoz**	**10.55**	**76**	*eP*		**Pn**	**17 37 17.4**	**-0.9**	
PESTR				*eS*		**Sn**	**17 39 17.8**	**+1.3**	
PVIS	**Viseu**	**10.68**	**66**	*eP*		Pn	17 37 27.7	+7.6	
PVIS				*eS*		**Sn**	**17 39 19.1**	**-0.6**	
PMRV	**Marv??o**	**10.77**	**73**	*eP*		Pn	17 37 30.0	+8.6	
PMRV				*eS*		**Sn**	**17 39 22.9**	**+0.9**	
PCBR	**Castelo Branco**	**10.78**	**71**	*eP*		Pn	17 37 30.2	+8.8	
PCBR				*eS*		**Sn**	**17 39 22.8**	**+0.6**	
PGAV	**Gavieira, Arco**	**10.84**	**59**	*eP*		Pn	17 37 30.7	+8.4	
PGAV				*eS*		**Sn**	**17 39 22.5**	**-1.2**	
PCAB	**Cabril**	**10.91**	**60**	*eP*		Pn	17 37 31.2	+8.0	
PCAB				*eS*		**Sn**	**17 39 24.1**	**-1.2**	
PBAR	**Barrancos**	**10.93**	**80**	*eP*		Pn	17 37 32.8	+9.3	
PBAR				*eS*		**Sn**	**17 39 27.8**	**+2.0**	
POLO	**Lamas de Olo**	**10.95**	**62**	*eP*		Pn	17 37 31.6	+7.7	
POLO				*eS*		**Sn**	**17 39 26.0**	**-0.6**	
PVRL	**Vila Real**	**10.98**	**63**	*eP*		Pn	17 37 33.0	+8.8	
PVRL				*eS*		**Sn**	**17 39 26.8**	**-0.2**	
MVO	**Moncorvo**	**11.44**	**64**	*eP*		Pn	17 37 38.1	+7.6	
MVO				*eS*		**Sn**	**17 39 36.6**	**-1.7**	
PBRG	**Braganca**	**11.84**	**62**	*eP*		Pn	17 37 44.1	+8.1	
PBRG				*eS*		**Sn**	**17 39 46.8**	**-1.4**	
ZHG	**ZHG**	**12.04**	**103**	P		Pn	17 37 50.5	+12	
ZHG	**ZHG**	**12.04**	**103**	S		**Sn**	**17 39 56.4**	**+3.3**	
TTIG	**Tnine Tigouga,**	**12.06**	**119**	P		Pn	17 37 49.6	+11	
OUK	**Oukaimeden**	**12.11**	**115**	P		Pn	17 37 52.3	+12	
OUK	**Oukaimeden**	**12.11**	**115**	S		**Sn**	**17 39 57.4**	**+2.2**	
SMIR	**Smir Dam**	**12.44**	**91**	P		Pn	17 37 56.6	+12	
TIO	**Tiouine**	**12.69**	**114**	P		Pn	17 37 59.2	+11	
TIO	**Tiouine**	**12.69**	**114**	S		**Sn**	**17 40 10.0**	**+0.8**	
TISM	**Timmit**	**12.91**	**110**	P		Pn	17 38 01.3	+11	
OUZM	**OUZ**	**13.07**	**113**	P		**P**	**17 38 03.2**	**-0.1**	
OUZM	**OUZ**	**13.07**	**113**	S		**Sn**	**17 40 18.7**	**+0.2**	
ESDC	**Sonseca Array**	**13.43**	**73**	Pn		**P**	**17 38 05.3**	**-2.0**	
	0.9nm,0.3s,baz=266,slow=13,SNR=32								
ESDC					Sn		**Sn**	**17 40 24.3**	**-2.8**
	1.0nm,0.3s,baz=263,slow=23,SNR=13								
	1.7nm,0.3s								
MD31	**MD31**	**13.72**	**103**	P		**P**	**17 38 12.0**	**+1.5**	
MDT	**Midelt**	**13.86**	**103**	Pn		**P**	**17 38 13.9**	**+1.9**	
	1.4nm,0.3s,baz=299,slow=15,SNR=45								
MDT					Sn		**Sn**	**17 40 37.0**	**-0.7**
	2.4nm,0.3s,baz=79,slow=15,SNR=11								
EKA	**Eskdalemuir Ar**	**21.92**	**28**	P		P	17 39 50.3	+10	
	0.5nm,0.5s,baz=216,slow=10,SNR=3.8								
DAVOX	**Davos/Dischmat**	**24.67**	**57**	P		P	17 40 21.2	+13	
	3.0nm,0.7s,baz=275,slow=9.0,SNR=11								
DAVOX					LR	LR	17 48 21.9		
	comp=Z,23nm,20.8s,baz=262,slow=34								
GERES	**GERESS Array B**	**27.63**	**54**	P		P	17 40 44.8	+10	
	0.5nm,0.7s,baz=261,slow=12,SNR=4.1								
	0.5nm,0.7s								
BORG	**Borgarnes**	**27.81**	**359**	LR		LR	17 49 00.3		
	comp=Z,29nm,18.0s,baz=325,slow=32								
NOA	**NORSAR Array B**	**31.36**	**30**	LR		LR	17 52 37.9		
	comp=Z,21nm,19.6s,baz=235,slow=35								
HFS	**Hagfors**	**31.89**	**32**	P		P	17 41 22.4	+10	
	2.2nm,0.6s,baz=223,slow=6.1,SNR=13								
	2.2nm,0.6s								
DBIC	**Dimbokro**	**33.46**	**150**	LR		LR	17 54 55.9		
	comp=Z,46nm,19.0s,baz=326,slow=34								
FINES	**FINESS Array B**	**37.94**	**35**	P		P	17 42 14.9	+10	
	1.4nm,0.6s,baz=225,slow=7.1,SNR=8.0								
	1.4nm,0.6s								
ARCES	**ARCESS Array B**	**40.94**	**23**	P		P	17 42 39.1	+10	
	0.9nm,0.6s,baz=234,slow=8.5,SNR=6.1								
	0.9nm,0.6s								
SADO	**Sadowa**	**44.02**	**299**	LR		LR	18 00 44.9		
	comp=Z,27nm,18.1s,baz=176,slow=35								
ANMO	**Albuquerque**	**67.02**	**297**	LR		LR	18 14 37.2		
	comp=Z,18nm,18.0s,baz=132,slow=35								
KURBB	**Kurchatov Arra**	**67.69**	**43**	P		P	17 46 00.5	+16	
	0.5nm,0.8s,baz=302,slow=8.1,SNR=2.1								
	0.5nm,0.8s								
MKAR	**Makanchi Array**	**71.87**	**45**	P		P	17 46 27.4	+17	
	0.5nm,0.7s,baz=298,slow=2.6,SNR=4.6								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**154.49**	**66**	PKPbc		**PKPab**	**17 55 09.7**	**+7.0**	
	0.2nm,0.6s,baz=314,slow=5.2,SNR=5.8								

*BJI **11** 17:51:06.7,5°.51N×133°.51E,h20km,mB5.2/17,mb4.8/56, Ms4.5/10,Ms7 4.4/12*

*IDC **11** 17:51:09.5±0.4,5°.96N×133°.17E,h0km,mb4.6/24, mbtmp4.7/26,ML5.0/2,MS3.8/45,Error ellipse: s-maj=19.0km s-min=8.5km az=78.0*

*MOS **11** 17:51:10.2±1.0,5°.98N×133°.10E,h17km,mb5.1/36,Error ellipse: s-maj=12.6km s-min=5.7km az=113.5*

*NEIC **11** 17:51:12.7±2.1,6°.00N±0°.09×133°.3E±0°.1,h18km±4km, mb5.1/178,Mww4.9/19,Error ellipse: s-maj=14.9km s-min=13.2km az=88.0*

*GCMT **11** 17:51:12.8±0.2,6°.08N±0°.02×133°.06E±0°.01,h18km, MW4.9/101,Moment Tensor Solution. s49,c68; s101,c151; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.93±.13; Mθθ-0.10±.08; Mφφ-2.83±.09; Mrθ-1.03±.21; Mrφ-0.77±.06; Mθφ-0.45±.17; Best double couple: M=3.18600×10^16 NP1:ϕs360.00000°,δ40.00000°, λ66.00000°. NP2:ϕs210.00000°,δ54.00000°,λ109.00000°. Principal axes: T 3.2540, Plg73.0000°, Azm173.0000°; N -0.1350, Plg15.0000°, Azm18.0000°; P -3.1170, Plg7.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **11** 17:51:13.6,6°.00N×133°.25E,h20km*

*NEIC **11** 17:51:13.6,5°.90N×132°.95E,h20km,Moment Tensor Solution. Duration: 1s Moment tensor: Scale 10^16Nm; Mrr2.57; Mθθ-0.21; Mφφ-2.36; Mrθ0.05; Mθφ-0.66; Mrφ-1.24; Fault plane solution: M=2.84000×10^16 NP1:ϕs23.25000°, δ33.07000°,λ102.72000°. NP2:ϕs188.18000°,δ57.84000°, λ81.84000°. Principal axes: T 2.8812, Plg76.0000°, Azm74.0000°; N -0.0740, Plg7.0000°, Azm193.0000°; P -2.8072, Plg12.0000°, Azm284.0000°;*

*DJA **11** 17:51:15.7±0.5,6°.N±3°×13°.3E±°,h47km±4km,M5.0/48, mb4.9/48,mB5.5/19,MLv5.3/7,Mw(mB)4.9/19, MwMwp4.8/6,Mwp5.1/6*

ISC 11 17:51:14.0±0.7,**5°.96N**±0°.04×**133°.22E**±0°.05,**h30**km±4km, **n554**,σ1§**58**/469,**mb5.0**/169,**MS3.9**/46,**14C-1D,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**7.05**	**196**	P		**Pn**		**17 52 54.8**	**-0.4**
	0.5nm2μm158nm,0.8s								
RKPI	**Ransiki, Papua**	**7.48**	**173**	P		**Pn**		**17 53 00.4**	**-0.7**
	66nm,0.6s								
DAV	**Davao City (W)**	**7.67**	**279**	Pn		**Pn**		**17 53 02.8**	**-0.9**
	50nm,0.3s,baz=71,slow=12,SNR=4.2								
DAV					Sn		Sn	17 54 13.5	-16
	68nm,0.3s,baz=60,slow=19,SNR=2.3								
DAV					LR		LR	17 56 31.7	
	comp=Z,532nm,18.2s,baz=162,slow=42								
	280nm,0.6s								
TNTI	**Ternate**	**7.79**	**229**			**Pn**		**17 53 08.5**	**+3.2**
TNTI	**Ternate**	**7.79**	**229**	P		**Pn**		**17 53 07.3**	**+2.0**
TNTI	0.3nm1μm65nm,1.0s				S		**Sn**	**17 54 29.9**	**-2.6**
	0.3nm1μm65nm,1.0s								
SGSI	**Sangihe**	**7.99**	**254**	P		**Pn**		**17 53 06.8**	**-1.3**
SRPI	**Serui, Papua**	**8.34**	**159**	P		**Pn**		**17 53 14.9**	**+2.0**
	42nm,1.1s								
SMPI	**Sarmi**	**9.61**	**145**	P		**Pn**		**17 53 32.1**	**+1.8**
MSAI	**Masohi**	**10.19**	**205**	P		**Pn**		**17 53 42.6**	**+4.4**
	2μm131nm,1.1s								
JAY	**Jayapura**	**11.26**	**138**	Pn		**Pn**		**17 53 55.2**	**+2.2**
	0.5nm,0.3s,baz=168,slow=13,SNR=4.1								
JAY					Sn		Sn	17 55 44.5	-13
	0.6nm,0.3s,baz=122,slow=22,SNR=5.7								
JAY					LR		LR	17 56 40.7	
	comp=Z,340nm,21.6s,baz=294,slow=29								
MRSI	**Marisa**	**12.50**	**245**	P		**Pn**		**17 54 08.1**	**-1.8**
LUWI	**Luwuk**	**12.54**	**237**	P		**Pn**		**17 54 14.7**	**+4.3**
	1μm77nm,1.2s								
TOLI2	**Tolitoli**	**13.31**	**249**			**Pn**		**17 54 19.1**	**-1.9**
APSI	**Ampana**	**13.41**	**240**	P		**Pn**		**17 54 22.5**	**+0.1**
	55nm,1.2s								
GUMO	**Guam**	**13.75**	**56**	LR		LR		17 58 33.1	
	comp=Z,371nm,20.9s,baz=244,slow=32								
MPSI	**Mapaga**	**14.42**	**248**	P		**Pn**		**17 54 34.3**	**-1.8**
MYLDM	**Lahad Datu**	**14.67**	**268**			**Pn**		**17 54 40.6**	**+1.1**
PCI	**Palu**	**15.00**	**243**	P		**Pn**		**17 54 39.9**	**-4.1**
	58nm,1.1s								
BNSI	**Bone**	**16.65**	**232**	P		Pn		17 54 57.3	-8.0
	61nm,1.1s								
SPSI	**Sidrap Palu**	**16.66**	**234**	P		**Pn**		**17 54 59.4**	**-6.0**
	37nm,1.1s								
KKM	**Kota Kinabalu**	**16.91**	**271**			**Pn**		**17 55 07.9**	**-0.7**
SMKI	**Samarinda**	**17.20**	**249**	P		**Pn**		**17 55 10.6**	**-1.6**
	4μm110nm,1.1s								
BKSI	**Bulukumba**	**17.22**	**230**	P		**Pn**		**17 55 12.6**	**+0.2**
	49nm,1.2s								
KAPI	**Kappang**	**17.31**	**231**	P		**P**		**17 55 21.5**	**+6.8**
	4.7nm,0.3s,baz=50,slow=11,SNR=4.3								
KAPI					LR		LR	18 01 35.4	
	comp=Z,250nm,21.0s,baz=42,slow=36								
SOEI	**Soe**	**17.98**	**210**	P		**P**		**17 55 23.1**	**+0.9**
	65nm,1.1s								
MMRI	**Maumere**	**18.16**	**217**	P		**Pn**		**17 55 23.8**	**-0.3**
	2μm69nm,1.2s								
EDFI	**Ende, Flores**	**18.59**	**218**	P		**Pn**		**17 55 30.8**	**+1.5**
BATI	**Baumata**	**18.66**	**211**	P		**Pn**		**17 55 30.9**	**+0.7**
	2.4nm,0.3s,baz=308,slow=3.9,SNR=7.0								
BATI					LR		LR	18 01 44.5	
	comp=Z,295nm,21.1s,baz=44,slow=34								
	28nm,0.8s								
BATI	**Baumata**	**18.66**	**211**	P		**Pn**		**17 55 33.5**	**+3.3**
	55nm,1.1s								
PMG	**Port Moresby**	**20.64**	**138**	P		Pn		17 55 52.5	-1.1
	7.1nm,0.8s,baz=319,slow=15,SNR=2.1								
	7.1nm,0.8s								
YULB	**Yu-li**	**20.79**	**328**	P		Pn		17 55 54.4	-1.0
SBUM	**Sibu**	**21.23**	**261**			**P**		**17 55 59.1**	**+1.5**
PLAI	**Plampang**	**21.28**	**226**	P		**P**		**17 55 55.4**	**-2.7**
	69nm,1.4s								
NACB	**Ninganchiao**	**21.28**	**330**	P		**P**		**17 55 58.8**	**+0.7**
NACB					IAmb		IAmb	17 56 17.5	
	comp=Z,98nm,1.2s								
JOW	**Kunigami**	**21.29**	**348**	P		**P**		**17 55 58.0**	**-0.1**
	comp=Z,23nm,0.6s,baz=127,slow=15,SNR=3.1								
JOW					LR		LR	18 02 47.5	
	comp=Z,432nm,20.8s,baz=170,slow=33								
	comp=Z,23nm,0.6s								
SSLB	**Suanglung**	**21.30**	**328**	P		**P**		**17 56 00.1**	**+1.8**
SSLB					IAmb		IAmb	17 56 14.8	
	comp=Z,83nm,1.1s								
RABL	**Rabaul**	**21.44**	**118**	P		**P**		**17 56 04.3**	**+4.4**
KNRA	**Kununurra**	**21.94**	**192**			**P**		**17 56 04.7**	**-0.5**
STKI	**Sintang**	**22.48**	**256**	P		**P**		**17 56 08.6**	**-2.5**
	comp=Z,33nm,1.1s								
KSM	**Kuching**	**23.29**	**260**			**P**		**17 56 19.2**	**-0.3**
GMJI	**Gumkmas**	**24.26**	**235**	P		**P**		**17 56 25.5**	**-3.2**
	comp=Z,53nm,1.5s								
FITZ	**Fitzroy Crossi**	**25.05**	**197**	LR		LR		18 07 35.8	
	comp=Z,174nm,18.1s,baz=37,slow=39								
NGJI	**Ngawi**	**25.42**	**239**	P		**P**		**17 56 43.0**	**+3.8**
	comp=Z,56nm,1.3s								
WRAB	**Tennant Creek**	**25.75**	**178**	P		**P**		**17 56 41.9**	**-0.2**
WRAB	**Tennant Creek**	**25.75**	**178**	P		**P**		**17 56 41.9**	**-0.2**
WRAB					pmax	pmax			
	comp=Z,34nm,1.1s								
WRA	**Warramunga Arr**	**25.76**	**178**			**P**		**17 56 41.2**	**-1.0**
WRA	**Warramunga Arr**	**25.76**	**178**	P		**P**		**17 56 42.2**	**0.0**
	comp=Z,36nm,1.0s,baz=355,slow=9.8,SNR=75								
WRA					PcP		**PcP**	**18 00 12.4**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=355,slow=2.9,SNR=2.4								
WRA					S		**S**	**18 01 12.4**	**+2.8**
	comp=Z,0.7nm,1.0s,baz=357,slow=16,SNR=1.7								
WRA					LR		LR	18 06 54.0	
	comp=Z,333nm,20.9s,baz=32,slow=37								
	comp=Z,36nm,1.0s								
WRA	**Warramunga Arr**	**25.76**	**178**	*i* P		**P**		**17 56 41.5**	**-0.7**
WRA					pmax	pmax			
	comp=Z,37nm,1.0s								
QIZ	**Qiongzhong**	**26.21**	**302**	P		**P**		**17 56 46.5**	**+0.1**
QIZ					S		**S**	**18 01 16.4**	**-0.4**
QIZ					sS		**sS**	**18 01 28.3**	**-1.2**
QIZ					LR		LR		
	comp=Z,340nm,8.9s								
QIZ					LR		LR		
	comp=Z,670nm,12.6s								
TPI	**Tanjungpandan**	**26.96**	**252**	P		**P**		**17 56 52.7**	**-0.4**
	comp=Z,46nm,1.2s								
JNU	**Nakatsue**	**27.12**	**356**	P		**P**		**17 56 52.6**	**-1.8**
JNU					IAmb		IAmb	17 56 55.5	
	comp=Z,60nm,1.0s								
JNU	**Nakatsue**	**27.12**	**356**	LR		LR		18 08 11.5	
	comp=Z,224nm,18.8s,baz=168,slow=38								
JHJ	**Hachijo jima 2**	**27.71**	**12**	LR		LR		18 06 31.5	
	comp=Z,413nm,18.3s,baz=246,slow=33								
NJ2	**Nanjing**	**29.23**	**334**	*e*P		**P**		**17 57 14.5**	**+1.3**
NJ2					pmax	pmax			
	comp=Z,11nm,0.6s								
ASAR	**Alice Springs**	**29.45**	**179**	P		**P**		**17 57 15.5**	**+0.2**
ASAR	**Alice Springs**	**29.45**	**179**	P		**P**		**17 57 15.8**	**+0.6**
	comp=Z,3.8nm,0.8s,baz=3.3,slow=8.8,SNR=36								
ASAR					PcP		**PcP**	**18 00 21.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=0.8,slow=2.1,SNR=6.5								
ASAR					S		**S**	**18 02 11.4**	**+3.7**
	comp=Z,0.8nm,0.6s,baz=348,slow=12,SNR=9.7								
ASAR					LR		LR	18 09 10.4	
	comp=Z,335nm,20.3s,baz=3.5,slow=37								
	comp=Z,3.8nm,0.8s								
HNR	**Honiara**	**30.71**	**120**	LR		LR		18 09 26.1	
	comp=Z,176nm,18.2s,baz=258,slow=36								
MJAR	**Matsushiro Arr**	**30.78**	**8**	P		**P**		**17 57 26.2**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=182,slow=8.7,SNR=4.6								
MJAR					PcP		**PcP**	**18 00 24.5**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=172,slow=3.9,SNR=4.6								
MJAR					LR		LR	18 07 25.4	
	comp=Z,174nm,19.6s,baz=196,slow=32								
	comp=Z,1.8nm,0.8s								
MDSI	**Maura Dua**	**30.80**	**251**	P		**P**		**17 57 25.7**	**-1.6**
	comp=Z,886nmcomp=Z,20nm,1.3s								
KSRS	**Korea Array**	**31.72**	**352**	P		**P**		**17 57 34.9**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=176,slow=10,SNR=4.7								
KSRS					LR		LR	18 09 48.9	
	comp=Z,99μm,19.5s,baz=175,slow=35								
	comp=Z,1.5nm,0.7s								
PSI	**Prapat**	**34.33**	**266**	LR		LR		18 13 12.8	
	comp=Z,72nm,20.2s,baz=80,slow=39								
H11S3	**WAKE ISLAND Hy**	**34.92**	**66**	T		T		18 35 10.3	
	baz=253,slow=75,SNR=119								
H11S1	**WAKE ISLAND Hy**	**34.94**	**66**	T		T		18 35 03.9	
	baz=253,slow=75,SNR=90								
H11S2	**WAKE ISLAND Hy**	**34.94**	**66**	T		T		18 35 02.9	
	baz=253,slow=75,SNR=99								
H11N1	**WAKE ISLAND Hy**	**35.47**	**64**	T		T		18 35 52.3	
	baz=250,slow=75,SNR=67								
H11N2	**WAKE ISLAND Hy**	**35.48**	**64**	T		T		18 36 01.5	
	baz=250,slow=75,SNR=38								
H11N3	**WAKE ISLAND Hy**	**35.49**	**64**	T		T		18 36 03.6	
	baz=250,slow=75,SNR=75								
HNS	**HongShan**	**35.56**	**334**	⇑P		**P**		**17 58 08.9**	**+0.4**
HNS					pmax	pmax			
	comp=Z,16nm,0.9s								
CMAR	**Chiang Mai Arr**	**35.65**	**293**			**PcP**		**18 00 38.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**35.65**	**293**	P		**P**		**17 58 09.7**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=117,slow=6.6,SNR=12								
CMAR					PcP		**PcP**	**18 00 39.4**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=103,slow=1.5,SNR=4.8								
CMAR					LR		LR	18 13 17.5	
	comp=Z,67nm,19.2s,baz=110,slow=37								
	comp=Z,1.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**35.65**	**293**	*ce*P		**P**		**17 58 10.1**	**+0.5**
CMAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
XAN	**Xi'an**	**35.88**	**324**	P		**P**		**17 58 11.8**	**+0.4**
XAN					pP	pP		17 58 19.9	+0.6
XAN					pmax	pmax			
	comp=Z,21nm,1.2s								
PZH	**PanZhiHua**	**36.30**	**308**	P		**P**		**17 58 16.7**	**+1.5**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.7s								
PZH					pmax	pmax			
	comp=Z,100nm,4.8s								
MSHR	**Mys Shultsa**	**36.52**	**357**	*i* P		**P**		**17 58 18.0**	**+1.3**
MSHR					pmax	pmax			
	comp=Z,20nm,1.2s								
CD2	**Chengdu**	**37.15**	**316**	*e*P		**P**		**17 58 23.2**	**+0.9**
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**38.11**	**359**	P		**P**		**17 58 29.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**38.11**	**359**	P		**P**		**17 58 30.5**	**+0.4**
	comp=Z,7.9nm,0.8s,baz=173,slow=6.6,SNR=12								
	comp=Z,7.9nm,0.8s								
USRK	**Ussuriysk Ar.**	**38.11**	**359**	P		**P**		**17 58 29.8**	**-0.3**
CN2	**Changchun**	**38.31**	**351**	*e*P		**P**		**17 58 36.1**	**+4.3**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
STKA	**Stephens Creek**	**38.46**	**169**	P		**P**		**17 58 31.9**	**-1.4**
STKA	**Stephens Creek**	**38.46**	**169**	P		**P**		**17 58 32.3**	**-0.9**
	comp=Z,6.6nm,0.8s,baz=347,slow=8.5,SNR=8.6								
STKA					LR		LR	18 15 27.8	
	comp=Z,235nm,18.4s,baz=9.2,slow=38								
	comp=Z,6.6nm,0.8s								
BBOO	**Buckleboo**	**38.65**	**176**	P		**P**		**17 58 32.8**	**-2.0**
BBOO					IAmb		IAmb	17 58 35.9	
	comp=Z,39nm,1.1s								
ASAJ	**Asahikawa**	**38.89**	**11**	LR		LR		18 14 10.6	
	comp=Z,142nm,19.2s

ZEA Zeya 47.88 355 *e*P P **17 59 49.1 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
EVN Everest 49.09 302 P P **17 59 59.6 0.0**
EVN IAmb IAmb 18 00 10.8
comp=Z,28nm,1.2s
MSVF Nonsavu 50.13 119 P P **18 00 09.4 +2.5**
MSVF IAmb IAmb 18 00 12.3
comp=Z,28nm,1.1s
MSVF Nonsavu 50.13 119 P P **18 00 09.4 +2.5**
MSVF pmax pmax
comp=Z,28nm,1.2s
ZAK Zakamensk 50.88 336 *e*P P **18 00 11.0 -1.2**
ZAK pmax pmax
comp=Z,7.0nm,2.1s
PEA0B Petropavlovsk- 51.10 19*ce*P P **18 00 14.4 +0.8**
PETK Petropavlovsk- 51.10 19 P P **18 00 13.0 -0.7**
PETK Petropavlovsk- 51.10 19 P P **18 00 14.2 +0.6**
comp=Z,13nm,1.0s,baz=207,slow=3.0,SNR=10
PETK LR LR 18 26 24.3
comp=Z,28nm,18.1s,baz=218,slow=41
comp=Z,13nm,1.0s
PET Petropavlovsk 51.34 19*ce*P P **18 00 15.7 +0.3**
PET pmax pmax
comp=Z,17nm,1.0s
PALK Pallekele 52.16 275 LR LR 18 24 32.7
comp=Z,47nm,19.0s,baz=92,slow=38
MOY Mondy 52.79 335 *e*P P **18 00 27.6 +1.1**
MOY pmax pmax
comp=Z,26nm,1.7s
BOD Bodaibo 53.86 347 *e*P P **18 00 33.6 -0.4**
BOD pmax pmax
comp=Z,23nm,1.7s
HYB Hyderabad 54.56 287 *e*P P **18 00 39.9 +0.1**
WMQ Urumqi 54.86 321 *e*P P **18 00 43.1 +1.4**
WMQ pP sP 18 00 52.4 -0.6
WMQ pmax pmax
comp=Z,39nm,1.1s
MA2 Magadan 55.15 11*ce*P P **18 00 44.3 +0.9**
MA2 pmax pmax
comp=Z,10.0nm,1.7s
MA2 Magadan 55.15 11 P P **18 00 44.0 +0.6**
comp=Z,17nm,2.0s
YAK Yakutsk 56.02 358 P P **18 00 49.4 -0.1**
YAK Yakutsk 56.02 358 LR LR 18 22 32.7
comp=Z,64nm,21.1s,baz=168,slow=34
YAK Yakutsk 56.02 358*c i*P P **18 00 49.3 -0.2**
YAK *e**PP **pP** **18 00 56.3 -1.5**
YAK *e* 18 01 48.1
YAK *e* 18 02 53.9
YAK *e*PPP PPP 18 04 07.2
YAK *e*S **S** **18 08 34.5 -1.2**
YAK *e**SS **sS** **18 08 49.3 -0.1**
YAK *e* 18 10 34.8
YAK *e*SS **SS** **18 12 21.6 -0.5**
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=N,18nm,1.6s
YAK pmax pmax
comp=E,1.0nm,1.1s
YAK pmax pmax
comp=Z,100nm,5.4s
YAK pmax pmax
comp=N,73nm,4.4s
YAK pmax pmax
comp=E,44nm,4.6s
YAK smax smax
comp=N,51nm,4.0s
YAK smax smax
comp=E,41nm,3.0s
SHEM Shemya Is, Ala 57.37 28 LR LR 18 21 50.9
comp=E,97nm,21.0s,baz=256,slow=32
RAO Raoul Island 58.55 130 P P **18 01 08.2 +0.2**
comp=E,614nm,0.4s,baz=136,slow=21,SNR=5.7
SEY Seymchan 58.57 10 *e*P P **18 01 08.2 +0.7**
SEY pmax pmax
comp=Z,29nm,1.0s
MK31 Makanchi Array 59.62 322 *i*P P **18 01 15.6 +0.4**
MKAR Makanchi Array 59.62 322 P **18 01 15.7 +0.5**
MKAR Makanchi Array 59.62 322 P P **18 01 15.5 +0.3**
comp=Z,17nm,0.7s,baz=108,slow=7.8,SNR=59
MKAR LR LR 18 30 07.9
comp=Z,38nm,18.0s,baz=110,slow=39
comp=Z,17nm,0.7s
MKAR Makanchi Array 59.62 322 P P **18 01 15.7 +0.5**
URZ Urewera 59.95 141 LR LR 18 28 14.7
comp=Z,81nm,18.0s,baz=302,slow=37
SHLS Shalkode 59.96 317 *e*P P **18 01 14.5 -3.3**
SHLS pmax pmax
comp=Z,23nm,2.1s
PDGK Podgornoye 60.01 317 P P **18 01 17.4 -0.7**
UZB Uzynbulak 60.26 317 *e*P P **18 01 17.9 -1.9**
UZB pmax pmax
comp=Z,21nm,2.3s
TARG Taragay, Kyrgy 60.59 315 IAmb IAmb 18 01 41.1
comp=Z,13nm,1.1s
KDJ Kajisay 61.17 315 IAmb IAmb 18 01 28.0
comp=Z,16nm,1.0s
KSH Kashi 61.21 312 P P **18 01 28.6 +2.3**
KSH pP sP 18 01 36.4 -1.3
KSH pmax pmax
comp=Z,31nm,1.0s
ARXS Arharly 61.45 318 *e*P P **18 01 27.0 -0.8**
ZALV Zalesovo Beam 61.74 330 P **18 01 28.1 -1.4**
ZALV Zalesovo Beam 61.74 330 P P **18 01 28.7 -0.7**
comp=Z,5.4nm,0.8s,baz=103,slow=6.7,SNR=21
ZALV LR LR 18 29 24.2
comp=Z,49nm,19.6s,baz=102,slow=37
comp=Z,5.4nm,0.8s
NIL Nilore 61.83 305 P **18 01 30.4 -0.1**
NIL Nilore 61.83 305 P P **18 01 30.4 -0.1**
NIL pmax pmax
comp=Z,49nm,1.2s
ULHL Ulahol 61.87 315 P P **18 01 32.0 +1.1**
SNR=5.6
TKM2 Tokmak 2 62.53 316 P P **18 01 36.0 +0.7**
SNR=6.6
CHMS Chumysh 63.15 316 P P **18 01 39.5 +0.4**
SNR=7.5
AAK Ala-Archa 63.22 315*ce*P P **18 01 41.3 +1.5**
AAK pmax pmax
comp=Z,9.0nm,1.7s
USP Ospenovka 63.41 316 P P **18 01 41.3 +0.4**
SNR=13
KURK Kurchatov 63.52 325 P **18 01 41.0 -0.4**
KURK Kurchatov 63.52 325*ce*P P **18 01 41.7 +0.3**
KURK pmax pmax
comp=Z,52nm,1.2s
KURBB Kurchatov Arra 63.53 325 P P **18 01 41.7 +0.2**
comp=Z,17nm,1.0s,baz=121,slow=5.6,SNR=91
comp=Z,17nm,1.0s
KURBB Kurchatov Arra 63.53 325 P P **18 01 41.3 -0.2**
EKS2 Erkin-Say 63.73 315 P P **18 01 44.0 +0.9**
SNR=11
ARSB Arslanbob 63.91 313 P **18 01 44.6 +0.2**
ARSB Arslanbob 63.91 313 P P **18 01 44.6 +0.2**
BTLS Baital 64.27 317 *e*P P **18 01 45.7 -0.8**
BTLS pmax pmax
comp=Z,24nm,2.6s
TIXI Tiksi 65.67 358*ce*P P **18 01 56.1 +1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 66.16 315 IAmb IAmb 18 02 00.2
comp=Z,17nm,1.1s
KK31 Karatay Array 66.16 315 *i*P P **18 01 58.3 -0.5**
KKAR Karatay Array 66.16 315 P **18 01 58.8 0.0**
KKAR Karatay Array 66.16 315 P P **18 01 58.8 0.0**
NIKH Nikolski High 66.33 34 P P **18 02 00.0 +0.4**
baz=247
BRLS Borolday 66.62 314 *e*P P **18 02 00.7 -1.0**
BRLS pmax pmax
comp=Z,29nm,3.3s
SPIA Saint Paul Isl 67.34 29 P P **18 02 06.4 +0.4**
baz=244
UNV Unalaska Valle 67.96 34 P P **18 02 10.7 +0.7**
baz=249
BVA0 Borovoye Array 69.11 325 *i*P P **18 02 16.8 -0.4**
BVAR Borovoye Array 69.11 325 P P **18 02 17.4 +0.1**
comp=Z,18nm,0.8s,baz=114,slow=7.4,SNR=84
BVAR LR LR 18 34 57.9
comp=Z,32nm,18.6s,baz=97,slow=38
comp=Z,18nm,0.8s
BRVK Borovoye 69.19 325 P **18 02 17.7 0.0**
BRVK Borovoye 69.19 325*ce*P P **18 02 17.9 +0.3**
BRVK pmax pmax
comp=Z,30nm,1.0s
M11K Mekoryuk 70.60 27 P P **18 02 26.9 +0.8**
baz=247
RAR Rarotonga 71.01 115 P P **18 02 30.4 +1.0**
comp=Z,3.5nm,0.3s,baz=57,slow=13,SNR=3.0
RAR LR LR 18 29 56.2
comp=Z,58nm,19.6s,baz=276,slow=33
comp=Z,3.5nm,0.3s
S12K Black Hills 71.01 33 P P **18 02 28.9 +0.1**
baz=252
SDPT Sand Point 71.77 33 P P **18 02 33.7 +0.4**
baz=254
K13K Kusilvak Mount 71.89 26 P P **18 02 35.3 +1.4**
baz=248
M13K Dall Lake 71.92 28 P P **18 02 34.7 +0.6**
baz=249
TNA Tin City 72.08 22 P P **18 02 35.8 +0.8**
baz=243
CHNA Chernabura Isl 72.11 34 P P **18 02 36.2 +0.8**
baz=254
S14K Fog Glacier 72.53 33 P P **18 02 38.6 +0.6**
baz=254
O14K Tigyukauivet M 72.53 29 P P **18 02 39.0 +1.2**
baz=252
N14K Kuskokwak Cree 72.54 29 P P **18 02 39.1 +1.3**
baz=251
L14K Kuka Creek 72.56 27 P P **18 02 39.4 +1.5**
baz=250,SNR=6.9
ANM Nome 72.63 23 IAmb IAmb 18 02 40.5
comp=Z,19nm,1.1s
ANM Nome 72.63 23 P P **18 02 39.6 +1.3**
baz=246
F14K Arctic Creek 72.64 22 P P **18 02 39.9 +1.5**
baz=245
J14K Naranak Lak 72.68 25 P P **18 02 40.3 +1.7**
baz=248
M14K Bethel 72.69 28 IAmb IAmb 18 02 41.3
comp=Z,14nm,0.9s
M14K Bethel 72.69 28 P P **18 02 40.1 +1.4**
baz=250
CHGN Chignik 73.14 33 P P **18 02 42.2 +0.7**
baz=255
L15K Ungalak Mounta 73.21 27 P P **18 02 43.0 +1.2**
baz=251
O15K Ungalikthiuk R 73.21 30 P P **18 02 43.0 +1.1**
baz=253
M15K Kasigluk River 73.26 28 P P **18 02 43.2 +1.0**
baz=252
G15K Niukluk 73.33 23 P P **18 02 43.3 +0.9**
baz=247
F15K North Star Dit 73.37 22 IAmb IAmb 18 02 45.7
comp=Z,40nm,1.6s
F15K North Star Dit 73.37 22 P P **18 02 43.8 +1.1**
baz=247
N15K Kwethluk River 73.38 29 IAmb IAmb 18 02 45.5
comp=Z,19nm,1.1s
N15K Kwethluk River 73.38 29 P P **18 02 44.4 +1.5**
baz=252,SNR=5.2
K15K Wolf Creek Mou 73.40 26 P P **18 02 44.3 +1.4**
baz=250
H16K Elim 73.91 24 P P **18 02 47.1 +1.2**
baz=249
R16K Pilot Point 73.91 32 P P **18 02 46.8 +0.9**
baz=255
CASY Casey 73.92 189 P **18 02 43.1 -2.7**
P16K Nushagak River 74.08 30 P P **18 02 48.1 +1.1**
baz=255
N16K Nishlik Lake 74.10 29 P P **18 02 48.7 +1.6**
baz=254,SNR=6.6
J16K Anvik River 74.13 25 P P **18 02 48.9 +1.8**
baz=251,SNR=6.5
G16K Koyuk River 74.13 23 P P **18 02 48.4 +1.2**
baz=249
M16K Timber Creek 74.17 28 P P **18 02 48.6 +1.1**
baz=253
C16K Lisburne Hills 74.17 20 P P **18 02 48.1 +0.8**
baz=245
O16K Kokwok River B 74.18 30 IAmb IAmb 18 02 50.0
comp=Z,14nm,0.9s
O16K Kokwok River B 74.18 30 P P **18 02 48.6 +1.0**
baz=254,SNR=8.2
I17K Unalakleet 74.28 25 P P **18 02 50.0 +2.0**
baz=251,SNR=5.5
CHIR Chirikof Islan 74.55 34 P P **18 02 50.8 +1.0**
baz=258
R17L Mt. Peulik Vol 74.56 32 P P **18 02 50.3 +0.4**
baz=256
AB31 Akbulak array 74.61 319 *i*P P **18 02 49.5 -0.8**
ABKAR Akbulak array 74.61 319 P **18 02 48.3 -2.0**
O17K Koliganek Bris 74.72 29 P P **18 02 51.8 +1.2**
baz=255,SNR=11
D17K Noatak River 74.72 21 P P **18 02 52.2 +1.6**
baz=248
L17K Donlin 74.79 27 P P **18 02 52.9 +1.9**
baz=254,SNR=12
J17K VABM Dome 74.81 26 IAmb IAmb 18 02 53.8
comp=Z,16nm,0.8s
J17K VABM Dome 74.81 26 P P **18 02 53.1 +1.9**
baz=252,SNR=14
G17K Kiwalik Mounta 74.84 23 P P **18 02 52.8 +1.5**
baz=250,SNR=11
N17K Nushagak Hills 74.86 29 P P **18 02 53.4 +1.8**
baz=255
P17K Kvichak River 74.89 30 P P **18 02 52.3 +0.6**
baz=256
RDOG Red Dog Mine 74.92 20 P P **18 02 53.1 +1.4**
baz=248
F17K Baldwin Pennin 74.93 22 IAmb IAmb 18 02 54.6
comp=Z,24nm,1.3s
F17K Baldwin Pennin 74.93 22 P P **18 02 53.5 +1.8**
baz=250
E17K Hotham Inlet 74.94 22 P P **18 02 53.6 +1.8**
baz=249,SNR=8.4
H17K Granite Mounta 74.95 24 IAmb IAmb 18 02 54.9
comp=Z,36nm,1.4s
H17K Granite Mounta 74.95 24 P P **18 02 53.8 +1.9**
baz=251,SNR=15
K17K Iditarod 74.95 26 P P **18 02 53.9 +2.0**
baz=253,SNR=18
Q17K Contact Creek 74.95 31 P P **18 02 52.2 0.0**
baz=257
M17K Holitna River 74.98 28 P P **18 02 54.0 +1.8**
baz=254,SNR=8.0
C17K DeLong Mountai 74.99 20 P P **18 02 53.1 +0.9**
baz=247
SII Sitkinak Islan 75.49 33 P P **18 02 56.1 +0.9**
baz=259
Q18K Katmai Hardscr 75.49 31 P P **18 02 55.0 -0.3**
baz=257
E18K Tukpahlearik C 75.51 21 P P **18 02 56.8 +1.7**
baz=250,SNR=6.9
N18K Kilae Creek 75.52 29 P P **18 02 56.5 +1.1**
baz=256,SNR=5.6
SVE Sverdlovsk 75.53 327 *e*P P **18 02 55.4 0.0**
SVE pmax pmax
comp=Z,30nm,1.4s
L18K Granite Mounta 75.54 27 IAmb IAmb 18 02 58.5
comp=Z,36nm,1.4s
L18K Granite Mounta 75.54 27 P P **18 02 57.2 +1.9**
baz=255,SNR=16
P18K Big Mountain, 75.55 30 P P **18 02 55.7 +0.2**
baz=257
R18K Karluk 75.55 32 P P **18 02 55.8 +0.3**
baz=258
F18K Selawik 75.59 22 P P **18 02 56.6 +1.0**
baz=251
H18K Honhosa River 75.64 24 P P **18 02 57.0 +1.0**
baz=253
O18K Koktuh Hills 75.66 30 IAmb IAmb 18 02 58.8
comp=Z,36nm,1.6s
O18K Koktuh Hills 75.66 30 P P **18 02 57.2 +1.0**
baz=257
C18K Utukok River 75.73 20 P P **18 02 57.5 +1.1**
baz=249
G18K Tagagawik 75.75 23 P P **18 02 57.6 +1.1**
baz=252,SNR=6.1
M18K Stony River 75.75 28 P P **18 02 58.3 +1.7**
baz=256,SNR=11
B18K Kokolik River 75.79 19 P P **18 02 58.4 +1.7**
baz=248
J18K Innoko River 75.85 26 IAmb IAmb 18 02 59.8
comp=Z,35nm,1.6s
J18K Innoko River 75.85 26 P P **18 02 58.2 +1.0**
baz=255,SNR=8.9
AKTO Aktyubinsk 76.01 320 P P **18 02 57.5 -0.8**
OHAK Old Harbor 76.10 32 IAmb IAmb 18 03 01.0
comp=Z,24nm,1.4s
OHAK Old Harbor 76.10 32 P P **18 02 59.7 +1.0**
baz=259,SNR=5.6
GCSA Galena City Sc 76.13 25 P P **18 02 60.0 +1.3**
baz=254,SNR=9.3
O19K Port Alsworth 76.17 29 P P **18 02 60.0 +1.0**
baz=258
N19K Bonanza Creek 76.23 29 P P **18 03 00.9 +1.4**
baz=257,SNR=9.5
Q19K Cape Douglas, 76.24 31 P P **18 03 01.0 +1.5**
baz=258
A19K Wainwright 76.33 19 P P **18 03 01.2 +1.5**
baz=249
L19K White Mountain 76.36 27 IAmb IAmb 18 03 03.0
comp=Z,24nm,1.2s
L19K White Mountain 76.36 27 P P **18 03 01.7 +1.6**
baz=257,SNR=13
F19K Shaleruckik Mo 76.37 22 P P **18 03 00.8 +0.8**
baz=253
G19K Purcell Mounta 76.43 23 IAmb IAmb 18 03 03.0
comp=Z,23nm,1.1s
G19K Purcell Mounta 76.43 23 P P **18 03 01.9 +1.5**
baz=254,SNR=11
C19K Lookout Ridge 76.44 20 P P **18 03 02.2 +1.7**
baz=251
J19K Poorman 76.46 25 IAmb IAmb 18 03 03.4
comp=Z,23nm,1.2s
J19K Poorman 76.46 25 P P **18 03 02.1 +1.5**
baz=256,SNR=17
M19K Big River Lodg 76.51 28 P P **18 03 02.7 +1.7**
baz=257,SNR=6.1
H19K Roundabout Mou 76.52 24 P P **18 03 02.5 +1.7**
baz=254,SNR=12
KDAK Kodiak Island 76.58 32 P **18 02 59.2 -2.1**
KDAK IAmb IAmb 18 03 03.7
comp=Z,37nm,1.5s
KDAK Kodiak Island 76.58 32 LR LR 18 31 56.1
comp=Z,79nm,20.6s,baz=237,slow=32
KDAK Kodiak Island 76.58 32 P P **18 02 59.2 -2.1**
KDAK pmax pmax
comp=Z,37nm,1.5s
KDAK Kodiak Island 76.58 32 P P **18 03 02.5 +1.1**
baz=260
P19K Oil Pt 76.59 30 P P **18 03 01.8 +0.4**
baz=259
ARTI Arti 76.68 327*c i*P P **18 03 01.6 -0.4**
comp=Z,34nm,21.4s,baz=90,slow=37
ARTI S **S** **18 12 47.4 +0.8**
ARTI SS **SS** **18 17 38.7 -3.7**
ARTI pmax pmax
comp=Z,17nm,1.1s
D19K Kuna River 76.75 21 P P **18 03 03.6 +1.4**
baz=252
E19K Redstone River 76.75 22 IAmb IAmb 18 03 05.0
comp=Z,34nm,1.6s
E19K Redstone River 76.75 22 P P **18 03 03.3 +1.0**
baz=253
Q20K Shuyak Island 76.82 31 P P **18 03 03.3 +0.6**
baz=260
L20K Farewell, AK 76.87 27 P P **18 03 04.3 +1.3**
baz=258,SNR=5.6
O20K Slope Mountain 76.98 30 P P **18 03 03.8 +0.1**
baz=259
K20K Telida 76.98 26 IAmb IAmb 18 03 06.7
comp=Z,23nm,1.4s
K20K Telida 76.98 26 P P **18 03 05.2 +1.6**
baz=257
M20K Styx River 77.09 28 IAmb IAmb 18 03 07.3
comp=Z,38nm,1.7s
M20K Styx River 77.09 28 P P **18 03 05.8 +1.5**
baz=258
J20K Nowinta River 77.13 25 P P **18 03 06.1 +1.7**
baz=257,SNR=14
I20K Naaghedeneel 77.14 25 P P **18 03 06.1 +1.7**
baz=256,SNR=6.2
H20K Anotleneega Mo 77.14 24 P P **18 03 05.7 +1.3**
baz=256,SNR=8.1
F20K Avaraart Lake 77.20 22 P P **18 03 06.1 +1.4**
baz=255
D20K Etivluk River 77.34 21 P P **18 03 06.9 +1.4**
baz=254,SNR=5.5
E20K Nigu River 77.36 21 P P **18 03 06.9 +1.2**
baz=254
N20K Mount Spurr 77.39 29 P P **18 03 06.3 +0.3**
baz=259
SPCR Spurr Chakacha 77.39 29 P P **18 03 06.4 +0.4**
baz=259
B20K Meade River 77.53 19 P P **18 03 07.6 +1.1**
baz=253
CNPM China Poot 77.57 30 IAmb IAmb 18 03 08.6
comp=Z,22nm,1.1s
IMAR Indian Mountai 77.71 24 P P **18 03 06.5 -1.1**
PPLA Purkeypile 77.72 27 P P **18 03 08.8 +0.9**
baz=259
SKT Skwentna 77.85 28 P P **18 03 08.4 -0.1**
baz=260,SNR=6.9
CHUM Lake Minchumin 77.86 26 P P **18 03 09.8 +1.3**
baz=259
CAST Castle Rocks 77.87 26 IAmb IAmb 18 03 10.8
comp=Z,44nm,1.9s
CAST Castle Rocks 77.87 26 P P **18 03 09.6 +1.1**
baz=259,SNR=11
G21K Allakaket 77.93 23 IAmb IAmb 18 03 11.6
comp=Z,20nm,1.4s
G21K Allakaket 77.93 23 P P **18 03 10.2 +1.4**
baz=257,SNR=6.6
H21K Melozitna Rive 78.02 24 IAmb IAmb 18 03 12.1
comp=Z,19nm,1.2s
H21K Melozitna Rive 78.02 24 P P **18 03 10.8 +1.5**
baz=258,SNR=8.7
C21K Knifeblade Rid 78.10 20 P P **18 03 09.8 +0.2**
baz=255
F21K Alatna River 78.10 22 P P **18 03 10.5 +0.8**
baz=257
SUA Susitna One 78.13 28 P P **18 03 10.2 0.0**
baz=260,SNR=8.1
E21K Killik River 78.20 21 P P **18 03 10.7 +0.3**
baz=256
SLKM Skilak Lake 78.23 29 IAmb IAmb 18 03 12.1
comp=Z,25nm,1.2s
I21K Tanana 78.26 25 IAmb IAmb 18 03 13.4
comp=Z,17nm,1.1s
I21K Tanana 78.26 25 P P **18 03 12.1 +1.5**
baz=259
B21K Ikpikpuk River 78.27 20 P P **18 03 10.9 +0.3**
baz=255
O22K Cooper Landing 78.47 30 P P **18 03 12.2 +0.3**
baz=262
M22K Willow 78.47 28 P P **18 03 11.6 -0.2**
baz=261
BPAW Bear Paw Mtn. 78.47 26 IAmb IAmb 18 03 14.2
comp=Z,22nm,1.2s
BPAW Bear Paw Mtn. 78.47 26 P P **18 03 12.6 +0.7**
baz=260,SNR=14
CUT Chulitna 78.51 28 P P **18 03 12.3 +0.3**
baz=261
A22K Sinclair Lake 78.52 19 P P **18 03 12.8 +0.9**
baz=255
SEW Seward 78.55 30 IAmb IAmb 18 03 17.7
comp=Z,36nm,1.7s
SEW Seward 78.55 30 P P **18 03 12.9 +0.6**
baz=262
RC01 Rabbit Creek A 78.55 29 P P **18 03 12.2 -0.1**
baz=262
H22K Ishtalitna Cre 78.64 24 P P **18 03 14.1 +1.3**
baz=259,SNR=9.0
F22K John River 78.65 22 P P **18 03 13.8 +1.0**
baz=258
TRF Thorofare Moun 78.67 26 P P **18 03 13.2 0.0**
baz=260,SNR=5.7
MLY Manley 78.75 25 P P **18 03 14.1 +0.7**
baz=260,SNR=13
D22K Ayikyak River 78.77 21 P P **18 03 14.1 +0.7**
baz=257
G22K Bettles 78.79 23 P P **18 03 14.6 +1.0**
baz=259
B22K Teshekpuk Lake 78.85 19 P P **18 03 14.9 +1.1**
baz=256
PMR Palmer 78.92 28 P P **18 03 14.3 0.0**
baz=262,SNR=8.3
E22K Anaktuvuk Pass 78.92 22 IAmb IAmb 18 03 17.1
comp=Z,36nm,1.4s
E22K Anaktuvuk Pass 78.92 22 P P **18 03 15.6 +1.3**
baz=258
PWL Port Wells 79.20 29 P P **18 03 16.3 +0.4**
baz=263,SNR=14
KNK Knik Glacier 79.21 29 IAmb IAmb 18 03 17.9
comp=Z,21nm,0.9s
KNK Knik Glacier 79.21 29 P P **18 03 16.6 +0.6**

baz=263
RND Reindeer 79.30 27 IAmb IAmb 18 03 17.7
comp=Z,20nm,1.2s
MCK McKinley 79.31 26 IAmb IAmb 18 03 18.0
comp=Z,28nm,1.2s
MCK McKinley 79.31 26 P **P** **18 03 16.8 +0.3**
baz=262,SNR=11
G23K Bananza Creek 79.33 23 IAmb IAmb 18 03 19.5
comp=Z,24nm,1.1s
G23K Bananza Creek 79.33 23 P **P** **18 03 18.1 +1.5**
baz=260,SNR=14
I23K Minto, Yukon-K 79.34 25 IAmb IAmb 18 03 19.1
comp=Z,34nm,1.4s
I23K Minto, Yukon-K 79.34 25 P **P** **18 03 17.4 +0.9**
baz=261,SNR=10
COLD Coldfoot 79.35 23 IAmb IAmb 18 03 19.5
comp=Z,26nm,1.3s
COLD Coldfoot 79.35 23 P **P** **18 03 18.4 +1.8**
baz=260,SNR=13
H23K Yukon River 79.37 24 IAmb IAmb 18 03 19.5
comp=Z,25nm,1.3s
H23K Yukon River 79.37 24 P **P** **18 03 17.8 +1.0**
baz=261,SNR=12
NEA2 Nenana 79.38 25 P **P** **18 03 18.1 +1.3**
baz=261,SNR=7.3
D23K Nanushuk River 79.49 21 P **P** **18 03 18.8 +1.5**
baz=259
P23K Montague Islan 79.56 30 IAmb IAmb 18 03 20.1
comp=Z,27nm,1.1s
P23K Montague Islan 79.56 30 P **P** **18 03 18.6 +0.7**
baz=264,SNR=7.7
M23K Glacier View 79.61 28 P **P** **18 03 18.5 +0.4**
baz=263
PPT Papeete 79.68 109 LR LR 18 32 45.3
comp=Z,66nm,21.8s,baz=316,slow=31
C23K Itkillik River 79.68 20 P **P** **18 03 20.0 +1.6**
baz=259
PPT2 Papeete2 79.68 109 *e*P P 18 03 06.0 -13
comp=Z,19nm,22.0s
PPT2 Papeete2 79.68 109 *e*S **S** **18 13 19.8 -0.6**
comp=Z,79nm,29.8s
PPT2 *e*SS **SS** **18 18 21.4 -8.2**
comp=Z,52nm,24.8s
PPT2 *e*LR LR 18 27 58.6
comp=Z,90nm,22.5s
PPT2 *e*LR LR 18 28 05.3
comp=Z,140nm,31.8s
E23K Chandalar 79.71 22 IAmb IAmb 18 03 24.4
comp=Z,19nm,1.0s
E23K Chandalar 79.71 22 P **P** **18 03 19.9 +1.2**
baz=260,SNR=6.1
SCM Sheep Creek Mo 79.80 28 P **P** **18 03 20.1 +0.8**
baz=264,SNR=8.8
GLI Glacier Island, 79.80 29 P **P** **18 03 19.7 +0.5**
baz=264,SNR=5.7
TOLK Toolik Lake Re 79.83 21 P **P** **18 03 20.8 +1.5**
baz=260
Q23K Middleton Isla 80.03 31 P **P** **18 03 21.6 +1.2**
baz=265
HIN Hinchinbrook I 80.05 30 IAmb IAmb 18 03 22.7
comp=Z,28nm,1.2s
H24K Noodor Dome 80.05 24 IAmb IAmb 18 03 23.2
comp=Z,29nm,1.4s
H24K Noodor Dome 80.05 24 P **P** **18 03 21.4 +0.8**
baz=262,SNR=9.9
FID Port Fidalgo 80.09 29 IAmb IAmb 18 03 22.6
comp=Z,18nm,1.0s
E24K Your Creek 80.14 22 IAmb IAmb 18 03 45.9
comp=Z,36nm,1.8s
E24K Your Creek 80.14 22 P **P** **18 03 22.1 +1.2**
baz=261
POKR Poker Plat Res 80.14 25 P **P** **18 03 20.3 -0.6**
baz=263
D24K Happy Valley 80.18 21 P **P** **18 03 22.3 +1.2**
baz=261
HDA Harding Lake 80.26 26 IAmb IAmb 18 03 23.5
comp=Z,29nm,1.9s
HDA Harding Lake 80.26 26 P **P** **18 03 22.6 +1.0**
baz=263
F24K Squaw Lake 80.28 23 P **P** **18 03 23.3 +1.6**
baz=262,SNR=6.9
C24K Franklin Bluff 80.31 20 P **P** **18 03 22.8 +1.0**
baz=261
G24K Hadweenzic Riv 80.33 23 **P** **18 03 22.4 +0.5**
G24K IAmb IAmb 18 03 24.7
comp=Z,20nm,1.2s
G24K Hadweenzic Riv 80.33 23 P **P** **18 03 23.3 +1.4**
baz=262,SNR=8.4
ILAR Eielson Array 80.33 25 P **P** **18 03 21.6 -0.3**
comp=Z,2.8nm,0.9s,baz=256,slow=5.9,SNR=26
ILAR LR LR 18 37 43.1
comp=Z,40nm,19.5s,baz=262,slow=35
comp=Z,2.8nm,0.9s
M24K Tolsona, Glenn 80.37 28 P **P** **18 03 23.4 +1.1**
baz=264
EYAK Cordova Ski Ar 80.43 30 P **P** **18 03 23.5 +1.0**
baz=265
KLU Klutina 80.43 29 P **P** **18 03 23.9 +1.2**
baz=265,SNR=5.5
DIV Divide 80.47 29 IAmb IAmb 18 03 25.3
comp=Z,29nm,1.1s
K24K Donnelly Dome 80.71 26 P **P** **18 03 24.5 +0.4**
baz=264
PAX Paxson 80.77 27 IAmb IAmb 18 03 26.6
comp=Z,30nm,1.8s
PAX Paxson 80.77 27 P **P** **18 03 25.2 +0.7**
baz=265,SNR=7.4
TBI Tubuai 80.79 115 *e*P **P** **18 03 24.0 -1.2**
comp=Z,136nm,30.0s
TBI Tubuai 80.79 115 *e*S **S** **18 13 29.5 -2.2**
comp=Z,453nm,40.0s
TBI *e*SS **SS** **18 18 37.8 -8.1**
comp=Z,371nm,33.2s
TBI *e*LQ LQ 18 25 18.7
comp=Z,711nm,33.0s
TBI *e*LR LR 18 28 35.3
comp=Z,637nm,31.8s
HARP HAARP 80.87 28 P **P** **18 03 26.0 +1.0**
baz=265
G25K Bearman Lake 80.88 23 P **P** **18 03 26.4 +1.5**
baz=264
H25L Birch Creek 80.94 24 P **P** **18 03 26.8 +1.7**
baz=264,SNR=8.6
RAGM Ragged Mountai 80.95 30 IAmb IAmb 18 03 27.9
comp=Z,26nm,1.4s
J25K Salcha River, 80.97 26 P **P** **18 03 26.6 +1.1**
baz=265
PRP Porcupine Dome 80.98 25 P **P** **18 03 25.6 0.0**
baz=264
BMRM Bremner River 81.02 29 IAmb IAmb 18 03 28.0
comp=Z,19nm,1.0s
BMRM Bremner River 81.02 29 P **P** **18 03 26.4 +0.6**
baz=266,SNR=8.1
KAIM Kayak Island 81.05 30 IAmb IAmb 18 03 28.6
comp=Z,26nm,1.0s
KAIM Kayak Island 81.05 30 P **P** **18 03 27.2 +1.3**
baz=266,SNR=6.3
D25K Kavik River 81.07 21 P **P** **18 03 27.3 +1.4**
baz=263
N25K Chitina, Valde 81.07 29 P **P** **18 03 27.1 +1.0**
baz=266,SNR=7.8
RIDG Independent Ri 81.12 26 IAmb IAmb 18 03 28.0
comp=Z,18nm,1.2s
RIDG Independent Ri 81.12 26 P **P** **18 03 26.6 +0.4**
baz=265,SNR=6.2
F25K Christian Rive 81.14 23 P **P** **18 03 28.0 +1.6**
baz=264,SNR=7.9
HMT Hamilton 81.15 30 IAmb IAmb 18 03 28.8
comp=Z,20nm,1.4s
FYU Fort Yukon 81.20 24 IAmb IAmb 18 03 29.7
comp=Z,27nm,1.3s
BERG Berg Lake 81.43 30 IAmb IAmb 18 03 30.5
comp=Z,29nm,1.2s
GLB Gilahina Butte 81.44 29 IAmb IAmb 18 03 30.2
comp=Z,20nm,1.1s
SCRK Sand Creek 81.52 26 P **P** **18 03 28.9 +0.4**
baz=266
BMAR Burnt Mountain 81.53 23 **P** **18 03 28.9 +0.5**
C26K Camden Bay 81.64 20 P **P** **18 03 30.3 +1.5**
baz=264
KIRV Kirov 81.72 328 LR LR 18 41 45.8
comp=Z,59nm,19.9s,baz=96,slow=37
KIRV Kirov 81.72 328 *ce*P **P** **18 03 30.0 +0.6**
F26K Sheenjek River 81.72 22 IAmb IAmb 18 03 32.7
comp=Z,21nm,1.1s
F26K Sheenjek River 81.72 22 P **P** **18 03 31.2 +1.8**
baz=265,SNR=13
CRQM Cirque 81.73 30 IAmb IAmb 18 03 32.1
comp=Z,21nm,1.1s
J26L Joseph Creek 81.73 26 IAmb IAmb 18 03 31.4
comp=Z,34nm,1.9s
J26L Joseph Creek 81.73 26 P **P** **18 03 29.6 0.0**
baz=266,SNR=7.4
L26K Log Cabin Wild 81.74 27 P **P** **18 03 30.5 +0.9**
baz=267,SNR=10
CRQE Cirque 81.75 30 P **P** **18 03 30.4 +0.7**
baz=267,SNR=6.4
G26K Porcupine Rive 81.81 23 P **P** **18 03 31.4 +1.6**
baz=266,SNR=6.2
MCARA McCarthy VSAT 81.81 29 P **P** **18 03 30.8 +0.8**
baz=267
M26K Nabesna, AK 81.87 28 P **P** **18 03 31.5 +1.2**
baz=267
I26K Coal Creek Min 81.96 25 P **P** **18 03 32.3 +1.7**
baz=267
C27K Jago River 82.03 21 P **P** **18 03 32.7 +1.7**
baz=266
MESA MESA 82.30 30 P **P** **18 03 34.1 +1.4**
baz=268
K27K Chicken 82.36 26 IAmb IAmb 18 03 36.6
comp=Z,21nm,1.1s
K27K Chicken 82.36 26 P **P** **18 03 34.6 +1.8**
baz=268
M27K Edge Creek, AK 82.39 28 P **P** **18 03 34.4 +1.3**
baz=266,SNR=12
YAH Yahtse 82.40 30 IAmb IAmb 18 03 36.1
comp=Z,18nm,1.1s
GRNC Granite Creek 82.41 30 IAmb IAmb 18 03 35.9
comp=Z,17nm,1.0s
L27K Beaver Creek, 82.44 27 P **P** **18 03 34.1 +0.9**
baz=268,SNR=14
BCAR Beaver Creek A 82.46 27 **P** **18 03 33.9 +0.6**
I27K Kandik River 82.61 25 P **P** **18 03 35.0 +0.9**
baz=268,SNR=16
CTG Chitna Glacier 82.61 29 P **P** **18 03 35.8 +1.5**
baz=269,SNR=8.0
BELG Belogornoye 82.63 322 *i* P **P** **18 03 34.4 +0.1**
BELG pmax pmax
comp=Z,7.0nm,0.9s
G27K Doyon Strip 82.64 23 P **P** **18 03 35.2 +1.0**
baz=268,SNR=5.9
H27K Steamboat Moun 82.67 24 IAmb IAmb 18 03 50.7
comp=Z,32nm,1.8s
H27K Steamboat Moun 82.67 24 P **P** **18 03 36.1 +1.7**
baz=268
AKT Akhty 82.71 311 *e*P **P** **18 03 32.1 -3.1**
AKT pmax pmax
comp=Z,13nm,0.8s
E27K Coleen River 82.72 22 P **P** **18 03 36.2 +1.6**
baz=268
LOGN Logan Glacier 82.78 30 IAmb IAmb 18 03 37.9
comp=Z,16nm,1.0s
BVCY Beaver Creek 82.87 28 P **P** **18 03 37.0 +1.5**
baz=269,SNR=5.1
D27M Malcolm River 82.98 21 IAmb IAmb 18 03 38.9
comp=Z,22nm,1.2s
D27M Malcolm River 82.98 21 P **P** **18 03 37.5 +1.5**
baz=268
YUK3 Moose Creek 83.05 29 P **P** **18 03 38.2 +1.6**
baz=270,SNR=6.6
PINM Pinnacle 83.14 30 P **P** **18 03 38.6 +1.6**
baz=270
O28M Mount Upton 83.17 30 IAmb IAmb 18 03 40.2
comp=Z,14nm,1.1s
O28M Mount Upton 83.17 30 P **P** **18 03 39.1 +1.7**
baz=270,SNR=7.5
I28M Miner Creek 83.31 25 P **P** **18 03 39.2 +1.4**
baz=270,SNR=18
F28M Old Crow 83.35 23 P **P** **18 03 39.5 +1.6**
baz=269,SNR=13
YUK8 Steele Glacier 83.38 29 P **P** **18 03 40.0 +1.5**
baz=270
E28M Babbage River 83.49 22 P **P** **18 03 40.0 +1.5**
baz=270,SNR=9.1
DAWY Dawson 83.54 26 P **P** **18 03 40.6 +1.7**
baz=270,SNR=29
PNL Peninsula 83.58 31 P **P** **18 03 40.5 +1.3**
baz=271
D28M Stokes Point 83.78 21 P **P** **18 03 41.3 +1.4**
baz=270
YUK4 Talbot Arm 83.92 29 P **P** **18 03 43.0 +1.8**
baz=271
H29M Whitestone 83.95 24 IAmb IAmb 18 03 43.6
comp=Z,18nm,1.1s
H29M Whitestone 83.95 24 P **P** **18 03 42.4 +1.4**
baz=271,SNR=7.0
O29M Mount Kennedy 83.98 30 P **P** **18 03 43.0 +1.7**
baz=271
M29M Somme Creek 83.98 28 P **P** **18 03 43.2 +1.9**
baz=271,SNR=13
I29M Ogilvie Camp, 83.99 25 P **P** **18 03 42.4 +1.2**
baz=271
J29N Klondike Camp 84.05 26 P **P** **18 03 43.4 +1.8**
baz=271
YUK6 Outpost Mounta 84.07 29 P **P** **18 03 43.7 +1.7**
baz=272
G29M Pine Creek 84.08 23 P **P** **18 03 43.1 +1.5**
baz=271,SNR=14
E29M Blow River 84.09 22 IAmb IAmb 18 03 44.0
comp=Z,24nm,1.6s
E29M Blow River 84.09 22 P **P** **18 03 42.5 +0.9**
baz=271
L29M L29M 84.12 27 P **P** **18 03 44.2 +2.3**
baz=272,SNR=30
K29M Barlow Dome 84.37 26 P **P** **18 03 45.0 +1.8**
baz=272,SNR=31
P29M Windy Craggy 84.42 31 P **P** **18 03 45.0 +1.5**
baz=272
HYT Haines Junctio 84.49 29 IAmb IAmb 18 03 47.0
comp=Z,14nm,1.0s
HYT Haines Junctio 84.49 29 P **P** **18 03 45.6 +1.6**
baz=272,SNR=12
EPYK Eagle Plains 84.61 24 P **P** **18 03 45.3 +1.0**
baz=272
N30M Aishikik Lake 84.67 29 IAmb IAmb 18 03 47.8
comp=Z,15nm,1.1s
N30M Aishikik Lake 84.67 29 P **P** **18 03 47.0 +2.3**
baz=273,SNR=7.0
M30M Minto, Yukon 84.75 28 P **P** **18 03 47.0 +1.8**
baz=273,SNR=24
G30M tAoh Zraii Nji 84.78 23 IAmb IAmb 18 03 46.9
comp=Z,18nm,1.1s
G30M tAoh Zraii Nji 84.78 23 P **P** **18 03 45.5 +0.3**
baz=273,SNR=7.4
P30M Million Dollar 84.79 30 P **P** **18 03 47.2 +1.9**
baz=273
I30M Mount Dempster 84.81 25 IAmb IAmb 18 03 48.0
comp=Z,18nm,1.1s
I30M Mount Dempster 84.81 25 P **P** **18 03 46.7 +1.2**
baz=273,SNR=12
J30M Hart River 84.86 26 P **P** **18 03 47.4 +1.7**
baz=273,SNR=18
VNDA Vanda 84.88 174 P **P** **18 03 45.3 0.0**
comp=Z,4.7nm,0.7s,baz=323,slow=5.8,SNR=34
VNDA LR LR 18 41 25.1
comp=Z,78nm,18.9s,baz=344,slow=36
comp=Z,4.7nm,0.7s
F30M Barrier River 84.92 23 P **P** **18 03 46.6 +0.8**
baz=273
MAYO Mayo, Yukon 85.11 27 P **P** **18 03 48.3 +1.5**
baz=273
PLBC Pleasant Camp 85.13 31 P **P** **18 03 48.4 +1.4**
baz=273
S31K Pelican 85.29 32 P **P** **18 03 49.2 +1.5**
baz=274
N31M Braeburn, Yuko 85.29 29 P **P** **18 03 49.2 +1.4**
baz=274,SNR=22
G31M Satah River 85.55 23 P **P** **18 03 49.0 +0.1**
baz=275
RAYN Ar Rayn 85.57 293 **P** **18 03 50.0 0.0**
RAYN Ar Rayn 85.57 293 P **P** **18 03 50.0 0.0**
RAYN pmax pmax
comp=Z,16nm,0.8s
H31M Peel River 85.61 24 P **P** **18 03 50.2 +0.8**
baz=275
SKAG Skagway 85.66 31 P **P** **18 03 51.3 +1.7**
baz=274,SNR=12
F31M Tsiigehtchic 85.71 23 P **P** **18 03 50.0 +0.3**
baz=275
INK Inuvik 85.72 22 P **P** **18 03 51.1 +1.4**
baz=275
WHY Whitehorse 85.79 30 P **P** **18 03 51.9 +1.5**
baz=275,SNR=31
SIT Sitka 85.84 33 P **P** **18 03 51.9 +1.3**
baz=274
M31M Drury Creek, Y 85.89 28 P **P** **18 03 52.1 +1.3**
baz=275
KBZ Khabaz 86.16 313 P **P** **18 03 52.5 +0.1**
comp=Z,6.2nm,1.1s,baz=225,slow=0.7,SNR=7.2
comp=Z,6.2nm,1.1s
KBZ Khabaz 86.16 313 *ce*P **P** **18 03 53.0 +0.6**
KBZ pmax pmax
comp=Z,7.0nm,1.1s
R32K Eaglecrest 86.17 32 P **P** **18 03 53.9 +1.7**
baz=275,SNR=7.1
S32K Killisnoo 86.21 33 IAmb IAmb 18 03 55.0
comp=Z,16nm,1.4s
S32K Killisnoo 86.21 33 P **P** **18 03 53.8 +1.4**
baz=275
KIV Kislovodsk 86.29 314 *e*P **P** **18 03 53.9 +0.6**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 86.29 314 P **P** **18 03 53.1 -0.2**
comp=Z,5.5nm,1.1s
P32M Atlin 86.46 31 IAmb IAmb 18 03 56.5
comp=Z,14nm,1.1s
P32M Atlin 86.46 31 P **P** **18 03 55.3 +1.6**
baz=276,SNR=7.0
GEVA Gevas 86.48 308 IAmb IAmb 18 03 56.6
comp=Z,17nm,1.1s
N32M Quiet Lake 86.62 29 P **P** **18 03 55.8 +1.4**
baz=276
KLMR Klimovskoe 86.65 331 *e*P **P** **18 03 51.7 -2.8**
KLMR pmax pmax
comp=Z,18nm,1.4s
P33M Teslin, Yukon 86.85 30 IAmb IAmb 18 03 58.1
comp=Z,12nm,1.1s
P33M Teslin, Yukon 86.85 30 P **P** **18 03 57.1 +1.4**
baz=276,SNR=5.8
U33K Whale Pass 87.14 34 P **P** **18 03 58.7 +1.7**
baz=276,SNR=9.3
T33K Petersburg 87.16 33 P **P** **18 03 58.3 +1.3**
baz=276
CRAG Craig 87.22 35 IAmb IAmb 18 04 00.2
comp=Z,21nm,1.3s
CRAG Craig 87.22 35 P **P** **18 03 59.0 +1.7**
baz=276
Q32M Nakina River 87.27 31 P **P** **18 03 59.6 +1.7**
baz=277,SNR=6.8
MMPY Sheldon Lake, 87.30 27 P **P** **18 03 59.0 +1.3**
baz=278
WRAK Wrangell Islan 87.54 34 P **P** **18 04 00.4 +1.5**
baz=277,SNR=6.3
ERBR Yeremizino-Bor 87.69 316 *e*P **P** **18 03 59.4 -0.5**
ERBR pmax pmax
comp=Z,30nm,1.4s
DIB Dawson Inlet, 87.86 37 IAmb IAmb 18 04 02.3
comp=Z,15nm,1.1s
R33M Jennings River 87.88 31 IAmb IAmb 18 04 03.6
comp=Z,8.9nm,1.1s
R33M Jennings River 87.88 31 P **P** **18 04 02.4 +1.7**
baz=278,SNR=10.0
S34M Telegraph Cree 88.00 32 IAmb IAmb 18 04 04.0
comp=Z,13nm,0.9s
S34M Telegraph Cree 88.00 32 P **P** **18 04 02.7 +1.6**
baz=278,SNR=12
V35K Ketchikan 88.09 35 P **P** **18 04 02.5 +1.0**
baz=278
MAW Mawson 88.11 201 P **P** **18 04 01.5 +0.2**
comp=Z,4.4nm,0.8s,baz=59,slow=4.9,SNR=15
comp=Z,6.4nm,0.8s
DLBC Dease Lake 88.50 32 LR LR 18 43 11.4
comp=Z,22nm,20.2s,baz=250,slow=35
DLBC Dease Lake 88.50 32 P **P** **18 04 04.8 +1.2**
baz=279
T35M Bob Quinn 88.61 33 IAmb IAmb 18 04 06.9
comp=Z,10nm,1.0s
T35M Bob Quinn 88.61 33 P **P** **18 04 05.7 +1.6**
baz=279,SNR=7.8
WTLY Watson Lake, Y 88.85 30 P **P** **18 04 06.5 +1.4**
baz=280
TGTN Hyland Airport 88.86 28 P **P** **18 04 06.1 +1.0**
baz=280
OBN Obninsk 88.96 325 *e*P **P** **18 04 05.2 -0.4**
OBN *e* 18 07 35.1
OBN *e*S **S** **18 14 55.0 +3.4**
OBN pmax pmax
comp=Z,6.0nm,0.8s
RUBB Prince Rupert 89.01 36 IAmb IAmb 18 04 08.3
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 89.53 349 P **P** **18 04 03.9 -4.0**
comp=Z,9.6nm,1.0s,baz=332,slow=8.2,SNR=7.0
ANN Anapa 89.94 315 *e*P **P** **18 04 09.2 -1.3**
ANN pmax pmax
comp=Z,20nm,1.1s
ARCES ARCESS Array B 90.57 340 P **P** **18 04 11.1 -1.8**
ARCES ARCESS Array B 90.57 340 P **P** **18 04 11.8 -1.1**
comp=Z,9.3nm,0.8s,baz=62,slow=5.9,SNR=13
ARCES LR LR 18 49 40.2
comp=Z,75nm,20.0s,baz=72,slow=39
comp=Z,9.3nm,0.8s
BBB Bella Bella 90.63 37 LR LR 18 41 04.8
comp=Z,36nm,18.3s,baz=216,slow=33
WRGLY Wrigley 90.68 26 P **P** **18 04 13.8 +0.3**
baz=285
TOAD Toad River Com 90.89 31 P **P** **18 04 14.7 +0.1**
baz=283
KOTAN Kotaneelee Air 91.17 29 P **P** **18 04 17.1 +1.2**
baz=284
FINES FINESS Array B 92.89 333 LR LR 18 48 44.2
comp=Z,108nm,20.9s,baz=60,slow=37
MMAI Mount Meron Ar 93.31 304 LR LR 18 49 32.9
comp=Z,13nm,20.6s,baz=60,slow=38
BRTR Keskin Array B 93.56 310 P **P** **18 04 25.9 -1.7**
comp=Z,0.2nm,0.4s,baz=117,slow=5.4,SNR=2.0
MNK Minsk 94.00 326 *i* P **P** **18 04 27.8 -1.2**
MNK *i* 18 08 13.8
MNK *i* PPP PPP 18 10 14.5
MNK *i* S **SKSac** **18 15 02.4 +0.6**
MNK *i* PS **PS** **18 16 54.8 -0.5**
MNK *i* SS **SS** **18 21 59.9 +3.0**
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,4.0nm,0.7s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK MLR MLR
comp=E,41nm,15.0s
MNK MLR MLR
comp=Z,42nm,18.0s
MNK MLR MLR
comp=N,36nm,18.0s
AKASG Malin Array Be 94.21 322 P **P** **18 04 29.6 -0.5**
comp=N,0.2nm,0.3s,baz=72,slow=3.0,SNR=2.1
AKASG LR LR 18 49 16.3
comp=N,46nm,19.6s,baz=55,slow=37
comp=N,0.2nm,0.3s
AKBB Malin Array Si 94.21 322 *i* P **P** **18 04 27.5 -2.6**
AKBB pmax pmax
comp=Z,2.0nm,1.3s
EIL Elat 94.23 300 LR LR 18 53 55.4
comp=Z,12nm,18.8s,baz=88,slow=40
YKA Yellowknife Ar 94.76 26 P **P** **18 04 32.5 +0.1**
comp=Z,2.3nm,1.0s,baz=303,slow=5.0,SNR=9.4
comp=Z,2.3nm,1.0s
QSPA South Pole Qui 95.85 180 **P** **18 04 38.0 +0.6**
QSPA South Pole Qui 95.85 180 P **P** **18 04 38.0 +0.6**
comp=Z,8.7nm,0.9s,baz=331,slow=1.7,SNR=28
QSPA LR LR 18 48 14.5
comp=Z,108nm,18.9s,baz=354,slow=36
comp=Z,8.7nm,0.9s
KMBO Kilima Mbogo 96.05 269 LR LR 18 46 23.7
comp=Z,22nm,18.1s,baz=102,slow=34
MLR Muntele Rosu 97.73 317 LR LR 18 52 27.0
comp=Z,25nm,21.4s,baz=77,slow=38
HFS Hagfors 98.98 334 LR LR 18 52 49.0
comp=Z,129nm,19.5s,baz=59,slow=37
NOA NORSAR Array B 99.58 335 LR LR 18 54 37.1
comp=Z,64nm,18.1s,baz=60,slow=38
TXAR Lajitas Array 115.10 54 PKP **PKPdf** **18 09 53.4 +0.3**
comp=Z,0.5nm,0.8s,baz=6.5,slow=4.8,SNR=4.3
ESDC Sonseca Array 119.84 323 PKP **PKPdf** **18 10 01.4 -0.4**
comp=Z,0.3nm,0.8s,baz=30,slow=6.8,SNR=2.9
PLCA Paso Flores 139.36 152 PKP **PKPdf** **18 10 38.7 -0.1**
comp=Z,3.6nm,1.1s,baz=314,slow=2.3,SNR=4.5
LPAZ La Paz 156.70 118 PKP **PKPdf** **18 11 08.7 +0.7**
comp=Z,2.5nm,0.9s,baz=319,slow=1.3,SNR=5.6
LPAZ PKPab **PKPab** **18 11 39.2 +1.9**
comp=Z,4.0nm,0.9s,baz=240,slow=1.6,SNR=7.8
CPUP Villa Florida 157.38 155 PKP **PKPdf** **18 11 08.5 +0.7**
comp=Z,0.1nm,0.4s,baz=315,slow=4.3,SNR=3.5
CPUP PKPab **PKPab** **18 11 39.5 +0.5**
comp=Z,1.9nm,1.0s,baz=88,slow=5.0,SNR=7.0

NEIC ***11*** *18:01:37.9±1.4, 35°.63N±0°.01×117°.440W±0°.004, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.0km az=349.0*

PAS 11 18:01:38.4±1.2, 35°.65N±0°.01×117°.45W±0°.02, h4km±2km, ML3.3/112, ML3.1/100(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=102.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**214**		Pg	18 01 39.8	+0.1
CCCA	**Chr Cany lake**	**0.14**	**149**		Pg	18 01 41.7	+0.5
CLC	**China Lake**	**0.21**	**325**		Pg	18 01 42.5	0.0
CLC				IAML		18 01 46.0	
	comp=E,6μm,0.4s						
CLC				IAML		18 01 46.0	
	comp=N,3μm,0.4s						
SRTC	**Snort**	**0.24**	**281**		Pg	18 01 43.6	+0.5
SRTC					Sg	18 01 48.2	+1.9
LRMC	**Laurel Mtn Rad**	**0.25**	**228**		Pg	18 01 43.4	+0.1
TOW	**Tower One**	**0.30**	**303**		Pg	18 01 44.7	+0.5
TOW					Sb	18 01 50.1	-1.7
MPMC	**Manual Prospec**	**0.41**	**356**		Sg	18 01 51.9	+0.1
MPMC	**Manual Prospec**	**0.41**	**356**		Pg	18 01 46.2	-0.2
MPMC				IAML		18 01 52.6	
	comp=N,1μm,0.6s						
MPMC				IAML		18 01 52.7	
	comp=E,1μm,0.4s						
WVPM	**Volcano Peak E**	**0.42**	**316**		Pg	18 01 46.6	0.0
WVPM					Sg	18 01 53.2	+1.1
WCSM	**Coso Springs S**	**0.46**	**326**		Pg	18 01 47.2	0.0
WCSM					Sg	18 01 53.6	+0.4
DTP	**Desert Tortois**	**0.49**	**220**		Pg	18 01 47.6	-0.3
DTP					Sg	18 01 54.6	+0.2
WRVM	**Rose V. Centra**	**0.51**	**316**		Pg	18 01 48.1	-0.1
WRVM					Sg	18 01 55.3	+0.6
MFS	**McCloud Flat S**	**0.57**	**325**		Pg	18 01 49.3	-0.1
MFS					Sg	18 01 57.8	+1.0
QSM	**Queen of Sheba**	**0.57**	**56**		Pg	18 01 49.3	0.0
QSM				IAML		18 01 57.8	
	comp=E,738nm,0.4s						
QSM				IAML		18 01 57.9	
	comp=N,855nm,0.5s						
QSM	**Queen of Sheba**	**0.57**	**56**		Sg	18 01 57.1	+0.2
GSC	**Goldstone, Bar**	**0.63**	**123**		Sg	18 01 59.0	+0.3
GSC	**Goldstone, Bar**	**0.63**	**123**		Pg	18 01 50.4	-0.1
GSC				IAML		18 01 59.7	
	comp=N,2μm,0.5s						
GSC				IAML		18 02 00.0	
	comp=E,2μm,0.5s						
WORM	**Onyx Ranch**	**0.64**	**275**		Pg	18 01 50.5	-0.3
WORM					Sg	18 01 58.9	-0.3
CCAC	**Calif City Air**	**0.67**	**223**		Pg	18 01 51.1	-0.2
CCAC					Sg	18 02 00.4	+0.3
WHFM	**Hanning Flat**	**0.73**	**274**		Pg	18 01 52.1	-0.3
WHFM					Sg	18 02 01.2	-0.7
HYS	**Haystack Butte**	**0.79**	**187**		Pg	18 01 52.9	-0.6
HYS					Sg	18 02 03.3	-0.4
ISA	**Isabella, Lake**	**0.83**	**271**		Sg	18 02 04.8	-0.3
ISA	**Isabella, Lake**	**0.83**	**271**		Pg	18 01 53.9	-0.5
ISA				IAML		18 02 08.7	
	comp=N,507nm,0.3s						
ISA				IAML		18 02 10.1	
	comp=E,396nm,0.4s						
GWY	**Greenwater Val**	**0.83**	**50**		Sg	18 02 05.3	+0.1
GWY	**Greenwater Val**	**0.83**	**50**		Pg	18 01 54.1	-0.3
GWY				IAML		18 02 10.7	
	comp=N,639nm,0.9s						
GWY				IAML		18 02 10.7	
	comp=E,667nm,0.9s						
RRX	**Edison Barstow**	**0.85**	**154**		Pg	18 01 54.4	-0.3
RRX					Sg	18 02 05.7	-0.1
EDW2	**Edwards Air Fo**	**0.88**	**210**		Pg	18 01 54.6	-0.7
EDW2					Sg	18 02 06.4	-0.3
WASM	**Alta Sierra Ca**	**0.90**	**276**		Pg	18 01 55.3	-0.5
CWC	**Cottonwood Cre**	**0.94**	**328**		Sg	18 02 09.0	+0.3
CWC	**Cottonwood Cre**	**0.94**	**328**		Pg	18 01 56.5	0.0
CGO	**Cerro Gordo**	**0.95**	**343**		Pg	18 01 55.8	-0.8
CGO					Sb	18 02 10.0	-0.6
FURC	**Furnace Creek,**	**0.95**	**30**		Sg	18 02 09.5	+0.6
FURC	**Furnace Creek,**	**0.95**	**30**		Pg	18 01 56.7	+0.1
FURC				IAML		18 02 13.2	
	comp=N,720nm,0.8s						
FURC				IAML		18 02 21.9	
	comp=E,999nm,0.7s						
SHOC	**Shoshone, Teco**	**0.99**	**75**		Sg	18 02 10.8	+0.6
SHOC	**Shoshone, Teco**	**0.99**	**75**		Pg	18 01 57.5	+0.1
TPO	**Tropico Hills**	**0.99**	**220**		Sg	18 02 09.4	-1.0
TPO	**Tropico Hills**	**0.99**	**220**		Pg	18 01 57.2	-0.3
SBB	**Saddle Back Bu**	**1.00**	**198**		Pg	18 01 56.8	-0.8
SBB					Sg	18 02 09.9	-0.7
TEJ	**El Tejon**	**1.09**	**248**		Pg	18 01 58.2	-1.1
TEJ					Sg	18 02 12.4	-1.0
SPG2	**Springville 2**	**1.20**	**298**		Pg	18 02 00.5	-1.0
DSCC	**Desert Studies**	**1.21**	**114**		Pg	18 02 00.3	-1.3
WCT	**Wildcat Mounta**	**1.33**	**30**		Pg	18 02 02.9	-0.9
VES	**Vestal, Richgr**	**1.34**	**279**		Pn	18 02 03.2	-0.8
VES				IAML		18 02 26.9	
	comp=E,503nm,0.8s						
VES				IAML		18 02 28.6	
	comp=N,461nm,0.6s						
BFSC	**Mount Baldy Ra**	**1.41**	**187**		Pn	18 02 04.0	-1.0
BFSC				IAML		18 02 24.6	
	comp=E,240nm,0.6s						
BFSC				IAML		18 02 24.8	
	comp=N,167nm,0.7s						
MWC	**Mount Wilson**	**1.50**	**199**		Pn	18 02 05.7	-0.7
MWC				IAML		18 02 28.7	
	comp=N,438nm,0.5s						
MWC				IAML		18 02 29.4	
	comp=E,256nm,0.7s						
MTPC	**Mountain Pass**	**1.56**	**95**		Pn	18 02 05.5	-1.6
PASC	**Pasadena Art C**	**1.59**	**202**		Pn	18 02 06.7	-0.6
PASC				IAML		18 02 31.2	
	comp=N,159nm,0.6s						
PASC				IAML		18 02 33.6	
	comp=E,264nm,0.6s						
TPNV	**Topopah Spring**	**1.62**	**36**	IAML		18 02 33.4	
	comp=E,158nm,1.1s						
TPNV				IAML		18 02 34.5	
	comp=E,206nm,0.7s						
DSP	**Deep Springs**	**1.77**	**347**		Pn	18 02 09.7	-0.2
ELS	**Elsinore Mount**	**1.99**	**179**		Pn	18 02 12.4	-0.6
POB	**Polly Butte**	**2.00**	**167**		Pn	18 02 12.7	-0.5
BELC	**Belle Mtn. Jos**	**2.03**	**143**		Pn	18 02 12.1	-1.5
BELC				IAML		18 02 45.9	
	comp=N,153nm,0.8s						
BELC				IAML		18 02 46.2	
	comp=E,146nm,0.6s						
V12A	**Nelson**	**2.12**	**87**		Pn	18 02 13.3	-1.4
PMD	**Palm Desert**	**2.18**	**156**		Pn	18 02 14.1	-1.4
PMD				IAML		18 02 57.2	
	comp=E,78nm,0.8s						
PFO	**Pinyon Flats O**	**2.19**	**158**		Pn	18 02 14.6	-1.1
NVAR	**Mina Array Bea**	**2.86**	**346**		Pg	18 02 34.5	+1.2
BLYC	**Blythe**	**3.07**	**127**		Pn	18 02 25.9	-1.7
BLYC				IAML		18 03 18.7	
	comp=N,82nm,0.7s						
BLYC				IAML		18 03 23.7	
	comp=E,59nm,0.8s						
CMB	**Columbia Colle**	**3.35**	**316**		Pg	18 02 40.6	-1.9
CMB				IAML		18 03 29.2	
	comp=E,41nm,0.8s						
GLA	**Glamis**	**3.38**	**139**	IAML		18 03 30.5	
	comp=N,74nm,0.6s						
KNB	**Kanab**	**3.98**	**69**		Pn	18 02 40.5	+0.1
PSUT	**Pine Spring**	**4.07**	**44**		Pg	18 02 56.5	+0.1
PSUT				IAML		18 03 57.0	
	comp=E,17nm,1.5s						
SPR3	**Spring Creek 3**	**4.17**	**36**		Pg	18 02 56.0	-2.3
SPR3				IAML		18 04 02.6	
	comp=E,12nm,1.6s						
SPR3				IAML		18 04 02.6	
	comp=N,12nm,1.5s						
113A	**Mohawk Valley,**	**4.19**	**132**	IAML		18 03 57.6	
	comp=E,15nm,1.4s						
113A				IAML		18 03 57.6	
	comp=N,15nm,1.2s						
U15A	**North Rim**	**4.25**	**78**	IAML		18 03 52.3	
	comp=E,16nm,0.9s						
U15A				IAML		18 03 53.8	
	comp=N,19nm,1.1s						
AFDM	**Forest Hills D**	**4.33**	**321**		Pb	18 02 57.3	+2.2
AFDM				IAML		18 04 00.5	
	comp=E,28nm,1.4s						
AFDM				IAML		18 04 04.6	
	comp=N,14nm,1.1s						
WUAZ	**Wupatki**	**4.96**	**90**		Pg	18 03 13.0	-0.4
WUAZ				IAML		18 04 19.7	
	comp=N,13nm,1.5s						
WUAZ				IAML		18 04 26.1	
	comp=N,11nm,0.9s						
MSU	**Marysvale**	**5.10**	**54**	Pg	Pg	18 03 14.4	-1.7

IDC ***11*** *18:09:36.0±0.7, 18°.56N×121°.35E, h0km, mb3.8/10, mbtmp3.8/11, ML3.7/1, MS3.2/7, Error ellipse: s-maj=30.8km s-min=15.6km az=68.0*

ISC 11 18:09:41.1±0.8, 18°.6N±0°.1×121°.3E±0°.2, h35km, n23, σ0.85/14, mb3.7/10, MS2.9/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**10.44**	**37**	LR	LR	18 15 57.7	
	comp=Z,143nm,18.7s,baz=88,slow=37						
DAV	**Davao City (W)**	**12.16**	**159**	LR	LR	18 18 14.8	
	comp=Z,375nm,18.4s,baz=344,slow=43						
JNU	**Nakatsue**	**16.84**	**29**	LR	LR	18 18 44.1	
	comp=Z,58nm,20.6s,baz=192,slow=33						
KSRS	**Korea Array**	**19.69**	**16**	P	**P**	**18 14 06.0**	**-1.2**
	0.2nm,0.3s,baz=199,slow=12,SNR=5.6 1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.21**	**273**	P	**P**	**18 14 23.2**	**-0.7**
	0.5nm,0.3s,baz=75,slow=8.3,SNR=6.9						
CMAR				LR	LR	18 21 42.6	
	comp=Z,40nm,18.6s,baz=105,slow=34 0.5nm,0.3s						
GUMO	**Guam**	**23.17**	**99**	LR	LR	18 24 06.4	
	comp=Z,40nm,18.6s,baz=252,slow=38						
KAPI	**Kappang**	**23.48**	**184**	LR	LR	18 24 36.9	
	comp=Z,38nm,19.4s,baz=350,slow=38						
SONM	**Songino Array**	**31.63**	**341**	P	**P**	**18 16 00.5**	**-0.3**
	0.4nm,0.4s,baz=142,slow=7.3,SNR=1.4 0.4nm,0.4s						
WRA	**Warramunga Arr**	**40.35**	**161**	P	**P**	**18 17 14.6**	**-1.0**
	0.8nm,0.5s,baz=342,slow=9.1,SNR=15						
WRA				PcP	**PcP**	**18 19 19.5**	**+0.9**
	1.4nm,0.6s,baz=345,slow=3.1,SNR=14 0.8nm,0.5s						
MKAR	**Makanchi Array**	**42.58**	**320**	P	**P**	**18 17 34.6**	**+1.0**
	1.1nm,0.7s,baz=117,slow=8.2,SNR=9.0						
MKAR				PcP	**PcP**	**18 19 25.6**	**+0.1**
	0.6nm,0.7s,baz=90,slow=2.4,SNR=4.2 1.1nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.94**	**83**	T	T	19 03 05.1	
	baz=276,slow=74,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**42.95**	**83**	T	T	19 03 05.8	
	baz=276,slow=74,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**42.96**	**83**	T	T	19 03 06.2	
	baz=276,slow=74,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**42.98**	**81**	T	T	19 03 19.8	
	baz=276						
H11N2	**WAKE ISLAND Hy**	**42.99**	**81**	T	T	19 03 03.9	
	baz=276						
H11N3	**WAKE ISLAND Hy**	**43.00**	**81**	T	T	19 03 07.5	
	baz=276						
ASAR	**Alice Springs**	**43.74**	**163**	P	**P**	**18 17 42.9**	**-0.4**
	0.8nm,0.6s,baz=343,slow=6.9,SNR=35						
ASAR				PcP	**PcP**	**18 19 30.9**	**+1.1**
	0.5nm,0.6s,baz=345,slow=3.2,SNR=8.9 0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**45.08**	**330**	P	**P**	**18 17 53.6**	**+0.1**
	0.8nm,0.7s,baz=128,slow=8.1,SNR=2.6 0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**46.57**	**323**	P	**P**	**18 18 05.9**	**+0.5**
	2.5nm,0.7s,baz=122,slow=7.9,SNR=29 2.5nm,0.7s						
HNR	**Honiara**	**47.20**	**123**	LR	LR	18 36 45.1	
	comp=Z,23nm,19.4s,baz=26,slow=34						
BVAR	**Borovoye Array**	**52.16**	**324**	P	**P**	**18 18 47.7**	**-0.3**
	0.3nm,0.4s,baz=120,slow=8.5,SNR=3.1 0.3nm,0.4s						
ILAR	**Eielson Array**	**74.15**	**26**	P	**P**	**18 21 13.5**	**-0.2**
	0.4nm,0.6s,baz=261,slow=5.1,SNR=6.8 0.4nm,0.6s						
YKA	**Yellowknife Ar**	**88.08**	**23**	P	**P**	**18 22 28.9**	**+1.1**
	0.8nm,0.7s,baz=319,slow=4.6,SNR=6.9 0.8nm,0.7s						

WEL 11 18:16:50.7±1.7, 33°.S±11°×17°.9E±2°.6, h577km±21km, mB4.4/4, ML4.6/3, MLv4.1/3, Mw(mB)3.5/4, Error ellipse: s-maj=35.8km s-min=8.6km az=109.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.15**	**33**	S	S	18 19 25.8	+1.0
KUZ	**Kuaotunu**	**5.03**	**217**	P	P	18 18 20.4	-1.7
WMGZ	**Waiomatatini S**	**5.11**	**190**	P	P	18 18 22.4	-0.4
WMGZ				S	S	18 19 39.6	+1.3
HAZ	**Te Kaha**	**5.16**	**195**	P	P	18 18 22.0	-1.2
HAZ				S	S	18 19 38.7	-0.4
PKGZ	**Pakihiroa**	**5.21**	**192**	P	P	18 18 23.4	-0.3
WCZ	**Waipu Caves**	**5.29**	**232**	P	P	18 18 23.2	-1.1
PUZ	**Puketiti**	**5.38**	**190**	P	P	18 18 24.5	-0.6
PUZ				S	S	18 19 42.0	-0.5
RUGZ	**Raukumara Rang**	**5.39**	**195**	P	P	18 18 25.1	-0.1
TWGZ	**Tauwhareparae**	**5.53**	**192**	P	P	18 18 27.7	+1.3
OPRZ	**Ohinepanea**	**5.60**	**204**	P	P	18 18 28.6	+1.7
MWZ	**Matawai**	**5.77**	**195**	P	P	18 18 29.9	+1.4
URZ	**Urewera**	**5.80**	**199**	P	P	18 18 28.6	-0.1
URZ				S	S	18 19 50.8	+1.7
TKGZ	**Te Karaka**	**5.81**	**193**	P	P	18 18 29.1	+0.3
TOZ	**Tahuroa Road**	**5.92**	**212**	P	P	18 18 33.2	+3.4
RAGZ	**Rawiri**	**5.95**	**196**	P	P	18 18 32.3	+2.2
RIGZ	**Rimuhau**	**6.08**	**193**	P	P	18 18 34.0	+2.8
MUGZ	**Murupara**	**6.10**	**200**	P	P	18 18 33.2	+1.9
HRRZ	**Handcock Road**	**6.18**	**204**	P	P	18 18 34.4	+2.3
SNGZ	**Shannon Statio**	**6.24**	**196**	P	P	18 18 34.4	+1.7
KNZ	**Kokohu**	**6.41**	**193**	P	P	18 18 35.4	+1.4
RAHZ	**Arahi**	**6.43**	**197**	P	P	18 18 37.2	+2.9
MHGZ	**Mahia Peninsul**	**6.49**	**191**	P	P	18 18 37.5	+2.7
MRHZ	**Matea Rd**	**6.54**	**201**	P	P	18 18 36.8	+1.5
NMHZ	**Naumai**	**6.67**	**198**	P	P	18 18 39.7	+3.1
ARHZ	**Aropaoanui**	**6.78**	**197**	P	P	18 18 40.4	+2.9
OTVZ	**Oturere**	**7.09**	**205**	P	P	18 18 43.1	+2.6
KRHZ	**Kereru**	**7.30**	**199**	P	P	18 18 45.1	+2.7

IDC 11 18:36:31.2±1.4, 12°.67N×120°.09E, h0km, mb3.9/3, mbtmp4.0/3, Error ellipse: s-maj=34.2km s-min=24.3km az=83.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.64**	**30**	Pn	Pn	18 37 01.4	-0.1
	222nm,0.3s,baz=270,slow=1.7,SNR=23						
TGY				Sn	Sn	18 37 16.9	-6.4
	171nm,0.3s,baz=296,slow=13,SNR=6.6						
CMAR	**Chiang Mai Arr**	**21.16**	**288**	P	P	18 41 18.2	+0.1
	1.1nm,0.3s,baz=100,slow=9.2,SNR=10.0 1.1nm,0.3s						
WRA	**Warramunga Arr**	**35.31**	**156**	P	P	18 43 27.7	-0.6
	2.6nm,0.4s,baz=331,slow=9.6,SNR=3.8 2.6nm,0.4s						
ASAR	**Alice Springs**	**38.56**	**159**	P	P	18 43 56.1	+0.2
	0.4nm,0.4s,baz=336,slow=6.9,SNR=25 0.4nm,0.4s						

SJA ***11*** *18:44:02.2±0.7, 28°.22S×63°.16W, h602km±5km, ML4.2, MW4.3*

IDC ***11*** *18:44:06.8±0.7, 28°.03S×63°.17W, h576km±7km, mb3.9/12, mbtmp4.9/18, Error ellipse: s-maj=11.8km s-min=9.6km az=96.0*

VAO ***11*** *18:44:06.6±0.4, 28°.08S×63°.25W, h581km±5km, mb4.7*

NEIC ***11*** *18:44:07.2±2.5, 28°.03S±0°.09×63°.2W±0°.1, h576km±6km, mb4.4/102, Error ellipse: s-maj=17.4km s-min=12.9km az=88.0*

ISC 11 18:44:07.7±0.3, 28°.08S±0°.04×63°.28W±0°.06, h600km, n219, σ1.73/215, mb4.5/61, 4C, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUSE	**Guasayan**	**1.40**	**277**	*eP*	**P**	**18 45 17.8**	**-2.2**
GUSE				*eS*	**S**	**18 46 12.3**	**-6.5**
AHML	**Horco Molle**	**2.23**	**305**	*eP*	**P**	**18 45 21.3**	**-1.9**
AHML				*eS*	**S**	**18 46 18.9**	**-5.5**
CYA	**Choya**	**2.25**	**260**	*eP*	**P**	**18 45 20.6**	**-2.5**
CYA				*eS*	**S**	**18 46 18.6**	**-5.9**
CYA				IAML		18 46 19.1	
	comp=Z,52nm,0.8s						
FSA	**Cafayete**	**3.10**	**309**	*eP*	**P**	**18 45 26.1**	**-1.7**
FSA				*eS*	**S**	**18 46 28.7**	**-4.2**
TCA	**Tanti**	**3.44**	**199**	*eP*	**P**	**18 45 26.8**	**-2.7**
TCA				*eS*	**S**	**18 46 29.3**	**-7.1**
ACLC	**CERRO LA CRUZ**	**3.49**	**247**	*eP*	**P**	**18 45 28.0**	**-2.0**
ACLC				*eS*	**S**	**18 46 32.1**	**-5.0**
APLL	**PUNTA DE LOS L**	**3.66**	**230**	*eP*	**P**	**18 45 28.4**	**-2.5**
APLL				*eS*	**S**	**18 46 32.7**	**-6.1**
APLL				IAML		18 46 33.7	
	comp=Z,40nm,0.6s						
AZAP	**Zapla**	**4.16**	**337**	*eP*	**P**	**18 45 33.3**	**-1.5**
AZAP				*eS*	**S**	**18 46 43.0**	**-2.5**
AZAP				IAML		18 46 45.6	
	comp=Z,78nm,0.7s						
ALOL	**LOMAS DE OLMED**	**4.29**	**351**	*eP*	**P**	**18 45 35.1**	**-0.3**
VCA	**Vinchina**	**4.39**	**260**	*eP*	**P**	**18 45 35.7**	**-0.4**
VCA				*eS*	**S**	**18 46 46.7**	**-1.5**
AGUA	**GUANDACOL**	**4.78**	**252**	*eP*	**P**	**18 45 38.8**	**-0.2**
AGUA				*eS*	**S**	**18 46 52.2**	**-1.4**
MRA	**San Martin**	**4.81**	**205**	*eP*	**P**	**18 45 37.2**	**-2.0**
MRA				*eS*	**S**	**18 46 47.0**	**-6.9**
MRA				IAML		18 46 50.8	
	comp=Z,43nm,0.9s						
AC02	**Maricunga**	**5.34**	**282**		**P**	**18 45 44.1**	**+0.2**
CFA	**Coronel Fontan**	**5.56**	**230**	P	**P**	**18 45 44.3**	**-0.8**
	comp=Z,144nm,0.4s,baz=85,slow=20,SNR=366						
CFA				S	**S**	**18 47 02.1**	**-2.6**
	comp=Z,41nm,0.5s,baz=287,slow=20,SNR=26						
CPUP	**Villa Florida**	**5.58**	**73**	P	P	18 45 40.5	-4.8
CPUP	**Villa Florida**	**5.58**	**73**	P	**P**	**18 45 44.0**	**-1.3**
	comp=Z,50nm,0.4s,baz=107,slow=8.7,SNR=648						
CPUP				S	**S**	**18 47 01.4**	**-3.7**
	comp=Z,12nm,0.7s,baz=110,slow=15,SNR=3.3						
ZON	**Zonda**	**5.83**	**232**		**P**	**18 45 46.8**	**-0.6**
GO03	**Copiapo**	**6.18**	**273**	P	**P**	**18 45 49.9**	**-0.5**
CO01	**Juntas del Tor**	**6.26**	**251**		**P**	**18 45 52.1**	**+0.8**
AC06	**Mina Casimiro**	**6.31**	**275**	P	**P**	**18 45 51.1**	**-0.5**
GO02	**Mina Guanaco**	**6.35**	**296**		**P**	**18 45 52.6**	**+0.2**
LCO	**Las Campanas**	**6.59**	**260**		**P**	**18 45 53.8**	**-0.6**
AF01	**San Pedro de A**	**6.75**	**318**	P	**P**	**18 45 55.5**	**-0.4**
AC01	**Pan de Azucar**	**6.80**	**285**		**P**	**18 45 55.5**	**-0.5**
AC04	**Llanos de Chal**	**6.88**	**267**		**P**	**18 45 56.1**	**-0.5**
GO04	**Tololo Observa**	**6.90**	**251**		**P**	**18 45 56.5**	**-0.5**
CO03	**El Pedregal**	**7.02**	**245**	P	**P**	**18 45 57.5**	**-0.4**
SJPY	**San Joaquin**	**7.12**	**66**	*eP*	**P**	**18 45 58.2**	**-0.7**
CO05	**La Serena**	**7.21**	**253**	P	**P**	**18 45 58.5**	**-1.0**
PB14	**IPOC Station P**	**7.25**	**297**	P	**P**	**18 45 59.7**	**-0.8**
CO02	**Combarbal**	**7.41**	**243**	P	**P**	**18 46 00.9**	**-0.7**
MT16	**CCHEN**	**8.20**	**228**		**P**	**18 46 09.3**	**+0.4**
CPSB	**Cacapava Do Su**	**8.90**	**107**	*eP*	**P**	**18 46 13.9**	**-1.8**
AMBA	**Amambai (Brazi**	**9.07**	**57**	*eP*	**P**	**18 46 16.8**	**-0.7**
PLTB	**Pedras Altas**	**9.16**	**116**		**P**	**18 46 16.3**	**-1.9**
PLTB	**Pedras Altas**	**9.16**	**116**	*eP*	**P**	**18 46 16.3**	**-1.9**
BO01	**Tunca**	**9.18**	**225**		**P**	**18 46 17.3**	**-1.0**
PB08	**IPOC Station P**	**9.55**	**325**	P	**P**	**18 46 22.6**	**0.0**
BDQN	**Bodoquena, MS**	**9.65**	**40**	*eP*	**P**	**18 46 21.9**	**-1.2**
HMBC	**Humberstone**	**9.83**	**321**	P	**P**	**18 46 24.4**	**-0.7**
ITAB	**Concordia**	**9.92**	**88**		**P**	**18 46 24.0**	**-1.8**
ITAB	**Concordia**	**9.92**	**88**	*eP*	**P**	**18 46 23.7**	**-2.0**
GO01	**Chusmiza**	**9.96**	**326**	P	**P**	**18 46 26.4**	**-0.4**
TA02	**Huaiquique**	**9.97**	**320**	P	**P**	**18 46 25.7**	**-0.6**
TRQA	**Tornquist**	**10.01**	**174**		**P**	**18 46 24.2**	**-2.2**
PB11	**IPOC Station P**	**10.12**	**323**	P	**P**	**18 46 27.4**	**-0.6**
AQDB	**Aquidauana**	**10.25**	**44**		**P**	**18 46 28.1**	**-0.9**
PTGB	**Pitanga**	**10.60**	**74**	*eP*	**P**	**18 46 31.1**	**-1.5**
TRCB	**Terra Rica**	**10.96**	**64**	*eP*	**P**	**18 46 34.8**	**-1.4**
CNLB	**Canela**	**10.98**	**99**	*eP*	**P**	**18 46 34.3**	**-2.0**
BBSD	**Serra de San D**	**11.12**	**13**	*eP*	**P**	**18 46 36.7**	**-1.1**
PB16	**IPOC Station P**	**11.26**	**328**		**P**	**18 46 40.0**	**+0.2**
RPRD	**Ribas do Rio P**	**11.55**	**51**	*eP*	**P**	**18 46 40.9**	**-1.2**
PB18	**Visviri**	**11.90**	**330**		**P**	**18 46 46.9**	**+0.7**
SIV	**San Ignacio**	**12.20**	**10**	P	**P**	**18 46 47.2**	**-1.5**
	comp=Z,46nm,0.8s,baz=186,slow=8.5,SNR=208						
LPAZ	**La Paz**	**12.56**	**338**	P	**P**	**18 46 51.9**	**-1.0**
	comp=Z,40nm,0.3s,baz=157,slow=7.7,SNR=227						
LPAZ				S	**S**	**18 49 05.5**	**-3.1**
	comp=Z,14nm,0.7s,baz=352,slow=16,SNR=4.4						
LPAZ				ScP	**ScP**	**18 54 18.3**	**+2.7**
	comp=Z,2.8nm,1.0s,baz=326,slow=3.6,SNR=4.9						
LPAZ	**La Paz**	**12.56**	**338**	*eP*	**P**	**18 46 51.9**	**-1.0**
PTLB	**Pontes e Lacer**	**13.14**	**18**		**P**	**18 46 56.0**	**-2.2**
PTLB	**Pontes e Lacer**	**13.14**	**18**	*eP*	**P**	**18 46 56.7**	**-1.4**
FRTB	**Fartura**	**13.23**	**72**	*eP*	**P**	**18 46 57.1**	**-1.9**
C2SB	**Chapadao do Su**	**13.32**	**48**	*eP*	**P**	**18 46 58.8**	**-1.2**
PLCA	**Paso Flores**	**13.97**	**203**	P	**P**	**18 47 04.2**	**-2.0**
PLCA	**Paso Flores**	**13.97**	**203**	P	**P**	**18 47 04.5**	**-1.7**
	comp=Z,46nm,0.5s,baz=23,slow=11,SNR=220						
PLCA				S	**S**	**18 49 30.9**	**-1.3**
	comp=Z,4.0nm,0.8s,baz=165,slow=19,SNR=3.3						
PLCA				ScP	**ScP**	**18 54 20.0**	**+3.2**
	comp=Z,8.2nm,0.9s,baz=6.8,slow=1.1,SNR=11						
PLCA	**Paso Flores**	**13.97**	**203**	*eP*	**P**	**18 47 04.2**	**-2.0**
SALV	**Santo Antonio**	**14.01**	**32**	*eP*	**P**	**18 47 04.9**	**-1.9**
LR05	**Currie**	**14.10**	**208**		**P**	**18 47 06.0**	**-1.4**
ITRB	**Iturama**	**14.45**	**58**	*eP*	**P**	**18 47

FDF	**Fort de France**	**42.61**	**3**	P		**P**	**18 51 11.2**	**-1.6**
MTO3	**Montecristo**	**49.21**	**326**	P		**P**	**18 52 02.9**	**-0.1**
MTO3				IAmb		IAmb	18 52 04.5	
	comp=Z,15nm,0.7s							
BELA	**Belgrano 2**	**51.57**	**173**			**P**	**18 52 20.1**	**+1.0**
CCIG	**Comitan**	**52.21**	**324**	P		**P**	**18 52 24.7**	**+0.1**
CCIG				IAmb		IAmb	18 52 25.8	
	comp=Z,19nm,0.6s							
VNA3	**Neumayer Olymp**	**52.22**	**161**	⇑P		**P**	**18 52 24.1**	**+0.3**
	comp=Z,28nm,0.6s							
VNA1	**Neumayer--Stat**	**52.39**	**160**	⇑P		**P**	**18 52 26.3**	**+1.4**
	comp=Z,52nm,1.1s							
TEIG	**Tepich**	**53.76**	**331**			**P**	**18 52 35.8**	**+0.5**
TEIG				IAmb		IAmb	18 52 36.6	
	comp=Z,16nm,0.8s							
SOR	**Soroa**	**54.04**	**337**	P		**P**	**18 52 37.4**	**+0.1**
SOR				IAmb		IAmb	18 52 38.8	
	comp=Z,7.9nm,0.6s							
SNAA	**Sanae**	**54.40**	**160**	⇑P		**P**	**18 52 39.4**	**+0.2**
	comp=Z,376nm,0.7s							
SNAA	**Sanae**	**54.40**	**160**			**P**	**18 52 39.7**	**+0.4**
SNAA				IAmb		IAmb	18 52 41.0	
	comp=Z,30nm,1.0s							
SNAA	**Sanae**	**54.40**	**160**	P		**P**	**18 52 39.9**	**+0.7**
	comp=Z,20nm,0.8s,baz=283,slow=8.1,SNR=99							
SNAA				PcP		**PcP**	**18 53 34.3**	**+1.0**
	comp=Z,7.5nm,0.8s,baz=256,slow=2.5,SNR=5.4							
	comp=Z,20nm,0.8s							
TROLL	**Troll, Antarti**	**56.11**	**160**	⇑P		**P**	**18 52 51.9**	**+0.7**
	comp=Z,3μm,0.8s							
QSPA	**South Pole Qui**	**62.15**	**180**	P		**P**	**18 53 33.8**	**+2.3**
QSPA	**South Pole Qui**	**62.15**	**180**	P		**P**	**18 53 33.3**	**+1.9**
	comp=Z,44nm,0.7s,baz=189,slow=0.5,SNR=239							
	comp=Z,44nm,0.7s							
Y49A	**Blount Mountai**	**65.38**	**339**	IAmb		IAmb	18 53 53.7	
	comp=Z,6.9nm,0.6s							
X51A	**Calhoun**	**65.56**	**341**	IAmb		IAmb	18 53 54.9	
	comp=Z,9.3nm,0.8s							
V55A	**Taylorsville**	**65.80**	**344**	IAmb		IAmb	18 53 57.1	
	comp=Z,9.5nm,0.6s							
DBIC	**Dimbokro**	**66.07**	**68**	P		**P**	**18 53 56.8**	**-0.1**
	comp=Z,20nm,0.6s,baz=252,slow=7.0,SNR=40							
	comp=Z,20nm,0.6s							
X48A	**Hartselle**	**66.13**	**339**	IAmb		IAmb	18 53 58.2	
	comp=Z,8.1nm,0.5s							
W50A	**Signal Mountai**	**66.29**	**340**	IAmb		IAmb	18 53 59.4	
	comp=Z,7.0nm,0.7s							
SWET	**Sewanee**	**66.49**	**340**	IAmb		IAmb	18 54 00.1	
	comp=Z,8.8nm,0.4s							
U54A	**Nelsons Funny**	**66.58**	**344**	IAmb		IAmb	18 54 01.6	
	comp=Z,8.7nm,0.7s							
HNDO	**Hondo**	**66.83**	**326**	IAmb		IAmb	18 54 03.9	
	comp=Z,16nm,0.7s							
V48A	**Smith Brothers**	**67.25**	**339**	IAmb		IAmb	18 54 04.9	
	comp=Z,5.4nm,0.7s							
WLAR	**White Oak Lake**	**67.63**	**333**	IAmb		IAmb	18 54 09.5	
	comp=Z,30nm,1.2s							
JCT	**Junction City**	**67.87**	**326**	IAmb		IAmb	18 54 09.8	
	comp=Z,9.1nm,0.7s							
BRDY	**Brady**	**68.15**	**327**	IAmb		IAmb	18 54 11.3	
	comp=Z,8.8nm,0.9s							
T47A	**Sharon Grove**	**68.49**	**340**	IAmb		IAmb	18 54 12.1	
	comp=Z,5.7nm,0.7s							
SAND	**Sanderson**	**68.61**	**324**			**P**	**18 54 13.3**	**+1.2**
SAND				IAmb		IAmb	18 54 14.8	
	comp=Z,14nm,1.0s							
OZNA	**Ozona**	**68.89**	**326**			**P**	**18 54 14.8**	**+1.0**
OZNA				IAmb		IAmb	18 54 15.6	
	comp=Z,11nm,0.6s							
TXAR	**Lajitas Array**	**68.93**	**323**	P		**P**	**18 54 15.5**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=150,slow=7.7,SNR=26							
	comp=Z,2.5nm,0.6s							
LCAR	**Lake Charles**	**69.00**	**336**			**P**	**18 54 15.2**	**+1.0**
PLPT	**Palo Pinto**	**69.10**	**329**			**P**	**18 54 15.9**	**+1.0**
PBMO	**Poplar Bluff**	**69.38**	**337**	IAmb		IAmb	18 54 18.0	
	comp=Z,6.1nm,0.9s							
ALPN	**Alpine**	**69.74**	**323**			**P**	**18 54 20.0**	**+1.1**
ALPN				IAmb		IAmb	18 54 21.1	
	comp=Z,4.8nm,0.6s							
MNHN	**Monahans**	**70.05**	**325**	IAmb		IAmb	18 54 22.9	
	comp=Z,18nm,0.7s							
APMT	**Aspermont**	**70.36**	**328**	IAmb		IAmb	18 54 24.5	
	comp=Z,14nm,0.6s							
SN07	**Snyder 07**	**70.54**	**327**	IAmb		IAmb	18 54 25.2	
	comp=Z,6.7nm,0.6s							
ODSA	**Odessa**	**70.56**	**325**	IAmb		IAmb	18 54 25.4	
	comp=Z,13nm,0.8s							
FNO	**Franklin**	**70.75**	**331**	IAmb		IAmb	18 54 26.8	
	comp=Z,6.5nm,0.7s							
VNDA	**Vanda**	**71.25**	**189**	P		**P**	**18 54 29.4**	**+2.4**
	comp=Z,9.9nm,0.9s,baz=136,slow=5.4,SNR=42							
	comp=Z,9.9nm,0.9s							
HSIG		**72.83**	**317**			**P**	**18 54 35.9**	**-0.9**
HSIG				IAmb		IAmb	18 54 39.5	
	comp=Z,5.8nm,0.7s							
P38A	**Dawn**	**73.02**	**336**	P		**P**	**18 54 37.8**	**+0.2**
P38A				IAmb		IAmb	18 54 38.6	
	comp=Z,5.2nm,0.5s							
KOOLE	**Kule**	**74.08**	**108**			**P**	**18 54 43.5**	**-0.8**
KOOLE				IAmb		IAmb	18 54 45.8	
	comp=Z,21nm,0.8s							
L40A	**Anamosa**	**74.41**	**339**	IAmb		IAmb	18 54 47.4	
	comp=Z,8.5nm,0.9s							
ANMO	**Albuquerque**	**74.79**	**324**	P		**P**	**18 54 47.8**	**-0.2**
GRHM	**Grahamstown, E**	**74.92**	**120**	P		**P**	**18 54 49.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**75.03**	**66**	P		**P**	**18 54 50.0**	**+0.5**
GRTLG	**Ghanzi**	**75.61**	**107**	IAmb		IAmb	18 54 54.3	
	comp=Z,22nm,1.1s							
BOSA	**Boshof**	**75.94**	**115**	P		**P**	**18 54 55.0**	**+0.4**
	comp=Z,19nm,0.7s,baz=263,slow=3.6,SNR=48							
	comp=Z,19nm,0.7s							
L34A	**Svendsen Farm,**	**76.11**	**335**			**P**	**18 54 54.1**	**-0.7**
L34A				IAmb		IAmb	18 54 56.3	
	comp=Z,12nm,0.5s							
MAW	**Mawson**	**76.54**	**161**	P		**P**	**18 54 58.2**	**+1.3**
	comp=Z,16nm,0.8s,baz=210,slow=6.2,SNR=32							
	comp=Z,16nm,0.8s							
ECSD	**EROS Data Cent**	**77.72**	**336**	P		**P**	**18 55 04.2**	**+0.6**
PHDHD	**Phuduhudu**	**78.91**	**107**	IAmb		IAmb	18 55 12.2	
	comp=Z,16nm,0.7s							
HMU	**Henry Mountain**	**79.30**	**324**	P		**P**	**18 55 13.8**	**+1.3**
KNB	**Kanab**	**79.73**	**322**	IAmb		IAmb	18 55 18.2	
	comp=Z,11nm,0.8s							
MREMI	**Moremi**	**80.31**	**110**			**P**	**18 55 19.0**	**+1.1**
MREMI				IAmb		IAmb	18 55 19.6	
	comp=Z,13nm,0.8s							
CCUT	**Cedar City**	**80.42**	**322**	IAmb		IAmb	18 55 22.0	
	comp=Z,6.0nm,0.8s							
MD31	**MD31**	**82.22**	**46**	P		**P**	**18 55 28.5**	**+1.1**
PDAR	**Pinedale Array**	**82.36**	**328**	P		**P**	**18 55 29.2**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=133,slow=8.4,SNR=10							
	comp=Z,0.8nm,0.4s							
GMN	**Gold Mountain**	**82.42**	**319**	P		**P**	**18 55 30.6**	**+2.1**
HWUT	**Hardware Ranch**	**82.46**	**326**	IAmb		IAmb	18 55 31.1	
	comp=Z,11nm,1.4s							
PARRA	**Arraiolos**	**83.62**	**40**	*e*P		**P**	**18 55 37.8**	**+3.7**
NVAR	**Mina Array Bea**	**83.80**	**320**	P		**P**	**18 55 37.1**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=145,slow=3.7,SNR=5.2							
	comp=Z,0.5nm,0.5s							
LSZ	**Lusaka**	**84.22**	**104**			**P**	**18 55 39.9**	**+2.1**
PMTG	**Montargil**	**84.25**	**40**	*e*P		**P**	**18 55 38.5**	**+1.3**
PMTG				*i* IAmb		IAmb	18 55 39.2	
	comp=Z,22nm,1.2s							
PBAR	**Barrancos**	**84.33**	**41**	*e*P		**P**	**18 55 38.0**	**+0.4**
PESTR	**Estremoz**	**84.48**	**40**	*e*P		**P**	**18 55 38.8**	**+0.5**
PESTR				*i* IAmb		IAmb	18 55 40.9	
	comp=Z,19nm,1.7s							
PSARD	**Sardoal**	**84.65**	**40**	*e*P		**P**	**18 55 39.6**	**+0.4**
PCAS	**Casmilo, Conde**	**84.78**	**39**	*e*P		**P**	**18 55 40.8**	**+1.1**
PCAS				*i* IAmb		IAmb	18 55 40.9	
	comp=Z,27nm,1.0s							
PMRV	**Marv??o**	**84.97**	**40**	*e*P		**P**	**18 55 40.8**	**+0.1**
PMRV				*i* IAmb		IAmb	18 55 41.4	
	comp=Z,14nm,1.6s							
CASY	**Casey**	**85.83**	**177**	P		**P**	**18 55 45.1**	**+0.7**
CASY				IAmb		IAmb	18 55 47.1	
	comp=Z,12nm,0.8s							
MVO	**Moncorvo**	**86.35**	**39**	*e*P		**P**	**18 55 47.7**	**+0.4**
MVO				*i* IAmb		IAmb	18 55 50.9	
	comp=Z,18nm,1.5s							
ESDC	**Sonseca Array**	**87.12**	**42**	P		**P**	**18 55 51.4**	**+0.5**
ESDC	**Sonseca Array**	**87.12**	**42**	P		**P**	**18 55 51.6**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=241,slow=4.6,SNR=11							
	comp=Z,1.3nm,0.6s							
KEST	**Kesra**	**93.30**	**51**	P		**P**	**18 56 20.8**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=225,slow=2.9,SNR=2.5							
	comp=Z,1.5nm,0.7s							

ARCES	**ARCESS Array B**	**115.58**	**23**	PKKPbc		PKKPbc	19 12 18.2	-0.1
	comp=Z,1.0nm,0.5s,baz=81,slow=3.9,SNR=12							
BELG	**Belogornoye**	**124.28**	**44**	PKP		**PKiKP**	**19 01 59.7**	**+0.5**
	comp=Z,12nm,0.7s,baz=6.6,slow=5.0,SNR=5.3							
ASAR	**Alice Springs**	**125.95**	**200**	PKP		**PKiKP**	**19 02 03.7**	**0.0**
	comp=Z,6.7nm,0.6s,baz=138,slow=1.7,SNR=110							
ASAR				PKKPbc		**PKKPbc**	**19 11 40.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=332,slow=2.6,SNR=5.7							
WRA	**Warramunga Arr**	**129.31**	**202**	PKP		**PKiKP**	**19 02 10.4**	**0.0**
	comp=Z,4.3nm,0.5s,baz=168,slow=1.6,SNR=26							
WRA				SKPbc		SKPbc	19 04 37.0	+0.9
	comp=Z,6.8nm,0.8s,baz=162,slow=3.7,SNR=29							
ARTI	**Arti**	**130.32**	**38**	PKP		**PKiKP**	**19 02 12.1**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=131,slow=1.6,SNR=6.2							
ARTI				SKPbc		**SKPab**	**19 04 41.5**	**+2.6**
	comp=Z,2.4nm,0.6s,baz=261,slow=2.7,SNR=5.4							
AKTO	**Aktyubinsk**	**130.81**	**46**	PKP		**PKiKP**	**19 02 12.7**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=264,slow=2.3,SNR=5.1							
AB31	**Akbulak array**	**132.14**	**48**			**PKiKP**	**19 02 15.6**	**+0.5**
ABKAR	**Akbulak array**	**132.14**	**48**			**PKiKP**	**19 02 15.4**	**+0.3**
BVAR	**Borovoye Array**	**137.88**	**41**	PKP		**PKiKP**	**19 02 26.7**	**0.0**
	comp=Z,2.9nm,0.6s,baz=292,slow=2.4,SNR=20							
BVAR				SKPbc		**SKiKP**	**19 05 06.1**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=270,slow=4.4,SNR=11							
PETK	**Petropavlovsk-**	**140.87**	**321**	PKP		**PKiKP**	**19 02 31.9**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=95,slow=2.6,SNR=5.6							
NIL	**Nilore**	**142.48**	**70**			**PKPdf**	**19 02 31.1**	**-2.4**
AAK	**Ala-Archa**	**143.02**	**56**	PKP		**PKPdf**	**19 02 34.0**	**-0.3**
	comp=Z,14nm,0.5s,baz=232,slow=4.6,SNR=15							
EDFI	**Ende, Flores**	**143.08**	**188**	PKP		PKPbc	19 02 34.2	+0.7
PLAI	**Plampang**	**143.30**	**182**	PKP		**PKPdf**	**19 02 34.9**	**-0.6**
KURBB	**Kurchatov Arra**	**143.45**	**41**	PKP		**PKPdf**	**19 02 34.9**	**+0.3**
	comp=Z,25nm,0.6s,baz=294,slow=3.8,SNR=150							
KURBB				SKPbc		**SKiKP**	**19 05 20.1**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=294,slow=3.2,SNR=4.6							
PCJI	**Pacitan**	**143.54**	**171**	PKP		**PKiKP**	**19 02 37.7**	**-1.8**
JAGI	**Jajag, Banyuwa**	**143.58**	**176**			**PKPdf**	**19 02 37.0**	**+1.1**
GMJI	**Gumukmas**	**143.72**	**175**	PKP		**PKPdf**	**19 02 37.7**	**+1.5**
KPJI	**Karang Pucung**	**144.00**	**167**	PKP		**PKPdf**	**19 02 38.2**	**+1.5**
ZAA0	**Zalesovo Array**	**145.19**	**33**			**PKPab**	**19 02 39.6**	**-0.3**
ZALV	**Zalesovo Beam**	**145.19**	**33**			**PKPab**	**19 02 39.5**	**-0.4**
ZALV	**Zalesovo Beam**	**145.19**	**33**	PKPbc		**PKPab**	**19 02 39.4**	**-0.6**
	comp=Z,18nm,0.6s,baz=299,slow=3.2,SNR=87							
ZALV				SKPbc		**SKiKP**	**19 05 23.6**	**+2.1**
	comp=Z,3.0nm,0.7s,baz=330,slow=2.8,SNR=5.0							
MDSI	**Maura Dua**	**145.44**	**158**	PKP		**PKiKP**	**19 02 43.1**	**-0.3**
TARG	**Taragay, Kyrgy**	**145.60**	**56**			**PKPbc**	**19 02 41.6**	**+0.8**
MKAR	**Makanchi Array**	**147.24**	**46**			**PKiKP**	**19 02 45.8**	**-0.4**
MKAR	**Makanchi Array**	**147.24**	**46**	PKPbc		**PKPbc**	**19 02 43.1**	**-1.4**
	comp=Z,14nm,0.6s,baz=275,slow=3.8,SNR=76							
IPM	**Ipoh**	**152.18**	**145**			**PKiKP**	**19 02 58.0**	**+0.6**
SONM	**Songino Array**	**156.70**	**19**	PKP		**PKPdf**	**19 02 58.7**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=262,slow=0.4,SNR=11							
CMAR	**Chiang Mai Arr**	**161.09**	**117**	PKP		**PKPdf**	**19 03 02.3**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=233,slow=1.2,SNR=2.5							
CMAR				PKPab		**PKPab**	**19 03 48.5**	**0.0**
	comp=Z,1.6nm,0.9s,baz=242,slow=5.6,SNR=8.2							

KRSC 11 18:50:57.7±1.0, 56.05N×164.19E, h30km±14km, MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.78**	**282**	*e*P	Pn	18 51 12.5	-0.1
KBTR				*e*S	Sn	18 51 23.3	-0.1
KBG	**Krutoberegovo**	**0.85**	**285**	*e*P	Pn	18 51 13.4	-0.2
KBG				*e*S	Sn	18 51 25.1	0.0
BKI	**Bering**	**1.32**	**129**	*i* P	Pn	18 51 20.9	+0.9
BKI				*e*S	Sb	18 51 37.6	-0.6
SMKR	**Semkarok**	**1.61**	**291**	*e*P	Pn	18 51 25.2	+1.2
SMKR				*e*S	Sn	18 51 45.1	+1.3
SRKR	**Sorokina**	**1.79**	**291**	*e*S	Sb	18 51 50.2	-1.5
KLY	**Klyuchi**	**1.99**	**279**	*e*P	Pn	18 51 29.7	+0.5
KLY				*e*S	Sn	18 51 52.8	-0.4
MKZ	**Mys Kozlova**	**2.05**	**224**	*e*P	Pb	18 51 32.8	-1.3
MKZ				*e*S	Sb	18 51 57.6	-1.6
BZWR	**Bezymyannyi-We**	**2.07**	**269**	*e*P	Pb	18 51 33.8	-0.9
KIRR	**Kirishev**	**2.16**	**269**	*e*P	Pb	18 51 34.8	-1.4
KPT	**Kopyto**	**2.23**	**270**	*e*P	Pb	18 51 35.6	-1.6
KMNR	**Kamenistaya**	**2.24**	**264**	*e*P	Pn	18 51 33.4	+0.6
TUMD	**Tumrok D**	**2.31**	**250**	*e*P	Pb	18 51 37.1	-1.4
SRDR	**Sredinnyy**	**2.51**	**278**	*e*P	Pb	18 51 40.2	-1.9
SRDR				*e*S	Sb	18 52 10.2	-2.4
ESO	**Esso**	**3.08**	**270**	*e*P	Pb	18 51 48.1	-3.7
SPN	**Mys Shipunski**	**3.82**	**221**	*e*S	Sn	18 52 40.4	+2.1
SDLR	**Sedlovina**	**4.14**	**230**	*e*P	Pn	18 52 03.5	+4.5
KOK	**Koryaka**	**4.24**	**232**	*e*P	Pn	18 52 05.3	+5.0
GNL	**Ganaly**	**4.31**	**239**	*e*P	Pn	18 52 06.2	+5.0
MTVR	**Mutnovka**	**5.01**	**227**	*e*P	Pn	18 52 15.9	+5.0

AEIC 11 19:07:50.8±1.3, 56.34N±0.09×149.2W±0.1, h10km±8km, ML2.7, ML2.9/52(NEIC), Error ellipse: s-maj=14.7km s-min=9.5km az=150.0

NEIC 11 19:07:49.9±6.3, 56.51N±0.05×149.72W±0.08, h21km±9km, Error ellipse: s-maj=8.5km s-min=5.1km az=213.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.02**	**311**		Pn	19 08 23.9	+1.2
KDAK					Sb	19 08 50.6	+0.1
OHAK	**Old Harbor**	**2.09**	**292**		Sb	19 08 52.3	-0.1
OHAK	**Old Harbor**	**2.09**	**292**		Pn	19 08 24.5	+0.9
SII	**Sitkinak Islan**	**2.48**	**273**		Pn	19 08 29.5	+0.5
SII					Sn	19 09 00.0	+1.5
SII	**Sitkinak Islan**	**2.48**	**273**	IAML		19 09 01.3	
	comp=N,41nm,1.0s						
SII				IAML		19 09 03.7	
	comp=E,58nm,1.2s						
SYI	**Shuyak Island**	**2.56**	**327**		Pn	19 08 31.4	+1.4
SYI					Sb	19 09 04.9	-1.0
CNPM	**China Poot**	**3.13**	**346**		Pn	19 08 38.5	+0.5
CNPM	**China Poot**	**3.13**	**346**		Sn	19 09 16.8	+2.0
Q19K	**Cape Douglas,**	**3.21**	**321**		Pn	19 08 41.2	+2.1
Q19K	**Cape Douglas,**	**3.21**	**321**	IAML		19 09 29.2	
	comp=N,37nm,0.9s						
KAPH	**Katmai Pasha**	**3.26**	**312**		Pn	19 08 42.5	+2.7
KAHG	**Katmai Hook Gl**	**3.28**	**309**		Pn	19 08 43.0	+2.9
BRLK	**Bradley Lake**	**3.33**	**350**		Pn	19 08 40.0	-0.6
BRLK				IAML		19 09 24.3	
	comp=N,27nm,0.1s						
BRLK				IAML		19 09 24.3	
	comp=E,19nm,0.1s						
CHIR	**Chirikof Islan**	**3.37**	**261**		Pn	19 08 40.9	-0.4
CHIR	**Chirikof Islan**	**3.37**	**261**	IAML		19 09 21.8	
	comp=E,16nm,1.1s						
CHIR				IAML		19 10 23.0	
	comp=N,13nm,1.2s						
KAKN	**Katmai Knife C**	**3.40**	**304**		Pn	19 08 44.2	+2.4
CAHL	**Cahill**	**3.41**	**299**		Pn	19 08 44.1	+2.3
KABU	**Katmai Buttres**	**3.49**	**303**		Pn	19 08 45.4	+2.3
KAHC	**Katmai Hardscr**	**3.57**	**309**		Pn	19 08 46.6	+2.5
P19K	**Oil Pt**	**3.67**	**331**	IAML		19 09 37.9	
	comp=E,16nm,0.5s						
P19K				IAML		19 09 40.8	
	comp=N,13nm,0.7s						
PLK3	**Peulik 3**	**3.77**	**291**		Pn	19 08 48.8	+2.1
CNTC	**Contact Creek**	**3.77**	**300**		Pn	19 08 49.3	+2.4
PLK4	**Peulik 4**	**3.80**	**290**		Pn	19 08 49.2	+2.0
PLK4	**Peulik 4**	**3.80**	**290**	IAML		19 09 43.7	
	comp=E,15nm,0.9s						
PLK4				IAML		19 09 44.0	
	comp=N,14nm,1.0s						
O20K	**Slope Mountain**	**3.90**	**338**		Pn	19 08 49.4	+0.8
ILSW	**Iliamna Southw**	**3.93**	**334**		Pn	19 08 50.1	+1.1
ILSW	**Iliamna Southw**	**3.93**	**334**	IAML		19 09 34.1	
	comp=N,8.1nm,0.3s						
SLKM	**Skilak Lake**	**4.02**	**356**		Pn	19 08 50.1	-0.1
SLKM	**Skilak Lake**	**4.02**	**356**	IAML		19 09 38.9	
	comp=N,20nm,0.2s						
SLKM				IAML		19 09 39.3	
	comp=E,20nm,0.3s						
P18K	**Big Mountain,**	**4.12**	**317**		Pn	19 08 53.0	+1.4
HIN	**Hinchinbrook I**	**4.25**	**22**		Pn	19 08 51.5	-1.9
HIN	**Hinchinbrook I**	**4.25**	**22**	IAML		19 09 39.8	
	comp=E,18nm,0.6s						
RDT	**Redoubt**	**4.32**	**342**		Pn	19 08 54.4	+0.1
PWL	**Port Wells**	**4.42**	**9**		Pn	19 08 54.6	-1.1
PWL	**Port Wells**	**4.42**	**9**	IAML		19 09 45.8	
	comp=E,11nm,0.7s						
PWL				IAML		19 09 47.3	
	comp=N,13nm,0.4s						

KAIM	**Kayak Island**	**4.43**	**37**			Pn	19 08 52.9	-2.9
KAIM	**Kayak Island**	**4.43**	**37**	IAML			19 09 43.2	
	comp=E,15nm,1.1s							
KAIM				IAML			19 09 50.6	
	comp=N,17nm,1.0s							
P17K	**Kvichak River**	**4.49**	**310**			Pn	19 08 58.9	+2.3
FID	**Port Fidalgo**	**4.58**	**20**			Pn	19 08 56.0	-1.8
FID	**Port Fidalgo**	**4.58**	**20**	IAML			19 09 47.8	
	comp=N,12nm,0.3s							
FID				IAML			19 09 48.3	
	comp=E,12nm,0.4s							
RC01	**Rabbit Creek A**	**4.60**	**360**	Pn		Pn	19 08 57.8	-0.3
RC01				IAML			19 09 53.0	
	comp=E,11nm,0.6s							
RC01				IAML			19 09 55.2	
	comp=N,6.6nm,0.4s							
RAGM	**Ragged Mountai**	**4.71**	**32**	Pn		Pn	19 08 57.2	-2.4
SUCK	**Suckling Hills**	**4.75**	**39**			Pn	19 08 57.4	-2.9
SUCK	**Suckling Hills**	**4.75**	**39**	IAML			19 09 51.4	
	comp=E,11nm,1.1s							
HMT	**Hamilton**	**4.79**	**34**			Pn	19 08 58.4	-2.4
CHGN	**Chignik**	**4.84**	**271**	Pn		Pn	19 09 03.7	+2.4
N19K	**Bonanza Creek**	**4.98**	**332**			Pn	19 09 04.1	+0.7
BERG	**Berg Lake**	**5.02**	**37**			Pn	19 09 01.0	-2.9
GRIN	**Grindle Hills**	**5.06**	**39**			Pn	19 09 01.7	-2.8
P16K	**Nushagak River**	**5.10**	**303**	Pn		Pn	19 09 07.9	+2.9
SNH	**Sunshine Point**	**5.17**	**42**			Pn	19 09 02.7	-3.2
SNH	**Sunshine Point**	**5.17**	**42**	IAML			19 10 02.2	
	comp=N,7.0nm,0.7s							
SNH				IAML			19 10 04.8	
	comp=E,8.1nm,1.2s							
N18K	**Kilae Creek**	**5.29**	**325**			Pn	19 09 08.6	+1.0
GHO	**Glory Hole Cre**	**5.30**	**4**			Pn	19 09 07.8	0.0
WAX	**Waxell Ridge**	**5.35**	**39**	Pn		Pn	19 09 06.4	-2.0
KLU	**Klutina**	**5.37**	**20**			Pn	19 09 07.7	-1.0
O16K	**Kokwok River B**	**5.42**	**308**			Pn	19 09 11.2	+1.9
BAGL	**Bagley Icefiel**	**5.65**	**42**			Pn	19 09 09.3	-3.2
YAH	**Yahtse**	**5.70**	**44**	Pn		Pn	19 09 10.2	-3.2
N25K	**Chitina, Valde**	**5.75**	**25**			Pn	19 09 12.3	-1.8
CNBA	**Chernabura Isl**	**5.84**	**257**			Pn	19 09 14.5	-0.6
KIAG	**Kiagna River**	**5.86**	**38**			Pn	19 09 12.8	-2.7
BALM	**Baldy**	**5.94**	**37**			Pn	19 09 13.8	-2.9
TABL	**Table Mountain**	**5.98**	**45**			Pn	19 09 13.8	-3.5
PTPK	**Patty Peak**	**6.01**	**36**			Pn	19 09 15.2	-2.5
O15K	**Ungalikthiuk R**	**6.03**	**301**			Pn	19 09 20.1	+2.4
PCA	**Pinnacle**	**6.15**	**50**			Pn	19 09 15.5	-3.9
N16K	**Nishlik Lake**	**6.19**	**314**			Pn	19 09 22.0	+2.0
BARN	**Barnard Glacie**	**6.19**	**39**			Pn	19 09 17.2	-3.0
L19K	**White Mountain**	**6.27**	**337**			Pn	19 09 21.4	+0.4
M17K	**Holitna River**	**6.33**	**324**			Pn	19 09 23.1	+1.3
BCPM	**Bancas Point**	**6.35**	**53**			Pn	19 09 18.3	-3.8
O28M	**Mount Upton**	**6.56**	**45**			Pn	19 09 22.1	-3.1
DOL	**Dolgoi Island**	**6.98**	**264**			Pn	19 09 30.7	-0.1
CAST	**Castle Rocks**	**7.04**

MASC	**Masc**	**2.35**	**317**	*i* P		**Pn**	**19 18 10.1**	**+0.2**
MASC				*e*S		**Sn**	**19 18 38.1**	**-0.3**
MASC				IAML			19 18 47.0	
	comp=Z,22nm,1.4s							
QMBU	**Quimbuelo**	**2.77**	**309**	*e*P		**Pn**	**19 18 18.2**	**+2.4**
QMBU				*e*S		**Sn**	**19 18 46.5**	**-2.4**
QMBU				IAML			19 18 54.1	
	comp=N,12nm,0.4s							
QMBU				IAML			19 19 02.3	
	comp=E,11nm,0.4s							
GTBY	**Guantanamo Bay**	**2.85**	**301**	*e*P		**Pb**	**19 18 20.9**	**-1.7**
GTBY				*e*S		**Sn**	**19 18 53.0**	**+2.3**
GTBY				IAML			19 19 00.8	
	comp=E,24nm,0.3s							
GTBY				IAML			19 19 03.1	
	comp=E,16nm,0.8s							
NMDO	**Nuevo Mundo**	**3.13**	**312**	*e*P		**Pn**	**19 18 21.9**	**+1.3**
NMDO				*e*S		**Sn**	**19 18 59.3**	**+1.8**
NMDO				IAML			19 19 02.2	
	comp=E,9.6nm,0.4s							
NMDO				IAML			19 19 03.5	
	comp=N,7.0nm,0.5s							
MARVS	**Santiago de Cu**	**3.55**	**296**	*e*P		**Pn**	**19 18 27.0**	**+0.6**
MARVS				*e*S		**Sn**	**19 19 09.5**	**+1.6**
MARVS				IAML			19 19 18.3	
	comp=E,9.2nm,0.5s							
MARVS				IAML			19 19 18.9	
	comp=N,7.6nm,0.3s							

IDC ***11*** *19:24:19.1±1.4,35˚.33N×28˚.03E,h0km,mb3.4/1, mbtmp3.3/8,ML3.2/6,Error ellipse: s-maj=26.1km s-min=16.3km az=12.0*

NIC ***11*** *19:24:19.9,35˚.17N×27˚.83E,h14km±4km,Ml3.0/10*

GII ***11*** *19:24:19.7±0.0,35˚.12N±0˚.03×27˚.959E±0˚.010,h8km, Mws3.3,confirmed*

ATH ***11*** *19:24:21.0,35˚.14N×27˚.98E,h9km±3km,ML3.2/6,Manual Solution by F.Xalaris First location: 2019/08/11 19:25:47, This location: 2020/10/16 06:12:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

THE ***11*** *19:24:22.3,35˚N±46˚×2˚8E±5˚5,h2km±46km,M3.0/5, MLh3.0/5*

ISK ***11*** *19:24:22.1,35˚.25N×27˚.86E,h13km,ML3.1/21*

AFAD ***11*** *19:24:23.0,35˚.21N×27˚.86E,h46km,ML3.0*

ISC 11 19:24:21.1±0.9,35˚.09N±0˚.03×27˚.84E±0˚.03,h22km±5km, n114,σ1§36/145,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.72**	**309**	Pg		**Pb**	**19 24 34.3**	**-0.7**
KARP				Sg		**Sb**	**19 24 44.8**	**+0.4**
KARP	**Karpathos**	**0.72**	**309**	P		**Pb**	**19 24 34.3**	**-0.7**
KARP				S		**Sn**	**19 24 46.2**	**-0.2**
KARP	**Karpathos**	**0.72**	**309**	P		**Pb**	**19 24 34.1**	**-0.9**
KARP				S		**Sb**	**19 24 42.9**	**-1.5**
KARP				AML	AML		19 24 52.8	
	3.8nm,0.5s							
KARP				AML	AML		19 24 52.8	
	5.0nm,0.4s							
KARP	**Karpathos**	**0.72**	**309**	P		**Pb**	**19 24 34.3**	**-0.7**
KARP				S		**Sn**	**19 24 46.5**	**0.0**
RGE1	**Gennadi, Rhode**	**0.94**	**4**	P		**Pb**	**19 24 38.1**	**-0.6**
RGE1				S		**Sb**	**19 24 49.8**	**-0.8**
ARG	**Arkhangelos**	**1.15**	**12**	Pg		**Pn**	**19 24 42.1**	**+0.2**
ARG				Sg		**Sb**	**19 24 55.9**	**-0.8**
ARG	**Arkhangelos**	**1.15**	**12**	P		**Pn**	**19 24 40.9**	**+0.9**
ARG	**Arkhangelos**	**1.15**	**12**	P		**Pn**	**19 24 40.5**	**-1.3**
ARG				S		**Sb**	**19 24 55.2**	**-1.4**
ARG				AML	AML		19 25 04.0	
	1.6nm,0.3s							
ARG				AML	AML		19 25 06.2	
	1.4nm,0.8s							
ARG	**Arkhangelos**	**1.15**	**12**	P		**Pn**	**19 24 41.8**	**-0.1**
ARG				S		**Sb**	**19 24 55.8**	**-0.8**
ZKR	**Zakros**	**1.33**	**271**	Pn		**Pb**	**19 24 47.4**	**+2.0**
ZKR	**Zakros**	**1.33**	**271**	P		**Pb**	**19 24 47.7**	**+2.4**
ZKR	**Zakros**	**1.33**	**271**	P		**Pb**	**19 24 45.5**	**+0.1**
ZKR				AML	AML		19 25 12.1	
	1.2nm,0.4s							
ZKR				AML	AML		19 25 16.4	
	0.7nm,0.7s							
ZKR	**Zakros**	**1.33**	**271**	P		**Pb**	**19 24 47.3**	**+1.9**
YAZI	**Mula-Dat§a-**	**1.62**	**349**	P		**Pn**	**19 24 49.3**	**+0.9**
YAZI				S		**Sn**	**19 25 09.4**	**+0.9**
YAZI				*i* IAML			19 25 13.0	
	comp=E,212nm,0.8s							
DAT	**Datca**	**1.65**	**353**	Pn		**Pn**	**19 24 49.4**	**+0.5**
DAT	**Datca**	**1.65**	**353**	P		**Pn**	**19 24 50.2**	**+1.3**
DAT	**Datca**	**1.65**	**353**	P		**Pn**	**19 24 50.0**	**+1.2**
DAT				S		**Sb**	**19 25 11.0**	**-0.3**
DAT				*i* IAML			19 25 14.0	
	comp=N,227nm,0.4s							
DAT				*i* IAML			19 25 17.0	
	comp=E,177nm,0.3s							
DATC	**Datca-Mugla**	**1.67**	**355**	Pn		**Pn**	**19 24 49.1**	**0.0**
TURN	**Turunc**	**1.71**	**11**	P		**Pb**	**19 24 51.8**	**-0.1**
TURN				S		**Sb**	**19 25 12.7**	**-0.2**
TURN				*i* IAML			19 25 21.0	
	comp=N,196nm,0.5s							
TURN				*i* IAML			19 25 25.0	
	comp=E,134nm,0.7s							
IZZE	**Mula-Seydike**	**1.75**	**40**	P		**Pn**	**19 24 50.0**	**-0.2**
KSL	**Kastellorizon**	**1.77**	**53**	P		**Pn**	**19 24 51.1**	**+0.7**
NPS	**Neapolis**	**1.83**	**276**	P		**Pb**	**19 24 55.4**	**+1.4**
NPS	**Neapolis**	**1.83**	**276**	P		**Pb**	**19 24 54.3**	**+0.4**
SABU	**Mula-Dalaman**	**1.96**	**28**	P		**Pn**	**19 24 53.6**	**+0.6**
SABU				S		**Sb**	**19 25 26.4**	**+6.4**
BDRM	**Kayabasi**	**2.00**	**351**	P		**Pn**	**19 24 54.1**	**+0.5**
BDRM				S		**Sn**	**19 25 16.5**	**-1.4**
BDRM				*i* IAML			19 25 27.0	
	comp=E,108nm,0.8s							
YKAV	**Yalikavak-Bodr**	**2.08**	**348**	Pn		**Pn**	**19 24 55.4**	**+0.7**
CAME	**Cameli-Denizli**	**2.19**	**32**	Pn		**Pn**	**19 24 57.3**	**+0.9**
MULA	**Mugla, Merkez-**	**2.19**	**10**	P		**Pn**	**19 24 58.0**	**+1.6**
MULA				S		**Sb**	**19 25 27.0**	**+0.1**
MULA				*i* IAML			19 25 38.0	
	comp=E,109nm,0.6s							
KNIK	**Mula-Seydike**	**2.24**	**38**	P		**Pn**	**19 24 58.5**	**+1.5**
CAEL	**Denizli, Camel**	**2.35**	**30**	P		**Pn**	**19 25 00.5**	**+1.8**
DNZT	**Denizli-Tavas-**	**2.38**	**23**	P		**Pn**	**19 25 01.4**	**+2.4**
DNZT				S		**Sn**	**19 25 30.2**	**+2.6**
DDIM	**Aydin, Didim**	**2.41**	**349**	P		**Pb**	**19 25 02.0**	**-1.8**
DDIM				S		**Sn**	**19 25 29.7**	**+1.6**
DDIM				*i* IAML			19 25 42.0	
	comp=N,127nm,1.2s							
DDIM				*i* IAML			19 25 44.0	
	comp=E,149nm,1.2s							
IDI	**Anoyia**	**2.42**	**275**	Pn		**Pb**	**19 25 03.1**	**-1.0**
IDI	**Anoyia**	**2.42**	**275**	P		**Pb**	**19 25 03.5**	**-0.6**
IDI	**Anoyia**	**2.42**	**275**	Pn		**Pb**	**19 25 04.0**	**-0.1**
	12nm,0.3s,baz=103,slow=11,SNR=30							
IDI					Sn	**Sb**	**19 25 36.0**	**+2.4**
	6.0nm,0.3s,baz=329,slow=10,SNR=3.7							
IDI	**Anoyia**	**2.42**	**275**	P		**Pb**	**19 25 03.1**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.52**	**20**	P		**Pn**	**19 25 01.5**	**+0.6**
TAVA				S		**Sn**	**19 25 31.0**	**-0.1**
TAVA				*i* IAML			19 25 45.0	
	comp=N,63nm,0.6s							
TAVA				*i* IAML			19 25 52.0	
	comp=E,62nm,0.7s							
GOLH	**Golhisar**	**2.55**	**33**	P		Pn	19 24 50.6	-11
GOLH				S		**Sn**	**19 25 31.8**	**0.0**
AYDN	**Tasoluk**	**2.56**	**1**	P		**Pn**	**19 25 02.6**	**+1.2**
AYDN				S		**Sn**	**19 25 32.2**	**+0.2**
AYDN				*i* IAML			19 25 52.0	
	comp=N,75nm,0.5s							
AYDN				*i* IAML			19 25 52.0	
	comp=E,64nm,0.6s							
GCAM	**G?zelcaml?**	**2.65**	**350**	P		**Pn**	**19 25 03.3**	**+0.7**
APMY	**Acipayam-Deniz**	**2.65**	**26**	Pn		**Pn**	**19 25 03.9**	**+1.2**
DNIZ	**Denizli-Tavas-**	**2.71**	**21**	P		**Pn**	**19 25 05.0**	**+1.6**
ESEN	**Aydn-Nazilli**	**2.73**	**8**	P		**Pn**	**19 25 05.5**	**+1.8**
ESEN				S		**Sn**	**19 25 38.1**	**+2.1**
SMG	**Samos**	**2.73**	**343**	P		**Pn**	**19 25 05.2**	**+1.5**
SMG	**Samos**	**2.73**	**343**	P		**Pn**	**19 25 05.0**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.85**	**1**	Pn		**Pn**	**19 25 06.2**	**+0.8**
NAZL	**Nazilli-Aydin**	**2.89**	**7**	Pn		**Pn**	**19 25 06.9**	**+1.0**
IZMR	**zmir-demi**	**3.04**	**2**	P		**Pn**	**19 25 08.3**	**+0.4**
DGB	**zmir**	**3.05**	**346**	P		**Pn**	**19 25 07.2**	**-0.9**
GVD	**Gavdhos**	**3.09**	**266**	Pn		**Pb**	**19 25 12.9**	**-2.5**
KIRA	**zmir-Kiraz**	**3.13**	**8**	P		**Pn**	**19 25 09.7**	**+0.5**
ODEM	**Odemis-Izmir**	**3.18**	**3**	Pn		**Pn**	**19 25 10.9**	**+0.9**
BLCB	**Balcova**	**3.35**	**349**	Pn		**Pn**	**19 25 13.8**	**+1.6**
KNDR	**Palaiochora Ch**	**3.41**	**274**	Pn		**Pb**	**19 25 17.6**	**-3.1**
KULA	**Kula-Manisa**	**3.48**	**11**	Pn		**Pn**	**19 25 15.2**	**+1.2**
CHOS	**Chios island**	**3.59**	**337**	Pn		**Pn**	**19 25 17.3**	**+1.8**
AKMS	**Akamas**	**3.69**	**90**	P		**Pn**	**19 25 16.1**	**-0.7**
AKMS				S		**Sn**	**19 26 01.9**	**+2.3**
AKMS				AML	AML		19 26 04.4	
	0.1nm,0.8s							
AKMS				AML	AML		19 26 05.1	
	0.1nm,0.5s							
AKMS	**Akamas**	**3.69**	**90**	P		**Pn**	**19 25 16.9**	**+0.1**
GORD	**Gordes-Manisa**	**3.82**	**4**	Pn		**Pn**	**19 25 20.3**	**+1.6**
NATA	**Nata**	**3.90**	**93**	P		**Pn**	**19 25 20.3**	**+0.6**
NATA				S		**Sn**	**19 26 06.3**	**+1.5**
NATA				AML	AML		19 26 09.8	
	0.5nm,0.5s							
NATA				AML	AML		19 26 12.1	
	0.2nm,0.5s							
ALFC	**Alefka**	**3.90**	**88**	P		**Pn**	**19 25 19.9**	**+0.1**
ALFC				S		**Sn**	**19 26 06.9**	**+2.0**
ALFC				AML	AML		19 26 07.7	
	0.1nm,0.7s							
ALFC				AML	AML		19 26 13.0	
	0.1nm,0.7s							
SEYD	**Seydisehir-KON**	**3.97**	**53**	Pn		**Pn**	**19 25 23.1**	**+2.3**
TROD	**Troodos**	**4.13**	**91**	P		**Pn**	**19 25 22.6**	**-0.4**
TROD				S		**Sn**	**19 26 12.9**	**+2.2**
TROD				AML	AML		19 26 20.9	
	0.1nm,0.5s							
TROD				AML	AML		19 26 25.1	
	0.1nm,0.9s							
XYLS	**Xyliatos**	**4.27**	**90**	P		**Pn**	**19 25 25.3**	**+0.4**
XYLS				S		**Sn**	**19 26 15.5**	**+1.3**
XYLS				AML	AML		19 26 23.5	
	0.1nm,0.3s							
XYLS				AML	AML		19 26 24.1	
	0.1nm,0.4s							
VLI	**Veliai**	**4.30**	**294**	P		**Pn**	**19 25 27.5**	**+2.3**
DION	**Dionisos Attik**	**4.33**	**315**	P		**Pn**	**19 25 28.4**	**+2.7**
ASGA	**Asgata**	**4.45**	**92**	P		**Pn**	**19 25 27.6**	**+0.3**
ASGA				S		**Sn**	**19 26 20.2**	**+1.7**
ASGA				AML	AML		19 26 21.6	
	0.1nm,0.6s							
ASGA				AML	AML		19 26 23.7	
	0.1nm,0.5s							
CSS	**Mathiatis**	**4.51**	**90**	P		**Pn**	**19 25 28.2**	**+0.2**
CSS				S		**Sn**	**19 26 21.8**	**+2.0**
CSS				AML	AML		19 26 24.2	
	0.1nm,0.5s							
CSS				AML	AML		19 26 33.4	
	0.1nm,0.7s							
TVSB	**Tavsanli**	**4.54**	**16**	Pn		**Pn**	**19 25 30.5**	**+1.9**
YAYO	**Edremit-Balk**	**4.55**	**353**	Pn		**Pn**	**19 25 30.8**	**+2.1**
KYMI	**Kymi, Euboea I**	**4.63**	**321**	P		**Pn**	**19 25 31.9**	**+2.1**
BRTR	**Keskin Array B**	**6.53**	**43**	Pn		**Pn**	**19 25 55.5**	**-0.5**
	0.1nm,0.3s,baz=222,slow=16,SNR=4.9							
BRTR					Sn	**Sn**	**19 27 08.3**	**-1.6**
	0.1nm,0.3s,baz=211,slow=25,SNR=4.5 0.3nm,0.5s							
MMAI	**Mount Meron Ar**	**6.61**	**106**	Pn		**Pn**	**19 25 56.6**	**-0.4**
	2.7nm,0.3s,baz=287,slow=15,SNR=7.0							
MMAI					Sn	**Sn**	**19 27 10.6**	**-1.1**
	2.5nm,0.3s,baz=161,slow=29,SNR=5.4 1.3nm,0.3s							
SLTI	**Sal'it**	**6.64**	**113**	P		**Pn**	**19 25 56.9**	**-0.5**
SLTI	**Sal'it**	**6.64**	**113**	S		**Sn**	**19 27 12.1**	**-0.3**
GEM	**Giv'at Ha'Em**	**6.75**	**104**	P		**Pn**	**19 25 57.9**	**-1.0**
GEM	**Giv'at Ha'Em**	**6.75**	**104**	S		**Sn**	**19 27 14.6**	**-0.5**
NATI	**Neve Ativ**	**6.79**	**103**	P		**Pn**	**19 25 58.5**	**-0.9**
NATI	**Neve Ativ**	**6.79**	**103**	S		**Sn**	**19 27 14.9**	**-1.2**
MMLI	**Mount Malkishu**	**6.84**	**111**	P		**Pn**	**19 25 59.3**	**-0.9**
MMLI	**Mount Malkishu**	**6.84**	**111**	S		**Sn**	**19 27 16.9**	**-0.6**
AMAZ	**Amatzia**	**6.90**	**119**	P		**Pn**	**19 26 00.3**	**-0.7**
AMAZ	**Amatzia**	**6.90**	**119**	S		**Sn**	**19 27 18.6**	**-0.3**
KZIT	**Kziot**	**6.91**	**125**	P		**Pn**	**19 26 01.0**	**-0.1**
KZIT	**Kziot**	**6.91**	**125**	S		**Sn**	**19 27 19.4**	**+0.3**
KSHT	**Keshet**	**6.94**	**105**	P		**Pn**	**19 26 00.7**	**-1.0**
KSHT	**Keshet**	**6.94**	**105**	S		**Sn**	**19 27 19.6**	**-0.3**
HMDT	**Nahal Hemdat**	**7.00**	**112**	P		**Pn**	**19 26 01.6**	**-0.8**
HMDT	**Nahal Hemdat**	**7.00**	**112**	S		**Sn**	**19 27 21.4**	**0.0**
YTIR	**Yattir**	**7.14**	**119**	P		**Pn**	**19 26 03.7**	**-0.7**
YTIR	**Yattir**	**7.14**	**119**	S		**Sn**	**19 27 25.4**	**+0.6**
DSI	**Dead Sea**	**7.22**	**117**	P		**Pn**	**19 26 05.0**	**-0.3**
DSI	**Dead Sea**	**7.22**	**117**	S		**Sn**	**19 27 26.7**	**0.0**
MSBI	**Mazada**	**7.34**	**119**	P		**Pn**	**19 26 06.4**	**-0.5**
MSBI	**Mazada**	**7.34**	**119**	S		**Sn**	**19 27 28.9**	**-0.7**
GHAJ	**Ghor Haditha**	**7.50**	**118**	P		**Pn**	**19 26 08.8**	**-0.3**
GHAJ	**Ghor Haditha**	**7.50**	**118**	S		**Sn**	**19 27 33.7**	**+0.2**
KRMI	**Paran Flat**	**7.64**	**129**	P		**Pn**	**19 26 11.0**	**-0.1**
KRMI	**Paran Flat**	**7.64**	**129**	S		**Sn**	**19 27 36.2**	**-0.8**
ZFRI	**Zfri**	**7.65**	**124**	P		**Pn**	**19 26 10.9**	**-0.4**
ZFRI	**Zfri**	**7.65**	**124**	S		**Sn**	**19 27 36.4**	**-0.9**
PRNI	**Paran**	**7.66**	**126**	P		**Pn**	**19 26 11.1**	**-0.4**
PRNI	**Paran**	**7.66**	**126**	S		**Sn**	**19 27 37.4**	**-0.3**
HRFI	**Mount Harif**	**7.89**	**128**	P		**Pn**	**19 26 14.1**	**-0.5**
HRFI	**Mount Harif**	**7.89**	**128**	S		**Sn**	**19 27 42.4**	**-0.8**
MBRI	**Mt Berech**	**7.97**	**130**	P		**Pn**	**19 26 15.9**	**+0.1**
MBRI	**Mt Berech**	**7.97**	**130**	S		**Sn**	**19 27 45.9**	**+0.5**
EIL	**Elat**	**8.08**	**130**	Pn		**Pn**	**19 26 18.3**	**+1.1**
	0.6nm,0.3s,baz=313,slow=3.1,SNR=10							
EIL					Sn	**Sn**	**19 27 46.7**	**-1.3**
	1.2nm,0.3s,baz=360,slow=15,SNR=6.0 1.7nm,0.4s							
EIL	**Elat**	**8.08**	**130**	P		**Pn**	**19 26 17.1**	**-0.2**
EIL	**Elat**	**8.08**	**130**	S		**Sn**	**19 27 47.7**	**-0.3**
ASF	**Jabal al Asfar**	**8.09**	**109**	Pn		**Pn**	**19 26 17.5**	**+0.1**
	0.4nm,0.3s,baz=302,slow=11,SNR=6.7							
ASF					Sn	**Sn**	**19 27 43.9**	**-4.4**
	baz=150,slow=14 0.9nm,0.3s							
MLR	**Muntele Rosu**	**10.49**	**353**	Pn		**Pn**	**19 26 48.6**	**-1.7**
	0.1nm,0.3s,baz=152,slow=15,SNR=1.4 0.5nm,0.5s							
GERES	**GERESS Array B**	**17.26**	**327**	P		**Pn**	**19 28 19.6**	**-1.2**
	baz=147,slow=13,SNR=4.0 0.3nm,0.6s							
ESDC	**Sonseca Array**	**25.61**	**290**	P		**P**	**19 29 49.6**	**+0.8**
	0.4nm,0.6s,baz=80,slow=10,SNR=6.3 0.4nm,0.6s							

AFAD ***11*** *19:46:47.0,35˚.12N×27˚.84E,h7km±3km,MW3.7*

IDC ***11*** *19:46:47.8±1.2,35˚.20N×27˚.86E,h0km,mb3.6/8, mbtmp3.6/15,ML3.3/6,Error ellipse: s-maj=22.0km s-min=14.9km az=14.0*

NIC ***11*** *19:46:49.8,35˚.34N×27˚.94E,h15km±3km,Ml3.3/11*

GII ***11*** *19:46:50.7±0.0,34˚.939N±0˚.002×28˚.011E±0˚.001,h10km, Mws3.3,confirmed*

HLW ***11*** *19:46:50.2,35˚.23N×27˚.96E,h19km±5km,Md2.9,Ml2.8*

ATH ***11*** *19:46:50.1,35˚.16N×27˚.94E,h8km±2km,ML3.4/12, Manual Solution by F.Xalaris First location: 2019/08/11 19:48:14, This location: 2020/10/16 05:59:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

THE ***11*** *19:46:52.5,35˚N±9˚×2˚8E±1˚2,h4km±24km,M3.2/10, MLh3.2/10*

ISK ***11*** *19:46:52.3,35˚.35N×27˚.77E,h19km,ML3.3/24*

ISC 11 19:46:48.6±1.3,35˚.11N±0˚.03×27˚.93E±0˚.03,h9km±8km, n163,σ1§41/203,mb3.6/8,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.77**	**305**	Pg		**Pg**	**19 47 03.3**	**-0.1**
KARP				Sg		**Sg**	**19 47 11.6**	**-1.8**
KARP	**Karpathos**	**0.77**	**305**	P		**Pg**	**19 47 03.2**	**-0.2**
KARP				S		**Sg**	**19 47 13.0**	**-0.4**
KARP	**Karpathos**	**0.77**	**305**	P		**Pg**	**19 47 02.6**	**-0.8**
KARP				S		**Sg**	**19 47 12.6**	**-0.8**
KARP				AML	AML		19 47 20.6	
	8.3nm,0.6s							
KARP				AML	AML		19 47 21.5	
	7.4nm,0.4s							
KARP	**Karpathos**	**0.77**	**305**	P		**Pg**	**19 47 03.0**	**-0.4**
KARP				S		**Sg**	**19 47 14.2**	**+0.8**
RGE1	**Gennadi, Rhode**	**0.91**	**360**	P		**Pg**	**19 47 06.7**	**+0.6**
RGE1				S		**Sg**	**19 47 17.8**	**-0.2**
ARG	**Arkhangelos**	**1.11**	**8**	Pg		**Pg**	**19 47 10.6**	**+0.6**
ARG				Sg		**Sg**	**19 47 23.6**	**-0.8**
ARG	**Arkhangelos**	**1.11**	**8**	P		**Pb**	**19 47 10.9**	**+0.8**
ARG				S		**Sb**	**19 47 25.5**	**+0.8**
ARG	**Arkhangelos**	**1.11**	**8**	P		**Pg**	**19 47 07.7**	**-2.3**
ARG				S		**Sg**	**19 47 19.7**	**-4.7**
ARG				AML	AML		19 47 31.9	
	2.7nm,0.3s							
ARG				AML	AML		19 47 34.9	
	2.3nm,0.8s							
ARG	**Arkhangelos**	**1.11**	**8**	P		**Pg**	**19 47 10.6**	**+0.6**
ARG				S		**Sg**	**19 47 24.7**	**+0.3**
ZKR	**Zakros**	**1.41**	**271**	Pn		**Pn**	**19 47 16.3**	**+1.8**
ZKR				Sn		**Sn**	**19 47 33.3**	**-0.6**
ZKR	**Zakros**	**1.41**	**271**	P		**Pn**	**19 47 16.9**	**+2.4**
ZKR	**Zakros**	**1.41**	**271**	P		**Pn**	**19 47 15.2**	**+0.7**
ZKR				AML	AML		19 47 43.8	
	1.4nm,0.7s							
ZKR				AML	AML		19 47 45.2	
	1.4nm,0.6s							
ZKR	**Zakros**	**1.41**	**271**	P		**Pn**	**19 47 15.9**	**+1.4**
ZKR				S		**Sg**	**19 47 35.0**	**+1.1**
YAZI	**Mula-Dat§a-**	**1.61**	**346**	P		**Pn**	**19 47 17.7**	**+0.4**
NISR	**Nisiros**	**1.63**	**337**	P		**Pn**	**19 47 18.4**	**+0.8**
NISR	**Nisiros**	**1.63**	**337**	P		**Pn**	**19 47 18.5**	**+1.0**
DAT	**Datca**	**1.64**	**350**	Pn		**Pn**	**19 47 17.4**	**-0.4**
DAT	**Datca**	**1.64**	**350**	P		**Pn**	**19 47 18.7**	**+0.9**
DAT				S		**Sn**	**19 47 40.2**	**+1.1**
DATC	**Datca-Mugla**	**1.66**	**352**	Pn		**Pn**	**19 47 17.6**	**-0.3**
TURN	**Turunc**	**1.68**	**9**	P		**Pn**	**19 47 19.6**	**+1.4**
TURN				S		**Sn**	**19 47 40.9**	**+1.1**
TURN				*i* IAML			19 47 50.0	
	comp=N,286nm,0.5s							
TURN				*i* IAML			19 47 54.0	
	comp=E,255nm,0.5s							
IZZE	**Mula-Seydike**	**1.69**	**38**	P		**Pn**	**19 47 19.1**	**+0.7**
KSL	**Kastellorizon**	**1.70**	**52**	P		**Pn**	**19 47 19.7**	**+1.2**
KSL				S		**Sn**	**19 47 40.8**	**+0.5**
SABU	**Mula-Dalaman**	**1.90**	**26**	P		**Pn**	**19 47 22.7**	**+1.3**
SABU				S		**Sg**	**19 47 50.9**	**+1.1**
SABU				*i* IAML			19 48 03.0	
	comp=E,134nm,0.7s							
SABU				*i* IAML			19 48 10.0	
	comp=N,131nm,0.9s							
NPS	**Neapolis**	**1.91**	**275**	P		**Pn**	**19 47 24.0**	**+2.6**
NPS	**Neapolis**	**1.91**	**275**	P		**Pn**	**19 47 23.2**	**+1.8**
BDRM	**Kayabasi**	**1.99**	**349**	P		**Pn**	**19 47 24.1**	**+1.6**
BDRM				S		**Sn**	**19 47 47.3**	**-0.3**
BDRM				*i* IAML			19 47 55.0	
	comp=E,215nm,0.8s							
YKAV	**Yalikavak-Bodr**	**2.08**	**345**	Pn		**Pn**	**19 47 23.5**	**-0.2**
CAME	**Cameli-Denizli**	**2.14**	**31**	Pn		**Pn**	**19 47 26.8**	**+2.1**
MULA	**Mugla, Merkez-**	**2.16**	**8**	P		**Pb**	**19 47 27.7**	**-0.4**
MULA				S		**Sb**	**19 47 56.1**	**+1.1**
MULA				*i* IAML			19 48 06.0	
	comp=E,203nm,0.6s							
MULA				*i* IAML			19 48 08.0	
	comp=N,91nm,0.7s							
KNIK	**Mula-Seydike**	**2.18**	**37**	P		**Pn**	**19 47 27.7**	**+2.4**
CAEL	**Denizli, Camel**	**2.30**	**29**	P		**Pn**	**19 47 28.8**	**+1.9**
AKUM	**Antalya-Kumluc**	**2.30**	**58**	P		**Pn**	**19 47 28.5**	**+1.7**
AKUM				S		**Sn**	**19 47 51.1**	**-4.1**
AKUM				*i* IAML			19 48 03.0	
	comp=N,36nm,0.6s							
AKUM				*i* IAML			19 48 12.0	
	comp=E,48nm,0.5s							
DNZT	**Denizli-Tavas-**	**2.33**	**22**	P		**Pn**	**19 47 29.3**	**+2.0**
THERA	**Ancient Thera,**	**2.36**	**303**	P		**Pn**	**19 47 29.1**	**+1.5**
THERA	**Ancient Thera,**	**2.36**	**303**	P		**Pn**	**19 47 29.1**	**+1.5**
DDIM	**Aydin, Didim**	**2.41**	**347**	P		**Pg**	**19 47 34.3**	**-0.4**
THR6	**Thira Island,**	**2.41**	**302**	P		**Pn**	**19 47 29.6**	**+1.3**
THR3	**Thira Island,**	**2.43**	**303**	P		**Pn**	**19 47 29.4**	**+0.8**
SNT5	**Nea Kammeni, S**	**2.43**	**303**	P		**Pn**	**19 47 29.8**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.48**	**18**	P		**Pn**	**19 47 31.3**	**+1.9**
TAVA				S		**Sn**	**19 48 01.1**	**+1.3**
TAVA				*i* IAML			19 48 16.0	
	comp=N,110nm,0.6s							
TAVA				*i* IAML			19 48 16.0	
	comp=E,101nm,0.9s							
GOLH	**Golhisar**	**2.50**	**31**	P		**Pn**	**19 47 32.4**	**+2.8**
GOLH				S		**Sn**	**19 47 59.7**	**-0.5**
GOLH				*i* IAML			19 48 09.0	
	comp=E,137nm,0.4s							
GOLH				*i* IAML			19 48 24.0	
	comp=N,115nm,1.0s							
IDI	**Anoyia**	**2.50**	**275**	Pn		**Pn**	**19

DION	**Dionisos Attik**	**4.37**	**314**	P	**Pn**	**19 47 56.7**	**+1.4**
DION	**Dionisos Attik**	**4.37**	**314**	P	**Pn**	**19 47 56.4**	**+1.1**
ASGA	**Asgata**	**4.38**	**93**	P	**Pn**	**19 47 56.2**	**+0.9**
ASGA				S	**Sn**	**19 48 48.6**	**+2.1**
ASGA				AML	AML	19 48 54.6	
	0.5nm,0.7s						
ASGA				AML	AML	19 48 55.2	
	0.2nm,0.7s						
CSS	**Mathiatis**	**4.43**	**90**	P	**Pn**	**19 47 57.3**	**+1.2**
CSS				S	**Sn**	**19 48 50.0**	**+2.2**
CSS				AML	AML	19 48 53.6	
	0.1nm,0.5s						
CSS				AML	AML	19 48 57.1	
	0.1nm,0.6s						
CSS	**Mathiatis**	**4.43**	**90**	P	**Pn**	**19 47 57.0**	**+0.9**
CSS	**Mathiatis**	**4.43**	**90**	S	**Sn**	**19 48 48.4**	**+0.5**
TVSB	**Tavsanli**	**4.50**	**15**	Pn	**Pn**	**19 47 57.7**	**+0.6**
YAYO	**Edremit-Balk**	**4.54**	**352**	Pn	**Pn**	**19 47 58.5**	**+0.9**
KYMI	**Kymi, Euboea I**	**4.67**	**320**	P	**Pn**	**19 48 00.5**	**+1.2**
MVOU	**Mavrovouni**	**4.67**	**90**	P	**Pn**	**19 48 00.2**	**+0.7**
MVOU				S	**Sn**	**19 48 54.7**	**+0.9**
MVOU				AML	AML	19 49 02.3	
	0.1nm,0.5s						
MVOU				AML	AML	19 49 04.7	
	0.1nm,0.8s						
ITM	**Ithomi**	**5.28**	**295**	P	**Pn**	**19 48 09.1**	**+1.3**
KOT	**Kottamia**	**6.13**	**146**	P	**Pn**	**19 48 21.2**	**+1.8**
KOT				S	**Sn**	**19 49 30.1**	**+0.3**
SWA2		**6.22**	**200**	P	**Pn**	**19 48 22.8**	**+2.1**
SWA2				S	**Sn**	**19 49 32.0**	**+0.1**
RYAN	**Fayoum**	**6.33**	**161**	P	**Pn**	**19 48 24.3**	**+2.1**
RYAN				S	**Sn**	**19 49 34.0**	**-0.8**
BRTR	**Keskin Array B**	**6.46**	**43**	Pn	**Pn**	**19 48 25.4**	**+1.2**
	0.2nm,0.3s,baz=218,slow=16,SNR=7.3						
BRTR				Sn	**Sn**	**19 49 37.2**	**-1.0**
	0.1nm,0.3s,baz=210,slow=24,SNR=5.4						
	0.7nm,0.5s						
MMA0B	**Mount Meron ar**	**6.54**	**107**	P	**Pn**	**19 48 25.3**	**+0.1**
MMA0B	**Mount Meron ar**	**6.54**	**107**	S	**Sn**	**19 49 39.7**	**-0.3**
MMAI	**Mount Meron Ar**	**6.54**	**107**	Pn	**Pn**	**19 48 25.3**	**+0.1**
	3.7nm,0.3s,baz=297,slow=14,SNR=32						
MMAI				Sn	**Sn**	**19 49 40.3**	**+0.3**
	4.6nm,0.3s,baz=292,slow=21,SNR=7.0						
	2.3nm,0.3s						
SLTI	**Sal'it**	**6.58**	**114**	P	**Pn**	**19 48 26.0**	**+0.4**
SLTI	**Sal'it**	**6.58**	**114**	S	**Sn**	**19 49 40.7**	**-0.1**
QRWL	**Qaraoun**	**6.60**	**101**	*eP*	**Pn**	**19 48 26.6**	**+0.6**
HWQ	**Hawqa**	**6.65**	**95**	*eP*	**Pn**	**19 48 27.4**	**+0.7**
GEM	**Giv'at Ha'Em**	**6.68**	**104**	P	**Pn**	**19 48 27.6**	**+0.6**
GEM	**Giv'at Ha'Em**	**6.68**	**104**	S	**Sn**	**19 49 42.9**	**-0.4**
SHBL	**Chebaa**	**6.70**	**103**	*eP*	**Pn**	**19 48 28.2**	**+0.7**
NATI	**Neve Ativ**	**6.72**	**104**	P	**Pn**	**19 48 28.3**	**+0.7**
NATI	**Neve Ativ**	**6.72**	**104**	S	**Sn**	**19 49 43.9**	**-0.4**
RCY	**Rachaya**	**6.74**	**102**	*eP*	**Pn**	**19 48 28.5**	**+0.6**
BEIL	**Beino**	**6.81**	**92**	*eP*	**Pn**	**19 48 29.3**	**+0.5**
AMAZ	**Amatzia**	**6.85**	**119**	P	**Pn**	**19 48 29.4**	**+0.1**
AMAZ	**Amatzia**	**6.85**	**119**	S	**Sn**	**19 49 46.7**	**-0.7**
KZIT	**Kziot**	**6.86**	**126**	P	**Pn**	**19 48 29.2**	**-0.3**
KZIT	**Kziot**	**6.86**	**126**	S	**Sn**	**19 49 45.9**	**-1.8**
HMDT	**Nahal Hemdat**	**6.94**	**112**	P	**Pn**	**19 48 31.2**	**+0.6**
HMDT	**Nahal Hemdat**	**6.94**	**112**	S	**Sn**	**19 49 49.2**	**-0.5**
UJAP	**Al Uja**	**7.03**	**115**	P	**Pn**	**19 48 32.1**	**+0.3**
UJAP	**Al Uja**	**7.03**	**115**	S	**Sn**	**19 49 50.4**	**-1.4**
NBNS	**Bani Suef**	**7.07**	**155**	P	**Pn**	**19 48 34.8**	**+2.3**
YTIR	**Yattir**	**7.08**	**120**	P	**Pn**	**19 48 33.6**	**+1.0**
YTIR	**Yattir**	**7.08**	**120**	S	**Sn**	**19 49 52.2**	**-1.1**
ZNM	**Zenema**	**7.09**	**142**	P	**Pn**	**19 48 34.1**	**+1.5**
DSI	**Dead Sea**	**7.16**	**117**	P	**Pn**	**19 48 33.8**	**+0.2**
DSI	**Dead Sea**	**7.16**	**117**	S	**Sn**	**19 49 53.7**	**-1.4**
MSBI	**Mazada**	**7.28**	**119**	P	**Pn**	**19 48 36.0**	**+0.7**
MSBI	**Mazada**	**7.28**	**119**	S	**Sn**	**19 49 56.7**	**-1.4**
GHAJ	**Ghor Haditha**	**7.44**	**119**	P	**Pn**	**19 48 37.9**	**+0.6**
GHAJ	**Ghor Haditha**	**7.44**	**119**	S	**Sn**	**19 50 01.2**	**-0.7**
KRMI	**Paran Flat**	**7.59**	**129**	P	**Pn**	**19 48 39.5**	**0.0**
KRMI	**Paran Flat**	**7.59**	**129**	S	**Sn**	**19 50 03.7**	**-2.0**
PRNI	**Paran**	**7.62**	**127**	P	**Pn**	**19 48 39.8**	**-0.1**
PRNI	**Paran**	**7.62**	**127**	S	**Sn**	**19 50 04.7**	**-1.7**
TAMRE	**El Minia**	**7.83**	**160**	P	**Pn**	**19 48 44.8**	**+1.9**
HRFI	**Mount Harif**	**7.84**	**128**	P	**Pn**	**19 48 43.1**	**+0.1**
HRFI	**Mount Harif**	**7.84**	**128**	S	**Sn**	**19 50 10.2**	**-1.8**
MBRI	**Mt Berech**	**7.93**	**130**	P	**Pn**	**19 48 44.8**	**+0.6**
MBRI	**Mt Berech**	**7.93**	**130**	S	**Sn**	**19 50 12.5**	**-1.7**
HFRF	**Wahat Farafira**	**7.95**	**178**	P	**Pn**	**19 48 46.6**	**+2.2**
HFRF				S	**Sn**	**19 50 13.7**	**-0.7**
ASF	**Jabal al Asfar**	**8.03**	**109**	Pn	**Pn**	**19 48 47.2**	**+1.6**
	0.7nm,0.3s,baz=313,slow=8.0,SNR=14						
ASF				Sn	**Sn**	**19 50 16.3**	**-0.3**
	0.3nm,0.3s,baz=116,slow=21,SNR=7.3						
	2.4nm,0.5s						
EIL	**Elat**	**8.04**	**131**	Pn	**Pn**	**19 48 47.1**	**+1.5**
	0.9nm,0.3s,baz=334,slow=11,SNR=14						
EIL				Sn	**Sn**	**19 50 14.1**	**-2.7**
	1.6nm,0.3s,baz=31,slow=16,SNR=5.6						
	4.5nm,0.5s						
EIL	**Elat**	**8.04**	**131**	P	**Pn**	**19 48 45.9**	**+0.2**
EIL	**Elat**	**8.04**	**131**	S	**Sn**	**19 50 14.5**	**-2.3**
HBST	**Basata**	**8.23**	**134**	P	**Pn**	**19 48 50.1**	**+1.8**
NUB	**Nuweibaa**	**8.32**	**135**	P	**Pn**	**19 48 51.5**	**+2.0**
HKAT	**Jabal Katrina**	**8.35**	**140**	P	**Pn**	**19 48 51.9**	**+1.8**
HDHB	**Dhahab**	**8.54**	**136**	P	**Pn**	**19 48 54.7**	**+2.2**
MLR	**Muntele Rosu**	**10.48**	**352**	Pn	**Pn**	**19 49 21.2**	**+2.1**
	0.1nm,0.3s,baz=180,slow=12,SNR=4.0						
MLR				Sn	**Sn**	**19 51 15.9**	**-0.8**
	0.2nm,0.3s,baz=141,slow=5.9,SNR=1.6						
	1.5nm,0.7s						
AKASG	**Malin Array Be**	**15.61**	**3**	Pn	**Pn**	**19 50 30.5**	**+1.8**
	0.4nm,0.3s,baz=191,slow=10,SNR=2.4						
GERES	**GERESS Array B**	**17.29**	**327**	P	**Pn**	**19 50 49.8**	**-0.4**
	baz=130,slow=14,SNR=5.9						
	0.7nm,0.7s						
ESDC	**Sonseca Array**	**25.67**	**290**	P	**P**	**19 52 17.9**	**-1.0**
	0.7nm,0.6s,baz=83,slow=9.2,SNR=10						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**26.38**	**358**	P	**P**	**19 52 24.6**	**-0.3**
	2.4nm,0.9s,baz=148,slow=6.6,SNR=4.9						
	2.4nm,0.9s						
HFS	**Hagfors**	**26.69**	**344**	P	**P**	**19 52 27.0**	**-0.9**
	1.4nm,0.7s,baz=158,slow=9.3,SNR=1.6						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**28.07**	**343**	P	**P**	**19 52 38.2**	**-2.1**
	0.4nm,0.6s,baz=157,slow=10,SNR=2.3						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**34.50**	**358**	P	**P**	**19 53 34.7**	**-2.0**
	1.6nm,0.8s,baz=170,slow=9.2,SNR=1.6						
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**39.38**	**51**	P	**P**	**19 54 18.5**	**0.0**
	0.4nm,0.6s,baz=274,slow=9.0,SNR=2.9						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**41.90**	**57**	P	**P**	**19 54 41.1**	**+1.8**
	0.2nm,0.5s,baz=306,slow=8.3,SNR=4.1						
	0.2nm,0.5s						
SONM	**Songino Array**	**57.75**	**51**	P	**P**	**19 56 41.4**	**+1.3**
	0.4nm,0.7s,baz=292,slow=7.6,SNR=2.6						
	0.4nm,0.7s						

SJA 11 19:51:25.2±0.7, 27°85S×66°58W, h178km±3km, ML3.2, MW3.5, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.91**	**130**	*eP*	Pn	19 51 52.4	+0.4
CYA				*eS*	Sn	19 52 12.6	-0.3
AANI	**Anillaco**	**1.00**	**198**	*eS*	Sn	19 52 14.0	-0.4
AANI				IAML		19 52 15.9	
	comp=Z,113nm,0.2s						
AHML	**Horco Molle**	**1.54**	**47**	*eP*	Pn	19 51 57.9	+0.4
GUSE	**Guasayan**	**1.54**	**92**	*eP*	Pn	19 51 58.7	+1.3
GUSE				*eS*	Sn	19 52 21.3	-1.0
ACLC	**CERRO LA CRUZ**	**1.60**	**192**	*eP*	Pn	19 51 59.1	+1.0
ACLC				*eS*	Sn	19 52 23.9	+0.1
VCA	**Vinchina**	**1.68**	**238**	*eP*	Pn	19 51 59.6	+0.7
VCA				*eS*	Sn	19 52 24.4	-0.7
VCA				IAML		19 52 28.4	
	comp=Z,130nm,0.4s						
FSA	**Cafayete**	**1.82**	**17**	*eP*	Pn	19 52 01.4	+0.9
FSA				*eS*	Sn	19 52 27.5	-0.1
AGUA	**GUANDACOL**	**2.34**	**225**	*eP*	Pn	19 52 07.2	+1.2
AGUA				*eS*	Sn	19 52 38.5	+0.8
AGUA				IAML		19 52 39.7	
	comp=Z,78nm,0.3s						
AC02	**Maricunga**	**2.48**	**294**	*eP*	Pn	19 52 09.9	+1.9
AC02				*eS*	Sn	19 52 53.0	+12
APLL	**PUNTA DE LOS L**	**2.53**	**179**	*eP*	Pn	19 52 09.1	+0.9
APLL				*eS*	Sn	19 52 41.2	-0.6
ACDV	**Cuesta del Vie**	**3.20**	**223**	*eP*	Pn	19 52 16.4	0.0
ACDV				IAML		19 53 07.9	
	comp=Z,20nm,0.7s						
GO03	**Copiapo**	**3.25**	**274**	*eP*	Pn	19 52 16.6	-0.2
GO03				*eS*	Sn	19 52 55.5	-1.5
AROD	**Rodeo**	**3.42**	**227**	*eP*	Pn	19 52 20.4	+1.1
AROD				*eS*	Sn	19 52 57.0	-4.5
ACCO	**Cerro Coronel**	**3.48**	**218**	*eP*	Pn	19 52 20.8	+0.8
ACCO				*eS*	Sn	19 53 01.9	-0.9
GO02	**Mina Guanaco**	**3.80**	**314**	*eP*	Pn	19 52 25.7	+1.6
LCO	**Las Campanas**	**3.80**	**251**	*eP*	Pn	19 52 24.3	+0.3
LCO				*eS*	Sn	19 53 08.8	-1.1
LCO				IAML		19 53 09.5	
	comp=Z,78nm,0.3s						
TCA	**Tanti**	**3.88**	**154**	*eP*	Pn	19 52 25.8	+1.0
TCA				*eS*	Sn	19 53 10.2	-1.3
AC01	**Pan de Azucar**	**3.96**	**294**	*eP*	Pn	19 52 25.4	-0.4
AC01				*eS*	Sn	19 53 12.3	-0.9
AC01				IAML		19 53 16.0	
	comp=Z,26nm,2.4s						
CFA	**Coronel Fontan**	**4.00**	**201**	*eP*	Pn	19 52 26.8	+0.5
CFA				*eS*	Sn	19 53 12.8	-1.4
GO04	**Tololo Observa**	**4.36**	**237**	*eP*	Pn	19 52 30.6	-0.4
GO04				*eS*	Sn	19 53 22.4	-0.1
RTLS	**Leoncito**	**4.58**	**210**	*eP*	Pn	19 52 35.1	+1.1
RTLS				*eS*	Sn	19 53 28.2	+0.3
RTLS				IAML		19 53 32.0	
	comp=Z,32nm,0.4s						
MRA	**San Martin**	**4.61**	**171**	*eP*	Pn	19 52 35.0	+0.9
MRA				*eS*	Sn	19 53 28.4	+0.1
CO03	**El Pedregal**	**4.66**	**229**	*eP*	Pn	19 52 35.0	+0.2
CO03				*eS*	Sn	19 53 23.5	-5.7
CO03				IAML		19 53 31.0	
	comp=Z,14nm,0.2s						
CO02	**Combarbal**	**5.09**	**228**	*eP*	Pn	19 52 40.3	-0.1
CO02				*eS*	Sn	19 53 38.2	-1.2
CO02				IAML		19 53 45.6	
	comp=Z,17nm,0.5s						

SSNC ***11*** *19:51:25.4±1.2, 18°.52N×72°.60W, h20km±12km, MD3.0, ML2.5*
SDD ***11*** *19:51:32.6±2.0, 17°.98N×71°.56W, h30km±11km, MD3.1, ML3.0, MW3.5*
OSPL ***11*** *19:51:35.3±2.1, 18°.14N×71°.61W, h5km±17km, ML2.9*
ISC 11 19:51:35.1±0.9, 18°.12N±0°.03×71°.56W±0°.03, h10km, n18, σ1§44/32, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	**El Espartillar**	**0.25**	**20**	*i* P	**Pg**	**19 51 39.3**	**-0.9**
LODU1				IAML		19 51 47.3	
	comp=Z,6μm,0.3s						
LOBH	**Bahia de las A**	**0.27**	**196**	*i* P	**Pg**	**19 51 40.0**	**-0.5**
LOBH				*eS*	**Sg**	**19 51 44.1**	**0.0**
LOBH				IAML		19 51 53.0	
	comp=Z,2μm,0.6s						
PODR	**Polo**	**0.27**	**80**	*i* P	**Pg**	**19 51 40.1**	**-0.6**
PODR				*eS*	**Sg**	**19 51 45.9**	**+1.5**
PODR	**Polo**	**0.27**	**80**	*ePg*	**Pg**	**19 51 40.0**	**-0.6**
PODR				*eSg*	**Sg**	**19 51 46.7**	**+2.3**
PODR				IAML		19 51 49.1	
	comp=N,1μm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.37**	**150**	*i* P	**Pg**	**19 51 41.9**	**-0.5**
LOVI				*eS*	**Sb**	**19 51 49.0**	**-0.5**
LOVI				IAML		19 51 51.6	
	comp=Z,1μm,0.5s						
NEDR	**Neiba UASD**	**0.39**	**21**	*ePg*	**Pg**	**19 51 42.1**	**-0.6**
NEDR				IAML		19 51 51.1	
	comp=N,2μm,0.5s						
NEDR				*eSg*	**Sg**	**19 51 51.3**	**+3.4**
JIDR	**Jimani**	**0.46**	**323**	*ePg*	**Pg**	**19 51 44.6**	**+0.5**
JIDR				*eSg*	**Sb**	**19 51 53.4**	**+1.2**
JIDR				IAML		19 51 55.9	
	comp=N,975nm,0.6s						
PAPH	**Port-au-Prince**	**0.81**	**300**	*i* P	**Pg**	**19 51 50.2**	**-0.5**
SDDR	**Presa de Saban**	**0.90**	**17**	*eP*	**Pg**	**19 51 49.4**	**-3.0**
SDDR				*eS*	**Sg**	**19 52 01.5**	**-2.6**
SDDR				*eSg*	**Sb**	**19 52 05.0**	**+0.2**
SDDR				IAML		19 52 08.2	
	comp=N,119nm,0.3s						
SDDR				IAML		19 52 09.4	
	comp=N,91nm,0.3s						
SDDR	**Presa de Saban**	**0.90**	**17**	*i* P	**Pg**	**19 51 51.1**	**-1.3**
SDDR				*eS*	**Sg**	**19 52 03.0**	**-1.2**
SDDR				IAML		19 52 09.0	
	comp=Z,111nm,0.5s						
SDDR	**Presa de Saban**	**0.90**	**17**	*ePg*	**Pg**	**19 51 51.3**	**-1.1**
SDDR				*eSg*	**Sg**	**19 52 05.8**	**+1.6**
SDDR				IAML		19 52 08.3	
	comp=N,118nm,0.3s						
ABDR	**Alto Bandera**	**1.12**	**52**	*ePg*	**Pb**	**19 51 57.3**	**+0.4**
ABDR				*eSg*	**Sg**	**19 52 12.2**	**+0.8**
ABDR				IAML		19 52 25.1	
	comp=N,99nm,0.6s						
BANI	**BANI**	**1.18**	**76**	*ePg*	**Pn**	**19 51 55.5**	**-2.2**
BANI				*eSg*	**Sb**	**19 52 12.8**	**-0.2**
BANI				IAML		19 52 20.6	
	comp=N,237nm,0.2s						
MADR	**Mao Valverde**	**1.50**	**17**	*ePg*	**Pn**	**19 52 02.2**	**+0.1**
MADR				IAML		19 52 26.1	
	comp=N,430nm,0.7s						
SC01	**Santiago de lo**	**1.52**	**31**	*i* P	**Pn**	**19 52 01.6**	**-0.8**
DR08	**Loma La Naviza**	**1.69**	**60**	*ePg*	**Pn**	**19 52 04.0**	**-0.7**
DR08				*eSg*	**Sn**	**19 52 26.9**	**+0.5**
DR08				IAML		19 52 33.2	
	comp=N,383nm,0.2s						
HATOM	**Hato Mayor del**	**2.17**	**72**	*ePg*	**Pn**	**19 52 11.4**	**0.0**
HATOM				*eSg*	**Sn**	**19 52 40.6**	**+2.2**
HATOM				IAML		19 52 47.0	
	comp=N,42nm,2.2s						
MASC	**Masc**	**3.25**	**309**	*eS*	**Pn**	**19 52 25.0**	**-1.2**

RHSSO ***11*** *20:02:03.5±0.2, 43°.14N×17°.96E, h4km±2km, ML3.4/13*
PDG ***11*** *20:02:03.0±0.2, 43°.10N×17°.90E, h8km, MD3.1/3, ML3.0/12, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0*
BEO ***11*** *20:02:04.2±0.3, 43°.17N×17°.88E, h13km±2km, ML3.1/22*
VIE ***11*** *20:02:08.1±0.9, 43°.17N×18°.01E, h57km±62km, mb3.0/17, ml3.1/10, ms3.5/7, Error ellipse: s-maj=15.8km s-min=8.3km az=58.0 80 km SSW of Sarajevo*
PRU ***11*** *20:02:11.7, 43°.29N×17°.53E, h10km*
ISC 11 20:02:03.4±1.0, 43°.16N±0°.02×17°.95E±0°.01, h3km±9km, n118, σ1§24/197, 19C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.34**	**212**	*i*Pg	**Pg**	**20 02 09.2**	**-0.7**
STON				*eSg*	**Sg**	**20 02 14.6**	**+0.3**
STON	**Ston**	**0.34**	**212**	Pg	**Pg**	**20 02 09.3**	**-0.7**
STON				Sg	**Sg**	**20 02 13.5**	**-0.8**
BRY	**Bratogost**	**0.51**	**120**	*i*Pg	**Pg**	**20 02 12.5**	**-0.6**
BRY				*i* Sg	**Sg**	**20 02 20.7**	**+1.0**
DBRK	**Dubrovnik**	**0.51**	**163**	Pg	**Pg**	**20 02 13.0**	**-0.2**
DBRK				Sg	**Sg**	**20 02 20.6**	**+0.7**
TREB	**Trebinje**	**0.53**	**146**	*i*Pg	**Pg**	**20 02 12.8**	**-0.8**
TREB				*eSg*	**Sg**	**20 02 20.9**	**+0.4**
TREB	**Trebinje**	**0.53**	**146**	*ePg*	**Pg**	**20 02 12.9**	**-0.7**
RICI	**Ricice**	**0.68**	**300**	Pg	**Pg**	**20 02 16.9**	**+0.4**
RICI				Sg	**Sg**	**20 02 26.6**	**+1.3**
MAKA	**Makarska**	**0.69**	**281**	Pg	**Pg**	**20 02 16.2**	**-0.4**
MAKA				Sg	**Sg**	**20 02 26.3**	**+0.7**
UPM	**Unac-Piva**	**0.70**	**86**	*i*Pg	**Pg**	**20 02 16.4**	**-0.5**
UPM				*i* Sg	**Sb**	**20 02 28.3**	**-0.3**
HCY	**Herceg Novi**	**0.82**	**150**	*i*Pg	**Pg**	**20 02 18.2**	**-0.9**
HCY				*i* Sg	**Sg**	**20 02 29.9**	**+0.2**
NKME	**Niksic**	**0.84**	**117**	*i*Pg	**Pg**	**20 02 18.7**	**-0.8**
NKME				*i* Sg	**Sb**	**20 02 31.8**	**-0.5**
LSTV	**Lastovo**	**0.86**	**244**	Pg	**Pg**	**20 02 20.0**	**0.0**
LSTV				Sg	**Sg**	**20 02 30.6**	**-0.6**
CEME	**Cevo**	**0.94**	**130**	*i*Pg	**Pg**	**20 02 20.4**	**-1.1**
CEME				*i* Sg	**Sb**	**20 02 35.2**	**-0.1**
PLE	**Pljevlja**	**1.07**	**80**	*ePg*	**Pg**	**20 02 24.0**	**+0.1**
PLE	**Pljevlja**	**1.07**	**80**	*i*Pg	**Pg**	**20 02 23.6**	**-0.3**
PLE				*i* Sg	**Sn**	**20 02 41.2**	**+0.4**
BUM	**Brajici-Budva**	**1.11**	**140**	*i*Pg	**Pg**	**20 02 23.5**	**-1.1**
BUM				*i* Sg	**Sb**	**20 02 39.7**	**-0.3**
RUDO	**Rudo**	**1.14**	**66**	*ePg*	**Pg**	**20 02 23.6**	**-1.6**
RUDO				*eSg*	**Sg**	**20 02 40.1**	**+0.2**
RUDO	**Rudo**	**1.14**	**66**	*ePg*	**Pg**	**20 02 23.7**	**-1.5**
KOME	**Kolasin**	**1.19**	**104**	*ePg*	**Pg**	**20 02 25.5**	**-0.8**
KOME				*eSg*	**Sn**	**20 02 45.7**	**+1.9**
KOME	**Kolasin**	**1.19**	**104**	*i*Pg	**Pg**	**20 02 25.5**	**-0.8**
KOME				*i* Sg	**Sn**	**20 02 44.6**	**+0.8**
PDG	**Podgorica**	**1.21**	**127**	S	**Sn**	**20 02 46.4**	**+2.4**
PDG	**Podgorica**	**1.21**	**127**	*ePg*	**Pg**	**20 02 25.6**	**-1.0**
PDG				*eSg*	**Sn**	**20 02 45.6**	**+1.6**
PDG	**Podgorica**	**1.21**	**127**	*i*Pg	**Pg**	**20 02 24.3**	**-2.3**
PDG				*i* Sg	**Sn**	**20 02 44.5**	**+0.5**
BBLS	**Lazi&#263i**	**1.28**	**56**	*ePg*	**Pn**	**20 02 27.7**	**-0.5**
BBLS				*eSg*	**Sn**	**20 02 47.5**	**+1.7**
DRME	**Dracevica, Mon**	**1.33**	**136**	*ePg*	**Pn**	**20 02 28.1**	**-0.8**
DRME				*eSg*	**Sn**	**20 02 49.4**	**+2.3**
DRME	**Dracevica, Mon**	**1.33**	**136**	*i*Pg	**Pn**	**20 02 27.8**	**-1.1**
DRME				*i* Sg	**Sn**	**20 02 48.2**	**+1.1**
KIJV	**Kijevo**	**1.40**	**308**	*i*Pg	**Pn**	**20 02 28.3**	**-1.6**
KIJV				*eSg*	**Sb**	**20 02 48.3**	**-0.2**
KIJV	**Kijevo**	**1.40**	**308**	Pg	**Pg**	**20 02 31.6**	**+1.3**
KIJV				Sg	**Sg**	**20 02 51.4**	**+2.9**
BEY	**Berane**	**1.46**	**101**	*ePg*	**Pn**	**20 02 30.6**	**-0.1**
IVA	**Berane**	**1.46**	**101**	*i*Pg	**Pn**	**20 02 30.6**	**-0.1**
IVA				*i* Sg	**Sg**	**20 02 53.4**	**+3.2**
SJES	**Sjenica**	**1.49**	**85**	*ePg*	**Pn**	**20 02 31.1**	**0.0**
SJES				*eSg*	**Sg**	**20 02 54.3**	**+3.1**
ULC	**Ulcinj**	**1.53**	**141**	*i*Pg	**Pn**	**20 02 30.6**	**-1.1**
ULC				*i* Sg	**Sg**	**20 02 54.2**	**+1.6**
DOB	**Doboj**	**1.58**	**4**	*ePn*	**Pn**	**20 02 32.1**	**-0.2**
DOB				*eSn*	**Sn**	**20 02 53.5**	**+0.3**
IVAS	**Ivanjica**	**1.66**	**75**	*ePg*	**Pb**	**20 02 34.3**	**-0.4**
IVAS				*eSg*	**Sg**	**20 02 59.9**	**+3.0**
A050A	**Klekovaca**	**1.67**	**323**	*ePn*	**Pn**	**20 02 34.2**	**+0.6**
A050A				*eSn*	**Sb**	**20 02 56.3**	**-0.1**
BLY	**Banja Luka**	**1.68**	**341**	*i*Pn	**Pn**	**20 02 34.0**	**+0.3**
BLY				*eSn*	**Sn**	**20 02 55.6**	**-0.1**
BLY	**Banja Luka**	**1.68**	**341**	P	**Pb**	**20 02 34.9**	**-0.1**
BLY				S	**Sb**	**20 02 56.8**	**+0.2**
BLY	**Banja Luka**	**1.68**	**341**	*ePg*	**Pb**	**20 02 34.8**	**-0.2**
BLY				*eSg*	**Sg**	**20 02 57.9**	**+0.4**
ZIRJ	**Zirje**	**1.75**	**287**	Pn	**Pb**	**20 02 35.5**	**-0.6**
ZIRJ				Sn	**Sg**	**20 02 59.7**	**+0.1**
DIVS	**Divibare**	**1.76**	**57**	*ePn*	**Pn**	**20 02 34.6**	**-0.2**
DIVS				*eSg*	**Sg**	**20 03 02.4**	**+2.5**
MORI	**Morici**	**1.77**	**294**	Pn	**Pb**	**20 02 36.6**	**0.0**
MORI				Sn	**Sg**	**20 03 01.2**	**+0.8**
TEKS	**Tekeris**	**1.80**	**39**	*ePn*	**Pn**	**20 02 34.8**	**-0.6**
TEKS				*eSg*	**Sg**	**20 03 02.4**	**+1.1**
A051A	**Mrakovica**	**2.00**	**338**	*i*Pn	**Pn**	**20 02 38.4**	**+0.3**
A051A				*eSn*	**Sn**	**20 03 03.8**	**+0.1**
TRUS	**Trudelj**	**2.08**	**58**	*ePn*	**Pn**	**20 02 38.5**	**-0.7**
UDBI	**Udbina**	**2.09**	**312**	Pn	**Pb**	**20 02 41.6**	**-0.4**
UDBI				Sn	**Sg**	**20 03 09.8**	**-0.7**
GRUS	**Gruza**	**2.14**	**69**	*ePn*	**Pn**	**20 02 39.9**	**-0.1**
GOCS	**Kraljevo Serbi**	**2.17**	**78**	*ePn*	**Pn**	**20 02 40.8**	**+0.2**
GOCS				*eSn*	**Sn**	**20 03 07.0**	**-1.0**
DUGI	**Dugi Otok**	**2.26**	**293**	Pn	**Pb**	**20 02 43.7**	**-1.1**
DUGI				Sn	**Sb**	**20 03 12.3**	**-0.8**
VIRC	**Vir**	**2.38**	**299**	Pn	**Pb**	**20 02 45.7**	**-1.2**
VIRC				Sn	**Sb**	**20 03 16.8**	**+0.2**
PLIT	**Plitvice**	**2.40**	**317**	Pn	**Pb**	**20 02 46.8**	**-0.5**
PLIT				Sn	**Sb**	**20 03 17.4**	**+0.2**
FRGS	**Fruska Gora**	**2.41**	**33**	*ePn*	**Pn**	**20 02 43.0**	**-0.7**
AVAS	**Avala Beograd**	**2.41**	**49**	*ePn*	**Pn**	**20 02 43.

ELND	**Elena**	**5.82**	**90**	⇓P	**Pn**	**20 03 32.7**	**+2.2**
KRUC	**Moravsky**	**6.00**	**350**	*e*PN	**Pn**	**20 03 33.2**	**+0.2**
KRUC				*e*SN	**Sn**	**20 04 41.1**	**-1.1**
WTTA	**Wattenberg**	**6.06**	**315**	*e*Pn	**Pn**	**20 03 36.1**	**+2.1**
	9.6nm,0.5s,SNR=15						
WTTA				*e*Sn	**Sn**	**20 04 45.7**	**+1.8**
	5.0nm,0.4s						
WATA	**Walderalm**	**6.14**	**315**	*e*Pn	**Pn**	**20 03 36.8**	**+1.8**
	5.3nm,0.4s,SNR=10.0						
WATA				*e*Sn	**Sn**	**20 04 47.4**	**+1.6**
	11nm,0.7s						
CKRC	**Cesky Krumlov**	**6.20**	**337**	*e*PN	**Pn**	**20 03 38.3**	**+2.5**
CKRC				*e*SN	**Sn**	**20 04 45.2**	**-2.0**
MAUC	**Maruska**	**6.21**	**359**	*e*PN	Pn	20 03 41.1	+5.2
MAUC				*e*SN	**Sn**	**20 04 48.4**	**+1.0**
VRAC	**Vranov**	**6.22**	**352**	*e*SN	**Sn**	**20 04 47.5**	**-0.2**
SQTA	**Sankt Quirin**	**6.26**	**313**	*i* Pn	**Pn**	**20 03 37.6**	**+1.0**
	1.2nm,0.2s						
MOTA	**Moosalm**	**6.39**	**313**	*e*Pn	**Pn**	**20 03 39.1**	**+0.6**
	6.9nm,0.5s						
MOTA				*e*Sn	**Sn**	**20 04 54.2**	**+2.2**
	14nm,0.7s						
FETA	**Feichten**	**6.40**	**310**	*e*Pn	**Pn**	**20 03 39.9**	**+1.2**
	1.1nm,0.4s						
FETA				*e*Sn	**Sn**	**20 04 53.1**	**+0.8**
	3.8nm,0.6s						
KOLS	**Kolonicke sedl**	**6.51**	**26**	*e*PG	**Pg**	**20 04 09.8**	**+1.7**
MORC	**Moravsky Berou**	**6.63**	**358**	*e*SN	**Sn**	**20 04 57.2**	**-0.5**
KHC	**Kasperske Hory**	**6.70**	**335**	*e*PN	**Pn**	**20 03 45.4**	**+2.8**
KHC				*e*SN	**Sn**	**20 04 58.4**	**-1.0**
ZVC	**Zvikov**	**6.80**	**339**	*e*PN	Pn	20 03 49.1	+5.1
ZVC				*e*SN	**Sn**	**20 04 59.2**	**-2.6**
DAVA	**Damuels**	**7.03**	**309**	*e*Pn	**Pn**	**20 03 49.6**	**+2.3**
	0.9nm,0.3s						
DAVA				*e*Sn	**Sn**	**20 05 07.8**	**0.0**
	4.9nm,0.5s						
CLL	**Collm**	**8.82**	**339**	*e*Pn	**Pn**	**20 04 08.0**	**-3.6**
CLL				*e*Pg	**Pg**	**20 04 52.0**	**-0.2**
CLL				*e*Sn	Sn	20 05 35.0	-16
CLL				*ex*	x	20 05 48.0	
CLL				*e*Sb	Sg	20 06 16.0	-30
CLL				*e*Sg	Sg	20 06 45.0	-1.3

NEIC ***11*** *20:02:58.7±1.8, 19°.84N±0°.01×155°.38W±0°.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=2.0km az=52.0*
HVO 11 20:02:58.7±1.3,**19°.86N**±0°.01×**155°.38W**±0°.01,**h19**km±1km, **ML3.2**/39,**ML3.3**/42(NEIC),**Error ellipse: s-maj=2.0km s-min=1.5km az=57.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POHA	**Pohakuloa**	**0.18**	**236**	Pg	Pg	20 03 03.2	-0.4
POHA				IAML		20 03 07.3	
	9µm,0.4s						
POHA	**Pohakuloa**	**0.18**	**236**	Sg	Sg	20 03 06.3	-0.6
HPAH	**Hawaii Prepara**	**0.35**	**300**		Pg	20 03 05.3	-0.9
HPAH				Sg	Sg	20 03 10.2	-1.1
MLH	**Mauna Loa**	**0.36**	**181**		Pg	20 03 05.8	-0.7
MLH				IAML		20 03 11.4	
	comp=E,2µm,0.4s						
MLH	**Mauna Loa**	**0.36**	**181**		Sg	20 03 10.8	-0.9
ALEP	**Alea Permanent**	**0.40**	**219**		Pg	20 03 06.6	-0.6
ALEP					Sg	20 03 12.3	-0.7
RSD	**Rainshed**	**0.40**	**167**		Pb	20 03 07.5	+0.1
MWH	**Mokuaweoweo**	**0.42**	**209**		Pg	20 03 06.9	-0.8
MWH				IAML		20 03 19.9	
	comp=E,3µm,0.5s						
MWH				IAML		20 03 21.1	
	comp=N,4µm,0.3s						
MWH	**Mokuaweoweo**	**0.42**	**209**		Sg	20 03 12.8	-1.0
SBLHI	**Steaming Bluff**	**0.44**	**166**		Pg	20 03 06.5	-1.3
SBLHI					Sg	20 03 12.6	-1.3
UWB	**Uwekahuna Bluf**	**0.44**	**168**		Pg	20 03 06.5	-1.3
UWB					Sg	20 03 12.6	-1.3
UWE	**Uwekahuna**	**0.44**	**170**		Pg	20 03 06.7	-1.1
UWE					Sg	20 03 12.7	-1.2
UWE	**Uwekahuna**	**0.44**	**170**	IAML		20 03 13.3	
	comp=E,4µm,0.5s						
UWE				IAML		20 03 14.6	
	comp=N,5µm,0.3s						
HATHI	**Halema'uma'u T**	**0.44**	**166**		Pg	20 03 06.6	-1.3
HATHI				IAML		20 03 17.4	
	comp=E,2µm,0.3s						
HATHI	**Halema'uma'u T**	**0.44**	**166**		Sg	20 03 12.6	-1.4
OBL	**Observatory Le**	**0.44**	**169**		Pg	20 03 06.6	-1.3
OBL					Sg	20 03 12.6	-1.4
WRMHI	**West Rim**	**0.45**	**171**		Pg	20 03 06.7	-1.3
WRMHI					Sg	20 03 12.7	-1.6
BYL	**Byron's Ledge**	**0.45**	**166**		Pg	20 03 06.7	-1.3
BYL	**Byron's Ledge**	**0.45**	**166**		Sg	20 03 12.8	-1.6
HUH	**Hualalai**	**0.46**	**249**		Pg	20 03 07.7	-0.6
HUH				IAML		20 03 18.8	
	comp=N,4µm,0.5s						
HUH				IAML		20 03 18.9	
	comp=E,4µm,0.5s						
HUH	**Hualalai**	**0.46**	**249**		Sg	20 03 13.6	-1.2
KKO	**Keanakako'i**	**0.47**	**167**		Pg	20 03 07.0	-1.3
KKO					Sg	20 03 13.4	-1.3
RIM	**Rim**	**0.47**	**168**		Pg	20 03 07.0	-1.3
RIM					Sg	20 03 13.7	-1.1
SDHHI	**Sand Hill**	**0.47**	**170**		Pg	20 03 06.9	-1.4
SDHHI					Sg	20 03 13.3	-1.6
AIN	**Ainahou**	**0.49**	**189**		Pg	20 03 07.6	-1.1
AIN				IAML		20 03 14.6	
	comp=E,2µm,0.4s						
AIN	**Ainahou**	**0.49**	**189**		Sg	20 03 13.9	-1.4
PUH	**Pauahi**	**0.50**	**162**		Pg	20 03 07.5	-1.4
PUH	**Pauahi**	**0.50**	**162**		Sg	20 03 13.7	-2.0
KNHH	**Kane Nui o Ham**	**0.51**	**158**		Pg	20 03 07.6	-1.5
NPOC	**North of Pu'u**	**0.52**	**151**		Pg	20 03 07.7	-1.6
NPOC					Sg	20 03 14.4	-2.0
STCH	**Steam Cracks**	**0.52**	**153**		Pg	20 03 07.7	-1.7
STCH					Sg	20 03 14.1	-2.4
STCH	**Steam Cracks**	**0.52**	**153**	IAML		20 03 14.6	
	comp=E,6µm,0.2s						
STCH				IAML		20 03 14.7	
	comp=N,4µm,0.3s						
JCUZ	**Jacuzzi**	**0.54**	**151**		Pb	20 03 07.8	-1.7
JCUZ					Sg	20 03 14.7	-2.1
JOKA	**Jonika Flow**	**0.55**	**140**		Pb	20 03 08.0	-1.7
JOKA				IAML		20 03 25.3	
	comp=N,1µm,0.8s						
JOKA	**Jonika Flow**	**0.55**	**140**		Sg	20 03 14.9	-2.2
HLP	**Hilina Pali**	**0.56**	**173**		Pb	20 03 08.2	-1.7
HLP					Sb	20 03 15.2	-2.3
MHA	**Mahukona**	**0.59**	**304**		Pb	20 03 08.8	-1.7
MHA					Sb	20 03 16.4	-2.1
HTC	**Hot Caves**	**0.61**	**182**		Pb	20 03 09.1	-1.7
CPH	**Captain Cook**	**0.63**	**234**		Pb	20 03 10.1	-0.9
KHU	**Kahuku**	**0.65**	**200**		Pb	20 03 09.5	-2.0
KHU					Sb	20 03 17.4	-2.8
HPO	**Honuapo**	**0.78**	**192**		Pb	20 03 11.3	-2.4
HPO					Sb	20 03 20.4	-3.5
HLK	**Haleakala**	**1.22**	**318**		Pn	20 03 17.2	-3.7
HLK					Sb	20 03 31.0	-5.7
KHLH	**Kahului Airpor**	**1.43**	**317**		Pn	20 03 20.8	-2.8
KHLH					Sn	20 03 38.1	-3.9
WMR	**Waimanalo Ridg**	**2.61**	**304**		Pn	20 03 36.6	-3.3
WMR					Sn	20 04 06.0	-5.0
DHH	**Diamond Head**	**2.67**	**302**		Pn	20 03 37.4	-3.3
DHH					Sn	20 04 07.6	-5.0
HON	**Honolulu**	**2.86**	**301**		Pn	20 03 40.1	-3.2
HON					Sn	20 04 11.7	-5.6
KIP	**Kipapa**	**2.92**	**303**		Pn	20 03 40.3	-3.9
KIP					Sn	20 04 13.1	-5.7
KIP	**Kipapa**	**2.92**	**303**	IAML		20 04 14.7	
	comp=N,85nm,0.7s						
KIP				IAML		20 04 15.3	
	comp=N,90nm,0.6s						
OPA	**Opana**	**3.06**	**307**		Pn	20 03 43.0	-3.1
OPA					Sn	20 04 16.4	-6.0

NNC ***11*** *20:09:46.7±3.5, 53°.56N×92°.15E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=33.7km s-min=22.6km az=24.0*
ASRS ***11*** *20:09:46.2±0.2, 52°.N±2°×9°.2E±°, h10km, MLh4.3/13, Error ellipse: s-maj=3.2km s-min=2.6km az=7.6, confirmed*
MOS ***11*** *20:09:48.1±1.4, 52°.39N×92°.42E, h11km, mb4.0/1, Error ellipse: s-maj=14.1km s-min=9.6km az=20.7*
ISC 11 20:09:49.4±0.7,**52°.47N**±0°.03×**92°.25E**±0°.02,**h10**km,**n42,**
σ1º98/62,**8C-6D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**0.64**	**308**	⇑Pg	**Pg**	**20 10 00.7**	**-1.0**
CERR				Sg	**Sg**	**20 10 08.7**	**-1.3**
CERR	**Cheremushki**	**0.64**	**308**	PG	**Pg**	**20 10 00.7**	**-1.0**
CERR						20 10 08.7	
DJO	**Djoy, Khakassi**	**0.70**	**297**	⇑Pg	**Pg**	**20 10 02.0**	**-1.0**
DJO				Sg	**Sg**	**20 10 10.6**	**-1.5**
DJO	**Djoy, Khakassi**	**0.70**	**297**	PG	**Pg**	**20 10 01.9**	**-1.0**
DJO						20 10 10.2	
ARDR	**Aradan**	**0.73**	**81**	⇑Pg	**Pg**	**20 10 01.7**	**-1.9**
ARDR				Sg	**Sg**	**20 10 10.6**	**-2.5**
ARDR	**Aradan**	**0.73**	**81**	PG	**Pg**	**20 10 01.6**	**-1.9**
ARDR						20 10 10.8	
VEH	**Verkhnyaya Baz**	**1.41**	**305**	⇑Pg	**Pb**	**20 10 14.8**	**-1.0**
VEH				Sg	**Sb**	**20 10 32.9**	**-0.9**
VEH	**Verkhnyaya Baz**	**1.41**	**305**	PG	**Pb**	**20 10 14.8**	**-1.0**
VEH						20 10 32.6	
KZLR	**Kyzyl**	**1.56**	**119**	Pg	**Pb**	**20 10 17.9**	**-0.5**
KZLR				Sg	**Sb**	**20 10 37.4**	**-0.8**
KZLR	**Kyzyl**	**1.56**	**119**	PN	**Pg**	**20 10 19.1**	**-0.3**
KZLR						20 10 37.3	
TEL	**Teeli**	**1.93**	**222**	Pg	**Pn**	**20 10 22.9**	**+0.5**
TEL				Sg	**Sb**	**20 10 48.5**	**-0.4**
TEL	**Teeli**	**1.93**	**222**	PN	**Pn**	**20 10 22.8**	**+0.5**
LUZB	**Luzhba, Kemero**	**2.34**	**302**	Pg	**Pb**	**20 10 29.7**	**-2.0**
LUZB				Sg	**Sb**	**20 11 00.6**	**-0.1**
LUZB	**Luzhba, Kemero**	**2.34**	**302**	PN	**Pb**	**20 10 30.5**	**-1.2**
LUZB						20 11 02.0	
SHRR	**Shira**	**2.38**	**329**	*i* PG	Pg	20 10 51.2	+16
TASR	**Tashtagol**	**2.68**	**278**	Pg	**Pb**	**20 10 36.5**	**-1.0**
TASR				Sg	**Sb**	**20 11 11.6**	**+1.3**
MINR	**Mina**	**2.70**	**25**	Pg	**Pn**	**20 10 33.9**	**+1.1**
MINR				Sg	**Sb**	**20 11 08.7**	**-2.2**
KIYZ	**Kiyzas, Kuzbas**	**2.92**	**294**	⇑Pg	**Pb**	**20 10 40.8**	**-0.8**
KIYZ				Sg	**Sb**	**20 11 18.1**	**+0.9**
KALT3	**Kaltan 3**	**3.09**	**292**	Pg	**Pb**	**20 10 43.9**	**-0.5**
KALT3				Sg	**Sb**	**20 11 23.7**	**+1.6**
KALT2	**Kaltan 2**	**3.12**	**289**	Pg	**Pb**	**20 10 44.2**	**-0.8**
KALT2				Sg	**Sb**	**20 11 24.5**	**+1.4**
ARTR	**Artybash**	**3.13**	**260**	Pg	**Pb**	**20 10 44.1**	**-1.1**
ARTR				Sg	**Sg**	**20 11 26.6**	**-3.4**
ULGR	**Ulagan, Altay**	**3.25**	**237**	Pg	**Pg**	**20 10 49.8**	**-1.9**
ULGR				Sg	**Sg**	**20 11 31.9**	**-1.9**
CUR	**Chagan-Uzun**	**3.41**	**227**	Pg	**Pb**	**20 10 51.1**	**+1.2**
CUR				Sg	**Sg**	**20 11 35.8**	**-3.0**
KRAR	**Krasnoyarsk**	**3.57**	**6**	*i* PN	**Pb**	**20 10 50.4**	**-2.1**
KRAR				*i* S	**Sb**	**20 11 37.8**	**+1.9**
AKAR	**Aktash**	**3.61**	**235**	Pg	**Pg**	**20 10 56.3**	**-2.2**
AKAR				Sg	**Sg**	**20 11 43.7**	**-1.6**
CHBI	**Chibit, Altay**	**3.67**	**236**	Pg	**Pb**	**20 10 54.3**	**-0.1**
CHBI				Sg	**Sg**	**20 11 44.3**	**-3.0**
ELT	**Eltsovka**	**3.73**	**285**	Pg	**Pb**	**20 10 54.5**	**-0.7**
ELT				Sg	**Sb**	**20 11 42.4**	**+1.9**
BRCR	**Berchikul'**	**3.93**	**325**	Pg	**Pb**	**20 10 56.3**	**-2.4**
BRCR				Sg	**Sb**	**20 11 49.0**	**+2.8**
SALR	**Pechorkino, Sa**	**4.37**	**299**	Pg	**Pb**	**20 11 06.0**	**-0.2**
SALR				Sg	**Sb**	**20 12 02.4**	**+3.5**
ORL	**Orlik**	**4.62**	**86**	*e*PN	**Pb**	**20 11 11.0**	**+0.4**
ORL				*e*SG	**Sb**	**20 12 08.6**	**+2.3**
ZAA0	**Zalesovo Array**	**4.70**	**291**	⇓Pg	Pn	20 11 04.9	+4.5
	3.2nm,0.7s						
ZAA0				⇓Lg	Lg	20 12 06.2	
	18nm,0.8s						
MOY	**Mondy**	**5.46**	**95**	*e*PN	**Pb**	**20 11 26.9**	**+2.1**
MOY				*e*SG	**Sb**	**20 12 34.8**	**+4.5**
ARS	**Arshan**	**6.28**	**91**	*e*PN	**Pb**	**20 11 40.3**	**+1.4**
TLY	**Talaya**	**7.07**	**92**	*e*PN	**Pb**	**20 11 54.2**	**+2.0**
ZAK	**Zakamensk**	**7.21**	**102**	*e*PN	**Pn**	**20 11 32.0**	**-2.9**
MK31	**Makanchi Array**	**8.60**	**233**	⇓Pn	Pn	20 12 02.4	+8.5
	2.4nm,0.6s,baz=49,slow=13,SNR=15						
MK31				Lg	Lg	20 14 37.5	
	16nm,0.8s,baz=42,slow=31,SNR=4.3						
MK31	**Makanchi Array**	**8.60**	**233**	P	Pn	20 12 02.4	+8.5
KURK	**Kurchatov**	**8.67**	**264**	⇑Pn	**Pn**	**20 11 57.0**	**+2.3**
	3.0nm,0.6s						
KURK				⇑Sn	**Sn**	**20 13 38.5**	**+6.0**
	18nm,0.7s						
KURK				⇓Lg	Lg	20 14 24.5	
	19nm,0.7s						
KURK	**Kurchatov**	**8.67**	**264**	*e*P	**Pn**	**20 11 57.0**	**+2.3**
MAKZ	**Makanchi**	**8.74**	**234**	Pn	Pn	20 12 01.6	+5.8
	2.4nm,0.6s						
MAKZ				Lg	Lg	20 14 43.5	
	44nm,1.4s						
KURBB	**Kurchatov Arra**	**8.75**	**263**	⇓Pn	**Pn**	**20 11 56.0**	**+0.1**
	5.7nm,0.6s						
KURBB				⇓Sn	**Sn**	**20 13 37.2**	**+2.7**
	26nm,0.8s						
KURBB				⇑Lg	Lg	20 14 27.1	
	80nm,0.8s						
KURBB	**Kurchatov Arra**	**8.75**	**263**	P	**Pn**	**20 11 56.0**	**+0.1**

IDC 11 20:13:04.7±10.0,**22°.06S×69°.29E,h0**km,**mb3.8/6, mbtmp3.8/6,MS3.4/17,Error ellipse: s-maj=358.3km s-min=29.7km az=53.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.65**	**13**	T	T	20 31 34.9	
	baz=192,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**14.66**	**13**	T	T	20 31 41.0	
	baz=192,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**14.67**	**13**	T	T	20 31 38.8	
	baz=192,slow=76,SNR=91						
H04N2	**CROZET ISLANDS**	**27.94**	**206**	T	T	20 48 05.1	
	baz=37,slow=75,SNR=118						
H04N1	**CROZET ISLANDS**	**27.95**	**206**	T	T	20 48 08.2	
	baz=37,slow=75,SNR=97						
H04N3	**CROZET ISLANDS**	**27.96**	**206**	T	T	20 48 18.0	
	baz=37,slow=75,SNR=85						
PALK	**Pallekele**	**31.22**	**22**	LR	LR	20 29 01.0	
	comp=Z,63nm,21.9s,baz=200,slow=31						
KMBO	**Kilima Mbogo**	**37.48**	**299**	LR	LR	20 33 32.5	
	comp=Z,48nm,18.6s,baz=100,slow=33						
MATP	**Matopo**	**37.98**	**265**	LR	LR	20 32 42.8	
	comp=Z,43nm,18.9s,baz=95,slow=31						
PSI	**Prapat**	**38.07**	**53**	LR	LR	20 32 39.1	
	comp=Z,47nm,18.6s,baz=212,slow=31						
LSZ	**Lusaka**	**39.43**	**273**	LR	LR	20 33 46.2	
	comp=Z,77nm,20.2s,baz=142,slow=32						
LEM	**Lembang**	**39.94**	**74**	LR	LR	20 33 59.7	
	comp=Z,41nm,21.8s,baz=347,slow=31						
BOSA	**Boshof**	**40.16**	**251**	LR	LR	20 33 44.5	
	comp=Z,92nm,20.6s,baz=35,slow=31						
NWAO	**Narrogin (SRO)**	**43.56**	**115**	LR	LR	20 34 53.4	
	comp=Z,65nm,20.4s,baz=92,slow=30						
TSUM	**Tsumeb**	**48.29**	**263**	LR	LR	20 39 25.6	
	comp=Z,72nm,20.8s,baz=106,slow=33						
BRDH	**Bariadhala**	**49.51**	**28**	LR	LR	20 43 38.7	
	comp=Z,52nm,18.4s,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**49.63**	**38**	LR	LR	20 39 51.4	
	comp=Z,20nm,22.0s,baz=205,slow=32						
KAPI	**Kappang**	**51.63**	**79**	LR	LR	20 43 07.1	
	comp=Z,14nm,18.3s,baz=324,slow=35						
ASAR	**Alice Springs**	**59.09**	**105**	P	P	20 23 08.2	+0.9
	0.8nm,0.7s,baz=257,slow=7.3,SNR=12						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**60.35**	**101**	P	P	20 23 14.6	-1.4
	0.4nm,0.7s,baz=253,slow=6.6,SNR=2.5						
	0.4nm,0.7s						
EIL	**Elat**	**61.13**	**326**	LR	LR	20 46 43.3	
	comp=Z,13nm,18.4s,baz=186,slow=33						
DAV	**Davao City (W)**	**62.27**	**69**	LR	LR	20 47 32.3	
	comp=Z,16nm,21.8s,baz=301,slow=33						
GNI	**Garni**	**65.98**	**340**	LR	LR	20 50 56.2	
	comp=Z,43nm,19.9s,baz=108,slow=34						
MKAR	**Makanchi Array**	**69.53**	**9**	P	P	20 24 15.6	+0.5
	1.4nm,0.8s,baz=186,slow=6.1,SNR=9.1						
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**72.82**	**6**	P	P	20 24 34.7	-0.2
	0.8nm,0.8s,baz=200,slow=6.4,SNR=5.7						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**76.87**	**9**	P	P	20 24 58.4	+0.1
	2.3nm,0.8s,baz=212,slow=5.3,SNR=9.2						
	2.3nm,0.8s						
SONM	**Songino Array**	**77.14**	**25**	P	P	20 24 59.6	-0.5
	0.5nm,0.8s,baz=224,slow=6.0,SNR=4.3						
	0.5nm,0.8s						
JNU	**Nakatsue**	**80.37**	**48**	LR	LR	20 58 38.6	
	comp=Z,24nm,20.7s,baz=256,slow=34						
MDT	**Midelt**	**89.12**	**306**	LR	LR	21 07 31.9	
	comp=Z,21nm,18.1s,baz=56,slow=37						

SJA ***11*** *20:13:36.0±0.9, 23°.00S×69°.00W, h101km±5km, ML3.3, MW3.5*
GUC ***11*** *20:13:37.8±0.5, 23°.04S×69°.08W, h96km±3km, ML3.2*
ISC 11 20:13:37.9±1.5,**23°.02S**±0°.03×**69°.05W**±0°.04,**h92**km±12km, **n26,σ0º68**/42,**3C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.58**	**303**	⇑*i* P	**Pn**	**20 13 53.5**	**-0.3**
PB06				*i* S	**Sn**	**20 14 05.5**	**-0.1**
PB06	**IPOC Station P**	**0.58**	**303**	*i* P	Pn	20 13 53.5	-0.3
AF01	**San Pedro de A**	**0.80**	**85**	*e*P	**Pn**	**20 13 56.0**	**0.0**
AF01				*e*S	**Sn**	**20 14 10.0**	**+0.5**
AF01				IAML		20 14 11.3	
	comp=N,2µm,0.2s						
AF01	**San Pedro de A**	**0.80**	**85**	*i* P	**Pn**	**20 13 55.5**	**-0.5**
AF01				*e*S	**Sn**	**20 14 09.1**	**-0.3**
AF01				IAML		20 14 12.8	
	comp=Z,891nm,0.1s						
PB05	**IPOC Station P**	**1.08**	**279**	⇑*i* P	**Pn**	**20 13 58.3**	**-0.5**
PB05				*i* S	**Sn**	**20 14 14.2**	**-0.4**
PB05				IAML		20 14 14.8	
	comp=E,330nm,0.4s						
PB05	**IPOC Station P**	**1.08**	**279**	*i* P	**Pn**	**20 13 58.3**	**-0.5**
PB05				*e*S	**Sn**	**20 14 15.8**	**+1.3**
PB05				IAML		20 14 22.9	
	comp=Z,219nm,0.3s						
PB03	**IPOC Station P**	**1.17**	**326**	⇑*i* P	**Pn**	**20 13 60.0**	**0.0**
PB03				*i* S	**Sn**	**20 14 16.7**	**+0.2**
PB03				IAML		20 14 18.1	
	comp=N,1µm,0.2s						
PB03	**IPOC Station P**	**1.17**	**326**	*i* P	**Pn**	**20 13 59.9**	**0.0**
PB03				*e*S	**Sn**	**20 14 17.4**	**+1.0**
PB03				IAML		20 14 19.8	
	comp=Z,821nm,0.2s						
PB09	**IPOC Station P**	**1.23**	**351**	*e*P	**Pn**	**20 14 01.8**	**+1.0**
PB09				*e*S	**Sn**	**20 14 18.7**	**+0.9**
PB09				IAML		20 14 20.0	
	comp=E,325nm,0.5s						
PB09	**IPOC Station P**	**1.23**	**351**	*i* P	**Pn**	**20 14 00.1**	**-0.7**
PB09				*e*S	**Sn**	**20 14 17.8**	**0.0**
PB09				IAML		20 14 19.8	
	comp=Z,245nm,0.6s						
PB10	**IPOC Station P**	**1.47**	**250**	*e*P	**Pn**	**20 14 03.2**	**-0.3**
PB10				*e*S	**Sn**	**20 14 21.8**	**-1.0**
PB10	**IPOC Station P**	**1.47**	**250**	*i* P	**Pn**	**20 14 03.2**	**0.0**
PB10				*e*S	**Sn**	**20 14 23.8**	**+1.0**
PB02	**IPOC Station P**	**1.87**	**335**	*e*P	**Pn**	**20 14 08.7**	**+0.1**
PB02				*i* S	**Sn**	**20 14 32.2**	**+0.3**
PB02	**IPOC Station P**	**1.87**	**335**	*i* P	**Pn**	**20 14 08.5**	**-0.2**
PB02				*e*S	**Sn**	**20 14 32.1**	**+0.1**
PB02				IAML		20 14 38.7	
	comp=Z,651nm,0.2s						
PB01	**IPOC Station P**	**2.01**	**348**	*e*P	**Pn**	**20 14 10.9**	**+0.4**
PB01				*i* S	**Sn**	**20 14 33.7**	**-1.6**
PB01				IAML		20 14 45.0	
	comp=E,325nm,0.2s						
PB01	**IPOC Station P**	**2.01**	**348**	*i* P	**Pn**	**20 14 10.5**	**0.0**
PB01				IAML		20 14 40.7	
	comp=Z,163nm,0.1s						
PB14	**IPOC Station P**	**2.02**	**218**	*e*P	**Pn**	**20 14 10.2**	**-0.7**
PB14				IAML		20 14 43.2	
	comp=E,96nm,0.1s						
PB14	**IPOC Station P**	**2.02**	**218**	*i* P	**Pn**	**20 14 10.0**	**-0.9**
PB14				*e*S	**Sn**	**20 14 36.7**	**+0.8**
PB14				IAML		20 14 39.7	
	comp=Z,115nm,0.4s						
GO02	**Mina Guanaco**	**2.19**	**193**	*e*P	**Pn**	**20 14 12.5**	**-0.5**
GO02				IAML		20 14 45.2	
	comp=N,214nm,0.1s						
GO02	**Mina Guanaco**	**2.19**	**193**	*i* P	**Pn**	**20 14 12.7**	**-0.4**
GO02				*e*S	**Sn**	**20 14 41.0**	**+1.2**
PATCX	**Punta Patache**	**2.42**	**335**	*e*P	**Pn**	**20 14 16.6**	**+0.8**
PATCX	**Punta Patache**	**2.42**	**335**	*i* P	**Pn**	**20 14 15.7**	**-0.2**
PATCX				IAML		20 15 13.2	
	comp=Z,64nm,0.3s						
TA01	**Diego Aracena**	**2.66**	**336**	*e*P	**Pn**	**20 14 19.6**	**+0.6**
TA01				IAML		20 14 58.8	
	comp=N,88nm,0.4s						
TA01	**Diego Aracena**	**2.66**	**336**	*i* P	**Pn**	**20 14 18.5**	**-0.5**
TA01				IAML		20 15 01.8	
	comp=Z,66nm,0.7s						
HMBC	**Humberstone**	**2.84**	**344**	*i* P	**Pn**	**20 14 20.4**	**-1.1**
HMBC				IAML		20 15 15.1	
	comp=Z,112nm,1.4s						
AC02	**Maricunga**	**3.80**	**181**	*i* P	**Pn**	**20 14 34.8**	**+0.1**

IDC ***11*** *20:41:20.1±5.8, 27°.40N×53°.15E, h0km, mb3.6/6, mbtmp3.6/6, MS2.8/3, Error ellipse: s-maj=120.8km s-min=33.0km az=175.0*
TEH ***11*** *20:41:22.

ALNE	Al Ain	4.34	146	*i* P		Pn	20 42 30.8	+1.4			
	SNR=5.7										
IBAF	Bafgh	4.44	28	Pn		Pn	20 42 32.0	+1.2			
CHMN	Cheshme madani	4.45	60	Pn		Pn	20 42 32.8	+1.6			
MZR	Muzera	4.68	176	P		Pn	20 42 35.1	+1.0			
SOHO	SOHO	4.70	138	P		Pn	20 42 34.6	+0.3			
SOHO				S		Sn	20 43 29.2	+0.3			
SOHO	SOHO	4.70	138	*i* P		Pn	20 42 34.6	+0.3			
	SNR=11										
KBAM	BAM	4.92	72	Pn		Pn	20 42 38.9	+1.4			
ARQ	Araqi	5.32	144	P		Pn	20 42 44.0	+1.1			
	SNR=13										
ARQ				S		Sn	20 43 43.7	-0.7			
ANAR	Anarak	5.50	5	Pn		Pn	20 42 46.9	+1.4			
HOQ	Hoqain	5.58	136	P		Pn	20 42 47.5	+1.1			
	SNR=12										
HOQ				S		Sn	20 43 49.1	-1.6			
BIDO	Bidbid	6.15	131	P		Pn	20 42 55.6	+1.4			
BIDO				S		Sn	20 44 04.4	-0.3			
KRSH	Karshahi	6.31	353	Pn		Pn	20 42 57.7	+1.1			
SMDO	Samad	6.42	135	P		Pn	20 42 58.3	+0.2			
	SNR=6.2										
JMDO	Jabal Madar	6.97	138	P		Pn	20 43 05.7	+0.1			
JLN	Jalan Bani Buh	7.95	133	P		Pn	20 43 18.6	-0.4			
MHTO	MHTO	8.01	145	P		Pn	20 43 20.6	+0.8			
	SNR=9.5										
RAYN	Ar Rayn	8.02	240	P		Pn	20 43 20.5	+0.5			
DQM	DQM	8.73	151	P		Pn	20 43 29.6	0.0			
DOK	Doka	9.08	174	P		Pn	20 43 34.0	-0.5			
	SNR=8.3										
WHFO	Wadi Hawf	9.75	176	P		Pn	20 43 42.3	-1.4			
	SNR=5.4										
DMTO	DMTO	10.07	170	P		Pn	20 43 46.4	-1.7			
RBK	Rabkut	10.19	174	P		Pn	20 43 49.3	-0.4			
ABTO	Aybut	10.29	179	P		Pn	20 43 50.5	-0.6			
	SNR=6.4										
KBZ	Khabaz	18.00	335	LR		LR	20 53 31.2				
	comp=Z,39nm,18.7s,baz=104,slow=40										
BRTR	Keskin Array B	20.11	312	P		Pn	20 45 58.5	-0.7			
	0.6nm,0.7s,baz=123,slow=11,SNR=5.7										
	0.6nm,0.7s										
MLR	Muntele Rosu	27.93	317	LR		LR	21 00 40.4				
	comp=Z,18nm,20.0s,baz=106,slow=41										
ARTI	Arti	28.92	6	LR		LR	21 00 57.4				
	comp=Z,17nm,19.4s,baz=195,slow=40										
MKAR	Makanchi Array	29.80	42	P		P	20 47 29.9	-0.4			
	0.4nm,0.8s,baz=228,slow=10,SNR=1.8										
	0.4nm,0.8s										
ZALV	Zalesovo Beam	35.04	33	P		P	20 48 17.0	+1.0			
	0.3nm,0.3s,baz=230,slow=8.0,SNR=1.8										
	0.3nm,0.3s										
FINES	FINESS Array B	38.28	339	P		P	20 48 44.0	+0.5			
	0.8nm,0.4s,baz=141,slow=7.3,SNR=8.1										
	0.8nm,0.4s										
ARCES	ARCESS Array B	44.84	347	P		P	20 49 37.6	+0.4			
	2.4nm,0.9s,baz=154,slow=11,SNR=1.8										
	2.4nm,0.9s										
ESDC	Sonseca Array	48.24	300	P		P	20 50 04.1	-0.4			
	0.6nm,0.9s,baz=77,slow=6.5,SNR=3.7										
	0.6nm,0.9s										

IDC ***11*** *20:44:32.1±1.1, 41°.22S×172°.98E, h105km±10km, mb4.0/7, mbtmp4.4/9, MS3.4/3, Error ellipse: s-maj=18.2km s-min=8.7km az=126.0*

NEIC ***11*** *20:44:35.0±1.2, 41°.24S±0°.05×172°.85E±0°.07, h120km±4km, mb4.7/13, Error ellipse: s-maj=8.0km s-min=7.6km az=181.0*

WEL ***11*** *20:44:36.2, 41°.21S×172°.78E, h116km, ML5.2, Mw4.4, Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁵ Nm; Mrr3.11; Mθθ-1.85; Mϕϕ-1.26; Mrθ-0.83; Mθϕ 3.23; Mϕr2.39; Fault plane solution: Mo4.81000×10¹⁵ NP1: ϕs334.00000°, δ64.00000°, λ116.00000°. NP2: ϕs106.00000°, δ36.00000°, λ48.00000°. Principal axes: T -5.3902, Plg62.0000°, Azm285.0000°; N 1.1597, Plg23.0000°, Azm141.0000°; P 4.2305, Plg15.0000°, Azm45.0000°; Stations used: NNZ KHZ LTZ INZ WVZ VRZ REVERSE FAULTING*

WEL ***11*** *20:44:36.2±0.9, 41°.5S±5°×17°.3E±°, h102km±6km, M5.2/108, MLv5.2/108 Error ellipse: s-maj=8.5km s-min=6.8km az=104.7, confirmed*

ISC 11 20:44:35.0±0.6, 41°.27S±0°.03×172°.88E±0°.04, h127km±4km, n226, σ1§23/240, mb4.7/16, 4C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MRNZ	Matariki Terra	0.16	216		Pn	20 44 51.7			-0.6
MRNZ				Sn	Sn	20 45 04.2			-1.3
MRNZ	Matariki Terra	0.16	216	P	Pn	20 44 51.8			-0.6
MRNZ				S	Sn	20 45 03.8			-1.6
MOTS	Motueka DOC wo	0.17	34	P	Pn	20 44 51.9			-0.5
MATW	Matariki Wadsw	0.21	220	P	Pn	20 44 51.9			-0.5
MATW				S	Sn	20 45 04.0			-1.7
TKNZ	Takaka Hill	0.24	14		Pn	20 44 51.8			-0.8
TKNZ	Takaka Hill	0.24	14	P	Pn	20 44 51.8			-0.8
TKNZ				S	Sn	20 45 04.0			-1.8
NNZ	Nelson	0.38	82		Pn	20 44 52.8			-0.3
NNZ	Nelson	0.38	82	P	Pn	20 44 52.7			-0.3
NNZ				S	Sn	20 45 05.9			-0.8
THZ	Tophouse	0.49	178		Pn	20 44 53.8			+0.1
THZ	Tophouse	0.49	178	P	Pn	20 44 53.6			-0.1
THZ				S	Sn	20 45 07.2			-0.7
QRZ	Quartz Range	0.52	329		Pn	20 44 53.0			-0.9
QRZ	Quartz Range	0.52	329	P	Pn	20 44 52.9			-0.9
QRZ				S	Sn	20 45 05.3			-2.6
KASC	Karamea School	0.58	272	P	Pn	20 44 53.7			-0.4
HAVS	Havelock	0.68	90	P	Pn	20 44 55.2			+0.4
KHLK	Kaihoka Lakes	0.74	344	P	Pn	20 44 54.6			-0.7
BWRS	Waikakaho Road	0.79	103	P	Pn	20 44 56.0			+0.3
TUWZ	Tuamarina	0.81	102	P	Pn	20 44 56.7			+0.8
BSWZ	Blackbirch Sta	0.87	121		Pn	20 44 56.6			+0.2
BSWZ	Blackbirch Sta	0.87	121	P	Pn	20 44 56.6			+0.2
INGS	Inangahua Fire	0.91	230	P	Pn	20 44 56.0			-0.7
DUWZ	D'Urville Isla	0.92	60	P	Pn	20 44 57.2			+0.3
DSZ	Denniston Nort	0.94	239		Pn	20 44 56.1			-0.9
DSZ	Denniston Nort	0.94	239	P	Pn	20 44 56.2			-0.9
DSZ				S	Sn	20 45 11.4			-2.4
TCW	Tory Channel	1.05	87		Pn	20 44 58.2			+0.1
TCW	Tory Channel	1.05	87	P	Pn	20 44 58.4			+0.3
KEKS	Kekerengu Vall	1.07	130	P	Pn	20 44 58.4			+0.2
CMWZ	Cape Campbell	1.11	116		Pn	20 44 58.8			+0.2
CMWZ	Cape Campbell	1.11	116	P	Pn	20 44 58.9			+0.2
SJFS	Springs Juncti	1.19	206	P	Pn	20 44 59.0			-0.4
KHZ	Kahutara	1.25	157		Pn	20 45 00.5			+0.5
KHZ	Kahutara	1.25	157	P	Pn	20 45 00.4			+0.3
KIKS	Kaikoura	1.30	153	P	Pn	20 45 01.0			+0.5
WTMC	Te Mara Farm W	1.35	175	P	Pn	20 45 01.9			+0.7
SNZO	South Karori	1.38	92		Pn	20 45 01.1			-0.3
WEL	Wellington	1.42	91	P	Pn	20 45 01.8			-0.1
BHW	Baring Head	1.50	96		Pn	20 45 02.2			-0.6
BHW	Baring Head	1.50	96	P	Pn	20 45 02.4			-0.5
LTZ	Lake Taylor	1.58	197		Pn	20 45 03.8			0.0
LTZ	Lake Taylor	1.58	197	P	Pn	20 45 03.8			0.0
KIW	Kapiti Island	1.59	76	P	Pn	20 45 03.7			-0.2
CAW	Cannon Point	1.66	85	P	Pn	20 45 04.2			-0.4
GVZ	Greta Valley S	1.70	176		Pn	20 45 05.4			+0.3
GVZ	Greta Valley S	1.70	176	P	Pn	20 45 05.3			+0.2
MSWZ	Moikau Station	1.79	95		Pn	20 45 05.4			-0.7
MSWZ	Moikau Station	1.79	95	P	Pn	20 45 05.5			-0.7
OGWZ	Otaki Gorge	1.79	76	P	Pn	20 45 05.9			-0.4
INZ	Inchbonnie	1.81	216		Pn	20 45 06.1			-0.3
INZ	Inchbonnie	1.81	216	P	Pn	20 45 06.1			-0.3
PLWZ	Palliser	1.81	100		Pn	20 45 05.6			-0.9
PLWZ	Palliser	1.81	100	P	Pn	20 45 05.7			-0.9
AMCZ	Amberley	1.91	185		Pn	20 45 07.6			-0.1
AMCZ	Amberley	1.91	185	P	Pn	20 45 07.6			-0.1
PAWZ	Paruwai Farm	1.92	94	P	Pn	20 45 07.0			-0.8
MTW	Mount Morrison	1.98	88	P	Pn	20 45 07.7			-0.8
NMEZ	Namu Road	2.01	23	P	Pn	20 45 09.3			+0.5
HOWZ	Holdsworth Sta	2.03	80	P	Pn	20 45 08.3			-0.8
TRWZ	Traveller	2.12	94	P	Pn	20 45 09.6			-0.6
MRZ	Mangatainoka R	2.13	74		Pn	20 45 09.6			-0.8
MRZ	Mangatainoka R	2.13	74	P	Pn	20 45 09.3			-1.1
OHWZ	Ohakea	2.13	61	P	Pn	20 45 10.4			0.0
NBEZ	Newall Road No	2.14	21	P	Pn	20 45 10.8			+0.3
OXZ	Oxford	2.15	197		Pn	20 45 09.5			-1.1
OXZ	Oxford	2.15	197	P	Pn	20 45 09.6			-1.0
LREZ	Lake Rotokare	2.15	33	P	Pn	20 45 11.5			+0.9
KHEZ	Kahui Hut	2.16	24	P	Pn	20 45 10.9			+0.1
PREZ	Palmer Road	2.16	27	P	Pn	20 45 11.1			+0.3
NEZ	North Egmont	2.20	25	P	Pn	20 45 11.4			0.0
WAZ	Wanganui	2.21	47	P	Pn	20 45 12.0			+0.7
PKE	Pukeiti	2.24	23	P	Pn	20 45 12.1			+0.2
TMWZ	Te Maipa	2.28	87	P	Pn	20 45 11.7			-0.6
DREZ	Durham Road	2.31	26	P	Pn	20 45 12.7			0.0
TIWZ	Tintock	2.33	79	P	Pn	20 45 11.9			-1.0
POWZ	Post Office Ro	2.36	69	P	Pn	20 45 12.1			-1.2
WVZ	Waitaha Valley	2.41	221	P	Pn	20 45 13.0			-0.8
MQZ	McQueen's Vall	2.44	184		Pn	20 45 13.0			-1.2
MQZ	McQueen's Vall	2.44	184	P	Pn	20 45 13.0			-1.2
PRWZ	Pori Road	2.45	74	P	Pn	20 45 13.4			-1.0
MHEZ	Mangahewa	2.46	27	P	Pn	20 45 15.3			+0.9
OKCZ	Okains Bay	2.46	177	P	Pn	20 45 14.0			-0.4
MHTZ	Mount Hutt	2.46	203	P	Pn	20 45 13.4			-1.2
RACZ	Rakaia	2.52	192	P	Pn	20 45 14.2			-1.0
CPWZ	Castlepoint	2.54	83	P	Pn	20 45 15.3			-0.1
VRZ	Vera Road	2.58	34	P	Pn	20 45 16.3			+0.2
AKCZ	Akaroa Harbour	2.60	180	P	Pn	20 45 15.6			-0.7
BFZ	Birch Farm	2.62	78		Pn	20 45 15.4			-1.1
BFZ	Birch Farm	2.62	78	P	Pn	20 45 15.3			-1.2
TSZ	Takapari Road	2.64	64	P	Pn	20 45 15.7			-1.2
DVHZ	Dannevirke	2.68	70	P	Pn	20 45 15.8			-1.5
MTVZ	Mangateitei	2.73	47	P	Pn	20 45 18.0			-0.1
PKVZ	Pokaka	2.73	44	P	Pn	20 45 17.9			-0.3
WACZ	Wakanui South	2.78	196	P	Pn	20 45 17.8			-0.8
GCSZ	Gaunt Creek Bo	2.79	222	P	Pn	20 45 17.8			-0.8
RPZ	Rata Peaks	2.79	208		Pn	20 45 17.6			-1.1
RPZ	Rata Peaks	2.79	208	P	Pn	20 45 18.1			-0.7
	1μm,0.4s,baz=349,slow=2.6,SNR=419								
RPZ				S	Sn	20 45 49.8			-2.7
	882nm,0.5s,baz=355,slow=23,SNR=18								
RPZ	Rata Peaks	2.79	208	P	Pn	20 45 17.3			-1.5
TRVZ	Turoa	2.83	47	P	Pn	20 45 19.3			-0.3
ANWZ	Angora Road	2.84	75	P	Pn	20 45 18.5			-1.0
WNVZ	Wahianoa	2.84	48	P	Pn	20 45 19.3			-0.3
MAVZ	Matarangi	2.87	47	P	Pn	20 45 19.6			-0.4
PNHZ	Pukenui	2.87	63	P	Pn	20 45 18.3			-1.5
FWVZ	Far West T-bar	2.87	46	P	Pn	20 45 19.6			-0.4
WHVZ	Whangaehu Hut	2.87	47	P	Pn	20 45 19.6			-0.5
MOVZ	Moawhango	2.88	51	P	Pn	20 45 19.0			-1.0
COVZ	Chateau Observ	2.90	45	P	Pn	20 45 20.0			-0.4
TUVZ	Tukino	2.92	48	P	Pn	20 45 20.4			-0.2
TWVZ	Taurewa	2.94	43	P	Pn	20 45 20.5			-0.3
NGZ	Ngauruhoe	2.95	46	P	Pn	20 45 20.5			-0.5
ARCZ	Arundel	2.96	205	P	Pn	20 45 19.3			-1.6
WPHZ	Waipukurau	2.96	67	P	Pn	20 45 19.5			-1.5
SNVZ	South Ngauruho	2.97	46	P	Pn	20 45 20.9			-0.3
WTVZ	West Tongariro	2.99	45	P	Pn	20 45 20.9			-0.5
NNVZ	North Ngauruho	2.99	45	P	Pn	20 45 20.9			-0.6
OTVZ	Oturere	3.00	46	P	Pn	20 45 21.2			-0.4
PRHZ	Porangahau	3.02	72	P	Pn	20 45 20.7			-1.1
ETVZ	East Tongariro	3.04	46	P	Pn	20 45 21.7			-0.5
TMVZ	Te Maari	3.05	46	P	Pn	20 45 21.8			-0.5
KRHZ	Kereru	3.12	60	P	Pn	20 45 21.4			-1.6
HIZ	Hauiti	3.15	30		Pn	20 45 22.8			-0.6
HIZ	Hauiti	3.15	30	P	Pn	20 45 22.8			-0.6
KATZ	Kakaramea	3.15	44	P	Pn	20 45 23.6			0.0
FOZ	Fox Glacier	3.20	224		Pn	20 45 22.9			-1.2
FOZ	Fox Glacier	3.20	224	P	Pn	20 45 22.9			-1.2
RITZ	Rihia Road	3.23	46	P	Pn	20 45 24.4			-0.1
RATZ	Rangitukua	3.27	44	P	Pn	20 45 24.9			-0.1
PXZ	Pawanui	3.27	69	P	Pn	20 45 23.4			-1.6
KWHZ	Kaweka Forest	3.27	57	P	Pn	20 45 25.2			0.0
WATZ	Wairara	3.37	41	P	Pn	20 45 26.2			-0.1
KAHZ	Kahuranaki	3.38	65	P	Pn	20 45 24.8			-1.7
TMZ	Timaru	3.40	203	P	Pn	20 45 25.3			-1.4
MCHZ	McNeill Hill	3.44	59	P	Pn	20 45 25.9			-1.4
BKZ	Black Stump Fm	3.47	54		Pn	20 45 26.1			-1.6
BKZ	Black Stump Fm	3.47	54	P	Pn	20 45 26.4			-1.3
WHTZ	Whakaora	3.52	43	P	Pn	20 45 28.3			0.0
TLZ	Tolley Road	3.58	36	P	Pn	20 45 28.7			-0.5
KUTZ	Kaahu Road	3.58	40	P	Pn	20 45 28.9			-0.3
CKHZ	Cape Kidnapper	3.58	65	P	Pn	20 45 27.6			-1.5
CKHZ				P	Pn	20 45 27.7			-1.5
MRHZ	Matea Rd	3.65	49	P	Pn	20 45 27.9			-2.1
LBZ	Lake Benmore	3.69	212	P	Pn	20 45 28.3			-2.2
NMHZ	Naumai	3.71	55	P	Pn	20 45 29.2			-1.7
WPRZ	Whakapapatarin	3.73	44	P	Pn	20 45 31.1			0.0
ARHZ	Aropaoanui	3.73	59	P	Pn	20 45 29.2			-1.9
ALRZ	Allen Road	3.79	46	P	Pn	20 45 33.9			+1.9
GRRZ	Galatos Road	3.83	41	P	Pn	20 45 31.4			-0.9
PRRZ	Parua Road	3.87	45	P	Pn	20 45 31.7			-1.2
MTHZ	Maungataniwha	3.88	53	P	Pn	20 45 31.8			-1.4
HRRZ	Handcock Road	3.89	43	P	Pn	20 45 32.4			-0.9
HSRZ	Hossack Road	3.93	42	P	Pn	20 45 33.3			-0.4
WHHZ	Waihua	3.99	58	P	Pn	20 45 34.6			+0.1
RAHZ	Arahi	3.99	55	P	Pn	20 45 32.5			-2.1
UTU	Utuhina	4.01	41	P	Pn	20 45 35.8			+1.0
HLRZ	Highlands Stat	4.03	43	P	Pn	20 45 34.9			-0.2
RRRZ	Republican Roa	4.05	45	P	Pn	20 45 34.7			-0.7
TOZ	Tahuroa Road	4.08	31		Pn	20 45 34.8			-0.9
TOZ	Tahuroa Road	4.08	31	P	Pn	20 45 34.7			-1.0
MUGZ	Murupara	4.09	48	P	Pn	20 45 33.9			-2.0
ODZ	Otahua Downs	4.11	203		Pn	20 45 34.7			-1.4
ODZ	Otahua Downs	4.11	203	P	Pn	20 45 34.6			-1.4
JCZ	Jackson Bay	4.12	226	P	Pn	20 45 34.4			-1.9
TARZ	Mount Tarawera	4.12	44	P	Pn	20 45 35.9			-0.5
ONRZ	Omania	4.15	42	P	Pn	20 45 38.7			+2.0
KARZ	Kaharoa	4.16	47	P	Pn	20 45 36.2			-0.6
KMRZ	Kaimai	4.16	36	P	Pn	20 45 36.8			-0.1
MKRZ	Makatiti	4.17	43	P	Pn	20 45 39.7			+2.6
SNGZ	Shannon Statio	4.23	55	P	Pn	20 45 35.5			-2.3
KNZ	Kokohu	4.30	60	P	Pn	20 45 35.7			-3.0
MHGZ	Mahia Peninsul	4.39	63	P	Pn	20 45 37.7			-2.2
MARZ	Manawahe	4.40	43	P	Pn	20 45 40.7			+0.7
TGRZ	Tauranga	4.40	38	P	Pn	20 45 39.5			-0.5
AWAZ	Awhitu Peninsu	4.42	19	P	Pn	20 45 40.2			-0.1
URZ	Urewera	4.43	49	P	Pn	20 45 36.6			-3.8
	51nm,0.3s,baz=236,slow=8.3,SNR=58								
URZ				S	Sn	20 46 26.0			-5.2
	516nm,0.5s,baz=103,slow=22,SNR=14								
URZ				LR	LR	20 47 14.5			
	comp=Z,193nm,19.2s,baz=172,slow=37								
URZ	Urewera	4.43	49	P	Pn	20 45 37.3			-3.1
OPRZ	Ohinepanea	4.45	41	P	Pn	20 45 40.5			-0.1
RAGZ	Rawiri	4.46	53	P	Pn	20 45 39.6			-1.2
PRGZ	Paritu Road	4.50	60	P	Pn	20 45 38.4			-2.9
MKAZ	Moumakai	4.52	24	P	Pn	20 45 41.5			-0.2
WTAZ	Waiatarua	4.53	17	P	Pn	20 45 41.8			+0.1
RIGZ	Rimuhau	4.54	57	P	Pn	20 45 39.3			-2.6
ETAZ	East Tamaki Re	4.59	21	P	Pn	20 45 42.9			+0.3
EPAZ	Eden Park BICE	4.62	19	P	Pn	20 45 44.0			+1.0
MWZ	Matawai	4.63	52	P	Pn	20 45 40.6			-2.5
EAZ	Earnscleugh	4.74	212	P	Pn	20 45 41.8			-2.7
TKGZ	Te Karaka	4.75	55	P	Pn	20 45 41.8			-2.9
CNGZ	Carnagh Statio	4.95	58	P	Pn	20 45 44.8			-2.6
WHZ	Wether Hill Ro	5.85	216		Pn	20 45 56.7			-2.6
CTZ	Chatham Island	8.14	111	Pn	Pn	20 46 30.2			0.0
EIDS	Eidsvold	24.05	304	P	P	20 49 39.6			+1.1
STKA	Stephens Creek	26.70	280	P	P	20 50 02.4			+0.1
STKA				IAmb	IAmb	20 50 05.8			
	comp=Z,29nm,1.1s								
STKA	Stephens Creek	26.70	280	P	P	20 50 02.1			-0.2
	comp=Z,2.6nm,0.8s,baz=85,slow=11,SNR=5.5								
	comp=Z,2.6nm,0.8s								
BBOO	Buckleboo	30.40	274	P	P	20 50 34.6			-0.6
VNDA	Vanda	36.65	184	P	P	20 51 29.6			+0.9
	comp=Z,1.0nm,0.7s,baz=5.2,slow=8.3,SNR=5.2								
	comp=Z,1.0nm,0.7s								
ASAR	Alice Springs	36.91	286	P	P	20 51 31.2			-0.4
ASAR	Alice Springs	36.91	286	P	P	20 51 31.6			0.0
	comp=Z,8.5nm,0.6s,baz=127,slow=7.1,SNR=208								
ASAR				PcP	PcP	20 53 48.6			-1.9
	comp=Z,0.6nm,0.6s,baz=131,slow=3.8,SNR=3.3								
ASAR				LR	LR	21 06 27.1			
	comp=Z,104nm,19.3s,baz=168,slow=36								
	comp=Z,8.5nm,0.6s								
WRA	Warramunga Arr	38.97	291	P	P	20 51 48.9			-0.1
	comp=Z,8.7nm,0.7s,baz=128,slow=7.8,SNR=64								
WRA				PcP	PcP	20 53 55.9			-1.0
	comp=Z,1.6nm,0.7s,baz=130,slow=2.9,SNR=5.4								
	comp=Z,8.7nm,0.7s								
CASY	Casey	42.06	212	P	P	20 52 14.2			+0.5
KNRA	Kununurra	45.76	291	P	P	20 52 44.2			+0.4
KNRA				IAmb	IAmb	20 52 55.7			
	comp=Z,16nm,1.1s								
MTN	Manton Dam	46.08	296	P	P	20 52 46.2			-0.1
FITZ	Fitzroy Crossi	46.40	285	P	P	20 52 48.9			0.0
QSPA	South Pole Qui	48.86	180	P	P	20 53 11.0			+3.6
QSPA				IAmb	IAmb	20 53 11.7			
	comp=Z,7.0nm,0.8s								
QSPA	South Pole Qui	48.86	180	P	P	20 53 10.3			+2.9
	comp=Z,5.5nm,0.7s,baz=13,slow=1.0,SNR=65								
MBWA	Marble Bar	48.87	277	P	P	20 53 05.9			-2.1
MBWA				IAmb	IAmb	20 53 08.2			
	comp=Z,12nm,0.8s								
GIRL	Giralia	52.13	272	P	P	20 53 33.4			+1.0
GIRL				IAmb	IAmb	20 53 35.4			
	comp=Z,10nm,0.8s								
MAW	Mawson	59.46	205	P	P	20 54 24.5			+0.5
	comp=Z,1.0nm,0.4s,baz=149,slow=5.9,SNR=2.1								
	comp=Z,1.0nm,0.4s								
BELA	Belgrano 2	59.94	174	P	P	20 54 27.8			+0.6
BELA				IAmb	IAmb	20 54 29.2			
	comp=Z,7.7nm,0.8s								
TOLI2	Tolitoli	63.24	298	P	P	20 54 50.2			+0.1
TOLI2				IAmb	IAmb	20 54 52.4			
	comp=Z,6.9nm,0.7s								
SYO	Syowa Base	64.74	197	⇓*e*P	P	20 54 58.6			-0.5
TROLL	Troll, Antarti	66.82	183	⇑P	P	20 55 13.0			+0.4
	comp=Z,286nm,0.5s								
SNAA	Sanae	67.32	181	⇑P	P	20 55 15.6			-0.1
	comp=Z,101nm,0.7s								
SNAA	Sanae	67.32	181	P	P	20 55 16.2			+0.5
SNAA	Sanae	67.32	181	P	P	20 55 16.0			+0.3
	comp=Z,3.2nm,0.6s,baz=202,slow=7.8,SNR=20								
SNAA				LR	LR	21 21 57.3			
	comp=Z,31nm,20.8s,baz=329,slow=33								
	comp=Z,3.2nm,0.6s								
VNA3	Neumayer Olymp	67.78	179	⇑P	P	20 55 18.5			0.0
	comp=Z,4.3nm,0.6s								
NJ2	Nanjing	88.34	317	*e*P	P	20 57 14.2			+2.0
NJ2				pmax	pmax				
	comp=Z,5.0nm,0.6s								
CMAR	Chiang Mai Arr	90.51	294	P	P	20 57 23.6			+1.0
	comp=Z,2.1nm,0.9s,baz=157,slow=3.7,SNR=12								
	comp=Z,2.1nm,0.9s								
PZH	PanZhiHua	94.20	302	P	P	20 57 42.2			+2.5
BNX	BinXian	95.68	330	⇑P	P	20 57 44.9			-0.9
BNX				pmax	pmax				
	comp=Z,7.0nm,3.3s								
HHC	Hu-ho-hao-te	98.84	318	*e*P	Pdif	20 58 01.5			+1.1
HHC				pmax	pmax				
	comp=Z,11nm,0.7s								
HHC				pmax	pmax				
	comp=Z,110nm,4.5s								
MKAR	Makanchi Array	118.87	308	PKP	PKPdf	21 03 06.1			-1.8
	comp=Z,1.2nm,1.0s,baz=161,slow=5.1,SNR=3.9								
KURBB	Kurchatov Ar

CAHU	**Cacacuatique**	**1.37**	**62**	*e*P		**Pn**	**21 13 25.1**	**-0.7**
ESQI	**Esquipulas**	**1.42**	**4**	P		**Pn**	**21 13 25.8**	**-0.7**
FG16	**Alotenango, Sa**	**1.53**	**318**	*i* P		**Pb**	**21 13 31.7**	**+1.4**
FG16				*i* S		**Sb**	**21 13 54.0**	**+4.6**
FG16				IAML			21 14 04.6	
	comp=N,846nm,0.3s							
LCND	**La Caada**	**1.53**	**83**	*e*P		**Pn**	**21 13 27.3**	**-0.6**
LCND	**La Caada**	**1.53**	**83**	S		**Sn**	**21 13 47.0**	**+0.1**
LCND	**La Caada**	**1.53**	**83**	P		**Pn**	**21 13 27.5**	**-0.4**
FG8	**Yepocapa, Chim**	**1.55**	**316**	*i* P		**Pb**	**21 13 32.1**	**+1.4**
CNCH	**Conchagua**	**1.58**	**85**	*e*P		**Pn**	**21 13 28.3**	**-0.4**
CNCH				*e*S		**Sn**	**21 13 48.6**	**+0.3**
SARH	**Santa Rosa de**	**1.77**	**22**	*i* P		**Pn**	**21 13 31.0**	**-0.2**
SARH	**Santa Rosa de**	**1.77**	**22**	P		**Pn**	**21 13 31.1**	**-0.1**
SARH	**Santa Rosa de**	**1.77**	**22**	S		**Sn**	**21 13 52.8**	**0.0**
CSGN	**Cosiguina Volc**	**1.85**	**95**	P		**Pn**	**21 13 31.9**	**-0.5**
CSGN				S		**Sn**	**21 13 54.1**	**-0.8**
CHOHN	**Orocuina**	**2.26**	**81**	P		**Pn**	**21 13 37.2**	**-0.9**
CHOHN	**Orocuina**	**2.26**	**81**	S		**Sn**	**21 14 04.9**	**-0.1**
YUSH	**Yuscaran**	**2.67**	**72**	P		**Pn**	**21 13 42.8**	**-0.8**

*NEIC **11** 21:24:43.8±3.1,35°.13N±0°.02×95°.35W±0°.02,h5km±1km, Error ellipse: s-maj=3.5km s-min=2.9km az=150.0*

NEIC 11 21:24:44.1±1.6,35°.13N±0°.02×95°.35W±0°.02,h15km±8km, mb_Lg2.4/41,ML2.5/7,ML2.6/12,Error ellipse: s-maj=2.8km s-min=1.2km az=213.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.86**	**336**		Pb	21 25 00.3	-0.5
TUL3					Sg	21 25 11.7	-0.4
RLO	**Rose Lookout**	**1.07**	**15**		Pb	21 25 04.0	-0.4
RLO					Sb	21 25 18.3	+0.2
RLO				IAML		21 25 26.0	
	comp=E,194nm,0.2s						
DEOK	**Depew**	**1.17**	**308**		Pn	21 25 06.0	-0.1
DEOK					Sb	21 25 21.5	+0.3
DEOK				IAML		21 25 24.3	
	comp=E,102nm,0.2s						
DEOK				IAML		21 25 26.4	
	comp=N,171nm,0.4s						
OK052	**Battle Ridge R**	**1.46**	**307**		Pb	21 25 10.8	-0.3
OK052					Sg	21 25 30.8	-0.5
QUOK	**Quay**	**1.52**	**314**		Pb	21 25 11.6	-0.4
QUOK					Sg	21 25 32.3	-0.7
U38A	**Gravette**	**1.53**	**31**		Pb	21 25 11.8	-0.3
U38A					Sg	21 25 32.4	-0.9
MIAR	**Mount Ida**	**1.57**	**111**		Pb	21 25 13.1	+0.1
HHAR	**Hobbs**	**1.63**	**45**		Pb	21 25 13.5	-0.3
HHAR					Sg	21 25 35.5	-1.1
FNO	**Franklin**	**1.68**	**275**		Pb	21 25 14.3	-0.4
FNO					Sg	21 25 37.5	-0.7
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**	Pn	Pn	21 25 14.5	+0.9
OKCSW				IAmb_Lg		21 25 41.1	
	comp=Z,22nm,0.9s						
OK029	**Liberty Lake**	**1.84**	**292**	Pn	Pn	21 25 15.9	+0.7
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	21 25 16.8	+0.9
Z38A				IAmb_Lg		21 25 47.0	
	comp=Z,18nm,0.8s						
T35A	**Sooner Cattle**	**2.02**	**333**	Pn	Pn	21 25 18.3	+0.7
X40A	**Basin Creek Fa**	**2.17**	**106**	Pn	Pb	21 25 21.8	-1.3
X40A				IAmb_Lg		21 25 55.4	
	comp=Z,27nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**	Pn	Pn	21 25 23.4	+0.7
UALR	**University of**	**2.50**	**97**	Pn	Pn	21 25 24.2	0.0
UALR				IAmb_Lg		21 26 08.2	
	comp=Z,16nm,0.9s						
WHAR	**Wooly Hollow**	**2.52**	**85**	Pn	Pn	21 25 25.3	+0.9
WHAR				IAmb_Lg		21 26 08.0	
	comp=Z,12nm,1.0s						
CROK	**Carrier**	**2.54**	**303**	Pn	Pn	21 25 25.4	+0.5
FCAR	**Ozark Folk Cen**	**2.74**	**73**	Pn	Pn	21 25 27.6	0.0
CSTR	**Hydro, Custer**	**2.77**	**282**	Pn	Pn	21 25 29.0	+0.9
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	21 25 29.9	+0.9
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		21 26 30.5	
	comp=Z,9.7nm,0.7s						
LCAR	**Lake Charles**	**3.55**	**73**	IAmb_Lg		21 26 39.5	
	comp=Z,8.4nm,0.9s						
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		21 26 54.5	
	comp=Z,6.6nm,0.8s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		21 26 51.5	
	comp=Z,9.9nm,0.7s						
KSU1	**Kansas State U**	**4.09**	**346**	IAmb_Lg		21 26 56.2	
	comp=Z,14nm,0.7s						
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		21 27 10.8	
	comp=Z,8.1nm,0.7s						
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		21 27 10.0	
	comp=Z,6.3nm,0.8s						
P38A	**Dawn**	**4.72**	**17**	IAmb_Lg		21 27 27.4	
	comp=Z,5.4nm,0.8s						
FVM	**French Village**	**4.88**	**53**	IAmb_Lg		21 27 20.7	
	comp=Z,5.5nm,0.8s						
CGM3	**Cape Girardeau**	**5.09**	**63**	IAmb_Lg		21 27 26.8	
	comp=Z,5.9nm,0.8s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		21 27 32.7	
	comp=Z,6.2nm,0.7s						
S44A	**Carbondale**	**5.54**	**61**	IAmb_Lg		21 27 41.8	
	comp=Z,8.0nm,0.8s						
SIUC	**Southern Illin**	**5.58**	**61**	IAmb_Lg		21 27 47.9	
	comp=Z,9.2nm,0.7s						
T47A	**Sharon Grove**	**6.93**	**72**	IAmb_Lg		21 28 32.8	
	comp=Z,5.0nm,0.8s						
T25A	**Trinidad**	**7.60**	**288**	IAmb_Lg		21 28 53.9	
	comp=Z,3.2nm,0.8s						

NNC 11 21:27:18.4±3.4,43°.62N×89°.41E,h19km±17km,mb3.6, mpv3.2,2C-4D,Error ellipse: s-maj=24.3km s-min=20.8km az=63.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.95**	**305**	⇓Pn	Pn	21 28 45.7	+0.3
	0.3nm,0.3s,baz=111,slow=13,SNR=64						
MK31				⇑Sn	Sn	21 29 54.2	+1.3
	2.8nm,0.5s,baz=109,slow=26,SNR=4.8						
MK31				⇓Lg	Lg	21 30 27.5	
	12nm,0.8s,baz=116,slow=29,SNR=5.5						
MAKZ	**Makanchi**	**6.14**	**304**	Pn	Pn	21 28 48.0	0.0
	1.3nm,0.4s						
MAKZ				Sn	Sn	21 29 58.4	+0.7
	2.4nm,0.3s						
MAKZ				Lg	Lg	21 30 34.2	
	4.6nm,0.6s						
PDGK	**Podgornoye**	**7.22**	**271**	⇑Pn	Pn	21 29 02.8	-0.2
	1.4nm,0.4s						
PDGK				⇓Sn	Sn	21 30 25.4	+0.9
	8.6nm,0.8s						
PDGK				⇓Lg	Lg	21 31 06.6	
	6.3nm,0.8s						

*OSPL **11** 21:34:49.4±0.3,18°.18N×71°.69W,h34km±3km,ML2.1*
*SDD **11** 21:34:50.4±1.9,17°.94N×71°.51W,h25km±20km,MD2.8, ML1.9,MW3.1*

ISC 11 21:34:50.4±1.1,18°.07N±0°.04×71°.53W±0°.05,h26km±8km, n9,σ1s06/17,9C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOBH	**Bahia de las A**	**0.23**	**207**	*i* P	**Pn**	**21 34 56.8**	**-1.4**
LOBH				*e*S	**Sb**	**21 35 02.1**	**+1.5**
LOBH				IAML		21 35 09.7	
	comp=Z,104nm,0.6s						
PODR	**Polo**	**0.26**	**68**	*i* P	**Pb**	**21 34 56.9**	**-0.1**
PODR				*e*S	**Sn**	**21 35 03.1**	**-0.9**
PODR	**Polo**	**0.26**	**68**	⇑*e*Pg	**Pb**	**21 34 56.8**	**-0.1**
PODR				⇑*e*Sg	**Sb**	**21 35 02.4**	**+0.9**
PODR				IAML		21 35 07.6	
	comp=N,97nm,0.2s						
LODU1	**El Espartillar**	**0.29**	**10**	*i* P	**Pb**	**21 34 56.1**	**-1.1**
LODU1				*e*S	**Sb**	**21 35 01.1**	**-0.8**
LODU1				IAML		21 35 04.1	
	comp=Z,363nm,0.3s						
LOVI	**El Cajuil, Ovi**	**0.31**	**150**	*i* P	**Pn**	**21 34 58.8**	**-0.5**
LOVI				IAML		21 35 05.8	
	comp=Z,105nm,0.8s						
LOVI				*e*S	**Sn**	**21 35 05.9**	**+0.9**
NEDR	**Neiba UASD**	**0.43**	**14**	⇑*e*Pg	**Pn**	**21 35 00.6**	**-0.3**
NEDR				⇑*e*Sg	**Sn**	**21 35 07.7**	**-0.2**
NEDR				IAML		21 35 07.9	
	comp=N,99nm,0.5s						
JIDR	**Jimani**	**0.52**	**324**	⇑*e*Pg	**Pn**	**21 35 02.3**	**+0.1**
JIDR				⇑*e*Sg	**Sn**	**21 35 11.7**	**+1.5**
JIDR				IAML		21 35 14.3	
	comp=N,48nm,0.5s						
SDDR	**Presa de Saban**	**0.94**	**14**	⇑*e*Pg	**Pb**	**21 35 07.6**	**-0.4**
SDDR				⇑*e*Sg	**Sn**	**21 35 21.0**	**+0.4**
SDDR				IAML		21 35 39.1	
	comp=N,15nm,2.1s						
ABDR	**Alto Bandera**	**1.13**	**49**	⇑*e*Sg	**Sb**	**21 35 27.7**	**+1.8**
ABDR				IAML		21 36 11.0	
	comp=N,31nm,1.6s						

*SJA **11** 21:39:42.9±0.7,30°.28S×71°.73W,h6km±3km,ML3.5, MW3.1*
*GUC **11** 21:39:47.0±0.6,30°.39S×71°.48W,h26km±2km,ML3.7*

ISC 11 21:39:44.8±1.4,30°.29S±0°.02×71°.60W±0°.04,h5km±10km, n51,σ1s52/80,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.39**	**185**	⇑*i* P	**Pb**	**21 39 54.8**	**+0.7**
CO06				*i* S	**Sb**	**21 40 00.4**	**+0.1**
CO06				IAML		21 40 01.2	
	comp=N,16µm,0.2s						
CO05	**La Serena**	**0.48**	**40**	⇓*i* P	**Pn**	**21 39 57.9**	**-0.3**
CO05				*i* S	**Sb**	**21 40 05.5**	**+2.5**
GO04	**Tololo Observa**	**0.70**	**81**	*e*P	**Pb**	**21 40 00.5**	**+1.0**
GO04				*i* S	**Sn**	**21 40 10.8**	**-2.0**
GO04				IAML		21 40 13.1	
	comp=N,9µm,0.3s						
GO04	**Tololo Observa**	**0.70**	**81**	*e*P	**Pb**	**21 39 60.0**	**+0.4**
GO04				*e*S	**Sb**	**21 40 10.5**	**+1.0**
CO03	**El Pedregal**	**0.95**	**125**	⇓*i* P	**Pb**	**21 40 03.4**	**-0.4**
CO03				*i* S	**Sb**	**21 40 15.6**	**-1.2**
CO03				IAML		21 40 16.1	
	comp=N,3µm,0.2s						
CO03	**El Pedregal**	**0.95**	**125**	*e*P	**Pg**	**21 40 03.2**	**+0.1**
CO03				IAML		21 40 16.3	
	comp=Z,1µm,0.3s						
CO03				*e*S	**Sb**	**21 40 16.4**	**-0.4**
CO02	**Combarbal**	**1.05**	**151**	⇓*i* P	**Pg**	**21 40 04.8**	**-0.1**
CO02				*i* S	**Sg**	**21 40 18.1**	**-0.3**
CO02				IAML		21 40 19.1	
	comp=E,9µm,0.4s						
CO02	**Combarbal**	**1.05**	**151**	*e*P	**Pg**	**21 40 04.7**	**-0.2**
CO02				*e*S	**Sb**	**21 40 18.6**	**-0.9**
CO02				IAML		21 40 18.9	
	comp=Z,3µm,0.4s						
CO01	**Juntas del Tor**	**1.34**	**77**	⇓*i* P	**Pg**	**21 40 10.8**	**+0.3**
CO01				*i* S	**Sb**	**21 40 26.3**	**-1.6**
CO01	**Juntas del Tor**	**1.34**	**77**	*e*P	Pn	21 40 05.2	-5.0
CO01				*e*P	**Pg**	**21 40 10.8**	**+0.3**
CO01				IAML		21 40 31.4	
	comp=Z,394nm,0.2s						
CO01				*e*S	**Sn**	**21 40 31.7**	**+3.1**
LCO	**Las Campanas**	**1.49**	**32**	*e*P	**Pn**	**21 40 13.0**	**+0.6**
LCO				*i* S	**Sn**	**21 40 32.8**	**+0.4**
LCO	**Las Campanas**	**1.49**	**32**	*e*P	**Pn**	**21 40 12.6**	**+0.1**
LCO				*e*S	**Sg**	**21 40 34.7**	**+1.9**
LCO				IAML		21 40 35.3	
	comp=Z,1µm,0.3s						
AROD	**Rodeo**	**1.84**	**87**	*e*P	**Pg**	**21 40 19.8**	**-0.2**
AROD				*e*S	**Sg**	**21 40 43.9**	**0.0**
AC04	**Llanos de Chal**	**2.13**	**12**	*e*P	**Pn**	**21 40 21.4**	**+0.4**
AC04	**Llanos de Chal**	**2.13**	**12**	*e*P	**Pn**	**21 40 21.4**	**+0.4**
AC04				*e*S	**Sn**	**21 40 44.4**	**-3.3**
AC04				IAML		21 41 00.4	
	comp=Z,157nm,0.4s						
ACDV	**Cuesta del Vie**	**2.15**	**87**	*e*P	**Pb**	**21 40 25.1**	**+0.9**
ACDV				*e*S	**Sn**	**21 40 48.7**	**+0.3**
ACDV				IAML		21 40 54.7	
	comp=Z,431nm,0.4s						
ACCO	**Cerro Coronel**	**2.21**	**98**	*e*P	**Pb**	**21 40 25.4**	**+0.1**
ACCO				*e*S	**Sg**	**21 40 56.1**	**+0.5**
VA06	**Catapilco**	**2.28**	**174**	*e*P	**Pn**	**21 40 25.8**	**-1.2**
VA06				*i* S	**Sb**	**21 40 52.8**	**-2.1**
VA06				IAML		21 41 09.8	
	comp=N,565nm,0.3s						
RTLS	**Leoncito**	**2.48**	**128**	*e*P	**Pb**	**21 40 28.8**	**-1.2**
RTLS				*e*S	**Sb**	**21 41 00.4**	**-0.5**
RTLS				IAML		21 41 10.6	
	comp=Z,387nm,0.3s						
VA03	**San Esteban**	**2.62**	**160**	*e*P	**Pn**	**21 40 28.6**	**+0.8**
VA03				*i* S	**Sn**	**21 41 00.7**	**+0.5**
VA03				IAML		21 41 05.8	
	comp=E,555nm,0.2s						
VA03	**San Esteban**	**2.62**	**160**	*e*P	**Pn**	**21 40 28.0**	**+0.2**
VA03				*e*S	**Sb**	**21 41 04.3**	**-0.6**
VA03				IAML		21 41 09.3	
	comp=Z,233nm,0.2s						
ROCH	**El Roble**	**2.72**	**170**	*e*P	**Pn**	**21 40 28.6**	**-0.7**
ROCH				*i* S	**Sn**	**21 41 03.9**	**+1.2**
ROCH				IAML		21 41 10.5	
	comp=N,332nm,0.3s						
ROC1	**El Roble**	**2.72**	**170**	*e*P	**Pn**	**21 40 28.7**	**-0.7**
ROC1				*e*S	**Sb**	**21 41 07.3**	**-0.6**
VA01	**Torpederas**	**2.73**	**181**	*e*S	**Sb**	**21 41 05.2**	**-2.4**
VA01				IAML		21 41 13.4	
	comp=Z,70nm,0.8s						
ZON	**Zonda**	**2.80**	**117**	*e*P	**Pb**	**21 40 32.9**	**-2.4**
ZON				*e*S	**Sb**	**21 41 08.7**	**-1.2**
ZON				IAML		21 41 22.6	
	comp=Z,73nm,0.4s						
AGUA	**GUANDACOL**	**2.81**	**74**	*e*P	**Pb**	**21 40 36.0**	**+0.5**
AGUA				IAML		21 41 24.4	
	comp=Z,232nm,0.7s						
RTLL	**Cerro Villicun**	**2.88**	**112**	*e*P	**Pn**	**21 40 29.1**	**-2.2**
RTLL				*e*S	**Sb**	**21 41 11.5**	**-0.6**
RTLL				IAML		21 41 21.7	
	comp=Z,147nm,1.0s						
GO03	**Copiapo**	**2.94**	**24**	*e*P	**Pn**	**21 40 33.4**	**+1.2**
GO03				*e*S	**Sb**	**21 41 13.4**	**-0.5**
PEL	**Peldehue**	**2.95**	**165**	*e*P	**Pn**	**21 40 33.8**	**+1.5**
PEL				*e*S	**Sn**	**21 41 10.2**	**+2.0**
MT02	**Curacav**	**2.99**	**173**	*e*P	**Pn**	**21 40 32.1**	**-0.7**
MT02	**Curacav**	**2.99**	**173**	*e*P	**Pn**	**21 40 31.9**	**-0.9**
MT02				IAML		21 41 26.1	
	comp=Z,130nm,0.6s						
MT10	**Hacienda Santa**	**3.11**	**163**	*e*P	**Pn**	**21 40 36.4**	**+1.8**
CFA	**Coronel Fontan**	**3.17**	**115**	*e*P	**Pn**	**21 40 37.4**	**+2.1**
CFA				*e*S	**Sb**	**21 41 17.9**	**-2.6**
MT05	**Renca**	**3.18**	**167**	*e*P	**Pn**	**21 40 36.4**	**+0.9**
MT05	**Renca**	**3.18**	**167**	*e*P	**Pn**	**21 40 37.1**	**+1.7**
MT05				*e*S	**Sn**	**21 41 15.6**	**+1.9**
MT05				IAML		21 41 20.7	
	comp=Z,128nm,0.6s						
MT14	**Cerro Calan**	**3.23**	**164**	*e*P	**Pn**	**21 40 37.3**	**+1.2**
MT16	**CCHEN**	**3.26**	**164**	*e*P	**Pn**	**21 40 38.1**	**+1.6**
ASAL	**Salagasta**	**3.29**	**135**	*e*P	**Pn**	**21 40 40.0**	**+3.0**
ASAL				*e*S	**Sb**	**21 41 21.7**	**-2.4**
VCA	**Vinchina**	**3.33**	**63**	*e*P	**Pb**	**21 40 42.6**	**-1.9**
VCA				IAML		21 41 35.9	
	comp=Z,234nm,0.3s						
MT04	**Ro Olivares**	**3.34**	**159**	*e*P	**Pn**	**21 40 39.5**	**+1.6**
MT04	**Ro Olivares**	**3.34**	**159**	*e*P	**Pn**	**21 40 39.8**	**+1.9**
MT04				*e*S	**Sn**	**21 41 19.8**	**+1.7**
MT04				IAML		21 41 34.0	
	comp=Z,76nm,0.3s						
ARCO	**CERRO ARCO**	**3.41**	**139**	*e*P	**Pn**	**21 40 37.4**	**-1.4**
MT08	**Bocatoma Ro**	**3.42**	**157**	*e*P	**Pn**	**21 40 41.4**	**+2.4**
MT08	**Bocatoma Ro**	**3.42**	**157**	*e*P	**Pn**	**21 40 41.8**	**+2.9**
MT08				IAML		21 41 41.4	
	comp=Z,91nm,0.5s						
MT15	**Las Vizcachas**	**3.43**	**165**	*e*P	**Pn**	**21 40 40.5**	**+1.6**
MT09	**Talagante**	**3.52**	**172**	*e*P	**Pn**	**21 40 39.7**	**-0.4**
MT01	**Popeta**	**3.58**	**175**	*e*P	**Pn**	**21 40 39.7**	**-1.2**
MT01	**Popeta**	**3.58**	**175**	*e*S	**Sn**	**21 41 26.2**	**+2.7**
LMEL	**Las Melosas**	**3.74**	**162**	*e*P	**Pn**	**21 40 44.3**	**+1.0**
AC02	**Maricunga**	**4.07**	**33**	*e*P	**Pn**	**21 40 45.0**	**-3.0**
BO01	**Tunca**	**4.11**	**174**	IAML		21 41 56.6	
	comp=Z,41nm,0.6s						

*AEIC **11** 21:55:22.4±0.5,54°.84N±0°.06×161°.55W±0°.02,h81km±6km, Error ellipse: s-maj=8.4km s-min=1.1km az=186.0*

NEIC 11 21:55:23.6±0.4,54°.83N±0°.06×161°.56W±0°.06,h76km±8km, ML2.7/12,ML2.4(AEIC),Error ellipse: s-maj=8.1km s-min=4.9km az=177.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.37**	**331**		Pn	21 55 35.9	0.0
DOL					Sn	21 55 45.7	+0.8
DT1	**Dutton Round H**	**0.50**	**304**		Pn	21 55 36.8	-0.2
DT1					Sn	21 55 47.3	+0.6
PS4A	**Pavlof South-4**	**0.55**	**342**		Pn	21 55 37.3	-0.1
PS4A					Sn	21 55 48.2	+0.7
PVV	**Pavlof Volcano**	**0.56**	**346**		Pn	21 55 37.5	0.0
PS1A	**Pavlof South-1**	**0.60**	**350**		Pn	21 55 37.9	0.0
PS1A					Sn	21 55 49.3	+0.8
SDPT	**Sand Point**	**0.81**	**50**		Pn	21 55 40.2	+0.1
SDPT	**Sand Point**	**0.81**	**50**	Sn	Sn	21 55 51.9	-0.5
SDPT				IAML		21 55 53.4	
	comp=N,222nm,0.5s						
SDPT				IAML		21 55 53.6	
	comp=E,124nm,0.2s						
S12K	**Black Hills**	**0.92**	**342**		Pn	21 55 40.7	-0.8
S12K	**Black Hills**	**0.92**	**342**	Sn	Sn	21 55 53.9	-0.9
S12K				IAML		21 55 54.1	
	comp=E,448nm,0.3s						
FALS	**False Pass**	**1.08**	**272**		Pn	21 55 42.3	-1.0
FALS	**False Pass**	**1.08**	**272**	Sn	Sn	21 55 58.1	+0.1
CNBA	**Chernabura Isl**	**1.14**	**90**		Pn	21 55 43.9	-0.2
CNBA					Sn	21 55 59.4	0.0
ISLZ	**Isanotski Laza**	**1.25**	**266**		Pn	21 55 45.3	-0.3
VNKR	**Veniaminof 5**	**1.73**	**45**		Pn	21 55 51.7	-0.1
VNFG	**Fog Glacier, M**	**1.85**	**37**		Pn	21 55 53.4	0.0
VNFG	**Fog Glacier, M**	**1.85**	**37**	IAML		21 56 23.0	
	comp=E,28nm,0.8s						
VNHG	**Veniaminof 1**	**1.95**	**43**		Pn	21 55 54.9	+0.2
CHGN	**Chignik**	**2.31**	**49**		Pn	21 55 59.1	-0.4
CHGN				IAML		21 56 28.1	
	comp=E,54nm,0.1s						
CHGN				IAML		21 56 33.0	
	comp=N,32nm,0.1s						

*NEIC **11** 21:55:56.3±1.9,31°.66N±0°.01×104°.301W±0°.005, h6km±4km,Error ellipse: s-maj=2.0km s-min=0.7km az=182.0*
*TXNET **11** 21:55:56.3,31°.7N±0°.8×104°.3W±0°.9,h6km±1km,ML2.7/13, Error ellipse: s-maj=1.5km s-min=1.0km az=53.9,final*

NEIC 11 21:55:56.6±1.9,31°.670N±0°.006×104°.30W±0°.02, h5km±1km,mb_Lg2.5/41,ML2.7/38,ML2.3/13,Error ellipse: s-maj=2.9km s-min=2.5km az=259.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB11	**China Draw**	**0.35**	**41**	P	Pg	21 56 04.0	+0.5
TPB11				S	Sg	21 56 09.0	+0.8
TPB13	**Reeves - Culbe**	**0.41**	**106**	S	Sg	21 56 10.9	+1.0
PECS	**Pecos**	**0.48**	**129**	Pg	Pg	21 56 06.2	+0.4
PECS				Sg	Sg	21 56 12.2	+0.1
PECS				IAML		21 56 12.6	
	405nm,0.4s						
PECS	**Pecos**	**0.48**	**129**	P	Pg	21 56 06.2	+0.3
PECS				S	Sg	21 56 12.4	+0.3
TPB12	**Southwest of T**	**0.54**	**147**	P	Pg	21 56 07.1	0.0
TPB12				S	Sg	21 56 14.3	+0.1
TPB07	**Mentone**	**0.55**	**99**	P	Pg	21 56 08.0	+0.8
TPB07				S	Sg	21 56 15.6	+1.2
TPB10	**Southeast of T**	**0.61**	**129**	P	Pg	21 56 08.6	+0.3
TPB10				S	Sg	21 56 16.8	+0.6
CLNB	**Carlsbad**	**0.69**	**31**	P	Pg	21 56 10.2	+0.2
CLNB				S	Sb	21 56 20.6	-0.7
LWM1	**Layne Water Mi**	**0.72**	**127**	P	Pg	21 56 10.9	+0.3
LWM1				S	Sg	21 56 20.7	+0.8
PCOS	**Crockett Middl**	**0.73**	**111**		Sb	21 56 21.1	-1.0
PCOS	**Crockett Middl**	**0.73**	**111**	S	Sb	21 56 21.1	-1.0
LWM2	**Layne Water Mi**	**0.73**	**123**	P	Pg	21 56 11.0	+0.3
LWM2				S	Sg	21 56 21.2	+0.9
TPB01	**Permian Basin**	**0.85**	**148**	P	Pg	21 56 12.3	-0.7
TPB01				S	Sg	21 56 23.2	-0.8
CLN7	**Carlsbad 7**	**0.85**	**29**	Pg	Pg	21 56 13.0	-0.1
CLN7	**Carlsbad 7**	**0.85**	**29**	P	Pg	21 56 13.2	+0.2
TPB03	**Saragosa**	**0.89**	**131**	P	Pg	21 56 13.5	-0.3
TPB03				S	Sg	21 56 25.6	+0.2
MNTX	**Cornudas Mount**	**0.92**	**272**		Pg	21 56 14.4	+0.1
MNTX					Sb	21 56 27.1	-0.6
MNTX	**Cornudas Mount**	**0.92**	**272**	P	Pg	21 56 14.4	+0.1
MNTX				S	Sb	21 56 27.1	-0.6
TPB06	**Permian Basin**	**0.93**	**91**	P	Pb	21 56 15.2	0.0
TPB06				S	Sg	21 56 27.2	+0.7
HTMS	**Hat Mesa**	**0.98**	**35**	Pg	Pg	21 56 15.4	-0.1
HTMS	**Hat Mesa**	**0.98**	**35**	P	Pg	21 56 15.8	+0.3
HTMS				S	Sb	21 56 29.4	-0.2
TPB27	**North of Pyote**	**1.00**	**95**	S	Sb	21 56 29.9	-0.3
TPB04	**Verhalen**	**1.01**	**118**	P	Pg	21 56 15.6	-0.4
TPB04				S	Sg	21 56 29.5	+0.5
NM01	**Eunice**	**1.03**	**48**	S	Sg	21 56 30.3	+0.5
TPB16	**Coyonosa**	**1.05**	**121**	P	Pg	21 56 16.7	-0.1
TPB16				S	Sg	21 56 30.6	+0.2
VHRN	**Van Horn**	**1.06**	**214**	Pg	Pg	21 56 16.0	-0.9
VHRN					Pb	21 56 16.2	-1.3
VHRN					Sg	21 56 30.5	-0.1
VHRN				IAML		21 56 35.6	
	108nm,0.5s						
VHRN	**Van Horn**	**1.06**	**214**	P	Pg	21 56 16.2	-0.7
VHRN				S	Sg	21 56 30.5	-0.1
TPB19	**West of Imperi**	**1.09**	**109**	S	Sn	21 56 33.4	-0.8
TPB05	**Hovey Rd**	**1.12**	**131**	P	Pg	21 56 17.6	-0.6
TPB05				S

	comp=Z,12nm,0.8s					
RTBA	**Rita Blanca**	**4.93**	**15**	IAmb_Lg		21 58 46.4
	comp=Z,12nm,1.1s					
PLPT	**Palo Pinto**	**5.20**	**76**	IAmb_Lg		21 58 39.4
	comp=Z,7.1nm,1.0s					
WMOK	**Wichita Mounta**	**5.55**	**55**	IAmb_Lg		21 58 59.1
	comp=Z,6.8nm,0.7s					
W18A	**Petrified Fore**	**5.70**	**309**	IAmb_Lg		21 59 04.1
	comp=Z,7.9nm,0.8s					
435B	**Jarrell**	**5.82**	**97**	IAmb_Lg		21 59 07.5
	comp=Z,6.5nm,0.7s					
OK038	**West end E0370**	**6.66**	**42**	IAmb_Lg		21 59 27.9
	comp=Z,6.8nm,0.8s					
U38A	**Gravette**	**9.50**	**57**	IAmb_Lg		22 00 59.8
	comp=Z,3.8nm,1.1s					

IDC ***11*** *22:08:12.8±1.8,8˚.55S×114˚.60E,h79km±15km,mb4.1/21, mbtmp4.5/23,MS3.0/12,Error ellipse: s-maj=16.0km s-min=8.4km az=50.0*

NEIC ***11*** *22:08:14.8±2.0,8˚.76S±0˚.08×114˚.55E±0˚.07,h90km±4km, mb4.7/77,Error ellipse: s-maj=12.5km s-min=8.7km az=206.0*

DJA ***11*** *22:08:14.6±0.1,9˚S±2˚×11˚4E±˚,h93km±2km,M4.8/60, mb4.8/60,mB5.3/19,MLv5.1/28,Mw(mB)4.7/19*

ISC 11 22:08:15.0±0.3, 8.79S±0.05×114.53E±0.04, h101km, n220, σ1§45/214, mb4.6/56, 5C, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.49**	**310**		**Pn**	**22 08 29.6**	**-1.2**
JAGI				Sn	**Sn**	**22 08 40.0**	**-2.6**
JAGI	**Jajag, Banyuwa**	**0.49**	**310**	P	**Pn**	**22 08 30.1**	**-0.7**
JAGI				S	**Sn**	**22 08 40.7**	**-1.9**
DNP	**Denpasar**	**0.69**	**81**	P	**Pn**	**22 08 32.8**	**+0.5**
SRBI	**Singaraja**	**0.97**	**44**	P	**Pn**	**22 08 36.8**	**+1.6**
GMJI	**Gumukmas**	**1.19**	**295**	P	**Pn**	**22 08 37.7**	**+0.2**
KMMI	**Kalianget**	**1.81**	**342**	P	**Pn**	**22 08 47.9**	**+2.7**
GRJI	**Gresik**	**2.75**	**312**	P	**Pn**	**22 08 59.0**	**+1.6**
PLAI	**Plampang**	**3.21**	**91**	P	**Pn**	**22 09 05.0**	**+1.4**
TBJI	**Tambak Boyo**	**3.30**	**306**	P	**Pn**	**22 09 06.0**	**+1.3**
NGJI	**Ngawi**	**3.35**	**295**	P	**Pn**	**22 09 07.5**	**+2.1**
PCJI	**Pacitan**	**3.37**	**280**	P	**Pn**	**22 09 05.9**	**+0.3**
BWJI	**Bawean**	**3.46**	**327**	P	**Pn**	**22 09 09.5**	**+2.6**
WOJI	**Wonogiri, Jawa**	**3.69**	**285**	P	**Pn**	**22 09 10.3**	**+0.3**
UGM	**Wanagama**	**4.05**	**282**		**Pn**	**22 09 15.5**	**+0.5**
UGM				Sn	**Sn**	**22 10 01.3**	**-0.2**
UGM	**Wanagama**	**4.05**	**282**	P	**Pn**	**22 09 15.2**	**+0.2**
SMRI	**Semarang**	**4.40**	**293**		**Pn**	**22 09 19.9**	**+0.3**
SMRI	**Semarang**	**4.40**	**293**	P	**Pn**	**22 09 20.0**	**+0.4**
WBSI	**Waikabubak, Su**	**4.88**	**100**	P	**Pn**	**22 09 23.5**	**-2.6**
KPJI	**Karang Pucung**	**5.73**	**284**	P	**Pn**	**22 09 38.5**	**+0.9**
KAPI	**Kappang**	**6.40**	**54**		**Pn**	**22 09 49.0**	**+2.2**
KAPI	**Kappang**	**6.40**	**54**	P	**Pn**	**22 09 48.6**	**+1.9**
	55nm,0.4s,baz=240,slow=7.8,SNR=93						
KAPI				S	**Sn**	**22 10 54.8**	**-3.6**
	28nm,0.6s,baz=77,slow=20,SNR=5.9						
KAPI	**Kappang**	**6.40**	**54**	P	**Pn**	**22 09 48.8**	**+2.0**
KAPI				S	**Sn**	**22 11 00.3**	**+1.9**
BSSI	**Bau Bau, Buton**	**6.47**	**66**	P	**Pn**	**22 09 50.2**	**+2.5**
	1.1nm4μm151nm,0.6s						
BKSI	**Bulukumba**	**6.53**	**59**	P	**Pn**	**22 09 50.7**	**+2.1**
	0.5nm1μm149nm,0.5s						
JCJI	**Jatiwangi**	**6.61**	**290**	P	**Pn**	**22 09 48.6**	**-1.0**
	0.9nm181nm,0.5s						
BNSI	**Bone**	**7.05**	**52**	P	**Pn**	**22 09 59.7**	**+4.1**
SPSI	**Sidrap Palu**	**7.08**	**48**	P	**Pn**	**22 09 58.5**	**+2.5**
	60nm,1.0s						
EDFI	**Ende, Flores**	**7.08**	**90**	P	**Pn**	**22 09 54.4**	**-1.7**
	0.3nm70nm,0.7s						
LEM	**Lembang**	**7.12**	**285**	P	**Pn**	**22 09 54.1**	**-2.5**
	42nm,0.6s,baz=354,slow=21,SNR=6.9						
LEM				LR	LR	22 13 39.0	
	comp=Z,95nm,18.3s,baz=184,slow=46						
LEM	**Lembang**	**7.12**	**285**	P	**Pn**	**22 09 55.7**	**-0.9**
	0.4nm125nm,0.7s						
CNJI	**Cibinong**	**7.47**	**281**	P	**Pn**	**22 10 01.4**	**+0.1**
	0.4nm2μm101nm,0.6s						
MMRI	**Maumere**	**7.62**	**89**	Pn	**Pn**	**22 10 02.3**	**-1.1**
MMRI	**Maumere**	**7.62**	**89**	P	**Pn**	**22 10 02.0**	**-1.4**
	0.5nm92nm,0.6s						
DBJI	**Dramaga**	**8.02**	**286**	P	**Pn**	**22 10 08.2**	**-0.6**
	144nm,0.6s						
SKJI	**Sukabumi**	**8.09**	**282**	P	**Pn**	**22 10 11.6**	**+1.8**
CGJI	**Cibinong**	**9.02**	**283**	P	**Pn**	**22 10 20.9**	**-1.4**
TPI	**Tanjungpandan**	**9.09**	**311**	P	**Pn**	**22 10 24.0**	**+0.7**
	668nm73nm,1.0s						
BATI	**Baumata**	**9.12**	**100**	P	**Pn**	**22 10 21.1**	**-2.7**
	20nm,0.5s,baz=271,slow=24,SNR=2.1						
BATI				S	**Sn**	**22 11 59.1**	**-5.7**
	19nm,0.4s,baz=232,slow=23,SNR=9.2						
STKI	**Sintang**	**9.30**	**341**	P	**Pn**	**22 10 30.7**	**+4.4**
	147nm,0.8s						
PCI	**Palu**	**9.45**	**34**	P	**Pn**	**22 10 30.7**	**+2.5**
	40nm,0.9s						
KASI	**Kota Agung**	**10.47**	**287**	P	**Pn**	**22 10 41.6**	**-0.5**
KSM	**Kuching**	**11.03**	**337**		**Pn**	**22 10 52.8**	**+3.1**
LWLI	**Liwa**	**11.04**	**289**	P	**Pn**	**22 10 49.4**	**-0.6**
MDSI	**Maura Dua**	**11.13**	**292**	P	**Pn**	**22 10 51.2**	**+0.1**
	17nm,0.7s						
SBUM	**Sibu**	**11.40**	**348**		**Pn**	**22 10 55.3**	**+0.7**
TOLI2	**Tolitoli**	**11.64**	**33**	Pn	**Pn**	**22 10 59.5**	**+1.5**
MRSI	**Marisa**	**11.80**	**39**	P	**Pn**	**22 11 03.0**	**+2.9**
	22nm,0.7s						
MNAI	**Manna**	**12.30**	**290**		**Pn**	**22 11 05.1**	**-1.6**
MNAI	**Manna**	**12.30**	**290**	P	**Pn**	**22 11 05.0**	**-1.8**
KSI	**Kapahiang**	**12.91**	**293**	P	**Pn**	**22 11 13.3**	**-1.5**
SANI	**Sanana**	**13.22**	**60**	P	**Pn**	**22 11 20.1**	**+1.2**
	34nm,0.8s						
MBWA	**Marble Bar**	**13.29**	**158**		Pn	22 11 14.1	-5.5
MBWA	**Marble Bar**	**13.29**	**158**	P	Pn	22 11 12.4	-7.2
MBWA				S	Sn	22 13 31.5	-14
GIRL	**Giralia**	**13.78**	**181**	Pn	Pn	22 11 21.6	-4.5
FITZ	**Fitzroy Crossi**	**14.22**	**132**		**Pn**	**22 11 29.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.22**	**132**	P	**Pn**	**22 11 29.1**	**-2.7**
	24nm,0.6s,baz=315,slow=7.5,SNR=58						
FITZ				S	Sn	22 13 56.3	-12
	20nm,0.5s,baz=186,slow=23,SNR=8.4						
FITZ				LR	LR	22 16 21.1	
	comp=Z,20nm,21.9s,baz=355,slow=34						
MYLDM	**Lahad Datu**	**14.43**	**16**	Pn	**Pn**	**22 11 34.5**	**0.0**
KKM	**Kota Kinabalu**	**14.83**	**7**	Pn	**Pn**	**22 11 39.6**	**0.0**
KNRA	**Kununurra**	**15.50**	**118**		**Pn**	**22 11 47.1**	**-1.0**
SAUI	**Saumlaki**	**16.61**	**88**	Pn	**Pn**	**22 12 00.7**	**-1.2**
MTN	**Manton Dam**	**16.80**	**105**	Pn	**Pn**	**22 12 02.5**	**-1.6**
MTN				IAmb	IAmb	22 12 09.5	
	comp=Z,24nm,0.4s						
PBSI	**Pulau Batu**	**18.36**	**297**	P	**P**	**22 12 21.4**	**-0.5**
	comp=Z,314nm,2.3s						
FAKI	**Fak Fak**	**18.56**	**73**		**P**	**22 12 24.4**	**+0.3**
FAKI				IAmb	IAmb	22 12 53.1	
	comp=Z,98nm,1.3s						
FAKI	**Fak Fak**	**18.56**	**73**	P	**P**	**22 12 24.9**	**+0.8**
	comp=Z,63nm,1.2s						
IPM	**Ipoh**	**18.84**	**314**	P	**P**	**22 12 27.2**	**+0.1**
DAV	**Davao City (W)**	**19.22**	**35**	LR	LR	22 20 48.6	
	comp=Z,30nm,18.2s,baz=170,slow=40						
RPSI	**Rantau Prapat**	**19.29**	**306**	P	**P**	**22 12 31.8**	**-0.2**
PSI	**Prapat**	**19.35**	**306**	LR	LR	22 19 51.5	
	comp=Z,82nm,18.3s,baz=140,slow=36						
GSI	**Gunungsitoli**	**19.64**	**300**	P	**P**	**22 12 34.0**	**-1.9**
GSI	**Gunungsitoli**	**19.64**	**300**	P	**P**	**22 12 35.8**	**-0.1**
	comp=Z,41nm,2.1s						
KULM	**Kulim**	**19.67**	**315**	P	**P**	**22 12 35.6**	**-0.5**
MORW	**Morawa**	**20.23**	**176**	P	**P**	**22 12 41.6**	**-0.5**
KCSI	**Kotacane, Aceh**	**20.70**	**306**	P	**P**	**22 12 47.5**	**+0.2**
	comp=Z,11nm,0.6s						
WB0	**Warramunga Arr**	**22.10**	**122**	P	**P**	**22 13 01.9**	**-0.4**
WB0				IAmb	IAmb	22 13 20.4	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**22.14**	**122**		**P**	**22 13 02.0**	**-0.6**
WRA	**Warramunga Arr**	**22.14**	**122**	P	**P**	**22 13 02.3**	**-0.3**
	comp=Z,8.9nm,0.5s,baz=294,slow=12,SNR=66						
WRA				PcP	**PcP**	**22 16 56.4**	**+0.1**
	comp=Z,4.0nm,1.1s,baz=350,slow=2.5,SNR=5.3						
WRA				S	**S**	**22 17 05.6**	**+5.2**
	comp=Z,2.2nm,0.7s,baz=287,slow=27,SNR=6.1						
WRA				ScP	**ScP**	**22 20 25.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=303,slow=2.6,SNR=3.0						
	comp=Z,8.9nm,0.5s						
WRAB	**Tennant Creek**	**22.14**	**122**	P	**P**	**22 13 02.0**	**-0.6**
WR8	**Warramunga Arr**	**22.28**	**122**	P	**P**	**22 13 03.3**	**-0.8**
WR8				IAmb	IAmb	22 13 30.2	
	comp=Z,46nm,1.4s						
LHMI	**Lhok Sumawe**	**22.38**	**308**	P	**P**	**22 13 06.2**	**+1.0**
BAKI	**Biak**	**22.77**	**72**	P	**P**	**22 13 09.6**	**+0.5**
	comp=Z,34nm,0.9s						
SRIT	**Nakonsritamara**	**22.79**	**319**	P	**P**	**22 13 09.6**	**+0.3**
SRIT				IAmb	IAmb	22 13 46.7	
	comp=Z,41nm,1.4s						
AS31	**Alice Springs**	**23.72**	**131**	P	**P**	**22 13 18.2**	**+0.2**
ASAR	**Alice Springs**	**23.72**	**131**		**P**	**22 13 18.0**	**0.0**
ASAR	**Alice Springs**	**23.72**	**131**	P	**P**	**22 13 18.5**	**+0.5**
	comp=Z,11nm,0.5s,baz=304,slow=9.3,SNR=167						
ASAR				PcP	**PcP**	**22 17 00.2**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=303,slow=2.0,SNR=6.6						
ASAR				S	**S**	**22 17 28.9**	**+3.0**
	comp=Z,2.2nm,1.0s,baz=300,slow=17,SNR=5.1						
ASAR				ScP	**ScP**	**22 20 29.3**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=299,slow=2.6,SNR=4.1						
ASAR				LR	LR	22 23 10.5	
	comp=Z,20nm,20.3s,baz=290,slow=38						
	comp=Z,11nm,0.5s						
NWAO	**Narrogin (SRO)**	**24.15**	**174**	P	**P**	**22 13 22.4**	**+0.7**
NWAO				IAmb	IAmb	22 13 23.2	
	comp=Z,20nm,0.7s						
COEN	**Coen**	**28.54**	**103**	P	**P**	**22 14 01.7**	**+0.3**
COEN				IAmb	IAmb	22 14 30.4	
	comp=Z,12nm,1.0s						
INKA	**Innaminka**	**31.11**	**131**	P	**P**	**22 14 23.6**	**-0.4**
BBOO	**Buckleboo**	**31.12**	**143**	P	**P**	**22 14 23.9**	**-0.1**
BBOO				IAmb	IAmb	22 14 26.2	
	comp=Z,19nm,1.1s						
CM31	**Chiang Mai Arr**	**31.13**	**330**	P	**P**	**22 14 24.5**	**+0.2**
CM31				IAmb	IAmb	22 14 26.7	
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.13**	**330**		**P**	**22 14 24.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.13**	**330**	P	**P**	**22 14 23.4**	**-0.9**
	comp=Z,5.6nm,0.7s,baz=148,slow=8.3,SNR=37						
CMAR				LR	LR	22 28 13.7	
	comp=Z,19nm,18.2s,baz=130,slow=39						
	comp=Z,5.6nm,0.7s						
CHTO	**Chiang Mai**	**31.44**	**331**		**P**	**22 14 27.4**	**+0.5**
PMG	**Port Moresby**	**32.22**	**94**	LR	LR	22 31 42.9	
	comp=Z,22nm,19.1s,baz=186,slow=44						
CTAO	**Charters Tower**	**32.65**	**114**	P	**P**	**22 14 37.6**	**0.0**
CTAO				IAmb	IAmb	22 14 57.9	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**34.05**	**136**	P	**P**	**22 14 50.5**	**+0.9**
STKA	**Stephens Creek**	**34.05**	**136**	P	**P**	**22 14 50.6**	**+1.0**
	comp=Z,6.8nm,0.5s,baz=312,slow=9.3,SNR=22						
	comp=Z,6.8nm,0.5s						
PALK	**Pallekele**	**37.30**	**294**	LR	LR	22 30 08.9	
	comp=Z,23nm,19.9s,baz=98,slow=35						
JOW	**Kunigami**	**37.84**	**20**	LR	LR	22 32 52.8	
	comp=Z,15nm,18.7s,baz=282,slow=39						
EIDS	**Eidsvold**	**38.47**	**120**	P	**P**	**22 15 27.1**	**-0.3**
EIDS				IAmb	IAmb	22 15 59.4	
	comp=Z,18nm,1.4s						
BRDH	**Bariadhala**	**38.47**	**325**	LR	LR	22 34 55.1	
	comp=Z,45nm,20.2s,baz=290,slow=42						
SHL	**Shillong**	**40.64**	**328**		**P**	**22 15 45.5**	**0.0**
SHL				IAmb	IAmb	22 15 46.8	
	comp=Z,18nm,1.1s						
ARMA	**Armidale**	**40.76**	**127**	P	**P**	**22 15 46.5**	**+0.1**
CAN	**Canberra**	**41.09**	**135**	P	**P**	**22 15 50.4**	**+1.3**
H08S2	**Diego Garcia H**	**41.60**	**268**	T	T	23 00 06.2	
	baz=95,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**41.61**	**268**	T	T	23 00 07.4	
	baz=95,slow=75,SNR=124						
H08S1	**Diego Garcia H**	**41.62**	**268**	T	T	23 00 07.9	
	baz=95,slow=75,SNR=12						
LSA	**Lhasa**	**44.39**	**330**	P	**P**	**22 16 15.9**	**-0.3**
LSA				IAmb	IAmb	22 16 44.2	
	comp=Z,5.3nm,0.8s						
LSA	**Lhasa**	**44.39**	**330**	P	**P**	**22 16 15.8**	**-0.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**47.68**	**14**	LR	LR	22 39 05.6	
	comp=Z,5μm,18.7s,baz=200,slow=39						
JGF	**Kuroka**	**49.12**	**25**	P	**P**	**22 16 52.5**	**0.0**
JGF				IAmb	IAmb	22 17 08.9	
	comp=Z,15nm,1.3s						
MJAR	**Matsushiro Arr**	**50.28**	**25**	P	**P**	**22 16 59.8**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=198,slow=8.4,SNR=6.4						
	comp=Z,1.9nm,0.5s						
MDJ	**Mudanjiang**	**54.87**	**13**	P	**P**	**22 17 34.0**	**-0.9**
USRK	**Ussuriysk Ar.**	**55.06**	**15**	P	**P**	**22 17 35.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**55.06**	**15**	P	**P**	**22 17 35.1**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=192,slow=7.3,SNR=7.0						
	comp=Z,1.3nm,0.5s						
USA0B	**Ussuriysk Arra**	**55.06**	**15**	P	**P**	**22 17 35.1**	**-1.2**
USA0B				IAmb	IAmb	22 17 41.0	
	comp=Z,12nm,1.5s						
SONM	**Songino Array**	**56.83**	**353**	P	**P**	**22 17 48.4**	**-0.6**
SONM	**Songino Array**	**56.83**	**353**	P	**P**	**22 17 47.6**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=176,slow=8.7,SNR=9.1						
	comp=Z,1.4nm,0.4s						
CASY	**Casey**	**57.48**	**182**	P	**P**	**22 17 53.3**	**+0.2**
CASY				IAmb	IAmb	22 17 53.7	
	comp=Z,5.4nm,0.8s						
NIL	**Nilore**	**57.59**	**319**		**P**	**22 17 52.7**	**-1.8**
NIL				IAmb	IAmb	22 17 53.2	
	comp=Z,5.1nm,0.7s						
TARG	**Taragay, Kyrgy**	**60.50**	**329**	P	**P**	**22 18 15.3**	**+0.4**
KBL	**Kabul**	**60.90**	**318**	P	**P**	**22 18 16.1**	**-1.4**
KDJ	**Kajisay**	**61.11**	**329**		**P**	**22 18 16.8**	**-0.2**
KDJ				IAmb	IAmb	22 18 18.9	
	comp=Z,3.4nm,0.6s						
MKAR	**Makanchi Array**	**62.34**	**336**	P	**P**	**22 18 25.9**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=148,slow=6.9,SNR=88						
	comp=Z,3.3nm,0.5s						
PLWZ	**Palliser**	**62.42**	**132**	P	**P**	**22 18 27.9**	**+0.4**
MRZ	**Mangatainoka R**	**62.45**	**131**	P	**P**	**22 18 27.2**	**-0.5**
ARSB	**Arslanbob**	**62.78**	**326**		**P**	**22 18 29.5**	**-0.5**
ARSB				IAmb	IAmb	22 18 30.1	
	comp=Z,5.9nm,0.8s						
GAR	**Garm**	**62.81**	**322**	P	**P**	**22 18 29.2**	**-1.0**
GAR				IAmb	IAmb	22 18 29.3	
	comp=Z,5.9nm,0.7s						
BKZ	**Black Stump Fm**	**62.83**	**130**	P	**P**	**22 18 30.1**	**-0.2**
AAK	**Ala-Archa**	**62.87**	**328**	LR	LR	22 50 52.7	
	comp=Z,18nm,19.3s,baz=51,slow=41						
MHTO	**MHTO**	**62.94**	**299**	P	**P**	**22 18 29.9**	**-1.3**
	SNR=12						
JMDO	**Jabal Madar**	**63.35**	**300**	P	**P**	**22 18 33.1**	**-0.8**
SMDO	**Samad**	**63.66**	**301**	P	**P**	**22 18 34.9**	**-1.2**
BIDO	**Bidbid**	**63.78**	**302**	P	**P**	**22 18 36.0**	**-0.7**
HOQ	**Hoqain**	**64.49**	**301**	P	**P**	**22 18 40.3**	**-1.0**
H04N2	**CROZET ISLANDS**	**64.92**	**223**	T	T	23 29 43.8	
	baz=75,slow=75,SNR=52						
H04N1	**CROZET ISLANDS**	**64.93**	**223**	T	T	23 29 45.8	
	baz=75,slow=75,SNR=47						
H04N3	**CROZET ISLANDS**	**64.93**	**223**	T	T	23 29 43.1	
	baz=75,slow=75,SNR=54						
RBK	**Rabkut**	**65.06**	**294**	P	**P**	**22 18 44.9**	**-0.3**
KKAR	**Karatay Array**	**65.34**	**326**	P	**P**	**22 18 45.3**	**-1.2**
SOHO	**SOHO**	**65.36**	**302**	P	**P**	**22 18 45.8**	**-1.2**
DOK	**Doka**	**65.49**	**295**	P	**P**	**22 18 47.0**	**-0.9**
	SNR=10.0						
WHFO	**Wadi Hawf**	**65.59**	**294**	P	**P**	**22 18 48.0**	**-0.6**
	SNR=12						
ABTO	**Aybut**	**65.84**	**293**	P	**P**	**22 18 49.7**	**-0.5**
UOSS	**Minazif**	**65.95**	**302**	P	**P**	**22 18 49.9**	**-0.9**
UOSS				IAmb	IAmb	22 19 33.9	
	comp=Z,7.0nm,1.1s						
UOSS	**Minazif**	**65.95**	**302**	P	**P**	**22 18 49.5**	**-1.3**
HATD	**Hatta, Dubai**	**65.96**	**302**	P	**P**	**22 18 50.2**	**-0.6**
ASHO	**Ashiyiah**	**65.97**	**302**	P	**P**	**22 18 50.6**	**-0.4**
	SNR=6.8						
ALNE	**Al Ain**	**65.99**	**301**	P	**P**	**22 18 50.4**	**-0.7**
MDH	**Madha**	**66.01**	**303**	P	**P**	**22 18 48.4**	**-2.8**
MASF	**Masafi**	**66.15**	**303**	P	**P**	**22 18 51.0**	**-1.1**
VOI	**Vohitsoka**	**66.17**	**250**	P	**P**	**22 18 53.6**	**+1.2**
VOI				IAmb	IAmb	22 18 54.7	
	comp=Z,12nm,0.9s						
FAQ	**Al Faqa, Dubai**	**66.39**	**302**	P	**P**	**22 18 52.8**	**-0.7**
ASUD	**Al Ashush, Dub**	**66.56**	**302**	P	**P**	**22 18 54.4**	**-0.3**
	SNR=11						
AJN	**Ajban**	**66.83**	**301**	P	**P**	**22 18 54.5**	**-1.9**
KURBB	**Kurchatov Arra**	**66.90**	**336**	P	**P**	**22 18 54.7**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=153,slow=5.8,SNR=11						
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**66.93**	**336**		**P**	**22 18 55.6**	**-0.9**
ZAA0	**Zalesovo Array**	**67.35**	**341**	P	**P**	**22 18 58.4**	**-0.7**
ZALV	**Zalesovo Beam**	**67.35**	**341**	P	**P**	**22 18 57.5**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=144,slow=4.5,SNR=9.4						
	comp=Z,1.9nm,0.5s						
MZR	**Muzera**	**67.55**	**299**	P	**P**	**22 19 00.5**	**-0.4**
MAW	**Mawson**	**67.97**	**199**	P	**P**	**22 19 03.5**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=102,slow=7.8,SNR=6.1						
	comp=Z,3.2nm,0.7s						
TRNA	**Turayna**	**70.09**	**300**	P	**P**	**22 19 15.7**	**-0.9**
SMRA	**Abu-Samra**	**70.43**	**300**	P	**P**	**22 19 17.3**	**-1.4**
BVAR	**Borovoye Array**	**72.09**	**334**	P	**P**	**22 19 27.3**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=141,slow=9.6,SNR=9.9						
	comp=Z,2.8nm,0.7s						
VNDA	**Vanda**	**72.91**	**170**	P	**P**	**22 19 33.5**	**+0.8**
VNDA	**Vanda**	**72.91**	**170**	P	**P**	**22 19 34.1**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=322,slow=7.3,SNR=6.7						
	comp=Z,0.9nm,0.5s						
SBA	**Scott Base**	**73.95**	**170**	P	**P**	**22 19 38.6**	**-0.2**
RAYN	**Ar Rayn**	**74.66**	**297**		**P**	**22 19 43.4**	**-0.6**
AB31	**Akbulak array**	**74.89**	**326**		**P**	**22 19 44.0**	**-0.7**
AB31				IAmb	IAmb	22 19 44.5	
	comp=Z,6.3nm,0.7s						
ABKAR	**Akbulak array**	**74.89**	**326**		**P**	**22 19 43.9**	**-0.8**
KIBK	**Kibwezi**	**76.29**	**270**	P	**P**	**22 19 53.8**	**+0.3**
SYO	**Syowa Base**	**76.46**	**201**	⇑eP	**P**	**22 19 54.3**	**+1.0**
ARTI	**Arti**	**79.62**	**332**	P	**P**	**22 20 09.9**	**-1.0**
ARTI				IAmb	IAmb	22 20 10.3	
	comp=Z,5.5nm,0.6s						
POGA	**Pongola**	**79.67**	**244**	P	**P**	**22 20 13.4**	**+1.5**
POGA				IAmb	IAmb	22 20 18.2	
	comp=Z,11nm,0.9s						
GEVA	**Gevas**	**81.17**	**311**	P	**P**	**22 20 20.7**	**+0.7**
GEVA				IAmb	IAmb	22 20 59.9	
	comp=Z,16nm,1.2s						
QSPA	**South Pole Qui**	**81.21**	**180**		**P**	**22 20 20.9**	**+1.4**
QSPA				IAmb	IAmb	22 20 22.5	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**81.21**	**180**	P	**P**	**22 20 21.2**	**+1.7**
	comp=Z,4.2nm,0.9s,baz=353,slow=4.5,SNR=21						
QSPA				LR	LR	22 56 18.0	
	comp=Z,19nm,18.2s,baz=224,slow=35						
	comp=Z,4.2nm,0.9s						
GURO	**Guroymak-BITLI**	**82.01**	**311**	P	**P**	**22 20 25.0**	**+0.7**
GURO				IAmb	IAmb	22 20 25.5	
	comp=Z,7.7nm,0.5s						
MARD	**Mardin**	**82.59**	**309**		**P**	**22 20 27.2**	**-0.1**
KBZ	**Khabaz**	**83.03**	**316**	P	**P**	**22 20 28.9**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=114,slow=5.8,SNR=5.4						
	comp=Z,1.8nm,0.6s						
KOPT	**Kop Dagi**	**83.59**	**312**	P	**P**	**22 20 33.7**	**+1.1**
KOPT				IAmb	IAmb	22 20 35.8	
	comp=Z,5.7nm,0.7s						
MREMI	**Moremi**	**84.00**	**248**	*i* P	**P**	**22 20 36.4**	**+1.5**
MREMI	**Moremi**	**84.00**	**248**		**P**	**22 20 35.8**	**+0.9**
LSZ	**Lusaka**	**84.22**	**255**		**P**	**22 20 36.7**	**+0.6**
LSZ				IAmb	IAmb	22 20 38.1	
	comp=Z,11nm,0.8s						
BROLN	**Tlhalogang**	**84.29**	**250**	*i* P	**P**	**22 20 37.1**	**+0.7**
GHAJ	**Ghor Haditha**	**85.21**	**303**	P	**P**	**22 20 41.9**	**+1.4**
BOSA	**Boshof**	**85.22**	**242**	P	**P**	**22 20 42.4**	**+1.4**
BOSA				IAmb	IAmb	22 20 44.5	
	comp=Z,14nm,1.2s						
BOSA	**Boshof**	**85.22**	**242**	P	**P**	**22 20 42.0**	**+1.1**
	comp=Z,7.4nm,1.0s,baz=126,slow=3.0,SNR=9.9						
	comp=Z,7.4nm,1.0s						
BALJ	**Balqa**	**85.33**	**303**	P	**P**	**22 20 42.5**	**+1.3**
BALJ				IAmb	IAmb	22 20 45.3	
	comp=Z,4.5nm,0.7s						
LPHEP	**Lephephe**	**85.36**	**247**	*i* P	**P**	**22 20 43.2**	**+1.5**
LPHEP	**Lephephe**	**85.36**	**247**	P	**P**	**22 20 43.0**	**+1.3**
LPHEP				IAmb	IAmb	22 20 44.5	
	comp

REDR				⇑eSg	Sg	22 10 53.3	+2.9	
REDR				IAML		22 10 53.9		
	comp=N,21nm,0.2s							
ABDR	**Alto Bandera**	1.16	52	*i* P	Pn	22 10 37.0	-0.6	
ABDR				⇑eSg	Sg	22 10 55.0	+1.9	
ABDR				IAML		22 11 08.9		
	comp=N,25nm,1.9s							
BANI	**BANI**	1.21	76	*i* P	Pn	22 10 37.5	-0.6	
BANI				IAML		22 10 58.1		
	comp=N,37nm,0.8s							

NNC ***11*** *22:34:36.4±1.0, 42.°48N×70.°27E, h0km±8km, mb3.0, mpv2.9, Error ellipse: s-maj=3.3km s-min=2.4km az=115.0*
SOME ***11*** *22:34:36.3, 42.°45N×70.°25E, h15km*
KRNET ***11*** *22:34:45.3±0.1, 41.°45N×70.°04E, mb2.5*
ISU ***11*** *22:35:02, 41.°71N×70.°40E, h18km*

ISC 11 22:34:36.1±1.0, 42.°50N±0.°03×70.°23E±0.°03, h15km±11km, n17, σ2§09/25, 3C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	0.38	202	P	**Pg**	**22 34 43.5**	**-0.4**
	89nm,0.1s						
IUG				S	**Sb**	**22 34 49.1**	**-1.3**
	177nm,0.2s						
CHM	**Chimkent**	0.50	248	*e*P	**Pg**	**22 34 46.4**	**+0.5**
	72nm,0.2s						
CHM				*e*S	**Sb**	**22 34 53.9**	**+0.3**
	121nm,0.1s						
BRLS	**Boroldav**	0.60	332	P	**Pg**	**22 34 46.7**	**-1.2**
	8.7nm,0.1s						
BRLS				S	**Sg**	**22 34 55.3**	**-0.6**
	19nm,0.1s						
BRLS	**Boroldav**	0.60	332	*e*P	**Pg**	**22 34 46.7**	**-1.2**
	8.7nm,0.1s						
BRLS				*e*S	**Sg**	**22 34 55.3**	**-0.6**
	19nm,0.1s						
KK31	**Karatay Array**	0.64	19	P	**Pg**	**22 34 49.4**	**+0.8**
	0.9nm,0.3s,baz=199,slow=17,SNR=42						
KK31				⇓S	**Sg**	**22 34 58.0**	**+0.9**
	4.7nm,0.3s,baz=197,slow=31,SNR=19						
TRKS	**Terek-Say**	1.19	145	⇓*i*P	**Pg**	**22 35 01.5**	**+2.5**
TRKS				⇓*i*S	**Sn**	**22 35 13.3**	**-0.9**
TGS	**TashGRES**	1.20	206	P	Pg	22 35 18.2	+19
NZBK	**Nazarbek**	1.52	213	S	Sg	22 35 36.0	+11
MRKS	**Merke**	2.23	83	*e*P	**Pb**	**22 35 16.9**	**+0.8**
	4.7nm,0.3s						
MRKS				*e*S	**Sg**	**22 35 46.1**	**-1.6**
	11nm,0.3s						
ARSB	**Arslanbob**	2.37	119	⇑*i*P	**Pg**	**22 35 22.6**	**+1.0**
ARSB				⇑*i*S	**Sg**	**22 35 49.8**	**-2.5**
CHMI	**Chimion**	2.44	156	S	**Sg**	**22 35 54.4**	**0.0**
SALK	**Salom-Alik**	3.14	120	⇓*i*P	**Pb**	**22 35 32.2**	**+0.5**
SALK				⇓*i*S	**Sb**	**22 36 06.4**	**-3.5**
AAK	**Ala-Archa**	3.16	86	⇑Pg	**Pb**	**22 35 33.2**	**+1.2**
	0.4nm,0.4s						
AAK				⇓Lg	Lg	22 36 13.6	
	0.4nm,0.4s						
DGS	**Degeres**	4.14	78	Pg	**Pb**	**22 35 51.1**	**+2.3**
	1.0nm,0.5s						
DGS				Lg	Lg	22 36 44.2	
	1.9nm,0.3s						
KST	**Kastek**	4.26	81	Pg	**Pb**	**22 35 52.9**	**+2.1**
	0.4nm,0.1s						
KST				Lg	Lg	22 36 48.1	
	5.3nm,0.4s						
KST	**Kastek**	4.26	81	*e*P	**Pb**	**22 35 53.5**	**+2.8**
	0.6nm,0.2s						
KST				*e*S	**Sg**	**22 36 48.7**	**-4.1**
	5.3nm,0.4s						
KTBS	**Karatobe**	4.88	73	Pg	**Pb**	**22 36 05.5**	**+4.2**
	0.3nm,0.2s						
KTBS				Lg	Lg	22 37 09.9	
	2.4nm,0.2s						

WEL 11 22:35:21.6±0.5, 39.°S±3.°×17.°5E±.°, h20km±6km, M3.6/75, ML4.1/16, MLv3.6/75, Error ellipse: s-maj=6.3km s-min=4.4km az=97.9, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	0.06	122	P	Pg	22 35 27.0	+1.7
PKVZ				S	Sg	22 35 30.4	+2.6
MTVZ	**Mangateitei**	0.20	131	P	Pg	22 35 27.9	+1.2
MTVZ				S	Sg	22 35 32.1	+1.9
COVZ	**Chateau Observ**	0.21	74	P	Pg	22 35 28.5	+1.5
COVZ				S	Sg	22 35 32.9	+2.2
FWVZ	**Far West T-bar**	0.21	90	P	Pg	22 35 28.5	+1.4
FWVZ				S	Sg	22 35 32.7	+1.9
TRVZ	**Turoa**	0.21	101	P	Pg	22 35 28.5	+1.4
TRVZ				S	Sg	22 35 32.7	+1.8
MAVZ	**Matarangi**	0.22	93	P	Pg	22 35 28.6	+1.3
MAVZ				S	Sg	22 35 32.8	+1.7
TWVZ	**Taurewa**	0.22	33	P	Pg	22 35 28.7	+1.5
TWVZ				S	Sg	22 35 33.0	+2.1
WHVZ	**Whangaehu Hut**	0.24	96	P	Pg	22 35 28.7	+1.2
WHVZ				S	Sg	22 35 32.9	+1.3
WNVZ	**Wahianoa**	0.26	106	P	Pg	22 35 28.9	+1.2
NGZ	**Ngauruhoe**	0.26	72	P	Pg	22 35 29.2	+1.4
WTVZ	**West Tongariro**	0.28	60	P	Pn	22 35 29.4	-1.3
WTVZ				S	Sn	22 35 34.6	-1.9
NNVZ	**North Ngauruho**	0.29	64	P	Pn	22 35 29.6	-1.3
NNVZ				S	Sn	22 35 35.0	-1.7
SNVZ	**South Ngauruho**	0.29	76	P	Pg	22 35 29.5	+1.3
TUVZ	**Tukino**	0.29	92	P	Pn	22 35 29.6	-1.3
OTVZ	**Oturere**	0.31	73	P	Pb	22 35 29.9	+1.3
ETVZ	**East Tongariro**	0.36	70	P	Pb	22 35 30.5	+1.1
TMVZ	**Te Maari**	0.36	67	P	Pb	22 35 30.5	+1.1
MOVZ	**Moawhango**	0.40	112	P	Pb	22 35 30.6	+0.6
VRZ	**Vera Road**	0.43	288	P	Pb	22 35 30.9	+0.4
KATZ	**Kakaramea**	0.43	49	P	Pb	22 35 31.6	+1.0
RITZ	**Rihia Road**	0.53	58	P	Pn	22 35 33.4	-0.7
RATZ	**Rangitukua**	0.55	45	P	Pn	22 35 33.5	-0.8
WAZ	**Wanganui**	0.55	205	P	Pg	22 35 32.7	+0.1
WATZ	**Wairara**	0.65	33	P	Pn	22 35 35.2	-0.6
LREZ	**Lake Rotokare**	0.71	253	P	Pg	22 35 35.5	-0.1
MHEZ	**Mangahewa**	0.77	283	P	Pn	22 35 37.2	-0.1
WHTZ	**Whakaora**	0.79	42	P	Pn	22 35 39.8	+2.1
HIZ	**Hauiti**	0.81	336	P	Pg	22 35 37.5	-0.1
DREZ	**Durham Road**	0.84	274	P	Pb	22 35 37.1	-0.4
PREZ	**Palmer Road**	0.87	264	P	Pg	22 35 38.5	-0.2
KUTZ	**Kaahu Road**	0.88	29	P	Pg	22 35 38.6	-0.1
KWHZ	**Kaweka Forest**	0.90	101	P	Pg	22 35 39.0	-0.3
NEZ	**North Egmont**	0.92	269	P	Pb	22 35 39.1	+0.1
KRHZ	**Kereru**	0.93	115	P	Pb	22 35 38.7	-0.4
BKZ	**Black Stump Fm**	0.95	85	P	Pn	22 35 39.8	-0.1
OHWZ	**Ohakea**	0.95	178	P	Pb	22 35 39.2	-0.2
TLZ	**Tolley Road**	0.95	12	P	Pb	22 35 39.0	-0.4
TSZ	**Takapari Road**	0.96	147	P	Pb	22 35 39.2	-0.3
PNHZ	**Pukenui**	0.97	133	P	Pb	22 35 39.4	-0.4
MRHZ	**Matea Rd**	0.98	65	P	Pb	22 35 40.0	0.0
KHEZ	**Kahui Hut**	0.98	267	P	Pn	22 35 40.4	0.0
PKE	**Pukeiti**	1.01	273	P	Pn	22 35 40.6	0.0
WPRZ	**Whakapapatarin**	1.01	43	P	Pn	22 35 40.8	+0.1
NBEZ	**Newall Road No**	1.10	269	P	Pn	22 35 41.7	-0.1
NMEZ	**Namu Road**	1.10	261	P	Pn	22 35 41.8	+0.0
GRRZ	**Galatos Road**	1.11	36	P	Pn	22 35 41.9	-0.2
MCHZ	**McNeill Hill**	1.11	100	P	Pg	22 35 43.9	+0.6
HRRZ	**Handcock Road**	1.17	42	P	Pg	22 35 45.7	+1.5
POWZ	**Post Office Ro**	1.19	162	P	Pn	22 35 43.0	-0.2
NMHZ	**Naumai**	1.20	83	P	Pg	22 35 46.1	+1.2
WPHZ	**Waipukurau**	1.21	132	P	Pg	22 35 44.7	-0.3
HSRZ	**Hossack Road**	1.21	39	P	Pg	22 35 44.5	-0.5
DVHZ	**Dannevirke**	1.25	147	P	Pb	22 35 44.8	+0.4
MTHZ	**Maungataniwha**	1.28	72	P	Pg	22 35 45.9	-0.5
UTU	**Utuhina**	1.29	34	P	Pg	22 35 47.3	+0.7
ARHZ	**Aropaoanui**	1.33	91	P	Pg	22 35 47.0	-0.4
KAHZ	**Kahuranaki**	1.35	114	P	Pg	22 35 47.3	-0.3
PRWZ	**Pori Road**	1.40	158	P	Pb	22 35 47.4	+0.3
MRZ	**Mangatainoka R**	1.42	171	P	Pn	22 35 46.5	+0.2
PXZ	**Pawanui**	1.45	123	P	Pg	22 35 49.2	-0.4
RAHZ	**Arahi**	1.45	77	P	Pg	22 35 50.6	+1.0
CKHZ	**Cape Kidnapper**	1.45	107	P	Pb	22 35 48.5	+0.6
KARZ	**Kaharoa**	1.45	32	P	Pb	22 35 51.5	+2.0
PRHZ	**Porangahau**	1.45	134	P	Pb	22 35 48.1	+0.2
ANWZ	**Angora Road**	1.51	143	P	Pb	22 35 48.8	-0.2
TOZ	**Tahuroa Road**	1.53	7	P	Pn	22 35 47.2	-0.7
OGWZ	**Otaki Gorge**	1.56	183	P	Pn	22 35 48.0	-0.2
TIWZ	**Tintock**	1.59	163	P	Pb	22 35 49.9	-0.4
BFZ	**Birch Farm**	1.60	153	P	Pb	22 35 49.9	-0.7
KIW	**Kapiti Island**	1.63	190	P	Pn	22 35 49.2	0.0
HOWZ	**Holdsworth Sta**	1.65	174	P	Pn	22 35 50.1	+0.6
SNGZ	**Shannon Statio**	1.67	74	P	Pb	22 35 52.3	+0.6
MARZ	**Manawahe**	1.68	41	P	Pn	22 35 50.4	+0.6
TGRZ	**Tauranga**	1.71	27	P	Pg	22 35 54.3	-0.2
OPRZ	**Ohinepanea**	1.73	36	P	Pg	22 35 54.7	-0.2
URZ	**Urewera**	1.74	56	P	Pb	22 35 53.6	+0.7
CPWZ	**Castlepoint**	1.80	157	P	Pg	22 35 55.4	-0.8
CAW	**Cannon Point**	1.85	185	P	Pn	22 35 53.4	+1.1
DUWZ	**D'Urville Isla**	1.86	214	P	Pn	22 35 51.8	-0.6
MTW	**Mount Morrison**	1.91	175	P	Pn	22 35 53.7	+0.7
TMWZ	**Te Maipa**	1.91	166	P	Pb	22 35 55.7	0.0
MWZ	**Matawai**	1.98	63	P	Pb	22 35 56.2	-0.8
WEL	**Wellington**	2.06	191	P	Pb	22 35 58.7	+0.3
TCW	**Tory Channel**	2.10	201	P	Pn	22 35 56.0	+0.4
PAWZ	**Paruwai Farm**	2.12	177	P	Pn	22 35 57.7	+1.6
MKAZ	**Moumakai**	2.15	357	P	Pn	22 35 55.9	-0.5
MSWZ	**Moikau Station**	2.16	181	P	Pn	22 35 56.5	0.0
TRWZ	**Traveller**	2.16	172	P	Pb	22 35 59.1	-1.0
BHW	**Baring Head**	2.17	188	P	Pn	22 35 57.0	+0.4
AWAZ	**Awhitu Peninsu**	2.25	347	P	Pn	22 35 58.2	+0.5
PLWZ	**Palliser**	2.31	180	P	Pn	22 35 58.5	-0.1
ETAZ	**East Tamaki Re**	2.32	353	P	Pn	22 35 59.3	+0.7
WTAZ	**Waiatarua**	2.39	346	P	Pn	22 36 00.3	+0.6
TUWZ	**Tuamarina**	2.40	205	P	Pn	22 36 00.9	+1.1
NNZ	**Nelson**	2.44	216	P	Pn	22 36 00.6	+0.2
WIAZ	**Waiheke Island**	2.46	357	P	Pb	22 36 03.9	-1.3
MBAZ	**Motutapu North**	2.50	353	P	Pn	22 36 01.3	+0.1
TKNZ	**Takaka Hill**	2.51	224	P	Pn	22 36 01.0	-0.4
KUZ	**Kuaotunu**	2.53	8	P	Pn	22 36 03.1	+1.5
CMWZ	**Cape Campbell**	2.62	198	P	Pb	22 36 07.0	-0.9
QRZ	**Quartz Range**	2.63	233	P	Pn	22 36 02.3	-0.6
BSWZ	**Blackbirch Sta**	2.68	203	P	Pn	22 36 05.6	+2.0
MRNZ	**Matariki Terra**	2.88	221	P	Pn	22 36 07.6	+1.2
THZ	**Tophouse**	3.09	215	P	Pn	22 36 10.3	+1.0
WCZ	**Waipu Caves**	3.39	347	P	Pn	22 36 13.2	-0.2
KHZ	**Kahutara**	3.42	202	P	Pn	22 36 13.4	-0.4
DSZ	**Denniston Nort**	3.63	226	P	Pn	22 36 16.8	+0.1
GVZ	**Greta Valley S**	4.08	204	P	Pn	22 36 21.8	-1.0
LTZ	**Lake Taylor**	4.19	212	P	Pn	22 36 24.7	+0.2
MHCZ	**Mount Hutt**	5.10	212	P	Pn	22 36 38.3	+1.3
WVZ	**Waitaha Valley**	5.13	220	P	Pn	22 36 38.3	+1.1
RPZ	**Rata Peaks**	5.47	214	P	Pn	22 36 44.5	+2.6
GCSZ	**Gaunt Creek Bo**	5.51	221	P	Pn	22 36 43.7	+1.1
FOZ	**Fox Glacier**	5.93	222	P	Pn	22 36 48.7	+0.5
JCZ	**Jackson Bay**	6.84	223	P	Pn	22 37 00.8	0.0

SJA ***11*** *22:48:16.4±0.7, 24.°13S×67.°02W, h210km±4km, ML3.4, MW3.5*
GUC ***11*** *22:48:19.3±0.6, 24.°09S×67.°38W, h227km±10km, ML3.6*

ISC 11 22:48:15.8±1.8, 24.°11S±0.°04×67.°04W±0.°05, h213km±15km, n35, σ1§87/62, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA			0.65 100	*e*P	**Pn**	**22 48 45.7**	**+0.1**
SALTA				*e*S	**Sn**	**22 49 08.4**	**-0.2**
SLA	**San Lorenzo**	1.52	114	*e*P	**Pn**	**22 48 51.9**	**+0.9**
SLA				*e*S	**Sn**	**22 49 17.7**	**-0.7**
AF01	**San Pedro de A**	1.56	318	*e*S		22 49 29.5	
AF01				IAML		22 50 09.0	
	comp=Z,123nm,0.1s						
AZAP	**Zapla**	1.80	94	*e*P	**Pn**	**22 48 54.2**	**+0.6**
FSA	**Cafayete**	2.21	154	*e*P	**Pn**	**22 48 58.2**	**+0.7**
GO02	**Mina Guanaco**	2.55	245	*e*P	**Pn**	**22 49 02.8**	**+1.5**
GO02				*i* S	**Sn**	**22 49 36.4**	**-0.5**
GO02				IAML		22 49 37.5	
	comp=N,203nm,0.2s						
GO02	**Mina Guanaco**	2.55	245	*e*P	**Pn**	**22 49 02.8**	**+1.5**
GO02				*e*S	**Sn**	**22 49 36.4**	**-0.5**
PB06	**IPOC Station P**	2.72	301	⇑*i*P	**Pn**	**22 49 04.9**	**+1.8**
PB06				*i* S	**Sn**	**22 49 39.0**	**-1.0**
PB06				IAML		22 49 40.4	
	comp=N,234nm,0.2s						
PB06	**IPOC Station P**	2.72	301	*e*P	**Pn**	**22 49 04.5**	**+1.4**
PB06				*e*S	**Sn**	**22 49 39.5**	**-0.5**
PB06				IAML		22 49 43.4	
	comp=Z,150nm,0.2s						
ALOL	**LOMAS DE OLMED**	2.81	85	*e*P	**Pn**	**22 49 05.1**	**+1.2**
PB09	**IPOC Station P**	3.07	318	*e*P	**Pn**	**22 49 09.6**	**+2.4**
PB09				*i* S	**Sn**	**22 49 46.9**	**-0.5**
PB09				IAML		22 49 48.8	
	comp=N,89nm,0.7s						
PB09	**IPOC Station P**	3.07	318	*e*P	**Pn**	**22 49 09.1**	**+1.9**
PB09				*e*S	**Sn**	**22 49 42.4**	**-5.0**
PB09				IAML		22 49 54.2	
	comp=Z,80nm,0.5s						
PB14	**IPOC Station P**	3.11	260	*e*P	**Pn**	**22 49 08.9**	**+1.3**
PB14	**IPOC Station P**	3.11	260	*e*P	**Pn**	**22 49 08.4**	**+0.8**
PB14				*e*S	**Sn**	**22 49 47.7**	**-0.6**
PB14				IAML		22 49 50.3	
	comp=Z,46nm,0.5s						
PB05	**IPOC Station P**	3.17	293	⇑*i*P	**Pn**	**22 49 09.5**	**+1.4**
PB05				*i* S	**Sn**	**22 49 46.9**	**-2.2**
PB05				IAML		22 49 51.0	
	comp=E,61nm,0.3s						
PB05	**IPOC Station P**	3.17	293	*e*P	**Pn**	**22 49 09.7**	**+1.6**
PB05				*e*S	**Sn**	**22 49 48.0**	**-1.1**
PB05				IAML		22 49 54.5	
	comp=Z,43nm,0.4s						
PB03	**IPOC Station P**	3.24	309	⇑*e*P	**Pn**	**22 49 10.8**	**+1.8**
PB03				*i* S	**Sn**	**22 49 49.6**	**-1.2**
PB03	**IPOC Station P**	3.24	309	*e*P	**Pn**	**22 49 10.4**	**+1.3**
PB03				*e*S	**Sn**	**22 49 50.2**	**-0.6**
PB03				IAML		22 49 50.9	
	comp=Z,163nm,0.4s						
PB10	**IPOC Station P**	3.27	280	*e*P	**Pn**	**22 49 11.0**	**+1.7**
PB10				*i* S	**Sn**	**22 49 48.9**	**-2.4**
PB10				IAML		22 49 52.4	
	comp=N,46nm,0.6s						
PB10	**IPOC Station P**	3.27	280	*e*P	**Pn**	**22 49 11.2**	**+1.9**
PB10				*e*S	**Sn**	**22 49 51.4**	**+0.2**
PB10				IAML		22 49 54.8	
	comp=Z,40nm,0.4s						
AC02	**Maricunga**	3.30	214	*e*P	**Pn**	**22 49 11.9**	**+1.8**
AC02	**Maricunga**	3.30	214	*e*P	**Pn**	**22 49 12.8**	**+2.7**
AC02				*e*S	**Sn**	**22 49 49.3**	**-3.5**
PB01	**IPOC Station P**	3.80	323	*e*P	**Pn**	**22 49 17.1**	**+1.3**
PB01	**IPOC Station P**	3.80	323	*e*P	**Pn**	**22 49 17.1**	**+1.3**
PB01				*e*S	**Sn**	**22 50 02.2**	**-0.7**
PB01				IAML		22 50 07.6	
	comp=Z,46nm,0.5s						
AC01	**Pan de Azucar**	3.81	237	*e*P	**Pn**	**22 49 16.2**	**+0.5**
AC01				*i* S	**Sn**	**22 50 00.1**	**-2.7**
AC01	**Pan de Azucar**	3.81	237	*e*P	**Pn**	**22 49 15.6**	**-0.1**
AC01				*e*S	**Sn**	**22 50 01.5**	**-1.3**
AC01				IAML		22 50 01.7	
	comp=Z,47nm,0.3s						
PB02	**IPOC Station P**	3.83	316	*e*P	**Pn**	**22 49 17.8**	**+1.6**
PB02				*i* S	**Sn**	**22 50 00.9**	**-2.7**
PATCX	**Punta Patache**	4.36	318	*e*P	**Pn**	**22 49 23.8**	**+1.1**
PATCX				*i* S	**Sn**	**22 50 11.9**	**-3.4**
PATCX	**Punta Patache**	4.36	318	*e*P	**Pn**	**22 49 24.3**	**+1.7**
PATCX				*e*S	**Sn**	**22 50 18.2**	**+2.9**
PATCX				IAML		22 50 25.2	
	comp=Z,35nm,0.9s						
PB08	**IPOC Station P**	4.41	333	⇓*e*P	**Pn**	**22 49 25.7**	**+2.1**
PB08				*e*S	**Sn**	**22 50 17.4**	**+0.4**
PB08	**IPOC Station P**	4.41	333	*e*P	**Pn**	**22 49 25.5**	**+2.0**
PB08				*e*S	**Sn**	**22 50 12.4**	**-4.6**
PB08				IAML		22 50 19.5	
	comp=Z,27nm,0.5s						
GO03	**Copiapo**	4.51	219	*e*P	**Pn**	**22 49 25.2**	**+0.9**
GO03				*e*S	**Sn**	**22 50 16.5**	**-1.9**
HMBC	**Humberstone**	4.64	325	*e*P	**Pn**	**22 49 26.7**	**+0.5**
HMBC				*e*S	**Sn**	**22 50 19.4**	**-2.3**
HMBC				IAML		22 50 24.2	
	comp=Z,51nm,0.4s						
PB11	**IPOC Station P**	4.97	330	*e*P	**Pn**	**22 49 30.9**	**+0.6**
PB11				*e*S	**Sn**	**22 50 26.9**	**-2.2**
PB11				IAML		22 50 30.1	
	comp=Z,24nm,0.3s						
ACLC	**CERRO LA CRUZ**	5.29	179	*e*P	**Pn**	**22 49 36.4**	**+2.1**
ACLC				*e*S	**Sn**	**22 50 37.2**	**+0.7**

IDC ***11*** *22:51:27.0±0.4, 9.°58S×114.°08E, h0km, mb4.7/30, mbtmp4.7/30, MS4.1/54, Error ellipse: s-maj=15.5km s-min=9.3km az=55.0*

BJI ***11*** *22:51:30.8, 9.°80S×113.°90E, h30km, mB5.2/10, mb4.8/43, Ms4.6/14, Ms7.4,3/17*
MOS ***11*** *22:51:31.6±0.9, 9.°55S×114.°00E, h37km, mb5.1/50, Error ellipse: s-maj=9.7km s-min=5.4km az=115.8*
NEIC ***11*** *22:51:33.1±2.0, 9.°64S±0.°05×113.°95E±0.°06, h35km±1km, mb5.0/52, Error ellipse: s-maj=9.9km s-min=7.1km az=59.0*
DJA ***11*** *22:51:33.8±0.2, 10.°S±2.°×11.°4E±.°, h51km±3km, M5.0/69, mb5.0/69, mB5.4/35, MLv5.4/25, Mw(mB)4.9/35, MwMwp4.3/1, Mwp4.8/1*
GCMT ***11*** *22:51:35.1±0.4, 9.°73S±0.°03×113.°99E±0.°03, h46km±1km, MW4.9/58, Moment Tensor Solution. s30,c33; s58,c74; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.53±.18; Mθθ2.07±.10; Mφφ0.46±.11; Mrθ0.86±.10; Mrφ-0.58±.07; Mθφ0.38±.09; Best double couple: Mo2.56000×10^16 NP1:θs118.00000°, δ38.00000°, λ-72.00000°. NP2: φs276.00000°, δ54.00000°, λ-104.00000°. Principal axes: T 2.3640, Plg8.0000°, Azm15.0000°; N 0.3930, Plg11.0000°, Azm284.0000°; P -2.7560, Plg76.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 22:51:32.8±0.5, 9.°75S±0.°04×113.°96E±0.°04, h43km±4km, h43km:pP-P,n362, σ1§50/350, mb4.9/115, MS4.1/61, 20C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	1.28	9		**Pn**	**22 51 53.3**	**-0.9**
JAGI				Sn	**Sn**	**22 52 09.6**	**-0.6**
JAGI	**Jajag, Banyuwa**	1.28	9	P	**Pn**	**22 51 53.3**	**-0.9**
JAGI				S	**Sn**	**22 52 08.7**	**-1.5**
GMJI	**Gumukmas**	1.55	341	P	**Pn**	**22 51 56.7**	**-1.2**
GMJI				S	**Sn**	**22 52 15.0**	**-1.7**
DNP	**Denpasar**	1.63	50	P	**Pn**	**22 51 59.9**	**+0.9**
SRBI	**Singaraja**	2.06	37	P	**Pn**	**22 52 06.2**	**+1.2**
KMMI	**Kalianget**	2.68	0	P	**Pn**	**22 52 15.7**	**+2.3**
PCJI	**Pacitan**	3.15	299	P	**Pn**	**22 52 20.2**	**+0.3**
GRJI	**Gresik**	3.17	332	P	**Pn**	**22 52 22.1**	**+1.9**
NGJI	**Ngawi**	3.42	314	P	**Pn**	**22 52 27.0**	**+3.5**
WOJI	**Wonogiri, Jawa**	3.55	302	P	**Pn**	**22 52 25.7**	**+0.4**
TBJI	**Tambak Boyo**	3.58	324	P	**Pn**	**22 52 27.4**	**+1.6**
UGM	**Wanagama**	3.85	298		**Pn**	**22 52 29.6**	**+0.1**
UGM	**Wanagama**	3.85	298	P	**Pn**	**22 52 30.1**	**+0.4**
PLAI	**Plampang**	3.88	77	P	**Pn**	**22 52 31.1**	**+1.2**
BWJI	**Bawean**	4.08	342	P	**Pn**	**22 52 34.8**	**+2.2**
SMRI	**Semarang**	4.39	307	Pn	**Pn**	**22 52 37.4**	**+0.4**
SMRI	**Semarang**	4.39	307	P	**Pn**	**22 52 37.7**	**+0.7**
WBSI	**Waikabubak, Su**	5.36	89	P	**Pn**	**22 52 50.6**	**+0.3**
	4.0nm5μm383nm,1.0s						
KPJI	**Karang Pucung**	5.52	295	P	**Pn**	**22 52 54.7**	**+2.3**
WSI	**Waingapu**	6.25	90	P	**Pn**	**22 53 02.9**	**+0.4**
LEM	**Lembang**	6.91	294	Pn	**Pn**	**22 53 15.3**	**+3.6**
	5.7nm,0.3s,baz=142,slow=14,SNR=4.5						
LEM				Sn	**Sn**	**22 54 25.7**	**-3.5**
	5.9nm,0.3s,baz=160,slow=16,SNR=2.4						
LEM				LR	LR	22 56 08.5	
	comp=Z,1μm,19.6s,baz=116,slow=40						
CNJI	**Cibinong**	7.17	289	P	**Pn**	**22 53 15.5**	**+0.3**
	0.7nm1μm80nm,1.1s						
BSSI	**Bau Bau, Buton**	7.39	62	P	**Pn**	**22 53 19.3**	**+1.1**
	0.9nm5μm211nm,0.8s						
KAPI	**Kappang**	7.42	51		**Pn**	**22 53 20.5**	**+1.9**
KAPI	**Kappang**	7.42	51	Pn	**Pn**	**22 53 19.5**	**+0.9**
	7.4nm,0.3s,baz=215,slow=6.0,SNR=24						
KAPI				Sn	**Sn**	**22 54 39.8**	**-1.8**
	14nm,0.3s,baz=58,slow=24,SNR=9.8						
KAPI				LR	LR	22 56 40.7	
	comp=Z,2μm,19.0s,baz=

SWI Sorong 19.34 64 P **P** **22 55 52.6 -2.2**
comp=Z,2µmcomp=Z,135nm,1.3s
SWI Sorong 19.34 64 P **P** **22 55 54.5 -0.3**
FAKI Fak Fak 19.39 71 P **P** **22 55 53.3 -2.1**
FAKI IAmb IAmb 22 55 55.7
comp=Z,163nm,1.2s
FAKI Fak Fak 19.39 71 P **P** **22 55 53.5 -1.9**
comp=Z,107nm,1.0s
PSI Prapat 19.48 309 LR LR 23 04 43.3
comp=Z,749nm,18.4s,baz=158,slow=41
DAV Davao City (W) 20.32 35 LR LR 23 05 04.4
comp=Z,527nm,19.5s,baz=226,slow=41
BLDU Ballidu 20.92 173 P **P** **22 56 12.0 +0.2**
comp=Z,34nm,1.2s
RKPI Ransiki, Papua 21.71 69 P **P** **22 56 19.7 -0.7**
KLBR Kellerberrin 22.02 171 P **P** **22 56 23.8 +0.2**
comp=Z,40nm,1.0s
WRA Warramunga Arr 22.13 120 P **P** **22 56 24.1 -0.8**
WRA Warramunga Arr 22.13 120 P **P** **22 56 24.5 -0.4**
comp=Z,14nm,0.4s,baz=295,slow=12,SNR=102
WRA PcP **PcP** **23 00 22.1 +0.9**
comp=Z,1.4nm,0.5s,baz=310,slow=2.6,SNR=5.5
WRA S **S** **23 00 27.5 +1.0**
comp=Z,2.7nm,0.5s,baz=289,slow=20,SNR=7.0
WRA LR LR 23 05 52.6
comp=Z,773nm,19.6s,baz=298,slow=39
comp=Z,14nm,0.4s
WRAB Tennant Creek 22.14 120 P **P** **22 56 25.3 +0.3**
WRAB IAmb IAmb 22 56 28.2
comp=Z,54nm,1.1s
WRAB Tennant Creek 22.14 120 P **P** **22 56 25.3 +0.3**
WRAB pmax pmax
comp=Z,54nm,1.1s
WR5 Warramunga Arr 22.21 120 P **P** **22 56 25.6 -0.2**
MUN Mundaring 22.22 175 P **P** **22 56 26.1 +0.4**
comp=Z,51nm,1.0s
MUN Mundaring 22.22 175 P **P** **22 56 26.1 +0.4**
KMBL Kambalda 22.74 162 P **P** **22 56 28.0 -3.3**
comp=Z,23nm,1.5s
NWAO Narrogin (SRO) 23.27 173 P **P** **22 56 36.3 -0.3**
comp=Z,59nm,2.4s
NWAO Narrogin (SRO) 23.27 173 P **P** **22 56 37.1 +0.5**
comp=Z,12nm,0.9s,baz=350,slow=7.2,SNR=3.7
NWAO S **S** **23 00 42.3 -3.5**
comp=Z,7.5nm,0.5s,baz=241,slow=8.5,SNR=5.6
NWAO LR LR 23 05 12.0
comp=Z,409nm,21.8s,baz=9.0,slow=35
comp=Z,12nm,0.9s
AS13 Alice Springs 23.53 128 P **P** **22 56 39.8 +0.4**
comp=Z,88nm,1.2s
AS31 Alice Springs 23.55 128 P **P** **22 56 40.0 +0.5**
comp=Z,30nm,0.7s
ASAR Alice Springs 23.55 128 P **P** **22 56 39.4 -0.1**
ASAR Alice Springs 23.55 128 P **P** **22 56 40.0 +0.5**
comp=Z,34nm,0.6s,baz=303,slow=8.5,SNR=254
ASAR PcP **PcP** **23 00 25.4 +1.4**
comp=Z,2.2nm,0.4s,baz=302,slow=1.8,SNR=8.2
ASAR LR LR 23 06 09.4
comp=Z,350nm,21.8s,baz=302,slow=38
comp=Z,34nm,0.6s
BAKI Biak 23.61 70 P **P** **22 56 39.0 -1.1**
comp=Z,2µmcomp=Z,101nm,0.8s
SMPI Sarmi 25.78 74 P **P** **22 56 59.2 -0.7**
comp=Z,2µmcomp=Z,85nm,1.0s
QIS Mount Isa 26.95 116 P **P** **22 57 11.1 +0.7**
comp=Z,50nm,1.1s
GENI Genyem 26.99 76 P **P** **22 57 10.7 -0.2**
comp=Z,92nm,1.0s
QIZ Qiongzhong 28.88 352 P **P** **22 57 29.5 +1.9**
QIZ S **S** **23 02 18.6 +3.5**
QIZ pmax pmax
comp=Z,710nm,5.5s
QIZ LR LR
comp=Z,350nm,8.8s
QIZ LR LR
comp=Z,600nm,14.3s
COEN Coen 28.89 101 P **P** **22 57 28.5 +0.7**
COEN IAmb IAmb 22 58 10.1
comp=Z,51nm,1.5s
COEN Coen 28.89 101 P **P** **22 57 28.8 +0.9**
comp=Z,23nm,1.5s
MTSU Mount Surprise 30.59 109 P **P** **22 57 43.7 +0.8**
comp=Z,7.6nm,0.9s
BBOO Buckleboo 30.70 142 **P** **22 57 44.0 +0.3**
BBOO IAmb IAmb 22 57 45.2
comp=Z,51nm,1.2s
BBOO Buckleboo 30.70 142 P **P** **22 57 43.9 +0.3**
comp=Z,35nm,1.4s
CMAR Chiang Mai Arr 31.70 332 P **P** **22 57 53.2 +0.6**
CMAR Chiang Mai Arr 31.70 332 P **P** **22 57 53.3 +0.8**
comp=Z,3.2nm,0.8s,baz=166,slow=8.1,SNR=18
CMAR PcP **PcP** **23 00 45.4 +1.7**
comp=Z,2.1nm,0.9s,baz=218,slow=2.3,SNR=4.6
CMAR LR LR 23 12 48.6
comp=Z,331nm,18.6s,baz=145,slow=40
comp=Z,3.2nm,0.8s
CMAR Chiang Mai Arr 31.70 332 *ce*P **P** **22 57 49.5 -3.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CHTO Chiang Mai 32.01 332 P **P** **22 57 54.8 -0.5**
CHTO Chiang Mai 32.01 332 P **P** **22 57 57.2 +1.9**
CHTO P **P** **22 57 57.2 +1.9**
CHTO Chiang Mai 32.01 332 P **P** **22 57 54.8 -0.5**
CHTO pmax pmax
comp=Z,24nm,1.6s
PMG Port Moresby 32.73 92 P **P** **22 58 02.2 +0.5**
comp=Z,14nm,0.4s,baz=270,slow=1.0,SNR=6.5
PMG LR LR 23 14 33.0
comp=Z,291nm,19.9s,baz=234,slow=42
comp=Z,14nm,0.4s
HTT Hallett 32.91 139 P **P** **22 58 03.9 +0.7**
comp=Z,13nm,1.2s
HTT Hallett 32.91 139 P **P** **22 58 03.8 +0.7**
STKA Stephens Creek 33.77 135 P **P** **22 58 11.9 +1.3**
STKA Stephens Creek 33.77 135 P **P** **22 58 11.7 +1.2**
comp=Z,264nm,1.1s
STKA Stephens Creek 33.77 135 P **P** **22 58 11.8 +1.3**
comp=Z,24nm,0.5s,baz=314,slow=9.3,SNR=73
STKA LR LR 23 12 23.6
comp=Z,819nm,21.7s,baz=301,slow=37
comp=Z,24nm,0.5s
STKA Stephens Creek 33.77 135 P **P** **22 58 11.9 +1.3**
STKA pmax pmax
comp=Z,160nm,0.7s
KMI Kunming 36.34 343 P **P** **22 58 36.7 +3.7**
KMI S **S** **23 04 17.3 +5.9**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI LR LR
comp=Z,180nm,10.3s
KMI LR LR
comp=Z,310nm,17.6s
KMI LR LR
comp=Z,390nm,15.1s
CMSA Cobar Meteorol 36.55 131 P **P** **22 58 35.7 +1.2**
comp=Z,40nm,1.3s
ARPS Mount Arapiles 36.88 141 P **P** **22 58 38.1 +0.8**
comp=Z,17nm,1.1s
PALK Pallekele 37.19 296 LR LR 23 14 54.9
comp=Z,258nm,20.0s,baz=112,slow=38
PALK Pallekele 37.19 296 P **P** **22 58 40.2 0.0**
PALK Pallekele 37.19 296 P **P** **22 58 40.7 +0.5**
PZH PanZhiHua 37.94 342 P **P** **22 58 49.7 +3.3**
EIDS Eidsvold 38.49 119 P **P** **22 58 52.3 +1.2**
comp=Z,19nm,1.5s
JOW Kunigami 38.92 21 LR LR 23 16 44.2
comp=Z,102nm,21.7s,baz=280,slow=39
BRDH Bariadhala 38.94 326 LR LR 23 16 34.3
comp=Z,356nm,19.6s,baz=142,slow=39
YNG Young 39.88 133 P **P** **22 59 04.0 +1.5**
H08S2 Diego Garcia H 41.02 270 T T 23 42 36.0
baz=96
H08S3 Diego Garcia H 41.03 270 T T 23 42 44.1
baz=96
H08S1 Diego Carcia H 41.04 270 T T 23 43 00.2
baz=96
SHL Shillong 41.16 329 **P** **22 59 12.6 -0.7**
SHL Shillong 41.16 329 P **P** **22 59 13.2 -0.1**
SHL Shillong 41.16 329 P **P** **22 59 12.6 -0.7**
SHL pmax pmax
comp=Z,17nm,0.7s
NJ2 Nanjing 41.82 6 *e*P **P** **22 59 21.4 +3.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 43.80 354 P **P** **22 59 35.0 +0.4**
XAN pP pP 22 59 46.9 +1.5
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,380nm,19.2s
XAN LR LR
comp=Z,410nm,18.5s
XAN LR LR
comp=Z,440nm,17.2s
HYB Hyderabad 44.19 307 *e*P **P** **22 59 38.4 +0.5**
LSA Lhasa 44.95 331 P **P** **22 59 44.0 -0.3**
LSA pmax pmax
comp=Z,14nm,1.1s
HNR Honiara 45.32 94 LR LR 23 20 28.0
comp=Z,174nm,19.7s,baz=351,slow=38
JNU Nakatsue 45.58 20 LR LR 23 20 28.7
comp=Z,102nm,21.8s,baz=204,slow=38
EVN Everest 45.77 326 **P** **22 59 50.4 -0.6**
LZH Lanzhou 46.57 349 *e*P **P** **22 59 57.1 +0.5**
LZH pP pP 23 00 05.6 -2.1
LZH sP pwP 23 00 10.6 -1.3
LZH PcP **PcP** **23 01 32.2 +1.9**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH LR LR
comp=Z,290nm,14.1s
LZH LR LR
comp=Z,350nm,14.4s
LZH LR LR
comp=Z,480nm,14.1s
KSRS Korea Array 48.74 15 P **P** **23 00 12.2 -1.0**
comp=Z,2.7nm,0.7s,baz=190,slow=7.3,SNR=7.7
KSRS LR LR 23 23 15.8
comp=Z,39µm,20.1s,baz=205,slow=39
comp=Z,2.7nm,0.7s
GOMU GeErMu 49.13 339 P **P** **23 00 15.2 -1.5**
GOMU S **S** **23 07 24.7 +5.4**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU LR LR
comp=Z,220nm,14.0s
GOMU LR LR
comp=Z,110nm,13.7s
GOMU LR LR
comp=Z,120nm,13.9s
BJI Beijing 49.57 2 P **P** **23 00 20.2 +0.7**
BJI pmax pmax
comp=Z,6.0nm,0.8s
HHC Hu-ho-hao-te 50.39 358 *e*P P 23 00 30.6 +4.7
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,130nm,4.7s
GTA Gaotai 50.64 346 P **P** **23 00 28.6 +0.8**
GTA PcP **PcP** **23 01 47.1 +2.2**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,210nm,4.4s
GTA LR LR
comp=Z,250nm,17.1s
GTA LR LR
comp=Z,330nm,18.5s
GTA LR LR
comp=Z,280nm,18.5s
MJAR Matsushiro Arr 51.38 25 P **P** **23 00 30.9 -2.4**
comp=Z,1.7nm,0.7s,baz=199,slow=7.8,SNR=5.6
MJAR PcP **PcP** **23 01 48.6 +1.1**
comp=Z,3.1nm,0.8s,baz=200,slow=5.0,SNR=5.6
MJAR LR LR 23 24 54.1
comp=Z,58nm,18.6s,baz=212,slow=39
comp=Z,1.7nm,0.7s
DZM Mont Dzumac 51.71 110 *e*P **P** **23 00 34.5 -1.7**
comp=Z,47nm,26.0s
DZM Mont Dzumac 51.71 110 *e*LR LR 23 15 33.7
comp=Z,242nm,21.9s
DZM Mont Dzumac 51.71 110 LR LR 23 23 47.2
comp=Z,179nm,18.5s,baz=270,slow=38
XLT XiLinHaoTe 53.42 2 *e*P **P** **23 00 48.0 -0.4**
XLT pP sP 23 01 04.3 +0.1
XLT pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 56.13 16 **P** **23 01 06.2 -1.6**
USA0B IAmb IAmb 23 01 20.9
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 56.13 16 P **P** **23 01 06.2 -1.6**
USA0B pmax pmax
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 56.13 16 P **P** **23 01 06.6 -1.2**
comp=Z,8.5nm,0.8s,baz=190,slow=6.4,SNR=16
comp=Z,8.5nm,0.8s
ULN Ulaanbaatar 57.68 355 **P** **23 01 19.1 +0.1**
ULN IAmb IAmb 23 01 19.4
comp=Z,13nm,0.9s
ULN Ulaanbaatar 57.68 355 P **P** **23 01 18.9 -0.2**
ULN Ulaanbaatar 57.68 355 *i* P **P** **23 01 17.9 -1.1**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 57.68 355 P **P** **23 01 18.8 -0.2**
ULN sP **pwP** **23 01 32.7 -2.1**
SONM Songino Array 57.72 354 P **P** **23 01 18.9 -0.4**
SONM PcP **PcP** **23 02 12.3 +0.6**
SONM Songino Array 57.72 354 P **P** **23 01 18.8 -0.4**
comp=Z,11nm,0.5s,baz=177,slow=8.6,SNR=46
SONM LR LR 23 28 02.4
comp=Z,138nm,20.0s,baz=188,slow=38
comp=Z,11nm,0.5s
NIL Nilore 57.95 320 **P** **23 01 19.5 -1.5**
NIL IAmb IAmb 23 01 45.9
comp=Z,14nm,0.8s
NIL Nilore 57.95 320 P **P** **23 01 19.5 -1.5**
NIL pmax pmax
comp=Z,14nm,0.8s
WMQ Urumqi 58.41 338 *e*P **P** **23 01 26.2 +2.1**
WMQ LR LR
comp=Z,190nm,24.1s
DRV Dumont d'Urvil 59.53 168 P **P** **23 01 31.5 0.0**
DRV sP **pwP** **23 01 46.4 -1.0**
ASAJ Asahikawa 59.57 24 LR LR 23 28 53.1
comp=Z,61nm,20.8s,baz=210,slow=38
RPZ Rata Peaks 59.73 135 LR LR 23 26 42.9
comp=Z,700nm,21.4s,baz=318,slow=35
KSH Kashi 60.37 327 P **P** **23 01 36.6 -1.2**
KSH sP pwP 23 01 51.1 -2.7
KSH pmax pmax
comp=Z,8.0nm,0.8s
ZAK Zakamensk 60.59 352 *e*P **P** **23 01 37.8 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,2.1s
HEH HeiHe 60.89 10 *e*P **P** **23 01 40.0 -0.9**
HEH pmax pmax
comp=Z,20nm,1.1s
TARG Taragay, Kyrgy 61.03 330 P **P** **23 01 42.9 +0.3**
TARG IAmb IAmb 23 02 06.0
comp=Z,12nm,1.1s
TARG Taragay, Kyrgy 61.03 330 P **P** **23 01 42.9 +0.3**
TARG pmax pmax
comp=Z,12nm,1.1s
PRZ Przheval'sk 61.31 331 P **P** **23 01 44.2 0.0**
PRZ Przheval'sk 61.31 331 P **P** **23 01 44.2 0.0**
PRZ pmax pmax
comp=Z,28nm,1.2s
SHLS Shalkode 61.32 332 *e*P **P** **23 01 42.0 -2.1**
SHLS pmax pmax
comp=Z,14nm,1.2s
SHLS Shalkode 61.32 332 *e*P **P** **23 01 42.1 -2.1**
comp=Z,14nm,1.2s
UZB Uzynbulak 61.52 332 *e*P **P** **23 01 44.6 -0.9**
UZB pmax pmax
comp=Z,8.0nm,1.3s
UZB Uzynbulak 61.52 332 *e*P **P** **23 01 44.6 -0.9**
comp=Z,8.1nm,1.3s
KDJ Kajisay 61.64 330 **P** **23 01 46.4 -0.1**
KDJ IAmb IAmb 23 01 47.7
comp=Z,11nm,0.8s
KDJ Kajisay 61.64 330 P **P** **23 01 46.4 -0.1**
KDJ pmax pmax
comp=Z,11nm,0.8s
SATY Saty 61.74 331 *e*P **P** **23 01 46.2 -0.8**
SATY pmax pmax
comp=Z,12nm,1.1s
SATY Saty 61.74 331 *e*P **P** **23 01 46.2 -0.8**
comp=Z,12nm,1.1s
YSS Yuzhno-Sakhali 62.01 22 *i* P **P** **23 01 48.7 +0.1**
YSS pmax pmax
comp=Z,13nm,1.8s
JLN Jalan Bani Buh 62.16 301 P **P** **23 01 49.8 -0.3**
MOY Mondy 62.18 351 *e*P **P** **23 01 49.3 -0.4**
MOY pmax pmax
comp=Z,19nm,1.7s
TNSS Tian-Shan 62.43 330 *e*P **P** **23 01 50.9 -1.1**
TNSS Tian-Shan 62.43 330 *e*P **P** **23 01 50.9 -1.1**
MSVF Nonsavu 62.52 105 P **P** **23 01 53.4 +0.7**
MSVF Nonsavu 62.52 105 P **P** **23 01 53.4 +0.7**
MSVF pmax pmax
comp=Z,48nm,1.5s
ZSN Zaisan 62.54 338 *e*P **P** **23 01 51.6 -0.5**
ZSN pmax pmax
comp=Z,10.0nm,1.5s
ZSN Zaisan 62.54 338 *e*P **P** **23 01 51.6 -0.5**
comp=Z,9.8nm,1.5s
AAA Alma-Ata 62.58 330 *e*P **P** **23 01 51.7 -0.8**
AAA pmax pmax
comp=Z,10.0nm,0.9s
AAA Alma-Ata 62.58 330 *e*P **P** **23 01 51.7 -0.8**
comp=Z,10nm,0.9s
MHTO MHTO 62.91 300 P **P** **23 01 54.5 -0.6**
RTZ Ruatahuna 62.95 128 P **P** **23 01 56.4 +1.2**
MK31 Makanchi Array 62.98 336 *ce*P **P** **23 01 54.9 -0.2**
MKAR Makanchi Array 62.98 336 P **P** **23 01 54.9 -0.2**
MKAR Makanchi Array 62.98 336 P **P** **23 01 54.5 -0.6**
comp=Z,4.6nm,0.5s,baz=148,slow=6.8,SNR=68
MKAR LR LR 23 32 14.6
comp=Z,98nm,18.6s,baz=155,slow=39
comp=Z,4.6nm,0.5s
URZ Urewera 62.99 128 LR LR 23 29 46.2
comp=Z,378nm,20.8s,baz=280,slow=36
TDK Taldyqorghan 63.23 332 *e*P **P** **23 01 55.9 -0.8**
TDK pmax pmax
comp=Z,9.0nm,0.7s
TDK Taldyqorghan 63.23 332 *e*P **P** **23 01 56.0 -0.8**
comp=Z,9.2nm,0.7s
ARSB Arslanbob 63.26 326 **P** **23 01 57.2 0.0**
ARSB Arslanbob 63.26 326 P **P** **23 01 57.2 0.0**
ARSB pmax pmax
comp=Z,32nm,1.2s
JMDO Jabal Madar 63.35 301 P **P** **23 01 57.7 -0.3**
AAK Ala-Archa 63.38 328 **P** **23 01 57.5 -0.5**
AAK IAmb IAmb 23 01 59.2
comp=Z,16nm,1.3s
AAK Ala-Archa 63.38 328 LR LR 23 32 45.6
comp=Z,167nm,20.3s,baz=138,slow=39
AAK Ala-Archa 63.38 328 *ce*P **P** **23 01 58.1 +0.1**
AAK pmax pmax
comp=Z,13nm,1.3s
SMDO Samad 63.68 302 P **P** **23 02 00.1 -0.2**
BIDO Bidbid 63.80 302 P **P** **23 02 01.0 +0.1**
H04N2 CROZET ISLANDS 63.84 223 T T 00 13 02.4
baz=75,slow=75,SNR=3.5
H04N1 CROZET ISLANDS 63.85 223 T T 00 13 03.3
baz=75,slow=75,SNR=2.9
H04N3 CROZET ISLANDS 63.85 223 T T 00 12 56.9
baz=75,slow=75,SNR=4.1
SGDS Sogindy 63.89 329 *e*P **P** **23 02 00.5 -0.7**
ZEA Zeya 64.24 9 *e*P **P** **23 02 02.9 -0.3**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.7s
HOQ Hoqain 64.51 302 P **P** **23 02 05.6 0.0**
RBK Rabkut 64.94 294 P **P** **23 02 08.4 -0.2**
DZA Taraz 65.23 327 *e*P **P** **23 02 09.0 -0.9**
DZA Taraz 65.23 327 *e*P **P** **23 02 09.1 -0.9**
BTLS Baital 65.32 330 *e*P **P** **23 02 09.6 -0.9**
BTLS pmax pmax
comp=Z,6.0nm,1.2s
BTLS Baital 65.32 330 *e*P **P** **23 02 09.6 -0.9**
comp=Z,6.1nm,1.2s
SOHO SOHO 65.38 302 P **P** **23 02 10.7 -0.6**
DOK Doka 65.39 296 P **P** **23 02 09.5 -1.9**
IUG Iuzhnay 65.44 325 *e*P **P** **23 02 10.8 -0.7**
IUG pmax pmax
comp=Z,14nm,1.0s
IUG Iuzhnay 65.44 325 *e*P **P** **23 02 10.8 -0.7**
comp=Z,14nm,1.0s
WHFO Wadi Hawf 65.47 295 P **P** **23 02 11.2 -0.8**
SNR=12
CCD Concordia, Ant 65.54 177 P **P** **23 02 13.3 +1.4**
CCD PcP **PcP** **23 02 46.0 +2.7**
CHM Chimkent 65.80 325 *e*P **P** **23 02 12.9 -0.7**
CHM pmax pmax
comp=Z,9.0nm,0.7s
CHM Chimkent 65.80 325 *e*P **P** **23 02 12.9 -0.7**
comp=Z,9.4nm,0.7s
KK31 Karatay Array 65.81 326 P **P** **23 02 12.9 -0.8**
KK31 Karatay Array 65.81 326 P **P** **23 02 12.9 -0.8**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
UOSS Minazif 65.99 303 P **P** **23 02 14.5 -0.6**
UOSS Minazif 65.99 303 P **P** **23 02 14.6 -0.6**
HATD Hatta, Dubai 66.00 303 P **P** **23 02 15.1 -0.1**
ASHO Ashiyiah 66.00 302 P **P** **23 02 15.2 -0.2**
SNR=15
ALNE Al Ain 66.01 302 P **P** **23 02 14.9 -0.4**
BRLS Borolday 66.14 326 *e*P **P** **23 02 14.6 -1.2**
BRLS pmax pmax
comp=Z,7.0nm,1.3s
BRLS Borolday 66.14 326 *e*P **P** **23 02 14.6 -1.2**
comp=Z,6.7nm,1.3s
MASF Masafi 66.20 303 P **P** **23 02 16.9 +0.3**
FAQ Al Faqa, Dubai 66.41 302 P **P** **23 02 17.7 -0.2**
NAZ Nazwa, Dubai 66.45 303 P **P** **23 02 17.7 -0.4**
ASUD Al Ashush, Dub 66.58 302 P **P** **23 02 19.1 +0.1**
SNR=20
MAW Mawson 66.88 199 P **P** **23 02 21.5 +1.4**
comp=Z,4.4nm,0.5s,baz=50,slow=7.3,SNR=12
MAW LR LR 23 26 34.8
comp=Z,179nm,18.3s,baz=45,slow=31
comp=Z,4.4nm,0.5s
MZR Muzera 67.53 300 P **P** **23 02 24.7 -0.3**
KURBB Kurchatov Arra 67.54 336 P **P** **23 02 23.8 -0.7**
comp=Z,2.3nm,0.7s,baz=153,slow=5.4,SNR=14
KURBB LR LR 23 35 06.4
comp=Z,140nm,19.8s,baz=169,slow=39
comp=Z,2.3nm,0.7s
KURK Kurchatov 67.58 337 **P** **23 02 24.0 -0.8**
KURK Kurchatov 67.58 337 *ce*P **P** **23 02 24.1 -0.6**
KURK pmax pmax
comp=Z,15nm,1.4s
KURK Kurchatov 67.58 337 P **P** **23 02 24.3 -0.5**
KURK PcP **PcP** **23 02 51.7 +0.1**
ZAA0 Zalesovo Array 68.08 342 **P** **23 02 26.7 -1.1**
ZALV Zalesovo Beam 68.08 342 P **P** **23 02 26.5 -1.3**
comp=Z,2.2nm,0.4s,baz=149,slow=4.8,SNR=13
ZALV LR LR 23 35 49.3
comp=Z,94nm,19.1s,baz=151,slow=39
comp=Z,2.2nm,0.4s
VNDA Vanda 72.07 170 P **P** **23 02 53.2 +1.2**
comp=Z,3.6nm,0.4s,baz=317,slow=6.3,SNR=26
VNDA LR LR 23 32 18.3
comp=Z,247nm,20.5s,baz=350,slow=34
comp=Z,3.6nm,0.4s
YAK Yakutsk 72.60 8 P **P** **23 02 54.4 -0.9**
YAK Yakutsk 72.60 8 LR LR 23 36 01.8
comp=Z,53nm,21.8s,baz=213,slow=37
YAK Yakutsk 72.60 8 *e*P **P** **23 02 54.2 -1.1**
YAK *e**PP **pP** **23 03 05.6 -1.2**
YAK *e* 23 03 11.4
YAK *e* 23 05 35.5
YAK *e*S **S** **23 12 12.6 -4.0**
YAK *e**SS **sS** **23 12 41.8 +5.9**
YAK *e* 23 12 56.0
YAK *e*SS **SS** **23 16 53.6 -3.2**
YAK pmax pmax
comp=Z,41nm,1.4s
YAK pmax pmax
comp=N,27nm,1.6s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,11nm,1.7s
YAK smax smax
comp=N,97nm,2.7s
YAK smax smax
comp=E,45nm,2.8s
BVAR Borovoye Array 72.70 334 P **P** **23 02 55.5 -0.5**
comp=E,4.8nm,0.6s,baz=141,slow=8.0,SNR=44
BVAR LR LR 23 39 06.4
comp=E,97nm,19.1s,baz=135,slow=39
comp=E,4.8nm,0.6s

BRVK	**Borovoye**		**72.77**	**334**			**P**	**P**	**23 02 56.0 -0.4**
BRVK	**Borovoye**		**72.77**	**334**	*ce*	P	**P**	**P**	**23 02 55.7 -0.8**
BRVK						pmax	pmax		
	comp=Z,12nm,1.3s								
PEA0B	**Petropavlovsk-**		**72.83**	**26**	*i*	P	**P**	**P**	**23 02 56.2 -0.7**
PETK	**Petropavlovsk-**		**72.83**	**26**		P	**P**	**P**	**23 02 56.4 -0.4**
	comp=Z,7.0nm,0.9s,baz=225,slow=6.4,SNR=5.9								
	comp=Z,7.0nm,0.9s								
RAYN	**Ar Rayn**		**74.60**	**298**			**P**	**P**	**23 03 08.1 +0.1**
RAYN						IAmb	IAmb	23 03 08.6	
	comp=Z,45nm,1.8s								
RAYN	**Ar Rayn**		**74.60**	**298**		P	**P**	**P**	**23 03 08.1 +0.1**
RAYN						pmax	pmax		
	comp=Z,45nm,1.8s								
MA2	**Magadan**		**75.11**	**18**		P	**P**	**P**	**23 03 09.5 -0.6**
MA2						IAmb	IAmb	23 03 11.2	
	comp=Z,14nm,0.9s								
MA2	**Magadan**		**75.11**	**18**		LR	LR	23 38 25.5	
	comp=Z,26nm,20.4s,baz=197,slow=38								
MA2	**Magadan**		**75.11**	**18**	*ce*	P	**P**	**P**	**23 03 10.3 +0.2**
MA2						pmax	pmax		
	comp=Z,7.0nm,0.7s								
AB31	**Akbulak array**		**75.38**	**327**			**P**	**P**	**23 03 11.4 -0.3**
ABKAR	**Akbulak array**		**75.38**	**327**			**P**	**P**	**23 03 11.9 +0.1**
KMBO	**Kilima Mbogo**		**76.70**	**271**		P	**P**	**P**	**23 03 21.2 +0.7**
	comp=Z,1.8nm,0.5s,baz=95,slow=7.7,SNR=4.6								
KMBO						LR	LR	23 31 19.2	
	comp=Z,94nm,21.7s,baz=102,slow=31								
	comp=Z,1.8nm,0.5s								
KMBO	**Kilima Mbogo**		**76.70**	**271**	*ce*	P	**P**	**P**	**23 03 19.1 -1.4**
KMBO						pmax	pmax		
	comp=Z,2.0nm,0.4s								
AKTO	**Aktyubinsk**		**77.07**	**327**		LR	LR	23 42 29.9	
	comp=Z,100nm,20.1s,baz=243,slow=40								
SEY	**Seymchan**		**78.24**	**17**	*ce*	P	**P**	**P**	**23 03 27.7 +0.1**
SEY						pmax	pmax		
	comp=Z,23nm,1.3s								
AKT	**Akhty**		**79.19**	**316**	*e*	P	**P**	**P**	**23 03 33.5 0.0**
AKT					*e*				23 03 42.0
AKT						pmax	pmax		
	comp=Z,17nm,1.4s								
SVE	**Sverdlovsk**		**79.44**	**333**	*e*	P	**P**	**P**	**23 03 34.1 -0.3**
SVE						pmax	pmax		
	comp=Z,27nm,1.4s								
ARTI	**Arti**		**80.20**	**332**			**P**	**P**	**23 03 38.0 -0.4**
ARTI						IAmb	IAmb	23 03 39.0	
	comp=Z,25nm,1.1s								
ARTI	**Arti**		**80.20**	**332**		LR	LR	23 44 32.8	
	comp=Z,135nm,19.8s,baz=130,slow=40								
ARTI	**Arti**		**80.20**	**332**	*c*	*i* P		**P**	**23 03 37.9 -0.6**
ARTI									23 06 35.9
ARTI						S		**S**	**23 13 42.8 +2.6**
ARTI						SS		**SS**	**23 18 52.9 +0.9**
ARTI						pmax	pmax		
	comp=Z,19nm,1.1s								
QSPA	**South Pole Qui**		**80.26**	**180**			**P**	**P**	**23 03 40.5 +1.6**
QSPA						IAmb	IAmb	23 03 42.1	
	comp=Z,25nm,1.2s								
QSPA	**South Pole Qui**		**80.26**	**180**		P	**P**	**P**	**23 03 40.3 +1.4**
	comp=Z,14nm,1.1s,baz=215,slow=0.3,SNR=25								
QSPA						LR	LR	23 36 13.7	
	comp=Z,212nm,20.4s,baz=346,slow=33								
	comp=Z,14nm,1.1s								
GNI	**Garni**		**80.78**	**313**		LR	LR	23 44 56.5	
	comp=Z,15nm,18.0s,baz=112,slow=40								
TIXI	**Tiksi**		**81.82**	**5**		P	**P**	**P**	**23 03 45.5 -1.3**
TIXI						IAmb	IAmb	23 03 59.0	
	comp=Z,26nm,1.1s								
TIXI	**Tiksi**		**81.82**	**5**		LR	LR	23 42 24.7	
	comp=Z,95nm,21.9s,baz=254,slow=38								
TIXI	**Tiksi**		**81.82**	**5**	*ce*	P	**P**	**P**	**23 03 45.4 -1.4**
TIXI						pmax	pmax		
	comp=Z,26nm,1.7s								
GURO	**Guroymak-BITLI**		**82.22**	**311**		P	**P**	**P**	**23 03 50.6 +0.8**
GURO						IAmb	IAmb	23 03 51.9	
	comp=Z,15nm,1.1s								
MATP	**Matopo**		**82.44**	**251**		LR	LR	23 35 29.3	
	comp=Z,32nm,20.4s,baz=130,slow=32								
MARD	**Mardin**		**82.76**	**310**			**P**	**P**	**23 03 53.1 +0.4**
RAR	**Rarotonga**		**83.09**	**110**		LR	LR	23 39 23.0	
	comp=Z,70nm,20.2s,baz=264,slow=35								
KBZ	**Khabaz**		**83.33**	**316**		P	**P**	**P**	**23 03 55.2 0.0**
	comp=Z,3.4nm,0.9s,baz=61,slow=11,SNR=4.6								
	comp=Z,3.4nm,0.9s								
KBZ	**Khabaz**		**83.33**	**316**	*ce*	P	**P**	**P**	**23 03 55.6 +0.4**
KBZ						pmax	pmax		
	comp=Z,6.0nm,1.2s								
LSZ	**Lusaka**		**83.44**	**256**		P	**P**	**P**	**23 03 58.0 +1.4**
LSZ						IAmb	IAmb	23 04 13.8	
	comp=Z,9.2nm,0.8s								
LSZ	**Lusaka**		**83.44**	**256**		LR	LR	23 35 45.3	
	comp=Z,174nm,21.2s,baz=142,slow=32								
LSZ	**Lusaka**		**83.44**	**256**		P	**P**	**P**	**23 03 58.0 +1.4**
LSZ						pmax	pmax		
	comp=Z,9.0nm,0.8s								
KIV	**Kislovodsk**		**83.55**	**317**	*e*	P	**P**	**P**	**23 03 56.1 -0.4**
KIV						pmax	pmax		
	comp=Z,7.0nm,1.1s								
BELG	**Belogornoye**		**83.71**	**326**	*i*	P	**P**	**P**	**23 03 56.6 -0.4**
BELG						pmax	pmax		
	comp=Z,6.0nm,1.1s								
KOPT	**Kop Dagi**		**83.81**	**312**			**P**	**P**	**23 03 59.0 +0.7**
BOSA	**Boshof**		**84.27**	**242**		P	**P**	**P**	**23 04 02.6 +1.9**
	comp=Z,6.9nm,1.0s,baz=86,slow=7.6,SNR=4.8								
BOSA						LR	LR	23 33 58.1	
	comp=Z,181nm,21.9s,baz=98,slow=30								
	comp=Z,6.9nm,1.0s								
ASF	**Jabal al Asfar**		**84.37**	**304**		P	**P**	**P**	**23 04 02.2 +1.2**
	comp=Z,12nm,1.1s,baz=130,slow=2.6,SNR=18								
ASF						LR	LR	23 42 47.6	
	comp=Z,72nm,21.9s,baz=140,slow=36								
	comp=Z,12nm,1.1s								
LBTB	**Lobatse**		**84.47**	**246**		LR	LR	23 34 56.9	
	comp=Z,90nm,21.9s,baz=111,slow=31								
GHAJ	**Ghor Haditha**		**85.25**	**303**			**P**	**P**	**23 04 06.2 +0.9**
EIL	**Elat**		**85.36**	**301**		P	**P**	**P**	**23 04 07.0 +1.1**
	comp=Z,11nm,1.0s,baz=158,slow=3.2,SNR=9.2								
EIL						LR	LR	23 43 41.0	
	comp=Z,98nm,19.2s,baz=90,slow=37								
	comp=Z,11nm,1.0s								
BALJ	**Balqa**		**85.38**	**303**			**P**	**P**	**23 04 06.6 +0.6**
BALJ						IAmb	IAmb	23 04 08.4	
	comp=Z,14nm,1.2s								
GAZ	**Gaziantep**		**85.45**	**309**			**P**	**P**	**23 04 06.9 +0.6**
SOC	**Sochi**		**85.47**	**315**	*e*	P	**P**	**P**	**23 04 02.0 -4.1**
SOC					*e*	PPP	PPP	23 09 15.0	
SOC					*e*	S	**SKSac**	**23 14 23.4 -4.5**	
SOC					*e*	SS	**SS**	**23 20 08.6 -2.1**	
SOC					*e*	SSS	SSS	23 23 40.5	
SOC						MLR	MLR		
	comp=Z,95nm,15.0s								
KIRV	**Kirov**		**85.48**	**332**		LR	LR	23 46 30.3	
	comp=Z,101nm,21.1s,baz=128,slow=39								
KIRV	**Kirov**		**85.48**	**332**	*ce*	P	**P**	**P**	**23 04 05.8 0.0**
MMAI	**Mount Meron Ar**		**85.80**	**304**		P	**P**	**P**	**23 04 08.5 +0.4**
	comp=Z,2.5nm,0.6s,baz=96,slow=7.6,SNR=8.0								
MMAI						LR	LR	23 46 23.7	
	comp=Z,66nm,19.3s,baz=98,slow=38								
	comp=Z,2.5nm,0.6s								
KSANE	**Kasane**		**85.94**	**253**		P	**P**	**P**	**23 04 10.0 +0.8**
VRH	**Novokhopyorsk**		**86.64**	**323**	*e*	P	**P**	**P**	**23 04 10.0 -1.7**
VRH						pmax	pmax		
	comp=Z,10.0nm,0.9s								
TOKA	**Tokat**		**86.85**	**312**		P	**P**	**P**	**23 04 13.5 +0.4**
TOKA						IAmb	IAmb	23 04 15.3	
	comp=Z,9.5nm,0.8s								
BNN	**Bunyan**		**86.93**	**310**			**P**	**P**	**23 04 13.9 +0.3**
BNN						IAmb	IAmb	23 04 15.6	
	comp=Z,13nm,1.3s								
TROLL	**Troll, Antarti**		**87.25**	**197**	⇑	P	**P**	**P**	**23 04 16.3 +1.8**
	comp=Z,193nm,1.1s								
ANN	**Anapa**		**87.39**	**316**	*e*	P	**P**	**P**	**23 04 15.5 0.0**
ANN						pmax	pmax		
	comp=Z,17nm,1.3s								
VORD	**Divnogorie**		**88.02**	**322**	*e*	P	**P**	**P**	**23 04 15.9 -2.4**
VORD						pmax	pmax		
	comp=Z,10.0nm,1.1s								
VSR	**Storozhevoye**		**88.17**	**323**	*e*	P	**P**	**P**	**23 04 16.1 -3.0**
VSR						pmax	pmax		
	comp=Z,20nm,1.2s								
LPSR	**Galich'ya Gora**		**88.73**	**324**	*e*	P	**P**	**P**	**23 04 20.4 -1.3**
LPSR						pmax	pmax		
	comp=Z,10.0nm,1.0s								
BR131	**Keskin Array S**		**88.81**	**311**			**P**	**P**	**23 04 22.4 -0.2**
BR131						IAmb	IAmb	23 04 23.8	
	comp=Z,10nm,0.9s								
BR131	**Keskin Array S**		**88.81**	**311**	*i*	P	**P**	**P**	**23 04 21.4 -1.2**
BRTR	**Keskin Array B**		**88.81**	**310**			**P**	**P**	**23 04 22.2 -0.4**
BRTR	**Keskin Array B**		**88.81**	**310**		P	**P**	**P**	**23 04 22.7 +0.1**
	comp=Z,9.5nm,1.1s,baz=141,slow=5.4,SNR=31								
BRTR						LR	LR	23 47 23.6	
	comp=Z,54nm,21.5s,baz=108,slow=38								
	comp=Z,9.5nm,1.1s								
SNAA	**Sanae**		**88.92**	**196**	⇑	P	**P**	**P**	**23 04 23.2 +0.8**
	comp=Z,222nm,1.2s								
SNAA	**Sanae**		**88.92**	**196**			**P**	**P**	**23 04 23.3 +0.8**
SNAA						IAmb	IAmb	23 04 25.4	
	comp=Z,11nm,1.0s								
SNAA	**Sanae**		**88.92**	**196**		P	**P**	**P**	**23 04 24.0 +1.6**
	comp=Z,11nm,1.1s,baz=176,slow=6.0,SNR=37								
SNAA						LR	LR	23 39 31.9	
	comp=Z,356nm,19.9s,baz=113,slow=32								
	comp=Z,11nm,1.1s								
SNAA	**Sanae**		**88.92**	**196**	*ce*	P	**P**	**P**	**23 04 23.6 +1.2**
SNAA						pmax	pmax		
	comp=Z,30nm,2.5s								
KOOLE	**Kule**		**89.67**	**247**		P	**P**	**P**	**23 04 26.8 -0.3**
SIM	**Simferopol'**		**89.71**	**316**	*e*	P	**P**	**P**	**23 04 26.3 -0.2**
SIM					*e*	S	**S**	**P**	**23 15 12.9 -2.1**
SIM						pmax	pmax		
	comp=Z,11nm,1.1s								
MOS	**Moscow**		**90.40**	**327**	*e*	P	**P**	**P**	**23 04 28.7 -0.7**
OBN	**Obninsk**		**90.80**	**326**		P	**P**	**P**	**23 04 31.3 0.0**
	comp=Z,7.1nm,0.4s,baz=135,slow=2.9,SNR=3.2								
OBN						LR	LR	23 52 13.7	
	comp=Z,48nm,19.6s,baz=77,slow=40								
	comp=Z,7.1nm,0.4s								
OBN	**Obninsk**		**90.80**	**326**	*ce*	P	**P**	**P**	**23 04 32.1 +0.8**
OBN					*e*				23 08 07.1
OBN					*e*	SS	SS		23 21 23.0 -4.8
OBN						pmax	pmax		
	comp=Z,9.0nm,1.3s								
OBN						MLR	MLR		
	comp=Z,97nm,20.0s								
VNA1	**Neumayer--Stat**		**90.95**	**196**	⇑	P	**P**	**P**	**23 04 30.9 -0.9**
	comp=Z,6.1nm,1.2s								
KLMR	**Klimovskoe**		**90.98**	**332**	*e*	P	**P**	**P**	**23 04 29.5 -2.5**
KLMR					*e*	*PP	**pP**	**P**	**23 04 39.8 -4.1**
KLMR						pmax	pmax		
	comp=Z,12nm,1.1s								
VNA3	**Neumayer Olymp**		**91.00**	**196**	⇑	P	**P**	**P**	**23 04 33.8 +1.7**
	comp=Z,4.1nm,1.2s								
TBI	**Tubuai**		**92.16**	**114**	*e*	S	S		23 15 29.0 -9.2
	comp=Z,263nm,37.8s								
TBI	**Tubuai**		**92.16**	**114**	*e*	LR	LR		23 34 14.7
	comp=Z,944nm,22.5s								
TBI					*e*	LR	LR		23 34 19.0
	comp=Z,1µm,27.5s								
TSUM	**Tsumeb**		**92.78**	**250**		LR	LR		23 40 11.2
	comp=Z,169nm,21.1s,baz=112,slow=32								
PPT2	**Papeete2**		**93.18**	**108**	*e*	S	**S**		**23 15 41.8 -5.9**
	comp=Z,45nm,28.2s								
PPT2	**Papeete2**		**93.18**	**108**	*e*	LR	LR		23 34 41.4
	comp=Z,181nm,24.8s								
PPT2					*e*	LR	LR		23 34 49.1
	comp=Z,207nm,23.0s								
PPT	**Papeete**		**93.18**	**108**		LR	LR		23 42 50.3
	comp=Z,156nm,19.3s,baz=191,slow=33								
AKASG	**Malin Array Be**		**94.14**	**321**		P	**P**	**P**	**23 04 46.3 -0.5**
	comp=Z,0.4nm,0.4s,baz=84,slow=4.2,SNR=8.4								
AKASG						LR	LR		23 56 26.1
	comp=Z,47nm,18.2s,baz=136,slow=41								
	comp=Z,0.4nm,0.4s								
AKASG	**Malin Array Be**		**94.14**	**321**	*ce*	P	**P**	**P**	**23 04 46.2 -0.6**
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.4s								
AKBB	**Malin Array Si**		**94.14**	**321**	*ce*	P	**P**	**P**	**23 04 46.5 -0.3**
AKBB						pmax	pmax		
	comp=Z,4.0nm,1.1s								
MNK	**Minsk**		**95.58**	**324**	*i*	P	**P**	**P**	**23 04 50.9 -2.4**
MNK					*i*				23 08 42.0
MNK					*i*	PPP	PPP		23 10 44.5
MNK					*i*	S	**SKSac**		**23 15 24.1 -1.8**
MNK					*i*				23 16 05.7
MNK					*i*	PS	**PS**		**23 17 28.0 -2.5**
MNK					*i*	SS	**SS**		**23 22 35.2 -1.0**
MNK					*i*	SSS	SSS		23 26 18.9
MNK						pmax	pmax		
	comp=E,8.0nm,0.9s								
MNK						pmax	pmax		
	comp=N,7.0nm,0.8s								
MNK						pmax	pmax		
	comp=Z,8.0nm,0.9s								
MNK						MLR	MLR		
	comp=E,68nm,21.0s								
MNK						MLR	MLR		
	comp=N,48nm,17.0s								
MNK						MLR	MLR		
	comp=Z,64nm,16.0s								
H17K	**Granite Mounta**		**97.11**	**25**		P	Pdif		23 05 00.7 +0.6
H17K						IAmb	IAmb		23 05 15.9
	comp=Z,3.8nm,0.9s								
FINES	**FINESS Array B**		**97.47**	**331**		P	**P**		**23 05 00.7 -1.0**
	comp=Z,2.6nm,0.9s,baz=126,slow=9.7,SNR=6.3								
FINES						LR	LR		23 54 09.6
	comp=Z,64nm,19.5s,baz=88,slow=39								
	comp=Z,2.6nm,0.9s								
K17K	**Iditarod**		**97.55**	**28**			Pdif		23 05 02.5 +0.4
ARCES	**ARCESS Array B**		**98.51**	**339**		P	**P**		**23 05 05.5 -0.8**
	comp=Z,2.1nm,0.9s,baz=98,slow=5.6,SNR=3.7								
ARCES						LR	LR		23 55 15.5
	comp=Z,98nm,19.8s,baz=108,slow=39								
	comp=Z,2.1nm,0.9s								
H19K	**Roundabout Mou**		**98.62**	**25**		P	Pdif		23 05 07.5 +0.6
H19K						IAmb	IAmb		23 05 21.1
	comp=Z,5.1nm,0.9s								
KDAK	**Kodiak Island**		**100.01**	**33**		LR	LR		23 46 14.1
	comp=Z,28nm,21.4s,baz=240,slow=33								
SPITS	**Spitsbergen Ar**		**101.03**	**348**		P	**Pdif**		**23 05 16.9 -0.5**
	comp=Z,2.0nm,0.4s,baz=95,slow=7.8,SNR=11								
YKA	**Yellowknife Ar**		**116.86**	**23**		PKP	**PKiKP**		**23 10 13.0 +0.7**
	comp=Z,0.7nm,0.5s,baz=180,slow=3.8,SNR=12								
DBIC	**Dimbokro**		**119.43**	**272**		PKP	**PKiKP**		**23 10 19.0 +0.3**
	comp=Z,2.7nm,0.5s,baz=89,slow=1.1,SNR=9.4								
DBIC	**Dimbokro**		**119.43**	**272**		PKiKP	**PKiKP**		**23 10 19.0 +0.3**
NVAR	**Mina Array Bea**		**125.31**	**50**		PKP	**PKiKP**		**23 10 31.8 +1.8**
	comp=Z,1.2nm,0.6s,baz=286,slow=2.2,SNR=8.1								
PDAR	**Pinedale Array**		**129.81**	**41**		PKP	**PKiKP**		**23 10 39.6 +0.7**
	comp=Z,0.6nm,0.4s,baz=134,slow=1.3,SNR=5.9								
SCHQ	**Schefferville**		**135.03**	**1**		PKP	**PKiKP**		**23 10 49.4 +0.7**
	comp=Z,4.5nm,0.9s,baz=19,slow=1.1,SNR=5.3								
TXAR	**Lajitas Array**		**139.79**	**56**		PKhKP	PKPpre		23 10 50.4
	comp=Z,0.6nm,0.5s,baz=225,slow=2.0,SNR=8.6								
CPUP	**Villa Florida**		**143.15**	**193**		PKhKP	PKPpre		23 11 00.6
	comp=Z,1.1nm,0.9s,baz=356,slow=5.5,SNR=5.8								
BDFB	**Brasilia**		**149.10**	**215**		PKPbc	**PKiKP**		**23 11 19.4 +0.6**
	comp=Z,11nm,1.0s,baz=87,slow=1.1,SNR=11								
LPAZ	**La Paz**		**154.05**	**175**		PKPbc	**PKiKP**		**23 11 30.6 +1.0**
	comp=Z,1.6nm,0.8s,baz=231,slow=3.0,SNR=5.4								

AZER ***11*** *23:04:25.3,41.˚64N×46.˚49E,h7km,ml2.6*
MOS ***11*** *23:04:26.3,41.˚54N×46.˚59E,h17km,MPVA3.6*

NORS ***11*** *23:04:27.5,41.˚62N×46.˚58E,h11km,MPVA3.3*
DRS ***11*** *23:04:28.0,41.˚52N×46.˚54E,h18km*

ISC 11 23:04:28.2±0.8, 41.˚59N±0.˚02×46.˚58E±0.˚02, h10km±6km, n49,σ1s32/98, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.06**	**36**	P		**Pg**	**23 04 30.1 -0.2**
ZKTA				S		**Sg**	**23 04 32.4 +0.5**
TLTR	**Tlyarata**	**0.54**	**342**	*e*Pg		**Pg**	**23 04 38.5 -0.3**
TLTR				*e*Sg		**Sb**	**23 04 47.7 -0.2**
SEKA	**Sheki**	**0.60**	**129**	Pg		**Pg**	**23 04 38.7 -1.2**
SEKA				Sg		**Sb**	**23 04 48.9 -0.6**
KMKR	**Kumukh**	**0.67**	**36**	*e*Pg		**Pb**	**23 04 41.2 -0.9**
KMKR				*e*Sg		**Sn**	**23 04 51.6 -3.0**
GNBR	**Gunib**	**0.85**	**20**	*e*Pg		**Pn**	**23 04 45.0 -1.4**
GNBR				*e*Sg		**Sn**	**23 04 58.2 -0.7**
AKT	**Akhty**	**0.87**	**97**	*e*Pg		**Pb**	**23 04 43.8 -1.8**
AKT				*e*Sg		**Sb**	**23 04 55.7 -1.7**
MNGR	**Mingechevir, A**	**0.90**	**155**	P		**Pb**	**23 04 45.1 -0.8**
MNGR				S		**Sn**	**23 05 01.5 +1.4**
XNZR	**Khunzakh**	**0.96**	**6**	*e*Pg		**Pn**	**23 04 47.2 -0.7**
XNZR				*e*Sg		**Sn**	**23 05 01.9 +0.3**
GANJ	**Ganja**	**0.96**	**192**	P		**Pb**	**23 04 44.9 -2.1**
GANJ				S		**Sn**	**23 05 01.1 -0.5**
URKR	**Urkarakh**	**0.98**	**54**	*e*Pg		**Pn**	**23 04 47.1 -1.0**
URKR				*e*Sg		**Sn**	**23 05 01.7 -0.4**
QZX	**Qazax, Azerbai**	**1.05**	**240**	P		**Pb**	**23 04 47.0 -1.5**
QZX				S		**Sb**	**23 05 01.9 -0.4**
ARKR	**Arakani**	**1.06**	**17**	*i* Pg		**Pg**	**23 04 48.6 0.0**
ARKR				*e*Sg		**Sn**	**23 05 05.0 +0.9**
GDB	**GEDABAY**	**1.07**	**216**	P		**Pb**	**23 04 46.5 -2.4**
GDB				S		**Sb**	**23 05 00.9 -2.1**
BTLR	**Botlikh**	**1.10**	**346**	*e*Pg		**Pg**	**23 04 49.8 +0.4**
BTLR				*e*Sg		**Sn**	**23 05 05.7 +0.4**
UNCR	**Uncukul**	**1.14**	**8**	*e*Pg		**Pg**	**23 04 50.1 +0.1**
UNCR				*e*Sg		**Sn**	**23 05 07.3 +1.4**
QBL	**Gabala**	**1.15**	**124**	P		**Pn**	**23 04 49.2 -1.2**
QBL				S		**Sg**	**23 05 06.6 +1.4**
KSMR	**Kasumkent**	**1.17**	**89**	*e*Pg		**Pn**	**23 04 49.5 -1.1**
KSMR				*e*Sg		**Sg**	**23 05 06.1 +0.4**
XNQ	**Khinaliq**	**1.25**	**109**	P		**Pb**	**23 04 51.7 -0.3**
XNQ				S		**Sg**	**23 05 11.4 +3.0**
KRNR	**Karanay**	**1.26**	**11**	*e*Pg		**Pg**	**23 04 52.2 -0.3**
KRNR				*e*Sg		**Sg**	**23 05 11.0 +2.2**
QSAR	**Qusar**	**1.27**	**93**	P		**Pg**	**23 04 52.1 -0.5**
QSAR				S		**Sg**	**23 05 11.8 +2.7**
BUJR	**Buynaksk**	**1.30**	**18**	*e*Pg		**Pg**	**23 04 52.8 -0.3**
BUJR				*e*Sg		**Sg**	**23 05 12.3 +2.3**
DRN	**Derbent**	**1.38**	**71**	*e*Pg		**Pb**	**23 04 53.9 -0.3**
DRN				*e*Sg		**Sg**	**23 05 13.7 +1.0**
BRDA	**Brd**	**1.40**	**161**	Pn		**Pn**	**23 04 53.6 -0.3**
BRDA				Sn		**Sg**	**23 05 15.3 +2.0**
IML	**Ismayilli**	**1.45**	**123**	Pn		**Pn**	**23 04 53.9 -0.7**
IML				Sn		**Sg**	**23 05 15.4 +0.5**
QUBA	**Quba, Azerbaij**	**1.46**	**99**	Pn		**Pg**	**23 04 56.5 +0.2**
QUBA				Sn		**Sg**	**23 05 18.1 +2.9**
DLMR	**Dylym**	**1.48**	**2**	*e*Pg		**Pg**	**23 04 56.6 -0.3**
DLMR				*e*Sg		**Sg**	**23 05 18.8 +3.0**
AGDM	**Agdam**	**1.53**	**165**	Pn		**Pn**	**23 04 55.1 -0.6**
AGDM				Sn		**Sb**	**23 05 17.1 +0.8**
MAK	**Makhachkala**	**1.53**	**26**	*e*Pg		**Pb**	**23 04 56.1 -0.7**
MAK				*e*Sg		**Sg**	**23 05 18.3 +0.8**
ZRD	**Zardab**	**1.56**	**147**	Pn		**Pn**	**23 04 56.0 +0.1**
ZRD				Sn		**Sg**	**23 05 19.0 +0.8**
PQL	**Pirkuli**	**1.72**	**117**	Pn		**Pb**	**23 04 59.1 -0.9**
PQL				Sn		**Sg**	**23 05 25.8 +2.2**
SIZA	**Siyzn**	**1.82**	**106**	Pn		**Pg**	**23 05 02.5 -0.6**
SIZA				Sn		**Sg**	**23 05 26.4 -0.5**
ATGJ	**Altiaghaj**	**1.93**	**111**	Pn		**Pb**	**23 05 03.5 0.0**
ATGJ				Sg		**Sg**	**23 05 30.7 +0.6**
GNI	**Garni**	**2.00**	**225**	*e*Pg		**Pn**	**23 05 03.1 +0.9**
GNI				*e*Sg		**Sb**	**23 05 30.4 +0.6**
BLQ	**Beylaqan**	**2.01**	**158**	Pn		**Pn**	**23 05 01.9 -0.4**
BLQ				Sn		**Sb**	**23 05 29.4 -0.6**
GBS	**Qobustan**	**2.08**	**120**	Pn		**Pb**	**23 05 05.5 +0.5**
GBS				Sn		**Sb**	**23 05 32.4 +0.4**
LACR	**Lac**	**2.10**	**307**	*e*Pg		**Pb**	**23 05 06.1 -0.3**
LACR				*e*Sg		**Sg**	**23 05 35.2 -0.3**
QRD	**Qoradiz**	**2.20**	**165**	Pn		**Pn**	**23 05 04.7 -0.1**
QRD				Sn		**Sb**	**23 05 34.8 -0.6**
HYR	**Heyderabad**	**2.28**	**216**	Pg		**Pn**	**23 05 07.6 +1.6**
HYR				Sg		**Sb**	**23 05 38.5 +0.6**
AKH	**Akhalkalaki**	**2.32**	**267**	*e*Pn		**Pn**	**23 05 07.1 +0.4**
AKH				*e*Sn		**Sb**	**23 05 37.1 -2.0**
SBZ	**Shahbuz**	**2.33**	**200**	Pg		**Pb**	**23 05 08.4 -1.9**
SBZ				Sn		**Sb**	**23 05 39.7 +0.5**
KORR	**Kora**	**2.38**	**310**	*e*Pn		**Pb**	**23 05 11.5 +0.2**
KORR				*e*Sn		**Sb**	**23 05 41.1 +0.3**
NAX	**Nakhchivan**	**2.55**	**199**	Pn		**Pn**	**23 05 11.6 +1.8**
NAX				Sn		**Sn**	**23 05 41.9 +1.0**
IGDI	**IGDIR**	**2.56**	**229**	Pn		**Pn**	**23 05 09.2 -0.6**
IGDI				Sn		**Sb**	**23 05 43.8 -2.1**
ORD	**Ordubad**	**2.70**	**190**	Pg		**Pb**	**23 05 14.6 -2.0**

MWH	**Mokuaweoweo**	**0.26**	**283**		Pg		23 22 21.6	+0.4
MWH					Sg		23 22 26.3	+1.5
MWH	**Mokuaweoweo**	**0.26**	**283**	IAML			23 22 30.4	
	comp=N,1μm,0.4s							
MWH				IAML			23 22 30.6	
	comp=E,2μm,0.5s							
JOKA	**Jonika Flow**	**0.30**	**88**		Pg		23 22 22.2	+0.3
JOKA				IAML			23 22 26.7	
	comp=N,211nm,1.8s							
ALEP	**Alea Permanent**	**0.32**	**291**		Pg		23 22 22.4	0.0
ALEP					Sg		23 22 27.4	+0.6
KHU	**Kahuku**	**0.33**	**237**		Pg		23 22 22.4	0.0
KHU					Sg		23 22 27.5	+0.8
POHA	**Pohakuloa**	**0.39**	**329**		Pg		23 22 23.7	+0.1
POHA				IAML			23 22 33.6	
	comp=N,526nm,0.5s							
POHA				IAML			23 22 36.5	
	comp=N,464nm,0.3s							
POHA	**Pohakuloa**	**0.39**	**329**		Sb		23 22 30.5	-1.5
HUH	**Hualalai**	**0.55**	**298**		Pb		23 22 27.7	-0.6
HPAH	**Hawaii Prepara**	**0.70**	**330**	Pg	Pg		23 22 28.6	-0.8
HPAH				IAML			23 22 51.4	
	comp=N,120nm,1.2s							
HPAH				IAML			23 22 53.8	
	comp=E,142nm,1.3s							
MHA	**Mahukona**	**0.94**	**324**	Pg	Pg		23 22 33.3	-0.7

*IDC **11** 23:29:44.6±0.8, 47°.42N×20°.20E, h0km, mb3.5/4, mbtmp3.4/10, ML3.2/6, MS3.1/4, Error ellipse: s-maj=15.8km s-min=7.5km az=15.0*
*PRU **11** 23:29:46.5, 47°.46N×20°.19E, h10km*
*BGR **11** 23:29:48.3±0.7, 47°.70N×20°.21E, h10km, ML3.4/9, Error ellipse: s-maj=7.8km s-min=4.4km az=142.0*
*MCSM **11** 23:29:48.2±0.5, 48°.N±2°×2°.0E±°, h17km±4km, mb4.1, mB5.0, MLv4.1, MW(mB)4.4*
*BEO **11** 23:29:49.1±0.4, 47°.55N×20°.44E, h28km±3km, ML3.7/21*

ISC 11 23:29:48.1±0.6, **47°.65N**±0.02×**-20°.31E**±0.02, **h21**km±2km, **n245**, σ1°**42**/308, **mb3.6**/4, **25C-27D, Hungary**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSZH	**Besenyszog**	**0.35**	**185**	⇓P		**Pb**	**23 29 54.9**		**-0.6**
BSZH				⇓S		**Sb**	**23 30 01.3**		**+0.8**
PSZ	**Piszkesteto**	**0.39**	**314**	⇓P		**Pb**	**23 29 55.2**		**-1.0**
PSZ				⇓S		**Sb**	**23 30 01.5**		**-0.3**
KECS	**Kecovo**	**0.84**	**8**	*e*PG		**Pb**	**23 30 03.0**		**-1.1**
KECS				*e*SG		**Sn**	**23 30 17.2**		**+0.6**
KECS				*e*LG		Lg	23 30 17.7		
BORR	**Bors**	**1.15**	**119**	⇑P		**Pn**	**23 30 08.0**		**-0.9**
VYHS	**Vyhne**	**1.30**	**311**	*e*PG		**Pn**	**23 30 10.8**		**-0.3**
VYHS				*e*SG		**Sb**	**23 30 29.3**		**+1.2**
SRO	**Srobarova**	**1.36**	**278**	*e*PG		**Pb**	**23 30 13.6**		**+0.8**
SRO				*e*SG		**Sb**	**23 30 32.0**		**+2.3**
SRO				*e*LG		Lg	23 30 37.8		
CEI	**Carei**	**1.45**	**88**	⇓P		**Pn**	**23 30 11.9**		**-1.3**
CEI				⇑S		**Sn**	**23 30 31.0**		**-0.6**
SUBS	**Subotica**	**1.60**	**197**	*e*Pg		**Pb**	**23 30 17.5**		**+0.5**
SUBS				*e*Sg		**Sb**	**23 30 39.7**		**+3.0**
LANS	**Liptovska Anna**	**1.60**	**340**	*e*PN		**Pn**	**23 30 15.5**		**+0.2**
LANS				*e*SG		**Sb**	**23 30 38.8**		**+1.9**
LANS				*e*LG		Lg	23 30 42.8		
UZHM	**Uzhgorod**	**1.65**	**53**	Pn		**Pn**	**23 30 16.2**		**+0.3**
SIRR	**Siria**	**1.66**	**146**	⇓P		**Pn**	**23 30 14.8**		**-1.2**
SIRR	**Siria**	**1.66**	**146**	*e*Pg		**Pn**	**23 30 15.4**		**-0.7**
NIE	**Niedzica**	**1.77**	**360**	*e*Pn		**Pn**	**23 30 18.5**		**+0.9**
NIE	**Niedzica**	**1.77**	**360**	Pn		**Pn**	**23 30 18.5**		**+0.9**
MORH	**Mrgy, Hungar**	**1.83**	**219**	*e*Pn		**Pb**	**23 30 21.7**		**+0.8**
MORH	**Mrgy, Hungar**	**1.83**	**219**	⇓P		**Pn**	**23 30 16.8**		**-1.6**
MORH				⇓S		**Sn**	**23 30 39.7**		**-1.2**
MORH	**Mrgy, Hungar**	**1.83**	**219**	*e*Pg		**Pb**	**23 30 21.9**		**+1.0**
MORH				*e*Sg		**Sb**	**23 30 46.7**		**+3.4**
KOLS	**Kolonicke sedl**	**1.84**	**45**	*e*PN		**Pn**	**23 30 17.5**		**-1.0**
KOLS				*e*SN		**Sb**	**23 30 43.2**		**-0.4**
KOLS				*e*LG		Lg	23 30 50.3		
DRGR		**1.85**	**117**	⇑P		**Pn**	**23 30 17.9**		**-0.8**
DRGR				⇓S		**Sn**	**23 30 41.4**		**-0.1**
DRGR		**1.85**	**117**	*e*Pg		**Pn**	**23 30 17.9**		**-0.8**
MESR	**Meseseni**	**1.86**	**105**	⇓P		**Pn**	**23 30 18.0**		**-0.8**
MESR				⇓S		**Sn**	**23 30 41.6**		**-0.1**
STHS	**Stebnicka Huta**	**1.88**	**19**	*e*PN		**Pn**	**23 30 18.5**		**-0.5**
STHS				*e*LG		Lg	23 30 52.3		
BRIU	**Brid**	**1.95**	**68**	Pn		**Pn**	**23 30 20.1**		**+0.1**
KORU	**Korolevo**	**1.97**	**74**	Pn		**Pn**	**23 30 20.3**		**+0.1**
TIM	**Timisoara**	**2.01**	**161**	⇓P		**Pn**	**23 30 21.6**		**+0.8**
TIM				⇓S		**Sn**	**23 30 45.4**		**+0.1**
JAVC	**Velka Javorina**	**2.14**	**305**	*e*PN		**Pn**	**23 30 22.9**		**+0.3**
JAVC	**Velka Javorina**	**2.14**	**305**	*e*Pn		**Pn**	**23 30 23.0**		**+0.3**
BMR	**Baia Mare**	**2.15**	**88**	⇑P		**Pn**	**23 30 21.2**		**-1.7**
BMR				⇓S		**Sn**	**23 30 47.9**		**-1.0**
MODS	**Modra-Piesok**	**2.16**	**291**	*e*PN		**Pn**	**23 30 19.4**		**-3.5**
MODS				*e*PG		**Pb**	**23 30 26.5**		**0.0**
MODS				*e*LG		Lg	23 31 00.3		
BZS	**Buzias**	**2.22**	**156**	⇑P		**Pn**	**23 30 23.1**		**-0.6**
BZS				⇑S		**Sn**	**23 30 48.9**		**-1.7**
BZS	**Buzias**	**2.22**	**156**	*e*Pn		**Pn**	**23 30 23.0**		**-0.7**
ZST	**Bratislava**	**2.23**	**285**	*e*PN		**Pn**	**23 30 23.0**		**-0.5**
ZST				*e*SN		**Sn**	**23 30 49.9**		**-0.7**
SURR	**Surduc**	**2.27**	**146**	⇓P		**Pn**	**23 30 23.7**		**-0.7**
MEZ	**Mezhgor'ye**	**2.32**	**67**	Pn		**Pn**	**23 30 24.1**		**-1.0**
BANR	**Banloc**	**2.34**	**166**	⇑P		**Pn**	**23 30 25.2**		**-0.1**
BANR	**Banloc**	**2.34**	**166**	*e*Pn		**Pn**	**23 30 25.4**		**+0.1**
CBBR	**Cluj-Babes-Bol**	**2.38**	**111**	⇑P		**Pn**	**23 30 25.4**		**-0.5**
MAUC	**Maruska**	**2.38**	**317**	*e*PN		**Pn**	**23 30 26.7**		**+0.7**
CJR	**Cluj-Napoca**	**2.43**	**111**	⇓P		**Pn**	**23 30 26.2**		**-0.5**
DEV	**Deva**	**2.51**	**134**	⇓P		**Pn**	**23 30 27.2**		**-0.5**
FRGS	**Fruska Gora**	**2.52**	**188**	*e*Pn		**Pn**	**23 30 26.8**		**-1.0**
OJC	**Ojcow**	**2.60**	**353**	*e*Pn		**Pn**	**23 30 29.5**		**+0.6**
OJC	**Ojcow**	**2.60**	**353**	Pn		**Pn**	**23 30 29.3**		**+0.4**
OKC	**Ostrava-Krasne**	**2.62**	**328**	*e*PN		**Pn**	**23 30 29.8**		**+0.6**
OKC	**Ostrava-Krasne**	**2.62**	**328**	*e*Pn		**Pn**	**23 30 29.6**		**+0.5**
VRSS	**Vrsac**	**2.62**	**164**	*e*Pn		**Pn**	**23 30 28.1**		**-1.1**
VRSS				*e*Sn		**Sn**	**23 30 57.8**		**-2.6**
RAKU	**Rahkiv**	**2.63**	**80**	Pn		**Pn**	**23 30 29.9**		**+0.6**
BEHE	**Becsehely**	**2.69**	**245**	*e*Pn		**Pb**	**23 30 36.8**		**+1.3**
RONA	**Rosalia, Austr**	**2.71**	**273**	*e*Pn		**Pn**	**23 30 30.2**		**-0.3**
	20nm,0.2s,SNR=38								
RONA				Sn		**Sn**	**23 31 01.1**		**-1.6**
	43nm,0.2s								
ARCR	**ARCALIA**	**2.81**	**100**	⇓P		**Pn**	**23 30 31.2**		**-0.5**
MORC	**Moravsky Berou**	**2.81**	**320**	*e*PN		**Pn**	**23 30 31.8**		**-0.1**
MORC				*e*SN		**Sn**	**23 31 06.0**		**+0.9**
MORC	**Moravsky Berou**	**2.81**	**320**	⇓P		**Pn**	**23 30 32.0**		**+0.1**
MORC	**Moravsky Berou**	**2.81**	**320**	*e*Pn		**Pn**	**23 30 32.0**		**+0.1**
MORS	**Morshin**	**2.81**	**57**	Pn		**Pn**	**23 30 33.1**		**+1.2**
GZR	**Gura Zlata**	**2.83**	**142**	⇑P		**Pn**	**23 30 32.2**		**0.0**
GZR				⇓S		**Sn**	**23 31 04.2**		**-1.3**
GZR	**Gura Zlata**	**2.83**	**142**	*e*Pn		**Pn**	**23 30 32.3**		**+0.2**
STEB	**Steborice**	**2.84**	**325**	*e*PN		**Pn**	**23 30 32.5**		**+0.3**
STEB				*e*SN		**Sb**	**23 31 17.1**		**+4.8**
BEO	**Beograd**	**2.84**	**178**	*e*Pn		**Pn**	**23 30 31.0**		**-1.2**
AVAS	**Avala Beograd**	**2.96**	**177**	*e*Pn		**Pn**	**23 30 32.9**		**-0.9**
AVAS				*e*Sn		**Sn**	**23 31 04.8**		**-3.9**
KRUC	**Moravsky**	**2.97**	**300**	*e*PN		**Pn**	**23 30 33.3**		**-0.7**
KRUC				*e*SN		**Sn**	**23 31 08.8**		**-0.2**
KRUC	**Moravsky**	**2.97**	**300**	*e*Pn		**Pn**	**23 30 33.5**		**-0.5**
VRAC	**Vranov**	**2.98**	**305**	Pn		**Pn**	**23 30 33.9**		**-0.2**
	38nm,0.3s,baz=129,slow=13,SNR=426								
VRAC				Sn		**Sn**	**23 31 08.8**		**-0.4**
	14nm,0.3s,baz=5.5,slow=14,SNR=12								
VRAC	**Vranov**	**2.98**	**305**	*e*PN		**Pn**	**23 30 33.9**		**-0.2**
VRAC				*e*			23 31 08.6		
VRAC	**Vranov**	**2.98**	**305**	⇓P		**Pn**	**23 30 34.2**		**0.0**
VRAC				⇑S		**Sn**	**23 31 08.8**		**-0.4**
VRAC	**Vranov**	**2.98**	**305**	*e*Pn		**Pn**	**23 30 34.0**		**-0.2**
VRAC				*e*Sn		**Sn**	**23 31 08.9**		**-0.4**
STNU	**Starunia**	**3.00**	**68**	Pn		**Pn**	**23 30 34.5**		**+0.1**
CONA	**Conrad Observa**	**3.01**	**277**	*i* Pn		**Pn**	**23 30 34.3**		**-0.3**
	49nm,0.4s,SNR=41								
CONA				*e*Sn		**Sn**	**23 31 08.9**		**-1.3**
	72nm,0.4s								
KOGS	**Kog**	**3.02**	**248**	*i* Pn		**Pb**	**23 30 43.4**		**+2.2**
KOGS				*e*Sn		Sb	23 31 26.6		+8.9
MDVR	**Moldovita**	**3.03**	**161**	⇑P		**Pn**	**23 30 34.2**		**-0.6**
MDVR	**Moldovita**	**3.03**	**161**	*e*Pn		**Pn**	**23 30 34.0**		**-0.9**
HERR	**Herculane**	**3.13**	**151**	⇓P		**Pn**	**23 30 35.9**		**-0.3**
TEKS	**Tekeris**	**3.15**	**190**	*e*Pn		**Pn**	**23 30 35.2**		**-1.3**
TEKS				*e*Sn		**Sn**	**23 31 09.3**		**-4.1**
MDB	**Medias**	**3.17**	**117**	⇑P		**Pn**	**23 30 37.6**		**+0.8**
MOSL	**Moslavina**	**3.18**	**232**	*e*Pn		**Pb**	**23 30 46.2**		**+2.2**
LOT	**Lotru**	**3.25**	**131**	⇑P		**Pn**	**23 30 38.0**		**+0.1**
KSV	**Kosov**	**3.27**	**76**	Pn		**Pn**	**23 30 39.1**		**+1.0**
ARSA	**Arzberg**	**3.27**	**265**	*i* Pn		**Pn**	**23 30 38.2**		**0.0**
	25nm,0.3s,SNR=20								
ARSA				*e*Sn		**Sn**	**23 31 15.3**		**-1.2**
	37nm,0.4s								
ARSA	**Arzberg**	**3.27**	**265**	*e*Pn		**Pn**	**23 30 38.5**		**+0.3**
ARSA	**Arzberg**	**3.27**	**265**	*e*Pn		**Pn**	**23 30 38.6**		**+0.3**
ARSA				*e*Sn		**Sn**	**23 31 16.1**		**-0.3**
DOB	**Doboj**	**3.29**	**209**	*e*Pn		Pb	23 30 50.4		+4.6
KRLC	**Kraliky**	**3.37**	**318**	*e*PN		**Pn**	**23 30 40.0**		**+0.5**
KRLC					AMS	AMS	23 32 00.0		
	300nm,10.4s								
KUBS	**Kucevo**	**3.37**	**163**	*e*Pn		**Pn**	**23 30 37.1**		**-2.5**
KUBS				*e*Sn		**Sn**	**23 31 15.9**		**-3.1**
TRUS	**Trudelj**	**3.43**	**179**	*e*Pn		**Pn**	**23 30 39.5**		**-0.8**
A051A	**Mrakovica**	**3.54**	**223**	*e*Pn		**Pb**	**23 30 53.6**		**+3.6**
DIVS	**Divibare**	**3.56**	**184**	*e*Pn		**Pn**	**23 30 41.1**		**-1.1**
DIVS				*e*Sn		**Sn**	**23 31 20.6**		**-3.0**
TREC	**Trest**	**3.61**	**299**	*e*PN		**Pn**	**23 30 42.8**		**0.0**
TREC				*e*SN		**Sn**	**23 31 24.9**		**+0.2**
TREC	**Trest**	**3.61**	**299**	*e*Pn		**Pn**	**23 30 42.8**		**0.0**
BLY	**Banja Luka**	**3.62**	**218**	*e*Pn		**Pb**	**23 30 55.5**		**+4.1**
BLY	**Banja Luka**	**3.62**	**218**	⇑P		**Pn**	**23 30 42.2**		**-0.8**
BLY				⇓S		**Sn**	**23 31 23.7**		**-1.4**
BLY	**Banja Luka**	**3.62**	**218**	*e*Pn		**Pn**	**23 30 43.4**		**+0.4**
SOKA	**Soboth**	**3.73**	**257**	*i* Pn		**Pn**	**23 30 44.0**		**-0.5**
	2.3nm,0.2s,SNR=11								
SOKA				*e*Sn		**Sn**	**23 31 27.3**		**-0.5**
	17nm,0.5s								
ARR	**Arges**	**3.76**	**126**	⇑P		**Pn**	**23 30 44.9**		**0.0**
DPC	**Dobruska-Polom**	**3.77**	**317**	*e*PN		**Pn**	**23 30 45.6**		**+0.6**
DPC					AMS	AMS	23 32 10.0		
	400nm,6.0s								
GRUS	**Gruza**	**3.77**	**176**	*e*Pn		**Pn**	**23 30 44.2**		**-0.8**
GRUS				*e*Sn		**Sn**	**23 31 25.3**		**-3.4**
BBLS	**Lazi&#263i**	**3.83**	**190**	*e*Pn		**Pn**	**23 30 45.3**		**-0.7**
BBLS				*e*Sn		**Sn**	**23 31 27.6**		**-2.8**
DOPR	**Dopca**	**3.87**	**114**	⇑P		**Pn**	**23 30 46.1**		**0.0**
OZLJ	**Ozalj**	**3.91**	**240**	*e*Pn		**Pb**	**23 30 54.2**		**-2.0**
VOIR		**3.95**	**122**	⇑P		**Pn**	**23 30 47.9**		**+0.4**
VOIR		**3.95**	**122**	Pn		**Pn**	**23 30 48.0**		**+0.4**
OSTC	**Ostas**	**3.96**	**319**	*e*PN		**Pn**	**23 30 48.1**		**+0.4**
OSTC					AMS	AMS	23 32 20.0		
	300nm,9.6s								
UPC	**Upice**	**4.02**	**317**	*e*PN		**Pn**	**23 30 48.9**		**+0.4**
UPC					AMS	AMS	23 32 30.0		
	300nm,8.8s								
PRAR	**RASCA**	**4.02**	**92**	⇑P		**Pn**	**23 30 49.1**		**+0.6**
CHVC	**Chvalec**	**4.06**	**318**	*e*PN		**Pn**	**23 30 49.5**		**+0.5**
OZUR		**4.07**	**110**	⇑P		**Pn**	**23 30 49.7**		**+0.6**
ZAGS	**Zajecar**	**4.07**	**160**	*e*Pn		**Pn**	**23 30 48.6**		**-0.5**
ZAGS				*e*Sn		**Sn**	**23 31 33.6**		**-2.4**
IVAS	**Ivanjica**	**4.07**	**182**	*e*Pn		**Pn**	**23 30 48.0**		**-1.2**
IVAS				*e*Sn		**Sn**	**23 31 32.6**		**-3.7**
MOA	**Molln**	**4.08**	**275**	*i* Pn		**Pn**	**23 30 49.6**		**+0.3**
	6.1nm,0.2s,SNR=34								
MOA				*e*Sn		**Sn**	**23 31 38.2**		**+1.7**
	12nm,0.3s								
MOA	**Molln**	**4.08**	**275**	*e*Pn		**Pn**	**23 30 49.7**		**+0.4**
MOA	**Molln**	**4.08**	**275**	*e*Pn		**Pn**	**23 30 49.7**		**+0.4**
RUDO	**Rudo**	**4.08**	**190**	*e*Pn		**Pn**	**23 30 47.8**		**-1.5**
RUDO	**Rudo**	**4.08**	**190**	*e*Pn		**Pn**	**23 30 47.8**		**-1.5**
BOJS	**Bojanci**	**4.09**	**240**	*e*Pn		**Pn**	**23 30 51.4**		**+2.0**
OBKA	**Obir**	**4.10**	**256**	*i* Pn		**Pn**	**23 30 49.7**		**+0.1**
	0.7nm,0.1s,SNR=9.5								
OBKA				*e*Sn		**Sn**	**23 31 36.9**		**-0.1**
	26nm,0.4s								
OBKA	**Obir**	**4.10**	**256**	*e*Pn		**Pn**	**23 30 49.9**		**+0.3**
GOCS	**Kraljevo Serbi**	**4.11**	**174**	*e*Pn		**Pn**	**23 30 49.1**		**-0.6**
GOCS				*e*Sn		**Sn**	**23 31 33.0**		**-4.1**
A050A	**Klekovaca**	**4.12**	**221**	*e*Pn		**Pb**	**23 31 04.3**		**+4.4**
BOVS	**Bovan**	**4.13**	**166**	⇑P		**Pn**	**23 30 50.3**		**+0.4**
KSP	**Ksiaz**	**4.14**	**322**	*e*Pn		**Pn**	**23 30 50.9**		**+0.8**
KSP	**Ksiaz**	**4.14**	**322**	Pn		**Pn**	**23 30 50.8**		**+0.7**
CKRC	**Cesky Krumlov**	**4.18**	**289**	*e*PN		**Pn**	**23 30 50.8**		**+0.2**
TURR	**Turia**	**4.23**	**110**	⇑P		**Pn**	**23 30 51.7**		**+0.3**
GOPC	**GO Pecny, Ondr**	**4.30**	**304**	*e*PN		**Pn**	**23 30 52.1**		**-0.2**
GOPC				*e*SN		**Sn**	**23 31 41.2**		**-0.5**
PLE	**Pljevlja**	**4.37**	**189**	*e*Pn		**Pn**	**23 30 52.8**		**-0.5**
SJES	**Sjenica**	**4.39**	**183**	*e*Pn		**Pn**	**23 30 53.2**		**-0.5**
SJES				*e*Sn		**Sn**	**23 31 39.9**		**-4.4**
ZVC	**Zvikov**	**4.44**	**296**	*e*PN		**Pn**	**23 30 54.3**		**+0.1**
MLR	**Muntele Rosu**	**4.45**	**117**	Pn		**Pn**	**23 30 53.9**		**-0.6**
	4.4nm,0.9s,baz=315,slow=13								
MLR					Sn	**Sn**	**23 31 45.9**		**+0.3**
	1.2nm,0.3s,baz=308,slow=22,SNR=3.4								
MLR	**Muntele Rosu**	**4.45**	**117**	⇓P		**Pn**	**23 30 54.4**		**0.0**
MLR	**Muntele Rosu**	**4.45**	**117**	*e*Pn		**Pn**	**23 30 54.4**		**0.0**
MLR	**Muntele Rosu**	**4.45**	**117**	Pn		**Pn**	**23 30 54.4**		**0.0**
PRU	**Pruhonice**	**4.47**	**304**	*e*PN		**Pn**	**23 30 54.4**		**-0.3**
PRU				*e*SN		**Sn**	**23 31 44.5**		**-1.5**
PRU	**Pruhonice**	**4.47**	**304**	*e*Pn		**Pn**	**23 30 54.3**		**-0.3**
PRU				*e*Sn		**Sn**	**23 31 44.3**		**-1.2**
TESR	**Tescani**	**4.48**	**102**	⇓P		**Pn**	**23 30 55.3**		**+0.5**
TESR	**Tescani**	**4.48**	**102**	Pn		**Pn**	**23 30 55.5**		**+0.8**
BIOA	**Bad Ischl, Aus**	**4.51**	**273**	*i* Pn		**Pn**	**23 30 55.4**		**+0.2**
	12nm,0.2s,SNR=30								
BIOA				*e*Sn		**Sn**	**23 31 46.8**		**-0.2**
	22nm,0.4s								
KIJV	**Kijevo**	**4.55**	**218**	*e*Pn		**Pn**	**23 30 55.5**		**-0.3**
GEC2	**GERESS Array S**	**4.57**	**288**	*e*Pn		**Pn**	**23 30 56.3**		**+0.1**
GEC2				*e*Sn		**Sn**	**23 31 48.5**		**-0.2**
GERES	**GERESS Array B**	**4.57**	**288**	Pn		**Pn**	**23 30 56.3**		**+0.1**
	1.7nm,0.3s,baz=103,slow=14,SNR=363								
GERES				Sn		**Sn**	**23 31 48.5**		**-0.2**
	1.0nm,0.3s,baz=103,slow=24,SNR=6.2								
MYKA	**Terra Mystica**	**4.66**	**260**	*i* Pn		**Pn**	**23 30 57.4**		**+0.1**
	1.2nm,0.2s,SNR=7.8								
MYKA				*e*Sn		**Sn**	**23 31 49.8**		**-1.0**
	13nm,0.6s								
ZAPS	**Zavoj**	**4.67**	**159**	*e*Pn		**Pn**	**23 30 56.6**		**-0.8**
PLOR	**Plostina**	**4.71**	**110**	⇑P		**Pn**	**23 30 58.8**		**+0.8**
KHC	**Kasperske Hory**	**4.72**	**291**	*e*PN		**Pn**	**23 30 58.4**		**+0.3**
KHC				*ex*			x 23 32 08.0		
KHC	**Kasperske Hory**	**4.72**	**291**	*e*Pn		**Pn**	**23 30 58.2**		**0.0**
PLOR5	**Plostina Array**	**4.73**	**110**	Pn		**Pn**	**23 30 59.5**		**+1.3**
PVCC	**Panska Ves**	**4.75**	**310**	*e*PN		**Pn**	**23 30 58.4**		**0.0**
PVCC	**Panska Ves**	**4.75**	**310**	*e*Pn		**Pn**	**23 30 58.4**		**0.0**
VRI	**Vrincioaia**	**4.76**	**110**	⇑P		**Pn**	**23 30 58.9**		**+0.3**
VRI	**Vrincioaia**	**4.76**	**110**	Pn		**Pn**	**23 30 58.9**		**+0.3**
KBA	**Koelnbreinsper**	**4.77**	**266**	*i* Pn		**Pn**	**23 30 59.0**		**+0.1**
	14nm,0.3s								
KBA				*e*Sn		**Sn**	**23 31 52.5**		**-1.1**
	15nm,0.4s								
KBA	**Koelnbreinsper**	**4.77**	**266**	*e*Pn		**Pn**	**23 30 59.9**		**+1.0**
BEY	**Berane**	**4.79**	**184**	*e*Pn		**Pn**	**23 30 59.3**		**+0.2**
KOME	**Kolasin**	**4.83**	**187**	*e*Pn		**Pn**	**23 30 59.6**		**-0.1**
BARS	**Barje**	**4.95**	**167**	*e*Pn		**Pn**	**23 31 00.9**		**-0.3**
BARS				*e*Sn		**Sn**	**23 31 53.0**		**-4.8**
RICC	**Richard**	**5.00**	**308**	*e*PN		**Pn**	**23 31 01.1**		**-0.8**
RNPP5	**Staryi Chortor**	**5.11**	**43**	Pn		**Pn**	**23 31 05.6**		**+2.3**
STON	**Ston**	**5.12**	**202**	*e*Pn		**Pn**	**23 31 04.0**		**+0.5**
STON	**Ston**	**5.12**	**202**	*e*Pn		**Pn**	**23 31 04.0**		**+0.5**
TREB	**Trebinje**	**5.12**	**196**	*e*Pn		**Pn**	**23 31 04.2**		**+0.6**
TREB	**Trebinje**	**5.12**	**196**	*e*Pn		**Pn**	**23 31 02.6**		**-1.0**
RNPP8	**Varash**	**5.17**	**42**	Pn		**Pn**	**23 31 06.2**		**+2.1**
WET	**Wettzell**	**5.17**	**290**	*e*Pn		**Pn**	**23 31 04.2**		**-0.1**
LESA	**Schwarzleotal**	**5.17**	**270**	*i* Pn		**Pn**	**23 31 04.7**		**+0.3**
	2.2nm,0.2s,SNR=18								
LESA				*e*Sn		**Sn**	**23 32 02.5**		**-0.9**
	3.2nm,0.3s								
RNPP9	**Sopachiv**	**5.23**	**42**	Pn		**Pn**	**23 31 06.9**		**+1.8**
BRG	**Berggiesshubel**	**5.27**	**310**	*e*Pn		**Pn**	**23 31 05.9**		**+0.3**
BRG	**Berggiesshubel**	**5.27**	**310**	Pn		**Pn**	**23 31 05.9**		**+0.3**
BRG				r			23 31 13.8		
BRG				Amp			23 31 15.3		
	comp=Z,8.9nm,0.5s								
BRG	**Berggiesshubel**	**5.27**	**310**	Pg		Pb	23 31 31.4		+12
BRG				Sg		Sb	23 32 36.7		+14
BRG				Amp			23 32 52.9		
	comp=Z,12nm,0.9s								
PDG	**Podgorica**	**5.27**	**189**	⇑P		**Pn**	**23 31 05.7**		**+0.1**
PDG	**Podgorica**	**5.27**	**189**	*e*Pn		**Pn**	**23 31 05.6**		**0.0**
BRJN	**Brijuni**	**5.31**	**241**	*e*Pn		**Pn**	**23 31 07.4**		**+1.3**
ABTA	**Abfaltersbach**	**5.39**	**263**	*e*Pn		**Pn**	**23 31 07.3**		**0.0**
	comp=Z,2.8nm,0.3s,SNR=12								
LUBAR	**Lubar, Ukraine**	**5.42**	**62**	Pn		**Pn**	**23 31 08.2**		**+0.5**
SORM	**Soroca**	**5.43**	**82**	Pn		**Pn**	**23 31 08.4**		**+0.6**
	comp=Z,0.1nmcomp=Z,11nm,0.5s								
VTS	**Vitosha**	**5.44**	**157**	*e*Pn		**Pn**	**23 31 07.0**		**-1.1**
DRME	**Dracevica, Mon**	**5.52**	**189**	*e*Pn		**Pn**	**23 31 10.7**		**+1.7**
FBE	**Freiberg**	**5.61**	**308**	*e*Pn		**Pn**	**23 31 10.0**		**-0.2**
ROTZ	**Rotzenmuhle**	**5.77**	**295**	*e*Pn		**Pn**	**23 31 12.2**		**-0.3**
MI28	**Mi28,Pidlybu**	**5.83**	**53**	Pn		**Pn**	**23 31 14.8**		**+1.5**
WERN	**Wernitzgruen**	**5.85**	**300**	*e*Pn		**Pn**	**23 31 13.8**		**+0.1**
TANN	**Tannenbergstha**	**5.86**	**301**	*e*Pn		**Pn**	**23 31 13.3**		**-0.4**
WTTA	**Wattenberg**	**5.89**	**269**	*i* Pn		**Pn**	**23 31 14.4**		**+0.1**
	comp=Z,2.9nm,0.2s,SNR=16								
WTTA				*e*Sn		**Sn**	**23 32 20.1**		**-1.3**
	comp=Z,6.5nm,0.4s								
WATA	**Walderalm**	**5.93**	**270**	*e*Pn		**Pn**	**23 31 14.8**		**0.0**
	comp=Z,1.7nm,0.2s								
CFR	**Carcaliu**	**5.95**	**112**	⇓P		**Pn**	**23 31 14.8**		**-0.2**
GKP	**Gorka Klasztor**	**5.96**	**342**	*e*P		**Pn**	**23 31 15.8**		**+0.8**
CLL	**Collm**	**6.01**	**310**	*e*Pn		**Pn**

MTN	**Manton Dam**	**4.74**	**163**	Pn		**Pn**	**01 08 08.6**	**+2.7**
SOEI	**Soe**	**5.57**	**254**	Pn		**Pn**	**01 08 18.4**	**+1.0**
FAKI	**Fak Fak**	**5.90**	**25**			**Pn**	**01 08 21.0**	**-0.8**
BATI	**Baumata**	**6.26**	**252**	Pn		**Pn**	**01 08 27.1**	**+0.3**
	6.5nm,0.3s,baz=63,slow=8.1,SNR=1.5							
BATI				Sn		**Sn**	**01 09 36.1**	**-1.2**
	11nm,0.3s,baz=12,slow=12,SNR=4.0							
	13nm,0.3s							
KNRA	**Kununurra**	**7.40**	**187**	Pn		**Pn**	**01 08 42.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**10.52**	**202**	Pn		**Pn**	**01 09 23.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.52**	**202**	Pn		**Pn**	**01 09 24.4**	**-0.8**
	1.1nm,0.3s,baz=37,slow=12,SNR=20							
FITZ				Sn		Sn	01 11 11.8	-10
	2.1nm,0.3s,baz=254,slow=21,SNR=6.3							
	5.8nm,0.5s							
WB0	**Warramunga Arr**	**12.28**	**159**	Pn		**Pn**	**01 09 48.4**	**-0.9**
WRA	**Warramunga Arr**	**12.42**	**159**	Pn		**Pn**	**01 09 50.4**	**-0.9**
WRA	**Warramunga Arr**	**12.42**	**159**	Pn		**Pn**	**01 09 50.5**	**-0.8**
	0.5nm,0.3s,baz=343,slow=13,SNR=13							
WRA				Sn		**Sn**	**01 12 03.7**	**-4.8**
	1.2nm,0.3s,baz=339,slow=19,SNR=7.8							
WRA				LR		LR	01 15 26.0	
	comp=Z,132nm,20.2s,baz=66,slow=41							
	3.2nm,0.8s							
WB2	**Warramunga Arr**	**12.43**	**159**	Pn		**Pn**	**01 09 50.1**	**-1.3**
WR8	**Warramunga Arr**	**12.49**	**159**	Pn		**Pn**	**01 09 50.8**	**-1.4**
COEN	**Coen**	**14.36**	**114**	Pn		**P**	**01 10 23.1**	**-1.2**
DAV	**Davao City (W)**	**15.80**	**345**	LR		LR	01 16 56.4	
	comp=Z,34nm,18.7s,baz=176,slow=39							
ASAR	**Alice Springs**	**15.81**	**166**	P		**P**	**01 10 43.3**	**+2.9**
ASAR	**Alice Springs**	**15.81**	**166**	Pn		**Pn**	**01 10 37.3**	**+0.3**
	0.2nm,0.3s,baz=341,slow=9.5,SNR=8.1							
ASAR				Sn		**Sn**	**01 13 28.9**	**-2.2**
	0.4nm,0.3s,baz=348,slow=27,SNR=5.5							
ASAR				LR		LR	01 17 43.5	
	comp=Z,116nm,18.0s,baz=286,slow=41							
	0.9nm,0.7s							
MORW	**Morawa**	**24.34**	**210**	P		**P**	**01 12 12.6**	**+1.0**
MORW				IAmb		IAmb	01 12 56.3	
	comp=Z,18nm,1.4s							
BBOO	**Buckleboo**	**25.10**	**167**	P		**P**	**01 12 20.8**	**+2.5**
STKA	**Stephens Creek**	**25.95**	**156**	P		**P**	**01 12 27.1**	**+1.1**
	comp=Z,1.1nm,0.2s,baz=342,slow=10,SNR=2.2							
	comp=Z,1.1nm,0.2s							
CMAR	**Chiang Mai Arr**	**40.35**	**311**	LR		LR	01 33 14.3	
	comp=Z,12nm,18.3s,baz=245,slow=39							
MKAR	**Makanchi Array**	**69.14**	**327**	P		**P**	**01 17 58.4**	**-1.2**
MKAR	**Makanchi Array**	**69.14**	**327**	P		**P**	**01 17 58.2**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=117,slow=8.5,SNR=18							
	comp=Z,1.1nm,0.5s							
VNDA	**Vanda**	**71.21**	**173**	P		**P**	**01 18 12.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=293,slow=3.6,SNR=3.6							
	comp=Z,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**73.45**	**329**	P		**P**	**01 18 23.6**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=131,slow=5.3,SNR=10.0							
	comp=Z,0.5nm,0.5s							
KURK	**Kurchatov**	**73.46**	**329**	P		**P**	**01 18 25.1**	**-0.5**
BVAR	**Borovoye Array**	**78.99**	**328**	P		**P**	**01 18 56.2**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=106,slow=5.4,SNR=4.2							
	comp=Z,1.0nm,0.9s							
QSPA	**South Pole Qui**	**81.70**	**180**	P		**P**	**01 19 14.0**	**+2.5**
QSPA				IAmb		IAmb	01 19 47.3	
	comp=Z,4.7nm,1.3s							
QSPA	**South Pole Qui**	**81.70**	**180**	P		**P**	**01 19 13.8**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=232,slow=3.3,SNR=7.8							
	comp=Z,0.9nm,0.8s							
ABKAR	**Akbulak array**	**83.33**	**322**	P		**P**	**01 19 19.6**	**-0.6**
LPAZ	**La Paz**	**149.87**	**144**	PKPbc		**PKPbc**	**01 26 44.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=223,slow=3.7,SNR=4.9							

IDC 12 01:11:40.5±2.3, 11°26S×118°07E, h0km, mb3.4/1, mbtmp3.8/5, ML4.0/4, MS3.1/1, Error ellipse: s-maj=71.7km s-min=28.0km az=43.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.59**	**80**	Pn	Pn	01 13 05.7	+0.6
	8.0nm,0.3s,baz=265,slow=12,SNR=1.9						
BATI				Sn	Sn	01 14 04.8	-5.3
	9.6nm,0.3s,baz=23,slow=19,SNR=2.4						
	25nm,0.4s						
FITZ	**Fitzroy Crossi**	**9.99**	**134**	Pn	Pn	01 14 05.4	-0.1
	1.9nm,0.3s,baz=319,slow=13,SNR=1.8						
FITZ				Sn	Sn	01 15 49.1	-9.2
	0.4nm,0.3s,baz=156,slow=11,SNR=1.6						
	6.0nm,0.3s						
WRA	**Warramunga Arr**	**17.88**	**121**	P	Pn	01 15 50.2	-0.6
	0.2nm,0.3s,baz=297,slow=13,SNR=2.4						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**19.48**	**131**	P	P	01 16 09.5	+0.3
	0.4nm,0.3s,baz=315,slow=14,SNR=3.1						
	1.6nm,0.8s						
NWAO	**Narrogin (SRO)**	**21.58**	**182**	LR	LR	01 24 57.7	
	comp=Z,55nm,19.6s,baz=283,slow=37						
MKAR	**Makanchi Array**	**66.05**	**334**	P	P	01 22 29.1	-0.1
	0.2nm,0.5s,baz=149,slow=6.6,SNR=1.9						
	0.2nm,0.5s						

OSPL 12 01:14:04.1±1.0, 18°18N×71°68W, h13km±22km, ML1.4, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LODU1	**El Espartillar**	**0.26**	**48**	*i* P	Pg	01 14 09.7	+0.1
LODU1				*e*S	Sg	01 14 12.4	-0.8
LODU1				IAML		01 14 14.6	
	comp=Z,63nm,0.3s						
LOBH	**Bahia de las A**	**0.32**	**174**	*i* P	Pg	01 14 10.3	-0.2
LOBH				*e*S	Sg	01 14 14.4	-0.5
LOBH				IAML		01 14 24.4	
	comp=Z,44nm,2.4s						
PODR	**Polo**	**0.38**	**92**	*i* P	Pg	01 14 10.6	-1.2
PODR				*e*S	Sg	01 14 16.1	-0.7
LOVI	**El Cajuil, Ovi**	**0.48**	**142**	*i* P	Pg	01 14 12.3	-1.2
LOVI				*e*S	Sg	01 14 19.5	-0.4
LOVI				IAML		01 14 21.0	
	comp=Z,60nm,1.1s						

SDD 12 01:14:40.2±2.0, 18°68N×69°97W, h74km±14km, MD3.2, ML2.0, MW2.8, 6C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDD	**Santo Domingo**	**0.23**	**167**	↑*e*Sg	Sn	01 14 58.7	-0.9
SDD				IAML		01 15 42.4	
	comp=N,40nm,2.8s						
DR08	**Loma La Naviza**	**0.28**	**350**	↑*e*Sg	Sn	01 14 58.7	-1.6
DR08				IAML		01 15 01.9	
	comp=N,719nm,0.2s						
HATOM	**Hato Mayor del**	**0.57**	**79**	↑*e*Pg	Pn	01 14 53.4	-0.6
HATOM				IAML		01 15 09.7	
	comp=N,11nm,1.4s						
MIDR	**Miches**	**0.92**	**71**	↑*e*Sg	Sn	01 15 10.0	-1.1
MIDR				IAML		01 15 26.9	
	comp=N,15nm,1.2s						
REDR	**Restauracion**	**1.43**	**290**	↑*e*Pg	Pn	01 15 06.2	+1.8
REDR				↑*e*Sg	Sn	01 15 29.0	+6.4
REDR				IAML		01 16 04.9	
	comp=N,17nm,2.5s						

*NEIC **12** 01:26:45.9±1.7, 35°13N±0°01×95°36W±0°02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.5km az=135.0*

*NEIC **12** 01:26:46, 35°14N×95°32W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.36; $M_{\theta\theta}$0.95; $M_{\phi\phi}$-0.59; $M_{r\theta}$-0.49; $M_{\theta\phi}$0.64; $M_{r\phi}$0.46; Fault plane solution: M_o1.24000×10^{14} NP1:ϕ_s110.00000°, δ75.00000°, λ-35.00000°. NP2:ϕ_s210.00000°, δ56.00000°, λ-162.00000°. Principal axes: T 1.2448, Plg12.0000°, Azm164.0000°; N -0.0003, Plg52.0000°, Azm270.0000°; P -1.2445, Plg35.0000°, Azm65.0000°;*

NEIC 12 01:26:45.9±1.6, 35°13N±0°02×95°35W±0°01, h5km±1km, mb_Lg3.2/135, ML3.2/7, ML3.5/12, Mwr3.3/16(SLM) Error ellipse: s-maj=3.2km s-min=2.9km az=148.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	01 27 02.2	-0.1
TUL3				Sg	Sg	01 27 13.5	+0.1
RLO	**Rose Lookout**	**1.07**	**15**	Pg	Pg	01 27 05.8	-0.5
RLO				Sg	Sg	01 27 20.4	+0.2
DEOK	**Depew**	**1.17**	**308**	Pg	Pg	01 27 08.0	-0.4
DEOK				Sg	Sg	01 27 23.5	-0.2
DEOK				IAML		01 27 30.6	
	comp=N,598nm,0.4s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	01 27 12.7	-0.2
OK052					Sg	01 27 32.7	-0.2
QUOK	**Quay**	**1.51**	**314**		Pn	01 27 13.5	-0.2
QUOK					Sg	01 27 34.4	-0.2
U38A	**Gravette**	**1.52**	**31**		Pn	01 27 13.9	0.0
U38A					Sb	01 27 34.2	-0.1
MIAR	**Mount Ida**	**1.57**	**111**		Pn	01 27 14.8	+0.3
MIAR					Sb	01 27 35.9	+0.1
HHAR	**Hobbs**	**1.63**	**45**		Pn	01 27 15.2	0.0
HHAR					Sb	01 27 37.5	+0.2
FNO	**Franklin**	**1.68**	**275**		Pn	01 27 16.2	+0.2
FNO					Sg	01 27 39.5	-0.4
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pn	01 27 17.1	+0.5
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	01 27 17.7	-0.6
OKCFA					Sg	01 27 41.4	-0.4
LOOK	**Love County**	**1.89**	**234**	Pn	Pn	01 27 19.4	+0.6
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	01 27 19.8	+0.9
T35A	**Sooner Cattle**	**2.01**	**333**	Pn	Pn	01 27 21.0	+0.5
BLOK	**Blackwell**	**2.22**	**318**	Pn	Pn	01 27 23.9	+0.5
BLOK				IAmb_Lg		01 27 56.0	
	comp=Z,54nm,1.0s						
WLAR	**White Oak Lake**	**2.35**	**127**	Pn	Pn	01 27 25.4	+0.3
WLAR				IAmb_Lg		01 28 00.8	
	comp=Z,104nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**	Pn	Pn	01 27 26.4	+0.7
Z35A				IAmb_Lg		01 28 04.4	
	comp=Z,73nm,1.1s						
TREL	**Terrell**	**2.47**	**195**	Pn	Pn	01 27 27.5	+0.6
TREL				IAmb_Lg		01 28 06.7	
	comp=Z,94nm,0.7s						
UALR	**University of**	**2.50**	**97**	Pn	Pn	01 27 27.6	+0.4
WHAR	**Wooly Hollow**	**2.52**	**86**	Pn	Pn	01 27 27.4	0.0
WHAR				IAmb_Lg		01 28 11.5	
	comp=Z,58nm,0.9s						
CROK	**Carrier**	**2.54**	**303**	Pn	Pn	01 27 27.9	+0.1
GC02	**Grant County #**	**2.66**	**311**	Pn	Pn	01 27 30.3	+0.9
FCAR	**Ozark Folk Cen**	**2.74**	**73**	Pn	Pn	01 27 31.1	+0.5
FCAR				IAmb_Lg		01 28 17.2	
	comp=Z,89nm,0.8s						
KAN14	**Manchester OK**	**2.79**	**312**	Pn	Pn	01 27 31.8	+0.5
Z41A	**Richland Creek**	**2.82**	**131**	Pn	Pn	01 27 32.4	+0.8
FW06	**Azle**	**2.83**	**221**	Pn	Pn	01 27 31.8	+0.1
WMOK	**Wichita Mounta**	**2.84**	**263**	Pn	Pn	01 27 32.5	+0.5
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	01 27 32.8	+0.8
WMOK				IAmb_Lg		01 28 17.3	
	comp=Z,27nm,0.8s						
WTFS	**Witchita Falls**	**2.91**	**243**	Pn	Pn	01 27 33.5	+0.6
S39A	**Bolivar**	**3.04**	**32**	IAmb_Lg		01 29 19.7	
	comp=Z,23nm,0.9s						
OK038	**West end E0370**	**3.06**	**297**	Pn	Pn	01 27 35.5	+0.4
237A	**Washetta, Mont**	**3.14**	**187**	Pn	Pn	01 27 36.8	+0.7
237A				IAmb_Lg		01 28 34.1	
	comp=Z,86nm,0.9s						
CCAR	**Cane Creek**	**3.20**	**111**	Pn	Pn	01 27 37.7	+0.9
MGMO	**Mountain Grove**	**3.21**	**50**	Pn	Pn	01 27 37.6	+0.6
MGMO				IAmb_Lg		01 28 31.0	
	comp=Z,116nm,0.8s						
FW13	**Cleburne**	**3.27**	**213**	Pn	Pn	01 27 38.5	+0.7
NOKA	**Waynoka**	**3.27**	**298**	Pn	Pn	01 27 38.3	+0.5
PLPT	**Palo Pinto**	**3.38**	**228**	Pn	Pn	01 27 39.7	+0.4
NATX	**Nacogdoches**	**3.41**	**170**	IAmb_Lg		01 28 35.5	
	comp=Z,35nm,0.7s						
ELIS	**Ellis County**	**3.44**	**287**	IAmb_Lg		01 28 36.4	
	comp=Z,33nm,0.8s						
LCAR	**Lake Charles**	**3.55**	**73**	Pn	Pn	01 27 41.4	-0.2
LCAR				IAmb_Lg		01 28 40.7	
	comp=Z,45nm,0.8s						
WHTX	**Lake Whitney,**	**3.59**	**210**	Pn	Pn	01 27 42.7	+0.5
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		01 29 02.8	
	comp=Z,79nm,0.8s						
R40A	**Maddies Statio**	**4.01**	**37**	Pn	Pn	01 27 48.6	+0.7
143A	**Socs Landing,**	**4.08**	**125**	IAmb_Lg		01 28 58.0	
	comp=Z,59nm,0.8s						
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		01 29 08.2	
	comp=Z,51nm,0.8s						
PBMO	**Poplar Bluff**	**4.32**	**66**	IAmb_Lg		01 29 07.5	
	comp=Z,98nm,1.0s						
APMT	**Aspermont**	**4.34**	**247**	Pn	Pn	01 27 53.0	+0.4
ABTX	**Abilene, Hawle**	**4.36**	**236**	Pn	Pn	01 27 52.5	-0.3
CCM	**Cathedral Cave**	**4.41**	**47**		Pn	01 27 53.5	0.0
CCM	**Cathedral Cave**	**4.41**	**47**	Pn	Pn	01 27 53.3	-0.2
CCM				IAmb_Lg		01 29 13.4	
	comp=Z,55nm,0.8s						
GNAR	**Gosnell**	**4.43**	**78**	Pn	Pn	01 27 55.2	+1.5
P38A	**Dawn**	**4.71**	**17**	Pn	Pn	01 27 58.0	+0.4
P38A				IAmb_Lg		01 29 14.1	
	comp=Z,81nm,0.7s						
435B	**Jarrell**	**4.72**	**204**	IAmb_Lg		01 29 24.5	
	comp=Z,44nm,0.7s						
DKNS	**Dickens**	**4.83**	**254**	Pn	Pn	01 27 59.3	0.0
DKNS				IAmb_Lg		01 29 29.2	
	comp=Z,49nm,1.1s						
LNXT	**Lenox**	**4.87**	**77**	Pn	Pn	01 27 59.9	+0.1
FVM	**French Village**	**4.88**	**53**	Pn	Pn	01 27 59.6	-0.3
FVM				IAmb_Lg		01 29 23.7	
	comp=Z,38nm,0.9s						
BRDY	**Brady**	**4.90**	**220**	Pn	Pn	01 27 59.9	-0.4
BRDY				IAmb_Lg		01 29 32.9	
	comp=Z,28nm,1.0s						
OXF	**Oxford**	**4.93**	**96**	Pn	Pn	01 28 01.4	+0.8
OXF				IAmb_Lg		01 29 24.1	
	comp=Z,60nm,0.8s						
Y45A	**Yeager Farm, C**	**4.96**	**103**	Pn	Pn	01 28 01.2	+0.2
Y45A				IAmb_Lg		01 29 34.3	
	comp=Z,38nm,0.8s						
HALT	**Halls**	**4.97**	**79**	IAmb_Lg		01 29 33.5	
	comp=Z,66nm,1.0s						
VBMS	**Vicksburg**	**4.97**	**124**	IAmb_Lg		01 29 31.6	
	comp=Z,24nm,0.9s						
SN07	**Snyder 07**	**5.02**	**248**	Pn	Pn	01 28 01.8	-0.2
SN07				IAmb_Lg		01 29 38.9	
	comp=Z,22nm,0.9s						
CBKS	**Cedar Bluff**	**5.08**	**318**	IAmb_Lg		01 29 27.9	
	comp=Z,26nm,0.7s						
CGM3	**Cape Girardeau**	**5.09**	**63**	IAmb_Lg		01 29 37.7	
	comp=Z,32nm,0.8s						
P40A	**Paris**	**5.12**	**30**	Pn	Pn	01 28 02.9	-0.4
HICK	**Hickman**	**5.17**	**72**	Pn	Pn	01 28 04.3	+0.3
SLM	**Saint Louis**	**5.39**	**48**	IAmb_Lg		01 29 44.2	
	comp=Z,65nm,0.9s						
POST	**Post**	**5.50**	**250**	Pn	Pn	01 28 07.9	-0.7
POST				IAmb_Lg		01 29 53.1	
	comp=Z,30nm,1.2s						
S44A	**Carbondale**	**5.54**	**61**	IAmb_Lg		01 29 45.4	
	comp=Z,44nm,0.7s						
SIUC	**Southern Illin**	**5.58**	**61**	IAmb_Lg		01 29 51.6	
	comp=Z,47nm,0.8s						
N35A	**Tabor**	**5.72**	**358**	Pn	Pn	01 28 10.9	-0.6
T45A	**Paducah**	**5.75**	**69**	Pn	Pn	01 28 10.5	-1.4
T45A				IAmb_Lg		01 30 04.3	
	comp=Z,51nm,0.7s						
SGCY	**Sterling City**	**5.79**	**238**	Pn	Pn	01 28 12.1	-0.4
SGCY				IAmb_Lg		01 29 55.0	
	comp=Z,29nm,1.0s						
146A	**Union**	**5.80**	**114**	IAmb_Lg		01 30 03.3	
	comp=Z,27nm,0.7s						
JCT	**Junction City**	**5.96**	**220**	Pn	Pn	01 28 14.9	0.0
JCT				IAmb_Lg		01 30 12.0	
	comp=Z,31nm,0.7s						
PLAL	**Pickwick Lake**	**5.97**	**89**	Pn	Pn	01 28 15.0	+0.1
PLAL				IAmb_Lg		01 29 56.8	
	comp=Z,25nm,0.7s						
RTBA	**Rita Blanca**	**6.14**	**284**	IAmb_Lg		01 30 08.6	
	comp=Z,34nm,0.9s						
MSTX	**Muleshoe**	**6.23**	**261**	IAmb_Lg		01 30 10.0	
	comp=Z,18nm,1.0s						
Z47A	**Carrollton**	**6.34**	**106**	IAmb_Lg		01 30 13.8	
	comp=Z,23nm,1.0s						
OZNA	**Ozona**	**6.41**	**231**	Pn	Pn	01 28 19.8	-1.3
OZNA				IAmb_Lg		01 30 15.7	
	comp=Z,17nm,0.9s						
HNDO	**Hondo**	**6.50**	**212**	Pn	Pn	01 28 21.8	-0.4
USIN	**University of**	**6.80**	**63**	IAmb_Lg		01 30 21.7	
	comp=Z,31nm,0.9s						
OLIL	**Olney**	**6.83**	**56**	IAmb_Lg		01 30 28.7	
	comp=Z,49nm,1.0s						
X48A	**Hartselle**	**6.87**	**93**	IAmb_Lg		01 30 34.8	
	comp=Z,14nm,0.8s						
T47A	**Sharon Grove**	**6.93**	**72**	IAmb_Lg		01 30 22.9	
	comp=Z,34nm,0.8s						
KSCO	**Kaye Shedlock'**	**6.99**	**306**	IAmb_Lg		01 30 46.1	
	comp=Z,56nm,0.8s						
DRIO	**Del Rio**	**7.23**	**220**	Pn	Pn	01 28 32.1	-0.2
MNHN	**Monahans**	**7.27**	**241**	Pn	Pn	01 28 31.9	-0.9
Y49A	**Blount Mountai**	**7.49**	**97**	IAmb_Lg		01 30 47.5	
	comp=Z,17nm,0.8s						
SAND	**Sanderson**	**7.70**	**230**	Pn	Pn	01 28 37.2	-1.5
SWET	**Sewanee**	**7.72**	**87**	IAmb_Lg		01 31 08.4	
	comp=Z,15nm,0.9s						
OGNE	**Ogallala**	**7.84**	**320**	Pn	Pn	01 28 40.0	-0.7
OGNE				IAmb_Lg		01 31 14.9	
	comp=Z,36nm,0.8s						
WCI	**Wyandotte Cave**	**7.91**	**64**	IAmb_Lg		01 31 09.1	
	comp=Z,20nm,0.8s						
FPAL	**Fort Paine**	**8.03**	**91**	Pn	Pn	01 28 43.7	+0.4
250A	**Grady**	**8.21**	**110**	IAmb_Lg		01 31 13.3	
	comp=Z,13nm,0.8s						
K30B	**Basset**	**8.23**	**338**	IAmb_Lg		01 31 17.1	
	comp=Z,22nm,0.8s						
SFIN	**Lafayette**	**8.38**	**49**	IAmb_Lg		01 31 14.1	
	comp=Z,42nm,0.7s						
ECSD	**EROS Data Cent**	**8.65**	**354**	IAmb_Lg		01 31 20.2	
	comp=Z,21nm,1.1s						
Q24A	**Divide**	**8.71**	**299**	IAmb_Lg		01 31 31.5	
	comp=Z,26nm,0.9s						
P48A	**Milroy**	**9.01**	**58**	Pn	Pn	01 28 57.1	+0.5
P48A				IAmb_Lg		01 31 31.4	
	comp=Z,22nm,0.7s						
ISCO	**Idaho Springs**	**9.39**	**303**	Pn	Pn	01 29 02.4	+0.2
N47A	**Urbana**	**9.54**	**50**	IAmb_Lg		01 31 49.3	
	comp=Z,31nm,0.9s						
L46A	**Eue Claire**	**9.87**	**43**	IAmb_Lg		01 32 16.9	
	comp=Z,30nm,0.8s						

*AEIC **12** 01:44:44.2±1.4, 51°8N±0°1×166°36W±0°09, h18km±9km, Error ellipse: s-maj=18.5km s-min=5.0km az=160.0*

NEIC 12 01:44:40.3±1.8, 51°68N±0°08×166°3W±0°1, h10km±2km, mb3.6/19, ML3.2/18, ML3.3(AEIC), Error ellipse: s-maj=14.7km s-min=9.6km az=157.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKSP	**Okmok Steeple**	**2.00**	**323**		Pn	01 45 14.3	+0.1
OKTU	**Okmok Mt. Tuli**	**2.02**	**328**		Pn	01 45 15.0	+0.5
NIKH	**Nikolski High**	**2.05**	**310**		Pn	01 45 14.8	-0.1
NIKH					Sn	01 45 37.4	-3.0
NIKH				IAML		01 45 46.6	
	comp=N,121nm,0.7s						
OKER	**Okmok East Rim**	**2.08**	**329**		Pn	01 45 15.9	+0.5
MREP	**Makushin Rep't**	**2.15**	**352**		Pn	01 45 16.5	+0.2
UNV	**Unalaska Valle**	**2.17**	**356**	Pn	Pn	01 45 16.1	-0.4
UNV				Sn	Sn	01 45 40.7	-2.7
UNV				IAML		01 45 48.1	
	comp=N,110nm,0.5s						
MTBL	**Makushin Table**	**2.31**	**354**		Pn	01 45 18.9	+0.5
MTBL					Sn	01 45 45.0	-1.9
CLCO	**Concord Point,**	**2.40**	**299**		Pn	01 45 19.1	-0.5
CLCO					Sn	01 45 47.3	-1.7
ZRO	**Akutan Zero**	**2.42**	**4**		Pn	01 45 20.1	+0.1
ZRO					Sn	01 45 47.2	-2.4
AKBBA	**Akutan Broad B**	**2.43**	**5**		Pn	01 45 20.0	0.0
AKRB	**Akutan Reef Bi**	**2.46**	**3**		Pn	01 45 20.9	+0.5
AKRB					Sn	01 45 49.3	-1.2
AKUT	**Akutan**	**2.48**	**7**	Pn	Pn	01 45 21.6	+1.0
AKUT				IAML		01 46 13.6	
	comp=N,141nm,0.1s						
AKUT				IAML		01 46 13.7	
	comp=E,185nm,0.1s						
LVA	**Lava Point**	**2.49**	**3**	Pn	Pn	01 45 20.8	-0.1
LVA				IAML		01 45 55.5	
	comp=E,104nm,0.7s						
LVA				IAML		01 45 59.8	
	comp=N,144nm,0.6s						
WECS	**Westdahl Cape**	**2.99**	**17**		Pn	01 45 29.3	+1.5
WEBT	**Westdahl Beart**	**3.05**	**17**		Pn	01 45 29.6	+0.9
WEBT					Pb	01 45 29.9	-4.8
WEBT					Sn	01 46 02.0	-3.2
FALS	**False Pass**	**3.61**	**27**	Pn	Pn	01 45 37.5	+1.2
FALS					Sn	01 46 16.9	-2.0
DT1	**Dutton Round H**	**4.18**	**33**		Pn	01 45 45.1	+1.0
DOL	**Dolgoi Island**	**4.36**	**35**		Pn	01 45 47.6	+1.0
PS1A	**Pavlof South-1**	**4.62**	**34**		Pn	01 45 51.8	+1.7
S12K	**Black Hills**	**4.74**	**30**	Pn	Pn	01 45 53.4	+1.6
S12K				IAML		01 47 02.4	
	comp=E,13nm,1.4s						
ATKA	**Atka Island**	**4.94**	**279**	Pn	Pn	01 45 54.3	-0.1
ATKA					Sn	01 46 47.6	-3.9
SDPT	**Sand Point**	**5.04**	**41**	Pn	Pn	01 45 57.5	+1.6
SDPT					Sn	01 46 51.6	-2.5
SDPT				IAML		01 46 59.4	
	comp=E,28nm,1.3s						
SDPT				IAML		01 48 31.5	
	comp=N,23nm,1.5s						
CNBA	**Chernabura Isl**	**5.09**	**49**	Pn	Pn	01 45 57.6	+1.1
CNBA				IAML		01 46 49.1	
	comp=E,9.8nm,1.4s						
GSIG	**Igitkin Island**	**6.00**	**277**

D20K					IAmb	IAmb	01 48 53.6		
	comp=Z,16nm,1.4s								
I26K	**Coal Creek Min**	**18.07**	**32**		P	P	01 48 51.5	0.0	
I26K					IAmb	IAmb	01 48 59.4		
	comp=Z,6.9nm,1.5s								
M29M	**Somme Creek**	**18.40**	**43**		P	P	01 48 58.0	+2.7	
N30M	**Aishikik Lake**	**18.66**	**47**		P	Pn	01 49 01.1	+2.7	
I28M	**Miner Creek**	**19.25**	**34**		P	Pn	01 49 07.0	+1.4	
H29M	**Whitestone**	**20.21**	**33**		P	P	01 49 15.0	0.0	
H29M					IAmb	IAmb	01 49 33.8		
	comp=Z,9.5nm,1.3s								
G29M	**Pine Creek**	**20.70**	**32**		P	Pn	01 49 23.1	+0.4	
H31M	**Peel River**	**21.44**	**37**		P	P	01 49 28.9	+0.6	
H31M					IAmb	IAmb	01 49 30.6		
	comp=Z,7.5nm,1.4s								
PEA0B	**Petropavlovsk-**	**21.90**	**288**		P	P	01 49 34.6	+1.3	
PETK	**Petropavlovsk-**	**21.90**	**288**		P	P	01 49 33.1	-0.2	
YKAW1	**Yellowknife Wh**	**29.32**	**48**		P	P	01 50 42.4	-0.2	
YKAW1					IAmb	IAmb	01 51 06.9		
	comp=Z,3.1nm,1.0s								

SCB ***12*** *01:46:58.0±0.7,20°.08S×64°.49W,h5km±2km,ML5.0/2, MW3.6,Error ellipse: s-maj=2.1km s-min=1.3km az=1.0*
IDC ***12*** *01:46:59.9±0.6,20°.10S×64°.64W,h0km,mb4.1/13, mbtmp4.1/18,ML4.5/4,MS3.4/18,Error ellipse: s-maj=20.9km s-min=14.5km az=63.0*
NEIC ***12*** *01:47:02.6±2.4,20°.11S±0°.06×64°.53W±0°.07,h10km±1km, mb4.6/35,Error ellipse: s-maj=11.7km s-min=10.3km az=109.0*
VAO ***12*** *01:47:02.8±0.3,19°.97S×64°.58W,h10km,mb4.8*
SJA ***12*** *01:47:02.6±1.2,20°.03S×64°.40W,h40km,ML4.1,MW3.9*
ISC 12 01:47:02.4±0.4,**20°.09S**±0°.04×**64°.56W**±0°.04,**h10km**,**n189,**
σ1ş**58**/166,**mb4.5**/27,**MS3.5**/14,**Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AOVT	**TarijaAcel**	**1.45**	**186**	Pg	Pn		01 47 26.0	-2.9
MOCB	**Mochara**	**1.54**	**221**	Pg	Pn		01 47 27.7	-2.6
MOCB				Sg	**Sn**		**01 47 50.8**	**+0.2**
MOCB				IAML			01 47 55.7	
	22μm,0.4s							
SOET	**ToroToro**	**2.29**	**329**	Pg	**Pn**		**01 47 42.1**	**+1.5**
SOET				Sg	**Sb**		**01 48 14.8**	**+2.2**
SOET				IAML			01 48 18.0	
	8μm,1.0s							
SOEO	**Opoqueri**	**3.49**	**295**	Pn	**Pn**		**01 47 59.5**	**+2.3**
ALOL	**LOMAS DE OLMED**	**3.75**	**172**	*i* P	**Pn**		**01 48 02.0**	**+1.7**
ALOL				*e*S	**Sn**		**01 48 44.5**	**-0.2**
AZAP	**Zapla**	**4.15**	**186**	*i* P	**Pn**		**01 48 07.0**	**+1.0**
AZAP				IAML			01 49 19.7	
	σ2,5μm,0.5s							
PB08	**IPOC Station P**	**4.32**	**268**	Pn	**Pn**		**01 48 08.6**	**+0.1**
PB08	**IPOC Station P**	**4.32**	**268**	Pn	**Pn**		**01 48 10.9**	**+2.4**
GO01	**Chusmiza**	**4.38**	**275**	Pn	**Pn**		**01 48 10.0**	**+0.5**
GO01	**Chusmiza**	**4.38**	**275**	Pn	**Pn**		**01 48 11.3**	**+1.8**
AF01	**San Pedro de A**	**4.42**	**229**	Pn	**Pn**		**01 48 10.3**	**+0.5**
BBOE	**La Paz, Chanca**	**4.60**	**314**	Pn	**Pn**		**01 48 14.6**	**+2.1**
BBOJ	**La Paz, Jacaqu**	**4.63**	**311**	Pn	**Pn**		**01 48 15.1**	**+2.2**
SOEJ	**Jacaque**	**4.63**	**311**	Pn	**Pn**		**01 48 15.0**	**+2.1**
SLA	**San Lorenzo**	**4.70**	**191**	*i* P	**Pn**		**01 48 15.4**	**+1.9**
SLA				IAML			01 49 38.1	
	σ2,802nm,0.5s							
PB09	**IPOC Station P**	**4.70**	**248**	Pn	**Pn**		**01 48 16.0**	**+2.4**
PB09	**IPOC Station P**	**4.70**	**248**	*i* P	**Pn**		**01 48 17.4**	**+3.9**
PB09				IAML			01 49 35.9	
	comp=Z,41nm,2.2s							
PB09	**IPOC Station P**	**4.70**	**248**	Pn	**Pn**		**01 48 15.8**	**+2.3**
PB01	**IPOC Station P**	**4.72**	**257**	Pn	**Pn**		**01 48 15.0**	**+1.2**
PB01	**IPOC Station P**	**4.72**	**257**	*i* P	**Pn**		**01 48 17.4**	**+3.6**
PB01				IAML			01 49 18.9	
	comp=Z,28nm,1.6s							
PB01	**IPOC Station P**	**4.72**	**257**	Pn	**Pn**		**01 48 16.2**	**+2.5**
BBSD	**Serra de San D**	**4.72**	**53**	Pn	**Pn**		**01 48 14.6**	**+0.9**
BBSD	**Serra de San D**	**4.72**	**53**	*e*P	**Pn**		**01 48 13.7**	**-0.1**
BBSD				*e*S	**Sn**		**01 49 08.9**	**+0.3**
PB11	**IPOC Station P**	**4.81**	**273**	Pn	**Pn**		**01 48 15.5**	**+0.5**
PB11	**IPOC Station P**	**4.81**	**273**	*i* P	**Pn**		**01 48 16.8**	**+1.8**
PB11				IAML			01 49 18.3	
	comp=Z,34nm,0.9s							
PB11	**IPOC Station P**	**4.81**	**273**	Pn	**Pn**		**01 48 17.1**	**+2.1**
PB16	**IPOC Station P**	**4.99**	**290**	Pn	**Pn**		**01 48 19.9**	**+1.9**
HMBC	**Humberstone**	**5.01**	**267**	Pn	**Pn**		**01 48 17.4**	**-0.4**
HMBC	**Humberstone**	**5.01**	**267**	*i* P	**Pn**		**01 48 20.0**	**+2.2**
HMBC				IAML			01 49 26.9	
	comp=Z,37nm,1.2s							
HMBC	**Humberstone**	**5.01**	**267**	Pn	**Pn**		**01 48 20.1**	**+2.2**
LPAZ	**La Paz**	**5.08**	**317**	Pn	**Pn**		**01 48 20.4**	**+1.2**
LPAZ	**La Paz**	**5.08**	**317**	Pn	**Pn**		**01 48 18.4**	**-0.8**
	comp=Z,18nm,0.3s,baz=129,slow=6.8,SNR=250								
LPAZ				Pg	**Pb**		**01 48 33.5**	**+1.8**
	comp=Z,49nm,0.3s,baz=133,slow=14,SNR=13								
LPAZ				Sn	**Sn**		**01 49 17.5**	**-0.8**
	comp=Z,31nm,0.3s,baz=7.4,slow=22,SNR=1.9								
LPAZ				LR	LR		01 50 42.9		
	comp=Z,253nm,19.4s,baz=178,slow=44								
	comp=Z,40nm,0.3s								
LPAZ	**La Paz**	**5.08**	**317**	*i* P	**Pn**		**01 48 20.6**	**+1.4**
LPAZ				*e*S	**Sn**		**01 49 19.0**	**+0.7**
LPAZ				IAML			01 49 27.8	
	comp=Z,152nm,0.6s								
LPAZ	**La Paz**	**5.08**	**317**	Pn	**Pn**		**01 48 20.8**	**+1.6**
LPAZ	**La Paz**	**5.08**	**317**	*e*P	**Pn**		**01 48 18.1**	**-1.1**
BBOD	**La Paz, Gloria**	**5.15**	**311**	Pn	**Pn**		**01 48 22.0**	**+2.0**
PB02	**IPOC Station P**	**5.15**	**255**	Pn	**Pn**		**01 48 20.5**	**+0.9**
PB02	**IPOC Station P**	**5.15**	**255**	*i* P	**Pn**		**01 48 22.5**	**+2.9**
PB02				IAML			01 49 27.0	
	comp=Z,47nm,0.7s								
PB02	**IPOC Station P**	**5.15**	**255**	Pn	**Pn**		**01 48 22.2**	**+2.5**
BBOB	**La Paz, Bander**	**5.19**	**318**	Pn	**Pn**		**01 48 21.9**	**+1.3**
PB03	**IPOC Station P**	**5.23**	**247**	Pn	**Pn**		**01 48 22.1**	**+1.3**
PB03	**IPOC Station P**	**5.23**	**247**	Pn	**Pn**		**01 48 23.2**	**+2.3**
TA02	**Huaiquique**	**5.24**	**267**	Pn	**Pn**		**01 48 21.1**	**+0.3**
SIV	**San Ignacio**	**5.25**	**40**	Pn	**Pn**		**01 48 21.4**	**+0.4**
	comp=Z,7.7nm,0.3s,baz=232,slow=8.3,SNR=1494								
SIV				Sn	**Sn**		**01 49 20.3**	**-1.3**
	comp=Z,6.6nm,0.3s,baz=158,slow=18,SNR=12								
SIV				Lg	Lg		01 49 44.4		
	comp=Z,6.3nm,0.3s,baz=147,slow=22,SNR=7.2								
	comp=Z,126nm,0.3s								
SIV	**San Ignacio**	**5.25**	**40**	Pn	**Pn**		**01 48 21.6**	**+0.6**
PB18	**Visviri**	**5.28**	**297**	Pn	**Pn**		**01 48 23.3**	**+1.5**
PATCX	**Punta Patache**	**5.30**	**261**	Pn	**Pn**		**01 48 22.4**	**+0.7**
TA01	**Diego Aracena**	**5.30**	**264**	Pn	**Pn**		**01 48 21.9**	**+0.3**
PB06	**IPOC Station P**	**5.35**	**240**	Pn	**Pn**		**01 48 23.0**	**+0.5**
PB06	**IPOC Station P**	**5.35**	**240**	Pn	**Pn**		**01 48 24.7**	**+2.2**
PB05	**IPOC Station P**	**5.94**	**241**		**Pn**		**01 48 30.9**	**+0.4**
PB05	**IPOC Station P**	**5.94**	**241**	Pn	**Pn**		**01 48 32.8**	**+2.3**
GO02	**Mina Guanaco**	**6.87**	**222**	Pn	**Pn**		**01 48 45.0**	**+1.5**
PTLB	**Pontes e Lacer**	**6.92**	**49**	Pn	**Pn**		**01 48 44.7**	**+0.8**
PTLB	**Pontes e Lacer**	**6.92**	**49**	Pn	**Pn**		**01 48 44.7**	**+0.8**
PTLB	**Pontes e Lacer**	**6.92**	**49**	*e*P	**Pn**		**01 48 44.7**	**+0.8**
PB14	**IPOC Station P**	**7.05**	**229**	Pn	**Pn**		**01 48 46.9**	**+0.9**
PB14	**IPOC Station P**	**7.05**	**229**	Pn	**Pn**		**01 48 48.1**	**+2.1**
BDQN	**Bodoquena, MS**	**7.34**	**94**	*e*P	**Pn**		**01 48 50.6**	**+1.0**
AC02	**Maricunga**	**7.92**	**211**	Pn	**Pn**		**01 48 58.6**	**+0.5**
AC01	**Pan de Azucar**	**8.21**	**222**	Pn	**Pn**		**01 49 01.0**	**-0.6**
VILB	**Vilhena**	**8.23**	**31**	Pn	**Pn**		**01 49 02.4**	**+0.4**
VILB	**Vilhena**	**8.23**	**31**	Pn	**Pn**		**01 49 02.7**	**+0.8**
VILB	**Vilhena**	**8.23**	**31**	*e*P	**Pn**		**01 49 01.3**	**-0.6**
AQDB	**Aquidauana**	**8.32**	**94**	Pn	**Pn**		**01 49 03.6**	**+0.5**
AQDB	**Aquidauana**	**8.32**	**94**	*e*P	**Pn**		**01 49 03.8**	**+0.6**
CPUP	**Villa Florida**	**9.10**	**134**	Pn	**Pn**		**01 49 13.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=181,slow=12,SNR=13								
CPUP				Lg	Lg		01 51 43.6		
	comp=Z,1.4nm,0.3s,baz=258,slow=12,SNR=2.8								
CPUP				LR	LR		01 53 20.2		
	comp=Z,42nm,21.8s,baz=170,slow=42								
	comp=Z,0.7nm,0.3s								
CPUP	**Villa Florida**	**9.10**	**134**	*e*P	**Pn**		**01 49 15.2**	**+1.4**
SJPY	**San Joaquin**	**9.21**	**124**	*e*P	**Pn**		**01 49 17.0**	**+1.6**
AMBA	**Amambai (Brazi**	**9.34**	**109**	*e*P	**Pn**		**01 49 18.4**	**+1.2**
SALV	**Santo Antonio**	**9.40**	**65**	*e*P	**Pn**		**01 49 17.8**	**-0.2**
AC04	**Llanos de Chal**	**10.04**	**215**	Pn	Pn		01 49 22.8	-3.9
RPRD	**Ribas do Rio P**	**10.20**	**94**	*e*P	**Pn**		**01 49 29.6**	**+0.7**
LCO	**Las Campanas**	**10.50**	**211**	Pn	Pn		01 49 30.4	-2.8
C2SB	**Chapadao do Su**	**11.13**	**85**	*e*P	**Pn**		**01 49 42.2**	**+0.5**
PDRB	**Porto dos Gac**	**11.29**	**43**	*e*P	**Pn**		**01 49 42.3**	**-1.7**
TRCB	**Terra Rica**	**11.43**	**106**	Pn	**Pn**		**01 49 45.1**	**-0.6**
TRCB	**Terra Rica**	**11.43**	**106**	*e*P	**Pn**		**01 49 47.3**	**+1.6**
CFA	**Coronel Fontan**	**11.94**	**195**	Pn	**Pn**		**01 49 51.6**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=4.5,slow=12,SNR=6.7								

CO03	**El Pedregal**	**12.05**	**206**	Pn	**Pn**		01 49 51.9	-2.4	
PTGB	**Pitanga**	**12.44**	**114**	*e*P	**Pn**		**01 50 00.9**	**+1.3**	
CLDB	**Colider**	**12.45**	**44**	*e*P	**Pn**		**01 49 58.7**	**-1.1**	
PCMB	**Pacaembu**	**12.52**	**99**	*e*P	**Pn**		**01 50 00.9**	**+0.2**	
ARAG	**Araguaiana, MT**	**12.89**	**72**	*e*P	Pn		01 50 03.8	-2.0	
LDASE	**Londrina, Braz**	**12.91**	**107**	*e*P	**Pn**		**01 50 06.2**	**+0.1**	
ITRB	**Iturama**	**13.36**	**91**	*e*P	**Pn**		**01 50 11.6**	**-0.6**	
ITAB	**Concordia**	**13.42**	**124**	Pn	**Pn**		**01 50 13.6**	**+0.7**	
ITAB	**Concordia**	**13.42**	**124**	*e*P	**Pn**		**01 50 14.6**	**+1.6**	
VA03	**San Esteban**	**13.72**	**202**	Pn	Pn		01 50 13.8	-3.3	
VA06	**Catapilco**	**13.81**	**205**	Pn	**Pn**		**01 50 19.1**	**+0.9**	
MT05	**Renca**	**14.35**	**201**	P	**P**		**01 50 31.9**	**-1.0**	
MT02	**Curacav**	**14.37**	**203**	P	Pn		01 50 31.0	+5.0	
LMEL	**Las Melosas**	**14.60**	**199**	Pn	**Pn**		**01 50 28.5**	**-0.7**	
CZSB	**Cruzeiro do Su**	**14.60**	**326**	Pn	**Pn**		**01 50 27.9**	**-1.3**	
CZSB	**Cruzeiro do Su**	**14.60**	**326**	*e*P	Pn		01 50 26.5	-2.7	
MT09	**Talagante**	**14.79**	**201**	P	**Pn**		**01 50 34.8**	**+3.0**	
BO04	**La Punta**	**14.86**	**200**	Pn	**Pn**		**01 50 30.4**	**-2.2**	
MT01	**Popeta**	**14.96**	**202**	Pn	**Pn**		**01 50 32.2**	**-1.8**	
BB19B	**Bebedouro**	**15.04**	**97**	*e*P	**Pn**		**01 50 35.4**	**+0.2**	
SNDB	**Serra Nova Dou**	**15.07**	**60**	*e*P	**Pn**		**01 50 34.0**	**-1.6**	
PLTB	**Pedras Altas**	**15.23**	**142**	*e*P	**Pn**		**01 50 40.3**	**+2.7**	
BO01	**Tunca**	**15.38**	**201**	P	**Pn**		**01 50 43.0**	**+3.5**	
BO01				IAmb	IAmb		01 50 43.5		
	comp=Z,18nm,0.6s								
CNLB	**Canela**	**15.46**	**129**	*e*P	**Pn**		**01 50 43.1**	**+2.4**	
IPMB	**Ipameri, GO**	**15.60**	**85**	*e*P	**Pn**		**01 50 43.3**	**+0.8**	
BO02	**Sierra Bellavi**	**15.65**	**199**	Pn	**Pn**		**01 50 41.1**	**-2.0**	
NPGB	**Novo Progresso**	**15.74**	**36**	*e*P	**Pn**		**01 50 41.5**	**-2.7**	
RCLB	**Rio Claro- Sao**	**16.04**	**101**	*e*P	**Pn**		**01 50 50.0**	**+1.7**	
SPB	**Sao Paulo**	**16.28**	**105**	*e*P	**Pn**		**01 50 52.9**	**+1.7**	
BDFB	**Brasilia**	**16.35**	**77**	Pn	**Pn**		**01 50 51.9**	**-0.4**	
BDFB	**Brasilia**	**16.35**	**77**	Pn	**Pn**		**01 50 51.9**	**-0.4**	
	comp=Z,0.8nm,0.3s,baz=248,slow=13,SNR=26								
BDFB				Lg	Lg		01 55 22.2		
	comp=Z,0.5nm,0.3s,baz=152,slow=13,SNR=3.4								
BDFB				LR	LR		01 58 18.2		
	comp=Z,193nm,18.2s,baz=310,slow=41								
	comp=Z,1.9nm,0.3s								
TEFE	**Tefe**	**16.48**	**360**	*e*P	**Pn**		**01 50 52.6**	**-1.2**	
PET01	**Itanhaem-SP**	**16.54**	**108**	*e*P	**Pn**		**01 50 55.6**	**+1.1**	
VAO	**Valinhos**	**16.62**	**103**	*e*P	**Pn**		**01 50 57.3**	**+1.6**	
TBTG	**Tabatinga, AM**	**16.64**	**341**	*e*P	**Pn**		**01 50 56.4**	**+0.5**	
ML02	**Panimavida**	**16.75**	**200**	Pn	**Pn**		**01 50 57.4**	**+0.3**	
ML02				IAmb	IAmb		01 51 12.8		
	comp=Z,36nm,1.1s								
PMNB	**Patos De Minas**	**17.17**	**88**	*e*P	**Pn**		**01 51 03.9**	**+1.2**	
ITTB	**Itaituba**	**17.83**	**30**	*e*P	**Pn**		**01 51 09.2**	**-1.5**	
TRQA	**Tornquist**	**18.05**	**173**	P	**Pn**		**01 51 11.9**	**-1.4**	
ATAH	**Atahualpa**	**18.60**	**312**	LR	LR		01 58 51.5		
	comp=Z,230nm,20.8s,baz=161,slow=38								
DIAM	**Diamantina, MG**	**19.80**	**88**	*e*P	**P**		**01 51 34.6**	**+1.2**	
SMTB	**Santa Maria do**	**19.84**	**58**	*e*P	**P**		**01 51 35.0**	**+1.4**	
PRPB	**Paranauapebas**	**19.91**	**48**	*e*P	**P**		**01 51 34.2**	**-0.1**	
JANB	**Jaraqua**	**19.93**	**79**	*e*P	**P**		**01 51 35.1**	**+0.5**	
SDBA	**SAO DESIDERIO**	**20.34**	**71**	*e*P	**P**		**01 51 39.3**	**+0.2**	
MAL2	**Monte Alegre,**	**20.62**	**31**	P	**P**		**01 51 43.2**	**+1.1**	
DUB01	**Friburgo-RJ**	**20.79**	**99**	*e*P	**P**		**01 51 45.0**	**+1.1**	
LR05	**Currie**	**21.07**	**196**	P	**P**		**01 51 45.0**	**-1.7**	
LR05				IAmb	IAmb		01 52 22.8		
	comp=Z,27nm,1.0s								
PLCA	**Paso Flores**	**21.21**	**193**	P	**P**		**01 51 46.6**	**-1.7**	
	comp=Z,12nm,0.7s,baz=15,slow=11,SNR=33								
PLCA				LR	LR		01 59 25.5		
	comp=Z,51nm,19.2s,baz=14,slow=35								
	comp=Z,12nm,0.7s								
PLCA	**Paso Flores**	**21.21**	**193**	*e*P	**P**		**01 51 47.3**	**-1.0**	
CAM01	**Campos-RJ**	**21.45**	**99**	*e*P	**P**		**01 51 52.0**	**+1.0**	
SJMB	**Sao Joao De Ma**	**22.09**	**90**	*e*P	**P**		**01 51 59.3**	**+1.4**	
BOAV	**Boa Vista**	**22.69**	**10**	P	**P**		**01 52 05.3**	**+1.1**	
BOAV	**Boa Vista**	**22.69**	**10**	*e*P	**P**		**01 52 04.5**	**+0.3**	
RIB01	**Linhares ES**	**22.76**	**92**	*e*P	**P**		**01 52 07.2**	**+2.2**	
LL01	**San Ignacio de**	**23.20**	**195**	P	**P**		**01 52 07.2**	**-2.1**	
LL02	**Futaleuf**	**23.84**	**193**	P	**P**		**01 52 13.1**	**-2.6**	
LL02				IAmb	IAmb		01 52 42.9		
	comp=Z,32nm,1.4s								
FLOC	**Florencia**	**24.13**	**332**	P	**P**		**01 52 15.1**	**-3.5**	
FLOC				IAmb	IAmb		01 52 33.7		
	comp=Z,13nm,1.1s								
GO07	**Milladeo Hill,**	**24.20**	**196**	P	**P**		**01 52 16.2**	**-2.9**	
COYC	**Coyhaique**	**26.17**	**192**	P	**P**		**01 52 36.1**	**-0.7**	
COYC				IAmb	IAmb		01 52 46.1		
	comp=Z,13nm,0.8s								
RUSC	**La Rusia**	**27.14**	**341**	P	**P**		**01 52 47.2**	**+0.8**	
RUSC				IAmb	IAmb		01 52 59.9		
	comp=Z,7.9nm,0.8s								
MDP	**Montagnes des**	**27.63**	**26**	LR	LR		02 02 59.5		
	comp=Z,64nm,18.1s,baz=196,slow=35								
PCRV	**Puerto La Cruz**	**30.07**	**360**	LR	LR		02 06 01.1		
	comp=Z,182nm,20.5s,slow=38								
RCBR	**Riachuelo**	**31.24**	**67**	P	**P**		**01 53 24.7**	**+2.2**	
SJG	**San Juan**	**37.99**	**358**	LR	LR		02 10 28.4		
	comp=Z,39nm,20.1s,baz=179,slow=37								
MTO3	**Montecristo**	**42.06**	**323**	P	P		01 54 52.2	-2.6	
MTO3				IAmb	IAmb		01 54 59.1		
	comp=Z,11nm,1.0s								
TEIG	**Tepich**	**46.31**	**329**	P	P		01 55 24.8	-3.7	
Y49A	**Blount Mountai**	**57.55**	**338**	P	P		01 56 49.6	-2.6	
Y49A				IAmb	IAmb		01 57 25.1		
	comp=Z,5.4nm,1.2s								
V55A	**Taylorsville**	**57.83**	**344**	P	**P**		**01 56 53.5**	**-0.6**	
V55A				IAmb	IAmb		01 56 59.4		
	comp=Z,5.7nm,0.8s								
TKL	**Tuckaleechee C**	**58.35**	**342**	LR	LR		02 23 32.9		
	comp=Z,35nm,21.1s,baz=152,slow=38								
S54A	**Dingess, Beckl**	**59.70**	**345**	P	P		01 57 05.0	-2.1	
FCAR	**Ozark Folk Cen**	**61.49**	**335**	P	P		01 57 16.8	-2.5	
FCAR				IAmb	IAmb		01 57 23.5		
	comp=Z,3.7nm,0.9s								
PBMO	**Poplar Bluff**	**61.61**	**337**	P	P		01 57 18.2	-1.9	
TXAR	**Lajitas Array**	**61.94**	**321**	P	**P**		**01 57 20.9**	**-1.7**	
	comp=Z,0.2nm,0.7s,baz=152,slow=8.5,SNR=6.0								
	comp=Z,0.2nm,0.7s								
SNAA	**Sanae**	**62.31**	**162**	P	**P**		**01 57 23.5**	**-1.0**	
SNAA				IAmb	IAmb		01 57 35.3		
	comp=Z,6.4nm,1.4s								
SNAA	**Sanae**	**62.31**	**162**	P	P		01 57 22.0	-2.6	
	comp=Z,0.4nm,0.5s,baz=179,slow=24,SNR=1.8								
	comp=Z,0.4nm,0.5s								
APMT	**Aspermont**	**63.03**	**327**	P	**P**		**01 57 29.9**	**0.0**	
APMT				IAmb	IAmb		01 57 36.9		
	comp=Z,5.4nm,0.8s								
CCM	**Cathedral Cave**	**63.04**	**337**	P	P		01 57 27.4	-2.3	
R40A	**Maddies Statio**	**63.63**	**336**	P	P		01 57 31.6	-2.1	
R40A				IAmb	IAmb		01 57 40.6		
	comp=Z,4.3nm,0.8s								
DBIC	**Dimbokro**	**64.43**	**72**	P	**P**		**01 57 39.1**	**-0.2**	
	comp=Z,5.1nm,0.6s,baz=263,slow=5.0,SNR=9.3								
DBIC				LR	LR		02 23 21.8		
	comp=Z,38nm,21.3s,baz=217,slow=34								
	comp=Z,5.1nm,0.6s								
SDCO	**Great Sand Dun**	**69.22**	**326**	P	**P**		**01 58 08.9**	**-0.9**	
SDCO				IAmb	IAmb		01 58 17.7		
	comp=Z,6.0nm,1.4s								
QSPA	**South Pole Qui**	**70.10**	**180**	P	**P**		**01 58 14.2**	**-0.5**	
QSPA				IAmb	IAmb		01 58 25.5		
	comp=Z,4.4nm,1.1s								
QSPA	**South Pole Qui**	**70.10**	**180**	P	**P**		**01 58 15.7**	**+1.0**	
	comp=Z,2.2nm,0.9s,baz=136,slow=1.3,SNR=3.2								
	comp=Z,2.2nm,0.9s								
MVCO	**Mesa Verde**	**70.44**	**324**	P	**P**		**01 58 16.8**	**-0.5**	
MVCO				IAmb	IAmb		01 58 25.4		
	comp=Z,10nm,1.3s								
BSUT	**Blindstream Ca**	**74.05**	**325**	P	**P**		**01 58 38.7**	**-0.3**	
BSUT				IAmb	IAmb		01 58 49.1		
	comp=Z,6.9nm,1.4s								
PDAR	**Pinedale Array**	**75.02**	**327**	P	**P**		**01 58 43.2**	**-1.2**	
	comp=Z,0.8nm,0.4s,baz=112,slow=3.3,SNR=7.3								
PDAR				LR	LR		02 34 54.9		
	comp=Z,14nm,18.9s,baz=100,slow=38								
	comp=Z,0.8nm,0.4s								
ULM	**Lac du Bonnet**	**75.30**	**340**	P	**P**		**01 58 43.7**	**-1.8**	
	comp=Z,1.6nm,0.5s,baz=172,slow=8.9,SNR=4.5								
	comp=Z,1.6nm,0.5s								
TSUM	**Tsumeb**	**76.52**	**106**	LR	LR		02 28 36.6		
	comp=Z,30nm,20.6s,baz=73,slow=33								
NVAR	**Mina Array Bea**	**76.98**	**319**	P	**P**		**01 58 55.2**	**-0.5**	
	comp=Z,0.2nm,0.6s,baz=144,slow=4.3,SNR=5.3								
	comp=Z,0.2nm,0.6s								
HLID	**Hailey**	**78.11**	**325**	P	**P**		**01 59 03.0**	**+1.2**	
MCMT	**McKenzie Canyo**	**78.16**	**327**	P	**P**		**01 59 01.6**	**-0.6**	
PAHR	**Pah Rah Range**	**78.44**	**320**	P	**P**		**01 59 04.1**	**+0.4**	
VNDA	**Vanda**	**78.92**	**189**	LR	LR		02 32 47.2		
	comp=Z,22nm,18.6s,baz=196,slow=35								

PPT2	**Papeete2**	**79.61**	**255**	*e*LR	LR		02 23 47.5		
	comp=Z,40nm,28.2s								
BOSA	**Boshof**	**80.48**	**117**	P	**P**		**01 59 14.8**	**-0.4**	
	comp=Z,3.2nm,0.9s,baz=270,slow=1.0,SNR=4.2								
BOSA				LR	LR		02 31 01.3		
	comp=Z,46nm,19.8s,baz=214,slow=33								
	comp=Z,3.2nm,0.9s								
BMO	**Blue Mountains**	**80.52**	**325**	P	**P**		**01 59 14.8**	**0.0**	
LBTB	**Lobatse**	**81.88**	**114**	LR	LR		02 32 40.9		
	comp=Z,41nm,18.4s,baz=184,slow=34								
ESDC	**Sonseca Array**	**82.00**	**43**	P	**P**		**01 59 22.4**	**-0.3**	
	comp=Z,2.8nm,0.9s,baz=248,slow=4.7,SNR=15								
ESDC				LR	LR		02 34 25.3		
	comp=Z,29nm,18.1s,baz=210,slow=35								
	comp=Z,2.8nm,0.9s								
MAW	**Mawson**	**84.47**	**162**	P	**P**		**01 59 33.9**	**-1.1**	
	comp=Z,0.8nm,0.8s,baz=256,slow=8.4,SNR=1.3								
	comp=Z,0.8nm,0.8s								
LSZ	**Lusaka**	**87.37**	**105**	LR	LR		02 35 37.2		
	comp=Z,42nm,19.1s,baz=184,slow=33								
KEST	**Kesra**	**89.22**	**51**	P	**P**		**01 59 58.5**	**-0.3**	
	comp=Z,2.0nm,0.9s,baz=310,slow=6.0,SNR=5.7								
	comp=Z,2.0nm,0.9s								
YKA	**Yellowknife Ar**	**91.27**	**339**	P	**P**		**02 00 06.1**	**-1.5**	
	comp=Z,0.3nm,0.8s,baz=116,slow=4.2,SNR=4.8								
	comp=Z,0.3nm,0.8s								
DAVOX	**Davos/Dischmat**	**94.28**	**42**	LR	LR		02 39 19.1		
	comp=Z,14nm

	comp=E,72nm,0.6s							
MT09					IAML		02 32 59.4	
	comp=N,110nm,0.6s							
CO02	**Combarbal**	**5.12**	**281**	Pn	**Pn**		**02 31 34.1**	**-1.3**
CO02	**Combarbal**	**5.12**	**281**	*e*P	**Pn**		**02 31 34.2**	**-1.1**
CO02					IAML		02 33 01.0	
	comp=Z,126nm,0.6s							
MT02	**Curacav**	**5.14**	**258**	Pn	**Pn**		**02 31 34.6**	**-0.7**
MT02					IAML		02 32 55.7	
	comp=N,75nm,0.8s							
MT02	**Curacav**	**5.14**	**258**	*e*P	**Pn**		**02 31 34.5**	**-0.9**
MT02					IAML		02 33 03.9	
	comp=Z,59nm,1.3s							
VA06	**Catapilco**	**5.21**	**266**	Pn	**Pn**		**02 31 34.6**	**-1.8**
BO02	**Sierra Bellavi**	**5.30**	**241**	Pn	**Pn**		**02 31 38.5**	**+0.8**
BO02					IAML		02 33 03.0	
	comp=N,74nm,0.5s							
GO04	**Tololo Observa**	**5.32**	**293**	Pn	**Pn**		**02 31 36.2**	**-1.8**
GO04	**Tololo Observa**	**5.32**	**293**	*e*P	**Pn**		**02 31 36.7**	**-1.3**
MT01	**Popeta**	**5.35**	**252**	Pn	**Pn**		**02 31 37.7**	**-0.6**
MT01					IAML		02 33 02.9	
	comp=N,70nm,0.6s							
MT01	**Popeta**	**5.35**	**252**	*e*P	**Pn**		**02 31 37.7**	**-0.6**
MT01					IAML		02 33 11.9	
	comp=Z,32nm,0.8s							
BO01	**Tunca**	**5.38**	**246**	Pn	**Pn**		**02 31 39.1**	**+0.4**
VA01	**Torpederas**	**5.53**	**261**	Pn	**Pn**		**02 31 39.5**	**-1.3**
CO06	**Fray Jorge**	**5.80**	**285**	Pn	**Pn**		**02 31 41.0**	**-3.5**
LCO	**Las Campanas**	**5.84**	**303**	Pn	**Pn**		**02 31 43.7**	**-1.6**
ML02	**Panimavida**	**6.23**	**235**	Pn	**Pn**		**02 31 51.3**	**+1.0**
TRQA	**Tornquist**	**6.25**	**156**	Pn	**Pn**		**02 31 53.2**	**+2.6**
GO03	**Copiapo**	**6.49**	**316**	Pn	**Pn**		**02 31 52.6**	**-1.3**
AC02	**Maricunga**	**6.50**	**327**	Pn	**Pn**		**02 31 53.8**	**-0.8**
AC04	**Llanos de Chal**	**6.59**	**307**	Pn	**Pn**		**02 31 52.6**	**-2.7**
AC06	**Mina Casimiro**	**6.73**	**316**	Pn	**Pn**		**02 31 55.0**	**-2.3**
AC01	**Pan de Azucar**	**7.81**	**321**	Pn	**Pn**		**02 31 52.9**	**-2.6**
GO02	**Mina Guanaco**	**8.16**	**330**	Pn	**Pn**		**02 32 15.4**	**-1.8**
PB14	**IPOC Station P**	**8.98**	**328**	Pn	**Pn**		**02 32 25.9**	**-2.6**
CPUP	**Villa Florida**	**9.07**	**51**	Pn	**Pn**		**02 32 30.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=90,slow=12,SNR=12							
CPUP				Lg	Lg		02 35 07.5	
	comp=Z,0.2nm,0.3s,baz=65,slow=9.1,SNR=3.0							
	comp=Z,0.4nm,0.6s							
PLCA	**Paso Flores**	**9.43**	**206**	Pn	Pn		02 32 29.1	-5.2
	comp=Z,0.1nm,0.3s,baz=175,slow=12,SNR=3.1							
PLCA				Pg			02 33 03.2	
	comp=Z,0.2nm,0.3s,baz=22,slow=17,SNR=3.6							
PLCA				Lg	Lg		02 35 02.3	
	comp=Z,0.4nm,0.3s,baz=47,slow=14,SNR=3.0							
	comp=Z,0.7nm,0.5s							
PLTB	**Pedras Altas**	**9.80**	**90**	Pn	**Pn**		**02 32 41.4**	**+2.0**
ITAB	**Concordia**	**12.39**	**69**	Pn	**Pn**		**02 33 14.4**	**-0.4**
LPAZ	**La Paz**	**16.22**	**350**	Pn	**Pn**		**02 34 07.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=132,slow=8.7,SNR=6.0							
	comp=Z,0.6nm,0.5s							
SIV	**San Ignacio**	**16.70**	**14**	Pn	**P**		**02 34 15.2**	**+0.3**
	baz=201,slow=13,SNR=4.9							
SIV				Lg	Lg		02 39 13.9	
	baz=130,slow=19,SNR=1.8							
	comp=Z,0.6nm,0.6s							
QSPA	**South Pole Qui**	**57.88**	**180**	P	**P**		**02 40 07.3**	**-3.0**
	comp=Z,0.9nm,1.1s,baz=131,slow=6.7,SNR=5.6							
	comp=Z,0.9nm,1.1s							
WRA	**Warramunga Arr**	**124.76**	**202**	PKP	**PKPdf**		**02 49 17.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=175,slow=1.6,SNR=4.9							
MKAR	**Makanchi Array**	**151.28**	**50**	PKPbc	**PKPbc**		**02 50 12.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=282,slow=2.2,SNR=4.0							

KRSC 12 02:32:04.2±3.1, 49°48N×156°37E, h99km±39km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.22**	**352**	*e*P		Pn	02 32 26.7	-0.3
SKR				*e*S		Sn	02 32 44.6	+0.4
PAU	**Pauzhetka**	**2.01**	**8**	*e*P		Pn	02 32 37.7	+0.9
PAU				*e*S		Sn	02 33 03.9	+2.2
MIPR	**Malaya Ipel'ka**	**2.81**	**5**	*e*P		Pn	02 32 47.1	-0.3
ASAK	**Asacha**	**3.07**	**18**	*e*P		Pn	02 32 53.8	+2.9
MTVR	**Mutnovka**	**3.22**	**20**	*e*P		Pn	02 32 55.9	+3.0
MTVR				*e*S		Sn	02 33 34.8	+4.2
RUS	**Russkaya**	**3.26**	**24**	*e*P		Pn	02 32 55.5	+2.2
RUS				*e*S		Sn	02 33 34.4	+3.3
GRL	**Gorelyy**	**3.26**	**19**	*e*P		Pn	02 32 56.8	+3.3
GRL				*e*S		Sn	02 33 35.9	+4.4
APC	**Apacha**	**3.49**	**8**	*e*P		Pn	02 32 57.4	+1.1
DALK	**Dalny**	**3.86**	**22**	*e*P		Pn	02 33 04.3	+2.9
DALK				*e*S		Sn	02 33 46.8	+1.1
UGLR	**Uglovaya**	**4.04**	**21**	*e*P		Pn	02 33 07.0	+3.1
AVH	**Avacha**	**4.07**	**20**	*e*P		Pn	02 33 08.6	+4.2
KOK	**Koryaka**	**4.08**	**20**	*e*P		Pn	02 33 08.4	+4.0
SMAR	**Somma**	**4.09**	**21**	*e*P		Pn	02 33 08.5	+3.9
KRER	**Koryakskii**	**4.11**	**20**	*e*P		Pn	02 33 08.7	+3.7
SDLR	**Sedlovina**	**4.12**	**22**	*e*P		Pn	02 33 07.8	+2.8
KRX	**Arik**	**4.14**	**19**	*e*P		Pn	02 33 08.4	+3.0
SPN	**Mys Shipunski**	**4.29**	**31**	*e*P		Pn	02 33 09.8	+2.6
SPN				*e*S		Sn	02 33 58.8	+2.7
GNL	**Ganaly**	**4.34**	**12**	*e*P		Pn	02 33 09.6	+1.7
KII	**Karymskiy**	**4.95**	**22**	*e*P		Pn	02 33 19.6	+3.4
MKZ	**Mys Kozlova**	**6.07**	**31**	*e*P		Pn	02 33 32.5	+1.3
MKZ				*e*S		Sn	02 34 37.2	-2.0
BZMR	**Bezymyannaya**	**6.94**	**20**	*e*P		Pn	02 33 46.2	+3.0
KBTR	**Krutoberegovo**	**7.79**	**28**	*e*P		Pn	02 33 55.8	+1.2
BKI	**Bering**	**8.21**	**42**	*e*P		Pn	02 34 04.4	+4.1
BKI				*e*S		Sn	02 35 27.6	-3.7

AZER 12 02:55:25.8,39°.00N×44°.23E, h9km, ml2.6
TEH 12 02:55:27.7,38°.97N×44°.31E, h12km±.999km
ISK 12 02:55:27.0,38°.98N×44°.20E, h6km, ML2.7/10
AFAD 12 02:55:28.0,39°.04N×44°.12E, h7km±3km, ML2.5
ISC 12 02:55:27.7±1.1, 39°.03N±0°.02×44°.15E±0°.02, h3km±9km, n46, σ1§37/81, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLDR	**Caldiran**	**0.21**	**301**	P		Pg	02 55 28.4	-8.4
CLDR				S		**Sg**	**02 55 26.9**	**-7.7**
OZAP	**Van, Ozalp-Mer**	**0.39**	**198**	P		**Pg**	**02 55 36.2**	**+1.0**
OZAP				S		**Sg**	**02 55 41.9**	**+1.6**
OZAP				*i*	IAML		02 55 43.0	
	comp=E,708nm,0.7s							
OZAP				*i*	IAML		02 55 47.0	
	comp=N,421nm,0.6s							
VMUR	**Van-Muradiye**	**0.45**	**265**	P		**Pg**	**02 55 37.2**	**+0.9**
VMUR				S		**Sg**	**02 55 43.4**	**+1.2**
VMUR				*i*	IAML		02 55 46.0	
	comp=E,605nm,0.3s							
VMUR				*i*	IAML		02 55 48.0	
	comp=N,520nm,0.5s							
MAKU	**Maku**	**0.53**	**52**	Pg		**Pg**	**02 55 37.6**	**-0.2**
MAKU				Sg		**Sg**	**02 55 45.3**	**+0.7**
DYDN	**Diyadin**	**0.62**	**325**	P		**Pg**	**02 55 39.7**	**+0.1**
DYDN				S		**Sg**	**02 55 47.9**	**+0.2**
DYDN				*i*	IAML		02 55 56.0	
	comp=N,297nm,0.4s							
DYDN				*i*	IAML		02 55 59.0	
	comp=E,225nm,0.4s							
ERCV	**ERCIS-VAN**	**0.63**	**269**	Pg		**Pg**	**02 55 39.9**	**+0.1**
ERCV				Sg		**Sb**	**02 55 50.5**	**-0.2**
TVAN	**Van**	**0.77**	**229**	P		**Pb**	**02 55 43.6**	**-0.1**
TVAN				S		**Sn**	**02 55 56.7**	**-1.0**
TVAN				*i*	IAML		02 56 00.0	
	comp=N,150nm,0.8s							
IGDI	**IGDIR**	**0.83**	**356**	P		**Pg**	**02 55 44.0**	**+0.3**
IGDI				S		**Sb**	**02 55 56.1**	**-0.4**
IGDI				*i*	IAML		02 56 01.0	
	comp=E,134nm,0.4s							
IGDI	**IGDIR**	**0.83**	**356**	P		**Pg**	**02 55 44.0**	**+0.3**
IGDI				S		**Sb**	**02 55 56.4**	**-0.1**
HYR	**Heyderabad**	**0.88**	**38**	P		**Pg**	**02 55 44.5**	**0.0**
HYR				S		**Sb**	**02 55 57.2**	**-0.4**
TASB	**TASBURUN-IGDIR**	**0.95**	**4**	Pg		**Pb**	**02 55 46.9**	**+0.1**
TASB				Sg		**Sn**	**02 56 01.1**	**-1.0**
AGRB	**Hanur-Agry**	**1.05**	**301**	Pn		**Pg**	**02 55 48.0**	**+0.3**
AGRB				Sn		**Sn**	**02 56 04.6**	**0.0**
NAX	**Nakhchivan**	**1.06**	**82**	P		**Pg**	**02 55 47.8**	**-0.1**
NAX				S		**Sn**	**02 56 04.3**	**-0.4**
KOTA	**Agri, Merkez-K**	**1.06**	**317**	P		**Pg**	**02 55 47.5**	**-0.5**
KOTA				S		**Sg**	**02 56 00.9**	**-0.8**
GEVA	**Gevas**	**1.12**	**230**	P		**Pn**	**02 55 49.9**	**-0.4**
GEVA				S		**Sn**	**02 56 07.1**	**+0.8**
DORK	**Agr/Tutak/Do**	**1.12**	**289**	P		**Pg**	**02 55 49.4**	**+0.3**
DORK				S		**Sg**	**02 56 02.6**	**-1.0**
DORK				*i*	IAML		02 56 07.0	
	comp=E,97nm,0.8s							
DORK				*i*	IAML		02 56 10.0	
	comp=N,194nm,0.7s							
ADCV	**BITLIS_Adilcev**	**1.13**	**259**	P		**Pg**	**02 55 49.9**	**+0.5**
ADCV				S		**Sg**	**02 56 04.9**	**+0.9**
ADCV				*i*	IAML		02 56 08.0	
	comp=N,112nm,0.7s							
SBZ	**Shahbuz**	**1.15**	**71**	P		**Pg**	**02 55 49.0**	**-0.7**
SBZ				S		**Sn**	**02 56 05.8**	**-1.2**
AKDM	**Akdamar-Van**	**1.15**	**233**	Pn		**Pg**	**02 55 49.8**	**0.0**
GNI	**Garni**	**1.21**	**22**	Pn		**Pb**	**02 55 51.3**	**+0.1**
GNI				Sn		**Sn**	**02 56 08.5**	**0.0**
GNI	**Garni**	**1.21**	**22**	Pg		**Pn**	**02 55 51.5**	**-0.1**
GNI				Sg		**Sn**	**02 56 09.3**	**+0.8**
MLAZ	**Malazgirt-MUS**	**1.25**	**275**	Pn		**Pg**	**02 55 52.3**	**+0.7**
MLAZ				Sn		**Sn**	**02 56 10.6**	**+1.1**
ISHB	**Shabestar**	**1.37**	**123**	Pg		**Pn**	**02 55 51.5**	**-2.4**
ORD	**Ordubad**	**1.44**	**94**	P		**Pn**	**02 55 54.1**	**-0.6**
ORD				S		**Sg**	**02 56 14.2**	**+0.2**
YOVA	**Hakkari_Yksek**	**1.45**	**176**	P		**Pg**	**02 55 55.6**	**+0.2**
YOVA				S		**Sg**	**02 56 14.2**	**0.0**
DIGO	**Kars**	**1.50**	**337**	P		**Pg**	**02 55 58.0**	**+1.5**
DIGO				S		**Sg**	**02 56 18.4**	**+2.5**
DIGO				*i*	IAML		02 56 25.0	
	comp=N,121nm,0.7s							
DIGO				*i*	IAML		02 56 29.0	
	comp=E,160nm,0.6s							
HAKT	**HAKKARI**	**1.51**	**193**	P		**Pb**	**02 55 56.4**	**-0.1**
HAKT				S		**Sg**	**02 56 17.3**	**+1.0**
HAKT				*i*	IAML		02 56 23.0	
	comp=E,54nm,1.1s							
HAKT	**HAKKARI**	**1.51**	**193**	P		**Pb**	**02 55 56.1**	**-0.4**
HAKT				S		**Sg**	**02 56 18.7**	**+2.4**
EATA	**Eleskirt**	**1.53**	**303**	P		**Pb**	**02 55 56.6**	**-0.2**
EATA				S		**Sn**	**02 56 15.3**	**-1.3**
PERV	**Siirt/Pervari-**	**1.66**	**230**	P		**Pg**	**02 56 00.6**	**+1.1**
BLIS	**Bitlis-Merkez**	**1.71**	**249**	P		**Pb**	**02 55 59.6**	**-0.2**
BLIS				S		**Sn**	**02 56 19.1**	**-1.7**
GURO	**Guroymak-BITLI**	**1.72**	**254**	Pn		**Pn**	**02 55 58.8**	**+0.2**
BOZK	**Kars-Merkez-Bo**	**1.80**	**330**	P		**Pg**	**02 56 02.8**	**+0.7**
CUKT	**Cukurca**	**1.83**	**194**	Pn		**Pn**	**02 55 59.1**	**-1.0**
CUKT				Sn		**Sn**	**02 56 22.6**	**-1.3**
CUKT	**Cukurca**	**1.83**	**194**	P		**Pn**	**02 55 56.9**	**-3.2**
CUKT				S		**Sn**	**02 56 20.3**	**-3.6**
KOPR	**Koprukoy-ERZUR**	**2.02**	**299**	Pn		**Pn**	**02 56 03.4**	**+0.7**
SRTM	**Siirt_Merkez**	**2.03**	**240**	P		**Pn**	**02 56 02.8**	**0.0**
SIRN	**Sirnak**	**2.05**	**222**	P		**Pg**	**02 56 08.1**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.06**	**318**	Pn		**Pn**	**02 56 04.1**	**+0.8**
MUSM	**Mu-Merkez**	**2.08**	**262**	P		**Pb**	**02 56 06.3**	**+0.2**
MUSM				S		**Sb**	**02 56 33.8**	**+1.4**
GDB	**GEDABAY**	**2.09**	**36**	P		**Pn**	**02 56 04.1**	**+0.4**
GDB				S		**Sg**	**02 56 33.9**	**-0.9**
GANJ	**Ganja**	**2.32**	**45**	P		**Pn**	**02 56 08.0**	**+1.2**
GANJ				S		**Sb**	**02 56 39.1**	**-0.1**
AGDM	**Agdam**	**2.53**	**64**	P		**Pn**	**02 56 09.7**	**+0.1**
AGDM				S		**Sn**	**02 56 42.4**	**+1.5**
BTMN	**Batman**	**2.53**	**244**	P		**Pb**	**02 56 13.4**	**-0.4**
BTMN				S		**Sb**	**02 56 46.0**	**+0.7**
BTMN				*i*	IAML		02 57 12.0	
	comp=E,18nm,1.5s							
YRD	**Yardimli**	**3.19**	**91**	P		**Pn**	**02 56 20.3**	**+1.4**
YRD				S		**Sn**	**02 56 59.0**	**+1.5**
LRK	**Lerik**	**3.30**	**95**	P		**Pn**	**02 56 20.6**	**+0.2**

IDC 12 03:06:13.6±0.7, 30°.32N×94°.83E, h0km, mb4.0/18, mbtmp4.0/21, ML3.6/3, Error ellipse: s-maj=25.7km s-min=14.5km az=49.0
MOS 12 03:06:13.8±1.1, 30°.33N×94°.85E, h14km, mb4.5/18, Error ellipse: s-maj=10.6km s-min=5.8km az=121.9
NEIC 12 03:06:16.2±1.4, 30°.4N±0°.1×94°.79E±0°.06, h10km±1km, mb4.3/29, Error ellipse: s-maj=19.1km s-min=8.6km az=182.0
NDI 12 03:06:17.7±2.1, 30°.29N×94°.77E, h10km, ML3.9, MW3.9, mb4.3(NEIC)
ISC 12 03:06:15.5±0.5, 30°.29N±0°.05×94°.76E±0°.05, h10km, n111, σ1§26/119, mb4.3/37, 8C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIRO	**ZIRO**	**2.87**	**196**	*e*P		**Pn**	**03 07 03.2**	**+1.8**
LSA	**Lhasa**	**3.18**	**260**	Pn		**Pn**	**03 07 07.0**	**+0.9**
LSA	**Lhasa**	**3.18**	**260**	P		**Pn**	**03 07 07.9**	**+1.8**
LSA				S		**Sb**	**03 07 53.2**	**+1.7**
LSA				LR		LR		
	comp=Z,310nm,5.0s							
LSA				LR		LR		
	comp=N,250nm,4.1s							
LSA	**Lhasa**	**3.18**	**260**	P		**Pn**	**03 07 07.0**	**+0.9**
JORH	**JORHAT**	**3.56**	**187**	*e*P		**Pn**	**03 07 13.8**	**+3.0**
JORH				*e*S		**Sn**	**03 07 54.1**	**+1.1**
JORH				IAML			03 07 55.4	
	comp=N,2μm,0.3s							
JORH				IAML			03 07 55.6	
	comp=E,1μm,0.2s							
TEZP	**TEZPUR**	**4.04**	**206**	*e*P		**Pn**	**03 07 19.9**	**+2.4**
TEZP				*e*S		**Sn**	**03 08 04.6**	**-0.3**
TEZP				IAML			03 08 05.2	
	comp=E,327nm,0.2s							
KOHI	**KOHIMA**	**4.59**	**187**	*e*P		**Pn**	**03 07 26.0**	**+0.9**
KOHI				*e*S		**Sn**	**03 08 18.8**	**+0.3**
KOHI				IAML			03 08 24.0	
	comp=N,615nm,0.6s							
GUWA	**GUWAHATI**	**4.89**	**214**	*e*P		**Pn**	**03 07 32.1**	**+2.9**
GUWA				*e*S		**Sn**	**03 08 26.9**	**+1.0**
GUWA				IAML			03 08 27.8	
	comp=E,152nm,0.3s							
GUWA				IAML			03 08 28.2	
	comp=N,115nm,0.2s							
SHL	**Shillong**	**5.35**	**209**			**Pn**	**03 07 36.9**	**+1.3**
SHL	**Shillong**	**5.35**	**209**	*e*P		**Pn**	**03 07 36.2**	**+0.6**
SHL				*e*S		**Sn**	**03 08 33.0**	**-4.3**
SHL				IAML			03 08 33.3	
	comp=E,60nm,0.2s							
SHL				IAML			03 08 33.5	
	comp=N,48nm,0.2s							
SHL	**Shillong**	**5.35**	**209**	P		**Pn**	**03 07 36.9**	**+1.3**
IMP	**Imphal**	**5.48**	**188**	*e*P		**Pn**	**03 07 40.2**	**+2.9**
IMP				*e*S		**Sn**	**03 08 38.2**	**-2.3**
IMP				IAML			03 08 39.3	
	comp=E,292nm,0.3s							
IMP				IAML			03 08 39.4	
	comp=N,347nm,0.2s							
GOMU	**GeErMu**	**5.89**	**0**	P		**Pb**	**03 08 01.6**	**+3.0**
GOMU				pmax		pmax		
	comp=Z,7.0nm,1.0s							
EVN	**Everest**	**7.32**	**253**	Pn		**Pn**	**03 08 05.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**12.38**	**161**	Pn		**Pn**	**03 09 12.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=332,slow=14,SNR=4.3							
	comp=Z,0.4nm,0.3s							
CMAR	**Chiang Mai Arr**	**12.38**	**161**	*e*P		Pn	03 09 17.8	+5.9
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
WMQ	**Urumqi**	**14.63**	**339**	*e*P		**Pn**	**03 09 44.3**	**+1.7**
LYN	**LuoYang**	**15.55**	**70**	P		**P**	**03 09 59.2**	**0.0**
LYN				pmax		pmax		
	comp=Z,17nm,0.9s							
HHC	**Hu-ho-hao-te**	**17.23**	**48**	*e*P		**Pn**	**03 10 14.6**	**-1.8**
HHC				pmax		pmax		
	comp=Z,14nm,0.6s							
HHC				pmax		pmax		
	comp=Z,180nm,4.2s							
TARG	**Taragay, Kyrgy**	**17.81**	**314**			**P**	**03 10 25.7**	**+1.1**
TARG	**Taragay, Kyrgy**	**17.81**	**314**	P		**P**	**03 10 25.7**	**+1.1**
TARG				pmax		pmax		
	comp=Z,14nm,1.1s							
PRZ	**Przheval'sk**	**17.89**	**317**			**P**	**03 10 25.6**	**+0.3**
PRZ				IAmb		IAmb	03 10 30.0	
	comp=Z,39nm,1.1s							
PRZ	**Przheval'sk**	**17.89**	**317**	P		**P**	**03 10 25.6**	**+0.3**
PRZ				pmax		pmax		
	comp=Z,39nm,1.1s							
KDJ	**Kajisay**	**18.42**	**315**			**Pn**	**03 10 29.4**	**-1.7**
KDJ	**Kajisay**	**18.42**	**315**	P		**Pn**	**03 10 29.5**	**-1.7**
KDJ				pmax		pmax		
	comp=Z,8.0nm,1.1s							
NIL	**Nilore**	**18.55**	**286**	P		**P**	**03 10 31.3**	**-1.1**
NIL				IAmb		IAmb	03 10 36.8	
	comp=Z,15nm,1.1s							
NIL	**Nilore**	**18.55**	**286**	P		**P**	**03 10 31.3**	**-1.1**
NIL				pmax		pmax		
	comp=Z,15nm,1.1s							
MK31	**Makanchi Array**	**19.11**	**333**	*ce*P		**Pn**	**03 10 39.3**	**0.0**
MKAR	**Makanchi Array**	**19.11**	**333**	P		**P**	**03 10 37.0**	**-1.5**
MKAR	**Makanchi Array**	**19.11**	**333**	P		**P**	**03 10 37.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=142,slow=13,SNR=17							
	comp=Z,2.9nm,0.8s							
SONM	**Songino Array**	**19.67**	**24**	P		**P**	**03 10 44.4**	**-0.4**
SONM	**Songino Array**	**19.67**	**24**	P		**P**	**03 10 44.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=12							
	comp=Z,3.5nm,1.0s							
SONM	**Songino Array**	**19.67**	**24**	P		**P**	**03 10 44.4**	**-0.4**
SONM				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ULN	**Ulaanbaatar**	**19.93**	**25**	P		**P**	**03 10 46.9**	**-0.7**
ULN	**Ulaanbaatar**	**19.93**	**25**	P		**P**	**03 10 46.9**	**-0.7**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.3s							
AAK	**Ala-Archa**	**20.37**	**313**	P		**P**	**03 10 52.8**	**+0.4**
AAK				IAmb		IAmb	03 10 59.1	
	comp=Z,11nm,1.0s							
AAK	**Ala-Archa**	**20.37**	**313**	P		**P**	**03 10 52.9**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=134,slow=13,SNR=7.0							
	comp=Z,4.7nm,0.8s							
AAK	**Ala-Archa**	**20.37**	**313**	*ce*P		**P**	**03 10 52.9**	**+0.4**
AAK				pmax		pmax		
	comp=Z,15nm,1.3s							
ARSB	**Arslanbob**	**20.76**	**308**	P		**P**	**03 10 55.7**	**-0.9**
ARSB				IAmb		IAmb	03 10 59.0	
	comp=Z,9.9nm,1.1s							
ARSB	**Arslanbob**	**20.76**	**308**	P		**P**	**03 10 55.7**	**-0.9**
ARSB				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ZAK	**Zakamensk**	**21.07**	**15**	*e*P		**P**	**03 10 59.5**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.1s							
GAR	**Garm**	**21.86**	**300**	P		**P**	**03 11 07.1**	**-1.3**
KBL	**Kabul**	**22.10**	**288**	P		**P**	**03 11 11.1**	**-0.1**
KBL	**Kabul**	**22.10**	**288**	P		**P**	**03 11 11.1**	**-0.1**
KBL				pmax		pmax		
	comp=Z,23nm,1.1s							
SIMJ	**Simiganj**	**22.76**	**298**	P		**P**	**03 11 16.9**	**-1.2**
SIMJ				IAmb		IAmb	03 11 19.5	
	comp=Z,16nm,1.1s							
KK31	**Karatay Array**	**23.18**	**310**	P		**P**	**03 11 22.6**	**+0.3**
KK31	**Karatay Array**	**23.18**	**310**	P		**P**	**03 11 22.6**	**+0.3**
KK31				pmax		pmax		
	comp=Z,4.0nm,1.2s							
KKAR	**Karatay Array**	**23.18**	**310**	P		**P**	**03 11 21.6**	**-0.6**
KKAR	**Karatay Array**	**23.18**	**310**	P		**P**	**03 11 21.7**	**-0.6**
KURBB	**Kurchatov Arra**	**23.67**	**334**	P		**P**	**03 11 26.8**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=143,slow=10,SNR=17							
	comp=Z,3.6nm,0.7s							
KURK	**Kurchatov**	**23.71**	**334**	P		**P**	**03 11 26.5**	**-0.9**
KURK				IAmb		IAmb	03 11 27.9	
	comp=Z,4.9nm,0.8s							
KURK	**Kurchatov**	**23.71**	**334**	*ce*P		**P**	**03 11 27.2**	**-0.3**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ZAA0	**Zalesovo Array**	**24.72**	**346**	P		**P**	**03 11 36.0**	**-0.8**
ZALV	**Zalesovo Beam**	**24.72**	**346**	P		**P**	**03 11 36.0**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=158,slow=9.5,SNR=11							
	comp=Z,2.5nm,0.6s							
ZALV	**Zalesovo Beam**	**24.72**	**346**	*e*P		**P**	**03 11 36.6**	**-0.2**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CN2	**Changchun**	**27.79**	**52**	P		**P**	**03 12 05.1**	**+0.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BVAR	**Borovoye Array**	**28.85**	**329**	P		**P**	**03 12 14.6**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=123,slow=11,SNR=10							
	comp=Z,2.8nm,0.9s							
BRVK	**Borovoye**	**28.92**	**329**	P		**P**	**03 12 14.7**	**+0.1**
BRVK				IAmb		IAmb	03 12 17.5	
	comp=Z,5.8nm,0.9s							
BRVK	**Borovoye**	**28.92**	**329**	*ce*P		**P**	**03 12 14.9**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
AB31	**Akbulak array**	**32.39**	**316**	P		**P**	**03 12 45.5**	**+0.2**
ABKAR	**Akbulak array**	**32.39**	**316**	P		**P**	**03 12 46.0**	**+0.7**
**US

comp=Z,1.7nm,0.6s,baz=80,slow=6.9
NOA NORSAR Array B 60.94 326 P **P** 03 16 27.1 -1.5
comp=Z,1.7nm,0.8s,baz=78,slow=6.8,SNR=6.1
comp=Z,1.7nm,0.8s
NOA NORSAR Array B 60.94 326 *eP* **P** 03 16 28.2 -0.3
NOA pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 62.25 312 P **P** 03 16 38.0 +0.4
GERES GERESS Array B 62.25 312 P **P** 03 16 38.4 +0.7
comp=Z,0.8nm,0.7s,baz=71,slow=5.8,SNR=6.9
comp=Z,0.8nm,0.7s
GERES GERESS Array B 62.25 312 *eP* **P** 03 16 39.4 +1.8
GERES pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 62.80 138 P **P** 03 16 40.9 -0.6
comp=Z,2.9nm,1.3s,baz=320,slow=6.5,SNR=7.2
comp=Z,2.9nm,1.3s
STAL STALIGIAL 63.61 310 P **P** 03 16 45.5 -1.2
CIMO Cimolais 63.78 310 P **P** 03 16 47.3 -0.5
CIMO IAmb IAmb 03 16 48.8
comp=Z,4.7nm,1.4s
CEL Celeste 63.83 301 P **P** 03 16 48.3 0.0
ASAR Alice Springs 65.50 140 P **P** 03 16 58.5 -0.7
comp=Z,0.9nm,0.7s,baz=328,slow=6.1,SNR=8.9
comp=Z,0.9nm,0.7s
KEST Kesra 69.63 300 P **P** 03 17 25.4 0.0
comp=Z,6.0nm,1.2s,baz=30,slow=5.0,SNR=3.5
comp=Z,6.0nm,1.2s
CAST Castle Rocks 72.83 26 P **P** 03 17 44.9 +0.7
CAST IAmb IAmb 03 17 46.1
comp=Z,2.5nm,1.0s
BPAW Bear Paw Mtn. 72.86 25 P **P** 03 17 44.1 -0.2
BPAW IAmb IAmb 03 17 45.9
comp=Z,2.7nm,1.0s
BMAR Burnt Mountain 72.98 20 P **P** 03 17 46.1 +1.1
ILAR Eielson Array 73.90 23 P **P** 03 17 49.8 -0.6
ILAR Eielson Array 73.90 23 P **P** 03 17 50.2 -0.1
comp=Z,0.8nm,0.8s,baz=305,slow=5.8,SNR=7.6
comp=Z,0.8nm,0.8s
KDAK Kodiak Island 75.80 31 P **P** 03 18 00.6 -0.9
comp=Z,2.6nm,1.0s,baz=284,slow=13,SNR=2.5
comp=Z,2.6nm,1.0s
BCAR Beaver Creek A 76.73 23 P **P** 03 18 07.2 +0.5
ESDC Sonseca Array 77.42 309 P **P** 03 18 10.4 -0.6
comp=Z,0.8nm,1.0s,baz=66,slow=8.8,SNR=4.0
comp=Z,0.8nm,1.0s
NVL N'lazarevskaya 115.99 201 *eP* **Pdif** 03 21 06.6 -4.6
NVL pmax pmax
comp=Z,12nm,0.9s

CATAC ***12*** *03:23:34.9±0.5, 13˚N±2˚×9˚0W±˚, h20km±2km, M4.4/35, MLv4.4/35, Error ellipse: s-maj=5.3km s-min=2.5km az=26.4, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.23; $M_{\theta\theta}$1.64; $M_{\phi\phi}$2.59; $M_{r\theta}$-1.04; $M_{r\phi}$-1.53; $M_{\theta\phi}$0.25; Fault plane solution: M_o4.13782×10^{14} NP1: ϕ_s135.36444°, δ51.36715°, λ-99.93460°. NP2: ϕ_s331.03550°, δ39.69553°, λ-77.81885°. Principal axes: T 3.8030, Plg5.8899°, Azm232.4090°; N 0.6035, Plg7.7453°, Azm141.6050°; P -4.4064, Plg80.2476°, Azm359.2943°; confirmed*

GCG ***12*** *03:23:36.7±1.3, 13˚19N×89˚67W, h46km±11km, MD3.4, ML4.5, MW3.6*

SNET ***12*** *03:23:36.2±1.0, 13˚15N×89˚65W, h42km, ML4.3*

ISC 12 03:23:37.4±1.3, **13˚15N**±0˚05×**89˚59W**±0˚03, **h31**km±9km, **n105**, σ1§**14**/119, **3D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.43**	**38**	⇓*i* P		**Pb**	**03 23 46.8**	**0.0**
LALI				*e*S		**Sb**	**03 23 53.5**	**+0.3**
LALI	**Alcalda de L**	**0.43**	**38**	*i* P		**Pb**	**03 23 46.9**	**0.0**
LALI				*i* S		**Sn**	**03 23 55.3**	**+1.0**
LALI				IAML			03 23 56.1	
	comp=E,4μm,0.3s							
LALI	**Alcalda de L**	**0.43**	**38**	S		**Sb**	**03 23 54.5**	**+1.3**
LALI	**Alcalda de L**	**0.43**	**38**	P		**Pb**	**03 23 46.7**	**0.0**
JAYA	**Jayaque - finc**	**0.52**	**15**	*i* P		**Pb**	**03 23 47.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.52**	**15**	*i* P		**Pb**	**03 23 47.8**	**-0.6**
JAYA	**Jayaque - finc**	**0.52**	**15**	S		**Sb**	**03 23 56.3**	**+0.4**
JAYA	**Jayaque - finc**	**0.52**	**15**	P		**Pb**	**03 23 47.9**	**-0.6**
PANCS	**Alcalda de**	**0.61**	**41**	*e*P		**Pb**	**03 23 48.9**	**-0.9**
PANCS				*e*S		**Sb**	**03 23 58.6**	**+0.5**
PANCS	**Alcalda de**	**0.61**	**41**	P		**Pb**	**03 23 49.0**	**-0.8**
PMON	**Piamonte**	**0.62**	**26**	*e*P		**Pb**	**03 23 49.2**	**-0.7**
PMON	**Piamonte**	**0.62**	**26**	P		**Pb**	**03 23 49.3**	**-0.7**
PMON	**Piamonte**	**0.62**	**26**	S		**Sb**	**03 23 59.6**	**+1.0**
LOMA	**Loma Larga**	**0.64**	**40**	*i* P		**Pb**	**03 23 49.5**	**-0.8**
LOMA	**Loma Larga**	**0.64**	**40**	S		**Sb**	**03 24 00.2**	**+1.1**
LOMA	**Loma Larga**	**0.64**	**40**	P		**Pb**	**03 23 49.6**	**-0.8**
BOQS	**Boqueron**	**0.66**	**27**	*i* P		**Pb**	**03 23 49.9**	**-0.7**
UEES	**Universidad Ev**	**0.66**	**31**	*i* P		**Pb**	**03 23 49.8**	**-0.8**
UEES	**Universidad Ev**	**0.66**	**31**	P		**Pb**	**03 23 49.8**	**-0.8**
UTEC	**Universidad Te**	**0.67**	**35**	P		**Pb**	**03 23 49.9**	**-0.8**
UTEC	**Universidad Te**	**0.67**	**35**	S		**Sb**	**03 24 00.8**	**+1.0**
CEVE	**Cerro Verde**	**0.68**	**357**	*e*P		**Pb**	**03 23 49.9**	**-1.0**
CEVE	**Cerro Verde**	**0.68**	**357**	S		**Sn**	**03 24 01.5**	**+0.7**
CEVE	**Cerro Verde**	**0.68**	**357**	P		**Pb**	**03 23 50.0**	**-1.0**
PIC2	**El Picacho**	**0.68**	**29**	*e*P		**Pb**	**03 23 50.2**	**-0.8**
CEDA	**San Andres**	**0.68**	**16**	*i* P		**Pb**	**03 23 50.0**	**-0.9**
CEDA				*e*S		**Sb**	**03 24 00.2**	**+0.2**
CEDA	**San Andres**	**0.68**	**16**	P		**Pb**	**03 23 50.0**	**-0.9**
UESS	**Universidad de**	**0.68**	**34**	*i* P		**Pn**	**03 23 50.2**	**-0.9**
LFRS	**El Faro**	**0.70**	**47**	*i* P		**Pn**	**03 23 50.4**	**-0.9**
UDBS	**Universidad Do**	**0.70**	**37**	*e*P		**Pn**	**03 23 50.5**	**-0.8**
UDBS				*e*S		**Sb**	**03 24 01.5**	**+0.7**
UDBS	**Universidad Do**	**0.70**	**37**	P		**Pn**	**03 23 50.5**	**-0.8**
AEIL	**Aeropuerto Ilo**	**0.71**	**40**	*e*P		**Pn**	**03 23 50.9**	**-0.6**
SNJE	**San Jose**	**0.72**	**359**	*e*P		**Pn**	**03 23 50.4**	**-1.3**
RTR	**El Retiro**	**0.75**	**356**	*e*P		**Pn**	**03 23 50.9**	**-1.2**
LFU	**La Fuente**	**0.76**	**38**	*i* P		**Pn**	**03 23 51.4**	**-0.7**
NUBE	**Las Nubes**	**0.77**	**346**	⇓*i* P		**Pn**	**03 23 50.8**	**-1.5**
NUBE				*e*S		**Sb**	**03 24 02.0**	**-0.8**
NUBE	**Las Nubes**	**0.77**	**346**	*i* P		**Pn**	**03 23 50.9**	**-1.5**
NUBE				*i* S		**Sb**	**03 24 01.8**	**-1.0**
NUBE	**Las Nubes**	**0.77**	**346**	P		**Pn**	**03 23 50.9**	**-1.5**
LBRS	**Las Brisas**	**0.79**	**42**	*i* P		**Pn**	**03 23 52.0**	**-0.6**
FAME	**Alcaldia de Sa**	**0.80**	**329**	P		**Pn**	**03 23 50.9**	**-1.8**
FAME	**Alcaldia de Sa**	**0.80**	**329**	S		**Sb**	**03 24 02.2**	**-1.3**
PAVA	**Las Pavas**	**0.85**	**49**	*i* P		**Pn**	**03 23 53.0**	**-0.5**
PAVA	**Las Pavas**	**0.85**	**49**	P		**Pn**	**03 23 53.0**	**-0.5**
LOAL	**Lomas de Alarc**	**0.86**	**348**	P		**Pn**	**03 23 52.7**	**-0.9**
LOAL	**Lomas de Alarc**	**0.86**	**348**	S		**Sb**	**03 24 06.1**	**+0.7**
SNVI	**San Vicente**	**0.86**	**58**	*e*P		**Pn**	**03 23 52.9**	**-0.8**
TECO	**Alcaldia de Te**	**0.88**	**64**	*e*P		**Pn**	**03 23 52.5**	**-1.3**
TECO	**Alcaldia de Te**	**0.88**	**64**	P		**Pn**	**03 23 52.6**	**-1.1**
SLOZ	**Alcaldia de Sa**	**0.89**	**348**	*e*P		**Pn**	**03 23 52.8**	**-1.1**
SLOZ				*e*S		**Sn**	**03 24 06.0**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.89**	**348**	P		**Pn**	**03 23 52.9**	**-1.1**
UESV	**Universidad de**	**0.92**	**58**	*e*P		**Pn**	**03 23 53.6**	**-0.7**
UESV	**Universidad de**	**0.92**	**58**	S		**Sn**	**03 24 07.0**	**+0.4**
UESV	**Universidad de**	**0.92**	**58**	P		**Pn**	**03 23 53.6**	**-0.7**
ESSJ	**San Jos, E**	**0.98**	**295**	*i* P		Pb	03 23 59.7	+3.9
SCLA	**Alcaldia de Sa**	**1.00**	**57**	*i* P		**Pn**	**03 23 55.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.00**	**57**	P		**Pn**	**03 23 55.1**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.00**	**57**	S		**Sn**	**03 24 10.0**	**+1.4**
PQSS	**Presa 15 de Se**	**1.11**	**65**	*e*P		**Pn**	**03 23 56.1**	**-0.8**
PQSS	**Presa 15 de Se**	**1.11**	**65**	P		**Pn**	**03 23 56.1**	**-0.8**
PQSS	**Presa 15 de Se**	**1.11**	**65**	S		**Sn**	**03 24 12.0**	**+0.9**
TECA	**Tecapa**	**1.11**	**72**	*e*P		**Pn**	**03 23 56.0**	**-1.2**
TECA				*e*P		**Pn**	**03 23 56.0**	**-1.2**
MTO3	**Montecristo**	**1.26**	**10**	⇓*i* P		**Pn**	**03 23 58.3**	**-0.9**
MTO3	**Montecristo**	**1.26**	**10**	*i* P		**Pn**	**03 23 58.3**	**-0.9**
MTO3	**Montecristo**	**1.26**	**10**	P		**Pn**	**03 23 58.3**	**-0.9**
PACA	**Pacayal**	**1.27**	**75**	*e*P		**Pn**	**03 23 59.1**	**-0.2**
PACA	**Pacayal**	**1.27**	**75**	P		**Pn**	**03 23 58.8**	**-0.4**
PACA	**Pacayal**	**1.27**	**75**	S		**Sn**	**03 24 16.5**	**+1.1**
LCY	**Lacayo**	**1.29**	**78**	*e*P		**Pn**	**03 23 58.9**	**-0.6**
RANC	**El Ranchito**	**1.30**	**77**	P		**Pn**	**03 23 59.1**	**-0.5**
VSM	**San Miguel**	**1.31**	**78**	*e*P		**Pn**	**03 23 59.4**	**-0.5**
BLLM	**Bellamira**	**1.35**	**77**	*e*P		**Pn**	**03 23 59.5**	**-0.7**
CNRM	**Centro Naciona**	**1.42**	**77**	P		**Pn**	**03 24 00.8**	**-0.3**
CNRM	**Centro Naciona**	**1.42**	**77**	S		**Sn**	**03 24 20.0**	**+1.2**
FG16	**Alotenango, Sa**	**1.43**	**321**	*i* P		**Pb**	**03 24 04.7**	**+1.0**
FG16				*i* S		**Sb**	**03 24 26.6**	**+5.0**
FG16				IAML			03 24 31.6	
	comp=E,24μm,0.2s							
FG8	**Yepocapa, Chim**	**1.45**	**320**	*i* P		**Pb**	**03 24 05.1**	**+1.1**
FG8				*i* S		**Sb**	**03 24 27.1**	**+5.0**
CAHU	**Cacacuatique**	**1.48**	**65**	*e*P		**Pn**	**03 24 01.5**	**-0.7**
LCND	**La Caada**	**1.66**	**84**	*e*P		**Pn**	**03 24 04.2**	**-0.4**
LCND	**La Caada**	**1.66**	**84**	P		**Pn**	**03 24 04.1**	**-0.4**
CNCH	**Conchagua**	**1.72**	**86**	*e*P		**Pn**	**03 24 04.6**	**-0.7**
CNCH	**Conchagua**	**1.72**	**86**	P		**Pn**	**03 24 04.7**	**-0.7**
CNCH	**Conchagua**	**1.72**	**86**	S		**Sn**	**03 24 27.2**	**+0.9**
ESSG	**Sabana Grande**	**1.72**	**316**	*i* P		**Pn**	**03 24 03.4**	**-2.0**
ESSG				*i* S		**Sn**	**03 24 24.2**	**-2.2**
ESSG				IAML			03 24 26.6	
	comp=N,3μm,0.5s							
SARH	**Santa Rosa de**	**1.81**	**26**	*i* P		**Pn**	**03 24 06.5**	**-0.1**
SARH				*i* S		**Sn**	**03 24 29.0**	**+0.5**
SARH	**Santa Rosa de**	**1.81**	**26**	P		**Pn**	**03 24 06.4**	**-0.1**
MARCA	**Marcala la Paz**	**1.82**	**56**	*i* P		**Pn**	**03 24 06.2**	**-0.6**
MARCA				*i* S		**Sn**	**03 24 29.2**	**+0.4**
INTHN	**La Esperanza I**	**1.85**	**51**	P		**Pn**	**03 24 06.9**	**-0.5**
CSGN	**Cosiguina Volc**	**1.99**	**95**	P		**Pn**	**03 24 07.7**	**-1.4**
POTN	**Potosi Cosigui**	**2.04**	**94**	P		**Pn**	**03 24 08.6**	**-1.1**
CHOHN	**Orocuina**	**2.39**	**82**	P		**Pn**	**03 24 13.7**	**-0.9**
SOKI	**Kika Raxquin**	**2.42**	**314**	*i* P		**Pn**	**03 24 14.8**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.43**	**68**	P		**Pn**	**03 24 14.4**	**-0.7**
CRIN	**San Cristobal**	**2.52**	**100**	P		**Pn**	**03 24 15.4**	**-0.9**
CRIN	**San Cristobal**	**2.52**	**100**	S		**Sn**	**03 24 47.3**	**+1.2**
YUSH	**Yuscaran**	**2.79**	**73**	P		**Pn**	**03 24 19.3**	**-0.8**
CNGN	**Cerro Negro**	**2.89**	**103**	P		**Pn**	**03 24 19.9**	**-1.6**
CNGN	**Cerro Negro**	**2.89**	**103**	S		**Sn**	**03 24 55.4**	**+0.1**
MOMN	**Momotombo**	**3.07**	**104**	P		**Pn**	**03 24 22.3**	**-1.6**
OCON	**Estacion meteo**	**3.07**	**81**	P		**Pn**	**03 24 23.1**	**-0.8**
COPN	**Copaltepe**	**3.08**	**108**	P		**Pn**	**03 24 22.3**	**-1.7**
MOM2	**El Cardon**	**3.11**	**103**	P		**Pn**	**03 24 23.1**	**-1.4**
SAPS	**Ciudad Sandino**	**3.26**	**107**	P		**Pn**	**03 24 25.6**	**-0.9**
SAPS	**Ciudad Sandino**	**3.26**	**107**	S		**Sn**	**03 25 04.3**	**+0.1**
APQ3	**Volcan Apoyequ**	**3.26**	**105**	P		**Pn**	**03 24 25.1**	**-1.4**
APQ3				S		**Sn**	**03 25 04.6**	**+0.2**
RCVN	**Varillal2**	**3.33**	**82**	P		**Pn**	**03 24 26.7**	**-0.9**
TISN	**Laguna Tiscapa**	**3.39**	**107**	P		**Pn**	**03 24 27.3**	**-1.1**

JMA ***12*** *03:24:25.8±0.2, 43˚1N±0˚6×145˚5E±0˚7, h51km±1km, MV3.2/35, OFF NEMURO PENINSULA*

SKHL ***12*** *03:24:27.4±0.3, 43˚10N×145˚40E, h32km±2km, mb4.3/4*

ISC 12 03:24:27.1±1.6, **43˚15N**±0˚07×**145˚43E**±0˚05, **h42**km±10km, **n14**, σ0§**54**/26, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.21**	**252**	*i* P		**Pn**	**03 24 34.9**	**+0.3**
JKHN				*e*S		**Sn**	**03 24 41.1**	**+1.2**
NMR	**Nemuro--Hokkai**	**0.31**	**44**	*i* P		**Pn**	**03 24 35.1**	**-0.5**
NMR				*i* S		**Sn**	**03 24 41.1**	**-0.4**
NEM2	**Nemuro 2**	**0.31**	**46**	*i* P		**Pn**	**03 24 35.0**	**-0.6**
NEM2				S		**Sn**	**03 24 41.4**	**-0.2**
AKK	**Akkeshi**	**0.45**	**253**	*i* P		**Pn**	**03 24 36.9**	**-0.4**
AKK				AMB	AMB		03 24 37.4	
	100nm,0.2s							
AKK				*e*S		**Sn**	**03 24 44.3**	**-0.1**
AKK				A	A		03 24 44.9	
	370nm,0.3s							
AKK				A	A		03 24 44.9	
	530nm,0.3s							
JAK	**Akkeshi**	**0.56**	**254**	*i* P		**Pn**	**03 24 38.1**	**-0.5**
JAK				S		**Sn**	**03 24 47.1**	**+0.2**
GLVR	**Golovnino**	**0.59**	**6**	*e*P		**Pn**	**03 24 39.0**	**-0.1**
GLVR				AMB	AMB		03 24 39.4	
	280nm,0.2s							
GLVR				*e*S		**Sn**	**03 24 47.7**	**0.0**
GLVR				A	A		03 24 49.0	
	2μm,0.2s							
GLVR				A	A		03 24 49.0	
	1μm,0.2s							
JNK	**Nakash**	**0.68**	**310**	*i* P		**Pn**	**03 24 40.0**	**-0.2**
JNK				S		**Sn**	**03 24 49.7**	**0.0**
JNSB	**Nemuroshibetsu**	**0.70**	**334**	P		**Pn**	**03 24 40.4**	**-0.1**
JNSB				*e*S		**Sn**	**03 24 50.8**	**+0.6**
JRA	**Rausu**	**0.82**	**344**	*i* P		**Pn**	**03 24 42.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.94**	**19**	*e*P		**Pn**	**03 24 43.5**	**-0.3**
YUK				AMB	AMB		03 24 43.9	
	150nm,0.2s							
YUK				*i* S		**Sn**	**03 24 55.4**	**-0.6**
YUK				A	A		03 24 56.2	
	410nm,0.2s							
YUK				A	A		03 24 56.2	
	860nm,0.2s							
JOB	**Onbets**	**1.20**	**259**	P		**Pn**	**03 24 46.8**	**-0.5**
JOB				S		**Sn**	**03 25 02.0**	**-0.4**
JAR	**Ashorobuto**	**1.23**	**277**	*i* P		**Pn**	**03 24 47.6**	**-0.1**
JAR				S		**Sn**	**03 25 03.8**	**+0.8**
SHO	**Shikotan**	**1.25**	**54**	*e*P		**Pn**	**03 24 48.8**	**+0.8**
SHO				AMB	AMB		03 24 50.1	
	30nm,0.2s							
SHO				*e*S		**Sn**	**03 25 03.2**	**-0.4**
SHO				A	A		03 25 05.2	
	230nm,0.2s							
SHO				A	A		03 25 05.2	
	280nm,0.2s							
KUR	**Kuril'sk**	**2.72**	**39**	*e*S		**Sn**	**03 25 40.8**	**+0.9**
KUR				A	A		03 25 42.1	
	40nm,0.2s							
KUR				A	A		03 25 42.1	
	20nm,0.2s							

MOS ***12*** *03:32:27.7±1.0, 30˚36N×94˚88E, h15km, mb4.9/44, Error ellipse: s-maj=8.1km s-min=4.1km az=125.6*

IDC ***12*** *03:32:27.1±0.6, 30˚36N×94˚92E, h0km, mb4.2/21, mbtmp4.3/25, ML4.0/4, MS3.3/3, Error ellipse: s-maj=18.2km s-min=12.2km az=44.0*

BJI ***12*** *03:32:28.5, 30˚41N×94˚85E, h8km, mB4.5/6, mb4.5/40, ML3.9/10, Ms3.9/18, Ms7 3.8/19*

NEIC ***12*** *03:32:29.4±1.7, 30˚41N±0˚03×94˚80E±0˚09, h10km±1km, mb4.8/107, Error ellipse: s-maj=13.0km s-min=4.5km az=74.0*

NDI ***12*** *03:32:31.9±2.6, 30˚54N×94˚53E, h40km±999km, ML4.6, MW4.7, mb4.8(NEIC)*

ISC 12 03:32:28.9±0.3, **30˚32N**±0˚04×**94˚76E**±0˚04, **h10**km, **n479**, σ1§**18**/485, **mb4.7**/124, **MS3.2**/4, **11C-2D**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.19**	**260**	Pn		**Pn**	**03 33 21.5**	**+1.8**
LSA	**Lhasa**	**3.19**	**260**	Pn		**Sb**	**03 33 22.5**	**+2.8**
LSA				Sn		**Sb**	**03 34 10.7**	**+5.5**
LSA				LR		LR		
	comp=N,2μm,4.1s							
LSA				LR		LR		
	comp=Z,2μm,5.0s							
LSA	**Lhasa**	**3.19**	**260**	P		**Pn**	**03 33 21.5**	**+1.8**
ITAN	**ITANAGAR**	**3.30**	**196**	*e*P		**Pn**	**03 33 22.3**	**+1.7**
ITAN				*e*S		**Sn**	**03 33 58.9**	**-1.0**
ITAN				IAML			03 34 00.2	
	comp=E,4μm,0.3s							
JORH	**JORHAT**	**3.59**	**187**	*e*P		**Pn**	**03 33 28.6**	**+3.9**
JORH				*e*S		**Sn**	**03 34 06.4**	**-0.8**
JORH				IAML			03 34 07.7	
	comp=E,5μm,0.6s							
JORH				IAML			03 34 08.3	
	comp=N,7μm,0.6s							
TEZP	**TEZPUR**	**4.08**	**206**	*e*P		**Pn**	**03 33 34.0**	**+2.7**
TEZP				*e*S		**Sn**	**03 34 18.0**	**-1.1**
TEZP				IAML			03 34 20.0	
	comp=E,2μm,0.6s							
KOHI	**KOHIMA**	**4.62**	**187**	*e*P		**Pn**	**03 33 41.3**	**+2.3**
KOHI				*e*S		**Sn**	**03 34 31.4**	**-1.4**
KOHI				IAML			03 34 32.8	
	comp=N,2μm,0.8s							
GUWA	**GUWAHATI**	**4.93**	**214**	*e*P		**Pn**	**03 33 44.8**	**+1.8**
GUWA				*e*S		**Sn**	**03 34 37.4**	**-2.7**
GUWA				IAML			03 34 38.9	
	comp=N,2μm,0.4s							
GUWA				IAML			03 34 39.1	
	comp=E,2μm,0.4s							
SHL	**Shillong**	**5.38**	**209**			**Pn**	**03 33 50.0**	**+0.6**
SHL	**Shillong**	**5.38**	**209**	*e*P		**Pn**	**03 33 51.4**	**+2.0**
SHL				*e*S		**Sn**	**03 34 47.5**	**-4.0**
SHL				IAML			03 34 48.4	
	comp=N,1μm,0.5s							
SHL				IAML			03 34 48.5	
	comp=E,1μm,0.3s							
SHL	**Shillong**	**5.38**	**209**	P		**Pn**	**03 33 50.0**	**+0.6**
IMP	**Imphal**	**5.52**	**188**	*e*P		**Pn**	**03 33 52.8**	**+1.6**
IMP				*e*S		**Sn**	**03 34 53.8**	**-1.0**
IMP				IAML			03 34 54.3	
	comp=E,849nm,0.2s							
IMP				IAML			03 34 54.3	

comp=N,595nm,0.2s
GOMU GeErMu 5.86 0 Pn **Pn** **03 33 57.7 +1.5**
GOMU LR LR
comp=N,610nm,6.2s
GOMU LR LR
comp=N,490nm,5.2s
GOMU LR LR
comp=N,480nm,5.9s
GTK Tadong 6.18 243 *e*P **Pn** **03 33 58.0 -2.4**
GTK *e*S Sn 03 35 01.7 -10
GTK IAML 03 35 03.5
comp=N,501nm,0.2s
GTK IAML 03 35 03.5
comp=E,607nm,0.2s
TNCH TengChong 6.24 147 *e*Pg **Pg** **03 34 30.8 +2.4**
TNCH Sg **Sg** **03 35 49.7 +0.5**
TNCH LR LR
comp=N,980nm,2.9s
TNCH LR LR
comp=E,1μm,3.9s
TNCH LR LR
comp=Z,270nm,8.1s
AZL Aizawl 6.81 196 *e*P **Pn** **03 34 11.3 +2.2**
AZL *e*S **Sn** **03 35 23.4 -3.4**
AZL IAML 03 35 24.5
comp=N,785nm,0.1s
PZH PanZhiHua 7.23 120 Pn **Pn** **03 34 18.1 +3.3**
PZH Pg **Pb** **03 34 32.8 -1.8**
PZH Sn **Sn** **03 35 43.2 +6.2**
PZH Sg **Sg** **03 36 18.9 -2.1**
PZH smax smax
comp=N,50nm,1.6s
PZH smax smax
comp=N,50nm,1.8s
BRDH Bariadhala 8.11 201 Pn **Pn** **03 34 27.5 +0.7**
comp=N,6.3nm,0.3s,baz=51,slow=19,SNR=3.6
comp=N,124nm,0.8s
KMI Kunming 8.76 124 P Pn 03 34 41.8 +5.9
KMI pmax pmax
comp=N,12nm,0.9s
KMI LR LR
comp=N,390nm,4.4s
KMI LR LR
comp=N,490nm,5.7s
KMI LR LR
comp=N,210nm,7.0s
LZH Lanzhou 9.53 51 *e*P **Pn** **03 34 46.9 +0.5**
LZH sP 03 34 53.3
LZH pmax pmax
comp=N,16nm,1.2s
LZH LR LR
comp=N,310nm,10.7s
LZH LR LR
comp=N,370nm,11.0s
LZH LR LR
comp=N,230nm,10.6s
GTA Gaotai 9.97 23 *e*P **Pn** **03 34 54.3 +2.0**
GTA pP 03 34 59.0
GTA pmax pmax
comp=N,5.0nm,1.0s
GTA LR LR
comp=N,280nm,9.1s
GTA LR LR
comp=N,190nm,10.2s
GTA LR LR
comp=N,190nm,15.6s
CHTO Chiang Mai 12.07 161 **Pn** **03 35 22.1 +1.0**
CHTO Chiang Mai 12.07 161 P **Pn** **03 35 22.1 +1.0**
CM31 Chiang Mai Arr 12.41 161 Pn **Pn** **03 35 27.1 +1.3**
CMAR Chiang Mai Arr 12.41 161 Pn **Pn** **03 35 26.5 +0.8**
comp=N,0.3nm,0.3s,baz=333,slow=13,SNR=18
comp=N,4.3nm,0.9s
CMAR Chiang Mai Arr 12.41 161 *i* P **Pn** **03 35 28.3 +2.6**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
XAN Xi'an 12.55 69 *e*P Pn 03 35 33.6 +6.0
XAN pmax pmax
comp=Z,8.0nm,1.0s
ENH Enshi 12.72 87 Pn **Pn** **03 35 28.8 -1.2**
WMQ Urumqi 14.60 339 *e*P **Pn** **03 35 57.3 +1.7**
LYN LuoYang 15.53 70 P **P** **03 36 12.5 +0.1**
LYN pmax pmax
comp=Z,19nm,0.6s
BTO Baotou 16.09 46 *e*P **Pn** **03 36 13.3 -2.1**
BTO pP **P** **03 36 16.9 -1.8**
BTO sP **pP** **03 36 20.4 -2.3**
BTO PP **sP** **03 36 26.0 +1.5**
BTO pmax pmax
comp=Z,27nm,0.5s
WHN Wuhan 16.90 84 P **Pn** **03 36 23.8 -1.7**
WHN pmax pmax
comp=Z,52nm,0.9s
HHC Hu-ho-hao-te 17.21 48 *e*P **P** **03 36 30.0 -1.1**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,80nm,4.0s
SHLS Shalkode 17.70 321 *e*P **Pn** **03 36 31.5 -4.1**
SHLS pmax pmax
comp=Z,25nm,1.3s
TARG Taragay, Kyrgy 17.79 314 **Pn** **03 36 36.3 -0.7**
TARG Taragay, Kyrgy 17.79 314 P **Pn** **03 36 36.3 -0.7**
TARG pmax pmax
comp=Z,43nm,1.2s
PRZ Przheval'sk 17.87 317 P **P** **03 36 39.7 +1.2**
PRZ IAmb IAmb 03 36 44.5
comp=Z,153nm,1.4s
PRZ Przheval'sk 17.87 317 P **P** **03 36 39.7 +1.2**
PRZ pmax pmax
comp=Z,153nm,1.4s
KSH Kashi 17.91 306 P **P** **03 36 40.4 +1.6**
KSH pmax pmax
comp=Z,15nm,1.6s
UZB Uzynbulak 17.93 320 *e*P **Pn** **03 36 37.6 -0.9**
UZB pmax pmax
comp=Z,9.0nm,1.3s
KDJ Kajisay 18.40 315 **P** **03 36 42.9 -1.4**
KDJ Kajisay 18.40 315 P **P** **03 36 42.9 -1.4**
KDJ pmax pmax
comp=Z,54nm,1.4s
NIL Nilore 18.54 286 P **P** **03 36 43.3 -2.5**
NIL Nilore 18.54 286 P **P** **03 36 45.2 -0.6**
NIL pmax pmax
comp=Z,34nm,1.0s
MK31 Makanchi Array 19.08 333 *ce*P **P** **03 36 51.8 +0.2**
MKAR Makanchi Array 19.08 333 P **P** **03 36 50.7 -0.9**
MKAR Makanchi Array 19.08 333 P **P** **03 36 51.1 -0.5**
comp=Z,0.2nm,0.3s,baz=141,slow=14,SNR=25
MKAR PcP **PcP** **03 41 16.2 +0.3**
comp=Z,0.3nm,0.5s,baz=144,slow=1.2,SNR=2.3
comp=Z,4.5nm,0.8s
MKAR Makanchi Array 19.08 333 *i* P **P** **03 36 51.0 -0.6**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
ARXS Arharly 19.28 321 *e*P **P** **03 36 54.4 +0.5**
HYB Hyderabad 19.59 233 *e*P **Pn** **03 36 59.7 +1.0**
SONM Songino Array 19.64 24 P **P** **03 36 57

comp=Z,11nm,0.5s
ARSB Arslanbob 20.74 308 P P 03 37 10.4 +0.5
ARSB IAmb IAmb 03 37 13.6
comp=Z,50nm,1.4s
ARSB Arslanbob 20.74 308 P P 03 37 10.4 +0.5
ARSB pmax pmax
comp=Z,50nm,1.4s
ZAK Zakamensk 21.04 15 eP P 03 37 12.3 -0.6
ZAK pmax pmax
comp=Z,19nm,1.1s
XLT XiLinHaoTe 21.66 45 eP P 03 37 19.9 +0.2
XLT pmax pmax
comp=Z,9.0nm,0.9s
MOY Mondy 21.82 10 eP P 03 37 22.3 +1.0
MOY pmax pmax
comp=Z,26nm,1.8s
GAR Garm 21.84 300 P P 03 37 20.4 -1.4
BTLS Baital 21.93 318 eP P 03 37 22.8 +0.4
BTLS pmax pmax
comp=Z,12nm,1.3s
KBL Kabul 22.09 288 P P 03 37 24.1 -0.4
KBL Kabul 22.09 288 P P 03 37 24.2 -0.4
KBL pmax pmax
comp=Z,123nm,1.4s
SIMJ Simiganj 22.75 298 P P 03 37 30.8 -0.6
IRK Irkutsk 23.00 15 eP P 03 37 33.9 +0.2
IRK pmax pmax
comp=Z,46nm,1.9s
IUG Iuzhnay 23.09 308 eP P 03 37 34.7 -0.2
KK31 Karatay Array 23.16 310 P P 03 37 34.4 -1.1
KK31 Karatay Array 23.16 310 P P 03 37 34.4 -1.1
KK31 pmax pmax
comp=Z,28nm,1.4s
KKAR Karatay Array 23.16 310 P P 03 37 34.8 -0.7
KKAR Karatay Array 23.16 310 P P 03 37 34.8 -0.7
KURBB Kurchatov Arra 23.64 334 P P 03 37 39.1 -1.1
comp=Z,13nm,1.1s,baz=144,slow=10.0,SNR=42
KURBB PcP PcP 03 41 24.6 0.0
comp=Z,0.9nm,0.9s,baz=151,slow=2.1,SNR=4.9
comp=Z,13nm,1.1s
KURK Kurchatov 23.68 334 P P 03 37 39.1 -1.5
KURK Kurchatov 23.68 334 iP P 03 37 40.2 -0.4
KURK pmax pmax
comp=Z,24nm,1.0s
ZAA0 Zalesovo Array 24.68 346 P P 03 37 48.9 -1.0
ZAA0 IAmb IAmb 03 37 51.7
comp=Z,56nm,1.9s
ZALV Zalesovo Beam 24.68 346 P P 03 37 49.1 -0.8
ZALV Zalesovo Beam 24.68 346 P P 03 37 49.7 -0.2
comp=Z,3.9nm,0.6s,baz=161,slow=8.9,SNR=18
comp=Z,3.9nm,0.6s
ZALV Zalesovo Beam 24.68 346 iP P 03 37 50.0 +0.1
ZALV pmax pmax
comp=Z,4.0nm,0.6s
CN2 Changchun 27.76 52 P P 03 38 17.8 0.0
CN2 pmax pmax
comp=Z,20nm,1.2s
KSRS Korea Array 28.33 67 P P 03 38 21.4 -1.5
comp=Z,0.6nm,0.4s,baz=263,slow=10,SNR=1.9
comp=Z,0.6nm,0.4s
BVAR Borovoye Array 28.83 329 P P 03 38 28.1 +0.9
comp=Z,4.5nm,0.9s,baz=127,slow=11,SNR=18
BVAR PcP PcP 03 41 36.5 -0.1
comp=Z,0.8nm,0.7s,baz=134,slow=4.2,SNR=4.1
comp=Z,4.5nm,0.9s
BRVK Borovoye 28.90 329 P P 03 38 27.4 -0.4
BRVK IAmb IAmb 03 38 30.9
comp=Z,13nm,1.0s
BRVK Borovoye 28.90 329ceP P 03 38 28.2 +0.4
BRVK pmax pmax
comp=Z,20nm,1.3s
BNX BinXian 29.71 50 ⇓P P 03 38 35.2 0.0
BNX pmax pmax
comp=Z,14nm,2.0s
AB31 Akbulak array 32.37 316 P P 03 38 58.8 +0.3
AB31 IAmb IAmb 03 39 01.5
comp=Z,21nm,1.8s
ABKAR Akbulak array 32.37 316 P P 03 38 58.2 -0.3
USRK Ussuriysk Ar. 32.41 54 P P 03 38 58.4 -0.6
comp=Z,0.7nm,0.6s,baz=261,slow=17,SNR=1.9
comp=Z,0.7nm,0.6s
ZEA Zeya 33.13 36 eP P 03 39 05.9 +0.7
ZEA pmax pmax
comp=Z,10.0nm,1.4s
SVE Sverdlovsk 35.60 328 eP P 03 39 28.5 +2.1
SVE pmax pmax
comp=Z,37nm,1.3s
ARTI Arti 36.42 326 P P 03 39 33.1 -0.5
ARTI IAmb IAmb 03 39 35.8
comp=Z,30nm,1.6s
ARTI Arti 36.42 326c iP P 03 39 33.9 +0.4
ARTI 03 40 51.8
ARTI 03 41 50.6
ARTI S S 03 45 16.9 +2.0
ARTI SS SnSn 03 47 40.3 -2.4
ARTI pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 36.55 68 P P 03 39 32.4 -2.4
comp=Z,2.1nm,1.0s,baz=275,slow=7.9,SNR=4.7
comp=Z,2.1nm,1.0s
LKRN Lenkeran, Azer 38.47 295 P P 03 39 53.7 +2.6
YAK Yakutsk 38.99 25 LR LR 03 57 00.2
comp=Z,56nm,18.4s,baz=181,slow=38
AKT Akhty 39.26 300 eP P 03 39 57.8 0.0
AKT e 03 41 26.6
AKT pmax pmax
comp=Z,14nm,1.0s
SEKA Sheki 39.66 299 P P 03 40 03.0 +1.9
MNGR Mingechevir, A 39.74 299 P P 03 40 04.2 +2.5
GANJ Ganja 40.32 298 P P 03 40 09.1 +2.5
YSS Yuzhno-Sakhali 40.33 52 eP P 03 40 23.2 +17
YSS pmax pmax
comp=Z,20nm,1.2s
NAX Nakhchivan 41.01 296 P P 03 40 14.7 +2.3
KIRV Kirov 41.74 326 LR LR 03 59 56.7
comp=Z,34nm,19.0s,baz=192,slow=40
KIRV Kirov 41.74 326ceP P 03 40 18.4 +0.5
GOF Gofitskoye 42.77 305eP P 03 40 27.9 +1.3
KBZ Khabaz 42.85 303 iP P 03 40 27.9 +0.7
KBZ pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 43.01 303 P P 03 40 29.9 +1.2
KIV IAmb IAmb 03 40 32.6
comp=Z,28nm,1.2s
KIV Kislovodsk 43.01 303 eP P 03 40 29.4 +0.8
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,9.0nm,16.0s
GURO Guroymak-BITLI 43.75 296 P P 03 40 35.2 +0.5
GURO IAmb IAmb 03 40 38.7
comp=Z,40nm,1.6s
VRH Novokhopyorsk 44.15 314 eP P 03 40 34.8 -2.8
VRH pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 44.17 273 P P 03 40 37.2 -1.0
RAYN Ar Rayn 44.17 273 P P 03 40 37.2 -1.0
RAYN pmax pmax
comp=Z,6.0nm,1.2s
MARD Mardin 44.88 294 P P 03 40 44.4 +0.6
MARD IAmb IAmb 03 40 46.1
comp=Z,21nm,1.3s
TIXI Tiksi 45.31 14ceP P 03 40 46.4 -0.1
TIXI pmax pmax
comp=Z,6.0nm,1.7s
VORD Divnogorie 45.65 313 eP P 03 40 46.9 -2.6
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 45.75 314 eP P 03 40 47.8 -2.5
VSR pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 46.03 315 eP P 03 40 51.5 -1.0
LPSR pmax pmax
comp=Z,10.0nm,1.0s
ANN Anapa 46.76 305 eP P 03 40 52.7 -5.7
ANN pmax pmax
comp=Z,35nm,1.4s
MOS Moscow 47.19 320 eP P 03 41 00.9 -0.6
MOS eS S 03 47 53.6 -0.4
MOS pmax pmax
comp=Z,40nm,1.0s
KLMR Klimovskoe 47.21 327 eP P 03 40 59.7 -1.9
KLMR e 03 42 50.6
KLMR pmax pmax
comp=Z,43nm,1.3s

OBN Obninsk 47.70 319 eP P 03 41 06.0 +0.5
OBN e 03 42 37.0
OBN e 03 42 57.4
OBN ePPP PPP 03 43 43.4
OBN pmax pmax
comp=Z,34nm,1.7s
OBN MLR MLR
comp=Z,20nm,14.0s
TOKA Tokat 47.83 299 P P 03 41 07.4 +0.5
TOKA IAmb IAmb 03 41 09.2
comp=Z,18nm,1.3s
BNN Bunyan 48.52 297 P P 03 41 13.0 +0.7
BNN IAmb IAmb 03 41 16.0
comp=Z,16nm,1.1s
BR131 Keskin Array S 50.07 298 P P 03 41 22.7 -1.5
BR131 Keskin Array S 50.07 298 iP P 03 41 24.4 +0.2
BRTR Keskin Array B 50.07 298 P P 03 41 23.4 -0.8
BRTR Keskin Array B 50.07 298 P P 03 41 24.7 +0.5
comp=Z,2.5nm,0.9s,baz=93,slow=6.1,SNR=12
comp=Z,2.5nm,0.9s
PETK Petropavlovsk- 50.36 44 P P 03 41 25.2 -0.8
comp=Z,4.0nm,1.0s,baz=258,slow=7.2,SNR=3.3
comp=Z,4.0nm,1.0s
ANTO Ankara 50.69 299 P P 03 41 28.5 -0.3
ANTO Ankara 50.69 299 P P 03 41 28.5 -0.3
ANTO pmax pmax
comp=Z,32nm,1.3s
MDUB Mudurnu 51.80 300 P P 03 41 38.2 +1.1
AKASG Malin Array Be 52.02 313 P P 03 41 38.9 +0.4
AKASG IAmb IAmb 03 41 40.6
comp=Z,15nm,1.6s
AKASG Malin Array Be 52.02 313 P P 03 41 38.0 -0.5
comp=Z,4.5nm,0.8s,baz=80,slow=6.3,SNR=20
comp=Z,4.5nm,0.8s
AKASG Malin Array Be 52.02 313 iP P 03 41 38.2 -0.3
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 52.02 313 P P 03 41 38.1 -0.4
AKBB IAmb IAmb 03 41 39.5
comp=Z,14nm,1.0s
AKBB Malin Array Si 52.02 313ceP P 03 41 38.4 -0.1
AKBB pmax pmax
comp=Z,17nm,1.3s
KIEV Kiev 52.03 313 P P 03 41 38.2 -0.4
KIEV IAmb IAmb 03 41 39.5
comp=Z,14nm,1.1s
KIEV Kiev 52.03 313 P P 03 41 38.2 -0.4
KIEV pmax pmax
comp=Z,14nm,1.1s
MNK Minsk 52.69 318 iP P 03 41 43.3 -0.1
comp=E,7.0nm,0.9s
MNK iP P 03 41 43.3 -0.1
comp=N,11nm,0.9s
MNK iP P 03 41 43.3 -0.1
comp=Z,8.0nm,0.8s,baz=88
MNK iPcP PcP 03 42 53.0 -0.1
MNK iPP PP 03 43 42.6 +0.2
MNK iPPP PPP 03 44 46.0
MNK iS S 03 49 11.7 +0.6
MNK iPS PKiKP 03 49 46.0 +14
MNK iSS SS 03 52 55.7 +6.6
MNK iSSS SSS 03 54 44.3
MNK Minsk 52.69 318 iP P 03 41 43.3 -0.1
MNK i 03 42 53.0
MNK i 03 43 42.5
MNK iPPP PPP 03 44 46.0
MNK iS S 03 49 11.6 +0.6
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
ISP Isparta 52.82 296 P P 03 41 44.2 -0.6
ISP IAmb IAmb 03 41 47.8
comp=Z,25nm,1.4s
ISP Isparta 52.82 296ceP P 03 41 45.7 +0.9
ISP pmax pmax
comp=Z,16nm,1.3s
VSU Vasula 53.32 323ceP P 03 41 49.5 +1.6
VSU pmax pmax
comp=Z,21nm,1.3s
FINES FINESS Array B 53.73 326 P P 03 41 50.6 -0.3
comp=Z,1.2nm,0.5s,baz=76,slow=8.0,SNR=8.2
comp=Z,1.2nm,0.5s
FINES FINESS Array B 53.73 326 iP P 03 41 51.9 +1.0
FINES pmax pmax
comp=Z,3.0nm,0.9s
HORU Horodok 53.95 311 P P 03 41 53.2 +0.5
VRI Vrincioaia 54.17 307 P P 03 41 55.5 +1.0
VRI pmax pmax
comp=Z,21nm,1.3s
MLR Muntele Rosu 54.77 307 P P 03 41 58.4 -0.6
MLR Muntele Rosu 54.77 307 P P 03 41 58.4 -0.6
MLR pmax pmax
comp=Z,30nm,1.2s
BURAR Bucovina Array 54.95 309 P P 03 42 00.4 +0.2
BURAR Bucovina Array 54.95 309 P P 03 42 00.4 +0.2
BURAR pmax pmax
comp=Z,4.0nm,1.5s
KSV Kosov 54.95 310 P P 03 41 59.6 -0.4
BILL Bilibino 55.35 26 iP P 03 42 03.7 +1.1
BILL pmax pmax
comp=Z,5.0nm,1.3s
VOIR 55.40 307 P P 03 42 04.0 +0.5
VOIR pmax pmax
comp=Z,3.0nm,1.9s
LVV L'vov 55.42 312 P P 03 42 04.4 +1.0
SUW Suwalki 55.48 317 eP P 03 42 01.5 -2.2
SUW Suwalki 55.48 317 P P 03 42 03.7 0.0
SUW Suwalki 55.48 317 P P 03 42 03.7 0.0
MORS Morshin 55.60 311 P P 03 42 05.7 +1.0
KWP Kalwaria Pacla 56.30 312 eP P 03 42 09.0 -0.7
KWP Kalwaria Pacla 56.30 312 P P 03 42 11.0 +1.3
KWP pmax pmax
comp=Z,25nm,1.4s
TRSU Trosnyk 56.38 310 P P 03 42 11.1 +0.8
NIE Niedzica 57.88 312 eP P 03 42 19.3 -1.6
NIE Niedzica 57.88 312 P P 03 42 19.7 -1.3
OJC Ojcow 58.06 313 eP P 03 42 22.8 +0.7
OJC Ojcow 58.06 313 P P 03 42 21.9 -0.3
OJC Ojcow 58.06 313 P P 03 42 21.9 -0.3
LANS Liptovska Anna 58.47 312 ePP PP 03 44 32.6 -1.6
VYHS Vyhne 59.01 311 eP P 03 42 29.4 +0.6
VYHS pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 59.01 311 eP P 03 42 29.4 +0.6
MORC Moravsky Berou 59.57 313 P P 03 42 33.2 +0.5
MORC IAmb IAmb 03 42 34.1
comp=Z,8.8nm,1.4s
MORC Moravsky Berou 59.57 313 eP P 03 42 32.9 +0.2
MORC Moravsky Berou 59.57 313 P P 03 42 33.2 +0.5
MORC pmax pmax
comp=Z,9.0nm,1.4s
JAVC Velka Javorina 59.68 312 eP P 03 42 35.0 +1.4
HFS Hagfors 59.86 325 P P 03 42 35.5 +1.1
comp=Z,9.1nm,1.2s,baz=94,slow=7.4,SNR=4.3
comp=Z,9.1nm,1.2s
PDG Podgorica 60.14 304 P P 03 42 35.6 -1.0
PDG IAmb IAmb 03 42 37.5
comp=Z,5.9nm,1.0s
DPC Dobruska-Polom 60.22 314 eP P 03 42 39.2 +2.0
DPC Dobruska-Polom 60.22 314 eP P 03 42 39.2 +2.0
VRAC Vranov 60.28 312 eP P 03 42 38.1 +0.6
UPC Upice 60.38 314 P P 03 42 39.7 +1.5
UPC pmax pmax
comp=Z,9.0nm,1.5s
KRUC Moravsky 60.46 312 eP P 03 42 39.0 +0.2
KRUC Moravsky 60.46 312 P P 03 42 38.9 +0.2
KRUC pmax pmax
comp=Z,7.0nm,1.4s
KEK Kerkira 60.48 301 P P 03 42 39.6 +0.5
RONA Rosalia, Austr 60.84 311 eP P 03 42 41.9 +0.4
comp=Z,7.6nm,1.3s
NB2 NORSAR Subarra 60.91 326 P P 03 42 41.9 +0.2
comp=Z,0.9nm,0.6s,baz=80,slow=6.9
NOA NORSAR Array B 60.91 326 P P 03 42 41.2 -0.6
comp=Z,2.3nm,0.8s,baz=79,slow=6.8,SNR=5.2
comp=Z,2.3nm,0.8s
CONA Conrad Observa 61.07 311 iP P 03 42 43.4 +0.3
comp=Z,11nm,1.2s
NC204 NORSAR Array S 61.09 327 P P 03 42 41.7 -1.2
ARSA Arzberg 61.46 310 iP P 03 42 46.3 +0.6
comp=Z,5.4nm,1.3s
BRG Berggiesshubel 61.57 315 eP P 03 42 47.1 +0.8
BRG Amp 03 42 48.9
comp=Z,2.7nm,0.8s
ZVC Zvikov 61.77 313 eP P 03 42 49.2 +1.5
CKRC Cesky Krumlov 61.85 312 eP P 03 42 49.8 +1.5
CKRC Cesky Krumlov 61.85 312 eP P 03 42 49.8 +1.5
SOKA Soboth 61.94 310 iPP P 03 42 49.8 +0.8
comp=Z,4.9nm,0.9s
GEC2 GERESS Array S 62.23 312 P P 03 42 50.6 -0.3
GEC2 IAmb IAmb 03 42 52.9
comp=Z,17nm,1.6s
GERES GERESS Array B 62.23 312 P P 03 42 50.0 -0.9
GERES GERESS Array B 62.23 312 P P 03 42 51.8 +0.9
comp=Z,1.1nm,0.7s,baz=71,slow=5.8,SNR=13
comp=Z,1.1nm,0.7s
KHC Kasperske Hory 62.24 313ceP P 03 42 50.3 -0.6
KHC pmax pmax
comp=Z,6.0nm,1.7s
KHC Kasperske Hory 62.24 313 eP P 03 42 51.2 +0.3
OBKA Obir 62.30 310 iP P 03 42 50.3 -1.2
comp=Z,1.1nm,0.6s
BIOA Bad Ischl, Aus 62.58 311 iP P 03 42 52.9 -0.3
comp=Z,0.3nm,0.3s
WRA Warramunga Arr 62.83 138 P P 03 42 54.1 -0.9
comp=Z,2.1nm,0.9s,baz=328,slow=7.4,SNR=7.6
comp=Z,2.1nm,0.9s
WRA Warramunga Arr 62.83 138 iP P 03 42 54.4 -0.7
WRA pmax pmax
comp=Z,3.0nm,1.0s
MYKA Terra Mystica 62.87 310 iP P 03 42 55.1 -0.1
comp=Z,0.1nm,0.3s
KBA Koelnbreinsper 62.94 311 iP P 03 42 55.8 0.0
comp=Z,3.3nm,1.1s
ACER Acerenza 62.99 303 P P 03 42 56.2 +0.1
TRI Trieste 63.05 309 P P 03 42 54.5 -1.8
TRI Trieste 63.05 309 P P 03 42 54.5 -1.8
TRI pmax pmax
comp=Z,34nm,1.7s
LESA Schwarzleotal 63.28 311 iP P 03 42 58.4 +0.4
comp=Z,8.0nm,1.1s
CUC Castrocucco 63.33 302 P P 03 42 56.1 -2.2
CUC IAmb IAmb 03 42 59.8
comp=Z,6.3nm,0.9s
GRA1 Grafenberg Arr 63.57 314 P P 03 43 00.3 +0.6
GRF Grafenberg Arr 63.57 314 P P 03 43 00.3 +0.6
GRF pmax pmax
comp=Z,18nm,1.3s
GRFO Grafenberg 63.57 314 P P 03 42 59.0 -0.7
GRFO Grafenberg 63.57 314 P P 03 42 59.0 -0.7
GRFO pmax pmax
comp=Z,43nm,1.8s
ABTA Abfaltersbach 63.58 310 iP P 03 42 58.4 -1.6
comp=Z,2.7nm,0.9s
STAL STALIGIAL 63.59 310 P P 03 42 58.3 -1.7
STAL IAmb IAmb 03 43 00.4
comp=Z,9.4nm,1.2s
CIMO Cimolais 63.76 310 P P 03 42 59.6 -1.4
CIMO IAmb IAmb 03 43 02.2
comp=Z,15nm,1.4s
CEL Celeste 63.82 301 P P 03 43 00.8 -0.8
WTTA Wattenberg 64.00 311 iP P 03 43 02.7 -0.1
comp=Z,9.7nm,1.4s
WATA Walderalm 64.02 311 iP P 03 43 01.3 -1.6
comp=Z,3.0nm,0.3s
INTR Introdacqua 64.07 305 P P 03 43 03.2 0.0
INTR IAmb IAmb 03 43 12.3
comp=Z,9.3nm,1.2s
CAMP Campotosto 64.25 306 P P 03 43 04.3 -0.2
CAMP IAmb IAmb 03 43 05.5
comp=Z,6.5nm,1.1s
FDMO Fiordimonte 64.32 306 P P 03 43 04.6 -0.2
FDMO IAmb IAmb 03 43 06.1
comp=Z,5.7nm,1.0s
MOTA Moosalm 64.33 311 eP P 03 43 04.8 -0.1
comp=Z,7.1nm,1.5s
NRCA Norcia 64.36 306 P P 03 43 05.1 0.0
NRCA IAmb IAmb 03 43 07.8
comp=Z,4.9nm,1.0s
RETA Reutte 64.50 312 iP P 03 43 04.8 -1.1
comp=Z,0.2nm,0.3s
FETA Feichten 64.67 311 iP P 03 43 06.0 -1.2
comp=Z,8.6nm,1.2s
GAMB Gambell 64.76 29 P P 03 43 06.0 -1.2
baz=288
DAVA Damuels 65.14 312 iP P 03 43 08.8 -1.4
comp=Z,3.5nm,0.8s
ASAR Alice Springs 65.52 141 P P 03 43 12.4 -0.3
ASAR Alice Springs 65.52 141 P P 03 43 12.0 -0.7
comp=Z,2.6nm,0.8s,baz=326,slow=6.0,SNR=16
comp=Z,2.6nm,0.8s
ASAR Alice Springs 65.52 141 P P 03 43 12.4 -0.3
C16K Lisburne Hills 65.74 24 P P 03 43 12.7 -0.8
baz=291
F14K Arctic Creek 66.38 27 P P 03 43 16.1 -1.6
baz=291
MEM Membach 66.47 316 dP P 03 43 18.6 +0.1
B18K Kokolik River 66.52 22 P P 03 43 17.3 -1.1
baz=294
D17K Noatak River 66.74 24 P P 03 43 19.3 -0.7
baz=293
F15K North Star Dit 66.94 26 P P 03 43 20.2 -1.1
baz=293
C18K Utukok River 67.01 23 P P 03 43 21.0 -0.7
baz=294
ANM Nome 67.10 28 P P 03 43 21.0 -1.3
baz=292
SENIN Lac Senin/Sane 67.11 311 P P 03 43 23.5 +0.5
SENIN IAmb IAmb 03 43 23.8
comp=Z,5.9nm,1.1s
A21K Barrow 67.26 19 P P 03 43 22.1 -1.0
baz=297
C19K Lookout Ridge 67.34 22 P P 03 43 22.7 -1.1
baz=296
E17K Hotham Inlet 67.44 24 P P 03 43 23.3 -1.1
baz=294
G15K Niukluk 67.46 27 P P 03 43 23.4 -1.2
baz=293
B20K Meade River 67.70 21 P P 03 43 25.0 -1.0
baz=297
E18K Tukpahlearik C 67.73 24 P P 03 43 25.6 -0.6
baz=295
F17K Baldwin Pennin 67.92 25 P P 03 43 28.0 +0.6
F17K Baldwin Pennin 67.92 25 P P 03 43 26.7 -0.7
baz=295
D19K Kuna River 68.09 22 P P 03 43 27.4 -1.1
baz=297
H16K Elim 68.31 27 P P 03 43 29.1 -0.8
baz=295
M11K Mekoryuk 68.37 32 P P 03 43 29.4 -0.9
baz=293
F18K Selawik 68.42 24 P P 03 43 28.9 -1.6
baz=296
K13K Kusilvak Mount 68.44 30 P P 03 43 29.9 -0.8
baz=294
D20K Etivluk River 68.48 22 P P 03 43 30.2 -0.8
baz=298
G17K Kiwalik Mounta 68.54 26 P P 03 43 30.7 -0.6
baz=296
J14K Nanvaranak Lak 68.57 29 P P 03 43 30.9 -0.6
baz=295
B22K Teshekpuk Lake 68.66 20 P P 03 43 31.6 -0.3
baz=300
B21K Ikpikpuk River 68.66 21 P P 03 43 30.8 -1.3
baz=300
E20K Nigu River 68.84 22 P P 03 43 31.2 -2.1
baz=299
C21K Knifeblade Rid 68.84 21 P P 03 43 32.1 -1.1
baz=300
E19K Redstone River 68.87 23 P P 03 43 32.8 -0.6
baz=298
H17K Granite Mounta 69.07 26 P P 03 43 33.6 -1.1
baz=297
G18K Tagagawik 69.10 25 P P 03 43 34.2 -0.7
baz=298
I17K Unalakleet 69.24 27 P P 03 43 35.0 -0.7
baz=297
E21K Killik River 69.46 22 P P 03 43 35.9 -1.1
baz=301
L14K Kuka Creek 69.54 30 P P 03 43 37.0 -0.6
baz=296
G19K Purcell Mounta 69.55 24 P P 03 43 37.0 -0.6
baz=299
J16K Anvik River 69.55 28 P P 03 43 37.8 +0.2
J16K Anvik River 69.55 28 P P 03 43 36.8 -0.9
baz=297,SNR=5.7
H18K Honhosa River 69.56 26 P P 03 43 37.4 -0.3
H18K IAmb IAmb 03 43 38.7
comp=Z,13nm,1.3s

H18K	Honhosa River	69.56	26	P		P	03 43 36.6	-1.1
	baz=298							
K15K	Wolf Creek Mou	69.61	29	P		P	03 43 36.6	-1.4
	baz=296							
KEST	Kesra	69.62	300	P		P	03 43 38.9	+0.2
	comp=Z,8.6nm,1.2s,baz=328,slow=1.8,SNR=5.5							
	comp=Z,8.6nm,1.2s							
C23K	Itkillik River	69.74	20	P		P	03 43 39.7	+1.0
C23K	Itkillik River	69.74	20	P		P	03 43 38.4	-0.3
	baz=303							
H19K	Roundabout Mou	70.08	25	P		P	03 43 40.2	-0.6
	baz=300							
J17K	VABM Dome	70.11	27	P		P	03 43 40.7	-0.4
	baz=298							
F21K	Alatna River	70.25	23	P		P	03 43 41.1	-0.8
	baz=302							
GCSA	Galena City Sc	70.31	26	P		P	03 43 42.3	+0.1
	baz=299							
C24K	Franklin Bluff	70.36	19	P		P	03 43 42.2	-0.3
	baz=305							
F22K	John River	70.53	22	P		P	03 43 43.3	-0.3
	baz=302							
G21K	Allakaket	70.61	23	P		P	03 43 43.9	-0.2
	baz=302							
N14K	Kuskokwak Cree	70.61	31	P		P	03 43 42.9	-1.3
	baz=297							
H20K	Anotleneega Mo	70.67	24	P		P	03 43 43.8	-0.7
	baz=301							
M15K	Kasigluk River	70.70	30	P		P	03 43 44.0	-0.8
	baz=298							
TOLK	Toolik Lake Re	70.72	20	P		P	03 43 43.9	-0.9
	baz=304							
K17K	Iditarod	70.75	28	P		P	03 43 45.8	+0.8
K17K	Iditarod	70.75	28	P		P	03 43 44.0	-1.0
	baz=299,SNR=5.1							
J18K	Innoko River	71.01	27	P		P	03 43 46.3	-0.3
J18K				IAmb		IAmb	03 43 48.2	
	comp=Z,8.7nm,1.2s							
J18K	Innoko River	71.01	27	P		P	03 43 45.8	-0.8
	baz=300,SNR=7.6							
L17K	Donlin	71.03	28	P		P	03 43 45.8	-0.9
	baz=299							
E23K	Chandalar	71.03	21	P		P	03 43 45.1	-1.7
	baz=304							
J19K	Poorman	71.16	26	P		P	03 43 48.2	+0.7
J19K				IAmb		IAmb	03 43 49.0	
	comp=Z,9.3nm,1.2s							
J19K	Poorman	71.16	26	P		P	03 43 46.5	-1.0
	baz=301,SNR=6.7							
N15K	Kwethluk River	71.21	31	P		P	03 43 47.2	-0.7
	baz=298							
D25K	Kavik River	71.26	19	P		P	03 43 47.5	-0.6
	baz=307							
M16K	Timber Creek	71.29	30	P		P	03 43 47.7	-0.7
	baz=299							
H21K	Melozitna Rive	71.31	24	P		P	03 43 48.6	+0.2
H21K				IAmb		IAmb	03 45 33.2	
	comp=Z,4.8nm,0.7s							
H21K	Melozitna Rive	71.31	24	P		P	03 43 48.9	+0.5
	baz=303,SNR=5.8							
COLD	Coldfoot	71.32	22	P		P	03 43 47.8	-0.7
	baz=304							
E24K	Your Creek	71.37	21	P		P	03 43 47.7	-1.1
	baz=306							
J20K	Nowinta River	71.62	26	P		P	03 43 51.2	+0.9
J20K	Nowinta River	71.62	26	P		P	03 43 49.1	-1.1
	baz=302,SNR=5.4							
N16K	Nishlik Lake	71.64	30	P		P	03 43 49.4	-1.1
	baz=299							
L18K	Granite Mounta	71.64	28	IAmb		IAmb	03 43 51.6	
	comp=Z,12nm,1.4s							
L18K	Granite Mounta	71.64	28	P		P	03 43 49.4	-1.0
	baz=300							
G23K	Bananza Creek	71.67	22	P		P	03 43 49.9	-0.7
	baz=305							
H22K	Ishtalitna Cre	71.68	23	P		P	03 43 50.0	-0.6
	baz=304							
M17K	Holitna River	71.75	29	P		P	03 43 50.4	-0.7
	baz=300							
O15K	Ungalikthiuk R	71.80	32	P		P	03 43 51.3	-0.1
	baz=299							
C27K	Jago River	71.81	18	P		P	03 43 51.3	0.0
	baz=309							
K20K	Telida	72.08	26	P		P	03 43 54.1	+1.0
K20K				IAmb		IAmb	03 43 55.4	
	comp=Z,13nm,1.4s							
K20K	Telida	72.08	26	P		P	03 43 52.7	-0.4
	baz=302,SNR=5.0							
N17K	Nushagak Hills	72.29	30	P		P	03 43 53.9	-0.5
	baz=300							
H23K	Yukon River	72.34	23	P		P	03 43 53.8	-0.8
	baz=305							
M18K	Stony River	72.37	28	P		P	03 43 54.1	-0.7
	baz=301							
O16K	Kokwok River B	72.37	31	P		P	03 43 53.6	-1.2
	baz=300							
MLY	Manley	72.38	24	P		P	03 43 54.4	-0.6
MLY	Manley	72.38	24	P		P	03 43 53.9	-1.0
	baz=304							
L19K	White Mountain	72.40	27	P		P	03 43 55.0	0.0
L19K				IAmb		IAmb	03 43 56.5	
	comp=Z,11nm,1.2s							
L19K	White Mountain	72.40	27	P		P	03 43 54.4	-0.6
	baz=302							
CHUM	Lake Minchumin	72.46	25	P		P	03 43 54.2	-1.1
	baz=303							
F25K	Christian Rive	72.53	20	P		P	03 43 54.9	-0.9
	baz=308							
L20K	Farewell, AK	72.63	27	P		P	03 43 56.1	-0.3
	baz=303							
N18K	Kilae Creek	72.77	29	P		P	03 43 56.2	-1.0
N18K	Kilae Creek	72.77	29	P		P	03 43 57.2	-0.1
	baz=301							
I23K	Minto, Yukon-K	72.79	23	P		P	03 43 56.8	-0.4
	baz=306							
CAST	Castle Rocks	72.80	26	P		P	03 43 57.8	+0.4
CAST				IAmb		IAmb	03 43 59.4	
	comp=Z,8.2nm,1.2s							
CAST	Castle Rocks	72.80	26	P		P	03 43 57.2	-0.2
	baz=304,SNR=9.4							
BPAW	Bear Paw Mtn.	72.82	25	P		P	03 43 57.3	-0.2
BPAW				IAmb		IAmb	03 43 59.1	
	comp=Z,17nm,1.4s							
BPAW	Bear Paw Mtn.	72.82	25	P		P	03 43 57.6	+0.1
	baz=304,SNR=6.1							
H24K	Noodor Dome	72.89	22	P		P	03 43 57.4	-0.5
	baz=307							
G25K	Bearman Lake	72.90	21	P		P	03 43 57.4	-0.4
	baz=308							
BMAR	Burnt Mountain	72.95	20	P		P	03 43 58.6	+0.4
PPLA	Purkeypile	73.05	26	P		P	03 43 58.6	-0.5
PPLA	Purkeypile	73.05	26	P		P	03 43 58.2	-0.9
	baz=304							
NEA2	Nenana	73.22	24	P		P	03 43 59.0	-0.8
NEA2	Nenana	73.22	24	P		P	03 43 59.2	-0.6
	baz=306							
M20K	Styx River	73.25	27	IAmb		IAmb	03 44 05.7	
	comp=Z,9.5nm,1.2s							
M20K	Styx River	73.25	27	P		P	03 43 59.2	-0.9
	baz=303							
N19K	Bonanza Creek	73.28	29	P		P	03 43 59.5	-0.8
	baz=302							
E27K	Coleen River	73.33	19	P		P	03 43 59.9	-0.5
	baz=311							
S14K	Fog Glacier	73.34	34	P		P	03 43 59.5	-1.3
	baz=300							
POKR	Poker Plat Res	73.47	23	P		P	03 44 00.5	-0.8
POKR				IAmb		IAmb	03 44 03.1	
	comp=Z,7.9nm,1.1s							
POKR	Poker Plat Res	73.47	23	P		P	03 44 00.9	-0.4
	baz=307							
O18K	Koktuh Hills	73.49	30	P		P	03 44 00.6	-1.0
	baz=302							
G26K	Porcupine Rive	73.50	21	P		P	03 44 01.5	+0.1
	baz=310							
E28M	Babbage River	73.61	18	P		P	03 44 01.4	-0.7
	baz=313							
P18K	Big Mountain,	73.73	30	P		P	03 44 02.3	-0.6
	baz=302							
SKT	Skwentna	73.82	27	IAmb		IAmb	03 44 05.1	
	comp=Z,17nm,1.6s							
SKT	Skwentna	73.82	27	P		P	03 44 02.5	-1.0
	baz=305,SNR=6.5							
PRP	Porcupine Dome	73.86	22	P		P	03 44 03.5	-0.2
PRP				IAmb		IAmb	03 44 05.1	
	comp=Z,11nm,1.2s							
PRP	Porcupine Dome	73.86	22	P		P	03 44 02.6	-1.1
	baz=309							
ILAR	Eielson Array	73.86	23	P		P	03 44 02.8	-0.8
ILAR	Eielson Array	73.86	23	P		P	03 44 03.0	-0.6
	comp=Z,1.9nm,1.0s,baz=303,slow=5.5,SNR=13							
	comp=Z,1.9nm,1.0s							
CHGN	Chignik	73.88	34	P		P	03 44 03.2	-0.6
	baz=301							
SPCR	Spurr Chakacha	73.99	28	P		P	03 44 03.7	-0.8
	baz=304							
Q17K	Contact Creek	74.04	31	P		P	03 44 04.0	-0.8
	baz=302							
HDA	Harding Lake	74.07	23	P		P	03 44 04.3	-0.5
	baz=308							
R17L	Mt. Peulik Vol	74.16	32	P		P	03 44 04.7	-0.7
	baz=302							
E29M	Blow River	74.20	18	P		P	03 44 04.9	-0.6
	baz=314							
F28M	Old Crow	74.20	19	P		P	03 44 04.8	-0.7
	baz=313							
Q18K	Katmai Hardscr	74.22	31	P		P	03 44 05.5	-0.4
	baz=303							
G27K	Doyon Strip	74.22	20	IAmb		IAmb	03 44 08.6	
	comp=Z,13nm,1.4s							
G27K	Doyon Strip	74.22	20	P		P	03 44 05.1	-0.6
	baz=312							
SUA	Susitna One	74.42	27	P		P	03 44 06.7	-0.4
	baz=305							
P19K	Oil Pt	74.44	29	P		P	03 44 06.2	-0.9
	baz=304							
O20K	Slope Mountain	74.45	29	P		P	03 44 05.4	-1.8
	baz=304							
J25K	Salcha River,	74.47	23	P		P	03 44 05.3	-1.9
	baz=309							
H27K	Steamboat Moun	74.65	20	IAmb		IAmb	03 44 10.5	
	comp=Z,13nm,1.1s							
H27K	Steamboat Moun	74.65	20	P		P	03 44 06.9	-1.3
	baz=312,SNR=5.6							
Q19K	Cape Douglas,	74.67	30	P		P	03 44 07.0	-1.4
	baz=304							
I26K	Coal Creek Min	74.75	22	P		P	03 44 06.7	-2.0
	baz=311							
K24K	Donnelly Dome	74.85	24	P		P	03 44 08.2	-1.2
	baz=309							
PMR	Palmer	74.98	26	P		P	03 44 09.4	-0.7
PMR				IAmb		IAmb	03 44 11.0	
	comp=Z,12nm,1.4s							
PMR	Palmer	74.98	26	P		P	03 44 09.4	-0.7
PMR				pmax		pmax		
	comp=Z,12nm,1.4s							
PMR	Palmer	74.98	26	P		P	03 44 09.4	-0.7
	baz=307							
RC01	Rabbit Creek A	75.04	27	P		P	03 44 09.6	-0.9
	baz=306							
I27K	Kandik River	75.04	21	P		P	03 44 10.1	-0.4
	baz=312							
J26L	Joseph Creek	75.15	22	P		P	03 44 10.8	-0.4
	baz=310							
G29M	Pine Creek	75.20	19	P		P	03 44 10.4	-1.0
	baz=315							
RIDG	Independent Ri	75.21	23	IAmb		IAmb	03 44 12.2	
	comp=Z,14nm,1.5s							
RIDG	Independent Ri	75.21	23	P		P	03 44 10.4	-1.1
	baz=310							
KNK	Knik Glacier	75.34	26	P		P	03 44 11.7	-0.5
	baz=307							
SCRK	Sand Creek	75.35	23	P		P	03 44 11.4	-1.0
SCRK	Sand Creek	75.35	23	P		P	03 44 11.9	-0.4
	baz=310							
BRLK	Bradley Lake	75.36	28	P		P	03 44 11.1	-1.3
INK	Inuvik	75.38	17	P		P	03 44 11.6	-0.7
INK				IAmb		IAmb	03 44 14.4	
	comp=Z,9.4nm,1.2s							
INK	Inuvik	75.38	17	P		P	03 44 11.6	-0.7
INK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
INK	Inuvik	75.38	17	P		P	03 44 12.1	-0.2
	baz=318							
Q20K	Shuyak Island	75.38	30	P		P	03 44 12.0	-0.5
	baz=305							
M23K	Glacier View	75.39	26	P		P	03 44 12.0	-0.5
	baz=308							
CHIR	Chirikof Islan	75.47	33	P		P	03 44 12.2	-0.8
	baz=303							
PAX	Paxson	75.48	24	P		P	03 44 12.1	-1.1
	baz=309							
SCM	Sheep Creek Mo	75.51	26	P		P	03 44 12.7	-0.6
	baz=308							
H29M	Whitestone	75.59	20	P		P	03 44 12.9	-0.7
	baz=314							
G30M	tAoh Zraii Nji	75.65	18	P		P	03 44 13.2	-0.8
	baz=316,SNR=6.5							
I28M	Miner Creek	75.66	21	P		P	03 44 13.4	-0.7
	baz=313							
SEW	Seward	75.74	28	P		P	03 44 13.1	-1.3
	baz=307							
M24K	Tolsona, Glenn	75.77	25	P		P	03 44 13.5	-1.3
	baz=309							
KDAK	Kodiak Island	75.77	31	P		P	03 44 13.4	-1.4
	baz=305							
OHAK	Old Harbor	75.78	31	P		P	03 44 13.6	-1.1
	baz=304							
K27K	Chicken	75.95	22	IAmb		IAmb	03 44 17.1	
	comp=Z,14nm,1.6s							
K27K	Chicken	75.95	22	P		P	03 44 13.9	-1.7
	baz=312							
HARP	HAARP	75.95	25	P		P	03 44 14.8	-1.0
	baz=310							
EPYK	Eagle Plains	75.96	19	P		P	03 44 14.0	-1.7
	baz=316							
STKA	Stephens Creek	76.16	140	P		P	03 44 16.9	-0.3
	comp=Z,2.2nm,0.8s,baz=310,slow=10,SNR=3.6							
	comp=Z,2.2nm,0.8s							
GLI	Glacier Island	76.19	26	P		P	03 44 16.4	-0.7
	baz=308							
I29M	Ogilvie Camp,	76.22	20	P		P	03 44 16.7	-0.5
	baz=315							
G31M	Satah River	76.22	18	P		P	03 44 16.4	-0.7
	baz=318							
KLU	Klutina	76.25	26	IAmb		IAmb	03 44 19.2	
	comp=Z,7.7nm,1.1s							
KLU	Klutina	76.25	26	P		P	03 44 16.1	-1.4
	baz=309							
P23K	Montague Islan	76.62	27	P		P	03 44 18.9	-0.6
	baz=308							
N25K	Chitina, Valde	76.67	25	P		P	03 44 19.7	-0.2
	baz=310							
L27K	Beaver Creek,	76.68	23	IAmb		IAmb	03 44 22.2	
	comp=Z,14nm,1.4s							
L27K	Beaver Creek,	76.68	23	P		P	03 44 19.0	-0.9
	baz=312,SNR=8.0							
BCAR	Beaver Creek A	76.69	23	P		P	03 44 20.2	+0.2
M26K	Nabesna, AK	76.72	24	P		P	03 44 19.5	-0.7
	baz=311							
DAWY	Dawson	76.79	21	P		P	03 44 20.4	-0.1
	baz=314							
I30M	Mount Dempster	76.88	20	IAmb		IAmb	03 44 22.2	
	comp=Z,10.0nm,1.3s							
I30M	Mount Dempster	76.88	20	P		P	03 44 20.6	-0.6
	baz=316,SNR=7.4							
H31M	Peel River	77.03	19	IAmb		IAmb	03 44 23.1	
	comp=Z,16nm,1.2s							
H31M	Peel River	77.03	19	P		P	03 44 21.7	-0.1
	baz=318							
BMRM	Bremner River	77.08	26	P		P	03 44 22.1	-0.1
	baz=310							
M27K	Edge Creek, AK	77.14	24	IAmb		IAmb	03 44 24.9	
	comp=Z,10.0nm,1.4s							
M27K	Edge Creek, AK	77.14	24	P		P	03 44 22.3	-0.4
	baz=312							
J30M	Hart River	77.37	20	P		P	03 44 23.2	-0.7
	baz=316							
MCARA	McCarthy VSAT	77.39	25	P		P	03 44 23.3	-0.5
	baz=312							
Q23K	Middleton Isla	77.39	27	P		P	03 44 23.6	-0.2
	baz=309							
ESDC	Sonseca Array	77.40	309	P		P	03 44 23.5	-0.9
ESDC	Sonseca Array	77.40	309	P		P	03 44 23.9	-0.4
	comp=Z,3.6nm,1.2s,baz=50,slow=5.7,SNR=8.5							
	comp=Z,3.6nm,1.2s							
BVCY	Beaver Creek	77.45	23	P		P	03 44 23.8	-0.4
	baz=313							
K29M	Barlow Dome	77.53	21	P		P	03 44 24.0	-0.8
	baz=316							
KAIM	Kayak Island	77.83	26	P		P	03 44 25.5	-0.8
	baz=311							
L29M	L29M	77.87	22	P		P	03 44 25.9	-0.7
	baz=315							
YUK3	Moose Creek	78.03	24	P		P	03 44 26.5	-1.1
	baz=314							
M29M	Somme Creek	78.23	22	P		P	03 44 28.0	-0.7
	baz=315							
CTG	Chitna Glacier	78.27	24	P		P	03 44 27.8	-1.2
	baz=313							
MESA	MESA	78.58	25	P		P	03 44 29.9	-0.9
	baz=313							
YUK8	Steele Glacier	78.61	24	P		P	03 44 30.4	-0.5
	baz=314							
M30M	Minto, Yukon	78.68	22	P		P	03 44 30.7	-0.4
	baz=316							
YUK4	Talbot Arm	78.95	23	P		P	03 44 32.1	-0.6
	baz=315							
PINM	Pinnacle	79.26	25	P		P	03 44 34.2	-0.2
	baz=314							
YUK6	Outpost Mounta	79.33	23	P		P	03 44 34.5	-0.4
	baz=315							
N30M	Aishikik Lake	79.39	23	P		P	03 44 34.1	-0.9
	baz=316							
HYT	Haines Junctio	79.71	23	P		P	03 44 37.3	+0.5
HYT				IAmb		IAmb	03 44 39.0	
	comp=Z,12nm,1.5s							
HYT	Haines Junctio	79.71	23	P		P	03 44 36.8	0.0
	baz=316							
M31M	Drury Creek, Y	79.71	21	P		P	03 44 36.4	-0.2
	baz=318							
N31M	Braeburn, Yuko	79.80	22	P		P	03 44 36.9	-0.3
	baz=317							
PNL	Peninsula	79.87	25	P		P	03 44 37.6	0.0
	baz=315							
MMPY	Sheldon Lake,	80.34	20	P		P	03 44 40.0	-0.1
	baz=321							
P30M	Million Dollar	80.41	23	P		P	03 44 40.3	-0.2
	baz=317							
P29M	Windy Craggy	80.49	24	P		P	03 44 41.0	+0.1
	baz=316							
WHY	Whitehorse	80.71	22	P		P	03 44 42.3	+0.1
	baz=318							
N32M	Quiet Lake	80.92	21	P		P	03 44 43.4	+0.2
	baz=320							
PLBC	Pleasant Camp	81.10	24	P		P	03 44 44.0	-0.1
	baz=317							
SKAG	Skagway	81.45	23	P		P	03 44 45.7	-0.3
	baz=318							
P33M	Teslin, Yukon	81.72	22	P		P	03 44 47.1	-0.5
	baz=320							
P32M	Atlin	81.90	23	IAmb		IAmb	03 44 50.9	
	comp=Z,9.0nm,1.4s							
P32M	Atlin	81.90	23	P		P	03 44 47.4	-1.1
	baz=319							
TGTN	Hyland Airport	82.07	19	P		P	03 44 49.2	-0.1
	baz=324							
R32K	Eaglecrest	82.62	24	P		P	03 44 52.5	+0.3
	baz=319							
Q32M	Nakina River	82.86	22	P		P	03 44 53.6	-0.1
	baz=320							
R33M	Jennings River	82.95	22	P		P	03 44 54.2	+0.1
	baz=322							
DLBC	Dease Lake	84.00	22	P		P	03 44 59.3	-0.1
	baz=322							
S34M	Telegraph Cree	84.06	23	P		P	03 44 59.8	+0.2
	baz=322							
YKA	Yellowknife Ar	84.55	13	P		P	03 45 01.4	-0.6
	comp=Z,0.9nm,1.1s,baz=346,slow=6.1,SNR=3.7							
	comp=Z,0.9nm,1.1s							
YKA	Yellowknife Ar	84.55	13	*i* P		P	03 45 03.7	+1.7
YKA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
U33K	Whale Pass	84.76	25	P		P	03 45 02.4	-0.8
	baz=320							
T35M	Bob Quinn	85.08	23	P		P	03 45 04.5	-0.3
	baz=322							
TOAD	Toad River Com	85.14	20	P		P	03 45 04.2	-0.9
	baz=326							
CRAG	Craig	85.25	25	P		P	03 45 04.4	-1.2
	baz=320							
V35K	Ketchikan	85.91	25	P		P	03 45 08.1	-0.8
	baz=321							
TORD	Torodi Ar. Bea	86.08	283	P		P	03 45 11.0	+0.5

IDC ***12*** *03:35:23.8±1.3, 30°.33N×94°.77E, h0km, mb3.7/6, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=49.6km s-min=21.7km az=60.0*

ISC 12 03:35:27.3±0.9, 30°.4N±0°.1×94°.8E±0°.2, h23km, n9, σ0s 72/9, mb3.8/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.43	161	Pn		Pn	03 38 23.1	+0.2
	0.5nm,0.3s,baz=348,slow=13,SNR=1.9							
	0.6nm,0.3s							
MKAR	Makanchi Array	19.07	333	P		P	03 39 47.9	-0.2
	0.1nm,0.3s,baz=134,slow=12,SNR=3.6							
	1.1nm,0.8s							
SONM	Songino Array	19.59	24	P		P	03 39 53.8	-0.2
	0.4nm,0.6s,baz=218,slow=13,SNR=4.5							
AAK	Ala-Archa	20.36	313	P		P	03 40 02.3	-0.1
	2.4nm,0.5s,baz=88,slow=11,SNR=1.6							
	2.4nm,0.5s							
KURBB	Kurchatov Arra	23.63	334	P		P	03 40 36.2	-0.4
	1.0nm,0.7s,baz=143,slow=11,SNR=4.6							
	1.0nm,0.7s							
ZALV	Zalesovo Beam	24.66	346	P		P	03 40 47.0	+0.8
	0.5nm,0.4s,baz=162,slow=10.0,SNR=2.1							
	0.5nm,0.4s							
BVAR	Borovoye Array	28.82	329	P		P	03 41 24.7	+1.1
	2.0nm,1.0s,baz=140,slow=9.7,SNR=4.6							
	2.0nm,1.0s							
AKASG	Malin Array Be	52.03	313	P		P	03 44 34.0	-0.9
	1.6nm,0.8s,baz=78,slow=6.9,SNR=6.1							
	1.6nm,0.8s							
ASAR	Alice Springs	65.52	141	P		P	03 46 08.9	-0.2
	0.5nm,0.7s,baz=325,slow=6.1,SNR=2.3							
	0.5nm,0.7s							

KRSC ***12*** *03:36:15.3±1.7, 56°.17N×164°.47E, h47km±22km, Ml3.8*
IDC ***12*** *03:36:18.7±2.0, 57°.09N×162°.16E, h0km, mb3.6/4, mbtmp3.6/5, ML2.5/1, MS3.0/3, Error ellipse: s-maj=140.6km s-min=19.4km az=138.0*

ISC 12 03:36:13.9±1.8, 55°.87N±0°.04×164°.15E±0°.06, h17km±11km, n47, σ1s 96/51, mb3.7/4, MS3.1/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.82	295	*e*P		Pn	03 36 31.8	+1.2
KBTR				*e*S		Sn	03 36 42.6	+0.3
KBG	Krutoberegovo	0.90	296	*e*P		Pn	03 36 32.8	+1.2
KBG				*e*S		Sn	03 36 44.6	+0.4
BKI	Bering	1.23	122	*e*P		Pg	03 36 39.6	+2.0
BKI				*e*S		Sn	03 36 56.3	+3.9
SMKR	Semkarok	1.66	297	*e*P		Pg	03 36 45.5	-0.3
SMKR				*e*S		Sb	03 37 06.1	+1.5
BDR	Baidarnaya	1.79	294	*e*S		Sb	03 37 10.2	+2.0
SRKR	Sorokina	1.84	297	*e*S		Sn	03 37 09.5	+2.0
ZLN	Zelenaya	1.89	276	*e*P		Pg	03 36 50.5	+0.5
ZLN				*e*S		Sg	03 37 14.9	+0.4
MKZ	Mys Kozlova	1.91	228	*e*P		Pg	03 36 51.7	+1.3
MKZ				*e*S		Sg	03 37 17.7	+2.5
CIRR	Tsirk	1.93	279	*e*P		Pg	03 36 50.9	0.0
BZGR	Bezymyannyi-Gr	1.94	274	*e*P		Pg	03 36 51.9	+0.7
BZGR				*e*S		Sg	03 37 18.1	+1.7
LGNR	Loginova	1.95	278	*e*S		Sg	03 37 17.4	+0.7
KLY	Klyuchi	2.01	284	*e*P		Pb	03 36 49.4	-0.4
KLY				*e*S		Sn	03 37 14.0	+2.5
BZWR	Bezymyannyi-We	2.06	274	*e*P		Pg	03 36 53.7	+0.3
BZMR	Bezymyannaya	2.06	273	*e*P		Pg	03 36 53.6	+0.2
BZMR				*e*S		Sg	03 37 20.1	0.0
KIRR	Kirishev	2.14	274	*e*P		Pg	03 36 54.1	-0.8
KIRR				*e*S		Sg	03 37 22.6	-0.2
KM

SMAR	**Somma**	**4.06 232**	*e*P		**Pb**	**03 37 22.9**	**-2.0**	
KRX	**Arik**	**4.06 234**	*e*P		**Pb**	**03 37 23.4**	**-1.5**	
UGLR	**Uglovaya**	**4.08 232**	*e*P		**Pb**	**03 37 23.5**	**-1.8**	
AVH	**Avacha**	**4.08 233**	*e*P		**Pb**	**03 37 24.0**	**-1.3**	
KOK	**Koryaka**	**4.11 233**	*e*P		**Pb**	**03 37 24.4**	**-1.4**	
GNL	**Ganaly**	**4.20 241**	*e*P		**Pb**	**03 37 25.5**	**-1.7**	
KRMR	**Karymshinskiy**	**4.65 232**	*e*P		**Pb**	**03 37 32.8**	**-2.1**	
KRMR			*e*S		**Sb**	**03 38 00.0**	**-0.5**	
PETK	**Petropavlovsk-**	**4.66 236**	Pn		**Pb**	**03 37 31.4**	**-3.7**	
	0.9nm,0.3s,baz=62,slow=14,SNR=11							
PETK			Sn		**Sb**	**03 38 29.2**	**-1.7**	
	baz=48,slow=18 1.4nm,0.3s							
GRL	**Gorelyy**	**4.87 230**	*e*P		**Pb**	**03 37 35.4**	**-3.3**	
MTVR	**Mutnovka**	**4.87 228**	*e*P		**Pb**	**03 37 35.0**	**-3.7**	
ASAK	**Asacha**	**5.06 229**	*e*P		**Pb**	**03 37 38.0**	**-4.0**	
TIXI	**Tiksi**	**21.69 330**	LR		LR	03 50 10.2		
	comp=Z,21nm,18.2s,baz=99,slow=41							
ILAR	**Eielson Array**	**25.20 49**	P		P	03 41 47.0	+9.0	
	0.4nm,0.9s,baz=273,slow=9.4,SNR=3.4 0.4nm,0.9s							
MJAR	**Matsushiro Arr**	**26.11 233**	P		P	03 41 52.9	+6.3	
	1.1nm,0.7s,baz=41,slow=7.6,SNR=4.1 1.1nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**36.14 176**	T		T	04 22 15.6		
	baz=357,slow=76,SNR=102							
H11N3	**WAKE ISLAND Hy**	**36.15 176**	T		T	04 22 18.1		
	baz=357,slow=76,SNR=100							
H11N1	**WAKE ISLAND Hy**	**36.15 176**	T		T	04 22 14.3		
	baz=357,slow=76,SNR=108							
PDAR	**Pinedale Array**	**54.15 65**	P		P	03 45 48.6	+11	
	0.4nm,0.3s,baz=306,slow=5.5,SNR=9.7 0.4nm,0.3s							
FINES	**FINESS Array B**	**58.48 338**	LR		LR	04 16 52.1		
	comp=Z,14nm,18.3s,baz=52,slow=43							
TXAR	**Lajitas Array**	**67.43 71**	P		P	03 47 19.7	+11	
	0.6nm,0.7s,baz=306,slow=5.2,SNR=7.5 0.6nm,0.7s							
GNI	**Garni**	**71.44 315**	LR		LR	04 24 37.7		
	comp=Z,18nm,18.1s,baz=116,slow=42							
VNDA	**Vanda**	**133.13 181**	PKP		PKiKP	03 55 36.5	+8.8	
	2.1nm,0.7s,baz=35,slow=5.7,SNR=12							
QSPA	**South Pole Qui**	**145.62 180**	PKPbc		PKiKP	03 56 01.0	+7.4	
	1.3nm,1.1s,baz=4.4,slow=5.0,SNR=7.3							

NEIC ***12*** *04:01:44.3±1.2,36.96N±0.01×99.38W±0.01,h5km±1km, Error ellipse: s-maj=3.0km s-min=2.5km az=314.0*

NEIC 12 04:01:44.2±1.3,36.97N±0.01×99.39W±0.01,h5km±1km, mb_Lg2.8/100,ML2.9/17,ML3.2/9,Error ellipse: s-maj=3.0km s-min=2.5km az=309.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NOKA	**Waynoka**	**0.50**	**132**	Pg		Pg	04 01 54.0	+0.1
NOKA						Sg	04 02 01.0	+0.7
NOKA				IAML			04 02 03.5	
	comp=N,2μm,0.3s							
NOKA				IAML			04 02 05.6	
	comp=E,2μm,0.3s							
OK038	**West end E0370**	**0.72**	**133**	Pg		Pg	04 01 58.0	0.0
OK038				Sg		Sg	04 02 07.4	+0.1
DRZT	**Darrouzett**	**0.90**	**234**			Pg	04 02 01.4	-0.1
DRZT						Sg	04 02 13.9	+0.7
ELIS	**Ellis County**	**0.90**	**181**	Pg		Pg	04 02 01.4	-0.2
ELIS				Sg		Sb	04 02 14.6	-0.2
ELIS				IAML			04 02 19.9	
	comp=N,804nm,0.3s							
ELIS				IAML			04 02 23.6	
	comp=E,753nm,0.2s							
KAN14	**Manchester OK**	**1.14**	**90**	Pg		Pg	04 02 05.3	-0.9
KAN14				Sg		Sg	04 02 20.2	-0.8
CROK	**Carrier**	**1.22**	**112**	Pg		Pg	04 02 07.0	-0.7
CROK				Sg		Sg	04 02 23.5	0.0
CROK				IAML			04 02 26.8	
	comp=E,673nm,0.3s							
GC02	**Grant County #**	**1.23**	**95**	Pg		Pg	04 02 07.0	-0.8
GC02				Sg		Sg	04 02 23.6	-0.3
CSTR	**Hydro, Custer**	**1.44**	**157**			Pn	04 02 11.1	+0.1
R32A	**Long Quarter,**	**1.55**	**20**			Pn	04 02 12.4	-0.1
BLOK	**Blackwell**	**1.76**	**96**	Pn		Pn	04 02 15.8	+0.5
CBKS	**Cedar Bluff**	**1.86**	**352**	Pn		Pn	04 02 17.1	+0.2
CBKS						Sb	04 02 42.6	+0.3
SMWD	**Samnorwood**	**1.99**	**201**	Pn		Pn	04 02 19.1	+0.6
OKCSW	**OKLAHOMA CITY**	**2.22**	**134**	Pn		Pn	04 02 21.9	+0.2
OKCSW				IAmb_Lg			04 02 53.3	
	comp=Z,50nm,0.7s							
WMOK	**Wichita Mounta**	**2.28**	**167**			Sb	04 02 54.5	+0.1
WMOK	**Wichita Mounta**	**2.28**	**167**	Pn		Pn	04 02 22.7	+0.1
OK052	**Battle Ridge R**	**2.30**	**114**	Pn		Pn	04 02 23.2	+0.3
QUOK	**Quay**	**2.30**	**109**	Pn		Pn	04 02 23.3	+0.5
T35A	**Sooner Cattle**	**2.31**	**90**	IAmb_Lg			04 03 03.0	
	comp=Z,45nm,1.1s							
FNO	**Franklin**	**2.35**	**136**	Pn		Pn	04 02 24.0	+0.5
DEOK	**Depew**	**2.59**	**115**	Pn		Pn	04 02 26.7	-0.2
RTBA	**Rita Blanca**	**2.74**	**260**	IAmb_Lg			04 03 18.1	
	comp=Z,25nm,0.8s							
WTFS	**Witchita Falls**	**3.29**	**166**	Pn		Pn	04 02 36.4	0.0
LOOK	**Love County**	**3.48**	**148**	Pn		Pn	04 02 39.6	+0.6
DKNS	**Dickens**	**3.53**	**201**	Pn		Pn	04 02 40.3	+0.5
DKNS				IAmb_Lg			04 03 43.6	
	comp=Z,24nm,1.0s							
RLO	**Rose Lookout**	**3.61**	**102**	Pn		Pn	04 02 41.9	+1.0
RLO				IAmb_Lg			04 03 37.0	
	comp=Z,22nm,1.1s							
T25A	**Trinidad**	**4.02**	**274**	Pn		Pn	04 02 46.6	-0.1
Z35A	**Perchaven, San**	**4.03**	**154**	Pn		Pn	04 02 47.3	+0.7
U38A	**Gravette**	**4.06**	**96**	Pn		Pn	04 02 47.8	+0.8
U38A				IAmb_Lg			04 03 59.5	
	comp=Z,19nm,0.7s							
SN07	**Snyder 07**	**4.06**	**198**	IAmb_Lg			04 04 01.1	
	comp=Z,21nm,0.7s							
MSTX	**Muleshoe**	**4.07**	**224**	IAmb_Lg			04 03 56.4	
	comp=Z,20nm,0.8s							
FW06	**Azle**	**4.26**	**159**	IAmb_Lg			04 04 07.3	
	comp=Z,18nm,0.8s							
POST	**Post**	**4.26**	**205**	Pn		Pn	04 02 49.8	-0.1
POST				IAmb_Lg			04 04 07.4	
	comp=Z,22nm,1.2s							
ABTX	**Abilene, Hawle**	**4.34**	**183**	Pn		Pn	04 02 52.3	+1.3
ABTX				IAmb_Lg			04 04 10.0	
	comp=Z,17nm,0.8s							
HHAR	**Hobbs**	**4.44**	**97**	Pn		Pn	04 02 53.4	+1.2
HHAR				IAmb_Lg			04 04 08.8	
	comp=Z,17nm,0.7s							
OGNE	**Ogallala**	**4.47**	**333**	Pn		Pn	04 02 53.6	+0.9
BGNE	**Belgrade**	**4.54**	**12**	Pn		Pn	04 02 55.6	+2.1
N35A	**Tabor**	**4.86**	**36**	Pn		Pn	04 02 58.4	+0.3
SDCO	**Great Sand Dun**	**4.93**	**281**	Pn		Pn	04 03 00.2	+1.0
SDCO				IAmb_Lg			04 04 19.7	
	comp=Z,20nm,1.1s							
Q24A	**Divide**	**4.97**	**295**	IAmb_Lg			04 04 20.7	
	comp=Z,18nm,0.8s							
TREL	**Terrell**	**5.03**	**146**	IAmb_Lg			04 04 30.7	
	comp=Z,18nm,0.8s							
SGCY	**Sterling City**	**5.24**	**196**	IAmb_Lg			04 04 38.6	
	comp=Z,13nm,0.7s							
MIAR	**Mount Ida**	**5.31**	**115**	Pn		Pn	04 03 05.2	+1.0
MIAR				IAmb_Lg			04 04 39.2	
	comp=Z,14nm,0.9s							
P38A	**Dawn**	**5.32**	**58**	Pn		Pn	04 03 05.2	+1.0
P38A				IAmb_Lg			04 04 40.5	
	comp=Z,23nm,0.8s							
L34A	**Svendsen Farm,**	**5.51**	**24**	Pn		Pn	04 03 06.5	-0.4
ISCO	**Idaho Springs**	**5.65**	**302**	Pn		Pn	04 03 09.7	+0.6
ISCO				IAmb_Lg			04 04 44.8	
	comp=Z,13nm,0.7s							
BRDY	**Brady**	**5.68**	**177**	IAmb_Lg			04 04 49.3	
	comp=Z,18nm,0.8s							
MGMO	**Mountain Grove**	**5.70**	**86**	IAmb_Lg			04 04 47.3	
	comp=Z,19nm,0.9s							
X40A	**Basin Creek Fa**	**5.88**	**113**	Pn		Pn	04 03 13.0	+1.0
X40A				IAmb_Lg			04 04 52.9	
	comp=Z,13nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.96**	**98**	Pn		Pn	04 03 14.3	+1.2
FCAR				IAmb_Lg			04 04 53.5	
	comp=Z,16nm,0.8s							
WHAR	**Wooly Hollow**	**5.99**	**104**	Pn		Pn	04 03 14.5	+1.0
WLAR	**White Oak Lake**	**6.09**	**121**	IAmb_Lg			04 05 12.0	
	comp=Z,12nm,1.0s							
UALR	**University of**	**6.13**	**109**	IAmb_Lg			04 05 07.4	
	comp=Z,11nm,0.7s							
N38A	**Joes South For**	**6.13**	**50**	Pn		Pn	04 03 16.3	+0.8
OZNA	**Ozona**	**6.20**	**194**	Pn		Pn	04 03 17.7	+1.1
OZNA				IAmb_Lg			04 05 10.8	
	comp=Z,12nm,0.8s							
MNHN	**Monahans**	**6.27**	**207**	IAmb_Lg			04 05 08.6	
	comp=Z,12nm,0.9s							
P40A	**Paris**	**6.32**	**64**	Pn		Pn	04 03 17.7	-0.3
P40A				IAmb_Lg			04 05 17.5	
	comp=Z,16nm,0.8s							
JCT	**Junction City**	**6.48**	**183**	IAmb_Lg			04 05 22.6	
	comp=Z,15nm,0.7s							
Z41A	**Richland Creek**	**6.55**	**123**	IAmb_Lg			04 05 24.0	
	comp=Z,9.4nm,0.9s							
LCAR	**Lake Charles**	**6.69**	**95**	Pn		Pn	04 03 24.4	+1.2
SCIA	**State Center**	**6.86**	**42**	Pn		Pn	04 03 24.8	-0.7
SCIA				IAmb_Lg			04 05 24.9	
	comp=Z,18nm,0.9s							
Y22A	**Socorro**	**6.88**	**246**	IAmb_Lg			04 05 39.6	
	comp=Z,10.0nm,1.0s							
ECSD	**EROS Data Cent**	**7.08**	**17**	Pn		Pn	04 03 27.7	-0.8
ECSD				IAmb_Lg			04 05 29.9	
	comp=Z,10nm,0.9s							
PBMO	**Poplar Bluff**	**7.18**	**89**	IAmb_Lg			04 05 46.3	
	comp=Z,12nm,0.8s							
FVM	**French Village**	**7.20**	**79**	IAmb_Lg			04 05 32.2	
	comp=Z,17nm,0.8s							
CGM3	**Cape Girardeau**	**7.78**	**85**	IAmb_Lg			04 05 53.0	
	comp=Z,16nm,1.0s							
K22A	**Casper**	**7.89**	**318**	IAmb_Lg			04 06 16.4	
	comp=Z,10nm,0.8s							
RSSD	**Black Hills**	**7.97**	**335**	IAmb_Lg			04 06 03.7	
	comp=Z,11nm,0.8s							
L40A	**Anamosa**	**8.10**	**49**	IAmb_Lg			04 06 04.6	
	comp=Z,13nm,0.8s							
S44A	**Carbondale**	**8.11**	**82**	Pn		Pn	04 03 42.8	+0.2
OXF	**Oxford**	**8.48**	**104**	Pn		Pn	04 03 48.0	+0.3
Y45A	**Yeager Farm, C**	**8.61**	**108**	IAmb_Lg			04 06 32.3	
	comp=Z,11nm,0.9s							
L42A	**Oliver, Polo**	**9.04**	**53**	IAmb_Lg			04 06 33.3	
	comp=Z,12nm,0.8s							
JFWS	**Jewell Farm**	**9.19**	**47**	IAmb_Lg			04 06 48.9	
	comp=Z,10nm,0.8s							

IDC ***12*** *04:15:06.2±5.3,7.41S×128.21E,h126km±51km,mb3.7/5, mbtmp4.3/8,MS3.1/2,Error ellipse: s-maj=46.4km s-min=18.3km az=51.0*

NEIC ***12*** *04:15:09.4±2.3,7.51S±0.09×128.10E±0.07,h146km±7km, mb4.1/7,Error ellipse: s-maj=12.7km s-min=9.9km az=166.0*

ISC 12 04:15:08.1±0.6,7.59S±0.07×128.15E±0.08,h142km,n33, σ1§86/34,mb3.9/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**3.15**	**97**	Pn		**Pn**	**04 15 59.8**	**+2.8**
SOEI	**Soe**	**4.40**	**240**	Pn		**Pn**	**04 16 16.1**	**+2.5**
BATI	**Baumata**	**5.14**	**239**	P		**Pn**	**04 16 24.2**	**+1.0**
BATI	91nm,0.4s,baz=90,slow=3.2,SNR=17					S	**Sn**	**04 17 23.1**	**+1.3**
	91nm,0.3s,baz=66,slow=4.4,SNR=16							
MTN	**Manton Dam**	**5.99**	**151**	Pn		**Pn**	**04 16 36.1**	**+1.5**
FAKI	**Fak Fak**	**6.18**	**42**	Pn		**Pn**	**04 16 37.3**	**+0.2**
KNRA	**Kununurra**	**8.06**	**176**	Pn		**Pn**	**04 17 03.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**10.73**	**193**	Pn		**Pn**	**04 17 36.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.73**	**193**	P		**Pn**	**04 17 36.4**	**-1.5**
	11nm,0.3s,baz=24,slow=12,SNR=66							
FITZ						S	**Sn**	**04 19 30.8**	**-5.8**
	17nm,0.3s,baz=73,slow=20,SNR=8.5							
WB0	**Warramunga Arr**	**13.54**	**154**	Pn		**Pn**	**04 18 12.9**	**-1.6**
WRAB	**Tennant Creek**	**13.67**	**155**	Pn		**Pn**	**04 18 14.9**	**-1.3**
WRA	**Warramunga Arr**	**13.67**	**155**	Pn		**Pn**	**04 18 12.8**	**-3.4**
WRA	**Warramunga Arr**	**13.67**	**155**	P		**Pn**	**04 18 14.7**	**-1.6**
	7.7nm,0.8s,baz=321,slow=14,SNR=49							
WRA						S	Sn	04 20 37.8	-10
	19nm,0.6s,baz=333,slow=22,SNR=10							
WR8	**Warramunga Arr**	**13.75**	**154**	Pn		**Pn**	**04 18 14.8**	**-2.4**
MBWA	**Marble Bar**	**15.76**	**210**	Pn		**Pn**	**04 18 42.2**	**0.0**
MBWA				IAmb		IAmb	04 18 58.2	
	comp=Z,7.3nm,0.8s							
AS31	**Alice Springs**	**16.92**	**162**	P		**Pn**	**04 18 57.4**	**+0.9**
AS31				IAmb		IAmb	04 18 59.9	
	comp=Z,7.2nm,0.6s							
ASAR	**Alice Springs**	**16.92**	**162**	P		**Pn**	**04 18 56.7**	**+0.2**
ASAR	**Alice Springs**	**16.92**	**162**	P		**Pn**	**04 18 57.3**	**+0.8**
	comp=Z,16nm,0.6s,baz=341,slow=11,SNR=75							
ASAR						S	04 21 50.9	-14
	comp=Z,1.6nm,0.6s,baz=332,slow=17,SNR=4.4							
KKM	**Kota Kinabalu**	**18.03**	**318**	P		**P**	**04 19 08.2**	**-0.3**
KKM				IAmb		IAmb	04 19 17.5	
	comp=Z,6.1nm,0.7s							
SBUM	**Sibu**	**18.76**	**302**	P		**P**	**04 19 16.4**	**0.0**
SBUM				IAmb		IAmb	04 19 19.8	
	comp=Z,3.4nm,0.5s							
MORW	**Morawa**	**24.23**	**207**	P		**P**	**04 20 14.1**	**+2.3**
MORW				IAmb		IAmb	04 20 30.7	
	comp=Z,6.5nm,1.1s							
BBOO	**Buckleboo**	**26.15**	**165**	P		**P**	**04 20 30.4**	**+1.2**
STKA	**Stephens Creek**	**27.23**	**154**	P		**P**	**04 20 39.7**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=322,slow=11,SNR=3.4 comp=Z,0.8nm,0.3s							
JNU	**Nakatsue**	**40.56**	**4**	LR		LR	04 42 29.8	
	comp=Z,20nm,18.0s,baz=176,slow=41							
SONM	**Songino Array**	**58.44**	**343**	P		**P**	**04 24 48.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=151,slow=6.3,SNR=5.5							
SONM				LR		LR	04 52 17.8	
	comp=Z,22nm,20.1s,baz=109,slow=38 comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**67.72**	**328**	P		**P**	**04 25 48.8**	**-1.5**
MKAR	**Makanchi Array**	**67.72**	**328**	P		**P**	**04 25 49.4**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=119,slow=7.7,SNR=15 comp=Z,0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**71.31**	**335**	P		**P**	**04 26 10.9**	**-1.1**
ZALV	**Zalesovo Beam**	**71.31**	**335**	P		**P**	**04 26 10.6**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=140,slow=5.2,SNR=3.5 comp=Z,0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**72.06**	**329**	P		**P**	**04 26 15.2**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=130,slow=5.2,SNR=8.3 comp=Z,0.8nm,0.6s							
ABKAR	**Akbulak array**	**81.83**	**322**	P		**P**	**04 27 09.3**	**-2.0**
QSPA	**South Pole Qui**	**82.39**	**180**	P		**P**	**04 27 15.9**	**+1.7**
CAMR	**Camarioca**	**147.74**	**58**	PKPbc		**PKPbc**	**04 34 37.3**	**+0.4**
LPAZ	**La Paz**	**151.32**	**146**	PKPbc		**PKiKP**	**04 34 47.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=297,slow=4.5,SNR=5.6							

NIED ***12*** *04:36:02.6,31.23N×131.39E,h39km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-3.17; Mθθ-2.94; Mϕϕ6.11; Mrθ3.40; Mrϕ-1.70; Mθϕ2.72; Fault plane solution: Mo7.06000×10¹⁴ NP1: ϕs315.00000°,δ48.00000°,λ-153.00000°. NP2: ϕs206.00000°,δ70.00000°,λ-45.00000°.*

JMA 12 04:36:02.6±0.1,31.2N±0.3×131.4E±0.5,h39km,MV3.5/34, 12D,SE OFF OSUMI PEN,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNAR	**Kushima--Naru**	**0.31**	**342**	⇓P		Pn	04 36 10.7	-0.2
JNAR				⇓*e*S		Sn	04 36 17.0	-0.4
JTSR	**Tashiro 2**	**0.40**	**261**	⇓P		Pn	04 36 11.8	-0.1
JTSR				⇓S		Sn	04 36 19.1	+0.4
JNKG	**Nichinankitago**	**0.43**	**359**	⇓*i*P		Pn	04 36 12.4	+0.1
JNKG				⇓*e*S		Sn	04 36 20.4	+1.2
JTN	**Tanegashima 3**	**0.67**	**211**	⇓P		Pn	04 36 16.2	+0.5
JTN				⇓S		Sn	04 36 26.7	+1.7
JTZ	**Takazaki**	**0.71**	**339**	⇓P		Pn	04 36 16.2	0.0
JTZ				⇓S		Sn	04 36 26.8	+0.7
JSU	**Suzuyama**	**0.84**	**289**	P		Pn	04 36 18.0	0.0
JSU				S		Sn	04 36 30.0	+0.8
JMTN	**Minamitane**	**0.93**	**207**	⇓*e*P		Pn	04 36 19.8	+0.6
JMTN				⇓*e*S		Sn	04 36 33.2	+1.9
JTSN	**Tsuno**	**1.02**	**6**	P		Pn	04 36 20.4	+0.1
JTSN				*e*S		Sn	04 36 33.8	+0.4
JZO	**Okuchi**	**1.13**	**324**	*i*P		Pn	04 36 22.1	+0.2
JZO				*e*S		Sn	04 36 36.8	+0.6
JYAK	**Yakushimahirau**	**1.24**	**218**	P		Pn	04 36 24.4	+0.9

TEH ***12*** *04:52:12.5,35.26N×45.75E,h6km±46km*
ISN ***12*** *04:52:12.5±0.6,35.30N×45.81E,h19km±117km,ML3.7*

ISC 12 04:52:12.8±0.8,35.26N±0.03×45.75E±0.03,h10km,n39, σ2§30/44,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.76**	**190**	Pg		**Pb**	**04 52 28.4**	**+0.3**
IDHR	**Dehrash**	**0.77**	**137**	Pg		**Pb**	**04 52 28.2**	**-0.1**
IDHR				Sg		**Sn**	**04 52 40.2**	**-1.3**
IGHG	**Ghaleghazi**	**1.15**	**144**	Pg		**Pn**	**04 52 35.7**	**+0.6**
GLG1	**Gilan-e-Gharb**	**1.15**	**173**	Pg		**Pn**	**04 52 35.6**	**+0.5**
IKRK	**Kirkuk**	**1.16**	**277**	*e*Pg		**Pb**	**04 52 34.5**	**-0.4**
IKRK				*e*Sg		**Sg**	**04 52 50.0**	**-0.1**
IKRK				AML		AML	04 52 55.2	
	comp=E,2μm,0.6s							
IKRK				AML		AML	04 52 55.8	
	comp=N,1μm,0.5s							
KCHF	**Cheshme Sefid,**	**1.45**	**132**	Pg		**Pg**	**04 52 41.5**	**+0.9**
MAHB	**Mahabad**	**1.50**	**359**	Pg		**Pg**	**04 52 41.7**	**0.0**
SNQR	**Sonqor, Kerman**	**1.59**	**104**	Pg		**Pg**	**04 52 43.4**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.67**	**167**	Pg		**Pg**	**04 52 44.3**	**-0.6**
IBZA	**Bozab**	**1.91**	**114**	Pn		**Pg**	**04 52 48.5**	**-0.8**
IBDR	**Badra**	**2.15**	**176**	*e*Pn		**Pb**	**04 52 50.0**	**-1.8**
IBDR				*e*Sn		**Sb**	**04 53 17.0**	**-1.5**
IBDR				AML		AML	04 53 26.6	
	comp=E,636nm,0.7s							
IBDR				AML		AML	04 53 37.9	
	comp=N,494nm,0.3s							
BHD	**Baghdad**	**2.28**	**210**	*e*Pn		**Pn**	**04 52 52.0**	**+1.5**
BHD				*e*Sn		**Sb**	**04 53 21.0**	**-1.4**
BHD				AML		AML	04 53 26.2	
	comp=E,706nm,0.3s							
IHSH	**Hashtrud**	**2.38**	**31**	Pn		**Pb**	**04 52 55.4**	**-0.6**
IAZR	**Azarshahr**	**2.42**	**4**	Pn		**Pb**	**04 52 55.8**	**-0.8**
IDOB	**Doab**	**2.49**	**125**	Pn		**Pb**	**04 52 56.6**	**-1.0**
HGHA	**Hamedan- Ghaye**	**2.55**	**84**	Pn		**Pb**	**04 52 58.0**	**-0.8**
HAGD	**Aghdareh**	**2.82**	**98**	Pn		**Pb**	**04 53 01.4**	**-2.0**
BDRS	**Dareh Seyedi**	**2.89**	**116**	Pn		**Pb**	**04 53 01.8**	**-2.8**
ISRB	**Sarab**	**2.99**	**31**	Pn		**Pb**	**04 53 03.3**	**-2.9**
ISHB	**Shabestar**	**3.02**	**358**	Pn		**Pn**	**04 53 03.4**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.16**	**81**	Pn		**Pb**	**04 53 05.7**	**-3.5**
IHRS	**Heris**	**3.23**	**18**	Pn		**Pb**	**04 53 07.0**	**-3.3**
RAFI	**Al-Rafai**	**3.54**	**175**	*e*Pn		**Pn**	**04 53 09.0**	**+1.2**
RAFI				*e*Sn		**Sn**	**04 53 50.0**	**+0.3**
GRMI	**Germi**	**3.94**	**25**	Pn		**Pn**	**04 53 16.4**	**+3.0**
GAS1	**Astara - Iran**	**3.99**	**38**	Pn		**Pn**	**04 53 17.4**	**+3.5**
IQOM	**Qom**	**4.39**	**94**	Pn		**Pn**	**04 53 22.7**	**+3.1**
QAMS	**Qamsar**	**4.91**	**106**	Pn		**Pn**	**04 53 30.1**	**+3.3**
IVRN	**Varamin**	**4.91**	**91**	Pn		**Pn**	**04 53 30.0**	**+3.3**
IPIR	**Pirpir**	**4.99**	**120**	Pn		**Pn**	**04 53 30.2**	**+2.2**
JHBN	**Jahan bin**	**5.09**	**125**	Pn		**Pn**	**04 53 31.9**	**+2.5**
IKLH	**Kolahrood**	**5.20**	**110**	Pn		**Pn**	**04 53 34.2**	**+3.3**
ZNGN	**Zangian**	**5.29**	**125**	Pn		**Pn**	**04 53 35.0**	**+2.9**
ISFB	**Sefidab**	**5.42**	**98**	Pn		**Pn**	**04 53 36.7**	**+3.0**
KRSH	**Karshahi**	**5.42**	**102**	Pn		**Pn**	**04 53 37.3**	**+3.5**
IBRJ	**Brojen**	**5.69**	**124**	Pn		**Pn**	**04 53 40.6**	**+3.1**
IZEF	**Zefreh**	**5.95**	**111**	Pn		**Pn**	**04 53 44.4**	**+3.2**
KLNJ	**Kolanjah**	**6.48**	**129**	Pn		**Pn**	**04 53 51.5**	**+2.9**
IRAM	**Ramesheh**	**6.52**	**120**	Pn		**Pn**	**04 53 52.0**	**+3.0**
DSBU	**Dashti - Bushe**	**8.32**	**144**	Pn		**Pn**	**04 54 16.3**	**+2.7**

OTT ***12*** *04:52:30.1±1.4,82.61N×39.32W,h18km,ML4.0/2,332km east from Alert, Nu*
DNK ***12*** *04:52:39.6±3.0,82.75N×44.20W,h8km±25km,ML3.2*

ISC 12 04:52:38.4±1.2,82.40N±0.08×44.62W±0.06,h10km,n14, σ3§14/26,Near north coast of Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NOR	**Nord**	**3.95**	**88**	*i*P		**Pn**	**04 53 39.1**	**+0.1**
NOR				*i*S		**Sn**	**04 54 23.2**	**-2.1**
NOR				IAML			04 54 48.2	
	comp=Z,128nm,0.8s							
NEEM	**North Greenlan**	**5.11**	**196**	*i*P		Pn	04 54 00.7	+5.6
NEEM				*i*S		**Sn**	**04 55 01.7**	**+7.6**
NEEM				IAML			04 55 31.8	
	comp=Z,117nm,0.7s							

GSSP	**Great Sitkin S**	**3.05**	**243**			Pn	06 30 32.1	-0.1	
GSTD	**Great Sitkin T**	**3.05**	**242**			Pn	06 30 31.9	-0.4	
GSCK	**Great Sitkin C**	**3.09**	**242**			Pn	06 30 32.1	-0.4	
UNV	**Unalaska Valle**	**3.14**	**82**			Pn	06 30 32.8	-0.3	
UNV						S	06 31 15.9	-0.4	
ETKA	**Kagalaska Isla**	**3.29**	**241**			Pn	06 30 34.2	-0.6	
ETKA						S	06 31 17.7	-1.8	
ADAG	**Mount Adagdak**	**3.34**	**244**			Pn	06 30 35.3	0.0	
ADK	**Adak**	**3.43**	**243**			Pn	06 30 35.7	-0.6	
ADK						S	06 31 21.4	-0.7	
ADK	**Adak**	**3.43**	**243**		IAML		06 31 24.6		
	comp=N,39nm,2.7s								
ADK					IAML		06 32 10.4		
	comp=N,37nm,3.0s								
ZRO	**Akutan Zero**	**3.47**	**79**			Pn	06 30 37.0	+0.2	
AKUT	**Akutan**	**3.59**	**78**	Pn		Pn	06 30 36.4	-1.6	
AKUT					IAML		06 31 36.6		
	comp=E,35nm,1.5s								
AKUT					IAML		06 31 52.0		
	comp=N,31nm,1.8s								
KIRH	**Kanaga Island**	**3.64**	**245**			Pn	06 30 38.8	+0.1	
KINC	**Kanaga Island**	**3.64**	**246**			Pn	06 30 38.6	-0.1	
KIKV	**Kanaga Island**	**3.69**	**245**			Pn	06 30 39.2	-0.1	
KIWB	**Kanaga Island**	**3.69**	**245**	Pn		Pn	06 30 39.2	-0.1	
KIWB					IAML		06 33 04.7		
	comp=N,29nm,3.3s								
KIMD	**Kanaga Island**	**3.79**	**244**			Pn	06 30 39.9	-0.4	
TAFP	**Tanaga Falls P**	**4.13**	**249**			Pn	06 30 44.2	-0.1	
TANO	**Tanaga North**	**4.20**	**250**			Pn	06 30 45.5	+0.4	
GAKI	**Gareloi-Kavalg**	**4.75**	**248**			Pn	06 30 50.6	-0.9	
AMKA	**Amchitka**	**5.88**	**252**	Pn		Pn	06 31 04.1	-1.2	
P16K	**Nushagak River**	**9.41**	**49**	Pn		Pn	06 31 49.5	+0.1	
PLK4	**Peulik 4**	**9.62**	**59**	Pn		Pn	06 31 51.6	-0.6	
STLK	**Strandline Lak**	**13.29**	**45**			Pn	06 32 37.1	-0.5	
SEW	**Seward**	**13.82**	**53**			P	06 32 44.5	+0.1	
H19K	**Roundabout Mou**	**14.24**	**27**			Pn	06 32 48.5	-0.4	
FID	**Port Fidalgo**	**15.42**	**52**	P		P	06 33 01.0	-1.1	
FID					IAmb	IAmb	06 33 27.8		
	comp=Z,5.0nm,1.1s								
RND	**Reindeer**	**15.43**	**41**			P	06 33 02.1	-0.1	
I23K	**Minto, Yukon-K**	**16.17**	**35**	P		Pn	06 33 11.3	-0.5	
CCB	**Clear Creek Bu**	**16.45**	**38**	P		Pn	06 33 14.4	-0.7	
HDA	**Harding Lake**	**16.65**	**39**	P		P	06 33 16.0	+0.4	
HDA					IAmb	IAmb	06 33 16.6		
	comp=Z,1.8nm,0.4s								
POKR	**Poker Plat Res**	**16.83**	**37**	P		P	06 33 17.8	+0.3	
POKR					IAmb	IAmb	06 33 29.0		
	comp=Z,4.3nm,0.7s								
IL31		**16.86**	**38**	P		P	06 33 17.9	+0.2	
IL31					IAmb	IAmb	06 33 44.5		
	comp=Z,4.9nm,1.4s								
G23K	**Bananza Creek**	**16.92**	**30**	P		P	06 33 18.4	-0.2	
G23K					IAmb	IAmb	06 33 20.0		
	comp=Z,5.0nm,1.2s								
VRDI	**Verde Repeater**	**16.97**	**52**	P		P	06 33 18.9	-0.4	
H24K	**Noodor Dome**	**17.08**	**35**	P		P	06 33 21.3	+1.1	
H24K					IAmb	IAmb	06 33 44.5		
	comp=Z,4.6nm,1.4s								
E21K	**Killik River**	**17.13**	**23**	P		P	06 33 21.3	+0.6	
J25K	**Salcha River,**	**17.35**	**40**	P		P	06 33 23.5	+0.2	
J25K					IAmb	IAmb	06 33 47.2		
	comp=Z,5.7nm,1.5s								
DOT	**Dot Lake**	**17.46**	**44**	P		P	06 33 24.1	-0.3	
DOT					IAmb	IAmb	06 33 36.4		
	comp=Z,6.8nm,1.5s								
SCRK	**Sand Creek**	**17.62**	**43**	P		P	06 33 26.3	0.0	
SCRK					IAmb	IAmb	06 33 26.5		
	comp=Z,2.7nm,0.8s								
J26L	**Joseph Creek**	**18.00**	**41**	P		P	06 33 30.2	-0.1	
J26L					IAmb	IAmb	06 33 30.5		
	comp=Z,1.8nm,0.6s								
PETK	**Petropavlovsk-**	**18.18**	**281**	P		P	06 33 32.1	-0.2	
BCAR	**Beaver Creek A**	**18.23**	**47**	P		P	06 33 32.8	+0.1	
BESE	**Bessie Mountai**	**21.01**	**61**	P		P	06 34 02.9	+0.6	
E29M	**Blow River**	**21.73**	**34**	P		P	06 34 09.8	+1.0	
RADR	**Rader Ridge**	**31.14**	**83**	P		P	06 35 33.2	+0.1	
K02D	**Willamette Mer**	**33.28**	**89**	P		P	06 35 51.4	-0.4	
KSXB	**Camp Six Broad**	**33.67**	**91**	P		P	06 35 55.4	+0.3	
KSXB					IAmb	IAmb	06 36 05.5		
	comp=Z,5.7nm,1.2s								
L02F	**Cave Junction**	**33.68**	**90**	P		P	06 35 55.2	+0.2	
L02F					IAmb	IAmb	06 36 20.0		
	comp=Z,6.0nm,1.4s								
BBOR	**Butler Butte**	**33.76**	**88**	P		P	06 35 54.5	-1.4	
BBOR					IAmb	IAmb	06 36 03.5		
	comp=Z,2.4nm,0.5s								
L04D	**Klamath Falls**	**34.37**	**89**	P		P	06 36 02.0	+0.8	
L04D					IAmb	IAmb	06 36 14.4		
	comp=Z,1.9nm,0.9s								
M02C	**Callahan**	**34.54**	**90**	P		P	06 36 02.3	-0.2	
TULE	**Intermountain**	**35.03**	**88**	P		P	06 36 06.0	-0.7	
BPMT	**Black Pine Rid**	**37.21**	**77**	P		P	06 36 24.7	-0.6	
AB31	**Akbulak array**	**68.66**	**326**	P		P	06 40 12.9	-0.6	
ABKAR	**Akbulak array**	**68.66**	**326**	P		P	06 40 13.5	0.0	

NIED ***12*** *06:37:20.5,45˚.82N×143˚.14E,h345km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.27; Mθθ-0.30; Mφφ0.03; Mrθ1.38; Mθφ0.15; Mφr-0.94; Fault plane solution: M₀1.69000×10¹⁵ NP1: φs272.00000°,δ6.00000°,λ58.00000°. NP2:φs124.00000°, δ85.00000°,λ93.00000°.*

MOS ***12*** *06:37:20.6±0.9,45˚.94N×143˚.02E,h340km,mb4.3/10 Error ellipse: s-maj=12.2km s-min=7.0km az=79.2*

JMA ***12*** *06:37:20.5±0.3,46˚N±2˚×14˚3E±˚,h345km±2km,MV4.2/37, NE OFF HOKKAIDO*

IDC ***12*** *06:37:21.1±0.6,45˚.99N×143˚.01E,h329km±6km,mb3.5/19, mbtmp4.3/27,Error ellipse: s-maj=11.1km s-min=8.9km az=106.0*

NEIC ***12*** *06:37:21.4±1.6,45˚.86N±0˙.08×143˚.1E±0˙.1,h337km±7km, mb4.2/156,Error ellipse: s-maj=14.0km s-min=11.2km az=114.0*

SKHL ***12*** *06:37:21.2±0.1,45˚.90N×143˚.20E,h338km±2km,mb4.8/6, mbv4.6/3,msh4.5/3,msha5.4/6*

ISC 12 06:37:21.0±0.5, 45˚.86N±0˙.04×143˚.18E±0˙.05, h332km±4km, n454, σ0°87/468, mb4.1/100, 3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.00**	**205**			P	**Pn**	**06 38 05.4**	**+0.5**
JSE						S	**S**	**06 38 41.2**	**+1.2**
JWK2	**Keihoku**	**1.05**	**239**	*i*	P	**Pn**	**Pn**	**06 38 06.0**	**+0.9**
JWK2						S	**S**	**06 38 40.3**	**0.0**
YSS	**Yuzhno-Sakhali**	**1.13**	**345**		P	**Pn**	**Pn**	**06 38 06.2**	**+0.9**
YSS	**Yuzhno-Sakhali**	**1.13**	**345**	*ke*	PN	**Pn**	**Pn**	**06 38 06.0**	**+0.8**
YSS				*eS*		**S**	**S**	**06 38 40.4**	**-0.4**
YSS	comp=Z,300nm,2.1s				pmax	pmax			
YSS	comp=Z,210nm,0.5s				pmax	pmax			
YSS	comp=N,290nm,0.9s				smax	smax			
YSS	comp=E,330nm,0.8s				smax	smax			
YSS	comp=N,400nm,2.9s				smax	smax			
YSS	comp=E,300nm,3.0s				smax	smax			
YSS	**Yuzhno-Sakhali**	**1.13**	**345**	*e*	P	**Pn**	**Pn**	**06 38 06.1**	**+0.8**
YSS					AMB	AMB	AMB	06 38 06.3	
YSS	comp=E,300nm,2.0s				AMB	AMB	AMB	06 38 06.3	
YSS	comp=E,200nm,0.3s			*e*	S	**S**	**S**	**06 38 40.3**	**-0.5**
YSS					A	A	A	06 38 42.2	
YSS	comp=E,370nm,0.9s				A	A	A	06 38 42.2	
YSS	comp=E,330nm,0.9s				A	A	A	06 38 43.0	
YSS	comp=E,400nm,3.0s				A	A	A	06 38 43.0	
NEVR	**Nevel`sk**	**1.23**	**312**	*e*	P	**Pn**	**Pn**	**06 38 06.2**	**+0.4**
KHLM	**Kholmsk**	**1.42**	**327**	*e*	P	**Pn**	**Pn**	**06 38 07.7**	**+0.9**
KHLM				*e*	S	**S**	**S**	**06 38 43.9**	**+0.4**
KHLM	comp=E,400nm,0.3s				A	A	A	06 38 44.3	
KHLM	comp=E,730nm,0.3s				A	A	A	06 38 44.3	
JRR	**Rishiri**	**1.50**	**242**	P		P	**Pn**	**06 38 08.0**	**+0.6**
JRBN	**Rebuntou**	**1.55**	**254**	P		P	**Pn**	**06 38 07.6**	**0.0**
JRBN						S	**S**	**06 38 43.0**	**-1.9**
JSS	**Shosan**	**1.74**	**213**	P		P	**Pn**	**06 38 09.5**	**+0.6**
ASAJ	**Asahikawa**	**1.80**	**194**	P		P	**Pn**	**06 38 10.1**	**+0.8**
	comp=E,297nm,0.6s,baz=14,slow=7.0,SNR=284								
ASAJ						S	**S**	**06 38 49.0**	**+1.0**
	comp=E,25nm,0.8s,baz=110,slow=32,SNR=0.9								
ASAJ	**Asahikawa**	**1.80**	**194**	*i*	P	**Pn**	**Pn**	**06 38 10.0**	**+0.8**
ASAJ						S	**S**	**06 38 49.2**	**+1.2**
JKA	**Kamikawa-asahi**	**1.80**	**193**		Pn	**Pn**	**Pn**	**06 38 10.2**	**+0.8**
JMP	**Maruseppu**	**1.86**	**176**	*i*	P	**Pn**	**Pn**	**06 38 10.3**	**+0.5**
JYG	**Yagishiri**	**1.90**	**221**		P	**Pn**	**Pn**	**06 38 10.4**	**+0.4**
JTKR	**Abashiri--Toko**	**1.96**	**164**	*i*	P	**Pn**	**Pn**	**06 38 11.2**	**+0.7**
JTKR						S	**S**	**06 38 50.8**	**+0.7**
JKK2	**Kamakawa 2**	**2.02**	**189**		P	**Pn**	**Pn**	**06 38 11.6**	**+0.7**
JKK2				*e*	S	**S**	**S**	**06 38 52.0**	**+1.2**
JHR	**Hokuryu**	**2.36**	**207**	*e*	P	**Pn**	**Pn**	**06 38 14.1**	**+0.6**
JRA	**Rausu**	**2.37**	**144**	*e*	P	**Pn**	**Pn**	**06 38 14.4**	**+0.9**
JRA				*e*	S	**S**	**S**	**06 38 57.0**	**+1.3**
JAR	**Ashorobuto**	**2.60**	**170**	*i*	P	**Pn**	**Pn**	**06 38 16.2**	**+0.6**
YUK	**Yuzh-Kuril`sk**	**2.64**	**133**	*e*	S	**S**	**S**	**06 38 59.5**	**-0.3**
JAK	**Akkeshi**	**3.07**	**159**		P	**Pn**	**Pn**	**06 38 19.1**	**-0.6**
JAK					S	**S**	**S**	**06 39 04.2**	**-2.6**
AKK	**Akkeshi**	**3.08**	**157**	*e*	P	**Pn**	**Pn**	**06 38 18.9**	**-1.0**
NMR	**Nemuro--Hokkai**	**3.09**	**143**	*e*	P	**Pn**	**Pn**	**06 38 19.7**	**-0.2**
NMR				*e*	S	**S**	**S**	**06 39 04.0**	**-3.1**
NEM2	**Nemuro 2**	**3.10**	**143**	*e*	P	**Pn**	**Pn**	**06 38 18.0**	**-2.0**
NEM2					S	**S**	**S**	**06 39 03.4**	**-3.9**
JCH	**Churui**	**3.25**	**178**	*i*	P	**Pn**	**Pn**	**06 38 20.4**	**-1.1**
JCH					S	**S**	**S**	**06 39 05.7**	**-4.3**
JEW	**Eniwo**	**3.27**	**203**		P	**Pn**	**Pn**	**06 38 22.5**	**+0.8**
SHO	**Shikotan**	**3.27**	**126**	*e*	PN	**Pn**	**Pn**	**06 38 23.0**	**+1.4**
SHO				*e*	S	**S**	**S**	**06 39 09.4**	**-0.9**
SHO	comp=N,427nm,0.2s				smax	smax			
SHO	comp=E,411nm,0.2s				smax	smax			
SHO	**Shikotan**	**3.27**	**126**	*e*	P	**Pn**	**Pn**	**06 38 22.8**	**+1.2**
SHO					AMB	AMB		06 38 25.2	
SHO	comp=E,40nm,0.2s				AMB	AMB		06 38 26.0	
SHO	comp=E,240nm,3.0s			*e*	S	**S**	**S**	**06 39 09.9**	**-0.4**
SHO					A	A		06 39 14.5	
SHO	comp=E,430nm,0.2s				A	A		06 39 14.5	
SHO	comp=E,410nm,0.2s								
UGL	**Uglegorsk**	**3.30**	**347**	*i*	PN	**Pn**	**Pn**	**06 38 22.8**	**+1.1**
UGL					pmax	pmax			
UGL	comp=Z,400nm,0.5s				AMB	AMB		06 38 23.3	
	comp=E,350nm,0.5s								
UGL	**Uglegorsk**	**3.30**	**347**	*i*	P	**Pn**	**Pn**	**06 38 22.8**	**+1.1**
ERM	**Erimo**	**3.85**	**180**		Pn	**Pn**	**Pn**	**06 38 27.4**	**-0.1**
ERM	**Erimo**	**3.85**	**180**		PN	**Pn**	**Pn**	**06 38 27.4**	**-0.1**
JOSM	**Okushiri--Mats**	**4.63**	**217**	*i*	P	**Pn**	**Pn**	**06 38 35.1**	**-0.6**
JOT	**Ohata**	**4.74**	**200**	*i*	P	**Pn**	**Pn**	**06 38 35.8**	**-1.2**
TYV	**Tymovskoe**	**5.01**	**356**	*e*	PN	**Pn**	**Pn**	**06 38 39.7**	**-0.1**
TYV				*e*	S	**S**	**S**	**06 39 42.9**	**-0.5**
TYV	comp=Z,24nm,0.9s				pmax	pmax			
TYV	comp=Z,100nm,3.2s				pmax	pmax			
TYV	comp=N,29nm,1.4s				smax	smax			
TYV	comp=E,28nm,1.4s				smax	smax			
TYV	comp=N,200nm,4.9s				smax	smax			
TYV	comp=E,200nm,4.9s				smax	smax			
TYV	**Tymovskoe**	**5.01**	**356**	*e*	P	**Pn**	**Pn**	**06 38 39.9**	**+0.1**
TYV					AMB	AMB		06 38 40.1	
TYV	comp=E,20nm,0.5s				AMB	AMB		06 38 40.9	
TYV	comp=E,170nm,3.0s			*e*	S	**S**	**S**	**06 39 42.8**	**-0.6**
TYV					A	A		06 39 44.5	
TYV	comp=E,30nm,0.7s				A	A		06 39 44.5	
TYV	comp=E,20nm,0.7s				A	A		06 39 47.5	
TYV	comp=E,200nm,3.0s				A	A		06 39 47.5	
TYV	comp=E,200nm,3.0s								
JTM	**Tenmabayashi**	**5.30**	**198**		Pn	**Pn**	**Pn**	**06 38 41.9**	**-1.4**
USA0B	**Ussuriysk Arra**	**8.10**	**262**		Pn	**Pn**	**Pn**	**06 39 15.7**	**-0.3**
USA0B	**Ussuriysk Arra**	**8.10**	**262**		PN	**Pn**	**Pn**	**06 39 15.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**8.10**	**262**		Pn	**Pn**	**Pn**	**06 39 15.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**8.10**	**262**		P	**Pn**	**Pn**	**06 39 16.5**	**+0.4**
	comp=E,6.9nm,0.5s,baz=71,slow=12,SNR=19								
JMM	**Marumori**	**8.19**	**193**		Pn	**Pn**	**Pn**	**06 39 16.1**	**-1.1**
MDJ	**Mudanjiang**	**9.67**	**267**		Pn	**Pn**	**Pn**	**06 39 33.6**	**-1.3**
MJB9	**Matsu-Tunnel**	**10.03**	**204**			**Pn**	**Pn**	**06 39 39.7**	**+0.2**
MAJO	**Matsushiro**	**10.04**	**204**			**Pn**	**Pn**	**06 39 39.7**	**+0.2**
MAJO	**Matsushiro**	**10.04**	**204**		PN	**Pn**	**Pn**	**06 39 39.7**	**+0.2**
MJAR	**Matsushiro Arr**	**10.04**	**204**			**Pn**	**Pn**	**06 39 39.8**	**+0.3**
MJAR	**Matsushiro Arr**	**10.04**	**204**		P	**Pn**	**Pn**	**06 39 39.7**	**+0.2**
	comp=E,11nm,0.7s,baz=6.9,slow=13,SNR=41								
MJAR	**Matsushiro Arr**	**10.04**	**204**		PN	**Pn**	**Pn**	**06 39 39.8**	**+0.3**
JGF	**Kuroka**	**11.16**	**205**			**Pn**	**Pn**	**06 39 52.6**	**-0.4**
HEH	**HeiHe**	**11.43**	**298**	*e*	P	**Pn**	**Pn**	**06 39 55.5**	**-0.4**
HEH	comp=Z,10.0nm,0.7s				pmax	pmax			
INU	**Inuyama**	**11.50**	**206**			**Pn**	**Pn**	**06 39 56.0**	**-1.0**
JSG	**Sagara**	**11.81**	**201**			**Pn**	**Pn**	**06 40 00.9**	**+0.2**
PEA0B	**Petropavlovsk-**	**11.89**	**47**			**P**	**P**	**06 40 03.5**	**+1.6**
PEA0B	**Petropavlovsk-**	**11.89**	**47**		PN	**P**	**P**	**06 40 03.5**	**+1.6**
PETK	**Petropavlovsk-**	**11.89**	**47**			**P**	**P**	**06 40 03.2**	**+1.2**
PETK	**Petropavlovsk-**	**11.89**	**47**		P	**Pn**	**Pn**	**06 40 00.8**	**-0.7**
	comp=Z,3.5nm,0.6s,baz=236,slow=10,SNR=7.2								
PETK	**Petropavlovsk-**	**11.89**	**47**		PN	**P**	**P**	**06 40 03.2**	**+1.2**
PET	**Petropavlovsk**	**12.34**	**49**		P	**P**	**P**	**06 40 07.1**	**+0.2**
KSRS	**Korea Array**	**14.15**	**239**		P	**Pn**	**Pn**	**06 40 28.1**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=51,slow=11,SNR=10								
MA2	**Magadan**	**14.47**	**16**		P	**Pn**	**Pn**	**06 40 31.1**	**-0.8**
MA2	**Magadan**	**14.47**	**16**		P	**P**	**P**	**06 40 30.5**	**+0.2**
	comp=Z,14nm,0.6s,baz=208,slow=14,SNR=9.4								
MA2	**Magadan**	**14.47**	**16**		P	**Pn**	**Pn**	**06 40 31.1**	**-0.8**
JNU	**Nakatsue**	**15.85**	**221**		P	**Pn**	**Pn**	**06 40 47.2**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=112,slow=1.8,SNR=5.3								
SEY	**Seymchan**	**17.89**	**14**		P	**P**	**P**	**06 41 07.3**	**0.0**
	comp=Z,26nm,0.4s,baz=197,slow=9.3,SNR=35								
SEY	**Seymchan**	**17.89**	**14**	*e*	P	**P**	**P**	**06 41 06.6**	**-0.7**
SEY	comp=Z,34nm,0.9s				pmax	pmax			
YAK	**Yakutsk**	**17.97**	**339**		P	**P**	**P**	**06 41 05.9**	**-2.3**
	comp=Z,13nm,0.3s,baz=121,slow=3.5,SNR=7.6								
YAK					S	**S**	**S**	**06 44 16.1**	**-0.5**
	comp=Z,13nm,0.4s,baz=107,slow=21,SNR=7.2								
HHC	**Hu-ho-hao-te**	**23.44**	**269**	*e*	P	**P**	**P**	**06 42 03.0**	**+1.4**
HHC	comp=Z,20nm,0.7s				pmax	pmax			
HHC	comp=Z,110nm,3.9s				pmax	pmax			
SONM	**Songino Array**	**25.09**	**288**		P	**P**	**P**	**06 42 16.3**	**-0.1**
SONM	**Songino Array**	**25.09**	**288**		P	**P**	**P**	**06 42 15.4**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=77,slow=9.0,SNR=5.7								
SONM					ScP	**ScP**	**ScP**	**06 48 47.8**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=128,slow=2.4,SNR=4.3								
	comp=Z,1.0nm,0.4s								
SONM	**Songino Array**	**25.09**	**288**		P	**P**	**P**	**06 42 16.3**	**-0.1**
SONM					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KIWB	**Kanaga Island**	**26.52**	**62**		P	**P**	**P**	**06 42 29.1**	**+0.2**
ADK	**Adak**	**26.81**	**62**		P	**P**	**P**	**06 42 31.4**	**0.0**
ADK	**Adak**	**26.81**	**62**		P	**P**	**P**	**06 42 31.4**	**0.0**
ADK	comp=Z,44nm,1.3s				pmax	pmax			
SPIA	**Saint Paul Isl**	**30.51**	**51**		P	**P**	**P**	**06 43 01.4**	**-2.4**
	baz=268								
GAMB	**Gambell**	**30.69**	**38**		P	**P**	**P**	**06 43 02.8**	**-2.5**
	baz=256								
P08K	**Saint George I**	**30.88**	**52**		P	**P**	**P**	**06 43 05.4**	**-1.8**
	baz=270								
GTA	**Gaotai**	**32.23**	**274**		P	**P**	**P**	**06 43 20.2**	**+0.9**
GTA					pmax	pmax			
	comp=Z,12nm,0.7s								
TNA	**Tin City**	**32.69**	**35**		P	**P**	**P**	**06 43 21.5**	**-1.2**
	baz=257								
F14K	**Arctic Creek**	**33.32**	**36**		P	**P**	**P**	**06 43 27.1**	**-1.0**
	baz=259								
ANM	**Nome**	**33.56**	**38**		P	**P**	**P**	**06 43 29.7**	**-0.6**
	baz=261								
K13K	**Kusilvak Mount**	**33.59**	**42**		P	**P**	**P**	**06 43 29.0**	**-1.5**
	baz=266								
M13K	**Dall Lake**	**34.16**	**45**		P	**P**	**P**	**06 43 34.6**	**-0.7**
	baz=269								
J14K	**Nanvaranak Lak**	**34.16**	**41**		P	**P**	**P**	**06 43 34.9**	**-0.5**
	baz=266								
G15K	**Niukluk**	**34.19**	**37**		P	**P**	**P**	**06 43 34.5**	**-1.0**
	baz=262								
C16K	**Lisburne Hills**	**34.31**	**31**		P	**P**	**P**	**06 43 35.3**	**-1.2**
C16K						IAmb	IAmb	06 43 35.4	
	comp=Z,4.3nm,0.7s								
C16K	**Lisburne Hills**	**34.31**	**31**		P	**P**	**P**	**06 43 35.0**	**-1.5**
	baz=256								
L14K	**Kuka Creek**	**34.50**	**44**		P	**P**	**P**	**06 43 37.3**	**-1.0**
	baz=269								
M14K	**Bethel**	**34.85**	**45**		P	**P**	**P**	**06 43 41.9**	**+0.8**
M14K						IAmb	IAmb	06 44 01.4	
	comp=Z,16nm,1.2s								
M14K	**Bethel**	**34.85**	**45**		P	**P**	**P**	**06 43 39.9**	**-1.3**
	baz=270								
H16K	**Elim**	**34.91**	**38**		P	**P**	**P**	**06 43 40.5**	**-1.2**
	baz=264								
N14K	**Kuskokwak Cree**	**35.00**	**46**		P	**P**	**P**	**06 43 41.2**	**-1.2**
N14K	**Kuskokwak Cree**	**35.00**	**46**		P	**P**	**P**	**06 43 41.1**	**-1.3**
	baz=272								
D17K	**Noatak River**	**35.02**	**32**		P	**P**	**P**	**06 43 41.2**	**-1.4**
	baz=259								
K15K	**Wolf Creek Mou**	**35.08**	**42**		P	**P**	**P**	**06 43 43.4**	**+0.2**
K15K						IAmb	IAmb	06 43 48.8	
	comp=Z,18nm,1.5s								
K15K	**Wolf Creek Mou**	**35.08**	**42**		P	**P**	**P**	**06 43 41.7**	**-1.5**
	baz=268								
S12K	**Black Hills**	**35.12**	**53**		P	**P**	**P**	**06 43 43.5**	**-0.1**
S12K						IAmb	IAmb	06 44 14.0	
	comp=Z,20nm,1.2s								
S12K	**Black Hills**	**35.12**	**53**		P	**P**	**P**	**06 43 42.5**	**-1.1**
	baz=277								
C17K	**DeLong Mountai**	**35.14**	**31**		P	**P**	**P**	**06 43 42.7**	**-1.0**
	baz=258								
RDOG	**Red Dog Mine**	**35.16**	**32**		P	**P**	**P**	**06 43 42.6**	**-1.2**
	baz=259								
O14K	**Tigyukauivet M**	**35.24**	**47**		P	**P**	**P**	**06 43 44.1**	**-0.4**
O14K	**Tigyukauivet M**	**35.24**	**47**		P	**P**	**P**	**06 43 43.5**	**-1.0**
	baz=273								
E17K	**Hotham Inlet**	**35.39**	**34**		P	**P**	**P**	**06 43 44.8**	**-0.9**
	baz=261,SNR=6.5								
M15K	**Kasigluk River**	**35.48**	**45**		P	**P**	**P**	**06 43 46.0**	**-0.5**
	baz=271								
I17K	**Unalakleet**	**35.53**	**39**		P	**P**	**P**	**06 43 46.9**	**+0.1**
I17K	**Unalakleet**	**35.53**	**39**		P	**P**	**P**	**06 43 46.0**	**-0.9**
	baz=267								
F17K	**Baldwin Pennin**	**35.53**	**35**		P	**P**	**P**	**06 43 46.3**	**-0.6**
F17K						IAmb	IAmb	06 44 21.5	
	comp=Z,13nm,1.4s								
F17K	**Baldwin Pennin**	**35.53**	**35**		P	**P**	**P**	**06 43 46.6**	**-0.3**
	baz=263								
J16K	**Anvik River**	**35.54**	**40**		P	**P**	**P**	**06 43 47.0**	**0.0**
J16K						IAmb	IAmb	06 44 26.8	
	comp=Z,11nm,1.4s								
J16K	**Anvik River**	**35.54**	**40**		P	**P**	**P**	**06 43 45.9**	**-1.1**
	baz=268								
G17K	**Kiwalik Mounta**	**35.67**	**36**		P	**P**	**P**	**06 43 47.2**	**-0.9**
	baz=265								
N15K	**Kwethluk River**	**35.79**	**46**		P	**P**	**P**	**06 43 49.5**	**+0.3**
N15K						IAmb	IAmb	06 43 51.6	
	comp=Z,5.3nm,0.6s								
N15K	**Kwethluk River**	**35.79**	**46**		P	**P**	**P**	**06 43 48.4**	**-0.8**
	baz=272								
B18K	**Kokolik River**	**35.81**	**30**		P	**P**	**P**	**06 43 48.5**	**-0.8**
	baz=258								
C18K	**Utukok River**	**35.89**	**31**		P	**P**	**P**	**06 43 48.8**	**-1.2**
C18K						IAmb	IAmb	06 44 02.1	
	comp=Z,13nm,1.4s								
C18K	**Utukok River**	**35.89**	**31**		P	**P**	**P**	**06 43 48.7**	**-1.2**
	baz=260								
E18K	**Tukpahlearik C**	**35.91**	**33**		P	**P**	**P**	**06 43 49.7**	**-0.4**
E18K	**Tukpahlearik C**	**35.91**	**33**		P	**P**	**P**	**06 43 49.5**	**-0.6**
	baz=262								
H17K	**Granite Mounta**	**35.93**	**37**		P	**P**	**P**	**06 43 50.3**	**0.0**
H17K	**Granite Mounta**	**35.93**	**37**		P	**P**	**P**	**06 43 48.9**	**-1.5**
	baz=266								
O15K	**Ungalikthiuk R**	**35.98**	**47**		P	**P**	**P**	**06 43 51.1**	**+0.3**
O15K						IAmb	IAmb	06 44 15.2	
	comp=Z,7.0nm,1

comp=Z,0.6nm,0.4s
B20K Meade River 37.52 29 P P 06 44 02.8 -0.7
B20K Meade River 37.52 29 P P 06 44 02.8 -0.7
baz=262
D20K Etivluk River 37.56 31 P P 06 44 03.2 -0.7
D20K IAmb IAmb 06 44 03.6
comp=Z,9.0nm,0.7s
D20K Etivluk River 37.56 31 P P 06 44 03.4 -0.5
baz=264
Q16K King Salmon 37.67 48 P P 06 44 04.1 -0.8
baz=277
E20K Nigu River 37.67 32 P P 06 44 03.8 -1.1
baz=265
F20K Avaraart Lake 37.77 34 P P 06 44 04.9 -0.7
F20K Avaraart Lake 37.77 34 P P 06 44 05.5 -0.1
baz=267
J19K Poorman 37.77 39 P P 06 44 05.6 -0.1
J19K Poorman 37.77 39 P P 06 44 05.2 -0.4
baz=271
M18K Stony River 37.80 43 P P 06 44 05.6 -0.3
baz=274
N18K Kilae Creek 37.83 45 P P 06 44 07.0 +0.8
N18K Kilae Creek 37.83 45 P P 06 44 05.5 -0.7
baz=275
A21K Barrow 37.90 27 P P 06 44 06.0 -0.6
baz=261
R17L Mt. Peulik Vol 37.97 50 P P 06 44 06.9 -0.5
baz=279
PLK4 Peulik 4 37.97 50 P P 06 44 08.1 +0.5
PLK4 IAmb IAmb 06 44 14.5
comp=Z,6.5nm,1.1s
H20K Anotleneega Mo 38.07 37 P P 06 44 07.9 -0.3
baz=270,SNR=8.9
Q17K Contact Creek 38.12 48 P P 06 44 08.3 -0.5
baz=278
L19K White Mountain 38.20 42 P P 06 44 09.2 -0.1
L19K White Mountain 38.20 42 P P 06 44 08.9 -0.4
baz=274
I20K Naaghedeneel 38.25 38 P P 06 44 09.3 -0.3
baz=271
C21K Knifeblade Rid 38.26 31 P P 06 44 08.8 -0.8
baz=265
O18K Koktuh Hills 38.26 46 P P 06 44 09.7 -0.1
baz=277
P18K Big Mountain, 38.31 47 P P 06 44 10.8 +0.5
P18K Big Mountain, 38.31 47 P P 06 44 09.9 -0.3
baz=277
B21K Ikpikpuk River 38.36 30 P P 06 44 10.1 -0.4
B21K IAmb IAmb 06 44 10.4
comp=Z,10nm,0.7s
B21K Ikpikpuk River 38.36 30 P P 06 44 10.1 -0.4
baz=265
J20K Nowinta River 38.41 39 P 06 44 11.2 +0.3
J20K Nowinta River 38.41 39 P P 06 44 10.4 -0.6
baz=272,SNR=6.0
M19K Big River Lodg 38.44 42 P P 06 44 11.0 -0.3
baz=275
K20K Telida 38.48 40 P P 06 44 11.1 -0.5
baz=273
E21K Killik River 38.51 32 P P 06 44 11.1 -0.7
baz=267
N19K Bonanza Creek 38.51 44 P P 06 44 11.4 -0.5
baz=276
Q18K Katmai Hardscr 38.52 48 P P 06 44 11.5 -0.7
baz=279
IMAR Indian Mountai 38.54 36 P P 06 44 11.6 -0.4
G21K Allakaket 38.63 35 P 06 44 13.0 +0.2
G21K IAmb IAmb 06 44 13.6
comp=Z,9.2nm,0.8s
G21K Allakaket 38.63 35 P P 06 44 12.4 -0.4
baz=270,SNR=6.7
L20K Farewell, AK 38.63 41 P P 06 44 12.3 -0.6
baz=275
F21K Alatna River 38.65 34 P P 06 44 12.7 -0.2
baz=269
WMQ Urumqi 38.72 288 *eP P 06 44 16.5 +2.6
WMQ pmax pmax
comp=Z,24nm,0.7s
B22K Teshekpuk Lake 38.83 29 P P 06 44 14.2 -0.1
baz=265
H21K Melozitna Rive 38.93 36 P P 06 44 14.9 -0.4
baz=272
R18K Karluk 38.99 49 P P 06 44 16.1 +0.3
baz=280
M20K Styx River 39.04 42 P P 06 44 16.1 -0.2
baz=276
F22K John River 39.16 33 P P 06 44 17.0 -0.1
baz=270
Q19K Cape Douglas, 39.18 47 P P 06 44 17.2 -0.2
baz=279,SNR=5.8
CHUM Lake Minchumin 39.23 39 P P 06 44 17.4 -0.3
baz=274
P19K Oil Pt 39.28 46 P P 06 44 17.7 -0.5
baz=279
I21K Tanana 39.29 37 P P 06 44 18.0 -0.2
baz=273
E22K Anaktuvuk Pass 39.30 32 IAmb IAmb 06 44 18.5
comp=Z,6.2nm,0.6s
E22K Anaktuvuk Pass 39.30 32 P P 06 44 17.9 -0.4
baz=270
SII Sitkinak Islan 39.33 51 P P 06 44 18.8 +0.2
baz=282
CAST Castle Rocks 39.37 40 P P 06 44 19.2 +0.3
baz=275
PPLA Purkeypile 39.37 41 P P 06 44 18.7 -0.3
baz=276
G22K Bettles 39.42 34 P P 06 44 19.5 +0.2
baz=271
H22K Ishtalitna Cre 39.51 36 P P 06 44 20.3 +0.3
baz=273
OHAK Old Harbor 39.68 50 P 06 44 21.5 +0.1
OHAK Old Harbor 39.68 50 P P 06 44 20.9 -0.5
baz=282
D23K Nanushuk River 39.72 31 P P 06 44 21.0 -0.7
baz=270
C23K Itkillik River 39.76 30 P P 06 44 21.8 -0.2
baz=268
SKT Skwentna 39.78 42 P P 06 44 21.6 -0.7
baz=277
BPAW Bear Paw Mtn. 39.80 39 P P 06 44 21.4 -1.0
baz=275
MLY Manley 39.83 37 P P 06 44 22.2 -0.5
baz=274
Q20K Shuyak Island 39.88 47 P P 06 44 22.6 -0.4
baz=281
KDAK Kodiak Island 39.94 49 P P 06 44 23.3 -0.2
baz=281
G23K Bananza Creek 40.02 35 P P 06 44 23.9 -0.3
baz=273
HOM Homer 40.07 46 P P 06 44 24.6 0.0
baz=280
CAPN Captain Cook N 40.13 44 P P 06 44 25.0 -0.1
baz=279
TRF Thorofare Moun 40.17 40 P P 06 44 25.2 -0.4
baz=276
SUA Susitna One 40.22 43 P P 06 44 26.0 0.0
baz=278
H23K Yukon River 40.27 36 P P 06 44 26.6 +0.4
baz=274
I23K Minto, Yukon-K 40.40 37 P P 06 44 27.3 +0.1
baz=275
NEA2 Nenana 40.58 38 P P 06 44 28.8 0.0
baz=276
MCK McKinley 40.74 39 P P 06 44 30.3 +0.2
baz=277
O22K Cooper Landing 40.87 44 P P 06 44 30.2 -0.9
baz=280
PMR Palmer 40.97 42 P P 06 44 31.1 -0.8
baz=280
COLA College 41.07 37 P P 06 44 31.7 -0.9
baz=277
CCB Clear Creek Bu 41.12 38 P P 06 44 32.5 -0.5
MKAR Makanchi Array 41.12 294 P P 06 44 32.4 -1.0
comp=Z,0.6nm,0.6s,baz=76,slow=6.4,SNR=6.2
MKAR ScP ScP 06 49 43.1 +0.2
comp=Z,0.2nm,0.4s,baz=57,slow=4.5,SNR=2.4
comp=Z,0.6nm,0.6s
POKR Poker Plat Res 41.21 37 P P 06 44 32.7 -1.1
baz=277
KNK Knik Glacier 41.31 43 P P 06 44 33.9 -0.9
baz=280
PWL Port Wells 41.48 43 P P 06 44 34.7 -1.3
baz=281
ILAR Eielson Array 41.49 37 P P 06 44 35.3 -0.8
comp=Z,1.4nm,0.6s,baz=264,slow=6.7,SNR=23
comp=Z,1.4nm,0.6s
HDA Harding Lake 41.51 38 P P 06 44 35.6 -0.7
baz=278

M23K Glacier View 41.59 42 P P 06 44 36.3 -0.6
baz=280
H25L Birch Creek 41.74 35 P P 06 44 37.6 -0.4
baz=277
SCM Sheep Creek Mo 41.77 42 P P 06 44 37.5 -0.9
baz=281
PRP Porcupine Dome 41.96 36 IAmb IAmb 06 44 41.2
comp=Z,4.4nm,0.5s
PRP Porcupine Dome 41.96 36 P P 06 44 38.9 -1.1
baz=278
P23K Montague Islan 42.11 45 P P 06 44 41.0 0.0
baz=283
K24K Donnelly Dome 42.12 39 P P 06 44 41.0 -0.2
baz=280
J25K Salcha River, 42.16 38 P P 06 44 41.4 -0.1
baz=279
C27K Jago River 42.17 30 P P 06 44 41.5 0.0
baz=275
F26K Sheenjek River 42.22 33 P P 06 44 41.9 0.0
baz=277
M24K Tolsona, Glenn 42.25 41 P P 06 44 42.0 -0.2
baz=281
G26K Porcupine Rive 42.45 34 P P 06 44 43.7 0.0
baz=278
KLU Klutina 42.49 42 P P 06 44 43.6 -0.6
baz=282
RIDG Independent Ri 42.53 39 P P 06 44 44.0 -0.6
baz=281
EYAK Cordova Ski Ar 42.78 43 P P 06 44 46.5 +0.1
baz=283
SCRK Sand Creek 42.87 38 P 06 44 46.6 -0.7
SCRK IAmb IAmb 06 44 47.5
comp=Z,5.1nm,0.4s
SCRK Sand Creek 42.87 38 P P 06 44 46.7 -0.6
baz=281
J26L Joseph Creek 42.95 37 P P 06 44 47.1 -0.7
baz=281
I26K Coal Creek Min 42.97 36 P P 06 44 47.3 -0.6
baz=280
N25K Chitina, Valde 43.09 42 P P 06 44 48.7 -0.3
baz=283
G27K Doyon Strip 43.30 34 P P 06 44 50.6 0.0
baz=280
M26K Nabesna, AK 43.64 40 P P 06 44 53.4 +0.1
baz=284
K27K Chicken 43.68 38 P P 06 44 53.5 0.0
baz=282
F28M Old Crow 43.84 33 P P 06 44 54.7 -0.1
baz=281
MCARA McCarthy VSAT 43.87 42 P P 06 44 55.1 0.0
baz=284
D28M Stokes Point 43.95 30 P P 06 44 55.9 +0.4
baz=280
L27K Beaver Creek, 44.01 39 P P 06 44 56.5 +0.3
L27K Beaver Creek, 44.01 39 P P 06 44 56.5 +0.3
baz=284
BCAR Beaver Creek A 44.02 39 P P 06 44 57.3 +1.0
BGLC Bering Glacier 44.08 44 P P 06 44 57.2 +0.5
baz=286
M27K Edge Creek, AK 44.16 40 P P 06 44 57.8 +0.3
baz=284
I28M Miner Creek 44.26 36 P P 06 44 58.3 +0.1
baz=283
ISLE Juniper Island 44.40 43 P P 06 44 59.4 0.0
ISLE IAmb IAmb 06 45 01.2
comp=Z,4.8nm,0.4s
BVCY Beaver Creek 44.60 40 P P 06 45 00.8 0.0
baz=285
G29M Pine Creek 44.69 33 P P 06 45 00.3 -1.1
baz=283
H29M Whitestone 44.72 34 P P 06 45 01.3 -0.3
baz=283
CTG Chitna Glacier 44.77 42 P P 06 45 01.7 -0.6
baz=286
DAWY Dawson 44.82 38 P P 06 45 02.3 -0.2
baz=285
I29M Ogilvie Camp, 44.95 36 P P 06 45 03.4 0.0
baz=284
YUK3 Moose Creek 44.95 41 P P 06 45 03.4 -0.4
baz=286
CHTO Chiang Mai 45.29 248 P P 06 45 06.9 +0.2
CHTO IAmb IAmb 06 45 39.6
comp=Z,7.7nm,0.5s
CHTO Chiang Mai 45.29 248 P P 06 45 06.9 +0.2
CHTO pmax pmax
comp=Z,8.0nm,0.5s
EPYK Eagle Plains 45.33 34 P P 06 45 06.2 -0.3
baz=284
G30M tAoh Zraii Nji 45.36 33 P P 06 45 06.3 -0.4
baz=284
F30M Barrier River 45.37 32 P P 06 45 06.0 -0.8
baz=284
PINM Pinnacle 45.54 43 P P 06 45 07.1 -1.2
baz=288
L29M L29M 45.62 39 P 06 45 10.3 +1.5
L29M L29M 45.62 39 P P 06 45 08.2 -0.5
baz=286
M29M Somme Creek 45.66 40 P P 06 45 08.9 -0.3
baz=287
K29M Barlow Dome 45.67 38 P P 06 45 09.1 -0.2
baz=286
I30M Mount Dempster 45.76 35 P P 06 45 09.9 0.0
baz=286
YUK4 Talbot Arm 45.91 41 P P 06 45 11.0 -0.3
baz=288
J30M Hart River 45.97 36 P P 06 45 11.2 -0.3
baz=287
BVAR Borovoye Array 45.98 307 P P 06 45 10.4 -1.2
comp=Z,0.5nm,0.4s,baz=74,slow=5.8,SNR=2.6
BVAR ScP ScP 06 50 02.8 +0.2
comp=Z,0.5nm,0.4s,baz=72,slow=4.7,SNR=2.5
comp=Z,0.5nm,0.4s
INK Inuvik 46.02 31 P P 06 45 11.3 -0.4
baz=285
G31M Satah River 46.12 33 P P 06 45 12.2 -0.3
baz=286
YUK6 Outpost Mounta 46.17 42 P P 06 45 12.6 -0.7
baz=288
M30M Minto, Yukon 46.36 39 P P 06 45 13.3 -1.2
baz=288
H31M Peel River 46.41 34 P P 06 45 14.1 -0.7
baz=287
N30M Aishikik Lake 46.59 41 P P 06 45 16.7 +0.4
baz=289
HYT Haines Junctio 46.60 42 P P 06 45 16.7 +0.2
baz=289,SNR=6.9
P29M Windy Craggy 46.89 43 P P 06 45 20.4 +1.9
P29M IAmb IAmb 06 45 21.2
comp=Z,5.2nm,0.7s
P29M Windy Craggy 46.89 43 P P 06 45 19.6 +1.0
baz=290
P30M Million Dollar 47.09 42 P P 06 45 21.0 +0.9
baz=290
N31M Braeburn, Yuko 47.17 40 P P 06 45 21.5 +0.8
baz=290
M31M Drury Creek, Y 47.54 39 P P 06 45 24.0 +0.5
baz=290
PLBC Pleasant Camp 47.61 43 P P 06 45 24.8 +0.8
baz=291
WHY Whitehorse 47.87 41 P P 06 45 26.7 +0.6
baz=291
S31K Pelican 48.23 45 P P 06 45 28.6 -0.1
baz=292
KSH Kashi 48.49 288 P P 06 45 37.1 +5.9
KSH pmax pmax
comp=Z,3.0nm,0.6s
N32M Quiet Lake 48.51 40 P P 06 45 30.9 +0.1
baz=292
MMPY Sheldon Lake, 48.75 38 P P 06 45 33.1 +0.4
baz=292
P32M Atlin 48.81 42 P P 06 45 34.0 +0.8
baz=293
R32K Eaglecrest 48.95 44 P P 06 45 34.3 +0.1
baz=293
P33M Teslin, Yukon 48.99 41 P P 06 45 35.0 +0.5
baz=293
SIT Sitka 49.03 46 P 06 45 36.9 +2.1
SIT IAmb IAmb 06 45 37.7
comp=Z,4.8nm,0.7s
SIT Sitka 49.03 46 P P 06 45 36.9 +2.1
SIT pmax pmax
comp=Z,5.0nm,0.7s
SIT Sitka 49.03 46 P P 06 45 35.3 +0.5
baz=294
S32K Killisnoo 49.24 45 P P 06 45 35.1 -1.2
baz=294
ARSB Arslanbob 49.54 291 P P 06 45 40.3 +1.2
ARSB IAmb IAmb 06 45 44.0

comp=Z,8.2nm,0.5s
ARSB Arslanbob 49.54 291 P P 06 45 40.3 +1.2
ARSB pmax pmax
comp=Z,8.0nm,0.5s
Q32M Nakina River 49.74 43 P P 06 45 39.1 -1.3
baz=294
LUWI Luwuk 50.07 207 P P 06 45 42.5 -0.6
R33M Jennings River 50.17 42 P P 06 45 43.4 -0.1
baz=295
KK31 Karatay Array 50.24 295 P P 06 45 44.7 +0.6
KK31 Karatay Array 50.24 295 P P 06 45 44.7 +0.6
KK31 pmax pmax
comp=Z,2.0nm,0.8s
TGTN Hyland Airport 50.48 38 P P 06 45 46.3 +0.7
baz=295
U33K Whale Pass 50.54 46 P P 06 45 47.0 +1.0
baz=296
S34M Telegraph Cree 50.73 43 P P 06 45 48.2 +0.8
baz=296
CRAG Craig 50.82 47 P P 06 45 49.6 +1.5
CRAG Craig 50.82 47 P P 06 45 48.7 +0.6
baz=296
WTLY Watson Lake, Y 50.86 40 P P 06 45 48.7 +0.3
WTLY Watson Lake, Y 50.86 40 P P 06 45 48.5 0.0
baz=296
DLBC Dease Lake 51.03 42 P P 06 45 50.4 +0.6
baz=296
T35M Bob Quinn 51.57 44 P P 06 45 54.3 +0.6
baz=297
V35K Ketchikan 51.65 47 P P 06 45 55.0 +0.8
baz=297
WRGLY Wrigley 51.74 35 P P 06 45 55.0 +0.2
baz=297
SPITS Spitsbergen Ar 52.15 348 P P 06 45 55.8 -1.9
comp=Z,6.6nm,1.0s,baz=58,slow=11,SNR=1.9
comp=Z,6.6nm,1.0s
LIRD Liard River Hi 52.40 40 P P 06 46 00.3 +0.6
baz=298
KOTAN Kotaneelee Air 52.96 39 P P 06 46 03.5 -0.2
baz=299
TOAD Toad River Com 53.05 41 P P 06 46 05.3 +0.8
baz=299
YKA Yellowknife Ar 55.60 33 P P 06 46 22.7 +0.1
comp=Z,2.6nm,0.6s,baz=307,slow=7.5,SNR=45
comp=Z,2.6nm,0.6s
ARCES ARCESS Array B 56.26 338 P P 06 46 26.0 -1.1
comp=Z,4.4nm,1.0s,baz=46,slow=7.2,SNR=2.0
comp=Z,4.4nm,1.0s
ARCES ARCESS Array B 56.26 338 P P 06 46 26.0 -1.1
PGC Sidney 59.46 50 P P 06 46 50.1 +0.8
PGC IAmb IAmb 06 46 59.5
comp=Z,4.1nm,0.9s
NLWA Neilton Lookou 59.97 52 P P 06 46 54.6 +1.6
NLWA IAmb IAmb 06 46 56.2
comp=Z,5.7nm,0.9s
ILON Igloolik, Nuna 60.41 17 P P 06 46 55.1 -0.3
BLKN Baker Lake 60.80 25 P P 06 46 58.2 0.0
FIA1 FINESS Array S 61.68 331 P P 06 47 03.9 -0.2
FINES FINESS Array B 61.68 331 P P 06 47 03.3 -0.8
FINES FINESS Array B 61.68 331 P P 06 47 02.9 -1.2
comp=Z,2.6nm,0.5s,baz=45,slow=7.6,SNR=22
comp=Z,2.6nm,0.5s
FINES FINESS Array B 61.68 331 P P 06 47 03.3 -0.8
B08A Colville Reser 61.82 49 P P 06 47 05.9 +0.6
SUMG Summit 61.86 1 P P 06 47 05.7 +0.1
SUMG Summit 61.86 1 P P 06 47 05.7 +0.1
SUMG pmax pmax
comp=Z,22nm,1.5s
OBN Obninsk 61.92 321 *eP P 06 47 03.9 -1.8
OBN *e 06 47 45.1
OBN *e*PP pP 06 48 18.9 +1.4
OBN *e 06 49 27.6
OBN pmax pmax
comp=Z,8.0nm,0.9s
I02E Swisshome, OR 61.96 55 P P 06 47 08.1 +1.8
I02E IAmb IAmb 06 47 19.3
comp=Z,9.7nm,1.2s
I03D Drain, OR 62.50 55 P P 06 47 11.9 +2.1
I03D IAmb IAmb 06 47 12.4
comp=Z,3.7nm,0.6s
H04A Detroit Lake 62.55 53 P P 06 47 11.7 +1.5
H04A IAmb IAmb 06 47 12.5
comp=Z,3.2nm,0.7s
HAWA Hanford 62.94 50 P P 06 47 13.6 +1.0
HAWA IAmb IAmb 06 47 14.4
comp=Z,2.1nm,0.6s
NEW Newport 63.03 48 P P 06 47 14.0 +0.7
NEW IAmb IAmb 06 47 21.3
comp=Z,4.9nm,1.4s
NEW Newport 63.03 48 P P 06 47 14.0 +0.7
NEW pmax pmax
comp=Z,5.0nm,1.4s
I05D Terrebonne, OR 63.23 53 P P 06 47 15.8 +1.1
I05D IAmb IAmb 06 47 17.0
comp=Z,2.8nm,0.7s
J04A Umpqua Nationa 63.49 54 P P 06 47 17.6 +1.1
J04A IAmb IAmb 06 47 19.1
comp=Z,6.2nm,0.7s
PINE Pine Mountain 63.80 53 P P 06 47 20.0 +1.5
J05D Fort Rock, OR 63.96 54 P P 06 47 20.6 +1.1
J05D IAmb IAmb 06 47 22.2
comp=Z,3.8nm,0.9s
L04D Klamath Falls 64.02 55 P 06 47 21.2 +1.3
L04D IAmb IAmb 06 47 22.4
comp=Z,4.9nm,0.7s
YBH Yreka Blue Hor 64.09 56 P P 06 47 22.5 +2.2
YBH Yreka Blue Hor 64.09 56 P P 06 47 22.5 +2.2
YBH pmax pmax
comp=Z,2.0nm,0.8s
PLID Pearl Lake 65.67 50 P 06 47 31.2 +0.7
OVMT Ovando 65.92 47 P P 06 47 32.8 +0.8
WRA Warramunga Arr 65.98 189 P P 06 47 32.6 +0.2
comp=Z,0.9nm,0.6s,baz=5.8,slow=6.6,SNR=7.4
WRA PcP PcP 06 48 00.3 +0.2
comp=Z,0.4nm,0.5s,baz=1.0,slow=4.9,SNR=4.8
comp=Z,0.9nm,0.6s
NOA NORSAR Array B 66.58 337 P P 06 47 34.0 -1.8
comp=Z,0.8nm,0.7s,baz=35,slow=6.4,SNR=3.4
comp=Z,0.8nm,0.7s
NOA NORSAR Array B 66.58 337 P P 06 47 34.0 -1.8
HFS Hagfors 66.61 335 P P 06 47 34.9 -1.0
comp=Z,1.9nm,0.4s,baz=47,slow=6.5,SNR=14
comp=Z,1.9nm,0.4s
EGMT Eagleton 66.89 44 P P 06 47 37.9 -0.1
EGMT IAmb IAmb 06 47 39.7
comp=Z,7.3nm,1.1s
LRM Limekiln Ridge 67.04 47 P P 06 47 39.5 +0.3
BOZ Bozeman (W) 67.61 47 P P 06 47 43.0 +0.4
BOZ IAmb IAmb 06 47 44.2
comp=Z,3.1nm,0.5s
BOZ Bozeman (W) 67.61 47 P P 06 47 43.0 +0.4
BOZ pmax pmax
comp=Z,3.0nm,0.5s
RYN Ryan 68.55 56 IAmb IAmb 06 47 50.8
comp=Z,2.6nm,0.9s
NVAR Mina Array Bea 68.81 56 P P 06 47 51.8 +1.6
comp=Z,2.1nm,0.7s,baz=300,slow=6.3,SNR=24
comp=Z,2.1nm,0.7s
LHV Little Huntoon 68.81 57 IAmb IAmb 06 47 52.8
comp=Z,4.2nm,1.0s
ASAR Alice Springs 69.71 189 P P 06 47 56.9 +1.4
comp=Z,2.5nm,0.5s,baz=4.2,slow=5.7,SNR=46
comp=Z,2.5nm,0.5s
PDAR Pinedale Array 70.65 48 P P 06 48 01.9 +0.7
PDAR Pinedale Array 70.65 48 P P 06 48 02.0 +0.7
comp=Z,2.3nm,0.7s,baz=294,slow=1.6,SNR=27
comp=Z,2.3nm,0.7s
SPR3 Spring Creek 3 70.69 54 P 06 48 03.1 +1.4
SPR3 IAmb IAmb 06 48 04.4
comp=Z,5.3nm,1.4s
TPNV Topopah Spring 71.01 56 IAmb IAmb 06 48 06.0
comp=Z,4.2nm,0.9s
GWY Greenwater Val 71.28 57 IAmb IAmb 06 48 07.0
comp=Z,3.2nm,0.7s
ULM Lac du Bonnet 71.47 36 P P 06 48 05.5 -0.2
comp=Z,2.8nm,0.5s,baz=301,slow=4.9,SNR=6.9
comp=Z,2.8nm,0.5s
HMU Henry Mountain 73.44 52 IAmb IAmb 06 48 19.8
comp=Z,4.2nm,0.7s
U15A North Rim 73.65 54 P 06 48 20.8 +1.7
U15A IAmb IAmb 06 48 21.6
comp=Z,2.9nm,0.9s
BC3 Big Chuckawall 73.76 58 P P 06 48 19.2 -0.3
PV23 Carpenter Ridg 74.03 51 P P 06 48 19.6 -1.5
PV23 IAmb IAmb 06 48 23.2
comp=Z,4.7nm,0.7s

PV10	**Paradox Valley**	**74.06**	**51**	P	**P**	**06 48 22.7**	**+1.3**
PV22	**Blue Mesa, Par**	**74.09**	**51**	IAmb	IAmb	06 48 23.3	
	comp=Z,3.3nm,0.7s						
CLL	**Collm**	**74.10**	**330**	*e*P	**P**	**06 48 21.0**	**0.0**
PV20	**West Nyswonger**	**74.13**	**51**	IAmb	IAmb	06 48 23.6	
	comp=Z,5.2nm,0.8s						
PV19	**Morning Glory**	**74.14**	**51**	P	**P**	**06 48 22.6**	**+0.8**
EYMN	**Ely**	**75.05**	**35**	P	**P**	**06 48 26.1**	**-0.5**
EYMN				IAmb	IAmb	06 48 27.4	
	comp=Z,8.7nm,1.3s						
MVCO	**Mesa Verde**	**75.20**	**52**	P	**P**	**06 48 28.0**	**+0.1**
MVCO				IAmb	IAmb	06 48 29.8	
	comp=Z,2.1nm,0.6s						
EKA	**Eskdalemuir Ar**	**75.24**	**341**	P	**P**	**06 48 27.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=16,slow=4.9,SNR=3.8						
	comp=Z,0.3nm,0.4s						
X16A	**Lo Mia Camp, P**	**75.56**	**55**	P	**P**	**06 48 29.6**	**-0.3**
E38A	**The Farm, Brul**	**76.11**	**35**	P	**P**	**06 48 32.3**	**-0.2**
ECSD	**EROS Data Cent**	**76.23**	**40**	P	**P**	**06 48 33.5**	**+0.2**
ECSD				IAmb	IAmb	06 48 33.8	
	comp=Z,3.3nm,0.6s						
SDCO	**Great Sand Dun**	**76.43**	**49**	P	**P**	**06 48 35.7**	**+0.9**
SCHQ	**Schefferville**	**76.50**	**17**	P	**P**	**06 48 34.4**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=297,slow=6.8,SNR=5.1						
	comp=Z,2.6nm,0.7s						
ARSA	**Arzberg**	**76.53**	**326**	P	**P**	**06 48 34.5**	**-0.4**
I37A	**Lemond, Waseca**	**77.43**	**38**	P	**P**	**06 48 39.4**	**-0.5**
H43A	**Windswept, Lux**	**79.38**	**34**	P	**P**	**06 48 51.0**	**+0.5**
H43A				IAmb	IAmb	06 48 51.3	
	comp=Z,4.4nm,0.7s						
JFWS	**Jewell Farm**	**79.66**	**37**	P	**P**	**06 48 51.9**	**-0.1**
JFWS				IAmb	IAmb	06 48 52.4	
	comp=Z,2.4nm,0.5s						
JFWS	**Jewell Farm**	**79.66**	**37**	P	**P**	**06 48 51.9**	**-0.1**
JFWS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
VLDQ	**Val d'Or**	**79.89**	**26**	P	**P**	**06 48 52.5**	**-0.6**
AMTX	**Amarillo**	**80.61**	**49**	P	**P**	**06 48 56.5**	**-0.8**
AMTX				IAmb	IAmb	06 49 04.9	
	comp=Z,3.8nm,1.1s						
P38A	**Dawn**	**80.90**	**41**	P	**P**	**06 48 58.9**	**+0.3**
GC02	**Grant County #**	**81.04**	**45**	P	**P**	**06 48 59.1**	**-0.3**
SMWD	**Samnorwood**	**81.19**	**48**	P	**P**	**06 49 01.0**	**+0.8**
SMWD				IAmb	IAmb	06 49 02.1	
	comp=Z,3.5nm,0.7s						
T35A	**Sooner Cattle**	**81.65**	**44**	P	**P**	**06 49 02.1**	**-0.5**
LMQ	**La Malbaie**	**82.44**	**22**	P	**P**	**06 49 06.4**	**-0.1**
TRQ	**Mont Tremblant**	**82.46**	**25**	P	**P**	**06 49 06.7**	**+0.1**
R40A	**Maddies Statio**	**82.56**	**41**	P	**P**	**06 49 07.5**	**+0.3**
R40A				IAmb	IAmb	06 49 07.9	
	comp=Z,4.2nm,1.0s						
RLO	**Rose Lookout**	**82.97**	**44**	P	**P**	**06 49 09.2**	**-0.1**
RLO				IAmb	IAmb	06 49 24.6	
	comp=Z,5.7nm,1.0s						
SFIN	**Lafayette**	**83.08**	**36**	P	**P**	**06 49 10.2**	**+0.4**
SFIN				IAmb	IAmb	06 49 45.3	
	comp=Z,4.3nm,1.0s						
D62A	**Allapoint, All**	**83.21**	**22**	P	**P**	**06 49 10.3**	**0.0**
CCM	**Cathedral Cave**	**83.21**	**40**	P	**P**	**06 49 10.6**	**+0.1**
CCM				IAmb	IAmb	06 49 11.4	
	comp=Z,2.0nm,0.7s						
CCM	**Cathedral Cave**	**83.21**	**40**	P	**P**	**06 49 10.6**	**+0.1**
CCM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
N47A	**Urbana**	**83.23**	**35**	P	**P**	**06 49 09.8**	**-0.8**
N47A				IAmb	IAmb	06 49 10.7	
	comp=Z,2.8nm,0.6s						
P46A	**Rosedale**	**83.67**	**37**	P	**P**	**06 49 13.2**	**+0.4**
TX31	**Lajitas Ar. Si**	**83.76**	**54**	P	**P**	**06 49 14.2**	**+0.6**
TX31				IAmb	IAmb	06 49 15.6	
	comp=Z,3.5nm,1.2s						
TXAR	**Lajitas Array**	**83.76**	**54**	P	**P**	**06 49 14.9**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=295,slow=4.6,SNR=28						
	comp=Z,0.8nm,0.4s						
BATG	**Bathurst New B**	**83.76**	**20**	P	**P**	**06 49 13.9**	**+0.8**
MMNY	**Mt. Morris Dam**	**84.51**	**29**	P	**P**	**06 49 17.4**	**+0.4**
F64A	**Sherman**	**84.52**	**22**	P	**P**	**06 49 17.2**	**+0.3**
F64A				IAmb	IAmb	06 49 53.9	
	comp=Z,5.1nm,1.0s						
FCAR	**Ozark Folk Cen**	**84.58**	**42**	P	**P**	**06 49 17.7**	**+0.3**
FCAR				IAmb	IAmb	06 49 17.7	
	comp=Z,2.3nm,0.4s						
H62A	**Milan**	**84.95**	**24**	P	**P**	**06 49 19.6**	**+0.5**
J59A	**Piesco**	**84.97**	**27**	P	**P**	**06 49 19.4**	**+0.1**
PAOC	**Oil Creek Stat**	**84.97**	**31**	P	**P**	**06 49 19.6**	**+0.3**
WHAR	**Wooly Hollow**	**84.99**	**43**	P	**P**	**06 49 19.9**	**+0.5**
WHAR				IAmb	IAmb	06 49 20.5	
	comp=Z,6.9nm,1.3s						
L56A	**Greenwood**	**85.16**	**29**	P	**P**	**06 49 20.3**	**0.0**
L56A				IAmb	IAmb	06 49 42.1	
	comp=Z,7.3nm,1.3s						
O53A	**New Philadelph**	**85.51**	**32**	P	**P**	**06 49 22.4**	**+0.4**
I63A	**Otisfield**	**85.60**	**24**	P	**P**	**06 49 23.1**	**+0.8**
M57A	**Sunshine Farm,**	**86.02**	**29**	P	**P**	**06 49 24.5**	**+0.1**
Q54A	**Coxs Mills**	**86.76**	**33**	P	**P**	**06 49 29.0**	**+1.0**
TZTN	**Tazewell**	**87.80**	**36**	P	**P**	**06 49 33.8**	**+0.8**
TZTN				IAmb	IAmb	06 49 54.2	
	comp=Z,6.2nm,1.2s						
SWET	**Sewanee**	**87.93**	**38**	P	**P**	**06 49 34.1**	**+0.4**
SWET				IAmb	IAmb	06 49 34.4	
	comp=Z,3.4nm,0.9s						
TKL	**Tuckaleechee C**	**88.47**	**37**	P	**P**	**06 49 36.8**	**+0.7**
TKL	**Tuckaleechee C**	**88.47**	**37**	P	**P**	**06 49 36.8**	**+0.7**
TKL				pmax	pmax		
	comp=Z,10.0nm,1.5s						
SIV	**San Ignacio**	**143.96**	**42**	PKP	PKPbc	06 56 16.3	+0.1
	comp=Z,0.7nm,0.4s,baz=279,slow=7.1,SNR=6.0						
SNAA	**Sanae**	**149.53**	**200**	PKPab	**PKPab**	**06 56 36.8**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=225,slow=1.4,SNR=5.6						

IDC 12 06:55:05.8±2.6, 1°.54S×128°.67E, h0km, mb3.3/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=197.9km s-min=28.7km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.11**	**164**	P	P	06 59 30.6	+0.1
	0.1nm,0.3s,baz=347,slow=12,SNR=5.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**22.57**	**167**	P	P	07 00 08.1	+0.2
	0.8nm,0.7s,baz=346,slow=11,SNR=8.1						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**62.97**	**326**	P	P	07 05 34.2	-0.2
	0.3nm,0.6s,baz=133,slow=8.5,SNR=2.9						
	0.3nm,0.6s						

*IDC **12** 07:08:46.9±1.0, 36°.92N×142°.22E, h0km, mb3.5/5, mbtmp3.6/10, ML3.3/5, MS2.4/2, Error ellipse: s-maj=23.7km s-min=20.0km az=125.0*
*JMA **12** 07:08:50.2±0.3, 37°.0N±0°.7×14°.2E±°, h43km, MD4.1/36, MV3.7/36, E OFF FUKUSHIMA PREF*
*NIED **12** 07:08:50.2, 36°.96N×141°.98E, h43km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.82; $M_{\theta\theta}$1.36; $M_{\phi\phi}$0.46; $M_{r\theta}$1.07; $M_{\theta\phi}$-0.27; $M_{\phi r}$4.65; Fault plane solution: $M_0$4.90000×10^{14} NP1:ϕ_s7.00000°, δ7.00000°, λ-95.00000°. NP2:ϕ_s193.00000°, δ83.00000°, λ-89.00000°.*

ISC 12 07:08:48.5±2.8, 36°.96N±0°.05×141°.99E±0°.08, h13km±16km, n32, σ1s14/30, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.97**	**279**	P	**Pb**	**07 09 07.3**	**+0.1**
JFK	**Kawauchi**	**0.98**	**295**	P	**Pb**	**07 09 07.5**	**+0.1**
JFK				S	**Sg**	**07 09 19.8**	**-0.4**
JFFD	**Fukushimafurud**	**1.15**	**277**	P	**Pb**	**07 09 09.9**	**-0.5**
JMST	**Minamisoumatoc**	**1.16**	**311**	*i* P	**Pb**	**07 09 10.3**	**-0.2**
JMST				*e*S	**Sb**	**07 09 24.9**	**-0.7**
JMST	**Minamisoumatoc**	**1.16**	**311**	A	A	07 09 10.3	
	comp=N,5.0nm,0.8s,comp=E,3.0nm,0.9s						
JMM	**Marumori**	**1.31**	**314**	P	**Pn**	**07 09 12.6**	**0.0**
JMM				*e*S	**Sb**	**07 09 29.0**	**-0.8**
JOTO	**OTAMA OYAMA**	**1.45**	**295**	P	**Pb**	**07 09 15.2**	**-0.2**
JOTO				S	**Sn**	**07 09 33.5**	**+0.1**
JIO	**Ouri**	**1.57**	**341**	P	**Pn**	**07 09 15.8**	**-0.4**
JIO				S	**Sn**	**07 09 35.3**	**-1.1**
JYAR	**Yonezawaarcadi**	**1.75**	**303**	A	A	07 09 18.8	
	comp=N,6.0nm,1.4s,comp=E,6.0nm,1.2s						
JOU	**Okura**	**1.75**	**323**	P	**Pn**	**07 09 19.8**	**+1.1**
JOU				*e*S	**Sn**	**07 09 41.2**	**+0.3**
JOU	**Okura**	**1.75**	**323**	A	A	07 09 19.8	
	comp=N,8.0nm,1.1s,comp=E,5.0nm,1.7s						
JFY	**Yanaizu**	**1.88**	**284**	*e*P	**Pb**	**07 09 21.8**	**-0.9**
JYS	**Shirataka**	**1.98**	**310**	P	**Pb**	**07 09 23.4**	**-1.1**
JMK	**Ichinoseki**	**2.08**	**343**	P	**Pn**	**07 09 23.8**	**+0.7**
JAG	**Ashikaga**	**2.11**	**256**	*e*P	**Pn**	**07 09 24.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.07**	**263**	Pn	**Pn**	**07 09 38.8**	**+2.0**
	comp=E,1.3nm,0.3s,baz=86,slow=15,SNR=46						
MJAR				Sn	**Sb**	**07 10 18.4**	**-2.0**
	comp=E,0.9nm,0.3s,baz=327,slow=22,SNR=5.5						
MJAR				LR	LR	07 10 43.7	
	comp=E,69nm,18.8s,baz=122,slow=36						
	comp=E,14nm,0.5s						
JHJ	**Hachijo jima 2**	**4.24**	**206**	Pn	**Pn**	**07 09 53.2**	**+0.3**
	comp=E,8.3nm,0.3s,baz=23,slow=6.6,SNR=1.5						
JHJ				Sn	**Sn**	**07 10 39.2**	**-3.0**
	comp=E,15nm,0.3s,baz=92,slow=18,SNR=1.7						
	comp=E,115nm,0.6s						
ASAJ	**Asahikawa**	**7.16**	**3**	Pn	**Pn**	**07 10 32.5**	**-0.4**
	comp=E,0.7nm,0.3s,baz=218,slow=28,SNR=1.8						
ASAJ				Sn	**Sn**	**07 11 53.1**	**-1.0**
	comp=E,0.7nm,0.3s,baz=303,slow=6.2,SNR=1.9						
	comp=E,2.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.49**	**317**	Pn	**Pn**	**07 11 21.1**	**+2.5**
	comp=E,0.2nm,0.3s,baz=132,slow=14,SNR=7.8						
	comp=E,0.3nm,0.4s						
KSRS	**Korea Array**	**11.23**	**277**	Pn	Pn	07 11 33.7	+4.9
	comp=E,0.2nm,0.3s,baz=93,slow=13,SNR=4.1						
	comp=E,0.5nm,0.3s						
PETK	**Petropavlovsk-**	**19.52**	**29**	LR	LR	07 20 15.9	
	comp=E,9.2nm,20.4s,baz=176,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.71**	**121**	T	T	07 43 37.5	
	baz=314,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**27.72**	**122**	T	T	07 43 41.3	
	baz=314,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	07 43 40.1	
	baz=314,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	07 44 28.5	
	baz=316,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	07 44 35.4	
	baz=316,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	07 44 35.3	
	baz=316,slow=76,SNR=12						
MKAR	**Makanchi Array**	**44.55**	**302**	P	**P**	**07 17 01.1**	**+1.1**
	comp=E,0.3nm,0.6s,baz=89,slow=11,SNR=7.4						
	comp=E,0.3nm,0.6s						
ILAR	**Eielson Array**	**49.30**	**32**	P	**P**	**07 17 37.3**	**+0.4**
	comp=E,0.6nm,0.7s,baz=273,slow=7.3,SNR=11						
	comp=E,0.6nm,0.7s						
WRA	**Warramunga Arr**	**57.06**	**189**	P	**P**	**07 18 34.2**	**-0.2**
	comp=E,0.5nm,0.5s,baz=7.6,slow=7.1,SNR=2.7						
	comp=E,0.5nm,0.5s						
ASAR	**Alice Springs**	**60.78**	**189**	P	**P**	**07 19 00.9**	**+0.6**
	comp=E,0.3nm,0.7s,baz=23,slow=7.3,SNR=4.2						
	comp=E,0.3nm,0.7s						
TXAR	**Lajitas Array**	**89.80**	**53**	P	**P**	**07 21 46.9**	**-0.3**
	comp=E,0.4nm,0.7s,baz=282,slow=1.7,SNR=5.3						
	comp=E,0.4nm,0.7s						

*ATH **12** 07:20:19.6, 37°.60N×20°.64E, h11km±1km, ML2.5/10, Manual Solution by S.Liakopoulos First location: 2019/08/12 07:21:18, This location: 2019/08/12 07:39:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **12** 07:20:20.9, 38°.N±1°.×2°.1E±°, h9km±2km, M2.4/13, MLh2.4/13*

ISC 12 07:20:20.3±1.5, 37°.64N±0°.06×20°.67E±0°.05, h10km±6km, n34, σ0s55/61, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.12**	**77**	P	**Pg**	**07 20 23.3**	**+0.2**
KRI1				S	**Sg**	**07 20 25.1**	**-0.1**
LTHK	**Lithakia**	**0.15**	**61**	P	**Pg**	**07 20 23.5**	**-0.1**
LTHK				S	**Sg**	**07 20 25.7**	**-0.3**
LTHK	**Lithakia**	**0.15**	**61**	P	**Pg**	**07 20 23.5**	**-0.1**
LTHK				S	**Sg**	**07 20 25.6**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.21**	**5**	P	**Pg**	**07 20 25.1**	**+0.3**
ORTH				S	**Sg**	**07 20 28.1**	**+0.3**
ORTH	**Orthonies,Zaky**	**0.21**	**5**	P	**Pg**	**07 20 25.0**	**+0.3**
ORTH				S	**Sg**	**07 20 28.0**	**+0.2**
KYPS	**Kipseli, Zakin**	**0.22**	**34**	P	**Pg**	**07 20 25.2**	**+0.3**
KYPS				S	**Sg**	**07 20 28.8**	**+0.9**
CLEM	**Kyllini,Ilia,G**	**0.45**	**55**	P	**Pg**	**07 20 29.3**	**+0.3**
CLEM				S	**Sg**	**07 20 36.0**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.48**	**352**	P	**Pg**	**07 20 29.9**	**+0.2**
PSDA				S	**Sg**	**07 20 37.2**	**+1.2**
PSDA	**Pessada-Kefalo**	**0.48**	**352**	P	**Pg**	**07 20 29.8**	**+0.2**
PSDA				S	**Sg**	**07 20 36.8**	**+0.7**
VLS	**Valsamata**	**0.54**	**353**	P	**Pg**	**07 20 30.8**	**-0.2**
VLS				S	**Sg**	**07 20 38.8**	**+0.8**
VLS	**Valsamata**	**0.54**	**353**	P	**Pg**	**07 20 30.7**	**-0.2**
VLS				S	**Sg**	**07 20 38.7**	**+0.6**
DMLN	**Damoulianata-K**	**0.65**	**339**	P	**Pg**	**07 20 32.9**	**+0.1**
DMLN				S	**Sb**	**07 20 43.0**	**+0.3**
DMLN	**Damoulianata-K**	**0.65**	**339**	P	**Pg**	**07 20 32.8**	**0.0**
DMLN				S	**Sb**	**07 20 42.5**	**-0.2**
RLS	**Riolos of Patr**	**0.76**	**56**	P	**Pg**	**07 20 34.5**	**-0.4**
RLS				S	**Sb**	**07 20 45.7**	**-0.3**
RLS	**Riolos of Patr**	**0.76**	**56**	P	**Pg**	**07 20 34.7**	**-0.2**
RLS				S	**Sg**	**07 20 44.9**	**+0.1**
AXS	**Araxos**	**0.79**	**45**	P	**Pg**	**07 20 35.1**	**-0.4**
AXS				S	**Sg**	**07 20 46.2**	**+0.4**
AXS	**Araxos**	**0.79**	**45**	P	**Pg**	**07 20 35.3**	**-0.2**
AXS				S	**Sg**	**07 20 45.9**	**0.0**
FSK	**Fiskardo**	**0.83**	**354**	P	**Pg**	**07 20 35.5**	**-0.7**
FSK				S	**Sb**	**07 20 48.6**	**+0.7**
FSK	**Fiskardo**	**0.83**	**354**	P	**Pg**	**07 20 35.5**	**-0.7**
FSK				S	**Sg**	**07 20 47.4**	**+0.4**
DRO	**Drossia**	**0.88**	**69**	P	**Pg**	**07 20 37.3**	**0.0**
DRO				S	**Sb**	**07 20 50.2**	**+0.7**
DRO	**Drossia**	**0.88**	**69**	P	**Pg**	**07 20 37.2**	**0.0**
DRO				S	**Sb**	**07 20 49.5**	**0.0**
EVGI	**Lefkada island**	**0.98**	**359**	P	**Pg**	**07 20 38.3**	**-0.8**
EVGI				S	**Sb**	**07 20 53.4**	**+0.9**
EVGI	**Lefkada island**	**0.98**	**359**	P	**Pg**	**07 20 38.4**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.08**	**1**	P	**Pg**	**07 20 39.8**	**-1.1**
NYDR				S	**Sn**	**07 20 56.4**	**0.0**
ITM	**Ithomi**	**1.10**	**114**	P	**Pb**	**07 20 41.4**	**0.0**
LKD2	**Lefkada island**	**1.15**	**359**	P	**Pb**	**07 20 41.2**	**-1.1**
LKD2				S	**Sn**	**07 20 59.4**	**+1.1**
LKD2	**Lefkada island**	**1.15**	**359**	P	**Pb**	**07 20 42.0**	**-0.2**
LKD2				S	**Sg**	**07 20 57.7**	**+0.4**
TSLK	**Tsoukalades, L**	**1.19**	**359**	P	**Pb**	**07 20 41.8**	**-1.0**
TSLK				S	**Sn**	**07 20 59.4**	**+0.3**
TSLK	**Tsoukalades, L**	**1.19**	**359**	P	**Pb**	**07 20 42.1**	**-0.8**
TSLK				S	**Sn**	**07 20 59.6**	**+0.5**
PVO	**Paravola**	**1.19**	**34**	P	**Pb**	**07 20 42.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.24**	**70**	P	**Pn**	**07 20 43.1**	**-0.7**
EFP	**Efpalio**	**1.25**	**51**	P	**Pn**	**07 20 43.4**	**-0.4**
GUR	**Goura**	**1.36**	**77**	P	**Pn**	**07 20 45.5**	**+0.1**
ANX	**Ano Chora**	**1.37**	**46**	P	**Pn**	**07 20 45.7**	**+0.1**

*NAO **12** 07:30:25.8±0.8, 79°.97N×19°.56E, h15km±3km, ML3.6*
*FCIAR **12** 07:30:25.0, 79°.86N×20°.04E, h10km, station ZFI2 has station magnitude of 3.30 station OMEGA has station magnitude of 3.30*
*KOLA **12** 07:30:25.3, 79°.85N×19°.49E, h0km, ML2.7, Error ellipse: s-maj=21.3km s-min=17.8km az=40.0, Spitsbergen*
*BER **12** 07:30:27.0±2.2, 79°.96N×20°.56E, h23km±12km, ML2.5, ML3.6(NAO), Confirmed Earthquake*

ISC 12 07:30:25.8±2.1, 79°.89N±0°.06×20°.13E±0°.04, h17km±14km, n32, σ1s94/51, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.80**	**241**	Pn	**Pn**	**07 30 55.8**	**-0.3**
KBS				Sg	**Sg**	**07 31 20.9**	**-2.7**
KBS	**Kingsbay**	**1.80**	**241**	P	**Pn**	**07 30 55.7**	**-0.3**
KBS				S	**Sn**	**07 31 18.3**	**-0.1**
KBS	**Kingsbay**	**1.80**	**241**	*e*P	**Pn**	**07 30 55.7**	**-0.3**
KBS				*e*S	**Sb**	**07 31 20.4**	**0.0**
KBS				IAML		07 31 26.5	
	comp=Z,147nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.87**	**204**	Pn	**Pn**	**07 30 57.1**	**+0.1**
	baz=24,slow=16						
SPA0				Pg	**Pb**	**07 30 59.8**	**+0.3**
	baz=24,slow=16						
SPA0				Sg	**Sb**	**07 31 24.6**	**+2.1**
	baz=20,slow=56						
SPA0	**Spitsbergen Ar**	**1.87**	**204**	*e*P	**Pn**	**07 30 56.9**	**-0.1**
SPA0				*e*S	**Sn**	**07 31 20.8**	**+0.6**
SPA0	**Spitsbergen Ar**	**1.87**	**204**	*e*P	**Pn**	**07 30 57.2**	**+0.2**
SPA0				*e*Pg	**Pb**	**07 31 00.0**	**+0.6**
SPA0				Sg	**Sb**	**07 31 24.6**	**+2.1**
	baz=20,slow=56						
SPA0				IAML		07 31 29.2	
	comp=Z,129nm,0.6s						
SPITS	**Spitsbergen Ar**	**1.87**	**204**	P	**Pn**	**07 30 57.1**	**+0.1**
SPITS				S	**Sn**	**07 31 21.4**	**+1.2**
BRBA	**Barentsburg A**	**2.17**	**215**	Pn	**Pn**	**07 31 01.2**	**+0.2**
BRBA				Sg	**Sb**	**07 31 33.4**	**+2.4**
BRBA	**Barentsburg A**	**2.17**	**215**	*e*P	**Pn**	**07 31 01.5**	**+0.5**
HSPB	**Hornsund (broa**	**3.05**	**200**	Pn	**Pn**	**07 31 13.7**	**+0.5**
HSPB				Sg	**Sb**	**07 32 01.3**	**+4.8**
HSPB	**Hornsund (broa**	**3.05**	**200**	P	**Pn**	**07 31 14.8**	**+1.6**
HSPB				S	**Sn**	**07 31 50.1**	**+0.8**
HSPB	**Hornsund (broa**	**3.05**	**200**	*e*P	**Pn**	**07 31 13.7**	**+0.5**
HSPB				*e*S	**Sn**	**07 31 49.9**	**+0.6**
HSPB	**Hornsund (broa**	**3.05**	**200**	*e*P	**Pn**	**07 31 14.6**	**+1.4**
HSPB				*e*Pg	**Pb**	**07 31 20.9**	**+1.4**
HSPB				*e*Sg	**Sb**	**07 32 00.5**	**+4.1**
HSPB				IAML		07 32 08.4	
	comp=Z,56nm,0.6s						
HOPEN	**Hopen**	**3.55**	**161**	Pn	**Pn**	**07 31 20.6**	**+0.6**
HOPEN				Sn	**Sn**	**07 32 00.5**	**-1.0**
HOPEN				Sg	**Sg**	**07 32 19.2**	**-0.3**
HOPEN	**Hopen**	**3.55**	**161**	*e*P	**Pn**	**07 31 20.2**	**+0.2**
HOPEN				*e*S	**Sn**	**07 32 01.2**	**-0.3**
HOPEN	**Hopen**	**3.55**	**161**	*e*P	**Pn**	**07 31 20.5**	**+0.5**
ZFI2	**Zemlya Franca-**	**4.69**	**65**	*e*P	**Pn**	**07 31 36.9**	**+1.3**
ZFI2				*e*S	**Sn**	**07 32 28.1**	**-1.4**
	comp=Z,24nm,1.4s						
OMEGA	**Omega**	**4.70**	**66**	*e*P	**Pn**	**07 31 37.1**	**+1.3**
OMEGA				*e*S	**Sn**	**07 32 29.8**	**0.0**
	comp=Z,21nm,1.4s						
BJO1	**Bjornoya**	**5.43**	**183**	*e*P	**Pn**	**07 31 44.2**	**-1.6**
BJO1				*e*S	**Sn**	**07 32 43.1**	**-4.7**
VADS	**Vadso**	**10.09**	**162**	Pn	**Pn**	**07 32 50.0**	**+0.4**
VADS				Sn	**Sn**	**07 34 36.6**	**-5.6**
VADS	**Vadso**	**10.09**	**162**	S	**Sn**	**07 34 36.6**	**-5.6**
VADS	**Vadso**	**10.09**	**162**	P	**Pn**	**07 32 51.0**	**+1.3**
KEV	**Kevo**	**10.34**	**167**	Pn	**Pn**	**07 32 53.7**	**+0.6**
KEV				Sn	Sn	07 34 41.5	-6.8
ARA0	**ARCESS Array S**	**10.51**	**170**	Pn	**Pn**	**07 32 54.9**	**-0.5**
	baz=358,slow=11						
ARA0				Sn	Sn	07 34 43.4	-9.1
	baz=358,slow=18						
ARA0	**ARCESS Array S**	**10.51**	**170**	Pn	**Pn**	**07 32 54.9**	**-0.5**
	baz=358,slow=11						
ARA0				Sn	Sn	07 34 43.4	-9.1
	baz=358,slow=18						
ARCES	**ARCESS Array B**	**10.51**	**170**	S	Sn	07 34 45.0	-7.4
ARCES	**ARCESS Array B**	**10.51**	**170**	P	**Pn**	**07 32 56.1**	**+0.7**
TERR	**Teriberka**	**11.39**	**152**	S	Sn	07 35 05.5	-8.6
HEF	**Hetta**	**11.59**	**173**	Pn	**Pn**	**07 33 11.5**	**+1.3**
HEF				Sn	Sn	07 35 10.6	-8.4
APA0	**Apatity Array**	**12.80**	**157**	Pn	**Pn**	**07 33 25.2**	**-1.5**
	baz=0.8,slow=16						
APA0				Sn	Sn	07 35 39.3	-9.3
	baz=355,slow=28						
APA0	**Apatity Array**	**12.80**	**157**	S	Sn	07 35 39.6	-9.0
APA0	**Apatity Array**	**12.80**	**157**	Pn	**Pn**	**07 33 25.2**	**-1.5**
	baz=0.8,slow=16						
APA0				Sn	Sn	07 35 40.6	-8.0
	baz=355,slow=28						

*DJA **12** 07:31:36.7±0.4, 10°.S±6°.×12°.2E±°, h10km, M3.7/7, mB4.9/1, mb4.0/2, MLv3.6/7, Mw(mB)4.2/1*
*IDC **12** 07:31:38.3±2.5, 10°.24S×122°.72E, h120km±27km, mb3.3/1, mbtmp3.6/4, MS2.6/1, Error ellipse: s-maj=68.0km s-min=17.6km az=79.0*

ISC 12 07:31:39.1±1.5, 9°.97S±0°.09×122°.42E±0°.05, h35km, n16, σ0s71/12, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.25**	**101**	P	**Pn**	**07 31 59.3**	**-0.8**
	45nm,0.3s,baz=270,slow=7.1,SNR=5.5						
BATI				S	**Sn**	**07 32 16.3**	**+0.5**
	145nm,0.6s,baz=269,slow=23,SNR=8.3						
BATI	**Baumata**	**1.25**	**101**	P	**Pn**	**07 31 59.2**	**-0.9**
MMRI	**Maumere

az=68.0
*IDC **12** 07:43:22.9±2.2,9°.57S×114°.08E,h81km±21km,mb3.8/16, mbtmp4.2/18,MS3.4/10,Error ellipse: s-maj=16.2km s-min=11.7km az=49.0*
ISC 12 07:43:17.5±0.5,9°.72S±0°.06×114°.01E±0°.05,h31km,n70, σ1s95/69,mb4.2/20,MS3.4/8,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.25**	**6**		**Pn**	**07 43 39.5**	**+0.6**
JAGI				Sn	**Sn**	**07 43 55.3**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.25**	**6**	P	**Pn**	**07 43 39.6**	**+0.7**
GMJI	**Gumukmas**	**1.54**	**339**	P	**Pn**	**07 43 43.0**	**+0.1**
DNP	**Denpasar**	**1.57**	**49**	P	**Pn**	**07 43 46.4**	**+3.1**
ABJI	**Asem Bagus**	**1.92**	**7**	P	**Pn**	**07 43 51.2**	**+3.1**
SRBI	**Singaraja**	**2.01**	**36**	P	**Pn**	**07 43 52.2**	**+2.9**
KMMI	**Kalianget**	**2.65**	**359**	P	**Pn**	**07 44 01.2**	**+3.0**
TWSI	**Taliwang, Sumb**	**3.00**	**71**	P	**Pn**	**07 44 06.0**	**+3.1**
GRJI	**Gresik**	**3.17**	**331**	P	**Pn**	**07 44 07.6**	**+2.3**
PCJI	**Pacitan**	**3.19**	**298**	P	**Pn**	**07 44 06.4**	**+0.9**
NGJI	**Ngawi**	**3.44**	**313**	P	**Pn**	**07 44 10.6**	**+1.6**
WOJI	**Wonogiri, Jawa**	**3.58**	**301**	P	**Pn**	**07 44 12.3**	**+1.3**
TBJI	**Tambak Boyo**	**3.59**	**323**	P	**Pn**	**07 44 10.9**	**-0.2**
PLAI	**Plampang**	**3.82**	**77**	P	**Pn**	**07 44 16.9**	**+2.7**
UGM	**Wanagama**	**3.89**	**297**		**Pn**	**07 44 17.0**	**+1.8**
UGM	**Wanagama**	**3.89**	**297**	P	**Pn**	**07 44 16.3**	**+1.1**
SMRI	**Semarang**	**4.42**	**307**	Pn	**Pn**	**07 44 23.5**	**+1.0**
SMRI	**Semarang**	**4.42**	**307**	P	**Pn**	**07 44 23.9**	**+1.4**
WBSI	**Waikabubak, Su** 0.7nm1μm66nm,0.8s	**5.30**	**90**	P	**Pn**	**07 44 37.1**	**+2.4**
KPJI	**Karang Pucung** 0.3nm51nm,0.8s	**5.56**	**295**	P	**Pn**	**07 44 39.3**	**+1.1**
WSI	**Waingapu**	**6.20**	**90**	P	**Pn**	**07 44 49.4**	**+2.5**
LEM	**Lembang** 13nm,0.3s,baz=302,slow=23,SNR=1.8	**6.95**	**294**	P	**Pn**	**07 45 02.2**	**+4.8**
LEM				S	**Sn**	**07 46 21.4**	**+5.7**
	17nm,0.4s,baz=304,slow=22,SNR=1.7						
CNJI	**Cibinong** 0.1nm23nm,1.3s	**7.22**	**289**	P	**Pn**	**07 45 01.1**	**+0.1**
BSSI	**Bau Bau, Buton** 123nm,1.1s	**7.33**	**61**	P	**Pn**	**07 45 05.3**	**+2.7**
KAPI	**Kappang**	**7.36**	**51**	Pn	Pn	07 45 00.0	-2.9
KAPI	**Kappang** 3.6nm,0.3s,baz=170,slow=14,SNR=4.1	**7.36**	**51**	P	**Pn**	**07 45 06.4**	**+3.4**
KAPI				S	**Sn**	**07 46 26.6**	**+1.1**
	23nm,0.7s,baz=215,slow=22,SNR=8.7						
KAPI				LR	LR	07 48 26.5	
	comp=Z,346nm,19.1s,baz=264,slow=42						
BKSI	**Bulukumba** 0.1nm27nm,0.9s	**7.47**	**55**	P	**Pn**	**07 45 07.4**	**+3.0**
EDFI	**Ende, Flores** 0.1nm30nm,0.8s	**7.64**	**83**	P	**Pn**	**07 45 09.3**	**+2.4**
BNSI	**Bone**	**8.03**	**49**	P	**Pn**	**07 45 15.3**	**+3.2**
MNAI	**Manna**	**12.20**	**295**	Pn	**Pn**	**07 46 10.3**	**+1.0**
SBUM	**Sibu**	**12.22**	**352**	Pn	**Pn**	**07 46 09.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**14.02**	**128**	Pn	**Pn**	**07 46 32.6**	**-1.6**
FITZ	**Fitzroy Crossi** 3.5nm,0.8s,baz=304,slow=11,SNR=2.4	**14.02**	**128**	P	**Pn**	**07 46 32.7**	**-1.4**
FITZ				S	Sn	07 48 59.2	-10
	3.1nm,0.5s,baz=224,slow=16,SNR=3.1						
FITZ				LR	LR	07 52 30.7	
	comp=Z,119nm,20.0s,baz=278,slow=39						
KNRA	**Kununurra**	**15.55**	**114**	Pn	**Pn**	**07 46 54.1**	**-0.7**
KNRA				IAmb	IAmb	07 47 02.0	
	comp=Z,13nm,0.8s						
MTN	**Manton Dam**	**17.07**	**102**		**Pn**	**07 47 13.2**	**-0.9**
MTN				IAmb	IAmb	07 47 38.2	
	comp=Z,54nm,1.4s						
FAKI	**Fak Fak**	**19.33**	**71**	P	**P**	**07 47 37.2**	**-3.3**
WB0	**Warramunga Arr**	**22.07**	**119**	P	**P**	**07 48 09.4**	**-0.8**
WB0				IAmb	IAmb	07 48 39.4	
	comp=Z,8.8nm,1.1s						
WRA	**Warramunga Arr**	**22.09**	**120**	P	**P**	**07 48 09.1**	**-1.3**
WRA	**Warramunga Arr** comp=Z,4.7nm,0.8s,baz=295,slow=12,SNR=19 comp=Z,4.7nm,0.8s	**22.09**	**120**	P	**P**	**07 48 11.7**	**+1.3**
WR8	**Warramunga Arr**	**22.24**	**120**	P	**P**	**07 48 11.6**	**-0.3**
WR8				IAmb	IAmb	07 48 15.7	
	comp=Z,22nm,1.5s						
AS31	**Alice Springs**	**23.52**	**129**	P	**P**	**07 48 25.7**	**+0.5**
ASAR	**Alice Springs**	**23.52**	**129**	P	**P**	**07 48 26.4**	**+1.2**
ASAR	**Alice Springs** comp=Z,7.5nm,0.7s,baz=304,slow=8.6,SNR=67	**23.52**	**129**	P	**P**	**07 48 26.5**	**+1.3**
ASAR				PcP	**PcP**	**07 52 11.9**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=298,slow=1.8,SNR=1.8						
ASAR				LR	LR	07 57 45.6	
	comp=Z,41nm,21.0s,baz=290,slow=37 comp=Z,7.5nm,0.7s						
BBOO	**Buckleboo**	**30.69**	**142**	P	**P**	**07 49 30.3**	**+0.7**
BBOO				IAmb	IAmb	07 49 30.8	
	comp=Z,9nm,0.9s						
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.3s,baz=189,slow=3.1,SNR=0.9	**31.70**	**332**	P	**P**	**07 49 39.1**	**+0.4**
CMAR				LR	LR	08 04 24.6	
	comp=Z,38nm,19.1s,baz=145,slow=40 comp=Z,0.7nm,0.3s						
STKA	**Stephens Creek**	**33.74**	**135**	P	**P**	**07 49 57.7**	**+1.3**
STKA	**Stephens Creek** comp=Z,8.2nm,0.8s,baz=313,slow=10,SNR=13	**33.74**	**135**	P	**P**	**07 49 57.5**	**+1.1**
STKA				LR	LR	08 04 10.5	
	comp=Z,91nm,21.6s,baz=5.7,slow=37 comp=Z,8.2nm,0.8s						
HNR	**Honiara**	**45.27**	**94**	LR	LR	08 13 33.6	
	comp=Z,41nm,20.6s,baz=13,slow=40						
MAJO	**Matsushiro**	**51.34**	**25**	P	**P**	**07 52 16.5**	**-2.6**
MAJO				IAmb	IAmb	07 52 46.3	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.7s,baz=225,slow=12,SNR=2.7 comp=Z,0.9nm,0.7s	**51.34**	**25**	P	**P**	**07 52 16.6**	**-2.6**
MJB9	**Matsu-Tunnel**	**51.34**	**25**	P	**P**	**07 52 16.7**	**-2.4**
USRK	**Ussuriysk Ar.** comp=Z,1.5nm,0.7s,baz=195,slow=4.5,SNR=3.1 comp=Z,1.5nm,0.7s	**56.09**	**16**	P	**P**	**07 52 52.3**	**-1.4**
SONM	**Songino Array**	**57.70**	**354**	P	**P**	**07 53 05.2**	**-0.1**
SONM				IAmb	IAmb	07 53 06.5	
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array** comp=Z,1.3nm,0.5s,baz=183,slow=7.6,SNR=7.9 comp=Z,1.3nm,0.5s	**57.70**	**354**	P	**P**	**07 53 04.5**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.5s,baz=160,slow=7.4,SNR=8.4 comp=Z,0.7nm,0.5s	**62.98**	**336**	P	**P**	**07 53 40.9**	**-0.4**
AAK	**Ala-Archa** comp=Z,27nm,20.8s,baz=170,slow=40	**63.39**	**328**	LR	LR	08 25 54.3	
MAW	**Mawson** comp=Z,3.7nm,1.1s,baz=358,slow=5.0,SNR=5.0 comp=Z,3.7nm,1.1s	**66.93**	**199**	P	**P**	**07 54 06.6**	**0.0**
VNDA	**Vanda**	**72.08**	**170**	P	**P**	**07 54 39.5**	**+1.1**
VNDA	**Vanda** comp=Z,1.1nm,0.9s,baz=295,slow=6.1,SNR=7.1 comp=Z,1.1nm,0.9s	**72.08**	**170**	P	**P**	**07 54 38.8**	**+0.5**
BVAR	**Borovoye Array** comp=Z,0.9nm,0.5s,baz=140,slow=14,SNR=3.6 comp=Z,0.9nm,0.5s	**72.70**	**334**	P	**P**	**07 54 41.0**	**-1.3**
ABKAR	**Akbulak array**	**75.39**	**327**	P	**P**	**07 54 57.6**	**-0.5**
AKTO	**Aktyubinsk** comp=Z,0.7nm,0.3s,baz=46,slow=4.3,SNR=1.4 comp=Z,0.7nm,0.3s	**77.08**	**327**	P	**P**	**07 55 06.6**	**-1.1**
QSPA	**South Pole Qui** comp=Z,2.7nm,1.1s,baz=18,slow=1.9,SNR=3.6 comp=Z,2.7nm,1.1s	**80.28**	**180**	P	**P**	**07 55 25.4**	**+0.1**
EIL	**Elat** comp=Z,16nm,18.2s,baz=63,slow=36	**85.40**	**301**	LR	LR	08 35 17.7	
MMAI	**Mount Meron Ar** comp=Z,0.4nm,0.2s,baz=98,slow=11,SNR=1.8 comp=Z,0.4nm,0.2s	**85.84**	**304**	P	**P**	**07 55 52.9**	**-1.7**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.9s,baz=114,slow=7.5,SNR=5.4 comp=Z,1.1nm,0.9s	**88.83**	**310**	P	**P**	**07 56 07.5**	**-1.4**
SNAA	**Sanae**	**88.96**	**196**	P	**P**	**07 56 08.8**	**-0.1**
SNAA				IAmb	IAmb	07 56 11.3	
	comp=Z,2.6nm,1.0s						
SNAA	**Sanae** comp=Z,1.8nm,0.9s,baz=100,slow=3.1,SNR=6.2	**88.96**	**196**	P	**P**	**07 56 08.3**	**-0.5**
SNAA				LR	LR	08 30 35.7	
	comp=Z,42nm,18.7s,baz=56,slow=32 comp=Z,1.8nm,0.9s						
FINES	**FINESS Array B** comp=Z,26nm,18.3s,baz=90,slow=40	**97.47**	**331**	LR	LR	08 47 27.4	
LPAZ	**La Paz** comp=Z,1.4nm,0.8s,baz=157,slow=5.5,SNR=6.0	**154.07**	**175**	PKPab	**PKPab**	**08 03 30.1**	**+0.9**

*TAP **12** 07:46:47.9,24°.67N×122°.47E,h107km,ML4.1,C*
*JMA **12** 07:46:48.0±0.2,25°N±1°×122°.5E±0°.4,h101km±1km,*

MV3.5/17,NW OFF ISHIGAKIJIMA IS
ISC 12 07:46:47.4±1.3,24°.64N±0°.03×122°.50E±0°.02,h108km±6km, n131,σ0s94/238,4C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.33**	**229**	*i* P	**Pn**	**07 47 03.3**	**+0.4**
EOS2				S	**Sn**	**07 47 15.3**	**+0.8**
EOS3	**EOS3**	**0.39**	**206**	*i* P	**Pn**	**07 47 03.8**	**+0.6**
EOS3				*i* S	**Sn**	**07 47 16.0**	**+1.0**
JYNG	**Yonagunijimaku**	**0.44**	**115**	*i* P	**Pn**	**07 47 03.8**	**+0.1**
JYNG				S	**Sn**	**07 47 15.3**	**-0.5**
YOJ	**Yonaguni jima**	**0.49**	**111**	↑*i* P	**Pn**	**07 47 04.0**	**+0.1**
YOJ				*i* S	**Sn**	**07 47 15.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.49**	**111**	P	**Pn**	**07 47 04.1**	**+0.1**
YOJ				S	**Sn**	**07 47 15.8**	**-0.6**
EOS4	**EOS4**	**0.54**	**198**	P	**Pn**	**07 47 03.8**	**-0.1**
EOS4				S	**Sn**	**07 47 16.7**	**+0.4**
TWB1	**Santiao Chiao**	**0.60**	**308**	↑*i* P	**Pn**	**07 47 05.1**	**+0.4**
TWB1				*i* S	**Sn**	**07 47 17.2**	**-0.5**
TWC	**Suao**	**0.60**	**267**	↑*i* P	**Pn**	**07 47 04.7**	**0.0**
TWC				*i* S	**Sn**	**07 47 16.2**	**-1.5**
ESAO	**Su ao**	**0.60**	**264**	P	**Pn**	**07 47 05.1**	**+0.3**
ESAO				S	**Sn**	**07 47 17.1**	**-0.8**
NTC	**Toucheng**	**0.65**	**289**	P	**Pn**	**07 47 06.8**	**+1.6**
EWUT	**Wuta**	**0.69**	**254**	P	**Pn**	**07 47 05.6**	**+0.2**
EWUT				S	**Sn**	**07 47 18.8**	**-0.2**
ILA	**Ilan**	**0.70**	**281**	P	**Pn**	**07 47 06.0**	**+0.5**
ILA				*i* S	**Sn**	**07 47 18.9**	**-0.3**
TIPB	**Shuangxi**	**0.70**	**298**	P	**Pn**	**07 47 06.0**	**+0.3**
TIPB				S	**Sn**	**07 47 18.3**	**-1.0**
ENA	**Nanau**	**0.73**	**253**	↑*i* P	**Pn**	**07 47 06.2**	**+0.4**
ENA				*i* S	**Sn**	**07 47 19.6**	**0.0**
SXI1	**Grass Mountain**	**0.73**	**309**	P	**Pn**	**07 47 06.1**	**+0.1**
SXI1				S	**Sn**	**07 47 20.2**	**+0.4**
EAHA	**Aohua**	**0.76**	**246**	P	**Pn**	**07 47 06.4**	**+0.3**
EAHA				S	**Sn**	**07 47 20.0**	**-0.2**
TWE	**Neicheng**	**0.77**	**276**	↓*i* P	**Pn**	**07 47 06.6**	**+0.5**
TWE				*i* S	**Sn**	**07 47 20.1**	**-0.1**
NWF	**Wu-fen Shan**	**0.79**	**303**	*i* P	**Pn**	**07 47 06.8**	**+0.4**
NWF				*i* S	**Sn**	**07 47 20.3**	**-0.5**
WFSB	**Wu-fen Shan**	**0.79**	**303**	*i* P	**Pn**	**07 47 06.9**	**+0.5**
WFSB				*i* S	**Sn**	**07 47 20.7**	**+0.2**
TNOU	**National Taiwa**	**0.84**	**308**	P	**Pn**	**07 47 07.1**	**+0.3**
TNOU				S	**Sn**	**07 47 21.5**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.84**	**278**	*i* P	**Pn**	**07 47 07.3**	**+0.4**
FUSB				*i* S	**Sn**	**07 47 20.8**	**-0.9**
ENTT	**Nioudou**	**0.85**	**270**	*i* P	**Pn**	**07 47 07.9**	**+0.9**
ENTT				*i* S	**Sn**	**07 47 22.1**	**+0.4**
LATG	**Datong**	**0.90**	**264**	*i* P	**Pn**	**07 47 08.2**	**+0.7**
LATG				*i* S	**Sn**	**07 47 23.8**	**+1.1**
NWLT	**Wulai**	**0.92**	**279**	P	**Pn**	**07 47 07.5**	**-0.1**
NWLT				S	**Sn**	**07 47 22.6**	**-0.4**
ETL	**Fush Village**	**0.94**	**239**	*e*P	**Pn**	**07 47 08.0**	**+0.2**
ETL				*e*S	**Sn**	**07 47 22.2**	**-1.0**
NHDH	**Xindian Distri**	**0.95**	**290**	*e*P	**Pn**	**07 47 08.3**	**+0.5**
NACB	**Ninganchiao**	**0.95**	**241**	P	**Pn**	**07 47 07.4**	**-0.5**
NACB				S	**Sn**	**07 47 22.2**	**-1.2**
YM01	**YM01**	**0.99**	**301**	P	**Pn**	**07 47 08.4**	**+0.1**
YM01				S	**Sn**	**07 47 23.7**	**-0.4**
YM08	**YM08**	**0.99**	**304**	*e*P	**Pn**	**07 47 08.6**	**+0.2**
YM08				*e*S	**Sn**	**07 47 23.5**	**-0.7**
TWD	**Chiawan**	**1.00**	**236**	*i* P	**Pn**	**07 47 08.5**	**+0.1**
TWD				*i* S	**Sn**	**07 47 23.9**	**-0.3**
ZUZH	**Zhuzihu**	**1.01**	**301**	P	**Pn**	**07 47 08.8**	**+0.2**
ZUZH				S	**Sn**	**07 47 23.3**	**-1.4**
ETLH	**Xiulin Townshi**	**1.03**	**245**	P	**Pn**	**07 47 08.7**	**-0.1**
ETLH				S	**Sn**	**07 47 24.4**	**-0.6**
YHNB	**Yeheng**	**1.03**	**272**	P	**Pn**	**07 47 09.5**	**+0.7**
YHNB				S	**Sn**	**07 47 25.0**	**0.0**
NNSB	**Datong**	**1.04**	**259**	P	**Pn**	**07 47 09.5**	**+0.4**
NNSB				S	**Sn**	**07 47 25.9**	**+0.6**
HWA	**Hwalien**	**1.05**	**231**	*i* P	**Pn**	**07 47 10.0**	**+1.0**
HWA				*i* S	**Sn**	**07 47 24.9**	**+0.5**
TWS1	**Kuangyinshan**	**1.09**	**295**	*i* P	**Pn**	**07 47 09.7**	**+0.3**
TWS1				*i* S	**Sn**	**07 47 24.9**	**-1.1**
NTST	**Danshui**	**1.09**	**299**	*e*P	**Pn**	**07 47 10.0**	**+0.6**
NTST				*i* S	**Sn**	**07 47 25.8**	**-0.2**
TEYL	**Yanliau Villag**	**1.13**	**227**	P	**Pn**	**07 47 10.1**	**+0.3**
TEYL				S	**Sn**	**07 47 26.5**	**-0.2**
ETM	**Tongmen**	**1.14**	**234**	P	**Pn**	**07 47 09.8**	**-0.2**
ETM				S	**Sn**	**07 47 26.2**	**-0.8**
IRIF	**Iriomote-Funau**	**1.16**	**105**	*i* P	**Pn**	**07 47 10.4**	**+0.3**
IRIF				S	**Sn**	**07 47 26.9**	**-0.4**
SHUL	**Shoufeng**	**1.21**	**226**	P	**Pn**	**07 47 10.8**	**+0.2**
SHUL				S	**Sn**	**07 47 27.6**	**-0.7**
FUSS	**Fushou**	**1.21**	**252**	*e*P	**Pn**	**07 47 12.0**	**+0.9**
FUSS				*e*S	**Sn**	**07 47 29.1**	**+0.3**
KSHI	**Guanxi Townshi**	**1.22**	**277**	P	**Pn**	**07 47 11.8**	**+1.0**
KSHI				S	**Sn**	**07 47 28.4**	**-0.1**
WHF	**Hehuan Shan**	**1.23**	**247**	*i* P	**Pn**	**07 47 11.7**	**+0.3**
WHF				*i* S	**Sn**	**07 47 28.9**	**-0.6**
NCUH	**Zhongli**	**1.24**	**286**	*e*P	**Pn**	**07 47 12.1**	**+1.0**
NCUH				*i* S	**Sn**	**07 47 29.7**	**+0.7**
NFF	**Wufeng Townshi**	**1.26**	**270**	P	**Pn**	**07 47 12.2**	**+0.9**
NFF				S	**Sn**	**07 47 29.6**	**+0.1**
TWT	**Tachien**	**1.27**	**253**	*i* P	**Pn**	**07 47 12.8**	**+1.2**
TWT				*i* S	**Sn**	**07 47 29.6**	**-0.3**
ESL	**Shilin**	**1.28**	**230**	*i* P	**Pn**	**07 47 11.3**	**-0.2**
ESL				*i* S	**Sn**	**07 47 28.2**	**-1.5**
TEGC	**Jichi Village**	**1.28**	**224**	*e*P	**Pn**	**07 47 11.7**	**+0.2**
TEGC				*e*S	**Sn**	**07 47 27.9**	**-1.8**
TDCB	**Techi**	**1.28**	**253**	P	**Pn**	**07 47 12.1**	**+0.4**
TDCB				S	**Sn**	**07 47 29.5**	**-0.7**
HATJ	**Hateruma jima**	**1.32**	**116**	P	**Pn**	**07 47 12.7**	**+0.8**
HATJ				S	**Sn**	**07 47 31.1**	**+0.5**
LIOB	**Emei**	**1.35**	**271**	*e*P	**Pn**	**07 47 13.2**	**+0.8**
LIOB				*i* S	**Sn**	**07 47 31.0**	**-0.3**
NSTT	**Nanjuang**	**1.37**	**270**	P	**Pn**	**07 47 13.5**	**+1.0**
NSTT				S	**Sn**	**07 47 31.6**	**0.0**
EGFH	**Guangfu**	**1.38**	**226**	*e*P	**Pn**	**07 47 12.6**	**-0.1**
EGFH				*e*S	**Sn**	**07 47 30.7**	**-1.1**
OWD	**Renai**	**1.39**	**241**	*e*P	**Pn**	**07 47 13.9**	**+0.9**
OWD				*e*S	**Sn**	**07 47 31.1**	**-1.2**
SBCB	**Hsinchu**	**1.39**	**277**	P	**Pn**	**07 47 13.5**	**+0.7**
SBCB				*e*S	**Sn**	**07 47 32.5**	**+0.5**
HSN	**Hsinchu**	**1.41**	**277**	P	**Pn**	**07 47 12.8**	**-0.2**
HSN				S	**Sn**	**07 47 30.6**	**-1.7**
WUSB	**Renai**	**1.42**	**243**	P	**Pn**	**07 47 13.9**	**+0.7**
WUSB				S	**Sn**	**07 47 32.8**	**-0.1**
JKRS	**Kuro-shima**	**1.43**	**106**	P	**Pn**	**07 47 13.9**	**+0.7**
JKRS				S	**Sn**	**07 47 33.2**	**+0.3**
WHP	**Taichung City**	**1.47**	**256**	P	**Pn**	**07 47 15.1**	**+1.3**
WHP				S	**Sn**	**07 47 34.5**	**+0.7**
HGSD	**Ruisui**	**1.51**	**221**	P	**Pn**	**07 47 14.5**	**+0.2**
HGSD				S	**Sn**	**07 47 34.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.52**	**100**	P	**Pn**	**07 47 14.6**	**+0.3**
JIJ				S	**Sn**	**07 47 33.9**	**-0.8**
VWDT	**VWDT**	**1.52**	**235**	P	**Pn**	**07 47 15.0**	**+0.6**
VWDT				S	**Sn**	**07 47 33.9**	**-0.9**
EHYH	**Wanrong**	**1.56**	**223**	*e*P	**Pn**	**07 47 14.6**	**-0.2**
EHYH				*e*S	**Sn**	**07 47 33.9**	**-1.7**
EHY	**Hungye**	**1.56**	**224**	P	**Pn**	**07 47 14.2**	**-0.6**
NMLH	**Miaoli**	**1.56**	**267**	*e*P	**Pn**	**07 47 15.8**	**+1.0**
NMLH				S	**Sn**	**07 47 35.9**	**+0.1**
WCS	**Beigang Elemen**	**1.56**	**249**	*e*P	**Pn**	**07 47 16.3**	**+1.4**
WCS				S	**Sn**	**07 47 37.0**	**+1.3**
NSY	**Sanyi**	**1.60**	**262**	P	**Pn**	**07 47 16.4**	**+1.0**
NSY				S	**Sn**	**07 47 37.3**	**+0.7**
ECBN	**Changbin**	**1.63**	**216**	*e*P	**Pn**	**07 47 15.8**	**+0.1**
ECBN				*i* S	**Sn**	**07 47 36.3**	**-0.9**
JISG	**Ishigakijimahi**	**1.65**	**91**	*i* P	**Pn**	**07 47 16.3**	**+0.5**
JISG				S	**Sn**	**07 47 37.0**	**-0.5**
SMLT	**Sun Moon Lake**	**1.65**	**243**	P	**Pn**	**07 47 17.1**	**+1.1**
SMLT				S	**Sn**	**07 47 39.1**	**+1.4**
SSLB	**Suanglung**	**1.65**	**239**	*e*P	**Pn**	**07 47 16.7**	**+0.7**
SSLB				*e*S	**Sn**	**07 47 38.2**	**+0.5**
YULB	**Yu-li**	**1.66**	**222**	*i* P	**Pn**	**07 47 15.6**	**-0.5**
YULB				S	**Sn**	**07 47 36.2**	**-1.7**
TYC	**Yuchr**	**1.67**	**244**	*i* P	**Pn**	**07 47 17.8**	**+1.6**
TYC				*i* S	**Sn**	**07 47 39.4**	**+1.3**
EYUL	**Yuli**	**1.68**	**220**	*e*P	**Pn**	**07 47 17.1**	**+0.8**
EYUL				*e*S	**Sn**	**07 47 38.9**	**+0.6**
TWF1	**Yuli**	**1.69**	**221**	*i* P	**Pn**	**07 47 16.4**	**-0.1**
WDJ	**Dajia District**	**1.72**	**261**	*e*P	**Pn**	**07 47 18.3**	**+1.5**
TCU	**Taichung**	**1.74**	**254**	*e*P	**Pn**	**07 47 18.1**	**+1.1**
CHKH	**Chenggong**	**1.76**	**215**	*e*P	**Pn**	**07 47 17.6**	**+0.3**
CHKH				*e*S	**Sn**	**07 47 39.4**	**-0.6**
WHYT	**Xinyi Township**	**1.78**	**238**	P	**Pn**	**07 47 18.8**	**+1.3**
WHYT				S	**Sn**	**07 47 41.9**	**+1.4**
FULB	**Fuli**	**1.81**	**218**	*e*P	**Pn**	**07 47 18.2**	**+0.3**
FULB				S	**Sn**	**07 47 40.5**	**-0.7**
WJS	**Zhushan**	**1.81**	**244**	*i* P	**Pn**	**07 47 20.2**	**+2.2**
WJS				*i* S	**Sn**	**07 47 42.7**	**+1.4**
WNT	**Mingjian**	**1.83**	**246**	P	**Pn**	**07 47 19.5**	**+1.4**
WNT				S	**Sn**	**07 47 42.9**	**+1.4**
CHKT	**Chengkung**	**1.85**	**214**	P	**Pn**	**07 47 18.1**	**-0.4**
WCHH	**Zhanghua**	**1.86**	**253**	*e*P	**Pn**	**07 47 20.4**	**+1.9**
WCHH				*e*S	**Sn**	**07 47 43.1**	**+0.8**
EHD	**Haiduan**	**1.90**	**219**	*e*P	**Pn**	**07 47 18.6**	**-0.5**
EHD				S	**Sn**	**07 47 41.5**	**-1.8**
ALS	**Alishan**	**1.92**	**234**	P	**Pn**	**07 47 20.9**	**+1.4**
ALS				S	**Sn**	**07 47 44.9**	**+0.9**
ECS	**Chishang**	**1.94**	**218**	*e*P	**Pn**	**07 47 20.7**	**+1.2**
ECS				*e*S	**Sn**	**07 47 42.8**	**-1.3**
CHN5	**Tsauling**	**1.96**	**239**	P	**Pn**	**07 47 21.1**	**+1.1**
CHN5				S	**Sn**	**07 47 46.0**	**+1.2**
ELDTW	**Lidau**	**1.98**	**224**	*e*P	**Pn**	**07 47 20.0**	**-0.3**
ELDTW				S	**Sn**	**07 47 44.4**	**-0.9**
EDH	**Donghe**	**1.99**	**214**	*e*P	**Pn**	**07 47 20.0**	**-0.2**
EDH				*i* S	**Sn**	**07 47 43.3**	**-1.9**
JTJ	**Tarama**	**2.00**	**89**	P	**Pn**	**07 47 21.2**	**+0.9**
JTJ				S	**Sn**	**07 47 46.0**	**+0.6**
WDLH	**Douliu**	**2.03**	**243**	*e*P	**Pn**	**07 47 22.2**	**+1.5**
WDLH				*e*S	**Sn**	**07 47 47.4**	**+1.2**
WCKO	**Fanlu**	**2.11**	**236**	*e*P	**Pn**	**07 47 23.4**	**+1.7**
WCKO				S	**Sn**	**07 47 49.9**	**+1.9**
LONT	**Longtian**	**2.13**	**216**	*e*P	**Pn**	**07 47 21.9**	**-0.2**
LONT				*e*S	**Sn**	**07 47 47.6**	**-0.9**
WTK	**Tuku**	**2.15**	**244**	*e*P	**Pn**	**07 47 22.5**	**+0.2**
WTK				*i* S	**Sn**	**07 47 49.4**	**+0.5**
STYH	**Taoyuan**	**2.15**	**228**	*e*P	**Pn**	**07 47 23.6**	**+1.4**
STYH				*i* S	**Sn**	**07 47 49.8**	**+0.8**
CHN4	**Tsaushan**	**2.17**	**234**	P	**Pn**	**07 47 24.0**	**+1.6**
TPUB	**Ta-pu**	**2.17**	**233**	*e*P	**Pn**	**07 47 23.9**	**+1.4**
TPUB				*e*S	**Sn**	**07 47 50.9**	**+1.5**
LDUT	**Ludao**	**2.17**	**206**	*e*P	**Pn**	**07 47 22.3**	**-0.2**
CHY	**Chiayi**	**2.21**	**240**	P	**Pn**	**07 47 24.4**	**+1.3**
CHY				S	**Sn**	**07 47 51.3**	**+0.9**
WTP	**Ta-pu**	**2.22**	**232**	*e*P	**Pn**	**07 47 25.1**	**+1.9**
WTP				*e*S	**Sn**	**07 47 53.1**	**+2.6**
TWGBT	**Beinan**	**2.23**	**216**	*e*P	**Pn**	**07 47 23.1**	**-0.2**
TWGBT				S	**Sn**	**07 47 48.9**	**-1.9**
TWG	**Pinlang**	**2.24**	**216**	*e*P	**Pn**	**07 47 22.8**	**-0.5**
TWG				*i* S	**Sn**	**07 47 48.8**	**-2.1**
TTN	**Taitung**	**2.25**	**214**	*e*P	**Pn**	**07 47 24.4**	**+0.8**
TTN				*e*S	**Sn**	**07 47 51.2**	**0.0**
TWK	**Hsinying**	**2.29**	**234**	*e*P	**Pn**	**07 47 24.1**	**0.0**
TWK				*e*S	**Sn**	**07 47 53.6**	**+1.3**
WSL	**Shuilin Townsh**	**2.36**	**242**	*i* P	**Pn**	**07 47 25.7**	**+0.8**
WSL				*i* S	**Sn**	**07 47 53.9**	**+0.2**
ICHU	**Yijhu**	**2.40**	**238**	P	**Pn**	**07 47 26.2**	**+0.8**
ICHU				*e*S	**Sn**	**07 47 54.8**	**+0.1**
CHN8	**Yiju**	**2.46**	**239**	*e*S	**Sn**	**07 47 57.0**	**+1.0**
ECL	**Taimali**	**2.48**	**215**	*e*P	**Pn**	**07 47 25.7**	**-0.9**
ECL			

EFP	**Efpalio**	**1.26**	**120**	P		Pn	07 57 04.8	-0.1
EFP				S		Sn	07 57 21.9	+0.3
MAKR	**Makrakomi, Fth**	**1.26**	**92**	P		Pg	07 57 06.0	-0.2
MAKR				S		Sn	07 57 21.9	+0.3
THL	**Klokotos Trika**	**1.27**	**66**	P		Pb	07 57 05.7	+0.3
THL				S		Sn	07 57 21.7	0.0
DRO	**Drossia**	**1.45**	**139**	P		Pn	07 57 07.5	-0.1
DRO				S		Sb	07 57 26.6	-0.2
KLV	**Kalavryta, Ach**	**1.64**	**128**	P		Pn	07 57 10.5	+0.4

BEO **12** *07:57:03.1±0.7,35˚.02N×24˚.62E,h60km,ML4.4/4*
PDG **12** *07:57:05.3±0.6,35˚.98N×25˚.73E,h56km±11km,ML4.5/12, Error ellipse: s-maj=5.9km s-min=10.2km az=0.0*
MOS **12** *07:57:06.6±1.2,35˚.71N×25˚.48E,h74km,mb4.6/16,Error ellipse: s-maj=5.0km s-min=2.8km az=93.0*
IDC **12** *07:57:06.6±0.6,35˚.88N×25˚.53E,h74km±7km,mb4.0/25, mbtmp4.4/33,MS3.0/19,Error ellipse: s-maj=12.3km s-min=8.8km az=138.0*
ISK **12** *07:57:06.2,35˚.91N×25˚.64E,h15km,ML4.1/27*
GII **12** *07:57:07.6±0.0,35˚.430N±0˚.003×26˚.151E±0˚.001,h8km, Mws4.7,confirmed*
NEIC **12** *07:57:07.0±1.4,35˚.88N±0˚.06×25˚.61E±0˚.05,h71km±7km, mb4.5/76,Error ellipse: s-maj=8.2km s-min=6.1km az=169.0*
HLW **12** *07:57:07.1,35˚.44N×26˚.10E,h5km±2km,Md4.5,Ml4.6*
MED_RC **12** *07:57:08.0±0.5,35˚.71N×25˚.69E,h70km±3km,MW4.5/19, Moment Tensor Solution.Mantle waves: s19,c33; Duration: 1ŝ0 Moment tensor: Scale 10^15^Nm; Mrr-0.36±.37; Mθθ5.55±.36; Mϕϕ-5.19±.24; Mrθ-2.01±.23; Mθϕ-5.48±.41; Mϕr0.90±.23; Best double couple: M○7.95000×10^15^ NP1:ϕ○s247.00000°,δ80.00000°, λ170.00000°. NP2:ϕ○s339.00000°,δ80.00000°,λ10.00000°. Principal axes: T 8.4100, Plg14.0000°, Azm203.0000°; N -0.9200, Plg76.0000°, Azm21.0000°; P -7.4900, Plg0.0000°, Azm113.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ATH **12** *07:57:08.9,35˚.81N×25˚.66E,h56km±2km,ML4.7/36, Manual Solution by A.Andreou First location: 2019/08/12 07:58:11, This location: 2019/08/12 08:27:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
THE **12** *07:57:08.9,36˚N±1˚×2˚6E±˚,h64km±3km,M4.8/12, MLh4.8/12*
AFAD **12** *07:57:12.0,35˚.99N×25˚.83E,h45km,MW4.4*

ISC 12 07:57:05.8±0.4,**35.76N**±0˚.03×**25.64E**±0˚.03,**h68**km±4km, **h69**km:**pP-P,n712,**σ**2**51/795,**mb4.5**/69,**56C-59D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
NPS	**Neapolis**	**0.50**	**183**	P	**Pn**	**07**	**57**	**21.7**	**+3.2**
NPS				S	**Sn**	**07**	**57**	**31.2**	**+3.4**
NPS	**Neapolis**	**0.50**	**183**	P	**Pn**	**07**	**57**	**21.0**	**+2.5**
NPS				S	**Sn**	**07**	**57**	**31.2**	**+3.4**
NPS	**Neapolis**	**0.50**	**183**	P	**Pn**	**07**	**57**	**21.5**	**+3.0**
NPS				S	**Sn**	**07**	**57**	**29.8**	**+2.0**
THERA	**Ancient Thera,**	**0.62**	**348**	P	**Pn**	**07**	**57**	**21.9**	**+2.2**
THERA				S	**Sn**	**07**	**57**	**31.7**	**+1.8**
THERA	**Ancient Thera,**	**0.62**	**348**	P	**Pn**	**07**	**57**	**21.7**	**+2.0**
THERA				S	**Sn**	**07**	**57**	**30.4**	**+0.5**
IACM	**Heraklion**	**0.65**	**226**	P	**Pn**	**07**	**57**	**23.0**	**+2.9**
IACM				S	**Sn**	**07**	**57**	**33.9**	**+3.4**
IACM	**Heraklion**	**0.65**	**226**	P	**Pn**	**07**	**57**	**22.9**	**+2.9**
IACM				S	**Sn**	**07**	**57**	**33.0**	**+2.5**
SNT5	**Nea Kammeni, S**	**0.67**	**343**	P	**Pn**	**07**	**57**	**22.3**	**+2.0**
SNT5				S	**Sn**	**07**	**57**	**32.4**	**+1.5**
SFIR	**Foira Santorin**	**0.68**	**345**	P	**Pn**	**07**	**57**	**22.7**	**+2.3**
SFIR				S	**Sn**	**07**	**57**	**33.7**	**+2.6**
SAP3	**Santorini-Thir**	**0.71**	**340**	P	**Pn**	**07**	**57**	**23.0**	**+2.3**
SAP3				S	**Sn**	**07**	**57**	**34.2**	**+2.5**
SAP3	**Santorini-Thir**	**0.71**	**340**	P	**Pn**	**07**	**57**	**23.0**	**+2.3**
SAP3				S	**Sn**	**07**	**57**	**33.3**	**+1.5**
IDI	**Anoyia**	**0.77**	**232**	Pg	**Pn**	**07**	**57**	**23.5**	**+2.0**
IDI				Sg	**Sn**	**07**	**57**	**35.9**	**+2.8**
IDI	**Anoyia**	**0.77**	**232**	P	**Pn**	**07**	**57**	**24.2**	**+2.7**
IDI				S	**Sn**	**07**	**57**	**35.7**	**+2.6**
IDI	**Anoyia**	**0.77**	**232**	P	**Pn**	**07**	**57**	**24.0**	**+2.5**
	1μm,0.3s,baz=63,slow=4.8,SNR=5016								
IDI				S	**Sn**	**07**	**57**	**35.7**	**+2.6**
	4μm,0.3s,baz=348,slow=20,SNR=5.0								
IDI	**Anoyia**	**0.77**	**232**	P	**Pn**	**07**	**57**	**24.0**	**+2.5**
IDI				S	**Sn**	**07**	**57**	**35.5**	**+2.4**
ZKR	**Zakros**	**0.80**	**144**	P	**Pn**	**07**	**57**	**25.4**	**+3.6**
ZKR	**Zakros**	**0.80**	**144**	P	**Pn**	**07**	**57**	**25.2**	**+3.4**
ZKR				S	**Sn**	**07**	**57**	**35.6**	**+2.0**
TMBK	**Timbaki Herakl**	**0.99**	**226**	P	**Pn**	**07**	**57**	**27.3**	**+3.2**
TMBK				S	**Sn**	**07**	**57**	**40.5**	**+2.8**
PRNS	**Prines Rethymn**	**1.01**	**247**	P	**Pn**	**07**	**57**	**27.3**	**+2.9**
PRNS				S	**Sn**	**07**	**57**	**42.1**	**+4.0**
PRNS	**Prines Rethymn**	**1.01**	**247**	P	**Pn**	**07**	**57**	**27.2**	**+2.9**
KARP	**Karpathos**	**1.26**	**99**		**Pn**	**07**	**57**	**30.1**	**+2.5**
KARP				Sn	**Sn**	**07**	**57**	**46.6**	**+2.8**
KARP	**Karpathos**	**1.26**	**99**	P	**Pn**	**07**	**57**	**30.3**	**+2.7**
KARP				S	**Sn**	**07**	**57**	**47.3**	**+3.4**
KARP	**Karpathos**	**1.26**	**99**	⇑P	**Pn**	**07**	**57**	**29.8**	**+2.2**
KARP	**Karpathos**	**1.26**	**99**	P	**Pn**	**07**	**57**	**30.3**	**+2.7**
KARP				S	**Sn**	**07**	**57**	**45.5**	**+1.7**
APE	**Apeiranthos**	**1.31**	**356**	⇑P	**Pn**	**07**	**57**	**29.9**	**+1.7**
APE	**Apeiranthos**	**1.31**	**356**	*e*P	**Pn**	**07**	**57**	**29.8**	**+1.6**
CHAN	**Chania**	**1.32**	**260**	P	**Pn**	**07**	**57**	**30.8**	**+2.5**
CHAN				S	**Sn**	**07**	**57**	**47.4**	**+2.1**
CHAN	**Chania**	**1.32**	**260**	P	**Pn**	**07**	**57**	**30.9**	**+2.5**
CHAN				S	**Sn**	**07**	**57**	**47.4**	**+2.1**
MHLO	**Agia Marina, M**	**1.36**	**313**	P	**Pn**	**07**	**57**	**31.5**	**+2.5**
MHLO				S	**Sn**	**07**	**57**	**48.3**	**+2.0**
MHLO	**Agia Marina, M**	**1.36**	**313**	P	**Pn**	**07**	**57**	**31.4**	**+2.5**
MHLO				S	**Sn**	**07**	**57**	**47.7**	**+1.4**
NISR	**Nisiros**	**1.47**	**54**	P	**Pn**	**07**	**57**	**32.5**	**+2.2**
NISR				S	**Sn**	**07**	**57**	**51.7**	**+2.9**
NISR	**Nisiros**	**1.47**	**54**	P	**Pn**	**07**	**57**	**32.5**	**+2.2**
NISR				S	**Sn**	**07**	**57**	**50.8**	**+2.0**
RODP	**Rodopos**	**1.55**	**263**	P	**Pn**	**07**	**57**	**34.1**	**+2.8**
GVD	**Gavdhos**	**1.57**	**234**	P	**Pn**	**07**	**57**	**35.2**	**+3.5**
GVD				S	**Sn**	**07**	**57**	**55.3**	**+4.1**
GVD	**Gavdhos**	**1.57**	**234**	P	**Pn**	**07**	**57**	**35.3**	**+3.7**
GVD				S	**Sn**	**07**	**57**	**55.1**	**+4.0**
KNDR	**Palaiochora Ch**	**1.68**	**252**	Pn	**Pn**	**07**	**57**	**37.2**	**+4.1**
KNDR				Sn	**Sn**	**07**	**57**	**59.4**	**+6.1**
KNDR	**Palaiochora Ch**	**1.68**	**252**	P	**Pn**	**07**	**57**	**37.9**	**+4.7**
KNDR				S	**Sn**	**07**	**57**	**59.2**	**+5.4**
KNDR	**Palaiochora Ch**	**1.68**	**252**	P	**Pn**	**07**	**57**	**37.5**	**+4.4**
KNDR				S	**Sn**	**07**	**57**	**58.9**	**+5.1**
YAZI	**Mula-Dat§a-**	**1.73**	**57**	P	**Pn**	**07**	**57**	**36.0**	**+2.2**
YAZI				S	**Sn**	**07**	**57**	**55.9**	**+0.9**
YAZI				*i* IAML		07 57 57.0			
	comp=N,4μm,0.6s								
YAZI				*i* IAML		07 57 57.0			
	comp=E,3μm,0.6s								
DAT	**Datca**	**1.84**	**58**	Pn	**Pn**	**07**	**57**	**37.1**	**+1.7**
DAT				Sn	**Sn**	**07**	**57**	**59.5**	**+1.7**
YKAV	**Yalikavak-Bodr**	**1.90**	**44**	Pn	**Pn**	**07**	**57**	**37.4**	**+1.4**
ANKY	**Antikythira Is**	**1.90**	**274**	P	**Pn**	**07**	**57**	**38.2**	**+2.0**
ANKY				S	**Sn**	**07**	**58**	**00.9**	**+1.8**
ANKY	**Antikythira Is**	**1.90**	**274**	P	**Pn**	**07**	**57**	**38.2**	**+2.0**
DATC	**Datca-Mugla**	**1.91**	**58**	Pn	**Pn**	**07**	**57**	**38.1**	**+1.9**
DATC				Sn	**Sn**	**07**	**58**	**01.5**	**+2.2**
BDRM	**Kayabasi**	**1.95**	**48**	P	**Pn**	**07**	**57**	**39.0**	**+2.2**
BDRM				S	**Sn**	**07**	**57**	**57.2**	**-3.1**
BDRM				*i* IAML		07 57 58.0			
	comp=N,0.2nm,1.2s								
BDRM				*i* IAML		07 58 03.0			
	comp=E,1μm,1.1s								
DIDI	**Didim-Aydin**	**2.06**	**38**	Pn	**Pn**	**07**	**57**	**39.7**	**+1.4**
ARG	**Arkhangelos**	**2.07**	**77**		**Pn**	**07**	**57**	**41.1**	**+2.8**
ARG				Sn	**Sn**	**07**	**58**	**04.9**	**+1.8**
ARG	**Arkhangelos**	**2.07**	**77**	Pn	**Pn**	**07**	**57**	**40.8**	**+2.5**
ARG				Sn	**Sn**	**07**	**58**	**06.1**	**+3.0**
ARG	**Arkhangelos**	**2.07**	**77**	P	**Pn**	**07**	**57**	**41.1**	**+2.8**
ARG						07 58 04.9			
ARG	**Arkhangelos**	**2.07**	**77**	⇓P	**Pn**	**07**	**57**	**41.1**	**+2.8**
ARG	**Arkhangelos**	**2.07**	**77**	P	**Pn**	**07**	**57**	**41.0**	**+2.8**
ARG				S	**Sn**	**07**	**58**	**05.2**	**+2.1**
DDIM	**Aydin, Didim**	**2.12**	**37**	P	**Pn**	**07**	**57**	**41.5**	**+2.3**
DDIM				*i* IAML		07 58 19.0			
	comp=N,1μm,1.0s								
DDIM				*i* IAML		07 58 22.0			
	comp=E,2μm,1.2s								
SMG	**Samos**	**2.17**	**26**	P	**Pn**	**07**	**57**	**41.5**	**+1.8**
GCAM	**G?zelcaml?**	**2.32**	**33**	P	**Pn**	**07**	**57**	**43.4**	**+1.7**
GCAM				S	**Sn**	**07**	**58**	**10.8**	**+1.6**
TURN	**Turunc**	**2.33**	**64**	P	**Pn**	**07**	**57**	**44.9**	**+3.0**
TURN				S	**Sn**	**07**	**58**	**11.0**	**+1.4**
TURN				*i* IAML		07 58 13.0			
	comp=E,4μm,0.6s								
TURN				*i* IAML		07 58 14.0			
	comp=N,4μm,0.4s								
VLI	**Veliai**	**2.38**	**294**	P	**Pn**	**07**	**57**	**44.5**	**+1.9**
KARY	**Karystos**	**2.46**	**337**	P	**Pn**	**07**	**57**	**46.3**	**+2.6**
KUSD	**Kusadasi-Aydin**	**2.48**	**32**	Pn	**Pn**	**07**	**57**	**45.5**	**+1.6**
GMLD	**Gumuldur**	**2.52**	**23**	Pn	**Pn**	**07**	**57**	**46.7**	**+2.2**
ZEYE	**Izmir, Urla-Ze**	**2.57**	**15**	P	**Pn**	**07**	**57**	**46.1**	**+1.0**
MET6	**Megalochori,Me**	**2.59**	**315**	P	**Pn**	**07**	**57**	**48.1**	**+2.7**
MET5	**Makryloggos,Me**	**2.61**	**316**	P	**Pn**	**07**	**57**	**48.5**	**+2.8**
AYDN	**Tasoluk**	**2.61**	**43**	P	**Pn**	**07**	**57**	**48.5**	**+2.7**
AYDN				*i* IAML		07 58 21.0			
	comp=N,744nm,0.9s								
AYDN				*i* IAML		07 58 35.0			
	comp=E,466nm,0.6s								
CESE	**eme**	**2.62**	**11**	Pn	**Pn**	**07**	**57**	**47.3**	**+1.5**
MET2	**Kameni Chora,**	**2.62**	**316**	P	**Pn**	**07**	**57**	**48.5**	**+2.7**
MULA	**Mugla, Merkez-**	**2.62**	**55**	P	**Pn**	**07**	**57**	**49.3**	**+3.3**
MULA				S	**Sn**	**07**	**58**	**17.4**	**+0.6**
MULA				*i* IAML		07 58 20.0			
	comp=N,547nm,0.8s								
MULA				*i* IAML		07 58 22.0			
	comp=E,2μm,0.8s								
CHOS	**Chios island**	**2.64**	**7**	P	**Pn**	**07**	**57**	**47.8**	**+1.6**
ATHU	**Athens Univers**	**2.66**	**326**	P	**Pn**	**07**	**57**	**49.1**	**+2.7**
DION	**Dionisos Attik**	**2.69**	**330**	P	**Pn**	**07**	**57**	**49.7**	**+3.0**
PTL	**Penteli**	**2.69**	**329**	P	**Pn**	**07**	**57**	**49.8**	**+3.0**
ATH	**Athens Observa**	**2.69**	**326**	P	**Pn**	**07**	**57**	**49.0**	**+2.2**
ATH	**Athens Observa**	**2.69**	**326**	P	**Pn**	**07**	**57**	**49.8**	**+3.0**
URLA	**Izmir**	**2.70**	**16**	P	**Pn**	**07**	**57**	**48.2**	**+1.2**
EAG2	**Marmaro, Chios**	**2.80**	**8**	P	**Pn**	**07**	**57**	**50.5**	**+2.2**
FILI	**Fyli**	**2.83**	**327**	P	**Pn**	**07**	**57**	**51.6**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**2.83**	**39**	Pn	**Pn**	**07**	**57**	**50.6**	**+1.8**
BLCB	**Balcova**	**2.85**	**23**	Pn	**Pn**	**07**	**57**	**50.6**	**+1.7**
PARN3	**Mandra,Attica,**	**2.87**	**324**	P	**Pn**	**07**	**57**	**52.1**	**+2.9**
MAGU	**Magoula**	**2.87**	**324**	P	**Pn**	**07**	**57**	**52.1**	**+2.8**
MAGU				S	**Sn**	**07**	**58**	**25.0**	**+2.4**
SABU	**Mula-Dalaman**	**2.89**	**68**	P	**Pn**	**07**	**57**	**52.8**	**+3.3**
SABU				S	**Sn**	**07**	**58**	**25.0**	**+1.8**
SABU				*i* IAML		07 58 31.0			
	comp=E,2μm,0.8s								
SABU				*i* IAML		07 58 33.0			
	comp=N,3μm,0.5s								
STFN	**Stefani**	**2.94**	**326**	P	**Pn**	**07**	**57**	**53.2**	**+3.0**
STFN				S	**Sn**	**07**	**58**	**25.9**	**+1.6**
FETI	**Fethiye-Mugla**	**2.94**	**71**	Pn	**Pn**	**07**	**57**	**53.3**	**+3.1**
ESEN	**Aydn-Nazilli**	**2.98**	**46**	P	**Pn**	**07**	**57**	**53.8**	**+3.1**
ESEN				S	**Sn**	**07**	**58**	**24.6**	**-0.6**
ESEN				*i* IAML		07 58 33.0			
	comp=N,317nm,0.7s								
ESEN				*i* IAML		07 58 38.0			
	comp=E,424nm,0.5s								
IZZE	**Mula-Seydike**	**2.98**	**76**	P	**Pn**	**07**	**57**	**53.3**	**+2.5**
IZZE				S	**Sn**	**07**	**58**	**26.0**	**+0.7**
IZZE				*i* IAML		07 58 32.0			
	comp=E,2μm,0.3s								
IZZE				*i* IAML		07 58 37.0			
	comp=N,5μm,0.5s								
PARN2	**Moni Osiou Mel**	**2.99**	**325**	P	**Pn**	**07**	**57**	**53.9**	**+3.0**
PARN2				S	**Sn**	**07**	**58**	**27.2**	**+1.6**
NAZL	**Nazilli-Aydin**	**3.06**	**43**	Pn	**Pn**	**07**	**57**	**54.0**	**+2.2**
FOCM	**Foa**	**3.07**	**16**	Pn	**Pn**	**07**	**57**	**53.7**	**+1.8**
LOUT	**Loutraki**	**3.08**	**317**	P	**Pn**	**07**	**57**	**55.0**	**+2.9**
VIL2	**Platees**	**3.10**	**323**	P	**Pn**	**07**	**57**	**54.3**	**+2.0**
LTK	**Loutraki**	**3.11**	**317**	P	**Pn**	**07**	**57**	**55.3**	**+2.8**
LTK				S	**Sn**	**07**	**58**	**30.8**	**+2.2**
DNZT	**Denizli-Tavas-**	**3.12**	**60**	P	**Pn**	**07**	**57**	**55.8**	**+3.1**
DNZT				P		07 57 56.2			
DNZT				S	**Sn**	**07**	**58**	**27.8**	**-1.0**
DNZT				*i* IAML		07 58 36.0			
	comp=N,719nm,0.7s								
DNZT				*i* IAML		07 58 36.0			
	comp=N,720nm,0.6s								
DNZT				*i* IAML		07 58 38.0			
	comp=E,430nm,0.6s								
DNZT				*i* IAML		07 58 38.0			
	comp=E,438nm,0.6s								
KYMI	**Kymi, Euboea I**	**3.12**	**337**	P	**Pn**	**07**	**57**	**55.2**	**+2.6**
TAVA	**DENIZLI_Tavas**	**3.13**	**56**	P	**Pn**	**07**	**57**	**56.6**	**+3.7**
TAVA				S	**Sn**	**07**	**58**	**30.6**	**+1.4**
ODEM	**Odemis-Izmir**	**3.18**	**37**	Pn	**Pn**	**07**	**57**	**56.4**	**+2.9**
KSL	**Kastellorizon**	**3.22**	**82**	Pn	**Pn**	**07**	**57**	**56.5**	**+2.4**
CAEL	**Denizli, Camel**	**3.26**	**64**	P	**Pn**	**07**	**57**	**58.0**	**+3.2**
CAEL				*i* IAML		07 58 52.0			
	comp=N,4μm,1.2s								
CAEL				*i* IAML		07 58 53.0			
	comp=E,4μm,0.7s								
KIRA	**zmir-Kiraz**	**3.28**	**41**	P	**Pn**	**07**	**57**	**57.5**	**+2.6**
KIRA				*i* IAML		07 58 37.0			
	comp=E,237nm,0.8s								
KIRA				*i* IAML		07 58 43.0			
	comp=N,312nm,0.7s								
DNIZ	**Denizli-Tavas-**	**3.30**	**55**	P	**Pn**	**07**	**57**	**58.5**	**+3.2**
DNIZ				*i* IAML		07 58 42.0			
	comp=E,1μm,0.4s								
DNIZ				*i* IAML		07 58 47.0			
	comp=N,683nm,0.7s								
ITM	**Ithomi**	**3.31**	**296**	Pn	**Pn**	**07**	**57**	**58.0**	**+2.7**
ITM	**Ithomi**	**3.31**	**296**	P	**Pn**	**07**	**57**	**58.1**	**+2.8**
KNIK	**Mula-Seydike**	**3.35**	**70**	P	**Pn**	**07**	**57**	**58.8**	**+2.8**
KNIK				S	**Sn**	**07**	**58**	**34.9**	**+0.3**
KNIK				*i* IAML		07 58 39.0			
	comp=E,1μm,0.5s								
KNIK				*i* IAML		07 58 41.0			
	comp=N,1μm,0.8s								
IZMD	**zmir-Dikili-**	**3.38**	**17**	P	**Pn**	**07**	**57**	**57.0**	**+0.8**
APMY	**Acipayam-Deniz**	**3.40**	**59**	Pn	**Pn**	**07**	**57**	**59.7**	**+3.1**
GUR	**Goura**	**3.42**	**310**	P	**Pn**	**07**	**57**	**58.9**	**+2.1**
GOMA	**Golmarmara-Man**	**3.46**	**31**	Pn	**Pn**	**07**	**57**	**59.4**	**+2.2**
GOLH	**Golhisar**	**3.48**	**64**	P	**Pn**	**07**	**58**	**00.9**	**+3.2**
GOLH				S	**Sn**	**07**	**58**	**38.3**	**+0.5**
GOLH				*i* IAML		07 58 47.0			
	comp=N,2μm,1.3s								
GOLH				*i* IAML		07 58 48.0			
	comp=E,1μm,0.4s								
AKS	**Akhisar**	**3.56**	**28**	Pn	**Pn**	**07**	**58**	**00.9**	**+2.2**
LKR	**Lokris**	**3.57**	**325**	P	**Pn**	**07**	**58**	**01.3**	**+2.5**
MANT	**Manisa**	**3.58**	**40**		**Pn**	**07**	**58**	**01.2**	**+2.0**
KLV	**Kalavryta, Ach**	**3.61**	**310**	P	**Pn**	**07**	**58**	**01.8**	**+2.5**
KULA	**Kula-Manisa**	**3.66**	**40**	Pn	**Pn**	**07**	**58**	**02.5**	**+2.5**
SOMA	**Soma-Manisa**	**3.71**	**23**	Pn	**Pn**	**07**	**58**	**02.9**	**+2.2**
GPNR	**Gulpinar-Canak**	**3.71**	**6**	Pn	**Pn**	**07**	**58**	**02.7**	**+2.1**
INCE	**Denizli-Bozkur**	**3.71**	**57**	P	**Pn**	**07**	**58**	**03.9**	**+3.1**
INCE				S	**Sn**	**07**	**58**	**44.2**	**+0.9**
INCE				*i* IAML		07 58 49.0			
	comp=N,379nm,0.5s								
INCE				*i* IAML		07 59 02.0			
	comp=E,520nm,1.0s								
GORD	**Gordes-Manisa**	**3.73**	**32**	Pn	**Pn**	**07**	**58**	**03.9**	**+2.8**
AXAR	**Agios Charalam**	**3.83**	**322**	P	**Pn**	**07**	**58**	**05.3**	**+3.0**
DRO	**Drossia**	**3.83**	**306**	P	**Pn**	**07**	**58**	**05.9**	**+3.4**
KALE	**Kalithea**	**3.84**	**314**	P	**Pn**	**07**	**58**	**05.2**	**+2.7**
AKUM	**Antalya-Kumluc**	**3.85**	**80**	P	**Pn**	**07**	**58**	**04.8**	**+2.2**
AKUM				S	**Sn**	**07**	**58**	**47.5**	**+0.9**
EFP	**Efpalio**	**4.00**	**313**	P	**Pn**	**07**	**58**	**06.7**	**+2.1**
YAYO	**Edremit-Balk**	**4.01**	**16**	Pn	**Pn**	**07**	**58**	**07.0**	**+2.3**
PASA	**Karahalli, USA**	**4.01**	**49**	P	**Pn**	**07**	**58**	**08.2**	**+3.2**
PASA				S	**Sn**	**07**	**58**	**52.3**	**+1.6**
PASA				*i* IAML		07 58 55.0			
	comp=E,328nm,0.9s								
PASA				*i* IAML		07 58 56.0			
	comp=N,184nm,0.7s								
KHL	**Karahalli**	**4.02**	**49**	Pn	**Pn**	**07**	**58**	**08.0**	**+3.0**
NEO	**Neokhori**	**4.03**	**332**	P	**Pn**	**07**	**58**	**07.9**	**+2.9**
EZNE	**Ezine-Canakkal**	**4.03**	**8**	Pn	**Pn**	**07**	**58**	**06.8**	**+1.8**
BRDR	**BURDUR-Merkez**	**4.04**	**60**	P	**Pn**	**07**	**58**	**08.3**	**+3.0**
BRDR				*i* IAML		07 58 59.0			
	comp=E,249nm,0.6s								
BRDR				*i* IAML		07 59 00.0			
	comp=N,240nm,0.5s								
RLS	**Riolos of Patr**	**4.05**	**306**	P	**Pn**	**07**	**58**	**08.5**	**+3.2**
DEMI	**Demirci**	**4.09**	**36**	P	**Pn**	**07**	**58**	**08.4**	**+2.4**
EZN	**Ezine**	**4.09**	**7**	Pn	**Pn**	**07**	**58**	**07.4**	**+1.5**
EZN	**Ezine**	**4.09**	**7**	⇑P	**Pn**	**07**	**58**	**07.9**	**+2.0**
EZN	**Ezine**	**4.09**	**7**	P	**Pn**	**07**	**58**	**07.9**	**+2.0**
ANX	**Ano Chora**	**4.10**	**315**	P	**Pn**	**07**	**58**	**09.1**	**+3.0**
LIA	**Limnos Island**	**4.14**	**355**	P	**Pn**	**07**	**58**	**08.6**	**+2.0**
AXS	**Araxos**	**4.19**	**307**	P	**Pn**	**07**	**58**	**10.4**	**+3.2**
SIMA	**Simav-Kutahya**	**4.25**	**38**	Pn	**Pn**	**07**	**58**	**10.9**	**+2.8**
BUCA	**Burdur, Bucak-**	**4.26**	**67**	P	**Pn**	**07**	**58**	**11.6**	**+3.3**
BUCA				S	**Sn**	**07**	**58**	**58.3**	**+1.7**
BUCA				*i* IAML		07 59 01.0			
	comp=N,597nm,0.5s								
BUCA				*i* IAML		07 59 02.0			
	comp=E,746nm,1.2s								
SLUM	**Salum**	**4.28**	**185**	P	**Pn**	**07**	**58**	**09.5**	**+1.1**
MAKR	**Makrakomi, Fth**	**4.28**	**320**	P	**Pn**	**07**	**58**	**11.9**	**+3.4**
SHAP	**Saphane-Kutahy**	**4.33**	**40**	Pn	**Pn**	**07**	**58**	**12.0**	**+2.8**
PVO	**Paravola**	**4.35**	**312**	P	**Pn**	**07**	**58**	**12.2**	**+2.8**
YENI	**Yenice-Canakka**	**4.36**	**16**	Pn	**Pn**	**07**	**58**	**12.2**	**+2.7**
KZIL	**AFYON_Kizioren**	**4.38**	**54**	P	**Pn**	**07**	**58**	**12.8**	**+2.9**
CANM	**Can-anakkale**	**4.39**	**14**	Pn	**Pn**	**07**	**58**	**12.4**	**+2.5**
EVR	**Evrytania**	**4.39**	**317**	P	**Pn**	**07**	**58**	**13.2**	**+3.2**
ISP	**Isparta**	**4.42**	**61**		**Pn**	**07**	**58**	**12.7**	**+2.1**
ISP	**Isparta**	**4.42**	**61**	*d* iP	**Pn**	**07**	**58**	**12.5**	**+2.0**
ISP	**Isparta**	**4.42**	**61**	⇓P	**Pn**	**07**	**58**	**12.7**	**+2.1**
ISP	**Isparta**	**4.42**	**61**	P	**Pn**	**07**	**58**	**12.8**	**+2.3**
ISP	**Isparta**	**4.42**	**61**	P	**Pn**	**07**	**58**	**12.7**	**+2.1**
GADA	**Gvkgeada**	**4.43**	**3**	Pn	**Pn**	**07**	**58**	**12.9**	**+2.5**
DST	**Dursunbey**	**4.50**	**31**	Pn	**Pn**	**07**	**58**	**14.4**	**+2.8**
MATC	**Matruh**	**4.60**	**163**	P	**Pn**	**07**	**58**	**11.1**	**-1.8**
AFYN	**Afyon-Dinar-K**	**4.63**	**56**	P	**Pn**	**07**	**58**	**15.8**	**+2.5**
GELI	**Tayfur-Gelibol**	**4.67**	**8**	Pn	**Pn**	**07**	**58**	**16.6**	**+2.8**
BAGO	**Egridir - ISPA**	**4.69**	**60**	P	**Pn**	**07**	**58**	**16.3**	**+2.2**
SMTH	**Samothraki Isl**	**4.70**	**359**	P	**Pn**	**07**	**58**	**15.7**	**+1.5**
THL	**Klokotos Trika**	**4.76**	**324**	P	**Pn**	**07**	**58**	**17.5**	**+2.4**
KRBG	**Karabiga-Canak**	**4.80**	**15**	Pn	**Pn**	**07**	**58**	**17.8**	**+2.2**
FSK	**Fiskardo**	**4.87**	**305**	P	**Pn**	**07**	**58**	**18.4**	**+1.9**
CAVK	**Edirne/Enez-Ca**	**4.94**	**5**	⇑P	**Pn**	**07**	**58**	**19.9**	**+2.4**
BAND	**Balkesir-Ban**	**4.98**	**22**	⇑P	**Pn**	**07**	**58**	**20.4**	**+2.4**
TETR	**Tetrakomo, Epi**	**4.98**	**317**	P	**Pn**	**07**	**58**	**20.8**	**+2.7**
LIT	**Litokhoron**	**5.00**	**331**		**Pn**	**07**	**58**	**21.3**	**+3.0**
LIT	**Litokhoron**	**5.00**	**331**	P	**Pn**	**07**	**58**	**21.3**	**+3.0**
ALN	**Alexandroupoli**	**5.14**	**3**		**Pn**	**07**	**58

BUM Brajici-Budva 8.38 323 ⇑ *i*Pn **Pn** 07 59 03.0 -1.5
BUM *i* Sn Sn 08 00 29.4 -8.1
IVA Berane 8.38 330 ⇓ *i*Pn **Pn** 07 59 02.6 -2.0
IVA *i* Sn Sn 08 00 28.5 -9.1
BOVS Bovan 8.43 340 ⇓P **Pn** 07 59 08.3 +3.2
BOVS Bovan 8.43 340 *e*Pn **Pn** 07 59 08.2 +3.1
DQRL Deir Qamar 8.43 101 *e*P **Pn** 07 59 03.6 -1.7
BHL Bhannes 8.44 100 *e*P **Pn** 07 59 03.4 -2.0
ZAGS Zajecar 8.46 343 *e*Pn **Pn** 07 59 08.9 +3.4
BLGI Bet Lehem HaGe 8.46 108 P **Pn** 07 59 04.3 -1.4
ICOR Ion Corvin 8.51 11 ⇑P **Pn** 07 59 09.6 +3.4
KOME Kolasin 8.52 328 ⇓ *i*Pn **Pn** 07 59 04.7 -1.8
KOME *i* Sn Sn 08 00 33.2 -7.9
MMA0B Mount Meron ar 8.52 106 P **Pn** 07 59 04.7 -1.9
MMAI Mount Meron Ar 8.52 106 P **Pn** 07 59 04.6 -2.0
comp=Z,35nm,0.3s,baz=300,slow=12,SNR=16.8
MMAI S **Sn** 08 00 38.1 -3.1
comp=Z,28nm,0.3s,baz=295,slow=28,SNR=8.2
CEME Cevo 8.55 324 ⇑ *i*Pn **Pn** 07 59 04.4 -2.5
CEME *i* Sn Sn 08 00 32.2 -10
SLTI Sal'it 8.56 112 P **Pn** 07 59 05.0 -2.0
SLTI Sal'it 8.56 112 S **Sn** 08 00 36.7 -5.3
MATE Matera 8.56 307 ⇓P **Pn** 07 59 05.3 -1.6
QRWL Qaraoun 8.56 102 *e*P **Pn** 07 59 05.7 -1.4
NBNS Bani Suef 8.58 145 P **Pn** 07 59 06.8 -0.5
HWQ Hawqa 8.58 97 *e*P **Pn** 07 59 05.7 -1.8
GOCS Kraljevo Serbi 8.61 336 *e*Pn **Pn** 07 59 08.9 +1.1
GOCS *e*Sn **Sn** 08 00 46.8 -1.5
ZAHL Zahle 8.64 100 *e*P **Pn** 07 59 06.5 -1.7
GEM Giv'at Ha'Em 8.66 104 P **Pn** 07 59 06.7 -1.6
GEM Giv'at Ha'Em 8.66 104 S **Sn** 08 00 39.2 -5.2
SJES Sjenica 8.67 331 *e*Pn **Pn** 07 59 07.9 -0.7
SJES *e*Sn **Sn** 08 00 40.8 -4.1
SHBL Chebaa 8.68 103 *e*P **Pn** 07 59 06.9 -1.8
HCY Herceg Novi 8.68 322 ⇑ *i*Pn **Pn** 07 59 06.5 -2.1
HCY *i* Sn Sn 08 00 34.8 -10
BNN Bunyan 8.70 66 Pn **Pn** 07 59 09.8 +0.8
NATI Neve Ativ 8.70 104 P **Pn** 07 59 07.1 -1.8
NATI Neve Ativ 8.70 104 S **Sn** 08 00 40.7 -4.7
RCY Rachaya 8.70 102 *e*P **Pn** 07 59 07.5 -1.6
ZAF Zafarana 8.70 136 P **Pn** 07 59 07.9 -1.1
NKME Niksic 8.71 325 ⇑ *i*Pn **Pn** 07 59 07.5 -1.5
NKME *i* Sn **Sn** 08 00 39.0 -6.5
BEIL Beino 8.72 95 *e*P **Pn** 07 59 07.8 -1.4
SALP Salfit 8.75 112 ⇓P **Pn** 07 59 07.0 -2.6
SALP Salfit 8.75 112 P **Pn** 07 59 07.9 -1.8
PUNG Punghina 8.76 347 ⇑P **Pn** 07 59 12.7 +3.1
MMLI Mount Malkishu 8.76 109 P **Pn** 07 59 08.0 -1.8
MMLI Mount Malkishu 8.76 109 S **Sn** 08 00 42.4 -4.6
KZIT Kziot 8.78 121 ⇑P **Pn** 07 59 07.9 -2.2
KZIT Kziot 8.78 121 P **Pn** 07 59 07.9 -2.2
KZIT Kziot 8.78 121 S **Sn** 08 00 40.7 -6.8
AMAZ Amatzia 8.81 116 ⇑P **Pn** 07 59 09.1 -1.3
AMAZ Amatzia 8.81 116 P **Pn** 07 59 08.8 -1.6
AMAZ Amatzia 8.81 116 S **Sn** 08 00 41.9 -6.2
ZNM Zenema 8.82 134 P **Pn** 07 59 09.6 -1.0
ZNM S **Sn** 08 00 40.5 -7.9
CUC Castrocucco 8.84 301 **Pn** 07 59 10.1 -0.8
CUC Castrocucco 8.84 301 ⇓P **Pn** 07 59 10.1 -0.8
KSHT Keshet 8.85 105 P **Pn** 07 59 09.7 -1.4
IVAS Ivanjica 8.87 333 *e*Pn **Pn** 07 59 10.1 -1.2
IVAS *e*Sn **Sn** 08 00 47.3 -2.4
HFRF Wahat Farafira 8.88 164 P **Pn** 07 59 11.0 -0.5
HMDT Nahal Hemdat 8.92 110 P **Pn** 07 59 10.1 -1.8
HMDT Nahal Hemdat 8.92 110 S **Sn** 08 00 46.2 -4.6
TIRR Tirgusor 8.94 13 **Pn** 07 59 14.0 +1.9
TIRR Tirgusor 8.94 13 P **Pn** 07 59 14.0 +1.9
TREB Trebinje 8.95 323 *e*Pn **Pn** 07 59 08.9 -3.4
GRUS Gruza 8.95 336 *e*Pn **Pn** 07 59 13.6 +1.3
TLBR Topalu 8.96 11 ⇓P **Pn** 07 59 15.3 +2.8
FKH Fakeheh 8.96 97 *e*P **Pn** 07 59 11.8 -0.8
PLE Pljevlja 8.96 329 ⇓ *i*Pn **Pn** 07 59 11.8 -0.8
PLE *i* Sn Sn 08 00 43.2 -8.8
BZK Bozkurt 8.99 44 Pn **Pn** 07 59 13.7 +0.9
BZK Bozkurt 8.99 44 ⇓P **Pn** 07 59 17.0 +4.3
BRY Bratogost 9.00 325 ⇓ *i*Pn **Pn** 07 59 11.9 -1.2
BRY *i* Sn Sn 08 00 43.6 -9.4
UJAP Al Uja 9.01 112 P **Pn** 07 59 11.7 -1.5
UJAP Al Uja 9.01 112 S **Sn** 08 00 47.9 -5.0
WDD Wied Dalam 9.03 274 **Pn** 07 59 12.4 -1.0
YTIR Yattir 9.04 116 P **Pn** 07 59 12.1 -1.8
YTIR Yattir 9.04 116 S **Sn** 08 00 48.2 -5.8
UPM Unac-Piva 9.07 327 ⇓ *i*Pn **Pn** 07 59 12.0 -2.1
UPM *i* Sn Sn 08 00 46.6 -8.1
SRE Strehaia 9.08 349 ⇑P **Pn** 07 59 17.6 +3.5
SRE Strehaia 9.08 349 P **Pn** 07 59 17.6 +3.5
HARR Harsova 9.09 10 ⇑P **Pn** 07 59 17.3 +3.2
HARR Harsova 9.09 10 P **Pn** 07 59 17.0 +2.9
MRVN Minervino Murg 9.10 308 ⇓P **Pn** 07 59 12.6 -1.8
ACER Acerenza 9.12 306 **Pn** 07 59 13.5 -1.3
DSI Dead Sea 9.13 114 P **Pn** 07 59 13.0 -1.8
DSI Dead Sea 9.13 114 S **Sn** 08 00 50.8 -5.2
KUBS Kucevo 9.16 342 *e*Pn **Pn** 07 59 16.8 +1.7
KLINJ Klinje 9.19 326 *e*Pn **Pn** 07 59 12.5 -3.1
VAE Valguarnera 9.19 284 P **Pn** 07 59 15.3 -0.3
comp=Z,22nm,0.3s,baz=172,slow=11,SNR=12
VAE S **Sn** 08 00 51.2 -6.3
comp=Z,166nm,0.6s,baz=262,slow=8.5,SNR=10
RAFF Raffo Rosso 9.20 282 **Pn** 07 59 14.5 -1.2
RUDO Rudo 9.21 330 *e*Pn Pn 07 59 11.1 -4.8
TAMRE El Minia 9.22 149 P **Pn** 07 59 15.6 -0.5
MDBI Mazsada 9.24 116 P **Pn** 07 59 15.2 -1.1
MSBI Mazada 9.24 116 ⇓P **Pn** 07 59 14.5 -1.8
MSBI Mazada 9.24 116 P **Pn** 07 59 14.5 -1.8
TPGR Topolog 9.33 12 ⇓P **Pn** 07 59 20.0 +2.5
TRUS Trudelj 9.35 336 *e*Pn **Pn** 07 59 18.6 +0.8
ISR Istrita 9.37 4 ⇓P **Pn** 07 59 22.0 +3.8
ISR Istrita 9.37 4 P **Pn** 07 59 21.9 +3.8
DIVS Divibare 9.38 334 *e*Pn **Pn** 07 59 17.9 -0.4
DIVS *e*Sn **Sn** 08 00 59.2 -3.0
GHAJ Ghor Haditha 9.40 115 **Pn** 07 59 18.2 -0.3
BBLS Lazi&#263i 9.40 331 *e*Pn **Pn** 07 59 16.9 -1.7
BBLS *e*Sn **Sn** 08 00 57.9 -4.8
GAZ Gaziantep 9.43 78 **Pn** 07 59 19.1 +0.2
HERR Herculane 9.43 346 ⇓P **Pn** 07 59 21.9 +3.0
KRMI Paran Flat 9.48 124 P **Pn** 07 59 17.3 -2.4
KRMI Paran Flat 9.48 124 S **Sn** 08 00 57.0 -7.7
MDVR Moldovita 9.49 343 ⇑P **Pn** 07 59 22.9 +3.1
PRNI Paran 9.53 122 P **Pn** 07 59 17.8 -2.5
PRNI Paran 9.53 122 S **Sn** 08 00 59.7 -6.1
ZFRI Zfri 9.53 120 P **Pn** 07 59 17.4 -2.9
ZFRI Zfri 9.53 120 S **Sn** 08 00 58.5 -7.3
HRDS Abu Rudays 9.56 135 P **Pn** 07 59 19.4 -1.4
CFR Carcaliu 9.59 11 ⇑P **Pn** 07 59 23.9 +2.8
CFR Carcaliu 9.59 11 P **Pn** 07 59 23.7 +2.7
GRB Gharib 9.62 139 P **Pn** 07 59 20.3 -1.3
ARR Arges 9.62 356 ⇓P **Pn** 07 59 24.4 +2.9
VOIR 9.68 358 ⇑P **Pn** 07 59 24.9 +2.7
VOIR 9.68 358 P **Pn** 07 59 24.9 +2.7
TLCR 9.72 13 ⇑P **Pn** 07 59 26.1 +3.4
TLCR 9.72 13 P **Pn** 07 59 26.1 +3.4
MLR Muntele Rosu 9.72 1 **Pn** 07 59 25.3 +2.4
MLR Muntele Rosu 9.72 1 P **Pn** 07 59 24.6 +1.7
comp=Z,31nm,0.9s,baz=188,slow=5.2,SNR=34
MLR Muntele Rosu 9.72 1 ⇓P **Pn** 07 59 26.1 +3.2
MLR Muntele Rosu 9.72 1 P **Pn** 07 59 25.3 +2.4
HRFI Mount Harif 9.74 123 P **Pn** 07 59 21.5 -1.8
ASUT 9.75 147 P **Pn** 07 59 22.1 -1.1
SGRT San Giovanni R 9.77 311 **Pn** 07 59 21.0 -2.6
LOT Lotru 9.78 352 ⇑P **Pn** 07 59 26.7 +3.0
BISRR Bisoca 9.81 4 ⇓P **Pn** 07 59 28.3 +4.2
GZR Gura Zlata 9.86 348 ⇓P **Pn** 07 59 28.1 +3.3
GZR Gura Zlata 9.86 348 P **Pn** 07 59 28.1 +3.3
EIL Elat 9.92 125 P **Pn** 07 59 24.4 -1.1
comp=Z,88nm,0.4s,baz=293,slow=3.1,SNR=255
EIL S **Sn** 08 01 07.0 -8.2
comp=Z,121nm,0.4s,baz=331,slow=9.6,SNR=6.2
EIL Elat 9.92 125 ⇑P **Pn** 07 59 23.2 -2.4
EIL Elat 9.92 125 P **Pn** 07 59 23.9 -1.7
ASF Jabal al Asfar 10.01 108 P **Pn** 07 59 26.2 -0.7
comp=Z,27nm,0.3s,baz=331,slow=7.8,SNR=141
ASF S **Sn** 08 01 17.5 -0.1
comp=Z,22nm,0.4s,baz=157,slow=20,SNR=3.6
SCTR Scanteiesti 10.06 9 ⇓P **Pn** 07 59 30.6 +3.2
HBST Basata 10.07 128 P **Pn** 07 59 26.3 -1.4
COVR Voineasa-Covas 10.08 2 ⇓P **Pn** 07 59 30.8 +3.0
HKAT Jabal Katrina 10.11 133 P **Pn** 07 59 26.4 -1.9
PLOR Plostina 10.11 4 ⇓P **Pn** 07 59 32.0 +3.9
PLOR Plostina 10.11 4 P **Pn** 07 59 32.0 +3.9
VRI Vrincioaia 10.13 4 ⇓P **Pn** 07 59 32.2 +3.8

VRI Vrincioaia 10.13 4 P **Pn** 07 59 32.1 +3.8
NUB Nuweibaa 10.15 129 P **Pn** 07 59 27.4 -1.3
PAOL Paolisi 10.15 305 **Pn** 07 59 28.2 -0.6
DOPR Dopca 10.20 359 ⇓P **Pn** 07 59 33.5 +4.2
BZS Buzias 10.30 344 ⇓P **Pn** 07 59 33.5 +2.7
BZS Buzias 10.30 344 P **Pn** 07 59 33.4 +2.7
BZS Buzias 10.30 344 ⇑P **Pn** 07 59 33.8 +3.0
DEV Deva 10.32 349 ⇑P **Pn** 07 59 34.5 +3.5
DEV Deva 10.32 349 P **Pn** 07 59 34.5 +3.5
OZUR 10.32 1 ⇑P **Pn** 07 59 33.7 +2.6
SURR Surduc 10.33 346 ⇑P **Pn** 07 59 34.8 +3.7
HDHB Dhahab 10.34 130 P **Pn** 07 59 30.3 -1.1
ONER Baraj Valea Uz 10.58 3 ⇑P **Pn** 07 59 38.9 +4.4
HDK1 Dakhla 10.69 161 P **Pn** 07 59 36.0 -0.2
TESR Tescani 10.77 4 ⇑P **Pn** 07 59 40.3 +3.2
KIJV Kijevo 10.86 322 *e*Pn **Pn** 07 59 35.6 -2.8
HHRG Al Ghardaqah 10.87 139 P **Pn** 07 59 38.9 +0.2
SIRR Siria 10.91 345 ⇓P **Pn** 07 59 41.8 +2.7
AKRG Al Kharijah 11.05 156 P **Pn** 07 59 40.5 -0.5
BLY Banja Luka 11.05 327 *e*Pn Pn 07 59 33.7 -7.3
GTR Jabal at Tayr 11.06 156 P **Pn** 07 59 40.1 -1.1
INTR Introdacqua 11.07 308 **Pn** 07 59 41.0 -0.2
MARR Marisel-Cluj 11.07 351 ⇓P **Pn** 07 59 44.2 +2.9
A050A Klekovaca 11.15 324 *e*Pn **Pn** 07 59 40.7 -1.7
SIM Simferopol' 11.22 33 *e*P **Pn** 07 59 46.9 +3.7
SIM *e*S **Sn** 08 01 53.0 +6.2
SIM pmax pmax
comp=Z,28nm,0.8s
DRGR 11.24 350 ⇑P **Pn** 07 59 47.6 +4.0
DRGR 11.24 350 P **Pn** 07 59 47.5 +4.0
A051A Mrakovica 11.38 327 *e*Pn **Pn** 07 59 42.4 -3.1
MILM Milestii Mici 11.40 11 *e*P **Pn** 07 59 47.0 +1.4
comp=Z,80nm,0.9s
AQU L'Aquila 11.56 308 P Pn 07 59 52.7 +4.7
AQU pmax pmax
comp=Z,41nm,0.9s
PRAR RASCA 11.60 2 ⇓P **Pn** 07 59 52.7 +4.3
CAMP Campotosto 11.65 309 **Pn** 07 59 47.6 -1.7
MORH Mrgy, Hungar 11.70 335 *e*Pn **Pn** 07 59 48.0 -1.7
BURAR Bucovina Array 11.85 359 Pn **Pn** 07 59 50.3 -1.6
BURAR Bucovina Array 11.85 359 ⇓P **Pn** 07 59 55.8 +3.8
BURAR Bucovina Array 11.85 359 P **Pn** 07 59 55.7 +3.8
MOSL Moslavina 11.92 328 *e*Pn **Pn** 07 59 48.8 -4.0
FDMO Fiordimonte 12.12 311 **Pn** 07 59 54.1 -1.4
APRS Wahet Paris 12.17 158 P **Pn** 07 59 56.3 -0.1
CESX Cesi 12.22 308 **Pn** 07 59 56.2 -0.7
MARD Mardin 12.28 78 **Pn** 07 59 57.9 0.0
PTJ Puntijarka 12.49 327 P **Pn** 08 00 03.7 +3.0
BOJS Bojanci 12.52 324 *i* Pn **Pn** 07 59 57.1 -3.8
BOJS *i* Sn Sn 08 02 08.4 -10
NEDF New Edfo 12.54 148 P **Pn** 08 00 01.1 -0.3
MGAB Montegabbione 12.67 308 ⇑P **Pn** 08 00 02.7 -0.3
ANN Anapa 12.74 41 *e*P **Pn** 08 00 06.4 +2.5
ANN *e*S **Sn** 08 02 28.2 +4.4
ANN pmax pmax
comp=Z,16nm,0.7s
BRJN Brijuni 12.86 319 *e*Pn **Pn** 08 00 01.8 -3.8
PSZ Piszkesteto 12.87 342 **Pn** 08 00 04.6 -1.3
PSZ Piszkesteto 12.87 342 ⇑P **Pn** 08 00 08.2 +2.3
PSZ Piszkesteto 12.87 342 P **Pn** 08 00 08.2 +2.3
KEST Kesra 13.24 322 **Pn** 08 00 10.4 -0.4
KEST Kesra 13.24 275 P **Pn** 08 00 09.5 -1.4
comp=Z,5.9nm,0.7s,baz=110,slow=9.4,SNR=34
KEST S **Sn** 08 02 30.0 -6.3
comp=Z,6.0nm,0.5s,baz=96,slow=21,SNR=4.2
KOLS Kolonicke sedl 13.39 350 *e*P **P** 08 00 18.0 -1.9
KOLS Kolonicke sedl 13.39 350 *e*P **P** 08 00 18.0 -1.9
KOLS *e* 08 00 24.3
TRI Trieste 13.39 321 Pn **Pn** 08 00 10.1 -2.7
TRI Trieste 13.39 321 P **Pn** 08 00 10.1 -2.7
NNMR New North Mara 13.40 152 P **Pn** 08 00 13.1 +0.1
VSL Villasalto 13.42 291 **Pn** 08 00 11.7 -1.4
VSL Villasalto 13.42 291 ⇓P **Pn** 08 00 11.1 -2.0
SOKA Soboth 13.50 327 *e*Pn **Pn** 08 00 10.7 -3.6
comp=Z,2.6nm,0.3s
SOKA *e*Sn Sn 08 02 33.1 -9.4
comp=Z,0.1nm,0.2s
ASHG Umm Shaghir 13.51 156 P **Pn** 08 00 14.2 -0.2
OBKA Obir 13.59 326 *i* Pn **Pn** 08 00 12.0 -3.5
comp=Z,1.0nm,0.3s
AWKL West Kalabsha 13.64 153 P **Pn** 08 00 16.5 +0.4
SABO M.te Sabotino 13.66 322 **Pn** 08 00 13.6 -2.8
ARSA Arzberg 13.74 330 Pn **Pn** 08 00 15.7 -1.7
RONA Rosalia, Austr 13.80 333 *i* Pn **Pn** 08 00 19.0 +0.8
comp=Z,0.2nm,0.1s
HMSM Jabal Masmas 13.94 155 P **Pn** 08 00 20.3 +0.1
STHS Stebnicka Huta 14.02 348 *e*P **P** 08 00 27.1 +0.2
STHS Stebnicka Huta 14.02 348 *e*P **P** 08 00 27.0 +0.2
STHS *e* 08 00 35.1
HKFR Khafra 14.02 158 P **Pn** 08 00 22.3 +1.0
MYKA Terra Mystica 14.10 324 *e*Pn **Pn** 08 00 20.3 -2.0
comp=Z,0.3nm,0.2s
ZCCA Zocca 14.12 312 Pn **Pn** 08 00 20.8 -1.7
GEVA Gevas 14.15 74 Pn **Pn** 08 00 23.2 +0.2
CONA Conrad Observa 14.16 332 *i* Pn **Pn** 08 00 22.2 -0.7
comp=Z,0.2nm,0.2s
STAL STALIGIAL 14.31 321 Pn **Pn** 08 00 21.8 -3.1
CIMO Cimolais 14.48 321 **Pn** 08 00 24.1 -3.0
KBA Koreinsper 14.57 325 *e*Pn **Pn** 08 00 24.4 -4.1
comp=Z,0.1nm,0.1s
KBA *e*Sn Sn 08 02 57.9 -11
comp=Z,4.2nm,0.7s
PGF Pioggiola 14.57 303 P **P** 08 00 33.5 +0.4
PGF pmax pmax
comp=Z,33nm,0.8s
PGF Pioggiola 14.57 303 ⇓P **Pn** 08 00 28.2 -0.2
CTI Castel Tesino 14.72 319 Pn **Pn** 08 00 27.6 -2.8
CTI Castel Tesino 14.72 319 P **Pn** 08 00 27.6 -2.8
MOA Molln 14.74 329 *e*Pn **Pn** 08 00 29.8 -0.6
comp=Z,0.3nm,0.2s
ABTA Abfaltersbach 14.74 322 *e*Pn **Pn** 08 00 27.8 -2.7
comp=Z,0.3nm,0.2s
ABTA *e*Sn Sn 08 03 03.5 -9.2
comp=Z,0.4nm,0.2s
ERBR Yeremizino-Bor 14.99 44 *e*P **P** 08 00 38.5 +0.9
ERBR *e*S **S** 08 03 25.9 -6.6
ERBR pmax pmax
comp=Z,56nm,0.8s
LESA Schwarzleotal 15.13 324 *e*Pn **Pn** 08 00 35.4 -0.2
comp=Z,0.2nm,0.1s
LESA *e*Sn **Sn** 08 03 13.0 -9.1
comp=Z,3.7nm,0.6s
KIEV Kiev 15.15 9 **Pn** 08 00 35.4 -0.2
KIEV Kiev 15.15 9 P **Pn** 08 00 35.4 -0.2
KIEV pmax pmax
comp=Z,44nm,0.5s
KIEV Kiev 15.15 9 ⇑P **P** 08 00 39.0 -0.3
AKASG Malin Array Be 15.15 9 **Pn** 08 00 37.0 +1.3
AKASG Malin Array Be 15.15 9 P **Pn** 08 00 35.2 -0.5
comp=Z,6.5nm,0.4s,baz=203,slow=11,SNR=42
AKASG S **Sn** 08 03 21.2 -1.2
comp=Z,2.0nm,0.6s,baz=192,slow=22,SNR=9.7
AKASG LR LR 08 06 22.9
comp=Z,55nm,21.5s,baz=179,slow=37
AKASG Malin Array Be 15.15 9 *ce*P **P** 08 00 38.9 -0.5
AKASG pmax pmax
comp=Z,25nm,0.4s
AKBB Malin Array Si 15.15 9 **Pn** 08 00 35.4 -0.3
AKBB Malin Array Si 15.15 9 *de*P **P** 08 00 38.9 -0.5
SHA1 Shidzhatmaz 15.30 53 ⇑ *e*P **P** 08 00 42.5 +1.1
KIV Kislovodsk 15.42 53 *e*P **P** 08 00 44.0 +1.5
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,13nm,14.0s
KBZ Khabaz 15.46 54 P **P** 08 00 41.0 -1.7
comp=Z,6.4nm,0.9s,baz=254,slow=7.7,SNR=23
KBZ LR LR 08 07 54.2
comp=Z,32nm,18.9s,baz=232,slow=42
KBZ Khabaz 15.46 54 *de*P **P** 08 00 42.2 -0.6
KBZ pmax pmax
comp=Z,16nm,0.9s
CKRC Cesky Krumlov 15.48 331 *e*P **Pn** 08 00 40.4 +0.4
CKRC Cesky Krumlov 15.48 331 *e*PN **Pn** 08 00 40.4 +0.4
WTTA Wattenberg 15.53 322 *e*Pn **Pn** 08 00 37.4 -3.4
comp=Z,0.8nm,0.2s
WTTA *e*Sn Sn 08 03 21.9 -10
comp=Z,3.2nm,0.6s
WATA Walderalm 15.61 322 *e*Pn **Pn** 08 00 38.6 -3.1
comp=Z,4.7nm,0.5s
WATA *e*Sn Sn 08 03 23.6 -10
comp=Z,0.5nm,0.2s
GNI Garni 15.69 68 Pn **Pn** 08 00 43.2 +0.4

GNI Garni 15.69 68 P **P** 08 00 44.2 -1.4
comp=Z,11nm,0.5s,baz=222,slow=12,SNR=4.1
GNI LR LR 08 07 49.7
comp=Z,68nm,20.1s,baz=287,slow=41
GNI Garni 15.69 68 *de*P **P** 08 00 46.3 +0.7
GNI pmax pmax
comp=Z,14nm,1.8s
SQTA Sankt Quirin 15.72 321 *e*Pn **Pn** 08 00 41.8 -1.3
comp=Z,2.8nm,0.4s
GEC2 GERESS Array S 15.75 330 **Pn** 08 00 43.2 -0.2
GERES GERESS Array B 15.75 330 **Pn** 08 00 42.9 -0.6
GERES GERESS Array B 15.75 330 P **Pn** 08 00 43.0 -0.4
comp=Z,4.9nm,0.4s,baz=148,slow=13,SNR=16
GERES LR LR 08 08 19.0
comp=Z,37nm,19.2s,baz=148,slow=43
FUORN Ofenpass-Fuorn 15.83 318 **Pn** 08 00 44.1 -0.6
FETA Feichten 15.84 320 *e*Pn **Pn** 08 00 44.5 -0.2
comp=Z,18nm,1.0s
FETA *e*Sn **Sn** 08 03 33.0 -6.3
comp=Z,0.3nm,0.2s
MOTA Moosalm 15.85 321 *e*Pn **Pn** 08 00 43.5 -1.3
comp=Z,0.5nm,0.2s
MOTA *e*Sn **Sn** 08 03 33.0 -6.8
comp=Z,0.3nm,0.1s
KHC Kasperske Hory 16.02 330 *ce*P **Pn** 08 00 46.6 -0.3
KHC pmax pmax
comp=Z,3.0nm,0.5s
KHC Kasperske Hory 16.02 330 *e*PN **Pn** 08 00 45.6 -1.3
KHC *e*SN **Sn** 08 03 42.1 -1.6
KHC Kasperske Hory 16.02 330 ⇑P **Pn** 08 00 46.7 -0.3
ZVC Zvikov 16.03 332 *e*PN **Pn** 08 00 46.4 -0.5
SAOF Saorge 16.11 306 P **P** 08 00 50.8 +0.7
SAOF pmax pmax
comp=Z,28nm,1.1s
NAX Nakhchivan 16.12 72 P **P** 08 00 52.8 +2.4
DAVOX Davos/Dischmat 16.14 318 P **Pn** 08 00 48.5 0.0
comp=Z,3.1nm,0.5s,baz=150,slow=15,SNR=7.6
DAVOX S **Sn** 08 03 40.4 -6.3
comp=Z,3.0nm,0.5s,baz=8.7,slow=13,SNR=2.9
DAVOX LR LR 08 09 19.9
comp=Z,25nm,21.9s,baz=250,slow=46
TUE Stuetta 16.25 316 **Pn** 08 00 49.0 -1.0
LLS Linth-Limmern 16.66 317 P **P** 08 00 59.4 +3.0
LLS pmax pmax
comp=Z,15nm,0.7s
MMK Mattmark 16.82 313 P **Pn** 08 00 57.3 +0.2
MMK pmax pmax
comp=Z,4.0nm,0.8s
GANJ Ganja 16.96 67 P **P** 08 01 03.2 +3.6
BNI Bardonecchia 17.13 309 **Pn** 08 01 00.8 0.0
BNI Bardonecchia 17.13 309 P **Pn** 08 01 00.8 0.0
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 17.13 309 ⇓P **P** 08 01 02.4 +0.9
SENIN Lac Senin/Sane 17.38 313 **Pn** 08 01 03.5 -0.4
SENIN IAmb IAmb 08 01 07.8
comp=Z,31nm,0.6s
RSL Roselend 17.45 310 P **P** 08 01 05.2 +0.1
RSL pmax pmax
comp=Z,41nm,0.9s
SLE Schleitheim 17.49 319 P **P** 08 01 06.8 +1.5
MNGR Mingechevir, A 17.55 67 P **P** 08 01 09.6 +3.6
SEKA Sheki 17.72 66 P **Pn** 08 01 12.5 +4.6
BFO Black Forest 17.92 320 P **P** 08 01 09.8 -0.3
BFO IAmb IAmb 08 01 31.2
comp=Z,10nm,0.4s
BFO Black Forest 17.92 320 P **P** 08 01 09.8 -0.3
BFO pmax pmax
comp=Z,10.0nm,0.4s
CLL Collm 18.00 334 **P** 08 01 10.6 -0.3
CLL Collm 18.00 334 ⇑ *i*P **P** 08 01 10.5 -0.3
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 18.00 334 ⇑ *i*P **P** 08 01 10.5 -0.3
comp=Z,11nm,0.8s
CLL *ex* x 08 01 28.0
CLL *i* sP **sP** 08 01 34.4 +1.0
CLL *i* sPP 08 01 43.8
comp=Z,14nm,1.2s
CLL *e*S **Sn** 08 04 28.0 -3.1
MOX Moxa 18.00 330 P **P** 08 01 10.5 -0.4
MOX pmax pmax
comp=Z,8.0nm,1.2s
VSR Storozhevoye 18.25 28 *e*P **Pn** 08 01 15.0 +0.8
VSR pmax pmax
comp=Z,20nm,1.0s
SUW Suwalki 18.33 355 P **P** 08 01 13.2 -1.2
SUW Suwalki 18.33 355 P **Pn** 08 01 15.0 -0.1
MAK Makhachkala 18.34 60 *e*P **Pn** 08 01 17.7 +2.3
MAK *e*S **Sn** 08 04 45.6 +6.0
MAK pmax pmax
comp=Z,63nm,0.7s
MAK MLR MLR
comp=Z,60nm,13.0s
ECH Echery 18.48 318 **P** 08 01 15.1 -1.1
ECH Echery 18.48 318 P **P** 08 01 15.1 -1.1
ECH pmax pmax
comp=Z,6.0nm,0.7s
ECH Echery 18.48 318 ⇓P **Pn** 08 01 17.2 +0.2
SSB Saint Sauveur 18.60 307 P **P** 08 01 16.3 -1.3
SSB Saint Sauveur 18.60 307 P **P** 08 01 16.3 -1.3
SSB pmax pmax
comp=Z,7.0nm,0.9s
LKRN Lenkeran, Azer 18.65 74 P **Pn** 08 01 19.6 +0.5
MNK Minsk 18.80 4 *i* P **P** 08 01 19.8 +0.2
comp=E,21nm,0.7s
MNK *i* P **P** 08 01 19.8 +0.2
comp=N,22nm,0.8s
MNK *i* P **P** 08 01 19.8 +0.2
comp=Z,16nm,0.7s,baz=186
MNK *i* pP **pP** 08 01 31.2 -2.5
MNK *i* sP **sP** 08 01 37.8 -4.5
MNK *i* S **Sn** 08 04 51.8 +1.2
MNK *i* sS sS 08 05 06.0 -6.1
MNK *i* LQ LQ 08 06 48.4
MNK *i* LR LR 08 07 16.4
MNK Minsk 18.80 4 *i* P **P** 08 01 19.8 +0.2
MNK *i* S **Sn** 08 04 51.7 +1.2
MNK pmax pmax
comp=Z,16nm,0.7s
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=E,21nm,0.7s
TNS Taunus Mts 19.09 325 P **Pn** 08 01 24.2 -0.2
TNS pmax pmax
comp=Z,24nm,0.7s
NACGM Naroch 19.16 2 *e*P **P** 08 01 22.7 -0.8
VRH Novokhopyorsk 19.28 32 *e*P **P** 08 01 23.1 -1.8
VRH pmax pmax
comp=Z,30nm,0.9s
LPSR Galich'ya Gora 19.29 25 *e*P **P** 08 01 23.5 -1.5
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LBL Lubilhac 19.43 306 P **Pn** 08 01 33.1 +4.7
LBL pmax pmax
comp=Z,17nm,1.1s
PLDF La Plantade 19.47 308 P **P** 08 01 27.0 -0.1
PLDF pmax pmax
comp=Z,16nm,0.8s
PABE Paberze 19.78 357 P **P** 08 01 29.1 -1.1
PABE IAmb IAmb 08 01 30.4
comp=Z,34nm,0.7s
WLF Walferdange 19.87 320 P **P** 08 01 29.9 -1.4
WLF Walferdange 19.87 320 P **P** 08 01 29.9 -1.4
WLF pmax pmax
comp=Z,14nm,0.8s
WLF Walferdange 19.87 320 *d*P **P** 08 01 30.9 -0.4
comp=Z,12nm,0.8s
WLF *dp*P **pP** 08 01 44.8 -0.5
LOR Lormes 19.88 312 P **P** 08 01 31.6 +0.1
LOR pmax pmax
comp=Z,33nm,0.9s
LOR Lormes 19.88 312 ⇑P **P** 08 01 31.4 -0.1
CEST Esterri de Car 20.06 297 **P** 08 01 34.3 +0.7
CEST IAmb IAmb 08 02 05.1
comp=Z,32nm,1.1s
RCHB Rochefort 20.64 320 *d*P Pn 08 01 42.3 -0.3
BSD Bornholm Skovb 20.72 342 *i* P **P** 08 01 36.7 -3.7
BSD IAmb IAmb 08 02 04.2
comp=Z,16nm,0.8s
BCLA Clavier 20.76 321 *d*P **P** 08 01 41.2 +0.2
OBN Obninsk 20.77 18 P **P** 08 01 37.8 -3.2
comp=Z,21nm,0.4s,baz=1.9,slow=15,SNR=2.0
OBN Obninsk 20.77 18 *e*P Pn 08 01 43.0 -1.0

OBN e 08 02 04.6
OBN e 08 05 56.2
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,42nm,20.0s
DOU Dourbes 20.94 320 *d*P **P 08 01 42.3 -0.6**
comp=Z,16nm,0.9s
BMRD Maredsous 20.97 320 *d*P **P 08 01 46.3 +3.1**
RAYN Ar Rayn 21.09 120 P 08 01 46.6 +1.8
RAYN IAmb IAmb 08 01 52.4
comp=Z,12nm,0.6s
RAYN Ar Rayn 21.09 120 P **P 08 01 46.6 +1.8**
RAYN pmax pmax
comp=Z,12nm,0.6s
RAYN Ar Rayn 21.09 120 ⇑P **P 08 01 48.0 +3.2**
CLF Chambon-Foret 21.19 313 P **P 08 01 45.3 -0.3**
CLF Chambon-Foret 21.19 313 ⇑P **P 08 01 46.0 +0.4**
MOS Moscow 21.60 19 *e*P **P 08 01 47.7 -2.1**
MOS *e*S **S 08 05 46.0 +0.8**
BLEU Blekinge 21.61 345 *i* P **P 08 01 45.0 -4.8**
TAM Tamanrasset 21.74 239 P **P 08 01 54.3 +2.5**
TAM Tamanrasset 21.74 239 P **P 08 01 54.3 +2.5**
TAM pmax pmax
comp=Z,29nm,0.5s
DEL Delary 22.20 343 *i* P **P 08 01 52.2 -4.1**
VSU Vasula 22.72 1⇑*e*P **P 08 02 04.8 +3.0**
VSU pmax pmax
comp=Z,12nm,0.9s
BELG Belogornoye 22.79 36 P **P 08 02 02.8 +0.2**
comp=Z,17nm,0.8s,baz=206,slow=5.1,SNR=11
comp=Z,17nm,0.8s
BELG Belogornoye 22.79 36⇑*e*P **P 08 02 04.8 +2.2**
BELG pmax pmax
comp=Z,9.0nm,0.9s
FABU Falkenberg 22.96 342 *i* P **P 08 02 06.0 +1.7**
ESBB Sonseca Array 23.69 288 P **P 08 02 11.0 -0.4**
ESDC Sonseca Array 23.69 288 P **P 08 02 11.0 -0.4**
ESDC Sonseca Array 23.69 288 P **P 08 02 11.2 -0.2**
comp=Z,3.4nm,0.4s,baz=82,slow=9.8,SNR=28
comp=Z,3.4nm,0.4s
PAB San Pablo 23.99 288 P 08 02 13.9 -0.2
PAB San Pablo 23.99 288 P **P 08 02 13.9 -0.2**
PAB pmax pmax
comp=Z,8.0nm,0.9s
PAB San Pablo 23.99 288⇑P **P 08 02 14.3 +0.2**
MDT Midelt 25.12 272 LR LR 08 14 20.7
comp=Z,36nm,18.4s,baz=85,slow=41
MD01 Midelt array s 25.23 272 P **P 08 02 25.2 -0.3**
MD31 MD31 25.23 272 P **P 08 02 25.4 -0.1**
HFS Hagfors 25.58 346 P **P 08 02 26.6 -1.7**
comp=Z,3.1nm,0.8s,baz=150,slow=12,SNR=8.2
HFS LR LR 08 13 37.7
comp=Z,30nm,21.5s,baz=152,slow=39
comp=Z,3.1nm,0.8s
FINES FINESS Array B 25.70 0 P **P 08 02 29.6 +0.3**
FINES FINESS Array B 25.70 0 P **P 08 02 28.4 -1.0**
comp=Z,0.8nm,0.4s,baz=167,slow=10,SNR=7.2
FINES LR LR 08 13 01.7
comp=Z,45nm,20.9s,baz=206,slow=37
comp=Z,0.8nm,0.4s
FINES FINESS Array B 25.70 0 P **P 08 02 29.6 +0.3**
PBRG Braganca 25.85 293 *e*P **P 08 02 30.8 -0.2**
MVO Moncorvo 26.05 292 *e*P **P 08 02 32.8 0.0**
PBAR Barrancos 26.15 285 *e*P **P 08 02 34.1 +0.4**
PCBR Castelo Branco 26.39 289 *e*P **P 08 02 37.3 +1.5**
PESTR Estremoz 26.53 287 P **P 08 02 38.0 +0.9**
PESTR IAmb IAmb 08 03 07.7
comp=Z,33nm,1.5s
PESTR Estremoz 26.53 287 *e*P **P 08 02 38.0 +0.9**
POLO Lamas de Olo 26.63 292 *e*P **P 08 02 38.2 +0.1**
KLMR Klimovskoe 26.64 15 *e*P **P 08 02 35.2 -2.5**
KLMR *e**PP **pP 08 02 51.8 -1.9**
KLMR pmax pmax
comp=Z,18nm,1.7s
PVIS Viseu 26.70 291 *e*P **P 08 02 38.7 +0.1**
PVAQ Vaqueiros 26.76 283 P **P 08 02 39.3 +0.2**
PVAQ Vaqueiros 26.76 283 *e*P **P 08 02 39.2 +0.1**
PBEJ Beja 26.81 285 *e*P **P 08 02 41.4 +1.7**
EVO Evora 26.88 286 *e*P **P 08 02 41.5 +1.2**
NOA NORSAR Array B 26.92 344 P **P 08 02 39.0 -1.4**
comp=Z,0.7nm,0.6s,baz=243,slow=19,SNR=2.6
NOA LR LR 08 15 01.1
comp=Z,12nm,21.3s,baz=160,slow=40
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 26.92 344 P **P 08 02 39.0 -1.4**
PCVE Castro Verde 26.99 284 *e*P **P 08 02 41.7 +0.4**
PGAV Gavieira, Arco 27.00 294 *e*P **P 08 02 41.1 -0.3**
PMTG Montargil 27.01 287 *e*P **P 08 02 40.7 -0.7**
MESJ Messejana 27.11 285 *e*P **P 08 02 44.7 +2.4**
MESJ IAmb IAmb 08 02 45.4
comp=Z,15nm,0.9s
PARRA Arraiolos 27.66 287 *e*P **P 08 02 40.9 -6.3**
KIRV Kirov 27.69 27 LR LR 08 14 33.8
comp=Z,31nm,18.8s,baz=224,slow=38
EKA Eskdalemuir Ar 27.78 324 P **P 08 02 47.2 -0.8**
comp=Z,5.4nm,0.5s,baz=128,slow=10.0,SNR=15
comp=Z,5.4nm,0.5s
ESK Eskdalemuir 27.79 324 P **P 08 02 47.8 -0.4**
ESK Eskdalemuir 27.79 324 P **P 08 02 47.8 -0.4**
ESK pmax pmax
comp=Z,44nm,1.5s
ESK Eskdalemuir 27.79 324⇑P **P 08 02 50.7 +2.5**
AB31 Akbulak array 28.39 51 P **P 08 02 53.6 0.0**
ABKAR Akbulak array 28.39 51 P **P 08 02 53.5 -0.1**
ARTI Arti 30.23 37 LR LR 08 15 06.0
comp=Z,24nm,21.1s,baz=246,slow=36
TORD Torodi Ar. Bea 31.18 230 P **P 08 03 19.2 +0.7**
LODK Lodwar 33.41 162 P **P 08 03 39.3 +1.2**
LODK IAmb IAmb 08 03 41.5
comp=Z,5.2nm,0.7s
ARCES ARCESS Array B 33.83 360 P **P 08 03 40.0 -1.2**
comp=Z,0.8nm,0.4s,baz=183,slow=9.1,SNR=5.7
ARCES LR LR 08 18 06.5
comp=Z,40nm,19.1s,baz=128,slow=37
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 33.83 360 P **P 08 03 40.0 -1.2**
KK31 Karatay Array 35.08 64 P **P 08 03 52.2 -0.2**
KK31 IAmb IAmb 08 04 25.1
comp=Z,10nm,1.5s
KK31 Karatay Array 35.08 64 P **P 08 03 52.2 -0.2**
KK31 pmax pmax
comp=Z,10.0nm,1.5s
KKAR Karatay Array 35.08 64 P 08 03 52.0 -0.3
KKAR Karatay Array 35.08 64 P **P 08 03 52.1 -0.3**
BRVK Borovoye 35.59 47 P 08 03 56.7 +0.2
BRVK IAmb IAmb 08 03 58.4
comp=Z,6.9nm,1.2s
BRVK Borovoye 35.59 47 *i* P **P 08 03 56.8 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 35.65 47 P **P 08 03 57.3 +0.3**
comp=Z,2.1nm,0.5s,baz=235,slow=6.2,SNR=9.0
comp=Z,2.1nm,0.5s
ARSB Arslanbob 37.08 67 P 08 04 08.6 -1.0
ARSB IAmb IAmb 08 04 12.7
comp=Z,7.6nm,0.8s
ARSB Arslanbob 37.08 67 P **P 08 04 08.6 -1.0**
ARSB pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 38.04 64⇑*e*P **P 08 04 19.3 +1.6**
AAK pmax pmax
comp=Z,6.0nm,1.3s
ACRG Accra 38.26 224 P **P 08 04 20.4 +0.9**
KMBO Kilima Mbogo 38.27 161 LR LR 08 21 54.6
comp=Z,63nm,18.4s,baz=148,slow=39
NIL Nilore 38.90 79 P 08 04 24.7 -0.2
NIL IAmb IAmb 08 04 44.7
comp=Z,9.1nm,0.9s
NIL Nilore 38.90 79 P **P 08 04 24.7 -0.2**
NIL pmax pmax
comp=Z,9.0nm,1.0s
KDJ Kajisay 40.08 65 P 08 04 33.8 -0.9
KDJ IAmb IAmb 08 04 38.7
comp=Z,5.1nm,0.8s
KDJ Kajisay 40.08 65 P **P 08 04 33.8 -0.9**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
BORG Borgarnes 40.21 331 LR LR 08 22 03.3
comp=Z,14nm,18.7s,baz=317,slow=37
DBIC Dimbokro 40.25 231 P **P 08 04 36.7 +0.5**
DBIC Dimbokro 40.25 231 P **P 08 04 36.5 +0.4**
comp=Z,14nm,0.4s,baz=61,slow=8.1,SNR=45
comp=Z,14nm,0.4s
DBIC Dimbokro 40.25 231 P **P 08 04 36.7 +0.5**
DBIC pmax pmax
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 40.44 52 P **P 08 04 38.0 +0.6**
comp=Z,5.4nm,0.4s,baz=274,slow=8.7,SNR=34
comp=Z,5.4nm,0.4s
KURK Kurchatov 40.50 51 P 08 04 38.0 +0.2
KURK IAmb IAmb 08 04 40.1
comp=Z,9.8nm,1.1s
KURK Kurchatov 40.50 51 P **P 08 04 38.0 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.1s
SPITS Spitsbergen Ar 42.70 357 P **P 08 04 54.6 -0.9**
comp=Z,5.1nm,0.8s,baz=153,slow=9.7,SNR=1.7
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 43.12 57 P 08 05 00.1 +0.8
MKAR Makanchi Array 43.12 57 P **P 08 05 00.0 +0.7**
comp=Z,5.1nm,0.5s,baz=272,slow=8.2,SNR=60
comp=Z,5.1nm,0.5s
ZAA0 Zalesovo Array 44.30 47 P 08 05 08.4 -0.3
ZAA0 IAmb IAmb 08 05 09.8
comp=Z,6.7nm,0.8s
ZALV Zalesovo Beam 44.30 47 P 08 05 08.1 -0.6
ZALV Zalesovo Beam 44.30 47 P **P 08 05 08.2 -0.5**
comp=Z,5.4nm,0.4s,baz=268,slow=9.0,SNR=21
comp=Z,5.4nm,0.4s
WMQ Urumqi 47.36 60 *e*P **P 08 05 31.6 -1.4**
WMQ pmax pmax
comp=Z,140nm,1.1s
NRS Narsarsuaq 50.44 323 P P 08 05 56.5 +0.3
NRS Narsarsuaq 50.44 323 P P 08 05 56.5 +0.3
NRS pmax pmax
comp=Z,36nm,1.1s
TSUM Tsumeb 55.20 189 P P 08 06 33.0 +1.2
TSUM IAmb IAmb 08 06 34.0
comp=Z,5.2nm,0.7s
SHL Shillong 56.93 81 P P 08 06 44.4 0.0
SHL IAmb IAmb 08 06 45.8
comp=Z,7.1nm,0.9s
SHL Shillong 56.93 81 P P 08 06 44.4 0.0
SHL pmax pmax
comp=Z,7.0nm,0.9s
GRTLG Ghanzi 56.97 185 P **P 08 06 45.6 +1.2**
MREMI Moremi 58.04 178 P 08 06 53.7 +1.8
KGCAE Kacgae 58.39 184 P 08 06 56.0 +1.6
KOOLE Kule 58.66 186 P **P 08 06 57.9 +1.6**
SONM Songino Array 58.80 51 P **P 08 06 57.5 +0.3**
comp=Z,1.3nm,0.5s,baz=297,slow=7.7,SNR=7.7
comp=Z,1.3nm,0.5s
LPHEP Lephephe 58.80 180 P 08 06 59.3 +2.1
KDWAN Kaudwane 58.83 181 P **P 08 06 58.6 +1.3**
TIXI Tiksi 60.47 21 LR LR 08 36 17.1
comp=Z,24nm,18.1s,baz=226,slow=39
SCHQ Schefferville 62.98 320 P **P 08 07 25.2 0.0**
SCHQ Schefferville 62.98 320 P **P 08 07 24.8 -0.5**
comp=Z,4.3nm,0.4s,baz=67,slow=5.0,SNR=16
comp=Z,4.3nm,0.4s
BOSA Boshof 64.03 180 P **P 08 07 32.8 +0.4**
comp=Z,5.0nm,0.4s,baz=355,slow=6.2,SNR=24
comp=Z,5.0nm,0.4s
HHC Hu-ho-hao-te 64.98 57 *e*P **P 08 07 39.0 +0.3**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,79nm,5.1s
CMAR Chiang Mai Arr 66.11 84 P **P 08 07 46.6 +0.4**
comp=Z,1.3nm,0.4s,baz=295,slow=7.2,SNR=6.0
comp=Z,1.3nm,0.4s
NJ2 Nanjing 74.42 62 *e*P **P 08 08 35.9 -0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MA2 Magadan 74.77 26 LR LR 08 44 12.3
comp=Z,25nm,18.2s,baz=242,slow=38
USRK Ussuriysk Ar. 76.14 45 P **P 08 08 45.6 -0.7**
comp=Z,1.8nm,0.6s,baz=290,slow=4.6,SNR=6.2
comp=Z,1.8nm,0.6s
YKA Yellowknife Ar 77.00 342 P **P 08 08 49.8 -1.1**
comp=Z,0.8nm,0.6s,baz=90,slow=23,SNR=14
comp=Z,0.8nm,0.6s
E19K Redstone River 77.08 1 P **P 08 08 50.8 -0.5**
E19K IAmb IAmb 08 08 53.2
comp=Z,6.6nm,0.7s
EPYK Eagle Plains 77.29 353 P **P 08 08 51.9 -0.6**
EPYK IAmb IAmb 08 09 27.8
comp=Z,11nm,1.4s
G27K Doyon Strip 77.29 355 P **P 08 08 52.4 -0.1**
G27K IAmb IAmb 08 08 55.0
comp=Z,7.1nm,1.4s
F21K Alatna River 77.33 360 P **P 08 08 52.4 -0.3**
F21K IAmb IAmb 08 08 53.4
comp=Z,5.0nm,0.9s
KSAR Wonju Array Be 77.59 53 P **P 08 08 54.5 -0.1**
KSAR Wonju Array Be 77.59 53 P **P 08 08 54.5 -0.1**
H29M Whitestone 77.59 353 P **P 08 08 53.7 -0.4**
H29M IAmb IAmb 08 09 27.9
comp=Z,8.1nm,1.1s
KSRS Korea Array 77.61 53 P **P 08 08 54.7 0.0**
comp=Z,2.1nm,0.6s,baz=316,slow=4.4,SNR=9.1
comp=Z,2.1nm,0.6s
H27K Steamboat Moun 77.85 355 P **P 08 08 56.0 +0.3**
H27K IAmb IAmb 08 09 33.8
comp=Z,7.2nm,1.3s
G21K Allakaket 78.04 360 P 08 08 56.2 -0.4
G21K IAmb IAmb 08 08 58.0
comp=Z,5.1nm,0.8s
I30M Mount Dempster 78.37 352 P 08 08 58.2 -0.5
I30M IAmb IAmb 08 08 58.5
comp=Z,4.8nm,0.7s
I29M Ogilvie Camp, 78.43 353 P **P 08 08 57.5 -1.3**
I29M IAmb IAmb 08 08 58.7
comp=Z,5.2nm,0.6s
I28M Miner Creek 78.49 354 P **P 08 08 58.6 -0.7**
I28M IAmb IAmb 08 09 37.5
comp=Z,6.9nm,1.3s
IMAR Indian Mountai 78.58 360 P **P 08 08 59.0 -0.6**
H23K Yukon River 78.67 358 P **P 08 09 00.9 +0.8**
H23K IAmb IAmb 08 09 01.9
comp=Z,5.4nm,1.1s
H21K Melozitna River 78.90 359 P **P 08 09 01.1 -0.3**
H21K IAmb IAmb 08 09 02.4
comp=Z,3.2nm,0.8s
J30M Hart River 78.99 352 P 08 09 01.9 -0.2
J30M IAmb IAmb 08 09 02.5
comp=Z,5.3nm,0.5s
H19K Roundabout Mou 79.02 1 P **P 08 09 01.8 -0.2**
FFC Flin Flon 79.28 332 P **P 08 09 03.9 +0.3**
FFC IAmb IAmb 08 09 05.0
comp=Z,4.0nm,0.8s
FFC Flin Flon 79.28 332 P **P 08 09 03.9 +0.3**
FFC pmax pmax
comp=Z,4.0nm,0.8s
I21K Tanana 79.37 359 P **P 08 09 04.2 +0.3**
I21K IAmb IAmb 08 09 05.8
comp=Z,3.3nm,0.8s
MLY Manley 79.50 358 P **P 08 09 04.2 -0.5**
MLY IAmb IAmb 08 09 07.3
comp=Z,3.2nm,0.7s
ILAR Eielson Array 79.62 357 P **P 08 09 04.6 -0.7**
comp=Z,0.9nm,0.8s,baz=344,slow=3.6,SNR=7.8
comp=Z,0.9nm,0.8s
ULM Lac du Bonnet 80.03 326 P **P 08 09 07.2 -0.5**
comp=Z,1.4nm,0.5s,baz=342,slow=7.6,SNR=4.6
comp=Z,1.4nm,0.5s
J19K Poorman 80.57 1 P **P 08 09 10.8 +0.4**
J19K IAmb IAmb 08 09 11.8
comp=Z,6.5nm,1.2s
KTH Kantishna Hill 80.98 358 P **P 08 09 12.5 -0.3**
KTH IAmb IAmb 08 09 13.0
comp=Z,3.4nm,0.6s
BCAR Beaver Creek A 81.00 354 P **P 08 09 12.9 +0.1**
L27K Beaver Creek, 81.00 354 P 08 09 12.6 -0.2
RND Reindeer 81.07 357 P **P 08 09 12.0 -1.2**
RND Reindeer 81.07 357 P **P 08 09 12.0 -1.2**
RND pmax pmax
comp=Z,3.0nm,0.7s
TRF Thorofare Moun 81.07 358 P **P 08 09 12.8 -0.5**
TRF IAmb IAmb 08 09 43.1
comp=Z,11nm,1.5s
K20K Telida 81.22 360 P **P 08 09 13.3 -0.6**
M29M Somme Creek 81.30 353 P **P 08 09 14.6 +0.1**
M29M IAmb IAmb 08 09 15.3
comp=Z,6.2nm,0.6s
PPLA Purkeypile 81.66 359 P **P 08 09 15.9 -0.5**
MJAR Matsushiro Arr 84.63 48 P **P 08 09 31.5 -0.6**
comp=Z,1.7nm,0.8s,baz=308,slow=4.0,SNR=4.1
comp=Z,1.7nm,0.8s
BDFB Brasilia 86.30 248 P **P 08 09 41.5 +0.9**
comp=Z,1.3nm,0.4s,baz=88,slow=5.0,SNR=5.1
comp=Z,1.3nm,0.4s
PDAR Pinedale Array 91.79 329 P **P 08 10 05.8 -0.7**
comp=Z,0.2nm,0.5s,baz=12,slow=2.8,SNR=1.7
PDAR LR LR 08 54 36.0
comp=Z,10nm,20.2s,baz=346,slow=38
comp=Z,0.2nm,0.5s
ELK Elko 95.80 331 LR LR 08 58 27.9
comp=Z,23nm,19.3s,baz=112,slow=38
ASAR Alice Springs 117.77 100 PKP **PKiKP 08 15 44.3 -0.4**
comp=Z,0.3nm,0.5s,baz=288,slow=1.6,SNR=5.6
QSPA South Pole Qui 125.62 180 PKP **PKiKP 08 15 59.1 +0.3**
comp=Z,1.1nm,0.7s,baz=271,slow=1.1,SNR=11

ASRS ***12*** *08:00:16.0±1.2, 55.60N×86.23E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***12*** *08:00:22.7±5.0, 55.32N×86.19E, h0km, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=53.8km s-min=20.2km az=41.0*
ISC 12 08:00:20.8±3.3, 55.4N±0.1×86.5E±0.2, h0km, n5, σ1s 36/5, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**215**	I	I	08 11 24.3	
	baz=24,slow=320,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.71**	**215**	Pn	**Pn**	**08 00 50.1**	**-1.7**
	6.1nm,0.3s,baz=31,slow=18,SNR=56						
ZALV				Sn	**Sg**	**08 01 15.9**	**+0.4**
	3.9nm,0.3s,baz=30,slow=28,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.74**	**229**	Pn	**Pn**	**08 02 01.1**	**+0.2**
	0.1nm,0.3s,baz=45,slow=14,SNR=3.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.97**	**199**	Pn	**Pn**	**08 02 32.2**	**+0.6**
	0.1nm,0.3s,baz=19,slow=13,SNR=1.6						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**9.71**	**263**	Pn	**Pn**	**08 02 41.1**	**-0.6**
	baz=66,slow=15,SNR=2.7						
	0.6nm,0.4s						

VAO ***12*** *08:17:48.2±0.5, 20.64S×69.05W, h91km±5km, mb4.7*
SJA ***12*** *08:17:49.2±1.0, 20.71S×69.29W, h108km±5km, ML4.3, MW4.3*
GUC ***12*** *08:17:50.3±0.8, 20.71S×69.22W, h107km±4km, ML4.9*
NEIC ***12*** *08:17:50.2±1.7, 20.72S±0.03×69.28W±0.05, h106km±5km, mb4.6/236, Mwr4.7(GUC), Error ellipse: s-maj=7.4km s-min=4.7km az=95.0*
IDC ***12*** *08:17:50.7±2.5, 20.63S×69.07W, h117km±22km, mb3.9/11, mbtmp4.3/14, Error ellipse: s-maj=23.1km s-min=13.3km az=71.0*
ISC 12 08:17:48.5±0.5, 20.69S±0.03×69.16W±0.04, h104km±5km, n322, σ1s 59/265, mb4.6/108, 11C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.47**	**221**		**Pn**	**08 18 06.0**	**+1.4**
PB01				Sn	**Sn**	**08 18 18.1**	**+1.4**
PB01	**IPOC Station P**	**0.47**	**221**⇑*i*P		**Pn**	**08 18 05.8**	**+1.1**
PB01				*e*S	**Sn**	**08 18 18.0**	**+1.4**
PB01				IAML		08 18 19.0	
	comp=E,93μm,0.3s						
PB01	**IPOC Station P**	**0.47**	**221**	*e*P	**Pn**	**08 18 05.7**	**+1.1**
PB01				*e*S	**Sn**	**08 18 18.1**	**+1.4**
PB01				IAML		08 18 21.9	
	comp=Z,8μm,0.1s						
PB08	**IPOC Station P**	**0.55**	**0**		**Pn**	**08 18 07.5**	**+2.0**
PB08				Sn	**Sn**	**08 18 20.8**	**+2.6**
PB08	**IPOC Station P**	**0.55**	**0**⇓*i*P		**Pn**	**08 18 07.5**	**+2.0**
PB08				*e*S	**Sn**	**08 18 20.6**	**+2.4**
PB08	**IPOC Station P**	**0.55**	**0**	*e*P	**Pn**	**08 18 07.5**	**+2.0**
PB08				*e*S	**Sn**	**08 18 21.0**	**+2.7**
PB08				IAML		08 18 24.6	
	comp=Z,7μm,0.3s						
PB02	**IPOC Station P**	**0.93**	**228**		**Pn**	**08 18 09.8**	**+1.2**
PB02				Sn	**Sn**	**08 18 24.5**	**+0.7**
PB02	**IPOC Station P**	**0.93**	**228**⇑*i*P		**Pn**	**08 18 09.8**	**+1.2**
PB02				*e*S	**Sn**	**08 18 24.6**	**+0.7**
PB02				IAML		08 18 26.0	
	comp=E,73μm,0.3s						
PB02	**IPOC Station P**	**0.93**	**228**	*e*P	**Pn**	**08 18 10.0**	**+1.4**
PATCX	**Punta Patache**	**0.94**	**262**		**Pn**	**08 18 09.7**	**+1.0**
TA01	**Diego Aracena**	**0.97**	**277**		**Pn**	**08 18 09.7**	**+0.8**
TA01				Sn	**Sn**	**08 18 24.3**	**+0.1**
TA01	**Diego Aracena**	**0.97**	**277**⇑*i*P		**Pn**	**08 18 09.5**	**+0.7**
TA01				*e*S	**Sn**	**08 18 24.3**	**+0.1**
TA01				IAML		08 18 24.9	
	comp=E,48μm,0.4s						
TA01	**Diego Aracena**	**0.97**	**277**	*e*P	**Pn**	**08 18 09.5**	**+0.7**
TA02	**Huaiquique**	**1.00**	**294**		**Pn**	**08 18 10.2**	**+0.9**
TA02				Sn	**Sn**	**08 18 25.5**	**+0.6**
TA02	**Huaiquique**	**1.00**	**294**	*e*P	**Pn**	**08 18 10.1**	**+0.9**
TA02	**Huaiquique**	**1.00**	**294**	*e*P	**Pn**	**08 18 10.2**	**+0.9**
GO01	**Chusmiza**	**1.02**	**358**		**Pn**	**08 18 11.8**	**+1.9**
GO01				Sn	**Sn**	**08 18 28.6**	**+2.5**
GO01	**Chusmiza**	**1.02**	**358**	*e*P	**Pn**	**08 18 11.8**	**+1.9**
GO01				*e*S	**Sn**	**08 18 28.5**	**+2.5**
GO01				IAML		08 18 29.5	
	comp=N,49μm,0.2s						
GO01	**Chusmiza**	**1.02**	**358**	*e*P	**Pn**	**08 18 12.0**	**+2.1**
PB11	**IPOC Station P**	**1.04**	**333**		**Pn**	**08 18 11.0**	**+1.2**
PB11				Sn	**Sn**	**08 18 27.6**	**+1.8**
PB11	**IPOC Station P**	**1.04**	**333**	*i* P	**Pn**	**08 18 11.1**	**+1.3**
PB11				*e*S	**Sn**	**08 18 27.6**	**+1.8**
PB11				IAML		08 18 28.4	
	comp=E,58μm,0.2s						
PB11	**IPOC Station P**	**1.04**	**333**	*e*P	**Pn**	**08 18 11.3**	**+1.4**
PB09	**IPOC Station P**	**1.10**	**184**		**Pn**	**08 18 11.7**	**+1.1**
PB09				Sn	**Sn**	**08 18 29.0**	**+1.9**
PB09	**IPOC Station P**	**1.10**	**184**⇑*i*P		**Pn**	**08 18 12.1**	**+1.6**
PB09				IAML		08 18 30.6	
	comp=E,22μm,0.3s						
PB09	**IPOC Station P**	**1.10**	**184**	*e*P	**Pn**	**08 18 12.4**	**+1.9**
PB03	**IPOC Station P**	**1.46**	**202**		**Pn**	**08 18 15.1**	**+0.4**
PB03	**IPOC Station P**	**1.46**	**202**⇑*i*P		**Pn**	**08 18 15.6**	**+0.9**
PB03				IAML		08 18 36.5	
	comp=E,13μm,0.2s						
PB03	**IPOC Station P**	**1.46**	**202**	*e*P	**Pn**	**08 18 15.8**	**+1.1**
PB06	**IPOC Station P**	**2.04**	**191**		**Pn**	**08 18 22.7**	**+0.8**
PB06	**IPOC Station P**	**2.04**	**191**⇑*i*P		**Pn**	**08 18 22.7**	**+0.8**
PB06				IAML		08 18 49.1	
	comp=N,7μm,0.3s						
PB06	**IPOC Station P**	**2.04**	**191**	*e*P	**Pn**	**08 18 23.2**	**+1.3**
PB05	**IPOC Station P**	**2.36**	**204**		**Pn**	**08 18 26.1**	**0.0**
PB05	**IPOC Station P**	**2.36**	**204**⇑*i*P		**Pn**	**08 18 26.2**	**+0.2**
PB05				IAML		08 18 55.5	
	comp=E,5μm,0.3s						
PB05	**IPOC Station P**	**2.36**	**204**	*e*P	**Pn**	**08 18 26.6**	**+0.6**
PB16	**IPOC Station P**	**2.37**	**352**		**Pn**	**08 18 28.8**	**+2.3**
PB16	**IPOC Station P**	**2.37**	**352**	*e*P	**Pn**	**08 18 28.8**	**+2.3**
PB16				IAML		08 19 02.0	
	comp=E,2μm,0.5s						
PB16	**IPOC Station P**	**2.37**	**352**	*e*P	**Pn**	**08 18 29.5**	**+3.0**
AF01	**San Pedro de A**	**2.43**	**158**		**Pn**	**08 18 29.8**	**+2.7**
AF01	**San Pedro de A**	**2.43**	**158**	*e*P	**Pn**	**08 18 29.7**	**+2.7**
AF01	**San Pedro de A**	**2.43**	**158**	*e*P	**Pn**	**08 18 29.6**	**+2.7**
AF01				*e*P		08 18 30.3	
AF01				*e*P		08 18 30.4	
AP01	**Chacalluta**	**2.56**	**334**		**Pn**	**08 18 28.9**	**+0.4**
AP01	**Chacalluta**	**2.56**	**334**	*e*P	**Pn**	**08 18 28.8**	**+0.3**
AP01				IAML		08 19 08.2	
	comp=N,8μm,0.3s						
AP01	**Chacalluta**	**2.56**	**334**	*e*P	**Pn**	**08 18 29.3**	**+0.7**
PB10	**IPOC Station P**	**3.09**	**205**		**Pn**	**08 18 34.7**	**-0.9**
PB10	**IPOC Station P**	**3.09**	**205**⇑*i*P		**Pn**	**08 18 34.7**	**-0.9**
PB10				IAML		08 19 29.6	
	comp=N,1μm,0.6s						
PB10	**IPOC Station P**	**3.09**	**205**	*e*P	**Pn**	**08 18 34.6**	**-1.0**
PB18	**Visviri**	**3.10**	**354**		**Pn**	**08 18 39.7**	**+3.5**
PB18	**Visviri**	**3.10**	**354**	*e*P	**Pn**	**08 18 39.7**	**+3.5**
PB14	**IPOC Station P**	**4.08**	**196**		**Pn**	**08 18 47.5**	**-1.6**
PB14	**IPOC Station P**	**4.08**	**196**	*i* P	**Pn**	**08 18 47.5**	**-1.6**
PB14	**IPOC Station P**	**4.08**	**196**	*e*P	**Pn**	**08 18 47.5**	**-1.6**
GO02	**Mina Guanaco**	**4.47**	**185**		**Pn**	**08 18 53.9**	**-0.4**
LPAZ	**La Paz**	**4.49**	**13**	P	**Pn**	**08 18 58.1**	**+3.3**
	comp=N,53nm,0.3s,baz=192,slow=5.7,SNR=903						
LPAZ				S	**Sn**	**08 19 40.8**	**-5.6**
	comp=N,70nm,0.8s,baz=184,slow=11,SNR=3.7						
LPAZ	**La Paz**	**4.49**	**13**	*e*P	**Pn**	**08 18 54.2**	**-0.7**
LPAZ				*e*S	**Sn**	**08 19 45.0**	**-1.3**

AC01 Pan de Azucar 5.59 193 Pn Pn 08 19 06.9 -2.4
AC02 Maricunga 6.12 180 Pn Pn 08 19 16.5 -0.3
AC06 Mina Casimiro 6.73 189 Pn Pn 08 19 21.5 -3.1
GO03 Copiapo 6.94 188 Pn Pn 08 19 24.8 -2.9
AC04 Llanos de Chal 7.68 193 Pn 08 19 32.7 -4.9
LCO Las Campanas 8.40 189 Pn 08 19 43.1 -4.6
BBSD Serra de San D 8.81 68 eP Pn 08 19 50.8 -2.2
BBSD eS **Sn 08 21 27.0 -3.6**
SIV San Ignacio 8.99 60 P Pn 08 19 54.4 -1.0
comp=N,32nm,0.4s,baz=249,slow=14,SNR=376
SIV S Sn 08 21 25.3 -10
comp=N,3.6nm,0.5s,baz=228,slow=15,SNR=1.0
CO01 Juntas del Tor 9.29 185 Pn Pn 08 19 56.9 -2.7
CO05 La Serena 9.38 191 Pn Pn 08 19 55.5 -5.2
GO04 Tololo Observa 9.56 189 Pn Pn 08 19 59.4 -4.0
CO06 Fray Jorge 10.19 192 Pn Pn 08 20 06.8 -4.9
CO03 El Pedregal 10.20 187 Pn Pn 08 20 07.1 -4.8
CO02 Combarbal 10.60 189 Pn Pn 08 20 12.1 -5.3
ZON Zonda 10.82 178 Pn Pn 08 20 17.6 -2.7
PTLB Pontes e Lacer 10.86 63 Pn 08 20 19.4 -1.4
PTLB Pontes e Lacer 10.86 63 eP Pn 08 20 19.2 -1.7
PTLB eS **Sn 08 22 18.5 -1.9**
CFA Coronel Fontan 10.90 176 P Pn 08 20 17.9 -3.5
comp=N,4.4nm,0.4s,baz=347,slow=15,SNR=25
CFA S Sn 08 22 11.1 -10
comp=N,5.8nm,0.4s,baz=331,slow=19,SNR=6.4
NNA Nana 11.37 318 Pn Pn 08 20 23.0 -4.8
NNA Nana 11.37 318 P Pn 08 20 26.9 -0.8
comp=N,5.4nm,0.3s,baz=135,slow=5.7,SNR=7.3
NNA S **Sn 08 22 26.5 -6.4**
comp=N,11nm,0.3s,baz=225,slow=8.6,SNR=4.6
VILB Vilhena 11.52 49 Pn 08 20 28.8 -1.0
VILB Vilhena 11.52 49 eP Pn 08 20 27.7 -2.0
BDQN Bodoquena, MS 11.62 91 eP Pn 08 20 28.8 -2.4
VA06 Catapilco 11.98 189 Pn Pn 08 20 30.2 -5.5
VA03 San Esteban 12.09 186 Pn Pn 08 20 32.3 -5.0
CPUP Villa Florida 12.21 120 Pn 08 20 38.1 -0.7
CPUP Villa Florida 12.21 120 P Pn 08 20 37.2 -1.7
comp=N,1.0nm,0.6s,baz=205,slow=9.9,SNR=8.6
VA01 Torpederas 12.48 190 Pn Pn 08 20 38.5 -3.9
AQDB Aquidauana 12.61 91 Pn 08 20 44.6 +0.5
AQDB Aquidauana 12.61 91 eP Pn 08 20 44.7 +0.6
MT02 Curacav 12.64 188 Pn Pn 08 20 38.3 -6.2
MT08 Bocatoma Ro 12.73 183 Pn Pn 08 20 41.7 -4.1
SJPY San Joaquin 12.77 112 eP Pn 08 20 45.5 -0.7
MT09 Talagante 13.13 187 Pn Pn 08 20 45.4 -5.7
LMEL Las Melosas 13.14 184 Pn Pn 08 20 46.1 -5.0
MT01 Popeta 13.25 188 Pn Pn 08 20 46.5 -5.9
BO04 La Punta 13.31 185 Pn Pn 08 20 49.6 -3.7
CZSB Cruzeiro do Su 13.34 345 Pn Pn 08 20 51.3 -2.4
CZSB Cruzeiro do Su 13.34 345 eP Pn 08 20 52.4 -1.3
SALV Santo Antonio 13.64 72 eP Pn 08 20 56.0 -1.7
SALV eS **Sn 08 23 26.4 -1.6**
BO01 Tunca 13.75 187 Pn Pn 08 20 59.0 -7.0
BO02 Sierra Bellavi 14.12 185 Pn Pn 08 20 59.6 -4.3
PDRB Porto dos Gac 14.96 55 eP Pn 08 21 11.1 -3.4
PDRB eS **Sn 08 23 57.9 -1.9**
ML02 Panimavida 15.15 187 Pn Pn 08 21 10.6 -6.2
ML02 IAmb IAmb 08 21 18.1
comp=Z,36nm,0.8s
H03N1 Juan Fernandez 15.38 212 P Pn 08 21 19.7 +0.3
baz=110,slow=14,SNR=59
H03N2 Juan Fernandez 15.38 212 P Pn 08 21 19.7 +0.2
baz=110,slow=14,SNR=41
H03N3 Juan Fernandez 15.39 212 P Pn 08 21 19.6 -0.1
baz=110,slow=14,SNR=56
TRCB Terra Rica 15.49 101 Pn Pn 08 21 19.2 -2.1
TRCB Terra Rica 15.49 101 eP Pn 08 21 20.7 -0.6
VA04 Juan Fernndez 15.50 212 Pn Pn 08 21 14.6 -6.6
H03S3 Juan Fernandez 15.68 211 P Pn 08 21 22.8 -0.5
baz=24,slow=20,SNR=60
H03S1 Juan Fernandez 15.70 211 P Pn 08 21 22.4 -1.0
baz=24,slow=20,SNR=31
H03S2 Juan Fernandez 15.70 211 P Pn 08 21 22.8 -0.7
baz=24,slow=20,SNR=33
CLDB Colider 16.13 55 eP Pn 08 21 28.5 -0.8
CLDB eS **Sn 08 24 26.1 -2.0**
ATAH Atahualpa 16.18 325 P Pn 08 21 30.9 +0.8
comp=Z,7.6nm,0.8s,baz=145,slow=12,SNR=5.1
PTGB Pitanga 16.27 107 eP P 08 21 31.3 -0.8
TBTG Tabatinga, AM 16.42 357 eP P 08 21 33.3 -0.4
PCMB Pacaembu 16.72 96 eP P 08 21 36.9 -0.1
ITAB Concordia 16.86 116 P Pn 08 21 34.6 -3.5
ITAB IAmb IAmb 08 21 40.4
comp=Z,50nm,0.8s
ITAB Concordia 16.86 116 eP P 08 21 38.5 0.0
LDASE Londrina, Braz 16.94 102 eP P 08 21 41.2 +1.7
CPSB Cacapava Do Su 17.15 127 eP Pn 08 21 41.0 -0.7
ARAG Araguaiana, MT 17.20 76 eP P 08 21 42.8 +0.3
TEFE Tefe 17.64 15 eP P 08 21 46.8 -0.3
PLTB Pedras Altas 17.76 132 P P 08 21 45.0 -3.4
PLTB IAmb IAmb 08 21 48.4
comp=Z,33nm,1.3s
PLTB Pedras Altas 17.76 132 eP P 08 21 47.5 -1.0
FRTB Fartura 18.36 102 eP P 08 21 54.7 -0.4
TRQA Tornquist 18.39 162 P P 08 21 50.2 -5.0
TRQA IAmb IAmb 08 21 59.3
comp=Z,15nm,0.6s
NPGB Novo Progresso 19.04 47 eP P 08 22 01.9 -0.7
LR03 Panguipulli 19.08 188 P P 08 21 55.1 -7.6
LR03 IAmb IAmb 08 22 05.0
comp=Z,61nm,1.4s
SNDB Serra Nova Dou 19.19 66 eP P 08 22 04.0 -0.2
BB19B Bebedouro 19.28 95 eP P 08 22 04.7 -0.5
LR04 Corral 19.47 190 P P 08 22 01.0 -6.0
LR05 Currie 19.63 187 P P 08 22 02.8 -6.0
IPMB Ipameri, GO 19.95 86 eP P 08 22 12.6 +0.1
PLCA Paso Flores 20.01 183 P P 08 22 14.0 +1.0
comp=Z,14nm,1.0s,baz=2.7,slow=14,SNR=21
comp=Z,14nm,1.0s
PLCA Paso Flores 20.01 183 eP P 08 22 14.1 +1.2
RCLB Rio Claro- Sao 20.19 99 eP P 08 22 12.9 -2.1
COHC Cochancay 20.62 330 P P 08 22 21.4 +1.8
BDFB Brasilia 20.70 79 P Pn 08 22 24.1 +0.2
BDFB Brasilia 20.70 79 P P 08 22 21.4 +0.8
comp=Z,3.1nm,0.4s,baz=246,slow=9.4,SNR=6.0
comp=Z,3.1nm,0.4s
VAO Valinhos 20.72 100 P P 08 22 21.3 +0.5
ITTB Itaituba 20.83 41 eP P 08 22 20.2 -1.6
LL05 Los Muermos 20.97 189 P P 08 22 21.0 -2.2
LL01 San Ignacio de 21.80 187 P P 08 22 31.8 -0.2
LL07 Hotel Espejo d 22.37 188 P P 08 22 36.9 -1.1
GO07 Milladeo Hill, 22.68 189 P P 08 22 40.6 -0.5
OTAV Otavalo 22.70 335 P P 08 22 40.8 -1.3
FLOC Florencia 23.03 343 P P 08 22 46.4 +1.6
FLOC IAmb IAmb 08 22 47.4
comp=Z,34nm,1.0s
MAL2 Monte Alegre, 23.62 40 P P 08 22 51.0 +0.7
PRPB Parauapebas 23.67 55 eP P 08 22 50.6 -0.1
SMTB Santa Maria do 23.90 64 eP P 08 22 53.5 +0.6
BOAV Boa Vista 24.45 21 P P 08 22 58.4 +0.6
BOAV IAmb IAmb 08 23 03.2
comp=Z,13nm,0.8s
BOAV Boa Vista 24.45 21 eP P 08 22 58.5 +0.7
SDBA SAO DESIDERIO 24.64 74 eP P 08 23 00.7 +1.2
ROSC El Rosal 25.87 348 P P 08 23 12.2 +1.1
comp=Z,7.8nm,0.5s,baz=144,slow=19,SNR=2.4
comp=Z,7.8nm,0.5s
RUSC La Rusia 26.70 351 P P 08 23 19.4 +0.8
RUSC IAmb IAmb 08 23 20.6
comp=Z,22nm,0.8s
BAUV El Baul 29.47 2 P P 08 23 43.4 +0.7
BAUV IAmb IAmb 08 23 47.8
comp=Z,8.9nm,0.7s
SMRC Santa Marta, M 32.05 351 P P 08 24 05.3 0.0
MG03 Isla Dawson 33.12 181 P P 08 24 15.8 +1.4
RCBR Riachuelo 35.47 70 P P 08 24 37.2 +1.9
CBE Ff, Capester 37.28 12 P P 08 24 50.9 +0.5
PDPR Patillas Dam, 38.59 5 P P 08 25 00.3 -1.1
PDPR IAmb IAmb 08 25 07.5
comp=Z,13nm,0.8s
CELP Cerrillos 38.61 4 P P 08 25 02.2 +0.7
HUMP Col San Antoni 38.73 5 P P 08 25 01.8 -0.8
UUPR Utuado, UPR, P 38.78 4 P P 08 25 02.7 -0.3
EMPR Esperanza - Ma 39.01 4 P P 08 25 03.9 -1.1
DR12 Loma Pena Alta 39.24 360 P P 08 25 08.1 +1.2
SDDR Presa de Saban 39.48 357 P P 08 25 08.5 -0.5
NMDO Nuevo Mundo 41.39 352 P P 08 25 23.6 -1.0
NMDO IAmb IAmb 08 25 40.7
comp=Z,19nm,1.3s
HOPE Hope Point 41.70 152 P P 08 25 27.7 +1.0
TEIG Tepich 44.76 334 P P 08 25 51.7 0.0
CAMR Camarioca 45.09 344 P P 08 25 54.8 +0.6
CAMR IAmb IAmb 08 25 56.2
comp=Z,18nm,0.8s
656A Willston 51.41 345 P P 08 26 44.0 +1.2
352A Blakely 54.03 343 P P 08 27 02.6 +0.5
ZAIG Zacatecas 54.11 321 P P 08 27 03.9 +0.7
ZAIG IAmb IAmb 08 27 06.2
comp=Z,8.6nm,1.0s
152A Waverly Hall 55.11 344 IAmb IAmb 08 27 10.6
comp=Z,7.3nm,1.1s
Y49A Blount Mountai 56.68 343 P P 08 27 20.9 -0.2
Y49A IAmb IAmb 08 27 21.4
comp=Z,7.2nm,1.3s
833A Chaparral WMA, 56.81 328 P P 08 27 22.8 +0.7
X51A Calhoun 56.94 345 P P 08 27 23.2 +0.3
X51A IAmb IAmb 08 27 23.8
comp=Z,7.7nm,1.0s
W52A Murphy 57.22 346 P P 08 27 25.4 +0.5
W52A IAmb IAmb 08 27 57.9
comp=Z,16nm,1.5s
V55A Taylorsville 57.38 348 P P 08 27 26.8 +0.8
V55A IAmb IAmb 08 27 37.8
comp=Z,6.3nm,1.0s
X48A Hartselle 57.42 342 P P 08 27 26.3 0.0
X48A IAmb IAmb 08 27 26.9
comp=Z,5.7nm,0.8s
NATX Nacogdoches 57.60 334 P P 08 27 27.4 -0.1
NATX IAmb IAmb 08 27 46.0
comp=Z,9.1nm,0.8s
Y45A Yeager Farm, C 57.63 340 P P 08 27 28.1 +0.5
Y45A IAmb IAmb 08 27 32.1
comp=Z,9.8nm,1.1s
W50A Signal Mountai 57.66 344 P P 08 27 28.1 +0.1
W50A IAmb IAmb 08 27 28.9
comp=Z,8.6nm,1.0s
CPCT Cooper Cave 57.70 345 P P 08 27 28.6 +0.4
CPCT IAmb IAmb 08 27 28.7
comp=Z,4.7nm,0.9s
TKL Tuckaleechee C 57.73 346 P P 08 27 28.1 -0.2
TKL IAmb IAmb 08 27 29.2
comp=Z,5.2nm,0.8s
HNDO Hondo 57.76 329 P P 08 27 29.8 +1.1
SWET Sewanee 57.84 344 P P 08 27 29.1 -0.1
U54A Nelsons Funny 58.15 348 P P 08 27 31.9 +0.5
U54A IAmb IAmb 08 27 32.8
comp=Z,8.3nm,0.9s
OXF Oxford 58.18 340 P P 08 27 31.2 -0.3
DRIO Del Rio 58.33 328 P P 08 27 33.0 +0.3
DRIO IAmb IAmb 08 27 34.5
comp=Z,7.9nm,0.9s
V48A Smith Brothers 58.57 343 P P 08 27 34.4 +0.2
WLAR White Oak Lake 58.70 337 P P 08 27 36.5 +1.3
CLTN Cedars of Leba 58.77 344 IAmb IAmb 08 27 36.4
comp=Z,4.7nm,0.8s
JCT Junction City 58.79 329 IAmb IAmb 08 27 37.8
comp=Z,4.7nm,0.7s
U49A Red Boiling Sp 59.02 344 P P 08 27 37.4 0.0
U49A IAmb IAmb 08 27 37.5
comp=Z,4.5nm,0.6s
BRDY Brady 59.09 330 P 08 27 38.5 +0.6
BRDY IAmb IAmb 08 27 39.0
comp=Z,4.0nm,0.7s
HPIG 59.10 322 IAmb IAmb 08 27 40.1
comp=Z,5.2nm,0.6s
T50A Nancy 59.28 345 IAmb IAmb 08 27 39.7
comp=Z,4.7nm,0.8s
SLBS Sierra La Lagu 59.37 316 P P 08 27 41.2 +1.1
SLBS IAmb IAmb 08 27 43.1
comp=Z,5.2nm,0.7s
SAND Sanderson 59.52 327 P 08 27 41.7 +0.6
SAND IAmb IAmb 08 27 42.8
comp=Z,10nm,1.1s
MIAR Mount Ida 59.64 337 IAmb IAmb 08 27 42.8
comp=Z,8.8nm,1.1s
T47A Sharon Grove 59.82 343 P P 08 27 42.7 -0.1
TX31 Lajitas Ar. Si 59.84 325 P P 08 27 43.4 +0.1
TX31 IAmb IAmb 08 27 45.0
comp=Z,4.3nm,1.1s
TXAR Lajitas Array 59.84 325 P P 08 27 43.9 +0.6
comp=Z,2.1nm,0.8s,baz=143,slow=7.0,SNR=17
comp=Z,2.1nm,0.8s
WHAR Wooly Hollow 59.85 338 IAmb IAmb 08 27 45.2
comp=Z,10nm,1.4s
FW06 Azle 59.87 332 P P 08 27 44.2 +1.0
FW06 IAmb IAmb 08 27 44.3
comp=Z,6.1nm,1.0s
Q56A Snyder Ridge, 60.16 351 IAmb IAmb 08 27 47.5
comp=Z,5.9nm,0.8s
LCAR Lake Charles 60.17 340 P P 08 27 45.5 +0.3
LCAR IAmb IAmb 08 27 45.7
comp=Z,4.4nm,0.7s
FCAR Ozark Folk Cen 60.33 339 IAmb IAmb 08 27 46.8
comp=Z,3.4nm,0.8s
Q54A Coxs Mills 60.36 350 IAmb IAmb 08 27 47.8
comp=Z,5.4nm,0.7s
ABTX Abilene, Hawle 60.50 331 IAmb IAmb 08 27 49.0
comp=Z,8.8nm,0.9s
ALPN Alpine 60.64 326 IAmb IAmb 08 27 49.8
comp=Z,3.2nm,0.6s
WCI Wyandotte Cave 60.78 345 P P 08 27 49.3 -0.1
WCI IAmb IAmb 08 27 49.7
comp=Z,8.7nm,1.0s
CGM3 Cape Girardeau 60.83 341 IAmb IAmb 08 27 50.0
comp=Z,5.6nm,0.5s
VNA3 Neumayer Olymp 60.91 161 ⇑P P 08 27 50.5 +0.6
comp=Z,1.2nm,0.8s
APMT Aspermont 61.31 331 P P 08 27 53.8 +0.7
APMT IAmb IAmb 08 27 54.4
comp=Z,6.6nm,0.8s
HHAR Hobbs 61.32 337 IAmb IAmb 08 27 54.1
comp=Z,8.0nm,1.2s
O54A Avella 61.45 350 IAmb IAmb 08 27 55.2
comp=Z,6.9nm,0.7s
MGMO Mountain Grove 61.52 339 IAmb IAmb 08 27 55.3
comp=Z,6.0nm,0.9s
PECS Pecos 61.55 326 IAmb IAmb 08 27 56.1
comp=Z,3.3nm,0.7s
O52A Adamsville 61.64 349 P P 08 27 55.6 +0.5
O52A IAmb IAmb 08 27 56.1
comp=Z,8.4nm,0.7s
O53A New Philadelph 61.66 350 IAmb IAmb 08 27 56.6
comp=Z,11nm,1.1s
VHRN Van Horn 61.68 325 P 08 27 56.6 +0.9
FVM French Village 61.70 341 P 08 27 55.8 +0.3
CCM Cathedral Cave 62.02 340 P P 08 27 57.7 0.0
CCM IAmb IAmb 08 27 58.5
comp=Z,7.7nm,0.9s
O49A Covington 62.20 347 IAmb IAmb 08 27 59.4
comp=Z,11nm,1.1s
CLN7 Carlsbad 7 62.35 327 P P 08 28 01.1 +1.0
R40A Maddies Statio 62.56 340 IAmb IAmb 08 28 01.5
comp=Z,5.9nm,0.6s
PAOC Oil Creek Stat 62.66 351 IAmb IAmb 08 28 03.4
comp=Z,10nm,0.8s
SMWD Samnorwood 62.85 332 IAmb IAmb 08 28 04.5
comp=Z,11nm,0.8s
MSTX Muleshoe 63.09 329 IAmb IAmb 08 28 06.2
comp=Z,14nm,1.0s
SNAA Sanae 63.12 161 ⇑P P 08 28 05.9 +1.1
comp=Z,26nm,0.6s
SNAA Sanae 63.12 161 P P 08 28 06.1 +1.4
SNAA Sanae 63.12 161 P P 08 28 05.5 +0.8
comp=Z,1.1nm,0.6s,baz=268,slow=9.2,SNR=9.2
comp=Z,1.1nm,0.6s
N47A Urbana 63.16 346 P P 08 28 04.8 -0.4
N47A IAmb IAmb 08 28 05.4
comp=Z,11nm,1.0s
P40A Paris 63.62 340 IAmb IAmb 08 28 09.0
comp=Z,11nm,0.8s
J59A Piesco 64.03 356 IAmb IAmb 08 28 12.4
comp=Z,5.2nm,0.8s
P38A Dawn 64.18 339 IAmb IAmb 08 28 12.8
comp=Z,9.1nm,0.9s
121A Cookes Peak, D 64.54 324 P P 08 28 16.1 +1.4
121A IAmb IAmb 08 28 17.5
comp=Z,10nm,1.2s
TROLL Troll, Antarti 64.83 161 ⇑P P 08 28 16.8 +0.8
comp=Z,65nm,0.5s
RTBA Rita Blanca 65.08 331 P P 08 28 18.8 +0.7
J47A Sunmer 65.22 347 IAmb IAmb 08 28 19.3
comp=Z,10.0nm,0.7s
ANMO Albuquerque 65.70 327 P P 08 28 22.1 -0.1
ANMO Albuquerque 65.70 327 P P 08 28 23.6 +1.4
ANMO IAmb IAmb 08 28 23.9
comp=Z,2.7nm,0.8s
SADO Sadowa 65.78 352 P P 08 28 22.8 +0.6
SADO IAmb IAmb 08 28 40.1
comp=Z,14nm,1.3s
TUC Tucson 66.06 322 P 08 28 25.3 +0.9
TUC IAmb IAmb 08 28 27.1
comp=Z,9.1nm,1.5s
T25A Trinidad 66.43 330 P 08 28 27.9 +1.0
214A Organ Pipe Nat 67.00 320 IAmb IAmb 08 28 33.5
comp=Z,9.0nm,1.2s
SDCO Great Sand Dun 67.44 329 P 08 28 34.9 +1.6
SDCO IAmb IAmb 08 28 35.6
comp=Z,15nm,1.4s
S22A 4UR Ranch, Cre 68.08 329 P P 08 28 38.5 +1.2
I37A Lemond, Waseca 68.12 341 P P 08 28 37.3 +0.3
I37A IAmb IAmb 08 28 37.9
comp=Z,10nm,0.8s
G40A Rib Lake 68.39 344 P P 08 28 38.9 +0.2
MVCO Mesa Verde 68.50 327 IAmb IAmb 08 28 41.9
comp=Z,5.9nm,0.8s
Y14A Wickenburg 68.52 322 P P 08 28 40.5 +0.6
DBIC Dimbokro 68.73 74 P P 08 28 41.7 +0.2
comp=Z,6.7nm,1.1s,baz=242,slow=15,SNR=5.0
comp=Z,6.7nm,1.1s
WUAZ Wupatki 68.75 324 IAmb IAmb 08 28 44.5
comp=Z,11nm,1.1s
PV01 Paradox Valley 69.24 328 P P 08 28 45.8 +1.3
PV01 IAmb IAmb 08 28 47.3
comp=Z,9.5nm,1.3s
PV15 Paradox Valley 69.36 328 IAmb IAmb 08 28 48.1
comp=Z,5.3nm,0.9s
QSPA South Pole Qui 69.50 180 P P 08 28 48.1 +2.5
QSPA South Pole Qui 69.50 180 P P 08 28 47.7 +2.1
comp=Z,0.7nm,0.4s,baz=153,slow=4.5,SNR=18
comp=Z,0.7nm,0.4s
PV12 Saucer Basin, 69.50 328 P P 08 28 47.1 +1.0
PV12 IAmb IAmb 08 29 07.0
comp=Z,10nm,1.4s
PV07 Paradox Valley 69.52 328 P P 08 28 46.4 +0.3
PV23 Carpenter Ridg 69.71 328 P P 08 28 49.4 +2.0
PV23 IAmb IAmb 08 29 26.7
comp=Z,7.6nm,1.1s
BC3 Big Chuckawall 69.77 320 P P 08 28 50.0 +2.3
W13A Hualapai Mount 69.86 322 P P 08 28 50.8 +2.5
U15A North Rim 69.92 324 IAmb IAmb 08 28 52.2
comp=Z,8.7nm,1.1s
PFO Pinyon Flats O 70.35 319 P P 08 28 53.2 +2.0
PFO IAmb IAmb 08 28 54.6
comp=Z,8.6nm,1.4s
DANC Danby, Needles 70.41 321 P P 08 28 53.3 +1.9
DANC IAmb IAmb 08 28 54.7
comp=Z,8.5nm,1.0s
O20A White River Ci 70.63 329 IAmb IAmb 08 28 55.4
comp=Z,5.2nm,0.9s
KNB Kanab 70.64 324 IAmb IAmb 08 28 56.6
comp=Z,17nm,1.1s
LCMT Little Creek M 70.87 324 P P 08 28 55.7 +1.4
SRU San Rafael Swe 70.97 327 IAmb IAmb 08 28 57.4
comp=Z,8.3nm,0.7s
MTPU Mount Pierson 71.04 325 P P 08 28 57.3 +1.6
Q16A Castle Valley 71.16 327 IAmb IAmb 08 28 59.7
comp=Z,5.0nm,0.8s
EYMN Ely 71.20 344 P 08 28 55.9 0.0
EYMN IAmb IAmb 08 28 56.2
comp=Z,7.4nm,1.1s
P18A Preston Nutter 71.23 328 IAmb IAmb 08 28 59.4
comp=Z,8.1nm,0.7s
CCUT Cedar City 71.32 324 IAmb IAmb 08 29 00.8
comp=Z,8.9nm,0.9s
P17A Butcher Ranch, 71.36 327 IAmb IAmb 08 28 59.8
comp=Z,9.0nm,0.9s
MSU Marysvale 71.39 326 P 08 28 59.2 +1.6
BSUT Blindstream Ca 72.17 328 IAmb IAmb 08 29 05.1
comp=Z,6.7nm,0.9s
CCCA Chr Canyon Lake 72.19 320 P P 08 29 03.9 +1.7
MPU Maple Canyon 72.22 327 P P 08 29 03.8 +1.3
MPU IAmb IAmb 08 29 05.3
comp=Z,6.4nm,1.0s
PSUT Pine Spring 72.30 325 IAmb IAmb 08 29 06.0
comp=Z,5.6nm,0.9s
WSHM Spangler Hills 72.32 320 IAmb IAmb 08 29 09.2
comp=Z,6.1nm,0.8s
FURC Furnace Creek, 72.54 321 IAmb IAmb 08 29 07.5
comp=Z,5.8nm,0.8s
MPMC Manual Prospec 72.63 321 IAmb IAmb 08 29 06.4
comp=Z,6.1nm,0.7s
AGMN Agassiz Nation 72.72 342 IAmb IAmb 08 29 06.0
comp=Z,5.7nm,0.8s
ISA Isabella, Lake 72.95 320 P P 08 29 08.5 +1.7
R11B Troy Canyon, C 73.12 323 P 08 29 09.1 +1.2
PDAR Pinedale Array 73.30 330 P P 08 29 09.2 +0.3
comp=Z,0.5nm,0.5s,baz=138,slow=6.7,SNR=6.3
comp=Z,0.5nm,0.5s
HWUT Hardware Ranch 73.38 328 IAmb IAmb 08 29 12.7
comp=Z,5.7nm,0.8s
VES Vestal, Richgr 73.44 320 P P 08 29 11.0 +1.5
VES IAmb IAmb 08 29 12.6
comp=Z,12nm,1.0s
MDND Maddock 73.50 339 P 08 29 10.9 +1.3
AHID Auburn Hatcher 74.03 329 IAmb IAmb 08 29 15.2
comp=Z,8.1nm,0.9s
LOHW Long Hollow 74.44 330 P P 08 29 16.5 +1.1
ULM Lac du Bonnet 74.48 343 P P 08 29 15.3 +0.1
comp=Z,3.4nm,0.5s,baz=156,slow=7.7,SNR=8.5
comp=Z,3.4nm,0.5s
TPAW Teton Pass 74.51 330 P 08 29 17.5 +1.6
ELK Elko 74.63 325 P 08 29 17.6 +0.9
NVAR Mina Array Bea 74.72 322 P P 08 29 18.6 +1.4
comp=Z,1.5nm,0.8s,baz=150,slow=4.6,SNR=11
comp=Z,1.5nm,0.8s
YNE Yellowstone No 75.24 331 IAmb IAmb 08 29 22.6
comp=Z,9.5nm,0.8s
PAHR Pah Rah Range 76.20 322 IAmb IAmb 08 29 28.6
comp=Z,8.4nm,0.9s
DLMT Dillon 76.69 330 P P 08 29 29.7 +1.5
LRM Limekiln Ridge 76.97 331 P P 08 29 31.1 +1.3
PINE Pine Mountain 79.79 325 IAmb IAmb 08 29 48.4
comp=Z,6.8nm,0.9s
J04A Umpqua Nationa 80.07 324 P P 08 29 48.2 +1.3
J04A IAmb IAmb 08 29 49.2
comp=Z,7.6nm,0.7s
BBOR Butler Butte 80.16 323 P 08 29 47.9 +0.6
I05D Terrebonne, OR 80.37 325 IAmb IAmb 08 29 51.2
comp=Z,10nm,0.7s
K02D Willamette Mer 80.59 323 P P 08 29 51.5 +1.9
H04A Detroit Lake 81.05 325 P P 08 29 52.8 +0.9
H04A IAmb IAmb 08 29 53.8
comp=Z,4.7nm,0.8s
I03D Drain, OR 81.05 323 P P 08 29 53.5 +1.7
BUCK Buck Mountain 81.17 324 P 08 29 54.1 +1.5
BUCK IAmb IAmb 08 29 54.9
comp=Z,9.2nm,0.9s
YKA Yellowknife Ar 90.35 341 P P 08 30 37.9 +0.5
comp=Z,2.0nm,0.9s,baz=134,slow=4.0,SNR=10
comp=Z,2.0nm,0.9s
H11S2 WAKE ISLAND Hyl 27.54 278 T T 10 56 35.4
baz=102,slow=75,SNR=83
H11S1 WAKE ISLAND Hyl 27.55 278 T T 10 56 36.0
baz=102,slow=75,SNR=71
H11S3 WAKE ISLAND Hyl 27.56 278 T T 10 56 36.7
baz=102,slow=75,SNR=79
H11N3 WAKE ISLAND Hyl 27.60 279 T T 10 56 42.2
baz=102,slow=74,SNR=111
H11N2 WAKE ISLAND Hyl 27.62 279 T T 10 56 43.3
baz=102,slow=74,SNR=71
H11N1 WAKE ISLAND Hyl 27.62 279 T T 10 56 43.6
baz=102,slow=74,SNR=84
KURBB Kurchatov Arra 140.79 33 PKP PKPdf 08 37 07.1 +1.3
comp=Z,0.5nm,0.8s,baz=292,slow=2.3,SNR=2.7
ZALV Zalesovo Beam 141.32 25 PKP PKPdf 08 37 07.2 +0.5
comp=Z,1.1nm,0.5s,baz=316,slow=4.0,SNR=4.0
ASAJ Asahikawa 144.79 319 PKP PKPbc 08 37 13.3 +0.9
comp=Z,4.9nm,0.8s,baz=45,slow=4.3,SNR=1.9
MKAR Makanchi Array 145.11 35 PKPbc PKPbc 08 37 13.8 +0.4
comp=Z,1.1nm,0.5s,baz=320,slow=3.1,SNR=7.8
USRK Ussuriysk Ar. 150.71 328 PKPbc PKPbc 08 37 29.0 +0.5
comp=Z,2.1nm,0.6s,baz=28,slow=3.4,SNR=5.2
MJAR Matsushiro Arr 151.39 309 PKPbc PKPbc 08 37 30.5 +0.1
comp=Z,1.8nm,0.9s,baz=84,slow=2.1,SNR=5.4
SONM Songino Array 152.68 7 PKPbc PKPbc 08 37 32.6 -0.5
comp=Z,0.9nm,0.5s,baz=322,slow=1.6,SNR=5.0

*IDC **12** 08:31:17.6±0.5, 9.59S×114.04E, h0km, mb4.4/23, mbtmp4.4/27, ML4.2/4, MS3.8/45, Error ellipse: s-maj=17.6km s-min=10.5km az=60.0*
*NEIC **12** 08:31:23.8±1.5, 9.62S±0.09×113.90E±0.09, h35km±2km, mb4.9/37, Error ellipse: s-maj=16.1km s-min=14.1km*

az=134.0
*DJA **12** 08:31:24.2±0.3,10°S:3°W,11°4E±°,h40km±7km,M4.8/27,*
mb4.8/27,mB5.1/11,MLv5.2/27,Mw(mB)4.5/11,
ISC 12 08:31:22.7±0.4,**9.68S**±0.05×**114.01E**±0.04,**h31**km,**n186,**
σ1§**65**/155,**mb4.7**/45,**MS3.8**/47,**South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.21**	**7**	Pn	**Pb**	**08 31 43.9**	**-1.1**
JAGI	**Jajag, Banyuwa**	**1.21**	**7**	P	**Pb**	**08 31 43.9**	**-1.1**
DNP	**Denpasar**	**1.55**	**50**	P	**Pb**	**08 31 50.7**	**0.0**
ABJI	**Asem Bagus**	**1.88**	**7**	P	**Pb**	**08 31 55.7**	**-0.7**
SRBI	**Singaraja**	**1.98**	**37**	P	**Pb**	**08 31 56.7**	**-1.4**
KMMI	**Kalianget**	**2.61**	**359**	P	**Pb**	**08 32 06.3**	**-2.5**
TWSI	**Taliwang, Sumb**	**2.99**	**72**	P	**Pn**	**08 32 10.0**	**+2.0**
GRJI	**Gresik**	**3.13**	**331**	P	**Pn**	**08 32 11.9**	**+2.0**
PCJI	**Pacitan**	**3.16**	**298**	P	**Pn**	**08 32 11.3**	**+1.0**
NGJI	**Ngawi**	**3.41**	**312**	P	**Pb**	**08 32 18.7**	**-3.7**
WOJI	**Wonogiri, Jawa**	**3.55**	**301**	P	**Pn**	**08 32 18.0**	**+2.3**
TBJI	**Tambak Boyo**	**3.55**	**323**	P	**Pn**	**08 32 17.7**	**+2.0**
PLAI	**Plampang**	**3.82**	**78**	P	**Pn**	**08 32 22.1**	**+2.8**
UGM	**Wanagama**	**3.86**	**297**		**Pn**	**08 32 21.0**	**+1.0**
UGM	**Wanagama**	**3.86**	**297**	P	**Pn**	**08 32 20.4**	**+0.4**
BWJI	**Bawean**	**4.03**	**341**	P	**Pn**	**08 32 24.4**	**+2.1**
SMRI	**Semarang**	**4.39**	**306**	Pn	**Pn**	**08 32 25.8**	**-1.4**
SMRI	**Semarang**	**4.39**	**306**	P	**Pn**	**08 32 28.6**	**+1.4**
WBSI	**Waikabubak, Su** 1.8nm2µm244nm,0.9s	**5.31**	**90**	P	**Pn**	**08 32 43.2**	**+3.3**
KPJI	**Karang Pucung** 1.8nm2µm195nm,0.8s	**5.53**	**294**	P	**Pn**	**08 32 44.7**	**+1.7**
LEM	**Lembang** 4.5nm,0.3s,baz=151,slow=19,SNR=5.3	**6.93**	**294**	Pn	**Pn**	**08 33 01.9**	**-0.4**
LEM				Sn	**Sn**	**08 34 24.9**	**+4.7**
	8.0nm,0.3s,baz=180,slow=20,SNR=4.6 11nm,0.4s						
LEM	**Lembang** 0.9nm111nm,1.1s	**6.93**	**294**	P	**Pn**	**08 33 04.2**	**+1.9**
CNJI	**Cibinong** 0.8nm3µm58nm,0.9s	**7.20**	**289**	P	**Pn**	**08 33 07.2**	**+1.4**
BSSI	**Bau Bau, Buton** 0.6nm73nm,0.6s	**7.32**	**62**	P	**Pn**	**08 33 10.1**	**+2.6**
KAPI	**Kappang**	**7.34**	**51**		**Pn**	**08 33 07.3**	**-0.5**
KAPI	**Kappang** 4.6nm,0.3s,baz=211,slow=13,SNR=8.3	**7.34**	**51**	Pn	**Pn**	**08 33 05.0**	**-2.9**
KAPI				Sn	**Sn**	**08 34 30.3**	**+0.1**
	3.4nm,0.3s,baz=211,slow=19,SNR=12						
KAPI				LR	LR	08 36 29.9	
	comp=Z,2µm,19.4s,baz=252,slow=43 4.3nm,0.3s						
BKSI	**Bulukumba** 0.2nm842nm59nm,0.7s	**7.45**	**55**	P	**Pn**	**08 33 11.1**	**+1.8**
EDFI	**Ende, Flores** 0.4nm65nm,0.7s	**7.64**	**84**	P	**Pn**	**08 33 13.9**	**+1.9**
DBJI	**Dramaga** 77nm,0.9s	**7.83**	**293**	P	**Pn**	**08 33 16.8**	**+2.3**
SKJI	**Sukabumi**	**7.83**	**289**	P	**Pn**	**08 33 16.3**	**+1.7**
BNSI	**Bone** 1µm96nm,1.0s	**8.01**	**50**	P	Pn	08 33 21.9	+4.9
SPSI	**Sidrap Palu** 1µm39nm,1.0s	**8.06**	**46**	P	Pn	08 33 22.9	+5.2
MMRI	**Maumere**	**8.19**	**83**	Pn	**Pn**	**08 33 20.6**	**+1.0**
CGJI	**Cibinong**	**8.77**	**290**	P	**Pn**	**08 33 28.7**	**+1.2**
BATI	**Baumata** 4.6nm,0.3s,baz=306,slow=17,SNR=1.4	**9.53**	**94**	Pn	**Pn**	**08 33 37.3**	**-0.5**
BATI				Sn	**Sn**	**08 35 19.1**	**-4.9**
	5.7nm,0.3s,baz=195,slow=19,SNR=1.4 14nm,0.3s						
STKI	**Sintang**	**10.00**	**345**	P	**Pn**	**08 33 48.6**	**+4.3**
SOEI	**Soe**	**10.12**	**91**		**Pn**	**08 33 47.0**	**+1.0**
SOEI	**Soe** 97nm,1.0s	**10.12**	**91**	P	**Pn**	**08 33 49.9**	**+3.9**
KASI	**Kota Agung** 45nm,0.8s	**10.29**	**293**	P	**Pn**	**08 33 49.7**	**+1.4**
MDSI	**Maura Dua** 18nm,1.0s	**11.03**	**297**	P	**Pn**	**08 33 59.8**	**+1.4**
MPSI	**Mapaga** 23nm,1.4s	**11.55**	**31**	P	Pn	08 34 12.0	+6.5
KSM	**Kuching**	**11.67**	**341**		**Pn**	**08 34 05.9**	**-1.3**
MNAI	**Manna**	**12.17**	**295**	Pn	**Pn**	**08 34 13.0**	**-1.1**
SBUM	**Sibu**	**12.18**	**352**		**Pn**	**08 34 11.9**	**-2.2**
TOLI2	**Tolitoli**	**12.66**	**33**	Pn	**Pn**	**08 34 18.3**	**-2.5**
FITZ	**Fitzroy Crossi**	**14.05**	**128**	Pn	**Pn**	**08 34 37.0**	**-2.8**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=304,slow=17,SNR=9.0	**14.05**	**128**	Pn	**Pn**	**08 34 37.7**	**-2.0**
FITZ				Sn	Sn	08 37 01.4	-13
	0.3nm,0.3s,baz=343,slow=19,SNR=1.8						
FITZ				LR	LR	08 40 35.8	
	comp=Z,562nm,19.6s,baz=302,slow=40 0.9nm,0.3s						
MYLDM	**Lahad Datu**	**15.42**	**17**	Pn	**Pn**	**08 34 55.8**	**-2.4**
KNRA	**Kununurra**	**15.58**	**114**	Pn	**Pn**	**08 35 00.4**	**+0.2**
KKM	**Kota Kinabalu**	**15.77**	**8**		**Pn**	**08 35 01.0**	**-1.8**
TNTI	**Ternate**	**16.87**	**53**	Pn	**Pn**	**08 35 14.0**	**-2.7**
MTN	**Manton Dam**	**17.09**	**102**	Pn	**Pn**	**08 35 17.0**	**-2.4**
FAKI	**Fak Fak**	**19.33**	**71**	P	**P**	**08 35 45.5**	**0.0**
FAKI				IAmb	IAmb	08 35 49.1	
	comp=Z,225nm,1.7s						
FAKI	**Fak Fak** comp=Z,82nm,1.2s	**19.33**	**71**	P	**P**	**08 35 45.1**	**-0.5**
MORW	**Morawa**	**19.39**	**175**	P	**P**	**08 35 43.7**	**-2.4**
DAV	**Davao City (W)**	**20.24**	**35**	LR	LR	08 44 52.5	
	comp=Z,318nm,20.4s,baz=288,slow=40						
WB0	**Warramunga Arr**	**22.10**	**119**	P	**P**	**08 36 17.8**	**+2.2**
WRA	**Warramunga Arr**	**22.12**	**120**		**P**	**08 36 16.6**	**+0.8**
WRA	**Warramunga Arr** comp=Z,5.2nm,0.7s,baz=295,slow=9.5,SNR=25	**22.12**	**120**	P	**P**	**08 36 15.7**	**-0.1**
WRA				PcP	**PcP**	**08 40 13.0**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=291,slow=2.0,SNR=4.8						
WRA				LR	LR	08 46 11.4	
	comp=Z,441nm,18.6s,baz=290,slow=40 comp=Z,5.2nm,0.7s						
WRAB	**Tennant Creek**	**22.13**	**120**	P	**P**	**08 36 16.1**	**+0.2**
WRAB				IAmb	IAmb	08 36 39.5	
	comp=Z,64nm,1.9s						
WB2	**Warramunga Arr**	**22.13**	**120**	P	**P**	**08 36 17.0**	**+1.0**
NWAO	**Narrogin (SRO)** comp=Z,167nm,21.7s,baz=318,slow=35	**23.33**	**173**	LR	LR	08 45 05.6	
ASAR	**Alice Springs**	**23.55**	**129**		**P**	**08 36 31.3**	**+0.6**
ASAR	**Alice Springs** comp=Z,9.3nm,0.8s,baz=302,slow=9.2,SNR=67	**23.55**	**129**	P	**P**	**08 36 30.5**	**-0.1**
ASAR				PcP	**PcP**	**08 40 15.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=305,slow=1.9,SNR=3.2						
ASAR				S	**S**	**08 40 46.1**	**+3.2**
	comp=Z,1.6nm,1.0s,baz=311,slow=25,SNR=4.7						
ASAR				ScP	**ScP**	**08 43 52.2**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=295,slow=2.4,SNR=5.4						
ASAR				LR	LR	08 46 03.0	
	comp=Z,209nm,21.5s,baz=308,slow=38 comp=Z,9.3nm,0.8s						
TGY	**Tagaytay City** comp=Z,85nm,19.5s,baz=254,slow=44	**24.61**	**16**	LR	LR	08 49 11.4	
QIZ	**Qiongzhong**	**28.82**	**352**	P	**P**	**08 37 19.9**	**+1.7**
QIZ				S	**S**	**08 42 08.9**	**+2.6**
QIZ				LR	LR		
	comp=Z,260nm,14.4s						
QIZ				LR	LR		
	comp=Z,570nm,13.1s						
CMAR	**Chiang Mai Arr**	**31.66**	**332**	P	**P**	**08 37 42.4**	**-1.0**
CMAR	**Chiang Mai Arr** comp=Z,2.0nm,0.3s,baz=155,slow=8.7,SNR=9.4	**31.66**	**332**	P	**P**	**08 37 43.2**	**-0.2**
CMAR				LR	LR	08 52 36.7	
	comp=Z,157nm,18.5s,baz=150,slow=40 comp=Z,2.0nm,0.3s						
CHTO	**Chiang Mai**	**31.97**	**332**	P	**P**	**08 37 45.5**	**-0.6**
CHTO				IAmb	IAmb	08 38 27.6	
	comp=Z,13nm,1.6s						
PMG	**Port Moresby**	**32.69**	**92**	P	**P**	**08 37 54.1**	**+1.5**
PMG				IAmb	IAmb	08 38 46.1	
	comp=Z,34nm,1.2s						
PMG	**Port Moresby** comp=Z,128nm,18.2s,baz=249,slow=45	**32.69**	**92**	LR	LR	08 55 36.3	
STKA	**Stephens Creek**	**33.78**	**135**		**P**	**08 38 01.7**	**-0.2**
STKA	**Stephens Creek** comp=Z,7.8nm,0.7s,baz=307,slow=6.6,SNR=19	**33.78**	**135**	P	**P**	**08 38 02.2**	**+0.3**
STKA				LR	LR	08 52 49.6	
	comp=Z,367nm,20.4s,baz=305,slow=38 comp=Z,7.8nm,0.7s						
PALK	**Pallekele** comp=Z,69nm,18.4s,baz=112,slow=39	**37.20**	**296**	LR	LR	08 55 13.0	
PZH	**PanZhiHua**	**37.89**	**342**	P	**P**	**08 38 40.3**	**+3.1**
GUMO	**Guam** comp=Z,25nm,20.7s,baz=247,slow=39	**38.38**	**53**	LR	LR	08 55 57.5	
JOW	**Kunigami** comp=Z,69nm,19.9s,baz=350,slow=39	**38.84**	**21**	LR	LR	08 56 42.5	
BRDH	**Bariadhala** comp=Z,152nm,21.9s,baz=133,slow=38	**38.91**	**326**	LR	LR	08 55 59.8	
H08S2	**Diego Garcia H** baz=95,slow=75	**41.07**	**269**	T	T	09 23 04.9	
H08S3	**Diego Garcia H** baz=95,slow=75	**41.08**	**269**	T	T	09 22 40.8	
H08S1	**Diego Garcia H** baz=95,slow=75	**41.09**	**269**	T	T	09 22 38.6	
NJ2	**Nanjing**	**41.75**	**6**	*e*P	**P**	**08 39 12.1**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	**Xi'an**	**43.74**	**354**	*e*P	**P**	**08 39 24.4**	**-0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				LR	LR		
	comp=Z,330nm,13.7s						
XAN				LR	LR		
	comp=Z,240nm,18.5s						
HNR	**Honiara** comp=Z,95nm,18.2s,baz=208,slow=40	**45.28**	**94**	LR	LR	09 01 24.3	
JNU	**Nakatsue** comp=Z,77nm,19.5s,baz=198,slow=40	**45.50**	**20**	LR	LR	09 01 29.9	
LZH	**Lanzhou**	**46.52**	**349**	*e*P	**P**	**08 39 49.4**	**+1.9**
LZH				pP	pwP	08 39 59.8	-0.3
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				LR	LR		
	comp=Z,230nm,14.1s						
LZH				LR	LR		
	comp=Z,310nm,14.1s						
LZH				LR	LR		
	comp=Z,270nm,14.1s						
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=198,slow=6.4,SNR=4.5 comp=Z,1.6nm,0.7s	**48.66**	**15**	P	**P**	**08 40 02.6**	**-1.3**
BTO	**Baotou**	**50.16**	**356**	*e*P	**P**	**08 40 16.8**	**+1.3**
BTO				pP	**pwP**	**08 40 29.3**	**+1.2**
BTO				sP	sP	08 40 34.8	+7.6
BTO				pmax	pmax		
	comp=Z,39nm,0.7s						
BTO				pmax	pmax		
	comp=Z,230nm,11.2s						
HHC	**Hu-ho-hao-te**	**50.32**	**358**	*e*P	**P**	**08 40 19.2**	**+2.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,180nm,4.9s						
GTA	**Gaotai**	**50.59**	**346**	*e*P	**P**	**08 40 19.3**	**+0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				LR	LR		
	comp=Z,150nm,14.9s						
GTA				LR	LR		
	comp=Z,180nm,18.2s						
GTA				LR	LR		
	comp=Z,170nm,18.5s						
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.7s,baz=186,slow=7.4,SNR=1.8 comp=Z,0.9nm,0.7s	**51.30**	**25**	P	**P**	**08 40 22.1**	**-2.0**
DZM	**Mont Dzumac** comp=Z,166nm,22.8s	**51.69**	**110**	*e*LR	LR	08 55 23.2	
DZM	**Mont Dzumac** comp=Z,153nm,18.1s,baz=220,slow=38	**51.69**	**110**	LR	LR	09 04 22.0	
USA0B	**Ussuriysk Arra**	**56.05**	**16**	P	**P**	**08 40 58.1**	**-0.5**
USA0B				IAmb	IAmb	08 40 59.1	
	comp=Z,10nm,0.9s						
USRK	**Ussuriysk Ar.** comp=Z,9.1nm,0.8s,baz=191,slow=6.2,SNR=20 comp=Z,9.1nm,0.8s	**56.05**	**16**	P	**P**	**08 40 57.8**	**-0.8**
JTM	**Tenmabayashi**	**56.08**	**25**	P	**P**	**08 40 59.1**	**+0.2**
ULN	**Ulaanbaatar**	**57.62**	**354**		**P**	**08 41 09.9**	**+0.1**
ULN				IAmb	IAmb	08 41 10.5	
	comp=Z,7.1nm,0.7s						
SONM	**Songino Array**	**57.65**	**354**	P	**P**	**08 41 09.8**	**-0.3**
SONM				IAmb	IAmb	08 41 10.8	
	comp=Z,6.4nm,0.7s						
SONM	**Songino Array** comp=Z,8.0nm,0.6s,baz=171,slow=9.1,SNR=43	**57.65**	**354**	P	**P**	**08 41 09.7**	**-0.5**
SONM				LR	LR	09 07 15.7	
	comp=Z,136nm,20.1s,baz=182,slow=38 comp=Z,8.0nm,0.6s						
NIL	**Nilore**	**57.93**	**320**	P	**P**	**08 41 10.8**	**-1.4**
NIL				IAmb	IAmb	08 41 13.8	
	comp=Z,6.5nm,0.6s						
WMQ	**Urumqi**	**58.37**	**338**	*e*P	**P**	**08 41 16.2**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,65nm,0.7s						
ASAJ	**Asahikawa** comp=Z,42nn,22.0s,baz=152,slow=38	**59.49**	**24**	LR	LR	09 08 31.8	
JKA	**Kamikawa-asahi**	**59.49**	**24**	P	**P**	**08 41 23.1**	**+0.4**
KSH	**Kashi**	**60.34**	**327**	P	**P**	**08 41 28.0**	**-0.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH	**HeiHe**	**60.82**	**10**	*e*P	**P**	**08 41 31.2**	**-0.5**
TARG	**Taragay, Kyrgy**	**61.00**	**330**		**P**	**08 41 32.4**	**-1.3**
TARG				IAmb	IAmb	08 41 51.9	
	comp=Z,4.2nm,0.9s						
KDJ	**Kajisay**	**61.61**	**330**	P	**P**	**08 41 37.4**	**-0.2**
KDJ				IAmb	IAmb	08 41 49.8	
	comp=Z,20nm,1.6s						
MKAR	**Makanchi Array** comp=Z,2.2nm,0.5s,baz=146,slow=6.6,SNR=28	**62.94**	**336**	P	**P**	**08 41 45.2**	**-1.0**
MKAR				S	**S**	**08 50 10.6**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=3.6						
MKAR				LR	LR	09 11 51.2	
	comp=Z,85nm,19.1s,baz=159,slow=39 comp=Z,2.2nm,0.5s						
URZ	**Urewera** comp=Z,204nm,21.0s,baz=275,slow=36	**62.99**	**128**	LR	LR	09 08 57.6	
ARSB	**Arslanbob**	**63.23**	**326**	P	**P**	**08 41 46.9**	**-1.5**
ARSB				IAmb	IAmb	08 42 00.2	
	comp=Z,15nm,1.2s						
AAK	**Ala-Archa** comp=Z,59nm,18.1s,baz=144,slow=40	**63.35**	**328**	LR	LR	09 13 28.3	
MAW	**Mawson** comp=Z,1.6nm,0.7s,baz=61,slow=10,SNR=3.7 comp=Z,1.6nm,0.7s	**66.96**	**199**	P	**P**	**08 42 11.0**	**-1.0**
KURBB	**Kurchatov Arra** comp=Z,1.9nm,0.6s,baz=146,slow=6.0,SNR=4.4 comp=Z,1.9nm,0.6s	**67.50**	**336**	P	**P**	**08 42 14.1**	**-1.5**
ZALV	**Zalesovo Beam**	**68.03**	**342**		**P**	**08 42 18.1**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,1.8nm,0.5s,baz=147,slow=5.7,SNR=7.4	**68.03**	**342**	P	**P**	**08 42 16.7**	**-2.2**
ZALV				LR	LR	09 15 36.5	
	comp=Z,67nm,18.8s,baz=154,slow=39 comp=Z,1.8nm,0.5s						
VNDA	**Vanda** comp=Z,1.4nm,0.8s,baz=317,slow=4.2,SNR=10.0	**72.12**	**170**	P	**P**	**08 42 43.2**	**-0.5**
VNDA				LR	LR	09 12 01.7	
	comp=Z,113nm,21.1s,baz=346,slow=34 comp=Z,1.4nm,0.8s						
YAK	**Yakutsk** comp=Z,50nm,20.5s,baz=211,slow=38	**72.53**	**8**	LR	LR	09 16 55.0	
BVAR	**Borovoye Array** comp=Z,61nm,18.0s,baz=134,slow=39	**72.66**	**334**	LR	LR	09 18 52.4	
BRVK	**Borovoye**	**72.73**	**334**	P	**P**	**08 42 44.2**	**-3.5**
BRVK				IAmb	IAmb	08 42 50.5	
	comp=Z,9.6nm,0.6s						
PEA0B	**Petropavlovsk-**	**72.75**	**26**	P	**P**	**08 42 47.8**	**0.0**
PETK	**Petropavlovsk-**	**72.75**	**26**	P	**P**	**08 42 47.6**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,2.8nm,0.7s,baz=229,slow=5.5,SNR=4.8	**72.75**	**26**	P	**P**	**08 42 46.9**	**-0.8**
PETK				LR	LR	09 15 32.4	
	comp=Z,18nm,21.9s,baz=230,slow=36 comp=Z,2.8nm,0.7s						
MA2	**Magadan** comp=Z,6.4nm,0.7s,baz=198,slow=18,SNR=4.3	**75.03**	**18**	P	**P**	**08 43 00.4**	**-0.6**
MA2				LR	LR	09 17 08.4	
	comp=Z,19nm,21.8s,baz=216,slow=37 comp=Z,6.4nm,0.7s						
AB31	**Akbulak array**	**75.35**	**327**	P	**P**	**08 43 02.8**	**-0.2**
AB31				IAmb	IAmb	08 43 15.7	
	comp=Z,20nm,1.2s						
ABKAR	**Akbulak array**	**75.35**	**327**	P	**P**	**08 43 02.8**	**-0.3**
AKTO	**Aktyubinsk** comp=Z,47nm,18.5s,baz=242,slow=41	**77.04**	**327**	LR	LR	09 24 08.8	
SEY	**Seymchan** comp=Z,4.7nm,0.9s,baz=207,slow=11,SNR=4.0 comp=Z,4.7nm,0.9s	**78.17**	**17**	P	**P**	**08 43 18.2**	**-0.4**
ARTI	**Arti**	**80.16**	**332**	P	**P**	**08 43 28.7**	**-1.0**
ARTI				IAmb	IAmb	08 43 42.3	
	comp=Z,11nm,0.7s						
ARTI	**Arti** comp=Z,60nm,18.6s,baz=130,slow=40	**80.16**	**332**	LR	LR	09 24 19.4	
QSPA	**South Pole Qui** comp=Z,1.9nm,0.9s,baz=329,slow=1.4,SNR=4.1	**80.33**	**180**	P	**P**	**08 43 32.5**	**+1.8**
QSPA				LR	LR	09 16 16.4	
	comp=Z,90nm,19.7s,baz=338,slow=34 comp=Z,1.9nm,0.9s						
GNI	**Garni**	**80.78**	**313**	LR	LR	09 22 30.4	
TIXI	**Tiksi**	**81.75**	**5**		**P**	**08 43 36.9**	**-0.9**
TIXI				IAmb	IAmb	08 43 49.6	
	comp=Z,10nm,0.9s						
TIXI	**Tiksi** comp=Z,8.8nm,1.0s,baz=156,slow=2.3,SNR=9.5	**81.75**	**5**	P	**P**	**08 43 36.9**	**-0.9**
TIXI				LR	LR	09 22 23.3	
	comp=Z,70nm,21.4s,baz=202,slow=38 comp=Z,8.8nm,1.0s						
MATP	**Matopo** comp=Z,19nm,18.3s,baz=163,slow=32	**82.51**	**251**	LR	LR	09 15 50.0	
KBZ	**Khabaz** comp=Z,1.2nm,0.6s,baz=92,slow=14,SNR=1.8 comp=Z,1.2nm,0.6s	**83.32**	**316**	P	**P**	**08 43 47.3**	**+0.7**
BOSA	**Boshof** comp=Z,108nm,20.9s,baz=54,slow=30	**84.35**	**242**	LR	LR	09 14 01.4	
ASF	**Jabal al Asfar** comp=Z,28nm,18.7s,baz=135,slow=39	**84.37**	**304**	LR	LR	09 25 48.4	
LBTB	**Lobatse** comp=Z,82nm,21.3s,baz=154,slow=31	**84.55**	**246**	LR	LR	09 14 27.0	
EIL	**Elat** comp=Z,24nm,18.6s,baz=75,slow=37	**85.37**	**301**	LR	LR	09 24 29.4	
KIRV	**Kirov** comp=Z,35nm,18.3s,baz=122,slow=39	**85.45**	**332**	LR	LR	09 27 26.6	
MMAI	**Mount Meron Ar** comp=Z,0.7nm,0.5s,baz=106,slow=15,SNR=1.2 comp=Z,0.7nm,0.5s	**85.81**	**304**	P	**P**	**08 44 00.3**	**+0.7**
BR131	**Keskin Array S**	**88.80**	**310**	P	**P**	**08 44 11.8**	**-2.2**
BR131				IAmb	IAmb	08 44 29.2	
	comp=Z,4.4nm,0.8s						
BRTR	**Keskin Array B**	**88.80**	**310**	P	**P**	**08 44 13.0**	**-1.0**
BRTR	**Keskin Array B** comp=Z,1.4nm,0.8s,baz=119,slow=5.6,SNR=6.8 comp=Z,1.4nm,0.8s	**88.80**	**310**	P	**P**	**08 44 13.6**	**-0.4**
SNAA	**Sanae**	**88.99**	**196**	P	**P**	**08 44 14.9**	**+0.7**
SNAA				IAmb	IAmb	08 44 15.7	
	comp=Z,16nm,1.9s						
SNAA	**Sanae** comp=Z,1.9nm,0.8s,baz=91,slow=6.4,SNR=6.4	**88.99**	**196**	P	**P**	**08 44 14.9**	**+0.7**
SNAA				LR	LR	09 19 24.7	
	comp=Z,184nm,19.4s,baz=108,slow=32 comp=Z,1.9nm,0.8s						
AKUT	**Akutan**	**92.09**	**35**	P	**P**	**08 44 27.5**	**-1.2**
TBI	**Tubuai** comp=Z,630nm,32.0s	**92.14**	**114**	*e*LQ	LQ	09 10 12.4	
TBI				*e*LR	LR	09 14 15.1	
	comp=Z,354nm,23.0s						
PPT2	**Papeete2** comp=Z,178nm,23.0s	**93.15**	**108**	*e*LQ	LQ	09 10 39.6	
PPT2				*e*LR	LR	09 14 25.2	
	comp=Z,132nm,29.0s						
PPT2				*e*LR	LR	09 14 39.7	
	comp=Z,72nm,23.2s						
PPT	**Papeete** comp=Z,39nm,21.4s,baz=318,slow=34	**93.16**	**108**	LR	LR	09 24 39.8	
AKASG	**Malin Array Be** comp=Z,18nm,18.1s,baz=122,slow=42	**94.12**	**321**	LR	LR	09 37 28.4	
J16K	**Anvik River**	**96.50**	**27**	P	**P**	**08 44 49.6**	**+0.8**
FINES	**FINESS Array B** comp=Z,0.9nm,0.7s,baz=151,slow=13,SNR=1.4	**97.43**	**331**	P	**P**	**08 44 52.8**	**-0.2**
FINES				LR	LR	09 34 38.9	
	comp=Z,32nm,19.9s,baz=74,slow=39 comp=Z,0.9nm,0.7s						
K17K	**Iditarod**	**97.47**	**28**	P	Pdif	08 44 53.5	+0.3
L18K	**Granite Mounta**	**98.16**	**28**	P	Pdif	08 44 57.2	+0.8
L18K				IAmb	IAmb	08 45 00.7	
	comp=Z,12nm,1.6s						
ARCES	**ARCESS Array B** comp=Z,44nm,18.5s,baz=96,slow=39	**98.47**	**339**	LR	LR	09 35 47.3	
H19K	**Roundabout Mou**	**98.54**	**25**	P	Pdif	08 44 58.8	+0.9
B21K	**Ikpikpuk River**	**99.48**	**21**		**Pdif**	**08 45 02.8**	**+0.7**
KDAK	**Kodiak Island**	**99.93**	**33**	Pdif	**Pdif**	**08 45 03.9**	**-0.4**
KDAK				IAmb	IAmb	08 45 12.1	
	comp=Z,12nm,1.6s						
KDAK	**Kodiak Island** comp=Z,22nm,19.8s,baz=240,slow=36	**99.93**	**33**	LR	LR	09 31 44.9	
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.5s,baz=324,slow=1.8,SNR=4.7	**116.78**	**23**	PKP	**PKiKP**	**08 50 03.9**	**+0.3**
ANGG	**Ammassalik, Gr**	**120.81**	**347**	*i* P	**PKiKP**	**08 50 16.0**	**+4.6**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.6s,baz=309,slow=2.4,SNR=5.1	**125.23**	**50**	PKP	**PKiKP**	**08 50 22.4**	**+1.1**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.7s,baz=347,slow=2.0,SNR=4.1	**139.71**	**56**	PKhKP	PKPpre	08 50 39.6	
TXAR				SKPbc	**SKPbc**	**08 54 20.9**	**-1.1**
	comp=Z,0.5nm,1.0s,baz=326,slow=2.6,SNR=4.6						
ACCN	**Adirondack Com**	**145.76**	**10**	PKPbc	**PKPdf**	**08 50 58.6**	**+0.1**
K57A	**Scipio Center**	**145.81**	**14**	PKPbc	**PKPab**	**08 50 59.4**	**-0.1**
HBAR	**Harrisburg**	**145.82**	**37**	PKPdf	**PKPdf**	**08 50 57.9**	**-0.9**
L56A	**Greenwood**	**146.11**	**16**	PKPbc	**PKPab**	**08 51 00.6**	**-0.1**
WCI	**Wyandotte Cave**	**146.22**	**29**	PKPbc	**PKPbc**	**08 51 00.6**	**+0.2**
N53A	**Lisbon**	**146.32**	**21**	PKPbc	**PKPdf**	**08 50 59.8**	**+0.3**
HALT	**Halls**	**146.34**	**35**	PKPbc	**PKPbc**	**08 51 00.7**	**-0.1**
PAMR	**Moraine State**	**146.45**	**20**	PKPbc	**PKPbc**	**08 51 01.3**	**+0.2**
UNM	**Universidad Na**	**146.53**	**70**	PKPbc	**PKPbc**	**08 51 02.2**	**-0.1**
L59A	**Walton**	**146.65**	**12**	PKPbc	**PKPab**	**08 51 02.6**	**-0.1**
O53A	**New Philadelph**	**146.68**	**21**	PKPbc	**PKPbc**	**08 51 01.5**	**-0.2**
R50A	**Paris**	**147.10**	**27**	PKPbc	**PKPbc**	**08 51 03.6**	**+0.6**
OXF	**Oxford**	**147.28**	**37**	PKPbc	**PKPbc**	**08 51 03.5**	**-0.1**
KSCT	**Kent School, K**	**147.40**	**10**	PKPbc	**PKPbc**	**08 51 03.2**	**-0.5**
SSPA	**Standing Stone**	**147.41**	**17**	PKPbc	**PKPbc**	**08 51 04.3**	**+0.6**
Y45A	**Yeager Farm, C**	**147.64**	**38**	PKPab	**PKiKP**	**08 51 05.7**	**-0.9**
PAL	**Palisades**	**148.02**	**11**	PKPab	**PKiKP**	**08 51 06.4**	**-0.9**

comp=N,505nm,0.6s
TNCL *i* IAML 08 39 19.0
comp=E,532nm,0.7s
PERV Siirt/Pervari- 1.35 106 P **Pb** **08 39 00.3 0.0**
PERV *i* IAML 08 39 26.0
comp=E,3μm,0.6s
PERV *i* IAML 08 39 29.0
comp=N,1μm,0.6s
SIRN Sirnak 1.46 124 P **Pn** **08 39 01.0 0.0**
SIRN *i* IAML 08 39 24.0
comp=E,615nm,0.9s
SIRN *i* IAML 08 39 30.0
comp=N,758nm,0.8s
MLAZ Malazgirt-MUS 1.53 57 Pn **Pn** **08 39 02.6 +0.5**
ERZM Erzurum 1.62 13 P **Pb** **08 39 05.0 +0.1**
AKDM Akdamar-Van 1.64 89 Pn **Pn** **08 39 03.9 +0.3**
AKDM Sn **Sb** **08 39 25.9 +0.1**
GEVA Gevas 1.71 90 P **Pb** **08 39 06.0 -0.2**
GEVA *i* IAML 08 39 35.0
comp=E,292nm,1.0s
GEVA *i* IAML 08 39 39.0
comp=N,187nm,0.6s
HANM anlurfa/Hi 1.75 246 P **Pn** **08 39 04.3 -0.7**
HANM *i* IAML 08 39 30.0
comp=E,196nm,0.4s
HANM *i* IAML 08 39 33.0
comp=N,424nm,0.6s
KOPR Koprukoy-ERZUR 1.82 24 Pn **Pn** **08 39 06.9 +0.8**
TVAN Van 1.99 83 P **Pb** **08 39 11.8 +0.8**
TVAN *i* IAML 08 39 51.0
comp=E,128nm,0.7s
TVAN *i* IAML 08 39 59.0
comp=N,195nm,1.6s
AGRB Hanur-Agry 2.06 52 Pn **Pn** **08 39 10.1 +0.7**
ILIC ilic-Erzincan 2.13 303 Pn **Pb** **08 39 11.9 -1.6**
BAYT Aydıntepe-Bayb 2.15 345 Pn **Pn** **08 39 11.5 +0.9**
CUKT Cukurca 2.41 116 Pn **Pn** **08 39 15.2 +1.1**
CLDR Caldiran 2.50 70 Pn **Pn** **08 39 15.0 -0.5**
SENK Senkaya-Erzuru 2.50 26 Pn **Pn** **08 39 16.5 +1.0**
CHOM Cayeli-Rize 2.77 358 Pn **Pn** **08 39 20.4 +1.4**
BCA Borcka 3.17 10 Pn **Pn** **08 39 25.9 +1.5**
SVSK Karacayir 3.42 299 Pn **Pn** **08 39 30.5 +2.6**
RSDY Resadiye-TOKAT 3.45 308 Pn **Pn** **08 39 30.9 +2.5**
GNI Garni 3.50 57 Pn **Pn** **08 39 30.5 +1.3**
BNN Bunyan 3.99 279 Pn **Pn** **08 39 38.4 +2.6**
TAHT Tahtakopru-Hat 4.22 244 Pn **Pn** **08 39 42.2 +3.2**
CEYT Ceyhan 4.29 254 Pn **Pn** **08 39 43.1 +3.3**

IDC ***12*** *08:44:46.9±1.5, 47°.77S×9°.51W, h0km, mb3.6/5, mbtmp3.6/5, MS3.5/6, Error ellipse: s-maj=64.5km s-min=24.6km az=62.0*

ISC 12 08:44:49.3±1.6, 47°.9S±0°.3×9°.6W±0°.3, h10km, n19, σ1s39/11, mb3.7/7, MS3.5/6, 4C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**22.85**	**179**	⇑P	**P**	**08 49 53.4**	**+1.1**
	comp=Z,7.6nm,1.0s						
VNA3	**Neumayer Olymp**	**23.43**	**180**	⇑P	**P**	**08 49 58.0**	**-0.3**
	comp=Z,6.2nm,0.8s						
SNAA	**Sanae**	**24.07**	**175**	⇑P	**P**	**08 50 04.4**	**-0.1**
	comp=Z,123nm,0.8s						
SNAA	**Sanae**	**24.07**	**175**	P	**P**	**08 50 03.8**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=347,slow=13,SNR=7.4						
	comp=Z,1.8nm,0.8s						
TROLL	**Troll, Antarti**	**24.85**	**171**	⇑P	**P**	**08 50 12.0**	**+0.3**
	comp=Z,285nm,0.8s						
PMSA	**Palmer Station**	**33.28**	**219**	LR	LR	09 01 46.6	
	comp=Z,74nm,21.3s,baz=68,slow=30						
MAW	**Mawson**	**40.48**	**146**	P	**P**	**08 52 26.2**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=258,slow=9.3,SNR=1.7						
	comp=Z,0.7nm,0.4s						
H04S2	**CROZET ISLANDS**	**40.70**	**112**	T	T	09 36 18.7	
	baz=247						
H04S3	**CROZET ISLANDS**	**40.70**	**112**	T	T	09 36 25.6	
	baz=247						
H04S1	**CROZET ISLANDS**	**40.72**	**112**	T	T	09 36 28.2	
	baz=247						
QSPA	**South Pole Qui**	**42.37**	**180**	P	**P**	**08 52 43.7**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=206,slow=2.8,SNR=3.6						
	comp=Z,1.6nm,1.0s						
CPUP	**Villa Florida**	**42.88**	**283**	P	**P**	**08 52 46.7**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=129,slow=2.6,SNR=1.8						
	comp=Z,0.5nm,0.9s						
PLCA	**Paso Flores**	**43.17**	**256**	LR	LR	09 08 31.2	
	comp=Z,41nm,19.9s,baz=78,slow=33						
BDFB	**Brasilia**	**45.05**	**302**	LR	LR	09 07 59.8	
	comp=Z,77nm,19.8s,baz=137,slow=31						
SIV	**San Ignacio**	**52.70**	**289**	LR	LR	09 13 00.1	
	comp=Z,45nm,21.8s,baz=117,slow=32						
VNDA	**Vanda**	**54.76**	**178**	P	**P**	**08 54 19.4**	**+1.0**
	comp=Z,0.5nm,1.0s,baz=191,slow=5.2,SNR=5.2						
	comp=Z,0.5nm,1.0s						
LPAZ	**La Paz**	**57.05**	**283**	LR	LR	09 17 27.8	
	comp=Z,37nm,21.0s,baz=126,slow=34						
PCRV	**Puerto La Cruz**	**75.51**	**304**	LR	LR	09 27 06.2	
	comp=Z,58nm,19.9s,slow=34						
ILAR	**Eielson Array**	**151.65**	**322**	PKPbc	**PKPbc**	**09 04 42.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=0.9,SNR=6.0						
ILAR				PKPab	**sPKPbc**	**09 04 48.9**	**+3.0**
	comp=Z,0.6nm,0.8s,baz=63,slow=0.3,SNR=6.6						

ASRS ***12*** *08:45:39.0±0.5, 53°.44N×87°.47E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 08:45:39.6±3.8, 53°.46N×87°.60E, h0km, mbtmp3.2/2, ML2.4/2, Error ellipse: s-maj=36.7km s-min=17.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.73**	**288**	Pg	Pn	08 46 10.7	-0.1
	0.4nm,0.3s,baz=107,slow=13,SNR=6.1						
ZALV				Lg	Lg	08 46 35.1	
	0.9nm,0.3s,baz=103,slow=27,SNR=6.0						
I46RU	**ZALESOVO INFRA**	**1.73**	**288**	I	I	08 56 20.0	
	baz=107,slow=314,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.27**	**247**	Pn	Pn	08 47 12.7	-0.6
	0.1nm,0.3s,baz=58,slow=14,SNR=1.8						
	2.9nm,0.2s						
MKAR	**Makanchi Array**	**7.49**	**209**	Pn	Pn	08 47 32.1	+2.0
	0.1nm,0.3s,baz=27,slow=12,SNR=1.4						
	0.1nm,0.4s						

ASRS ***12*** *08:49:03.0±1.9, 53°.74N×91°.14E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 12 08:49:12.0±3.5, 53°.53N×90°.72E, h0km, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=28.2km s-min=23.9km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.53**	**279**	I	I	09 11 05.6	
	0.2nm,0.9s,baz=92,slow=317,SNR=10						
ZALV	**Zalesovo Beam**	**3.53**	**279**	Pn	Pn	08 50 09.6	+1.6
	0.5nm,0.3s,baz=97,slow=15,SNR=6.9						
ZALV				Lg	Lg	08 51 03.4	
	1.3nm,0.3s,baz=93,slow=27,SNR=9.6						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**8.06**	**254**	Pn	Pn	08 51 09.7	-0.4
	0.1nm,0.3s,baz=63,slow=15,SNR=5.4						
KURBB				Sn	Sn	08 52 40.6	-1.3
	baz=66,slow=26,SNR=7.8						
KURBB				Lg	Lg	08 53 27.6	
	baz=59,slow=32,SNR=3.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.64**	**222**	Pn	Pn	08 51 19.0	+0.7
	0.1nm,0.3s,baz=30,slow=12,SNR=2.5						
MKAR				Sn	Sn	08 52 55.9	-0.5
	baz=41,slow=31,SNR=3.5						
MKAR				Lg	Lg	08 53 44.1	
	0.1nm,0.3s,baz=38,slow=31,SNR=1.7						
	0.2nm,0.4s						

IDC 12 08:56:42.2±2.3, 0°.15S×127°.02E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=192.2km s-min=29.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.94**	**160**	P	Pn	09 01 28.0	-1.2
	0.1nm,0.5s,baz=340,slow=11,SNR=1.4						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**24.32**	**165**	P	P	09 02 01.0	-0.8
	0.4nm,0.9s,baz=344,slow=11,SNR=6.4						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**60.91**	**326**	P	P	09 06 56.9	0.0
	0.2nm,0.4s,baz=134,slow=6.2,SNR=2.2						
	0.2nm,0.4s						

AEIC ***12*** *09:00:22.6±0.9, 56°.12N±0°.08×149°.5W±0°.1, h11km±8km, Error ellipse: s-maj=14.4km s-min=3.3km az=144.0*

NEIC 12 09:00:19.1±0.8, 56°.12N±0°.09×149°.49W±0°.04, h23km±10km, ML2.9/56, ML2.7(AEIC), Error ellipse: s-maj=12.9km s-min=1.6km az=167.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.37**	**299**		Pn	09 00 56.4	-0.2
OHAK					Sn	09 01 22.8	-2.1
KDAK	**Kodiak Island**	**2.38**	**316**		Pn	09 00 56.7	+0.1
KDAK					Sn	09 01 23.2	-1.9
SII	**Sitkinak Islan**	**2.65**	**282**		Pn	09 01 00.3	-0.1
SII					Sn	09 01 30.1	-1.7
SII	**Sitkinak Islan**	**2.65**	**282**	IAML		09 01 30.9	
	comp=E,59nm,0.7s						
SII				IAML		09 01 31.2	
	comp=N,51nm,0.7s						
SYI	**Shuyak Island**	**2.95**	**329**		Pn	09 01 04.5	0.0
SYI					Sn	09 01 38.7	-0.6
R18K	**Karluk**	**3.09**	**300**		Pn	09 01 06.9	+0.6
R18K					Sn	09 01 41.1	-1.4
R18K	**Karluk**	**3.09**	**300**	IAML		09 01 48.0	
	comp=N,27nm,0.4s						
R18K				IAML		09 01 48.3	
	comp=E,29nm,0.4s						
CHIR	**Chirikof Islan**	**3.46**	**268**		Pn	09 01 11.5	+0.1
CHIR					Sn	09 01 48.8	-2.8
CHIR	**Chirikof Islan**	**3.46**	**268**	IAML		09 02 05.5	
	comp=E,28nm,1.4s						
CHIR				IAML		09 02 14.7	
	comp=N,28nm,1.4s						
CNPM	**China Poot**	**3.54**	**345**		Pn	09 01 12.8	+0.1
CNPM					Sn	09 01 51.7	-2.2
CNPM	**China Poot**	**3.54**	**345**	IAML		09 01 54.2	
	comp=N,17nm,0.5s						
Q19K	**Cape Douglas,**	**3.60**	**323**		Pn	09 01 14.0	+0.5
Q19K	**Cape Douglas,**	**3.60**	**323**	IAML		09 01 59.1	
	comp=N,29nm,0.7s						
KAHG	**Katmai Hook Gl**	**3.63**	**313**		Pn	09 01 14.7	+0.7
Q23K	**Middleton Isla**	**3.73**	**26**		Pn	09 01 14.7	-0.5
Q23K	**Middleton Isla**	**3.73**	**26**	IAML		09 03 00.9	
	comp=N,25nm,0.7s						
Q23K				IAML		09 03 16.6	
	comp=E,25nm,1.2s						
BRLK	**Bradley Lake**	**3.73**	**349**	Pn	Pn	09 01 14.7	-0.7
KABU	**Katmai Buttres**	**3.82**	**307**		Pn	09 01 17.4	+0.9
KAHC	**Katmai Hardscr**	**3.92**	**313**		Pn	09 01 18.8	+0.9
SEW	**Seward**	**4.00**	**0**	Pn	Pn	09 01 18.2	-0.7
PLK3	**Peulik 3**	**4.04**	**296**		Pn	09 01 20.1	+0.7
P23K	**Montague Islan**	**4.05**	**15**		Pn	09 01 19.0	-0.6
P23K	**Montague Islan**	**4.05**	**15**	IAML		09 02 03.9	
	comp=N,13nm,0.3s						
P23K				IAML		09 02 06.1	
	comp=E,13nm,0.3s						
PLK4	**Peulik 4**	**4.06**	**295**		Pn	09 01 20.2	+0.3
PLK4	**Peulik 4**	**4.06**	**295**	IAML		09 02 10.7	
	comp=E,20nm,0.7s						
CNTC	**Contact Creek**	**4.09**	**304**		Pn	09 01 21.0	+0.7
PLK1	**Peulik 1**	**4.25**	**296**		Pn	09 01 23.0	+0.8
PLBL	**Peulik Blue Cr**	**4.32**	**295**		Pn	09 01 24.4	+1.1
ILSW	**Iliamna Southw**	**4.34**	**335**	Pn	Pn	09 01 21.0	-2.7
ILSW				IAML		09 02 14.9	
	comp=E,11nm,0.3s						
ILSW				IAML		09 02 15.1	
	comp=N,14nm,0.4s						
P18K	**Big Mountain,**	**4.50**	**319**		Pn	09 01 25.8	0.0
HIN	**Hinchinbrook I**	**4.58**	**19**		Pn	09 01 26.6	-0.2
HIN	**Hinchinbrook I**	**4.58**	**19**	IAML		09 02 26.2	
	comp=E,10nm,1.3s						
KAIM	**Kayak Island**	**4.68**	**33**		Pn	09 01 28.3	+0.1
KAIM	**Kayak Island**	**4.68**	**33**	IAML		09 02 23.3	
	comp=E,9.1nm,0.8s						
KAIM				IAML		09 02 24.2	
	comp=N,11nm,1.2s						
PWL	**Port Wells**	**4.80**	**7**		Pn	09 01 29.5	-0.4
PWL	**Port Wells**	**4.80**	**7**	IAML		09 02 22.5	
	comp=E,10nm,0.4s						
O18K	**Koktuh Hills**	**4.83**	**323**	Pn	Pn	09 01 30.3	0.0
O18K				IAML		09 02 27.6	
	comp=N,6.0nm,0.9s						
P17K	**Kvichak River**	**4.84**	**312**		Pn	09 01 30.6	+0.1
EYAK	**Cordova Ski Ar**	**4.86**	**22**		Pn	09 01 30.6	-0.2
EYAK	**Cordova Ski Ar**	**4.86**	**22**	IAML		09 04 08.5	
	comp=N,7.5nm,0.4s						
EYAK				IAML		09 04 08.8	
	comp=E,6.0nm,0.3s						
FID	**Port Fidalgo**	**4.91**	**18**		Pn	09 01 31.1	-0.3
FID	**Port Fidalgo**	**4.91**	**18**	IAML		09 02 28.7	
	comp=E,8.7nm,1.0s						
GLI	**Glacier Island**	**4.94**	**14**		Pn	09 01 31.4	-0.4
GLI	**Glacier Island**	**4.94**	**14**	IAML		09 02 26.3	
	comp=N,7.8nm,1.1s						
GLI				IAML		09 02 27.2	
	comp=E,8.1nm,0.8s						
RAGM	**Ragged Mountai**	**4.98**	**29**		Pn	09 01 32.7	+0.3
CHGN	**Chignik**	**4.98**	**276**	Pn	Pn	09 01 32.1	-0.3
SUCK	**Suckling Hills**	**4.99**	**35**		Pn	09 01 32.7	+0.2
SUCK	**Suckling Hills**	**4.99**	**35**	IAML		09 02 30.3	
	comp=N,7.1nm,1.1s						
SUCK				IAML		09 04 30.1	
	comp=E,5.9nm,1.4s						
HMT	**Hamilton**	**5.05**	**31**		Pn	09 01 33.9	+0.5
BERG	**Berg Lake**	**5.27**	**33**		Pn	09 01 36.1	-0.2
GRIN	**Grindle Hills**	**5.30**	**35**		Pn	09 01 36.8	0.0
SNH	**Sunshine Point**	**5.39**	**38**	Pn	Pn	09 01 38.5	+0.5
SNH				IAML		09 05 16.8	
	comp=E,7.0nm,1.1s						
P16K	**Nushagak River**	**5.43**	**306**		Pn	09 01 39.2	+0.7
BMRM	**Bremner River**	**5.50**	**26**		Pn	09 01 39.2	-0.3
PMR	**Palmer**	**5.50**	**2**	Pn	Pn	09 01 38.8	-0.6
WAX	**Waxell Ridge**	**5.58**	**36**		Pn	09 01 40.5	-0.2
N18K	**Kilae Creek**	**5.68**	**326**	Pn	Pn	09 01 42.8	+0.8
KLU	**Klutina**	**5.70**	**18**		Pn	09 01 42.5	+0.1
SCM	**Sheep Creek Mo**	**5.84**	**10**		Pn	09 01 44.5	+0.2
CNBA	**Chernabura Isl**	**5.89**	**261**		Pn	09 01 44.8	0.0
YAH	**Yahtse**	**5.90**	**41**		Pn	09 01 45.2	-0.1
N25K	**Chitina, Valde**	**6.06**	**23**		Pn	09 01 47.4	+0.1
KIAG	**Kiagna River**	**6.10**	**35**		Pn	09 01 47.9	0.0
GLB	**Gilahina Butte**	**6.10**	**27**		Pn	09 01 48.2	+0.3
BALM	**Baldy**	**6.19**	**34**		Pn	09 01 49.5	+0.4
PCA	**Pinnacle**	**6.31**	**47**		Pn	09 01 50.7	-0.1
BARN	**Barnard Glacie**	**6.43**	**36**		Pn	09 01 52.4	0.0
PNL	**Peninsula**	**6.45**	**52**		Pn	09 01 53.1	+0.5
CTGM	**Chitina Glacie**	**6.47**	**38**		Pn	09 01 53.1	+0.1
BCPM	**Bancas Point**	**6.50**	**50**		Pn	09 01 53.6	+0.4
S12K	**Black Hills**	**7.08**	**272**		Pn	09 02 01.4	+0.2
DT1	**Dutton Round H**	**7.32**	**267**		Pn	09 02 04.5	+0.1
S31K	**Pelican**	**7.47**	**70**		Pn	09 02 05.2	-1.3
N30M	**Aishikik Lake**	**8.37**	**45**		Pn	09 02 18.7	-0.3
L29M	**L29M**	**9.06**	**35**		Pn	09 02 28.3	-0.1
P32M	**Atlin**	**9.10**	**61**		Pn	09 02 27.9	-1.0

DJA 12 09:25:35.0±0.7, 1°.S±3°.×12°.0E±°, h10km, M3.5/7, MLv3.5/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.43**	**154**	P	Pg	09 25 42.8	-0.6
PCI				S	Sg	09 25 48.4	-0.6
MPSI	**Mapaga**	**0.89**	**16**	P	Pg	09 25 51.8	-0.3
MPSI				S	Sg	09 25 57.1	-6.6
APSI	**Ampana**	**2.04**	**101**	P	Pn	09 26 09.5	+0.1
MRSI	**Marisa**	**2.50**	**67**	P	Pn	09 26 15.4	-0.3
LUWI	**Luwuk**	**3.16**	**99**	P	Pn	09 26 24.8	-0.1
SPSI	**Sidrap Palu**	**3.42**	**178**	P	Pn	09 26 28.9	+0.4
BNSI	**Bone**	**3.88**	**173**	P	Pn	09 26 34.3	-0.5

NEIC ***12*** *09:27:45.7±1.4, 20°.3S±0°.2×177°.9W±0°.1, h541km±8km, mb4.2/38, Error ellipse: s-maj=23.5km s-min=17.0km az=162.0*

IDC ***12*** *09:27:47.3±2.4, 20°.46S×178°.01W, h565km±26km, mb3.4/13, mbtmp4.3/14, Error ellipse: s-maj=19.0km s-min=11.7km az=153.0*

ISC 12 09:27:44.3±0.5, 20°.5S±0°.1×177°.93W±0°.08, h534km, n68, σ0s99/66, mb4.1/33, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**305**	P	**P**	**09 29 11.8**	**+1.1**
NIUE	**Niue**	**7.67**	**81**	P	**P**	**09 29 39.8**	**+1.5**
PINNC	**Pines Island,**	**13.77**	**259**		**P**	**09 30 43.2**	**+2.0**
DZM	**Mont Dzumac**	**14.65**	**261**	P	**P**	**09 30 51.5**	**+1.0**
	11nm,0.7s,baz=83,slow=19,SNR=8.1						
SANVU	**Saraoutou**	**15.00**	**287**		**P**	**09 30 55.0**	**+0.9**
URZ	**Urewera**	**18.21**	**193**	P	**P**	**09 31 22.1**	**-2.6**
	4.1nm,0.3s,baz=338,slow=5.4,SNR=1.7						
CTAO	**Charters Tower**	**33.55**	**264**	P	**P**	**09 33 41.4**	**+1.3**
CTAO				IAmb	IAmb	09 33 54.6	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**37.84**	**244**	P	**P**	**09 34 15.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=70,slow=8.0,SNR=4.2						
	comp=Z,1.0nm,0.5s						
BBOO	**Buckleboo**	**42.60**	**244**	P	**P**	**09 34 53.9**	**+0.3**
WR8	**Warramunga Arr**	**44.51**	**262**	P	**P**	**09 35 09.0**	**+0.4**
WR8				IAmb	IAmb	09 35 17.3	
	comp=Z,7.0nm,1.2s						
AS31	**Alice Springs**	**44.58**	**257**	P	**P**	**09 35 09.8**	**+0.7**
ASAR	**Alice Springs**	**44.58**	**257**	P	**P**	**09 35 09.6**	**+0.5**
	comp=Z,2.8nm,0.4s,baz=96,slow=8.2,SNR=69						
ASAR				PcP	**PcP**	**09 36 40.4**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=98,slow=3.9,SNR=6.5						
ASAR				S	**S**	**09 41 05.6**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=97,slow=14,SNR=4.4						
	comp=Z,2.8nm,0.4s						
WB0	**Warramunga Arr**	**44.64**	**262**	P	**P**	**09 35 09.9**	**+0.3**
WB0				IAmb	IAmb	09 35 10.3	
	comp=Z,5.4nm,0.5s						
WB2	**Warramunga Arr**	**44.65**	**262**	P	**P**	**09 35 10.1**	**+0.4**
WB2				IAmb	IAmb	09 35 43.5	
	comp=Z,8.2nm,1.4s						
WRAB	**Tennant Creek**	**44.65**	**262**	P	**P**	**09 35 10.1**	**+0.4**
WRAB				IAmb	IAmb	09 35 11.0	
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**44.66**	**262**	P	**P**	**09 35 09.9**	**+0.2**
WRA	**Warramunga Arr**	**44.66**	**262**	P	**P**	**09 35 09.5**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=98,slow=8.2,SNR=46						
WRA				S	**S**	**09 41 04.7**	**-2.8**
	comp=Z,0.5nm,0.9s,baz=98,slow=13,SNR=2.1						
	comp=Z,2.0nm,0.3s						
MTN	**Manton Dam**	**49.22**	**271**	P	**P**	**09 35 44.5**	**+0.3**
KNRA	**Kununurra**	**50.72**	**266**	P	**P**	**09 35 55.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.09**	**262**	P	**P**	**09 36 12.8**	**+0.6**
MBWA	**Marble Bar**	**57.91**	**257**	P	**P**	**09 36 45.7**	**0.0**
MBWA				IAmb	IAmb	09 36 46.1	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**69.57**	**180**	P	**P**	**09 38 00.9**	**+1.5**
QSPA	**South Pole Qui**	**69.57**	**180**	P	**P**	**09 38 00.7**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=36,slow=1.5,SNR=13						
	comp=Z,1.8nm,0.8s						
MJAR	**Matsushiro Arr**	**70.24**	**324**	P	**P**	**09 38 03.9**	**+0.2**
MJAR	**Matsushiro Arr**	**70.24**	**324**	P	**P**	**09 38 03.9**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=157,slow=5.7,SNR=12						
	comp=Z,3.8nm,0.8s						
KIWB	**Kanaga Island**	**72.04**	**1**	P	**P**	**09 38 13.0**	**-0.8**
ADK	**Adak**	**72.08**	**1**	P	**P**	**09 38 13.1**	**-0.9**
PETK	**Petropavlovsk-**	**76.28**	**345**	P	**P**	**09 38 38.0**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=162,slow=5.2,SNR=6.1						
	comp=Z,3.7nm,0.8s						
KSRS	**Korea Array**	**76.93**	**319**	P	**P**	**09 38 42.9**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=134,slow=5.2,SNR=3.3						
	comp=Z,1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**79.00**	**326**	P	**P**	**09 38 53.6**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=137,slow=4.9,SNR=5.5						
	comp=Z,2.9nm,0.8s						
YBH	**Yreka Blue Hor**	**80.25**	**39**	P	**P**	**09 39 00.4**	**+0.9**
NVAR	**Mina Array Bea**	**80.98**	**43**	P	**P**	**09 39 03.9**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=240,slow=4.2,SNR=12						
	comp=Z,1.6nm,0.8s						
J04A	**Umpqua Nationa**	**81.54**	**38**	P	**P**	**09 39 06.6**	**+0.3**
J04A				IAmb	IAmb	09 39 07.8	
	comp=Z,10nm,0.9s						
P18K	**Big Mountain,**	**81.75**	**12**	P	**P**	**09 39 06.2**	**-0.6**
P18K				IAmb	IAmb	09 39 06.6	
	comp=Z,3.6nm,0.6s						
J05D	**Fort Rock, OR**	**82.07**	**38**	P	**P**	**09 39 09.6**	**+0.7**
J05D				IAmb	IAmb	09 39 10.5	
	comp=Z,8.2nm,0.8s						
O18K	**Koktuh Hills**	**82.19**	**11**		**P**	**09 39 08.3**	**-0.7**
O18K				IAmb	IAmb	09 39 09.2	
	comp=Z,8.5nm,1.1s						
PINE	**Pine Mountain**	**82.55**	**38**		**P**	**09 39 12.2**	**+0.8**
PINE				IAmb	IAmb	09 39 13.1	
	comp=Z,8.1nm,0.9s						
CNPM	**China Poot**	**82.68**	**13**	P	**P**	**09 39 11.3**	**-0.1**
CNPM				IAmb	IAmb	09 39 11.9	
	comp=Z,4.7nm,1.0s						
ILSW	**Iliamna Southw**	**82.70**	**12**	P	**P**	**09 39 11.2**	**-0.5**
ILSW				IAmb	IAmb	09 39 11.5	
	comp=Z,7.2nm,0.7s						
U15A	**North Rim**	**83.92**	**48**		**P**	**09 39 19.0**	**+0.5**
U15A				IAmb	IAmb	09 39 20.1	
	comp=Z,3.1nm,0.8s						
G08A	**Pilot Rock**	**84.58**	**37**		**P**	**09 39 21.5**	**+0.2**
PMR	**Palmer**	**85.00**	**13**	P	**P**	**09 39 22.3**	**-0.5**
GHO	**Glory Hole Cre**	**85.21**	**13**		**P**	**09 39 23.7**	**-0.3**
F10A	**Beach Ranch, E**	**85.96**	**38**	P	**P**	**09 39 27.9**	**-0.1**
F10A				IAmb	IAmb	09 39 28.6	
	comp=Z,6.6nm,0.8s						
VHRN	**Van Horn**	**86.60**	**56**		**P**	**09 39 32.1**	**+0.7**
TXAR	**Lajitas Array**	**87.00**	**57**	P	**P**	**09 39 33.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=247,slow=4.5,SNR=10						
	comp=Z,0.7nm,0.7s						
MCMT	**McKenzie Canyo**	**87.91**	**40**		**P**	**09 39 37.9**	**+0.5**
HDA	**Harding Lake**	**87.97**	**13**	IAmb	IAmb	09 39 37.0	

M_{rr}-3.46; $M_{\theta\theta}$1.90; $M_{\phi\phi}$1.56; $M_{r\theta}$0.81; $M_{\theta\phi}$-0.88; $M_{r\phi}$5.70; Fault plane solution: $M_0$6.32000×10^{14} NP1: ϕ_s324.00000°,δ15.00000°,λ-126.00000°. NP2: ϕ_s181.00000°,δ78.00000°,λ-81.00000°.

*JMA **12** 09:46:42.5±0.4,37.0N±0.8×14.2E±°, h43km,MD4.0/38, MV3.7/38,E OFF FUKUSHIMA PREF*

ISC 12 09:46:41.2±0.8,36.92N±0.06×142.09E±0.07,h19km,n45, σ1s27/31,mb3.7/9,1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.05**	**281**	P		**Pb**	**09 46 59.3**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.05**	**281**	A		A	09 46 59.3	
	comp=N,3.0nm,0.3s,comp=E,4.0nm,0.4s							
JFK	**Kawauchi**	**1.07**	**295**	P		**Pb**	**09 46 59.5**	**-1.6**
JFK	**Kawauchi**	**1.07**	**295**	A		A	09 46 59.5	
	comp=N,2.0nm,6.3s,comp=E,2.0nm,4.9s							
JFFD	**Fukushimafurud**	**1.23**	**279**	P		**Pn**	**09 47 01.9**	**-1.6**
JMST	**Minamisoumatoc**	**1.25**	**311**	P		**Pn**	**09 47 02.2**	**-1.4**
JMST	**Minamisoumatoc**	**1.25**	**311**	A		A	09 47 02.2	
	comp=N,6.0nm,1.0s,comp=E,1.0nm,5.5s							
JMM	**Marumori**	**1.40**	**313**	P		**Pn**	**09 47 04.4**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.54**	**295**	P		**Pn**	**09 47 07.4**	**-0.3**
JOTO	**OTAMA OYAMA**	**1.54**	**295**	A		A	09 47 07.4	
	comp=N,7.0nm,0.4s,comp=E,5.0nm,0.7s							
JIO	**Ouri**	**1.64**	**339**	P		**Pn**	**09 47 08.0**	**-1.1**
JSB	**Shiboa**	**1.74**	**272**	A		A	09 47 09.6	
	comp=N,4.0nm,1.1s,comp=E,6.0nm,4.3s							
JOU	**Okura**	**1.84**	**322**	P		**Pn**	**09 47 11.8**	**0.0**
JOU	**Okura**	**1.84**	**322**	A		A	09 47 11.8	
	comp=N,9.0nm,1.2s,comp=E,6.0nm,4.5s							
JYAR	**Yonezawaarcadi**	**1.84**	**303**	A		A	09 47 10.8	
	comp=N,6.0nm,1.2s,comp=E,7.0nm,1.0s							
JFY	**Yanaizu**	**1.97**	**285**	P		**Pn**	**09 47 13.6**	**+0.1**
JYS	**Shirataka**	**2.07**	**310**	⇓P		**Pn**	**09 47 15.4**	**+0.5**
JMK	**Ichinoseki**	**2.15**	**342**	*i* P		**Pn**	**09 47 16.3**	**+0.3**
JAG	**Ashikaga**	**2.17**	**258**	P		**Pn**	**09 47 16.3**	**0.0**
JKT	**Katashina**	**2.28**	**267**	P		**Pn**	**09 47 18.9**	**+1.0**
JYK	**Kaneyama**	**2.42**	**326**	P		**Pn**	**09 47 20.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.14**	**264**	Pn		**Pn**	**09 47 30.5**	**+0.8**
	comp=E,1.7nm,0.3s,baz=89,slow=15,SNR=105							
MJAR				Sn		**Sn**	**09 48 09.4**	**+2.7**
	comp=E,1.6nm,0.3s,baz=96,slow=23,SNR=2.9							
MJAR				LR		LR	09 49 01.7	
	comp=E,316nm,18.0s,baz=112,slow=46 comp=E,16nm,0.4s							
JHJ	**Hachijo jima 2**	**4.23**	**207**	Pn		**Pn**	**09 47 44.9**	**+0.2**
	comp=E,29nm,0.3s,baz=72,slow=20,SNR=1.4							
JHJ				Sn		**Sn**	**09 48 30.2**	**-3.4**
	comp=E,45nm,0.3s,baz=37,slow=20,SNR=8.2 comp=E,74nm,0.3s							
ASAJ	**Asahikawa**	**7.20**	**3**	Pn		**Pn**	**09 48 23.9**	**-1.5**
	comp=E,1.0nm,0.3s,baz=191,slow=18,SNR=8.3 comp=E,3.0nm,0.4s							
USRK	**Ussurisk Ar.**	**10.57**	**317**	Pn		**Pn**	**09 49 12.2**	**+0.6**
	comp=E,0.1nm,0.3s,baz=133,slow=13,SNR=9.4							
USRK				LR		LR	09 53 02.6	
	comp=E,106nm,18.1s,baz=59,slow=36 comp=E,0.3nm,0.2s							
KSRS	**Korea Array**	**11.31**	**277**	Pn		**Pn**	**09 49 22.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=90,slow=13,SNR=4.9 comp=E,0.5nm,0.5s							
PETK	**Petropavlovsk-**	**19.52**	**29**	LR		LR	09 58 58.4	
	comp=E,20nm,19.9s,baz=166,slow=38							
H11N2	**WAKE ISLAND Hy**	**27.62**	**122**	T		T	10 21 55.5	
	baz=314,slow=75,SNR=26							
H11N1	**WAKE ISLAND Hy**	**27.63**	**122**	T		T	10 22 01.7	
	baz=314,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**27.64**	**122**	T		T	10 21 53.3	
	baz=314,slow=75,SNR=22							
SONM	**Songino Array**	**28.30**	**304**	P		**P**	**09 52 34.7**	**+1.1**
	comp=E,0.5nm,0.4s,baz=99,slow=8.9,SNR=4.7 comp=E,0.5nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**28.34**	**124**	T		T	10 22 32.9	
	baz=316,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hy**	**28.34**	**124**	T		T	10 22 40.0	
	baz=316,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.36**	**124**	T		T	10 22 57.1	
	baz=316,slow=75,SNR=9.3							
CMAR	**Chiang Mai Arr**	**41.59**	**256**	LR		LR	10 14 07.8	
	comp=E,24nm,18.7s,baz=120,slow=39							
ZALV	**Zalesovo Beam**	**42.39**	**312**	P		**P**	**09 54 33.9**	**-0.2**
	comp=E,0.6nm,0.5s,baz=90,slow=7.5,SNR=2.5 comp=E,0.6nm,0.5s							
MKAR	**Makanchi Array**	**44.64**	**302**	P		**P**	**09 54 50.6**	**-1.8**
	comp=E,0.3nm,0.6s,baz=86,slow=10,SNR=3.3 comp=E,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**46.50**	**308**	P		**P**	**09 55 06.4**	**-0.6**
	comp=E,0.5nm,0.3s,baz=85,slow=7.7,SNR=7.8 comp=E,0.5nm,0.3s							
ILAR	**Eielson Array**	**49.30**	**32**	P		**P**	**09 55 29.6**	**+1.0**
	comp=E,0.6nm,0.7s,baz=274,slow=8.3,SNR=4.2 comp=E,0.6nm,0.7s							
AAK	**Ala-Archa**	**51.02**	**299**	LR		LR	10 18 33.9	
	comp=E,26nm,18.8s,baz=35,slow=38							
WRA	**Warramunga Arr**	**57.02**	**189**	P		**P**	**09 56 25.2**	**-0.6**
	comp=E,0.5nm,0.4s,baz=7.1,slow=6.9,SNR=12 comp=E,0.5nm,0.4s							
ASAR	**Alice Springs**	**60.75**	**189**	P		**P**	**09 56 51.0**	**-0.6**
	comp=E,0.5nm,0.7s,baz=2.4,slow=7.6,SNR=6.6 comp=E,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**74.62**	**53**	P		**P**	**09 58 20.8**	**+1.3**
	comp=E,0.4nm,0.8s,baz=300,slow=4.3,SNR=3.5 comp=E,0.4nm,0.8s							
TXAR	**Lajitas Array**	**89.76**	**53**	P		**P**	**09 59 38.9**	**+0.2**
	comp=E,0.4nm,0.7s,baz=312,slow=5.7,SNR=4.6 comp=E,0.4nm,0.7s							
LPAZ	**La Paz**	**146.28**	**61**	PKPbc		**PKPdf**	**10 06 20.9**	**+0.4**
	comp=E,0.7nm,0.8s,baz=270,slow=1.0,SNR=3.6							

*KNET **12** 09:48:57.3±0.6,43.18N×75.08E,h13km±4km,ml1.4, Error ellipse: s-maj=4.8km s-min=2.1km az=22.0*

*NNC **12** 09:48:57.6±0.5,43.16N×75.07E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=6.2km s-min=1.6km az=149.0*

*KRNET **12** 09:48:58.0±0.1,43.19N×75.08E,h15km,mb2.5*

*SOME **12** 09:48:58.1,43.20N×75.08E,h15km*

ISC 12 09:48:58.0±0.9,43.19N±0.03×75.08E±0.02,h13km±9km, n27,σ0s46/52,18C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHMS	**Chumysh**	**0.30**	**231**	⇑P		**Pg**	**09 49 04.4**	**0.0**
CHMS	11nm,0.1s			⇑S		**Sg**	**09 49 08.7**	**+0.2**
	39nm,0.1s							
CHMS	**Chumysh**	**0.30**	**231**	⇑*i*P		**Pg**	**09 49 04.3**	**0.0**
CHMS				⇑*i*S		**Sg**	**09 49 08.7**	**+0.2**
USP	**Ospenovka**	**0.43**	**281**	⇑P		**Pg**	**09 49 06.5**	**0.0**
USP	4.4nm,0.2s			⇑S		**Sg**	**09 49 12.1**	**-0.2**
	24nm,0.2s							
USP	**Ospenovka**	**0.43**	**281**	⇑*i*P		**Pg**	**09 49 06.4**	**-0.1**
USP				⇑*i*S		**Sg**	**09 49 12.6**	**+0.3**
TKM2	**Tokmak 2**	**0.47**	**125**	⇑P		**Pg**	**09 49 06.9**	**-0.4**
TKM2	1.7nm,0.1s			⇑S		**Sg**	**09 49 12.8**	**-0.8**
	48nm,0.1s							
TKM2	**Tokmak 2**	**0.47**	**125**	⇑*i*P		**Pg**	**09 49 06.6**	**-0.7**
TKM2				⇑*i*S		**Sg**	**09 49 12.9**	**-0.7**
DGS	**Degeres**	**0.51**	**84**	P		**Pg**	**09 49 08.0**	**-0.1**
DGS	12nm,0.2s			S		**Sg**	**09 49 15.0**	**+0.1**
	13nm,0.2s							
DGS	**Degeres**	**0.51**	**84**	*e*P		**Pg**	**09 49 08.0**	**-0.1**
DGS				*e*S		**Sg**	**09 49 15.2**	**+0.2**
KBK	**Karagaybulak**	**0.54**	**190**	⇓P		**Pg**	**09 49 08.6**	**0.0**
KBK	1.9nm,0.1s			⇓S		**Sg**	**09 49 16.4**	**+0.5**
	35nm,0.3s							
KBK	**Karagaybulak**	**0.54**	**190**	⇓*i*P		**Pg**	**09 49 08.5**	**-0.2**
KBK				⇓*i*S		**Sg**	**09 49 16.3**	**+0.5**
KST	**Kastek**	**0.67**	**102**	P		**Pg**	**09 49 10.7**	**-0.3**
KST	6.4nm,0.3s			S		**Sg**	**09 49 19.6**	**-0.2**
	32nm,0.3s							
KST	**Kastek**	**0.67**	**102**	*e*P		**Pg**	**09 49 10.8**	**-0.3**
KST				*e*S		**Sg**	**09 49 20.0**	**+0.1**
KST	**Kastek**	**0.67**	**102**	*e*P		**Pg**	**09 49 10.8**	**-0.3**
KST	6.3nm,0.1s			*e*S		**Sg**	**09 49 19.9**	**+0.1**
	32nm,0.3s							
AAK	**Ala-Archa**	**0.70**	**218**	⇑P		**Pg**	**09 49 11.2**	**-0.4**
AAK	0.9nm,0.6s			⇑S		**Sg**	**09 49 20.1**	**-0.8**
	4.8nm,0.9s							
EKS2	**Erkin-Say**	**1.09**	**241**	⇑P		**Pb**	**09 49 18.5**	**-0.2**
EKS2	4.2nm,0.2s			⇑S		**Sn**	**09 49 33.8**	**-0.3**
	1.7nm,0.1s							
EKS2	**Erkin-Say**	**1.09**	**241**	⇓*i*P		**Pb**	**09 49 18.3**	**-0.5**
EKS2				⇓*i*S		**Sg**	**09 49 33.3**	**+0.1**
KTBS	**Karatobe**	**1.28**	**65**	P		**Pb**	**09 49 21.7**	**-0.3**
KTBS	2.6nm,0.1s			S		**Sn**	**09 49 38.5**	**-0.2**
	9.2nm,0.3s							
KTBS	**Karatobe**	**1.28**	**65**	*e*P		**Pb**	**09 49 21.7**	**-0.3**
KTBS				*e*S		**Sn**	**09 49 38.6**	**-0.1**
TNSS	**Tian-Shan**	**1.38**	**96**	*e*P		**Pb**	**09 49 23.8**	**-0.1**
TNSS				*e*S		**Sg**	**09 49 42.1**	**-0.5**
TNSS	**Tian-Shan**	**1.38**	**96**	*e*P		**Pb**	**09 49 23.8**	**-0.1**
TNSS	0.5nm,0.1s			*e*S		**Sg**	**09 49 42.0**	**-0.5**
	1.8nm,0.1s							
KNDC	**Almaty**	**1.38**	**88**	⇑P		**Pb**	**09 49 23.8**	**+0.1**
KNDC	28nm,0.5s			⇑S		**Sg**	**09 49 42.7**	**+0.1**
	13nm,0.4s							
MRKS	**Merke**	**1.43**	**253**	*e*P		**Pb**	**09 49 24.7**	**+0.2**
MRKS				*e*S		**Sg**	**09 49 43.7**	**-0.3**
MRKS	**Merke**	**1.43**	**253**	*e*P		**Pb**	**09 49 24.7**	**+0.2**
MRKS	2.5nm,0.2s			*e*S		**Sg**	**09 49 43.7**	**-0.3**
	4.2nm,0.2s							
BTLS	**Baital**	**1.99**	**339**	Pg		**Pb**	**09 49 34.5**	**+0.4**
BTLS	1.3nm,0.3s			Lg		Lg	09 50 00.3	
	4.1nm,0.2s							
BTLS	**Baital**	**1.99**	**339**	*e*P		**Pb**	**09 49 34.5**	**+0.4**
BTLS	0.6nm,0.1s			*e*S		**Sg**	**09 50 00.5**	**-1.6**
	4.1nm,0.2s							
ARXS	**Arharly**	**2.24**	**62**	*e*P		**Pb**	**09 49 38.5**	**+0.1**
ARXS				*e*S		**Sb**	**09 50 07.4**	**+1.4**
SATY	**Saty**	**2.44**	**92**	Pg		**Pb**	**09 49 42.7**	**+0.9**
SATY	0.9nm,0.2s			Lg		Lg	09 50 14.4	
	4.6nm,0.2s							

CATAC 12 09:54:44.0±0.3,10°N×3°×8°4W±°,h22km±3km,M3.1/12, MLv3.1/12,Error ellipse: s-maj=7.9km s-min=3.3km az=35.0,confirmed,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
QUEP	**Quepos**	**0.17**	**131**	P		Pb	09 54 50.9	+1.5
LCR2	**La Lucha 2**	**0.35**	**55**	P		Pb	09 54 52.7	+1.0
LCR2	**La Lucha 2**	**0.35**	**55**	S		Sn	09 54 59.0	-1.3
TCS1	**Tacares**	**0.49**	**359**	P		Pn	09 54 55.2	-0.7
OCHAL	**Ojochal**	**0.78**	**125**	P		Pb	09 54 58.7	-0.3
SOCE	**Pocosol**	**0.89**	**339**	P		Pn	09 55 01.1	-0.2
SOCE	**Pocosol**	**0.89**	**339**	S		Sn	09 55 13.7	+0.1
JTS	**Las Juntas de**	**0.98**	**319**	P		Pb	09 55 02.3	-0.1
JTS				S		Sn	09 55 16.2	+0.3
DRK0	**Durika**	**1.07**	**105**	P		Pn	09 55 03.5	-0.4
DRK0	**Durika**	**1.07**	**105**	S		Sb	09 55 17.9	+0.2
COVE	**Coope Vega, Sa**	**1.17**	**355**	P		Pn	09 55 05.0	-0.2
CMARA	**Lajas Hojancha**	**1.21**	**293**	S		Sn	09 55 21.1	-0.3
CMARA	**Lajas Hojancha**	**1.21**	**293**	P		Pn	09 55 05.2	-0.4
INDI	**Punta indio, G**	**1.23**	**285**	P		Pb	09 55 06.8	+0.1
INDI	**Punta indio, G**	**1.23**	**285**	S		Sn	09 55 21.5	-0.4
CDITO	**Canoas**	**1.70**	**124**	S		Sn	09 55 34.1	+0.5
CDITO	**Canoas**	**1.70**	**124**	P		Pn	09 55 13.1	+0.7
BRU2	**Volcan**	**1.75**	**115**	P		Pn	09 55 13.2	0.0
ACON	**Acoyapa**	**2.56**	**340**	P		Pn	09 55 24.6	+0.4

GCG 12 10:19:21.6±0.6,14.20N×90.88W,h97km±3km,MD3.6, ML3.5,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ESSG	**Sabana Grande**	**0.18**	**14**	*i* P		Pn	10 19 35.7	+0.1
ESSG				*i* S		Sn	10 19 46.5	+0.6
ESSG				IAML			10 19 46.8	
	comp=N,1μm,0.3s							
FG8	**Yepocapa, Chim**	**0.31**	**80**	*i* P		Pn	10 19 36.0	-0.1
FG8				*i* S		Sn	10 19 47.1	+0.3
FG16	**Alotenango, Sa**	**0.36**	**79**	*i* P		Pn	10 19 36.3	-0.1
NUBE	**Las Nubes**	**1.10**	**106**	*i* P		Pn	10 19 43.4	+0.2
NUBE				*i* S		Sn	10 20 00.5	+1.1
MTO3	**Montecristo**	**1.48**	**82**	*i* P		Pn	10 19 48.4	+0.7
JAYA	**Jayaque - finc**	**1.49**	**111**	*i* P		Pn	10 19 48.0	+0.3
JAYA				*i* S		Sn	10 20 08.2	+0.7

*IDC **12** 10:35:25.8±0.4,44.49S×168.07E,h0km,mb5.3/23, mbtmp5.2/24,ML4.9/1,MS4.8/36,Error ellipse: s-maj=15.9km s-min=12.3km az=68.0*

*WEL **12** 10:35:26.8,44.48S×167.81E,h15km,ML6.0,Mw5.4, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}1.39; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-1.57; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.49; $M_{r\phi}$-0.46; Fault plane solution: $M_0$1.64000×10^{17} NP1: ϕ_s202.00000°,δ55.00000°,λ99.00000°. NP2:ϕ_s6.00000°, δ36.00000°,λ77.00000°. Principal axes: T -1.7786, Plg78.0000°, Azm145.0000°; N 0.2775, Plg8.0000°, Azm16.0000°; P 1.5010, Plg10.0000°, Azm285.0000°; Stations used: WKZ EAZ WHZ LBZ TUZ ODZ SYZ APZ OPZ WVZ INZ QRZ REVERSE FAULTING*

*WEL **12** 10:35:27.8±0.6,45°S×16°8E±°,h12km,M5.5/69, mB5.9/56,ML6.1/25,MLv6.0/25,Mw(mB)5.5/69 Error ellipse: s-maj=7.2km s-min=3.0km az=118.0,confirmed*

*BJI **12** 10:35:27.0,44.24S×168.41E,h14km,mB5.8/14,mb5.6/47, Ms5.2/18,Ms7 4.8/21*

*MOS **12** 10:35:27.8±1.1,44.54S×168.00E,h17km,mb5.7/25, MS5.0/12,Error ellipse: s-maj=10.8km s-min=7.5km az=108.2*

*NEIC **12** 10:35:28.5,45.05S×167.87E,h20km,Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.98; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-1.00; $M_{r\theta}$-0.04; $M_{\theta\phi}$-1.05; $M_{r\phi}$-1.13; Fault plane solution: $M_0$1.83000×10^{17} NP1:ϕ_s63.95000°, δ35.38000°,λ142.07000°. NP2:ϕ_s186.38000°,δ69.15000°, λ60.74000°. Principal axes: T 1.6168, Plg56.0000°, Azm58.0000°; N 0.3750, Plg27.0000°, Azm198.0000°; P -1.9918, Plg19.0000°, Azm298.0000°;*

*NEIC **12** 10:35:28.5±2.0,44.55S±0.04×167.91E±0.07,h10km±1km, mb5.8/94,Mwb5.5/22,Mwr5.4/61,Mww5.4/18 Error ellipse: s-maj=9.2km s-min=6.7km az=119.0*

*NEIC **12** 10:35:28.5,44.55S×167.87E,h20km*

*GCMT **12** 10:35:31.5±0.1,44.41S±0.01×167.71E±0.01,h15km, MW5.5/144,Moment Tensor Solution. s126,c227; s144,c272; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.33±.02; $M_{\theta\theta}$0.18±.02; $M_{\phi\phi}$-1.51±.02; $M_{r\theta}$-0.35±.04; $M_{\theta\phi}$-0.61±.01; $M_{r\phi}$-1.25±.04; Best double couple: $M_0$1.99800×10^{17} NP1:ϕ_s21.00000°,δ25.00000°, λ94.00000°. NP2:ϕ_s196.00000°,δ65.00000°,λ88.00000°. Principal axes: T 1.8100, Plg70.0000°, Azm102.0000°; N 0.3740, Plg2.0000°, Azm197.0000°; P -2.1860, Plg20.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 10:35:28.0±0.3,44.52S±0.03×167.98E±0.03,h11km±1km, h12km:pP-P,n1011,σ1s47/1036,mb5.7/144,MS4.9/46, 56C-57D,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSZ	**Milford Sound**	**0.15**	**193**	P		**Pg**	**10 35 32.3**	**+0.8**
MSZ				S		**Sg**	**10 35 33.9**	**-0.1**
MSZ	**Milford Sound**	**0.15**	**193**	P		**Pg**	**10 35 32.3**	**+0.8**
MSZ				S		**Sg**	**10 35 33.9**	**-0.1**
NSBS	**Neils Beach**	**0.72**	**43**	P		**Pn**	**10 35 43.5**	**-0.5**
NSBS				S		**Sn**	**10 35 54.1**	**-0.8**
JCZ	**Jackson Bay**	**0.73**	**53**	P		**Pb**	**10 35 43.0**	**+0.3**
JCZ				S		**Sn**	**10 35 54.1**	**-1.4**
WKZ	**Wanaka**	**0.80**	**113**			**Pn**	**10 35 45.1**	**-0.1**
WKZ	**Wanaka**	**0.80**	**113**	P		**Pn**	**10 35 45.0**	**-0.2**
WKZ				S		**Sn**	**10 35 56.8**	**-0.3**
MLZ	**Mavora Lakes**	**0.85**	**173**			**Pg**	**10 35 44.7**	**+0.3**
MLZ	**Mavora Lakes**	**0.85**	**173**	P		**Pg**	**10 35 44.1**	**-0.3**
MLZ				S		**Sb**	**10 35 57.1**	**+0.9**
DCZ	**Deep Cove**	**1.11**	**212**			**Pb**	**10 35 47.7**	**-1.4**
DCZ	**Deep Cove**	**1.11**	**212**	P		**Pb**	**10 35 47.4**	**-1.7**
DCZ				S		**Sb**	**10 36 02.3**	**-1.2**
EAZ	**Earnscleugh**	**1.18**	**127**	P		**Pg**	**10 35 51.1**	**+0.4**
WHZ	**Wether Hill Ro**	**1.37**	**181**			**Pn**	**10 35 52.9**	**-0.1**
WHZ	**Wether Hill Ro**	**1.37**	**181**	P		**Pn**	**10 35 52.5**	**-0.5**
LBZ	**Lake Benmore**	**1.59**	**86**			**Pg**	**10 35 58.2**	**-0.2**
LBZ	**Lake Benmore**	**1.59**	**86**	P		**Pg**	**10 35 57.8**	**-0.7**
FOZ	**Fox Glacier**	**1.66**	**54**			**Pb**	**10 35 58.7**	**+0.3**
FOZ	**Fox Glacier**	**1.66**	**54**	P		**Pb**	**10 35 56.8**	**0.0**
FOZ				S		**Sg**	**10 36 22.7**	**+1.5**
TUZ	**Tuapeka**	**1.85**	**141**	P		**Pb**	**10 36 01.1**	**-0.6**
PYZ	**Puysegur Point**	**1.88**	**209**			**Pn**	**10 35 59.4**	**-0.6**
PYZ	**Puysegur Point**	**1.88**	**209**	P		**Pn**	**10 35 58.9**	**-1.1**
ODZ	**Otahua Downs**	**1.97**	**106**			**Pn**	**10 36 02.9**	**-0.9**
ODZ	**Otahua Downs**	**1.97**	**106**	P		**Pb**	**10 36 02.6**	**-1.1**
GCSZ	**Gaunt Creek Bo**	**2.08**	**55**	P		**Pn**	**10 36 02.6**	**-0.2**
SYZ	**Scrubby Hill**	**2.17**	**158**	P		**Pn**	**10 36 05.5**	**+1.5**
TMZ	**Timaru**	**2.17**	**87**	P		**Pn**	**10 36 05.3**	**+1.3**
HHSZ	**Highcliff Hill**	**2.30**	**127**	P		**Pb**	**10 36 07.8**	**-1.6**
APZ	**The Paps**	**2.31**	**180**	P		**Pn**	**10 36 07.1**	**+1.2**
RPZ	**Rata Peaks**	**2.36**	**71**			**Pb**	**10 36 08.4**	**-2.0**
RPZ	**Rata Peaks**	**2.36**	**71**	Pn		**Pn**	**10 36 08.1**	**+1.5**
	3μm,0.3s,baz=244,slow=6.0,SNR=3606							
RPZ				Sn		**Sn**	**10 36 36.1**	**+0.6**
	1μm,0.3s,baz=214,slow=13,SNR=4.7							
RPZ				LR		LR	10 36 38.7	
	comp=Z,13μm,20.9s,baz=251,slow=32							
RPZ	**Rata Peaks**	**2.36**	**71**	P		**Pn**	**10 36 08.1**	**+1.5**
ARCZ	**Arundel**	**2.37**	**77**	P		**Pn**	**10 36 08.1**	**+1.3**
WVZ	**Waitaha Valley**	**2.47**	**55**	P		**Pn**	**10 36 07.6**	**-0.4**
MHCZ	**Mount Hutt**	**2.77**	**70**	P		**Pn**	**10 36 13.0**	**+0.7**
WACZ	**Wakanui South**	**2.84**	**80**	P		**Pn**	**10 36 14.2**	**+1.1**
INZ	**Inchbonnie**	**3.09**	**56**			**Pn**	**10 36 17.6**	**+0.9**
INZ	**Inchbonnie**	**3.09**	**56**	P		**Pn**	**10 36 16.4**	**-0.2**
RACZ	**Rakaia**	**3.10**	**77**	P		**Pn**	**10 36 17.6**	**+0.8**
OXZ	**Oxford**	**3.17**	**69**			**Pn**	**10 36 18.1**	**+0.4**
OXZ	**Oxford**	**3.17**	**69**	P		**Pn**	**10 36 17.8**	**+0.1**
MQZ	**McQueen's Vall**	**3.47**	**78**			**Pn**	**10 36 22.3**	**+0.6**
MQZ	**McQueen's Vall**	**3.47**	**78**	P		**Pn**	**10 36 22.1**	**+0.4**
LTZ	**Lake Taylor**	**3.57**	**62**			**Pn**	**10 36 23.8**	**+0.6**
LTZ	**Lake Taylor**	**3.57**	**62**	P		**Pn**	**10 36 23.3**	**+0.1**
AKCZ	**Akaroa Harbour**	**3.61**	**81**	P		**Pn**	**10 36 24.7**	**+1.0**
AMCZ	**Amberley**	**3.64**	**70**			**Pn**	**10 36 24.9**	**+0.8**
AMCZ	**Amberley**	**3.64**	**70**	P		**Pn**	**10 36 24.9**	**+0.8**
OKCZ	**Okains Bay**	**3.75**	**79**	P		**Pn**	**10 36 27.0**	**+1.3**
DSZ	**Denniston Nort**	**3.94**	**47**			**Pn**	**10 36 28.1**	**-0.3**
DSZ	**Denniston Nort**	**3.94**	**47**	P		**Pn**	**10 36 28.3**	**-0.1**
GVZ	**Greta Valley S**	**3.98**	**69**			**Pn**	**10 36 29.6**	**+0.7**
GVZ	**Greta Valley S**	**3.98**	**69**	P		**Pn**	**10 36 29.1**	**+0.2**
THZ	**Tophouse**	**4.54**	**54**	P		**Pn**	**10 36 36.8**	**+0.2**
KHZ	**Kahutara**	**4.56**	**64**	P		**Pn**	**10 36 36.9**	**0.0**
MRNZ	**Matariki Terra**	**4.70**	**50**	P		**Pn**	**10 36 38.8**	**+0.1**
QRZ	**Quartz Range**	**4.99**	**44**	P		**Pn**	**10 36 42.7**	**-0.1**
TKNZ	**Takaka Hill**	**5.06**	**48**	P		**Pn**	**10 36 43.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**5.15**	**59**	P		**Pn**	**10 36 46.6**	**+1.7**
NNZ	**Nelson**	**5.16**	**52**	P		**Pn**	**10 36 45.7**	**+0.6**
CMWZ	**Cape Campbell**	**5.34**	**61**	P		**Pn**	**10 36 50.7**	**+3.1**
TUWZ	**Tuamarina**	**5.36**	**57**	P		**Pn**	**10 36 49.2**	**+1.5**
TCW	**Tory Channel**	**5.69**	**57**	P		**Pn**	**10 36 52.8**	**+0.5**
DUWZ	**D'Urville Isla**	**5.75**	**52**	P		**Pn**	**10 36 54.2**	**+1.0**
SNZO	**South Karori**	**5.89**	**59**			**Pn**	**10 36 56.7**	**+1.6**
BHW	**Baring Head**	**5.94**	**61**	P		**Pn**	**10 36 55.5**	**-0.3**
WEL	**Wellington**	**5.95**	**59**	P		**Pn**	**10 36 57.0**	**+1.2**
WEL	**Wellington**	**5.95**	**59**	P		**Pn**	**10 36 57.0**	**+1.2**
PLWZ	**Palliser**	**6.09**	**64**	P		**Pn**	**10 36 57.4**	**-0.6**
MSWZ	**Moikau Station**	**6.17**	**62**	P		**Pn**	**10 36 57.6**	**-1.4**
CAW	**Cannon Point**	**6.23**	**59**	P		**Pn**	**10 36 58.4**	**-1.4**
KIW	**Kapiti Island**	**6.28**	**57**	P		**Pn**	**10 37 00.8**	**+0.3**

PRGZ Paritu Road 9.28 56 P **Pn** **10 37 40.8 -0.8**
URZ Urewera 9.28 51 Pn **Pn** **10 37 39.4 -2.2**
12nm,0.3s,baz=204,slow=12,SNR=33
URZ Sn **Sn** **10 39 18.7 -7.3**
10nm,0.3s,baz=270,slow=20,SNR=3.0
34nm,0.4s
OPRZ Ohinepanea 9.29 47 P **Pn** **10 37 44.0 +2.3**
RAGZ Rawiri 9.29 53 P **Pn** **10 37 44.4 +2.6**
RIGZ Rimuhau 9.35 55 P **Pn** **10 37 41.8 -0.8**
MBAZ Motutapu North 9.36 37 P **Pn** **10 37 42.9 +0.2**
WIAZ Waiheke Island 9.44 38 P **Pn** **10 37 48.2 +4.4**
MWZ Matawai 9.47 53 P **Pn** **10 37 44.1 -0.1**
ABAZ Army Bay 9.47 36 P **Pn** **10 37 45.2 +1.0**
TKGZ Te Karaka 9.58 54 P **Pn** **10 37 46.3 +0.7**
KUZ Kuaotunu 9.74 40 P **Pn** **10 37 48.1 +0.2**
RUGZ Raukumara Rang 9.81 51 P **Pn** **10 37 49.8 +0.8**
TWGZ Tauwhareparae 9.83 53 P **Pn** **10 37 48.1 -1.1**
WCZ Waipu Caves 9.86 32 P **Pn** **10 37 49.2 -0.3**
HAZ Te Kaha 10.01 51 P **Pn** **10 37 52.2 +0.6**
GRZ Great Barrier 10.04 37 P **Pn** **10 37 53.2 +1.3**
PKGZ Pakihiroa 10.10 52 P **Pn** **10 37 52.3 -0.6**
OUZ Omahuta 10.24 27 P **Pn** **10 37 54.6 -0.1**
WMGZ Waiomatatini S 10.33 53 P **Pn** **10 37 55.1 -0.9**
MXZ Matakaoa Point 10.45 52 **Pn** **10 37 56.7 -0.8**
CTZ Chatham Island 11.11 91 **Pn** **10 38 07.5 +1.0**
CTZ Chatham Island 11.11 91 P **Pn** **10 38 07.3 +0.7**
I36NZ CHATHAM INFRAS 11.17 92 I I 11 37 30.0
0.6nm,0.3s,baz=259,slow=332,SNR=0.7
TAU Tasmania Unive 15.02 269 **Pn** **10 38 58.0 -2.0**
TAU Tasmania Unive 15.02 269 P **Pn** **10 38 58.1 -2.0**
MOO Moorlands 15.23 271 P **Pn** **10 39 02.9 +0.1**
comp=Z,0.0nmcomp=Z,268nm,1.1s
RIV Riverview 16.82 304 P **Pn** **10 39 22.4 -0.9**
comp=Z,259nm,1.7s
RIV Riverview 16.82 304 S **Sn** **10 42 19.8 -10**
RIV Riverview 16.82 304 P **P** **10 39 26.5 +1.1**
RIV pmax pmax
comp=Z,262nm,1.7s
CNB Canberra Magne 16.95 296 P **Pn** **10 39 25.3 +0.2**
comp=Z,0.0nmcomp=Z,271nm,1.4s
CNB Canberra Magne 16.95 296 S Sn 10 42 21.4 -12
CAN Canberra 17.18 296 P **P** **10 39 28.9 -0.6**
CAN Canberra 17.18 296 P **P** **10 39 29.7 +0.2**
comp=Z,0.0nmcomp=Z,278nm,1.7s
CAN S **Sn** **10 42 28.8 -10**
CAN Canberra 17.18 296 P **P** **10 39 28.9 -0.6**
CAN pmax pmax
comp=Z,517nm,1.4s
MGCD Mangrove Creek 17.29 305 P **P** **10 39 31.1 +0.5**
comp=Z,157nm,0.9s
MGCD Mangrove Creek 17.29 305 S Sn 10 42 29.8 -12
YNG Young 18.21 297 P **P** **10 39 40.9 +0.1**
comp=Z,55nm,1.9s
YNG S **Sn** **10 43 02.6 -1.2**
TOO Toolangi 18.30 285 P **P** **10 39 43.2 +1.4**
comp=Z,0.0nmcomp=Z,52nm,0.9s
TOO S **Sn** **10 42 55.7 -10**
TOO Toolangi 18.30 285 P **P** **10 39 43.9 +2.1**
RAO Raoul Island 18.92 41 LR LR 10 47 37.2
comp=Z,5μm,18.8s,baz=192,slow=39
ARMA Armidale 19.09 312 P **Pn** **10 39 51.5 0.0**
ARMA Armidale 19.09 312 P **Pn** **10 39 52.6 +1.2**
comp=Z,0.0nmcomp=Z,90nm,1.3s
ARPS Mount Arapiles 21.23 282 P **P** **10 40 14.2 +0.5**
comp=Z,0.0nmcomp=Z,75nm,1.2s
ARPS S Sn 10 44 18.3 +1.8
CMSA Cobar Meteorol 21.74 299 P **P** **10 40 19.5 +0.3**
comp=Z,0.0nmcomp=Z,132nm,1.2s
PINNC Pines Island, 21.86 359 P **P** **10 40 21.6 +1.1**
PINNC IAmb IAmb 10 40 26.5
comp=Z,216nm,1.1s
DZM Mont Dzumac 22.43 356 P **P** **10 40 27.8 +1.0**
DZM IAmb IAmb 10 40 31.9
comp=Z,260nm,1.1s
DZM Mont Dzumac 22.43 356 *e*P **P** **10 40 28.0 +1.2**
comp=Z,582nm,1.2s
DZM *e*S **S** **10 44 27.5 -5.5**
comp=Z,2μm,22.9s
DZM *e*LR LR 10 45 50.0
comp=Z,2μm,20.6s
DZM Mont Dzumac 22.43 356 P **P** **10 40 27.9 +1.2**
comp=Z,166nm,1.0s,baz=147,slow=11,SNR=34
DZM LR LR 10 48 35.4
comp=Z,4μm,18.2s,baz=164,slow=35
comp=Z,166nm,1.0s
EIDS Eidsvold 23.51 319 P **P** **10 40 39.1 +1.2**
EIDS IAmb IAmb 10 40 56.0
comp=Z,185nm,1.0s
EIDS Eidsvold 23.51 319 P **P** **10 40 38.9 +1.0**
comp=Z,0.0nmcomp=Z,189nm,1.3s
STKA Stephens Creek 24.16 293 P **P** **10 40 45.1 +1.1**
STKA Stephens Creek 24.16 293 P **P** **10 40 45.0 +1.0**
comp=Z,0.0nmcomp=Z,762nm,1.3s
STKA Stephens Creek 24.16 293 P **P** **10 40 45.1 +1.1**
comp=Z,70nm,0.9s,baz=120,slow=12,SNR=111
STKA PcP **PcP** **10 44 24.2 -0.4**
comp=Z,12nm,0.8s,baz=121,slow=5.9,SNR=4.0
STKA LR LR 10 49 14.7
comp=Z,3μm,18.4s,baz=130,slow=34
comp=Z,70nm,0.9s
HTT Hallett 25.03 286 P **P** **10 40 52.5 +0.5**
comp=Z,28nm,1.2s
HTT Hallett 25.03 286 P **P** **10 40 52.9 +0.9**
QLP Quilpie 26.19 305 P **P** **10 41 03.5 +1.0**
comp=Z,180nm,1.7s
DRV Dumont d'Urvil 26.79 204 P **P** **10 41 08.8 +1.3**
BBOO Buckleboo 27.36 284 P **P** **10 41 13.3 +0.4**
BBOO Buckleboo 27.36 284 P **P** **10 41 12.5 -0.5**
comp=Z,55nm,0.9s
MSVF Nonsavu 28.02 21 P **P** **10 41 20.0 +1.0**
MSVF Nonsavu 28.02 21⇑ *e*P **P** **10 41 19.1 +0.1**
MSVF pmax pmax
comp=Z,23nm,1.3s
SANVU Saraoutou 28.99 358 P **P** **10 41 28.7 +1.1**
CTAO Charters Tower 30.32 316 P **P** **10 41 40.4 +0.9**
CTAO Charters Tower 30.32 316 P **P** **10 41 40.4 +0.9**
CTAO pmax pmax
comp=Z,36nm,0.9s
MTSU Mount Surprise 32.94 315 P **P** **10 42 03.1 +0.7**
comp=Z,38nm,0.9s
VNDA Vanda 33.20 182 P **P** **10 42 05.8 +1.6**
comp=Z,26nm,0.9s,baz=8.9,slow=8.9,SNR=57
VNDA LR LR 10 53 12.9
comp=Z,2μm,19.8s,baz=10,slow=32
comp=Z,26nm,0.9s
SBA Scott Base 33.44 180 P **P** **10 42 08.9 +2.6**
SBA Scott Base 33.44 180 P **P** **10 42 08.9 +2.6**
SBA pmax pmax
comp=Z,367nm,1.3s
QIS Mount Isa 33.52 306 P **P** **10 42 07.9 +0.5**
comp=Z,0.0nmcomp=Z,83nm,1.2s
AS19 Alice Springs 34.63 296 P **P** **10 42 16.3 -0.9**
comp=Z,79nm,1.2s
AS31 Alice Springs 34.70 296 P **P** **10 42 17.1 -0.6**
comp=Z,23nm,1.2s
ASAR Alice Springs 34.70 296 P **P** **10 42 17.1 -0.6**
comp=Z,23nm,0.8s,baz=130,slow=8.1,SNR=118
ASAR PcP **PcP** **10 44 50.1 -1.5**
comp=Z,27nm,0.8s,baz=132,slow=3.6,SNR=16
ASAR ScP **ScP** **10 48 36.0 -0.6**
comp=Z,0.9nm,0.8s,baz=122,slow=2.4,SNR=2.0
ASAR LR LR 10 55 56.3
comp=Z,2μm,18.8s,baz=133,slow=35
comp=Z,23nm,0.8s
RAR Rarotonga 35.33 59 P **P** **10 42 23.1 0.0**
comp=Z,12nm,0.6s,baz=215,slow=12,SNR=2.3
RAR LR LR 10 55 24.8
comp=Z,2μm,20.5s,baz=216,slow=34
comp=Z,12nm,0.6s
HNR Honiara 35.65 346 LR LR 10 56 42.6
comp=Z,2μm,18.1s,baz=186,slow=36
WR0 Warramunga Arr 37.00 301 P **P** **10 42 36.3 -1.2**
COEN Coen 37.07 317 P **P** **10 42 38.6 +0.5**
COEN Coen 37.07 317 P **P** **10 42 38.9 +0.8**
comp=Z,58nm,1.3s
WRA Warramunga Arr 37.14 300 P **P** **10 42 37.1 -1.5**
WRA Warramunga Arr 37.14 300 P **P** **10 42 38.0 -0.7**
comp=Z,36nm,0.7s,baz=138,slow=7.9,SNR=263
WRA PcP **PcP** **10 44 57.7 -1.1**
comp=Z,25nm,0.8s,baz=136,slow=2.9,SNR=16
WRA ScP **ScP** **10 48 44.2 -1.4**
comp=Z,1.4nm,1.0s,baz=145,slow=5.2,SNR=3.0
WRA LR LR 10 57 31.0
comp=Z,2μm,18.6s,baz=142,slow=36
comp=Z,36nm,0.7s
WRAB Tennant Creek 37.14 300 P **P** **10 42 38.1 -0.6**

WRAB Tennant Creek 37.14 300 *c*/P **P** **10 42 37.6 -1.1**
WRAB pmax pmax
comp=Z,46nm,0.8s
WB0 Warramunga Arr 37.23 301 P **P** **10 42 38.3 -1.2**
CASY Casey 37.36 214 P **P** **10 42 40.0 -0.1**
PMG Port Moresby 39.36 326 P **P** **10 42 58.0 +0.7**
PMG Port Moresby 39.36 326 LR LR 10 58 39.6
comp=Z,1μm,18.2s,baz=203,slow=35
PMG Port Moresby 39.36 326 *ce*P **P** **10 42 58.9 +1.6**
PMG pmax pmax
comp=Z,34nm,0.9s
TBI Tubuai 40.57 73 *e*P **P** **10 43 04.1 -3.3**
comp=Z,828nm,26.2s
TBI *e*S **S** **10 49 08.8 -7.8**
comp=Z,3μm,30.2s
TBI *e*SS **SS** **10 52 14.7 -1.6**
comp=Z,5μm,27.5s
TBI *e*LR LR 10 54 07.9
comp=Z,2μm,25.2s
TBI *e*LR LR 10 54 08.1
comp=Z,7μm,24.5s
NWAO Narrogin (SRO) 40.65 269 P **P** **10 43 07.7 -0.3**
NWAO Narrogin (SRO) 40.65 269 P **P** **10 43 07.4 -0.6**
comp=Z,88nm,1.6s
NWAO Narrogin (SRO) 40.65 269 LR LR 10 56 52.2
comp=Z,823nm,19.0s,baz=76,slow=32
NWAO Narrogin (SRO) 40.65 269 P **P** **10 43 07.7 -0.3**
NWAO pmax pmax
comp=Z,59nm,1.2s
KLBR Kellerberrin 40.99 271 P **P** **10 43 11.2 +0.4**
comp=Z,151nm,0.8s
H01W1 Cape Leeuwin H 41.84 264 T T 11 27 32.9
baz=120,slow=75,SNR=412
H01W2 Cape Leeuwin H 41.85 264 T T 11 27 33.1
baz=120,slow=75,SNR=500
H01W3 Cape Leeuwin H 41.86 264 T T 11 27 34.2
baz=120,slow=75,SNR=522
MUN Mundaring 41.88 269 P **P** **10 43 18.4 +0.3**
comp=Z,103nm,1.2s
MUN Mundaring 41.88 269 P **P** **10 43 19.0 +0.8**
BLDU Ballidu 42.27 271 P **P** **10 43 21.3 0.0**
comp=Z,22nm,2.4s
MEEK Meekatharra 43.23 277 P **P** **10 43 28.8 -0.4**
comp=Z,90nm,1.1s
MORW Morawa 43.63 273 P **P** **10 43 31.4 -0.9**
MORW IAmb IAmb 10 43 35.0
comp=Z,359nm,2.0s
MORW Morawa 43.63 273 P **P** **10 43 32.6 +0.3**
comp=Z,67nm,1.6s
KNRA Kununurra 43.82 298 P **P** **10 43 33.5 -0.4**
KNRA IAmb IAmb 10 43 35.8
comp=Z,107nm,0.9s
KNRA Kununurra 43.82 298 P **P** **10 43 33.6 -0.3**
comp=Z,133nm,0.9s
KDU Kakadu 43.88 305 P **P** **10 43 34.5 +0.1**
comp=Z,57nm,1.2s
FITZ Fitzroy Crossi 44.05 293 P **P** **10 43 34.9 -0.9**
FITZ Fitzroy Crossi 44.05 293 P **P** **10 43 35.4 -0.4**
comp=Z,17nm,1.5s
FITZ Fitzroy Crossi 44.05 293 LR LR 11 02 11.6
comp=Z,1μm,18.5s,baz=114,slow=36
PPT2 Papeete2 44.49 67 *e*P **P** **10 43 36.6 -2.8**
comp=Z,221nm,25.0s
PPT2 *e*S **S** **10 50 07.8 -6.8**
comp=Z,601nm,27.0s
PPT2 *e*SS **SS** **10 53 34.9 +1.0**
comp=Z,4μm,27.5s
PPT2 *e*LR LR 10 55 58.2
comp=Z,2μm,23.2s
PPT2 *e*LR LR 10 56 00.0
comp=Z,2μm,31.0s
PPT Papeete 44.51 67 P **P** **10 43 38.9 -0.6**
comp=Z,31nm,0.9s,baz=204,slow=20,SNR=6.2
PPT LR LR 10 58 08.0
comp=Z,1μm,19.9s,baz=216,slow=31
comp=Z,31nm,0.9s
MTN Manton Dam 44.55 304 IAmb IAmb 10 43 42.0
comp=Z,81nm,0.8s
MTN Manton Dam 44.55 304 P **P** **10 43 39.5 -0.3**
comp=Z,117nm,0.8s
QSPA South Pole Qui 45.60 180 P **P** **10 43 50.2 +2.3**
QSPA South Pole Qui 45.60 180 P **P** **10 43 49.1 +1.3**
comp=Z,112nm,1.0s,baz=25,slow=3.7,SNR=258
QSPA PcP **PcP** **10 45 25.7 -0.3**
comp=Z,18nm,1.0s,baz=65,slow=0.6,SNR=1.6
QSPA LR LR 11 00 51.0
comp=Z,3μm,18.5s,baz=34,slow=33
comp=Z,112nm,1.0s
MBWA Marble Bar 45.94 284 P **P** **10 43 50.1 -0.7**
MBWA IAmb IAmb 10 43 52.0
comp=Z,48nm,0.8s
MBWA Marble Bar 45.94 284 P **P** **10 43 50.5 -0.3**
comp=Z,78nm,1.0s
MANU Manus Island 46.06 331 P **P** **10 43 52.9 +1.1**
JAY Jayapura 48.27 322 P **P** **10 44 09.9 +0.8**
comp=Z,27nm,1.1s,baz=143,slow=11,SNR=4.6
comp=Z,27nm,1.1s
JAY Jayapura 48.27 322 P **P** **10 44 09.5 +0.5**
GENI Genyem 48.44 321 P **P** **10 44 10.8 +0.5**
comp=Z,2μmcomp=Z,2μmcomp=Z,69nm,1.4s
SMPI Sarmi 49.63 320 P **P** **10 44 20.2 +0.8**
comp=Z,2μmcomp=Z,2μmcomp=Z,79nm,1.4s
RKT Rikitea 50.87 85 *e*P P 10 44 18.1 -11
comp=Z,3μm,40.0s
RKT *e*S **S** **10 51 46.8 +1.8**
comp=Z,6μm,35.2s
RKT *e*SS **SS** **10 55 19.5 -0.1**
comp=Z,4μm,36.5s
RKT *e*LR LR 10 59 04.2
comp=Z,9μm,33.2s
SOEI Soe 51.15 299 IAmb IAmb 10 44 39.5
comp=Z,128nm,1.1s
SOEI Soe 51.15 299 P **P** **10 44 32.3 +1.2**
comp=Z,2μmcomp=Z,149nm,1.8s
BATI Baumata 51.18 298 P **P** **10 44 31.9 +0.7**
comp=Z,20nm,0.5s,baz=144,slow=19,SNR=1.9
BATI LR LR 11 06 19.8
comp=Z,1μm,18.9s,baz=156,slow=36
comp=Z,20nm,0.5s
BAKI Biak 51.55 318 P **P** **10 44 34.9 +0.9**
comp=Z,3μmcomp=Z,211nm,1.4s
PATS Pohnpei 51.86 348 P **P** **10 44 36.7 +0.6**
comp=Z,187nm,1.8s
EDFI Emo, Flores 53.54 297 P **P** **10 44 47.4 -1.5**
comp=Z,1μmcomp=Z,69nm,1.2s
WSI Waingapu 53.74 295 P **P** **10 44 51.6 +1.4**
SWI Sorong 54.28 313 P **P** **10 44 53.8 -0.3**
comp=Z,2μmcomp=Z,98nm,1.1s
NLAI Namlea 54.60 307 P **P** **10 44 57.4 +0.9**
comp=Z,2μmcomp=Z,105nm,1.4s
MAW Mawson 54.97 207 P **P** **10 44 58.5 0.0**
comp=Z,40nm,1.1s,baz=124,slow=6.4,SNR=26
MAW LR LR 11 06 45.4
comp=Z,2μm,18.1s,baz=110,slow=34
comp=Z,40nm,1.1s
BBSI Bau Bau 55.51 301 P P 10 45 10.6 +7.6
PLAI Plampang 56.01 294 P **P** **10 45 07.4 +0.8**
comp=Z,1μmcomp=Z,96nm,1.4s
SANI Sanana 56.21 306 P **P** **10 45 07.4 -0.6**
comp=Z,1μmcomp=Z,95nm,1.1s
BSSI Bau Bau, Buton 56.29 298 P **P** **10 45 08.1 -0.6**
comp=Z,127nm,1.2s
TWSI Taliwang, Sumb 56.66 293 P **P** **10 45 11.9 +0.6**
comp=Z,2μmcomp=Z,168nm,0.9s
BELA Belgrano 2 57.08 174 P **P** **10 45 13.7 +0.2**
TAOE Nuku Hiva Isla 57.09 68 *e*S **S** **10 53 11.2 +1.8**
comp=Z,343nm,28.8s
TAOE *e*SS **SS** **10 56 57.8 -0.5**
comp=Z,594nm,27.5s
TAOE *e*LR LR 11 01 49.8
comp=Z,2μm,22.1s
BKSI Bulukumba 57.16 299 P **P** **10 45 15.0 +0.2**
comp=Z,1μmcomp=Z,63nm,1.1s
KAPI Kappang 57.63 298 P **P** **10 45 18.8 +0.7**
KAPI IAmb IAmb 10 45 25.7
comp=Z,174nm,1.3s
KAPI Kappang 57.63 298 P **P** **10 45 18.7 +0.6**
comp=Z,57nm,1.0s,baz=156,slow=3.7,SNR=17
KAPI LR LR 11 10 58.0
comp=Z,917nm,18.5s,baz=162,slow=37
comp=Z,57nm,1.0s
KAPI Kappang 57.63 298 *ce*P **P** **10 45 18.3 +0.2**
KAPI pmax pmax
comp=Z,128nm,1.2s
BNSI Bone 57.88 299 P **P** **10 45 20.4 +0.5**
comp=Z,2μmcomp=Z,102nm,1.3s
SRBI Singaraja 58.25 292 P **P** **10 45 22.7 +0.2**
comp=Z,2μmcomp=Z,93nm,1.0s

SPSI Sidrap Palu 58.43 299 P **P** **10 45 23.6 -0.1**
comp=Z,2μmcomp=Z,110nm,1.2s
JAGI Jajag, Banyuwa 58.67 291 IAmb IAmb 10 45 48.5
comp=Z,54nm,0.9s
JAGI Jajag, Banyuwa 58.67 291 P **P** **10 45 24.9 -0.6**
comp=Z,1μmcomp=Z,70nm,1.0s
GMJI Gumukmas 59.29 290 P **P** **10 45 30.1 +0.4**
comp=Z,2μmcomp=Z,148nm,1.1s
APSI Ampana 59.67 303 P **P** **10 45 32.8 +0.4**
comp=Z,1μmcomp=Z,56nm,1.1s
KMMI Kalianget 59.84 292 P **P** **10 45 34.8 +1.3**
comp=Z,2μmcomp=Z,4μmcomp=Z,205nm,1.2s
SYO Syowa Base 60.54 199⇑ *i*P **P** **10 45 37.0 -0.6**
SYO Syowa Base 60.54 199⇓ *i*pP **P** **10 45 39.0 +1.4**
PCI Palu 60.77 301 P P 10 45 47.3 +7.4
PCJI Pacitan 60.88 289 P **P** **10 45 41.2 +0.6**
comp=Z,88nm,1.4s
SGSI Sangihe 61.18 310 P **P** **10 45 43.2 +0.6**
NGJI Ngawi 61.28 289 P **P** **10 45 43.4 0.0**
comp=Z,196nm,0.9s
WOJI Wonogiri, Jawa 61.31 289 P **P** **10 45 44.0 +0.5**
comp=Z,2μmcomp=Z,79nm,0.9s
UGM Wanagama 61.52 288 P **P** **10 45 45.1 0.0**
UGM IAmb IAmb 10 45 52.7
comp=Z,80nm,0.9s
UGM Wanagama 61.52 288 P **P** **10 45 44.9 -0.2**
comp=Z,102nm,1.4s
GUMO Guam 61.54 334 LR LR 11 11 08.6
comp=Z,123nm,19.3s,baz=156,slow=35
MPSI Mapaga 61.72 302 P **P** **10 45 46.3 0.0**
comp=Z,2μmcomp=Z,125nm,1.1s
TOLI2 Tolitoli 61.80 304 P **P** **10 45 45.6 -1.3**
TOLI2 IAmb IAmb 10 45 53.6
comp=Z,46nm,0.9s
SMRI Semarang 62.21 289 P **P** **10 45 50.4 +0.8**
KPJI Karang Pucung 63.03 287 P **P** **10 45 55.9 +0.8**
comp=Z,170nm,0.9s
TROLL Troll, Antarti 63.32 185 ⇑P **P** **10 45 55.9 -0.5**
comp=Z,3μm,0.8s
TROLL ⇓pP **pP** **10 45 59.1 -1.2**
PMSA Palmer Station 63.72 158 P **P** **10 46 00.4 +1.5**
PMSA Palmer Station 63.72 158 LR LR 11 09 18.3
comp=Z,1μm,20.0s,baz=222,slow=32
PMSA Palmer Station 63.72 158 *e*P **P** **10 45 59.1 +0.1**
SNAA Sanae 63.93 183 ⇑P **P** **10 46 00.0 -0.3**
comp=Z,388nm,0.7s
SNAA ⇑pP **pP** **10 46 02.7 -1.6**
SNAA Sanae 63.93 183 P **P** **10 46 00.2 -0.2**
SNAA IAmb IAmb 10 46 04.5
comp=Z,90nm,1.5s
SNAA Sanae 63.93 183 P **P** **10 45 59.9 -0.5**
comp=Z,14nm,0.8s,baz=176,slow=8.5,SNR=49
SNAA LR LR 11 12 33.8
comp=Z,3μm,18.5s,baz=120,slow=35
comp=Z,14nm,0.8s
SNAA Sanae 63.93 183 *ce*P **P** **10 45 59.5 -0.9**
SNAA pmax pmax
comp=Z,23nm,1.0s
DAV Davao City (W) 63.97 312 LR LR 11 14 47.3
comp=Z,193nm,18.1s,baz=160,slow=37
CNJI Cibinong 64.28 286 P **P** **10 46 03.9 +0.5**
comp=Z,1μmcomp=Z,96nm,1.0s
LEM Lembang 64.29 287 LR LR 11 15 56.4
comp=Z,1μm,18.0s,baz=168,slow=38
LEM Lembang 64.29 287 P **P** **10 46 04.1 +0.5**
JOHN Johnston Islan 64.32 24 P **P** **10 46 04.0 +0.6**
VNA3 Neumayer Olymp 64.53 181 ⇑P **P** **10 46 03.6 -0.7**
comp=Z,14nm,0.8s
VNA3 ⇓pP **pP** **10 46 06.3 -1.9**
SKJI Sukabumi 64.89 286 P P 10 46 16.3 +8.9
DBJI Dramaga 65.08 286 P **P** **10 46 09.4 +0.8**
VNA1 Neumayer--Stat 65.11 181 ⇑P **P** **10 46 07.9 -0.1**
comp=Z,60nm,1.1s
CGJI Cibinong 65.77 285 P **P** **10 46 13.4 +0.4**
comp=Z,3μmcomp=Z,162nm,1.0s
SBJI Serang 65.82 286 P **P** **10 46 13.1 -0.3**
MYLDM Lahad Datu 66.41 304 IAmb IAmb 10 46 27.8
comp=Z,123nm,1.2s
RPN Rapa Nui 66.54 106 LR LR 11 11 27.1
comp=Z,408nm,18.0s,baz=212,slow=32
STKI Sintang 66.80 295 P **P** **10 46 20.1 +0.5**
comp=Z,157nm,0.9s
KASI Kota Agung 67.37 285 P **P** **10 46 23.4 +0.1**
comp=Z,81nm,0.9s
KLI Kotabumi 67.60 286 P P 10 46 30.8 +6.1
LWLI Liwa 68.04 285 P **P** **10 46 28.0 +0.4**
MDSI Maura Dua 68.33 286 P **P** **10 46 28.6 -0.8**
comp=Z,1μmcomp=Z,139nm,1.0s
KKM Kota Kinabalu 68.46 303 IAmb IAmb 10 46 37.5
comp=Z,62nm,0.9s
LHSI Lahat 69.26 286 P **P** **10 46 35.4 +0.3**
comp=Z,3μmcomp=Z,163nm,1.1s
KSI Kapahiang 70.03 285 P **P** **10 46 42.5 +2.5**
MG05 Puerto Natales 70.89 145 P **P** **10 46 45.9 +1.3**
MG05 IAmb IAmb 10 46 49.3
comp=Z,113nm,1.3s
DSRI Dabo 70.97 289 P **P** **10 46 47.7 +2.1**
comp=Z,3μmcomp=Z,63nm,1.2s
GO09 Cerro Castillo 71.27 145 IAmb IAmb 10 46 51.2
comp=Z,110nm,1.2s
TPRI Tanjung Pinang 72.03 290 P **P** **10 46 52.4 +0.4**
comp=Z,134nm,1.0s
JOKA Jonika Flow 72.07 37 P **P** **10 46 52.2 +0.1**
JOKA IAmb IAmb 10 46 59.5
comp=Z,75nm,0.9s
KIP Kipapa 72.62 33 P **P** **10 46 55.8 +0.6**
KIP Kipapa 72.62 33 *ce*P **P** **10 46 54.6 -0.6**
KIP pmax pmax
comp=Z,62nm,1.0s
H04S1 CROZET ISLANDS 73.00 220 T T 12 08 02.2
baz=136,slow=75,SNR=20
H04S2 CROZET ISLANDS 73.00 220 T T 12 07 53.3
baz=136,slow=75,SNR=19
H04S3 CROZET ISLANDS 73.02 220 T T 12 07 57.4
baz=136,slow=75,SNR=18
PDSI Padang 73.47 285 P **P** **10 46 59.1 -1.5**
comp=Z,118nm,1.2s
PPI Padang Panjang 73.84 286 P **P** **10 47 01.9 -0.8**
comp=Z,2μmcomp=Z,100nm,1.2s
BKNI Bangkinang 73.96 287 P **P** **10 47 05.4 +1.9**
AY03 Cochrane 74.21 142 IAmb IAmb 10 47 09.7
comp=Z,162nm,1.6s
MNSI Mandailing Nat 75.30 286 P **P** **10 47 10.4 -0.8**
comp=Z,84nm,1.2s
PBSI Pulau Batu 75.59 284 P P 10 47 20.4 +7.5
COYC Coyhaique 75.72 141 IAmb IAmb 10 47 18.5
comp=Z,154nm,1.5s
IPM Ipoh 77.00 290 IAmb IAmb 10 47 26.2
comp=Z,47nm,1.1s
GSI Gunungsitoli 77.05 285 P **P** **10 47 22.5 +1.3**
comp=Z,170nm,1.4s
RPSI Rantau Prapat 77.13 287 IAmb IAmb 10 47 27.5
comp=Z,91nm,1.2s
PSI Prapat 77.20 287 LR LR 11 23 01.8
comp=Z,710nm,18.3s,baz=138,slow=37
LL02 Futaleuf 77.67 140 IAmb IAmb 10 47 32.0
comp=Z,50nm,1.1s
DLV Lat 77.78 300 IAmb IAmb 10 47 31.8
comp=Z,99nm,1.1s
KULM Kulim 77.84 290 IAmb IAmb 10 47 31.6
comp=Z,98nm,1.1s
TSI Tuntungan 77.95 287 P **P** **10 47 26.7 +0.5**
KCSI Kotacane, Aceh 78.51 287 P **P** **10 47 28.8 -0.6**
comp=Z,65nm,1.2s
HOPE Hope Point 79.38 166 P **P** **10 47 33.9 +0.4**
HOPE Hope Point 79.38 166 P **P** **10 47 33.9 +0.4**
HOPE pmax pmax
comp=Z,875nm,2.0s
TWG Pinlang 79.55 317 IAmb IAmb 10 47 41.1
comp=Z,67nm,0.7s
JOW Kunigami 79.75 325 LR LR 11 19 39.0
comp=Z,332nm,21.4s,baz=88,slow=33
YULB Yu-li 79.92 317 IAmb IAmb 10 47 49.1
comp=Z,111nm,1.3s
MLSI Meulaboh, Aceh 79.99 286 P **P** **10 47 37.8 +0.4**
YOJ Yonaguni jima 80.01 319 IAmb IAmb 10 47 44.5
comp=Z,192nm,1.2s
PLCA Paso Flores 80.19 139 P **P** **10 47 37.4 -0.9**
comp=Z,9.9nm,0.9s,baz=222,slow=7.0,SNR=14
PLCA LR LR 11 17 25.8
comp=Z,1μm,18.1s,baz=214,slow=31
comp=Z,9.9nm,0.9s
PLCA Paso Flores 80.19 139 *e*P **P** **10 47 38.3 0.0**
SSLB Suanglung 80.42 317 IAmb IAmb 10 47 45.8
comp=Z,94nm,1.1s
SRIT Nakonsritamara 80.97 291 IAmb IAmb 10 47 49.2
comp=Z,52nm,1.0s

QIZ **Qiongzhong** 82.48 306 P **P** **10 47 50.9 +0.4**
QIZ sP **sP** **10 47 56.3 +0.2**
QIZ S **S** **10 58 09.5 +2.5**
QIZ SS **SS** **11 03 29.6 +0.8**
QIZ pmax pmax
comp=Z,90nm,1.9s
QIZ LR LR
comp=Z,320nm,14.5s
QIZ LR LR
comp=Z,760nm,17.9s
QZH Quanzhou 82.55 316 P **P** **10 47 52.0 +1.3**
QZH pmax pmax
comp=Z,110nm,0.9s
JNU Nakatsue 84.33 329 P **P** **10 47 59.9 +0.2**
comp=Z,74nm,1.0s,baz=122,slow=3.8,SNR=25
comp=Z,74nm,1.0s
JGF Kuroka 84.45 335 IAmb IAmb 10 48 07.8
comp=Z,96nm,1.3s
BO02 Sierra Bellavi 84.75 135 IAmb IAmb 10 48 06.7
comp=Z,75nm,1.4s
MJAR Matsushiro Arr 85.08 336 P **P** **10 48 03.2 -0.1**
MJAR Matsushiro Arr 85.08 336 P **P** **10 48 03.1 -0.3**
comp=Z,31nm,1.0s,baz=161,slow=3.2,SNR=18
MJAR LR LR 11 21 55.7
comp=Z,207nm,19.1s,baz=162,slow=33
comp=Z,31nm,1.0s
MJAR Matsushiro Arr 85.08 336 P **P** **10 48 03.2 -0.1**
MJAR pmax pmax
comp=Z,25nm,1.4s
MAJO Matsushiro 85.08 336 P **P** **10 48 03.5 +0.1**
MAJO IAmb IAmb 10 48 09.9
comp=Z,92nm,1.1s
MAJO Matsushiro 85.08 336 *ce*P **P** **10 48 03.3 -0.1**
MAJO pmax pmax
comp=Z,56nm,1.1s
MJB9 Matsu-Tunnel 85.08 336 IAmb IAmb 10 48 09.9
comp=Z,90nm,1.1s
BO04 La Punta 85.47 135 IAmb IAmb 10 48 20.9
comp=Z,120nm,2.0s
PEL Peldehue 86.09 134 IAmb IAmb 10 48 17.1
comp=Z,39nm,1.1s
TRQA Tornquist 86.23 143 P **P** **10 48 10.6 +1.1**
TRQA IAmb IAmb 10 48 18.1
comp=Z,116nm,1.8s
TRQA Tornquist 86.23 143 P **P** **10 48 10.6 +1.1**
TRQA pmax pmax
comp=Z,116nm,1.8s
TRQA Tornquist 86.23 143 *eP* **P** **10 48 09.8 +0.4**
GULI GuiLin 87.14 310 P **P** **10 48 15.6 +1.8**
GULI pmax pmax
comp=Z,55nm,1.1s
GULI pmax pmax
comp=Z,520nm,3.3s
GULI LR LR
comp=Z,740nm,19.5s
GULI LR LR
comp=Z,640nm,17.3s
GULI LR LR
comp=Z,310nm,16.3s
SLVN Son La 87.77 303 IAmb IAmb 10 48 25.3
comp=Z,82nm,1.4s
CO03 El Pedregal 87.91 133 P **P** **10 48 20.9 +3.1**
NJ2 Nanjing 88.37 320 ⇓*i*P **P** **10 48 20.7 +1.2**
NJ2 pP **sP** **10 48 25.9 +0.8**
NJ2 pmax pmax
comp=Z,23nm,0.9s
ZON Zonda 88.39 134 IAmb IAmb 10 50 03.5
comp=Z,15nm,0.4s
TJN Taejon 88.53 328 *de*P **P** **10 48 21.6 +1.4**
H08S2 Diego Garcia H 88.59 261 T T 12 25 49.1
baz=134,slow=76,SNR=2417
H08S1 Diego Carcia H 88.60 261 T T 12 25 51.4
baz=134,slow=76,SNR=1393
H08S3 Diego Garcia H 88.61 261 T T 12 25 50.6
baz=134,slow=76
CMAR Chiang Mai Arr 88.68 298 P **P** **10 48 21.8 +0.5**
comp=Z,42nm,0.9s,baz=131,slow=5.0,SNR=168
CMAR LR LR 11 32 25.3
comp=Z,196nm,18.2s,baz=135,slow=38
comp=Z,42nm,0.9s
CMAR Chiang Mai Arr 88.68 298 *ce*P **P** **10 48 22.0 +0.7**
CMAR pmax pmax
comp=Z,44nm,0.9s
CHTO Chiang Mai 88.94 298 P **P** **10 48 22.7 +0.1**
CHTO IAmb IAmb 10 48 29.6
comp=Z,69nm,1.0s
CHTO Chiang Mai 88.94 298 P **P** **10 48 22.7 +0.1**
CHTO pmax pmax
comp=Z,69nm,1.0s
ERM Erimo 88.98 342 *de*P **P** **10 48 24.1 +2.0**
ERM pmax pmax
comp=Z,34nm,1.3s
WHN Wuhan 89.28 316 P **P** **10 48 24.5 +0.7**
WHN pP **sP** **10 48 29.8 +0.4**
WHN pmax pmax
comp=Z,98nm,1.0s
KSRS Korea Array 89.28 329 P **P** **10 48 24.6 +1.0**
comp=Z,22nm,0.9s,baz=157,slow=4.6,SNR=44
KSRS LR LR 11 23 33.0
comp=Z,79um,21.6s,baz=145,slow=32
comp=Z,22nm,0.9s
KSAR Wonju Array Be 89.28 329 P **P** **10 48 24.8 +1.1**
KSAR Wonju Array Be 89.28 329 P **P** **10 48 24.8 +1.1**
KS19 Wonju Array Si 89.34 329 IAmb IAmb 10 48 31.4
comp=Z,88nm,1.2s
INCN Inchon 89.78 328 P **P** **10 48 27.1 +1.0**
INCN Inchon 89.78 328 P **P** **10 48 27.1 +1.0**
INCN pmax pmax
comp=Z,146nm,1.4s
JKA Kamikawa-asahi 91.10 342 IAmb IAmb 10 48 52.6
comp=Z,88nm,1.5s
ASAJ Asahikawa 91.10 342 P **P** **10 48 33.6 +1.6**
comp=Z,23nm,1.0s,baz=249,slow=8.6,SNR=6.9
ASAJ LR LR 11 28 06.1
comp=Z,371nm,19.0s,baz=158,slow=35
comp=Z,23nm,1.0s
KMI Kunming 91.34 305 ⇑P **P** **10 48 34.5 +0.6**
KMI PP **PP** **10 52 12.8 +1.0**
KMI SKS **SKSac** **10 59 03.6 -2.7**
KMI pmax pmax
comp=Z,57nm,1.3s
KMI pmax pmax
comp=Z,370nm,4.1s
KMI LR LR
comp=Z,310nm,17.4s
KMI LR LR
comp=Z,200nm,15.9s
KMI LR LR
comp=Z,220nm,14.6s
TIA Tai'an 92.62 321 P **P** **10 48 40.4 +1.1**
TIA S **S** **10 59 41.2 -2.3**
TIA pmax pmax
comp=Z,21nm,0.9s
MSHR Mys Shultsa 92.76 334 ⇑*eP* **P** **10 48 40.6 +0.9**
MSHR pmax pmax
comp=Z,44nm,0.9s
PSTR Posyet 92.94 333 *de*P **P** **10 48 41.8 +1.3**
DL2 Dalian 92.97 326 *eP* P 10 48 45.7 +4.9
DL2 pmax pmax
comp=Z,110nm,1.5s
PZH PanZhiHua 92.97 305 P **P** **10 48 43.9 +2.6**
PZH SKS **SKSac** **10 59 15.1 0.0**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,200nm,5.1s
PZH LR LR
comp=Z,200nm,19.1s
PZH LR LR
comp=Z,300nm,16.9s
PZH LR LR
comp=Z,240nm,19.4s
VLA Vladivostok 93.02 334 *de*P **P** **10 48 42.1 +1.2**
VLA pmax pmax
comp=Z,21nm,0.9s
PALK Pallekele 93.10 277 LR LR 11 28 13.0
comp=Z,409nm,18.2s,baz=138,slow=34
PALK Pallekele 93.10 277 ⇑*eP* **P** **10 48 40.5 -1.6**
PALK pmax pmax
comp=Z,28nm,1.2s
YSS Yuzhno-Sakhali 93.77 343 P **P** **10 48 45.4 +1.2**
YSS IAmb IAmb 10 48 52.4
comp=Z,61nm,1.2s
YSS Yuzhno-Sakhali 93.77 343 *eP* **P** **10 48 45.9 +1.7**
YSS *e* 10 59 24.8
YSS *eS* **S** **10 59 50.1 -2.9**
YSS *eSS* **SS** **11 06 22.0 +9.3**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,500nm,4.1s
YSS smax smax
comp=N,500nm,7.1s
YSS smax smax
comp=E,400nm,6.7s
YSS MLR MLR
comp=N,400nm,14.0s
TNCH TengChong 93.80 302 *eP* **P** **10 48 46.7 +1.5**
TNCH PP **PP** **10 52 36.8 +5.7**
TNCH S **S** **10 59 54.6 -0.2**
TNCH pmax pmax
comp=N,180nm,3.9s
TNCH LR LR
comp=N,470nm,16.5s
TNCH LR LR
comp=N,390nm,14.0s
TNCH LR LR
comp=N,460nm,19.1s
USA0B Ussuriysk Arra 93.97 335 IAmb IAmb 10 48 53.3
comp=Z,44nm,1.3s
USA0B Ussuriysk Arra 93.97 335 *de*P **P** **10 48 46.3 +1.1**
USRK Ussuriysk Ar. 93.97 335 P **P** **10 48 45.6 +0.4**
USRK Ussuriysk Ar. 93.97 335 P **P** **10 48 45.8 +0.5**
comp=Z,13nm,1.0s,baz=186,slow=4.3,SNR=15
USRK LR LR 11 29 58.7
comp=Z,64nm,18.4s,baz=160,slow=35
comp=Z,13nm,1.0s
XAN Xi'an 94.81 314 P **P** **10 48 50.1 +0.6**
XAN S **S** **11 00 04.1 +1.2**
XAN pmax pmax
comp=Z,24nm,1.1s
XAN LR LR
comp=Z,280nm,15.1s
XAN LR LR
comp=Z,290nm,17.2s
XAN LR LR
comp=Z,380nm,16.5s
MDJ Mudanjiang 95.09 334 P **P** **10 48 51.0 +0.6**
MDJ sP sP 10 48 56.0 0.0
MDJ sS sS 11 00 19.6 +8.5
MDJ pmax pmax
comp=Z,20nm,1.2s
PLTB Pedras Altas 95.15 145 *eP* **P** **10 48 51.3 0.0**
CD2 Chengdu 95.15 309 *eP* **P** **10 48 53.0 +1.9**
CN2 Changchun 95.76 331 P **P** **10 48 54.3 +0.9**
CN2 pP sP 10 48 59.0 -0.1
CN2 pmax pmax
comp=Z,20nm,0.8s
BJI Beijing 96.21 323 P **P** **10 48 55.7 +0.1**
BJI pmax pmax
comp=Z,5.0nm,1.6s
CPSB Cacapava Do Su 96.40 145 *eP* **P** **10 48 57.0 0.0**
BRDH Bariadhala 96.42 295 LR LR 11 38 23.5
comp=Z,300nm,18.2s,baz=142,slow=39
PET Petropavlovsk 97.50 354 *eP* Pdif 10 49 05.7 +4.6
PET *eS* **S** **11 00 28.8 +3.8**
PET *ePS* **PS** **11 01 54.5 +5.2**
PET *eSS* **SS** **11 07 04.4 -1.0**
PETK Petropavlovsk- 97.65 354 P **P** **10 49 01.5 -0.4**
comp=Z,2.4nm,0.9s,baz=183,slow=8.1,SNR=2.8
PETK LR LR 11 26 14.3
comp=Z,408nm,21.6s,baz=160,slow=31
comp=Z,2.4nm,0.9s
CPUP Villa Florida 98.23 140 P Pdif 10 49 06.4 +1.0
comp=Z,0.9nm,1.0s,baz=226,slow=1.0,SNR=3.9
CPUP LR LR 11 28 32.6
comp=Z,268nm,18.1s,baz=70,slow=32
comp=Z,0.9nm,1.0s
CPUP Villa Florida 98.23 140 *eP* Pdif 10 49 05.3 0.0
SHL Shillong 98.32 298 IAmb IAmb 10 49 11.4
comp=Z,27nm,1.0s
CNLB Canela 98.41 146 *eP* Pdif 10 49 06.2 0.0
NNA Nana 98.83 116 LR LR 11 25 21.2
comp=Z,334nm,19.4s,baz=199,slow=30
HHC Hu-ho-hao-te 98.92 320 *eP* Pdif 10 49 08.3 +0.3
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,67nm,4.6s
HHC LR LR
comp=Z,260nm,17.7s
HHC LR LR
comp=Z,230nm,16.8s
HHC LR LR
comp=Z,310nm,19.1s
LZH Lanzhou 99.03 312 *eP* **Pdif** **10 49 11.8 +3.1**
LZH sP sP 10 49 18.6 +4.3
LZH PP **PP** **10 53 18.1 +6.7**
LZH SKS **SKSac** **10 59 48.6 +1.9**
LZH SS **SS** **11 07 31.4 +3.5**
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,270nm,18.5s
LZH LR LR
comp=Z,230nm,19.9s
LZH LR LR
comp=Z,290nm,18.2s
BOSA Boshof 99.64 213 P **Pdif** **10 49 10.6 -1.2**
comp=Z,6.6nm,1.1s,baz=163,slow=11,SNR=2.7
BOSA LR LR 11 28 45.4
comp=Z,376nm,19.6s,baz=174,slow=32
comp=Z,6.6nm,1.1s
HEH HeiHe 100.78 335 *eP* **Pdif** **10 49 15.0 -0.8**
HEH pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 100.85 126 P **Pdif** **10 49 21.6 +3.6**
comp=Z,1.0nm,0.6s,baz=191,slow=2.4,SNR=5.8
LPAZ PP **PP** **10 53 21.7 -3.4**
comp=Z,1.6nm,0.9s,baz=221,slow=6.2,SNR=4.0
LPAZ PKKPbc **PKKPbc** **11 05 25.4 -3.2**
comp=Z,1.2nm,0.6s,baz=18,slow=3.2,SNR=4.1
HYB Hyderabad 101.60 283 *ePKiKP* **PKiKP** **10 53 44.6 +0.5**
HYB *eSKiKP* **SKiKP** **10 57 20.1 +1.2**
S14K Fog Glacier 104.09 18 P **Pdif** **10 49 33.1 +2.6**
baz=203
NVAR Mina Array Bea 105.97 52 Pdiff **Pdif** **10 49 40.9 +1.3**
comp=Z,0.1nm,0.3s,baz=260,slow=1.9,SNR=1.4
NVAR PKiKP **PKiKP** **10 53 52.7 +0.9**
comp=Z,0.2nm,0.5s,baz=238,slow=4.0,SNR=3.0
NVAR PKKPbc **PKKPbc** **11 05 14.3 +0.5**
comp=Z,0.7nm,0.9s,baz=40,slow=2.6,SNR=4.1
R17L Mt. Peulik Vol 106.05 19 P **PKiKP** **10 53 52.8 +1.9**
baz=206
OHAK Old Harbor 106.43 21 P **PKiKP** **10 53 53.9 +2.3**
baz=208
SONM Songino Array 106.68 322 Pdiff **Pdif** **10 49 44.2 +1.9**
comp=Z,2.6nm,0.9s,baz=130,slow=4.5,SNR=6.2
SONM PKKP **PKKPab** **11 05 23.6 -0.5**
comp=Z,1.3nm,0.9s,baz=318,slow=3.5,SNR=6.1
Q16K King Salmon 106.93 18 P **PKiKP** **10 53 54.9 +2.4**
baz=206
N14K Kuskokwak Cree 107.02 15 P **PKiKP** **10 53 55.1 +2.5**
baz=202
KDAK Kodiak Island 107.11 21 P **PKiKP** **10 53 54.8 +1.9**
baz=208
Q18K Katmai Hardscr 107.28 19 P **PKiKP** **10 53 55.6 +2.2**
baz=207
P17K Kvichak River 107.44 18 P **PKiKP** **10 53 55.8 +2.3**
baz=206
N15K Kwethluk River 107.56 16 P **PKiKP** **10 53 55.6 +2.0**
baz=203
M14K Bethel 107.74 15 P **PKiKP** **10 53 56.2 +2.3**
baz=202
O17K Koliganek Bris 107.82 18 P **PKiKP** **10 53 56.2 +2.1**
baz=206
Q19K Cape Douglas, 107.86 20 P **PKiKP** **10 53 56.3 +2.0**
baz=208
Q20K Shuyak Island 107.88 21 P **PKiKP** **10 53 56.3 +2.0**
baz=209
P18K Big Mountain, 107.89 19 P **PKiKP** **10 53 55.9 +1.5**
baz=207
M15K Kasigluk River 107.93 16 P **PKiKP** **10 53 55.9 +1.6**
baz=203
N16K Nishlik Lake 108.11 17 P **PKiKP** **10 53 56.0 +1.3**
baz=204
L14K Kuka Creek 108.16 14 P **PKiKP** **10 53 56.0 +1.3**
baz=202
O18K Koktuh Hills 108.31 19 P **PKiKP** **10 53 56.5 +1.4**
baz=207
N17K Nushagak Hills 108.48 17 P **PKiKP** **10 53 57.2 +1.8**
baz=206
M16K Timber Creek 108.57 16 P **PKiKP** **10 53 56.4 +0.9**
baz=204
P19K Oil Pt 108.60 20 P **PKiKP** **10 53 56.5 +0.8**
baz=208
L15K Ungalak Mounta 108.69 15 P **PKiKP** **10 53 56.9 +1.2**
baz=203
TXAR Lajitas Array 108.83 67 PKiKP **PKiKP** **10 53 55.7 -1.5**
comp=Z,0.3nm,0.8s,baz=278,slow=3.0,SNR=2.6
TXAR PKKPbc **PKKPbc** **11 05 04.9 +0.5**
comp=Z,0.5nm,0.8s,baz=68,slow=5.2,SNR=5.0
N18K Kilae Creek 108.90 18 P **PKiKP** **10 53 57.3 +1.1**
baz=206
O20K Slope Mountain 109.12 20 P **PKiKP** **10 53 57.9 +1.2**
baz=209
GAMB Gambell 109.15 9 P **PKiKP** **10 53 57.5 +1.0**
baz=195
M17K Holitna River 109.22 17 P **PKiKP** **10 53 57.6 +0.9**
baz=206
K15K Wolf Creek Mou 109.25 15 P **PKiKP** **10 53 57.9 +1.1**
baz=203
J14K Nanvaranak Lak 109.32 13 P **PKiKP** **10 53 58.3 +1.4**
baz=201
N19K Bonanza Creek 109.33 18 P **PKiKP** **10 53 58.8 +1.7**
baz=208
M18K Stony River 109.64 18 P **PKiKP** **10 53 59.4 +1.9**
baz=207
L17K Donlin 109.71 16 P **PKiKP** **10 53 59.1 +1.5**
baz=205
SEW Seward 109.93 21 P **PKiKP** **10 53 59.1 +1.0**
baz=211
L18K Granite Mounta 110.12 17 P **PKiKP** **10 53 59.6 +1.2**
baz=206
LSZ Lusaka 110.14 222 PKiKP **PKiKP** **10 54 00.9 +0.8**
comp=Z,1.7nm,0.4s,baz=124,slow=3.6,SNR=1.6
K17K Iditarod 110.24 16 P **PKiKP** **10 53 59.9 +1.2**
baz=205
M19K Big River Lodg 110.32 18 P **PKiKP** **10 53 59.7 +0.9**
baz=208
J16K Anvik River 110.33 15 P **PKiKP** **10 53 60.0 +1.2**
baz=204
P23K Montague Islan 110.38 22 P **PKiKP** **10 53 59.6 +0.6**
baz=212
L19K White Mountain 110.47 18 P **PKiKP** **10 53 59.0 -0.1**
baz=208
M20K Styx River 110.59 19 P **PKiKP** **10 53 59.2 -0.2**
baz=209
RC01 Rabbit Creek A 110.71 20 P **PKiKP** **10 54 01.3 +1.8**
baz=211
J17K VABM Dome 110.71 15 P **PKiKP** **10 54 01.2 +1.7**
baz=205
SUA Susitna One 110.78 20 P **PKiKP** **10 54 00.7 +0.8**
baz=210
PWL Port Wells 110.87 21 P **PKiKP** **10 54 01.5 +1.6**
baz=212
I17K Unalakleet 110.87 14 P **PKiKP** **10 54 01.5 +1.8**
baz=204
L20K Farewell, AK 110.95 18 P **PKiKP** **10 54 01.5 +1.5**
baz=208
SKT Skwentna 111.04 19 P **PKiKP** **10 54 01.3 +1.1**
baz=210
KAIM Kayak Island 111.15 24 P **PKiKP** **10 54 01.5 +1.1**
baz=214
GLI Glacier Island 111.21 22 P **PKiKP** **10 54 01.9 +1.3**
baz=213
J18K Innoko River 111.23 16 P **PKiKP** **10 54 02.2 +1.6**
baz=206
PMR Palmer 111.29 20 P **PKiKP** **10 54 01.6 +1.0**
baz=212
H16K Elim 111.30 13 P **PKiKP** **10 54 02.0 +1.4**
baz=202
KNK Knik Glacier 111.31 21 P **PKiKP** **10 54 01.8 +1.1**
baz=212
CRAG Craig 111.35 32 P **PKiKP** **10 54 01.8 +0.9**
baz=221
F14K Arctic Creek 111.47 11 P **PKiKP** **10 54 02.2 +1.3**
baz=200
K20K Telida 111.68 17 P **PKiKP** **10 54 02.3 +0.9**
baz=208
PPLA Purkeypile 111.69 18 P **PKiKP** **10 54 02.3 +0.7**
baz=210
V35K Ketchikan 111.81 32 P **PKiKP** **10 54 02.4 +0.6**
baz=222
J19K Poorman 111.93 16 P **PKiKP** **10 54 02.7 +0.9**
baz=207
SCM Sheep Creek Mo 111.95 21 P **PKiKP** **10 54 02.6 +0.6**
baz=213
BMRM Bremner River 111.96 23 P **PKiKP** **10 54 02.7 +0.6**
baz=215
H17K Granite Mounta 111.97 14 P **PKiKP** **10 54 02.8 +1.0**
baz=204
KLU Klutina 112.03 22 P **PKiKP** **10 54 02.9 +0.8**
baz=214
MESA MESA 112.07 24 P **PKiKP** **10 54 03.0 +0.6**
baz=216
S31K Pelican 112.14 28 P **PKiKP** **10 54 03.5 +1.1**
baz=220
CAST Castle Rocks 112.17 18 P **PKiKP** **10 54 02.7 +0.4**
baz=210
S32K Killisnoo 112.34 29 P **PKiKP** **10 54 03.7 +1.0**
baz=221
WRAK Wrangell Islan 112.35 31 P **PKiKP** **10 54 03.8 +1.0**
baz=222
GCSA Galena City Sc 112.35 15 P **PKiKP** **10 54 04.0 +1.5**
baz=206
G17K Kiwalik Mounta 112.36 14 P **PKiKP** **10 54 04.0 +1.5**
baz=204
J20K Nowinta River 112.39 17 P **PKiKP** **10 54 03.9 +1.3**
baz=208
PNL Peninsula 112.44 26 P **PKiKP** **10 54 04.5 +1.5**
baz=218
H18K Honhosa River 112.44 15 P **PKiKP** **10 54 04.0 +1.2**
baz=205
M24K Tolsona, Glenn 112.48 21 P **PKiKP** **10 54 04.0 +1.0**
baz=214
N25K Chitina, Valde 112.49 22 P **PKiKP** **10 54 04.2 +1.2**
baz=215
PINM Pinnacle 112.52 25 P **PKiKP** **10 54 03.6 +0.5**
baz=218
CHUM Lake Minchumin 112.52 18 P **PKiKP** **10 54 03.1 +0.2**
baz=210
TRF Thorofare Moun 112.61 19 P **PKiKP** **10 54 03.7 +0.3**
baz=211
MCARA McCarthy VSAT 112.74 23 P **PKiKP** **10 54 03.1 -0.4**
baz=216
I20K Naaghedeneel 112.87 16 P **PKiKP** **10 54 03.1 -0.5**
baz=208
CTG Chitna Glacier 112.89 24 P **PKiKP** **10 54 03.3 -0.6**
baz=217
P29M Windy Craggy 112.94 27 P **PKiKP** **10 54 03.3 -0.6**
baz=219
R32K Eaglecrest 112.97 29 P **PKiKP** **10 54 04.0 0.0**
baz=221
HARP HAARP 112.99 22 P **PKiKP** **10 54 04.5 +0.6**
baz=215
BPAW Bear Paw Mtn. 113.01 18 P **PKiKP** **10 54 04.4 +0.5**
baz=211
G18K Tagagawik 113.07 14 P **PKiKP** **10 54 04.5 +0.6**
baz=205
O28M Mount Upton 113.07 25 P **PKiKP** **10 54 03.9 -0.5**
baz=218
H19K Roundabout Mou 113.14 15 P **PKiKP** **10 54 03.8 -0.2**
baz=207
MCK McKinley 113.16 19 P **PKiKP** **10 54 03.5 -0.7**
baz=212
O29M Mount Kennedy 113.20 26 P **PKiKP** **10 54 04.2 -0.3**
baz=219
PLBC Pleasant Camp 113.25 27 P **PKiKP** **10 54 04.6 +0.2**
baz=220
WMQ Urumqi 113.25 309 *ePKP* **PKiKP** **10 54 05.9 +0.8**
PAX Paxson 113.38 21 P **PKiKP** **10 54 05.0 +0.3**
baz=214
H20K Anotleneega Mo 113.41 16 P **PKiKP** **10 54 05.3 +0.7**
baz=208
T35M Bob Quinn 113.55 32 P **PKiKP** **10 54 05.3 +0.2**
baz=223
P30M Million Dollar 113.57 27 P **PKiKP** **10 54 04.8 -0.3**
baz=220
G19K Purcell Mounta 113.57 15 P **PKiKP** **10 54 05.1 +0.3**
baz=207
M26K Nabesna, AK 113.58 23 P **PKiKP** **10 54 04.9 -0.2**
baz=216
SKAG Skagway 113.59 28 P **PKiKP** **10 54 05.2 +0.1**
baz=221
YUK8 Steele Glacier 113.61 25 P **PKiKP** **10 54 05.0 -0.4**
baz=218
E17K Hotham Inlet 113.63 12 P **PKiKP** **10 54 05.5 +0.5**
baz=203
I21K Tanana 113.72 17 P **PKiKP** **10 54 05.0 -0.2**
baz=210

YUK6 **Outpost Mounta** 113.76 25 P PKiKP 10 54 05.8 +0.1
baz=219
YUK3 **Moose Creek** 113.79 24 P PKiKP 10 54 05.7 0.0
baz=218
PDAR **Pinedale Array** 113.81 53 PKiKP PKiKP 10 54 05.6 -0.8
comp=Z,1.0nm,1.1s,baz=256,slow=3.9,SNR=4.0
PDAR PP PP 10 54 58.4 -1.8
comp=Z,0.6nm,0.8s,baz=248,slow=5.1,SNR=5.1
M27K **Edge Creek, AK** 113.85 23 P PKiKP 10 54 06.1 +0.4
baz=217
MLY **Manley** 113.86 18 P PKiKP 10 54 05.7 +0.2
baz=211
NEA2 **Nenana** 113.86 19 P PKiKP 10 54 05.7 +0.2
baz=212
S34M **Telegraph Cree** 113.90 31 P PKiKP 10 54 05.5 -0.2
baz=223
HYT **Haines Junctio** 113.94 26 P PKiKP 10 54 05.7 -0.2
baz=220
H21K **Melozitna Rive** 113.97 17 P PKiKP 10 54 05.9 +0.2
baz=210
L26K **Log Cabin Wild** 113.99 22 P PKiKP 10 54 06.2 +0.4
baz=216
YUK4 **Talbot Arm** 113.99 25 P PKiKP 10 54 06.3 +0.2
baz=219
K24K **Donnelly Dome** 113.99 21 P PKiKP 10 54 06.4 +0.6
baz=214
D17K **Noatak River** 114.02 12 P PKiKP 10 54 06.7 +1.1
baz=202
E18K **Tukpahlearik C** 114.13 13 P PKiKP 10 54 06.7 +0.8
baz=204
RIDG **Independent Ri** 114.18 21 P PKiKP 10 54 06.3 +0.1
baz=215
BVCY **Beaver Creek** 114.18 23 P PKiKP 10 54 06.5 +0.3
baz=218
HDA **Harding Lake** 114.21 20 P PKiKP 10 54 06.1 0.0
baz=214
P32M **Atlin** 114.23 28 P PKiKP 10 54 06.4 0.0
baz=222
C16K **Lisburne Hills** 114.24 11 P PKPdf 10 54 05.9 -0.1
baz=201
L27K **Beaver Creek,** 114.43 23 P PKPdf 10 54 06.5 -0.1
baz=217
H22K **Ishtalitna Cre** 114.47 17 P PKiKP 10 54 06.8 +0.2
baz=211
ILAR **Eielson Array** 114.53 20 PKiKP PKPdf 10 54 05.6 -1.2
comp=Z,1.4nm,0.7s,baz=263,slow=2.7,SNR=16
ILAR PKKPbc PKKPbc 11 04 42.1 -4.2
comp=Z,0.5nm,0.8s,baz=17,slow=2.9,SNR=4.8
N30M **Aishikik Lake** 114.56 26 P PKPdf 10 54 06.8 -0.2
baz=220
G21K **Allakaket** 114.58 16 P PKiKP 10 54 06.8 0.0
baz=209
SCRK **Sand Creek** 114.59 21 P PKPdf 10 54 06.8 -0.2
baz=216
F20K **Avaraart Lake** 114.63 15 P PKiKP 10 54 06.9 +0.1
baz=208
WHY **Whitehorse** 114.65 27 P PKiKP 10 54 07.2 -0.1
baz=221
POKR **Poker Plat Res** 114.69 19 P PKiKP 10 54 07.7 +0.7
baz=214
DLBC **Dease Lake** 114.69 31 P PKiKP 10 54 07.5 +0.2
baz=224
C17K **DeLong Mountai** 114.72 11 P PKiKP 10 54 07.3 +0.3
baz=202
E19K **Redstone River** 114.72 14 P PKiKP 10 54 07.7 +0.6
baz=207
J25K **Salcha River,** 114.76 20 P PKiKP 10 54 08.1 +0.8
baz=215
H23K **Yukon River** 114.81 18 P PKiKP 10 54 07.5 +0.2
baz=212
M29M **Somme Creek** 114.90 24 P PKiKP 10 54 07.7 0.0
baz=219
N31M **Braeburn, Yuko** 114.98 26 P PKiKP 10 54 08.1 +0.3
baz=221
P33M **Teslin, Yukon** 115.00 28 P PKiKP 10 54 08.3 +0.4
baz=223
R33M **Jennings River** 115.04 30 P PKiKP 10 54 08.0 -0.1
baz=224
J26L **Joseph Creek** 115.13 21 P PKiKP 10 54 08.1 +0.1
baz=216
K27K **Chicken** 115.14 22 P PKiKP 10 54 08.1 +0.2
baz=217
C18K **Utukok River** 115.17 12 P PKiKP 10 54 08.2 +0.2
baz=204
H24K **Noodor Dome** 115.19 18 P PKiKP 10 54 08.5 +0.4
baz=213
F21K **Alatna River** 115.20 16 P PKiKP 10 54 08.7 +0.7
baz=210
G22K **Bettles** 115.33 16 P PKiKP 10 54 08.7 +0.5
baz=211
G23K **Bananza Creek** 115.46 17 P PKiKP 10 54 08.8 +0.2
baz=212
PRP **Porcupine Dome** 115.47 20 P PKiKP 10 54 09.0 +0.3
baz=215
M30M **Minto, Yukon** 115.50 25 P PKiKP 10 54 09.0 +0.3
baz=221
D19K **Kuna River** 115.51 13 P PKiKP 10 54 09.1 +0.5
baz=206
L29M **L29M** 115.51 24 PKPdf 10 54 08.5 -0.2
L29M **L29M** 115.51 24 P PKPdf 10 54 08.6 -0.2
baz=220
N32M **Quiet Lake** 115.60 27 P PKPdf 10 54 08.8 -0.2
baz=223
E20K **Nigu River** 115.62 14 P PKiKP 10 54 09.1 +0.2
baz=208
COLD **Coldfoot** 115.86 17 PKiKP 10 54 09.7 +0.4
COLD **Coldfoot** 115.86 17 P PKiKP 10 54 09.9 +0.6
baz=212
I26K **Coal Creek Min** 115.88 21 P PKiKP 10 54 09.6 +0.2
baz=217
DAWY **Dawson** 115.89 23 P PKPdf 10 54 09.1 -0.3
baz=219
D20K **Etivluk River** 115.95 14 P PKPdf 10 54 09.1 -0.3
baz=208
M31M **Drury Creek, Y** 115.96 26 P PKiKP 10 54 10.2 +0.6
baz=222
G24K **Hadweenzic Riv** 116.00 18 P PKiKP 10 54 10.0 +0.5
baz=214
H25L **Birch Creek** 116.02 19 P PKPdf 10 54 09.4 -0.2
baz=215
E21K **Killik River** 116.18 15 P PKiKP 10 54 11.1 +1.2
baz=210
K29M **Barlow Dome** 116.25 24 P PKiKP 10 54 10.5 +0.2
baz=220
E22K **Anaktuvuk Pass** 116.31 16 P PKiKP 10 54 11.1 +0.9
baz=211
WTLY **Watson Lake, Y** 116.33 30 P PKiKP 10 54 11.4 +1.0
baz=225
G25K **Bearman Lake** 116.36 19 P PKiKP 10 54 11.4 +1.2
baz=215
I27K **Kandik River** 116.51 21 P PKiKP 10 54 11.5 +0.8
baz=218
J29N **Klondike Camp** 116.52 23 P PKiKP 10 54 11.5 +0.8
baz=220
MAYO **Mayo, Yukon** 116.54 25 P PKiKP 10 54 10.8 +0.1
baz=222
F24K **Squaw Lake** 116.59 17 P PKiKP 10 54 10.6 -0.1
baz=214
C21K **Knifeblade Rid** 116.66 14 P PKiKP 10 54 11.2 +0.4
baz=209
E23K **Chandalar** 116.68 16 P PKiKP 10 54 11.2 +0.3
baz=213
TOAD **Toad River Com** 116.77 32 P PKiKP 10 54 11.4 +0.1
baz=227
D22K **Ayikyak River** 116.79 15 P PKiKP 10 54 11.9 +0.8
baz=211
I28M **Miner Creek** 116.82 22 P PKiKP 10 54 11.7 +0.4
baz=219
E24K **Your Creek** 116.93 17 P PKiKP 10 54 12.5 +1.1
baz=214
KMBO **Kilima Mbogo** 116.93 238 PKP PKiKP 10 54 13.7 +0.3
comp=Z,2.2nm,0.3s,baz=116,slow=11,SNR=3.1
KMBO PP PP 10 55 21.8 -0.1
comp=Z,2.0nm,0.4s,baz=143,slow=20,SNR=1.9
B20K **Meade River** 117.02 13 P PKiKP 10 54 12.1 +0.7
baz=207
H27K **Steamboat Moun** 117.03 21 P PKiKP 10 54 12.0 +0.4
baz=218
G26K **Porcupine Rive** 117.05 19 P PKiKP 10 54 11.9 +0.4
baz=217
B21K **Ikpikpuk River** 117.10 14 P PKiKP 10 54 12.2 +0.7
baz=209
F25K **Christian Rive** 117.14 18 P PKiKP 10 54 12.5 +0.7
baz=216,SNR=11
J30M **Hart River** 117.15 24 P PKiKP 10 54 12.3 +0.3
baz=222
TOLK **Toolik Lake Re** 117.19 16 P PKiKP 10 54 12.5 +0.7
baz=213

I29M **Ogilvie Camp,** 117.19 22 P PKiKP 10 54 12.4 +0.5
baz=220
D23K **Nanushuk River** 117.24 16 P PKiKP 10 54 12.6 +0.7
baz=212
MMPY **Sheldon Lake,** 117.26 27 P PKiKP 10 54 12.9 +0.7
baz=225
G27K **Doyon Strip** 117.45 20 P PKiKP 10 54 13.2 +0.8
baz=218,SNR=6.1
TGTN **Hyland Airport** 117.50 29 P PKiKP 10 54 13.2 +0.6
baz=226
KSH **Kashi** 117.53 299 PKP PKPdf 10 54 13.0 -0.5
KSH PP PP 10 55 29.8 +3.5
KSH AMB AMB
comp=Z,200nm,11.2s
SHLS **Shalkode** 117.56 304 *e*PKIKP PKPdf 10 54 12.0 -1.4
SHLS **Shalkode** 117.56 304 *e*PKP PKPdf 10 54 12.1 -1.4
F26K **Sheenjek River** 117.56 19 P PKiKP 10 54 13.3 +0.8
baz=217,SNR=17
I30M **Mount Dempster** 117.62 23 P PKiKP 10 54 13.6 +0.7
baz=222
D24K **Happy Valley** 117.76 16 P PKiKP 10 54 13.8 +1.0
baz=214
UZB **Uzynbulak** 117.82 304 *e*PKIKP PKPdf 10 54 12.8 -1.1
UZB **Uzynbulak** 117.82 304 *e*PKP PKPdf 10 54 12.9 -1.1
H29M **Whitestone** 117.83 22 P PKiKP 10 54 14.0 +0.9
baz=221
B22K **Teshekpuk Lake** 117.93 14 P PKiKP 10 54 14.4 +1.2
baz=210
C23K **Killik River** 118.00 15 P PKiKP 10 54 13.7 +0.4
baz=212
KOTAN **Kotaneelee Air** 118.08 32 P PKiKP 10 54 14.2 +0.5
baz=229
MK31 **Makanchi Array** 118.08 309 *d* *i*PKIKP PKPdf 10 54 12.8 -1.4
MKAR **Makanchi Array** 118.08 309 PKPdf 10 54 12.4 -1.8
MKAR **Makanchi Array** 118.08 309 PKP PKPdf 10 54 12.8 -1.4
comp=Z,6.3nm,0.8s,baz=120,slow=1.7,SNR=38
MKAR PKKPbc PKKPbc 11 04 31.5 -1.8
comp=Z,0.2nm,0.5s,baz=286,slow=2.7,SNR=3.3
SATY **Saty** 118.13 304 *e*PKIKP PKPdf 10 54 13.5 -1.0
SATY **Saty** 118.13 304 *e*PKP PKPdf 10 54 13.6 -1.0
A22K **Sinclair Lake** 118.25 13 P PKiKP 10 54 14.3 +0.6
baz=209
C24K **Franklin Bluff** 118.26 16 P PKiKP 10 54 13.9 +0.1
baz=214
MAKZ **Makanchi** 118.27 309 ⇑PKIKP PKPdf 10 54 13.0 -1.5
A21K **Barrow** 118.27 12 P PKiKP 10 54 14.3 +0.6
baz=208
EPYK **Eagle Plains** 118.38 22 P PKiKP 10 54 15.0 +0.8
baz=222
D25K **Kavik River** 118.40 17 P PKiKP 10 54 14.4 +0.2
baz=216
G29M **Pine Creek** 118.45 21 P PKiKP 10 54 14.9 +0.6
baz=221
F28M **Old Crow** 118.51 20 P PKiKP 10 54 14.4 -0.1
baz=220,SNR=15
E27K **Coleen River** 118.54 19 P PKiKP 10 54 15.0 +0.6
baz=219,SNR=15
H31M **Peel River** 118.62 23 P PKPdf 10 54 14.3 -0.3
baz=224
G30M **tAoh Zraii Nji** 118.97 22 P PKPdf 10 54 15.1 -0.2
baz=223
TIXI **Tiksi** 119.14 347 ⇑*i*PKIKP PKiKP 10 54 17.2 +1.7
TIXI pmax pmax
comp=Z,7.0nm,0.8s
C26K **Camden Bay** 119.19 17 P PKiKP 10 54 15.5 -0.1
baz=217
C27K **Jago River** 119.20 17 P PKiKP 10 54 16.1 +0.4
baz=218
E28M **Babbage River** 119.36 20 P PKiKP 10 54 16.0 -0.1
baz=221
G31M **Satah River** 119.46 23 P PKiKP 10 54 16.6 +0.4
baz=224
D27M **Malcolm River** 119.51 19 P PKiKP 10 54 16.7 +0.3
baz=220
HHAR **Hobbs** 119.54 67 PKPdf 10 54 16.9 -0.4
F30M **Barrier River** 119.55 21 P PKiKP 10 54 16.4 0.0
baz=223
E29M **Blow River** 119.59 20 P PKiKP 10 54 16.5 +0.1
baz=222
F31M **Tsiigehtchic** 119.97 22 P PKiKP 10 54 17.2 +0.1
baz=225
D28M **Stokes Point** 120.09 19 P PKiKP 10 54 18.0 +0.7
baz=222
BOAV **Boa Vista** 120.17 120 *e*P PKiKP 10 54 19.7 +0.4
AAK **Ala-Archa** 120.24 302 PKiKP 10 54 18.8 0.0
AAK **Ala-Archa** 120.24 302 PKIKP PKiKP 10 54 18.8 0.0
WRGLY **Wrigley** 120.31 29 P PKiKP 10 54 18.4 +0.5
baz=230
SGDS **Sogindy** 120.62 302 *e*PKP PKPdf 10 54 18.3 -0.9
INK **Inuvik** 120.65 22 PKP PKPdf 10 54 17.8 -0.5
comp=Z,6.3nm,0.8s,baz=237,slow=10.0,SNR=5.8
INK **Inuvik** 120.65 22 P PKiKP 10 54 19.3 +0.9
baz=225
ZALV **Zalesovo Beam** 120.88 317 PKP PKPdf 10 54 17.7 -1.6
comp=Z,2.6nm,0.5s,baz=149,slow=3.0,SNR=12
ZALV PKKPab PKKPab 11 04 20.8 -0.9
comp=Z,0.4nm,0.3s,baz=285,slow=5.7,SNR=3.9
SIMJ **Simiganj** 121.47 295 PKPdf 10 54 20.5 -0.6
BTLS **Baital** 121.84 304 *e*PKIKP PKPdf 10 54 20.7 -0.7
BTLS **Baital** 121.84 304 *e*PKP PKPdf 10 54 20.7 -0.7
KURBB **Kurchatov Arra** 122.30 311 PKP PKPdf 10 54 20.4 -1.7
comp=Z,12nm,0.8s,baz=110,slow=1.7,SNR=86
KURBB PKKPab PKKPab 11 04 15.1 -0.8
comp=Z,0.2nm,0.4s,baz=294,slow=4.2,SNR=1.6
KURK **Kurchatov** 122.30 311 PKPdf 10 54 20.9 -1.2
KURK **Kurchatov** 122.30 311 *d* *i*PKIKP PKPdf 10 54 20.7 -1.4
KURK pmax pmax
comp=Z,18nm,0.8s
IUG **Iuzhnay** 122.73 299 *e*PKIKP PKPdf 10 54 22.4 -1.0
IUG **Iuzhnay** 122.73 299 *e*PKP PKPdf 10 54 22.4 -1.0
KKAR **Karatay Array** 122.95 300 PKPdf 10 54 23.0 -0.6
KKAR **Karatay Array** 122.95 300 PKIKP PKPdf 10 54 23.0 -0.6
YKA **Yellowknife Ar** 123.13 33 PKP PKPdf 10 54 22.1 -1.3
comp=Z,1.4nm,0.7s,baz=248,slow=2.2,SNR=8.8
YKA PP PP 10 56 01.2 -2.8
comp=Z,3.3nm,1.1s,baz=243,slow=6.7,SNR=5.8
YKA PKKPab PKKPab 11 04 11.7 0.0
comp=Z,0.6nm,0.8s,baz=46,slow=4.4,SNR=5.3
YKAW1 **Yellowknife Wh** 123.17 33 PKPdf 10 54 23.0 -0.4
BRLS **Borolday** 123.33 300 *e*PKIKP PKPdf 10 54 23.5 -0.9
BRLS *e* 10 56 03.5
BRLS **Borolday** 123.33 300 *e*PKP PKPdf 10 54 23.5 -0.9
BRLS *e*PP PP 10 56 03.6 -2.3
FFC **Flin Flon** 124.72 45 PKiKP 10 54 28.4 +1.4
FFC **Flin Flon** 124.72 45 PKIKP PKiKP 10 54 28.4 +1.4
BRZS **Berezniki** 125.19 308 *e*PKIKP PKPdf 10 54 27.2 -0.5
BRZS *e* 10 56 16.4
BRZS **Berezniki** 125.19 308 *e*PKP PKPdf 10 54 27.2 -0.5
BRZS *e*PP PP 10 56 16.4 -1.8
A36M **Sachs Harbour** 125.19 20 P PKiKP 10 54 28.4 +1.1
baz=234
WCI **Wyandotte Cave** 125.69 69 PKPdf 10 54 28.2 -0.8
WCI **Wyandotte Cave** 125.69 69 PKIKP PKPdf 10 54 28.2 -0.8
ULM **Lac du Bonnet** 125.80 52 PKP PKPdf 10 54 27.3 -1.5
comp=Z,5.1nm,0.9s,baz=250,slow=2.8,SNR=6.9
BVAR **Borovoye Array** 127.88 311 PKP PKPdf 10 54 32.2 -0.6
comp=Z,7.6nm,0.7s,baz=114,slow=3.5,SNR=25
BRVK **Borovoye** 127.95 311 PKPdf 10 54 32.3 -0.6
BRVK **Borovoye** 127.95 311 PKIKP PKPdf 10 54 32.3 -0.6
RAYN **Ar Rayn** 129.04 266 PKPdf 10 54 35.7 -0.3
RAYN **Ar Rayn** 129.04 266 PKIKP PKPdf 10 54 35.7 -0.3
SVE **Sverdlovsk** 134.50 313 *e*PKIKP PKPdf 10 54 45.2 +0.1
SVE pmax pmax
comp=Z,30nm,1.2s
ARTI **Arti** 135.57 312 PKPdf 10 54 47.7 +0.5
ARTI **Arti** 135.57 312 *i* PKIKP PKiKP 10 54 48.0 -0.7
ARTI 10 57 22.2
AKT **Akhty** 137.04 288 *e*PKIKP PKPdf 10 54 50.3 -0.3
AKT pmax pmax
comp=Z,36nm,1.2s
MARD **Mardin** 140.05 279 PKPdf 10 54 55.9 -0.3
KIRV **Kirov** 140.75 313 *de*PKIKP PKPdf 10 54 57.7 +1.1
KBZ **Khabaz** 141.20 289 PKhKP PKPpre 10 54 52.9
comp=Z,7.0nm,0.8s,baz=75,slow=3.1,SNR=13
KIV **Kislovodsk** 141.43 289 *i* PKIKP PKPdf 10 54 58.4 0.0
KIV pmax pmax
comp=Z,29nm,1.0s
MMAI **Mount Meron Ar** 141.77 269 PKhKP PKPpre 10 54 52.9
comp=Z,4.2nm,0.7s,baz=96,slow=2.9,SNR=5.7
DBIC **Dimbokro** 141.78 192 PKhKP PKPpre 10 54 52.8
comp=Z,21nm,0.8s,baz=193,slow=2.6,SNR=18
SOC **Sochi** 143.32 287 *e*PKIKP PKPbc 10 54 59.9 +1.1
SOC *e* 10 58 10.3
SOC *e*PPP PPP 11 01 25.7
SOC *e*SSS SSS 11 22 20.7

SOC MLR MLR
comp=Z,144nm,21.0s
NEEM **North Greenlan** 143.46 13 *i* P PKPab 10 54 56.9 -0.7
ERBR **Yeremizino-Bor** 143.48 291 *i* PKHKP PKPpre 10 54 54.2
ERBR pmax pmax
comp=Z,18nm,0.6s
KULLO **Kullorsuaq** 143.92 19 *i* P PKPab 10 54 57.2 -1.9
SCHQ **Schefferville** 143.95 53 PKP PKPab 10 54 59.6 -0.2
comp=Z,11nm,0.8s,baz=261,slow=1.2,SNR=6.4
VRH **Novokhopyorsk** 144.03 300 *e*PKHKP PKPpre 10 54 58.7
VRH pmax pmax
comp=Z,110nm,0.9s
KBS **Kingsbay** 144.29 352 *e*PKPdf PKPbc 10 55 01.1 +0.4
SPA0 **Spitsbergen Ar** 144.44 350 *e*P PKPab 10 55 00.8 -0.2
SPITS **Spitsbergen Ar** 144.44 350 PKP PKPab 10 55 00.9 -0.2
comp=Z,44nm,0.6s,baz=267,slow=5.2,SNR=32
UPNV **Upernavik** 145.09 21 *i* P PKPbc 10 55 01.4 -2.0
ANN **Anapa** 145.26 288 *i* PKP2 PKPbc 10 55 03.8 -1.0
ANN pmax pmax
comp=Z,301nm,1.0s
GBN **Guysborough** 145.42 71 PKPbc 10 55 04.8 -0.5
VORD **Divnogorie** 145.49 299 *e*PKP2 PKPdf 10 55 03.5 -1.7
VORD pmax pmax
comp=Z,300nm,0.9s
VSR **Storozhevoye** 145.61 300 *e*PKP2 PKPdf 10 55 03.0 -2.4
VSR pmax pmax
comp=Z,190nm,1.0s
KIRS **Kirsehir-Merke** 145.70 277 ⇑P PKPdf 10 55 06.1 0.0
KLMR **Klimovskoe** 145.81 317 *e*PKIKP PKPdf 10 55 04.5 -0.9
KLMR *e* 10 58 27.5
KLMR pmax pmax
comp=Z,565nm,1.3s
LPSR **Galich'ya Gora** 145.96 302 *e*PKIKP PKPdf 10 55 04.3 -1.6
LPSR pmax pmax
comp=Z,150nm,0.8s
BRTR **Keskin Array B** 146.14 278 PKPdf 10 55 07.3 +0.5
BRTR **Keskin Array B** 146.14 278 PKPbc PKPdf 10 55 06.7 -0.2
comp=Z,44nm,0.7s,baz=145,slow=3.1,SNR=211
BRTR **Keskin Array B** 146.14 278 PKP2 PKPdf 10 55 07.4 +0.5
BR131 **Keskin Array S** 146.14 278 PKPdf 10 55 06.8 -0.1
BR131 **Keskin Array S** 146.14 278 PKP2 PKPdf 10 55 06.8 -0.1
LVZ **Lovozero** 146.36 330 *ce*PKP2 PKPdf 10 55 06.2 -0.1
BZK **Bozkurt** 146.71 282 ⇓P PKPbc 10 55 08.8 -0.5
ANTO **Ankara** 146.79 278 ⇑P PKPbc 10 55 09.6 -0.1
ANTO **Ankara** 146.79 278 ⇑PKP2 PKPbc 10 55 09.6 -0.1
BJO1 **Bjornoya** 146.92 345 *e*PKPdf PKPbc 10 55 08.4 -0.5
APA **Apatity** 146.92 330 *i* PKIKP PKPdf 10 55 06.2 -0.9
APA *e* 10 58 37.9
MOS **Moscow** 146.96 308 *i* PKIKP PKPdf 10 55 07.7 +0.2
MOS pmax pmax
comp=Z,193nm,1.1s
VADS **Vadso** 147.16 335 *e*PKPdf PKPbc 10 55 09.4 -0.3
CIDE **Kastamonu/Cide** 147.43 281 ⇑P PKPbc 10 55 10.9 -0.4
DAG **Danmarks Havn** 147.53 3 *i* P PKPdf 10 55 08.0 +0.1
OBN **Obninsk** 147.54 307 PKPbc 10 55 09.9 -1.3
OBN **Obninsk** 147.54 307 ⇑P PKPbc 10 55 10.9 -0.3
OBN **Obninsk** 147.54 307 *ce*PKP2 PKPbc 10 55 10.7 -0.5
OBN *e* 10 58 38.8
OBN pmax pmax
comp=Z,283nm,1.7s
SIM **Simferopol'** 147.56 287 *e*PKP2 PKPbc 10 55 10.7 -0.9
SIM pmax pmax
comp=Z,142nm,1.0s
SIM pmax pmax
comp=Z,143nm,1.1s
ISP **Isparta** 147.57 273 *de*PKP2 PKPbc 10 55 10.8 -1.2
ISP pmax pmax
comp=Z,38nm,0.8s
KEV **Kevo** 148.05 336 PKPbc 10 55 11.1 -1.0
KEV **Kevo** 148.05 336 PKP2 PKPbc 10 55 11.1 -1.0
ILULI **Ilulissat** 148.32 25 *i* P PKPdf 10 55 09.4 0.0
SAHE **Sakarya_HENDEK** 148.54 279 ⇑P PKPbc 10 55 13.3 -1.0
ARG **Arkhangelos** 148.56 269 PKPbc 10 55 14.7 +0.2
ARG **Arkhangelos** 148.56 269 PKP2 PKPbc 10 55 14.7 +0.2
ARA0 **ARCESS Array S** 148.61 336 *e*PKPdf PKPdf 10 55 11.5 +1.6
ARA0 *ep*PKPdf PKPbc 10 55 13.0 -0.6
ARCES **ARCESS Array B** 148.61 336 PKPdf PKPbc 10 55 12.6 -1.1
ARCES PKPab 10 55 17.3 0.0
ARCES **ARCESS Array B** 148.61 336 PKPbc PKPbc 10 55 12.8 -0.8
comp=Z,72nm,0.8s,baz=51,slow=1.8,SNR=92
KARP **Karpathos** 148.94 267 PKPbc 10 55 14.6 -0.9
SUMG **Summit** 149.24 15 PKPdf 10 55 12.5 +1.2
SUMG **Summit** 149.24 15 PKIKP PKPdf 10 55 12.5 +1.2
KTK1 **Kautokeino** 149.58 336 *e*PKPdf PKPdf 10 55 11.3 -0.1
JETT **Jettan, Norway** 150.04 338 *ep*PKPdf pPKPdf 10 55 16.3 -0.2
JETT *e* 10 55 23.5
BAND **Balkesir-Ban** 150.31 276 ⇑P PKPbc 10 55 18.0 -0.7
NUUK **Nuuk** 150.37 34 *i* P PKPdf 10 55 15.0 +2.3
TRO **Tromso** 150.38 339 *e*PKPdf PKPbc 10 55 17.8 +2.1
PUL **Pulkovo** 150.49 316 ⇑*e*PKIKP PKPbc 10 55 13.4 +0.3
EFOR **EFORIE** 151.11 284 ⇓P PKPbc 10 55 20.5 0.0
JURR **Jurilovca** 151.11 285 ⇑P PKPbc 10 55 20.0 -0.4
TLCR 151.26 286 ⇓P PKPbc 10 55 20.2 -0.5
TLCR 151.26 286 ⇓PKIKP PKPbc 10 55 20.2 -0.5
MFTR **Murfatlar** 151.28 284 ⇓P PKPbc 10 55 20.2 -0.6
PSN **Preselentsi** 151.34 283 *e*P PKPbc 10 55 20.5 -0.5
TIRR **Tirgusor** 151.36 284 ⇓P PKPbc 10 55 20.1 -0.9
TIRR **Tirgusor** 151.36 284 ⇓PKIKP PKPbc 10 55 20.1 -0.9
EZN **Ezine** 151.38 274 ⇑P PKPbc 10 55 21.0 -0.2
EZN **Ezine** 151.38 274 ⇑PKIKP PKPbc 10 55 21.0 -0.2
TPGR **Topolog** 151.45 285 ⇑P PKPbc 10 55 20.8 -0.5
MILM **Milestii Mici** 151.62 289 ⇓P PKPbc 10 55 20.3 -1.2
MILM **Milestii Mici** 151.62 289 ⇓PKIKP PKPbc 10 55 20.3 -1.2
TLBR **Topalu** 151.63 284 ⇓P PKPbc 10 55 21.4 -0.2
ICOR **Ion Corvin** 151.70 283 ⇓P PKPbc 10 55 21.7 -0.1
PRD **Provadia** 151.71 281 *e*P PKPbc 10 55 21.7 -0.2
CFR **Carcaliu** 151.72 286 ⇓P PKPbc 10 55 21.1 -0.7
CFR **Carcaliu** 151.72 286 ⇓PKIKP PKPbc 10 55 21.1 -0.7
HARR **Harsova** 151.75 285 ⇑P PKPbc 10 55 21.8 -0.1
HARR **Harsova** 151.75 285 ⇑PKIKP PKPbc 10 55 21.8 -0.1
AKASG **Malin Array Be** 151.80 297 PKP PKPdf 10 55 13.9 -1.5
comp=Z,1.0nm,0.6s,baz=80,slow=1.7,SNR=4.9
AKASG PKPbc sPKPdf 10 55 21.3 +0.2
comp=Z,54nm,0.7s,baz=79,slow=2.3,SNR=114
KIEV **Kiev** 151.81 297 ⇑P PKPbc 10 55 20.7 -1.2
KIEV **Kiev** 151.81 297 ⇑PKIKP PKPbc 10 55 20.7 -1.2
NEF **NEVSHA** 151.84 281 *e*P PKPbc 10 55 21.8 -0.4
VLDR **Vladesti** 151.91 287 ⇓P PKPbc 10 55 22.0 -0.2
SCTR **Scanteiesti** 151.93 287 ⇓P PKPbc 10 55 21.3 -1.0
FINES **FINESS Array B** 152.04 321 PKPbc 10 55 21.4 -0.7
FINES **FINESS Array B** 152.04 321 PKPbc 10 55 21.0 -1.0
comp=Z,48nm,0.8s,baz=78,slow=4.4,SNR=98
FINES **FINESS Array B** 152.04 321 PKIKP PKPbc 10 55 21.0 -1.0
SORM **Soroca** 152.12 292 ⇑P PKPbc 10 55 21.9 -0.7
SORM **Soroca** 152.12 292 ⇑PKIKP PKPbc 10 55 21.9 -0.7
LOZB **Loznitsa** 152.34 281 ⇓P PKPbc 10 55 22.5 -0.8
RAZG **Razgrad** 152.46 282 ⇓P PKPbc 10 55 23.2 -0.4
STEI **Steigen** 152.53 338 *e*PKPdf PKPdf 10 55 18.7 +2.7
STEI *i* 10 55 33.6
MNK **Minsk** 152.58 306 *i* PKIKP PKPbc 10 55 23.0 -0.5
MNK *i* 10 59 16.3
MNK *i* PPP PPP 11 02 32.0
MNK *i* SS SS 11 18 38.0 +0.3
MNK pmax pmax
comp=Z,50nm,0.9s
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=E,20nm,0.9s
VSU **Vasula** 152.58 314 *c* *i* PKIKP PKPbc 10 55 22.2 -1.1
VSU pmax pmax
comp=Z,49nm,0.7s
ELND **Elena** 152.72 280 ⇓P PKPbc 10 55 23.0 -1.2
SZH **Strazhitsa** 152.75 281 *e*P PKPbc 10 55 23.7 -0.5
BISRR **Bisoca** 152.78 286 ⇓P PKiKP 10 55 24.4 -0.1
ISR **Istrita** 152.81 285 ⇑P PKPbc 10 55 24.1 -0.3
ISR **Istrita** 152.81 285 ⇑PKIKP PKPbc 10 55 24.1 -0.3
VRI **Vrincioaia** 152.84 287 ⇓P PKPbc 10 55 23.9 -0.5
VRI **Vrincioaia** 152.84 287 ⇓PKIKP PKPbc 10 55 23.9 -0.5
PLOR **Plostina** 152.89 287 ⇑P PKPbc 10 55 23.7 -0.8
PLOR **Plostina** 152.89 287 ⇑PKIKP PKPbc 10 55 23.7 -0.8
FAUS **Fauske** 152.90 337 *ep*PKPdf pPKPdf 10 55 21.3 +0.5
FAUS *i* 10 55 35.0
NEHR **Nehoiu** 153.04 286 ⇓P PKPbc 10 55 24.5 -0.4
ONER **Baraj Valea Uz** 153.15 288 ⇑P PKPbc 10 55 24.8 -0.2
RZN **Rozhen** 153.16 277 *e*P PKPbc 10 55 24.9 -0.5
COVR **Voineasa-Covas** 153.19 286 ⇓P PKPbc 10 55 24.4 -0.7
MLR **Muntele Rosu** 153.30 286 ⇑P PKPbc 10 55 25.0 -0.6
MLR **Muntele Rosu** 153.30 286 ⇑PKIKP PKPbc 10 55 25.0 -0.6
TURR **Turia** 153.36 287 ⇑P PKPbc 10 55 24.8 -0.8
PLVB **Pleven** 153.73 281 ⇓P PKPbc 10 55 22.9 -3.5
DOPR **Dopca** 153.77 286 ⇓P PKPbc 10 55 26.2 -0.2

MMB	Musomishta	153.81	276	eP		PKPab	10 55 38.9	-0.9
VOIR		153.91	285	⫴P		PKPbc	10 55 25.8	-1.0
VOIR		153.91	285	⫴PKIKP		PKPbc	10 55 25.8	-1.0
VAGH	Vaagaholmen	153.93	337	ePKPdf		PKPdf	10 55 20.1	+2.1
MOR8	Moi Rana	153.99	336	ePKPdf		PKPdf	10 55 15.4	-2.8
BURAR	Bucovina Array	154.14	290			PKPdf	10 55 19.4	+0.3
BURAR	Bucovina Array	154.14	290	⫴P		PKPbc	10 55 27.2	-0.1
BURAR	Bucovina Array	154.14	290	⫴PKIKP		PKPbc	10 55 27.2	-0.1
ARR	Arges	154.18	285	⇑P		PKPbc	10 55 25.4	-2.0
STOK	Stokkvaagen	154.28	337	ePKPdf		PKPdf	10 55 20.3	+1.8
STOK				i			10 55 43.1	
MPEP	Malo Peshtene	154.34	280	eP		PKPbc	10 55 27.2	-0.5
KKB	Krupnik	154.35	276	eP		PKPab	10 55 41.4	-0.6
LEIR	Leirfjorden	154.41	336	ePKPdf		PKPdf	10 55 20.0	+1.3
VTS	Vitosha	154.50	278	eP		PKPab	10 55 42.2	-0.6
CJR	Cluj-Napoca	155.12	288	⇑P		PKPab	10 55 45.6	+0.4
CJR	Cluj-Napoca	155.12	288	⇑PKP2		PKPab	10 55 45.6	+0.4
SUW	Suwalki	155.38	305	ePKP		PKPab	10 55 46.6	+0.6
MARR	Marisel-Cluj	155.44	288	⇑P		PKPab	10 55 46.8	+0.1
BOVS	Bovan	155.85	280	⇑P		PKPdf	10 55 22.8	+1.3
NSS	Namsos	155.88	335	ePKPab		PKPab	10 55 47.1	-0.7
KWP	Kalwaria Pacla	155.95	295	ePKP		PKPab	10 55 48.8	+0.2
SURR	Surduc	155.98	285	⫴P		PKPdf	10 55 30.9	+9.3
KOLS	Kolonicke sedl	156.21	293	ePKP		PKPab	10 55 50.6	+0.8
BZS	Buzias	156.31	285	⫴P		PKPdf	10 55 31.2	+9.2
STHS	Stebnicka Huta	156.90	294	ePKP		PKPab	10 55 52.7	0.0
BEL	Belsk	157.08	300	ePKP		PKPab	10 55 53.7	+0.3
PDG	Podgorica	157.27	276			PKPab	10 55 54.0	-0.5
PDG	Podgorica	157.27	276	⇑P		PKPab	10 55 54.0	-0.5
NIE	Niedzica	157.51	294	ePKP		PKPab	10 55 56.3	+0.8
PSZ	Piszkesteto	157.74	290			PKPab	10 55 56.5	0.0
PSZ	Piszkesteto	157.74	290	⇑P		PKPab	10 55 56.5	0.0
PSZ	Piszkesteto	157.74	290	PKP2		PKPab	10 55 56.5	0.0
OJC	Ojcow	157.82	296	ePKP		PKPab	10 55 56.4	-0.3
HFS	Hagfors	158.05	324	PKPab		PKPab	10 55 56.0	-1.3
	comp=Z,15nm,0.8s,baz=60,slow=6.8,SNR=16							
MORH	Mrgy, Hungar	158.45	285	⫴P		PKPab	10 55 58.9	-0.6
VYHS	Vyhne	158.47	292	ePKP2		PKPab	10 55 59.4	-0.2
VYHS	Vyhne	158.47	292	ePKP		PKPab	10 55 59.4	-0.2
NB2	NORSAR Subarra	158.49	328	P		PKPab	10 55 57.8	-1.4
	comp=Z,47nm,1.4s,baz=56,slow=4.3							
NOA	NORSAR Array B	158.49	328			PKPdf	10 55 23.0	-1.3
NOA	NORSAR Array B	158.49	328	PKP		PKPdf	10 55 23.0	-1.3
	comp=Z,1.4nm,1.1s,baz=65,slow=2.0,SNR=1.6							
NOA				PKPab		PKPab	10 55 57.6	-1.6
	comp=Z,9.0nm,0.8s,baz=60,slow=4.3,SNR=13							
NOA	NORSAR Array B	158.49	328	PKIKP		PKPdf	10 55 23.0	-1.3
OKC	Ostrava-Krasne	158.90	295	ePKIKP		PKPdf	10 55 26.8	+1.7
OKC				e			10 59 42.5	
OKC				MLR		MLR		
	comp=Z,300nm,22.3s							
OKC	Ostrava-Krasne	158.90	295	ePKPDF		PKPdf	10 55 26.8	+1.7
OKC				ePP		PP	10 59 42.5	-0.2
OKC				AMS		AMS	12 20 40.0	
	comp=Z,300nm,22.3s							
MAUC	Maruska	159.13	294	ePKPAB		PKPab	10 56 03.1	+0.7
STEB	Steborice	159.14	296	ePKPAB		PKPab	10 56 02.8	+0.4
JAVC	Velka Javorina	159.25	293	ePKP		PKPdf	10 55 26.7	+1.1
JAVC				e			10 56 03.6	
BLY	Banja Luka	159.26	281	⇑P		PKPab	10 56 02.5	-0.6
MORC	Moravsky Berou	159.29	295	ePKP		PKPdf	10 55 26.0	+0.4
MORC				e			10 56 03.1	
MORC				ePP		PP	10 59 44.5	-0.5
MORC	Moravsky Berou	159.29	295	⫴P		PKPab	10 56 03.5	+0.3
MORC	Moravsky Berou	159.29	295	⫴PKP2		PKPab	10 56 03.5	+0.3
KRLC	Kraliky	159.76	296	ePKP2		PKPab	10 56 06.3	+1.1
KRLC	Kraliky	159.76	296	ePKPAB		PKPab	10 56 06.3	+1.1
VRAC	Vranov	159.94	294	ePKP		PKPdf	10 55 27.0	+0.7
VRAC				e			10 56 05.9	
KSP	Ksiaz	159.99	298	ePKP		PKPab	10 56 06.2	+0.1
DPC	Dobruska-Polom	160.03	297	ePKIKP		PKPdf	10 55 24.2	-2.2
DPC				e			10 59 49.7	
DPC				MLR		MLR		
	comp=Z,200nm,19.4s							
DPC	Dobruska-Polom	160.03	297	ePKPDF		PKPdf	10 55 24.2	-2.2
DPC				ePKPAB		pPKPab	10 56 08.4	-2.1
DPC				ePP		PP	10 59 49.7	+0.8
DPC				AMS		AMS	12 27 20.0	
	comp=Z,200nm,19.4s							
OSTC	Ostas	160.08	298	ePKP2		PKPab	10 56 07.4	+0.9
OSTC				MLR		MLR		
	comp=Z,400nm,20.1s							
OSTC	Ostas	160.08	298	ePKPAB		PKPab	10 56 07.4	+0.9
OSTC				AMS		AMS	12 21 30.0	
	comp=Z,400nm,20.1s							
KRUC	Moravsky	160.08	293	ePKP		PKPdf	10 55 28.2	+1.7
KRUC				e			10 56 06.4	
RONA	Rosalia, Austr	160.16	289	i PKP		PKPdf	10 55 27.9	+1.2
	comp=Z,0.1nm,0.2s							
RONA				i PKP		PKPab	10 56 06.0	-0.9
	comp=Z,9.2nm,1.1s							
FOO	Floro	160.17	336	i		PKPab	10 56 06.8	+0.4
CHVC	Chvalec	160.18	298	ePKIKP		PKPdf	10 55 25.1	-1.5
CHVC				MLR		MLR		
	comp=Z,300nm,16.4s							
CHVC	Chvalec	160.18	298	ePKPDF		PKPdf	10 55 25.1	-1.5
CHVC				ePKPAB		PKPab	10 56 07.9	+1.0
CHVC				AMS		AMS	12 21 30.0	
	comp=Z,300nm,16.4s							
UPC	Upice	160.21	298	ePKIKP		PKPdf	10 55 23.6	-3.0
UPC				MLR		MLR		
	comp=Z,300nm,16.9s							
UPC	Upice	160.21	298	ePKPDF		PKPdf	10 55 23.6	-3.0
UPC				AMS		AMS	12 22 10.0	
	comp=Z,300nm,16.9s							
CONA	Conrad Observa	160.45	290	i pPKP		pPKPdf	10 55 30.1	-1.2
	comp=Z,5.7nm,1.1s							
CONA				i PKP		PKPab	10 56 07.6	-0.8
	comp=Z,6.1nm,0.9s							
TREC	Trest	160.66	294	AMS		AMS	12 19 20.0	
	comp=Z,800nm,19.1s							
ARSA	Arzberg	160.67	288	ePKP		PKPdf	10 55 28.6	+1.3
	comp=Z,4.4nm,1.1s							
ARSA				ePKP		PKPab	10 56 08.9	-0.3
	comp=Z,27nm,1.5s							
SOKA	Soboth	160.98	286	ePKP		PKPdf	10 55 26.4	-1.2
	comp=Z,4.0nm,1.2s							
SOKA				i PKP		PKPab	10 56 10.3	-0.3
	comp=Z,39nm,1.5s							
GOPC	GO Pecny, Ondr	161.06	296	ePKIKP		PKPdf	10 55 25.0	-2.5
GOPC				MLR		MLR		
	comp=Z,500nm,16.9s							
GOPC	GO Pecny, Ondr	161.06	296	ePKPDF		PKPdf	10 55 25.0	-2.5
GOPC				AMS		AMS	12 20 10.0	
	comp=Z,500nm,16.9s							
PVCC	Panska Ves	161.12	298	AMS		AMS	12 17 00.0	
	comp=Z,400nm,22.3s							
PRU	Pruhonice	161.21	296	ePKP2		PKPab	10 56 12.1	+0.7
PRU				MLR		MLR		
	comp=Z,400nm,19.7s							
PRU	Pruhonice	161.21	296	ePKPAB		PKPab	10 56 12.1	+0.7
PRU				AMS		AMS	12 22 20.0	
	comp=Z,400nm,19.7s							
RUE	Ruedersdorf	161.22	304	ePKPab		PKPab	10 56 12.3	+1.0
	baz=80,slow=4.4							
RUE				epPKPab		sPKPab	10 56 17.8	+0.9
	baz=80,slow=4.4							
LJU	Ljubljana	161.28	284	ePKPdf		PKPdf	10 55 29.5	+1.7
LJU				i PKPab		PKPab	10 56 11.7	-0.2
LJU				i			10 56 16.1	
OBKA	Obir	161.30	285	i PKP		PKPab	10 56 11.0	-1.1
	comp=Z,26nm,1.5s							
BRG	Berggiesshubel	161.46	299	⫴ePKPf			10 55 31.0	
BRG				PKPab		PKPab	10 56 13.5	+1.0
BRG				Amp			10 56 15.2	
	comp=Z,27nm,1.0s							
BRG	Berggiesshubel	161.46	299	P		PKPab	10 56 19.1	+6.6
BRG				Amp			10 56 20.2	
	comp=Z,76nm,1.3s							
BRG				PP		PP	11 00 02.8	+6.3
BRG				Amp			11 00 05.2	
	comp=Z,4.9nm,1.0s							
CKRC	Cesky Krumlov	161.47	293	ePKIKP		PKPdf	10 55 26.0	-2.0
CKRC				e			10 59 56.0	
CKRC				MLR		MLR		
	comp=Z,500nm,20.1s							
CKRC	Cesky Krumlov	161.47	293	ePKPDF		PKPdf	10 55 26.0	-2.0
CKRC				ePKPAB		PKPab	10 56 13.7	+1.1
CKRC				ePP		PP	10 59 56.0	-0.7
CKRC				AMS		AMS	12 20 10.0	
	comp=Z,500nm,20.1s							
KEST	Kesra	161.49	249	PKPab		PKPab	10 56 13.7	+0.5
	comp=Z,15nm,0.9s,baz=124,slow=4.1,SNR=14							
ZVC	Zvikov	161.49	295	ePKPAB		PKPab	10 56 13.3	+0.6
ZVC				AMS		AMS	12 19 40.0	
	comp=Z,400nm,17.1s							
MOA	Molln	161.53	290	i pPKP		pPKPdf	10 55 30.6	-1.8
	comp=Z,4.0nm,1.0s							
MOA				i PKP		PKPab	10 56 12.0	-0.9
	comp=Z,14nm,1.0s							
CADS	Cadrg	161.84	284	ePKPdf		PKPdf	10 55 29.4	+0.9
CADS				i PKPab		PKPab	10 56 13.4	-1.0
GEC2	GERESS Array S	161.86	293	ePKPab		PKPab	10 56 14.8	+0.3
	baz=80,slow=4.4							
GEC2				epPKPab		sPKPab	10 56 20.1	0.0
	baz=80,slow=4.4							
GERES	GERESS Array B	161.86	293	PKP		PKPdf	10 55 26.7	-1.8
	comp=Z,1.0nm,0.9s,baz=77,slow=5.0,SNR=5.8							
GERES				PKPab		PKPab	10 56 12.7	-1.7
	comp=Z,7.1nm,0.8s,baz=90,slow=2.0,SNR=13							
GERES				PP		PP	10 59 57.1	-1.8
	comp=Z,2.3nm,1.0s,baz=88,slow=5.9,SNR=5.1							
KHC	Kasperske Hory	161.92	294	ePKIKP		PKPdf	10 55 25.4	-3.1
KHC				e			10 56 12.9	
KHC				e			10 59 59.2	
KHC				MLR		MLR		
	comp=Z,500nm,16.2s							
KHC	Kasperske Hory	161.92	294	ePKPDF		PKPdf	10 55 25.4	-3.1
KHC				ePKPAB		PKPab	10 56 12.9	-1.7
KHC				ePP		PP	10 59 59.2	+0.1
KHC				AMS		AMS	12 21 00.0	
	comp=Z,500nm,16.2s							
MYKA	Terra Mystica	161.93	286	i PKP		PKPab	10 56 14.0	-0.8
	comp=Z,27nm,2.1s							
CLL	Collm	161.96	301	i PKP2		PKPab	10 56 14.4	-0.2
CLL				pmax		pmax		
	comp=Z,47nm,1.5s							
CLL				MLR		MLR		
	comp=Z,300nm,19.6s							
CLL	Collm	161.96	301	ePKPab		PKPab	10 56 15.0	+0.4
	baz=80,slow=4.4							
CLL				epPKPab		sPKPab	10 56 20.3	0.0
	baz=80,slow=4.4							
KBA	Koelnbreinsper	162.15	287	i PKP		PKPdf	10 55 28.9	-0.1
	comp=Z,7.6nm,1.2s							
KBA				i PKP		PKPab	10 56 14.9	-1.0
	comp=Z,17nm,1.2s							
WET	Wettzell	162.38	294	ePKPab		PKPab	10 56 17.3	+0.7
	baz=80,slow=4.4							
WET				epPKPab		sPKPab	10 56 22.3	0.0
	baz=80,slow=4.4							
TANN	Tannenbergstha	162.47	298	ePKPab		PKPab	10 56 17.7	+0.7
	baz=80,slow=4.4							
TANN				epPKPab		sPKPab	10 56 22.6	-0.1
	baz=80,slow=4.4							
GORT1	Trebel	162.50	307	ePKPab		PKPab	10 56 18.5	+1.7
	baz=80,slow=4.4							
GORT1				epPKPab		sPKPab	10 56 23.8	+1.3
	baz=80,slow=4.4							
LESA	Schwarzleotal	162.61	288	i PKP		PKPdf	10 55 28.9	-0.4
	comp=Z,5.7nm,0.9s							
LESA				ePKP		PKPab	10 56 16.7	-1.1
	comp=Z,14nm,1.0s							
ABTA	Abfaltersbach	162.71	286	i PKP		PKPdf	10 55 29.1	-0.3
	comp=Z,9.0nm,1.3s							
ABTA				i PKP		PKPab	10 56 16.4	-1.9
	comp=Z,18nm,1.5s							
NEUB	Neuenburg	162.73	301	ePKPab		PKPab	10 56 18.8	+0.7
	baz=80,slow=4.4							
NEUB				epPKPab		sPKPab	10 56 23.9	+0.2
	baz=80,slow=4.4							
ROTZ	Rotzenmuhle	162.74	296	ePKPab		PKPab	10 56 19.0	+0.8
	baz=80,slow=4.4							
FLTG	Flechtingen	162.75	305	ePKPab		PKPab	10 56 18.8	+0.7
	baz=80,slow=4.4							
FLTG				epPKPab		sPKPab	10 56 24.0	+0.3
	baz=80,slow=4.4							
MANZ	Manzenberg	162.77	297	ePKPab		PKPab	10 56 19.1	+0.8
	baz=80,slow=4.4							
MANZ				epPKPab		sPKPab	10 56 24.4	+0.4
	baz=80,slow=4.4							
MOX	Moxa	162.96	299	ePKPab		PKPab	10 56 19.6	+0.6
	baz=80,slow=4.4							
MOX				epPKPab		sPKPab	10 56 25.0	+0.3
	baz=80,slow=4.4							
MOX				eL		L	12 19 00.6	
	comp=Z,435nm,19.0s							
ASSE	Asse, Remlinge	163.15	305	ePKPab		PKPab	10 56 20.8	+1.1
	baz=80,slow=4.4							
ASSE				epPKPab		sPKPab	10 56 26.2	+0.8
	baz=80,slow=4.4							
WTTA	Wattenberg	163.32	288	i PKP		PKPdf	10 55 28.6	-1.5
	comp=Z,6.6nm,0.8s							
WTTA				i PKP		PKPab	10 56 19.3	-1.7
	comp=Z,22nm,1.4s							
NRDL	Niedersach Rie	163.36	306	ePKPab		PKPab	10 56 22.4	+1.8
	baz=80,slow=4.4							
NRDL				epPKPab		sPKPab	10 56 27.6	+1.3
	baz=80,slow=4.4							
WATA	Walderalm	163.36	288	ePKP		PKPdf	10 55 29.7	-0.4
	comp=Z,4.1nm,0.5s							
WATA				ePKP		PKPab	10 56 19.4	-1.7
	comp=Z,45nm,1.4s							
GRF	Grafenberg Arr	163.38	296	ePKPab		PKPab	10 56 21.6	+0.6
	baz=80,slow=4.4							
GRF				epPKPab		sPKPab	10 56 26.9	+0.3
	baz=80,slow=4.4							
GRF				eL		L	12 18 29.9	
	comp=Z,343nm,20.5s							
CLZ	Clausthal	163.41	304	ePKPab		PKPab	10 56 22.4	+1.3
	baz=80,slow=4.4							
CLZ				epPKPab		sPKPab	10 56 27.4	+0.7
	baz=80,slow=4.4							
FUR	Furstenfeldbru	163.52	291	ePKPab		PKPab	10 56 21.6	0.0
	baz=80,slow=4.4							
SQTA	Sankt Quirin	163.61	288	ePKP		PKPdf	10 55 29.4	-0.9
	comp=Z,4.1nm,0.8s							
SQTA				i PKP		PKPab	10 56 21.1	-1.2
	comp=Z,18nm,0.9s							
MOTA	Moosalm	163.68	288	i PKP		PKPab	10 56 21.5	-1.0
	comp=Z,26nm,1.2s							
RETH	Rethem/Aller,	163.69	308	ePKPab		PKPab	10 56 23.7	+1.5
	baz=80,slow=4.4							
RETH				epPKPab		sPKPab	10 56 28.9	+1.1
	baz=80,slow=4.4							
GTTG	Gottingen	163.74	303	ePKPab		PKPab	10 56 23.8	+1.3
	baz=80,slow=4.4							
GTTG				epPKPab		sPKPab	10 56 28.6	+0.5
	baz=80,slow=4.4							
RETA	Reutte	163.91	289	i PKP		PKPab	10 56 22.1	-1.4
	comp=Z,19nm,1.5s							
UBBA	Unterbreizbach	163.91	301	ePKPab		PKPab	10 56 23.9	+0.8
	baz=80,slow=4.4							
UBBA				epPKPab		sPKPab	10 56 28.9	+0.2
	baz=80,slow=4.4							
FETA	Feichten	163.94	287	ePKP		PKPab	10 56 23.1	-0.6
	comp=Z,15nm,1.1s							
DAVA	Damuels	164.51	288	i PKP		PKPdf	10 55 31.2	0.0
	comp=Z,16nm,1.4s							
DAVA				i PKP		PKPab	10 56 24.2	-2.0
	comp=Z,39nm,1.1s							
IBBN	Ibbenburen	164.76	308	ePKPab		PKPab	10 56 28.4	+1.5
	baz=80,slow=4.4							
IBBN				epPKPab		sPKPab	10 56 33.5	+1.0
	baz=80,slow=4.4							
KASTN	Kahler Asten	164.77	303	ePKPab		PKPab	10 56 28.0	+0.9
	baz=80,slow=4.4							
KASTN				epPKPab		sPKPab	10 56 33.2	+0.6
	baz=80,slow=4.4							
STU	Stuttgart	164.83	294	ePKPab		PKPab	10 56 27.7	+0.3
	baz=80,slow=4.4							
STU				epPKPab		sPKPab	10 56 32.7	-0.3
	baz=80,slow=4.4							
TNS	Taunus Mts	165.02	300	ePKPab		PKPab	10 56 29.0	+0.7
	baz=80,slow=4.4							
TNS				epPKPab		sPKPab	10 56 34.2	+0.3
	baz=80,slow=4.4							
BUG	Bochum--Univer	165.37	305	ePKPab		PKPab	10 56 30.8	+1.2
	baz=80,slow=4.4							
BUG				epPKPab		sPKPab	10 56 36.0	+0.8
	baz=80,slow=4.4							
BFO	Black Forest	165.46	292	ePKPab		PKPab	10 56 30.0	-0.2
	baz=80,slow=4.4							
BFO				epPKPab		sPKPab	10 56 35.1	-0.7
	baz=80,slow=4.4							
MCD	Coleburn Disti	165.83	340	eP		PKPab	10 56 31.2	-0.2
BTNL	Ternell	166.34	303	dPKP		PKPab	10 56 38.8	+4.8
MEM	Membach	166.40	303	dPKP		PKPab	10 56 34.7	+0.5
BHOU	Houvegnez	166.49	302	dPKP		PKPab	10 56 35.0	+0.4
KPL	Plockton	166.56	345	eP		PKPab	10 56 33.6	-1.0
WLF	Walferdange	166.60	299	dPKP		PKPab	10 56 35.5	+0.4
WLF	Walferdange	166.60	299	ePKPab		PKPab	10 56 35.9	+0.7
	baz=80,slow=4.4							
WLF				epPKPab		sPKPab	10 56 41.1	+0.4
	baz=80,slow=4.4							
BSTI	Sart Tilman	166.68	303	dPKP		PKPab	10 56 35.6	+0.2
RCHB	Rochefort	167.03	302	dPKP		PKPab	10 56 36.5	-0.5
INVG	Invergeldie, C	167.06	340	eP		PKPab	10 56 36.2	-0.6
BMRD	Maredsous	167.25	303	dPKP		PKPab	10 56 38.0	0.0
UCC	Uccle	167.31	305	dPKP		PKPab	10 56 38.5	+0.3
DOU	Dourbes	167.43	302	dPKP		PKPab	10 56 39.3	+0.5
LAWE	Loch Awe, Argy	167.52	343	eP		PKPab	10 56 38.8	0.0
PGBU	Glenifferbraes	167.72	340	eP		PKPab	10 56 38.5	-1.2
EKA	Eskdalemuir Ar	167.78	335	PKPab		PKPab	10 56 39.4	-0.6
	comp=Z,15nm,0.8s,baz=31,slow=5.1,SNR=25							
ESK	Eskdalemuir	167.81	335	eP		PKPab	10 56 38.3	-1.8
NEWG	New Galloway	168.27	337	eP		PKPab	10 56 41.5	-0.7
GAL1	Galloway	168.62	338	eP		PKPab	10 56 43.7	-0.1
FOEL	Foel Wylfa	169.81	328	eP		PKPab	10 56 49.2	0.0
WLF1	Llynfaes	169.90	333	eP		PKPab	10 56 49.2	-0.2
LLW	Llanuwchllyn	170.01	329	eP		PKPab	10 56 49.7	-0.3
MCH1	Michaelchurch	170.41	324	eP		PKPab	10 56 51.7	-0.1
PVAQ	Vaqueiros	172.18	206	eSS		SS	11 21 53.6	-6.4
PVAQ				eLR		LR	11 58 21.0	
PVAQ				i IAMs_20		IAMs_20	12 12 18.9	
	comp=Z,596nm,22.0s							
ESDC	Sonseca Array	172.30	234			PKPdf	10 55 35.9	-0.6
ESDC	Sonseca Array	172.30	234	PKP		PKPdf	10 55 35.0	-1.5
	comp=Z,1.4nm,0.8s,baz=40,slow=0.5,SNR=9.3							
ESDC				PKPab		PKPab	10 57 00.5	-0.2
	comp=Z,5.6nm,1.1s,baz=122,slow=4.1,SNR=7.3							
ESDC				PP		PP	11 00 52.1	-0.1
	comp=Z,2.0nm,1.1s,baz=99,slow=6.6,SNR=4.2							
MORF	Marmelete	172.35	201	ePP		PP	11 00 52.9	+1.2
MORF				IAMs_20		IAMs_20	12 11 28.9	
	comp=Z,924nm,20.4s							
MESJ	Messejana	172.73	205	ePKPdf		PKPdf	10 55 37.3	+0.7
MESJ				ePP		PP	11 00 54.5	+0.9
MESJ				IAMs_20		IAMs_20	12 13 30.1	
	comp=Z,854nm,19.9s							
MESJ	Messejana	172.73	205	ePKIKP		PKPdf	10 55 37.3	+0.7
MESJ				e			11 00 54.5	
PMRV	Marv??o	173.85	216	eLR		LR	12 04 02.3	
PMRV				i IAMs_20		IAMs_20	12 12 46.6	
	comp=Z,637nm,20.0s							
PCBR	Castelo Branco	174.23	217	ePKPdf		PKPdf	10 55 37.6	+0.5
PSARD	Sardoal	174.30	212	ePKPdf		PKPdf	10 55 38.4	+1.2
MVO	Moncorvo	175.03	229	eSS		SS	11 22 38.6	+10
MVO				eLR		LR	12 01 41.5	
MVO				i IAMs_20		IAMs_20	12 17 28.0	
	comp=Z,436nm,18.0s							
PGAV	Gavieira, Arco	176.25	228	eLR		LR	12 00 53.8	
PGAV				i IAMs_20		IAMs_20	12 12 10.4	
	comp=Z,662nm,20.0s							

DJA ***12*** *10:38:12.2±0.4,6˚N±3˚×12˚6E±˚,h164km±5km,M4.8/12, mb4.5/11,mB5.1/4,MLv5.0/12,Mw(mB)4.5/4 NEIC* ***12*** *10:38:13.5±1.4,5˚.89N±0˚.07×126˚.4E±0˚.1,h154km±8km, mb4.4/71,Error ellipse: s-maj=17.1km s-min=9.5km az=70.0 IDC* ***12*** *10:38:13.6±0.7,5˚.94N×126˚.25E,h169km±5km,mb3.8/24, mbtmp4.3/27,Error ellipse: s-maj=17.4km s-min=9.8km az=78.0*

ISC 12 10:38:12.1±0.4,**5˚.87N**±0˚.05×**126˚.35E**±0˚.08,**h150**km,**n106,** σ1°.19/82,**mb4.4**/60,**1C,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.41	327			Pn		10 38 42.0	+1.2
DAV	Davao City (W)	1.41	327	P		Pn		10 38 42.0	+1.2
	587nm,0.6s,baz=63,slow=4.5,SNR=6.2								
DAV				S		Sn		10 39 05.5	+2.7
	2μm,0.4s,baz=100,slow=18,SNR=12								
SGSI	Sangihe	2.32	201	P		Pn		10 38 51.8	+0.8
TNTI	Ternate	5.17	169			Pn		10 39 27.7	-0.1
TNTI	Ternate	5.17	169	P		Pn		10 39 27.4	-0.4
	1.7nm4μm111nm,0.6s								
MRSI	Marisa	6.93	220	P		Pn		10 39 50.5	-0.8
	0.5nm80nm,0.7s								
TOLI2	Tolitoli	7.29	230			Pn		10 39 56.5	+0.4
LUWI	Luwuk	7.74	208			Pn		10 40 04.4	+2.3
LUWI	Luwuk	7.74	208	P		Pn		10 40 01.2	-0.9
MYLDM	Lahad Datu	7.84	265			Pn		10 40 05.7	+2.4
SANI	Sanana	7.88	183	P		Pn		10 40 00.6	-3.3
APSI	Ampana	8.21	215	P		Pn		10 40 09.8	+1.5
SWI	Sorong	8.30	144	P		Pn		10 40 09.0	-0.5
	38nm,0.8s								
MPSI	Mapaga

	comp=Z,0.7nm,0.4s,baz=148,slow=6.8,SNR=4.0							
SONM				PcP		**PcP**	**10 47 50.7**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=150,slow=3.2,SNR=2.5							
	comp=Z,0.7nm,0.4s							
DZM	**Mont Dzumac**	**48.09**	**127**	P		**P**	**10 46 37.3**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=294,slow=20,SNR=1.1							
	comp=Z,2.1nm,0.5s							
PEA0B	**Petropavlovsk-**	**53.61**	**23**	P		**P**	**10 47 18.5**	**+0.8**
PETK	**Petropavlovsk-**	**53.61**	**23**	P		**P**	**10 47 17.9**	**+0.2**
PETK	**Petropavlovsk-**	**53.61**	**23**	P		**P**	**10 47 17.7**	**0.0**
	comp=Z,2.4nm,0.6s,baz=225,slow=6.5,SNR=5.1							
	comp=Z,2.4nm,0.6s							
MKAR	**Makanchi Array**	**55.59**	**325**	P		**P**	**10 47 31.1**	**-1.1**
MKAR	**Makanchi Array**	**55.59**	**325**	P		**P**	**10 47 31.3**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=121,slow=6.3,SNR=11							
	comp=Z,1.2nm,0.4s							
YAK	**Yakutsk**	**56.09**	**2**	P		**P**	**10 47 34.1**	**-1.2**
	comp=Z,16nm,0.4s,baz=182,slow=1.3,SNR=5.3							
MA2	**Magadan**	**56.74**	**15**	P		**P**	**10 47 40.2**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=188,slow=14,SNR=3.6							
	comp=Z,4.7nm,0.7s							
ZALV	**Zalesovo Beam**	**58.52**	**333**	P		**P**	**10 47 52.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=111,slow=7.9,SNR=3.6							
	comp=Z,0.7nm,0.3s							
KURK	**Kurchatov**	**59.74**	**327**	P		**P**	**10 48 00.3**	**-0.7**
KURBB	**Kurchatov Arra**	**59.74**	**327**	P		**P**	**10 47 58.5**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=128,slow=6.1,SNR=6.6							
	comp=Z,0.6nm,0.5s							
BVAR	**Borovoye Array**	**65.33**	**327**	P		**P**	**10 48 36.1**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=114,slow=6.8,SNR=4.6							
	comp=Z,0.7nm,0.5s							
H19K	**Roundabout Mou**	**79.39**	**24**	IAmb		IAmb	10 50 03.2	
	comp=Z,6.6nm,0.9s							
E19K	**Redstone River**	**79.41**	**22**	IAmb		IAmb	10 50 03.9	
	comp=Z,10nm,1.2s							
N19K	**Bonanza Creek**	**79.62**	**29**	IAmb		IAmb	10 50 05.3	
	comp=Z,11nm,1.5s							
KDAK	**Kodiak Island**	**80.30**	**32**			**P**	**10 50 06.7**	**+0.5**
KDAK				IAmb		IAmb	10 50 07.3	
	comp=Z,4.0nm,0.7s							
KDAK	**Kodiak Island**	**80.30**	**32**	P		**P**	**10 50 06.1**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=287,slow=7.4,SNR=25							
	comp=Z,3.5nm,0.5s							
M20K	**Styx River**	**80.38**	**28**	IAmb		IAmb	10 50 08.6	
	comp=Z,4.5nm,0.8s							
IMAR	**Indian Mountai**	**80.56**	**24**	P		**P**	**10 50 08.3**	**+0.9**
G21K	**Allakaket**	**80.72**	**24**	IAmb		IAmb	10 50 10.8	
	comp=Z,9.3nm,1.2s							
CAST	**Castle Rocks**	**81.00**	**27**	P		**P**	**10 50 10.3**	**+0.4**
CAST				IAmb		IAmb	10 50 11.3	
	comp=Z,5.8nm,0.8s							
CNPM	**China Poot**	**81.12**	**31**	IAmb		IAmb	10 50 12.9	
	comp=Z,3.6nm,0.5s							
I21K	**Tanana**	**81.20**	**25**	IAmb		IAmb	10 50 13.4	
	comp=Z,6.0nm,0.8s							
BRLK	**Bradley Lake**	**81.31**	**31**	IAmb		IAmb	10 50 11.7	
	comp=Z,5.2nm,0.7s							
SUA	**Susitna One**	**81.48**	**29**	IAmb		IAmb	10 50 13.4	
	comp=Z,7.3nm,0.8s							
KTH	**Kantishna Hill**	**81.53**	**27**	IAmb		IAmb	10 50 14.6	
	comp=Z,7.5nm,1.2s							
E22K	**Anaktuvuk Pass**	**81.54**	**22**	IAmb		IAmb	10 50 15.3	
	comp=Z,8.1nm,1.0s							
BPAW	**Bear Paw Mtn.**	**81.54**	**26**			**P**	**10 50 13.4**	**+0.7**
BPAW				IAmb		IAmb	10 50 13.8	
	comp=Z,5.2nm,0.7s							
SLKM	**Skilak Lake**	**81.69**	**30**	IAmb		IAmb	10 50 13.5	
	comp=Z,4.9nm,0.5s							
MLY	**Manley**	**81.72**	**25**	IAmb		IAmb	10 50 15.2	
	comp=Z,5.5nm,0.7s							
COLD	**Coldfoot**	**82.08**	**23**	P		**P**	**10 50 16.9**	**+1.4**
COLD				IAmb		IAmb	10 50 17.9	
	comp=Z,5.9nm,0.6s							
H23K	**Yukon River**	**82.26**	**24**	IAmb		IAmb	10 50 18.1	
	comp=Z,4.8nm,0.8s							
I23K	**Minto, Yukon-K**	**82.31**	**25**	IAmb		IAmb	10 50 18.6	
	comp=Z,5.5nm,0.8s							
E23K	**Chandalar**	**82.36**	**22**	IAmb		IAmb	10 50 21.0	
	comp=Z,8.1nm,1.1s							
MCK	**McKinley**	**82.43**	**27**	IAmb		IAmb	10 50 18.1	
	comp=Z,8.8nm,0.8s							
RND	**Reindeer**	**82.45**	**27**	IAmb		IAmb	10 50 18.0	
	comp=Z,4.0nm,0.8s							
WRH	**Wood River Hil**	**82.82**	**26**	IAmb		IAmb	10 50 20.1	
	comp=Z,5.4nm,1.0s							
H24K	**Noodor Dome**	**82.95**	**24**			**P**	**10 50 21.1**	**+1.1**
H24K				IAmb		IAmb	10 50 22.5	
	comp=Z,4.9nm,0.8s							
CCB	**Clear Creek Bu**	**82.95**	**26**	IAmb		IAmb	10 50 20.5	
	comp=Z,6.2nm,1.2s							
P23K	**Montague Islan**	**83.08**	**30**	IAmb		IAmb	10 50 22.1	
	comp=Z,9.6nm,0.9s							
G24K	**Hadweenzic Riv**	**83.13**	**24**	IAmb		IAmb	10 50 23.2	
	comp=Z,8.6nm,0.9s							
HDA	**Harding Lake**	**83.32**	**26**	IAmb		IAmb	10 50 21.9	
	comp=Z,5.5nm,0.7s							
ILAR	**Eielson Array**	**83.35**	**26**	P		**P**	**10 50 20.7**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=260,slow=5.7,SNR=34							
	comp=Z,1.5nm,0.5s							
DIV	**Divide**	**83.88**	**29**	IAmb		IAmb	10 50 26.4	
	comp=Z,9.6nm,0.8s							
RIDG	**Independent Ri**	**84.25**	**27**	IAmb		IAmb	10 50 27.5	
	comp=Z,11nm,1.2s							
BMAR	**Burnt Mountain**	**84.26**	**23**	P		**P**	**10 50 28.5**	**+1.8**
I28M	**Miner Creek**	**86.25**	**25**	IAmb		IAmb	10 50 38.7	
	comp=Z,6.5nm,0.6s							
SPITS	**Spitsbergen Ar**	**88.32**	**349**	P		**P**	**10 50 46.3**	**0.0**
	comp=Z,6.0nm,0.8s,baz=64,slow=16,SNR=4.4							
	comp=Z,6.0nm,0.8s							
ARCES	**ARCESS Array B**	**88.32**	**340**	P		**P**	**10 50 45.2**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=75,slow=5.1,SNR=13							
	comp=Z,1.0nm,0.5s							
BRTR	**Keskin Array B**	**88.37**	**310**	P		**P**	**10 50 46.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=130,slow=3.4,SNR=2.1							
	comp=Z,0.3nm,0.4s							
FINES	**FINESS Array B**	**89.78**	**332**	P		**P**	**10 50 51.7**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=46,slow=4.0,SNR=7.5							
	comp=Z,0.9nm,0.6s							
AKASG	**Malin Array Be**	**90.00**	**321**	P		**P**	**10 50 51.5**	**-3.1**
	comp=Z,0.1nm,0.2s,baz=22,slow=1.0,SNR=2.7							
	comp=Z,0.1nm,0.2s							
TXAR	**Lajitas Array**	**120.58**	**51**	PKP		**PKPdf**	**10 56 47.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=342,slow=3.2,SNR=2.4							

*IDC **12** 10:44:20.9±1.9, 36.°76N×142.°24E, h0km, mb3.3/4, mbtmp3.5/6, ML3.1/2, MS2.9/1, Error ellipse: s-maj=38.6km s-min=24.3km az=68.0*
*JMA **12** 10:44:24.2±0.3, 37.°0N±0.°6×14.°2E±.°, h33km±3km, MV3.2/29, E OFF FUKUSHIMA PREF*
ISC 12 10:44:23.8±1.3, 36.°91N±0.°06×141.°95E±0.°09, h19km, n20, σ1§09/22, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.94**	**282**	*e*P	**Pb**	**10 44 41.5**	**-0.1**
JFK	**Kawauchi**	**0.98**	**299**	P	**Pb**	**10 44 41.8**	**-0.4**
JFK				*e*S	**Sb**	**10 44 54.2**	**-0.5**
JFFD	**Fukushimafurud**	**1.13**	**280**	P	**Pn**	**10 44 43.8**	**-0.8**
JHO	**Hitachi**	**1.15**	**256**	*e*P	**Pn**	**10 44 44.8**	**-0.1**
JMST	**Minamisoumatoc**	**1.18**	**314**	*i* P	**Pn**	**10 44 44.2**	**-1.0**
JMST				S	**Sb**	**10 44 59.2**	**-1.2**
JMM	**Marumori**	**1.33**	**317**	*e*P	**Pn**	**10 44 46.6**	**-0.8**
JOTO	**OTAMA OYAMA**	**1.45**	**297**	*i* P	**Pb**	**10 44 49.5**	**-0.7**
JOTO				*e*S	**Sn**	**10 45 07.4**	**-0.1**
JOU	**Okura**	**1.78**	**325**	*e*P	**Pn**	**10 44 53.7**	**+0.1**
JFY	**Yanaizu**	**1.86**	**286**	P	**Pn**	**10 44 55.8**	**+1.0**
JFY				*e*S	**Sb**	**10 45 19.4**	**-0.8**
JYS	**Shirataka**	**1.99**	**312**	*e*P	**Pn**	**10 44 57.1**	**+0.6**
MJAR	**Matsushiro Arr**	**3.03**	**264**	Pn	**Pn**	**10 45 12.6**	**+1.9**
	0.9nm,0.3s,baz=85,slow=16,SNR=37						
MJAR				Sn	**Sb**	**10 45 52.8**	**-0.9**
	0.8nm,0.3s,baz=82,slow=32,SNR=4.3						
	8.3nm,0.4s						
JHJ	**Hachijo jima 2**	**4.17**	**206**	Pn	**Pn**	**10 45 26.2**	**-0.3**
	8.4nm,0.3s,baz=0.0,slow=20,SNR=1.4						
JHJ				Sn	**Sn**	**10 46 14.0**	**-0.7**
	15nm,0.3s,baz=48,slow=17,SNR=1.5						
	174nm,0.9s						
ASAJ	**Asahikawa**	**7.22**	**4**	LR	LR	10 49 05.6	
	comp=Z,86nm,20.8s,baz=136,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.71**	**121**	T	T	11 19 36.1	
	baz=314,slow=75,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**27.72**	**121**	T	T	11 19 33.6	
	baz=314,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	11 19 27.9	
	baz=314,slow=75,SNR=8.3						

MKAR	**Makanchi Array**	**44.55**	**302**	P		**P**	**10 52 36.1**	**+1.7**
	0.1nm,0.4s,baz=92,slow=7.2,SNR=1.6							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**46.42**	**308**	P		**P**	**10 52 51.5**	**+2.5**
	0.3nm,0.5s,baz=80,slow=7.9,SNR=2.7							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**56.99**	**189**	P		**P**	**10 54 07.4**	**-0.8**
	0.2nm,0.4s,baz=6.4,slow=7.1,SNR=6.1							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**60.72**	**188**	P		**P**	**10 54 33.3**	**-0.9**
	0.3nm,0.7s,baz=14,slow=6.5,SNR=1.9							
	0.3nm,0.7s							

GCG 12 10:52:41.1±0.8, 13.°47N×91.°66W, h2km±7km, MD4.1, ML3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**1.21**	**41**	*i* P	Pg	10 53 04.1	-0.3
FG8	**Yepocapa, Chim**	**1.32**	**53**	*i* P	Pg	10 53 03.5	-3.0
FG16	**Alotenango, Sa**	**1.37**	**54**	*i* P	Pg	10 53 04.5	-2.9
NUBE	**Las Nubes**	**1.87**	**76**	*i* P	Pn	10 53 14.1	-0.2
QUIS	**Sacapulas**	**1.89**	**17**	*i* P	Pn	10 53 14.6	0.0
QUIS				*i* S	Sb	10 53 40.7	0.0
QUIS				IAML		10 53 45.4	
	comp=E,594nm,0.5s						
MTO3	**Montecristo**	**2.41**	**67**	*i* P	Pn	10 53 22.5	+0.7

WEL 12 11:05:05.4±0.7, 45.°5S×3.°1×16.°8E±.°, h5km, M3.6/9, ML3.8/9, MLv3.6/9, Error ellipse: s-maj=6.6km s-min=3.1km az=124.5, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.16**	**153**	P	Pg	11 05 09.9	+1.2
MSZ				S	Sg	11 05 12.7	+1.8
JCZ	**Jackson Bay**	**0.83**	**57**	P	Pg	11 05 20.8	-0.5
JCZ				S	Sg	11 05 32.1	+0.1
MLZ	**Mavora Lakes**	**0.86**	**166**	P	Pg	11 05 21.8	-0.1
MLZ				S	Sb	11 05 34.7	-0.1
WKZ	**Wanaka**	**0.90**	**110**	P	Pg	11 05 22.5	-0.2
WKZ				S	Sg	11 05 34.2	-0.3
DCZ	**Deep Cove**	**1.05**	**207**	P	Pg	11 05 24.9	-0.7
DCZ				S	Sg	11 05 38.9	-0.2
EAZ	**Earnscleugh**	**1.27**	**124**	P	Pg	11 05 28.8	-0.9
WHZ	**Wether Hill Ro**	**1.37**	**176**	P	Pn	11 05 30.2	-0.9
WHZ				S	Sb	11 05 48.5	-0.7
LBZ	**Lake Benmore**	**1.70**	**86**	P	Pn	11 05 36.2	+0.5
LBZ				S	Sn	11 05 58.2	+0.4
FOZ	**Fox Glacier**	**1.75**	**56**	P	Pn	11 05 36.9	+0.6
FOZ				S	Sb	11 06 00.4	+0.2
PYZ	**Puysegur Point**	**1.83**	**206**	P	Pn	11 05 37.3	-0.2
TUZ	**Tuapeka**	**1.92**	**139**	P	Pn	11 05 38.9	+0.2
TUZ				S	Sn	11 06 03.6	+0.5
ODZ	**Otahua Downs**	**2.08**	**105**	P	Pn	11 05 40.7	-0.2
GCSZ	**Gaunt Creek Bo**	**2.18**	**57**	P	Pn	11 05 39.7	-2.6
SYZ	**Scrubby Hill**	**2.21**	**156**	P	Pn	11 05 43.1	+0.3
TMZ	**Timaru**	**2.29**	**87**	P	Pn	11 05 43.2	-0.5
APZ	**The Paps**	**2.31**	**177**	P	Pn	11 05 44.9	+0.8
APZ				S	Sb	11 06 14.7	-1.7
HHSZ	**Highcliff Hill**	**2.39**	**126**	P	Pn	11 05 45.6	+0.4
RPZ	**Rata Peaks**	**2.46**	**72**	P	Pn	11 05 45.5	-0.8
RPZ				S	Sn	11 06 17.5	+0.7
ARCZ	**Arundel**	**2.48**	**78**	P	Pn	11 05 45.6	-0.9
WVZ	**Waitaha Valley**	**2.56**	**56**	P	Pn	11 05 44.8	-2.7
MHCZ	**Mount Hutt**	**2.88**	**71**	P	Pn	11 05 50.1	-1.9
WACZ	**Wakanui South**	**2.95**	**80**	P	Pn	11 05 51.6	-1.2
INZ	**Inchbonnie**	**3.19**	**57**	P	Pn	11 05 53.6	-2.6
RACZ	**Rakaia**	**3.21**	**77**	P	Pn	11 05 55.5	-1.0
OXZ	**Oxford**	**3.27**	**70**	P	Pn	11 05 55.0	-2.4
MQZ	**McQueen's Vall**	**3.58**	**78**	P	Pn	11 05 59.5	-1.9
LTZ	**Lake Taylor**	**3.67**	**63**	P	Pn	11 06 00.5	-2.3
AKCZ	**Akaroa Harbour**	**3.72**	**82**	P	Pn	11 06 01.8	-1.7
AMCZ	**Amberley**	**3.75**	**71**	P	Pn	11 06 02.2	-1.6
OKCZ	**Okains Bay**	**3.86**	**80**	P	Pn	11 06 04.5	-0.9
DSZ	**Denniston Nort**	**4.03**	**48**	P	Pn	11 06 05.5	-2.3
GVZ	**Greta Valley S**	**4.09**	**69**	P	Pn	11 06 06.3	-2.3
THZ	**Tophouse**	**4.63**	**55**	P	Pn	11 06 14.0	-2.1
MRNZ	**Matariki Terra**	**4.78**	**51**	P	Pn	11 06 16.7	-1.4
QRZ	**Quartz Range**	**5.07**	**45**	P	Pn	11 06 19.9	-2.2
TKNZ	**Takaka Hill**	**5.15**	**49**	P	Pn	11 06 21.5	-1.5
NNZ	**Nelson**	**5.25**	**53**	P	Pn	11 06 23.1	-1.4
TUWZ	**Tuamarina**	**5.45**	**58**	P	Pn	11 06 27.3	0.0
TCW	**Tory Channel**	**5.79**	**57**	P	Pn	11 06 31.5	-0.3
DUWZ	**D'Urville Isla**	**5.84**	**52**	P	Pn	11 06 32.5	-0.1
CAW	**Cannon Point**	**6.33**	**60**	P	Pn	11 06 36.5	-2.8
NEZ	**North Egmont**	**7.03**	**44**	P	Pn	11 06 48.6	-0.5
VRZ	**Vera Road**	**7.48**	**46**	P	Pn	11 06 54.5	-0.6

*IDC **12** 11:12:32.7±2.2, 22.°96S×175.°25W, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=141.4km s-min=23.7km az=154.0*
ISC 12 11:12:37.4±1.9, 23.°0S±0.°7×175.°2W±0.°4, h30km, n7, σ1§19/7, mb3.6/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.12**	**247**	P	**P**	**11 20 03.0**	**+0.7**
	0.7nm,0.6s,baz=81,slow=19,SNR=2.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**46.52**	**259**	P	**P**	**11 21 01.1**	**-1.3**
	0.2nm,0.4s,baz=95,slow=8.0,SNR=11						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**46.86**	**264**	P	**P**	**11 21 04.1**	**-1.0**
	0.4nm,0.4s,baz=97,slow=8.4,SNR=20						
	0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**55.29**	**263**	P	**P**	**11 22 09.3**	**+0.9**
	3.5nm,1.1s,baz=84,slow=9.2,SNR=2.2						
	3.5nm,1.1s						
NVAR	**Mina Array Bea**	**81.13**	**42**	P	**P**	**11 24 51.1**	**+0.9**
	0.3nm,0.6s,baz=232,slow=6.7,SNR=2.8						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**86.27**	**56**	P	**P**	**11 25 15.8**	**-0.8**
	0.2nm,0.8s,baz=205,slow=9.6,SNR=3.8						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**90.23**	**12**	P	**P**	**11 25 34.4**	**-0.1**
	0.4nm,0.9s,baz=191,slow=4.3,SNR=2.8						
	0.4nm,0.9s						

*UCR **12** 11:25:56.2±1.1, 8.°27N×83.°06W, h21km±3km, MW3.5*
*UPA **12** 11:25:56.7±0.8, 8.°33N×83.°02W, h38km±5km, ML3.5*
ISC 12 11:25:56.7±1.1, 8.°32N±0.°04×83.°04W±0.°03, h32km±6km, n50, σ0§85/79, 9C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.20**	**126**	*e*P	**Pn**	**11 26 03.0**	**-0.6**
PTPM				AMP		11 26 03.5	
	comp=Z,5μm,0.2s						
PTPM				*e*S	**Sb**	**11 26 09.2**	**+1.6**
PTPA	**Petro Terminal**	**0.21**	**126**	*e*P	**Pb**	**11 26 02.9**	**-0.3**
PTPA				*e*S	**Sb**	**11 26 08.8**	**+1.1**
LESP3	**La Esperanza,**	**0.26**	**72**	*e*P	**Pb**	**11 26 03.9**	**+0.1**
LESP3				AMP		11 26 04.1	
	comp=Z,4μm,0.1s						
LPPC	**Paso Canoas**	**0.29**	**44**	*e*P	**Pb**	**11 26 03.6**	**-0.6**
LPPC				*e*S	**Sb**	**11 26 09.4**	**+0.1**
FITO	**Golfito**	**0.32**	**340**	*i* P	**Pb**	**11 26 03.2**	**-1.5**
FITO				*e*S	**Sb**	**11 26 08.8**	**-1.1**
NELY	**Ciudad Neily**	**0.34**	**16**	*e*P	**Pb**	**11 26 03.9**	**-1.0**
NELY				*e*S	**Sb**	**11 26 10.9**	**+0.5**
EDAD	**Golfito**	**0.35**	**339**	*i* P	**Pb**	**11 26 03.6**	**-1.5**
EDAD				*e*S	**Sb**	**11 26 09.9**	**-0.8**
DMCAL	**E. de Neily**	**0.42**	**35**	*e*P	**Pb**	**11 26 05.8**	**-0.3**
BRU2	**Volcan**	**0.58**	**37**	*i* P	**Pb**	**11 26 08.3**	**-0.3**
BRU2				*e*S	**Sn**	**11 26 17.6**	**+0.2**
BRU2	**Volcan**	**0.58**	**37**	*e*P	**Pb**	**11 26 08.8**	**+0.1**
BRU2				*e*S	**Sn**	**11 26 17.9**	**+0.4**
CLLRA	**Cordillera,**	**0.59**	**45**	*i* P	**Pb**	**11 26 08.6**	**-0.3**
DVD	**David**	**0.59**	**79**	*e*P	**Pb**	**11 26 08.2**	**-0.5**
DVD				AMP		11 26 10.2	
	comp=Z,2μm,0.1s						
DVD				*e*S	**Sb**	**11 26 17.2**	**+0.2**
TBS2		**0.60**	**39**	*e*P	**Pn**	**11 26 09.8**	**+0.6**
PEDE3	**Pedregal, Chir**	**0.62**	**84**	*e*P	**Pb**	**11 26 08.2**	**-0.9**
PEDE3				*e*S	**Sb**	**11 26 17.6**	**0.0**
LOCO3	**Loma Colorada,**	**0.62**	**82**	*e*P	**Pb**	**11 26 09.1**	**-0.2**
LOCO3				*e*S	**Sb**	**11 26 17.7**	**-0.1**
BANCO	**falda S V. Bar**	**0.64**	**52**	*e*P	**Pb**	**11 26 09.4**	**-0.2**
BC3P	**Paso Ancho**	**0.65**	**41**	*i* P	**Pb**	**11 26 09.3**	**-0.6**
BC3P				*e*S	**Sb**	**11 26 18.9**	**+0.1**
LOMA3	**Las Lomas, Chi**	**0.65**	**80**	*e*P	**Pb**	**11 26 09.0**	**-0.7**
LOMA3				*e*S	**Sb**	**11 26 17.4**	**-1.2**
ALCO	**Alturas Coton,**	**0.66**	**18**	*i* P	**Pb**	**11 26 09.2**	**-0.7**
ALCO				*e*S	**Sb**	**11 26 19.0**	**0.0**
CGUAY	**Guayabal, Coch**	**0.70**	**79**	*e*P	**Pb**	**11 26 09.7**	**-0.7**
CGUAY				*e*S	**Sb**	**11 26 19.6**	**-0.2**
CHIR3	**Chiriqui UPA,**	**0.71**	**84**	*e*P	**Pb**	**11 26 09.9**	**-0.7**
BQTLY	**Boquete Panama**	**0.72**	**53**	*e*P	**Pb**	**11 26 10.2**	**-0.7**
FIMO	**Fila Mora**	**0.73**	**335**	*i* P	**Pb**	**11 26 10.2**	**-1.0**
FIMO				*e*S	**Sn**	**11 26 21.4**	**+0.3**
BQSF3	**Alto Boquete,**	**0.73**	**55**	*e*P	**Pb**	**11 26 10.3**	**-0.8**
BQSF3				*e*S	**Sb**	**11 26 21.1**	**+0.2**
WILLF	**Boquete**	**0.73**	**55**	*e*P	**Pb**	**11 26 10.3**	**-0.9**
LNBQ3	**Los Naranjos,**	**0.75**	**52**	*e*P	**Pn**	**11 26 10.4**	**-0.8**
LNBQ3				*e*S	**Sb**	**11 26 21.0**	**-0.6**
DAP26	**falda E V. Bar**	**0.77**	**53**	*e*P	**Pn**	**11 26 11.1**	**-0.3**
PSOM3	**Paja de Sombre**	**0.80**	**63**	*e*P	**Pn**	**11 26 11.2**	**-0.6**
PSOM3				AMP		11 26 13.1	
	comp=Z,2μm,0.1s						
PSOM3				*e*S	**Sb**	**11 26 21.8**	**-0.9**
BURE	**Buenos Aires**	**0.89**	**341**	*e*P	**Pn**	**11 26 12.9**	**-0.2**
BURE				*e*S	**Sn**	**11 26 25.4**	**+0.4**
DRK0	**Durika**	**0.95**	**348**	*e*P	**Pn**	**11 26 13.8**	**-0.3**
DRK0				*e*S	**Sn**	**11 26 27.0**	**+0.3**
DRK0	**Durika**	**0.95**	**348**	*i* P	**Pn**	**11 26 13.8**	**-0.3**
DRK0				*e*S	**Sn**	**11 26 26.8**	**0.0**
EDPE	**Pejibaye, P**	**0.98**	**328**	*i* P	**Pn**	**11 26 13.8**	**-0.5**
EDPE				*e*S	**Sn**	**11 26 27.6**	**+0.4**
PBNVO	**Pueblo Nuevo,**	**1.01**	**56**	*e*P	**Pn**	**11 26 14.3**	**-0.4**
PBNVO				*e*S	**Sn**	**11 26 28.1**	**+0.3**
RBALA	**Bur**	**1.04**	**58**	*e*P	**Pn**	**11 26 15.0**	**0.0**
RBALA				*e*S	**Sn**	**11 26 29.1**	**+0.6**
CHGR2	**Aguacate**	**1.08**	**55**	*e*P	Pn	11 26 10.1	-5.5
CHGR2				*e*S	Sn	11 26 19.6	-10
SAJE	**San Jernim**	**1.12**	**336**	*e*P	**Pn**	**11 26 15.8**	**-0.5**
RMDIO	**Remedios, Chir**	**1.20**	**94**	*e*P	**Pn**	**11 26 17.6**	**+0.3**
CEUA	**Cerro Uatsi, L**	**1.29**	**4**	*e*P	**Pb**	**11 26 20.5**	**-0.1**
CEUA				*e*S	**Sb**	**11 26 40.2**	**+3.3**
CVEJO	**Cerro Viej**	**1.45**	**93**	*e*P	**Pn**	**11 26 20.8**	**0.0**
LLNJ	**Naranjito**	**1.55**	**318**	*e*P	**Pn**	**11 26 22.5**	**+0.4**
LLNJ				*e*S	**Sb**	**11 26 43.8**	**-0.3**
PIEC	**Cerro El Cedra**	**1.58**	**325**	*e*P	**Pn**	**11 26 23.6**	**+0.9**
VERH	**Veragua Rainfo**	**1.60**	**355**	*e*P	**Pn**	**11 26 23.9**	**+1.0**
LCR2	**La Lucha 2**	**1.70**	**326**	*e*P	**Pn**	**11 26 25.0**	**+0.6**
LCR2				*e*S	**Sn**	**11 26 46.0**	**+0.8**
PICV	**PH. Pirrs**	**1.73**	**319**	*e*P	**Pn**	**11 26 25.7**	**+1.1**
PICV				*e*S	**Sb**	**11 26 49.7**	**+0.5**
RVSTA	**Santa Teresita**	**1.75**	**340**	*e*P	**Pn**	**11 26 26.5**	**+1.5**
RVSTA				*e*S	**Sb**	**11 26 49.3**	**-0.5**
PCAYA	**Pacayas**	**1.76**	**334**	*e*P	**Pb**	**11 26 27.3**	**-1.2**
VTCV	**VTCV, Calle Va**	**1.78**	**338**	*e*P	**Pn**	**11 26 26.7**	**+1.2**
RESJ	**San Isidro (Tu**	**1.80**	**341**	*e*P	**Pn**	**11 26 27.4**	**+1.8**
CVTV	**Tajo**	**1.81**	**337**	*e*P	**Pn**	**11 26 27.4**	**+1.4**
CVTR	**Volcan Turrial**	**1.83**	**337**	*e*P	**Pb**	**11 26

PVAQ	**Vaqueiros**	**1.85**	**343**	*e*Pn	**Pn**	**11 59 05.0**	**+1.1**
PVAQ				*e*Sn	**Sn**	**11 59 25.3**	**-0.7**
PVAQ				*i* IAML		11 59 26.6	
PVAQ				*i* IAML		11 59 26.7	
PVAQ				*i* IAML		11 59 27.0	
PVAQ	**Vaqueiros**	**1.85**	**343**	P	Pn	11 59 09.8	+5.9
PVAQ	**Vaqueiros**	**1.85**	**343**	S	Sn	11 59 35.2	+9.2
EGRO	**El Granado**	**1.93**	**350**	S	**Sn**	**11 59 27.6**	**-0.5**
EGRO	**El Granado**	**1.93**	**350**	Pg	**Pn**	**11 59 04.8**	**-0.2**
EGRO				Sg	**Sn**	**11 59 25.7**	**-2.3**
EGRO				*i* IVmb_Lg		11 59 30.6	
PFVI	**Vila Bisbo**	**2.07**	**317**	P	**Pn**	**11 59 04.8**	**-2.2**
PFVI				S	**Sn**	**11 59 28.1**	**-3.4**
PFVI	**Vila Bisbo**	**2.07**	**317**	*e*Pn	**Pn**	**11 59 08.2**	**+1.2**
PFVI				*e*Sn	**Sn**	**11 59 30.8**	**-0.7**
PFVI				*i* IAML		11 59 33.9	
PFVI				*i* IAML		11 59 34.8	
PFVI				*i* IAML		11 59 35.0	
MORF	**Marmelete**	**2.11**	**323**	*e*P	**Pn**	**11 59 08.2**	**+0.7**
MORF				*e*S	**Sn**	**11 59 31.7**	**-0.8**
MORF				IAML		11 59 33.0	
	comp=E,6.5nm,0.1s						
MORF	**Marmelete**	**2.11**	**323**	*e*Pn	**Pn**	**11 59 08.2**	**+0.7**
MORF				*e*Sn	**Sn**	**11 59 33.1**	**+0.5**
MORF				*i* IAML		11 59 36.9	
MORF				*i* IAML		11 59 38.4	
PCVE	**Castro Verde**	**2.15**	**339**	S	**Sn**	**11 59 32.1**	**-1.3**
PCVE	**Castro Verde**	**2.15**	**339**	*e*Pn	**Pn**	**11 59 09.4**	**+1.4**
PCVE				*e*Sn	**Sn**	**11 59 32.9**	**-0.5**
PCVE				*i* IAML		11 59 34.2	
PCVE				*i* IAML		11 59 34.8	
PCVE				*i* IAML		11 59 36.1	
EMIN	**Mina Concepcio**	**2.15**	**8**	Pg	**Pn**	**11 59 08.5**	**+0.4**
EMIN				Sg	**Sn**	**11 59 33.0**	**-0.5**
EMIN				*i* IVmb_Lg		11 59 39.6	
ZHG	**ZHG**	**2.21**	**171**	P	**Pn**	**11 59 10.3**	**+1.4**
ZHG	**ZHG**	**2.21**	**171**	S	**Sn**	**11 59 36.8**	**+1.7**
PTEO	**Sao Teotonio**	**2.33**	**325**	*e*Pn	**Pn**	**11 59 11.7**	**+1.1**
PTEO				*e*Sn	**Sn**	**11 59 38.1**	**+0.1**
MESJ	**Messejana**	**2.39**	**337**	*e*Pn	**Pn**	**11 59 12.8**	**+1.4**
MESJ				*e*Sn	**Sn**	**11 59 38.4**	**-1.1**
MESJ				*i* IAML		11 59 41.9	
MESJ				*i* IAML		11 59 42.2	
MESJ				*i* IAML		11 59 43.1	
PBAR	**Barrancos**	**2.54**	**0**	S	**Sn**	**11 59 41.4**	**-1.6**
PBAR	**Barrancos**	**2.54**	**0**	*e*Pn	**Pn**	**11 59 13.4**	**0.0**
PBAR				*e*Sn	**Sn**	**11 59 41.9**	**-1.2**
ECAB	**El Cabril**	**2.77**	**28**	Pn	**Pn**	**11 59 17.0**	**+0.5**
ECAB				Sn	**Sn**	**11 59 47.1**	**-1.7**
EVO	**Evora**	**2.99**	**345**	*e*Pn	**Pn**	**11 59 20.5**	**+0.9**
EADA	**Adamuz**	**3.21**	**37**	Pn	**Pn**	**11 59 23.4**	**+0.6**
EADA				Sn	**Sn**	**11 59 58.4**	**-1.4**
EADA				*i* IVmb_Lg		12 00 02.1	
MD31	**MD31**	**3.35**	**145**	P	**Pn**	**11 59 25.3**	**+0.6**
MD31	**MD31**	**3.35**	**145**	S	**Sn**	**12 00 03.1**	**-0.1**
MDT	**Midelt**	**3.47**	**144**	P	**Pn**	**11 59 27.8**	**+1.5**
MDT	**Midelt**	**3.47**	**144**	S	**Sn**	**12 00 04.7**	**-1.5**
PARRA	**Arraiolos**	**3.55**	**334**	*e*Pn	Pn	11 59 24.6	-2.7
PMTG	**Montargil**	**3.55**	**345**	*e*Pn	**Pn**	**11 59 28.6**	**+1.2**
EQES	**Quesada**	**3.86**	**55**	Sn	**Sn**	**12 00 16.6**	**+0.7**
EQES				*i* IVmb_Lg		12 00 25.8	
TISM	**Timmit**	**3.94**	**172**	P	**Pn**	**11 59 32.1**	**-0.5**
TISM	**Timmit**	**3.94**	**172**	S	**Sn**	**12 00 15.4**	**-2.2**
PSIM	**Granatula de C**	**4.13**	**39**	Sn	**Sn**	**12 00 20.5**	**-1.9**
PAB	**San Pablo**	**4.46**	**28**	Sn	**Sn**	**12 00 26.3**	**-4.3**
PAB				*i* IVmb_Lg		12 00 29.3	
OUK	**Oukaimeden**	**4.47**	**189**	P	**Pn**	**11 59 39.2**	**-1.1**
OUK	**Oukaimeden**	**4.47**	**189**	S	**Sn**	**12 00 28.0**	**-3.2**
TIO	**Tiouine**	**4.70**	**182**	P	**Pn**	**11 59 43.3**	**+0.1**
TIO	**Tiouine**	**4.70**	**182**	S	**Sn**	**12 00 33.2**	**-3.4**
OUZM	**OUZ**	**4.72**	**177**	P	**Pn**	**11 59 44.3**	**+0.7**
OUZM	**OUZ**	**4.72**	**177**	S	**Sn**	**12 00 35.9**	**-1.2**

TAN 12 12:02:28.7, 18.81S×47.42E, h16km, ML2.1, Fault plane solution: NP1: ϕ198.40000°, δ30.50000°, , Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**0.28**	**221**	Pg	Pg	12 02 34.9	+0.1
ABPO				Sg	Sb	12 02 40.1	0.0
OPO	**Ambohidratompo**	**0.32**	**316**	Pg	Pb	12 02 36.1	-0.1
OPO				Sg	Sb	12 02 40.8	-0.4
OPO	**Ambohidratompo**	**0.32**	**316**	Pg	Pb	12 02 36.1	-0.1
OPO				Sg	Sb	12 02 40.8	-0.4
AVY	**Angavokely**	**0.32**	**112**	Pg	Pg	12 02 35.1	-0.4
AVY				Sg	Sg	12 02 40.3	0.0
AVY	**Angavokely**	**0.32**	**112**	Pg	Pg	12 02 35.1	-0.4
AVY				Sg	Sb	12 02 40.9	-0.5
FIRM	**Firavahana**	**0.53**	**281**	Pg	Pb	12 02 39.8	+0.1
FIRM				Sg	Sg	12 02 46.0	-0.3
FIRM	**Firavahana**	**0.53**	**281**	Pg	Pb	12 02 39.8	+0.1
FIRM				Sg	Sg	12 02 46.1	-0.2
DGRM	**Ambatolahisoa**	**1.05**	**244**	Sg	Sn	12 03 03.3	0.0
DGRM				Pg	Pg	12 02 50.0	+1.0
ATG	**Ambohiby**	**1.17**	**266**	Pg	Pg	12 02 51.6	+0.2
ATG				Sg	Sg	12 03 06.8	+0.1
ATG	**Ambohiby**	**1.17**	**266**	Pg	Pg	12 02 51.5	+0.2
ATG				Sg	Sg	12 03 06.8	+0.1

*UCR **12** 12:25:46.1±1.3, 10.38N×86.34W, h23km±5km, MW5.0*
*IDC **12** 12:25:46.9±0.8, 11.22N×85.75W, h0km, mb4.1/12, mbtmp4.1/13, ML2.8/2, MS3.5/7, Error ellipse: s-maj=32.5km s-min=9.7km az=53.0*
*CATAC **12** 12:25:49.8±0.4, 11°N±2°×8°W±°, h25km±3km, M4.3/28, MLv4.3/28, Error ellipse: s-maj=5.1km s-min=2.5km az=46.1, confirmed*
*NEIC **12** 12:25:50.4±1.7, 10.49N±0.09×86.15W±0.08, h43km±12km, mb4.5/117, Error ellipse: s-maj=14.9km s-min=8.1km az=219.0*

ISC 12 12:25:48.4±1.2, **10.53N**±0.03×**86.22W**±0.04, **h28**km±9km, **n191**, σ1**9**38/156, **mb4.5**/69, **MS3.5**/6, **17C**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIBA	**Liberia Airpor**	**0.66**	**84**⇑	*e*P	**Pn**	**12 26 02.3**	**+0.3**
ALIBA				*e*S	**Sn**	**12 26 14.2**	**+2.7**
ELI1	**Hacienda Flor**	**0.66**	**80**⇑	*e*P	**Pn**	**12 26 02.7**	**+0.7**
ELI1				*e*S	**Sn**	**12 26 14.8**	**+3.3**
ELI1	**Hacienda Flor**	**0.66**	**80**	S	**Sn**	**12 26 12.7**	**+1.2**
ELI1	**Hacienda Flor**	**0.66**	**80**	⇑P	**Pn**	**12 26 02.7**	**+0.7**
SACU	**Santa Cruz**	**0.68**	**113**	*e*P	**Pb**	**12 26 00.8**	**-0.9**
SACU				*e*S	**Sb**	**12 26 10.7**	**0.0**
JUD3	**Juan Diaz 3**	**0.76**	**118**	*e*P	**Pb**	**12 26 01.8**	**-1.4**
ERIA	**Liberia**	**0.77**	**82**	*e*P	**Pn**	**12 26 03.8**	**+0.3**
LCRUZ	**La Cruz**	**0.80**	**46**⇑	*e*P	**Pn**	**12 26 04.4**	**+0.6**
LCRUZ				*e*S	**Sn**	**12 26 18.5**	**+3.7**
LAPC	**Finca la Perla**	**0.81**	**73**	*e*P	**Pb**	**12 26 03.9**	**0.0**
NICO	**Nicoya**	**0.85**	**117**	*e*P	**Pb**	**12 26 03.0**	**-1.7**
GPS2	**Hotel Rincn d**	**0.88**	**75**	*e*P	**Pb**	**12 26 05.1**	**-0.1**
CMARA	**Lajas Hojancha**	**0.93**	**123**	*e*P	**Pb**	**12 26 04.0**	**-2.1**
CMARA	**Lajas Hojancha**	**0.93**	**123**	P	**Pn**	**12 26 07.3**	**+1.6**
CMARA	**Lajas Hojancha**	**0.93**	**123**	S	**Sn**	**12 26 20.3**	**+2.1**
BUAI	**Buenos Aires**	**0.94**	**68**	*e*P	**Pb**	**12 26 06.1**	**0.0**
BAGA	**Bagaces**	**0.94**	**90**	*e*P	**Pb**	**12 26 05.9**	**-0.3**
CARN	**Rivas**	**0.95**	**46**	*e*P	**Pn**	**12 26 06.9**	**+1.1**
CARN				*e*S	**Sn**	**12 26 23.1**	**+4.6**
CARN	**Rivas**	**0.95**	**46**	⇑P	**Pn**	**12 26 07.0**	**+1.1**
CARN				S	**Sn**	**12 26 20.0**	**+1.5**
PEJA	**Penjamo Buenos**	**0.96**	**68**	*e*P	**Pn**	**12 26 06.8**	**+0.6**
INDI	**Punta indio, G**	**0.96**	**133**	P	**Pb**	**12 26 08.0**	**+1.4**
INDI	**Punta indio, G**	**0.96**	**133**	S	**Sn**	**12 26 21.6**	**+2.6**
ARIN	**Rivas**	**0.99**	**22**	P	**Pn**	**12 26 07.3**	**+0.8**
COLC	**Colonia**	**1.01**	**82**	*e*P	**Pb**	**12 26 06.7**	**-0.6**
MESS	**Mesas**	**1.03**	**78**	*e*P	**Pn**	**12 26 07.3**	**+0.2**
CUI	**Cuipilapa**	**1.04**	**83**	*e*P	**Pn**	**12 26 07.4**	**+0.2**
CNAS	**Canas**	**1.11**	**95**	*e*P	**Pb**	**12 26 09.2**	**+0.2**
VMAR	**Armenia, Volca**	**1.12**	**75**	*e*P	**Pn**	**12 26 08.8**	**+0.5**
INVE	**Universidad In**	**1.14**	**93**	*e*P	**Pn**	**12 26 08.6**	**+0.1**
MORN	**Al O del Volca**	**1.16**	**29**	⇑P	**Pb**	**12 26 10.1**	**+0.3**
TIMP	**Tierras Morena**	**1.18**	**87**	*e*P	**Pn**	**12 26 09.1**	**-0.1**
NADN	**Granada**	**1.23**	**9**	P	**Pn**	**12 26 10.9**	**+1.2**
NADN				S	**Sn**	**12 26 26.1**	**+0.7**
TENO	**El Achiote**	**1.23**	**82**	*e*P	**Pn**	**12 26 09.7**	**-0.2**
UPAL	**Upala**	**1.24**	**73**	*e*P	**Pn**	**12 26 10.6**	**+0.6**
UPAL	**Upala**	**1.24**	**73**	P	**Pb**	**12 26 10.9**	**-0.3**
UPAL	**Upala**	**1.24**	**73**	S	**Sb**	**12 26 26.9**	**0.0**

JTS	**Las Juntas de**	**1.27**	**101**		**Pn**	**12 26 10.1**	**-0.3**
JTS	**Las Juntas de**	**1.27**	**101**	Pg	**Pn**	**12 26 09.7**	**-0.6**
	77nm,0.3s,baz=274,slow=8.6,SNR=70						
JTS				LR	LR	12 26 16.0	
	comp=Z,67nm,19.1s,baz=61,slow=24						
JTS				Lg	Lg	12 26 27.7	
	255nm,0.3s,baz=315,slow=23,SNR=5.9						
JTS	**Las Juntas de**	**1.27**	**101**	*e*P	**Pn**	**12 26 09.6**	**-0.7**
JTS	**Las Juntas de**	**1.27**	**101**	P	**Pn**	**12 26 11.1**	**+0.7**
JTS				S	**Sb**	**12 26 28.1**	**+0.4**
NANN	**Nandasmo**	**1.41**	**4**	S	**Sn**	**12 26 31.1**	**+1.2**
NANN	**Nandasmo**	**1.41**	**4**	⇑P	**Pb**	**12 26 14.5**	**+0.4**
SABN	**Sabanita**	**1.42**	**2**	P	**Pn**	**12 26 13.5**	**+1.0**
CBL1	**Cabuya**	**1.45**	**130**	*e*P	**Pb**	**12 26 15.6**	**+0.8**
VARE2	**V. Arenal**	**1.48**	**92**	*e*P	**Pn**	**12 26 14.0**	**+0.8**
LCHIL	**Los Chiles**	**1.56**	**71**	*e*P	**Pn**	**12 26 15.0**	**+0.7**
UNAN	**Cigeo UNAN**	**1.57**	**358**	P	**Pn**	**12 26 15.8**	**+1.2**
UNAN				S	**Sn**	**12 26 34.8**	**+0.8**
USIM	**UNAN**	**1.58**	**358**		**Pn**	**12 26 16.1**	**+1.5**
SOCE	**Pocosol**	**1.58**	**95**	Pn	**Pn**	**12 26 15.3**	**+0.7**
SOCE	**Pocosol**	**1.58**	**95**	P	**Pn**	**12 26 15.4**	**+0.7**
SOCE	**Pocosol**	**1.58**	**95**	S	**Sb**	**12 26 35.7**	**-0.9**
TISN	**Laguna Tiscapa**	**1.60**	**358**	P	**Pn**	**12 26 16.1**	**+1.1**
MGAN	**Managua**	**1.61**	**359**		**Pn**	**12 26 16.3**	**+1.3**
WILN	**Americas 2**	**1.62**	**1**	⇑P	**Pn**	**12 26 16.3**	**+1.1**
SAPS	**Ciudad Sandino**	**1.64**	**354**	S	**Sn**	**12 26 36.2**	**+0.5**
SAPS	**Ciudad Sandino**	**1.64**	**354**	⇑P	**Pn**	**12 26 16.6**	**+1.1**
COPN	**Copaltepe**	**1.68**	**347**	*e*P	**Pn**	**12 26 16.4**	**+0.3**
COPN	**Copaltepe**	**1.68**	**347**	⇑P	**Pn**	**12 26 16.5**	**+0.5**
APQ3	**Volcan Apoyequ**	**1.74**	**355**	P	**Pn**	**12 26 18.3**	**+1.5**
APQ3				S	**Sb**	**12 26 40.5**	**-0.7**
ACON	**Acoyapa**	**1.76**	**35**		**Pn**	**12 26 17.9**	**+0.8**
ACON	**Acoyapa**	**1.76**	**35**⇑	*e*P	**Pn**	**12 26 17.6**	**+0.5**
ACON	**Acoyapa**	**1.76**	**35**	S	**Sb**	**12 26 40.3**	**-1.4**
ACON	**Acoyapa**	**1.76**	**35**	⇑P	**Pn**	**12 26 17.8**	**+0.7**
COVE	**Coope Vega, Sa**	**1.79**	**84**	P	**Pn**	**12 26 18.8**	**+1.3**
MOMN	**Momotombo**	**1.89**	**350**	⇑P	**Pn**	**12 26 19.7**	**+0.7**
MOMN				S	**Sn**	**12 26 43.7**	**+1.7**
MOM2	**El Cardon**	**1.92**	**352**	⇑P	**Pn**	**12 26 20.2**	**+1.0**
MOM2				S	**Sn**	**12 26 43.5**	**+1.1**
TCS1	**Tacares**	**1.95**	**104**	P	**Pn**	**12 26 21.4**	**+1.7**
BOAB	**BOACO BROADBAN**	**1.98**	**16**		**Pn**	**12 26 21.5**	**+1.3**
BOAB	**BOACO BROADBAN**	**1.98**	**16**	S	**Sn**	**12 26 44.8**	**+0.7**
BOAB	**BOACO BROADBAN**	**1.98**	**16**	⇑P	**Pn**	**12 26 21.3**	**+1.1**
CNGN	**Cerro Negro**	**2.02**	**347**		**Pn**	**12 26 21.6**	**+1.0**
CNGN	**Cerro Negro**	**2.02**	**347**	S	**Sn**	**12 26 46.5**	**+1.5**
CNGN	**Cerro Negro**	**2.02**	**347**	⇑P	**Pn**	**12 26 21.4**	**+0.7**
HDC	**Heredia**	**2.14**	**104**		**Pn**	**12 26 23.2**	**+0.8**
HERN	**Volcan Telica**	**2.15**	**344**	Pn	**Pn**	**12 26 23.8**	**+1.2**
CRIN	**San Cristobal**	**2.31**	**339**	Pn	**Pn**	**12 26 25.9**	**+1.2**
CRIN	**San Cristobal**	**2.31**	**339**	S	**Sn**	**12 26 53.6**	**+1.3**
CRIN	**San Cristobal**	**2.31**	**339**	P	**Pn**	**12 26 25.5**	**+0.8**
LCR2	**La Lucha 2**	**2.31**	**110**		**Pn**	**12 26 25.6**	**+0.7**
LCR2	**La Lucha 2**	**2.31**	**110**	P	**Pn**	**12 26 26.5**	**+1.6**
LCR2	**La Lucha 2**	**2.31**	**110**	S	**Sn**	**12 26 54.9**	**+2.3**
MATN	**Matagalpa**	**2.40**	**7**	S	**Sn**	**12 26 55.4**	**+0.7**
MATN	**Matagalpa**	**2.40**	**7**	⇑P	**Pn**	**12 26 26.3**	**+0.3**
ESPN	**Las Esperanzas**	**2.50**	**48**	Pn	**Pn**	**12 26 28.9**	**+1.5**
ESPN	**Las Esperanzas**	**2.50**	**48**	P	**Pn**	**12 26 28.6**	**+1.2**
ESPN	**Las Esperanzas**	**2.50**	**48**	S	**Sn**	**12 26 58.8**	**+1.8**
POTN	**Potosi Cosigui**	**2.76**	**333**	P	**Pn**	**12 26 31.6**	**+0.7**
POTN				S	**Sn**	**12 27 04.9**	**+1.6**
CSGN	**Cosiguina Volc**	**2.76**	**332**	P	**Pn**	**12 26 32.1**	**+1.1**
CSGN				S	**Sn**	**12 27 05.7**	**+2.2**
RCPN	**Sur Rio San Ju**	**2.98**	**2**	P	**Pn**	**12 26 34.9**	**+0.9**
SIUN	**Universidad Ur**	**3.47**	**24**	Pn	**Pn**	**12 26 42.4**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.66**	**344**		**Pn**	**12 26 45.0**	**+1.7**
MTO3	**Montecristo**	**4.92**	**322**		**Pn**	**12 27 02.9**	**+2.1**
CCIG	**Comitan**	**8.12**	**315**		**Pn**	**12 27 48.4**	**+3.8**
TEIG	**Tepich**	**9.84**	**349**	Pn	**Pn**	**12 28 11.3**	**+3.1**
TEIG	**Tepich**	**9.84**	**349**	Pn	Pn	12 28 01.0	-7.1
	baz=129,slow=20,SNR=3.7						
CMIG	**Matias Romero**	**10.65**	**309**	Pn	**Pn**	**12 28 20.8**	**+1.6**
	0.6nm,0.3s,baz=149,slow=9.2,SNR=6.5						
	4.3nm,0.7s						
BAUV	**El Baul**	**17.98**	**93**		**Pn**	**12 29 55.6**	**-1.0**
ATAH	**Atahualpa**	**19.20**	**156**	LR	LR	12 36 36.5	
	comp=Z,100nm,18.5s,baz=12,slow=33						
PCRV	**Puerto La Cruz**	**21.23**	**89**	P	**P**	**12 30 32.1**	**-0.4**
	5.7nm,0.7s,baz=243,slow=2.3,SNR=1.5						
	5.7nm,0.7s						
833A	**Chaparral WMA,**	**21.59**	**327**	P	**P**	**12 30 38.6**	**+2.4**
833A				IAmb	IAmb	12 30 40.5	
	comp=Z,11nm,0.7s						
152A	**Waverly Hall**	**22.08**	**3**		**P**	**12 30 42.6**	**+1.3**
152A				IAmb	IAmb	12 30 45.1	
	comp=Z,25nm,0.9s						
HNDO	**Hondo**	**22.50**	**329**	P	**P**	**12 30 45.9**	**0.0**
GOGA	**Godfrey**	**22.91**	**6**	P	**P**	**12 30 51.1**	**+0.9**
GOGA				IAmb	IAmb	12 30 52.2	
	comp=Z,8.4nm,0.6s						
DRIO	**Del Rio**	**23.12**	**326**		**P**	**12 30 53.8**	**+1.4**
Y49A	**Blount Mountai**	**23.22**	**360**	IAmb	IAmb	12 30 55.7	
	comp=Z,13nm,0.7s						
Y52A	**Lilburn**	**23.31**	**5**	P	**P**	**12 30 55.2**	**+0.9**
Y52A				IAmb	IAmb	12 30 56.5	
	comp=Z,15nm,0.6s						
Y45A	**Yeager Farm, C**	**23.43**	**353**	P	**P**	**12 30 56.6**	**+1.2**
JCT	**Junction City**	**23.53**	**329**	P	**P**	**12 30 57.5**	**+1.0**
JCT				IAmb	IAmb	12 31 02.2	
	comp=Z,6.8nm,0.5s						
BRDY	**Brady**	**23.82**	**332**		**P**	**12 30 59.1**	**0.0**
BRDY				IAmb	IAmb	12 31 00.7	
	comp=Z,8.7nm,0.7s						
X48A	**Hartselle**	**23.82**	**358**	P	**P**	**12 30 59.6**	**+0.4**
HODGE	**Hodges**	**23.87**	**8**	P	**P**	**12 30 59.5**	**-0.1**
HODGE				IAmb	IAmb	12 31 00.9	
	comp=Z,14nm,0.6s						
FPAL	**Fort Paine**	**23.91**	**1**	P	**P**	**12 30 59.8**	**-0.2**
OXF	**Oxford**	**24.05**	**354**		**P**	**12 31 00.5**	**-0.8**
PLAL	**Pickwick Lake**	**24.40**	**356**	P	**P**	**12 31 04.9**	**+0.4**
PLAL				IAmb	IAmb	12 31 05.7	
	comp=Z,12nm,0.8s						
PAULI	**Pauline**	**24.51**	**9**	P	**P**	**12 31 06.3**	**+0.7**
PAULI				IAmb	IAmb	12 31 07.4	
	comp=Z,13nm,0.8s						
BG3	**Lake Jocassee**	**24.54**	**7**		**P**	**12 31 05.5**	**-0.3**
W52A	**Murphy**	**24.54**	**5**	P	**P**	**12 31 05.9**	**+0.1**
W50A	**Signal Mountai**	**24.57**	**2**		**P**	**12 31 06.1**	**-0.1**
W50A				IAmb	IAmb	12 31 06.7	
	comp=Z,11nm,0.6s						
BIRD	**Birdtown, Kers**	**24.57**	**11**	P	**P**	**12 31 06.4**	**+0.3**
BIRD				IAmb	IAmb	12 31 07.6	
	comp=Z,13nm,0.9s						
SWET	**Sewanee**	**24.58**	**1**	IAmb	IAmb	12 31 06.6	
	comp=Z,12nm,0.7s						
UALR	**University of**	**24.77**	**348**		**P**	**12 31 07.7**	**-0.2**
UALR				IAmb	IAmb	12 31 08.7	
	comp=Z,17nm,0.8s						
TXAR	**Lajitas Array**	**24.82**	**321**	P	**P**	**12 31 09.4**	**+0.9**
	comp=Z,3.3nm,0.6s,baz=135,slow=11,SNR=22						
	comp=Z,3.3nm,0.6s						
MIAR	**Mount Ida**	**24.83**	**345**		**P**	**12 31 07.8**	**-0.6**
MIAR				IAmb	IAmb	12 31 09.8	
	comp=Z,13nm,0.8s						
CPCT	**Cooper Cave**	**24.86**	**3**	IAmb	IAmb	12 31 10.2	
	comp=Z,9.1nm,0.7s						
V48A	**Smith Brothers**	**25.10**	**359**	IAmb	IAmb	12 31 11.8	
	comp=Z,6.3nm,0.8s						
TKL	**Tuckaleechee C**	**25.11**	**5**	P	**P**	**12 31 08.0**	**-3.0**
	comp=Z,6.2nm,0.8s,baz=177,slow=11,SNR=11						
	comp=Z,6.2nm,0.8s						
V53A	**Saluda**	**25.22**	**7**	IAmb	IAmb	12 31 16.1	
	comp=Z,8.9nm,0.7s						
ABTX	**Abilene, Hawle**	**25.23**	**333**	IAmb	IAmb	12 31 15.2	
	comp=Z,8.1nm,0.6s						
WHAR	**Wooly Hollow**	**25.26**	**348**	IAmb	IAmb	12 31 12.7	
	comp=Z,10nm,0.9s						
MNHN	**Cookhanans**	**25.77**	**326**	IAmb	IAmb	12 31 19.9	
	comp=Z,11nm,1.0s						
U49A	**Red Boiling Sp**	**25.87**	**1**	IAmb	IAmb	12 31 18.3	
	comp=Z,9.8nm,0.8s						
V58A	**Windy Hill, Pi**	**25.97**	**13**	IAmb	IAmb	12 31 19.7	
	comp=Z,8.0nm,0.7s						
APMT	**Aspermont**	**26.04**	**333**	IAmb	IAmb	12 31 22.3	
	comp=Z,7.2nm,0.8s						
U54A	**Nelsons Funny**	**26.18**	**8**	IAmb	IAmb	12 31 25.4	
	comp=Z,11nm,0.8s						
T47A	**Sharon Grove**	**26.36**	**358**	IAmb	IAmb	12 31 22.2	
	comp=Z,11nm,0.7s						
HHAR	**Hobbs**	**26.58**	**346**	P	**P**	**12 31 22.4**	**-1.9**
WMOK	**Wichita Mounta**	**26.69**	**336**	IAmb	IAmb	12 31 28.9	
	comp=Z,10nm,0.8s						
CGM3	**Cape Girardeau**	**26.83**	**354**	IAmb	IAmb	12 31 25.9	
	comp=Z,7.5nm,0.5s						
WCI	**Wyandotte Cave**	**27.58**	**360**	P	**P**	**12 31 32.5**	**-0.7**
SMWD	**Samnorwood**	**27.60**	**335**	IAmb	IAmb	12 31 38.5	
	comp=Z,5.8nm,0.7s						
R49A	**Shelbyville**	**27.66**	**2**	IAmb	IAmb	12 31 34.0	
	comp=Z,7.8nm,0.6s						
R50A	**Paris**	**27.69**	**3**	IAmb	IAmb	12 31 34.6	
	comp=Z,6.7nm,0.7s						
CCM	**Cathedral Cave**	**27.78**	**351**	P	**P**	**12 31 33.5**	**-1.5**
CCM				IAmb	IAmb	12 31 35.0	
	comp=Z,6.7nm,0.9s						
MSTX	**Muleshoe**	**27.83**	**330**	IAmb	IAmb	12 31 37.3	
	comp=Z,5.2nm,0.7s						
Q44A	**Meyer Farm, Va**	**28.37**	**355**	IAmb	IAmb	12 31 40.0	
	comp=Z,15nm,0.8s						
Q54A	**Coxs Mills**	**28.74**	**9**	IAmb	IAmb	12 31 44.3	
	comp=Z,8.2nm,0.8s						
P48A	**Milroy**	**28.82**	**1**	IAmb	IAmb	12 31 43.7	
	comp=Z,9.5nm,0.6s						
O48B	**Farmland**	**29.62**	**2**	IAmb	IAmb	12 31 50.8	
	comp=Z,10nm,0.9s						
N41A	**Harden Midland**	**30.34**	**353**	IAmb	IAmb	12 31 56.7	
	comp=Z,6.9nm,0.8s						
L40A	**Anamosa**	**31.72**	**353**	IAmb	IAmb	12 32 09.0	
	comp=Z,10nm,1.0s						
Q24A	**Divide**	**32.98**	**332**	IAmb	IAmb	12 32 53.5	
	comp=Z,6.7nm,0.7s						
PV03	**Paradox Valley**	**34.26**	**327**	IAmb	IAmb	12 32 34.4	
	comp=Z,2.9nm,0.7s						
PV05	**Paradox Valley**	**34.26**	**327**	IAmb	IAmb	12 32 35.0	
	comp=Z,3.1nm,0.7s						
PV12	**Saucer Basin,**	**34.28**	**328**	IAmb	IAmb	12 32 35.3	
	comp=Z,7.0nm,0.7s						
PV17	**East Wray Mesa**	**34.33**	**327**	IAmb	IAmb	12 32 35.1	
	comp=Z,4.0nm,0.7s						
PV19	**Morning Glory**	**34.37**	**327**	IAmb	IAmb	12 32 36.0	
	comp=Z,5.6nm,0.7s						
PV10	**Paradox Valley**	**34.45**	**327**	IAmb	IAmb	12 32 43.0	
	comp=Z,5.6nm,0.7s						
SADO	**Sadowa**	**34.66**	**9**	LR	LR	12 46 17.7	
	comp=Z,94nm,18.1s,baz=122,slow=36						
W13A	**Hualapai Mount**	**35.11**	**319**		**P**	**12 32 42.2**	**+2.4**
TPNV	**Topopah Spring**	**37.75**	**319**	P	**P**	**12 33 04.9**	**+2.6**
TPNV				IAmb	IAmb	12 33 06.4	
	comp=Z,4.1nm,1.1s						
PDAR	**Pinedale Array**	**38.03**	**332**	P	**P**	**12 33 04.2**	**-0.5**
	comp=Z,9.9nm,0.6s,baz=122,slow=9.1,SNR=5.2						
	comp=Z,0.9nm,0.6s						
HWUT	**Hardware Ranch**	**38.13**	**329**	IAmb	IAmb	12 33 07.0	
	comp=Z,2.9nm,0.7s						
AGMN	**Agass

PS1A	**Pavlof South-1**	**1.00**	**319**			Pb	13 00 13.5	0.0
DT1	**Dutton Round H**	**1.08**	**295**			Pn	13 00 14.4	-0.2
DT1						Sb	13 00 27.9	-0.4
PN7A	**Pavlof North-7**	**1.12**	**314**			Pb	13 00 15.6	+0.1
S12K	**Black Hills**	**1.34**	**321**			Pn	13 00 18.3	+0.1
S12K	**Black Hills**	**1.34**	**321**	IAML			13 00 36.2	
	comp=E,178nm,0.3s							
VNKR	**Veniaminof 5**	**1.53**	**26**			Pn	13 00 20.8	-0.1
VNSG	**Veniaminof 6**	**1.69**	**30**			Pn	13 00 23.2	+0.1
VNFG	**Fog Glacier, M**	**1.72**	**19**			Pn	13 00 24.5	+1.0
VNFG				IAML			13 00 52.1	
	comp=N,108nm,0.5s							
ISLZ	**Isanotski Laza**	**1.82**	**273**			Pn	13 00 24.9	0.0
CHGN	**Chignik**	**2.04**	**36**			Pn	13 00 28.3	+0.4
CHGN				IAML			13 00 58.2	
	comp=E,76nm,0.1s							
CHGN				IAML			13 00 58.6	
	comp=N,54nm,0.2s							
R16K	**Pilot Point**	**3.35**	**29**	Pn	Pn		13 00 46.3	+0.4
R16K				IAML			13 01 49.9	
	comp=N,23nm,1.0s							
R16K				IAML			13 02 11.9	
	comp=E,17nm,0.9s							
PLK4	**Peulik 4**	**3.79**	**37**	Pn	Pn		13 00 53.3	+1.2
O15K	**Ungalikthiuk R**	**4.53**	**5**	Pn	Pn		13 01 02.0	-0.2
O15K				IAML			13 01 55.3	
	comp=E,5.7nm,1.4s							
P16K	**Nushagak River**	**4.59**	**17**	Pn	Pn		13 01 03.0	+0.1
O14K	**Tigyukauivet M**	**4.61**	**356**	Pn	Pn		13 01 03.3	+0.1
O14K				IAML			13 01 47.2	
	comp=N,9.3nm,1.5s							
O14K				IAML			13 02 31.5	
	comp=E,9.9nm,1.3s							
OHAK	**Old Harbor**	**4.83**	**55**	Pn	Pn		13 01 05.5	-0.6
O16K	**Kokwok River B**	**5.12**	**14**	Pn	Pn		13 01 10.4	+0.3
N14K	**Kuskokwak Cree**	**5.30**	**354**	Pn	Pn		13 01 12.6	0.0
KDAK	**Kodiak Island**	**5.44**	**52**	Pn	Pn		13 01 13.6	-0.9
N15K	**Kwethluk River**	**5.52**	**3**	Pn	Pn		13 01 15.6	-0.1
M14K	**Bethel**	**6.14**	**354**	Pn	Pn		13 01 24.4	+0.3
N17K	**Nushagak Hills**	**6.15**	**16**	Pn	Pn		13 01 24.7	+0.4
M16K	**Timber Creek**	**6.43**	**7**	Pn	Pn		13 01 28.4	+0.3
M17K	**Holitna River**	**6.95**	**13**	Pn	Pn		13 01 35.9	+0.6
N19K	**Bonanza Creek**	**6.96**	**25**	Pn	Pn		13 01 36.1	+0.5
CNPM	**China Poot**	**7.04**	**42**	Pn	Pn		13 01 36.8	+0.3
J16K	**Anvik River**	**8.64**	**360**	Pn	Pn		13 01 58.6	+0.2
HIN	**Hinchinbrook I**	**9.48**	**47**	Pn	Pn		13 02 09.9	-0.2

NEIC ***12*** *13:00:11.6±1.1, 4.°5S±0.°1×125.°59E±0.°08, h432km±19km, mb4.1/10, Error ellipse: s-maj=17.3km s-min=10.9km az=167.0*

IDC ***12*** *13:00:12.4±4.7, 4.°64S×125.°34E, h456km±62km, mb2.8/3, mbtmp3.8/6, Error ellipse: s-maj=88.7km s-min=17.8km az=50.0*

ISC 12 13:00:11.1±0.6,**4.°52S**±0.°08×**125.°58E**±0.°09,**h441**km,**n24,** σ**0**s**77**/**25**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.96**	**198**	P	**P**	**13 01 44.9**	**+0.2**
	17nm,0.4s,baz=40,slow=7.9,SNR=2.1						
BATI				S	**S**	**13 03 00.2**	**-1.0**
	15nm,0.4s,baz=12,slow=19,SNR=1.7						
FAKI	**Fak Fak**	**6.85**	**77**	P	**P**	**13 01 53.8**	**-0.3**
TOLI2	**Tolitoli**	**7.36**	**319**	P	**P**	**13 01 58.6**	**-1.0**
MTN	**Manton Dam**	**9.93**	**147**	P	**P**	**13 02 27.8**	**+0.3**
KNRA	**Kununurra**	**11.53**	**164**	P	**P**	**13 02 45.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**13.50**	**180**	P	**P**	**13 03 06.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**13.50**	**180**	P	**P**	**13 03 06.2**	**-0.1**
	1.9nm,0.9s,baz=360,slow=9.8,SNR=1.7						
SBUM	**Sibu**	**15.03**	**297**	P	**P**	**13 03 23.0**	**+0.1**
WB0	**Warramunga Arr**	**17.43**	**151**	P	**P**	**13 03 47.9**	**-0.4**
WB0				IAmb	IAmb	13 03 51.5	
	comp=Z,5.6nm,0.9s						
WRAB	**Tennant Creek**	**17.55**	**152**	P	**P**	**13 03 49.3**	**-0.2**
WRAB				IAmb	IAmb	13 03 53.5	
	comp=Z,8.0nm,1.4s						
WRA	**Warramunga Arr**	**17.55**	**152**	P	**P**	**13 03 47.8**	**-1.8**
WRA	**Warramunga Arr**	**17.55**	**152**	P	**P**	**13 03 49.5**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=328,slow=10,SNR=20						
WR8	**Warramunga Arr**	**17.64**	**151**	P	**P**	**13 03 50.2**	**-0.3**
WR8				IAmb	IAmb	13 03 51.8	
	comp=Z,14nm,1.5s						
COEN	**Coen**	**19.73**	**120**	P	**P**	**13 04 10.7**	**0.0**
COEN				IAmb	IAmb	13 04 53.6	
	comp=Z,6.6nm,0.9s						
AS31	**Alice Springs**	**20.66**	**158**	P	**P**	**13 04 18.0**	**-1.2**
ASAR	**Alice Springs**	**20.67**	**158**	P	**P**	**13 04 18.7**	**-0.5**
ASAR	**Alice Springs**	**20.67**	**158**	P	**P**	**13 04 20.0**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=333,slow=9.6,SNR=44						
	comp=Z,1.4nm,0.3s						
GUMO	**Guam**	**26.27**	**47**	P	**P**	**13 05 09.8**	**+0.3**
GSI	**Gunungsitoli**	**28.57**	**281**	P	**P**	**13 05 31.0**	**+1.1**
YHNB	**Yeheng**	**29.30**	**352**	P	**P**	**13 05 37.0**	**+0.9**
STKA	**Stephens Creek**	**31.09**	**153**	P	**P**	**13 05 52.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**34.79**	**312**	P	**P**	**13 06 23.0**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=130,slow=6.3,SNR=6.2						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**63.78**	**328**	P	**P**	**13 09 57.5**	**-1.0**
MKAR	**Makanchi Array**	**63.78**	**328**	P	**P**	**13 09 57.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=124,slow=6.5,SNR=2.3						
	comp=Z,0.2nm,0.5s						

IDC 12 13:07:34.0±70.0,**21.°77S**×**177.°97W**,**h0**km,**mb3.9**/3, **mbtmp3.9**/3,**Error ellipse: s-maj=1276.0km s-min=175.1km az=85.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.28**	**246**	P	P	13 14 47.5	-0.3
	0.8nm,0.5s,baz=86,slow=8.9,SNR=4.6						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**44.27**	**258**	P	P	13 15 45.8	+0.1
	1.8nm,0.8s,baz=97,slow=7.8,SNR=21						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**44.47**	**263**	P	P	13 15 47.1	-0.2
	1.3nm,0.7s,baz=97,slow=8.2,SNR=7.8						
	1.3nm,0.7s						

RSPR ***12*** *13:13:26.6, 19.°13N×67.°87W, h26km±19km, MD2.9/15*

NEIC ***12*** *13:13:26.1±0.8, 19.°05N±0.°04×67.°72W±0.°08, h16km±5km, ML3.2/24, Md2.9/15(RSPR), Error ellipse: s-maj=11.5km s-min=4.4km az=71.0*

OSPL ***12*** *13:13:27.6±0.7, 19.°29N×67.°30W, h32km±14km, ML3.3*

SDD ***12*** *13:13:27.2±1.9, 19.°17N×67.°60W, h23km±72km, MD3.5, ML3.3, MW3.5*

ISC 12 13:13:25.9±1.2,**19.°14N**±0.°04×**67.°59W**±0.°02,**h13**km±9km, **n77**,σ1s**04**/106,**8C-7D**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.75**	**172**		**Pg**	**13 13 40.1**	**-0.4**
IDE					**Sg**	**13 13 49.4**	**-0.9**
IDE	**Isla Desecheo**	**0.75**	**172**	*i* P	**Pg**	**13 13 40.1**	**-0.4**
IDE	**Isla Desecheo**	**0.75**	**172**	*e*S	**Sg**	**13 13 49.4**	**-0.9**
AGPR	**Aguadilla, PR**	**0.80**	**146**		**Pg**	**13 13 41.9**	**+0.5**
AGPR					**Sb**	**13 13 53.0**	**+0.5**
AGPR	**Aguadilla, PR**	**0.80**	**146**	IAML		13 13 54.3	
	comp=E,869nm,0.2s						
AGPR				IAML		13 13 54.3	
	comp=N,750nm,0.2s						
AGPR	**Aguadilla, PR**	**0.80**	**146**	*i* P	**Pg**	**13 13 41.9**	**+0.5**
AGPR	**Aguadilla, PR**	**0.80**	**146**	*i* P	**Pg**	**13 13 41.9**	**+0.5**
AGPR				*e*S	**Sg**	**13 13 52.4**	**+0.5**
AGPR				IAML		13 13 54.2	
	comp=Z,557nm,0.1s						
AGPR	**Aguadilla, PR**	**0.80**	**146**	*e*Pg	**Pn**	**13 13 42.1**	**-0.8**
AGPR				IAML		13 13 54.2	
	comp=N,785nm,0.2s						
AGPR				*e*Sg	**Sn**	**13 13 54.4**	**-0.3**
PCDR	**Punta Cana, DR**	**0.97**	**231**	*e*Pg	**Pb**	**13 13 43.8**	**-0.9**
PCDR				IAML		13 13 58.4	
	comp=N,271nm,0.3s						
PRSN	**Puerto Rico Se**	**1.00**	**155**		**Pb**	**13 13 44.5**	**-0.7**
LSP	**Las Mesas**	**1.06**	**153**		**Pb**	**13 13 45.5**	**-0.7**
LSP	**Las Mesas**	**1.06**	**153**	*e*P	**Pb**	**13 13 45.5**	**-0.7**
AOPR	**Arecibo Observ**	**1.11**	**135**		**Pb**	**13 13 46.6**	**-0.4**
AOPR					**Sg**	**13 14 03.6**	**+1.8**
AOPR	**Arecibo Observ**	**1.11**	**135**	IAML		13 14 07.6	
	comp=N,655nm,0.3s						
AOPR				IAML		13 14 10.3	
	comp=E,934nm,0.3s						
AOPR	**Arecibo Observ**	**1.11**	**135**	*i* P	**Pb**	**13 13 46.6**	**-0.4**
AOPR	**Arecibo Observ**	**1.11**	**135**	*e*S	**Sg**	**13 14 03.6**	**+1.8**
AOPR	**Arecibo Observ**	**1.11**	**135**	*e*Pg	**Pg**	**13 13 47.2**	**-0.1**
AOPR				*e*Sg	**Sg**	**13 14 04.0**	**+2.3**
AOPR				IAML		13 14 07.5	
	comp=N,622nm,0.2s						
EMPR	**Esperanza - Ma**	**1.20**	**123**		**Pg**	**13 13 48.8**	**0.0**
EMPR					**Sg**	**13 14 06.0**	**+1.5**
EMPR	**Esperanza - Ma**	**1.20**	**123**	*i* P	**Pg**	**13 13 48.8**	**0.0**
EMPR	**Esperanza - Ma**	**1.20**	**123**	*e*S	**Sg**	**13 14 06.0**	**+1.5**
HIDR	**Higuey Centro**	**1.20**	**243**	*e*Pg	**Pn**	**13 13 46.8**	**-1.6**
HIDR				*e*Sg	**Sb**	**13 14 02.8**	**-1.1**
HIDR				IAML		13 14 10.1	
	comp=N,557nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.20**	**137**		**Pb**	**13 13 48.2**	**-0.3**
UUPR					**Sg**	**13 14 05.1**	**+0.5**
UUPR	**Utuado, UPR, P**	**1.20**	**137**	*i* P	**Pb**	**13 13 48.2**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.20**	**137**	*e*S	**Sg**	**13 14 05.1**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.21**	**158**		**Pn**	**13 13 47.7**	**-0.8**
CRPR					**Sb**	**13 14 03.4**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.21**	**158**	*e*P	**Pn**	**13 13 47.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.21**	**158**	*e*S	**Sb**	**13 14 03.4**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.21**	**158**	*i* P	**Pn**	**13 13 48.0**	**-0.6**
CRPR				IAML		13 14 14.6	
	comp=Z,357nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.21**	**158**	*e*Pg	**Pg**	**13 13 49.2**	**+0.1**
CRPR				*e*Sg	**Sg**	**13 14 05.3**	**+0.4**
CRPR				IAML		13 14 14.8	
	comp=N,236nm,0.5s						
MLPR	**Magueyes Islan**	**1.27**	**156**	*i* P	**Pn**	**13 13 48.6**	**-0.7**
MLPR	**Magueyes Islan**	**1.27**	**156**	*e*S	**Sb**	**13 14 05.2**	**-0.7**
MLPR	**Magueyes Islan**	**1.27**	**156**	*e*Pg	**Pb**	**13 13 49.3**	**-0.4**
MLPR				*e*Sg	**Sg**	**13 14 07.6**	**+0.9**
MLPR				IAML		13 14 12.1	
	comp=N,116nm,0.3s						
GBPR	**Guanica, Bosqu**	**1.33**	**150**		**Pn**	**13 13 50.0**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.33**	**150**	*i* P	**Pn**	**13 13 50.0**	**-0.2**
MIDR	**Miches**	**1.39**	**264**	*e*Pg	**Pb**	**13 13 51.3**	**-0.5**
MIDR				*e*Sg	**Sg**	**13 14 10.1**	**-0.7**
MIDR				IAML		13 14 11.1	
	comp=N,330nm,0.2s						
ECPR	**Experimental S**	**1.42**	**125**	*i* P	**Pb**	**13 13 51.7**	**-0.5**
ECPR	**Experimental S**	**1.42**	**125**	*e*S	**Sg**	**13 14 10.9**	**-0.5**
CELP	**Cerrillos**	**1.42**	**138**		**Pb**	**13 13 51.7**	**-0.6**
CELP					**Sb**	**13 14 10.4**	**0.0**
CELP	**Cerrillos**	**1.42**	**138**	IAML		13 14 14.7	
	comp=E,306nm,0.2s						
CELP				IAML		13 14 15.3	
	comp=N,513nm,0.3s						
CELP	**Cerrillos**	**1.42**	**138**	*i* P	**Pb**	**13 13 51.7**	**-0.6**
CELP	**Cerrillos**	**1.42**	**138**	*e*S	**Sb**	**13 14 10.4**	**0.0**
CELP	**Cerrillos**	**1.42**	**138**	*e*Pg	**Pb**	**13 13 52.3**	**0.0**
CELP				*e*Sg	**Sb**	**13 14 10.7**	**+0.3**
CELP				IAML		13 14 15.2	
	comp=N,531nm,0.3s						
OBIP	**Obispado Ponce**	**1.43**	**139**		**Pb**	**13 13 51.6**	**-0.8**
OBIP					**Sb**	**13 14 10.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.43**	**139**	IAML		13 14 14.3	
	comp=N,349nm,0.3s						
OBIP				IAML		13 14 15.0	
	comp=E,352nm,0.3s						
OBIP	**Obispado Ponce**	**1.43**	**139**	*i* P	**Pb**	**13 13 51.6**	**-0.8**
OBIP	**Obispado Ponce**	**1.43**	**139**	*e*S	**Sb**	**13 14 10.7**	**+0.2**
SADR	**Isla Saona**	**1.47**	**231**	*e*Pg	**Pb**	**13 13 53.0**	**-0.1**
SADR				*e*Sg	**Sb**	**13 14 11.8**	**+0.1**
SADR				IAML		13 14 17.2	
	comp=N,486nm,0.7s						
SMDR	**Samana, DR**	**1.52**	**276**	*e*Pg	**Pb**	**13 13 53.3**	**-0.7**
SMDR				*e*Sg	**Sg**	**13 14 13.5**	**-1.4**
SMDR				IAML		13 14 22.9	
	comp=N,166nm,0.4s						
GCPR	**Guaynabo City**	**1.64**	**120**		**Pb**	**13 13 55.0**	**-1.1**
GCPR					**Sb**	**13 14 17.5**	**+0.8**
GCPR	**Guaynabo City**	**1.64**	**120**	*i* P	**Pb**	**13 13 55.0**	**-1.1**
GCPR	**Guaynabo City**	**1.64**	**120**	*e*S	**Sb**	**13 14 17.5**	**+0.8**
SJG	**San Juan**	**1.70**	**127**		**Pb**	**13 13 56.1**	**-0.9**
SJG				IAML		13 14 22.7	
	comp=N,239nm,0.3s						
SJG				IAML		13 14 22.9	
	comp=N,221nm,0.4s						
SJG	**San Juan**	**1.70**	**127**	*e*Pg	**Pb**	**13 13 56.4**	**-0.6**
SJG				*e*Sg	**Sg**	**13 14 19.8**	**-0.8**
HATOM	**Hato Mayor del**	**1.73**	**259**	*e*Pg	**Pb**	**13 13 56.6**	**-1.0**
HATOM				*e*Sg	**Sb**	**13 14 19.5**	**+0.1**
HATOM				IAML		13 14 19.9	
	comp=N,316nm,0.3s						
IGPR	**InterUniversit**	**1.82**	**129**		**Pn**	**13 13 57.2**	**+0.3**
IGPR					**Sb**	**13 14 21.1**	**-0.8**
IGPR	**InterUniversit**	**1.82**	**129**	*i* P	**Pn**	**13 13 57.2**	**+0.3**
IGPR	**InterUniversit**	**1.82**	**129**	*e*S	**Sb**	**13 14 21.1**	**-0.8**
PDPR	**Patillas Dam,**	**1.85**	**127**		**Pb**	**13 13 58.1**	**-1.5**
PDPR				IAML		13 14 27.6	
	comp=N,184nm,0.1s						
PDPR	**Patillas Dam,**	**1.85**	**127**	*i* P	**Pb**	**13 13 58.2**	**-1.4**
PDPR	**Patillas Dam,**	**1.85**	**127**	*e*S	**Sb**	**13 14 22.4**	**-0.3**
HUMP	**Col San Antoni**	**1.92**	**121**		**Pb**	**13 13 59.3**	**-1.5**
HUMP					**Sb**	**13 14 23.8**	**-0.8**
HUMP	**Col San Antoni**	**1.92**	**121**	IAML		13 14 29.4	
	comp=E,155nm,0.2s						
HUMP	**Col San Antoni**	**1.92**	**121**	*i* P	**Pb**	**13 13 59.3**	**-1.5**
HUMP	**Col San Antoni**	**1.92**	**121**	*e*S	**Sb**	**13 14 23.8**	**-0.8**
NADR	**Nagua**	**2.16**	**276**	*e*Pg	**Pb**	**13 13 04.3**	**-0.5**
NADR				*e*Sg	**Sb**	**13 14 31.9**	**+0.4**
NADR				IAML		13 14 40.8	
	comp=N,583nm,0.7s						
CADR	**Cabrera**	**2.28**	**284**	*e*Pg	**Pb**	**13 14 06.6**	**-0.4**
CADR				*e*Sg	**Sb**	**13 14 34.4**	**-0.7**
CADR				IAML		13 14 48.0	
	comp=N,314nm,0.6s						
SDD	**Santo Domingo**	**2.31**	**253**	*i* P	**Pb**	**13 14 06.3**	**-1.0**
SDD				*e*S	**Sb**	**13 14 35.2**	**-0.5**
DR08	**Loma La Naviza**	**2.31**	**266**	*e*Pg	**Pb**	**13 14 06.0**	**-1.5**
DR08				*e*Sg	**Sb**	**13 14 34.6**	**-1.4**
DR08				IAML		13 14 38.2	
	comp=N,4μm,0.2s						
BANI	**BANI**	**2.73**	**255**	*e*Pg	**Pb**	**13 14 13.2**	**-1.5**
BANI				*e*Sg	**Sb**	**13 14 48.7**	**+0.6**
BANI				IAML		13 14 58.1	
	comp=N,182nm,0.2s						
ABDR	**Alto Bandera**	**2.90**	**264**	*e*Pg	**Pb**	**13 14 15.9**	**-1.8**
ABDR				*e*Sg	**Sb**	**13 14 53.8**	**+0.7**
ABDR				IAML		13 15 04.6	
	comp=N,145nm,0.3s						
LUDR	**Luperon**	**3.27**	**284**	*e*Pg	**Pb**	**13 14 23.1**	**-0.6**
LOPP1	**Punta Rusia, P**	**3.48**	**282**	*i* P	**Pn**	**13 14 21.6**	**+1.8**
LOPP1				*e*S	**Sn**	**13 15 01.0**	**0.0**
LOPP1				IAML		13 15 07.1	
	comp=Z,36nm,0.6s						
SDDR	**Presa de Saban**	**3.50**	**268**	*i* P	**Pn**	**13 14 22.7**	**+2.5**
SDDR				IAML		13 15 20.4	
	comp=Z,53nm,0.6s						
SDDR	**Presa de Saban**	**3.50**	**268**	*e*Pg	**Pb**	**13 14 26.9**	**-1.0**
SDDR				*e*Sg	**Sb**	**13 15 11.0**	**+0.6**
SDDR				IAML		13 15 17.0	
	comp=N,66nm,0.6s						
LOVI	**El Cajuil, Ovi**	**3.83**	**250**	*i* P	**Pn**	**13 14 27.4**	**+2.9**
LOVI				*e*S	**Sn**	**13 15 11.2**	**+1.7**
LOVI				IAML		13 15 20.9	
	comp=Z,78nm,1.2s						
LOBH	**Bahia de las A**	**4.05**	**252**	*i* P	**Pn**	**13 14 30.7**	**+3.1**
LOBH				*e*S	**Sn**	**13 15 16.8**	**+1.8**
LOBH				IAML		13 15 25.9	
	comp=Z,61nm,1.6s						
GRTK	**Grand Turk**	**4.08**	**306**	*i* P	**Pn**	**13 14 28.4**	**+0.4**
GRTK				*e*S	**Sn**	**13 15 13.5**	**-2.3**

ISK ***12*** *13:34:26.3, 38.°33N×40.°88E, h5km, ML4.0/30*

IDC ***12*** *13:34:26.1±0.8, 38.°35N×40.°86E, h0km, mb3.9/14, mbtmp4.0/22, ML4.0/7, MS3.1/14, Error ellipse: s-maj=14.6km s-min=8.3km az=158.0*

GII ***12*** *13:34:27.2±0.0, 38.°31N×40.°93E, h5km, Mws4.2, confirmed*

AFAD ***12*** *13:34:27.1, 38.°32N×40.°83E, h6km±2km, MW4.2*

NEIC ***12*** *13:34:28.4±1.4, 38.°26N±0.°04×40.°91E±0.°06, h10km±4km, mb4.1/16, Error ellipse: s-maj=7.8km s-min=5.2km az=51.0*

ISC 12 13:34:26.5±1.2,**38.°30N**±0.°02×**40.°86E**±0.°02,**h0**km±8km, **n139,**σ1s**38**/155,**mb4.0**/18,**MS3.0**/8,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVAN	**Silvan-Diyarba**	**0.31**	**120**	P	**Pg**	**13 34 33.3**	**+0.9**
SVAN					**Sg**	**13 34 38.9**	**-1.5**
SVAN	**Silvan-Diyarba**	**0.31**	**120**	P	**Pb**	**13 34 33.8**	**-1.0**
SVAN				S	**Sb**	**13 34 38.5**	**-2.0**
BTMN	**Batman**	**0.53**	**142**	P	**Pb**	**13 34 38.3**	**-0.3**
BTMN				S	**Sb**	**13 34 47.5**	**+0.7**
MUSM	**Mu-Merkez**	**0.66**	**50**	P	**Pb**	**13 34 40.0**	**-1.0**
MUSM				S	**Sg**	**13 34 47.2**	**-0.6**
SLHN	**Bingol, Solhan**	**0.67**	**11**	P	**Pg**	**13 34 39.8**	**+0.6**
SLHN				S	**Sg**	**13 34 46.5**	**-1.4**
KOVA	**Elazig, Kovanc**	**0.91**	**296**	P	**Pg**	**13 34 44.6**	**+0.6**
KOVA				S	**Sg**	**13 34 57.0**	**+1.2**
GURO	**Guroymak-BITLI**	**0.95**	**75**		**Pg**	**13 34 45.1**	**+0.3**
GURO	**Guroymak-BITLI**	**0.95**	**75**	Pg	**Pg**	**13 34 44.9**	**+0.1**
GURO				Sg	**Sb**	**13 34 59.4**	**+0.2**
MARD	**Mardin**	**0.99**	**184**		**Pb**	**13 34 46.5**	**0.0**
MARD	**Mardin**	**0.99**	**184**	P	**Pb**	**13 34 46.6**	**0.0**
MIDY	**Mardin/Midyat-**	**0.99**	**154**	P	**Pb**	**13 34 46.7**	**+0.1**
MIDY				S	**Sb**	**13 35 00.4**	**+0.2**
BLIS	**Bitlis-Merkez**	**0.99**	**83**	P	**Pb**	**13 34 46.6**	**0.0**
KARO	**Karliova-Bingo**	**1.01**	**8**	Pg	**Pg**	**13 34 45.7**	**-0.2**
KARO				Sg	**Sb**	**13 35 01.2**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.16**	**348**	Pn	**Pg**	**13 34 48.1**	**-0.6**
TNCL	**Tunceli-Merkez**	**1.31**	**309**	P	**Pg**	**13 34 51.8**	**+0.2**
TNCL				S	**Sn**	**13 35 10.8**	**+0.5**
PERV	**Siirt/Pervari-**	**1.37**	**105**	P	**Pb**	**13 34 53.3**	**+0.2**
PERV				S	**Sn**	**13 35 13.1**	**+1.2**
SIRN	**Sırnak**	**1.47**	**123**	P	**Pn**	**13 34 54.3**	**0.0**
SIRN				S	**Sb**	**13 35 13.8**	**-0.1**
ELZG	**Elazig**	**1.48**	**278**	P	**Pn**	**13 34 54.8**	**+0.2**
ELZG				S	**Sg**	**13 35 12.4**	**-1.8**
ADCV	**BITLIS_Adilcev**	**1.55**	**70**	P	**Pg**	**13 34 56.5**	**+0.4**
ADCV				S	**Sg**	**13 35 19.3**	**+3.1**
MLAZ	**Malazgirt-MUS**	**1.56**	**57**	Pn	**Pb**	**13 34 55.9**	**-0.5**
AKDM	**Akdamar-Van**	**1.67**	**89**	Pn	**Pb**	**13 34 57.7**	**-0.4**
NARI	**Adyaman-Kaht**	**1.71**	**256**	P	**Pn**	**13 34 57.9**	**+0.4**
NARI				S	**Sb**	**13 35 20.8**	**+0.1**
HANM	**anlurfa/Hi**	**1.72**	**246**	P	**Pn**	**13 34 57.8**	**0.0**
HANM				S	**Sn**	**13 35 20.5**	**+0.1**
GEVA	**Gevas**	**1.73**	**89**		**Pn**	**13 34 58.1**	**+0.2**
GEVA	**Gevas**	**1.73**	**89**	P	**Pb**	**13 34 59.3**	**+0.1**
GEVA				S	**Sg**	**13 35 24.1**	**+2.1**
KOPT	**Kop Dagi**	**1.73**	**351**		**Pb**	**13 34 59.1**	**-0.3**
KOPT	**Kop Dagi**	**1.73**	**351**	P	**Pg**	**13 34 59.6**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.85**	**24**	Pn	**Pn**	**13 35 00.0**	**+0.4**
SANL	**SANLIURFA_Merk**	**1.86**	**233**	P	**Pn**	**13 35 00.1**	**+0.5**
SANL				S	**Sn**	**13 35 24.6**	**+0.7**
TVAN	**Van**	**2.01**	**83**	P	**Pb**	**13 35 03.6**	**-0.5**
AGRB	**Hanur-Agry**	**2.09**	**52**	Pn	**Pn**	**13 35 03.3**	**+0.4**
ILIC	**ilic-Erzincan**	**2.12**	**303**	Pn	**Pn**	**13 35 04.2**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**2.16**	**345**	Pn	**Pn**	**13 35 04.4**	**+0.6**
VMUR	**Van-Muradiye**	**2.23**	**71**	P	**Pb**	**13 35 06.8**	**-1.0**
CUKT	**Cukurca**	**2.42**	**115**	Pn	**Pn**	**13 35 08.4**	**+1.0**
SENK	**Senkaya-Erzuru**	**2.53**	**27**	Pn	**Pn**	**13 35 09.7**	**+0.7**
CLDR	**Caldiran**	**2.53**	**70**	Pn	**Pn**	**13 35 09.9**	**+0.9**
CHOM	**Cayeli-Rize**	**2.79**	**358**	Pn	**Pn**	**13 35 13.4**	**+1.0**
KHMN	**Narli-Kahraman**	**3.07**	**254**	Pn	**Pn**	**13 35 17.9**	**+1.7**
GAZ	**Gaziantep**	**3.10**	**250**		**Pn**	**13 35 17.1**	**+0.4**
GAZ	**Gaziantep**	**3.10**	**250**	Pn	**Pn**	**13 35 18.6**	**+1.9**
TASB	**TASBURUN-IGDIR**	**3.12**	**56**	Pn	**Pn**	**13 35 17.9**	**+1.0**
BCA	**Borcka**	**3.19**	**10**	Pn	**Pn**	**13 35 18.9**	**+1.0**
SVSK	**Karacayir**	**3.41**	**299**	Pn	**Pn**	**13 35 22.4**	**+1.6**
RSDY	**Resadiye-TOKAT**	**3.44**	**308**	Pn	**Pn**	**13 35 23.2**	**+1.8**
GNI	**Garni**	**3.53**	**57**		**Pn**	**13 35 23.2**	**

AKTO LR LR 13 46 54.4
comp=Z,93nm,20.0s,baz=262,slow=44
2.4nm,0.5s
AB31 Akbulak array 17.55 45 P 13 38 33.0 -0.5
ABKAR Akbulak array 17.55 45 P 13 38 32.8 -0.7
UOSS Minazif 18.62 131 P **P 13 38 43.7 -1.8**
UOSS IAmb IAmb 13 38 55.9
comp=Z,15nm,0.8s
TIP Timpagrande 18.81 280 P **P 13 38 46.6 -1.0**
CUC Castrocucco 19.48 283 P **Pn 13 38 56.4 +0.4**
CUC IAmb IAmb 13 39 03.2
comp=Z,7.4nm,0.8s
SGRT San Giovanni R 19.52 288 P **Pn 13 38 56.6 +0.1**
SGRT IAmb IAmb 13 39 27.4
comp=Z,5.1nm,0.9s
ARSA Arzberg 20.56 304 P Pn 13 39 07.8 -0.9
KIRV Kirov 21.04 13 P **P 13 39 10.7 -0.9**
comp=Z,7.6nm,0.5s,baz=214,slow=11,SNR=4.3
KIRV LR LR 13 47 59.3
comp=Z,121nm,19.6s,baz=204,slow=39
comp=Z,7.6nm,0.5s
WSAR Wadi Sarin 21.36 130 P **P 13 39 13.8 -1.5**
baz=323,slow=20,SNR=5.0
NRCA Norcia 21.51 291 P **P 13 39 17.4 +0.5**
ARTI Arti 21.53 27 P **P 13 39 17.0 +0.1**
ARTI Arti 21.53 27 P **P 13 39 14.7 -2.2**
comp=Z,1.6nm,0.4s,baz=220,slow=5.7,SNR=16
ARTI LR LR 13 49 36.4
comp=Z,74nm,18.1s,baz=240,slow=42
comp=Z,1.6nm,0.4s
GERES GERESS Array B 22.20 307 P **P 13 39 23.5 -0.9**
comp=Z,0.5nm,0.5s,baz=120,slow=9.5,SNR=4.2
comp=Z,0.5nm,0.5s
STAL STALIGIAL 22.21 300 P **P 13 39 26.0 +1.6**
STAL IAmb IAmb 13 39 34.9
comp=Z,7.6nm,1.2s
CIMO Cimolais 22.40 300 P **P 13 39 27.2 +0.8**
CIMO IAmb IAmb 13 39 36.8
comp=Z,4.6nm,1.3s
CLL Collm 23.49 313 *e*P **P 13 39 39.0 +1.4**
DAVOX Davos/Dischmat 24.22 300 LR LR 13 50 03.1
comp=Z,22nm,19.9s,baz=262,slow=39
FINES FINESS Array B 24.92 343 P **P 13 39 49.9 -1.0**
comp=Z,3.0nm,0.8s,baz=141,slow=12,SNR=8.2
FINES LR LR 13 50 53.4
comp=Z,45nm,19.3s,baz=76,slow=40
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 25.12 45 P **P 13 39 52.5 -0.3**
comp=Z,0.5nm,0.4s,baz=234,slow=18,SNR=5.3
comp=Z,0.5nm,0.4s
KEST Kesra 25.23 274 P **P 13 39 54.5 +0.4**
KEST IAmb IAmb 13 39 58.0
comp=Z,7.4nm,1.0s
KEST Kesra 25.23 274 P **P 13 39 54.6 +0.5**
comp=Z,4.5nm,0.8s,baz=124,slow=7.3,SNR=8.7
comp=Z,4.5nm,0.8s
HFS Hagfors 27.78 331 P **P 13 40 17.4 +0.7**
comp=Z,4.9nm,1.0s,baz=195,slow=17,SNR=3.2
HFS LR LR 13 53 40.5
comp=Z,37nm,18.7s,baz=188,slow=42
comp=Z,4.9nm,1.0s
KURBB Kurchatov Arra 29.25 53 P **P 13 40 30.8 +0.9**
comp=Z,1.6nm,0.7s,baz=266,slow=9.1,SNR=16
comp=Z,1.6nm,0.7s
NOA NORSAR Array B 29.31 331 P **P 13 40 30.3 0.0**
comp=Z,1.0nm,0.8s,baz=52,slow=17,SNR=3.0
NOA LR LR 13 53 36.2
comp=Z,21nm,18.5s,baz=125,slow=39
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 32.36 350 P **P 13 40 55.7 -1.5**
comp=Z,2.5nm,0.9s,baz=143,slow=9.3,SNR=1.3
ARCES LR LR 13 53 56.3
comp=Z,54nm,20.2s,baz=132,slow=36
comp=Z,2.5nm,0.9s
EKA Eskdalemuir Ar 33.92 315 P **P 13 41 11.0 +0.1**
comp=Z,0.3nm,0.4s,baz=117,slow=8.5,SNR=1.9
comp=Z,0.3nm,0.4s
ESDC Sonseca Array 34.59 287 P **P 13 41 16.1 -1.0**
comp=Z,0.8nm,0.8s,baz=64,slow=7.4,SNR=5.5
ESDC LR LR 13 56 55.7
comp=Z,24nm,18.5s,baz=19,slow=39
comp=Z,0.8nm,0.8s
SPITS Spitsbergen Ar 41.27 353 P **P 13 42 10.2 -2.7**
comp=Z,4.8nm,0.8s,baz=145,slow=8.4,SNR=2.1
comp=Z,4.8nm,0.8s
HHC Hu-ho-hao-te 53.17 63 *e*P **P 13 43 45.9 -0.4**
D25K Kavik River 72.56 3 P **P 13 45 55.5 +0.7**
IMAR Indian Mountai 75.43 6 P **P 13 46 12.1 +0.4**
J20K Nowinta River 77.17 7 P **P 13 46 22.5 +1.0**
J20K IAmb IAmb 13 46 29.2
comp=Z,5.3nm,1.4s
J30M Hart River 77.43 359 P **P 13 46 23.9 +0.7**
J30M IAmb IAmb 13 46 24.4
comp=Z,2.8nm,0.9s
YKA Yellowknife Ay 77.62 349 P **P 13 46 24.7 +0.6**
comp=Z,1.1nm,0.8s,baz=28,slow=6.2,SNR=4.6
comp=Z,1.1nm,0.8s
M17K Holitna River 79.53 9 P **P 13 46 35.4 +0.7**
N19K Bonanza Creek 80.44 8 P **P 13 46 40.6 +0.9**

IDC ***12*** *13:36:54.8±0.7,25°.35N×67°.79E, h0km, mb4.0/21, mbtmp4.0/21, ML1.4/1, MS3.5/14, Error ellipse: s-maj=17.9km s-min=14.2km az=31.0*
MOS ***12*** *13:36:56.0±1.3,25°.52N×67°.85E, h11km, mb4.4/18, Error ellipse: s-maj=10.6km s-min=5.7km az=89.7*
NEIC ***12*** *13:36:58.5±1.7,25°.55N±0°.06×67°.82E±0°.08, h10km±1km, mb4.5/26, Error ellipse: s-maj=13.6km s-min=8.8km az=239.0*

ISC 12 13:36:57.3±0.4,**25°.48N**±0°.05×**67°.91E**±0°.05,**h10**km,**n121,**
σ1ᵎ**72**/119,**mb4.2**/45,**MS3.4**/15,**7C-8D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JASL	**Jaisalmer**	**3.05**	**61**	*e*P		**Pb**	**13 37 50.0**	**-1.7**
JASL				*e*S		**Sn**	**13 38 23.9**	**+1.7**
JASL				IAML			13 38 24.8	
	comp=E,2μm,0.5s							
JASL				IAML			13 38 24.8	
	comp=N,2μm,0.5s							
UDPR	**Udaipur**	**5.34**	**98**	*e*P		**Pn**	**13 38 20.4**	**+3.3**
UDPR				*e*S		**Sn**	**13 39 18.7**	**-0.2**
UDPR				IAML			13 39 22.0	
	comp=N,994nm,0.7s							
UDPR				IAML			13 39 22.1	
	comp=E,283nm,0.6s							
BHV	**Bhavnagar**	**5.37**	**133**	*e*P		**Pn**	**13 38 20.8**	**+3.2**
BHV				*e*S		**Sn**	**13 39 20.3**	**+0.8**
BHV				IAML			13 39 21.2	
	comp=N,395nm,0.6s							
BKNR	**BIKANER**	**5.42**	**61**	*e*P		**Pn**	**13 38 22.1**	**+3.8**
BKNR				*e*S		**Sn**	**13 39 19.8**	**-1.0**
BKNR				IAML			13 39 20.1	
	comp=E,396nm,0.2s							
BKNR				IAML			13 39 20.2	
	comp=N,437nm,0.2s							
WSAR	**Wadi Sarin**	**8.75**	**257**	Pn		**Pn**	**13 39 02.2**	**-1.8**
	baz=53,slow=20,SNR=1.7							
WSAR				Sn		Sn	13 40 31.6	-11
	baz=338,slow=24,SNR=1.2							
POO	**Poona**	**8.84**	**140**	*e*P		**Pn**	**13 39 09.8**	**+4.5**
POO				*e*S		**Sn**	**13 40 40.1**	**-5.0**
POO				IAML			13 40 41.3	
	comp=E,244nm,0.2s							
POO				IAML			13 40 41.4	
	comp=N,235nm,0.2s							
BHPL	**Bhopal**	**8.96**	**102**	*e*P		**Pn**	**13 39 07.6**	**+0.7**
BHPL				*e*S		**Sn**	**13 40 43.7**	**-4.2**
BHPL				IAML			13 40 44.7	
	comp=N,458nm,0.3s							
BHPL				IAML			13 40 45.0	
	comp=E,355nm,0.3s							
NIL	**Nilore**	**9.37**	**28**			**Pn**	**13 39 12.0**	**-0.5**
NIL	**Nilore**	**9.37**	**28**	P		**Pn**	**13 39 12.0**	**-0.5**
JMU	**Jammu**	**9.45**	**39**	*e*P		**Pn**	**13 39 14.2**	**+0.7**
JMU				*e*S		**Sn**	**13 40 55.5**	**-4.3**
JMU				IAML			13 40 56.1	
	comp=N,350nm,0.2s							
JMU				IAML			13 40 56.2	
	comp=E,227nm,0.3s							
SMLA	**Simla**	**9.91**	**53**	*e*P		**Pn**	**13 39 21.9**	**+2.1**
SMLA				*e*S		**Sn**	**13 41 05.5**	**-5.5**
SMLA				IAML			13 41 12.2	
	comp=E,320nm,0.5s							
SMLA				IAML			13 41 12.2	
	comp=N,493nm,0.6s							
KAD	**Karad**	**10.01**	**143**	*e*P		**Pn**	**13 39 24.7**	**+3.3**
KAD				*e*S		**Sn**	**13 41 08.7**	**-5.1**
KAD				IAML			13 41 10.3	
	comp=N,436nm,0.3s							
KAD				IAML			13 41 10.3	
	comp=E,240nm,0.3s							
UOSS	**Minazif**	**10.61**	**270**	Pn		**Pn**	**13 39 29.6**	**+0.1**
KLP	**Kalpa**	**10.91**	**54**	*e*P		**Pn**	**13 39 37.0**	**+3.2**
KLP				⇓*e*S		Sn	13 41 26.8	-9.3
KLP				IAML			13 41 27.4	
	comp=E,249nm,0.2s							
KLP				IAML			13 41 27.4	
	comp=N,252nm,0.3s							
ARSB	**Arslanbob**	**16.35**	**14**			**Pn**	**13 40 46.1**	**-1.0**
ARSB	**Arslanbob**	**16.35**	**14**	P		**Pn**	**13 40 46.1**	**-1.0**
ARSB				pmax	pmax			
	comp=Z,8.0nm,0.8s							
IUG	**Iuzhnay**	**16.71**	**5**	*e*P		**Pn**	**13 40 49.9**	**-1.8**
KK31	**Karatay Array**	**17.71**	**6**			**Pn**	**13 41 03.4**	**-0.6**
KK31	**Karatay Array**	**17.71**	**6**	P		**Pn**	**13 41 03.4**	**-0.6**
KK31				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**17.71**	**6**	Pn		**Pn**	**13 41 03.3**	**-0.7**
KKAR	**Karatay Array**	**17.71**	**6**	P		**Pn**	**13 41 03.3**	**-0.7**
AAK	**Ala-Archa**	**17.95**	**16**	LR	LR	LR	13 49 07.9	
	comp=Z,65nm,19.6s,baz=202,slow=40							
AAK	**Ala-Archa**	**17.95**	**16**	*ce*P		**Pn**	**13 41 07.3**	**+0.1**
AAK				pmax	pmax			
	comp=Z,14nm,1.7s							
TARG	**Taragay, Kyrgy**	**18.16**	**24**	P		**P**	**13 41 10.7**	**+0.4**
TARG	**Taragay, Kyrgy**	**18.16**	**24**	P		**P**	**13 41 10.7**	**+0.4**
TARG				pmax	pmax			
	comp=Z,6.0nm,0.8s							
UZB	**Uzynbulak**	**19.84**	**25**	*e*P		**P**	**13 41 28.5**	**+0.1**
UZB				pmax	pmax			
	comp=Z,13nm,1.6s							
SHLS	**Shalkode**	**20.01**	**25**	*e*P		**P**	**13 41 30.7**	**+0.4**
SHLS				pmax	pmax			
	comp=Z,36nm,3.2s							
ARXS	**Arharly**	**20.35**	**21**	*e*P		**P**	**13 41 32.4**	**-1.6**
RAYN	**Ar Rayn**	**20.48**	**269**	P		**P**	**13 41 34.8**	**-0.7**
RAYN	**Ar Rayn**	**20.48**	**269**	P		**P**	**13 41 34.8**	**-0.7**
RAYN				pmax	pmax			
	comp=Z,9.0nm,0.9s							
LSA	**Lhasa**	**21.01**	**73**	P		**P**	**13 41 37.8**	**-3.9**
PALK	**Pallekele**	**21.84**	**144**	LR		LR	13 51 17.8	
	comp=Z,204nm,18.4s,baz=328,slow=40							
MK31	**Makanchi Array**	**24.16**	**25**	*de*P		**P**	**13 42 13.9**	**+0.3**
MKAR	**Makanchi Array**	**24.16**	**25**			**P**	**13 42 13.8**	**+0.2**
MKAR	**Makanchi Array**	**24.16**	**25**	P		**P**	**13 42 14.1**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=208,slow=9.2,SNR=16							
	comp=Z,2.5nm,0.5s							
MKAR	**Makanchi Array**	**24.16**	**25**	*ce*P		**P**	**13 42 14.1**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
GNI	**Gani**	**24.25**	**313**	LR		LR	13 53 40.5	
	comp=Z,78nm,19.4s,baz=104,slow=41							
AB31	**Akbulak array**	**24.53**	**347**			**P**	**13 42 17.8**	**+0.9**
AB31				IAmb		IAmb	13 42 26.4	
	comp=Z,4.8nm,0.8s							
ABKAR	**Akbulak array**	**24.53**	**347**			**P**	**13 42 18.1**	**+1.1**
AKTO	**Aktyubinsk**	**26.06**	**346**	P		**P**	**13 42 30.1**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=179,slow=8.0,SNR=3.6							
	comp=Z,0.9nm,0.3s							
KURBB	**Kurchatov Arra**	**26.40**	**15**	P		**P**	**13 42 34.0**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=210,slow=9.0,SNR=18							
	comp=Z,3.9nm,0.8s							
KURK	**Kurchatov**	**26.51**	**15**			**P**	**13 42 35.3**	**+0.5**
KURK				IAmb		IAmb	13 42 37.7	
	comp=Z,11nm,1.4s							
KURK	**Kurchatov**	**26.51**	**15**	⇓*e*P		**P**	**13 42 35.6**	**+0.8**
KURK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KBZ	**Khabaz**	**27.31**	**318**	P		**P**	**13 42 43.0**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=90,slow=8.1,SNR=6.1							
	comp=Z,3.1nm,0.9s							
KBZ	**Khabaz**	**27.31**	**318**	*de*P		**P**	**13 42 44.2**	**+2.0**
KBZ				pmax	pmax			
	comp=Z,8.0nm,1.3s							
KVAR	**Kislovodsk Arr**	**27.56**	**318**	LR		LR	13 55 32.9	
	comp=Z,67nm,21.7s,baz=267,slow=40							
KIV	**Kislovodsk**	**27.57**	**318**	*e*P		**P**	**13 42 44.0**	**-0.6**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,8.0nm,15.0s							
BVAR	**Borovoye Array**	**27.57**	**3**	P		**P**	**13 42 45.1**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=193,slow=12,SNR=6.7							
	comp=Z,0.8nm,0.4s							
BRVK	**Borovoye**	**27.60**	**3**	⇓*e*P		**P**	**13 42 44.0**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MMAI	**Mount Meron Ar**	**29.25**	**292**	LR		LR	13 56 57.4	
	comp=Z,103nm,20.3s,baz=99,slow=41							
EIL	**Elat**	**29.45**	**286**	LR		LR	13 58 42.6	
	comp=Z,102nm,18.6s,baz=72,slow=44							
CMAR	**Chiang Mai Arr**	**29.57**	**97**	P		**P**	**13 43 03.5**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=282,slow=9.2,SNR=5.2							
CMAR				LR		LR	13 56 35.5	
	comp=Z,78nm,20.0s,baz=290,slow=40							
	comp=Z,1.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**29.57**	**97**	*ce*P		**P**	**13 43 06.0**	**+3.4**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
PZH	**PanZhiHua**	**30.38**	**81**	P		**P**	**13 43 12.1**	**+2.3**
BELG	**Belogornoye**	**30.95**	**336**	*de*P		**P**	**13 43 14.9**	**+0.6**
BELG				pmax	pmax			
	comp=Z,5.0nm,1.4s							
ZALV	**Zalesovo Beam**	**31.10**	**19**	P		**P**	**13 43 15.7**	**0.0**
ZALV	**Zalesovo Beam**	**31.10**	**19**	P		**P**	**13 43 15.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=221,slow=8.5,SNR=6.3							
	comp=Z,1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**31.10**	**19**	*i* P		**P**	**13 43 18.0**	**+2.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BRTR	**Keskin Array B**	**31.96**	**305**	LR		LR	13 58 32.8	
	comp=Z,84nm,18.9s,baz=106,slow=41							
ISP	**Isparta**	**33.90**	**300**	⇑*e*P		**P**	**13 43 42.0**	**+1.4**
ISP				pmax	pmax			
	comp=Z,12nm,1.3s							
PSI	**Prapat**	**37.40**	**122**	LR		LR	13 59 21.7	
	comp=Z,85nm,20.8s,baz=331,slow=36							
MOS	**Moscow**	**37.41**	**332**	*e*P		**P**	**13 44 10.7**	**+0.4**
OBN	**Obninsk**	**37.47**	**331**	P		**P**	**13 44 12.1**	**+1.3**
	comp=Z,25nm,0.4s,baz=94,slow=5.1,SNR=3.3							
OBN	**Obninsk**	**37.47**	**331**	⇓*e*P		**P**	**13 44 12.7**	**+1.9**
OBN				*e*			13 45 34.3	
OBN				*e*			13 46 32.5	
OBN				pmax	pmax			
	comp=Z,11nm,0.5s							
OBN				MLR		MLR		
	comp=Z,35nm,16.0s							
SONM	**Songino Array**	**37.55**	**43**	P		**P**	**13 44 13.6**	**+1.8**
SONM	**Songino Array**	**37.55**	**43**	P		**P**	**13 44 13.3**	**+1.5**
	comp=Z,1.9nm,0.6s,baz=244,slow=8.5,SNR=7.4							
	comp=Z,1.9nm,0.6s							
SONM	**Songino Array**	**37.55**	**43**	P		**P**	**13 44 13.6**	**+1.8**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ULN	**Ulaanbaatar**	**37.97**	**44**	⇑*e*P		**P**	**13 44 16.1**	**+0.7**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.0s							
IDI	**Anoyia**	**38.12**	**295**	LR		LR	14 04 18.5	
	comp=Z,73nm,20.2s,baz=104,slow=43							
AKASG	**Malin Array Be**	**38.84**	**321**	P		**P**	**13 44 22.0**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=117,slow=7.0,SNR=9.3							
	comp=Z,1.7nm,0.6s							
AKASG	**Malin Array Be**	**38.84**	**321**	*ce*P		**P**	**13 44 23.1**	**+0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKBB	**Malin Array Si**	**38.84**	**321**	P		**P**	**13 44 22.0**	**-0.5**
AKBB				IAmb		IAmb	13 44 23.7	
	comp=Z,12nm,1.4s							
AKBB	**Malin Array Si**	**38.84**	**321**	⇓*e*P		**P**	**13 44 22.7**	**+0.2**
KIEV	**Kiev**	**38.85**	**321**	P		**P**	**13 44 21.9**	**-0.6**
KIEV				IAmb		IAmb	13 44 23.7	
	comp=Z,11nm,1.4s							
KIEV	**Kiev**	**38.85**	**321**	P		**P**	**13 44 21.9**	**-0.6**
KIEV				pmax	pmax			
	comp=Z,11nm,1.4s							
MLR	**Muntele Rosu**	**39.03**	**312**	P		**P**	**13 44 23.4**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=192,slow=1.9,SNR=7.1							
	comp=Z,3.8nm,0.6s							
HHC	**Hu-ho-hao-te**	**39.21**	**56**	*e*P		**P**	**13 44 26.4**	**+0.6**
HHC				pmax	pmax			
	comp=Z,6.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,170nm,4.4s							
HHC				pmax	pmax			
	comp=Z,19nm,0.6s							
HHC				pmax	pmax			
	comp=Z,190nm,4.6s							
BURAR	**Bucovina Array**	**40.13**	**315**	P		**P**	**13 44 33.4**	**0.0**
BURAR	**Bucovina Array**	**40.13**	**315**	P		**P**	**13 44 33.4**	**0.0**
BURAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KLMR	**Klimovskoe**	**40.33**	**339**	*e*P		**P**	**13 44 33.3**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,18nm,1.8s							
ITM	**Ithomi**	**40.62**	**298**	P		**P**	**13 44 38.2**	**+0.7**
TIP	**Timpagrande**	**44.77**	**301**	P		**P**	**13 45 12.5**	**+1.2**
TIP				IAmb		IAmb	13 45 19.5	
	comp=Z,8.8nm,1.3s							
NJ2	**Nanjing**	**44.80**	**69**	*e*P		**P**	**13 45 12.0**	**+0.5**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
FINES	**FINESS Array B**	**45.67**	**333**	P		**P**	**13 45 17.2**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=116,slow=8.9,SNR=6.0							
	comp=Z,0.9nm,0.5s							
VRAC	**Vranov**	**46.11**	**315**	LR		LR	14 09 20.5	
	comp=Z,28nm,18.6s,baz=112,slow=42							
GERES	**GERESS Array B**	**47.90**	**314**	P		**P**	**13 45 35.0**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=131,slow=4.1,SNR=5.9							
	comp=Z,0.4nm,0.5s							
GERES	**GERESS Array B**	**47.90**	**314**	P		**P**	**13 45 35.0**	**-0.8**
BRG	**Berggiesshubel**	**48.09**	**316**	*e*P		**P**	**13 45 39.6**	**+2.5**
BRG				Amp			13 45 41.3	
	comp=Z,11nm,1.5s							
GRA1	**Grafenberg Arr**	**49.63**	**315**	P		**P**	**13 45 49.5**	**+0.6**
GRF	**Grafenberg Arr**	**49.63**	**315**	P		**P**	**13 45 49.6**	**+0.6**
GRF				pmax	pmax			
	comp=Z,9.0nm,0.5s							
ARCES	**ARCESS Array B**	**50.56**	**342**	P		**P**	**13 45 56.3**	**+0.6**
ARCES				IAmb		IAmb	13 46 25.9	
	comp=Z,13nm,1.3s							
ARCES	**ARCESS Array B**	**50.56**	**342**	P		**P**	**13 45 55.5**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=134,slow=5.2,SNR=4.6							
ARCES				LR		LR	14 09 04.7	
	comp=Z,62nm,19.5s,baz=108,slow=38							
	comp=Z,1.7nm,0.7s							
ARCES	**ARCESS Array B**	**50.56**	**342**	P		**P**	**13 45 56.3**	**+0.6**
ARCES				pmax	pmax			
	comp=Z,13nm,1.3s							
TUE	**Stuetta**	**50.58**	**310**	P		**P**	**13 45 57.2**	**+0.8**
TUE				IAmb		IAmb	13 46 07.2	
	comp=Z,5.1nm,1.1s							
HFS	**Hagfors**	**50.58**	**328**	P		**P**	**13 45 55.7**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=110,slow=12,SNR=6.4							
	comp=Z,2.3nm,0.7s							
BNX	**BinXian**	**51.19**	**51**	⇑P		**P**	**13 45 59.4**	**-1.4**
BNX				pmax	pmax			
	comp=Z,7.0nm,2.4s							
HEH	**HeiHe**	**51.50**	**45**	*e*P		**P**	**13 46 03.7**	**+0.7**
NOA	**NORSAR Array B**	**52.02**	**329**	P		**P**	**13 46 04.6**	**-2.2**
	comp=Z,0.9nm,0.7s,baz=112,slow=7.3,SNR=2.3							
	comp=Z,0.9nm,0.7s							
EKA	**Eskdalemuir Ar**	**58.75**	**321**	P		**P**	**13 46 54.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=100,slow=7.5,SNR=4.0							
	comp=Z,0.4nm,0.5s							
ESDC	**Sonseca Array**	**60.72**	**303**	P		**P**	**13 47 07.5**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=81,slow=7.6,SNR=4.8							
ESDC				LR		LR	14 15 34.2	
	comp=Z,24nm,18.1s,baz=6.0,slow=38							
	comp=Z,0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**63.14**	**272**	P		**P**	**13 47 23.9**	**-1.9**
GIRL	**Giralia**	**65.62**	**133**	P		**P**	**13 47 44.2**	**+2.5**
BOSA	**Boshof**	**67.63**	**220**	P		**P**	**13 47 52.7**	**-2.0**
	comp=Z,2.9nm,0.9s,baz=46,slow=4.9,SNR=3.2							
	comp=Z,2.9nm,0.9s							
MORW	**Morawa**	**71.26**	**136**	P		**P**	**13 48 18.3**	**+1.3**
DBIC	**Dimbokro**	**71.62**	**269**	LR		LR	14 23 28.4	
	comp=Z,34nm,18.2s,baz=116,slow=39							
WRA	**Warramunga Arr**	**76.76**	**118**	P		**P**	**13 48 59.9**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=312,slow=5.2,SNR=16							
	comp=Z,2.4nm,0.8s							
WRA	**Warramunga Arr**	**78.76**	**118**	*i* P		**P**	**13 49 00.6**	**0.0**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ASAR	**Alice Springs**	**80.42**	**122**	P		**P**	**13 49 09.4**	**-0.2**
ASAR	**Alice Springs**	**80.42**	**122**	P		**P**	**13 49 08.6**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=309,slow=5.3,SNR=25							
	comp=Z,1.5nm,0.7s							
ASAR	**Alice Springs**	**80.42**	**122**	P		**P**	**13 49 09.4**	**-0.2**
C23K	**Itkillik River**	**81.02**	**13**	P		**P**	**13 49 12.6**	**+0.6**
IMAR	**Indian Mountai**	**83.45**	**16**	P		**P**	**13 49 24.6**	**-0.3**
E28M	**Babbage River**	**84.05**	**10**	P		**P**	**13 49 29.2**	**+1.4**
ILAR	**Eielson Array**	**86.07**	**14**	P		**P**	**13 49 36.4**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=325,slow=5.7,SNR=2.6							
	comp=Z,0.3nm,0.6s							
H29M	**Whitestone**	**86.42**	**10**	P		**P**	**13 49 40.3**	**+0.6**
H29M				IAmb		IAmb	13 49 54.9	
	comp=Z,4.4nm,1.1s							
J26L	**Joseph Creek**	**87.02**	**13**	P		**P**	**13 49 43.5**	**+0.7**
J26L				IAmb		IAmb	13 49 44.0	
	comp=Z,1.9nm,0.9s							
I30M	**Mount Dempster**	**87.66**	**10**	P		**P**	**13 49 46.0**	**+0.1**
I30M				IAmb		IAmb	13 50 08.8	
	comp=Z,7.5nm,1.4s							
BCAR	**Beaver Creek A**	**88.66**	**13**	P		**P**	**13 49 52.1**	**+1.5**
L29M	**L29M**	**89.32**	**12**	P		**P**	**13 49 55.1**	**+1.3**
L29M				IAmb		IAmb	13 50 29.8	
	comp=Z,4.8nm,1.2s							
M29M	**Somme Creek**	**89.88**	**12**	P		**P**	**13 49 57.0**	**+0.6**
M29M				IAmb		IAmb	13 50 00.3	
	comp=Z,1.6nm,0.7s							
VRDI	**Verde Repeater**	**89.94**	**15**	P		**P**	**13 49 56.5**	**-0.3**
VRDI				IAmb		IAmb	13 50 02.0	
	comp=Z,2.5nm,0.8s							

ISK ***12*** *13:43:59.7, 38°.29N×40°.89E, h5km, ML2.5/9*
AFAD ***12*** *13:44:00.2, 38°.32N×40°.88E, h7km±2km, ML2.4*

ISC 12 13:44:00.3±1.1,**38°.32N**±0°.03×**40°.88E**±0°.03,**h7**km±10km,
n21,σ0ᵎ**84**/35,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SVAN	**Silvan-Diyarba**	**0.30**	**124**	Pg		**Pg**	**13 44 06.3**	**+0.1**
SVA

SIRN				*i* IAML		13 44 51.0		
	comp=N,93nm,0.3s							
AKDM	**Akdamar-Van**	**1.65**	**89**	Pn	**Pb**	**13 44 30.7**	**-0.5**	
GEVA	**Gevas**	**1.72**	**90**	P	**Pb**	**13 44 32.1**	**-0.2**	
GEVA				S	**Sg**	**13 44 56.4**	**+1.0**	
GEVA				*i* IAML		13 44 59.0		
	comp=E,42nm,0.4s							
KOPR	**Koprukoy-ERZUR**	**1.83**	**24**	Pn	**Pb**	**13 44 33.9**	**-0.4**	
AGRB	**Hanur-Agry**	**2.07**	**52**	Pn	**Pb**	**13 44 37.3**	**-1.0**	
CUKT	**Cukurca**	**2.41**	**115**	Pn	**Pn**	**13 44 41.8**	**+1.5**	
GAZ	**Gaziantep**	**3.12**	**250**	Pn	**Pn**	**13 44 51.9**	**+1.9**	

*BJI **12** 13:57:48.1,5˚.58S×134˚.66E,h29km,mB5.2/8,mb4.7/37, Ms4.8/3,Ms7 4.5/3*
*IDC **12** 13:57:48.4±0.6,5˚.25S×134˚.28E,h0km,mb4.1/14, mbtmp4.2/19,ML4.3/4,MS3.6/11,Error ellipse: s-maj=25.2km s-min=14.3km az=78.0*
*DJA **12** 13:57:52.1±0.9,5˚.5±2˚×13˚.4E±˚,h15km±7km,M5.0/35, mb4.8/35,mB5.5/9,MLv5.1/15,Mw(mB)4.9/9*
*NEIC **12** 13:57:54.4±1.6,5˚.12S±0˚.07×134˚.25E±0˚.07,h29km±5km, mb4.7/40,Error ellipse: s-maj=11.2km s-min=9.4km az=216.0*

ISC 12 13:57:53.4±0.4,5˚20S±0˚.05×134˚22E±0˚.05,h28km,n112, σ1$41/93,mb4.6/42,MS3.7/10,1C,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.61**	**341**	P	**Pn**	**13 58 18.6**	**-1.4**
KMPI				S	**Sn**	**13 58 37.4**	**-2.5**
FAKI	**Fak Fak**	**3.00**	**319**		**Pn**	**13 58 38.4**	**-0.6**
FAKI	**Fak Fak**	**3.00**	**319**	P	**Pn**	**13 58 38.5**	**-0.6**
FAKI				S	**Sn**	**13 59 11.2**	**-3.0**
RKPI	**Ransiki, Papua**	**3.66**	**359**	P	**Pn**	**13 58 46.9**	**-1.4**
SRPI	**Serui, Papua**	**3.87**	**31**	P	**Pn**	**13 58 50.2**	**-0.9**
SAUI	**Saumlaki**	**4.01**	**226**	Pn	Pn	13 58 49.0	-4.0
SAUI	**Saumlaki**	**4.01**	**226**	P	**Pn**	**13 58 53.4**	**+0.4**
BNDI	**Bandanaira**	**4.35**	**279**	P	**Pn**	**13 58 59.4**	**+1.7**
BAKI	**Biak**	**4.40**	**25**	P	**Pn**	**13 58 58.4**	**0.0**
SWI	**Sorong**	**5.22**	**325**	P	**Pn**	**13 59 08.9**	**-0.8**
SMPI	**Sarmi**	**5.50**	**55**	P	**Pn**	**13 59 14.5**	**+1.0**
	0.7nm58nm,0.6s						
MSAI	**Masohi**	**5.59**	**289**	P	**Pn**	**13 59 14.6**	**-0.1**
AAI	**Ambon**	**6.19**	**284**	P	**Pn**	**13 59 22.5**	**-0.5**
	1.0nm3µm145nm,0.7s						
GENI	**Genyem**	**6.47**	**67**	P	**Pn**	**13 59 27.4**	**+0.5**
	0.8nm111nm,0.6s						
JAY	**Jayapura**	**7.00**	**68**	Pn	**Pn**	**13 59 32.0**	**-2.1**
	3.1nm,0.3s,baz=212,slow=10,SNR=18						
JAY				Sn	**Sn**	**14 00 50.6**	**-2.2**
	2.0nm,0.3s,baz=241,slow=12,SNR=2.1 7.9nm,0.5s						
NLAI	**Namlea**	**7.36**	**285**	P	**Pn**	**13 59 40.0**	**+0.9**
MTN	**Manton Dam**	**8.19**	**202**		**Pn**	**13 59 51.5**	**+1.1**
SANI	**Sanana**	**8.79**	**291**	P	**Pn**	**13 59 57.4**	**-1.3**
	85nm,0.7s						
TNTI	**Ternate**	**9.06**	**311**		**Pn**	**14 00 03.2**	**+0.8**
TNTI	**Ternate**	**9.06**	**311**	P	**Pn**	**14 00 02.9**	**+0.5**
	44nm,0.8s						
SOEI	**Soe**	**10.86**	**245**		**Pn**	**14 00 24.3**	**-2.8**
SOEI	**Soe**	**10.86**	**245**	P	**Pn**	**14 00 24.4**	**-2.8**
KNRA	**Kununurra**	**11.71**	**207**		**Pn**	**14 00 38.0**	**-0.7**
LUWI	**Luwuk**	**12.15**	**289**	P	**Pn**	**14 00 43.5**	**-1.3**
	102nm,1.1s						
COEN	**Coen**	**12.39**	**135**		Pn	14 00 45.8	-2.3
EDFI	**Ende, Flores**	**12.93**	**253**	P	**Pn**	**14 00 56.0**	**+0.5**
	15nm,0.7s						
PMG	**Port Moresby**	**13.49**	**109**		**Pn**	**14 01 03.0**	**-0.1**
PMG	**Port Moresby**	**13.49**	**109**	Pn	**Pn**	**14 01 01.6**	**-1.5**
	7.7nm,0.6s,baz=314,slow=10.0,SNR=4.9						
PMG				Sn	Sn	14 03 22.3	-10
	0.5nm,0.3s,baz=296,slow=22,SNR=1.2						
KAPI	**Kappang**	**14.41**	**270**	Pn	**Pn**	**14 01 18.9**	**+3.2**
	1.3nm,0.3s,baz=17,slow=24,SNR=1.7						
KAPI				LR	LR	14 07 16.5	
	comp=Z,67nm,20.9s,baz=93,slow=39						
WRAB	**Tennant Creek**	**14.65**	**180**		Pn	14 01 15.1	-3.8
WRA	**Warramunga Arr**	**14.66**	**180**		Pn	14 01 14.7	-4.3
WRA	**Warramunga Arr**	**14.66**	**180**	Pn	Pn	14 01 15.0	-4.0
	0.9nm,0.3s,baz=355,slow=13,SNR=34						
WRA				Sn	Sn	14 03 47.0	-14
	2.3nm,0.3s,baz=356,slow=23,SNR=6.2 2.0nm,0.4s						
TOLI2	**Tolitoli**	**14.82**	**295**		**Pn**	**14 01 19.2**	**-2.0**
PCI	**Palu**	**14.98**	**286**	P	**Pn**	**14 01 22.9**	**-0.5**
	2µm53nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.32**	**212**	Pn	**Pn**	**14 01 24.7**	**-3.2**
FITZ	**Fitzroy Crossi**	**15.32**	**212**	Pn	**Pn**	**14 01 24.6**	**-3.2**
	3.3nm,0.3s,baz=38,slow=10.0,SNR=34						
FITZ				Sn	Sn	14 04 04.7	-12
	8.2nm,0.3s,baz=37,slow=20,SNR=15 7.9nm,0.4s						
PLAI	**Plampang**	**16.71**	**257**	P	**Pn**	**14 01 44.4**	**-1.3**
	28nm,0.8s						
ASAR	**Alice Springs**	**18.36**	**181**	P	**P**	**14 02 04.9**	**-1.1**
ASAR	**Alice Springs**	**18.36**	**181**	P	**P**	**14 02 03.6**	**-2.4**
	1.2nm,0.3s,baz=354,slow=14,SNR=71						
ASAR				S	Sn	14 05 20.7	-10
	5.3nm,0.8s,baz=0.2,slow=27,SNR=4.9 7.8nm,0.6s						
MYLDM	**Lahad Datu**	**18.78**	**303**	P	**P**	**14 02 09.4**	**-1.2**
KKM	**Kota Kinabalu**	**21.16**	**302**	P	**P**	**14 02 34.6**	**-2.1**
MBWA	**Marble Bar**	**21.20**	**220**	P	**P**	**14 02 35.8**	**-1.2**
MBWA				IAmb	IAmb	14 02 47.3	
	comp=Z,25nm,0.8s						
PCJI	**Pacitan**	**23.08**	**261**	P	**P**	**14 02 56.6**	**-0.4**
	comp=Z,39nm,1.1s						
SBUM	**Sibu**	**23.25**	**289**	P	**P**	**14 03 00.1**	**+1.2**
KSM	**Kuching**	**24.79**	**285**	P	**P**	**14 03 14.2**	**+0.9**
KPJI	**Karang Pucung**	**25.23**	**264**	P	**P**	**14 03 18.5**	**+1.3**
	comp=Z,21nm,1.2s						
EIDS	**Eidsvold**	**25.76**	**143**	P	**P**	**14 03 23.4**	**+1.5**
HNR	**Honiara**	**25.85**	**101**	P	**P**	**14 03 22.8**	**-0.1**
HNR	**Honiara**	**25.85**	**101**	LR	LR	14 13 26.7	
	comp=Z,97nm,20.2s,baz=252,slow=36						
LEM	**Lembang**	**26.50**	**265**	LR	LR	14 16 24.7	
	comp=Z,70nm,20.7s,baz=146,slow=42						
STKA	**Stephens Creek**	**27.43**	**166**	P	**P**	**14 03 38.2**	**+1.3**
STKA	**Stephens Creek**	**27.43**	**166**	P	**P**	**14 03 34.4**	**-2.5**
	comp=Z,1.6nm,0.6s,baz=356,slow=9.9,SNR=5.7						
STKA				LR	LR	14 15 17.3	
	comp=Z,182nm,21.1s,baz=4.2,slow=38 comp=Z,1.6nm,0.6s						
BBOO	**Buckleboo**	**27.52**	**177**	P	**P**	**14 03 38.7**	**+0.9**
PPBI	**Pangkal Pinang**	**28.18**	**275**	P	**P**	**14 03 44.4**	**+0.5**
JOW	**Kunigami**	**32.36**	**350**	LR	LR	14 16 33.4	
	comp=Z,170nm,20.5s,baz=28,slow=35						
IPM	**Ipoh**	**34.52**	**286**	P	**P**	**14 04 39.5**	**-0.1**
IPM				IAmb	IAmb	14 05 05.5	
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**35.40**	**121**	*e*LR	LR	14 14 21.0	
	comp=Z,152nm,24.3s						
PSI	**Prapat**	**36.15**	**282**	LR	LR	14 23 32.5	
	comp=Z,49nm,18.8s,baz=156,slow=43						
GSI	**Gunungsitoli**	**37.17**	**279**	P	**P**	**14 05 02.6**	**+0.2**
MLSI	**Meulaboh, Aceh**	**38.93**	**283**	P	**P**	**14 05 16.5**	**-0.7**
NJ2	**Nanjing**	**39.83**	**339**	*e*P	**P**	**14 05 27.8**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MJAR	**Matsushiro Arr**	**41.69**	**5**	P	**P**	**14 05 38.2**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=165,slow=5.0,SNR=3.2 comp=Z,1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**41.98**	**305**	P	**P**	**14 05 42.4**	**0.0**
	comp=Z,1.4nm,0.8s,baz=131,slow=6.7,SNR=9.7						
CMAR				PcP	**PcP**	**14 07 38.5**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=125,slow=4.5,SNR=2.2 comp=Z,1.4nm,0.8s						
KSRS	**Korea Array**	**42.84**	**353**	P	**P**	**14 05 48.2**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=180,slow=10.0,SNR=5.2 comp=Z,2.1nm,0.9s						
TIA	**Tai'an**	**44.20**	**340**	P	**P**	**14 06 00.4**	**+0.3**
TIA				pmax	pmax		
	comp=Z,24nm,1.3s						
PZH	**PanZhiHua**	**44.53**	**317**	P	**P**	**14 06 05.4**	**+2.4**
XAN	**Xi'an**	**45.77**	**330**	P	**P**	**14 06 13.5**	**+0.8**
XAN				pP	sP	14 06 22.7	-0.6
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BJI	**Beijing**	**47.99**	**341**	P	**P**	**14 06 30.2**	**+0.4**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**49.21**	**358**	P	**P**	**14 06 39.0**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=194,slow=6.6,SNR=4.8 comp=Z,1.9nm,0.6s						

MDJ	**Mudanjiang**	**49.76**	**356**	P	P	14 06 51.4	+8.0	
MDJ				pmax	pmax			
	comp=Z,6.0nm,1.2s							
LZH	**Lanzhou**	**49.97**	**328**	*e*P	**P**	**14 06 47.6**	**+2.3**	
LZH				pP	pwP	14 06 59.0	+1.7	
LZH				pmax	pmax			
	comp=Z,16nm,1.2s							
WHZ	**Wether Hill Ro**	**49.99**	**150**	P	**P**	**14 06 45.6**	**+0.5**	
LBZ	**Lake Benmore**	**50.15**	**147**	P	**P**	**14 06 47.4**	**+0.9**	
HHC	**Hu-ho-hao-te**	**50.31**	**338**	*e*P	**P**	**14 06 48.6**	**+0.8**	
HHC				pmax	pmax			
	comp=Z,21nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,4.1s							
BNX	**BinXian**	**51.08**	**354**	⇑P	**P**	**14 06 53.2**	**-0.1**	
BNX				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KLR	**Kul'dur**	**54.25**	**358**	LR	LR	14 28 35.4		
	comp=Z,146nm,21.1s,baz=214,slow=34							
GTA	**Gaotai**	**54.57**	**328**	P	**P**	**14 07 21.2**	**+1.8**	
GTA				pP	pP	14 07 28.6	+1.6	
GTA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SONM	**Songino Array**	**58.20**	**338**	P	**P**	**14 07 45.6**	**+0.5**	
	comp=Z,1.9nm,0.7s,baz=150,slow=8.1,SNR=6.7 comp=Z,1.9nm,0.7s							
PETK	**Petropavlovsk-**	**61.38**	**16**	P	**P**	**14 08 06.8**	**+0.1**	
	comp=Z,1.7nm,1.0s,baz=179,slow=8.7,SNR=5.9 comp=Z,1.7nm,1.0s							
WMQ	**Urumqi**	**64.29**	**324**	*e*P	**P**	**14 08 29.2**	**+2.8**	
MA2	**Magadan**	**65.90**	**9**	LR	LR	14 33 47.8		
	comp=Z,18nm,21.5s,baz=212,slow=33							
YAK	**Yakutsk**	**67.13**	**358**	P	**P**	**14 08 43.9**	**-0.3**	
MKAR	**Makanchi Array**	**69.11**	**325**	P	**P**	**14 08 57.7**	**+0.6**	
	comp=Z,4.0nm,0.7s,baz=118,slow=7.9,SNR=48 comp=Z,4.0nm,0.7s							
NIL	**Nilore**	**69.30**	**309**		**P**	**14 08 58.8**	**+0.3**	
KSH	**Kashi**	**69.61**	**315**	P	**P**	**14 09 02.8**	**+2.4**	
KSH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KIWB	**Kanaga Island**	**70.26**	**30**	P	**P**	**14 09 04.2**	**+0.2**	
ZALV	**Zalesovo Beam**	**71.91**	**332**	P	**P**	**14 09 12.8**	**-1.1**	
ZALV	**Zalesovo Beam**	**71.91**	**332**	P	**P**	**14 09 12.9**	**-1.0**	
	comp=Z,3.3nm,0.7s,baz=108,slow=4.9,SNR=11 comp=Z,3.3nm,0.7s							
ARSB	**Arslanbob**	**72.44**	**316**	IAmb	IAmb	14 09 27.6		
	comp=Z,12nm,1.2s							
KURK	**Kurchatov**	**73.25**	**327**		**P**	**14 09 22.0**	**+0.1**	
KURK				IAmb	IAmb	14 09 23.4		
	comp=Z,7.7nm,1.1s							
KURBB	**Kurchatov Arra**	**73.25**	**327**	P	**P**	**14 09 21.6**	**-0.4**	
	comp=Z,3.6nm,1.0s,baz=125,slow=4.8,SNR=16 comp=Z,3.6nm,1.0s							
GAR	**Garm**	**73.44**	**313**		**P**	**14 09 23.6**	**+0.1**	
VNDA	**Vanda**	**73.75**	**174**	P	**P**	**14 09 24.4**	**-0.2**	
	comp=Z,0.6nm,0.8s,baz=283,slow=5.3,SNR=3.8							
VNDA				LR	LR	14 40 19.7		
	comp=Z,84nm,18.8s,baz=332,slow=35 comp=Z,0.6nm,0.8s							
KKAR	**Karatay Array**	**74.82**	**317**	P	**P**	**14 09 31.5**	**+0.1**	
BVAR	**Borovoye Array**	**78.84**	**326**	P	**P**	**14 09 53.1**	**-0.7**	
	comp=Z,5.5nm,0.9s,baz=120,slow=6.0,SNR=19 comp=Z,5.5nm,0.9s							
BRVK	**Borovoye**	**78.91**	**326**		**P**	**14 09 54.2**	**0.0**	
O15K	**Ungalikthiuk R**	**82.43**	**28**	P	**P**	**14 10 13.2**	**+0.4**	
O15K				IAmb	IAmb	14 11 02.0		
	comp=Z,12nm,1.2s							
M16K	**Timber Creek**	**83.55**	**27**	IAmb	IAmb	14 10 20.7		
	comp=Z,8.8nm,0.9s							
AB31	**Akbulak array**	**83.75**	**321**	IAmb	IAmb	14 10 21.5		
	comp=Z,8.4nm,1.6s							
QSPA	**South Pole Qui**	**84.76**	**180**	P	**P**	**14 10 25.3**	**+0.4**	
	comp=Z,1.3nm,0.8s,baz=5.1,slow=4.0,SNR=9.0							
QSPA				LR	LR	14 48 19.5		
	comp=Z,62nm,19.8s,baz=17,slow=36 comp=Z,1.3nm,0.8s							
KDAK	**Kodiak Island**	**85.51**	**31**	P	**P**	**14 10 28.6**	**0.0**	
KDAK				IAmb	IAmb	14 10 29.6		
	comp=Z,4.9nm,0.8s							
J19K	**Poorman**	**86.09**	**25**	IAmb	IAmb	14 10 33.0		
	comp=Z,5.4nm,1.0s							
K20K	**Telida**	**86.53**	**25**	IAmb	IAmb	14 10 44.1		
	comp=Z,5.1nm,0.9s							
J20K	**Nowinta River**	**86.76**	**25**	IAmb	IAmb	14 10 36.4		
	comp=Z,6.6nm,0.8s							
KTH	**Kantishna Hill**	**87.94**	**26**	IAmb	IAmb	14 10 40.9		
	comp=Z,3.9nm,1.0s							
PMR	**Palmer**	**88.23**	**28**	IAmb	IAmb	14 10 42.1		
	comp=Z,4.3nm,0.7s							
I23K	**Minto, Yukon-K**	**89.01**	**24**	P	**P**	**14 10 46.3**	**+0.9**	
I23K				IAmb	IAmb	14 10 47.3		
	comp=Z,4.1nm,0.9s							
G23K	**Bananza Creek**	**89.15**	**23**	P	**P**	**14 10 47.1**	**+1.0**	
CCB	**Clear Creek Bu**	**89.54**	**25**	IAmb	IAmb	14 10 48.6		
	comp=Z,4.3nm,1.2s							
ILAR	**Eielson Array**	**89.95**	**25**	P	**P**	**14 10 48.4**	**-1.4**	
	comp=Z,0.6nm,0.7s,baz=283,slow=3.8,SNR=7.3 comp=Z,0.6nm,0.7s							
RAYN	**Ar Rayn**	**90.88**	**293**	P	**P**	**14 10 55.0**	**-0.1**	
RAYN				IAmb	IAmb	14 10 57.6		
	comp=Z,3.6nm,0.9s							
SNAA	**Sanae**	**98.35**	**193**	LR	LR	14 55 05.2		
	comp=Z,47nm,20.3s,baz=342,slow=35							

MEX 12 14:06:42.2±0.4,15˚.47N×97˚.67W,h16km±26km,MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.72**	**44**	*e*P	Pg	14 06 53.3	-3.1
PNIG	**Pinotepa**	**1.01**	**334**	*e*S	Sb	14 07 10.1	-4.4
YOIG	**Yosondua**	**1.38**	**5**	*i* S	Sn	14 07 17.1	-8.0
HUIG	**Huatulco**	**1.53**	**79**	*e*P	Pn	14 06 50.5	-18
TXIG	**Tlaxiaco**	**1.77**	**357**	*i* S	Sn	14 07 29.9	-5.0
MGIG	**Malinaltepec**	**1.98**	**332**	*e*P	Pn	14 07 12.3	-2.9
MGIG				*i* S	Sn	14 07 35.5	-4.3
HLIG	**Huajuapan de L**	**2.35**	**357**	*e*P	Pn	14 07 17.7	-2.7
HLIG				*e*S	Sn	14 07 45.9	-3.0
TOIG	**Toxpalan**	**2.67**	**12**	*i* S	Sn	14 07 52.8	-3.9

IDC 12 14:08:16.2±1.3,0˚.83N×129˚.46E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=76.8km s-min=24.2km az=80.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.20**	**167**	P	P	14 13 05.2	+1.7
	1.0nm,0.5s,baz=345,slow=10,SNR=6.0 1.0nm,0.5s						
ASAR	**Alice Springs**	**24.73**	**170**	P	P	14 13 38.4	-1.2
	0.8nm,0.5s,baz=346,slow=10,SNR=9.8 0.8nm,0.5s						
PETK	**Petropavlovsk-**	**57.14**	**20**	P	P	14 18 03.9	-0.6
	9.8nm,1.3s,baz=208,slow=8.1,SNR=2.7 9.8nm,1.3s						
KURBB	**Kurchatov Arra**	**65.63**	**327**	P	P	14 19 02.8	+0.7
	0.4nm,0.9s,baz=136,slow=8.3,SNR=4.2 0.4nm,0.9s						

WEL 12 14:14:11.9±0.8,45˚S±4˚×16˚8E±˚,h5km,M3.6/11,ML3.8/9, MLv3.6/11,Error ellipse: s-maj=7.0km s-min=4.0km az=134.2,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.15**	**143**	P	Pg	14 14 16.3	+1.4
MSZ				S	Sg	14 14 18.7	+1.9
MLZ	**Mavora Lakes**	**0.84**	**165**	P	Pg	14 14 28.0	-0.1
JCZ	**Jackson Bay**	**0.85**	**56**	P	Pg	14 14 27.8	-0.5
JCZ				S	Sg	14 14 38.6	-0.8
WKZ	**Wanaka**	**0.91**	**108**	P	Pg	14 14 29.3	0.0
WKZ				S	Sg	14 14 40.9	-0.3
DCZ	**Deep Cove**	**1.02**	**207**	P	Pg	14 14 31.1	-0.3
DCZ				S	Sg	14 14 44.9	+0.2
EAZ	**Earnscleugh**	**1.27**	**123**	P	Pg	14 14 35.3	-0.9
EAZ				S	Sg	14 14 50.4	-2.2
WHZ	**Wether Hill Ro**	**1.34**	**176**	P	Pn	14 14 36.3	-1.0
WHZ				S	Sg	14 14 54.5	-0.5
LBZ	**Lake Benmore**	**1.71**	**85**	P	Pn	14 14 42.6	+0.2
LBZ				S	Sb	14 15 05.6	-0.1
FOZ	**Fox Glacier**	**1.78**	**56**	P	Pn	14 14 41.3	-1.9
FOZ				S	Sb	14 15 07.3	-0.2
PYZ	**Puysegur Point**	**1.79**	**206**	P	Pn	14 14 44.2	+0.7

TUZ	**Tuapeka**	**1.90**	**138**	P	Pn	14 14 45.5	+0.5	
TUZ				S	Sn	14 15 10.1	+0.8	
ODZ	**Otahua Downs**	**2.08**	**105**	P	Pn	14 14 47.3	-0.2	
SYZ	**Scrubby Hill**	**2.19**	**155**	P	Pn	14 14 49.6	+0.6	
GCSZ	**Gaunt Creek Bo**	**2.21**	**57**	P	Pn	14 14 47.0	-2.1	
APZ	**The Paps**	**2.28**	**177**	P	Pn	14 14 51.4	+1.1	
TMZ	**Timaru**	**2.30**	**87**	P	Pn	14 14 49.9	-0.6	
HHSZ	**Highcliff Hill**	**2.38**	**125**	P	Pn	14 14 52.4	+0.8	
RPZ	**Rata Peaks**	**2.49**	**71**	P	Pn	14 14 52.9	-0.2	
ARCZ	**Arundel**	**2.50**	**77**	P	Pn	14 14 52.6	-0.6	
WVZ	**Waitaha Valley**	**2.59**	**56**	P	Pn	14 14 52.8	-1.6	
MHCZ	**Mount Hutt**	**2.90**	**71**	P	Pn	14 14 57.7	-1.1	
WACZ	**Wakanui South**	**2.96**	**79**	P	Pn	14 14 59.4	-0.2	
INZ	**Inchbonnie**	**3.21**	**57**	P	Pn	14 15 01.3	-1.7	
RACZ	**Rakaia**	**3.23**	**77**	P	Pn	14 15 02.7	-0.5	
OXZ	**Oxford**	**3.30**	**70**	P	Pn	14 15 02.7	-1.5	
MQZ	**McQueen's Vall**	**3.59**	**78**	P	Pn	14 15 07.4	-0.8	
LTZ	**Lake Taylor**	**3.69**	**63**	P	Pn	14 15 08.0	-1.7	
AKCZ	**Akaroa Harbour**	**3.73**	**81**	P	Pn	14 15 09.5	-0.8	
AMCZ	**Amberley**	**3.77**	**70**	P	Pn	14 15 10.1	-0.5	
OKCZ	**Okains Bay**	**3.88**	**79**	P	Pn	14 15 12.1	-0.1	
DSZ	**Denniston Nort**	**4.06**	**48**	P	Pn	14 15 13.1	-1.6	
GVZ	**Greta Valley S**	**4.11**	**69**	P	Pn	14 15 14.3	-1.1	
THZ	**Tophouse**	**4.66**	**55**	P	Pn	14 15 22.4	-0.6	
MRNZ	**Matariki Terra**	**4.81**	**51**	P	Pn	14 15 24.1	-0.9	
QRZ	**Quartz Range**	**5.10**	**45**	P	Pn	14 15 27.3	-1.7	
TKNZ	**Takaka Hill**	**5.18**	**49**	P	Pn	14 15 28.9	-1.1	
NNZ	**Nelson**	**5.28**	**53**	P	Pn	14 15 30.6	-0.9	
TUWZ	**Tuamarina**	**5.48**	**57**	P	Pn	14 15 36.0	+1.8	
TCW	**Tory Channel**	**5.81**	**57**	P	Pn	14 15 39.6	+0.8	
DUWZ	**D'Urville Isla**	**5.87**	**52**	P	Pn	14 15 39.7	+0.2	
CAW	**Cannon Point**	**6.36**	**60**	P	Pn	14 15 44.3	-1.9	
OGWZ	**Otaki Gorge**	**6.59**	**58**	P	Pn	14 15 52.4	+3.0	
VRZ	**Vera Road**	**7.51**	**46**	P	Pn	14 16 02.9	+0.9	

*ISK **12** 14:26:42.7,39˚.47N×25˚.92E,h17km,ML3.2/31*
*ATH **12** 14:26:43.3,39˚.43N×25˚.88E,h24km±2km,ML3.1/9, Manual Solution by E.Daskalaki First location: 2019/08/12 14:27:59, This location: 2019/08/12 14:38:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **12** 14:26:43.6,39˚N±1˚×2˚6E±˚,h18km±1km,M3.0/12, MLh3.0/12*
*AFAD **12** 14:26:43.8,39˚.48N×25˚.98E,h18km,ML3.2*

ISC 12 14:26:43.3±0.9,39˚46N±0˚.02×25˚92E±0˚.02,h20km±3km, n64,σ0˚50/91,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.17**	**92**	Pg	**Pg**	**14 26 47.5**	**-0.5**
GPNR				Sg	**Sg**	**14 26 50.5**	**-0.7**
KOCA	**Canakkale, Ayv**	**0.18**	**77**	P	**Pg**	**14 26 47.8**	**-0.3**
KOCA				*i* IAML		14 26 50.0	
	comp=N,6µm,0.5s						
KOCA				S	**Sg**	**14 26 50.9**	**-0.5**
KOCA				*i* IAML		14 26 51.0	
	comp=E,8µm,0.1s						
SIGR	**SIGRI**	**0.26**	**191**	Pg	**Pg**	**14 26 49.9**	**+0.7**
SIGR				Sg	**Sg**	**14 26 53.5**	**+0.2**
SIGR	**SIGRI**	**0.26**	**191**	P	**Pg**	**14 26 50.0**	**+0.7**
SIGR				S	**Sg**	**14 26 53.8**	**+0.5**
SIGR	**SIGRI**	**0.26**	**191**	P	**Pg**	**14 26 49.8**	**+0.7**
SIGR				S	**Sg**	**14 26 53.1**	**-0.2**
BOZC	**Bozcaada**	**0.39**	**16**	P	**Pg**	**14 26 51.3**	**-0.3**
BOZC				S	**Sb**	**14 26 57.1**	**-0.3**
EZNE	**Ezine-Canakkal**	**0.46**	**50**	Pg	**Pb**	**14 26 52.4**	**-0.3**
EZNE				Sg	**Sb**	**14 26 59.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.56**	**60**	P	**Pg**	**14 26 54.0**	**-0.6**
BAYC				S	**Sb**	**14 27 01.5**	**-0.5**
ECEA	**Canakkale, Ece**	**0.61**	**19**	P	**Pb**	**14 26 55.6**	**+0.2**
ECEA				S	**Sb**	**14 27 04.8**	**+1.3**
ECEA				*i* IAML		14 27 05.0	
	comp=N,1µm,0.4s						
ECEA				*i* IAML		14 27 07.0	
	comp=E,1µm,0.6s						
AYVA	**Ayvalik**	**0.62**	**104**	P	**Pb**	**14 26 55.4**	**0.0**
AYVA				S	**Sb**	**14 27 03.6**	**-0.1**
LIA	**Limnos Island**	**0.71**	**308**	P	**Pb**	**14 26 57.2**	**+0.1**
LIA				S	**Sb**	**14 27 06.9

σ1♀37/76, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.41**	**171**		**Pn**	**14 42 05.1**	**-0.9**
RSD	**Rainshed**	**0.42**	**207**		**Pn**	**14 42 08.7**	**+2.5**
POHA	**Pohakuloa**	**0.44**	**259**		**Pn**	**14 42 06.1**	**-0.4**
POHA	**Pohakuloa**	**0.44**	**259**		**Sn**	**14 42 13.0**	**-1.1**
NPOC	**North of Pu'u**	**0.45**	**184**		**Pn**	**14 42 05.6**	**-0.8**
NPOC					**Sn**	**14 42 12.1**	**-1.8**
SBLHI	**Steaming Bluff**	**0.45**	**204**		**Pn**	**14 42 05.8**	**-0.7**
SBLHI					**Sn**	**14 42 12.2**	**-1.8**
HATHI	**Halema'uma'u T**	**0.45**	**203**		**Pn**	**14 42 05.8**	**-0.7**
HATHI				IAML		14 42 13.0	
	comp=E,47μm,0.4s						
HATHI				IAML		14 42 13.1	
	comp=N,36μm,0.2s						
HATHI	**Halema'uma'u T**	**0.45**	**203**		**Sn**	**14 42 12.5**	**-1.6**
HMH	**Humu'ula Sheep**	**0.45**	**239**		**Pn**	**14 42 06.6**	**-0.1**
HMH				IAML		14 42 14.4	
	comp=E,45μm,0.3s						
HMH	**Humu'ula Sheep**	**0.45**	**239**		**Sn**	**14 42 14.0**	**-0.4**
MLH	**Mauna Loa**	**0.45**	**221**		**Pn**	**14 42 06.2**	**-0.4**
MLH	**Mauna Loa**	**0.45**	**221**		**Sn**	**14 42 13.4**	**-1.0**
JCUZ	**Jacuzzi**	**0.45**	**183**		**Pn**	**14 42 05.7**	**-0.8**
JCUZ					**Sn**	**14 42 12.1**	**-1.9**
STCH	**Steam Cracks**	**0.46**	**186**		**Pn**	**14 42 05.6**	**-0.9**
STCH				IAML		14 42 12.5	
	comp=N,31μm,0.3s						
STCH	**Steam Cracks**	**0.46**	**186**		**Sn**	**14 42 12.1**	**-2.0**
UWB	**Uwekahuna Bluf**	**0.46**	**205**		**Pn**	**14 42 05.8**	**-0.7**
UWB					**Sn**	**14 42 12.6**	**-1.6**
BYL	**Byron's Ledge**	**0.46**	**202**		**Pn**	**14 42 05.9**	**-0.7**
BYL				IAML		14 42 12.9	
	comp=E,39μm,0.2s						
BYL				IAML		14 42 13.0	
	comp=N,33μm,0.6s						
BYL	**Byron's Ledge**	**0.46**	**202**		**Sn**	**14 42 12.7**	**-1.5**
OBL	**Observatory Le**	**0.47**	**205**		**Pn**	**14 42 05.9**	**-0.7**
OBL					**Sn**	**14 42 12.8**	**-1.5**
UWE	**Uwekahuna**	**0.47**	**206**		**Pn**	**14 42 06.0**	**-0.6**
UWE					**Sn**	**14 42 12.9**	**-1.5**
UWE	**Uwekahuna**	**0.47**	**206**	IAML		14 42 13.2	
	comp=E,100μm,0.3s						
UWE				IAML		14 42 14.9	
	comp=N,73μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.47**	**191**		**Pn**	**14 42 05.9**	**-0.8**
KKO	**Keanakako'i**	**0.48**	**202**		**Pn**	**14 42 06.1**	**-0.7**
KKO					**Sn**	**14 42 12.7**	**-1.9**
RIM	**Rim**	**0.48**	**203**		**Pn**	**14 42 06.2**	**-0.7**
RIM					**Sn**	**14 42 13.0**	**-1.7**
WRMHI	**West Rim**	**0.48**	**206**		**Pn**	**14 42 06.1**	**-0.8**
WRMHI					**Sn**	**14 42 12.9**	**-1.8**
PUH	**Pauahi**	**0.48**	**196**		**Pn**	**14 42 06.1**	**-0.7**
PUH				IAML		14 42 13.4	
	comp=E,56μm,0.3s						
PUH				IAML		14 42 13.4	
	comp=N,68μm,0.3s						
PUH	**Pauahi**	**0.48**	**196**		**Sn**	**14 42 13.0**	**-1.8**
SDHHI	**Sand Hill**	**0.49**	**205**		**Pn**	**14 42 06.2**	**-0.8**
SDHHI					**Sn**	**14 42 13.4**	**-1.5**
HLP	**Hilina Pali**	**0.58**	**202**		**Pn**	**14 42 07.2**	**-0.8**
HLP				IAML		14 42 15.6	
	comp=N,30μm,0.6s						
HLP	**Hilina Pali**	**0.58**	**202**		**Sn**	**14 42 15.1**	**-1.7**
AIN	**Ainahou**	**0.59**	**218**		**Pn**	**14 42 07.8**	**-0.4**
AIN				IAML		14 42 17.8	
	comp=E,37μm,0.2s						
AIN	**Ainahou**	**0.59**	**218**		**Sn**	**14 42 16.2**	**-0.9**
MWH	**Mokuaweoweo**	**0.61**	**234**		**Pn**	**14 42 08.3**	**-0.5**
MWH				IAML		14 42 17.6	
	comp=E,40μm,0.6s						
MWH				IAML		14 42 17.7	
	comp=N,36μm,0.7s						
MWH	**Mokuaweoweo**	**0.61**	**234**		**Sn**	**14 42 17.0**	**-1.0**
ALEP	**Alea Permanent**	**0.61**	**241**		**Pn**	**14 42 08.5**	**-0.2**
ALEP					**Sn**	**14 42 17.1**	**-0.9**
HPAH	**Hawaii Prepara**	**0.62**	**288**		**Pn**	**14 42 08.1**	**-0.4**
HPAH				IAML		14 42 17.0	
	comp=N,34μm,0.4s						
HPAH	**Hawaii Prepara**	**0.62**	**288**		**Sn**	**14 42 16.3**	**-1.2**
HTC	**Hot Caves**	**0.67**	**207**		**Pn**	**14 42 08.7**	**-0.5**
HUH	**Hualalai**	**0.73**	**258**		**Pn**	**14 42 10.2**	**+0.1**
HUH					**Sn**	**14 42 20.4**	**-0.1**
HUH	**Hualalai**	**0.73**	**258**	IAML		14 42 24.7	
	comp=E,24μm,0.3s						
HUH				IAML		14 42 24.7	
	comp=N,21μm,0.4s						
KHU	**Kahuku**	**0.78**	**221**		**Pn**	**14 42 10.1**	**-0.7**
KHU					**Sn**	**14 42 19.9**	**-1.7**
MHA	**Mahukona**	**0.85**	**294**		**Pn**	**14 42 11.2**	**-0.3**
MHA					**Sn**	**14 42 22.0**	**-1.0**
CPH	**Captain Cook**	**0.87**	**246**		**Pn**	**14 42 11.3**	**-0.5**
HPO	**Honuapo**	**0.87**	**211**		**Pn**	**14 42 11.1**	**-0.7**
HPO					**Sn**	**14 42 21.7**	**-1.8**
HLK	**Haleakala**	**1.43**	**310**		**Pn**	**14 42 18.7**	**-0.9**
HLK					**Sn**	**14 42 35.1**	**-2.3**
KHLH	**Kahului Airpor**	**1.65**	**310**		**Pn**	**14 42 22.2**	**0.0**
KHLH					**Sn**	**14 42 41.1**	**-1.2**
KHLH	**Kahului Airpor**	**1.65**	**310**	IAML		14 42 42.4	
	comp=E,6μm,0.6s						
KHLH				IAML		14 42 42.5	
	comp=N,6μm,0.3s						
WMR	**Waimanalo Ridg**	**2.85**	**302**		**Pn**	**14 42 38.1**	**-0.7**
WMR					**Sn**	**14 43 10.3**	**-1.7**
DHH	**Diamond Head**	**2.92**	**299**		**Pn**	**14 42 38.9**	**-0.9**
DHH					**Sn**	**14 43 11.4**	**-2.2**
HON	**Honolulu**	**3.11**	**299**		**Pn**	**14 42 42.2**	**-0.2**
HON					**Sn**	**14 43 17.2**	**-1.2**
KIP	**Kipapa**	**3.17**	**300**		**Pn**	**14 42 43.0**	**-0.2**
KIP					**Sn**	**14 43 17.4**	**-2.4**
KIP	**Kipapa**	**3.17**	**300**	IAML		14 43 20.1	
	comp=N,2μm,0.5s						
OPA	**Opana**	**3.31**	**304**		**Pn**	**14 42 44.4**	**-0.7**
OPA					**Sn**	**14 43 20.1**	**-3.0**
KEKH	**Kekaha**	**4.83**	**297**		**Pn**	**14 43 04.9**	**-1.1**
KEKH					**Sn**	**14 43 56.1**	**-4.5**
PPT2	**Papeete2**	**37.59**	**171**	eLR	LR	14 59 11.3	
	comp=N,44nm,28.2s						
NJ2	**Nanjing**	**76.53**	**299**	*e*P	**P**	**14 53 43.0**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**79.75**	**310**	*e*P	**P**	**14 54 00.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,71nm,4.4s						
PZH	**PanZhiHua**	**92.44**	**299**	P	**P**	**14 55 03.6**	**+1.4**

KRSC 12 14:55:05.0±2.6, 49°30N×157°24E, h38km±43km, MI4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.56**	**333**	*e*P	Pn	14 55 29.3	-0.9
SKR				*e*S	Sn	14 55 45.5	-3.6
MIPR	**Malaya Ipel'ka**	**3.00**	**354**	*e*P	Pn	14 55 51.7	+1.9
ASAK	**Asacha**	**3.11**	**7**	*e*P	Pn	14 55 55.4	+3.8
ASAK				*e*S	Sn	14 56 32.9	+5.4
RUS	**Russkaya**	**3.24**	**14**	*e*P	Pn	14 55 56.8	+3.6
MTVR	**Mutnovka**	**3.24**	**10**	*e*P	Pn	14 55 57.4	+4.1
MTVR				*e*S	Sn	14 56 34.3	+3.5
GRL	**Gorelyy**	**3.30**	**9**	*e*P	Pn	14 55 58.5	+4.4
GRL				*e*S	Sn	14 56 36.5	+4.3
KRMR	**Karymshinskiy**	**3.58**	**9**	*e*P	Pn	14 56 01.5	+3.6
KRMR				*e*S	Sn	14 56 44.6	+5.8
APC	**Apacha**	**3.63**	**359**	*e*P	Pn	14 56 03.0	+4.4
DALK	**Dalny**	**3.85**	**14**	*e*P	Pn	14 56 06.0	+4.4
DALK				*e*S	Sn	14 56 50.3	+4.7
UGLR	**Uglovaya**	**4.04**	**14**	*e*P	Pn	14 56 09.0	+4.7
UGLR				*e*S	Sn	14 56 56.6	+6.3
AVH	**Avacha**	**4.08**	**13**	*e*P	Pn	14 56 10.0	+5.2
AVH				*e*S	Sn	14 56 57.9	+6.6
SMAR	**Somma**	**4.09**	**13**	*e*P	Pn	14 56 09.5	+4.5
KOK	**Koryaka**	**4.09**	**12**	*e*P	Pn	14 56 10.4	+5.4
KOK				*e*S	Sn	14 56 58.8	+7.2
SDLR	**Sedlovina**	**4.11**	**14**	*e*P	Pn	14 56 09.4	+4.1
SDLR				*e*S	Sn	14 56 56.9	+4.6
KRER	**Koryakskii**	**4.12**	**13**	*e*P	Pn	14 56 10.8	+5.4
KRER				*e*S	Sn	14 56 57.9	+5.5
KRX	**Arik**	**4.16**	**12**	*e*P	Pn	14 56 10.8	+4.8
KRX				*e*S	Sn	14 56 58.8	+5.4
SPN	**Mys Shipunski**	**4.18**	**24**	*e*P	Pn	14 56 11.3	+5.1
SPN				*e*S	Sn	14 56 58.5	+4.8
GNL	**Ganaly**	**4.42**	**5**	*e*P	Pn	14 56 13.7	+4.1
KII	**Karymskiy**	**4.94**	**15**	*e*P	Pn	14 56 21.1	+4.5
KII				*e*S	Sn	14 57 19.3	+6.9
MKZ	**Mys Kozlova**	**5.95**	**26**	*e*P	Pn	14 56 34.4	+4.0
MKZ				*e*S	Sn	14 57 39.2	+2.0
KBTR	**Krutoberegovo**	**7.70**	**24**	*e*P	Pn	14 56 58.6	+4.2

MOS ***12*** *15:18:40.2±1.1, 42°.55N×142°.50E, h109km, mb4.5/1, Error ellipse: s-maj=14.4km s-min=8.9km az=58.3*
SKHL ***12*** *15:18:40.6±0.3, 42°.60N×142°.50E, h98km±5km, mb5.0/8, msha5.8/6*
IDC ***12*** *15:18:40.0±1.4, 42°.56N×142°.64E, h92km±11km, mb3.3/8, mbtmp3.6/11, Error ellipse: s-maj=24.5km s-min=12.0km az=105.0*
JMA ***12*** *15:18:41.2±0.2, 42°.7N±0°.5×142°.5E±0°.7, h87km±1km, MV3.3/40, HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .

ISC 12 15:18:40.7±0.7, 42°.60N±0°.04×142°.46E±0°.03, h95km±6km, n58, σ1♀36/77, mb3.4/8, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.19**	**178**	*i* P	**Pn**	**15 18 54.2**	**+0.1**
JSHD				S	**Sn**	**15 19 04.3**	**+0.1**
JBT2	**Biratori 2**	**0.20**	**339**	⇓*i*P	**Pn**	**15 18 53.5**	**-0.7**
JBT2				⇓S	**Sn**	**15 19 03.0**	**-1.3**
JNBK	**Urakawa-nobuka**	**0.38**	**145**	*i* P	**Pn**	**15 18 55.4**	**+0.3**
JIAM	**Iburiatsuma**	**0.40**	**274**	⇓*i*P	**Pn**	**15 18 55.8**	**+0.6**
JFR	**Furan**	**0.58**	**10**	*i* P	**Pn**	**15 18 55.8**	**-0.7**
JFR				S	**Sn**	**15 19 06.9**	**-1.5**
JCH	**Churui**	**0.67**	**88**	⇓*i*P	**Pn**	**15 18 56.9**	**-0.4**
JCH				⇓S	**Sn**	**15 19 08.3**	**-1.4**
JEM	**Erimo**	**0.78**	**138**	*i* P	**Pn**	**15 18 59.0**	**+0.7**
JEW	**Eniwo**	**0.78**	**289**	⇓*i*P	**Pn**	**15 18 58.5**	**+0.1**
JEW				⇓S	**Sn**	**15 19 11.4**	**-0.2**
JAB	**Ashibetsu**	**0.92**	**349**	*i* P	**Pn**	**15 18 60.0**	**+0.1**
JAB				S	**Sn**	**15 19 14.3**	**0.0**
JISS	**Ishikarishitsu**	**1.02**	**312**	⇓*i*P	**Pn**	**15 19 01.2**	**+0.3**
JISS				⇓S	**Sn**	**15 19 16.2**	**+0.1**
JNB	**Noboribetsu**	**1.06**	**264**	*i* P	**Pn**	**15 19 01.0**	**-0.3**
JNB				S	**Sn**	**15 19 16.0**	**-0.8**
JOB	**Onbets**	**1.06**	**73**	*i* P	**Pn**	**15 19 01.3**	**0.0**
JOB				S	**Sn**	**15 19 16.2**	**-0.7**
JAR	**Ashorobuto**	**1.19**	**54**	*i* P	**Pn**	**15 19 02.2**	**-0.6**
JAR				S	**Sn**	**15 19 18.1**	**-1.5**
JHR	**Hokuryu**	**1.27**	**335**	P	**Pn**	**15 19 04.4**	**+0.7**
JKK2	**Kamakawa 2**	**1.29**	**9**	*i* P	**Pn**	**15 19 04.1**	**0.0**
JKK2				S	**Sn**	**15 19 21.3**	**-0.5**
ASAJ	**Asahikawa**	**1.52**	**4**	P	**Pn**	**15 19 07.2**	**+0.3**
	132nm,0.3s,baz=210,slow=8.7,SNR=614						
ASAJ				S	**Sn**	**15 19 26.5**	**-0.3**
	73nm,0.3s,baz=62,slow=27,SNR=10.0						
JKA	**Kamikawa-asahi**	**1.52**	**4**	*e*P	**Pn**	**15 19 07.2**	**+0.3**
JOT	**Ohata**	**1.60**	**221**	*i* P	**Pn**	**15 19 08.2**	**+0.3**
JAK	**Akkeshi**	**1.70**	**76**	*i* P	**Pn**	**15 19 08.5**	**-0.5**
JAK				S	**Sn**	**15 19 29.5**	**-1.2**
JTKR	**Abashiri--Toko**	**1.73**	**37**	*i* P	**Pn**	**15 19 09.7**	**+0.1**
AKK	**Akkeshi**	**1.81**	**76**	*e*P	**Pn**	**15 19 10.0**	**-0.5**
AKK				*e*S	**Sn**	**15 19 32.2**	**-1.0**
GLVR	**Golovnino**	**2.52**	**62**	*e*PN	**Pn**	**15 19 20.4**	**+0.6**
GLVR				*i* S	**Sn**	**15 19 51.0**	**+1.2**
GLVR				pmax	pmax		
	comp=E,45nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,172nm,0.3s						
GLVR				pmax	pmax		
	comp=N,60nm,0.2s						
GLVR				smax	smax		
	comp=N,955nm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.2s						
GLVR	**Golovnino**	**2.52**	**62**	*e*P	**Pn**	**15 19 20.4**	**+0.6**
GLVR				AMB	AMB	15 19 23.0	
	comp=E,170nm,0.3s						
GLVR				*e*S	**Sn**	**15 19 49.8**	**0.0**
GLVR				A	A	15 19 53.7	
	comp=E,960nm,0.4s						
GLVR				A	A	15 19 53.7	
	comp=E,2μm,0.4s						
NMR	**Nemuro--Hokkai**	**2.52**	**71**	*e*PN	**Pn**	**15 19 19.1**	**-0.8**
NMR				*i* S	**Sn**	**15 19 47.8**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.52**	**71**	*e*P	**Pn**	**15 19 19.3**	**-0.6**
NMR				AMB	AMB	15 19 21.1	
	comp=E,50nm,0.2s						
NMR				*e*S	**Sn**	**15 19 48.8**	**-1.1**
NMR				A	A	15 19 49.8	
	comp=E,430nm,0.2s						
NMR				A	A	15 19 49.8	
	comp=E,200nm,0.2s						
RUSJ	**Misakicho**	**2.53**	**53**	*e*PN	**Pn**	**15 19 22.8**	**+2.8**
RUSJ				*i* S	**Sn**	**15 19 54.7**	**+4.5**
YUK	**Yuzh-Kuril'sk**	**2.87**	**59**	*e*PN	**Pn**	**15 19 25.8**	**+1.3**
YUK				*i* S	**Sn**	**15 19 59.9**	**+1.6**
YUK				pmax	pmax		
	comp=N,30nm,0.3s						
YUK				pmax	pmax		
	comp=E,15nm,0.3s						
YUK				pmax	pmax		
	comp=Z,330nm,0.3s						
YUK				smax	smax		
	comp=N,781nm,0.4s						
YUK				smax	smax		
	comp=E,648nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.87**	**59**	*e*P	**Pn**	**15 19 25.0**	**+0.5**
YUK				AMB	AMB	15 19 26.3	
	comp=E,330nm,0.3s						
YUK				*e*S	**Sn**	**15 19 57.9**	**-0.4**
YUK				A	A	15 20 07.6	
	comp=E,780nm,0.4s						
YUK				A	A	15 20 07.6	
	comp=E,650nm,0.4s						
SHO	**Shikotan**	**3.44**	**67**	*e*PN	**Pn**	**15 19 34.9**	**+2.8**
SHO				*i* S	**Sn**	**15 20 13.1**	**+1.2**
SHO				pmax	pmax		
	comp=N,28nm,0.4s						
SHO				pmax	pmax		
	comp=Z,94nm,0.4s						
SHO				pmax	pmax		
	comp=E,37nm,0.5s						
SHO				smax	smax		
	comp=N,332nm,0.4s						
SHO				smax	smax		
	comp=E,240nm,0.3s						
SHO	**Shikotan**	**3.44**	**67**	*e*P	**Pn**	**15 19 33.9**	**+1.8**
SHO				AMB	AMB	15 19 36.7	
	comp=E,90nm,0.4s						
SHO				*e*S	**Sn**	**15 20 12.4**	**+0.5**
SHO				A	A	15 20 14.2	
	comp=E,330nm,0.4s						
SHO				A	A	15 20 14.2	
	comp=E,240nm,0.4s						
YSS	**Yuzhno-Sakhali**	**4.36**	**3**	*e*PN	**Pn**	**15 19 45.4**	**+0.8**
YSS				*e*S	**Sn**	**15 20 33.2**	**-1.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,1.2s						
YSS				smax	smax		
	comp=E,20nm,1.2s						
YSS	**Yuzhno-Sakhali**	**4.36**	**3**	*e*P	**Pn**	**15 19 45.3**	**+0.7**
YSS				AMB	AMB	15 19 48.4	
	comp=E,30nm,0.3s						
YSS				*e*S	**Sn**	**15 20 33.5**	**-0.7**
YSS				A	A	15 20 38.1	
	comp=E,20nm,0.5s						
YSS				A	A	15 20 38.1	
	comp=E,10.0nm,0.5s						
KUR	**Kuril'sk**	**4.71**	**54**	*e*PN	**Pn**	**15 19 51.2**	**+1.8**
KUR				*i* S	**Sn**	**15 20 48.0**	**+5.2**
KUR				pmax	pmax		
	comp=Z,69nm,0.6s						
KUR				smax	smax		
	comp=E,72nm,0.4s						
KUR				smax	smax		
	comp=N,41nm,0.3s						
KUR	**Kuril'sk**	**4.71**	**54**	*e*P	**Pn**	**15 19 50.0**	**+0.6**
KUR				AMB	AMB	15 19 52.6	
	comp=N,70nm,0.5s						
KUR				*e*S	**Sn**	**15 20 41.9**	**-0.9**
KUR				A	A	15 21 07.9	
	comp=N,40nm,0.3s						
KUR				A	A	15 21 07.9	
	comp=N,70nm,0.3s						
MJAR	**Matsushiro Arr**	**6.88**	**210**	P	**Pn**	**15 20 20.0**	**+1.1**
	comp=N,2.4nm,0.4s,baz=25,slow=13,SNR=26						
MJAR				S	**Sn**	**15 21 35.7**	**0.0**
	comp=N,1.3nm,0.6s,baz=28,slow=11,SNR=1.0						
USRK	**Ussuriysk Ar.**	**7.79**	**285**	P	**Pn**	**15 20 33.2**	**+2.0**
	comp=N,2.2nm,0.6s,baz=88,slow=14,SNR=8.1						
JHJ	**Hachijo jima 2**	**9.69**	**193**	P	**Pn**	**15 21 00.8**	**+3.5**
	comp=N,146nm,0.8s,baz=261,slow=20,SNR=1.7						
KSRS	**Korea Array**	**12.26**	**250**	P	**P**	**15 21 38.3**	**-2.0**
	comp=N,1.2nm,0.7s,baz=58,slow=14,SNR=4.5						
PETK	**Petropavlovsk-**	**14.64**	**39**	P	**Pn**	**15 22 01.9**	**-1.0**
	comp=N,1.9nm,0.8s,baz=171,slow=10,SNR=6.7						
SONM	**Songino Array**	**25.78**	**294**	P	**P**	**15 24 03.0**	**+0.4**
	comp=N,0.4nm,0.3s,baz=98,slow=11,SNR=1.5						
	comp=N,0.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**30.73**	**130**	T	T	15 56 37.6	
	baz=326,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**30.74**	**130**	T	T	15 56 31.9	
	baz=326,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy**	**30.75**	**130**	T	T	15 56 35.4	
	baz=326,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**31.61**	**132**	T	T	15 57 41.7	
	baz=328,slow=76,SNR=64						
H11S3	**WAKE ISLAND Hy**	**31.61**	**132**	T	T	15 57 52.5	
	baz=328,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**31.62**	**132**	T	T	15 57 41.2	
	baz=328,slow=76,SNR=33						
ZALV	**Zalesovo Beam**	**38.96**	**307**	P	**P**	**15 25 58.1**	**+0.9**
	comp=N,0.3nm,0.3s,baz=89,slow=10,SNR=1.7						
	comp=N,0.3nm,0.3s						
MKAR	**Makanchi Array**	**42.07**	**297**	P	**P**	**15 26 23.9**	**+0.9**
	comp=N,0.3nm,0.5s,baz=74,slow=9.1,SNR=4.3						
	comp=N,0.3nm,0.5s						
KURK	**Kurchatov**	**43.32**	**304**	P	**P**	**15 26 34.1**	**+1.2**
KURK	**Kurchatov**	**43.32**	**304**	*e*P	**P**	**15 26 34.1**	**+1.2**
KURBB	**Kurchatov Arra**	**43.40**	**304**	P	**P**	**15 26 34.1**	**+0.5**
	comp=N,1.3nm,0.2s,baz=80,slow=8.1,SNR=2.0						
	comp=N,1.3nm,0.2s						
ILAR	**Eielson Array**	**44.43**	**35**	P	**P**	**15 26 41.4**	**-0.3**
	comp=N,0.2nm,0.7s,baz=278,slow=6.8,SNR=1.6						
	comp=N,0.2nm,0.7s						
WRA	**Warramunga Arr**	**62.67**	**189**	P	**P**	**15 28 53.8**	**-1.5**
	comp=N,0.4nm,0.9s,baz=6.4,slow=6.5,SNR=2.5						
	comp=N,0.4nm,0.9s						
ASAR	**Alice Springs**	**66.40**	**189**	P	**P**	**15 29 19.2**	**-0.4**
	comp=N,0.2nm,0.8s,baz=8.8,slow=7.1,SNR=1.4						
	comp=N,0.2nm,0.8s						
HFS	**Hagfors**	**69.36**	**335**	P	**P**	**15 29 37.7**	**0.0**
	comp=N,1.5nm,0.6s,baz=44,slow=5.0,SNR=1.8						
	comp=N,1.5nm,0.6s						
H03N2	**Juan Fernandez**	**146.42**	**88**	T	T	18 21 46.3	
	baz=296						
H03N3	**Juan Fernandez**	**146.43**	**88**	T	T	18 21 47.3	
	baz=296						
H03N1	**Juan Fernandez**	**146.43**	**88**	T	T	18 21 47.7	
	baz=296						

THE ***12*** *15:32:25.9, 39°.5N±1°.0×2°6E±°, h17km±1km, M2.9/13, MLh2.9/13*
ISK ***12*** *15:32:25.2, 39°.47N×25°.94E, h16km, ML3.2/27*
ATH ***12*** *15:32:25.6, 39°.42N×25°.86E, h25km±1km, ML2.9/13, Manual Solution by A.Papageorgiou First location: 2019/08/12 15:33:43, This location: 2021/06/27 13:30:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
AFAD ***12*** *15:32:26.2, 39°.48N×25°.96E, h7km±2km, ML3.0*

ISC 12 15:32:24.9±1.0, 39°.45N±0°.01×25°.92E±0°.02, h17km±8km, n69, σ0♀74/107, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.17**	**87**	Pg	**Pb**	**15 32 29.7**	**+0.1**
GPNR				Sg	**Sb**	**15 32 32.2**	**-0.5**
KOCA	**Canakkale, Ayv**	**0.18**	**73**	P	**Pb**	**15 32 30.0**	**+0.2**
KOCA				*i* IAML		15 32 33.0	
	comp=N,7μm,0.5s						
KOCA				*i* IAML		15 32 33.0	
	comp=E,9μm,0.3s						
KOCA				S	**Sb**	**15 32 33.1**	**0.0**
SIGR	**SIGRI**	**0.24**	**191**	Pg	**Pb**	**15 32 32.1**	**+1.3**
SIGR				Sg	**Sb**	**15 32 35.9**	**+1.2**
SIGR	**SIGRI**	**0.24**	**191**	P	**Pb**	**15 32 32.2**	**+1.3**
SIGR				S	**Sb**	**15 32 35.9**	**+1.2**
SIGR	**SIGRI**	**0.24**	**191**	P	**Pb**	**15 32 32.1**	**+1.3**
SIGR				S	**Sb**	**15 32 35.3**	**+0.5**
BOZC	**Bozcaada**	**0.41**	**15**	P	**Pb**	**15 32 33.5**	**-0.1**
BOZC				S	**Sb**	**15 32 39.5**	**0.0**
BOZC				*i* IAML		15 32 40.0	
	comp=N,1μm,0.2s						
BOZC				*i* IAML		15 32 40.0	
	comp=E,1μm,0.2s						
EZNE	**Ezine-Canakkal**	**0.46**	**48**	Pg	**Pb**	**15 32 34.7**	**+0.1**
EZNE				Sg	**Sb**	**15 32 41.1**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.57**	**59**	P	**Pb**	**15 32 36.6**	**+0.2**
BAYC				S	**Sb**	**15 32 43.8**	**-0.4**
AYVA	**Ayvalik**	**0.62**	**103**	P	**Pn**	**15 32 37.9**	**-0.9**
AYVA				S	**Sb**	**15 32 46.2**	**+0.6**
AYVA				*i* IAML		15 32 54.0	
	comp=N,820nm,0.4s						
ECEA	**Canakkale, Ece**	**0.63**	**18**	P	**Pb**	**15 32 37.7**	**+0.3**
ECEA				S	**Sn**	**15 32 47.3**	**-1.3**
ECEA				*i* IAML		15 32 48.0	
	comp=N,1μm,0.5s						
ECEA				*i* IAML		15 32 50.0	
	comp=E,1μm,0.3s						
GOAD	**anakkale-G¶**	**0.71**	**360**	P	**Pg**	**15 32 38.9**	**0.0**
GOAD				S	**Sb**	**15 32 48.5**	**+0.2**
GOAD				*i* IAML		15 32 50.0	
	comp=

THAS			S	Sn	15 33 09.4	-0.2	
THAS	**Thassos island**	**1.48 322**	P	Pn	15 32 50.6	0.0	
THAS			S	Sn	15 33 08.9	-0.7	
AOS	**Alonnisos**	**1.60 261**	P	Pn	15 32 53.5	+1.1	
AOS			S	Sb	15 33 14.8	+0.8	
KYMI	**Kymi, Euboea I**	**1.63 241**	P	Pn	15 32 52.5	-0.3	
KYMI			S	Sb	15 33 14.7	0.0	
KYMI	**Kymi, Euboea I**	**1.63 241**	P	Pn	15 32 52.2	-0.6	
KYMI			S	Sn	15 33 11.8	-1.6	
RDO	**Rodhopi**	**1.72 350**	Pn	Pn	15 32 55.0	+1.0	
RDO	**Rodhopi**	**1.72 350**	P	Pn	15 32 54.8	+0.7	
RDO			S	Sb	15 33 16.7	-0.6	
RDO	**Rodhopi**	**1.72 350**	P	Pn	15 32 54.6	+0.6	
MRMT	**Marmara Adasi**	**1.73 48**	Pn	Pn	15 32 54.8	+0.6	
OUR	**Ouranopolis**	**1.73 301**	Pn	Pb	15 32 55.6	-0.6	
OUR	**Ouranopolis**	**1.73 301**	P	Pn	15 32 54.7	+0.6	
KARY	**Karystos**	**1.83 220**	P	Pn	15 32 54.7	-0.7	
GORD	**Gordes-Manisa**	**1.84 106**	Pn	Pb	15 32 56.8	-1.3	
SMG	**Samos**	**1.88 157**	P	Pn	15 32 56.6	+0.3	
SMG			S	Sb	15 33 21.7	-0.3	
SMG	**Samos**	**1.88 157**	P	Pn	15 32 56.1	-0.1	
KAVA	**Kavala**	**1.88 326**	P	Pn	15 32 57.0	+0.7	
ODEM	**Odemis-Izmir**	**2.05 124**	Pn	Pn	15 32 59.5	+0.8	
DION	**Dionisos Attik**	**2.07 229**	P	Pn	15 32 58.5	-0.3	
DION			S	Sn	15 33 22.5	-1.7	
AYDB	**Zeytinkoy-Aydi**	**2.15 134**	Pn	Pn	15 33 01.0	+0.9	
KDZ	**Kurdzhali**	**2.22 349**	Pn	Pn	15 33 01.9	+0.9	
KULA	**Kula-Manisa**	**2.33 113**	Pn	Pn	15 33 03.7	+1.2	
ORLT	**Orhaneli**	**2.37 74**	Pn	Pn	15 33 04.1	+1.0	
VIL2	**Platees**	**2.41 240**	P	Pn	15 33 03.4	-0.1	
SIMA	**Simav-Kutahya**	**2.41 98**	Pn	Pn	15 33 04.7	+1.1	
SRS	**Serrai**	**2.44 314**	P	Pn	15 33 03.7	-0.2	
SRS			S	Sn	15 33 33.0	-0.3	
MDNY	**Mudanya-Bursa**	**2.46 67**	Pn	Pn	15 33 05.5	+1.3	
EDRB	**Edirne**	**2.48 14**	Pn	Pn	15 33 05.9	+1.5	
SLVT	**Silivri**	**2.50 44**	Pn	Pn	15 33 05.9	+1.2	
PHSR	**Pinarhisar**	**2.50 29**	Pn	Pn	15 33 05.9	+1.1	
CTKS	**Kestanelik-??a**	**2.67 47**	Pn	Pn	15 33 07.9	+0.9	
LTK	**Loutraki**	**2.71 239**	P	Pn	15 33 06.4	-1.2	
LTK			S	Sn	15 33 38.0	-2.0	
KLV	**Kalavryta, Ach**	**3.26 246**	P	Pn	15 33 14.1	-1.2	
VLI	**Veliai**	**3.60 222**	P	Pn	15 33 19.8	-0.1	

NAO **12** *15:36:48.6, 39°.83N × 19°.36E, h10km, mb3.5*
MCSM **12** *15:37:07.6± 0.5, 42°.N ± 5°.× 2°.0E ± °, h10km, mb4.4, mB4.8, MLv4.1, Mw(mB)4.0*
TIR **12** *15:37:07.9, 41°.89N × 20°.09E, h26km ± 1km, Ml4.2/5*
IDC **12** *15:37:07.8 ± 0.7, 41°.89N × 20°.16E, h0km, mb3.8/8, mbtmp3.8/21, ML3.5/11, MS2.9/17, Error ellipse: s-maj=12.2km s-min=10.1km az=37.0*
MOS **12** *15:37:08.4 ± 0.9, 41°.93N × 20°.19E, h11km, mb4.5/7, Error ellipse: s-maj=5.8km s-min=3.3km az=106.4*
SKO **12** *15:37:08.6, 41°.95N × 20°.10E, h0km, ML4.1*
PDG **12** *15:37:09.1 ± 0.4, 41°.90N × 20°.15E, h14km, MD4.2/12, ML4.2/13, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
MED_RC **12** *15:37:09.0 ± 1.8, 42°.02N × 20°.08E, h27km ± 1km, MW4.1/9, Moment Tensor Solution.Mantle waves: s9,c12; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr=1.74±.35; Mθθ 0.14±.25; Mφφ 1.60±.19; Mrθ 0.54±.24; Mθφ 0.72±.25; Mrφ 0.04±.15; Best double couple: M0 1.90000×10^15 NP1: φs 7.00000°, δ 43.00000°, λ -113.00000°. NP2: φs 217.00000°, δ 51.00000°, λ -70.00000°. Principal axes: T 1.9100, Plg4.0000°, Azm293.0000°; N -0.0200, Plg16.0000°, Azm24.0000°; P -1.8900, Plg74.0000°, Azm190.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC **12** *15:37:09.8 ± 1.3, 41°.86N ± 0°.05 × 20°.12E ± 0°.06, h10km ± 1km, mb4.4/6 Error ellipse: s-maj=9.0km s-min=6.7km az=35.0*
BEO **12** *15:37:09.6 ± 0.3, 41°.89N × 20°.16E, h7km ± 2km, ML3.6/22*
THE **12** *15:37:10.5, 42°.N ± 6°.× 2°.1E ± °, h13km, M3.9/7, MLh3.9/7*
PRU **12** *15:37:12.7, 41°.92N × 20°.03E, h1km, M4.2*
ISC 12 15:37:09.4 ±0.9, **41°.91N** ±0°.01 × **20°.19E** ±0°.02, **h11** km ±6km, **n309**, σ1 **s41**/405, **mb4.1**/14, **MS3.1**/6, **47C-30D, Albania**

Code	Station Name	Δ°	AZ°	P Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.26**	**302**	⇓Pg	**Pg**	**15 37 14.6**	**-0.1**
PUK				Sg	**Sg**	**15 37 18.4**	**+0.1**
PUK				AML	AML	15 37 21.0	
	447nm,0.3s						
PHP	**Peshkopia**	**0.29**	**139**	⇑Pg	**Pg**	**15 37 15.3**	**0.0**
PHP				Sg	**Sg**	**15 37 20.2**	**+0.9**
PHP				AML	AML	15 37 21.5	
	82nm,0.3s						
PHP	**Peshkopia**	**0.29**	**139**	P	**Pg**	**15 37 15.3**	**0.0**
BCI	**Bajram Curri**	**0.47**	**349**	⇑Pg	**Pg**	**15 37 18.1**	**-0.5**
BCI				Sg	**Sb**	**15 37 25.7**	**-1.0**
BCI				AML	AML	15 37 27.4	
	76nm,0.6s						
BCI				AML	AML	15 37 27.9	
	81nm,0.7s						
ULC	**Ulcinj**	**0.70**	**275**	P	**Pg**	**15 37 22.2**	**-0.8**
ULC				S	**Sb**	**15 37 33.0**	**-0.5**
ULC	**Ulcinj**	**0.70**	**275**	⇑*i* Pg	**Pg**	**15 37 22.2**	**-0.8**
ULC				*i* Sg	**Sb**	**15 37 32.9**	**-0.5**
PVY	**Plav**	**0.71**	**346**	*e*Pg	**Pg**	**15 37 23.0**	**-0.1**
PVY	**Plav**	**0.71**	**346**	⇑*i* Pg	**Pg**	**15 37 22.7**	**-0.4**
PVY				*i* Sg	**Sb**	**15 37 34.0**	**+0.3**
DRME	**Dracevica, Mon**	**0.80**	**291**	*e*Pg	**Pg**	**15 37 23.9**	**-0.9**
DRME	**Dracevica, Mon**	**0.80**	**291**	⇑*i* Pg	**Pg**	**15 37 23.6**	**-1.2**
DRME				*i* Sg	**Sb**	**15 37 36.0**	**-0.1**
PDG	**Podgorica**	**0.87**	**307**	P	**Pg**	**15 37 24.7**	**-1.3**
PDG	**Podgorica**	**0.87**	**307**	⇑P	**Pg**	**15 37 25.2**	**-0.9**
PDG				⇑S	**Sb**	**15 37 37.1**	**-1.0**
PDG	**Podgorica**	**0.87**	**307**	*e*Pg	**Pg**	**15 37 24.8**	**-1.3**
PDG				*e*Sg	**Sn**	**15 37 38.8**	**-1.5**
PDG	**Podgorica**	**0.87**	**307**	⇑*i* Pg	**Pg**	**15 37 24.8**	**-1.3**
PDG				*i* Sg	**Sn**	**15 37 38.9**	**-1.3**
TTG	**Podgorica**	**0.87**	**307**	P	**Pg**	**15 37 24.8**	**-1.3**
TTG				S	**Sn**	**15 37 39.0**	**-1.3**
OHR	**Ohrid**	**0.92**	**150**	*i* Pg	**Pg**	**15 37 26.3**	**-0.8**
OHR				*i* Sg	**Sn**	**15 37 40.6**	**-1.0**
OHR				*e*Lg	Lg	15 37 42.2	
	comp=N,4μm,0.7s						
OHR				*e*Lg	Lg	15 37 42.5	
	comp=E,4μm,0.5s						
SKO	**Skopje**	**0.94**	**86**	*i* Pg	**Pg**	**15 37 26.6**	**-0.9**
SKO				*i* Sg	**Sb**	**15 37 40.5**	**+0.3**
BEY	**Berane**	**0.99**	**347**	*e*Pg	**Pb**	**15 37 28.3**	**-0.3**
IVA	**Berane**	**0.99**	**347**	⇓*i* Pg	**Pg**	**15 37 27.7**	**-0.8**
IVA				*i* Sg	**Sn**	**15 37 43.4**	**0.0**
BUM	**Brajici-Budva**	**1.04**	**293**	⇑*i* Pg	**Pg**	**15 37 28.3**	**-1.1**
BUM				*i* Sg	**Sn**	**15 37 44.5**	**-0.1**
KOME	**Kolasin**	**1.07**	**332**	*e*Pg	**Pg**	**15 37 28.9**	**-1.0**
KOME	**Kolasin**	**1.07**	**332**	⇑*i* Pg	**Pg**	**15 37 28.7**	**-1.2**
KOME				*i* Sg	**Sn**	**15 37 46.0**	**+0.7**
CEME	**Cevo**	**1.14**	**305**	⇑*i* Pg	**Pb**	**15 37 30.0**	**-1.2**
CEME				*i* Sg	**Sn**	**15 37 47.9**	**+0.8**
NKME	**Niksic**	**1.25**	**314**	⇓*i* Pg	**Pn**	**15 37 31.4**	**-1.6**
NKME				*i* Sg	**Sn**	**15 37 51.7**	**+1.8**
KBN	**Korca**	**1.36**	**160**	P	**Pn**	**15 37 34.3**	**-0.1**
KBN				S	**Sg**	**15 37 52.7**	**-0.4**
KBN	**Korca**	**1.36**	**160**	P	**Pn**	**15 37 34.3**	**-0.1**
KBN				Sg	**Sg**	**15 37 52.7**	**-0.4**
SJES	**Sjenica**	**1.36**	**353**	*e*Pg	**Pn**	**15 37 34.5**	**0.0**
SJES				*e*Sg	**Sg**	**15 37 55.3**	**+2.0**
HCY	**Herceg Novi**	**1.37**	**294**	P	**Pn**	**15 37 34.0**	**-0.5**
HCY	**Herceg Novi**	**1.37**	**294**	⇑*i* Pg	**Pn**	**15 37 34.0**	**-0.5**
HCY				*i* Sg	**Sg**	**15 37 55.1**	**+1.7**
FNA	**Florina**	**1.44**	**141**		**Pn**	**15 37 34.9**	**-0.6**
FNA	**Florina**	**1.44**	**141**	⇑Pn	**Pn**	**15 37 35.1**	**-0.3**
FNA				Sn	**Sg**	**15 37 56.4**	**+0.8**
FNA	**Florina**	**1.44**	**141**	P	**Pn**	**15 37 35.4**	**-0.1**
FNA				S	**Sg**	**15 37 55.9**	**+0.4**
FNA	**Florina**	**1.44**	**141**	*i* Pg	**Pn**	**15 37 35.2**	**-0.3**
FNA				*i* Sg	**Sg**	**15 37 56.0**	**+0.4**
FNA	**Florina**	**1.44**	**141**	P	**Pn**	**15 37 34.9**	**-0.6**
FNA	**Florina**	**1.44**	**141**	*e*Pg	**Pn**	**15 37 35.2**	**-0.3**
FNA				*e*Sg	**Sg**	**15 37 56.0**	**+0.4**
BARS	**Barje**	**1.51**	**52**	*i* Pn	**Pn**	**15 37 37.0**	**+0.4**
BARS	**Barje**	**1.51**	**52**	*e*Pg	**Pn**	**15 37 36.9**	**+0.4**
BARS				*e*Sg	**Sg**	**15 38 00.1**	**+2.1**
VLO	**Vlora**	**1.53**	**200**	⇓Pn	**Pg**	**15 37 39.3**	**+0.6**
VLO				Sn	**Sg**	**15 38 01.6**	**+3.1**
VLO				AML	AML	15 38 16.4	
	comp=E,16nm,0.6s						
PLE	**Pljevlja**	**1.54**	**338**	P	**Pn**	**15 37 37.0**	**0.0**
PLE				S	**Sg**	**15 37 59.0**	**+0.1**
PLE	**Pljevlja**	**1.54**	**338**	*e*Pg	**Pb**	**15 37 37.6**	**-0.4**
PLE	**Pljevlja**	**1.54**	**338**	⇑*i* Pg	**Pn**	**15 37 37.0**	**0.0**
PLE				*i* Sg	**Sg**	**15 37 59.7**	**+0.8**
BRY	**Bratogost**	**1.57**	**310**	P	**Pn**	**15 37 37.3**	**-0.2**
BRY				S	**Sg**	**15 38 00.0**	**0.0**
BRY	**Bratogost**	**1.57**	**310**	⇑*i* Pg	**Pn**	**15 37 37.3**	**-0.2**
BRY				*i* Sg	**Sg**	**15 38 00.1**	**0.0**
TREB	**Trebinje**	**1.58**	**301**	*e*Pn	**Pn**	**15 37 37.4**	**-0.1**
TREB	**Trebinje**	**1.58**	**301**	*e*Pg	**Pb**	**15 37 38.1**	**-0.6**
TREB				*e*Sg	**Sg**	**15 37 59.8**	**-0.5**
UPM	**Unac-Piva**	**1.60**	**324**	⇑*i* Pn	**Pb**	**15 37 38.1**	**-1.1**
UPM				*i* Sn	**Sg**	**15 38 01.0**	**0.0**
NEST	**Nestorio**	**1.63**	**156**	⇓Pn	**Pb**	**15 37 38.8**	**-0.7**
NEST				Sn	**Sg**	**15 38 01.0**	**-0.7**
NEST				AML	AML	15 38 10.0	
	comp=E,6.5nm,0.5s						
NEST	**Nestorio**	**1.63**	**156**	P	**Pb**	**15 37 39.4**	**-0.1**
NEST				S	**Sg**	**15 38 02.2**	**+0.5**
IVAS	**Ivanjica**	**1.67**	**359**	*e*Pg	**Pn**	**15 37 38.9**	**+0.2**
IVAS				*e*Sg	**Sb**	**15 38 01.8**	**+0.5**
KLINJ	**Klinje**	**1.73**	**317**	*e*Pn	**Pn**	**15 37 39.7**	**+0.1**
GOCS	**Kraljevo Serbi**	**1.73**	**17**	*e*Pg	**Pn**	**15 37 40.1**	**+0.5**
GOCS				*e*Sg	**Sg**	**15 38 05.4**	**+0.3**
BOSS	**Bosilegrad**	**1.80**	**70**	*e*Pg	**Pn**	**15 37 41.0**	**+0.5**
BOSS				*e*Sg	**Sg**	**15 38 08.7**	**+1.3**
RUDO	**Rudo**	**1.81**	**341**	⇑*i* Pn	**Pb**	**15 37 41.3**	**-1.3**
RUDO	**Rudo**	**1.81**	**341**	*e*Pg	**Pb**	**15 37 41.4**	**-1.2**
RUDO				*e*Sg	**Sg**	**15 38 08.6**	**+0.9**
PENT	**Pentalofos**	**1.85**	**157**	P	**Pn**	**15 37 42.9**	**-0.5**
PENT				S	**Sg**	**15 38 08.9**	**-0.1**
KZN	**Kozani**	**2.00**	**143**	P	**Pn**	**15 37 44.3**	**+1.0**
KZN				S	**Sn**	**15 38 08.9**	**+0.6**
KZN	**Kozani**	**2.00**	**143**	P	**Pn**	**15 37 44.2**	**+1.0**
KZN				S	**Sn**	**15 38 08.8**	**+0.6**
GRUS	**Gruza**	**2.02**	**11**	*e*Pn	**Pn**	**15 37 43.9**	**+0.5**
GRUS				*e*Sg	**Sg**	**15 38 15.9**	**+1.6**
SRN	**Sarande**	**2.03**	**184**	⇓Pn	**Pn**	**15 37 44.2**	**+0.6**
SRN				Sn	**Sb**	**15 38 11.0**	**-0.5**
BBLS	**Lazi&#263i**	**2.04**	**344**	*e*Pg	**Pb**	**15 37 45.0**	**-1.6**
BBLS				*e*Sg	**Sg**	**15 38 14.4**	**-0.6**
BOVS	**Bovan**	**2.06**	**32**	⇓P	**Pn**	**15 37 44.3**	**+0.4**
BOVS				⇑S	**Sn**	**15 38 09.5**	**-0.2**
BOVS	**Bovan**	**2.06**	**32**	*e*Pg	**Pb**	**15 37 45.7**	**-1.1**
BOVS				*e*Sg	**Sg**	**15 38 15.7**	**+0.1**
STON	**Ston**	**2.08**	**298**	⇑*i* Pn	**Pn**	**15 37 44.8**	**+0.6**
STON	**Ston**	**2.08**	**298**	*e*Pg	**Pb**	**15 37 45.5**	**-1.6**
KNT	**Kendrikon**	**2.17**	**109**	P	**Pn**	**15 37 43.6**	**-2.0**
KNT				S	**Sn**	**15 38 09.3**	**-3.1**
KNT	**Kendrikon**	**2.17**	**109**	*i* Pn	**Pn**	**15 37 46.1**	**+0.6**
KNT	**Kendrikon**	**2.17**	**109**	P	**Pn**	**15 37 43.5**	**-2.0**
KNT				S	**Sn**	**15 38 09.2**	**-3.1**
DIVS	**Divibare**	**2.19**	**356**	*e*Sg	**Sg**	**15 38 18.1**	**-1.9**
KKB	**Krupnik**	**2.20**	**91**	P	**Pn**	**15 37 46.9**	**+1.0**
KKB	**Krupnik**	**2.20**	**91**	*i* Pn	**Pn**	**15 37 46.9**	**+1.0**
KEK	**Kerkira**	**2.21**	**188**	Pn	**Pn**	**15 37 45.3**	**-0.8**
KEK	**Kerkira**	**2.21**	**188**	⇑Pn	**Pb**	**15 37 49.9**	**+0.5**
KEK	**Kerkira**	**2.21**	**188**	P	**Pb**	**15 37 49.9**	**+0.5**
KEK				S	**Sg**	**15 38 19.7**	**-0.8**
SCTE	**Santa Cesarea**	**2.25**	**216**	Pn	**Pn**	**15 37 46.2**	**-0.3**
SCTE	**Santa Cesarea**	**2.25**	**216**	Pn	**Pn**	**15 37 46.8**	**+0.3**
ZAPS	**Zavoj**	**2.27**	**52**	*e*Pn	**Pn**	**15 37 47.6**	**+0.7**
ZAPS				*e*Sg	**Sg**	**15 38 22.5**	**+0.3**
JAN	**Janina**	**2.30**	**167**	P	**Pb**	**15 37 50.2**	**-0.9**
JAN	**Janina**	**2.30**	**167**	P	**Pb**	**15 37 50.1**	**-0.9**
TRUS	**Trudelj**	**2.32**	**4**	*e*Pn	**Pn**	**15 37 48.7**	**+1.1**
VTS	**Vitosha**	**2.37**	**72**	P	**Pn**	**15 37 49.1**	**+0.7**
VTS				S	**Sn**	**15 38 18.1**	**+0.5**
VTS	**Vitosha**	**2.37**	**72**	*e*Pn	**Pn**	**15 37 49.1**	**+0.7**
ZAGS	**Zajecar**	**2.43**	**38**	*e*Pn	**Pn**	**15 37 49.7**	**+0.6**
ZAGS				*e*Sg	**Sg**	**15 38 27.4**	**0.0**
THE	**Thessaloniki**	**2.45**	**120**	P	**Pn**	**15 37 50.3**	**+0.9**
PLNA	**Plana**	**2.47**	**76**	P	**Pn**	**15 37 51.1**	**+1.3**
LIT	**Litokhoron**	**2.51**	**135**		**Pn**	**15 37 50.6**	**+0.4**
LIT	**Litokhoron**	**2.51**	**135**	*i* Pn	**Pn**	**15 37 51.0**	**+0.7**
LIT	**Litokhoron**	**2.51**	**135**	P	**Pn**	**15 37 50.6**	**+0.4**
BLKB	**Belogradchik**	**2.51**	**46**	⇓S	**Sn**	**15 38 22.7**	**+1.8**
NOCI	**Noci**	**2.60**	**246**	⇓Pn	**Pn**	**15 37 50.9**	**-0.6**
SOH	**Sokhos**	**2.62**	**113**	*i* Pn	**Pn**	**15 37 52.7**	**+1.0**
SOH	**Sokhos**	**2.62**	**113**	P	**Pn**	**15 37 52.9**	**+1.2**
SRS	**Serrai**	**2.68**	**106**	*i* Pn	**Pn**	**15 37 53.2**	**+0.7**
SRS	**Serrai**	**2.68**	**106**	*e*P	**Pn**	**15 37 53.4**	**+0.9**
SRS	**Serrai**	**2.68**	**106**	*e*Pn	**Pn**	**15 37 53.5**	**+1.0**
TEKS	**Tekeris**	**2.69**	**350**	*e*Pn	**Pn**	**15 37 52.9**	**+0.3**
TEKS				*e*Sg	**Sg**	**15 38 34.3**	**-1.3**
MMB	**Musomishta**	**2.69**	**96**	P	**Pn**	**15 37 54.8**	**+2.1**
MMB				S	**Sn**	**15 38 26.4**	**+1.0**
MMB	**Musomishta**	**2.69**	**96**	*i* Pn	**Pn**	**15 37 53.7**	**+1.0**
KUBS	**Kucevo**	**2.73**	**23**	*e*Pn	**Pn**	**15 37 52.3**	**-0.9**
AVAS	**Avala Beograd**	**2.80**	**5**	*e*Pn	**Pn**	**15 37 54.9**	**+0.7**
AVAS				*e*Sg	**Sg**	**15 38 39.6**	**+0.3**
MATE	**Matera**	**2.91**	**246**	⇑P	**Pn**	**15 37 56.1**	**+0.5**
MATE				⇓S	**Sn**	**15 38 29.6**	**-1.0**
BEO	**Beograd**	**2.91**	**4**	P	**Pb**	**15 37 59.3**	**-2.0**
MPEP	**Malo Peshtene**	**3.00**	**60**	P	**Pn**	**15 37 58.4**	**+1.5**
MDVR	**Moldovita**	**3.08**	**21**	⇑P	**Pn**	**15 37 58.6**	**+0.5**
MDVR				⇑S	**Sn**	**15 38 34.9**	**-0.1**
MDVR	**Moldovita**	**3.08**	**21**	*e*Pn	**Pn**	**15 37 58.6**	**+0.5**
MRVN	**Minervino Murg**	**3.11**	**256**	⇓Pn	**Pn**	**15 37 58.3**	**-0.2**
MRVN				Sn	**Sn**	**15 38 35.1**	**-3.0**
LKD2	**Lefkada island**	**3.13**	**173**	P	**Pn**	**15 37 59.8**	**+1.0**
DOB	**Doboj**	**3.21**	**332**	*e*Pn	**Pn**	**15 38 00.4**	**+0.6**
FRGS	**Fruska Gora**	**3.26**	**355**	*e*Pn	**Pn**	**15 38 00.8**	**+0.3**
SGRT	**San Giovanni R**	**3.32**	**269**		**Pn**	**15 38 00.8**	**-0.7**
SGRT	**San Giovanni R**	**3.32**	**269**	⇑Pn	**Pn**	**15 38 01.1**	**-0.3**
ACER	**Acerenza**	**3.38**	**252**		**Pn**	**15 38 01.7**	**-0.6**
HERR	**Herculane**	**3.39**	**28**	⇓P	**Pn**	**15 38 03.0**	**+0.7**
PLD	**Plovdiv**	**3.41**	**84**	*e*P	**Pn**	**15 38 04.0**	**+1.5**
PLD	**Plovdiv**	**3.41**	**84**	*e*Pn	**Pn**	**15 38 04.0**	**+1.5**
RZN	**Rozhen**	**3.41**	**92**	P	**Pn**	**15 38 04.0**	**+1.3**
RZN				S	**Sn**	**15 38 43.0**	**-0.3**
KIJV	**Kijevo**	**3.48**	**308**	⇑*i* Pn	**Pn**	**15 38 05.3**	**+1.8**
BLY	**Banja Luka**	**3.59**	**323**	⇑*i* Pn	**Pn**	**15 38 06.9**	**+1.9**
BLY	**Banja Luka**	**3.59**	**323**	⇓P	**Pn**	**15 38 05.0**	**0.0**
BLY				⇓S	**Sn**	**15 38 45.3**	**-2.1**
BLY	**Banja Luka**	**3.59**	**323**	*e*Pn	**Pn**	**15 38 07.2**	**+2.2**
PLVB	**Pleven**	**3.59**	**64**	⇓P	**Pn**	**15 38 06.8**	**+1.8**
A050A	**Klekovaca**	**3.71**	**315**	⇑*i* Pn	**Pn**	**15 38 08.7**	**+1.9**
VLS	**Valsamata**	**3.74**	**175**	P	**Pn**	**15 38 06.0**	**-1.1**
TIP	**Timpagrande**	**3.77**	**225**		**Pn**	**15 38 06.8**	**-0.8**
TIP	**Timpagrande**	**3.77**	**225**	⇓P	**Pn**	**15 38 07.4**	**-0.2**
TIP				⇓S	**Sn**	**15 38 53.1**	**+1.0**
TIP	**Timpagrande**	**3.77**	**225**	P	**Pn**	**15 38 06.9**	**-0.8**
CUC	**Castrocucco**	**3.82**	**241**		**Pn**	**15 38 08.1**	**-0.2**
BZS	**Buzias**	**3.85**	**15**	⇑P	**Pn**	**15 38 09.0**	**+0.4**
BZS				⇑S	**Sn**	**15 38 52.4**	**-1.4**
BZS	**Buzias**	**3.85**	**15**	P	**Pn**	**15 38 09.0**	**+0.4**
BZS	**Buzias**	**3.85**	**15**	*e*Pn	**Pn**	**15 38 08.9**	**+0.3**
A051A	**Mrakovica**	**3.92**	**324**	⇑*i* Pn	**Pn**	**15 38 11.3**	**+1.7**
GZR	**Gura Zlata**	**3.96**	**27**	⇑P	**Pn**	**15 38 11.0**	**+0.8**
GZR				⇑S	**Sn**	**15 38 56.8**	**+0.1**
GZR	**Gura Zlata**	**3.96**	**27**	P	**Pn**	**15 38 10.9**	**+0.8**
GZR	**Gura Zlata**	**3.96**	**27**	*e*Pn	**Pn**	**15 38 11.0**	**+0.8**
RDO	**Rodhopi**	**4.09**	**99**		**Pn**	**15 38 12.7**	**+0.8**
SURR	**Surduc**	**4.09**	**19**	⇑P	**Pn**	**15 38 11.4**	**-0.6**
SURR				⇓S	**Sn**	**15 38 57.9**	**-2.0**
PAOL	**Paolisi**	**4.31**	**260**		**Pn**	**15 38 15.1**	**+0.1**
MORH	**Mrgy, Hungar**	**4.45**	**346**	⇑*i* Pn	**Pn**	**15 38 17.0**	**+0.2**
MORH	**Mrgy, Hungar**	**4.45**	**346**	⇓P	**Pn**	**15 38 17.3**	**+0.5**
MORH				⇑S	**Sn**	**15 39 07.9**	**-0.7**
MORH	**Mrgy, Hungar**	**4.45**	**346**	*e*Pn	**Pn**	**15 38 17.3**	**+0.5**
MOSL	**Moslavina**	**4.46**	**327**	⇑*i* Pn	**Pn**	**15 38 18.3**	**+1.3**
SIRR	**Siria**	**4.49**	**13**	⇓P	**Pn**	**15 38 17.7**	**+0.3**
SIRR				⇓S	**Sn**	**15 39 08.0**	**-1.6**
SIRR	**Siria**	**4.49**	**13**	*e*Pn	**Pn**	**15 38 17.6**	**+0.3**
ALN	**Alexandroupoli**	**4.52**	**101**		**Pn**	**15 38 18.6**	**+0.8**
ALN	**Alexandroupoli**	**4.52**	**101**	P	**Pn**	**15 38 18.6**	**+0.8**
INTR	**Introdacqua**	**4.69**	**273**		**Pn**	**15 38 20.2**	**+0.1**
ATH	**Athens Observa**	**4.78**	**144**	P	**Pn**	**15 38 26.0**	**+4.7**
CEL	**Celeste**	**4.91**	**224**	P	**Pn**	**15 38 21.1**	**-2.1**
ITM	**Ithomi**	**4.91**	**164**		**Pn**	**15 38 23.5**	**+0.3**
SOI	**Samo**	**4.97**	**221**	P	**Pn**	**15 38 26.0**	**+2.0**
VOIR		**4.99**	**43**	⇑P	**Pn**	**15 38 25.9**	**+1.5**
VOIR		**4.99**	**43**	P	**Pn**	**15 38 25.8**	**+1.5**
VOIR		**4.99**	**43**	P	**Pn**	**15 38 24.2**	**-0.1**
PTJ	**Puntijarka**	**5.03**	**324**	P	**Pn**	**15 38 26.7**	**+1.8**
OZLJ	**Ozalj**	**5.04**	**319**	⇑*i* Pn	**Pn**	**15 38 26.5**	**+1.6**
AQU	**L'Aquila**	**5.06**	**277**	P	**Pn**	**15 38 26.2**	**+0.9**
AQU				pmax	pmax		
	comp=Z,87nm,0.6s						
AQU	**L'Aquila**	**5.06**	**277**	P	**Pn**	**15 38 26.2**	**+0.9**
	comp=Z,0.4nmcomp=Z,926nmcomp=Z,70nm,0.6s						
BOJS	**Bojanci**	**5.07**	**317**	*i* Pn	**Pn**	**15 38 27.2**	**+1.8**
BOJS				*i* Pg	**Pg**	**15 38 44.5**	**-1.9**
BOJS				*i* Sn	**Sn**	**15 39 26.3**	**+2.3**
BOJS				*e*Sg	**Sg**	**15 39 58.6**	**+6.4**
CAMP	**Campotosto**	**5.07**	**279**		**Pn**	**15 38 26.1**	**+0.6**
BEHE	**Becsehely**	**5.18**	**333**		**Pn**	**15 38 27.4**	**+0.6**
BEHE	**Becsehely**	**5.18**	**333**	*e*Pn	**Pn**	**15 38 28.2**	**+1.3**
DRGR		**5.21**	**19**	⇓P	**Pn**	**15 38 28.5**	**+1.1**
DRGR				⇓S	**Sn**	**15 39 27.5**	**0.0**
DRGR		**5.21**	**19**	P	**Pn**	**15 38 28.4**	**+1.1**
NRCA	**Norcia**	**5.32**	**282**		**Pn**	**15 38 29.2**	**+0.3**
RIY	**Rijeka**	**5.37**	**311**	*e*Pn	**Pn**	**15 38 30.6**	**+1.2**
MLR	**Muntele Rosu**	**5.50**	**47**		**Pn**	**15 38 33.2**	**+1.8**
MLR	**Muntele Rosu**	**5.50**	**47**	Pn	**Pn**	**15 38 34.4**	**+3.0**
	comp=Z,1.8nm,0.3s,baz=225,slow=10.0,SNR=7.5						
MLR				Sn	**Sn**	**15 39 35.8**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=219,slow=13,SNR=3.6						
	comp=Z,5.7nm,0.4s						
MLR	**Muntele Rosu**	**5.50**	**47**	⇓P	**Pn**	**15 38 32.4**	**+1.0**
MLR	**Muntele Rosu**	**5.50**	**47**	*e*Pn	**Pn**	**15 38 32.4**	**+1.0**
BRJN	**Brijuni**	**5.56**	**305**	⇑*i* Pn	**Pn**	**15 38 31.8**	**-0.3**
ISR	**Istrita**	**5.63**	**53**	⇓P	**Pn**	**15 38 34.7**	**+1.6**
ISR	**Istrita**	**5.63**	**53**	P	**Pn**	**

WATA				*i* Sn		**Sn**	**15 40 40.3**	**-0.7**
	comp=Z,11nm,0.5s								
GERES	**GERESS Array B**	**8.30**	**329**		P	**Pn**	**15 39 10.6**	**+0.8**
GERES	**GERESS Array B**	**8.30**	**329**	Pn		**Pn**	**15 39 11.6**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=37								
GERES				Sn		**Sn**	**15 40 49.6**	**+6.0**
	comp=Z,0.1nm,0.3s,baz=146,slow=22,SNR=1.6								
GERES				LR		LR	15 42 53.4		
	comp=Z,167nm,19.6s,baz=138,slow=42								
	comp=Z,3.6nm,0.5s								
GERES	**GERESS Array B**	**8.30**	**329**	*e*P		**Pn**	**15 39 11.9**	**+2.1**
SQTA	**Sankt Quirin**	**8.32**	**313**	*i* Pn		**Pn**	**15 39 11.9**	**+1.8**
	comp=Z,13nm,0.3s,SNR=16								
SQTA				*e*Sn		**Sn**	**15 40 44.7**	**+0.6**
	comp=Z,11nm,0.6s								
PGF	**Pioggiola**	**8.33**	**278**	P		**Pn**	**15 39 11.9**	**+1.7**
PGF				pmax	pmax				
	comp=Z,28nm,1.2s								
MOTA	**Moosalm**	**8.45**	**313**	*i* Pn		**Pn**	**15 39 13.5**	**+1.6**
	comp=Z,21nm,0.4s,SNR=20								
MOTA				*i* Sn		**Sn**	**15 40 47.3**	**-0.1**
	comp=Z,12nm,0.6s								
FETA	**Feichten**	**8.47**	**310**	*e*Pn		**Pn**	**15 39 13.4**	**+1.1**
	comp=Z,4.6nm,0.4s,SNR=5.9								
FETA				*i* Sn		**Sn**	**15 40 50.4**	**+2.4**
	comp=Z,6.2nm,0.7s								
KRLC	**Kraliky**	**8.51**	**345**	*e*P		**Pn**	**15 39 15.8**	**+3.2**
KRLC	**Kraliky**	**8.51**	**345**	*e*PN		**Pn**	**15 39 15.8**	**+3.2**
FUORN	**Ofenpass-Fuorn**	**8.54**	**307**			**Pn**	**15 39 13.6**	**+0.5**
KHC	**Kasperske Hory**	**8.58**	**330**	⇑*e*P		**Pn**	**15 39 15.3**	**+1.7**
KHC				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KHC	**Kasperske Hory**	**8.58**	**330**	*e*PN		**Pn**	**15 39 15.6**	**+2.0**
KHC				*e*SN		**Sn**	**15 40 48.5**	**-1.9**
KHC				AMS	AMS		15 43 00.0		
	comp=Z,300nm,11.8s								
KHC	**Kasperske Hory**	**8.58**	**330**	P		**Pn**	**15 39 15.6**	**+2.0**
	comp=Z,12nm,0.8s								
ZVC	**Zvikov**	**8.62**	**333**	*e*PN		**Pn**	**15 39 17.1**	**+3.0**
ZVC				AMS	AMS		15 42 50.0		
	comp=Z,300nm,12.4s								
RETA	**Reutte**	**8.72**	**313**	*i* Pn		**Pn**	**15 39 17.1**	**+1.5**
	comp=Z,3.0nm,0.3s								
RETA				*i* Sn		**Sn**	**15 40 54.8**	**+0.9**
	comp=Z,11nm,0.5s								
DAVOX	**Davos/Dischmat**	**8.85**	**307**	Pn		**Pn**	**15 39 18.5**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=120,slow=13,SNR=36								
DAVOX				Sn		**Sn**	**15 40 59.4**	**+2.3**
	comp=Z,1.8nm,0.3s,baz=22,slow=20,SNR=4.2								
DAVOX				LR		LR	15 43 49.2		
	comp=Z,48nm,19.7s,baz=87,slow=45								
	comp=Z,20nm,0.6s								
DPC	**Dobruska-Polom**	**8.86**	**344**	P		**Pn**	**15 39 20.3**	**+2.9**
DPC				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ISP	**Isparta**	**8.93**	**114**	⇓*e*P		**Pn**	**15 39 19.2**	**+0.7**
TUE	**Stuetta**	**9.02**	**304**			**Pn**	**15 39 20.1**	**+0.3**
TUE	**Stuetta**	**9.02**	**304**	P		**Pn**	**15 39 21.2**	**+1.4**
	comp=Z,51nm,0.6s								
DAVA	**Damuels**	**9.11**	**310**	*i* Pn		**Pn**	**15 39 22.5**	**+1.6**
	comp=Z,5.0nm,0.4s								
DAVA				*i* Sn		**Sn**	**15 41 02.2**	**-1.2**
	comp=Z,7.2nm,0.6s								
GRC1	**Grafenberg Arr**	**9.34**	**322**	P		**Pn**	**15 39 26.2**	**+2.2**
GRC1				pmax	pmax				
	comp=Z,17nm,0.7s								
SENIN	**Lac Senin/Sane**	**10.28**	**300**			**Pn**	**15 39 36.9**	**-0.1**
BRTR	**Keskin Array B**	**10.43**	**98**	Pn		**Pn**	**15 39 40.4**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=275,slow=10.0,SNR=4.5								
	comp=Z,0.5nm,0.5s								
KEST	**Kesra**	**10.46**	**237**	Pn		**Pn**	**15 39 38.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=332,slow=7.1,SNR=2.5								
	comp=Z,2.8nm,1.1s								
RSL	**Roselend**	**10.51**	**296**	P		**Pn**	**15 39 41.3**	**+1.2**
BFO	**Black Forest**	**10.55**	**312**			**Pn**	**15 39 39.5**	**-1.1**
BFO	**Black Forest**	**10.55**	**312**	P		**Pn**	**15 39 39.5**	**-1.1**
MOX	**Moxa**	**10.55**	**329**	P		**Pn**	**15 39 44.6**	**+4.0**
MOX				pmax	pmax				
	comp=Z,8.0nm,0.6s								
AKASG	**Malin Array Be**	**10.78**	**32**	LR		LR	15 44 26.2		
	comp=Z,38nm,18.1s,baz=102,slow=41								
BMRD	**Maredsous**	**13.58**	**313**	*d*P		**Pn**	**15 40 24.0**	**+2.2**
MMAI	**Mount Meron Ar**	**14.98**	**121**	Pn		**P**	**15 40 47.3**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=313,slow=9.9,SNR=7.3								
MMAI				LR		LR	15 47 32.5		
	comp=Z,46nm,21.1s,baz=318,slow=42								
ASF	**Jabal al Asfar**	**16.48**	**121**	LR		LR	15 47 45.1		
	comp=Z,41nm,20.7s,baz=321,slow=39								
OBN	**Obninsk**	**17.04**	**34**	*e*P		**P**	**15 41 08.4**	**-0.9**
OBN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
EIL	**Elat**	**17.07**	**131**	P		**P**	**15 41 09.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=319,slow=11,SNR=2.3								
EIL				LR		LR	15 49 32.5		
	comp=Z,19nm,18.7s,baz=257,slow=44								
	comp=Z,11nm,1.1s								
ESDC	**Sonseca Array**	**18.41**	**271**	P		**Pn**	**15 41 23.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=4.4								
ESDC				LR		LR	15 49 48.6		
	comp=Z,33nm,19.4s,baz=72,slow=41								
	comp=Z,0.8nm,0.9s								
HFS	**Hagfors**	**18.68**	**350**	P		**Pn**	**15 41 27.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=149,slow=6.9,SNR=9.2								
HFS				LR		LR	15 48 25.6		
	comp=Z,28nm,20.4s,baz=136,slow=36								
	comp=Z,2.6nm,0.8s								
NC602	**NORSAR Array S**	**19.58**	**347**	P		**P**	**15 41 37.0**	**-0.2**
FINES	**FINESS Array B**	**19.89**	**8**	P		**P**	**15 41 40.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=186,slow=9.5,SNR=6.2								
FINES				LR		LR	15 50 18.9		
	comp=Z,41nm,21.3s,baz=111,slow=40								
	comp=Z,1.5nm,0.7s								
NB2	**NORSAR Subarra**	**19.92**	**347**	P		**P**	**15 41 40.3**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=163,slow=11								
NOA	**NORSAR Array B**	**19.92**	**347**	P		**P**	**15 41 40.7**	**-0.3**
	baz=154,slow=9.0,SNR=4.6								
NOA				LR		LR	15 49 34.6		
	comp=Z,25nm,21.2s,baz=170,slow=38								
	comp=Z,1.0nm,0.8s								
NOA	**NORSAR Array B**	**19.92**	**347**	*e*P		**Pn**	**15 41 44.8**	**+2.1**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
EKA	**Eskdalemuir Ar**	**20.33**	**319**	P		**P**	**15 41 45.2**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=114,slow=9.5,SNR=17								
	comp=Z,3.8nm,0.6s								
ESK	**Eskdalemuir**	**20.34**	**319**	P		**P**	**15 41 44.7**	**-0.9**
ESK	**Eskdalemuir**	**20.34**	**319**	P		**P**	**15 41 44.7**	**-0.9**
ESK				pmax	pmax				
	comp=Z,41nm,1.5s								
MDT	**Midelt**	**21.64**	**253**	LR		LR	15 49 44.7		
	comp=Z,41nm,20.5s,baz=282,slow=35								
KLMR	**Klimovskoe**	**22.32**	**25**	*e*P		**P**	**15 42 05.0**	**-1.8**
KLMR				pmax	pmax				
	comp=Z,14nm,1.3s								
ARCES	**ARCESS Array B**	**27.83**	**4**	P		**P**	**15 42 57.4**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=188,slow=4.6,SNR=5.0								
ARCES				LR		LR	15 53 24.8		
	comp=Z,13nm,21.6s,baz=113,slow=35								
	comp=Z,2.5nm,0.9s								
BORG	**Borgarnes**	**32.77**	**328**	LR		LR	15 59 29.4		
	comp=Z,31nm,19.6s,baz=19,slow=41								
BRVK	**Borovoye**	**34.96**	**54**	⇑*e*P		**P**	**15 44 01.9**	**+0.6**
BRVK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BVAR	**Borovoye Array**	**35.02**	**54**	P		**P**	**15 44 02.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=289,slow=4.5,SNR=5.6								
	comp=Z,0.3nm,0.3s								
BVAR	**Borovoye Array**	**35.02**	**54**	P		**P**	**15 44 02.0**	**+0.1**
ZALV	**Zalesovo Beam**	**43.47**	**51**	P		**P**	**15 45 11.5**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=280,slow=8.3,SNR=5.1								
	comp=Z,0.8nm,0.5s								
ZALV	**Zalesovo Beam**	**43.47**	**51**	*e*P		**P**	**15 45 13.1**	**+0.8**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**43.66**	**62**	P		**P**	**15 45 13.9**	**-0.1**
MKAR	**Makanchi Array**	**43.66**	**62**	P		**P**	**15 45 13.6**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=290,slow=7.2,SNR=6.4								
	comp=Z,0.3nm,0.5s								
MKAR	**Makanchi Array**	**43.66**	**62**	*e*P		**P**	**15 45 14.2**	**+0.2**
FRB	**Frobisher Bay**	**52.89**	**326**	LR		LR	16 09 43.9		
	comp=Z,23nm,18.5s,baz=106,slow=37								
RES	**Resolute Bay**	**56.12**	**343**	P		**P**	**15 46 49.5**	**+1.2**
RES	**Resolute Bay**	**56.12**	**343**	P		**P**	**15 46 49.5**	**+1.2**
RES				pmax	pmax				
	comp=Z,20nm,1.2s								
TIXI	**Tiksi**	**56.26**	**21**	LR		LR	16 14 10.2		
	comp=Z,18nm,19.2s,baz=34,slow=40								
SONM	**Songino Array**	**58.33**	**52**	P		**P**	**15 47 05.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=284,slow=5.8,SNR=1.8								
	comp=Z,0.3nm,0.4s								
YAK	**Yakutsk**	**62.01**	**30**	⇑*e*P		**P**	**15 47 29.9**	**+0.7**
YAK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
OPO	**Ambohidratompo**	**65.15**	**152**	P		**P**	**15 47 51.6**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=336,slow=12,SNR=2.8								
	comp=Z,3.9nm,0.8s								
HHC	**Hu-ho-hao-te**	**65.17**	**57**	*e*P		**P**	**15 47 49.4**	**-1.2**
HHC				pmax	pmax				
	comp=Z,13nm,1.0s								
HHC				pmax	pmax				
	comp=Z,150nm,4.7s								
PZH	**PanZhiHua**	**66.82**	**75**	P		**P**	**15 48 02.7**	**+1.2**
J30M	**Hart River**	**72.26**	**350**	P		**P**	**15 48 34.9**	**+0.4**
J30M				IAmb	IAmb		15 48 42.0		
	comp=Z,5.9nm,1.4s								
IMAR	**Indian Mountai**	**72.34**	**357**	P		**P**	**15 48 36.0**	**+1.3**
ILAR	**Eielson Array**	**73.18**	**354**	P		**P**	**15 48 38.4**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=360,slow=11,SNR=4.6								
	comp=Z,0.3nm,0.7s								
MMPY	**Sheldon Lake,**	**73.33**	**347**	P		**P**	**15 48 41.9**	**+1.1**
MMPY				IAmb	IAmb		15 49 02.6		
	comp=Z,5.5nm,1.4s								
BCAR	**Beaver Creek A**	**74.38**	**352**	P		**P**	**15 48 47.0**	**+0.1**
PPLA	**Purkeypile**	**75.37**	**356**	P		**P**	**15 48 53.2**	**+0.5**
LPAZ	**La Paz**	**99.46**	**257**	LR		LR	16 36 32.2		
	comp=Z,20nm,18.3s,baz=54,slow=36								
ASAR	**Alice Springs**	**122.75**	**94**	PKP		**PKPdf**	**15 56 03.8**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=308,slow=1.7,SNR=12								
QSPA	**South Pole Qui**	**131.76**	**180**	PKP		**PKiKP**	**15 56 21.8**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=239,slow=2.1,SNR=2.1								

*NNC **12** 16:13:54.9±3.2, 47.15N×89.44E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=27.4km s-min=25.0km az=36.0*
*ASRS **12** 16:13:57.7±0.7, 47.7°N×9.7°E±0.1°, h9km, MLh3.1/8, Error ellipse: s-maj=6.6km s-min=6.0km az=119.5, confirmed*
ISC 12 16:13:54.3±2.1, 47.15N±0.08×89.68E±0.08, h10km, n19, σ2s08/34, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**2.96**	**330**	Pg	**Pb**	**16 14 47.8**	**+0.6**
DGZ				Sg	**Sg**	**16 15 29.6**	**+0.2**
CUR	**Chagan-Uzun**	**3.08**	**344**	Pg	**Pg**	**16 14 53.4**	**0.0**
CUR				Sg	**Sg**	**16 15 32.1**	**-1.2**
AKAR	**Aktash**	**3.46**	**337**	Pg	**Pg**	**16 15 00.0**	**-0.5**
AKAR				Sg	**Sg**	**16 15 44.0**	**-1.2**
CHBI	**Chibit, Altay**	**3.48**	**336**	Pg	**Pg**	**16 14 58.9**	**-2.1**
CHBI				Sg	**Sg**	**16 15 43.7**	**-2.3**
ULGR	**Ulagan, Altay**	**3.66**	**343**	Pg	**Pg**	**16 15 03.8**	**-0.6**
ULGR				Sg	**Sg**	**16 15 50.1**	**-1.6**
TEL	**Teeli**	**3.89**	**5**	Pg	**Pb**	**16 15 05.1**	**+2.1**
TEL				Sg	**Sg**	**16 15 56.0**	**-3.2**
ELDR	**Elanda**	**4.71**	**331**	Pn	**Pn**	**16 15 09.7**	**+4.4**
ELDR				Pg	**Pg**	**16 15 22.7**	**-1.7**
ELDR				Sg	**Sg**	**16 16 24.9**	**-0.3**
YALR	**Yailyu, Altay**	**4.82**	**344**	Sg	**Sg**	**16 16 29.8**	**+0.9**
ARTR	**Artybash**	**4.91**	**342**	Pg	**Pg**	**16 15 25.8**	**-2.5**
ARTR				Sg	**Sg**	**16 16 33.3**	**+1.4**
UKR	**Ust'-Kan**	**4.98**	**321**	Pn	**Pn**	**16 15 11.4**	**+2.2**
UKR				Pg	**Pg**	**16 15 28.9**	**-0.7**
UKR				Sg	**Sg**	**16 16 36.1**	**+2.0**
MK31	**Makanchi Array**	**5.07**	**269**	Pn	**Pn**	**16 15 10.7**	**+0.3**
	0.2nm,0.3s,baz=105,slow=12,SNR=4.1						
MK31				⇑Pg	**Pb**	**16 15 24.0**	**+0.9**
	0.8nm,0.5s,baz=86,slow=18,SNR=9.8						
MK31				⇑Lg	Lg	16 16 31.7	
	4.2nm,0.6s,baz=91,slow=30,SNR=7.0						
MAKZ	**Makanchi**	**5.29**	**269**	Pg	**Pb**	**16 15 26.9**	**+0.1**
	2.0nm,0.8s						
MAKZ				Lg	Lg	16 16 38.1	
	5.0nm,0.6s						
MAKZ	**Makanchi**	**5.29**	**269**	Pg	**Pb**	**16 15 27.5**	**+0.8**
MAKZ				Sg	**Sg**	**16 16 39.1**	**-4.8**
GALT	**Gorno-Altaysk,**	**5.39**	**335**	Pg	**Pg**	**16 15 35.3**	**-2.2**
GALT				Sg	**Sg**	**16 16 49.2**	**+1.9**
TASR	**Tashtagol**	**5.74**	**349**	Sg	**Sg**	**16 16 56.5**	**-1.9**
ARDR	**Aradan**	**5.95**	**23**	Sg	**Sg**	**16 17 00.6**	**-4.6**
VEH	**Verkhnyaya Baz**	**6.13**	**4**	Sg	**Sg**	**16 17 09.1**	**-1.7**
LUZB	**Luzhba, Kemero**	**6.54**	**356**	Sg	**Sg**	**16 17 22.8**	**-1.2**
KURK	**Kurchatov**	**8.11**	**300**	⇓Pn	**Pn**	**16 15 51.8**	**-0.2**
	1.7nm,0.8s						
KURK				⇑Sn	**Sn**	**16 17 23.3**	**-0.4**
	1.5nm,0.9s						
KURK				⇑Lg	Lg	16 18 11.7	
	7.2nm,0.7s						

*IDC **12** 16:23:57.1±37.0, 16.96S×177.20W, h377km±303km, mb3.4/5, mbtmp4.1/5, Error ellipse: s-maj=269.0km s-min=27.1km az=40.0*
*NEIC **12** 16:24:16.4±2.4, 18.0S±0.2×177.6W±0.1, h550km±2km, mb4.1/9, Error ellipse: s-maj=35.9km s-min=14.6km az=347.0*
ISC 12 16:24:17.3±2.1, 18.0S±0.3×177.8W±0.3, h550km, n17, σ1s26/22, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.93**	**273**		**P**	**16 25 41.4**	**+2.7**
URZ	**Urewera**	**20.65**	**191**	P	**P**	**16 28 18.6**	**-0.4**
	16nm,1.1s,baz=357,slow=18,SNR=1.8						
	16nm,1.1s						
TKNZ	**Takaka Hill**	**24.27**	**197**	P	**P**	**16 28 51.2**	**-0.2**
KHZ	**Kahutara**	**25.41**	**195**	P	**P**	**16 29 00.4**	**-1.0**
CAN	**Canberra**	**34.07**	**233**	P	**P**	**16 30 17.0**	**+0.6**
TOO	**Toolangi**	**37.53**	**231**	P	**P**	**16 30 45.3**	**+0.4**
TOO				IAmb	IAmb	16 31 16.8	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**39.06**	**241**	P	**P**	**16 30 57.8**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=68,slow=11,SNR=3.7						
	comp=Z,1.7nm,0.7s						
BBOO	**Buckleboo**	**43.83**	**241**	P	**P**	**16 31 34.9**	**-0.2**
BBOO				IAmb	IAmb	16 31 51.9	
	comp=Z,16nm,1.5s						
BBOO				PcP	**PcP**	**16 33 07.4**	**-2.0**
WR8	**Warramunga Arr**	**45.00**	**260**	P	**P**	**16 31 42.8**	**-1.5**
WR8				IAmb	IAmb	16 32 04.7	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**16 31 43.7**	**-1.8**
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**16 31 44.5**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=95,slow=7.4,SNR=9.1						
WRA				PcP	**PcP**	**16 33 13.5**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=97,slow=3.3,SNR=1.9						
	comp=Z,0.9nm,0.6s						
AS31	**Alice Springs**	**45.29**	**254**	P	**P**	**16 31 45.5**	**-1.0**
AS31				PcP	**PcP**	**16 33 13.9**	**-0.8**
ASAR	**Alice Springs**	**45.29**	**254**	P	**P**	**16 31 45.1**	**-1.3**
ASAR				PcP	**PcP**	**16 33 13.5**	**-1.1**
ASAR	**Alice Springs**	**45.29**	**254**	P	**P**	**16 31 45.7**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=88,slow=7.9,SNR=102						
ASAR				PcP	**PcP**	**16 33 13.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=105,slow=4.0,SNR=9.6						
	comp=Z,4.0nm,0.6s						
QSPA	**South Pole Qui**	**72.04**	**180**	P	**P**	**16 34 46.7**	**+1.0**
QSPA				IAmb	IAmb	16 35 30.4	
	comp=Z,4.6nm,1.3s						
QSPA	**South Pole Qui**	**72.04**	**180**	P	**P**	**16 34 47.5**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=62,slow=6.7,SNR=10						
	comp=Z,0.7nm,0.6s						
BELA	**Belgrano 2**	**81.99**	**173**	P	**P**	**16 35 39.4**	**-0.1**
BELA				IAmb	IAmb	16 36 03.0	
	comp=Z,2.7nm,1.2s						

*IDC **12** 16:30:49.3±0.9, 36.05N×82.32E, h0km, mb3.7/8, mbtmp3.8/13, ML3.4/5, MS3.2/13, Error ellipse: s-maj=26.9km s-min=15.1km az=57.0*
*NEIC **12** 16:30:51.1±1.8, 36.02N±0.08×82.1E±0.1, h10km±1km, mb4.1/7, Error ellipse: s-maj=15.7km s-min=13.1km az=229.0*
*NNC **12** 16:30:53.5±4.2, 36.35N×81.73E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=61.1km s-min=22.8km az=110.0*
ISC 12 16:30:51.1±0.7, 36.12N±0.07×82.29E±0.09, h10km, n47, σ1s24/42, mb3.8/11, MS3.3/10, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**6.60**	**329**		**Pn**	**16 32 28.4**	**-0.1**
PRZ	**Przheval'sk**	**7.03**	**336**	Pn	**Pn**	**16 32 35.4**	**+1.1**
KDJ	**Kajisay**	**7.19**	**328**	Pn	**Pn**	**16 32 36.9**	**+0.4**
PDGK	**Podgornoye**	**7.51**	**344**	⇑P	**Pn**	**16 32 41.8**	**+1.0**
	13nm,0.8s						
PDGK				⇓S	**Sn**	**16 34 05.0**	**-1.1**
	85nm,0.9s						
NIL	**Nilore**	**7.82**	**254**		Pn	16 32 42.0	-3.0
BOOM	**Boomskoye usch**	**8.04**	**324**	Pn	**Pn**	**16 32 46.6**	**-1.5**
AAK	**Ala-Archa**	**8.87**	**320**	Pn	**Pn**	**16 33 02.2**	**+2.7**
	0.6nm,0.3s,baz=230,slow=22,SNR=1.4						
AAK				Pg	Pg	16 33 30.4	-10
	2.5nm,0.3s,baz=169,slow=10,SNR=6.5						
AAK				Sn	**Sn**	**16 34 41.4**	**+1.9**
	0.9nm,0.3s,baz=164,slow=7.4,SNR=0.9						
AAK				Lg	Lg	16 35 24.1	
	1.3nm,0.3s,baz=45,slow=19,SNR=3.6						
AAK				LR	LR	16 37 01.6	
	comp=Z,101nm,20.5s,baz=134,slow=42						
	1.7nm,0.3s						
ARSB	**Arslanbob**	**8.93**	**308**	Pn	**Pn**	**16 33 00.8**	**+0.4**
EVN	**Everest**	**9.00**	**153**		**Pn**	**16 33 01.3**	**-0.4**
MK31	**Makanchi Array**	**10.66**	**0**	P	**Pn**	**16 33 24.9**	**+1.1**
	3.5nm,0.5s,baz=183,slow=12,SNR=127						
MK31				⇓S	**Sn**	**16 35 20.7**	**-2.7**
	4.1nm,0.6s,baz=183,slow=25,SNR=7.7						
MKAR	**Makanchi Array**	**10.66**	**0**		**Pn**	**16 33 24.9**	**+1.1**
MKAR	**Makanchi Array**	**10.66**	**0**	Pn	**Pn**	**16 33 25.4**	**+1.6**
	1.9nm,0.3s,baz=184,slow=12,SNR=44						
MKAR				Sn	**Sn**	**16 35 22.2**	**-1.1**
	1.0nm,0.3s,baz=190,slow=26,SNR=4.9						
MKAR				Lg	Lg	16 36 27.7	
	baz=177,slow=30						
MKAR				LR	LR	16 38 19.4	
	comp=Z,40nm,20.6s,baz=168,slow=42						
	5.1nm,0.4s						
MAKZ	**Makanchi**	**10.68**	**359**	P	**Pn**	**16 33 25.0**	**+0.9**
	12nm,1.1s						
MAKZ				S	**Sn**	**16 35 21.1**	**-2.6**
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**14.75**	**351**	Pn	**Pn**	**16 34 20.0**	**+0.4**
	0.1nm,0.3s,baz=173,slow=11,SNR=9.4						
	0.4nm,0.6s						
KURK	**Kurchatov**	**14.83**	**351**	Pn	**Pn**	**16 34 20.1**	**-0.6**
BRDH	**Bariadhala**	**15.67**	**146**	Lg	Lg	16 38 56.8	
	3.0nm,0.3s,baz=246,slow=20,SNR=1.8						
ZAA0	**Zalesovo Array**	**17.91**	**5**		**Pn**	**16 35 00.7**	**+0.5**
ZAA0				IAmb	IAmb	16 35 04.6	
	comp=Z,7.4nm,1.2s						
ZALV	**Zalesovo Beam**	**17.91**	**5**	P	**Pn**	**16 35 00.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=190,slow=13,SNR=12						
	comp=Z,5.1nm,1.0s						
BVA0	**Borovoye Array**	**18.86**	**337**	⇓P	**P**	**16 35 12.3**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=135,slow=7.5,SNR=20						
BVAR	**Borovoye Array**	**18.86**	**337**	P	**P**	**16 35 11.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=8.4,SNR=22						
BVAR				Lg	Lg	16 40 46.3	
	baz=152,slow=23,SNR=3.6						
BVAR				LR	LR	16 44 02.0	
	comp=Z,21nm,18.6s,baz=151,slow=42						
	comp=Z,3.8nm,0.6s						
BRVK	**Borovoye**	**18.92**	**337**	P	**P**	**16 35 11.6**	**-0.3**
BRVK				IAmb	IAmb	16 35 16.8	
	comp=Z,8.9nm,1.1s						
BRVK	**Borovoye**	**18.92**	**337**	⇓P	**P**	**16 35 12.3**	**+0.4**
	comp=Z,6.0nm,0.8s						
AB31	**Akbulak array**	**20.93**	**316**	P	**P**	**16 35 32.1**	**-1.6**
AB31				IAmb	IAmb	16 35 38.0	
	comp=Z,12nm,1.4s						
AB31	**Akbulak array**	**20.93**	**316**	⇓P	**P**	**16 35 32.1**	**-1.6**
	comp=Z,4.6nm,0.8s,baz=198,slow=3.6,SNR=22						
ABKAR	**Akbulak array**	**20.93**	**316**	P	**P**	**16 35 32.3**	**-1.5**
SONM	**Songino Array**	**21.31**	**49**	P	**P**	**16 35 39.3**	**+1.2**
SONM	**Songino Array**	**21.31**	**49**	P	**P**	**16 35 38.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=246,slow=12,SNR=5.4						
SONM				LR	LR	16 44 42.2	
	comp=Z,67nm,18.3s,baz=204,slow=39						
	comp=Z,0.5n

CHGN	**Chignik**	**2.87**	**53**	Pn	Pn	16 33 49.8	+0.2
CHGN				IAML		16 34 17.1	
	comp=E,38nm,0.0s						
CHGN				IAML		16 34 36.2	
	comp=N,24nm,0.1s						

*IDC **12** 16:40:15.8±0.6, 37.°59N×137.°36E, h274km±6km, mb3.0/8, mbtmp3.7/13, Error ellipse: s-maj=18.4km s-min=10.4km az=71.0*

*JMA **12** 16:40:16.0±0.2, 37.°5N±0.°6×137.°2E±0.°9, h275km±1km, MV3.2/34, NOTO PENINSULA REGION*

ISC 12 16:40:16.0±0.8**, 37.°54N**±0.°06×**137.°20E**±0.°07**, h270**km±7km**, n29,** σ1.s40/40**, mb3.2**/8**, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.16**	**126**	*e*P	**Pn**	**16 40 51.0**	**+0.4**
JSZ				*e*S	**S**	**16 41 18.6**	**+0.8**
JHG	**Hegura jima**	**0.37**	**324**	P	**Pn**	**16 40 51.9**	**+1.1**
JHG				*e*S	**S**	**16 41 19.7**	**+1.4**
JJH	**Hakui**	**0.70**	**208**	P	**Pn**	**16 40 52.3**	**+0.4**
JSD	**Sado**	**0.98**	**59**	P	**Pn**	**16 40 54.0**	**+1.0**
JSD				*e*S	**S**	**16 41 23.2**	**+1.0**
MAT	**Matsushiro**	**1.29**	**141**	P	**Pn**	**16 40 55.1**	**+0.2**
MJAR	**Matsushiro Arr**	**1.29**	**141**	P	**Pn**	**16 40 54.9**	**+0.1**
	25nm,0.5s,baz=316,slow=7.9,SNR=102						
MJAR				S	**S**	**16 41 27.0**	**+1.4**
	5.4nm,0.8s,baz=341,slow=11,SNR=4.7						
JKG	**Kaga**	**1.44**	**209**	P	**Pn**	**16 40 55.9**	**+0.1**
JYTA	**Yamagatataniai**	**1.98**	**191**	P	**Pn**	**16 40 59.9**	**-0.1**
JYTA				*e*S	**S**	**16 41 34.4**	**-0.5**
JAG	**Ashikaga**	**2.12**	**121**	P	**Pn**	**16 41 01.1**	**-0.2**
JYN	**Shimob**	**2.31**	**152**	P	**Pn**	**16 41 02.9**	**-0.2**
JYN				*e*S	**S**	**16 41 39.6**	**-0.8**
JWT	**Wachi**	**2.68**	**213**	P	**Pn**	**16 41 05.6**	**-0.9**
JWT				*e*S	**S**	**16 41 44.1**	**-2.5**
JOD2	**Odawara 2**	**2.74**	**146**	P	**Pn**	**16 41 06.8**	**-0.3**
JOD2				*e*S	**S**	**16 41 46.8**	**-1.0**
JYK	**Kaneyama**	**2.84**	**60**	P	**Pn**	**16 41 09.5**	**+1.4**
JIE	**Ise**	**3.17**	**187**	P	**Pn**	**16 41 11.4**	**-0.2**
JMK	**Ichinoseki**	**3.47**	**65**	P	**Pn**	**16 41 16.4**	**+1.7**
JMK				*e*S	**S**	**16 42 02.8**	**+1.5**
JWY	**Kouya**	**3.56**	**202**	P	**Pn**	**16 41 15.4**	**-0.5**
JHJ	**Hachijo jima 2**	**4.89**	**154**	P	**Pn**	**16 41 30.9**	**-0.4**
	144nm,0.8s,baz=247,slow=23,SNR=1.3						
JHJ				S	**S**	**16 42 29.7**	**-1.7**
	98nm,0.7s,baz=107,slow=19,SNR=1.5						
JNU	**Nakatsue**	**6.79**	**231**	P	**Pn**	**16 41 54.9**	**+0.5**
	5.6nm,1.0s,baz=50,slow=19,SNR=1.7						
KSRS	**Korea Array**	**7.37**	**272**	P	**Pn**	**16 42 02.8**	**+1.3**
	4.0nm,1.0s,baz=87,slow=12,SNR=6.6						
USRK	**Ussuriysk Ar.**	**7.73**	**331**	P	**Pn**	**16 42 07.2**	**+1.4**
	2.2nm,0.7s,baz=150,slow=12,SNR=8.7						
ASAJ	**Asahikawa**	**7.74**	**30**	P	**Pn**	**16 42 04.9**	**-1.0**
	20nm,0.4s,baz=234,slow=12,SNR=58						
ASAJ				S	**S**	**16 43 28.6**	**-6.1**
	1.7nm,0.4s,baz=281,slow=19,SNR=1.2						
SONM	**Songino Array**	**24.71**	**304**	P	**P**	**16 45 13.0**	**0.0**
	0.4nm,0.3s,baz=117,slow=8.4,SNR=2.0						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**39.08**	**312**	P	**P**	**16 47 16.6**	**-0.4**
	0.4nm,0.3s,baz=98,slow=5.7,SNR=2.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**40.98**	**301**	P	**P**	**16 47 33.0**	**+0.2**
	0.2nm,0.6s,baz=110,slow=6.7,SNR=1.7						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**43.02**	**307**	P	**P**	**16 47 48.8**	**-0.3**
	0.8nm,0.6s,baz=82,slow=7.5,SNR=5.6						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**47.73**	**311**	P	**P**	**16 48 25.9**	**+0.2**
	0.3nm,0.5s,baz=93,slow=6.3,SNR=2.2						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.24**	**183**	P	**P**	**16 49 35.2**	**-0.4**
	0.7nm,0.4s,baz=0.2,slow=7.5,SNR=23						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**60.96**	**183**	P	**P**	**16 50 00.8**	**-0.1**
	0.1nm,0.3s,baz=360,slow=5.9,SNR=14						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**92.42**	**50**	P	**P**	**16 52 56.9**	**+0.4**
	0.1nm,0.4s,baz=266,slow=3.0,SNR=2.5						
	0.1nm,0.4s						

CATAC 12 16:57:41.2±0.9**, 12°N**±6°×**8°8W**±°**, h18**km±14km**, M3.0**/8**, MLv3.0**/8**, Error ellipse: s-maj=17.5km s-min=6.7km az=42.7, confirmed, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.19**	**22**	P	Pn	16 58 02.6	-0.5
CSGN				S	Sg	16 58 20.2	+0.1
POTN	**Potosi Cosigui**	**1.23**	**24**	P	Pn	16 58 03.3	-0.3
POTN				S	Sb	16 58 18.7	-0.9
CRIN	**San Cristobal**	**1.26**	**49**	P	Pb	16 58 04.3	-0.2
CNCH	**Conchagua**	**1.41**	**7**	P	Pn	16 58 06.1	-0.1
CNCH	**Conchagua**	**1.41**	**7**	S	Sb	16 58 24.9	0.0
POLN	**Al Sur del Vol**	**1.42**	**56**	P	Pn	16 58 05.6	-0.5
PLRN	**Geotermica Pol**	**1.42**	**60**	P	Pn	16 58 05.0	-1.1
PLRN				S	Sb	16 58 24.9	0.0
COPN	**Copaltepe**	**1.43**	**77**	P	Pn	16 58 06.7	+0.4
CNGN	**Cerro Negro**	**1.44**	**64**	P	Pn	16 58 06.8	+0.3
LCND	**La Caada**	**1.44**	**5**	P	Pn	16 58 06.0	-0.4
ILCN	**San Idelfonso**	**1.47**	**61**	P	Pn	16 58 06.5	-0.4
ILCN				S	Sb	16 58 26.2	-0.3
MOMN	**Momotombo**	**1.54**	**69**	P	Pn	16 58 08.0	+0.1
MOMN				S	Sn	16 58 27.7	+0.2
CHOHN	**Orocuina**	**1.81**	**28**	P	Pn	16 58 11.4	-0.3
CHOHN	**Orocuina**	**1.81**	**28**	S	Sn	16 58 34.9	+0.7
YUSH	**Yuscaran**	**2.37**	**29**	P	Pn	16 58 19.8	+0.4
YUSH	**Yuscaran**	**2.37**	**29**	S	Sn	16 58 48.4	+0.3

*IDC **12** 17:14:42.3±0.7, 40.°79N×73.°45E, h0km, mb4.1/20, mbtmp4.3/27, ML4.0/6, MS3.7/31, Error ellipse: s-maj=13.1km s-min=8.7km az=144.0*

*NEIC **12** 17:14:44.7±1.9, 40.°86N±0.°04×73.°40E±0.°06, h10km±1km, mb4.6/42, Error ellipse: s-maj=9.1km s-min=5.6km az=225.0*

*MOS **12** 17:14:44.2±1.5, 40.°94N×73.°34E, h12km, mb4.6/29, Error ellipse: s-maj=4.7km s-min=3.8km az=96.9*

*KRNET **12** 17:14:45.8±0.1, 40.°93N×73.°43E, h25km, mb5.2*

*BJI **12** 17:14:45.1, 41.°01N×73.°54E, h14km, mB4.7/7, mb4.3/23, ML4.7/5, Ms4.1/14, Ms7 4.0/13*

*ISU **12** 17:14:46, 40.°92N×73.°37E, h22km*

*NNC **12** 17:14:46.0±1.0, 40.°98N×73.°36E, h0km, mb5.4, mpv5.0, Error ellipse: s-maj=9.0km s-min=4.3km az=169.0*

*SOME **12** 17:14:47.6, 41.°18N×73.°45E, h5km, MS3.9*

*KNET **12** 17:14:48.6±0.7, 41.°05N×73.°62E, h19km±4km, ml4.8, Error ellipse: s-maj=7.9km s-min=4.7km az=91.0*

ISC 12 17:14:45.7±0.6**, 40.°97N**±0.°02×**73.°40E**±0.°01**, h15**km±3km**, n298,** σ1.s79/354**, mb4.4**/60**, MS3.8**/33**, 39C-37D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.33**	**105**	⇓*i*P	**Pg**	**17 14 52.5**	**-0.2**
SALK				⇓*i*S	**Sg**	**17 14 57.0**	**-0.5**
SALK	**Salom-Alik**	**0.33**	**105**	⇓*i*PG	**Pg**	**17 14 52.5**	**-0.2**
SALK				*i* S	**Sg**	**17 14 57.0**	**-0.5**
ARSB	**Arslanbob**	**0.47**	**318**		**Pb**	**17 14 56.2**	**+0.4**
ARSB					**Sb**	**17 15 03.2**	**+0.5**
ARSB	**Arslanbob**	**0.47**	**318**	⇑*i*P	**Pb**	**17 14 56.2**	**+0.4**
ARSB				⇑*i*S	**Sb**	**17 15 03.6**	**+0.9**
ARSB	**Arslanbob**	**0.47**	**318**	PG	**Pb**	**17 14 56.2**	**+0.4**
ARSB				S	**Sb**	**17 15 03.2**	**+0.5**
OHH	**Osh**	**0.65**	**226**	⇑*i*P	**Pg**	**17 14 58.1**	**-0.3**
OHH				⇑*i*S	**Sg**	**17 15 06.9**	**-0.1**
OHH	**Osh**	**0.65**	**226**	PG	**Pg**	**17 14 58.4**	**0.0**
OHH				S	**Sg**	**17 15 06.1**	**-0.9**
TSTA	**Tashata**	**0.80**	**241**	P	**Pg**	**17 15 01.2**	**-0.1**
TSTA				S	**Sg**	**17 15 12.0**	**+0.1**
ANR	**Andizhan**	**0.81**	**255**	P	**Pn**	**17 15 02.4**	**-0.3**
ANR				S	**Sn**	**17 15 13.8**	**-0.7**
NAM	**Namangan**	**1.32**	**271**	P	**Pg**	**17 15 11.9**	**+0.8**
NAM				S	**Sg**	**17 15 30.7**	**+2.5**
FRG	**Fergana**	**1.36**	**245**	P	**Pg**	**17 15 11.7**	**-0.3**
FRG				S	**Sg**	**17 15 30.3**	**+0.5**
KSNS	**Kasansay**	**1.43**	**278**	P	**Pg**	**17 15 14.6**	**+1.3**
KSNS				S	**Sg**	**17 15 34.8**	**+2.9**
CHMI	**Chimion**	**1.59**	**244**	P	**Pb**	**17 15 15.5**	**+0.7**
CHMI				S	**Sg**	**17 15 37.2**	**+0.2**
EKS2	**Erkin-Say**	**1.71**	**9**	⇑P	**Pb**	**17 15 17.8**	**+0.8**
	1µm,0.3s,SNR=2202						
EKS2				⇑S	**Sg**	**17 15 40.1**	**-0.8**
	10µm,0.5s						
EKS2	**Erkin-Say**	**1.71**	**9**	⇑*i*P	**Pb**	**17 15 17.3**	**+0.3**
EKS2				⇑*i*S	**Sg**	**17 15 39.9**	**-1.0**
EKS2	**Erkin-Say**	**1.71**	**9**	*e*PN	**Pb**	**17 15 17.3**	**+0.3**
MRKS	**Merke**	**1.78**	**356**	*e*P	**Pb**	**17 15 19.1**	**+1.0**
	5µm,0.3s						
MRKS				*e*S	**Sb**	**17 15 41.5**	**+1.3**
	15µm,0.3s						
TRKS	**Terek-Say**	**1.79**	**289**	⇑*i*P	**Pb**	**17 15 17.6**	**-0.7**
TRKS				⇑*i*S	**Sb**	**17 15 40.7**	**0.0**
TRKS	**Terek-Say**	**1.79**	**289**	PN	**Pb**	**17 15 17.6**	**-0.7**
AAK	**Ala-Archa**	**1.86**	**26**		**Pg**	**17 15 20.7**	**-0.7**
AAK				Sn	**Sg**	**17 15 45.9**	**+0.4**
AAK	**Ala-Archa**	**1.86**	**26**	Pn	**Pb**	**17 15 20.4**	**+0.9**
	2µm,0.3s,baz=185,slow=5.8,SNR=1218						
AAK				Lg	Lg	17 15 45.7	
	4µm,0.3s,baz=60,slow=19,SNR=88						
AAK				LR	LR	17 16 17.7	
	comp=Z,209nm,19.4s,baz=224,slow=48						
AAK	**Ala-Archa**	**1.86**	**26**	⇓P	**Pb**	**17 15 20.3**	**+0.9**
	2µm,0.3s,SNR=377						
AAK				⇓S	**Sb**	**17 15 43.8**	**+1.3**
	20µm,0.4s						
AAK	**Ala-Archa**	**1.86**	**26**	⇓P	**Pb**	**17 15 20.6**	**+1.1**
	878nm,0.6s						
AAK				⇑S	**Sg**	**17 15 45.2**	**-0.3**
	305nm,0.4s						
AAK	**Ala-Archa**	**1.86**	**26**	⇑*i*P	**Pb**	**17 15 19.2**	**-0.3**
AAK				⇑*i*S	**Sb**	**17 15 43.2**	**+0.7**
AAK	**Ala-Archa**	**1.86**	**26**	*de*PN	**Pb**	**17 15 20.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,1µm,0.5s						
MINT	**Mingtut**	**1.91**	**255**	P	**Pb**	**17 15 20.1**	**-0.2**
MINT				S	**Sb**	**17 15 45.5**	**+1.6**
KBK	**Karagaybulak**	**2.04**	**34**	⇑P	**Pb**	**17 15 23.2**	**+0.5**
	comp=Z,930nm,0.3s,SNR=761						
KBK				⇑S	**Sb**	**17 15 49.4**	**+1.5**
	comp=Z,12µm,0.3s						
KBK	**Karagaybulak**	**2.04**	**34**	⇑*i*P	**Pb**	**17 15 21.7**	**-1.0**
KBK				⇑*i*S	**Sb**	**17 15 47.7**	**-0.3**
KBK	**Karagaybulak**	**2.04**	**34**	*e*PN	**Pb**	**17 15 21.7**	**-1.0**
FRU1	**Bishkek**	**2.06**	**26**		**Pb**	**17 15 24.1**	**+1.3**
FRU1				Sn	**Sb**	**17 15 50.0**	**+1.8**
FRU1	**Bishkek**	**2.06**	**26**	⇑*i*P	**Pb**	**17 15 22.0**	**-0.8**
FRU1				⇑*i*S	**Sb**	**17 15 48.1**	**-0.1**
FRU1	**Bishkek**	**2.06**	**26**	PN	**Pb**	**17 15 24.1**	**+1.3**
FRU1						17 15 50.0	
CHMS	**Chumysh**	**2.26**	**26**	P	**Pb**	**17 15 26.4**	**0.0**
	comp=Z,1µm,0.5s,SNR=532						
CHMS				⇑S	**Sb**	**17 15 56.4**	**+2.2**
	comp=Z,22µm,0.8s						
CHMS	**Chumysh**	**2.26**	**26**	⇑*i*P	**Pn**	**17 15 24.5**	**+1.9**
CHMS				⇑*i*S	**Sb**	**17 15 52.8**	**-1.3**
CHMS	**Chumysh**	**2.26**	**26**	*i* PN	**Pn**	**17 15 24.5**	**+1.9**
CHMS				*i* S	**Sb**	**17 15 52.8**	**-1.3**
USP	**Ospenovka**	**2.44**	**19**	⇓P	**Pb**	**17 15 28.3**	**-1.0**
	comp=Z,518nm,0.2s,SNR=176						
USP				⇓S	**Sb**	**17 15 59.6**	**+0.5**
	comp=Z,4µm,0.5s						
USP	**Ospenovka**	**2.44**	**19**	⇓*i*P	**Pn**	**17 15 27.1**	**+2.1**
USP				⇓*i*S	**Sb**	**17 15 57.2**	**-1.9**
USP	**Ospenovka**	**2.44**	**19**	*e*PN	**Pn**	**17 15 27.1**	**+2.1**
KSH	**Kashi**	**2.45**	**126**	Pn	**Pb**	**17 15 28.2**	**-1.4**
KSH				smax	smax		
	comp=Z,7µm,0.8s						
KSH				smax	smax		
	comp=Z,4µm,0.5s						
DZA	**Taraz**	**2.46**	**322**	Pg	**Pg**	**17 15 31.7**	**-1.2**
	comp=Z,6µm,0.5s						
DZA				Lg	Lg	17 16 03.9	
	comp=Z,15µm,0.3s						
DZA	**Taraz**	**2.46**	**322**	*e*PN	**Pb**	**17 15 28.7**	**-1.0**
DZA				*e*		17 15 31.4	
DZA	**Taraz**	**2.46**	**322**	*e*P	**Pg**	**17 15 31.5**	**-1.4**
	comp=Z,6µm,0.5s						
DZA				*e*S	**Sg**	**17 16 03.2**	**-1.6**
	comp=Z,16µm,0.4s						
DZA	**Taraz**	**2.46**	**322**	*e*Pn	**Pb**	**17 15 28.7**	**-1.0**
DZA				*e*Pg	**Pg**	**17 15 31.5**	**-1.4**
ULHL	**Ulahol**	**2.48**	**58**	⇑P	**Pb**	**17 15 28.2**	**-2.0**
	comp=Z,576nm,0.4s,SNR=111						
ULHL	**Ulahol**	**2.48**	**58**	⇓*i*P	**Pn**	**17 15 27.4**	**+1.5**
ULHL				⇓*i*S	**Sn**	**17 15 57.7**	**+1.7**
ULHL	**Ulahol**	**2.48**	**58**	⇓*i*PN	**Pn**	**17 15 27.4**	**+1.5**
ULHL				*i* S	**Sn**	**17 15 57.7**	**+1.7**
TKM2	**Tokmak 2**	**2.55**	**39**	⇑P	**Pb**	**17 15 30.0**	**-1.3**
	comp=Z,525nm,0.3s,SNR=1289						
TKM2				⇓S	**Sb**	**17 16 01.5**	**-0.9**
	comp=Z,5µm,0.5s						
TKM2	**Tokmak 2**	**2.55**	**39**	⇓*i*P	**Pn**	**17 15 28.5**	**+1.8**
TKM2				⇓*i*S	**Sn**	**17 15 59.6**	**+2.0**
TKM2	**Tokmak 2**	**2.55**	**39**	*e*PN	**Pn**	**17 15 28.5**	**+1.8**
CHMG	**Chimgan**	**2.62**	**284**	P	**Pn**	**17 15 29.8**	**+2.2**
SGDS	**Sogindy**	**2.64**	**20**	Pg	**Pg**	**17 15 35.2**	**-1.2**
	comp=Z,309nm,0.4s						
SGDS				Lg	Lg	17 16 09.0	
	comp=Z,3µm,0.8s						
SGDS	**Sogindy**	**2.64**	**20**	*e*Pn	**Pb**	**17 15 31.1**	**-1.7**
SGDS				*e*Pg	**Pg**	**17 15 35.0**	**-1.4**
CHRV	**Charvak**	**2.68**	**286**	P	**Pn**	**17 15 30.6**	**+2.2**
IUG	**Iuzhnay**	**2.79**	**296**	*e*PN	**Pn**	**17 15 32.6**	**+2.7**
IUG				*e*		17 15 37.1	
IUG	**Iuzhnay**	**2.79**	**296**	*e*Pn	**Pn**	**17 15 32.7**	**+2.7**
IUG				*e*Pg	**Pb**	**17 15 37.2**	**+1.9**
KST	**Kastek**	**2.82**	**42**	Pg	**Pb**	**17 15 37.5**	**+1.7**
	comp=Z,435nm,0.4s						
KST				Lg	Lg	17 16 12.9	
	comp=Z,5µm,0.5s						
KST	**Kastek**	**2.82**	**42**	*e*P	**Pb**	**17 15 36.0**	**+0.1**
	comp=Z,428nm,0.2s						
KST				*e*S	**Sb**	**17 16 10.9**	**+0.7**
	comp=Z,5µm,0.4s						
DGS	**Degeres**	**2.88**	**37**	Pg	**Pg**	**17 15 39.2**	**-1.6**
	comp=Z,540nm,0.5s						
DGS				Lg	Lg	17 16 16.5	
	comp=Z,5µm,0.8s						
TGS	**TashGRES**	**2.96**	**280**	P	**Pg**	**17 15 43.6**	**+1.1**
TGS				S	**Sg**	**17 16 24.3**	**+3.5**
KK31	**Karatay Array**	**3.02**	**316**		**Pn**	**17 15 35.3**	**+2.2**
KK31	**Karatay Array**	**3.02**	**316**	⇑Pn	**Pn**	**17 15 35.3**	**+2.2**
	comp=Z,83nm,0.4s,baz=129,slow=12,SNR=5218						
KK31				⇓Pg	**Pb**	**17 15 40.7**	**+1.4**
	comp=Z,282nm,0.4s,baz=126,slow=16,SNR=9.4						
KK31				Lg	Lg	17 16 20.2	
	comp=Z,1µm,0.4s,baz=131,slow=29,SNR=14						
KK31	**Karatay Array**	**3.02**	**316**	PN	**Pn**	**17 15 35.3**	**+2.2**
KKAR	**Karatay Array**	**3.02**	**316**		**Pn**	**17 15 34.8**	**+1.7**
KKAR	**Karatay Array**	**3.02**	**316**	PN	**Pn**	**17 15 34.8**	**+1.7**
KDJ	**Kajisay**	**3.07**	**67**		**Pn**	**17 15 36.0**	**+2.2**
KDJ	**Kajisay**	**3.07**	**67**	⇓*i*P	**Pn**	**17 15 35.6**	**+1.8**
KDJ				⇓*i*S	**Sn**	**17 16 11.6**	**+1.3**
KDJ	**Kajisay**	**3.07**	**67**	PN	**Pn**	**17 15 36.0**	**+2.2**
GAR	**Garm**	**3.08**	**231**		**Pn**	**17 15 35.8**	**+1.9**
MTBS	**Maitube**	**3.12**	**45**	Pg	**Pg**	**17 15 43.7**	**-1.9**
	comp=Z,268nm,0.4s						
MTBS				Lg	Lg	17 16 23.5	
	comp=Z,3µm,0.7s						
MTBS	**Maitube**	**3.12**	**45**	*e*P	**Pb**	**17 15 42.1**	**+1.1**
	comp=Z,175nm,0.3s						
MTBS				*e*S	**Sb**	**17 16 21.1**	**+2.2**
	comp=Z,4µm,0.5s						
CHM	**Chimkent**	**3.15**	**297**	*e*PN	**Pn**	**17 15 37.2**	**+2.5**
CHM	**Chimkent**	**3.15**	**297**	*e*P	**Pg**	**17 15 45.0**	**-1.0**
	comp=Z,578nm,0.2s						
CHM				*e*S	**Sg**	**17 16 26.2**	**-0.5**
	comp=Z,12µm,0.4s						
CHM	**Chimkent**	**3.15**	**297**	*e*Pn	**Pn**	**17 15 37.2**	**+2.5**
KRBS	**Karabastau**	**3.20**	**31**	Pg	**Pg**	**17 15 45.3**	**-1.8**
	comp=Z,2.4nm,0.3s						
KRBS				Lg	Lg	17 16 26.4	
	comp=Z,601nm,0.6s						
NZBK	**Nazarbek**	**3.24**	**276**	P	**Pn**	**17 15 37.0**	**+0.9**
NZBK				S	**Sb**	**17 16 19.9**	**-2.4**
TNSS	**Tian-Shan**	**3.35**	**51**	Pg	**Pb**	**17 15 47.7**	**+2.5**
	comp=Z,90nm,0.4s						
TNSS				Lg	Lg	17 16 31.0	
	comp=Z,1µm,0.5s						
TNSS	**Tian-Shan**	**3.35**	**51**	*e*PN	**Pn**	**17 15 40.9**	**+2.9**
TNSS				*e*		17 15 47.1	
TNSS	**Tian-Shan**	**3.35**	**51**	*e*P	**Pb**	**17 15 46.6**	**+1.4**
	comp=Z,124nm,0.5s						
TNSS				*e*S	**Sb**	**17 16 28.9**	**+3.0**
	comp=Z,1µm,0.5s						
TNSS	**Tian-Shan**	**3.35**	**51**	*e*Pn	**Pn**	**17 15 40.9**	**+2.9**
TNSS				*e*Pg	**Pb**	**17 15 47.2**	**+2.0**
BRLS	**Boroldav**	**3.36**	**309**	Pg	**Pg**	**17 15 47.8**	**-2.3**
	comp=Z,462nm,0.5s						
BRLS				Lg	Lg	17 16 30.8	
	comp=Z,2µm,0.5s						
BRLS	**Boroldav**	**3.36**	**309**	*e*PN	**Pn**	**17 15 40.6**	**+2.9**
BRLS				pmax	pmax		
	comp=Z,18nm,0.2s						
BRLS	**Boroldav**	**3.36**	**309**	*e*P	**Pg**	**17 15 48.0**	**-2.1**
	comp=Z,300nm,0.4s						
BRLS				*e*S	**Sg**	**17 16 31.3**	**-2.2**
	comp=Z,2µm,0.5s						
BRLS	**Boroldav**	**3.36**	**309**	*e*Pn	**Pn**	**17 15 39.0**	**+1.3**
BRLS				*e*Pg	**Pb**	**17 15 46.9**	**+1.9**
TARG	**Taragay, Kyrgy**	**3.40**	**76**		**Pn**	**17 15 39.1**	**+0.4**
TARG	**Taragay, Kyrgy**	**3.40**	**76**	PN	**Pn**	**17 15 39.1**	**+0.4**
AAA	**Alma-Ata**	**3.44**	**48**	Pg	**Pg**	**17 15 49.9**	**-1.8**
	comp=Z,610nm,0.4s						
AAA				Lg	Lg	17 16 34.3	
	comp=Z,645nm,0.5s						
AAA	**Alma-Ata**	**3.44**	**48**	*e*PN	**Pn**	**17 15 42.7**	**+3.8**
AAA				*e*		17 15 48.5	
AAA	**Alma-Ata**	**3.44**	**48**	*e*P	**Pb**	**17 15 48.0**	**+1.6**
	comp=Z,129nm,0.2s						
AAA				*e*S	**Sb**	**17 16 31.6**	**+3.5**
	comp=Z,645nm,0.5s						
AAA	**Alma-Ata**	**3.44**	**48**	*e*Pn	**Pn**	**17 15 42.7**	**+3.8**
AAA				*e*Pg	**Pg**	**17 15 48.5**	**-3.2**
KNDC	**Almaty**	**3.48**	**49**	⇓Pg	**Pg**	**17 15 50.4**	**-1.9**
	comp=Z,1µm,0.3s						
KNDC				⇓Lg	Lg	17 16 35.8	
	comp=Z,5µm,0.5s						
KNDC	**Almaty**	**3.48**	**49**	PN	**Pg**	**17 15 50.4**	**-1.9**
KUU	**Kurty**	**3.64**	**36**	Pg	**Pg**	**17 15 53.0**	**-2.5**
	comp=Z,100nm,0.3s						
KUU				Lg	Lg	17 16 39.5	
	comp=Z,7µm,0.5s						
KUU	**Kurty**	**3.64**	**36**	*e*P	**Pb**	**17 15 51.6**	**+1.8**
	comp=Z,34nm,0.2s						
KUU				*e*S	**Sb**	**17 16 37.5**	**+3.7**
	comp=Z,7µm,0.5s						
KTBS	**Karatobe**	**3.66**	**41**	Pg	**Pb**	**17 15 53.2**	**+3.0**
	comp=Z,164nm,0.5s						
KTBS				Lg	Lg	17 16 39.8	
	comp=Z,1µm,0.7s						
CHKK	**Chushkaly**	**3.92**	**42**	Pg	**Pg**	**17 15 58.0**	**-2.8**
	comp=Z,100nm,0.6s						
CHKK				Lg	Lg	17 16 48.3	
	comp=Z,2µm,0.5s						
CHKK	**Chushkaly**	**3.92**	**42**	*e*P	**Pb**	**17 15 57.0**	**+2.5**
	comp=Z,98nm,0.3s						
CHKK				*e*S	**Sg**	**17 16 46.9**	**-4.7**
	comp=Z,2µm,0.2s						
PRZ	**Przheval'sk**	**4.04**	**66**		**Pn**	**17 15 47.5**	**+0.3**
PRZ	**Przheval'sk**	**4.04**	**66**	⇑*i*P	**Pn**	**17 15 49.1**	**+1.9**
PRZ				⇑*i*S	**Sn**	**17 16 35.0**	**+0.7**
PRZ	**Przheval'sk**	**4.04**	**66**	PN	**Pn**	**17 15 47.5**	**+0.3**
SIMJ	**Simiganj**	**4.09**	**237**	Pn	**Pn**	**17 15 47.3**	**-0.6**
BTLS	**Baitai**	**4.09**	**6**	Pg	**Pb**	**17 16 01.0**	**+3.5**
	comp=Z,564nm,0.7s						
BTLS				Lg	Lg	17 16 53.4	
	comp=Z,1µm,0.6s						
BTLS	**Baitai**	**4.09**	**6**	*e*PN	**Pn**	**17 15 50.6**	**+2.8**
BTLS				pmax	pmax		
	comp=Z,7.0nm,0.2s						
BTLS	**Baitai**	**4.09**	**6**	*e*P	**Pb**	**17 15 59.1**	**+1.6**
	comp=Z,74nm,0.4s						
BTLS				*e*S	**Sb**	**17 16 50.3**	**+3.5**
	comp=Z,1µm,0.5s						
SATY	**Saty**	**4.28**	**59**	Pg	**Pg**	**17 16 04.4**	**-3.2**
	comp=Z,152nm,0.4s						
SATY				Lg	Lg	17 16 59.1	
	comp=Z,2µm,0.5s						
SATY	**Saty**	**4.28**	**59**	*e*Pg	**Pb**	**17 16 03.8**	**+3.2**
SATY				*e*Lg	Lg	17 17 02.2	
DZI	**Dzhizak**	**4.33**	**260**	P	**Pn**	**17 15 52.5**	**+1.4**
KURS	**Kuram**	**4.34**	**53**	Pg	**Pb**	**17 16 04.7**	**+2.8**
	comp=Z,125nm,0.6s						
KURS				Lg	Lg	17 17 00.5	
	comp=Z,1µm,0.9s						
ARXS	**Arharly**	**4.60**	**44**	Pg	**Pg**	**17 16 10.1**	**-3.7**
	comp=Z,146nm,0.9s						
ARXS				Lg	Lg	17 17 09.1	
	comp=Z,2µm,0.6s						
KPKS	**Kokpek**	**4.65**	**56**	Pg	**Pg**	**17 16 12.6**	**-2.2**
	comp=Z,286nm,0.6s						
KPKS				Lg	Lg	17 17 13.1	
	comp=Z,2µm,0.6s						
KPKS	**Kokpek**	**4.65**	**56**	*e*Pg	**Pb**	**17 16 10.1**	**+3.0**
UZB	**Uzynbulak**	**4.72**	**61**	Pg	**Pb**	**17 16 10.0**	**+1.8**
	comp=Z,241nm,0.3s						
UZB				Lg	Lg	17 17 08.5	
	comp=Z,593nm,0.4s						
UZB	**Uzynbulak**	**4.72**	**61**	*e*PN	**Pn**	**17 15 58.4**	**+1.9**
UZB				*e*		17 16 11.3	
UZB	**Uzynbulak**	**4.72**	**61**	*e*P	**Pb**	**17 16 12.0**	**+3.7**
	comp=Z,144nm,0.3s						
UZB				*e*S	**Sg**	**17 17 12.5**	**-4.7**
	comp=Z,813nm,0.4s						
UZB	**Uzynbulak**	**4.72**	**61**	*e*Pn	**Pn**	**17 15 58.5**	**+1.9**
UZB				*e*Pg	**Pb**	**17 16 11.3**	**+3.1**
SHLS	**Shalkode**	**5.01**	**62**	Pg	**Pg**	**17 16 22.8**	**+1.0**
	comp=Z,431nm,0.9s						
SHLS				Lg	Lg	17 17 30.5	
	comp=Z,2µm,0.8s						
SHLS	**Shalkode**	**5.01**	**62**	*e*PN	Pn	17 16 06.8	+6.3
SHLS				*e*		17 16 22.7	
SHLS	**Shalkode**	**5.01**	**62**	*e*P	**Pg**	**17 16 23.1**	**+1.4**
	comp=Z,431nm,0.5s						
SHLS				*e*S	**Sg**	**17 17 31.8**	**+5.1**
	comp=Z,2µm,0.4s						
SHLS	**Shalkode**	**5.01**	**62**	*e*Pn	Pn	17 16 06.9	+6.3
SHLS				*e*Pg	**Pg**	**17 16 22.7**	**+1.0**
PDGK	**Podgornoye**	**5.11**	**61**	⇓Pn	**Pn**	**17 16 03.3**	**+1.4**
	comp=Z,18nm,0.7s						
PDGK				⇓Pg	**Pb**	**17 16 16.8**	**+2.0**
	comp=Z,187nm,0.7s						
PDGK				⇑Lg	Lg	17 17 28.7	
	comp=Z,618nm,0.5s						
PDGK	**Podgornoye**	**5.11**	**61**	PN	**Pn**	**17 16 03.2**	**+1.4**
PDGK				PG	**Pb**	**17 16 16.8**	**+2.0**
AGL	**Agalyk**	**5.19**	**256**	P	**Pn**	**17 16 03.6**	**+0.6**
KTAB	**Kitab**	**5.32**	**252**	P	**Pb**	**17 16 14.0**	**-4.5**
KTAB				S	**Sb**	**17 17 25.3**	**+3.1**
TDK	**Taldyqorghan**	**5.45**	**41**	Pg	**Pg**	**17 16 26.0**	**-4.1**
	comp=Z,326nm,0.6s						
TDK				Lg	Lg	17 17 36.1	
	comp=Z,1µm,1.1s						
TDK	**Taldyqorghan**	**5.45**	**41**	*e*P	**Pb**	**17 16 25.1**	**+4.4**
	comp=Z,224nm,0.3s						
TDK				*e*S	**Sg**	**17 17 35.2**	**-5.4**
	comp=Z,2µm,0.7s						
TDK	**Taldyqorghan**	**5.45**	**41**	*e*Pg	**Pg**	**17 16 25.7**	**-4.4**
BAYS	**Baysun**	**5.52**	**242**	P	**Pn**	**17 16 09.4**	**+1.9**
BAYS				S	**Sb**	**17 17 23.0**	**-5.0**
NUT	**Nurota**	**5.88**	**268**	S	**Sg**	**17 17 52.3**	**-2.0**
PKMR	**Pachkamar**	**5.92**	**248**	P	**Pn**	**17 16 16.3**	**+3.4**
PKMR				S	**Sb**	**17 17 34.8**	**-4.5**
TMD	**Tamdy-Bulak**	**6.63**	**280**	P	**Pn**	**17 16 22.4**	**-0.3**
KBL	**Kabul**	**7.29**	**210**	P	**Pn**	**17 16 35.1**	**+3.3**
KBL				pmax	pmax		
	comp=Z,458nm,0.6s						
NIL	**Nilore**	**7.31**	**181**		**Pn**	**17 16 34.2**	**+2.2**
NIL	**Nilore**	**7.31**	**181**	P	**Pn**	**17 16 34.2**	**+2.2**
MAKZ	**Makanchi**	**8.51**	**44**	Pn	**Pn**	**17 16 48.0**	**-0.4**
MAKZ				Lg	Lg	17 19 19.8	
MK31	**Makanchi Array**	**8.66**	**45**	Pn	**Pn**	**17 16 52.4**	**+1.8**
	comp=Z,15nm,0.5s,baz=221,slow=15,SNR=98						
MK31				⇓Lg	Lg	17 19 25.2	
	comp=Z,101nm,0.8s,baz=220,slow=27,SNR=4.6						
MK31	**Makanchi Array**	**8.66**	**45**	*i* P	**Pn**	**17 16 52.2**	**+1.7**
MKAR	**Makanchi Array**	**8.66**	**45**	Pn	**Pn**	**17 16 52.0**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=223,slow=15,SNR=30						
MKAR				Lg	Lg	17 19 18.0	
	comp=Z,7.4nm,0.3s,baz=240,slow=26,SNR=6.0						
MKAR				LR	LR	17 19 52.6	
	comp=Z,125nm,18.8s,baz=236,slow=35						
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**8.66**	**45**	*e*P	**Pn**	**17 16 52.4**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						

KURBB **Kurchatov Arra** 10.29 19 Pn **Pn** 17 17 12.9 +0.1
comp=Z,0.4nm,0.3s,baz=212,slow=13,SNR=28
comp=Z,4.7nm,0.7s
KURK Kurchatov 10.40 19 **Pn** 17 17 14.1 -0.2
KURK Kurchatov 10.40 19 ⇓Pn **Pn** 17 17 14.7 +0.5
comp=Z,8.0nm,0.8s
KURK ⇑Lg Lg 17 20 20.5
comp=Z,336nm,0.9s
KURK Kurchatov 10.40 19⇑*e*P **Pn** 17 17 14.4 +0.2
KURK pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 10.95 70 *e*P **Pn** 17 17 25.1 +3.2
WMQ LR LR
comp=Z,440nm,9.5s
WMQ LR LR
comp=Z,620nm,11.9s
WMQ LR LR
comp=Z,150nm,13.7s
BVA0 Borovoye Array 12.23 351 ⇓Pn **Pn** 17 17 39.3 0.0
comp=Z,16nm,0.7s,baz=162,slow=15,SNR=52
BVA0 ⇓Lg Lg 17 21 16.4
comp=Z,105nm,0.9s,baz=167,slow=27,SNR=3.8
BVA0 Borovoye Array 12.23 351 P **Pn** 17 17 39.3 0.0
BVAR Borovoye Array 12.23 351 Pn **Pn** 17 17 38.3 -1.0
comp=Z,0.5nm,0.3s,baz=157,slow=13,SNR=52
BVAR Sn **Sn** 17 19 55.6 +0.3
comp=Z,0.3nm,0.3s,baz=166,slow=24,SNR=2.0
BVAR Lg Lg 17 21 18.8
comp=Z,1.1nm,0.3s,baz=163,slow=28,SNR=6.0
BVAR LR LR 17 22 37.6
comp=Z,324nm,20.9s,baz=174,slow=38
comp=Z,9.6nm,0.5s
BRVK Borovoye 12.28 351 **Pn** 17 17 38.6 -1.3
BRVK Borovoye 12.28 351 Pn **Pn** 17 17 39.3 -0.6
BRVK Lg Lg 17 21 16.4
BRVK Borovoye 12.28 351*ce*P **Pn** 17 17 39.1 -0.8
BRVK pmax pmax
comp=Z,9.0nm,0.6s
AB31 Akbulak array 12.59 316 **Pn** 17 17 43.3 -0.9
AB31 Akbulak array 12.59 316 ⇓Pn **Pn** 17 17 43.2 -0.9
comp=Z,49nm,0.6s,baz=127,slow=13,SNR=633
AB31 ⇓Lg Lg 17 21 24.9
comp=Z,34nm,0.7s
AB31 Akbulak array 12.59 316 P **Pn** 17 17 43.2 -1.0
ABKAR Akbulak array 12.59 316 **Pn** 17 17 43.4 -0.8
AKTO Aktyubinsk 14.29 317 Pn **Pn** 17 18 06.7 -0.8
comp=Z,4.6nm,0.3s,baz=129,slow=13,SNR=117
AKTO LR LR 17 24 04.1
comp=Z,475nm,20.4s,baz=30,slow=39
comp=Z,39nm,0.7s
AKTO Aktyubinsk 14.29 317 ⇑Pn **Pn** 17 18 06.3 -1.2
comp=Z,37nm,0.8s
AKTO ⇑Sn **Sn** 17 20 47.8 +2.2
comp=Z,18nm,0.8s
AKTO ⇑Lg Lg 17 22 21.0
ZAA0 Zalesovo Array 15.08 27 **Pn** 17 18 18.5 +0.4
ZAA0 IAmb IAmb 17 18 43.0
comp=Z,16nm,0.6s
ZALV Zalesovo Beam 15.08 27 **Pn** 17 18 18.9 +0.8
ZALV Zalesovo Beam 15.08 27 Pn **Pn** 17 18 17.6 -0.5
comp=Z,0.9nm,0.3s,baz=220,slow=13,SNR=17
ZALV Sn **Sn** 17 21 08.7 +4.1
comp=Z,0.4nm,0.3s,baz=217,slow=24,SNR=1.6
comp=Z,4.2nm,0.5s
ZALV Zalesovo Beam 15.08 27 *e*P **Pn** 17 18 19.1 +1.0
ZALV pmax pmax
comp=Z,1.0nm,0.3s
EVN Everest 17.03 135 **Pn** 17 18 44.2 +0.2
EVN IAmb IAmb 17 18 47.9
comp=Z,42nm,0.7s
GOMU GeErMu 17.40 99 P **Pn** 17 18 46.3 -2.0
GOMU pmax pmax
comp=Z,18nm,0.9s
SVE Sverdlovsk 17.90 337 *e*P **Pn** 17 18 53.3 -0.6
SVE pmax pmax
comp=Z,24nm,1.0s
ARTI Arti 18.27 333 **Pn** 17 18 57.5 -1.0
ARTI IAmb IAmb 17 18 59.1
comp=Z,40nm,0.9s
ARTI Arti 18.27 333 P **Pn** 17 18 57.9 -0.6
comp=Z,1.8nm,0.3s,baz=149,slow=9.0,SNR=23
comp=Z,24nm,0.7s
ARTI Arti 18.27 333*d* iP **Pn** 17 18 57.3 -1.2
ARTI S **S** 17 22 27.8 +0.8
ARTI pmax pmax
comp=Z,38nm,0.9s
ARTI MLR MLR
comp=Z,220nm,11.0s
LSA Lhasa 18.30 122 P **P** 17 18 59.6 0.0
LKRN Lenkeran, Azer 19.02 271 P **Pn** 17 19 10.8 +3.0
AKT Akhty 19.30 280 *e*P **Pn** 17 19 10.9 -0.3
AKT *e*S **S** 17 22 49.0 +0.9
AKT pmax pmax
comp=Z,13nm,0.5s
AKT MLR MLR
comp=Z,214nm,15.0s
MAK Makhachkala 19.33 284 *e*P **P** 17 19 07.9 -2.5
MAK *e*S **Sn** 17 22 46.5 -1.4
MAK pmax pmax
comp=Z,194nm,1.3s
MAK MLR MLR
comp=Z,408nm,14.0s
SEKA Sheki 19.73 279 P **P** 17 19 15.5 +0.7
MNGR Mingechevir, A 19.88 278 P **Pn** 17 19 18.2 +0.2
GTA Gaotai 20.22 86 P **P** 17 19 20.9 +0.7
GTA pmax pmax
comp=Z,21nm,1.0s
GTA LR LR
comp=Z,230nm,16.4s
GTA LR LR
comp=Z,360nm,15.3s
GTA LR LR
comp=Z,410nm,16.7s
GANJ Ganja 20.47 278 P Pn 17 19 24.6 -0.4
BELG Belogornoye 20.93 312 P **P** 17 19 27.6 0.0
comp=Z,20nm,0.7s,baz=137,slow=18,SNR=4.4
comp=Z,20nm,0.7s
BELG Belogornoye 20.93 312*de*P **P** 17 19 27.7 +0.1
BELG pmax pmax
comp=Z,3.0nm,0.9s
NAX Nakhchivan 21.39 274 P **P** 17 19 35.6 +2.7
WSAR Wadi Sarin 21.60 220 P **P** 17 19 32.7 -2.4
baz=37,slow=20,SNR=1.5
MOY Mondy 21.73 51 *e*P **P** 17 19 38.0 +1.6
SHL Shillong 21.73 129 **P** 17 19 35.8 -0.8
SHL IAmb IAmb 17 19 45.4
comp=Z,24nm,1.0s
SHL Shillong 21.73 129 P **P** 17 19 35.8 -0.8
SHL pmax pmax
comp=Z,24nm,1.0s
GNI Garni 21.75 277 P **P** 17 19 36.3 -0.5
GNI Garni 21.75 277 P **P** 17 19 36.3 -0.5
comp=Z,8.0nm,0.7s,baz=37,slow=10,SNR=4.8
GNI LR LR 17 29 32.5
comp=Z,120nm,20.3s,baz=80,slow=41
comp=Z,8.0nm,0.7s
GNI Garni 21.75 277*de*P **P** 17 19 39.6 +2.8
GNI pmax pmax
comp=Z,28nm,1.1s
GOF Gofitskoye 22.50 291*ce*P P 17 19 53.0 +8.4
KBZ Khabaz 22.65 287 P **P** 17 19 46.2 +0.1
comp=Z,4.2nm,0.8s,baz=88,slow=9.5,SNR=8.4
KBZ LR LR 17 30 51.1
comp=Z,170nm,18.7s,baz=84,slow=43
comp=Z,4.2nm,0.8s
KBZ Khabaz 22.65 287 *e*P **P** 17 19 49.3 +3.2
KBZ pmax pmax
comp=Z,4.0nm,0.6s
ZAK Zakamensk 22.77 56 *e*P **P** 17 19 47.8 +0.3
ZAK pmax pmax
comp=Z,7.0nm,1.4s
KVAR Kislovodsk Arr 22.78 288 P **P** 17 19 48.3 +0.6
comp=Z,1.4nm,0.4s,baz=94,slow=16,SNR=6.0
KVAR LR LR 17 30 59.9
comp=Z,118nm,20.4s,baz=304,slow=43
comp=Z,1.4nm,0.4s
KIV Kislovodsk 22.79 288 **P** 17 19 47.9 +0.1
KIV Kislovodsk 22.79 288 *e*P **P** 17 19 47.5 -0.2
KIV *e*S **S** 17 23 58.1 +1.9
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,64nm,14.0s
SHA1 Shidzhatmaz 22.82 287*de*P **P** 17 19 48.8 +0.5
KIRV Kirov 23.25 327 LR LR 17 29 36.2
comp=Z,472nm,18.1s,baz=130,slow=38

KIRV Kirov 23.25 327⇓*e*P **P** 17 19 53.1 +0.9
GEVA Gevas 23.46 273 P **P** 17 19 55.2 +0.5
GEVA IAmb IAmb 17 20 04.0
comp=Z,14nm,1.0s
BRDH Bariadhala 23.85 134 LR LR 17 31 17.4
comp=Z,271nm,18.6s,baz=26,slow=42
VRH Novokhopyorsk 24.06 306 *e*P **P** 17 19 59.4 -0.8
VRH pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 24.42 63 P **P** 17 20 03.8 0.0
SONM Songino Array 24.42 63 P **P** 17 20 04.1 +0.4
comp=Z,3.1nm,0.8s,baz=270,slow=11,SNR=16
SONM LR LR 17 30 28.5
comp=Z,168nm,18.0s,baz=294,slow=39
comp=Z,3.1nm,0.8s
SONM Songino Array 24.42 63 *e*P **P** 17 20 04.3 +0.6
SONM pmax pmax
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 24.86 63 P **P** 17 20 07.3 -0.4
ULN Ulaanbaatar 24.86 63*c* iP **P** 17 20 08.4 +0.6
ULN pmax pmax
comp=Z,7.0nm,0.9s
KOPT Kop Dagi 24.96 279 P **P** 17 20 07.8 -1.0
KOPT IAmb IAmb 17 20 38.0
comp=Z,8.3nm,0.8s
MARD Mardin 25.48 272 P **P** 17 20 13.4 0.0
MARD IAmb IAmb 17 20 36.0
comp=Z,9.0nm,0.7s
VORD Divnogorie 25.51 305 *e*P **P** 17 20 10.8 -2.6
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 25.64 305 *e*P **P** 17 20 12.0 -2.5
VSR pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 26.05 308 *e*P **P** 17 20 16.3 -2.0
LPSR pmax pmax
comp=Z,10.0nm,0.9s
PZH PanZhiHua 27.49 113 P **P** 17 20 34.6 +3.0
MOS Moscow 27.61 314 *e*P **P** 17 20 35.4 +3.2
MOS *e* 17 21 23.0
OBN Obninsk 28.01 313 *e*P **P** 17 20 34.4 -1.4
OBN *e* 17 21 24.8
OBN *e*PPP PPP 17 21 31.8
OBN pmax pmax
comp=Z,8.0nm,0.6s
OBN MLR MLR
comp=Z,194nm,17.0s
KLMR Klimovskoe 28.68 325 *e*P **P** 17 20 40.5 -1.2
KLMR pmax pmax
comp=Z,14nm,1.8s
KMI Kunming 29.06 114 P **P** 17 20 47.0 +1.3
KMI pmax pmax
comp=Z,12nm,0.8s
KMI LR LR
comp=Z,220nm,16.4s
KMI LR LR
comp=Z,190nm,11.5s
KMI LR LR
comp=Z,180nm,16.2s
RAYN Ar Rayn 29.13 242 P **P** 17 20 46.0 -0.2
RAYN Ar Rayn 29.13 242 P **P** 17 20 46.0 -0.2
RAYN pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 30.15 281 **P** 17 20 54.8 -0.4
BR131 IAmb IAmb 17 21 03.2
comp=Z,5.4nm,0.8s
BR131 Keskin Array S 30.15 281 P **P** 17 20 54.8 -0.4
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 30.15 281 **P** 17 20 54.7 -0.5
BRTR Keskin Array B 30.15 281 P **P** 17 20 56.0 +0.8
comp=Z,3.5nm,0.8s,baz=89,slow=7.5,SNR=21
comp=Z,3.5nm,0.8s
ASF Jabal al Asfar 30.42 265 LR LR 17 37 22.5
comp=Z,41nm,18.0s,baz=146,slow=45
CMAR Chiang Mai Arr 31.35 128 LR LR 17 36 41.0
comp=Z,68nm,19.6s,baz=305,slow=42
AKASG Malin Array Be 31.85 303 P **P** 17 21 09.3 -0.5
comp=Z,0.9nm,0.7s,baz=78,slow=7.9,SNR=5.6
AKASG LR LR 17 35 59.6
comp=Z,177nm,20.6s,baz=84,slow=40
comp=Z,0.9nm,0.7s
AKASG Malin Array Be 31.85 303 *e*P **P** 17 21 11.6 +1.8
AKBB Malin Array Si 31.85 303 P **P** 17 21 10.3 +0.5
AKBB IAmb IAmb 17 21 34.2
comp=Z,4.8nm,0.9s
AKBB Malin Array Si 31.85 303⇑*e*P **P** 17 21 09.4 -0.4
MNK Minsk 32.85 310 *i* P **P** 17 21 18.2 -0.4
comp=E,4.0nm,0.8s
MNK *i* P **P** 17 21 18.2 -0.4
comp=N,7.0nm,0.8s
MNK *i* P **P** 17 21 18.2 -0.4
comp=Z,10.0nm,0.8s,baz=95
MNK *i* PP **PP** 17 22 27.6 -5.2
MNK *i* PPP PPP 17 22 38.0
MNK *i* S **S** 17 26 36.4 +1.0
MNK *i* SS **SnSn** 17 28 27.7 -4.2
MNK *i* LQ LQ 17 32 45.9
MNK *i* LR LR 17 34 22.2
MNK *i* LRM MLR 17 35 32.8
comp=N,155nm,16.6s
MNK *i* LRM MLR 17 35 37.1
comp=Z,134nm,13.5s
MNK *i* LRM MLR 17 36 54.2
comp=E,139nm,15.9s
MNK Minsk 32.85 310 *i* P **P** 17 21 18.2 -0.4
MNK *i* 17 22 27.6
MNK *i* S **S** 17 26 36.3 +1.0
MNK *i* SS **SnSn** 17 28 27.6 -4.2
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=N,155nm,17.0s
MNK MLR MLR
comp=Z,134nm,13.0s
MNK MLR MLR
comp=E,139nm,16.0s
EIL Elat 33.09 262 LR LR 17 38 04.7
comp=E,87nm,18.1s,baz=66,slow=42
NACGM Naroch 33.53 311 *e*P **P** 17 21 24.8 +0.3
comp=Z,11nm,0.7s,baz=95
PALK Pallekele 34.18 167 LR LR 17 35 58.6
comp=Z,134nm,21.9s,baz=333,slow=38
MLR Muntele Rosu 34.47 294 P **P** 17 21 32.2 -0.7
comp=Z,1.8nm,0.7s,baz=125,slow=7.8,SNR=4.6
MLR LR LR 17 38 15.5
comp=Z,294nm,19.6s,baz=55,slow=41
comp=Z,1.8nm,0.7s
FIA1 FINESS Array S 34.97 322 P **P** 17 21 36.8 -0.1
FINES FINESS Array B 34.97 322 P **P** 17 21 36.7 -0.2
comp=Z,2.5nm,0.6s,baz=114,slow=9.8,SNR=15
FINES LR LR 17 36 31.4
comp=Z,216nm,19.9s,baz=92,slow=37
comp=Z,2.5nm,0.6s
NIE Niedzica 37.67 301 P **P** 17 22 00.9 +0.7
NIE pmax pmax
comp=Z,3.0nm,1.8s
ARCES ARCESS Array B 37.81 335 P **P** 17 22 01.0 -0.1
ARCES IAmb IAmb 17 22 02.5
comp=Z,20nm,1.4s
ARCES ARCESS Array B 37.81 335 P **P** 17 22 00.9 -0.2
comp=Z,1.7nm,0.5s,baz=111,slow=8.7,SNR=20
ARCES LR LR 17 37 25.3
comp=Z,49nm,20.3s,baz=111,slow=36
comp=Z,1.7nm,0.5s
HEH HeiHe 38.15 57 *e*P **P** 17 22 04.9 +0.8
HEH pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 38.76 300 *e*P **P** 17 22 10.1 +0.7
VYHS Vyhne 38.76 300 *e*P **P** 17 22 10.1 +0.7
FNA Florina 38.84 287 P **P** 17 22 09.6 -0.6
FNA Florina 38.84 287 P **P** 17 22 09.6 -0.6
FNA pmax pmax
comp=Z,3.0nm,0.6s
YAK Yakutsk 39.27 38 **P** 17 22 13.5 +0.1
YAK Yakutsk 39.27 38*d* iP **P** 17 22 13.7 +0.3
YAK pmax pmax
comp=Z,8.0nm,0.9s
MORC Moravsky Berou 39.39 302 P **P** 17 22 14.4 -0.2
MORC Moravsky Berou 39.39 302 *e*P **P** 17 22 14.5 -0.2
MORC Moravsky Berou 39.39 302 P **P** 17 22 14.4 -0.2
MORC pmax pmax

comp=Z,4.0nm,1.0s
JAVC Velka Javorina 39.46 301 *e*P **P** 17 22 12.9 -2.4
MODS Modra-Piesok 39.80 300 *e*P **P** 17 22 19.0 +0.9
MODS Modra-Piesok 39.80 300 *e*P **P** 17 22 19.0 +0.9
DPC Dobruska-Polom 40.07 303 P **P** 17 22 20.9 +0.6
DPC P **pP** 17 22 26.0 +0.5
DPC pmax pmax
comp=Z,6.0nm,1.1s
VRAC Vranov 40.08 302 LR LR 17 42 06.4
comp=Z,152nm,19.5s,baz=78,slow=41
UPC Upice 40.24 304 P **P** 17 22 22.4 +0.7
UPC pmax pmax
comp=Z,7.0nm,0.9s
KRUC Moravsky 40.25 301 P **P** 17 22 22.9 +1.2
KRUC pmax pmax
comp=Z,8.0nm,2.0s
HFS Hagfors 40.83 319 P **P** 17 22 26.1 -0.3
comp=Z,4.0nm,0.6s,baz=102,slow=11,SNR=17
HFS LR LR 17 40 05.0
comp=Z,183nm,20.6s,baz=88,slow=37
comp=Z,4.0nm,0.6s
TIXI Tiksi 40.93 23 P **P** 17 22 26.6 -0.5
TIXI IAmb IAmb 17 22 48.6
comp=Z,6.5nm,0.7s
TIXI Tiksi 40.93 23⇓*e*P **P** 17 22 27.6 +0.5
TIXI pmax pmax
comp=Z,3.0nm,0.7s
BRG Berggiesshubel 41.48 305 P **P** 17 22 32.7 +0.8
BRG P **sP** 17 22 39.1 0.0
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG Berggiesshubel 41.48 305 *e*P **P** 17 22 33.1 +1.2
BRG Amp 17 22 33.5
comp=Z,2.9nm,0.8s
BRG pP **sP** 17 22 39.3 +0.2
BRG Amp 17 22 42.6
comp=Z,5.4nm,0.9s
NC303 NORSAR Array S 41.97 320 P **P** 17 22 33.4 -2.3
CLL Collm 41.99 305 **P** 17 22 33.7 -2.3
CLL Collm 41.99 305 *e*P **P** 17 22 35.0 -1.0
CLL pmax pmax
comp=Z,9.0nm,0.3s
CLL Collm 41.99 305 *e*P **P** 17 22 35.0 -1.0
comp=Z,9.0nm,0.3s
CLL L L 17 43 00.0
comp=Z,100nm,18.3s
GEC2 GERESS Array S 42.03 302 IAmb IAmb 17 22 47.5
comp=Z,9.6nm,1.2s
GEC2 GERESS Array S 42.03 302 P **P** 17 22 37.5 +1.0
GEC2 pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 42.03 302 P **P** 17 22 36.3 -0.2
GERES GERESS Array B 42.03 302 P **P** 17 22 37.0 +0.5
comp=Z,2.2nm,0.5s,baz=65,slow=8.2,SNR=16
GERES LR LR 17 41 58.0
comp=Z,157nm,19.9s,baz=82,slow=39
comp=Z,2.2nm,0.5s
NB2 NORSAR Subarra 42.05 320 P **P** 17 22 35.6 -0.8
comp=Z,3.5nm,0.7s,baz=91,slow=8.6
NOA NORSAR Array B 42.05 320 P **P** 17 22 35.9 -0.5
comp=Z,1.8nm,0.6s,baz=90,slow=8.2,SNR=8.1
NOA LR LR 17 40 41.9
comp=Z,183nm,19.2s,baz=90,slow=37
comp=Z,1.8nm,0.6s
USRK Ussuriysk Ar. 42.47 65 LR LR 17 42 13.7
comp=Z,87nm,18.9s,baz=308,slow=39
TRI Trieste 42.76 297 P **P** 17 22 41.9 -0.4
TRI IAmb IAmb 17 22 51.6
comp=Z,11nm,0.8s
TRI Trieste 42.76 297 P **P** 17 22 41.9 -0.4
TRI pmax pmax
comp=Z,11nm,0.8s
SABO M.te Sabotino 42.79 297 **P** 17 22 41.9 -0.8
SABO IAmb IAmb 17 22 51.8
comp=Z,7.7nm,0.7s
CUC Castrocucco 43.11 288 P **P** 17 22 45.5 +0.1
CIMO Cimolais 43.48 298 **P** 17 22 47.3 -0.9
SPITS Spitsbergen Ar 43.60 345 LR LR 17 43 30.7
comp=Z,108nm,19.3s,baz=98,slow=40
CEL Celeste 43.69 286 P **P** 17 22 50.1 0.0
CEL IAmb IAmb 17 23 01.2
comp=Z,11nm,0.9s
DAVOX Davos/Dischmat 45.05 300 LR LR 17 43 48.5
comp=Z,122nm,21.1s,baz=82,slow=39
VAE Valguarnera 45.08 286 LR LR 17 45 52.2
comp=Z,14nm,20.3s,baz=131,slow=41
JNU Nakatsue 45.83 81 LR LR 17 44 20.4
comp=Z,109nm,19.9s,baz=324,slow=39
SEY Seymchan 49.68 36⇑*e*P **P** 17 23 37.1 +0.5
SEY pmax pmax
comp=Z,6.0nm,1.5s
MJAR Matsushiro Arr 49.70 73 P **P** 17 23 36.2 -0.9
comp=Z,2.2nm,0.9s,baz=300,slow=8.1,SNR=4.1
comp=Z,2.2nm,0.9s
EKA Eskdalemuir Ar 50.46 314 P **P** 17 23 41.8 -0.8
comp=Z,0.9nm,0.6s,baz=92,slow=7.6,SNR=4.9
comp=Z,0.9nm,0.6s
BORG Borgarnes 55.72 329 LR LR 17 48 07.7
comp=Z,87nm,18.6s,baz=33,slow=36
ESDC Eskdalemuir Array 57.10 296 P **P** 17 24 31.1 -0.3
comp=Z,2.0nm,0.7s,baz=59,slow=6.9,SNR=15
ESDC LR LR 17 52 46.0
comp=Z,76nm,18.4s,baz=53,slow=40
comp=Z,2.0nm,0.7s
MDT Midelt 61.00 290 LR LR 17 54 41.3
comp=Z,34nm,21.1s,baz=34,slow=39
COLD Coldfoot 67.16 17 IAmb IAmb 17 25 39.4
comp=Z,5.6nm,1.0s
K17K Iditarod 68.69 23 P **P** 17 25 47.1 -1.0
J20K Nowinta River 68.69 20 IAmb IAmb 17 25 49.3
comp=Z,4.4nm,0.9s
COLA College 69.66 17⇑*e*P **P** 17 25 54.2 +0.1
COLA pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 69.97 17 P **P** 17 25 55.0 -1.1
ILAR Eielson Array 69.97 17 P **P** 17 25 55.5 -0.6
comp=Z,1.8nm,0.8s,baz=325,slow=5.6,SNR=14
comp=Z,1.8nm,0.8s
STLK Strandline Lak 71.50 21 P **P** 17 26 04.9 -0.6
SUA Susitna One 71.82 21 IAmb IAmb 17 26 07.9
comp=Z,5.5nm,1.2s
P18K Big Mountain, 72.24 24 IAmb IAmb 17 26 20.0
comp=Z,3.4nm,0.8s
SLKM Skilak Lake 72.76 21 IAmb IAmb 17 26 13.2
comp=Z,4.7nm,1.0s
KLU Klutina 73.02 19 IAmb IAmb 17 26 15.9
comp=Z,3.1nm,0.8s
KDAK Kodiak Island 74.36 24 P **P** 17 26 22.3 0.0
comp=Z,1.6nm,0.6s,baz=354,slow=4.8,SNR=6.0
comp=Z,1.6nm,0.6s
HYT Haines Junctio 75.46 15 IAmb IAmb 17 26 31.0
comp=Z,4.5nm,0.8s
DBIC Dimbokro 76.79 267 P **P** 17 26 35.9 -1.2
comp=Z,2.0nm,0.5s,baz=347,slow=2.9,SNR=3.3
comp=Z,2.0nm,0.5s
ASAR Alice Springs 85.35 127 P **P** 17 27 20.6 -1.8
comp=Z,1.5nm,0.9s,baz=316,slow=4.7,SNR=18
comp=Z,1.5nm,0.9s
SADO Sadowa 91.15 341 LR LR 18 13 20.6
comp=Z,29nm,18.4s,baz=164,slow=38

IDC ***12*** *17:14:43.4±0.9,39.57N×143.67E,h0km,mb3.7/9, mbtmp3.7/13,ML3.3/4,MS3.4/4, Error ellipse: s-maj=23.6km s-min=19.5km az=105.0*
NIED ***12*** *17:14:44.6,39.59N×143.68E,h34km,MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr5.39; Mθθ0.49; Mϕϕ-5.88; Mrθ1.34; Mϕθ-2.15; Mϕr1.53; Fault plane solution: M₀6.32000×10¹⁴ NP1: ϕs186.00000°,δ37.00000°,λ74.00000°. NP2:ϕs26.00000°, δ54.00000°,λ102.00000°.*
JMA ***12*** *17:14:44.6±0.4,39.6N±0.8×14.4E±1,h34km,MV4.0/33, FAR E OFF SANRIKU*

ISC 12 17:14:45.3±0.8,39.59N±0.06×143.57E±0.10,h11km,n36, σ0.98/28,mb3.7/8,MS3.2/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.35**	**270**	*i* P	**Pn**	**17 15 09.3**	**-0.8**
JTH	**Tanohata**	**1.36**	**285**	P	**Pn**	**17 15 09.2**	**-1.0**
JKEN	**Kujiedanarisaw**	**1.56**	**294**	*i* P	**Pn**	**17 15 11.8**	**-1.1**
OFUJ	**Ofunato**	**1.56**	**251**	P	**Pn**	**17 15 12.0**	**-0.9**
JANG	**Nango**	**1.76**	**297**	P	**Pn**	**17 15 14.5**	**-1.2**
JOM	**Ohasama**	**1.76**	**267**	*i* P	**Pn**	**17 15 15.6**	**-0.2**
JMK	**Ichinoseki**	**1.93**	**251**	*i* P	**Pn**	**17 15 17.5**	**-0.5**

JIO	Ouri	2.07 237	*i* P		Pn	17 15 18.6	-1.3
JYK	Kaneyama	2.58 256	P		Pn	17 15 27.0	0.0
JOT	Ohata	2.63 314	*e*P		Pn	17 15 27.0	-0.6
JNBK	Urakawa-nobuka	2.76 347	*e*P		Pn	17 15 29.6	+0.2
JNBK			*e*S		Sn	17 16 03.1	+0.5
JCH	Churui	3.02 357	*e*S		Sn	17 16 07.1	-2.2
JOTO	OTAMA OYAMA	3.25 232	P		Pn	17 15 35.5	-0.7
ASAJ	Asahikawa	4.58 351	Pn		Pn	17 15 54.9	+0.4
	2.0nm,0.3s,baz=177,slow=15,SNR=27						
ASAJ			Sn		Sn	17 16 47.7	+0.1
	3.0nm,0.3s,baz=277,slow=28,SNR=4.1						
	6.3nm,0.3s						
MJAR	Matsushiro Arr	5.21 236	Pn		Pn	17 16 03.9	+0.8
	0.6nm,0.3s,baz=34,slow=13,SNR=100						
	14nm,0.7s						
USRK	Ussuriysk Ar.	9.78 302	Pn		Pn	17 17 06.8	+0.9
	0.2nm,0.3s,baz=105,slow=13,SNR=6.1						
	4.1nm,0.7s						
KSRS	Korea Array	12.44 265	Pn		Pn	17 17 45.1	+2.9
	0.1nm,0.3s,baz=79,slow=12,SNR=5.1						
	1.5nm,0.9s						
MA2	Magadan	20.52 10	P		P	17 19 23.4	+0.2
	7.4nm,0.8s,baz=195,slow=12,SNR=3.8						
	7.4nm,0.8s						
SONM	Songino Array	27.88 299	P		P	17 20 35.4	+0.3
	1.1nm,0.5s,baz=100,slow=9.0,SNR=5.3						
	1.1nm,0.5s						
H11N2	WAKE ISLAND Hy	28.19 128	T		T	17 51 38.9	
	baz=318,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy	28.20 128	T		T	17 51 41.7	
	baz=318,slow=75,SNR=32						
H11N3	WAKE ISLAND Hy	28.20 128	T		T	17 51 40.9	
	baz=318,slow=75,SNR=32						
H11S1	WAKE ISLAND Hy	29.01 130	T		T	17 51 06.9	
	baz=322,slow=74						
H11S3	WAKE ISLAND Hy	29.01 130	T		T	17 51 15.1	
	baz=322						
H11S2	WAKE ISLAND Hy	29.02 130	T		T	17 51 12.5	
	baz=322,slow=74						
PMG	Port Moresby	48.86 175	LR		LR	17 43 05.6	
	comp=Z,26nm,20.5s,baz=102,slow=35						
BVAR	Borovoye Array	50.14 311	LR		LR	17 48 16.8	
	comp=Z,19nm,18.7s,baz=179,slow=40						
ARTI	Arti	55.69 318	LR		LR	17 48 09.5	
	comp=Z,21nm,18.9s,baz=31,slow=36						
WRA	Warramunga Arr	59.85 190	P		P	17 24 50.4	-0.4
	0.3nm,0.7s,baz=8.6,slow=7.1,SNR=3.2						
	0.3nm,0.7s						
ASAR	Alice Springs	63.57 190	P		P	17 25 15.1	-0.8
	0.2nm,0.7s,baz=10,slow=7.5,SNR=1.2						
	0.2nm,0.7s						
FINES	FINESS Array B	67.34 332	P		P	17 25 39.6	-0.3
	2.0nm,0.7s,baz=72,slow=10,SNR=2.3						
	2.0nm,0.7s						
NVAR	Mina Array Bea	72.11 55	P		P	17 26 09.9	-0.2
	0.2nm,0.2s,baz=315,slow=8.0,SNR=2.5						
	0.2nm,0.2s						
ELK	Elko	72.62 51	LR		LR	17 50 28.2	
	comp=Z,85nm,21.7s,baz=334,slow=30						
AKASG	Malin Array Be	73.30 323	P		P	17 26 16.1	-0.4
	0.4nm,0.4s,baz=45,slow=6.4,SNR=3.1						
	0.4nm,0.4s						
PDAR	Pinedale Array	74.68 47	P		P	17 26 25.1	0.0
	0.1nm,0.4s,baz=306,slow=7.3,SNR=2.0						
	0.1nm,0.4s						
TXAR	Lajitas Array	87.23 54	P		P	17 27 32.3	+0.2
	0.2nm,0.5s,baz=305,slow=4.1,SNR=2.8						
	0.2nm,0.5s						

IDC ***12*** *17:17:27.1±1.3, 72˚.39N×133˚.73W, h0km, mb3.7/5, mbtmp3.9/10, ML4.2/5, MS2.9/2, Error ellipse: s-maj=24.9km s-min=21.1km az=120.0*

NEIC ***12*** *17:17:28.6±0.8, 72˚.13N±0˚.10×133˚.1W±0˚.2, h10km±2km, mb4.0/1, Error ellipse: s-maj=17.1km s-min=10.7km az=343.0*

PGC ***12*** *17:17:32.4±0.0, 72˚.17N×133˚.19W, h35km, ML4.0/13, 257km northwest of Baillie, Nt Beaufort Sea*

ISC 12 17:17:28.7±0.7, 71˚.98N±0˚.06×133˚.29W±0˚.04, h10km, n272, σ2s41/362, mb3.9/6, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A36M	Sachs Harbour	2.50	86		Pn	17 18 08.5	-0.8
A36M	Sachs Harbour	2.50	86	Pn	Pn	17 18 09.0	-0.3
A36M				Sn	Sn	17 18 35.6	-4.2
A36M	Sachs Harbour	2.50	86	P	Pn	17 18 08.7	-0.6
	baz=277						
A36M				S	Sn	17 18 35.5	-4.2
	baz=277						
D28M	Stokes Point	3.22 217		Sn	Sn	17 18 59.1	+1.6
D28M	Stokes Point	3.22 217		P	Pn	17 18 21.6	+2.4
	baz=31,SNR=6.8						
D28M				S	Sn	17 19 00.5	+3.0
	baz=31						
INK	Inuvik	3.69 181			Pn	17 18 28.6	+3.0
INK	Inuvik	3.69 181		Pn	Pn	17 18 29.1	+3.5
	12nm,0.3s,baz=357,slow=12,SNR=61						
INK				Sn	Sn	17 19 10.3	+1.2
	45nm,0.3s,baz=278,slow=30,SNR=10						
	30nm,0.3s						
INK	Inuvik	3.69 181		Pn	Pn	17 18 29.0	+3.4
INK				Sn	Sn	17 19 10.1	+1.0
INK	Inuvik	3.69 181		P	Pn	17 18 29.0	+3.4
	baz=1.8,SNR=25						
INK				S	Sn	17 19 10.3	+1.2
	baz=1.8						
D27M	Malcolm River	3.75 227			Pn	17 18 28.8	+2.2
D27M	Malcolm River	3.75 227		Pn	Pn	17 18 28.9	+2.4
D27M				Sn	Sn	17 19 11.0	+0.2
D27M	Malcolm River	3.75 227		P	Pn	17 18 29.0	+2.4
	baz=38,SNR=43						
D27M				S	Sn	17 19 11.6	+0.8
	baz=38						
E29M	Blow River	3.93 206			Pn	17 18 30.9	+2.0
E29M	Blow River	3.93 206		Pn	Pn	17 18 31.5	+2.5
E29M				Sn	Sn	17 19 15.5	+0.5
E29M	Blow River	3.93 206		P	Pn	17 18 31.4	+2.5
	baz=21,SNR=1000						
E29M				S	Sn	17 19 15.8	+0.7
	baz=21						
E28M	Babbage River	3.99 215			Pn	17 18 31.7	+1.8
E28M	Babbage River	3.99 215		Pn	Pn	17 18 32.3	+2.5
E28M				Sn	Sn	17 19 16.9	+0.3
E28M	Babbage River	3.99 215		P	Pn	17 18 32.0	+2.1
	baz=28,SNR=348						
E28M				S	Sn	17 19 17.1	+0.5
	baz=28						
C36M	Paulatuk	4.04 126		Pn	Pn	17 18 31.6	+1.1
C36M	Paulatuk	4.04 126		Pn	Pn	17 18 32.2	+1.7
C36M				Sn	Sn	17 19 16.0	-1.8
C36M	Paulatuk	4.04 126		P	Pn	17 18 31.7	+1.2
	baz=317						
C36M				S	Sn	17 19 16.4	-1.4
	baz=317						
C27K	Jago River	4.17 241			Pn	17 18 34.2	+2.0
C27K	Jago River	4.17 241		Pn	Pn	17 18 34.3	+2.0
C27K				Sn	Sn	17 19 19.9	-1.1
C27K	Jago River	4.17 241		P	Pn	17 18 34.3	+2.0
	baz=49						
C27K				S	Sn	17 19 21.1	+0.1
	baz=49						
C26K	Camden Bay	4.33 247		P	Pn	17 18 36.7	+2.3
	baz=55						
C26K				S	Sn	17 19 24.8	-0.1
	baz=55						
F30M	Barrier River	4.47 192			Pn	17 18 39.6	+3.2
F30M	Barrier River	4.47 192		Pn	Pn	17 18 39.7	+3.2
F30M				Sn	Sn	17 19 28.9	+0.4
F30M	Barrier River	4.47 192		P	Pn	17 18 39.0	+2.6
	baz=10,SNR=244						
F31M	Tsiigehtchic	4.56 182			Pn	17 18 39.8	+2.2
F31M	Tsiigehtchic	4.56 182		Pn	Pn	17 18 40.1	+2.5
F31M				Sn	Sn	17 19 30.4	-0.2
F31M	Tsiigehtchic	4.56 182		P	Pn	17 18 40.0	+2.4
	baz=2.3,SNR=51						
F31M				S	Sn	17 19 30.3	-0.2
	baz=2.3						
E27K	Coleen River	4.75 221			Pn	17 18 42.4	+2.2
E27K	Coleen River	4.75 221		Pn	Pn	17 18 42.8	+2.5
E27K				Sn	Sn	17 19 34.7	-0.5
E27K	Coleen River	4.75 221		P	Pn	17 18 42.8	+2.5
	baz=32,SNR=470						
E27K				S	Sn	17 19 34.9	-0.3
	baz=32						
F28M	Old Crow	4.94 211			Pn	17 18 44.5	+1.7
F28M	Old Crow	4.94 211		Pn	Pn	17 18 44.8	+2.0
F28M				Sn	Sn	17 19 39.3	-0.7
F28M	Old Crow	4.94 211		P	Pn	17 18 44.8	+2.0
	baz=24,SNR=298						
F28M				S	Sn	17 19 38.8	-1.1
	baz=24						
G31M	Satah River	5.09 184			Pn	17 18 47.4	+2.5
G31M	Satah River	5.09 184		Pn	Pn	17 18 47.5	+2.5
G31M				Sn	Sn	17 19 43.6	0.0
G31M	Satah River	5.09 184		P	Pn	17 18 47.4	+2.5
	baz=3.8,SNR=482						
G31M				S	Sn	17 19 43.9	+0.3
	baz=3.8						
D25K	Kavik River	5.10 245			Pn	17 18 46.3	+1.3
D25K	Kavik River	5.10 245		Sn	Sn	17 19 41.9	-2.0
D25K	Kavik River	5.10 245		P	Pn	17 18 46.5	+1.5
	baz=51						
D25K				S	Sn	17 19 41.7	-2.2
	baz=51						
G30M	tAoh Zraii Nji	5.13 193			Pn	17 18 47.8	+2.3
G30M	tAoh Zraii Nji	5.13 193		Pn	Pn	17 18 48.2	+2.8
G30M				Sn	Sn	17 19 44.0	-0.5
G30M	tAoh Zraii Nji	5.13 193		P	Pn	17 18 47.7	+2.3
	baz=10,SNR=550						
G30M				S	Sn	17 19 46.3	+1.7
	baz=10						
G29M	Pine Creek	5.36 200			Pn	17 18 50.6	+2.1
G29M	Pine Creek	5.36 200		Pn	Pn	17 18 51.0	+2.5
G29M				Sn	Sn	17 19 49.8	-0.4
G29M	Pine Creek	5.36 200		P	Pn	17 18 50.9	+2.3
	baz=16,SNR=356						
G29M				S	Sn	17 19 51.5	+1.4
	baz=16						
C24K	Franklin Bluff	5.55 253			Pn	17 18 53.0	+1.8
C24K	Franklin Bluff	5.55 253		P	Pn	17 18 52.9	+1.8
	baz=58						
C24K				S	Sn	17 19 51.9	-2.9
	baz=58						
F26K	Sheenjek River	5.70 226			Pn	17 18 55.4	+2.1
F26K	Sheenjek River	5.70 226		Sn	Sn	17 19 56.6	-2.1
F26K	Sheenjek River	5.70 226		P	Pn	17 18 55.7	+2.4
	baz=35,SNR=182						
F26K				S	Sn	17 19 57.2	-1.5
	baz=35						
EPYK	Eagle Plains	5.76 194			Pn	17 18 56.5	+2.3
EPYK	Eagle Plains	5.76 194		Pn	Pn	17 18 56.8	+2.6
EPYK				Sn	Sn	17 19 59.4	-0.9
EPYK	Eagle Plains	5.76 194		P	Pn	17 18 56.7	+2.6
	baz=11,SNR=77						
EPYK				S	Sn	17 20 00.4	+0.1
	baz=11						
D24K	Happy Valley	5.90 249		P	Pn	17 18 57.8	+1.8
	baz=53						
D24K				S	Sn	17 20 01.5	-2.0
	baz=53						
G27K	Doyon Strip	5.97 214			Pn	17 18 58.5	+1.5
G27K	Doyon Strip	5.97 214		Pn	Pn	17 18 58.8	+1.8
G27K				Sn	Sn	17 20 03.5	-1.8
G27K	Doyon Strip	5.97 214		P	Pn	17 18 58.6	+1.7
	baz=25,SNR=197						
G27K				S	Sn	17 20 03.7	-1.6
	baz=25						
BMAR	Burnt Mountain	6.02 226			Pn	17 18 59.4	+1.8
H29M	Whitestone	6.06 200			Pn	17 19 00.1	+1.9
H29M	Whitestone	6.06 200		Pn	Pn	17 19 00.5	+2.2
H29M				Sn	Sn	17 20 05.7	-1.9
H29M	Whitestone	6.06 200		P	Pn	17 19 00.3	+2.1
	baz=15,SNR=226						
C23K	Itkillik River	6.07 258			Pn	17 18 59.8	+1.5
C23K	Itkillik River	6.07 258		P	Pn	17 18 59.7	+1.5
	baz=60						
C23K				S	Sn	17 20 03.6	-4.0
	baz=60						
F25K	Christian Rive	6.13 230		Pn	Pn	17 19 01.3	+2.1
F25K				Sn	Sn	17 20 06.5	-2.8
F25K	Christian Rive	6.13 230		P	Pn	17 19 01.3	+2.1
	baz=38,SNR=132						
F25K				S	Sn	17 20 06.7	-2.6
	baz=38						
H31M	Peel River	6.21 184		Pn	Pn	17 19 02.9	+2.6
H31M				Sn	Sn	17 20 09.5	-1.8
H31M	Peel River	6.21 184		P	Pn	17 19 03.0	+2.6
	baz=3.4,SNR=1000						
G26K	Porcupine Rive	6.25 221			Pn	17 19 02.5	+1.8
G26K	Porcupine Rive	6.25 221		Pn	Pn	17 19 02.8	+2.1
G26K				Sn	Sn	17 20 10.3	-1.7
G26K	Porcupine Rive	6.25 221		P	Pn	17 19 02.8	+2.1
	baz=31,SNR=955						
G26K				S	Sn	17 20 09.4	-2.6
	baz=31						
TOLK	Toolik Lake Re	6.43 247		P	Pn	17 19 04.6	+1.3
	baz=50						
TOLK				S	Sn	17 20 14.7	-1.9
	baz=50						
H27K	Steamboat Moun	6.47 211		Pn	Pn	17 19 06.2	+2.3
H27K				Sn	Sn	17 20 15.9	-1.8
H27K	Steamboat Moun	6.47 211		P	Pn	17 19 06.3	+2.3
	baz=23,SNR=304						
H27K				S	Sn	17 20 16.5	-1.2
	baz=23						
E24K	Your Creek	6.50 240		P	Pn	17 19 06.2	+1.9
	baz=45						
E24K				S	Sn	17 20 15.8	-2.6
	baz=45						
D23K	Nanushuk River	6.55 251		P	Pn	17 19 06.5	+1.6
	baz=54						
D23K				S	Sn	17 20 16.5	-3.1
	baz=54						
B22K	Teshekpuk Lake	6.71 266		P	Pn	17 19 08.2	+1.2
	baz=65						
B22K				S	Sn	17 20 18.1	-5.2
	baz=65						
F24K	Squaw Lake	6.75 236		P	Pn	17 19 09.4	+1.8
	baz=41						
F24K				S	Sn	17 20 21.8	-2.5
	baz=41						
E23K	Chandalar	6.82 243		P	Pn	17 19 10.2	+1.5
	baz=46						
E23K				S	Sn	17 20 24.3	-2.0
	baz=46						
I30M	Mount Dempster	6.88 191		Pn	Pn	17 19 11.6	+2.1
I30M				Sn	Sn	17 20 26.0	-1.8
I30M	Mount Dempster	6.88 191		P	Pn	17 19 11.7	+2.1
	baz=8.2,SNR=448						
I29M	Ogilvie Camp,	6.89 198		Pn	Pn	17 19 11.8	+2.1
I29M				Sn	Sn	17 20 26.2	-1.8
I29M	Ogilvie Camp,	6.89 198		P	Pn	17 19 11.4	+1.8
	baz=13						
G25K	Bearman Lake	6.90 227		Pn	Pn	17 19 11.8	+2.1
G25K				Sn	Sn	17 20 25.2	-3.0
G25K	Bearman Lake	6.90 227		P	Pn	17 19 11.8	+2.1
	baz=34						
I28M	Miner Creek	6.99 203		Pn	Pn	17 19 12.6	+1.7
I28M				Sn	Sn	17 20 28.1	-2.3
I28M	Miner Creek	6.99 203		P	Pn	17 19 12.7	+1.7
	baz=17,SNR=180						
I27K	Kandik River	7.07 209		Pn	Pn	17 19 14.1	+2.0
I27K				Sn	Sn	17 20 29.7	-2.8
I27K	Kandik River	7.07 209		P	Pn	17 19 13.9	+1.8
	baz=21,SNR=103						
D22K	Ayikyak River	7.20 254		P	Pn	17 19 15.3	+1.5
	baz=54						
H25L	Birch Creek	7.26 224		P	Pn	17 19 16.6	+2.0
	baz=32						
G24K	Hadweenzic Riv	7.28 230		P	Pn	17 19 16.4	+1.5
	baz=36						
E22K	Anaktuvuk Pass	7.39 248		P	Pn	17 19 17.4	+0.9
	baz=49						
B21K	Ikpikpuk River	7.40 262		P	Pn	17 19 18.0	+1.6
	baz=60						
KUKN	Kugluktuk,NWT	7.50 115		Pn	Pn	17 19 18.9	+0.9
KUKN				Sn	Sn	17 20 36.8	-6.2
J30M	Hart River	7.52 190		Pn	Pn	17 19 20.3	+2.0
J30M				Sn	Sn	17 20 40.8	-2.9
J30M	Hart River	7.52 190		P	Pn	17 19 20.4	+2.0
	baz=7.4,SNR=251						
COLD	Coldfoot	7.57 239		Pn	Pn	17 19 20.8	+2.0
COLD				Sn	Sn	17 20 40.0	-4.5
COLD	Coldfoot	7.57 239		P	Pn	17 19 20.7	+1.8
	baz=43						
I26K	Coal Creek Min	7.59 213		Pn	Pn	17 19 21.5	+2.3
I26K				Sn	Sn	17 20 42.3	-2.9
I26K	Coal Creek Min	7.59 213		P	Pn	17 19 21.3	+2.1
	baz=24,SNR=94						
C21K	Knifeblade Rid	7.68 259		P	Pn	17 19 22.4	+2.0
	baz=58						
J29N	Klondike Camp	7.78 196		Pn	Pn	17 19 24.1	+2.3
J29N				Sn	Sn	17 20 46.5	-3.2
J29N	Klondike Camp	7.78 196		P	Pn	17 19 24.0	+2.2
	baz=11						
E21K	Killik River	7.84 253		P	Pn	17 19 24.1	+1.5
	baz=53						
PRP	Porcupine Dome	7.84 220		P	Pn	17 19 24.6	+1.8
	baz=28						
G23K	Bananza Creek	7.91 236		P	Pn	17 19 24.7	+1.2
	baz=40						
F22K	John River	7.91 245		P	Pn	17 19 25.3	+1.7
	baz=46						
B20K	Meade River	8.01 267		P	Pn	17 19 25.4	+0.6
	baz=64						
H24K	Noodor Dome	8.08 228		P	Pn	17 19 27.3	+1.3
	baz=33						
G22K	Bettles	8.14 240		P	Pn	17 19 28.0	+1.3
	baz=43						
DAWY	Dawson	8.27 199			Pn	17 19 30.0	+1.6
DAWY	Dawson	8.27 199		Pn	Pn	17 19 30.1	+1.6
DAWY				Sn	Sn	17 20 57.8	-3.9
DAWY	Dawson	8.27 199		P	Pn	17 19 30.1	+1.6
	baz=13,SNR=8.6						
K29M	Barlow Dome	8.32 193		Pn	Pn	17 19 31.6	+2.3
K29M				Sn	Sn	17 20 59.8	-3.4
K29M	Barlow Dome	8.32 193		P	Pn	17 19 31.4	+2.0
	baz=9.2						
J26L	Joseph Creek	8.41 212		P	Pn	17 19 32.4	+2.0
	baz=22,SNR=84						
D20K	Etivluk River	8.48 259		P	Pn	17 19 32.5	+1.2
	baz=56						
F21K	Alatna River	8.48 246		P	Pn	17 19 32.4	+1.1
	baz=46						
H23K	Yukon River	8.48 231		P	Pn	17 19 32.9	+1.5
	baz=36						
POKR	Poker Plat Res	8.59 224		P	Pn	17 19 34.5	+1.6
	baz=30						
E20K	Nigu River	8.61 256		P	Pn	17 19 34.4	+1.2
	baz=53						
J25K	Salcha River,	8.62 217		Pn	Pn	17 19 35.6	+2.2
J25K				Sn	Sn	17 21 06.5	-4.0
J25K	Salcha River,	8.62 217		P	Pn	17 19 35.1	+1.8
	baz=25						
K27K	Chicken	8.62 207		Sn	Sn	17 21 06.9	-3.6
K27K	Chicken	8.62 207		P	Pn	17 19 35.2	+1.9
	baz=18						
ILAR	Eielson Array	8.78 221			Pn	17 19 37.4	+1.9
ILAR	Eielson Array	8.78 221		Pn	Pn	17 19 37.0	+1.5
	1.6nm,0.3s,baz=28,slow=14,SNR=60						
ILAR				Sn	Sn	17 21 13.4	-0.8
	1.4nm,0.3s,baz=24,slow=26,SNR=7.3						
	6.2nm,0.6s						
H22K	Ishtalitna Cre	8.89 236		P	Pn	17 19 38.1	+1.1
	baz=38						
SCRK	Sand Creek	8.96 212		P	Pn	17 19 40.3	+2.3
	baz=22,SNR=42						
G21K	Allakaket	8.98 242		P	Pn	17 19 39.5	+1.2
	baz=43						
I23K	Minto, Yukon-K	9.00 228		P	Pn	17 19 39.8	+1.4
	baz=33						
D19K	Kuna River	9.06 260		P	Pn	17 19 40.0	+0.7
	baz=55						
L29M	L29M	9.10 194		Pn	Pn	17 19 41.5	+1.6
L29M				Sn	Sn	17 21 18.3	-3.8
L29M	L29M	9.10 194		P	Pn	17 19 41.4	+1.6
	baz=9.6,SNR=96						
HDA	Harding Lake	9.11 220		P	Pn	17 19 41.6	+1.6
	baz=27						
C19K	Lookout Ridge	9.19 265		P	Pn	17 19 41.7	+0.6
	baz=59						
F20K	Avaraart Lake	9.24 249		P	Pn	17 19 42.7	+1.0
	baz=47						
DOT	Dot Lake	9.28 211		Pn	Pn	17 19 43.9	+1.5
DOT				Sn	Sn	17 21 22.1	-4.7
RIDG	Independent Ri	9.33 213		P	Pn	17 19 45.7	+2.6
	baz=22						
NEA2	Nenana	9.40 226		P	Pn	17 19 45.5	+1.5
	baz=31						
E19K	Redstone River	9.41 253		P	Pn	17 19 44.8	+0.7
	baz=50						
MLY	Manley	9.42 231		P	Pn	17 19 45.9	+1.6
	baz=34						
MMPY	Sheldon Lake,	9.43 174		Pn	Pn	17 19 46.8	+2.4
MMPY				Sn	Sn	17 21 25.6	-4.9
MMPY	Sheldon Lake,	9.43 174		P	Pn	17 19 47.2	+2.8
	baz=356,SNR=26						
H21K	Melozitna Rive	9.44 238		P	Pn	17 19 46.2	+1.7
	baz=39						
IMAR	Indian Mountai	9.45 241			Pn	17 19 45.8	+1.3
BCAR	Beaver Creek A	9.51 204			Pn	17 19 46.7	+1.2
L27K	Beaver Creek,	9.52 204		Pn	Pn	17 19 47.1	+1.6
L27K				Sn	Sn	17 21 27.7	-4.8
L27K	Beaver Creek,	9.52 204		P	Pn	17 19 47.2	+1.6
	baz=16,SNR=43						
M30M	Minto, Yukon	9.54 190		Pn	Pn	17 19 47.6	+1.7
M30M				Sn	Sn	17 21 28.3	-4.7
M30M	Minto, Yukon	9.54 190		P	Pn	17 19 47.5	+1.6
	baz=6.7,SNR=191						
I21K	Tanana	9.61 234		P	Pn	17 19 48.2	+1.5
	baz=36						
B18K	Kokolik River	9.75 268		P	Pn	17 19 49.0	+0.3
	baz=60						
L26K	Log Cabin Wild	9.76 208		Pn	Pn	17 19 51.0	+2.1
L26K	Log Cabin Wild	9.76 208		P	Pn	17 19 51.0	+2.1
	baz=18						
M29M	Somme Creek	9.78 194		Pn	Pn	17 19 51.1	+1.8
M29M				Sn	Sn	17 21 34.2	-4.8
M29M	Somme Creek	9.78 194		P	Pn	17 19 50.9	+1.6
	baz=9.6,SNR=124						
M31M	Drury Creek, Y	9.83 183		Pn	Pn	17 19 52.0	+2.2
M31M				Sn	Sn	17 21 35.4	-4.7
M31M	Drury Creek, Y	9.83 183		P	Pn	17 19 52.0	+2.2
	baz=2.2						
C18K	Utukok River	9.92 264		P	Pn	17 19 51.1	0.0
	baz=57						
BVCY	Beaver Creek	10.03 201		Pn	Pn	17 19 54.2	+1.6
BVCY				Sn	Sn	17 21 40.0	-5.1
BVCY	Beaver Creek	10.03 201		P	Pn	17 19 53.7	+1.1
	baz=14,SNR=21						
MCK	McKinley	10.12 223		P	Pn	17 19 55.5	+1.6
	baz=28						
H20K	Anotleneega Mo	10.12 241		P	Pn	17 19 54.8	+1.0
	baz=40						
PAX	Paxson	10.15 213		Pn	Pn	17 19 55.9	+1.6
PAX				Sn	Sn	17 21 42.0	-6.0
PAX	Paxson	10.15 213		P	Pn	17 19 56.1	+1.8
	baz=22						
M27K	Edge Creek, AK	10.21 203		Pn	Pn	17 19 56.5	+1.4
M27K				Sn	Sn	17 21 44.7	-4.8
M27K	Edge Creek, AK	10.21 203		P	Pn	17 19 56.4	+1.3
	baz=15,SNR=21						
G19K	Purcell Mounta	10.26 247		P	Pn	17 19 55.8	+0.1
	baz=44						
BPAW	Bear Paw Mtn.	10.26 229		P	Pn	17 19 57.2	+1.4
	baz=32						
M26K	Nabesna, AK	10.31 206		Pn	Pn	17 19 58.3	+1.9
M26K				Sn	Sn	17 21 46.8	-5.1
M26K	Nabesna, AK	10.31 206		P	Pn	17 19 58.0	+1.6
	baz=17,SNR=13						
E18K	Tukpahlearik C	10.45 258			Pn	17 19 58.3	0.0
E18K	Tukpahlearik C	10.45 258		P	Pn	17 19 58.6	+0.3
	baz=51						
H19K	Roundabout Mou	10.53 244		P	Pn	17 20 00.0	+0.7
	baz=41						
I20K	Naaghedeneel	10.56 238		P	Pn	17 20 00.8	+1.1
	baz=37		

baz=6.5,SNR=83
TGTN Hyland Airport 10.68 167 Sn Sn 17 21 54.1 -6.8
TGTN Hyland Airport 10.68 167 P **Pn** **17 20 02.9 +1.4**
baz=352
F18K Selawik 10.70 253 P **Pn** **17 20 02.1 +0.5**
baz=47
CHUM Lake Minchumin 10.76 231 P **Pn** **17 20 03.9 +1.4**
baz=32
N32M Quiet Lake 10.88 179 Sn **Sn** **17 22 00.0 -5.8**
N32M Quiet Lake 10.88 179 P **Pn** **17 20 06.4 +2.2**
baz=360
YUK4 Talbot Arm 10.88 194 Pn **Pn** **17 20 04.3 -0.1**
YUK4 Sn Sn 17 21 58.5 -7.7
YUK4 Talbot Arm 10.88 194 P **Pn** **17 20 04.7 +0.2**
baz=8.8,SNR=34
BRWY Burwash Landin 10.89 195 Pn **Pn** **17 20 05.7 +1.3**
BRWY Sn **Sn** **17 22 00.2 -5.8**
G18K Tagagawik 10.89 249 Pn **Pn** **17 20 04.2 -0.1**
G18K Tagagawik 10.89 249 P **Pn** **17 20 04.2 -0.1**
baz=44
J20K Nowinta River 10.97 235 **Pn** **17 20 06.6 +1.2**
J20K Nowinta River 10.97 235 P **Pn** **17 20 06.9 +1.5**
baz=35
YUK8 Steele Glacier 11.03 197 Pn **Pn** **17 20 08.2 +1.7**
YUK8 Sn **Sn** **17 22 03.7 -6.2**
YUK8 Steele Glacier 11.03 197 P **Pn** **17 20 07.8 +1.3**
baz=11,SNR=5.9
E17K Hotham Inlet 11.04 258 P **Pn** **17 20 06.0 -0.3**
baz=50
YUK5 Granite Creek 11.04 192 Pn **Pn** **17 20 08.2 +1.7**
YUK5 Sn **Sn** **17 22 03.5 -6.4**
CAST Castle Rocks 11.10 229 P **Pn** **17 20 08.3 +1.0**
baz=31
RES Resolute Bay 11.19 58 Pn **Pn** **17 20 04.6 -3.7**
2.2nm,0.3s,baz=247,slow=14,SNR=12
RES Sn Sn 17 22 00.1 -13
7.3nm,0.3s,baz=162,slow=23,SNR=8.0
6.1nm,0.4s
RES Resolute Bay 11.19 58 Sn Sn 17 21 58.5 -15
YUK6 Outpost Mounta 11.26 193 Pn **Pn** **17 20 11.6 +2.0**
YUK6 Sn **Sn** **17 22 09.0 -6.4**
YUK6 Outpost Mounta 11.26 193 P **Pn** **17 20 11.2 +1.6**
baz=8.2,SNR=19
HYT Haines Junctio 11.32 191 Pn **Pn** **17 20 12.1 +1.8**
HYT Haines Junctio 11.32 191 P **Pn** **17 20 11.9 +1.6**
baz=6.8,SNR=22
H18K Honhosa River 11.35 246 **Pn** **17 20 11.2 +0.7**
H18K Honhosa River 11.35 246 P **Pn** **17 20 11.3 +0.7**
baz=42
WHY Whitehorse 11.39 184 Pn **Pn** **17 20 12.9 +1.7**
WHY Sn **Sn** **17 22 12.1 -6.2**
WHY Whitehorse 11.39 184 P **Pn** **17 20 12.2 +1.0**
baz=2.7,SNR=14
PTPK Patty Peak 11.41 203 Pn **Pn** **17 20 13.1 +1.5**
PTPK Sn **Sn** **17 22 13.1 -6.0**
C16K Lisburne Hills 11.41 267 P **Pn** **17 20 11.3 -0.1**
baz=56
CTGM Chitina Glacie 11.50 200 Pn **Pn** **17 20 14.0 +1.2**
CTGM Sn **Sn** **17 22 14.5 -6.7**
CTG Chitina Glacier 11.50 200 P **Pn** **17 20 14.3 +1.5**
baz=13
J19K Poorman 11.50 237 **Pn** **17 20 13.8 +1.2**
J19K Poorman 11.50 237 P **Pn** **17 20 13.5 +0.9**
baz=36
BALM Baldy 11.54 203 Pn **Pn** **17 20 14.8 +1.4**
BALM Sn **Sn** **17 22 15.6 -6.6**
PPLA Purkeypile 11.58 228 P **Pn** **17 20 15.2 +1.4**
baz=30
O28M Mount Upton 11.58 197 Pn **Pn** **17 20 15.3 +1.3**
LOGN Logan Glacier 11.60 199 Pn **Pn** **17 20 16.0 +1.8**
LOGN Sn **Sn** **17 22 17.1 -6.6**
K20K Telida 11.63 233 P **Pn** **17 20 15.7 +1.3**
baz=33
KIAG Kiagna River 11.66 202 Pn **Pn** **17 20 16.2 +1.2**
KIAG Sn **Sn** **17 22 18.4 -6.6**
YUK7 Dusty Glacier 11.66 192 Pn **Pn** **17 20 16.7 +1.7**
G17K Kiwalik Mounta 11.75 250 P **Pn** **17 20 16.4 +0.3**
baz=44
GRNC Granite Creek 11.77 201 Pn **Pn** **17 20 18.5 +1.9**
P33M Teslin, Yukon 11.82 179 **Pn** **17 20 19.2 +2.1**
P33M Teslin, Yukon 11.82 179 Pn **Pn** **17 20 19.1 +2.1**
P33M Sn Sn 17 22 21.7 -7.2
P33M Teslin, Yukon 11.82 179 P **Pn** **17 20 18.7 +1.6**
baz=360,SNR=14
YKA Yellowknife Ar 11.88 134 Pn **Pn** **17 20 17.4 -0.4**
2.6nm,0.3s,baz=300,slow=15,SNR=42
YKA Sn Sn 17 22 21.9 -8.2
4.4nm,0.3s,baz=332,slow=23,SNR=10
YKA LR LR 17 25 18.4
comp=Z,39nm,20.2s,baz=308,slow=38
3.9nm,0.5s
P30M Million Dollar 12.00 189 Pn **Pn** **17 20 21.1 +1.6**
P30M Million Dollar 12.00 189 P **Pn** **17 20 21.0 +1.5**
baz=5.6
J18K Innoko River 12.22 238 P **Pn** **17 20 23.6 +1.1**
baz=35
SKT Skwentna 12.23 224 P **Pn** **17 20 24.8 +2.1**
baz=27
L20K Farewell, AK 12.33 230 P **Pn** **17 20 25.5 +1.5**
baz=30
P32M Atlin 12.44 181 **Pn** **17 20 27.7 +2.1**
P32M Atlin 12.44 181 Pn **Pn** **17 20 27.4 +1.8**
P32M Atlin 12.44 181 P **Pn** **17 20 27.1 +1.5**
baz=0.8,SNR=9.8
PLBC Pleasant Camp 12.64 187 P **Pn** **17 20 30.2 +2.0**
baz=4.5
R33M Jennings River 12.67 175 P **Pn** **17 20 30.6 +1.8**
baz=357
M20K Styx River 12.68 227 P **Pn** **17 20 30.1 +1.3**
baz=28
STLK Strandline Lak 12.73 224 **Pn** **17 20 31.3 +1.8**
F15K North Star Dit 12.80 256 P **Pn** **17 20 31.2 +0.8**
baz=46
L19K White Mountain 12.82 231 P **Pn** **17 20 31.5 +0.7**
baz=31
H16K Elim 12.85 250 P **Pn** **17 20 31.9 +1.0**
baz=42
J17K VABM Dome 12.90 241 P **Pn** **17 20 32.4 +0.6**
baz=37
Q32M Nakina River 13.08 178 P **Pn** **17 20 36.1 +1.7**
baz=359,SNR=8.0
L18K Granite Mounta 13.24 234 P **Pn** **17 20 37.9 +1.5**
baz=32
J16K Anvik River 13.41 243 P **Pn** **17 20 40.2 +1.4**
baz=38
F14K Arctic Creek 13.47 258 P **Pn** **17 20 39.8 +0.3**
baz=46
M18K Stony River 13.65 231 P **Pn** **17 20 43.2 +1.2**
baz=30
DLBC Dease Lake 13.66 173 Pn **Pn** **17 20 44.6 +2.3**
0.4nm,0.3s,baz=331,slow=12,SNR=11
DLBC LR LR 17 27 26.5
comp=Z,54nm,18.6s,baz=311,slow=42
2.1nm,0.6s
DLBC Dease Lake 13.66 173 P **Pn** **17 20 43.7 +1.4**
baz=356
L17K Donlin 13.73 237 P **Pn** **17 20 43.6 +0.5**
baz=33
R32K Eaglecrest 13.77 183 P **Pn** **17 20 45.3 +1.7**
baz=1.8
S31K Pelican 14.13 186 **Pn** **17 20 50.4 +1.9**
S31K Pelican 14.13 186 P **Pn** **17 20 49.4 +1.0**
baz=3.9
O20K Slope Mountain 14.18 223 P **Pn** **17 20 50.0 +0.8**
baz=25
KDAK Kodiak Island 16.29 219 Pn **P** **17 21 20.0 -0.1**
0.3nm,0.3s,baz=24,slow=7.0,SNR=6.8
FFC Flin Flon 21.82 126 **P** **17 22 20.9 +0.3**
FFC IAmb IAmb 17 22 25.4
comp=Z,8.1nm,1.2s
PDAR Pinedale Array 31.48 145 P **P** **17 23 54.1 +3.7**
comp=Z,1.1nm,0.6s,baz=4.2,slow=7.2,SNR=4.4
comp=Z,1.1nm,0.6s
PETK Petropavlovsk- 34.37 274 P **P** **17 24 13.2 -2.0**
comp=Z,0.9nm,0.8s,baz=40,slow=14,SNR=1.1
comp=Z,0.9nm,0.8s
NVAR Mina Array Bea 34.47 159 P **P** **17 24 20.6 +4.1**
comp=Z,0.4nm,0.6s,baz=343,slow=9.4,SNR=2.5
comp=Z,0.4nm,0.6s
TXAR Lajitas Array 45.62 143 P **P** **17 25 51.8 +3.0**
comp=Z,0.6nm,0.6s,baz=348,slow=12,SNR=7.8
comp=Z,0.6nm,0.6s
EKA Eskdalemuir Ar 48.30 36 P **P** **17 26 08.2 -1.1**
comp=Z,1.0nm,0.6s,baz=339,slow=7.6,SNR=2.8
comp=Z,1.0nm,0.6s

NIED ***12*** *17:18:04.3,40.˚55N×142.˚90E,h13km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm;*
M_{rr}=4.50; $M_{\theta\theta}$2.95; $M_{\phi\phi}$ 1.56; $M_{r\theta}$0.81; $M_{\theta\phi}$-1.22; $M_{\phi r}$1.61;
Fault plane solution: $M_0$4.36000×10¹⁴ NP1:
ϕ_s284.00000°, δ47.00000°, λ-114.00000°. NP2:
ϕ_s137.00000°, δ48.00000°, λ-67.00000°.
JMA 12 17:18:04.3±0.3, 40.˚6N±0.˚5×142.˚9E±0.˚8, h13km±3km, MV3.6/38, E OFF AOMORI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	**0.97**	**250**	*e*P	Pb	17 18 22.3	-0.7
JTH	**Tanohata**	**1.00**	**233**	*e*P	Pb	17 18 23.1	-0.3
JANG	**Nango**	**1.07**	**261**	*e*P	Pb	17 18 24.0	-0.7
JARK	**Aomorirokkasho**	**1.25**	**292**	P	Pn	17 18 27.4	-0.1
JKZ	**Kuzumaki**	**1.33**	**246**	*e*P	Pn	17 18 28.2	-0.4
JTM	**Tenmabayashi**	**1.42**	**280**	*e*S	Sn	17 18 48.0	-0.3
JEM	**Erimo**	**1.48**	**7**	*e*P	Pn	17 18 30.9	+0.3
JEM				*e*S	Sn	17 18 49.5	-0.4
JOT	**Ohata**	**1.63**	**301**	P	Pn	17 18 32.9	+0.1
JOT				*e*S	Sn	17 18 53.4	-0.3
JOM	**Ohasama**	**1.64**	**230**	P	Pn	17 18 33.4	+0.6
JNBK	**Urakawa-nobuka**	**1.74**	**356**	*e*P	Pn	17 18 34.8	+0.6
JAH	**Hinai**	**1.77**	**259**	*i* P	Pn	17 18 35.4	+0.8
JKB	**Kayabe**	**1.95**	**314**	P	Pn	17 18 37.4	+0.4

IDC ***12*** *17:20:21.7±1.1,23.˚66S×179.˚58W,h453km±12km,*
mb4.1/27,mbtmp4.9/28,Error ellipse: s-maj=9.6km
s-min=9.3km az=84.0
NEIC ***12*** *17:20:23.5±1.6,23.˚5S±0.˚1×179.˚45W±0.˚07,h480km±8km,*
mb4.7/78,Error ellipse: s-maj=16.7km s-min=9.0km
az=179.0
BGR ***12*** *17:20:25.9,23.˚71S×178.˚16W,h500km*
ISC 12 17:20:21.0±0.3, 23.˚62S±0.˚05×179.˚47W±0.˚05, h450km, n345,σ1°16/352, mb4.7/93, 41C-23D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**5.77**	**166**	P	**P**	**17 21 55.6**	**+2.7**
RIZ				S	**S**	**17 23 08.0**	**-0.1**
RAO	**Raoul Island**	**5.78**	**166**	P	**P**	**17 21 55.3**	**+2.3**
RAO	**Raoul Island**	**5.78**	**166**	P	**P**	**17 21 54.2**	**+1.2**
	331nm,0.2s,baz=348,slow=20,SNR=5.2						
RAO				S	**S**	**17 23 07.6**	**-0.6**
	623nm,0.3s,baz=84,slow=22,SNR=7.5						
GLKZ	**Green Lake**	**5.79**	**166**	P	**P**	**17 21 55.1**	**+2.1**
GLKZ				S	**S**	**17 23 04.5**	**-3.9**
MSVF	**Nonsavu**	**6.30**	**338**	P	**P**	**17 22 01.9**	**+3.3**
FUTU	**Fugatoga**	**9.35**	**8**		**P**	**17 22 33.7**	**+2.6**
NIUE	**Niue**	**9.97**	**65**	P	**P**	**17 22 39.2**	**+1.2**
NIUE	**Niue**	**9.97**	**65**	P	P	17 22 44.6	+6.6
NIUE				S	**S**	**17 24 33.3**	**+2.7**
PINNC	**Pines Island,**	**12.08**	**272**		**P**	**17 23 04.9**	**+4.1**
AFI	**Afiamalu**	**12.09**	**38**	P	**P**	**17 22 58.1**	**-3.0**
AFI	**Afiamalu**	**12.09**	**38**	P	**P**	**17 22 59.1**	**-2.0**
OUZ	**Omahuta**	**13.04**	**206**	P	**P**	**17 23 14.2**	**+3.2**
DZM	**Mont Dzumac**	**13.08**	**274**		**P**	**17 23 14.6**	**+2.8**
DZM	**Mont Dzumac**	**13.08**	**274**	*e*P	**P**	**17 23 16.1**	**+4.4**
	77nm,0.7s						
DZM				*e*S	**S**	**17 25 32.0**	**-0.6**
	44nm,1.4s						
DZM	**Mont Dzumac**	**13.08**	**274**	P	**P**	**17 23 14.4**	**+2.7**
	51nm,0.7s,baz=236,slow=21,SNR=32						
GRZ	**Great Barrier**	**13.33**	**198**	P	**P**	**17 23 16.1**	**+1.9**
WCZ	**Waipu Caves**	**13.40**	**202**	P	**P**	**17 23 17.8**	**+3.0**
KUZ	**Kuaotunu**	**13.73**	**196**	P	**P**	**17 23 19.7**	**+1.3**
MXZ	**Matakaoa Point**	**14.03**	**187**	P	**P**	**17 23 21.5**	**-0.1**
MKAZ	**Moumakai**	**14.21**	**198**	P	**P**	**17 23 25.0**	**+1.5**
WMGZ	**Waiomatatini S**	**14.27**	**187**	P	**P**	**17 23 22.4**	**-1.8**
WMGZ				S	**S**	**17 25 55.8**	**+0.2**
HAZ	**Te Kaha**	**14.29**	**189**	P	**P**	**17 23 23.6**	**-0.8**
HAZ				S	**S**	**17 25 58.5**	**+2.6**
PKGZ	**Pakihiroa**	**14.36**	**188**	P	**P**	**17 23 25.5**	**+0.3**
RUGZ	**Raukumara Rang**	**14.51**	**189**	P	**P**	**17 23 25.5**	**-1.5**
TGRZ	**Tauranga**	**14.54**	**194**	P	**P**	**17 23 28.4**	**+1.4**
PUZ	**Puketiti**	**14.54**	**187**	P	**P**	**17 23 26.1**	**-1.0**
TWGZ	**Tauwhareparae**	**14.68**	**188**	P	**P**	**17 23 28.9**	**+0.3**
TOZ	**Tahuroa Road**	**14.71**	**196**		**P**	**17 23 30.1**	**+1.1**
TOZ	**Tahuroa Road**	**14.71**	**196**	P	**P**	**17 23 29.8**	**+0.9**
KARZ	**Kaharoa**	**14.82**	**193**	P	**P**	**17 23 31.5**	**+1.4**
URZ	**Urewera**	**14.89**	**191**	P	**P**	**17 23 28.0**	**-2.8**
	63nm,0.6s,baz=328,slow=1.4,SNR=31						
URZ				S	**S**	**17 26 08.3**	**+0.8**
	49nm,0.6s,baz=180,slow=21,SNR=12						
URZ	**Urewera**	**14.89**	**191**	P	**P**	**17 23 28.0**	**-2.8**
MWZ	**Matawai**	**14.89**	**189**	P	**P**	**17 23 29.4**	**-1.6**
NGRZ	**Ngongotaha**	**14.91**	**193**	P	**P**	**17 23 32.4**	**+1.3**
SANVU	**Saraoutou**	**14.95**	**301**		**P**	**17 23 31.6**	**-0.1**
CNGZ	**Carnagh Statio**	**14.95**	**187**	P	**P**	**17 23 31.7**	**+0.2**
TKGZ	**Te Karaka**	**14.95**	**188**	P	**P**	**17 23 30.6**	**-0.9**
RAGZ	**Rawiri**	**15.07**	**189**	P	**P**	**17 23 31.9**	**-0.9**
MUGZ	**Murupara**	**15.16**	**191**	P	**P**	**17 23 32.1**	**-1.5**
HRRZ	**Handcock Road**	**15.17**	**193**	P	**P**	**17 23 34.4**	**+0.5**
RIGZ	**Rimuhau**	**15.23**	**188**	P	**P**	**17 23 33.9**	**-0.6**
RTZ	**Ruatahuna**	**15.26**	**191**	P	**P**	**17 23 33.1**	**-1.7**
TLZ	**Tolley Road**	**15.27**	**195**	P	**P**	**17 23 35.9**	**+0.9**
SNGZ	**Shannon Statio**	**15.36**	**189**	P	**P**	**17 23 33.6**	**-2.3**
MTHZ	**Maungataniwha**	**15.51**	**191**	P	**P**	**17 23 36.9**	**-0.6**
BKZ	**Black Stump Fm**	**15.88**	**192**	P	**P**	**17 23 37.8**	**-3.5**
BFZ	**Birch Farm**	**17.39**	**191**	P	**P**	**17 23 53.1**	**-4.2**
MRZ	**Mangatainoka R**	**17.50**	**193**		**P**	**17 23 54.0**	**-4.4**
MSWZ	**Moikau Station**	**18.29**	**193**	P	**P**	**17 24 03.6**	**-2.9**
SNZO	**South Karori**	**18.31**	**194**	P	**P**	**17 24 05.5**	**-1.1**
TCW	**Tory Channel**	**18.31**	**195**	P	**P**	**17 24 03.0**	**-3.6**
QRZ	**Quartz Range**	**18.43**	**200**		**P**	**17 24 06.6**	**-1.2**
THZ	**Tophouse**	**19.18**	**198**		**P**	**17 24 13.1**	**-1.8**
DSZ	**Denniston Nort**	**19.49**	**200**	P	**P**	**17 24 16.3**	**-1.4**
KHZ	**Kahutara**	**19.63**	**196**	P	**P**	**17 24 16.1**	**-2.7**
INZ	**Inchbonnie**	**20.49**	**199**	P	**P**	**17 24 25.2**	**-1.5**
MOZ	**McQueen's Vall**	**21.06**	**196**	P	**P**	**17 24 29.8**	**-2.0**
RPZ	**Rata Peaks**	**21.51**	**199**		**P**	**17 24 34.8**	**-1.2**
RPZ	**Rata Peaks**	**21.51**	**199**	P	**P**	**17 24 34.1**	**-1.9**
	134nm,0.6s,baz=347,slow=1.5,SNR=68						
	134nm,0.6s						
FOZ	**Fox Glacier**	**21.74**	**201**	P	**P**	**17 24 36.0**	**-2.0**
HNR	**Honiara**	**24.20**	**302**	P	**P**	**17 24 59.5**	**-1.1**
HNR	**Honiara**	**24.20**	**302**	P	**P**	**17 24 59.7**	**-0.9**
	34nm,0.7s,baz=228,slow=4.8,SNR=6.6						
	34nm,0.7s						
ARMA	**Armidale**	**26.57**	**249**	P	**P**	**17 25 23.1**	**+1.5**
ARMA				IAmb	IAmb	17 25 24.2	
	comp=Z,19nm,0.7s						
EIDS	**Eidsvold**	**26.83**	**260**	P	**P**	**17 25 24.4**	**+0.6**
EIDS				IAmb	IAmb	17 25 25.6	
	comp=Z,26nm,0.6s						
TBI	**Tubuai**	**27.51**	**96**	*es*S	sS	17 32 05.0	+2.1
	comp=Z,365nm,41.2s						
PPT2	**Papeete2**	**28.59**	**84**	*es*S	sS	17 32 26.4	+5.8
	comp=Z,71nm,27.8s						
CAN	**Canberra**	**29.70**	**240**	P	**P**	**17 25 49.6**	**+0.8**
CAN				IAmb	IAmb	17 26 04.8	
	comp=Z,32nm,1.2s						
CTAO	**Charters Tower**	**31.96**	**270**	P	**P**	**17 26 09.7**	**+1.1**
PMG	**Port Moresby**	**34.86**	**288**	P	**P**	**17 26 32.1**	**-1.1**
PMG	**Port Moresby**	**34.86**	**288**	P	**P**	**17 26 33.3**	**+0.1**
	comp=Z,132nm,0.8s,baz=125,slow=9.5,SNR=28						
	comp=Z,132nm,0.8s						
STKA	**Stephens Creek**	**35.28**	**248**		**P**	**17 26 37.0**	**+0.5**
STKA	**Stephens Creek**	**35.28**	**248**	P	**P**	**17 26 36.7**	**+0.1**
	comp=Z,8.1nm,0.5s,baz=100,slow=11,SNR=36						
STKA				PcP	**PcP**	**17 28 55.9**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=90,slow=3.1,SNR=4.5						
	comp=Z,8.1nm,0.5s						
COEN	**Coen**	**36.55**	**278**		**P**	**17 26 48.0**	**+0.6**
COEN				IAmb	IAmb	17 26 49.3	
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**40.00**	**247**	P	**P**	**17 27 14.9**	**-0.5**
BBOO				IAmb	IAmb	17 27 15.8	
	comp=Z,18nm,0.8s						
ASAR	**Alice Springs**	**42.56**	**260**	P	**P**	**17 27 35.7**	**-0.4**
	comp=Z,27nm,0.7s,baz=97,slow=7.1,SNR=400						
ASAR				PcP	**PcP**	**17 29 18.9**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=105,slow=4.3,SNR=7.2						
ASAR				ScP	**ScP**	**17 32 26.8**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=110,slow=4.6,SNR=10						
ASAR				S	**S**	**17 33 21.8**	**-3.3**
	comp=Z,2.5nm,1.0s,baz=353,slow=9.2,SNR=6.9						
	comp=Z,27nm,0.7s						
WRAB	**Tennant Creek**	**42.90**	**266**	P	**P**	**17 27 37.5**	**-1.2**
WRAB				IAmb	IAmb	17 27 39.0	
	comp=Z,32nm,0.9s						
WRA	**Warramunga Arr**	**42.91**	**266**		**P**	**17 27 38.3**	**-0.5**
WRA	**Warramunga Arr**	**42.91**	**266**	P	**P**	**17 27 38.3**	**-0.5**
	comp=Z,36nm,0.6s,baz=102,slow=8.2,SNR=58						
WRA				PcP	**PcP**	**17 29 20.1**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=103,slow=3.3,SNR=7.4						
WRA				ScP	**ScP**	**17 32 28.4**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=104,slow=4.3,SNR=6.3						
WRA				S	**S**	**17 33 27.4**	**-2.8**
	comp=Z,1.3nm,0.8s,baz=105,slow=15,SNR=4.8						
	comp=Z,36nm,0.6s						
JAY	**Jayapura**	**43.85**	**293**	P	**P**	**17 27 45.9**	**-0.4**
	comp=Z,27nm,0.7s,baz=106,slow=7.4,SNR=28						
	comp=Z,27nm,0.7s						
GENI	**Genyem**	**44.27**	**292**	P	**P**	**17 27 49.7**	**+0.2**
	comp=Z,79nm,0.9s						
SMPI	**Sarmi**	**45.82**	**292**	P	**P**	**17 28 00.9**	**-0.6**
	comp=Z,34nm,0.8s						
MTN	**Manton Dam**	**47.92**	**274**	P	**P**	**17 28 16.2**	**-1.2**
MTN				IAmb	IAmb	17 28 17.2	
	comp=Z,18nm,0.5s						
SRPI	**Serui, Papua**	**48.00**	**290**	P	**P**	**17 28 17.9**	**-0.1**
	comp=Z,52nm,1.0s						
BAKI	**Biak**	**48.46**	**291**	P	**P**	**17 28 22.6**	**+1.1**
	comp=Z,112nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.33**	**265**	P	**P**	**17 28 42.5**	**-0.2**
	comp=Z,16nm,0.4s,baz=111,slow=5.2,SNR=114						
	comp=Z,16nm,0.4s						
SWI	**Sorong**	**52.81**	**288**	P	**P**	**17 28 52.5**	**-1.0**
SBA	**Scott Base**	**54.69**	**184**		**P**	**17 29 08.3**	**+2.5**
SBA				IAmb	IAmb	17 29 09.4	
	comp=Z,25nm,0.9s						
VNDA	**Vanda**	**54.70**	**185**	P	**P**	**17 29 06.7**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=351,slow=7.5,SNR=32						
	comp=Z,3.8nm,0.7s						
SOEI	**Soe**	**55.30**	**274**	P	**P**	**17 29 11.4**	**+0.1**
	comp=Z,82nm,0.8s						
BATI	**Baumata**	**55.69**	**274**	P	**P**	**17 29 14.7**	**+0.8**
	comp=Z,56nm,0.5s,baz=164,slow=3.3,SNR=21						
	comp=Z,56nm,0.5s						
MBWA	**Marble Bar**	**55.90**	**260**	P	**P**	**17 29 14.4**	**-0.9**
MBWA				IAmb	IAmb	17 29 15.0	
	comp=Z,23nm,0.7s						
MORW	**Morawa**	**57.43**	**250**	IAmb	IAmb	17 29 26.0	
	comp=Z,16nm,0.6s						
EDFI	**Ende, Flores**	**58.04**	**274**	P	**P**	**17 29 29.7**	**-0.5**
	comp=Z,528nmcomp=Z,65nm,1.1s						
WSI	**Waingapu**	**58.97**	**273**	P	**P**	**17 29 36.6**	**+0.2**
WBSI	**Waikabubak, Su**	**59.81**	**272**	P	**P**	**17 29 41.7**	**-0.4**
	comp=Z,61nm,1.2s						
BKSI	**Bulukumba**	**60.81**	**277**	P	**P**	**17 29 47.5**	**-1.2**
	comp=Z,38nm,0.7s						
KAPI	**Kappang**	**61.27**	**277**	P	**P**	**17 29 51.0**	**-0.7**
	comp=Z,6.1nm,0.5s,baz=82,slow=7.1,SNR=4.0						
	comp=Z,6.1nm,0.5s						
PLAI	**Plampang**	**61.59**	**273**	P	**P**	**17 29 53.3**	**-0.6**
	comp=Z,889nmcomp=Z,96nm,0.8s						
PCI	**Palu**	**62.92**	**282**	P	**P**	**17 30 03.3**	**+0.7**
	comp=Z,53nm,1.1s						
TOLI2	**Tolitoli**	**62.98**	**284**		**P**	**17 30 01.1**	**-1.9**
JAGI	**Jajag, Banyuwa**	**65.05**	**271**	P	**P**	**17 30 14.9**	**-1.3**
JAGI				IAmb	IAmb	17 30 15.7	
	comp=Z,50nm,1.3s						
GMJI	**Gumukmas**	**65.77**	**271**	P	**P**	**17 30 20.2**	**-0.5**
	comp=Z,24nm,0.9s						
QSPA	**South Pole Qui**	**66.47**	**180**	P	**P**	**17 30 25.8**	**+1.4**
QSPA				IAmb	IAmb	17 30 27.0	
	comp=Z,24nm,1.1s						
QSPA	**South Pole Qui**	**66.47**	**180**	P	**P**	**17 30 25.5**	**+1.1**
	comp=Z,16nm,0.8s,baz=13,slow=1.0,SNR=57						
	comp=Z,16nm,0.8s						
PCJI	**Pacitan**	**67.88**	**271**	P	**P**	**17 30 33.7**	**-0.1**
WOJI	**Wonogiri, Jawa**	**68.24**	**271**	P	**P**	**17 30 35.5**	**-0.6**
	comp=Z,79nm,1.3s						
KPJI	**Karang Pucung**	**70.26**	**271**	P	**P**	**17 30 47.7**	**-0.6**
	comp=Z,32nm,0.9s						
STKI	**Sintang**	**70.88**	**279**	P	**P**	**17 30 52.4**	**+0.4**
	comp=Z,38nm,0.9s						
SBUM	**Sibu**	**71.23**	**281**	P	**P**	**17 30 53.3**	**-0.7**
LEM	**Lembang**	**71.66**	**270**	P	**P**	**17 30 56.6**	**-0.2**
	comp=Z,54nm,0.7s,baz=114,slow=11,SNR=6.5						
	comp=Z,54nm,0.7s						
LEM	**Lembang**	**71.66**	**270**	P	**P**	**17 30 56.7**	**-0.1**
	comp=Z,80nm,0.8s						
MJAR	**Matsushiro Ar**	**71.94**	**325**	P	**P**	**17 30 57.4**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=158,slow=6.3,SNR=11						
	comp=Z,3.5nm,0.8s						
KSM	**Kuching**	**72.53**	**280**	P	**P**	**17 31 00.6**	**-1.1**
KSM				IAmb	IAmb	17 31 02.5	
	comp=Z,31nm,0.7s						
SSLB	**Suanglung**	**74.59**	**305**	P	**P**	**17 31 11.9**	**-1.3**
SSLB				IAmb	IAmb	17 31 12.9	
	comp=Z,22nm,0.7s						
KIWB	**Kanaga Island**	**75.17**	**1**	P	**P**	**17 31 15.9**	**+0.1**
KIWB				IAmb	IAmb	17 31 17.0	
	comp=Z,27nm,0.8s						
MDSI	**Maura Dua**	**75.71**	**271**	P	**P**	**17 31 18.5**	**-1.3**
	comp=Z,21nm,1.0s						
BELA	**Belgrano 2**	**76.66**	**173**	P	**P**	**17 31 23.2**	**-0.7**
MAW	**Mawson**	**78.18**	**200**	P	**P**	**17 31 32.7**	**+0.4**
	comp=Z,6.3nm,0.7s,baz=124,slow=7.6,SNR=14						
	comp=Z,6.3nm,0.7s						
KSRS	**Korea Array**	**78.34**	**320**	P	**P**	**17 31 34.3**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=127,slow=6.1,SNR=4.1						
	comp=Z,2.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**78.94**	**346**	IAmb	IAmb	17 31 37.9	
	comp=Z,33nm,1.0s						
PETK	**Petropavlovsk-**	**78.94**	**346**	P	**P**	**17 31 36.3**	**-0.2**
PETK	**Petropavlovsk-**	**78.94**	**346**	P	**P**	**17 31 36.5**	**0.0**
	comp=Z,14nm,0.8s,baz=133,slow=6.9,SNR=20						
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**80.79**	**327**	P	**P**	**17 31 47.2**	**+0.8**
	comp=Z,7.6nm,1.0s,baz=127,slow=5.3,SNR=9.2						
	comp=Z,7.6nm,1.0s						
NJ2	**Nanjing**	**80.84**	**311**	*e*P	**P**	**17 31 47.6**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,160nm,0.5s						
IPM	**Ipoh**	**82.20**	**278**	IAmb	IAmb	17 31 55.3	
	comp=Z,18nm,0.8s						
**ES

	comp=Z,19nm,0.8s								
MA2	**Magadan**		**86.43**	**345**	P	**P**	**17 32 13.9**	**-0.3**
MA2					IAmb	IAmb	17 32 15.2	
	comp=Z,27nm,0.9s								
MA2	**Magadan**		**86.43**	**345**	P	**P**	**17 32 13.9**	**-0.3**
	comp=Z,18nm,0.8s,baz=134,slow=5.4,SNR=11								
	comp=Z,18nm,0.8s								
SLKM	**Skilak Lake**		**87.14**	**14**	IAmb	IAmb	17 32 19.4		
	comp=Z,14nm,0.9s								
HEH	**HeiHe**		**87.25**	**329**	*e*P	**P**	**17 32 18.8**	**+0.5**
HEH					pmax	pmax			
	comp=Z,19nm,1.2s								
STLK	**Strandline Lak**		**87.70**	**13**	P	**P**	**17 32 19.1**	**-1.2**
L19K	**White Mountain**		**87.74**	**11**	IAmb	IAmb	17 32 22.2		
	comp=Z,9.2nm,0.8s								
RC01	**Rabbit Creek A**		**87.77**	**14**	IAmb	IAmb	17 32 22.5		
	comp=Z,11nm,1.0s								
PWL	**Port Wells**		**87.89**	**15**	IAmb	IAmb	17 32 22.3		
	comp=Z,11nm,0.9s								
SUA	**Susitna One**		**87.89**	**13**	IAmb	IAmb	17 32 22.3		
	comp=Z,11nm,0.6s								
GLI	**Glacier Island**		**88.20**	**15**	IAmb	IAmb	17 32 24.2		
	comp=Z,14nm,0.8s								
KNK	**Knik Glacier**		**88.35**	**14**	IAmb	IAmb	17 32 25.1		
	comp=Z,8.9nm,0.8s								
GHO	**Glory Hole Cre**		**88.56**	**14**	IAmb	IAmb	17 32 26.1		
	comp=Z,17nm,0.8s								
U33K	**Whale Pass**		**88.59**	**24**	IAmb	IAmb	17 32 27.5		
	comp=Z,5.9nm,0.8s								
XAN	**Xi'an**		**88.95**	**308**	P	**P**	**17 32 28.3**	**+1.5**
XAN					pmax	pmax			
	comp=Z,11nm,0.9s								
SCM	**Sheep Creek Mo**		**88.98**	**15**	IAmb	IAmb	17 32 28.3		
	comp=Z,14nm,0.9s								
SEY	**Seymchan**		**89.10**	**348**	P	**P**	**17 32 27.2**	**+0.5**
	comp=Z,10nm,0.7s,baz=162,slow=6.1,SNR=12								
	comp=Z,10nm,0.7s								
CAST	**Castle Rocks**		**89.39**	**12**	IAmb	IAmb	17 32 28.6		
	comp=Z,8.8nm,0.8s								
KMI	**Kunming**		**89.56**	**298**	P	**P**	**17 32 31.9**	**+1.9**
KMI					pmax	pmax			
	comp=Z,13nm,1.3s								
KTH	**Kantishna Hill**		**89.74**	**12**	IAmb	IAmb	17 32 30.4		
	comp=Z,8.2nm,0.9s								
TRF	**Thorofare Moun**		**89.77**	**13**	IAmb	IAmb	17 32 31.1		
	comp=Z,8.1nm,0.8s								
TXAR	**Lajitas Array**		**89.87**	**58**	P	**P**	**17 32 32.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=234,slow=4.3,SNR=5.3								
	comp=Z,0.6nm,0.8s								
CMAR	**Chiang Mai Arr**		**89.88**	**290**	P	**P**	**17 32 32.5**	**+1.1**
	comp=Z,5.7nm,0.9s,baz=135,slow=3.3,SNR=31								
	comp=Z,5.7nm,0.9s								
RND	**Reindeer**		**90.03**	**13**	IAmb	IAmb	17 32 32.7		
	comp=Z,12nm,1.1s								
HHC	**Hu-ho-hao-te**		**90.56**	**315**	*e*P	**P**	**17 32 34.0**	**-0.2**
HHC					pmax	pmax			
	comp=Z,11nm,0.6s								
HHC					pmax	pmax			
	comp=Z,130nm,5.4s								
PZH	**PanZhiHua**		**90.97**	**298**	P	**P**	**17 32 36.7**	**+0.3**
ILAR	**Eielson Array**		**91.64**	**13**	P	**P**	**17 32 37.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=204,slow=5.1,SNR=6.0								
	comp=Z,0.6nm,0.5s								
PDAR	**Pinedale Array**		**92.15**	**44**	P	**P**	**17 32 41.5**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=227,slow=5.7,SNR=5.5								
	comp=Z,0.6nm,0.8s								
YAK	**Yakutsk**		**94.49**	**338**	P	**P**	**17 32 50.5**	**-1.0**
SONM	**Songino Array**		**97.20**	**319**	P	**P**	**17 33 03.1**	**-1.2**
	comp=Z,1.0nm,1.0s,baz=144,slow=5.3,SNR=3.7								
	comp=Z,1.0nm,1.0s								
GTA	**Gaotai**		**97.89**	**309**	*e*P	**P**	**17 33 08.6**	**+1.0**
GTA					sP	Pdif	17 33 17.4	+10	
GTA					pmax	pmax			
	comp=Z,2.0nm,1.3s								
ZALV	**Zalesovo Beam**		**112.04**	**321**	PKiKP	**PKiKP**	**17 38 02.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=169,slow=0.8,SNR=4.5								
MKAR	**Makanchi Array**		**112.32**	**313**	P	**PKiKP**	**17 38 03.6**	**-1.0**
MKAR	**Makanchi Array**		**112.32**	**313**	PKiKP	**PKiKP**	**17 38 03.8**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=71,slow=1.2,SNR=13								
MAKZ	**Makanchi**		**112.53**	**313**	IAmb	IAmb	17 38 04.6		
	comp=Z,2.4nm,0.7s								
MAKZ	**Makanchi**		**112.53**	**313**	P	**PKiKP**	**17 38 04.0**	**-1.0**
KURBB	**Kurchatov Arra**		**115.38**	**316**	PKP	**PKPdf**	**17 38 09.5**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=110,slow=1.9,SNR=14								
BVAR	**Borovoye Array**		**120.55**	**319**	PKP	**PKPdf**	**17 38 19.6**	**-0.7**
	comp=Z,2.5nm,0.4s,baz=86,slow=1.9,SNR=15								
SPITS	**Spitsbergen Ar**		**124.87**	**356**	PKP	**PKPdf**	**17 38 27.5**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=4.1,slow=2.0,SNR=1.8								
ARA0	**ARCESS Array S**		**131.71**	**349**	*e*P	**PKPdf**	**17 38 41.2**	**+0.1**
ARCES	**ARCESS Array B**		**131.71**	**349**	PKhKP	PKPpre	17 38 27.8		
	comp=Z,4.2nm,0.9s,baz=343,slow=3.8,SNR=4.9								
ARCES					PKP	**PKPdf**	**17 38 40.8**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=5.3,slow=1.2,SNR=12								
FINES	**FINESS Array B**		**138.33**	**342**	PKhKP	PKPpre	17 38 41.8		
	comp=Z,0.9nm,0.3s,baz=39,slow=2.5,SNR=13								
FINES					PKP	**PKPdf**	**17 38 53.8**	**+0.2**	
	comp=Z,2.7nm,0.7s,baz=86,slow=1.1,SNR=5.6								
NB2	**NORSAR Subarra**		**141.88**	**352**	PKP	PKPpre	17 38 55.9		
	comp=Z,2.7nm,0.7s,baz=19,slow=3.2								
NB2	**NORSAR Subarra**		**141.88**	**352**	PKPab	PKPpre	17 38 55.9		
	baz=19,slow=3.2								
NOA	**NORSAR Array B**		**141.88**	**352**	PKhKP	PKPpre	17 38 55.2		
	comp=Z,3.9nm,0.7s,baz=16,slow=4.7,SNR=14								
NC602	**NORSAR Array S**		**142.12**	**351**	*e*P	PKPpre	17 38 55.8		
HFS	**Hagfors**		**142.36**	**349**	PKhKP	PKPpre	17 38 56.6		
	comp=Z,17nm,0.3s,baz=46,slow=4.0,SNR=28								
SKAR	**Skarslia**		**142.57**	**354**	*e*P	PKPpre	17 38 58.4		
KONO	**Kongsberg**		**143.43**	**352**	*e*P	PKPab	17 39 00.9	+0.1	
ODD1	**Odda**		**143.48**	**355**	*e*P	PKPbc	17 39 01.3	+0.1	
STRU	**Stroemstad**		**143.81**	**351**	*i* P	PKPab	17 39 01.8	-0.4	
BLS5	**Blasjo**		**143.98**	**355**	*e*P	**PKPab**	**17 39 03.0**	**+0.1**
BORU	**Boraas**		**144.88**	**349**	*i* P	**PKPdf**	**17 39 04.8**	**-0.6**
HOMB	**Homborsund**		**144.91**	**353**	*e*P	**PKPab**	**17 39 06.3**	**0.0**
AKASG	**Malin Array Be**		**144.99**	**328**	PKP	**PKPdf**	**17 39 05.4**	**-0.4**
	comp=Z,6.7nm,0.3s,baz=44,slow=4.1,SNR=127								
KIEV	**Kiev**		**145.00**	**328**	⇓P	**PKPdf**	**17 39 05.4**	**-0.4**
SUW	**Suwalki**		**145.20**	**337**	*e*PKP	**PKPbc**	**17 39 06.5**	**-0.3**
ONAU	**Onsala**		**145.26**	**349**	*i* P	**PKPdf**	**17 39 05.7**	**-0.4**
BLEU	**Blekinge**		**145.48**	**345**	*i* P	**PKPdf**	**17 39 06.4**	**-0.1**
FABU	**Falkenberg**		**145.49**	**348**	*i* P	**PKPbc**	**17 39 08.0**	**+0.5**
DEL	**Delary**		**145.76**	**347**	*i* P	**PKPdf**	**17 39 07.0**	**+0.1**
BJUU	**Bjuv**		**146.30**	**347**	*i* P	**PKPbc**	**17 39 09.5**	**-0.4**
LUNU	**Lund**		**146.63**	**347**	*i* P	**PKPbc**	**17 39 09.9**	**-0.9**
BSD	**Bornholm Skovb**		**146.77**	**345**	*i* P	**PKPbc**	**17 39 10.5**	**-0.7**
FKH	**Fakeheh**		**147.01**	**297**	*e*P	**PKPbc**	**17 39 13.1**	**+0.4**
SORM	**Soroca**		**147.05**	**325**	⇑P	**PKPbc**	**17 39 12.0**	**-0.2**
BEIL	**Beino**		**147.15**	**298**	*e*P	**PKPbc**	**17 39 13.5**	**+0.5**
R9F13	**Warsaw-Wawer**		**147.37**	**336**	*e*PKPc	**PKPbc**	**17 39 13.5**	**+0.6**
ZAHL	**Zahle**		**147.50**	**296**	*e*P	**PKPbc**	**17 39 14.6**	**+0.5**
MILM	**Milestii Mici**		**147.53**	**323**	⇓P	**PKPbc**	**17 39 12.2**	**-1.4**
RCY	**Rachaya**		**147.60**	**296**	*e*P	**PKPbc**	**17 39 14.8**	**+0.5**
BHL	**Bhannes**		**147.68**	**296**	*e*P	**PKPbc**	**17 39 14.7**	**+0.2**
SHBL	**Chebaa**		**147.69**	**295**	*e*P	**PKPbc**	**17 39 15.1**	**+0.5**
QRWL	**Qaraoun**		**147.72**	**296**	*e*P	**PKPbc**	**17 39 14.9**	**+0.3**
DQRL	**Deir Qamar**		**147.78**	**296**	*e*P	**PKPbc**	**17 39 15.4**	**+0.6**
BRTR	**Keskin Array B**		**147.79**	**308**	PKPbc	**PKPbc**	**17 39 14.2**	**-0.5**
	comp=Z,6.4nm,0.7s,baz=138,slow=4.6,SNR=33								
GKP	**Gorka Klasztor**		**147.80**	**341**	*e*PKP	**PKPbc**	**17 39 14.3**	**+0.3**
BEL	**Belsk**		**147.81**	**336**	*e*PKP	**PKPbc**	**17 39 14.8**	**+0.7**
MMAI	**Mount Meron Ar**		**148.02**	**295**	PKPbc	**PKPbc**	**17 39 16.1**	**-0.7**
	comp=Z,29nm,0.6s,baz=71,slow=3.6,SNR=62								
EKA	**Eskdalemuir Ar**		**148.21**	**4**	PKPbc	**PKPbc**	**17 39 14.2**	**-0.8**
	comp=Z,1.5nm,0.4s,baz=342,slow=2.3,SNR=12								
ANTO	**Ankara**		**148.35**	**308**	⇓P	**PKPbc**	**17 39 16.1**	**+0.2**
TLCR			**148.52**	**320**	⇑P	**PKPbc**	**17 39 16.4**	**+0.3**
VLDR	**Vladesti**		**148.57**	**322**	⇑P	**PKiKP**	**17 39 17.0**	**-0.4**
SCTR	**Scanteiesti**		**148.72**	**321**	⇑P	**PKiKP**	**17 39 17.4**	**-0.3**
KWP	**Kalwaria Pacla**		**148.75**	**332**	*e*PKP	**PKPbc**	**17 39 16.5**	**0.0**
CFR	**Carcaliu**		**148.92**	**321**	⇑P	**PKPbc**	**17 39 17.4**	**+0.3**
TPGR	**Topolog**		**148.94**	**320**	⇑P	**PKiKP**	**17 39 17.7**	**-0.5**
TESR	**Tescani**		**148.97**	**324**	⇓P	**PKPbc**	**17 39 17.1**	**-0.1**
BURAR	**Bucovina Array**		**149.00**	**327**	⇑P	**PKiKP**	**17 39 18.1**	**-0.2**
TIRR	**Tirgusor**		**149.16**	**319**	⇑P	**PKPbc**	**17 39 17.9**	**+0.2**
ONER	**Baraj Valea Uz**		**149.22**	**324**	⇑P	**PKiKP**	**17 39 18.8**	**0.0**
HARR	**Harsova**		**149.32**	**320**	⇓P	**PKiKP**	**17 39 18.9**	**-0.1**
VRI	**Vrincioaia**		**149.32**	**323**	⇓P	**PKPbc**	**17 39 18.2**	**+0.2**
SAHE	**Sakarya_HENDEK**		**149.33**	**311**	⇑P	**PKPbc**	**17 39 18.2**	**-0.1**
PLOR	**Plostina**		**149.37**	**323**	⇑P	**PKPbc**	**17 39 18.0**	**-0.2**
KOLS	**Kolonicke sedl**		**149.46**	**331**	*e*PKP	**PKiKP**	**17 39 19.4**	**+0.2**
KOLS					*e*		17 39 26.6		
OJC	**Ojcow**		**149.49**	**335**	*e*PKP	**PKiKP**	**17 39 18.8**	**-0.3**
STHS	**Stebnicka Huta**		**149.54**	**333**	*e*PKP	**PKPbc**	**17 39 18.5**	**0.0**
STHS					*e*		17 39 25.9		
GORT1	**Trebel**		**149.54**	**347**	*e*PKPbc	**PKiKP**	**17 39 19.4**	**+0.3**
	baz=19,slow=2.2								
GORT1					*e*PKPab	**PKPab**	**17 39 26.1**	**+1.1**
	baz=19,slow=4.3								
TURR	**Turia**		**149.59**	**324**	⇑P	**PKiKP**	**17 39 19.4**	**-0.2**
COVR	**Voineasa-Covas**		**149.62**	**323**	⇓P	**PKPbc**	**17 39 18.9**	**0.0**
ISR	**Istrita**		**149.88**	**322**	⇑P	**PKiKP**	**17 39 19.9**	**-0.3**
NIE	**Niedzica**		**149.93**	**334**	*e*PKP	**PKiKP**	**17 39 20.2**	**+0.1**
MLR	**Muntele Rosu**		**149.98**	**323**	⇑P	**PKPbc**	**17 39 19.8**	**-0.1**
DOPR	**Dopca**		**149.99**	**324**	⇓P	**PKiKP**	**17 39 20.6**	**+0.3**
RETH	**Rethem/Aller,**		**150.15**	**349**	*e*PKPbc	**PKiKP**	**17 39 20.7**	**+0.3**
	baz=19,slow=2.2								
RETH					*e*PKPab	**PKPab**	**17 39 28.1**	**+0.5**
	baz=19,slow=4.3								
FLTG	**Flechtingen**		**150.18**	**347**	*e*PKPbc	**PKiKP**	**17 39 20.5**	**0.0**
	baz=19,slow=2.2								
FLTG					*e*PKPab	**PKPab**	**17 39 28.1**	**+0.3**
	baz=19,slow=4.3								
KSP	**Ksiaz**		**150.19**	**340**	*e*PKP	**PKiKP**	**17 39 20.5**	**-0.1**
NRDL	**Niedersach Rie**		**150.25**	**348**	*e*PKPbc	**PKiKP**	**17 39 21.0**	**+0.5**
	baz=19,slow=2.2								
NRDL					*e*PKPab	**PKPab**	**17 39 28.5**	**+0.6**
	baz=19,slow=4.3								
CBBR	**Cluj-Babes-Bol**		**150.41**	**327**	⇓P	**PKiKP**	**17 39 21.5**	**+0.3**
OKC	**Ostrava-Krasne**		**150.41**	**337**	⇑*e*PKP	**PKiKP**	**17 39 21.0**	**-0.1**
CJR	**Cluj-Napoca**		**150.43**	**327**	⇑P	**PKiKP**	**17 39 21.4**	**+0.1**
OSTC	**Ostas**		**150.47**	**340**	⇑*e*PKP	**PKiKP**	**17 39 21.2**	**0.0**
STEB	**Steborice**		**150.47**	**337**	⇑*e*PKP	**PKPbc**	**17 39 20.9**	**+0.3**
STEB					*e*PKPAB	**PKPab**	**17 39 29.7**	**+0.6**
LANS	**Liptovska Anna**		**150.47**	**334**	*e*PKP	**PKiKP**	**17 39 22.6**	**+1.3**
LANS					*e*		17 39 30.5		
ASSE	**Asse, Remlinge**		**150.49**	**347**	*e*PKPbc	**PKiKP**	**17 39 21.5**	**+0.5**
	baz=19,slow=2.2								
ASSE					*e*PKPab	**PKPab**	**17 39 29.6**	**+0.6**
	baz=19,slow=4.3								
CHVC	**Chvalec**		**150.49**	**340**	⇑P	**PKiKP**	**17 39 21.4**	**+0.2**
VOIR			**150.51**	**324**	⇓P	**PKiKP**	**17 39 21.9**	**+0.3**
UPC	**Upice**		**150.57**	**340**	⇑*e*PKP	**PKiKP**	**17 39 21.4**	**0.0**
DPC	**Dobruska-Polom**		**150.61**	**339**	⇑*e*PKP	**PKiKP**	**17 39 21.8**	**+0.3**
MORC	**Moravsky Berou**		**150.68**	**337**	*e*PKP	**PKiKP**	**17 39 21.5**	**-0.2**
MORC					*e*		17 39 30.6		
MORC	**Moravsky Berou**		**150.68**	**337**	⇑P	**PKiKP**	**17 39 21.7**	**0.0**
MARR	**Marisel-Cluj**		**150.69**	**327**	⇑P	**PKPbc**	**17 39 21.6**	**+0.2**
KRLC	**Kraliky**		**150.69**	**338**	⇑*e*PKP	**PKPbc**	**17 39 21.2**	**0.0**
KRLC					*e*PKPAB	**PKPab**	**17 39 30.7**	**+0.6**
CLL	**Collm**		**150.72**	**344**	*e*PKPbc	**PKiKP**	**17 39 22.0**	**+0.3**
	baz=19,slow=2.2								
CLL					*e*PKPab	**PKPab**	**17 39 30.3**	**+0.2**
	baz=19,slow=4.3								
CLL	**Collm**		**150.72**	**344**	*i* PKPbc	**PKPbc**	**17 39 21.3**	**+0.1**
	comp=Z,25nm,0.8s								
CLL					*i* PKPab	**PKPab**	**17 39 30.0**	**-0.1**
	comp=Z,20nm,0.9s								
ARR	**Arges**		**150.78**	**324**	⇓P	**PKiKP**	**17 39 22.8**	**+0.7**
DRGR			**150.81**	**328**	⇓P	**PKiKP**	**17 39 22.3**	**+0.2**
CLZ	**Clausthal**		**150.82**	**347**	*e*PKPbc	**PKiKP**	**17 39 22.6**	**+0.7**
	baz=19,slow=2.2								
CLZ					*e*PKPab	**PKPab**	**17 39 31.3**	**+0.7**
	baz=19,slow=4.3								
BRG	**Berggiesshubel**		**150.87**	**342**	*e*PKPbc	**PKiKP**	**17 39 23.2**	**+1.2**
	baz=19,slow=2.2								
BRG					*e*PKPab	**PKPab**	**17 39 32.3**	**+1.6**
	baz=19,slow=4.3								
BRG	**Berggiesshubel**		**150.87**	**342**	⇑*e*PKP	**PKiKP**	**17 39 22.4**	**+0.4**
BRG	**Berggiesshubel**		**150.87**	**342**	Amp		17 39 23.5		
	comp=Z,16nm,0.8s								
BRG	**Berggiesshubel**		**150.87**	**342**	PKPab	**PKPab**	**17 39 31.9**	**+1.2**
BRG	**Berggiesshubel**		**150.87**	**342**	Amp		17 39 32.6		
	comp=Z,10nm,0.8s								
MAUC	**Maruska**		**150.92**	**336**	⇑*e*PKP	**PKiKP**	**17 39 22.8**	**+0.6**
PVCC	**Panska Ves**		**151.00**	**341**	⇑*e*PKP	**PKiKP**	**17 39 22.2**	**0.0**
PVCC					*e*PKPAB	**PKPab**	**17 39 32.3**	**+1.0**
NEUB	**Neuenburg**		**151.11**	**345**	*e*PKPbc	**PKiKP**	**17 39 22.9**	**+0.5**
	baz=19,slow=2.2								
NEUB					*e*PKPab	**PKPab**	**17 39 32.3**	**+0.6**
	baz=19,slow=4.3								
HUMR	**Humele**		**151.12**	**322**	⇑P	**PKiKP**	**17 39 22.7**	**0.0**
GTTG	**Gottingen**		**151.18**	**348**	*e*PKPab	**PKPab**	**17 39 32.7**	**+0.7**
	baz=19,slow=4.3								
LOT	**Lotru**		**151.19**	**325**	⇓P	**PKPbc**	**17 39 22.3**	**-0.3**
VYHS	**Vyhne**		**151.25**	**334**	*e*PKP	**PKiKP**	**17 39 22.7**	**-0.2**
VYHS					*e*		17 39 33.2		
PSZ	**Piszkesteto**		**151.26**	**332**	⇑P	**PKiKP**	**17 39 22.8**	**-0.2**
JAVC	**Velka Javorina**		**151.40**	**336**	*e*PKP	**PKiKP**	**17 39 24.3**	**+1.1**
JAVC					*e*		17 39 34.8		
VRAC	**Vranov**		**151.41**	**338**	PKPbc	**PKPbc**	**17 39 22.9**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=15,slow=12,SNR=3.5								
VRAC					PKPab	**PKPab**	**17 39 34.0**	**+0.9**	
	comp=Z,9.7nm,0.9s,baz=17,slow=5.0,SNR=9.4								
VRAC	**Vranov**		**151.41**	**338**	*e*PKP	**PKPbc**	**17 39 23.0**	**+0.1**
VRAC					*e*		17 39 33.8		
VRAC	**Vranov**		**151.41**	**338**	⇓P	**PKiKP**	**17 39 23.9**	**+0.7**
PRU	**Pruhonice**		**151.48**	**341**	⇑*e*PKP	**PKiKP**	**17 39 23.5**	**+0.2**
MOX	**Moxa**		**151.67**	**345**	*e*PKPbc	**PKiKP**	**17 39 24.1**	**+0.5**
	baz=19,slow=2.2								
MOX					*e*PKPab	**PKPab**	**17 39 34.8**	**+0.6**	
	baz=19,slow=4.3								
TANN	**Tannenbergstha**		**151.68**	**344**	*e*PKPbc	**PKiKP**	**17 39 24.3**	**+0.5**
	baz=19,slow=2.2								
TANN					*e*PKPab	**PKPab**	**17 39 35.0**	**+0.7**	
	baz=19,slow=4.3								
KRUC	**Moravsky**		**151.69**	**338**	*e*PKP	**PKiKP**	**17 39 23.6**	**-0.1**
KRUC					*e*		17 39 34.7		
SIRR	**Siria**		**151.69**	**328**	⇑P	**PKiKP**	**17 39 23.9**	**0.0**
GZR	**Gura Zlata**		**151.75**	**326**	⇑P	**PKPbc**	**17 39 23.4**	**-0.4**
KASTN	**Kahler Asten**		**151.79**	**349**	*e*PKPbc	**PKiKP**	**17 39 24.5**	**+0.5**
	baz=19,slow=2.2								
SURR	**Surduc**		**151.83**	**327**	⇓P	**PKPbc**	**17 39 23.8**	**0.0**
UBBA	**Unterbreizbach**		**151.87**	**347**	*e*PKPab	**PKPab**	**17 39 35.4**	**+0.6**
	baz=19,slow=4.3								
MODS	**Modra-Piesok**		**151.95**	**336**	*e*PKP	**PKPbc**	**17 39 21.6**	**-2.5**
MODS					*e*		17 39 33.5		
MANZ	**Manzenberg**		**152.16**	**344**	*e*PKPbc	**PKiKP**	**17 39 25.5**	**+0.7**
	baz=19,slow=2.2								
MANZ					*e*PKPab	**PKPab**	**17 39 37.1**	**+0.9**	
	baz=19,slow=4.3								
BZS	**Buzias**		**152.18**	**327**	⇑P	**PKPbc**	**17 39 24.6**	**-0.1**
HERR	**Herculane**		**152.28**	**325**	⇑P	**PKPbc**	**17 39 24.8**	**-0.1**
ROTZ	**Rotzenmuhle**		**152.34**	**344**	*e*PKPab	**PKPab**	**17 39 38.1**	**+1.1**
	baz=19,slow=4.3								
KHC	**Kasperske Hory**		**152.53**	**341**	⇑*e*PKP	**PKPbc**	**17 39 24.8**	**-0.6**
KHC					*e*PKPAB	**PKPab**	**17 39 38.3**	**+0.4**
CAVK	**Edirne/Enez-Ca**		**152.56**	**314**	⇓P	**PKPdf**	**17 39 16.4**	**-1.8**
CKRC	**Cesky Krumlov**		**152.59**	**340**	⇑*e*PKP	**PKiKP**	**17 39 25.8**	**+0.2**
GRF	**Grafenberg Arr**		**152.65**	**345**	*e*PKPbc	**PKiKP**	**17 39 26.2**	**+0.5**
	baz=19,slow=2.2								
GRF					*e*PKPab	**PKPab**	**17 39 39.5**	**+1.2**	
	baz=19,slow=4.3								
MDVR	**Moldovita**		**152.71**	**326**	⇓P	**PKiKP**	**17 39 26.4**	**+0.3**
WET	**Wettzell**		**152.72**	**342**	*e*PKPbc	**PKiKP**	**17 39 26.4**	**+0.5**
	baz=19,slow=2.2								
WET					*e*PKPab	**PKPab**	**17 39 39.9**	**+1.2**	
	baz=19,slow=4.3								
TNS	**Taunus Mts**		**152.73**	**349**	*e*PKPbc	**PKiKP**	**17 39 26.5**	**+0.6**
	baz=19,slow=2.2								
GEC2	**GERESS Array S**		**152.75**	**341**	*e*PKPbc	**PKiKP**	**17 39 26.5**	**+0.4**
	baz=19,slow=2.2								
GEC2					*e*PKPab	**PKPab**	**17 39 39.6**	**+0.7**	
	baz=19,slow=4.3								
GERES	**GERESS Array B**		**152.75**	**341**	PKPbc	**PKPbc**	**17 39 25.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=29,slow=2.4,SNR=13								
GERES					PKPab	**PKPab**	**17 39 39.0**	**+0.2**	
	comp=Z,1.5nm,0.6s,baz=35,slow=4.9,SNR=9.1								
CONA	**Conrad Observa**		**152.84**	**337**	*i* PKiKP	**PKiKP**	**17 39 26.3**	**0.0**
	comp=Z,5.2nm,0.9s								
CONA					*e*PKP	**PKPab**	**17 39 40.4**	**+1.1**	
	comp=Z,12nm,0.9s,SNR=7.5								
RONA	**Rosalia, Austr**		**152.87**	**336**	*i* PKiKP	**PKiKP**	**17 39 26.5**	**+0.2**
	comp=Z,7.1nm,0.8s								
RONA					*e*PKP	**PKPab**	**17 39 40.4**	**+1.0**	
	comp=Z,18nm,0.9s,SNR=6.8								
BHOU	**Houvegnez**		**152.97**	**352**	*d*PKP	**PKPab**	**17 39 39.9**	**+0.3**
BCLA	**Clavier**		**152.99**	**353**	*d*PKP	**PKPab**	**17 39 39.6**	**-0.1**
MORH	**Mrgy, Hungar**		**153.12**	**331**	⇓P	**PKPbc**	**17 39 26.4**	**-0.3**
BMRD	**Maredsous**		**153.16**	**354**	*d*PKP	**PKPab**	**17 39 40.7**	**+0.3**
ARSA	**Arzberg**		**153.53**	**337**	*e*PKiKP	**PKPbc**	**17 39 27.2**	**-0.4**
	comp=Z,1.3nm,0.5s								
ARSA					*i* PKP	**PKPab**	**17 39 42.7**	**+0.5**	
	comp=Z,6.7nm,1.1s								
WLF	**Walferdange**		**153.63**	**352**	*d*PcP	**PKPab**	**17 39 41.8**	**-0.6**
BIOA	**Bad Ischl, Aus**		**153.79**	**340**	*i* PKiKP	**PKPbc**	**17 39 27.8**	**-0.3**
	comp=Z,3.6nm,1.1s								
BIOA					*i* PKP	**PKPab**	**17 39 44.0**	**+0.7**	
	comp=Z,20nm,1.5s								
KOGS	**Kog**		**153.93**	**335**	*i* PKPbc	**PKPab**	**17 39 44.0**	**+0.1**
RJOB	**Jochberg**		**154.01**	**341**	*e*PKPab	**PKPab**	**17 39 45.6**	**+1.3**
	baz=19,slow=4.3								
FUR	**Furstenfeldbru**		**154.05**	**343**	*e*PKPab	**PKPab**	**17 39 45.5**	**+1.1**
	baz=19,slow=4.3								
SOKA	**Soboth**		**154.20**	**337**	*e*PKiKP	**PKPbc**	**17 39 28.1**	**-1.0**
	comp=Z,3.1nm,0.9s								
SOKA					*i* PKP	**PKPab**	**17 39 45.4**	**+0.3**	
	comp=Z,10nm,1.1s								
LESA	**Schwarzleotal**		**154.33**	**341**	*i* PKP	**PKPab**	**17 39 46.3**	**+0.6**
	comp=Z,8.3nm,0.9s								
KBA	**Koelnbreinsper**		**154.43**	**339**	*i* PKP	**PKPab**	**17 39 46.2**	**0.0**
	comp=Z,6.2nm,1.3s								
OBKA	**Obir**		**154.52**	**337**	*e*PKP	**PKPab**	**17 39 46.4**	**-0.1**
	comp=Z,4.5nm,0.9s								
MYKA	**Terra Mystica**		**154.73**	**339**	*e*PKP	**

comp=Z,7.4nm,1.0s
MLY Manley 15.60 28 P 17 29 27.9 -1.1
CRQM Cirque 16.17 49 IAmb IAmb 17 29 40.6
comp=Z,16nm,1.0s
MCARA McCarthy VSAT 16.45 47 IAmb IAmb 17 29 53.6
comp=Z,11nm,0.8s
H23K Yukon River 16.52 28 IAmb IAmb 17 29 50.9
comp=Z,8.3nm,1.1s
F21K Alatna River 16.63 20 Pn **Pn 17 29 37.7 -0.5**
ILAR Eielson Array 16.64 33 Pn **Pn 17 29 35.9 -2.3**
comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=9.9
ILAR LR LR 17 36 30.9
comp=Z,73nm,20.7s,baz=143,slow=39
comp=Z,1.1nm,0.9s
M26K Nabesna, AK 16.87 43 IAmb IAmb 17 29 43.2
comp=Z,7.5nm,0.6s
BARN Barnard Glacie 16.95 48 IAmb IAmb 17 29 48.4
comp=Z,5.6nm,0.6s
L26K Log Cabin Wild 17.00 41 IAmb IAmb 17 29 43.8
comp=Z,5.8nm,0.6s
TABL Table Mountain 17.00 51 IAmb IAmb 17 30 03.0
comp=Z,7.1nm,0.7s
G23K Bananza Creek 17.05 25 IAmb IAmb 17 29 47.4
comp=Z,4.2nm,0.6s
J25K Salcha River, 17.07 35 IAmb IAmb 17 29 43.9
comp=Z,14nm,1.5s
LOGN Logan Glacier 17.18 50 IAmb IAmb 17 29 50.4
comp=Z,10nm,1.0s
M27K Edge Creek, AK 17.33 44 IAmb IAmb 17 29 49.7
comp=Z,8.7nm,0.9s
O28M Mount Upton 17.55 50 IAmb IAmb 17 29 54.9
comp=Z,10nm,1.1s
J26L Joseph Creek 17.66 37 IAmb IAmb 17 29 51.6
comp=Z,8.3nm,0.7s
G24K Hadweenzic Riv 17.74 28 IAmb IAmb 17 29 53.4
comp=Z,6.3nm,0.9s
HYT Haines Junctio 18.84 51 IAmb IAmb 17 30 24.7
comp=Z,9.7nm,0.7s
M29M Somme Creek 18.84 46 IAmb IAmb 17 30 21.1
comp=Z,5.0nm,0.7s
DAWY Dawson 19.05 41 IAmb IAmb 17 30 09.1
comp=Z,8.7nm,1.2s
L29M L29M 19.21 44 IAmb IAmb 17 30 23.3
comp=Z,12nm,1.4s
H27K Steamboat Moun 19.31 34 IAmb IAmb 17 30 11.0
comp=Z,6.3nm,1.1s
I28M Miner Creek 19.47 37 IAmb IAmb 17 30 24.9
comp=Z,3.7nm,0.7s
M30M Minto, Yukon 19.62 46 P **Pn 17 30 15.0 +0.3**
K29M Barlow Dome 19.73 42 IAmb IAmb 17 30 15.4
comp=Z,7.0nm,1.2s
I29M Ogilvie Camp, 20.03 38 P **P 17 30 16.7 -1.0**
I29M IAmb IAmb 17 30 21.4
comp=Z,6.9nm,1.1s
WHY Whitehorse 20.07 52 Pn 17 30 21.3 +1.2
H29M Whitestone 20.40 36 P **P 17 30 20.5 -1.2**
PETK Petropavlovsk- 20.49 286 P **P 17 30 21.8 -1.0**
comp=Z,7.8nm,0.5s,baz=83,slow=13,SNR=60
PETK LR LR 17 38 27.9
comp=Z,29nm,20.8s,baz=97,slow=38
comp=Z,7.8nm,0.5s
M31M Drury Creek, Y 20.60 48 P **P 17 30 24.6 +0.7**
M31M IAmb IAmb 17 30 28.8
comp=Z,6.8nm,0.9s
I30M Mount Dempster 20.71 39 P 17 30 23.4 -1.7
G29M Pine Creek 20.86 34 P 17 30 25.0 -1.7
P33M Teslin, Yukon 21.02 54 P **P 17 30 26.9 -1.6**
P33M IAmb IAmb 17 30 47.6
comp=Z,4.0nm,0.7s
EPYK Eagle Plains 21.07 36 P **P 17 30 26.7 -2.2**
H31M Peel River 21.72 39 P 17 30 33.8 -2.0
R33M Jennings River 21.89 56 P 17 30 42.7 +4.8
R33M IAmb IAmb 17 30 58.3
comp=Z,4.5nm,1.1s
MMPY Sheldon Lake, 22.11 48 P **P 17 30 40.7 +0.5**
MMPY IAmb IAmb 17 30 41.7
comp=Z,4.8nm,0.8s
G31M Satah River 22.19 36 P **P 17 30 38.1 -2.7**
DLBC Dease Lake 22.37 59 LR LR 17 39 17.0
comp=Z,52nm,21.5s,baz=252,slow=36
SEY Seymchan 23.18 313 P P 17 30 50.0 -1.3
comp=Z,3.2nm,0.8s,baz=94,slow=11,SNR=3.8
comp=Z,3.2nm,0.8s
TIXI Tiksi 33.11 329 LR LR 17 45 33.5
comp=Z,46nm,19.6s,baz=177,slow=36
NVAR Mina Array Bea 37.02 92 P **P 17 32 56.6 +2.0**
comp=Z,0.2nm,0.4s,baz=299,slow=6.6,SNR=4.4
comp=Z,0.2nm,0.4s
H11N2 WAKE ISLAND Hy 37.82 220 T T 18 13 56.4
baz=24
H11N3 WAKE ISLAND Hy 37.82 220 T T 18 13 55.2
baz=24
H11N1 WAKE ISLAND Hy 37.84 220 T T 18 13 52.3
baz=24
H11S1 WAKE ISLAND Hy 39.00 220 T T 18 15 14.1
baz=23,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 39.01 220 T T 18 15 33.7
baz=23,slow=76,SNR=6.6
H11S3 WAKE ISLAND Hy 39.02 220 T T 18 15 05.1
baz=23,slow=76,SNR=8.9
PDAR Pinedale Array 39.78 80 P **P 17 33 19.2 +1.3**
comp=Z,0.9nm,0.9s,baz=291,slow=4.6,SNR=5.2
comp=Z,0.9nm,0.9s
MJAR Matsushiro Arr 40.33 269 P **P 17 33 21.7 -0.5**
comp=Z,1.6nm,0.7s,baz=42,slow=7.4,SNR=5.9
comp=Z,1.6nm,0.7s
PFO Pinyon Flats O 41.30 96 LR LR 17 47 40.6
comp=Z,31nm,20.2s,baz=134,slow=32
KSRS Korea Array 46.04 277 P **P 17 34 08.5 +0.3**
comp=Z,2.6nm,0.7s,baz=53,slow=6.6,SNR=8.5
comp=Z,2.6nm,0.7s
SONM Songino Array 51.87 301 P **P 17 34 52.8 -0.2**
comp=Z,0.7nm,0.5s,baz=57,slow=6.0,SNR=4.6
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 52.11 90 P **P 17 34 56.3 +1.4**
comp=Z,0.6nm,0.7s,baz=319,slow=6.7,SNR=3.9
comp=Z,0.6nm,0.7s
SFJD Kangerlussuaq 52.14 26 LR LR 17 59 59.0
comp=Z,42nm,18.9s,baz=344,slow=40
ARCES ARCESS Array B 58.04 354 LR LR 18 02 41.7
comp=Z,30nm,18.6s,baz=27,slow=38
KURBB Kurchatov Arra 62.94 319 P **P 17 36 10.5 -0.3**
comp=Z,0.7nm,0.7s,baz=49,slow=8.2,SNR=6.4
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 64.11 325 P **P 17 36 17.7 -0.8**
comp=Z,1.7nm,0.5s,baz=50,slow=7.8,SNR=13
comp=Z,1.7nm,0.5s
MKAR Makanchi Array 64.30 314 P **P 17 36 18.2 -1.6**
comp=Z,1.0nm,0.7s,baz=52,slow=6.6,SNR=10
comp=Z,1.0nm,0.7s
FINES FINESS Array B 66.01 352 P **P 17 36 29.7 -0.9**
comp=Z,3.0nm,0.8s,baz=2.9,slow=7.6,SNR=7.7
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 66.99 0 P **P 17 36 36.1 -0.9**
comp=Z,1.2nm,0.7s,baz=0.5,slow=6.5,SNR=3.5
NOA LR LR 18 04 33.2
comp=Z,14nm,22.0s,baz=40,slow=35
comp=Z,1.2nm,0.7s
HFS Hagfors 67.89 359 P **P 17 36 41.4 -1.2**
comp=Z,2.0nm,0.6s,baz=355,slow=3.5,SNR=5.5
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 72.02 9 P **P 17 37 07.1 -0.9**
comp=Z,0.9nm,0.7s,baz=339,slow=7.1,SNR=2.5
comp=Z,0.9nm,0.7s
AKASG Malin Array B 76.29 349 P **P 17 37 31.6 -1.4**
comp=Z,1.7nm,0.5s,baz=17,slow=6.0,SNR=8.4
comp=Z,1.7nm,0.5s
CMAR Chiang Mai Arr 77.25 284 P **P 17 37 38.9 0.0**
comp=Z,2.1nm,0.9s,baz=26,slow=6.5,SNR=13
comp=Z,2.1nm,0.9s
GERES GERESS Array B 79.20 359 P **P 17 37 49.4 0.0**
comp=Z,0.4nm,0.6s,baz=2.6,slow=5.0,SNR=3.8
comp=Z,0.4nm,0.6s
KBZ Khabaz 80.61 338 P **P 17 37 57.8 +0.8**
comp=Z,2.9nm,0.9s,baz=116,slow=4.1,SNR=4.7
comp=Z,2.9nm,0.9s
MOTA Moosalm 80.72 0 *i* P **P 17 37 58.1 +0.5**
comp=Z,4.2nm,1.1s
WATA Walderalm 80.73 0 *i* P **P 17 37 57.3 -0.4**
comp=Z,2.3nm,0.3s
WTTA Wattenberg 80.80 0 *i* P **P 17 37 58.9 +0.8**
comp=Z,3.1nm,0.4s
SQTA Sankt Quirin 80.84 0 *i* P **P 17 37 59.0 +0.7**
comp=Z,3.3nm,0.9s
KBA Koelnbreinsper 80.97 359 *i* P **P 17 37 59.9 +0.8**
comp=Z,7.8nm,1.0s
FETA Feichten 81.04 1 *i* P **P 17 38 00.1 +0.7**
comp=Z,5.5nm,1.1s
DAVOX Davos/Dischmat 81.27 1 P **P 17 38 01.7 +1.1**
comp=Z,1.4nm,0.5s,baz=326,slow=21,SNR=3.6
comp=Z,1.4nm,0.5s
SOKA Soboth 81.34 358 *i* P **P 17 38 01.6 +0.7**
comp=Z,2.6nm,0.7s
MYKA Terra Mystica 81.42 359 *i* P **P 17 38 00.5 -0.8**
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 86.36 343 P **P 17 38 26.7 -0.1**
comp=Z,1.2nm,0.8s,baz=15,slow=3.5,SNR=5.3
comp=Z,1.2nm,0.8s
ESDC Sonseca Array 87.38 12 P **P 17 38 31.7 0.0**
comp=Z,1.1nm,0.7s,baz=349,slow=5.3,SNR=6.9
comp=Z,1.1nm,0.7s

*IDC **12** 17:27:46.1±1.6,0.°46S×128.°23E,h0km,mb3.9/5, mbtmp3.9/5,MS3.6/1,Error ellipse: s-maj=165.3km s-min=21.4km az=70.0*
*NEIC **12** 17:27:52.7±1.5,0.°64S±0.°06×127.°64E±0.°08,h35km±2km, mb4.5/13,Error ellipse: s-maj=15.4km s-min=8.6km az=243.0*
ISC 12 17:27:52.7±0.6,0.°66S±0.°06×127.°61E±0.°08,h41km,n24, σ1s29/26,mb4.5/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.45**	**350**			**Pn**	**17 28 16.0**	**-0.4**
TNTI					Sn	**Sn**	**17 28 32.9**	**-1.3**
LUWI	**Luwuk**	**4.86**	**266**			**Pn**	**17 29 01.7**	**-1.5**
FAKI	**Fak Fak**	**5.15**	**116**	Pn		**Pn**	**17 29 06.9**	**-0.4**
FAKI				Sn		**Sn**	**17 30 04.2**	**-1.2**
TOLI2	**Tolitoli**	**7.05**	**284**			**Pn**	**17 29 34.0**	**+0.6**
SPSI	**Sidrap Palu**	**8.50**	**247**	P		**Pn**	**17 29 53.8**	**+0.5**
	821nm68nm,0.6s							
WB0	**Warramunga Arr**	**20.11**	**161**	P		**P**	**17 32 22.7**	**-0.6**
WRA	**Warramunga Ar**	**20.26**	**161**	P		**P**	**17 32 23.8**	**-1.0**
WRA	**Warramunga Arr**	**20.26**	**161**	P		**P**	**17 32 23.3**	**-1.6**
	2.1nm,0.8s,baz=345,slow=12,SNR=7.6							
	2.1nm,0.8s							
COEN	**Coen**	**20.29**	**131**	P		**P**	**17 32 25.0**	**-0.2**
COEN				IAmb	IAmb		17 32 32.0	
	comp=Z,11nm,1.1s							
AS31	**Alice Springs**	**23.67**	**166**	P		**P**	**17 33 00.2**	**-0.5**
ASAR	**Alice Springs**	**23.67**	**166**	P		**P**	**17 32 59.7**	**-0.9**
ASAR	**Alice Springs**	**23.67**	**166**	P		**P**	**17 33 00.2**	**-0.5**
	comp=Z,6.1nm,0.8s,baz=344,slow=9.4,SNR=34							
	comp=Z,6.1nm,0.8s							
BBOO	**Buckleboo**	**32.95**	**167**	P		**P**	**17 34 24.8**	**+1.3**
MAJO	**Matsushiro**	**38.30**	**14**	P		**P**	**17 35 08.1**	**-1.4**
MAJO				IAmb	IAmb		17 35 18.6	
	comp=Z,13nm,1.5s							
MJB9	**Matsu-Tunnel**	**38.31**	**14**	P		**P**	**17 35 08.8**	**-0.7**
MJB9				IAmb	IAmb		17 35 43.2	
	comp=Z,13nm,1.5s							
EVN	**Everest**	**48.37**	**309**	P		**P**	**17 36 30.0**	**-1.5**
EVN				IAmb	IAmb		17 36 40.0	
	comp=Z,6.9nm,0.8s							
SONM	**Songino Array**	**51.72**	**342**	P		**P**	**17 36 56.4**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=169,slow=8.5,SNR=2.9							
SONM				LR	LR		18 00 42.6	
	comp=Z,53nm,18.6s,baz=112,slow=38							
	comp=Z,0.8nm,0.9s							
YAK	**Yakutsk**	**62.55**	**1**	P		**P**	**17 38 12.6**	**+0.5**
KURBB	**Kurchatov Arra**	**65.90**	**328**	P		**P**	**17 38 34.4**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=128,slow=6.0,SNR=7.2							
	comp=Z,2.1nm,0.9s							
BVAR	**Borovoye Array**	**71.47**	**328**	P		**P**	**17 39 08.8**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=119,slow=5.6,SNR=2.7							
	comp=Z,1.5nm,0.9s							
H17K	**Granite Mounta**	**83.23**	**24**	P		**P**	**17 40 15.8**	**+1.2**
H17K				IAmb	IAmb		17 40 26.6	
	comp=Z,5.1nm,1.1s							
C19K	**Lookout Ridge**	**84.53**	**20**	P		**P**	**17 40 23.0**	**+1.8**
E19K	**Redstone River**	**84.94**	**22**	P		**P**	**17 40 25.7**	**+2.4**
E19K				IAmb	IAmb		17 40 30.8	
	comp=Z,6.4nm,1.3s							
BMAR	**Burnt Mountain**	**89.76**	**23**	P		**P**	**17 40 49.6**	**+3.1**

*IDC **12** 17:47:28.0±0.9,28.°32N×100.°93E,h0km,mb3.7/6, mbtmp3.7/7,MS3.2/4,Error ellipse: s-maj=40.6km s-min=16.2km az=68.0*
ISC 12 17:47:29.6±1.1,28.°3N±0.°2×101.°0E±0.°3,h10km,n11, σ0s72/8,mb3.6/6,MS3.2/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.00**	**191**	Pg		Pn	17 50 31.1	+38
	0.1nm,0.3s,baz=1.8,slow=17,SNR=7.8							
CMAR				Lg		Lg	17 52 46.9	
	baz=39,slow=32,SNR=4.1							
CMAR				LR		LR	17 54 03.3	
	comp=Z,97nm,18.1s,baz=310,slow=40							
SONM	**Songino Array**	**19.92**	**11**	P		**Pn**	**17 52 03.3**	**+0.1**
	1.6nm,0.9s,baz=200,slow=11,SNR=5.6							
MKAR	**Makanchi Array**	**23.52**	**327**	P		**P**	**17 52 39.4**	**-0.4**
	1.0nm,0.6s,baz=127,slow=9.7,SNR=9.9							
	1.0nm,0.6s							
AAK	**Ala-Archa**	**25.71**	**311**	LR		LR	18 04 31.2	
	comp=Z,66nm,18.8s,baz=128,slow=40							
KURBB	**Kurchatov Arra**	**27.99**	**329**	P		**P**	**17 53 19.4**	**-0.9**
	0.4nm,0.4s,baz=144,slow=9.3,SNR=4.8							
	0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**28.19**	**340**	P		**P**	**17 53 22.4**	**+0.3**
	0.7nm,0.7s,baz=147,slow=8.3,SNR=4.4							
ZALV				LR		LR	18 05 13.9	
	comp=Z,32nm,20.9s,baz=122,slow=38							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**33.41**	**326**	P		**P**	**17 54 07.7**	**-0.4**
	0.5nm,0.8s,baz=140,slow=7.0,SNR=2.5							
	0.5nm,0.8s							
ARTI	**Arti**	**41.11**	**325**	LR		LR	18 13 44.2	
	comp=Z,34nm,20.8s,baz=122,slow=38							
WRA	**Warramunga Arr**	**57.84**	**142**	P		**P**	**17 57 21.7**	**+0.2**
	3.2nm,0.9s,baz=332,slow=7.9,SNR=12							
	3.2nm,0.9s							
ASAR	**Alice Springs**	**60.68**	**145**	P		**P**	**17 57 40.5**	**-0.7**
	1.1nm,1.0s,baz=329,slow=6.6,SNR=6.5							
	1.1nm,1.0s							
TORD	**Torodi Ar. Bea**	**91.80**	**286**	P		**P**	**18 00 39.2**	**+0.9**

*AEIC **12** 18:35:00.1±1.3,53.°1N±0.°1×162.°05W±0.°09,h7km±8km, Error ellipse: s-maj=16.9km s-min=7.8km az=172.0*
NEIC 12 18:34:58.3±1.6,53.°32N±0.°04×162.°13W±0.°07,h10km±2km, ML3.2/18,ML3.0(AEIC),Error ellipse: s-maj=7.9km s-min=5.3km az=229.0,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**1.69**	**327**			Pn	18 35 27.8	-0.1
ISLZ						Sn	18 35 49.5	-0.2
ISLZ						Sb	18 35 49.8	-1.0
FALS	**False Pass**	**1.72**	**334**			Pn	18 35 28.1	-0.1
FALS						Sn	18 35 50.8	+0.7
SSLS	**Shishaldin Sou**	**1.78**	**322**			Pn	18 35 29.4	+0.3
SSLS						Sn	18 35 52.5	+0.6
DT1	**Dutton Round H**	**1.79**	**357**			Pn	18 35 29.1	-0.2
DT1						Pb	18 35 29.3	-1.9
DT1						Sn	18 35 52.4	+0.3
DT1						Sb	18 35 52.6	-1.1
ISNN	**Isanotski Nort**	**1.80**	**328**			Pn	18 35 29.9	+0.5
ISNN						Sb	18 35 53.5	-0.5
DOL	**Dolgoi Island**	**1.84**	**5**			Pn	18 35 30.0	+0.1
DOL						Sn	18 35 53.3	+0.1
WESE	**West Dahl East**	**1.86**	**309**			Pn	18 35 30.2	0.0
WECS	**Westdahl Cape**	**1.98**	**309**			Pn	18 35 31.8	-0.1
HAG	**Hague Volcano**	**2.01**	**4**			Pn	18 35 33.1	+0.9
PS4A	**Pavlof South-4**	**2.04**	**4**			Pn	18 35 33.3	+0.7
PS4A						Sn	18 35 59.1	+1.0
PS4A						Sb	18 35 59.5	-1.3
PS1A	**Pavlof South-1**	**2.12**	**6**			Pn	18 35 34.5	+0.8
PS1A						Pb	18 35 34.6	-2.1
PS1A						Sn	18 36 01.0	+0.9
PS1A						Sb	18 36 01.7	-1.3
PN7A	**Pavlof North-7**	**2.12**	**2**			Pn	18 35 35.0	+1.2
CNBA	**Chernabura Isl**	**2.12**	**44**	Pn		Pn	18 35 32.7	-1.0
SDPT	**Sand Point**	**2.25**	**25**			Pn	18 35 35.5	-0.1
SDPT						Sn	18 36 03.0	-0.3
AKUT	**Akutan**	**2.31**	**292**	Pn		Pn	18 35 36.2	-0.2
AKUT				IAML			18 36 06.3	
	comp=E,162nm,0.4s							
AKUT				IAML			18 36 07.5	
	comp=N,101nm,0.3s							
S12K	**Black Hills**	**2.39**	**1**			Sn	18 36 08.7	+1.9
S12K	**Black Hills**	**2.39**	**1**			Pn	18 35 38.4	+0.9
S12K				IAML			18 36 09.7	
	comp=E,181nm,0.4s							
S12K				IAML			18 36 09.9	
	comp=N,121nm,0.3s							
AKBBA	**Akutan Broad B**	**2.39**	**291**			Pn	18 35 37.1	-0.4
AKBBA						Pb	18 35 37.4	-4.0
AKBBA						Sn	18 36 05.3	-1.5
ZRO	**Akutan Zero**	**2.42**	**290**			Pn	18 35 37.7	-0.2
ZRO						Sn	18 36 05.8	-1.7
AKMO	**Akutan Morgan**	**2.43**	**290**			Sn	18 36 06.5	-1.4
LVA	**Lava Point**	**2.47**	**292**	Pn		Pn	18 35 38.3	-0.2
LVA				IAML			18 36 11.1	
	comp=N,142nm,0.6s							
LVA				IAML			18 36 11.3	
	comp=E,115nm,0.8s							
UNV	**Unalaska Valle**	**2.66**	**283**			Pn	18 35 40.4	-0.8
UNV						Sn	18 36 10.6	-2.9
UNV	**Unalaska Valle**	**2.66**	**283**	IAML			18 36 12.6	
	comp=N,71nm,0.6s							
UNV				IAML			18 36 13.4	
	comp=E,58nm,0.3s							
MREP	**Makushin Rep't**	**2.80**	**282**			Pn	18 35 42.6	-0.5
VNKR	**Veniaminof 5**	**3.15**	**29**			Pn	18 35 48.6	+0.6
CHGN	**Chignik**	**3.68**	**34**	Pn		Pn	18 35 55.2	+0.1
CHGN				Sn		Sn	18 36 36.1	-2.4
CHIR	**Chirikof Islan**	**4.54**	**54**	Pn		Pn	18 36 05.4	-1.6
CHIR				IAML			18 36 41.6	
	comp=N,15nm,1.2s							
CHIR				IAML			18 37 46.6	
	comp=E,17nm,1.1s							
PLK4	**Peulik 4**	**5.42**	**35**	Pn		Pn	18 36 19.6	+0.3
PLK3	**Peulik 3**	**5.50**	**35**			Pn	18 36 19.7	-0.5
SII	**Sitkinak Islan**	**5.61**	**51**			Pn	18 36 20.7	-1.1
O14K	**Tigyukauivet M**	**5.97**	**4**	Pn		Pn	18 36 26.5	-0.1
O15K	**Ungalikthiuk R**	**6.01**	**11**	Pn		Pn	18 36 27.6	+0.4
P16K	**Nushagak River**	**6.17**	**20**	Pn		Pn	18 36 29.7	+0.3
OHAK	**Old Harbor**	**6.39**	**49**	Pn		Pn	18 36 30.0	-2.3
O16K	**Kokwok River B**	**6.67**	**18**	Pn		Pn	18 36 38.7	+2.4
N15K	**Kwethluk River**	**6.96**	**8**	Pn		Pn	18 36 41.2	+1.0
SYI	**Shuyak Island**	**7.61**	**42**	Pn		Pn	18 36 47.9	-1.2
K15K	**Wolf Creek Mou**	**9.01**	**2**	Pn		Pn	18 37 08.0	-0.2

*SNET **12** 18:36:43.8±0.5,12.°57N×88.°15W,h18km±8km,ML2.9*
CATAC 12 18:36:44.6±0.6,13.°N±3.°×8.°8W±.°,h37km±4km,M2.9/6, MLv2.9/6,Error ellipse: s-maj=8.7km s-min=4.3km az=40.7,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.51**	**47**	P		Pn	18 36 56.3	+0.8
CSGN				S		Sn	18 37 05.5	+2.4
POTN	**Potosi Cosigui**	**0.56**	**49**	P		Pn	18 36 56.9	+0.6
POTN				S		Sn	18 37 06.6	+2.2
CNCH	**Conchagua**	**0.65**	**9**	*e*P		Pn	18 36 58.1	+0.5
CNCH				*e*S		Sn	18 37 09.8	+3.1
CNCH	**Conchagua**	**0.65**	**9**	P		Pn	18 36 58.0	+0.4
LCND	**La Caada**	**0.68**	**4**	*e*P		Pn	18 36 58.2	+0.4
LCND				*e*S		Sn	18 37 08.9	+1.8
LCND				IAML			18 37 11.0	
	comp=Z,470nm,0.1s							
CRIN	**San Cristobal**	**0.88**	**85**	P		Pn	18 37 01.7	+1.2
CRIN	**San Cristobal**	**0.88**	**85**	S		Sn	18 37 14.4	+2.3
PACA	**Pacayal**	**0.92**	**336**	S		Pn	18 37 13.9	+0.8
POLN	**Al Sur del Vol**	**1.10**	**89**	P		Pn	18 37 03.8	+0.3
POLN				S		Sn	18 37 18.0	+0.4
CHOHN	**Orocuina**	**1.14**	**42**	P		Pn	18 37 03.8	-0.3
CHOHN	**Orocuina**	**1.14**	**42**	S		Sn	18 37 19.7	+1.1
PQSS	**Presa 15 de Se**	**1.16**	**329**	S		Sn	18 37 19.3	+0.5
ILCN	**San Idelfonso**	**1.22**	**92**	S		Sn	18 37 20.6	+0.3
CNGN	**Cerro Negro**	**1.22**	**96**	S		Sn	18 37 21.3	+0.8
CNGN	**Cerro Negro**	**1.22**	**96**	P		Pn	18 37 05.9	+0.7
MOMN	**Momotombo**	**1.39**	**99**	P		Pn	18 37 07.7	+0.3
MOMN				S		Sn	18 37 24.5	0.0
LFRS	**El Faro**	**1.47**	**312**	*e*P		Pn	18 37 08.2	-0.5
TGUH	**Tegucigalpa,Un**	**1.56**	**25**	S		Sn	18 37 29.8	+0.8
YUSH	**Yuscaran**	**1.70**	**39**	P		Pn	18 37 11.8	0.0
YUSH	**Yuscaran**	**1.70**	**39**	S		Sn	18 37 32.6	+0.3
JAYA	**Jayaque - finc**	**1.79**	**305**	*e*P		Pn	18 37 11.7	-1.3
RCVN	**Varillal2**	**1.95**	**61**	P		Pn	18 37 15.3	0.0
RCVN	**Varillal2**	**1.95**	**61**	S		Sn	18 37 39.3	+0.6

*MDD **12** 18:36:57.6±0.5,43.°85N×6.°44W,h9km±2km,mb_Lg2.7/32, Error ellipse: s-maj=4.2km s-min=1.7km az=165.0*
*LDG **12** 18:36:57.5±0.1,43.°94N×6.°47W,h10km,Ml2.7/20,Error ellipse: s-maj=3.4km s-min=1.9km az=143.0*
*INMG **12** 18:36:58.3±1.6,43.°90N×6.°47W,h19km±4km,ML2.3,Error ellipse: s-maj=4.6km s-min=2.3km az=156.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NW Gijon (ESP)*
ISC 12 18:36:54.8±0.8,43.°95N±0.°04×6.°43W±0.°03,h10km,n46, σ2s03/85,1C-1D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.81**	**220**	⇑Pg		**Pb**	**18 37 12.6**	**+1.7**
EARI	**Arriondas**	**1.10**	**126**	Pg		**Pg**	**18 37 16.6**	**+0.7**
EARI				Sg		**Sg**	**18 37 29.7**	**-0.4**
EARI				*i* IVmb_Lg			18 37 32.5	
EAGO	**Agolada(Pontev**	**1.66**	**227**	Pn		**Pn**	**18 37 24.7**	**+0.7**
EAGO				Pg		**Pb**	**18 37 27.1**	**+1.6**
EAGO				Sn		**Sn**	**18 37 43.5**	**-2.0**
EAGO				Sg		**Sb**	**18 37 47.8**	**+1.2**
EAGO				*i* IVmb_Lg			18 37 51.1	
ALT03	**Santillana del**	**1.77**	**108**	Pn		**Pn**	**18 37 26.8**	**+1.4**
ALT03				Sn		**Sn**	**18 37 48.3**	**+0.3**
ALT03				Sg		**Sg**	**18 37 53.9**	**+2.3**
ALT01	**Santillana del**	**1.77**	**108**	Pn		**Pn**	**18 37 26.8**	**+1.4**
ALT01				Sn		**Sn**	**18 37 49.2**	**+1.1**
ALT02	**Santillana del**	**1.77**	**108**	Sn		**Sn**	**18 37 48.5**	**+0.5**
ALT02				Sg		**Sg**	**18 37 54.3**	**+2.6**
ECAL	**Calabor**	**2.02**	**187**	Pn		**Pn**	**18 37 29.0**	**+0.1**
ECAL				Pg		**Pb**	**18 37 32.2**	**+0.6**
ECAL				Sn		**Sn**	**18 37 53.6**	**-0.6**
ECAL				Sg		**Sg**	**18 37 59.7**	**+0.2**
ECAL				*i* IVmb_Lg			18 38 02.9	
EMAZ	**Mazaricos**	**2.10**	**243**	Pn		**Pn**	**18 37 31.1**	**+1.0**
EMAZ				Pg		**Pg**	**18 37 37.0**	**+1.9**
EMAZ				Sn		**Sn**	**18 37 55.2**	**-1.1**
EMAZ				Sg		**Sg**	**18 38 02.2**	**-0.2**
EMAZ				*i* IVmb_Lg			18 38 07.0	
PBRG	**Braganca**	**2.15**	**186**	*e*Pn		**Pn**	**18 37 30.6**	**-0.2**
PBRG				*e*Sg		**Sg**	**18 38 03.6**	**-0.4**
PBRG				*i* IAML			18 38 05.3	
PBRG				*i* IAML			18 38 06.3	
PBRG				*i* IAML			18 38 07.0	
ELAN	**Lanestosa**	**2.29**	**107**	Pn		**Pn**	**18 37 34.2**	**+1.5**
ELAN				Sn		**Sn**	**18 37 59.8**	**-1.1**
ELAN				*i* IVmb_Lg			18 38 12.1	
PGAV	**Gavieira, Arco**	**2.40**	**215**	*e*Pn		**Pn**	**18 37 34.5**	**+0.3**
PGAV				*i* rx		rx	18 37 42.4	
PGAV

MVO				*i* IAML			18 38 26.4	
MVO				*i* IAML			18 38 26.9	
PVRL	**Vila Real**	**2.83**	**200**	*e*Sg		**Sg**	**18 38 24.0**	**-1.7**
PVIS	**Viseu**	**3.41**	**199**	*e*Sg		**Sg**	**18 38 41.7**	**-2.4**
EALK	**Alkurruntz**	**3.65**	**100**	Pn		**Pn**	**18 37 52.8**	**+1.4**
EALK				Sn		**Sn**	**18 38 32.6**	**-1.9**
GUD	**Guadarrama**	**3.71**	**152**	Pn		**Pn**	**18 37 52.3**	**0.0**
GUD				Sn		**Sn**	**18 38 35.3**	**-0.7**
SJPF	**Ste Jean**	**3.88**	**101**	*e*Pn		**Pn**	**18 37 55.6**	**+1.2**
SJPF				*e*Sn		**Sn**	**18 38 36.9**	**-3.1**
	3.5nm,0.2s							
EPLA	**Plasencia**	**3.89**	**176**	Pn		**Pn**	**18 37 55.6**	**+0.9**
EPLA				*i* IVmb_Lg			18 38 49.1	
PCBR	**Castelo Branco**	**4.18**	**191**	*e*Sg		**Sg**	**18 39 07.5**	**-1.3**
ETSF	**Etsaut**	**4.40**	**102**	*e*Pn		**Pn**	**18 38 03.9**	**+2.2**
ETSF				*e*Sn		**Sn**	**18 38 52.4**	**-0.7**
	3.0nm,0.2s							
PSARD	**Sardoal**	**4.53**	**197**	*e*Sg		**Sg**	**18 39 16.9**	**-3.3**
PSARD				*i* IAML			18 39 26.6	
PSARD				*i* IAML			18 39 27.6	
PSARD				*i* IAML			18 39 30.4	
PMRV	**Marv??o**	**4.57**	**189**	*e*Sn		**Sn**	**18 38 54.9**	**-2.2**
QUIF	**Quistinic**	**4.58**	**29**	*e*Pn		**Pn**	**18 38 06.0**	**+2.0**
QUIF				*e*Sn		**Sn**	**18 38 54.1**	**-3.1**
	0.7nm,0.1s							
ROSF	**Rostrenen**	**4.91**	**25**	*e*Pn		**Pn**	**18 38 09.4**	**+0.8**
ROSF				*e*Sn		**Sn**	**18 39 01.7**	**-3.7**
	1.0nm,0.2s							
EPF	**Esparros**	**5.01**	**98**	*e*Pn		**Pn**	**18 38 13.4**	**+3.3**
EPF				*e*Sn		**Sn**	**18 39 04.1**	**-3.9**
	1.9nm,0.2s							
MFF	**Saint Martin d**	**5.17**	**57**	*e*Pn		**Pn**	**18 38 12.3**	**+0.1**
MFF	**Saint Martin d**	**5.17**	**57**	*e*Pn		**Pn**	**18 38 13.1**	**+0.9**
MFF				*e*Sn		Sn	18 39 06.9	-4.9
	0.9nm,0.2s							
MFF				*e*Sn		Sb	18 39 08.6	-19
	0.4nm,0.1s							
LFF	**La Frestale**	**5.23**	**77**	*e*Pn		**Pn**	**18 38 12.8**	**-0.2**
LFF				*e*Sn		**Sn**	**18 39 10.2**	**-3.1**
ERTA	**Horta de San J**	**5.83**	**119**	Pn		**Pn**	**18 38 22.6**	**+1.3**
ERTA				Sn		**Sn**	**18 39 25.6**	**-2.6**
ERTA				*i* IVmb_Lg			18 39 29.1	
RJF	**Les Rejaudoux**	**5.83**	**74**	*e*Sn		**Sn**	**18 39 24.0**	**-4.2**
	1.0nm,0.2s							
GRR	**Gorron**	**5.89**	**39**	*e*Sn		**Sn**	**18 39 25.8**	**-3.8**
	0.1nm,0.1s							
EPOB	**Poblet**	**6.11**	**113**	Pn		**Pn**	**18 38 26.1**	**+0.8**
EPOB				Sn		**Sn**	**18 39 31.8**	**-3.4**
EPOB				*i* IVmb_Lg			18 39 41.2	
MTLF	**Montolieu**	**6.30**	**93**	*e*Pn		**Pn**	**18 38 29.2**	**+1.4**
MTLF				*e*Sn		**Sn**	**18 39 34.7**	**-5.1**
	2.0nm,0.2s							
FLN	**La Foliniere**	**6.33**	**38**	*e*Pn		**Pn**	**18 38 29.6**	**+1.4**
FLN				*e*Sn		Sn	18 39 36.0	-4.5
TCF	**Toulx Ste Croi**	**6.55**	**66**	*e*Pn		**Pn**	**18 38 31.5**	**+0.4**
TCF				*e*Sn		Sn	18 39 39.9	-5.9
	2.8nm,0.3s							
BGF	**Bois d'Agland**	**7.05**	**65**	*e*Pn		**Pn**	**18 38 38.2**	**+0.2**
BGF				*e*Sn		Sn	18 39 53.1	-5.0
	2.0nm,0.2s							
LASF	**Ste Croix**	**7.42**	**85**	*e*Pn		**Pn**	**18 38 43.8**	**+0.7**
LASF				*e*Sn		Sn	18 40 00.3	-7.0
	1.4nm,0.2s							
AVF	**Avril sur Loir**	**7.45**	**64**	*e*Pn		**Pn**	**18 38 43.2**	**-0.3**
AVF				*e*Sn		Sn	18 40 02.2	-5.9
	0.1nm,0.2s							
SSF	**Saint Saulge**	**7.64**	**62**	*e*Sn		**Sn**	**18 40 08.3**	**-4.5**
	0.9nm,0.4s							
SMF	**Signal de Mont**	**7.73**	**66**	*e*Sn		Sn	18 40 08.6	-6.3
	0.5nm,0.3s							
LOR	**Lormes**	**7.94**	**62**	*e*Pn		**Pn**	**18 38 51.7**	**+1.4**
LOR				*e*Sn		**Sn**	**18 40 15.8**	**-4.3**
	0.9nm,0.4s							
VIVF	**Saint-Julien-l**	**8.01**	**80**	*e*Pn		**Pn**	**18 38 51.0**	**-0.1**
VIVF				*e*Sn		**Sn**	**18 40 16.3**	**-5.4**
	0.6nm,0.2s							

*IDC **12** 18:53:07.0±1.0,0°.29N×126°.00E,h0km,mb3.9/6, mbtmp3.9/7,ML3.2/1,Error ellipse: s-maj=54.0km s-min=17.7km az=76.0*
*DJA **12** 18:53:09.0±0.8,1°.N±3°×12°.6E±°,h15km±8km,M3.9/11, mb4.1/7,MLv3.8/11*
ISC 12 18:53:13.0±0.8,0°.38N±0°.09×126°.47E±0°.08,h47km,n16, σ1§12/17,mb4.0/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**66**	P	**Pn**	**18 53 28.6**	**-1.8**
TNTI				Sg	**Sn**	**18 53 42.3**	**-0.8**
SANI	**Sanana**	**2.46**	**191**	P	**Pn**	**18 53 50.7**	**0.0**
LUWI	**Luwuk**	**3.96**	**249**	P	**Pn**	**18 54 10.7**	**-0.6**
AAI	**Ambon**	**4.39**	**157**	P	**Pn**	**18 54 17.2**	**0.0**
FAKI	**Fak Fak**	**6.64**	**120**	P	**Pn**	**18 54 48.3**	**+0.2**
TTSI	**Tana Toraja**	**7.47**	**243**	P	**Pn**	**18 54 58.4**	**-1.0**
	0.1nm10nm,0.7s						
BNSI	**Bone**	**7.94**	**233**	P	**Pn**	**18 55 06.2**	**+0.3**
	21nm,1.7s						
SPSI	**Sidrap Palu**	**7.97**	**237**	P	**Pn**	**18 55 06.2**	**-0.1**
	11nm,0.6s						
BKSI	**Bulukumba**	**8.50**	**228**	P	**Pn**	**18 55 13.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.38**	**183**	P	**P**	**18 57 22.5**	**-1.6**
	0.1nm,0.3s,baz=0.0,slow=12,SNR=2.3						
	3.2nm,1.0s						
WRA	**Warramunga Arr**	**21.62**	**160**	P	**P**	**18 57 59.2**	**-0.1**
	4.0nm,0.6s,baz=337,slow=11,SNR=23						
	4.0nm,0.6s						
ASAR	**Alice Springs**	**24.97**	**164**	P	**P**	**18 58 33.1**	**+0.8**
	4.3nm,0.8s,baz=342,slow=11,SNR=42						
	4.3nm,0.8s						
MJAR	**Matsushiro Arr**	**37.59**	**16**	P	**P**	**19 00 25.3**	**+2.1**
	2.2nm,0.5s,baz=200,slow=9.9,SNR=22						
	2.2nm,0.5s						
SONM	**Songino Array**	**50.38**	**343**	P	**P**	**19 02 05.4**	**-0.2**
	0.2nm,0.4s,baz=167,slow=6.8,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.17**	**326**	P	**P**	**19 03 14.3**	**-1.7**
	0.4nm,0.4s,baz=119,slow=8.3,SNR=8.7						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**69.98**	**328**	P	**P**	**19 04 20.9**	**+1.3**
	0.6nm,0.6s,baz=123,slow=5.3,SNR=2.6						
	0.6nm,0.6s						

*NEIC **12** 18:54:53.7±1.6,56°.8S±0°.1×27°.1W±0°.2,h176km±7km, mb4.6/42,Error ellipse: s-maj=17.2km s-min=13.8km az=223.0*
*IDC **12** 18:54:54.7±1.6,56°.81S×27°.00W,h186km±14km,mb4.0/12, mbtmp4.5/14,MS2.9/1,Error ellipse: s-maj=14.8km s-min=8.6km az=64.0*
ISC 12 18:54:55.9±0.4,56°.89S±0°.06×27°.31W±0°.08,h200km, n113,σ1§08/117,mb4.4/26,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.83**	**293**	Pn	**Pn**	**18 56 19.0**	**-1.7**
ESPZ	**Base Esperanza**	**16.04**	**234**	P	**Pn**	**18 58 29.7**	**-0.5**
VNA1	**Neumayer--Stat**	**16.04**	**157**	⇑P	**Pn**	**18 58 29.0**	**-1.2**
	comp=Z,16nm,0.4s						
VNA3	**Neumayer Olymp**	**16.22**	**159**	⇑P	**P**	**18 58 30.2**	**-1.6**
	comp=Z,8.6nm,0.2s						
SNAA	**Sanae**	**18.00**	**155**	⇑P	**P**	**18 58 49.9**	**-1.4**
	comp=Z,382nm,0.7s						
SNAA	**Sanae**	**18.00**	**155**	P	**P**	**18 58 49.6**	**-1.7**
SNAA				IAmb	IAmb	18 58 51.2	
	comp=Z,12nm,0.6s						
SNAA	**Sanae**	**18.00**	**155**	P	**P**	**18 58 50.1**	**-1.2**
	comp=Z,11nm,0.6s,baz=303,slow=11,SNR=206						
SNAA				S	**S**	**19 02 07.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=337,slow=23,SNR=6.7						
SNAA				ScP	**ScP**	**19 06 34.1**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=307,slow=5.9,SNR=5.9						
EFI	**East Falkland**	**18.60**	**273**	P	**Pn**	**18 58 58.9**	**-1.7**
PMSA	**Palmer Station**	**19.31**	**231**	P	**Pn**	**18 59 07.5**	**-1.3**
PMSA				IAmb	IAmb	18 59 13.0	
	comp=Z,20nm,0.9s						
PMSA	**Palmer Station**	**19.31**	**231**	P	**Pn**	**18 59 07.2**	**-1.6**
	comp=Z,12nm,0.6s,baz=69,slow=7.6,SNR=12						
TROLL	**Troll, Antarti**	**19.52**	**152**	⇑P	**P**	**18 59 06.4**	**-1.4**
	comp=Z,853nm,0.5s						
BELA	**Belgrano 2**	**21.23**	**184**	P	**P**	**18 59 24.1**	**-1.6**
BELA				IAmb	IAmb	18 59 27.1	
	comp=Z,19nm,0.9s						

MG02	**Cerro Sombrero**	**24.20**	**262**	P		**P**	**18 59 54.0**	**+0.2**
MG03	**Isla Dawson**	**24.41**	**259**	P		**P**	**18 59 56.9**	**+1.3**
MG03				IAmb		IAmb	19 00 31.1	
	comp=Z,32nm,1.3s							
GO09	**Cerro Castillo**	**26.61**	**263**	P		**P**	**19 00 15.1**	**-0.4**
GO09				IAmb		IAmb	19 00 16.0	
	comp=Z,9.6nm,0.8s							
TRQA	**Tornquist**	**29.61**	**295**	P		**P**	**19 00 41.0**	**-1.1**
TRQA				IAmb		IAmb	19 00 41.6	
	comp=Z,18nm,1.4s							
PLTB	**Pedras Altas**	**31.02**	**313**	P		**P**	**19 00 54.8**	**+0.2**
PLTB	**Pedras Altas**	**31.02**	**313**	*e*P		**P**	**19 00 55.2**	**+0.6**
CPSB	**Cacapava Do Su**	**32.15**	**314**	*e*P		**P**	**19 01 05.6**	**+1.1**
QSPA	**South Pole Qui**	**33.36**	**180**	P		**P**	**19 01 16.0**	**+1.2**
QSPA				IAmb		IAmb	19 01 17.1	
	comp=Z,6.2nm,0.7s							
QSPA	**South Pole Qui**	**33.36**	**180**	P		**P**	**19 01 16.2**	**+1.4**
	comp=Z,5.2nm,0.6s,baz=207,slow=3.6,SNR=66							
QSPA				PcP		**PcP**	**19 03 52.4**	**+1.1**
	comp=Z,3.7nm,0.6s,baz=210,slow=0.4,SNR=7.3							
QSPA				ScP		**ScP**	**19 07 19.4**	**+3.1**
	comp=Z,1.8nm,0.7s,baz=167,slow=1.5,SNR=9.3							
	comp=Z,5.2nm,0.6s							
PTGB	**Pitanga**	**36.79**	**321**	*e*P		**P**	**19 01 44.4**	**0.0**
CPUP	**Villa Florida**	**37.33**	**312**	P		**P**	**19 01 48.8**	**+0.1**
CPUP	**Villa Florida**	**37.33**	**312**	P		**P**	**19 01 48.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=6.0,slow=7.5,SNR=14							
CPUP				PcP		**PcP**	**19 04 04.0**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=153,slow=2.3,SNR=5.6							
	comp=Z,1.8nm,0.5s							
CPUP	**Villa Florida**	**37.33**	**312**	*e*P		**P**	**19 01 48.8**	**+0.1**
MT02	**Curacav**	**38.00**	**290**	P		**P**	**19 01 53.0**	**-1.4**
SJPY	**San Joaquin**	**38.03**	**315**	*e*P		**P**	**19 01 54.2**	**-0.5**
RIB01	**Linhares ES**	**38.77**	**340**	*e*P		**P**	**19 02 02.2**	**+1.3**
BB19B	**Bebedouro**	**39.06**	**328**	*e*P		**P**	**19 02 04.6**	**+1.3**
AMBA	**Amambai (Brazi**	**39.48**	**318**	*e*P		**P**	**19 02 06.7**	**-0.1**
MAW	**Mawson**	**39.51**	**143**	P		**P**	**19 02 05.8**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=230,slow=7.1,SNR=11							
MAW				PcP		**PcP**	**19 04 10.4**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=248,slow=5.4,SNR=1.8							
	comp=Z,2.4nm,0.6s							
SJMB	**Sao Joao De Ma**	**39.52**	**339**	*e*P		**P**	**19 02 07.6**	**+0.5**
CO02	**Combarbal**	**39.56**	**292**	P		**P**	**19 02 07.4**	**0.0**
CO01	**Juntas del Tor**	**40.09**	**294**	P		**P**	**19 02 12.6**	**+0.6**
CO01				IAmb		IAmb	19 02 17.2	
	comp=Z,14nm,1.3s							
DIAM	**Diamantina, MG**	**40.44**	**336**	*e*P		**P**	**19 02 16.0**	**+1.2**
PMNB	**Patos De Minas**	**40.88**	**332**	*e*P		**P**	**19 02 19.7**	**+1.3**
RPRD	**Ribas do Rio P**	**41.27**	**321**	*e*P		**P**	**19 02 22.0**	**+0.6**
IPMB	**Ipameri, GO**	**41.89**	**329**	*e*P		**P**	**19 02 27.2**	**+0.7**
AQDB	**Aquidauana**	**41.98**	**318**	P		**P**	**19 02 26.8**	**-0.4**
AQDB	**Aquidauana**	**41.98**	**318**	*e*P		**P**	**19 02 27.4**	**+0.2**
BDQN	**Bodoquena, MS**	**42.40**	**317**	*e*P		**P**	**19 02 29.6**	**-0.9**
CMC01	**Camacan, BA**	**42.48**	**342**	*e*P		**P**	**19 02 31.7**	**+0.5**
JANB	**Januaria**	**43.71**	**336**	*e*P		**P**	**19 02 41.9**	**+0.8**
BDFB	**Brasilia**	**44.06**	**331**	P		**P**	**19 02 44.8**	**+0.8**
BDFB	**Brasilia**	**44.06**	**331**	P		**P**	**19 02 45.3**	**+1.3**
	comp=Z,4.8nm,0.4s,baz=181,slow=4.5,SNR=8.4							
	comp=Z,4.8nm,0.4s							
ARAG	**Araguaiana, MT**	**45.10**	**326**	*e*P		**P**	**19 02 53.3**	**+1.2**
VNDA	**Vanda**	**45.73**	**183**	P		**P**	**19 02 57.7**	**+1.4**
VNDA	**Vanda**	**45.73**	**183**	P		**P**	**19 02 57.6**	**+1.4**
	comp=Z,3.4nm,0.6s,baz=184,slow=7.1,SNR=26							
	comp=Z,3.4nm,0.6s							
SALV	**Santo Antonio**	**46.20**	**321**	*e*P		**P**	**19 03 01.6**	**+1.0**
SDBA	**SAO DESIDERIO**	**46.41**	**336**	*e*P		**P**	**19 03 01.9**	**-0.5**
BBSD	**Serra de San B**	**46.85**	**314**	*e*P		**P**	**19 03 05.8**	**+0.1**
PB01	**IPOC Station P**	**47.29**	**301**	P		**P**	**19 03 09.4**	**+0.2**
PTLB	**Pontes e Lacer**	**47.86**	**317**	P		**P**	**19 03 13.8**	**+0.3**
PTLB				IAmb		IAmb	19 03 14.8	
	comp=Z,16nm,0.7s							
PTLB	**Pontes e Lacer**	**47.86**	**317**	*e*P		**P**	**19 03 13.8**	**+0.3**
PB08	**IPOC Station P**	**47.91**	**302**	P		**P**	**19 03 14.2**	**-0.2**
SIV	**San Ignacio**	**48.11**	**314**	P		**P**	**19 03 15.7**	**+0.2**
	comp=Z,8.2nm,0.5s,baz=155,slow=7.6,SNR=50							
SIV				PcP		**PcP**	**19 04 40.5**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=98,slow=5.4,SNR=4.2							
	comp=Z,8.2nm,0.5s							
KOOLE	**Kule**	**48.22**	**66**	P		**P**	**19 03 14.9**	**-1.5**
KOOLE				IAmb		IAmb	19 03 16.2	
	comp=Z,9.1nm,0.7s							
GO01	**Chusmiza**	**48.34**	**303**	P		**P**	**19 03 17.9**	**+0.2**
GO01				IAmb		IAmb	19 03 19.2	
	comp=Z,7.8nm,0.6s							
SNDB	**Serra Nova Dou**	**48.47**	**328**	*e*P		**P**	**19 03 19.6**	**+1.4**
PB11	**IPOC Station P**	**48.48**	**302**	P		**P**	**19 03 19.0**	**+0.6**
PB11				IAmb		IAmb	19 03 37.2	
	comp=Z,20nm,1.2s							
LBTB	**Lobatse**	**49.32**	**73**	P		**P**	**19 03 23.3**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=214,slow=9.2,SNR=5.4							
	comp=Z,2.2nm,0.6s							
H10N1	**ASCENSION HYDR**	**49.94**	**17**	T		T	19 57 39.3	
	baz=188							
H10N3	**ASCENSION HYDR**	**49.95**	**17**	T		T	19 57 35.3	
	baz=188							
H10N2	**ASCENSION HYDR**	**49.96**	**17**	T		T	19 57 44.2	
	baz=188							
SMTB	**Santa Maria do**	**50.46**	**334**	*e*P		**P**	**19 03 34.3**	**+1.1**
PDRB	**Porto dos Gac**	**50.54**	**321**	*e*P		**P**	**19 03 33.8**	**0.0**
VILB	**Vilhena**	**50.55**	**317**	P		**P**	**19 03 34.4**	**+0.5**
VILB				IAmb		IAmb	19 03 35.0	
	comp=Z,21nm,0.7s							
VILB	**Vilhena**	**50.55**	**317**	*e*P		**P**	**19 03 34.8**	**+0.9**
LPAZ	**La Paz**	**50.81**	**306**	P		**P**	**19 03 37.2**	**+0.7**
LPAZ				IAmb		IAmb	19 03 39.0	
	comp=Z,11nm,0.5s							
LPAZ	**La Paz**	**50.81**	**306**	P		**P**	**19 03 37.4**	**+0.8**
	comp=Z,9.4nm,0.3s,baz=136,slow=5.4,SNR=35							
LPAZ				PcP		**PcP**	**19 04 51.3**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=156,slow=2.9,SNR=4.2							
LPAZ				LR		LR	19 27 53.3	
	comp=Z,12nm,18.4s,baz=104,slow=39							
	comp=Z,9.4nm,0.3s							
LPAZ	**La Paz**	**50.81**	**306**	*e*P		**P**	**19 03 37.4**	**+0.8**
CLDB	**Colider**	**50.92**	**323**	*e*P		**P**	**19 03 36.7**	**+0.1**
NBPB	**Pedra_Branca-C**	**52.12**	**344**	*e*P		**P**	**19 03 46.7**	**+1.2**
MREMI	**Moremi**	**52.28**	**73**	P		**P**	**19 03 46.4**	**-0.4**
MREMI				IAmb		IAmb	19 03 46.9	
	comp=Z,10nm,1.1s							
CASY	**Casey**	**53.14**	**160**	P		**P**	**19 03 53.4**	**+1.1**
CASY				IAmb		IAmb	19 04 29.1	
	comp=Z,11nm,0.9s							
PRPB	**Parauapebas**	**53.60**	**332**	*e*P		**P**	**19 03 57.6**	**+1.3**
NPGB	**Novo Progresso**	**54.37**	**325**	*e*P		**P**	**19 04 02.1**	**+0.2**
ITTB	**Itaituba**	**57.01**	**326**	*e*P		**P**	**19 04 21.2**	**+0.5**
LSZ	**Lusaka**	**58.74**	**68**	P		**P**	**19 04 31.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=206,slow=6.9,SNR=4.6							
	comp=Z,1.4nm,0.6s							
MACA	**Manacapuru-AM**	**59.77**	**321**	*e*P		**P**	**19 04 40.0**	**+0.2**
TEFE	**Tefe**	**60.90**	**316**	*e*P		**P**	**19 04 47.7**	**+0.4**
BOAV	**Boa Vista**	**64.91**	**323**	P		**P**	**19 05 13.8**	**0.0**
BOAV				IAmb		IAmb	19 05 14.6	
	comp=Z,11nm,0.9s							
BOAV	**Boa Vista**	**64.91**	**323**	*e*P		**P**	**19 05 13.9**	**+0.2**
DBIC	**Dimbokro**	**65.96**	**25**	P		**P**	**19 05 18.8**	**-1.6**
DBIC				IAmb		IAmb	19 05 21.2	
	comp=Z,18nm,1.4s							
DBIC	**Dimbokro**	**65.96**	**25**	P		**P**	**19 05 19.9**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=207,slow=4.9,SNR=6.0							
	comp=Z,4.5nm,0.8s							
COHC	**Cochancay**	**68.06**	**302**	P		**P**	**19 05 34.7**	**+0.9**
OTAV	**Otavalo**	**70.07**	**304**	*e*P		**P**	**19 05 47.7**	**+1.0**
RUSC	**La Rusia**	**72.81**	**312**	P		**P**	**19 06 02.7**	**-0.4**
RUSC				IAmb		IAmb	19 06 03.5	
	comp=Z,12nm,1.1s							
BAUV	**El Baul**	**73.64**	**318**	P		**P**	**19 06 07.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**73.82**	**29**	P		**P**	**19 06 08.3**	**+0.1**
SDV	**Santo Domingo**	**74.56**	**315**	*e*P		**P**	**19 06 13.9**	**+1.0**
MQZ	**McQueen's Vall**	**78.38**	**195**	P		**P**	**19 06 35.4**	**+1.7**
NNZ	**Nelson**	**80.71**	**196**	P		**P**	**19 06 47.6**	**+1.3**
TKNZ	**Takaka Hill**	**80.95**	**195**	P		**P**	**19 06 48.0**	**+0.3**
HIZ	**Hauiti**	**83.13**	**197**	P		**P**	**19 06 59.2**	**+0.2**
DR12	**Loma Pena Alta**	**83.21**	**320**	P		**P**	**19 06 59.1**	**-0.4**
BBOO	**Buckleboo**	**89.54**	**166**	P		**P**	**19 07 30.7**	**+0.4**
BBOO				IAmb		IAmb	19 07 32.3	
	comp=Z,16nm,1.3s							
STKA	**Stephens Creek**	**91.08**	**171**	P		**P**	**19 07 38.1**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=180,slow=6.1,SNR=5.0							
	comp=Z,2.8nm,0.7s							
ASAR	**Alice Springs**	**98.20**	**163**	P		Pdif	19 08 10.3	+0.2
ASAR	**Alice Springs**	**98.20**	**163**	P		Pdif	19 08 09.8	-0.3
	comp=Z,1.8nm,0.8s,baz=181,slow=3.9,SNR=20							
	comp=Z,1.8nm,0.8s							
AS31	**Alice Springs**	**98.21**	**163**	P		Pdif	19 08 10.2	0.0
WRA	**Warramunga Arr**	**101.92**	**162**	P		**Pdif**	**19 08 26.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=190,slow=4.3,SNR=3.3							
PDAR	**Pinedale Array**	**120.74**	**302**	PKP		**PKiKP**	**19 13 22.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=194,slow=2.2,SNR=7.9							
ULM	**Lac du Bonnet**	**120.81**	**316**	PKP		**PKiKP**	**19 13 22.0**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=144,slow=1.9,SNR=6.1							
NVAR	**Mina Array Bea**	**121.67**	**293**	PKP		**PKiKP**	**19 13 26.4**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=167,slow=3.3,SNR=5.5							
CMAR	**Chiang Mai Arr**	**124.83**	**111**	PKP		**PKiKP**	**19 13 31.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=208,slow=1.9,SNR=4.9							
FINES	**FINESS Array B**	**125.16**	**28**	PKP		**PKiKP**	**19 13 30.7**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=202,slow=3.0,SNR=25							
ARCES	**ARCESS Array B**	**131.75**	**22**	PKP		**PKiKP**	**19 13 43.8**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=220,slow=2.4,SNR=16							
BVAR	**Borovoye Array**	**135.28**	**58**	PKP		**PKiKP**	**19 13 50.6**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=241,slow=1.5,SNR=3.8							
BVAR				SKP		**SKPbc**	**19 17 05.9**	**+3.9**
	comp=Z,1.0nm,0.8s,baz=251,slow=4.5,SNR=4.8							
YKA	**Yellowknife Ar**	**136.75**	**317**	PKP		**PKiKP**	**19 13 53.2**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=115,slow=2.0,SNR=7.5							
ZALV	**Zalesovo Beam**	**142.79**	**65**	PKP		**PKiKP**	**19 14 04.7**	**-2.5**
	comp=Z,1.1nm,0.4s,baz=222,slow=4.6,SNR=5.8							
ILAR	**Eielson Array**	**150.62**	**311**	PKP		**PKPdf**	**19 14 15.0**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=126,slow=1.2,SNR=8.1							
ILAR				PKPbc		**PKiKP**	**19 14 23.1**	**0.0**
	comp=Z,1nm,0.7s,baz=112,slow=0.6,SNR=85							
SONM	**Songino Array**	**150.83**	**88**	PKPbc		**PKiKP**	**19 14 23.4**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=216,slow=3.7,SNR=19							

*SOME **12** 19:02:49.7,42°.03N×80°.50E,h20km*
*NNC **12** 19:02:49.5±1.4,42°.00N×80°.46E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=9.1km s-min=7.2km az=151.0*
ISC 12 19:02:53.9±2.0,42°.17N±0°.09×80°.27E±0°.07,h10km,n23, σ1§70/33,4C-5D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.15**	**329**	*e*P	Pn	19 03 11.1	-5.2
	9.5nm,0.1s						
SHLS				*e*S	**Sb**	**19 03 26.3**	**-4.8**
	48nm,0.3s						
PDGK	**Podgornoye**	**1.29**	**334**	⇓P	**Pn**	**19 03 15.9**	**-2.3**
	6.4nm,0.2s						
PDGK				⇓S	**Sg**	**19 03 38.6**	**+3.0**
	25nm,0.3s						
UZB	**Uzynbulak**	**1.34**	**317**	P	**Pb**	**19 03 19.0**	**-0.3**
	8.5nm,0.3s						
UZB				S	**Sg**	**19 03 39.9**	**+2.8**
	39nm,0.3s						
UZB	**Uzynbulak**	**1.34**	**317**	*e*P	**Pb**	**19 03 18.9**	**-0.3**
	8.5nm,0.3s						
UZB				*e*S	**Sg**	**19 03 39.9**	**+2.8**
	39nm,0.3s						
KURS	**Kuram**	**2.03**	**311**	Pg	**Pb**	**19 03 31.0**	**+0.1**
	21nm,0.6s						
KURS				Lg	Lg	19 04 00.6	
	27nm,1.0s						
TNSS

CCUT				IAML			19 05 19.3	
	comp=E,116nm,0.5s							
EKU	**East Kanab**	**0.88**	**184**		Pg		19 05 07.3	-0.6
IMU	**Iron Mountain**	**0.89**	**319**		Pg		19 05 08.0	0.0
MMU	**Miners Mountai**	**0.92**	**74**		Pg		19 05 07.7	-0.8
KNB	**Kanab**	**0.99**	**199**		Pg		19 05 09.0	-0.9
LCMT	**Little Creek M**	**1.15**	**215**		Pg		19 05 11.7	-1.3
LCMT	**Little Creek M**	**1.15**	**215**	IAML			19 05 29.6	
	comp=N,163nm,0.1s							
LCMT				IAML			19 05 31.1	
	comp=E,155nm,0.1s							
PSUT	**Pine Spring**	**1.27**	**297**		Pg		19 05 15.0	-0.3
PSUT	**Pine Spring**	**1.27**	**297**	IAML			19 05 35.0	
	comp=N,78nm,0.8s							
PSUT				IAML			19 05 35.5	
	comp=E,82nm,0.8s							
HMU	**Henry Mountain**	**1.32**	**90**		Pn		19 05 15.1	-1.1
HMU	**Henry Mountain**	**1.32**	**90**	IAML			19 05 39.7	
	comp=N,132nm,0.7s							
HMU				IAML			19 05 39.9	
	comp=E,152nm,0.6s							
Q16A	**Castle Valley**	**1.37**	**45**		Pn		19 05 16.1	-0.6
ICU	**Indian Springs**	**1.44**	**236**		Pn		19 05 17.8	+0.1
U15A	**North Rim**	**1.53**	**176**		Pn		19 05 18.7	-0.3
U15A	**North Rim**	**1.53**	**176**	IAML			19 05 39.3	
	comp=N,78nm,0.3s							
U15A				IAML			19 05 39.9	
	comp=E,86nm,0.3s							
TMUT	**Trail Mountain**	**1.64**	**35**		Pn		19 05 21.0	+0.5
TMUT				IAML			19 05 48.1	
	comp=N,45nm,0.4s							
SPR3	**Spring Creek 3**	**1.83**	**305**		Pn		19 05 22.3	-0.8
SRU	**San Rafael Swe**	**1.88**	**52**		Pb		19 05 24.9	-0.8
SRU				IAML			19 05 50.7	
	comp=N,47nm,0.4s							
SRU				IAML			19 05 50.9	
	comp=E,51nm,0.3s							
P17A	**Butcher Ranch,**	**2.00**	**40**		Pn		19 05 25.0	-0.3
PRN	**Pahroc Range**	**2.16**	**256**		Pb		19 05 30.3	-0.2
PRN				IAML			19 06 07.6	
	comp=E,58nm,0.5s							
P18A	**Preston Nutter**	**2.38**	**45**		Pb		19 05 32.6	-1.6
P18A				IAML			19 06 06.2	
	comp=E,30nm,0.5s							
R11B	**Troy Canyon, C**	**2.53**	**280**		Pn		19 05 32.1	-0.5
SHPR	**Sheep Range**	**2.63**	**237**		Pn		19 05 34.0	+0.1
PV10	**Paradox Valley**	**2.69**	**80**		Pb		19 05 38.3	-1.3
PV14	**Lion Creek, Pa**	**2.71**	**80**	Pg	Pb		19 05 38.9	-1.0
PV12	**Saucer Basin,**	**2.87**	**82**		Pb		19 05 41.3	-1.4
PV22	**Blue Mesa, Par**	**2.92**	**77**	IAML			19 06 24.4	
	comp=E,28nm,0.9s							
V12A	**Nelson**	**2.96**	**222**		Pn		19 05 36.1	-2.4
PV01	**Paradox Valley**	**3.04**	**85**		Pn		19 05 39.3	-0.4
PV01				IAML			19 06 25.7	
	comp=E,27nm,0.5s							
MVCO	**Mesa Verde**	**3.20**	**102**		Pn		19 05 40.6	-1.3
MVCO				IAML			19 06 36.5	
	comp=E,20nm,0.5s							
TPNV	**Topopah Spring**	**3.21**	**253**	IAML			19 06 36.9	
	comp=E,10nm,0.3s							
TPNV				IAML			19 06 44.4	
	comp=E,11nm,0.8s							
SHOC	**Shoshone, Teco**	**3.71**	**238**		Pn		19 05 47.4	-1.3
SHOC				IAML			19 06 51.2	
	comp=E,17nm,0.7s							
SHOC				IAML			19 06 51.5	
	comp=N,13nm,1.5s							
GWY	**Greenwater Val**	**3.83**	**244**		Pb		19 06 01.2	+2.2
GWY				IAML			19 06 58.2	
	comp=E,9.6nm,0.9s							
GWY				IAML			19 07 00.8	
	comp=N,6.5nm,2.3s							
MZP	**Montezuma Peak**	**3.94**	**268**	IAML			19 06 31.9	
	comp=E,5.0nm,0.1s							
X18A	**Snowflake**	**3.96**	**149**		Pb		19 06 02.9	+1.7
S22A	**4UR Ranch, Cre**	**4.43**	**91**		Pb		19 06 11.7	+2.5
S22A				IAML			19 07 50.1	
	comp=N,6.6nm,0.1s							
DSP	**Deep Springs**	**4.45**	**264**		Pn		19 05 57.9	-0.9
DSP				IAML			19 06 33.3	
	comp=E,3.8nm,4.3s							
DSP				IAML			19 07 12.2	
	comp=N,3.6nm,3.5s							
LHV	**Little Huntoon**	**4.81**	**275**		Pb		19 06 15.4	-0.1
LHV				IAML			19 07 20.3	
	comp=E,7.2nm,3.3s							
LHV				IAML			19 07 55.0	
	comp=N,6.2nm,3.7s							

IDC 12 19:05:24.3±3.7, 41°31S×118°80E, h0km, mb3.4/4, mbtmp3.6/5, ML2.1/1, Error ellipse: s-maj=62.7km s-min=36.4km az=22.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**7.37**	**329**	T	T	19 15 12.9	
	baz=153						
H01W2	**Cape Leeuwin H**	**7.38**	**329**	T	T	19 15 10.7	
	baz=153						
H01W3	**Cape Leeuwin H**	**7.39**	**329**	T	T	19 15 12.9	
	baz=153						
NWAO	**Narrogin (SRO)**	**8.46**	**351**	Pn	Pn	19 07 28.6	+0.5
	1.2nm,0.3s,baz=170,slow=14,SNR=9.7						
NWAO				Sn	Sn	19 09 03.6	-0.6
	1.2nm,0.3s,baz=83,slow=20,SNR=5.9						
	3.9nm,0.3s						
STKA	**Stephens Creek**	**20.53**	**70**	P	P	19 10 03.9	-0.4
	1.8nm,0.8s,baz=223,slow=18,SNR=3.8						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**21.66**	**40**	P	P	19 10 16.1	-0.4
	0.9nm,0.7s,baz=209,slow=10,SNR=9.9						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**25.07**	**37**	P	P	19 10 51.2	+0.7
	0.7nm,0.9s,baz=205,slow=10,SNR=5.1						
	0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**62.25**	**339**	P	P	19 15 47.8	-0.2
	0.5nm,0.9s,baz=197,slow=5.7,SNR=5.1						
	0.5nm,0.9s						

*AUST **12** 19:11:47.4±0.2, 21°S±2°×12°1E±°, h10km, mb4.8/29, ML4.6/9, MwMwp5.6/1, Mwp5.8/1, Error ellipse: s-maj=4.2km s-min=3.2km az=164.9*
*IDC **12** 19:11:47.4±0.9, 21°.275×120°.63E, h0km, mb3.9/8, mbtmp4.0/10, ML4.7/4, MS2.8/1, Error ellipse: s-maj=24.3km s-min=18.1km az=61.0*
*NEIC **12** 19:11:48.1±2.2, 21°.495±0°.055×120°.56E±0°.03, h10km±2km, mb4.6/10, Error ellipse: s-maj=8.5km s-min=3.8km az=337.0*

ISC 12 19:11:47.1±0.5, 21°.40S±0°.05×120°.60E±0°.04, h10km, n88, σ1199/89, mb4.2/14, 1C, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA00	**Pilbara Seismi**	**0.72**	**256**		**Pn**	**19 12 04.0**	**+0.7**
PSA00	**Pilbara Seismi**	**0.72**	**256**	P	**Pn**	**19 12 04.1**	**+0.7**
PSA00				S	**Sb**	**19 12 11.8**	**+0.1**
PSAA1	**Pilbara Seismi**	**0.73**	**256**	P	**Pn**	**19 12 04.3**	**+0.8**
MBWA	**Marble Bar**	**0.84**	**286**		**Pn**	**19 12 05.0**	**0.0**
MBWA				Sg	**Sg**	**19 12 13.7**	**-0.6**
MBWA	**Marble Bar**	**0.84**	**286**	P	**Pn**	**19 12 05.0**	**0.0**
MBWA				S	**Sg**	**19 12 13.6**	**-0.6**
AUBRM	**Broome Senior**	**3.76**	**25**	P	**Pn**	**19 12 48.0**	**+2.9**
MEEK	**Meekatharra**	**5.52**	**199**	P	**Pn**	**19 13 11.4**	**+2.0**
	comp=Z,78nm,0.7s,comp=Z,4.7nm						
MEEK	**Meekatharra**	**5.52**	**199**	S	**Sn**	**19 14 08.9**	**-4.1**
FITZ	**Fitzroy Crossi**	**5.78**	**56**	Pn	**Pn**	**19 13 14.3**	**+1.4**
	comp=Z,6.4nm,0.3s,baz=222,slow=11,SNR=426						
FITZ				Sn	**Sn**	**19 14 17.6**	**-1.7**
	comp=Z,34nm,0.3s,baz=32,slow=15,SNR=10						
	comp=Z,17nm,0.3s						
GIRL	**Giralia**	**6.03**	**257**		**Pn**	**19 13 16.8**	**+0.4**
GIRL	**Giralia**	**6.03**	**257**	P	**Pn**	**19 13 17.2**	**+0.8**
	comp=Z,171nm,0.8s,comp=Z,0.9nm						
GIRL				S	**Sn**	**19 14 19.2**	**-6.4**
CVQOZ	**Cooralya Stati**	**6.73**	**242**	P	**Pn**	**19 13 26.0**	**0.0**
	comp=Z,830nm,0.6s,comp=Z,5.8nm						
MORW	**Morawa**	**8.68**	**207**		**Pn**	**19 13 50.6**	**-2.1**
MORW	**Morawa**	**8.68**	**207**	P	**Pn**	**19 13 51.0**	**-1.8**
	comp=Z,26nm,0.5s,comp=Z,1.4nm						
MORW	**Morawa**	**8.68**	**207**	S	Sn	19 15 20.1	-11
KNRA	**Kununurra**	**9.61**	**55**		**Pn**	**19 14 06.8**	**+1.2**
KNRA	**Kununurra**	**9.61**	**55**	P	**Pn**	**19 14 06.9**	**+1.3**
	comp=Z,26nm,0.6s,comp=Z,0.3nm						
KNRA				S	**Sn**	**19 15 48.8**	**-4.9**
BLDU	**Ballidu**	**9.82**	**200**	P	**Pn**	**19 14 07.8**	**-0.6**
	comp=Z,31nm,0.8s,comp=Z,0.6nm						
BLDU	**Ballidu**	**9.82**	**200**	S	Sn	19 15 47.2	-12
KLBR	**Kellerberrin**	**10.46**	**193**	P	**Pn**	**19 14 17.1**	**-0.1**
	comp=E,68nm,0.6s,comp=Z,2.8nm						
KLBR	**Kellerberrin**	**10.46**	**193**	S	Sn	19 16 01.8	-13
MUN	**Mundaring**	**11.24**	**199**	P	**Pn**	**19 14 26.9**	**-1.0**
	comp=Z,22nm,0.5s						
MUN	**Mundaring**	**11.24**	**199**	S	Sn	19 16 20.6	-13
DNDOZ	**Balladonia**	**11.40**	**166**	P	**Pn**	**19 14 30.3**	**+0.3**
BATI	**Baumata**	**11.51**	**15**	Pn	**Pn**	**19 14 33.0**	**+1.3**
	comp=Z,5.7nm,0.3s,baz=226,slow=5.8,SNR=4.7						
BATI				Sn	**Sn**	**19 16 38.6**	**-1.8**
	comp=Z,2.1nm,0.3s,baz=166,slow=16,SNR=1.2						
	comp=Z,12nm,0.3s						
WSI	**Waingapu**	**11.67**	**359**	P	**Pn**	**19 14 35.8**	**+2.0**
	comp=Z,81nm,0.8s						
WBSI	**Waikabubak, Su**	**11.75**	**354**	P	**Pn**	**19 14 35.0**	**+0.1**
	comp=Z,48nm,0.6s						
NWAO	**Narrogin (SRO)**	**11.87**	**194**	P	**Pn**	**19 14 35.5**	**-1.0**
	comp=Z,89nm,0.6s						
NWAO	**Narrogin (SRO)**	**11.87**	**194**	S	Sn	19 16 35.1	-14
NWAO	**Narrogin (SRO)**	**11.87**	**194**	Pn	**Pn**	**19 14 35.2**	**-1.2**
	comp=Z,7.9nm,0.3s,baz=8.2,slow=12,SNR=84						
NWAO				Lg	Lg	19 17 59.6	
	comp=Z,15nm,0.3s,baz=278,slow=21,SNR=5.0						
SOEI	**Soe**	**12.10**	**18**	Pn	**Pn**	**19 14 40.1**	**+0.2**
ASAR	**Alice Springs**	**12.51**	**103**	Pn	**Pn**	**19 14 47.4**	**+2.1**
	comp=Z,4.0nm,0.3s,baz=285,slow=12,SNR=507						
ASAR				Sn	**Sn**	**19 16 58.8**	**-6.0**
	comp=Z,5.6nm,0.3s,baz=275,slow=22,SNR=6.0						
AS31	**Alice Springs**	**12.51**	**103**	Pn	**Pn**	**19 14 47.1**	**+1.8**
AS31	**Alice Springs**	**12.51**	**103**	P	**Pn**	**19 14 47.6**	**+2.3**
EDFI	**Ende, Flores**	**12.62**	**5**	P	**Pn**	**19 14 45.7**	**-1.2**
	comp=Z,14nm,0.8s						
EDFI	**Ende, Flores**	**12.62**	**5**	P	**Pn**	**19 14 46.3**	**-0.6**
	comp=Z,14nm,0.8s						
MMRI	**Maumere**	**12.79**	**7**	Pn	**Pn**	**19 14 48.1**	**-1.0**
PLAI	**Plampang**	**12.79**	**347**	P	**Pn**	**19 14 48.4**	**-0.8**
	comp=Z,33nm,0.9s						
PLAI	**Plampang**	**12.79**	**347**	P	**Pn**	**19 14 48.3**	**-0.8**
	comp=Z,34nm,0.8s						
WC4	**Warramunga Arr**	**12.94**	**86**	P	**Pn**	**19 14 51.7**	**+0.4**
WRA	**Warramunga Arr**	**12.95**	**86**		**Pn**	**19 14 51.3**	**0.0**
WRA	**Warramunga Arr**	**12.95**	**86**	Pn	**Pn**	**19 14 51.0**	**-0.2**
	comp=Z,7.6nm,0.3s,baz=263,slow=14,SNR=142						
WRA				Sn	**Sn**	**19 17 07.6**	**-8.0**
	comp=Z,6.5nm,0.3s,baz=257,slow=25,SNR=13						
WB2	**Warramunga Arr**	**12.96**	**86**	Pn	**Pn**	**19 14 51.5**	**0.0**
WRAB	**Tennant Creek**	**12.96**	**86**		**Pn**	**19 14 51.3**	**-0.2**
WRAB	**Tennant Creek**	**12.96**	**86**	P	**Pn**	**19 14 51.8**	**+0.3**
	comp=Z,21nm,0.5s						
MTN	**Manton Dam**	**13.18**	**51**		**Pn**	**19 14 54.6**	**+0.1**
MTN	**Manton Dam**	**13.18**	**51**	P	**Pn**	**19 14 53.9**	**-0.6**
	comp=Z,121nm,0.4s						
DPH	**Darwin Parliam**	**13.22**	**49**	P	**Pn**	**19 14 55.8**	**+0.8**
	comp=Z,56nm,0.9s						
DRS	**Darwin Rock St**	**13.29**	**49**	P	**Pn**	**19 14 57.0**	**+1.0**
	comp=Z,68nm,0.9s						
RKGY	**Rocky Gully**	**13.54**	**193**	P	**Pn**	**19 14 58.8**	**-0.5**
	comp=Z,86nm,1.2s						
KDU	**Kakadu**	**14.28**	**55**	P	**Pn**	**19 15 09.3**	**-0.1**
	comp=Z,39nm,1.0s						
JAGI	**Jajag, Banyuwa**	**14.28**	**333**	P	Pn	19 15 04.9	-4.6
JAGI	**Jajag, Banyuwa**	**14.28**	**333**	P	**Pn**	**19 15 05.6**	**-3.9**
GMJI	**Gumukmas**	**14.76**	**331**	P	**Pn**	**19 15 12.7**	**-3.4**
	comp=Z,17nm,0.5s						
MULG	**Mulgathing**	**14.99**	**129**	P	**Pn**	**19 15 18.4**	**-0.7**
	comp=Z,0.0nmcomp=Z,23nm,0.8s						
OOD	**Oodnadatta**	**15.13**	**118**	P	**Pn**	**19 15 20.9**	**-0.1**
	comp=Z,14nm,0.8s						
KAPI	**Kappang**	**16.31**	**357**	LR	LR	19 21 42.1	
	comp=Z,38nm,21.5s,baz=82,slow=37						
UGM	**Wanagama**	**16.56**	**323**	Pn	**Pn**	**19 15 37.1**	**-2.5**
UGM				IAmb	IAmb	19 15 38.4	
	comp=Z,79nm,1.4s						
UGM	**Wanagama**	**16.56**	**323**	P	**Pn**	**19 15 37.2**	**-2.4**
	comp=Z,36nm,1.8s						
UGM	**Wanagama**	**16.56**	**323**	P	**Pn**	**19 15 37.2**	**-2.4**
	comp=Z,38nm,1.8s						
QIS	**Mount Isa**	**17.77**	**91**	P	**Pn**	**19 15 54.7**	**-0.1**
	comp=Z,29nm,0.7s						
BBOO	**Buckleboo**	**17.83**	**133**		**Pn**	**19 15 54.2**	**-1.2**
BBOO	**Buckleboo**	**17.83**	**133**	P	**Pn**	**19 15 53.7**	**-1.6**
	comp=Z,23nm,0.7s						
LCRK	**Leigh Creek**	**18.21**	**123**	P	**Pn**	**19 15 59.8**	**-0.3**
	comp=Z,11nm,0.8s						
AUCAS	**Cummins Area S**	**18.49**	**137**	P	**P**	**19 16 03.5**	**+0.2**
	comp=Z,80nm,0.7s						
YAPP	**Yappala Statio**	**18.93**	**127**	P	**Pn**	**19 16 09.5**	**+0.6**
	comp=Z,17nm,0.8s						
WHYH	**Whyalla**	**19.00**	**131**	P	**P**	**19 16 09.2**	**+0.2**
	comp=Z,15nm,0.5s						
INKA	**Innaminka**	**19.37**	**113**	P	**Pn**	**19 16 14.2**	**0.0**
	comp=Z,14nm,0.5s						
NAPP	**Napperby**	**19.49**	**131**	P	**Pn**	**19 16 15.4**	**-0.2**
	comp=Z,36nm,0.8s						
HTT	**Hallett**	**20.17**	**130**	P	Pn	19 16 25.1	+1.3
	comp=Z,4.4nm,1.0s						
STKA	**Stephens Creek**	**21.44**	**123**		**P**	**19 16 36.6**	**+1.1**
STKA	**Stephens Creek**	**21.44**	**123**	P	**P**	**19 16 38.0**	**+2.4**
	comp=Z,1.8nm,0.4s,baz=297,slow=12,SNR=9.0						
	comp=Z,1.8nm,0.4s						
FAKI	**Fak Fak**	**21.59**	**33**	P	**P**	**19 16 38.3**	**+1.1**
FAKI				IAmb	IAmb	19 16 59.8	
	comp=Z,44nm,1.1s						
COEN	**Coen**	**22.73**	**75**	P	**P**	**19 16 51.5**	**+2.0**
COEN				IAmb	IAmb	19 16 53.5	
	comp=Z,39nm,1.3s						
CTAO	**Charters Tower**	**24.02**	**92**	P	**P**	**19 17 01.5**	**-0.9**
SBUM	**Sibu**	**25.08**	**340**		**P**	**19 17 10.1**	**-1.9**
SBUM				IAmb	IAmb	19 17 15.9	
	comp=Z,6.5nm,0.9s						
MYLDM	**Lahad Datu**	**26.49**	**355**	P	**P**	**19 17 25.7**	**+0.9**
CM31	**Chiang Mai Arr**	**44.93**	**330**	P	**P**	**19 20 03.4**	**+1.0**
CM31				IAmb	IAmb	19 20 04.8	
	comp=Z,3.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.93**	**330**	P	**P**	**19 20 02.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.93**	**330**	P	**P**	**19 20 03.8**	**+1.4**
	comp=Z,2.3nm,0.6s,baz=166,slow=7.2,SNR=22						
	comp=Z,2.3nm,0.6s						
CHTO	**Chiang Mai**	**45.24**	**331**	P	**P**	**19 20 06.5**	**+1.6**
CHTO				IAmb	IAmb	19 20 07.7	
	comp=Z,6.3nm,1.2s						
VNDA	**Vanda**	**59.57**	**170**	P	**P**	**19 21 53.0**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=298,slow=7.6,SNR=3.8						
	comp=Z,0.6nm,0.8s						
BNX	**BinXian**	**67.10**	**5**	P	**P**	**19 22 42.5**	**+1.9**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.8s						
QSPA	**South Pole Qui**	**68.67**	**180**	P	**P**	**19 22 53.7**	**+3.2**
	comp=Z,1.1nm,1.0s,baz=319,slow=3.6,SNR=2.0						
	comp=Z,1.1nm,1.0s						
SONM	**Songino Array**	**70.09**	**350**	P	**P**	**19 23 01.0**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=177,slow=6.7,SNR=6.6						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**76.18**	**334**	P	**P**	**19 23 36.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=142,slow=6.9,SNR=7.0						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**81.12**	**340**	P	**P**	**19 24 02.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=156,slow=7.9,SNR=2.0						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**85.92**	**332**	P	**P**	**19 24 28.3**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=141,slow=5.5,SNR=1.8						
	comp=Z,0.3nm,0.5s						

IDC 12 19:33:36.9±6.4, 35°46N×81°03E, h0km, mb3.0/1, mbtmp3.4/5, ML2.7/3, MS2.7/2, Error ellipse: s-maj=84.5km s-min=49.0km az=34.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.37**	**4**	Pn	Pn	19 36 20.5	0.0
	0.1nm,0.3s,baz=183,slow=14,SNR=6.0						
MKAR				Sn	Sn	19 38 27.2	-1.0
	0.3nm,0.3s,baz=180,slow=22,SNR=3.4						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**15.27**	**354**	Pn	Pn	19 37 11.1	-2.6
	0.7nm,0.8s,baz=172,slow=12,SNR=4.6						
ZALV	**Zalesovo Beam**	**18.68**	**7**	P	P	19 37 55.5	-0.9
	0.1nm,0.3s,baz=194,slow=11,SNR=4.0						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**19.11**	**340**	P	P	19 38 01.5	+0.3
	baz=155,slow=11,SNR=4.4						
BVAR				LR	LR	19 45 26.4	
	comp=Z,26nm,18.1s,baz=147,slow=37						
	0.5nm,0.4s						
SONM	**Songino Array**	**22.51**	**49**	P	P	19 38 38.6	+0.4
	0.3nm,0.4s,baz=229,slow=8.8,SNR=3.9						
	0.3nm,0.4s						
ARTI	**Arti**	**25.98**	**331**	LR	LR	19 48 26.7	
	comp=Z,11nm,20.7s,baz=70,slow=34						

*UCR **12** 19:35:26.8±1.0, 12°.94N×87°.47W, h167km±7km, MW3.9*
*CATAC **12** 19:35:27.5±0.6, 12°N±3°×8°8W±°, h11km±5km, M3.5/16, MLv3.5/16, Error ellipse: s-maj=7.7km s-min=6.2km az=43.1, confirmed*
*SNET **12** 19:35:31.3±0.9, 12°.12N×88°.09W, h13km±18km, ML3.2*

ISC 12 19:35:30.8±2.1, 12°.02N±0°.07×87°.92W±0°.06, h34km±4km, n40, σ1933/50, 7C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.02**	**20⇑**	*eP*	**Pb**	**19 35 48.9**	**-1.2**
CSGN				*eS*	**Sb**	**19 36 06.6**	**+3.3**
CSGN	**Cosiguina Volc**	**1.02**	**20⇑**	P	**Pb**	**19 35 49.1**	**-1.0**
CSGN				S	**Sb**	**19 36 04.9**	**+1.7**
POTN	**Potosi Cosigui**	**1.06**	**22⇑**	*eP*	**Pb**	**19 35 49.6**	**-1.1**
POTN				*eS*	**Sb**	**19 36 04.7**	**+0.4**
POTN	**Potosi Cosigui**	**1.06**	**22**	P	**Pb**	**19 35 49.5**	**-1.1**
POTN				S	**Sb**	**19 36 05.2**	**+0.9**
CRIN	**San Cristobal**	**1.09**	**51⇑**	*iP*	**Pb**	**19 35 50.6**	**-0.7**
CRIN				*eS*	**Sb**	**19 36 09.0**	**+3.8**
CRIN	**San Cristobal**	**1.09**	**51**	S	**Sb**	**19 36 07.5**	**+2.3**
CRIN	**San Cristobal**	**1.09**	**51**	P	**Pb**	**19 35 50.5**	**-0.7**
POLN	**Al Sur del Vol**	**1.25**	**60**	P	**Pn**	**19 35 52.3**	**+0.4**
POLN				S	**Sb**	**19 36 10.9**	**+1.1**
CNCH	**Conchagua**	**1.26**	**4**	*eP*	**Pn**	**19 35 52.3**	**+0.2**
CNCH	**Conchagua**	**1.26**	**4**	P	**Pn**	**19 35 52.4**	**+0.2**
CNCH	**Conchagua**	**1.26**	**4**	S	**Sb**	**19 36 10.7**	**+0.7**
PLRN	**Geotermica Pol**	**1.26**	**63**	P	**Pn**	**19 35 52.0**	**0.0**
PLRN				S	**Sb**	**19 36 10.7**	**+0.7**
CNGA	**Al SSO del Vol**	**1.28**	**68**	P	**Pn**	**19 35 52.9**	**+0.5**
LCND	**La Caada**	**1.29**	**1**	*eP*	**Pb**	**19 35 52.9**	**-1.6**
LCND				IAML		19 36 17.1	
	comp=Z,442nm,0.2s						
LCND	**La Caada**	**1.29**	**1**	P	**Pn**	**19 35 52.6**	**+0.2**
CNGN	**Cerro Negro**	**1.29**	**68**	P	**Pn**	**19 35 52.9**	**+0.5**
COPN	**Copaltepe**	**1.31**	**83⇑**	*iP*	**Pn**	**19 35 52.9**	**+0.2**
COPN	**Copaltepe**	**1.31**	**83⇑**	P	**Pn**	**19 35 53.0**	**+0.3**
ILCN	**San Idelfonso**	**1.32**	**65⇑**	P	**Pn**	**19 35 52.8**	**0.0**
ILCN				S	**Sb**	**19 36 12.6**	**+0.9**
MOMN	**Momotombo**	**1.41**	**74**	P	**Pn**	**19 35 54.3**	**+0.2**
LCY	**Lacayo**	**1.45**	**345**	*eP*	**Pn**	**19 35 54.6**	**-0.1**
BLLM	**Bellamira**	**1.45**	**348**	*eP*	**Pn**	**19 35 54.9**	**+0.1**
MOM2	**El Cardon**	**1.47**	**73⇓**	P	**Pn**	**19 35 55.4**	**+0.6**
MOM2				S	**Sb**	**19 36 16.0**	**+0.2**
PACA	**Pacayal**	**1.50**	**345**	*eP*	**Pn**	**19 35 55.7**	**+0.2**
PACA	**Pacayal**	**1.50**	**345**	P	**Pn**	**19 35 54.6**	**+0.2**
APQ3	**Volcan Apoyequ**	**1.54**	**80**	P	**Pn**	**19 35 54.9**	**+0.9**
CAHU	**Cacacuatique**	**1.77**	**351**	*eP*	**Pn**	**19 36 00.3**	**+1.1**
LFRS	**El Faro**	**1.95**	**325**	*eP*	**Pn**	**19 36 01.4**	**-0.2**
JAYA	**Jayaque - finc**	**2.21**	**318**	*eP*	**Pn**	**19 36 04.1**	**-1.1**
JAYA				*eS*	**Sn**	**19 36 30.7**	**-0.7**
BOAB	**BOACO BROADBAN**	**2.25**	**79**	P	**Pn**	**19 36 05.9**	**+0.4**
BOAB	**BOACO BROADBAN**	**2.25**	**79**	S	**Sb**	**19 36 36.3**	**-1.9**
RCVN	**Varillal2**	**2.30**	**47**	P	**Pn**	**19 36 07.3**	**+0.9**
RCPN	**Sur Rio San Ju**	**2.33**	**50**	P	**Pn**	**19 36 07.0**	**+0.1**
RCPN	**Sur Rio San Ju**	**2.33**	**50**	S	**Sb**	**19 36 38.2**	**-2.5**
CEVE	**Cerro Verde**	**2.45**	**318**	*eP*	**Pn**	**19 36 09.7**	**+1.1**
CEVE				IAML		19 36 56.0	
	comp=Z,169nm,0.4s						
ACON	**Acoyapa**	**2.69**	**91**	*eP*	**Pn**	**19 36 08.5**	**-3.1**
MTO3	**Montecristo**	**2.75**	**330**	*eP*	**Pn**	**19 36 13.7**	**+1.0**
PICV	**PH. Pirrs**	**4.36**	**123**	*eP*	**Pn**	**19 36 36.1**	**+1.8**
PIEC	**Cerro El Cedra**	**4.56**	**121**	*eP*	**Pn**	**19 36 39.2**	**+1.5**
DRK0	**Durika**	**5.35**	**120**	*eP*	**Pn**	**19 36 50.1**	**+1.6**

*NEIC **12** 19:57:33.4±1.2, 37°.82N±0°.01×113°.23W±0°.02, h7km±5km, Error ellipse: s-maj=2.3km s-min=1.6km az=101.0*

**UUSS 12 19:57:33.4±1.1

PV21	**Cone Mtn., Par**	**3.42**	**76**			Pb	19 58 35.0	+1.0	
PV21				IAML			19 59 21.5		
	comp=E,30nm,0.5s								
PV18	**Skein Mesa, Pa**	**3.42**	**81**			Pb	19 58 34.9	+0.8	
PV18				IAML			19 59 29.2		
	comp=N,27nm,0.7s								
PV16	**Nyswonger Mesa**	**3.42**	**80**	IAML			19 59 22.9		
	comp=E,26nm,0.7s								
PV16				IAML			19 59 33.1		
	comp=N,26nm,0.7s								
PV04	**Paradox Valley**	**3.44**	**79**	IAML			19 59 28.5		
	comp=N,25nm,0.6s								
PV04				IAML			19 59 33.7		
	comp=E,18nm,0.6s								
PV03	**Paradox Valley**	**3.47**	**81**	IAML			19 59 21.1		
	comp=E,16nm,0.7s								
PV03				IAML			19 59 25.2		
	comp=N,19nm,0.6s								
PV13	**Radium Mtn., P**	**3.48**	**83**	IAML			19 59 25.6		
	comp=N,18nm,0.5s								
PV13				IAML			19 59 28.0		
	comp=E,22nm,0.6s								
PV22	**Blue Mesa, Par**	**3.55**	**77**			Pb	19 58 36.5	+0.1	
PV22				IAML			19 59 26.6		
	comp=N,14nm,0.6s								
PV22				IAML			19 59 31.5		
	comp=E,14nm,1.4s								
PV07	**Paradox Valley**	**3.65**	**79**			Pb	19 58 38.7	+0.7	
PV07				IAML			19 59 27.6		
	comp=E,11nm,1.2s								
PV07				IAML			19 59 37.0		
	comp=N,11nm,0.8s								
X16A	**Lo Mia Camp, P**	**3.67**	**157**			Pb	19 58 38.9	+0.4	
X16A				IAML			19 59 34.2		
	comp=E,10nm,0.8s								
X16A				IAML			19 59 34.8		
	comp=N,9.8nm,0.8s								
PV01	**Paradox Valley**	**3.67**	**84**	IAML			19 59 27.3		
	comp=N,13nm,0.4s								
PV01				IAML			19 59 30.7		
	comp=E,11nm,3.5s								
MVCO	**Mesa Verde**	**3.79**	**98**			Pb	19 58 43.0	+2.5	
MVCO				IAML			19 59 33.5		
	comp=E,24nm,0.6s								
NVAR	**Mina Array Bea**	**4.07**	**280**			Pb	19 58 47.3	+2.1	
X18A	**Snowflake**	**4.20**	**140**			Pb	19 58 49.5	+2.1	
LHV	**Little Huntoon**	**4.21**	**278**	IAML			19 59 49.1		
	comp=N,12nm,1.1s								
LHV				IAML			19 59 54.5		
	comp=E,10nm,0.8s								

IDC 12 20:18:27.1±2.1,5°48S×142°85E, h0km, mb3.5/5, mbtmp3.5/6, ML2.7/1, Error ellipse: s-maj=66.4km s-min=25.1km az=90.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.59**	**209**	Pn	P	20 22 23.1	-0.9
	baz=31,slow=12,SNR=2.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**20.03**	**205**	P	Pn	20 23 03.7	+0.1
	0.4nm,0.8s,baz=23,slow=12,SNR=5.4						
	0.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.98**	**232**	P	P	20 23 10.3	-1.8
	3.3nm,1.0s,baz=39,slow=13,SNR=1.8						
	3.3nm,1.0s						
STKA	**Stephens Creek**	**26.29**	**182**	P	P	20 24 03.7	-0.8
	1.0nm,0.7s,baz=6.0,slow=19,SNR=3.9						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**74.50**	**322**	P	P	20 30 06.7	-0.9
	0.3nm,0.5s,baz=110,slow=7.8,SNR=7.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**78.36**	**324**	P	P	20 30 31.2	+1.8
	0.2nm,0.5s,baz=121,slow=6.7,SNR=2.1						
	0.2nm,0.5s						

NIED ***12*** *20:19:57.8, 32°.04N×131°.97E, h16km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.42; Mθθ1.30; Mϕϕ-1.71; Mrθ2.06; Mθϕ-0.18; Mϕr2.86; Fault plane solution: M₀3.83000×10¹⁴ NP1: ϕs139.00000°, δ22.00000°, λ12.00000°. NP2: ϕs38.00000°, δ86.00000°, λ111.00000°.*

JMA 12 20:19:57.8±0.2, 32.0N±0.3×132.0E±0.7, h16km±1km, MD3.4/28, MV3.5/28, HYUGANADA REGION, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.44**	**298**	P	Pg	20 20 06.3	-0.4
JTSN				eS	Sg	20 20 12.8	+0.1
JTSN	**Tsuno**	**0.44**	**298**	A	A	20 20 06.3	
	comp=N,4.0nm,1.3s,comp=E,2.0nm,1.0s						
JHHC	**Hyugahichiya**	**0.49**	**325**	P	Pg	20 20 07.4	-0.2
JHHC	**Hyugahichiya**	**0.49**	**325**	A	A	20 20 07.4	
	comp=N,5.0nm,0.5s,comp=E,6.0nm,0.7s						
JNKG	**Nichinankitago**	**0.63**	**233**	P	Pg	20 20 09.6	-0.6
JNKG				eS	Sg	20 20 18.3	-0.2
JTZ	**Takazaki**	**0.76**	**260**	P	Pb	20 20 12.2	-0.4
JTZ				eS	Sb	20 20 23.2	+0.5
JNAR	**Kushima--Naru**	**0.78**	**229**	P	Pb	20 20 12.8	-0.2
JNAR				S	Sg	20 20 23.5	+0.1
JUS	**Usuki**	**1.04**	**350**	eP	Pb	20 20 17.5	0.0
JUS				eS	Sb	20 20 31.0	+0.2
JIU3	**Izumi3**	**1.10**	**298**	P	Pb	20 20 18.3	-0.2
JIU3				eS	Sb	20 20 32.5	0.0
UWA2	**Uwa jima 2**	**1.30**	**25**	eS	Sb	20 20 36.6	-1.6

DJA 12 20:20:03.4±0.7, 2°N±5°×12°9E±°, h18km±8km, M3.8/6, mb4.0/2, MLv3.7/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.44**	**232**	P	Pn	20 20 28.7	+0.1
TNTI				S	Sb	20 20 48.0	+0.2
SGSI	**Sangihe**	**3.58**	**304**	P	Pn	20 20 57.8	-0.3
FAKI	**Fak Fak**	**5.90**	**141**	P	Pn	20 21 29.0	-1.0
	39nm,1.5s						

NNC ***12*** *20:28:02.3±4.6, 39°.25N×70°.10E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=33.0km s-min=25.6km az=21.0*
SOME ***12*** *20:28:04.2, 38°.92N×70°.73E, h20km*
ISC 12 20:28:02.2±4.3, 38°.9N±0°.2×70°.5E±0°.1, h10km, n15, σ2s43/19, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.26**	**354**	Pg	**Pn**	**20 28 54.3**	**+0.9**
	31nm,0.3s						
IUG				Lg	Lg	20 29 34.7	
	144nm,0.7s						
CHM	**Chimkent**	**3.47**	**349**	*e*P	**Pn**	**20 28 58.8**	**+2.5**
	27nm,0.1s						
CHM				eS	**Sn**	**20 29 42.5**	**+5.0**
	244nm,0.6s						
DZA	**Taraz**	**4.04**	**9**	*e*P	**Pn**	**20 29 05.0**	**+1.0**
	17nm,0.1s						
DZA				eS	**Sn**	**20 29 53.7**	**+2.3**
	68nm,0.2s						
BRLS	**Borolday**	**4.15**	**354**	Pg	**Pn**	**20 29 03.1**	**-2.4**
	2.8nm,0.2s						
BRLS				Lg	Lg	20 29 50.5	
	35nm,1.0s						
BRLS	**Borolday**	**4.15**	**354**	*e*P	**Pn**	**20 29 03.1**	**-2.4**
	1.2nm,0.2s						
BRLS				eS	**Sn**	**20 29 50.5**	**-3.7**
	35nm,1.0s						
KK31	**Karatay Array**	**4.19**	**0**	Pn	**Pn**	**20 29 05.9**	**-0.3**
	2.6nm,0.4s,baz=169,slow=11,SNR=32						
KK31				⇑Sn	**Sn**	**20 29 51.1**	**-4.2**
	10nm,0.7s						
KK31				⇓Lg	Lg	20 30 08.1	
	26nm,0.7s,baz=179,slow=29,SNR=7.7						
EKS2	**Erkin-Say**	**4.51**	**33**	P	**Pn**	**20 29 11.6**	**+0.9**
	SNR=7.5						
AAK	**Ala-Archa**	**4.82**	**38**	P	**Pn**	**20 29 15.8**	**+0.9**
	SNR=5.4						
AAK	**Ala-Archa**	**4.82**	**38**	⇓Pn	**Pn**	**20 29 13.4**	**-1.5**
	1.7nm,0.4s						
AAK				⇓Sn	**Sn**	**20 30 12.5**	**+1.7**
	19nm,1.4s						
AAK				⇓Lg	Lg	20 30 33.9	
	18nm,1.2s						
KBK	**Karagaybulak**	**5.06**	**41**	P	**Pn**	**20 29 18.8**	**+0.6**
	SNR=7.3						
CHMS	**Chumysh**	**5.21**	**37**	P	**Pn**	**20 29 19.2**	**-1.0**
	SNR=8.5						
USP	**Ospenovka**	**5.31**	**34**	P	**Pn**	**20 29 20.2**	**-1.4**
	SNR=8.7						
SGDS	**Sogindy**	**5.52**	**33**	Pg	**Pn**	**20 29 23.1**	**-1.4**
	4.4nm,0.3s						
SGDS				Lg	Lg	20 30 24.6	
	8.6nm,0.6s						
TKM2	**Tokmak 2**	**5.58**	**42**	P	**Pn**	**20 29 24.8**	**-0.6**
	SNR=12						
AB31	**Akbulak array**	**12.81**	**327**	Pn	Pn	20 31 00.6	-3.6
	1.1nm,0.6s,baz=160,slow=9.8,SNR=32						
AB31				Sn	Sn	20 33 19.0	-7.7
	4.3nm,0.8s,baz=152,slow=22,SNR=9.0						

MOS ***12*** *20:39:32.5±1.0, 15°.94N×93°.50W, h83km, mb5.6/62, MS4.6/13, Error ellipse: s-maj=6.0km s-min=4.2km az=92.9*
GCG ***12*** *20:39:33.1±1.6, 15°.91N×93°.89W, h94km±24km, MD3.9, ML5.5*
IDC ***12*** *20:39:34.9±0.4, 15°.98N×93°.37W, h95km±3km, mb5.0/32, mbtmp5.3/34, MS4.4/56, Error ellipse: s-maj=13.1km s-min=7.3km az=55.0*
GCMT ***12*** *20:39:34.9±0.1, 15°.92N±0°.01×93°.71W±0°.01, h93km, MW5.5/155, Moment Tensor Solution. s139,c251; s155,cs315; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.00±.03; Mθθ-0.27±.03; Mϕϕ1.26±.03; Mrθ1.40±.02; Mθϕ-0.84±.03; Mϕr-1.24±.02; Best double couple: M₀2.33100×10¹⁷ NP1:ϕs187.00000°, δ25.00000°, λ-38.00000°. NP2:ϕs313.00000°, δ75.00000°, λ-110.00000°. Principal axes: T 2.5030, Plg27.0000°, Azm59.0000°; N -0.3480, Plg19.0000°, Azm319.0000°; P -2.1600, Plg56.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***12*** *20:39:34.9, 15°.98N×93°.73W, h80km*
NEIC ***12*** *20:39:34.9±2.2, 15°.98N±0°.07×93°.73W±0°.04, h93km±1km, mb5.5/579, Mwb5.5/27, Mwr5.5/29, Mww5.5/73, Error ellipse: s-maj=11.5km s-min=5.4km az=193.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.94; Mθθ0.23; Mϕϕ1.71; Mrθ0.73; Mθϕ-0.41; Mϕr-0.79; Fault plane solution: M₀2.16000×10¹⁷ NP1: ϕs332.81000°, δ59.59000°, λ-102.20000°. NP2: ϕs175.95000°, δ32.55000°, λ-70.19000°. Principal axes: T 2.0459, Plg14.0000°, Azm72.0000°; N 0.2170, Plg11.0000°, Azm339.0000°; P -2.2629, Plg73.0000°, Azm213.0000°; Moment Tensor Solution. Moment tensor: Scale 10¹⁷ Nm; Mrr-0.89; Mθθ-0.14; Mϕϕ1.02; Mrθ1.50; Mθϕ-0.31; Mϕr-1.12; Fault plane solution: M₀2.13000×10¹⁷ NP1:ϕs189.78000°, δ20.84000°, λ-35.31000°. NP2:ϕs313.28000°, δ78.13000°, λ-107.26000°. Principal axes: T 2.0223, Plg31.0000°, Azm57.0000°; N 0.1948, Plg17.0000°, Azm317.0000°; P -2.2172, Plg54.0000°, Azm203.0000°;*
NEIC ***12*** *20:39:34.9, 15°.98N×93°.73W, h80km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10¹⁷Nm; Mrr-1.00; Mθθ-0.21; Mϕϕ1.21; Mrθ1.19; Mθϕ-0.30; Mϕr-1.05; Fault plane solution: M₀1.96000×10¹⁷ NP1: ϕs193.91000°, δ25.77000°, λ-39.07000°. NP2: ϕs320.09000°, δ74.09000°, λ-110.55000°. Principal axes: T 1.9103, Plg26.0000°, Azm66.0000°; N 0.1019, Plg20.0000°, Azm326.0000°; P -2.0122, Plg56.0000°, Azm204.0000°;*
NEIC ***12*** *20:39:34.9, 15°.96N×93°.70W, h93km*
NEIC ***12*** *20:39:34.9, 15°.96N×93°.70W, h93km*
MEX ***12*** *20:39:35.4±0.7, 15°.91N×93°.80W, h99km±5km, MD5.5, Mw5.5*
IPGP ***12*** *20:39:35.0, 15°.96N×93°.68W, h90km, Mw5.5, Fault plane solution: NP1:ϕs185.00000°, δ20.00000°, λ-41.00000°. NP2:ϕs314.00000°, δ77.00000°, λ-105.00000°.*
BGR ***12*** *20:39:35.8, 15°.01N×93°.38W, h101km±1km, mb5.7, mB_BB6.0*
CATAC ***12*** *20:39:35.2±0.4, 16°N±4°×9°4W±°, h87km±8km, M5.6/23, mb5.8/8, mB6.0/8, MLv6.0/23, Mw(mB)5.6/8, MwMwp4.3/4, Mwp4.7/4, Error ellipse: s-maj=10.5km s-min=4.6km az=47.0, confirmed*
ISC 12 20:39:34.0±0.3, 15°.89N±0°.03×93°.78W±0°.03, h96km±2km, h96km:pP-P, n1210, σ2s08/1113, mb5.5/426, 103C-50D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.57**	**109**	⇓*e*P	**Pn**	**20 39 50.3**	**+0.4**
PCIG				*i* S	**Sn**	**20 40 02.5**	**+0.9**
NILT	**Santiago Nilte**	**1.05**	**310**	*e*P	**Pn**	**20 39 54.5**	**-0.1**
NILT				eS	**Sn**	**20 40 10.5**	**+0.3**
TGIG		**1.08**	**35**	⇓*e*P	**Pn**	**20 39 55.8**	**+0.7**
TGIG				eS	**Sn**	**20 40 10.9**	**0.0**
TGIG		**1.08**	**35**	*e*P	**Pn**	**20 39 55.5**	**+0.4**
TGIG				eS	**Sn**	**20 40 10.1**	**-0.9**
TGIG				IAML		20 40 17.7	
	comp=Z,58μm,0.6s						
TGBT	**Tuxtla Gutierr**	**1.10**	**37**	*e*P	**Pn**	**20 39 55.6**	**+0.4**
TGBT				eS	**Sn**	**20 40 11.2**	**0.0**
UXUV	**UXUV**	**1.46**	**346**	*e*P	**Pn**	**20 40 00.5**	**+0.9**
UXUV				eS	**Sn**	**20 40 19.1**	**+0.2**
CMIG	**Matias Romero**	**1.60**	**318**	P	**Pn**	**20 40 01.6**	**+0.3**
	comp=Z,4μm,0.3s,baz=155,slow=9.1,SNR=4287						
CMIG				S	**Sn**	**20 40 21.0**	**-1.0**
	comp=Z,37μm,0.4s,baz=211,slow=23,SNR=55						
CCIG	**Comitan**	**1.62**	**76**		**Pn**	**20 40 02.6**	**+0.9**
CCIG				Sn	**Sn**	**20 40 22.5**	**-0.3**
CCIG	**Comitan**	**1.62**	**76**	*e*P	**Pn**	**20 40 03.2**	**+1.5**
CCIG				eS	**Sn**	**20 40 23.7**	**+1.0**
CCIG	**Comitan**	**1.62**	**76**	⇑*e*P	**Pn**	**20 40 03.2**	**+1.5**
CCIG				eS	**Sn**	**20 40 23.8**	**+1.0**
CCIG				IAML		20 40 29.1	
	comp=Z,79μm,0.9s						
CCIG	**Comitan**	**1.62**	**76**	S	**Sn**	**20 40 24.1**	**+1.4**
CCIG	**Comitan**	**1.62**	**76**	⇑P	**Pn**	**20 40 03.1**	**+1.5**
PATR	**El Naranjo**	**1.67**	**117**	⇓*e*P	**Pn**	**20 40 03.1**	**+0.7**
PATR				eS	**Sn**	**20 40 24.9**	**+0.8**
PAVE	**Pavencul**	**1.69**	**114**	⇑*e*P	**Pn**	**20 40 03.9**	**+1.3**
PAVE				eS	**Sn**	**20 40 25.2**	**+0.8**
THIG		**1.75**	**124**	*e*P	**Pn**	**20 40 04.4**	**+1.2**
THIG				eS	**Sn**	**20 40 27.0**	**+1.5**
THIG		**1.75**	**124**	⇑*e*P	**Pn**	**20 40 04.3**	**+1.0**
THIG				eS	**Sn**	**20 40 26.9**	**+1.5**
CHUJ	**Union Juarez**	**1.79**	**116**	*e*P	**Pn**	**20 40 05.7**	**+1.8**
CHUJ				eS	**Sn**	**20 40 29.8**	**+3.1**
SMCA	**Catarina**	**1.94**	**122**	⇓*e*P	**Pn**	**20 40 06.4**	**+0.9**
SMCA				eS	**Sn**	**20 40 30.9**	**+1.2**
SMCA				IAML		20 40 38.2	
	comp=Z,46μm,1.6s						
MIHL	**Minatitlan**	**2.21**	**341**	*e*P	**Pn**	**20 40 10.2**	**+1.1**
MIHL				eS	**Sn**	**20 40 35.9**	**-0.1**
TUIG	**Tuzandepetl**	**2.22**	**344**	*e*P	**Pn**	**20 40 09.6**	**+0.3**
TUIG				eS	**Sn**	**20 40 33.9**	**-2.3**
TUIG	**Tuzandepetl**	**2.22**	**344**	S	**Sn**	**20 40 35.7**	**-0.5**
TUIG	**Tuzandepetl**	**2.22**	**344**	P	**Pn**	**20 40 10.1**	**+0.8**
VHSA	**Villahermosa**	**2.23**	**21**	*e*P	**Pn**	**20 40 11.8**	**+2.4**
VHSA				eS	**Sn**	**20 40 39.9**	**+3.5**
HUIG	**Huatulco**	**2.25**	**267**	*e*P	**Pn**	**20 40 07.2**	**-2.5**
HUIG				eS	**Sn**	**20 40 30.8**	**-6.2**
HUIG	**Huatulco**	**2.25**	**267**	⇑*e*P	**Pn**	**20 40 07.0**	**-2.6**
HUIG				eS	**Sn**	**20 40 29.6**	**-7.4**
HUIG				IAML		20 40 36.6	
	comp=Z,9μm,0.9s						
HUEH	**Huehuetenango**	**2.26**	**104**		**Pn**	**20 40 11.6**	**+1.5**
HUEH	**Huehuetenango**	**2.26**	**104**	⇑*i*P	**Pn**	**20 40 11.6**	**+1.5**
HUEH				eS	**Sn**	**20 40 36.4**	**-1.3**
HUEH	**Huehuetenango**	**2.26**	**104**	⇑*e*P	**Pn**	**20 40 11.6**	**+1.5**
HUEH				eS	**Sn**	**20 40 36.1**	**-1.5**
HUEH	**Huehuetenango**	**2.26**	**104**	S	**Sn**	**20 40 39.2**	**+1.5**
HUEH	**Huehuetenango**	**2.26**	**104**	⇑P	**Pn**	**20 40 11.5**	**+1.5**
RTAL	**Retalhuleu**	**2.43**	**124**		**Pn**	**20 40 13.5**	**+1.4**
RTAL	**Retalhuleu**	**2.43**	**124**	⇑*e*P	**Pn**	**20 40 13.0**	**+1.0**
RTAL				eS	**Sn**	**20 40 37.1**	**-4.0**
RTAL	**Retalhuleu**	**2.43**	**124**	S	**Sn**	**20 40 43.3**	**+2.2**
RTAL	**Retalhuleu**	**2.43**	**124**	⇑P	**Pn**	**20 40 13.4**	**+1.4**
SOKI	**Kika Raxquin**	**2.52**	**115**	⇓*e*P	**Pn**	**20 40 15.7**	**+2.0**
SOKI				eS	**Sn**	**20 40 40.6**	**-3.4**
NEUV	**Arroyo Zacate**	**2.65**	**313**	*e*P	**Pn**	**20 40 14.9**	**-0.1**
NEUV				eS	**Sn**	**20 40 39.6**	**-7.0**
QUIS	**Sacapulas**	**2.65**	**103**	⇓*e*P	**Pn**	**20 40 16.6**	**+1.4**
QUIS				eS	**Sn**	**20 40 41.6**	**-5.1**
PMUV	**Sontecomapan**	**2.94**	**334**	⇑*e*P	**Pn**	**20 40 18.1**	**-0.8**
PMUV				eS	**Sn**	**20 40 48.5**	**-4.9**
OXLC	**Oaxaca**	**3.04**	**293**	*e*P	**Pn**	**20 40 20.4**	**0.0**
OXLC				eS	**Sn**	**20 40 48.9**	**-7.3**
OXBJ	**Oaxaca**	**3.06**	**293**	*e*P	**Pn**	**20 40 21.1**	**+0.5**
OXBJ				eS	**Sn**	**20 40 52.5**	**-4.1**
VHO	**Vista Hermosa**	**3.07**	**293**	⇑*e*P	**Pn**	**20 40 21.6**	**+0.8**
VHO				eS	**Sn**	**20 40 53.9**	**-2.9**
ESSG	**Sabana Grande**	**3.21**	**117**	⇑*e*P	**Pn**	**20 40 24.2**	**+1.6**
ESSG				eS	Sn	20 40 47.4	-13
PEIG	**Puerto Escondi**	**3.25**	**272**	*e*P	**Pn**	**20 40 20.7**	**-2.2**
PEIG				eS	**Sn**	**20 40 54.5**	**-6.3**
GCG4	**OSOP**	**3.39**	**112**	*e*P	**Pn**	**20 40 26.7**	**+1.6**
GCG4				eS	Sn	20 40 55.2	-9.2
FG16	**Alotenango, Sa**	**3.54**	**117**	⇑*e*P	**Pn**	**20 40 23.4**	**-3.7**
FG16				eS	Sn	20 40 51.3	-17
YOIG	**Yosondua**	**3.74**	**285**	⇑*e*P	**Pn**	**20 40 29.8**	**-0.1**
YOIG				eS	**Sn**	**20 41 09.3**	**-3.8**
TOIG	**Toxpalan**	**3.83**	**305**	⇑*e*P	**Pn**	**20 40 31.9**	**+0.9**
TOIG				eS	**Sn**	**20 41 12.0**	**-3.1**
PETF	**Flores**	**3.89**	**74**		**Pn**	**20 40 32.9**	**+1.3**
PETF	**Flores**	**3.89**	**74**	⇑*i*P	**Pn**	**20 40 33.1**	**+1.5**
PETF				*i* S	**Sn**	**20 41 15.7**	**-0.5**
PETF	**Flores**	**3.89**	**74**	⇑P	**Pn**	**20 40 32.9**	**+1.3**
ESSJ	**San Jos, E**	**3.92**	**126**	*e*P	**Pn**	**20 40 28.5**	**-3.6**
ESSJ				eS	Sn	20 41 07.4	-10
SCIG	**Sabancuy**	**3.93**	**39**	⇑*e*P	**Pn**	**20 40 33.0**	**+0.8**
SCIG				*i* S	**Sn**	**20 41 14.1**	**-3.2**
SCIG	**Sabancuy**	**3.93**	**39**	⇑*i*P	**Pn**	**20 40 33.1**	**+0.8**
SCIG				eS	**Sn**	**20 41 13.9**	**-3.3**
TXIG	**Tlaxiaco**	**4.06**	**290**	⇑*e*P	**Pn**	**20 40 34.5**	**+0.3**
TXIG				eS	**Sn**	**20 41 18.2**	**-2.7**
PNIG	**Pinotepa**	**4.21**	**277**	⇑*e*P	**Pn**	**20 40 34.4**	**-1.6**
PNIG				eS	**Sn**	**20 41 18.0**	**-6.1**
TPIG	**Tehuac#an**	**4.25**	**307**	*e*P	**Pn**	**20 40 38.1**	**+1.4**
TPIG				eS	**Sn**	**20 41 23.7**	**-1.6**
SLOZ	**Alcaldia de Sa**	**4.28**	**115**	P	**Pn**	**20 40 38.9**	**+1.9**
LOAL	**Lomas de Alarc**	**4.30**	**115**	P	**Pn**	**20 40 38.5**	**+1.4**
THEZ	**Tehuacan**	**4.30**	**307**	*e*P	**Pn**	**20 40 38.7**	**+1.4**
THEZ				eS	**Sn**	**20 41 18.4**	**-8.1**
HLIG	**Huajuapan de L**	**4.31**	**297**	⇑*e*P	**Pn**	**20 40 39.0**	**+1.5**
HLIG				eS	**Sn**	**20 41 18.4**	**-8.5**
NUBE	**Las Nubes**	**4.34**	**117**	⇑*i*P	**Pn**	**20 40 39.3**	**+1.5**
NUBE				eS	Sn	20 41 13.4	-14
NUBE	**Las Nubes**	**4.34**	**117**	⇑P	**Pn**	**20 40 39.4**	**+1.5**
ESQI	**Esquipulas**	**4.48**	**107**		**Pn**	**20 40 40.1**	**+0.4**
ESQI	**Esquipulas**	**4.48**	**107**	⇑P	**Pn**	**20 40 40.1**	**+0.4**
JAUV	**Jalcomulco**	**4.50**	**321**	⇓*e*P	**Pn**	**20 40 39.0**	**-0.9**
JAUV				eS	**Sn**	**20 41 27.6**	**-3.7**
CEVE	**Cerro Verde**	**4.51**	**117**	⇓P	**Pn**	**20 40 42.4**	**+2.2**
MTO3	**Montecristo**	**4.51**	**109**		**Pn**	**20 40 40.5**	**+0.2**
MTO3	**Montecristo**	**4.51**	**109**	⇑*e*P	**Pn**	**20 40 40.5**	**+0.2**
MTO3	**Montecristo**	**4.51**	**109**	⇑P	**Pn**	**20 40 40.6**	**+0.3**
LVIG	**Laguna Verde**	**4.57**	**327**	*e*P	**Pn**	**20 40 39.3**	**-1.5**
LVIG				eS	**Sn**	**20 41 27.4**	**-5.3**
XALA	**Xalapa**	**4.69**	**321**	*e*P	**Pn**	**20 40 41.1**	**-1.5**
XALA				eS	**Sn**	**20 41 30.4**	**-5.4**
JAYA	**Jayaque - finc**	**4.74**	**117**	S	**Sn**	**20 41 41.1**	**+3.9**
JAYA	**Jayaque - finc**	**4.74**	**117**	⇑P	**Pn**	**20 40 44.7**	**+1.4**
PMON	**Piamonte**	**4.83**	**116**	⇓P	**Pn**	**20 40 46.5**	**+2.0**
TLIG	**Tlapa**	**4.88**	**291**		**Pn**	**20 40 46.2**	**+1.1**
TLIG	**Tlapa**	**4.88**	**291**	⇑*e*P	**Pn**	**20 40 46.3**	**+1.1**
TLIG				eS	**Sn**	**20 41 38.1**	**-1.7**
LALI	**Alcalda de L**	**4.93**	**118**	*e*P	**Pn**	**20 40 47.7**	**+2.0**
LALI	**Alcalda de L**	**4.93**	**118**	P	**Pn**	**20 40 47.3**	**+1.6**
LALI	**Alcalda de L**	**4.93**	**118**	S	**Sn**	**20 41 44.3**	**+2.8**
HMTT	**Tlapaneco**	**4.96**	**293**	*e*P	**Pn**	**20 40 48.1**	**+1.9**
HMTT				eS	**Sn**	**20 41 36.9**	**-5.4**
SARH	**Santa Rosa de**	**4.96**	**102**	*e*P	**Pn**	**20 40 46.7**	**+0.4**
LOMA	**Loma Larga**	**4.98**	**116**	P	**Pn**	**20 40 48.1**	**+1.5**
IZABA	**Izabal, Puerto**	**5.00**	**91**	⇓*e*P	**Pn**	**20 40 46.8**	**+0.2**
IZABA				eS	**Sn**	**20 41 41.6**	**-1.6**
IZABA	**Izabal, Puerto**	**5.00**	**91**	P	**Pn**	**20 40 46.9**	**+0.2**
PAVA	**Las Pavas**	**5.16**	**114**	⇑P	**Pn**	**20 40 50.6**	**+1.7**
CRIG	**Cruz Grande**	**5.21**	**280**	*e*P	**Pn**	**20 40 48.4**	**-1.1**
CRIG				eS	**Sn**	**20 41 39.6**	**-8.8**
PHPU	**Puebla**	**5.24**	**307**	*e*P	**Pn**	**20 40 48.9**	**-1.2**
PHPU				*i* S	**Sn**	**20 41 44.6**	**-4.7**
SCLA	**Alcaldia de Sa**	**5.34**	**113**	P	**Pn**	**20 40 53.3**	**+1.9**
TECO	**Alcaldia de Te**	**5.37**	**115**	P	**Pn**	**20 40 53.3**	**+1.5**
TECO	**Alcaldia de Te**	**5.37**	**115**	S	**Sn**	**20 41 55.6**	**+3.3**
PBCV	**Popocatepetl**	**5.50**	**305**	⇑*e*P	**Pn**	**20 40 57.0**	**+3.1**
PBCV				eS	**Sn**	**20 41 51.0**	**-5.0**
PPCL	**Tochimilco**	**5.51**	**304**	*e*P	**Pn**	**20 40 56.2**	**+2.3**
PPCL				eS	**Sn**	**20 41 50.7**	**-5.4**
PPSX	**Xalitzintla**	**5.52**	**306**	*e*P	**Pn**	**20 40 57.0**	**+2.9**
PPSX				eS	**Sn**	**20 41 59.4**	**+3.0**
PBPN	**Popocatepetl**	**5.59**	**305**	*e*P	**Pn**	**20 40 58.3**	**+3.1**
PBPN				eS	**Sn**	**20 41 57.2**	**-1.2**
CXUV	**Coxquihui**	**5.

TGUH Tegucigalpa,Un 6.54 105 Pn 20 41 08.8 +1.0
TGUH Tegucigalpa,Un 6.54 105⇑ eP Pn 20 41 08.8 +1.0
DEIG Demacu 6.65 312 eP Pn 20 41 12.9 +3.6
DEIG eS Sn 20 42 16.5 -7.3
CSGN Cosiguina Volc 6.68 115 ⇓P Pn 20 41 12.3 +2.7
ARIG Puente Sto Nin 6.72 292⇑ eP Pn 20 41 11.9 +1.8
ARIG eS Sn 20 42 21.6 -3.6
POTN Potosi Cosigui 6.72 115 ⇑P Pn 20 41 11.6 +1.6
POTN S Sn 20 42 27.8 +2.6
TEIG Tepich 6.78 50 Pn 20 41 10.3 -0.5
TEIG Tepich 6.78 50 P Pn 20 41 10.4 -0.4
comp=Z,0.1nm,0.8s,baz=127,slow=20,SNR=297
TEIG S Sn 20 42 24.3 -2.3
comp=Z,0.1nm,0.5s,baz=312,slow=24,SNR=9.5
TEIG Tepich 6.78 50⇑ iP Pn 20 41 10.5 -0.3
TEIG eS Sn 20 42 24.2 -2.3
ATVM ATLACOMULCO 6.94 305 eP Pn 20 41 11.3 -2.0
ATVM eS Sn 20 42 23.6 -7.4
ACIG Acambay 7.09 306⇑ iP Pn 20 41 18.3 +3.0
ACIG eS Sn 20 42 28.7 -5.8
CRIN San Cristobal 7.25 115 Pn 20 41 19.2 +1.9
PET2 Petatlan 7.36 284 eP Pn 20 41 19.2 +0.4
PET2 eS Sn 20 42 33.7 -7.0
ZIIG Zihuatanejo 7.56 284⇑ eP Pn 20 41 22.0 +0.4
ZIIG eS Sn 20 42 42.9 -2.8
CNGN Cerro Negro 7.65 115 Pn 20 41 23.2 +0.5
JRQG Juriquilla Cam 7.94 308 Pn 20 41 29.1 +2.2
JRQG Juriquilla Cam 7.94 308 eP Pn 20 41 28.7 +1.8
MOIG Morelia 8.00 299 Pn 20 41 31.0 +3.3
MOIG Morelia 8.00 299⇑ eP Pn 20 41 30.9 +3.2
MOIG eS Sn 20 42 59.8 +3.0
RPIG Rio Verde 8.37 316 eP Pn 20 41 32.4 -0.2
RPIG eS Sn 20 42 58.8 -6.7
BOAB BOACO BROADBAN 8.58 112 Pn 20 41 35.8 +0.4
IGIG Irapuato, Guan 8.65 305 eP Pn 20 41 31.0 -5.5
GTIG Gomez Farias 8.76 325 eP Pn 20 41 38.2 +0.3
GTIG eS Sn 20 43 06.5 -8.5
SIUN Universidad Ur 8.97 103 Pn 20 41 41.5 +0.8
MMIG Aquila 9.46 286⇑ eP Pn 20 41 48.2 +0.9
MMIG eS Sn 20 43 33.6 +1.8
MNGA Volcan de Coli 10.03 292⇑ eP Pn 20 41 59.2 +3.8
MNGA eS Sn 20 43 46.0 -0.3
INCO Volcan de Coli 10.04 293⇓ eP Pn 20 41 59.0 +3.4
INCO eS Sn 20 43 41.8 -4.9
SOMAC Volcano de Col 10.06 292⇑ eP Pn 20 41 59.5 +3.6
SOMAC eS Sn 20 43 46.7 -0.4
BILN Bilwi Airport 10.22 99 Pn 20 41 56.8 -0.9
CEGR Campo Tres 10.22 291⇑ eP Pn 20 42 00.5 +2.6
CEGR eS Sn 20 43 52.5 +1.8
CDAR Ciudad de Arme 10.23 289 eP Pn 20 42 00.3 +2.5
CDAR eS Sn 20 43 47.7 -3.0
JTS Las Juntas de 10.24 122 Pn 20 41 58.7 +0.6
JTS Las Juntas de 10.24 122 P Pn 20 41 58.4 +0.4
comp=Z,301nm,0.4s,baz=310,slow=7.3,SNR=119
JTS S Sn 20 43 47.7 -3.4
comp=Z,26nm,0.5s,baz=306,slow=13,SNR=1.3
JTS Las Juntas de 10.24 122 P Pn 20 41 57.7 -0.4
JTS pmax pmax
comp=Z,454nm,0.9s
SOCE Pocosol 10.46 120 Pn 20 42 00.9 -0.2
ZAIG Zacatecas 10.75 311 Pn 20 42 06.0 +0.8
ZAIG Zacatecas 10.75 311 eP Pn 20 42 04.4 -0.9
ZAIG eS Sn 20 44 03.0 -0.8
PALD Palmares 10.79 121 eP Pn 20 42 06.8 +1.1
ATEO Atenas 10.88 122 eP Pn 20 42 07.6 +0.8
VPS8 V Poas 10.88 120 eP Pn 20 42 07.7 +0.6
VPS5 V. Poas 10.89 120 eP Pn 20 42 08.4 +1.2
CIHU Emiliano Zapat 10.98 289⇓ eP Pn 20 42 06.9 -1.1
BELE Belen 11.04 121 eP Pn 20 42 09.8 +0.8
SANTA Santa Ana 11.06 121 eP Pn 20 42 10.3 +0.9
HEME Heredia, Merce 11.07 121 eP Pn 20 42 10.9 +1.4
HDC Heredia 11.09 121 eP Pn 20 42 10.7 +1.0
ACOS Acosta 11.16 122 eP Pn 20 42 11.9 +1.3
LUJA Lujan 11.16 121 eP Pn 20 42 11.8 +1.1
AMPA Desamparados 11.19 121 eP Pn 20 42 12.2 +1.1
CORON Coronado 11.19 121 eP Pn 20 42 12.8 +1.6
CVIMO Finca Echandi 11.22 120 eP Pn 20 42 11.6 +0.1
PICV PH. Pirrs 11.23 123 eP Pn 20 42 12.5 +1.0
TRIO Tres Rios 11.24 121 eP Pn 20 42 12.9 +1.1
PILE Guapiles 11.24 119 eP Pn 20 42 12.3 +0.6
PISJ San Jernim 11.28 122 eP Pn 20 42 15.3 +3.0
LCR2 La Lucha 2 11.32 122 Pn 20 42 13.4 +0.5
LCR2 La Lucha 2 11.32 122 eP Pn 20 42 13.8 +0.9
VICA Volcano Irazu 11.32 120 eP Pn 20 42 12.9 -0.2
CJM Chamela 11.32 290 eP Pn 20 42 13.9 +1.2
PITB Pirrs, San 11.35 122 eP Pn 20 42 14.8 +1.5
CVTR Volcan Turrial 11.37 120 eP Pn 20 42 13.3 -0.4
VTR0 Volcan Turrial 11.37 120 eP Pn 20 42 13.6 -0.2
CVTQ Turrialba Volc 11.37 120 eP Pn 20 42 13.9 +0.2
REPA Paraso 11.38 121 eP Pn 20 42 14.9 +1.2
CVTV Tajo 11.39 120 eP Pn 20 42 14.3 +0.4
LLNJ Naranjito 11.39 123 eP Pn 20 42 15.3 +1.7
ANTG Ahuacatlan 11.41 298 eP Pn 20 42 14.2 +0.2
VTCV VTCV, Calle Va 11.42 120 eP Pn 20 42 14.4 +0.2
PIEC Cerro El Cedra 11.42 122 eP Pn 20 42 14.9 +0.5
MNIG Monterrey 11.43 329⇑ iP Pn 20 42 15.9 +1.7
RESJ San Isidro (Tu 11.46 119 eP Pn 20 42 15.0 +0.3
RVSTA Santa Teresita 11.49 120 eP Pn 20 42 15.9 +0.9
TURIB Turrialba 11.49 120 eP Pn 20 42 15.9 +0.8
IRES Siquirres 11.54 119 eP Pn 20 42 18.0 +2.3
VERH Veragua Rainfo 11.90 119 eP Pn 20 42 18.7 -1.8
SAJE San Jernim 11.94 122 eP Pn 20 42 21.4 +0.2
EDPE Pejibaye, P 12.00 123 eP Pn 20 42 22.9 +1.0
HBVL Hebbronville 12.01 339 Pn 20 42 23.0 +1.1
BURE Buenos Aires 12.18 122 eP Pn 20 42 25.1 +0.8
DRK0 Durika 12.21 121 eP Pn 20 42 25.0 +0.2
CEUA Cerro Uatsi, L 12.27 119 eP Pn 20 42 24.5 -1.0
PRVC Isla de Provid 12.27 100 Pn 20 42 24.2 -1.2
FIMO Fila Mora 12.27 123 eP Pn 20 42 25.9 +0.3
ALCO Alturas Coton, 12.72 122 eP Pn 20 42 31.1 -0.4
NELY Ciudad Neily 12.79 123 eP Pn 20 42 32.7 +0.3
DMCAL E. de Neily 12.91 123 eP Pn 20 42 34.6 +0.7
BRU2 Volcan 12.92 122 Pn 20 42 34.3 +0.1
BRU2 Volcan 12.92 122 eP Pn 20 42 33.8 -0.4
BRU2 Volcan 12.92 122 eP Pn 20 42 34.1 -0.1
LPPC Paso Canoas 12.95 123 eP Pn 20 42 35.3 +0.9
TBS2 12.95 122 eP Pn 20 42 34.7 +0.1
CLLRA Cordillera, 13.01 122 eP Pn 20 42 35.3 -0.1
BANCO falda S V. Bar 13.09 122 eP Pn 20 42 35.9 -0.6
PTPA Petro Terminal 13.12 124 eP Pn 20 42 37.0 +0.4
JEFFS S de V. Baru 13.12 122 eP Pn 20 42 36.8 +0.1
BQTLY Boquete Panama 13.13 121 eP Pn 20 42 36.8 -0.1
DAP26 falda E V. Bar 13.14 121 eP Pn 20 42 37.3 +0.2
WILLF Boquete 13.15 121 eP Pn 20 42 37.2 -0.1
PBNVO Pueblo Nuevo, 13.28 120 eP Pn 20 42 38.2 -0.5
DVD David 13.32 122 eP Pn 20 42 39.5 +0.3
RBALA Bur 13.32 120 eP Pn 20 42 38.2 -1.0
CGUAY Guayabal, Coch 13.38 122 eP Pn 20 42 40.6 +0.4
GUAL3 Gualaca, Chiri 13.39 122 eP Pn 20 42 39.3 -0.9
833A Chaparral WMA, 13.42 338 Pn 20 42 42.0 +1.5
KKNTU Kakint[9] 13.63 120 eP Pn 20 42 42.3 -1.0
CAMR Camarioca 13.69 57 Pn 20 42 43.1 -1.0
MCIG Muzquiz 13.90 330 eP Pn 20 42 48.7 +1.8
MAIG Mazatlaan 13.95 303 eP Pn 20 42 48.1 +0.6
HKT Hockley 14.12 353 Pn 20 42 50.5 +0.9
HKT Hockley 14.12 353c iP Pn 20 42 50.1 +0.6
CVEJO Cerro Viej 14.13 121 eP Pn 20 42 50.6 +0.6
PDIG Papasquiaro 14.18 312 eP P 20 42 54.5 -0.7
PDIG eS Sn 20 45 16.5 -10
DRIO Del Rio 14.87 336 Pn 20 42 58.7 -0.5
BCIP Isla Barro Col 15.15 115 Pn 20 43 01.9 -1.1
BCIP Isla Barro Col 15.15 115 P Pn 20 43 01.9 -1.1
CACAO El Cacao, Vera 15.23 122 eP P 20 43 07.0 +0.3
AZU Azuero 15.46 120 eP P 20 43 08.9 -0.3
AZU Azuero 15.46 120 eP Pn 20 43 06.9 0.0
JCT Junction City 15.54 340⇑ eP Pn 20 43 08.0 +0.3
JCT eS Sn 20 45 48.9 -10
HPIG 15.59 317 P P 20 43 10.4 -0.4
HPIG 15.59 317 eP P 20 43 11.8 +1.0
MTDJ Mount Denham 15.70 79 Pn 20 43 09.2 -0.7
MTDJ Mount Denham 15.70 79⇑ iP Pn 20 43 09.4 -0.5
NATX Nacogdoches 15.82 357 Pn 20 43 11.3 +0.2
346A Big Creek Wild 15.92 14 P Pn 20 43 12.6 +0.1
SAND Sanderson 15.96 333 P 20 43 13.9 -0.8
BRDY Brady 16.05 344 Pn 20 43 14.4 +0.3
TX31 Lajitas Ar. Si 16.18 327 P 20 43 17.6 +0.3
TXAR Lajitas Array 16.18 327 P P 20 43 18.6 +1.3
comp=Z,25nm,0.8s,baz=148,slow=14,SNR=138
WHTX Lake Whitney, 16.37 349 Pn 20 43 18.0 -0.1
OZNA Ozona 16.40 337 P P 20 43 20.6 +1.0

DWPF Disney Wildern 16.68 41 Pn 20 43 20.6 -1.2
060A Indiantown 16.68 46 P Pn 20 43 21.6 -0.3
PAYG Puerto Ayora 16.82 168 P P 20 43 24.7 +0.5
143A Socs Landing, 16.88 7 P Pn 20 43 24.1 -0.1
SLBS Sierra La Lagu 17.07 300 P P 20 43 28.9 +1.8
250A Grady 17.41 22 P Pn 20 43 30.8 0.0
LPIG La Paz 17.54 300 P Pn 20 43 34.8 +2.4
comp=Z,39nm,0.8s,baz=146,slow=7.3,SNR=14
LPIG LR LR 20 51 01.9
comp=Z,1μm,18.3s,baz=124,slow=38
GTBY Guantanamo Bay 18.21 75⇑ iP P 20 43 39.9 +0.4
MIAR Mount Ida 18.57 1 P P 20 43 43.2 -0.2
MIAR pmax pmax
comp=Z,647nm,1.1s
MNTX Cornudas Mount 18.96 328⇑ eP Pn 20 43 50.1 +0.7
WMOK Wichita Mounta 19.30 347 P Pn 20 43 52.4 -1.0
WMOK pmax pmax
comp=Z,106nm,0.9s
GOGA Godfrey 19.78 26 P Pn 20 43 57.8 -1.1
LCAR Lake Charles 20.23 6 P P 20 44 00.9 -0.5
HSIG 20.52 312 P Pn 20 44 07.1 -0.5
CRNM Carthage 21.44 329 P P 20 44 16.6 +1.9
BNM Barren Site 21.55 330 P P 20 44 18.6 +2.7
TKL Tuckaleechee C 21.62 23 P P 20 44 15.7 -0.6
comp=Z,10nm,0.5s,baz=193,slow=13,SNR=26
TKL S S 20 48 11.1 +0.7
comp=Z,71nm,0.7s,baz=97,slow=15,SNR=5.2
TKL LR LR 20 54 12.0
comp=Z,1μm,18.0s,baz=209,slow=41
comp=Z,10nm,0.5s
SDDR Presa de Saban 21.67 79 P P 20 44 16.6 -0.5
OTAV Otavalo 21.70 134 P P 20 44 20.7 +2.9
OTAV Otavalo 21.70 134 P P 20 44 20.0 +2.2
OTAV pmax pmax
comp=Z,66nm,0.8s
OTAV Otavalo 21.70 134 eP P 20 44 21.8 +4.0
ROSC El Rosal 22.04 118 P P 20 44 21.4 0.0
ROSC El Rosal 22.04 118 P P 20 44 21.0 -0.4
comp=Z,220nm,0.8s,baz=305,slow=9.7,SNR=51
ROSC S S 20 48 19.8 +0.6
comp=Z,13nm,0.6s,baz=34,slow=21,SNR=1.9
comp=Z,220nm,0.8s
ROSC El Rosal 22.04 118 P P 20 44 21.4 0.0
ANMO Albuquerque 22.12 331 P P 20 44 24.0 +2.1
ANMO Albuquerque 22.12 331 P P 20 44 24.0 +2.1
GRTK Grand Turk 22.15 72 P P 20 44 21.0 -1.1
CCM Cathedral Cave 22.19 5 P P 20 44 21.0 -1.4
CCM Cathedral Cave 22.19 5 P P 20 44 21.0 -1.4
SC01 Santiago de lo 22.24 78 P P 20 44 22.7 -0.3
TUC Tucson 22.49 320 P P 20 44 28.1 +2.4
TUC Tucson 22.49 320 P P 20 44 28.1 +2.4
TUC Tucson 22.49 320 i P 20 44 28.5 +2.8
FLOC Florencia 22.83 127 P P 20 44 29.6 +0.4
SDD Santo Domingo 22.94 80 P P 20 44 29.9 -0.3
WCI Wyandotte Cave 23.21 15 P P 20 44 30.9 -1.7
WCI Wyandotte Cave 23.21 15 P P 20 44 30.9 -1.7
SDV Santo Domingo 23.64 104 P P 20 44 34.3 -2.6
SDV Santo Domingo 23.64 104 P P 20 44 34.6 -2.3
comp=Z,23nm,0.5s,baz=292,slow=3.8,SNR=22
SDV pP pP 20 44 55.5 -1.8
comp=Z,42nm,0.6s,baz=338,slow=9.3,SNR=2.8
SDV LR LR 20 54 17.1
comp=Z,960nm,21.9s,baz=293,slow=38
comp=Z,23nm,0.5s
SDV Santo Domingo 23.64 104 eP P 20 44 35.2 -1.8
PIX Pinacate 23.77 314 P P 20 44 40.1 +2.3
O48B Farmland 25.41 16 P P 20 44 50.3 -2.3
PV13 Radium Mtn., P 25.84 332 IAmb IAmb 20 45 23.9
comp=Z,232nm,0.9s
PV05 Paradox Valley 25.90 331 IAmb IAmb 20 45 24.3
comp=Z,210nm,1.0s
AOPR Arecibo Observ 25.93 81 IAmb IAmb 20 45 37.2
comp=Z,78nm,0.8s
PV03 Paradox Valley 25.93 332 IAmb IAmb 20 45 24.7
comp=Z,178nm,1.1s
UUPR Utuado, UPR, P 25.96 81 IAmb IAmb 20 45 00.6
comp=Z,128nm,0.9s
ISCO Idaho Springs 25.96 339 P P 20 45 00.2 +2.2
ISCO pmax pmax
comp=Z,56nm,1.3s
PV11 David Mesa, Pa 25.98 332 IAmb IAmb 20 45 23.8
comp=Z,175nm,0.9s
PV07 Paradox Valley 25.99 333 IAmb IAmb 20 45 39.3
comp=Z,90nm,0.9s
PV17 East Wray Mesa 26.00 332 IAmb IAmb 20 45 25.4
comp=Z,227nm,1.1s
PV16 Nyswonger Mesa 26.01 332 IAmb IAmb 20 45 25.6
comp=Z,185nm,1.0s
OBIP Obispado Ponce 26.07 81 IAmb IAmb 20 45 40.3
comp=Z,104nm,1.2s
PV22 Blue Mesa, Par 26.14 333 IAmb IAmb 20 45 40.0
comp=Z,162nm,0.9s
PV21 Cone Mtn., Par 26.24 332 IAmb IAmb 20 45 27.0
comp=Z,107nm,0.8s
U15A North Rim 26.26 325 IAmb IAmb 20 45 27.2
comp=Z,202nm,1.9s
BC3 Big Chuckawall 26.37 316 IAmb IAmb 20 45 26.7
comp=Z,89nm,0.9s
Q56A Snyder Ridge, 26.37 26 IAmb IAmb 20 45 40.0
comp=Z,298nm,1.5s
CBX Cerro Bola 26.44 312 IAmb IAmb 20 45 28.3
comp=Z,89nm,1.0s
SJG San Juan 26.50 81 P P 20 44 59.2 -3.4
SJG San Juan 26.50 81 P P 20 44 59.2 -3.4
comp=Z,26nm,0.6s,baz=310,slow=5.8,SNR=9.0
SJG PcP PcP 20 48 26.1 +0.8
comp=Z,37nm,0.6s,baz=248,slow=5.4,SNR=7.2
SJG S S 20 49 23.8 -6.1
comp=Z,5.2nm,0.3s,baz=333,slow=22,SNR=1.2
comp=Z,26nm,0.6s
SJG San Juan 26.50 81 P P 20 44 59.2 -3.4
SJG pmax pmax
comp=Z,90nm,1.2s
PDPR Patillas Dam, 26.62 81 IAmb IAmb 20 45 07.7
comp=Z,126nm,1.3s
L44A Lake County Fo 26.68 10 IAmb IAmb 20 45 39.1
comp=Z,229nm,0.9s
O54A Avella 26.87 23 IAmb IAmb 20 45 51.4
comp=Z,83nm,0.8s
PFO Pinyon Flats O 27.02 315 P P 20 45 08.4 +1.1
PFO Pinyon Flats O 27.02 315 LR LR 20 56 10.8
comp=Z,830nm,19.4s,baz=140,slow=37
PFO Pinyon Flats O 27.02 315 d iP P 20 45 09.6 +2.3
PFO pmax pmax
comp=Z,37nm,1.5s
PFO MLR MLR
comp=Z,1μm,16.0s
M50A Fremont 27.06 18 IAmb IAmb 20 45 44.5
comp=Z,84nm,0.8s
P57A Homestead Farm 27.25 27 IAmb IAmb 20 45 32.7
comp=Z,290nm,1.7s
ATAH Atahualpa 27.49 145 P P 20 45 11.2 -0.8
comp=Z,25nm,0.7s,baz=335,slow=6.8,SNR=26
ATAH LR LR 20 53 22.8
comp=Z,821nm,18.2s,baz=311,slow=30
comp=Z,25nm,0.7s
PAMR Moraine State 27.63 23 IAmb IAmb 20 45 56.8
comp=Z,142nm,0.9s
AAM Ann Arbor 27.72 16 IAmb IAmb 20 45 35.5
comp=Z,148nm,0.8s
ECSD EROS Data Cent 27.86 356 IAmb IAmb 20 45 15.5
comp=Z,161nm,0.8s
I37A Lemond, Waseca 28.03 1 IAmb IAmb 20 46 18.5
comp=Z,107nm,0.9s
I42A Draeger Farm, 28.21 7 IAmb IAmb 20 45 53.1
comp=Z,148nm,0.9s
SSPA Standing Stone 28.25 26 P P 20 45 16.7 -1.4
SSPA IAmb IAmb 20 46 13.8
comp=Z,78nm,1.1s
PAOC Oil Creek Stat 28.29 23 IAmb IAmb 20 46 04.2
comp=Z,172nm,0.9s
MVL Millersville 28.42 29 IAmb IAmb 20 46 01.4
comp=Z,120nm,1.3s
I45A Fountain 28.77 11 IAmb IAmb 20 45 58.0
comp=Z,191nm,0.9s
PCRV Puerto La Cruz 28.93 98 P P 20 45 22.3 -2.1
comp=Z,10.0nm,0.5s,baz=228,slow=4.0,SNR=9.4
PCRV LR LR 20 58 28.7
comp=Z,475nm,18.4s,slow=40
comp=Z,10.0nm,0.5s
H43A Windswept, Lux 28.94 9 IAmb IAmb 20 45 58.7
comp=Z,70nm,1.0s
M57A Sunshine Farm, 29.16 26 IAmb IAmb 20 46 11.1
comp=Z,227nm,1.8s
DUG Dugway, Tooele 29.34 329 P P 20 45 30.4 +2.5
DUG pmax pmax

comp=Z,13nm,1.9s
TCUT Toone Canyon 29.41 332 IAmb IAmb 20 45 33.0
comp=Z,82nm,1.0s
RSSD Black Hills 29.46 345 P P 20 45 30.4 +1.4
RSSD Black Hills 29.46 345 P P 20 45 30.4 +1.4
RSSD pmax pmax
comp=Z,45nm,0.9s
L56A Greenwood 29.64 25 IAmb IAmb 20 46 29.1
comp=Z,256nm,1.9s
F33A 5 Mile Ranch, 29.93 356 IAmb IAmb 20 45 33.0
comp=Z,91nm,0.8s
PDAR Pinedale Array 30.00 336 P P 20 45 34.6 +0.7
PDAR Pinedale Array 30.00 336 P P 20 45 35.3 +1.5
comp=Z,9.1nm,0.8s,baz=138,slow=9.8,SNR=62
PDAR pP pP 20 45 57.8 +2.1
comp=Z,4.7nm,0.7s,baz=174,slow=8.4,SNR=3.7
PDAR S S 20 50 28.6 +3.6
comp=Z,1.0nm,0.8s,baz=68,slow=9.2,SNR=1.4
PDAR LR LR 21 01 02.2
comp=Z,368nm,19.0s,baz=146,slow=43
comp=Z,9.1nm,0.8s
MMNY Mt. Morris Dam 30.01 24 IAmb IAmb 20 45 56.2
comp=Z,83nm,1.0s
VES Vestal, Richgr 30.07 316 IAmb IAmb 20 46 00.1
comp=Z,87nm,1.0s
F42A Maple Grove Fa 30.15 8 IAmb IAmb 20 46 10.0
comp=Z,53nm,0.9s
TIN Tinemaha, Big 30.23 319 IAmb IAmb 20 46 12.1
comp=Z,100nm,1.3s
BINY Binghamton 30.35 27 IAmb IAmb 20 46 39.1
comp=Z,89nm,1.2s
COWI Conover 30.37 6 IAmb IAmb 20 46 12.2
comp=Z,61nm,0.8s
K57A Scipio Center 30.56 25 IAmb IAmb 20 46 01.0
comp=Z,80nm,1.0s
E38A The Farm, Brul 30.68 3 IAmb IAmb 20 45 40.9
comp=Z,67nm,0.8s
L59A Walton 30.76 28 IAmb IAmb 20 46 03.4
comp=Z,76nm,0.8s
TBTG Tabatinga, AM 30.92 128 eP P 20 45 43.1 +1.3
ELK Elko 30.98 327 LR LR 21 00 28.1
comp=Z,650nm,18.2s,baz=148,slow=40
ELK Elko 30.98 327 P P 20 45 45.9 +3.4
LOHW Long Hollow 31.12 336 IAmb IAmb 20 45 47.4
comp=Z,64nm,0.9s
NVAR Mina Array Bea 31.13 321 P P 20 45 46.1 +2.3
NVAR Mina Array Bea 31.13 321 P P 20 45 47.1 +3.3
comp=Z,26nm,0.8s,baz=134,slow=8.8,SNR=147
NVAR pP pP 20 46 08.4 +2.9
comp=Z,41nm,0.8s,baz=134,slow=8.6,SNR=9.6
comp=Z,26nm,0.8s
TPAW Teton Pass 31.16 335 IAmb IAmb 20 45 48.1
comp=Z,84nm,1.0s
SADO Sadowa 31.33 20 IAmb IAmb 20 46 07.3
comp=Z,109nm,0.9s
SADO Sadowa 31.33 20 LR LR 20 59 46.6
comp=Z,568nm,21.8s,baz=192,slow=39
J57A Williamstown 31.34 25 IAmb IAmb 20 46 07.8
comp=Z,72nm,0.9s
PECO Prince Edward 31.38 24 IAmb IAmb 20 46 08.0
comp=Z,46nm,0.9s
E46A Sault Ste Mari 31.40 13 IAmb IAmb 20 46 09.1
comp=Z,189nm,1.7s
CZSB Cruzeiro do Su 31.41 137 P P 20 45 48.0 +1.8
CZSB IAmb IAmb 20 45 53.1
comp=Z,96nm,0.7s
CZSB Cruzeiro do Su 31.41 137 eP P 20 45 47.9 +1.8
GDSD La Dsirade Is 31.41 85 IAmb IAmb 20 46 18.7
comp=Z,66nm,1.0s
FDF Fort de France 31.47 88 P P 20 45 44.4 -2.5
FDF pmax pmax
comp=Z,160nm,1.0s
FDF Fort de France 31.47 88 P P 20 45 43.4 -3.4
FDF pP pP 20 46 05.0 -3.8
FDF sP sP 20 46 20.0 -0.1
FDF PcP PcP 20 48 39.8 +1.8
DELO Deloro Mine 31.64 22 IAmb IAmb 20 46 10.3
comp=Z,122nm,0.8s
BUKO Buck Lake 31.84 19 IAmb IAmb 20 46 11.9
comp=Z,150nm,0.9s
YMP Mirror Lake Pl 31.91 338 IAmb IAmb 20 46 14.5
comp=Z,79nm,1.1s
RLMT Red Lodge 31.93 339 IAmb IAmb 20 45 54.1
comp=Z,96nm,1.3s
CMB Columbia Colle 32.19 318 P P 20 45 51.8 -1.1
NNA Nana 32.37 148 P P 20 45 54.5 -0.2
comp=Z,19nm,0.8s,baz=305,slow=5.7,SNR=3.8
NNA LR LR 20 57 23.9
comp=Z,369nm,19.9s,baz=326,slow=33
comp=Z,19nm,0.8s
NNA Nana 32.37 148⇑ iP P 20 45 56.3 +1.6
NNA pmax pmax
comp=Z,60nm,1.3s
YHL Hebgen Lake 32.39 337 IAmb IAmb 20 45 59.6
comp=Z,239nm,1.8s
LAO LASA Array 32.41 344 IAmb IAmb 20 45 57.3
comp=Z,112nm,1.1s
NCB Newcomb 32.54 27 IAmb IAmb 20 46 18.6
comp=Z,60nm,0.8s
TBO Thunder Bay 32.86 5 IAmb IAmb 20 46 33.9
comp=Z,107nm,0.9s
LONY Lake Ozonia 32.91 26 IAmb IAmb 20 46 21.9
comp=Z,73nm,0.9s
WBO Williamsburg 32.94 24 IAmb IAmb 20 46 22.0
comp=Z,68nm,0.9s
OTT Ottawa 33.10 24 P P 20 46 01.7 +1.1
BOZ Bozeman (W) 33.19 337 IAmb IAmb 20 46 07.7
comp=Z,56nm,1.0s
DLMT Dillon 33.37 336 IAmb IAmb 20 46 07.6
comp=Z,101nm,0.9s
FRNY Flat Rock 33.51 26 IAmb IAmb 20 46 27.1
comp=Z,35nm,0.8s
WVOR Wild Horse Val 33.97 326 P P 20 46 11.5 +3.0
WVOR pmax pmax
comp=Z,34nm,1.4s
MNTQ Montreal, Queb 34.03 26 IAmb IAmb 20 46 31.7
comp=Z,92nm,1.0s
TRQ Mont Tremblant 34.24 24 IAmb IAmb 20 46 33.8
comp=Z,121nm,1.2s
ULM Lac du Bonnet 34.31 358 P P 20 46 10.2 -0.9
comp=Z,160nm,0.8s,baz=173,slow=9.7,SNR=203
ULM LR LR 21 02 28.7
comp=Z,521nm,21.2s,baz=182,slow=40
comp=Z,160nm,0.8s
ULM Lac du Bonnet 34.31 358 c iP P 20 46 09.9 -1.2
HATC Hat Creek Radi 34.52 322 IAmb IAmb 20 46 58.0
comp=Z,66nm,1.1s
J08A Circle Bar Ran 34.53 327 IAmb IAmb 20 46 38.2
comp=Z,85nm,0.9s
PLID Pearl Lake 34.60 332 IAmb IAmb 20 46 40.9
comp=Z,31nm,0.8s
TEFE Tefe 34.68 121 eP P 20 46 14.2 -0.5
VLDQ Val d'Or 34.83 19 IAmb IAmb 20 46 37.9
comp=Z,77nm,1.2s
MSO Missoula 35.11 336 IAmb IAmb 20 46 21.5
comp=Z,47nm,1.0s
BOAV Boa Vista 35.38 109 IAmb IAmb 20 46 22.1
comp=Z,30nm,0.8s
BOAV Boa Vista 35.38 109 eP P 20 46 20.1 -0.7
KMRM Mail Ridge 35.56 319 IAmb IAmb 20 46 56.3
comp=Z,37nm,1.0s
YBH Yreka Blue Hor 35.83 322 LR LR 21 03 42.2
comp=Z,37nm,18.2s,baz=138,slow=40
F10A Beach Ranch, E 35.84 332 IAmb IAmb 20 46 51.0
comp=Z,75nm,0.8s
L04D Klamath Falls 35.88 323 IAmb IAmb 20 46 50.3
comp=Z,49nm,1.2s
KMPM Mount Pierce 35.93 319 IAmb IAmb 20 46 56.2
comp=Z,27nm,0.8s
KHMM Horse Mountain 35.94 320 IAmb IAmb 20 46 51.9
comp=Z,34nm,0.9s
JCC Jacoby Creek, 36.09 320 IAmb IAmb 20 46 30.7
comp=Z,26nm,1.1s
KRPM Rodgers 36.28 320 IAmb IAmb 20 47 04.6
comp=Z,89nm,1.2s
J04A Umpqua Nationa 36.42 324 IAmb IAmb 20 46 59.6
comp=Z,41nm,0.7s
KBO Bosley Butte 37.02 321 IAmb IAmb 20 47 10.7
comp=Z,100nm,1.2s
D62A Allapoint, All 37.25 28 IAmb IAmb 20 46 59.8
comp=Z,116nm,1.1s
H04A Detroit Lake 37.40 326 IAmb IAmb 20 47 13.4
comp=Z,83nm,1.2s
I03D Drain, OR 37.41 324 IAmb IAmb 20 47 17.7
comp=Z,36nm,0.9s
J01E Myrtle Point 37.41 323 IAmb IAmb 20 47 04.2
comp=Z,60nm,0.8s
BUCK Buck Mountain 37.52 325 IAmb IAmb 20 47 14.1

comp=Z,54nm,1.0s
NEW Newport 37.55 334 LR LR 21 05 26.2
comp=Z,645nm,18.8s,baz=143,slow=41
NEW Newport 37.55 334 P **P** **20 46 40.5 +1.6**
NEW pmax pmax
comp=Z,24nm,0.7s
COR Corvallis 37.94 325 P **P** **20 46 43.9 +1.8**
I02E Swisshome, OR 37.94 324 IAmb IAmb 20 47 22.3
comp=Z,52nm,0.9s
G03D McMinnville, O 38.32 326 IAmb IAmb 20 47 20.9
comp=Z,129nm,1.3s
F03A Seaside 38.94 327 IAmb IAmb 20 47 41.6
comp=Z,84nm,1.1s
FFC Flin Flon 39.27 352 P **P** **20 46 53.5 +0.4**
FFC Flin Flon 39.27 352 *e*P **P** **20 46 53.7 +0.6**
FFC Flin Flon 39.27 352 ⇑P **P** **20 46 53.8 +0.6**
FFC pP **pP** **20 47 15.5 -0.1**
E03A Lebam 39.35 327 IAmb IAmb 20 47 19.5
comp=Z,64nm,1.1s
RADR Rader Ridge 39.39 327 IAmb IAmb 20 47 47.5
comp=Z,60nm,1.1s
NLWA Neilton Lookou 40.06 328 P **P** **20 47 01.7 +1.8**
NLWA IAmb IAmb 20 47 25.7
comp=Z,58nm,1.1s
A04D Lummi Island 40.39 330 P **P** **20 47 03.8 +1.3**
A04D IAmb IAmb 20 47 27.4
comp=Z,108nm,1.0s
PGC Sidney 40.70 330 IAmb IAmb 20 47 30.2
comp=Z,49nm,1.0s
LPAZ La Paz 40.78 140 P **P** **20 47 06.3 -0.4**
comp=Z,35nm,0.7s,baz=330,slow=6.3,SNR=45
LPAZ LR LR 21 03 04.9
comp=Z,264nm,22.0s,baz=310,slow=35
comp=Z,35nm,0.7s
LPAZ La Paz 40.78 140 P **P** **20 47 07.5 +0.8**
LPAZ La Paz 40.78 140 *e*P **P** **20 47 07.3 +0.5**
PB18 Visviri 40.99 143 IAmb IAmb 20 48 18.6
comp=Z,172nm,1.4s
LLLB Lillooet 41.36 333 IAmb IAmb 20 47 35.2
comp=Z,54nm,0.9s
PB16 IPOC Station P 41.57 144 IAmb IAmb 20 47 23.6
comp=Z,43nm,0.9s
MDP Montagnes des 41.76 100 LR LR 21 05 11.6
comp=Z,218nm,21.8s,baz=287,slow=37
PB11 IPOC Station P 42.63 145 IAmb IAmb 20 47 23.6
comp=Z,102nm,0.9s
ITTB Itaituba 42.69 115 *e*P **P** **20 47 18.6 -3.1**
TA02 Huaiquique 42.79 146 IAmb IAmb 20 47 24.9
comp=Z,77nm,1.0s
GO01 Chusmiza 42.81 145 IAmb IAmb 20 47 31.6
comp=Z,60nm,0.9s
MAL2 Monte Alegre, 42.99 111 P **P** **20 47 23.4 -0.8**
MAL2 IAmb IAmb 20 47 25.3
comp=Z,87nm,1.2s
TA01 Diego Aracena 43.01 147 IAmb IAmb 20 47 26.1
comp=Z,65nm,0.8s
PB08 IPOC Station P 43.22 145 IAmb IAmb 20 47 34.5
comp=Z,54nm,1.1s
PATCX Punta Patache 43.23 147 IAmb IAmb 20 47 28.1
comp=Z,64nm,1.0s
PB02 IPOC Station P 43.78 147 IAmb IAmb 20 47 33.0
comp=Z,111nm,0.8s
VILB Vilhena 43.87 129 P **P** **20 47 30.6 -0.6**
VILB Vilhena 43.87 129 *e*P **P** **20 47 31.1 0.0**
SCHQ Schefferville 44.09 22 P **P** **20 47 32.2 -0.3**
SCHQ IAmb IAmb 20 48 44.1
comp=Z,111nm,1.9s
SCHQ Schefferville 44.09 22 P **P** **20 47 32.0 -0.4**
comp=Z,11nm,0.7s,baz=223,slow=9.6,SNR=8.3
SCHQ pP **pP** **20 47 53.8 -1.5**
comp=Z,15nm,0.8s,baz=234,slow=8.2,SNR=4.6
SCHQ PcP **PP** **20 49 16.7 -0.2**
comp=Z,18nm,0.6s,baz=204,slow=4.3,SNR=7.5
SCHQ LR LR 21 07 34.4
comp=Z,860nm,18.6s,baz=216,slow=38
comp=Z,11nm,0.7s
NPGB Novo Progresso 44.34 118 *e*P **P** **20 47 32.0 -3.0**
PB03 IPOC Station P 44.45 147 IAmb IAmb 20 47 38.4
comp=Z,68nm,1.1s
PB09 IPOC Station P 44.51 147 IAmb IAmb 20 47 39.5
comp=Z,102nm,1.2s
PB05 IPOC Station P 44.89 148 IAmb IAmb 20 47 41.9
comp=Z,129nm,1.3s
PB06 IPOC Station P 45.09 148 IAmb IAmb 20 47 43.5
comp=Z,74nm,1.0s
BBB Bella Bella 45.28 331 LR LR 21 10 15.7
comp=Z,330nm,19.7s,baz=143,slow=41
RPN Rapa Nui 45.35 200 P **P** **20 47 44.0 +1.2**
RPN Rapa Nui 45.35 200 LR LR 21 02 54.2
comp=Z,211nm,19.9s,baz=4.5,slow=31
RPN Rapa Nui 45.35 200 P **P** **20 47 44.0 +1.2**
RPN pmax pmax
comp=Z,453nm,1.2s
PDRB Porto dos Gac 45.73 124 *e*P **P** **20 47 43.7 -2.2**
CLDB Colider 46.05 123 *e*P **P** **20 47 46.0 -2.5**
PTLB Pontes e Lacer 46.26 131 P **P** **20 47 49.5 -0.6**
PTLB IAmb IAmb 20 47 51.4
comp=Z,76nm,1.0s
PTLB Pontes e Lacer 46.26 131 *e*P **P** **20 47 50.0 -0.1**
PB14 IPOC Station P 46.28 150 IAmb IAmb 20 47 52.8
comp=Z,115nm,1.3s
BBSD Serra de San D 46.37 134 *e*P **P** **20 47 50.6 -0.3**
GO02 Mina Guanaco 47.13 150 P **P** **20 47 58.1 +1.0**
BLKN Baker Lake 48.40 359 P **P** **20 48 05.6 -0.4**
BLKN IAmb IAmb 20 48 07.0
comp=Z,117nm,1.4s
AC06 Mina Casimiro 48.63 152 IAmb IAmb 20 48 10.3
comp=Z,57nm,0.8s
TMAB Tom-Au,PA,Br 48.66 108 *e*P **P** **20 48 08.8 0.0**
PRPB Parauapebas 48.73 113 *e*P **P** **20 48 08.8 -0.5**
AZAP Zapla 48.74 144 *e*P **P** **20 48 09.9 +0.4**
AC02 Maricunga 48.76 150 IAmb IAmb 20 48 13.2
comp=Z,106nm,1.1s
AC02 Maricunga 48.76 150 *e*P **P** **20 48 10.6 +0.8**
YKA Yellowknife Ar 48.81 347 P **P** **20 48 10.0 +0.9**
comp=Z,125nm,0.7s,baz=153,slow=6.9,SNR=269
YKA pP **pP** **20 48 32.1 -0.2**
comp=Z,32nm,0.9s,baz=150,slow=7.1,SNR=3.9
YKA LR LR 21 12 35.0
comp=Z,214nm,18.0s,baz=146,slow=41
comp=Z,125nm,0.7s
V35K Ketchikan 48.88 332 IAmb IAmb 20 48 38.4
comp=Z,35nm,0.9s
SLA San Lorenzo 48.89 145 *e*P **P** **20 48 11.3 +0.8**
SALV Santo Antonio 49.10 128 *e*P **P** **20 48 11.7 -0.3**
T35M Bob Quinn 49.36 335 IAmb IAmb 20 48 19.5
comp=Z,31nm,0.8s
CRAG Craig 49.65 332 IAmb IAmb 20 48 42.5
comp=Z,40nm,1.1s
FSA Cafayete 49.74 147 *e*P **P** **20 48 17.8 +0.8**
LCO Las Campanas 49.90 153 P **P** **20 48 19.3 +1.0**
LCO Las Campanas 49.90 153 *e*P **P** **20 48 19.7 +1.4**
LCO Las Campanas 49.90 153 P **P** **20 48 19.8 +1.6**
LCO pP **pP** **20 48 43.2 +1.9**
DLBC Dease Lake 50.24 336 LR LR 21 12 55.2
comp=Z,502nm,19.0s,baz=115,slow=40
S34M Telegraph Cree 50.33 335 IAmb IAmb 20 48 26.7
comp=Z,39nm,0.8s
SNDB Serra Nova Dou 50.33 121 *e*P **P** **20 48 20.3 -1.2**
AHML Horco Molle 50.63 147 *e*P **P** **20 48 21.7 -1.8**
VCA Vinchina 50.79 151 *e*P **P** **20 48 25.9 +1.1**
FRB Frobisher Bay 50.88 14 LR LR 21 12 00.4
comp=Z,898nm,19.6s,baz=216,slow=38
CO01 Juntas del Tor 51.00 153 IAmb IAmb 20 48 29.4
comp=Z,44nm,1.1s
R33M Jennings River 51.24 337 IAmb IAmb 20 48 33.2
comp=Z,66nm,1.1s
BDQN Bodoquena, MS 51.25 134 *e*P **P** **20 48 28.0 -0.2**
AGUA GUANDACOL 51.29 151 *e*P **P** **20 48 29.3 +0.8**
AROD Rodeo 51.43 153 *e*P **P** **20 48 32.1 +2.3**
AANI Anillaco 51.46 150 *e*P **P** **20 48 31.0 +1.2**
MURT Porto Murtinho 51.48 135 *e*P **P** **20 48 29.5 -0.4**
S32K Killisnoo 51.50 333 IAmb IAmb 20 49 07.2
comp=Z,67nm,1.8s
CYA Choya 51.72 148 *e*P **P** **20 48 32.3 +0.6**
SMTB Santa Maria do 51.92 115 *e*P **P** **20 48 32.5 -1.0**
ACLC CERRO LA CRUZ 51.97 150 *e*P **P** **20 48 34.6 +1.0**
ACCO Cerro Coronel 51.97 153 *e*P **P** **20 48 34.9 +1.0**
ARAG Araguaiana, MT 51.98 125 *e*P **P** **20 48 34.0 +0.3**
AQDB Aquidauana 52.01 133 IAmb IAmb 20 48 35.5
comp=Z,42nm,0.9s
AQDB Aquidauana 52.01 133 *e*P **P** **20 48 33.7 -0.2**
TAOE Nuku Hiva Isla 52.09 245 *e*LR LR 21 03 39.2
comp=Z,2μm,27.8s
P32M Atlin 52.44 336 IAmb IAmb 20 48 43.5
comp=Z,36nm,0.9s
P33M Teslin, Yukon 52.49 337 IAmb IAmb 20 48 42.0
comp=Z,64nm,1.2s
S31K Pelican 52.51 333 IAmb IAmb 20 49 14.6
comp=Z,31nm,1.2s
AVFE Valle Fertil 52.76 151 *e*P **P** **20 48 40.2 +0.8**
RTLL Cerro Villicun 52.87 153 *e*P **P** **20 48 41.3 +1.2**
RTLS Leoncito 52.91 154 *e*P **P** **20 48 42.8 +2.0**
ZON Zonda 52.96 153 IAmb IAmb 20 48 43.8
comp=Z,94nm,1.1s
ZON Zonda 52.96 153 P **P** **20 48 43.1 +2.3**
ZON pmax pmax
comp=Z,57nm,1.5s
ZON Zonda 52.96 153 *e*P **P** **20 48 42.2 +1.4**
APLL PUNTA DE LOS L 52.98 150 *e*P **P** **20 48 41.8 +0.8**
C2SB Chapadao do Su 53.01 129 *e*P **P** **20 48 42.8 +1.5**
SKAG Skagway 53.01 335 IAmb IAmb 20 49 17.6
comp=Z,36nm,1.4s
VA03 San Esteban 53.24 155 *e*P **P** **20 48 43.7 +0.9**
ROC1 El Roble 53.24 156 *e*P **P** **20 48 43.5 +0.4**
AUSP Uspallata 53.24 154 *e*P **P** **20 48 44.7 +1.5**
RPRD Ribas do Rio P 53.44 131 *e*P **P** **20 48 45.0 +0.5**
PEL Peldehue 53.52 156 P **P** **20 48 46.2 +1.3**
PEL pmax pmax
comp=Z,104nm,1.2s
PEL Peldehue 53.52 156 *e*P **P** **20 48 45.1 +0.2**
WHY Whitehorse 53.56 336 IAmb IAmb 20 48 49.5
comp=Z,52nm,0.9s
ASAL Salagasta 53.80 154 *e*P **P** **20 48 48.7 +1.8**
MT01 Popeta 53.94 157 IAmb IAmb 20 48 49.2
comp=Z,56nm,0.8s
ARCO CERRO ARCO 53.97 154 *e*P **P** **20 48 49.5 +1.2**
P29M Windy Craggy 54.10 334 IAmb IAmb 20 48 54.6
comp=Z,36nm,0.9s
AAGR Agrelo 54.22 154 *e*P **P** **20 48 51.9 +1.8**
ACAN Cantantal 54.24 152 *e*P **P** **20 48 51.4 +1.2**
N31M Braeburn, Yuko 54.42 337 IAmb IAmb 20 48 55.9
comp=Z,65nm,0.9s
HYT Haines Junctio 54.69 335 IAmb IAmb 20 49 21.2
comp=Z,60nm,1.3s
SJPY San Joaquin 54.78 137 *e*P **P** **20 48 53.8 -0.3**
O29M Mount Kennedy 54.83 335 IAmb IAmb 20 49 31.3
comp=Z,35nm,1.2s
CPUP Villa Florida 54.93 139 P **P** **20 48 54.6 -0.5**
comp=Z,6.7nm,0.7s,baz=187,slow=8.0,SNR=31
CPUP pP **pP** **20 49 17.5 -1.1**
comp=Z,7.1nm,1.0s,baz=197,slow=7.4,SNR=5.4
CPUP LR LR 21 11 54.6
comp=Z,79nm,21.4s,baz=187,slow=35
comp=Z,6.7nm,0.7s
CPUP Villa Florida 54.93 139 P **P** **20 48 54.7 -0.5**
CPUP pP **pP** **20 49 17.5 -1.1**
CPUP sP **sP** **20 49 27.8 -1.4**
CPUP Villa Florida 54.93 139 *e*P **P** **20 48 54.7 -0.5**
BO02 Sierra Bellavi 54.94 157 IAmb IAmb 20 48 57.1
comp=Z,59nm,0.8s
BDFB Brasilia 54.98 123 P **P** **20 48 55.4 -0.4**
comp=Z,180nm,0.8s,baz=293,slow=8.2,SNR=159
BDFB LR LR 21 12 32.4
comp=Z,276nm,20.5s,baz=313,slow=36
comp=Z,180nm,0.8s
PCA Pinnacle 55.42 334 IAmb IAmb 20 49 25.4
comp=Z,51nm,0.8s
ITRB Iturama 55.44 128 *e*P **P** **20 48 59.1 +0.2**
M30M Minto, Yukon 55.46 337 IAmb IAmb 20 49 33.0
comp=Z,57nm,1.1s
IVI Ivigtut 55.66 25 *i* P **P** **20 48 59.8 -0.1**
TRCB Terra Rica 55.67 133 IAmb IAmb 20 49 01.8
comp=Z,50nm,0.8s
TRCB Terra Rica 55.67 133 *e*P **P** **20 49 00.5 -0.2**
BI05 Punta Hualpn 55.85 160 P **P** **20 49 02.3 +0.8**
RKT Rikitea 55.92 227 *e*S **S** **20 56 42.5 -0.5**
RKT comp=Z,3μm,46.0s *e*LR LR 21 05 32.4
comp=Z,9μm,31.0s
SDBA SAO DESIDERIO 55.93 117 *e*P **P** **20 49 01.2 -1.5**
IPMB Ipameri, GO 56.10 125 *e*P **P** **20 49 03.3 -0.5**
LOGN Logan Glacier 56.12 334 IAmb IAmb 20 49 40.8
comp=Z,34nm,1.1s
L29M L29M 56.27 338 IAmb IAmb 20 49 32.1
comp=Z,57nm,1.0s
GRNC Granite Creek 56.39 334 IAmb IAmb 20 49 32.4
comp=Z,54nm,0.8s
K29M Barlow Dome 56.49 338 IAmb IAmb 20 49 40.0
comp=Z,139nm,1.9s
J30M Hart River 56.53 340 IAmb IAmb 20 49 10.8
comp=Z,20nm,0.7s
H31M Peel River 56.69 341 IAmb IAmb 20 49 10.1
comp=Z,99nm,1.6s
NRS Narsarsuaq 56.77 26 *i* P **P** **20 49 06.4 -1.3**
NRS IAmb IAmb 20 49 08.9
comp=Z,73nm,1.0s
CRQM Cirque 56.99 334 IAmb IAmb 20 49 36.9
comp=Z,46nm,1.0s
LDASE Londrina, Braz 57.13 132 *e*P **P** **20 49 10.5 -0.4**
HMT Hamilton 57.27 333 IAmb IAmb 20 49 38.6
comp=Z,43nm,0.8s
PTGB Pitanga 57.31 134 *e*P **P** **20 49 11.6 -0.7**
VRDI Verde Repeater 57.36 334 IAmb IAmb 20 49 39.0
comp=Z,37nm,0.8s
RAGM Ragged Mountai 57.48 333 IAmb IAmb 20 49 40.1
comp=Z,40nm,0.8s
POIN Pond Inlet 57.54 6 P **P** **20 49 12.9 -0.1**
GLB Gilahina Butte 57.61 334 IAmb IAmb 20 49 40.7
comp=Z,52nm,0.8s
BB19B Bebedouro 57.62 128 *e*P **P** **20 49 14.8 +0.3**
BCAR Beaver Creek A 57.63 336 P **P** **20 49 15.3 +1.4**
L27K Beaver Creek, 57.64 336 IAmb IAmb 20 49 40.3
comp=Z,36nm,0.8s
NBPB Pedra_Branca-C 57.70 107 *e*P **P** **20 49 14.9 -0.3**
BMRM Bremner River 57.72 333 IAmb IAmb 20 49 41.6
comp=Z,53nm,0.8s
JANB Januaria 57.73 120 *e*P **P** **20 49 14.4 -0.9**
M26K Nabesna, AK 57.76 335 IAmb IAmb 20 49 41.3
comp=Z,26nm,0.8s
PMNB Patos De Minas 57.81 124 *e*P **P** **20 49 15.8 -0.1**
N25K Chitina, Valde 58.02 334 IAmb IAmb 20 49 43.9
comp=Z,61nm,0.8s
EYAK Cordova Ski Ar 58.03 333 IAmb IAmb 20 49 43.9
comp=Z,48nm,0.8s
G30M tAoh Zraii Nji 58.03 342 IAmb IAmb 20 49 54.5
comp=Z,28nm,0.8s
INK Inuvik 58.15 344 LR LR 21 18 16.7
comp=Z,375nm,18.2s,baz=134,slow=40
INK Inuvik 58.15 344 P **P** **20 49 18.9 +1.5**
INK pmax pmax
comp=Z,179nm,1.0s
L26K Log Cabin Wild 58.21 336 IAmb IAmb 20 49 44.4
comp=Z,79nm,1.7s
FRTB Fartura 58.22 131 *e*P **P** **20 49 19.1 +0.5**
H29M Whitestone 58.22 340 IAmb IAmb 20 49 21.1
comp=Z,34nm,0.8s
SFJD Kangerlussuaq 58.26 18 LR LR 21 16 49.0
comp=Z,620nm,18.7s,baz=226,slow=38
MENT Mentasta 58.32 336 IAmb IAmb 20 49 45.0
comp=Z,105nm,1.8s
PUH Pauahi 58.40 283 P **P** **20 49 21.5 +1.5**
NBCL Cascavel-CE 58.41 105 *e*P **P** **20 49 19.2 -0.8**
FID Port Fidalgo 58.44 333 IAmb IAmb 20 49 46.6
comp=Z,68nm,0.9s
KLU Klutina 58.53 334 IAmb IAmb 20 49 47.1
comp=Z,53nm,0.8s
P23K Montague Islan 58.53 332 IAmb IAmb 20 49 47.0
comp=Z,60nm,0.8s
G29M Pine Creek 58.54 341 IAmb IAmb 20 49 23.1
comp=Z,50nm,0.9s
MLH Mauna Loa 58.54 283 P **P** **20 49 22.4 +1.1**
HMH Humu'ula Sheep 58.62 284 P **P** **20 49 23.2 +1.4**
GLI Glacier Island 58.77 333 IAmb IAmb 20 49 48.1
comp=Z,90nm,1.8s
RES Resolute Bay 58.80 360 LR LR 21 16 32.0
comp=Z,230nm,20.1s,baz=192,slow=38
RES Resolute Bay 58.80 360 P **P** **20 49 22.0 +0.2**
RES pmax pmax
comp=Z,135nm,0.8s
DOT Dot Lake 58.81 336 IAmb IAmb 20 49 58.9
comp=Z,56nm,1.0s
ITAB Concordia 58.91 136 *e*P **P** **20 49 23.3 +0.1**
GDH Godhavn 58.93 16 *i* P **P** **20 49 22.4 -0.4**
J26L Joseph Creek 59.05 337 IAmb IAmb 20 49 51.2
comp=Z,66nm,1.3s
RCLB Rio Claro- Sao 59.16 129 *e*P **P** **20 49 26.1 +0.9**
SCM Sheep Creek Mo 59.28 334 IAmb IAmb 20 49 51.9
comp=Z,58nm,0.8s
PWL Port Wells 59.31 332 IAmb IAmb 20 49 51.6
comp=Z,20nm,0.9s
LR05 Currie 59.40 161 P **P** **20 49 26.7 +0.4**
G27K Doyon Strip 59.64 340 IAmb IAmb 20 49 54.4
comp=Z,30nm,1.1s
J25K Salcha River, 59.78 337 IAmb IAmb 20 49 55.0
comp=Z,42nm,1.1s
DIAM Diamantina, MG 59.90 123 *e*P **P** **20 49 30.4 -0.1**
VAO Valinhos 59.93 129 *e*P **P** **20 49 31.1 +0.7**
SPB Sao Paulo 59.93 130 *e*P **P** **20 49 31.5 +1.2**
SLKM Skilak Lake 60.02 332 IAmb IAmb 20 49 56.8
comp=Z,43nm,0.8s
E28M Babbage River 60.03 342 IAmb IAmb 20 49 33.2
comp=Z,79nm,1.3s
CNPM China Poot 60.14 330 IAmb IAmb 20 49 57.9
comp=Z,37nm,0.8s
KDAK Kodiak Island 60.21 328 P **P** **20 49 32.9 +1.2**
KDAK IAmb IAmb 20 49 58.4
comp=Z,34nm,0.8s
KDAK Kodiak Island 60.21 328 LR LR 21 16 51.8
comp=Z,208nm,20.0s,baz=118,slow=37
KDAK Kodiak Island 60.21 328⇓*e*P **P** **20 49 30.7 -1.1**
KDAK pmax pmax
comp=Z,15nm,0.9s
KDAK MLR MLR
comp=Z,280nm,20.0s
KDAK Kodiak Island 60.21 328 P **P** **20 49 33.6 +1.9**
KDAK pP **pP** **20 49 56.8 +1.2**
CPSB Cacapava Do Su 60.22 140 *e*P **P** **20 49 32.1 -0.1**
UMMG Uummannaq 60.27 15 *i* P **P** **20 49 29.7 -2.2**
UMMG IAmb IAmb 20 49 32.9
comp=Z,47nm,0.9s
HDA Harding Lake 60.29 336 IAmb IAmb 20 49 57.9
comp=Z,50nm,0.8s
PLCA Paso Flores 60.32 160 P **P** **20 49 33.6 +0.8**
comp=Z,104nm,1.0s,baz=332,slow=8.0,SNR=118
PLCA pP **pP** **20 49 58.1 +1.6**
comp=Z,41nm,1.1s,baz=327,slow=5.7,SNR=4.4
PLCA LR LR 21 10 31.8
comp=Z,159nm,21.2s,baz=342,slow=31
comp=Z,104nm,1.0s
PLCA Paso Flores 60.32 160 P **P** **20 49 34.0 +1.2**
PLCA pP **pP** **20 49 58.4 +1.8**
PLCA Paso Flores 60.32 160 *e*P **P** **20 49 33.7 +0.8**
SYI Shuyak Island 60.38 329 IAmb IAmb 20 49 59.8
comp=Z,57nm,0.8s
OHAK Old Harbor 60.40 327 P **P** **20 49 34.3 +1.2**
OHAK IAmb IAmb 20 50 00.0
comp=Z,27nm,1.0s
E27K Coleen River 60.40 341 IAmb IAmb 20 50 10.6
comp=Z,81nm,1.2s
G26K Porcupine Rive 60.42 340 IAmb IAmb 20 49 36.9
comp=Z,35nm,1.0s
ILAR Eielson Array 60.43 337 P **P** **20 49 34.0 +0.8**
ILAR Eielson Array 60.43 337 P **P** **20 49 34.8 +1.6**
comp=Z,16nm,0.9s,baz=143,slow=4.9,SNR=80
ILAR pP **pP** **20 49 57.8 +0.7**
comp=Z,18nm,0.6s,baz=156,slow=4.0,SNR=12
ILAR LR LR 21 17 09.5
comp=Z,283nm,20.1s,baz=104,slow=37
ILAR PKPPKP **P'P'df** **21 18 50.9 -4.3**
comp=Z,1.4nm,0.9s,baz=309,slow=3.3,SNR=8.7
comp=Z,16nm,0.9s
ILAR Eielson Array 60.43 337 P **P** **20 49 34.0 +0.8**
PET01 Itanhaem-SP 60.45 130 *e*P **P** **20 49 34.5 +0.5**
M22K Willow 60.46 333 IAmb IAmb 20 49 59.6
comp=Z,60nm,0.9s
BSCB Bom Sucesso 60.47 126 *e*P **P** **20 49 34.6 +0.5**
NUUG Nuugaatsiaq 60.61 14 *i* P **P** **20 49 34.2 0.0**
NUUG IAmb IAmb 20 50 00.0
comp=Z,48nm,0.9s
CCB Clear Creek Bu 60.73 336 IAmb IAmb 20 50 01.3
comp=Z,57nm,1.4s
WRH Wood River Hil 60.76 336 IAmb IAmb 20 50 00.7
comp=Z,21nm,0.8s
KIP Kipapa 60.76 286⇓*e*P **P** **20 49 37.7 +1.6**
KIP pmax pmax
comp=Z,104nm,1.0s
POKR Poker Plat Res 60.80 337 IAmb IAmb 20 50 01.5
comp=Z,33nm,0.9s
D27M Malcolm River 60.83 343 IAmb IAmb 20 49 39.1
comp=Z,60nm,1.2s
COLA College 60.85 337 P **P** **20 49 36.8 +0.8**
COLA IAmb IAmb 20 50 01.9
comp=Z,63nm,0.9s
COLA College 60.85 337*e*P **P** **20 49 37.2 +1.2**
COLA pmax pmax
comp=Z,27nm,0.9s
COLA MLR MLR
comp=Z,291nm,19.0s
COLA College 60.85 337 P **P** **20 49 37.4 +1.5**
COLA pP **pP** **20 50 01.0 +1.1**
UPNV Upernavik 60.88 12 *i* P **P** **20 49 32.7 -3.3**
UPNV IAmb IAmb 20 50 02.7
comp=Z,33nm,0.8s
F26K Sheenjek River 60.93 340 IAmb IAmb 20 49 40.9
comp=Z,31nm,1.0s
BMAR Burnt Mountain 60.94 340 P **P** **20 49 38.3 +1.7**
PLTB Pedras Altas 61.07 141 P **P** **20 49 37.4 -0.6**
PLTB IAmb IAmb 20 49 42.4
comp=Z,57nm,1.0s
PLTB Pedras Altas 61.07 141 *e*P **P** **20 49 37.8 -0.2**
SPU Mount Spurr 61.10 332 IAmb IAmb 20 50 04.6
comp=Z,56nm,0.8s
Q19K Cape Douglas, 61.11 329 IAmb IAmb 20 50 04.7
comp=Z,62nm,0.8s
STLK Strandline Lak 61.12 332 IAmb IAmb 20 50 04.3
comp=Z,25nm,0.8s
PARB Paraibuna 61.13 129 *e*P **P** **20 49 40.3 +1.7**
CNLB Canela 61.13 137 *e*P **P** **20 49 39.7 +1.2**
P19K Oil Pt 61.13 330 IAmb IAmb 20 50 04.5
comp=Z,52nm,0.8s
ILSW Iliamna Southw 61.20 330 IAmb IAmb 20 50 04.7
comp=Z,40nm,0.9s
RCBR Riachuelo 61.21 106 P **P** **20 49 37.6 -1.7**
RCBR IAmb IAmb 20 49 41.2
comp=Z,72nm,0.9s
RCBR Riachuelo 61.21 106 LR LR 21 16 26.5
comp=Z,116nm,20.6s,baz=297,slow=36
RCBR Riachuelo 61.21 106 P **P** **20 49 37.6 -1.7**
RCBR pmax pmax
comp=Z,72nm,0.9s
RCBR Riachuelo 61.21 106 P **P** **20 49 37.9 -1.4**
RCBR Riachuelo 61.21 106 *e*P **P** **20 49 37.6 -1.7**
H24K Noodor Dome 61.30 338 IAmb IAmb 20 50 05.1
comp=Z,61nm,0.8s
LL07 Hotel Espejo d 61.34 163 P **P** **20 49 40.4 +0.8**
F25K Christian Rive 61.37 340 IAmb IAmb 20 49 44.1
comp=Z,45nm,1.0s
TRQA Tornquist 61.41 152 P **P** **20 49 39.9 -0.2**
TRQA IAmb IAmb 20 49 42.0
comp=Z,69nm,1.3s
TRQA Tornquist 61.41 152 P **P** **20 49 39.9 -0.2**
TRQA pmax pmax
comp=Z,69nm,1.3s
ISOG Isortoq, Green 61.42 23 *i* P **P** **20 49 39.2 -0.6**
ISOG IAmb IAmb 20 50 03.3
comp=Z,84nm,1.4s
SLP01 Ubatuba-SP 61.47 128 *e*P **P** **20 49 42.8 +1.9**
G24K Hadweenzic Riv 61.56 339 IAmb IAmb 20 50 17.4
comp=Z,49nm,1.1s
PPLA Purkeypile 61.79 334 IAmb IAmb 20 50 08.4
comp=Z,40nm,0.8s
O19K Port Alsworth 61.83 330 IAmb IAmb 20 50 08.5
comp=Z,40nm,0.8s
M20K Styx River 61.84 332 IAmb IAmb 20 50 08.9
comp=Z,41nm,0.9s
C27K Jago River 61.85 342 IAmb IAmb 20 49 46.8
comp=Z,89nm,1.2s
CMC01 Camacan, BA 61.92 117 *e*P **P** **20 49 44.6 +0.6**
ANGG Ammassalik, Gr 61.95 23 *i* P **P** **20 49 42.3 -1.1**
ANGG IAmb IAmb 20 50 31.4
comp=Z,130nm,1.6s
P18K Big Mountain, 62.02 329 IAmb IAmb 20 50 10.0
comp=Z,30nm,0.9s
KULLO Kullorsuaq 62.03 10 *i* P **P** **20 49 42.4 -1.4**
KULLO IAmb IAmb 20 49 44.0
comp=Z,66nm,1.2s
TULEG Thule 62.03 6 IAmb IAmb 20 49 45.2
comp=Z,49nm,0.7s
TULEG Thule 62.03 6 *i* P **P** **20 49 42.9 -0.9**
TULEG IAmb IAmb 20 49 44.6
comp=Z,48nm,0.8s
F24K Squaw Lake 62.09 339 IAmb IAmb 20 50 10.8
comp=Z,53nm,1.4s
MAN01 Angra dos Reis 62.12 127 *e*P **P** **20 49 47.1 +1.9**
SJMB Sao Joao De Ma 62.14 122 *e*P **P** **20 49 45.8 +0.4**
LL02 Futaleuf 62.14 162 IAmb IAmb 20 49 47.2
comp=Z,89nm,1.1s

O18K Koktub Hills 62.15 330 lAmb lAmb 20 50 10.9
comp=Z,47nm,0.8s
VAS01 Vassouras-RJ 62.20 126 *e*P **P** **20 49 46.4 +0.6**
GUA01 Guaratinga, BA 62.25 119 *e*P **P** **20 49 46.9 +0.7**
NBAN Anadia - AL 62.33 110 *e*P **P** **20 49 46.9 +0.1**
M19K Big River Lodg 62.40 332 lAmb lAmb 20 50 12.9
comp=Z,50nm,0.9s
G23K Bananza Creek 62.47 338 lAmb lAmb 20 50 13.1
comp=Z,38nm,0.8s
I21K Tanana 62.57 336 lAmb lAmb 20 50 13.4
comp=Z,50nm,1.0s
L19K White Mountain 62.70 332 lAmb lAmb 20 50 15.0
comp=Z,36nm,0.9s
N18K Kilae Creek 62.72 331 lAmb lAmb 20 50 15.7
comp=Z,35nm,0.8s
CHGN Chignik 62.89 326 lAmb lAmb 20 50 16.5
comp=Z,67nm,0.9s
DUB01 Friburgo-RJ 62.93 126 *e*P **P** **20 49 51.3 +0.6**
J20K Nowinta River 63.06 335 lAmb lAmb 20 50 16.6
comp=Z,67nm,0.8s
RIB01 Linhares ES 63.09 122 *e*P **P** **20 49 51.9 +0.1**
D24K Happy Valley 63.16 341 lAmb lAmb 20 50 19.3
comp=Z,42nm,0.9s
TOLK Toolik Lake Re 63.17 340 lAmb lAmb 20 50 18.7
comp=Z,35nm,0.8s
N17K Nushagak Hills 63.29 330 lAmb lAmb 20 50 18.7
comp=Z,35nm,0.9s
P16K Nushagak River 63.30 329 lAmb lAmb 20 50 18.7
comp=Z,40nm,0.9s
CAM01 Campos-RJ 63.36 125 *e*P **P** **20 49 54.3 +0.9**
L18K Granite Mounta 63.53 332 lAmb lAmb 20 50 20.6
comp=Z,49nm,1.0s
IMAR Indian Mountai 63.55 337 P **P** **20 49 54.3 +0.3**
M17K Holitna River 63.64 331 lAmb lAmb 20 50 20.7
comp=Z,37nm,0.9s
G21K Allakaket 63.66 337 lAmb lAmb 20 50 20.8
comp=Z,42nm,0.9s
D23K Nanushuk River 63.67 340 lAmb lAmb 20 50 22.6
comp=Z,148nm,1.7s
E22K Anaktuvuk Pass 63.70 339 lAmb lAmb 20 50 21.2
comp=Z,48nm,1.0s
F21K Alatna River 63.92 338 lAmb lAmb 20 50 23.2
comp=Z,90nm,0.8s
COYC Coyhaique 64.26 163 P **P** **20 49 58.9 +0.1**
COYC Coyhaique 64.26 163 P **P** **20 49 60.0 +1.1**
COYC pP **pP** **20 50 24.5 +1.6**
PPT Papeete 64.26 241 LR LR 21 09 18.6
comp=Z,308nm,20.3s,baz=24,slow=28
PPT2 Papeete2 64.27 241 *e*P **P** **20 50 00.1 +0.5**
comp=Z,221nm,24.2s
PPT2 Papeete2 64.27 241 *e*PP **PP** **20 52 17.7 -4.5**
comp=Z,112nm,25.2s
PPT2 *e*S **S** **20 58 31.8 +1.5**
comp=Z,174nm,25.2s
PPT2 *e*SS **SS** **21 02 41.7 -0.2**
comp=Z,302nm,27.2s
PPT2 *e*LQ LQ 21 06 14.6
comp=Z,180nm,25.2s
PPT2 *e*LR LR 21 09 14.2
comp=Z,1µm,31.0s
PPT2 *e*LR LR 21 09 20.4
comp=Z,1µm,27.5s
K17K Iditarod 64.39 333 lAmb lAmb 20 50 25.6
comp=Z,44nm,0.8s
H19K Roundabout Mou 64.44 336 lAmb lAmb 20 50 25.6
comp=Z,64nm,0.8s
F20K Avaraart Lake 64.67 337 lAmb lAmb 20 50 27.8
comp=Z,60nm,0.8s
SUMG Summit 64.89 16 P **P** **20 50 03.6 +0.5**
SUMG lAmb lAmb 20 50 05.1
comp=Z,58nm,1.1s
SUMG Summit 64.89 16 P **P** **20 50 03.6 +0.5**
SUMG pmax pmax
comp=Z,58nm,1.1s
G19K Purcell Mounta 64.89 336 lAmb lAmb 20 50 28.7
comp=Z,46nm,0.8s
NEEM North Greenlan 65.15 9 *i* P **P** **20 50 04.1 -0.6**
NEEM lAmb lAmb 20 50 05.9
comp=Z,511nm,1.8s
B21K Ikpikpuk River 65.22 340 lAmb lAmb 20 50 31.0
comp=Z,35nm,0.8s
G18K Tagagawik 65.42 336 lAmb lAmb 20 50 32.8
comp=Z,45nm,1.1s
J16K Anvik River 65.55 333 lAmb lAmb 20 50 34.0
comp=Z,75nm,1.0s
D20K Etivluk River 65.56 339 lAmb lAmb 20 50 33.6
comp=Z,85nm,0.9s
H17K Granite Mounta 65.67 335 lAmb lAmb 20 50 35.2
comp=Z,69nm,1.1s
K15K Wolf Creek Mou 65.74 332 lAmb lAmb 20 50 36.0
comp=Z,75nm,0.9s
D19K Kuna River 66.01 339 lAmb lAmb 20 50 36.9
comp=Z,43nm,0.8s
E18K Tukpahlearik C 66.59 337 lAmb lAmb 20 50 40.4
comp=Z,43nm,1.1s
C19K Lookout Ridge 66.70 339 lAmb lAmb 20 50 41.3
comp=Z,74nm,1.1s
TBI Tubuai 66.96 236 *e*PKP1 **P** **20 50 21.0 +4.3**
comp=Z,803nm,26.0s
TBI *e*S **S** **20 59 06.4 +3.6**
comp=Z,835nm,28.5s
TBI *e*SS **SS** **21 03 29.8 +6.3**
comp=Z,1µm,35.0s
TBI *e*LQ LQ 21 07 42.4
comp=Z,1µm,30.0s
TBI *e*LR LR 21 10 33.4
comp=Z,6µm,42.0s
C18K Utukok River 67.14 338 lAmb lAmb 20 50 43.2
comp=Z,38nm,0.9s
ALE Alert 67.81 4 ⇑*i* P **P** **20 50 21.1 -0.1**
ALE pP **pP** **20 50 45.0 -0.8**
BORG Borgarnes 68.27 26 LR LR 21 19 20.0
comp=Z,290nm,20.6s,baz=266,slow=35
C16K Lisburne Hills 68.54 338 lAmb lAmb 20 50 52.3
comp=Z,106nm,1.6s
SCO Scoresbysund 69.07 20 *i* P **P** **20 50 28.4 -0.8**
GO09 Cerro Castillo 69.46 166 lAmb lAmb 20 50 34.9
comp=Z,97nm,1.3s
MG05 Puerto Natales 69.80 166 lAmb lAmb 20 50 36.7
comp=Z,60nm,1.1s
DAG Danmarks Havn 71.23 14 P **P** **20 50 42.2 -0.1**
DAG pmax pmax
comp=Z,171nm,1.3s
DAG Danmarks Havn 71.23 14 *i* P **P** **20 50 41.4 -0.8**
DAG lAmb lAmb 20 50 43.6
comp=Z,92nm,0.7s
GO10 Punta Arenas 71.50 166 lAmb lAmb 20 50 47.8
comp=Z,138nm,1.1s
NOR Nord 72.50 9 P **P** **20 50 50.5 +0.7**
NOR pmax pmax
comp=Z,127nm,1.1s
NOR Nord 72.50 9 *i* P **P** **20 50 49.8 0.0**
NOR lAmb lAmb 20 50 51.6
comp=Z,61nm,0.8s
ADK Adak 73.31 320 P **P** **20 50 55.7 +0.6**
ADK lAmb lAmb 20 51 22.2
comp=Z,105nm,0.9s
ADK Adak 73.31 320 P **P** **20 50 55.7 +0.6**
ADK pmax pmax
comp=Z,105nm,0.9s
JMIC Jan Mayen 73.55 20 LR LR 21 23 32.5
comp=Z,410nm,21.6s,baz=252,slow=36
KPL Plockton 75.77 34 *e*P **P** **20 51 08.6 -0.6**
KPL lAmb lAmb 20 51 11.0
comp=Z,110nm,1.6s
AMKA Amchitka 75.85 320 P **P** **20 51 10.6 +0.8**
LIS Lisbon 76.11 53 *e*P **P** **20 51 15.4 +3.9**
PSARD Sardoal 76.72 52 *e*P **P** **20 51 14.1 -0.9**
PVIS Viseu 76.74 51 *e*P **P** **20 51 13.9 -1.3**
INVG Invergeldie, C 76.77 35 *e*P **P** **20 51 14.1 -0.8**
IOMK Kirk Michael 76.81 37 *e*P **P** **20 51 15.3 +0.1**
IOMK lAmb lAmb 20 51 17.4
comp=Z,42nm,1.5s
PCBR Castelo Branco 77.20 52 *e*P **P** **20 51 15.5 -2.1**
PBEJ Beja 77.22 54 *e*P **P** **20 51 17.9 +0.1**
PBEJ *i* lAmb lAmb 20 51 40.6
comp=Z,32nm,1.9s
MVO Moncorvo 77.31 51 *e*P **P** **20 51 17.3 -1.1**
MVO *i* lAmb lAmb 20 51 20.8
comp=Z,36nm,0.9s
ESK Eskdalemuir 77.42 36 P **P** **20 51 17.5 -1.0**
ESK lAmb lAmb 20 51 20.8
comp=Z,85nm,1.5s
ESK Eskdalemuir 77.42 36 *e*P **P** **20 51 18.1 -0.4**
ESK lAmb lAmb 20 51 20.6
comp=Z,28nm,0.9s
ESK Eskdalemuir 77.42 36 P **P** **20 51 17.5 -1.0**
ESK pmax pmax
comp=Z,85nm,1.5s
EKA Eskdalemuir Ar 77.44 36 P **P** **20 51 17.3 -1.4**
comp=Z,12nm,0.7s,baz=286,slow=4.9,SNR=17
EKA pP **pP** **20 51 43.6 -0.2**
comp=Z,9.0nm,0.7s,baz=282,slow=6.0,SNR=4.5
comp=Z,12nm,0.7s
KBS Kingsbay 77.49 11 P **P** **20 51 20.5 +2.0**
KBS Kingsbay 77.49 11 *c* *i*P **P** **20 51 20.1 +1.6**
KBS pmax pmax
comp=Z,239nm,1.0s
KBS Kingsbay 77.49 11 *e*P **P** **20 51 21.2 +2.6**
KBS Kingsbay 77.49 11 *i* P **P** **20 51 19.9 +1.4**
DRUM Mains of Drumt 77.55 34 *e*P **P** **20 51 18.7 -0.5**
DRUM lAmb lAmb 20 51 20.8
comp=Z,46nm,1.0s
FOEL Foel Wylfa 77.84 38 *e*P **P** **20 51 21.4 +0.4**
MCH1 Michaelchurch 78.12 39 *e*P **P** **20 51 22.8 +0.3**
MCH1 lAmb lAmb 20 51 24.0
comp=Z,13nm,0.7s
EDMD Edmundbyers 78.21 36 *e*P **P** **20 51 21.8 -1.1**
EDMD lAmb lAmb 20 51 24.1
comp=Z,196nm,1.8s
MONM Monmouth 78.27 39 *e*P **P** **20 51 23.3 0.0**
MONM lAmb lAmb 20 51 25.1
comp=Z,23nm,0.8s
SPA0 Spitsbergen Ar 78.58 11 ⇑*i* P **P** **20 51 25.9 +1.2**
SPITS Spitsbergen Ar 78.58 11 P **P** **20 51 25.5 +0.9**
comp=Z,58nm,0.7s,baz=229,slow=0.9,SNR=48
SPITS LR LR 21 28 15.7
comp=Z,301nm,21.7s,baz=293,slow=37
comp=Z,58nm,0.7s
SHEM Shemya Is, Ala 78.80 322 LR LR 21 26 42.9
comp=Z,42nm,18.1s,baz=90,slow=36
HSPB Hornsund (broa 78.87 13 *e*P **P** **20 51 28.2 +2.1**
BILL Bilibino 79.07 338 *ce*P **P** **20 51 29.2 +1.8**
BILL *i* *PP **pP** **20 51 52.4 +0.1**
BILL pmax pmax
comp=Z,33nm,0.9s
BILL MLR MLR
comp=Z,247nm,24.0s
GUD Guadarrama 79.55 51 P **P** **20 51 29.6 -1.2**
PAB San Pablo 79.63 52 P **P** **20 51 29.4 -1.8**
PAB San Pablo 79.63 52 P **P** **20 51 29.4 -1.8**
PAB pmax pmax
comp=Z,28nm,1.3s
ESDC Sonseca Array 79.89 52 P **P** **20 51 30.3 -2.2**
ESDC Sonseca Array 79.89 52 P **P** **20 51 30.9 -1.7**
comp=Z,11nm,1.0s,baz=291,slow=4.9,SNR=22
ESDC LR LR 21 22 34.2
comp=Z,365nm,19.9s,baz=286,slow=32
comp=Z,11nm,1.0s
FOO Floro 80.30 29 *e*P **P** **20 51 35.6 +1.4**
SUE Sulen 80.31 29 *e*P **P** **20 51 35.9 +1.7**
BJO1 Bjornoya 80.68 15 *e*P **P** **20 51 38.1 +2.1**
HYA Hoyanger 80.95 29 *e*P **P** **20 51 39.3 +1.7**
HOPEN Hopen 81.04 12 *e*P **P** **20 51 39.5 +1.7**
BLS5 Blasjo 81.58 31 *e*P **P** **20 51 43.0 +1.9**
LOF Lofoten 81.66 21 *e*P **P** **20 51 42.9 +1.6**
SKAR Skarslia 82.08 29 *e*P **P** **20 51 45.1 +1.4**
VAGH Vaagaholmen 82.09 23 *e*P **P** **20 51 45.6 +2.1**
KONS Konsvik 82.12 23 *e*P **P** **20 51 45.7 +2.1**
STOK Stokkvaagen 82.14 23 *e*P **P** **20 51 45.8 +2.0**
LEIR Leirfjorden 82.26 23 *e*P **P** **20 51 46.4 +2.0**
STEI Steigen 82.33 21 *e*P **P** **20 51 46.7 +1.9**
NSS Namsos 82.39 25 ⇑*i*P **P** **20 51 46.4 +1.3**
FAUS Fauske 82.56 22 *e*P **P** **20 51 47.7 +1.7**
MOR8 Moi Rana 82.73 23 ⇑*i*P **P** **20 51 48.5 +1.6**
TRO Tromso 82.83 19 P **P** **20 51 49.2 +1.9**
TRO Tromso 82.83 19 *e*P **P** **20 51 49.2 +1.9**
UCC Uccle 82.88 39 P **P** **20 51 47.2 -0.8**
HOMB Homborsund 82.94 31 *e*P **P** **20 51 49.4 +1.2**
HOMB Homborsund 82.94 31 *i* P **P** **20 51 49.5 +1.4**
HOMB lAmb lAmb 20 51 50.6
comp=Z,32nm,0.7s
KONO Kongsberg 83.03 30 P **P** **20 51 49.6 +1.0**
KONO lAmb lAmb 20 51 51.4
comp=Z,131nm,1.6s
KONO Kongsberg 83.03 30 P **P** **20 51 50.4 +1.9**
KONO Kongsberg 83.03 30 *e*P **P** **20 51 50.5 +1.9**
NBO00 NORSAR Array S 83.11 28 lAmb lAmb 20 51 51.7
comp=Z,68nm,0.8s
NAO01 NORSAR Array S 83.22 28 lAmb lAmb 20 51 52.4
comp=Z,84nm,0.9s
DOU Dourbes 83.22 40 *d*P **P** **20 51 49.1 -0.7**
comp=Z,9.9nm,0.7s
BMRD Maredsous 83.27 40 *d*P **P** **20 51 50.0 -0.1**
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 83.30 28 P **P** **20 51 50.6 +0.6**
comp=Z,120nm,1.0s,baz=293,slow=5.6
NB2 NORSAR Subarra 83.30 28 P **P** **20 51 46.7 -3.3**
NB2 pmax pmax
comp=Z,45nm,1.0s
NB2 NORSAR Subarra 83.30 28 P **P** **20 51 50.6 +0.6**
baz=293,slow=5.6
NOA NORSAR Array B 83.30 28 P **P** **20 51 50.4 +0.3**
comp=Z,39nm,0.8s,baz=297,slow=5.7,SNR=101
NOA pP **pP** **20 52 15.8 +0.3**
comp=Z,6.8nm,0.9s,baz=291,slow=5.1,SNR=2.2
NOA LR LR 21 26 32.1
comp=Z,191nm,21.3s,baz=280,slow=34
comp=Z,39nm,0.8s
JETT Jettan, Norway 83.32 19 ⇑*i*P **P** **20 51 51.7 +1.7**
BGES Gesves 83.44 40 *d*P **P** **20 51 49.5 -1.4**
comp=Z,34nm,0.7s
OSL Oslo 83.46 29 *e*P **P** **20 52 52.7 +2.0**
LOR Lormes 83.56 43 P **P** **20 51 51.1 -0.5**
LOR pmax pmax
comp=Z,22nm,1.0s
PMSA Palmer Station 83.56 168 P **P** **20 51 51.9 +0.9**
PMSA lAmb lAmb 20 51 53.7
comp=Z,40nm,1.1s
PMSA Palmer Station 83.56 168 LR LR 21 20 22.9
comp=Z,116nm,19.8s,baz=332,slow=29
PMSA Palmer Station 83.56 168 *e*P **P** **20 51 53.0 +2.0**
NC602 NORSAR Array S 83.56 28 ⇑*i*P **P** **20 51 53.0 +1.7**
NORES NORESS Array B 83.56 28 P **P** **20 51 53.2 +1.9**
NORES pmax pmax
comp=Z,54nm,1.0s
BCLA Clavier 83.57 39 *d*P **P** **20 51 50.5 -1.0**
comp=Z,12nm,1.0s
RCHB Rochefort 83.60 40 *d*P **P** **20 51 51.1 -0.6**
comp=Z,14nm,0.8s
BSTI Sart Tilman 83.68 39 *d*P **P** **20 51 52.6 +0.5**
comp=Z,4.6nm,1.1s
BEBN Eben Emael 83.68 39 *d*P **P** **20 51 52.1 0.0**
comp=Z,25nm,0.0s
HAMF Hammerfest 83.77 17 *e*P **P** **20 51 53.5 +1.3**
MUD Monsted U'grnd 83.88 33 *i* P **P** **20 51 54.8 +1.9**
MUD lAmb lAmb 20 51 55.6
comp=Z,29nm,0.8s
HLG Helgoland 83.92 35 *e*P **P** **20 51 55.7 +2.5**
comp=Z,364nm,1.2s,baz=291,slow=4.8
MEM Membach 83.94 39 P **P** **20 51 53.1 -0.3**
MEM pmax pmax
comp=Z,35nm,1.4s
MEM Membach 83.94 39 *d*P **P** **20 51 52.8 -0.7**
comp=Z,15nm,0.0s
STRU Stroemstad 84.00 30 *i* P **P** **20 51 55.0 +1.5**
BHOU Houvegnez 84.02 39 *d*P **P** **20 51 54.2 +0.3**
comp=Z,16nm,0.0s
BTNL Ternell 84.02 39 *d*P **P** **20 51 53.5 -0.4**
WLF Walferdange 84.31 40 lAmb lAmb 20 51 58.5
comp=Z,71nm,1.2s
WLF Walferdange 84.31 40 P **P** **20 51 55.0 -0.4**
WLF pmax pmax
comp=Z,71nm,1.4s
WLF Walferdange 84.31 40 *d*P **P** **20 51 54.8 -0.6**
comp=Z,31nm,1.1s
WLF Walferdange 84.31 40 *e*P **P** **20 51 57.7 +2.4**
comp=Z,43nm,0.9s,baz=291,slow=4.8
BUG Bochum--Univer 84.44 38 P **P** **20 51 57.4 +1.5**
BUG pmax pmax
comp=Z,48nm,1.4s
BUG Bochum--Univer 84.44 38 *e*P **P** **20 51 57.9 +2.0**
comp=Z,85nm,1.3s,baz=291,slow=4.8
SSRD Sdr. Stenderup 84.45 34 *i* P **P** **20 51 57.8 +2.0**
IBBN Ibbenburen 84.45 37 *e*P **P** **20 51 58.1 +2.1**
comp=Z,82nm,0.9s,baz=291,slow=4.8
KTK1 Kautokeino 84.47 19 *e*P **P** **20 51 56.9 +1.1**
SSB Saint Sauveur 84.58 45 P **P** **20 51 55.4 -1.5**
SSB pmax pmax
comp=Z,15nm,1.7s
HFS Hagfors 84.78 29 P **P** **20 51 57.8 +0.4**
comp=Z,46nm,0.8s,baz=240,slow=2.9,SNR=56
HFS LR LR 21 29 21.1
comp=Z,256nm,19.6s,baz=280,slow=35
comp=Z,46nm,0.8s
ARA0 ARCESS Array S 84.88 18 ⇑*e*P **P** **20 51 58.5 +0.6**
ARCES ARCESS Array B 84.88 18 P **P** **20 51 58.1 +0.3**
ARCES ARCESS Array B 84.88 18 P **P** **20 51 58.4 +0.6**
comp=Z,50nm,0.7s,baz=283,slow=4.3,SNR=126
ARCES pP **pP** **20 52 23.4 +0.2**
comp=Z,17nm,0.8s,baz=281,slow=12,SNR=2.8
ARCES LR LR 21 30 35.8
comp=Z,245nm,20.1s,baz=298,slow=36
comp=Z,50nm,0.7s
ONAU Onsala 84.96 32 *i* P **P** **20 51 59.5 +1.2**
KEV Kevo 85.20 17 P **P** **20 51 59.4 0.0**
KEV Kevo 85.20 17 P **P** **20 51 59.4 0.0**
KEV pmax pmax
comp=Z,356nm,1.6s
KASTN Kahler Asten 85.20 38 *e*P **P** **20 52 01.6 +1.8**
comp=Z,66nm,1.1s,baz=291,slow=4.8
RETH Rethem/Aller, 85.23 36 *e*P **P** **20 52 02.4 +2.5**
comp=Z,134nm,1.0s,baz=291,slow=4.8
BORU Boraas 85.30 31 *i* P **P** **20 52 01.0 +0.9**
ECH Echery 85.40 41 lAmb lAmb 20 52 02.6
comp=Z,34nm,0.9s
ECH Echery 85.40 41 P **P** **20 52 00.5 -0.4**
ECH pmax pmax
comp=Z,46nm,1.5s
FABU Falkenberg 85.51 32 *i* P **P** **20 52 02.3 +1.1**
TNS Taunus Mts 85.54 39 P **P** **20 52 01.3 -0.3**
TNS pmax pmax
comp=Z,145nm,1.2s
TNS Taunus Mts 85.54 39 *e*P **P** **20 52 03.5 +1.9**
comp=Z,104nm,0.8s,baz=291,slow=4.8
ORIF Oris-en-Rattie 85.59 45 P **P** **20 52 03.4 +1.4**
ORIF pmax pmax
comp=Z,15nm,1.3s
VADS Vadso 85.65 17 *e*P **P** **20 52 02.6 +1.0**
NRDL Niedersach Rie 85.75 37 *e*P **P** **20 52 04.7 +2.3**
comp=Z,79nm,1.0s,baz=291,slow=4.8
GTTG Gottingen 86.00 37 *e*P **P** **20 52 05.8 +2.1**
comp=Z,106nm,1.1s,baz=291,slow=4.8
BJUU Bjuv 86.02 33 *i* P **P** **20 52 04.7 +1.0**
SENIN Lac Senin/Sane 86.08 43 lAmb lAmb 20 52 06.7
comp=Z,35nm,1.0s
BNI Bardonecchia 86.09 44 lAmb lAmb 20 52 06.8
comp=Z,37nm,1.2s
BNI Bardonecchia 86.09 44 P **P** **20 52 04.6 +0.1**
BNI pmax pmax
comp=Z,33nm,1.4s
BFO Black Forest 86.10 41 P **P** **20 52 03.2 -1.2**
BFO lAmb lAmb 20 52 05.6
comp=Z,41nm,1.2s
BFO Black Forest 86.10 41 P **P** **20 52 03.2 -1.2**
BFO pmax pmax
comp=Z,41nm,1.2s
BFO Black Forest 86.10 41 *e*P **P** **20 52 05.4 +1.0**
comp=Z,42nm,1.2s,baz=291,slow=4.8
CLZ Clausthal 86.13 37 *e*P **P** **20 52 06.6 +2.2**
comp=Z,78nm,1.1s,baz=291,slow=4.8
ASSE Asse, Remlinge 86.20 37 *e*P **P** **20 52 06.9 +2.3**
comp=Z,98nm,1.1s,baz=291,slow=4.8
GORT1 Trebel 86.25 36 *e*P **P** **20 52 06.9 +2.1**
comp=Z,120nm,1.4s,baz=291,slow=4.8
UBBA Unterbreizbach 86.27 38 *e*P **P** **20 52 07.1 +2.1**
comp=Z,72nm,1.5s,baz=291,slow=4.8
DEL Delary 86.30 32 *i* P **P** **20 52 05.7 +0.7**
SEY Seymchan 86.33 335 P **P** **20 52 06.4 +1.3**
comp=Z,5.3nm,0.7s,baz=96,slow=8.1,SNR=7.0
SEY pP **pP** **20 52 30.6 +0.2**
comp=Z,12nm,0.9s,baz=96,slow=4.9,SNR=5.4
SEY LR LR 21 37 23.7
comp=Z,123nm,19.4s,baz=78,slow=40
comp=Z,5.3nm,0.7s
SEY Seymchan 86.33 335 *e*P **P** **20 52 05.5 +0.4**
SEY *e* 20 52 29.8
SEY pmax pmax
comp=Z,10.0nm,0.8s
SGF Sodankyl 86.34 19 P **P** **20 52 05.5 +0.4**
SGF pmax pmax
comp=Z,98nm,1.2s
SLE Schleitheim 86.39 41 P **P** **20 52 05.3 -0.5**
SLE pmax pmax
comp=Z,58nm,1.4s
LUNU Lund 86.41 33 *i* P **P** **20 52 06.0 +0.4**
FLTG Flechtingen 86.45 36 *e*P **P** **20 52 07.6 +1.7**
comp=Z,69nm,1.1s,baz=291,slow=4.8
STU Stuttgart 86.49 40 lAmb lAmb 20 52 08.0
comp=Z,47nm,0.7s
STU Stuttgart 86.49 40 P **P** **20 52 07.0 +0.8**
STU pmax pmax
comp=Z,189nm,1.4s
STU Stuttgart 86.49 40 *e*P **P** **20 52 07.8 +1.6**
comp=Z,112nm,0.7s,baz=291,slow=4.8
RGN Rugen 86.77 34 *e*P **P** **20 52 09.4 +2.0**
comp=Z,418nm,1.8s,baz=291,slow=4.8
DBIC Dimbokro 87.17 84 P **P** **20 52 08.2 -1.9**
comp=Z,20nm,0.9s,baz=299,slow=4.9,SNR=10
DBIC LR LR 21 28 00.1
comp=Z,142nm,20.2s,baz=316,slow=34
comp=Z,20nm,0.9s
NEUB Neuenburg 87.17 37 *e*P **P** **20 52 11.6 +2.2**
comp=Z,37nm,0.9s,baz=291,slow=4.8
MOX Moxa 87.29 38 P **P** **20 52 10.0 -0.1**
MOX pmax pmax
comp=Z,22nm,1.4s
MOX Moxa 87.29 38 *e*P **P** **20 52 11.6 +1.5**
comp=Z,78nm,1.7s,baz=291,slow=4.8
MOX *e*pP **pP** **20 52 38.0 +2.4**
BLEU Blekinge 87.36 32 *i* P **P** **20 52 11.0 +0.8**
TUE Stuetta 87.38 42 P **P** **20 52 10.6 -0.2**
TUE lAmb lAmb 20 52 13.0
comp=Z,40nm,1.1s
GRA1 Grafenberg Arr 87.41 39 lAmb lAmb 20 52 13.2
comp=Z,79nm,1.3s
GRF Grafenberg Arr 87.41 39 P **P** **20 52 11.3 +0.6**
GRF pmax pmax
comp=Z,47nm,2.0s
GRF Grafenberg Arr 87.41 39 *e*P **P** **20 52 12.7 +2.0**
comp=Z,70nm,1.2s,baz=291,slow=4.8
GRF *e*pP **pP** **20 52 39.6 +3.3**
GRFO Grafenberg 87.41 39 P **P** **20 52 10.9 +0.3**
GRFO lAmb lAmb 20 52 13.1
comp=Z,77nm,1.3s
GRFO Grafenberg 87.41 39 P **P** **20 52 10.9 +0.3**
GRFO pmax pmax
comp=Z,77nm,1.3s
OUL Oulu 87.44 22 P **P** **20 52 10.5 +0.1**
OUL pmax pmax
comp=Z,226nm,0.9s
DAVA Damuels 87.44 41 *i* PcP **P** **20 52 11.7 +0.6**
comp=Z,51nm,1.0s,SNR=19
DAVA *i* PKKP **PKKPbc** **21 10 01.2 0.0**
comp=Z,3.4nm,0.7s
DAVOX Davos/Dischmat 87.62 42 LR LR 21 27 08.5
comp=Z,360nm,21.5s,baz=274,slow=33
PET Petropavlovsk 87.63 325 *e*P **P** **20 52 12.9 +1.3**
PET *e**PP **pP** **20 52 39.2 +2.3**
PET *e*S **S** **21 02 47.5 +2.1**
MANZ Manzenberg 87.83 38 *e*P **P** **20 52 14.3 +1.6**
comp=Z,30nm,2.1s,baz=291,slow=4.8
RUE Ruedersdorf 87.83 36 *e*P **P** **20 52 14.0 +1.5**
comp=Z,133nm,2.0s,baz=291,slow=4.8
CLL Collm 87.85 37 *i* P **P** **20 52 13.9 +1.2**
CLL *i* *PP **pP** **20 52 41.0 +2.8**
CLL *e* 21 02 29.0
CLL *e*S **S** **21 02 48.0 +0.3**
CLL Collm 87.85 37 *e*P **P** **20 52 14.8 +2.1**
comp=Z,162nm,2.1s,baz=291,slow=4.8
CLL *e*pP **pP** **20 52 41.0 +2.8**
CLL Collm 87.85 37 *i* P **P** **20 52 13.3 +0.6**
comp=Z,27nm,1.0s
CLL *e*Pmax 20 52 14.0
CLL *e*Plp 20 52 14.0
CLL *i* pP **pP** **20 52 41.0 +2.8**
comp=Z,11nm,1.0s
CLL *e*PP **PP** **20 55 34.0 -5.4**
CLL *e*SKSac **SKSac** **21 02 29.0 -3.3**
CLL *e*SKKSac **SKKSac** **21 02 41.0 -1.5**
CLL *e*S **S** **21 02 50.0 +2.4**
CLL *e*SP **SP** **21 03 50.0 +0.4**
CLL *e*SS **SS** **21 08 36.0 0.0**
TANN Tannenbergstha 87.88 38 *e*P **P** **20 52 14.7 +1.8**
comp=Z,142nm,1.9s,baz=291,slow=4.8
RETA Reutte 87.93 41 *i* P **P** **20 52 13.8 +0.5**
comp=Z,26nm,0.8s,SNR=14

ROTZ Rotzenmuhle 87.97 39 *e*P **P 20 52 15.1 +1.8**
comp=Z,41nm,2.5s,baz=291,slow=4.8
FUR Furstenfeldbru 88.00 40 *e*P **P 20 52 15.1 +1.6**
comp=Z,25nm,1.2s,baz=291,slow=4.8
MSF Maaselka 88.04 20 P **P 20 52 13.4 +0.1**
MSF pmax pmax
comp=Z,115nm,1.1s
TIXI Tiksi 88.06 348 P **P 20 52 13.4 +0.2**
TIXI IAmb IAmb 20 52 40.0
comp=Z,106nm,1.7s
TIXI Tiksi 88.06 348 LR LR 21 35 41.7
comp=Z,268nm,21.7s,baz=46,slow=38
TIXI Tiksi 88.06 348⇓ *e*P **P 20 52 13.8 +0.6**
TIXI pmax pmax
comp=Z,30nm,1.3s
FETA Feichten 88.08 42 *i* PcP **P 20 52 14.6 +0.5**
comp=Z,18nm,0.8s,SNR=11
FETA *i* PKKP **PKKPbc 21 09 59.7 0.0**
comp=Z,5.0nm,0.9s
PETK Petropavlovsk- 88.12 325 P **P 20 52 13.5 -0.5**
PETK Petropavlovsk- 88.12 325 P **P 20 52 15.4 +1.4**
comp=Z,4.2nm,0.9s,baz=91,slow=11,SNR=4.8
PETK pP **pP 20 52 40.5 +1.2**
comp=Z,12nm,0.9s,baz=70,slow=9.6,SNR=6.6
PETK LR LR 21 31 23.0
comp=Z,70nm,21.5s,baz=65,slow=35
comp=Z,4.2nm,0.9s
MOTA Moosalm 88.19 41 *i* P **P 20 52 14.9 +0.3**
MOTA *i* PKKP **PKKPbc 21 09 59.0 -0.4**
comp=Z,3.4nm,0.8s
MSSA Maissana 88.24 44 IAmb IAmb 20 52 16.2
comp=Z,48nm,1.2s
SQTA Sankt Quirin 88.31 41 *i* PcP **P 20 52 15.7 +0.6**
comp=Z,12nm,0.8s,SNR=7.7
SQTA *i* PKKP **PKKPbc 21 09 58.5 -0.6**
comp=Z,2.8nm,0.7s
APA Apatity 88.39 18 *e*P **P 20 52 13.9 -1.0**
APA *e*S **SKSac 21 02 31.7 -3.2**
APA MLR MLR
comp=Z,306nm,2.8s
WATA Walderalm 88.50 41 *i* P **P 20 52 16.5 +0.4**
comp=Z,24nm,1.5s,SNR=9.2
WATA *i* PKKP **PKKPbc 21 09 58.5 -0.2**
comp=Z,3.8nm,1.1s
PGF Pioggiola 88.50 46 P **P 20 52 14.4 -1.7**
PGF pmax pmax
comp=Z,39nm,1.0s
LVZ Lovozero 88.53 17 P **P 20 52 15.3 -0.3**
LVZ Lovozero 88.53 17*ce*P **P 20 52 15.5 -0.2**
LVZ pmax pmax
comp=Z,95nm,1.0s
LVZ MLR MLR
comp=Z,317nm,20.0s
WTTA Wattenberg 88.56 41 P **P 20 52 16.4 0.0**
WTTA pmax pmax
comp=Z,15nm,1.9s
WTTA Wattenberg 88.56 41 *i* P **P 20 52 16.7 +0.3**
comp=Z,12nm,1.4s,SNR=6.0
WTTA *e*PKKP **PKKPbc 21 09 58.3 -0.2**
comp=Z,2.3nm,1.1s
BRG Berggiesshubel 88.57 37 P **P 20 52 17.2 +1.1**
BRG pmax pmax
comp=Z,33nm,1.0s
BRG Berggiesshubel 88.57 37 *e*P **P 20 52 18.5 +2.4**
comp=Z,24nm,0.9s,baz=291,slow=4.8
BRG Berggiesshubel 88.57 37 *e*P **P 20 52 17.4 +1.3**
BRG Amp 20 52 18.8
comp=Z,24nm,0.9s
BRG Berggiesshubel 88.57 37 PS PS 21 04 08.0 -2.1
BRG Berggiesshubel 88.57 37 SS SS 21 08 44.0 -2.5
WET Wettzell 88.62 39 P **P 20 52 16.5 +0.1**
WET pmax pmax
comp=Z,35nm,0.8s
WET Wettzell 88.62 39 *e*P **P 20 52 18.3 +1.9**
comp=Z,18nm,0.8s,baz=291,slow=4.8
MA2 Magadan 88.64 333 P **P 20 52 16.9 +0.7**
MA2 IAmb IAmb 20 52 44.5
comp=Z,31nm,0.8s
MA2 Magadan 88.64 333 P **P 20 52 17.7 +1.5**
comp=Z,35nm,1.1s,baz=54,slow=5.4,SNR=8.6
MA2 pP **pP 20 52 42.5 +0.9**
comp=Z,27nm,0.8s,baz=47,slow=4.8,SNR=6.4
MA2 LR LR 21 37 53.7
comp=Z,51nm,19.2s,baz=62,slow=39
comp=Z,35nm,1.1s
MA2 Magadan 88.64 333⇑ *e*P **P 20 52 18.3 +2.0**
MA2 pmax pmax
comp=Z,41nm,1.0s
MA2 MLR MLR
comp=Z,148nm,22.0s
CTI Castel Tesino 89.02 42 P **P 20 52 16.9 -1.5**
CTI IAmb IAmb 20 52 19.7
comp=Z,20nm,0.9s
CTI Castel Tesino 89.02 42 P **P 20 52 17.0 -1.5**
CTI pmax pmax
comp=Z,20nm,0.9s
KHC Kasperske Hory 89.04 39 *e*P **P 20 52 19.3 +0.9**
KHC *e* 21 02 39.1
KHC MLR MLR
comp=Z,600nm,20.6s
KHC Kasperske Hory 89.04 39 *e*P **P 20 52 19.3 +0.9**
KHC *e*SKS **SKSac 21 02 39.1 -0.5**
KHC AMS AMS 21 29 00.0
comp=Z,600nm,20.6s
PVCC Panska Ves 89.07 37 *e*P **P 20 52 19.5 +1.0**
PVCC MLR MLR
comp=Z,300nm,16.7s
PVCC Panska Ves 89.07 37 *e*P **P 20 52 19.5 +1.0**
PVCC AMS AMS 21 27 50.0
comp=Z,300nm,16.7s
RJOB Jochberg 89.11 40 *e*P **P 20 52 20.3 +1.5**
comp=Z,12nm,1.0s,baz=291,slow=4.8
LESA Schwarzleotal 89.16 41 *i* PcP **P 20 52 19.6 +0.5**
comp=Z,8.5nm,0.8s,SNR=6.2
LESA *i* PKKP **PKKPbc 21 09 56.2 -0.8**
comp=Z,1.7nm,0.6s
ZCCA Zocca 89.21 44 IAmb IAmb 20 52 21.4
comp=Z,47nm,0.9s
GEC2 GERESS Array S 89.23 39 IAmb IAmb 20 52 21.1
comp=Z,27nm,1.0s
GEC2 GERESS Array S 89.23 39 P **P 20 52 19.4 0.0**
GEC2 pmax pmax
comp=Z,31nm,1.1s
GEC2 GERESS Array S 89.23 39 *e*P **P 20 52 20.9 +1.5**
comp=Z,28nm,1.0s,baz=291,slow=4.8
GERES GERESS Array B 89.23 39 P **P 20 52 18.8 -0.6**
GERES GERESS Array B 89.23 39 P **P 20 52 19.4 0.0**
comp=Z,13nm,0.8s,baz=299,slow=3.8,SNR=76
GERES PKKPbc **PKKPbc 21 09 56.2 -0.7**
comp=Z,1.1nm,0.7s,baz=98,slow=1.9,SNR=9.8
GERES LR LR 21 29 42.3
comp=Z,380nm,21.5s,baz=294,slow=34
comp=Z,13nm,0.8s
PRU Pruhonice 89.28 38 *e*P **P 20 52 20.5 +1.1**
PRU *e* 21 02 41.5
PRU MLR MLR
comp=Z,600nm,26.3s
PRU Pruhonice 89.28 38 *e*P **P 20 52 20.5 +1.1**
PRU *e*SKS **SKSac 21 02 41.5 +0.6**
PRU AMS AMS 21 25 30.0
comp=Z,600nm,26.3s
ZVC Zvikov 89.29 38 *e*P **P 20 52 20.7 +1.2**
ABTA Abfaltersbach 89.31 41 *i* PcP **P 20 52 20.3 +0.5**
comp=Z,27nm,1.1s,SNR=19
ABTA *e*PKKP **PKKPbc 21 09 56.1 -0.4**
comp=Z,4.1nm,1.0s
GKP Gorka Klasztor 89.41 34 *e*P **P 20 52 20.7 +0.7**
GKP Gorka Klasztor 89.41 34 P **P 20 52 20.9 +0.9**
GKP pmax pmax
comp=Z,151nm,1.1s
CIMO Cimolais 89.43 42 IAmb IAmb 20 52 21.6
comp=Z,20nm,0.9s
FINES FINESS Array B 89.51 25 P **P 20 52 20.2 -0.1**
FINES FINESS Array B 89.51 25 P **P 20 52 20.6 +0.3**
comp=Z,20nm,0.7s,baz=306,slow=2.6,SNR=41
FINES PKKPbc **PKKPbc 21 09 54.9 -1.6**
comp=Z,1.4nm,0.6s,baz=225,slow=1.1,SNR=6.2
FINES LR LR 21 33 59.2
comp=Z,203nm,19.1s,baz=309,slow=37
comp=Z,20nm,0.7s
CKRC Cesky Krumlov 89.61 39 *e*P **P 20 52 21.0 -0.1**
CKRC *e* 21 02 45.1
CKRC MLR MLR
comp=Z,500nm,19.5s
CKRC Cesky Krumlov 89.61 39 *e*P **P 20 52 21.0 -0.1**
CKRC *e*SKS **SKSac 21 02 45.1 +2.2**
CKRC AMS AMS 21 29 10.0
comp=Z,500nm,19.5s
STAL STALIGIAL 89.63 42 IAmb IAmb 20 52 22.5
comp=Z,28nm,1.0s
BIOA Bad Ischl, Aus 89.65 40 *i* P **P 20 52 21.6 +0.3**
comp=Z,11nm,0.8s,SNR=9.0
BIOA *i* PKKP **PKKPbc 21 09 54.9 -0.8**
comp=Z,1.7nm,0.8s
KBA Koelnbreinsper 89.71 41 P **P 20 52 21.2 -0.6**
KBA pmax pmax
comp=Z,28nm,1.2s
KBA Koelnbreinsper 89.71 41 *i* PcP **P 20 52 22.2 +0.4**
comp=Z,15nm,0.9s
KBA *i* PKKP **PKKPbc 21 09 54.8 -0.9**
comp=Z,1.7nm,0.8s
CHVC Chvalec 89.91 37 *e*P **P 20 52 23.4 +1.0**
CHVC Chvalec 89.91 37 *e*P **P 20 52 23.4 +1.0**
UPC Upice 89.92 37 *e*P **P 20 52 23.3 +0.8**
UPC Upice 89.92 37 *e*P **P 20 52 23.3 +0.8**
KSP Ksiaz 89.94 37 *e*P **P 20 52 22.8 +0.2**
KSP Ksiaz 89.94 37 P **P 20 52 23.4 +0.9**
KSP pmax pmax
comp=Z,30nm,1.1s
MOA Molln 89.98 40 *i* P **P 20 52 23.1 +0.3**
comp=Z,19nm,0.8s,SNR=16
MOA *i* PKKP **PKKPbc 21 09 54.2 -0.7**
comp=Z,3.9nm,1.3s
OSTC Ostas 90.01 37 *e*P **P 20 52 23.6 +0.7**
OSTC *e* 21 02 47.4
OSTC Ostas 90.01 37 *e*P **P 20 52 23.6 +0.7**
OSTC *e*SKS **SKSac 21 02 47.4 +2.2**
MYKA Terra Mystica 90.07 41 *i* P **P 20 52 23.5 +0.2**
comp=Z,14nm,0.8s,SNR=7.2
TREC Trest 90.12 38 *e*P **P 20 52 24.2 +0.7**
TREC Trest 90.12 38 *e*P **P 20 52 24.2 +0.7**
DPC Dobruska-Polom 90.16 37 *e*P **P 20 52 24.7 +1.0**
DPC *e* 21 02 46.3
DPC Dobruska-Polom 90.16 37 *e*P **P 20 52 24.7 +1.0**
DPC *e*SKS **SKSac 21 02 46.3 +0.1**
CADS Cadrg 90.29 41 *i* P **P 20 52 23.5 -0.8**
CADS *i* SKSac **SKSac 21 02 47.7 +0.6**
SABO M.te Sabotino 90.31 42 IAmb IAmb 20 52 26.2
comp=Z,17nm,0.7s
KRLC Kraliky 90.55 37 *e*P **P 20 52 26.7 +1.2**
KRLC Kraliky 90.55 37 *e*P **P 20 52 26.7 +1.2**
OBKA Obir 90.70 41 *i* P **P 20 52 26.1 -0.2**
comp=Z,16nm,0.8s,SNR=9.1
KRUC Moravsky 90.76 38 *e*P **P 20 52 25.8 -0.6**
KRUC *e*SKS **SKSac 21 02 50.8 +1.3**
KRUC Moravsky 90.76 38 P **P 20 52 26.4 0.0**
KRUC pmax pmax
comp=Z,33nm,1.1s
VRAC Vranov 90.77 38 LR LR 21 34 07.3
comp=Z,128nm,18.5s,baz=290,slow=36
VRAC Vranov 90.77 38 *e*P **P 20 52 26.9 +0.4**
VRAC *e*SKS **SKSac 21 02 51.5 +1.9**
VRAC Vranov 90.77 38⇓ P **P 20 52 27.6 +1.1**
VRAC Vranov 90.77 38 P **P 20 52 27.5 +1.1**
LJU Ljubljana 90.87 41 *i* P **P 20 52 26.3 -0.7**
LJU *e*SKSac **SKSac 21 02 51.5 +1.1**
CONA Conrad Observa 90.92 39 *e*PcP **PcP 20 52 28.0 -0.3**
comp=Z,18nm,0.8s,SNR=21
CONA *i* PKKP **PKKPbc 21 09 53.0 +0.4**
comp=Z,2.2nm,1.1s
CEY Cerknica 90.93 42 *i* P **P 20 52 26.8 -0.5**
CEY *i* SKSac **SKSac 21 02 52.1 +1.4**
SOKA Soboth 90.93 41 *i* P **P 20 52 27.3 0.0**
comp=Z,32nm,1.4s,SNR=16
SOKA *i* PKKP **PKKPbc 21 09 52.6 +0.1**
comp=Z,2.7nm,0.8s
CESX Cesi 90.94 45 IAmb IAmb 20 52 28.5
comp=Z,23nm,0.9s
ARSA Arzberg 91.00 40 *e*PcP **P 20 52 27.9 +0.3**
comp=Z,12nm,0.8s,SNR=9.1
ARSA *i* PKKP **PKKPbc 21 09 52.2 -0.2**
comp=Z,4.1nm,1.5s
KEST Kesra 91.12 52 IAmb IAmb 20 52 30.3
comp=Z,19nm,1.0s
KEST Kesra 91.12 52 P **P 20 52 27.8 -0.7**
comp=Z,14nm,0.8s,baz=299,slow=1.3,SNR=22
KEST LR LR 21 30 10.6
comp=Z,188nm,19.9s,baz=289,slow=34
comp=Z,14nm,0.8s
MORC Moravsky Berou 91.12 37 IAmb IAmb 20 52 30.3
comp=Z,71nm,1.5s
MORC Moravsky Berou 91.12 37 *e*P **P 20 52 28.7 +0.6**
MORC *e*SKS **SKSac 21 02 53.8 +2.1**
MORC Moravsky Berou 91.12 37⇑ P **P 20 52 28.9 +0.8**
MORC Moravsky Berou 91.12 37 P **P 20 52 28.8 +0.6**
FDMO Fiordimonte 91.12 45 IAmb IAmb 20 52 29.3
comp=Z,23nm,0.9s
STEB Steborice 91.19 37 *e*P **P 20 52 29.4 +1.0**
RONA Rosalia, Austr 91.28 39 *i* PcP **PcP 20 52 29.5 -0.3**
comp=Z,29nm,0.8s,SNR=21
RONA *i* PKKP **PKKPbc 21 09 51.3 -0.3**
comp=Z,1.6nm,0.8s
OKC Ostrava-Krasne 91.44 37 *e*P **P 20 52 30.9 +1.4**
OKC *e* 21 02 50.8
OKC Ostrava-Krasne 91.44 37 *e*P **P 20 52 30.9 +1.4**
OKC *e*SKS **SKSac 21 02 50.8 -2.6**
VSU Vasula 91.45 27⇑ *e*P **P 20 52 29.3 0.0**
VSU pmax pmax
comp=Z,92nm,1.8s
SOP Sopron 91.45 39 P **P 20 52 30.0 +0.4**
SOP pmax pmax
comp=Z,39nm,0.9s
MAUC Maruska 91.47 37 *e*P **P 20 52 31.1 +1.4**
MODS Modra-Piesok 91.58 38 *e*P **P 20 52 28.3 -2.0**
MODS pmax pmax
comp=Z,131nm,1.2s
MODS Modra-Piesok 91.58 38 *e*P **P 20 52 28.3 -2.0**
TORD Torodi Ar. Bea 91.60 76 P **P 20 52 28.8 -2.2**
AQU L'Aquila 91.60 45 P **P 20 52 31.3 +0.8**
AQU pmax pmax
comp=Z,14nm,1.2s
JAVC Velka Javorina 91.61 38 *e*P **P 20 52 31.9 +1.5**
JAVC *e*SKS **SKSac 21 02 57.5 +3.0**
SMOL Smolenice 91.61 38 *e*P **P 20 52 31.9 +1.5**
SMOL pmax pmax
comp=Z,44nm,1.6s
OZLJ Ozalj 91.65 42 *e*P **P 20 52 30.9 +0.4**
BEL Belsk 91.99 34 *e*P **P 20 52 32.8 +0.8**
BEL Belsk 91.99 34 P **P 20 52 32.7 +0.7**
BEL pmax pmax
comp=Z,189nm,1.0s
R9F13 Warsaw-Wawer 92.00 34 *e*P **P 20 52 32.9 +0.9**
R9F13 *e*S **SKSac 21 02 59.3 +3.0**
SUW Suwalki 92.16 32 *e*P **P 20 52 32.9 +0.2**
SUW Suwalki 92.16 32 P **P 20 52 33.0 +0.2**
SUW pmax pmax
comp=Z,170nm,1.1s
OJC Ojcow 92.22 36 *e*P **P 20 52 33.1 0.0**
OJC Ojcow 92.22 36 P **P 20 52 33.3 +0.2**
OJC pmax pmax
comp=Z,62nm,1.0s
TAM Tamanrasset 92.22 66 IAmb IAmb 20 52 36.0
comp=Z,14nm,0.4s
TAM Tamanrasset 92.22 66 P **P 20 52 33.2 -0.7**
TAM pmax pmax
comp=Z,10.0nm,1.3s
SRO Srobarova 92.46 39 *e*P **P 20 52 37.1 +2.9**
SRO pmax pmax
comp=Z,50nm,1.5s
SRO Srobarova 92.46 39 *e*P **P 20 52 37.1 +2.9**
VYHS Vyhne 92.46 38 *e*P **P 20 52 35.3 +1.0**
VYHS pmax pmax
comp=Z,66nm,1.6s
VYHS Vyhne 92.46 38 *e*P **P 20 52 35.3 +1.0**
MOSL Moslavina 92.47 41 *e*P **P 20 52 34.6 +0.2**
LANS Liptovska Anna 92.53 37 *e*P **P 20 52 36.7 +2.1**
LANS pmax pmax
comp=Z,35nm,1.8s
LANS Liptovska Anna 92.53 37 *e*P **P 20 52 36.7 +2.1**
A050A Klekovaca 92.81 42⇑ *i*P **P 20 52 36.1 0.0**
A051A Mrakovica 92.82 42 *e*P **P 20 52 36.6 +0.5**
NIE Niedzica 92.88 37 *e*P **P 20 52 37.9 +1.6**
NIE Niedzica 92.88 37 P **P 20 52 37.3 +1.1**
NIE pmax pmax
comp=Z,20nm,1.3s
KIJV Kijevo 92.93 43⇑ *i*P **P 20 52 36.6 0.0**
PAOL Paolisi 92.93 46 IAmb IAmb 20 52 37.8
comp=Z,25nm,1.4s
BUD Budapest 93.03 39 P **P 20 52 38.0 +1.1**
BUD pmax pmax
comp=Z,30nm,1.2s
MSVF Nonsavu 93.05 253⇑ *e*P **P 20 52 39.8 +2.2**
MSVF pmax pmax
comp=Z,63nm,1.1s
BLY Banja Luka 93.11 42 *e*P **P 20 52 37.9 +0.5**
BLY Banja Luka 93.11 42⇓ P **P 20 52 37.7 +0.4**
PSZ Piszkesteto 93.35 38⇓ P **P 20 52 39.5 +0.9**
PSZ Piszkesteto 93.35 38 P **P 20 52 39.4 +0.9**
MORH Mrgy, Hungar 93.38 40⇑ *i*P **P 20 52 38.4 -0.1**
MORH Mrgy, Hungar 93.38 40⇑ P **P 20 52 38.5 0.0**
STHS Stebnicka Huta 93.42 36 *e*P **P 20 52 39.5 +0.8**
STHS pmax pmax
comp=Z,28nm,1.2s
STHS Stebnicka Huta 93.42 36 *e*P **P 20 52 39.5 +0.8**
KECS Kecovo 93.43 37 *e*P **P 20 52 40.4 +1.6**
KECS pmax pmax
comp=Z,31nm,1.0s
KECS Kecovo 93.43 37 *e*P **P 20 52 40.4 +1.6**
SGRT San Giovanni R 93.44 45 IAmb IAmb 20 52 40.0
comp=Z,19nm,0.9s
ACER Acerenza 93.98 46 IAmb IAmb 20 52 42.2
comp=Z,11nm,0.9s
KWP Kalwaria Pacla 94.14 36 *e*P **P 20 52 43.1 +1.1**
MNK Minsk 94.22 30 *i* P **P 20 52 42.1 -0.1**
MNK *i* *PP **pP 20 53 08.5 +0.6**
MNK *i* 20 56 29.1
MNK *i* PPP PPP 20 58 30.3
MNK *i* S **SKSac 21 03 07.2 -1.3**
MNK *i* PS **PS 21 05 10.0 -2.4**
MNK *i* SS **SS 21 10 16.5 +9.2**
MNK pmax pmax
comp=Z,82nm,0.9s
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,22nm,1.0s
MNK MLR MLR
comp=E,154nm,18.0s
MNK MLR MLR
comp=N,224nm,18.0s
MNK MLR MLR
comp=Z,315nm,19.0s
CUC Castrocucco 94.22 47 IAmb IAmb 20 52 44.3
comp=Z,19nm,0.9s
VAE Valguarnera 94.25 49 LR LR 21 29 35.4
comp=Z,836nm,21.9s,baz=329,slow=32
KOLS Kolonicke sedl 94.25 36 *e*P **P 20 52 43.6 +1.1**
KOLS pmax pmax
comp=Z,30nm,1.0s
KOLS Kolonicke sedl 94.25 36 *e*P **P 20 52 43.6 +1.1**
STON Ston 94.27 43 *e*P **P 20 52 41.9 -0.8**
MATE Matera 94.56 46⇑ P **P 20 52 43.6 -0.5**
KLINJ Klinje 94.72 43 *e*P **P 20 52 41.4 -3.5**
TREB Trebinje 94.77 43 *e*P **P 20 52 45.2 +0.2**
LVV L'vov 94.78 35 P **P 20 52 45.7 +0.8**
KLMR Klimovskoe 94.92 21 *e*P **P 20 52 44.4 -0.9**
KLMR pmax pmax
comp=Z,77nm,1.1s
RUDO Rudo 95.03 42 *e*P **P 20 52 45.5 -0.7**
TRSU Trosnyk 95.06 37 P **P 20 52 46.1 -0.1**
MORS Morshin 95.06 36 P **P 20 52 46.8 +0.6**
YAK Yakutsk 95.12 341 P **P 20 52 47.1 +0.9**
comp=Z,2.6nm,0.3s,baz=90,slow=3.4,SNR=4.7
YAK pP **pP 20 53 11.4 -0.2**
comp=Z,6.6nm,0.4s,baz=9.6,slow=2.5,SNR=2.9
YAK LR LR 21 42 34.0
comp=Z,124nm,20.2s,baz=30,slow=40
comp=Z,2.6nm,0.3s
YAK Yakutsk 95.12 341 *e*P **P 20 52 48.0 +1.8**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK MLR MLR
comp=Z,166nm,25.5s
SIRR Siria 95.20 39⇑ P **P 20 52 47.9 +0.9**
TIP Timpagrande 95.23 47 IAmb IAmb 20 52 47.5
comp=Z,14nm,1.1s
TIP Timpagrande 95.23 47⇑ P **P 20 52 47.0 -0.3**
BZS Buzias 95.49 40⇓ P **P 20 52 49.6 +1.3**
BZS Buzias 95.49 40 P **P 20 52 49.5 +1.3**
DRGR 95.58 38⇑ P **P 20 52 49.2 +0.5**
DRGR 95.58 38 P **P 20 52 49.2 +0.5**
BMR Baia Mare 95.59 37⇓ P **P 20 52 49.6 +0.9**
BMR Baia Mare 95.59 37 P **P 20 52 49.5 +0.9**
SURR Surduc 95.74 39⇑ P **P 20 52 50.1 +0.7**
MARR Marisel-Cluj 95.88 38⇓ P **P 20 52 50.2 +0.1**
MDVR Moldovita 95.96 40⇓ P **P 20 52 51.1 +0.7**
CJR Cluj-Napoca 96.14 38⇑ P **P 20 52 52.2 +0.9**
CJR Cluj-Napoca 96.14 38 P **P 20 52 52.1 +0.9**
KSV Kosov 96.16 36 P **P 20 52 51.7 +0.5**
GZR Gura Zlata 96.31 39⇑ P **P 20 52 52.5 +0.4**
GZR Gura Zlata 96.31 39 P **P 20 52 52.5 +0.4**
ARCR ARCALIA 96.39 37⇑ P **P 20 52 53.0 +0.7**
HORU Horodok 96.43 35 P **P 20 52 52.8 +0.4**
BOVS Bovan 96.51 41⇓ P **P 20 52 53.7 +0.7**
DJES Djerdap 96.52 40⇓ P **P 20 52 54.0 +1.1**
BURAR Bucovina Array 96.61 37 P **P 20 52 52.8 -0.6**
BURAR IAmb IAmb 20 52 55.0
comp=Z,8.1nm,0.8s
BURAR Bucovina Array 96.61 37⇓ P **P 20 52 54.1 +0.6**
BURAR Bucovina Array 96.61 37 P **P 20 52 54.0 +0.6**
LOT Lotru 96.89 39⇓ P **P 20 52 54.8 +0.1**
MDB Medias 96.90 38⇑ P **P 20 52 55.6 +1.0**
MDB Medias 96.90 38 P **P 20 52 55.6 +1.0**
SRE Strehaia 96.94 40⇓ P **P 20 52 55.4 +0.5**
SRE Strehaia 96.94 40 P **P 20 52 55.3 +0.5**
KIEV Kiev 97.08 33 P **P 20 52 54.2 -1.1**
KIEV IAmb IAmb 20 52 55.5
comp=Z,11nm,0.7s
KIEV Kiev 97.08 33 P **P 20 52 54.2 -1.1**
KIEV pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 97.08 33 P **P 20 52 54.6 -0.8**
comp=Z,5.6nm,0.6s,baz=293,slow=3.9,SNR=28
AKASG PKKP **PKKPbc 21 09 34.8 -1.7**
comp=Z,2.0nm,0.8s,baz=99,slow=2.2,SNR=6.7
AKASG LR LR 21 35 11.3
comp=Z,152nm,21.4s,baz=296,slow=34
comp=Z,5.6nm,0.6s
AKASG Malin Array Be 97.08 33 *i* P **P 20 52 54.5 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 97.08 33 IAmb IAmb 20 52 55.5
comp=Z,12nm,0.7s
AKBB Malin Array Si 97.08 33*c* *i*P **P 20 52 54.4 -0.9**
PRAR RASCA 97.33 36⇑ P Pdif 20 52 57.2 +0.6
ARR Arges 97.45 39⇓ P Pdif 20 52 58.2 +0.9
DOPR Dopca 97.59 38⇓ P Pdif 20 52 58.3 +0.5
VOIR 97.67 38⇓ P Pdif 20 52 59.1 +0.9
VOIR 97.67 38 P Pdif 20 52 59.1 +0.8
FNA Florina 97.67 44 IAmb IAmb 20 52 59.9
comp=Z,19nm,1.2s
OBN Obninsk 97.77 26 P **P 20 52 57.5 -0.8**
OBN Obninsk 97.77 26 LR LR 21 36 23.6
comp=Z,248nm,20.8s,baz=238,slow=35
OBN Obninsk 97.77 26*ce*P **P 20 52 58.1 -0.2**
OBN *e**PP **pP 20 53 22.5 -1.6**
OBN *e* 20 56 52.8
OBN pmax pmax
comp=Z,34nm,0.9s
OBN MLR MLR
comp=Z,276nm,20.0s
MOS Moscow 97.78 25 *e*P **P 20 52 57.6 -0.8**
MOS *e* 20 53 20.2
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=Z,88nm,1.4s
TURR Turia 97.91 38⇑ P Pdif 20 53 00.0 +0.8
HUMR Humele 98.10 39⇑ P Pdif 20 53 01.0 +1.0
COVR Voineasa-Covas 98.13 38⇑ P Pdif 20 53 00.9 +0.6
MLR Muntele Rosu 98.17 38 LR LR 21 35 21.0
comp=Z,257nm,21.6s,baz=295,slow=34
MLR Muntele Rosu 98.17 38⇓ P Pdif 20 53 01.4 +0.8
MLR Muntele Rosu 98.17 38 P Pdif 20 53 01.3 +0.7
COPA Copaceanca 98.45 40⇓ P Pdif 20 53 02.3 +0.6
PLVB Pleven 98.47 40⇑ P Pdif 20 53 02.2 +0.5
GHRR 98.72 37⇓ P Pdif 20 53 03.1 +0.3
URZ Urewera 98.98 233 LR LR 21 27 16.6
comp=Z,186nm,21.5s,baz=74,slow=29
BELA Belgrano 2 99.30 169 IAmb IAmb 20 53 06.5
comp=Z,14nm,1.4s
KIRV Kirov 99.89 19 LR LR 21 40 17.4
comp=Z,215nm,18.3s,baz=320,slow=36

KIRV	Kirov	99.89	19	*c i*	P	Pdif	20 53 07.3	-0.4	
TIRR	Tirgusor	100.20	38	⇓	P	Pdif	20 53 09.8	+0.4	
TIRR	Tirgusor	100.20	38		P	Pdif	20 53 09.8	+0.4	
LPSR	Galich'ya Gora	100.51	27	*e*	P	Pdif	20 53 09.1	-1.5	
LPSR					pmax	pmax			
	comp=Z,30nm,0.9s								
VSR	Storozhevoye	101.58	28	*e*	P	Pdif	20 53 13.1	-2.3	
VSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VORD	Divnogorie	101.81	28	*e*	P	Pdif	20 53 14.5	-1.9	
VORD					pmax	pmax			
	comp=Z,9.0nm,1.0s								
VRH	Novokhopyorsk	102.72	27	*e*	P	Pdif	20 53 19.2	-1.3	
VRH					pmax	pmax			
	comp=Z,10.0nm,1.1s								
DZM	Mont Dzumac	104.67	251	*e*	P	Pdif	20 53 32.7	+2.9	
	comp=Z,77nm,27.9s								
DZM	Mont Dzumac	104.67	251	*e*	PP	PKiKP	20 57 45.5	+0.3	
	comp=Z,58nm,27.4s								
DZM					*e*	SKSac	SKSac	21 03 54.1	-7.5
	comp=Z,55nm,26.8s								
DZM					*e*	SS	SS	21 12 37.9	+1.6
	comp=Z,92nm,26.0s								
DZM	Mont Dzumac	104.67	251	*e*	LQ	LQ	21 23 34.2		
	comp=Z,150nm,30.9s								
DZM					*e*	LR	LR	21 28 02.5	
	comp=Z,661nm,28.1s								
SNAA	Sanae	105.26	161		Pdiff	Pdif	20 53 31.2	0.0	
	comp=Z,1.7nm,1.0s,baz=258,slow=4.4,SNR=3.8								
QSPA	South Pole Qui	105.83	180		Pdiff	Pdif	20 53 36.2	+2.2	
	comp=Z,1.8nm,0.6s,baz=145,slow=1.9,SNR=7.2								
QSPA					PKKPbc	PKKPbc	21 09 12.7	-0.1	
	comp=Z,0.9nm,0.2s,baz=259,slow=2.9,SNR=3.8								
BRTR	Keskin Array B	106.12	40		Pdiff	Pdif	20 53 35.5	-0.6	
	comp=Z,0.6nm,0.9s,baz=302,slow=7.1,SNR=3.7								
BRTR					PKiKP	PKiKP	20 57 44.4	-3.2	
	comp=Z,1.1nm,0.7s,baz=234,slow=1.4,SNR=6.2								
BRTR					PKKPbc	PKKPbc	21 09 09.9	-0.3	
	comp=Z,1.8nm,0.8s,baz=152,slow=5.1,SNR=10								
MJAR	Matsushiro Arr	108.42	318		PKKPbc	PKKPbc	21 09 02.3	-0.5	
	comp=Z,2.6nm,0.8s,baz=211,slow=2.1,SNR=8.9								
VNDA	Vanda	108.52	193		PKiKP	PKiKP	20 57 51.9	+1.2	
	comp=Z,0.4nm,0.6s,baz=117,slow=2.3,SNR=4.8								
KBZ	Khabaz	108.66	32		PKKPbc	PKKPbc	21 09 02.0	-0.2	
	comp=Z,2.5nm,0.8s,baz=140,slow=2.0,SNR=5.5								
BVAR	Borovoye Array	110.02	10		Pdiff	Pdif	20 53 54.0	+1.1	
	comp=Z,1.2nm,0.6s,baz=15,slow=7.7,SNR=7.1								
BVAR					PKiKP	PKiKP	20 57 55.2	+0.9	
	comp=Z,1.3nm,0.6s,baz=270,slow=1.4,SNR=4.5								
ZALV	Zalesovo Beam	110.43	1		Pdiff	Pdif	20 53 54.8	+0.1	
	comp=Z,0.6nm,0.6s,baz=346,slow=3.0,SNR=1.8								
ZALV					PKiKP	PKiKP	20 57 56.2	+1.2	
	comp=Z,1.0nm,0.7s,baz=285,slow=1.2,SNR=2.6								
ZALV					PKKPbc	PKKPbc	21 08 59.9	+2.8	
	comp=Z,0.5nm,0.5s,baz=207,slow=1.7,SNR=5.3								
MAK	Makhachkala	111.49	30	*i*	P	Pdif	20 54 02.4	+2.7	
MAK				*i*			20 57 55.4		
MAK				*e*			20 58 23.2		
MAK				*e*			20 58 36.7		
MAK				*e*	PPP	PPP	21 01 02.8		
MAK				*e*			21 04 29.2		
MAK				*e*	SSS	SSS	21 18 16.1		
MAK					pmax	pmax			
	comp=Z,100nm,1.5s								
MAK					MLR	MLR			
	comp=Z,241nm,18.0s								
KURK	Kurchatov	113.35	5	*d i*	PKiKP	PKiKP	20 58 02.4	+1.8	
KURBB	Kurchatov Arra	113.43	5		PKKPbc	PKKPbc	21 08 45.1	-2.0	
KURBB	comp=Z,0.7nm,0.2s,baz=194,slow=2.9,SNR=7.1				PKKPab	PKKPab	21 08 52.9	-2.6	
	comp=Z,2.0nm,0.8s,baz=190,slow=3.8,SNR=11								
ULN	Ulaanbaatar	113.85	345	⇑	PKiKP	PKiKP	20 58 02.7	+0.8	
KSRS	Korea Array	114.02	325		PKP	PKiKP	20 58 03.2	+0.9	
	comp=Z,0.5nm,0.4s,baz=88,slow=9.9,SNR=2.6								
SONM	Songino Array	114.05	345		PKiKP	PKPdf	20 58 02.4	+0.1	
	comp=Z,1.1nm,0.8s,baz=11,slow=0.8,SNR=7.3								
SONM					PP	PP	20 58 56.8	+0.2	
	comp=Z,3.3nm,0.9s,baz=4.1,slow=6.1,SNR=10.0								
SONM					PKKPbc	PKKPbc	21 08 42.9	-2.3	
	comp=Z,2.1nm,0.7s,baz=210,slow=4.1,SNR=12								
MKAR	Makanchi Array	117.51	3		PKP	PKPdf	20 58 08.8	0.0	
	comp=Z,1.6nm,0.9s,baz=316,slow=1.1,SNR=6.4								
MKAR					pPKP	pPKPdf	20 58 35.0	-0.3	
	comp=Z,2.0nm,0.7s,baz=357,slow=2.1,SNR=6.2								
MKAR					PP	PP	20 59 16.7	-3.9	
	comp=Z,3.7nm,0.9s,baz=22,slow=5.1,SNR=6.0								
MKAR					PKKPbc	PKKPbc	21 08 30.9	-2.1	
	comp=Z,2.4nm,1.0s,baz=156,slow=3.3,SNR=6.6								
MKAR					PKKP	PKKPdf	21 08 59.8	+0.3	
	comp=Z,0.4nm,0.7s,baz=226,slow=3.2,SNR=2.3								
HHC	Hu-ho-hao-te	118.84	338	*e*	PKP	PKPdf	20 58 09.2	-2.5	
SYO	Syowa Base	119.47	162	⇑ *e*	PKPdf	PKiKP	20 58 12.0	+0.2	
SYO	Syowa Base	119.47	162	⇑ *e*	pPKiKP	PKiKP	20 58 40.0	+28	
WMQ	Urumqi	120.56	359	*e*	PKP	PKiKP	20 58 15.7	+0.8	
WMQ					LR	LR			
	comp=Z,270nm,14.5s								
WMQ					LR	LR			
	comp=Z,240nm,23.7s								
AAK	Ala-Archa	120.77	10	⇓ *i*	PKiKP	PKiKP	20 58 18.6	+3.1	
AAK					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BOSA	Boshof	122.70	114		PKP	PKiKP	20 58 19.8	+0.2	
	comp=Z,31nm,0.8s,baz=279,slow=2.6,SNR=32								
BOSA					pPKP	pPKPdf	20 58 44.8	-1.1	
	comp=Z,14nm,0.8s,baz=279,slow=2.6,SNR=4.7								
NJ2	Nanjing	122.99	327	*e*	PKP	PKiKP	20 58 20.3	+0.4	
GTA	Gaotai	123.54	347		PKP	PKiKP	20 58 21.4	+0.4	
GTA					LR	LR			
	comp=Z,120nm,18.5s								
GTA					LR	LR			
	comp=Z,140nm,18.9s								
GTA					LR	LR			
	comp=Z,230nm,22.2s								
KSH	Kashi	124.06	10		PKP	PKiKP	20 58 26.1	+4.1	
RAYN	Ar Rayn	124.15	46			PKiKP	20 58 22.5	0.0	
RAYN	Ar Rayn	124.15	46		PKIKP	PKiKP	20 58 22.5	0.0	
GENI	Genyem	125.31	278		PKP	PKiKP	20 58 26.4	+1.4	
LZH	Lanzhou	125.68	342	*e*	PKP	PKiKP	20 58 26.1	+0.7	
LZH					LR	LR			
	comp=Z,240nm,20.3s								
LZH					LR	LR			
	comp=Z,270nm,19.9s								
LZH					LR	LR			
	comp=Z,350nm,20.3s								
XAN	Xi'an	125.84	337		PKP	PKiKP	20 58 25.7	+0.1	
XAN					sPKP		20 59 01.7		
MAW	Mawson	126.15	169		PKP	PKiKP	20 58 25.4	+0.3	
	comp=Z,6.3nm,0.7s,baz=213,slow=1.8,SNR=19								
MAW					pPKP	pPKPdf	20 58 51.5	+0.5	
	comp=Z,3.1nm,0.6s,baz=178,slow=5.9,SNR=2.9								
STKA	Stephens Creek	127.46	242			PKPdf	20 58 28.3	+0.1	
STKA	Stephens Creek	127.46	242		PKP	PKiKP	20 58 29.1	+0.4	
	comp=Z,14nm,0.7s,baz=71,slow=2.1,SNR=37								
STKA					pPKP	pPKPdf	20 58 55.9	+1.3	
	comp=Z,12nm,0.8s,baz=46,slow=1.3,SNR=7.1								
STKA	Stephens Creek	127.46	242	*d i*	PKiKP	PKiKP	20 58 29.0	+0.2	
GOMU	GeErMu	127.56	351		PKP	PKPdf	20 58 28.5	-0.4	
KMBO	Kilima Mbogo	129.56	78		PKP	PKiKP	20 58 34.0	+0.2	
	comp=Z,7.5nm,0.4s,baz=32,slow=3.9,SNR=6.0								
CD2	Chengdu	130.51	340		PKP	PKPdf	20 58 33.0	-1.2	
WRAB	Tennant Creek	134.15	258			PKPdf	20 58 40.5	-0.7	
WRAB	Tennant Creek	134.15	258	*c i*	PKiKP	PKiKP	20 58 42.5	-0.1	
WRA	Warramunga Arr	134.16	257		PKhKP	PKPpre	20 58 25.0		
	comp=Z,0.7nm,0.7s,baz=102,slow=3.0,SNR=8.1								
WRA					PKP	PKiKP	20 58 42.3	-0.3	
	comp=Z,13nm,0.9s,baz=84,slow=2.1,SNR=35								
WRA					pPKP	pPKPdf	20 59 08.8	+1.1	
	comp=Z,6.4nm,0.8s,baz=83,slow=1.7,SNR=4.6								
WRA					SKPbc	SKPbc	21 02 03.7	+1.5	
	comp=Z,8.4nm,1.4s,baz=99,slow=2.7,SNR=4.9								
LSA	Lhasa	134.43	354		PKP	PKPdf	20 58 36.0	-6.2	
ASAR	Alice Springs	134.64	252		PKhKP	PKPpre	20 58 25.1		
	comp=Z,1.0nm,0.7s,baz=96,slow=2.4,SNR=11								
ASAR					PKP	PKiKP	20 58 43.4	-0.2	
	comp=Z,2.3nm,0.8s,baz=102,slow=3.5,SNR=11								
ASAR					pPKP	pPKPdf	20 59 08.5	-0.1	
	comp=Z,5.0nm,0.8s,baz=94,slow=2.0,SNR=4.3								
ASAR					PP	PP	21 01 14.3	-2.2	
	comp=Z,1.2nm,0.9s,baz=89,slow=4.4,SNR=4.8								
ASAR					SKPab	SKiKP	21 02 11.9	+0.8	
	comp=Z,2.7nm,0.8s,baz=30,slow=6.6,SNR=4.3								
ASAR					PKKP	PKKPdf	21 08 27.8	+0.5	
	comp=Z,0.5nm,0.6s,baz=280,slow=1.4,SNR=6.9								
PZH	PanZhiHua	135.24	340		PKP	PKPdf	20 58 42.6	-0.7	
KMI	Kunming	136.17	338		PKP	PKPdf	20 58 44.0	-1.2	
KMI					LR	LR			
	comp=Z,170nm,35.9s								
QIZ	Qiongzhong	138.23	325		PKP	PKPdf	20 58 49.9	+1.0	
QIZ					PP	PP	21 01 42.3	+4.8	
QIZ					SS	SS	21 19 44.7	+2.9	
QIZ					LR	LR			
	comp=Z,170nm,14.4s								
QIZ					LR	LR			
	comp=Z,240nm,12.7s								
SOEI	Soe	142.45	275		PKP	PKPdf	20 58 54.6	-2.1	
ABPO	Ambohimpanom	142.72	101			PKPdf	20 58 54.5	-2.6	
ABPO	Ambohimpanom	142.72	101		PKIKP	PKPdf	20 58 54.5	-2.6	
CHTO	Chiang Mai	143.31	340			PKPbc	20 58 55.9	+0.6	
CHTO	Chiang Mai	143.31	340		PKIKP	PKPbc	20 58 55.9	+0.6	
CMAR	Chiang Mai Arr	143.64	339			PKPbc	20 58 56.1	-0.1	
CMAR	Chiang Mai Arr	143.64	339		PKP	PKPdf	20 58 57.7	-0.9	
	comp=Z,4.9nm,0.7s,baz=340,slow=2.6,SNR=22								
CMAR					pPKP	pPKPdf	20 59 24.0	-1.1	
	comp=Z,3.9nm,0.7s,baz=332,slow=3.7,SNR=3.9								
CMAR	Chiang Mai Arr	143.64	339		PKIKP	PKPbc	20 58 56.1	-0.1	
TTSI	Tana Toraja	144.57	288		PKP	PKPdf	20 59 00.5	+0.2	
EDFI	Ende, Flores	144.67	277		PKP	PKPab	20 58 58.7	-0.8	
BNSI	Bone	144.81	285		PKP	PKPbc	20 59 00.1	+0.1	
SPSI	Sidrap Palu	144.97	286		PKP	PKPdf	20 59 01.0	0.0	
BKSI	Bulukumba	145.12	284		PKP	PKPdf	20 59 01.2	-0.1	
SMKI	Samarinda	145.80	294		PKP	PKiKP	20 59 05.2	-1.4	
HYB	Hyderabad	146.05	13	*e*	PKPab	PKPbc	20 59 03.7	-0.1	
BASI	Baing, Sumba	146.09	275		PKP	PKPab	20 59 05.4	+0.7	
WSI	Waingapu	146.23	276		PKP	PKPbc	20 59 04.5	+0.1	
BKB	Balikpapan	146.45	293		PKP	PKPab	20 59 06.1	0.0	
WBSI	Waikabubak, Su	147.09	277		PKP	PKPbc	20 59 05.9	-1.0	
NWAO	Narrogin (SRO)	147.23	233			PKPbc	20 59 06.7	0.0	
NWAO	Narrogin (SRO)	147.23	233		PKIKP	PKPbc	20 59 06.7	0.0	
MSEY	Mahe Island	147.81	73			PKPbc	20 59 09.9	+1.0	
MSEY	Mahe Island	147.81	73		PKP2	PKPbc	20 59 09.9	+1.0	
MBWA	Marble Bar	147.84	255			PKPdf	20 59 05.7	+0.1	
PLAI	Plampang	148.42	279		PKP	PKPbc	20 59 08.7	-1.7	
MORW	Morawa	149.59	239			PKPbc	20 59 12.9	0.0	
STKI	Sintang	150.46	300		PKP	PKPbc	20 59 14.8	-0.7	
SRBI	Singaraja	150.63	282		PKP	PKPbc	20 59 14.4	-1.4	
JAGI	Jajag, Banyuwa	151.75	282			PKPbc	20 59 16.6	-1.9	
JAGI	Jajag, Banyuwa	151.75	282		PKP	PKPbc	20 59 16.7	-1.8	
GMJI	Gumukmas	152.35	283		PKP	PKPbc	20 59 18.4	-1.4	
MDSI	Maura Dua	159.03	301		PKP	PKPdf	20 59 20.8	-1.1	

IDC ***12*** *21:05:44.7±2.9, 17°.68S×178°.86W, h521km±31km, mb3.3/9, mbtmp4.2/10, Error ellipse: s-maj=23.2km s-min=19.2km az=138.0*
NEIC ***12*** *21:05:47.3±1.4, 17°.5S±0°.1×179°.0W±0°.2, h548km±8km, mb4.0/33, Error ellipse: s-maj=24.4km s-min=16.9km az=133.0*

ISC 12 21:05:46.1±0.5, 17°.6S±0°.1×178°.88W±0°.09, h539km, n49, σ1s18/51, mb3.9/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
MSVF	Nonsavu	2.93	268	P	P	21 07 02.1	+2.2
FUTU	Fugatoga	3.39	13	P	P	21 07 03.0	+0.2
AFI	Afiamalu	7.78	63	P	P	21 07 39.3	-2.1
NIUE	Niue	8.62	101	P	P	21 07 50.8	+1.0
DZM	Mont Dzumac	14.49	250	P	P	21 08 50.8	+0.2
	5.3nm,0.6s,baz=97,slow=16,SNR=8.3						
URZ	Urewera	20.84	189	P	P	21 09 49.4	-0.8
	12nm,0.9s,baz=337,slow=13,SNR=1.8						
	12nm,0.9s						
EIDS	Eidsvold	28.94	249	P	P	21 11 01.9	-0.2
ARMA	Armidale	29.69	239	P	P	21 11 09.8	+1.1
CTAO	Charters Tower	33.05	260	P	P	21 11 36.7	-0.7
CTAO				IAmb	IAmb	21 11 55.3	
	comp=Z,6.6nm,1.1s						
CAN	Canberra	33.52	232	P	P	21 11 42.0	+0.8
COEN	Coen	36.66	270	P	P	21 12 07.5	0.0
TOO	Toolangi	37.00	230	P	P	21 12 11.4	+1.4
TOO				IAmb	IAmb	21 12 12.0	
	comp=Z,4.7nm,1.0s						
STKA	Stephens Creek	38.37	241	P	P	21 12 21.9	+0.6
STKA	Stephens Creek	38.37	241	P	P	21 12 22.3	+1.0
	comp=Z,5.2nm,0.4s,baz=87,slow=9.7,SNR=44						
	comp=Z,5.2nm,0.4s						
BBOO	Buckleboo	43.15	241	P	P	21 12 59.6	+0.3
WR8	Warramunga Arr	44.09	259	P	P	21 13 05.6	-1.2
WR8				IAmb	IAmb	21 13 17.9	
	comp=Z,3.4nm,0.9s						
WB0	Warramunga Arr	44.21	260	P	P	21 13 06.5	-1.2
WB0				IAmb	IAmb	21 13 07.4	
	comp=Z,4.1nm,1.0s						
WRA	Warramunga Arr	44.24	259	P	P	21 13 06.2	-1.9
WRA	Warramunga Arr	44.24	259	P	P	21 13 06.9	-1.1
	comp=Z,0.9nm,0.3s,baz=93,slow=7.8,SNR=39						
	comp=Z,0.9nm,0.3s						
AS31	Alice Springs	44.43	254	P	P	21 13 09.2	-0.3
ASAR	Alice Springs	44.44	254	P	P	21 13 09.3	-0.1
	comp=Z,15nm,0.5s,baz=88,slow=8.1,SNR=295						
ASAR				PcP	PcP	21 14 41.5	0.0
	comp=Z,0.4nm,0.4s,baz=100,slow=3.4,SNR=2.5						
ASAR				ScP	ScP	21 17 45.0	+2.6
	comp=Z,0.5nm,0.7s,baz=90,slow=3.9,SNR=3.2						
	comp=Z,15nm,0.5s						
KNRA	Kununurra	50.07	264	P	P	21 13 51.2	-0.7
FITZ	Fitzroy Crossi	52.63	260	P	P	21 14 10.4	0.0
PSA00	Pilbara Seismi	57.55	255	P	P	21 14 44.1	-0.6
PSA00				IAmb	IAmb	21 14 44.8	
	comp=Z,4.2nm,0.6s						
MBWA	Marble Bar	57.71	256	P	P	21 14 44.5	-1.3
MBWA				IAmb	IAmb	21 15 02.4	
	comp=Z,5.4nm,1.1s						
MORW	Morawa	60.18	246	P	P	21 15 01.4	-0.9
MORW				IAmb	IAmb	21 15 08.5	
	comp=Z,7.7nm,1.1s						
VNDA	Vanda	60.68	185	P	P	21 15 02.8	-1.8
	comp=Z,0.4nm,0.6s,baz=90,slow=5.1,SNR=6.1						
	comp=Z,0.4nm,0.6s						
MJAR	Matsshiro Arr	67.42	324	P	P	21 15 47.2	-0.9
	comp=Z,0.9nm,0.6s,baz=122,slow=6.9,SNR=4.2						
	comp=Z,0.9nm,0.6s						
QSPA	South Pole Qui	72.42	180	P	P	21 16 19.7	+2.2
PLK4	Peulik 4	77.29	12	P	P	21 16 45.0	+0.2
PLK4				IAmb	IAmb	21 16 45.2	
	comp=Z,5.1nm,0.8s						
O18K	Koktuh Hills	79.58	12	P	P	21 16 56.4	-0.4
O18K				IAmb	IAmb	21 16 57.3	
	comp=Z,8.2nm,1.0s						
N18K	Kilae Creek	80.22	11	P	P	21 16 59.9	-0.3
M17K	Holitna River	80.61	10	P	P	21 17 02.8	+0.6
M17K				IAmb	IAmb	21 17 04.2	
	comp=Z,5.8nm,1.1s						
SLKM	Skilak Lake	81.24	14	P	P	21 17 05.6	+0.1
SLKM				IAmb	IAmb	21 17 05.9	
	comp=Z,4.2nm,0.8s						
L18K	Granite Mounta	81.51	10	P	P	21 17 07.4	+0.6
SUA	Susitna One	81.97	13	P	P	21 17 08.2	-1.2
BELA	Belgrano 2	82.49	173	P	P	21 17 08.9	-2.8
J18K	Innoko River	82.67	10	P	P	21 17 12.8	+0.1
J18K				IAmb	IAmb	21 17 13.6	
	comp=Z,3.1nm,0.8s						
K20K	Telida	83.02	11	P	P	21 17 13.9	-0.5
K20K				IAmb	IAmb	21 17 15.2	
	comp=Z,4.1nm,0.9s						
J19K	Poorman	83.34	10	P	P	21 17 16.1	+0.1
J19K				IAmb	IAmb	21 17 23.1	
	comp=Z,4.4nm,1.1s						
CAST	Castle Rocks	83.45	12	P	P	21 17 14.0	-2.6
CAST				IAmb	IAmb	21 17 16.4	
	comp=Z,2.4nm,0.7s						
GLB	Gilahina Butte	83.63	16	P	P	21 17 17.2	-0.4
GLB				IAmb	IAmb	21 17 17.8	
	comp=Z,2.4nm,0.6s						
J20K	Nowinta River	83.76	11	P	P	21 17 17.5	-0.6
Q32M	Nakina River	85.30	22	P	P	21 17 26.8	+0.8
Q32M				IAmb	IAmb	21 17 27.5	
	comp=Z,2.0nm,0.7s						
ILAR	Eielson Array	85.72	13	P	P	21 17 27.3	-0.4
	comp=Z,0.3nm,0.4s,baz=231,slow=5.7,SNR=4.0						
	comp=Z,0.3nm,0.4s						
TXAR	Lajitas Array	86.23	58	P	P	21 17 33.0	+2.0
	comp=Z,0.6nm,0.7s,baz=209,slow=7.2,SNR=6.2						
	comp=Z,0.6nm,0.7s						
PDAR	Pinedale Array	87.46	44	P	P	21 17 37.4	+0.7
	comp=Z,0.4nm,0.4s,baz=277,slow=4.8,SNR=4.0						
	comp=Z,0.4nm,0.4s						
BRTR	Keskin Array B	144.28	315	PKP	PKPdf	21 24 21.8	+0.5
	comp=Z,0.3nm,0.4s,baz=137,slow=1.0,SNR=4.6						
GERES	GERESS Array B	147.23	345	PKPbc	PKPbc	21 24 28.8	-0.2
	comp=Z,0.4nm,0.6s,baz=26,slow=3.4,SNR=3.7						

IDC ***12*** *21:26:15.0±5.6, 5°.00S×144°.36E, h106km±45km, mb3.3/5, mbtmp3.7/7, Error ellipse: s-maj=54.7km s-min=21.1km az=82.0*

ISC 12 21:26:11.8±1.3, 5°.0S±0°.2×144°.6E±0°.2, h82km, n7, σ0s61/8, mb3.5/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
JAY	Jayapura	4.61	302	P	Pn	21 27 19.7	+0.6
	6.3nm,0.6s,baz=157,slow=17,SNR=7.5						
JAY				S	Sn	21 28 10.7	-0.8
	9.2nm,0.6s,baz=102,slow=16,SNR=4.6						
WRA	Warramunga Arr	17.90	213	P	P	21 30 14.9	-0.1
	0.8nm,0.7s,baz=31,slow=11,SNR=8.2						
ASAR	Alice Springs	21.23	208	P	P	21 30 51.0	-0.2
	1.0nm,0.6s,baz=32,slow=11,SNR=7.9						
	1.0nm,0.6s						
MKAR	Makanchi Array	75.22	321	P	P	21 37 46.0	+0.3
	0.2nm,0.3s,baz=101,slow=7.4,SNR=5.1						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	76.91	328	P	P	21 37 54.7	-0.4
	0.6nm,0.5s,baz=107,slow=5.1,SNR=2.7						
	0.6nm,0.5s						
BVAR	Borovoye Array	84.57	324	P	P	21 38 36.6	+0.6
	0.6nm,0.6s,baz=116,slow=6.6,SNR=2.4						
	0.6nm,0.6s						
ILAR	Eielson Array	85.52	24	P	P	21 38 40.0	-0.5
	0.4nm,0.7s,baz=236,slow=6.4,SNR=4.3						
	0.4nm,0.7s						

NAO ***12*** *21:28:54.7±0.9, 71°.79N×2°.35W, h10km, ML4.0*
IDC ***12*** *21:28:55.4±1.4, 71°.66N×1°.71W, h0km, mb3.5/6, mbtmp3.7/12, ML3.3/6, MS3.1/2, Error ellipse: s-maj=26.0km s-min=21.5km az=58.0*
BER ***12*** *21:28:57.2±3.5, 71°.85N×2°.12W, h10km, Mw4.3, Confirmed Earthquake*

ISC 12 21:28:55.4±0.8, 71°.79N±0°.09×2°.02W±0°.09, h10km, n57, σ1s56/56, mb3.6/6, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
DBG	Daneborg	5.88	304	Pn	Pn	21 30 20.2	-2.1
DBG				Sn	Sn	21 31 20.2	-9.4
DBG	Daneborg	5.88	304	*e* P	Pn	21 30 20.4	-2.0
DBG	Daneborg	5.88	304	*i* P	Pn	21 30 20.3	-2.1
DBG				*e* S	Sn	21 31 21.2	-8.4
DBG				IAML		21 31 26.3	
	comp=Z,1.5nm,0.4s						
LOF	Lofoten	6.47	117	Pn	Pn	21 30 29.0	-1.6
LOF	Lofoten	6.47	117	*e* P	Pn	21 30 28.9	-1.6
DAG	Danmarks Havn	6.71	326	*e* P	Pn	21 30 32.6	-1.2
HSPB	Hornsund (broa	7.02	34	*e* P	Pn	21 30 38.7	+0.6
HSPB				IAML		21 30 48.8	
	comp=Z,19nm,0.4s						
STEI	Steigen	7.09	115	Pn	Pn	21 30 38.0	-0.9
STEI	Steigen	7.09	115	*e* P	Pn	21 30 37.9	-1.1
TRO	Tromso	7.25	97	Pn	Pn	21 30 38.8	-2.4
TRO	Tromso	7.25	97	*e* P	Pn	21 30 39.1	-2.0
VAGH	Vaagaholmen	7.41	126	Pn	Pn	21 30 41.9	-1.5
VAGH	Vaagaholmen	7.41	126	*e* P	Pn	21 30 41.7	-1.7
FAUS	Fauske	7.47	118	Pn	Pn	21 30 43.1	-1.2
FAUS	Fauske	7.47	118	*e* P	Pn	21 30 43.0	-1.2
KONS	Konsvik	7.55	127	Pn	Pn	21 30 43.9	-1.4
KONS	Konsvik	7.55	127	*e* P	Pn	21 30 43.4	-2.0
STOK	Stokkvaagen	7.66	128	Pn	Pn	21 30 46.0	-0.7
STOK	Stokkvaagen	7.66	128	*e* P	Pn	21 30 45.8	-1.0
JETT	Jettan, Norway	7.75	96	Pn	Pn	21 30 46.5	-1.6
JETT	Jettan, Norway	7.75	96

LVBS	**Lehavot Habash**	**0.24**	**137**	P		**Pg**	**21 29 55.5**	**+0.2**
LVBS	**Lehavot Habash**	**0.24**	**137**	S		**Sg**	**21 29 59.9**	**+1.2**
NATI	**Neve Ativ**	**0.24**	**103**	P		**Pg**	**21 29 55.3**	**0.0**
NATI	**Neve Ativ**	**0.24**	**103**	P		**Pg**	**21 29 55.4**	**0.0**
NATI	**Neve Ativ**	**0.24**	**103**	S		**Sg**	**21 29 59.5**	**+0.7**
SHBL	**Chebaa**	**0.24**	**83**	*e*P		**Pg**	**21 29 55.5**	**0.0**
SHBL				*e*S		**Sg**	**21 29 59.1**	**+0.1**
ZRT	**Zar'it**	**0.26**	**213**	P		**Pg**	**21 29 55.7**	**+0.1**
ZRT	**Zar'it**	**0.26**	**213**	S		**Sb**	**21 30 00.0**	**-1.2**
HULT	**Hulata**	**0.30**	**154**	P		**Pg**	**21 29 56.5**	**+0.1**
MMC7	**Mount Meron ar**	**0.30**	**190**	P		**Pg**	**21 29 56.4**	**0.0**
QRWL	**Qaraoun**	**0.30**	**40**	*e*P		**Pg**	**21 29 56.7**	**+0.3**
MMA0B	**Mount Meron ar**	**0.30**	**188**	P		**Pg**	**21 29 56.5**	**0.0**
MMA0B	**Mount Meron ar**	**0.30**	**188**	S		**Sg**	**21 30 01.3**	**+0.7**
HNTI	**Hanita**	**0.33**	**225**	P		**Pg**	**21 29 57.2**	**+0.2**
HNTI	**Hanita**	**0.33**	**225**	S		**Sb**	**21 30 02.1**	**-1.3**
KDZV	**Kedmat Zvi**	**0.35**	**145**	P		**Pb**	**21 29 58.0**	**-0.4**
KDZV	**Kedmat Zvi**	**0.35**	**145**	S		**Sb**	**21 30 03.5**	**-0.4**
RSPN	**Rosh Pina**	**0.35**	**167**	P		**Pb**	**21 29 58.0**	**-0.4**
RCY	**Rachaya**	**0.37**	**61**	*e*P		**Pg**	**21 29 57.8**	**+0.2**
RCY				*e*S		**Sg**	**21 30 03.0**	**+0.4**
AMID	**Amiad**	**0.40**	**170**	P		**Pg**	**21 29 58.2**	**+0.1**
DQRL	**Deir Qamar**	**0.40**	**14**	*e*P		**Pg**	**21 29 58.4**	**+0.1**
DQRL				*e*S		**Sb**	**21 30 04.9**	**-0.5**
HDNS	**Had-Ness**	**0.42**	**158**	P		**Pb**	**21 29 59.0**	**-0.5**
KNHM	**Kefar Nahum**	**0.45**	**166**	P		**Pg**	**21 29 59.3**	**+0.2**
KSHT	**Keshet**	**0.45**	**138**	P		**Pb**	**21 29 59.7**	**-0.5**
KSHT	**Keshet**	**0.45**	**138**	S		**Sb**	**21 30 06.4**	**-0.4**
MGDL	**Migdal**	**0.48**	**175**	P		**Pg**	**21 29 59.7**	**+0.1**
BHL	**Bhannes**	**0.61**	**16**	*e*P		**Pg**	**21 30 02.2**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.62**	**201**	P		**Pb**	**21 30 02.6**	**-0.4**
BLGI	**Bet Lehem HaGe**	**0.62**	**201**	S		**Sb**	**21 30 11.8**	**+0.1**
ZAHL	**Zahle**	**0.65**	**34**	*e*P		**Pg**	**21 30 02.9**	**0.0**
MNHA	**Menahamia**	**0.66**	**173**	P		**Pb**	**21 30 03.2**	**-0.4**
OFRI	**`Ofer**	**0.80**	**210**	P		**Pg**	**21 30 05.3**	**-0.4**
OFRI	**`Ofer**	**0.80**	**210**	P		**Pb**	**21 30 06.3**	**+0.3**
OFRI	**`Ofer**	**0.80**	**210**	S		**Sb**	**21 30 17.0**	**+0.2**
MMLI	**Mount Malkishu**	**0.88**	**182**	P		**Pb**	**21 30 07.3**	**-0.1**
MMLI	**Mount Malkishu**	**0.88**	**182**	S		**Sb**	**21 30 19.7**	**+0.6**
QRNJ	**Al-Qirein**	**0.98**	**174**	P		**Pg**	**21 30 08.7**	**-0.5**
HMDT	**Nahal Hemdat**	**1.06**	**177**	P		**Pb**	**21 30 10.1**	**-0.4**
HMDT	**Nahal Hemdat**	**1.06**	**177**	P		**Pb**	**21 30 10.2**	**-0.4**
HMDT	**Nahal Hemdat**	**1.06**	**177**	S		**Sn**	**21 30 25.9**	**+0.3**
SLTI	**Sal'it**	**1.13**	**198**	P		**Pn**	**21 30 11.9**	**+0.1**
YTIR	**Yattir**	**1.97**	**188**	P		**Pb**	**21 30 25.3**	**-0.8**
KZIT	**Kziot**	**2.56**	**201**	P		**Pb**	**21 30 37.2**	**+1.0**

CNRM ***12*** *21:37:16.3, 36°.39N×7°.55W, h72km*
MDD ***12*** *21:37:17.8±0.6, 36°.59N×7°.17W, h7km±3km, mb_Lg2.8/28, Error ellipse: s-maj=5.0km s-min=2.5km az=26.0*
SFS ***12*** *21:37:18.9, 36°.48N×7°.25W, h53km, ML2.4/13, ML2.7/13, MLv2.4/13*
INMG ***12*** *21:37:19.8±1.6, 36°.48N×7°.23W, h32km±11km, ML1.9, Error ellipse: s-maj=4.5km s-min=3.6km az=7.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
IGIL ***12*** *21:37:19.7, 36°.48N×7°.24W, h37km, ML1.7*
ISC 12 21:37:17.7±1.2**, 36°.50N**±0°.03×**7°.21W**±0°.03**, h35**km**, n72,** σ1§**40**/117**, 4D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ARNO	**Arenosillo**	**0.71**	**32**	P		**Pn**	**21 37 32.9**	**+1.6**
CNIL	**Conil**	**0.94**	**97**	P		**Pn**	**21 37 36.4**	**+2.0**
PBDV	**Barranco-do-Ve**	**0.95**	**322**	*i*P		**Pn**	**21 37 35.5**	**+1.0**
PBDV				*e*S		**Sn**	**21 37 47.2**	**+0.3**
PBDV				*i* IAML			21 37 48.4	
PBDV				*i* IAML			21 37 49.0	
PBDV				*i* IAML			21 37 51.0	
PVAQ	**Vaqueiros**	**0.99**	**336**	P		**Pn**	**21 37 36.2**	**+1.0**
PVAQ				S		**Sn**	**21 37 48.3**	**+0.3**
PVAQ	**Vaqueiros**	**0.99**	**336**	*i*P		**Pn**	**21 37 36.4**	**+1.2**
PVAQ				*e*S		**Sn**	**21 37 48.7**	**+0.6**
PVAQ				*i* IAML			21 37 49.0	
PVAQ				*i* IAML			21 37 49.4	
PVAQ				*i* IAML			21 37 49.5	
PVAQ	**Vaqueiros**	**0.99**	**336**	P		**Pn**	**21 37 34.8**	**-0.4**
PVAQ	**Vaqueiros**	**0.99**	**336**	S		**Sn**	**21 37 50.1**	**+2.0**
EGRO	**El Granado**	**1.06**	**348**	S		**Sn**	**21 37 50.4**	**+0.7**
EGRO				P		**Pn**	**21 37 37.3**	**+1.2**
EGRO	**El Granado**	**1.06**	**348**	Pg		**Pn**	**21 37 37.3**	**+1.2**
EGRO				Sg		**Sn**	**21 37 48.1**	**-1.6**
EGRO				*i* IVmb_Lg			21 37 51.2	
ESPR	**Espera**	**1.15**	**71**	P		**Pn**	**21 37 38.6**	**+1.3**
ESPR				S		**Sn**	**21 37 53.0**	**+1.3**
ESPR	**Espera**	**1.15**	**71**	Pg		**Pn**	**21 37 38.6**	**+1.3**
ESPR				Sg		**Sn**	**21 37 51.1**	**-0.7**
ESPR				*i* IVmb_Lg			21 37 54.2	
PCVE	**Castro Verde**	**1.32**	**330**	P		**Pn**	**21 37 40.7**	**+1.1**
PCVE				S		**Sn**	**21 37 55.8**	**-0.1**
PCVE	**Castro Verde**	**1.32**	**330**	*e*P		**Pn**	**21 37 40.8**	**+1.1**
PCVE				*e*S		**Sn**	**21 37 56.4**	**+0.4**
PCVE				*i* IAML			21 37 57.1	
PCVE				*i* IAML			21 37 57.1	
PCVE				*i* IAML			21 37 57.1	
EMIN	**Mina Concepcio**	**1.34**	**18**	S		**Sn**	**21 37 56.6**	**0.0**
EMIN				P		**Pn**	**21 37 41.0**	**+1.0**
EMIN	**Mina Concepcio**	**1.34**	**18**	Pg		**Pn**	**21 37 40.7**	**+0.7**
EMIN				Sg		**Sn**	**21 37 56.4**	**-0.1**
EMIN				*i* IVmb_Lg			21 37 57.6	
EJIF	**Jimena Fronter**	**1.40**	**91**	Pg		**Pn**	**21 37 42.5**	**+1.7**
EJIF				Sg		**Sn**	**21 38 00.6**	**+2.6**
MORF	**Marmelete**	**1.41**	**305**	*e*P		**Pn**	**21 37 41.6**	**+0.6**
MORF				*e*S		**Sn**	**21 37 58.1**	**-0.3**
MORF				IAML			21 37 58.8	
	comp=N,8.8nm,0.1s							
MORF	**Marmelete**	**1.41**	**305**	*e*P		**Pn**	**21 37 41.6**	**+0.6**
MORF				*e*S		**Sn**	**21 37 58.4**	**0.0**
MORF				*i* IAML			21 37 58.8	
MORF				*i* IAML			21 37 59.1	
MORF				*i* IAML			21 38 10.9	
PFVI	**Vila Bisbo**	**1.45**	**297**	*e*P		**Pn**	**21 37 42.1**	**+0.7**
PFVI				*e*S		**Sn**	**21 37 58.9**	**-0.3**
PFVI				*i* IAML			21 37 59.7	
PFVI				*i* IAML			21 38 00.0	
PFVI				*i* IAML			21 38 00.3	
MESJ	**Messejana**	**1.57**	**329**	*e*P		**Pn**	**21 37 44.2**	**+1.1**
MESJ				*e*S		**Sn**	**21 38 01.9**	**-0.3**
MESJ				IAML			21 38 03.8	
	comp=N,7.5nm,0.1s							
MESJ	**Messejana**	**1.57**	**329**	*i*P		**Pn**	**21 37 44.2**	**+1.1**
MESJ				*e*S		**Sn**	**21 38 02.0**	**-0.1**
MESJ				*i* IAML			21 38 03.9	
MESJ				*i* IAML			21 38 04.7	
MESJ				*i* IAML			21 38 05.8	
CEU	**Ceuta**	**1.60**	**111**	P		**Pn**	**21 37 45.4**	**+1.9**
PBEJ	**Beja**	**1.62**	**341**	*e*P		**Pn**	**21 37 44.9**	**+1.1**
PBEJ				*e*S		**Sn**	**21 38 03.4**	**0.0**
PBEJ				*i* IAML			21 38 04.3	
PBEJ				*i* IAML			21 38 04.8	
PBEJ				*i* IAML			21 38 04.9	
PBAR	**Barrancos**	**1.68**	**4**	S		**Sn**	**21 38 04.5**	**-0.5**
PBAR				P		**Pn**	**21 37 45.9**	**+1.3**
PBAR	**Barrancos**	**1.68**	**4**	*e*P		**Pn**	**21 37 46.0**	**+1.4**
PBAR				*e*S		**Sn**	**21 38 05.5**	**+0.5**
PBAR				*i* IAML			21 38 06.6	
PBAR				*i* IAML			21 38 06.7	
PBAR				*i* IAML			21 38 06.7	
ECAB	**El Cabril**	**2.13**	**42**	P		**Pn**	**21 37 51.4**	**+0.7**
ECAB				S		**Sn**	**21 38 15.1**	**-0.9**
ECAB	**El Cabril**	**2.13**	**42**	Pn		**Pn**	**21 37 51.6**	**+0.8**
ECAB				Sn		**Sn**	**21 38 15.9**	**-0.1**
ECAB				*i* IVmb_Lg			21 38 17.6	
EVO	**Evora**	**2.13**	**343**	P		**Pn**	**21 37 51.8**	**+1.0**
EVO				S		**Sn**	**21 38 15.9**	**-0.2**
EVO	**Evora**	**2.13**	**343**	*e*P		**Pn**	**21 37 52.1**	**+1.2**
EVO				*e*S		**Sn**	**21 38 15.7**	**-0.4**
EVO				*i* IAML			21 38 16.9	
EVO				*i* IAML			21 38 17.5	
EVO				*i* IAML			21 38 17.5	
EBAD	**Badajoz**	**2.26**	**4**	S		**Sn**	**21 38 18.5**	**-0.7**
EBAD				P		**Pn**	**21 37 53.5**	**+0.9**
EBAD	**Badajoz**	**2.26**	**4**	Pn		**Pn**	**21 37 53.8**	**+1.1**
EBAD				Sn		**Sn**	**21 38 18.2**	**-1.0**
EBAD				*i* IVmb_Lg			21 38 20.6	
PESTR	**Estremoz**	**2.39**	**353**	*e*P		**Pn**	**21 37 54.0**	**-0.4**
PESTR				*e*S		**Sn**	**21 38 22.6**	**+0.2**
PESTR				*i* IAML			21 38 27.0	
PESTR				*i* IAML			21 38 27.6	
PESTR				*i* IAML			21 38 36.5	
PESTR	**Estremoz**	**2.39**	**353**	P		**Pn**	**21 37 53.7**	**-0.7**
EGOR	**Sierra Gorda,**	**2.56**	**75**	S		**Sn**	**21 38 27.4**	**+0.6**
EGOR				P		**Pn**	**21 37 58.9**	**+2.0**
EGOR	**Sierra Gorda,**	**2.56**	**75**	Pn		**Pn**	**21 37 58.3**	**+1.5**
EGOR				Sn		**Sn**	**21 38 27.7**	**+0.8**
EGOR				*i* IVmb_Lg			21 38 35.1	
EADA	**Adamuz**	**2.68**	**51**	P		**Pn**	**21 37 59.5**	**+1.1**
EADA				S		**Sn**	**21 38 27.7**	**-1.9**
EADA	**Adamuz**	**2.68**	**51**	Pn		**Pn**	**21 37 59.2**	**+0.9**
EADA				Sn		**Sn**	**21 38 28.3**	**-1.3**
EADA				*i* IVmb_Lg			21 38 31.6	
PMTG	**Montargil**	**2.69**	**343**	*e*P		**Pn**	**21 37 59.6**	**+1.1**
PMTG				*e*S		**Sn**	**21 38 29.3**	**-0.7**
PMTG				*i* IAML			21 38 31.6	
PMTG				*i* IAML			21 38 32.1	
PMTG				*i* IAML			21 38 44.5	
PARRA	**Arraiolos**	**2.74**	**328**	*e*P		Pn	21 37 55.8	-3.4
PARRA				*e*S		Sn	21 38 22.5	-8.5
PARRA				*i* IAML			21 38 23.8	
PARRA				*i* IAML			21 38 24.5	
PARRA				*i* IAML			21 38 26.1	
PMRV	**Marv??o**	**2.93**	**357**	*e*P		**Pn**	**21 38 03.0**	**+1.1**
PMRV				*e*S		**Sn**	**21 38 34.6**	**-1.2**
PMRV				*i* IAML			21 38 36.6	
PMRV				*i* IAML			21 38 51.7	
PMRV				*i* IAML			21 38 54.3	
PMAFR	**Mafra**	**2.96**	**327**	*e*P		**Pn**	**21 38 06.0**	**+3.9**
PMAFR				*e*S		**Sn**	**21 38 36.4**	**-0.1**
ZHG	**ZHG**	**3.08**	**171**	P		**Pn**	**21 38 04.4**	**+0.5**
ZHG	**ZHG**	**3.08**	**171**	S		**Sn**	**21 38 39.8**	**+0.3**
PSARD	**Sardoal**	**3.19**	**347**	*e*P		**Pn**	**21 38 06.6**	**+1.2**
PSARD				*e*S		**Sn**	**21 38 40.7**	**-1.5**
PSARD				*i* IAML			21 38 43.5	
PSARD				*i* IAML			21 38 43.7	
PSARD				*i* IAML			21 38 43.8	
AKLM	**AKL**	**3.37**	**125**	P		**Pn**	**21 38 07.4**	**-0.5**
AKLM	**AKL**	**3.37**	**125**	S		**Sn**	**21 38 47.4**	**+0.6**
E0802	**Ubeda,Jaen**	**3.42**	**62**	Pn		**Pn**	**21 38 09.0**	**+0.5**
E0802				Sn		**Sn**	**21 38 46.5**	**-1.3**
EQES	**Quesada**	**3.55**	**67**	Pn		**Pn**	**21 38 11.3**	**+0.8**
EQES				*i* IVmb_Lg			21 38 47.4	
EQES				Sn		**Sn**	**21 38 50.6**	**-0.6**
PSIM	**Granatula de C**	**3.59**	**49**	Pn		**Pn**	**21 38 11.5**	**+0.6**
PSIM				Sn		**Sn**	**21 38 49.0**	**-3.1**
EPLA	**Plasencia**	**3.67**	**14**	Pn		**Pn**	**21 38 13.4**	**+1.3**
EPLA				Sn		**Sn**	**21 38 53.6**	**-0.5**
EPLA				*i* IVmb_Lg			21 38 55.7	
PCAS	**Casmilo, Conde**	**3.69**	**344**	*e*S		**Sn**	**21 38 53.7**	**-0.9**
PAB	**San Pablo**	**3.79**	**36**	Pn		**Pn**	**21 38 14.6**	**+0.9**
PAB				Sn		**Sn**	**21 38 54.8**	**-2.3**
PAB				*i* IVmb_Lg			21 38 55.8	
ESDC	**Sonseca Array**	**4.08**	**38**	Sn		**Sn**	**21 39 02.3**	**-1.8**
ESDC				*i* IVmb_Lg			21 39 02.8	
ESBB	**Sonseca Array**	**4.08**	**38**	Sn		**Sn**	**21 39 02.2**	**-2.0**
MD31	**MD31**	**4.14**	**150**	P		**Pn**	**21 38 17.8**	**-0.8**
MD31	**MD31**	**4.14**	**150**	S		**Sn**	**21 39 06.3**	**+0.5**
PVIS	**Viseu**	**4.25**	**353**	*e*S		**Sn**	**21 39 08.2**	**-0.1**
MDT	**Midelt**	**4.25**	**149**	P		**Pn**	**21 38 19.6**	**-0.5**
MDT	**Midelt**	**4.25**	**149**	S		**Sn**	**21 39 09.2**	**+0.6**
MVO	**Moncorvo**	**4.67**	**2**	*e*P		**Pn**	**21 38 26.9**	**+1.2**
MVO				*e*S		**Sn**	**21 39 16.9**	**-1.8**
MVO				*i* IAML			21 39 18.0	
MVO				*i* IAML			21 39 18.9	
MVO				*i* IAML			21 39 19.3	
GUD	**Guadarrama**	**4.78**	**29**	Pn		**Pn**	**21 38 28.7**	**+1.3**
GUD				Sn		**Sn**	**21 39 19.2**	**-2.4**
GUD				*i* IVmb_Lg			21 39 20.3	
POLO	**Lamas de Olo**	**4.89**	**355**	*e*P		**Pn**	**21 38 29.9**	**+1.0**
POLO				*e*S		**Sn**	**21 39 22.1**	**-2.2**
POLO				*i* IAML			21 39 24.5	
POLO				*i* IAML			21 39 24.7	
POLO				*i* IAML			21 39 27.5	
ELOB	**Lobios**	**5.41**	**353**	Sn		**Sn**	**21 39 34.8**	**-2.2**
ELOB				*i* IVmb_Lg			21 39 37.3	
ECAL	**Calabor**	**5.45**	**4**	Pn		**Pn**	**21 38 36.5**	**0.0**
ECAL				Sn		**Sn**	**21 39 35.2**	**-2.8**
ECAL				*i* IVmb_Lg			21 39 49.3	
PGAV	**Gavieira, Arco**	**5.53**	**352**	*e*S		**Sn**	**21 39 38.0**	**-1.8**
TIO	**Tiouine**	**5.55**	**181**	P		**Pn**	**21 38 37.5**	**-0.5**
TIO				S		**Sn**	**21 39 35.3**	**-5.5**
TIO	**Tiouine**	**5.55**	**181**	P		**Pn**	**21 38 35.8**	**-2.3**
TIO	**Tiouine**	**5.55**	**181**	S		**Sn**	**21 39 37.3**	**-3.4**
OUZM	**OUZ**	**5.58**	**176**	P		**Pn**	**21 38 37.6**	**-0.8**
OUZM	**OUZ**	**5.58**	**176**	S		**Sn**	**21 39 41.0**	**-0.4**
ETOR	**Torete**	**5.91**	**41**	Pn		**Pn**	**21 38 44.0**	**+1.2**
ETOR				*i* IVmb_Lg			21 39 31.0	
ETOR				Sn		**Sn**	**21 39 47.2**	**-2.0**

KRNET ***12*** *21:39:29.5±0.1, 41°.78N×7°.49E, h19km, mb2.3*
SOME ***12*** *21:39:29.8, 41°.80N×7°.43E, h5km*
NNC ***12*** *21:39:30.4±1.0, 41°.82N×7°.46E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=6.8km s-min=3.6km az=17.0*
ISC 12 21:39:29.7±1.4**, 41.77N**±0°.06×**7°.42E**±0°.03**, h4**km±10km**, n21,** σ1§**36**/39**, 4C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.29**	**98**	*i*P		**Pg**	**21 39 34.7**	**-0.7**
TARG				*i*S		**Sg**	**21 39 38.4**	**-0.9**
KDJ	**Kajisay**	**0.40**	**334**	*i*P		**Pg**	**21 39 37.6**	**+0.2**
KDJ				*i*S		**Sg**	**21 39 43.6**	**+0.9**
TNSS	**Tian-Shan**	**1.31**	**345**	P		**Pg**	**21 39 54.2**	**-0.6**
	0.5nm,0.1s							
TNSS				S		**Sg**	**21 40 11.7**	**-0.2**
	1.8nm,0.3s							
TNSS	**Tian-Shan**	**1.31**	**345**	*e*P		**Pg**	**21 39 54.2**	**-0.6**
	0.1nm,0.1s							
TNSS				*e*S		**Sg**	**21 40 11.7**	**-0.2**
	1.6nm,0.1s							
KOTS	**Kotyrbulak**	**1.48**	**351**	P		Pn	**21 39 57.1**	**-0.1**
	1.3nm,0.2s							
KOTS				S		**Sn**	**21 40 16.5**	**-0.5**
	10nm,0.2s							
KOTS	**Kotyrbulak**	**1.48**	**351**	*e*P		Pn	**21 39 57.1**	**-0.1**
	0.9nm,0.1s							
KOTS				*e*S		**Sn**	**21 40 16.5**	**-0.5**
	10nm,0.1s							
SATY	**Saty**	**1.48**	**29**	P		**Pb**	**21 39 57.1**	**-0.7**
	2.1nm,0.1s							
SATY				S		**Sg**	**21 40 16.6**	**-0.6**
	7.7nm,0.1s							
KNDC	**Almaty**	**1.48**	**347**	P		**Pb**	**21 39 57.3**	**-0.5**
	4.6nm,0.5s							
KNDC				S		**Sg**	**21 40 17.4**	**+0.1**
	10nm,0.4s							
KST	**Kastek**	**1.67**	**320**	P		**Pb**	**21 40 00.6**	**-0.4**
	1.9nm,0.2s							
KST				S		**Sb**	**21 40 22.7**	**+0.3**
	4.6nm,0.2s							
KST	**Kastek**	**1.67**	**320**	*e*P		**Pb**	**21 40 00.6**	**-0.4**
	1.4nm,0.2s							
KST				*e*S		**Sb**	**21 40 22.7**	**+0.3**
	4.6nm,0.2s							
TKM2	**Tokmak 2**	**1.77**	**311**	*i*P		**Pb**	**21 40 02.3**	**-0.5**
TKM2				*i*S		**Sg**	**21 40 26.4**	**-0.2**
UZB	**Uzynbulak**	**1.81**	**40**	P		**Pb**	**21 40 02.5**	**-1.0**
	2.3nm,0.3s							
UZB				S		**Sb**	**21 40 25.9**	**-0.8**
	2.2nm,0.2s							
UZB	**Uzynbulak**	**1.81**	**40**	*e*P		**Pb**	**21 40 02.5**	**-1.0**
	1.9nm,0.1s							
UZB				*e*S		**Sb**	**21 40 25.9**	**-0.8**
	2.1nm,0.1s							
KPKS	**Kokpek**	**1.93**	**28**	P		**Pb**	**21 40 05.2**	**-0.3**
	0.2nm,0.2s							
KPKS				S		**Sg**	**21 40 30.3**	**-1.4**
	2.5nm,0.2s							
KTBS	**Karatobe**	**2.01**	**345**	Pg		**Pb**	**21 40 06.7**	**-0.2**
	0.9nm,0.2s							
KTBS				Lg		Lg	21 40 33.0	
	7.5nm,0.3s							
SHLS	**Shalkode**	**2.05**	**47**	Pg		**Pg**	**21 40 11.3**	**+2.4**
	2.0nm,0.2s							
SHLS				Lg		Lg	21 40 41.0	
	5.7nm,0.5s							
SHLS	**Shalkode**	**2.05**	**47**	*e*P		**Pg**	**21 40 11.3**	**+2.4**
	1.7nm,0.1s							
SHLS				*e*S		**Sg**	**21 40 41.0**	**+5.5**
	4.9nm,0.2s							
CHKK	**Chushkaly**	**2.10**	**351**	Pg		**Pb**	**21 40 08.0**	**-0.4**
	10nm,0.1s							
CHKK				Lg		Lg	21 40 35.7	
	13nm,0.4s							
CHKK	**Chushkaly**	**2.10**	**351**	*e*P		**Pb**	**21 40 08.0**	**-0.4**
	5.5nm,0.1s							
CHKK				*e*S		**Sg**	**21 40 35.7**	**-1.6**
	13nm,0.4s							
PDGK	**Podgornoye**	**2.18**	**44**	Pn		**Pn**	**21 40 07.0**	**+0.1**
	1.8nm,1.1s							
PDGK				Sn		**Sb**	**21 40 34.9**	**-2.3**
	1.2nm,0.6s							
USP	**Ospenovka**	**2.62**	**306**	*i*P		**Pn**	**21 40 14.0**	**+1.2**
USP				*i*S		**Sn**	**21 40 46.6**	**+1.4**

NEIC ***12*** *21:40:19.5±2.4, 19°.28S±0°.03×69°.64W±0°.06, h97km±6km, mb4.4/25, Mwr4.5(GUC), Error ellipse: s-maj=8.4km s-min=4.7km az=89.0*
VAO ***12*** *21:40:19.5±1.6, 19°.20S×69°.64W, h112km±11km, mb4.2*
IDC ***12*** *21:40:19.1±0.7, 19°.16S×69°.41W, h90km±5km, mb3.7/9, mbtmp4.1/12, MS3.0/3, Error ellipse: s-maj=18.3km s-min=13.5km az=51.0*
GUC ***12*** *21:40:20.7±0.8, 19°.23S×69°.73W, h86km±5km, ML4.2*
ISC 12 21:40:19.2±0.5**, 19°.24S**±0°.03×**69°.55W**±0°.05**, h96**km±5km**, n114,** σ1§**58**/126**, mb4.3**/20**, 8C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PB11	**IPOC Station P**	**0.53**	**191**			**Pn**	**21 40 35.4**	**+0.4**
PB11					Sn	**Sn**	**21 40 46.9**	**+0.1**
PB11	**IPOC Station P**	**0.53**	**191**	⇑*i*P		**Pn**	**21 40 35.2**	**+0.2**
PB11				*e*S		**Sn**	**21 40 46.6**	**-0.2**
GO01	**Chusmiza**	**0.55**	**142**	Pn		**Pn**	**21 40 36.6**	**+1.1**
GO01				Sn		**Sn**	**21 40 49.2**	**+1.6**
GO01	**Chusmiza**	**0.55**	**142**	*i* P		**Pn**	**21 40 36.7**	**+1.1**
GO01				*e*S		**Sn**	**21 40 49.5**	**+1.9**
PB16	**IPOC Station P**	**0.90**	**3**	Pn		**Pn**	**21 40 39.8**	**+0.9**
PB16				Sn		**Sn**	**21 40 54.2**	**+0.7**
PB16	**IPOC Station P**	**0.90**	**3**	⇑*i*P		**Pn**	**21 40 39.9**	**+1.1**
PB16				*e*S		**Sn**	**21 40 54.8**	**+1.3**
PB16				IAML			21 40 56.0	
	comp=N,10μm,0.6s							
PB08	**IPOC Station P**	**0.97**	**157**	Pn		**Pn**	**21 40 40.6**	**+1.2**
PB08				Sn		**Sn**	**21 40 56.2**	**+1.6**
PB08	**IPOC Station P**	**0.97**	**157**	*i* P		**Pn**	**21 40 40.7**	**+1.2**
PB08				*e*S		**Sn**	**21 40 56.5**	**+1.9**
HMBC	**Humberstone**	**1.08**	**197**	Pn		**Pn**	**21 40 40.5**	**+0.1**
HMBC				Sn		**Sn**	**21 40 56.2**	**-0.1**
HMBC	**Humberstone**	**1.08**	**197**	⇑*i*P		**Pn**	**21 40 40.6**	**+0.2**
HMBC				*e*S		**Sn**	**21 40 56.6**	**+0.3**
HMBC				IAML			21 41 04.0	
	comp=N,17μm,0.3s							
AP01	**Chacalluta**	**1.14**	**319**			**Pn**	**21 40 40.9**	**-0.1**
AP01					Sn	**Sn**	**21 40 56.7**	**-0.5**
AP01	**Chacalluta**	**1.14**	**319**	*i* P		**Pn**	**21 40 41.0**	**+0.1**
AP01				*e*S		**Sn**	**21 40 57.3**	**0.0**
AP01				IAML			21 41 05.3	
	comp=N,8μm,0.2s							
TA02	**Huaiquique**	**1.16**	**208**	Pn		**Pn**	**21 40 41.0**	**-0.1**
TA02				Sn		**Sn**	**21 40 57.5**	**-0.2**
TA02	**Huaiquique**	**1.16**	**208**	*e*P		**Pn**	**21 40 41.8**	**+0.6**
TA01	**Diego Aracena**	**1.45**	**204**	Pn		**Pn**	**21 40 43.9**	**-0.7**
TA01	**Diego Aracena**	**1.45**	**204**	⇑*i*P		**Pn**	**21 40 44.1**	**-0.5**
TA01				*e*S		**Sn**	**21 41 02.5**	**-1.3**
TA01				IAML			21 41 08.1	
	comp=N,4μm,0.2s							
PB18	**Visviri**	**1.64**	**2**	Pn		**Pn**	**21 40 50.2**	**+2.7**
PB18	**Visviri**	**1.64**	**2**	⇑*i*P		**Pn**	**21 40 50.6**	**+3.0**
PATCX	**Pun

DELO					IAmb	IAmb	21 50 58.5		
	comp=Z,3.8nm,1.0s								
PKME	**Peaks-Kenny Pk**	**64.19**	**0**	P	**P**	**P**	**21 50 43.6**	**+0.1**	
PKME					IAmb	IAmb	21 50 48.1		
	comp=Z,4.5nm,0.9s								
SADO	**Sadowa**	**64.30**	**352**	P	**P**	**P**	**21 50 44.0**	**-0.2**	
SADO					IAmb	IAmb	21 50 44.8		
	comp=Z,3.7nm,0.7s								
SNAA	**Sanae**	**64.60**	**161**	P	**P**		**21 50 46.9**	**+0.8**	
SNAA	**Sanae**	**64.60**	**161**	P	**P**		**21 50 45.7**	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=286,slow=2.3,SNR=4.6								
SNAA				pP	**pP**		**21 51 09.5**	**-1.5**	
	comp=Z,1.6nm,1.0s,baz=301,slow=12,SNR=1.1								
	comp=Z,1.1nm,0.8s								
JFWS	**Jewell Farm**	**64.72**	**343**	P	**P**		**21 50 46.8**	**-0.2**	
BUKO	**Buck Lake**	**64.99**	**352**	P	**P**		**21 50 48.7**	**-0.1**	
BUKO					IAmb	IAmb	21 50 49.7		
	comp=Z,8.9nm,0.8s								
TRQ	**Mont Tremblant**	**65.31**	**356**	P	**P**		**21 50 50.4**	**-0.4**	
TRQ					IAmb	IAmb	21 50 51.8		
	comp=Z,4.3nm,0.8s								
VLDQ	**Val d'Or**	**67.41**	**354**	P	**P**		**21 51 04.6**	**+0.5**	
VLDQ					IAmb	IAmb	21 51 05.4		
	comp=Z,4.9nm,0.7s								
DBIC	**Dimbokro**	**68.69**	**75**	P	**P**		**21 51 12.4**	**-0.5**	
	comp=Z,4.1nm,0.9s,baz=243,slow=14,SNR=2.7								
DBIC				pP		**PcP**	**21 51 34.8**	**-2.4**	
	comp=Z,9.2nm,0.8s,baz=258,slow=7.0,SNR=5.9								
	comp=Z,4.1nm,0.9s								
CCCA	**Chr Cany lake**	**70.85**	**320**	P	**P**		**21 51 28.4**	**+2.6**	
CCCA					IAmb	IAmb	21 51 31.2		
	comp=Z,3.5nm,0.8s								
QSPA	**South Pole Qui**	**70.94**	**180**	P	**P**		**21 51 28.0**	**+1.9**	
	comp=Z,1.2nm,0.7s,baz=152,slow=0.8,SNR=6.6								
	comp=Z,1.2nm,0.7s								
R11B	**Troy Canyon, C**	**71.74**	**323**	P	**P**		**21 51 33.5**	**+2.2**	
PDAR	**Pinedale Array**	**71.86**	**330**	P	**P**		**21 51 32.5**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=140,slow=6.9,SNR=2.3								
	comp=Z,0.2nm,0.4s								
ULM	**Lac du Bonnet**	**72.99**	**343**	P	**P**		**21 51 37.9**	**-0.3**	
	comp=Z,3.2nm,0.6s,baz=160,slow=6.1,SNR=7.1								
ULM				pP		**pP**	**21 52 01.8**	**-1.6**	
	comp=Z,2.1nm,0.7s,baz=214,slow=2.7,SNR=2.7								
	comp=Z,3.2nm,0.6s								
NVAR	**Mina Array Bea**	**73.35**	**322**	P	**P**		**21 51 41.5**	**+0.7**	
	comp=Z,1.1nm,0.8s,baz=141,slow=5.7,SNR=5.5								
	comp=Z,1.1nm,0.8s								
PAHR	**Pah Rah Range**	**74.83**	**322**	P	**P**		**21 51 51.3**	**+1.9**	
PAHR					IAmb	IAmb	21 51 52.3		
	comp=Z,5.3nm,0.7s								
PLID	**Pearl Lake**	**76.70**	**328**			**P**	**21 52 00.9**	**+0.9**	
PLID					IAmb	IAmb	21 52 02.3		
	comp=Z,3.3nm,1.0s								
TORD	**Torodi Ar. Bea**	**77.18**	**71**	P	**P**		**21 52 02.1**	**-0.9**	
BMO	**Blue Mountains**	**77.20**	**327**		**P**		**21 52 03.5**	**+0.9**	
KSXB	**Camp Six Broad**	**78.80**	**322**		**P**		**21 52 12.2**	**+0.6**	
YKA	**Yellowknife Ar**	**88.86**	**341**	P	**P**		**21 53 02.8**	**+0.7**	
	comp=Z,4.8nm,0.8s,baz=132,slow=4.4,SNR=16								
	comp=Z,4.8nm,0.8s								
H11S2	**WAKE ISLAND Hyl**	**26.96**	**279**	T	T		00 18 45.4		
	baz=101,slow=75,SNR=97								
H11S1	**WAKE ISLAND Hyl**	**26.97**	**279**	T	T		00 18 44.3		
	baz=101,slow=75,SNR=65								
H11S3	**WAKE ISLAND Hyl**	**26.98**	**279**	T	T		00 18 51.4		
	baz=101,slow=75,SNR=62								
H11N3	**WAKE ISLAND Hyl**	**26.99**	**281**	T	T		00 18 40.4		
	baz=100,slow=75,SNR=37								
H11N2	**WAKE ISLAND Hyl**	**27.00**	**281**	T	T		00 18 41.5		
	baz=100,slow=75,SNR=45								
H11N1	**WAKE ISLAND Hyl**	**27.00**	**281**	T	T		00 18 37.8		
	baz=100,slow=75,SNR=29								
ASAR	**Alice Springs**	**131.60**	**209**	PKP		**PKPdf**	**21 59 22.1**	**+0.6**	
	comp=Z,0.6nm,0.6s,baz=166,slow=2.3,SNR=4.9								
BVAR	**Borovoye Array**	**134.25**	**33**	PKP		**PKiKP**	**21 59 27.2**	**+0.4**	
	comp=Z,0.7nm,0.6s,baz=338,slow=3.2,SNR=4.3								
WRA	**Warramunga Arr**	**134.56**	**212**	PKP		**PKPdf**	**21 59 27.9**	**+0.8**	
	comp=Z,1.2nm,0.8s,baz=161,slow=1.8,SNR=9.3								
ZALV	**Zalesovo Beam**	**140.15**	**24**	PKP		**PKPdf**	**21 59 37.4**	**+1.1**	
	comp=Z,2.4nm,0.7s,baz=298,slow=3.1,SNR=11								
MKAR	**Makanchi Array**	**144.13**	**34**	PKP		**PKPab**	**21 59 41.8**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=305,slow=1.7,SNR=4.7								
MJAR	**Matsushiro Arr**	**150.17**	**311**	PKPbc		**PKiKP**	**22 00 00.4**	**+0.4**	
	comp=Z,2.1nm,0.6s,baz=96,slow=1.3,SNR=8.4								
SONM	**Songino Array**	**151.29**	**6**	PKPbc		**PKiKP**	**22 00 02.8**	**+0.6**	
	comp=Z,3.1nm,0.6s,baz=326,slow=1.7,SNR=18								
SONM				pPKPbc		**pPKPbc**	**22 00 28.0**	**-1.1**	
	comp=Z,1.6nm,0.8s,baz=343,slow=2.6,SNR=4.6								

IDC ***12*** *21:55:46.3±0.7,31.01°S×177.40°W, h0km, mb4.2/8, mbtmp4.3/9,ML3.5/1, Error ellipse: s-maj=21.8km s-min=17.6km az=83.0*

NEIC ***12*** *21:55:48.1±2.1,31.1°S±0.1°×177.3°W±0.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=24.8km s-min=17.1km az=62.0*

ISC 12 21:55:49.9±0.6, 30.95°S±0.07°×177.31°W±0.10, h27km, n47, σ1°03/42, mb4.5/16, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
RAO	**Raoul Island**	**1.77**	**343**			**Pb**	**21 56 20.5**	**-1.1**
RAO	**Raoul Island**	**1.77**	**343**	Pn		**Pb**	**21 56 19.7**	**-2.0**
	510nm,0.3s,baz=177,slow=4.5,SNR=17							
RAO				Sn		**Sb**	**21 56 44.2**	**+0.8**
	470nm,0.3s,baz=74,slow=22,SNR=10							
URZ	**Urewera**	**8.62**	**211**	Pn		Pn	21 57 44.4	-8.4
	1.1nm,0.3s,baz=5.5,slow=17,SNR=20							
URZ				Sn		Sn	21 59 18.2	-11
	6.6nm,0.3s,baz=38,slow=19,SNR=12							
RTZ	**Ruatahuna**	**8.97**	**210**	Pn		Pn	21 57 48.8	-9.0
BKZ	**Black Stump Fm**	**9.64**	**210**	Pn		Pn	21 57 57.7	-9.2
MRZ	**Mangatainoka R**	**11.28**	**209**	Pn		Pn	21 58 21.0	-8.3
TUWZ	**Tuamarina**	**12.61**	**212**	Pn		Pn	21 58 41.2	-6.3
KHZ	**Kahutara**	**13.59**	**210**	Pn		Pn	21 58 49.5	-11
OXZ	**Oxford**	**14.98**	**211**	Pn		Pn	21 59 10.5	-9.2
RPZ	**Rata Peaks**	**15.73**	**213**	Pn		Pn	21 59 20.9	-8.7
	0.7nm,0.3s,baz=325,slow=22,SNR=1.3							
DZM	**Mont Dzumac**	**17.00**	**297**	Pn		**P**	**21 59 49.5**	**+1.9**
	0.3nm,0.3s,baz=117,slow=20,SNR=3.1							
RAR	**Rarotonga**	**18.48**	**63**	P		**Pn**	**22 00 04.3**	**+0.2**
RAR						IAmb	IAmb	22 00 24.7
	comp=Z,38nm,1.4s							
RAR	**Rarotonga**	**18.48**	**63**	P		**Pn**	**22 00 03.8**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=221,slow=11,SNR=4.1							
	comp=Z,16nm,0.7s							
DCZ	**Deep Cove**	**18.90**	**216**	P		**Pn**	**22 00 08.4**	**-0.7**
DCZ						IAmb	IAmb	22 00 47.1
	comp=Z,45nm,1.2s							
EIDS	**Eidsvold**	**28.36**	**273**	P		**P**	**22 01 42.9**	**+1.1**
EIDS						IAmb	IAmb	22 02 02.7
	comp=Z,12nm,1.2s							
CTAO	**Charters Tower**	**34.47**	**280**	P		**P**	**22 02 37.2**	**+1.6**
STKA	**Stephens Creek**	**34.94**	**258**	P		**P**	**22 02 39.6**	**0.0**
STKA	**Stephens Creek**	**34.94**	**258**	P		**P**	**22 02 39.4**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=96,slow=11,SNR=12							
	comp=Z,4.0nm,0.5s							
BBOO	**Buckleboo**	**39.39**	**255**	P		**P**	**22 03 16.2**	**-1.3**
BBOO						IAmb	IAmb	22 03 32.0
	comp=Z,9.4nm,0.9s							
AS31	**Alice Springs**	**43.67**	**267**	P		**P**	**22 03 50.8**	**-1.9**
ASAR	**Alice Springs**	**43.67**	**267**	P		**P**	**22 03 52.0**	**-0.7**
ASAR	**Alice Springs**	**43.67**	**267**	P		**P**	**22 03 51.8**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=106,slow=7.5,SNR=22							
ASAR				PcP		**PcP**	**22 05 38.9**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=122,slow=4.9,SNR=2.6							
	comp=Z,3.8nm,0.8s							
WR8	**Warramunga Arr**	**44.57**	**272**	P		**P**	**22 03 58.6**	**-1.2**
WR8						IAmb	IAmb	22 04 16.4
	comp=Z,6.6nm,1.0s							
WRAB	**Tennant Creek**	**44.71**	**272**	P		**P**	**22 04 01.3**	**+0.4**
WRAB						IAmb	IAmb	22 04 44.5
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**44.71**	**272**	P		**P**	**22 04 00.2**	**-0.7**
WRA	**Warramunga Arr**	**44.71**	**272**	P		**P**	**22 03 60.0**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=111,slow=8.0,SNR=28							
	comp=Z,2.1nm,0.3s							
WB0	**Warramunga Arr**	**44.74**	**273**	P		**P**	**22 04 00.9**	**-0.2**
WB0						IAmb	IAmb	22 04 17.8
	comp=Z,8.0nm,1.1s							
VNDA	**Vanda**	**47.62**	**186**	P		**P**	**22 04 24.0**	**+1.0**
	comp=Z,0.9nm,1.0s,baz=27,slow=6.7,SNR=3.6							
	comp=Z,0.9nm,1.0s							
FITZ	**Fitzroy Crossi**	**52.95**	**270**	P		**P**	**22 05 02.5**	**-1.7**
QSPA	**South Pole Qui**	**59.17**	**180**	P		**P**	**22 05 48.5**	**+0.3**
QSPA	**South Pole Qui**	**59.17**	**180**	P		**P**	**22 05 48.7**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=359,slow=0.8,SNR=30							
	comp=Z,3.4nm,0.6s							
MAW	**Mawson**	**72.01**	**200**	P		**P**	**22 07 11.3**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=114,slow=15,SNR=4.6							
	comp=Z,2.1nm,0.9s							
TROLL	**Troll, Antarti**	**77.33**	**180**	⇑P		**P**	**22 07 40.8**	**-1.0**
	comp=Z,214nm,0.9s							
SNAA	**Sanae**	**77.59**	**178**	⇑P		**P**	**22 07 41.8**	**-1.4**
	comp=Z,39nm,0.7s							
SNAA	**Sanae**	**77.59**	**178**	P		**P**	**22 07 41.8**	**-1.4**
SNAA						IAmb	IAmb	22 08 12.0
	comp=Z,6.1nm,1.3s							
VNA3	**Neumayer Olymp**	**77.72**	**176**	⇑P		**P**	**22 07 42.3**	**-1.6**
	comp=Z,4.8nm,0.6s							
VNA1	**Neumayer--Stat**	**78.39**	**176**	⇑P		**P**	**22 07 46.4**	**-1.1**
	comp=Z,3.7nm,0.8s							
PLCA	**Paso Flores**	**81.70**	**133**	P		**P**	**22 08 05.8**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=220,slow=7.9,SNR=3.3							
	comp=Z,1.5nm,0.7s							
NVAR	**Mina Array Bea**	**88.24**	**42**	P		**P**	**22 08 40.4**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=241,slow=4.2,SNR=3.8							
	comp=Z,0.8nm,0.8s							
ARCES	**ARCESS Array B**	**139.25**	**348**	PKP		**PKiKP**	**22 15 15.9**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=108,slow=2.9,SNR=1.3							
FIA1	**FINESS Array S**	**145.86**	**340**	PKPdf		**PKPab**	**22 15 26.1**	**-0.4**
FINES	**FINESS Array B**	**145.86**	**340**	PKPdf		**PKPab**	**22 15 25.9**	**-0.5**
FINES	**FINESS Array B**	**145.86**	**340**	PKPbc		**PKPab**	**22 15 26.3**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=50,slow=3.2,SNR=29							
KBZ	**Khabaz**	**145.91**	**303**	PKPbc		**PKPab**	**22 15 27.1**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=141,slow=4.9,SNR=3.6							
HFS	**Hagfors**	**149.89**	**349**	PKPbc		**PKPbc**	**22 15 36.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=20,slow=4.6,SNR=4.8							
MMAI	**Mount Meron Ar**	**152.23**	**283**	PKPbc		**PKiKP**	**22 15 44.9**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=100,slow=6.0,SNR=2.1							
BRTR	**Keskin Array B**	**153.38**	**298**	PKPbc		**PKiKP**	**22 15 46.4**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=138,slow=4.6,SNR=3.1							
BRTR				PKPab		**PKPab**	**22 15 58.3**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=10,slow=1.4,SNR=5.0							

HEL 12 22:05:25.7±0.2, 67.17N×20.57E, h0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ERTU	**Ertsjaerv**	**0.89**	**133**	PG		Pg	22 05 41.6	-1.2
	baz=310							
PAJU	**Pajala**	**1.01**	**97**	PG		Pg	22 05 43.7	-1.2
	baz=283							
PAJU				SG		Sg	22 05 56.8	-1.2
LANU	**Lannavaara**	**1.04**	**31**	PG		Pg	22 05 44.4	-1.2
KLF	**Kolari**	**1.32**	**86**	PG		Pg	22 05 49.6	-1.5
KLF				MSG			22 06 05.6	
	comp=Z,0.8nm,0.2s							
KLF				SG		Sg	22 06 06.6	-1.6
HEF	**Hetta**	**1.71**	**42**	PG		Pn	22 05 56.0	-0.8
HEF				MSG			22 06 16.8	
	comp=Z,0.6nm,0.2s							
HEF				SG		Sn	22 06 17.8	-1.5
KIF	**Kilpisjarvi**	**1.85**	**3**	PG		Pb	22 05 59.7	-0.6
KIF				MSG			22 06 21.7	
	comp=Z,1.1nm,0.2s							
KIF				SG		Sg	22 06 24.9	0.0
TOF	**Tornio**	**1.85**	**124**	PG		Pn	22 05 59.0	+0.4
TOF				MSG			22 06 21.2	
	comp=Z,0.6nm,0.2s							
TOF				SG		Sn	22 06 23.2	+0.4
KTK1	**Kautokeino**	**2.10**	**27**	SG		Sb	22 06 31.1	-0.2
RNF	**Rovaniemi**	**2.22**	**102**	SG		Sb	22 06 33.6	-1.0
RANF	**Ranua**	**2.74**	**112**	SG		Sb	22 06 49.3	-0.3

IDC 12 22:06:07.1±1.0, 13.57N×120.50E, h134km±13km, mb3.3/4, mbtmp3.7/4, Error ellipse: s-maj=43.4km s-min=18.6km az=56.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TGY	**Tagaytay City**	**0.68**	**39**	P		Pn	22 06 28.9	+1.0
	818nm,0.4s,baz=215,slow=7.8,SNR=16							
TGY				S		Sn	22 06 44.7	+1.1
	3µm,0.5s,baz=352,slow=22,SNR=37							
CMAR	**Chiang Mai Arr**	**21.28**	**286**	P		P	22 10 43.0	0.0
	0.9nm,0.3s,baz=102,slow=10,SNR=5.3							
	0.9nm,0.3s							
WRA	**Warramunga Arr**	**35.98**	**157**	P		P	22 12 54.7	-0.5
	0.8nm,0.6s,baz=336,slow=9.5,SNR=7.2							
	0.8nm,0.6s							
SONM	**Songino Array**	**36.13**	**344**	P		P	22 12 56.0	-0.3
	1.0nm,0.7s,baz=161,slow=9.6,SNR=4.5							
	1.0nm,0.7s							
ASAR	**Alice Springs**	**39.26**	**160**	P		P	22 13 23.0	+0.2
	0.5nm,0.5s,baz=337,slow=6.9,SNR=9.2							
	0.5nm,0.5s							

UPP 12 22:06:18.9±0.1, 67.16N×20.62E, h0km, ML1.5, Unknown Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
DUNU	**Dundret**	**0.05**	**207**	P		Pg	22 06 20.0	+0.2
	baz=26							
DUNU				S		Sg	22 06 20.9	+0.6
MASU	**Masugnsbyn**	**0.61**	**60**	P		Pg	22 06 30.4	-0.1
RATU	**Laukkuluspa**	**0.77**	**330**	P		Pg	22 06 33.5	-0.2
RATU				S		Sg	22 06 44.1	+0.4
KUA	**Kurravaara**	**0.80**	**352**	P		Pg	22 06 33.9	-0.4
KUA				S		Sg	22 06 44.8	+0.2
SALU	**Saltoluokta**	**0.85**	**286**	P		Pg	22 06 34.5	-0.6
ERTU	**Ertsjaerv**	**0.87**	**134**	P		Pg	22 06 35.1	-0.5
PAJU	**Pajala**	**0.98**	**97**	P		Pg	22 06 37.2	-0.5
HARU	**Harads**	**1.01**	**172**	P		Pg	22 06 37.9	-0.4

IDC ***12*** *22:09:44.4±0.6, 38.63N×90.50E, h0km, mb4.2/18, mbtmp4.2/24, ML3.6/6, MS3.6/27, Error ellipse: s-maj=18.2km s-min=11.2km az=38.0*

BJI ***12*** *22:09:44.0, 38.51N×90.23E, h8km, mB4.9/10, mb4.5/38, ML4.7/11, Ms4.3/37, Ms7 4.1/36*

NNC ***12*** *22:09:46.0±1.5, 38.91N×90.31E, h0km, mb4.6, Error ellipse: s-maj=14.8km s-min=12.3km az=59.0*

MOS ***12*** *22:09:45.6±1.9, 38.70N×90.27E, h19km, mb4.6/16, Error ellipse: s-maj=7.6km s-min=5.0km az=130.1*

NEIC ***12*** *22:09:47.4±2.6, 38.78N±0.08×90.5E±0.1, h10km±1km, mb4.6/42, Error ellipse: s-maj=16.1km s-min=12.0km az=232.0*

ISC 12 22:09:47.0±0.3, 38.61N±0.04×90.35E±0.04, h10km, n201, σ2844/187, mb4.5/61, MS3.6/25, 13C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
GOMU	**GeErMu**	**4.29**	**123**	Pn		**Pn**	**22 10 50.8**	**-1.9**
GOMU				Sn		**Sn**	**22 11 41.9**	**-1.2**
GOMU				smax		smax		
	comp=N,2µm,0.9s							
GOMU				smax		smax		
	comp=E,940nm,0.7s							
WMQ	**Urumqi**	**5.57**	**340**	*e*Pn		**Pn**	**22 11 11.2**	**+1.2**
WMQ				Sn		**Sn**	**22 12 19.9**	**+5.7**
WMQ				smax		smax		
	comp=N,570nm,0.9s							
WMQ				smax		smax		
	comp=E,1µm,1.5s							
GTA	**Gaotai**	**7.41**	**81**	Pn		**Pn**	**22 11 34.9**	**-0.4**
GTA				smax		smax		
	comp=N,350nm,0.8s							
GTA				smax		smax		
	comp=E,190nm,0.8s							
GTA				LR		LR		
	comp=N,4µm,11.3s							
GTA				LR		LR		
	comp=E,1µm,8.4s							
GTA				LR		LR		
	comp=Z,1µm,10.9s							
LSA	**Lhasa**	**8.92**	**176**	Pn		Pn	22 12 01.1	+4.8
LSA	**Lhasa**	**8.92**	**176**	P		**Pn**	**22 11 59.8**	**+3.5**
LSA				pmax		pmax		
	comp=Z,30nm,1.6s							
LSA				LR		LR		
	comp=N,480nm,10.3s							
LSA				LR		LR		
	comp=Z,690nm,8.9s							
LSA	**Lhasa**	**8.92**	**176**	P		Pn	22 12 01.1	+4.8
SHLS	**Shalkode**	**9.41**	**302**	*e*P		Pn	22 11 56.8	-5.9
SHLS				pmax		pmax		
	comp=Z,56nm,2.4s							
UZB	**Uzynbulak**	**9.70**	**301**	*e*P		Pn	22 12 03.5	-3.2
UZB				pmax		pmax		
	comp=Z,10.0nm,0.9s							
PRZ	**Przheval'sk**	**9.88**	**297**			**Pn**	**22 12 07.8**	**-1.4**
PRZ	**Przheval'sk**	**9.88**	**297**	P		**Pn**	**22 12 07.8**	**-1.4**
TARG	**Taragay, Kyrgy**	**10.09**	**292**	Pn		**Pn**	**22 12 10.2**	**-2.1**
TARG	**Taragay, Kyrgy**	**10.09**	**292**	P		**Pn**	**22 12 10.2**	**-2.1**
MK31	**Makanchi Array**	**10.10**	**327**	Pn		Pn	22 12 09.2	-2.7
	comp=Z,33nm,0.8s,baz=142,slow=14,SNR=333							
MK31				⇑Sn		**Sn**	**22 14 01.8**	**-3.4**
	comp=Z,21nm,0.7s,baz=140,slow=22,SNR=4.0							
MK31				⇓Lg		Lg	22 14 56.4	
	comp=Z,138nm,1.0s							
MK31	**Makanchi Array**	**10.10**	**327**	*c*eP		Pn	22 12 08.9	-3.1
MKAR	**Makanchi Array**	**10.10**	**327**			Pn	22 12 09.7	-2.3
MKAR	**Makanchi Array**	**10.10**	**327**	Pn		Pn	22 12 09.1	-2.9
	comp=Z,2.1nm,0.3s,baz=144,slow=14,SNR=68							
MKAR				Sn		**Sn**	**22 13 59.1**	**-6.1**
	comp=Z,1.4nm,0.3s,baz=134,slow=24,SNR=3.6							
MKAR				Lg		Lg	22 15 07.0	
	comp=Z,0.8nm,0.3s,baz=136,slow=29,SNR=5.3							
MKAR				LR		LR	22 16 30.2	
	comp=Z,390nm,18.8s,baz=146,slow=40							
	comp=Z,9.0nm,0.6s							
MAKZ	**Makanchi**	**10.24**	**326**	Pn		Pn	22 12 11.5	-2.5
	comp=Z,22nm,0.8s							
MAKZ				Sn		**Sn**	**22 14 03.5**	**-5.4**
	comp=Z,40nm,0.9s							
MAKZ				Lg		Lg	22 15 03.4	
	comp=Z,133nm,1.1s							
KDJ	**Kajisay**	**10.64**	**293**	Pn		**Pn**	**22 12 17.6**	**-2.1**
KDJ	**Kajisay**	**10.64**	**293**	P		**Pn**	**22 12 17.6**	**-2.1**
ARXS	**Arharly**	**10.94**	**305**	*e*P		Pn	22 12 20.0	-3.6
EVN	**Everest**	**11.03**	**197**	Pn		**Pn**	**22 12 26.1**	**+0.7**
LZH	**Lanzhou**	**11.03**	**99**	*e*P		**Pn**	**22 12 25.0**	**0.0**
LZH				pP			22 12 29.0	
LZH				sP			22 12 32.5	
LZH				pmax		pmax		
	comp=Z,33nm,1.2s							
LZH				LR		LR		
	comp=Z,2µm,10.7s							
LZH				LR		LR		
	comp=Z,1µm,10.3s							
LZH				LR		LR		
	comp=Z,1µm,10.3s							
KNDC	**Almaty**	**11.12**	**299**	⇑Pn		**Pn**	**22 12 24.6**	**-1.4**
	comp=Z,182nm,0.7s							
KNDC				⇓Sn		**Sn**	**22 14 29.3**	**-1.2**
	comp=Z,371nm,1.2s							
KNDC				⇓Lg		Lg	22 15 32.2	
	comp=Z,463nm,1.4s							
KNDC	**Almaty**	**11.12**	**299**	P		**Pn**	**22 12 24.6**	**-1.4**
KNDC				S		**Sn**	**22 14 29.3**	**-1.2**
KSH	**Kashi**	**11.22**	**279**	P		**Pn**	**22 12 29.6**	**+2.1**
ITAN	**ITANAGAR**	**11.78**	**165**	⇓*e*P		**Pn**	**22 12 37.8**	**+2.7**
ITAN				*e*S		**Sn**	**22 14 40.1**	**-6.5**
ITAN				IAML			22 14 40.9	
	comp=E,90nm,0.2s							
LGTI	**Lohaghat**	**12.39**	**225**	*e*P		Pn	22 12 48.9	+5.4
LGTI				*e*S		**Sn**	**22 14 60.0**	**-1.6**
LGTI				IAML			22 15 08.0	
	comp=E,75nm,0.2s							
LGTI				IAML			22 15 08.0	
	comp=N,94nm,0.2s							
FRU1	**Bishkek**	**12.64**	**294**	Pn		**Pn**	**22 12 49.2**	**+2.3**
FRU1	**Bishkek**	**12.64**	**294**	P		**Pn**	**22 12 49.2**	**+2.3**
AAK	**Ala-Archa**	**12.70**	**293**	Pn		**Pn**	**22 12 45.8**	**-1.9**
AAK	**Ala-Archa**	**12.70**	**293**	Pn		**Pn**	**22 12 46.4**	**-1.3**
	comp=N,1.3nm,0.3s,baz=52,slow=23,SNR=5.8							
AAK				Lg		Lg	22 16 30.8	
	comp=N,0.3nm,0.3s,baz=291,slow=18,SNR=1.6							
AAK				LR		LR	22 18 42.5	
	comp=N,591nm,18.4s,baz=100,slow=42							
	comp=N,3.2nm,0.3s							
AAK	**Ala-Archa**	**12.70**	**293**	⇓*e*P		**Pn**	**22 12 47.2**	**-0.5**
SHL	**Shillong**	**13.07**	**174**	Pn		**Pn**	**22 12 51.8**	**-1.1**
SHL	**Shillong**	**13.07**	**174**	*e*P		**Pn**	**22 12 53.1**	**+0.1**
SHL				*e*S		**Sn**	**22 15 11.8**	**-6.8**
SHL				IAML			22 15 12.5	
	comp=N,81nm,0.4s							
SHL				IAML			22 15 12.9	
	comp=E,62nm,0.3s							
SHL	**Shillong**	**13.

XAN	**Xi'an**	**15.64**	**101**	P	**Pn**	**22 13 30.4**	**+2.8**
XAN				pmax	pmax		
	comp=Z,16nm,1.0s						
XAN				LR	LR		
	comp=Z,770nm,9.6s						
XAN				LR	LR		
	comp=Z,1μm,11.7s						
XAN				LR	LR		
	comp=Z,1μm,14.1s						
KK31	**Karatay Array**	**15.66**	**293**	Pn	**Pn**	**22 13 24.0**	**-3.7**
KK31	**Karatay Array**	**15.66**	**293**	⇓Pn	**Pn**	**22 13 24.7**	**-3.0**
	comp=Z,3.9nm,0.8s,baz=99,slow=12,SNR=18						
KK31				⇑Lg	Lg	22 18 01.8	
	comp=Z,20nm,1.2s						
KK31	**Karatay Array**	**15.66**	**293**	P	**Pn**	**22 13 24.0**	**-3.7**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**15.66**	**293**	Pn	**Pn**	**22 13 24.8**	**-2.9**
KKAR	**Karatay Array**	**15.66**	**293**	P	**Pn**	**22 13 24.8**	**-2.9**
ZAA0	**Zalesovo Array**	**15.80**	**348**	Pn	**Pn**	**22 13 26.4**	**-2.9**
ZAA0	**Zalesovo Array**	**15.80**	**348**	⇓Pn	**Pn**	**22 13 25.8**	**-3.6**
	comp=Z,2.5nm,0.8s						
ZAA0				⇓Sn	**Sn**	**22 16 20.1**	**-4.3**
	comp=Z,1.7nm,0.9s						
ZAA0				⇑Lg	Lg	22 17 56.0	
	comp=Z,7.3nm,1.4s						
ZALV	**Zalesovo Beam**	**15.80**	**348**	Pn	**Pn**	**22 13 25.5**	**-3.8**
ZALV	**Zalesovo Beam**	**15.80**	**348**	Pn	**Pn**	**22 13 26.6**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=9.7						
ZALV				Sn	**Sn**	**22 16 17.6**	**-6.8**
	comp=Z,0.4nm,0.3s,baz=168,slow=28,SNR=2.8						
ZALV				LR	LR	22 20 00.9	
	comp=Z,110nm,18.5s,baz=186,slow=39						
	comp=Z,3.7nm,0.9s						
IUG	**luzhnay**	**15.88**	**289**	*e*P	**Pn**	**22 13 30.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**16.47**	**76**	*e*P	**Pn**	**22 13 40.0**	**+1.8**
HHC				sP	pP	22 13 46.3	+1.5
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,260nm,4.8s						
HHC				LR	LR		
	comp=Z,920nm,14.9s						
HHC				LR	LR		
	comp=Z,370nm,10.3s						
HHC				LR	LR		
	comp=Z,480nm,13.5s						
SIMJ	**Simiganj**	**16.68**	**277**	Pn	**Pn**	**22 13 41.3**	**+0.4**
IRK	**Irkutsk**	**16.73**	**31**	*e*P	**Pn**	**22 13 44.5**	**+3.2**
IRK				pmax	pmax		
	comp=Z,38nm,2.6s						
KMI	**Kunming**	**17.05**	**138**	P	**Pn**	**22 13 43.4**	**-2.4**
KMI				pmax	pmax		
	comp=Z,20nm,1.0s						
KMI				LR	LR		
	comp=Z,280nm,5.9s						
KMI				LR	LR		
	comp=Z,380nm,7.8s						
KMI				LR	LR		
	comp=Z,320nm,8.9s						
KBL	**Kabul**	**17.58**	**263**		**Pn**	**22 13 49.9**	**-2.4**
KBL	**Kabul**	**17.58**	**263**	P	**Pn**	**22 13 49.9**	**-2.4**
KBL				pmax	pmax		
	comp=Z,14nm,0.8s						
ENH	**Enshi**	**17.82**	**112**	Pn	**Pn**	**22 13 52.1**	**-3.0**
LYN	**LuoYang**	**18.21**	**96**	P	**Pn**	**22 13 59.8**	**0.0**
LYN				pmax	pmax		
	comp=Z,36nm,1.0s						
LYN				LR	LR		
	comp=Z,810nm,13.4s						
LYN				LR	LR		
	comp=Z,830nm,12.7s						
LYN				LR	LR		
	comp=Z,960nm,11.0s						
HNS	**HongShan**	**19.22**	**86**	⇓P	**P**	**22 14 11.1**	**-0.1**
HNS				pmax	pmax		
	comp=Z,14nm,1.0s						
HNS				LR	LR		
	comp=Z,730nm,11.6s						
HNS				LR	LR		
	comp=Z,720nm,14.3s						
BVA0	**Borovoye Array**	**19.93**	**323**	Pn	**P**	**22 14 17.3**	**-1.5**
	comp=Z,12nm,0.9s,baz=147,slow=14,SNR=25						
BVA0	**Borovoye Array**	**19.93**	**323**	P	**P**	**22 14 17.3**	**-1.5**
BVAR	**Borovoye Array**	**19.93**	**323**	P	**P**	**22 14 17.2**	**-1.6**
	baz=129,slow=12,SNR=9.5						
BVAR				LR	LR	22 22 42.0	
	comp=Z,82nm,18.0s,baz=126,slow=39						
	comp=Z,2.6nm,0.8s						
BRVK	**Borovoye**	**20.00**	**323**	P	**P**	**22 14 17.8**	**-1.8**
BRVK	**Borovoye**	**20.00**	**323**	*ce*P	**P**	**22 14 18.3**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BJT	**Baijiatuau**	**20.01**	**78**	P	**P**	**22 14 19.5**	**-0.2**
BJT				IAmb	IAmb	22 14 24.5	
	comp=Z,22nm,1.2s						
BJT	**Baijiatuau**	**20.01**	**78**	P	**P**	**22 14 19.5**	**-0.2**
BJT				pmax	pmax		
	comp=Z,22nm,1.2s						
BJI	**Beijing**	**20.01**	**78**	P	**P**	**22 14 20.1**	**+0.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT	**XiLinHaoTe**	**20.02**	**66**	*e*P	**P**	**22 14 20.6**	**+0.7**
XLT				pP	Pn	22 14 23.5	+1.9
XLT				pmax	pmax		
	comp=Z,16nm,0.9s						
XLT				pmax	pmax		
	comp=Z,130nm,3.9s						
XLT				LR	LR		
	comp=Z,50nm,12.3s						
XLT				LR	LR		
	comp=Z,390nm,9.2s						
XLT				LR	LR		
	comp=Z,270nm,10.2s						
CHTO	**Chiang Mai**	**21.10**	**157**	P	**P**	**22 14 29.9**	**-1.8**
CHTO	**Chiang Mai**	**21.10**	**157**	P	**P**	**22 14 29.9**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WHN	**Wuhan**	**21.30**	**105**	P	**P**	**22 14 33.3**	**-0.4**
WHN				pmax	pmax		
	comp=Z,120nm,1.3s						
TIA	**Tai'an**	**21.38**	**88**	P	**P**	**22 14 34.2**	**-0.4**
TIA				pmax	pmax		
	comp=Z,28nm,1.0s						
TIA				LR	LR		
	comp=Z,950nm,18.0s						
TIA				LR	LR		
	comp=Z,380nm,8.6s						
TIA				LR	LR		
	comp=Z,490nm,9.0s						
CM31	**Chiang Mai Arr**	**21.43**	**157**	P	**P**	**22 14 32.3**	**-3.0**
CMAR	**Chiang Mai Arr**	**21.43**	**157**	P	**P**	**22 14 34.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**21.43**	**157**	P	**P**	**22 14 32.5**	**-2.8**
	comp=Z,1.6nm,0.6s,baz=338,slow=11,SNR=8.1						
CMAR				LR	LR	22 22 32.1	
	comp=Z,81nm,18.0s,baz=295,slow=36						
	comp=Z,1.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**21.43**	**157**	*ce*P	**P**	**22 14 33.9**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NJ2	**Nanjing**	**24.10**	**97**	*e*P	**P**	**22 15 01.0**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AB31	**Akbulak array**	**24.19**	**306**	P	**P**	**22 15 02.7**	**-0.7**
AB31	**Akbulak array**	**24.19**	**306**	Pn	**P**	**22 15 07.4**	**+4.0**
	comp=Z,3.0nm,0.7s,baz=99,slow=12,SNR=27						
AB31	**Akbulak array**	**24.19**	**306**	P	**P**	**22 15 07.4**	**+4.0**
ABKAR	**Akbulak array**	**24.19**	**306**	P	**P**	**22 15 03.3**	**-0.1**
BOD	**Bodaibo**	**24.63**	**31**	*e*P	**P**	**22 15 07.5**	**+0.2**
BOD				pmax	pmax		
	comp=Z,19nm,1.1s						
AKTO	**Aktyubinsk**	**25.70**	**308**	LR	LR	22 26 26.5	
	comp=Z,127nm,18.6s,baz=280,slow=39						
AKTO	**Aktyubinsk**	**25.70**	**308**	⇑Pn	**P**	**22 15 22.6**	**+5.5**
	comp=Z,6.7nm,0.8s						
AKTO	**Aktyubinsk**	**25.70**	**308**	P	**P**	**22 15 22.6**	**+5.5**
QIZ	**Qiongzhong**	**25.83**	**134**	P	**P**	**22 15 17.3**	**-1.3**
QIZ				S	**S**	**22 19 49.3**	**+1.1**
QIZ				LR	LR		
	comp=Z,310nm,11.7s						
QIZ				LR	LR		
	comp=Z,620nm,8.7s						
SVE	**Sverdlovsk**	**26.72**	**323**	*e*P	**P**	**22 15 30.6**	**+4.3**
SVE				pmax	pmax		
	comp=Z,20nm,1.1s						
ARTI	**Arti**	**27.61**	**321**	LR	LR	22 26 35.4	
	comp=Z,90nm,20.2s,baz=118,slow=36						
ARTI	**Arti**	**27.61**	**321**	*c i*P	**P**	**22 15 35.2**	**+0.9**
ARTI						22 16 19.3	
ARTI				S	**S**	**22 20 20.0**	**+4.4**
ARTI				SS	**SnSn**	**22 21 34.0**	**+7.6**
ARTI				pmax	pmax		
	comp=Z,7.0nm,2.7s						
BNX	**BinXian**	**28.18**	**63**	⇓P	**P**	**22 15 39.9**	**+0.4**
BNX				pmax	pmax		
	comp=Z,7.0nm,2.1s						
KSAR	**Wonju Array Be**	**29.46**	**80**	P	**P**	**22 15 50.1**	**-0.8**
KSAR	**Wonju Array Be**	**29.46**	**80**	P	**P**	**22 15 50.1**	**-0.8**
KSRS	**Korea Array**	**29.48**	**80**	P	**P**	**22 15 49.7**	**-1.5**
	comp=Z,4.5nm,0.8s,baz=285,slow=8.5,SNR=13						
	comp=Z,4.5nm,0.8s						
MDJ	**Mudanjiang**	**29.73**	**66**	P	**P**	**22 15 54.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,13nm,1.5s						
USRK	**Ussuriysk Ar.**	**31.47**	**66**	P	**P**	**22 16 08.3**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=256,slow=9.6,SNR=2.6						
	comp=Z,1.2nm,0.6s						
JNU	**Nakatsue**	**33.10**	**87**	LR	LR	22 30 29.9	
	comp=Z,174nm,18.3s,baz=280,slow=38						
YAK	**Yakutsk**	**33.51**	**33**	P	**P**	**22 16 24.4**	**-1.9**
YAK	**Yakutsk**	**33.51**	**33**	LR	LR	22 29 42.3	
	comp=Z,110nm,19.8s,baz=234,slow=36						
YAK	**Yakutsk**	**33.51**	**33**	*ie*P	**P**	**22 16 26.3**	**0.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.7s						
JOW	**Kunigami**	**33.77**	**99**	LR	LR	22 32 07.8	
	comp=Z,258nm,18.1s,baz=21,slow=40						
GNI	**Garni**	**34.99**	**287**	LR	LR	22 33 43.2	
	comp=Z,62nm,18.4s,baz=84,slow=41						
KBZ	**Khabaz**	**35.70**	**294**	P	**P**	**22 16 46.6**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=131,slow=6.3,SNR=3.9						
KBZ				LR	LR	22 35 45.3	
	comp=Z,65nm,18.3s,baz=64,slow=44						
	comp=Z,2.4nm,0.8s						
MJAR	**Matsushiro Arr**	**37.65**	**78**	LR	LR	22 34 33.6	
	comp=Z,63nm,18.7s,baz=298,slow=40						
KLMR	**Klimovskoe**	**38.36**	**322**	*e*P	P	22 17 04.9	-2.9
KLMR				pmax	pmax		
	comp=Z,12nm,1.3s						
TIXI	**Tiksi**	**38.40**	**19**	P	**P**	**22 17 06.6**	**-1.5**
TIXI				IAmb	IAmb	22 17 12.4	
	comp=Z,6.7nm,0.9s						
TIXI	**Tiksi**	**38.40**	**19**	LR	LR	22 32 32.0	
	comp=Z,65nm,18.1s,baz=210,slow=36						
TIXI	**Tiksi**	**38.40**	**19**	P	**P**	**22 17 06.6**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
OBN	**Obninsk**	**39.23**	**313**	*e*P	**P**	**22 17 15.7**	**+0.5**
OBN				*e*		22 18 45.7	
OBN				*e*		22 19 26.2	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RAYN	**Ar Rayn**	**40.85**	**262**	P	**P**	**22 17 30.3**	**+1.2**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BR131	**Keskin Array S**	**43.34**	**290**	P	**P**	**22 17 49.7**	**+0.2**
BR131	**Keskin Array S**	**43.34**	**290**	⇓*e*P	**P**	**22 17 50.1**	**+0.6**
BRTR	**Keskin Array B**	**43.34**	**290**	P	**P**	**22 17 50.2**	**+0.8**
BRTR	**Keskin Array B**	**43.34**	**290**	P	**P**	**22 17 50.0**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=99,slow=7.9,SNR=14						
	comp=Z,2.6nm,0.8s						
BRTR	**Keskin Array B**	**43.34**	**290**	*ce*P	**P**	**22 17 51.2**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASF	**Jabal al Asfar**	**43.53**	**278**	LR	LR	22 38 54.5	
	comp=Z,83nm,18.1s,baz=117,slow=40						
SEY	**Seymchan**	**43.88**	**36**	*e*P	**P**	**22 17 53.9**	**+0.6**
SEY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKASG	**Malin Array Be**	**43.93**	**307**	LR	LR	22 39 17.3	
	comp=Z,73nm,18.0s,baz=72,slow=40						
MMAI	**Mount Meron Ar**	**44.35**	**280**	LR	LR	22 39 29.9	
	comp=Z,50nm,18.4s,baz=68,slow=40						
FINES	**FINESS Array B**	**44.89**	**322**	P	**P**	**22 17 59.7**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=82,slow=10.0,SNR=1.5						
FINES				LR	LR	22 37 03.5	
	comp=Z,76nm,18.4s,baz=90,slow=36						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**45.66**	**334**	P	**P**	**22 18 05.5**	**-1.8**
	comp=Z,2.9nm,0.9s,baz=90,slow=8.1,SNR=4.2						
ARCES				LR	LR	22 38 45.0	
	comp=Z,108nm,18.6s,baz=106,slow=38						
	comp=Z,2.9nm,0.9s						
ISP	**Isparta**	**46.27**	**289**	⇑*e*P	**P**	**22 18 13.4**	**+0.7**
ISP				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MLR	**Muntele Rosu**	**47.17**	**300**	LR	LR	22 41 49.6	
	comp=Z,87nm,19.1s,baz=64,slow=41						
PETK	**Petropavlovsk-**	**47.33**	**49**	LR	LR	22 38 08.0	
	comp=Z,52nm,19.0s,baz=283,slow=36						
HFS	**Hagfors**	**51.06**	**321**	P	**P**	**22 18 47.3**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=82,slow=12,SNR=5.3						
HFS				LR	LR	22 40 37.3	
	comp=Z,70nm,18.1s,baz=83,slow=36						
	comp=Z,1.2nm,0.6s						
NB2	**NORSAR Subarra**	**52.06**	**323**	P	P	22 18 54.1	-2.6
	comp=Z,4.9nm,1.1s,baz=78,slow=7.4						
NOA	**NORSAR Array B**	**52.06**	**323**	P	P	22 18 54.3	-2.4
	comp=Z,2.5nm,0.9s,baz=78,slow=7.4,SNR=5.0						
NOA				LR	LR	22 40 47.1	
	comp=Z,42nm,22.0s,baz=65,slow=36						
	comp=Z,2.5nm,0.9s						
CONA	**Conrad Observa**	**53.07**	**306**	*e*pP	**P**	**22 19 06.2**	**+1.8**
	comp=Z,3.8nm,1.2s						
SOKA	**Soboth**	**54.02**	**305**	*e*pP	**P**	**22 19 11.3**	**-0.1**
	comp=Z,4.3nm,1.4s						
GERES	**GERESS Array B**	**54.12**	**308**	P	**P**	**22 19 13.3**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=82,slow=7.7,SNR=5.9						
	comp=Z,1.5nm,1.0s						
LESA	**Schwarzleotal**	**55.26**	**306**	*e*pP	**P**	**22 19 22.4**	**+2.0**
	comp=Z,4.2nm,1.1s						
WTTA	**Wattenberg**	**55.98**	**306**	P	**P**	**22 19 27.0**	**+1.4**
WTTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WTTA	**Wattenberg**	**55.98**	**306**	*e*pP	**P**	**22 19 28.3**	**+2.6**
	comp=Z,5.7nm,1.1s						
WATA	**Walderalm**	**55.99**	**306**	*e*pP	**P**	**22 19 28.1**	**+2.4**
	comp=Z,4.9nm,1.1s						
SQTA	**Sankt Quirin**	**56.27**	**306**	*e*pP	**P**	**22 19 30.1**	**+2.5**
	comp=Z,4.4nm,1.1s						
MOTA	**Moosalm**	**56.28**	**307**	*e*pP	**P**	**22 19 30.2**	**+2.4**
	comp=Z,5.8nm,1.1s						
RETA	**Reutte**	**56.45**	**307**	*i* pP	**P**	**22 19 30.5**	**+1.7**
	comp=Z,2.7nm,0.8s						
FETA	**Feichten**	**56.64**	**306**	*i* pP	**P**	**22 19 31.0**	**+0.7**
	comp=Z,3.2nm,1.5s						
C18K	**Utukok River**	**60.82**	**23**	P	**P**	**22 19 59.0**	**+0.1**
C18K				IAmb	IAmb	22 20 07.7	
	comp=Z,5.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**61.14**	**319**	P	**P**	**22 20 02.1**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=62,slow=8.1,SNR=5.5						
	comp=Z,3.0nm,0.9s						
D19K	**Kuna River**	**61.86**	**23**	P	**P**	**22 20 05.9**	**0.0**
KEST	**Kesra**	**62.55**	**295**	P	**P**	**22 20 11.9**	**+0.8**
	comp=Z,3.8nm,1.1s,baz=93,slow=7.9,SNR=3.5						
	comp=Z,3.8nm,1.1s						
E19K	**Redstone River**	**62.73**	**24**	P	**P**	**22 20 11.8**	**0.0**
E19K				IAmb	IAmb	22 20 21.5	
	comp=Z,4.2nm,0.8s						
KMBO	**Kilima Mbogo**	**62.73**	**244**	P	**P**	**22 20 13.9**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=48,slow=14,SNR=4.5						
	comp=Z,2.7nm,0.9s						
KMBO	**Kilima Mbogo**	**62.73**	**244**	⇑*e*P	**P**	**22 20 14.3**	**+1.5**
F21K	**Alatna River**	**64.03**	**23**	P	**P**	**22 20 20.3**	**-0.1**
F21K				IAmb	IAmb	22 20 28.5	
	comp=Z,6.6nm,1.1s						
TOLK	**Toolik Lake Re**	**64.25**	**21**	P	**P**	**22 20 21.6**	**-0.2**
IMAR	**Indian Mountai**	**64.72**	**24**	P	**P**	**22 20 24.2**	**-0.7**
C27K	**Jago River**	**65.09**	**18**	P	**P**	**22 20 27.1**	**-0.1**
H21K	**Melozitna River**	**65.23**	**24**	P	**P**	**22 20 28.4**	**+0.1**
H21K				IAmb	IAmb	22 20 36.5	
	comp=Z,3.2nm,0.8s						
J18K	**Innoko River**	**65.28**	**27**	P	**P**	**22 20 26.7**	**-1.9**
J18K				IAmb	IAmb	22 20 33.5	
	comp=Z,4.5nm,1.1s						
FITZ	**Fitzroy Crossi**	**65.40**	**143**	P	**P**	**22 20 28.1**	**-1.7**
FITZ				IAmb	IAmb	22 20 32.8	
	comp=Z,3.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**65.40**	**143**	P	**P**	**22 20 28.0**	**-1.8**
	comp=Z,9.1nm,1.0s,baz=326,slow=3.6,SNR=4.7						
	comp=Z,9.1nm,1.0s						
J20K	**Nowinta River**	**65.73**	**26**	P	**P**	**22 20 31.5**	**0.0**
J20K				IAmb	IAmb	22 20 36.9	
	comp=Z,4.6nm,0.8s						
F25K	**Christian Rive**	**66.04**	**20**	P	**P**	**22 20 32.8**	**-0.7**
F25K				IAmb	IAmb	22 20 42.1	
	comp=Z,4.1nm,0.9s						
G24K	**Hadweenzic Riv**	**66.15**	**22**	P	**P**	**22 20 32.5**	**-1.7**
BMAR	**Burnt Mountain**	**66.45**	**20**	P	**P**	**22 20 36.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**66.84**	**25**	P	**P**	**22 20 37.8**	**-0.9**
BPAW				IAmb	IAmb	22 20 43.3	
	comp=Z,4.4nm,1.0s						
CAST	**Castle Rocks**	**66.92**	**26**	P	**P**	**22 20 39.1**	**-0.1**
CAST				IAmb	IAmb	22 20 43.9	
	comp=Z,3.4nm,0.8s						
RES	**Resolute Bay**	**66.93**	**2**	LR	LR	22 51 16.2	
	comp=Z,18nm,18.4s,baz=290,slow=37						
PPLA	**Purkeypile**	**67.23**	**26**	P	**P**	**22 20 41.2**	**-0.1**
COLA	**College**	**67.31**	**23**	*de*P	**P**	**22 20 41.2**	**-0.3**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
E29M	**Blow River**	**67.42**	**17**	P	**P**	**22 20 41.3**	**-0.8**
E29M				IAmb	IAmb	22 20 49.4	
	comp=Z,3.4nm,1.0s						
ILAR	**Eielson Array**	**67.68**	**23**	P	P	22 20 41.5	-2.4
ILAR	**Eielson Array**	**67.68**	**23**	P	**P**	**22 20 43.0**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=307,slow=4.9,SNR=14						
	comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**67.68**	**23**	P	**P**	**22 20 43.0**	**-0.9**
SUA	**Susitna One**	**68.69**	**27**	P	**P**	**22 20 50.2**	**-0.3**
J26L	**Joseph Creek**	**68.87**	**22**	P	**P**	**22 20 49.9**	**-1.6**
J26L				IAmb	IAmb	22 20 55.1	
	comp=Z,4.3nm,0.9s						
G31M	**Satah River**	**69.43**	**17**	P	**P**	**22 20 53.5**	**-1.3**
ESDC	**Sonseca Array**	**69.53**	**305**	P	P	22 20 53.6	-2.4
	comp=Z,2.8nm,0.9s,baz=54,slow=6.2,SNR=16						
	comp=Z,2.8nm,0.9s						
PWL	**Port Wells**	**69.96**	**26**	P	**P**	**22 20 57.5**	**-0.6**
PWL				IAmb	IAmb	22 21 02.2	
	comp=Z,4.5nm,0.8s						
I30M	**Mount Dempster**	**70.29**	**19**	P	**P**	**22 20 59.3**	**-0.9**
I30M				IAmb	IAmb	22 21 07.0	
	comp=Z,4.5nm,1.0s						
BCAR	**Beaver Creek A**	**70.47**	**22**	P	**P**	**22 21 01.5**	**+0.2**
KDAK	**Kodiak Island**	**70.50**	**30**	P	**P**	**22 21 00.1**	**-1.4**
KDAK				IAmb	IAmb	22 21 09.6	
	comp=Z,4.1nm,0.8s						
KDAK	**Kodiak Island**	**70.50**	**30**	P	**P**	**22 21 00.1**	**-1.4**
KDAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
P23K	**Montague Islan**	**70.90**	**27**	P	**P**	**22 21 02.8**	**-1.1**
WRA	**Warramunga Arr**	**71.36**	**136**	P	**P**	**22 21 05.0**	**-2.2**
	comp=Z,6.7nm,1.0s,baz=335,slow=5.9,SNR=7.4						
	comp=Z,6.7nm,1.0s						
ASAR	**Alice Springs**	**74.19**	**139**	P	**P**	**22 21 22.1**	**-1.8**
	comp=Z,5.4nm,0.9s,baz=334,slow=6.3,SNR=5.5						
	comp=Z,5.4nm,0.9s						
P33M	**Teslin, Yukon**	**75.33**	**21**	P	**P**	**22 21 29.2**	**-1.1**
P33M				IAmb	IAmb	22 21 35.7	
	comp=Z,3.2nm,0.8s						
DLBC	**Dease Lake**	**77.60**	**20**	LR	LR	22 58 14.8	
	comp=Z,53nm,18.5s,baz=228,slow=38						
TORD	**Torodi Ar. Bea**	**80.89**	**279**	P	**P**	**22 22 01.4**	**-0.3**
PDAR	**Pinedale Array**	**97.00**	**15**	LR	LR	23 11 50.8	
	comp=Z,21nm,19.0s,baz=336,slow=38						
PTLB	**Pontes e Lacer**	**144.62**	**302**	PKPdf	**PKPab**	**22 29 24.5**	**+1.7**
LPAZ	**La Paz**	**150.83**	**314**	PKPbc	**PKPbc**	**22 29 40.8**	**-0.1**
	comp=Z,2.2nm,1.0s,baz=34,slow=7.5,SNR=5.2						

BGSI **12** *22:11:24.3±2.2, 28°.02S×27°.27E, h0km±117km, ML2.8*
PRE **12** *22:11:35.2±1.1, 27°.03S×26°.63E, h2km, ML2.3*
BUL **12** *22:11:39.2±1.3, 26°.97S×26°.55E, h14km±16km, MD3.4*
ISC 12 22:11:35.3±1.5, **27°.02S**±0°.03×**26°.61E**±0°.04, **h5**km±12km, **n20**, σ1**1°77**/36, **South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.94**	**51**	*e*P	**Pg**	**22 11 53.1**	**-0.3**
WDLM				*e*S	**Sb**	**22 12 06.4**	**-0.7**
WDLM				IAML		22 12 14.4	
	comp=Z,130nm,0.1s						
HRAO	**HartRAO**	**1.48**	**41**	*e*P	**Pb**	**22 12 03.5**	**-0.1**
HRAO				*e*S	**Sn**	**22 12 24.4**	**+1.6**
HRAO				IAML		22 12 26.5	
	comp=Z,34nm,0.7s						
SNKL	**Senekal, Frees**	**1.62**	**141**	*e*P	**Pg**	**22 12 06.4**	**0.0**
SNKL				*e*S	**Sg**	**22 12 26.6**	**-0.7**
SNKL				IAML		22 12 29.9	
	comp=Z,93nm,0.2s						
BOSA	**Boshof**	**1.99**	**217**	*e*P	**Pb**	**22 12 11.3**	**-0.8**
BOSA				*e*S	**Sb**	**22 12 36.5**	**-0.7**
BOSA				IAML		22 12 38.7	
	comp=Z,20nm,0.3s						
BOSA	**Boshof**	**1.99**	**217**	*i* P	**Pb**	**22 12 11.7**	**-0.4**
BOSA				*i* S	**Sb**	**22 12 37.2**	**0.0**
LBTB	**Lobatse**	**2.20**	**335**	*e*P	**Pn**	**22 12 14.1**	**+1.5**
LBTB				*e*S	**Sn**	**22 12 41.1**	**+0.8**
LBTB				IAML		22 12 45.6	
	comp=Z,65nm,0.3s						
LBTB	**Lobatse**	**2.20**	**335**	*i* P	**Pb**	**22 12 14.6**	**-1.1**
LBTB				*i* S	**Sn**	**22 12 39.1**	**-1.2**
NWCL	**Newcastle**	**3.00**	**104**	*e*P	**Pn**	**22 12 25.2**	**+1.5**
NWCL				*e*S	**Sn**	**22 13 00.4**	**+0.2**
NWCL				IAML		22 13 18.2	
	comp=Z,29nm,0.4s						
LEPH	**Lephalale, Lim**	**3.33**	**19**	*e*P	**Pn**	**22 12 29.6**	**+1.3**
LEPH				*e*S	**Sn**	**22 13 09.2**	**+1.0**
LEPH				IAML		22 13 22.6	
	comp=Z,13nm,0.3s						
SKOMA	**Sekoma**	**3.48**	**315**	*i* P	**Pn**	**

KMSI	Cibinong	4.23	287	P	Pn	22 15 52.7	+1.1
BNDI	Bandanaira	4.28	154	P	Pn	22 15 52.9	+0.7
FAKI	Fak Fak	4.78	118	Pn	Pn	22 15 58.8	-0.3
FAKI	Fak Fak	4.78	118	P	Pn	22 15 59.8	+0.7
LUWI	Luwuk	5.28	266	Pn	Pn	22 16 05.7	-0.3
LUWI	Luwuk 0.8nm2µm153nm,1.0s	5.28	266	P	Pn	22 16 05.6	-0.4
MRSI	Marisa 0.2nm874nm71nm,0.8s	6.20	280	P	Pn	22 16 19.8	+1.2
APSI	Ampana 2µm152nm,0.5s	6.39	268	P	Pn	22 16 22.1	+0.8
TOLI2	Tolitoli	7.46	284	Pn	Pn	22 16 37.2	+1.2
PCI	Palu 62nm,0.7s	8.20	268	P	Pn	22 16 46.7	+0.5
TTSI	Tana Toraja 1µm51nm,0.7s	8.55	254	P	Pn	22 16 52.1	+1.2
BNSI	Bone 36nm,1.2s	8.75	245	P	Pn	22 16 56.1	+2.4
SPSI	Sidrap Palu	8.89	248	P	Pn	22 16 58.1	+2.5
BKSI	Bulukumba 36nm,0.6s	9.16	239	P	Pn	22 17 01.3	+1.9
KAPI	Kappang	9.34	242	Pn	Pn	22 17 05.0	+3.2
KAPI	Kappang 1.9nm,0.3s,baz=65,slow=7.0,SNR=14	9.34	242	Pn	Pn	22 17 04.4	+2.6
KAPI				Sn	Sn	22 18 46.1	-0.8
	baz=301,slow=12 46nm,0.9s						
MTN	Manton Dam	12.50	166	Pn	Pn	22 17 43.3	-1.8
KNRA	Kununurra	14.95	177	Pn	Pn	22 18 16.4	-2.1
FITZ	Fitzroy Crossi	17.50	188	Pn	Pn	22 18 50.7	-0.6
FITZ	Fitzroy Crossi 0.2nm,0.3s,baz=8.2,slow=16,SNR=5.3 4.5nm,0.8s	17.50	188	P	Pn	22 18 50.4	-0.9
COEN	Coen	19.98	132	P	P	22 19 18.7	-1.1
WB0	Warramunga Arr	19.99	162	P	P	22 19 17.6	-2.3
WB0				IAmb	IAmb	22 19 24.0	
	comp=Z,15nm,0.8s						
WRA	Warramunga Arr	20.14	163	P	P	22 19 20.5	-1.0
WRA	Warramunga Arr comp=Z,4.7nm,1.0s,baz=341,slow=11,SNR=19 comp=Z,4.7nm,1.0s	20.14	163	P	P	22 19 19.9	-1.6
WR8	Warramunga Arr	20.20	162	P	P	22 19 20.5	-1.7
WR8				IAmb	IAmb	22 19 34.6	
	comp=Z,9.0nm,1.1s						
AS31	Alice Springs	23.58	166	P	P	22 19 57.0	-1.1
AS31				IAmb	IAmb	22 20 01.5	
	comp=Z,4.4nm,0.8s						
ASAR	Alice Springs	23.58	166	P	P	22 19 59.6	+1.6
ASAR	Alice Springs comp=Z,11nm,0.8s,baz=345,slow=11,SNR=47 comp=Z,11nm,0.8s	23.58	166	P	P	22 19 56.7	-1.3
MJAR	Matsushiro Arr comp=Z,1.8nm,0.8s,baz=188,slow=9.4,SNR=5.9 comp=Z,1.8nm,0.8s	38.19	13	P	P	22 22 05.7	-1.3
BNX	BinXian	46.20	359	⇓P	P	22 23 16.0	+3.9
BNX				pmax	pmax		
	comp=Z,8.0nm,3.4s						
SONM	Songino Array	51.84	342	P	P	22 23 55.6	+0.1
	comp=Z,1.0nm,0.8s,baz=167,slow=8.4,SNR=3.4 comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	61.88	326	P	P	22 25 05.0	-1.7
MKAR	Makanchi Array comp=Z,0.7nm,0.6s,baz=121,slow=7.5,SNR=5.5 comp=Z,0.7nm,0.6s	61.88	326	P	P	22 25 06.4	-0.3
KURBB	Kurchatov Arra comp=Z,0.6nm,0.3s,baz=128,slow=5.9,SNR=6.3 comp=Z,0.6nm,0.3s	66.11	328	P	P	22 25 32.8	-1.7
KURK	Kurchatov	66.12	328	P	P	22 25 34.0	-0.5
KURK				IAmb	IAmb	22 26 03.7	
	comp=Z,2.5nm,0.8s						
BVAR	Borovoye Array comp=Z,0.8nm,0.8s,baz=151,slow=3.3,SNR=3.9 comp=Z,0.8nm,0.8s	71.69	327	P	P	22 26 06.9	-2.2
QSPA	South Pole Qui	89.28	180	P	P	22 27 44.0	+0.7
QSPA	South Pole Qui comp=Z,1.4nm,0.8s,baz=288,slow=1.0,SNR=5.2 comp=Z,1.4nm,0.8s	89.28	180	P	P	22 27 44.0	+0.7

DJA 12 22:19:01.0±0.9,**10°S**±5°×**11°9E**±°,**h15**km±5km,**M3.7**/8,
mb3.8/2,**MLv3.6**/8,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	Waikabubak, Su	0.59	26	P	Pg	22 19 12.7	0.0
WBSI				S	Sb	22 19 22.6	+1.2
WSI	Waingapu	1.26	66	P	Pn	22 19 24.1	+0.1
WSI				S	Sg	22 19 42.0	+0.3
BASI	Baing, Sumba	1.43	92	P	Pn	22 19 25.6	-0.8
BASI				S	Sb	22 19 45.1	-0.2
PLAI	Plampang	1.89	315	P	Pn	22 19 31.8	-1.0
PLAI				S	Sn	22 19 56.4	-0.1
EDFI	Ende, Flores	2.90	61	P	Pn	22 19 44.7	-2.0
BSSI	Bau Bau, Buton	4.23	19	P	Pn	22 20 04.3	-0.7
BKSI	Bulukumba	4.93	12	P	Pn	22 20 15.5	+1.0
JAGI	Jajag, Banyuwa	5.20	289	P	Pn	22 20 19.7	+1.4

IDC **12** *22:20:31.1*±*1.9,49°.92N*×*156°.85E,h0km,mb3.4/4, mbtmp3.7/6,ML4.9/1,MS2.4/1,Error ellipse: s-maj=40.7km s-min=28.0km az=3.0*

MOS **12** *22:20:35.8*±*1.0,49°.97N*×*156°.97E,h52km,mb4.1/1,Error ellipse: s-maj=22.1km s-min=4.2km az=80.6*

KRSC **12** *22:20:38.4*±*2.8,50°.25N*×*157°.41E,h50km*±*24km,Ml4.4*

ISC 12 22:20:36.5±2.0,**50°.05N**±0°.09×**157°.02E**±0°.07,**h32**km±12km,
n72,σ1**s73**/101,**mb3.5**/4,**2D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.86	318	i/P	Pb	22 20 53.4	+0.4
SKR				i S	Sb	22 21 02.9	-1.3
SKR				pmax	pmax		
	comp=Z,3µm,0.4s						
SKR				smax	smax		
	comp=N,3µm,0.4s						
SKR				smax	smax		
	comp=E,4µm,0.3s						
SKR	Severo-Kuril's	0.86	318	eP	Pb	22 20 53.3	+0.4
SKR				eS	Sb	22 21 03.0	-1.2
PAU	Pauzhetka	1.43	355	PN	Pn	22 21 00.5	+0.3
PAU				S	Sn	22 21 15.6	-2.2
PAU	Pauzhetka	1.43	355	eP	Pn	22 21 00.5	+0.3
PAU				eS	Sn	22 21 15.7	-2.2
MIPR	Malaya Ipel'ka	2.24	356	PN	Pn	22 21 12.0	+0.7
MIPR				S	Sn	22 21 36.5	-1.4
MIPR	Malaya Ipel'ka	2.24	356	eP	Pn	22 21 12.0	+0.7
MIPR				eS	Sn	22 21 36.5	-1.4
ASAK	Asacha	2.40	13	PN	Pn	22 21 15.3	+1.6
ASAK				S	Sn	22 21 40.7	-1.3
ASAK	Asacha	2.40	13	eP	Pn	22 21 15.3	+1.6
ASAK				eS	Sn	22 21 40.7	-1.3
MTVR	Mutnovka	2.55	16	PN	Pn	22 21 16.9	+1.2
MTVR				S	Sn	22 21 44.4	-1.2
MTVR	Mutnovka	2.55	16	eP	Pn	22 21 17.0	+1.2
MTVR				eS	Sn	22 21 44.5	-1.2
RUS	Russkaya	2.57	21	PN	Pn	22 21 16.2	+0.4
RUS				S	Sn	22 21 43.7	-2.2
RUS	Russkaya	2.57	21	eP	Pn	22 21 16.3	+0.4
RUS				eS	Sn	22 21 43.7	-2.2
GRL	Gorelyy	2.59	14	PN	Pn	22 21 17.8	+1.5
GRL				S	Sn	22 21 45.3	-1.5
GRL	Gorelyy	2.59	14	eP	Pn	22 21 17.8	+1.5
GRL				eS	Sn	22 21 45.4	-1.5
KRMR	Karymshinskiy	2.87	14	PN	Pn	22 21 21.8	+1.8
KRMR				S	Sn	22 21 53.6	+0.2
KRMR	Karymshinskiy	2.87	14	eP	Pn	22 21 21.9	+1.8
KRMR				eS	Sn	22 21 53.7	+0.2
APC	Apacha	2.88	2	PN	Pn	22 21 22.1	+2.0
APC				S	Sn	22 21 54.8	+1.1
APC	Apacha	2.88	2	eP	Pn	22 21 22.2	+2.0
APC				eS	Sn	22 21 54.8	+1.1
PEA0B	Petropavlovsk-	3.09	8	dePN	Pn	22 21 23.8	+0.7
PETK	Petropavlovsk- comp=E,7.5nm,0.4s,baz=181,slow=13,SNR=22	3.09	8	Pn	Pn	22 21 23.9	+0.8
PETK				Sn	Sn	22 22 01.7	+2.7
	comp=E,4.8nm,0.3s,baz=156,slow=9.2,SNR=5.5						
PETK				LR	LR	22 22 36.8	
	comp=E,58nm,19.8s,baz=262,slow=39						
PET	Petropavlovsk	3.15	18	ePN	Pn	22 21 25.7	+1.9
PET				eS	Sn	22 21 59.2	-1.1
PET				pmax	pmax		
	comp=Z,27nm,0.5s						
PET				smax	smax		
	comp=N,363nm,0.5s						
	comp=E,364nm,0.5s			smax	smax		
PET	Petropavlovsk	3.15	18	eP	Pn	22 21 25.7	+1.9
PET				eS	Sn	22 21 59.2	-1.1
DALK	Dalny	3.18	19	PN	Pn	22 21 25.6	+1.4
DALK				S	Sn	22 21 59.8	-1.1
DALK	Dalny	3.18	19	eP	Pn	22 21 25.6	+1.4
DALK				eS	Sn	22 21 59.9	-1.1
UGLR	Uglovaya	3.36	19	PN	Pn	22 21 29.0	+2.2
UGLR	Uglovaya	3.36	19	eP	Pn	22 21 29.1	+2.2
UGLR				eS	Sn	22 22 03.9	-1.8
AVH	Avacha	3.40	18	PN	Pn	22 21 29.6	+2.3
AVH				S	Sn	22 22 05.7	-0.8
AVH	Avacha	3.40	18	eP	Pn	22 21 29.7	+2.3
AVH				eS	Sn	22 22 05.7	-0.8
KOK	Koryaka	3.40	17	PN	Pn	22 21 30.6	+3.2
KOK				S	Sn	22 22 06.6	-0.1
KOK	Koryaka	3.40	17	eP	Pn	22 21 30.6	+3.2
KOK				eS	Sn	22 22 06.6	-0.1
SMAR	Somma	3.41	18	PN	Pn	22 21 30.4	+2.8
SMAR				S	Sn	22 22 06.0	-0.9
SMAR	Somma	3.41	18	eP	Pn	22 21 30.4	+2.8
SMAR				eS	Sn	22 22 06.1	-0.9
KRER	Koryakskii	3.43	18	PN	Pn	22 21 30.6	+2.7
KRER				S	Sn	22 22 06.7	-0.9
KRER	Koryakskii	3.43	18	eP	Pn	22 21 30.7	+2.7
KRER				eS	Sn	22 22 06.8	-0.9
SDLR	Sedlovina	3.44	19	PN	Pn	22 21 29.4	+1.5
SDLR	Sedlovina	3.44	19	eP	Pn	22 21 29.5	+1.5
SDLR				eS	Sn	22 22 05.8	-1.8
NLC	Nalytchevo	3.45	24	PN	Pn	22 21 28.2	+0.3
NLC	Nalytchevo	3.45	24	eP	Pn	22 21 28.3	+0.3
NLC				eS	Sn	22 22 03.9	-3.7
KRX	Arik	3.47	16	PN	Pn	22 21 31.0	+2.7
KRX	Arik	3.47	16	eP	Pn	22 21 31.1	+2.7
SPN	Mys Shipunski	3.58	30	PN	Pn	22 21 31.6	+1.8
SPN	Mys Shipunski	3.58	30	eP	Pn	22 21 31.7	+1.8
GNL	Ganaly	3.70	9	PN	Pn	22 21 33.4	+2.0
GNL				S	Sn	22 22 14.6	+0.7
GNL	Ganaly	3.70	9	eP	Pn	22 21 33.5	+2.0
GNL				eS	Sn	22 22 14.7	+0.7
KII	Karymskiy	4.27	20	PN	Pn	22 21 42.5	+3.2
KII	Karymskiy	4.27	20	eP	Pn	22 21 42.5	+3.2
KII				eS	Sn	22 22 27.2	-0.7
MKZ	Mys Kozlova	5.36	31	PN	Pn	22 21 55.2	+1.1
MKZ	Mys Kozlova	5.36	31	eP	Pn	22 21 55.3	+1.1
MKZ				eS	Sn	22 22 52.7	-2.0
TUMD	Tumrok D	5.56	20	PN	Pn	22 21 59.1	+2.1
TUMD	Tumrok D	5.56	20	eP	Pn	22 21 59.1	+2.1
KMNR	Kamenistaya	6.04	18	PN	Pn	22 22 06.8	+3.2
KMNR	Kamenistaya	6.04	18	eP	Pn	22 22 06.9	+3.2
KBTR	Krutoberegovo	7.09	27	PN	Pn	22 22 19.4	+1.5
KBTR	Krutoberegovo	7.09	27	eP	Pn	22 22 19.4	+1.5
BKI	Bering	7.50	43	PN	Pn	22 22 23.8	+0.3
BKI	Bering	7.50	43	eP	Pn	22 22 23.9	+0.3
BKI				eS	Sn	22 23 39.0	-8.4
YAK	Yakutsk comp=E,2.4nm,0.3s,baz=137,slow=1.0,SNR=6.0 comp=E,12nm,0.4s	19.24	319	P	P	22 24 57.2	-0.6
H11N2	WAKE ISLAND Hy 31.26 baz=348,slow=76,SNR=116		162	T	T	23 00 32.2	
H11N1	WAKE ISLAND Hy 31.27 baz=348,slow=76,SNR=105		162	T	T	23 00 36.9	
H11N3	WAKE ISLAND Hy 31.27 baz=348,slow=76,SNR=212		162	T	T	23 00 37.9	
H11S1	WAKE ISLAND Hy 32.41 baz=348,slow=76,SNR=376		163	T	T	23 02 00.5	
H11S3	WAKE ISLAND Hy 32.42 baz=348,slow=76,SNR=476		163	T	T	23 01 57.4	
H11S2	WAKE ISLAND Hy 32.43 baz=348,slow=76,SNR=256		163	T	T	23 02 01.8	
MKAR	Makanchi Array comp=E,0.2nm,0.4s,baz=55,slow=6.7,SNR=6.8 comp=E,0.2nm,0.4s	47.77	296	P	P	22 29 09.8	-0.6
MKAR	Makanchi Array	47.77	296	*i* P	P	22 29 10.1	-0.3
BVAR	Borovoye Array comp=E,0.3nm,0.5s,baz=56,slow=7.7,SNR=2.7 comp=E,0.3nm,0.5s	50.79	309	P	P	22 29 31.8	-1.5
PDAR	Pinedale Array comp=E,0.3nm,0.5s,baz=289,slow=5.3,SNR=2.3 comp=E,0.3nm,0.5s	60.73	57	P	P	22 30 46.0	+0.9
OBN	Obninsk	64.03	327	eP	P	22 31 07.4	+0.9
OBN				*e*		22 31 40.7	
OBN				*e*		22 33 27.6	
OBN				ePPP	PPP	22 34 55.3	
TXAR	Lajitas Array comp=E,0.2nm,0.5s,baz=323,slow=6.1,SNR=3.6 comp=E,0.2nm,0.5s	73.65	64	P	P	22 32 07.1	+0.2
H03N2	Juan Fernandez baz=313,slow=77	136.15	90	T	T	01 11 24.6	
H03N1	Juan Fernandez baz=313,slow=77	136.16	90	T	T	01 11 29.3	
H03N3	Juan Fernandez baz=313,slow=77	136.16	90	T	T	01 10 59.0	

IDC **12** *22:22:28.8*±*0.7,31°.07S*×*177°.37W,h0km,mb4.4/10, mbtmp4.3/11,ML4.0/1,Error ellipse: s-maj=21.9km s-min=16.9km az=70.0*

NEIC **12** *22:22:31.4*±*1.8,31°.05S*±*0°.1*×*177°.4W*±*0°.2,h10km*±*1km, mb4.6/22,Error ellipse: s-maj=24.6km s-min=16.8km az=77.0*

ISC 12 22:22:32.9±0.6,**31°.25S**±0°.05×**177°.6W**±0°.1,**h26**km,**n75,**
σ2**s19**/91,**mb4.6**/19,**4D**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	2.01	351	P	Pn	22 23 02.8	-2.3
GLKZ				S	Sn	22 23 26.9	-2.4
RAO	Raoul Island	2.02	351		Pn	22 23 02.5	-2.8
RAO	Raoul Island 528nm,0.3s,baz=35,slow=16,SNR=21	2.02	351	Pn	Pn	22 23 03.5	-1.7
RAO				Sn	Sn	22 23 26.7	-2.9
	906nm,0.3s,baz=75,slow=21,SNR=10						
RIZ	Raoul Island	2.02	351	P	Pn	22 23 03.4	-2.0
RIZ				S	Sn	22 23 28.3	-1.5
MXZ	Matakaoa Point	7.16	207	S	Sn	22 25 35.6	-0.7
WMGZ	Waiomatatini S	7.34	206	P	Pn	22 24 15.8	-2.6
WMGZ				S	Sn	22 25 40.5	-0.4
PKGZ	Pakihiroa	7.51	207	P	Pn	22 24 17.9	-2.8
PKGZ				S	Sn	22 25 43.1	-1.9
HAZ	Te Kaha	7.54	209	P	Pn	22 24 20.3	-0.8
HAZ				S	Sn	22 25 46.3	+0.6
PUZ	Puketiti	7.62	206	P	Pn	22 24 18.7	-3.6
PUZ				S	Sn	22 25 46.1	-1.8
RUGZ	Raukumara Rang	7.76	209	P	Pn	22 24 21.7	-2.6
TWGZ	Tauwhareparae	7.82	207	P	Pn	22 24 21.0	-4.0
TWGZ				S	Sn	22 25 50.5	-2.2
CNGZ	Carnagh Statio	8.00	205	P	Pn	22 24 23.9	-3.6
CNGZ				S	Sn	22 25 57.6	+0.4
TKGZ	Te Karaka	8.10	206	P	Pn	22 24 29.1	+0.3
TKGZ				S	Sn	22 25 58.0	-1.5
MWZ	Matawai	8.13	208	P	Pn	22 24 25.6	-3.7
MWZ				S	Sn	22 26 00.6	+0.2
URZ	Urewera 3.5nm,0.3s,baz=3.7,slow=2.1,SNR=8.7	8.24	211	Pn	Pn	22 24 29.4	-1.4
URZ				Sn	Sn	22 26 00.0	-3.1
	10nm,0.3s,baz=184,slow=18,SNR=12						
RAGZ	Rawiri	8.32	208	P	Pn	22 24 28.3	-3.6
RAGZ				S	Sn	22 26 03.5	-1.5
RIGZ	Rimuhau	8.36	206	P	Pn	22 24 29.2	-3.2
RIGZ				S	Sn	22 26 04.0	-2.1
OUZ	Omahuta	8.39	240	P	Pn	22 24 40.8	+8.0
PRGZ	Paritu Road	8.51	205	P	Pn	22 24 28.3	-6.2
PRGZ				S	Sn	22 26 07.0	-2.7
MUGZ	Murupara	8.57	211	P	Pn	22 24 31.9	-3.5
MUGZ				S	Sn	22 26 08.5	-2.7
SNGZ	Shannon Statio	8.59	208	P	Pn	22 24 31.4	-4.2
SNGZ				S	Sn	22 26 09.9	-1.8
MHGZ	Mahia Peninsul	8.71	204	P	Pn	22 24 32.5	-4.7
MHGZ				S	Sn	22 26 08.3	-6.1
BKZ	Black Stump Fm	9.27	210	P	Pn	22 24 42.5	-2.4
BKZ				S	Sn	22 26 24.3	-4.0
BFZ	Birch Farm	10.66	206	Pn	Pn	22 24 59.1	-4.8
MRZ	Mangatainoka R	10.90	209	Pn	Pn	22 25 02.0	-5.2
RPZ	Rata Peaks 2.8nm,0.3s,baz=39,slow=4.8,SNR=9.1	15.35	213	Pn	Pn	22 26 02.4	-5.4
RPZ				Sn	Sn	22 28 43.0	-14
	1.7nm,0.3s,baz=356,slow=16,SNR=7.5						
DZM	Mont Dzumac 0.5nm,0.3s,baz=126,slow=19,SNR=4.5 6.4nm,1.1s	16.95	299	P	Pn	22 26 27.5	-0.9

DCZ	Deep Cove	18.52	216	P	Pn	22 26 48.1	+0.5
DCZ				IAmb	IAmb	22 27 00.4	
	comp=Z,54nm,1.5s						
TOO	Toolangi	30.98	248	P	P	22 28 51.4	+3.3
CTAO	Charters Tower	34.30	280	P	P	22 29 20.6	+3.2
CTAO				IAmb	IAmb	22 29 21.2	
	comp=Z,9.1nm,0.8s						
STKA	Stephens Creek	34.65	258	P	P	22 29 22.8	+2.5
STKA	Stephens Creek comp=Z,7.2nm,0.6s,baz=98,slow=10,SNR=17 comp=Z,7.2nm,0.6s	34.65	258	P	P	22 29 22.5	+2.2
BBOO	Buckleboo	39.10	255	P	P	22 29 58.9	+0.8
BBOO				IAmb	IAmb	22 30 19.1	
	comp=Z,31nm,1.4s						
AS31	Alice Springs	43.44	268	P	P	22 30 34.6	+0.7
ASAR	Alice Springs	43.44	268	P	P	22 30 34.2	+0.3
ASAR	Alice Springs comp=Z,4.9nm,0.8s,baz=106,slow=7.6,SNR=38 comp=Z,4.9nm,0.8s	43.44	268	P	P	22 30 34.8	+0.8
WR8	Warramunga Arr	44.36	273	P	P	22 30 41.7	+0.4
WR8				IAmb	IAmb	22 30 43.8	
	comp=Z,5.5nm,0.8s						
WRA	Warramunga Arr	44.50	273	P	P	22 30 43.5	+1.1
WRA	Warramunga Arr comp=Z,4.5nm,0.5s,baz=113,slow=7.6,SNR=43 comp=Z,4.5nm,0.5s	44.50	273	P	P	22 30 42.9	+0.4
WB0	Warramunga Arr	44.53	273	P	P	22 30 43.9	+1.2
WB0				IAmb	IAmb	22 31 11.3	
	comp=Z,9.0nm,0.9s						
KNRA	Kununurra	51.14	275	P	P	22 31 36.6	+2.7
KNRA				IAmb	IAmb	22 31 54.3	
	comp=Z,12nm,1.1s						
FITZ	Fitzroy Crossi	52.73	270	P	P	22 31 46.7	+1.0
FITZ	Fitzroy Crossi comp=Z,3.4nm,0.6s,baz=39,slow=1.7,SNR=9.7 comp=Z,3.4nm,0.6s	52.73	270	P	P	22 31 46.7	+1.0
CASY	Casey	54.56	208	P	P	22 31 59.5	+1.0
CASY				IAmb	IAmb	22 32 06.1	
	comp=Z,4.1nm,0.7s						
QSPA	South Pole Qui	58.86	180	P	P	22 32 31.7	+2.5
QSPA	South Pole Qui comp=Z,7.0nm,0.6s,baz=21,slow=1.1,SNR=70 comp=Z,7.0nm,0.6s	58.86	180	P	P	22 32 31.7	+2.5
MAW	Mawson comp=Z,1.5nm,0.8s,baz=108,slow=6.4,SNR=3.7 comp=Z,1.5nm,0.8s	71.64	201	P	P	22 33 53.5	+1.7
TROLL	Troll, Antarti comp=Z,345nm,1.0s	77.02	180	⇓P	P	22 34 23.8	+0.6
SNAA	Sanae comp=Z,55nm,0.7s	77.30	178	⇓P	P	22 34 24.7	-0.1
SNAA	Sanae	77.30	178	P	P	22 34 24.9	+0.2
SNAA				IAmb	IAmb	22 34 43.9	
	comp=Z,4.5nm,1.1s						
SNAA	Sanae comp=Z,1.1nm,0.6s,baz=214,slow=7.3,SNR=11 comp=Z,1.1nm,0.6s	77.30	178	P	P	22 34 24.8	+0.2
VNA3	Neumayer Olymp comp=Z,7.2nm,0.7s	77.43	176	⇓P	P	22 34 25.1	-0.3
VNA1	Neumayer–Stat comp=Z,6.2nm,0.9s	78.10	176	⇓P	P	22 34 29.4	+0.4
MJAR	Matsushiro Arr comp=Z,1.2nm,0.8s,baz=165,slow=6.0,SNR=2.8 comp=Z,1.2nm,0.8s	79.15	325	P	P	22 34 35.5	+0.3
PLCA	Paso Flores	81.66	133	P	P	22 34 49.4	+0.3
PLCA				IAmb	IAmb	22 34 51.1	
	comp=Z,6.4nm,1.1s						
PLCA	Paso Flores comp=Z,1.9nm,0.7s,baz=222,slow=9.4,SNR=4.2 comp=Z,1.9nm,0.7s	81.66	133	P	P	22 34 48.5	-0.5
KIWB	Kanaga Island	82.75	0	P	P	22 34 54.0	-0.1
IRM	Iron Mountain	87.69	47	P	P	22 35 19.2	-0.1
LHV	Little Huntoon	88.38	43	P	P	22 35 22.7	+0.3
NVAR	Mina Array Bea comp=Z,0.9nm,0.7s,baz=216,slow=7.8,SNR=5.6 comp=Z,0.9nm,0.7s	88.61	42	P	P	22 35 23.5	-0.3
TPNV	Topopah Spring	88.84	45	P	P	22 35 24.8	0.0
PRN	Pahroc Range	89.86	45	P	P	22 35 29.8	+0.2
PINE	Pine Mountain	90.85	37	P	P	22 35 33.9	-0.2
U15A	North Rim	90.94	47	P	P	22 35 34.6	-0.2
U15A				IAmb	IAmb	22 35 44.5	
	comp=Z,5.4nm,1.2s						
KKAR	Karatay Array	125.85	303	PKPdf	PKPdf	22 41 32.0	-0.3
BVAR	Borovoye Array comp=Z,0.6nm,0.4s,baz=90,slow=4.3,SNR=5.1	127.27	315	PKP	PKPdf	22 41 34.5	-0.1
FIA1	FINESS Array S	146.07	340	PKPdf	PKPdf	22 42 09.0	+0.1
FINES	FINESS Array B	146.07	340	PKPdf	PKPdf	22 42 09.2	+0.3
FINES	FINESS Array B comp=Z,3.8nm,0.5s,baz=60,slow=3.4,SNR=33	146.07	340	PKPbc	PKPdf	22 42 09.1	+0.2
NC303	NORSAR Array S	149.45	351	PKPbc	PKPbc	22 42 18.4	-0.6
NOA	NORSAR Array B	149.65	352	PKPbc	PKPbc	22 42 17.6	-1.9
	comp=Z,0.9nm,0.6s,baz=14,slow=2.5,SNR=4.1						
HFS	Hagfors comp=Z,5.2nm,1.0s,baz=70,slow=1.7,SNR=12	150.15	349	PKPbc	PKPbc	22 42 19.8	-0.9
MMAI	Mount Meron Ar comp=Z,0.7nm,0.4s,baz=88,slow=6.0,SNR=6.3	152.08	282	PKPbc	PKiKP	22 42 27.4	+0.8
AKASG	Malin Array Be comp=Z,0.3nm,0.3s,baz=47,slow=2.7,SNR=4.6	152.20	322	PKPbc	PKPbc	22 42 25.4	-0.4
BRTR	Keskin Array B comp=Z,0.8nm,0.7s,baz=92,slow=3.7,SNR=3.6	153.32	297	PKPbc	PKPbc	22 42 28.7	-0.1

MOS **12** *22:31:53.2*±*0.9,28°.42N*×*104°.94E,h17km,mb4.7/26,Error ellipse: s-maj=8.3km s-min=6.1km az=113.2*

BJI **12** *22:31:53.9,28°.37N*×*104°.87E,h10km,mB4.8/12,mb4.5/39, ML4.4/28,Ms4.3/41,Ms7 3.9/36*

NEIC **12** *22:31:54.9*±*1.4,28°.41N*±*0°.06*×*104°.95E*±*0°.08,h10km*±*1km, mb4.7/118,Error ellipse: s-maj=12.3km s-min=10.7km az=96.0*

IDC **12** *22:31:59.5*±*3.4,28°.38N*×*104°.95E,h52km*±*33km,mb4.0/19, mbtmp4.2/21,ML3.9/2,MS3.5/10,Error ellipse: s-maj=17.4km s-min=12.9km az=47.0*

ISC 12 22:31:55.6±0.3,**28°.40N**±0°.03×**104°.91

CNSH smax smax
comp=E,270nm,0.7s
SLVN Son La 7.09 188 Pn 22 33 38.8 +0.4
LZH Lanzhou 7.72 354 Pn Pn 22 33 50.7 +3.5
LZH Pg Pb 22 34 13.7 +4.7
LZH Sg Sb 22 35 54.0 +13
LZH smax smax
comp=N,190nm,1.5s
LZH smax smax
comp=E,210nm,1.5s
LZH LR LR
comp=N,1μm,8.6s
LZH LR LR
comp=E,1μm,8.6s
LZH LR LR
comp=Z,800nm,8.9s
WHN Wuhan 8.50 73 P **Pn 22 33 58.8 +1.1**
WHN LR LR
comp=N,3μm,5.7s
LYN LuoYang 8.90 45 P **Pn 22 34 02.4 -0.8**
LYN pmax pmax
comp=Z,95nm,0.7s
LYN smax smax
comp=N,200nm,1.2s
LYN smax smax
comp=E,210nm,1.3s
LYN LR LR
comp=N,2μm,6.0s
LYN LR LR
comp=E,2μm,5.3s
LYN LR LR
comp=Z,2μm,6.2s
GZH Guangzhou 9.26 123 P **Pn 22 34 07.1 -1.0**
GZH pmax pmax
comp=Z,79nm,0.6s
GZH LR LR
comp=E,2μm,5.4s
QIZ Qiongzhong 10.36 153 Pn **Pn 22 34 22.7 -0.5**
QIZ Qiongzhong 10.36 153 P **Pn 22 34 23.8 +0.6**
QIZ S **Sn 22 36 23.0 +4.2**
QIZ LR LR
comp=E,610nm,10.3s
QIZ LR LR
comp=Z,1μm,7.7s
CHTO Chiang Mai 10.99 211 Pn **Pn 22 34 33.4 +1.5**
CHTO Chiang Mai 10.99 211 P **Pn 22 34 33.4 +1.5**
CM31 Chiang Mai Arr 11.30 210 Pn **Pn 22 34 37.2 +1.0**
CMAR Chiang Mai Arr 11.30 210 Pn **Pn 22 34 38.6 +2.5**
CMAR Chiang Mai Arr 11.30 210 P **Pn 22 34 39.4 +3.2**
0.2nm,0.3s,baz=18,slow=12,SNR=37
CMAR LR LR 22 39 31.5
comp=Z,56nm,20.9s,baz=45,slow=40
5.9nm,0.8s
CMAR Chiang Mai Arr 11.30 210 *i* P **Pn 22 34 39.7 +3.5**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
GTA Gaotai 11.77 340 P **Pn 22 34 44.9 +2.3**
GTA sP 22 34 55.2
GTA pmax pmax
comp=E,6.0nm,1.2s
GTA LR LR
comp=Z,410nm,13.8s
GTA LR LR
comp=Z,350nm,15.3s
GTA LR LR
comp=Z,640nm,13.8s
SHL Shillong 11.96 259 Pn **Pn 22 34 45.8 +0.6**
SHL Shillong 11.96 259 P **Pn 22 34 45.8 +0.6**
LSA Lhasa 12.11 279 Pn **Pn 22 34 48.4 +0.8**
LSA Lhasa 12.11 279 P **Pn 22 34 43.3 -4.3**
LSA S Sn 22 37 22.7 +20
LSA LR LR
comp=Z,440nm,10.5s
LSA LR LR
comp=N,150nm,7.2s
LSA Lhasa 12.11 279 P **Pn 22 34 48.4 +0.8**
NJ2 Nanjing 12.59 70 *e*P **Pn 22 34 53.2 -0.5**
NJ2 pmax pmax
comp=N,7.0nm,0.5s
BTO Baotou 12.88 18 *e*P **Pn 22 34 59.1 +1.3**
BTO pP P 22 35 02.5 -6.0
BTO sP 22 35 05.9
BTO PP **PnPn 22 35 09.6 +3.9**
BTO S **Sn 22 37 24.8 +4.1**
BTO sS 22 37 29.2
BTO SS **SnSn 22 37 39.4 +6.2**
BTO pmax pmax
comp=N,31nm,1.0s
BTO pmax pmax
comp=N,330nm,10.1s
BTO LR LR
comp=N,940nm,8.7s
BTO LR LR
comp=N,2μm,10.1s
BTO LR LR
comp=N,870nm,7.5s
BRDH Bariadhala 13.26 248 LR LR 22 41 41.8
comp=N,227nm,19.7s,baz=194,slow=44
HHC Hu-ho-hao-te 13.57 22 *e*P **Pn 22 35 09.3 +2.2**
HHC pmax pmax
comp=N,14nm,0.8s
HHC pmax pmax
comp=N,150nm,4.0s
HHC LR LR
comp=N,480nm,7.3s
HHC LR LR
comp=N,850nm,11.0s
HHC LR LR
comp=N,220nm,10.5s
BJT Baijiatuau 14.85 36 Pn **Pn 22 35 22.8 -1.8**
BJT Baijiatuau 14.85 36 P **Pn 22 35 22.8 -1.8**
BJI Beijing 14.87 36 P **Pn 22 35 25.2 +0.4**
BJI pmax pmax
comp=N,2.0nm,0.8s
EVN Everest 15.97 273 Pn **Pn 22 35 38.2 -1.7**
XLT XiLinHaoTe 17.88 27 *e*P **P 22 36 04.6 +0.7**
XLT pmax pmax
comp=N,14nm,0.9s
XLT pmax pmax
comp=N,140nm,5.3s
XLT LR LR
comp=N,420nm,11.5s
XLT LR LR
comp=N,220nm,10.4s
SONM Songino Array 19.44 3 P **Pn 22 36 22.5 +0.2**
SONM Songino Array 19.44 3 P **Pn 22 36 22.5 +0.2**
comp=N,0.6nm,0.3s,baz=186,slow=12,SNR=20
comp=N,4.6nm,0.8s
ULN Ulaanbaatar 19.51 4 P **P 22 36 22.1 +0.3**
ULN Ulaanbaatar 19.51 4*ce*P **P 22 36 22.3 +0.5**
WMQ Urumqi 20.68 323 *e*P Pn 22 36 36.8 -0.1
WMQ pmax pmax
comp=N,67nm,0.9s
JOW Kunigami 20.76 89 P **P 22 36 32.0 -3.4**
JOW Kunigami 20.76 89 LR LR 22 45 20.4
comp=N,173nm,18.2s,baz=326,slow=39
KSAR Wonju Array Be 21.25 59 P **P 22 36 40.3 -0.3**
KSAR Wonju Array Be 21.25 59 P **P 22 36 40.3 -0.3**
KS19 Wonju Array Si 21.25 59 P **P 22 36 40.7 0.0**
KS19 IAmb IAmb 22 37 14.7
comp=Z,50nm,1.3s
KSRS Korea Array 21.28 59 P **P 22 36 41.0 +0.1**
comp=Z,7.8nm,0.8s,baz=244,slow=10.0,SNR=28
comp=Z,7.8nm,0.8s
ZAK Zakamensk 21.99 357 *e*P **P 22 36 48.2 -0.4**
ZAK pmax pmax
comp=Z,12nm,1.1s
CN2 Changchun 22.53 42 P **P 22 36 55.5 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
JNU Nakatsue 22.78 72 P **P 22 36 56.7 -0.4**
JNU IAmb IAmb 22 37 11.8
comp=Z,41nm,1.4s
JNU Nakatsue 22.78 72 P **P 22 36 57.0 -0.1**
comp=Z,7.0nm,0.7s,baz=332,slow=2.5,SNR=9.0
JNU LR LR 22 47 04.7
comp=Z,140nm,19.5s,baz=266,slow=40
comp=Z,7.0nm,0.7s
KULM Kulim 23.33 191 P **P 22 37 03.0 +0.2**
IRK Irkutsk 23.83 359 *e*P **P 22 37 06.9 -0.4**
IRK pmax pmax
comp=Z,41nm,1.7s
BNX BinXian 24.80 40 ⇓P **P 22 37 16.4 +0.1**
BNX pP **pP 22 37 19.6 -2.6**
BNX PcP **PcP 22 40 53.0 +0.6**
BNX S **S 22 41 39.6 +1.7**
BNX sS **pS 22 41 44.2 +0.1**
BNX PcS **PcS 22 44 33.2 +0.8**
BNX pmax pmax
comp=Z,6.0nm,0.8s
BNX pmax pmax
comp=Z,140nm,4.2s
BNX LR LR
comp=Z,260nm,10.4s
BNX LR LR
comp=Z,150nm,10.0s
BNX LR LR
comp=Z,140nm,16.8s
MK31 Makanchi Array 25.51 322*de*P **P 22 37 22.8 0.0**
MKAR Makanchi Array 25.51 322 P **P 22 37 22.3 -0.5**
MKAR Makanchi Array 25.51 322 P **P 22 37 22.8 -0.1**
comp=Z,6.3nm,0.8s,baz=124,slow=9.8,SNR=37
comp=Z,6.3nm,0.8s
MKAR Makanchi Array 25.51 322 *i* P **P 22 37 22.7 -0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
TARG Taragay, Kyrgy 25.75 308 P **P 22 37 26.3 +0.9**
TARG Taragay, Kyrgy 25.75 308 P **P 22 37 26.3 +0.9**
TARG pmax pmax
comp=Z,6.0nm,0.6s
SBUM Sibu 26.73 164 P **P 22 37 34.2 +0.2**
USA0B Ussuriysk Arra 26.76 47 P **P 22 37 31.6 -2.5**
USA0B IAmb IAmb 22 37 35.2
comp=Z,8.9nm,0.8s
USA0B Ussuriysk Arra 26.76 47⇑*e*P **P 22 37 33.5 -0.6**
USRK Ussuriysk Ar. 26.76 47 P **P 22 37 33.4 -0.7**
USRK Ussuriysk Ar. 26.76 47 P **P 22 37 34.3 +0.2**
comp=Z,8.2nm,0.7s,baz=252,slow=8.9,SNR=20
USRK LR LR 22 49 37.6
comp=Z,73nm,18.4s,baz=210,slow=40
comp=Z,8.2nm,0.7s
NIL Nilore 27.57 289 P **P 22 37 42.2 +0.7**
NIL Nilore 27.57 289 P **P 22 37 42.2 +0.7**
NIL pmax pmax
comp=Z,6.0nm,0.8s
HEH HeiHe 27.72 32 *e*P **P 22 37 43.8 +1.2**
HEH LR LR
comp=Z,310nm,12.2s
HEH LR LR
comp=Z,300nm,13.7s
AAK Ala-Archa 28.37 308 LR LR 22 51 16.5
comp=Z,60nm,19.4s,baz=116,slow=41
MJAR Matsushiro Arr 29.13 65 LR LR 22 51 08.3
comp=Z,170nm,18.3s,baz=216,slow=40
ZAA0 Zalesovo Array 29.46 336 P **P 22 37 58.0 -0.1**
ZALV Zalesovo Beam 29.46 336 P **P 22 37 57.4 -0.8**
ZALV Zalesovo Beam 29.46 336 P **P 22 37 58.4 +0.2**
comp=Z,3.4nm,0.7s,baz=135,slow=8.5,SNR=14
ZALV LR LR 22 50 26.4
comp=Z,83nm,21.9s,baz=138,slow=38
comp=Z,3.4nm,0.7s
KURBB Kurchatov Arra 29.84 325 P **P 22 38 01.7 +0.2**
comp=Z,2.1nm,0.3s,baz=133,slow=9.2,SNR=19
comp=Z,2.1nm,0.3s
KURK Kurchatov 29.85 326 P **P 22 38 00.8 -0.8**
KURK IAmb IAmb 22 38 03.3
comp=Z,5.2nm,0.7s
KURK Kurchatov 29.85 326*de*P **P 22 38 02.7 +1.1**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 31.09 290 P **P 22 38 13.7 +0.7**
KBL Kabul 31.09 290 P **P 22 38 13.7 +0.7**
KBL pmax pmax
comp=Z,8.0nm,1.5s
KK31 Karatay Array 31.29 307 P **P 22 38 15.1 +0.7**
KK31 Karatay Array 31.29 307 P **P 22 38 15.1 +0.7**
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KKAR Karatay Array 31.29 307 P **P 22 38 14.3 -0.2**
KKAR Karatay Array 31.29 307 P **P 22 38 14.3 -0.2**
BVAR Borovoye Array 35.37 324 P **P 22 38 50.2 +0.4**
comp=Z,0.9nm,0.4s,baz=126,slow=8.5,SNR=8.9
BVAR PcP **PcP 22 41 19.6 0.0**
comp=Z,1.0nm,0.5s,baz=138,slow=2.7,SNR=4.9
BVAR LR LR 22 54 30.3
comp=Z,88nm,21.6s,baz=118,slow=38
comp=Z,0.9nm,0.4s
BRVK Borovoye 35.44 324 P **P 22 38 50.5 +0.1**
BRVK Borovoye 35.44 324⇑*e*P **P 22 38 51.0 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,1.1s
AB31 Akbulak array 40.02 314 P **P 22 39 29.9 +0.7**
ABKAR Akbulak array 40.02 314 P **P 22 39 29.5 +0.3**
COCO West Island 41.10 192 *i* P **P 22 39 37.9 -0.4**
ARTI Arti 43.09 324 P **P 22 39 54.6 +0.4**
ARTI Arti 43.09 324 P **P 22 39 54.6 +0.4**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 45.27 10 P **P 22 40 10.8 -0.7**
TIXI Tiksi 45.27 10 P **P 22 40 10.8 -0.7**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
PETK Petropavlovsk- 45.68 42 LR LR 23 01 49.4
comp=Z,69nm,18.4s,baz=250,slow=39
AKT Akhty 47.86 302 *e*P **P 22 40 31.1 -1.3**
AKT pmax pmax
comp=Z,13nm,1.4s
KIRV Kirov 48.36 325*ce*P **P 22 40 36.3 +0.5**
KIV Kislovodsk 51.41 305 P **P 22 40 60.0 +0.6**
KIV Kislovodsk 51.41 305 *e*P **P 22 40 57.8 -1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
RAYN Ar Rayn 53.18 279 P **P 22 41 12.2 -0.6**
RAYN IAmb IAmb 22 41 13.3
comp=Z,4.3nm,0.7s
RAYN Ar Rayn 53.18 279 P **P 22 41 12.2 -0.6**
RAYN pmax pmax
comp=Z,4.0nm,0.7s
KLMR Klimovskoe 53.69 326 *e*P **P 22 41 14.2 -1.7**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
OBN Obninsk 54.97 319 *e*P **P 22 41 23.4 -1.8**
OBN *e* 22 42 24.8
OBN *e*PPP PPP 22 44 41.1
OBN pmax pmax
comp=Z,4.0nm,1.1s
WB0 Warramunga Arr 55.72 146 P **P 22 41 30.4 -0.7**
WB0 IAmb IAmb 22 42 01.5
comp=Z,9.2nm,1.3s
WRA Warramunga Arr 55.84 146 P **P 22 41 31.5 -0.5**
WRA Warramunga Arr 55.84 146 P **P 22 41 31.1 -0.9**
comp=Z,3.0nm,0.8s,baz=337,slow=8.2,SNR=30
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 55.84 146 *i* P **P 22 41 31.3 -0.7**
WRA pmax pmax
comp=Z,2.0nm,0.3s
WR8 Warramunga Arr 55.93 146 P **P 22 41 32.4 -0.2**
WR8 IAmb IAmb 22 41 44.8
comp=Z,17nm,1.5s
COEN Coen 56.07 134 P **P 22 41 33.0 -0.7**
BR131 Keskin Array S 58.72 301 P **P 22 41 52.4 +0.1**
BR131 Keskin Array S 58.72 301*d* *i*P **P 22 41 52.5 +0.2**
BRTR Keskin Array B 58.72 301 P **P 22 41 50.8 -1.6**
BRTR Keskin Array B 58.72 301 P **P 22 41 52.0 -0.4**
comp=Z,1.2nm,0.7s,baz=104,slow=5.5,SNR=9.6
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 58.72 301*ce*P **P 22 41 52.5 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 58.82 149 P **P 22 41 53.0 +0.1**
ASAR Alice Springs 58.82 149 P **P 22 41 52.6 -0.3**
comp=Z,2.1nm,0.7s,baz=330,slow=6.7,SNR=22
comp=Z,2.1nm,0.7s
ASAR Alice Springs 58.82 149 P **P 22 41 53.1 +0.1**
KEV Kevo 59.49 337 P **P 22 41 57.1 +0.2**
KEV Kevo 59.49 337 P **P 22 41 57.1 +0.2**
KEV pmax pmax
comp=Z,36nm,1.4s
AKASG Malin Array Be 59.76 315 P **P 22 41 59.1 -0.1**
comp=Z,1.0nm,0.4s,baz=69,slow=7.0,SNR=6.6
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 59.76 315*ce*P **P 22 41 59.0 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 59.76 315⇑*e*P **P 22 41 58.9 -0.3**
ARCES ARCESS Array B 60.01 336 P **P 22 42 00.9 +0.4**
comp=Z,2.9nm,0.8s,baz=86,slow=7.1,SNR=12
comp=Z,2.9nm,0.8s
ARCES ARCESS Array B 60.01 336 P **P 22 42 01.0 +0.4**
FIA1 FINESS Array S 60.21 327 P **P 22 42 01.5 -0.5**
FIA1 IAmb IAmb 22 42 27.9
comp=Z,26nm,0.9s
FINES FINESS Array B 60.21 327 P **P 22 42 02.1 +0.1**
FINES FINESS Array B 60.21 327 P **P 22 42 01.9 -0.1**
comp=Z,2.5nm,0.7s,baz=104,slow=8.0,SNR=7.9
comp=Z,2.5nm,0.7s
ISP Isparta 61.53 300 P **P 22 42 10.9 -0.7**
ISP IAmb IAmb 22 42 14.1
comp=Z,6.4nm,0.8s
ISP Isparta 61.53 300 P **P 22 42 10.9 -0.7**
ISP pmax pmax
comp=Z,6.0nm,0.8s
HARR Harsova 61.76 308 ⇓P **P 22 42 13.8 +0.9**
GAMB Gambell 62.04 30 P **P 22 42 13.1 -1.2**
baz=278
VRI Vrincioaia 62.32 309 ⇓P **P 22 42 18.4 +1.7**
VRI Vrincioaia 62.32 309 P **P 22 42 17.2 +0.5**
VRI pmax pmax
comp=Z,10.0nm,0.8s
PLOR Plostina 62.38 309 ⇓P **P 22 42 18.9 +1.8**
ONER Baraj Valea Uz 62.44 310 ⇑P **P 22 42 18.6 +1.2**
COVR Voineasa-Covas 62.68 310 ⇑P **P 22 42 20.4 +1.2**
BURAR Bucovina Array 62.94 312 P **P 22 42 21.0 +0.1**
BURAR Bucovina Array 62.94 312 ⇑P **P 22 42 21.4 +0.6**
BURAR Bucovina Array 62.94 312 P **P 22 42 20.0 -0.9**
BURAR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 62.94 309 P **P 22 42 21.4 +0.4**
MLR IAmb IAmb 22 42 29.2
comp=Z,5.5nm,0.8s
MLR Muntele Rosu 62.94 309 ⇑P **P 22 42 22.3 +1.3**
MLR Muntele Rosu 62.94 309 P **P 22 42 21.4 +0.4**
MLR pmax pmax
comp=Z,6.0nm,0.8s
BOSR Bodos 63.00 310 ⇑P **P 22 42 22.5 +1.2**
TNA Tin City 63.36 28 P **P 22 42 22.4 -0.8**
baz=280
VOIR 63.57 309 ⇓P **P 22 42 25.6 +0.6**
C16K Lisburne Hills 63.86 25 P **P 22 42 26.8 +0.3**
C16K Lisburne Hills 63.86 25 P **P 22 42 25.8 -0.6**
baz=281
F14K Arctic Creek 64.03 28 P **P 22 42 26.9 -0.8**
baz=282
P08K Saint George I 64.40 38 P **P 22 42 29.4 -0.8**
baz=283
LOT Lotru 64.44 310 ⇑P **P 22 42 31.5 +0.6**
MARR Marisel-Cluj 64.55 311 ⇓P **P 22 42 32.2 +0.6**
C17K DeLong Mountai 64.61 24 P **P 22 42 30.9 -0.5**
baz=283
ANM Nome 64.62 29 P **P 22 42 30.9 -0.6**
baz=283
F15K North Star Dit 64.67 27 P **P 22 42 31.7 -0.1**
baz=283
DRGR 64.79 311 ⇓P **P 22 42 33.8 +0.8**
DRGR 64.79 311 P **P 22 42 33.0 -0.1**
DRGR pmax pmax
comp=Z,4.0nm,0.8s
D17K Noatak River 64.82 25 P **P 22 42 32.3 -0.4**
baz=283
B18K Kokolik River 64.88 23 P **P 22 42 33.2 0.0**
baz=284
A19K Wainwright 64.93 22 P **P 22 42 32.7 -0.7**
baz=284
STHS Stebnicka Huta 65.06 314 *e*P **P 22 42 34.1 -0.6**
STHS Stebnicka Huta 65.06 314 *e*P **P 22 42 34.1 -0.6**
G15K Niukluk 65.08 28 P **P 22 42 34.3 -0.2**
baz=284
M11K Mekoryuk 65.22 33 P **P 22 42 35.3 -0.2**
baz=284
C18K Utukok River 65.27 24 P **P 22 42 35.5 -0.3**
C18K IAmb IAmb 22 42 37.4
comp=Z,5.4nm,0.8s
C18K Utukok River 65.27 24 P **P 22 42 35.4 -0.4**
baz=285
E17K Hotham Inlet 65.44 25 P **P 22 42 37.1 +0.4**
baz=285
K13K Kusilvak Mount 65.56 31 P **P 22 42 38.9 +1.2**
K13K Kusilvak Mount 65.56 31 P **P 22 42 37.7 +0.1**
baz=285
C19K Lookout Ridge 65.71 23 P **P 22 42 39.4 +0.8**
C19K Lookout Ridge 65.71 23 P **P 22 42 38.4 -0.3**
baz=286
E18K Tukpahlearik C 65.81 25 P **P 22 42 38.5 -0.7**
E18K IAmb IAmb 22 42 41.0
comp=Z,6.0nm,0.8s
E18K Tukpahlearik C 65.81 25 P **P 22 42 39.2 0.0**
baz=286
H16K Elim 65.92 28 P **P 22 42 39.6 -0.3**
baz=286
A21K Barrow 66.04 20 P **P 22 42 40.6 0.0**
baz=288
B20K Meade River 66.27 22 P **P 22 42 42.7 +0.6**
B20K Meade River 66.27 22 P **P 22 42 42.1 +0.1**
baz=288,SNR=9.9
G17K Kiwalik Mounta 66.32 27 P **P 22 42 42.3 -0.3**
baz=286
F18K Selawik 66.40 26 P **P 22 42 42.6 -0.3**
baz=287
D19K Kuna River 66.40 24 P **P 22 42 43.5 +0.4**
D19K Kuna River 66.40 24 P **P 22 42 43.3 +0.3**
baz=287,SNR=8.1
HFS Hagfors 66.41 327 P **P 22 42 44.0 +0.8**
comp=Z,2.7nm,0.7s,baz=83,slow=4.9,SNR=5.6
comp=Z,2.7nm,0.7s
HFS Hagfors 66.41 327 P **P 22 42 44.0 +0.8**
M13K Dall Lake 66.58 33 P **P 22 42 44.2 0.0**
baz=286
L14K Kuka Creek 66.63 32 P **P 22 42 44.2 -0.3**
baz=286
A22K Sinclair Lake 66.65 21 P **P 22 42 44.4 -0.1**
baz=289
I17K Unalakleet 66.77 29 P **P 22 42 45.0 -0.4**
baz=287
H17K Granite Mounta 66.79 27 P **P 22 42 46.3 +0.8**
H17K IAmb IAmb 22 42 47.2
comp=Z,5.9nm,0.8s
H17K Granite Mounta 66.79 27 P **P 22 42 45.4 -0.1**
baz=287
UNV Unalaska Valle 66.80 40 P **P 22 42 46.0 +0.3**
baz=287
VYHS Vyhne 66.84 314 *e*P **P 22 42 47.1 +1.0**
VYHS Vyhne 66.84 314 *e*P **P 22 42 47.1 +1.0**
D20K Etivluk River 66.86 23 P **P 22 42 46.0 +0.1**
baz=289,SNR=11
K15K Wolf Creek Mou 66.88 30 P **P 22 42 46.7 +0.6**
baz=287
J16K Anvik River 66.99 29 P **P 22 42 46.8 -0.1**
baz=287
G18K Tagagawik 67.00 26 P **P 22 42 46.7 -0.2**
baz=288
E19K Redstone River 67.04 25 IAmb IAmb 22 42 48.4
comp=Z,3.8nm,0.7s
E19K Redstone River 67.04 25 P **P 22 42 47.7 +0.6**
baz=289
M14K Bethel 67.14 32 P **P 22 42 47.9 +0.2**
baz=287
E20K Nigu River 67.16 24 P **P 22 42 47.6 -0.3**
baz=289
B21K Ikpikpuk River 67.23 22 P **P 22 42 48.8 +0.6**
B21K Ikpikpuk River 67.23 22 P **P 22 42 48.2 -0.1**
baz=290
NB2 NORSAR Subarra 67.32 328 P **P 22 42 48.0 -1.0**
comp=Z,7.1nm,1.1s,baz=73,slow=6.9
NOA NORSAR Array B 67.32 328 P **P 22 42 48.3 -0.7**
comp=Z,1.5nm,0.8s,baz=72,slow=6.6,SNR=4.7
comp=Z,1.5nm,0.8s
C21K Knifeblade Rid 67.34 22 P **P 22 42 48.6 -0.4**
baz=290
H18K Honhosa River 67.34 27 P **P 22 42 48.9 -0.2**
baz=288
B22K Teshekpuk Lake 67.36 21 P **P 22 42 49.0 -0.1**
baz=291
N14K Kuskokwak Cree 67.52 33 P **P 22 42 49.7 -0.5**
baz=288
G19K Purcell Mounta 67.52 26 P **P 22 42 50.0 -0.2**
baz=289
J17K VABM Dome 67.61 29 P **P 22 42 50.7 -0.1**
baz=289
MORH Mrgy, Hungar 67.65 311 ⇓P **P 22 42 51.5 +0.2**
F20K Avaraart Lake 67.73 25 IAmb IAmb 22 42 53.0
comp=Z,3.1nm,0.8s
F20K Avaraart Lake 67.73 25 P **P 22 42 51.8 +0.3**
baz=290
M15K Kasigluk River 67.75 32 P **P 22 42 51.6 -0.1**
baz=288
E21K Killik River 67.86 23 P **P 22 42 52.1 -0.2**
baz=291
O14K Tigyukauivet M 67.93 34 P **P 22 42 53.1 +0.3**
baz=288

H19K **Roundabout Mou** 67.98 26 IAmb IAmb 22 42 55.7
comp=Z,5.4nm,1.0s
H19K **Roundabout Mou** 67.98 26 P P 22 42 52.6 -0.4
baz=290
GCSA **Galena City Sc** 68.08 27 P P 22 42 53.5 -0.1
baz=290
D22K **Ayikyak River** 68.14 22 P P 22 42 53.9 -0.2
baz=292
K17K **Iditarod** 68.17 30 P P 22 42 54.8 +0.5
K17K **Iditarod** 68.17 30 P P 22 42 54.5 +0.3
baz=290,SNR=5.7
N15K **Kwethluk River** 68.20 32 P P 22 42 55.0 +0.4
baz=289
L17K **Donlin** 68.37 30 P P 22 42 55.5 0.0
baz=290
M16K **Timber Creek** 68.44 31 P P 22 42 57.1 +1.1
M16K IAmb IAmb 22 42 58.4
comp=Z,6.9nm,0.8s
M16K **Timber Creek** 68.44 31 P P 22 42 56.0 0.0
baz=290
C23K **Itkillik River** 68.45 21 P P 22 42 56.0 +0.1
baz=294
F21K **Alatna River** 68.49 24 IAmb IAmb 22 42 57.4
comp=Z,2.9nm,0.9s
F21K **Alatna River** 68.49 24 P P 22 42 55.8 -0.4
baz=292
J18K **Innoko River** 68.59 29 IAmb IAmb 22 42 58.8
comp=Z,5.4nm,0.8s
J18K **Innoko River** 68.59 29 P P 22 42 56.7 -0.2
baz=291,SNR=6.3
H20K **Anotleneega Mo** 68.60 26 P P 22 42 56.9 -0.1
baz=291
O15K **Ungalikthiuk R** 68.66 33 P P 22 42 57.4 0.0
baz=290
S12K **Black Hills** 68.67 37 P P 22 42 57.2 -0.4
baz=289
RONA **Rosalia, Austr** 68.70 314 *e*P P 22 42 58.8 +0.8
comp=Z,3.3nm,0.8s
N16K **Nishlik Lake** 68.72 32 P P 22 42 58.4 +0.6
baz=290,SNR=5.5
E22K **Anaktuvuk Pass** 68.72 23 IAmb IAmb 22 42 59.9
comp=Z,6.8nm,1.3s
E22K **Anaktuvuk Pass** 68.72 23 P P 22 42 58.0 +0.2
baz=293
G21K **Allakaket** 68.74 25 IAmb IAmb 22 42 59.1
comp=Z,4.8nm,0.8s
G21K **Allakaket** 68.74 25 P P 22 42 57.8 -0.1
baz=292,SNR=5.6
D23K **Nanushuk River** 68.78 22 IAmb IAmb 22 43 00.3
comp=Z,6.7nm,0.8s
D23K **Nanushuk River** 68.78 22 P P 22 42 58.2 +0.2
baz=294
F22K **John River** 68.84 24 P P 22 42 58.2 -0.3
baz=293
J19K **Poorman** 68.85 28 P P 22 42 59.3 +0.8
J19K IAmb IAmb 22 43 00.8
comp=Z,3.3nm,0.7s
J19K **Poorman** 68.85 28 P P 22 42 58.7 +0.1
baz=291,SNR=5.8
CONA **Conrad Observa** 68.90 314 *i* P P 22 42 59.9 +0.7
comp=Z,2.1nm,0.7s
M17K **Holitna River** 69.00 31 P P 22 42 59.8 +0.2
baz=291
I20K **Naaghedeneel** 69.02 27 P P 22 43 00.1 +0.5
baz=292
L18K **Granite Mounta** 69.05 30 P P 22 43 00.6 +0.8
baz=291
C24K **Franklin Bluff** 69.10 21 P P 22 43 00.8 +0.8
baz=295
TOLK **Toolik Lake Re** 69.28 22 P P 22 43 01.0 -0.2
baz=295
D24K **Happy Valley** 69.30 22 P P 22 43 01.4 +0.1
baz=295
G22K **Bettles** 69.32 24 P P 22 43 01.2 -0.1
baz=294
H21K **Melozitna Rive** 69.34 26 P P 22 43 01.7 +0.2
H21K IAmb IAmb 22 43 03.1
comp=Z,2.6nm,0.8s
H21K **Melozitna Rive** 69.34 26 P P 22 43 01.8 +0.2
baz=293
O16K **Kokwok River B** 69.35 33 IAmb IAmb 22 43 03.7
comp=Z,4.8nm,0.6s
O16K **Kokwok River B** 69.35 33 P P 22 43 01.9 +0.2
baz=291
J20K **Nowinta River** 69.39 27 IAmb IAmb 22 43 04.3
comp=Z,4.3nm,0.8s
J20K **Nowinta River** 69.39 27 P P 22 43 01.5 -0.3
baz=292,SNR=6.2
N17K **Nushagak Hills** 69.43 32 P P 22 43 01.8 -0.3
baz=291
E23K **Chandalar** 69.51 23 IAmb IAmb 22 43 04.1
comp=Z,3.9nm,0.6s
E23K **Chandalar** 69.51 23 P P 22 43 03.2 +0.5
baz=295
P16K **Nushagak River** 69.60 33 P P 22 43 03.5 +0.4
baz=291
SDPT **Sand Point** 69.64 37 P P 22 43 03.6 +0.1
baz=290
COLD **Coldfoot** 69.66 24 P P 22 43 03.1 -0.4
baz=295
M18K **Stony River** 69.69 30 P P 22 43 03.4 -0.3
baz=292
K20K **Telida** 69.73 28 P P 22 43 03.7 -0.3
baz=293
O17K **Koliganek Bris** 69.75 32 P P 22 43 04.0 -0.1
baz=292
H22K **Ishtalitna Cre** 69.78 25 P P 22 43 04.4 +0.1
baz=294
S14K **Fog Glacier** 69.80 36 P P 22 43 04.4 -0.3
baz=291
I21K **Tanana** 69.85 26 P P 22 43 05.3 +0.7
I21K IAmb IAmb 22 43 07.1
comp=Z,4.9nm,1.0s
I21K **Tanana** 69.85 26 P P 22 43 04.0 -0.6
baz=294
L19K **White Mountain** 69.86 29 IAmb IAmb 22 43 07.0
comp=Z,4.3nm,0.8s
L19K **White Mountain** 69.86 29 P P 22 43 04.8 0.0
baz=293
SOKA **Soboth** 69.86 313 *i* P P 22 43 05.5 +0.4
comp=Z,2.5nm,0.6s
E24K **Your Creek** 69.88 23 P P 22 43 03.9 -1.0
baz=296,SNR=6.2
G23K **Bananza Creek** 69.94 24 P P 22 43 04.6 -0.7
baz=295
MOA **Molln** 69.94 314 *i* P P 22 43 06.3 +0.7
comp=Z,1.9nm,0.8s
GEC2 **GERESS Array S** 69.95 315 P P 22 43 06.2 +0.5
GEC2 pmax pmax
comp=Z,3.0nm,1.2s
GERES **GERESS Array B** 69.95 315 P P 22 43 05.9 +0.2
comp=Z,1.5nm,0.6s,baz=77,slow=5.0,SNR=11
comp=Z,1.5nm,0.6s
N18K **Kilae Creek** 69.97 31 P P 22 43 04.7 -0.8
baz=292
D25K **Kavik River** 70.01 21 P P 22 43 05.6 -0.1
baz=297
L20K **Farewell, AK** 70.16 29 P P 22 43 06.9 +0.2
baz=293
M19K **Big River Lodg** 70.17 30 P P 22 43 06.7 0.0
baz=293
C26K **Camden Bay** 70.18 20 P P 22 43 06.3 -0.3
baz=298
P17K **Kvichak River** 70.28 33 P P 22 43 07.3 -0.1
baz=292
CHNA **Chernabura Isl** 70.31 38 P P 22 43 07.6 0.0
baz=291
F24K **Squaw Lake** 70.34 23 P P 22 43 07.6 -0.1
baz=297
Q16K **King Salmon** 70.37 33 P P 22 43 08.1 +0.1
baz=292
MLY **Manley** 70.39 26 IAmb IAmb 22 43 10.2
comp=Z,3.9nm,0.8s
MLY **Manley** 70.39 26 P P 22 43 07.8 -0.3
baz=295,SNR=7.7
BIOA **Bad Ischl, Aus** 70.39 314 *e*P P 22 43 09.1 +0.7
comp=Z,1.6nm,0.5s
H23K **Yukon River** 70.50 25 IAmb IAmb 22 43 10.7
comp=Z,2.8nm,0.7s
H23K **Yukon River** 70.50 25 P P 22 43 08.6 -0.1
baz=296,SNR=6.7
CAST **Castle Rocks** 70.53 28 IAmb IAmb 22 43 51.6
comp=Z,6.4nm,1.4s
CAST **Castle Rocks** 70.53 28 P P 22 43 09.2 +0.3
baz=294
N19K **Bonanza Creek** 70.56 31 IAmb IAmb 22 43 11.8
comp=Z,7.4nm,0.8s
N19K **Bonanza Creek** 70.56 31 P P 22 43 09.1 -0.1
baz=293,SNR=7.8
O18K **Koktuh Hills** 70.60 32 P P 22 43 09.4 0.0
baz=293,SNR=6.2
BPAW **Bear Paw Mtn.** 70.69 27 IAmb IAmb 22 43 12.0
comp=Z,8.1nm,1.2s
BPAW **Bear Paw Mtn.** 70.69 27 P P 22 43 09.8 0.0
baz=295,SNR=8.0
C27K **Jago River** 70.69 20 P P 22 43 09.9 +0.1
baz=300
PPLA **Purkeypile** 70.70 28 P P 22 43 09.7 -0.4
baz=294
M20K **Styx River** 70.72 29 P P 22 43 11.4 +1.2
M20K IAmb IAmb 22 43 12.5
comp=Z,4.6nm,0.8s
M20K **Styx River** 70.72 29 P P 22 43 09.8 -0.3
baz=294,SNR=5.3
P18K **Big Mountain,** 70.78 32 IAmb IAmb 22 43 12.4
comp=Z,4.1nm,0.7s
P18K **Big Mountain,** 70.78 32 P P 22 43 10.3 -0.2
baz=293,SNR=5.1
KBA **Koelnbreinsper** 70.80 314 *i* P P 22 43 11.1 +0.1
comp=Z,3.1nm,0.9s
G24K **Hadweenzic Riv** 70.85 24 P P 22 43 10.7 -0.1
baz=297
I23K **Minto, Yukon-K** 70.86 26 IAmb IAmb 22 43 12.6
comp=Z,3.1nm,0.8s
I23K **Minto, Yukon-K** 70.86 26 P P 22 43 10.6 -0.3
baz=296
Q17K **Contact Creek** 70.91 34 P P 22 43 11.2 -0.2
baz=293
R17L **Mt. Peulik Vol** 70.92 34 P P 22 43 11.7 +0.3
baz=293
KTH **Kantishna Hill** 70.95 27 IAmb IAmb 22 43 14.0
comp=Z,4.7nm,0.8s
KMBO **Kilima Mbogo** 71.00 258 P P 22 43 12.6 -0.3
comp=Z,0.9nm,0.3s,baz=65,slow=17,SNR=2.4
comp=Z,0.9nm,0.3s
F25K **Christian Rive** 71.06 22 P P 22 43 12.9 +0.8
baz=299
LESA **Schwarzleotal** 71.10 314 *i* P P 22 43 13.2 +0.5
comp=Z,1.8nm,0.5s
H24K **Noodor Dome** 71.10 25 IAmb IAmb 22 43 14.2
comp=Z,2.6nm,0.7s
H24K **Noodor Dome** 71.10 25 P P 22 43 12.8 +0.4
baz=297
Q18K **Katmai Hardscr** 71.18 33 P P 22 43 13.7 +0.6
baz=294
NEA2 **Nenana** 71.22 26 IAmb IAmb 22 43 15.0
comp=Z,6.7nm,0.8s
NEA2 **Nenana** 71.22 26 P P 22 43 13.7 +0.6
baz=297,SNR=6.8
TRF **Thorofare Moun** 71.25 27 P P 22 43 13.6 +0.1
baz=296
G25K **Bearman Lake** 71.31 23 P P 22 43 13.8 +0.3
baz=298,SNR=5.4
SKT **Skwentna** 71.37 29 IAmb IAmb 22 43 15.8
comp=Z,4.8nm,0.6s
SKT **Skwentna** 71.37 29 P P 22 43 13.6 -0.4
baz=295,SNR=7.7
ABTA **Abfaltersbach** 71.45 314 *i* P P 22 43 14.1 -0.8
comp=Z,3.4nm,1.1s
BMAR **Burnt Mountain** 71.50 22 P P 22 43 15.8 +1.0
F26K **Sheenjek River** 71.52 22 P P 22 43 15.2 +0.3
baz=300
COLA **College** 71.56 25 P P 22 43 15.3 +0.3
baz=298
P19K **Oil Pt** 71.60 32 P P 22 43 14.9 -0.5
baz=295
POKR **Poker Plat Res** 71.60 25 P P 22 43 15.4 0.0
baz=298
H25L **Birch Creek** 71.64 24 P P 22 43 15.2 -0.4
baz=299
WRH **Wood River Hil** 71.65 26 IAmb IAmb 22 43 31.3
comp=Z,6.1nm,1.4s
MCK **McKinley** 71.66 27 P P 22 43 15.2 -0.6
baz=297
Q19K **Cape Douglas,** 71.71 32 P P 22 43 15.0 -1.1
baz=295
D27M **Malcolm River** 71.72 20 P P 22 43 14.9 -1.1
baz=302
WTTA **Wattenberg** 71.81 314 *i* P P 22 43 17.3 +0.1
comp=Z,3.3nm,0.6s
SUA **Susitna One** 71.93 29 P P 22 43 16.8 -0.7
baz=296,SNR=13
ILAR **Eielson Array** 71.97 25 P P 22 43 17.4 -0.2
comp=Z,0.7nm,0.5s,baz=288,slow=3.2,SNR=7.5
comp=Z,0.7nm,0.5s
G26K **Porcupine Rive** 72.01 23 IAmb IAmb 22 43 19.8
comp=Z,4.3nm,0.8s
G26K **Porcupine Rive** 72.01 23 P P 22 43 17.9 +0.2
baz=300
E27K **Coleen River** 72.09 21 P P 22 43 18.2 -0.1
baz=302
SQTA **Sankt Quirin** 72.10 314 *i* P P 22 43 18.9 0.0
comp=Z,4.3nm,0.5s
PRP **Porcupine Dome** 72.11 24 IAmb IAmb 22 43 20.6
comp=Z,7.7nm,0.8s
PRP **Porcupine Dome** 72.11 24 P P 22 43 18.2 -0.4
baz=299
MOTA **Mosalm** 72.12 315 *i* P P 22 43 19.1 +0.1
comp=Z,2.6nm,0.6s
Q20K **Shuyak Island** 72.44 32 P P 22 43 20.5 +0.1
baz=296
SII **Sitkinak Islan** 72.44 35 P P 22 43 20.0 -0.5
baz=295
FETA **Feichten** 72.48 314 *i* P P 22 43 21.4 +0.2
comp=Z,1.8nm,0.6s
E28M **Babbage River** 72.50 20 P P 22 43 20.4 -0.3
baz=304
RC01 **Rabbit Creek A** 72.53 29 P P 22 43 20.6 -0.4
baz=297
GHO **Glory Hole Cre** 72.57 29 IAmb IAmb 22 43 23.9
comp=Z,3.6nm,0.6s
OHAK **Old Harbor** 72.61 34 P P 22 43 21.5 +0.1
baz=295
J25K **Salcha River,** 72.62 25 P P 22 43 21.0 -0.5
baz=300
KDAK **Kodiak Island** 72.70 33 P P 22 43 21.5 -0.5
KDAK **Kodiak Island** 72.70 33 P P 22 43 21.5 -0.5
KDAK pmax pmax
comp=Z,6.0nm,0.5s
KDAK **Kodiak Island** 72.70 33 P P 22 43 21.9 -0.1
baz=296
G27K **Doyon Strip** 72.80 22 IAmb IAmb 22 43 24.6
comp=Z,3.6nm,0.8s
G27K **Doyon Strip** 72.80 22 P P 22 43 22.2 -0.4
baz=302
K24K **Donnelly Dome** 72.86 26 P P 22 43 22.1 -0.8
baz=300
M23K **Glacier View** 73.06 28 P P 22 43 23.8 -0.4
baz=298
I26K **Coal Creek Min** 73.08 24 IAmb IAmb 22 43 25.5
comp=Z,3.6nm,0.9s
I26K **Coal Creek Min** 73.08 24 P P 22 43 24.0 -0.2
baz=301
E29M **Blow River** 73.12 20 P P 22 43 24.0 -0.4
baz=305
SCM **Sheep Creek Mo** 73.21 28 P P 22 43 23.6 -1.5
baz=299
PWL **Port Wells** 73.25 29 IAmb IAmb 22 43 26.8
comp=Z,4.0nm,0.7s
PWL **Port Wells** 73.25 29 P P 22 43 24.9 -0.4
baz=298
RIDG **Independent Ri** 73.26 26 IAmb IAmb 22 43 26.5
comp=Z,5.3nm,0.5s
RIDG **Independent Ri** 73.26 26 P P 22 43 25.5 +0.1
baz=300
J26L **Joseph Creek** 73.35 25 P P 22 43 25.8 -0.1
baz=301
PAX **Paxson** 73.40 27 P P 22 43 26.2 0.0
baz=300
SCRK **Sand Creek** 73.46 25 P P 22 43 27.1 +0.5
baz=301
I27K **Kandik River** 73.47 23 P P 22 43 26.1 -0.4
baz=303
M24K **Tolsona, Glenn** 73.55 28 P P 22 43 26.4 -0.7
baz=300
GLI **Glacier Island** 73.77 29 P P 22 43 28.5 +0.2
baz=299
HARP **HAARP** 73.81 27 P P 22 43 27.7 -0.8
baz=300
G29M **Pine Creek** 73.94 21 P P 22 43 29.2 0.0
baz=305
KLU **Klutina** 73.96 28 IAmb IAmb 22 43 31.7
comp=Z,5.8nm,0.6s
KLU **Klutina** 73.96 28 P P 22 43 29.5 0.0
baz=300
P23K **Montague Islan** 74.07 30 P P 22 43 30.1 +0.1
baz=299
I28M **Miner Creek** 74.14 23 P P 22 43 30.6 +0.1
baz=304
K27K **Chicken** 74.15 25 P P 22 43 30.9 +0.5
baz=303
F30M **Barrier River** 74.23 20 P P 22 43 31.4 +0.5
baz=307
H29M **Whitestone** 74.23 22 P P 22 43 31.4 +0.5
baz=305
N25K **Chitina, Valde** 74.45 28 IAmb IAmb 22 43 34.3
comp=Z,4.7nm,0.7s
N25K **Chitina, Valde** 74.45 28 P P 22 43 33.0 +0.7
baz=301
INK **Inuvik** 74.47 19 P P 22 43 32.6 +0.3
baz=309
G30M **tAoh Zraii Nji** 74.47 21 P P 22 43 32.7 +0.3
baz=307
EYAK **Cordova Ski Ar** 74.51 29 P P 22 43 33.6 +1.0
baz=300
M26K **Nabesna, AK** 74.67 27 P P 22 43 34.3 +0.7
baz=302
EPYK **Eagle Plains** 74.68 22 P P 22 43 34.2 +0.7
baz=306
I29M **Ogilvie Camp,** 74.75 23 P P 22 43 34.4 +0.4
baz=305
L27K **Beaver Creek,** 74.77 26 IAmb IAmb 22 43 36.2
comp=Z,3.3nm,0.7s
L27K **Beaver Creek,** 74.77 26 P P 22 43 34.3 +0.2
baz=303
BMRM **Bremner River** 74.78 28 IAmb IAmb 22 43 36.4
comp=Z,8.1nm,0.8s
BMRM **Bremner River** 74.78 28 P P 22 43 34.3 0.0
baz=301
BCAR **Beaver Creek A** 74.78 26 P P 22 43 34.7 +0.4
Q23K **Middleton Isla** 74.81 30 P P 22 43 34.7 +0.4
baz=300
GLB **Gilahina Butte** 74.86 28 IAmb IAmb 22 43 36.4
comp=Z,5.0nm,0.7s
F31M **Tsiigehtchic** 74.95 20 P P 22 43 35.5 +0.4
baz=309
DAWY **Dawson** 75.11 24 P P 22 43 36.5 +0.4
baz=305
G31M **Satah River** 75.12 21 P P 22 43 36.4 +0.4
baz=308
M27K **Edge Creek, AK** 75.14 26 IAmb IAmb 22 43 40.6
comp=Z,5.1nm,0.9s
M27K **Edge Creek, AK** 75.14 26 P P 22 43 36.8 +0.4
baz=303
MCARA **McCarthy VSAT** 75.21 27 P P 22 43 36.9 +0.2
baz=302
I30M **Mount Dempster** 75.48 22 P P 22 43 38.0 -0.4
baz=307
BVCY **Beaver Creek** 75.50 26 P P 22 43 38.1 -0.3
baz=304
CRQE **Cirque** 75.52 28 P P 22 43 39.2 +0.6
baz=302
H31M **Peel River** 75.79 21 P P 22 43 40.3 +0.3
baz=309
J30M **Hart River** 75.89 23 P P 22 43 40.0 -0.7
baz=307
K29M **Barlow Dome** 75.92 24 IAmb IAmb 22 43 42.8
comp=Z,4.8nm,0.8s
K29M **Barlow Dome** 75.92 24 P P 22 43 40.5 -0.3
baz=306
YUK3 **Moose Creek** 76.02 26 P P 22 43 41.7 +0.1
baz=304
GRNC **Granite Creek** 76.08 28 IAmb IAmb 22 43 44.2
comp=Z,3.5nm,0.8s
CTG **Chitna Glacier** 76.12 27 P P 22 43 42.5 +0.5
baz=304
L29M **L29M** 76.13 25 IAmb IAmb 22 43 44.3
comp=Z,6.4nm,0.9s
L29M **L29M** 76.13 25 P P 22 43 41.0 -1.0
baz=306
YAH **Yahtse** 76.29 28 IAmb IAmb 22 43 45.7
comp=Z,7.0nm,0.9s
MESA **MESA** 76.31 28 P P 22 43 42.9 -0.3
baz=304
M29M **Somme Creek** 76.40 25 P P 22 43 43.5 -0.1
baz=306
YUK8 **Steele Glacier** 76.57 27 P P 22 43 44.7 0.0
baz=305
EKA **Eskdalemuir Ar** 76.58 326 P P 22 43 43.8 -0.8
comp=Z,1.8nm,0.8s,baz=48,slow=5.8,SNR=3.6
comp=Z,1.8nm,0.8s
O28M **Mount Upton** 76.69 27 P P 22 43 45.3 -0.2
baz=305
M30M **Minto, Yukon** 76.94 25 P P 22 43 46.8 +0.2
baz=307
YUK4 **Talbot Arm** 76.97 26 P P 22 43 46.6 -0.4
baz=306
PINM **Pinnacle** 77.06 28 P P 22 43 47.4 +0.1
baz=305
YUK6 **Outpost Mounta** 77.32 27 P P 22 43 48.4 -0.6
baz=306
N30M **Aishikik Lake** 77.51 26 IAmb IAmb 22 43 51.8
comp=Z,2.9nm,0.8s
N30M **Aishikik Lake** 77.51 26 P P 22 43 50.1 +0.3
baz=307
O29M **Mount Kennedy** 77.62 27 P P 22 43 50.5 0.0
baz=306
PNL **Peninsula** 77.66 28 P P 22 43 51.2 +0.6
baz=306
HYT **Haines Junctio** 77.73 26 P P 22 43 50.9 -0.2
baz=307
N31M **Braeburn, Yuko** 77.99 25 IAmb IAmb 22 43 54.5
comp=Z,5.5nm,0.7s
N31M **Braeburn, Yuko** 77.99 25 P P 22 43 53.3 +0.8
baz=308
M31M **Drury Creek, Y** 78.05 24 P P 22 43 53.6 +0.8
baz=309
P29M **Windy Craggy** 78.36 27 P P 22 43 55.0 +0.5
baz=307
P30M **Million Dollar** 78.37 27 P P 22 43 55.5 +0.9
baz=308
WHY **Whitehorse** 78.85 26 P P 22 43 57.3 0.0
baz=309
MMPY **Sheldon Lake,** 78.89 23 P P 22 43 57.7 +0.3
baz=312
PLBC **Pleasant Camp** 79.02 27 P P 22 43 57.9 -0.2
baz=308
SKAG **Skagway** 79.43 27 P P 22 44 00.5 +0.2
baz=309
P33M **Teslin, Yukon** 79.92 25 P P 22 44 03.0 -0.1
baz=311
P32M **Atlin** 79.98 26 P P 22 44 03.3 -0.1
baz=310
S31K **Pelican** 80.00 28 P P 22 44 03.8 +0.4
baz=308
R32K **Eaglecrest** 80.51 27 P P 22 44 06.5 +0.2
baz=310
TGTN **Hyland Airport** 80.67 23 P P 22 44 07.5 +0.4
baz=314
SIT **Sitka** 80.95 29 P P 22 44 08.3 -0.3
baz=309
Q32M **Nakina River** 80.96 26 P P 22 44 09.1 +0.2
baz=312
S32K **Killisnoo** 81.00 28 P P 22 44 09.2 +0.4
baz=310
R33M **Jennings River** 81.16 25 P P 22 44 10.8 +0.9
R33M **Jennings River** 81.16 25 P P 22 44 10.4 +0.5
baz=312
T33K **Petersburg** 82.10 28 P P 22 44 15.3 +0.6
baz=311
S34M **Telegraph Cree** 82.10 27 P P 22 44 15.4 +0.7
baz=312
DLBC **Dease Lake** 82.17 26 P P 22 44 15.4 +0.2
baz=313
U33K **Whale Pass** 82.49 29 P P 22 44 17.3 +0.6
baz=311
WRAK **Wrangell Islan** 82.62 28 P P 22 44 18.2 +0.9
CRAG **Craig** 82.92 29 P P 22 44 19.7 +0.8
baz=311
LIRD **Liard River Hi** 82.93 24 P P 22 44 19.5 +0.6
baz=316
T35M **Bob Quinn** 83.09 27 P P 22 44 20.4 +0.5
baz=313
TOAD **Toad River Com** 83.65 24 P P 22 44 23.2 +0.5
baz=317
V35K **Ketchikan** 83.65 29 P P 22 44 23.3 +0.6
baz=312
QSPA **South Pole Qui** 118.18 180 PKPdf **PKPdf** 22 50 40.4 -0.2
SNAA **Sanae** 122.26 201 PKPdf **PKPdf** 22 50 48.2 -0.2
SNAA **Sanae** 122.26 201 PKIKP **PKPdf** 22 50 48.2 -0.2
HERN **Volcan Telica** 137.68 17 PKPdf **PKPdf** 22 51 17.5 -1.9
RUSC **La Rusia** 145.86 356 **PKPbc** 22 51 35.1 +0.1
BOAV **Boa Vista** 146.34 333 PKPbc **PKPbc** 22 51 35.7 -0.2

DJA 12 22:33:21.7±0.3, 1°S±2.2, 12°0E±°, h10km, M4.0/13, mb4.2/2, MLv3.9/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.37**	**185**	P	Pg	22 33 27.9	-1.2
PCI				S	Sg	22 33 33.9	-0.2
MPSI	**Mapaga**	**0.86**	**2**	S	Sg	22 33 49.7	+0.1
APSI	**Ampana**	**1.82**	**102**	P	Pn	22 33 53.2	+0.1
MRSI	**Marisa**	**2.30**	**64**	P	Pn	22 33 59.1	-0.6
TTSI	**Tana Toraja**	**2.50**	**181**	P	Pn	22 34 03.5	+1.1
TTSI				S	Sb	22 34 39.0	+1.4
LUWI	**Luwuk**	**2.95**	**100**	P	Pn	22 34 08.5	-0.1
BKB	**Balikpapan**	**3.06**	**256**	P	Pn	22 34 09.2	-1.0
SPSI	**Sidrap Palu**	**3.41**	**182**	P	Pn	22 34 15.4	+0.4
BNSI	**Bone**	**3.85**	**176**	P	Pn	22 34 22.8	+1.7
KDI	**Kendari**	**4.37**	**141**	P	Pn	22 34 26.6	-1.7
BKSI	**Bulukumba**	**4.77**	**177**	P	Pn	22 34 33.6	-0.1

*BJI **12** 22:40:54.0, 29°.38S×96°.64E, h14km, mB5.3/35, mb5.4/72, Ms4.9/30, Ms7 4.6/31*

*IDC **12** 22:40:56.3±0.3, 29°.11S×96°.91E, h0km, mb5.1/30, mbtmp5.1/31, ML3.8/1, MS4.1/45, Error ellipse: s-maj=12.3km s-min=11.2km az=110.0*

*MOS **12** 22:40:57.0±0.9, 29°.03S×96°.95E, h14km, mb5.5/49, MS4.4/4, Error ellipse: s-maj=9.2km s-min=5.7km az=105.1*

*NEIC **12** 22:40:58.3±1.8, 29°.09S±0°.09×96°.9E±0°.1, h10km±1km, mb5.5/107, Mww5.2/19, Error ellipse: s-maj=15.4km s-min=14.2km az=297.0*

*NEIC **12** 22:40:58.7, 28°.97S×97°.18E, h24km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}7.84; $M_{\theta\theta}$-2.03; $M_{\phi\phi}$-5.81; $M_{r\theta}$1.28; $M_{r\phi}$-3.66; $M_{\theta\phi}$-0.53; Fault plane solution: $M_0$8.06000×10^{16} NP1: ϕ_s201.67000°, δ45.05000°, λ76.04000°. NP2:ϕ_s41.05000°, δ46.62000°, λ103.58000°. Principal axes: T 8.0819, Plg80.0000°, Azm27.0000°; N -0.0342, Plg10.0000°, Azm212.0000°; P -8.0477, Plg1.0000°, Azm121.0000°;*

*NEIC **12** 22:40:58.7, 29°.07S×96°.95E, h24km*

*GCMT **12** 22:41:00.3±0.1, 29°.03S±0°.01×96°.97E±0°.01, h14km, MW5.2/133, Moment Tensor Solution. s95,c150; s133,c247; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.72±.02; $M_{\theta\theta}$-0.15±.01; $M_{\phi\phi}$-0.57±.01; $M_{r\theta}$-0.05±.03; $M_{r\phi}$-0.39±.01; $M_{\theta\phi}$0.08±.02; Best double couple: $M_0$0.77100×10^{17} NP1:ϕ_s218.00000°, δ44.00000°, λ100.00000°. NP2:ϕ_s24.00000°, δ47.00000°, λ80.00000°. Principal axes: T 0.7350, Plg83.0000°, Azm224.0000°; N 0.0720, Plg7.0000°, Azm30.0000°; P -0.8060, Plg2.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 22:40:59.1±0.6, 29°.15S±0°.05×96°.91E±0°.05, h18km±2km, h18km:pP-P, n796, σ0.98/775, mb5.4/200, MS4.3/63, 40C-19D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W3	**Cape Leeuwin H**	**15.68**	**116**	T	T	23 00 28.8	
	baz=291,slow=75						
H01W2	**Cape Leeuwin H**	**15.69**	**116**	T	T	23 00 15.0	
	baz=291,slow=75						
H01W1	**Cape Leeuwin H**	**15.70**	**116**	T	T	23 00 30.1	
	baz=291,slow=75						
MTKN	**Mount Kenneth**	**16.49**	**104**	P	**Pn**	**22 44 50.0**	**+0.6**
	comp=Z,629nm,1.2s						
MORW	**Morawa**	**16.72**	**94**		**Pn**	**22 44 50.8**	**-1.7**
MORW	**Morawa**	**16.72**	**94**	P	**Pn**	**22 44 50.5**	**-1.9**
	comp=Z,0.0nmcomp=Z,141nm,1.1s						
MUN	**Mundaring**	**16.86**	**104**	P	**Pn**	**22 44 52.8**	**-1.4**
	comp=Z,0.0nmcomp=Z,211nm,0.7s						
MUN	**Mundaring**	**16.86**	**104**	P	**Pn**	**22 44 53.1**	**-1.1**
GIRL	**Giralia**	**16.87**	**71**	Pn	**Pn**	**22 44 51.3**	**-3.1**
GIRL	**Giralia**	**16.87**	**71**	P	**Pn**	**22 44 51.3**	**-3.1**
	comp=Z,133nm,1.3s						
BLDU	**Ballidu**	**17.23**	**100**	P	**Pn**	**22 44 57.0**	**-1.9**
	comp=Z,191nm,1.4s						
NWAO	**Narrogin (SRO)**	**17.82**	**107**		**P**	**22 45 06.8**	**0.0**
NWAO	**Narrogin (SRO)**	**17.82**	**107**	P	**P**	**22 45 06.5**	**-0.3**
	comp=Z,273nm,0.7s						
NWAO	**Narrogin (SRO)**	**17.82**	**107**	P	**P**	**22 45 06.6**	**-0.1**
	comp=Z,15nm,0.3s,baz=251,slow=9.5,SNR=81						
NWAO				S	Sn	22 48 06.3	-18
	comp=Z,68nm,0.6s,baz=355,slow=18,SNR=7.0						
NWAO				LR	LR	22 50 31.1	
	comp=Z,944nm,20.1s,baz=258,slow=32						
	comp=Z,47nm,0.3s						
NWAO	**Narrogin (SRO)**	**17.82**	**107**	P	**P**	**22 45 07.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**17.82**	**107**	P	**P**	**22 45 06.8**	**0.0**
NWAO				pmax	pmax		
	comp=Z,72nm,0.7s						
RKGY	**Rocky Gully**	**17.88**	**113**	P	**P**	**22 45 07.4**	**-0.1**
	comp=Z,0.0nmcomp=Z,206nm,0.8s						
KLBR	**Kellerberrin**	**18.15**	**103**	P	**Pn**	**22 45 09.8**	**-0.4**
	comp=Z,434nm,0.8s						
MEEK	**Meekatharra**	**19.34**	**88**	P	**P**	**22 45 23.6**	**0.0**
	comp=Z,112nm,0.8s						
PSAC1	**Pilbara Seismi**	**22.02**	**75**	P	**P**	**22 45 52.5**	**-0.1**
	comp=Z,112nm,1.4s						
MBWA	**Marble Bar**	**22.11**	**74**	P	**P**	**22 45 52.8**	**-0.7**
MBWA				IAmb	IAmb	22 46 04.1	
	comp=Z,463nm,1.9s						
MBWA	**Marble Bar**	**22.11**	**74**	P	**P**	**22 45 53.3**	**-0.3**
	comp=Z,129nm,1.5s						
MBWA	**Marble Bar**	**22.11**	**74**	P	**P**	**22 45 53.8**	**+0.2**
CNJI	**Cibinong**	**23.76**	**26**	P	**P**	**22 46 07.6**	**-3.0**
SKJI	**Sukabumi**	**23.83**	**24**	P	**P**	**22 46 13.0**	**+1.8**
	comp=Z,137nm,1.0s						
CGJI	**Cibinong**	**23.90**	**22**	P	**P**	**22 46 11.6**	**-0.3**
	comp=Z,2μmcomp=Z,118nm,1.4s						
DBJI	**Dramaga**	**24.32**	**24**	P	**P**	**22 46 15.4**	**-0.4**
	comp=Z,94nm,1.3s						
LEM	**Lembang**	**24.39**	**27**	P	**P**	**22 46 18.5**	**+1.8**
	comp=Z,3μmcomp=Z,145nm,2.1s						
KPJI	**Karang Pucung**	**24.48**	**30**	P	**P**	**22 46 18.1**	**+0.9**
	comp=Z,2μmcomp=Z,124nm,1.4s						
SBJI	**Serang**	**24.51**	**23**	P	**P**	**22 46 18.6**	**+1.1**
	comp=Z,173nm,0.9s						
KASI	**Kota Agung**	**24.57**	**18**	P	**P**	**22 46 18.4**	**+0.3**
UGM	**Wanagama**	**24.71**	**34**	P	**P**	**22 46 20.6**	**+1.2**
UGM				IAmb	IAmb	22 46 33.9	
	comp=Z,194nm,1.4s						
UGM	**Wanagama**	**24.71**	**34**	P	**P**	**22 46 20.4**	**+1.0**
	comp=Z,2μmcomp=Z,97nm,1.8s						
PCJI	**Pacitan**	**24.79**	**36**	P	**P**	**22 46 20.1**	**0.0**
	comp=Z,69nm,1.2s						
LWLI	**Liwa**	**24.94**	**17**	P	**P**	**22 46 23.5**	**+2.0**
	comp=Z,123nm,0.8s						
WOJI	**Wonogiri, Jawa**	**24.97**	**35**	P	**P**	**22 46 21.8**	**+0.1**
KLI	**Kotabumi**	**25.30**	**19**	P	**P**	**22 46 24.7**	**0.0**
	comp=Z,87nm,1.8s						
SMRI	**Semarang**	**25.42**	**33**	P	**P**	**22 46 26.7**	**+0.9**
SMRI	**Semarang**	**25.42**	**33**	P	**P**	**22 46 28.7**	**+2.9**
	comp=Z,173nm,1.2s						
MDSI	**Maura Dua**	**25.48**	**17**	P	**P**	**22 46 25.8**	**-0.5**
	comp=Z,1μmcomp=Z,83nm,1.6s						
NGJI	**Ngawi**	**25.64**	**35**	P	**P**	**22 46 28.6**	**+0.8**
	comp=Z,95nm,1.3s						
GMJI	**Gumukmas**	**25.94**	**40**	P	**P**	**22 46 30.4**	**-0.1**
LHSI	**Lahat**	**25.95**	**15**	P	**P**	**22 46 32.0**	**+1.4**
	comp=Z,2μmcomp=Z,94nm,1.0s						
JAGI	**Jajag, Banyuwa**	**26.19**	**42**	P	**P**	**22 46 32.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**26.19**	**42**	P	**P**	**22 46 32.0**	**-0.7**
	comp=Z,1μmcomp=Z,113nm,1.3s						
SRBI	**Singaraja**	**27.12**	**43**	P	**P**	**22 46 40.9**	**-0.2**
	comp=Z,2μmcomp=Z,102nm,0.9s						
PMBI	**Palembang**	**27.13**	**17**	P	**P**	**22 46 42.5**	**+1.3**
SISI	**Saibi**	**27.74**	**5**	P	**P**	**22 46 47.4**	**+0.7**
	comp=Z,110nm,1.5s						
TPI	**Tanjungpandan**	**28.16**	**23**	P	**P**	**22 46 51.3**	**+0.8**
	comp=Z,43nm,1.2s						
PDSI	**Padang**	**28.28**	**8**	P	**P**	**22 46 53.2**	**+1.6**
	comp=Z,46nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.45**	**74**	P	**P**	**22 46 52.8**	**-0.3**
	comp=Z,4.6nm,1.6s						
FITZ	**Fitzroy Crossi**	**28.45**	**74**	P	**P**	**22 46 52.9**	**-0.2**
	comp=Z,3.6nm,0.5s,baz=224,slow=8.1,SNR=9.0						
FITZ				PcP	**PcP**	**22 50 05.7**	**+0.6**
	comp=Z,12nm,0.8s,baz=269,slow=4.1,SNR=3.7						
FITZ				LR	LR	22 55 58.5	
	comp=Z,494nm,21.7s,baz=248,slow=32						
	comp=Z,3.6nm,0.5s						
WBSI	**Waikabubak, Su**	**28.64**	**52**	P	**P**	**22 46 54.8**	**0.0**
	comp=Z,1μmcomp=Z,109nm,1.1s						
PBSI	**Pulau Batu**	**28.96**	**3**	P	**P**	**22 46 58.7**	**+1.2**
DSRI	**Dabo**	**29.43**	**16**	P	**P**	**22 47 03.1**	**+1.3**
	comp=Z,2μmcomp=Z,69nm,1.1s						
BKNI	**Bangkinang**	**29.57**	**8**	P	**P**	**22 47 04.1**	**+1.1**
BKNI	**Bangkinang**	**29.57**	**8**	P	**P**	**22 47 03.6**	**+0.6**
MNSI	**Mandailing Nat**	**29.88**	**5**	P	**P**	**22 47 06.6**	**+0.9**
	comp=Z,66nm,0.9s						
GSI	**Gunungsitoli**	**30.29**	**1**	P	**P**	**22 47 09.7**	**+0.3**
GSI				IAmb	IAmb	22 47 13.9	
	comp=Z,65nm,1.2s						
GSI	**Gunungsitoli**	**30.29**	**1**	P	**P**	**22 47 11.3**	**+2.0**
	comp=Z,46nm,1.6s						
TPRI	**Tanjung Pinang**	**30.77**	**15**	P	**P**	**22 47 14.3**	**+0.7**
	comp=Z,74nm,0.9s						
EDFI	**Ende, Flores**	**30.87**	**54**	P	**P**	**22 47 14.3**	**-0.4**
	comp=Z,707nmcomp=Z,73nm,1.2s						
BATI	**Baunata**	**31.32**	**58**	P	**P**	**22 47 19.8**	**+1.2**
	comp=Z,58nm,0.9s,baz=102,slow=22,SNR=5.8						
	comp=Z,58nm,0.9s						
MMRI	**Maumere**	**31.34**	**54**	P	**P**	**22 47 18.6**	**-0.1**
MMRI				IAmb	IAmb	22 47 29.1	
	comp=Z,127nm,1.4s						
H08S2	**Diego Garcia H**	**31.40**	**308**	T	T	23 20 09.5	
	baz=136						
H08S1	**Diego Garcia H**	**31.41**	**308**	T	T	23 20 09.9	
	baz=136,slow=74						
H08S3	**Diego Garcia H**	**31.42**	**308**	T	T	23 20 15.2	
	baz=136,slow=74						
RPSI	**Rantau Prapat**	**31.72**	**4**	P	**P**	**22 47 22.9**	**+1.0**
RPSI				IAmb	IAmb	22 47 25.0	
	comp=Z,50nm,1.1s						
PSI	**Prapat**	**31.82**	**4**	P	**P**	**22 47 23.1**	**0.0**
	comp=Z,25nm,0.9s,baz=184,slow=10,SNR=16						
PSI				PcP	**PcP**	**22 50 13.6**	**-0.3**
	comp=Z,14nm,0.8s,baz=215,slow=12,SNR=6.4						
PSI				LR	LR	22 58 16.3	
	comp=Z,328nm,19.0s,baz=157,slow=33						
	comp=Z,25nm,0.9s						
SOEI	**Soe**	**32.07**	**59**	P	**P**	**22 47 25.5**	**+0.3**
SOEI	**Soe**	**32.07**	**59**	P	**P**	**22 47 25.1**	**-0.1**
	comp=Z,2μmcomp=Z,133nm,1.3s						
STKI	**Sintang**	**32.21**	**28**	P	**P**	**22 47 26.9**	**+0.6**
	comp=Z,54nm,1.3s						
KNRA	**Kununurra**	**32.23**	**72**	P	**P**	**22 47 25.7**	**-0.9**
KNRA	**Kununurra**	**32.23**	**72**	P	**P**	**22 47 26.4**	**-0.2**
	comp=Z,30nm,1.2s						
KAPI	**Kappang**	**32.31**	**46**	P	**P**	**22 47 26.4**	**-0.8**
KAPI	**Kappang**	**32.31**	**46**	P	**P**	**22 47 27.0**	**-0.1**
	comp=Z,21nm,0.8s,baz=217,slow=9.2,SNR=7.7						
KAPI				LR	LR	22 58 25.9	
	comp=Z,457nm,20.9s,baz=228,slow=32						
	comp=Z,21nm,0.8s						
KAPI	**Kappang**	**32.31**	**46**	*de*P	**P**	**22 47 26.9**	**-0.3**
KAPI				pmax	pmax		
	comp=Z,35nm,0.9s						
BKSI	**Bulukumba**	**32.31**	**47**	P	**P**	**22 47 27.0**	**-0.2**
	comp=Z,626nmcomp=Z,66nm,1.2s						
KCSI	**Kotacane, Aceh**	**32.49**	**2**	P	**P**	**22 47 29.5**	**+0.7**
	comp=Z,50nm,1.1s						
BNSI	**Bone**	**33.00**	**46**	P	**P**	**22 47 33.9**	**+0.6**
	comp=Z,853nmcomp=Z,44nm,0.9s						
KSM	**Kuching**	**33.04**	**25**	P	**P**	**22 47 32.9**	**-0.6**
SPSI	**Sidrap Palu**	**33.13**	**45**	P	**P**	**22 47 34.7**	**+0.3**
	comp=Z,940nmcomp=Z,50nm,0.8s						
AS11	**Alice Springs**	**33.48**	**89**	P	**P**	**22 47 37.3**	**-0.1**
	comp=Z,57nm,0.7s						
ASAR	**Alice Springs**	**33.49**	**89**	P	**P**	**22 47 37.3**	**-0.2**
ASAR	**Alice Springs**	**33.49**	**89**	P	**P**	**22 47 37.5**	**0.0**
	comp=Z,22nm,0.8s,baz=258,slow=8.1,SNR=58						
ASAR				PcP	**PcP**	**22 50 18.8**	**+0.3**
	comp=Z,14nm,0.8s,baz=248,slow=1.9,SNR=13						
ASAR				LR	LR	23 01 04.1	
	comp=Z,328nm,18.3s,baz=264,slow=36						
	comp=Z,22nm,0.8s						
AS31	**Alice Springs**	**33.49**	**89**	P	**P**	**22 47 37.5**	**0.0**
	comp=Z,16nm,0.8s						
BBOO	**Buckleboo**	**33.63**	**106**	P	**P**	**22 47 38.6**	**-0.1**
BBOO	**Buckleboo**	**33.63**	**106**	P	**P**	**22 47 39.0**	**+0.3**
	comp=Z,38nm,0.9s						
IPM	**Ipoh**	**33.67**	**7**	P	**P**	**22 47 39.4**	**+0.3**
IPM				IAmb	IAmb	22 47 51.5	
	comp=Z,164nm,2.0s						
BBSI	**Bau Bau**	**33.80**	**51**	P	**P**	**22 47 41.5**	**+1.2**
	comp=Z,99nm,1.1s						
TTSI	**Tana Toraja**	**33.88**	**44**	P	**P**	**22 47 42.1**	**+1.2**
	comp=Z,616nmcomp=Z,41nm,0.8s						
SBUM	**Sibu**	**34.68**	**28**	P	**P**	**22 47 48.4**	**+0.6**
WC4	**Warramunga Arr**	**35.13**	**84**	P	**P**	**22 47 52.0**	**+0.2**
WRA	**Warramunga Arr**	**35.13**	**83**	P	**P**	**22 47 51.6**	**-0.2**
WRA	**Warramunga Arr**	**35.13**	**83**	P	**P**	**22 47 52.0**	**+0.2**
	comp=Z,16nm,0.8s,baz=251,slow=8.6,SNR=41						
WRA				PcP	**PcP**	**22 50 22.8**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=241,slow=3.1,SNR=5.9						
WRA				LR	LR	23 01 06.2	
	comp=Z,916nm,19.8s,baz=272,slow=34						
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**35.15**	**83**	P	**P**	**22 47 51.4**	**-0.5**
WRAB	**Tennant Creek**	**35.15**	**83**	P	**P**	**22 47 51.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,35nm,1.0s						
PCI	**Palu**	**35.59**	**42**	P	**P**	**22 47 56.9**	**+1.2**
	comp=Z,41nm,0.7s						
MTN	**Manton Dam**	**35.66**	**70**	P	**P**	**22 47 56.4**	**0.0**
	comp=Z,26nm,0.9s						
HTT	**Hallett**	**35.98**	**108**	P	**P**	**22 47 59.1**	**+0.1**
	comp=Z,4.3nm,1.0s						
LUWI	**Luwuk**	**37.27**	**46**	P	**P**	**22 48 09.9**	**-0.2**
LUWI				IAmb	IAmb	22 48 45.6	
	comp=Z,77nm,0.9s						
LUWI	**Luwuk**	**37.27**	**46**	P	**P**	**22 48 09.5**	**-0.5**
	comp=Z,1μmcomp=Z,91nm,0.9s						
TOLI2	**Tolitoli**	**37.77**	**41**	P	**P**	**22 48 12.4**	**-1.9**
TOLI2				IAmb	IAmb	22 48 24.2	
	comp=Z,85nm,1.3s						
MRSI	**Marisa**	**37.95**	**43**	P	**P**	**22 48 14.5**	**-1.3**
CASY	**Casey**	**38.09**	**171**	P	**P**	**22 48 17.1**	**+0.7**
ARPS	**Mount Arapiles**	**38.18**	**113**	P	**P**	**22 48 19.1**	**+1.5**
	comp=Z,8.1nm,0.8s						
STKA	**Stephens Creek**	**38.39**	**106**	P	**P**	**22 48 19.9**	**+0.5**
	comp=Z,177nm,0.9s						
STKA	**Stephens Creek**	**38.39**	**106**	P	**P**	**22 48 20.2**	**+0.8**
	comp=Z,30nm,0.9s,baz=279,slow=8.5,SNR=19						
STKA				PcP	**PcP**	**22 50 33.1**	**+0.4**
	comp=Z,19nm,0.7s,baz=265,slow=4.4,SNR=5.0						
	comp=Z,30nm,0.9s						
NLAI	**Namlea**	**38.55**	**54**	P	**P**	**22 48 21.0**	**+0.2**
	comp=Z,90nm,0.9s						
SANI	**Sanana**	**38.63**	**51**	P	**P**	**22 48 20.3**	**-1.2**
	comp=Z,1μmcomp=Z,115nm,1.1s						
H04N2	**CROZET ISLANDS**	**38.97**	**232**	T	T	23 28 27.8	
	baz=82,slow=75						
H04N1	**CROZET ISLANDS**	**38.98**	**232**	T	T	23 28 28.3	
	baz=82,slow=75						
H04N3	**CROZET ISLANDS**	**38.98**	**232**	T	T	23 28 29.4	
	baz=82,slow=75						
PALK	**Pallekele**	**39.43**	**334**	P	**P**	**22 48 28.8**	**+0.5**
	comp=Z,19nm,0.9s,baz=152,slow=6.4,SNR=7.0						
PALK				LR	LR	23 02 06.3	
	comp=Z,592nm,18.2s,baz=153,slow=32						
	comp=Z,19nm,0.9s						
PALK	**Pallekele**	**39.43**	**334**	P	**P**	**22 48 28.5**	**+0.2**
PALK	**Pallekele**	**39.43**	**334**	*e*P	**P**	**22 48 28.5**	**+0.2**
PALK				pmax	pmax		
	comp=Z,41nm,1.1s						
QIS	**Mount Isa**	**39.50**	**87**	P	**P**	**22 48 29.3**	**+0.5**
	comp=Z,48nm,0.8s						
MYLDM	**Lahad Datu**	**39.95**	**35**	P	**P**	**22 48 33.0**	**+0.5**
MYLDM				IAmb	IAmb	22 48 55.1	
	comp=Z,109nm,1.2s						
TOO	**Toolangi**	**41.06**	**115**	P	**P**	**22 48 43.0**	**+1.4**
TOO	**Toolangi**	**41.06**	**115**	P	**P**	**22 48 42.3**	**+0.7**
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**41.06**	**115**	P	**P**	**22 48 43.0**	**+1.4**
TOO				pmax	pmax		
	comp=Z,15nm,1.2s						
QLP	**Quilpie**	**41.70**	**98**	P	**P**	**22 48 47.5**	**+0.6**
	comp=Z,39nm,1.3s						
CMSA	**Cobar Meteorol**	**41.89**	**106**	P	**P**	**22 48 49.3**	**+0.8**
	comp=Z,35nm,1.2s						
DLV	**Lat**	**42.35**	**17**	P	**P**	**22 48 53.1**	**+0.7**
DLV				IAmb	IAmb	22 48 54.2	
	comp=Z,85nm,0.8s						
SWI	**Sorong**	**43.16**	**56**	P	**P**	**22 48 58.2**	**-0.7**
MAW	**Mawson**	**43.50**	**198**	P	**P**	**22 49 01.4**	**+0.4**
	comp=Z,9.4nm,1.1s						
MAW	**Mawson**	**43.50**	**198**	P	**P**	**22 49 01.7**	**+0.7**
	comp=Z,32nm,0.9s,baz=47,slow=9.4,SNR=58						
MAW				LR	LR	23 03 52.1	
	comp=Z,470nm,18.2s,baz=32,slow=32						
	comp=Z,32nm,0.9s						
YNG	**Young**	**43.72**	**110**	P	**P**	**22 49 03.7**	**+0.4**
	comp=Z,25nm,1.0s						
CAN	**Canberra**	**44.07**	**112**	P	**P**	**22 49 07.0**	**+0.8**
MTSU	**Mount Surprise**	**44.53**	**87**	P	**P**	**22 49 10.8**	**+0.8**
	comp=Z,16nm,0.8s						
COEN	**Coen**	**45.31**	**81**	P	**P**	**22 49 16.3**	**+0.1**
COEN	**Coen**	**45.31**	**81**	P	**P**	**22 49 16.8**	**+0.6**
	comp=Z,40nm,1.0s						
DAV	**Davao City (W)**	**45.37**	**42**	LR	LR	23 09 31.8	
	comp=Z,251nm,18.1s,baz=218,slow=38						
CTAO	**Charters Tower**	**45.48**	**90**	P	**P**	**22 49 17.6**	**+0.1**
CTAO	**Charters Tower**	**45.48**	**90**	P	**P**	**22 49 17.6**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s						
VOI	**Vohitsoka**	**45.52**	**267**	P	**P**	**22 49 18.0**	**0.0**
VOI	**Vohitsoka**	**45.52**	**267**	P	**P**	**22 49 18.4**	**+0.5**
DRV	**Dumont d'Urvil**	**45.66**	**158**	P	**P**	**22 49 18.4**	**+0.2**
BAKI	**Biak**	**46.54**	**61**	P	**P**	**22 49 24.5**	**-1.4**
	comp=Z,36nm,1.3s						
ARMA	**Armidale**	**47.11**	**106**	P	**P**	**22 49 30.2**	**-0.2**
ARMA				IAmb	IAmb	22 49 42.6	
	comp=Z,39nm,1.1s						
CM31	**Chiang Mai Arr**	**47.37**	**3**	P	**P**	**22 49 32.1**	**-0.1**
CM31				IAmb	IAmb	22 49 33.8	
	comp=Z,62nm,1.0s						
CMAR	**Chiang Mai Arr**	**47.37**	**3**	P	**P**	**22 49 32.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**47.37**	**3**	P	**P**	**22 49 32.5**	**+0.4**
	comp=Z,28nm,0.9s,baz=197,slow=8.3,SNR=123						
CMAR				LR	LR	23 08 20.9	
	comp=Z,557nm,18.8s,baz=195,slow=35						
	comp=Z,28nm,0.9s						
CMAR	**Chiang Mai Arr**	**47.37**	**3**	*i*P	**P**	**22 49 32.5**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,29nm,0.9s						
CHTO	**Chiang Mai**	**47.72**	**3**	P	**P**	**22 49 34.2**	**-0.6**
CHTO				IAmb	IAmb	22 49 36.5	
	comp=Z,64nm,1.1s						
CHTO	**Chiang Mai**	**47.72**	**3**	P	**P**	**22 49 35.3**	**+0.4**
CHTO	**Chiang Mai**	**47.72**	**3**	P	**P**	**22 49 34.3**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,64nm,1.2s						
EIDS	**Eidsvold**	**47.95**	**99**	P	**P**	**22 49 36.8**	**0.0**
EIDS				IAmb	IAmb	22 49 48.2	
	comp=Z,44nm,1.1s						
EIDS	**Eidsvold**	**47.95**	**99**	P	**P**	**22 49 36.9**	**0.0**
	comp=Z,33nm,0.9s						
SMPI	**Sarmi**	**48.05**	**64**	P	**P**	**22 49 39.3**	**+1.7**
	comp=Z,40nm,1.1s						
GENI	**Genyem**	**48.84**	**65**	P	**P**	**22 49 43.3**	**-0.4**
	comp=Z,58nm,1.2s						
JAY	**Jayapura**	**49.31**	**66**	P	**P**	**22 49 46.5**	**-0.9**
	comp=Z,9.9nm,0.9s,baz=161,slow=4.5,SNR=7.1						
JAY				LR	LR	23 11 07.1	
	comp=Z,192nm,19.7s,baz=256,slow=37						
	comp=Z,9.9nm,0.9s						
JAY	**Jayapura**	**49.31**	**66**	P	**P**	**22 49 47.4**	**0.0**
	comp=Z,18nm,1.1s						
QIZ	**Qiongzhong**	**49.50**	**16**	P	**P**	**22 49 49.6**	**+1.0**
QIZ				sP	**pwP**	**22 49 58.9**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,61nm,2.1s						
QIZ				pmax	pmax		
	comp=Z,590nm,6.5s						
QIZ				LR	LR		
	comp=Z,380nm,15.9s						
QIZ				LR	LR		
	comp=Z,880nm,17.0s						
SLVN	**Son La**	**50.64**	**8**	P	**P**	**22 49 57.9**	**+0.7**
PMG	**Port Moresby**	**50.90**	**78**	LR	LR	23 12 11.5	
	comp=Z,693nm,18.3s,baz=225,slow=37						
SYO	**Syowa Base**	**51.52**	**203**	⇑*i*P	**P**	**22 50 03.5**	**+0.2**
SYO	**Syowa Base**	**51.52**	**203**	⇑*i*pP	pP	22 50 08.0	0.0
SYO	**Syowa Base**	**51.52**	**203**	⇓*es*P	sP	22 50 08.8	-0.9
BRDH	**Bariadhala**	**51.77**	**354**	LR	LR	23 12 41.7	
	comp=Z,313nm,18.0s,baz=182,slow=37						
TNCH	**TengChong**	**53.89**	**2**	⇑*i*P	**P**	**22 50 21.3**	**-0.2**
TNCH				S	**S**	**22 57 58.3**	**+2.2**
TNCH				LR	LR		
	comp=Z,300nm,15.1s						
TNCH				LR	LR		
	comp=Z,280nm,18.5s						
TNCH				LR	LR		
	comp=Z,310nm,16.8s						
KMI	**Kunming**	**54.25**	**7**	⇑P	**P**	**22 50 25.7**	**+1.5**
KMI				pP	sP	22 50 29.8	-0.9
KMI				S	**S**	**22 58 02.8**	**+1.8**
KMI				pmax	pmax		

QSPA ScS **ScS** **23 01 02.1 +1.1**
comp=Z,1.1nm,1.0s,baz=313,slow=3.6,SNR=6.3
QSPA LR LR 23 14 53.0
comp=Z,654nm,18.4s,baz=310,slow=33
comp=Z,52nm,1.0s
KHZ Kahutara 61.61 125 P **P** **22 51 16.8 +1.3**
KHZ IAmb IAmb 22 51 26.9
comp=Z,51nm,1.0s
WHN Wuhan 61.64 17 P **P** **22 51 16.3 +0.6**
WHN pmax pmax
comp=Z,260nm,1.2s
DMTO DMTO 61.74 314 P **P** **22 51 16.1 -0.5**
BOSA Boshof 61.78 251 P **P** **22 51 16.6 -0.5**
comp=Z,17nm,1.0s,baz=105,slow=6.6,SNR=14
BOSA LR LR 23 13 16.1
comp=Z,163nm,18.3s,baz=100,slow=31
comp=Z,17nm,1.0s
DQM DQM 61.83 317 P **P** **22 51 16.9 -0.3**
KIBK Kibwezi 61.86 284 IAmb IAmb 22 51 29.0
comp=Z,21nm,0.9s
KIBK Kibwezi 61.86 284 P **P** **22 51 18.5 +0.7**
HNR Honiara 61.95 85 LR LR 23 18 41.0
comp=Z,286nm,18.1s,baz=236,slow=37
HNR Honiara 61.95 85 P **P** **22 51 18.7 +0.5**
MATP Matopo 61.97 261 LR LR 23 14 00.5
comp=Z,193nm,18.2s,baz=119,slow=32
RBK Rabkut 62.06 313 P **P** **22 51 19.1 +0.2**
MREMI Moremi 62.06 258 *i* P **P** **22 51 19.2 +0.2**
MREMI Moremi 62.06 258 P **P** **22 51 18.0 -1.0**
MREMI IAmb IAmb 22 51 29.6
comp=Z,23nm,0.9s
DZM Mont Dzumac 62.31 101 P **P** **22 51 20.8 +0.2**
DZM IAmb IAmb 22 51 37.0
comp=Z,28nm,0.9s
DZM Mont Dzumac 62.31 101 *e*PP PP 22 53 26.6 -11
comp=Z,104nm,26.9s
DZM *e*S **S** **22 59 43.4 -3.0**
comp=Z,444nm,27.2s
DZM *e*SS **SS** **23 03 50.7 +0.9**
comp=Z,265nm,23.1s
DZM *e*LQ LQ 23 06 51.6
comp=Z,352nm,29.9s
DZM *e*LR LR 23 09 52.1
comp=Z,531nm,24.9s
MHTO MHTO 62.40 318 P **P** **22 51 20.4 -0.6**
ABTO Aybut 62.53 312 P **P** **22 51 22.1 0.0**
WHFO Wadi Hawf 62.64 313 P **P** **22 51 22.9 +0.1**
BROLN Tlhalogang 62.71 260 *i* P **P** **22 51 23.8 +0.4**
LBTB Lobatse 62.74 255 LR LR 23 13 51.1
comp=Z,271nm,18.6s,baz=114,slow=32
DOK Doka 62.93 314 P **P** **22 51 24.4 -0.2**
LPHEP Lephephe 63.12 257 *i* P **P** **22 51 26.5 +0.4**
LPHEP Lephephe 63.12 257 P **P** **22 51 26.1 0.0**
LPHEP IAmb IAmb 22 51 37.4
comp=Z,46nm,1.0s
KMBO Kilima Mbogo 63.17 285 P **P** **22 51 27.8 +1.0**
comp=Z,14nm,0.9s,baz=103,slow=4.3,SNR=23
comp=Z,14nm,0.9s
KMBO Kilima Mbogo 63.17 285 *ce*P **P** **22 51 27.5 +0.8**
JOW Kunigami 63.26 31 LR LR 23 18 13.9
comp=Z,54nm,20.7s,baz=344,slow=35
XAN Xi'an 63.86 11 ⇑P **P** **22 51 30.2 -0.3**
XAN pmax pmax
comp=Z,44nm,1.1s
XAN LR LR
comp=Z,470nm,17.2s
XAN LR LR
comp=Z,720nm,17.2s
XAN LR LR
comp=Z,400nm,16.5s
TROLL Troll, Antarti 63.91 200 ⇑P **P** **22 51 31.2 +0.6**
comp=Z,1μm,0.7s
SMDO Samad 63.98 320 P **P** **22 51 31.4 -0.2**
KDWAN Kaudwane 64.14 257 *i* P **P** **22 51 33.2 +0.4**
KDWAN Kaudwane 64.14 257 IAmb IAmb 22 51 43.5
comp=Z,29nm,1.1s
SUR Sutherland 64.15 246 P **P** **22 51 31.8 -1.1**
BIDO Bidbid 64.30 320 P **P** **22 51 33.9 +0.3**
LSZ Lusaka 64.33 266 P **P** **22 51 34.4 +0.2**
LSZ Lusaka 64.33 266 LR LR 23 14 42.1
comp=Z,126nm,19.0s,baz=140,slow=32
LSZ Lusaka 64.33 266 P **P** **22 51 35.2 +1.0**
LSZ Lusaka 64.33 266 P **P** **22 51 34.4 +0.2**
LSZ pmax pmax
comp=Z,76nm,1.2s
SKOMA Sekoma 64.33 255 *i* P **P** **22 51 34.2 +0.2**
NJ2 Nanjing 64.34 21 *e*P **P** **22 51 36.0 +2.4**
NJ2 pmax pmax
comp=Z,17nm,0.8s
HOQ Hoqain 64.81 320 P **P** **22 51 36.5 -0.4**
SNR=5.1
PHPEN Phepeng 64.88 254 P **P** **22 51 37.1 -0.6**
GOMU GeErMu 65.03 358 P **P** **22 51 38.0 -0.5**
GOMU sP pwP 22 51 47.1 -0.7
GOMU pmax pmax
comp=Z,16nm,1.6s
GOMU pmax pmax
comp=Z,200nm,5.2s
LYN LuoYang 65.04 14 P **P** **22 51 38.5 +0.4**
LYN pmax pmax
comp=Z,61nm,0.7s
LYN pmax pmax
comp=Z,290nm,11.4s
LYN LR LR
comp=Z,660nm,18.9s
LYN LR LR
comp=Z,270nm,18.9s
LYN LR LR
comp=Z,820nm,19.9s
ARQ Araqi 65.07 319 P **P** **22 51 38.1 -0.5**
LZH Lanzhou 65.22 6 *e*P **P** **22 51 39.7 +0.2**
LZH sP pwP 22 51 48.7 -0.3
LZH PcP **PcP** **22 52 12.5 +0.7**
LZH pmax pmax
comp=Z,74nm,1.3s
LZH pmax pmax
comp=Z,150nm,4.1s
LZH LR LR
comp=Z,300nm,14.4s
LZH LR LR
comp=Z,450nm,14.1s
LZH LR LR
comp=Z,330nm,14.8s
URZ Urewera 65.42 121 LR LR 23 13 36.9
comp=Z,112nm,21.7s,baz=267,slow=30
SNAA Sanae 65.62 200 ⇑P **P** **22 51 41.8 +0.2**
comp=Z,753nm,0.9s
SNAA ⇓pP **pwP** **22 51 51.1 +0.1**
SNAA Sanae 65.62 200 P **P** **22 51 41.6 0.0**
SNAA Sanae 65.62 200 P **P** **22 51 41.9 +0.2**
comp=Z,32nm,1.0s,baz=108,slow=6.1,SNR=71
SNAA LR LR 23 15 52.3
comp=Z,183nm,21.5s,baz=131,slow=32
comp=Z,32nm,1.0s
SANVU Saraoutou 65.62 95 P **P** **22 51 42.0 -0.4**
SOHO SOHO 65.68 319 P **P** **22 51 41.9 -0.6**
KSANE Kasane 65.91 262 *i* P **P** **22 51 45.1 +0.7**
KSANE Kasane 65.91 262 IAmb IAmb 22 51 55.2
comp=Z,51nm,1.0s
ATD Arta Tunnel 65.99 300 LR LR 23 13 55.0
comp=Z,8.1nm,21.8s,baz=180,slow=30
ATD Arta Tunnel 65.99 300 P **P** **22 51 46.8 +2.0**
ALNE Al Ain 66.07 319 P **P** **22 51 44.3 -0.8**
ALNE Al Ain 66.07 319 *i* P **P** **22 51 44.4 -0.6**
SNR=6.4
NIL Nilore 66.35 339 P **P** **22 51 46.3 -0.4**
NIL Nilore 66.35 339 P **P** **22 51 46.7 0.0**
NIL Nilore 66.35 339 P **P** **22 51 46.3 -0.4**
NIL pmax pmax
comp=Z,165nm,0.8s
ASHO Ashiyiah 66.38 320 P **P** **22 51 46.5 -0.6**
KGCAE Kacgae 66.42 256 *i* P **P** **22 51 48.2 +0.5**
KGCAE Kacgae 66.42 256 IAmb IAmb 22 51 58.8
comp=Z,48nm,1.0s
HATD Hatta, Dubai 66.45 320 P **P** **22 51 47.0 -0.4**
HATD Hatta, Dubai 66.45 320 *i* P **P** **22 51 47.0 -0.4**
SNR=9.5
UOSS Minazif 66.50 320 P **P** **22 51 46.4 -1.4**
UOSS IAmb IAmb 22 51 57.4
comp=Z,40nm,1.1s
UOSS Minazif 66.50 320 P **P** **22 51 46.7 -1.1**
UOSS Minazif 66.50 320 P **P** **22 51 46.3 -1.4**
MZR Muzera 66.61 316 P **P** **22 51 48.7 +0.2**
SNR=5.8
MZR Muzera 66.61 316 *i* P **P** **22 51 48.4 -0.1**
SNR=12

FAQ Al Faqa, Dubai 66.69 319 P **P** **22 51 48.2 -0.8**
FAQ Al Faqa, Dubai 66.69 319 P **P** **22 51 47.9 -1.1**
MDH Madha 66.72 320 P **P** **22 51 48.3 -0.9**
ASUD Al Ashush, Dub 66.75 319 P **P** **22 51 49.0 -0.4**
ASUD Al Ashush, Dub 66.75 319 P **P** **22 51 48.9 -0.4**
NAZ Nazwa, Dubai 66.84 319 P **P** **22 51 49.1 -0.8**
NAZ Nazwa, Dubai 66.84 319 P **P** **22 51 49.1 -0.8**
MSFE Esma-Masafi 66.85 320 P **P** **22 51 49.4 -0.7**
MASF Masafi 66.86 320 P **P** **22 51 49.2 -0.9**
AJN Ajban 66.90 319 P **P** **22 51 49.7 -0.7**
LODK Lodwar 67.22 288 P **P** **22 51 52.3 -0.4**
LODK IAmb IAmb 22 51 55.2
comp=Z,45nm,1.8s
LODK Lodwar 67.22 288 P **P** **22 51 54.1 +1.4**
SNR=6.2
SHME Shamm 67.40 320 P **P** **22 51 53.6 +0.1**
VNA1 Neumayer--Stat 67.63 200 ⇑P **P** **22 51 54.8 +0.5**
comp=Z,31nm,0.9s
VNA3 Neumayer Olymp 67.81 200 ⇑P **P** **22 51 55.6 +0.1**
comp=Z,40nm,0.9s
VNA3 ⇓pP **pwP** **22 52 04.9 +0.1**
GRTLG Ghanzi 67.86 257 *i* P **P** **22 51 57.0 +0.2**
GRTLG Ghanzi 67.86 257 IAmb IAmb 22 52 07.1
comp=Z,35nm,1.2s
KOOLE Kule 68.07 255 *i* P **P** **22 51 58.9 +0.7**
KOOLE Kule 68.07 255 IAmb IAmb 22 52 09.3
comp=Z,31nm,0.9s
TIY Taiyuan 68.08 13 *e*P **P** **22 51 58.0 +0.4**
TIY PP **PP** **22 54 32.8 +4.5**
TIY S **S** **23 01 01.6 +5.2**
TIY pmax pmax
comp=Z,46nm,0.7s
TIY LR LR
comp=Z,290nm,15.1s
TIY LR LR
comp=Z,250nm,15.8s
TIY LR LR
comp=Z,300nm,17.2s
GTA Gaotai 68.26 2 P **P** **22 51 59.3 +0.5**
GTA pP pP 22 52 04.0 +0.4
GTA sP pwP 22 52 09.4 +1.3
GTA pmax pmax
comp=Z,170nm,1.0s
GTA pmax pmax
comp=Z,270nm,5.1s
GTA LR LR
comp=Z,180nm,15.3s
GTA LR LR
comp=Z,200nm,14.2s
GTA LR LR
comp=Z,190nm,18.5s
HNS HongShan 68.27 15 ⇑P **P** **22 51 59.0 +0.3**
HNS pmax pmax
comp=Z,71nm,1.2s
JRN Qarnain Island 68.44 317 P **P** **22 51 59.8 -0.3**
KBL Kabul 68.60 336 P **P** **22 52 01.1 0.0**
SNR=12
KBL Kabul 68.60 336 P **P** **22 52 00.7 -0.4**
KBL pmax pmax
comp=Z,32nm,1.3s
TRNA Turayna 69.27 316 P **P** **22 52 04.5 -0.7**
BELA Belgrano 2 69.45 190 IAmb IAmb 22 52 15.9
comp=Z,28nm,1.1s
SMRA Abu-Samra 69.52 316 P **P** **22 52 06.4 -0.3**
JNU Nakatsue 69.80 30 IAmb IAmb 22 52 18.2
comp=Z,46nm,0.9s
JNU Nakatsue 69.80 30 P **P** **22 52 08.1 -0.3**
comp=Z,31nm,0.9s,baz=203,slow=4.8,SNR=14
JNU LR LR 23 21 56.7
comp=Z,60nm,21.7s,baz=203,slow=35
comp=Z,31nm,0.9s
SHMA Al-Shehemyia 70.25 317 P **P** **22 52 11.3 +0.1**
BTO Baotou 70.46 11 *e*P **P** **22 52 13.5 +1.2**
BTO pP **sP** **22 52 20.0 +1.1**
BTO sP **pwP** **22 52 22.5 +0.6**
BTO S **S** **23 01 25.6 +1.2**
BTO SS **SS** **23 06 01.1 +4.8**
BTO pmax pmax
comp=Z,220nm,1.1s
BTO pmax pmax
comp=Z,810nm,8.8s
BTO LR LR
comp=Z,410nm,13.9s
BTO LR LR
comp=Z,510nm,9.5s
BTO LR LR
comp=Z,320nm,14.9s
SAKB Bahrain 70.60 316 P **P** **22 52 13.2 -0.1**
HHC Hu-ho-hao-te 70.96 12 ⇑P **P** **22 52 15.4 +0.1**
HHC sP pwP 22 52 25.0 +0.1
HHC pmax pmax
comp=Z,41nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.9s
HHC LR LR
comp=Z,190nm,16.8s
HHC LR LR
comp=Z,220nm,13.5s
HHC LR LR
comp=Z,270nm,18.5s
KSH Kashi 71.04 343 P **P** **22 52 13.6 -2.3**
KSH pP pP 22 52 18.0 -2.8
KSH sP sP 22 52 23.5 +1.2
KSH pmax pmax
comp=Z,21nm,1.0s
BJI Beijing 71.13 16 P **P** **22 52 16.2 0.0**
BJI pP **pP** **22 52 20.5 -0.5**
BJI pmax pmax
comp=Z,14nm,1.0s
BJI pmax pmax
comp=Z,100nm,4.9s
BJI LR LR
comp=Z,120nm,22.9s
TJN Taejon 71.19 26 ⇓*e*P **P** **22 52 15.4 -1.3**
DL2 Dalian 71.53 20 P **P** **22 52 19.3 +0.6**
DL2 pmax pmax
comp=Z,110nm,1.2s
JMN Monobe 71.66 32 P **P** **22 52 19.4 -0.3**
TSUM Tsumeb 71.85 258 P **P** **22 52 21.9 +0.5**
TSUM Tsumeb 71.85 258 LR LR 23 19 22.2
comp=Z,428nm,18.5s,baz=131,slow=32
RAYN Ar Rayn 72.03 311 P **P** **22 52 21.9 -0.3**
RAYN IAmb IAmb 22 52 32.5
comp=Z,41nm,0.8s
RAYN Ar Rayn 72.03 311 P **P** **22 52 22.3 +0.2**
RAYN Ar Rayn 72.03 311 P **P** **22 52 21.9 -0.3**
RAYN pmax pmax
comp=Z,41nm,0.8s
RAYN Ar Rayn 72.03 311 *i* P **P** **22 52 22.3 +0.2**
SNR=59
GAR Garm 72.19 339 P **P** **22 52 20.8 -2.0**
GAR IAmb IAmb 22 52 22.6
comp=Z,51nm,1.2s
SIMJ Simiganj 72.31 337 P **P** **22 52 21.6 -2.0**
KSAR Wonju Array Be 72.33 25 P **P** **22 52 23.4 -0.1**
KSAR Wonju Array Be 72.33 25 P **P** **22 52 23.4 -0.1**
KSRS Korea Array 72.35 25 P **P** **22 52 23.8 +0.1**
comp=Z,15nm,1.0s,baz=213,slow=6.1,SNR=32
KSRS LR LR 23 28 16.9
comp=Z,26μm,18.0s,baz=205,slow=39
comp=Z,15nm,1.0s
TARG Taragay, Kyrgy 72.70 345 IAmb IAmb 22 52 38.8
comp=Z,34nm,1.1s
WMQ Urumqi 73.10 353 *e*P **P** **22 52 28.7 +0.6**
WMQ sP pwP 22 52 38.6 +1.1
WMQ pmax pmax
comp=Z,90nm,1.1s
WMQ pmax pmax
comp=Z,270nm,5.7s
ULHL Ulahol 73.55 344 P **P** **22 52 31.2 +0.3**
SNR=12
SHLS Shalkode 73.72 347 *e*P **P** **22 52 31.0 -0.8**
SHLS pmax pmax
comp=Z,40nm,1.4s
SHLS Shalkode 73.72 347 *e*P **P** **22 52 31.0 -0.8**
comp=Z,40nm,1.4s
UZB Uzynbulak 73.80 346 *e*P **P** **22 52 31.9 -0.4**
UZB pmax pmax
comp=Z,26nm,1.1s
UZB Uzynbulak 73.80 346 *e*P **P** **22 52 32.0 -0.4**
comp=Z,26nm,1.1s
SATY Saty 73.84 346 *e*P **P** **22 52 32.1 -0.4**
SATY pmax pmax
comp=Z,44nm,1.1s
SATY Saty 73.84 346 *e*P **P** **22 52 32.1 -0.4**

comp=Z,44nm,1.1s
MSVF Nonsavu 74.03 102 P **P** **22 52 34.5 +0.2**
MSVF Nonsavu 74.03 102 *ce*P **P** **22 52 34.8 +0.5**
MSVF pmax pmax
comp=Z,62nm,1.1s
TNSS Tian-Shan 74.14 345 *e*P **P** **22 52 33.9 -0.7**
TNSS Tian-Shan 74.14 345 *e*P **P** **22 52 34.0 -0.7**
KBK Karagaybulak 74.26 343 P **P** **22 52 35.4 +0.4**
SNR=19
AAA Alma-Ata 74.31 345 *e*P **P** **22 52 34.6 -0.6**
AAA pmax pmax
comp=Z,28nm,0.6s
AAA Alma-Ata 74.31 345 *e*P **P** **22 52 34.7 -0.6**
comp=Z,28nm,0.6s
TKM2 Tokmak 2 74.35 344 P **P** **22 52 35.1 -0.5**
SNR=19
AAK Ala-Archa 74.35 343 P **P** **22 52 35.7 +0.1**
AAK Ala-Archa 74.35 343 P **P** **22 52 36.0 +0.3**
SNR=5.9
AAK Ala-Archa 74.35 343 P **P** **22 52 35.7 +0.1**
AAK pmax pmax
comp=Z,20nm,0.9s
AAK Ala-Archa 74.35 343 *i* P **P** **22 52 38.0 +2.4**
SNR=5.5
INU Inuyama 74.46 33 P **P** **22 52 36.0 -0.2**
INU IAmb IAmb 22 52 37.0
comp=Z,41nm,1.0s
EKS2 Erkin-Say 74.56 343 P **P** **22 52 37.0 +0.3**
SNR=43
CHMS Chumysh 74.63 343 P **P** **22 52 37.3 +0.3**
SNR=24
KBD Kabd 74.65 317 P **P** **22 52 37.2 -0.3**
XLT XiLinHaoTe 74.78 14 *e*P **P** **22 52 37.9 -0.1**
XLT sP sP 22 52 45.1 +0.5
XLT pmax pmax
comp=Z,26nm,1.2s
XLT pmax pmax
comp=Z,220nm,6.9s
USP Ospenovka 74.94 343 P **P** **22 52 38.7 -0.2**
SNR=34
ARXS Arharly 75.06 346 *e*P **P** **22 52 37.9 -1.7**
SGDS Sogindy 75.08 343 ⇑*i*P **P** **22 52 39.3 -0.4**
IUG Iuzhnay 75.15 340 *c i*P **P** **22 52 39.8 -0.4**
IUG pmax pmax
comp=Z,28nm,1.0s
IUG Iuzhnay 75.15 340 ⇑*i*P **P** **22 52 39.8 -0.4**
comp=Z,28nm,1.0s
CHM Chimkent 75.44 339 *e*P **P** **22 52 41.3 -0.4**
CHM Chimkent 75.44 339 *e*P **P** **22 52 41.4 -0.3**
DZA Taraz 75.45 341 *e*P **P** **22 52 41.3 -0.5**
DZA pmax pmax
comp=Z,14nm,0.8s
DZA Taraz 75.45 341 *e*P **P** **22 52 41.3 -0.5**
comp=Z,14nm,0.8s
TDK Taldyqorghan 75.70 347 *e*P **P** **22 52 42.4 -0.7**
TDK pmax pmax
comp=Z,28nm,1.2s
TDK Taldyqorghan 75.70 347 *e*P **P** **22 52 42.4 -0.7**
comp=Z,28nm,1.2s
KK31 Karatay Array 75.88 340 IAmb IAmb 22 52 45.3
comp=Z,40nm,1.1s
KK31 Karatay Array 75.88 340 *i* P **P** **22 52 44.4 +0.2**
KKAR Karatay Array 75.88 340 P **P** **22 52 43.8 -0.4**
KKAR Karatay Array 75.88 340 P **P** **22 52 43.8 -0.4**
MAJO Matsushiro 76.00 33 P **P** **22 52 43.8 -1.2**
MAJO IAmb IAmb 22 52 45.7
comp=Z,56nm,1.5s
MAJO Matsushiro 76.00 33 ⇓*e*P **P** **22 52 44.8 -0.2**
MAJO pmax pmax
comp=Z,19nm,1.2s
MJAR Matsushiro Arr 76.00 33 P **P** **22 52 44.1 -1.0**
MJAR Matsushiro Arr 76.00 33 P **P** **22 52 44.3 -0.7**
comp=Z,16nm,1.0s,baz=200,slow=6.7,SNR=30
MJAR LR LR 23 25 22.2
comp=Z,48nm,20.2s,baz=214,slow=35
comp=Z,16nm,1.0s
MJB9 Matsu-Tunnel 76.00 33 IAmb IAmb 22 52 46.7
comp=Z,50nm,1.4s
BRLS Borolday 76.01 340 *c i*P **P** **22 52 43.4 -1.6**
BRLS pmax pmax
comp=Z,17nm,1.0s
BRLS Borolday 76.01 340 ⇑*i*P **P** **22 52 43.4 -1.6**
comp=Z,17nm,1.0s
BTLS Baital 76.72 344 *c i*P **P** **22 52 48.1 -0.8**
BTLS Baital 76.72 344 ⇑*i*P **P** **22 52 48.1 -0.8**
MK31 Makanchi Array 76.73 350 *i* P **P** **22 52 47.9 -1.1**
MKAR Makanchi Array 76.73 350 P **P** **22 52 48.0 -1.0**
MKAR Makanchi Array 76.73 350 P **P** **22 52 48.5 -0.5**
comp=Z,2.7nm,0.5s,baz=164,slow=7.1,SNR=28
MKAR LR LR 23 26 11.3
comp=Z,60nm,18.7s,baz=158,slow=35
comp=Z,2.7nm,0.5s
ZSN Zaisan 77.01 352 *e*P **P** **22 52 50.3 -0.2**
ZSN pmax pmax
comp=Z,20nm,1.2s
ZSN Zaisan 77.01 352 *e*P **P** **22 52 50.3 -0.2**
comp=Z,20nm,1.2s
SONM Songino Array 77.10 7 P **P** **22 52 50.6 -0.5**
SONM Songino Array 77.10 7 P **P** **22 52 51.3 +0.1**
comp=Z,62nm,0.9s,baz=188,slow=6.5,SNR=235
SONM LR LR 23 29 09.8
comp=Z,147nm,18.9s,baz=185,slow=38
comp=Z,62nm,0.9s
CN2 Changchun 77.16 21 P **P** **22 52 50.8 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 77.20 7 P **P** **22 52 52.2 +0.5**
ULN Ulaanbaatar 77.20 7 *c i*P **P** **22 52 51.6 -0.1**
ULN pmax pmax
comp=Z,49nm,1.0s
PSTR Posyet 77.96 25 *d i*P **P** **22 52 56.3 +0.4**
MSHR Mys Shultsa 78.03 25 ⇓*e*P **P** **22 52 57.0 +0.7**
MSHR pmax pmax
comp=Z,25nm,1.3s
VLA Vladivostok 78.77 25 *d i*P **P** **22 53 00.7 +0.4**
VLA pmax pmax
comp=Z,51nm,1.2s
MDJ Mudanjiang 79.24 23 P **P** **22 53 03.1 +0.2**
MDJ pmax pmax
comp=Z,33nm,0.9s
ZAK Zakamensk 79.38 4 *e*P **P** **22 53 02.3 -1.4**
ZAK *e* 22 53 11.2
ZAK pmax pmax
comp=Z,30nm,1.1s
BNX BinXian 79.51 21 ⇑P **P** **22 53 03.9 -0.5**
BNX pmax pmax
comp=Z,19nm,1.1s
USRK Ussuriysk Ar. 79.73 25 P **P** **22 53 04.9 -0.7**
USRK Ussuriysk Ar. 79.73 25 P **P** **22 53 05.2 -0.3**
comp=Z,18nm,0.8s,baz=228,slow=3.6,SNR=34
USRK LR LR 23 29 04.0
comp=Z,49nm,19.9s,baz=224,slow=36
comp=Z,18nm,0.8s
USA0B Ussuriysk Arra 79.73 25 P **P** **22 53 04.6 -1.0**
USA0B IAmb IAmb 22 53 06.5
comp=Z,38nm,1.1s
USA0B Ussuriysk Arra 79.73 25 *c i*P **P** **22 53 05.1 -0.5**
MOY Mondy 80.54 3 *e*P **P** **22 53 09.6 -0.4**
MOY pmax pmax
comp=Z,56nm,1.9s
SEM Semipalatinsk 80.57 349 *e*P **P** **22 53 09.6 -0.6**
SEM pmax pmax
comp=Z,27nm,1.0s
SEM Semipalatinsk 80.57 349 *e*P **P** **22 53 09.6 -0.6**
comp=Z,27nm,1.0s
JTM Tenmabayashi 80.72 32 IAmb IAmb 22 53 12.1
comp=Z,57nm,1.2s
KURBB Kurchatov Arra 81.07 348 P **P** **22 53 12.5 -0.1**
comp=Z,36nm,0.9s,baz=177,slow=4.8,SNR=139
comp=Z,36nm,0.9s
LKRN Lenkeran, Azer 81.08 324 P **P** **22 53 14.7 +1.7**
KURK Kurchatov 81.14 348 P **P** **22 53 12.8 -0.3**
KURK IAmb IAmb 22 53 14.2
comp=Z,60nm,1.1s
KURK Kurchatov 81.14 348 P **P** **22 53 13.2 +0.2**
KURK Kurchatov 81.14 348 *c i*P **P** **22 53 13.0 0.0**
KURK pmax pmax
comp=Z,81nm,1.3s
IRK Irkutsk 81.30 5 *e*P **P** **22 53 11.1 -2.7**
IRK pmax pmax
comp=Z,96nm,2.5s
BRZS Berezniki 81.67 344 *e*P **P** **22 53 15.5 -0.3**
BRZS Berezniki 81.67 344 *e*P **P** **22 53 15.5 -0.3**
NAX Nakhchivan 83.15 322 P **P** **22 53 25.5 +1.5**
ZAA0 Zalesovo Array 83.41 353 IAmb IAmb 22 53 25.2
comp=Z,42nm,1.0s

ZALV	**Zalesovo Beam**	**83.41**	**353**		P		**P**	**22 53 23.4**	**-1.4**
ZALV	**Zalesovo Beam**	**83.41**	**353**		P		**P**	**22 53 24.4**	**-0.4**
	comp=Z,25nm,0.8s,baz=180,slow=3.0,SNR=105								
ZALV					LR		LR	23 34 44.6	
	comp=Z,78nm,18.0s,baz=163,slow=39								
	comp=Z,25nm,0.8s								
ASF	**Jabal al Asfar**	**83.45**	**312**		LR		LR	23 28 10.1	
	comp=Z,88nm,18.5s,baz=167,slow=34								
MNGR	**Mingechevir, A**	**83.49**	**324**		P		**P**	**22 53 27.2**	**+1.7**
HEH	**HeiHe**	**83.55**	**19**	*eP*			**P**	**22 53 24.7**	**-0.9**
HEH					pmax		pmax		
	comp=Z,20nm,1.1s								
AKT	**Akhty**	**83.69**	**325**	*eP*			**P**	**22 53 26.1**	**-0.6**
AKT					pmax		pmax		
	comp=Z,67nm,1.3s								
SEKA	**Sheki**	**83.76**	**325**		P		**P**	**22 53 28.3**	**+1.3**
GANJ	**Ganja**	**83.79**	**324**		P		**P**	**22 53 28.7**	**+1.5**
ASAJ	**Asahikawa**	**84.03**	**31**		P		**P**	**22 53 27.9**	**-0.3**
	comp=Z,12nm,0.9s,baz=266,slow=15,SNR=4.2								
ASAJ					LR		LR	23 31 00.2	
	comp=Z,43nm,20.3s,baz=194,slow=36								
	comp=Z,12nm,0.9s								
GNI	**Garni**	**84.26**	**323**		P		**P**	**22 53 29.7**	**0.0**
GNI					IAmb		IAmb	22 53 45.7	
	comp=Z,32nm,1.1s								
GNI	**Garni**	**84.26**	**323**		LR		LR	23 26 30.2	
	comp=Z,150nm,21.9s,baz=130,slow=32								
GNI	**Garni**	**84.26**	**323**		P		**P**	**22 53 30.7**	**+1.0**
GNI	**Garni**	**84.26**	**323**	*ceP*			**P**	**22 53 29.9**	**+0.2**
GNI					pmax		pmax		
	comp=Z,24nm,1.1s								
MARD	**Mardin**	**84.48**	**318**		IAmb		IAmb	22 53 33.0	
	comp=Z,36nm,1.1s								
AB31	**Akbulak array**	**84.73**	**337**	*i* P			**P**	**22 53 31.4**	**-0.2**
ABKAR	**Akbulak array**	**84.73**	**337**		P		**P**	**22 53 31.0**	**-0.7**
MAK	**Makhachkala**	**84.91**	**326**	*eP*			**P**	**22 53 28.7**	**-4.0**
MAK				*e*				23 03 49.4	
MAK				*eSS*			SS	23 09 35.4	+1.6
MAK					pmax		pmax		
	comp=Z,83nm,1.3s								
MAK					MLR		MLR		
	comp=Z,213nm,15.0s								
MMAI	**Mount Meron Ar**	**84.96**	**312**		P		**P**	**22 53 34.3**	**+1.0**
	comp=Z,32nm,0.8s,baz=115,slow=6.8,SNR=34								
MMAI					LR		LR	23 29 06.1	
	comp=Z,119nm,18.0s,baz=122,slow=34								
	comp=Z,32nm,0.8s								
BVA0	**Borovoye Array**	**85.03**	**344**	*i* P			**P**	**22 53 32.5**	**-0.6**
BVAR	**Borovoye Array**	**85.03**	**344**		P		**P**	**22 53 33.3**	**+0.2**
	comp=Z,12nm,0.8s,baz=150,slow=6.8,SNR=60								
BVAR					LR		LR	23 32 02.3	
	comp=Z,111nm,18.0s,baz=159,slow=36								
	comp=Z,12nm,0.8s								
BRVK	**Borovoye**	**85.09**	**344**		P		**P**	**22 53 32.8**	**-0.6**
BRVK					IAmb		IAmb	22 53 34.6	
	comp=Z,31nm,1.1s								
BRVK	**Borovoye**	**85.09**	**344**		P		**P**	**22 53 32.9**	**-0.4**
BRVK	**Borovoye**	**85.09**	**344**	*ceP*			**P**	**22 53 33.0**	**-0.4**
BRVK					pmax		pmax		
	comp=Z,36nm,1.3s								
PMSA	**Palmer Station**	**85.21**	**188**		P		**P**	**22 53 34.3**	**+0.2**
PMSA					IAmb		IAmb	22 53 39.7	
	comp=Z,34nm,1.1s								
PMSA	**Palmer Station**	**85.21**	**188**		LR		LR	23 31 58.6	
	comp=Z,150nm,18.3s,baz=154,slow=36								
PMSA	**Palmer Station**	**85.21**	**188**	*eP*			**P**	**22 53 38.1**	**+4.0**
TRLG	**Trialeti**	**85.59**	**323**		P		**P**	**22 53 36.9**	**+0.5**
YSS	**Yuzhno-Sakhali**	**86.31**	**30**		P		**P**	**22 53 38.5**	**-1.1**
YSS	**Yuzhno-Sakhali**	**86.31**	**30**	*eP*			**P**	**22 53 40.0**	**+0.5**
YSS					pmax		pmax		
	comp=Z,30nm,1.2s								
AKTO	**Aktyubinsk**	**86.40**	**336**		LR		LR	23 32 31.1	
	comp=Z,89nm,18.1s,baz=91,slow=36								
AKTO	**Aktyubinsk**	**86.40**	**336**		P		**P**	**22 53 38.7**	**-1.2**
KOPT	**Kop Dagi**	**86.49**	**320**		IAmb		IAmb	22 53 52.6	
	comp=Z,56nm,1.2s								
GAZ	**Gaziantep**	**86.50**	**316**		IAmb		IAmb	22 53 57.6	
	comp=Z,20nm,0.9s								
ZEA	**Zeya**	**86.64**	**17**	*eP*			**P**	**22 53 40.7**	**-0.3**
ZEA					pmax		pmax		
	comp=Z,30nm,1.1s								
GRNR	**Gornyy**	**86.89**	**24**	⇑*iP*			**P**	**22 53 42.3**	**-0.1**
GRNR					pmax		pmax		
	comp=Z,20nm,0.9s								
KBZ	**Khabaz**	**87.77**	**324**		P		**P**	**22 53 47.4**	**+0.6**
	comp=Z,53nm,0.9s,baz=157,slow=3.0,SNR=91								
KBZ					LR		LR	23 32 37.3	
	comp=Z,61nm,18.1s,baz=130,slow=35								
	comp=Z,53nm,0.9s								
KBZ	**Khabaz**	**87.77**	**324**	*c iP*			**P**	**22 53 47.2**	**+0.5**
KBZ					pmax		pmax		
	comp=Z,67nm,1.0s								
KIV	**Kislovodsk**	**88.04**	**324**		P		**P**	**22 53 47.8**	**-0.4**
KIV	**Kislovodsk**	**88.04**	**324**		P		**P**	**22 53 47.8**	**-0.4**
KIV	**Kislovodsk**	**88.04**	**324**	⇓*iP*			**P**	**22 53 48.6**	**+0.4**
KIV	**Kislovodsk**	**88.04**	**324**	*eP*			**P**	**22 53 48.1**	**-0.1**
KIV				*e*				23 04 16.0	
KIV					pmax		pmax		
	comp=Z,20nm,1.0s								
KIV					pmax		pmax		
	comp=Z,35nm,3.5s								
KIV	**Kislovodsk**	**88.04**	**324**	*i* P			**P**	**22 53 48.5**	**+0.3**
	SNR=8.2								
GOF	**Gofitskoye**	**88.64**	**325**	*ceP*			**P**	**22 53 50.9**	**0.0**
VSLR	**Vesyoloye**	**89.09**	**322**	*deP*			**P**	**22 53 53.2**	**+0.2**
VSLR					pmax		pmax		
	comp=Z,27nm,1.1s								
TYV	**Tymovskoe**	**89.31**	**27**	*eP*			P	22 54 04.2	+10
TYV					pmax		pmax		
	comp=Z,300nm,3.3s								
TYV					pmax		pmax		
	comp=Z,22nm,1.2s								
SOC	**Sochi**	**89.34**	**322**	*eP*			**P**	**22 53 52.6**	**-1.6**
SOC				*e*				22 57 21.7	
SOC				*ePPP*			PPP	22 59 19.0	
SOC				*eS*			**SKSac**	**23 04 22.3**	**-0.9**
SOC				*eSS*			**SS**	**23 10 35.2**	**-3.6**
SOC				*eSSS*			SSS	23 14 09.9	
SOC					MLR		MLR		
	comp=Z,202nm,18.0s								
KIRS	**Kirsehir-Merke**	**89.75**	**316**	⇓*iP*			**P**	**22 53 56.0**	**-0.4**
BRTR	**Keskin Array B**	**90.29**	**316**		P		**P**	**22 53 58.0**	**-0.9**
BRTR	**Keskin Array B**	**90.29**	**316**		P		**P**	**22 53 58.5**	**-0.5**
	comp=Z,5.8nm,0.8s,baz=133,slow=6.0,SNR=37								
BRTR					LR		LR	23 34 59.5	
	comp=Z,75nm,18.4s,baz=135,slow=36								
	comp=Z,5.8nm,0.8s								
BR131	**Keskin Array S**	**90.29**	**316**		P		**P**	**22 53 58.7**	**-0.2**
	SNR=6.4								
BR131	**Keskin Array S**	**90.29**	**316**	*d iP*			**P**	**22 53 58.2**	**-0.7**
RAR	**Rarotonga**	**90.78**	**115**		LR		LR	23 26 11.7	
	comp=Z,30nm,20.8s,baz=259,slow=30								
ANTO	**Ankara**	**90.89**	**316**		P		**P**	**22 54 00.6**	**-1.1**
ANTO					IAmb		IAmb	22 54 02.6	
	comp=Z,27nm,0.9s								
ANTO	**Ankara**	**90.89**	**316**		P		**P**	**22 54 01.4**	**-0.2**
ANTO	**Ankara**	**90.89**	**316**	⇓*iP*			**P**	**22 54 02.0**	**+0.4**
ANTO	**Ankara**	**90.89**	**316**	⇓*iP*			**P**	**22 54 02.0**	**+0.4**
SVE	**Sverdlovsk**	**90.98**	**341**	*eP*			**P**	**22 54 01.4**	**-0.1**
SVE					pmax		pmax		
	comp=Z,22nm,1.1s								
ARTI	**Arti**	**91.27**	**340**		P		**P**	**22 54 02.1**	**-0.7**
ARTI					IAmb		IAmb	22 54 03.5	
	comp=Z,23nm,0.9s								
ARTI	**Arti**	**91.27**	**340**		LR		LR	23 34 59.0	
	comp=Z,145nm,18.6s,baz=138,slow=36								
ARTI	**Arti**	**91.27**	**340**	*eP*			**P**	**22 54 02.3**	**-0.6**
ARTI					pmax		pmax		
	comp=Z,22nm,1.0s								
ARTI					MLR		MLR		
	comp=Z,159nm,18.1s								
BELG	**Belogornoye**	**91.91**	**332**	*deP*			**P**	**22 54 05.4**	**-0.5**
BELG					pmax		pmax		
	comp=Z,5.0nm,1.5s								
SAHE	**Sakarya_HENDEK**	**92.66**	**316**	⇑*iP*			**P**	**22 54 10.0**	**+0.2**
SIM	**Simferopol'**	**93.28**	**321**	*eP*			**P**	**22 54 12.4**	**-0.1**
SIM				*eS*			**S**	**23 05 17.5**	**-1.3**
SIM					pmax		pmax		
	comp=Z,20nm,1.1s								
SIM					MLR		MLR		
	comp=Z,24nm,16.0s								
VRH	**Novokhopyorsk**	**93.58**	**329**	*eP*			**P**	**22 54 11.2**	**-2.5**
VRH					pmax		pmax		
	comp=Z,20nm,0.9s								
VORD	**Divnogorie**	**94.54**	**328**	*eP*			**P**	**22 54 15.3**	**-2.8**
VORD					pmax		pmax		
	comp=Z,10.0nm,1.0s								
YAK	**Yakutsk**	**94.62**	**15**	*eP*			**P**	**22 54 16.9**	**-1.3**
YAK				*e**PP			**PcP**	**22 54 20.2**	**+1.7**
YAK				*e*				22 58 07.9	
YAK				*eS*			**SKSac**	**23 04 52.0**	**-0.1**
YAK				*e*				23 05 31.0	
YAK				*eSS*			**SS**	**23 11 53.8**	**-0.1**
YAK					pmax		pmax		
	comp=Z,22nm,1.3s								
YAK					pmax		pmax		
	comp=N,5.0nm,1.2s								
YAK					pmax		pmax		
	comp=E,5.0nm,1.3s								
YAK					pmax		pmax		
	comp=Z,83nm,2.9s								
YAK					pmax		pmax		
	comp=N,38nm,2.7s								
YAK					pmax		pmax		
	comp=E,26nm,2.5s								
YAK					smax		smax		
	comp=E,62nm,3.3s								
YAK					smax		smax		
	comp=N,23nm,2.3s								
VSR	**Storozhevoye**	**94.77**	**328**	*eP*			**P**	**22 54 16.0**	**-3.1**
VSR					pmax		pmax		
	comp=Z,10.0nm,0.9s								
LPSR	**Galich'ya Gora**	**95.80**	**329**	*eP*			**P**	**22 54 21.2**	**-2.6**
LPSR					pmax		pmax		
	comp=Z,20nm,1.0s								
KIRV	**Kirov**	**95.92**	**337**		LR		LR	23 38 02.0	
	comp=Z,59nm,19.1s,baz=133,slow=36								
KIRV	**Kirov**	**95.92**	**337**	*ceP*			**P**	**22 54 23.3**	**-0.9**
TLBR	**Topalu**	**96.50**	**318**	⇑*iP*			**P**	**22 54 27.7**	**+0.5**
CFR	**Carcaliu**	**96.81**	**318**	⇑*iP*			**P**	**22 54 29.0**	**+0.4**
CFR	**Carcaliu**	**96.81**	**318**	⇑*iP*			**P**	**22 54 29.0**	**+0.4**
PETK	**Petropavlovsk-**	**97.42**	**32**		LR		LR	23 44 35.4	
	comp=Z,19nm,18.0s,baz=222,slow=39								
TBI	**Tubuai**	**97.54**	**122**	*eP*			P	22 54 22.5	-10
	comp=Z,428nm,42.8s								
TBI	**Tubuai**	**97.54**	**122**	*eS*			S	23 05 42.5	-15
	comp=Z,762nm,37.5s								
TBI				*eSS*			**SS**	**23 12 37.0**	**+1.4**
	comp=Z,494nm,29.8s								
TBI	**Tubuai**	**97.54**	**122**	*eLR*			LR	23 26 17.3	
	comp=Z,547nm,31.5s								
BISRR	**Bisoca**	**97.85**	**318**	⇑*iP*			P	22 54 20.2	-13
VRI	**Vrincioaia**	**98.02**	**318**	⇓*iP*			**P**	**22 54 30.2**	**-3.9**
VRI	**Vrincioaia**	**98.02**	**318**	⇓*iP*			**P**	**22 54 30.2**	**-3.9**
PLOR	**Plostina**	**98.05**	**318**	⇑*iP*			**P**	**22 54 30.7**	**-3.6**
PLOR	**Plostina**	**98.05**	**318**	⇑*iP*			**P**	**22 54 30.7**	**-3.6**
MLR	**Muntele Rosu**	**98.27**	**318**	⇑*iP*			P	22 54 28.2	-7.1
MLR	**Muntele Rosu**	**98.27**	**318**	⇑*iP*			P	22 54 28.2	-7.1
OBN	**Obninsk**	**98.51**	**330**	*eP*			**P**	**22 54 35.7**	**-0.2**
OBN				*e*				22 58 36.7	
OBN				*ePPP*			PPP	23 00 41.9	
OBN					pmax		pmax		
	comp=Z,10.0nm,1.1s								
MA2	**Magadan**	**98.89**	**25**		LR		LR	23 41 03.4	
	comp=Z,32nm,19.8s,baz=267,slow=36								
AKASG	**Malin Array Be**	**99.37**	**323**		P		**Pdif**	**22 54 39.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=111,slow=3.6,SNR=12								
AKASG					LR		LR	23 37 44.1	
	comp=Z,36nm,20.2s,baz=129,slow=34								
	comp=Z,0.3nm,0.3s								
AKBB	**Malin Array Si**	**99.37**	**323**	⇑*eP*			**Pdif**	**22 54 39.1**	**-0.8**
KIEV	**Kiev**	**99.37**	**323**		P		**Pdif**	**22 54 40.5**	**+0.6**
PPT2	**Papeete2**	**100.80**	**117**	*ePP*			**PP**	**22 58 48.1**	**-6.6**
	comp=Z,92nm,33.5s								
PPT2				*eS*			**Sdif**	**23 06 18.9**	**-5.8**
	comp=Z,151nm,28.0s								
PPT2				*eSS*			**SS**	**23 13 28.4**	**+6.7**
	comp=Z,165nm,27.0s								
PPT2	**Papeete2**	**100.80**	**117**	*eLR*			LR	23 27 31.1	
	comp=Z,136nm,26.5s								
PPT2				*eLR*			LR	23 27 36.1	
	comp=Z,206nm,29.8s								
SOKA	**Soboth**	**105.44**	**315**	*i* PKiKP			**PKiKP**	**22 59 21.3**	**+0.5**
	comp=Z,4.4nm,1.3s								
MOA	**Molln**	**106.42**	**316**	*i* PKiKP			**PKiKP**	**22 59 23.3**	**+0.8**
	comp=Z,3.7nm,1.0s								
KBA	**Koelnbreinsper**	**106.66**	**315**	*i* PKiKP			**PKiKP**	**22 59 21.9**	**-1.3**
	comp=Z,3.7nm,1.1s								
FINES	**FINESS Array B**	**106.68**	**332**	PKiKP			**PKiKP**	**22 59 22.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=122,slow=1.8,SNR=3.8								
WTTA	**Wattenberg**	**107.80**	**315**	*i* PKiKP			**PKiKP**	**22 59 25.5**	**+0.2**
	comp=Z,2.1nm,0.7s								
WATA	**Walderalm**	**107.87**	**315**	*i* PKiKP			**PKiKP**	**22 59 25.4**	**+0.1**
	comp=Z,1.2nm,0.4s								
SQTA	**Sankt Quirin**	**108.05**	**314**	*i* PKiKP			**PKiKP**	**22 59 26.0**	**+0.3**
	comp=Z,4.9nm,1.2s								
MOTA	**Moosalm**	**108.17**	**314**	*i* PKiKP			**PKiKP**	**22 59 25.9**	**0.0**
	comp=Z,3.3nm,0.8s								
FETA	**Feichten**	**108.27**	**314**	*e*PKiKP			**PKiKP**	**22 59 26.6**	**+0.5**
	comp=Z,5.4nm,1.2s								
CLL	**Collm**	**108.60**	**319**	*ePP*			**PP**	**22 59 53.0**	**+0.5**
CLL				*e*PPP			PPP	23 02 12.0	
CLL				*ePS*			**PS**	**23 09 14.0**	**-3.3**
CLL				*e*PPS			PPS	23 10 18.0	
CLL				*eSS*			SS	23 15 12.0	+3.7
DAVA	**Damuels**	**108.91**	**314**	*i* PKiKP			**PKiKP**	**22 59 26.2**	**-1.1**
	comp=Z,2.4nm,0.6s								
ARCES	**ARCESS Array B**	**110.82**	**339**	PKiKP			**PKiKP**	**22 59 29.9**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=116,slow=2.1,SNR=10								
ARCES					PP		**PP**	**23 00 06.3**	**-1.8**
	comp=Z,7.5nm,0.9s,baz=123,slow=3.3,SNR=5.8								
NOA	**NORSAR Array B**	**113.04**	**328**	PKiKP			**PKiKP**	**22 59 34.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=137,slow=3.2,SNR=3.6								
TAOE	**Nuku Hiva Isla**	**113.33**	**115**	*eSS*			SS	23 16 04.9	-7.2
	comp=Z,374nm,28.4s								
TAOE	**Nuku Hiva Isla**	**113.33**	**115**	*eLR*			LR	23 33 17.1	
	comp=Z,276nm,37.1s								
NIKH	**Nikolski High**	**115.15**	**42**		P		**PKiKP**	**22 59 39.3**	**+0.6**
	baz=255								
SPIA	**Saint Paul Isl**	**115.47**	**37**		P		**PKiKP**	**22 59 39.7**	**+0.5**
	baz=255								
P08K	**Saint George I**	**115.70**	**38**		P		**PKiKP**	**22 59 40.3**	**+0.7**
	baz=256								
ESDC	**Sonseca Array**	**115.82**	**303**				**PKPdf**	**22 59 39.7**	**-0.9**
ESDC	**Sonseca Array**	**115.82**	**303**		PKP		**PKiKP**	**22 59 40.9**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=78,slow=1.2,SNR=13								
ESDC					PP		**PP**	**23 00 44.8**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=116,slow=8.7,SNR=4.4								
GAMB	**Gambell**	**116.33**	**30**		P		**PKiKP**	**22 59 41.8**	**+1.1**
	baz=257								
SPITS	**Spitsbergen Ar**	**116.39**	**347**		PKP		**PKPdf**	**22 59 40.3**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=205,slow=6.4,SNR=34								
UNV	**Unalaska Valle**	**116.73**	**41**		P		**PKiKP**	**22 59 42.7**	**+0.9**
	baz=257								
M11K	**Mekoryuk**	**118.21**	**34**		P		**PKiKP**	**22 59 45.4**	**+1.0**
	baz=260								
TNA	**Tin City**	**118.25**	**28**		P		**PKiKP**	**22 59 45.4**	**+1.0**
	baz=262								
PBEJ	**Beja**	**118.26**	**300**	*e*PKP			**PKiKP**	**22 59 46.1**	**+0.8**
PESTR	**Estremoz**	**118.28**	**301**	*e*PKP			**PKiKP**	**22 59 46.0**	**+0.6**
MESJ	**Messejana**	**118.48**	**300**	*e*PKP			**PKiKP**	**22 59 46.1**	**+0.4**
MVO	**Moncorvo**	**118.48**	**304**	*e*PKP			**PKiKP**	**22 59 46.5**	**+0.8**
F14K	**Arctic Creek**	**118.90**	**28**		P		**PKiKP**	**22 59 46.3**	**+0.6**
	baz=263								
PSARD	**Sardoal**	**118.91**	**302**	*e*PKP			**PKiKP**	**22 59 47.1**	**+0.6**
PVRL	**Vila Real**	**119.01**	**303**	*e*PKP			**PKiKP**	**22 59 47.5**	**+0.8**
EKA	**Eskdalemuir Ar**	**119.02**	**320**	PKP			**PKPdf**	**22 59 45.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=96,slow=1.4,SNR=7.9								
POLO	**Lamas de Olo**	**119.09**	**304**	*e*PKP			**PKiKP**	**22 59 47.7**	**+0.8**
K13K	**Kusilvak Mount**	**119.18**	**32**		P		**PKiKP**	**22 59 47.0**	**+0.7**
	baz=262								
ANM	**Nome**	**119.19**	**29**		P		**PKiKP**	**22 59 46.7**	**+0.4**
	baz=263								
PARRA	**Arraiolos**	**119.36**	**300**	*e*PKP			**PKPdf**	**22 59 46.6**	**-0.7**
C16K	**Lisburne Hills**	**119.58**	**25**		P		**PKiKP**	**22 59 47.4**	**+0.5**
	baz=265								
PGAV	**Gavieira, Arco**	**119.58**	**304**	*e*PKP			**PKiKP**	**22 59 48.3**	**+0.5**
M13K	**Dall Lake**	**119.61**	**34**		P		**PKiKP**	**22 59 47.6**	**+0.4**
	baz=263								
S12K	**Black Hills**	**119.61**	**40**		P		**PKiKP**	**22 59 47.5**	**+0.1**
	baz=261								
F15K	**North Star Dit**	**119.62**	**28**		P		**PKiKP**	**22 59 47.8**	**+0.7**
	baz=265								
J14K	**Nanvaranak Lak**	**119.79**	**32**		P		**PKiKP**	**22 59 48.1**	**+0.7**
	baz=264								
G15K	**Niukluk**	**119.81**	**29**		P		**PKiKP**	**22 59 48.3**	**+0.9**
	baz=265								
L14K	**Kuka Creek**	**120.05**	**33**		P		**PKiKP**	**22 59 48.6**	**+0.6**
	baz=264								
M14K	**Bethel**	**120.33**	**34**		P		**PKiKP**	**22 59 49.0**	**+0.4**
	baz=264								
N14K	**Kuskokwak Cree**	**120.38**	**35**		P		**PKiKP**	**22 59 48.9**	**+0.2**
	baz=264								
D17K	**Noatak River**	**120.39**	**26**		P		**PKiKP**	**22 59 48.8**	**+0.3**
	baz=267								
C17K	**DeLong Mountai**	**120.39**	**25**		P		**PKiKP**	**22 59 48.6**	**0.0**
	baz=268								
SDPT	**Sand Point**	**120.45**	**40**		P		**PKPdf**	**22 59 48.6**	**-0.3**
	baz=262								
O14K	**Tigyukauivet M**	**120.52**	**36**		P		**PKiKP**	**22 59 49.4**	**+0.5**
	baz=264								
H16K	**Elim**	**120.55**	**29**		P		**PKiKP**	**22 59 48.9**	**0.0**
	baz=266								
L15K	**Ungalak Mounta**	**120.65**	**33**		P		**PKiKP**	**22 59 49.5**	**+0.4**
	baz=265								
K15K	**Wolf Creek Mou**	**120.68**	**32**		P		**PKiKP**	**22 59 50.1**	**+0.9**
	baz=265								
E17K	**Hotham Inlet**	**120.85**	**27**		P		**PKiKP**	**22 59 50.0**	**+0.6**
	baz=268								
CHNA	**Chernabura Isl**	**120.89**	**41**		P		**PKiKP**	**22 59 50.0**	**+0.2**
	baz=262								
B18K	**Kokolik River**	**120.92**	**24**		P		**PKiKP**	**22 59 50.1**	**+0.6**
	baz=269								
M15K	**Kasigluk River**	**120.95**	**34**		P		**PKiKP**	**22 59 50.2**	**+0.5**
	baz=265								
S14K	**Fog Glacier**	**121.09**	**39**		P		**PKiKP**	**22 59 50.6**	**+0.3**
	baz=263								
C18K	**Utukok River**	**121.13**	**25**		P		**PKiKP**	**22 59 50.0**	**0.0**
	baz=269								
A19K	**Wainwright**	**121.17**	**23**		P		**PKiKP**	**22 59 50.6**	**+0.7**
	baz=270								
I17K	**Unalakleet**	**121.17**	**30**		P		**PKiKP**	**22 59 50.8**	**+0.6**
	baz=267								
J16K	**Anvik River**	**121.18**	**31**		P		**PKiKP**	**22 59 50.9**	**+0.7**
	baz=267								
N15K	**Kwethluk River**	**121.20**	**35**		P		**PKiKP**	**22 59 50.9**	**+0.6**
	baz=265								
O15K	**Ungalikthiuk R**	**121.25**	**36**		P		**PKiKP**	**22 59 50.8**	**+0.4**
	baz=265								
G17K	**Kiwalik Mounta**	**121.26**	**28**		P		**PKiKP**	**22 59 50.9**	**+0.6**
	baz=268								
E18K	**Tukpahlearik C**	**121.33**	**26**		P		**PKiKP**	**22 59 51.1**	**+0.7**
	baz=269								
H17K	**Granite Mounta**	**121.56**	**29**		P		**PKPdf**	**22 59 49.8**	**-0.9**
	baz=268								
F18K	**Selawik**	**121.70**	**27**		P		**PKiKP**	**22 59 51.3**	**+0.3**
	baz=270								
C19K	**Lookout Ridge**	**121.71**	**24**		P		**PKiKP**	**22 59 51.8**	**+0.6**
	baz=271								
CHGN	**Chignik**	**121.72**	**39**		P		**PKiKP**	**22 59 51.8**	**+0.4**
	baz=264								
M16K	**Timber Creek**	**121.82**	**34**		P		**PKiKP**	**22 59 51.7**	**+0.2**
	baz=267								
J17K	**VABM Dome**	**121.87**	**31**		P		**PKPdf**	**22 59 51.1**	**-0.2**
	baz=268								
N16K	**Nishlik Lake**	**121.88**	**34**		P		**PKiKP**	**22 59 52.1**	**+0.4**
	baz=267								
NOR	**Nord**	**122.06**	**351**	*i* P			**PKPdf**	**22 59 50.5**	**-0.8**
G18K	**Tagagawik**	**122.10**	**28**		P		**PKiKP**	**22 59 52.0**	**0.0**
	baz=270								
O16K	**Kokwok River B**	**122.16**	**35**		P		**PKiKP**	**22 59 52.3**	**+0.1**
	baz=267,SNR=5.0								
P16K	**Nushagak River**	**122.18**	**36**		P		**PKPdf**	**22 59 51.9**	**-0.2**
	baz=266								
L17K	**Donlin**	**122.19**	**32**		P		**PKiKP**	**22 59 52.3**	**+0.1**
	baz=268								
K17K	**Iditarod**	**122.20**	**32**		P		**PKiKP**	**22 59 52.5**	**+0.3**
	baz=268								
H18K	**Honhosa River**	**122.22**	**29**		P		**PKiKP**	**22 59 52.1**	**-0.1**
	baz=270								
D19K	**Kuna River**	**122.26**	**25**		P		**PKPdf**	**22 59 52.1**	**+0.1**
	baz=272,SNR=7.4								
B20K	**Meade River**	**122.52**	**23**		P		**PKiKP**	**22 59 53.2**	**+0.6**
	baz=274								
M17K	**Holitna River**	**122.57**	**33**		P		**PK

baz=269
E22K **Anaktuvuk Pass** 124.62 25 P PKPdf 22 59 56.5 -0.1
baz=278,SNR=9.2
M20K **Styx River** 124.62 33 P PKPdf 22 59 57.0 +0.1
baz=272
SDBA **SAO DESIDERIO** 124.63 227 *e*P PKiKP 23 00 00.7 +2.1
P19K **Oil Pt** 124.63 35 P PKPdf 22 59 56.5 -0.3
baz=271
C23K **Itkillik River** 124.78 23 P PKiKP 22 59 57.1 0.0
baz=280
CHUM **Lake Minchumin** 124.88 30 P PKiKP 22 59 57.3 -0.1
baz=275
G22K **Bettles** 124.90 27 P PKiKP 22 59 57.4 -0.1
baz=277
I21K **Tanana** 124.91 29 P PKiKP 22 59 57.5 0.0
baz=276,SNR=9.4
D23K **Nanushuk River** 124.91 24 P PKiKP 22 59 57.3 -0.1
baz=280,SNR=8.8
O20K **Slope Mountain** 124.93 35 P PKPdf 22 59 56.6 -0.8
baz=272
KDAK **Kodiak Island** 124.98 38 PKPdf 22 59 56.5 -1.0
KDAK **Kodiak Island** 124.98 38 PKIKP PKPdf 22 59 56.5 -1.0
KDAK **Kodiak Island** 124.98 38 P PKPdf 22 59 57.4 -0.1
baz=270
PPLA **Purkeypile** 125.01 31 P PKPdf 22 59 57.1 -0.5
baz=274,SNR=7.1
CAST **Castle Rocks** 125.02 31 P PKPdf 22 59 57.3 -0.1
baz=274,SNR=10
Q20K **Shuyak Island** 125.08 37 P PKPdf 22 59 57.6 0.0
baz=271
H22K **Ishtalitna Cre** 125.08 28 P PKPdf 22 59 57.5 0.0
baz=277,SNR=10.0
N20K **Mount Spurr** 125.09 34 P PKPdf 22 59 57.4 -0.3
baz=273
SPCR **Spurr Chakacha** 125.09 34 P PKPdf 22 59 57.7 -0.1
baz=273
TOLK **Toolik Lake Re** 125.36 24 P PKiKP 22 59 59.0 +0.6
baz=280,SNR=8.2
COLD **Coldfoot** 125.36 26 P PKPdf 22 59 57.4 -0.6
baz=279
SKT **Skwentna** 125.37 33 P PKPdf 22 59 57.3 -0.8
baz=274
HOM **Homer** 125.44 35 P PKiKP 22 59 58.7 0.0
baz=272
BPAW **Bear Paw Mtn.** 125.44 30 P PKPdf 22 59 58.3 0.0
baz=276,SNR=8.2
MLY **Manley** 125.45 29 P PKPdf 22 59 58.2 0.0
baz=277,SNR=15
E23K **Chandalar** 125.45 25 P PKPdf 22 59 58.4 +0.2
baz=280,SNR=17
C24K **Franklin Bluff** 125.46 23 P PKiKP 22 59 59.0 +0.5
baz=282
G23K **Bananza Creek** 125.51 27 P PKiKP 22 59 59.1 +0.3
baz=279,SNR=8.0
D24K **Happy Valley** 125.53 24 P PKiKP 22 59 58.9 +0.3
baz=282,SNR=5.2
SUA **Susitna One** 125.78 33 P PKPdf 22 59 59.0 -0.1
baz=274,SNR=15
TRF **Thorofare Moun** 125.82 31 P PKPdf 22 59 59.1 -0.1
baz=276,SNR=7.4
H23K **Yukon River** 125.84 28 P PKiKP 22 59 59.4 0.0
baz=278
E24K **Your Creek** 125.86 25 P PKiKP 22 59 59.4 0.0
baz=281
I23K **Minto, Yukon-K** 126.01 29 P PKiKP 22 59 59.7 0.0
baz=278,SNR=5.9
F24K **Squaw Lake** 126.19 26 P PKiKP 23 00 00.3 +0.2
baz=281,SNR=8.1
NEA2 **Nenana** 126.21 29 P PKPdf 22 59 59.2 -0.5
baz=278
RC01 **Rabbit Creek A** 126.30 34 P PKiKP 23 00 00.2 -0.2
baz=275,SNR=12
D25K **Kavik River** 126.34 23 P PKiKP 23 00 00.2 -0.1
baz=284,SNR=6.0
O22K **Cooper Landing** 126.35 34 P PKPdf 23 00 00.2 +0.1
baz=274
MCK **McKinley** 126.39 30 P PKPdf 23 00 00.0 -0.1
baz=278
H24K **Noodor Dome** 126.51 28 P PKiKP 23 00 00.7 -0.1
baz=280,SNR=17
G24K **Hadweenzic Riv** 126.51 27 P PKPdf 23 00 00.4 +0.1
baz=281,SNR=6.3
SEW **Seward** 126.52 35 P PKiKP 23 00 00.9 +0.1
baz=274
PMR **Palmer** 126.54 33 P PKiKP 23 00 00.7 -0.1
baz=276
C26K **Camden Bay** 126.69 22 P PKiKP 23 00 01.4 +0.5
baz=286
COLA **College** 126.69 29 P PKiKP 23 00 01.0 0.0
baz=279
POKR **Poker Plat Res** 126.82 28 P PKiKP 23 00 01.6 +0.2
baz=280
KNK **Knik Glacier** 126.88 33 P PKiKP 23 00 01.4 -0.2
baz=276
PWL **Port Wells** 127.00 34 P PKiKP 23 00 01.9 +0.1
baz=276,SNR=11
F25K **Christian Rive** 127.02 25 P PKiKP 23 00 01.9 +0.2
baz=284,SNR=9.8
G25K **Bearman Lake** 127.03 26 P PKiKP 23 00 02.2 +0.5
baz=283
ILAR **Eielson Array** 127.11 29 PKPdf PKPdf 22 59 59.7 -1.7
ILAR **Eielson Array** 127.11 29 PKP PKPdf 23 00 00.5 -1.0
comp=Z,2.9nm,1.1s,baz=286,slow=2.8,SNR=12
HDA **Harding Lake** 127.15 29 P PKiKP 23 00 02.3 +0.3
baz=280
C27K **Jago River** 127.17 23 P PKiKP 23 00 02.2 +0.3
baz=287
M23K **Glacier View** 127.19 33 P PKiKP 23 00 02.5 +0.3
baz=277
H25L **Birch Creek** 127.25 27 P PKiKP 23 00 02.8 +0.7
baz=282
SCM **Sheep Creek Mo** 127.37 33 P PKiKP 23 00 03.0 +0.3
baz=278
BMAR **Burnt Mountain** 127.46 25 PKPdf PKPdf 23 00 01.9 -0.1
PRP **Porcupine Dome** 127.53 28 P PKiKP 23 00 02.7 -0.2
baz=282
F26K **Sheenjek River** 127.55 25 P PKiKP 23 00 03.0 +0.2
baz=285
P23K **Montague Islan** 127.55 35 P PKiKP 23 00 02.7 -0.2
baz=276
GLI **Glacier Island** 127.60 34 P PKiKP 23 00 03.0 0.0
baz=277,SNR=7.1
K24K **Donnelly Dome** 127.76 30 P PKiKP 23 00 03.2 -0.1
baz=281
J25K **Salcha River,** 127.78 29 P PKiKP 23 00 03.1 -0.3
baz=282
M24K **Tolsona, Glenn** 127.87 32 P PKiKP 23 00 03.8 +0.2
baz=279
G26K **Porcupine Rive** 127.88 26 P PKiKP 23 00 03.8 +0.4
baz=285,SNR=16
PAX **Paxson** 128.05 31 P PKiKP 23 00 04.1 +0.2
baz=280
KLU **Klutina** 128.08 33 P PKiKP 23 00 04.1 +0.1
baz=279,SNR=6.9
Q23K **Middleton Isla** 128.15 35 P PKiKP 23 00 03.9 -0.2
baz=277
RIDG **Independent Ri** 128.18 30 P PKiKP 23 00 04.1 0.0
baz=282
D27M **Malcolm River** 128.21 23 P PKiKP 23 00 04.5 +0.4
baz=290
HARP **HAARP** 128.29 32 P PKiKP 23 00 04.9 +0.5
baz=280
EYAK **Cordova Ski Ar** 128.30 34 P PKiKP 23 00 04.7 +0.3
baz=278
E27K **Coleen River** 128.33 24 P PKiKP 23 00 04.3 0.0
baz=288,SNR=5.9
SCRK **Sand Creek** 128.50 30 P PKiKP 23 00 04.7 -0.2
baz=282
I26K **Coal Creek Min** 128.54 28 P PKiKP 23 00 04.4 -0.3
baz=284
J26L **Joseph Creek** 128.57 29 P PKPdf 23 00 04.2 -0.1
baz=283
N25K **Chitina, Valde** 128.69 33 P PKiKP 23 00 05.2 -0.1
baz=280,SNR=10
G27K **Doyon Strip** 128.73 26 P PKPdf 23 00 04.6 +0.1
baz=287,SNR=7.1
BMRM **Bremner River** 128.79 33 PKPdf PKiKP 23 00 06.2 +0.7
BMRM **Bremner River** 128.79 33 P PKiKP 23 00 05.5 +0.1
baz=280,SNR=5.5
E28M **Babbage River** 128.92 23 P PKiKP 23 00 05.6 +0.1
baz=291,SNR=5.7
D28M **Stokes Point** 128.92 22 P PKiKP 23 00 05.7 +0.4
baz=292
H27K **Steamboat Moun** 128.94 26 P PKiKP 23 00 05.6 0.0
baz=287,SNR=7.0
L26K **Log Cabin Wild** 128.99 31 P PKiKP 23 00 05.8 +0.1
baz=282
KAIM **Kayak Island** 129.05 35 P PKiKP 23 00 06.0 +0.1
baz=279
I27K **Kandik River** 129.09 27 P PKiKP 23 00 06.1 +0.1
baz=286,SNR=7.4
F28M **Old Crow** 129.14 24 P PKiKP 23 00 05.8 -0.2
baz=290,SNR=7.0
M26K **Nabesna, AK** 129.28 31 P PKiKP 23 00 06.5 +0.1
baz=282,SNR=8.5
K27K **Chicken** 129.31 29 P PKiKP 23 00 06.9 +0.6
baz=284
NEEM **North Greenlan** 129.43 351 *i* P PKPdf 23 00 06.0 +0.1
MCARA **McCarthy VSAT** 129.47 33 P PKiKP 23 00 07.0 +0.2
baz=281
E29M **Blow River** 129.56 23 P PKiKP 23 00 06.4 -0.3
baz=292
CRQE **Cirque** 129.56 33 P PKiKP 23 00 07.0 -0.1
baz=281
BGLC **Bering Glacier** 129.58 34 P PKiKP 23 00 07.0 +0.1
baz=280
L27K **Beaver Creek,** 129.65 30 P PKiKP 23 00 07.2 0.0
baz=284,SNR=6.8
BCAR **Beaver Creek A** 129.67 30 PKPdf PKiKP 23 00 07.1 -0.1
M27K **Edge Creek, AK** 129.79 31 P PKiKP 23 00 07.8 +0.2
baz=283,SNR=5.3
I28M **Miner Creek** 129.80 27 P PKiKP 23 00 07.1 -0.4
baz=288,SNR=7.9
PTLB **Pontes e Lacer** 129.99 211 PKPdf PKPdf 23 00 08.2 -0.2
G29M **Pine Creek** 130.05 25 P PKiKP 23 00 07.7 -0.1
baz=291,SNR=5.3
H29M **Whitestone** 130.16 26 P PKPdf 23 00 07.5 +0.3
baz=290,SNR=6.7
MESA **MESA** 130.22 34 P PKiKP 23 00 08.6 0.0
baz=281
BVCY **Beaver Creek** 130.24 31 P PKiKP 23 00 08.0 -0.3
baz=284
CTG **Chitna Glacier** 130.36 33 P PKiKP 23 00 08.5 -0.3
baz=283
DAWY **Dawson** 130.44 29 P PKiKP 23 00 08.4 -0.3
baz=287
I29M **Ogilvie Camp,** 130.48 27 P PKiKP 23 00 08.5 -0.2
baz=289,SNR=8.9
SUMG **Summit** 130.51 344 PKPdf PKiKP 23 00 08.8 -0.2
SUMG **Summit** 130.51 344 PKIKP PKiKP 23 00 08.8 -0.2
YUK3 **Moose Creek** 130.58 32 P PKiKP 23 00 09.2 -0.1
baz=284,SNR=5.7
F30M **Barrier River** 130.59 24 P PKPdf 23 00 08.2 +0.2
baz=294
G30M **tAoh Zraii Nji** 130.69 25 P PKPdf 23 00 08.6 +0.4
baz=293
EPYK **Eagle Plains** 130.73 25 P PKiKP 23 00 09.1 -0.1
baz=292,SNR=12
J29N **Klondike Camp** 130.81 28 P PKiKP 23 00 09.7 +0.3
baz=289
O28M **Mount Upton** 130.95 33 P PKiKP 23 00 10.0 -0.1
baz=284
YUK8 **Steele Glacier** 131.03 32 P PKiKP 23 00 10.3 +0.1
baz=284,SNR=5.2
INK **Inuvik** 131.07 22 P PKiKP 23 00 09.4 -0.3
baz=297
PINM **Pinnacle** 131.07 34 P PKiKP 23 00 10.3 +0.2
baz=283
L29M **L29M** 131.26 30 P PKiKP 23 00 10.8 +0.4
baz=288,SNR=14
I30M **Mount Dempster** 131.28 27 P PKiKP 23 00 10.5 0.0
baz=291,SNR=5.4
K29M **Barlow Dome** 131.29 29 P PKiKP 23 00 10.4 -0.1
baz=289,SNR=9.3
M29M **Somme Creek** 131.31 31 P PKiKP 23 00 10.8 +0.2
baz=287,SNR=5.3
F31M **Tsiigehtchic** 131.38 23 P PKiKP 23 00 09.9 -0.4
baz=296
G31M **Satah River** 131.41 24 P PKiKP 23 00 10.1 -0.4
baz=295
A36M **Sachs Harbour** 131.47 16 P PKiKP 23 00 10.4 0.0
baz=308
YUK4 **Talbot Arm** 131.53 32 P PKiKP 23 00 10.9 -0.3
baz=286,SNR=8.9
J30M **Hart River** 131.53 28 P PKiKP 23 00 10.7 -0.2
baz=291,SNR=6.4
PNL **Peninsula** 131.59 34 P PKiKP 23 00 11.2 +0.1
baz=283
YUK6 **Outpost Mounta** 131.77 33 P PKiKP 23 00 11.7 0.0
baz=286
O29M **Mount Kennedy** 131.84 33 P PKiKP 23 00 11.6 -0.1
baz=285
H31M **Peel River** 131.85 26 P PKPdf 23 00 10.5 +0.1
baz=294
M30M **Minto, Yukon** 132.01 30 P PKiKP 23 00 11.7 -0.2
baz=288,SNR=11
HYT **Haines Junctio** 132.21 33 P PKiKP 23 00 12.3 -0.2
baz=286
N30M **Aishikik Lake** 132.22 32 P PKiKP 23 00 12.5 +0.1
baz=287
P29M **Windy Craggy** 132.42 34 P PKiKP 23 00 12.4 -0.4
baz=285
LPAZ **La Paz** 132.57 200 PKP PKPdf 23 00 13.5 -0.6
comp=Z,2.0nm,0.8s,baz=210,slow=3.3,SNR=8.3
P30M **Million Dollar** 132.66 33 P PKiKP 23 00 13.4 +0.1
baz=286
N31M **Braeburn, Yuko** 132.81 31 P PKiKP 23 00 13.7 +0.2
baz=289
PLBC **Pleasant Camp** 133.14 34 P PKiKP 23 00 14.6 +0.4
baz=290
M31M **Drury Creek, Y** 133.19 30 P PKiKP 23 00 14.5 +0.3
baz=291
C36M **Paulatuk** 133.42 19 P PKiKP 23 00 15.0 +0.6
baz=308
WHY **Whitehorse** 133.49 32 P PKiKP 23 00 14.6 -0.4
baz=289
S31K **Pelican** 133.60 36 P PKiKP 23 00 15.1 -0.1
baz=285
SKAG **Skagway** 133.64 34 P PKiKP 23 00 15.4 +0.2
baz=287
N32M **Quiet Lake** 134.15 31 P PKiKP 23 00 16.2 -0.1
baz=291
MMPY **Sheldon Lake,** 134.38 29 P PKiKP 23 00 16.8 +0.1
baz=294
P32M **Atlin** 134.38 33 P PKiKP 23 00 16.5 -0.3
baz=289
R32K **Eaglecrest** 134.39 35 P PKiKP 23 00 16.3 -0.5
baz=287
NUUG **Nuugaatsiaq** 134.50 347 *i* P PKPdf 23 00 14.8 -0.4
S32K **Killisnoo** 134.59 36 P PKiKP 23 00 16.6 -0.6
baz=286
P33M **Teslin, Yukon** 134.60 32 P PKiKP 23 00 16.8 -0.4
baz=290
Q32M **Nakina River** 135.29 34 P PKiKP 23 00 16.8 -0.2
baz=290
U33K **Whale Pass** 135.74 38 P PKiKP 23 00 19.5 0.0
baz=286
R33M **Jennings River** 135.77 33 P PKiKP 23 00 19.5 -0.2
baz=292
CRAG **Craig** 135.91 39 P PKiKP 23 00 19.7 -0.2
baz=286
WRAK **Wrangell Islan** 136.06 37 P PKiKP 23 00 20.0 -0.2
baz=287
TGTN **Hyland Airport** 136.12 29 P PKPdf 23 00 19.2 +0.6
baz=297
S34M **Telegraph Cree** 136.21 35 P PKiKP 23 00 20.1 -0.3
baz=290
DLBC **Dease Lake** 136.57 34 P PKiKP 23 00 20.7 -0.6
baz=292
T35M **Bob Quinn** 136.98 36 P PKiKP 23 00 21.5 -0.6
baz=290
KOTAN **Kotaneelee Air** 138.60 30 P PKPdf 23 00 24.2 +1.1
baz=300
TOAD **Toad River Com** 138.69 32 P PKPdf 23 00 24.4 +1.0
baz=297
YKA **Yellowknife Ar** 140.84 23 PKP PKPdf 23 00 27.1 0.0
comp=Z,3.6nm,0.8s,baz=317,slow=2.3,SNR=6.1
ATAH **Atahualpa** 143.65 188 PKP PKPdf 23 00 33.6 -0.6
comp=Z,14nm,0.8s,baz=149,slow=10,SNR=8.7
BOAV **Boa Vista** 145.81 223 *e*P PKPab 23 00 38.7 +0.4
NVAR **Mina Array Bea** 149.46 63 PKPbc PKPbc 23 00 47.8 +0.3
comp=Z,27nm,0.8s,baz=292,slow=3.9,SNR=81
SCHQ **Schefferville** 151.78 340 PKPbc PKPbc 23 00 52.0 -0.2
comp=Z,34nm,0.6s,baz=9.0,slow=2.5,SNR=51
PDAR **Pinedale Array** 154.75 50 PKPdf PKPdf 23 00 50.0 -0.8
PDAR **Pinedale Array** 154.75 50 PKP PKPdf 23 00 50.5 -0.3
comp=Z,2.3nm,0.8s,baz=215,slow=1.8,SNR=16
RUSC **La Rusia** 155.01 204 PKPdf PKPdf 23 00 50.9 -1.5
X16A **Lo Mia Camp, P** 155.37 70 PKPdf PKPdf 23 00 52.4 +0.6
SDV **Santo Domingo** 156.69 213 PKPab PKPab 23 01 23.0 -0.3
comp=Z,9.8nm,0.6s,baz=107,slow=1.4,SNR=8.0
RSSD **Black Hills** 157.60 43 PKPdf PKPdf 23 00 53.8 -0.7
RSSD **Black Hills** 157.60 43 PKIKP PKPdf 23 00 53.8 -0.7
ISCO **Idaho Springs** 158.66 54 PKPab PKPab 23 01 31.8 +0.4
ISCO **Idaho Springs** 158.66 54 PKP2 PKPab 23 01 31.8 +0.4
Y22D **IRIS PASSCAL I** 159.13 70 P PKPdf 23 00 56.5 -0.1
baz=277
JTS **Las Juntas de** 161.16 174 PKPab PKPab 23 01 41.5 -0.8
comp=Z,8.2nm,0.6s,baz=245,slow=9.5,SNR=4.2
TXAR **Lajitas Array** 162.04 84 PKPdf PKPdf 23 00 59.6 -0.2
TXAR **Lajitas Array** 162.04 84 PKP PKPdf 23 01 00.6 +0.8
comp=Z,4.5nm,0.9s,baz=225,slow=1.6,SNR=37
TXAR PKPab PKPab 23 01 44.7 -1.5
comp=Z,1.9nm,0.8s,baz=291,slow=4.3,SNR=6.0
TXAR **Lajitas Array** 162.04 84 PKIKP PKPdf 23 00 59.6 -0.2
CCM **Cathedral Cave** 168.82 35 PKPdf PKPdf 23 01 04.3 -0.7
CCM PKPab PKPab 23 02 13.9 -1.7
CCM **Cathedral Cave** 168.82 35 PKIKP PKPdf 23 01 04.3 -0.7
CCM 23 02 13.9
MIAR **Mount Ida** 169.59 56 PKPdf PKPdf 23 01 05.4 -0.2
MIAR PKPab PKPab 23 02 18.1 -1.1
MIAR **Mount Ida** 169.59 56 PKIKP PKPdf 23 01 05.4 -0.2
MIAR 23 02 18.1
TEIG **Tepich** 169.95 151 PKPdf PKPdf 23 01 05.2 -1.0
GOGA **Godfrey** 175.74 4 PKPdf PKPdf 23 01 07.8 -0.4
GOGA PKPab PKPab 23 02 44.1 -2.0
GOGA **Godfrey** 175.74 4 PKIKP PKPdf 23 01 07.8 -0.4
GOGA 23 02 44.2

IDC ***12*** *22:51:48.9±1.9, 19°.06N×120°.76E, h0km, mb3.9/5, mbtmp4.0/7, ML3.7/1, MS3.8/5, Error ellipse: s-maj=44.9km s-min=24.6km az=90.0*
NEIC ***12*** *22:51:50.8±1.7, 18°.97N±0°.02×120°.69E±0°.10, h10km±2km, mb4.2/9, Error ellipse: s-maj=15.5km s-min=3.1km az=79.0*
ISC 12 22:51:53.2±0.8**, 19°.04N**±0°.07×**120°.6E**±0°.1**, h28**km**, n32, σ1s21/28, mb4.2/8, MS3.9**/4**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**3.79**	**7**	Pn	**Pn**	**22 52 49.4**	**-0.5**
TPUB	**Ta-pu**	**4.24**	**0**	Pn	**Pn**	**22 52 56.3**	**+0.2**
YULB	**Yu-li**	**4.38**	**8**	Pn	**Pn**	**22 52 58.6**	**+0.7**
SSLB	**Suanglung**	**4.74**	**4**	Pn	**Pn**	**22 53 03.9**	**+1.0**
TGY	**Tagaytay City**	**4.92**	**176**	Pn	**Pn**	**22 53 04.4**	**-1.0**
	129nm,0.4s,baz=269,slow=4.0,SNR=3.8						
TGY				Sn	**Sn**	**22 54 03.4**	**+2.0**
	baz=306,slow=8.7						
NACB	**Ninganchiao**	**5.19**	**10**	Pn	**Pn**	**22 53 09.8**	**+0.7**
YHNB	**Yeheng**	**5.65**	**7**	Pn	**Pn**	**22 53 17.9**	**+2.5**
YOJ	**Yonaguni jima**	**5.84**	**22**	Pn	**Pn**	**22 53 18.4**	**+0.4**
HKPS	**Hong Kong Po S**	**6.86**	**299**	Pn	**Pn**	**22 53 32.5**	**+0.5**
JNU	**Nakatsue**	**16.77**	**31**	LR	LR	23 02 02.1	
	comp=Z,99nm,18.7s,baz=198,slow=37						
KSRS	**Korea Array**	**19.43**	**18**	P	**P**	**22 56 16.2**	**-1.3**
	0.2nm,0.3s,baz=200,slow=11,SNR=4.8						
	1.7nm,0.7s						
CHTO	**Chiang Mai**	**20.49**	**273**	Pn	**P**	**22 56 30.9**	**+1.7**
CM31	**Chiang Mai Arr**	**20.52**	**272**	Pn	**P**	**22 56 31.9**	**+2.4**
CM31				IAmb	IAmb	22 56 41.9	
	comp=Z,5.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.52**	**272**		**P**	**22 56 29.5**	**0.0**
CMAR	**Chiang Mai Arr**	**20.52**	**272**	P	**P**	**22 56 30.9**	**+1.4**
	comp=Z,1.8nm,0.4s,baz=88,slow=9.2,SNR=11						
	comp=Z,1.8nm,0.4s						
SONM	**Songino Array**	**30.97**	**341**	P	**P**	**22 58 09.9**	**+1.8**
SONM	**Songino Array**	**30.97**	**341**	P	**P**	**22 58 08.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=162,slow=6.1,SNR=2.5						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**41.79**	**320**	P	**P**	**22 59 40.8**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=120,slow=8.6,SNR=6.9						
	comp=Z,1.6nm,0.9s						
NIL	**Nilore**	**44.48**	**299**	P	**P**	**23 00 01.5**	**-0.9**
AAK	**Ala-Archa**	**45.35**	**312**	LR	LR	23 19 59.0	
	comp=Z,147nm,19.7s,baz=185,slow=37						
KURK	**Kurchatov**	**45.79**	**324**	P	**P**	**23 00 12.8**	**+0.4**
KURBB	**Kurchatov Arra**	**45.80**	**323**	P	**P**	**23 00 12.6**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=121,slow=7.6,SNR=17						
	comp=Z,5.2nm,0.9s						
KK31	**Karatay Array**	**48.30**	**311**	P	**P**	**23 00 32.3**	**+0.1**
KK31				IAmb	IAmb	23 00 32.4	
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**48.30**	**311**	P	**P**	**23 00 32.1**	**-0.1**
BVAR	**Borovoye Array**	**51.39**	**324**	P	**P**	**23 00 55.1**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=119,slow=8.4,SNR=6.2						
	comp=Z,1.6nm,0.8s						
BRVK	**Borovoye**	**51.46**	**324**	P	**P**	**23 00 56.1**	**+0.2**
BRVK				IAmb	IAmb	23 00 56.2	
	comp=Z,2.9nm,0.8s						
AB31	**Akbulak array**	**56.73**	**317**	P	**P**	**23 01 33.7**	**-0.7**
AB31				IAmb	IAmb	23 01 34.3	
	comp=Z,2.4nm,1.0s						
ABKAR	**Akbulak array**	**56.73**	**317**	P	**P**	**23 01 33.4**	**-1.1**
RAYN	**Ar Rayn**	**69.39**	**289**	P	**P**	**23 02 56.9**	**-2.2**
RAYN				IAmb	IAmb	23 02 57.6	
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**75.61**	**330**	LR	LR	23 41 24.5	
	comp=Z,65nm,18.4s,baz=108,slow=39						
HFS	**Hagfors**	**81.78**	**331**	LR	LR	23 43 55.6	
	comp=Z,71nm,21.1s,baz=113,slow=38						
NOA	**NORSAR Array B**	**82.51**	**332**	LR	LR	23 43 47.9	
	comp=Z,40nm,18.3s,baz=110,slow=38						

JMA ***12*** *23:07:10.9±0.8, 46°.N±6°.×15°.1E±°., h30km, MV4.4/13, KURILE ISLANDS REGION*
SKHL 12 23:07:11.1±0.3**, 45°.30N**×**151°.80E, h44**km±1km**, mb4.8/3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.78**	**270**	*e*P	Pn	23 07 52.9	-0.1
KUR				AMB	AMB	23 07 54.7	
	400nm,0.4s						
KUR				*e*S	Sn	23 08 24.5	-0.8
KUR				A	A	23 08 28.5	
	170nm,0.4s						
KUR				A	A	23 08 28.5	
	440nm,0.4s						
SHO	**Shikotan**	**3.83**	**250**	*e*P	Pn	23 08 08.1	+0.7
SHO				AMB	AMB	23 08 12.8	
	20nm,0.3s						
SHO				*e*S	Sn	23 08 50.6	-0.6
SHO				A	A	23 08 59.2	
	130nm,0.3s						
SHO				A	A	23 08 59.2	
	110nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.42**	**255**	*e*S	Sn	23 09 04.5	-1.3
YUK				A	A	23 09 06.8	
	70nm,0.3s						
YUK				A	A	23 09 06.8	
	140nm,0.3s						
NEM2	**Nemuro 2**	**4.76**	**248**	*e*P	Pn	23 08 21.3	+1.1
NEM2				*e*S	Sn	23 09 13.8	-0.3
NMR	**Nemuro--Hokkai**	**4.76**	**248**	*e*P	Pn	23 08 21.0	+0.7
NMR				*i* S	Sn	23 09 13.4	-0.8
JRA	**Rausu**	**4.96**	**256**	*e*P	Pn	23 08 25.2	+2.2
JRA				*e*S	Sn	23 09 21.4	+2.4
AKK	**Akkeshi**	**5.50**	**248**	*e*P	Pn	23 08 31.3	+0.9
JAK	**Akkeshi**	**5.61**	**248**	*e*P	Pn	23 08 32.9	+1.0
JAK				*e*S	Sn	23 09 34.5	-0.5
JAR	**Ashorobuto**	**6.10**	**254**	*e*P	Pn	23 08 40.9	+2.2
JAR				*e*S	Sn	23 09 48.8	+1.7
JOB	**Onbets**	**6.21**	**250**	*e*P	Pn	23 08 41.9	+1.6
JOB				*e*S	Sn	23 09 49.0	-0.9
JKK2	**Kamakawa 2**	**6.62**	**261**	*e*P	Pn	23 08 47.4	+1.6
JCH	**Churui**	**6.66**	**249**	*e*P	Pn	23 08 47.7	+1.4
JCH				*e*S	Sn	23 09 59.0	-1.8
JNBK	**Urakawa-nobuka**	**7.21**	**248**	*e*P	Pn	23 08 54.5	+0.7
JNBK				*e*S	Sn	23 10 14.0	-0.4
JANG	**Nango**	**9.02**	**241**	*e*S	Sn	23 10 54.0	-4.7

TEH ***12*** *23:28:24.9, 27°.67N×53°.30E, h6km±725km*
DSN ***12*** *23:28:30.2±1.6, 27°.88N×54°.15E, h10km, ML2.7/4, Error ellipse: s-maj=72.9km s-min=13.8km az=60.0*
OMAN ***12*** *23:28:36.7±0.9, 26°.79N×53°.29E, h10km, ml3.0/12, Error ellipse: s-maj=10.6km s-min=5.0km az=5.0*
ISC 12 23:28:26.6±0.9**, 27°.60N**±0°.05×**53°.31E**±0°.05**, h16**km**, n45, σ2s28/56, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.29**	**207**	Pg	**Pg**	**23 28 32.7**	**-0.2**
QIR1	**Qir**	**0.90**	**345**	Pg	**Pb**	**23 28 42.4**	**-1.5**
JHRM	**Jahrom**	**0.93**	**15**	Pg	**Pb**	**23 28 41.9**	**-2.5**
LAR1	**LAR**	**0.94**	**86**	Pg	**Pb**	**23 28 44.2**	**-0.4**
SHI	**Shiraz**	**2.15**	**341**	Pn	**Pn**	**23 29 03.6**	**+1.7**

GENO	**Geno**	**2.55**	**94**	Pn	**Pn**	**23 29 10.7**	**+3.2**
SHMA	**Al-Shehemyia**	**2.73**	**231**	P	Pn	23 29 15.1	+5.4
SHME	**Shamm**	**2.96**	**121**	P	**Pb**	**23 29 18.1**	**-0.9**
SHME				S	**Sb**	**23 29 53.1**	**-1.9**
NAZ	**Nazwa, Dubai**	**3.35**	**140**	P	**Pn**	**23 29 22.0**	**+3.7**
AJN	**Ajban**	**3.38**	**153**	P	**Pn**	**23 29 19.7**	**+1.0**
MASF	**Masafi**	**3.38**	**130**	P	Pn	23 29 23.9	+5.2
MASF				S	**Sn**	**23 30 02.3**	**+3.7**
TRNA	**Turayna**	**3.42**	**214**	P	**Pn**	**23 29 23.0**	**+3.7**
	SNR=7.2						
ASUD	**Al Ashush, Dub**	**3.48**	**148**	P	**Pn**	**23 29 22.7**	**+2.7**
FAQ	**Al Faqa, Dubai**	**3.51**	**144**	P	**Pn**	**23 29 23.1**	**+2.7**
MDH	**Madha**	**3.53**	**130**	P	**Pb**	**23 29 27.1**	**-1.5**
MDH				S	**Sn**	**23 30 03.4**	**+1.3**
SMRA	**Abu-Samra**	**3.62**	**219**	P	**Pn**	**23 29 25.2**	**+3.3**
NGRK	**Negar Kerman**	**3.63**	**55**	Pn	**Pn**	**23 29 24.1**	**+1.7**
UOSS	**Minazif**	**3.71**	**135**	P	**Pn**	**23 29 26.6**	**+3.3**
UOSS				S	**Sn**	**23 30 04.6**	**-2.0**
KLNJ	**Kolanjah**	**3.71**	**337**	Pn	**Pn**	**23 29 25.1**	**+1.5**
HATD	**Hatta, Dubai**	**3.75**	**137**	P	**Pn**	**23 29 26.8**	**+3.0**
HATD				S	**Sn**	**23 30 06.9**	**-0.8**
HATD	**Hatta, Dubai**	**3.75**	**137**	P	**Pn**	**23 29 26.1**	**+2.3**
ASHO	**Ashiyiah**	**3.81**	**139**	P	Pn	**23 29 27.9**	**+3.2**
ASHO				S	**Sn**	**23 30 09.6**	**+0.4**
ASHO	**Ashiyiah**	**3.81**	**139**	P	**Pn**	**23 29 26.6**	**+1.9**
ASHO				S	**Sn**	**23 30 10.3**	**+1.0**
KRBR	**Kerman**	**3.84**	**51**	Pn	**Pn**	**23 29 27.9**	**+2.6**
KHGB	**Koh Gabri**	**3.91**	**44**	Pn	Pn	**23 29 27.8**	**+1.5**
IMEH	**Mehriz**	**3.94**	**16**	Pn	Pn	**23 29 28.8**	**+2.1**
ALNE	**Al Ain**	**4.16**	**148**	P	Pn	**23 29 32.6**	**+3.2**
ALNE	**Al Ain**	**4.16**	**148**	P	Pn	**23 29 32.7**	**+3.2**
IRAM	**Rameshen**	**4.27**	**349**	Pn	Pn	**23 29 32.7**	**+1.6**
IBAF	**Bafgh**	**4.43**	**26**	Pn	Pn	**23 29 35.1**	**+1.8**
SOHO	**SOHO**	**4.51**	**139**	P	Pn	**23 29 36.3**	**+2.0**
SOHO				S	**Sn**	**23 30 28.2**	**+1.8**
SOHO	**SOHO**	**4.51**	**139**	P	**Pn**	**23 29 34.8**	**+0.5**
ICHK	**Chekchek**	**4.72**	**11**	Pn	Pn	**23 29 39.4**	**+2.1**
ARQ	**Araqi**	**5.14**	**145**	P	**Pn**	**23 29 45.0**	**+2.0**
	SNR=21						
ARQ				S	**Sn**	**23 30 38.4**	**-3.7**
IZEF	**Zefreh**	**5.34**	**351**	Pn	**Pn**	**23 29 47.0**	**+1.1**
HOQ	**Hoqain**	**5.39**	**137**	P	**Pn**	**23 29 49.7**	**+3.3**
HOQ				S	**Sn**	**23 30 46.2**	**-1.9**
IPIR	**Pirpir**	**5.48**	**338**	Pn	**Pn**	**23 29 49.1**	**+1.2**
BIDO	**Bidbid**	**5.95**	**132**	P	**Pn**	**23 29 55.7**	**+1.7**
BIDO				S	**Sn**	**23 31 00.9**	**-1.0**
SMDO	**Samad**	**6.23**	**136**	P	**Pn**	**23 30 01.0**	**+3.0**
	SNR=5.3						
SMDO				S	**Sn**	**23 31 07.4**	**-1.6**
JLN	**Jalan Bani Buh**	**7.75**	**133**	P	**Pn**	**23 30 22.0**	**+3.2**
MHTO	**MHTO**	**7.84**	**146**	P	**Pn**	**23 30 21.9**	**+1.9**
MHTO				S	**Sn**	**23 31 44.8**	**-3.5**
DOK	**Doka**	**8.98**	**175**	P	**Pn**	**23 30 35.6**	**0.0**
DOK				S	Sn	23 32 08.8	-7.6
WHFO	**Wadi Hawf**	**9.65**	**177**	P	**Pn**	**23 30 45.0**	**+0.1**
	SNR=10						
RBK	**Rabkut**	**10.09**	**175**	P	**Pn**	**23 30 50.7**	**-0.2**
ABTO	**Aybut**	**10.20**	**180**	P	**Pn**	**23 30 52.6**	**+0.2**

NAO ***12*** *23:38:48.7,35°.13N×27°.82E,h10km,mb4.2*
MOS ***12*** *23:38:50.9±1.5,35°.15N×27°.92E,h10km,mb4.3/4,Error ellipse: s-maj=7.5km s-min=3.7km az=110.9*
IDC ***12*** *23:38:51.0±0.8,35°.33N×27°.86E,h0km,mb4.0/13, mbtmp4.0/22,ML3.5/7,MS3.1/5,Error ellipse: s-maj=16.8km s-min=12.3km az=170.0*
AFAD ***12*** *23:38:51.8,35°.13N×27°.86E,h27km±3km,MW4.1*
NIC ***12*** *23:38:52.3,35°.23N×27°.88E,h9km±1km,Ml3.7/9*
NEIC ***12*** *23:38:53.9±2.6,35°.23N±0°.06×27°.74E±0°.07,h10km±1km, mb4.0/26,Error ellipse: s-maj=10.3km s-min=9.0km az=42.0*
THE ***12*** *23:38:54.5,35°N±9°×2°8E±1°5,h0km±18km,M3.6/17, MLh3.6/17*
ISK ***12*** *23:38:54.1,35°.25N×27°.99E,h84km,ML3.9/18*
HLW ***12*** *23:38:54.1,35°.16N×27°.99E,h16km±1km,Md3.8,Ml3.3*
ATH ***12*** *23:38:54.9,35°.35N×27°.87E,h12km±6km,ML3.8/11, Manual Solution by M.Charalampakis First location: 2019/08/12 23:40:16, This location: 2019/08/13 00:38:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
GII ***12*** *23:38:55.9±0.0,34°.892N±0°.002×27°.885E±0°.001,h60km, Mws3.9,confirmed*
PDG ***12*** *23:38:57.0±0.5,35°.15N×27°.94E,h9km±11km,ML4.2/6, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0*
ISC 12 23:38:54.3±1.1,35°.18N±0°.03×27°.83E±0°.03,h25km±9km, n378,σ1§78/422,mb4.0/19,11C-11D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.66**	**304**		**Pb**	**23 39 05.0**	**-2.2**
KARP	**Karpathos**	**0.66**	**304**	Pg	**Pb**	**23 39 04.7**	**-2.5**
KARP	**Karpathos**	**0.66**	**304**	P	**Pb**	**23 39 05.4**	**-1.8**
KARP				S	**Sb**	**23 39 14.6**	**-1.5**
KARP	**Karpathos**	**0.66**	**304**	P	**Pb**	**23 39 05.1**	**-2.2**
KARP				S	**Sb**	**23 39 15.2**	**-0.8**
KARP				AML	AML	23 39 22.6	
	17nm,0.8s						
KARP				AML	AML	23 39 24.9	
	16nm,0.6s						
KARP	**Karpathos**	**0.66**	**304**	P	**Pb**	**23 39 05.5**	**-1.8**
KARP				S	**Sb**	**23 39 15.0**	**-1.1**
ARG	**Arkhangelos**	**1.06**	**13**	Pg	**Pn**	**23 39 12.6**	**-1.1**
ARG	**Arkhangelos**	**1.06**	**13**	Pg	**Pn**	**23 39 12.7**	**-0.9**
ARG				Sg	**Sn**	**23 39 28.4**	**+0.8**
ARG	**Arkhangelos**	**1.06**	**13**	P	**Pn**	**23 39 12.5**	**-1.1**
ARG				S	**Sb**	**23 39 27.5**	**0.0**
ARG	**Arkhangelos**	**1.06**	**13**	P	**Pn**	**23 39 12.6**	**-1.1**
ARG	**Arkhangelos**	**1.06**	**13**	P	**Pn**	**23 39 11.7**	**-1.9**
ARG				S	**Sb**	**23 39 26.0**	**-1.6**
ARG				AML	AML	23 39 40.3	
	11nm,1.0s						
ARG				AML	AML	23 39 45.3	
	8.9nm,0.8s						
ARG	**Arkhangelos**	**1.06**	**13**	P	**Pn**	**23 39 12.1**	**-1.5**
ZKR	**Zakros**	**1.32**	**268**	Pn	**Pb**	**23 39 19.6**	**+1.1**
ZKR				Sn	**Sb**	**23 39 39.1**	**+4.1**
ZKR	**Zakros**	**1.32**	**268**	P	**Pb**	**23 39 19.3**	**+0.9**
ZKR	**Zakros**	**1.32**	**268**	P	**Pn**	**23 39 17.9**	**+0.7**
ZKR				AML	AML	23 39 48.0	
	6.1nm,0.7s						
ZKR				AML	AML	23 39 55.7	
	2.5nm,0.7s						
ZKR	**Zakros**	**1.32**	**268**	P	**Pb**	**23 39 18.5**	**0.0**
YAZI	**Mula-Dat§a-**	**1.53**	**349**	P	**Pn**	**23 39 20.4**	**+0.3**
YAZI				S	**Sb**	**23 39 42.2**	**+1.2**
NISR	**Nisiros**	**1.54**	**338**	P	**Pn**	**23 39 20.6**	**+0.5**
DAT	**Datca**	**1.56**	**353**	Pn	**Pn**	**23 39 20.6**	**0.0**
DAT				Sn	**Sn**	**23 39 40.3**	**+0.2**
DATC	**Datca-Mugla**	**1.58**	**355**	Pn	**Pn**	**23 39 21.1**	**+0.3**
TURN	**Turunc**	**1.63**	**12**	P	**Pn**	**23 39 22.4**	**+1.1**
TURN				S	**Sb**	**23 39 45.5**	**+1.7**
IZZE	**Mula-Seydike**	**1.69**	**42**	P	**Pn**	**23 39 22.1**	**-0.1**
IZZE				S	**Sb**	**23 39 45.3**	**-0.3**
KSL	**Kastellorizon**	**1.73**	**55**	P	**Pn**	**23 39 22.5**	**-0.2**
KSL				S	**Sb**	**23 39 48.4**	**+1.9**
KSL	**Kastellorizon**	**1.73**	**55**	P	**Pn**	**23 39 22.5**	**-0.2**
KSL				S	**Sn**	**23 39 44.2**	**+0.3**
KSL				AML	AML	23 40 14.4	
	1.0nm,1.2s						
KSL				AML	AML	23 40 18.6	
	1.5nm,1.3s						
KSL	**Kastellorizon**	**1.73**	**55**	P	**Pn**	**23 39 22.7**	**0.0**
NPS	**Neapolis**	**1.82**	**273**	P	**Pb**	**23 39 26.7**	**-0.2**
NPS	**Neapolis**	**1.82**	**273**	P	**Pb**	**23 39 26.0**	**-0.9**
NPS	**Neapolis**	**1.82**	**273**	P	**Pb**	**23 39 26.9**	**0.0**
SABU	**Mula-Dalaman**	**1.88**	**29**	P	**Pn**	**23 39 25.2**	**+0.3**
BDRM	**Kayabasi**	**1.91**	**351**	P	**Pn**	**23 39 25.9**	**+0.6**
BDRM				S	**Sb**	**23 39 51.1**	**-0.8**
DEMR	**Demre-Antalya**	**1.99**	**57**	Pn	**Pn**	**23 39 25.2**	**-1.2**
YKAV	**Yalikavak-Bodr**	**1.99**	**347**	Pn	**Pn**	**23 39 26.8**	**+0.4**
MULA	**Mugla, Merkez-**	**2.11**	**11**	P	**Pn**	**23 39 29.5**	**+1.4**
MULA				S	**Sb**	**23 40 03.0**	**+5.3**
CAME	**Cameli-Denizli**	**2.13**	**34**	Pn	**Pn**	**23 39 27.6**	**-0.8**
KNIK	**Mula-Seydike**	**2.18**	**40**	P	**Pn**	**23 39 29.3**	**+0.2**
THERA	**Ancient Thera,**	**2.25**	**302**	P	**Pn**	**23 39 31.1**	**+1.1**
THERA	**Ancient Thera,**	**2.25**	**302**	P	**Pn**	**23 39 30.9**	**+1.0**
CAEL	**Denizli, Camel**	**2.29**	**31**	P	**Pn**	**23 39 31.6**	**+1.0**
THR6	**Thira Island,**	**2.30**	**301**	P	**Pn**	**23 39 32.2**	**+1.6**
DNZT	**Denizli-Tavas-**	**2.31**	**24**	P	**Pn**	**23 39 31.9**	**+1.1**
DDIM	**Aydin, Didim**	**2.33**	**348**	P	**Pn**	**23 39 32.2**	**+1.3**
THR3	**Thira Island,**	**2.33**	**303**	P	**Pn**	**23 39 32.1**	**+1.1**
SNT5	**Nea Kammeni, S**	**2.33**	**302**	P	**Pn**	**23 39 31.9**	**+0.9**
SAP3	**Santorini-Thir**	**2.38**	**303**	P	**Pn**	**23 39 32.6**	**+0.9**
IDI	**Anoyia**	**2.41**	**273**		**Pn**	**23 39 32.4**	**+0.2**
IDI	**Anoyia**	**2.41**	**273**	Pn	**Pn**	**23 39 35.0**	**+2.8**
IDI	**Anoyia**	**2.41**	**273**	P	**Pn**	**23 39 33.8**	**+1.7**
IDI	**Anoyia**	**2.41**	**273**	Pn	**Pn**	**23 39 32.9**	**+0.7**
	58nm,0.6s,baz=64,slow=15,SNR=79						
IDI					LR	LR	23 40 02.2
	comp=Z,152nm,20.1s,baz=84,slow=29						
IDI					Sn	**Sn**	**23 40 04.3**	**+3.4**
	18nm,0.3s,baz=129,slow=14,SNR=6.6						
IDI	**Anoyia**	**2.41**	**273**	P	**Pn**	**23 39 34.6**	**+2.4**
TAVA	**DENIZLI_Tavas**	**2.44**	**21**	P	**Pn**	**23 39 33.4**	**+0.7**
TAVA				S	**Sb**	**23 40 11.0**	**+3.6**
AYDN	**Tasoluk**	**2.48**	**1**	P	**Pn**	**23 39 33.5**	**+0.4**
AYDN				S	**Sn**	**23 40 04.7**	**+2.1**
TMBK	**Timbaki Herakl**	**2.51**	**268**	P	**Pb**	**23 39 36.9**	**-1.8**
TMBK	**Timbaki Herakl**	**2.51**	**268**	P	**Pb**	**23 39 36.9**	**-1.8**
GCAM	**G?zelcami?**	**2.56**	**349**	P	**Pn**	**23 39 36.4**	**+2.2**
APMY	**Acipayam-Deniz**	**2.58**	**27**	Pn	**Pn**	**23 39 33.8**	**-0.7**
DNIZ	**Denizli-Tavas-**	**2.63**	**21**	P	**Pn**	**23 39 36.3**	**+1.1**
ESEN	**Aydn-Nazilli**	**2.65**	**9**	P	**Pn**	**23 39 35.9**	**+0.6**
ESEN				S	**Sn**	**23 40 06.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.76**	**1**	Pn	**Pn**	**23 39 37.0**	**-0.1**
NAZL	**Nazilli-Aydin**	**2.81**	**7**	Pn	**Pn**	**23 39 37.6**	**0.0**
ANTB	**Antalya**	**2.86**	**52**	Pn	**Pn**	**23 39 37.6**	**-0.7**
IZMR	**zmir-demi**	**2.96**	**2**	P	**Pn**	**23 39 39.9**	**+0.3**
IZMR				S	**Sb**	**23 40 18.5**	**-3.4**
DGB	**zmir**	**2.97**	**345**	P	**Pn**	**23 39 40.1**	**+0.4**
KIRA	**zmir-Kiraz**	**3.05**	**8**	P	**Pn**	**23 39 41.2**	**+0.2**
GVD	**Gavdhos**	**3.09**	**265**	Pn	**Pn**	**23 39 44.5**	**+3.0**
GVD	**Gavdhos**	**3.09**	**265**	P	**Pn**	**23 39 44.1**	**+2.6**
GVD	**Gavdhos**	**3.09**	**265**	P	**Pn**	**23 39 43.9**	**+2.5**
ODEM	**Odemis-Izmir**	**3.10**	**4**	Pn	**Pn**	**23 39 41.5**	**-0.2**
BLCB	**Balcova**	**3.26**	**349**	Pn	**Pn**	**23 39 44.2**	**+0.4**
MANT	**Manisa**	**3.36**	**10**		**Pn**	**23 39 45.0**	**-0.3**
KNDR	**Palaiochora Ch**	**3.40**	**272**	Pn	**Pn**	**23 39 48.8**	**+3.2**
KNDR	**Palaiochora Ch**	**3.40**	**272**	P	**Pn**	**23 39 48.6**	**+3.0**
KNDR	**Palaiochora Ch**	**3.40**	**272**	P	**Pn**	**23 39 48.9**	**+3.3**
ISP	**Isparta**	**3.42**	**39**		**Pn**	**23 39 47.1**	**+1.1**
ISP	**Isparta**	**3.42**	**39**	P	**Pn**	**23 39 47.2**	**+1.1**
ISP	**Isparta**	**3.42**	**39**	P	**Pn**	**23 39 46.7**	**+0.6**
ISP	**Isparta**	**3.42**	**39**	P	**Pn**	**23 39 50.0**	**+3.9**
CHOS	**Chios island**	**3.51**	**337**	Pn	**Pn**	**23 39 47.8**	**+0.6**
CHOS	**Chios island**	**3.51**	**337**	P	**Pn**	**23 39 47.9**	**+0.6**
CHOS	**Chios island**	**3.51**	**337**	P	**Pn**	**23 39 48.1**	**+0.8**
AKMS	**Akamas**	**3.70**	**91**	P	**Pn**	**23 39 49.3**	**-0.5**
AKMS				S	**Sn**	**23 40 33.9**	**+1.3**
AKMS				AML	AML	23 40 37.2	
	0.7nm,0.8s						
AKMS				AML	AML	23 40 38.2	
	0.4nm,0.6s						
AKMS	**Akamas**	**3.70**	**91**	P	**Pn**	**23 39 49.4**	**-0.5**
ANKY	**Antikythira Is**	**3.76**	**282**	P	**Pn**	**23 39 53.3**	**+2.6**
ANKY	**Antikythira Is**	**3.76**	**282**	P	**Pn**	**23 39 53.3**	**+2.6**
MATC	**Matruh**	**3.85**	**188**	P	**Pn**	**23 39 52.2**	**+0.3**
ALFC	**Alefka**	**3.91**	**89**	P	**Pn**	**23 39 51.7**	**-1.0**
ALFC				S	**Sn**	**23 40 38.8**	**+1.0**
ALFC				AML	AML	23 40 40.1	
	0.7nm,0.6s						
ALFC				AML	AML	23 40 42.1	
	0.7nm,0.6s						
ALFC	**Alefka**	**3.91**	**89**	P	**Pn**	**23 39 52.0**	**-0.7**
NATA	**Nata**	**3.91**	**94**	P	**Pn**	**23 39 52.9**	**+0.1**
NATA				S	**Sn**	**23 40 38.2**	**+0.3**
NATA				AML	AML	23 40 41.4	
	1.3nm,0.6s						
NATA				AML	AML	23 40 44.9	
	0.9nm,0.6s						
NATA	**Nata**	**3.91**	**94**	P	**Pn**	**23 39 52.8**	**+0.1**
KARY	**Karystos**	**3.95**	**317**	P	**Pn**	**23 39 54.7**	**+1.5**
KTHA	**Kythira Island**	**4.03**	**287**	P	**Pn**	**23 39 56.4**	**+2.0**
TROD	**Troodos**	**4.14**	**92**	P	**Pn**	**23 39 55.1**	**-0.9**
TROD				S	**Sn**	**23 40 43.9**	**+0.1**
TROD				AML	AML	23 40 53.8	
	0.4nm,0.7s						
TROD				AML	AML	23 40 54.0	
	0.4nm,0.8s						
VLI	**Veliai**	**4.26**	**293**	P	**Pn**	**23 39 58.6**	**+1.1**
VLI				S	**Sn**	**23 40 49.3**	**+2.9**
VLI	**Veliai**	**4.26**	**293**	P	**Pn**	**23 39 58.8**	**+1.3**
DION	**Dionisos Attik**	**4.27**	**314**	P	**Pn**	**23 39 59.1**	**+1.4**
DION	**Dionisos Attik**	**4.27**	**314**	P	**Pn**	**23 39 58.8**	**+1.2**
SLUM	**Salum**	**4.28**	**212**	P	**Pn**	**23 39 59.4**	**+1.6**
SLUM				S	**Sn**	**23 40 48.0**	**+1.1**
XYLS	**Xyliatos**	**4.28**	**91**	P	**Pn**	**23 39 57.4**	**-0.5**
XYLS				S	**Sn**	**23 40 49.2**	**+2.1**
XYLS				AML	AML	23 40 51.6	
	0.4nm,0.9s						
XYLS				AML	AML	23 40 53.0	
	0.4nm,0.8s						
ATHU	**Athens Univers**	**4.28**	**312**	P	**Pn**	**23 39 59.6**	**+1.7**
ATHU	**Athens Univers**	**4.28**	**312**	P	**Pn**	**23 39 59.6**	**+1.7**
PTL	**Penteli**	**4.29**	**313**	P	**Pn**	**23 39 59.5**	**+1.6**
SIGR	**SIGRI**	**4.33**	**339**	P	**Pn**	**23 40 00.3**	**+1.9**
SIGR	**SIGRI**	**4.33**	**339**	P	**Pn**	**23 40 00.7**	**+2.3**
ATH	**Athens Observa**	**4.33**	**311**	P	**Pn**	**23 40 00.6**	**+2.2**
ATH	**Athens Observa**	**4.33**	**311**	P	**Pn**	**23 40 02.0**	**+3.5**
ASGA	**Asgata**	**4.46**	**93**	P	**Pn**	**23 39 60.0**	**-0.4**
ASGA				S	**Sn**	**23 40 52.3**	**+0.8**
ASGA	**Asgata**	**4.46**	**93**	P	**Pn**	**23 40 00.1**	**-0.3**
CSS	**Mathiatis**	**4.52**	**91**		**Pn**	**23 40 00.9**	**-0.2**
CSS	**Mathiatis**	**4.52**	**91**	P	**Pn**	**23 40 00.9**	**-0.2**
CSS				S	**Sn**	**23 40 54.5**	**+1.7**
CSS	**Mathiatis**	**4.52**	**91**	P	**Pn**	**23 40 00.8**	**-0.2**
CSS	**Mathiatis**	**4.52**	**91**	P	**Pn**	**23 40 00.9**	**-0.2**
CSS	**Mathiatis**	**4.52**	**91**	S	**Sn**	**23 40 53.1**	**+0.3**
ATHAL	**Athalassa**	**4.56**	**89**	S	**Sn**	**23 40 55.6**	**+1.8**
STFN	**Stefani**	**4.56**	**312**	P	**Pn**	**23 40 04.0**	**+2.2**
MVOU	**Mavrovouni**	**4.76**	**90**	P	**Pn**	**23 40 04.1**	**+0.3**
MVOU				S	**Sn**	**23 41 00.2**	**+1.5**
ITM	**Ithomi**	**5.18**	**294**		**Pn**	**23 40 11.5**	**+1.4**
ALN	**Alexandroupoli**	**5.88**	**347**		**Pn**	**23 40 21.5**	**+1.7**
ALN	**Alexandroupoli**	**5.88**	**347**	P	**Pn**	**23 40 21.5**	**+1.7**
MDUB	**Mudurnu**	**5.92**	**26**		**Pn**	**23 40 23.2**	**+2.8**
HNAT	**Natroun**	**6.01**	**156**	P	**Pn**	**23 40 21.4**	**-0.2**
ANTO	**Ankara**	**6.12**	**39**		**Pn**	**23 40 24.6**	**+1.4**
ANTO	**Ankara**	**6.12**	**39**	⇑P	**Pn**	**23 40 24.6**	**+1.4**
ANTO	**Ankara**	**6.12**	**39**	P	**Pn**	**23 40 24.6**	**+1.4**
RDO	**Rodhopi**	**6.23**	**344**		**Pn**	**23 40 26.0**	**+1.5**
KOT	**Kottamia**	**6.23**	**146**	P	**Pn**	**23 40 24.7**	**+0.1**
SWA2		**6.25**	**199**	P	**Pn**	**23 40 26.2**	**+1.4**
SWA2				S	**Sn**	**23 41 35.2**	**-0.3**
KIRS	**Kirsehir-Merke**	**6.26**	**49**	⇑P	**Pn**	**23 40 25.0**	**-0.1**
KIRS				⇓S	**Sn**	**23 41 40.3**	**+4.4**
RYAN	**Fayoum**	**6.42**	**160**	P	**Pn**	**23 40 27.2**	**0.0**
OFRI	**`Ofer**	**6.47**	**111**	P	**Pn**	**23 40 26.5**	**-1.5**
	14nm,1.1s,14nm,1.1s						
OFRI	**`Ofer**	**6.47**	**111**	P	**Pn**	**23 40 26.7**	**-1.3**
OFRI	**`Ofer**	**6.47**	**111**	S	**Sn**	**23 41 38.6**	**-2.4**
BR131	**Keskin Array S**	**6.48**	**44**		**Pn**	**23 40 28.8**	**+0.7**
BR131	**Keskin Array S**	**6.48**	**44**	P	**Pn**	**23 40 28.8**	**+0.7**
BRTR	**Keskin Array B**	**6.48**	**44**		**Pn**	**23 40 28.9**	**+0.7**
BRTR	**Keskin Array B**	**6.48**	**44**	Pn	**Pn**	**23 40 28.1**	**0.0**
	0.4nm,0.3s,baz=219,slow=12,SNR=12						
BRTR					Sn	**Sn**	**23 41 40.8**	**-0.5**
	0.5nm,0.3s,baz=207,slow=24,SNR=7.1						
	2.0nm,0.7s						
BRTR	**Keskin Array B**	**6.48**	**44**	P	**Pn**	**23 40 28.9**	**+0.7**
LIT	**Litokhoron**	**6.49**	**321**		**Pn**	**23 40 29.0**	**+0.8**
LIT	**Litokhoron**	**6.49**	**321**	P	**Pn**	**23 40 29.0**	**+0.8**
VLS	**Valsamata**	**6.54**	**299**	P	**Pn**	**23 40 32.0**	**+3.1**
BLGI	**Bet Lehem HaGe**	**6.58**	**110**	P	**Pn**	**23 40 28.5**	**-0.9**
BLGI	**Bet Lehem HaGe**	**6.58**	**110**	S	**Sn**	**23 41 41.4**	**-2.3**
MMC7	**Mount Meron ar**	**6.63**	**107**	P	**Pn**	**23 40 28.9**	**-1.3**
MMA0B	**Mount Meron ar**	**6.64**	**107**	P	**Pn**	**23 40 29.6**	**-0.8**
MMA0B	**Mount Meron ar**	**6.64**	**107**	S	**Sn**	**23 41 43.1**	**-2.1**
MMAI	**Mount Meron Ar**	**6.64**	**107**	Pn	**Pn**	**23 40 28.7**	**-1.6**
	2.9nm,0.3s,baz=286,slow=10,SNR=18						
MMAI					Sn	**Sn**	**23 41 43.5**	**-1.8**
	1.5nm,0.3s,baz=305,slow=21,SNR=3.6						
	1.1nm,0.3s						
THE	**Thessaloniki**	**6.67**	**326**	P	Pn	23 40 36.2	+5.6
SLTI	**Sal'it**	**6.68**	**114**	P	**Pn**	**23 40 29.5**	**-1.3**
	27nm,0.7s,27nm,0.7s						
SLTI	**Sal'it**	**6.68**	**114**	P	**Pn**	**23 40 29.6**	**-1.2**
SLTI	**Sal'it**	**6.68**	**114**	S	**Sn**	**23 41 43.1**	**-3.1**
GEM	**Giv'at Ha'Em**	**6.78**	**105**	P	**Pn**	**23 40 31.9**	**-0.3**
GEM				S	**Sn**	**23 41 52.5**	**+3.9**
GEM	**Giv'at Ha'Em**	**6.78**	**105**	P	**Pn**	**23 40 31.3**	**-0.8**
GEM	**Giv'at Ha'Em**	**6.78**	**105**	S	**Sn**	**23 41 46.9**	**-1.7**
NATI	**Neve Ativ**	**6.82**	**104**	P	**Pn**	**23 40 30.8**	**-1.9**
	22nm,0.8s,22nm,0.8s						
NATI				S	**Sn**	**23 41 50.1**	**+0.6**
	22nm,0.8s,22nm,0.8s						
NATI	**Neve Ativ**	**6.82**	**104**	P	**Pn**	**23 40 31.5**	**-1.2**
NATI	**Neve Ativ**	**6.82**	**104**	S	**Sn**	**23 41 48.4**	**-1.2**
SALP	**Salfit**	**6.88**	**115**	P	**Pn**	**23 40 33.2**	**-0.3**
	44nm,0.6s,44nm,0.6s						
SALP				S	**Sn**	**23 41 52.1**	**+1.1**
	44nm,0.6s,44nm,0.6s						
MMLI	**Mount Malkishu**	**6.88**	**111**	P	**Pn**	**23 40 32.9**	**-0.7**
MMLI	**Mount Malkishu**	**6.88**	**111**	S	**Sn**	**23 41 48.1**	**-3.0**
AMAZ	**Amatzia**	**6.95**	**120**	P	**Pn**	**23 40 32.6**	**-2.0**
AMAZ	**Amatzia**	**6.95**	**120**	S	**Sn**	**23 41 49.1**	**-3.7**
KZIT	**Kziot**	**6.96**	**126**	P	**Pn**	**23 40 33.1**	**-1.6**
KZIT	**Kziot**	**6.96**	**126**	S	**Sn**	**23 41 48.9**	**-4.3**
KZN	**Kozani**	**7.02**	**319**	P	Pn	23 40 40.9	+5.4
HMDT	**Nahal Hemdat**	**7.04**	**112**	P	**Pn**	**23 40 35.8**	**0.0**
	36nm,1.0s,36nm,1.0s						
HMDT	**Nahal Hemdat**	**7.04**	**112**	P	**Pn**	**23 40 34.7**	**-1.1**
HMDT	**Nahal Hemdat**	**7.04**	**112**	S	**Sn**	**23 41 51.9**	**-3.1**
ZAF	**Zafarana**	**7.11**	**144**	P	**Pn**	**23 40 36.6**	**0.0**
UJAP	**Al Uja**	**7.14**	**115**	P	**Pn**	**23 40 35.8**	**-1.2**
UJAP	**Al Uja**	**7.14**	**115**	S	**Sn**	**23 41 53.9**	**-3.4**
NBNS	**Bani Suef**	**7.17**	**155**	P	**Pn**	**23 40 37.5**	**-0.1**
NBNS				S	**Sn**	**23 41 54.9**	**-3.2**
YTIR	**Yattir**	**7.19**	**120**	P	**Pn**	**23 40 37.6**	**-0.3**
	63nm,0.8s,63nm,0.8s						
YTIR	**Yattir**	**7.19**	**120**	P	**Pn**	**23 40 36.8**	**-1.1**
YTIR	**Yattir**	**7.19**	**120**	S	**Sn**	**23 41 55.4**	**-3.4**
ZNM	**Zenema**	**7.19**	**142**	P	**Pn**	**23 40 37.7**	**-0.1**
ZNM				S	**Sn**	**23 41 55.3**	**-3.4**
DSI	**Dead Sea**	**7.27**	**118**	P	**Pn**	**23 40 38.6**	**-0.3**
	91nm,0.7s,91nm,0.7s						
DSI	**Dead Sea**	**7.27**	**118**	P	**Pn**	**23 40 37.3**	**-1.5**
DSI	**Dead Sea**	**7.27**	**118**	S	**Sn**	**23 41 56.6**	**-3.9**
BNN	**Bunyan**	**7.39**	**58**		**Pn**	**23 40 41.9**	**+1.3**
MSBI	**Mazada**	**7.39**	**119**	P	**Pn**	**23 40 38.8**	**-1.7**
MSBI	**Mazada**	**7.39**	**119**	S	**Sn**	**23 41 59.7**	**-3.8**
GHAJ	**Ghor Haditha**	**7.54**	**119**		**Pn**	**23 40 42.0**	**-0.6**

ARSA Arzberg 15.18 326 *i* Pn **Pn** 23 42 28.7 +1.8
comp=Z,3.7nm,0.9s
LANS Liptovska Anna 15.26 339 *e*P **P** 23 42 35.5 +2.8
LANS Liptovska Anna 15.26 339 *e*P **P** 23 42 35.5 +2.8
NIE Niedzica 15.27 341 P **P** 23 42 33.0 +0.2
NIE pmax pmax
comp=Z,3.0nm,2.0s
KIEV Kiev 15.54 3 P **P** 23 42 38.0 +2.3
KIEV pmax pmax
comp=Z,27nm,1.0s
AKASG Malin Array Be 15.55 3 Pn **Pn** 23 42 31.7 0.0
comp=Z,0.8nm,0.3s,baz=196,slow=11,SNR=8.0
AKASG LR LR 23 48 00.0
comp=Z,58nm,18.9s,baz=176,slow=36
CONA Conrad Observa 15.55 329 *e*Pn **Pn** 23 42 34.1 +2.3
comp=Z,3.7nm,1.3s
MYKA Terra Mystica 15.65 321 *e*Pn **Pn** 23 42 32.8 -0.4
comp=Z,3.0nm,1.0s
ZCCA Zocca 15.85 310 Pn **Pn** 23 42 37.1 +1.5
ZCCA IAmb IAmb 23 42 41.3
comp=Z,4.6nm,0.8s
STAL STALIGIAL 15.91 319 Pn **Pn** 23 42 35.0 -1.4
STAL IAmb IAmb 23 42 50.6
comp=Z,7.0nm,0.9s
CIMO Cimolais 16.08 318 **Pn** 23 42 37.2 -1.5
KBA Koelnbreinsper 16.11 322 P **P** 23 42 42.8 +0.6
KBA pmax pmax
comp=Z,17nm,1.1s
KBA Koelnbreinsper 16.11 322 *e*Pn **Pn** 23 42 38.0 -1.1
comp=Z,23nm,1.4s
OJC Ojcow 16.14 341 P **P** 23 42 42.2 -0.1
OJC pmax pmax
comp=Z,6.0nm,1.0s
MOA Molln 16.20 326 *e*Pn **Pn** 23 42 40.2 +0.1
comp=Z,6.8nm,1.0s
KRUC Moravsky 16.23 332 *e*PN **P** 23 42 43.1 -0.3
OKC Ostrava-Krasne 16.28 337 AMS AMS 23 50 10.0
comp=Z,300nm,11.6s
ABTA Abfaltersbach 16.32 320 *e*Pn **Pn** 23 42 40.4 -1.4
comp=Z,4.6nm,0.7s
VRAC Vranov 16.36 333 Pn **Pn** 23 42 41.7 -0.4
comp=Z,0.1nm,0.3s,baz=131,slow=9.7,SNR=6.1
comp=Z,1.9nm,0.6s
VRAC Vranov 16.36 333 *e*PN **Pn** 23 42 43.5 +1.3
CTI Castel Tesino 16.36 316 **Pn** 23 42 43.2 +0.9
CTI IAmb IAmb 23 42 51.5
comp=Z,12nm,0.8s
CTI Castel Tesino 16.36 316 P **Pn** 23 42 43.2 +0.9
CTI pmax pmax
comp=Z,12nm,0.8s
BIOA Bad Ischl, Aus 16.39 324 *e*Pn **Pn** 23 42 41.5 -1.0
comp=Z,9.3nm,0.9s
MORC Moravsky Berou 16.42 336 Pn **Pn** 23 42 44.1 +1.2
MORC Moravsky Berou 16.42 336 *e*PN **Pn** 23 42 43.7 +0.8
MORC Moravsky Berou 16.42 336 ⇑P **Pn** 23 42 44.6 +1.6
MORC Moravsky Berou 16.42 336 ⇑P **Pn** 23 42 44.6 +1.6
LESA Schwarzleotal 16.68 322 *e*Pn **Pn** 23 42 44.8 -1.4
comp=Z,5.4nm,0.7s
MSSA Maissana 16.75 309 Pn **Pn** 23 42 46.1 -1.1
MSSA IAmb IAmb 23 42 59.8
comp=Z,11nm,1.1s
CKRC Cesky Krumlov 16.90 328 *e*P **P** 23 42 52.1 +1.3
CKRC Cesky Krumlov 16.90 328 *e*P **P** 23 42 52.1 +1.3
WTTA Wattenberg 17.11 320 *e*Pn **Pn** 23 42 51.9 +0.1
comp=Z,12nm,0.9s
MAK Makhachkala 17.12 57 *e*P **Pn** 23 42 49.8 -1.9
MAK *e*S **Sn** 23 45 58.7 -2.5
MAK pmax pmax
comp=Z,46nm,0.8s
MAK MLR MLR
comp=Z,84nm,12.0s
GEC2 GERESS Array S 17.19 327 Pn **Pn** 23 42 52.9 +0.3
GEC2 IAmb IAmb 23 42 53.5
comp=Z,6.3nm,0.9s
GEC2 GERESS Array S 17.19 327 P **Pn** 23 42 52.8 +0.2
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 17.19 327 **Pn** 23 42 53.1 +0.5
GERES GERESS Array B 17.19 327 P **Pn** 23 42 52.7 0.0
baz=141,slow=12,SNR=23
comp=Z,3.6nm,0.9s
GERES GERESS Array B 17.19 327 P **Pn** 23 42 53.1 +0.5
WATA Walderalm 17.19 320 *i* Pn **Pn** 23 42 53.1 +0.4
comp=Z,8.5nm,0.8s
SQTA Sankt Quirin 17.31 319 *i* Pn **Pn** 23 42 53.7 -0.5
comp=Z,18nm,1.5s
DPC Dobruska-Polom 17.33 335 *e*P **Pn** 23 42 55.0 +0.7
DPC Dobruska-Polom 17.33 335 *e*P **Pn** 23 42 55.0 +0.7
ZVC Zvikov 17.42 329 *e*P **Pn** 23 42 54.7 -0.7
MOTA Moosalm 17.45 319 *e*Pn **Pn** 23 42 56.2 +0.2
comp=Z,8.7nm,1.0s
FETA Feichten 17.45 318 *e*Pn **P** 23 42 57.2 +0.1
comp=Z,9.6nm,0.8s
KHC Kasperske Hory 17.45 327 *e*P **Pn** 23 42 55.7 -0.2
KHC MLR MLR
comp=Z,200nm,9.3s
KHC Kasperske Hory 17.45 327 *e*P **Pn** 23 42 55.7 -0.2
KHC AMS AMS 23 50 20.0
comp=Z,200nm,9.3s
FUORN Ofenpass-Fuorn 17.48 316 **P** 23 42 57.9 +0.4
OSTC Ostas 17.54 335 *e*P **P** 23 42 58.2 +0.3
OSTC Ostas 17.54 335 *e*P **P** 23 42 58.2 +0.3
GOPC GO Pecny, Ondr 17.55 331 AMS AMS 23 51 20.0
comp=Z,200nm,12.0s
UPC Upice 17.57 334 *e*P **P** 23 42 58.7 +0.5
UPC MLR MLR
comp=Z,100nm,13.2s
UPC Upice 17.57 334 *e*P **P** 23 42 58.7 +0.5
UPC AMS AMS 23 51 00.0
comp=Z,100nm,13.2s
PRU Pruhonice 17.70 331 *e*P **Pn** 23 42 59.4 +0.5
PRU MLR MLR
comp=Z,200nm,11.0s
PRU Pruhonice 17.70 331 *e*P **Pn** 23 42 59.4 +0.5
PRU AMS AMS 23 51 30.0
comp=Z,200nm,11.0s
RETA Reutte 17.72 319 *e*Pn **Pn** 23 42 59.1 -0.1
comp=Z,5.6nm,1.0s
KSP Ksiaz 17.75 335 P **P** 23 43 00.3 +0.1
KSP pmax pmax
comp=Z,10.0nm,1.6s
WET Wettzell 17.77 326 P **Pn** 23 42 59.6 -0.3
WET pmax pmax
comp=Z,9.0nm,0.8s
DAVOX Davos/Dischmat 17.79 316 P **Pn** 23 43 00.6 +0.4
comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=6.7
comp=Z,2.0nm,0.6s
VORD Divnogorie 17.83 24 *e*P **Pn** 23 43 00.3 -0.1
VORD pmax pmax
comp=Z,7.0nm,0.9s
FUR Furstenfeldbru 17.88 322 P **Pn** 23 43 00.3 -0.8
FUR pmax pmax
comp=Z,16nm,0.8s
VSR Storozhevoye 18.00 24 *e*P **Pn** 23 43 02.0 -0.6
VSR pmax pmax
comp=Z,5.0nm,0.8s
DAVA Damuels 18.08 317 *e*Pn **Pn** 23 43 03.5 -0.3
comp=Z,8.6nm,0.8s
PVCC Panska Ves 18.12 332 P **Pn** 23 43 03.9 -0.1
PVCC pmax pmax
comp=Z,3.0nm,1.0s
GRC1 Grafenberg Arr 18.31 324 P **P** 23 43 04.8 -1.6
GRC1 pmax pmax
comp=Z,12nm,0.8s
BNI Bardonecchia 18.90 308 **Pn** 23 43 13.8 +0.1
BNI Bardonecchia 18.90 308 P **Pn** 23 43 13.8 +0.1
BNI pmax pmax
comp=Z,5.0nm,1.0s
SENIN Lac Senin/Sane 19.09 312 P **P** 23 43 14.6 -0.6
SENIN IAmb IAmb 23 43 16.9
comp=Z,7.4nm,0.6s
RAYN Ar Rayn 19.26 122 P **Pn** 23 43 19.2 +1.1
RAYN Ar Rayn 19.26 122 P **Pn** 23 43 19.2 +1.1
RAYN pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 19.34 331 *i* P **P** 23 43 18.4 +0.7
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 19.34 331 *i* P **P** 23 43 18.4 +0.7
comp=Z,8.0nm,1.1s
CLL *i* x x 23 43 20.6
comp=Z,5.0nm,0.7s
MOX Moxa 19.43 328 P **P** 23 43 18.9 +0.3
MOX pmax pmax
comp=Z,8.0nm,1.1s

BFO Black Forest 19.53 318 P **P** 23 43 19.9 +0.1
BFO IAmb IAmb 23 43 25.8
comp=Z,4.3nm,0.8s
BFO Black Forest 19.53 318 P **P** 23 43 19.9 +0.1
BFO pmax pmax
comp=Z,4.0nm,0.8s
GKP Gorka Klasztor 19.58 341 P **P** 23 43 19.1 -1.1
GKP pmax pmax
comp=Z,38nm,0.9s
ECH Echery 20.12 317 P **P** 23 43 26.1 -0.1
ECH IAmb IAmb 23 43 31.7
comp=Z,4.0nm,0.9s
ECH Echery 20.12 317 P **P** 23 43 26.1 -0.1
ECH pmax pmax
comp=Z,4.0nm,0.9s
PABE Paberze 20.50 354 P **P** 23 43 29.2 -1.0
TNS Taunus Mts 20.62 323 P Pn 23 43 33.9 -0.1
TNS pmax pmax
comp=Z,16nm,0.9s
OBN Obninsk 20.84 14 P **P** 23 43 32.6 -1.2
comp=Z,7.2nm,0.5s,baz=173,slow=8.1,SNR=4.2
comp=Z,7.2nm,0.5s
CLF Chambon-Foret 22.91 312 P **P** 23 43 55.6 -0.5
TAM Tamanrasset 23.03 244 P **P** 23 43 58.1 +0.4
TAM pmax pmax
comp=Z,5.0nm,1.5s
ESBB Sonseca Array 25.57 290 P **P** 23 44 21.7 +0.5
ESBB IAmb IAmb 23 44 22.1
comp=Z,5.1nm,1.1s
ESDC Sonseca Array 25.57 290 P **P** 23 44 21.6 +0.4
ESDC Sonseca Array 25.57 290 P **P** 23 44 21.2 -0.1
comp=Z,2.6nm,0.6s,baz=82,slow=9.4,SNR=20
comp=Z,2.6nm,0.6s
PAB San Pablo 25.87 289 P **P** 23 44 25.2 +1.2
PAB IAmb IAmb 23 44 27.0
comp=Z,4.8nm,0.8s
PAB San Pablo 25.87 289 P **P** 23 44 25.2 +1.2
PAB pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 26.31 358 P **P** 23 44 26.4 -1.2
FINES FINESS Array B 26.31 358 P **P** 23 44 25.6 -2.1
comp=Z,1.6nm,0.7s,baz=159,slow=11,SNR=7.1
comp=Z,1.6nm,0.7s
FINES FINESS Array B 26.31 358 P **P** 23 44 26.4 -1.2
FIA1 FINESS Array S 26.31 358 P **P** 23 44 26.2 -1.4
HFS Hagfors 26.61 344 P **P** 23 44 27.9 -2.4
comp=Z,4.7nm,0.7s,baz=156,slow=11,SNR=13
comp=Z,4.7nm,0.7s
MD31 MD31 27.05 275 P **P** 23 44 36.5 +1.8
MD31 IAmb IAmb 23 44 50.3
comp=Z,4.2nm,1.1s
AB31 Akbulak array 27.39 49 P **P** 23 44 40.3 +2.8
AB31 IAmb IAmb 23 44 52.2
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 27.39 49 P **P** 23 44 39.0 +1.4
NAO01 NORSAR Array S 27.90 342 P **P** 23 44 39.6 -2.3
NC405 NORSAR Array S 27.93 343 P **P** 23 44 39.2 -3.0
NC405 IAmb IAmb 23 44 42.0
comp=Z,4.1nm,0.9s
NB201 NORSAR Array S 27.98 343 P **P** 23 44 40.0 -2.6
NB2 NORSAR Subarra 27.99 343 P **P** 23 44 39.9 -2.9
comp=Z,2.1nm,0.8s,baz=150,slow=9.3
NB2 NORSAR Subarra 27.99 343 P **P** 23 44 41.5 -1.3
NOA NORSAR Array B 27.99 343 P **P** 23 44 40.3 -2.5
comp=Z,1.2nm,0.7s,baz=145,slow=11,SNR=7.8
comp=Z,1.2nm,0.7s
NC204 NORSAR Array S 28.30 343 P **P** 23 44 45.7 +0.1
EKA Eskdalemuir Ar 29.32 323 P **P** 23 44 54.4 -0.2
comp=Z,0.6nm,0.5s,baz=119,slow=8.7,SNR=4.8
comp=Z,0.6nm,0.5s
LSH Leshukonskoye 31.64 14 *e*P **P** 23 45 13.1 -1.8
comp=Z,32nm,1.9s
TORD Torodi Ar. Bea 32.22 234 P **P** 23 45 21.7 +1.1
ARCES ARCESS Array B 34.44 359 P **P** 23 45 38.0 -1.3
ARCES ARCESS Array B 34.44 359 P **P** 23 45 38.3 -1.1
comp=Z,2.3nm,0.7s,baz=170,slow=7.7,SNR=9.7
comp=Z,2.3nm,0.7s
BVAR Borovoye Array 34.76 46 P **P** 23 45 43.0 +0.6
comp=Z,0.5nm,0.7s,baz=256,slow=5.3,SNR=2.8
comp=Z,0.5nm,0.7s
BVAR Borovoye Array 34.76 46 P **P** 23 45 43.0 +0.6
KMBO Kilima Mbogo 37.18 164 LR LR 00 02 20.2
comp=Z,103nm,19.8s,baz=278,slow=38
DBIC Dimbokro 41.32 234 P **P** 23 46 39.9 +1.8
comp=Z,1.2nm,0.3s,baz=71,slow=7.7,SNR=5.9
comp=Z,1.2nm,0.3s
MKAR Makanchi Array 41.94 57 P **P** 23 46 44.4 +1.5
MKAR Makanchi Array 41.94 57 P **P** 23 46 43.5 +0.6
comp=Z,0.8nm,0.6s,baz=272,slow=7.1,SNR=8.4
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 41.94 57 P **P** 23 46 44.4 +1.5
ZALV Zalesovo Beam 43.41 46 P **P** 23 46 54.9 +0.2
comp=Z,0.8nm,0.5s,baz=277,slow=10,SNR=5.4
comp=Z,0.8nm,0.5s
SONM Songino Array 57.77 51 P **P** 23 48 43.6 +0.3
comp=Z,0.5nm,0.5s,baz=271,slow=6.3,SNR=4.6
comp=Z,0.5nm,0.5s
SCHQ Schefferville 64.58 320 P **P** 23 49 29.0 -0.2
comp=Z,3.8nm,0.7s,baz=59,slow=5.9,SNR=3.9
comp=Z,3.8nm,0.7s

*MDD **12** 23:53:16.0±0.4,36˚.50N×9˚.74W,h18km±3km,mb_Lg3.6/41,*
Error ellipse: s-maj=3.7km s-min=2.7km az=57.0
*SFS **12** 23:53:17.3,36˚.51N×9˚.77W,h28km,ML3.8/17,ML4.1/19,*
MLv3.6/19
*INMG **12** 23:53:18.7±1.9,36˚.49N×9˚.69W,h32km±52km,ML3.2,*
Error ellipse: s-maj=4.6km s-min=3.0km az=86.0,
#DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente
*CNRM **12** 23:53:19.0,36˚.41N×9˚.33W,h46km,ML3.6*
*IGIL **12** 23:53:19.0,36˚.56N×9˚.59W,h19km,ML3.2*
ISC 12 23:53:16.1±1.1,36˚.51N±0˚.04×9˚.65W±0˚.05,h35km,n122,
σ1°84/204,12C-1D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.91**	**46**	P		**Pn**	**23 53 34.3**	**+2.0**
PFVI				S		**Sn**	**23 53 45.3**	**+1.1**
PFVI	**Vila Bisbo**	**0.91**	**46**	⇑*i*P		**Pn**	**23 53 34.3**	**+2.0**
PFVI				*e*S		**Sn**	**23 53 45.5**	**+1.3**
PFVI				*i* IAML			23 53 45.9	
PFVI				*i* IAML			23 53 46.5	
PFVI				*i* IAML			23 53 47.0	
PFVI	**Vila Bisbo**	**0.91**	**46**	P		**Pn**	**23 53 34.0**	**+1.6**
MORF	**Marmelete**	**1.13**	**45**	*e*P		**Pn**	**23 53 37.4**	**+2.0**
MORF				*e*S		**Sn**	**23 53 50.6**	**+1.0**
MORF				IAML			23 53 53.3	
	comp=E,484nm,0.2s							
MORF	**Marmelete**	**1.13**	**45**	⇑*i*P		**Pn**	**23 53 37.4**	**+2.0**
MORF				*e*S		**Sn**	**23 53 51.0**	**+1.3**
MORF				*i* IAML			23 53 52.4	
MORF				*i* IAML			23 53 52.7	
MORF				*i* IAML			23 53 53.4	
PTEO	**Sao Teotonio**	**1.27**	**35**	⇑*i*P		**Pn**	**23 53 39.3**	**+1.9**
PTEO				*e*S		**Sn**	**23 53 54.8**	**+1.6**
PTEO				*i* IAML			23 53 55.4	
PTEO				*i* IAML			23 53 55.5	
PTEO				*i* IAML			23 53 56.2	
PBDV	**Barranco-do-Ve**	**1.56**	**61**	P		**Pn**	**23 53 43.5**	**+2.1**
PBDV				S		**Sn**	**23 54 01.0**	**+0.6**
PBDV	**Barranco-do-Ve**	**1.56**	**61**	⇑*i*P		**Pn**	**23 53 43.5**	**+2.1**
PBDV				*e*S		**Sn**	**23 54 01.2**	**+0.9**
PBDV				*i* IAML			23 54 02.0	
PBDV				*i* IAML			23 54 02.1	
PBDV				*i* IAML			23 54 07.4	
PCVE	**Castro Verde**	**1.71**	**48**	P		**Pn**	**23 53 45.5**	**+2.2**
PCVE				S		**Sn**	**23 54 05.6**	**+1.6**
PCVE	**Castro Verde**	**1.71**	**48**	⇑*e*P		**Pn**	**23 53 45.6**	**+2.2**
PCVE				*e*S		**Sn**	**23 54 05.5**	**+1.6**
PCVE				*i* IAML			23 54 06.7	
PCVE				*i* IAML			23 54 06.7	
PCVE				*i* IAML			23 54 18.8	
MESJ	**Messejana**	**1.75**	**40**	*e*P		**Pn**	**23 53 45.9**	**+1.9**
MESJ				*e*S		**Sn**	**23 54 05.4**	**+0.3**
MESJ				IAML			23 54 08.0	
	comp=N,103nm,0.3s							
MESJ	**Messejana**	**1.75**	**40**	⇑*i*P		**Pn**	**23 53 45.9**	**+1.9**
MESJ				*e*S		**Sn**	**23 54 06.3**	**+1.2**
MESJ				*i* IAML			23 54 08.3	
MESJ				*i* IAML			23 54 08.5	
MESJ				*i* IAML			23 54 18.2	
PVAQ	**Vaqueiros**	**1.79**	**59**	P		**Pn**	**23 53 46.5**	**+2.1**
PVAQ	**Vaqueiros**	**1.79**	**59**	⇑*i*P		**Pn**	**23 53 46.5**	**+2.1**
PVAQ				*e*S		**Sn**	**23 54 06.8**	**+0.9**
PVAQ				*i* IAML			23 54 07.9	
PVAQ				*i* IAML			23 54 08.0	
PVAQ				*i* IAML			23 54 08.0	
PVAQ	**Vaqueiros**	**1.79**	**59**	P		**Pn**	**23 53 46.1**	**+1.6**
PVAQ	**Vaqueiros**	**1.79**	**59**	S		**Sn**	**23 54 05.5**	**-0.4**
EGRO	**El Granado**	**2.01**	**59**	P		**Pn**	**23 53 49.4**	**+1.8**
EGRO				S		**Sn**	**23 54 11.9**	**+0.4**
EGRO	**El Granado**	**2.01**	**59**	Pn		**Pn**	**23 53 49.4**	**+1.8**
EGRO				Sn		**Sn**	**23 54 11.4**	**-0.1**
EGRO				*i* lVmb_Lg			23 54 13.6	
PBEJ	**Beja**	**2.08**	**43**	⇑*e*P		**Pn**	**23 53 50.1**	**+1.7**
PBEJ				*e*S		**Sn**	**23 54 13.8**	**+0.7**
PBEJ				*i* IAML			23 54 15.7	
PBEJ				*i* IAML			23 54 15.7	
PBEJ				*i* IAML			23 54 15.8	
LIS	**Lisbon**	**2.24**	**10**	*e*S		**Sn**	**23 54 17.3**	**+0.2**
LIS				IAML			23 54 20.2	
	comp=E,322nm,0.3s							
LIS	**Lisbon**	**2.24**	**10**	*e*S		**Sn**	**23 54 17.9**	**+0.7**
LIS				*i* IAML			23 54 19.7	
LIS				*i* IAML			23 54 19.8	
LIS				*i* IAML			23 54 20.4	
PARRA	**Arraiolos**	**2.35**	**12**	⇑*i*P		Pn	23 53 57.5	+5.3
PARRA				*e*S		**Sn**	**23 54 26.6**	**+6.7**
PARRA				*i* IAML			23 54 29.1	
PARRA				*i* IAML			23 54 29.2	
PARRA				*i* IAML			23 54 30.2	
EVO	**Evora**	**2.40**	**32**	P		**Pn**	**23 53 54.5**	**+1.6**
EVO				S		**Sn**	**23 54 21.2**	**+0.1**
EVO	**Evora**	**2.40**	**32**	⇓*e*P		**Pn**	**23 53 54.5**	**+1.6**
EVO				*e*S		**Sn**	**23 54 21.5**	**+0.3**
EVO				*i* IAML			23 54 22.6	
EVO				*i* IAML			23 54 23.2	
EVO				*i* IAML			23 54 23.6	
ARNO	**Arenosillo**	**2.41**	**75**	P		**Pn**	**23 53 55.5**	**+2.4**
ARNO				S		**Sn**	**23 54 22.5**	**+1.1**
PMAFR	**Mafra**	**2.46**	**7**	P		**Pn**	**23 53 55.3**	**+1.6**
PMAFR				S		**Sn**	**23 54 23.5**	**+0.9**
PMAFR	**Mafra**	**2.46**	**7**	*e*P		**Pn**	**23 53 55.4**	**+1.6**
PMAFR				*e*S		**Sn**	**23 54 23.4**	**+0.9**
PMAFR				*i* IAML			23 54 25.5	
PMAFR				*i* IAML			23 54 25.5	
PMAFR				*i* IAML			23 54 26.1	
PBAR	**Barrancos**	**2.66**	**51**	P		**Pn**	**23 53 58.1**	**+1.7**
PBAR				S		**Sn**	**23 54 26.9**	**-0.6**
PBAR	**Barrancos**	**2.66**	**51**	*e*P		**Pn**	**23 53 58.2**	**+1.7**
PBAR				*e*S		**Sn**	**23 54 28.5**	**+1.0**
PBAR				*i* IAML			23 54 29.6	
PBAR				*i* IAML			23 54 30.1	
PBAR				*i* IAML			23 54 30.2	
EMIN	**Mina Concepcio**	**2.69**	**61**	P		**Pn**	**23 53 58.3**	**+1.5**
EMIN				S		**Sn**	**23 54 28.1**	**-0.2**
EMIN	**Mina Concepcio**	**2.69**	**61**	Pn		**Pn**	**23 53 58.2**	**+1.3**
EMIN				Sn		**Sn**	**23 54 28.2**	**0.0**
EMIN				*i* lVmb_Lg			23 54 30.3	
PMTG	**Montargil**	**2.79**	**23**	⇑*e*P		**Pn**	**23 53 59.9**	**+1.6**
PMTG				*e*S		**Sn**	**23 54 31.1**	**+0.3**
PMTG				*i* IAML			23 54 32.0	
PMTG				*i* IAML			23 54 32.8	
PMTG				*i* IAML			23 54 33.4	
PESTR	**Estremoz**	**2.87**	**34**	P		**Pn**	**23 54 00.5**	**+1.2**
PESTR				S		**Sn**	**23 54 32.6**	**+0.1**
PESTR	**Estremoz**	**2.87**	**34**	⇑*i*P		**Pn**	**23 54 00.1**	**+1.2**
PESTR				*e*S		**Sn**	**23 54 32.6**	**+0.1**
PESTR				*i* IAML			23 54 35.1	
PESTR				*i* IAML			23 54 35.4	
PESTR				*i* IAML			23 54 37.7	
PESTR	**Estremoz**	**2.87**	**34**	P		**Pn**	**23 54 00.6**	**+1.2**
PESTR	**Estremoz**	**2.87**	**34**	S		**Sn**	**23 54 34.2**	**+1.6**
EBAD	**Badajoz**	**3.07**	**42**	P		**Pn**	**23 54 03.3**	**+1.3**
EBAD				S		**Sn**	**23 54 37.9**	**+0.3**
EBAD	**Badajoz**	**3.07**	**42**	Pn		**Pn**	**23 54 03.4**	**+1.3**
EBAD				Sn		**Sn**	**23 54 37.4**	**-0.1**
EBAD				*i* lVmb_Lg			23 54 40.7	
ESPR	**Espera**	**3.07**	**82**	P		**Pn**	**23 54 04.0**	**+2.0**
ESPR				S		**Sn**	**23 54 37.9**	**+0.3**
ESPR	**Espera**	**3.07**	**82**	Pn		**Pn**	**23 54 04.1**	**+2.0**
ESPR				Sn		**Sn**	**23 54 37.7**	**+0.1**
ESPR				*i* lVmb_Lg			23 54 39.5	
ALJ	**Aljibe**	**3.22**	**88**	P		**Pn**	**23 54 07.3**	**+3.1**
PSARD	**Sardoal**	**3.30**	**20**	*e*P		**Pn**	**23 54 37.4**	**+1.9**
PSARD				*e*S		**Sn**	**23 54 43.0**	**-0.3**
PSARD				*i* IAML			23 54 45.7	
PSARD				*i* IAML			23 54 46.1	
PSARD				*i* IAML			23 54 47.5	
EJIF	**Jimena Fronter**	**3.37**	**90**	Pn		**Pn**	**23 54 09.0**	**+2.8**
EJIF				Sn		**Sn**	**23 54 47.7**	**+2.7**
RTC	**Rabat Centre**	**3.40**	**137**	S		**Sn**	**23 54 43.7**	**-1.9**
PMRV	**Marv??o**	**3.42**	**31**	*e*P		**Pn**	**23 54 08.4**	**+1.5**
PMRV				*e*S		**Sn**	**23 54 46.2**	**0.0**
PMRV				*i* IAML			23 54 47.7	
PMRV				*i* IAML			23 54 47.7	
PMRV				*i* IAML			23 54 47.8	
ECEU	**Ceuta**	**3.51**	**99**	P		**Pn**	**23 54 10.5**	**+2.4**
ECEU				S		**Sn**	**23 54 51.5**	**+3.1**
ECEU	**Ceuta**	**3.51**	**99**	Pn		**Pn**	**23 54 09.8**	**+1.7**
ECEU				Sn		**Sn**	**23 54 50.9**	**+2.5**
ECEU				*i* lVmb_Lg			23 54 59.5	
CEU	**Ceuta**	**3.51**	**99**	S		**Sn**	**23 54 50.8**	**+2.3**
CEU				P		**Pn**	**23 54 11.4**	**+3.2**
PCAS	**Casmilo, Conde**	**3.65**	**14**	*e*P		**Pn**	**23 54 12.0**	**+1.9**
PCAS				*e*S		**Sn**	**23 54 52.4**	**+0.4**
PCAS				*i* IAML			23 54 55.1	
PCAS				*i* IAML			23 54 55.4	
PCAS				*i* IAML			23 54 55.8	
AVE	**Averroes**	**3.69**	**150**	P		**Pn**	**23 54 11.3**	**+0.6**
AVE				S		**Sn**	**23 54 51.7**	**-1.3**
ECAB	**El Cabril**	**3.72**	**64**	P		**Pn**	**23 54 12.6**	**+1.6**
ECAB				S		**Sn**	**23 54 52.3**	**-1.3**
ECAB	**El Cabril**	**3.72**	**64**	Pn		**Pn**	**23 54 12.7**	**+1.7**
ECAB				Sn		**Sn**	**23 54 52.0**	**-1.7**
ECAB				*i* lVmb_Lg			23 54 55.3	
PCBR	**Castelo Branco**	**3.74**	**27**	*e*P		**Pn**	**23 54 13.1**	**+1.7**
PCBR				*e*S		**Sn**	**23 54 54.1**	**0.0**
PCBR				*i* IAML			23 54 55.3	
PCBR				*i* IAML			23 54 56.6	
PCBR				*i* IAML			23 54 57.0	
COI	**Coimbra**	**3.82**	**14**	*e*P		**Pn**	**23 54 14.7**	**+2.3**
COI				*e*S		**Sn**	**23 54 55.0**	**-1.1**
COI				*i* IAML			23 54 58.9	
COI				*i* IAML			23 54 59.2	
COI				*i* IAML			23 54 59.7	
ZHG	**ZHG**	**3.93**	**140**	P		**Pn**	**23 54 15.0**	**+1.0**
ZHG	**ZHG**	**3.93**	**140**	S		**Sn**	**23 54 57.9**	**-1.0**
EMAL	**Malaga-Limoner**	**4.21**	**85**	S		**Sn**	**23 55 07.8**	**+2.2**
EADA	**Adamuz**	**4.37**	**66**	P		**Pn**	**23 54 21.6**	**+1.6**
EADA				S		**Sn**	**23 55 07.8**	**-1.8**
EADA	**Adamuz**	**4.37**	**66**	Pn		**Pn**	**23 54 21.9**	**+1.9**
EADA				Sn		**Sn**	**23 55 07.1**	**-2.5**
EADA				*i* lVmb_Lg			23 55 11.1	
PVIS	**Viseu**	**4.42**	**18**	*e*P		**Pn**	**23 54 22.7**	**+2.0**
PVIS				*e*S		**Sn**	**23 55 10.8**	**-0.1**
EGOR	**Sierra Gorda,**	**4.48**	**81**	P		**Pn**	**23 54 24.0**	**+2.4**
EGOR				S		**Sn**	**23 55 13.4**	**+0.7**
EGOR	**Sierra Gorda,**	**4.48**	**81**	Pn		**Pn**	**23 54 23.9**	**+2.3**
EGOR				Sn		**Sn**	**23 55 12.3**	**-0.4**
EGOR				*i* lVmb_Lg			23 55 15.4	
EPLA	**Plasencia**	**4.53**	**37**	Pn		**Pn**	**23 54 23.5**	**+1.3**
EPLA				Sn		**Sn**	**23 55 12.6**	**-1.0**
EPLA				*i* lVmb_Lg			23 55 14.2	
PTO	**Porto**	**4.70**	**10**	*e*P		**Pn**	**23 54 23.1**	**-1.3**
PTO				*e*S		**Sn**	**23 55 17.0**	**-0.6**
PTO				*i* IAML			23 55 20.3	
PTO				*i* IAML			23 55 20.4	
PTO				*i* IAML			23 55 20.9	
PALE	**Palemas**	**4.81**	**104**	P		**Pn**	**23 54 26.3**	**+0.2**
PALE	**Palemas**	**4.81**	**104**	S		**Sn**	**23 55 17.1**	**-3.6**
LCRM	**LCR**	**4.83**	**124**	P		**Pn**	**23 54 26.9**	**+0.4**
LCRM				P			23 54 27.0	
LCRM	**LCR**	**4.83**	**124**	S		**Sn**	**23 55 19.0**	**-2.3**
ELGU	**Los Guajares,**	**4.85**	**84**	S		**Sn**	**23 55 23.9**	**+2.3**
PVRL	**Vila Real**	**4.99**	**17**	⇑*i*P		**Pn

EQUE	**Quentar**	**5.03**	**80**	Sn		**Sn**	**23 55 25.7**	**-0.3**
EQUE				*i* IVmb_Lg			23 55 38.3	
POLO	**Lamas de Olo**	**5.07**	**16**	*eP*		**Pn**	**23 54 31.0**	**+1.3**
POLO				*eS*		**Sn**	**23 55 25.0**	**-2.0**
POLO				*i* IAML			23 55 27.4	
POLO				*i* IAML			23 55 28.4	
POLO				*i* IAML			23 55 29.3	
MVO	**Moncorvo**	**5.08**	**23**	*eP*		**Pn**	**23 54 31.1**	**+1.3**
MVO				*eS*		**Sn**	**23 55 25.6**	**-1.6**
MVO				*i* IAML			23 55 27.7	
MVO				*i* IAML			23 55 27.8	
MVO				*i* IAML			23 55 27.9	
E0803	**Jimena (Jaen)**	**5.11**	**73**	Pn		**Pn**	**23 54 31.5**	**+1.3**
E0803				Sn		**Sn**	**23 55 27.7**	**-0.3**
AKLM	**AKL**	**5.12**	**111**	P		**Pn**	**23 54 33.1**	**+2.7**
CZD	**Col de Zad**	**5.14**	**131**	P		**Pn**	**23 54 31.5**	**+0.7**
CZD	**Col de Zad**	**5.14**	**131**	S		**Sn**	**23 55 25.1**	**-4.0**
PAB	**San Pablo**	**5.17**	**52**	Pn		**Pn**	**23 54 31.8**	**+0.8**
PAB				Sn		**Sn**	**23 55 27.1**	**-2.3**
PAB				*i* IVmb_Lg			23 55 29.5	
PSIM	**Granatula de C**	**5.21**	**62**	Pn		**Pn**	**23 54 33.2**	**+1.6**
PSIM				Sn		**Sn**	**23 55 27.9**	**-2.6**
E0802	**Ubeda,Jaen**	**5.23**	**71**	Pn		**Pn**	**23 54 33.2**	**+1.4**
E0802				Sn		**Sn**	**23 55 28.6**	**-2.3**
PCAB	**Cabril**	**5.34**	**13**	*eP*		**Pn**	**23 54 34.7**	**+1.3**
PCAB				*eS*		**Sn**	**23 55 31.3**	**-2.4**
PCAB				*i* IAML			23 55 34.8	
PCAB				*i* IAML			23 55 35.3	
PCAB				*i* IAML			23 55 35.9	
EQES	**Quesada**	**5.41**	**74**	Pn		**Pn**	**23 54 35.3**	**+0.9**
EQES				Sn		**Sn**	**23 55 34.4**	**-1.1**
EQES				*i* IVmb_Lg			23 55 38.0	
MD31	**MD31**	**5.42**	**131**	P		**Pn**	**23 54 34.7**	**+0.2**
MD31	**MD31**	**5.42**	**131**	S		**Sn**	**23 55 32.2**	**-3.5**
TISM	**Timmit**	**5.47**	**150**	P		**Pn**	**23 54 33.6**	**-1.4**
TISM	**Timmit**	**5.47**	**150**	S		**Sn**	**23 55 35.1**	**-1.6**
ESDC	**Sonseca Array**	**5.49**	**53**	Pn		**Pn**	**23 54 36.5**	**+1.1**
ESDC				Sn		**Sn**	**23 55 35.3**	**-1.9**
ESDC				*i* IVmb_Lg			23 55 55.0	
ESBB	**Sonseca Array**	**5.49**	**53**	Pn		**Pn**	**23 54 36.5**	**+1.1**
ESBB				Sn		**Sn**	**23 55 36.1**	**-1.1**
ELOB	**Lobios**	**5.49**	**12**	Pn		**Pn**	**23 54 36.3**	**+0.9**
ELOB				Sn		**Sn**	**23 55 34.9**	**-2.5**
ELOB				*i* IVmb_Lg			23 55 38.4	
OUK	**Oukaimeden**	**5.49**	**164**	P		**Pn**	**23 54 36.0**	**+0.2**
GOG	**Mont Gurugu**	**5.55**	**101**	P		**Pn**	**23 54 36.8**	**+0.5**
GOG	**Mont Gurugu**	**5.55**	**101**	S		**Sn**	**23 55 34.4**	**-4.5**
MDT	**Midelt**	**5.55**	**130**	P		**Pn**	**23 54 36.8**	**+0.5**
MDT	**Midelt**	**5.55**	**130**	S		**Sn**	**23 55 34.9**	**-4.1**
PGAV	**Gavieira, Arco**	**5.55**	**11**	*eP*		**Pn**	**23 54 37.1**	**+1.4**
PGAV				*eS*		**Sn**	**23 55 36.8**	**-2.2**
PGAV				*i* IAML			23 55 40.0	
PGAV				*i* IAML			23 55 40.0	
PGAV				*i* IAML			23 55 40.1	
EZAM	**Zamans**	**5.68**	**7**	Pn		**Pn**	**23 54 39.2**	**+1.2**
EZAM				Sn		**Sn**	**23 55 39.9**	**-2.1**
EZAM				*i* IVmb_Lg			23 55 43.7	
PBRG	**Braganca**	**5.75**	**22**	*eP*		**Pn**	**23 54 40.8**	**+1.8**
PBRG				*eS*		**Sn**	**23 55 41.4**	**-2.4**
PBRG				*i* IAML			23 55 44.4	
PBRG				*i* IAML			23 55 44.5	
PBRG				*i* IAML			23 55 46.0	
ECAL	**Calabor**	**5.88**	**22**	P		**Pn**	**23 54 42.6**	**+1.8**
ECAL				S		**Sn**	**23 55 45.6**	**-1.3**
ECAL	**Calabor**	**5.88**	**22**	Pn		**Pn**	**23 54 41.2**	**+0.4**
ECAL				Sn		**Sn**	**23 55 44.4**	**-2.5**
ECAL				*i* IVmb_Lg			23 55 48.3	
TIO	**Tiouine**	**5.91**	**160**	P		**Pn**	**23 54 40.2**	**-0.9**
GUD	**Guadarrama**	**5.96**	**45**	Pn		**Pn**	**23 54 43.2**	**+1.2**
GUD				Sn		**Sn**	**23 55 47.2**	**-1.9**
GUD				*i* IVmb_Lg			23 55 49.4	
ENIJ	**Nijar**	**5.99**	**83**	Pn		**Pn**	**23 54 44.8**	**+2.5**
ENIJ				Sn		**Sn**	**23 55 48.8**	**-0.9**
ENIJ				*i* IVmb_Lg			23 55 55.4	
OUZM	**OUZ**	**6.08**	**156**	P		**Pn**	**23 54 44.6**	**+1.0**
GOLM	**Goulmima**	**6.17**	**140**	P		**Pn**	**23 54 46.4**	**+1.5**
UCM	**Universidad Co**	**6.30**	**51**	S		**Sn**	**23 55 55.7**	**-1.5**
UCM				P		**Pn**	**23 54 48.3**	**+1.8**
EAGO	**Agolada(Pontev**	**6.40**	**10**	Pn		**Pn**	**23 54 48.7**	**+0.9**
EAGO				Sn		**Sn**	**23 55 55.8**	**-3.9**
EAGO				*i* IVmb_Lg			23 55 59.9	
EMAZ	**Mazaricos**	**6.45**	**4**	Pn		**Pn**	**23 54 49.3**	**+0.7**
EMAZ				Sn		**Sn**	**23 55 56.8**	**-4.2**
EMAZ				*i* IVmb_Lg			23 55 58.8	
PMPST	**Porto Santo, M**	**6.48**	**240**	*eP*		**Pn**	**23 54 47.2**	**-1.7**
PMPST				*eS*		Sn	23 55 50.9	-11
PMPST				*i* IAML			23 55 53.3	
PMPST				*i* IAML			23 55 55.5	
PMPST				*i* IAML			23 55 56.8	
PMPS	**Porto Santo**	**6.49**	**240**	*eP*		**Pn**	**23 54 48.4**	**-0.7**
EPON	**Pontenova**	**7.08**	**15**	Pn		**Pn**	**23 54 58.6**	**+1.4**
EPON				Sn		**Sn**	**23 56 12.9**	**-3.4**
PMAR	**Madeira**	**7.08**	**240**	*eP*		**Pn**	**23 54 57.5**	**+0.1**
PMAR				*eS*		Sn	23 56 09.0	-7.7
PMAR				*i* IAML			23 56 12.7	
PMAR				*i* IAML			23 56 13.1	
PMAR				*i* IAML			23 56 19.8	
EVIV	**Cofrentes, Val**	**7.29**	**65**	Pn		**Pn**	**23 55 00.6**	**+0.5**
EVIV				Sn		**Sn**	**23 56 19.8**	**-1.7**
ETOR	**Torete**	**7.33**	**52**	Pn		**Pn**	**23 55 01.4**	**+0.6**
ETOR				Sn		**Sn**	**23 56 18.8**	**-4.0**
ECHE	**Chera**	**7.51**	**63**	S		**Sn**	**23 56 26.3**	**-0.7**
ECHE				P		**Pn**	**23 55 05.4**	**+2.2**
ECHE	**Chera**	**7.51**	**63**	Pn		**Pn**	**23 55 04.4**	**+1.2**
ECHE				Sn		**Sn**	**23 56 24.8**	**-2.2**
AFON	**Font Roja**	**7.54**	**71**	Pn		**Pn**	**23 55 04.4**	**+0.7**
AFON				Sn		**Sn**	**23 56 26.0**	**-2.0**
EARI	**Arriondas**	**7.59**	**25**	Pn		**Pn**	**23 55 06.5**	**+2.3**
EARI				Sn		**Sn**	**23 56 26.8**	**-2.3**
E0901	**Celadas (Terue**	**7.77**	**57**	Pn		**Pn**	**23 55 08.5**	**+1.8**
E0901				Sn		**Sn**	**23 56 31.2**	**-2.3**
E0901				*i* IVmb_Lg			23 56 46.3	
EMOS	**Mosqueruela**	**8.16**	**59**	Pn		**Pn**	**23 55 14.5**	**+2.2**
EMOS				Sn		**Sn**	**23 56 39.2**	**-4.2**
ELAN	**Lanestosa**	**8.24**	**34**	Pn		**Pn**	**23 55 14.2**	**+1.1**
ELAN				Sn		**Sn**	**23 56 42.1**	**-2.8**
CFUE	**Fuerteventura**	**8.63**	**206**	Pn		**Pn**	**23 55 17.5**	**-1.1**
CFUE				Sn		Sn	23 56 47.1	-7.5

*IGIL **13** 00:06:46.5,37˚.28N×14˚.04W,h30km, ML2.0*
*MDD **13** 00:06:46.0±1.3,37˚.37N×14˚.00W,h75km±70km,Mb3.6/10, Error ellipse: s-maj=10.6km s-min=8.6km az=81.0*
*INMG **13** 00:06:49.1±1.2,37˚.28N×14˚.05W,h10km, ML2.2, Error ellipse: s-maj=7.4km s-min=5.2km az=101.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Josephine*
ISC 13 00:06:47.4±3.1,37˚.48N±0˚.08×13˚.5W±0˚.1,h10km,n44,
σ1s70/76,9C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PMAFR	**Mafra**	**3.64**	**65**	S	**Sn**	**00 08 29.0**		**+2.0**
PMAFR				P	**Pn**	**00 07 45.5**		**+1.7**
PMAFR	**Mafra**	**3.64**	**65**	*eP*	**Pn**	**00 07 46.4**		**+2.5**
PMAFR				*eS*	**Sn**	**00 08 29.2**		**+2.3**
PFVI	**Vila Bisbo**	**3.75**	**94**	S	**Sn**	**00 08 28.0**		**-1.7**
PFVI	**Vila Bisbo**	**3.75**	**94**	*eP*	**Pn**	**00 07 47.8**		**+2.4**
PFVI				*eS*	**Sn**	**00 08 28.7**		**-1.0**
PFVI				*i* IAML		00 08 33.3		
PARRA	**Arraiolos**	**3.77**	**68**	*eP*	**Pg**	**00 07 57.9**		**-1.8**
PARRA				*eS*	**Sg**	**00 08 49.4**		**+0.9**
PARRA				*i* IAML		00 08 52.2		
PARRA				*i* IAML		00 08 52.4		
PARRA				*i* IAML		00 08 56.2		
PTEO	**Sao Teotonio**	**3.81**	**88**	*eP*	**Pn**	**00 07 47.2**		**+1.1**
PTEO				*eS*	**Sn**	**00 08 30.9**		**-0.1**
PTEO				*i* IAML		00 08 32.0		
PTEO				*i* IAML		00 08 34.2		
PTEO				*i* IAML		00 08 40.3		
MESJ	**Messejana**	**4.22**	**84**	*eP*	**Pn**	**00 07 53.5**		**+1.7**
MESJ				*eS*	**Sn**	**00 08 41.9**		**+0.8**
MESJ				IAML		00 08 44.0		
	comp=N,2.5nm,0.2s							
MESJ	**Messejana**	**4.22**	**84**	*eP*	**Pn**	**00 07 54.0**		**+2.2**
MESJ				*eS*	**Sn**	**00 08 42.3**		**+1.2**
MESJ				*i* IAML		00 08 46.7		
MESJ				*i* IAML		00 08 46.8		
MESJ				*i* IAML		00 08 48.0		
PCVE	**Castro Verde**	**4.35**	**86**	P	**Pn**	**00 07 53.9**		**+0.3**
PCVE				S	**Sn**	**00 08 43.4**		**-1.0**
PCVE	**Castro Verde**	**4.35**	**86**	*eP*	**Pn**	**00 07 56.0**		**+2.3**
PCVE				*eS*	**Sn**	**00 08 44.2**		**-0.2**
PCVE				*i* IAML		00 08 47.5		
PCVE				*i* IAML		00 08 50.3		
PMTG	**Montargil**	**4.45**	**68**	*eP*	**Pn**	**00 07 57.1**		**+2.1**
PMTG				*eS*	**Sn**	**00 08 48.4**		**+1.5**
PMTG				*i* IAML		00 08 50.8		
PMTG				*i* IAML		00 08 53.2		
PMTG				*i* IAML		00 08 54.2		
PBDV	**Barranco-do-Ve**	**4.46**	**91**	P	**Pn**	**00 07 55.7**		**+0.7**
PBDV				S	**Sn**	**00 08 46.4**		**-0.5**
PBDV	**Barranco-do-Ve**	**4.46**	**91**	*eP*	**Pn**	**00 07 57.0**		**+2.0**
PBDV				*eS*	**Sn**	**00 08 47.0**		**+0.1**
PBDV				*i* IAML		00 08 49.9		
PBDV				*i* IAML		00 08 52.6		
EVO	**Evora**	**4.47**	**75**	S	**Sn**	**00 08 47.4**		**+0.1**
EVO	**Evora**	**4.47**	**75**	*eS*	**Sn**	**00 08 48.1**		**+0.8**
PBEJ	**Beja**	**4.51**	**81**	*eP*	**Pn**	**00 07 57.8**		**+2.0**
PBEJ				*eS*	**Sn**	**00 08 49.4**		**+1.1**
PBEJ				*i* IAML		00 08 50.5		
PBEJ				*i* IAML		00 08 53.0		
PVAQ	**Vaqueiros**	**4.61**	**89**	P	**Pn**	**00 07 58.3**		**+1.1**
PVAQ	**Vaqueiros**	**4.61**	**89**	*eP*	**Pn**	**00 07 58.7**		**+1.5**
PVAQ				*eS*	**Sn**	**00 08 50.4**		**-0.5**
PVAQ				*i* IAML		00 08 54.3		
PVAQ				*i* IAML		00 08 56.1		
PVAQ				*i* IAML		00 08 56.5		
PCAS	**Casmilo, Conde**	**4.69**	**55**	*eP*	**Pn**	**00 08 00.7**		**+2.5**
PCAS				*eS*	**Sn**	**00 08 54.3**		**+1.7**
PCAS				*i* IAML		00 08 55.9		
PSARD	**Sardoal**	**4.70**	**62**	*eP*	**Pn**	**00 08 00.3**		**+1.9**
PSARD				*eS*	**Sn**	**00 08 55.2**		**+2.2**
PSARD				*i* IAML		00 08 57.7		
PSARD				*i* IAML		00 08 58.2		
PSARD				*i* IAML		00 08 58.5		
EGRO	**El Granado**	**4.80**	**88**	P	**Pn**	**00 08 00.4**		**+0.7**
EGRO				S	**Sn**	**00 08 53.9**		**-1.4**
EGRO	**El Granado**	**4.80**	**88**	Pn	**Pn**	**00 08 00.7**		**+1.0**
EGRO				⇑*i*Vmb_VC		00 08 05.3		
	comp=N,124nm,SNR=1.4							
EGRO				Sn	**Sn**	**00 08 55.6**		**+0.3**
PESTR	**Estremoz**	**4.87**	**72**	P	**Pn**	**00 08 02.1**		**+1.4**
PESTR				S	**Sn**	**00 08 57.1**		**-0.1**
PESTR	**Estremoz**	**4.87**	**72**	*eP*	**Pn**	**00 08 02.5**		**+1.8**
PESTR				*eS*	**Sn**	**00 08 57.5**		**+0.4**
PESTR				*i* IAML		00 09 05.7		
PBAR	**Barrancos**	**5.17**	**80**	P	**Pn**	**00 08 06.5**		**+1.7**
PBAR				S	**Sn**	**00 09 03.2**		**-1.4**
PBAR	**Barrancos**	**5.17**	**80**	*eP*	**Pn**	**00 08 06.6**		**+1.7**
PBAR				*eS*	**Sn**	**00 09 05.2**		**+0.6**
PBAR				*i* IAML		00 09 08.1		
PBAR				*i* IAML		00 09 09.6		
PMRV	**Marv??o**	**5.18**	**66**	*eP*	**Pn**	**00 08 06.4**		**+1.3**
PMRV				*eS*	**Sn**	**00 09 05.3**		**+0.4**
PMRV				*i* IAML		00 09 08.0		
PMRV				*i* IAML		00 09 08.0		
PMRV				*i* IAML		00 09 08.2		
PCBR	**Castelo Branco**	**5.28**	**62**	*eS*	**Sn**	**00 09 08.3**		**+1.1**
EBAD	**Badajoz**	**5.28**	**74**	P	**Pn**	**00 08 07.2**		**+0.9**
EBAD				S	**Sn**	**00 09 06.0**		**-1.3**
EBAD	**Badajoz**	**5.28**	**74**	Pn	**Pn**	**00 08 06.5**		**+0.1**
EBAD				⇑*i*Vmb_VC		00 08 08.5		
	comp=N,112nm,SNR=1.5							
EBAD				Sn	**Sn**	**00 09 06.4**		**-0.9**
EMIN	**Mina Concepcio**	**5.44**	**85**	S	**Sn**	**00 09 08.7**		**-2.5**
PVRL	**Vila Real**	**5.88**	**48**	*eS*	**Sn**	**00 09 18.6**		**-3.4**
POLO	**Lamas de Olo**	**5.89**	**47**	*eS*	**Sn**	**00 09 22.2**		**-0.3**
POLO				*i* IAML		00 09 24.6		
POLO				*i* IAML		00 09 24.6		
EZAM	**Zamans**	**5.96**	**37**	⇑*i*VmVC		00 08 16.8		
	comp=N,74nm,SNR=0.7							
EZAM				Sn	**Sn**	**00 09 21.5**		**-2.4**
PCAB	**Cabril**	**5.98**	**43**	*eS*	**Sn**	**00 09 23.6**		**-1.0**
PGAV	**Gavieira, Arco**	**6.03**	**40**	*eP*	**Pn**	**00 08 20.0**		**+3.2**
PGAV				*eS*	**Sn**	**00 09 24.3**		**-1.6**
PGAV				*i* IAML		00 09 27.1		
PGAV				*i* IAML		00 09 29.1		
ELOB	**Lobios**	**6.07**	**42**	⇑*i*VmVC		00 08 22.0		
	comp=N,171nm,SNR=2.0							
ELOB				Sn	**Sn**	**00 09 24.8**		**-2.0**
MVO	**Moncorvo**	**6.23**	**52**	*eP*	**Pn**	**00 08 20.6**		**+1.1**
MVO				*eS*	**Sn**	**00 09 30.0**		**-0.8**
MVO				*i* IAML		00 09 32.5		
EPLA	**Plasencia**	**6.36**	**64**	Pn	**Pn**	**00 08 22.8**		**+1.7**
EPLA				⇑*i*VmVC		00 08 25.3		
	comp=N,81nm,SNR=1.4							
EPLA				Sn	**Sn**	**00 09 32.9**		**-0.9**
ECAB	**El Cabril**	**6.44**	**82**	Pn	**Pn**	**00 08 22.8**		**+0.5**
ECAB				⇑*i*VmVC		00 08 24.5		
	comp=N,60nm,SNR=1.2							
ECAB				Sn	**Sn**	**00 09 34.2**		**-1.7**
EAGO	**Agolada(Pontev**	**6.75**	**36**	⇑*i*VmbVC		00 08 26.9		
	comp=N,84nm,SNR=1.0							
EAGO				Sn	**Sn**	**00 09 38.7**		**-4.7**
EADA	**Adamuz**	**7.11**	**82**	Pn	**Pn**	**00 08 32.2**		**+0.7**
EADA				⇑*i*VmVC		00 08 35.4		
	comp=N,64nm,SNR=1.2							
EADA				Sn	**Sn**	**00 09 50.0**		**-2.4**
PAB	**San Pablo**	**7.48**	**71**	Pn	**Pn**	**00 08 36.4**		**-0.2**
PAB				⇑*i*VmVC		00 08 36.9		
	comp=N,87nm,SNR=1.7							
PAB				Sn	**Sn**	**00 09 57.4**		**-4.1**
PSIM	**Granatula de C**	**7.80**	**77**	Pn	**Pn**	**00 08 42.0**		**+0.9**
PSIM				Sn	**Sn**	**00 10 07.6**		**-1.9**

*DJA **13** 00:08:46.6±0.9,6˚N±5˚.9˚6E±1˚.0,h224km±5km, M4.7/13, mB5.3/6,mb4.5/9,MLv4.8/13,Mw(mB)4.8/6*
*IDC **13** 00:08:47.6±1.5,6˚.09N×95˚.96E,h220km±13km,mb3.4/6, mbtmp4.1/9,Error ellipse: s-maj=38.9km s-min=12.2km az=53.0*
ISC 13 00:08:46.8±0.8,6˚.03N±0˚.08×95˚.8E±0˚.1,h220km,n24,
σ1s35/28,mb3.8/8,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LHMI	**Lhok Sumawe**	**1.42**	**124**	P	**Pn**	**00 09 22.5**		**+0.8**
LHMI				S	**S**	**00 09 52.5**		**+3.7**
KCSI	**Kotacane, Aceh**	**3.20**	**141**	P	**Pn**	**00 09 40.7**		**+0.8**
KCSI				S	**S**	**00 10 23.6**		**+2.3**
TSI	**Tuntungan**	**3.76**	**132**	P	**Pn**	**00 09 42.5**		**+1.1**
PSI	**Prapat**	**4.50**	**135**	P	**Pn**	**00 09 55.9**		**+0.2**
	22nm,0.3s,baz=292,slow=8.4,SNR=22							
PSI				S	**S**	**00 10 50.4**		**+0.6**
	9.4nm,0.5s,baz=291,slow=13,SNR=3.6							
GSI	**Gunungsitoli**	**5.03**	**159**	P	**Pn**	**00 10 01.4**		**-0.8**
	1.2nm5μm50nm,0.5s							
GSI				S	**S**	**00 11 00.5**		**-1.2**
	1.2nm5μm50nm,0.5s							
MNSI	**Mandailing Nat**	**6.45**	**144**	P	**Pn**	**00 10 20.7**		**+0.5**
PBSI	**Pulau Batu**	**6.55**	**157**	P	**Pn**	**00 10 21.6**		**+0.2**
	1.1nm63nm,0.4s							
BKNI	**Bangkinang**	**7.74**	**137**	P	**Pn**	**00 10 37.6**		**+0.8**
PPI	**Padang Panjang**	**7.93**	**144**	P	**Pn**	**00 10 39.9**		**+0.6**
	0.2nm52nm,0.7s							
SISI	**Saibi**	**8.03**	**155**	P	**Pn**	**00 10 40.2**		**-0.3**
	48nm,1.5s							
PDSI	**Padang**	**8.34**	**146**	P	**Pn**	**00 10 44.4**		**-0.2**
	46nm,0.5s							
MNAI	**Manna**	**12.57**	**145**	P	**Pn**	**00 11 38.5**		**0.0**
CMAR	**Chiang Mai Arr**	**12.73**	**14**	P	**Pn**	**00 11 40.4**		**-0.1**
	1.9nm,0.7s,baz=205,slow=12,SNR=12							
MDSI	**Maura Dua**	**13.41**	**141**	P	**P**	**00 11 49.8**		**-1.1**
TPI	**Tanjungpandan**	**14.74**	**126**	P	**P**	**00 12 06.3**		**+0.6**
PALK	**Pallekele**	**15.01**	**276**	P	**Pn**	**00 12 11.2**		**+2.7**
	7.7nm,0.6s,baz=76,slow=15,SNR=6.8							
PALK				S	S	00 14 43.4		-11
	12nm,0.6s,baz=22,slow=12,SNR=5.4							
FITZ	**Fitzroy Crossi**	**38.00**	**130**	P	**P**	**00 15 44.0**		**0.0**
	2.3nm,0.4s,baz=332,slow=11,SNR=8.1							
	2.3nm,0.4s							
MKAR	**Makanchi Array**	**42.24**	**346**	P	**P**	**00 16 18.6**		**+0.1**
	0.3nm,0.6s,baz=157,slow=10,SNR=2.0							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**45.89**	**125**	P	**P**	**00 16 48.0**		**+0.2**
	2.4nm,0.5s,baz=306,slow=8.4,SNR=37							
	2.4nm,0.5s							
ASAR	**Alice Springs**	**47.50**	**130**	P	**P**	**00 17 00.6**		**+0.3**
	2.8nm,0.7s,baz=302,slow=7.4,SNR=29							
ASAR				S	**S**	**00 23 36.9**		**-1.4**
	0.8nm,0.8s,baz=298,slow=14,SNR=6.1							
	2.8nm,0.7s							
BNX	**BinXian**	**48.13**	**30**	⇑P	**P**	**00 17 01.7**		**-3.0**
BNX				pmax	pmax			
	comp=Z,5.0nm,1.5s							
ZALV	**Zalesovo Beam**	**48.60**	**351**	P	**P**	**00 17 08.1**		**0.0**
	comp=Z,0.3nm,0.3s,baz=165,slow=7.1,SNR=2.2							
	comp=Z,0.3nm,0.3s							
STKA	**Stephens Creek**	**57.68**	**134**	P	**P**	**00 18 14.2**		**-0.4**
	comp=Z,1.7nm,0.8s,baz=302,slow=9.5,SNR=2.8							
	comp=Z,1.7nm,0.8s							
CLL	**Collm**	**80.80**	**321**	*i* P	P	00 20 29.4		-6.6
	comp=Z,3.0nm,0.7s							

*GII **13** 00:10:17.6±0.0,33˚.320N±0˚.001×35˚.444E±0˚.001, h6km,Mws1.7,confirmed*
*GRAL **13** 00:10:18.2±0.3,33˚.25N×35˚.48E,h12km±2km,MD2.6*
ISC 13 00:10:17.4±1.1,33˚.30N±0˚.03×35˚.48E±0˚.04,h19km±2km,
n38,σ0s88/41,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MSAM	**Misgav Am**	**0.07**	**132**	P	**Pg**	**00 10 20.7**		**-0.4**
MSAM	**Misgav Am**	**0.07**	**132**	S	**Sg**	**00 10 22.9**		**-0.7**
MTLA	**Metula**	**0.08**	**103**	P	**Pg**	**00 10 20.7**		**-0.5**
MTLA	**Metula**	**0.08**	**103**	S	**Sg**	**00 10 23.0**		**-0.6**
KIRY	**Kiryat Shemona**	**0.11**	**141**	P	**Pg**	**00 10 21.1**		**-0.2**
KIRY	**Kiryat Shemona**	**0.11**	**141**	S	**Sg**	**00 10 23.9**		**0.0**
GOSH	**HaGoshrim**	**0.14**	**123**	P	**Pg**	**00 10 21.9**		**+0.3**
GOSH	**HaGoshrim**	**0.14**	**123**	S	**Sg**	**00 10 25.1**		**+0.6**
GEM	**Giv'at Ha'Em**	**0.17**	**120**	P	**Pg**	**00 10 22.6**		**+0.5**
GEM	**Giv'at Ha'Em**	**0.17**	**120**	S	**Sg**	**00 10 26.0**		**+0.7**
YFTH	**Yftach**	**0.18**	**162**	P	**Pg**	**00 10 22.3**		**+0.2**
YFTH	**Yftach**	**0.18**	**162**	S	**Sg**	**00 10 26.2**		**+0.8**
LVBS	**Lehavot Habash**	**0.21**	**138**	P	**Pg**	**00 10 23.1**		**+0.6**
LVBS	**Lehavot Habash**	**0.21**	**138**	S	**Sg**	**00 10 27.3**		**+1.2**
NATI	**Neve Ativ**	**0.21**	**99**	P	**Pg**	**00 10 23.2**		**+0.5**
NATI	**Neve Ativ**	**0.21**	**99**	S	**Sg**	**00 10 27.4**		**+1.2**
SHBL	**Chebaa**	**0.22**	**77**	*eP*	**Pg**	**00 10 23.0**		**+0.1**
ZRT	**Zar'it**	**0.25**	**220**	P	**Pg**	**00 10 23.5**		**+0.2**
ZRT	**Zar'it**	**0.25**	**220**	S	**Sg**	**00 10 27.6**		**+0.3**
HULT	**Hulata**	**0.27**	**157**	P	**Pg**	**00 10 24.5**		**+1.0**
HULT	**Hulata**	**0.27**	**157**	S	**Sn**	**00 10 29.7**		**-2.2**
MMC7	**Mount Meron ar**	**0.28**	**196**	P	**Pg**	**00 10 24.0**		**+0.2**
MMA0B	**Mount Meron ar**	**0.29**	**194**	P	**Pb**	**00 10 24.1**		**+0.2**
MMA0B	**Mount Meron ar**	**0.29**	**194**	S	**Sg**	**00 10 29.3**		**+1.0**
QRWL	**Qaraoun**	**0.30**	**33**	*eP*	**Pb**	**00 10 24.7**		**+0.5**
KDZV	**Kedmat Zvi**	**0.32**	**146**	P	**Pn**	**00 10 26.5**		**-0.6**
KDZV	**Kedmat Zvi**	**0.32**	**146**	S	**Sn**	**00 10 31.1**		**-2.1**
HNTI	**Hanita**	**0.34**	**231**	P	**Pb**	**00 10 24.9**		**+0.1**
HNTI	**Hanita**	**0.34**	**231**	S	**Sb**	**00 10 30.2**		**+0.4**
RCY	**Rachaya**	**0.35**	**56**	*eP*	**Pb**	**00 10 25.6**		**+0.3**
RCY				*eS*	**Sb**	**00 10 30.9**		**+0.3**
HDNS	**Had-Ness**	**0.39**	**160**	P	**Pb**	**00 10 26.6**		**+0.8**
DQRL	**Deir Qamar**	**0.41**	**10**	*eP*	**Pb**	**00 10 26.8**		**+0.5**
DQRL				*eS*	**Sb**	**00 10 33.0**		**+0.7**
KSHT	**Keshet**	**0.42**	**139**	P	**Pn**	**00 10 27.6**		**-0.9**
KSHT	**Keshet**	**0.42**	**139**	S	**Sn**	**00 10 34.2**		**-1.5**
BHL	**Bhannes**	**0.62**	**13**	*eP*	**Pg**	**00 10 30.4**		**+0.5**
ZAHL	**Zahle**	**0.65**	**31**	*eP*	**Pg**	**00 10 30.7**		**+0.3**
MMLI	**Mount Malkishu**	**0.86**	**184**	P

comp=N,500nm,0.3s
M24K Tolsona, Glenn 1.89 69 Pn 00 11 40.7 -0.2
M24K Tolsona, Glenn 1.89 69 IAML 00 12 08.2
comp=N,518nm,0.7s
KLU Klutina 1.92 88 Pn 00 11 40.5 -0.8
KLU IAML 00 12 05.8
comp=N,416nm,0.4s
KLU IAML 00 12 10.3
comp=E,271nm,0.6s
P23K Montague Islan 1.93 139 Pn 00 11 39.5 -1.9
P23K IAML 00 12 13.4
comp=E,460nm,0.3s
HIN Hinchinbrook I 1.99 122 Pn 00 11 41.4 -0.9
HIN IAML 00 12 13.3
comp=E,466nm,1.1s
HIN IAML 00 12 16.9
comp=N,451nm,0.6s
TRF Thorofare Moun 1.99 355 Pn Pn 00 11 42.1 -0.3
TRF IAML 00 12 09.8
comp=E,333nm,0.6s
RND Reindeer 2.00 14 Pn Pn 00 11 42.1 -0.3
RND IAML 00 12 08.8
comp=E,247nm,0.8s
RND IAML 00 12 11.1
comp=N,311nm,0.7s
HOM Homer 2.02 206 Pn 00 11 41.6 -1.0
DIV Divide 2.03 98 IAML 00 12 08.9
comp=E,335nm,0.3s
CNPM China Poot 2.06 199 Pn 00 11 42.3 -1.0
CNPM IAML 00 12 13.8
comp=N,364nm,0.4s
CNPM IAML 00 12 14.3
comp=E,355nm,0.4s
KTH Kantishna Hill 2.14 348 Pn 00 11 44.3 0.0
KTH IAML 00 12 11.6
comp=N,417nm,0.6s
KTH IAML 00 12 13.4
comp=E,435nm,0.6s
M19K Big River Lodg 2.18 283 Pn 00 11 44.4 -0.4
M19K IAML 00 12 24.6
comp=N,177nm,0.8s
M19K IAML 00 12 25.2
comp=E,197nm,0.7s
ILSW Iliamna Southw 2.18 228 Pn 00 11 44.1 -0.9
CAST Castle Rocks 2.19 334 Pn 00 11 44.6 -0.5
CAST IAML 00 12 14.2
comp=E,190nm,0.3s
EYAK Cordova Ski Ar 2.23 113 Pn 00 11 44.6 -1.0
EYAK IAML 00 12 23.1
comp=E,185nm,0.5s
EYAK IAML 00 12 23.2
comp=N,228nm,0.4s
MCK McKinley 2.31 11 IAML 00 12 16.8
comp=E,230nm,0.5s
MCK IAML 00 12 16.8
comp=N,304nm,0.8s
N19K Bonanza Creek 2.31 255 Pn 00 11 46.1 -0.7
L19K White Mountain 2.45 289 IAML 00 12 19.2
comp=E,147nm,0.5s
P19K Oil Pt 2.46 223 Pn 00 11 48.1 -0.6
O19K Port Alsworth 2.51 241 Pn Pn 00 11 49.1 -0.3
N25K Chitina, Valde 2.55 85 IAML 00 12 28.8
comp=N,208nm,0.7s
BMRM Bremner River 2.62 99 Pn 00 11 51.3 +0.4
BMRM IAML 00 12 31.2
comp=N,231nm,0.8s
BMRM IAML 00 12 33.2
comp=E,225nm,0.5s
BPAW Bear Paw Mtn. 2.68 350 IAML 00 12 36.0
comp=E,131nm,0.9s
BPAW IAML 00 12 36.1
comp=N,145nm,0.8s
K20K Telida 2.70 316 IAML 00 12 29.5
comp=E,120nm,0.8s
Q23K Middleton Isla 2.71 138 Pn Pn 00 11 52.1 0.0
Q23K IAML 00 12 36.7
comp=N,124nm,0.8s
GLB Gilahina Butte 2.93 88 Pn 00 11 55.9 +0.7
GLB IAML 00 12 39.3
comp=N,158nm,0.8s
N18K Kilae Creek 3.01 257 Pn 00 11 55.3 -1.0
K24K Donnelly Dome 3.02 37 Pn 00 11 57.8 +1.4
O18K Koktuh Hills 3.07 240 Pn 00 11 56.4 -0.7
O18K IAML 00 12 58.8
comp=N,90nm,0.9s
WRH Wood River Hil 3.12 15 Pn 00 11 57.0 -0.7
WRH IAML 00 12 49.1
comp=E,80nm,0.8s
WRH IAML 00 12 50.1
comp=N,102nm,0.6s
VRDI Verde Repeater 3.12 92 Pn 00 11 56.6 -1.4
NEA2 Nenana 3.15 7 IAML 00 12 51.6
comp=N,91nm,1.1s
Q19K Cape Douglas, 3.16 218 Pn 00 11 57.5 -0.9
HDA Harding Lake 3.24 23 Pn 00 11 60.0 +0.5
HDA IAML 00 12 56.5
comp=E,120nm,0.7s
MENT Mentasta 3.25 60 Pn Pn 00 12 00.5 +0.9
RIDG Independent Ri 3.26 44 IAML 00 12 46.3
comp=N,117nm,0.7s
MCARA McCarthy VSAT 3.31 89 Pn 00 12 01.5 +1.1
MCARA IAML 00 12 52.5
comp=N,122nm,1.0s
CCB Clear Creek Bu 3.32 16 Pn 00 11 59.9 -0.6
SUCK Suckling Hills 3.32 112 Pn Pn 00 12 01.4 +0.9
SUCK IAML 00 13 00.5
comp=N,96nm,0.6s
J20K Nowinta River 3.33 326 Pn 00 11 59.9 -0.8
J20K IAML 00 12 40.1
comp=E,125nm,0.7s
P18K Big Mountain, 3.36 234 Pn 00 12 01.1 -0.1
CRQM Cirque 3.37 99 Pn 00 12 01.6 +0.3
CRQM IAML 00 12 58.0
comp=E,141nm,0.7s
M26K Nabesna, AK 3.40 71 Pn 00 12 01.3 -0.4
M26K IAML 00 13 01.1
comp=E,66nm,0.5s
M26K IAML 00 13 07.0
comp=N,70nm,0.5s
L26K Log Cabin Wild 3.44 60 Pn Pn 00 12 01.8 -0.4
L26K IAML 00 12 57.7
comp=N,103nm,0.5s
L26K IAML 00 13 02.9
comp=E,118nm,0.5s
DOT Dot Lake 3.48 49 Pn 00 12 03.8 +1.1
DOT IAML 00 13 00.7
comp=E,108nm,0.6s
DOT IAML 00 13 01.8
comp=N,87nm,0.8s
TGL Tana Glacier 3.51 99 Pn 00 12 03.1 -0.2
TGL IAML 00 12 55.9
comp=N,83nm,0.6s
TGL IAML 00 12 58.5
comp=E,110nm,0.7s
COLA College 3.54 14 Pn 00 12 03.7 +0.3
ILAR Eielson Array 3.58 21 Pn 00 12 04.2 +0.1
MLY Manley 3.59 354 Pn 00 12 03.3 -0.9
WAX Waxell Ridge 3.59 104 Pn 00 12 03.3 -1.1
WAX IAML 00 13 04.5
comp=E,120nm,1.0s
PTPK Patty Peak 3.60 91 Pn 00 12 03.6 -1.0
M17K Holitna River 3.62 272 Pn 00 12 03.7 -0.9
M17K IAML 00 13 14.8
comp=N,80nm,0.8s
M17K IAML 00 13 15.3
comp=E,116nm,1.1s
J19K Poorman 3.64 316 Pn 00 12 04.5 -0.5
J19K IAML 00 13 05.7
comp=E,89nm,0.8s
J19K IAML 00 13 10.2
comp=N,79nm,0.9s
N17K Nushagak Hills 3.67 258 Pn 00 12 04.5 -0.8
I23K Minto, Yukon-K 3.69 4 IAML 00 13 08.9
comp=N,65nm,0.7s
SNH Sunshine Point 3.70 107 Pn 00 12 05.3 -0.5
SCRK Sand Creek 3.71 45 Pn 00 12 07.5 +1.6
SCRK IAML 00 13 08.6
comp=E,50nm,0.7s
SCRK IAML 00 13 08.9
comp=N,54nm,0.8s
J18K Innoko River 3.73 305 Pn 00 12 05.8 -0.5
J18K IAML 00 13 03.5
comp=N,54nm,0.6s
J18K IAML 00 13 10.0
comp=E,50nm,0.8s
J25K Salcha River, 3.77 31 Pn 00 12 07.4 +0.7
J25K IAML 00 12 58.5
comp=E,87nm,0.3s
J25K IAML 00 12 58.5
comp=N,80nm,0.4s
ISLE Juniper Island 3.79 100 Pn Pn 00 12 06.2 -0.8
ISLE IAML 00 13 16.6
comp=N,78nm,1.0s
ISLE IAML 00 13 20.1
comp=E,90nm,0.8s
POKR Poker Plat Res 3.82 16 IAML 00 12 52.5
comp=N,52nm,0.6s
POKR IAML 00 13 16.6
comp=E,55nm,1.1s
I21K Tanana 3.83 347 IAML 00 12 51.7
comp=E,44nm,0.5s
M27K Edge Creek, AK 3.90 73 Pn 00 12 08.4 -0.2
I20K Naaghedeneel 3.92 330 Pn 00 12 08.4 -0.3
KDAK Kodiak Island 3.95 201 Pn 00 12 08.6 -0.5
KDAK IAML 00 13 10.4
comp=E,49nm,0.7s
KDAK IAML 00 13 19.3
comp=E,43nm,0.6s
BARN Barnard Glacie 4.01 92 Pn 00 12 11.9 +1.8
BARN IAML 00 13 21.0
comp=E,46nm,0.6s
GRNC Granite Creek 4.03 97 Pn 00 12 11.3 +0.9
GRNC IAML 00 13 15.1
comp=N,52nm,0.7s
K17K Iditarod 4.13 291 IAML 00 13 18.6
comp=N,50nm,0.8s
K17K IAML 00 13 36.2
comp=E,62nm,0.8s
J26L Joseph Creek 4.19 41 IAML 00 13 11.4
comp=E,56nm,0.5s
YUK2 White River 4.34 82 Pn 00 12 14.6 0.0
O16K Kokwok River B 4.46 249 IAML 00 13 49.0
comp=N,29nm,0.9s
H24K Noodor Dome 4.47 11 IAML 00 13 35.8
comp=E,36nm,1.1s
H24K IAML 00 13 36.0
comp=N,27nm,0.9s
PRP Porcupine Dome 4.51 24 IAML 00 13 33.7
comp=E,34nm,0.9s
PRP IAML 00 13 37.9
comp=N,44nm,0.9s
J17K VABM Dome 4.67 298 IAML 00 13 47.8
comp=N,34nm,0.8s
J17K IAML 00 13 47.8
comp=E,24nm,0.7s
H19K Roundabout Mou 5.01 327 IAML 00 13 56.3
comp=N,30nm,0.8s
H19K IAML 00 13 58.2
comp=E,29nm,1.1s
PLK4 Peulik 4 5.06 223 IAML 00 13 54.8
comp=E,26nm,0.8s
PLK4 IAML 00 14 13.9
comp=N,28nm,1.1s
G23K Bananza Creek 5.25 360 Pn 00 12 27.0 -0.1
J16K Anvik River 5.29 295 IAML 00 13 57.3
comp=N,19nm,1.0s
G21K Allakaket 5.30 344 IAML 00 13 31.3
comp=N,18nm,0.7s
G21K IAML 00 14 00.8
comp=E,25nm,0.7s
H18K Honhosa River 5.30 318 IAML 00 13 59.5
comp=N,16nm,0.9s
G24K Hadweenzic Riv 5.35 10 IAML 00 13 40.8
comp=E,17nm,0.8s
G24K IAML 00 14 09.9
comp=N,25nm,1.1s
I28M Miner Creek 5.99 44 Pn 00 12 37.8 +0.6
E22K Anaktuvuk Pass 6.73 354 Pn 00 12 47.2 -0.2
TOLK Toolik Lake Re 7.20 1 Pn 00 12 54.0 +0.3
E20K Nigu River 7.31 341 Pn 00 12 55.4 +0.1

*IDC **13** 00:12:51.5±1.6, 1°.39N×126°.40E, h0km, mb3.8/4, mbtmp3.7/5, ML3.7/1, MS2.4/1, Error ellipse: s-maj=115.8km s-min=21.0km az=69.0*
*DJA **13** 00:12:58.2±0.8, 1°N±3°×12°7E±°, h14km±7km, M4.1/13, mb4.2/4, MLv4.0/13*
ISC 13 00:12:58.6±0.9, 1°.44N±0°.07×126°.68E±0°.08, h47km, n12, σ2s02/13, mb3.7/4, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**134**	P		**Pn**		**00 13 17.2**	**+1.6**
TNTI				S		**Sn**		**00 13 31.1**	**+2.9**
SGSI	**Sangihe**	**2.51**	**333**	P		**Pn**		**00 13 38.6**	**+1.7**
SGSI				S		**Sn**		**00 14 08.4**	**+2.1**
SANI	**Sanana**	**3.54**	**191**	P		**Pn**		**00 13 52.6**	**+1.6**
LUWI	**Luwuk**	**4.62**	**238**	P		**Pn**		**00 14 07.4**	**+1.5**
MRSI	**Marisa**	**4.83**	**259**	P		**Pn**		**00 14 10.7**	**+1.8**
APSI	**Ampana**	**5.55**	**245**	P		**Pn**		**00 14 20.3**	**+1.7**
	50nm,0.7s								
FITZ	**Fitzroy Crossi**	**19.44**	**183**	P		**P**		**00 17 19.4**	**-2.0**
	0.2nm,0.3s,baz=18,slow=19,SNR=1.2								
	1.5nm,0.8s								
WRA	**Warramunga Arr**	**22.54**	**161**	P		**P**		**00 17 52.5**	**-2.3**
	2.0nm,0.6s,baz=338,slow=11,SNR=8.3								
	2.0nm,0.6s								
ASAR	**Alice Springs**	**25.93**	**165**	P		**P**		**00 18 26.6**	**0.0**
	0.7nm,0.4s,baz=352,slow=15,SNR=8.5								
	0.7nm,0.4s								
CMAR	**Chiang Mai Arr**	**32.04**	**304**	LR		LR		00 33 14.2	
	comp=Z,7.3nm,19.7s,baz=230,slow=38								
MKAR	**Makanchi Array**	**59.41**	**326**	P		**P**		**00 22 55.1**	**-1.3**
	0.2nm,0.4s,baz=120,slow=8.1,SNR=3.0								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**69.21**	**327**	P		**P**		**00 23 59.3**	**-1.1**
	1.1nm,0.7s,baz=120,slow=8.5,SNR=6.4								
	1.1nm,0.7s								

*BEO **13** 00:26:54.6±0.6, 40°.84N×20°.16E, h11km±2km, ML2.4/8*
*TIR **13** 00:26:55.7, 41°.11N×20°.43E, h29km±1km, Ml2.6/5*
*SKO **13** 00:26:55.2, 41°.11N×20°.30E, h21km, ML2.1*
*PDG **13** 00:26:58.3±0.6, 41°.19N×20°.19E, h10km±1km, ML2.6/10, Error ellipse: s-maj=1.8km s-min=2.7km az=0.0*
*ATH **13** 00:27:00.6, 40°.93N×20°.64E, h12km±1km, ML2.1/7, Manual Solution by N.Liadopoulou First location: 2019/08/13 00:28:26, This location: 2019/08/13 04:26:28 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 13 00:26:56.0±0.9, 41°.12N±0°.02×20°.36E±0°.02, h14km±9km, n59, σ1s39/95, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.34**	**91**	*i*	Pg	**Pg**		**00 27 03.6**	**+0.7**
OHR				*i*	Sg	**Sb**		**00 27 09.7**	**+0.6**
OHR				*e*	Lg	Lg		00 27 09.8	
	comp=N,119nm,0.3s								
OHR				*e*	Lg	Lg		00 27 10.6	
	comp=E,147nm,0.4s								
TIR	**Tirane**	**0.43**	**302**	*i*	Pg	**Pg**		**00 27 03.8**	**-0.9**
TIR	**Tirane**	**0.43**	**302**	*e*	Pg	**Pb**		**00 27 04.3**	**-1.2**
TIR				*e*	Sg	**Sb**		**00 27 13.0**	**+1.2**
PHP	**Peshkopia**	**0.57**	**6**		Pg	**Pg**		**00 27 06.6**	**-0.7**
PHP					Sg	**Sg**		**00 27 14.7**	**-0.1**
PHP					AML	AML		00 27 17.7	
	comp=E,2.4nm,0.4s								
KBN	**Korca**	**0.59**	**146**		Pg	**Pg**		**00 27 07.6**	**-0.1**
KBN					Sg	**Sb**		**00 27 16.7**	**+0.2**
KBN					AML	AML		00 27 18.7	
	comp=E,1.1nm,0.4s								
FNA	**Florina**	**0.84**	**113**		Pn	**Pg**		**00 27 12.1**	**-0.3**
FNA					Sn	**Sg**		**00 27 23.9**	**+0.4**
FNA	**Florina**	**0.84**	**113**	*i*	Pg	**Pg**		**00 27 12.2**	**-0.1**
FNA				*i*	Sg	**Sg**		**00 27 24.2**	**+0.8**
FNA	**Florina**	**0.84**	**113**	*e*	Pg	**Pg**		**00 27 12.3**	**-0.1**
FNA				*e*	Sg	**Sb**		**00 27 25.0**	**+1.4**
FNA	**Florina**	**0.84**	**113**		P	**Pg**		**00 27 12.3**	**-0.1**
FNA					S	**Sg**		**00 27 20.2**	**-3.3**
NEST	**Nestorio**	**0.88**	**143**		Pn	**Pg**		**00 27 12.9**	**-0.2**
NEST					Sn	**Sb**		**00 27 26.0**	**+1.3**
NEST					AML	AML		00 27 28.7	
	comp=E,0.4nm,0.6s								
NEST	**Nestorio**	**0.88**	**143**		P	**Pg**		**00 27 12.6**	**-0.5**
NEST					S	**Sg**		**00 27 21.9**	**-2.8**
PUK	**Puka**	**0.98**	**339**		Pg	**Pg**		**00 27 14.4**	**-0.7**
PUK					Sg	**Sn**		**00 27 28.9**	**-0.4**
PUK					AML	AML		00 27 32.8	
	comp=E,0.7nm,0.3s								
PENT	**Pentalofos**	**1.10**	**147**		P	**Pn**		**00 27 17.1**	**+0.1**
PENT					S	**Sb**		**00 27 27.9**	**-3.2**
SKO	**Skopje**	**1.18**	**43**	*i*	Pg	**Pn**		**00 27 18.4**	**+0.4**
SKO				*i*	Sg	**Sg**		**00 27 35.3**	**+1.2**
ULC	**Ulcinj**	**1.19**	**316**	*e*	Pg	**Pb**		**00 27 17.2**	**-1.1**
ULC				*i*	Sg	**Sn**		**00 27 34.0**	**-0.1**
BCI	**Bajram Curri**	**1.26**	**350**		Pn	**Pn**		**00 27 18.9**	**-0.4**
BCI					Sn	**Sg**		**00 27 36.6**	**-0.3**
BCI					AML	AML		00 27 45.0	
	comp=E,0.5nm,0.5s								
SRN	**Sarande**	**1.27**	**192**		Pn	**Pg**		**00 27 21.0**	**+0.5**
SRN					Sn	**Sg**		**00 27 39.9**	**+3.0**
KZN	**Kozani**	**1.35**	**127**		P	**Pb**		**00 27 21.2**	**+0.1**
KZN					S	**Sn**		**00 27 35.6**	**-2.6**
DRME	**Dracevica, Mon**	**1.38**	**321**	*e*	Pn	**Pb**		**00 27 21.0**	**-0.6**
DRME				*e*	Sg	**Sg**		**00 27 43.5**	**+2.9**
DRME	**Dracevica, Mon**	**1.38**	**321**	*e*	Pg	**Pb**		**00 27 21.0**	**-0.6**
DRME				*i*	Sg	**Sg**		**00 27 40.6**	**0.0**
KEK	**Kerkira**	**1.47**	**197**		Pn	**Pg**		**00 27 23.9**	**-0.3**
KEK					Sn	**Sg**		**00 27 45.1**	**+1.8**
KEK	**Kerkira**	**1.47**	**197**		P	**Pg**		**00 27 26.2**	**+1.9**
JAN	**Janina**	**1.51**	**165**		P	**Pg**		**00 27 24.6**	**-0.4**
PDG	**Podgorica**	**1.55**	**328**	*e*	Pn	**Pb**		**00 27 23.7**	**-0.7**
BUM	**Brajici-Budva**	**1.61**	**318**	*e*	Pg	**Pb**		**00 27 25.3**	**-0.2**
BUM				*i*	Sg	**Sg**		**00 27 48.4**	**+0.5**
VAY	**Valandovo**	**1.68**	**82**	*i*	Pn	**Pn**		**00 27 25.8**	**+0.8**
VAY				*i*	Sg	**Sg**		**00 27 50.2**	**0.0**
VAY				*e*	Lg	Lg		00 27 50.8	
	comp=N,19nm,0.7s								
VAY				*e*	Lg	Lg		00 27 52.8	
	comp=E,13nm,0.6s								
IVA	**Berane**	**1.78**	**349**	*e*	Pn	**Pb**		**00 27 28.6**	**+0.1**
IVA				*i*	Sn	**Sg**		**00 27 54.8**	**+1.3**
CEME	**Cevo**	**1.79**	**323**	*e*	Pn	**Pb**		**00 27 28.5**	**0.0**
CEME				*i*	Sn	**Sg**		**00 27 53.2**	**-0.3**
KOME	**Kolasin**	**1.84**	**340**	*e*	Pn	**Pb**		**00 27 29.4**	**0.0**
KOME				*e*	Sg	**Sg**		**00 28 00.4**	**+5.2**
KOME	**Kolasin**	**1.84**	**340**	*e*	Pn	**Pb**		**00 27 29.5**	**0.0**
KOME				*i*	Sn	**Sg**		**00 27 54.9**	**-0.3**
TETR	**Tetrakomo, Epi**	**1.91**	**158**		P	**Pb**		**00 27 30.8**	**+0.2**
LIT	**Litokhoron**	**1.92**	**121**		P	**Pb**		**00 27 30.1**	**-0.7**
KNT	**Kendrikon**	**1.92**	**88**	*i*	Pn	**Pb**		**00 27 30.2**	**-0.6**
KNT	**Kendrikon**	**1.92**	**88**		P	**Pb**		**00 27 30.6**	**-0.3**
HCY	**Herceg Novi**	**1.92**	**314**	*e*	Pn	**Pb**		**00 27 30.8**	**0.0**
HCY				*i*	Sn	**Sg**		**00 27 56.6**	**-1.3**
NKME	**Niksic**	**1.95**	**328**	*e*	Pn	**Pb**		**00 27 31.1**	**-0.2**
NKME				*i*	Sn	**Sg**		**00 27 57.3**	**-1.5**
THL	**Klokotos Trika**	**2.00**	**140**		P	**Pn**		**00 27 30.5**	**+1.1**
BARS	**Barje**	**2.01**	**32**	*i*	Pn	**Pb**		**00 27 33.1**	**+0.7**
BARS	**Barje**	**2.01**	**32**	*e*	Pn	**Pb**		**00 27 31.9**	**-0.5**
BARS				*e*	Sn	**Sg**		**00 28 01.3**	**+0.5**
BOSS	**Bosilegrad**	**2.10**	**48**	*e*	Pn	**Pb**		**00 27 34.3**	**+0.4**
BOSS				*e*	Sn	**Sb**		**00 28 02.4**	**+2.6**
SJES	**Sjenica**	**2.16**	**353**	*e*	Pn	**Pb**		**00 27 34.5**	**-0.4**
SJES				*e*	Sn	**Sg**		**00 28 05.4**	**0.0**
BRY	**Bratogost**	**2.24**	**323**	*e*	Pn	**Pb**		**00 27 35.8**	**-0.5**
BRY				*i*	Sn	**Sb**		**00 28 04.3**	**+0.4**
SOH	**Sokhos**	**2.29**	**97**		P	**Pn**		**00 27 35.1**	**+1.7**
TSLK	**Tsoukalades, L**	**2.30**	**174**		P	**Pb**		**00 27 35.5**	**-1.8**
LKD2	**Lefkada island**	**2.34**	**174**		P	**Pb**		**00 27 36.0**	**-1.9**
LKD2	**Lefkada island**	**2.34**	**174**		P	**Pn**		**00 27 35.7**	**+1.7**
UPM	**Unac-Piva**	**2.34**	**333**	*e*	Pn	**Pb**		**00 27 37.4**	**-0.7**
UPM				*i*	Sn	**Sb**		**00 28 06.9**	**-0.1**
SRS	**Serrai**	**2.44**	**89**		P	**Pn**		**00 27 37.6**	**+2.1**
IVAS	**Ivanjica**	**2.46**	**357**	*e*	Pn	**Pb**		**00 27 38.2**	**-1.8**
IVAS				*e*	Sn	**Sb**		**00 28 10.8**	**+0.6**
EVGI	**Lefkada island**	**2.51**	**175**		P	**Pn**		**00 27 37.8**	**+1.4**
NOCI	**Noci**	**2.52**	**264**		P	**Pn**		**00 27 35.9**	**-0.5**
AGG	**Agios Georgios**	**2.59**	**144**		P	**Pn**		**00 27 38.5**	**+1.1**
VTS	**Vitosha**	**2.62**	**54**	*e*	Pn	**Pn**		**00 27 39.1**	**+1.1**
BOVS	**Bovan**	**2.71**	**21**	*e*	Pn	**Pb**		**00 27 41.9**	**-2.3**
BBLS	**Lazi&#263i**	**2.83**	**346**	*e*	Pn	**Pb**		**00 27 44.4**	**-2.0**
ZAGS	**Zajecar**	**3.03**	**27**	*e*	Pn	**Pb**		**00 27 47.2**	**-2.5**
ZAGS				*e*	Sn	**Sb**		**00 28 25.9**	**-0.6**
TRUS	**Trudelj**	**3.10**	**1**	*e*	Pn	**Pb**		**00 27 48.4**	**-2.5**
TRUS				*e*	Sn	**Sb**		**00 28 27.5**	**-1.1**
MRVN	**Minervino Murg**	**3.15**	**270**		P	**Pn**		**00 27 45.5**	**+0.3**
TEKS	**Tekeris**	**3.48**	**350**	*e*	Pn	**Pn**		**00 27 52.6**	**+2.9**

*IDC **13** 00:28:38.8±1.7, 31°.08S×177°.24W, h0km, mb4.0/4, mbtmp4.0/4, MS3.3/3, Error ellipse: s-maj=42.0km s-min=23.9km az=78.0*
ISC 13 00:28:43.7±1.7, 31°.1S±0°.1×177°.2W±0°.3, h35km, n7, σ0s55/7, mb4.0/4, MS3.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.92**	**341**		Pn	**Pn**		**00 29 13.5**	**-0.5**
	34nm,0.3s,baz=131,slow=20,SNR=2.0								
RAO					Sn	**Sn**		**00 29 37.6**	**+0.8**
	78nm,0.3s,baz=102,slow=16,SNR=3.6								
STKA	**Stephens Creek**	**35.00**	**258**		P	**P**		**00 35 33.1**	**+0.2**
	2.3nm,0.8s,baz=99,slow=6.5,SNR=4.4								
STKA					LR	LR		00 49 13.0	
	comp=Z,28nm,18.3s,baz=27,slow=35								
	2.3nm,0.8s								
ASAR	**Alice Springs**	**43.76**	**267**		P	**P**		**00 36 45.9**	**-0.2**
	1.5nm,0.9s,baz=106,slow=7.5,SNR=9.6								
ASAR					LR	LR		00 53 23.6	
	comp=Z,20nm,18.3s,baz=96,slow=34								
	1.5nm,0.9s								
WRA	**Warramunga Arr**	**44.81**	**272**		P	**P**		**00 36 54.1**	**-0.4**
	0.7nm,0.5s,baz=112,slow=7.9,SNR=5.4								
	0.7nm,0.5s								
QSPA	**South Pole Qui**	**59.03**	**180**		P	**P**		**00 38 40.3**	**+0.4**
	2.1nm,0.9s,baz=28,slow=1.3,SNR=7.2								
	2.1nm,0.9s								
JNU	**Nakatsue**	**80.52**	**318**		LR	LR		01 15 13.2	
	comp=Z,47nm,18.2s,baz=70,slow=35								
FINES	**FINESS Array B**	**146.01**	**340**		PKPbc	**PKPbc**		**00 48 18.8**	**-0.3**
	1.4nm,0.8s,baz=29,slow=4.4,SNR=7.9								

*INMG **13** 00:52:47.9±1.4, 36°.84N×14°.06W, h10km, ML2.3, Error ellipse: s-maj=9.8km s-min=8.8km az=8.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Josephine*
*MDD **13** 00:52:57.3±2.4, 37°.06N×12°.97W, h0km, Mb3.9/3, M_mb3.2/3, Error ellipse: s-maj=20.2km s-min=16.2km az=160.0*
ISC 13 00:52:50.7±3.2, 37°.20N±0°.09×13°.4W±0°.1, h10km, n36, σ1s46/63, 3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.65**	**90**		S	**Sn**		**00 54 29.7**	**-0.8**
PFVI	**Vila Bisbo**	**3.65**	**90**	*e*	S	**Sn**		**00 54 29.8**	**-0.6**
PFVI				*i*	IAML			00 54 39.2	
PMAFR	**Mafra**	**3.69**	**60**		P	**Pn**		**00 53 49.1**	**+1.3**
PMAFR					S	**Sn**		**00 54 33.7**	**+2.3**
PMAFR	**Mafra**	**3.69**	**60**	*e*	P	**Pn**		**00 53 49.6**	**+1.8**
PMAFR				*e*	S	**Sn**		**00 54 34.7**	**+3.3**
PMAFR				*i*	IAML			00 54 35.8	
PMAFR				*i*	IAML			00 54 35.9	
PTEO	**Sao Teotonio**	**3.74**	**83**	*e*	P	**Pn**		**00 53 47.3**	**-1.2**
PTEO				*e*	S	**Sn**		**00 54 31.5**	**-1.1**
PTEO				*i*	IAML			00 54 34.4	
PTEO				*i*	IAML			00 54 35.3	
PTEO				*i*	IAML			00 54 36.6	
MORF	**Marmelete**	**3.79**	**87**	*e*	S	**Sn**		**00 54 33.2**	**-0.7**
MORF				*i*	IAML			00 54 40.2	
MORF				*i*	IAML			00 54 41.1	
MORF				*i*	IAML			00 54 46.0	
PARRA	**Arraiolos**	**3.80**	**64**	*e*	P	**Pb**		**00 53 58.9**	**+1.0**
PARRA				*e*	S	**Sg**		**00 54 52.0**	**-0.8**
PARRA				*i*	IAML			00 54 53.7	
PARRA				*i*	IAML			00 54 54.4	
PARRA				*i*	IAML			00 54 56.2	
MESJ	**Messejana**	**4.17**	**80**	*e*	P	**Pn**		**00 53 54.3**	**0.0**
MESJ				*e*	S	**Sn**		**00 54 44.2**	**+1.0**
MESJ				*i*	IAML			00 54 47.1	
PCVE	**Castro Verde**	**4.29**	**83**		P	**Pn**		**00 53 56.2**	**+0.2**
PCVE					S	**Sn**		**00 54 44.4**	**-1.8**
PCVE	**Castro Verde**	**4.29**	**83**	*e*	P	**Pn**		**00 53 56.3**	**+0.2**
PCVE				*e*	S	**Sn**		**00 54 44.8**	**-1.3**
PCVE				*i*	IAML			00 54 47.1	
PCVE				*i*	IAML			00 54 52.0	
PCVE				*i*	IAML			00 54 52.3	
PBDV	**Barranco-do-Ve**	**4.37**	**88**		P	**Pn**		**00 53 57.7**	**+0.5**
PBDV					S	**Sn**		**00 54 48.1**	**0.0**

PBDV	**Barranco-do-Ve**	**4.37**	**88**	*e*P		**Pn**	**00 53 55.4**	**-1.8**
PBDV				*e*S		**Sn**	**00 54 48.2**	**+0.1**
PBDV				*i* IAML			00 54 52.8	
PBDV				*i* IAML			00 54 54.4	
EVO	**Evora**	**4.47**	**71**	P		**Pn**	**00 53 58.1**	**-0.4**
EVO				S		**Sn**	**00 54 49.7**	**-0.8**
EVO	**Evora**	**4.47**	**71**	*e*S		**Sn**	**00 54 51.2**	**+0.8**
PBEJ	**Beja**	**4.47**	**78**	*e*S		**Sn**	**00 54 52.3**	**+1.7**
PBEJ				*i* IAML			00 54 56.5	
PBEJ				*i* IAML			00 55 01.0	
PMTG	**Montargil**	**4.49**	**64**	*e*P		**Pn**	**00 53 58.6**	**-0.1**
PMTG				*e*S		**Sn**	**00 54 51.0**	**0.0**
PMTG				*i* IAML			00 54 54.5	
PMTG				*i* IAML			00 54 54.6	
PMTG				*i* IAML			00 54 54.6	
PVAQ	**Vaqueiros**	**4.54**	**86**	P		**Pn**	**00 54 00.1**	**+0.7**
PVAQ	**Vaqueiros**	**4.54**	**86**	*e*P		**Pn**	**00 54 00.4**	**+1.0**
PVAQ				*e*S		**Sn**	**00 54 51.5**	**-0.7**
PVAQ				*i* IAML			00 54 54.6	
PVAQ				*i* IAML			00 54 56.6	
PVAQ				*i* IAML			00 55 00.4	
EGRO	**El Granado**	**4.73**	**84**	S		**Sn**	**00 54 57.6**	**+0.7**
EGRO	**El Granado**	**4.73**	**84**	Pn		**Pn**	**00 54 06.0**	**+3.9**
EGRO				⇑*i*VmvVC			00 54 09.6	
	123nm,SNR=1.5							
EGRO				Sn		**Sn**	**00 54 52.9**	**-3.9**
PSARD	**Sardoal**	**4.76**	**58**	*e*P		**Pn**	**00 54 02.3**	**-0.3**
PSARD				*e*S		**Sn**	**00 54 58.4**	**+0.6**
PSARD				*i* IAML			00 55 03.0	
PSARD				*i* IAML			00 55 03.4	
PSARD				*i* IAML			00 55 05.5	
PCAS	**Casmilo, Conde**	**4.78**	**52**	*e*P		**Pn**	**00 54 02.7**	**-0.1**
PCAS				*e*S		**Sn**	**00 55 00.0**	**+1.8**
PCAS				*i* IAML			00 55 01.7	
PCAS				*i* IAML			00 55 02.9	
PCAS				*i* IAML			00 55 05.8	
PESTR	**Estremoz**	**4.88**	**68**	P		**Pn**	**00 54 04.0**	**-0.1**
PESTR				S		**Sn**	**00 55 00.3**	**-0.5**
PESTR	**Estremoz**	**4.88**	**68**	*e*P		**Pn**	**00 54 04.5**	**+0.3**
PESTR				*e*S		**Sn**	**00 55 01.0**	**+0.3**
PBAR	**Barrancos**	**5.14**	**77**	P		**Pn**	**00 54 06.6**	**-1.1**
PBAR				S		**Sn**	**00 55 06.9**	**-0.1**
PBAR	**Barrancos**	**5.14**	**77**	*e*P		**Pn**	**00 54 09.4**	**+1.6**
PBAR				*e*S		**Sn**	**00 55 07.1**	**0.0**
PBAR				*i* IAML			00 55 11.2	
PBAR				*i* IAML			00 55 15.5	
PBAR				*i* IAML			00 55 18.4	
PMRV	**Marv??o**	**5.22**	**63**	*e*P		**Pn**	**00 54 08.6**	**-0.3**
PMRV				*e*S		**Sn**	**00 55 08.8**	**-0.3**
PMRV				*i* IAML			00 55 11.6	
PMRV				*i* IAML			00 55 12.0	
PMRV				*i* IAML			00 55 16.8	
EBAD	**Badajoz**	**5.28**	**71**	P		**Pn**	**00 54 09.7**	**+0.1**
EBAD				S		**Sn**	**00 55 10.5**	**-0.1**
EBAD	**Badajoz**	**5.28**	**71**	Pn		**Pn**	**00 54 11.0**	**+1.4**
EBAD				⇑*i*VmvVC			00 54 11.7	
	74nm,SNR=1.0							
EBAD				Sn		**Sn**	**00 55 07.7**	**-2.9**
PCBR	**Castelo Branco**	**5.34**	**59**	*e*P		**Pn**	**00 54 10.1**	**-0.4**
PCBR				*e*S		**Sn**	**00 55 12.7**	**+0.7**
EMIN	**Mina Concepcio**	**5.38**	**82**	S		**Sn**	**00 55 11.6**	**-1.4**
EMIN				P		**Pn**	**00 54 12.4**	**+1.4**
EMIN	**Mina Concepcio**	**5.38**	**82**	⇑*i*Vmb_VC			00 54 15.0	
	84nm,SNR=1.5							
EMIN				Sn		**Sn**	**00 55 08.9**	**-4.1**
PVIS	**Viseu**	**5.54**	**49**	*e*S		**Sn**	**00 55 17.1**	**-0.1**
POLO	**Lamas de Olo**	**6.02**	**44**	*e*P		**Pn**	**00 54 19.3**	**-0.7**
POLO				*e*S		**Sn**	**00 55 27.3**	**-1.7**
PGAV	**Gavieira, Arco**	**6.19**	**38**	*e*P		**Pn**	**00 54 21.6**	**-0.7**
PGAV				*e*S		**Sn**	**00 55 30.4**	**-2.8**
PGAV				*i* IAML			00 55 31.6	
PGAV				*i* IAML			00 55 32.4	
PGAV				*i* IAML			00 55 36.8	
MVO	**Moncorvo**	**6.34**	**49**	*e*P		**Pn**	**00 54 23.9**	**-0.3**
MVO				*e*S		**Sn**	**00 55 34.9**	**-1.8**
MVO				*i* IAML			00 55 39.3	

IDC 13 00:56:48.5±47.0, 16°19S×175°03W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=883.0km s-min=182.8km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.28**	**240**	P	P	01 04 43.9	-0.1
	0.8nm,0.3s,baz=95,slow=12,SNR=3.2						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**48.14**	**258**	P	P	01 05 30.3	-0.4
	0.4nm,0.5s,baz=93,slow=7.4,SNR=7.3						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**48.37**	**253**	P	P	01 05 32.6	+0.1
	4.7nm,0.5s,baz=89,slow=8.1,SNR=58						
	4.7nm,0.5s						

CATAC 13 00:59:18.8±0.6, 12°N±4°×88°W±°, h38km±4km, M2.5/8, MLv2.5/8, Error ellipse: s-maj=10.9km s-min=4.1km az=34.6, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.54**	**9**	P	Pn	00 59 30.9	+0.7
CSGN				S	Sn	00 59 41.0	+2.9
POTN	**Potosi Cosigui**	**0.57**	**14**	P	Pn	00 59 30.8	+0.2
POTN				S	Sn	00 59 41.4	+2.6
CRIN	**San Cristobal**	**0.64**	**66**	P	Pn	00 59 32.5	+1.0
CRIN	**San Cristobal**	**0.64**	**66**	S	Sn	00 59 43.6	+3.2
CNCH	**Conchagua**	**0.85**	**348**	P	Pn	00 59 34.6	+0.2
CNCH	**Conchagua**	**0.85**	**348**	S	Sn	00 59 47.5	+1.7
CNGN	**Cerro Negro**	**0.93**	**86**	S	Sn	00 59 49.6	+2.1
ILCN	**San Idelfonso**	**0.93**	**82**	S	Sn	00 59 49.6	+2.0
COPN	**Copaltepe**	**1.06**	**104**	P	Pn	00 59 36.9	-0.3
MOMN	**Momotombo**	**1.08**	**92**	P	Pn	00 59 36.9	-0.5
MOMN				S	Sn	00 59 51.6	+0.3
MOM2	**El Cardon**	**1.13**	**90**	P	Pn	00 59 37.6	-0.5
MOM2				S	Sn	00 59 53.7	+1.2
CHOHN	**Orocuina**	**1.14**	**25**	P	Pn	00 59 37.9	-0.4
PACA	**Pacayal**	**1.22**	**327**	P	Pn	00 59 39.9	+0.5
PACA	**Pacayal**	**1.22**	**327**	S	Sn	00 59 55.9	+1.2
YUSH	**Yuscaran**	**1.69**	**27**	P	Pn	00 59 45.4	-0.6
YUSH	**Yuscaran**	**1.69**	**27**	S	Sn	01 00 05.5	-1.0

*NEIC **13** 01:10:36.5±1.6, 17°.5S±0°.1×178°.1W±0°.1, h562km±6km, mb4.3/19, Error ellipse: s-maj=20.4km s-min=15.6km az=171.0*
*IDC **13** 01:10:42.7±13.0, 17°.57S×178°.42W, h628km±173km, mb3.0/8, mbtmp4.0/8, Error ellipse: s-maj=60.1km s-min=26.2km az=99.0*

ISC 13 01:10:36.0±0.6, 17°.5S±0°.1×178°.20W±0°.10, h550km, n31, σ0s98/31, mb4.2/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.58**	**265**	P	**P**	**01 11 56.0**	**+1.1**
NIUE	**Niue**	**8.02**	**103**	P	**P**	**01 12 34.4**	**+0.5**
PINNC	**Pines Island,**	**14.42**	**247**	P	**P**	**01 13 41.7**	**+2.2**
DZM	**Mont Dzumac**	**15.15**	**250**	P	**P**	**01 13 49.2**	**+2.0**
DZM				IAmb	IAmb	01 14 22.4	
	comp=Z,12nm,1.1s						
MSWZ	**Moikau Station**	**24.51**	**192**	P	**P**	**01 15 12.0**	**-0.2**
MLZ	**Mavora Lakes**	**30.07**	**199**	P	**P**	**01 15 59.6**	**-1.2**
STKA	**Stephens Creek**	**39.01**	**241**	P	**P**	**01 17 16.0**	**+0.3**
STKA				IAmb	IAmb	01 17 16.7	
	comp=Z,31nm,1.1s						
STKA	**Stephens Creek**	**39.01**	**241**	P	**P**	**01 17 16.1**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=92,slow=8.8,SNR=11						
	comp=Z,3.0nm,0.5s						
BBOO	**Buckleboo**	**43.79**	**241**	P	**P**	**01 17 53.4**	**-0.1**
BBOO				IAmb	IAmb	01 17 53.9	
	comp=Z,11nm,1.0s						
WR8	**Warramunga Arr**	**44.75**	**259**	P	**P**	**01 18 00.2**	**-0.9**
WR8				IAmb	IAmb	01 18 03.2	
	comp=Z,9.9nm,1.4s						
WB0	**Warramunga Arr**	**44.87**	**259**	P	**P**	**01 18 01.7**	**-0.3**
WB0				IAmb	IAmb	01 18 11.9	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**44.90**	**259**	P	**P**	**01 18 01.4**	**-0.7**
WB2				IAmb	IAmb	01 18 42.1	
	comp=Z,9.0nm,1.2s						
WRA	**Warramunga Arr**	**44.91**	**259**	P	**P**	**01 18 01.6**	**-0.7**
WRA	**Warramunga Arr**	**44.91**	**259**	P	**P**	**01 18 01.8**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=92,slow=7.1,SNR=19						
	comp=Z,1.6nm,0.6s						
AS31	**Alice Springs**	**45.10**	**254**	P	**P**	**01 18 03.8**	**+0.1**
AS31				IAmb	IAmb	01 18 04.7	
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**45.10**	**254**	P	**P**	**01 18 03.9**	**+0.1**
	comp=Z,16nm,0.6s,baz=88,slow=8.3,SNR=154						
	comp=Z,16nm,0.6s						
MTN	**Manton Dam**	**49.01**	**268**	P	**P**	**01 18 32.7**	**-0.5**
KNRA	**Kununurra**	**50.73**	**264**	P	**P**	**01 18 45.9**	**+0.1**
KNRA				IAmb	IAmb	01 19 16.9	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.30**	**260**	P	**P**	**01 19 03.5**	**-0.7**
MBWA	**Marble Bar**	**58.37**	**256**	P	**P**	**01 19 39.0**	**-0.3**
MBWA				IAmb	IAmb	01 20 18.8	
	comp=Z,18nm,1.3s						
MORW	**Morawa**	**60.83**	**246**	P	**P**	**01 19 55.2**	**-0.4**
MORW				IAmb	IAmb	01 20 02.4	
	comp=Z,15nm,1.2s						
VNDA	**Vanda**	**60.89**	**185**	P	**P**	**01 19 54.3**	**-0.8**
VNDA	**Vanda**	**60.89**	**185**	P	**P**	**01 19 54.4**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=8.2,slow=7.5,SNR=3.1						
	comp=Z,0.2nm,0.5s						
QSPA	**South Pole Qui**	**72.57**	**180**	P	**P**	**01 21 07.9**	**+0.5**
QSPA				IAmb	IAmb	01 21 11.9	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**72.57**	**180**	P	**P**	**01 21 07.7**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=16,slow=3.4,SNR=14						
	comp=Z,1.3nm,0.6s						
TJN	**Taejon**	**74.24**	**317**	P	**P**	**01 21 14.7**	**-2.5**
P18K	**Big Mountain,**	**78.86**	**12**	P	**P**	**01 21 42.2**	**+0.2**
NVAR	**Mina Array Bea**	**78.98**	**44**	P	**P**	**01 21 44.3**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=234,slow=9.9,SNR=4.0						
	comp=Z,0.3nm,0.5s						
NV11	**Mina Array Sit**	**79.08**	**44**	P	**P**	**01 21 43.2**	**-0.6**
TXAR	**Lajitas Array**	**85.60**	**58**	P	**P**	**01 22 18.4**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=236,slow=2.7,SNR=4.2						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**91.02**	**179**	P	**P**	**01 22 40.5**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=213,slow=9.6,SNR=5.9						
	comp=Z,0.5nm,0.7s						

GCMT 13 01:19:38.0±0.5, 44°.89S±0°.04×78°.33W±0°.04, h18km±1km, MW4.8/73, Moment Tensor Solution. s31,c36; s73,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.04±.18; Mθθ=0.16±.09; Mϕϕ=1.88±.12; Mrθ=0.86±.26; Mθϕ=-0.22±.06; Mϕr=0.27±.22; Best double couple: M☐=2.14000×10^16 NP1:ϕ1=335.00000°, δ1=46.00000°, λ1=-118.00000°. NP2:ϕ2=192.00000°, δ2=1.00000°, λ2=-64.00000°. Principal axes: T 1.9160, Plg3.0000°, Azm264.0000°; N 0.4490, Plg20.0000°, Azm355.0000°; P -2.3640, Plg70.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Off coast of southern Chile

*IDC **13** 01:26:06.2±4.7, 32°.93N×48°.97E, h0km, mb3.7/7, mbtmp3.6/8, ML2.7/1, MS3.2/3 Error ellipse: s-maj=101.3km s-min=25.5km az=176.0*
*TEH **13** 01:26:07.5, 32°.69N×49°.09E, h25km±30km*
*ISN **13** 01:26:07.1±0.5, 32°.64N×49°.06E, h10km±14km, ML3.4*
*OMAN **13** 01:26:12.8±0.1, 32°.24N×49°.50E, h10km, mb4.3/10, Error ellipse: s-maj=1.6km s-min=0.9km az=7.0*

ISC 13 01:26:07.7±0.6, 32°.58N±0°.04×49°.13E±0°.03, h23km, n83, σ2s27/102, mb3.5/7, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**1.32**	**198**	Pg	**Pb**	**01 26 35.3**	**+3.5**
JHBN	**Jahan bin**	**1.34**	**105**	Pg	**Pb**	**01 26 34.4**	**+2.0**
IPIR	**Pirpir**	**1.49**	**86**	Pg	**Pn**	**01 26 35.2**	**+1.9**
ZNGN	**Zangian**	**1.53**	**107**	Pg	**Pb**	**01 26 37.7**	**+2.1**
IBRJ	**Brojen**	**1.93**	**110**	Pn	**Pb**	**01 26 42.6**	**+0.4**
IBZA	**Bozab**	**2.16**	**331**	Pn	**Pn**	**01 26 43.4**	**+0.8**
IKLH	**Kolahrood**	**2.19**	**70**	Pn	**Pn**	**01 26 45.7**	**+2.8**
ABEH	**Behbahan**	**2.20**	**154**	Pn	**Pb**	**01 26 46.8**	**0.0**
QAMS	**Qamsar**	**2.22**	**58**	Pn	**Pn**	**01 26 45.8**	**+2.4**
HAGD	**Aghdareh**	**2.23**	**0**	Pn	**Pn**	**01 26 43.9**	**+0.4**
IGAR	**Gharneh**	**2.47**	**93**	Pn	**Pn**	**01 26 50.1**	**+3.4**
SNQR	**Sanchar, Kerman**	**2.59**	**332**	Pn	**Pn**	**01 26 49.8**	**+1.3**
KLNJ	**Kolanjah**	**2.62**	**126**	Pn	**Pn**	**01 26 52.4**	**+3.5**
RAFI	**Al-Rafai**	**2.70**	**252**	*e*Pn	**Pb**	**01 26 53.5**	**-1.8**
RAFI				*e*Sn	**Sb**	**01 27 27.0**	**-1.0**
RAFI				AML	AML	01 27 27.6	
	comp=E,233nm,0.5s						
RAFI				AML	AML	01 27 45.8	
	comp=N,265nm,0.6s						
IZEF	**Zefreh**	**2.71**	**83**	Pn	**Pn**	**01 26 53.5**	**+3.3**
IBDR	**Badra**	**2.75**	**282**	*e*Pn	**Pn**	**01 26 53.5**	**+3.2**
IBDR				*e*Sn	**Sb**	**01 27 27.0**	**-2.3**
IGHG	**Ghaleghazi**	**2.76**	**310**	Pn	**Pn**	**01 26 52.1**	**+1.3**
IQOM	**Qom**	**2.77**	**35**	Pn	**Pn**	**01 26 52.4**	**+1.5**
IRAM	**Rameshеh**	**2.86**	**105**	Pn	**Pn**	**01 26 55.2**	**+3.0**
KRSH	**Karshahi**	**2.87**	**60**	Pn	**Pn**	**01 26 54.7**	**+2.5**
HGHA	**Hamedan- Ghaye**	**2.91**	**356**	Pn	**Pn**	**01 26 53.8**	**+1.0**
GLG1	**Gilan-e-Gharb**	**3.10**	**300**	Pn	**Pn**	**01 26 56.3**	**+1.0**
IDHR	**Dehrash**	**3.11**	**313**	Pn	**Pn**	**01 26 56.2**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.14**	**7**	Pn	**Pn**	**01 26 57.2**	**+1.2**
IVRN	**Varamin**	**3.23**	**41**	Pn	**Pn**	**01 26 58.7**	**+1.6**
KBD	**Kabd**	**3.61**	**200**	P	**Pn**	**01 27 06.7**	**+4.4**
KBD				S	**Sb**	**01 27 50.8**	**-3.5**
IDMV	**Damavand**	**3.84**	**38**	Pn	**Pn**	**01 27 07.2**	**+1.6**
IGZV	**Ghazvin**	**3.90**	**13**	Pn	**Pn**	**01 27 07.8**	**+1.4**
ANAR	**Anarak**	**3.92**	**80**	Pn	**Pn**	**01 27 09.1**	**+2.5**
BHD	**Baghdad**	**4.05**	**281**	*e*Pn	**Pn**	**01 27 11.5**	**+3.2**
BHD				*e*Sn	**Sn**	**01 27 58.7**	**+3.6**
BHD				AML	AML	01 28 22.9	
	comp=E,90nm,0.9s						
ILAS	**Lasjerd**	**4.23**	**48**	Pn	**Pn**	**01 27 12.5**	**+1.5**
IFIR	**Firoozkooh**	**4.28**	**44**	Pn	**Pn**	**01 27 13.5**	**+1.8**
ICHK	**Chekchek**	**4.47**	**93**	Pn	**Pn**	**01 27 17.3**	**+3.0**
IPRN	**Peran**	**4.51**	**35**	Pn	**Pn**	**01 27 16.4**	**+1.6**
DSBU	**Dashti - Bushe**	**4.59**	**156**	Pn	**Pn**	**01 27 19.8**	**+4.0**
IALA	**Alasht**	**4.63**	**40**	Pn	**Pn**	**01 27 18.3**	**+1.8**
IMEH	**Mehriz**	**4.81**	**103**	Pn	**Pn**	**01 27 21.6**	**+2.7**
IKRK	**Kirkuk**	**4.87**	**307**	*e*Pn	**Pn**	**01 27 22.5**	**+2.9**
IKRK				*e*Sn	**Sn**	**01 28 18.0**	**+2.7**
IGLO	**Ghaloghah**	**5.51**	**43**	Pn	**Pn**	**01 27 31.0**	**+2.5**
IBAF	**Bafgh**	**5.55**	**99**	Pn	**Pn**	**01 27 32.5**	**+3.5**
TPRV	**Parvadeh(Tabas**	**6.38**	**84**	Pn	**Pn**	**01 27 43.2**	**+2.9**
SAKB	**Bahrain**	**6.70**	**169**	P	**Pn**	**01 27 46.8**	**+2.2**
SHMA	**Al-Shehemyia**	**6.89**	**166**	P	**Pn**	**01 27 50.0**	**+2.7**
	SNR=6.7						
NGRK	**Negar Kerman**	**7.14**	**112**	Pn	**Pn**	**01 27 55.2**	**+4.0**
SMRA	**Abu-Samra**	**7.95**	**169**	P	**Pn**	**01 28 03.8**	**+2.0**
TRNA	**Turayna**	**8.03**	**166**	P	**Pn**	**01 28 05.4**	**+2.4**
	SNR=20						
JRN	**Qarnain Island**	**8.28**	**156**	P	**Pn**	**01 28 08.7**	**+2.2**
GNI	**Garni**	**8.34**	**336**	LR	LR	01 31 43.3	
	comp=E,52nm,18.2s,baz=202,slow=42						
SHME	**Shamm**	**8.93**	**135**	P	**Pn**	**01 28 16.4**	**+1.1**
SHME				S	**Sn**	**01 29 52.1**	**-3.2**
MASF	**Masafi**	**9.46**	**138**	P	**Pn**	**01 28 23.3**	**+0.7**
	SNR=11						
MASF				S	**Sn**	**01 30 05.7**	**-2.5**
NAZ	**Nazwa, Dubai**	**9.49**	**141**	P	**Pn**	**01 28 24.8**	**+1.8**
NAZ				S	**Sn**	**01 30 08.2**	**-0.8**
AJN	**Ajban**	**9.50**	**146**	P	**Pn**	**01 28 24.4**	**+1.3**
AJN				S	**Sn**	**01 30 09.4**	**+0.1**
RAYN	**Ar Rayn**	**9.58**	**200**	P	**Pn**	**01 28 25.5**	**+1.2**
RAYN				S	**Sn**	**01 30 12.5**	**+1.2**
MDH	**Madha**	**9.59**	**137**	P	**Pn**	**01 28 24.1**	**-0.3**
MDH				S	**Sn**	**01 30 10.1**	**-1.4**
ASUD	**Al Ashush, Dub**	**9.62**	**144**	P	**Pn**	**01 28 28.0**	**+3.2**
	SNR=9.9						
ASUD				S	**Sn**	**01 30 11.6**	**-0.5**
FAQ	**Al Faqa, Dubai**	**9.65**	**142**	P	**Pn**	**01 28 27.5**	**+2.3**
FAQ				S	**Sn**	**01 30 11.4**	**-1.5**
UOSS	**Minazif**	**9.82**	**139**	P	**Pn**	**01 28 28.8**	**+1.4**
UOSS				S	**Sn**	**01 30 12.0**	**-5.0**
HATD	**Hatta, Dubai**	**9.87**	**140**	P	**Pn**	**01 28 28.7**	**+0.5**
HATD				S	**Sn**	**01 30 14.9**	**-3.5**
ASHO	**Ashiyiah**	**9.95**	**141**	P	**Pn**	**01 28 30.6**	**+1.3**
ASHO				S	**Sn**	**01 30 16.6**	**-3.6**
MZR	**Muzera**	**10.29**	**157**	P	**Pn**	**01 28 35.6**	**+1.7**
	SNR=9.4						
ALNE	**Al Ain**	**10.30**	**144**	P	**Pn**	**01 28 35.9**	**+1.8**
	SNR=7.2						
ALNE				S	**Sn**	**01 30 27.3**	**-1.6**
ASF	**Jabal al Asfar**	**10.35**	**271**	LR	LR	01 33 06.9	
	comp=E,67nm,19.6s,baz=326,slow=41						
SOHO	**SOHO**	**10.64**	**140**	P	**Pn**	**01 28 38.2**	**-0.6**
SOHO				S	**Sn**	**01 30 33.2**	**-4.0**
ARQ	**Araqi**	**11.29**	**143**	P	**Pn**	**01 28 48.8**	**+1.2**
	SNR=32						
ARQ				S	**Sn**	**01 30 51.6**	**-1.5**
HOQ	**Hoqain**	**11.51**	**139**	P	**Pn**	**01 28 50.5**	**-0.1**
HOQ				S	**Sn**	**01 30 54.4**	**-4.1**
BIDO	**Bidbid**	**12.02**	**136**	P	**Pn**	**01 28 57.9**	**+0.2**
BIDO				S	**Sn**	**01 31 06.5**	**-4.5**
SMDO	**Samad**	**12.33**	**138**	P	**Pn**	**01 29 02.6**	**+0.6**
	SNR=9.7						
SMDO				S	**Sn**	**01 31 15.2**	**-3.6**
	SNR=5.2						
JMDO	**Jabal Madar**	**12.91**	**140**	P	**Pn**	**01 29 10.1**	**+0.2**
JLN	**Jalan Bani Buh**	**13.82**	**136**	P	**Pn**	**01 29 22.3**	**0.0**
MHTO	**MHTO**	**13.98**	**144**	P	**Pn**	**01 29 23.8**	**-0.6**
BRTR	**Keskin Array B**	**14.39**	**304**	Pn	**Pn**	**01 29 31.0**	**+0.9**
	baz=134,slow=14,SNR=1.5						
	comp=E,0.2nm,0.6s						
DOK	**Doka**	**14.62**	**161**	P	**Pn**	**01 29 32.5**	**-0.6**
DQM	**DQM**	**14.68**	**147**	P	**Pn**	**01 29 33.1**	**-0.8**
ABTO	**Aybut**	**15.62**	**165**	P	**Pn**	**01 29 44.9**	**-1.6**
RBK	**Rabkut**	**15.70**	**162**	P	**Pn**	**01 29 46.4**	**-1.2**
BVAR	**Borovoye Array**	**25.52**	**31**	P	**P**	**01 31 34.3**	**-0.1**
	comp=E,0.6nm,0.5s,baz=226,slow=5.8,SNR=4.6						
	comp=E,0.6nm,0.5s						
MKAR	**Makanchi Array**	**28.95**	**51**	P	**P**	**01 32 06.4**	**+1.1**
	comp=E,0.3nm,0.7s,baz=263,slow=11,SNR=1.6						
	comp=E,0.3nm,0.7s						
FINES	**FINESS Array B**	**32.51**	**340**	P	**P**	**01 32 34.9**	**-1.5**
	comp=E,3.3nm,1.0s,baz=137,slow=7.9,SNR=2.0						
	comp=E,3.3nm,1.0s						
ZALV	**Zalesovo Beam**	**33.11**	**39**	P	**P**	**01 32 41.6**	**-0.1**
	comp=E,0.5nm,0.3s,baz=232,slow=7.1,SNR=2.0						
	comp=E,0.5nm,0.3s						
HFS	**Hagfors**	**36.07**	**330**	P	**P**	**01 33 06.1**	**-1.2**
	comp=E,1.9nm,1.0s,baz=139,slow=9.2,SNR=4.2						
	comp=E,1.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**42.70**	**318**	P	**P**	**01 34 01.7**	**-0.9**
	comp=E,0.3nm,0.5s,baz=104,slow=8.5,SNR=5.7						
	comp=E,0.3nm,0.5s						
ESDC	**Sonseca Array**	**42.94**	**295**	P	**P**	**01 34 04.6**	**-0.3**
	comp=E,0.6nm,1.0s,baz=92,slow=8.2,SNR=2.5						
	comp=E,0.6nm,1.0s						
LBTB	**Lobatse**	**61.52**	**204**	LR	LR	02 07 14.3	
	comp=E,134nm,19.6s,baz=203,slow=40						

IDC 13 01:35:50.9±1.4, 31°.27S×178°.76W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=45.4km s-min=30.7km az=49.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.42**	**268**	P	P	01 43 47.6	+0.1
	0.6nm,0.5s,baz=106,slow=7.6,SNR=10						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.49**	**273**	P	P	01 43 56.0	-0.2
	0.8nm,0.3s,baz=115,slow=7.6,SNR=8.5						
	0.8nm,0.3s						
QSPA	**South Pole Qui**	**58.84**	**180**	P	P	01 45 51.2	+0.1
	1.4nm,0.7s,baz=326,slow=3.6,SNR=10.0						
	1.4nm,0.7s						
SNAA	**Sanae**	**77.30**	**179**	P	P	01 47 46.5	-0.3
	0.6nm,0.9s,baz=158,slow=11,SNR=1.7						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**145.73**	**339**	PKPbc	PKPdf	01 55 27.9	-2.7
	1.3nm,0.7s,baz=64,slow=4.4,SNR=8.0						
HFS	**Hagfors**	**149.96**	**348**	PKPbc	PKiKP	01 55 44.2	+0.8
	1.9nm,0.9s,baz=45,slow=0.2,SNR=5.2						

*OSPL **13** 01:36:39.0±0.7, 18°.06N×70°.59W, h17km±3km, ML2.0*
*SDD **13** 01:36:40.0±2.2, 18°.11N×70°.69W, h23km±24km, MD3.0, ML2.0, MW2.5*

ISC 13 01:36:38.2±1.3, 18°.03N±0°.06×70°.62W±0°.04, h13km±14km, n10, σ1s12/19, 9C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.44**	**34**	⇑*e*Pg	**Pg**	**01 36 46.5**	**-0.5**
BANI				⇑*e*Sg	**Sb**	**01 36 55.0**	**+0.6**
BANI				IAML		01 36 55.7	
	comp=N,149nm,

PUZ	**Puketiti**	**7.65**	**206**	P		Pn	01 47 38.1	-3.7
PUZ				S		**Sn**	**01 49 06.4**	**-2.1**
RUGZ	**Raukumara Rang**	**7.79**	**210**	P		Pn	01 47 41.2	-2.5
RUGZ				S		**Sn**	**01 49 10.9**	**-1.2**
TWGZ	**Tauwhareparae**	**7.85**	**207**	P		Pn	01 47 41.4	-3.1
TWGZ				S		**Sn**	**01 49 11.0**	**-2.4**
CNGZ	**Carnagh Statio**	**8.03**	**205**	P		Pn	01 47 42.6	-4.3
CNGZ				S		**Sn**	**01 49 17.8**	**0.0**
TKGZ	**Te Karaka**	**8.13**	**207**	S		**Sn**	**01 49 17.4**	**-2.8**
MWZ	**Matawai**	**8.17**	**209**	P		Pn	01 47 43.5	-5.3
MWZ				S		**Sn**	**01 49 19.2**	**-2.0**
WCZ	**Waipu Caves**	**8.27**	**233**	P		**Pn**	**01 47 53.9**	**+3.7**
URZ	**Urewera**	**8.28**	**211**	Pn		Pn	01 47 46.8	-3.6
	2.9nm,0.3s,baz=317,slow=2.0,SNR=12							
URZ				Sn		**Sn**	**01 49 22.1**	**-1.8**
	4.5nm,0.3s,baz=141,slow=18,SNR=12							
RAGZ	**Rawiri**	**8.35**	**209**	P		Pn	01 47 46.6	-4.7
RAGZ				S		**Sn**	**01 49 22.1**	**-3.6**
RIGZ	**Rimuhau**	**8.39**	**206**	P		Pn	01 47 48.7	-3.2
RIGZ				S		**Sn**	**01 49 25.0**	**-1.8**
MKAZ	**Moumakai**	**8.44**	**224**	P		Pn	01 47 57.6	+5.1
OUZ	**Omahuta**	**8.46**	**240**	P		Pn	01 47 59.5	+6.7
PRGZ	**Paritu Road**	**8.54**	**205**	P		Pn	01 47 51.4	-2.5
PRGZ				S		**Sn**	**01 49 28.5**	**-1.8**
SNGZ	**Shannon Statio**	**8.62**	**208**	P		**Pn**	**01 47 53.3**	**-1.8**
SNGZ				S		**Sn**	**01 49 29.6**	**-2.8**
MHGZ	**Mahia Peninsul**	**8.73**	**204**	P		Pn	01 47 51.3	-5.2
MHGZ				S		**Sn**	**01 49 31.1**	**-3.9**
KHZ	**Kahutara**	**13.25**	**210**			Pn	01 48 52.3	-6.0
OXZ	**Oxford**	**14.64**	**212**			Pn	01 49 12.8	-4.5
RPZ	**Rata Peaks**	**15.39**	**213**	Pn		Pn	01 49 22.6	-4.8
	2.5nm,0.3s,baz=57,slow=4.1,SNR=7.9							
DZM	**Mont Dzumac**	**17.03**	**299**	*e*Pn		**P**	**01 49 53.4**	**+2.9**
	70nm,1.5s							
DZM				*e*LR		LR	01 53 35.9	
	976nm,26.7s							
DZM	**Mont Dzumac**	**17.03**	**299**	Pn		**Pn**	**01 49 48.1**	**-0.6**
	0.4nm,0.3s,baz=104,slow=16,SNR=4.5							
DZM				LR		LR	01 53 44.1	
	comp=Z,200nm,21.9s,baz=168,slow=28							
	5.4nm,1.0s							
RAR	**Rarotonga**	**18.74**	**62**	LR		LR	01 56 57.8	
	comp=Z,323nm,19.6s,baz=192,slow=36							
TBI	**Tubuai**	**26.05**	**79**	*e*S		**S**	**01 55 51.3**	**-3.7**
	2µm,27.2s							
TBI				*e*LR		LR	01 57 46.5	
	2µm,23.8s							
PPT2	**Papeete2**	**28.71**	**68**	*e*S		**S**	**01 56 41.6**	**+4.4**
	370nm,25.5s							
PPT2				*e*LR		LR	01 58 55.0	
	248nm,20.2s							
PPT2				*e*LR		LR	01 59 02.7	
	264nm,21.5s							
PPT	**Papeete**	**28.73**	**68**	LR		LR	02 01 00.2	
	comp=Z,330nm,18.7s,baz=194,slow=32							
HNR	**Honiara**	**30.21**	**311**	LR		LR	02 03 06.3	
	comp=Z,115nm,18.9s,baz=15,slow=34							
TOO	**Toolangi**	**31.06**	**248**	P		**P**	**01 52 09.4**	**+1.0**
CTAO	**Charters Tower**	**34.40**	**280**			**P**	**01 52 38.1**	**+0.3**
CTAO				IAmb		IAmb	01 52 42.9	
	comp=Z,18nm,0.9s							
STKA	**Stephens Creek**	**34.74**	**258**			**P**	**01 52 40.9**	**+0.3**
STKA	**Stephens Creek**	**34.74**	**258**	P		**P**	**01 52 40.6**	**-0.1**
	comp=Z,6.8nm,0.5s,baz=92,slow=9.3,SNR=22							
STKA				LR		LR	02 06 47.1	
	comp=Z,217nm,18.8s,baz=62,slow=36							
	comp=Z,6.8nm,0.5s							
BBOO	**Buckleboo**	**39.18**	**255**			**P**	**01 53 18.6**	**+0.2**
PMG	**Port Moresby**	**39.39**	**296**	LR		LR	02 07 05.6	
	comp=Z,37nm,20.8s,baz=136,slow=32							
TAOE	**Nuku Hiva Isla**	**41.24**	**65**	*e*LR		LR	02 04 57.9	
	comp=Z,651nm,28.1s							
ASAR	**Alice Springs**	**43.53**	**268**			**P**	**01 53 54.4**	**+0.2**
ASAR	**Alice Springs**	**43.53**	**268**	P		**P**	**01 53 54.2**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=105,slow=7.6,SNR=45							
ASAR				PcP		**PcP**	**01 55 41.8**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=120,slow=4.9,SNR=6.5							
	comp=Z,5.5nm,0.7s							
WRA	**Warramunga Arr**	**44.59**	**273**			**P**	**01 54 02.2**	**-0.7**
WRA	**Warramunga Ar**	**44.59**	**273**	P		**P**	**01 54 02.2**	**-0.7**
	comp=Z,3.8nm,0.3s,baz=112,slow=8.0,SNR=49							
WRA				LR		LR	02 12 47.0	
	comp=Z,275nm,18.2s,baz=194,slow=36							
	comp=Z,3.8nm,0.3s							
VNDA	**Vanda**	**47.29**	**186**	P		**P**	**01 54 24.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=14,slow=4.9,SNR=5.2							
	comp=Z,0.6nm,0.8s							
BATI	**Baumata**	**58.22**	**278**	LR		LR	02 20 44.5	
	comp=Z,214nm,18.8s,baz=130,slow=36							
RPN	**Rapa Nui**	**58.77**	**105**	LR		LR	02 16 12.5	
	comp=Z,226nm,20.2s,baz=210,slow=31							
QSPA	**South Pole Qui**	**58.85**	**180**	P		**P**	**01 55 50.1**	**+1.2**
	comp=Z,7.8nm,0.9s,baz=336,slow=1.0,SNR=36							
	comp=Z,7.8nm,0.9s							
DAV	**Davao City (W)**	**66.40**	**295**	LR		LR	02 25 23.4	
	comp=Z,25nm,18.6s,baz=164,slow=36							
PMSA	**Palmer Station**	**71.29**	**155**	LR		LR	02 22 54.3	
	comp=Z,187nm,18.5s,baz=236,slow=31							
MAW	**Mawson**	**71.66**	**201**	P		**P**	**01 57 12.4**	**+0.8**
	comp=Z,3.5nm,1.0s,baz=84,slow=5.6,SNR=4.9							
	comp=Z,3.5nm,1.0s							
ESPZ	**Base Esperanza**	**74.59**	**156**	P		**P**	**01 57 30.3**	**+1.2**
ESPZ				IAmb		IAmb	01 57 32.0	
	comp=Z,11nm,1.2s							
TROLL	**Troll, Antarti**	**77.01**	**180**	⇑P		**P**	**01 57 42.5**	**-0.5**
	comp=Z,349nm,1.2s							
SNAA	**Sanae**	**77.28**	**178**	⇑P		**P**	**01 57 44.0**	**-0.4**
	comp=Z,93nm,1.0s							
SNAA	**Sanae**	**77.28**	**178**			**P**	**01 57 44.7**	**+0.3**
SNAA	**Sanae**	**77.28**	**178**	P		**P**	**01 57 43.6**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=213,slow=8.6,SNR=16							
	comp=Z,3.7nm,0.9s							
VNA3	**Neumayer Olymp**	**77.41**	**176**	⇑P		**P**	**01 57 44.2**	**-0.9**
	comp=Z,13nm,0.9s							
VNA1	**Neumayer--Stat**	**78.08**	**176**	⇑P		**P**	**01 57 48.5**	**-0.2**
	comp=Z,11nm,1.0s							
MJAR	**Matsushiro Arr**	**79.21**	**325**	P		**P**	**01 57 54.8**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=162,slow=6.2,SNR=5.7							
	comp=Z,2.7nm,0.9s							
LL02	**Futaleuf**	**79.42**	**134**	P		**P**	**01 57 57.8**	**+1.1**
H03S2	**Juan Fernandez**	**79.61**	**123**	T		T	03 25 22.6	
	baz=238,slow=74,SNR=7.2							
H03S1	**Juan Fernandez**	**79.62**	**123**	T		T	03 25 22.2	
	baz=238,slow=74,SNR=6.5							
H03S3	**Juan Fernandez**	**79.62**	**123**	T		T	03 25 19.6	
	baz=238,slow=74,SNR=8.3							
JNU	**Nakatsue**	**80.51**	**318**	LR		LR	02 30 16.9	
	comp=Z,25nm,21.9s,baz=140,slow=33							
PLCA	**Paso Flores**	**81.58**	**133**	P		**P**	**01 58 09.3**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=236,slow=9.4,SNR=4.3							
PLCA				LR		LR	02 27 05.6	
	comp=Z,186nm,18.4s,baz=242,slow=30							
	comp=Z,2.8nm,0.9s							
ASAJ	**Asahikawa**	**83.42**	**332**	LR		LR	02 34 17.5	
	comp=Z,71nm,18.6s,baz=141,slow=35							
SHEM	**Shemya Is, Ala**	**83.96**	**355**	LR		LR	02 30 28.1	
	comp=Z,89nm,18.8s,baz=316,slow=32							
LPIG	**La Paz**	**84.60**	**58**	LR		LR	02 28 58.1	
	comp=Z,161nm,19.0s,baz=204,slow=31							
KSRS	**Korea Array**	**85.30**	**319**	P		**P**	**01 58 27.5**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=141,slow=6.0,SNR=5.8							
	comp=Z,1.9nm,0.8s							
QIZ	**Qiongzhong**	**85.78**	**295**	P		**P**	**01 58 30.8**	**+0.7**
QIZ				S		**S**	**02 09 04.2**	**+1.0**
QIZ				LR		LR		
	comp=Z,180nm,6.9s							
QIZ				LR		LR		
	comp=Z,240nm,6.9s							
MWC	**Mount Wilson**	**85.87**	**46**	P		**P**	**01 58 30.9**	**+0.4**
MWC				IAmb		IAmb	01 58 33.2	
	comp=Z,14nm,1.2s							
VES	**Vestal, Richgr**	**86.35**	**44**	P		**P**	**01 58 32.6**	**+0.1**
PFO	**Pinyon Flats O**	**86.45**	**47**	LR		LR	02 31 35.8	
	comp=Z,121nm,18.5s,baz=238,slow=32							
PETK	**Petropavlovsk-**	**86.76**	**345**	P		**P**	**01 58 34.0**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=152,slow=6.6,SNR=7.3							
PETK				LR		LR	02 36 32.8	
	comp=Z,33nm,18.2s,baz=125,slow=35							
	comp=Z,5.5nm,0.8s							
LRMC	**Laurel Mtn Rad**	**86.94**	**45**	P		**P**	**01 58 35.8**	**+0.2**
CMB	**Columbia Colle**	**87.10**	**42**			**P**	**01 58 36.5**	**+0.4**
CMB				IAmb		IAmb	01 58 39.5	
	comp=Z,7.9nm,1.2s							
BC3	**Big Chuckawall**	**87.11**	**48**	P		**P**	**01 58 37.0**	**+0.5**
WSHM	**Spangler Hills**	**87.14**	**45**	P		**P**	**01 58 37.2**	**+0.7**
NJ2	**Nanjing**	**87.15**	**310**	*e*P		**P**	**01 58 38.2**	**+1.7**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
CLC	**China Lake**	**87.22**	**45**	P		**P**	**01 58 36.9**	**+0.1**
CLC				IAmb		IAmb	01 58 39.9	
	comp=Z,8.1nm,1.1s							
O02D	**Mt. Diablo Mer**	**87.28**	**39**	P		**P**	**01 58 38.2**	**+1.2**
GSC	**Goldstone, Bar**	**87.36**	**46**	P		**P**	**01 58 38.9**	**+1.4**
GSC				IAmb		IAmb	01 58 41.3	
	comp=Z,8.6nm,1.2s							
MPMC	**Manual Prospec**	**87.45**	**45**	P		**P**	**01 58 38.7**	**+0.6**
IRM	**Iron Mountain**	**87.64**	**47**			**P**	**01 58 39.5**	**+0.6**
WAKR	**Walker**	**87.96**	**42**			**P**	**01 58 41.5**	**+1.0**
WAKR				IAmb		IAmb	01 58 44.3	
	comp=Z,9.4nm,1.2s							
GWY	**Greenwater Val**	**88.03**	**45**			**P**	**01 58 41.7**	**+0.9**
DSP	**Deep Springs**	**88.04**	**43**			**P**	**01 58 41.5**	**+0.9**
DSP				IAmb		IAmb	01 58 44.4	
	comp=Z,6.2nm,1.3s							
USRK	**Ussuriysk Ar.**	**88.13**	**326**	P		**P**	**01 58 41.9**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=89,slow=5.6,SNR=4.9							
	comp=Z,4.5nm,0.8s							
GMN	**Gold Mountain**	**88.41**	**44**	P		**P**	**01 58 42.9**	**+0.1**
YBH	**Yreka Blue Hor**	**88.43**	**38**	LR		LR	02 33 32.0	
	comp=Z,7.3nm,18.8s,baz=222,slow=32							
WCT	**Wildcat Mounta**	**88.45**	**45**	P		**P**	**01 58 43.0**	**+0.2**
NVAR	**Mina Array Bea**	**88.56**	**42**			**P**	**01 58 43.2**	**-0.2**
NVAR	**Mina Array Bea**	**88.56**	**42**	P		**P**	**01 58 43.7**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=215,slow=7.2,SNR=11							
	comp=Z,2.4nm,1.0s							
TPNV	**Topopah Spring**	**88.78**	**45**	P		**P**	**01 58 44.5**	**+0.1**
Y14A	**Wickenburg**	**88.86**	**49**			**P**	**01 58 45.2**	**+0.5**
Y14A				IAmb		IAmb	01 58 48.6	
	comp=Z,7.5nm,1.3s							
TPH	**Tonopah**	**88.95**	**43**	P		**P**	**01 58 45.1**	**-0.1**
TPH				IAmb		IAmb	01 58 48.6	
	comp=Z,6.8nm,1.1s							
SHPR	**Sheep Range**	**89.15**	**46**	P		**P**	**01 58 45.9**	**-0.3**
TUC	**Tucson**	**89.29**	**51**			**P**	**01 58 46.4**	**-0.4**
TUC				IAmb		IAmb	01 58 51.1	
	comp=Z,12nm,1.5s							
PRN	**Pahroc Range**	**89.81**	**45**	P		**P**	**01 58 49.0**	**-0.1**
PRN				IAmb		IAmb	01 59 18.6	
	comp=Z,11nm,1.3s							
X16A	**Lo Mia Camp, P**	**90.17**	**49**			**P**	**01 58 51.4**	**+0.4**
X16A				IAmb		IAmb	01 58 55.3	
	comp=Z,7.0nm,1.3s							
J05D	**Fort Rock, OR**	**90.30**	**37**	P		**P**	**01 58 51.9**	**+0.6**
J05D				IAmb		IAmb	01 58 54.3	
	comp=Z,6.9nm,1.1s							
PINE	**Pine Mountain**	**90.81**	**37**			**P**	**01 58 53.8**	**0.0**
PINE				IAmb		IAmb	01 58 57.4	
	comp=Z,7.2nm,1.1s							
U15A	**North Rim**	**90.88**	**47**			**P**	**01 58 54.7**	**+0.3**
U15A				IAmb		IAmb	01 58 57.9	
	comp=Z,5.9nm,1.0s							
WUAZ	**Wupatki**	**90.89**	**48**			**P**	**01 58 54.4**	**+0.1**
WUAZ				IAmb		IAmb	01 58 58.3	
	comp=Z,7.8nm,1.3s							
KNB	**Kanab**	**90.92**	**46**			**P**	**01 58 54.9**	**+0.5**
WVOR	**Wild Horse Val**	**91.09**	**39**	P		**P**	**01 58 55.2**	**+0.2**
WVOR				IAmb		IAmb	01 58 57.6	
	comp=Z,5.7nm,1.2s							
CN2	**Changchun**	**91.11**	**323**	P		**P**	**01 58 52.9**	**-2.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BNX	**BinXian**	**91.48**	**325**	⇑P		**P**	**01 58 57.2**	**+0.7**
BNX				pmax		pmax		
	comp=Z,7.0nm,0.9s							
PKCU	**Pink Cliffs**	**91.51**	**46**	P		**P**	**01 58 58.7**	**+1.4**
PKCU				IAmb		IAmb	01 59 14.4	
	comp=Z,10nm,1.3s							
J08A	**Circle Bar Ran**	**91.81**	**39**			**P**	**01 58 58.4**	**+0.1**
J08A				IAmb		IAmb	01 59 00.9	
	comp=Z,4.7nm,1.1s							
MTPU	**Mount Pierson**	**91.96**	**46**	P		**P**	**01 59 00.2**	**+0.8**
MTPU				IAmb		IAmb	01 59 03.3	
	comp=Z,5.6nm,1.2s							
G06A	**Carlson Farm,**	**91.97**	**36**			**P**	**01 58 59.8**	**+0.9**
G06A				IAmb		IAmb	01 59 12.2	
	comp=Z,9.3nm,1.3s							
TXAR	**Lajitas Array**	**92.47**	**57**	LR		LR	02 34 14.1	
	comp=Z,54nm,18.5s,baz=233,slow=31							
CMIG	**Matias Romero**	**92.58**	**72**	LR		LR	02 32 10.5	
	comp=Z,69nm,19.2s,baz=220,slow=30							
NNA	**Nana**	**92.75**	**106**	LR		LR	02 32 21.8	
	comp=Z,107nm,19.8s,baz=200,slow=30							
G08A	**Pilot Rock**	**92.87**	**37**			**P**	**01 59 03.5**	**+0.4**
G08A				IAmb		IAmb	01 59 06.4	
	comp=Z,4.7nm,1.0s							
MFID	**Camas Ranch**	**93.28**	**40**			**P**	**01 59 05.3**	**+0.2**
ANMO	**Albuquerque**	**93.76**	**51**	LR		LR	02 36 45.0	
	comp=Z,118nm,18.1s,baz=311,slow=33							
ATAH	**Atahualpa**	**94.03**	**101**	LR		LR	02 33 14.2	
	comp=Z,48nm,20.6s,baz=228,slow=30							
HLID	**Hailey**	**94.16**	**41**			**P**	**01 59 09.8**	**+0.6**
HLID				IAmb		IAmb	02 01 17.4	
	comp=Z,10nm,1.9s							
F10A	**Beach Ranch, E**	**94.22**	**37**	P		**P**	**01 59 09.0**	**-0.4**
MA2	**Magadan**	**94.25**	**344**	LR		LR	02 37 44.2	
	comp=Z,48nm,20.3s,baz=117,slow=33							
PLID	**Pearl Lake**	**94.28**	**39**			**P**	**01 59 09.8**	**0.0**
PLID				IAmb		IAmb	01 59 12.0	
	comp=Z,5.7nm,1.1s							
HEH	**HeiHe**	**94.68**	**328**	*e*P		P	01 59 16.6	+5.4
XAN	**Xi'an**	**95.00**	**307**	*e*P		**P**	**01 59 11.5**	**-1.7**
NEW	**Newport**	**95.80**	**36**	LR		LR	02 38 45.6	
	comp=Z,100nm,18.2s,baz=216,slow=33							
PZH	**PanZhiHua**	**96.11**	**297**	P		**P**	**01 59 20.6**	**+2.1**
PDAR	**Pinedale Array**	**96.44**	**43**	LR		LR	02 39 00.8	
	comp=Z,68nm,18.2s,baz=226,slow=33							
HHC	**Hu-ho-hao-te**	**97.16**	**314**	*e*P		Pdif	01 59 25.4	+2.4
HHC				pmax		pmax		
	comp=Z,11nm,0.5s							
HHC				pmax		pmax		
	comp=Z,88nm,4.5s							
LPAZ	**La Paz**	**97.37**	**114**	LR		LR	02 36 22.2	
	comp=Z,44nm,18.6s,baz=242,slow=31							
JTS	**Las Juntas de**	**97.39**	**82**	LR		LR	02 33 47.6	
	comp=Z,76nm,20.1s,baz=282,slow=30							
DLBC	**Dease Lake**	**97.73**	**23**	LR		LR	02 42 06.6	
	comp=Z,36nm,18.4s,baz=156,slow=35							
CPUP	**Villa Florida**	**99.09**	**128**	LR		LR	02 39 45.0	
	comp=Z,27nm,18.4s,baz=38,slow=33							
MKAR	**Makanchi Array**	**118.68**	**310**	PKP		**PKPdf**	**02 04 38.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=80,slow=1.4,SNR=3.8							
KSH	**Kashi**	**121.07**	**300**	PKP		**PKiKP**	**02 04 45.3**	**+1.9**
KURBB	**Kurchatov Arra**	**122.01**	**313**	PKP		**PKPdf**	**02 04 43.6**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=107,slow=1.7,SNR=10							
BVAR	**Boroye Array**	**127.34**	**315**	PKP		**PKPdf**	**02 04 54.4**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=90,slow=1.8,SNR=10							
ARCES	**ARCESS Array B**	**139.53**	**348**	PKhKP		PKPpre	02 05 09.5	
	comp=Z,3.0nm,0.9s,baz=27,slow=5.0,SNR=3.7							
ARCES				PKP		**PKPdf**	**02 05 17.6**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=35,slow=4.4,SNR=4.6							
KBZ	**Khabaz**	**145.97**	**303**	PKPbc		**PKPbc**	**02 05 30.8**	**+0.8**
	comp=Z,6.0nm,1.0s,baz=226,slow=2.4,SNR=11							
FINES	**FINESS Array B**	**146.11**	**340**	PKPbc		**PKPdf**	**02 05 28.9**	**0.0**
	comp=Z,5.4nm,0.5s,baz=50,slow=4.0,SNR=50							
NB2	**NORSAR Subarra**	**149.67**	**352**	PKP		**PKPbc**	**02 05 38.7**	**-0.8**
	comp=Z,5.8nm,1.1s,baz=22,slow=3.0							
NOA	**NORSAR Array B**	**149.67**	**352**	PKPbc		**PKPbc**	**02 05 38.9**	**-0.6**
	comp=Z,3.1nm,1.0s,baz=14,slow=4.2,SNR=6.9							
HFS	**Hagfors**	**150.18**	**349**	PKPbc		**PKPbc**	**02 05 39.8**	**-0.8**
	comp=Z,7.8nm,0.9s,baz=113,slow=5.2,SNR=15							
MMAI	**Mount Meron Ar**	**152.17**	**282**	PKPbc		**PKPbc**	**02 05 47.1**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=98,slow=6.2,SNR=9.2							
MMAI				PKPab		**PKPab**	**02 05 57.2**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=70,slow=9.9,SNR=4.5							
AKASG	**Malin Array Be**	**152.26**	**322**	PKPbc		**PKPbc**	**02 05 45.0**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=54,slow=2.7,SNR=11							
BRTR	**Keskin Array B**	**153.41**	**297**	PKPbc		**PKPbc**	**02 05 49.5**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=123,slow=4.6,SNR=9.6							
BRTR				PKPab		**PKPab**	**02 06 00.5**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=110,slow=2.8,SNR=6.7							
KOLS	**Kolonicke sedl**	**156.89**	**325**	*e*PKP		**PKPab**	**02 06 17.3**	**+1.8**
STHS	**Stebnicka Huta**	**157.04**	**328**	*e*PKP		**PKPdf**	**02 05 42.5**	**-3.3**
VYHS	**Vyhne**	**158.80**	**329**	*e*PKP		**PKPab**	**02 06 23.6**	**-0.1**
MODS	**Modra-Piesok**	**159.56**	**331**	*e*PKP		**PKPab**	**02 06 22.0**	**-5.1**

AEIC ***13*** *01:57:29.3±0.8,53.54N±0.09×165.38W±0.06,h57km±9km, Error ellipse: s-maj=13.5km s-min=3.9km az=165.0*
NEIC 13 01:57:29.2±0.6,53.44N±0.05×165.32W±0.06,h35km±2km, ML3.5/8,ML3.4(AEIC),Error ellipse: s-maj=9.3km s-min=4.0km az=325.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.75**	**339**		Pn	01 57 43.0	-0.2
AKUT					Sn	01 57 53.3	+0.1
AKMO	**Akutan Morgan**	**0.77**	**328**		Pn	01 57 43.4	-0.1
AKMO					Sn	01 57 54.5	+0.6
UNV	**Unalaska Valle**	**0.81**	**300**		Pn	01 57 44.0	-0.1
UNV					Sn	01 57 54.8	-0.1
UNV				IAML		01 57 55.9	
	comp=E,3µm,0.2s						
UNV				IAML		01 57 56.0	
	comp=N,2µm,0.7s						
LVA	**Lava Point**	**0.84**	**330**		Pn	01 57 44.4	-0.1
LVA				IAML		01 58 02.9	
	comp=E,1µm,0.6s						
LVA				IAML		01 58 04.0	
	comp=N,1µm,0.6s						
MREP	**Makushin Rep't**	**0.93**	**294**		Pn	01 57 46.1	+0.4
MREP					Sn	01 57 57.8	-0.1
MTBL	**Makushin Table**	**0.97**	**304**		Pn	01 57 46.7	+0.4
MTBL					Sn	01 58 00.0	+1.2
WESE	**West Dahl East**	**1.12**	**22**		Pn	01 57 48.2	-0.2
WESE					Sn	01 58 02.6	-0.1
WECS	**Westdahl Cape**	**1.14**	**16**		Pn	01 57 48.8	+0.1
WECS					Sn	01 58 03.8	+0.8
WEBT	**Westdahl Beart**	**1.20**	**16**		Pn	01 57 49.4	0.0
WEBT					Sn	01 58 04.9	+0.4
SSLS	**Shishaldin Sou**	**1.49**	**31**		Pn	01 57 53.0	-0.5
SSLS					Sn	01 58 11.2	-0.6
SSBA	**Shishaldin**	**1.51**	**27**		Pn	01 57 53.6	-0.1
SSBA					Sn	01 58 12.6	+0.4
OKTU	**Okmok Mt. Tuli**	**1.63**	**269**		Pn	01 57 55.1	-0.3
ISNN	**Isanotski Nort**	**1.66**	**32**		Pn	01 57 55.8	0.0
ISNN					Sn	01 58 16.4	+0.5
FALS	**False Pass**	**1.81**	**37**		Pn	01 57 57.7	-0.1
DT1	**Dutton Round H**	**2.44**	**46**		Pn	01 58 06.9	+0.4

AUST ***13*** *02:14:45.2±0.2,34°S±3°×13°1E±°,h10km,mb4.7/30, ML4.0/16,Error ellipse: s-maj=6.5km s-min=3.6km az=8.3*
NEIC ***13*** *02:14:45.4±1.8,33°77S±0°09×131°14E±0°09,h10km±1km, mb4.6/17,Error ellipse: s-maj=14.9km s-min=12.7km az=1.0*
IDC ***13*** *02:14:45.0±0.7,33°81S×131°43E,h0km,mb4.3/6, mbtmp4.4/10,ML4.4/3,MS3.7/15,Error ellipse: s-maj=23.9km s-min=16.0km az=101.0*
ISC 13 02:14:45.1±0.4,33.74S±0.05×131.28E±0.05,h10km,n91, σ2s36/96,mb4.5/9,MS3.8/10,1D,Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUCAS	**Cummins Area S**	**3.73**	**99**	P	**Pn**	**02 15 44.7**	**+2.0**
BBOO	**Buckleboo**	**4.11**	**78**		**Pn**	**02 15 49.7**	**+1.7**
BBOO	**Buckleboo**	**4.11**	**78**	P	**Pn**	**02 15 49.7**	**+1.7**
BBOO	**Buckleboo**	**4.11**	**78**	S	**Sn**	**02 16 34.9**	**-1.2**
MULG	**Mulgathing**	**4.18**	**35**	P	**Pn**	**02 15 53.6**	**+4.6**
MULG				S	**Sn**	**02 16 41.5**	**+3.7**
KELC	**Kelly Hill Cav**	**5.14**	**117**	P	**Pn**	**02 16 02.2**	**+0.1**
	comp=Z,1.0nmcomp=Z,48nm,0.5s						
KELC				S	**Sn**	**02 16 56.1**	**-5.4**
WHYH	**Whyalla**	**5.32**	**84**	P	**Pn**	**02 16 06.2**	**+1.7**
	comp=Z,0.6nmcomp=Z,42nm,0.7s						
WHYH				S	**Sn**	**02 17 03.4**	**-2.4**
NAPP	**Napperby**	**5.77**	**86**	P	**Pn**	**02 16 12.0**	**+1.3**
	comp=Z,1.1nmcomp=Z,58nm,0

comp=Z,6.0nm,1.6s
TAU Tasmania Unive 15.54 131 Pn Pn 02 18 24.6 +0.3
TAU IAmb IAmb 02 18 34.2
comp=Z,62nm,1.2s
MBWA Marble Bar 16.17 318 Pn Pn 02 18 30.5 -2.0
MBWA IAmb IAmb 02 18 39.7
comp=Z,87nm,1.4s
MBWA Marble Bar 16.17 318 P Pn 02 18 30.6 -1.9
comp=Z,32nm,0.7s
FITZ Fitzroy Crossi 16.38 341 Pn Pn 02 18 33.1 -2.0
FITZ Fitzroy Crossi 16.38 341 P Pn 02 18 33.8 -1.3
comp=Z,3.5nm,1.3s
FITZ Fitzroy Crossi 16.38 341 Pn Pn 02 18 32.9 -2.3
comp=Z,1.1nm,0.3s,baz=190,slow=12,SNR=17
FITZ Sn Sn 02 21 30.5 -6.4
comp=Z,1.7nm,0.3s,baz=119,slow=20,SNR=4.2
FITZ LR LR 02 25 55.1
comp=Z,341nm,19.0s,baz=170,slow=41
KNRA Kununurra 18.13 352 Pn 02 18 57.5 +0.4
GIRL Giralia 18.62 302 P 02 19 02.8 0.0
GIRL IAmb IAmb 02 19 14.6
comp=Z,92nm,1.2s
GIRL Giralia 18.62 302 P Pn 02 19 03.5 +0.4
comp=Z,59nm,1.9s
CTAO Charters Tower 19.03 48 Pn Pn 02 19 10.3 +2.2
EIDS Eidsvold 19.12 69 Pn 02 19 10.2 +1.1
COEN Coen 22.46 32 P P 02 19 47.0 +2.5
COEN IAmb IAmb 02 19 54.4
comp=Z,20nm,1.1s
LHI Lord Howe Isla 23.48 92 P P 02 19 55.8 +0.9
KAPI Kappang 30.53 337 LR LR 02 35 11.7
comp=Z,140nm,19.2s,baz=114,slow=40
LEM Lembang 34.60 315 LR LR 02 36 55.9
comp=Z,117nm,18.1s,baz=188,slow=38
CASY Casey 34.83 195 P P 02 21 36.0 +0.2
CASY IAmb IAmb 02 21 37.0
comp=Z,6.4nm,0.9s
HNR Honiara 35.77 54 LR LR 02 37 01.1
comp=Z,184nm,18.1s,baz=334,slow=37
BFZ Birch Farm 36.16 114 P P 02 21 49.3 +1.6
URZ Urewera 37.06 110 LR LR 02 36 11.2
comp=Z,254nm,20.1s,baz=287,slow=35
VNDA Vanda 45.92 171 P P 02 23 07.2 -0.2
VNDA IAmb IAmb 02 23 08.6
comp=Z,5.9nm,0.9s
VNDA Vanda 45.92 171 P P 02 23 07.2 -0.2
comp=Z,5.7nm,0.9s,baz=322,slow=8.5,SNR=28
VNDA LR LR 02 41 07.8
comp=Z,42nm,20.4s,baz=336,slow=34
comp=Z,5.7nm,0.9s
PSI Prapat 47.45 313 LR LR 02 43 18.2
comp=Z,114nm,20.1s,baz=104,slow=36
GUMO Guam 48.82 18 LR LR 02 45 01.1
comp=Z,32nm,19.2s,baz=178,slow=37
MAW Mawson 51.09 207 P P 02 23 48.7 +1.4
comp=Z,3.3nm,1.0s,baz=67,slow=5.6,SNR=4.7
comp=Z,3.3nm,1.0s
QSPA South Pole Qui 56.37 180 P P 02 24 27.2 +1.0
QSPA IAmb IAmb 02 24 30.7
comp=Z,11nm,1.4s
QSPA South Pole Qui 56.37 180 P P 02 24 27.2 +1.0
comp=Z,1.9nm,0.4s,baz=162,slow=1.8,SNR=23
comp=Z,1.9nm,0.4s
SYO Syowa Base 59.54 205 *e*P P 02 24 49.2 +1.0
CMAR Chiang Mai Arr 60.38 324 P P 02 24 57.8 +3.2
comp=Z,1.0nm,0.3s,baz=161,slow=5.2,SNR=5.1
CMAR LR LR 02 54 15.0
comp=Z,19nm,18.7s,baz=145,slow=39
comp=Z,1.0nm,0.3s
ROCAM Rodrigues Isla 61.25 264 P P 02 24 58.4 -2.3
PALK Pallekele 62.91 301 LR LR 02 50 36.1
comp=Z,100nm,19.0s,baz=142,slow=34
BELA Belgrano 2 68.31 183 P P 02 25 46.0 +0.1
BELA IAmb IAmb 02 25 58.9
comp=Z,4.5nm,1.3s
SNAA Sanae 70.07 194 P P 02 25 58.0 +1.1
SNAA IAmb IAmb 02 25 59.1
comp=Z,7.1nm,1.1s
SNAA Sanae 70.07 194 P P 02 25 58.4 +1.5
comp=Z,5.7nm,1.1s,baz=137,slow=7.8,SNR=11
comp=Z,5.7nm,1.1s
USRK Ussuriysk Ar. 77.57 1 P P 02 26 42.5 +1.6
comp=Z,1.4nm,0.8s,baz=165,slow=6.0,SNR=6.5
comp=Z,1.4nm,0.8s
KDJ Kajisay 90.34 323 P P 02 27 44.8 -1.6
KMBO Kilima Mbogo 92.73 267 LR LR 03 05 30.6
comp=Z,44nm,18.2s,baz=159,slow=33
NVAR Mina Array Bea 124.79 64 PKP PKiKP 02 33 47.3 +1.6
comp=Z,0.8nm,0.9s,baz=216,slow=3.0,SNR=5.0
FINES FINESS Array B 126.14 325 PKP PKiKP 02 33 48.4 +1.1
comp=Z,0.9nm,0.5s,baz=130,slow=3.0,SNR=8.1
TXAR Lajitas Array 133.42 80 PKP PKiKP 02 34 04.1 +1.0
comp=Z,0.5nm,0.8s,baz=192,slow=4.7,SNR=5.7
ESDC Sonseca Array 143.92 293 PKP PKiKP 02 34 23.8 -0.4
comp=Z,1.8nm,1.1s,baz=79,slow=3.2,SNR=5.5

*NEIC **13** 02:36:27.8±1.6, 17.5°S±0.1°×178.8°W±0.1, h540km±12km, mb4.5/23, Error ellipse: s-maj=23.5km s-min=13.7km az=48.0*
*IDC **13** 02:36:39.0±44.0, 17.81°S×179.46°W, h650km±455km, mb3.3/6, mbtmp4.3/6, Error ellipse: s-maj=337.7km s-min=26.2km az=52.0*
ISC 13 02:36:27.1±0.8, 17.5°S±0.1°×178.79°W±0.10, h539km, n37, σ0s84/37, mb4.4/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.03**	**264**	**P**	**P**	**02 37 43.5**	**+2.0**
FUTU	**Fugatoga**	**3.20**	**12**	**P**	**P**	**02 37 44.2**	**+1.6**
NIUE	**Niue**	**8.57**	**102**	**P**	**P**	**02 38 29.2**	**-1.0**
PINNC	**Pines Island,**	**13.91**	**246**	**P**	**P**	**02 39 25.4**	**0.0**
DZM	**Mont Dzumac**	**14.64**	**249**	**P**	**P**	**02 39 32.5**	**-0.6**
BKZ	**Black Stump Fm**	**22.02**	**190**	**P**	**P**	**02 40 42.5**	**+0.6**
KHZ	**Kahutara**	**25.73**	**193**	**P**	**P**	**02 41 13.1**	**-1.5**
KHZ				IAmb	IAmb	02 41 18.8	
comp=Z,38nm,1.5s							
FOZ	**Fox Glacier**	**27.73**	**198**	**P**	**P**	**02 41 32.0**	**-0.2**
EIDS	**Eidsvold**	**29.09**	**249**	**P**	**P**	**02 41 44.3**	**-0.1**
EIDS				IAmb	IAmb	02 41 44.8	
comp=Z,7.1nm,0.8s							
ARMA	**Armidale**	**29.86**	**239**	**P**	**P**	**02 41 51.6**	**+0.5**
ARMA				IAmb	IAmb	02 42 07.9	
comp=Z,26nm,1.4s							
CAN	**Canberra**	**33.69**	**232**	**P**	**P**	**02 42 24.1**	**+0.4**
CAN				IAmb	IAmb	02 42 44.2	
comp=Z,39nm,1.5s							
COEN	**Coen**	**36.74**	**270**	**P**	**P**	**02 42 49.7**	**+0.4**
COEN				IAmb	IAmb	02 42 50.6	
comp=Z,12nm,0.7s							
TOO	**Toolangi**	**37.18**	**230**	**P**	**P**	**02 42 52.8**	**+0.3**
TOO				IAmb	IAmb	02 42 54.2	
comp=Z,8.5nm,1.1s							
STKA	**Stephens Creek**	**38.53**	**241**	**P**	**P**	**02 43 04.0**	**+0.3**
STKA	**Stephens Creek**	**38.53**	**241**	**P**	**P**	**02 43 03.1**	**-0.5**
comp=Z,6.9nm,0.7s,baz=83,slow=9.2,SNR=12							
comp=Z,6.9nm,0.7s							
BBOO	**Buckleboo**	**43.31**	**241**	**P**	**P**	**02 43 41.5**	**-0.1**
BBOO				IAmb	IAmb	02 43 42.5	
comp=Z,13nm,0.9s							
WR8	**Warramunga Arr**	**44.21**	**259**	**P**	**P**	**02 43 47.9**	**-0.9**
WB0	**Warramunga Arr**	**44.33**	**259**	**P**	**P**	**02 43 48.9**	**-0.8**
WB0				IAmb	IAmb	02 43 49.6	
comp=Z,9.8nm,1.1s							
WRA	**Warramunga Arr**	**44.36**	**259**	**P**	**P**	**02 43 48.9**	**-1.1**
WRA	**Warramunga Arr**	**44.36**	**259**	**P**	**P**	**02 43 48.6**	**-1.4**
comp=Z,2.8nm,0.6s,baz=96,slow=7.6,SNR=34							
comp=Z,2.8nm,0.6s							
AS31	**Alice Springs**	**44.57**	**254**	**P**	**P**	**02 43 51.3**	**-0.2**
AS31				IAmb	IAmb	02 43 51.8	
comp=Z,8.5nm,0.6s							
ASAR	**Alice Springs**	**44.57**	**254**	**P**	**P**	**02 43 51.4**	**-0.2**
ASAR	**Alice Springs**	**44.57**	**254**	**P**	**P**	**02 43 51.2**	**-0.3**
comp=Z,35nm,0.8s,baz=93,slow=7.5,SNR=322							
comp=Z,35nm,0.8s							
KNRA	**Kununurra**	**50.18**	**264**	**P**	**P**	**02 44 33.4**	**-0.2**
KNRA				IAmb	IAmb	02 44 47.8	
comp=Z,48nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.75**	**260**	**P**	**P**	**02 44 52.5**	**+0.3**
TNTI	**Ternate**	**56.01**	**283**	**P**	**P**	**02 45 15.0**	**-0.2**
TNTI				IAmb	IAmb	02 45 50.7	
comp=Z,26nm,0.9s							
MBWA	**Marble Bar**	**57.84**	**256**	**P**	**P**	**02 45 27.0**	**-0.6**
MBWA				IAmb	IAmb	02 46 07.8	
comp=Z,14nm,1.4s							
MORW	**Morawa**	**60.33**	**246**	**P**	**P**	**02 45 43.7**	**-0.5**
MORW				IAmb	IAmb	02 46 05.9	
comp=Z,19nm,1.4s							
VNDA	**Vanda**	**60.86**	**185**	**P**	**P**	**02 45 48.1**	**+1.2**
VNDA	**Vanda**	**60.86**	**185**	**P**	**P**	**02 45 47.6**	**+0.7**
comp=Z,0.4nm,0.8s,baz=0.8,slow=6.1,SNR=2.3							
comp=Z,0.4nm,0.8s							
GIRL	**Giralia**	**62.68**	**253**	**P**	**P**	**02 45 58.8**	**-0.9**
UGM	**Wanagama**	**69.30**	**268**	**P**	**P**	**02 46 40.6**	**-0.5**
QSPA	**South Pole Qui**	**72.59**	**180**	**P**	**P**	**02 47 00.7**	**+1.1**
QSPA	**South Pole Qui**	**72.59**	**180**	**P**	**P**	**02 47 00.9**	**+1.3**
comp=Z,2.2nm,0.8s,baz=248,slow=0.4,SNR=16							
comp=Z,2.2nm,0.8s							
SNAA	**Sanae**	**91.05**	**179**	**P**	**P**	**02 48 33.0**	**-0.7**
comp=Z,1.0nm,1.1s,baz=191,slow=7.0,SNR=6.6							
comp=Z,1.0nm,1.1s							
BRTR	**Keskin Array B**	**144.21**	**315**	PKP	**PKPab**	**02 55 01.7**	**-0.4**
comp=Z,0.4nm,0.7s,baz=145,slow=4.5,SNR=4.0							
MMAI	**Mount Meron Ar**	**145.60**	**303**	PKPbc	**PKPbc**	**02 55 06.0**	**0.0**
comp=Z,0.7nm,0.5s,baz=74,slow=6.2,SNR=3.6							

IDC 13 02:47:22.9±1.6, 58.38S×140.24W, h0km, mb3.7/3, mbtmp3.7/3, MS3.6/11, Error ellipse: s-maj=64.3km s-min=37.2km az=44.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**27.06**	**204**	LR	LR	03 00 56.5	
comp=Z,117nm,21.9s,baz=92,slow=30							
QSPA	**South Pole Qui**	**31.77**	**180**	LR	LR	03 04 54.8	
comp=Z,161nm,18.7s,baz=80,slow=33							
URZ	**Urewera**	**33.99**	**287**	LR	LR	03 04 39.6	
comp=Z,93nm,21.4s,baz=150,slow=30							
PMSA	**Palmer Station**	**34.73**	**133**	LR	LR	03 04 15.3	
comp=Z,96nm,20.6s,baz=232,slow=29							
RAR	**Rarotonga**	**39.73**	**331**	LR	LR	03 07 47.9	
comp=Z,152nm,20.7s,baz=226,slow=31							
PPT	**Papeete**	**41.33**	**346**	LR	LR	03 09 22.3	
comp=Z,52nm,18.5s,baz=164,slow=32							
PLCA	**Paso Flores**	**46.25**	**99**	LR	LR	03 12 05.9	
comp=Z,52nm,18.5s,baz=246,slow=32							
SNAA	**Sanae**	**46.87**	**163**	P	P	02 55 54.1	-0.1
0.4nm,0.5s,baz=210,slow=11,SNR=12							
0.4nm,0.5s							
H03S2	**Juan Fernandez**	**47.03**	**86**	T	T	03 46 13.1	
baz=217,slow=74,SNR=28							
H03S1	**Juan Fernandez**	**47.04**	**86**	T	T	03 46 15.4	
baz=217,slow=74,SNR=27							
H03S3	**Juan Fernandez**	**47.05**	**86**	T	T	03 46 13.8	
baz=217,slow=74,SNR=32							
H03N3	**Juan Fernandez**	**47.33**	**86**	T	T	03 46 32.3	
baz=220,slow=72,SNR=59							
H03N2	**Juan Fernandez**	**47.34**	**86**	T	T	03 46 31.6	
baz=220,slow=72,SNR=50							
H03N1	**Juan Fernandez**	**47.34**	**86**	T	T	03 46 34.0	
baz=220,slow=72,SNR=37							
LPAZ	**La Paz**	**66.90**	**84**	LR	LR	03 20 29.2	
comp=Z,23nm,20.6s,baz=153,slow=30							
ASAR	**Alice Springs**	**68.03**	**260**	P	P	02 58 24.4	+0.5
0.9nm,0.9s,baz=149,slow=7.6,SNR=4.4							
0.9nm,0.9s							
H01W1	**Cape Leeuwin H**	**68.44**	**238**	T	T	04 14 02.7	
baz=147,slow=75,SNR=9.4							
H01W2	**Cape Leeuwin H**	**68.44**	**238**	T	T	04 14 02.8	
baz=147,slow=75,SNR=7.8							
H01W3	**Cape Leeuwin H**	**68.45**	**238**	T	T	04 14 03.7	
baz=147,slow=75,SNR=13							
WRA	**Warramunga Arr**	**70.87**	**263**	P	P	02 58 41.3	-0.2
0.7nm,0.8s,baz=140,slow=6.2,SNR=3.0							
0.7nm,0.8s							
BOSA	**Boshof**	**92.49**	**167**	LR	LR	03 39 10.9	
comp=Z,76nm,18.5s,baz=190,slow=34							
PFO	**Pinyon Flats O**	**93.78**	**20**	LR	LR	03 33 20.5	
comp=Z,33nm,19.6s,baz=224,slow=29							
LBTB	**Lobatse**	**96.08**	**167**	LR	LR	03 40 43.6	
comp=Z,35nm,18.4s,baz=205,slow=33							
ILAR	**Eielson Array**	**122.94**	**357**	PKP	PKPdf	03 06 19.3	0.0
1.6nm,1.1s,baz=212,slow=1.8,SNR=8.6							
MKAR	**Makanchi Array**	**152.17**	**264**	PKPbc	PKPbc	03 07 18.5	-0.8
0.6nm,0.9s,baz=124,slow=4.4,SNR=2.4							

*IDC **13** 02:58:44.6±4.5, 36.36N×71.02E, h165km±36km, mb3.7/12, mbtmp4.1/17, Error ellipse: s-maj=33.6km s-min=14.6km az=34.0*
*NNC **13** 02:58:45.8±8.6, 36.79N×71.27E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=71.8km s-min=58.5km az=146.0*
*NEIC **13** 02:58:49.6±0.9, 36.63N±0.07×71.00E±0.10, h196km±7km, mb4.4/12, Error ellipse: s-maj=11.6km s-min=9.4km az=69.0*
ISC 13 02:58:49.2±0.6, 36.62N±0.06×71.16E±0.08, h200km, n58, σ1s63/61, mb4.0/15, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.47**	**345**		**Pn**	**02 59 32.9**	**+0.1**
SIMJ	**Simiganj**	**2.66**	**321**		**Pn**	**02 59 34.3**	**-0.7**
KBL	**Kabul**	**2.69**	**220**	Pn	**Pn**	**02 59 34.4**	**-1.2**
NIL	**Nilore**	**3.42**	**149**		**Pn**	**02 59 45.4**	**+1.4**
ARSB	**Arslanbob**	**4.91**	**16**		**Pn**	**03 00 03.2**	**+0.7**
JMU	**Jammu**	**4.97**	**141**	*e*P	**Pn**	**03 00 01.8**	**-1.4**
JMU				*e*S	Sn	03 00 54.9	-6.6
JMU				IAML		03 01 02.2	
comp=N,260nm,0.7s							
JMU				IAML		03 01 04.1	
comp=E,227nm,0.7s							
UCH	**Uchtor**	**6.17**	**24**	P	**Pn**	**03 00 20.1**	**+1.0**
SNR=79							
EKS2	**Erkin-Say**	**6.37**	**18**	P	**Pn**	**03 00 22.2**	**+1.0**
SNR=19							
BRLS	**Borolday**	**6.48**	**351**	Pg	**Pn**	**03 00 19.3**	**-3.4**
comp=E,1.7nm,0.1s							
KK31	**Karatay Array**	**6.50**	**356**		**Pn**	**03 00 22.8**	**0.0**
KK31	**Karatay Array**	**6.50**	**356**	⇑P	**Pn**	**03 00 19.7**	**-3.1**
comp=E,2.0nm,0.3s,baz=173,slow=12,SNR=28							
KK31				⇑S	**Sn**	**03 01 33.7**	**-3.4**
comp=E,28nm,0.5s,baz=167,slow=16							
KKAR	**Karatay Array**	**6.50**	**356**		**Pn**	**03 00 23.0**	**+0.2**
AAK	**Ala-Archa**	**6.54**	**22**		**Pn**	**03 00 24.1**	**+0.6**
AAK	**Ala-Archa**	**6.54**	**22**	P	**Pn**	**03 00 23.5**	**0.0**
comp=E,13nm,0.5s,baz=59,slow=18,SNR=9.5							
AAK				S	**Sn**	**03 01 37.9**	**-0.4**
comp=E,21nm,0.8s,baz=13,slow=23,SNR=10							
AAK	**Ala-Archa**	**6.54**	**22**	P	**Pn**	**03 00 24.8**	**+1.3**
SNR=5.9							
AAK	**Ala-Archa**	**6.54**	**22**	⇑P	**Pn**	**03 00 21.3**	**-2.2**
comp=E,4.1nm,0.5s							
AAK				⇑S	**Sn**	**03 01 36.3**	**-2.0**
comp=E,16nm,0.7s							
KBK	**Karagaybulak**	**6.70**	**25**	P	**Pn**	**03 00 28.0**	**+2.4**
SNR=10.0							
BHK	**Bhakra**	**6.78**	**138**	*e*S	**Sn**	**03 01 46.0**	**+2.1**
ULHL	**Ulahol**	**6.86**	**33**	P	**Pn**	**03 00 28.6**	**+0.8**
SNR=5.3							
USP	**Ospenovka**	**7.12**	**20**	P	**Pn**	**03 00 31.0**	**+0.1**
SNR=7.5							
TKM2	**Tokmak 2**	**7.16**	**27**	P	**Pn**	**03 00 32.8**	**+1.2**
SNR=76							
TARG	**Taragay, Kyrgy**	**7.26**	**43**		**Pn**	**03 00 33.9**	**+0.8**
SGDS	**Sogindy**	**7.33**	**20**	Pg	**Pn**	**03 00 33.5**	**-0.1**
comp=E,6.3nm,0.4s							
SGDS				Lg	Lg	03 01 47.8	
comp=E,10.0nm,0.7s							
KST	**Kastek**	**7.40**	**28**	Pg	**Pn**	**03 00 35.9**	**+1.1**
comp=E,23nm,0.6s							
KST				Lg	Lg	03 01 51.8	
comp=E,15nm,0.9s							
SMLA	**Simla**	**7.41**	**136**	*e*P	**Pn**	**03 00 36.3**	**+1.5**
SMLA				*e*S	**Sn**	**03 01 53.8**	**-4.9**
SMLA				IAML		03 01 58.1	
comp=N,238nm,1.6s							
SMLA				IAML		03 02 00.1	
comp=E,160nm,0.9s							
KLP	**Kalpa**	**7.77**	**129**	*e*S	**Sn**	**03 02 01.9**	**-5.7**
KLP				IAML		03 02 09.9	
comp=E,122nm,0.6s							
KLP				IAML		03 02 11.5	
comp=N,83nm,0.8s							
MKAR	**Makanchi Array**	**13.12**	**36**	P	**Pn**	**03 01 48.4**	**+0.3**
comp=N,1.4nm,0.8s,baz=218,slow=7.4,SNR=8.8							
KURBB	**Kurchatov Arra**	**14.97**	**18**	P	**Pn**	**03 02 10.4**	**-0.4**
comp=N,1.3nm,0.8s,baz=208,slow=11,SNR=7.7							
AB31	**Akbulak array**	**15.04**	**331**		**Pn**	**03 02 09.7**	**-2.0**
AB31	**Akbulak array**	**15.04**	**331**	P	P	03 02 17.1	+4.7
comp=N,0.8nm,0.4s,baz=149,slow=11,SNR=24							
ABKAR	**Akbulak array**	**15.04**	**331**	P	**Pn**	**03 02 10.5**	**-1.2**
BVAR	**Borovoye Array**	**16.41**	**358**	P	**Pn**	**03 02 28.1**	**-0.2**
comp=N,2.9nm,0.5s,baz=160,slow=12,SNR=14							
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**P**	**03 02 30.6**	**-0.5**
comp=N,5.1nm,0.5s,baz=145,slow=8.9,SNR=20							
ZAA0	**Zalesovo Array**	**19.75**	**24**		**P**	**03 03 04.5**	**+0.8**
ZALV	**Zalesovo Beam**	**19.75**	**24**		**P**	**03 03 04.7**	**+1.0**
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**03 03 04.6**	**+0.9**
comp=N,4.8nm,0.5s,baz=220,slow=11,SNR=22							
comp=N,4.8nm,0.5s							
ARTI	**Arti**	**21.57**	**340**		**P**	**03 03 23.1**	**+0.2**
ARTI				IAmb	IAmb	03 03 25.3	
comp=Z,11nm,1.2s							
ARTI	**Arti**	**21.57**	**340**	P	**P**	**03 03 22.8**	**0.0**
comp=Z,5.1nm,0.8s,baz=139,slow=6.0,SNR=5.5							
comp=Z,5.1nm,0.8s							
RAYN	**Ar Rayn**	**25.66**	**247**	P	**P**	**03 04 03.7**	**+2.9**
SONM	**Songino Array**	**28.16**	**55**	P	**P**	**03 04 24.8**	**+1.9**
comp=Z,0.7nm,0.5s,baz=254,slow=10.0,SNR=3.8							
comp=Z,0.7nm,0.5s							
FIA1	**FINESS Array S**	**37.45**	**326**	P	**P**	**03 05 42.5**	**-0.5**
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**03 05 42.9**	**-0.1**
comp=Z,1.3nm,0.4s,baz=120,slow=8.8,SNR=19							
comp=Z,1.3nm,0.4s							
KEV	**Kevo**	**40.74**	**338**	P	**P**	**03 06 10.1**	**+0.1**
ARCES	**ARCESS Array B**	**41.08**	**337**	P	**P**	**03 06 13.4**	**+0.5**
ARCES				IAmb	IAmb	03 06 16.2	
comp=Z,15nm,1.2s							
ARCES	**ARCESS Array B**	**41.08**	**337**	P	**P**	**03 06 13.3**	**+0.5**
comp=Z,4.2nm,0.6s,baz=114,slow=8.3,SNR=24							
comp=Z,4.2nm,0.6s							
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**03 06 28.5**	**-0.4**
comp=Z,2.7nm,0.6s,baz=108,slow=9.5,SNR=13							
comp=Z,2.7nm,0.6s							
NC303	**NORSAR Array S**	**44.30**	**323**	P	**P**	**03 06 38.8**	**-0.1**
NC303				IAmb	IAmb	03 06 57.1	
comp=Z,8.9nm,1.1s							
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**03 06 38.4**	**-1.0**
comp=Z,1.1nm,0.6s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**03 06 38.7**	**-0.7**
comp=Z,1.4nm,0.6s,baz=96,slow=7.8,SNR=7.7							
comp=Z,1.4nm,0.6s							
NBO00	**NORSAR Array S**	**44.57**	**323**	P	**P**	**03 06 40.5**	**-0.5**
NBO00				IAmb	IAmb	03 07 02.8	
comp=Z,25nm,1.5s							
NC204	**NORSAR Array S**	**44.60**	**323**	P	**P**	**03 06 40.9**	**-0.4**
TIXI	**Tiksi**	**45.62**	**22**	P	**P**	**03 06 49.6**	**+0.6**
TIXI				IAmb	IAmb	03 07 18.0	
comp=Z,7.7nm,0.9s							
SPITS	**Spitsbergen Ar**	**47.41**	**347**	P	**P**	**03 07 04.0**	**+1.1**
comp=Z,4.7nm,0.9s,baz=112,slow=11,SNR=4.4							
comp=Z,4.7nm,0.9s							
KBS	**Kingsbay**	**48.52**	**347**	P	**P**	**03 07 12.4**	**+1.0**
KBS				IAmb	IAmb	03 07 42.5	
comp=Z,34nm,1.3s							
ILAR	**Eielson Array**	**74.63**	**16**	P	**P**	**03 10 06.0**	**-0.1**
comp=Z,0.7nm,0.8s,baz=324,slow=5.3,SNR=5.6							
comp=Z,0.7nm,0.8s							
YKA	**Yellowknife Ar**	**81.12**	**3**	P	**P**	**03 10 42.7**	**+0.9**
comp=Z,1.3nm,0.8s,baz=66,slow=3.9,SNR=12							
comp=Z,1.3nm,0.8s							
WRA	**Warramunga Arr**	**81.95**	**122**	P	**P**	**03 10 45.5**	**-1.2**
comp=Z,1.5nm,0.5s,baz=324,slow=5.0,SNR=24							
comp=Z,1.5nm,0.5s							
ASAR	**Alice Springs**	**84.22**	**125**	P	**P**	**03 10 57.4**	**-1.0**
comp=Z,2.2nm,0.6s,baz=310,slow=4.9,SNR=31							
comp=Z,2.2nm,0.6s							

*IDC **13** 03:18:02.4±1.5, 31.09S×177.45W, h0km, mb4.1/4, mbtmp4.1/4, Error ellipse: s-maj=38.3km s-min=22.4km az=81.0*
ISC 13 03:18:06.1±1.5, 31.24S±0.08×177.7W±0.2, h27km, n7, σ2s17/9, mb4.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.00**	**353**	Pn	**Pn**	**03 18 36.3**	**-1.8**
77nm,0.3s,baz=55,slow=15,SNR=3.7							
RAO				Sn	**Sn**	**03 19 00.9**	**-1.2**
233nm,0.3s,baz=109,slow=22,SNR=5.5							
URZ	**Urewera**	**8.22**	**210**	Pn	**Pn**	**03 20 01.0**	**-2.5**
1.0nm,0.3s,baz=262,slow=2.9,SNR=7.0							
URZ				Sn	**Sn**	**03 21 33.2**	**-2.2**
1.8nm,0.3s,baz=139,slow=23,SNR=7.8							
STKA	**Stephens Creek**	**34.59**	**258**	P	**P**	**03 24 55.1**	**+2.4**
1.2nm,0.4s,baz=107,slow=14,SNR=4.3							
1.2nm,0.4s							
ASAR	**Alice Springs**	**43.37**	**268**	P	**P**	**03 26 08.0**	**+1.6**
1.5nm,0.6s,baz=103,slow=7.1,SNR=12							
1.5nm,0.6s							
WRA	**Warramunga Arr**	**44.43**	**273**	P	**P**	**03 26 16.2**	**+1.3**
1.4nm,0.4s,baz=112,slow=7.8,SNR=10							
1.4nm,0.4s							
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**03 28 03.8**	**+1.5**
1.5nm,0.6s,baz=35,slow=1.1,SNR=19							
1.5nm,0.6s							
FINES	**FINESS Array B**	**146.03**	**340**	PKPbc	**PKPdf**	**03 37 42.2**	**+0.3**
1.2nm,0.5s,baz=67,slow=5.3,SNR=14							

*IDC **13** 03:18:53.4±1.4, 11.69S×105.33E, h0km, mb4.0/9, mbtmp4.0/10, ML4.5/1, MS3.3/13, Error ellipse: s-maj=51.0km s-min=17.1km az=49.0*
*DJA **13** 03:18:57.2±2.3, 11.56S±0.10×105.4E±0.1, h14km±12km, M4.9/12, mB5.0/3, mb5.0/11, MLv5.0/12, Mw(mB)4.4/3*
ISC 13 03:18:58.6±0.9, 11.56S±0.10×105.4E±0.1, h35km, n41, σ1s31/24, mb3.9/8, MS3.3/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**4.56**	**22**	P	**Pn**	**03 20 03.2**	**-2.0**
LEM	**Lembang**	**5.19**	**25**	Pn	**Pn**	**03 20 15.2**	**+1.1**
16nm,0.3s,baz=306,slow=18,SNR=4.1							
LEM				Sn	**Sn**	**03 21 12.6**	**-0.2**
25nm,0.3s,baz=121,slow=21,SNR=6.

H08S2	Diego Garcia H baz=101,slow=75,SNR=60	32.65	274	T	T	03 59 26.4	
H08S3	Diego Garcia H baz=101,slow=74,SNR=55	32.66	274	T	T	03 59 30.0	
H08S1	Diego Garcia H baz=101,slow=74,SNR=11	32.67	274	T	T	03 59 28.0	
BRDH	Bariadhala comp=Z,68nm,19.1s,baz=120,slow=40	36.59	338	LR	LR	03 43 33.0	
STKA	Stephens Creek 3.7nm,0.5s,baz=301,slow=8.5,SNR=9.5 3.7nm,0.5s	38.98	127	P	P	03 26 21.0	-0.8
PMG	Port Moresby comp=Z,26nm,20.4s,baz=188,slow=38	41.11	91	LR	LR	03 44 44.1	
H04N2	CROZET ISLANDS baz=71,slow=75,SNR=13	56.80	222	T	T	04 30 07.1	
H04N1	CROZET ISLANDS baz=71,slow=75,SNR=18	56.82	222	T	T	04 30 11.3	
H04N3	CROZET ISLANDS baz=71,slow=75,SNR=12	56.82	222	T	T	04 30 05.9	
SONM	Songino Array 1.2nm,0.5s,baz=174,slow=7.6,SNR=5.9 1.2nm,0.5s	59.13	1	P	P	03 28 56.5	+0.7
MKAR	Makanchi Array 0.8nm,0.9s,baz=145,slow=7.9,SNR=2.7 0.8nm,0.9s	61.66	342	P	P	03 29 13.4	+0.4
URZ	Urewera comp=Z,59nm,18.7s,baz=290,slow=37	68.61	127	LR	LR	04 01 22.4	
BVAR	Borovoye Array 0.8nm,0.5s,baz=178,slow=13,SNR=5.7 0.8nm,0.5s	70.96	339	P	P	03 30 12.8	+0.4
ASF	Jabal al Asfar comp=Z,24nm,18.1s,baz=169,slow=36	78.50	306	LR	LR	04 06 29.1	
MMAI	Mount Meron Ar comp=Z,39nm,19.0s,baz=174,slow=35	79.98	307	LR	LR	04 05 46.8	
BRTR	Keskin Array B 0.3nm,0.5s,baz=138,slow=4.2,SNR=1.8 0.3nm,0.5s	83.68	313	P	P	03 31 25.2	+1.1
ARCES	ARCESS Array B comp=Z,13nm,19.6s,baz=302,slow=38	97.23	340	LR	LR	04 20 12.8	
TXAR	Lajitas Array 0.3nm,0.6s,baz=251,slow=1.6,SNR=5.1	147.68	52	PKPbc	PKiKP	03 38 42.2	-0.1

ANF ***13*** *03:22:27.7±0.3, 59°.04N×138°.00W, h1km±2km, ML3.6/41, Error ellipse: s-maj=2.2km s-min=1.5km az=34.0*
NEIC ***13*** *03:22:27.8±1.2, 59°.02N±0°.02×138°.04W±0°.04, h2km±1km, Error ellipse: s-maj=3.8km s-min=2.3km az=216.0*
AEIC ***13*** *03:22:28.3±1.1, 59°.02N±0°.03×138°.04W±0°.04, h5km±6km, ML3.3, ML3.4/112(NEIC), Error ellipse: s-maj=4.2km s-min=2.5km az=211.0*

ISC 13 03:22:28.7±0.8, 59°.03N±0°.03×138°.02W±0°.02, h10km, n171, σ0.84/184, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
P29M	**Windy Craggy**	**0.62**	**13**		**Pg**	**03 22 40.0**	**-0.9**
P29M					**Sg**	**03 22 47.7**	**-1.3**
P29M	**Windy Craggy** comp=E,2μm,0.4s	**0.62**	**13**	IAML		03 22 48.1	
P29M				IAML		03 22 48.4	
	comp=N,3μm,0.5s						
P29M	**Windy Craggy** baz=194,SNR=191	**0.62**	**13**	P	**Pg**	**03 22 39.9**	**-0.9**
P29M				S	**Sg**	**03 22 47.8**	**-1.3**
	baz=194						
PLBC	**Pleasant Camp**	**0.95**	**62**		**Pg**	**03 22 45.6**	**-1.5**
PLBC	**Pleasant Camp** baz=244,SNR=492	**0.95**	**62**	P	**Pg**	**03 22 45.8**	**-1.3**
PNL	**Peninsula**	**0.96**	**313**		**Pg**	**03 22 46.1**	**-1.0**
PNL					**Sg**	**03 22 59.1**	**-0.4**
PNL	**Peninsula** baz=132,SNR=1000	**0.96**	**313**	P	**Pg**	**03 22 46.1**	**-1.0**
PNL				S	**Sg**	**03 22 59.1**	**-0.4**
	baz=132						
YKU2	**Yakutat**	**0.98**	**301**		**Pg**	**03 22 47.5**	**0.0**
YKU2					**Sb**	**03 23 01.2**	**+0.6**
P30M	**Million Dollar**	**1.23**	**26**		**Pn**	**03 22 50.4**	**-1.6**
P30M					**Sn**	**03 23 09.6**	**+1.0**
P30M	**Million Dollar** comp=N,526nm,0.7s	**1.23**	**26**	IAML		03 23 10.7	
P30M				IAML		03 23 11.5	
	comp=E,487nm,0.5s						
P30M	**Million Dollar** baz=207	**1.23**	**26**	P	**Pn**	**03 22 50.4**	**-1.6**
BCPM	**Bancas Point**	**1.24**	**319**		**Pn**	**03 22 50.7**	**-1.5**
BCPM	**Bancas Point**	**1.24**	**319**		**Sg**	**03 23 08.8**	**+0.1**
O29M	**Mount Kennedy**	**1.31**	**348**		**Pn**	**03 22 51.3**	**-1.9**
O29M	**Mount Kennedy** comp=E,938nm,0.7s	**1.31**	**348**	IAML		03 23 12.8	
O29M				IAML		03 23 15.9	
	comp=N,778nm,0.4s						
O29M	**Mount Kennedy** baz=168,SNR=109	**1.31**	**348**	P	**Pn**	**03 22 51.1**	**-2.1**
S31K	**Pelican**	**1.42**	**138**		**Pn**	**03 22 53.1**	**-1.4**
S31K					**Sn**	**03 23 12.8**	**-0.4**
S31K	**Pelican** comp=N,436nm,0.6s	**1.42**	**138**	IAML		03 23 18.6	
S31K	**Pelican** baz=319,SNR=280	**1.42**	**138**	P	**Pn**	**03 22 53.0**	**-1.5**
S31K				S	**Sg**	**03 23 14.2**	**-0.2**
	baz=319						
SKAG	**Skagway**	**1.45**	**71**		**Pn**	**03 22 54.3**	**-0.7**
SKAG	**Skagway**	**1.45**	**71**		**Sg**	**03 23 16.0**	**+0.7**
SKAG	**Skagway** baz=254,SNR=316	**1.45**	**71**	P	**Pn**	**03 22 54.5**	**-0.5**
SKAG				S	**Sn**	**03 23 14.2**	**+0.1**
	baz=254						
YUK7	**Dusty Glacier**	**1.51**	**358**		**Pn**	**03 22 55.6**	**-0.5**
PINM	**Pinnacle** baz=133,SNR=270	**1.56**	**314**	P	**Pn**	**03 22 55.8**	**-0.8**
PINM				S	**Sb**	**03 23 17.4**	**-0.2**
	baz=133						
PCA	**Pinnacle**	**1.57**	**314**		**Pn**	**03 22 55.8**	**-0.9**
PCA	**Pinnacle**	**1.57**	**314**		**Sb**	**03 23 17.7**	**0.0**
BESE	**Bessie Mountai**	**1.71**	**104**		**Pn**	**03 22 58.7**	**+0.1**
BESE				IAML		03 23 24.6	
	comp=N,596nm,0.7s						
BESE				IAML		03 23 24.7	
	comp=E,410nm,0.6s						
BESE	**Bessie Mountai**	**1.71**	**104**		**Sb**	**03 23 21.8**	**+0.1**
SAMH	**Samovar Hills**	**1.79**	**309**		**Pn**	**03 22 59.5**	**-0.2**
HYT	**Haines Junctio**	**1.82**	**8**		**Pn**	**03 22 60.0**	**-0.3**
HYT				IAML		03 23 27.0	
	comp=E,316nm,0.6s						
HYT	**Haines Junctio** baz=189,SNR=1000	**1.82**	**8**	P	**Pn**	**03 23 00.2**	**0.0**
HYT				S	**Sn**	**03 23 24.2**	**+0.7**
	baz=189						
CHX	**Chaix Hills**	**1.89**	**305**		**Pn**	**03 23 00.8**	**-0.3**
CHX					**Sb**	**03 23 27.2**	**+0.2**
YUK6	**Outpost Mounta**	**1.93**	**355**		**Pn**	**03 23 02.1**	**+0.2**
YUK6	**Outpost Mounta** baz=175,SNR=153	**1.93**	**355**	P	**Pn**	**03 23 01.7**	**-0.1**
YUK6				S	**Sn**	**03 23 27.2**	**+0.9**
	baz=175						
R32K	**Eaglecrest**	**1.98**	**111**		**Pn**	**03 23 01.9**	**-0.4**
R32K				IAML		03 23 31.5	
	comp=N,311nm,0.5s						
R32K				IAML		03 23 35.1	
	comp=E,243nm,0.8s						
R32K	**Eaglecrest** baz=294,SNR=41	**1.98**	**111**	P	**Pn**	**03 23 02.2**	**-0.1**
R32K				S	**Sn**	**03 23 28.4**	**+1.3**
	baz=294						
JIS	**Juneau Island**	**2.04**	**110**		**Pn**	**03 23 03.5**	**+0.4**
O28M	**Mount Upton**	**2.07**	**329**		**Pn**	**03 23 03.4**	**-0.3**
O28M				IAML		03 23 33.9	
	comp=N,239nm,0.6s						
O28M				IAML		03 23 36.6	
	comp=E,214nm,0.7s						
O28M	**Mount Upton** baz=147,SNR=78	**2.07**	**329**	P	**Pn**	**03 23 03.7**	**0.0**
O28M				S	**Sb**	**03 23 31.1**	**-1.2**
	baz=147						
YUK5	**Granite Creek**	**2.12**	**2**		**Pn**	**03 23 05.3**	**+1.0**
RKAV	**Rock Avalanche**	**2.12**	**309**		**Pn**	**03 23 05.5**	**+1.2**
TABL	**Table Mountain**	**2.12**	**313**		**Pn**	**03 23 03.8**	**-0.6**
TABL				IAML		03 23 35.1	
	comp=E,376nm,0.6s						
P32M	**Atlin**	**2.28**	**74**		**Pn**	**03 23 06.0**	**-0.4**
P32M				IAML		03 23 43.2	
	comp=N,176nm,0.9s						
P32M	**Atlin** baz=258,SNR=552	**2.28**	**74**	P	**Pn**	**03 23 06.2**	**-0.2**
P32M				Sb	**Sb**	**03 23 38.5**	**+0.3**
	baz=258						

WHY	**Whitehorse**	**2.28**	**43**		**Pn**	**03 23 06.7**	**+0.2**
WHY	**Whitehorse** baz=226,SNR=250	**2.28**	**43**	P	**Pn**	**03 23 06.6**	**+0.1**
WHY				S	**Sn**	**03 23 36.1**	**+1.4**
	baz=226						
MESA	**MESA**	**2.31**	**302**		**Pn**	**03 23 06.0**	**-1.0**
MESA	**MESA** baz=119,SNR=44	**2.31**	**302**	P	**Pn**	**03 23 06.0**	**-1.0**
MESA				Sb	**Sb**	**03 23 40.3**	**+1.2**
	baz=119						
YAH	**Yahtse**	**2.32**	**307**		**Pn**	**03 23 06.6**	**-0.5**
YAH				IAML		03 23 42.2	
	comp=E,328nm,0.6s						
YAH				IAML		03 23 43.8	
	comp=N,256nm,0.4s						
LOGN	**Logan Glacier**	**2.35**	**322**		**Pn**	**03 23 07.2**	**-0.2**
LOGN				IAML		03 23 40.6	
	comp=E,273nm,0.5s						
LOGN				IAML		03 23 44.4	
	comp=N,306nm,0.9s						
YUK4	**Talbot Arm**	**2.35**	**353**	P	**Pb**	**03 23 10.0**	**-1.2**
	baz=174,SNR=232						
S32K	**Killisnoo**	**2.40**	**129**		**Pn**	**03 23 09.0**	**+1.1**
S32K	**Killisnoo** baz=312,SNR=41	**2.40**	**129**	P	**Pn**	**03 23 07.9**	**-0.1**
S32K				Sb	**Sb**	**03 23 42.6**	**+1.1**
	baz=312						
YUK8	**Steele Glacier**	**2.43**	**340**		**Pn**	**03 23 09.3**	**+0.7**
YUK8	**Steele Glacier** baz=158,SNR=54	**2.43**	**340**	P	**Pn**	**03 23 08.7**	**0.0**
YUK8				Sb	**Sb**	**03 23 43.7**	**+1.0**
	baz=158						
SIT	**Sitka**	**2.44**	**143**		**Pn**	**03 23 08.8**	**+0.3**
SIT				IAML		03 23 48.1	
	comp=E,130nm,0.5s						
SIT	**Sitka** baz=325,SNR=15	**2.44**	**143**	Pb	**Pb**	**03 23 12.0**	**-0.6**
SIT				Sb	**Sb**	**03 23 45.0**	**+2.4**
	baz=325						
N30M	**Aishikik Lake**	**2.49**	**10**		**Pn**	**03 23 09.6**	**+0.3**
N30M	**Aishikik Lake** baz=191,SNR=79	**2.49**	**10**	P	**Pn**	**03 23 09.6**	**+0.3**
BAGL	**Bagley Icefiel**	**2.53**	**307**		**Pn**	**03 23 10.5**	**+0.7**
GRNC	**Granite Creek**	**2.54**	**314**		**Pn**	**03 23 09.8**	**-0.4**
GRNC				IAML		03 23 46.6	
	comp=N,268nm,0.6s						
GRNC				IAML		03 23 48.2	
	comp=E,121nm,0.8s						
CTGM	**Chitina Glacier**	**2.56**	**321**		**Pn**	**03 23 10.6**	**+0.2**
CTGM				IAML		03 23 46.3	
	comp=N,192nm,0.5s						
CTGM				IAML		03 23 50.9	
	comp=E,225nm,1.0s						
CTG	**Chitna Glacier** baz=138,SNR=66	**2.56**	**321**	P	**Pn**	**03 23 10.5**	**+0.1**
CTG				S	**Sn**	**03 23 42.9**	**+1.2**
	baz=138						
ISLE	**Juniper Island**	**2.69**	**308**		**Pn**	**03 23 12.1**	**-0.1**
ISLE				IAML		03 23 50.4	
	comp=N,196nm,0.8s						
ISLE				IAML		03 23 55.8	
	comp=E,218nm,0.6s						
SNH	**Sunshine Point**	**2.71**	**297**		**Pn**	**03 23 12.1**	**-0.2**
N31M	**Braeburn, Yuko**	**2.71**	**23**		**Pn**	**03 23 12.6**	**+0.3**
N31M				IAML		03 23 53.8	
	comp=N,170nm,0.9s						
N31M				IAML		03 23 56.5	
	comp=E,164nm,0.6s						
N31M	**Braeburn, Yuko** baz=206,SNR=79	**2.71**	**23**	P	**Pn**	**03 23 13.0**	**+0.6**
N31M				Sb	**Sb**	**03 23 52.3**	**+1.8**
	baz=206						
BARN	**Barnard Glacie**	**2.74**	**320**		**Pn**	**03 23 12.7**	**-0.1**
BARN				IAML		03 23 51.1	
	comp=N,190nm,0.7s						
WAX	**Waxell Ridge**	**2.83**	**302**		**Pn**	**03 23 13.2**	**-0.8**
BGLC	**Bering Glacier** baz=110	**2.90**	**295**	Pb	**Pb**	**03 23 19.2**	**-1.1**
BGLC				Sb	**Sb**	**03 23 57.7**	**+2.0**
	baz=110						
KIAG	**Kiagna River**	**2.90**	**313**		**Pn**	**03 23 14.7**	**-0.3**
P33M	**Teslin, Yukon**	**2.90**	**64**		**Pn**	**03 23 14.7**	**-0.2**
P33M	**Teslin, Yukon** baz=248,SNR=198	**2.90**	**64**	P	**Pn**	**03 23 14.6**	**-0.4**
BALM	**Baldy**	**2.96**	**315**		**Pn**	**03 23 15.9**	**0.0**
GRIN	**Grindle Hills**	**2.97**	**297**		**Pn**	**03 23 15.9**	**0.0**
Q32M	**Nakina River**	**2.98**	**89**		**Pn**	**03 23 16.3**	**+0.1**
Q32M				IAML		03 24 07.8	
	comp=E,114nm,0.8s						
Q32M	**Nakina River** baz=274,SNR=50	**2.98**	**89**	P	**Pn**	**03 23 15.9**	**-0.3**
TGL	**Tana Glacier**	**2.98**	**308**		**Pn**	**03 23 16.8**	**+0.7**
TGL	**Tana Glacier** comp=E,118nm,0.8s	**2.98**	**308**	IAML		03 24 04.9	
TGL				IAML		03 24 12.8	
	comp=N,106nm,0.8s						
KHIT	**Khitrov Hills**	**3.00**	**300**		**Pn**	**03 23 16.2**	**-0.2**
YUK3	**Moose Creek** baz=156,SNR=11	**3.01**	**337**	Pn	**Pb**	**03 23 22.0**	**-0.5**
CRQE	**Cirque** baz=122,SNR=7.0	**3.09**	**306**	P	**Pn**	**03 23 17.1**	**-0.5**
CRQE				S	**Sn**	**03 23 56.1**	**+1.5**
	baz=122						
YUK2	**White River**	**3.10**	**334**		**Pn**	**03 23 19.1**	**+1.3**
PTPK	**Patty Peak**	**3.11**	**316**		**Pn**	**03 23 19.2**	**+1.3**
CRQM	**Cirque**	**3.11**	**306**		**Pn**	**03 23 17.4**	**-0.6**
CRQM				IAML		03 24 05.8	
	comp=E,145nm,0.6s						
SUCK	**Suckling Hills**	**3.11**	**292**	Pn	**Pn**	**03 23 18.0**	**+0.1**
SUCK				IAML		03 24 28.9	
	comp=N,113nm,0.9s						
SUCK				IAML		03 24 32.3	
	comp=E,126nm,0.8s						
BERG	**Berg Lake**	**3.19**	**298**	Pn	**Pn**	**03 23 18.2**	**-0.6**
NICHA	**Nichawak Mount**	**3.25**	**294**		**Pn**	**03 23 21.6**	**+1.8**
N32M	**Quiet Lake**	**3.27**	**47**		**Pn**	**03 23 20.4**	**+0.4**
N32M	**Quiet Lake** baz=232,SNR=67	**3.27**	**47**	P	**Pn**	**03 23 20.3**	**+0.4**
HMT	**Hamilton**	**3.43**	**295**	Pn	**Pn**	**03 23 21.6**	**-0.5**
M29M	**Somme Creek**	**3.44**	**357**		**Pn**	**03 23 22.3**	**-0.1**
M29M				IAML		03 24 16.5	
	comp=E,72nm,0.6s						
M29M	**Somme Creek** baz=176,SNR=32	**3.44**	**357**	P	**Pn**	**03 23 23.2**	**+0.8**
MCARA	**McCarthy VSAT**	**3.44**	**316**		**Pn**	**03 23 23.1**	**+0.8**
MCARA	**McCarthy VSAT** comp=E,117nm,0.8s	**3.44**	**316**	IAML		03 24 18.1	
MCARA				IAML		03 24 21.4	
	comp=N,105nm,0.7s						
MCARA	**McCarthy VSAT** baz=131,SNR=16	**3.44**	**316**	P	**Pn**	**03 23 22.4**	**+0.1**
VRDI	**Verde Repeater**	**3.50**	**311**		**Pn**	**03 23 22.9**	**-0.5**
M30M	**Minto, Yukon**	**3.61**	**9**		**Pn**	**03 23 25.3**	**+0.5**
M30M				IAML		03 24 27.1	
	comp=E,63nm,1.1s						
M30M	**Minto, Yukon** baz=190,SNR=38	**3.61**	**9**	P	**Pn**	**03 23 25.1**	**+0.3**
R33M	**Jennings River**	**3.65**	**81**		**Pn**	**03 23 25.2**	**-0.1**
R33M				IAML		03 24 28.6	
	comp=N,68nm,0.6s						
R33M				IAML		03 24 29.3	
	comp=E,46nm,0.8s						
R33M	**Jennings River** baz=267,SNR=34	**3.65**	**81**	P	**Pn**	**03 23 25.2**	**-0.1**
M31M	**Drury Creek, Y**	**3.66**	**28**		**Pn**	**03 23 25.4**	**+0.1**
M31M				IAML		03 24 31.2	
	comp=E,60nm,0.7s						
M31M	**Drury Creek, Y** baz=211,SNR=17	**3.66**	**28**	P	**Pn**	**03 23 25.8**	**+0.5**
BVCY	**Beaver Creek** baz=157,SNR=12	**3.68**	**339**	Pb	**Pb**	**03 23 33.5**	**-0.2**
GLB	**Gilahina Butte**	**3.77**	**313**		**Pn**	**03 23 27.3**	**+0.4**
GLB	**Gilahina Butte** comp=N,44nm,0.6s	**3.77**	**313**	IAML		03 24 22.9	
S34M	**Telegraph Cree**	**3.79**	**104**		**Pn**	**03 23 27.3**	**+0.2**
S34M	**Telegraph Cree** baz=290	**3.79**	**104**	P	**Pn**	**03 23 27.6**	**+0.5**
BMRM	**Bremner River**	**3.84**	**303**		**Pn**	**03 23 27.6**	**-0.2**
BMRM				IAML		03 24 43.3	
	comp=E,63nm,0.6s						
BMRM	**Bremner River** baz=118,SNR=14	**3.84**	**303**	P	**Pn**	**03 23 27.9**	**+0.1**
M27K	**Edge Creek, AK**	**3.84**	**332**	Pn	**Pn**	**03 23 28.0**	**0.0**
M27K				IAML		03 24 40.4	
	comp=E,40nm,0.9s						
M27K	**Edge Creek, AK**	**3.84**	**332**	P	**Pn**	**03 23 28.5**	**+0.6**

	baz=149,SNR=12						
U33K	**Whale Pass**	**3.93**	**136**	Pn	**Pn**	**03 23 29.4**	**+0.3**
U33K	**Whale Pass** baz=320	**3.93**	**136**	Pb	**Pb**	**03 23 37.5**	**-0.5**
WRAK	**Wrangell Islan**	**4.01**	**128**		**Pn**	**03 23 30.3**	**+0.2**
WRAK				IAML		03 24 37.0	
	comp=E,49nm,0.6s						
WRAK				IAML		03 24 44.7	
	comp=E,66nm,0.8s						
WRAK	**Wrangell Islan** baz=313	**4.01**	**128**	P	**Pn**	**03 23 31.4**	**+1.3**
L29M	**L29M**	**4.10**	**359**	Pn	**Pn**	**03 23 32.4**	**+0.9**
L29M				IAML		03 24 44.4	
	comp=N,70nm,0.8s						
L29M	**L29M** baz=179,SNR=23	**4.10**	**359**	P	**Pn**	**03 23 32.2**	**+0.8**
N25K	**Chitina, Valde**	**4.17**	**311**	Pn	**Pn**	**03 23 32.5**	**+0.1**
N25K	**Chitina, Valde** baz=126,SNR=11	**4.17**	**311**	P	**Pn**	**03 23 32.3**	**-0.1**
DLBC	**Dease Lake** baz=281,SNR=8.4	**4.21**	**95**	P	**Pn**	**03 23 34.5**	**+1.5**
DIV	**Divide**	**4.42**	**302**	Pn	**Pn**	**03 23 36.0**	**+0.2**
L27K	**Beaver Creek,** baz=154,SNR=5.8	**4.45**	**337**	Pb	**Pb**	**03 23 47.1**	**+0.1**
T35M	**Bob Quinn** comp=N,33nm,0.5s	**4.61**	**113**	IAML		03 24 53.4	
T35M				IAML		03 24 57.2	
	comp=E,32nm,1.2s						
KLU	**Klutina** baz=119	**4.65**	**306**	P	**Pn**	**03 23 39.0**	**+0.1**
L26K	**Log Cabin Wild** comp=E,22nm,0.5s	**4.78**	**329**	IAML		03 25 02.3	
K29M	**Barlow Dome** comp=E,28nm,1.1s	**4.84**	**3**	IAML		03 25 01.0	
K29M	**Barlow Dome** baz=183,SNR=39	**4.84**	**3**	P	**Pn**	**03 23 43.0**	**+1.3**
P23K	**Montague Islan** baz=98	**4.88**	**286**	P	**Pn**	**03 23 41.5**	**-0.5**
MMPY	**Sheldon Lake,** baz=226,SNR=36	**4.89**	**40**	P	**Pn**	**03 23 43.7**	**+1.4**
GLI	**Glacier Island** baz=108	**4.93**	**296**	P	**Pn**	**03 23 42.3**	**-0.4**
M24K	**Tolsona, Glenn** comp=N,26nm,2.2s	**5.07**	**311**	IAML		03 25 35.2	
M24K	**Tolsona, Glenn** baz=124	**5.07**	**311**	P	**Pn**	**03 23 45.7**	**+1.0**
DAWY	**Dawson** baz=172,SNR=13	**5.10**	**353**	P	**Pn**	**03 23 46.6**	**+1.4**
PAX	**Paxson** baz=134	**5.37**	**321**	P	**Pn**	**03 23 49.5**	**+0.7**
K27K	**Chicken** comp=E,18nm,1.3s	**5.38**	**341**	IAML		03 25 20.7	
K27K				IAML		03 25 25.6	
	comp=N,13nm,1.3s						
SCM	**Sheep Creek Mo** baz=117	**5.40**	**305**	P	**Pn**	**03 23 50.5**	**+1.2**
TGTN	**Hyland Airport** baz=247,SNR=6.7	**5.46**	**58**	P	**Pn**	**03 23 50.7**	**+0.6**
PWL	**Port Wells** baz=105	**5.50**	**294**	P	**Pn**	**03 23 50.1**	**-0.6**
M23K	**Glacier View** baz=116,SNR=6.8	**5.55**	**304**	P	**Pn**	**03 23 52.6**	**+1.3**
J30M	**Hart River**	**5.63**	**7**		**Pn**	**03 23 53.9**	**+1.5**
J30M	**Hart River** baz=189,SNR=7.4	**5.63**	**7**	P	**Pn**	**03 23 54.2**	**+1.8**
KNK	**Knik Glacier** baz=110	**5.73**	**299**	P	**Pn**	**03 23 54.5**	**+0.8**
PMR	**Palmer** baz=110	**6.09**	**300**	P	**Pn**	**03 23 59.1**	**+0.4**
RC01	**Rabbit Creek A** baz=104,SNR=7.6	**6.22**	**294**	P	**Pn**	**03 24 00.3**	**-0.2**
I30M	**Mount Dempster** baz=188,SNR=16	**6.27**	**6**	P	**Pn**	**03 24 02.7**	**+1.5**
I28M	**Miner Creek** baz=171,SNR=19	**6.51**	**353**	P	**Pn**	**03 24 06.0**	**+1.5**
SUA	**Susitna One** baz=106,SNR=8.7	**6.79**	**297**	P	**Pn**	**03 24 08.9**	**+0.5**
SKT	**Skwentna** baz=108	**7.30**	**300**	P	**Pn**	**03 24 15.4**	**+0.2**
TRF	**Thorofare Moun** baz=121,SNR=17	**7.39**	**312**	P	**Pn**	**03 24 17.8**	**+1.1**
Q20K	**Shuyak Island** baz=81	**7.48**	**273**	P	**Pn**	**03 24 16.4**	**-1.2**
NEA2	**Nenana** baz=132	**7.64**	**322**	P	**Pn**	**03 24 20.9**	**+0.9**
P19K	**Oil Pt** baz=88	**7.80**	**281**	P	**Pn**	**03 24 23.0**	**+0.8**
M20K	**Styx River** baz=104	**8.00**	**297**	P	**Pn**	**03 24 26.2**	**+1.3**
BPAW	**Bear Paw Mtn.** baz=124	**8.00**	**315**	P	**Pn**	**03 24 25.9**	**+0.9**
Q19K	**Cape Douglas,** baz=83	**8.07**	**276**	P	**Pn**	**03 24 26.9**	**+1.0**
CAST	**Castle Rocks** baz=117	**8.08**	**309**	P	**Pn**	**03 24 26.4**	**+0.3**
G31M	**Satah River** baz=194,SNR=8.2	**8.11**	**11**	P	**Pn**	**03 24 27.4**	**+1.1**
OHAK	**Old Harbor** baz=71	**8.28**	**264**	P	**Pn**	**03 24 27.7**	**-1.0**
N19K	**Bonanza Creek** baz=95	**8.46**	**289**	P	**Pn**	**03 24 30.3**	**-0.9**
L20K	**Farewell, AK** baz=107	**8.50**	**301**	P	**Pn**	**03 24 32.6**	**+1.0**
Q18K	**Katmai Hardscr** baz=80	**8.82**	**275**	P	**Pn**	**03 24 36.4**	**+0.2**
L19K	**White Mountain** baz=104,SNR=5.7	**8.86**	**298**	P	**Pn**	**03 24 36.2**	**-0.4**
K20K	**Telida** baz=112	**8.87**	**306**	P	**Pn**	**03 24 36.6**	**-0.3**
SII	**Sitkinak Islan** baz=67	**8.98**	**261**	P	**Pn**	**03 24 38.0**	**-0.2**
J20K	**Nowinta River** baz=117	**9.24**	**311**	P	**Pn**	**03 24 41.9**	**+0.1**
R17L	**Mt. Peulik Vol** baz=74	**9.74**	**270**	P	**Pn**	**03 24 49.6**	**+0.8**
O17K	**Koliganek Bris** baz=86	**9.75**	**283**	P	**Pn**	**03 24 49.9**	**+1.0**
J19K	**Poorman** baz=113	**9.76**	**308**	P	**Pn**	**03 24 49.2**	**+0.3**
N17K	**Nushagak Hills** baz=90	**9.78**	**287**	P	**Pn**	**03 24 49.6**	**+0.5**
J18K	**Innoko River** baz=108	**10.03**	**304**	P	**Pn**	**03 24 53.0**	**+0.4**

NEIC ***13*** *03:30:31.0±1.5, 5°.99N±0°.07×126°.07E±0°.07, h142km±6km, mb4.7/84, Error ellipse: s-maj=10.0km s-min=9.4km az=65.0*
IDC ***13*** *03:30:30.3±0.5, 6°.02N×125°.93E, h146km±3km, mb4.1/24, mbtmp4.5/25, MS3.1/4, Error ellipse: s-maj=20.1km s-min=8.0km az=72.0*
DJA ***13*** *03:30:31.0±0.3, 6°N±2°×126°6E±°, h136km±2km, M4.9/39, mb5.0/39, mB5.3/17, MLv5.2/12, Mw(mB)4.8/17*

ISC 13 03:30:28.7±0.3, 6.01N±0.04×126.16E±0.06, h127km, n202, σ1.9/36/209, mb4.6/88, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.20**	**331**		**Pn**	**03 30 55.5**	**+2.2**
DAV	**Davao City (W)** 3μm,0.4s,baz=127,slow=1.4,SNR=71	**1.20**	**331**	P	**Pn**	**03 30 55.9**	**+2.5**
DAV				S	**Sn**	**03 31 15.1**	**+3.0**
	6μm,0.5s,baz=324,slow=23,SNR=25						
DAV	**Davao City (W)**	**1.20**	**331**	P	**Pn**	**03 30 50.0**	**-3.4**
SGSI	**Sangihe**	**2.39**	**195**	P	**Pn**	**03 31 09.9**	**+2.4**
SGSI				S	**Sn**	**03 31 39.8**	**+2.5**
TNTI	**Ternate**	**5.34**	**167**	Pn	**Pn**	**03 31 46.3**	**-0.1**
TNTI	**Ternate** 2.0nm3μm201nm,0.7s	**5.34**	**167**	P	**Pn**	**03 31 47.3**	**+0.9**
TNTI				S	**Sn**	**03 32 46.0**	**-0.9**
	2.0nm3μm201nm,0.7s						
MRSI	**Marisa** 0.6nm2μm122nm,0.6s	**6.92**	**218**	P	**Pn**	**03 32 09.6**	**+1.9**
TOLI2	**Tolitoli**	**7.25**	**228**	Pn	**Pn**	**03 32 12.2**	**+0.1**
MYLDM	**Lahad

	130nm,1.5s						
SPSI	**Sidrap Palu**	11.79	213	P	Pn	03 33 15.2	+2.2
	3µm36nm,0.7s						
BNSI	**Bone**	11.98	210	P	Pn	03 33 17.6	+2.1
	1µm83nm,1.1s						
BAKI	**Biak**	12.24	125	P	Pn	03 33 22.1	+3.1
	103nm,1.0s						
KAPI	**Kappang**	12.68	210	Pn	Pn	03 33 24.9	+0.1
KAPI	**Kappang**	12.68	210	P	Pn	03 33 25.0	+0.3
	15nm,0.4s,baz=264,slow=19,SNR=6.0						
KAPI				LR	LR	03 38 10.6	
	comp=Z,80nm,19.4s,baz=39,slow=37						
BKSI	**Bulukumba**	12.77	208	P	Pn	03 33 25.8	0.0
	43nm,1.2s						
SBUM	**Sibu**	14.34	256	Pn	Pn	03 33 46.2	+0.1
MMRI	**Maumere**	15.07	195	P	P	03 33 57.4	0.0
EDFI	**Ende, Flores**	15.32	197	P	Pn	03 33 58.3	-0.2
	1µm89nm,1.2s						
SOEI	**Soe**	15.78	187		P	03 34 05.4	0.0
SOEI	**Soe**	15.78	187	P	P	03 34 06.1	+0.7
	105nm,0.7s						
BATI	**Baumata**	16.30	189	P	P	03 34 11.7	+0.6
	178nm,0.5s,baz=2.4,slow=3.5,SNR=11						
BATI	**Baumata**	16.30	189	P	P	03 34 11.7	+0.6
PLAI	**Plampang**	16.95	210	P	P	03 34 18.1	-0.1
WBSI	**Waikabubak, Su**	16.95	203	P	Pn	03 34 18.7	+0.3
	92nm,0.8s						
BASI	**Baing, Sumba**	17.05	199	P	Pn	03 34 20.7	+1.1
	223nm,0.8s						
TWSI	**Taliwang, Sumb**	17.33	212	P	Pn	03 34 22.9	0.0
	997nm89nm,0.7s						
DLV	**Lat**	18.42	290	P	Pn	03 34 35.5	-0.7
JAGI	**Jajag, Banyuwa**	18.72	220	P	P	03 34 37.5	-0.2
JAGI	**Jajag, Banyuwa**	18.72	220	P	Pn	03 34 38.8	-0.7
	89nm,0.7s						
GMJI	**Gumukmas**	19.03	222	P	Pn	03 34 43.7	+0.5
	38nm,0.9s						
MTN	**Manton Dam**	19.37	165	P	P	03 34 44.9	+0.2
MTN	**Manton Dam**	19.37	165	P	P	03 34 45.5	+0.8
	comp=Z,80nm,0.9s						
KDU	**Kakadu**	19.61	161	P	P	03 34 48.3	+1.0
	comp=Z,286nm,0.8s						
QIZ	**Qiongzhong**	20.50	311	P	P	03 34 57.0	+0.2
QIZ				pP	pP	03 35 22.9	+2.8
QIZ				sP	sP	03 35 39.1	+3.0
QIZ				S	S	03 38 38.1	-1.3
QIZ				sS	sS	03 39 22.3	+5.6
QIZ				pmax	pmax		
	comp=Z,56nm,0.7s						
QIZ				pmax	pmax		
	comp=Z,520nm,3.1s						
PCJI	**Pacitan**	20.55	227	P	P	03 34 58.6	+1.1
	comp=Z,51nm,0.8s						
UGM	**Wanagama**	20.85	229	P	P	03 35 02.1	+1.4
UGM				IAmb	IAmb	03 35 10.1	
	comp=Z,44nm,0.8s						
UGM	**Wanagama**	20.85	229	P	P	03 35 02.4	+1.7
	comp=Z,73nm,1.1s						
KNRA	**Kununurra**	21.70	173	P	P	03 35 09.9	+0.1
KNRA	**Kununurra**	21.70	173	P	P	03 35 10.1	+0.3
	comp=Z,130nm,0.7s						
KPJI	**Karang Pucung**	21.71	233	P	P	03 35 10.7	+0.9
	comp=Z,39nm,0.9s						
FITZ	**Fitzroy Crossi**	23.96	181	P	P	03 35 31.4	0.0
FITZ	**Fitzroy Crossi**	23.96	181	P	P	03 35 31.2	-0.2
	comp=Z,9.8nm,1.1s						
FITZ	**Fitzroy Crossi**	23.96	181	P	P	03 35 31.4	0.0
	comp=Z,22nm,0.4s,baz=6.3,slow=8.6,SNR=70						
	comp=Z,22nm,0.4s						
MDSI	**Maura Dua**	24.30	245	P	P	03 35 36.2	+1.6
COEN	**Coen**	26.05	140	P	P	03 35 50.6	+0.1
COEN				IAmb	IAmb	03 35 55.5	
	comp=Z,24nm,1.2s						
COEN	**Coen**	26.05	140	P	P	03 35 50.7	+0.2
	comp=Z,24nm,1.0s						
NJ2	**Nanjing**	26.79	346	*e*P	P	03 35 58.5	+1.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRAB	**Tennant Creek**	27.01	163	P	P	03 35 58.7	-0.3
WRA	**Warramunga Arr**	27.02	163	P	P	03 35 58.7	-0.4
	comp=Z,7.8nm,0.4s,baz=342,slow=10,SNR=53						
	comp=Z,7.8nm,0.4s						
WR8	**Warramunga Arr**	27.08	163	P	P	03 35 59.4	-0.3
WR8				IAmb	IAmb	03 36 05.8	
	comp=Z,16nm,0.6s						
JNU	**Nakatsue**	27.33	9	P	P	03 36 02.0	+0.3
JNU				IAmb	IAmb	03 36 22.6	
	comp=Z,42nm,1.5s						
JNU	**Nakatsue**	27.33	9	P	P	03 36 02.3	+0.5
	comp=Z,6.9nm,0.8s,baz=178,slow=0.8,SNR=4.0						
	comp=Z,6.9nm,0.8s						
MBWA	**Marble Bar**	27.73	193	P	P	03 36 04.7	-0.7
MBWA				IAmb	IAmb	03 36 05.6	
	comp=Z,20nm,0.7s						
MBWA	**Marble Bar**	27.73	193	P	P	03 36 04.2	-1.2
	comp=Z,30nm,0.8s						
JMN	**Monobe**	28.50	14	P	P	03 36 13.3	+1.2
JMN				IAmb	IAmb	03 36 41.6	
	comp=Z,57nm,1.5s						
GSI	**Gunungsitoli**	28.90	262	P	P	03 36 16.0	0.0
CMAR	**Chiang Mai Arr**	29.28	297	P	P	03 36 17.8	-1.5
	comp=Z,0.9nm,0.3s,baz=117,slow=7.3,SNR=11						
CMAR				ScP	ScP	03 42 50.8	-2.6
	comp=Z,3.0nm,0.4s,baz=138,slow=1.6,SNR=27						
CMAR				LR	LR	03 48 37.5	
	comp=Z,21nm,18.5s,baz=120,slow=37						
	comp=Z,0.9nm,0.3s						
QIS	**Mount Isa**	29.52	154	P	P	03 36 21.6	+0.2
	comp=Z,30nm,1.0s						
MTSU	**Mount Surprise**	29.94	144	P	P	03 36 26.1	+0.9
	comp=Z,8.4nm,0.7s						
AS15	**Alice Springs**	30.42	166	P	P	03 36 29.4	+0.1
	comp=Z,79nm,0.6s						
AS31	**Alice Springs**	30.45	166	P	P	03 36 29.6	+0.1
AS31				IAmb	IAmb	03 36 31.5	
	comp=Z,12nm,0.6s						
AS31	**Alice Springs**	30.45	166	P	P	03 36 29.7	+0.2
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	30.45	166	P	P	03 36 29.8	+0.2
	comp=Z,37nm,0.5s,baz=341,slow=6.9,SNR=202						
ASAR				PcP	PcP	03 39 25.7	-0.4
	comp=Z,2.7nm,0.5s,baz=2.5,slow=2.4,SNR=5.0						
ASAR				ScP	ScP	03 42 54.6	-2.4
	comp=Z,1.2nm,0.7s,baz=345,slow=2.6,SNR=5.2						
GIRL	**Giralia**	30.78	202	P	P	03 36 32.5	+0.2
GIRL	**Giralia**	30.78	202	P	P	03 36 32.6	+0.2
	comp=Z,47nm,1.7s						
PZH	**PanZhiHua**	30.94	314	P	P	03 36 35.5	+1.5
KSRS	**Korea Array**	31.34	3	P	P	03 36 37.7	+0.6
	comp=Z,1.0nm,0.6s,baz=184,slow=9.9,SNR=3.1						
	comp=Z,1.0nm,0.6s						
PATS	**Pohnpei**	31.96	87	P	P	03 36 44.0	+1.1
	comp=Z,102nm,1.8s						
XAN	**Xi'an**	32.14	332	*e*P	P	03 36 43.1	-1.2
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	32.61	143	P	P	03 36 49.1	+0.6
CTAO	**Charters Tower**	32.61	143	P	P	03 36 49.6	+1.1
CTAO				IAmb	IAmb	03 36 51.2	
	comp=Z,32nm,1.4s						
JMM	**Marumori**	34.39	21	P	P	03 37 04.9	+1.2
JMM				IAmb	IAmb	03 37 20.9	
	comp=Z,51nm,1.4s						
BJT	**Baijiatuan**	35.03	347	P	P	03 37 09.8	+0.6
BJT				IAmb	IAmb	03 37 09.9	
	comp=Z,8.7nm,0.7s						
BJI	**Beijing**	35.05	347	P	P	03 37 09.0	-0.4
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MORW	**Morawa**	36.21	195	P	P	03 37 18.9	-0.5
MORW				IAmb	IAmb	03 37 19.7	
	comp=Z,28nm,0.9s						
MORW	**Morawa**	36.21	195	P	P	03 37 18.7	-0.7
	comp=Z,38nm,0.9s						
LZH	**Lanzhou**	36.27	329	*e*P	P	03 37 20.3	+0.2
LZH				sP	sP	03 38 03.8	+1.8
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
QLP	**Quilpie**	36.83	152	P	P	03 37 24.7	0.0
	comp=Z,23nm,1.1s						
HHC	**Hu-ho-hao-te**	37.07	342	*e*P	P	03 37 28.6	+1.9
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
BLDU	**Ballidu**	37.53	193	P	P	03 37 29.8	-0.7
	comp=Z,45nm,0.8s						
SHL	**Shillong**	38.10	304	P	P	03 37 35.1	-0.6
SHL				IAmb	IAmb	03 37 36.2	
	comp=Z,18nm,0.7s						
KLBR	**Kellerberrin**	38.24	192	P	P	03 37 36.1	-0.5
	comp=Z,152nm,0.9s						
USRK	**Ussuriysk Ar.**	38.38	7	P	P	03 37 37.4	-0.1
	comp=Z,3.3nm,0.7s,baz=194,slow=11,SNR=4.7						
	comp=Z,3.3nm,0.7s						
MUN	**Mundaring**	38.95	194	P	P	03 37 42.2	-0.3
	comp=Z,107nm,0.6s						
EIDS	**Eidsvold**	39.50	143	P	P	03 37 47.3	+0.2
EIDS				IAmb	IAmb	03 37 48.3	
	comp=Z,14nm,0.9s						
EIDS	**Eidsvold**	39.50	143	P	P	03 37 47.2	+0.1
	comp=Z,23nm,0.9s						
BNX	**BinXian**	39.59	1	⇓P	P	03 37 48.8	+1.2
BNX				pmax	pmax		
	comp=Z,7.0nm,2.3s						
NWAO	**Narrogin (SRO)**	39.64	192	P	P	03 37 48.4	+0.2
NWAO	**Narrogin (SRO)**	39.64	192	P	P	03 37 48.2	+0.1
BBOO	**Buckleboo**	39.74	167	P	P	03 37 49.8	+0.8
BBOO	**Buckleboo**	39.74	167	P	P	03 37 49.6	+0.6
	comp=Z,199nm,0.8s						
STKA	**Stephens Creek**	40.45	160	P	P	03 37 55.5	+0.7
STKA	**Stephens Creek**	40.45	160	P	P	03 37 55.6	+0.7
	comp=Z,226nm,0.8s						
STKA	**Stephens Creek**	40.45	160	P	P	03 37 55.6	+0.7
	comp=Z,37nm,0.7s,baz=334,slow=8.3,SNR=80						
	comp=Z,37nm,0.7s						
GTA	**Gaotai**	40.87	328	*e*P	P	03 37 58.3	-0.1
GTA				ScP	ScP	03 43 33.3	-1.6
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HTT	**Hallett**	41.05	164	P	P	03 38 00.7	+0.9
	comp=Z,5.8nm,0.5s						
RKGY	**Rocky Gully**	41.32	192	P	P	03 38 02.7	+0.7
	comp=Z,192nm,0.7s						
H11S3	**WAKE ISLAND Hy**	41.39	69	T	T	04 22 25.4	
	baz=258,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	41.41	69	T	T	04 22 31.0	
	baz=258,slow=76,SNR=8.1						
H11S2	**WAKE ISLAND Hy**	41.41	69	T	T	04 22 32.9	
	baz=258,slow=76,SNR=10						
CMSA	**Cobar Meteorol**	41.74	155	P	P	03 38 05.9	+0.5
	comp=Z,16nm,2.4s						
H11N1	**WAKE ISLAND Hy**	41.85	67	T	T	04 23 06.9	
	baz=261,slow=75,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	41.86	67	T	T	04 23 11.4	
	baz=261,SNR=1.6						
H11N3	**WAKE ISLAND Hy**	41.87	67	T	T	04 23 12.3	
	baz=261,slow=75,SNR=9.1						
ARMA	**Armidale**	43.68	147	P	P	03 38 22.4	+1.2
ARMA				IAmb	IAmb	03 38 26.7	
	comp=Z,7.1nm,0.8s						
HEH	**HeiHe**	44.11	1	*e*P	P	03 38 26.4	+2.2
SONM	**Songino Array**	44.97	341	P	P	03 38 30.3	-1.0
	comp=Z,2.2nm,0.9s,baz=161,slow=8.7,SNR=8.3						
SONM				ScP	ScP	03 43 49.1	-2.1
	comp=Z,0.6nm,0.7s,baz=131,slow=4.4,SNR=4.2						
	comp=Z,2.2nm,0.9s						
ARPS	**Mount Arapiles**	45.02	162	P	P	03 38 32.6	+1.0
	comp=Z,20nm,1.2s						
CAN	**Canberra**	46.40	154	P	P	03 38 42.3	-0.3
CAN				IAmb	IAmb	03 38 45.0	
	comp=Z,14nm,0.7s						
CAN	**Canberra**	46.40	154	P	P	03 38 44.0	+1.4
	comp=Z,19nm,0.9s						
TOO	**Toolangi**	46.96	159	P	P	03 38 47.9	+1.0
TOO	**Toolangi**	46.96	159	P	P	03 38 47.9	+1.0
	comp=Z,6.3nm,0.8s						
DZM	**Mont Dzumac**	48.32	127	P	P	03 38 58.8	+1.0
DZM				IAmb	IAmb	03 38 60.0	
	comp=Z,16nm,0.7s						
DZM	**Mont Dzumac**	48.32	127	P	P	03 38 58.8	+1.0
	comp=Z,13nm,0.6s,baz=252,slow=9.6,SNR=17						
	comp=Z,13nm,0.6s						
PINNC	**Pines Island,**	49.40	127	P	P	03 39 06.8	+0.9
PINNC				IAmb	IAmb	03 39 09.1	
	comp=Z,30nm,1.0s						
MKAR	**Makanchi Array**	55.38	325	P	P	03 39 48.0	-1.7
MKAR	**Makanchi Array**	55.38	325	P	P	03 39 48.3	-1.4
	comp=Z,1.7nm,0.4s,baz=118,slow=7.2,SNR=30						
MKAR				ScP	ScP	03 44 32.1	-3.7
	comp=Z,1.0nm,0.6s,baz=103,slow=5.3,SNR=5.7						
	comp=Z,1.7nm,0.4s						
TARG	**Taragay, Kyrgy**	55.69	317	P	P	03 39 52.2	-0.3
KSH	**Kashi**	56.05	314	P	P	03 39 55.3	+0.6
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NIL	**Nilore**	56.10	307		P	03 39 54.4	-0.7
KDJ	**Kajisay**	56.28	318	P	P	03 39 55.4	-1.0
KDJ				IAmb	IAmb	03 39 55.9	
	comp=Z,9.3nm,1.0s						
ZALV	**Zalesovo Beam**	58.31	333	P	P	03 40 08.3	-1.9
	comp=Z,1.2nm,0.3s,baz=127,slow=8.6,SNR=4.4						
	comp=Z,1.2nm,0.3s						
KURBB	**Kurchatov Arra**	59.53	327	P	P	03 40 17.0	-1.6
	comp=Z,3.8nm,0.5s,baz=109,slow=40,SNR=18						
	comp=Z,3.8nm,0.5s						
KURK	**Kurchatov**	59.53	327	P	P	03 40 17.6	-1.1
KURK				IAmb	IAmb	03 40 17.9	
	comp=Z,9.7nm,0.5s						
KBL	**Kabul**	59.70	307	P	P	03 40 19.0	-1.5
KBL				IAmb	IAmb	03 40 20.1	
	comp=Z,13nm,0.7s						
GAR	**Garm**	59.98	312	P	P	03 40 20.9	-1.3
SIMJ	**Simiganj**	60.85	311	P	P	03 40 26.8	-1.3
SIMJ				IAmb	IAmb	03 40 35.4	
	comp=Z,3.3nm,0.7s						
KK31	**Karatay Array**	61.19	316	P	P	03 40 28.8	-1.4
KK31				IAmb	IAmb	03 40 30.0	
	comp=Z,5.7nm,1.0s						
KKAR	**Karatay Array**	61.19	316	P	P	03 40 28.8	-1.4
DCZ	**Deep Cove**	62.97	149	P	P	03 40 42.8	+0.9
WHZ	**Wether Hill Ro**	63.67	149	P	P	03 40 46.1	-0.4
NNZ	**Nelson**	63.81	142	P	P	03 40 47.3	-0.2
THZ	**Tophouse**	63.84	143	P	P	03 40 48.4	+0.6
LBZ	**Lake Benmore**	63.88	146	P	P	03 40 48.7	+0.8
BKZ	**Black Stump Fm**	64.65	139	P	P	03 40 53.3	+0.2
BVAR	**Borovoye Array**	65.11	327	P	P	03 40 54.4	-1.5
	comp=Z,3.2nm,0.5s,baz=139,slow=7.8,SNR=16						
	comp=Z,3.2nm,0.5s						
BRVK	**Borovoye**	65.19	327	P	P	03 40 54.8	-1.5
BRVK				IAmb	IAmb	03 40 55.5	
	comp=Z,4.6nm,0.6s						
ADK	**Adak**	65.42	35	P	P	03 41 00.4	+2.6
ADK				IAmb	IAmb	03 41 12.6	
	comp=Z,19nm,1.1s						
AB31	**Akbulak array**	70.04	320	P	P	03 41 25.4	-1.5
ABKAR	**Akbulak array**	70.04	320	P	P	03 41 25.3	-1.5
ARTI	**Arti**	72.80	327	P	P	03 41 41.9	-1.4
CASY	**Casey**	73.00	187	P	P	03 41 44.1	-0.1
CASY				IAmb	IAmb	03 41 45.1	
	comp=Z,13nm,0.8s						
RAYN	**Ar Rayn**	79.08	293		P	03 42 18.2	-1.4
M20K	**Styx River**	80.35	28	P	P	03 42 26.9	+1.1
M20K				IAmb	IAmb	03 42 37.9	
	comp=Z,13nm,1.5s						
G21K	**Allakaket**	80.66	24	P	P	03 42 28.4	+1.1
CAST	**Castle Rocks**	80.96	27	P	P	03 42 30.0	+1.1
KBZ	**Khabaz**	81.01	313	P	P	03 42 28.3	-1.2
	comp=Z,1.7nm,0.6s,baz=171,slow=2.5,SNR=4.8						
	comp=Z,1.7nm,0.6s						
I21K	**Tanana**	81.16	25		P	03 42 31.6	+1.7
SUA	**Susitna One**	81.45	29	P	P	03 42 31.9	+0.2
SUA				IAmb	IAmb	03 42 33.5	
	comp=Z,5.8nm,0.8s						
E22K	**Anaktuvuk Pass**	81.48	22		P	03 42 33.0	+1.4
BPAW	**Bear Paw Mtn.**	81.50	26	P	P	03 42 33.0	+1.2
SLKM	**Skilak Lake**	81.66	30	P	P	03 42 32.5	-0.1
SLKM				IAmb	IAmb	03 42 33.7	
	comp=Z,6.6nm,1.0s						
MLY	**Manley**	81.67	25		P	03 42 33.4	+0.7
GURO	**Guroymak-BITLI**	81.70	308	P	P	03 42 33.5	0.0
GURO				IAmb	IAmb	03 42 34.8	
	comp=Z,12nm,0.7s						
COLD	**Coldfoot**	82.03	23	P	P	03 42 35.3	+0.9
G23K	**Bananza Creek**	82.06	24		P	03 42 35.8	+1.0
H23K	**Yukon River**	82.21	24	P	P	03 42 36.4	+0.9
I23K	**Minto, Yukon-K**	82.26	25	P	P	03 42 37.0	+1.4
NEA2	**Nenana**	82.36	26	P	P	03 42 37.5	+1.3
PWL	**Port Wells**	82.60	29	P	P	03 42 38.7	+1.2
PWL				IAmb	IAmb	03 42 39.6	
	comp=Z,5.4nm,0.6s						
MARD	**Mardin**	82.72	307	P	P	03 42 38.1	-0.8
MARD				IAmb	IAmb	03 42 39.3	
	comp=Z,6.1nm,0.7s						
WRH	**Wood River Hil**	82.78	26	P	P	03 42 39.4	+1.0
WRH				IAmb	IAmb	03 42 45.8	
	comp=Z,10nm,1.4s						
KOPT	**Kop Dagi**	82.86	309		P	03 42 39.2	-0.5
KOPT				IAmb	IAmb	03 42 44.2	
	comp=Z,7.6nm,0.8s						
H24K	**Noodor Dome**	82.90	24		P	03 42 40.2	+1.1
CCB	**Clear Creek Bu**	82.91	26	P	P	03 42 39.3	+0.3
CCB				IAmb	IAmb	03 42 44.8	
	comp=Z,7.3nm,1.4s						
G24K	**Hadweenzic Riv**	83.08	24		P	03 42 41.4	+1.4
G24K				IAmb	IAmb	03 42 42.6	
	comp=Z,5.0nm,0.9s						
GLI	**Glacier Island**	83.20	29	P	P	03 42 40.9	+0.2
GLI				IAmb	IAmb	03 42 42.6	
	comp=Z,5.0nm,0.7s						
HDA	**Harding Lake**	83.27	26	P	P	03 42 40.1	-0.9
HDA				IAmb	IAmb	03 42 41.5	
	comp=Z,4.4nm,0.7s						
ILAR	**Eielson Array**	83.30	26	P	P	03 42 40.9	-0.2
	comp=Z,1.0nm,0.6s,baz=243,slow=5.1,SNR=25						
	comp=Z,1.0nm,0.6s						
J25K	**Salcha River,**	83.95	26		P	03 42 44.2	-0.3
RIDG	**Independent Ri**	84.21	27	P	P	03 42 46.2	+0.4
RIDG				IAmb	IAmb	03 43 03.0	
	comp=Z,5.3nm,1.0s						
BMAR	**Burnt Mountain**	84.21	23	P	P	03 42 46.9	+1.1
J26L	**Joseph Creek**	84.74	26		P	03 42 49.2	+0.7
GLB	**Gilahina Butte**	84.78	29	P	P	03 42 49.9	+1.2
K27K	**Chicken**	85.42	26	P	P	03 42 52.5	+0.7
MAW	**Mawson**	85.69	200	P	P	03 42 51.6	-1.2
	comp=Z,4.6nm,0.7s,baz=74,slow=4.0,SNR=19						
	comp=Z,4.6nm,0.7s						
VNDA	**Vanda**	85.75	173	P	P	03 42 52.5	-0.6
	comp=Z,1.1nm,0.6s,baz=320,slow=7.6,SNR=11						
VNDA				PP	PP	03 46 12.2	-1.8
	comp=Z,0.7nm,0.7s,baz=346,slow=5.5,SNR=3.9						
	comp=Z,1.1nm,0.6s						
TOKA	**Tokat**	85.91	310	P	P	03 42 54.9	0.0
TOKA				IAmb	IAmb	03 42 55.6	
	comp=Z,8.1nm,0.8s						
I28M	**Miner Creek**	86.20	25		P	03 42 56.8	+1.0
I28M				IAmb	IAmb	03 43 36.9	
	comp=Z,4.9nm,0.8s						
BNN	**Bunyan**	86.52	309		P	03 42 57.6	-0.3
BNN				IAmb	IAmb	03 42 58.6	
	comp=Z,4.9nm,1.0s						
ARCES	**ARCESS Array B**	88.13	340	P	P	03 43 02.7	-2.1
	comp=Z,2.1nm,0.6s,baz=79,slow=6.3,SNR=9.8						
	comp=Z,2.1nm,0.6s						
BR131	**Keskin Array S**	88.14	310		P	03 43 04.2	-1.5
BR131				IAmb	IAmb	03 43 05.2	
	comp=Z,3.4nm,0.9s						
BRTR	**Keskin Array B**	88.14	310	P	P	03 43 03.5	-2.1
	comp=Z,1.5nm,0.8s,baz=129,slow=4.1,SNR=9.6						
	comp=Z,1.5nm,0.8s						
SPITS	**Spitsbergen Ar**	88.15	349	P	P	03 43 04.2	-0.6
	comp=Z,1.2nm,0.5s,baz=79,slow=8.8,SNR=8.7						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	89.57	332	P	P	03 43 10.4	-1.2
	comp=Z,3.1nm,0.5s,baz=60,slow=4.7,SNR=24						
	comp=Z,3.1nm,0.5s						
AKASG	**Malin Array Be**	89.78	321	P	P	03 43 11.6	-1.3
	comp=Z,1.1nm,0.6s,baz=72,slow=4.5,SNR=4.2						
AKASG				LR	LR	04 26 38.9	
	comp=Z,15nm,20.1s,baz=20,slow=38						
	comp=Z,1.1nm,0.6s						
SYO	**Syowa Base**	94.33	201	⇓*e*P	P	03 43 33.3	-0.2
HFS	**Hagfors**	95.75	332	P	P	03 43 38.2	-2.0
	comp=Z,1.0nm,0.7s,baz=142,slow=4.2,SNR=5.4						
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	96.50	334	P	P	03 43 42.2	-1.5
	comp=Z,1.0nm,0.6s,baz=65,slow=4.4						
NOA	**NORSAR Array B**	96.50	334	P	P	03 43 42.0	-1.8
	comp=Z,0.9nm,0.7s,baz=65,slow=4.5,SNR=4.8						
NOA				LR	LR	04 34 39.1	
	comp=Z,6.1nm,19.0s,baz=315,slow=40						
	comp=Z,0.9nm,0.7s						
MODS	**Modra-Piesok**	97.88	320	*e*PDIFF	Pdif	03 43 51.2	+1.0
MODS				*e*PP	PP	03 47 49.1	-0.8
TXAR	**Lajitas Array**	120.63	51	PKP	PKPdf	03 49 06.3	-0.1
	comp=Z,0.2nm,0.6s,baz=278,slow=2.6,SNR=4.6						
DBIC	**Dimbokro**	129.52	284	SKPbc	SKPab	03 52 31.4	-2.0
	comp=Z,5.5nm,0.8s,baz=96,slow=4.2,SNR=6.5						
PLCA	**Paso Flores**	142.32	159	PKP	PKPdf	03 49 43.1	-3.6
	comp=Z,1.6nm,0.6s,baz=139,slow=23,SNR=4.4						

NEIC ***13*** *03:33:51.6±1.1,20.16S±0.10×177.7W±0.2,h441km±11km, mb4.1/13, Error ellipse: s-maj=22.1km s-min=13.9km az=97.0*

IDC ***13*** *03:33:53.4±10.0, 19.61S×178.09W, h450km±120km, mb3.2/6, mbtmp4.0/6, Error ellipse: s-maj=117.8km s-min=33.9km az=159.0*

ISC 13 03:33:51.9±0.7, 20.1S±0.2×177.80W±0.10, h450km, n26, σ0.88/25, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	4.58	300	P	P	03 35 11.7	-0.7
NIUE	**Niue**	7.49	84	P	P	03 35 40.5	-1.4
PINIC	**Pines Island,**	13.97	257	P	P	03 36 52.7	+0.6
DZM	**Mont Dzumac**	14.84	260	P	P	03 37 00.9

JHJ2	**Mitsune**	**0.90**	**281**	P		**Pn**	**03 52 09.7**	**+0.3**
JHJ2				*eS*		**Sn**	**03 52 20.1**	**-1.0**
JHCJ	**Hachijojimakas**	**0.90**	**279**	*eP*		**Pn**	**03 52 09.7**	**+0.2**
JHCJ				*eS*		**Sn**	**03 52 20.5**	**-0.8**
JAOM	**Aogashimamukai**	**1.04**	**243**	*eP*		**Pn**	**03 52 12.3**	**+1.0**
JAOM				*eS*		**Sn**	**03 52 25.0**	**+0.3**
JMKN	**Mikurajimanish**	**1.43**	**312**	P		**Pn**	**03 52 16.6**	**0.0**
JMKN				*eS*		**Sn**	**03 52 32.6**	**-1.6**
JMYK	**Miyake Tsubota**	**1.57**	**316**	*eS*		**Sn**	**03 52 36.3**	**-1.4**
BSO1	**Boso 1**	**1.71**	**3**	*eP*		**Pn**	**03 52 20.7**	**+0.6**
JKO	**Kozu shima**	**1.90**	**311**	*eP*		**Pn**	**03 52 23.9**	**+0.6**
JTHY	**Toshimahigashi**	**2.05**	**321**	*eP*		**Pn**	**03 52 25.8**	**+0.5**
BSO4	**Boso 4**	**2.09**	**348**	*eP*		**Pn**	**03 52 26.5**	**+0.7**
BSO4				*eS*		**Sn**	**03 52 49.9**	**-0.5**
JIM2	**Oshima 3**	**2.14**	**327**	P		**Pn**	**03 52 26.6**	**+0.2**
JIM2				*eS*		**Sn**	**03 52 50.5**	**-1.2**
JIZS	**Izushimoda**	**2.42**	**318**	*eP*		**Pn**	**03 52 31.1**	**+0.8**
JIZS				*eS*		**Sn**	**03 52 58.0**	**-0.8**
JOD2	**Odawara 2**	**2.75**	**328**	P		**Pn**	**03 52 35.2**	**+0.4**
JOD2				*eS*		**Sn**	**03 53 05.2**	**-1.6**
TK02	**Tokai 2**	**2.78**	**292**	*eP*		**Pn**	**03 52 36.0**	**+0.8**
TK02				*eS*		**Sn**	**03 53 06.1**	**-1.3**
JYN	**Shimob**	**3.19**	**324**	*eP*		**Pn**	**03 52 43.0**	**+2.0**
MJAR	**Matsushiro Arr**	**4.21**	**329**	P		**Pn**	**03 52 56.9**	**+2.0**
	0.5nm,0.3s,baz=146,slow=15,SNR=29							
MJAR				S		**Sn**	**03 53 45.5**	**+2.7**
	4.0nm,0.6s,baz=182,slow=31,SNR=5.4 6.9nm,0.5s							
JNU	**Nakatsue**	**8.39**	**274**	P		**Pn**	**03 53 54.5**	**+2.2**
	0.5nm,0.3s,baz=184,slow=22,SNR=7.2 1.8nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**26.70**	**113**	T		T	04 26 23.9	
	baz=305,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hy**	**26.70**	**113**	T		T	04 26 23.6	
	baz=305,slow=75,SNR=8.9							
H11N3	**WAKE ISLAND Hy**	**26.72**	**113**	T		T	04 26 25.5	
	baz=305,slow=75,SNR=7.1							
MKAR	**Makanchi Array**	**46.02**	**305**	P		**P**	**04 00 13.9**	**+0.7**
	0.2nm,0.4s,baz=83,slow=8.5,SNR=2.3							
MKAR				LR		LR	04 18 25.7	
	comp=Z,17nm,20.0s,baz=118,slow=34 0.2nm,0.4s							
PSI	**Prapat**	**49.38**	**242**	LR		LR	04 21 05.1	
	comp=Z,55nm,18.8s,baz=162,slow=35							
WRA	**Warramunga Arr**	**52.95**	**188**	P		**P**	**04 01 04.8**	**-1.4**
	0.8nm,0.3s,baz=5.2,slow=7.7,SNR=14 0.8nm,0.3s							
ASAR	**Alice Springs**	**56.68**	**188**	P		**P**	**04 01 31.9**	**-1.3**
	0.4nm,0.5s,baz=0.7,slow=6.3,SNR=4.7 0.4nm,0.5s							

NEIC ***13*** *03:58:53.8±1.3,13°.05S±0°.05×167°.2E±0°.1,h209km±6km, mb4.6/188,Error ellipse: s-maj=16.4km s-min=6.7km az=95.0*

IDC ***13*** *03:58:53.0±0.8,13°.11S×167°.11E,h204km±6km,mb4.1/19, mbtmp4.6/21,Error ellipse: s-maj=14.3km s-min=9.8km az=103.0*

ISC 13 03:58:52.7±0.3,13°.04S±0°.05×167°.12E±0°.07,h200km, n448,σ0.87/415,mb4.6/122,4C-8D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
SANVU	**Saraoutou**	**2.39**	**178**			**Pn**	**03**	**59**	**36.0 +0.6**
SANVU				Sn		**Sn**	**04**	**00**	**10.4 +1.6**
DZM	**Mont Dzumac**	**9.00**	**184**	Pn		**Pn**	**04**	**00**	**59.4 +0.4**
DZM	**Mont Dzumac**	**9.00**	**184**	P		**Pn**	**04**	**01**	**00.1 +1.1**
	4.6nm,0.5s,baz=3.1,slow=10,SNR=12								
DZM				S		**Sn**	**04**	**02**	**42.9 +2.8**
	8.7nm,0.8s,baz=95,slow=9.9,SNR=3.0								
ONTNC	**Quen Toro**	**9.23**	**184**	Pn		**Pn**	**04**	**01**	**05.8 +3.9**
PINNC	**Pines Island,**	**9.52**	**178**	Pn		**Pn**	**04**	**01**	**09.8 +4.1**
MSVF	**Nonsavu**	**11.53**	**115**	Pn		**Pn**	**04**	**01**	**32.3 +0.7**
PMG	**Port Moresby**	**19.91**	**278**	P		**P**	**04**	**03**	**10.6 +1.4**
	19nm,0.6s,baz=138,slow=6.4,SNR=3.6								
CTAO	**Charters Tower**	**21.18**	**248**			**P**	**04**	**03**	**23.1 +0.4**
CTAO				IAmb		IAmb	04	03	25.1
	comp=Z,14nm,0.8s								
ARMA	**Armidale**	**22.45**	**217**	P		**P**	**04**	**03**	**35.6 +0.4**
ARMA				IAmb		IAmb	04	03	37.5
	comp=Z,27nm,1.4s								
NIUE	**Niue**	**22.85**	**108**	P		**P**	**04**	**03**	**37.4 -1.4**
COEN	**Coen**	**23.30**	**265**	P		**P**	**04**	**03**	**43.8 +0.8**
COEN				IAmb		IAmb	04	03	45.6
	comp=Z,15nm,1.1s								
THZ	**Tophouse**	**29.05**	**171**	P		**P**	**04**	**04**	**34.3 0.0**
STKA	**Stephens Creek**	**30.00**	**227**	P		**P**	**04**	**04**	**43.0 +0.3**
	comp=Z,3.5nm,0.6s,baz=50,slow=8.2,SNR=9.4								
STKA				pP		**pP**	**04**	**05**	**23.1 +0.4**
	comp=Z,1.4nm,0.5s,baz=39,slow=10,SNR=1.8								
STKA				PcP		**PcP**	**04**	**07**	**39.5 -0.4**
	comp=Z,5.1nm,0.6s,baz=69,slow=2.6,SNR=8.8 comp=Z,3.5nm,0.6s								
TOO	**Toolangi**	**31.13**	**215**	P		**P**	**04**	**04**	**52.2 -0.4**
WRA	**Warramunga Arr**	**32.13**	**253**	P		**P**	**04**	**05**	**00.4 -1.2**
WRA	**Warramunga Arr**	**32.13**	**253**	P		**P**	**04**	**05**	**00.5 -1.1**
	comp=Z,2.4nm,0.6s,baz=85,slow=9.1,SNR=22								
WRA				pP		**pP**	**04**	**05**	**42.4 +0.5**
	comp=Z,2.0nm,0.5s,baz=87,slow=9.3,SNR=4.6								
WRA				ScP		**ScP**	**04**	**11**	**09.9 -0.7**
	comp=Z,1.6nm,0.8s,baz=79,slow=3.7,SNR=7.8 comp=Z,2.4nm,0.6s								
ASAR	**Alice Springs**	**33.17**	**247**	P		**P**	**04**	**05**	**09.7 -0.9**
ASAR	**Alice Springs**	**33.17**	**247**	P		**P**	**04**	**05**	**09.6 -1.0**
	comp=Z,7.3nm,0.6s,baz=74,slow=9.6,SNR=75								
ASAR				PcP		**PcP**	**04**	**07**	**48.0 -0.8**
	comp=Z,2.0nm,0.6s,baz=71,slow=3.4,SNR=9.9								
ASAR				S		**S**	**04**	**10**	**11.8 -3.6**
	comp=Z,2.4nm,1.1s,baz=70,slow=16,SNR=6.7								
ASAR				ScP		**ScP**	**04**	**11**	**13.3 -0.8**
	comp=Z,3.6nm,0.8s,baz=85,slow=3.3,SNR=21 comp=Z,7.3nm,0.6s								
BBOO	**Buckleboo**	**34.52**	**230**	P		**P**	**04**	**05**	**22.2 +0.2**
BBOO				IAmb		IAmb	04	06	04.3
	comp=Z,9.9nm,0.8s								
KNRA	**Kununurra**	**37.22**	**261**	P		**P**	**04**	**05**	**45.0 -0.1**
KNRA				IAmb		IAmb	04	05	45.4
	comp=Z,8.7nm,0.8s								
FITZ	**Fitzroy Crossi**	**40.21**	**257**	P		**P**	**04**	**06**	**09.8 -0.2**
FITZ	**Fitzroy Crossi**	**40.21**	**257**	P		**P**	**04**	**06**	**09.4 -0.6**
	comp=Z,2.5nm,0.6s,baz=116,slow=4.8,SNR=7.2 comp=Z,2.5nm,0.6s								
NWAO	**Narrogin (SRO)**	**49.50**	**238**	P		**P**	**04**	**07**	**22.2 -0.9**
	comp=Z,7.5nm,0.9s,baz=90,slow=8.7,SNR=1.9 comp=Z,7.5nm,0.9s								
MJAR	**Matsushiro Arr**	**56.35**	**332**	P		**P**	**04**	**08**	**12.5 -0.5**
MJAR	**Matsushiro Arr**	**56.35**	**332**	P		**P**	**04**	**08**	**12.5 -0.5**
	comp=Z,7.0nm,0.9s,baz=167,slow=8.1,SNR=19 comp=Z,7.0nm,0.9s								
MAJO	**Matsushiro**	**56.35**	**332**			**P**	**04**	**08**	**13.1 +0.1**
MJB9	**Matsu-Tunnel**	**56.36**	**332**	P		**P**	**04**	**08**	**14.0 +0.9**
JNU	**Nakatsue**	**57.48**	**324**	P		**P**	**04**	**08**	**21.4 +0.4**
JNU				IAmb		IAmb	04	08	22.6
	comp=Z,12nm,0.8s								
JKA	**Kamikawa-asahi**	**61.11**	**340**	P		**P**	**04**	**08**	**47.3 +1.6**
JKA				IAmb		IAmb	04	08	48.9
	comp=Z,24nm,1.3s								
KSRS	**Korea Array**	**62.27**	**325**	P		**P**	**04**	**08**	**54.2 +0.7**
	comp=Z,2.1nm,0.5s,baz=139,slow=6.8,SNR=8.4 comp=Z,2.1nm,0.5s								
NJ2	**Nanjing**	**64.38**	**315**	*eP*		**P**	**04**	**09**	**08.4 +1.0**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
VNDA	**Vanda**	**64.53**	**181**	P		**P**	**04**	**09**	**07.4 -0.4**
	comp=Z,1.8nm,0.6s,baz=354,slow=7.5,SNR=13 comp=Z,1.8nm,0.6s								
SBA	**Scott Base**	**64.81**	**180**			**P**	**04**	**09**	**10.2 +0.7**
SBA				IAmb		IAmb	04	09	11.2
	comp=Z,16nm,1.4s								
CASY	**Casey**	**65.03**	**202**	P		**P**	**04**	**09**	**10.3 -0.8**
CASY				IAmb		IAmb	04	09	47.7
	comp=Z,20nm,1.4s								
USRK	**Ussuriysk Ar.**	**65.33**	**333**	P		**P**	**04**	**09**	**14.5 +1.2**
USRK	**Ussuriysk Ar.**	**65.33**	**333**	P		**P**	**04**	**09**	**13.9 +0.6**
	comp=Z,6.8nm,0.8s,baz=122,slow=6.3,SNR=8.7 comp=Z,6.8nm,0.8s								
KIWB	**Kanaga Island**	**66.05**	**11**			**P**	**04**	**09**	**18.8 +1.0**
PEA0B	**Petropavlovsk-**	**66.38**	**354**	P		**P**	**04**	**09**	**20.9 +1.1**
PEA0B				IAmb		IAmb	04	09	21.8
	comp=Z,21nm,1.1s								
PETK	**Petropavlovsk-**	**66.38**	**354**	P		**P**	**04**	**09**	**21.0 +1.2**
	comp=Z,9.6nm,0.7s,baz=155,slow=8.0,SNR=14 comp=Z,9.6nm,0.7s								
GSTR	**Great Sitkin T**	**66.48**	**11**	P		**P**	**04**	**09**	**21.2 +0.6**
ATKA	**Atka Island**	**66.96**	**12**	P		**P**	**04**	**09**	**23.7 +0.2**
CN2	**Changchun**	**68.14**	**329**	P		**P**	**04**	**09**	**31.8 +0.7**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
BNX	**BinXian**	**68.60**	**331**	⇑P		**P**	**04**	**09**	**34.3 +0.4**
BNX				pmax		pmax			
	comp=Z,9.0nm,0.7s								
NIKH	**Nikolski High**	**68.92**	**15**	P		**P**	**04**	**09**	**35.7 0.0**
NIKH	**Nikolski High**	**68.92**	**15**	P		**P**	**04**	**09**	**35.1 -0.6**
	baz=205								
UNV	**Unalaska Valle**	**70.32**	**16**	P		**P**	**04**	**09**	**44.1 -0.2**
UNV	**Unalaska Valle**	**70.32**	**16**	P		**P**	**04**	**09**	**43.5 -0.7**
	baz=207								
BJI	**Beijing**	**70.87**	**321**	P		**P**	**04**	**09**	**48.4 +0.5**
BJI				pmax		pmax			
	comp=Z,4.0nm,0.9s								
HEH	**HeiHe**	**71.98**	**334**	*eP*		**P**	**04**	**09**	**55.1 +0.8**
P08K	**Saint George I**	**72.06**	**13**	P		**P**	**04**	**09**	**54.0 -0.6**
	baz=204								
SPIA	**Saint Paul Isl**	**72.43**	**13**	P		**P**	**04**	**09**	**55.8 -1.0**
	baz=203								
S12K	**Black Hills**	**73.21**	**18**	P		**P**	**04**	**10**	**00.6 -0.9**
S12K	**Black Hills**	**73.21**	**18**	P		**P**	**04**	**10**	**00.8 -0.6**
	baz=211								
CHNA	**Chernabura Isl**	**73.24**	**19**	P		**P**	**04**	**10**	**01.2 -0.4**
	baz=214								
XLT	**XiLinHaoTe**	**73.26**	**324**	*eP*		**P**	**04**	**10**	**03.0 +0.9**
XLT				pmax		pmax			
	comp=Z,12nm,0.8s								
XLT				pmax		pmax			
	comp=Z,160nm,4.5s								
KMI	**Kunming**	**73.30**	**301**	P		**P**	**04**	**10**	**04.4 +1.4**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P		**P**	**04**	**10**	**08.8 +1.1**
	comp=Z,2.3nm,0.4s,baz=124,slow=4.2,SNR=15 comp=Z,2.3nm,0.4s								
HHC	**Hu-ho-hao-te**	**74.21**	**319**	*eP*		**P**	**04**	**10**	**10.6 +2.8**
HHC				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,200nm,4.6s								
S14K	**Fog Glacier**	**74.46**	**19**	P		**P**	**04**	**10**	**08.1 -0.7**
	baz=214								
PZH	**PanZhiHua**	**74.67**	**302**	P		**P**	**04**	**10**	**12.6 +1.9**
CHGN	**Chignik**	**74.83**	**19**	P		**P**	**04**	**10**	**09.9 -0.8**
CHGN				IAmb		IAmb	04	10	13.2
	comp=Z,9.6nm,0.7s								
CHGN	**Chignik**	**74.83**	**19**	P		**P**	**04**	**10**	**09.9 -0.8**
	baz=215								
CHIR	**Chirikof Islan**	**75.37**	**21**	P		**P**	**04**	**10**	**12.7 -1.2**
R16K	**Pilot Point**	**76.13**	**19**	P		**P**	**04**	**10**	**17.5 -0.7**
	baz=215								
SII	**Sitkinak Islan**	**76.45**	**21**	P		**P**	**04**	**10**	**19.7 -0.3**
	baz=219								
O14K	**Tigyukauivet M**	**76.47**	**16**	P		**P**	**04**	**10**	**20.1 +0.1**
	baz=212								
R17L	**Mt. Peulik Vol**	**76.57**	**19**	P		**P**	**04**	**10**	**20.8 +0.2**
	baz=216								
PLK4	**Peulik 4**	**76.57**	**19**			**P**	**04**	**10**	**20.5 -0.3**
PLK4				IAmb		IAmb	04	10	21.3
	comp=Z,11nm,0.8s								
O15K	**Ungalikthiuk R**	**76.80**	**17**	P		**P**	**04**	**10**	**21.1 -0.8**
O15K	**Ungalikthiuk R**	**76.80**	**17**	P		**P**	**04**	**10**	**21.8 -0.1**
	baz=213								
M13K	**Dall Lake**	**76.93**	**15**	P		**P**	**04**	**10**	**22.7 +0.1**
	baz=210								
QSPA	**South Pole Qui**	**76.97**	**180**	P		**P**	**04**	**10**	**23.3 +0.2**
QSPA	**South Pole Qui**	**76.97**	**180**	P		**P**	**04**	**10**	**23.4 +0.3**
	comp=Z,16nm,0.7s,baz=319,slow=0.5,SNR=162 comp=Z,16nm,0.7s								
LZH	**Lanzhou**	**77.08**	**312**	*eP*		**P**	**04**	**10**	**25.8 +1.6**
LZH				pP		pP	04	11	09.1 -2.7
LZH				pmax		pmax			
	comp=Z,14nm,1.2s								
R18K	**Karluk**	**77.14**	**20**	P		**P**	**04**	**10**	**23.8 0.0**
	baz=218								
P16K	**Nushagak River**	**77.21**	**18**	P		**P**	**04**	**10**	**23.8 -0.3**
P16K	**Nushagak River**	**77.21**	**18**	P		**P**	**04**	**10**	**23.9 -0.2**
	baz=215								
Q17K	**Contact Creek**	**77.23**	**19**	P		**P**	**04**	**10**	**24.3 -0.2**
	baz=217								
OHAK	**Old Harbor**	**77.27**	**21**			**P**	**04**	**10**	**24.4 -0.2**
OHAK				IAmb		IAmb	04	10	25.5
	comp=Z,15nm,0.8s								
OHAK	**Old Harbor**	**77.27**	**21**	P		**P**	**04**	**10**	**24.4 -0.2**
	baz=220								
Q16K	**King Salmon**	**77.32**	**18**	P		**P**	**04**	**10**	**24.7 -0.1**
	baz=216								
ACHA	**Angle Creek He**	**77.37**	**19**	IAmb		IAmb	04	10	26.5
	comp=Z,7.8nm,0.8s								
N15K	**Kwethluk River**	**77.56**	**16**			**P**	**04**	**10**	**26.5 +0.3**
N15K	**Kwethluk River**	**77.56**	**16**	P		**P**	**04**	**10**	**26.4 +0.2**
	baz=213								
M14K	**Bethel**	**77.57**	**15**	P		**P**	**04**	**10**	**26.3 +0.2**
	baz=211								
O16K	**Kokwok River B**	**77.64**	**17**	P		**P**	**04**	**10**	**25.8 -0.8**
O16K	**Kokwok River B**	**77.64**	**17**	P		**P**	**04**	**10**	**25.8 -0.8**
	baz=215								
P17K	**Kvichak River**	**77.81**	**18**	P		**P**	**04**	**10**	**26.9 -0.6**
	baz=216								
Q18K	**Kamnai Hardscr**	**77.82**	**19**	P		**P**	**04**	**10**	**26.9 -0.8**
	baz=218,SNR=15								
M15K	**Kasigluk River**	**77.85**	**16**	P		**P**	**04**	**10**	**27.7 0.0**
	baz=212								
L14K	**Kuka Creek**	**77.90**	**14**			**P**	**04**	**10**	**28.2 +0.3**
L14K				IAmb		IAmb	04	10	29.6
	comp=Z,23nm,1.2s								
L14K	**Kuka Creek**	**77.90**	**14**	P		**P**	**04**	**10**	**28.1 +0.2**
	baz=210								
KDAK	**Kodiak Island**	**77.95**	**21**	P		**P**	**04**	**10**	**28.2 -0.1**
KDAK				IAmb		IAmb	04	10	29.3
	comp=Z,7.2nm,0.8s								
KDAK	**Kodiak Island**	**77.95**	**21**	P		**P**	**04**	**10**	**28.3 0.0**
	baz=220								
K13K	**Kusilvak Mount**	**77.96**	**13**	P		**P**	**04**	**10**	**28.9 +0.6**
	baz=208								
O17K	**Koliganek Bris**	**78.08**	**18**	P		**P**	**04**	**10**	**28.1 -0.8**
	baz=216								
N16K	**Nishlik Lake**	**78.18**	**16**	P		**P**	**04**	**10**	**30.3 +0.7**
	baz=214								
GAMB	**Gambell**	**78.30**	**9**	P		**P**	**04**	**10**	**30.4 +0.4**
	baz=201								
P18K	**Big Mountain,**	**78.34**	**19**			**P**	**04**	**10**	**29.7 -0.7**
P18K				IAmb		IAmb	04	10	30.2
	comp=Z,8.4nm,0.7s								
P18K	**Big Mountain,**	**78.34**	**19**	P		**P**	**04**	**10**	**29.9 -0.5**
	baz=217,SNR=8.8								
Q19K	**Cape Douglas,**	**78.48**	**20**	P		**P**	**04**	**10**	**30.5 -0.7**
Q19K	**Cape Douglas,**	**78.48**	**20**	P		**P**	**04**	**10**	**30.6 -0.6**
	baz=219,SNR=5.3								
L15K	**Ungalak Mounta**	**78.49**	**15**	P		**P**	**04**	**10**	**30.6 -0.5**
	baz=211								
M16K	**Timber Creek**	**78.58**	**16**			**P**	**04**	**10**	**32.8 +1.0**
M16K	**Timber Creek**	**78.58**	**16**	P		**P**	**04**	**10**	**32.4 +0.6**
	baz=214,SNR=9.8								
Q20K	**Shuyak Island**	**78.65**	**20**	P		**P**	**04**	**10**	**32.0 -0.1**
	baz=220								
SYI	**Shuyak Island**	**78.65**	**20**	P		**P**	**04**	**10**	**31.9 -0.2**
N17K	**Nushagak Hills**	**78.67**	**17**	P		**P**	**04**	**10**	**32.2 0.0**
N17K	**Nushagak Hills**	**78.67**	**17**	P		**P**	**04**	**10**	**32.1 0.0**
	baz=215								
O18K	**Koktuh Hills**	**78.71**	**18**	P		**P**	**04**	**10**	**31.6 -0.9**
O18K	**Koktuh Hills**	**78.71**	**18**	P		**P**	**04**	**10**	**32.1 -0.3**
	baz=217								
J14K	**Nanvaranak Lak**	**78.93**	**13**	P		**P**	**04**	**10**	**34.0 +0.5**
	baz=209								
K15K	**Wolf Creek Mou**	**79.00**	**14**			**P**	**04**	**10**	**34.9 +0.9**
K15K	**Wolf Creek Mou**	**79.00**	**14**	P		**P**	**04**	**10**	**34.5 +0.6**
	baz=211								
N18K	**Kilae Creek**	**79.17**	**18**	P		**P**	**04**	**10**	**35.4 +0.5**
N18K	**Kilae Creek**	**79.17**	**18**	P		**P**	**04**	**10**	**36.0 +1.0**
	baz=217								
P19K	**Oil Pt**	**79.17**	**19**			**P**	**04**	**10**	**34.4 -0.7**
P19K				IAmb		IAmb	04	10	36.5
	comp=Z,26nm,1.4s								
P19K	**Oil Pt**	**79.17**	**19**	P		**P**	**04**	**10**	**34.8 -0.2**
	baz=219								
M17K	**Holitna River**	**79.31**	**16**			**P**	**04**	**10**	**36.6 +0.9**
M17K	**Holitna River**	**79.31**	**16**	P		**P**	**04**	**10**	**36.3 +0.6**
	baz=215								
ILSW	**Iliamna Southw**	**79.46**	**19**	P		**P**	**04**	**10**	**36.4 -0.2**
ILSW				IAmb		IAmb	04	10	37.5
	comp=Z,10nm,0.9s								
L17K	**Donlin**	**79.69**	**16**	P		**P**	**04**	**10**	**38.5 +0.9**
	baz=214								
N19K	**Bonanza Creek**	**79.69**	**18**	P		**P**	**04**	**10**	**37.9 +0.1**
N19K	**Bonanza Creek**	**79.69**	**18**	P		**P**	**04**	**10**	**38.1 +0.2**
	baz=218								
O20K	**Slope Mountain**	**79.70**	**19**	P		**P**	**04**	**10**	**38.3 +0.4**
	baz=220								
CNPM	**China Poot**	**79.73**	**20**	P		**P**	**04**	**10**	**38.3 +0.3**
CNPM				IAmb		IAmb	04	10	39.6
	comp=Z,8.8nm,0.6s								
M18K	**Stony River**	**79.84**	**17**	P		**P**	**04**	**10**	**39.0 +0.5**
	baz=217								
BRLK	**Bradley Lake**	**80.03**	**20**	P		**P**	**04**	**10**	**40.0 +0.3**
BRLK				IAmb		IAmb	04	10	40.4
	comp=Z,11nm,0.7s								
J16K	**Anvik River**	**80.08**	**14**	P		**P**	**04**	**10**	**41.0 +1.2**
J16K				IAmb		IAmb	04	10	41.3
	comp=Z,6.5nm,0.8s								
J16K	**Anvik River**	**80.08**	**14**	P		**P**	**04**	**10**	**40.8 +1.1**
	baz=212								
ANM	**Nome**	**80.15**	**12**	P		**P**	**04**	**10**	**41.0 +0.9**
	baz=207								
K17K	**Iditarod**	**80.17**	**15**	P		**P**	**04**	**10**	**40.6 +0.4**
K17K				IAmb		IAmb	04	10	42.1
	comp=Z,15nm,1.2s								
K17K	**Iditarod**	**80.17**	**15**	P		**P**	**04**	**10**	**40.6 +0.4**
	baz=214								
L18K	**Granite Mounta**	**80.19**	**16**			**P**	**04**	**10**	**41.3 +0.9**
L18K	**Granite Mounta**	**80.19**	**16**	P		**P**	**04**	**10**	**41.2 +0.9**
	baz=216								
J17K	**VABM Dome**	**80.54**	**15**	P		**P**	**04**	**10**	**43.1 +0.9**
J17K	**VABM Dome**	**80.54**	**15**	P		**P**	**04**	**10**	**43.3 +1.1**
	baz=213								
M19K	**Big River Lodg**	**80.58**	**17**			**P**	**04**	**10**	**42.9 +0.4**
M19K	**Big River Lodg**	**80.58**	**17**	P		**P**	**04**	**10**	**43.4 +0.9**
	baz=218								
L19K	**White Mountain**	**80.67**	**17**	IAmb		IAmb	04	10	47.0
	comp=Z,7.0nm,0.8s								
L19K	**White Mountain**	**80.67**	**17**	P		**P**	**04**	**10**	**44.0 +1.0**
	baz=217								
N20K	**Mount Spurr**	**80.69**	**19**	P		**P**	**04**	**10**	**43.5 +0.3**
	baz=220								
SPCR	**Spurr Chakacha**	**80.69**	**19**	P		**P**	**04**	**10**	**43.4 +0.2**
	baz=220								
ULN	**Ulaanbaatar**	**80.70**	**324**	P		**P**	**04**	**10**	**43.5 -0.1**
ULN				IAmb		IAmb	04	10	45.2
	comp=Z,11nm,0.9s								
SLKM	**Skilak Lake**	**80.81**	**20**	P		**P**	**04**	**10**	**43.3 -0.4**
SLKM				IAmb		IAmb	04	10	45.2
	comp=Z,15nm,0.8s								
H16K	**Elim**	**80.87**	**13**	P		**P**	**04**	**10**	**44.1 +0.2**
	baz=210								
M20K	**Styx River**	**80.94**	**18**	P		**P**	**04**	**10**	**44.2 -0.3**
	baz=219								
SONM	**Songino Array**	**81.06**	**323**			**P**	**04**	**10**	**45.5 0.0**
SONM	**Songino Array**	**81.06**	**323**	P		**P**	**04**	**10**	**46.1 +0.6**
	comp=Z,3.1nm,0.8s,baz=143,slow=6.1,SNR=15 comp=Z,3.1nm,0.8s								
L20K	**Farewell, AK**	**81.19**	**17**	P		**P**	**04**	**10**	**46.4 +0.7**
	baz=218								
J18K	**Innoko River**	**81.20**	**16**				**04**	**10**	**46.1 +0.4**
J18K				IAmb		IAmb	04	10	49.4
	comp=Z,6.8nm,0.6s								
J18K	**Innoko River**	**81.20**	**16**	P		**P**	**04**	**10**	**46.5 +0.8**
	baz=216,SNR=8.1								
F15K	**North Star Dit**	**81.31**	**11**	P		**P**	**04**	**10**	**46.9 +0.6**
F15K				IAmb		IAmb	04	10	47.3
	comp=Z,19nm,1.2s								
F15K	**North Star Dit**	**81.31**	**11**	P		**P**	**04**	**10**	**46.7 +0.4**
	baz=208								
SUA	**Susitna One**	**81.36**	**19**	P		**P**	**04**	**10**	**46.4 -0.4**
SUA				IAmb		IAmb	04	10	47.7
	comp=Z,11nm,1.0s								
SUA	**Susitna One**	**81.36**	**19**	P		**P**	**04**	**10**	**46.2 -0.5**
	baz=221,SNR=8.6								
Q23K	**Middleton Isla**	**81.38**	**22**	P		**P**	**04**	**10**	**

G19K **Purcell Mounta** 83.30 14 P P 04 10 57.7 +1.1
baz=215,SNR=5.7
H20K **Anotleneega Mo** 83.31 15 P P 04 10 57.6 +0.9
baz=217,SNR=9.0
M24K **Tolsona, Glenn** 83.32 20 IAmb IAmb 04 10 57.9
comp=Z,12nm,0.8s
M24K **Tolsona, Glenn** 83.32 20 P P 04 10 57.3 +0.5
baz=226
D17K **Noatak River** 83.37 11 P P 04 10 57.6 +0.8
baz=209
MAW **Mawson** 83.38 202 P P 04 10 56.6 -0.5
comp=Z,3.0nm,0.6s,baz=117,slow=4.9,SNR=21
comp=Z,3.0nm,0.6s
CRQM **Cirque** 83.46 22 IAmb IAmb 04 11 37.4
comp=Z,18nm,1.0s
CRQE **Cirque** 83.48 22 P P 04 10 57.4 -0.3
baz=228
N25K **Chitina, Valde** 83.51 21 IAmb IAmb 04 10 58.8
comp=Z,9.6nm,0.8s
N25K **Chitina, Valde** 83.51 21 P P 04 10 57.7 -0.1
baz=227,SNR=15
MESA **MESA** 83.53 23 P P 04 10 58.0 -0.1
baz=230,SNR=5.3
MCK **McKinley** 83.61 18 IAmb IAmb 04 10 59.4
comp=Z,19nm,1.1s
MCK **McKinley** 83.61 18 P P 04 10 57.5 -0.7
baz=223,SNR=8.3
E18K **Tukpahlearik C** 83.61 12 P P 04 10 57.9 -0.1
baz=212
VRDI **Verde Repeater** 83.66 22 IAmb IAmb 04 10 59.3
comp=Z,6.2nm,0.6s
DIB **Dawson Inlet,** 83.66 32 IAmb IAmb 04 10 59.5
comp=Z,7.5nm,0.7s
GLB **Gilahina Butte** 83.68 21 IAmb IAmb 04 10 59.4
comp=Z,6.5nm,0.7s
O02D **Mt. Diablo Mer** 83.68 46 IAmb IAmb 04 11 00.8
comp=Z,13nm,1.4s
I21K **Tanana** 83.82 16 P P 04 10 59.8 +0.6
baz=220,SNR=20
HG4B **Hotspring** 83.86 33 P P 04 10 58.4 -1.3
HG4B IAmb IAmb 04 11 08.2
comp=Z,26nm,1.4s
HARP **HAARP** 83.86 20 P P 04 11 00.2 +0.7
baz=226
MCARA **McCarthy VSAT** 83.92 22 P P 04 10 59.5 -0.3
baz=228
GRNC **Granite Creek** 83.96 23 IAmb IAmb 04 11 01.0
comp=Z,9.8nm,0.7s
H21K **Melozitna Rive** 83.97 16 P P 04 11 00.2 +0.2
baz=219
IMAR **Indian Mountai** 83.99 15 P P 04 11 00.3 +0.3
C17K **DeLong Mountai** 84.03 11 P P 04 11 00.5 +0.3
baz=209
MLY **Manley** 84.05 17 IAmb IAmb 04 11 00.7
comp=Z,5.1nm,0.5s
MLY **Manley** 84.05 17 P P 04 10 59.9 -0.6
baz=221,SNR=8.5
PINM **Pinnacle** 84.13 24 P P 04 11 00.8 -0.2
baz=231
PAX **Paxson** 84.16 20 P P 04 11 00.4 -0.7
baz=226
PNL **Peninsula** 84.20 24 P P 04 11 01.2 0.0
baz=232,SNR=5.8
NEA2 **Nenana** 84.20 17 IAmb IAmb 04 11 02.2
comp=Z,13nm,1.2s
NEA2 **Nenana** 84.20 17 P P 04 11 00.4 -0.7
baz=223,SNR=9.3
BARN **Barnard Glacie** 84.21 22 IAmb IAmb 04 11 02.5
comp=Z,11nm,0.7s
CTG **Chitna Glacier** 84.27 23 P P 04 11 01.8 +0.1
baz=230,SNR=7.7
LOGN **Logan Glacier** 84.30 23 P P 04 11 02.1 +0.2
LOGN IAmb IAmb 04 11 02.8
comp=Z,11nm,0.7s
E19K **Redstone River** 84.35 13 IAmb IAmb 04 11 05.0
comp=Z,7.5nm,0.5s
E19K **Redstone River** 84.35 13 P P 04 11 02.4 +0.6
baz=215,SNR=6.8
F20K **Avaraart Lake** 84.36 14 P P 04 11 01.9 +0.1
baz=216
WRH **Wood River Hil** 84.40 18 IAmb IAmb 04 11 02.3
comp=Z,15nm,1.0s
G21K **Allakaket** 84.47 15 P P 04 11 03.2 +0.8
G21K IAmb IAmb 04 11 04.0
comp=Z,5.7nm,0.7s
G21K **Allakaket** 84.47 15 P P 04 11 02.7 +0.2
baz=218,SNR=7.5
S31K **Pelican** 84.50 27 P P 04 11 03.5 +0.8
baz=235
I23K **Minto, Yukon-K** 84.53 17 P P 04 11 02.5 -0.2
baz=222,SNR=6.4
H22K **Ishtitna Cre** 84.53 16 P P 04 11 03.2 +0.4
baz=220,SNR=14
CRAG **Craig** 84.54 30 P P 04 11 02.8 -0.2
baz=238
C18K **Utukok River** 84.55 11 IAmb IAmb 04 11 20.9
comp=Z,18nm,1.4s
C18K **Utukok River** 84.55 11 P P 04 11 03.2 +0.3
baz=211
O28M **Mount Upton** 84.58 23 IAmb IAmb 04 11 04.3
comp=Z,12nm,0.8s
O28M **Mount Upton** 84.58 23 P P 04 11 03.5 0.0
baz=231,SNR=6.5
M26K **Nabesna, AK** 84.61 21 IAmb IAmb 04 11 04.2
comp=Z,7.7nm,0.8s
M26K **Nabesna, AK** 84.61 21 P P 04 11 03.3 0.0
baz=228,SNR=8.6
K24K **Donnelly Dome** 84.64 19 IAmb IAmb 04 11 04.4
comp=Z,12nm,0.8s
K24K **Donnelly Dome** 84.64 19 P P 04 11 03.5 +0.1
baz=226,SNR=7.9
HDA **Harding Lake** 84.70 18 P P 04 11 03.5 -0.2
baz=225,SNR=22
HOLB **Holberg** 84.73 35 P P 04 11 03.7 -0.4
HOLB IAmb IAmb 04 11 44.6
comp=Z,10nm,0.9s
COLA **College** 84.76 18 P P 04 11 03.4 -0.5
baz=224
P29M **Windy Craggy** 84.84 25 IAmb IAmb 04 11 05.3
comp=Z,6.5nm,0.7s
P29M **Windy Craggy** 84.84 25 P P 04 11 04.6 +0.1
baz=233,SNR=5.1
U33K **Whale Pass** 84.89 29 P P 04 11 04.8 +0.1
U33K **Whale Pass** 84.89 29 P P 04 11 04.9 +0.2
baz=238
RIDG **Independent Ri** 84.89 19 IAmb IAmb 04 11 05.6
comp=Z,11nm,1.0s
RIDG **Independent Ri** 84.89 19 P P 04 11 04.7 0.0
baz=227,SNR=14
L26K **Log Cabin Wild** 84.90 20 P P 04 11 04.7 -0.1
baz=228
S32K **Killisnoo** 84.95 27 P P 04 11 05.3 +0.3
baz=236
M27K **Edge Creek, AK** 84.97 21 P P 04 11 05.5 +0.3
baz=229,SNR=8.5
H23K **Yukon River** 84.98 16 IAmb IAmb 04 11 06.2
comp=Z,8.1nm,0.9s
H23K **Yukon River** 84.98 16 P P 04 11 05.6 +0.5
baz=222,SNR=7.0
ILAR **Eielson Array** 84.98 18 P P 04 11 04.2 -0.9
ILAR **Eielson Array** 84.98 18 P P 04 11 04.0 -1.0
comp=Z,7.9nm,0.5s,baz=237,slow=5.3,SNR=173
ILAR pP pP 04 11 55.5 +2.0
comp=Z,1.5nm,0.6s,baz=231,slow=6.1,SNR=3.6
ILAR PKKPbc PKKPdf 04 29 10.2 +3.2
comp=Z,0.3nm,0.4s,baz=329,slow=1.7,SNR=6.8
comp=Z,7.9nm,0.5s
HEBO **Mount Hebo** 85.02 42 P P 04 11 06.2 +0.4
D19K **Kuna River** 85.02 12 P P 04 11 06.2 +1.0
D19K IAmb IAmb 04 11 07.7
comp=Z,14nm,1.4s
D19K **Kuna River** 85.02 12 P P 04 11 05.7 +0.5
baz=214
F21K **Alatna River** 85.03 14 P P 04 11 05.7 +0.5
baz=218,SNR=6.1
B18K **Kokolik River** 85.06 11 P P 04 11 06.0 +0.7
baz=210
YUK8 **Steele Glacier** 85.06 23 P P 04 11 06.1 +0.2
baz=231,SNR=6.5
POKR **Poker Plat Res** 85.06 18 P P 04 11 04.7 -0.8
baz=224,SNR=7.3
DOT **Dot Lake** 85.09 20 IAmb IAmb 04 11 06.5
comp=Z,8.7nm,0.8s
YUK3 **Moose Creek** 85.11 22 P P 04 11 06.0 0.0
baz=231
V35K **Ketchikan** 85.20 30 P P 04 11 06.3 +0.1
baz=239
E20K **Nigu River** 85.24 13 P P 04 11 07.1 +0.7
baz=216,SNR=9.0
C19K **Lookout Ridge** 85.24 11 P P 04 11 06.7 +0.4
baz=212
G22K **Bettles** 85.28 15 P P 04 11 07.1 +0.6
baz=220
PLBC **Pleasant Camp** 85.31 25 P P 04 11 06.6 -0.1
baz=235
J25K **Salcha River,** 85.33 19 P P 04 11 07.0 +0.1
J25K **Salcha River,** 85.33 19 P P 04 11 06.3 -0.6
baz=226,SNR=35
SCRK **Sand Creek** 85.33 19 IAmb IAmb 04 11 08.0
comp=Z,9.5nm,0.8s
SCRK **Sand Creek** 85.33 19 P P 04 11 06.8 -0.1
baz=227,SNR=23
BVCY **Beaver Creek** 85.37 22 P P 04 11 07.2 +0.1
baz=230
YUK6 **Outpost Mounta** 85.39 24 P P 04 11 07.3 -0.1
baz=233
WRAK **Wrangell Islan** 85.42 29 P P 04 11 07.2 -0.2
baz=238
R32K **Eaglecrest** 85.43 27 P P 04 11 07.9 +0.5
R32K **Eaglecrest** 85.43 27 P P 04 11 07.5 +0.1
baz=236
L27K **Beaver Creek,** 85.45 21 P P 04 11 07.9 +0.5
baz=229,SNR=7.7
BESE **Bessie Mountai** 85.45 26 P P 04 11 07.9 +0.4
H24K **Nenoor Dome** 85.45 17 P P 04 11 07.9 +0.5
baz=224
P30M **Million Dollar** 85.45 25 P P 04 11 07.7 +0.1
baz=234
BCAR **Beaver Creek A** 85.47 21 P P 04 11 08.2 +0.6
G23K **Bananza Creek** 85.51 16 IAmb IAmb 04 11 09.3
comp=Z,12nm,0.9s
G23K **Bananza Creek** 85.51 16 P P 04 11 08.5 +0.8
baz=222,SNR=19
D20K **Etivluk River** 85.52 13 IAmb IAmb 04 11 09.4
comp=Z,11nm,0.8s
D20K **Etivluk River** 85.52 13 P P 04 11 08.4 +0.8
baz=215,SNR=6.6
YUK4 **Talbot Arm** 85.52 23 P P 04 11 08.5 +0.5
baz=232,SNR=6.3
F22K **John River** 85.57 15 P P 04 11 08.8 +0.9
baz=220
HYT **Haines Junctio** 85.65 24 P P 04 11 08.9 +0.3
baz=234
J26L **Joseph Creek** 85.83 19 P P 04 11 10.0 +0.7
baz=228,SNR=8.2
COLD **Coldfoot** 85.85 15 IAmb IAmb 04 11 11.3
comp=Z,8.3nm,1.0s
COLD **Coldfoot** 85.85 15 P P 04 11 10.4 +1.1
baz=221,SNR=6.5
E21K **Killik River** 85.88 13 IAmb IAmb 04 11 12.0
comp=Z,7.2nm,0.8s
E21K **Killik River** 85.88 13 P P 04 11 10.1 +0.6
baz=218
K27K **Chicken** 86.00 20 P P 04 11 11.0 +0.9
baz=229
E22K **Anaktuvuk Pass** 86.14 14 IAmb IAmb 04 11 13.3
comp=Z,6.5nm,0.6s
E22K **Anaktuvuk Pass** 86.14 14 P P 04 11 11.3 +0.6
baz=220,SNR=9.1
G24K **Hadweenzic Riv** 86.19 16 IAmb IAmb 04 11 12.3
comp=Z,8.5nm,1.1s
G24K **Hadweenzic Riv** 86.19 16 P P 04 11 11.2 +0.2
baz=224,SNR=8.0
M29M **Somme Creek** 86.26 22 P P 04 11 12.2 +0.6
baz=232
C21K **Knifeblade Rid** 86.27 13 P P 04 11 12.3 +1.0
baz=217,SNR=5.4
NVAR **Mina Array Bea** 86.29 49 P P 04 11 12.0 -0.4
comp=Z,0.6nm,0.7s,baz=231,slow=8.8,SNR=4.0
NVAR pP pwP 04 12 03.9 0.0
comp=Z,1.4nm,1.0s,baz=231,slow=9.8,SNR=4.5
comp=Z,0.6nm,0.7s
H25L **Birch Creek** 86.35 17 P P 04 11 11.7 0.0
baz=226
B20K **Meade River** 86.47 12 P P 04 11 12.7 +0.5
baz=215
I26K **Coal Creek Min** 86.50 19 P P 04 11 12.5 0.0
baz=228
P32M **Atlin** 86.50 26 P P 04 11 12.8 +0.1
baz=237
D22K **Ayivkyak River** 86.52 14 P P 04 11 13.5 +1.0
baz=219,SNR=7.5
GNW **Green Mountain** 86.55 40 P P 04 11 13.8 +0.7
WHY **Whitehorse** 86.61 25 P P 04 11 13.1 -0.1
baz=236
G25K **Bearman Lake** 86.62 17 P P 04 11 13.0 0.0
baz=225
E23K **Chandalar** 86.62 15 P P 04 11 13.0 -0.2
baz=222
F24K **Squaw Lake** 86.67 16 IAmb IAmb 04 11 15.4
comp=Z,7.8nm,0.9s
F24K **Squaw Lake** 86.67 16 P P 04 11 14.0 +0.6
baz=224,SNR=10
B21K **Ikpikpuk River** 86.68 13 IAmb IAmb 04 11 15.9
comp=Z,10nm,0.8s
B21K **Ikpikpuk River** 86.68 13 P P 04 11 14.2 +0.9
baz=217
N31M **Braeburn, Yuko** 86.72 24 P P 04 11 14.0 +0.3
baz=235
S34M **Telegraph Cree** 86.76 28 P P 04 11 14.0 +0.1
S34M IAmb IAmb 04 11 15.1
comp=Z,4.7nm,0.6s
S34M **Telegraph Cree** 86.76 28 P P 04 11 14.5 +0.6
baz=239
L29M **L29M** 86.79 22 P P 04 11 13.4 -0.7
L29M **L29M** 86.79 22 P P 04 11 13.8 -0.2
baz=233
Q32M **Nakina River** 86.79 27 P P 04 11 13.9 -0.4
Q32M **Nakina River** 86.79 27 P P 04 11 13.5 -0.8
baz=238
E24K **Your Creek** 86.92 15 IAmb IAmb 04 11 19.3
comp=Z,12nm,1.4s
E24K **Your Creek** 86.92 15 P P 04 11 14.4 -0.1
baz=223
DAWY **Dawson** 86.93 21 P P 04 11 14.7 0.0
baz=232
M30M **Minto, Yukon** 86.96 23 P P 04 11 14.4 -0.5
baz=234
D23K **Nanushuk River** 87.05 14 IAmb IAmb 04 11 17.5
comp=Z,12nm,0.8s
D23K **Nanushuk River** 87.05 14 P P 04 11 16.5 +1.4
baz=221,SNR=7.3
TOLK **Toolik Lake Re** 87.07 15 IAmb IAmb 04 11 17.2
comp=Z,12nm,1.1s
TOLK **Toolik Lake Re** 87.07 15 P P 04 11 15.7 +0.4
baz=222
A04D **Lummi Island** 87.09 39 IAmb IAmb 04 11 16.9
comp=Z,7.3nm,0.8s
I27K **Kandik River** 87.18 19 P P 04 11 15.6 -0.2
baz=230
P33M **Teslin, Yukon** 87.22 26 P P 04 11 16.2 0.0
baz=238
F25K **Christian Rive** 87.33 16 P P 04 11 17.4 +0.9
baz=226
G26K **Porcupine Rive** 87.41 17 IAmb IAmb 04 11 19.6
comp=Z,7.9nm,0.7s
G26K **Porcupine Rive** 87.41 17 P P 04 11 17.1 +0.3
baz=227,SNR=9.1
K29M **Barlow Dome** 87.45 21 P P 04 11 17.0 -0.3
K29M **Barlow Dome** 87.45 21 P P 04 11 16.9 -0.3
baz=233
R33M **Jennings River** 87.59 27 P P 04 11 17.5 -0.5
baz=239
H27K **Steamboat Moun** 87.61 18 P P 04 11 17.7 -0.2
baz=230
I28M **Miner Creek** 87.61 19 P P 04 11 18.6 +0.6
baz=231
D24K **Happy Valley** 87.63 14 P P 04 11 18.7 +0.8
baz=223,SNR=5.6
EVN **Everest** 87.67 299 P 04 11 18.6 -1.2
C23K **Itkillik River** 87.72 13 IAmb IAmb 04 11 20.6
comp=Z,11nm,0.8s
C23K **Itkillik River** 87.72 13 P P 04 11 19.0 +0.8
baz=221
F26K **Sheenjek River** 87.82 17 P P 04 11 19.6 +0.8
baz=227
G27K **Doyon Strip** 87.95 18 P P 04 11 19.6 +0.2
baz=229
C24K **Franklin Bluff** 88.08 14 P P 04 11 20.3 +0.4
baz=223
I29M **Ogilvie Camp,** 88.10 20 P P 04 11 20.9 +0.7
baz=233
BELA **Belgrano 2** 88.41 176 P 04 11 19.7 -1.8
F28M **Old Crow** 89.00 18 P P 04 11 24.7 +0.4
MMPY **Sheldon Lake,** 89.12 24 P P 04 11 23.9 -1.2
MMPY **Sheldon Lake,** 89.12 24 P P 04 11 24.0 -1.0
baz=239
G29M **Pine Creek** 89.13 19 P P 04 11 24.6 -0.4
G29M **Pine Creek** 89.13 19 P P 04 11 24.8 -0.2
baz=233
C26K **Camden Bay** 89.14 15 P P 04 11 25.6 +0.6
baz=226
EPYK **Eagle Plains** 89.23 20 P P 04 11 26.7 +1.3
EPYK IAmb IAmb 04 11 39.8
comp=Z,14nm,1.4s
EPYK **Eagle Plains** 89.23 20 P P 04 11 26.0 +0.6
baz=234
C27K **Jago River** 89.25 15 P P 04 11 26.6 +1.1
C27K IAmb IAmb 04 11 27.9
comp=Z,11nm,1.2s
C27K **Jago River** 89.25 15 P P 04 11 26.0 +0.5
baz=228
MFID **Camas Ranch** 89.69 45 P 04 11 27.3 -1.0
H31M **Peel River** 89.70 21 P P 04 11 28.7 +1.0
H31M IAmb IAmb 04 11 49.0
comp=Z,11nm,1.3s
H31M **Peel River** 89.70 21 P P 04 11 27.9 +0.3
baz=236
E28M **Babbage River** 89.72 17 P P 04 11 27.5 -0.2
E28M IAmb IAmb 04 11 31.0
comp=Z,12nm,1.4s
E28M **Babbage River** 89.72 17 P P 04 11 27.7 0.0
baz=231
D27M **Malcolm River** 89.73 16 P P 04 11 28.2 +0.5
baz=230
G30M **tAoh Zraii Nji** 89.75 19 P P 04 11 27.1 -0.8
G30M IAmb IAmb 04 11 53.9
comp=Z,13nm,1.4s
TOAD **Toad River Com** 89.94 29 P P 04 11 28.1 -0.8
baz=244
SYO **Syowa Base** 90.27 197 ⇓ eP P 04 11 29.4 -0.9
WMQ **Urumqi** 91.45 315 eP P 04 11 37.5 +1.2
WMQ LR LR
comp=Z,210nm,21.5s
PDAR **Pinedale Array** 93.92 47 PKKPbc PKKPbc 04 28 48.0 -3.8
comp=Z,0.4nm,0.7s,baz=85,slow=6.3,SNR=3.9
TROLL **Troll, Antarti** 94.52 185 ⇑ P P 04 11 48.7 -1.4
comp=Z,138nm,0.6s
SNAA **Sanae** 95.21 183 ⇑ P P 04 11 51.3 -1.9
comp=Z,37nm,0.8s
SNAA **Sanae** 95.21 183 P P 04 11 51.5 -1.7
SNAA IAmb IAmb 04 11 53.3
comp=Z,6.9nm,1.4s
SNAA **Sanae** 95.21 183 P P 04 11 51.3 -1.9
comp=Z,1.9nm,0.9s,baz=192,slow=13,SNR=12
comp=Z,1.9nm,0.9s
TXAR **Lajitas Array** 95.60 61 PKKPbc PKKPbc 04 28 45.4 -1.1
comp=Z,0.2nm,0.6s,baz=94,slow=3.3,SNR=3.8
MK31 **Makanchi Array** 95.89 317 P P 04 11 56.8 +0.2
MK31 IAmb IAmb 04 11 57.2
comp=Z,2.4nm,0.7s
MKAR **Makanchi Array** 95.89 317 P 04 11 56.7 +0.1
MKAR **Makanchi Array** 95.89 317 P P 04 11 55.6 -1.0
comp=Z,3.0nm,0.6s,baz=90,slow=6.3,SNR=29
MKAR PKiKP PKiKP 04 16 33.0 -1.7
comp=Z,0.3nm,0.5s,baz=60,slow=0.2,SNR=3.7
MKAR PKKPbc PKKPbc 04 28 43.0 -3.4
comp=Z,0.5nm,0.6s,baz=271,slow=4.4,SNR=4.8
comp=Z,3.0nm,0.6s
VNA3 **Neumayer Olymp** 95.89 181 ⇑ P P 04 11 54.3 -1.9
comp=Z,4.1nm,0.8s
ZALV **Zalesovo Beam** 95.95 324 P P 04 11 55.8 -0.9
comp=Z,2.6nm,0.6s,baz=109,slow=5.4,SNR=11
comp=Z,2.6nm,0.6s
YKAW1 **Yellowknife Wh** 96.17 27 P P 04 11 55.8 -1.7
YKAW1 IAmb IAmb 04 12 19.9
comp=Z,12nm,1.1s
BVAR **Borovoye Array** 104.34 322 PKiKP PKiKP 04 16 49.0 -0.6
comp=Z,1.1nm,0.6s,baz=66,slow=2.2,SNR=4.3
ARCES **ARCESS Array B** 118.59 346 PKP PKPdf 04 17 15.3 -0.8
comp=Z,6.5nm,0.3s,baz=76,slow=2.0,SNR=116
KBZ **Khabaz** 123.49 314 PKP PKPdf 04 17 25.7 -0.6
comp=Z,1.4nm,0.8s,baz=174,slow=4.0,SNR=3.9
FINES **FINESS Array B** 124.11 339 PKP PKPdf 04 17 26.1 -0.8
comp=Z,4.7nm,0.5s,baz=36,slow=1.9,SNR=45
BOSA **Boshof** 124.55 221 PKP PKPdf 04 17 28.2 -0.8
comp=Z,5.4nm,1.0s,baz=132,slow=1.6,SNR=5.0
NB2 **NORSAR Subarra** 128.97 345 PKPdf PKPdf 04 17 35.7 -0.6
comp=Z,1.1nm,0.5s,baz=31,slow=1.9
NOA **NORSAR Array B** 128.97 345 PKP PKPdf 04 17 36.0 -0.2
comp=Z,2.5nm,0.6s,baz=30,slow=2.0,SNR=14
HFS **Hagfors** 129.08 343 PKP PKPdf 04 17 35.5 -0.9
comp=Z,4.3nm,0.7s,baz=93,slow=6.5,SNR=12
AKASG **Malin Array Be** 129.26 327 PKP PKPdf 04 17 36.7 -0.4
comp=Z,1.6nm,0.5s,baz=48,slow=3.0,SNR=13
BRTR **Keskin Array B** 131.29 312 PKP PKPdf 04 17 40.8 -0.8
comp=Z,0.7nm,0.4s,baz=141,slow=4.6,SNR=7.8
BRTR SKPbc SKPbc 04 20 48.1 +0.3
comp=Z,0.9nm,0.7s,baz=82,slow=2.9,SNR=5.4
BDFB **Brasilia** 135.06 128 PKP PKPdf 04 17 48.0 -1.2
comp=Z,1.4nm,0.6s,baz=152,slow=2.6,SNR=3.8
EKA **Eskdalemuir Ar** 137.13 352 PKP PKPdf 04 17 50.9 -0.8
comp=Z,0.3nm,0.4s,baz=29,slow=1.9,SNR=4.0
RONA **Rosalia, Austr** 137.74 331 *i* PKiKP PKPdf 04 17 55.0 +1.8
comp=Z,6.9nm,1.0s
CONA **Conrad Observa** 137.78 331 *i* PKiKP PKPdf 04 17 55.2 +1.9
comp=Z,5.5nm,0.7s
GERES **GERESS Array B** 138.08 334 PKP PKPdf 04 17 52.9 -0.9
comp=Z,2.8nm,0.9s,baz=49,slow=0.7,SNR=10
GERES SKPbc SKPbc 04 21 08.8 -0.4
comp=Z,0.5nm,0.6s,baz=142,slow=4.6,SNR=3.5
MOA **Molln** 138.58 332 *i* PKiKP PKPdf 04 17 56.2 +1.6
comp=Z,1.2nm,0.5s
BIOA **Bad Ischl, Aus** 138.98 333 *i* PKiKP PKPdf 04 17 56.9 +1.4
comp=Z,2.1nm,0.5s
BTNL **Ternell** 139.47 341 *d*PKiKP PKPdf 04 17 58.4 +2.1
MEM **Membach** 139.49 341 *d*PKiKP PKPdf 04 17 57.9 +1.7
LESA **Schwarzleotal** 139.60 333 *i* PKiKP PKPdf 04 17 58.3 +1.7
comp=Z,2.9nm,0.4s
BSTI **Sart Tilman** 139.65 342 *d*PKiKP PKiKP 04 17 59.0 +0.1
MYKA **Terra Mystica** 139.76 332 *i* PKiKP PKPdf 04 17 58.4 +1.4
comp=Z,1.6nm,0.5s
BCLA **Clavier** 139.87 342 *d*PKPdf PKPdf 04 17 56.6 -0.3
BMRD **Maredsous** 140.14 342 *d*PKPdf PKPdf 04 17 56.9 -0.5
BMRD *d*PKiKP PKiKP 04 17 60.0 +0.1
WATA **Walderalm** 140.15 334 *e*PKiKP PKPdf 04 17 59.6 +1.9
comp=Z,3.2nm,0.4s
WTTA **Wattenberg** 140.18 334 *i* PKiKP PKPdf 04 17 60.0 +2.1
comp=Z,3.2nm,0.4s
ABTA **Abfaltersbach** 140.19 333 *i* PKiKP PKPdf 04 17 59.3 +1.5
comp=Z,3.0nm,0.5s
MOTA **Moosalm** 140.34 334 *e*PKiKP PKPdf 04 18 00.1 +2.0
comp=Z,2.8nm,0.7s
DOU **Dourbes** 140.37 342 *d*PKiKP PKPdf 04 18 00.0 +2.2
SQTA **Sankt Quirin** 140.40 334 *i* PKiKP PKPdf 04 18 00.3 +2.1
comp=Z,3.8nm,0.5s
DAVA **Damuels** 140.90 335 *e*PKiKP PKPdf 04 18 01.5 +2.4
comp=Z,2.4nm,0.5s
KEST **Kesra** 149.81 322 PKP PKPdf 04 18 14.2 -0.3
comp=Z,4.8nm,0.8s,baz=171,slow=5.6,SNR=4.7
KEST PKPbc PKPbc 04 18 19.7 +0.2
comp=Z,14nm,0.7s,baz=212,slow=0.1,SNR=29
PBRG **Braganca** 150.85 351 *e*PKPbc PKPbc 04 18 21.6 -0.2
PGAV **Gavieira, Arco** 150.91 353 *e*PKPbc PKPbc 04 18 21.9 0.0
PCAB **Cabril** 151.13 352 *e*PKPbc PKPbc 04 18 22.6 +0.2
POLO **Lamas de Olo** 151.43 352 *e*PKPbc PKPbc 04 18 23.4 +0.2
PVRL **Vila Real** 151.51 352 *e*PKPbc PKPbc 04 18 23.5 +0.2
MVO **Moncorvo** 151.52 351 *e*PKPbc PKPbc 04 18 23.6 +0.3
PTO **Porto** 151.76 353 *e*PKPbc PKPbc 04 18 24.9 +1.1
PVIS **Viseu** 152.09 352 *e*PKPbc PKPbc 04 18 24.6 0.0
ESDC **Sonseca Array** 152.33 345 PKP PKPdf 04 18 17.9 -0.4
comp=Z,2.3nm,1.3s,baz=347,slow=4.7,SNR=4.5
ESDC PKPbc PKPbc 04 18 25.1 -0.1
comp=Z,5.2nm,0.6s,baz=5.3,slow=4.2,SNR=45
ESDC PKPab PKPab 04 18 35.9 0.0
comp=Z,2.3nm,0.6s,baz=6.5,slow=5.0,SNR=6.3
COI **Coimbra** 152.66 353 *e*PKPbc PKPbc 04 18 25.8 0.0
PCBR **Castelo Branco** 152.88 351 *e*PKPbc PKPbc 04 18 26.2 -0.1
PSARD **Sardoal** 153.22 352 *e*PKPbc PKPbc 04 18 27.3 +0.2
PMRV **Marv??o** 153.27 351 *e*PKPbc PKPbc 04 18 27.3 0.0
DBIC **Dimbokro** 169.87 232 PKPab PKPab 04 19 52.5 -0.5
comp=Z,2.4nm,1.0s,baz=153,slow=4.5,SNR=3.5

AUST 13 04:08:32.3±0.3, 21°S±2°×12°1E±°, h10km, mb4.2/11, ML3.6/5, ML4.3/3, 3D, Error ellipse: s-maj=5.5km s-min=4.7km az=132.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBWA	Marble Bar	0.80	293	⇓P		Pn	04 08 49.6	-0.1
MBWA				S		Sg	04 08 58.0	-0.2
AUBRM	Broome Senior	3.85	25	S		Sn	04 10 15.9	-1.1

MEEK	**Meekatharra**	**5.43**	**198**	P	Pn	04 09 55.9	+2.5
	comp=Z,0.2nmcomp=Z,240µmcomp=Z,14nm,2.4s						
MEEK	**Meekatharra**	**5.43**	**198**	S	Sn	04 10 53.4	-2.6
FITZ	**Fitzroy Crossi**	**5.87**	**56**	⇓P	Pn	04 09 59.9	+0.5
	comp=Z,1.5nm,1.5s						
FITZ	**Fitzroy Crossi**	**5.87**	**56**	S	Sn	04 11 00.9	-6.0
GIRL	**Giralia**	**5.95**	**258**	⇓P	Pn	04 10 01.8	+1.3
	comp=Z,178µmcomp=Z,53nm,2.0s,comp=Z,0.2nm						
GIRL				S	Sn	04 11 03.4	-5.3
MORW	**Morawa**	**8.58**	**207**	P	Pn	04 10 36.5	-0.1
	comp=Z,0.1nmcomp=Z,14nm,2.5s						
MORW	**Morawa**	**8.58**	**207**	S	Sn	04 12 04.3	-9.3
KNRA	**Kununurra**	**9.71**	**55**	P	Pn	04 10 53.0	+0.8
	comp=Z,0.1nmcomp=Z,20nm,1.8s						
KNRA				S	Sn	04 12 34.5	-6.7
BLDU	**Ballidu**	**9.73**	**200**	S	Sn	04 12 30.6	-11
BLDU	**Ballidu**	**9.73**	**200**	P	Pn	04 10 39.4	-13
KLBR	**Kellerberrin**	**10.38**	**193**	P	Pn	04 11 01.0	-0.3
	comp=Z,0.1nmcomp=Z,16nm,1.2s						
KLBR	**Kellerberrin**	**10.38**	**193**	S	Sn	04 12 46.2	-12
MUN	**Mundaring**	**11.15**	**199**	P	Pn	04 11 12.0	+0.2
	comp=Z,27nm,2.7s						
MUN	**Mundaring**	**11.15**	**199**	S	Sn	04 13 05.2	-11
NWAO	**Narrogin (SRO)**	**11.78**	**194**	P	Pn	04 11 20.5	0.0
	comp=Z,51nm,1.6s						
NWAO	**Narrogin (SRO)**	**11.78**	**194**	S	Sn	04 13 20.7	-11
AS02	**Alice Springs**	**12.59**	**103**	P	Pn	04 11 32.7	+1.1
	comp=Z,3.0nm,0.8s						
WB7	**Warramunga Arr**	**13.07**	**85**	P	Pn	04 11 37.1	-1.1
RKGY	**Rocky Gully**	**13.46**	**193**	P	Pn	04 11 43.8	+0.4
	comp=Z,65nm,1.4s						
RKGY				S	Sn	04 14 00.5	-13
MULG	**Mulgathing**	**15.00**	**129**	P	Pn	04 12 04.1	-0.4
	comp=Z,8.1nm,2.5s						

SJA ***13*** *04:53:49.5±0.7,22°.26S×68°.74W,h132km,ML4.3,MW4.3*
NEIC ***13*** *04:53:50.9±1.5,22°.22S±0°.04×68°.68W±0°.06,h117km±4km, Mwr4.4/27,Mwr4.3(GUC),Error ellipse: s-maj=8.0km s-min=5.8km az=57.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.21; Mθθ0.13; Mϕϕ-0.35; Mrθ0.16; Mθϕ-0.67; Mϕr-4.32; Fault plane solution: M₀4.39000×10¹⁵ NP1:φs77.40000°,δ9.16000°, λ169.42000°. NP2:φs177.85000°,δ88.32000°,λ80.99000°. Principal axes: T 4.3437, Plg46.0000°, Azm79.0000°; N 0.0855, Plg9.0000°, Azm178.0000°; P -4.4293, Plg43.0000°, Azm277.0000°;*
VAO ***13*** *04:53:50.8±0.6,22°.13S×68°.45W,h98km,mb4.7*
IDC ***13*** *04:53:51.7±0.6,22°.19S×68°.42W,h118km±5km,mb3.8/9, mbtmp4.1/16,MS3.0/2,Error ellipse: s-maj=17.9km s-min=12.1km az=70.0*
NEIC ***13*** *04:53:51,22°.22S×68°.68W,h116km*
GUC ***13*** *04:53:52.0±0.8,22°.20S×68°.73W,h114km±4km,ML4.3*

ISC 13 04:53:50.9±0.4, 22°21S±0°.03×68°70W±0°.03, h118km±4km, n165,σ1§70/205, mb4.2/8, 9C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.65**	**309**			**Pn**	**04 54 10.5**	**+0.6**
PB09				Sn		**Sn**	**04 54 24.6**	**+0.4**
PB09	**IPOC Station P**	**0.65**	**309**	⇑P	*e*P	**Pn**	**04 54 10.4**	**+0.6**
PB09				*e*S		**Sn**	**04 54 24.4**	**+0.2**
PB09				IAML			04 54 26.5	
	comp=N,10µm,0.3s							
PB09	**IPOC Station P**	**0.65**	**309**	*e*P		Pn	04 53 58.1	-12
PB09				*e*S		**Sn**	**04 54 26.6**	**+2.4**
PB09				IAML			04 54 28.6	
	comp=Z,6µm,0.3s							
AF01	**San Pedro de A**	**0.88**	**147**			**Pn**	**04 54 12.2**	**+0.2**
AF01				Sn		**Sn**	**04 54 27.2**	**-0.6**
AF01	**San Pedro de A**	**0.88**	**147**	⇓P	*e*P	**Pn**	**04 54 12.3**	**+0.4**
AF01				*e*S		**Sn**	**04 54 28.3**	**+0.5**
AF01				IAML			04 54 46.5	
	comp=N,15µm,0.6s							
AF01	**San Pedro de A**	**0.88**	**147**	*e*P		Pn	04 54 03.0	-8.9
AF01				*e*S		**Sn**	**04 54 28.9**	**+1.1**
AF01				IAML			04 54 45.1	
	comp=Z,13µm,0.8s							
PB06	**IPOC Station P**	**0.95**	**238**			**Pn**	**04 54 12.7**	**+0.3**
PB06				Sn		**Sn**	**04 54 28.5**	**-0.2**
PB06	**IPOC Station P**	**0.95**	**238**	⇑P	*e*P	**Pn**	**04 54 12.6**	**+0.3**
PB06				*e*S		**Sn**	**04 54 28.5**	**-0.2**
PB06				IAML			04 54 30.4	
	comp=E,6µm,0.2s							
PB06	**IPOC Station P**	**0.95**	**238**	*e*P		**Pn**	**04 54 12.6**	**+0.2**
PB06				*e*S		**Sn**	**04 54 29.7**	**+1.0**
PB06				IAML			04 54 31.3	
	comp=Z,4µm,0.1s							
PB03	**IPOC Station P**	**0.99**	**279**			**Pn**	**04 54 13.1**	**+0.3**
PB03				Sn		**Sn**	**04 54 29.1**	**-0.3**
PB03	**IPOC Station P**	**0.99**	**279**	⇑P	*e*P	**Pn**	**04 54 13.1**	**+0.3**
PB03				*e*S		**Sn**	**04 54 29.4**	**0.0**
PB03				IAML			04 54 30.9	
	comp=N,8µm,0.5s							
PB03	**IPOC Station P**	**0.99**	**279**	*e*P		**Pn**	**04 54 13.1**	**+0.3**
PB03				*e*S		**Sn**	**04 54 30.2**	**+0.8**
PB03				IAML			04 54 30.9	
	comp=Z,8µm,0.5s							
PB01	**IPOC Station P**	**1.37**	**327**			**Pn**	**04 54 16.6**	**-0.2**
PB01	**IPOC Station P**	**1.37**	**327**	⇑P	*e*P	**Pn**	**04 54 16.9**	**+0.1**
PB01				*e*S		**Sn**	**04 54 35.9**	**-0.6**
PB01				IAML			04 54 37.3	
	comp=E,5µm,0.4s							
PB01	**IPOC Station P**	**1.37**	**327**	*e*P		**Pn**	**04 54 17.1**	**+0.2**
PB01				*e*S		**Sn**	**04 54 37.5**	**+1.0**
PB01				IAML			04 54 39.2	
	comp=Z,2µm,0.1s							
PB02	**IPOC Station P**	**1.42**	**308**			**Pn**	**04 54 17.8**	**+0.4**
PB02	**IPOC Station P**	**1.42**	**308**	⇑P	*e*P	**Pn**	**04 54 17.4**	**0.0**
PB02				*e*S		**Sn**	**04 54 36.7**	**-0.8**
PB02				IAML			04 54 40.0	
	comp=E,9µm,0.6s							
PB02	**IPOC Station P**	**1.42**	**308**	*e*P		**Pn**	**04 54 13.2**	**-4.2**
PB02				*e*S		**Sn**	**04 54 38.1**	**+0.6**
PB02				IAML			04 54 43.0	
	comp=Z,9µm,0.5s							
PB05	**IPOC Station P**	**1.53**	**245**			**Pn**	**04 54 18.8**	**+0.1**
PB05	**IPOC Station P**	**1.53**	**245**	⇑P	*e*P	**Pn**	**04 54 18.7**	**+0.1**
PB05				*e*S		**Sn**	**04 54 38.8**	**-1.0**
PB05				IAML			04 54 40.5	
	comp=N,3µm,0.2s							
PB05	**IPOC Station P**	**1.53**	**245**	*e*P		**Pn**	**04 54 18.0**	**-0.7**
PB05				*e*S		**Sn**	**04 54 40.1**	**+0.3**
PB05				IAML			04 54 41.6	
	comp=Z,2µm,0.2s							
PATCX	**Punta Patache**	**1.94**	**315**			**Pn**	**04 54 23.6**	**0.0**
PB08	**IPOC Station P**	**2.10**	**348**			**Pn**	**04 54 26.7**	**+0.8**
PB08	**IPOC Station P**	**2.10**	**348**	⇓P	*e*P	**Pn**	**04 54 26.9**	**+0.9**
PB08				*e*S		**Sn**	**04 54 52.8**	**+0.2**
PB08				IAML			04 54 56.9	
	comp=E,823nm,0.3s							
PB08	**IPOC Station P**	**2.10**	**348**	*e*P		**Pn**	**04 54 26.8**	**+0.9**
PB08				*e*S		**Sn**	**04 54 55.1**	**+2.5**
PB08				IAML			04 54 58.7	
	comp=Z,725nm,0.8s							
TA01	**Diego Aracena**	**2.14**	**319**			**Pn**	**04 54 25.6**	**-0.5**
TA01	**Diego Aracena**	**2.14**	**319**	⇑P	*e*P	**Pn**	**04 54 25.5**	**-0.5**
TA01				*e*S		**Sn**	**04 54 51.5**	**-1.4**
TA01				IAML			04 54 54.9	
	comp=N,3µm,0.4s							
TA01	**Diego Aracena**	**2.14**	**319**	*e*P		**Pn**	**04 54 25.7**	**-0.3**
TA01				*e*S		**Sn**	**04 54 54.0**	**+1.1**
TA01				IAML			04 54 55.9	
	comp=Z,1µm,0.5s							
PB10	**IPOC Station P**	**2.15**	**232**			**Pn**	**04 54 25.8**	**-0.3**
PB10	**IPOC Station P**	**2.15**	**232**	⇑P	*e*P	**Pn**	**04 54 25.2**	**-1.0**
PB10				*e*S		**Sn**	**04 54 50.0**	**-3.1**
PB10				IAML			04 54 58.0	
	comp=N,1µm,0.4s							
PB10	**IPOC Station P**	**2.15**	**232**	*e*P		**Pn**	**04 54 25.5**	**-0.6**
PB10				*e*S		**Sn**	**04 54 52.0**	**-1.1**
PB10				IAML			04 54 59.7	
	comp=Z,698nm,0.5s							
TA02	**Huaiquique**	**2.35**	**325**			**Pn**	**04 54 28.0**	**-0.7**
TA02	**Huaiquique**	**2.35**	**325**	⇑P	*e*P	**Pn**	**04 54 27.9**	**-0.7**
TA02				*e*S		**Sn**	**04 54 56.1**	**-1.5**
TA02				IAML			04 55 02.0	
	comp=E,2µm,0.1s							
TA02	**Huaiquique**	**2.35**	**325**	*e*P		**Pn**	**04 54 28.3**	**-0.3**
TA02				*e*S		**Sn**	**04 54 58.6**	**+1.0**
TA02				IAML			04 54 59.4	
	comp=Z,1µm,0.3s							
GO01	**Chusmiza**	**2.57**	**349**			**Pn**	**04 54 32.1**	**+0.1**
GO01	**Chusmiza**	**2.57**	**349**	⇓P	*e*P	**Pn**	**04 54 32.7**	**+0.8**
GO01				*e*S		**Sn**	**04 55 03.5**	**0.0**
GO01				IAML			04 55 05.4	
	comp=N,3µm,0.5s							
GO01	**Chusmiza**	**2.57**	**349**	*e*P		**Pn**	**04 54 32.8**	**+0.8**
GO01				*e*S		**Sn**	**04 55 04.8**	**+1.4**
GO01				IAML			04 55 07.6	
	comp=Z,590nm,0.4s							
PB11	**IPOC Station P**	**2.59**	**340**			**Pn**	**04 54 31.7**	**-0.3**
PB11	**IPOC Station P**	**2.59**	**340**	⇓P	*e*P	**Pn**	**04 54 31.7**	**-0.3**
PB11				*e*S		**Sn**	**04 55 02.3**	**-1.3**
PB11				IAML			04 55 06.2	
	comp=E,2µm,0.5s							
PB11	**IPOC Station P**	**2.59**	**340**	*e*P		**Pn**	**04 54 31.6**	**-0.4**
PB11				*e*S		**Sn**	**04 55 03.8**	**+0.2**
PB11				IAML			04 55 10.6	
	comp=Z,1µm,1.2s							
PB14	**IPOC Station P**	**2.87**	**213**			**Pn**	**04 54 35.2**	**-0.6**
PB14	**IPOC Station P**	**2.87**	**213**	*e*P		**Pn**	**04 54 34.9**	**-0.8**
PB14				*e*S		**Sn**	**04 55 07.3**	**-2.9**
PB14				IAML			04 55 36.2	
	comp=Z,818nm,0.5s							
YJA	**Yavi**	**2.95**	**90**	*e*P		**Pn**	**04 54 39.3**	**+2.5**
YJA				*e*S		**Sn**	**04 55 10.6**	**-1.6**
SALTA		**2.95**	**133**	*e*P		**Pn**	**04 54 38.8**	**+1.8**
SALTA				*e*P			04 54 39.3	
SALTA				*e*P			04 54 39.5	
SALTA				*e*S		**Sn**	**04 55 09.6**	**-2.8**
GO02	**Mina Guanaco**	**3.05**	**195**			**Pn**	**04 54 37.7**	**-0.4**
GO02	**Mina Guanaco**	**3.05**	**195**	IAML			04 55 30.2	
	comp=E,951nm,0.2s							
GO02	**Mina Guanaco**	**3.05**	**195**	*e*P		**Pn**	**04 54 37.8**	**-0.2**
GO02				*e*S		Sn	04 54 56.1	-18
GO02				IAML			04 55 09.3	
	comp=Z,1µm,0.7s							
SLA	**San Lorenzo**	**3.85**	**131**	*e*P		**Pn**	**04 54 50.8**	**+2.2**
SLA				*e*S		**Sn**	**04 55 39.8**	**+6.6**
AZAP	**Zapla**	**3.90**	**122**	*e*P		**Pn**	**04 54 50.3**	**+1.1**
PB16	**IPOC Station P**	**3.93**	**349**			**Pn**	**04 54 50.3**	**+0.3**
PB16	**IPOC Station P**	**3.93**	**349**	*e*P		**Pn**	**04 54 50.7**	**+0.7**
PB16				*e*S		**Sn**	**04 55 38.0**	**+2.4**
AC01	**Pan de Azucar**	**4.29**	**204**			**Pn**	**04 54 52.2**	**-2.0**
AC01	**Pan de Azucar**	**4.29**	**204**	*e*P		**Pn**	**04 54 52.2**	**-2.0**
AC01				*e*S		**Sn**	**04 55 40.5**	**-3.0**
AC01				IAML			04 56 16.9	
	comp=Z,274nm,0.9s							
AC02	**Maricunga**	**4.62**	**185**			**Pn**	**04 54 58.8**	**-0.4**
AC02	**Maricunga**	**4.62**	**185**	*e*P		**Pn**	**04 54 58.8**	**-0.4**
AC02				*e*S		**Sn**	**04 55 56.9**	**+4.7**
AC02				IAML			04 56 11.1	
	comp=Z,327nm,0.9s							
PB18	**Visviri**	**4.65**	**351**			**Pn**	**04 54 59.8**	**+0.1**
AC06	**Mina Casimiro**	**5.34**	**196**			**Pn**	**04 55 05.8**	**-2.7**
GO03	**Copiapo**	**5.54**	**194**			**Pn**	**04 55 08.7**	**-2.4**
LPAZ	**La Paz**	**5.91**	**5**	P	Pn	**Pn**	**04 55 17.0**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=174,slow=4.3,SNR=38							
LPAZ				S		**Sn**	**04 56 16.1**	**-7.5**
	comp=Z,23nm,1.0s,baz=209,slow=22,SNR=6.7							
LPAZ	**La Paz**	**5.91**	**5**	*e*P		**Pn**	**04 55 15.5**	**-1.2**
AC04	**Llanos de Chal**	**6.35**	**199**			**Pn**	**04 55 17.9**	**-4.0**
LCO	**Las Campanas**	**7.01**	**195**			**Pn**	**04 55 27.5**	**-3.7**
BBSD	**Serra de San D**	**9.11**	**58**	*e*P		**Pn**	**04 55 55.9**	**-3.5**
CFA	**Coronel Fontan**	**9.37**	**178**	P		**Pn**	**04 56 02.1**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=355,slow=13,SNR=10							
SIV	**San Ignacio**	**9.49**	**51**	P		**Pn**	**04 56 01.2**	**-3.4**
	comp=Z,17nm,0.5s,baz=248,slow=9.6,SNR=110							
SIV				S		Sn	04 57 39.3	-10
	comp=Z,6.6nm,0.5s,baz=122,slow=21,SNR=6.4							
MURT	**Porto Murtinho**	**10.30**	**89**	*e*P		**Pn**	**04 56 12.0**	**-3.5**
CPUP	**Villa Florida**	**11.15**	**114**	P		**Pn**	**04 56 23.8**	**-3.1**
	comp=Z,0.6nm,0.7s,baz=145,slow=12,SNR=4.4							
BDQN	**Bodoquena, MS**	**11.27**	**83**	*e*P		**Pn**	**04 56 24.3**	**-4.2**
PTLB	**Pontes e Lacer**	**11.27**	**55**			**Pn**	**04 56 25.8**	**-2.7**
PTLB	**Pontes e Lacer**	**11.27**	**55**	*e*P		**Pn**	**04 56 25.8**	**-2.7**
SJPY	**San Joaquin**	**11.88**	**106**	*e*P		**Pn**	**04 56 34.2**	**-2.3**
AQDB	**Aquidauana**	**12.23**	**84**			**Pn**	**04 56 40.9**	**-0.3**
AQDB	**Aquidauana**	**12.23**	**84**	*e*P		**Pn**	**04 56 38.1**	**-3.1**
VILB	**Vilhena**	**12.26**	**43**			**Pn**	**04 56 39.9**	**-1.6**
VILB	**Vilhena**	**12.26**	**43**	*e*P		**Pn**	**04 56 40.1**	**-1.5**
NNA	**Nana**	**12.80**	**321**	P		**Pn**	**04 56 51.8**	**+3.1**
	comp=Z,7.6nm,0.9s,baz=164,slow=7.6,SNR=4.8							
SALV	**Santo Antonio**	**13.80**	**65**	*e*P		**Pn**	**04 57 00.2**	**-1.4**
RPRD	**Ribas do Rio P**	**14.08**	**86**	*e*P		**Pn**	**04 57 05.0**	**-0.1**
TRCB	**Terra Rica**	**14.86**	**95**	Pn		**Pn**	**04 57 14.2**	**-0.9**
TRCB	**Terra Rica**	**14.86**	**95**	*e*P		**Pn**	**04 57 14.8**	**-0.3**
CZSB	**Cruzeiro do Su**	**14.90**	**344**	Pn		**Pn**	**04 57 13.5**	**-2.2**
CZSB	**Cruzeiro do Su**	**14.90**	**344**	*e*P		**Pn**	**04 57 18.0**	**-0.4**
C2SB	**Chagalado do Su**	**15.25**	**80**	*e*P		**Pn**	**04 57 18.8**	**-1.1**
PTGB	**Pitanga**	**15.46**	**103**	*e*P		**Pn**	**04 57 22.7**	**0.0**
PDRB	**Porto dos Gac**	**15.55**	**49**	*e*P		**Pn**	**04 57 23.2**	**-0.5**
ITAB	**Concordia**	**15.86**	**112**			**Pn**	**04 57 25.5**	**-2.0**
ITAB	**Concordia**	**15.86**	**112**	*e*P		**Pn**	**04 57 25.9**	**-1.6**
CPSB	**Cacapava Do Su**	**15.92**	**124**	*e*P		**Pn**	**04 57 28.5**	**+0.3**
PCMB	**Pacaembu**	**16.19**	**91**	*e*P		**Pn**	**04 57 31.7**	**0.0**
LDASE	**Londrina, Braz**	**16.25**	**98**	*e*P		**Pn**	**04 57 30.8**	**-1.6**
CLDB	**Colider**	**16.72**	**50**	*e*P		**Pn**	**04 57 37.1**	**-1.1**
ARAG	**Araguaiana, MT**	**17.22**	**71**	*e*P		**P**	**04 57 42.0**	**-1.9**
ITRB	**Iturama**	**17.31**	**85**	*e*P		**P**	**04 57 44.4**	**-0.6**
CNLB	**Canela**	**17.55**	**117**	*e*P		**P**	**04 57 47.5**	**-0.1**
ATAH	**Atahualpa**	**17.66**	**327**	P		**Pn**	**04 57 51.9**	**+1.8**
	comp=Z,3.6nm,0.7s,baz=98,slow=4.5,SNR=6.0							
FRTB	**Fartura**	**17.68**	**97**	*e*P		**P**	**04 57 48.0**	**-1.0**
TBTG	**Tabatinga, AM**	**17.95**	**356**	P		**P**	**04 57 48.6**	**-3.5**
TBTG	**Tabatinga, AM**	**17.95**	**356**	*e*P		**Pn**	**04 57 54.5**	**+1.5**
PLCA	**Paso Flores**	**18.54**	**184**	P		**Pn**	**04 57 59.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=336,slow=7.3,SNR=3.9							
BB19B	**Bebedouro**	**18.79**	**90**	*e*P		**P**	**04 58 00.1**	**-1.0**
TEFE	**Tefe**	**19.00**	**13**	*e*P		**P**	**04 58 03.1**	**-0.4**
SNDB	**Serra Nova Dou**	**19.48**	**61**	*e*P		**P**	**04 58 07.0**	**-1.7**
RCLB	**Rio Claro- Sao**	**19.58**	**95**	*e*P		**P**	**04 58 08.4**	**-1.4**
SPB	**Sao Paulo**	**19.64**	**98**	P		**P**	**04 58 10.1**	**-0.3**
SPB	**Sao Paulo**	**19.64**	**98**	*e*P		**P**	**04 58 09.7**	**-0.6**
IPMB	**Ipameri, GO**	**19.69**	**81**	*e*P		**P**	**04 58 09.4**	**-1.6**
PET01	**Itanhaem-SP**	**19.79**	**100**	*e*P		**P**	**04 58 10.6**	**-1.4**
NPGB	**Novo Progresso**	**19.82**	**42**	*e*P		**P**	**04 58 10.0**	**-2.4**
VAO	**Valinhos**	**20.08**	**96**			**P**	**04 58 13.5**	**-1.7**
VAO	**Valinhos**	**20.08**	**96**	*e*P		**P**	**04 58 13.4**	**-1.8**
LL01	**San Ignacio de**	**20.35**	**188**	P		**P**	**04 58 18.2**	**+0.4**
BDFB	**Brasilia**	**20.61**	**75**			**P**	**04 58 19.2**	**-1.8**
BDFB	**Brasilia**	**20.61**	**75**	P		**P**	**04 58 18.1**	**-3.0**
	comp=Z,16nm,0.5s,baz=233,slow=11,SNR=28							
BDFB				LR		LR	05 07 43.7	
	comp=Z,52nm,19.3s,baz=252,slow=41							
	comp=Z,16nm,0.5s							
PMNB	**Patos De Minas**	**21.18**	**84**	*e*P		**P**	**04 58 25.0**	**-2.0**
PARB	**Paraibuna**	**21.30**	**97**	*e*P		**P**	**04 58 25.9**	**-2.5**
ITTB	**Itaituba**	**21.73**	**37**	*e*P		**P**	**04 58 30.8**	**-2.1**
SLP01	**Ubatuba-SP**	**21.73**	**97**	*e*P		**P**	**04 58 31.8**	**-1.2**
COHC	**Cochancay**	**22.14**	**331**	P		**P**	**04 58 36.3**	**-0.8**
BSCB	**Bom Sucesso**	**22.27**	**91**	*e*P		**P**	**04 58 36.6**	**-2.0**
VAS01	**Vassouras-RJ**	**23.37**	**95**	*e*P		**P**	**04 58 48.7**	**-0.4**
DIAM	**Diamantina, MG**	**23.79**	**85**	*e*P		**P**	**04 58 52.2**	**-0.8**
JANB	**Januaria**	**24.16**	**77**	*e*P		**P**	**04 58 55.3**	**-1.0**
PRPB	**Parauapebas**	**24.22**	**52**	*e*P		**P**	**04 58 56.0**	**-0.8**
SMTB	**Santa Maria do**	**24.24**	**60**	*e*P		**P**	**04 58 55.9**	**-1.1**
DUB01	**Friburgo-RJ**	**24.37**	**95**	*e*P		**P**	**04 58 58.4**	**+0.2**
MAL2	**Monte Alegre,**	**24.53**	**37**			**P**	**04 58 58.9**	**-0.8**
FLOC	**Florencia**	**24.60**	**343**			**P**	**04 59 00.3**	**0.0**
SDBA	**SAO DESIDERIO**	**24.68**	**71**	*e*P		**P**	**04 58 59.9**	**-1.2**
CAM01	**Campos-RJ**	**25.06**	**94**	*e*P		**P**	**04 59 03.7**	**-0.7**
BOAV	**Boa Vista**	**25.72**	**19**			**P**	**04 59 09.5**	**-0.9**
BOAV	**Boa Vista**	**25.72**	**19**	*e*P		**P**	**04 59 10.0**	**-0.4**
SJMB	**Sao Joao De Ma**	**26.00**	**87**	*e*P		**P**	**04 59 12.0**	**-0.9**
RIB01	**Linhares ES**	**26.60**	**89**	*e*P		**P**	**04 59 16.9**	**-1.4**
GUA01	**Guaratinga, BA**	**27.79**	**84**	*e*P		**P**	**04 59 28.3**	**-0.7**
MDP	**Montagnes des**	**31.36**	**32**	LR		LR	05 12 32.9	
	comp=Z,24nm,18.8s,baz=28,slow=36							
NBPB	**Pedra_Branca-C**	**32.65**	**64**	*e*P		**P**	**05 00 11.2**	**-0.7**
NBAN	**Anadia - AL**	**33.49**	**73**	*e*P		**P**	**05 00 19.1**	**-0.1**
NBCL	**Cascavel-CE**	**34.45**	**63**	*e*P		**P**	**05 00 28.3**	**+0.8**
RCBR	**Riachuelo**	**35.62**	**68**	P		**P**	**05 00 37.3**	**-0.3**
RCBR	**Riachuelo**	**35.62**	**68**	*e*P		**P**	**05 00 36.8**	**-0.8**
HNDO	**Hondo**	**59.27**	**329**	P		**P**	**05 03 40.1**	**-0.1**
JCT	**Junction City**	**60.31**	**329**	P		**P**	**05 03 48.0**	**+0.7**
SAND	**Sanderson**	**61.02**	**327**			**P**	**05 03 52.8**	**+0.7**
TXAR	**Lajitas Array**	**61.32**	**325**	P		**P**	**05 03 55.5**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=152,slow=7.9,SNR=9.8							
TXAR				pP		**pP**	**05 04 23.6**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=132,slow=8.6,SNR=3.2							
	comp=Z,0.5nm,0.6s							
SNAA	**Sanae**	**61.55**	**161**	P		**P**	**05 03 56.0**	**+0.8**
SNAA	**Sanae**	**61.55**	**161**	P		**P**	**05 03 54.7**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=282,slow=8.6,SNR=29							
	comp=Z,2.5nm,0.6s							
MNHN	**Monahans**	**62.46**	**327**	P		**P**	**05 04 02.5**	**+0.8**
APMT	**Aspermont**	**62.83**	**331**	P		**P**	**05 04 04.8**	**+0.7**
VHRN	**Van Horn**	**63.16**	**325**			**P**	**05 04 07.0**	**+0.5**
OK052	**Battle Ridge R**	**63.70**	**335**	P		**P**	**05 04 10.0**	**+0.2**
SMWD	**Samnorwood**	**64.38**	**332**			**P**	**05 04 14.4**	**+0.1**
MSTX	**Muleshoe**	**64.60**	**329**	P		**P**	**05 04 15.5**	**-0.4**
QSPA	**South Pole Qui**	**67.99**	**180**	P		**P**	**05 04 39.6**	**+2.6**
QSPA	**South Pole Qui**	**67.99**	**180**	P		**P**	**05 04 38.9**	**+1.8**
	comp=Z,1.3nm,0.6s,baz=285,slow=1.8,SNR=12							
QSPA				pP		**pP**	**05 05 07.8**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=161,slow=1.4,SNR=5.2							
	comp=Z,1.3nm,0.6s							
DBIC	**Dimbokro**	**68.75**	**73**	P		**P**	**05 04 42.5**	**0.0**
	comp=Z,9.0nm,0.7s,baz=266,slow=7.3,SNR=11							
	comp=Z,9.0nm,0.7s							
PDAR	**Pinedale Array**	**74.82**	**330**	P		**P**	**05 05 20.0**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=137,slow=7.0,SNR=2.5							
PDAR				pP		**pP**	**05 05 48.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=122,slow=7.6,SNR=3.0							
	comp=Z,0.3nm,0.7s							
NVAR	**Mina Arroy Bea**	**76.17**	**322**	P		**P**	**05 05 28.1**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=171,slow=5.2,SNR=3.6							
NVAR				pP		**pP**	**05 05 57.6**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=135,slow=7.8,SNR=2.5							
NVAR				sP		**sP**	**05 06 10.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=126,slow=7.5,SNR=3.4							
	comp=Z,0.7nm,0.9s							
PAHR	**Pah Rah Range**	**77.66**	**322**	P		**P**	**05 05 37.0**	**+2.5**
HLID	**Hailey**	**77.75**	**328**	P		**P**	**05 05 37.5**	**+2.5**
BOSA	**Boshof**	**82.94**	**118**	P		**P**	**05 06 02.7**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=70,slow=3.7,SNR=5.4							
	comp=Z,4.1nm,0.8s							
CASY	**Casey**	**91.79**	**180**	P		**P**	**05 06 45.1**	**+0.1**
YKA	**Yellowknife Ar**	**91.92**	**341**	P		**P**	**05 06 46.0**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=128,slow=4.6,SNR=1.4							
YKA				pP		**pP**	**05 07 17.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=225,slow=

0.5nm,0.7s

CATAC ***13*** *05:20:48.9±0.2, 10°N±2°×8°6W±°, h9km±1km, M3.5/19, MLv3.5/19, Error ellipse: s-maj=4.8km s-min=3.3km az=61.3, confirmed*
UCR ***13*** *05:20:49.0±1.3, 10°19'N×85°52'W, h15km±2km, MW3.8*
ISC 13 05:20:49.2±0.9, 10°17'N±0°02'×85°50'W±0°02', h18km±3km, n128, σ0.674/177, 14C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**0.04**	**264**	*i*P	**Pg**	**05 20 52.5**	**+0.1**
JUD3				eS	**Sg**	**05 20 55.9**	**+1.2**
NICO	**Nicoya**	**0.07**	**122**	⇓*i*P	**Pg**	**05 20 52.8**	**+0.3**
NICO				eS	**Sg**	**05 20 56.3**	**+1.5**
SACU	**Santa Cruz**	**0.12**	**319**	⇓*i*P	**Pg**	**05 20 53.0**	**-0.1**
SACU				eS	**Sg**	**05 20 56.7**	**+0.9**
CMARA	**Lajas Hojancha**	**0.17**	**152**	⇑eP	**Pb**	**05 20 53.6**	**+0.2**
CMARA				eS	**Sg**	**05 20 57.8**	**+0.9**
CMARA	**Lajas Hojancha**	**0.17**	**152**	P	**Pb**	**05 20 53.5**	**+0.1**
NYURE	**Nandayure**	**0.30**	**125**	⇓*i*P	**Pg**	**05 20 55.3**	**-0.4**
NYURE				eS	**Sb**	**05 21 00.8**	**+0.1**
INDI	**Punta indio, G**	**0.30**	**180**	P	**Pg**	**05 20 55.0**	**-0.7**
INDI	**Punta indio, G**	**0.30**	**180**	S	**Sb**	**05 21 00.3**	**-0.4**
ALIBA	**Liberia Airpor**	**0.42**	**354**	⇓*i*P	**Pg**	**05 20 57.9**	**0.0**
ALIBA				eS	**Sb**	**05 21 05.7**	**+1.4**
ERIA	**Liberia**	**0.47**	**8**	eP	**Pg**	**05 20 58.7**	**0.0**
ERIA				eS	**Sb**	**05 21 06.6**	**+1.1**
ELI1	**Hacienda Flor**	**0.47**	**354**	⇓*i*P	**Pg**	**05 20 58.8**	**0.0**
ELI1				eS	**Sb**	**05 21 07.1**	**+1.3**
ELI1	**Hacienda Flor**	**0.47**	**354**	P	**Pg**	**05 20 58.9**	**0.0**
CNAS	**Canas**	**0.48**	**57**	⇓eP	**Pb**	**05 21 00.1**	**+1.0**
CNAS				eS	**Sn**	**05 21 08.5**	**-0.6**
INVE	**Universidad In**	**0.53**	**55**	⇑eP	**Pb**	**05 20 59.9**	**0.0**
INVE				eS	**Sg**	**05 21 08.5**	**+1.5**
JUNT	**Juntas**	**0.55**	**78**	⇓eP	**Pb**	**05 20 59.6**	**-0.6**
JUNT				eS	**Sg**	**05 21 08.4**	**+0.9**
JTS	**Las Juntas de**	**0.56**	**77**	eP	**Pb**	**05 20 59.7**	**-0.7**
JTS				eS	**Sb**	**05 21 08.2**	**+0.2**
JTS	**Las Juntas de**	**0.56**	**77**	P	**Pb**	**05 20 59.7**	**-0.7**
COLC	**Colonia**	**0.57**	**311**	⇑eP	**Pb**	**05 21 00.2**	**-0.5**
COLC				eS	**Sg**	**05 21 09.1**	**+0.7**
CUI	**Cuipilapa**	**0.59**	**34**	eP	**Pb**	**05 21 00.7**	**-0.3**
CUI				eS	**Sg**	**05 21 09.6**	**+0.7**
GPS3	**Bodega del ICE**	**0.60**	**13**	⇓eP	**Pn**	**05 21 03.4**	**+0.5**
GPS3				eS	**Sg**	**05 21 10.5**	**+1.4**
GPS2	**Hotel Rincn d**	**0.60**	**14**	eP	**Pb**	**05 21 00.5**	**-0.6**
GPS2				eS	**Sb**	**05 21 08.9**	**-0.3**
LAPC	**Finca la Perla**	**0.60**	**7**	⇓eP	**Pb**	**05 21 00.2**	**-0.9**
LAPC				eS	**Sb**	**05 21 09.0**	**-0.2**
TILA	**Tilaran**	**0.60**	**60**	⇑eP	**Pb**	**05 21 00.9**	**-0.3**
TILA				eS	**Sg**	**05 21 10.0**	**+0.7**
TIMP	**Tierras Morena**	**0.63**	**49**	⇑eP	**Pb**	**05 21 01.2**	**-0.5**
TIMP				eS	**Sb**	**05 21 09.8**	**-0.4**
VRLE	**La Escondida,**	**0.63**	**12**	⇓eP	**Pb**	**05 21 00.9**	**-0.8**
VRLE				eS	**Sb**	**05 21 10.0**	**-0.2**
MESS	**Mesas**	**0.64**	**28**	⇑eP	**Pb**	**05 21 01.3**	**-0.6**
MESS				eS	**Sb**	**05 21 10.8**	**+0.2**
PAQE	**Paquera**	**0.66**	**122**	eP	**Pb**	**05 21 01.4**	**-0.7**
PAQE				eS	**Sg**	**05 21 12.3**	**+1.2**
VORI	**VORI**	**0.66**	**13**	eP	**Pb**	**05 21 01.5**	**-0.8**
MOTZ	**Rio Naranjo**	**0.67**	**39**	eP	**Pb**	**05 21 02.0**	**-0.3**
MOTZ				eS	**Sg**	**05 21 11.0**	**+1.1**
PG27	**Guanacaste Pro**	**0.67**	**10**	eP	**Pb**	**05 21 01.6**	**-0.9**
PG27				eS	**Sb**	**05 21 10.5**	**-1.0**
MTEVE	**Monteverde**	**0.68**	**77**	eP	**Pb**	**05 21 02.1**	**-0.5**
MTEVE				eS	**Sb**	**05 21 12.0**	**+0.2**
CBL1	**Cabuya**	**0.70**	**145**	eP	**Pb**	**05 21 02.2**	**-0.7**
CBL1				eS	**Sn**	**05 21 13.9**	**-0.8**
BUAI	**Buenos Aires**	**0.72**	**13**	eP	**Pb**	**05 21 02.5**	**-0.7**
BUAI				eS	**Sb**	**05 21 11.5**	**-1.4**
TENO	**El Achiote**	**0.74**	**44**	eP	**Pb**	**05 21 02.0**	**-1.6**
TENO				eS	**Sb**	**05 21 12.1**	**-1.4**
PEJA	**Penjamo Buenos**	**0.74**	**14**	eP	**Pb**	**05 21 03.3**	**-0.4**
PEJA				eS	**Sb**	**05 21 13.7**	**+0.2**
VMAR	**Armenia, Volca**	**0.74**	**31**	⇑*i*P	**Pb**	**05 21 03.2**	**-0.5**
QUEB	**Quebradon, Cot**	**0.75**	**53**	⇑eP	**Pb**	**05 21 03.3**	**-0.5**
QUEB				eS	**Sb**	**05 21 13.5**	**-0.1**
TABAC	**Tabacon**	**0.79**	**66**	eP	**Pb**	**05 21 04.5**	**-0.1**
TABAC				eS	**Sn**	**05 21 16.2**	**-0.5**
CASO	**Castillo**	**0.80**	**71**	eP	**Pb**	**05 21 04.2**	**-0.4**
CASO				eS	**Sg**	**05 21 15.9**	**+0.4**
VARE2	**V. Arenal**	**0.82**	**69**	eP	**Pb**	**05 21 04.8**	**-0.3**
VARE2				eS	**Sg**	**05 21 17.1**	**+0.9**
ARZA	**Esparza**	**0.84**	**102**	eP	**Pb**	**05 21 04.2**	**-1.1**
ARZA				eS	**Sb**	**05 21 16.2**	**-0.1**
CEDE	**Laguna Cedeo**	**0.85**	**68**	⇑*i*P	**Pb**	**05 21 05.4**	**-0.1**
CEDE				eS	**Sg**	**05 21 17.8**	**+0.8**
VACR	**Volcan Arenal**	**0.87**	**70**	⇑*i*P	**Pb**	**05 21 05.5**	**-0.3**
VACR				eS	**Sg**	**05 21 17.9**	**+0.3**
REZ	**Monterrey de S**	**0.87**	**66**	eP	**Pb**	**05 21 05.8**	**+0.1**
UPAL	**Upala**	**0.87**	**34**	eP	**Pb**	**05 21 05.0**	**-0.7**
UPAL				eS	**Sg**	**05 21 18.3**	**+0.6**
UPAL	**Upala**	**0.87**	**34**	P	**Pb**	**05 21 05.0**	**-0.7**
FORC	**Fortuna**	**0.87**	**70**	⇑eP	**Pb**	**05 21 05.4**	**-0.4**
FORC				eS	**Sg**	**05 21 18.1**	**+0.4**
SOCE	**Pocosol**	**0.90**	**76**	⇓eP	**Pb**	**05 21 05.7**	**-0.6**
SOCE	**Pocosol**	**0.90**	**76**	P	**Pb**	**05 21 05.8**	**-0.5**
SOCE	**Pocosol**	**0.90**	**76**	S	**Sb**	**05 21 18.3**	**-0.4**
TUNA	**La Fortuna**	**0.90**	**71**	eP	**Pb**	**05 21 05.9**	**-0.4**
LCRUZ	**La Cruz**	**0.91**	**352**	eP	**Pb**	**05 21 05.4**	**-1.1**
LCRUZ				eS	**Sg**	**05 21 19.3**	**+0.3**
OROT	**Orotina**	**0.99**	**105**	eP	**Pb**	**05 21 06.4**	**-1.5**
OROT				eS	**Sb**	**05 21 20.5**	**-0.3**
SRA1	**San Ramn**	**1.01**	**95**	⇑eP	**Pb**	**05 21 07.3**	**-0.9**
SRA1				eS	**Sb**	**05 21 21.1**	**-0.2**
CARN	**Rivas**	**1.01**	**359**	eP	**Pb**	**05 21 08.1**	**0.0**
CARN	**Rivas**	**1.01**	**359**	P	**Pb**	**05 21 08.2**	**0.0**
RAMO	**San Ramon**	**1.02**	**94**	eP	**Pg**	**05 21 10.0**	**+0.9**
PALD	**Palmares**	**1.06**	**96**	eP	**Pb**	**05 21 08.1**	**-0.9**
PALD				eS	**Sb**	**05 21 22.3**	**-0.4**
QUEU	**Ciudad Quesada**	**1.06**	**82**	eP	**Pb**	**05 21 08.8**	**-0.3**
ZARE	**Zarcero**	**1.10**	**89**	eP	**Pn**	**05 21 10.3**	**+0.4**
NARAN	**Naranjo de Ala**	**1.11**	**94**	eP	**Pn**	**05 21 09.2**	**-0.8**
VPL2	**V. Platanar**	**1.11**	**83**	eP	**Pn**	**05 21 09.3**	**-0.7**
ATEO	**Atenas**	**1.12**	**100**	⇓*i*P	**Pn**	**05 21 09.3**	**-0.8**
ATEO				eS	**Sb**	**05 21 24.3**	**-0.1**
VPL1	**V. Platanar**	**1.12**	**86**	eP	**Pn**	**05 21 09.4**	**-0.9**
VPL1				eS	**Sb**	**05 21 25.1**	**+0.5**
LCHIL	**Los Chiles**	**1.16**	**42**	eP	**Pn**	**05 21 09.8**	**-0.7**
LCHIL				eS	**Sb**	**05 21 25.4**	**0.0**
TCS1	**Tacares**	**1.19**	**96**	eP	**Pn**	**05 21 10.5**	**-0.5**
TCS1	**Tacares**	**1.19**	**96**	P	**Pn**	**05 21 10.6**	**-0.5**
COVE	**Coope Vega, Sa**	**1.21**	**63**	P	**Pb**	**05 21 11.8**	**+0.2**
COVE	**Coope Vega, Sa**	**1.21**	**63**	S	**Sg**	**05 21 30.0**	**+1.5**
PURI	**Puriscal**	**1.22**	**105**	eP	**Pn**	**05 21 10.7**	**-0.8**
ITAL	**Pital**	**1.24**	**77**	eP	**Pn**	**05 21 11.0**	**-0.7**
VPS5	**V. Poas**	**1.25**	**89**	eP	**Pb**	**05 21 12.7**	**+0.2**
BELE	**Belen**	**1.31**	**98**	eP	**Pn**	**05 21 12.1**	**-0.6**
BELE				eS	**Sn**	**05 21 29.7**	**0.0**
SANTA	**Santa Ana**	**1.32**	**100**	eP	**Pn**	**05 21 12.2**	**-0.6**
HEME	**Heredia, Merce**	**1.36**	**97**	eP	**Pn**	**05 21 13.3**	**-0.1**
PAR1A	**Puntarenas Pro**	**1.36**	**115**	eP	**Pn**	**05 21 13.3**	**+0.1**
JAPN	**AI SSO del Vol**	**1.36**	**353**	eP	**Pn**	**05 21 13.4**	**+0.2**
JAPN	**AI SSO del Vol**	**1.36**	**353**	P	**Pn**	**05 21 13.9**	**+0.6**
ACOS	**Acosta**	**1.37**	**106**	⇑eP	**Pn**	**05 21 12.8**	**-0.7**
ACOS				eS	**Sb**	**05 21 31.9**	**+0.2**
MORN	**AI O del Volca**	**1.38**	**354**	P	**Pn**	**05 21 13.2**	**-0.3**
HDC	**Heredia**	**1.38**	**97**	eP	**Pn**	**05 21 13.4**	**-0.3**
PICV	**PH. Pirrs**	**1.40**	**113**	eP	**Pn**	**05 21 13.1**	**-0.7**
LUPE	**Guadalupe**	**1.44**	**99**	eP	**Pn**	**05 21 14.2**	**-0.4**
SJS	**Escuela Geolog**	**1.45**	**99**	eP	**Pn**	**05 21 14.8**	**+0.2**
ECI	**Escuela Centro**	**1.45**	**99**	eP	**Pn**	**05 21 14.8**	**+0.1**
SJS3	**Mercedes San J**	**1.45**	**99**	eP	**Pn**	**05 21 14.9**	**+0.3**
PISJ	**San Jernim**	**1.46**	**111**	eP	**Pb**	**05 21 16.9**	**+1.0**
SARA	**Sarapiqu**	**1.48**	**79**	eP	**Pn**	**05 21 15.0**	**0.0**
LCR2	**La Lucha 2**	**1.54**	**106**	eP	**Pn**	**05 21 15.7**	**-0.2**
LCR2	**La Lucha 2**	**1.54**	**106**	P	**Pn**	**05 21 15.3**	**-0.6**
CVIMO	**Finca Echandi**	**1.54**	**95**	eP	**Pn**	**05 21 16.4**	**+0.3**
PITB	**Pirrs, San**	**1.54**	**109**	eP	**Pn**	**05 21 15.9**	**0.0**
RAZU	**San Marcos de**	**1.54**	**109**	eP	**Pn**	**05 21 16.2**	**+0.2**
LLNJ	**Naranjito**	**1.54**	**116**	eP	**Pb**	**05 21 17.1**	**-0.2**
PIEC	**Cerro El Cedra**	**1.62**	**110**	eP	**Pn**	**05 21 17.1**	**0.0**
VICA	**Volcano Irazu**	**1.64**	**96**	eP	**Pn**	**05 21 18.1**	**+0.6**
REPA	**Paraso**	**1.65**	**102**	eP	**Pn**	**05 21 18.0**	**+0.6**
PCAYA	**Pacayas**	**1.69**	**98**	eP	**Pn**	**05 21 18.5**	**+0.6**
PILE	**Guapiles**	**1.69**	**88**	eP	**Pn**	**05 21 18.7**	**+0.9**
CVTQ	**Turrialba Volc**	**1.72**	**95**	eP	**Pn**	**05 21 19.6**	**+1.1**
CVTR	**Volcan Turrial**	**1.72**	**95**	eP	**Pn**	**05 21 19.0**	**+0.3**
CVTR				eS	**Sb**	**05 21 43.3**	**+1.2**
VTR0	**Volcan Turrial**	**1.72**	**95**	eP	**Pn**	**05 21 19.7**	**+1.0**
CVTV	**Tajo**	**1.73**	**95**	eP	**Pn**	**05 21 19.8**	**+1.1**
CARI	**Cariari**	**1.75**	**83**	eP	**Pn**	**05 21 19.2**	**+0.6**
VTCV	**VTCV, Calle Va**	**1.76**	**96**	eP	**Pb**	**05 21 20.4**	**-0.7**
VERB	**Verbena**	**1.79**	**97**	eP	**Pn**	**05 21 20.4**	**+1.0**
ACON	**Acoyapa**	**1.82**	**10**	⇑*i*P	**Pn**	**05 21 18.2**	**-1.4**
ACON	**Acoyapa**	**1.82**	**10**	P	**Pn**	**05 21 18.4**	**-1.1**
ACON	**Acoyapa**	**1.82**	**10**	S	**Sn**	**05 21 43.1**	**+0.9**
RESJ	**San Isidro (Tu**	**1.84**	**94**	eP	**Pb**	**05 21 21.4**	**-1.0**
RVSTA	**Santa Teresita**	**1.84**	**96**	eP	**Pb**	**05 21 21.8**	**-0.5**
NANN	**Nandasmo**	**1.86**	**341**	P	**Pn**	**05 21 20.8**	**+0.6**
RVLA	**Villa Bonita**	**1.89**	**92**	eP	**Pb**	**05 21 22.2**	**-0.9**
UNAN	**Cigeo UNAN**	**2.07**	**339**	P	**Pn**	**05 21 23.8**	**+0.7**
OCHAL	**Ojochal**	**2.12**	**120**	P	**Pb**	**05 21 26.4**	**-0.7**
SAJE	**San Jernim**	**2.13**	**112**	eP	**Pb**	**05 21 26.1**	**-1.3**
EDPE	**Pejibaye, P**	**2.15**	**118**	eP	**Pb**	**05 21 26.9**	**-0.8**
SAPS	**Ciudad Sandino**	**2.18**	**336**	P	**Pn**	**05 21 24.9**	**+0.4**
SAPS	**Ciudad Sandino**	**2.18**	**336**	S	**Sb**	**05 21 54.8**	**0.0**
COPN	**Copaltepe**	**2.27**	**332**	eP	**Pn**	**05 21 26.3**	**+0.5**
COPN	**Copaltepe**	**2.27**	**332**	P	**Pn**	**05 21 26.0**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.27**	**356**	P	**Pn**	**05 21 25.1**	**-0.7**
VERH	**Veragua Rainfo**	**2.29**	**96**	eP	**Pn**	**05 21 28.2**	**+2.1**
ESPN	**Las Esperanzas**	**2.33**	**30**	eP	**Pn**	**05 21 26.4**	**-0.3**
ESPN				eS	**Sn**	**05 21 55.5**	**+0.6**
ESPN	**Las Esperanzas**	**2.33**	**30**	P	**Pn**	**05 21 26.5**	**-0.2**
DRK0	**Durika**	**2.40**	**112**	eP	**Pb**	**05 21 30.1**	**-1.9**
DRK0	**Durika**	**2.40**	**112**	P	**Pb**	**05 21 30.2**	**-1.9**
FIMO	**Fila Mora**	**2.42**	**119**	eP	**Pb**	**05 21 32.9**	**+0.5**

NNC ***13*** *05:25:41.8±4.2, 37°07'N×70°05'E, h0km, mb3.9, mpv4.2, Error ellipse: s-maj=33.5km s-min=27.7km az=170.0*
IDC ***13*** *05:25:43.5±5.8, 36°52'N×71°19'E, h229km±51km, mb3.5/7, mbtmp4.0/13, Error ellipse: s-maj=47.7km s-min=18.6km az=34.0*
ISC 13 05:25:40.5±1.3, 36°4'N±0°1'×71°1'E±0°1', h200km, n20, σ0.99/20, mb3.9/7, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.79**	**352**	Pg	**Pn**	**05 27 06.1**	**+1.0**
	68nm,0.1s						
IUG				Lg	Lg	05 28 07.4	
	115nm,0.5s						
MRKS	**Merke**	**6.53**	**14**	Pg	**Pn**	**05 27 15.5**	**+0.9**
	10nm,0.3s						
MRKS				Lg	Lg	05 28 24.2	
	60nm,0.4s						
KK31	**Karatay Array**	**6.70**	**356**	Pn	Pn	05 27 12.8	-4.0
	10.0nm,0.7s,baz=182,slow=13,SNR=31						
KK31				⇓Sn	Sn	05 28 23.7	-10
	15nm,0.3s,baz=186,slow=24						
AAK	**Ala-Archa**	**6.74**	**22**	P	**Pn**	**05 27 19.6**	**+2.2**
	3.7nm,0.3s,baz=66,slow=0.6,SNR=4.4						
AAK				S	**Sn**	**05 28 31.8**	**-2.5**
	10nm,0.6s,baz=313,slow=20,SNR=5.2						
AAK	**Ala-Archa**	**6.74**	**22**	⇓P	**Pn**	**05 27 17.8**	**+0.5**
	0.7nm,0.4s						
AAK				⇑S	**Sn**	**05 28 35.0**	**+0.8**
	3.3nm,0.5s						
MK31	**Makanchi Array**	**13.30**	**35**	P	P	05 28 53.1	+8.7
	0.3nm,0.4s,baz=216,slow=13,SNR=11						
MKAR	**Makanchi Array**	**13.30**	**35**	P	**Pn**	**05 28 42.0**	**+0.4**
	0.4nm,0.3s,baz=214,slow=11,SNR=9.5						
KURBB	**Kurchatov Array**	**15.17**	**18**	P	**Pn**	**05 29 04.2**	**-0.3**
	0.6nm,0.4s,baz=210,slow=12,SNR=6.3						
AB31	**Akbulak array**	**15.22**	**331**	P	**Pn**	**05 29 05.7**	**+0.5**
	0.5nm,0.4s,baz=146,slow=13,SNR=19						
BVAR	**Borovoye Array**	**16.62**	**358**	P	**P**	**05 29 20.9**	**-0.2**
	1.0nm,0.3s,baz=163,slow=12,SNR=5.0						
AKTO	**Aktyubinsk**	**16.91**	**330**	P	**P**	**05 29 24.8**	**+0.5**
	3.9nm,0.4s,baz=144,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**05 29 57.0**	**-0.1**
	2.5nm,0.3s,baz=210,slow=11,SNR=8.3						
ARTI	**Arti**	**21.76**	**341**	P	**P**	**05 30 15.3**	**-0.8**
	2.7nm,0.5s,baz=200,slow=9.2,SNR=3.4						
	2.7nm,0.5s						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**05 32 35.4**	**-0.3**
	2.3nm,0.6s,baz=118,slow=8.7,SNR=11						
	2.3nm,0.6s						
ARCES	**ARCES Array B**	**41.27**	**338**	P	**P**	**05 33 05.7**	**0.0**
	2.5nm,0.7s,baz=111,slow=8.0,SNR=13						
	2.5nm,0.7s						
HFS	**Hagfors**	**43.21**	**322**	P	**P**	**05 33 21.0**	**-0.5**
	2.4nm,0.5s,baz=98,slow=9.7,SNR=9.8						
	2.4nm,0.5s						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**05 33 31.1**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**05 33 31.2**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=96,slow=7.7,SNR=5.8						
	comp=Z,1.3nm,0.6s						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**05 37 37.6**	**0.0**
	comp=Z,0.7nm,1.0s,baz=313,slow=5.4,SNR=2.1						
	comp=Z,0.7nm,1.0s						
ASAR	**Alice Springs**	**84.11**	**125**	P	**P**	**05 37 49.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=310,slow=4.7,SNR=5.3						
	comp=Z,0.4nm,0.5s						

TAP ***13*** *05:55:37.0, 23°98'N×122°63'E, h29km, ML3.1, D*
JMA ***13*** *05:55:36.9±0.2, 24°0'N±1°0×122°6'E±0°7, h23km, MV2.4/10, NW OFF ISHIGAKIJIMA IS*
ISC 13 05:55:34.2±1.1, 23°80'N±0°02'×122°66'E±0°02', h18km±4km, n99, σ0.992/194, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.45**	**316**	*i*P	**Pb**	**05 55 44.3**	**+1.0**
EOS4				S	**Sb**	**05 55 50.8**	**+1.3**
EOS3	**EOS3**	**0.58**	**328**	*i*P	**Pb**	**05 55 46.5**	**+0.9**
EOS3				eS	**Sg**	**05 55 53.6**	**+0.2**
JYNG	**Yonagunijimaku**	**0.70**	**22**	P	**Pg**	**05 55 48.2**	**+0.2**
JYNG				S	**Sg**	**05 55 55.8**	**-1.6**
EOS2	**EOS2**	**0.73**	**328**	*i*P	**Pn**	**05 55 49.5**	**0.0**
EOS2				S	**Sg**	**05 55 58.7**	**+0.5**
YOJ	**Yonaguni jima**	**0.74**	**26**	eP	**Pn**	**05 55 50.0**	**+0.3**
YOJ				*i* S	**Sb**	**05 55 57.6**	**-0.6**
TEYL	**Yanliau Villag**	**0.97**	**274**	P	**Pg**	**05 55 54.2**	**+1.1**
TEYL				eS	**Sn**	**05 56 07.0**	**+0.8**
HWA	**Hwalien**	**0.98**	**281**	P	**Pg**	**05 55 54.5**	**+1.3**
HWA				S	**Sn**	**05 56 07.0**	**+0.6**
EAHA	**Aohua**	**0.99**	**303**	P	**Pg**	**05 55 54.0**	**+0.5**
EAHA				eS	**Sb**	**05 56 06.0**	**+0.4**
SHUL	**Shoufeng**	**1.00**	**270**	P	**Pg**	**05 55 54.5**	**+0.9**
SHUL				eS	**Sn**	**05 56 08.6**	**+1.6**
ETL	**Fush Village**	**1.01**	**291**	P	**Pg**	**05 55 54.6**	**+0.8**
ETL				S	**Sg**	**05 56 07.4**	**+0.2**
TEGC	**Jichi Village**	**1.02**	**265**	P	**Pg**	**05 55 56.0**	**+1.9**
TEGC				S	**Sn**	**05 56 08.9**	**+1.4**
EWUT	**Wuta**	**1.03**	**309**	eP	**Pg**	**05 55 54.6**	**+0.4**
EWUT				eS	**Sb**	**05 56 06.6**	**0.0**
NACB	**Ninganchiao**	**1.04**	**291**	*i*P	**Pg**	**05 55 54.3**	**-0.1**
NACB				eS	**Sn**	**05 56 08.1**	**+0.2**
ENA	**Nanau**	**1.04**	**307**	eP	**Pg**	**05 55 54.4**	**-0.1**
ENA				S	**Sb**	**05 56 06.7**	**-0.4**
ESAO	**Su ao**	**1.07**	**316**	P	**Pb**	**05 55 54.1**	**-0.1**
ESAO				eS	**Sb**	**05 56 08.3**	**+0.5**
ETM	**Tongmen**	**1.08**	**279**	eP	**Pg**	**05 55 54.9**	**-0.2**
ETM				S	**Sb**	**05 56 08.6**	**+0.6**
TWC	**Suao**	**1.09**	**318**	*i*P	**Pb**	**05 55 54.7**	**+0.1**
TWC				S	**Sb**	**05 56 07.7**	**-0.8**
ESL	**Shilin**	**1.12**	**271**	eP	**Pg**	**05 55 55.4**	**-0.5**
ESL				S	**Sg**	**05 56 10.6**	**+0.1**
IRIF	**Iriomote-Funau**	**1.12**	**61**	P	**Pg**	**05 55 56.9**	**+1.0**
IRIF				eS	**Sg**	**05 56 12.1**	**+1.5**
EGFH	**Guangfu**	**1.13**	**264**	eP	**Pg**	**05 55 56.9**	**+0.8**
EGFH				eS	**Sg**	**05 56 11.5**	**+0.5**
ETLH	**Xiulin Townshi**	**1.15**	**291**	eP	**Pb**	**05 55 55.9**	**+0.4**
ETLH				S	**Sb**	**05 56 10.6**	**+0.4**
WARBT	**Fenglin Townsh**	**1.17**	**266**	eP	**Pg**	**05 55 56.2**	**-0.6**
WARBT				eS	**Sg**	**05 56 11.8**	**-0.2**
HGSD	**Ruisui**	**1.17**	**255**	*i*P	**Pg**	**05 55 56.7**	**-0.1**
HGSD				eS	**Sg**	**05 56 11.8**	**-0.4**
ECBN	**Changbin**	**1.20**	**247**	P	**Pg**	**05 55 57.7**	**+0.2**
ECBN				S	**Sg**	**05 56 13.6**	**+0.4**
EHYH	**Wanrong**	**1.24**	**256**	eP	**Pg**	**05 55 58.3**	**+0.2**
EHYH				eS	**Sg**	**05 56 15.0**	**+0.6**
EHY	**Hungye**	**1.26**	**257**	*i*P	**Pg**	**05 55 58.2**	**-0.2**
EHY				*i* S	**Sg**	**05 56 14.6**	**-0.4**
LATG	**Datong**	**1.27**	**306**	eP	**Pb**	**05 55 58.1**	**+0.5**
LATG				eS	**Sb**	**05 56 12.9**	**-0.7**
TWE	**Neicheng**	**1.29**	**316**	eP	**Pg**	**05 55 58.5**	**-0.5**
TWE				S	**Sn**	**05 56 13.4**	**-0.6**
NTC	**Toucheng**	**1.29**	**325**	eS	**Sn**	**05 56 13.6**	**-0.6**
ENTT	**Nioudou**	**1.30**	**310**	eP	**Pb**	**05 55 58.7**	**+0.6**
ENTT				eS	**Sb**	**05 56 15.2**	**+0.7**
CHKH	**Chenggong**	**1.30**	**243**	eP	**Pg**	**05 55 59.6**	**+0.3**
CHKH				eS	**Sb**	**05 56 14.8**	**+0.2**
EYUL	**Yuli**	**1.30**	**250**	eP	**Pg**	**05 56 00.6**	**+1.2**
EYUL				eS	**Sg**	**05 56 18.6**	**+2.2**
YULB	**Yu-li**	**1.31**	**252**	*i*P	**Pg**	**05 55 59.3**	**-0.1**
YULB				S	**Sg**	**05 56 16.4**	**-0.2**
JKRS	**Kuro-shima**	**1.31**	**70**	P	**Pg**	**05 56 00.3**	**+0.7**
JKRS				eS	**Sg**	**05 56 18.1**	**+1.4**
WHF	**Hehuan Shan**	**1.32**	**286**	P	**Pb**	**05 55 58.8**	**+0.2**
WHF				eS	**Sn**	**05 56 15.6**	**+0.2**
NNSB	**Datong**	**1.32**	**299**	P	**Pb**	**05 55 59.0**	**+0.4**
NNSB				*i* S	**Sn**	**05 56 15.2**	**+0.1**
TWF1	**Yuli**	**1.32**	**251**	eP	**Pg**	**05 55 59.6**	**-0.1**
TWF1				eS	**Sg**	**05 56 16.8**	**-0.3**
OWD	**Renai**	**1.36**	**277**	eP	**Pb**	**05 55 59.6**	**+0.4**
OWD				S	**Sn**	**05 56 16.0**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.37**	**315**	eP	**Pb**	**05 55 60.0**	**+0.7**
FUSB				eS	**Sb**	**05 56 16.9**	**+0.4**
FUSS	**Fushou**	**1.37**	**289**	eP	**Pb**	**05 55 59.8**	**+0.4**
FUSS				S	**Sb**	**05 56 17.3**	**+0.7**
CHKT	**Chengkung**	**1.37**	**240**	eP	**Pb**	**05 55 59.5**	**+0.2**
CHKT				eS	**Sb**	**05 56 16.3**	**-0.2**
FULB	**Fuli**	**1.38**	**245**	eP	**Pg**	**05 56 00.2**	**-0.7**
FULB				eS	**Sb**	**05 56 17.6**	**+0.7**
VWDT	**VWDT**	**1.39**	**269**	*i*P	**Pg**	**05 56 00.2**	**-0.7**
VWDT				S	**Sb**	**05 56 17.7**	**+0.7**
TIPB	**Shuangxi**	**1.39**	**327**	eP	**Pb**	**05 56 00.8**	**-0.3**
TIPB				eS	**Sb**	**05 56 17.9**	**+0.7**
WUSB	**Renai**	**1.42**	**278**	*i*P	**Pb**	**05 56 00.6**	**+0.4**
WUSB				*i* S	**Sb**	**05 56 18.6**	**+0.6**
NWLT	**Wulai**	**1.44**	**313**	eP	**Pb**	**05 56 00.9**	**+0.5**
NWLT				eS	**Sb**	**05 56 18.9**	**+0.5**
TDCB	**Techi**

comp=Z,44nm,18.2s,baz=80,slow=43
STKA Stephens Creek 34.85 258 P **P** **06 10 40.0 +0.5**
1.0nm,0.3s,baz=99,slow=15,SNR=3.2
1.0nm,0.3s
ASAR Alice Springs 43.60 267 P **P** **06 11 52.3 -0.4**
0.7nm,0.5s,baz=103,slow=7.2,SNR=13
ASAR LR LR 06 28 51.9
comp=Z,30nm,18.9s,baz=305,slow=35
0.7nm,0.5s
WRA Warramunga Arr 44.64 272 P **P** **06 12 00.7 -0.4**
1.4nm,0.4s,baz=110,slow=8.0,SNR=14
1.4nm,0.4s
QSPA South Pole Qui 59.12 180 P **P** **06 13 48.6 +0.1**
1.1nm,0.6s,baz=347,slow=1.3,SNR=11
1.1nm,0.6s
FINES FINESS Array B 145.87 340 PKPbc **PKPab** **06 23 27.6 +0.5**
0.9nm,0.5s,baz=48,slow=3.6,SNR=10

*ASRS **13** 06:25:05.0±1.0,54˚.59N×86˚.57E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*NNC **13** 06:25:06.0±1.5,54˚.67N×86˚.63E,h0km,mb3.2,mpv3.1, Error ellipse: s-maj=8.9km s-min=7.8km az=43.0, Suspected Mining explosion.*
*IDC **13** 06:25:08.8±2.5,54˚.56N×86˚.53E,h0km,mbtmp3.6/3, ML3.3/2,Error ellipse: s-maj=22.3km s-min=13.3km az=58.0*
ISC 13 06:25:08.5±3.9,54˚.6N±0˚.2×86˚.5E±0˚.2,h0km,n9,σ0s86/10, 3C,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.16 237**		I	I	06 32 50.0	
	baz=57,slow=314,SNR=2.7						
ZAA0	**Zalesovo Array**	**1.16 237**		⇑P	**Pg**	**06 25 29.7**	**-0.9**
	0.4nm,0.2s,baz=55,slow=15						
ZAA0				⇑S	**Sb**	**06 25 47.8**	**+0.8**
	2.9nm,0.8s,baz=55,slow=26						
ZALV	**Zalesovo Beam**	**1.16 237**		Pg	**Pg**	**06 25 29.9**	**-0.7**
	4.7nm,0.3s,baz=55,slow=17,SNR=31						
ZALV				Lg	Lg	06 25 47.3	
	5.4nm,0.3s,baz=56,slow=29,SNR=19						
KURK	**Kurchatov**	**6.15 234**		P	**Pn**	**06 26 40.4**	**-0.1**
KURBB	**Kurchatov Arra**	**6.25 234**		Pn	**Pn**	**06 26 43.2**	**+1.3**
	0.4nm,0.3s,baz=51,slow=14,SNR=31						
KURBB				Lg	Lg	06 28 27.1	
	baz=53,slow=33,SNR=4.9						
	5.0nm,0.4s						
KURBB	**Kurchatov Arra**	**6.25 234**		⇑P	**Pn**	**06 26 41.5**	**-0.5**
	8.3nm,0.6s						
MK31	**Makanchi Array**	**8.24 200**		P	**Pn**	**06 27 09.9**	**+0.6**
	0.4nm,0.4s,baz=26,slow=14,SNR=29						
MKAR	**Makanchi Array**	**8.24 200**		Pn	**Pn**	**06 27 09.9**	**+0.6**
	0.6nm,0.3s,baz=24,slow=13,SNR=23						
MKAR				Sn	**Sn**	**06 28 42.8**	**-0.2**
	0.3nm,0.3s,baz=22,slow=27,SNR=6.1						
MKAR				Lg	Lg	06 29 29.9	
	0.1nm,0.3s,baz=24,slow=30,SNR=5.2						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**9.64 267**		Pn	**Pn**	**06 27 29.0**	**+0.7**
	0.9nm,0.4s,baz=68,slow=14,SNR=3.6						

*BJI **13** 06:34:58.6,31˚.07S×176˚.87W,h13km,mB5.8/10, mb5.5/30,Ms5.1/5,Ms7 5.0/6*
*IDC **13** 06:34:59.2±0.4,31˚.16S×177˚.36W,h0km,mb4.8/16, mbtmp4.7/17,ML4.2/1,MS4.2/40,Error ellipse: s-maj=18.4km s-min=13.3km az=79.0*
*MOS **13** 06:35:01.6±1.0,31˚.18S×177˚.49W,h19km,mb5.4/17, Error ellipse: s-maj=11.6km s-min=9.3km az=107.1*
*NEIC **13** 06:35:01.5±1.8,31˚.17S±0˚.08×177˚.35W±0˚.10,h10km±1km, mb5.2/160,Error ellipse: s-maj=15.0km s-min=13.5km az=132.0*
*GCMT **13** 06:35:02.5±0.3,31˚.18S±0˚.03×177˚.11W±0˚.03,h17km±1km, MW4.9/78,Moment Tensor Solution. s20,c21; s78,c104; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.19±.18; Mθθ=0.57±.11; Mϕϕ=1.62±.12; Mrθ=1.13±.39; Mθϕ=0.67±.07; Mϕr=2.02±.34; Best double couple: Mo=3.10300×10^16^ NP1:γ=24.00000°,δ=21.00000°,λ=-94.00000°. NP2: ϕ=208.00000°,δ=69.00000°,λ=-89.00000°. Principal axes: T 2.9780, Plg24.0000°, Azm297.0000°; N 0.2480, Plg1.0000°, Azm28.0000°; P -3.2280, Plg66.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 06:35:00.2±0.3,31˚.35S±0˚.04×177˚.25W±0˚.05,h10km, n389,σ1s77/321,mb5.2/134,MS4.4/41,17C-27D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.16 344**		P	**Pn**	**06 35 33.6**	**-2.7**
GLKZ				S	**Sn**	**06 35 59.3**	**-3.8**
RAO	**Raoul Island**	**2.17 344**		Pn	**Pn**	**06 35 34.1**	**-2.2**
	717nm,0.3s,baz=211,slow=3.2,SNR=34						
RAO				Sn	**Sn**	**06 35 59.3**	**-4.0**
	2µm,0.3s,baz=313,slow=23,SNR=12						
RIZ	**Raoul Island**	**2.18 344**		P	**Pn**	**06 35 34.3**	**-2.2**
RIZ				S	**Sn**	**06 35 59.6**	**-3.9**
MXZ	**Matakaoa Point**	**7.21 209**		P	**Pn**	**06 36 42.4**	**-3.2**
MXZ				S	**Sn**	**06 38 03.7**	**-3.7**
WMGZ	**Waiomatatini S**	**7.38 208**		P	**Pn**	**06 36 44.1**	**-3.9**
WMGZ				S	**Sn**	**06 38 11.2**	**-0.5**
PKGZ	**Pakihiroa**	**7.56 209**		P	**Pn**	**06 36 47.0**	**-3.5**
PKGZ				S	**Sn**	**06 38 15.1**	**-1.1**
HAZ	**Te Kaha**	**7.59 211**		P	**Pn**	**06 36 47.4**	**-3.5**
HAZ				S	**Sn**	**06 38 18.1**	**+1.0**
PUZ	**Puketiti**	**7.66 208**		P	**Pn**	**06 36 47.7**	**-4.2**
PUZ				S	**Sn**	**06 38 17.8**	**-0.9**
RUGZ	**Raukumara Rang**	**7.81 211**		P	**Pn**	**06 36 52.0**	**-2.1**
RUGZ				S	**Sn**	**06 38 22.7**	**+0.1**
TWGZ	**Tauwhareparae**	**7.86 209**		P	**Pn**	**06 36 51.4**	**-3.2**
TWGZ				S	**Sn**	**06 38 21.8**	**-1.9**
KUZ	**Kuaotunu**	**7.94 225**		P	**Pn**	**06 36 58.1**	**+2.4**
CNGZ	**Carnagh Statio**	**8.04 206**		P	**Pn**	**06 36 53.3**	**-3.8**
TKGZ	**Te Karaka**	**8.14 208**		P	**Pn**	**06 36 54.5**	**-3.9**
MWZ	**Matawai**	**8.19 210**		P	**Pn**	**06 36 56.0**	**-3.1**
MWZ				S	**Sn**	**06 38 28.6**	**-3.0**
OPRZ	**Ohinepanea**	**8.25 217**		P	**Pn**	**06 36 58.0**	**-1.9**
OPRZ				S	**Sn**	**06 38 32.7**	**-0.5**
URZ	**Urewera**	**8.31 212**		Pn	**Pn**	**06 36 57.4**	**-3.4**
	4.6nm,0.3s,baz=264,slow=4.9,SNR=16						
URZ				Sn	**Sn**	**06 38 31.3**	**-3.3**
	10nm,0.3s,baz=143,slow=18,SNR=16						
URZ	**Urewera**	**8.31 212**		P	**Pn**	**06 36 57.4**	**-3.4**
URZ				S	**Sn**	**06 38 31.3**	**-3.3**
RAGZ	**Rawiri**	**8.37 210**		P	**Pn**	**06 36 58.0**	**-3.6**
RAGZ				S	**Sn**	**06 38 34.9**	**-1.3**
WCZ	**Waipu Caves**	**8.37 235**		P	Pn	06 37 05.1	+3.4
RIGZ	**Rimuhau**	**8.40 208**		P	**Pn**	**06 36 57.9**	**-4.2**
RIGZ				S	**Sn**	**06 38 35.2**	**-1.9**
MKAZ	**Moumakai**	**8.51 226**		P	**Pn**	**06 37 05.1**	**+1.6**
PRGZ	**Paritu Road**	**8.54 206**		P	**Pn**	**06 36 59.4**	**-4.6**
PRGZ				S	**Sn**	**06 38 37.3**	**-3.2**
OUZ	**Omahuta**	**8.58 241**		P	Pn	06 37 10.1	+5.6
SNGZ	**Shannon Statio**	**8.64 209**		P	**Pn**	**06 37 01.5**	**-3.8**
SNGZ				S	**Sn**	**06 38 39.4**	**-3.4**
MUGZ	**Murupara**	**8.64 213**		P	**Pn**	**06 37 03.5**	**-1.8**
MUGZ				S	**Sn**	**06 38 38.8**	**-4.1**
RTZ	**Ruatahuna**	**8.66 212**		P	**Pn**	**06 37 03.1**	**-2.5**
TOZ	**Tahuroa Road**	**8.73 221**		P	**Pn**	**06 37 07.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**8.74 206**		S	**Sn**	**06 38 42.3**	**-2.9**
BKZ	**Black Stump Fm**	**9.33 212**			**Pn**	**06 37 12.1**	**-2.6**
BKZ	**Black Stump Fm**	**9.33 212**		P	**Pn**	**06 37 12.3**	**-2.5**
BKZ				S	**Sn**	**06 38 57.1**	**-2.7**
TSZ	**Takapari Road**	**10.29 211**		P	**Pn**	**06 37 24.8**	**-3.2**
TSZ				S	**Sn**	**06 39 18.9**	**-4.5**
BFZ	**Birch Farm**	**10.70 208**			**Pn**	**06 37 29.7**	**-3.7**
MRZ	**Mangatainoka R**	**10.96 210**		P	Pn	06 37 29.5	-7.5
MSWZ	**Moikau Station**	**11.72 209**		P	Pn	06 37 42.3	-5.2
MSWZ				S	Sn	06 39 46.5	-12
DUWZ	**D'Urville Isla**	**11.83 215**		P	**Pn**	**06 37 45.2**	**-3.8**
TCW	**Tory Channel**	**11.98 212**		P	Pn	06 37 45.5	-5.5
TUWZ	**Tuamarina**	**12.30 213**		P	**Pn**	**06 37 53.3**	**-2.1**
CTZ	**Chatham Island**	**12.38 178**		P	**Pn**	**06 37 55.7**	**-0.7**
NNZ	**Nelson**	**12.41 215**		P	**Pn**	**06 37 52.7**	**-4.2**
TKNZ	**Takaka Hill**	**12.48 217**		P	**Pn**	**06 37 53.6**	**-4.3**
BSWZ	**Blackbirch Sta**	**12.56 212**		P	**Pn**	**06 37 58.7**	**-0.2**
THZ	**Tophouse**	**13.05 215**			**Pn**	**06 38 02.7**	**-3.0**
THZ	**Tophouse**	**13.05 215**		P	**Pn**	**06 38 02.5**	**-3.2**
KHZ	**Kahutara**	**13.27 211**		P	Pn	06 38 02.7	-6.0
DSZ	**Denniston Nort**	**13.59 217**		P	**Pn**	**06 38 10.2**	**-2.9**
NIUE	**Niue**	**13.89 30**		P	Pn	06 38 09.7	-7.5
GVZ	**Greta Valley S**	**13.94 211**		P	**Pn**	**06 38 14.8**	**-2.9**
LTZ	**Lake Taylor**	**14.14 213**		Pn	**Pn**	**06 38 18.1**	**-2.5**
MSVF	**Nonsavu**	**14.21 341**		⇑*i*P	**Pn**	**06 38 21.7**	**0.0**
AMCZ	**Amberley**	**14.27 211**		P	**Pn**	**06 38 20.1**	**-2.3**
INZ	**Inchbonnie**	**14.49 215**			**Pn**	**06 38 21.2**	**-4.2**
INZ	**Inchbonnie**	**14.49 215**		P	**Pn**	**06 38 21.5**	**-3.8**
OXZ	**Oxford**	**14.67 212**			Pn	06 38 21.7	-6.1
MQZ	**McQueen's Vall**	**14.69 210**		P	Pn	06 38 22.2	-5.9
RPZ	**Rata Peaks**	**15.42 214**			**Pn**	**06 38 32.9**	**-5.0**
RPZ	**Rata Peaks**	**15.42 214**		Pn	**Pn**	**06 38 33.1**	**-4.8**
	4.3nm,0.3s,baz=39,slow=2.4,SNR=13						
RPZ				Sn	Sn	06 41 15.2	-14
	2.9nm,0.3s,baz=122,slow=4.5,SNR=6.7						
PINNC	**Pines Island,**	**16.17 299**		Pn	**Pn**	**06 38 47.1**	**-0.5**
PINNC				lAmb	lAmb	06 38 54.8	
	comp=Z,197nm,1.1s						
ODZ	**Otahua Downs**	**16.63 211**			**Pn**	**06 38 49.8**	**-3.6**
ONTNC	**Ouen Toro**	**17.09 298**			**Pn**	**06 38 59.8**	**+0.5**
ONTNC				lAmb	lAmb	06 39 04.0	
	comp=Z,172nm,1.3s						
DZM	**Mont Dzumac**	**17.24 298**			**P**	**06 39 03.3**	**+0.6**
DZM				lAmb	lAmb	06 39 07.9	
	comp=Z,189nm,1.3s						
DZM	**Mont Dzumac**	**17.24 298**		*e*Pn	**P**	**06 39 03.5**	**+0.7**
	comp=Z,332nm,1.3s						
DZM				*e*LR	LR	06 42 59.7	
	comp=Z,3µm,24.5s						
DZM	**Mont Dzumac**	**17.24 298**		P	**Pn**	**06 38 58.9**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=104,slow=14,SNR=19						
DZM				LR	LR	06 43 17.8	
	comp=Z,196nm,20.9s,baz=162,slow=29						
	comp=Z,2.3nm,0.6s						
RAR	**Rarotonga**	**18.61 61**		LR	LR	06 45 08.6	
	comp=Z,412nm,20.1s,baz=230,slow=33						
RAR	**Rarotonga**	**18.61 61**		P	**P**	**06 39 16.8**	**-1.1**
RAR				pmax	pmax		
	comp=Z,110nm,3.0s						
LHI	**Lord Howe Isla**	**20.21 263**			Pn	06 39 37.0	-0.2
LHI	**Lord Howe Isla**	**20.21 263**		P	Pn	06 39 39.1	+1.9
	comp=Z,184nm,1.3s						
TBI	**Tubuai**	**25.88 79**		*e*P	**P**	**06 40 30.0**	**-2.3**
	comp=Z,320nm,33.5s						
TBI				*e*S	**S**	**06 44 57.9**	**-4.4**
	comp=Z,2µm,25.5s						
TBI				*e*LR	LR	06 46 49.0	
	comp=Z,3µm,24.5s						
TBI				*e*LR	LR	06 46 53.5	
	comp=Z,1µm,22.8s						
RIV	**Riverview**	**26.68 256**		P	**P**	**06 40 40.0**	**+0.5**
RIV				pmax	pmax		
	comp=Z,74nm,1.9s						
ARMA	**Armidale**	**26.69 264**		P	**P**	**06 40 42.1**	**+2.4**
	comp=Z,38nm,1.1s						
MGCD	**Mangrove Creek**	**26.77 258**		P	**P**	**06 40 42.1**	**+1.8**
	comp=Z,87nm,0.9s						
CNB	**Canberra Magne**	**28.10 253**		P	**P**	**06 40 54.1**	**+1.8**
	comp=Z,47nm,1.0s						
CAN	**Canberra**	**28.40 253**		P	**P**	**06 40 55.3**	**+0.4**
CAN				lAmb	lAmb	06 40 58.5	
	comp=Z,48nm,1.0s						
CAN	**Canberra**	**28.40 253**		P	**P**	**06 40 56.3**	**+1.4**
	comp=Z,63nm,1.1s						
CAN	**Canberra**	**28.40 253**		P	**P**	**06 40 55.3**	**+0.4**
CAN				pmax	pmax		
	comp=Z,48nm,1.0s						
EIDS	**Eidsvold**	**28.44 274**		P	**P**	**06 40 53.8**	**-1.5**
EIDS				lAmb	lAmb	06 40 58.0	
	comp=Z,51nm,1.0s						
EIDS	**Eidsvold**	**28.44 274**		P	**P**	**06 40 56.2**	**+0.9**
	comp=Z,57nm,1.1s						
PPT2	**Papeete2**	**28.57 68**		*e*P	P	06 40 50.6	-6.0
	comp=Z,24nm,20.5s						
PPT2				*e*S	**S**	**06 45 42.2**	**-2.7**
	comp=Z,474nm,23.8s						
PPT2				*e*LR	LR	06 48 05.7	
	comp=Z,484nm,25.0s						
PPT2				*e*LR	LR	06 48 06.1	
	comp=Z,595nm,23.8s						
PPT	**Papeete**	**28.58 68**		LR	LR	06 53 10.3	
	comp=Z,442nm,18.1s,baz=252,slow=38						
YNG	**Young**	**28.94 255**		P	**P**	**06 41 01.8**	**+2.1**
	comp=Z,61nm,0.9s						
HNR	**Honiara**	**30.41 311**		LR	LR	06 52 07.7	
	comp=Z,470nm,19.6s,baz=170,slow=34						
TOO	**Toolangi**	**31.20 248**		P	**P**	**06 41 20.0**	**+0.3**
TOO				lAmb	lAmb	06 41 22.9	
	comp=Z,25nm,1.1s						
TOO	**Toolangi**	**31.20 248**		P	**P**	**06 41 20.9**	**+1.2**
	comp=Z,32nm,1.1s						
TOO	**Toolangi**	**31.20 248**		P	**P**	**06 41 20.0**	**+0.3**
TOO				pmax	pmax		
	comp=Z,25nm,1.1s						
CMSA	**Cobar Meteorol**	**31.52 260**		P	**P**	**06 41 24.0**	**+1.4**
	comp=Z,0.0nmcomp=Z,83nm,0.8s						
QLP	**Quilpie**	**33.92 268**		P	**P**	**06 41 44.6**	**+1.0**
	comp=Z,142nm,1.7s						
ARPS	**Mount Arapiles**	**34.14 250**		P	**P**	**06 41 46.5**	**+1.2**
	comp=Z,24nm,1.3s						
CTA	**Charters Tower**	**34.59 280**		P	**P**	**06 41 50.1**	**+0.6**
CTAO	**Charters Tower**	**34.59 280**		P	**P**	**06 41 49.4**	**-0.1**
CTAO	**Charters Tower**	**34.59 280**		P	**P**	**06 41 49.4**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,49nm,0.9s						
STKA	**Stephens Creek**	**34.91 258**		P	**P**	**06 41 52.5**	**+0.4**
STKA	**Stephens Creek**	**34.91 258**		P	**P**	**06 41 52.8**	**+0.7**
	comp=Z,0.0nmcomp=Z,292nm,1.0s						
STKA	**Stephens Creek**	**34.91 258**		P	**P**	**06 41 52.6**	**+0.5**
	comp=Z,46nm,0.9s,baz=96,slow=10.0,SNR=74						
STKA				LR	LR	06 54 49.2	
	comp=Z,717nm,20.2s,baz=81,slow=34						
	comp=Z,46nm,0.9s						
STKA	**Stephens Creek**	**34.91 258**		*c iP*	**P**	**06 41 52.3**	**+0.2**
HTT	**Hallett**	**36.87 255**		P	**P**	**06 42 09.4**	**+0.4**
	comp=Z,20nm,1.1s						
HTT	**Hallett**	**36.87 255**		P	**P**	**06 42 09.4**	**+0.4**
MTSU	**Mount Surprise**	**37.11 282**		P	**P**	**06 42 11.2**	**0.0**
	comp=Z,30nm,0.8s						
RKT	**Rikitea**	**38.28 88**		*e*LR	LR	06 52 39.1	
	comp=Z,13µm,33.8s						
BBOO	**Buckleboo**	**39.34 255**		P	**P**	**06 42 29.5**	**-0.3**
BBOO	**Buckleboo**	**39.34 255**		P	**P**	**06 42 29.1**	**-0.7**
	comp=Z,101nm,1.1s						
PMG	**Port Moresby**	**39.60 296**		LR	LR	06 56 58.2	
	comp=Z,373nm,19.9s,baz=142,slow=33						
QIS	**Mount Isa**	**40.03 275**		P	**P**	**06 42 36.3**	**+0.6**
	comp=Z,29nm,1.4s						
COEN	**Coen**	**40.16 286**		P	**P**	**06 42 36.1**	**-0.6**
COEN				lAmb	lAmb	06 42 39.3	
	comp=Z,44nm,1.1s						
COEN	**Coen**	**40.16 286**		P	**P**	**06 42 38.1**	**+1.4**
	comp=Z,46nm,1.4s						
TAOE	**Nuku Hiva Isla**	**41.10 65**		*e*S	**S**	**06 48 58.8**	**+1.0**
	comp=Z,206nm,26.5s						
TAOE				*e*SS	**SS**	**06 51 55.1**	**-5.2**
	comp=Z,370nm,34.5s						
TAOE				*e*LR	LR	06 53 44.9	
	comp=Z,426nm,25.2s						
AS17	**Alice Springs**	**43.64 268**		P	**P**	**06 43 04.7**	**-0.4**
	comp=Z,29nm,0.7s						
AS31	**Alice Springs**	**43.71 268**		P	**P**	**06 43 05.5**	**-0.3**
	comp=Z,8.9nm,1.0s						
ASAR	**Alice Springs**	**43.71 268**		P	**P**	**06 43 05.2**	**-0.6**
ASAR	**Alice Springs**	**43.71 268**		P	**P**	**06 43 05.5**	**-0.2**
	comp=Z,28nm,0.9s,baz=112,slow=7.9,SNR=125						
ASAR				PcP	**PcP**	**06 44 52.7**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=102,slow=3.7,SNR=4.9						
ASAR				ScP	**ScP**	**06 48 46.2**	**+1.7**
	comp=Z,3.1nm,1.0s,baz=123,slow=3.7,SNR=7.4						
ASAR				LR	LR	07 01 05.2	
	comp=Z,612nm,19.0s,baz=107,slow=36						
	comp=Z,28nm,0.9s						
WR0	**Warramunga Arr**	**44.60 273**		P	**P**	**06 43 12.9**	**0.0**
WRAB	**Tennant Creek**	**44.78 273**		P	**P**	**06 43 13.6**	**-0.7**
WRAB				lAmb	lAmb	06 43 21.8	
	comp=Z,30nm,1.0s						
WRAB	**Tennant Creek**	**44.78 273**		*c iP*	**P**	**06 43 12.9**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,46nm,1.5s						
WRA	**Warramunga Arr**	**44.78 273**			**P**	**06 43 13.4**	**-0.9**
WRA	**Warramunga Arr**	**44.78 273**		P	**P**	**06 43 13.6**	**-0.8**
	comp=Z,20nm,0.8s,baz=113,slow=7.6,SNR=70						
WRA				PcP	**PcP**	**06 44 56.9**	**+0.4**
	comp=Z,7.2nm,1.0s,baz=121,slow=2.6,SNR=5.5						
WRA				LR	LR	07 01 28.4	
	comp=Z,680nm,18.5s,baz=118,slow=36						
	comp=Z,20nm,0.8s						
SBA	**Scott Base**	**47.15 185**			P	06 43 36.8	+4.6
SBA	**Scott Base**	**47.15 185**		P	P	06 43 36.8	+4.6
SBA				pmax	pmax		
	comp=Z,35nm,1.0s						
VNDA	**Vanda**	**47.22 186**		P	**P**	**06 43 34.7**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=7.5,slow=6.6,SNR=8.2						
	comp=Z,2.4nm,0.8s						
JAY	**Jayapura**	**48.91 297**		LR	LR	07 04 18.0	
	comp=Z,102nm,19.2s,baz=171,slow=36						
KDU	**Kakadu**	**49.72 280**		P	**P**	**06 43 51.9**	**-1.0**
	comp=Z,29nm,1.2s						
KNRA	**Kununurra**	**51.42 275**		P	**P**	**06 44 04.5**	**-1.2**
KNRA				lAmb	lAmb	06 44 10.2	
	comp=Z,32nm,0.9s						
KNRA	**Kununurra**	**51.42 275**		P	**P**	**06 44 05.6**	**-0.1**
	comp=Z,44nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.01 270**		P	**P**	**06 44 17.2**	**-0.3**
	comp=Z,12nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.01 270**		LR	LR	07 06 09.2	
	comp=Z,730nm,20.6s,baz=112,slow=35						
CASY	**Casey**	**54.61 208**		P	**P**	**06 44 29.7**	**+1.1**
CASY				lAmb	lAmb	06 44 44.7	
	comp=Z,26nm,0.9s						
KLBR	**Kellerberrin**	**54.66 251**		P	**P**	**06 44 28.6**	**-0.8**
	comp=Z,77nm,1.1s						
MEEK	**Meekatharra**	**55.61 257**		P	**P**	**06 44 34.8**	**-1.6**
	comp=Z,42nm,1.1s						
KIP	**Kipapa**	**55.62 22**		⇑*i*P	**P**	**06 44 36.0**	**-0.3**
KIP				pmax	pmax		
	comp=Z,46nm,0.9s						
MBWA	**Marble Bar**	**56.77 264**		P	**P**	**06 44 43.5**	**-1.2**
MBWA	**Marble Bar**	**56.77 264**		P	**P**	**06 44 43.5**	**-1.2**
	comp=Z,39nm,1.4s						
MORW	**Morawa**	**56.88 254**		P	**P**	**06 44 45.0**	**-0.5**
MORW				lAmb	lAmb	06 44 45.1	
	comp=Z,35nm,1.4s						
MORW	**Morawa**	**56.88 254**		P	**P**	**06 44 44.5**	**-1.0**
	comp=Z,20nm,1.7s						
GUMO	**Guam**	**57.61 315**		LR	LR	07 07 50.3	
	comp=Z,194nm,18.5s,baz=133,slow=34						
SOEI	**Soe**	**58.13 278**		P	**P**	**06 44 54.8**	**+0.2**
	comp=Z,45nm,1.2s						
BATI	**Baumata**	**58.41 277**		LR	LR	07 10 55.2	
	comp=Z,722nm,18.0s,baz=129,slow=37						
RPN	**Rapa Nui**	**58.57 105**		LR	LR	07 05 51.9	
	comp=Z,314nm,18.9s,baz=209,slow=32						
QSPA	**South Pole Qui**	**58.77 180**		P	**P**	**06 45 01.5**	**+3.2**
QSPA	**South Pole Qui**	**58.77 180**		P	**P**	**06 45 00.8**	**+2.5**
	comp=Z,19nm,0.9s,baz=40,slow=2.6,SNR=45						
QSPA				LR	LR	07 09 32.7	
	comp=Z,206nm,18.0s,baz=42,slow=35						
	comp=Z,19nm,0.9s						
EDFI	**Ende, Flores**	**60.83 278**		P	**P**	**06 45 12.6**	**-0.6**
	comp=Z,433nmcomp=Z,26nm,1.1s						
PLAI	**Plampang**	**64.11 275**		P	**P**	**06 45 35.5**	**+0.5**
	comp=Z,40nm,1.0s						
KAPI	**Kappang**	**64.41 280**		LR	LR	07 13 34.0	
	comp=Z,193nm,19.5s,baz=118,slow=36						
TWSI	**Taliwang, Sumb**	**64.92 275**		P	**P**	**06 45 39.7**	**-0.6**
	comp=Z,48nm,1.3s						
TTSI	**Tana Toraja**	**65.41 282**		P	**P**	**06 45 42.5**	**-1.0**
	comp=Z,1µmcomp=Z,23nm,1.2s						
DAV	**Davao City (W)**	**66.61 295**		LR	LR	07 17 19.7	
	comp=Z,64nm,18.2s,baz=162,slow=38						
JAGI	**Jajag, Banyuwa**	**67.38 274**			**P**	**06 45 55.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**67.38 274**		P	**P**	**06 45 54.3**	**-1.9**
	comp=Z,48nm,0.9s						
GMJI	**Gumukmas**	**68.09 274**		P	**P**	**06 46 00.4**	**-0.2**
	comp=Z,42nm,1.4s						
BELA	**Belgrano 2**	**68.76 172**		P	**P**	**06 46 04.4**	**+0.5**
PCJI	**Pacitan**	**70.06 272**		P	**P**	**06 46 13.4**	**+0.5**
WOJI	**Wonogiri, Jawa**	**70.46 273**		P	**P**	**06 46 15.6**	**+0.3**
	comp=Z,76nm,1.3s						
PMSA	**Palmer Station**	**71.14 155**		LR	LR	07 15 31.0	
	comp=Z,256nm,18.5s,baz=246,slow=34						
MAW	**Mawson**	**71.65 200**		P	**P**	**06 46 23.1**	**+1.5**
	comp=Z,6.5nm,1.0s,baz=102,slow=7.4,SNR=13						
	comp=Z,6.5nm,1.0s						
KPJI	**Karang Pucung**	**72.42 272**		P	**P**	**06 46 26.4**	**-0.7**
	comp=Z,36nm,1.6s						
KKM	**Kota Kinabalu**	**73.46 288**			**P**	**06 46 33.4**	**0.0**
KKM				lAmb	lAmb	06 46 33.8	
	comp=Z,20nm,1.1s						
LEM	**Lembang**	**73.80 272**		LR	LR	07 19 23.6	
	comp=Z,336nm,20.7s,baz=148,slow=36						
ESPZ	**Base Esperanza**	**74.44 156**		P	**P**	**06 46 39.0**	**+0.8**
SYO	**Syowa Base**	**76.34 193**		⇑*e*P	**P**	**06 46 50.0**	**+1.0**
SYO	**Syowa Base**	**76.34 193**		⇑*e*sP	sP	06 46 55.5	+5.0
SYO	**Syowa Base**	**76.34 193**		⇓*e*PcP	**PcP**	**06 47 02.0**	**+1.1**
AY03	**Cochrane**	**76.61 137**		lAmb	lAmb	06 46 54.1	
	comp=Z,19nm,1.2s						

comp=Z,37nm,2.0s
YSS Yuzhno-Sakhali 85.88 334 *e*P **P 06 47 41.1 +1.2**
YSS pmax pmax
comp=Z,30nm,0.8s
QIZ Qiongzhong 85.98 295 P **P 06 47 40.5 -0.6**
QIZ S **S 06 58 15.0 -0.3**
QIZ LR LR
comp=Z,120nm,7.8s
QIZ LR LR
comp=Z,250nm,7.3s
BFSC Mount Baldy Ra 86.05 46 IAmb IAmb 06 48 06.9
comp=Z,23nm,1.5s
TPO Tropico Hills 86.14 45 IAmb IAmb 06 47 44.7
comp=Z,24nm,1.2s
PSI Prapat 86.17 276 LR LR 07 26 49.8
comp=Z,284nm,21.1s,baz=98,slow=36
GDXM Geysers 86.24 40 IAmb IAmb 06 47 45.4
comp=Z,14nm,1.1s
PFO Pinyon Flats O 86.38 47 P **P 06 47 44.2 +1.3**
PFO Pinyon Flats O 86.38 47 LR LR 07 20 50.4
comp=Z,249nm,18.2s,baz=232,slow=32
PFO Pinyon Flats O 86.38 47⇑ *i*P **P 06 47 44.4 +1.5**
PFO pmax pmax
comp=Z,12nm,1.4s
PMD Palm Desert 86.45 47 IAmb IAmb 06 48 09.1
comp=Z,22nm,1.6s
ISA Isabella, Lake 86.52 44 IAmb IAmb 06 47 46.6
comp=Z,20nm,1.2s
PET Petropavlovsk 86.61 346 P **P 06 47 42.9 -0.4**
comp=Z,24nm,1.0s
LRMC Laurel Mtn Rad 86.87 45 IAmb IAmb 06 47 48.3
comp=Z,13nm,1.1s
PEA0B Petropavlovsk- 86.89 345⇓ *e*P **P 06 47 45.5 +0.8**
PETK Petropavlovsk- 86.89 345 P **P 06 47 44.7 0.0**
PETK Petropavlovsk- 86.89 345 P **P 06 47 44.3 -0.4**
comp=Z,9.2nm,0.8s,baz=145,slow=5.4,SNR=11
PETK LR LR 07 24 04.7
comp=Z,97nm,18.4s,baz=187,slow=34
comp=Z,9.2nm,0.8s
PETK Petropavlovsk- 86.89 345 P **P 06 47 44.7 0.0**
BELC Belle Mtn. Jos 86.92 47 IAmb IAmb 06 48 11.7
comp=Z,15nm,1.3s
BC3 Big Chuckawall 87.03 47 IAmb IAmb 06 48 12.6
comp=Z,31nm,1.6s
CLC China Lake 87.15 45 IAmb IAmb 06 47 49.5
comp=Z,16nm,1.0s
GSC Goldstone, Bar 87.28 45 IAmb IAmb 06 47 50.3
comp=Z,12nm,1.1s
NJ2 Nanjing 87.35 310 *e*P **P 06 47 49.9 +2.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
QSM Queen of Sheba 87.69 45 IAmb IAmb 06 48 14.8
comp=Z,12nm,1.2s
KSXB Camp Six Broad 87.85 37 IAmb IAmb 06 47 54.2
comp=Z,13nm,1.2s
SHOC Shoshone, Teco 88.00 45 IAmb IAmb 06 48 26.1
comp=Z,20nm,1.1s
FURC Furnace Creek, 88.02 45 IAmb IAmb 06 47 54.8
comp=Z,12nm,1.2s
MPK Martis Peak 88.11 41 IAmb IAmb 06 48 17.2
comp=Z,22nm,1.2s
L02F Cave Junction 88.22 37 IAmb IAmb 06 48 26.9
comp=Z,29nm,1.7s
LHV Little Huntoon 88.26 42 P **P 06 47 52.5 +0.8**
LHV IAmb IAmb 06 48 07.2
comp=Z,13nm,1.1s
USA0B Ussuriysk Arra 88.31 326 *d iP* **P 06 47 52.7 +1.0**
USRK Ussuriysk Ar. 88.31 326 **P 06 47 52.0 +0.3**
USRK Ussuriysk Ar. 88.31 326 P **P 06 47 50.9 -0.8**
comp=Z,11nm,0.9s,baz=134,slow=3.0,SNR=11
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 88.31 326 P **P 06 47 52.0 +0.3**
GMN Gold Mountain 88.34 44 IAmb IAmb 06 48 18.1
comp=Z,21nm,1.8s
YBH Yreka Blue Hor 88.38 38 LR LR 07 22 17.7
comp=Z,15nm,18.5s,baz=250,slow=32
WCT Wildcat Mounta 88.38 44 IAmb IAmb 06 48 18.4
comp=Z,16nm,1.7s
NVAR Mina Array Bea 88.50 42 P **P 06 47 54.0 +0.9**
NVAR Mina Array Bea 88.50 42 P **P 06 47 53.3 +0.2**
comp=Z,5.7nm,1.0s,baz=219,slow=7.7,SNR=32
comp=Z,5.7nm,1.0s
RYN Ryan 88.51 42 IAmb IAmb 06 47 57.9
comp=Z,18nm,1.5s
K02D Willamette Mer 88.58 36 IAmb IAmb 06 48 19.2
comp=Z,15nm,1.4s
TPNV Topopah Spring 88.71 44 IAmb IAmb 06 47 58.5
comp=Z,13nm,1.1s
Y14A Wickenburg 88.77 48 IAmb IAmb 06 47 57.6
comp=Z,11nm,1.2s
TPH Tonopah 88.89 43 IAmb IAmb 06 47 57.6
comp=Z,12nm,1.0s
L04D Klamath Falls 88.94 37 IAmb IAmb 06 48 25.0
comp=Z,16nm,1.3s
TYV Tymovskoe 89.18 336 *e*P **P 06 47 56.9 +1.2**
TYV pmax pmax
comp=Z,300nm,2.9s
TYV pmax pmax
comp=Z,27nm,1.2s
TUC Tucson 89.20 51 **P 06 47 57.7 +1.3**
TUC IAmb IAmb 06 48 00.1
comp=Z,23nm,1.6s
TUC Tucson 89.20 51 P **P 06 47 57.7 +1.3**
TUC pmax pmax
comp=Z,23nm,1.7s
WHN Wuhan 89.43 307 P **P 06 47 53.3 -4.1**
S11A Rachel 89.47 44 IAmb IAmb 06 48 25.6
comp=Z,14nm,1.2s
PRN Pahroc Range 89.73 45 IAmb IAmb 06 48 02.4
comp=Z,14nm,1.1s
J04A Umpqua Nationa 89.77 37 IAmb IAmb 06 48 01.6
comp=Z,25nm,1.2s
MDJ Mudanjiang 89.77 325 P **P 06 47 59.8 +1.2**
MDJ pmax pmax
comp=Z,20nm,1.1s
BUCK Buck Mountain 90.01 36 IAmb IAmb 06 48 25.8
comp=Z,28nm,1.4s
J05D Fort Rock, OR 90.25 37 IAmb IAmb 06 48 03.9
comp=Z,11nm,1.2s
PLK4 Peulik 4 90.37 11 P **P 06 48 01.6 +0.4**
H04A Detroit Lake 90.76 36 IAmb IAmb 06 48 05.5
comp=Z,12nm,1.0s
PINE Pine Mountain 90.76 37 IAmb IAmb 06 48 06.4
comp=Z,15nm,1.0s
U15A North Rim 90.80 47 IAmb IAmb 06 48 07.5
comp=Z,14nm,1.1s
WUAZ Wupatki 90.81 48 IAmb IAmb 06 48 30.3
comp=Z,19nm,1.4s
KNB Kanab 90.84 46 IAmb IAmb 06 48 31.2
comp=Z,25nm,1.4s
CCUT Cedar City 90.85 46 IAmb IAmb 06 48 30.7
comp=Z,15nm,1.5s
I05D Terrebonne, OR 90.94 36 IAmb IAmb 06 48 29.7
comp=Z,23nm,1.3s
WVOR Wild Horse Val 91.04 39 IAmb IAmb 06 48 07.3
comp=Z,9.7nm,1.2s
WVOR Wild Horse Val 91.04 39 P **P 06 48 05.3 +0.5**
WVOR pmax pmax
comp=Z,8.0nm,1.5s
SZCU Shurtz Canyon 91.05 46 IAmb IAmb 06 48 31.3
comp=Z,15nm,1.5s
TIA Tai'an 91.09 313 P **P 06 48 05.9 +0.9**
TIA pmax pmax
comp=Z,31nm,1.0s
KDAK Kodiak Island 91.18 13 LR LR 07 25 30.2
comp=Z,123nm,18.6s,baz=222,slow=33
CN2 Changchun 91.28 322 P **P 06 48 05.9 +0.2**
CN2 pmax pmax
comp=Z,30nm,1.0s
PKCU Pink Cliffs 91.43 46 IAmb IAmb 06 48 35.9
comp=Z,12nm,1.0s
BNX BinXian 91.65 325⇓ P **P 06 48 07.3 -0.1**
BNX pmax pmax
comp=Z,29nm,0.9s
J08A Circle Bar Ran 91.75 39 IAmb IAmb 06 48 10.6
comp=Z,11nm,1.1s
ELK Elko 91.80 42 LR LR 07 24 10.2
comp=Z,159nm,18.3s,baz=222,slow=32
MTPU Mount Pierson 91.88 46 IAmb IAmb 06 48 12.9
comp=Z,9.1nm,1.1s
G06A Carlson Farm, 91.93 36 IAmb IAmb 06 48 11.2
comp=Z,13nm,1.1s
TXAR Lajitas Array 92.36 57 P **P 06 48 12.8 +1.7**
comp=Z,0.8nm,0.9s,baz=207,slow=8.0,SNR=7.7
comp=Z,0.8nm,0.9s
CMIG Matias Romero 92.43 72 LR LR 07 20 14.8
comp=Z,69nm,20.7s,baz=206,slow=29

NNA Nana 92.54 106 LR LR 07 19 52.3
comp=Z,150nm,21.6s,baz=194,slow=29
O18K Koktuh Hills 92.67 11 P **P 06 48 10.9 -0.8**
O18K IAmb IAmb 06 48 13.0
comp=Z,13nm,1.1s
G08A Pilot Rock 92.82 37 IAmb IAmb 06 48 15.4
comp=Z,9.7nm,1.0s
ALPN Alpine 92.97 56 IAmb IAmb 06 48 38.4
comp=Z,16nm,2.0s
MXC Moxie City 93.04 35 IAmb IAmb 06 48 16.3
comp=Z,8.3nm,1.2s
LYN LuoYang 93.10 309 P **P 06 48 15.4 +1.1**
LYN pmax pmax
comp=Z,22nm,0.6s
MFID Camas Ranch 93.22 40 IAmb IAmb 06 48 17.2
comp=Z,7.1nm,0.9s
HNS HongShan 93.34 312⇓ P **P 06 48 16.4 +1.0**
HNS pmax pmax
comp=Z,20nm,0.9s
BMO Blue Mountains 93.39 38 IAmb IAmb 06 48 40.6
comp=Z,16nm,1.9s
ANMO Albuquerque 93.67 51 LR LR 07 23 51.2
comp=Z,175nm,18.6s,baz=322,slow=31
ATAH Atahualpa 93.83 101 LR LR 07 25 41.2
comp=Z,88nm,18.1s,baz=240,slow=32
PB11 IPOC Station P 93.99 116 P **P 06 48 20.1 +0.9**
BJI Beijing 94.05 315 P **P 06 48 19.0 +0.4**
BJI SKS **SKSac 06 58 54.0 +0.6**
BJI pmax pmax
comp=Z,4.0nm,1.0s
PLID Pearl Lake 94.23 39 IAmb IAmb 06 48 21.6
comp=Z,8.8nm,1.0s
CMAR Chiang Mai Arr 94.32 289 P **P 06 48 20.4 +0.1**
CMAR Chiang Mai Arr 94.32 289 PP **PP 06 52 09.1 +1.3**
comp=Z,0.8nm,0.3s,baz=136,slow=6.1,SNR=7.8
CMAR LR LR 07 31 45.9
comp=Z,31nm,20.9s,baz=110,slow=36
CMAR Chiang Mai Arr 94.32 289 *i* P **P 06 48 21.8 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
NEW Newport 95.76 36 LR LR 07 24 43.1
comp=Z,210nm,19.9s,baz=231,slow=31
PZH PanZhiHua 96.31 297 P **P 06 48 30.8 +1.4**
PDAR Pinedale Array 96.38 43 P **P 06 48 30.2 +0.7**
comp=Z,1.3nm,0.9s,baz=204,slow=3.3,SNR=5.9
PDAR LR LR 07 27 09.5
comp=Z,120nm,18.4s,baz=226,slow=32
comp=Z,1.3nm,0.9s
YHL Hebgen Lake 96.72 41 IAmb IAmb 06 48 46.6
comp=Z,13nm,1.5s
BOZ Bozeman (W) 96.93 40 IAmb IAmb 06 48 57.2
comp=Z,6.4nm,1.3s
SEY Seymchan 97.05 347 *e*P **P 06 48 30.8 -0.9**
SEY pmax pmax
comp=Z,3.0nm,0.9s
CD2 Chengdu 97.14 302 *e*P **P 06 48 33.0 0.0**
LPAZ La Paz 97.17 114 LR LR 07 25 42.2
comp=Z,66nm,18.8s,baz=230,slow=31
JTS Las Juntas de 97.22 82 LR LR 07 25 02.3
comp=Z,118nm,18.5s,baz=280,slow=31
HHC Hu-ho-hao-te 97.36 314 *e*P **P 06 48 33.8 0.0**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.9s
DOT Dot Lake 98.26 14 P **P 06 48 37.5 +0.3**
CPUP Villa Florida 98.89 128 LR LR 07 28 46.9
comp=Z,54nm,18.4s,baz=58,slow=33
J26L Joseph Creek 99.12 14 IAmb IAmb 06 49 15.6
comp=Z,15nm,1.9s
LZH Lanzhou 99.80 306 *e*P **Pdif 06 48 46.3 +1.3**
LZH pP pwP 06 48 51.3 -3.9
LZH sP sP 06 48 54.4 +8.0
LZH pmax pmax
comp=Z,16nm,1.2s
WMQ Urumqi 114.32 308 *e*PKP **PKiKP 06 53 40.9 +0.9**
WMQ LR LR
comp=Z,290nm,17.5s
MK31 Makanchi Array 118.87 310*c i*PKIKP **PKPdf 06 53 48.6 -0.1**
MKAR Makanchi Array 118.87 310 PKP **PKPdf 06 53 48.5 -0.2**
comp=Z,19nm,1.0s,baz=71,slow=4.5,SNR=7.6
KURK Kurchatov 122.17 313 **PKPdf 06 53 53.9 -0.9**
KURK Kurchatov 122.17 313*d i*PKIKP **PKPdf 06 53 54.3 -0.5**
KURBB Kurchatov Arra 122.21 313 PKP **PKPdf 06 53 54.0 -0.8**
comp=Z,2.9nm,0.8s,baz=106,slow=2.2,SNR=20
KKAR Karatay Array 126.13 303 **PKPdf 06 54 02.8 +0.1**
KKAR Karatay Array 126.13 303 PKIKP **PKPdf 06 54 02.8 +0.1**
BVAR Borovoye Array 127.53 315 PKP **PKPdf 06 54 04.5 -0.5**
comp=Z,3.4nm,0.8s,baz=111,slow=3.3,SNR=13
BRVK Borovoye 127.60 315*d i*PKIKP **PKPdf 06 54 05.1 0.0**
ARTI Arti 134.33 320 PKP **PKPdf 06 54 17.9 +0.1**
comp=Z,1.9nm,0.4s,baz=31,slow=5.7,SNR=4.1
ARTI Arti 134.33 320 *i* PKIKP **PKiKP 06 54 18.8 -0.4**
ARTI 06 56 47.5
AKTO Aktyubinsk 135.22 312 PKP **PKPdf 06 54 19.6 -0.1**
comp=Z,1.1nm,0.3s,baz=163,slow=3.3,SNR=4.8
APA Apatity 139.51 342 *i* PKIKP **PKPdf 06 54 26.9 -0.1**
APA *e* 06 57 21.4
APA MLR MLR
comp=Z,359nm,4.6s
ARCES ARCESS Array B 139.65 348 PKhKP PKPpre 06 54 23.0
comp=Z,2.9nm,0.8s,baz=36,slow=6.4,SNR=4.0
KLMR Klimovskoe 141.90 332 *e*PKIKP **PKPdf 06 54 33.1 +1.6**
KLMR pmax pmax
comp=Z,22nm,1.6s
GNI Garni 145.08 296 **PKPdf 06 54 38.4 +0.3**
GNI Garni 145.08 296 PKIKP **PKPdf 06 54 38.4 +0.3**
VRH Novokhopyorsk 145.17 316 *e*PKHKP PKPpre 06 54 34.3
VRH pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 145.48 325 *i* PKP2 **PKPdf 06 54 36.7 -1.3**
MOS pmax pmax
comp=Z,155nm,1.2s
GOF Gofitskoye 145.87 305*de*PKIKP **PKPab 06 54 40.8 +0.7**
KBZ Khabaz 146.17 303 PKPbc **PKPab 06 54 41.5 +0.2**
comp=Z,19nm,1.1s,baz=99,slow=0.9,SNR=27
KBZ Khabaz 146.17 303 *i* PKP2 **PKPbc 06 54 40.6 0.0**
LPSR Galich'ya Gora 146.25 320 *e*PKIKP **PKPdf 06 54 38.6 -0.8**
LPSR pmax pmax
comp=Z,130nm,1.0s
FIA1 FINESS Array S 146.25 340 **PKPdf 06 54 39.2 +0.1**
FINES FINESS Array B 146.25 340 **PKPdf 06 54 39.2 +0.1**
FINES FINESS Array B 146.25 340 PKPbc **PKPdf 06 54 39.6 +0.5**
comp=Z,21nm,0.8s,baz=45,slow=3.0,SNR=37
KIV Kislovodsk 146.29 303 *i* PKP2 **PKPbc 06 54 40.9 -0.2**
KIV pmax pmax
comp=Z,26nm,1.1s
OBN Obninsk 146.32 325*ce*PKP2 **PKPdf 06 54 40.3 +0.9**
OBN *e* 06 58 02.6
OBN *e*PPP PPP 07 01 16.6
OBN pmax pmax
comp=Z,65nm,1.1s
VORR Voronezh 146.47 318 *e*PKIKP **PKPdf 06 54 39.9 +0.1**
VORR pmax pmax
comp=Z,90nm,1.0s
VSR Storozhevoye 146.67 317 *e*PKIKP **PKPdf 06 54 38.9 -1.2**
VSR pmax pmax
comp=Z,50nm,1.1s
VORD Divnogorie 146.69 317 *e*PKIKP **PKPdf 06 54 40.0 -0.2**
VORD pmax pmax
comp=Z,50nm,1.0s
ERBR Yeremizino-Bor 147.51 307 *i* PKP2 **PKPbc 06 54 45.1 +0.7**
ERBR pmax pmax
comp=Z,107nm,1.1s
SOC Sochi 148.47 303 *i* PKIKP **PKPdf 06 54 44.2 +0.8**
SOC *e*SSS SSS 07 23 02.1
SOC pmax pmax
comp=Z,14nm,0.6s
SOC MLR MLR
comp=Z,74nm,17.0s
NB2 NORSAR Subarra 149.78 352 PKP **PKPbc 06 54 49.4 -0.4**
comp=Z,31nm,1.2s,baz=16,slow=4.3
NB2 NORSAR Subarra 149.78 352 PKP **PKPbc 06 54 49.4 -0.4**
comp=Z,31nm,1.2s,baz=16,slow=4.3
NOA NORSAR Array B 149.78 352 PKPbc **PKPbc 06 54 49.0 -0.7**
comp=Z,8.3nm,0.9s,baz=18,slow=2.8,SNR=12
ANN Anapa 149.82 306 *i* PKHKP **PKPbc 06 54 48.7 -1.6**
ANN pmax pmax
comp=Z,65nm,0.9s
HFS Hagfors 150.30 349 PKPbc **PKPbc 06 54 49.9 -1.1**
comp=Z,11nm,0.8s,baz=318,slow=2.0,SNR=13
MNK Minsk 150.73 330 *i* PKIKP **PKPbc 06 54 52.8 +0.6**
MNK *i* 06 58 28.2
MNK *i* PPP PPP 07 01 51.0
MNK *i* 07 01 55.0
MNK *i* SS SS 07 17 53.2 +4.1
MNK pmax pmax
comp=N,7.0nm,1.1s
MNK pmax pmax
comp=Z,32nm,1.0s
MNK pmax pmax
comp=E,14nm,0.8s
EDA Edea 151.71 196 PKPdf **PKPdf 06 54 50.5 +1.1**
EDA **PKiKP 06 54 56.3 +0.1**
SIM Simferopol' 152.04 308 *e*PKIKP **PKPdf 06 54 51.7 +2.7**
SIM pmax pmax
comp=Z,41nm,1.3s
MMAI Mount Meron Ar 152.37 282 PKPbc **PKiKP 06 54 57.3 +0.3**
comp=Z,11nm,0.8s,baz=74,slow=6.2,SNR=16
AKASG Malin Array Be 152.44 322 **PKPbc 06 54 56.0 -0.3**
AKASG Malin Array Be 152.44 322 PKPbc **PKPbc 06 54 55.1 -1.1**
comp=Z,5.7nm,0.8s,baz=50,slow=2.7,SNR=22
AKASG PKPab 06 55 06.3 -0.2
comp=Z,7.8nm,0.8s,baz=48,slow=3.3,SNR=17
AKASG Malin Array Be 152.44 322*c i*PKIKP **PKPbc 06 54 56.2 0.0**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 152.44 322*c i*PKIKP **PKiKP 06 54 56.7 +0.2**
KIEV Kiev 152.46 322 **PKPbc 06 54 55.5 -0.7**
KIEV Kiev 152.46 322⇓ P **PKPbc 06 54 56.5 +0.2**
KIEV Kiev 152.46 322 PKIKP **PKPbc 06 54 55.5 -0.7**
BZK Bozkurt 152.92 302⇑ P **PKPab 06 55 10.6 +1.8**
SUW Suwalki 153.01 333 *e*PKP **PKiKP 06 54 58.3 +0.8**
BRTR Keskin Array B 153.61 297 **PKPbc 06 54 58.8 -0.6**
BRTR Keskin Array B 153.61 297 PKPbc **PKiKP 06 54 59.6 +0.2**
comp=Z,3.3nm,0.9s,baz=132,slow=1.8,SNR=14
BRTR PKPab **PKPab 06 55 12.2 +0.1**
comp=Z,4.9nm,0.9s,baz=111,slow=2.8,SNR=9.9
DBIC Dimbokro 154.44 162 PKPbc **PKiKP 06 55 02.5 +0.8**
comp=Z,3.4nm,0.8s,baz=282,slow=3.1,SNR=3.9
DBIC PKPab **sPKPab 06 55 18.0 +1.6**
comp=Z,4.9nm,0.7s,baz=205,slow=5.5,SNR=4.4
EKA Eskdalemuir Ar 155.66 8 PKPab **PKPab 06 55 19.8 -0.1**
comp=Z,1.6nm,0.8s,baz=298,slow=3.6,SNR=3.9
TPGR Topolog 155.84 311⇓ P **PKPab 06 55 22.3 +1.1**
HARR Harsova 156.22 311⇑ P **PKPab 06 55 23.5 +0.8**
HARR Harsova 156.22 311⇑ PKP2 **PKPab 06 55 23.5 +0.8**
BURAR Bucovina Array 156.37 320⇓ P **PKPab 06 55 24.6 +1.0**
BURAR Bucovina Array 156.37 320⇓ PKP2 **PKPab 06 55 24.5 +1.0**
VRI Vrincioaia 156.43 315⇓ P **PKPab 06 55 24.9 +1.2**
VRI Vrincioaia 156.43 315⇓ PKP2 **PKPab 06 55 24.9 +1.2**
PLOR Plostina 156.49 315⇓ P **PKPab 06 55 23.9 0.0**
PLOR Plostina 156.49 315⇓ PKP2 **PKPab 06 55 23.9 0.0**
DOPR Dopca 157.18 316⇑ P **PKPab 06 55 27.8 +0.9**
STHS Stebnicka Huta 157.21 328 *e*PKIKP **PKPdf 06 54 59.8 +3.8**
STHS Stebnicka Huta 157.21 328 *e*PKP **PKPdf 06 54 59.8 +3.8**
STHS *e* 06 55 27.0
NIE Niedzica 157.64 329 *e*PKP **PKPab 06 55 29.6 +0.9**
KSP Ksiaz 158.08 337 *e*PKP **PKPab 06 55 30.5 0.0**
MARR Marisel-Cluj 158.08 320⇓ P **PKPab 06 55 31.0 +0.1**
DRGR 158.23 321⇓ P **PKPab 06 55 32.3 +0.9**
DRGR 158.23 321⇓ PKP2 **PKPab 06 55 32.3 +0.9**
MORC Moravsky Berou 158.50 333 *e*PKP **PKPab 06 55 30.9 -1.6**
CLL Collm 158.66 342 *i* PKP2 **PKPab 06 55 33.3 +0.3**
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 158.66 342 *i* PKPdf **PKPdf 06 55 00.4 +2.7**
comp=Z,3.0nm,0.5s
CLL *i* PKPab **PKPab 06 55 33.3 +0.3**
comp=Z,7.0nm,1.2s
BRG Berggiesshubel 158.79 340 *e*PKP **PKPab 06 55 33.5 -0.1**
BRG Amp 06 55 35.3
comp=Z,4.5nm,0.8s
PSZ Piszkesteto 158.91 327⇑ P **PKPab 06 55 34.7 +0.4**
PSZ Piszkesteto 158.91 327⇑ PKP2 **PKPab 06 55 34.7 +0.4**
VYHS Vyhne 158.97 329 *e*PKP2 **PKPab 06 55 34.6 +0.1**
VYHS Vyhne 158.97 329 *e*PKP **PKPab 06 55 34.6 +0.1**
JAVC Velka Javorina 159.18 331 *e*PKP **PKPab 06 55 36.6 +1.2**
SURR Surduc 159.19 319⇓ P **PKPab 06 55 36.2 +0.7**
VRAC Vranov 159.25 334 *e*PKP **PKPab 06 55 36.1 +0.5**
KRUC Moravsky 159.52 334 *e*PKP **PKPab 06 55 36.8 0.0**
MODS Modra-Piesok 159.73 331 *e*PKP2 **PKPab 06 55 35.4 -2.4**
MODS Modra-Piesok 159.73 331 *e*PKP **PKPab 06 55 35.4 -2.4**
BOVS Bovan 160.65 315⇓ P **PKPab 06 55 41.8 -0.1**
GERES GERESS Array B 160.66 338 PKPdf **PKPdf 06 55 00.2 0.0**
GERES GERESS Array B 160.66 338 PKPab **PKPab 06 55 42.3 +0.4**
comp=Z,1.5nm,0.8s,baz=349,slow=2.7,SNR=8.3
GERES GERESS Array B 160.66 338 PKIKP **PKPdf 06 55 00.2 0.0**
FUORN Ofenpass-Fuorn 163.68 341 **PKPab 06 55 55.9 +0.5**
ACER Acerenza 165.78 315 **PKPab 06 56 03.9 -0.8**
TIP Timpagrande 166.16 308⇓ P **PKPab 06 56 07.0 +0.6**
ESDC Sonseca Array 170.05 32 PKPab **PKPab 06 56 23.5 0.0**
comp=Z,0.8nm,0.7s,baz=320,slow=6.5,SNR=5.0

IDC ***13*** *06:46:05.7±3.5,54.51N×87.29E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=30.4km s-min=20.7km az=44.0*

ASRS 13 06:46:06.0±1.0,54.34N×86.98E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**254**		I	I	06 54 50.0	
	baz=71,slow=314,SNR=9.0							
ZALV	**Zalesovo Beam**	**1.33**	**254**		Pg	Pn	06 46 32.2	+0.4
	1.4nm,0.3s,baz=68,slow=17,SNR=7.1							
ZALV					Lg	Lg	06 46 55.5	
	1.1nm,0.3s,baz=68,slow=26,SNR=5.0							
KURBB	**Kurchatov Arra**	**6.36**	**238**		Pn	Pn	06 47 44.3	+3.4
	0.1nm,0.3s,baz=54,slow=14,SNR=4.2							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**8.12**	**203**		Pn	Pn	06 48 09.3	+4.2
	0.1nm,0.3s,baz=20,slow=12,SNR=4.8							
MKAR					Lg	Lg	06 50 32.9	
	baz=21,slow=33,SNR=5.1							
	0.2nm,0.3s							

IDC ***13*** *06:46:20.2±1.0,21.99S×169.07E,h0km,mb4.1/8, mbtmp4.1/9,ML3.6/1,Error ellipse: s-maj=30.1km s-min=20.8km az=9.0*

NEIC ***13*** *06:46:21.9±2.1,21.97S±0.10×169.05E±0.10,h10km±1km, mb4.5/12,Error ellipse: s-maj=18.4km s-min=12.3km az=140.0*

ISC 13 06:46:24.6±0.7,21.87S±0.09×168.96E±0.08,h31km,n33, σ1s54/36,mb4.5/14,1C-3D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.59**	**242**			**Pn**	**06 46 51.0**	**+0.4**
DZM	**Mont Dzumac**	**2.34**	**265**		Pn	**Pn**	**06 47 02.9**	**+1.8**
DZM					Sn	**Sn**	**06 47 22.7**	**-6.2**
DZM	**Mont Dzumac**	**2.34**	**265**		Pn	**Pn**	**06 47 02.6**	**+1.5**
	14nm,0.3s,baz=149,slow=2.3,SNR=280							
DZM					Sn	**Sn**	**06 47 32.1**	**+3.2**
	31nm,0.3s,baz=135,slow=22,SNR=5.7							
	95nm,0.9s							
ONTNC	**Ouen Toro**	**2.37**	**259**		Pn	**Pn**	**06 47 02.8**	**+1.5**
ONTNC					Sn	**Sn**	**06 47 28.0**	**-1.2**
SANVU	**Saraoutou**	**6.60**	**345**		Pn	**Pn**	**06 47 59.3**	**-0.2**
INKA	**Innaminka**	**26.24**	**251**		P	**P**	**06 51 55.9**	**-1.1**
STKA	**Stephens Creek**	**26.30**	**242**		P	**P**	**06 51 57.6**	**0.0**
	0.9nm,0.3s,baz=69,slow=15,SNR=4.0							
	0.9nm,0.3s							
WR8	**Warramunga Arr**	**32.21**	**267**		P	**P**	**06 52 49.2**	**-1.0**
WR8					IAmb	IAmb	06 53 27.1	
	comp=Z,6.8nm,1.1s							
AS31	**Alice Springs**	**32.33**	**260**		P	**P**	**06 52 50.2**	**-1.1**
ASAR	**Alice Springs**	**32.33**	**260**		P	**P**	**06 52 50.8**	**-0.4**
ASAR	**Alice Springs**	**32.33**	**260**		P	**P**	**06 52 52.4**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=83,slow=8.9,SNR=20							
	comp=Z,2.5nm,0.9s							
WB0	**Warramunga Arr**	**32.34**	**267**		P	**P**	**06 52 51.0**	**-0.3**
WB0					IAmb	IAmb	06 53 31.2	
	comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**32.36**	**267**		P	**P**	**06 52 51.9**	**+0.4**
WRA	**Warramunga Arr**	**32.36**	**267**		P	**P**	**06 52 51.7**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=96,slow=8.0,SNR=7.9							
	comp=Z,1.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**40.79**	**267**		P	**P**	**06 54 04.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**40.79**	**267**		P	**P**	**06 54 04.2**	**+0.8**
	comp=Z,9.6nm,0.8s,baz=150,slow=8.4,SNR=11							
	comp=Z,9.6nm,0.8s							
MBWA	**Marble Bar**	**45.65**	**261**		P	**P**	**06 54 43.5**	**+0.9**
VNDA	**Vanda**	**55.80**	**182**		P	**P**	**06 55 57.4**	**-1.0**
VNDA					IAmb	IAmb	06 56 06.1	
	comp=Z,3.4nm,1.4s							

VNDA	Vanda	55.80	182	P		P	06 55 58.1	-0.2
	comp=Z,0.4nm,0.6s,baz=359,slow=4.1,SNR=3.9							
	comp=Z,0.4nm,0.6s							
SBA	Scott Base	56.04	181	P		P	06 55 60.0	0.0
SBA				IAmb		IAmb	06 56 02.3	
	comp=Z,6.1nm,1.1s							
CASY	Casey	57.62	204	P		P	06 56 11.2	-0.2
CASY				IAmb		IAmb	06 56 21.8	
	comp=Z,4.9nm,1.1s							
QSPA	South Pole Qui	68.19	180	P		P	06 57 22.4	+0.5
QSPA	South Pole Qui	68.19	180	P		P	06 57 22.2	+0.4
	comp=Z,5.7nm,1.0s,baz=358,slow=1.4,SNR=12							
	comp=Z,5.7nm,1.0s							
P16K	Nushagak River	85.09	16	P		P	06 58 58.0	+1.1
TROLL	Troll, Antarti	85.90	184	⇓P		P	06 58 58.7	-2.6
	comp=Z,232nm,0.7s							
SNAA	Sanae	86.53	183	⇑P		P	06 59 03.6	-0.7
	comp=Z,54nm,0.9s							
SNAA	Sanae	86.53	183	P		P	06 59 03.7	-0.6
SNAA				IAmb		IAmb	06 59 04.5	
	comp=Z,5.1nm,1.1s							
SNAA	Sanae	86.53	183	P		P	06 59 03.1	-1.1
	comp=Z,2.4nm,0.9s,baz=205,slow=5.7,SNR=9.0							
	comp=Z,2.4nm,0.9s							
VNA3	Neumayer Olymp	87.13	180	⇓P		P	06 59 06.1	-1.0
	comp=Z,5.4nm,0.7s							
VNA1	Neumayer--Stat	87.71	181	⇓P		P	06 59 09.6	-0.2
	comp=Z,4.1nm,1.2s							
NVAR	Mina Array Bea	90.73	49	P		P	06 59 25.5	+0.6
	comp=Z,0.3nm,0.7s,baz=241,slow=4.6,SNR=2.5							
	comp=Z,0.3nm,0.7s							
EKA	Eskdalemuir Ar	146.07	352	PKPbc		PKPbc	07 06 00.9	-0.2
	comp=Z,1.5nm,0.7s,baz=9.1,slow=2.4,SNR=4.0							
GERES	GERESS Array B	146.65	330	PKPbc		PKPab	07 06 04.1	-0.2
	comp=Z,1.9nm,0.8s,baz=46,slow=3.9,SNR=13							

ASRS ***13*** *06:59:49.0±0.9, 54.°14N×86.°39E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 13 06:59:51.2±2.8, 54.°16N×86.°55E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.8km s-min=14.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	ZALESOVO INFRA	1.04	259	I	I		07 06 20.0	
	baz=80,slow=316,SNR=1.2							
ZALV	Zalesovo Beam	1.04	259	Pg	Pg		07 00 09.8	-1.4
	1.7nm,0.3s,baz=77,slow=17,SNR=9.6							
ZALV				Lg	Lg		07 00 26.1	
	2.4nm,0.3s,baz=76,slow=30,SNR=5.7							
KURBB	Kurchatov Arra	6.05	237	Pn	Pn		07 01 22.7	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=5.0							
	0.5nm,0.3s							
MKAR	Makanchi Array	7.86	202	Pn	Pn		07 01 47.9	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=10							
MKAR				Lg	Lg		07 04 02.7	
	0.1nm,0.3s,baz=23,slow=33,SNR=2.2							
	0.2nm,0.2s							

IDC ***13*** *07:16:01.6±0.5, 56.°29N×163.°64E, h0km, mb4.2/24, mbtmp4.2/26, ML4.3/1, MS3.8/9, Error ellipse: s-maj=17.2km s-min=11.4km az=149.0*

MOS ***13*** *07:16:01.6±1.1, 56.°22N×163.°84E, h71km, mb4.7/26, Error ellipse: s-maj=9.1km s-min=4.8km az=68.5*

KRSC ***13*** *07:16:01.8±0.8, 56.°23N×163.°97E, h68km±29km, Ml4.3*

NEIC ***13*** *07:16:04.2±1.9, 56.°3N±0.°1×163.°5E±0.°2, h10km±1km, mb4.4/134, Error ellipse: s-maj=23.1km s-min=14.6km az=146.0*

ISC 13 07:16:04.5±0.3, 56.°20N±0.°04×163.°82E±0.°04, h19km, n474, σ1§12/409, mb4.4/111, MS4.0/11, 9C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BKI	Bering	1.57	128	PN	Pn		07 16 29.1	-2.2
BKI				S	Sn		07 16 49.4	-1.7
BKI	Bering	1.57	128	eP	Pn		07 16 29.1	-2.2
BKI				eS	Sn		07 16 49.5	-1.7
BZGR	Bezymyannyi-Gr	1.77	263	PN	Pn		07 16 33.5	-0.6
BZGR	Bezymyannyi-Gr	1.77	263	eP	Pn		07 16 33.6	-0.6
MKZ	Mys Kozlova	2.03	217	PN	Pn		07 16 35.6	-2.0
MKZ	Mys Kozlova	2.03	217	eP	Pn		07 16 35.7	-2.0
TUMD	Tumrok D	2.18	244	PN	Pn		07 16 39.0	-0.7
TUMD	Tumrok D	2.18	244	eP	Pn		07 16 39.0	-0.7
ESO	Esso	2.88	267	PN	Pn		07 16 49.9	+0.6
ESO	Esso	2.88	267	eP	Pn		07 16 50.0	+0.6
OSSR	Ossora	3.09	353	PN	Pn		07 16 50.7	-1.4
OSSR	Ossora	3.09	353	eP	Pn		07 16 50.8	-1.4
OSSR				eS	Sn		07 17 25.5	-3.0
KII	Karymskiy	3.31	231	PN	Pn		07 16 55.1	-0.2
KII	Karymskiy	3.31	231	eP	Pn		07 16 55.1	-0.2
SPN	Mys Shipunski	3.81	217	PN	Pn		07 17 00.1	-1.9
SPN	Mys Shipunski	3.81	217	eP	Pn		07 17 00.2	-1.9
NLC	Nalytchevo	3.99	222	eS	Sn		07 17 50.0	-0.8
SDLR	Sedlovina	4.09	226	PN	Pn		07 17 05.7	-0.3
SDLR	Sedlovina	4.09	226	eP	Pn		07 17 05.8	-0.3
KRX	Arik	4.13	229	PN	Pn		07 17 08.1	+1.5
KRX	Arik	4.13	229	eP	Pn		07 17 08.1	+1.5
SMAR	Somma	4.14	227	PN	Pn		07 17 06.2	-0.5
SMAR	Somma	4.14	227	eP	Pn		07 17 06.2	-0.5
AVH	Avacha	4.16	227	PN	Pn		07 17 08.9	+2.0
AVH	Avacha	4.16	227	eP	Pn		07 17 09.0	+2.0
UGLR	Uglovaya	4.17	226	PN	Pn		07 17 07.2	+0.1
UGLR	Uglovaya	4.17	226	eP	Pn		07 17 07.3	+0.1
KOK	Koryaka	4.18	228	PN	Pn		07 17 07.6	+0.3
KOK	Koryaka	4.18	228	eP	Pn		07 17 07.7	+0.3
GNL	Ganaly	4.22	236	PN	Pn		07 17 08.4	+0.7
GNL	Ganaly	4.22	236	eP	Pn		07 17 08.4	+0.7
DALK	Dalny	4.33	225	PN	Pn		07 17 08.7	-0.4
DALK	Dalny	4.33	225	eP	Pn		07 17 08.8	-0.4
DALK				eS	Sn		07 17 58.7	-0.4
PET	Petropavlovsk	4.37	225	ePN	Pn		07 17 12.5	+2.7
PET	Petropavlovsk	4.37	225	eS	Sn		07 18 00.2	0.0
PEA0B	Petropavlovsk-	4.71	231		Pn		07 17 16.9	+2.4
PEA0B	Petropavlovsk-	4.71	231	ceP	Pn		07 17 15.0	+0.5
PETK	Petropavlovsk-	4.71	231		Pn		07 17 17.0	+2.5
PETK	Petropavlovsk-	4.71	231	Pn	Pn		07 17 14.2	-0.3
	5.2nm,0.6s,baz=52,slow=17,SNR=18							
PETK	Petropavlovsk-	4.71	231	PN	Pn		07 17 17.0	+2.5
GRL	Gorelyy	4.96	225	PN	Pn		07 17 19.1	+1.1
GRL	Gorelyy	4.96	225	eP	Pn		07 17 19.1	+1.1
MTVR	Mutnovka	4.97	224	PN	Pn		07 17 18.1	0.0
MTVR	Mutnovka	4.97	224	eP	Pn		07 17 18.2	0.0
ASAK	Asacha	5.16	225	PN	Pn		07 17 21.3	+0.6
ASAK	Asacha	5.16	225	eP	Pn		07 17 21.4	+0.6
SKR	Severo-Kuril's	7.19	223	ePN	Pn		07 17 50.2	+1.8
MA2	Magadan	7.73	301	ePN	Pn		07 17 58.8	+2.9
SEY	Seymchan	8.89	324	ePN	Pn		07 18 15.7	+3.9
BILL	Bilibino	11.94	4	ePN	Pn		07 19 59.3	+5.9
TYV	Tymovskoe	13.65	256	eP	Pn		07 19 19.6	+2.8
TYV				eS	Sn		07 21 47.4	-0.3
TYV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
TYV				pmax	pmax			
	comp=Z,100nm,4.7s							
TYV				smax	smax			
	comp=E,5.0nm,1.1s							
TYV				smax	smax			
	comp=N,200nm,5.8s							
SPIA	Saint Paul Isl	14.26	75	P	Pn		07 19 26.0	+1.0
	baz=276							
P08K	Saint George I	14.72	77	P	Pn		07 19 33.0	+1.7
	baz=280							
YSS	Yuzhno-Sakhali	15.97	243	Pn	Pn		07 19 48.0	+0.1
YSS				IAmb	IAmb		07 19 52.8	
	comp=Z,22nm,0.7s							
YSS	Yuzhno-Sakhali	15.97	243	eP	Pn		07 19 49.1	+1.2
YSS				pmax	pmax			
	comp=Z,30nm,0.8s							
NIKH	Nikolski High	16.12	90	P	P		07 19 52.2	-0.7
	baz=293							
M11K	Mekoryuk	16.23	63	P	Pn		07 19 52.2	+1.2
	baz=269							
TNA	Tin City	16.49	44	P	Pn		07 19 55.0	+0.7
	baz=249							
K13K	Kusilvak Mount	17.07	57	P	Pn		07 20 02.7	+1.0
	baz=265							
F14K	Arctic Creek	17.08	45	P	Pn		07 20 02.6	+0.7
	baz=252							
UNV	Unalaska Valle	17.11	85	P	P		07 20 04.3	+0.4
	baz=290							
ANM	Nome	17.21	48	P	P		07 20 04.6	-0.3
	baz=256							
M13K	Dall Lake	17.64	63	P	P		07 20 10.0	+0.4
	baz=271							
J14K	Nanvaranak Lak	17.67	55	P	P		07 20 10.1	+0.2
	baz=264							
F15K	North Star Dit	17.82	45	P	P		07 20 11.7	0.0
	baz=253							
G15K	Niukluk	17.87	47	P	P		07 20 12.3	+0.1
	baz=256							
L14K	Kuka Creek	17.97	60	P	P		07 20 13.7	+0.3
	baz=269							
JKA	Kamikawa-asahi	18.10	237		P		07 20 15.0	+0.1
ASAJ	Asahikawa	18.10	237	P	Pn		07 20 13.6	-1.1
	comp=Z,1.9nm,0.3s,baz=45,slow=6.6,SNR=24							
	comp=Z,49nm,0.8s							
YAK	Yakutsk	18.31	303	LR	LR		07 27 49.4	
	comp=Z,228nm,19.5s,baz=110,slow=39							
YAK	Yakutsk	18.31	303	eP	Pn		07 20 16.3	-0.7
YAK				pmax	pmax			
	comp=Z,21nm,1.0s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,11nm,1.1s							
M14K	Bethel	18.32	61	P	Pn		07 20 18.1	+0.9
	baz=271							
N14K	Kuskokwak Cree	18.49	64	P	Pn		07 20 20.0	+0.8
	baz=274							
FALS	False Pass	18.50	80	P	Pn		07 20 20.8	+1.4
	baz=288							
C16K	Lisburne Hills	18.51	37	P	Pn		07 20 20.0	+0.6
	baz=245							
H16K	Elim	18.54	49	P	Pn		07 20 20.5	+0.6
	baz=259							
L15K	Ungalak Mounta	18.56	59	P	Pn		07 20 21.1	+1.1
	baz=269							
K15K	Wolf Creek Mou	18.56	57	P	Pn		07 20 21.4	+1.2
	baz=267							
O14K	Tigyukauivet M	18.76	66	P	Pn		07 20 23.0	+0.5
	baz=276							
M15K	Kasigluk River	18.95	62	P	Pn		07 20 25.0	+0.2
	baz=272							
S12K	Black Hills	19.00	77	P	Pn		07 20 26.7	+1.2
	baz=286							
D17K	Noatak River	19.06	40	P	Pn		07 20 26.1	0.0
	baz=250							
J16K	Anvik River	19.06	54	P	Pn		07 20 26.5	+0.3
	baz=265							
I17K	Unalakleet	19.09	52	P	Pn		07 20 26.6	+0.2
	baz=263							
N15K	Kwethluk River	19.27	63	P	Pn		07 20 29.2	+0.5
	baz=274							
E17K	Hotham Inlet	19.32	42	P	Pn		07 20 29.5	+0.3
	baz=253							
C17K	DeLong Mountai	19.32	37	P	P		07 20 28.8	+0.6
	baz=247							
G17K	Kiwalik Mounta	19.38	47	P	Pn		07 20 30.1	+0.2
	baz=259							
ERM	Erimo	19.50	232	eP	P		07 20 29.9	-0.3
ERM				pmax	pmax			
	comp=Z,33nm,1.1s							
O15K	Umgalikthiuk R	19.50	66	P	Pn		07 20 31.6	+0.1
	baz=278							
H17K	Granite Mounta	19.58	49	P	Pn		07 20 32.0	-0.3
	baz=261							
J17K	VABM Dome	19.76	53	P	Pn		07 20 34.3	-0.2
	baz=266							
M16K	Timber Creek	19.78	61		Pn		07 20 36.4	+1.6
M16K	Timber Creek	19.78	61	P	Pn		07 20 35.0	+0.2
	baz=273							
E18K	Tukpahlearik C	19.87	41	P	P		07 20 35.2	+1.1
	baz=254							
N16K	Nishlik Lake	19.91	62	P	P		07 20 35.7	+1.1
	baz=275							
SDPT	Sand Point	19.97	77	P	Pn		07 20 37.0	0.0
	baz=288							
F18K	Selawik	20.02	44	P	P		07 20 36.8	+1.2
	baz=257							
C18K	Utukok River	20.06	38	P	P		07 20 36.9	+0.7
	baz=250							
L17K	Deadin	20.07	57	P	P		07 20 37.6	+1.2
	baz=270							
K17K	Iditarod	20.08	56		Pn		07 20 39.0	+0.7
K17K				IAmb	IAmb		07 20 46.4	
	comp=Z,12nm,0.8s							
K17K	Iditarod	20.08	56	P	P		07 20 36.9	+0.5
	baz=269							
B18K	Kokolik River	20.13	36	P	P		07 20 38.1	+1.1
	baz=247							
S14K	Fog Glacier	20.21	74	P	Pn		07 20 39.4	-0.5
	baz=286							
H18K	Honhosa River	20.26	48	P	P		07 20 39.6	+1.2
	baz=262							
G18K	Tagagawik	20.26	46	P	P		07 20 39.7	+1.3
	baz=260							
O16K	Kokwok River B	20.33	65	P	P		07 20 40.4	+1.2
	baz=278							
P16K	Nushagak River	20.46	66	P	P		07 20 41.8	+1.2
	baz=279							
KLR	Kul'dur	20.50	264	P	P		07 20 40.7	-0.4
	baz=152,slow=17							
M17K	Holitna River	20.50	59		Pn		07 20 44.0	+0.8
M17K				IAmb	IAmb		07 20 47.4	
	comp=Z,22nm,0.8s							
M17K	Holitna River	20.50	59	P	Pn		07 20 42.5	-0.7
	baz=273,SNR=7.9							
CHNA	Chernabura Isl	20.61	78	P	Pn		07 20 44.2	-0.3
	baz=289							
N17K	Nushagak Hills	20.68	62	P	Pn		07 20 44.6	-0.7
	baz=276							
A19K	Wainwright	20.71	34	P	P		07 20 43.8	+0.6
	baz=246							
C19K	Lookout Ridge	20.77	37	P	Pn		07 20 46.0	-0.3
C19K				IAmb	IAmb		07 20 49.1	
	comp=Z,11nm,0.9s							
C19K	Lookout Ridge	20.77	37	P	P		07 20 44.5	+0.6
	baz=250							
O17K	Koliganek Bris	20.81	64	P	P		07 20 45.7	+1.4
	baz=265							
J18K	Innoko River	20.82	53	P	P		07 20 45.2	+0.7
	baz=268							
L18K	Granite Mounta	20.83	57		Pn		07 20 47.5	+0.5
L18K	Granite Mounta	20.83	57	P	P		07 20 45.8	+1.3
	baz=272							
GCSA	Galena City Sc	20.84	50	P	P		07 20 45.5	+0.9
	baz=265							
G19K	Purcell Mounta	20.94	46		Pn		07 20 48.6	+0.3
G19K	Purcell Mounta	20.94	46	P	P		07 20 46.8	+1.1
	baz=261							
R16K	Pilot Point	20.95	70	P	P		07 20 46.6	+0.8
	baz=283							
D19K	Kuna River	21.08	39		P		07 20 49.9	+2.6
D19K				IAmb	IAmb		07 20 51.8	
	comp=Z,12nm,1.0s							
D19K	Kuna River	21.08	39	P	P		07 20 47.5	+0.2
	baz=254							
H19K	Roundabout Mou	21.11	48	P	P		07 20 50.8	+3.2
H19K				IAmb	IAmb		07 20 53.3	
	comp=Z,15nm,1.1s							
H19K	Roundabout Mou	21.11	48	P	P		07 20 47.6	+0.1
	baz=263,SNR=5.7							
E19K	Redstone River	21.14	42	P	P		07 20 48.1	+0.2
	baz=257							
Q16K	King Salmon	21.20	67	P	P		07 20 49.7	+1.1
	baz=281							
P17K	Kvichak River	21.23	65	P	P		07 20 50.1	+1.3
	baz=280							
M18K	Stony River	21.27	59	P	P		07 20 49.9	+0.7
	baz=274,SNR=7.9							
N18K	Kilae Creek	21.30	61		P		07 20 51.7	+2.0
N18K	Kilae Creek	21.30	61	P	P		07 20 50.5	+0.8
	baz=276							
TIXI	Tiksi	21.31	330	P	P		07 20 48.9	-0.8
	comp=Z,9.8nm,0.7s,baz=144,slow=21,SNR=3.2							
TIXI				LR	LR		07 29 20.9	
	comp=Z,122nm,20.1s,baz=174,slow=38							
	comp=Z,9.8nm,0.7s							
J19K	Poorman	21.33	52		P		07 20 52.1	+2.2
J19K	Poorman	21.33	52	P	P		07 20 50.8	+0.8
	baz=268							
R17L	Mt. Peulik Vol	21.57	70	P	P		07 20 53.7	+1.1
	baz=284							
F20K	Avaraart Lake	21.63	44	P	P		07 20 53.7	+0.6
	baz=260							
D20K	Etivluk River	21.68	39		P		07 20 54.9	+1.3
D20K				IAmb	IAmb		07 20 57.6	
	comp=Z,7.2nm,0.7s							
D20K	Etivluk River	21.68	39	P	P		07 20 53.7	+0.1
	baz=255							
Q17K	Contact Creek	21.68	68	P	P		07 20 54.5	+0.6
	baz=282							
L19K	White Mountain	21.69	57	P	P		07 20 55.5	+1.7
L19K	White Mountain	21.69	57	P	P		07 20 54.7	+0.9
	baz=273							
E20K	Nigu River	21.71	40	P	P		07 20 54.3	+0.2
	baz=257,SNR=5.6							
O18K	Koktuh Hills	21.74	63	IAmb	IAmb		07 20 59.0	
	comp=Z,8.3nm,0.7s							
O18K	Koktuh Hills	21.74	63	P	P		07 20 55.1	+0.7
	baz=279							
H20K	Anotleneega Mo	21.75	48	P	P		07 20 54.8	+0.3
	baz=265,SNR=7.2							
P18K	Big Mountain,	21.81	65	P	P		07 20 55.6	+0.5
	baz=280							
I20K	Naaghedeneel	21.87	50	P	P		07 20 56.0	+0.3
	baz=267							
B20K	Meade River	21.88	36	P	P		07 20 56.0	+0.3
	baz=251							
M19K	Big River Lodg	21.92	58	P	P		07 20 56.8	+0.4
	baz=274							
N19K	Bonanza Creek	21.98	61		P		07 20 58.8	+1.8
N19K	Bonanza Creek	21.98	61	P	P		07 20 57.7	+0.6
	baz=277							
J20K	Nowinta River	21.98	52	P	P		07 20 57.3	+0.3
	baz=269,SNR=11							
K20K	Telida	22.01	54	P	P		07 20 57.2	-0.1
	baz=271							
Q18K	Katmai Hardscr	22.05	66	P	P		07 20 58.2	+0.3
	baz=282							
L20K	Farewell, AK	22.13	56	P	P		07 20 59.1	+0.6
	baz=273							
O19K	Port Alsworth	22.14	62	P	P		07 20 59.5	+0.9
	baz=279							
IMAR	Indian Mountai	22.27	47	P	P		07 21 01.3	+1.4
HEH	HeiHe	22.39	270	eP	P		07 20 58.1	-3.4
HEH				pmax	pmax			
	comp=Z,15nm,0.6s							
G21K	Allakaket	22.42	45		P		07 21 03.4	+1.7
G21K				IAmb	IAmb		07 21 05.2	
	comp=Z,14nm,1.2s							
G21K	Allakaket	22.42	45	P	P		07 21 01.7	+0.1
	baz=264,SNR=9.1							
C21K	Knifeblade Rid	22.43	38	P	P		07 21 02.3	+0.6
	baz=256							
CHIR	Chirikof Islan	22.45	74	P	P		07 21 03.1	+1.0
	baz=288							
A21K	Barrow	22.51	32	P	P		07 21 02.5	0.0
	baz=249							
M20K	Styx River	22.52	58	P	P		07 21 03.6	+0.8
	baz=275							
F21K	Alatna River	22.52	44	P	P		07 21 03.2	+0.4
	baz=262							
E21K	Killik River	22.55	40	P	P		07 21 03.1	0.0
	baz=259							
R18K	Karluk	22.59	69	P	P		07 21 04.5	+1.0
	baz=285							
B21K	Ikpikpuk River	22.61	37		P		07 21 05.8	+2.2
B21K				IAmb	IAmb		07 21 06.3	
	comp=Z,16nm,0.9s							
B21K	Ikpikpuk River	22.61	37	P	P		07 21 03.9	+0.4
	baz=255							
H21K	Meloziha Rive	22.63	48	P	P		07 21 04.4	+0.6
	baz=266							
Q19K	Cape Douglas,	22.69	65	P	P		07 21 05.3	+0.6
	baz=282							
P19K	Oil Pt	22.76	63	P	P		07 21 06.5	+1.2
	baz=281							
CHUM	Lake Minchumin	22.79	52	P	P		07 21 06.7	+1.2
	baz=271							
PPLA	Purkeypile	22.88	55	IAmb	IAmb		07 21 12.1	
	comp=Z,8.7nm,0.9s							
PPLA	Purkeypile	22.88	55	P	P		07 21 07.2	+0.5
	baz=274							
A22K	Sinclair Lake	22.90	34	P	P		07 21 07.2	+0.6
	baz=252							
CAST	Castle Rocks	22.91	54	P	P		07 21 06.8	0.0
	baz=272,SNR=6.0							
I21K	Tanana	22.95	49		P		07 21 08.2	+1.1
I21K	Tanana	22.95	49	P	P		07 21 07.6	+0.4
	baz=268							
O20K	Slope Mountain	22.99	62	P	P		07 21 08.5	+0.8
	baz=280							
SII	Sitkinak Islan	23.00	71	P	P		07 21 08.5	+0.7
	baz=287							
N20K	Mount Spurr	23.03	59	P	P		07 21 08.5	+0.4
	baz=278							
D22K	Ayikyak River	23.10	39	P	P		07 21 09.2	+0.4
	baz=259							
STLK	Strandline Lak	23.17	58	IAmb	IAmb		07 21 16.9	
	comp=Z,6.9nm,0.7s							
B22K	Teshekpuk Lake	23.19	36	P	P		07 21 10.0	+0.4
	baz=255							
H22K	Ishtalitna Cre	23.23	47	P	P		07 21 10.4	+0.3
	baz=267							
G22K	Bettles	23.25	45	P	P		07 21 10.6	+0.3
	baz=265							
SKT	Skwentna	23.26	57		P		07 21 12.0	+1.6
SKT	Skwentna	23.26	57	P	P		07 21 10.6	+0.2
	baz=276							
OHAK	Old Harbor	23.29	69	P	P		07 21 11.2	+0.6
	baz=286							
E22K	Anaktuvuk Pass	23.29	41	IAmb	IAmb		07 21 12.3	
	comp=Z,6.2nm,0.8s							
E22K	Anaktuvuk Pass	23.29	41	P	P		07 21 10.7	0.0
	baz=262							
BPAW	Bear Paw Mtn.	23.37	52	P	P		07 21 11.5	0.0
	baz=272							
Q20K	Shuyak Island	23.40	66	P	P		07 21 12.3	+0.6
	baz=284							
MLY	Manley	23.47	49	P	P		07 21 13.1	+0.6
	baz=270							
KDAK	Kodiak Island	23.50	68	P	P		07 21 13.8	+1.0
	baz=285							
HOM	Homer	23.56	63	P	P		07 21 13.2	-0.1
	baz=282							
CAPN	Captain Cook N	23.60	60	P	P		07 21 14.2	+0.5
	baz=279							
SUA	Susitna One	23.69	58	P	P		07 21 14.3	-0.5
	baz=278,SNR=5.7							
TRF	Thorofare Moun	23.71	53	IAmb	IAmb		07 21 20.4	
	comp=Z,15nm,1.0s							
TRF	Thorofare Moun	23.71	53	P	P		07 21 15.1	+0.1
	baz=274,SNR=15							
COLD	Coldfoot	23.79	44	P	P		07 21 15.4	-0.2
	baz=265							
G23K	Bananza Creek	23.82	45	P	P		07 21 15.6	-0.3
	baz=267,SNR=6.1							
D23K	Nanushuk River	23.83	40	P	P		07 21 15.9	-0.1
	baz=261							
M22K	Willow	23.95	58	P	P		07 21 17.5	+0.5
	baz=278							
H23K	Yukon River	23.98	47	IAmb	IAmb		07 21 19.7	
	comp=Z,8.5nm,0.9s							
H23K	Yukon River	23.98	47

baz=279
D24K **Happy Valley** 24.52 39 P P 07 21 22.2 0.0
baz=262
E24K **Your Creek** 24.52 42 P P 07 21 22.3 -0.1
baz=265
SEW **Seward** 24.55 61 P P 07 21 23.3 +0.7
baz=282
C24K **Franklin Bluff** 24.65 38 P P 07 21 23.8 +0.4
baz=261
H24K **Noodor Dome** 24.67 47 P P 07 21 24.4 +0.7
baz=271
COLA **College** 24.70 50 P P 07 21 24.4 +0.5
COLA **College** 24.70 50 *d* iP P 07 21 24.5 +0.5
COLA pmax pmax
comp=Z,13nm,1.1s
COLA **College** 24.70 50 P P 07 21 24.3 +0.5
baz=273
F24K **Squaw Lake** 24.71 43 P P 07 21 24.7 +0.7
baz=267
KNK **Knik Glacier** 24.79 58 P P 07 21 25.4 +0.6
baz=280
G24K **Hadweenzic Riv** 24.84 45 P P 07 21 25.5 +0.3
baz=269,SNR=17
POKR **Poker Plat Res** 24.87 49 IAmb IAmb 07 21 28.6
comp=Z,5.3nm,0.9s
POKR **Poker Plat Res** 24.87 49 P P 07 21 25.7 +0.3
baz=273
BNX **BinXian** 24.92 261 ⇓P P 07 21 24.3 -1.8
BNX pmax pmax
comp=Z,12nm,0.9s
PWL **Port Wells** 24.95 59 P P 07 21 25.3 -0.9
baz=281,SNR=9.2
MSHR **Mys Shultsa** 24.97 251 ⇑ *i* P P 07 21 24.7 -1.8
MSHR pmax pmax
comp=Z,11nm,1.1s
M23K **Glacier View** 25.07 57 P P 07 21 27.2 -0.1
baz=280
HDA **Harding Lake** 25.12 51 IAmb IAmb 07 21 32.9
comp=Z,8.3nm,0.7s
HDA **Harding Lake** 25.12 51 P P 07 21 27.6 -0.1
baz=275,SNR=10
ILAR **Eielson Array** 25.12 50 P P 07 21 27.6 -0.1
ILAR **Eielson Array** 25.12 50 P P 07 21 27.4 -0.3
comp=Z,4.1nm,0.7s,baz=270,slow=9.4,SNR=84
comp=Z,4.1nm,0.7s
ILAR **Eielson Array** 25.12 50 P P 07 21 27.6 -0.1
SCM **Sheep Creek Mo** 25.25 57 P P 07 21 28.7 -0.3
baz=280,SNR=16
G25K **Bearman Lake** 25.38 45 P P 07 21 29.8 -0.2
baz=270
D25K **Kavik River** 25.41 39 P P 07 21 30.0 -0.3
baz=265,SNR=8.2
H25L **Birch Creek** 25.50 46 P P 07 21 31.0 -0.1
baz=272
GLI **Glacier Island** 25.54 59 P P 07 21 31.6 0.0
baz=282
F25K **Christian Rive** 25.57 43 P P 07 21 31.6 -0.3
baz=269
P23K **Montague Islan** 25.58 61 P P 07 21 32.0 +0.1
baz=284
PRP **Porcupine Dome** 25.65 48 IAmb IAmb 07 21 34.6
comp=Z,8.9nm,0.8s
PRP **Porcupine Dome** 25.65 48 P P 07 21 32.9 +0.2
baz=274
K24K **Donnelly Dome** 25.68 52 IAmb IAmb 07 21 37.6
comp=Z,9.6nm,0.8s
K24K **Donnelly Dome** 25.68 52 P P 07 21 33.4 +0.5
baz=277
FYU **Fort Yukon** 25.73 46 IAmb IAmb 07 21 40.5
comp=Z,12nm,1.0s
M24K **Tolsona, Glenn** 25.74 56 P P 07 21 33.5 0.0
baz=280
J25K **Salcha River,** 25.78 50 P P 07 21 33.5 -0.3
baz=276,SNR=6.6
PAX **Paxson** 25.93 54 IAmb IAmb 07 21 42.2
comp=Z,5.0nm,0.9s
PAX **Paxson** 25.93 54 P P 07 21 35.9 +0.7
baz=279
KLU **Klutina** 25.97 57 IAmb IAmb 07 21 42.8
comp=Z,6.9nm,0.7s
KLU **Klutina** 25.97 57 P P 07 21 35.9 +0.3
baz=281
BMAR **Burnt Mountain** 25.98 44 P 07 21 36.7 +1.2
RIDG **Independent Ri** 26.10 52 IAmb IAmb 07 21 38.8
comp=Z,6.3nm,0.9s
RIDG **Independent Ri** 26.10 52 P P 07 21 36.6 -0.1
baz=278,SNR=6.6
DIV **Divide** 26.12 58 IAmb IAmb 07 21 45.1
comp=Z,6.5nm,0.7s
F26K **Sheenjek River** 26.14 43 P P 07 21 37.1 +0.1
baz=270
MJB9 **Matsu-Tunnel** 26.17 232 P P 07 21 38.4 +0.9
MAJO **Matsushiro** 26.17 232 P 07 21 37.6 0.0
MAJO **Matsushiro** 26.17 232 *d* iP P 07 21 37.0 -0.5
MAJO pmax pmax
comp=Z,23nm,0.8s
MJAR **Matsushiro Arr** 26.17 232 P P 07 21 37.4 -0.1
MJAR IAmb IAmb 07 21 38.1
comp=Z,5.2nm,0.8s
MJAR **Matsushiro Arr** 26.17 232 P P 07 21 37.4 -0.1
comp=Z,17nm,0.8s,baz=28,slow=8.2,SNR=53
comp=Z,17nm,0.8s
MJAR **Matsushiro Arr** 26.17 232 P P 07 21 37.4 -0.1
MJAR pmax pmax
comp=Z,5.0nm,0.8s
Q23K **Middleton Isla** 26.23 62 P P 07 21 39.1 +1.3
baz=285
EYAK **Cordova Ski Ar** 26.25 59 P P 07 21 39.1 +1.1
baz=283
G26K **Porcupine Rive** 26.29 45 IAmb IAmb 07 21 43.5
comp=Z,6.0nm,0.9s
G26K **Porcupine Rive** 26.29 45 P P 07 21 38.4 +0.1
baz=272,SNR=6.5
C27K **Jago River** 26.37 39 P P 07 21 39.6 +0.6
baz=267
SCRK **Sand Creek** 26.45 51 P P 07 21 39.1 -0.8
baz=278,SNR=19
DOT **Dot Lake** 26.46 52 IAmb IAmb 07 21 40.4
comp=Z,4.5nm,0.7s
J26L **Joseph Creek** 26.57 50 P P 07 21 41.1 +0.1
baz=277
N25K **Chitina, Valde** 26.57 57 IAmb IAmb 07 21 42.2
comp=Z,5.7nm,0.8s
N25K **Chitina, Valde** 26.57 57 P P 07 21 41.7 +0.7
baz=282,SNR=6.9
I26K **Coal Creek Min** 26.66 48 P P 07 21 41.9 +0.3
baz=276
BMRM **Bremner River** 26.71 58 P P 07 21 42.8 +0.6
baz=283,SNR=6.3
L26K **Log Cabin Wild** 26.88 53 P P 07 21 44.1 +0.4
baz=280
GLB **Gilahina Butte** 26.98 57 IAmb IAmb 07 21 52.5
comp=Z,7.5nm,1.1s
E27K **Coleen River** 27.10 42 P P 07 21 45.3 -0.3
baz=272
G27K **Doyon Strip** 27.14 45 P P 07 21 45.7 -0.3
baz=274
M26K **Nabesna, AK** 27.15 55 IAmb IAmb 07 21 54.7
comp=Z,4.6nm,0.8s
M26K **Nabesna, AK** 27.15 55 P P 07 21 46.6 +0.4
baz=282,SNR=6.0
H27K **Steamboat Moun** 27.24 46 IAmb IAmb 07 21 50.0
comp=Z,10nm,1.2s
H27K **Steamboat Moun** 27.24 46 P P 07 21 47.2 +0.3
baz=275,SNR=8.6
I27K **Kandik River** 27.26 48 P P 07 21 47.4 +0.2
baz=277
K27K **Chicken** 27.28 51 P P 07 21 47.6 +0.3
baz=279
D27M **Malcolm River** 27.32 40 P P 07 21 48.4 +0.7
baz=270
MCARA **McCarthy VSAT** 27.36 57 P P 07 21 48.7 +0.7
baz=284
CRQE **Cirque** 27.48 58 P P 07 21 49.5 +0.3
baz=285
L27K **Beaver Creek,** 27.55 53 IAmb IAmb 07 21 51.9
comp=Z,8.3nm,0.9s
L27K **Beaver Creek,** 27.55 53 P P 07 21 50.0 +0.2
baz=281,SNR=14
BCAR **Beaver Creek A** 27.57 53 P 07 21 50.9 +1.0
M27K **Edge Creek, AK** 27.67 55 IAmb IAmb 07 21 54.5
comp=Z,7.5nm,0.8s
M27K **Edge Creek, AK** 27.67 55 P P 07 21 51.3 +0.3
baz=283,SNR=12
F28M **Old Crow** 27.78 43 P P 07 21 52.8 +1.0
baz=274
E28M **Babbage River** 27.85 41 P P 07 21 52.4 +0.1
baz=273

I28M **Miner Creek** 27.98 48 P P 07 21 54.4 +0.8
baz=278
BARN **Barnard Glacie** 28.08 57 IAmb IAmb 07 22 08.4
comp=Z,4.7nm,0.8s
BVCY **Beaver Creek** 28.12 54 P P 07 21 55.6 +0.8
baz=283
CTG **Chitna Glacier** 28.25 57 P P 07 21 57.2 +1.1
baz=286
DAWY **Dawson** 28.43 51 P P 07 21 58.3 +0.7
baz=281
E29M **Blow River** 28.47 41 P P 07 21 58.8 +1.0
baz=274
H29M **Whitestone** 28.51 46 P P 07 21 59.0 +0.7
baz=278
G29M **Pine Creek** 28.56 44 IAmb IAmb 07 22 01.7
comp=Z,8.6nm,1.1s
G29M **Pine Creek** 28.56 44 P P 07 21 59.4 +0.7
baz=277
I29M **Ogilvie Camp,** 28.66 48 IAmb IAmb 07 22 03.0
comp=Z,5.9nm,1.0s
I29M **Ogilvie Camp,** 28.66 48 P P 07 22 00.3 +0.7
baz=280,SNR=7.5
O28M **Mount Upton** 28.85 57 IAmb IAmb 07 22 07.5
comp=Z,6.0nm,0.7s
O28M **Mount Upton** 28.85 57 P P 07 22 02.4 +0.8
baz=286
YUK8 **Steele Glacier** 28.91 56 P P 07 22 02.3 +0.2
baz=286
PINM **Pinnacle** 29.01 59 P P 07 22 03.7 +0.9
baz=288
EPYK **Eagle Plains** 29.15 45 P P 07 22 04.0 +0.1
baz=279
L29M **L29M** 29.19 52 P P 07 22 04.9 +0.6
baz=284,SNR=12
M29M **Somme Creek** 29.20 54 IAmb IAmb 07 22 06.8
comp=Z,4.9nm,0.7s
M29M **Somme Creek** 29.20 54 P P 07 22 05.0 +0.5
baz=285,SNR=12
G30M **tAoh Zraii Nji** 29.25 44 P P 07 22 05.4 +0.5
baz=278
K29M **Barlow Dome** 29.29 51 P P 07 22 06.0 +0.7
baz=283
F30M **Barrier River** 29.34 43 P P 07 22 06.4 +0.9
baz=278
YUK4 **Talbot Arm** 29.41 56 P P 07 22 07.2 +0.8
baz=286
I30M **Mount Dempster** 29.49 48 IAmb IAmb 07 22 08.1
comp=Z,4.5nm,0.8s
I30M **Mount Dempster** 29.49 48 P P 07 22 07.7 +0.7
baz=281,SNR=5.6
PNL **Peninsula** 29.55 59 P P 07 22 08.2 +0.6
baz=289
YUK5 **Outpost Mounta** 29.65 57 P P 07 22 09.6 +0.9
baz=287
O29M **Mount Kennedy** 29.75 58 P P 07 22 10.4 +1.0
baz=288
M30M **Minto, Yukon** 29.91 53 P P 07 22 11.2 +0.5
baz=286
G31M **Satah River** 30.02 44 P P 07 22 12.0 +0.5
baz=280
HYT **Haines Junctio** 30.09 57 IAmb IAmb 07 22 14.7
comp=Z,6.4nm,0.8s
HYT **Haines Junctio** 30.09 57 P P 07 22 13.5 +1.1
baz=288,SNR=8.9
INK **Inuvik** 30.09 41 P P 07 22 12.7 +0.5
INK **Inuvik** 30.09 41 P P 07 22 12.7 +0.5
baz=278
N30M **Aishikik Lake** 30.09 55 P P 07 22 13.5 +1.2
baz=287
F31M **Tsiigehtchic** 30.14 43 P P 07 22 13.3 +0.7
baz=280
H31M **Peel River** 30.20 46 P P 07 22 13.8 +0.5
baz=282
P29M **Windy Craggy** 30.36 59 IAmb IAmb 07 22 16.8
comp=Z,5.2nm,0.7s
P29M **Windy Craggy** 30.36 59 P P 07 22 15.3 +0.6
baz=290
KSRS **Korea Array** 30.41 247 P P 07 22 14.0 -1.2
comp=Z,1.5nm,0.8s,baz=35,slow=11,SNR=4.5
comp=Z,1.5nm,0.8s
P30M **Million Dollar** 30.57 58 P P 07 22 17.2 +0.6
baz=290
N31M **Braeburn, Yuko** 30.68 55 P P 07 22 18.6 +1.1
baz=288
PLBC **Pleasant Camp** 31.08 59 P P 07 22 21.9 +0.9
baz=291
M31M **Drury Creek, Y** 31.09 53 IAmb IAmb 07 22 23.8
comp=Z,5.7nm,0.8s
M31M **Drury Creek, Y** 31.09 53 P P 07 22 21.8 +0.6
baz=288,SNR=8.1
WHY **Whitehorse** 31.36 56 P P 07 22 24.2 +0.6
baz=290,SNR=7.5
N32M **Quiet Lake** 32.02 55 P P 07 22 30.1 +0.7
baz=290
BESE **Bessie Mountai** 32.13 60 IAmb IAmb 07 22 34.7
comp=Z,7.5nm,1.1s
P32M **Atlin** 32.29 58 P P 07 22 32.3 +0.5
baz=292
A36M **Sachs Harbour** 32.34 33 P P 07 22 32.2 +0.2
baz=279
MMPY **Sheldon Lake,** 32.35 52 IAmb IAmb 07 22 35.0
comp=Z,4.4nm,0.9s
MMPY **Sheldon Lake,** 32.35 52 P P 07 22 32.5 +0.3
baz=289
R32K **Eaglecrest** 32.41 60 IAmb IAmb 07 22 38.6
comp=Z,5.2nm,0.8s
R32K **Eaglecrest** 32.41 60 P P 07 22 34.1 +1.3
baz=294
P33M **Teslin, Yukon** 32.48 56 IAmb IAmb 07 22 35.5
comp=Z,3.4nm,0.9s
P33M **Teslin, Yukon** 32.48 56 P P 07 22 34.3 +0.9
baz=292
SIT **Sitka** 32.52 63 P P 07 22 35.5 +1.9
baz=295
S32K **Killisnoo** 32.71 62 P P 07 22 37.2 +1.9
baz=295
Q32M **Nakina River** 33.22 58 IAmb IAmb 07 22 42.9
comp=Z,4.6nm,0.8s
Q32M **Nakina River** 33.22 58 P P 07 22 41.3 +1.2
baz=294,SNR=5.8
C36M **Paulatuk** 33.26 38 P P 07 22 41.0 +1.1
baz=284
R33M **Jennings River** 33.66 57 IAmb IAmb 07 22 46.5
comp=Z,3.9nm,0.8s
R33M **Jennings River** 33.66 57 P P 07 22 45.2 +1.5
baz=294,SNR=6.9
U33K **Whale Pass** 34.03 63 P P 07 22 47.8 +1.0
baz=297
TGTN **Hyland Airport** 34.05 52 P P 07 22 48.2 +1.1
baz=293
S34M **Telegraph Cree** 34.20 59 IAmb IAmb 07 22 54.7
comp=Z,2.8nm,0.8s
S34M **Telegraph Cree** 34.20 59 P P 07 22 49.0 +0.7
baz=296
WRAK **Wrangell Islan** 34.27 62 IAmb IAmb 07 22 52.3
comp=Z,5.3nm,1.0s
WRAK **Wrangell Islan** 34.27 62 P P 07 22 50.0 +1.1
baz=297
CRAG **Craig** 34.32 64 P P 07 22 49.8 +0.5
baz=298
WTLY **Watson Lake, Y** 34.37 55 IAmb IAmb 07 22 56.8
comp=Z,5.8nm,1.0s
WTLY **Watson Lake, Y** 34.37 55 P P 07 22 50.8 +1.0
baz=294
DLBC **Dease Lake** 34.50 58 P P 07 22 52.3 +1.3
baz=296,SNR=9.5
ULN **Ulaanbaatar** 34.98 281 ⇑ *i* P P 07 22 55.4 0.0
ULN pmax pmax
comp=Z,4.0nm,1.0s
T35M **Bob Quinn** 35.05 61 IAmb IAmb 07 22 59.3
comp=Z,5.1nm,0.8s
T35M **Bob Quinn** 35.05 61 P P 07 22 56.7 +1.1
baz=298,SNR=5.5
SONM **Songino Array** 35.36 281 P P 07 22 57.9 -0.7
SONM **Songino Array** 35.36 281 P P 07 22 57.5 -1.1
comp=Z,3.6nm,0.7s,baz=60,slow=8.5,SNR=15
SONM PcP PcP 07 25 28.4 +0.1
comp=Z,1.8nm,0.7s,baz=86,slow=2.5,SNR=7.1
comp=Z,3.6nm,0.7s
SONM **Songino Array** 35.36 281 P P 07 22 57.9 -0.7
SONM pmax pmax
comp=Z,3.0nm,0.8s
LIRD **Liard River Hi** 35.91 55 P P 07 23 03.9 +0.9
baz=297
H11N2 **WAKE ISLAND Hy** 36.48 175 T T 08 01 49.4
baz=0.4
H11N3 **WAKE ISLAND Hy** 36.50 175 T T 08 01 47.8
baz=0.4,slow=74,SNR=4323

H11N1 **WAKE ISLAND Hy** 36.50 175 T T 08 01 48.1
baz=0.4,slow=74,SNR=3890
KOTAN **Kotaneelee Air** 36.51 53 P P 07 23 09.6 +1.4
baz=297
TOAD **Toad River Com** 36.56 56 P P 07 23 10.3 +1.7
baz=298,SNR=9.6
HHC **Hu-ho-hao-te** 36.89 268 *e* P P 07 23 11.1 -0.6
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,80nm,4.5s
YKA **Yellowknife Ar** 39.42 46 P P 07 23 31.0 -1.7
comp=Z,0.7nm,0.6s,baz=294,slow=5.5,SNR=5.2
comp=Z,0.7nm,0.6s
YKA **Yellowknife Ar** 39.42 46 *ce* P P 07 23 33.0 +0.3
YKA pmax pmax
comp=Z,1.0nm,0.5s
ZALV **Zalesovo Beam** 42.95 302 PcP PcP 07 25 51.9 0.0
comp=Z,1.8nm,0.8s,baz=41,slow=4.7,SNR=4.0
KBS **Kingsbay** 44.09 352 *i* P P 07 24 13.0 +2.4
KBS pmax pmax
comp=Z,16nm,1.2s
GTA **Gaotai** 44.43 276 *e* P P 07 24 12.9 -1.1
GTA sP sP 07 24 34.3 +13
GTA pmax pmax
comp=Z,7.0nm,0.7s
GTA LR LR
comp=N,150nm,14.5s
GTA LR LR
comp=E,160nm,14.5s
GTA LR LR
comp=Z,190nm,17.1s
LZH **Lanzhou** 44.54 269 *e* P P 07 24 15.9 +1.0
LZH pP sP 07 24 25.8 +3.7
LZH sP pP 07 24 29.9 +10
LZH pmax pmax
comp=Z,20nm,1.2s
BLKN **Baker Lake** 45.30 37 P P 07 24 20.9 +0.5
B08A **Colville Reser** 45.36 66 P P 07 24 22.1 +0.9
B08A IAmb IAmb 07 24 22.7
comp=Z,2.4nm,0.8s
PINE **Pine Mountain** 47.55 72 P 07 24 40.1 +1.5
PINE IAmb IAmb 07 24 42.1
comp=Z,2.7nm,0.9s
J05D **Fort Rock, OR** 47.74 72 IAmb IAmb 07 24 42.8
comp=Z,5.2nm,1.2s
KURK **Kurchatov** 47.95 301 P P 07 24 40.6 -0.7
KURK **Kurchatov** 47.95 301 *ce* P P 07 24 40.3 -1.0
KURK pmax pmax
comp=Z,6.0nm,1.0s
WMQ **Urumqi** 48.00 289 *e* P P 07 24 42.9 +1.0
WMQ LR LR
comp=Z,300nm,19.1s
KURBB **Kurchatov Arra** 48.05 301 P P 07 24 40.4 -1.8
comp=Z,1.8nm,0.3s,baz=55,slow=7.7,SNR=7.1
comp=Z,1.8nm,0.3s
MK31 **Makanchi Array** 48.77 295 ⇓ *i* P P 07 24 48.4 +0.6
GOMU **GeErMu** 49.49 277 P P 07 24 51.8 -2.0
GOMU pmax pmax
comp=Z,8.0nm,0.9s
BVAR **Borovoye Array** 50.16 308 P P 07 24 56.9 -1.4
comp=Z,1.2nm,0.5s,baz=56,slow=7.9,SNR=5.2
BVAR LR LR 07 49 12.9
comp=Z,64nm,19.1s,baz=90,slow=40
comp=Z,1.2nm,0.5s
SUMG **Summit** 50.59 8 P P 07 25 02.5 +0.8
SUMG **Summit** 50.59 8 P P 07 25 02.5 +0.8
SUMG pmax pmax
comp=Z,18nm,1.4s
YMP **Mirror Lake Pl** 52.46 64 IAmb IAmb 07 25 18.5
comp=Z,4.8nm,1.1s
RLMT **Red Lodge** 52.63 63 IAmb IAmb 07 25 24.6
comp=Z,6.3nm,1.1s
ARTI **Arti** 52.67 318 P P 07 25 16.4 -0.6
ARTI **Arti** 52.67 318 LR LR 07 50 20.3
comp=Z,134nm,20.4s,baz=54,slow=39
ARTI **Arti** 52.67 318 *d* iP P 07 25 16.3 -0.6
ARTI 07 26 23.8
ARTI 07 27 12.2
ARTI S S 07 32 42.0 -1.2
ARTI SS SS 07 36 14.1 -6.7
ARTI pmax pmax
comp=Z,9.0nm,0.9s
NVAR **Mina Array Bea** 52.74 75 P P 07 25 19.6 +1.5
comp=Z,0.7nm,0.8s,baz=302,slow=6.9,SNR=5.6
comp=Z,0.7nm,0.8s
PZH **PanZhiHua** 52.94 263 P P 07 25 20.8 +1.3
PD31 **Pinedale Array** 54.18 65 P P 07 25 29.8 +1.3
PD31 IAmb IAmb 07 25 35.3
comp=Z,3.8nm,1.2s
PDAR **Pinedale Array** 54.18 65 P P 07 25 29.5 +0.9
comp=Z,0.7nm,0.7s,baz=316,slow=4.1,SNR=6.8
comp=Z,0.7nm,0.7s
SPR3 **Spring Creek 3** 54.45 71 IAmb IAmb 07 25 33.5
comp=Z,3.0nm,1.1s
ULM **Lac du Bonnet** 55.14 50 P P 07 25 35.6 +0.6
comp=Z,1.7nm,0.6s,baz=294,slow=5.1,SNR=6.3
comp=Z,1.7nm,0.6s
AAK **Ala-Archa** 55.63 297 P P 07 25 38.1 -0.9
AAK pmax pmax
comp=Z,6.0nm,1.1s
KK31 **Karatay Array** 57.25 300 P P 07 25 47.4 -2.9
KK31 IAmb IAmb 07 25 49.6
comp=Z,3.9nm,0.8s
KK31 **Karatay Array** 57.25 300 P P 07 25 47.4 -2.9
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR **Karatay Array** 57.25 300 P 07 25 48.1 -2.2
KKAR **Karatay Array** 57.25 300 P P 07 25 48.1 -2.2
AKTO **Aktyubinsk** 57.30 313 LR LR 07 53 48.5
comp=Z,122nm,18.7s,baz=74,slow=40
AB31 **Akbulak array** 57.41 311 IAmb IAmb 07 25 52.5
comp=Z,7.1nm,1.4s
ABKAR **Akbulak array** 57.41 311 P P 07 25 51.2 -0.2
FINES **FINESS Array B** 58.10 338 P P 07 25 55.7 -0.2
comp=Z,1.7nm,0.9s,baz=357,slow=5.6,SNR=1.9
comp=Z,1.7nm,0.9s
TRKS **Terek-Say** 58.12 298 P P 07 25 52.4 -4.3
TRKS pmax pmax
comp=Z,3.0nm,1.0s
BORG **Borgarnes** 59.32 3 LR LR 07 54 31.6
comp=Z,62nm,19.3s,baz=309,slow=39
EVN **Everest** 60.14 276 P P 07 26 09.9 -1.4
CMAR **Chiang Mai Arr** 60.91 260 P P 07 26 15.4 -0.5
comp=Z,1.1nm,0.3s,baz=21,slow=6.5,SNR=8.4
CMAR PcP PcP 07 26 59.9 +0.6
comp=Z,2.0nm,0.3s,baz=29,slow=3.8,SNR=4.8
comp=Z,1.1nm,0.3s
OBN **Obninsk** 61.03 328 *e* P P 07 26 18.9 +2.7
OBN *e* 07 26 58.8
OBN *e* PPP PPP 07 29 55.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,96nm,17.0s
NOA **NORSAR Array B** 61.13 345 P P 07 26 15.9 -1.0
comp=Z,0.6nm,0.6s,baz=19,slow=6.6,SNR=3.4
comp=Z,0.6nm,0.6s
HFS **Hagfors** 61.62 344 P P 07 26 19.2 -1.0
comp=Z,1.3nm,0.7s,baz=32,slow=5.9,SNR=4.2
comp=Z,1.3nm,0.7s
SCHQ **Schefferville** 61.88 30 P P 07 26 21.2 -0.8
comp=Z,2.3nm,0.6s,baz=352,slow=9.4,SNR=3.7
comp=Z,2.3nm,0.6s
Y22D **IRIS PASSCAL I** 62.07 70 P P 07 26 25.0 +1.2
baz=321
LPSR **Galich'ya Gora** 62.48 326 *e* P P 07 26 26.2 +0.2
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRH **Novokhopyorsk** 62.76 323 *e* P P 07 26 26.1 -1.8
VRH pmax pmax
comp=Z,10.0nm,1.0s
VSR **Storozhevoye** 63.59 325 *e* P P 07 26 31.9 -1.5
VSR pmax pmax
comp=Z,9.0nm,1.0s
HNR **Honiara** 65.47 184 LR LR 07 51 01.8
comp=Z,65nm,19.1s,baz=352,slow=32
AKBB **Malin Array Si** 67.02 331 ⇑ *i* P P 07 26 55.0 -0.7
AKBB pmax pmax
comp=Z,4.0nm,1.0s
TXAR **Lajitas Array** 67.50 71 P P 07 27 00.1 +0.9
TXAR **Lajitas Array** 67.50 71 P P 07 27 00.2 +1.0
comp=Z,0.6nm,0.5s,baz=300,slow=5.2,SNR=16
comp=Z,0.6nm,0.5s
TXAR **Lajitas Array** 67.50 71 P P 07 27 00.1 +0.9
KIV **Kislovodsk** 68.60 318 *e* P P 07 27 05.1 -0.8
KIV pmax pmax

	comp=Z,9.0nm,1.1s									
KBZ	**Khabaz**	**68.72**	**318**		P		**P**	**07 27 07.4**	**+1.0**
	comp=Z,8.4nm,1.0s,baz=67,slow=1.5,SNR=13									
	comp=Z,8.4nm,1.0s									
KBZ	**Khabaz**	**68.72**	**318**	*c*	*i* P		**P**	**07 27 07.0**	**+0.6**
KBZ					pmax	pmax				
	comp=Z,10.0nm,1.0s									
AKT	**Akhty**	**68.75**	**314**		*e*P		**P**	**07 27 05.7**	**-1.2**
AKT					*e*			07 27 30.1		
AKT					pmax	pmax				
	comp=Z,13nm,0.8s									
CLL	**Collm**	**70.17**	**341**	*i*	P		**P**	**07 27 18.0**	**+2.7**
CLL					pmax	pmax				
	comp=Z,6.0nm,1.1s									
CLL	**Collm**	**70.17**	**341**	*i*	P		**P**	**07 27 18.0**	**+2.7**
DPC	**Dobruska-Polom**	**70.44**	**339**		P		**P**	**07 27 17.8**	**+0.7**
DPC					pmax	pmax				
	comp=Z,3.0nm,1.1s									
BRTR	**Keskin Array B**	**75.54**	**323**		P		**P**	**07 27 47.1**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=68,slow=3.6,SNR=9.5									
	comp=Z,1.7nm,0.7s									
BRTR	**Keskin Array B**	**75.54**	**323**	*ce*	P		**P**	**07 27 48.7**	**+1.2**
BRTR					pmax	pmax				
	comp=Z,2.0nm,0.7s									
CTAO	**Charters Tower**	**77.43**	**197**		P		**P**	**07 27 59.0**	**+0.9**
CTAO	**Charters Tower**	**77.43**	**197**		P		**P**	**07 27 59.0**	**+0.9**
CTAO					pmax	pmax				
	comp=Z,17nm,1.4s									
WRA	**Warramunga Arr**	**79.83**	**208**		P		**P**	**07 28 11.8**	**+0.4**
WRA	**Warramunga Arr**	**79.83**	**208**		P		**P**	**07 28 11.2**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=23,slow=5.4,SNR=7.8									
	comp=Z,2.1nm,0.9s									
WRA	**Warramunga Arr**	**79.83**	**208**	*ce*	P		**P**	**07 28 12.8**	**+1.5**
WRA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
MMAI	**Mount Meron Ar**	**80.92**	**318**		P		**P**	**07 28 16.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=5.7,slow=0.8,SNR=4.5									
	comp=Z,1.9nm,0.6s									
PPT	**Papeete**	**83.25**	**136**		LR		LR	07 57 05.6		
	comp=Z,39nm,21.0s,baz=354,slow=30									
ASAR	**Alice Springs**	**83.50**	**207**		P		**P**	**07 28 31.4**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=15,slow=5.1,SNR=17									
	comp=Z,2.5nm,0.9s									
ESDC	**Sonseca Array**	**83.93**	**351**		P		**P**	**07 28 32.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=4.7,slow=5.5,SNR=5.0									
	comp=Z,0.7nm,0.8s									
RAYN	**Ar Rayn**	**85.08**	**306**		P		**P**	**07 28 38.2**	**-0.8**
RAYN	**Ar Rayn**	**85.08**	**306**		P		**P**	**07 28 38.2**	**-0.8**
RAYN					pmax	pmax				
	comp=Z,7.0nm,0.7s									
STKA	**Stephens Creek**	**89.75**	**199**		P		**P**	**07 29 01.3**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=344,slow=10,SNR=4.9									
	comp=Z,2.9nm,0.8s									
MDT	**Midelt**	**90.79**	**350**		LR		LR	08 14 33.4		
	comp=Z,143nm,18.2s,baz=220,slow=39									
MAW	**Mawson**	**143.77**	**220**		PKP		PKPbc	07 35 35.0	+0.8	
	comp=Z,1.3nm,0.8s,baz=43,slow=8.9,SNR=3.5									
QSPA	**South Pole Qui**	**145.95**	**180**		PKPbc		**PKPbc**	**07 35 41.5**	**+0.3**	
	comp=Z,3.7nm,0.8s,baz=240,slow=0.4,SNR=18									

KRNET ***13*** *07:21:07.0±0.1,41.36N×78.84E,h12km,mb3.6*
NNC ***13*** *07:21:06.5±1.3,41.24N×78.80E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=9.5km s-min=5.4km az=155.0*
SOME ***13*** *07:21:07.1,41.33N×78.72E*
ISC 13 07:21:09.0±1.1,41°39N±0.05×78°81E±0.04,h0km,n33, σ1s32/44,23C-9D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.82**	**294**	⇓*i*P	**Pg**	**07 21 23.5**	**-1.2**
TARG				⇓*i*S	**Sg**	**07 21 35.9**	**+0.5**
PRZ	**Przheval'sk**	**1.13**	**345**	⇑*i*P	**Pg**	**07 21 29.8**	**-0.8**
PRZ				⇑*i*S	**Sb**	**07 21 46.2**	**-0.6**
KDJ	**Kajisay**	**1.42**	**302**	⇓*i*P	**Pg**	**07 21 34.4**	**-1.8**
KDJ				⇓*i*S	**Sg**	**07 21 54.3**	**-0.3**
SATY	**Saty**	**1.69**	**350**	S	**Sg**	**07 22 04.8**	**+1.5**
	141nm,0.1s						
UZB	**Uzynbulak**	**1.76**	**5**	S	**Sg**	**07 22 06.4**	**+1.0**
	72nm,0.3s						
SHLS	**Shalkode**	**1.83**	**15**	Pg	**Pg**	**07 21 46.0**	**+2.0**
	150nm,0.2s						
SHLS				Lg	Lg	07 22 13.6	
	245nm,0.5s						
PDGK	**Podgornoye**	**2.00**	**14**	⇓Pg	**Pn**	**07 21 44.6**	**+0.5**
	28nm,0.3s						
PDGK				⇑Lg	Lg	07 22 14.7	
	372nm,1.1s						
KPKS	**Kokpek**	**2.07**	**358**	Pg	**Pb**	**07 21 47.1**	**-0.4**
	0.8nm,0.3s						
KPKS				Lg	Lg	07 22 15.5	
	168nm,0.3s						
ULHL	**Ulahol**	**2.10**	**295**	⇑*i*P	**Pn**	**07 21 45.9**	**+0.4**
ULHL				⇑*i*S	**Sb**	**07 22 14.5**	**-0.1**
KURS	**Kuram**	**2.14**	**348**	Pg	**Pb**	**07 21 48.5**	**-0.2**
	29nm,0.3s						
KURS				Lg	Lg	07 22 18.1	
	83nm,0.7s						
KNDC	**Almaty**	**2.28**	**324**	⇑Pg	**Pb**	**07 21 50.6**	**-0.3**
	93nm,0.5s						
KNDC				⇓Lg	Lg	07 22 22.3	
	578nm,0.3s						
AAA	**Alma-Ata**	**2.29**	**323**	Pg	**Pb**	**07 21 51.5**	**+0.2**
	256nm,0.2s						
MTBS	**Maitube**	**2.47**	**315**	Pg	**Pb**	**07 21 53.8**	**-0.5**
	115nm,0.3s						
MTBS				Lg	Lg	07 22 27.5	
	173nm,0.4s						
KST	**Kastek**	**2.68**	**309**	Pg	**Pb**	**07 21 57.4**	**-0.5**
	55nm,0.5s						
KST				Lg	Lg	07 22 33.3	
	229nm,0.5s						
CHKK	**Chushkaly**	**2.80**	**332**	Pg	**Pb**	**07 21 59.5**	**-0.4**
	48nm,0.2s						
CHKK				Lg	Lg	07 22 37.8	
	180nm,0.5s						
TKM2	**Tokmak 2**	**2.83**	**304**	⇑*i*P	**Pn**	**07 21 56.2**	**+0.6**
TKM2				⇑*i*S	**Sn**	**07 22 32.1**	**+1.5**
KSH	**Kashi**	**2.86**	**230**	Pn	**Pg**	**07 22 04.4**	**+0.6**
KSH				Sn	Sg	07 22 51.3	+10
KSH				smax	smax		
	comp=N,26nm,0.6s						
KSH				smax	smax		
	comp=E,59nm,0.9s						
DGS	**Degeres**	**2.91**	**310**	Pg	**Pb**	**07 22 00.6**	**-1.2**
	comp=E,29nm,0.4s						
DGS				Lg	Lg	07 22 39.2	
	comp=E,66nm,0.5s						
KUU	**Kurty**	**3.09**	**325**	Lg	Lg	07 22 45.7	
	comp=E,190nm,0.4s						
UCH	**Uchtor**	**3.31**	**286**	⇓*i*P	**Pn**	**07 22 02.9**	**+0.4**
UCH				⇓*i*S	**Sn**	**07 22 43.9**	**+1.1**
CHMS	**Chumysh**	**3.41**	**299**	⇑*i*P	**Pn**	**07 22 04.0**	**+0.6**
CHMS				⇑*i*S	**Sn**	**07 22 45.8**	**+1.2**
AAK	**Ala-Archa**	**3.44**	**293**	⇑Pg	**Pb**	**07 22 09.9**	**-1.0**
	comp=E,1.6nm,0.4s						
AAK				⇑Lg	Lg	07 22 57.5	
	comp=E,32nm,0.9s						
AAK	**Ala-Archa**	**3.44**	**293**	⇑*i*P	**Pn**	**07 22 04.6**	**+0.6**
AAK				⇑*i*S	**Sn**	**07 22 46.7**	**+1.1**
USP	**Ospenovka**	**3.70**	**302**	⇑*i*P	**Pn**	**07 22 08.1**	**+0.7**
USP				⇑*i*S	**Sn**	**07 22 52.8**	**+1.1**
SGDS	**Sogindy**	**3.71**	**305**	Pg	**Pb**	**07 22 15.3**	**-0.1**
	comp=E,4.3nm,0.2s						
SGDS				Lg	Lg	07 23 03.8	
	comp=E,41nm,0.5s						
SALK	**Salom-Alik**	**3.80**	**264**	⇑*i*P	**Pn**	**07 22 09.4**	**+0.5**
SALK				⇑*i*S	**Sn**	**07 22 54.9**	**+0.5**
EKS2	**Erkin-Say**	**3.95**	**290**	⇑*e*P	**Pn**	**07 22 11.6**	**+0.6**
EKS2				⇑*i*S	**Sn**	**07 22 58.8**	**+0.7**
MRKS	**Merke**	**4.37**	**290**	Pg	**Pb**	**07 22 28.3**	**+1.7**
	comp=E,6.1nm,0.4s						
BTLS	**Baital**	**5.04**	**318**	Lg	Lg	07 23 45.0	
	comp=E,9.0nm,0.6s						
MAKZ	**Makanchi**	**5.87**	**22**	Pn	**Pn**	**07 22 36.7**	**-0.6**
	comp=E,1.3nm,0.5s						
MAKZ				Sn	**Sn**	**07 23 47.7**	**+2.4**
	comp=E,1.8nm,0.5s						
MAKZ				Lg	Lg	07 24 17.5	
	comp=E,7.7nm,1.1s						
MK31	**Makanchi Array**	**5.95**	**24**	Pn	**Pn**	**07 22 37.4**	**-0.9**
	comp=E,0.3nm,0.2s,baz=204,slow=13,SNR=21						
MK31				⇑Sn	**Sn**	**07 23 49.8**	**+2.6**
	comp=E,2.6nm,0.5s,baz=205,slow=23						
MK31				⇑Lg	Lg	07 24 21.2	
	comp=E,7.6nm,0.6s,baz=201,slow=28						
KK31	**Karatay Array**	**6.39**	**288**	Pg	**Pb**	**07 23 04.8**	**+3.9**
	comp=E,2.2nm,0.5s,baz=109,slow=15,SNR=8.6						
KK31				⇑Lg	Lg	07 24 32.2	
	comp=E,6.8nm,0.7s,baz=104,slow=28						
BNX	**BinXian**	**35.05**	**66**	⇓P	**P**	**07 27 59.8**	**-3.5**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.6s						

IDC ***13*** *07:22:19.6±12.0,21.08S×176.39W,h170km±104km, mb3.8/3,mbtmp4.4/5, Error ellipse: s-maj=72.3km s-min=44.0km az=35.0*
ISC 13 07:22:23.3±1.7,21.5S±0.2×176.4W±0.3,h200km,n8, σ1s57/10,mb3.9/3,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.95**	**265**	P	**P**	**07 25 57.3**	**+0.5**
	19nm,0.9s,baz=80,slow=18,SNR=10.0						
URZ	**Urewera**	**17.58**	**197**	P	**Pn**	**07 26 17.1**	**+0.8**
	9.6nm,0.8s,baz=278,slow=3.3,SNR=9.0						
URZ				S	**S**	**07 29 24.9**	**-1.6**
	6.9nm,0.4s,baz=77,slow=22,SNR=11						
STKA	**Stephens Creek**	**38.71**	**246**	P	**P**	**07 29 28.8**	**+0.7**
	1.7nm,0.4s,baz=110,slow=12,SNR=4.6						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**45.75**	**257**	P	**P**	**07 30 24.9**	**-0.1**
	3.7nm,0.8s,baz=91,slow=8.0,SNR=32						
ASAR				PcP	**PcP**	**07 31 59.2**	**-0.1**
	0.8nm,0.8s,baz=111,slow=3.8,SNR=4.8						
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**45.95**	**263**	P	**P**	**07 30 25.6**	**-1.0**
	2.5nm,0.7s,baz=97,slow=7.7,SNR=18						
	2.5nm,0.7s						
AKASG	**Malin Array Be**	**144.64**	**332**	PKP	**PKPab**	**07 41 32.5**	**-2.5**
	3.4nm,0.6s,baz=43,slow=4.0,SNR=17						
BRTR	**Keskin Array B**	**148.65**	**312**	PKPbc	**PKPdf**	**07 41 45.5**	**+2.4**
	1.4nm,0.6s,baz=90,slow=2.9,SNR=7.7						
MMAI	**Mount Meron Ar**	**149.63**	**299**	PKPbc	**PKPbc**	**07 41 49.6**	**-0.1**
	2.2nm,0.5s,baz=72,slow=2.7,SNR=8.5						

IDC ***13*** *07:31:17.6±3.9,23.93S×179.61W,h457km±40km, mb3.6/11,mbtmp4.4/13,Error ellipse: s-maj=26.1km s-min=14.9km az=62.0*
NEIC ***13*** *07:31:21.7±1.5,24.0S±0.1×179.7W±0.2,h498km±9km, mb4.3/18,Error ellipse: s-maj=26.7km s-min=7.8km az=132.0*
ISC 13 07:31:21.8±0.5,24°11S±0.06×179°61W±0.07,h512km, n83,σ1s70/91,mb4.3/19,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**5.35**	**164**	P	**P**	**07 32 50.9**	**-1.6**
GLKZ				S	**S**	**07 34 04.8**	**-1.8**
MSVF	**Nonsavu**	**6.71**	**341**	P	**P**	**07 33 03.8**	**-2.1**
NIUE	**Niue**	**10.31**	**63**	P	**P**	**07 33 39.8**	**-2.8**
NIUE				S	**S**	**07 35 38.5**	**+0.1**
OUZ	**Omahuta**	**12.54**	**206**	P	**P**	**07 34 07.7**	**+1.8**
WCZ	**Waipu Caves**	**12.89**	**203**	P	**P**	**07 34 11.3**	**+1.7**
DZM	**Mont Dzumac**	**12.99**	**276**	P	**P**	**07 34 08.4**	**-2.6**
	13nm,1.1s,baz=192,slow=14,SNR=7.3						
KUZ	**Kuaotunu**	**13.22**	**197**	P	**P**	**07 34 13.5**	**+0.5**
ETAZ	**East Tamaki Re**	**13.63**	**199**	P	**P**	**07 34 18.4**	**+1.1**
MKAZ	**Moumakai**	**13.71**	**198**	P	**P**	**07 34 18.7**	**+0.6**
HAZ	**Te Kaha**	**13.78**	**189**	P	**P**	**07 34 18.5**	**-0.4**
HAZ				S	**S**	**07 36 45.1**	**+0.3**
RUGZ	**Raukumara Rang**	**14.00**	**189**	P	**P**	**07 34 23.2**	**+1.8**
RUGZ				S	**S**	**07 36 48.6**	**-0.7**
PUZ	**Puketiti**	**14.03**	**187**	P	**P**	**07 34 23.1**	**+1.6**
PUZ				S	**S**	**07 36 45.6**	**-4.3**
TOZ	**Tahuroa Road**	**14.20**	**196**	P	**P**	**07 34 23.6**	**+0.2**
URZ	**Urewera**	**14.38**	**190**	P	**P**	**07 34 22.4**	**-2.7**
	9.3nm,0.3s,baz=254,slow=3.1,SNR=24						
URZ				S	**S**	**07 36 52.9**	**-3.4**
	20nm,0.7s,baz=62,slow=24,SNR=8.6						
URZ	**Urewera**	**14.38**	**190**	P	**P**	**07 34 22.8**	**-2.4**
URZ				S	**S**	**07 36 53.2**	**-3.1**
MWZ	**Matawai**	**14.38**	**189**	P	**P**	**07 34 24.4**	**-0.9**
MWZ				S	**S**	**07 36 54.2**	**-2.3**
MRHZ	**Matea Rd**	**15.06**	**192**	P	**P**	**07 34 29.7**	**-2.7**
HIZ	**Hauiti**	**15.11**	**197**	P	**P**	**07 34 37.2**	**+4.4**
NMHZ	**Naumai**	**15.24**	**191**	P	**P**	**07 34 37.4**	**+3.1**
BKZ	**Black Stump Fm**	**15.37**	**192**	P	**P**	**07 34 35.9**	**+0.3**
KRVZ	**Karewarewa**	**15.47**	**194**	P	**P**	**07 34 34.9**	**-1.8**
TWVZ	**Taurewa**	**15.49**	**195**	P	**P**	**07 34 38.5**	**+1.6**
OTVZ	**Oturere**	**15.53**	**194**	P	**P**	**07 34 37.0**	**-0.4**
MCHZ	**McNeill Hill**	**15.60**	**191**	P	**P**	**07 34 38.7**	**+0.8**
WNVZ	**Wahianoa**	**15.70**	**194**	P	**P**	**07 34 38.1**	**-1.1**
VRZ	**Vera Road**	**15.71**	**196**	P	**P**	**07 34 40.9**	**+1.9**
MOVZ	**Moawhango**	**15.74**	**193**	P	**P**	**07 34 39.5**	**0.0**
KRHZ	**Kereru**	**15.85**	**191**	P	**P**	**07 34 43.6**	**+3.0**
PXZ	**Pawanui**	**16.15**	**190**	P	**P**	**07 34 44.1**	**+0.6**
TSZ	**Takapari Road**	**16.33**	**192**	P	**P**	**07 34 44.8**	**-0.7**
BFZ	**Birch Farm**	**16.88**	**191**	P	**P**	**07 34 49.5**	**-1.5**
MRZ	**Mangatainoka R**	**16.99**	**193**	P	**P**	**07 34 48.1**	**-3.9**
OGWZ	**Otaki Gorge**	**17.22**	**193**	P	**P**	**07 34 51.6**	**-2.6**
HOWZ	**Holdsworth Sta**	**17.23**	**193**	P	**P**	**07 34 52.0**	**-2.3**
DUWZ	**D'Urville Isla**	**17.50**	**197**	P	**P**	**07 34 55.4**	**-1.5**
CAW	**Cannon Point**	**17.52**	**193**	P	**P**	**07 34 55.4**	**-1.7**
TRWZ	**Traveller**	**17.68**	**192**	P	**P**	**07 34 57.7**	**-0.8**
MSWZ	**Moikau Station**	**17.78**	**193**	P	**P**	**07 34 56.5**	**-2.9**
TCW	**Tory Channel**	**17.80**	**195**	P	**P**	**07 34 57.4**	**-2.2**
BHW	**Baring Head**	**17.85**	**194**	P	**P**	**07 34 59.0**	**-1.1**
QRZ	**Quartz Range**	**17.92**	**200**	P	**P**	**07 35 00.1**	**-0.6**
PLWZ	**Palliser**	**17.93**	**193**	P	**P**	**07 34 59.1**	**-1.7**
TKNZ	**Takaka Hill**	**17.98**	**198**	P	**P**	**07 35 00.4**	**-0.9**
NNZ	**Nelson**	**18.04**	**197**	P	**P**	**07 35 00.8**	**-0.9**
TUWZ	**Tuamarina**	**18.09**	**196**	P	**P**	**07 35 02.0**	**-0.2**
BSWZ	**Blackbirch Sta**	**18.37**	**196**	P	**P**	**07 35 04.6**	**-0.2**
MRNZ	**Matariki Terra**	**18.38**	**198**	P	**P**	**07 35 04.3**	**-0.6**
THZ	**Tophouse**	**18.67**	**198**	P	**P**	**07 35 07.2**	**-0.4**
KHZ	**Kahutara**	**19.12**	**196**	P	**P**	**07 35 10.4**	**-1.1**
RPZ	**Rata Peaks**	**21.00**	**199**	P	**P**	**07 35 28.0**	**-0.7**
	20nm,0.5s,baz=39,slow=1.7,SNR=21						
	20nm,0.5s						
CTAO	**Charters Tower**	**31.83**	**270**	P	**P**	**07 37 04.7**	**+0.2**
TOO	**Toolangi**	**32.63**	**237**	P	**P**	**07 37 12.2**	**+1.1**
TAU	**Tasmania Unive**	**33.05**	**227**	P	**P**	**07 37 15.7**	**+1.3**
TAU				IAmb	IAmb	07 37 28.4	
	comp=Z,33nm,1.1s						
STKA	**Stephens Creek**	**34.97**	**248**	P	**P**	**07 37 31.5**	**+0.7**
STKA	**Stephens Creek**	**34.97**	**248**	P	**P**	**07 37 31.2**	**+0.5**
	comp=Z,3.5nm,0.3s,baz=87,slow=10.0,SNR=14						
	comp=Z,3.5nm,0.3s						
BBOO	**Buckleboo**	**39.69**	**247**	P	**P**	**07 38 09.1**	**-0.4**
BBOO				IAmb	IAmb	07 38 09.6	
	comp=Z,21nm,1.1s						
AS31	**Alice Springs**	**42.35**	**261**	P	**P**	**07 38 30.8**	**0.0**
AS31				IAmb	IAmb	07 38 32.8	
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**42.35**	**261**	P	**P**	**07 38 30.6**	**-0.2**
	comp=Z,6.5nm,0.5s,baz=96,slow=7.1,SNR=114						
ASAR				S	**S**	**07 44 15.1**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=99,slow=16,SNR=4.8						
	comp=Z,6.5nm,0.5s						
WRAB	**Tennant Creek**	**42.74**	**266**	P	**P**	**07 38 33.4**	**-0.5**
WRAB				IAmb	IAmb	07 38 33.8	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**42.74**	**267**	P	**P**	**07 38 33.3**	**-0.6**
WRA	**Warramunga Arr**	**42.75**	**266**	P	**P**	**07 38 33.2**	**-0.7**
	comp=Z,17nm,0.6s,baz=103,slow=8.1,SNR=77						
	comp=Z,17nm,0.6s						
VNDA	**Vanda**	**54.20**	**185**	P	**P**	**07 40 00.7**	**+2.3**
VNDA	**Vanda**	**54.20**	**185**	P	**P**	**07 40 00.3**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=358,slow=8.9,SNR=9.8						
	comp=Z,1.0nm,0.7s						
CASY	**Casey**	**60.08**	**206**	P	**P**	**07 40 39.2**	**+0.5**
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**07 41 18.5**	**+1.7**
QSPA				IAmb	IAmb	07 41 20.4	
	comp=Z,6.3nm,0.8s						
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**07 41 19.6**	**+2.7**
	comp=Z,5.3nm,0.6s,baz=333,slow=0.6,SNR=35						
	comp=Z,5.3nm,0.6s						
MJAR	**Matsushiro Arr**	**72.27**	**325**	P	**P**	**07 41 54.1**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=152,slow=7.0,SNR=5.5						
	comp=Z,1.5nm,0.6s						
MAW	**Mawson**	**77.67**	**200**	P	**P**	**07 42 26.2**	**+1.4**
	comp=Z,4.0nm,0.6s,baz=134,slow=5.9,SNR=24						
	comp=Z,4.0nm,0.6s						
O02D	**Mt. Diablo Mer**	**82.99**	**40**	P	**P**	**07 42 54.8**	**+1.7**
PLK4	**Peulik 4**	**83.73**	**12**	P	**P**	**07 42 56.8**	**+0.5**
PLK4				IAmb	IAmb	07 43 10.3	
	comp=Z,7.8nm,0.9s						
SNAA	**Sanae**	**84.45**	**179**	P	**P**	**07 43 00.3**	**+0.4**
SNAA				IAmb	IAmb	07 43 12.4	
	comp=Z,8.7nm,1.5s						
SNAA	**Sanae**	**84.45**	**179**	P	**P**	**07 42 59.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=199,slow=9.8,SNR=15						
	comp=Z,0.5nm,0.5s						
N15K	**Kwethluk River**	**85.48**	**10**	P	**P**	**07 43 05.8**	**+1.1**
N15K				IAmb	IAmb	07 43 45.4	
	comp=Z,15nm,1.2s						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**07 43 29.9**	**+1.9**
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**07 43 29.5**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=230,slow=5.9,SNR=5.9						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**92.16**	**13**	P	**P**	**07 43 34.5**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=229,slow=5.9,SNR=4.6						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**92.60**	**44**	P	**P**	**07 43 39.4**	**+0.7**
J26L	**Joseph Creek**	**92.66**	**15**	P	**P**	**07 43 38.9**	**+0.6**
J26L				IAmb	IAmb	07 43 57.1	
	comp=Z,4.1nm,1.5s						
M30M	**Minto, Yukon**	**92.85**	**18**	P	**P**	**07 43 40.2**	**+1.1**
M30M				IAmb	IAmb	07 44 00.5	
	comp=Z,2.8nm,1.4s						
ARCES	**ARCESS Array B**	**132.17**	**348**	PKP	**PKPdf**	**07 49 36.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=75,slow=1.4,SNR=4.1						
HFS	**Hagfors**	**142.82**	**349**	PKhKP	PKPpre	07 49 53.1	
	comp=Z,1.9nm,0.3s,baz=54,slow=2.6,SNR=21						
MMAI	**Mount Meron Ar**	**148.11**	**294**	PKPbc	**PKiKP**	**07 50 11.3**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=70,slow=4.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.02**	**187**	PKPab	**PKPab**	**07 51 46.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=172,slow=3.5,SNR=5.4						

ASRS ***13*** *07:42:31.0±1.9,53.69N×91.09E,h0km,M3.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 13 07:42:39.7±3.2,53.62N×90.64E,h0km,mbtmp3.4/3, ML2.8/2,Error ellipse: s-maj=27.0km s-min=21.6km az=52.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.47**	**278**	I	I	08 04 50.0	
	0.1nm,1.0s,baz=94,slow=316,SNR=2.5						
ZALV	**Zalesovo Beam**	**3.47**	**278**	Pn	Pn	07 43 36.0	+1.1
	1.6nm,0.3s,baz=96,slow=15,SNR=7.9						
ZALV				Sn	Sn	07 44 19.3	+2.6
	0.6nm,0.3s,baz=105,slow=21,SNR=7.6						
ZALV				Lg	Lg	07 44 28.4	
	2.8nm,0.3s,baz=95,slow=27,SNR=16						
	2.3nm,0.4s						
KURBB	**Kurchatov Arra**	**8.04**	**253**	Pn	Pn	07 44 37.1	-0.5
	1.4nm,0.3s,baz=65,slow=14,SNR=5.0						
KURBB				Sn	Sn	07 46 08.1	-1.1
	baz=66,slow=25						
KURBB				Lg	Lg	07 46 53.8	
	baz=68,slow=30						
MKAR	**Makanchi Array**	**8.68**	**221**	Pn	Pn	07 44 47.0	+0.5
	0.3nm,0.3s,baz=31,slow=13,SNR=12						
MKAR				Sn	Sn	07 46 25.4	+0.3
	0.1nm,0.3s,baz=50,slow=27,SNR=7.3						
MKAR				Lg	Lg	07 47 13.6	
	0.1nm,0.3s,baz=38,slow=24,SNR=5.6						
	0.8nm,0.5s						
SONM	**Songino Array**	**11.53**	**114**	Lg	Lg	07 48 31.7	
	0.2nm,0.3s,baz=295,slow=24,SNR=10						
BVAR	**Borovoye Array**	**12.12**	**275**	Sn	Sn	07 47 51.4	+2.0
	baz=82,slow=25,SNR=1.7						

VAO ***13*** *07:45:57.5±1.2,42.82S×72.61W,h180km±8km,mb4.1*
NEIC ***13*** *07:46:15.4±1.2,40.14S±0.06×72.2W±0.2,h132km±8km, mb4.3/7,Mwr4.3(GUC),Error ellipse: s-maj=19.1km s-min=9.0km az=94.0*
SJA ***13*** *07:46:15.2±0.5,40.27S×71.98W,h137km±2km,ML4.1, MW4.1*
GUC ***13*** *07:46:15.9±0.9,40.18S×72.18W,h133km±5km,ML4.3*
IDC ***13*** *07:46:17.3±2.2,40.16S×71.70W,h138km±12km,mb3.8/5, mbtmp4.2/5,Error ellipse: s-maj=44.9km s-min=18.6km az=92.0*
ISC 13 07:46:15.7±0.7,40°16S±0.04×72°08W±0.05,h132km±5km, n75,σ1s46/90,mb4.1/10,7C-1D,Central Chile

BO02	**Sierra Bellavi**	**5.45**	**11**		**Pn**	07 47 35.0	**+0.1**
BO01	**Tunca**	**5.81**	**8**		**Pn**	07 47 39.0	**-0.6**
BO04	**La Punta**	**6.27**	**11**		**Pn**	07 47 45.0	**-0.9**
MT01	**Popeta**	**6.32**	**6**		**Pn**	07 47 44.8	**-1.7**
MT09	**Talagante**	**6.43**	**8**		**Pn**	07 47 46.6	**-1.6**
LMEL	**Las Melosas**	**6.47**	**14**		**Pn**	07 47 48.6	**-0.1**
MT03	**Universidad Ad**	**6.77**	**11**		**Pn**	07 47 51.3	**-1.4**
MT16	**CCHEN**	**6.83**	**11**		**Pn**	07 47 52.2	**-1.2**
MT05	**Renca**	**6.84**	**9**		**Pn**	07 47 52.8	**-0.8**
MT08	**Bocatoma Ro**	**6.90**	**15**		**Pn**	07 47 54.3	**-0.3**
MT02	**Curacav**	**6.93**	**7**		**Pn**	07 47 53.1	**-1.6**
AY03	**Cochrane**	**7.10**	**183**		**Pn**	07 47 57.8	**+0.9**
TRQA	**Tornquist**	**8.13**	**78**		**Pn**	07 48 11.3	**+0.4**
CO01	**Juntas del Tor**	**10.29**	**10**		**Pn**	07 48 38.6	**-1.4**
MG01	**Puerto William**	**15.08**	**170**	Pn	**Pn**	07 49 41.4	**-0.2**
GO01	**Chusmiza**	**20.57**	**8**	P	**P**	07 50 44.5	**0.0**
GO01				IAmb	IAmb	07 50 57.3	
	comp=Z,12nm,1.2s						
MURT	**Porto Murtinho**	**22.18**	**38**	*e*P	**P**	07 50 58.8	**-2.3**
AMBA	**Amambai (Brazi**	**22.45**	**45**	*e*P	**P**	07 51 01.9	**-1.9**
BDQN	**Bodoquena, MS**	**23.62**	**38**	*e*P	**P**	07 51 13.3	**-1.4**
LPAZ	**La Paz**	**24.03**	**9**	*e*P	**P**	07 51 20.4	**+1.2**
	comp=Z,4.3nm,1.1s,baz=196,slow=6.7,SNR=7.5						
	comp=Z,4.3nm,1.1s						
LPAZ	**La Paz**	**24.03**	**9**	*e*P	**P**	07 51 20.7	**+1.6**
AQDB	**Aquidauana**	**24.11**	**40**		**P**	07 51 18.4	**-0.7**
AQDB				IAmb	IAmb	07 51 18.6	
	comp=Z,6.9nm,0.8s						
AQDB	**Aquidauana**	**24.11**	**40**	*e*P	**P**	07 51 18.4	**-0.7**
ESPZ	**Base Esperanza**	**24.94**	**164**	P	**P**	07 51 26.2	**-0.1**
ESPZ				IAmb	IAmb	07 51 28.1	
	comp=Z,13nm,0.8s						
BBSD	**Serra de San D**	**24.96**	**27**	*e*P	**P**	07 51 26.0	**-0.9**
RPRD	**Ribas do Rio P**	**25.13**	**44**	*e*P	**P**	07 51 27.1	**-1.4**
PTLB	**Pontes e Lacer**	**27.09**	**28**	P	**P**	07 51 46.2	**+0.2**
PTLB	**Pontes e Lacer**	**27.09**	**28**	*e*P	**P**	07 51 45.9	**-0.1**
PDRB	**Porto dos Gac**	**31.50**	**30**	*e*P	**P**	07 52 23.6	**-1.6**
BDFB	**Brasilia**	**32.19**	**48**	P	**P**	07 52 29.5	**-1.8**
	comp=Z,1.2nm,0.5s,baz=206,slow=12,SNR=1.8						
	comp=Z,1.2nm,0.5s						
TEFE	**Tefe**	**37.10**	**12**	*e*P	**P**	07 53 13.4	**0.0**
VNA3	**Neumayer Olymp**	**43.73**	**155**	⇑P	**P**	07 54 06.9	**-0.4**
	comp=Z,2.8nm,0.8s						
VNA1	**Neumayer--Stat**	**44.08**	**155**	⇑P	**P**	07 54 10.0	**0.0**
	comp=Z,2.9nm,0.8s						
SNAA	**Sanae**	**45.95**	**156**	⇑P	**P**	07 54 24.7	**-0.2**
	comp=Z,62nm,0.7s						
SNAA	**Sanae**	**45.95**	**156**	P	**P**	07 54 24.9	**0.0**
SNAA				IAmb	IAmb	07 54 25.8	
	comp=Z,8.3nm,1.1s						
SNAA	**Sanae**	**45.95**	**156**	P	**P**	07 54 24.5	**-0.4**
	comp=Z,3.4nm,0.9s,baz=285,slow=6.2,SNR=14						
	comp=Z,3.4nm,0.9s						
TROLL	**Troll, Antarti**	**47.64**	**156**	⇑P	**P**	07 54 38.2	**0.0**
	comp=Z,216nm,0.9s						
MAW	**Mawson**	**67.31**	**163**	P	**P**	07 56 56.4	**+0.7**
	comp=Z,1.3nm,0.8s,baz=225,slow=11,SNR=3.1						
	comp=Z,1.3nm,0.8s						
CASY	**Casey**	**73.88**	**181**	P	**P**	07 57 35.3	**-0.2**
CASY				IAmb	IAmb	07 57 51.6	
	comp=Z,4.9nm,0.5s						
DBIC	**Dimbokro**	**77.26**	**70**	P	**P**	07 57 55.0	**-0.6**
	comp=Z,8.7nm,1.2s,baz=231,slow=6.0,SNR=4.2						
	comp=Z,8.7nm,1.2s						
ABKAR	**Akbulak array**	**145.23**	**59**	PKPdf	**PKPbc**	08 05 36.6	**-0.4**

*MIRAS **13** 07:47:50.0, 60°.28N×60°.03E, h1km, ML3.2/6*
*IDC **13** 07:47:50.2±1.4, 60°.05N×59°.93E, h0km, mbtmp3.6/5, ML3.0/5, Error ellipse: s-maj=26.7km s-min=12.0km az=40.0*
ISC 13 07:47:48.5±1.5, 60°.47N±0°.10×60°.41E±0°.08, h10km, n12, σ2s37/28, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	**Severouralsk**	**0.34**	**218**	*i* P	Pg	07 47 51.4	-3.9
SVUR				*i* S	Sg	07 47 52.5	-7.3
SVUR				*i* S	Sg	07 47 52.5	-7.3
PR7R	**Sarany**	**2.10**	**204**	*i* P	**Pn**	**07 48 24.3**	**+0.7**
	289nm,0.4s						
PR7R				*i* S	**Sn**	**07 48 49.4**	**-0.4**
PR7R				*i* S	**Sn**	**07 48 49.4**	**-0.4**
	168nm,0.3s						
PR7R				*i* S	**Sn**	**07 48 49.4**	**-0.4**
PR7R				*i* AML	AML	07 48 51.7	
	441nm,0.4s						
PR1R	**Pomanovo**	**2.25**	**237**	*i* P	**Pn**	**07 48 27.5**	**+1.8**
	43nm,0.3s						
PR1R				*i* S	**Sn**	**07 48 54.3**	**+0.8**
PR1R				*i* S	**Sn**	**07 48 54.3**	**+0.8**
PR1R				*i* S	**Sn**	**07 48 54.3**	**+0.8**
	193nm,0.2s						
PR1R				*i* AML	AML	07 48 56.0	
	220nm,0.3s						
PR0R	**Verkhnechusovs**	**2.83**	**218**	*i* P	**Pn**	**07 48 33.0**	**-0.6**
	105nm,0.3s						
PR0R				*i* S	**Sn**	**07 49 06.1**	**-1.5**
PR0R				*i* S	**Sn**	**07 49 06.1**	**-1.5**
PR0R				*i* S	**Sn**	**07 49 06.1**	**-1.5**
	319nm,0.3s						
PR0R				*i* AML	AML	07 49 09.4	
	539nm,0.3s						
PR6R	**Ekimyata**	**3.20**	**226**	*i* P	**Pn**	**07 48 41.2**	**+2.5**
	13nm,0.1s						
PR6R				*i* S	**Sn**	**07 49 18.8**	**+2.0**
	55nm,0.2s						
PR6R				*i* S	**Sn**	**07 49 18.8**	**+2.0**
PR6R				*i* S	**Sn**	**07 49 18.8**	**+2.0**
PR6R				*i* AML	AML	07 49 25.7	
	84nm,0.3s						
PR4R	**Vlasy**	**3.53**	**226**	*i* P	Pn	07 48 40.6	-2.7
	46nm,0.2s						
PR4R				*i* S	**Sn**	**07 49 21.3**	**-3.8**
	107nm,0.5s						
PR4R				*i* S	**Sn**	**07 49 21.3**	**-3.8**
PR4R				*i* S	**Sn**	**07 49 21.3**	**-3.8**
PR4R				*i* AML	AML	07 49 36.8	
	170nm,0.3s						
ARTI	**Arti**	**4.23**	**195**	Pn	Pn	07 48 50.2	-2.7
	1.5nm,0.3s,baz=11,slow=11,SNR=5.8						
ARTI				Lg	Lg	07 49 51.0	
	2.4nm,0.3s,baz=345,slow=22,SNR=10						
	3.2nm,0.3s						
ARTI	**Arti**	**4.23**	**195**	*i* P	**Pn**	**07 48 54.2**	**+1.3**
	4.7nm,0.3s						
ARTI				*i* S	**Sn**	**07 49 44.5**	**+2.2**
ARTI				*i* S	**Sn**	**07 49 44.5**	**+2.2**
	11nm,0.3s						
ARTI				*i* S	**Sn**	**07 49 44.5**	**+2.2**
ARTI				*i* AML	AML	07 49 52.1	
	33nm,0.7s						
BVAR	**Borovoye Array**	**9.25**	**139**	Pn	**Pn**	**07 50 02.2**	**+0.5**
	0.1nm,0.3s,baz=324,slow=16,SNR=11						
BVAR				Sn	**Sn**	**07 51 40.1**	**-5.6**
	0.1nm,0.3s,baz=319,slow=23,SNR=3.1						
	3.7nm,0.5s						
FINES	**FINESS Array B**	**16.59**	**288**	Pn	**Pn**	**07 51 37.0**	**-3.8**
	0.1nm,0.3s,baz=76,slow=12,SNR=3.6						
FINES				Sn	Sn	07 54 30.5	-14
	0.1nm,0.3s,baz=86,slow=23,SNR=1.5						
	1.3nm,0.7s						
ARCES	**ARCESS Array B**	**17.05**	**317**	Pn	**Pn**	**07 51 45.6**	**-0.9**
	0.1nm,0.3s,baz=98,slow=13,SNR=4.3						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**18.73**	**127**	P	**P**	**07 52 09.0**	**+1.9**
	0.1nm,0.3s,baz=324,slow=11,SNR=1.8						
	0.2nm,0.5s						

*IDC **13** 07:55:02.7±3.8, 53°.57N×87°.85E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=39.0km s-min=19.8km az=49.0*
ASRS 13 07:55:01.0±1.7, 53°.60N×87°.96E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**282**	I	I	08 06 52.4	
	baz=100,slow=314						
ZALV	**Zalesovo Beam**	**1.90**	**282**	Pn	Pb	07 55 36.8	+0.3
	1.1nm,0.3s,baz=98,slow=13,SNR=6.4						
ZALV				Lg	Lg	07 56 01.1	
	1.4nm,0.3s,baz=97,slow=25,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.53**	**247**	Pn	Pn	07 56 38.6	+0.4
	0.1nm,0.3s,baz=60,slow=15,SNR=1.6						
	0.7nm,0.2s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	07 56 57.1	+2.4
	0.1nm,0.3s,baz=26,slow=14,SNR=1.9						
	0.1nm,0.3s						

*AEIC **13** 08:04:09.0±1.5, 52°.18N±0°.03×168°.23W±0°.05, h24km±6km, Error ellipse: s-maj=4.9km s-min=4.2km az=105.0*
NEIC 13 08:04:07.4±1.3, 52°.16N±0°.03×168°.25W±0°.05, h10km±1km, mb3.5/8, ML3.3/16, ML3.0(AEIC), Error ellipse: s-maj=6.0km s-min=4.1km az=139.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.90**	**336**		Pb	08 04 25.0	-0.1
NIKH					Sb	08 04 37.5	+0.4
NIKH				IAML		08 04 41.4	
	comp=N,662nm,0.5s						
NIKH				IAML		08 04 41.6	
	comp=E,624nm,0.6s						
OKSP	**Okmok Steeple**	**1.10**	**359**		Pb	08 04 28.1	-0.5
CLCO	**Concord Point,**	**1.10**	**306**		Pb	08 04 28.6	0.0
CLCO					Pg	08 04 28.7	+0.1
CLCO					Sg	08 04 41.9	-1.0
CLCO					Sb	08 04 42.1	-0.8
CLES	**Cleveland East**	**1.21**	**304**		Pn	08 04 30.1	-0.3
CLES					Sb	08 04 46.1	+0.1
CLES				IAML		08 04 49.3	
	comp=E,949nm,0.2s						
CLES				IAML		08 04 59.0	
	comp=N,786nm,0.3s						
OKTU	**Okmok Mt. Tuli**	**1.24**	**6**		Pn	08 04 30.7	-0.1
OKTU					Sb	08 04 46.9	0.0
OKTU					Sn	08 04 47.4	-0.2
OKWR	**Okmok West Rim**	**1.28**	**1**		Pn	08 04 31.2	-0.2
OKWR					Pb	08 04 31.6	-0.1
OKRE	**Okmok R'deer P**	**1.37**	**2**		Pn	08 04 32.8	+0.2
MREP	**Makushin Rep't**	**1.89**	**28**		Pn	08 04 39.7	-0.1
MREP					Pb	08 04 39.9	-2.1
UNV	**Unalaska Valle**	**1.99**	**31**		Pn	08 04 40.9	-0.2
UNV	**Unalaska Valle**	**1.99**	**31**		Sn	08 05 04.6	-1.5
AKMO	**Akutan Morgan**	**2.36**	**34**		Pn	08 04 46.6	+0.4
AKMO					Sn	08 05 13.8	-1.4
AKMO					Sb	08 05 14.5	-4.6
ZRO	**Akutan Zero**	**2.37**	**34**		Pn	08 04 46.6	+0.2
AKBBA	**Akutan Broad B**	**2.39**	**35**		Pn	08 04 46.9	+0.2
AKBBA					Pb	08 04 47.4	-3.1
AKBBA					Sn	08 05 16.0	0.0
LVA	**Lava Point**	**2.41**	**33**	Pn	Pn	08 04 46.4	-0.4
LVA				IAML		08 05 34.1	
	comp=E,110nm,0.9s						
LVA				IAML		08 05 38.5	
	comp=N,187nm,0.9s						
AKGG	**Akutan Green G**	**2.46**	**33**		Pn	08 04 48.6	+1.1
AKGG					Sn	08 05 17.8	+0.3
AKUT	**Akutan**	**2.48**	**36**	Pn	Pn	08 04 48.2	+0.5
ATKA	**Atka Island**	**3.66**	**273**		Pn	08 05 05.6	+1.6
ATKA				IAML		08 05 37.9	
	comp=N,41nm,3.1s						
ATKA				IAML		08 06 53.7	
	comp=E,49nm,3.8s						
P08K	**Saint George I**	**4.52**	**351**		Pn	08 05 15.8	0.0
DT1	**Dutton Round H**	**4.62**	**48**		Pn	08 05 19.0	+1.8
GSIG	**Igitkin Island**	**4.74**	**271**		Pn	08 05 20.2	+1.3
GSIG					Pn	08 05 20.6	+1.7
GSIG					Sn	08 06 14.5	+0.6
GSTR	**Great Sitkin T**	**4.82**	**272**		Pn	08 05 19.9	0.0
GSTR	**Great Sitkin T**	**4.82**	**272**		Sn	08 06 16.4	+0.7
GSMY	**Great Sitkin M**	**4.82**	**272**		Pn	08 05 21.8	+1.9
GSMY					Sn	08 06 16.3	+0.5
GSTD	**Great Sitkin T**	**4.87**	**272**		Pn	08 05 22.4	+1.6
GSTD					Sn	08 06 18.1	+1.0
GSCK	**Great Sitkin C**	**4.88**	**271**		Pn	08 05 22.4	+1.6
GSCK					Pn	08 05 22.8	+1.9
GSCK					Sn	08 06 17.9	+0.5
ETKA	**Kagalaska Isla**	**5.05**	**270**		Pn	08 05 24.8	+1.6
ADAG	**Mount Adagdak**	**5.16**	**271**		Pn	08 05 26.4	+1.8
KIRH	**Kanaga Island**	**5.47**	**271**		Pn	08 05 31.1	+2.2
KIRH					Pn	08 05 31.4	+2.5
KINC	**Kanaga Island**	**5.49**	**271**		Pn	08 05 31.1	+2.0
KINC					Pn	08 05 32.0	+2.9
KIWB	**Kanaga Island**	**5.51**	**270**		Pn	08 05 31.2	+1.8
KIKV	**Kanaga Island**	**5.52**	**271**		Pn	08 05 31.4	+1.8
KIKV					Pn	08 05 31.8	+2.2
KIMD	**Kanaga Island**	**5.57**	**269**		Pn	08 05 32.2	+1.9
CNBA	**Chernabura Isl**	**5.82**	**59**	Pn	Pn	08 05 33.5	-0.1
TAFL	**Tanaga Flats**	**5.98**	**270**		Pn	08 05 37.6	+1.7
TAFL					Pn	08 05 38.7	+2.8
TAFP	**Tanaga Falls P**	**6.02**	**271**		Pn	08 05 38.3	+1.9
TAFP					Pn	08 05 39.6	+3.2
TASE	**Tanaga Southea**	**6.06**	**271**		Pn	08 05 37.4	+0.4
TASE					Pn	08 05 39.8	+2.7
TANO	**Tanaga North**	**6.10**	**272**		Pn	08 05 39.6	+2.1
TANO					Pn	08 05 41.1	+3.5
GAKI	**Gareloi-Kavalg**	**6.58**	**269**		Pn	08 05 45.8	+1.8
GAKI					Pn	08 05 46.9	+2.9
CHGN	**Chignik**	**7.10**	**50**	Pn	Pn	08 05 51.8	+0.6
AMKA	**Amchitka**	**7.77**	**269**	Pn	Pn	08 06 01.0	+0.6
CHIR	**Chirikof Islan**	**8.29**	**59**	Pn	Pn	08 06 07.4	-0.2
OHAK	**Old Harbor**	**10.03**	**54**	Pn	Pn	08 06 31.4	0.0
KDAK	**Kodiak Island**	**10.61**	**52**	Pn	Pn	08 06 39.1	-0.1
SYI	**Shuyak Island**	**11.08**	**48**	Pn	Pn	08 06 46.1	+0.4
SCM	**Sheep Creek Mo**	**14.89**	**41**	Pn	Pn	08 07 36.5	-1.3
GLB	**Gilahina Butte**	**16.20**	**45**	Pn	Pn	08 07 53.7	-1.1
CRQM	**Cirque**	**16.24**	**48**	Pn	Pn	08 07 54.7	-0.8
J25K	**Salcha River,**	**17.17**	**35**	Pn	Pn	08 08 07.2	0.0
M27K	**Edge Creek, AK**	**17.41**	**44**	Pn	Pn	08 08 09.2	-1.0
M27K				IAmb	IAmb	08 08 33.0	
	comp=Z,2.9nm,1.1s						
BCAR	**Beaver Creek A**	**17.74**	**42**	Pn	Pn	08 08 13.1	-1.2
BMAR	**Burnt Mountain**	**19.19**	**28**	P	P	08 08 30.6	-0.3
C23K	**Itkillik River**	**19.54**	**18**	P	P	08 08 35.0	+0.3
C23K				IAmb	IAmb	08 08 39.6	
	comp=Z,2.6nm,0.8s						
I28M	**Miner Creek**	**19.57**	**36**	P	P	08 08 34.1	-1.0
I28M				IAmb	IAmb	08 08 56.1	
	comp=Z,1.9nm,1.1s						
PETK	**Petropavlovsk-**	**20.58**	**286**	P	P	08 08 46.5	+0.3
H31M	**Peel River**	**21.81**	**38**	P	P	08 08 58.6	-0.7
H31M				IAmb	IAmb	08 09 03.0	
	comp=Z,3.0nm,0.8s						
C36M	**Paulatuk**	**26.72**	**33**	P	P	08 09 47.0	+0.5
TXAR	**Lajitas Array**	**52.06**	**90**	P	P	08 13 16.4	-0.9
MKAR	**Makanchi Array**	**64.45**	**314**	P	P	08 14 43.1	-0.6

STR 13 08:04:10.7±0.4, 46°N±2°×°±°, h0km, MLv1.3/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.23**	**127**	Pg	Pg	08 04 15.9	+0.8
OGSM				Sg	Sg	08 04 19.3	+1.3
OG35	**Corcelles**	**0.31**	**18**	Pg	Pg	08 04 17.0	+0.4
OG35				Sg	Sg	08 04 21.7	+1.0
OGMY	**Moye**	**0.34**	**67**	Pg	Pg	08 04 17.8	+0.5
OGMY				Sg	Sg	08 04 22.5	+0.8
GRN	**Grenoble**	**0.55**	**157**	Pg	Pg	08 04 21.6	+0.4
GRN				Sg	Sg	08 04 29.1	+0.7
SSB	**Saint Sauveur**	**0.78**	**234**	Pg	Pg	08 04 26.4	+0.7
SSB				Sg	Sb	08 04 37.1	-1.3
RSL	**Roselend**	**0.84**	**94**	Pg	Pg	08 04 26.7	0.0
RSL				Sg	Sg	08 04 38.1	+0.6
COLF	**Collangettes**	**1.24**	**260**	Pg	Pb	08 04 34.8	-0.2
COLF				Sg	Sg	08 04 50.8	+0.3
PLDF	**La Plantade**	**1.29**	**281**	Pg	Pg	08 04 34.5	-0.8
PLDF				Sg	Sb	08 04 52.6	-0.3

STR 13 08:05:24.4±0.5, 46°N±3°×°±°, h0km, MLv1.2/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGSM	**Saint Maurice**	**0.24**	**130**	Pg	Pg	08 05 29.1	+0.1
OGSM				Sg	Sg	08 05 33.0	+0.9
OG35	**Corcelles**	**0.30**	**18**	Pg	Pg	08 05 30.4	+0.3
OG35				Sg	Sg	08 05 34.9	+1.0
OGMY	**Moye**	**0.34**	**69**	Pg	Pg	08 05 31.0	+0.1
OGMY				Sg	Sg	08 05 36.5	+1.2
GRN	**Grenoble**	**0.56**	**157**	Pg	Pg	08 05 35.3	0.0
GRN				Sg	Sg	08 05 43.5	+1.0
SSB	**Saint Sauveur**	**0.80**	**233**	Pg	Pg	08 05 39.9	+0.3
SSB				Sg	Sg	08 05 51.1	+1.2
COLF	**Collangettes**	**1.25**	**259**	Pg	Pg	08 05 48.2	-0.1

*ASRS **13** 08:19:43.0±0.8, 54°.22N×86°.44E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 13 08:19:45.1±3.1, 54°.23N×86°.47E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.9km s-min=14.7km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**255**	I	I	08 26 00.0	
	baz=75,slow=314,SNR=4.3						
ZALV	**Zalesovo Beam**	**1.01**	**255**	Pg	Pg	08 20 02.6	-1.8
	1.7nm,0.3s,baz=74,slow=17,SNR=17						
ZALV				Lg	Lg	08 20 19.7	
	1.6nm,0.3s,baz=73,slow=30,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.05**	**237**	Pn	Pn	08 21 17.2	+1.4
	0.1nm,0.3s,baz=53,slow=14,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.90**	**201**	Pn	Pn	08 21 42.3	+1.1
	0.2nm,0.3s,baz=21,slow=13,SNR=5.5						
	0.2nm,0.3s						

DJA 13 08:37:58.6±0.3, 1°S±4°×12°4E±°, h10km, M3.8/7, MLv3.8/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.33**	**273**	P	Pn	08 38 22.5	-0.7
LUWI				S	Sb	08 38 40.6	-0.2
SANI	**Sanana**	**2.11**	**116**	P	Pn	08 38 33.4	-0.5
APSI	**Ampana**	**2.46**	**275**	P	Pn	08 38 39.1	+0.3
MRSI	**Marisa**	**2.67**	**306**	P	Pn	08 38 41.0	-0.7
KDI	**Kendari**	**3.19**	**208**	P	Pn	08 38 49.1	+0.2
NLAI	**Namlea**	**3.67**	**125**	P	Pn	08 38 55.6	+0.2
NLAI				S	Sn	08 39 39.9	+1.1
SPSI	**Sidrap Palu**	**5.17**	**237**	P	Pn	08 39 19.5	+3.4

*IDC **13** 08:47:12.7±4.5, 1°.35N×128°.34E, h92km±46km, mb3.7/11, mbtmp4.1/13, Error ellipse: s-maj=31.3km s-min=14.3km az=72.0*
*NEIC **13** 08:47:13.4±1.9, 1°.4N±0°.1×128°.23E±0°.09, h87km±9km, mb4.3/23, Error ellipse: s-maj=15.6km s-min=12.2km az=201.0*
*DJA **13** 08:47:15.0±0.3, 1°N±3°×12°8E±°, h63km±12km, M4.6/15, mB5.3/6, mb4.9/11, MLv4.5/15, Mw(mB)4.8/6*
ISC 13 08:47:14.0±0.5, 1°.31N±0°.07×128°.15E±0°.08, h100km, n63, σ1s13/60, mb4.2/23, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.95**	**236**		**Pn**	**08 47 33.3**	**-0.5**
TNTI	**Ternate**	**0.95**	**236**	P	**Pn**	**08 47 33.1**	**-0.8**
SGSI	**Sangihe**	**3.52**	**312**	P	**Pn**	**08 48 07.0**	**+0.2**
SWI	**Sorong**	**3.79**	**125**	P	**Pn**	**08 48 09.3**	**-1.0**
SANI	**Sanana**	**3.98**	**213**	P	**Pn**	**08 48 11.9**	**-1.0**
NLAI	**Namlea**	**4.64**	**193**	P	**Pn**	**08 48 22.0**	**+0.1**
LUWI	**Luwuk**	**5.86**	**247**	Pn	**Pn**	**08 48 38.2**	**-0.3**
LUWI	**Luwuk**	**5.86**	**247**	P	**Pn**	**08 48 39.3**	**+0.8**
FAKI	**Fak Fak**	**5.87**	**136**		**Pn**	**08 48 36.5**	**-2.1**
FAKI	**Fak Fak**	**5.87**	**136**	P	**Pn**	**08 48 37.6**	**-1.0**
	0.5nm2µm103nm,0.7s						
MRSI	**Marisa**	**6.26**	**262**	P	**Pn**	**08 48 45.0**	**+1.1**
	0.2nm48nm,0.6s						
APSI	**Ampana**	**6.86**	**251**	P	**Pn**	**08 48 51.7**	**-0.4**
TOLI2	**Tolitoli**	**7.37**	**269**	Pn	**Pn**	**08 48 57.5**	**-1.5**
KDI	**Kendari**	**7.61**	**227**	P	**Pn**	**08 49 02.7**	**+0.4**
BAKI	**Biak**	**8.34**	**107**	P	**Pn**	**08 49 14.4**	**+2.2**
	110nm,0.8s						
TTSI	**Tana Toraja**	**9.38**	**243**	P	**Pn**	**08 49 26.6**	**+0.2**
	2µm47nm,0.5s						
SPSI	**Sidrap Palu**	**9.88**	**238**	P	**Pn**	**08 49 34.6**	**+1.5**
	2µm51nm,0.7s						
MYLDM	**Lahad Datu**	**10.37**	**292**	Pn	**Pn**	**08 49 37.0**	**-2.9**
BKSI	**Bulukumba**	**10.38**	**231**	P	**Pn**	**08 49 42.0**	**+2.1**
	52nm,0.7s						
KAPI	**Kappang**	**10.48**	**233**		**Pn**	**08 49 39.7**	**-1.6**
KAPI	**Kappang**	**10.48**	**233**	P	**Pn**	**08 49 42.8**	**+1.4**
	19nm,0.6s,baz=35,slow=9.3,SNR=8.7						
EDFI	**Ende, Flores**	**11.89**	**213**	P	**Pn**	**08 50 02.7**	**+2.3**
KNRA	**Kununurra**	**16.89**	**178**		**Pn**	**08 51 03.6**	**-0.8**
KNRA				IAmb	IAmb	08 51 32.3	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.44**	**187**	P	**P**	**08 51 31.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.44**	**187**	P	**P**	**08 51 31.2**	**-1.5**
	comp=Z,4.8nm,0.7s,baz=46,slow=12,SNR=7.7						
WB0	**Warramunga Arr**	**21.82**	**164**	P	**P**	**08 51 57.9**	**-0.5**
WB0				IAmb	IAmb	08 52 42.8	
	comp=Z,9.5nm,1.3s						
WRA	**Warramunga Arr**	**21.98**	**164**	P	**P**	**08 51 59.4**	**-0.6**
WRA	**Warramunga Arr**	**21.98**	**164**	P	**P**	**08 51 59.4**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=339,slow=11,SNR=16						
	comp=Z,1.5nm,0.5s						
WR8	**Warramunga Arr**	**22.03**	**164**

M14K	**Bethel**	**79.13**	**28**	P	**P**	**08 59 08.7**	**+1.3**
J17K	**VABM Dome**	**81.17**	**26**	P	**P**	**08 59 19.9**	**+1.6**
J17K				IAmb	IAmb	08 59 22.2	
	comp=Z,5.3nm,1.1s						
L18K	**Granite Mounta**	**81.95**	**27**	P	**P**	**08 59 24.1**	**+1.7**
L18K				IAmb	IAmb	08 59 46.0	
	comp=Z,7.6nm,1.4s						
D19K	**Kuna River**	**82.86**	**21**	P	**P**	**08 59 28.4**	**+1.2**
D19K				IAmb	IAmb	08 59 28.9	
	comp=Z,3.8nm,0.8s						
KDAK	**Kodiak Island**	**83.17**	**32**	P	**P**	**08 59 30.1**	**+1.2**
KDAK				IAmb	IAmb	08 59 46.4	
	comp=Z,9.7nm,1.1s						
SKT	**Skwentna**	**84.29**	**28**	P	**P**	**08 59 34.5**	**-0.1**
SKT				IAmb	IAmb	08 59 35.2	
	comp=Z,3.5nm,1.1s						

NNC ***13*** *08:58:35.8±2.3,54.°46N×86.°55E,h0km,mb3.1,mpv2.9, Error ellipse: s-maj=16.6km s-min=10.5km az=65.0, Suspected Mining explosion.*
ASRS ***13*** *08:58:40.0±1.3,54.°40N×86.°82E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 13 08:58:41.8±3.4,54.°44N×86.°87E,h0km,mbtmp3.1/2, ML2.9/2,1C-2D,Error ellipse: s-maj=31.1km s-min=19.0km az=50.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**249**	I	I	09 07 00.0	
	baz=68,slow=309,SNR=13						
ZAA0	**Zalesovo Array**	**1.30**	**248**	⇓Pn	Pg	08 59 06.1	-0.6
	0.4nm,0.4s,baz=69,slow=15						
ZAA0				⇑Sn	Sn	08 59 29.7	+4.4
	1.0nm,0.3s,baz=72,slow=29						
ZALV	**Zalesovo Beam**	**1.30**	**248**	Pg	Pg	08 59 05.3	-1.4
	2.3nm,0.3s,baz=65,slow=17,SNR=14						
ZALV				Lg	Lg	08 59 23.5	
	2.3nm,0.3s,baz=65,slow=26,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.37**	**236**	Pn	Pn	09 00 17.8	+1.1
	0.3nm,0.3s,baz=53,slow=14,SNR=11						
	1.6nm,0.4s						
KURBB	**Kurchatov Arra**	**6.37**	**236**	⇓P	Pn	09 00 16.2	-0.5
	1.7nm,0.3s						
MK31	**Makanchi Array**	**8.19**	**203**	P	Pn	09 00 39.1	-2.7
	0.8nm,0.8s,baz=26,slow=13,SNR=6.2						
MKAR	**Makanchi Array**	**8.19**	**203**	Pn	Pn	09 00 42.6	+0.8
	0.2nm,0.3s,baz=20,slow=13,SNR=5.4						
	0.2nm,0.3s						

HEL 13 08:59:57.1±0.1,67.°71N×26.°99E,h0km,ML1.6, Suspected explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAJF	**Raja-Jooseppi**	**0.92**	**32**	PG	Pg	09 00 13.8	-0.8
RAJF				SG	Sg	09 00 24.2	-2.3
VRF	**Varrio**	**1.00**	**87**	PG	Pg	09 00 15.2	-1.1
VRF				MSG		09 00 27.7	
	comp=Z,5.1nm,0.2s						
VRF				SN	Sb	09 00 30.5	-0.4
RNF	**Rovaniemi**	**1.17**	**199**	PG	Pg	09 00 18.2	-1.3
	baz=23						
RNF				SB	Sg	09 00 33.6	-1.0
KLF	**Kolari**	**1.26**	**249**	PG	Pg	09 00 19.5	-1.7
KLF				MSG		09 00 35.2	
	comp=Z,6.4nm,0.2s						
KLF				SG	Sg	09 00 36.0	-1.5
HEF	**Hetta**	**1.43**	**301**	PG	Pn	09 00 23.3	-1.0
	baz=121						
HEF				MSG		09 00 40.1	
	comp=Z,8.2nm,0.2s						
HEF				SG	Sg	09 00 42.9	-0.1
PAJU	**Pajala**	**1.65**	**247**	PN	Pn	09 00 27.4	+0.1
PAJU				SN	Sn	09 00 48.1	-1.1
OLKF	**Oulanka, Finla**	**1.69**	**145**	PG	Pn	09 00 27.3	-0.5
OLKF				MSG		09 00 47.6	
	comp=Z,8.9nm,0.2s						
OLKF				SN	Sg	09 00 51.8	+0.6
RANF	**Ranua**	**1.71**	**183**	PG	Pn	09 00 27.3	-0.7
RANF				SG	Sn	09 00 49.3	-1.2
KTK1	**Kautokeino**	**1.91**	**315**	PG	Pn	09 00 31.2	+0.4
KTK1				SG	Sb	09 00 56.5	-0.5
ARA0	**ARCESS Array S**	**1.91**	**344**	PG	Pn	09 00 30.9	0.0
ARA0				SG	Sb	09 00 57.1	-0.1
LANU	**Lannavaara**	**1.92**	**282**	PG	Pn	09 00 31.1	+0.1
LANU				SG	Sb	09 00 57.9	+0.5
TOF	**Tornio**	**1.95**	**214**	PG	Pn	09 00 31.4	+0.1
TOF				MSG		09 00 54.9	
	comp=Z,4.4nm,0.2s						
TOF				SG	Sn	09 00 56.0	-0.4
MSF	**Maaselka**	**1.98**	**155**	PG	Pn	09 00 32.8	+0.9
MSF				SG	Sb	09 00 58.5	-0.7
KU6	**Riekki**	**2.04**	**145**	PG	Pn	09 00 33.3	+0.6
	baz=331						
KU6				MSG		09 00 57.7	
	comp=Z,1.6nm,0.2s						
KU6				SG	Sb	09 01 00.5	-0.5
KEV	**Kevo**	**2.05**	**0**	PG	Pn	09 00 33.6	+0.7
KEV				SG	Sn	09 01 00.2	+1.1
KU2	**Taivalkoski**	**2.07**	**166**	PG	Pb	09 00 34.4	-1.1
KU2				SG	Sb	09 01 01.6	-0.1
ERTU	**Ertsjaerv**	**2.21**	**240**	PB	Pn	09 00 35.2	+0.3
ERTU				SG	Sb	09 01 05.4	-0.2
KALU	**Kalix**	**2.35**	**219**	PB	Pn	09 00 38.2	+1.3
KALU				SB	Sb	09 01 08.1	-1.7
KU1	**Kurvinen**	**2.39**	**153**	PG	Pb	09 00 39.3	-1.6
KU1				SG	Sb	09 01 10.9	+0.1
KIF	**Kilpisjarvi**	**2.63**	**302**	PB	Pb	09 00 43.3	-1.8
KIF				MSG		09 01 15.3	
	comp=Z,1.3nm,0.2s						
KIF				SB	Sb	09 01 16.6	-1.4
OUL	**Oulu**	**2.67**	**190**	SB	Sn	09 01 15.5	+1.2
OUF	**Merijarvi**	**3.48**	**196**	SN	Sn	09 01 34.7	+0.5
UMAU	**Umeaa**	**4.64**	**217**	PN	Pn	09 01 09.5	+1.2
	baz=27						

INMG ***13*** *09:02:24.7±1.2,34.°95N×6.°94W,h42km,ML2.2,Error ellipse: s-maj=6.0km s-min=2.8km az=85.0, #DIST_RANGE: REGIONAL #IPMA_REGION: N Rabat (MARR)*
CNRM ***13*** *09:02:25.6,34.°51N×6.°88W,h77km,ML2.4*
SFS ***13*** *09:02:26.4,35.°31N×6.°88W,h4km,ML2.9/7,ML2.9/8, MLv2.9/8*
MDD ***13*** *09:02:31.3±1.6,35.°81N×7.°10W,h0km,mb_Lg2.8/4,Error ellipse: s-maj=12.4km s-min=6.3km az=16.0*

ISC 13 09:02:16.0±1.2,34.°95N±0.°02×6.°72W±0.°04,h15km±8km, n52,σ2s08/71,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTC	**Rabat Centre**	**0.96**	**187**	P	**Pn**	**09 02 38.6**	**+3.7**
RTC	**Rabat Centre**	**0.96**	**187**	S	**Sn**	**09 02 50.1**	**+1.7**
ZHG	**ZHG**	**1.50**	**177**	P	**Pg**	**09 02 46.9**	**+2.1**
ZHG	**ZHG**	**1.50**	**177**	S	**Sg**	**09 03 03.4**	**-0.9**
ESPR	**Espera**	**2.04**	**20**	S	**Sb**	**09 03 18.6**	**+0.6**
PBDV	**Barranco-do-Ve**	**2.49**	**337**	S	**Sn**	**09 03 26.4**	**+0.1**
PBDV				P	**Pb**	**09 03 00.5**	**0.0**
PBDV	**Barranco-do-Ve**	**2.49**	**337**	*eP*	**Pb**	**09 03 00.8**	**+0.3**
PBDV				*eS*	**Sn**	**09 03 27.4**	**+1.2**
PBDV				*i* IAML		09 03 28.4	
PBDV				*i* IAML		09 03 33.0	
PVAQ	**Vaqueiros**	**2.58**	**342**	S	**Sn**	**09 03 28.8**	**+0.5**
PVAQ				P	**Pb**	**09 03 02.5**	**+0.5**
PVAQ	**Vaqueiros**	**2.58**	**342**	*eP*	**Pb**	**09 03 02.0**	**0.0**
PVAQ				*eS*	**Sn**	**09 03 29.9**	**+1.6**
PVAQ				*i* IAML		09 03 30.7	
PVAQ				*i* IAML		09 03 34.5	
PVAQ				*i* IAML		09 03 36.6	
MD31	**MD31**	**2.64**	**141**	P	**Pb**	**09 03 03.2**	**+0.2**
MD31	**MD31**	**2.64**	**141**	S	**Sb**	**09 03 32.2**	**-3.1**
EGRO	**El Granado**	**2.65**	**347**	S	**Sn**	**09 03 31.6**	**+1.4**
EGRO				P	**Pb**	**09 03 03.4**	**+0.2**
SRHM	**Skhour des Reh**	**2.66**	**202**	P	**Pb**	**09 03 02.4**	**-0.9**
MDT	**Midelt**	**2.76**	**140**	P	**Pb**	**09 03 05.2**	**+0.1**
MDT	**Midelt**	**2.76**	**140**	S	**Sn**	**09 03 34.5**	**+1.5**
PFVI	**Vila Bisbo**	**2.77**	**323**	S	**Sn**	**09 03 33.7**	**+0.7**
PFVI	**Vila Bisbo**	**2.77**	**323**	*eS*	**Sn**	**09 03 33.3**	**+0.3**
PFVI				*i* IAML		09 03 33.9	
PFVI				*i* IAML		09 03 34.6	
EMIN	**Mina Concepcio**	**2.81**	**1**	S	**Sn**	**09 03 35.4**	**+1.3**
EMIN				P	**Pb**	**09 03 06.2**	**+0.2**
EMIN	**Mina Concepcio**	**2.81**	**1**	Pn	**Pb**	**09 03 05.6**	**-0.3**
EMIN				Sn	**Sn**	**09 03 30.6**	**-3.6**
EMIN				*i* IVmb_Lg		09 03 39.9	
MORF	**Marmelete**	**2.83**	**327**	*eP*	**Pb**	**09 03 06.6**	**+0.5**
MORF				*eS*	**Sn**	**09 03 34.5**	**+0.1**
MORF				*i* IAML		09 03 36.5	
MORF				*i* IAML		09 03 37.4	
MORF				*i* IAML		09 03 37.8	
PCVE	**Castro Verde**	**2.88**	**339**	S	**Sn**	**09 03 36.9**	**+1.1**
PCVE				P	**Pb**	**09 03 05.6**	**-1.6**
PCVE	**Castro Verde**	**2.88**	**339**	*eP*	**Pb**	**09 03 07.5**	**+0.4**
PCVE				*eS*	**Sn**	**09 03 37.5**	**+1.6**
PCVE				*i* IAML		09 03 38.0	
PCVE				*i* IAML		09 03 38.3	
PCVE				*i* IAML		09 03 38.4	
PTEO	**Sao Teotonio**	**3.06**	**329**	*eS*	**Sn**	**09 03 40.7**	**+0.6**
PTEO				*i* IAML		09 03 41.0	
PTEO				*i* IAML		09 03 42.3	
PTEO				*i* IAML		09 03 42.5	
MESJ	**Messejana**	**3.13**	**338**	*eP*	**Pb**	**09 03 09.7**	**-1.7**
MESJ				*eS*	**Sn**	**09 03 42.3**	**+0.4**
MESJ				*i* IAML		09 03 45.5	
MESJ				*i* IAML		09 03 45.9	
MESJ				*i* IAML		09 03 46.2	
ELGU	**Los Guajares,**	**3.16**	**52**	P	**Pg**	**09 03 15.8**	**-0.7**
PBEJ	**Beja**	**3.21**	**344**	*eS*	**Sn**	**09 03 45.4**	**+1.5**
PBEJ				*i* IAML		09 03 45.8	
PBEJ				*i* IAML		09 03 46.1	
PBEJ				*i* IAML		09 03 47.6	
TISM	**Timmit**	**3.23**	**176**	P	**Pn**	**09 03 47.4**	**+1.3**
TISM	**Timmit**	**3.23**	**176**	S	**Sn**	**09 03 42.0**	**-2.3**
PBAR	**Barrancos**	**3.23**	**356**	S	**Sn**	**09 03 45.7**	**+1.2**
PBAR				P	**Pb**	**09 03 11.2**	**-1.9**
PBAR	**Barrancos**	**3.23**	**356**	*eP*	**Pb**	**09 03 11.7**	**-1.4**
PBAR				*eS*	**Sn**	**09 03 46.1**	**+1.6**
PBAR				*i* IAML		09 03 47.8	
PBAR				*i* IAML		09 03 50.6	
PBAR				*i* IAML		09 03 50.8	
ECAB	**El Cabril**	**3.29**	**18**	S	**Sn**	**09 03 47.7**	**+1.7**
ECAB				P	**Pb**	**09 03 13.6**	**-0.6**
ECAB	**El Cabril**	**3.29**	**18**	Pn	**Pb**	**09 03 13.0**	**-1.1**
ECAB				Sn	**Sn**	**09 03 46.7**	**+0.7**
ECAB				*i* IVmb_Lg		09 03 51.2	
EADA	**Adamuz**	**3.65**	**28**	S	**Sn**	**09 03 56.0**	**+1.2**
EADA				P	**Pb**	**09 03 18.3**	**-1.9**
EADA	**Adamuz**	**3.65**	**28**	Pn	**Pb**	**09 03 18.2**	**-1.9**
EADA				Sn	**Sn**	**09 03 56.8**	**+2.0**
EADA				*i* IVmb_Lg		09 03 59.3	
EBAD	**Badajoz**	**3.81**	**357**	S	**Sn**	**09 03 59.3**	**+0.6**
EBAD				P	**Pb**	**09 03 19.3**	**-3.6**
EBAD	**Badajoz**	**3.81**	**357**	Pn	**Pb**	**09 03 19.3**	**-3.6**
EBAD				Sn	**Sn**	**09 03 52.1**	**-6.6**
EBAD				*i* IVmb_Lg		09 04 01.6	
OUK	**Oukaimeden**	**3.85**	**195**	P	**Pn**	**09 03 17.7**	**+2.7**
OUK	**Oukaimeden**	**3.85**	**195**	S	**Sn**	**09 03 58.8**	**-1.5**
PESTR	**Estremoz**	**3.97**	**350**	S	**Sn**	**09 04 03.1**	**+0.4**
PESTR	**Estremoz**	**3.97**	**350**	*eS*	**Sn**	**09 04 04.0**	**+1.2**
PESTR				*i* IAML		09 04 05.6	
PESTR				*i* IAML		09 04 08.2	
PESTR				*i* IAML		09 04 08.3	
OUZM	**OUZ**	**4.03**	**180**	P	Pb	09 03 21.4	-5.3
OUZM	**OUZ**	**4.03**	**180**	S	**Sn**	**09 04 03.3**	**-1.0**
TIO	**Tiouine**	**4.04**	**187**	P	Pb	09 03 21.7	-5.2
TIO	**Tiouine**	**4.04**	**187**	S	**Sn**	**09 04 02.5**	**-2.2**
PARRA	**Arraiolos**	**4.29**	**335**	*eP*	**Pn**	**09 03 22.1**	**+1.4**
PARRA				*eS*	**Sn**	**09 04 04.1**	**-6.3**
PARRA				*i* IAML		09 04 05.7	
PARRA				*i* IAML		09 04 06.4	
PARRA				*i* IAML		09 04 07.8	
PMTG	**Montargil**	**4.29**	**344**	*eP*	**Pb**	**09 03 27.2**	**-3.8**
PMTG				*eS*	**Sn**	**09 04 10.8**	**+0.4**
PMTG				*i* IAML		09 04 13.8	
PMTG				*i* IAML		09 04 15.0	
PMTG				*i* IAML		09 04 17.3	
PMAFR	**Mafra**	**4.50**	**334**	*eS*	**Sn**	**09 04 15.4**	**-0.3**
PMRV	**Marv??o**	**4.50**	**353**	*eP*	Pn	09 03 28.9	+5.2
PMRV				*eS*	**Sn**	**09 04 16.4**	**+0.6**
PMRV				*i* IAML		09 04 18.0	
PMRV				*i* IAML		09 04 18.6	
PMRV				*i* IAML		09 04 18.8	
TTIG	**Tnine Tigouga,**	**4.62**	**199**	P	**Pn**	**09 03 26.2**	**+0.8**
TTIG	**Tnine Tigouga,**	**4.62**	**199**	S	**Sn**	**09 04 12.5**	**-6.4**
PSARD	**Sardoal**	**4.79**	**347**	*eS*	**Sn**	**09 04 24.2**	**+1.4**
PCBR	**Castelo Branco**	**4.92**	**353**	*eS*	**Sn**	**09 04 25.8**	**-0.3**
PCBR				*i* IAML		09 04 28.0	
PCBR				*i* IAML		09 04 28.3	
PCBR				*i* IAML		09 04 28.9	

OMAN 13 09:08:54.8±0.3,17.°37N×59.°64E,h35km,mb3.8/6,ml4.0/7, Error ellipse: s-maj=5.3km s-min=2.2km az=303.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**3.23**	**322**	P	Pn	09 09 43.3	+0.3
DQM				S	Sn	09 10 23.2	+2.9
SHAO	**Shalim**	**3.88**	**280**	P	Pn	09 09 52.9	+0.8
SHAO				S	Sn	09 10 37.2	+0.8
MHTO	**MHTO**	**3.92**	**337**	P	Pn	09 09 51.6	-1.0
	SNR=16						
MHTO				S	Sn	09 10 40.4	+2.9
DMTO	**DMTO**	**4.49**	**275**	P	Pn	09 10 00.2	-0.1
	SNR=16						
DMTO				S	Sn	09 10 51.2	-0.2
JLN	**Jalan Bani Buh**	**4.76**	**357**	P	Pn	09 10 01.9	-2.2
	SNR=32						
JLN				S	Sn	09 10 57.6	-0.5
JMDO	**Jabal Madar**	**5.18**	**344**	P	Pn	09 10 09.6	-0.2
	SNR=21						
JMDO				S	Sn	09 11 10.8	+2.4
RBK	**Rabkut**	**5.19**	**272**	P	Pn	09 10 10.3	+0.2
RBK				S	Sn	09 11 07.5	-1.3
WBK	**Wadi Bani Khal**	**5.25**	**353**	P	Pn	09 10 11.0	+0.1
WBK				S	Sn	09 11 12.3	+2.1
DOK	**Doka**	**5.39**	**284**	P	Pn	09 10 13.3	+0.5
	SNR=8.5						
DOK				S	Sn	09 11 15.2	+1.7
WHFO	**Wadi Hawf**	**5.62**	**276**	P	Pn	09 10 17.2	+1.2
WHFO				S	Sn	09 11 18.5	-0.9
BSY	**Bisya**	**5.81**	**337**	P	Pn	09 10 18.9	+0.3
BSY				S	Sn	09 11 26.0	+1.8
SMDO	**Samad**	**5.85**	**346**	P	Pn	09 10 18.3	-0.9
	SNR=60						
SMDO				S	Sn	09 11 25.9	+0.8
ABTO	**Aybut**	**6.05**	**271**	P	Pn	09 10 22.0	0.0
ABTO				S	Sn	09 11 29.8	-0.3
BIDO	**Bidbid**	**6.28**	**347**	P	Pn	09 10 24.6	-0.4
	SNR=16						
BIDO				S	Sn	09 11 36.8	+1.2
HOQ	**Hoqain**	**6.55**	**341**	P	Pn	09 10 28.5	-0.3
HOQ				S	Sn	09 11 43.5	+1.2
ARQ	**Araqi**	**6.61**	**334**	P	Pn	09 10 30.4	+0.8
	SNR=22						
ARQ				S	Sn	09 11 47.7	+3.8
SOHO	**SOHO**	**7.33**	**337**	P	Pn	09 10 39.8	+0.5
SOHO				S	Sn	09 12 01.2	-0.1
ALNE	**Al Ain**	**7.58**	**332**	P	Pn	09 10 43.7	+0.8
ALNE				S	Sn	09 12 08.3	+0.7
ASHO	**Ashiyiah**	**8.01**	**336**	P	Pn	09 10 48.8	+0.1
ASHO				S	Sn	09 12 17.9	-0.2
MZR	**Muzera**	**8.05**	**315**	P	Pn	09 10 49.0	-0.3
MZR				S	Sn	09 12 17.8	-1.4
HATD	**Hatta, Dubai**	**8.10**	**337**	P	Pn	09 10 51.8	+1.7
HATD				S	Sn	09 12 22.4	+1.9
UOSS	**Minazif**	**8.19**	**338**	P	Pn	09 10 50.7	-0.5
UOSS				S	Sn	09 12 22.7	+0.2
ASUD	**Al Ashush, Dub**	**8.26**	**332**	P	Pn	09 10 52.3	+0.1
	SNR=7.7						
ASUD				S	Sn	09 12 26.5	+2.1

JSN ***13*** *09:40:48.5±0.7,18.°70N×77.°54W,h5km±12km,MD3.3*
SSNC ***13*** *09:40:48.8±1.5,18.°71N×77.°57W,h25km±12km,MD2.7, ML2.4*

ISC 13 09:40:46.9±1.2,18.°73N±0.°04×77.°50W±0.°07,h24km±15km, n12,σ1s14/23,1C-4D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTDJ	**Mount Denham**	**0.50**	**184**	*eP*	**Pb**	**09 40 57.6**	**+0.4**
MTDJ				*eS*	**Sb**	**09 41 03.6**	**-0.6**
MTDJ				IAML		09 41 04.3	
	1μm,0.2s						
MTDJ				IAML		09 41 04.8	
	comp=Z,516nm,0.2s						
MTDJ	**Mount Denham**	**0.50**	**184**	⇓*iP*	**Pb**	**09 40 57.6**	**+0.4**
MTDJ				⇓*iS*	**Sb**	**09 41 03.9**	**-0.3**
MCJ	**Malvern**	**0.82**	**193**	⇑*iP*	**Pn**	**09 41 02.7**	**-0.4**
STH	**Stony Hill**	**0.92**	**135**	*eP*	**Pb**	**09 41 04.7**	**+0.5**
STH				*eS*	**Sn**	**09 41 17.4**	**+0.4**
STH				IAML		09 41 18.6	
	comp=E,22μm,0.1s						
STH				IAML		09 41 18.6	
	comp=N,18μm,0.1s						
STH	**Stony Hill**	**0.92**	**135**	⇓*iP*	**Pb**	**09 41 04.8**	**+0.5**
PILO	**Pilon**	**1.18**	**4**	*eP*	**Pb**	**09 41 09.2**	**+0.6**
PILO				*eS*	**Sn**	**09 41 22.4**	**-0.9**
PILO				IAML		09 41 22.7	
	comp=E,66nm,0.2s						
PILO				IAML		09 41 22.9	
	comp=N,41nm,0.1s						
LMGC	**Las Mercedes**	**1.41**	**19**	*eP*	**Pn**	**09 41 11.8**	**+0.8**
LMGC				*eS*	**Sn**	**09 41 27.5**	**-1.3**
LMGC				IAML		09 41 29.7	
	comp=E,26nm,0.1s						
LMGC				IAML		09 41 32.9	
	comp=N,26nm,0.1s						
CHIV	**Chivirico**	**1.61**	**39**	*eP*	**Pn**	**09 41 14.8**	**+0.9**
CHIV				*eS*	**Sn**	**09 41 33.4**	**-0.4**
CHIV				IAML		09 41 35.7	
	comp=E,4.8nm,0.1s						
CHIV				IAML		09 41 37.5	
	comp=N,4.2nm,0.1s						
MARVS	**Santiago de Cu**	**1.97**	**50**	⇓*eP*	**Pn**	**09 41 19.8**	**+1.0**
MARVS				*eS*	**Sn**	**09 41 42.4**	**-0.4**
MARVS				*eSg*	**Sb**	**09 41 43.6**	**-2.6**
MARVS				IAML		09 41 43.6	
	comp=E,7.7nm,0.2s						
MARVS				IAML		09 41 44.1	
	comp=N,5.8nm,0.2s						
PINC	**Pinares de May**	**2.38**	**42**	*eP*	**Pn**	**09 41 26.1**	**+1.6**
PINC				*eS*	**Sn**	**09 41 54.2**	**+1.4**
PINC				IAML		09 41 56.4	
	comp=N,17nm,0.1s						
PINC				IAML		09 41 56.5	
	comp=E,18nm,0.1s						
GTBY	**Guantanamo Bay**	**2.55**	**62**	*eP*	**Pn**	**09 41 27.7**	**+0.8**
GTBY				*eS*	**Sn**	**09 41 55.2**	**-1.9**
GTBY				IAML		09 41 59.3	
	comp=E,3.4nm,0.2s						
GTBY				IAML		09 42 00.1	
	comp=E,2.6nm,0.1s						
QMBU	**Quimbuelo**	**2.93**	**60**	*eP*	**Pn**	**09 41 32.8**	**+0.8**
QMBU				*eS*	**Sn**	**09 42 05.5**	**-0.9**
QMBU				IAML		09 42 08.8	
	comp=E,2.8nm,0.1s						
QMBU				IAML		09 42 08.8	
	comp=N,4.0nm,0.1s						

NNC ***13*** *09:45:16.5±1.8,54.°34N×86.°88E,h0km,mb3.5,mpv3.3, Error ellipse: s-maj=10.8km s-min=7.7km az=57.0, Suspected Mining explosion.*
ASRS ***13*** *09:45:16.0±0.4,54.°38N×86.°71E,h0km,M3.1,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***13*** *09:45:20.0±2.4,54.°35N×86.°68E,h0km,mbtmp3.7/3, ML3.2/3,Error ellipse: s-maj=20.8km s-min=13.5km az=61.0*

ISC 13 09:45:20.8±2.1,54.°7N±0.°1×83.°69E±0.°06,h0km,n9, σ1s09/14,5C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**138**	I	I	09 52 55.0	
	baz=68,slow=310,SNR=11						
ZAA0	**Zalesovo Array**	**1.01**	**138**	⇑P	**Pg**	**09 45 40.0**	**-0.1**
	1.8nm,0.4s,baz=71,slow=16						
ZAA0				⇑S	**Sn**	**09 45 58.0**	**+0.9**
	2.3nm,0.4s,baz=71,slow=25						
ZALV	**Zalesovo Beam**	**1.01**	**138**	Pg	**Pb**	**09 45 40.6**	**-0.4**
	7.5nm,0.3s,baz=67,slow=17,SNR=58						
ZALV				Lg	Lg	09 45 57.8	
	3.5nm,0.3s,baz=68,slow=25,SNR=5.9						
KURK	**Kurchatov**	**5.04**	**220**	⇓Pn	**Pb**	**09 46 50.0**	**+0.1**
	1.4nm,0.4s						
KURK				⇓Sn	**Sg**	**09 48 01.7**	**-1.0**
	0.6nm,0.4s						
KURK				⇓Lg	Lg	09 48 34.1	
	3.8nm,0.6s						
KURBB	**Kurchatov Arra**	**5.15**	**220**	Pn	**Pb**	**09 46 53.9**	**+2.2**
	0.5nm,0.3s,baz=52,slow=13,SNR=26						
KURBB				Sn	**Sg**	**09 48 05.5**	**-0.7**
	0.1nm,0.3s,baz=64,slow=27,SNR=4.8						
KURBB				Lg	Lg	09 48 37.5	
	0.1nm,0.3s,baz=55,slow=32,SNR=5.8						
	3.8nm,0.4s						
KURBB	**Kurchatov Arra**	**5.15**	**220**	⇑Pn	**Pb**	**09 46 52.1**	**+0.4**
	6.3nm,0.5s						
KURBB				⇓Sn	**Sg**	**09 48 05.0**	**-1.1**
	5.7nm,0.5s						
KURBB				⇑Lg	Lg	09 48 37.5	
	11nm,0.8s						
MK31	**Makanchi Array**	**7.97**	**187**	Pn	**Pn**	**09 47 16.6**	**-1.2**
	0.7nm,0.4s,baz=25,slow=14,SNR=26						
MK31				⇑Sn	**Sn**	**09 48 48.1**	**-0.5**
	0.3nm,0.3s,baz=22,slow=24						
MKAR	**Makanchi Array**	**7.97**	**187**	Pn	**Pn**	**09 47 19.3**	**+1.5**
	1.1nm,0.3s,baz=25,slow=14,SNR=33						
MKAR				Sn	**Sn**	**09 48 49.3**	**+0.6**
	0.3nm,0.3s,baz=25,slow=24,SNR=4.1						
MKAR				Lg	Lg	09 49 36.1	
	0.1nm,0.3s,baz=28,slow=32,SNR=3.2						
	1.6nm,0.3s						
BVAR	**Borovoye Array**	**8.04**	**263**	Pn	**Pb**	**09 47 40.6**	**-0.2**
	0.1nm,0.3s,baz=65,slow=15,SNR=5.4						
	1.3nm,0.4s						

IDC ***13*** *09:54:30.5±3.1,53.°43N×87.°83E,h0km,mbtmp2.6/2, ML2.4/2,Error ellipse: s-maj=28.9km s-min=17.8km az=58.0*

**

baz=62,slow=14,SNR=4.6
KURBB Lg Lg 10 03 09.2
0.1nm,0.3s,baz=63,slow=31,SNR=8.8
0.7nm,0.6s
MKAR Makanchi Array 7.59 209 Pn Pn 10 01 40.9 +4.0
0.2nm,0.3s,baz=31,slow=14,SNR=6.5
MKAR Sn Sn 10 03 05.6 +1.9
0.1nm,0.3s,baz=28,slow=25,SNR=6.5
MKAR Lg Lg 10 03 48.8
0.1nm,0.3s,baz=25,slow=31,SNR=8.7
0.5nm,0.5s

---

*SJA **13** 10:06:37.0±0.6, 34.28S×72.45W, h9km, ML3.5, MW3.3*
*GUC **13** 10:06:40.8±0.8, 34.28S×72.21W, h27km±4km, ML3.5*
ISC 13 10:06:39.1±1.6, 34.30S±0.03×72.37W±0.05, h5km±10km, n48, σ1¶25/80, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO03	**Pichilemu**	**0.39**	**120**	⇓*i*P	**Pb**	**10 06 48.7**	**+0.2**
BO03				*e*S	**Sg**	**10 06 53.7**	**+2.0**
BO03				IAML		10 06 54.1	
	comp=E,20μm,0.4s						
GO05	**Hualane**	**0.79**	**153**	*e*P	**Pn**	**10 06 57.3**	**+0.3**
GO05				*e*S	**Sb**	**10 07 07.3**	**+0.8**
GO05				IAML		10 07 08.0	
	comp=E,4μm,0.3s						
GO05	**Hualane**	**0.79**	**153**	*e*P	**Pg**	**10 06 52.3**	**-2.0**
GO05				*e*S	**Sn**	**10 07 07.7**	**-1.5**
GO05				IAML		10 07 09.6	
	comp=Z,1μm,0.1s						
MT01	**Popeta**	**1.02**	**65**	⇓*i*P	**Pg**	**10 06 58.5**	**-0.3**
MT01	**Popeta**	**1.02**	**65**	*e*P	**Pg**	**10 06 57.8**	**-1.0**
MT01				*e*S	**Sb**	**10 07 13.8**	**+0.7**
MT01				IAML		10 07 14.8	
	comp=Z,653nm,0.4s						
BO01	**Tunca**	**1.06**	**95**	*e*P	**Pg**	**10 06 58.6**	**-0.9**
BO01				*e*S	**Sg**	**10 07 12.2**	**-1.1**
BO01	**Tunca**	**1.06**	**95**	*e*P	**Pg**	**10 06 58.6**	**-0.9**
BO01				*e*S	**Sb**	**10 07 14.6**	**+0.4**
BO01				IAML		10 07 15.6	
	comp=Z,792nm,0.5s						
MT09	**Talagante**	**1.26**	**66**	⇓*i*P	**Pn**	**10 07 02.3**	**-1.2**
MT09				*e*S	**Sb**	**10 07 18.1**	**-1.9**
MT09				IAML		10 07 22.3	
	comp=N,1μm,0.2s						
BO02	**Sierra Bellavi**	**1.40**	**111**	⇓*i*P	**Pn**	**10 07 04.6**	**-0.8**
BO02				*e*S	**Sn**	**10 07 22.6**	**-1.6**
BO02				IAML		10 07 25.4	
	comp=N,4μm,0.2s						
BO02	**Sierra Bellavi**	**1.40**	**111**	*e*P	**Pn**	**10 07 04.7**	**-0.6**
BO02				*e*S	**Sb**	**10 07 24.1**	**+0.2**
BO02				IAML		10 07 25.1	
	comp=Z,3μm,0.1s						
VA01	**Torpederas**	**1.41**	**25**	*e*P	**Pn**	**10 07 04.9**	**-0.5**
VA01	**Torpederas**	**1.41**	**25**	*e*P	**Pn**	**10 07 04.3**	**-1.1**
VA01				*e*S	**Pn**	**10 07 05.1**	**-0.4**
VA01				*e*S	**Sn**	**10 07 21.3**	**-3.1**
MT02	**Curacav**	**1.46**	**45**	⇑*i*P	**Pn**	**10 07 05.3**	**-0.8**
MT02	**Curacav**	**1.46**	**45**	*e*P	**Pn**	**10 07 04.7**	**-1.5**
MT02				*e*S	**Sb**	**10 07 25.9**	**+0.2**
MT02				IAML		10 07 34.6	
	comp=Z,382nm,0.8s						
BO04	**La Punta**	**1.49**	**78**	*e*P	**Pn**	**10 07 05.8**	**-0.8**
BO04				*e*S	**Sn**	**10 07 25.1**	**-1.4**
BO04				IAML		10 07 29.7	
	comp=E,1μm,0.2s						
MT05	**Renca**	**1.63**	**57**	*e*P	**Pn**	**10 07 08.3**	**-0.3**
MT05				IAML		10 07 37.8	
	comp=E,1μm,0.3s						
MT05	**Renca**	**1.63**	**57**	*e*P	**Pn**	**10 07 08.6**	**0.0**
MT05				*e*S	**Sg**	**10 07 34.6**	**+3.0**
MT05				IAML		10 07 39.3	
	comp=Z,438nm,0.8s						
ML02	**Panimavida**	**1.65**	**152**	*e*P	**Pn**	**10 07 09.2**	**+0.4**
ML02				IAML		10 07 35.8	
	comp=Z,930nm,0.4s						
ML02	**Panimavida**	**1.65**	**152**	*e*P	**Pn**	**10 07 09.0**	**+0.3**
ML02				*e*S	**Sg**	**10 07 34.4**	**+2.2**
ML02				IAML		10 07 38.0	
	comp=Z,512nm,0.3s						
MT15	**Las Vizcachas**	**1.70**	**66**	*e*P	**Pn**	**10 07 09.2**	**-0.3**
MT15				IAML		10 07 40.8	
	comp=N,2μm,0.3s						
MT03	**Universidad Ad**	**1.74**	**63**	*e*P	**Pn**	**10 07 09.9**	**-0.2**
MT03				*e*S	**Sn**	**10 07 32.6**	**-0.2**
MT03				IAML		10 07 39.7	
	comp=E,1μm,0.1s						
MT03	**Universidad Ad**	**1.74**	**63**	*e*P	**Pn**	**10 07 10.2**	**+0.1**
MT03				*e*S	**Sg**	**10 07 35.0**	**-0.1**
MT03				IAML		10 07 37.7	
	comp=Z,619nm,0.3s						
ROCH	**El Roble**	**1.74**	**41**	*e*P	**Pn**	**10 07 09.9**	**-0.4**
ROCH				IAML		10 07 46.6	
	comp=N,816nm,0.5s						
MT16	**CCHEN**	**1.77**	**61**	*e*P	**Pn**	**10 07 10.2**	**-0.2**
MT16				IAML		10 07 39.9	
	comp=E,347nm,0.5s						
MT14	**Cerro Cal¡n**	**1.77**	**60**	*e*P	**Pn**	**10 07 10.5**	**0.0**
MT14				*e*S	**Sn**	**10 07 32.8**	**-0.7**
MT14				IAML		10 07 45.7	
	comp=E,866nm,0.3s						
PEL	**Peldehue**	**1.82**	**51**	*e*P	**Pn**	**10 07 11.1**	**0.0**
PEL				IAML		10 07 43.2	
	comp=N,703nm,0.2s						
MT10	**Hacienda Santa**	**1.84**	**57**	*e*P	**Pn**	**10 07 11.5**	**0.0**
MT10				IAML		10 07 42.8	
	comp=N,1μm,0.3s						
LMEL	**Las Melosas**	**1.85**	**76**	⇓*i*P	**Pn**	**10 07 11.8**	**+0.1**
LMEL				IAML		10 07 42.8	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**1.85**	**76**	*e*P	**Pn**	**10 07 11.9**	**+0.2**
LMEL				*e*S	**Sb**	**10 07 37.8**	**+0.7**
LMEL				*e*S	**Sg**	**10 07 38.4**	**-0.3**
LMEL				IAML		10 07 41.3	
	comp=Z,521nm,0.3s						
VA06	**Catapilco**	**1.95**	**28**	*e*P	**Pn**	**10 07 12.2**	**-0.7**
VA06				IAML		10 07 48.9	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.98**	**61**	*e*P	**Pn**	**10 07 13.5**	**-0.2**
FCH				IAML		10 07 47.3	
	comp=E,516nm,0.2s						
MT04	**Ro Olivares**	**2.06**	**65**	*e*P	**Pn**	**10 07 14.5**	**-0.1**
MT04				IAML		10 07 54.5	
	comp=E,324nm,0.4s						
MT04	**Ro Olivares**	**2.06**	**65**	*e*P	**Pn**	**10 07 14.9**	**+0.3**
MT04				*e*S	**Sb**	**10 07 44.6**	**+1.4**
MT04				IAML		10 07 50.3	
	comp=Z,217nm,0.2s						
MT08	**Bocatoma Ro**	**2.13**	**67**	*e*P	**Pn**	**10 07 15.8**	**+0.2**
MT08				IAML		10 07 49.9	
	comp=N,297nm,0.5s						
MT08	**Bocatoma Ro**	**2.13**	**67**	*e*P	**Pn**	**10 07 16.3**	**+0.6**
MT08				*e*S	**Sg**	**10 07 47.1**	**-0.6**
MT08				IAML		10 07 54.3	
	comp=Z,182nm,0.8s						
VA03	**San Esteban**	**2.16**	**45**	*e*P	**Pn**	**10 07 16.1**	**+0.2**
VA03				IAML		10 07 51.2	
	comp=E,571nm,0.3s						
VA03	**San Esteban**	**2.16**	**45**	*e*P	**Pn**	**10 07 16.2**	**+0.4**
VA03				*e*P	**Pn**	**10 07 16.3**	**+0.4**
VA03				*e*S	**Sb**	**10 07 45.3**	**-0.5**
VA03				IAML		10 07 53.8	
	comp=Z,499nm,0.3s						
RFA	**San Rafael**	**3.25**	**99**	*e*P	**Pn**	**10 07 32.0**	**+1.1**
RFA				*e*S	**Sb**	**10 08 18.3**	**+1.0**
RFA				IAML		10 08 25.8	
	comp=Z,41nm,0.5s						
CO02	**Combarbal**	**3.30**	**21**	*e*P	**Pn**	**10 07 30.8**	**-0.8**
CO02				*e*S	**Sb**	**10 08 21.3**	**+2.6**
CO02				IAML		10 08 35.0	
	comp=Z,131nm,0.5s						
RTLS	**Leoncito**	**3.59**	**47**	*e*P	**Pn**	**10 07 37.9**	**+2.2**
RTLS				*e*S	**Sb**	**10 08 30.8**	**+3.6**
RTLS				IAML		10 08 38.8	
	comp=Z,155nm,1.3s						
CO06	**Fray Jorge**	**3.67**	**10**	*i*P	**Pn**	**10 07 35.3**	**-1.2**
CO03	**El Pedregal**	**3.73**	**23**	*e*P	**Pn**	**10 07 37.8**	**+0.3**
CO03				*e*S	**Sn**	**10 08 24.4**	**+2.5**
CO03				IAML		10 08 43.0	
	comp=Z,62nm,0.6s						
GO04	**Tololo Observa**	**4.33**	**18**	*e*P	**Pn**	**10 07 45.7**	**-0.1**
GO04				*e*S	**Sn**	**10 08 37.0**	**+0.2**
GO04				IAML		10 09 06.1	
	comp=Z,116nm,0.8s						
CFA	**Coronel Fontan**	**4.39**	**53**	*e*P	**Pn**	**10 07 47.8**	**+1.3**
CFA				IAML		10 08 55.3	
	comp=Z,19nm,0.4s						
ACCO	**Cerro Coronel**	**4.64**	**38**	*e*P	**Pn**	**10 07 52.0**	**+1.8**
ACCO				*e*S	**Sb**	**10 08 54.3**	**-3.2**
CO01	**Juntas del Tor**	**4.72**	**25**	*e*P	**Pn**	**10 07 52.0**	**+0.8**
CO01				*e*P	**Pn**	**10 07 52.1**	**+0.8**
CO01				*e*S	**Sn**	**10 08 46.9**	**+0.3**
CO01				IAML		10 09 24.0	
	comp=Z,19nm,1.9s						
ACDV	**Cuesta del Vie**	**4.95**	**35**	*e*P	**Pn**	**10 07 56.5**	**+2.1**
ACDV				IAML		10 09 32.2	
	comp=Z,21nm,0.8s						
GO06	**Curarrehue**	**5.32**	**173**	*e*P	**Pn**	**10 08 00.7**	**+1.4**

IDC 13 10:12:55.7±2.4, 6.93S×130.44E, h0km, mb3.5/1, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=85.4km s-min=30.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.04**	**202**	Pn	Pn	10 15 49.4	+0.6
	0.9nm,0.3s,baz=23,slow=11,SNR=29						
FITZ				Sn	Sn	10 17 55.7	-8.2
	0.5nm,0.3s,baz=166,slow=19,SNR=6.8						
	2.4nm,0.3s						
WRA	**Warramunga Arr**	**13.47**	**164**	Pn	Pn	10 16 07.8	-0.5
	0.2nm,0.3s,baz=346,slow=13,SNR=5.2						
WRA				Sn	Sn	10 18 29.6	-9.3
	0.7nm,0.3s,baz=342,slow=22,SNR=11						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**16.97**	**169**	Pn	Pn	10 16 54.5	-0.2
	0.1nm,0.3s,baz=347,slow=9.7,SNR=9.8						
ASAR				Sn	Sn	10 19 53.6	-10
	0.2nm,0.3s,baz=190,slow=14,SNR=6.2						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**68.41**	**327**	P	P	10 23 59.4	0.0
	0.2nm,0.4s,baz=130,slow=5.8,SNR=2.1						
	0.2nm,0.4s						

---

*IDC **13** 10:17:10.6±2.5, 30.01N×141.30E, h101km±37km, mb3.1/2, mbtmp3.5/5, Error ellipse: s-maj=230.7km s-min=16.3km az=74.0*
*JMA **13** 10:17:19.0±0.5, 31°N±2°×14°1E±°, h117km, MV3.2/20, NEAR TORISHIMA IS*
ISC 13 10:17:10.0±1.1, 30.15N±0.07×141.4E±0.3, h100km, n12, σ2¶19/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.13**	**166**	P	**Pn**	**10 17 58.4**	**+0.8**
	111nm,0.4s,baz=56,slow=22,SNR=6.1						
JCJ				S	**Sn**	**10 18 31.6**	**-2.6**
	83nm,0.2s,baz=294,slow=23,SNR=2.5						
JHJ2	**Mitsune**	**3.23**	**336**	*e*S	**Sn**	**10 18 33.2**	**-3.3**
BSO1	**Boso 1**	**4.50**	**356**	*e*P	**Pn**	**10 18 17.5**	**+2.1**
BSO1				*e*S	**Sn**	**10 19 03.9**	**-2.4**
BSO3	**Boso 3**	**4.69**	**351**	*e*P	**Pn**	**10 18 20.4**	**+2.2**
BSO3				*e*S	**Sn**	**10 19 09.2**	**-2.1**
JOD2	**Odawara 2**	**5.45**	**340**	P	**Pn**	**10 18 30.7**	**+2.0**
JYT	**Yasato**	**6.14**	**351**	*e*S	Sn	10 19 41.5	-5.3
JHO	**Hitachi**	**6.47**	**354**	P	**Pn**	**10 18 42.5**	**-0.2**
JHO				*e*S	Sn	10 19 49.3	-5.7
MJAR	**Matsushiro Arr**	**6.90**	**338**	P	**Pn**	**10 18 49.3**	**+0.8**
	0.7nm,0.6s,baz=151,slow=13,SNR=6.2						
MJAR				S	**Sn**	**10 20 03.5**	**-1.9**
	0.6nm,0.4s,baz=153,slow=30,SNR=1.5						
JMK	**Ichinoseki**	**8.78**	**359**	*e*S	Sn	10 20 43.5	-7.6
USRK	**Ussuriysk Ar.**	**15.87**	**335**	P	**Pn**	**10 20 50.0**	**+2.5**
	1.3nm,0.7s,baz=136,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**50.26**	**189**	P	**P**	**10 25 55.5**	**-0.7**
	0.2nm,0.3s,baz=6.4,slow=7.7,SNR=7.0						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**53.99**	**188**	P	**P**	**10 26 23.0**	**-0.8**
	0.2nm,0.3s,baz=358,slow=5.2,SNR=6.3						
	0.2nm,0.3s						

---

*BJI **13** 10:21:30.5, 9.90S×113.90E, h46km, mB5.2/8, mb4.7/35, Ms4.5/8, Ms7 4.1/10*
*DJA **13** 10:21:31.3±0.2, 10°S±2°×11°4E±°, h41km±3km, M4.8/55, mb4.9/55, mB5.3/13, MLv5.2/28, Mw(mB)4.7/13*
*IDC **13** 10:21:31.6±0.4, 9.56S×114.05E, h45km±4km, mb4.3/23, mbtmp4.6/25, MS3.7/23, Error ellipse: s-maj=14.8km s-min=8.7km az=62.0*
*NEIC **13** 10:21:32.3±1.1, 9.62S±0.08×113.95E±0.07, h49km±7km, mb4.9/35, Error ellipse: s-maj=11.6km s-min=9.9km az=190.0*
ISC 13 10:21:32.0±0.3, 9.71S±0.04×114.03E±0.04, h50km, n195, σ1¶49/187, mb4.8/64, MS3.8/25, 6D, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.24**	**6**		**Pn**	**10 21 52.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.24**	**6**	P	**Pn**	**10 21 52.0**	**-1.0**
JAGI				S	**Sn**	**10 22 07.7**	**-0.9**
GMJI	**Gumukmas**	**1.54**	**338**	P	**Pn**	**10 21 55.3**	**-1.8**
GMJI				S	**Sn**	**10 22 12.9**	**-3.0**
DNP	**Denpasar**	**1.56**	**49**	P	**Pn**	**10 21 58.1**	**+0.8**
SRBI	**Singaraja**	**2.00**	**36**	P	**Pn**	**10 22 04.2**	**+0.9**
KMMI	**Kalianget**	**2.64**	**359**	P	**Pn**	**10 22 13.5**	**+1.3**
TWSI	**Taliwang, Sumb**	**2.98**	**71**	P	**Pn**	**10 22 17.2**	**+0.4**
GRJI	**Gresik**	**3.17**	**331**	P	**Pn**	**10 22 20.1**	**+0.7**
PCJI	**Pacitan**	**3.19**	**298**	P	**Pn**	**10 22 18.3**	**-1.4**
NGJI	**Ngawi**	**3.44**	**312**	P	**Pn**	**10 22 24.0**	**+0.8**
WOJI	**Wonogiri, Jawa**	**3.59**	**301**	P	**Pn**	**10 22 24.2**	**-0.9**
TBJI	**Tambak Boyo**	**3.59**	**323**	P	**Pn**	**10 22 27.4**	**+2.2**
PLAI	**Plampang**	**3.81**	**77**	P	**Pn**	**10 22 28.9**	**+0.8**
UGM	**Wanagama**	**3.90**	**297**		**Pn**	**10 22 28.5**	**-0.9**
UGM	**Wanagama**	**3.90**	**297**	P	**Pn**	**10 22 28.4**	**-1.0**
BWJI	**Bawean**	**4.07**	**340**	P	**Pn**	**10 22 33.1**	**+1.3**
SMRI	**Semarang**	**4.42**	**306**		**Pn**	**10 22 34.9**	**-1.7**
SMRI	**Semarang**	**4.42**	**306**	P	**Pn**	**10 22 37.1**	**+0.4**
WBSI	**Waikabubak, Su**	**5.29**	**90**	P	**Pn**	**10 22 49.3**	**+0.7**
KPJI	**Karang Pucung**	**5.56**	**295**	P	**Pn**	**10 22 52.3**	**0.0**
	1.6nm179nm,0.6s						
WSI	**Waingapu**	**6.18**	**90**	P	**Pn**	**10 23 01.2**	**+0.4**
BASI	**Baing, Sumba**	**6.47**	**95**	P	**Pn**	**10 23 05.2**	**+0.4**
	145nm,0.8s						
LEM	**Lembang**	**6.96**	**294**	P	**Pn**	**10 23 11.1**	**-0.5**
	24nm,0.4s,baz=107,slow=5.5,SNR=3.5						
LEM				S	**Sn**	**10 24 31.4**	**+1.9**
	77nm,0.6s,baz=229,slow=15,SNR=3.5						
LEM				LR	LR	10 26 07.0	
	comp=Z,200nm,18.9s,baz=150,slow=40						
LEM	**Lembang**	**6.96**	**294**	P	**Pn**	**10 23 11.9**	**+0.3**
	0.7nm122nm,1.0s						
CNJI	**Cibinong**	**7.23**	**289**	P	**Pn**	**10 23 14.7**	**-0.4**
	0.4nm48nm,1.3s						
BSSI	**Bau Bau, Buton**	**7.32**	**62**	P	**Pn**	**10 23 18.4**	**+2.0**
KAPI	**Kappang**	**7.35**	**51**		**Pn**	**10 23 18.4**	**+1.6**
KAPI	**Kappang**	**7.35**	**51**	P	**Pn**	**10 23 17.2**	**+0.5**
	15nm,0.3s,baz=264,slow=2.9,SNR=24						
KAPI				S	**Sn**	**10 24 38.5**	**-0.4**
	121nm,0.7s,baz=31,slow=22,SNR=9.7						
KAPI				LR	LR	10 26 37.6	
	comp=Z,1μm,18.9s,baz=246,slow=42						
BKSI	**Bulukumba**	**7.45**	**55**	P	**Pn**	**10 23 19.4**	**+1.2**
	0.6nm974nm97nm,0.7s						
EDFI	**Ende, Flores**	**7.63**	**83**	P	**Pn**	**10 23 21.3**	**+0.6**
	0.4nm1μm92nm,0.6s						
DBJI	**Dramaga**	**7.86**	**293**	P	**Pn**	**10 23 23.9**	**+0.1**
	83nm,0.7s						
BNSI	**Bone**	**8.01**	**49**	P	**Pn**	**10 23 28.2**	**+2.3**
	1μm97nm,0.9s						
SPSI	**Sidrap Palu**	**8.07**	**45**	P	**Pn**	**10 23 28.2**	**+1.6**
	31nm,0.8s						
MMRI	**Maumere**	**8.18**	**83**		**Pn**	**10 23 30.3**	**+2.2**
MMRI	**Maumere**	**8.18**	**83**	P	**Pn**	**10 23 28.7**	**+0.5**
	3μm232nm,0.8s						
TTSI	**Tana Toraja**	**8.77**	**41**	P	**Pn**	**10 23 38.8**	**+2.5**
	874nm54nm,1.4s						
CGJI	**Cibinong**	**8.80**	**290**	P	**Pn**	**10 23 35.6**	**-1.1**
BBSI	**Bau Bau**	**9.45**	**64**	P	**Pn**	**10 23 46.1**	**+0.5**
	88nm,0.8s						
BATI	**Baumata**	**9.51**	**94**	P	**Pn**	**10 23 46.4**	**0.0**
	25nm,0.3s,baz=335,slow=3.0,SNR=4.8						
BATI				S	**Sn**	**10 25 26.3**	**-5.6**
	63nm,0.5s,baz=79,slow=23,SNR=5.9						
BATI	**Baumata**	**9.51**	**94**	P	**Pn**	**10 23 46.9**	**+0.5**
	66nm,0.7s						
STKI	**Sintang**	**10.04**	**345**	P	**Pn**	**10 23 55.5**	**+1.9**
	55nm,0.5s						
SOEI	**Soe**	**10.10**	**91**		**Pn**	**10 23 55.4**	**+0.8**
SOEI	**Soe**	**10.10**	**91**	P	**Pn**	**10 23 55.5**	**+1.0**
	113nm,0.8s						
KASI	**Kota Agung**	**10.32**	**293**	P	**Pn**	**10 23 56.2**	**-1.3**
	910nm31nm,1.3s						
MDSI	**Maura Dua**	**11.06**	**297**	P	**Pn**	**10 24 06.3**	**-1.4**
APSI	**Ampana**	**11.57**	**41**	P	**Pn**	**10 24 16.6**	**+2.0**
	55nm,1.0s						
KSM	**Kuching**	**11.71**	**341**		**Pn**	**10 24 15.2**	**-1.3**
MNAI	**Manna**	**12.20**	**295**	P	**Pn**	**10 24 22.3**	**-1.0**
SBUM	**Sibu**	**12.21**	**351**		**Pn**	**10 24 29.4**	**+1.5**
MBWA	**Marble Bar**	**12.64**	**155**		Pn	10 24 22.8	-6.4
MBWA	**Marble Bar**	**12.64**	**155**	P	Pn	10 24 23.0	-6.1
TOLI2	**Tolitoli**	**12.68**	**32**		**Pn**	**10 24 29.2**	**-0.6**
MRSI	**Marisa**	**12.83**	**38**	P	**Pn**	**10 24 33.8**	**+2.0**
	59nm,0.7s						
KSI	**Kapahiang**	**12.85**	**297**	P	**Pn**	**10 24 29.2**	**-2.9**
GIRL	**Giralia**	**12.86**	**179**		Pn	10 24 26.7	-5.5
GIRL	**Giralia**	**12.86**	**179**	P	Pn	10 24 26.8	-5.4
	comp=Z,73nm,0.7s						
FITZ	**Fitzroy Crossi**	**14.02**	**128**		Pn	10 24 43.7	-4.3
FITZ	**Fitzroy Crossi**	**14.02**	**128**	P	Pn	10 24 43.8	-4.1
FITZ	**Fitzroy Crossi**	**14.02**	**128**	P	Pn	10 24 42.8	-5.1
	comp=Z,5.4nm,0.3s,baz=320,slow=9.3,SNR=26						
FITZ				S	Sn	10 27 08.5	-14
	comp=Z,15nm,0.7s,baz=145,slow=21,SNR=8.4						
FITZ				LR	LR	10 30 29.5	
	comp=Z,420nm,21.1s,baz=290,slow=38						
SANI	**Sanana**	**14.12**	**58**	P	**Pn**	**10 24 51.6**	**+2.2**
PPSI	**Pulau Pagai**	**15.54**	**295**	P	**Pn**	**10 25 08.3**	**+0.3**
	comp=Z,164nm,0.9s						
KNRA	**Kununurra**	**15.55**	**114**		**Pn**	**10 25 05.4**	**-2.7**
KNRA				IAmb	IAmb	10 25 13.8	
	comp=Z,67nm,0.8s						
KNRA	**Kununurra**	**15.55**	**114**	P	**Pn**	**10 25 07.4**	**-0.7**
	comp=Z,89nm,1.0s						
KKM	**Kota Kinabalu**	**15.80**	**8**	P	**P**	**10 25 13.3**	**-1.2**
BNDI	**Bandanaira**	**16.57**	**73**	P	**P**	**10 25 22.9**	**-0.1**
MTN	**Manton Dam**	**17.06**	**102**	P	**Pn**	**10 25 28.1**	**+0.9**
MTN	**Manton Dam**	**17.06**	**102**	P	**Pn**	**10 25 28.6**	**+1.4**
	comp=Z,50nm,1.5s						
MEEK	**Meekatharra**	**17.39**	**166**	P	**Pn**	**10 25 28.5**	**-2.6**
	comp=Z,39nm,1.1s						
KDU	**Kakadu**	**18.34**	**101**	P	**P**	**10 25 42.0**	**-0.4**
	comp=Z,23nm,0.7s						
SWI	**Sorong**	**19.27**	**64**	P	**P**	**10 25 52.1**	**-0.5**
	comp=Z,126nm,0.8s						
FAKI	**Fak Fak**	**19.32**	**71**	P	**P**	**10 25 52.9**	**-0.3**
FAKI				IAmb	IAmb	10 26 07.2	
	comp=Z,49nm,0.7s						
FAKI	**Fak Fak**	**19.32**	**71**	P	**P**	**10 25 52.7**	**-0.5**
	comp=Z,78nm,1.0s						
MORW	**Morawa**	**19.35**	**175**	P	**P**	**10 25 52.1**	**-1.3**
MORW	**Morawa**	**19.35**	**175**	P	**P**	**10 25 51.7**	**-1.8**
	comp=Z,25nm,1.0s						
PSI	**Prapat**	**19.52**	**309**	LR	LR	10 34 51.4	
	comp=Z,312nm,18.7s,baz=138,slow=41						
DAV	**Davao City (W)**	**20.26**	**35**	LR	LR	10 35 01.5	
	comp=Z,241nm,19.9s,baz=204,slow=40						
BLDU	**Ballivian**	**20.95**	**174**	P	**P**	**10 26 13.6**	**+2.8**
RKPI	**Ransiki, Papua**	**21.63**	**69**	P	**P**	**10 26 18.0**	**-0.3**
	comp=Z,120nm,0.7s						
KLBR	**Kellerberrin**	**22.05**	**171**	P	**P**	**10 26 23.7**	**+1.2**
	comp=Z,39nm,0.8s						
WRA	**Warramunga Arr**	**22.09**	**120**		**P**	**10 26 22.4**	**-0.8**
WRA	**Warramunga Arr**	**22.09**	**120**	P	**P**	**10 26 23.0**	**-0.2**
	comp=Z,18nm,0.7s,baz=293,slow=12,SNR=92						
WRA				S	**S**	**10 30 18.3**	**-5.7**
	comp=Z,1.9nm,0.7s,baz=283,slow=23,SNR=5.2						
WRA				LR	LR	10 35 49.4	
	comp=Z,363nm,19.8s,baz=322,slow=39						
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**22.09**	**120**	P	**P**	**10 26 23.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**23.29**	**173**	LR	LR	10 35 10.4	
	comp=Z,175nm,20.6s,baz=18,slow=35						
AS13	**Alice Springs**	**23.50**	**129**	P	**P**	**10 26 37.8**	**+0.1**
	comp=Z,65nm,0.7s						
AS31	**Alice Springs**	**23.52**	**129**	P	**P**	**10 26 37.9**	**+0.1**
ASAR	**Alice Springs**	**23.52**	**129**	P	**P**	**10 26 38.1**	**+0.3**
ASAR	**Alice Springs**	**23.52**	**129**	P	**P**	**10 26 37.9**	**+0.1**
	comp=Z,29nm,0.6s,baz=304,slow=9.0,SNR=302						
ASAR				sP	**pwP**	**10 26 54.9**	**+1.2**
	comp=Z,12nm,0.6s,baz=303,slow=8.6,SNR=7.0						
ASAR				PcP	**PcP**	**10 30 23.1**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=306,slow=1.9,SNR=5.6						
ASAR				S	**S**	**10 30 51.6**	**+3.4**
	comp=Z,6.3nm,1.0s,baz=302,slow=23,SNR=8.8						
ASAR				LR	LR	10 35 55.3	
	comp=Z,173nm,21.6s,baz=306,slow=37						
	comp=Z,29nm,0.6s						
BAKI	**Biak**	**23.54**	**70**	P	**P**	**10 26 38.2**	**+0.2**
	comp=Z,85nm,0.8s						
RKGY	**Rocky Gully**	**24.93**	**174**	P	**P**	**10 26 51.5**	**+1.0**
	comp=Z,94nm,1.1s						
COEN	**Coen**	**28.83**	**101**	P	**P**	**

NJ2	**Nanjing**	**41.78**	**6**	*eP*	**P**	**10 29 18.8**	**+2.1**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
XAN	**Xi'an**	**43.78**	**354**	P	**P**	**10 29 36.8**	**+3.9**
XAN				pP	pwP	10 29 48.5	-0.7
XAN				pmax	pmax			
	comp=Z,11nm,1.0s							
XAN				LR	LR			
	comp=Z,280nm,15.8s							
XAN				LR	LR			
	comp=Z,190nm,15.1s							
JNU	**Nakatsue**	**45.52**	**20**	LR	LR	10 50 37.2		
	comp=Z,48nm,21.2s,baz=185,slow=38							
EVN	**Everest**	**45.78**	**326**	P	**P**	**10 29 48.7**	**-0.9**
EVN				IAmb	IAmb	10 30 09.2		
	comp=Z,11nm,0.7s							
LZH	**Lanzhou**	**46.55**	**349**	*eP*	P	10 29 59.8	+4.8
LZH				pP	pwP	10 30 10.9	-0.6
LZH				pmax	pmax			
	comp=Z,16nm,1.3s							
LZH				LR	LR			
	comp=Z,170nm,12.4s							
LZH				LR	LR			
	comp=Z,230nm,12.7s							
LZH				LR	LR			
	comp=Z,220nm,13.1s							
KSRS	**Korea Array**	**48.69**	**15**	P	**P**	**10 30 10.3**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=199,slow=7.5,SNR=3.4							
	comp=Z,1.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.36**	**358**	*eP*	**P**	**10 30 27.1**	**+2.9**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,140nm,4.4s							
GTA	**Gaotai**	**50.62**	**346**	*eP*	**P**	**10 30 27.1**	**+0.9**
GTA				PcP	**PcP**	**10 31 44.8**	**+1.6**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GTA				LR	LR			
	comp=Z,170nm,15.6s							
GTA				LR	LR			
	comp=Z,150nm,16.4s							
GTA				LR	LR			
	comp=Z,180nm,20.0s							
MJAR	**Matsushiro Arr**	**51.32**	**25**	P	**P**	**10 30 30.2**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=202,slow=8.4,SNR=8.7							
	comp=Z,2.2nm,0.7s							
DZM	**Mont Dzumac**	**51.66**	**110**	*eS*	**S**	**10 37 56.7**	**+4.2**
	comp=Z,48nm,30.0s							
DZM				*eLQ*	LQ	10 43 19.1		
	comp=Z,116nm,27.5s							
DZM				*eLR*	LR	10 45 33.0		
	comp=Z,110nm,31.2s							
XLT	**XiLinHaoTe**	**53.39**	**2**	*eP*	**P**	**10 30 46.4**	**-0.2**
XLT				pP	pP	10 30 58.8	-0.4
XLT				pmax	pmax			
	comp=Z,12nm,0.9s							
XLT				pmax	pmax			
	comp=Z,200nm,5.5s							
USA0B	**Ussuriysk Arra**	**56.08**	**16**	P	**P**	**10 31 05.5**	**-0.5**
USRK	**Ussuriysk Ar.**	**56.08**	**16**	P	**P**	**10 31 04.7**	**-1.3**
	comp=Z,3.8nm,0.6s,baz=196,slow=6.3,SNR=12							
USRK				pP	**pP**	**10 31 16.3**	**-2.2**
	comp=Z,4.5nm,0.7s,baz=205,slow=5.6,SNR=5.4							
USRK				LR	LR	10 57 52.5		
	comp=Z,22nm,18.2s,baz=279,slow=39							
	comp=Z,3.8nm,0.6s							
BNX	**BinXian**	**56.49**	**11**	⇓P	**P**	**10 31 10.6**	**+1.7**
BNX				pmax	pmax			
	comp=Z,11nm,2.0s							
ULN	**Ulaanbaatar**	**57.65**	**354**	P	**P**	**10 31 16.4**	**-0.9**
ULN				IAmb	IAmb	10 31 18.5		
	comp=Z,9.7nm,1.1s							
SONM	**Songino Array**	**57.69**	**354**	P	**P**	**10 31 16.8**	**-0.7**
SONM				IAmb	IAmb	10 31 18.4		
	comp=Z,11nm,1.2s							
SONM	**Songino Array**	**57.69**	**354**	P	**P**	**10 31 16.8**	**-0.7**
	comp=Z,3.3nm,0.3s,baz=174,slow=8.6,SNR=24							
SONM				pP	**pP**	**10 31 29.6**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=180,slow=7.6,SNR=4.1							
SONM				LR	LR	10 58 10.6		
	comp=Z,91nm,18.2s,baz=183,slow=38							
	comp=Z,3.3nm,0.3s							
NIL	**Nilore**	**57.97**	**320**	P	**P**	**10 31 18.0**	**-1.7**
NIL				IAmb	IAmb	10 31 57.0		
	comp=Z,7.2nm,0.8s							
WMQ	**Urumqi**	**58.40**	**338**	*eP*	**P**	**10 31 25.5**	**+3.0**
WMQ				LR	LR			
	comp=Z,270nm,21.1s							
KSH	**Kashi**	**60.38**	**327**	P	**P**	**10 31 34.3**	**-2.0**
KSH				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HEH	**HeiHe**	**60.84**	**10**	*eP*	**P**	**10 31 37.9**	**-1.2**
SHLS	**Shalkode**	**61.32**	**332**	*eP*	**P**	**10 31 40.9**	**-1.8**
	comp=Z,12nm,1.2s							
UZB	**Uzynbulak**	**61.52**	**331**	*eP*	**P**	**10 31 43.4**	**-0.6**
	comp=Z,8.8nm,1.4s							
KDJ	**Kajisay**	**61.65**	**330**	P	**P**	**10 31 44.8**	**-0.2**
KDJ				IAmb	IAmb	10 32 00.8		
	comp=Z,8.7nm,0.8s							
SATY	**Saty**	**61.75**	**331**	*eP*	**P**	**10 31 45.1**	**-0.4**
	comp=Z,6.6nm,1.1s							
TNSS	**Tian-Shan**	**62.44**	**330**	*eP*	**P**	**10 31 49.6**	**-0.9**
ZSN	**Zaisan**	**62.53**	**338**	*eP*	**P**	**10 31 50.3**	**-0.3**
AAA	**Alma-Ata**	**62.58**	**330**	*eP*	**P**	**10 31 50.7**	**-0.3**
MKAR	**Makanchi Array**	**62.98**	**336**		**P**	**10 31 52.2**	**-1.3**
MKAR	**Makanchi Array**	**62.98**	**336**	P	**P**	**10 31 52.5**	**-1.1**
	comp=Z,2.3nm,0.5s,baz=146,slow=7.6,SNR=21							
MKAR				pP	**pP**	**10 32 05.1**	**-1.4**
	comp=Z,3.5nm,0.5s,baz=148,slow=7.7,SNR=11							
	comp=Z,2.3nm,0.5s							
TDK	**Taldyqorghan**	**63.23**	**332**	*eP*	**P**	**10 31 54.9**	**-0.4**
	comp=Z,9.8nm,0.6s							
KUU	**Kurty**	**63.37**	**330**	*eP*	**P**	**10 31 55.6**	**-0.6**
	comp=Z,6.0nm,1.2s							
AAK	**Ala-Archa**	**63.38**	**328**	LR	LR	11 02 45.4		
	comp=Z,81nm,19.2s,baz=142,slow=39							
SGDS	**Sogindy**	**63.90**	**329**	*eP*	**P**	**10 31 59.1**	**-0.7**
	comp=Z,8.1nm,1.2s							
BTLS	**Baital**	**65.33**	**330**	*eP*	**P**	**10 32 08.3**	**-0.6**
IUG	**Iuzhnay**	**65.46**	**325**	*eP*	**P**	**10 32 09.7**	**-0.3**
	comp=Z,9.4nm,1.0s							
BRLS	**Boroldoy**	**66.15**	**326**	*eP*	**P**	**10 32 13.4**	**-0.9**
MAW	**Mawson**	**66.94**	**199**	P	**P**	**10 32 19.0**	**0.0**
	comp=Z,6.5nm,0.9s,baz=68,slow=5.6,SNR=16							
MAW				pP	**pP**	**10 32 33.6**	**+1.7**
	comp=Z,5.4nm,0.8s,baz=75,slow=9.0,SNR=8.6							
	comp=Z,6.5nm,0.9s							
KURBB	**Kurchatov Arra**	**67.54**	**336**	P	**P**	**10 32 22.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=144,slow=5.4,SNR=4.1							
KURBB				LR	LR	11 04 54.9		
	comp=Z,62nm,20.3s,baz=172,slow=39							
	comp=Z,0.6nm,0.4s							
KURK	**Kurchatov**	**67.58**	**337**	P	**P**	**10 32 23.1**	**-0.1**
ZAA0	**Zalesovo Array**	**68.07**	**342**	P	**P**	**10 32 25.7**	**-0.6**
ZAA0				IAmb	IAmb	10 32 41.7		
	comp=Z,14nm,1.6s							
ZALV	**Zalesovo Beam**	**68.07**	**342**	P	**P**	**10 32 24.9**	**-1.4**
	comp=Z,2.1nm,0.5s,baz=149,slow=4.9,SNR=8.0							
	comp=Z,2.1nm,0.5s							
VNDA	**Vanda**	**72.09**	**170**	P	**P**	**10 32 50.9**	**+0.3**
	comp=Z,6.7nm,0.9s,baz=294,slow=6.9,SNR=33							
	comp=Z,6.7nm,0.9s							
BVAR	**Borovoye Array**	**72.70**	**334**	P	**P**	**10 32 53.5**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=153,slow=8.2,SNR=8.0							
	comp=Z,2.0nm,0.6s							
PETK	**Petropavlovsk-**	**72.77**	**26**	P	**P**	**10 32 53.4**	**-1.6**
	comp=Z,3.5nm,0.8s,baz=242,slow=3.2,SNR=4.2							
	comp=Z,3.5nm,0.8s							
SBA	**Scott Base**	**73.13**	**170**	P	**P**	**10 32 58.0**	**+1.3**
RAYN	**Ar Rayn**	**74.64**	**298**	P	**P**	**10 33 05.2**	**-1.4**
AB31	**Akbulak array**	**75.39**	**327**		**P**	**10 33 09.5**	**-0.8**
AB31				IAmb	IAmb	10 33 22.9		
	comp=Z,12nm,0.7s							
ABKAR	**Akbulak array**	**75.39**	**327**	P	**P**	**10 33 09.7**	**-0.6**
SYO	**Syowa Base**	**75.42**	**201**	⇓*eP*	**P**	**10 33 10.4**	**+0.2**
KMBO	**Kilima Mbogo**	**76.77**	**271**	LR	LR	11 00 43.9		
	comp=Z,71nm,21.0s,baz=101,slow=31							
LODK	**Lodwar**	**79.43**	**275**	P	**P**	**10 33 31.6**	**-2.2**
LODK				IAmb	IAmb	10 33 53.0		
	comp=Z,10nm,0.8s							
ARTI	**Arti**	**80.20**	**332**	P	**P**	**10 33 36.2**	**-0.8**
ARTI				IAmb	IAmb	10 33 54.4		
	comp=Z,11nm,0.8s							
QSPA	**South Pole Qui**	**80.29**	**180**	P	**P**	**10 33 38.2**	**+0.7**
QSPA	**South Pole Qui**	**80.29**	**180**	P	**P**	**10 33 38.0**	**+0.5**
	comp=Z,8.6nm,1.0s,baz=308,slow=2.5,SNR=18							
QSPA				pP	**pP**	**10 33 52.9**	**+2.0**
	comp=Z,12nm,1.1s,baz=331,slow=2.8,SNR=8.8							
	comp=Z,8.6nm,1.0s							
KBZ	**Khabaz**	**83.35**	**316**	P	**P**	**10 33 54.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=29,slow=10,SNR=4.8							
KBZ				pP	**pP**	**10 34 07.7**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=83,slow=3.7,SNR=4.0							
	comp=Z,2.1nm,0.8s							
BOSA	**Boshof**	**84.35**	**242**	P	**P**	**10 33 59.5**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=141,slow=12,SNR=4.8							
	comp=Z,3.3nm,0.8s							
ASF	**Jabal al Asfar**	**84.41**	**304**	LR	LR	11 17 36.3		
	comp=Z,21nm,18.2s,baz=112,slow=40							
GHAJ	**Ghor Haditha**	**85.29**	**303**	P	**P**	**10 34 04.4**	**+0.5**
MMAI	**Mount Meron Ar**	**85.84**	**304**	P	**P**	**10 34 07.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=92,slow=6.0,SNR=3.9							
	comp=Z,2.4nm,0.7s							
TOKA	**Tokat**	**86.88**	**312**	P	**P**	**10 34 11.3**	**-0.3**
TOKA				IAmb	IAmb	10 34 27.6		
	comp=Z,8.0nm,0.9s							
BNN	**Bunyan**	**86.96**	**310**	P	**P**	**10 34 11.8**	**-0.4**
BNN				IAmb	IAmb	10 34 27.9		
	comp=Z,11nm,1.3s							
TROLL	**Troll, Antarti**	**87.31**	**197**	⇓P	**P**	**10 34 14.3**	**+1.0**
	comp=Z,64nm,0.7s							
BR131	**Keskin Array S**	**88.84**	**310**		**P**	**10 34 20.5**	**-0.6**
BR131				IAmb	IAmb	10 34 21.9		
	comp=Z,6.8nm,0.9s							
BRTR	**Keskin Array B**	**88.84**	**310**		**P**	**10 34 20.4**	**-0.8**
BRTR	**Keskin Array B**	**88.84**	**310**	P	**P**	**10 34 21.1**	**0.0**
	comp=Z,3.7nm,0.8s,baz=123,slow=5.5,SNR=20							
BRTR				pP	**pP**	**10 34 34.5**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=136,slow=6.1,SNR=11							
	comp=Z,3.7nm,0.8s							
SNAA	**Sanae**	**88.97**	**196**	⇓P	**P**	**10 34 21.9**	**+0.8**
	comp=Z,151nm,1.0s							
SNAA	**Sanae**	**88.97**	**196**	P	**P**	**10 34 21.4**	**+0.3**
SNAA	**Sanae**	**88.97**	**196**	P	**P**	**10 34 21.6**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=143,slow=5.2,SNR=25							
SNAA				pP	**pP**	**10 34 36.3**	**+1.7**
	comp=Z,2.7nm,0.7s,baz=192,slow=5.1,SNR=5.9							
	comp=Z,4.9nm,0.8s							
BELA	**Belgrano 2**	**90.81**	**186**	P	**P**	**10 34 29.7**	**+0.1**
VNA1	**Neumayer--Stat**	**91.00**	**196**	⇓P	**P**	**10 34 31.7**	**+1.2**
	comp=Z,2.8nm,1.1s							
VNA3	**Neumayer Olymp**	**91.05**	**196**	⇓P	**P**	**10 34 31.7**	**+1.0**
	comp=Z,1.9nm,0.7s							
TBI	**Tubuai**	**92.11**	**114**	*eSS*	SS	10 51 56.0	+10	
	comp=Z,356nm,37.0s							
TBI				*eLQ*	LQ	11 00 17.1		
	comp=Z,1μm,36.2s							
TBI				*eLR*	LR	11 04 10.9		
	comp=Z,964nm,34.5s							
TBI				*eLR*	LR	11 04 11.2		
	comp=Z,444nm,24.2s							
PPT2	**Papeete2**	**93.12**	**108**	*eLQ*	LQ	11 00 49.9		
	comp=Z,94nm,25.8s							
PPT2				*eLR*	LR	11 04 36.1		
	comp=Z,84nm,24.0s							
PPT2				*eLR*	LR	11 04 40.0		
	comp=Z,139nm,26.0s							
FINES	**FINESS Array B**	**97.47**	**331**	P	**P**	**10 34 59.7**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=120,slow=5.5,SNR=3.9							
	comp=Z,1.6nm,0.8s							
ARCES	**ARCESS Array B**	**98.51**	**339**	LR	LR	11 27 40.1		
	comp=Z,65nm,18.1s,baz=320,slow=40							
TAOE	**Nuku Hiva Isla**	**103.89**	**102**	*eLR*	LR	11 09 38.2		
	comp=Z,205nm,24.8s							
YKA	**Yellowknife Ar**	**116.80**	**23**	PKP	**PKiKP**	**10 40 11.0**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=309,slow=2.8,SNR=4.3							
NVAR	**Mina Array Bea**	**125.23**	**50**	PKP	**PKiKP**	**10 40 29.7**	**+1.5**
	comp=Z,6.6nm,0.6s,baz=344,slow=3.4,SNR=6.4							
PDAR	**Pindale Array**	**129.74**	**41**	PKP	**PKPdf**	**10 40 36.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=278,slow=5.1,SNR=6.5							
TXAR	**Lajitas Array**	**139.72**	**56**	PKhKP	PKPpre	10 40 47.6		
	comp=Z,0.3nm,0.7s,baz=243,slow=2.0,SNR=5.9							

*IDC **13** 10:23:35.6±1.3,4.°85S×105.°74W,h0km,mb3.9/10, mbtmp3.9/10,MS4.4/44,Error ellipse: s-maj=72.5km s-min=20.9km az=63.0*

*NEIC **13** 10:23:39.8±1.2,4.°6S±0.°1×105.°4W±0.°2,h10km±2km, mb4.6/78,Error ellipse: s-maj=27.4km s-min=20.6km az=244.0*

*GCMT **13** 10:23:40.8±0.2,4.°56S±0.°01×105.°42W±0.°01,h14km±1km, MW5.1/126,Moment Tensor Solution. s61,c96; s126,c211; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr=0.67±.10; Mθθ 1.42±.10; Mφφ -0.75±.11; Mrθ 1.36±.23; Mθφ 4.98±.10; Mrφ 1.03±.23; Best double couple: M○ 5.32000×10^{16} NP1:φs 5.00000°,δ79.00000°, λ170.00000°. NP2:φs 97.00000°,δ80.00000°,λ11.00000°. Principal axes: T 5.8760, Plg15.0000°, Azm321.0000°; N -1.1090, Plg75.0000°, Azm138.0000°; P -4.7640, Plg1.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 10:23:37.5±0.6,4.°74S±0.°09×105.°53W±0.°09,h10km,n142, σ1°**00**/96,**mb4.5**/44,**MS4.4**/45,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**15.75**	**76**	Pn	**Pn**	**10 27 18.2**	**-1.5**
PAYG				IAmb	IAmb	10 27 44.1	
	comp=Z,67nm,1.4s						
RPN	**Rapa Nui**	**22.56**	**189**	LR	LR	10 35 08.4	
	comp=Z,574nm,19.9s,baz=12,slow=31						
TLIG	**Tlapa**	**23.20**	**17**	P		**10 28 44.9**	**0.0**
TLIG				IAmb	IAmb	10 28 49.5	
	comp=Z,34nm,1.5s						
CMIG	**Matias Romero**	**24.11**	**26**	LR	LR	10 34 54.6	
	comp=Z,179nm,18.2s,baz=204,slow=28						
MOIG	**Morelia**	**24.63**	**10**	P	**P**	**10 28 59.2**	**+0.5**
UNM	**Universidad Na**	**24.72**	**14**	P	**P**	**10 28 58.6**	**-0.9**
CCIG	**Comitan**	**24.73**	**32**	P	**P**	**10 29 00.1**	**+0.6**
MTO3	**Montecristo**	**24.87**	**40**	P	**P**	**10 28 58.1**	**-2.8**
ESQI	**Esquipulas**	**25.00**	**40**	P	**P**	**10 29 01.9**	**0.0**
CRIN	**San Cristobal**	**25.25**	**46**	P	**P**	**10 29 03.8**	**-0.3**
JTS	**Las Juntas de**	**25.36**	**54**	LR	LR	10 36 22.6	
	comp=Z,2μm,20.6s,baz=250,slow=30						
TGUH	**Tegucigalpa,Un**	**26.02**	**44**	P	**P**	**10 29 10.3**	**-0.9**
PETF	**Flores**	**26.51**	**35**	P	**P**	**10 29 15.1**	**-0.3**
ATAH	**Atahualpa**	**27.10**	**96**	LR	LR	10 37 31.5	
	comp=Z,861nm,18.7s,baz=271,slow=31						
ZAIG	**Zacatecas**	**27.49**	**6**	P	**P**	**10 29 24.4**	**-0.1**
LPIG	**La Paz**	**29.04**	**351**	LR	LR	10 38 12.3	
	comp=Z,1μm,20.1s,baz=174,slow=30						
NNA	**Nana**	**29.27**	**106**	LR	LR	10 38 06.8	
	comp=Z,1μm,20.7s,baz=272,slow=30						
ROSC	**El Rosal**	**32.60**	**73**	LR	LR	10 40 41.1	
	comp=Z,732nm,19.7s,baz=256,slow=31						
CZSB	**Cruzeiro do Su**	**32.76**	**97**		**P**	**10 30 11.4**	**+0.3**
RKT	**Rikitea**	**33.79**	**234**	*eLR*	LR	10 39 11.3	
	comp=Z,5μm,27.8s						
TXAR	**Lajitas Array**	**33.92**	**3**	P	**P**	**10 30 21.1**	**+0.1**
TXAR	**Lajitas Array**	**33.92**	**3**	P	**P**	**10 30 22.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=187,slow=7.6,SNR=4.5						
TXAR				PcP	**PcP**	**10 32 59.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=191,slow=4.9,SNR=3.8						
TXAR				LR	LR	10 41 43.6	
	comp=Z,341nm,20.4s,baz=180,slow=32						
	comp=Z,0.2nm,0.5s						
DRIO	**Del Rio**	**34.29**	**8**		**P**	**10 30 23.8**	**-0.3**
DRIO				IAmb	IAmb	10 30 32.3	
	comp=Z,8.4nm,1.0s						
HNDO	**Hondo**	**34.59**	**10**	P	**P**	**10 30 27.0**	**+0.2**
HNDO				IAmb	IAmb	10 30 36.9	
	comp=Z,8.1nm,0.9s						
TAOE	**Nuku Hiva Isla**	**34.60**	**261**	*eLR*	LR	10 39 32.0	
	comp=Z,752nm,23.8s						
SAND	**Sanderson**	**34.65**	**5**		**P**	**10 30 27.7**	**+0.4**
SAND				IAmb	IAmb	10 30 36.1	
	comp=Z,9.4nm,1.0s						
VHRN	**Van Horn**	**35.33**	**1**		**P**	**10 30 33.5**	**+0.3**
JCT	**Junction City**	**35.44**	**9**	P	**P**	**10 30 33.9**	**-0.2**
JCT				IAmb	IAmb	10 30 43.2	
	comp=Z,6.5nm,0.9s						
BRDY	**Brady**	**36.36**	**9**		**P**	**10 30 41.4**	**-0.6**
BRDY				IAmb	IAmb	10 30 50.0	
	comp=Z,7.9nm,0.9s						
DUN6	**Lazy B Ranch**	**37.24**	**355**		**P**	**10 30 50.7**	**+1.1**
SDV	**Santo Domingo**	**37.33**	**69**	LR	LR	10 43 29.1	
	comp=Z,740nm,20.6s,baz=253,slow=32						
ABTX	**Abilene, Hawle**	**37.57**	**8**	P	**P**	**10 30 52.3**	**0.0**
ABTX				IAmb	IAmb	10 30 55.1	
	comp=Z,24nm,1.5s						
POST	**Post**	**37.79**	**6**	P	**P**	**10 30 53.1**	**-1.1**
POST				IAmb	IAmb	10 31 16.3	
	comp=Z,14nm,1.4s						
H03N2	**Juan Fernandez**	**37.80**	**142**	T	T	11 11 04.4	
	baz=317,slow=77,SNR=20						
H03N1	**Juan Fernandez**	**37.82**	**142**	T	T	11 11 11.7	
	baz=317,slow=77,SNR=26						
H03N3	**Juan Fernandez**	**37.82**	**142**	T	T	11 11 14.1	
	baz=317,slow=77,SNR=23						
ESJX	**Sierra Juarez**	**37.86**	**346**	P	**P**	**10 30 56.2**	**+1.3**
PLPT	**Palo Pinto**	**37.97**	**10**		**P**	**10 30 55.6**	**0.0**
113A	**Mohawk Valley,**	**38.11**	**349**		**P**	**10 30 57.8**	**+1.1**
APMT	**Aspermont**	**38.20**	**7**		**P**	**10 30 57.9**	**+0.3**
APMT				IAmb	IAmb	10 31 00.5	
	comp=Z,15nm,1.4s						
LPAZ	**La Paz**	**38.45**	**110**	LR	LR	10 44 31.4	
	comp=Z,372nm,19.0s,baz=270,slow=32						
YUH	**Yuha Desert**	**38.47**	**346**		**P**	**10 31 01.4**	**+1.7**
Y22A	**Socorro**	**38.49**	**358**		**P**	**10 31 00.6**	**+0.5**
Y22A				IAmb	IAmb	10 31 24.4	
	comp=Z,16nm,1.5s						
GLA	**Glamis**	**38.60**	**347**	P	**P**	**10 31 01.6**	**+0.6**
GLA				IAmb	IAmb	10 31 13.2	
	comp=Z,9.6nm,0.8s						
Z35A	**Perchaven, San**	**38.66**	**11**	P	**P**	**10 31 01.7**	**+0.3**
Z35A				IAmb	IAmb	10 31 09.5	
	comp=Z,13nm,0.7s						
BNM	**Barren Site**	**38.69**	**359**	P	**P**	**10 31 03.5**	**+1.6**
WTFS	**Witchita Falls**	**38.87**	**9**		**P**	**10 31 02.8**	**-0.4**
WTFS				IAmb	IAmb	10 31 05.7	
	comp=Z,27nm,1.4s						
Y14A	**Wickenburg**	**39.11**	**350**		**P**	**10 31 05.6**	**+0.3**
BC3	**Big Chuckawall**	**39.32**	**347**	P	**P**	**10 31 07.8**	**+0.7**
X16A	**Lo Mia Camp, P**	**39.34**	**352**		**P**	**10 31 07.7**	**+0.4**
ANMO	**Albuquerque**	**39.48**	**359**	LR	LR	10 44 39.1	
	comp=Z,349nm,20.9s,baz=273,slow=32						
PFO	**Pinyon Flats O**	**39.52**	**346**	P	**P**	**10 31 08.0**	**-0.7**
PFO	**Pinyon Flats O**	**39.52**	**346**	LR	LR	10 43 30.0	
	comp=Z,1μm,21.2s,baz=158,slow=30						
IRM	**Iron Mountain**	**39.73**	**347**		**P**	**10 31 10.5**	**0.0**
BELC	**Belle Mtn. Jos**	**39.78**	**346**	P	**P**	**10 31 10.4**	**-0.5**
SMWD	**Samnorwood**	**39.94**	**7**		**P**	**10 31 11.8**	**-0.3**
SMWD				IAmb	IAmb	10 31 20.7	
	comp=Z,10nm,1.1s						
WUAZ	**Wupatki**	**40.41**	**353**		**P**	**10 31 16.3**	**+0.1**
BFSC	**Mount Baldy Ra**	**40.42**	**344**	P	**P**	**10 31 16.4**	**+0.2**
BFSC				IAmb	IAmb	10 31 37.1	
	comp=Z,12nm,1.3s						
MIAR	**Mount Ida**	**40.66**	**15**		**P**	**10 31 17.5**	**-0.6**
MIAR				IAmb	IAmb	10 31 25.9	
	comp=Z,6.6nm,0.8s						
ELIS	**Ellis County**	**40.99**	**8**		**P**	**10 31 20.8**	**-0.1**
V12A	**Nelson**	**41.19**	**348**		**P**	**10 31 23.1**	**+0.6**
GSC	**Goldstone, Bar**	**41.21**	**346**	P	**P**	**10 31 22.8**	**+0.1**
LRMC	**Laurel Mtn Rad**	**41.60**	**345**	P	**P**	**10 31 26.1**	**+0.2**
SHOC	**Shoshone, Teco**	**41.66**	**347**	P	**P**	**10 31 27.1**	**+0.8**
SHOC				IAmb	IAmb	10 31 44.5	
	comp=Z,8.5nm,1.0s						
WSHM	**Spangler Hills**	**41.66**	**345**	P	**P**	**10 31 26.8**	**+0.4**
WSHM				IAmb	IAmb	10 31 44.7	
	comp=Z,10nm,1.4s						
MVCO	**Mesa Verde**	**41.82**	**356**		**P**	**10 31 27.3**	**-0.5**
SDCO	**Great Sand Dun**	**42.26**	**0**		**P**	**10 31 32.0**	**+0.5**
TPNV	**Topopah Spring**	**42.66**	**347**	P	**P**	**10 31 34.3**	**-0.3**
HMU	**Henry Mountain**	**42.73**	**354**	P	**P**	**10 31 36.2**	**+0.9**
HMU				IAmb	IAmb	10 32 05.1	
	comp=Z,17nm,1.5s						
PV12	**Saucer Basin,**	**42.94**	**356**	P	**P**	**10 31 37.4**	**+0.4**
PV12				IAmb	IAmb	10 32 00.0	
	comp=Z,11nm,1.3s						
PMPB	**Monarch Peak**	**43.17**	**342**		**P**	**10 31 38.8**	**+0.1**
PCRV	**Puerto La Cruz**	**43.34**	**70**	LR	LR	10 49 03.4	
	comp=Z,247nm,20.6s,slow=35						
PBMO	**Poplar Bluff**	**43.64**	**18**	P	**P**	**10 31 42.2**	**-0.2**
PBMO				IAmb	IAmb	10 31 59.6	
	comp=Z,16nm,1.2s						
CFA	**Coronel Fontan**	**44.01**	**132**	LR	LR	10 45 37.3	
	comp=Z,420nm,20.6s,baz=256,slow=30						
R40A	**Maddies Statio**	**44.54**	**15**	P	**P**	**10 31 48.9**	**-0.7**
R40A				IAmb	IAmb	10 31 56.9	
	comp=Z,8.5nm,1.0s						
NVAR	**Mina Array Bea**	**44.55**	**346**		**P**	**10 31 50.6**	**+0.7**
NVAR	**Mina Array Bea**	**44.55**	**346**	P	**P**	**10 31 50.3**	**+0.4**
	comp=Z,2.4nm,1.1s,baz=176,slow=9.4,SNR=10						
	comp=Z,2.4nm,1.1s						
CCM	**

ULM	**Lac du Bonnet**	**55.40**	**8**	LR	LR	10 55 33.0		
	comp=Z,515nm,18.5s,baz=194,slow=34							
BDFB	**Brasilia**	**57.48**	**105**	LR	LR	10 55 57.4		
	comp=Z,491nm,18.6s,baz=307,slow=34							
BBB	**Bella Bella**	**59.87**	**344**	P	**P**	**10 33 43.3**	**0.0**	
	comp=Z,2.8nm,1.1s,baz=164,slow=4.5,SNR=3.7							
BBB				LR	LR	10 56 25.5		
	comp=Z,266nm,18.7s,baz=168,slow=33							
	comp=Z,2.8nm,1.1s							
DLBC	**Dease Lake**	**65.97**	**346**	P	**P**	**10 34 23.9**	**0.0**	
	comp=Z,2.9nm,1.0s,baz=142,slow=7.9,SNR=6.6							
DLBC				LR	LR	10 59 46.8		
	comp=Z,209nm,20.4s,baz=138,slow=33							
	comp=Z,2.9nm,1.0s							
PMSA	**Palmer Station**	**66.79**	**162**	LR	LR	10 55 58.8		
	comp=Z,705nm,20.5s,baz=306,slow=29							
YKA	**Yellowknife Ar**	**67.40**	**355**	P	**P**	**10 34 33.5**	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=165,slow=6.0,SNR=5.1							
YKA				LR	LR	11 02 38.6		
	comp=Z,225nm,18.6s,baz=166,slow=35							
	comp=Z,1.6nm,0.8s							
SCHQ	**Schefferville**	**67.47**	**23**	LR	LR	11 03 20.9		
	comp=Z,263nm,20.2s,baz=224,slow=35							
RCBR	**Riachuelo**	**69.31**	**94**	LR	LR	11 03 27.3		
	comp=Z,164nm,19.8s,baz=254,slow=34							
N31M	**Braeburn, Yuko**	**70.05**	**345**	P	**P**	**10 34 51.6**	**+2.1**	
M29M	**Somme Creek**	**71.55**	**345**	P	**P**	**10 34 59.8**	**+1.1**	
M29M				IAmb	IAmb	10 35 18.1		
	comp=Z,4.0nm,1.1s							
KDAK	**Kodiak Island**	**72.87**	**336**	LR	LR	11 00 05.7		
	comp=Z,668nm,18.2s,baz=154,slow=30							
BCAR	**Beaver Creek A**	**72.96**	**344**	P	**P**	**10 35 07.7**	**+0.6**	
FRB	**Frobisher Bay**	**73.70**	**16**	LR	LR	11 06 48.1		
	comp=Z,172nm,18.8s,baz=254,slow=35							
I28M	**Miner Creek**	**74.39**	**346**	P	**P**	**10 35 17.0**	**+1.6**	
I28M				IAmb	IAmb	10 35 28.9		
	comp=Z,7.1nm,1.1s							
H29M	**Whitestone**	**74.66**	**347**	P	**P**	**10 35 17.3**	**+0.4**	
G29M	**Pine Creek**	**75.16**	**347**	P	**P**	**10 35 20.2**	**+0.5**	
SKT	**Skwentna**	**75.25**	**339**		**P**	**10 35 21.1**	**+0.7**	
SKT				IAmb	IAmb	10 35 32.5		
	comp=Z,9.3nm,1.0s							
H27K	**Steamboat Moun**	**75.41**	**346**		**P**	**10 35 21.5**	**+0.2**	
H27K				IAmb	IAmb	10 35 29.8		
	comp=Z,8.1nm,1.1s							
INK	**Inuvik**	**75.46**	**350**	P	**P**	**10 35 22.4**	**+1.0**	
	comp=Z,4.5nm,1.0s,baz=148,slow=5.0,SNR=3.9							
INK				LR	LR	11 06 12.4		
	comp=Z,472nm,18.4s,baz=151,slow=34							
	comp=Z,4.5nm,1.0s							
ILAR	**Eielson Array**	**75.73**	**343**	P	**P**	**10 35 22.0**	**-1.1**	
ILAR	**Eielson Array**	**75.73**	**343**	P	**P**	**10 35 22.8**	**-0.3**	
	comp=Z,2.0nm,0.9s,baz=159,slow=5.4,SNR=8.8							
	comp=Z,2.0nm,0.9s							
CAST	**Castle Rocks**	**76.40**	**340**	P	**P**	**10 35 26.4**	**-0.5**	
CAST				IAmb	IAmb	10 35 38.2		
	comp=Z,6.1nm,1.0s							
URZ	**Urewera**	**77.16**	**232**	LR	LR	11 01 04.4		
	comp=Z,355nm,21.3s,baz=268,slow=29							
RES	**Resolute Bay**	**79.56**	**3**	LR	LR	11 09 07.1		
	comp=Z,171nm,19.1s,baz=182,slow=34							
SFJD	**Kangerlussuaq**	**81.39**	**19**	LR	LR	11 10 51.8		
	comp=Z,162nm,21.5s,baz=232,slow=35							
DZM	**Mont Dzumac**	**86.42**	**248**	*e*S	**SKSac**	**10 46 43.6**	**-4.7**	
	comp=Z,110nm,31.2s							
DZM	**Mont Dzumac**	**86.42**	**248**	*e*LR	LR	11 03 27.6		
	comp=Z,163nm,23.4s							
SHEM	**Shemya Is, Ala**	**87.92**	**323**	LR	LR	11 07 43.2		
	comp=Z,364nm,20.7s,baz=124,slow=30							
H11N3	**WAKE ISLAND Hy**	**89.28**	**290**	T	T	12 15 24.2		
	baz=96,slow=74,SNR=182							
H11N2	**WAKE ISLAND Hy**	**89.30**	**290**	T	T	12 15 27.7		
	baz=96,slow=74,SNR=182							
H11N1	**WAKE ISLAND Hy**	**89.30**	**290**	T	T	12 15 25.3		
	baz=96,slow=74,SNR=79							
H11S2	**WAKE ISLAND Hy**	**89.36**	**288**	T	T	12 15 25.9		
	baz=94,slow=74,SNR=74							
H11S1	**WAKE ISLAND Hy**	**89.37**	**289**	T	T	12 15 25.9		
	baz=94,slow=74,SNR=64							
H11S3	**WAKE ISLAND Hy**	**89.38**	**288**	T	T	12 15 27.3		
	baz=94,slow=74,SNR=52							
JMIC	**Jan Mayen**	**96.74**	**19**	LR	LR	11 20 16.2		
	comp=Z,124nm,19.9s,baz=236,slow=35							
PETK	**Petropavlovsk-**	**97.83**	**323**	LR	LR	11 13 27.9		
	comp=Z,221nm,20.6s,baz=95,slow=31							
SEY	**Seymchan**	**99.69**	**333**	LR	LR	11 17 46.4		
	comp=Z,214nm,18.9s,baz=114,slow=33							
MKAR	**Makanchi Array**	**137.56**	**352**	PKP	**PKPdf**	**10 43 01.9**	**-0.1**	
	comp=Z,0.5nm,0.8s,baz=5.7,slow=2.9,SNR=4.1							
CMAR	**Chiang Mai Arr**	**152.47**	**302**	PKPbc	**PKPbc**	**10 43 34.4**	**-0.7**	
	comp=Z,0.8nm,0.3s,baz=311,slow=0.8,SNR=4.9							

*IDC **13** 10:26:19.8±1.6,26°.27S×178°.26E,h630km±18km, mb3.5/13,mbtmp4.6/15,Error ellipse: s-maj=14.7km s-min=12.0km az=34.0*

*NEIC **13** 10:26:20.2±1.6,26°.2S±0°.1×178°.4E±0°.1, h629km±4km, mb4.4/39,Error ellipse: s-maj=18.9km s-min=16.3km az=77.0*

ISC 13 10:26:18.5±0.4,26°.38S±0°.06×178°.37E±0°.07,h612km,n91, σ1s82/100,mb4.4/33,3C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.36**	**132**	P	**P**	**10 27 51.0**	**+3.7**
GLKZ	**Green Lake**	**4.37**	**132**	P	**P**	**10 27 48.6**	**+1.3**
MSVF	**Nonsavu**	**8.61**	**358**	P	**P**	**10 28 23.7**	**-0.6**
OUZ	**Omahuta**	**9.72**	**204**	P	**P**	**10 28 37.3**	**+2.7**
WCZ	**Waipu Caves**	**10.13**	**199**	P	P	10 28 42.8	+4.1
KUZ	**Kuaotunu**	**10.57**	**192**	P	**P**	**10 28 45.3**	**+2.3**
PINNC	**Pines Island,**	**10.63**	**288**	P	**P**	**10 28 44.8**	**+1.0**
MBAZ	**Motutapu North**	**10.77**	**195**	P	**P**	**10 28 48.5**	**+3.5**
WTAZ	**Waiatarua**	**11.00**	**196**	P	**P**	**10 28 50.7**	**+3.4**
MKAZ	**Moumakai**	**11.03**	**194**	P	**P**	**10 28 50.7**	**+3.2**
AWAZ	**Awhitu Peninsu**	**11.11**	**196**	P	**P**	**10 28 51.4**	**+3.1**
HAZ	**Te Kaha**	**11.35**	**182**	P	**P**	**10 28 50.2**	**-0.5**
HAZ				S	**S**	**10 30 49.8**	**-5.8**
WMGZ	**Waiomatatini S**	**11.40**	**180**	P	**P**	**10 28 50.0**	**-1.2**
WMGZ				S	**S**	**10 30 52.7**	**-3.9**
RUGZ	**Raukumara Rang**	**11.56**	**183**	P	**P**	**10 28 52.7**	**-0.2**
TOZ	**Tahuroa Road**	**11.57**	**191**	P	**P**	**10 28 55.0**	**+2.1**
ONTNC	**Ouen Toro**	**11.59**	**288**	P	**P**	**10 28 54.3**	**+1.0**
PUZ	**Puketiti**	**11.66**	**180**	P	**P**	**10 28 53.0**	**-0.7**
DZM	**Mont Dzumac**	**11.69**	**289**	P	**P**	**10 28 56.2**	**+1.8**
DZM	**Mont Dzumac**	**11.69**	**289**	P	**P**	**10 28 55.8**	**+1.4**
	30nm,0.6s,baz=172,slow=22,SNR=61						
URZ	**Urewera**	**11.89**	**185**	P	**P**	**10 28 54.8**	**-1.2**
	7.7nm,0.3s,baz=264,slow=4.1,SNR=56						
URZ				S	**S**	**10 31 01.0**	**-4.3**
	10nm,0.5s,baz=209,slow=22,SNR=12						
URZ	**Urewera**	**11.89**	**185**	P	**P**	**10 28 54.0**	**-2.0**
URZ				S	**S**	**10 31 01.2**	**-4.1**
MWZ	**Matawai**	**11.94**	**183**	P	**P**	**10 28 55.4**	**-1.1**
MWZ				S	**S**	**10 31 02.4**	**-3.9**
KNZ	**Kokohu**	**12.62**	**182**	P	**P**	**10 29 02.0**	**-1.2**
BKZ	**Black Stump Fm**	**12.85**	**187**	P	**P**	**10 29 04.2**	**-1.2**
BKZ				S	**S**	**10 31 17.8**	**-4.8**
VRZ	**Vera Road**	**13.06**	**193**	P	**P**	**10 29 09.8**	**+2.3**
SANVU	**Saraoutou**	**15.06**	**314**	P	**P**	**10 29 27.2**	**+0.3**
LHI	**Lord Howe Isla**	**17.65**	**249**	P	**P**	**10 29 52.8**	**+2.4**
RPZ	**Rata Peaks**	**18.29**	**197**	P	**P**	**10 29 55.8**	**-0.2**
	9.4nm,0.5s,baz=242,slow=1.0,SNR=8.2						
ARMA	**Armidale**	**23.84**	**254**	P	**P**	**10 30 47.4**	**+1.4**
ARMA				IAmb	IAmb	10 30 48.8	
	comp=Z,10nm,0.8s						
EIDS	**Eidsvold**	**24.55**	**266**		**P**	**10 30 53.0**	**+0.8**
CAN	**Canberra**	**26.66**	**243**	P	**P**	**10 31 12.2**	**+1.5**
CAN				IAmb	IAmb	10 31 32.5	
	comp=Z,31nm,1.5s						
TOO	**Toolangi**	**29.89**	**240**	P	**P**	**10 31 39.9**	**+1.2**
CTAO	**Charters Tower**	**30.11**	**275**	P	**P**	**10 31 41.5**	**+0.8**
STKA	**Stephens Creek**	**32.48**	**252**	P	**P**	**10 32 01.7**	**+1.0**
STKA	**Stephens Creek**	**32.48**	**252**	P	**P**	**10 32 00.4**	**-0.3**
	comp=Z,6.0nm,0.7s,baz=96,slow=6.8,SNR=12						
	comp=Z,6.0nm,0.7s						
COEN	**Coen**	**35.15**	**284**	P	**P**	**10 32 23.9**	**+0.7**
BBOO	**Buckleboo**	**37.16**	**250**	P	**P**	**10 32 39.1**	**-0.3**
BBOO				IAmb	IAmb	10 32 39.4	
	comp=Z,8.6nm,0.8s						
MANU	**Manus Island**	**38.36**	**304**	P	**P**	**10 32 49.1**	**-0.3**
MANU				IAmb	IAmb	10 32 49.3	
	comp=Z,15nm,0.7s						
AS31	**Alice Springs**	**40.23**	**264**	P	**P**	**10 33 04.4**	**+0.2**
AS31				IAmb	IAmb	10 33 05.4	
	comp=Z,8.4nm,0.6s						
ASAR	**Alice Springs**	**40.23**	**264**	P	**P**	**10 33 04.3**	**0.0**
ASAR	**Alice Springs**	**40.23**	**264**	P	**P**	**10 33 04.1**	**-0.2**
	comp=Z,16nm,0.5s,baz=92,slow=7.4,SNR=98						
ASAR				ScP	**ScP**	**10 37 43.3**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=94,slow=3.6,SNR=1.9						
ASAR				S	**S**	**10 38 26.7**	**-2.4**
	comp=Z,1.5nm,0.8s,baz=99,slow=16,SNR=6.6						
	comp=Z,16nm,0.5s						
WR0	**Warramunga Arr**	**40.65**	**270**	P	**P**	**10 33 07.3**	**-0.2**
WR0				IAmb	IAmb	10 33 08.3	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**40.83**	**270**	P	**P**	**10 33 08.7**	**-0.3**
WRAB				IAmb	IAmb	10 33 09.1	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**40.83**	**270**	P	**P**	**10 33 08.7**	**-0.3**
WRA	**Warramunga Arr**	**40.83**	**270**	P	**P**	**10 33 08.3**	**-0.7**
	comp=Z,16nm,0.4s,baz=103,slow=7.5,SNR=78						
WRA				ScP	**ScP**	**10 37 46.1**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=107,slow=3.9,SNR=4.2						
WRA				S	**S**	**10 38 35.5**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=103,slow=13,SNR=4.5						
	comp=Z,16nm,0.4s						
MTN	**Manton Dam**	**46.24**	**278**	P	**P**	**10 33 50.2**	**-0.6**
MTN				IAmb	IAmb	10 34 27.8	
	comp=Z,25nm,1.2s						
KNRA	**Kununurra**	**47.26**	**273**	P	**P**	**10 33 58.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**49.22**	**268**	P	**P**	**10 34 13.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**49.22**	**268**	P	**P**	**10 34 12.7**	**-0.1**
	comp=Z,12nm,0.5s,baz=97,slow=6.1,SNR=29						
	comp=Z,12nm,0.5s						
FAKI	**Fak Fak**	**49.95**	**290**	P	**P**	**10 34 17.6**	**-0.7**
VNDA	**Vanda**	**51.80**	**185**	P	**P**	**10 34 32.4**	**+1.8**
VNDA	**Vanda**	**51.80**	**185**	P	**P**	**10 34 31.6**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=14,slow=8.7,SNR=2.0						
	comp=Z,1.4nm,0.6s						
SBA	**Scott Base**	**51.83**	**183**	P	**P**	**10 34 33.7**	**+2.9**
SBA				IAmb	IAmb	10 34 34.3	
	comp=Z,9.3nm,0.8s						
MBWA	**Marble Bar**	**53.53**	**262**	P	**P**	**10 34 43.3**	**-0.5**
MBWA				IAmb	IAmb	10 35 06.6	
	comp=Z,16nm,1.2s						
MORW	**Morawa**	**54.66**	**252**	P	**P**	**10 34 51.3**	**-0.3**
MORW				IAmb	IAmb	10 35 12.7	
	comp=Z,28nm,1.5s						
CASY	**Casey**	**57.24**	**206**	P	**P**	**10 35 08.8**	**+0.2**
QSPA	**South Pole Qui**	**63.71**	**180**	P	**P**	**10 35 53.4**	**+2.1**
QSPA				IAmb	IAmb	10 35 54.1	
	comp=Z,15nm,0.8s						
QSPA	**South Pole Qui**	**63.71**	**180**	P	**P**	**10 35 53.0**	**+1.7**
	comp=Z,13nm,0.5s,baz=207,slow=0.7,SNR=64						
	comp=Z,13nm,0.5s						
MJAR	**Matsushiro Arr**	**73.13**	**327**	P	**P**	**10 36 47.0**	**-1.2**
MJAR	**Matsushiro Arr**	**73.13**	**327**	P	**P**	**10 36 46.7**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=158,slow=5.6,SNR=7.2						
	comp=Z,2.0nm,0.8s						
MAJO	**Matsushiro**	**73.14**	**327**	P	**P**	**10 36 47.9**	**-0.3**
BELA	**Belgrano 2**	**74.16**	**173**	P	**P**	**10 36 53.6**	**+0.2**
BELA				IAmb	IAmb	10 36 54.2	
	comp=Z,9.9nm,0.8s						
JNU	**Nakatsue**	**74.43**	**320**	P	**P**	**10 36 54.3**	**-1.4**
JNU				IAmb	IAmb	10 37 31.2	
	comp=Z,18nm,1.2s						
SSLB	**Suanglung**	**74.61**	**307**	P	**P**	**10 36 54.8**	**-2.0**
SSLB				IAmb	IAmb	10 37 00.2	
	comp=Z,23nm,1.3s						
MAW	**Mawson**	**74.92**	**201**	P	**P**	**10 36 57.6**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=119,slow=5.4,SNR=15						
	comp=Z,2.0nm,0.5s						
PMSA	**Palmer Station**	**77.22**	**157**	P	**P**	**10 37 11.7**	**+1.3**
KSRS	**Korea Array**	**79.22**	**321**	P	**P**	**10 37 19.5**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=126,slow=6.7,SNR=4.7						
	comp=Z,0.8nm,0.6s						
MG03	**Isla Dawson**	**80.56**	**146**	P	**P**	**10 37 29.1**	**+0.9**
TROLL	**Troll, Antarti**	**81.83**	**181**	⇓P	**P**	**10 37 33.9**	**-0.8**
	comp=Z,1μm,0.6s						
USRK	**Ussuriysk Ar.**	**82.06**	**328**	P	**P**	**10 37 34.5**	**-1.5**
USRK	**Ussuriysk Ar.**	**82.06**	**328**	P	**P**	**10 37 35.8**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=135,slow=5.1,SNR=5.1						
	comp=Z,2.3nm,0.7s						
SNAA	**Sanae**	**82.21**	**180**	⇑P	**P**	**10 37 35.8**	**-0.7**
	comp=Z,175nm,0.6s						
SNAA	**Sanae**	**82.21**	**180**	P	**P**	**10 37 36.5**	**0.0**
SNAA				IAmb	IAmb	10 37 36.9	
	comp=Z,6.1nm,0.6s						
SNAA	**Sanae**	**82.21**	**180**	P	**P**	**10 37 35.8**	**-0.7**
	comp=Z,6.9nm,0.6s,baz=207,slow=9.2,SNR=31						
	comp=Z,6.9nm,0.6s						
VNA3	**Neumayer Olymp**	**82.48**	**177**	⇑P	**P**	**10 37 37.1**	**-0.7**
	comp=Z,14nm,0.6s						
VNA1	**Neumayer--Stat**	**83.13**	**178**	⇑P	**P**	**10 37 39.7**	**-1.2**
	comp=Z,5.7nm,0.9s						
SAO	**San Andreas Ge**	**84.56**	**44**	P	**P**	**10 37 45.4**	**-3.2**
SAO				IAmb	IAmb	10 37 46.0	
	comp=Z,5.8nm,0.8s						
O02D	**Mt. Diablo Mer**	**85.90**	**41**	P	**P**	**10 37 55.3**	**+0.4**
O02D				IAmb	IAmb	10 37 57.3	
	comp=Z,7.7nm,1.4s						
NVAR	**Mina Array Bea**	**87.56**	**45**	P	**P**	**10 38 02.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=260,slow=5.3,SNR=3.7						
	comp=Z,0.3nm,0.7s						
PLCA	**Paso Flores**	**87.59**	**135**	P	**P**	**10 38 04.5**	**+1.4**
PLCA				IAmb	IAmb	10 38 44.2	
	comp=Z,6.9nm,1.2s						
O16K	**Kokwok River B**	**87.83**	**12**	P	**P**	**10 38 04.9**	**+1.5**
O16K				IAmb	IAmb	10 38 10.2	
	comp=Z,9.9nm,1.4s						
KNB	**Kanab**	**90.31**	**48**	P	**P**	**10 38 17.2**	**+1.5**
MT01	**Popeta**	**90.85**	**129**	P	**P**	**10 38 19.1**	**+0.8**
TXAR	**Lajitas Array**	**92.99**	**59**	P	**P**	**10 38 28.4**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=205,slow=6.1,SNR=4.7						
	comp=Z,0.3nm,0.8s						
ARCES	**ARCESS Array B**	**133.98**	**347**	SKPbc	**SKPbc**	**10 46 58.2**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=38,slow=2.4,SNR=7.6						
FINES	**FINESS Array B**	**140.28**	**340**	SKPbc	**SKPbc**	**10 47 16.0**	**-1.6**
	comp=Z,1.0nm,0.6s,baz=85,slow=3.1,SNR=4.5						
HFS	**Hagfors**	**144.65**	**347**	PKP	**PKPdf**	**10 44 44.8**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=40,slow=2.8,SNR=10						
AKASG	**Malin Array Be**	**146.18**	**324**	PKPbc	**PKPdf**	**10 44 48.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=62,slow=2.2,SNR=4.5						
BRTR	**Keskin Array B**	**147.79**	**303**	PKPbc	**PKPbc**	**10 44 55.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=114,slow=3.0,SNR=6.3						
EKA	**Eskdalemuir Ar**	**151.05**	**2**	PKPbc	**PKPbc**	**10 45 01.4**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=346,slow=3.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**166.47**	**194**	PKPab	**PKPab**	**10 46 20.8**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=189,slow=8.1,SNR=6.9						

KRSC 13 10:46:08.6±0.9,56°.29N×163°.90E,h64km±29km,MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.60**	**132**	*e*P	Pn	10 46 36.9	+2.3
BKI				*e*S	Sn	10 46 57.9	+3.6
BZGR	**Bezymyannyi-Gr**	**1.83**	**260**	*e*P	Pn	10 46 40.0	+2.3
MKZ	**Mys Kozlova**	**2.13**	**216**	*e*P	Pn	10 46 42.4	+0.6
TUMD	**Tumrok D**	**2.26**	**243**	*e*P	Pn	10 46 45.7	+2.2
ESO	**Esso**	**2.93**	**265**	*e*P	Pn	10 46 55.7	+3.0
OSSR	**Ossora**	**3.00**	**352**	*e*P	Pn	10 46 56.7	+3.1
OSSR				*e*S	Sn	10 47 31.1	+2.8
SPN	**Mys Shipunski**	**3.91**	**217**	*e*P	Pn	10 47 07.8	+1.8
SDLR	**Sedlovina**	**4.19**	**226**	*e*P	Pn	10 47 12.7	+2.7
KRX	**Arik**	**4.22**	**228**	*e*P	Pn	10 47 14.8	+4.3
SMAR	**Somma**	**4.23**	**226**	*e*P	Pn	10 47 13.2	+2.5
AVH	**Avacha**	**4.25**	**227**	*e*P	Pn	10 47 15.7	+4.9
UGLR	**Uglovaya**	**4.26**	**226**	*e*P	Pn	10 47 13.8	+2.8
KOK	**Koryaka**	**4.28**	**228**	*e*P	Pn	10 47 14.6	+3.4
GNL	**Ganaly**	**4.30**	**235**	*e*P	Pn	10 47 15.2	+3.6
DALK	**Dalny**	**4.42**	**225**	*e*P	Pn	10 47 15.7	+2.6
PET	**Petropavlovsk**	**4.47**	**225**	*e*P	Pn	10 47 16.4	+2.7
KRMR	**Karymshinskiy**	**4.83**	**226**	*e*P	Pn	10 47 22.5	+4.0
GRL	**Gorelyy**	**5.06**	**225**	*e*P	Pn	10 47 25.9	+4.0
MTVR	**Mutnovka**	**5.07**	**224**	*e*P	Pn	10 47 25.3	+3.9
ASAK	**Asacha**	**5.26**	**224**	*e*P	Pn	10 47 28.4	+3.9

*IDC **13** 10:50:21.4±8.9,35°.29N×77°.52E,h95km±56km,mb3.4/7, mbtmp3.7/12,ML3.3/5,MS4.0/8,Error ellipse: s-maj=76.7km s-min=27.7km az=179.0*

ISC 13 10:50:12.3±0.7,34°.69N±0°.05×77°.91E±0°.06,h50km,n32, σ2s29/36,mb3.7/7,MS4.0/8,1C,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALCI	**Alchi Leh**	**0.77**	**232**	*e*P	Pn	10 50 21.4	-5.9
HNLY	**HANLEY**	**2.10**	**155**	*e*P	**Pn**	**10 50 42.9**	**-2.6**
HNLY				*e*S	**Sn**	**10 51 11.5**	**+0.8**
HNLY				IAML		10 51 12.2	
	comp=N,4μm,0.5s						
DHRM	**DHARAMSHALA**	**2.78**	**209**	*e*P	**Pn**	**10 50 51.8**	**-2.8**
DHRM				*e*S	**Sn**	**10 51 29.9**	**+2.9**
DHRM				IAML		10 51 32.1	
	comp=N,4μm,0.6s						
DHRM				IAML		10 51 32.6	
	comp=E,10μm,0.5s						
KLP	**Kalpa**	**3.16**	**175**	*e*P	**Pn**	**10 50 59.2**	**-0.6**
KLP				*e*S	**Sn**	**10 51 38.3**	**+1.9**
KLP				IAML		10 51 39.8	
	comp=E,1μm,0.5s						
KLP				IAML		10 51 40.3	
	comp=N,777nm,0.4s						
TLWR	**Talawar**	**3.18**	**212**	*e*P	**Pn**	**10 50 58.4**	**-1.4**
TLWR				*e*S	**Sn**	**10 51 39.7**	**+3.2**
TLWR				IAML		10 51 42.1	
	comp=N,2μm,0.6s						
TLWR				IAML		10 51 42.2	
	comp=E,3μm,0.3s						
JMU	**Jammu**	**3.19**	**233**	*e*P	**Pn**	**10 50 56.1**	**-3.8**
JMU				*e*S	**Sn**	**10 51 36.8**	**+0.1**
JMU				IAML		10 51 41.9	
	comp=E,12μm,0.4s						
JMU				IAML		10 51 42.0	
	comp=N,10μm,0.5s						
BHK	**Bhakra**	**3.50**	**201**	*e*P	**Pn**	**10 51 01.3**	**-2.8**
BHK				*e*S	**Sn**	**10 51 43.8**	**-0.5**
BHK				IAML		10 51 44.4	
	comp=E,2μm,0.4s						
BHK				IAML		10 51 45.2	
	comp=N,2μm,0.5s						
SMLA	**Simla**	**3.60**	**190**	*e*P	**Pn**	**10 51 02.7**	**-2.9**
SMLA				*e*S	**Sn**	**10 51 50.8**	**+3.9**
SMLA				IAML		10 51 53.4	
	comp=N,2μm,0.4s						
SMLA				IAML		10 51 53.5	
	comp=E,2μm,0.5s						
DDI	**Dehra Dun**	**4.36**	**178**	*e*P	**Pn**	**10 51 15.2**	**-0.8**
DDI				*e*S	**Sn**	**10 52 08.4**	**+2.9**
DDI				IAML		10 52 08.4	
	comp=E,1μm,0.3s						
DDI				IAML		10 52 08.9	
	comp=N,2μm,0.3s						
KSH	**Kashi**	**5.06**	**343**	Pn	**Pn**	**10 51 27.8**	**+2.1**
KSH				Sn	**Sn**	**10 52 27.3**	**+4.4**
KSH				smax	smax		
	comp=N,99nm,0.7s						
KSH				smax	smax		
	comp=E,120nm,1.2s						
PTH	**Pithoragarh**	**5.48**	**158**	*e*P	**Pn**	**10 51 30.7**	**-0.9**
PTH				*e*S	**Sn**	**10 52 31.9**	**-1.5**
PTH				IAML		10 52 34.3	
	comp=N,135nm,0.3s						
LGTI	**Lohaghat**	**5.59**	**159**	*e*P	**Pn**	**10 51 30.8**	**-2.0**
LGTI				*e*S	**Sn**	**10 52 35.0**	**-0.7**
LGTI				IAML		10 52 36.5	
	comp=E,286nm,0.5s						
LGTI				IAML		10 52 36.9	
	comp=N,228nm,0.3s						
AAK	**Ala-Archa**	**8.37**	**342**	P	**Pn**	**10 52 12.9**	**+1.8**
	comp=N,0.9nm,0.3s,baz=48,slow=23,SNR=3.8						
	comp=N,2.4nm,0.3s						
MKAR	**Makanchi Array**	**12.54**	**14**	P	**Pn**	**10 53 08.3**	**+0.4**
	comp=N,0.4nm,0.3s,baz=195,slow=14,SNR=12						
MKAR				S	**Sn**	**10 55 22.3**	**-3.6**
	comp=N,1.2nm,0.7s,baz=191,slow=22,SNR=2.5						
	comp=N,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**15.93**	**1**	P	**Pn**	**10 53 51.0**	**-1.9**
	baz=189,slow=11,SNR=2.5						
	comp=N,0.5nm,0.3s						
BVAR	**Borovoye Array**	**19.10**	**346**	P	**P**	**10 54 29.9**	**-0.8**
	comp=N,0.1nm,0.3s,baz=146,slow=11,SNR=10						

*SJA **13** 11:13:34.7±2.5,25°.35S×71°.36W,h6^{km}±77^{km},ML3.8, MW3.5*

*IDC **13** 11:13:38.0±1.1,25°.42S×70°.81W,h0^{km},mb4.2/4, mbtmp4.0/7,ML3.8/3,MS2.9/1,Error ellipse: s-maj=50.7km s-min=20.3km az=104.0*

*NEIC **13** 11:13:41.0±1.8,25°.39S±0°.05×71°.21W±0°.05,h35^{km}±2^{km}, mb4.3/6,Mwr4.0(GUC),Error ellipse: s-maj=9.1km s-min=6.6km az=141.0*

*GUC **13** 11:13:42.9±0.8,25°.55S×70°.85W,h43^{km}±2^{km},ML3.6*

ISC 13 11:13:37.9±1.8,**25°.44S**±0°.03×**71°.16W**±0°.06,**h10**^{km}±11^{km}, **n93,**σ1°**38**/91,**mb4.7**/5,**6C-1D,Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.87**	**145**			**Pn**	**11 13 56.0**	**-0.3**
AC01	**Pan de Azucar**	**0.87**	**145**	↑*e*P		**Pn**	**11 13 56.0**	**-0.3**
AC01				*e*S		**Sb**	**11 14 04.9**	**-1.9**
AC01	comp=N,4μm,0.2s			IAML			11 14 07.7	
AC01	**Pan de Azucar**	**0.87**	**145**	*i* P		**Pg**	**11 13 55.2**	**+0.6**
AC01	comp=Z,842nm,0.3s			IAML			11 14 12.9	
PB14	**IPOC Station P**	**1.06**	**41**			**Pn**	**11 13 59.1**	**0.0**
PB14	**IPOC Station P**	**1.06**	**41**	↑*e*P		**Pn**	**11 13 59.1**	**0.0**
PB14				*e*S		**Sb**	**11 14 11.9**	**-0.6**
PB14	**IPOC Station P**	**1.06**	**41**	*i* P		**Pb**	**11 13 58.4**	**-0.1**
PB14	comp=Z,1μm,0.4s			IAML			11 14 19.0	
GO02	**Mina Guanaco**	**1.45**	**79**			**Pb**	**11 14 04.8**	**-0.4**
GO02	**Mina Guanaco**	**1.45**	**79**	↓*e*P		**Pb**	**11 14 04.7**	**-0.4**
GO02				*e*S		**Sn**	**11 14 21.3**	**-2.3**
GO02	comp=N,5μm,0.2s			IAML			11 14 25.6	
GO02	**Mina Guanaco**	**1.45**	**79**	*i* P		**Pn**	**11 14 04.2**	**-0.3**
GO02	comp=Z,2μm,0.3s			IAML			11 14 28.6	
PB10	**IPOC Station P**	**1.99**	**16**			**Pn**	**11 14 12.0**	**+0.3**
PB10	**IPOC Station P**	**1.99**	**16**	*e*P		**Pn**	**11 14 11.9**	**+0.3**
PB10				*e*S		**Sn**	**11 14 34.6**	**-2.0**
PB10	comp=E,397nm,0.5s			IAML			11 14 53.8	
PB10	**IPOC Station P**	**1.99**	**16**	*i* P		**Pn**	**11 14 11.4**	**-0.3**
PB10	comp=Z,351nm,0.4s			IAML			11 14 47.0	
AC06	**Mina Casimiro**	**2.04**	**159**			**Pn**	**11 14 13.5**	**+1.1**
AC06	**Mina Casimiro**	**2.04**	**159**	↑*e*P		**Pn**	**11 14 13.4**	**+1.0**
AC06				*e*S		**Sn**	**11 14 36.1**	**-1.9**
AC06	comp=E,730nm,0.2s			IAML			11 14 44.5	
AC02	**Maricunga**	**2.30**	**128**			**Pb**	**11 14 18.1**	**-1.6**
AC02	**Maricunga**	**2.30**	**128**	*e*P		**Pb**	**11 14 18.1**	**-1.6**
AC02				*e*S		**Sn**	**11 14 42.5**	**-2.4**
AC02	**Maricunga**	**2.30**	**128**	*i* P		**Pn**	**11 14 17.6**	**+1.3**
AC02	comp=Z,487nm,0.8s			IAML			11 14 55.6	
GO03	**Copiapo**	**2.30**	**159**			**Pn**	**11 14 17.6**	**+1.5**
GO03	**Copiapo**	**2.30**	**159**	↑*e*P		**Pn**	**11 14 17.5**	**+1.5**
GO03				*e*S		**Sn**	**11 14 43.0**	**-1.4**
GO03	comp=E,563nm,0.5s			IAML			11 14 45.9	
GO03	**Copiapo**	**2.30**	**159**	*i* P		**Pn**	**11 14 17.0**	**+1.0**
GO03	comp=Z,482nm,1.5s			IAML			11 14 53.7	
PB05	**IPOC Station P**	**2.72**	**19**			**Pn**	**11 14 21.6**	**-0.1**
PB05	**IPOC Station P**	**2.72**	**19**	↑*e*P		**Pn**	**11 14 22.0**	**+0.3**
PB05	comp=E,442nm,0.6s			IAML			11 15 16.8	
PB05	**IPOC Station P**	**2.72**	**19**	*i* P		**Pn**	**11 14 21.4**	**-0.3**
PB05	comp=Z,248nm,0.5s			IAML			11 15 12.5	
AC04	**Llanos de Chal**	**2.76**	**178**			**Pn**	**11 14 22.0**	**-0.2**
AC04	**Llanos de Chal**	**2.76**	**178**	IAML			11 14 53.7	
PB06	**IPOC Station P**	**3.08**	**28**			**Pn**	**11 14 27.9**	**+1.1**
PB06	**IPOC Station P**	**3.08**	**28**	↑*e*P		**Pn**	**11 14 27.9**	**+1.1**
PB06				*e*S		**Sn**	**11 15 02.4**	**-1.4**
PB06	**IPOC Station P**	**3.08**	**28**	*i* P		**Pn**	**11 14 27.6**	**+0.8**
PB06	comp=Z,518nm,0.5s			IAML			11 15 23.0	
LCO	**Las Campanas**	**3.58**	**174**			**Pn**	**11 14 34.5**	**+0.7**
LCO	**Las Campanas**	**3.58**	**174**	*i* P		**Pn**	**11 14 34.5**	**+0.7**
LCO	comp=Z,237nm,0.7s			IAML			11 15 43.5	
PB03	**IPOC Station P**	**3.61**	**21**			**Pn**	**11 14 34.6**	**+0.5**
AF01	**San Pedro de A**	**3.68**	**48**	Pn		**Pn**	**11 14 35.0**	**-0.1**
PB09	**IPOC Station P**	**4.03**	**26**			**Pn**	**11 14 41.5**	**+1.7**
PB09	**IPOC Station P**	**4.03**	**26**	*i* P		**Pn**	**11 14 40.9**	**+1.1**
PB09	comp=Z,407nm,0.6s			IAML			11 15 53.3	
VCA	**Vinchina**	**4.21**	**142**	*i* P		**Pn**	**11 14 46.8**	**+4.4**
VCA	comp=Z,99nm,1.4s			IAML			11 15 55.7	
PB02	**IPOC Station P**	**4.26**	**16**			**Pn**	**11 14 43.0**	**+0.1**
CO05	**La Serena**	**4.47**	**181**	Pn		**Pn**	**11 14 45.6**	**-0.1**
CO01	**Juntas del Tor**	**4.62**	**168**	Pn		**Pn**	**11 14 49.8**	**+1.8**
PB01	**IPOC Station P**	**4.63**	**20**			**Pn**	**11 14 48.6**	**+0.5**
PB01	**IPOC Station P**	**4.63**	**20**	*i* P		**Pn**	**11 14 48.1**	**0.0**
PB01	comp=Z,91nm,0.3s			IAML			11 16 13.9	
AGUA	**GUANDACOL**	**4.68**	**150**	*i* P		Pn	11 14 53.2	+4.4
AGUA	comp=Z,80nm,0.6s			IAML			11 16 16.5	
PATCX	**Punta Patache**	**4.69**	**12**	Pn		**Pn**	**11 14 48.6**	**-0.2**
PATCX	**Punta Patache**	**4.69**	**12**	*i* P		**Pn**	**11 14 48.3**	**-0.5**
PATCX	comp=Z,90nm,0.6s			IAML			11 16 24.0	
GO04	**Tololo Observa**	**4.73**	**176**			**Pn**	**11 14 50.4**	**+0.9**
TA01	**Diego Aracena**	**4.93**	**11**	Pn		**Pn**	**11 14 51.4**	**-0.7**
TA01	**Diego Aracena**	**4.93**	**11**	*i* P		**Pn**	**11 14 51.1**	**-0.9**
TA01	comp=Z,94nm,1.3s			IAML			11 16 24.1	
AROD	**Rodeo**	**4.94**	**163**	*i* P		**Pn**	**11 14 56.9**	**+4.3**
ACDV	**Cuesta del Vie**	**5.05**	**159**	*i* P		Pn	11 14 58.7	+4.8
ACDV	comp=Z,38nm,0.6s			IAML			11 16 29.9	
TA02	**Huaiquique**	**5.23**	**11**	Pn		**Pn**	**11 14 55.9**	**-0.3**
CO06	**Fray Jorge**	**5.24**	**184**	Pn		**Pn**	**11 14 55.5**	**-0.7**
HMBC	**Humberstone**	**5.27**	**13**	Pn		**Pn**	**11 14 57.7**	**+0.9**
CO03	**El Pedregal**	**5.40**	**176**			**Pn**	**11 14 59.6**	**+1.0**
PB08	**IPOC Station P**	**5.59**	**20**			**Pn**	**11 15 02.3**	**+0.9**
CO02	**Combarbal**	**5.75**	**179**	Pn		**Pn**	**11 15 03.4**	**-0.1**
PB11	**IPOC Station P**	**5.82**	**14**			**Pn**	**11 15 04.3**	**-0.1**
GO01	**Chusmiza**	**6.02**	**18**			**Pn**	**11 15 08.1**	**+0.5**
CFA	**Coronel Fontan**	**6.66**	**158**	Pn		**Pn**	**11 15 15.9**	**0.0**
CFA	comp=Z,0.6nm,0.3s,baz=347,slow=12,SNR=7.8			Sn		**Sn**	**11 16 29.3**	**-2.6**
CFA	comp=Z,0.5nm,0.3s,baz=18,slow=22,SNR=1.6			Lg		Lg	11 16 49.0	
VA06	**Catapilco**	**7.10**	**181**	Pn		**Pn**	**11 15 23.2**	**+1.3**
PB16	**IPOC Station P**	**7.23**	**13**			**Pn**	**11 15 24.9**	**+0.7**
VA03	**San Esteban**	**7.32**	**176**			**Pn**	**11 15 25.5**	**+0.5**
MT02	**Curacav**	**7.79**	**180**	Pn		**Pn**	**11 15 31.1**	**-0.3**
PB18	**Visviri**	**7.96**	**12**	Pn		**Pn**	**11 15 34.9**	**+0.6**
MT09	**Talagante**	**8.31**	**179**	Pn		**Pn**	**11 15 38.0**	**-0.6**
MT01	**Popeta**	**8.40**	**181**	Pn		**Pn**	**11 15 38.4**	**-1.3**
BO02	**Sierra Bellavi**	**9.33**	**178**	Pn		**Pn**	**11 15 51.3**	**-1.3**
LPAZ	**La Paz**	**9.53**	**18**	Pn		**Pn**	**11 15 54.9**	**-1.0**
LPAZ	comp=Z,0.7nm,0.3s,baz=175,slow=3.9,SNR=3.2			LR		LR	11 20 05.3	
H03N1	comp=Z,65nm,20.1s,baz=158,slow=41 comp=Z,1.1nm,0.3s **Juan Fernandez** baz=45,slow=72,SNR=310	**10.45**	**218**	T		T	11 27 31.9	
H03N2	**Juan Fernandez** baz=45,slow=72,SNR=158	**10.46**	**219**	T		T	11 27 22.2	
H03N3	**Juan Fernandez** baz=45,slow=72,SNR=154	**10.47**	**218**	T		T	11 27 27.4	
SIV	**San Ignacio** comp=Z,0.1nm,0.3s,baz=207,slow=6.9,SNR=11	**13.31**	**47**	Pn		**Pn**	**11 16 43.9**	**-3.2**
SIV	baz=275,slow=20,SNR=1.6 comp=Z,0.4nm,0.2s			Sn		**Sn**	**11 19 13.0**	**-2.3**
PLCA	**Paso Flores** comp=Z,0.2nm,0.3s,baz=0.1,slow=10,SNR=8.4	**15.26**	**178**	Pn		**P**	**11 17 20.3**	**+1.8**
LL01	**San Ignacio de**	**16.93**	**183**			**Pn**	**11 17 34.5**	**-0.3**
LL01	comp=Z,9.7nm,1.1s			IAmb		IAmb	11 17 40.9	
TEIG	**Tepich**	**48.34**	**338**	P		**P**	**11 22 17.5**	**-2.3**
TEIG	comp=Z,6.3nm,0.9s			IAmb		IAmb	11 22 55.3	
BELA	**Belgrano 2**	**55.17**	**171**	P		**P**	**11 23 10.7**	**+0.5**
BBSR	**BB Station**	**57.81**	**6**	P		**P**	**11 23 28.2**	**-1.3**
BBSR	comp=Z,36nm,1.1s			IAmb		IAmb	11 23 53.4	
SNAA	**Sanae**	**59.28**	**160**	P		**P**	**11 23 40.7**	**+1.3**
SNAA	comp=Z,0.9nm,1.1s			IAmb		IAmb	11 24 08.3	
SNAA	**Sanae** comp=Z,1.0nm,0.7s,baz=284,slow=8.3,SNR=7.2 comp=Z,1.0nm,0.7s	**59.28**	**160**	P		**P**	**11 23 39.5**	**+0.2**
Y58A	**Scranton**	**59.57**	**352**	P		**P**	**11 23 43.2**	**+1.6**
QSPA	**South Pole Qui**	**64.77**	**180**	P		**P**	**11 24 19.5**	**+3.1**
QSPA	**South Pole Qui** comp=Z,1.7nm,0.7s,baz=348,slow=0.1,SNR=12 comp=Z,1.7nm,0.7s	**64.77**	**180**	P		**P**	**11 24 19.1**	**+2.7**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.6s,baz=244,slow=4.6,SNR=8.5 comp=Z,1.0nm,0.6s	**80.61**	**71**	P		**P**	**11 25 51.9**	**+0.6**
MAW	**Mawson** comp=Z,2.6nm,0.3s,baz=236,slow=11,SNR=28 comp=Z,2.6nm,0.3s	**81.16**	**164**	P		**P**	**11 25 54.4**	**+1.1**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=132,slow=2.6,SNR=2.1	**125.48**	**208**	PKP		**PKiKP**	**11 32 41.0**	**+0.6**
H11S2	**WAKE ISLAND Hyl** baz=107,slow=75,SNR=42	**126.23**	**275**	T		T	13 52 15.0	
H11S1	**WAKE ISLAND Hyl** baz=107,slow=75,SNR=32	**126.24**	**275**	T		T	13 52 17.0	
H11S3	**WAKE ISLAND Hyl** baz=107,slow=75,SNR=50	**126.25**	**275**	T		T	13 52 16.8	
H11N3	**WAKE ISLAND Hyl** baz=107	**126.42**	**276**	T		T	13 52 43.9	
H11N1	**WAKE ISLAND Hyl** baz=107	**126.44**	**276**	T		T	13 52 30.9	
H11N2	**WAKE ISLAND Hyl** baz=107	**126.44**	**276**	T		T	13 52 31.1	
WRA	**Warramunga Arr** comp=Z,0.2nm,0.6s,baz=168,slow=4.9,SNR=1.4	**128.53**	**211**	PKP		**PKiKP**	**11 32 47.1**	**+0.5**
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.4s,baz=303,slow=3.3,SNR=1.7	**145.74**	**35**	PKPbc		**PKPab**	**11 33 18.4**	**+1.2**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.6s,baz=304,slow=3.3,SNR=4.2	**146.38**	**26**	PKPbc		**PKPab**	**11 33 19.7**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=329,slow=2.5,SNR=4.9	**150.01**	**38**	PKPbc		**PKPbc**	**11 33 29.0**	**+0.4**

*IDC **13** 11:17:16.4±0.7,44°.50N×9°.85E,h0^{km},mb3.8/13, mbtmp3.8/22,ML3.9/8,MS3.1/1,Error ellipse: s-maj=18.1km s-min=9.6km az=118.0*

*GEN **13** 11:17:17.2,44°.51N×9°.85E,h17^{km},Ml4.0*

*ROM **13** 11:17:17.2±0.1,44°.461N±0°.004×9°.816E±0°.006, h6^{km}±1^{km},ML3.9/328,Mw3.7,Error ellipse: s-maj=0.5km s-min=0.1km az=212.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.88; $M_{\theta\theta}$3.91; $M_{\phi\phi}$-0.03; $M_{r\theta}$-1.63; $M_{\theta\phi}$-1.53; $M_{r\phi}$1.27; Fault plane solution: M_o4.65596×10^{14} NP1:φ$_s$118.00000°,δ58.00000°, λ-79.00000°. NP2:φ$_s$278.00000°,δ33.00000°, λ-107.00000°.*

*BGR **13** 11:17:18.4±0.6,44°.48N×9°.78E,h10^{km},ML4.2/22 Error ellipse: s-maj=8.9km s-min=6.7km az=11.0*

*NEIC **13** 11:17:18.6±1.6,44°.55N±0°.04×9°.90E±0°.05,h10^{km}±1^{km}, mb4.6/36,Error ellipse: s-maj=7.5km s-min=3.5km az=42.0*

*PRU **13** 11:17:18.4,44°.71N×9°.72E,h0^{km},M4.6*

*LDG **13** 11:17:19.2±0.1,44°.44N×9°.87E,h7^{km},Ml4.0/48,Error ellipse: s-maj=1.8km s-min=1.3km az=31.0*

ISC 13 11:17:17.9±0.7,**44°.48N**±0°.01×**9°.81E**±0°.01,**h12**^{km}±4^{km}, **n443,**σ1°**63**/588,**mb4.5**/30,**35C-21D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BVT	**Borgo Val di T**	**0.03**	**283**	P		**Pg**	**11 17 20.4**	**+0.3**
BVT				S		**Sg**	**11 17 22.5**	**+0.9**
BRRO	**Berceto**	**0.13**	**78**	P		**Pg**	**11 17 20.4**	**-0.9**
BRRO				S		**Sg**	**11 17 22.4**	**-1.3**
BDGO	**Bedonia Gallar**	**0.14**	**281**	P		**Pg**	**11 17 21.8**	**+0.5**
BDGO				S		**Sb**	**11 17 25.1**	**+1.3**
VRL	**Varese Ligure**	**0.15**	**235**	P		**Pb**	**11 17 22.3**	**-0.5**
VRL				S		**Sb**	**11 17 25.8**	**+1.5**
GRAM	**Graiana**	**0.18**	**87**	P		**Pg**	**11 17 21.3**	**-0.8**
GRAM				S		**Sg**	**11 17 24.2**	**-0.8**
GRAM	**Graiana**	**0.18**	**87**	↑P		**Pg**	**11 17 21.3**	**-0.8**
GRAM				S		**Sg**	**11 17 24.1**	**-0.8**
GRAM				AML		AML		
GRAM				AML		AML		
GRAM				AML		AML		
GRAM				AML		AML		
BGNO	**Bagnone**	**0.20**	**141**	P		**Pg**	**11 17 22.3**	**0.0**
BGNO				S		**Sg**	**11 17 25.7**	**+0.3**
CARRO	**Carrodano**	**0.27**	**211**	P		**Pb**	**11 17 24.2**	**-0.5**
CARRO				S		**Sb**	**11 17 29.0**	**-0.2**
FRNO	**Fornovo**	**0.29**	**46**	P		**Pg**	**11 17 23.7**	**-0.3**
SLSC	**Salsominore Ce**	**0.33**	**298**	P		**Pg**	**11 17 24.6**	**0.0**
SLSC				S		**Sg**	**11 17 29.8**	**+0.8**
FIVI	**Fivizzano**	**0.33**	**137**	P		**Pg**	**11 17 24.4**	**-0.2**
FIVI				S		**Sg**	**11 17 29.7**	**+0.6**
FIVI	**Fivizzano**	**0.33**	**137**	↓P		**Pg**	**11 17 24.7**	**+0.1**
FIVI				S		**Sg**	**11 17 29.1**	**0.0**
FVZ	**Fivizzano**	**0.33**	**136**	P		**Pg**	**11 17 24.8**	**+0.1**
FVZ				S		**Sg**	**11 17 29.6**	**+0.4**
NEVI	**Neviano degli**	**0.38**	**74**	↑P		**Pg**	**11 17 25.4**	**-0.1**
NEVI				S		**Sb**	**11 17 32.3**	**0.0**
NEVI				AML		AML		
NEVI	comp=E,72950μm,0.5s			AML		AML		
NEVI				AML		AML		
NEVI	comp=E,72922μm,0.5s			AML		AML		
LSPI	**La Spezia**	**0.39**	**180**	P		**Pg**	**11 17 25.9**	**+0.3**
LSPI				S		**Sb**	**11 17 31.9**	**-0.6**
BOB	**Bobbio (Coli)**	**0.39**	**318**	P		**Pg**	**11 17 25.6**	**0.0**
BOB	**Bobbio (Coli)**	**0.39**	**318**	↑P		**Pg**	**11 17 25.7**	**0.0**
BOB				AML		AML		
BOB	comp=E,18750μm,1.1s			AML		AML		
BOB	comp=N,23550μm,0.5s			AML		AML		
BOB	comp=E,17400μm,1.1s			AML		AML		
BOB	comp=N,22350μm,0.5s			AML		AML		
BOB	comp=E,17917μm,0.5s			AML		AML		
BOB	comp=N,23535μm,0.5s			AML		AML		
BOB	comp=N,22388μm,0.5s			AML		AML		
BOB	comp=N,23535μm,1.5s			AML		AML		
BOB	comp=N,22388μm,1.5s			AML		AML		
BOB	comp=E,16767μm,0.5s			AML		AML		
GORR	**Gorreto**	**0.39**	**289**	P		**Pg**	**11 17 26.0**	**+0.3**
GORR				S		**Sb**	**11 17 32.4**	**-0.3**
GORR	**Gorreto**	**0.39**	**289**	↑P		**Pg**	**11 17 26.0**	**+0.3**
GORR				S		**Sb**	**11 17 32.1**	**-0.6**
GORR				AML		AML		
GORR	comp=E,26150μm,1.2s			AML		AML		
GORR	comp=N,52100μm,0.6s			AML		AML		
GORR	comp=N,52109μm,0.6s			AML		AML		
GORR	comp=E,24617μm,0.4s			AML		AML		
EQUI	**Equi**	**0.40**	**142**	P		**Pg**	**11 17 25.6**	**-0.2**
EQUI				S		**Sb**	**11 17 32.1**	**-0.8**
EQUI	**Equi**	**0.40**	**142**	↑P		**Pg**	**11 17 25.7**	**-0.2**
EQUI				S		**Sg**	**11 17 31.0**	**-0.2**
LNGO	**Langhirano**	**0.40**	**64**	P		**Pg**	**11 17 25.9**	**0.0**
LNGO				S		**Sb**	**11 17 34.0**	**+1.1**
PLMA	**Palmaria, Port**	**0.43**	**176**	P		**Pg**	**11 17 26.7**	**+0.2**
PLMA				S		**Sg**	**11 17 33.0**	**+0.9**
PLMA	**Palmaria, Port**	**0.43**	**176**	↑P		**Pg**	**11 17 26.7**	**+0.2**
PLMA				S		**Sg**	**11 17 33.0**	**+0.9**
PLMA				AML		AML		
PLMA	comp=E,22300μm,0.3s			AML		AML		
PLMA	comp=N,24150μm,0.2s			AML		AML		
PLMA	comp=E,22287μm,0.3s			AML		AML		
PLMA	comp=N,24147μm,0.2s			AML		AML		
CRRA	**Carrara**	**0.44**	**152**	P		**Pg**	**11 17 26.7**	**0.0**
RVRO	**Rivergaro**	**0.45**	**340**	P		**Pg**	**11 17 26.9**	**+0.1**
RVRO				S		**Sb**	**11 17 34.6**	**+0.2**
PRMA	**PARMA**	**0.46**	**52**			**Pg**	**11 17 26.9**	**+0.1**
PRMA	**PARMA**	**0.46**	**52**	P		**Pg**	**11 17 27.0**	**+0.1**
PRMA				S		**Sb**	**11 17 35.0**	**+0.4**
PRMA	**PARMA**	**0.46**	**52**	↑↑P		**Pg**	**11 17 27.0**	**+0.1**
PRMA				S		**Sb**	**11 17 35.0**	**+0.4**
PRMA				AML		AML		
PRMA	comp=E,94150μm,0.4s			AML		AML		
PRMA	comp=N,81900μm,0.3s			AML		AML		
PRMA	comp=N,81748μm,0.3s			AML		AML		
PRMA	comp=E,94166μm,0.4s			AML		AML		
PRMA	comp=N,81748μm,1.7s			AML		AML		
MASSA	**Massa (MS), It**	**0.52**	**155**	P		**Pg**	**11 17 28.1**	**+0.1**
MASSA				S		**Sb**	**11 17 36.0**	**-0.1**
SARO	**Sassorosso**	**0.52**	**125**	P		**Pg**	**11 17 27.5**	**-0.6**
SARO				S		**Sg**	**11 17 35.3**	**+0.4**
SARO	**Sassorosso**	**0.52**	**125**	P		**Pg**	**11 17 27.5**	**-0.6**
VLC	**Villacollemand**	**0.52**	**128**	P		**Pg**	**11 17 27.6**	**-0.5**
VLC				S		**Sg**	**11 17 34.8**	**-0.3**
VLC	**Villacollemand**	**0.52**	**128**	↑↑P		**Pg**	**11 17 27.6**	**-0.5**
VLC				S		**Sg**	**11 17 35.5**	**+0.4**
VLC				AML		AML		
VLC	comp=E,9645μm,0.8s			AML		AML		
VLC	comp=N,7885μm,0.8s			AML		AML		
VLC	comp=E,9785μm,0.8s			AML		AML		
VLC	comp=N,7940μm,0.8s			AML		AML		
VLC	comp=E,9379μm,0.6s			AML		AML		
VLC	comp=N,6734μm,0.4s			AML		AML		
VLC	comp=E,9290μm,0.6s			AML		AML		
VLC	comp=N,6672μm,0.4s			AML		AML		
PCN	**Piacenza**	**0.56**	**354**	*e*Pg		**Pb**	**11 17 29.7**	**+0.1**
PCN				*e*Sg		**Sb**	**11 17 37.9**	**+0.4**
PCN	**Piacenza**	**0.56**	**354**	P		**Pb**	**11 17 29.6**	**0.0**
PCN				S		**Sn**	**11 17 39.3**	**-1.5**
PCN				AML		AML		
PCN	comp=E,28150μm,0.5s			AML		AML		
PCN	comp=E,27100μm,0.5s			AML		AML		
PCN	comp=N,14200μm,0.6s			AML		AML		
PCN	comp=N,14900μm,0.5s			AML		AML		
PCN	comp=N,14950μm,0.5s			AML		AML		
PCN	comp=E,27071μm,0.5s			AML		AML		
PCN	comp=N,14931μm,0.5s			AML		AML		
PCN	comp=E,28161μm,0.5s			AML		AML		
PCN	comp=E,28161μm,1.5s			AML		AML		
PCN	comp=E,27071μm,1.5s			AML		AML		
PCN	comp=N,14217μm,0.6s			AML		AML		
GSCL	**Gusciola**	**0.57**	**103**	P		**Pg**	**11 17 29.0**	**-0.1**
GSCL				S		**Sb**	**11 17 37.6**	**-0.3**
GSCL	**Gusciola**	**0.57**	**103**	P		**Pg**	**11 17 29.1**	**+0.1**
GSCL				S		**Sb**	**11 17 37.4**	**-0.5**
GSCL				AML		AML		
GSCL	comp=E,26050μm,0.3s			AML		AML		
GSCL	comp=N,23950μm,1.0s			AML		AML		
GSCL	comp=E,26063μm,0.3s			AML		AML		
GSCL	comp=N,22750μm,0.2s			AML		AML		
GSCL	comp=E,26063μm,1.7s			AML		AML		
GENL	**Genova Univers**	**0.61**	**263**	P		**Pg**	**11 17 29.9**	**+0.2**
GENL				S		**Sb**	**11 17 39.0**	**+0.1**
RNCA	**Ronca, Sant'Ol**	**0.62**	**269**	P		**Pg**	**11 17 30.1**	**+0.2**
RNCA				S		**Sb**	**11 17 39.2**	**+0.1**
RNCA	**Ronca, Sant'Ol**	**0.62**	**269**	↑↑P		**Pg**	**11 17 30.1**	**+0.2**
RNCA				S		**Sb**	**11 17 39.2**	**+0.1**
RNCA				AML		AML		
RNCA	comp=E,8345μm,0.5s			AML		AML		
RNCA	comp=N,7175μm,0.5s			AML		AML		
RNCA	comp=N,7175μm,0.5s			AML		AML		
RNCA	comp=E,8046μm,0.3s			AML		AML		
GNV	**Genova**	**0.63**	**266**	P		**Pb**	**11 17 30.8**	**0.0**
CARD	**Cardoso**	**0.66**	**133**	P		**Pg**	**11 17 30.1**	**-0.6**
CARD				S		**Sg**	**11 17 39.2**	**-0.3**
CARD	**Cardoso**	**0.66**	**133**	↑↑P		**Pg**	**11 17 30.0**	**-0.8**
CARD				AML		AML		
CARD	comp=E,49750μm,0.5s			AML		AML		
CARD	comp=N,44000μm,0.1s			AML		AML		
CARD	comp=E,38294μm,0.2s			AML		AML		
CARD	comp=N,44004μm,0.1s			AML		AML		
BDI	**Bagni Di Lucca**	**0.70**	**126**	P		**Pg**	**11 17 30.6**	**-0.9**
BDI				S		**Sg**	**11 17 40.6**	**-0.2**
BDI	**Bagni Di Lucca**	**0.70**	**126**	↑↑P		**Pg**	**11 17 30.6**	**-0.9**
BDI				S		**Sg**	**11 17 40.4**	**-0.4**
MAIM	**Mastiano**	**0.75**	**139**	P		**Pg**	**11 17 31.7**	**-0.7**
MAIM				S		**Sg**	**11 17 42.1**	**-0.1**
MAIM	**Mastiano**	**0.75**	**139**	↓↓P		**Pg**	**11 17 31.7**	**-0.7**
SARZ	**Sarezzano**	**0.75**	**301**	↑↑P		**Pb**	**11 17 33.3**	**+0.4**
SARZ				AML		AML		
SARZ	comp=E,10635μm,0.6s			AML		AML		
SARZ	comp=N,14950μm,0.6s			AML		AML		
SARZ	comp=E,10935μm,0.7s			AML		AML		
SARZ	comp=N,15300μm,0.6s			AML		AML		
SARZ	comp=E,10956μm,0.7s			AML		AML		
SARZ	comp=N,15323μm,0.6s			AML		AML		
SARZ	comp=N,14956μm,0.6s			AML		AML		
SARZ	comp=E,10621μm,0.6s			AML		AML		
POPM	**Popiglio**	**0.81**	**122**	P		**Pg**	**11 17 32.9**	**-0.6**
POPM				S		**Sg**	**11 17 44.0**	**-0.1**
POPM	**Popiglio**	**0.81**	**122**	P		**Pg**	**11 17 32.7**	**-0.8**
POPM				AML		AML		
POPM	comp=E,17400μm,0.2s			AML		AML		
POPM	comp=N,15900μm,0.5s			AML		AML		
POPM	comp=E,17391μm,0.2s			AML		AML		
POPM	comp=N,15179μm,0.2s			AML		AML		
MODE	**Modena**	**0.83**	**79**	P		**Pn**	**11 17 35.4**	**+0.1**
ZCCA	**Zocca**	**0.84**	**98**			**Pb**	**11 17 34.9**	**+0.4**
ZCCA	**Zocca**	**0.84**	**98**	P		**Pn**	**11 17 35.2**	**-0.4**
ZCCA	**Zocca**	**0.84**	**98**	P		**Pn**	**11 17 35.1**	**-0.4**
ZCCA				AML		AML		
ZCCA	comp=E,12300μm,0.6s			AML		AML		
ZCCA	comp=N,9005μm,0.9s			AML		AML		
ZCCA	comp=E,12800μm,0.6s			AML		AML		
ZCCA	comp=N,9350μm,0.9s			AML		AML		
ZCCA	comp=E,12815μm,0.6s			AML

NDIM AML AML
comp=E,11300µm,0.4s
NDIM AML AML
comp=N,20800µm,0.4s
NDIM AML AML
comp=E,12230µm,0.4s
NDIM AML AML
comp=N,23050µm,0.4s
NDIM AML AML
comp=E,11305µm,0.4s
NDIM AML AML
comp=N,20800µm,0.4s
NDIM AML AML
comp=E,12237µm,0.4s
NDIM AML AML
comp=N,23066µm,0.4s
NDIM AML AML
comp=E,12237µm,1.6s
NDIM AML AML
comp=E,11305µm,1.6s
PCP Piancastagn 0.91 274 P **Pg 11 17 35.2 -0.2**
PCP S **Sb 11 17 48.1 +0.5**
PCP Piancastagn 0.91 274 ⇑P **Pg 11 17 35.2 -0.2**
PCP AML AML
comp=E,5230µm,0.4s
PCP AML AML
comp=N,5105µm,1.4s
PCP AML AML
comp=E,5228µm,0.4s
PCP AML AML
comp=N,4845µm,0.5s
PII Pisa 0.92 146 P **Pg 11 17 35.0 -0.6**
PII S **Sg 11 17 47.3 -0.2**
PII Pisa 0.92 146 ⇑P **Pg 11 17 35.0 -0.6**
PII S **Sg 11 17 47.5 0.0**
PII AML AML
comp=E,36700µm,0.8s
PII AML AML
comp=N,27950µm,1.4s
PII AML AML
comp=E,31620µm,0.3s
PII AML AML
comp=N,26615µm,0.3s
CAVE Cavezzo 0.93 65 P **Pn 11 17 38.3 +1.6**
CAVE Cavezzo 0.93 65 P **Pn 11 17 37.8 +1.0**
CAVE AML AML
comp=E,15100µm,0.4s
CAVE AML AML
comp=N,17200µm,0.5s
CAVE AML AML
comp=N,17185µm,0.5s
CAVE AML AML
comp=N,17185µm,1.5s
CAVE AML AML
comp=E,15131µm,0.4s
RAVA Ravarino 0.97 73 P **Pn 11 17 39.1 +1.9**
RAVA Ravarino 0.97 73 P **Pn 11 17 38.6 +1.4**
RAVA AML AML
comp=E,36600µm,0.7s
RAVA AML AML
comp=N,29550µm,0.9s
RAVA AML AML
comp=E,32058µm,0.5s
RAVA AML AML
comp=N,23607µm,0.4s
SBPO S.Benedetto Po 0.97 54 P **Pn 11 17 37.5 +0.2**
MPPT Montemurlo 1.06 119 P **Pb 11 17 37.8 -0.3**
MPPT AML AML
comp=E,4505µm,0.4s
MPPT AML AML
comp=N,4850µm,1.4s
MPPT AML AML
comp=N,4148µm,0.4s
MPPT AML AML
comp=E,4505µm,0.4s
QLNO Quiliano 1.06 262 P **Pb 11 17 37.9 -0.2**
QLNO Quiliano 1.06 262 ⇑P **Pb 11 17 37.9 -0.2**
QLNO AML AML
comp=N,3405µm,0.5s
QLNO AML AML
comp=E,3895µm,0.7s
QLNO AML AML
comp=E,3901µm,0.7s
QLNO AML AML
comp=N,3377µm,0.4s
QLNO AML AML
comp=E,3901µm,1.3s
MILN Milano 1.08 338 P **Pn 11 17 41.2 +2.4**
MILN AML AML
comp=E,13200µm,1.3s
MILN AML AML
comp=N,27350µm,0.6s
MILN AML AML
comp=E,22550µm,0.7s
MILN AML AML
comp=N,20950µm,0.6s
MILN AML AML
comp=E,13201µm,1.3s
MILN AML AML
comp=N,27364µm,0.6s
MILN AML AML
comp=E,22558µm,0.7s
MILN AML AML
comp=N,20950µm,0.6s
MILN AML AML
comp=E,13201µm,0.7s
CRMI Carmignano 1.08 129 P **Pb 11 17 38.1 -0.4**
CRMI AML AML
comp=E,3085µm,1.6s
CRMI AML AML
comp=E,1280µm,1.6s
CRMI AML AML
comp=N,4265µm,1.1s
CRMI AML AML
comp=N,1795µm,1.0s
CRMI AML AML
comp=N,3780µm,0.3s
CRMI AML AML
comp=N,1655µm,0.3s
CRMI AML AML
comp=E,1191µm,0.5s
CRMI AML AML
comp=E,2906µm,0.5s
MOCL Monte Cuccoli 1.09 115 P **Pb 11 17 37.9 -0.8**
MOCL AML AML
comp=E,4710µm,0.8s
MOCL AML AML
comp=N,5745µm,0.5s
MOCL AML AML
comp=E,4711µm,0.8s
MOCL AML AML
comp=N,5742µm,0.5s
MOCL AML AML
comp=N,5742µm,1.5s
ROTM Rocchetta Tana 1.10 290 P **Pg 11 17 40.1 +1.0**
ROTM Rocchetta Tana 1.10 290 P **Pg 11 17 39.8 +0.6**
ROTM AML AML
comp=E,18850µm,0.5s
ROTM AML AML
comp=N,28500µm,0.4s
ROTM AML AML
comp=N,28461µm,0.4s
ROTM AML AML
comp=E,18871µm,0.5s
CANO Canova, Maglio 1.16 257 P **Pb 11 17 39.4 -0.5**
CANO Canova, Maglio 1.16 257 ⇑P **Pb 11 17 39.4 -0.5**
CANO AML AML
comp=E,9320µm,1.1s
CANO AML AML
comp=N,8610µm,1.6s
CANO AML AML
comp=E,9047µm,0.4s
CANO AML AML
comp=N,8448µm,0.3s
SERM Sermide 1.18 63 P **Pg 11 17 41.3 +0.6**
SERM Sermide 1.18 63 P **Pg 11 17 41.3 +0.6**
SERM AML AML
comp=E,16600µm,1.0s
SERM AML AML
comp=N,9830µm,0.6s
SERM AML AML
comp=E,14898µm,0.8s
SERM AML AML
comp=N,9849µm,0.6s
SERM AML AML
comp=N,9849µm,1.4s
SEI Scarperia 1.19 110 P **Pn 11 17 40.2 -0.1**
SEI AML AML
comp=E,7775µm,0.5s
SEI AML AML
comp=N,16550µm,0.8s
SEI AML AML
comp=N,16551µm,0.8s
SEI AML AML
comp=E,7777µm,0.5s
FIU Minerbio Fiu 1.21 82 P **Pg 11 17 43.1 +1.9**
FIU AML AML
comp=E,17000µm,1.4s
FIU AML AML
comp=N,26150µm,0.5s
FIU AML AML
comp=E,16150µm,0.5s
FIU AML AML
comp=N,26167µm,0.5s
FIU AML AML
comp=N,26167µm,1.5s
FIU AML AML
comp=E,16150µm,1.5s
VOBA Vobarno 1.26 23 ⇓P **Pb 11 17 41.5 -0.1**
VOBA S **Sg 11 18 00.2 +1.6**
VOBA AML AML
comp=E,21550µm,0.5s
VOBA AML AML
comp=N,8470µm,0.3s
VOBA AML AML
comp=N,8474µm,0.3s
VOBA AML AML
comp=E,21540µm,0.5s
BRIS BRISIGHELLA 1.26 105 ⇓P **Pg 11 17 46.3 +4.1**
BRIS AML AML
comp=E,5440µm,0.5s
BRIS AML AML
comp=N,3555µm,0.7s
BRIS AML AML
comp=E,5715µm,0.6s
BRIS AML AML
comp=N,3565µm,1.3s
BRIS AML AML
comp=N,3515µm,0.7s
BRIS AML AML
comp=E,5439µm,0.6s
BRIS AML AML
comp=N,3556µm,0.7s
BRIS AML AML
comp=N,3515µm,1.3s
BRIS AML AML
comp=E,5719µm,0.6s
BRIS AML AML
comp=N,3556µm,1.3s
OPPE Oppeano 1.27 49 P **Pb 11 17 41.8 0.0**
OPPE S **Sg 11 17 59.4 +0.5**
OPPE AML AML
comp=N,12735µm,1.1s
OPPE AML AML
comp=E,45500µm,0.6s
OPPE AML AML
comp=E,45495µm,0.6s
OPPE AML AML
comp=N,11549µm,0.5s
MDI Monti di Nese 1.30 357 P **Pn 11 17 41.8 -0.1**
MDI Monti di Nese 1.30 357 ⇓P **Pn 11 17 41.7 -0.1**
MDI S **Sg 11 18 01.4 +1.6**
MDI AML AML
comp=N,7850µm,0.4s
MDI AML AML
comp=E,10950µm,0.5s
MDI AML AML
comp=N,8030µm,1.6s
MDI AML AML
comp=E,10330µm,0.5s
MDI AML AML
comp=E,10323µm,0.5s
MDI AML AML
comp=N,7934µm,0.6s
MDI AML AML
comp=E,10939µm,0.5s
MDI AML AML
comp=N,7847µm,0.4s
ZONE Zone 1.30 9 ⇑P **Pn 11 17 41.7 -0.2**
ZONE AML AML
comp=E,1220µm,0.6s
ZONE AML AML
comp=E,5140µm,0.6s
ZONE AML AML
comp=N,1605µm,0.8s
ZONE AML AML
comp=N,6825µm,0.8s
ZONE AML AML
comp=E,1221µm,0.6s
ZONE AML AML
comp=E,5139µm,0.6s
ZONE AML AML
comp=N,1604µm,0.8s
ZONE AML AML
comp=N,6825µm,0.8s
RORO Rocca Rossa 1.31 254 P **Pn 11 17 41.1 -0.8**
RORO Rocca Rossa 1.31 254 ⇓P **Pn 11 17 41.0 -0.8**
RORO AML AML
comp=E,2190µm,0.3s
RORO AML AML
comp=N,1810µm,0.4s
RORO AML AML
comp=N,1801µm,0.3s
RUFI Rufina 1.38 117 P **Pn 11 17 43.1 +0.1**
RUFI Rufina 1.38 117 P **Pn 11 17 43.0 +0.1**
RUFI AML AML
comp=N,3155µm,0.5s
RUFI AML AML
comp=E,2430µm,0.6s
RUFI AML AML
comp=N,3150µm,0.5s
RUFI AML AML
comp=E,2427µm,0.6s
RUFI AML AML
comp=N,3154µm,0.5s
RUFI AML AML
comp=N,3154µm,1.5s
RUFI AML AML
comp=E,2427µm,1.4s
IMOL Imola, Italy 1.39 94 P **Pg 11 17 46.2 +1.6**
IMOL AML AML
comp=E,5630µm,0.9s
IMOL AML AML
comp=N,5505µm,1.2s
IMOL AML AML
comp=E,5631µm,0.9s
IMOL AML AML
comp=E,5631µm,1.1s
IMOL AML AML
comp=N,5505µm,1.2s
BALD Monte Baldo 1.40 30 P **Pn 11 17 43.3 0.0**
OSSC Osservatorio P 1.41 132 **Pn 11 17 43.5 +0.2**
OSSC Osservatorio P 1.41 132 P **Pn 11 17 43.4 +0.1**
OSSC AML AML
comp=E,4085µm,1.3s
OSSC AML AML
comp=N,4230µm,0.5s
OSSC AML AML
comp=E,4230µm,0.5s
OSSC AML AML
comp=E,4080µm,1.3s
OSSC AML AML
comp=N,4225µm,0.5s
OSSC AML AML
comp=N,4035µm,1.2s
OSSC AML AML
comp=E,3899µm,0.5s
OSSC AML AML
comp=N,4229µm,0.5s
OSSC AML AML
comp=N,3894µm,0.5s
OSSC AML AML
comp=E,4227µm,0.5s
MAGA Magasa 1.42 24 ⇑P **Pn 11 17 42.9 -0.7**
MAGA S **Sg 11 18 03.3 -0.3**
MAGA AML AML
comp=N,10575µm,0.6s
MAGA AML AML
comp=E,24550µm,0.7s
MAGA AML AML
comp=E,24565µm,0.7s
MAGA AML AML
comp=N,10573µm,0.6s
MAGA AML AML
comp=E,24565µm,1.3s
BAG8 Bagolino 1.42 19 P **Pn 11 17 43.8 +0.3**
LMD Lutirano 1.42 106 P **Pg 11 17 44.8 -0.4**
LMD Lutirano 1.42 106 P **Pg 11 17 44.7 -0.4**
LMD AML AML
comp=E,2070µm,0.8s
LMD AML AML
comp=N,2450µm,0.7s
LMD AML AML
comp=E,2071µm,0.8s
LMD AML AML
comp=E,2071µm,1.2s
LMD AML AML
comp=N,2450µm,0.7s
MBAL Monte Baldo - 1.43 31 ⇑P **Pn 11 17 43.2 -0.4**
MBAL AML AML
comp=E,7620µm,0.5s
MBAL AML AML
comp=N,6360µm,0.5s
MBAL AML AML
comp=E,7620µm,0.5s
MBAL AML AML
comp=N,6190µm,0.6s
MBAL AML AML
comp=N,6191µm,0.6s
MBAL AML AML
comp=E,7621µm,0.5s
MBAL AML AML
comp=N,6359µm,0.5s
MBAL AML AML
comp=E,7619µm,0.5s
MBAL AML AML
comp=N,6191µm,1.4s
MBAL AML AML
comp=E,7621µm,1.5s
GBOS Grotte di Boss 1.43 261 P **Pn 11 17 43.4 -0.3**
GBOS Grotte di Boss 1.43 261 ⇑P **Pn 11 17 43.5 -0.3**
GBOS AML AML
comp=E,1325µm,0.7s
GBOS AML AML
comp=N,2185µm,0.4s
GBOS AML AML
comp=E,1326µm,0.7s
GBOS AML AML
comp=N,2186µm,0.4s
GBOS AML AML
comp=N,2186µm,1.6s
GBOS AML AML
comp=E,1326µm,1.3s
MONC Moncucco Torin 1.47 295 P **Pg 11 17 47.8 +1.7**
MONC Moncucco Torin 1.47 295 ⇓P **Pg 11 17 47.6 +1.6**
MONC AML AML
comp=E,7470µm,0.5s
MONC AML AML
comp=N,7705µm,0.4s
MONC AML AML
comp=E,7468µm,0.5s
MONC AML AML
comp=N,7705µm,0.4s
CSNT Castellina Chi 1.47 133 P **Pn 11 17 44.2 0.0**
CSNT Castellina Chi 1.47 133 ⇑P **Pn 11 17 44.1 0.0**
CSNT AML AML
comp=N,2955µm,0.6s
CSNT AML AML
comp=E,2200µm,0.9s
CSNT AML AML
comp=N,2955µm,0.6s
CSNT AML AML
comp=N,2955µm,1.4s
CSNT AML AML
comp=E,2067µm,0.4s
ROVR Rover Verones 1.47 37 ⇑P **Pn 11 17 43.8 -0.4**
IMI Imperia 1.49 248 ⇑P **Pn 11 17 44.0 -0.5**
IMI AML AML
comp=E,1935µm,0.9s
IMI AML AML
comp=N,3735µm,1.4s
IMI AML AML
comp=E,1872µm,0.3s
IMI AML AML
comp=N,3525µm,0.5s
IMI AML AML
comp=N,3525µm,1.5s
MUGIO Muggio 1.54 340 P **Pn 11 17 45.6 +0.4**
MUGIO Muggio 1.54 340 ⇑P **Pn 11 17 45.6 +0.4**
MUGIO AML AML
comp=N,2220µm,0.6s
MUGIO AML AML
comp=E,1475µm,0.4s
MUGIO AML AML
comp=E,1474µm,0.4s
MUGIO AML AML
comp=N,2220µm,0.6s
VARA Varagna 1.55 29 P **Pn 11 17 44.9 -0.6**
VARA AML AML
comp=E,12250µm,0.8s
VARA AML AML
comp=N,11350µm,1.6s
VARA AML AML
comp=E,11950µm,1.6s
VARA AML AML
comp=N,11550µm,0.5s
VARA AML AML
comp=E,12241µm,0.8s
VARA AML AML
comp=E,11413µm,0.5s
VARA AML AML
comp=N,11538µm,0.5s
VARA AML AML
comp=N,11210µm,0.5s
VARA AML AML
comp=E,12241µm,1.2s
VARE Varese 1.57 332 P **Pb 11 17 46.3 -0.6**
VARE AML AML
comp=E,2715µm,0.7s
VARE AML AML
comp=N,2460µm,0.6s
VARE AML AML
comp=E,2713µm,0.7s
VARE AML AML
comp=N,2458µm,0.6s
SFI Santa Sofia 1.57 111 P **Pn 11 17 45.8 +0.2**
SFI AML AML
comp=E,1865µm,0.8s
SFI AML AML
comp=N,2635µm,1.1s
SFI AML AML
comp=E,1860µm,0.8s
SFI AML AML
comp=N,2610µm,1.1s
SFI AML AML
comp=E,1866µm,0.8s
SFI AML AML
comp=N,2613µm,1.1s
SFI AML AML
comp=N,2631µm,1.1s
SFI AML AML
comp=E,1863µm,0.8s
ASQU Asqua 1.58 115 P **Pn 11 17 45.7 0.0**
ASQU AML AML
comp=E,1655µm,0.6s
ASQU AML AML
comp=N,2045µm,0.8s
ASQU AML AML
comp=E,1654µm,0.6s
ASQU AML AML
comp=E,1654µm,1.4s
ASQU AML AML
comp=N,2048µm,0.8s
RONC Roncone 1.61 21 P **Pn 11 17 46.6 +0.4**
RONC AML AML
comp=E,11295µm,0.7s
RONC AML AML
comp=N,11400µm,0.5s
RONC AML AML
comp=E,11115µm,0.4s
RONC AML AML
comp=N,14100µm,0.6s
RONC AML AML
comp=N,14123µm,0.6s
RONC AML AML
comp=N,11425µm,0.5s
RONC AML AML
comp=E,11309µm,0.7s
RONC AML AML
comp=E,11102µm,0.4s

RONC AML AML
comp=N,11425µm,1.5s
MABI Malga Bissina 1.65 17 P **Pn 11 17 46.7 -0.1**
MABI AML AML
comp=E,3965µm,0.5s
MABI AML AML
comp=N,2240µm,0.6s
MABI AML AML
comp=E,3964µm,0.5s
MABI AML AML
comp=E,3964µm,1.5s
MABI AML AML
comp=N,2241µm,0.6s
LUSI Trento, Gardas 1.68 28 ⇑P **Pn 11 17 46.5 -0.6**
LUSI AML AML
comp=E,6675µm,0.5s
LUSI AML AML
comp=N,11350µm,0.4s
LUSI AML AML
comp=E,6677µm,0.5s
LUSI AML AML
comp=N,11349µm,0.4s
SAOF Saorge 1.69 254 ⇑P **Pn 11 17 47.3 0.0**
SAOF AML AML
comp=E,2160µm,0.4s
SAOF AML AML
comp=N,1930µm,0.6s
SAOF AML AML
comp=N,1912µm,0.4s
SAOF AML AML
comp=E,2161µm,0.4s
DOSS Dosso del Somm 1.71 34 P **Pn 11 17 47.0 -0.6**
DOSS AML AML
comp=E,9520µm,1.4s
DOSS AML AML
comp=N,8455µm,0.6s
DOSS AML AML
comp=E,8785µm,0.6s
DOSS AML AML
comp=N,9690µm,1.4s
DOSS AML AML
comp=E,8782µm,0.6s
DOSS AML AML
comp=N,8458µm,0.6s
DOSS AML AML
comp=N,9182µm,0.6s
DOSS AML AML
comp=E,9079µm,0.6s
ENR Entracque 1.73 262 ⇑P **Pn 11 17 47.7 -0.2**
ENR AML AML
comp=E,2140µm,1.0s
ENR AML AML
comp=N,2310µm,0.7s
ENR AML AML
comp=E,2007µm,0.5s
ENR AML AML
comp=N,2311µm,0.7s
CELB S.Piero in Cam 1.76 170 P **Pn 11 17 47.8 -0.4**
CELB AML AML
comp=E,958µm,0.7s
CELB AML AML
comp=N,1215µm,0.8s
CELB AML AML
comp=E,959µm,0.7s
CRE Caprese Michel 1.77 118 P **Pn 11 17 48.8 +0.5**
CRE AML AML
comp=E,3710µm,1.0s
CRE AML AML
comp=N,4615µm,0.3s
CRE AML AML
comp=E,2841µm,0.6s
CRE AML AML
comp=N,4616µm,0.3s
RIBO Ribolla Roccas 1.77 149 ⇑P **Pn 11 17 48.5 +0.2**
RIBO Ribolla Roccas 1.77 149 AML AML
comp=E,1751µm,1.0s
TRAV Traversella 1.79 306 ⇓P **Pn 11 17 49.1 +0.5**
TRAV AML AML
comp=E,1515µm,0.4s
TRAV AML AML
comp=N,1780µm,0.4s
TRAV AML AML
comp=E,1513µm,0.4s
TRAV AML AML
comp=N,1778µm,0.4s
GAGG Gaggia 1.80 26 ⇑P **Pn 11 17 48.3 -0.5**
GAGG AML AML
comp=E,3780µm,0.9s
GAGG AML AML
comp=N,5920µm,0.9s
GAGG AML AML
comp=E,6130µm,0.9s
GAGG AML AML
comp=N,3850µm,0.9s
GAGG AML AML
comp=E,6129µm,0.9s
GAGG AML AML
comp=N,3851µm,0.9s
GAGG AML AML
comp=N,5918µm,0.9s
GAGG AML AML
comp=E,3782µm,0.9s
GAGG AML AML
comp=E,6129µm,1.1s
GAGG AML AML
comp=N,5918µm,1.1s
STV Sant Anna di V 1.80 263 ⇑P **Pn 11 17 48.8 0.0**
STV S **Sn 11 18 11.1 -0.4**
STV AML AML
comp=N,1458µm,0.5s
SBF Sospel 1.82 251 *e*Pn **Pn 11 17 48.8 -0.2**
SBF *e*Sn **Sn 11 18 10.4 -1.5**
comp=N,1µm,0.5s
BHB Bricherasio 1.85 282 P **Pb 11 17 52.3 +0.7**
BHB AML AML
comp=E,2905µm,0.5s
BHB AML AML
comp=N,3020µm,0.6s
BHB AML AML
comp=E,2906µm,0.5s
BHB AML AML
comp=N,3022µm,0.6s
BHB AML AML
comp=E,2906µm,1.5s
PANI Panarotta 1.90 34 ⇑P **Pn 11 17 50.0 -0.3**
PANI AML AML
comp=E,3420µm,0.7s
PANI AML AML
comp=N,3405µm,0.8s
PANI AML AML
comp=E,3420µm,0.7s
PANI AML AML
comp=N,3405µm,0.8s
PANI AML AML
comp=E,3420µm,1.3s
SSP9 Sansepolcro 1.90 118 P **Pn 11 17 51.1 +1.0**
SSP9 AML AML
comp=E,1205µm,1.6s
SSP9 AML AML
comp=N,1825µm,1.6s
SSP9 AML AML
comp=N,1502µm,0.6s
SSP9 AML AML
comp=E,1138µm,1.3s
PZZ Stroppo 1.93 272 P **Pn 11 17 50.2 -0.4**
PZZ AML AML
comp=E,2120µm,0.5s
PZZ AML AML
comp=N,2610µm,0.7s
PZZ AML AML
comp=E,2121µm,0.5s
PZZ AML AML
comp=N,2610µm,0.7s
PZZ AML AML
comp=E,2121µm,1.5s
CPGN Carpegna, Ital 1.93 110 P **Pb 11 17 52.8 -0.3**
CPGN AML AML
comp=E,1620µm,1.3s
CPGN AML AML
comp=N,2100µm,1.0s
CPGN AML AML
comp=E,1830µm,1.0s
CPGN AML AML
comp=N,1770µm,0.8s
CPGN AML AML
comp=E,1585µm,0.6s
CPGN AML AML
comp=N,1770µm,0.8s
CPGN AML AML
comp=N,2101µm,1.0s
CPGN AML AML
comp=E,1832µm,1.0s
CPGN AML AML
comp=E,1585µm,1.4s
RSP Reno Superiore 1.93 291 P **Pn 11 17 51.2 +0.6**
RSP AML AML
comp=E,1170µm,0.9s
RSP AML AML
comp=N,1195µm,1.0s
RSP AML AML
comp=E,1201µm,1.3s
RSP AML AML
comp=N,1215µm,1.0s
RSP AML AML
comp=N,1195µm,1.0s
RSP AML AML
comp=N,1215µm,1.0s
RSP AML AML
comp=N,1215µm,1.0s
RSP AML AML
comp=N,1195µm,1.0s
RSP AML AML
comp=E,1167µm,0.9s
RSP AML AML
comp=E,1192µm,0.9s
PARC Parchiule 1.94 115 P **Pn 11 17 51.0 +0.4**
PARC AML AML
comp=E,958µm,0.6s
PARC AML AML
comp=N,962µm,0.5s
PARC AML AML
comp=N,961µm,0.5s
PARC AML AML
comp=E,959µm,0.6s
SATI Passo dei Sala 1.96 316 P **Pn 11 17 52.1 +0.9**
SATI AML AML
comp=E,1195µm,0.8s
SATI AML AML
comp=N,896µm,1.0s
SATI AML AML
comp=N,895µm,1.0s
SATI AML AML
comp=E,1198µm,0.8s
SATI AML AML
comp=E,1198µm,1.2s
CGRP Cima Grappa 1.98 44 P **Pn 11 17 50.7 -0.7**
CGRP AML AML
comp=E,5715µm,0.6s
CGRP AML AML
comp=N,4125µm,0.7s
CGRP AML AML
comp=E,5750µm,0.6s
CGRP AML AML
comp=N,4130µm,0.7s
CGRP AML AML
comp=N,4129µm,0.7s
CGRP AML AML
comp=N,4123µm,0.7s
CGRP AML AML
comp=E,5711µm,0.6s
CGRP AML AML
comp=E,5749µm,0.6s
BADI Badiali 2.01 118 P **Pn 11 17 52.2 +0.7**
BADI AML AML
comp=E,1425µm,0.6s
BADI AML AML
comp=N,1575µm,0.6s
BADI AML AML
comp=E,1424µm,0.6s
BADI AML AML
comp=N,1572µm,0.6s
TUE Stuetta 2.02 351 **Pn 11 17 53.0 +1.1**
TUE Stuetta 2.02 351 ⇑P **Pn 11 17 53.0 +1.1**
TUE AML AML
comp=E,1435µm,0.7s
TUE AML AML
comp=N,1890µm,0.5s
TUE AML AML
comp=E,1410µm,1.6s
TUE AML AML
comp=N,1845µm,0.5s
TUE AML AML
comp=E,1407µm,0.7s
TUE AML AML
comp=E,1433µm,0.7s
TUE AML AML
comp=N,1845µm,0.5s
TUE AML AML
comp=N,1893µm,0.5s
TUE AML AML
comp=E,1407µm,1.3s
TUE AML AML
comp=E,1433µm,1.3s
PGF Pioggiola 2.02 197 *e*Pn **Pn 11 17 51.3 -0.5**
PGF *e*Sn **Sn 11 18 15.5 -1.5**
comp=E,160nm,0.3s
ARCI Arcidosso 2.03 143 P **Pn 11 17 51.9 0.0**
ARCI AML AML
comp=E,464µm,0.6s
ARCI AML AML
comp=N,600µm,0.9s
ARCI AML AML
comp=N,500µm,0.4s
ARCI AML AML
comp=E,464µm,0.6s
ARCI AML AML
comp=N,591µm,1.0s
ARCI AML AML
comp=E,460µm,0.7s
BRMO Bormio 2.03 11 P **Pb 11 17 54.1 -0.7**
BRMO AML AML
comp=E,1218µm,1.6s
BRMO AML AML
comp=N,979µm,0.9s
BRMO AML AML
comp=E,1188µm,0.5s
BRMO AML AML
comp=N,980µm,0.9s
CTI Castel Tesino 2.04 39 **Pn 11 17 51.6 -0.4**
CTI Castel Tesino 2.04 39 ⇑P **Pn 11 17 51.6 -0.4**
CTI AML AML
comp=E,4995µm,0.6s
CTI AML AML
comp=N,5820µm,0.4s
CTI AML AML
comp=N,5818µm,0.4s
CTI AML AML
comp=E,4995µm,0.6s
CTI AML AML
comp=N,5818µm,1.6s
MMK Mattmark 2.04 321 P **Pn 11 17 53.4 +1.2**
MMK AML AML
comp=E,191µm,0.6s
MMK AML AML
comp=N,210µm,0.5s
MMK AML AML
comp=N,209µm,0.5s
MMK AML AML
comp=E,191µm,0.6s
MMK AML AML
comp=E,191µm,1.4s
CARE Lago del Cares 2.04 17 P **Pn 11 17 52.5 +0.2**
CARE AML AML
comp=E,1096µm,0.6s
CARE AML AML
comp=N,1323µm,0.8s
CARE AML AML
comp=E,1185µm,0.6s
CARE AML AML
comp=N,1430µm,0.8s
CARE AML AML
comp=E,1189µm,0.6s
CARE AML AML
comp=N,1430µm,0.8s
CARE AML AML
comp=E,1097µm,0.6s
CARE AML AML
comp=N,1325µm,0.8s
CARE AML AML
comp=E,1097µm,1.4s
CARE AML AML
comp=E,1189µm,1.4s
CARE AML AML
comp=N,1325µm,1.2s
CARE AML AML
comp=N,1430µm,1.2s
PE3 Peglio 2.09 111 P **Pb 11 17 55.0 -0.7**
PE3 AML AML
comp=E,5285µm,0.5s
PE3 AML AML
comp=N,4670µm,0.6s
PE3 AML AML
comp=E,5286µm,0.5s
PE3 AML AML
comp=N,4673µm,0.6s
PE3 AML AML
comp=E,5286µm,1.5s
ATMI Monte Miggiano 2.11 122 P **Pb 11 17 54.7 -1.4**
ATMI AML AML
comp=E,2190µm,0.4s
ATMI AML AML
comp=N,3870µm,0.8s
ATMI AML AML
comp=N,3868µm,0.8s
ATMI AML AML
comp=E,2191µm,0.4s
OZOL Ozolo 2.11 24 P **Pn 11 17 53.5 +0.4**
OZOL AML AML
comp=E,4735µm,0.5s
OZOL AML AML
comp=N,3925µm,0.9s
OZOL AML AML
comp=E,5225µm,0.5s
OZOL AML AML
comp=N,3670µm,0.7s
OZOL AML AML
comp=N,3669µm,0.7s
OZOL AML AML
comp=E,4736µm,0.5s
OZOL AML AML
comp=E,5225µm,0.5s
OZOL AML AML
comp=N,3792µm,0.6s
FUSIO Fusio 2.13 338 P **Pn 11 17 53.9 +0.4**
FUSIO AML AML
comp=E,1200µm,0.8s
FUSIO AML AML
comp=N,1110µm,0.7s
FUSIO AML AML
comp=E,1201µm,0.8s
FUSIO AML AML
comp=N,1111µm,0.7s
ATPI Pietralunga - 2.14 118 P **Pn 11 17 54.2 +0.9**
ATPI AML AML
comp=E,1020µm,0.7s
ATPI AML AML
comp=N,1020µm,0.6s
ATPI AML AML
comp=E,960µm,0.5s
ATPI AML AML
comp=N,1052µm,0.6s
ATPI AML AML
comp=E,1019µm,0.8s
ATPI AML AML
comp=N,1021µm,0.6s
ATPI AML AML
comp=E,961µm,0.5s
ATPI AML AML
comp=N,1051µm,0.6s
ATPI AML AML
comp=N,1021µm,1.4s
ATPI AML AML
comp=N,1051µm,1.4s
ATPI AML AML
comp=E,1019µm,1.2s
FUORN Ofenpass-Fuorn 2.16 8 **Pn 11 17 54.6 +0.7**
ATVO AVT- Monte Val 2.17 119 P **Pn 11 17 53.8 0.0**
ATVO AML AML
comp=E,1255µm,0.7s
ATVO AML AML
comp=N,1645µm,0.8s
ATVO AML AML
comp=N,1643µm,0.8s
ATVO AML AML
comp=N,1643µm,1.2s
ATVO AML AML
comp=E,1257µm,0.7s
ZIAN Ziano 2.18 34 P **Pn 11 17 54.3 +0.3**
ZIAN AML AML
comp=E,2935µm,0.5s
ZIAN AML AML
comp=N,4275µm,0.7s
ZIAN AML AML
comp=E,4315µm,0.7s
ZIAN AML AML
comp=N,3145µm,0.5s
ZIAN AML AML
comp=E,4312µm,0.7s
ZIAN AML AML
comp=N,3147µm,0.5s
ZIAN AML AML
comp=N,4275µm,0.7s
ZIAN AML AML
comp=E,2933µm,0.5s
MBDF Montbardon 2.19 278 *e*Pn **Pn 11 17 54.7 +0.6**
MBDF *e*Sn **Sn 11 18 19.6 -1.5**
comp=E,462nm,0.4s
MOSI Grossmontoni 2.20 13 P **Pb 11 17 56.3 -1.4**
MOSI AML AML
comp=E,3375µm,0.6s
MOSI AML AML
comp=N,4530µm,0.8s
MOSI AML AML
comp=E,3373µm,0.6s
MOSI AML AML
comp=N,4527µm,0.8s
MOSI AML AML
comp=N,4527µm,1.2s
RRL Rocca Remolon 2.20 283 P **Pn 11 17 55.6 +1.2**
RRL AML AML
comp=E,816µm,0.8s
RRL AML AML
comp=N,1145µm,1.1s
RRL AML AML
comp=N,1146µm,1.1s
RRL AML AML
comp=E,816µm,0.8s
VARN Col Varnada, M 2.22 46 P **Pn 11 17 53.8 -0.6**
VARN AML AML
comp=E,5975µm,0.5s
VARN AML AML
comp=N,3970µm,0.6s
VARN AML AML
comp=E,6020µm,0.5s
VARN AML AML
comp=N,3985µm,0.6s
VARN AML AML
comp=E,5978µm,0.5s
VARN AML AML
comp=N,3969µm,0.6s
VARN AML AML
comp=E,6020µm,0.5s
VARN AML AML
comp=N,3982µm,0.6s
VARN AML AML
comp=E,5978µm,1.5s
VARN AML AML
comp=E,6020µm,1.5s
PESA Pesaro 2.24 103 P **Pb 11 17 56.8 -1.5**
PESA AML AML
comp=E,1885µm,0.5s
PESA AML AML
comp=N,1360µm,0.9s
PESA AML AML
comp=N,1231µm,0.5s
PESA AML AML
comp=E,1883µm,0.5s
MAON Monte Argentar 2.27 154 P **Pn 11 17 55.1 0.0**
MAON AML AML
comp=E,558µm,0.8s
MAON AML AML
comp=N,502µm,0.4s
MAON AML AML
comp=E,557µm,0.8s
MAON AML AML
comp=N,502µm,0.4s
MGAB Montegabbione 2.29 132 P **Pn 11 17 55.9 +0.4**
MGAB AML AML
comp=E,787µm,0.6s
MGAB AML AML
comp=N,965µm,0.5s
MGAB AML AML
comp=E,1026µm,0.5s

MGAB AML AML
comp=N,801µm,0.5s
MGAB AML AML
comp=E,1025µm,0.5s
MGAB AML AML
comp=N,801µm,0.5s
MGAB AML AML
comp=N,964µm,0.5s
MGAB AML AML
comp=E,787µm,0.6s
MPAG Monte Paganucc 2.29 111 P Pn 11 17 57.2 +1.7
MPAG AML AML
comp=E,850µm,0.5s
MPAG AML AML
comp=N,1415µm,0.7s
MPAG AML AML
comp=N,1413µm,0.7s
MPAG AML AML
comp=E,850µm,0.5s
MPAG AML AML
comp=N,1413µm,1.3s
DAVOX Davos/Dischmat 2.30 1 Pn Pn 11 17 57.0 +1.3
comp=N,28nm,0.3s,baz=194,slow=8.4,SNR=134
DAVOX Lg Lg 11 18 26.9
comp=N,31nm,0.3s,baz=340,slow=22,SNR=6.8
comp=N,112nm,0.5s
DAVOX Davos/Dischmat 2.30 1 ⇑P Pn 11 17 57.3 +1.5
DAVOX AML AML
comp=E,1110µm,0.5s
DAVOX AML AML
comp=N,1645µm,1.2s
DAVOX AML AML
comp=N,1514µm,0.6s
DAVOX AML AML
comp=E,1111µm,0.5s
BNI Bardonecchia 2.30 285 Pb 11 17 58.1 -1.3
FRON Frontone 2.31 114 P Pn 11 17 54.9 -0.9
FRON AML AML
comp=E,917µm,0.9s
FRON AML AML
comp=N,1132µm,0.4s
FRON AML AML
comp=N,1134µm,0.4s
FRON AML AML
comp=E,918µm,0.9s
REMY Saint-Rhmy-en 2.32 307 ⇓P Pn 11 17 56.9 +0.8
REMY AML AML
comp=E,1293µm,0.7s
DIX Grande Dixence 2.33 314 P Pb 11 17 58.2 -1.8
DIX AML AML
comp=E,2315µm,0.6s
DIX AML AML
comp=N,3250µm,0.8s
DIX AML AML
comp=N,3248µm,0.8s
DIX AML AML
comp=E,2316µm,0.6s
DIX AML AML
comp=N,3248µm,1.2s
MRGE Morge 2.33 304 P Pn 11 17 57.3 +1.1
MRGE AML AML
comp=E,1110µm,0.6s
MRGE AML AML
comp=N,976µm,0.7s
MRGE AML AML
comp=N,977µm,0.7s
MRGE AML AML
comp=E,1113µm,0.6s
MRGE AML AML
comp=E,1113µm,1.4s
MRGE AML AML
comp=N,977µm,1.3s
AGOR Agordo 2.39 40 P Pn 11 17 57.2 +0.3
LPG La Plagne 2.40 296 *e*Pn Pb 11 17 59.9 -1.2
LPG *e*Sn Sn 11 18 27.2 +0.6
comp=N,280nm,0.5s
SMPL Sampolo 2.42 189 ⇑P Pn 11 17 58.0 +0.8
SMPL AML AML
comp=E,449µm,0.6s
SMPL AML AML
comp=N,388µm,0.5s
SMPL AML AML
comp=N,388µm,0.5s
SMPL AML AML
comp=E,449µm,0.6s
SMPL AML AML
comp=E,449µm,1.4s
LPL La Plagne 2.42 296 *e*Pn Pn 11 17 59.0 +1.6
LPL *e*Sn Sn 11 18 28.0 +1.0
comp=E,409nm,0.5s
FOSV Fossato di Vic 2.44 118 P Pn 11 17 58.1 +0.6
ARVD Arcevia 2.46 112 P Pn 11 17 59.8 +1.9
ARVD AML AML
comp=E,500µm,0.7s
ARVD AML AML
comp=N,649µm,0.9s
ARVD AML AML
comp=N,649µm,0.9s
ARVD AML AML
comp=E,500µm,0.7s
ARVD AML AML
comp=N,649µm,1.1s
ASSB Assisi San Ben 2.51 124 P Pn 11 17 58.7 +0.1
ASSB AML AML
comp=E,470µm,0.5s
ASSB AML AML
comp=N,583µm,0.9s
ASSB AML AML
comp=E,470µm,0.5s
ASSB AML AML
comp=N,484µm,0.3s
BNALP Bannalp 2.58 338 P Pb 11 18 02.3 -1.9
BNALP AML AML
comp=E,778µm,0.5s
BNALP AML AML
comp=N,995µm,1.2s
BNALP AML AML
comp=N,998µm,1.2s
BNALP AML AML
comp=N,998µm,0.8s
BNALP AML AML
comp=E,778µm,0.5s
SENIN Lac Senin/Sane 2.58 318 Pn 11 18 01.6 +1.9
PLONS Plons/SG 2.59 353 P Pn 11 18 01.6 +2.0
PLONS AML AML
comp=E,910µm,0.7s
PLONS AML AML
comp=N,724µm,0.6s
PLONS AML AML
comp=E,910µm,0.7s
PLONS AML AML
comp=N,725µm,0.6s
PLONS AML AML
comp=E,910µm,1.3s
PLONS Plons/SG 2.59 353 *e*Pn Pn 11 18 01.8 +2.2
PLONS *e*Sn Sb 11 18 34.6 -1.4
CIMO Cimolais 2.60 44 P Pn 11 17 59.3 -0.4
CIMO AML AML
comp=E,708µm,0.6s
CIMO AML AML
comp=N,970µm,0.7s
CIMO AML AML
comp=E,688µm,0.6s
CIMO AML AML
comp=N,978µm,0.7s
CIMO AML AML
comp=E,708µm,0.6s
CIMO AML AML
comp=N,968µm,0.7s
CIMO AML AML
comp=N,977µm,0.7s
CIMO AML AML
comp=E,688µm,0.6s
FETA Feichten 2.62 14 *e*Pn Pn 11 18 01.8 +1.7
comp=E,24nm,0.4s,SNR=40
FETA Sn Sb 11 18 35.1 -2.0
comp=E,230nm,0.9s
EL6 Elcito 2.64 115 P Pn 11 18 01.9 +1.6
EL6 AML AML
comp=E,1022µm,1.6s
EL6 AML AML
comp=N,1300µm,0.5s
EL6 AML AML
comp=E,960µm,0.5s
EL6 AML AML
comp=N,1301µm,0.5s
LMR La Mourre 2.65 245 *e*Pn Pn 11 18 00.0 -0.3
LMR *e*Sn Sn 11 18 30.4 -1.9
comp=N,309nm,0.5s
AJAC Base Areonaval 2.66 197 P Pn 11 18 01.4 +0.9
AJAC AML AML
comp=E,664µm,0.2s
AJAC AML AML
comp=N,619µm,0.8s
AJAC AML AML
comp=N,577µm,0.3s
AJAC AML AML
comp=E,663µm,0.2s
AJAC AML AML
comp=N,577µm,1.7s
ROSI Rosskopf 2.69 24 P Pn 11 18 02.0 +0.8
ROSI AML AML
comp=E,2195µm,0.7s
ROSI AML AML
comp=N,2250µm,1.0s
ROSI AML AML
comp=N,2249µm,1.0s
ROSI AML AML
comp=E,2196µm,0.7s
ROSI AML AML
comp=E,2196µm,1.3s
ROSI AML AML
comp=N,2249µm,1.0s
STAL STALIGIAL 2.71 48 Pn 11 18 00.6 -0.7
CESX Cesi 2.75 132 Pn 11 18 02.8 +1.0
BARO Barbarano Roma 2.77 143 P Pn 11 18 02.6 +0.7
BARO AML AML
comp=E,286µm,0.7s
BARO AML AML
comp=N,378µm,0.9s
BARO AML AML
comp=E,286µm,0.7s
BARO AML AML
comp=N,378µm,0.9s
BARO AML AML
comp=E,286µm,1.3s
FDMO Fiordimonte 2.78 120 Pn 11 18 02.5 +0.4
FDMO Fiordimonte 2.78 120 P Pn 11 18 00.2 -1.9
FDMO AML AML
comp=E,370µm,0.8s
FDMO AML AML
comp=N,424µm,0.4s
FDMO AML AML
comp=E,370µm,0.8s
FDMO AML AML
comp=N,424µm,0.4s
DAVA Damuels 2.81 1 *e*Pn Pn 11 18 05.0 +2.3
comp=N,158nm,0.5s,SNR=54
DAVA *e*Sn Sb 11 18 39.5 -2.9
comp=N,384nm,0.5s
DAVA Damuels 2.81 1 *e*Pn Pn 11 18 05.1 +2.5
DAVA *e*Sn Sb 11 18 39.5 -2.9
DST2 Trieste 2.82 50 P Pn 11 18 02.4 -0.3
DST2 AML AML
comp=E,4190µm,0.7s
DST2 AML AML
comp=N,4295µm,0.9s
DST2 AML AML
comp=N,4291µm,0.9s
DST2 AML AML
comp=N,4291µm,1.1s
DST2 AML AML
comp=E,4190µm,0.8s
CSP1 Cessapalombo 2.82 118 P Pn 11 18 03.9 +1.1
ORIF Oris-en-Rattie 2.84 280 *e*Pn Pn 11 18 05.7 +2.7
ORIF *e*Sn Sn 11 18 34.9 -2.2
comp=E,737nm,0.6s
BRJN Brijuni 2.84 80 *e*Pn Pn 11 18 02.7 -0.3
ARRO Arrone 2.87 130 P Pn 11 18 03.3 -0.1
ARRO AML AML
comp=E,368µm,0.6s
ARRO AML AML
comp=N,434µm,0.8s
ARRO AML AML
comp=N,434µm,0.8s
ARRO AML AML
comp=E,368µm,0.6s
ARRO AML AML
comp=N,434µm,1.2s
TOLF Tolfa 2.90 146 P Pn 11 18 04.4 +0.6
TOLF AML AML
comp=E,234µm,0.4s
TOLF AML AML
comp=N,276µm,0.2s
NRCA Norcia 2.91 123 Pn 11 18 04.2 +0.2
MC2 Monte Cornacci 2.91 121 P Pn 11 18 05.7 +1.6
SQTA Sankt Quirin 2.91 19 *e*Pn Pn 11 18 06.2 +2.2
comp=N,40nm,0.4s,SNR=45
SQTA *e*Sn Sb 11 18 42.2 -3.0
comp=N,191nm,0.5s
GUMA Gualdo di Mace 2.92 118 Pn 11 18 04.9 +0.8
CLUD Cludinico 2.93 46 P Pn 11 18 04.1 -0.1
CLUD AML AML
comp=E,1450µm,0.7s
CLUD AML AML
comp=N,1655µm,0.6s
CLUD AML AML
comp=E,1435µm,0.7s
CLUD AML AML
comp=N,1795µm,0.6s
CLUD AML AML
comp=N,1796µm,0.6s
CLUD AML AML
comp=E,1448µm,0.7s
CLUD AML AML
comp=N,1654µm,0.6s
CLUD AML AML
comp=E,1433µm,0.7s
SAP2 Sant'Angelo in 2.94 117 P Pn 11 18 05.3 +0.9
SAP2 AML AML
comp=E,757µm,0.4s
SAP2 AML AML
comp=N,4380µm,0.4s
SAP2 AML AML
comp=E,757µm,0.4s
SAP2 AML AML
comp=N,4380µm,0.4s
OBER Oberstdorf 2.95 6 *e*Pn Pn 11 18 06.8 +2.3
ABTA Abfaltersbach 2.96 39 *e*Pn Pn 11 18 05.7 +1.1
comp=N,98nm,0.6s,SNR=76
ABTA *e*Sn Sn 11 18 42.1 +2.0
comp=N,152nm,0.4s
FUSE Fusea 2.96 48 P Pn 11 18 04.2 -0.5
MMO1 Montemonaco 3.00 121 P Pn 11 18 06.6 +1.3
WILA Wila 3.00 348 *e*Pn Pn 11 18 06.5 +1.2
MOTA Moosalm 3.00 17 *i* Pn Pn 11 18 07.2 +1.8
comp=N,26nm,0.3s,SNR=28
MOTA *i* Sn Sn 11 18 43.6 +2.3
comp=N,100nm,0.4s
MF5 Montefalcone A 3.04 118 P Pb 11 18 09.1 -2.7
MF5 AML AML
comp=E,1025µm,0.8s
MF5 AML AML
comp=N,915µm,0.8s
MF5 AML AML
comp=N,915µm,0.8s
MF5 AML AML
comp=E,1024µm,0.8s
ZOU Zoufplan 3.04 46 P Pn 11 18 06.0 0.0
ZOU AML AML
comp=E,1480µm,0.7s
ZOU AML AML
comp=N,1720µm,0.8s
ZOU AML AML
comp=E,1435µm,0.7s
ZOU AML AML
comp=N,1695µm,0.8s
ZOU AML AML
comp=E,1434µm,0.7s
ZOU AML AML
comp=N,1694µm,0.8s
ZOU AML AML
comp=E,1482µm,0.7s
ZOU AML AML
comp=E,1434µm,1.3s
ZOU AML AML
comp=E,1482µm,1.3s
ZOU AML AML
comp=N,1722µm,0.8s
TRI Trieste 3.06 65 Pn 11 18 05.2 -0.7
TRI Trieste 3.06 65 P Pn 11 18 05.0 -1.0
TRI AML AML
comp=E,715µm,0.7s
TRI AML AML
comp=N,648µm,0.7s
TRI AML AML
comp=E,715µm,0.7s
TRI AML AML
comp=N,648µm,0.7s
TRI AML AML
comp=E,715µm,1.3s
WTTA Wattenberg 3.06 24 *e*Pn Pn 11 18 07.3 +1.1
comp=E,47nm,0.4s,SNR=30
WTTA *i* Sn Sn 11 18 45.8 +3.0
comp=E,309nm,0.6s
WTTA Wattenberg 3.06 24 P Pn 11 18 07.9 +1.7
WTTA AML AML
comp=E,1595µm,0.7s
WTTA AML AML
comp=N,1135µm,1.1s
WTTA AML AML
comp=E,1593µm,0.7s
WTTA AML AML
comp=E,1593µm,1.3s
WTTA AML AML
comp=N,1078µm,0.6s
WTTA Wattenberg 3.06 24 *e*Pn Pn 11 18 07.3 +1.1
WTTA *e*Sn Sn 11 18 45.0 +2.2
SABO M.te Sabotino 3.07 59 Pn 11 18 06.1 -0.1
SABO M.te Sabotino 3.07 59 P Pn 11 18 06.0 -0.1
SABO AML AML
comp=E,9815µm,0.9s
SABO AML AML
comp=N,11900µm,0.6s
SABO AML AML
comp=E,2040µm,0.5s
SABO AML AML
comp=N,3260µm,0.7s
SABO AML AML
comp=N,11913µm,0.6s
SABO AML AML
comp=E,2039µm,0.5s
SABO AML AML
comp=N,3260µm,0.7s
SABO AML AML
comp=E,9799µm,0.9s
SABO AML AML
comp=E,9799µm,1.1s
SABO AML AML
comp=N,11913µm,1.4s
SABO AML AML
comp=N,3260µm,1.3s
RETA Reutte 3.08 12 *i* Pn Pn 11 18 07.8 +1.4
comp=N,10nm,0.2s,SNR=15
RETA *i* Sn Sn 11 18 45.1 +2.0
comp=N,88nm,0.6s
MNTT Montottone 3.09 116 P Pb 11 18 09.7 -3.0
MNTT AML AML
comp=E,1605µm,1.4s
MNTT AML AML
comp=N,1800µm,0.3s
MNTT AML AML
comp=N,1803µm,0.3s
MNTT AML AML
comp=E,1452µm,0.4s
SMRF Simiane la Rot 3.09 262 *e*Pn Pn 11 18 07.6 +1.2
SMRF *e*Sn Sn 11 18 42.3 -0.9
comp=E,459nm,0.7s
WATA Walderalm 3.11 23 *i* Pn Pn 11 18 08.5 +1.7
comp=E,55nm,0.5s,SNR=37
WATA *i* Sn Sn 11 18 45.5 +1.5
comp=E,244nm,0.7s
RM33 Pellescritta (3.17 127 P Pn 11 18 08.7 +1.2
RM33 AML AML
comp=E,422µm,0.8s
RM33 AML AML
comp=N,543µm,1.6s
RM33 AML AML
comp=E,445µm,0.8s
RM33 AML AML
comp=N,500µm,1.6s
RM33 AML AML
comp=E,445µm,0.8s
RM33 AML AML
comp=E,422µm,0.8s
RM33 AML AML
comp=N,497µm,0.5s
RM33 AML AML
comp=N,456µm,0.4s
RM33 AML AML
comp=E,445µm,1.2s
RM33 AML AML
comp=E,422µm,1.2s
SKDS Skadanscina 3.17 69 *i* Pn Pn 11 18 06.6 -0.9
SKDS *e*Sn Sn 11 18 42.8 -2.4
SKDS IAML 11 18 52.4
comp=Z,179nm,0.2s
BALST Balsthal 3.21 333 *e*Pn Pn 11 18 09.5 +1.3
GIMEL St. Georges / 3.23 311 P Pn 11 18 10.8 +2.4
MTCE Montecelio 3.26 138 P Pn 11 18 09.6 +0.8
MTCE AML AML
comp=E,155µm,0.9s
MTCE AML AML
comp=N,102µm,1.6s
CAMP Campotosto 3.26 125 Pn 11 18 10.6 +1.7
VOJS Vojsko 3.27 60 *i* Pn Pn 11 18 08.3 -0.6
VOJS *i* Sn Sn 11 18 46.9 -0.9
VOJS IAML 11 18 56.5
comp=Z,250nm,0.5s
SULZ Cheisacher 3.27 339 *e*Pn Pn 11 18 09.8 +0.9
SULZ *e*Sn Sn 11 18 48.6 +0.8
WALHA Wallhausen, DE 3.31 352 *e*Pn Pn 11 18 10.0 +0.6
ACOM Acomizza, Ital 3.32 50 P Pn 11 18 10.3 +0.5
ACOM AML AML
comp=E,1710µm,0.5s
ACOM AML AML
comp=N,1505µm,0.7s
ACOM AML AML
comp=E,1665µm,0.5s
ACOM AML AML
comp=N,1425µm,0.5s
ACOM AML AML
comp=N,1506µm,0.7s
ACOM AML AML
comp=E,1712µm,0.5s
ACOM AML AML
comp=E,1665µm,0.5s
ACOM AML AML
comp=N,1426µm,0.5s
CABF La Chapelle 3.37 310 *e*Pn Pn 11 18 12.1 +1.7
CABF *e*Sn Sn 11 18 46.4 -4.0
comp=N,238nm,0.7s
METMA Mettma DE 3.41 342 *e*Pn Pn 11 18 11.2 +0.4
SLE Schleitheim 3.41 345 *e*Pn Pn 11 18 11.2 +0.3
MYKA Terra Mystica 3.44 50 *i* Pn Pn 11 18 12.2 +0.8
comp=N,21nm,0.3s,SNR=12
MYKA *i* Sn Sn 11 18 51.5 -0.5
comp=N,0.5nm,0.1s
EMING Emmingen-Lipti 3.48 349 *e*Pn Pn 11 18 12.0 +0.2
LESA Schwarzleotal 3.56 33 *i* Pn Pn 11 18 14.6 +1.7
comp=N,69nm,0.5s,SNR=32
LESA *i* Sn Sn 11 18 57.9 +2.9
comp=N,279nm,0.7s
BERGE Lenzkirch (DE) 3.58 342 *e*Pn Pn 11 18 13.4 +0.3
BERGE *e*Sn Sn 11 18 54.4 -0.9
KBA Koelnbreinsper 3.59 42 *e*Pg Pn 11 18 14.5 +1.2
comp=N,13nm,0.2s
KBA *i* Sn Sn 11 18 56.2 +0.5
comp=N,110nm,0.6s
KBA Koelnbreinsper 3.59 42 *e*Pn Pn 11 18 14.6 +1.2
KBA *e*Sn Sn 11 18 56.4 +0.6
T0110 Collepietro 3.67 127 P Pn 11 18 16.9 +2.5
T0110 AML AML
comp=E,383µm,0.5s
T0110 AML AML
comp=N,364µm,0.5s
T0110 AML AML
comp=N,364µm,0.5s
T0110 AML AML
comp=E,383µm,0.5s
VIVF Saint-Julien-l 3.69 278 *e*Pn Pn 11 18 15.1 +0.5
VIVF *e*Sn Sn 11 18 55.0 -3.0
comp=E,114nm,0.7s
FUR Furstenfeldbru 3.82 15 *e*Pn Pn 11 18 17.8 +1.3
SSB Saint Sauveur 3.83 284 Pn 11 18 18.4 +1.7
INTR Introdacqua 3.88 128 Pn 11 18 19.4 +2.1
INTR Introdacqua 3.88 128 P Pn 11 18 19.5 +2.2
INTR AML AML
comp=E,152µm,0.8s
INTR AML AML
comp=N,235µm,0.9s

INTR AML AML
comp=N,267µm,0.8s
INTR AML AML
comp=E,151µm,0.8s
INTR AML AML
comp=N,235µm,0.9s
INTR AML AML
comp=E,227µm,1.1s
INTR AML AML
comp=E,151µm,1.2s
INTR AML AML
comp=N,267µm,1.2s
INTR AML AML
comp=N,235µm,1.1s
OBKA Obir 3.90 57 *i* Pn **Pn 11 18 17.9 +0.3**
comp=N,12nm,0.3s
OBKA *e*Sn **Sn 11 19 03.0 -0.4**
comp=N,136nm,0.8s
HINF Hinteralfeld 3.92 329 *e*Pn **Pn 11 18 18.4 +0.6**
HINF *e*Sn **Sn 11 19 00.5 -3.2**
comp=N,91nm,0.4s
BFO Black Forest 3.98 346 **Pn 11 18 18.7 0.0**
BFO Black Forest 3.98 346 *e*Pn **Pn 11 18 18.7 0.0**
BFO *e*Sn **Sn 11 19 03.8 -1.6**
LPEL Lama dei Pelig 4.01 126 P **Pn 11 18 22.1 +2.9**
LPEL AML AML
comp=E,154µm,0.6s
LPEL AML AML
comp=N,136µm,1.2s
LPEL AML AML
comp=N,112µm,0.4s
LPEL AML AML
comp=E,143µm,0.4s
LPEL AML AML
comp=N,112µm,1.6s
LPEL AML AML
comp=E,230µm,0.6s
LEGS Legarje 4.16 67 *i* Pn **Pn 11 18 21.1 0.0**
LEGS *e*Sn **Sn 11 19 07.9 -1.7**
ECH Echery 4.16 335 **Pn 11 18 21.9 +0.7**
ECH Echery 4.16 335 *e*Pn **Pn 11 18 21.9 +0.7**
ECH *e*Sn **Sn 11 19 08.7 -1.0**
OZLJ Ozalj 4.17 72 *e*Pn **Pn 11 18 21.3 +0.1**
BIOA Bad Ischl, Aus 4.17 38 *i* Pn **Pn 11 18 23.1 +1.8**
comp=E,7.5nm,0.2s
CERA Filignano 4.22 132 P **Pn 11 18 24.8 +2.8**
CERA AML AML
comp=E,154µm,1.3s
CERA AML AML
comp=N,158µm,0.6s
CERA AML AML
comp=N,144µm,0.6s
CERA AML AML
comp=E,153µm,1.3s
CERA AML AML
comp=N,159µm,0.6s
CERA AML AML
comp=E,138µm,1.3s
HAU Haudompre 4.27 327 *e*Pn **Pn 11 18 23.7 +1.1**
HAU *e*Sn **Sn 11 19 11.7 -0.6**
comp=E,183nm,0.5s
SOKA Soboth 4.27 57 *i* Pn **Pn 11 18 22.8 +0.1**
comp=E,12nm,0.3s,SNR=36
SOKA *i* Sn **Sn 11 19 12.4 -0.1**
comp=E,42nm,0.6s
LASF Ste Croix 4.29 267 *e*Pn **Pn 11 18 23.0 0.0**
LASF *e*Sn **Sn 11 19 10.4 -2.6**
comp=E,73nm,0.5s
CDF Champ du Feu 4.30 337 *e*Pn **Pn 11 18 23.5 +0.3**
CDF *e*Sn **Sn 11 19 11.0 -2.3**
comp=E,161nm,0.6s
PERS Pernice 4.30 58 *i* Pn **Pn 11 18 23.1 -0.1**
PERS *e*Sn **Sn 11 19 11.2 -2.1**
STU Stuttgart 4.31 355 Pn **Pn 11 18 22.7 -0.5**
STU Stuttgart 4.31 355 *e*Pn **Pn 11 18 23.7 +0.4**
STU *e*Sn **Sn 11 19 11.9 -1.5**
MOA Molln 4.58 41 *i* Pn **Pn 11 18 27.6 +0.7**
comp=E,23nm,0.3s,SNR=52
MOA *i* Sn **Sn 11 19 20.7 +0.9**
comp=E,55nm,0.4s
MOA Molln 4.58 41 *e*Pn **Pn 11 18 27.7 +0.9**
MOA *e*Sn **Sn 11 19 20.9 +1.0**
SMF Signal de Mont 4.72 299 *e*Pn **Pn 11 18 30.2 +1.4**
SMF *e*Sn **Sn 11 19 23.0 -0.4**
comp=E,190nm,0.7s
KIJV Kijevo 4.76 93 *e*Pn **Pn 11 18 30.1 +0.7**
A050A Klekovaca 4.81 88 *e*Pn **Pn 11 18 31.1 +1.0**
ARSA Arzberg 4.86 53 **Pn 11 18 30.5 -0.1**
ARSA Arzberg 4.86 53 *i* Pn **Pn 11 18 31.1 +0.4**
comp=E,64nm,0.5s,SNR=62
ARSA *i* Sn **Sn 11 19 25.5 -1.3**
comp=E,14nm,0.4s
ARSA Arzberg 4.86 53 *e*Pn **Pn 11 18 30.6 -0.1**
PAGF Fort de Pagny 4.96 327 *e*Pn **Pn 11 18 33.2 +1.2**
baz=145
PAGF *e*Sn **Sn 11 19 26.6 -2.6**
comp=E,71nm,0.5s
SFTF Sexfontaines 4.98 320 *e*Pn **Pn 11 18 33.8 +1.4**
baz=136
SFTF *e*Sn **Sn 11 19 27.7 -2.1**
comp=E,122nm,0.6s
VSL Villasalto 4.99 184 **Pn 11 18 34.3 +1.7**
VSL Villasalto 4.99 184 P **Pn 11 18 33.9 +1.3**
APRC Apricena 5.00 121 ⇓P **Pn 11 18 33.6 +0.8**
LOR Lormes 5.00 306 *e*Pn **Pn 11 18 33.8 +1.1**
baz=122
LOR *e*Sn **Sn 11 19 27.9 -2.6**
comp=E,90nm,0.4s
MOSL Moslavina 5.05 75 *e*Pn **Pn 11 18 33.5 +0.2**
A051A Mrakovica 5.08 82 *e*Pn **Pn 11 18 33.8 -0.1**
AVF Avril sur Loir 5.08 299 *e*Pn **Pn 11 18 35.3 +1.5**
AVF *e*Sn **Sn 11 19 31.1 -1.3**
comp=E,27nm,0.4s
SSF Saint Saulge 5.11 303 *e*Pn **Pn 11 18 35.1 +0.9**
SSF *e*Sn **Sn 11 19 28.2 -4.8**
comp=E,83nm,0.7s
WET Wettzell 5.12 23 *e*Pn **Pn 11 18 33.8 -0.5**
WET *e*Sn **Sn 11 19 30.6 -2.6**
GEC2 GERESS Array S 5.12 30 **Pn 11 18 33.5 -0.8**
GEC2 GERESS Array S 5.12 30 *e*Pn **Pn 11 18 33.6 -0.8**
GEC2 *e*Sn **Sn 11 19 31.2 -2.2**
GERES GERESS Array B 5.12 30 **Pn 11 18 33.6 -0.8**
GERES GERESS Array B 5.12 30 Pn **Pn 11 18 33.7 -0.7**
comp=E,0.7nm,0.3s,baz=206,slow=13,SNR=55
GERES Sn **Sn 11 19 31.2 -2.2**
comp=E,1.2nm,0.3s,baz=205,slow=18,SNR=5.5
comp=E,8.7nm,0.4s
SGRT San Giovanni R 5.13 120 **Pn 11 18 35.0 +0.6**
SGRT San Giovanni R 5.13 120 ⇓P **Pn 11 18 35.4 +1.0**
SGRT AML AML
comp=E,221µm,0.8s
SGRT AML AML
comp=N,184µm,0.5s
SGRT AML AML
comp=N,184µm,0.5s
SGRT AML AML
comp=E,201µm,0.4s
SGRT AML AML
comp=N,184µm,1.5s
MEZF Maizieres J'vi 5.19 322 *e*Pn **Pn 11 18 36.9 +1.6**
MEZF *e*Sn **Sn 11 19 32.1 -3.0**
comp=N,101nm,0.7s
SAVF Savonnieres en 5.25 324 *e*Pn **Pn 11 18 37.2 +1.1**
SAVF *e*Sn **Sn 11 19 32.7 -3.7**
comp=N,164nm,0.8s
MSAG Monte S. Angel 5.25 120 ⇓P **Pn 11 18 37.0 +0.8**
BLY Banja Luka 5.27 85 *e*Pn **Pn 11 18 36.9 +0.5**
BEHE Becsehely 5.29 65 Pn **Pn 11 18 35.8 -0.7**
GRFO Grafenberg 5.30 10 Pn **Pn 11 18 36.4 -0.4**
GRA1 Grafenberg Arr 5.30 10 Pn **Pn 11 18 36.6 -0.2**
BGF Bois d'Agland 5.32 295 *e*Pn **Pn 11 18 38.7 +1.7**
BGF *e*Sn **Sn 11 19 37.6 -0.5**
comp=N,157nm,0.4s
KHC Kasperske Hory 5.32 28 *e*PN **Pn 11 18 36.6 -0.5**
KHC *e*PG **Pb 11 18 50.5 -0.3**
KHC *e*SN **Sn 11 19 33.8 -4.5**
KHC *ex* x 11 20 07.5
CKRC Cesky Krumlov 5.33 34 *e*PN **Pn 11 18 37.7 +0.5**
MILB Miltenberg 5.36 356 *e*Pn **Pn 11 18 37.4 -0.2**
CONA Conrad Observa 5.43 48 *i* Pn **Pn 11 18 38.9 +0.2**
comp=N,15nm,0.3s,SNR=24
CONA *i* Sn **Sn 11 19 41.6 +0.5**
comp=N,29nm,0.4s
ROTZ Rotzenmuhle 5.54 16 *e*Pn **Pn 11 18 40.0 0.0**
CAF Calviac 5.54 277 *e*Pn **Pn 11 18 41.1 +1.0**
CAF *e*Sn **Sn 11 19 39.2 -4.5**
comp=N,22nm,0.6s
RONA Rosalia, Austr 5.54 52 *i* Pn **Pn 11 18 40.4 +0.3**
comp=N,77nm,0.5s,SNR=74
RONA *i* Sn **Sn 11 19 42.1 -1.6**
comp=N,19nm,0.3s
MTLF Montolieu 5.60 261 *e*Pn **Pn 11 18 41.6 +0.7**
MTLF *e*Sn **Sn 11 19 43.1 -2.1**
comp=N,31nm,0.4s
RIVT Riveris 5.63 339 *e*Pn **Pn 11 18 42.5 +1.3**
TCF Toulx Ste Croi 5.65 291 *e*Pn **Pn 11 18 42.8 +1.2**
TCF *e*Sn **Sn 11 19 41.4 -5.0**
comp=N,50nm,0.5s
HYF Humbligny 5.73 302 *e*Pn **Pn 11 18 45.2 +2.5**
HYF *e*Sn **Sn 11 19 46.8 -1.5**
comp=N,282nm,0.6s
WLF Walferdange 5.76 336 **Pn 11 18 43.4 +0.4**
TNS Taunus Mts 5.82 351 *e*Pn **Pn 11 18 44.0 +0.1**
TNS *e*Sn **Sn 11 19 49.8 -0.8**
ACER Acerenza 5.84 127 Pn **Pn 11 18 44.3 +0.1**
STON Ston 5.94 103 *e*Pn **Pn 11 18 46.3 +0.7**
RJF Les Rejaudoux 5.95 281 *e*Pn **Pn 11 18 46.5 +0.8**
RJF *e*Sn **Sn 11 19 49.9 -3.9**
comp=N,9.4nm,0.5s
HROE Hohe Rhon--Fla 6.06 2 *e*Pn **Pn 11 18 46.4 -0.9**
HROE *e*Sn **Sn 11 19 52.2 -4.3**
GUNZ Gunzen 6.13 15 *e*Pn **Pn 11 18 48.5 +0.4**
TREC Trest 6.19 37 *e*PN **Pn 11 18 49.2 +0.2**
TREC *e*SN **Sn 11 19 56.1 -3.5**
TANN Tannenbergstha 6.20 16 *e*Pn **Pn 11 18 49.9 +0.7**
ZST Bratislava 6.27 51 *e*PN **Pn 11 18 49.4 -0.6**
ZST *e*PG **Pg 11 19 19.0 +1.2**
CUC Castrocucco 6.32 133 Pn **Pn 11 18 50.7 -0.2**
CLF Chambon-Foret 6.32 307 Pn **Pn 11 18 51.1 +0.3**
PRU Pruhonice 6.38 29 *e*PN **Pn 11 18 47.4 -4.2**
PRU *e*SN **Sn 11 19 59.4 -4.9**
GOPC GO Pecny, Ondr 6.41 30 *e*PN **Pn 11 18 51.3 -0.7**
GOPC *e*SN **Sn 11 20 01.4 -3.5**
KRUC Moravsky 6.44 42 *e*PN **Pn 11 18 51.0 -1.4**
KRUC *e*SN **Sn 11 20 02.7 -3.0**
TREB Trebinje 6.45 103 *e*Pn **Pn 11 18 53.0 +0.5**
MORH Mrgy, Hungar 6.46 71 *e*Pn **Pn 11 18 51.1 -1.6**
MODS Modra-Piesok 6.46 50 *e*PN **Pn 11 18 49.9 -2.9**
MODS *e*PG **Pg 11 19 20.4 -1.2**
RCHB Rochefort 6.47 333 *dP* **Pn 11 18 54.0 +1.2**
RCHB *dS* **Sn 11 20 06.0 -0.6**
KLINJ Klinje 6.48 99 *e*Pn **Pn 11 18 54.4 +1.3**
LFF La Frestale 6.48 277 *e*Pn **Pn 11 18 53.8 +0.8**
LFF *e*Sn **Sn 11 20 03.0 -3.8**
comp=N,22nm,0.5s
CEST Esterri de Car 6.50 256 **Pn 11 18 54.9 +1.6**
GIVF Givet 6.57 331 *e*Pn **Pn 11 18 55.9 +1.8**
GIVF *e*Sn **Sn 11 20 03.4 -5.5**
comp=N,31nm,0.7s
DOU Dourbes 6.64 330 *dP* **Pn 11 18 56.9 +1.7**
DOU *dS* **Sn 11 20 11.3 +0.6**
MEM Membach 6.65 339 *dP* **Pn 11 18 56.6 +1.4**
MEM *dS* **Sn 11 20 10.9 0.0**
BCLA Clavier 6.68 334 *dP* **Pn 11 18 56.5 +0.8**
BCLA *dS* **Sn 11 20 13.4 +1.8**
VRAC Vranov 6.70 41 Pn **Pn 11 18 55.2 -0.8**
comp=N,1.2nm,0.3s,baz=225,slow=15,SNR=4.5
VRAC Sn **Sn 11 20 09.9 -2.3**
comp=N,2.1nm,0.3s,baz=69,slow=6.6,SNR=3.9
VRAC Lg Lg 11 20 48.0
comp=N,1.6nm,0.3s,baz=316,slow=19,SNR=7.7
comp=N,4.3nm,0.4s
VRAC Vranov 6.70 41 *e*PN **Pn 11 18 54.5 -1.5**
VRAC *e*SN **Sn 11 20 06.5 -5.7**
BMRD Maredsous 6.75 331 *dP* **Pn 11 18 59.9 +3.2**
BAIF Baives 6.76 328 *e*Pn **Pn 11 18 57.0 +0.3**
BAIF *e*Sn **Sn 11 20 09.2 -4.3**
comp=N,5.3nm,0.2s
RUDO Rudo 6.94 94 *e*Pn **Pn 11 18 59.0 -0.3**
JAVC Velka Javorina 6.96 48 *e*PN **Pn 11 19 00.3 +0.7**
BRG Berggiesshubel 6.98 22 Pn **Pn 11 18 60.0 +0.2**
BRG Pg **Pg 11 19 35.9 +4.6**
BRG Sg **Sg 11 21 00.2 -1.4**
BRG Amp 11 21 28.1
comp=Z,35nm,0.8s
EPF Esparros 7.01 261 *e*Pn **Pn 11 19 00.3 0.0**
EPF *e*Sn **Sn 11 20 16.0 -3.9**
comp=Z,26nm,0.8s
CLL Collm 7.16 16 Pn **Pn 11 19 01.8 -0.4**
CLL Collm 7.16 16 *e*Pn **Pn** 11 18 54.0 -8.3
CLL *i* Pg **Pg 11 19 34.6 -0.3**
CLL *i* x x 11 19 46.1
CLL *e*Sg **Sg 11 21 10.0 +2.5**
comp=Z,64nm,1.0s
PDG Podgorica 7.17 103 **Pn 11 19 03.4 +0.9**
MFF Saint Martin d 7.31 290 *e*Pn **Pn 11 19 06.0 +1.7**
MFF Saint Martin d 7.31 290 *e*Pn **Pn 11 19 06.2 +1.9**
MFF *e*Sn **Sn 11 20 21.6 -5.5**
comp=Z,24nm,0.7s
MFF *e*Sn Sn 11 20 21.7 -5.4
comp=Z,17nm,0.5s
DPC Dobruska-Polom 7.34 35 *e*PN **Pn 11 19 03.7 -1.2**
DPC *e*SN **Sn 11 20 23.5 -4.6**
UPC Upice 7.35 33 *e*PN **Pn 11 19 03.3 -1.5**
UPC *e*SN **Sn 11 20 23.2 -4.9**
VYHS Vyhne 7.41 54 *e*PN **Pn 11 19 04.6 -1.1**
TIP Timpagrande 7.41 133 Pn **Pn 11 19 10.0 +4.2**
MORC Moravsky Berou 7.47 42 **Pn 11 19 06.2 -0.4**
MORC Moravsky Berou 7.47 42 *e*PN **Pn 11 19 05.7 -0.9**
MORC *e*SN **Sn 11 20 26.1 -5.1**
ETSF Etsaut 7.68 262 *e*Pn **Pn 11 19 09.8 +0.3**
ETSF *e*Sn **Sn 11 20 30.3 -6.2**
comp=Z,16nm,0.5s
PSZ Piszkesteto 7.79 60 **Pn 11 19 10.3 -0.8**
LDF La Druitiere 7.99 304 *e*Pn **Pn 11 19 17.1 +3.5**
LDF *e*Sn **Sn 11 20 38.1 -5.7**
comp=Z,9.5nm,0.5s
RAFF Raffo Rosso 8.03 153 Pn **Pn 11 19 18.4 +4.2**
SJPF Ste Jean 8.10 264 *e*Pn **Pn 11 19 15.1 -0.1**
SJPF *e*Sn **Sn 11 20 41.4 -5.3**
comp=Z,5.4nm,0.5s
LANS Liptovska Anna 8.10 51 *e*PN **Pn 11 19 16.5 +1.2**
FLN La Foliniere 8.28 305 *e*Pn **Pn 11 19 18.5 +0.9**
baz=119
FLN *e*Sn **Sn 11 20 46.3 -4.6**
comp=Z,20nm,0.6s
GRR Gorron 8.34 302 *e*Pn **Pn 11 19 19.3 +0.8**
GRR *e*Sn **Sn 11 20 46.5 -6.0**
comp=Z,4.6nm,0.3s
KEST Kesra 8.75 182 **Pn 11 19 28.0 +3.9**
KEST Kesra 8.75 182 Pn **Pn 11 19 26.6 +2.4**
comp=Z,2.1nm,0.3s,baz=348,slow=4.8,SNR=22
KEST Sn **Sn 11 21 06.7 +4.0**
comp=Z,0.3nm,0.3s,baz=10,slow=18,SNR=1.1
comp=Z,6.8nm,0.5s
KEK Kerkira 8.82 119 Pn **Pn 11 19 28.2 +3.1**
STHS Stebnicka Huta 9.24 54 *e*Pn **Pn 11 19 31.5 +0.6**
FNA Florina 9.29 109 **Pn 11 19 31.9 +0.3**
SGMF Saint Gilles 9.35 298 *e*Pn **Pn 11 19 32.9 +0.7**
SGMF *e*Sn **Sn 11 21 10.5 -6.7**
comp=Z,6.7nm,0.6s
QUIF Quistinic 9.63 295 *e*Pn **Pn 11 19 36.3 +0.1**
QUIF *e*Sn **Sn 11 21 18.0 -6.2**
comp=Z,3.9nm,0.4s
KOLS Kolonicke sedl 9.65 58 *e*PN **Pn 11 19 37.4 +1.0**
ROSF Rostrenen 9.82 298 *e*Pn **Pn 11 19 39.2 +0.4**
ROSF *e*Sn **Sn 11 21 22.5 -6.4**
comp=Z,2.1nm,0.3s
BUR08 Bucovina Ar. S 11.15 68 Pn **Pn 11 19 54.8 -2.3**
BURAR Bucovina Array 11.16 68 Pn **Pn 11 19 56.2 -0.9**
ESBB Sonseca Array 11.30 250 Pn **Pn 11 19 59.7 +0.6**
ESDC Sonseca Array 11.30 250 Pn **Pn 11 20 00.6 +1.4**
ESDC Sonseca Array 11.30 250 Pn **Pn 11 19 59.4 +0.2**
comp=Z,0.7nm,0.3s,baz=60,slow=14,SNR=29
comp=Z,3.8nm,0.6s
PAB San Pablo 11.63 250 **Pn 11 20 04.0 +0.4**
RDO Rodhopi 12.02 101 Pn **Pn 11 20 07.4 -1.4**
ALN Alexandroupoli 12.47 101 Pn **Pn 11 20 14.6 -0.4**
EKA Eskdalemuir Ar 13.68 327 Pn **Pn 11 20 30.7 -0.8**
baz=140,slow=14
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 14.48 58 Pn **Pn 11 20 41.4 -1.1**
comp=Z,0.5nm,0.3s,baz=252,slow=11,SNR=1.9
comp=Z,0.2nm,0.3s
MDUB Mudurnu 16.27 97 Pn **Pn 11 21 05.5 -0.7**
NOA NORSAR Array B 16.61 2 Pn **Pn 11 21 08.8 -1.5**
comp=Z,0.4nm,0.6s,baz=185,slow=10,SNR=1.2
NC303 NORSAR Array S 16.80 3 Pn **Pn 11 21 11.3 -1.4**

BRTR Keskin Array B 18.29 97 P **P 11 21 33.6 +2.0**
comp=Z,1.0nm,0.9s,baz=280,slow=8.3,SNR=4.3
FINES FINESS Array B 19.51 24 P **P 11 21 43.6 -1.0**
FINES FINESS Array B 19.51 24 P **P 11 21 44.4 -0.2**
comp=Z,0.2nm,0.3s,baz=223,slow=11,SNR=6.1
comp=Z,2.0nm,0.7s
CSS Mathiatis 20.38 110 P **P 11 21 53.4 -0.9**
GAZ Gaziantep 21.91 100 P **P 11 22 13.3 +2.3**
MMAI Mount Meron Ar 22.91 111 P **P 11 22 23.2 +1.6**
comp=Z,0.9nm,0.5s,baz=310,slow=8.9,SNR=1.8
MMAI LR LR 11 34 47.1
comp=Z,43nm,19.4s,baz=294,slow=46
comp=Z,0.9nm,0.5s
KBZ Khabaz 23.68 80 P **P 11 22 30.3 +1.1**
comp=Z,1.3nm,0.6s,baz=294,slow=11,SNR=3.6
comp=Z,1.3nm,0.6s
MARD Mardin 24.38 96 P **P 11 22 36.3 +0.4**
ARCES ARCESS Array B 26.36 12 P **P 11 22 54.6 +1.2**
comp=Z,3.1nm,1.0s,baz=204,slow=7.9,SNR=1.9
comp=Z,3.1nm,1.0s
TORD Torodi Ar. Bea 31.99 195 P **P 11 23 44.5 +0.6**
comp=Z,1.5nm,0.6s,baz=359,slow=5.9,SNR=7.9
comp=Z,1.5nm,0.6s
ARTI Arti 32.46 51 P **P 11 23 46.1 -1.6**
ARTI IAmb IAmb 11 23 48.6
comp=Z,5.2nm,0.7s
ABKAR Akbulak array 34.09 64 P **P 11 24 02.1 +0.1**
RAYN Ar Rayn 35.83 114 P **P 11 24 17.6 +0.3**
BVAR Borovoye Array 39.74 55 P **P 11 24 50.8 +0.8**
comp=Z,0.6nm,0.5s,baz=286,slow=10,SNR=1.8
comp=Z,0.6nm,0.5s
DBIC Dimbokro 39.78 203 P **P 11 24 50.7 0.0**
KKAR Karatay Array 42.95 70 P **P 11 25 16.1 -0.3**
KURBB Kurchatov Arra 45.27 57 P **P 11 25 34.5 -0.4**
comp=Z,0.4nm,0.2s,baz=295,slow=9.5,SNR=5.9
comp=Z,0.4nm,0.2s
ZALV Zalesovo Beam 47.73 51 P **P 11 25 53.9 -0.3**
comp=Z,0.9nm,0.5s,baz=286,slow=10,SNR=1.7
comp=Z,0.9nm,0.5s
MKAR Makanchi Array 49.05 60 P **P 11 26 05.1 +0.6**
MKAR Makanchi Array 49.05 60 P **P 11 26 04.6 0.0**
comp=Z,0.8nm,0.6s,baz=278,slow=7.8,SNR=5.9
comp=Z,0.8nm,0.6s
SONM Songino Array 62.57 49 P **P 11 27 42.0 +0.5**
comp=Z,0.8nm,0.9s,baz=292,slow=7.8,SNR=4.8
comp=Z,0.8nm,0.9s
C27K Jago River 64.55 350 P **P 11 27 55.1 +0.9**
E29M Blow River 64.89 347 P **P 11 27 57.7 +1.3**
E29M IAmb IAmb 11 27 58.2
comp=Z,4.8nm,0.8s
F31M Tsiigehtchic 65.04 345 P **P 11 27 58.3 +1.0**
C23K Itkillik River 65.10 353 P **P 11 27 58.4 +0.7**
B20K Meade River 65.43 355 P **P 11 28 01.1 +1.3**
G31M Satah River 65.59 345 P **P 11 28 01.7 +0.8**
G31M IAmb IAmb 11 28 18.0
comp=Z,9.8nm,1.3s
F28M Old Crow 65.90 348 P **P 11 28 03.8 +0.8**
F28M IAmb IAmb 11 28 09.3
comp=Z,5.5nm,1.4s
D23K Nanushuk River 65.95 352 P **P 11 28 04.8 +1.6**
G29M Pine Creek 66.25 347 P **P 11 28 05.8 +0.6**
G29M IAmb IAmb 11 28 14.9
comp=Z,7.2nm,1.4s
F26K Sheenjek River 66.43 349 P **P 11 28 07.7 +1.3**
F26K IAmb IAmb 11 28 08.3
comp=Z,2.3nm,0.8s
D20K Etivluk River 66.67 355 P **P 11 28 09.3 +1.4**
D20K IAmb IAmb 11 28 34.4
comp=Z,9.2nm,1.4s
H29M Whitestone 66.94 347 P **P 11 28 10.3 +0.7**
H29M IAmb IAmb 11 28 44.3
comp=Z,13nm,1.5s
C18K Utukok River 66.99 356 P **P 11 28 11.2 +1.2**
C18K IAmb IAmb 11 28 54.8
comp=Z,8.8nm,1.2s
F24K Squaw Lake 67.05 351 P **P 11 28 11.7 +1.4**
F24K IAmb IAmb 11 28 54.1
comp=Z,3.3nm,1.1s
G26K Porcupine Rive 67.08 349 P **P 11 28 12.1 +1.6**
G26K IAmb IAmb 11 28 12.9
comp=Z,2.8nm,0.8s
I29M Ogilvie Camp, 67.72 346 P **P 11 28 15.3 +0.7**
I29M IAmb IAmb 11 28 15.9
comp=Z,5.3nm,1.0s
E19K Redstone River 67.96 355 P **P 11 28 16.8 +0.8**
E19K IAmb IAmb 11 28 22.4
comp=Z,5.9nm,1.1s
J30M Hart River 68.08 345 P **P 11 28 18.6 +1.5**
J30M IAmb IAmb 11 28 19.0
comp=Z,2.9nm,0.8s
F19K Shaleruckik Mo 68.61 355 P **P 11 28 21.0 +0.9**
F19K IAmb IAmb 11 28 21.4
comp=Z,5.2nm,1.2s
MMPY Sheldon Lake, 68.80 342 P **P 11 28 22.8 +1.4**
MMPY IAmb IAmb 11 28 24.4
comp=Z,4.9nm,1.1s
LPHEP Lephephe 69.09 164 P **P 11 28 23.8 +0.1**
DAWY Dawson 69.10 346 P **P 11 28 24.5 +1.2**
DAWY IAmb IAmb 11 28 25.3
comp=Z,3.3nm,0.7s
IMAR Indian Mountai 69.14 353 P **P 11 28 24.6 +1.2**
ILAR Eielson Array 69.57 350 P **P 11 28 27.1 +1.0**
ILAR Eielson Array 69.57 350 P **P 11 28 27.2 +1.1**
comp=Z,1.0nm,0.7s,baz=10,slow=6.3,SNR=16
comp=Z,1.0nm,0.7s
RIDG Independent Ri 70.27 348 P **P 11 28 31.4 +1.0**
BCAR Beaver Creek A 70.43 347 P **P 11 28 33.3 +1.9**
CTGM Chitina Glacie 72.32 346 P **P 11 28 44.8 +1.7**
CTGM IAmb IAmb 11 28 45.2
comp=Z,3.2nm,0.7s
L18K Granite Mounta 73.10 353 P **P 11 28 49.0 +1.6**
BOSA Boshof 74.10 166 P **P 11 28 53.5 -0.2**
BOSA Boshof 74.10 166 P **P 11 28 53.5 -0.2**
comp=Z,2.6nm,0.8s,baz=334,slow=5.4,SNR=4.1
comp=Z,2.6nm,0.8s
CMAR Chiang Mai Arr 76.70 77 P **P 11 29 09.1 +0.1**
comp=Z,0.8nm,0.5s,baz=313,slow=8.2,SNR=6.4
comp=Z,0.8nm,0.5s
TXAR Lajitas Array 84.76 306 P **P 11 29 53.0 +0.9**
TXAR Lajitas Array 84.76 306 P **P 11 29 51.6 -0.5**
comp=Z,0.2nm,0.7s,baz=101,slow=3.9,SNR=4.6
comp=Z,0.2nm,0.7s
ASAR Alice Springs 130.29 84 PKP **PKPdf 11 36 27.1 -1.0**
comp=Z,0.4nm,0.7s,baz=310,slow=1.3,SNR=5.8
QSPA South Pole Qui 134.34 180 PKP **PKPdf 11 36 34.8 +0.5**
comp=Z,1.7nm,1.0s,baz=254,slow=2.5,SNR=6.5

IDC ***13*** *11:20:20.5±0.6, 10°.91N×124°.65E, h0km, mb4.1/15, mbtmp4.1/15, MS3.6/29, Error ellipse: s-maj=33.2km s-min=12.8km az=73.0*

ISC 13 11:20:22.3±0.6, 10°.9N±0°.1×124°.8E±0°.2, h10km, n41, σ1s56/20, mb4.2/16, MS3.7/26, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**16.22**	**11**	LR	LR		11 30 44.0	
	comp=Z,246nm,18.6s,baz=302,slow=38							
KAPI	**Kappang**	**16.55**	**198**	LR	LR		11 32 14.8	
	comp=Z,169nm,19.0s,baz=50,slow=43							
GUMO	**Guam**	**19.83**	**80**	LR	LR		11 31 15.7	
	comp=Z,65nm,19.9s,baz=246,slow=33							
BATI	**Baunata**	**20.96**	**183**	LR	LR		11 35 08.7	
	comp=Z,189nm,19.3s,baz=88,slow=42							
JNU	**Nakatsue**	**22.85**	**13**	LR	LR		11 34 54.1	
	comp=Z,100nm,20.1s,baz=196,slow=38							
CMAR	**Chiang Mai Arr**	**26.08**	**290**	P	**P**		**11 25 55.8**	**-0.5**
	0.8nm,0.3s,baz=91,slow=7.1,SNR=5.7							
	0.8nm,0.3s							
KSRS	**Korea Array**	**26.63**	**6**	P	**P**		**11 26 01.4**	**+0.3**
	1.8nm,0.8s,baz=180,slow=11,SNR=6.9							
	1.8nm,0.8s							
MJAR	**Matsushiro Arr**	**28.30**	**23**	LR	LR		11 35 51.0	
	comp=Z,137nm,21.8s,baz=206,slow=33							
FITZ	**Fitzroy Crossi**	**28.79**	**178**	P	**P**		**11 26 19.4**	**-1.2**
	5.5nm,0.9s,baz=11,slow=10,SNR=4.0							
	5.5nm,0.9s							
WRA	**Warramunga Arr**	**32.03**	**163**	P	**P**		**11 26 49.2**	**-0.1**
	2.1nm,1.0s,baz=342,slow=9.7,SNR=6.3							
WRA				PcP	**PcP**		**11 29 39.8**	**+0.6**
	0.4nm,0.9s,baz=341,slow=2.8,SNR=1.8							
	2.1nm,1.0s							
USRK	**Ussuriysk Ar.**	**33.80**	**9**	P	**P**		**11 27 04.2**	**-0.2**
	3.7nm,0.8s,baz=200,slow=3.4,SNR=6.4							
USRK				LR	LR		11 42 59.4	
	comp=Z,135nm,18.0s,baz=177,slow=40							
	3.7nm,0.8s							

ASAR	**Alice Springs**	**35.46**	**165**	P	**P**	**11 27 19.8**	**+0.6**
	3.2nm,0.8s,baz=347,slow=7.4,SNR=28						
ASAR				PcP	**PcP**	**11 29 49.4**	**+0.6**
	0.2nm,0.6s,baz=339,slow=3.1,SNR=1.4						
ASAR				LR	LR	11 43 23.9	
	comp=Z,81nm,18.6s,baz=347,slow=39						
	3.2nm,0.8s						
GTA	**Gaotai**	**36.06**	**326**	*e*P	**P**	**11 27 28.4**	**+4.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HEH	**HeiHe**	**39.33**	**3**	*e*P	**P**	**11 27 53.5**	**+1.9**
SONM	**Songino Array**	**39.96**	**341**	P	**P**	**11 27 56.5**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=165,slow=9.9,SNR=7.3						
SONM				LR	LR	11 44 47.3	
	comp=Z,198nm,19.0s,baz=138,slow=37						
	comp=Z,1.5nm,0.9s						
HNR	**Honiara**	**40.38**	**119**	LR	LR	11 45 04.4	
	comp=Z,29nm,18.5s,baz=328,slow=37						
STKA	**Stephens Creek**	**45.45**	**160**	P	**P**	**11 28 42.5**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=343,slow=8.9,SNR=7.2						
	comp=Z,4.6nm,0.8s						
PETK	**Petropavlovsk-**	**49.72**	**25**	LR	LR	11 47 39.5	
	comp=Z,68nm,21.9s,baz=236,slow=33						
MKAR	**Makanchi Array**	**50.67**	**323**	P	**P**	**11 29 21.0**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=125,slow=7.7,SNR=11						
	comp=Z,1.2nm,0.5s						
YAK	**Yakutsk**	**51.20**	**3**	LR	LR	11 51 28.8	
	comp=Z,53nm,20.6s,baz=192,slow=36						
MA2	**Magadan**	**52.37**	**16**	LR	LR	11 54 28.9	
	comp=Z,31nm,18.4s,baz=209,slow=39						
ZALV	**Zalesovo Beam**	**53.41**	**332**	P	**P**	**11 29 40.5**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=108,slow=3.2,SNR=1.5						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**54.75**	**326**	P	**P**	**11 29 50.9**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=127,slow=7.2,SNR=14						
	comp=Z,2.2nm,0.6s						
SHEM	**Shemya Is, Ala**	**57.45**	**33**	LR	LR	11 50 53.6	
	comp=Z,24nm,19.7s,baz=162,slow=32						
BVAR	**Borovoye Array**	**60.34**	**326**	P	**P**	**11 30 29.8**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=117,slow=8.5,SNR=5.0						
	comp=Z,1.1nm,0.6s						
TIXI	**Tiksi**	**60.79**	**1**	LR	LR	11 57 17.4	
	comp=Z,79nm,20.9s,baz=198,slow=36						
ARTI	**Arti**	**68.01**	**327**	LR	LR	12 00 22.5	
	comp=Z,69nm,21.9s,baz=86,slow=35						
KIRV	**Kirov**	**73.17**	**328**	LR	LR	12 04 06.8	
	comp=Z,78nm,19.7s,baz=100,slow=36						
KDAK	**Kodiak Island**	**76.97**	**33**	LR	LR	12 02 13.0	
	comp=Z,17nm,21.1s,baz=250,slow=33						
ILAR	**Eielson Array**	**79.55**	**26**	P	**P**	**11 32 27.9**	**-1.3**
	comp=Z,0.1nm,0.5s,baz=256,slow=3.0,SNR=4.6						
ILAR				LR	LR	12 06 30.0	
	comp=Z,22nm,20.8s,baz=262,slow=35						
	comp=Z,0.1nm,0.5s						
ARCES	**ARCESS Array B**	**83.13**	**340**	P	**P**	**11 32 45.6**	**-2.5**
	comp=Z,2.3nm,0.8s,baz=79,slow=4.9,SNR=3.5						
ARCES				LR	LR	12 13 51.4	
	comp=Z,47nm,19.4s,baz=108,slow=39						
	comp=Z,2.3nm,0.8s						
SPITS	**Spitsbergen Ar**	**83.15**	**349**	LR	LR	12 13 15.0	
	comp=Z,59nm,21.0s,baz=92,slow=38						
INK	**Inuvik**	**84.28**	**21**	LR	LR	12 13 03.0	
	comp=Z,18nm,19.7s,baz=13,slow=38						
KMBO	**Kilima Mbogo**	**87.77**	**268**	LR	LR	12 12 15.9	
	comp=Z,54nm,18.2s,baz=100,slow=36						
MLR	**Muntele Rosu**	**88.45**	**316**	LR	LR	12 17 45.6	
	comp=Z,58nm,18.8s,baz=44,slow=39						
VNDA	**Vanda**	**90.70**	**172**	P	**P**	**11 33 24.8**	**0.0**
	comp=Z,1.3nm,0.9s,baz=313,slow=3.8,SNR=7.1						
VNDA				LR	LR	12 14 46.6	
	comp=Z,24nm,19.5s,baz=326,slow=36						
	comp=Z,1.3nm,0.9s						
HFS	**Hagfors**	**90.84**	**332**	LR	LR	12 18 01.2	
	comp=Z,54nm,18.4s,baz=65,slow=38						
RES	**Resolute Bay**	**91.17**	**10**	LR	LR	12 18 39.3	
	comp=Z,39nm,18.9s,baz=356,slow=38						
NOA	**NORSAR Array B**	**91.58**	**333**	LR	LR	12 18 50.7	
	comp=Z,62nm,18.1s,baz=60,slow=38						
DAVOX	**Davos/Dischmat**	**98.52**	**321**	LR	LR	12 20 08.4	
	comp=Z,45nm,21.6s,baz=83,slow=36						
TXAR	**Lajitas Array**	**118.54**	**48**	PKP	**PKiKP**	**11 39 12.1**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=300,slow=2.6,SNR=4.1						

IDC 13 11:42:17.8±999.0, 32.08N×31.85E, h0km, Error ellipse: s-maj=924.1km s-min=282.9km az=125.0, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KEFRA INFRASON**	**19.05**	**287**	I	I	13 32 50.0	
	baz=96,slow=316,SNR=3.4						
I26DE	**FREYUNG INFRAS**	**21.61**	**326**	I	I	13 48 11.2	
	baz=133,slow=327,SNR=1.3						
I42PT	**GRACIOSA ISLAN**	**48.42**	**296**	I	I	16 41 40.0	
	baz=83,slow=317,SNR=0.7						

*KOLA **13** 11:51:30.6, 64.45N×30.59E, h0km, ML2.2, Error ellipse: s-maj=22.2km s-min=14.3km az=150.0, Karelia*
*HEL **13** 11:51:32.2±0.2, 64.72N×30.74E, h0km, ML2.1, Suspected explosion*
*IDC **13** 11:51:32.4±2.8, 64.60N×31.39E, h0km, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=41.1km s-min=10.1km az=104.0*
ISC 13 11:51:31.9±0.9, 64.72N±0.02×30.72E±0.04, h0km, n39, σ1s43/51, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.61**	**214**	PG	**Pg**	**11 51 43.5**	**0.0**
RMF				SG	**Sg**	**11 51 51.2**	**-0.2**
RMF				MSG		11 51 51.7	
	comp=Z,37nm,0.2s						
KU1	**Kurvinen**	**0.98**	**331**	PB	**Pg**	**11 51 51.0**	**+0.4**
KU6	**Riekki**	**1.36**	**346**	PN	**Pg**	**11 51 57.5**	**-0.3**
	baz=166						
KU6				MSG		11 52 13.2	
	comp=Z,17nm,0.2s						
KU6				SN	**Sn**	**11 52 16.8**	**+0.1**
MSF	**Maaselka**	**1.39**	**330**	PN	**Pg**	**11 51 58.2**	**-0.3**
MSF				SN	**Sn**	**11 52 18.0**	**+0.5**
KU2	**Taivalkoski**	**1.45**	**315**	PN	**Pn**	**11 51 59.0**	**-0.3**
	baz=129						
OLKF	**Oulanka, Finla**	**1.70**	**342**	PG	**Pb**	**11 52 03.8**	**-0.2**
OLKF				MSG		11 52 23.0	
	comp=Z,18nm,0.2s						
JOF	**Joensuu**	**1.83**	**171**	*e*P	**Pn**	**11 52 05.3**	**+0.8**
JOF	**Joensuu**	**1.83**	**171**	PG	**Pn**	**11 52 04.8**	**+0.3**
JOF				SG	**Sn**	**11 52 29.2**	**+0.9**
NIF	**Nilsia**	**1.85**	**225**	PG	**Pn**	**11 52 05.7**	**+0.9**
	baz=43						
NIF				MSG		11 52 27.4	
	comp=Z,11nm,0.2s						
OUL	**Oulu**	**2.09**	**282**	PG	**Pb**	**11 52 09.9**	**-0.6**
	baz=96						
OUL				SG	**Sb**	**11 52 36.2**	**-0.8**
RANF	**Ranua**	**2.10**	**310**	PG	**Pb**	**11 52 09.8**	**-0.9**
	baz=127						
KVDA	**Kovda**	**2.17**	**23**	P	**Pb**	**11 52 11.5**	**-0.5**
KVDA				S	**Sg**	**11 52 41.9**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.41**	**275**	PG	**Pn**	**11 52 14.1**	**+1.6**
	baz=92						
OBF4				MSG		11 52 43.7	
	comp=Z,12nm,0.2s						
OUF	**Merijarvi**	**2.61**	**265**	PB	**Pn**	**11 52 16.9**	**+1.6**
	baz=81						
OUF				MSG		11 52 49.4	
	comp=Z,14nm,0.2s						
OUF				SG	**Sb**	**11 52 51.4**	**-0.6**
RNF	**Rovaniemi**	**2.72**	**316**	PB	**Pn**	**11 52 18.5**	**+1.7**
	baz=136						
OBF0	**Syolatti, Pyha**	**2.80**	**268**	PB	**Pn**	**11 52 19.2**	**+1.4**
OBF0				MSG		11 52 54.9	
	comp=Z,8.2nm,0.2s						
SUF	**Sumiainen**	**2.86**	**227**	PB	**Pn**	**11 52 21.2**	**+2.5**
SUF				MSG		11 52 56.4	
	comp=Z,2.8nm,0.2s						
TOF	**Tornio**	**3.00**	**300**	PB	**Pn**	**11 52 22.3**	**+1.7**
TOF				MSG		11 53 00.6	
	comp=Z,3.0nm,0.2s						
APA0	**Apatity Array**	**3.04**	**17**	S	**Sb**	**11 53 03.3**	**-1.1**
VRF	**Varrio**	**3.08**	**352**	PB	**Pn**	**11 52 23.2**	**+1.5**
VRF				MSG		11 53 02.6	
	comp=Z,3.6nm,0.2s						
KAF	**Kangasniemi**	**3.28**	**219**	PB	**Pn**	**11 52 27.2**	**+2.7**
KALU	**Kalix**	**3.30**	**294**	PB	**Pn**	**11 52 26.7**	**+2.1**
RUF	**Ruokolahti**	**3.40**	**194**	PN	**Pn**	**11 52 27.6**	**+1.4**
	baz=15						
KEF	**Keuruu**	**3.67**	**228**	*e*P	**Pn**	**11 52 30.3**	**+0.5**
KEF	**Keuruu**	**3.67**	**228**	PG	**Pb**	**11 52 36.8**	**-0.6**
KEF				SB	**Sb**	**11 53 20.2**	**-2.2**
KLF	**Kolari**	**3.74**	**315**	PB	**Pn**	**11 52 33.7**	**+3.0**
	baz=129						
PAJU	**Pajala**	**3.88**	**310**	PG	**Pb**	**11 52 40.9**	**-0.3**
RAJF	**Raja-Jooseppi**	**3.89**	**347**	PN	**Pn**	**11 52 34.1**	**+1.3**
RAJF				SB	**Sb**	**11 53 25.0**	**-3.9**
FINES	**FINESS Array B**	**3.91**	**215**	Pn	**Pn**	**11 52 34.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=36,slow=13,SNR=6.7						
FINES				Lg	Lg	11 53 35.3	
	comp=Z,0.7nm,0.3s,baz=40,slow=27,SNR=6.9						
	comp=Z,0.4nm,0.3s						
SJUU	**Sjulsmark**	**3.93**	**286**	*e*P	**Pn**	**11 52 34.1**	**+0.7**
ERTU	**Ertsjaerv**	**3.98**	**301**	PB	**Pn**	**11 52 38.0**	**+3.9**
ERTU				SB	**Sb**	**11 53 30.2**	**-1.3**
UMAU	**Umeaa**	**4.45**	**264**	PN	**Pn**	**11 52 40.7**	**+0.2**
	baz=71						
HEF	**Hetta**	**4.65**	**326**	PN	**Pn**	**11 52 44.2**	**+0.9**
TERR	**Teriberka**	**4.82**	**19**	P	**Pn**	**11 52 45.8**	**+0.2**
TERR				S	**Sn**	**11 53 43.1**	**+1.2**
ARCES	**ARCESS Array B**	**5.25**	**340**	Pn	**Pn**	**11 52 52.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=156,slow=15,SNR=17						
ARCES				Sn	**Sn**	**11 53 51.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=147,slow=25,SNR=2.0						
ARCES				Lg	Lg	11 54 17.3	
	comp=Z,0.5nm,0.3s,baz=148,slow=32,SNR=7.3						
	comp=Z,0.6nm,0.3s						
ARCES	**ARCESS Array B**	**5.25**	**340**	P	**Pn**	**11 52 52.1**	**+0.8**
ARCES				S	**Sn**	**11 53 53.3**	**+0.8**
RAF	**Rauma**	**5.52**	**232**	*e*P	**Pn**	**11 52 55.3**	**+0.1**
I37NO	**I37NO**	**6.46**	**318**	I	I	12 28 40.0	
	baz=126,slow=320,SNR=1.6						
HFS	**Hagfors**	**9.12**	**248**	Pn	**Pn**	**11 53 45.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=52,slow=12,SNR=6.1						
	comp=Z,1.2nm,0.6s						

*TRN **13** 11:58:58.5, 10.95N×62.18W, h94km, MD2.8, North of the Paria peninsula.*
*FUNV **13** 11:59:00.4, 10.87N×62.38W, h36km, MW3.3*
ISC 13 11:58:55.9±2.8, 10.91N±0.08×62.3W±0.1, h110km±31km, n8, σ2s79/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.90**	**107**	*e*P	**Pn**	**11 59 17.0**	**+1.0**
TRN				*e*S	**Sn**	**11 59 29.9**	**-1.4**
GRFF	**Grenada Fort F**	**1.25**	**25**	*e*P	**Pn**	**11 59 20.0**	**+0.2**
GRFF				*e*S	**Sn**	**11 59 36.3**	**-1.5**
GRGR	**Grenville**	**1.36**	**27**	*e*P	**Pn**	**11 59 22.0**	**+1.0**
GRGR				*e*S	**Sn**	**11 59 39.1**	**-1.0**
GCMP	**Grenada, Carri**	**1.77**	**28**	*e*P	**Pn**	**11 59 27.3**	**+1.3**
GCMP				*e*S	**Sn**	**11 59 48.6**	**-0.3**
PCRV	**Puerto La Cruz**	**2.43**	**253**	*e*P	**Pn**	**11 59 35.2**	**+0.8**
PCRV				*e*S	**Sn**	**12 00 00.0**	**-4.0**
PCRV	**Puerto La Cruz**	**2.43**	**253**	*e*P	**Pn**	**11 59 37.2**	**+2.8**
PCRV				*e*S	**Sn**	**12 00 08.0**	**+3.9**
CACV	**CAICARA DEL OR**	**5.36**	**232**	*e*P	Pn	12 00 10.0	-3.6
CACV				*e*S	Sn	12 01 01.3	-13
BAUV	**El Baul**	**6.00**	**251**	*e*P	**Pn**	**12 00 23.6**	**+1.3**
BAUV				*e*S	**Sn**	**12 01 24.5**	**-5.2**

*IDC **13** 12:23:08.3±5.3, 12.14S×166.91E, h239km±52km, mb3.5/8, mbtmp4.0/9, Error ellipse: s-maj=39.1km s-min=21.4km az=165.0*
*NEIC **13** 12:23:10.0±1.7, 12.51S±0.07×167.4E±0.1, h268km±9km, mb4.2/18, Error ellipse: s-maj=19.5km s-min=5.3km az=62.0*
ISC 13 12:23:06.3±0.6, 12.16S±0.09×167.1E±0.1, h220km, n35, σ1s18/32, mb4.1/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.27**	**178**		**Pn**	**12 24 02.1**	**+2.1**
HNR	**Honiara**	**7.53**	**290**	Pn	Pn	12 25 01.5	+8.0
DZM	**Mont Dzumac**	**9.87**	**184**	Pn	**Pn**	**12 25 22.9**	**-0.9**
DZM	**Mont Dzumac**	**9.87**	**184**	P	**Pn**	**12 25 25.9**	**+2.1**
	5.3nm,0.9s,baz=273,slow=19						
MSVF	**Nonsavu**	**11.95**	**119**	Pn	Pn	12 25 43.8	-6.3
EIDS	**Eidsvold**	**20.03**	**227**	P	**P**	**12 27 22.9**	**+0.2**
EIDS				IAmb	IAmb	12 27 24.4	
	comp=Z,10.0nm,0.7s						
ARMA	**Armidale**	**23.14**	**216**	P	**P**	**12 27 52.8**	**-0.5**
ARMA				IAmb	IAmb	12 27 55.6	
	comp=Z,4.0nm,0.7s						
COEN	**Coen**	**23.36**	**263**	P	**P**	**12 27 56.9**	**+1.4**
COEN				IAmb	IAmb	12 28 01.5	
	comp=Z,8.8nm,1.1s						
INKA	**Innaminka**	**29.12**	**234**	P	**P**	**12 28 45.2**	**-1.6**
TKNZ	**Takaka Hill**	**29.22**	**171**	P	P	12 28 42.5	-5.0
WB0	**Warramunga Arr**	**32.29**	**252**	P	**P**	**12 29 13.9**	**-0.9**
WRA	**Warramunga Arr**	**32.37**	**252**	P	**P**	**12 29 14.0**	**-1.5**
WRA	**Warramunga Arr**	**32.37**	**252**	P	**P**	**12 29 14.0**	**-1.5**
	comp=Z,6.0nm,0.6s,baz=84,slow=8.6,SNR=8.0						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**33.50**	**245**	P	**P**	**12 29 23.9**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=71,slow=9.9,SNR=19						
	comp=Z,1.0nm,0.6s						
GUMO	**Guam**	**33.77**	**319**	P	**P**	**12 29 30.0**	**+2.5**
FITZ	**Fitzroy Crossi**	**40.38**	**256**	P	**P**	**12 30 22.9**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=79,slow=10,SNR=1.8						
	comp=Z,2.7nm,0.9s						
MAJO	**Matsushiro**	**55.57**	**332**	P	**P**	**12 32 18.5**	**-0.6**
MAJO				IAmb	IAmb	12 32 30.6	
	comp=Z,5.7nm,1.1s						
MJB9	**Matsu-Tunnel**	**55.57**	**332**	P	**P**	**12 32 19.4**	**+0.3**
KIWB	**Kanaga Island**	**65.20**	**11**	P	**P**	**12 33 24.3**	**+0.5**
KIWB				IAmb	IAmb	12 33 35.3	
	comp=Z,5.0nm,1.0s						
ATKA	**Atka Island**	**66.11**	**12**	P	**P**	**12 33 29.3**	**-0.3**
RPSI	**Rantau Prapat**	**69.30**	**278**	P	**P**	**12 33 50.2**	**-0.2**
O16K	**Kokwok River B**	**76.81**	**17**	P	**P**	**12 34 32.6**	**-0.8**
O16K				IAmb	IAmb	12 34 34.5	
	comp=Z,5.0nm,1.1s						
M16K	**Timber Creek**	**77.75**	**16**	P	**P**	**12 34 39.8**	**+1.2**
M16K				IAmb	IAmb	12 34 41.2	
	comp=Z,5.8nm,0.9s						
QSPA	**South Pole Qui**	**77.85**	**180**	P	**P**	**12 34 39.6**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=34,slow=3.6,SNR=2.7						
	comp=Z,1.3nm,1.0s						
IMAR	**Indian Mountai**	**83.15**	**15**	P	**P**	**12 35 07.5**	**+0.3**
HDA	**Harding Lake**	**83.88**	**18**	P	**P**	**12 35 10.6**	**-0.3**
ILAR	**Eielson Array**	**84.15**	**18**	P	**P**	**12 35 12.0**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=233,slow=5.1,SNR=60						
	comp=Z,3.3nm,0.6s						
J25K	**Salcha River,**	**84.51**	**19**	P	**P**	**12 35 13.9**	**-0.3**
J25K				IAmb	IAmb	12 35 15.3	
	comp=Z,4.7nm,0.6s						
MPK	**Martis Peak**	**84.76**	**48**	P	**P**	**12 35 13.6**	**-2.7**
MPK				IAmb	IAmb	12 35 16.5	
	comp=Z,6.8nm,0.7s						
NVAR	**Mina Array Bea**	**85.74**	**49**	P	**P**	**12 35 22.1**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=240,slow=8.8,SNR=4.7						
	comp=Z,0.4nm,0.6s						
F24K	**Squaw Lake**	**85.84**	**16**	P	**P**	**12 35 20.8**	**+0.1**
F24K				IAmb	IAmb	12 35 22.9	
	comp=Z,2.2nm,0.8s						
TXAR	**Lajitas Array**	**95.20**	**61**	P	**P**	**12 36 05.4**	**0.0**
	comp=Z,0.1nm,0.7s,baz=248,slow=3.9,SNR=2.1						
	comp=Z,0.1nm,0.7s						
MKAR	**Makanchi Array**	**95.23**	**317**	P	**P**	**12 36 04.7**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=107,slow=6.5,SNR=5.4						
	comp=Z,0.8nm,0.8s						
ARCES	**ARCESS Array B**	**117.74**	**346**	PKP	**PKPdf**	**12 41 25.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=67,slow=2.0,SNR=12						
ESDC	**Sonsoca Array**	**151.48**	**345**	PKPbc	**PKPbc**	**12 42 34.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=34,slow=0.9,SNR=5.0						

*IDC **13** 12:23:59.3±1.0, 14.56S×175.86W, h0km, mb3.8/6, mbtmp3.8/6, MS3.5/17, Error ellipse: s-maj=51.6km s-min=24.9km az=146.0*
ISC 13 12:24:04.7±0.9, 14.55S±0.3×175.9W±0.3, h35km, n23, σ0s65/7, mb3.8/6, MS3.7/16, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.74**	**116**	LR	LR	12 32 36.3	
	comp=Z,146nm,20.4s,baz=301,slow=31						
HNR	**Honiara**	**24.13**	**279**	LR	LR	12 37 43.6	
	comp=Z,52nm,18.9s,baz=151,slow=34						
URZ	**Urewera**	**24.42**	**193**	LR	LR	12 37 52.6	
	comp=Z,79nm,19.3s,baz=3.0,slow=34						
WRA	**Warramunga Arr**	**47.67**	**256**	P	**P**	**12 32 38.1**	**0.0**
	1.1nm,0.9s,baz=89,slow=7.7,SNR=5.9						
	1.1nm,0.9s						
GUMO	**Guam**	**47.83**	**304**	LR	LR	12 51 10.8	
	comp=Z,12nm,19.9s,baz=50,slow=34						
ASAR	**Alice Springs**	**48.07**	**251**	P	**P**	**12 32 41.4**	**+0.2**
	3.7nm,0.9s,baz=82,slow=8.4,SNR=23						
ASAR				LR	LR	12 50 52.8	
	comp=Z,37nm,20.8s,baz=90,slow=34						
	3.7nm,0.9s						
MJAR	**Matsushiro Arr**	**66.72**	**321**	LR	LR	12 58 09.0	
	comp=Z,50nm,20.8s,baz=170,slow=31						
JNU	**Nakatsue**	**69.44**	**314**	LR	LR	12 59 06.4	
	comp=Z,52nm,21.0s,baz=54,slow=30						
PFO	**Pinyon Flats O**	**74.15**	**48**	LR	LR	13 01 54.9	
	comp=Z,34nm,18.4s,baz=246,slow=31						
KDAK	**Kodiak Island**	**74.59**	**13**	LR	LR	13 01 14.7	
	comp=Z,26nm,20.9s,baz=245,slow=30						
USRK	**Ussuriysk Ar.**	**75.25**	**324**	LR	LR	13 02 24.5	
	comp=Z,42nm,19.7s,baz=141,slow=31						
QSPA	**South Pole Qui**	**75.50**	**180**	P	**P**	**12 35 45.4**	**+0.2**
	1.3nm,0.9s,baz=31,slow=2.1,SNR=4.0						
	1.3nm,0.9s						
BBB	**Bella Bella**	**78.24**	**28**	LR	LR	13 02 40.3	
	comp=Z,32nm,19.3s,baz=228,slow=30						
NEW	**Newport**	**81.40**	**35**	LR	LR	13 04 46.1	
	comp=Z,36nm,18.9s,baz=254,slow=30						
DLBC	**Dease Lake**	**81.82**	**22**	LR	LR	13 04 01.4	
	comp=Z,34nm,20.2s,baz=214,slow=29						
ILAR	**Eielson Array**	**82.10**	**12**	P	**P**	**12 36 21.7**	**+0.5**
	0.4nm,1.0s,baz=215,slow=6.2,SNR=2.1						
	0.4nm,1.0s						
ANMO	**Albuquerque**	**82.14**	**51**	LR	LR	13 05 07.6	
	comp=Z,46nm,18.9s,baz=42,slow=30						
TXAR	**Lajitas Array**	**82.18**	**57**	P	**P**	**12 36 22.5**	**0.0**
	0.9nm,1.0s,baz=246,slow=3.6,SNR=5.5						
	0.9nm,1.0s						
PDAR	**Pinedale Array**	**83.28**	**43**	P	**P**	**12 36 28.1**	**0.0**
	0.3nm,0.4s,baz=226,slow=4.2,SNR=4.9						
	0.3nm,0.4s						
PMSA	**Palmer Station**	**85.94**	**157**	LR	LR	13 06 15.4	
	comp=Z,15nm,20.4s,baz=148,slow=30						
YKA	**Yellowknife Ar**	**90.30**	**24**	LR	LR	13 12 28.3	
	comp=Z,23nm,18.1s,baz=310,slow=32						
SONM	**Songino Array**	**92.59**	**319**	LR	LR	13 13 22.7	
	comp=Z,18nm,19.7s,baz=116,slow=32						
BRTR	**Keskin Array B**	**143.94**	**320**	PKP	**PKPdf**	**12 43 35.8**	**-1.2**
	1.3nm,0.9s,baz=45,slow=0.3,SNR=5.3						

*IDC **13** 12:25:00.1±4.4, 6.76N×72.98W, h164km±29km, mb3.2/4, mbtmp3.8/5, Error ellipse: s-maj=77.6km s-min=23.3km az=87.0*
*RSNC **13** 12:25:00.9±0.0, 7.1°N±1.7°×73.3°W±0.3°, h150km±2km, M3.8, mB4.9, mb4.2, ML3.6, Mw(mB)4.2*
ISC 13 12:24:59.8±0.8, 6.85N±0.03×73.12W±0.04, h155km±6km, n47, σ1s46/80, mb3.5/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**194**	P	**Pn**	**12 25 21.2**	**0.0**
BARC				S	**Sn**	**12 25 36.6**	**-0.9**
BRJC	**Barrancabermej**	**0.63**	**281**	P	**Pn**	**12 25 22.9**	**+0.5**
BRJC				S	**Sn**	**12 25 40.0**	**+0.3**
PAMC	**Pamplona, Colo**	**0.64**	**40**	P	**Pn**	**12 25 24.1**	**+1.0**
PAMC				S	**Sn**	**12 25 40.4**	**-0.4**
RUSC	**La Rusia**	**0.95**	**178**	P	**Pn**	**12 25 25.0**	**-0.2**
RUSC				S	**Sn**	**12 25 44.0**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.36**	**357**	P	**Pn**	**12 25 27.7**	**-0.7**
PTBC				S	**Sn**	**12 25 48.9**	**-1.4**
OCAC	**Ocana**	**1.40**	**352**	P	**Pn**	**12 25 29.5**	**+0.6**
OCAC				S	**Sn**	**12 25 52.0**	**+0.8**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**12 25 33.3**	**-0.1**
ZARC				S	**Sn**	**12 25 59.5**	**+0.2**
NORC	**Norcasia**	**2.16**	**234**	P	**Pn**	**12 25 37.0**	**-0.1**
NORC				S	**Sn**	**12 26 05.5**	**-0.4**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**12 25 40.9**	**+1.4**
	419nm,0.3s,baz=52,slow=19,SNR=348						
ROSC				S	**Sn**	**12 26 11.6**	**+1.5**
	472nm,0.3s,baz=52,slow=20,SNR=12						
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**12 25 40.9**	**+1.4**
ROSC				S	**Sn**	**12 26 12.1**	**+2.0**
HELC	**Santa Helena**	**2.48**	**255**	P	**Pn**	**12 25 41.0**	**-0.3**
HELC				S	**Sn**	**12 26 12.0**	**-1.3**
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P	**Pn**	**12 25 42.3**	**+0.7**
CVER				S	**Sn**	**12 26 14.0**	**+0.1**
UREC	**San Jos de Ur**	**2.56**	**291**	P	**Pn**	**12 25 40.7**	**-1.2**
UREC				S	**Sn**	**12 26 12.6**	**-1.8**
VILC	**Villavicencio,**	**2.78**	**192**	P	**Pn**	**12 25 44.5**	**-0.2**
VILC				S	**Sn**	**12 26 19.3**	**-0.2**
CBOC	**Ciudad Bolivar**	**3.04**	**251**

AUST 13 12:33:01.5±0.7, 18°S±9°×12°0E±°, h10km, mb4.3/2, ML3.3/3, ML4.5/1, Error ellipse: s-maj=22.4km s-min=5.5km az=144.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.96**	**80**	P	Pb	12 33 36.5	-0.8
AUBRM				S	Sb	12 34 01.0	-0.9
MBWA	**Marble Bar**	**2.86**	**189**	P	Pn	12 33 48.1	+0.9
GIRL	**Giralia**	**7.06**	**231**	P	Pn	12 34 46.8	+1.9
	comp=N,153μmcomp=Z,0.2nmcomp=Z,50nm,1.7s						
GIRL				S	Sn	12 36 01.2	-4.1
MEEK	**Meekatharra**	**8.41**	**190**	P	Pn	12 35 04.6	+1.1
MEEK	**Meekatharra**	**8.41**	**190**	S	Sn	12 36 33.3	-5.2
KNRA	**Kununurra**	**8.60**	**73**	P	Pn	12 35 06.3	+0.2
MORW	**Morawa**	**11.36**	**199**	P	Pn	12 35 43.1	-0.8
MTN	**Manton Dam**	**11.85**	**64**	P	Pn	12 35 48.1	-2.6
BLDU	**Ballidu**	**12.65**	**194**	S	Sn	12 38 13.8	-8.7
BLDU	**Ballidu**	**12.65**	**194**	P	Pn	12 35 59.9	-1.6
WB2	**Warramunga Arr**	**13.47**	**99**	P	Pn	12 36 12.7	-0.1
MUN	**Mundaring**	**14.07**	**194**	P	Pn	12 36 19.3	-1.6
	comp=Z,22nm,2.3s						

*TXNET **13** 13:02:05.9,31°.7N±0°.8×10°4W±°, h7km±1km, ML2.7/13, Error ellipse: s-maj=1.7km s-min=1.1km az=60.1, final*

NEIC 13 13:02:06.1±0.8, 31°.69N±0°.01×104°.31W±0°.01, h5km±1km, mb_Lg2.5/33, ML2.7/48, 8C-1D, Error ellipse: s-maj=2.8km s-min=1.8km az=350.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.09**	**2**	⇑P	Pg	13 02 08.7	+0.7
TPB09				S	Sg	13 02 10.2	+0.8
TPB11	**China Draw**	**0.34**	**43**	⇑P	Pg	13 02 13.1	+0.4
TPB11				S	Sg	13 02 17.8	+0.6
TPB13	**Reeves - Culbe**	**0.41**	**108**	S	Sg	13 02 20.9	+1.4
PECS	**Pecos**	**0.49**	**130**		Pg	13 02 15.8	+0.4
PECS					Sg	13 02 22.7	+0.8
PECS				IAML		13 02 22.9	
	541nm,0.4s						
PECS				IAML		13 02 23.1	
	501nm,0.3s						
PECS	**Pecos**	**0.49**	**130**	P	Pg	13 02 15.9	+0.4
PECS				S	Sg	13 02 22.7	+0.8
TPB07	**Mentone**	**0.55**	**101**	P	Pb	13 02 17.6	-0.7
TPB07				S	Sb	13 02 25.4	-1.2
TPB12	**Southwest of T**	**0.56**	**148**	⇑P	Pg	13 02 17.2	+0.4
TPB12				S	Sg	13 02 24.7	+0.7
TPB10	**Southeast of T**	**0.62**	**130**	⇑P	Pg	13 02 18.5	+0.5
TPB10				S	Sg	13 02 27.0	+1.0
CLNB	**Carlsbad**	**0.68**	**32**	P	Pg	13 02 19.6	+0.4
CLNB				S	Sb	13 02 30.9	+0.6
PCOS	**Crockett Middl**	**0.73**	**112**		Sb	13 02 30.9	-0.8
PCOS	**Crockett Middl**	**0.73**	**112**	S	Sb	13 02 30.9	-0.8
LWM1	**Layne Water Mi**	**0.73**	**128**	⇓P	Pb	13 02 20.8	-0.5
LWM1				S	Sb	13 02 30.7	-1.0
LWM2	**Layne Water Mi**	**0.74**	**124**	P	Pb	13 02 21.0	-0.5
LWM2				S	Sb	13 02 31.4	-0.6
CLN7	**Carlsbad 7**	**0.84**	**30**		Pg	13 02 21.9	-0.3
CLN7	**Carlsbad 7**	**0.84**	**30**	P	Pg	13 02 22.4	+0.2
TPB01	**Permian Basin**	**0.86**	**149**	⇑P	Pg	13 02 22.3	-0.3
TPB03	**Saragosa**	**0.90**	**131**	P	Pg	13 02 23.4	0.0
TPB03				S	Sg	13 02 35.7	+0.6
MNTX	**Cornudas Mount**	**0.92**	**271**		Pg	13 02 23.8	+0.1
MNTX					Sg	13 02 36.0	+0.4
MNTX	**Cornudas Mount**	**0.92**	**271**	P	Pg	13 02 23.7	+0.1
MNTX				S	Sg	13 02 36.0	+0.4
HTMS	**Hat Mesa**	**0.97**	**36**		Pg	13 02 24.3	-0.4
HTMS	**Hat Mesa**	**0.97**	**36**	P	Pg	13 02 24.5	-0.2
HTMS				S	Sg	13 02 37.9	+0.6
TPB04	**Verhalen**	**1.01**	**119**	P	Pg	13 02 25.7	+0.2
NM01	**Eunice**	**1.02**	**49**	P	Pg	13 02 25.6	0.0
NM01				S	Sg	13 02 39.2	+0.4
TPB16	**Coyonosa**	**1.06**	**122**	P	Pg	13 02 26.5	+0.1
TPB16				S	Sb	13 02 41.1	-0.1
VHRN	**Van Horn**	**1.07**	**213**		Pg	13 02 26.1	-0.5
VHRN					Sg	13 02 40.7	+0.2
VHRN	**Van Horn**	**1.07**	**213**	⇑P	Pg	13 02 26.3	-0.3
VHRN				S	Sg	13 02 40.7	+0.2
TPB05	**Hovey Rd**	**1.13**	**132**	⇑P	Pg	13 02 27.6	-0.3
TPB05				S	Sg	13 02 42.7	+0.2
MNHN	**Monahans**	**1.36**	**104**		Pn	13 02 31.5	-0.3
MNHN					Sn	13 02 50.3	0.0
MNHN				IAML		13 02 53.2	
	100nm,0.3s						
MNHN				IAML		13 02 53.3	
	152nm,0.3s						
MNHN	**Monahans**	**1.36**	**104**	P	Pn	13 02 31.6	-0.2
MNHN				S	Sn	13 02 50.3	0.0
CPRX	**Cap Rock**	**1.39**	**15**		Pn	13 02 32.1	-0.2
CPRX	**Cap Rock**	**1.39**	**15**	P	Pn	13 02 32.1	-0.1
ALPN	**Alpine**	**1.43**	**156**		Pn	13 02 31.9	-0.9
ALPN					Sb	13 02 50.6	-1.1
ALPN				IAML		13 02 56.2	
	152nm,0.3s						
ALPN				IAML		13 02 56.5	
	153nm,0.2s						
ALPN	**Alpine**	**1.43**	**156**	⇑P	Pn	13 02 32.0	-0.8
ALPN				S	Sb	13 02 50.6	-1.1
ODSA	**Odessa**	**1.55**	**73**		Pn	13 02 34.6	+0.1
ODSA					Sn	13 02 55.1	0.0
ODSA				IAML		13 03 00.8	
	147nm,0.3s						
ODSA	**Odessa**	**1.55**	**73**	P	Pn	13 02 34.7	+0.2
ODSA				S	Sn	13 02 55.1	0.0
TMB04	**Seminole**	**1.80**	**58**	P	Pb	13 02 38.8	-0.8
TMB04				S	Sb	13 03 03.1	+0.6
TMB01	**Midkiff**	**1.89**	**90**	P	Pb	13 02 40.8	-0.4
TMB01				S	Sb	13 03 06.0	+0.8
TMB02	**Rankin**	**2.00**	**103**	P	Pb	13 02 42.1	-0.8
TMB02				S	Sb	13 03 07.5	-0.7
TMB05	**Klondike**	**2.28**	**65**	P	Pn	13 02 45.8	+1.4
TMB05				S	Sb	13 03 16.1	-0.1
TX31	**Lajitas Ar. Si**	**2.41**	**167**		Pn	13 02 47.6	+1.4
TX31	**Lajitas Ar. Si**	**2.41**	**167**	P	Pn	13 02 47.6	+1.4
TXAR	**Lajitas Array**	**2.41**	**167**		Pn	13 02 46.6	+0.4
SAND	**Sanderson**	**2.55**	**132**		Pn	13 02 48.7	+0.6
SAND				IAmb_Lg		13 03 27.4	
	comp=Z,14nm,0.7s						
SAND				IAML		13 03 29.2	
	comp=Z,62nm,0.4s						
SAND				IAML		13 03 30.1	
	comp=Z,46nm,0.4s						
MSTX	**Muleshoe**	**2.62**	**29**		Pn	13 02 50.8	+1.7
SGCY	**Sterling City**	**2.72**	**84**	IAmb_Lg		13 03 36.2	
	comp=Z,21nm,0.9s						
POST	**Post**	**2.74**	**59**		Pb	13 02 53.5	-2.1
CRNM	**Carthage**	**3.05**	**319**		Pn	13 02 56.9	+1.8
121A	**Cookes Peak, D**	**3.07**	**287**		Pn	13 02 55.4	0.0
121A				IAmb_Lg		13 03 44.8	
	comp=Z,12nm,0.9s						
121A				IAML		13 03 48.3	
	comp=N,17nm,0.7s						
121A				IAML		13 03 54.2	
	comp=E,16nm,0.8s						
Y22A	**Socorro**	**3.17**	**316**	IAML		13 03 47.5	
	comp=E,32nm,0.5s						
Y22A				IAmb_Lg		13 03 47.5	
	comp=Z,11nm,0.8s						
Y22A				IAML		13 03 52.5	
	comp=N,15nm,0.5s						
SN07	**Snyder 07**	**3.21**	**63**	IAmb_Lg		13 03 50.4	
	comp=Z,15nm,0.8s						
DKNS	**Dickens**	**3.47**	**54**	IAmb_Lg		13 03 58.3	
	comp=Z,15nm,1.0s						
ANMO	**Albuquerque**	**3.72**	**332**	IAmb_Lg		13 04 08.7	
	comp=Z,4.8nm,0.8s						
APMT	**Aspermont**	**3.89**	**64**	IAmb_Lg		13 04 19.4	
	comp=Z,16nm,1.1s						
DRIO	**Del Rio**	**3.90**	**124**	IAmb_Lg		13 04 13.0	
	comp=Z,12nm,0.7s						
JCT	**Junction City**	**4.04**	**106**	IAmb_Lg		13 04 19.9	
	comp=Z,13nm,0.9s						
ABTX	**Abilene, Hawle**	**4.06**	**75**	IAmb_Lg		13 04 22.5	
	comp=Z,11nm,0.9s						
BRDY	**Brady**	**4.55**	**94**	IAmb_Lg		13 04 33.9	
	comp=Z,7.3nm,1.0s						
RTBA	**Rita Blanca**	**4.92**	**15**	IAmb_Lg		13 04 46.1	
	comp=Z,7.9nm,0.7s						
PLPT	**Palo Pinto**	**5.20**	**76**	IAmb_Lg		13 04 52.7	
	comp=Z,8.3nm,1.1s						
T25A	**Trinidad**	**5.44**	**359**	IAmb_Lg		13 05 10.0	
	comp=Z,6.8nm,0.8s						
PV10	**Paradox Valley**	**7.72**	**331**	IAmb_Lg		13 06 18.0	
	comp=Z,4.6nm,0.9s						

*BJI **13** 13:40:08.0, 9°.80S×114°.00E, h40km, mB5.1/10, mb4.8/46, Ms4.4/5, Ms7 4.1/7*
*NEIC **13** 13:40:09.9±1.5, 9°.74S±0°.02×114°.03E±0°.06, h44km±7km, mb4.9/26, Error ellipse: s-maj=8.7km s-min=2.5km az=107.0*
*DJA **13** 13:40:09.9±0.3, 10°S±2°×11°4E±°, h38km±4km, M4.9/54, mb4.9/54, mB5.3/15, MLv5.2/26, Mw(mB)4.7/15*
*IDC **13** 13:40:12.8±2.2, 9°.62S×114°.20E, h65km±19km, mb4.3/21, mbtmp4.6/24, MS3.7/49, Error ellipse: s-maj=13.9km s-min=9.1km az=56.0*

ISC 13 13:40:10.5±0.3, 9°.75S±0°.05×114°.06E±0°.05, h50km, n173, σ1°.49/144, mb4.8/44, MS3.8/49, 1C-5D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.27**	**4**		**Pn**	**13 40 30.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**1.27**	**4**	P	**Pn**	**13 40 30.5**	**-1.4**
JAGI				S	**Sn**	**13 40 45.7**	**-2.2**
DNP	**Denpasar**	**1.56**	**47**	P	**Pn**	**13 40 36.8**	**+1.0**
GMJI	**Gumukmas**	**1.58**	**337**	P	**Pn**	**13 40 33.8**	**-2.4**
GMJI				S	**Sn**	**13 40 50.4**	**-5.1**
SRBI	**Singaraja**	**2.00**	**35**	P	**Pn**	**13 40 43.3**	**+1.4**
KMMI	**Kalianget**	**2.68**	**358**	P	**Pn**	**13 40 52.9**	**+1.7**
TWSI	**Taliwang, Sumb**	**2.96**	**70**	P	**Pn**	**13 40 56.0**	**+0.9**
GRJI	**Gresik**	**3.22**	**331**	P	**Pn**	**13 40 58.5**	**-0.1**
PCJI	**Pacitan**	**3.24**	**298**	P	**Pn**	**13 40 57.6**	**-1.2**
NGJI	**Ngawi**	**3.49**	**312**	P	**Pn**	**13 41 03.2**	**+0.9**
WOJI	**Wonogiri, Jawa**	**3.63**	**301**	P	**Pn**	**13 41 02.9**	**-1.4**
TBJI	**Tambak Boyo**	**3.64**	**323**	P	**Pn**	**13 41 04.7**	**+0.3**
PLAI	**Plampang**	**3.78**	**76**	P	**Pn**	**13 41 07.7**	**+1.4**
UGM	**Wanagama**	**3.94**	**297**		**Pn**	**13 41 07.5**	**-1.0**
UGM	**Wanagama**	**3.94**	**297**	P	**Pn**	**13 41 07.3**	**-1.2**
BWJI	**Bawean**	**4.11**	**340**	P	**Pn**	**13 41 11.8**	**+1.0**
SMRI	**Semarang**	**4.47**	**307**		**Pn**	**13 41 15.6**	**-0.1**
SMRI	**Semarang**	**4.47**	**307**	P	**Pn**	**13 41 15.7**	**-0.1**
WBSI	**Waikabubak, Su**	**5.26**	**89**	P	**Pn**	**13 41 27.4**	**+0.8**
	1.8nm3μm207nm,0.8s						
KPJI	**Karang Pucung**	**5.61**	**295**	P	**Pn**	**13 41 31.3**	**-0.1**
	1.5nm3μm181nm,0.9s						
BASI	**Baing, Sumba**	**6.44**	**95**	P	**Pn**	**13 41 44.1**	**+1.3**
	1.6nm189nm,1.7s						
LEM	**Lembang**	**7.00**	**294**	P	**Pn**	**13 41 53.6**	**+2.9**
	30nm,0.5s,baz=179,slow=14,SNR=4.4						
LEM				S	**Sn**	**13 43 06.8**	**-2.3**
	98nm,0.8s,baz=18,slow=23,SNR=1.0						
LEM				LR	LR	13 44 44.9	
	comp=Z,422nm,18.0s,baz=116,slow=38						
CNJI	**Cibinong**	**7.27**	**289**	P	**Pn**	**13 41 53.4**	**-0.8**
	0.6nm966nm55nm,0.8s						
BSSI	**Bau Bau, Buton**	**7.31**	**61**	P	**Pn**	**13 41 56.5**	**+1.8**
	0.6nm188nm,1.2s						
KAPI	**Kappang**	**7.34**	**51**		**Pn**	**13 41 56.5**	**+1.3**
KAPI	**Kappang**	**7.34**	**51**	P	**Pn**	**13 41 55.2**	**-0.1**
	9.7nm,0.4s,baz=234,slow=11,SNR=5.8						
KAPI				S	**Sn**	**13 43 16.7**	**-0.6**
	54nm,0.6s,baz=69,slow=21,SNR=7.2						
KAPI				LR	LR	13 45 25.1	
	comp=Z,930nm,18.1s,baz=244,slow=44						
BKSI	**Bulukumba**	**7.45**	**54**	P	**Pn**	**13 41 58.0**	**+1.4**
	0.4nm61nm,0.6s						
EDFI	**Ende, Flores**	**7.60**	**83**	P	**Pn**	**13 41 58.5**	**-0.3**
	0.3nm68nm,0.8s						
SKJI	**Sukabumi**	**7.91**	**290**	P	**Pn**	**13 42 02.7**	**-0.2**
BNSI	**Bone**	**8.01**	**49**	P	**Pn**	**13 42 05.3**	**+0.9**
	1μm97nm,0.6s						
MMRI	**Maumere**	**8.15**	**83**	Pn	**Pn**	**13 42 05.8**	**-0.5**
MMRI	**Maumere**	**8.15**	**83**	P	**Pn**	**13 42 06.8**	**+0.5**
	3μm71nm,0.5s						
TTSI	**Tana Toraja**	**8.78**	**41**	P	**Pn**	**13 42 15.3**	**+0.4**
	678nm50nm,1.2s						
CGJI	**Cibinong**	**8.85**	**290**	P	**Pn**	**13 42 14.0**	**-1.8**
BBSI	**Bau Bau**	**9.44**	**64**	P	**Pn**	**13 42 24.1**	**+0.2**
	77nm,1.2s						
BATI	**Baumata**	**9.47**	**94**	P	**Pn**	**13 42 23.7**	**-0.7**
	11nm,0.3s,baz=283,slow=14,SNR=1.9						
BATI				S	**Sn**	**13 44 07.6**	**-2.0**
	17nm,0.3s,baz=242,slow=21,SNR=1.3						
BATI	**Baumata**	**9.47**	**94**	P	**Pn**	**13 42 25.1**	**+0.7**
	49nm,1.0s						
SOEI	**Soe**	**10.06**	**91**		**Pn**	**13 42 32.3**	**-0.3**
SOEI	**Soe**	**10.06**	**91**	P	**Pn**	**13 42 32.9**	**+0.3**
	68nm,0.9s						
STKI	**Sintang**	**10.08**	**345**	P	**Pn**	**13 42 33.3**	**+0.6**
	40nm,0.9s						
KLI	**Kotabumi**	**10.33**	**297**	P	**Pn**	**13 42 35.7**	**-0.5**
KASI	**Kota Agung**	**10.36**	**293**	P	**Pn**	**13 42 35.8**	**-0.8**
	46nm,0.8s						
PCI	**Palu**	**10.49**	**34**	P	**Pn**	**13 42 41.4**	**+3.0**
	3μm63nm,1.1s						
MDSI	**Maura Dua**	**11.11**	**297**	P	**Pn**	**13 42 46.3**	**-0.5**
	21nm,0.8s						
APSI	**Ampana**	**11.58**	**41**	P	**Pn**	**13 42 56.3**	**+3.1**
	81nm,1.0s						
KSM	**Kuching**	**11.75**	**341**		**Pn**	**13 42 54.3**	**-1.3**
MNAI	**Manna**	**12.25**	**295**	Pn	**Pn**	**13 42 59.7**	**-2.6**
MNAI	**Manna**	**12.25**	**295**	P	**Pn**	**13 42 59.8**	**-2.6**
SBUM	**Sibu**	**12.25**	**351**		**Pn**	**13 43 01.8**	**-0.6**
MBWA	**Marble Bar**	**12.59**	**155**		Pn	13 43 01.8	-5.2
TOLI2	**Tolitoli**	**12.69**	**32**		**Pn**	**13 43 07.1**	**-1.3**
GIRL	**Giralia**	**12.83**	**179**	Pn	**Pn**	**13 43 06.0**	**-4.2**
MRSI	**Marisa**	**12.83**	**38**	P	**Pn**	**13 43 12.7**	**+2.4**
	1μm40nm,0.7s						
KSI	**Kapahiang**	**12.89**	**297**	P	**Pn**	**13 43 10.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**13.97**	**128**	P	**Pn**	**13 43 21.4**	**-4.5**
	3.6nm,0.4s,baz=295,slow=8.3,SNR=33						
FITZ				S	Sn	13 45 47.1	-12
	11nm,0.5s,baz=192,slow=19,SNR=8.2						
FITZ				LR	LR	13 48 59.1	
	comp=Z,444nm,21.3s,baz=294,slow=38						
KNRA	**Kununurra**	**15.50**	**114**	Pn	**Pn**	**13 43 43.9**	**-2.1**
KNRA				IAmb	IAmb	13 43 52.8	
	comp=Z,61nm,0.9s						
KKM	**Kota Kinabalu**	**15.83**	**8**	P	**P**	**13 43 51.6**	**-1.7**
MTN	**Manton Dam**	**17.02**	**102**	P	**P**	**13 44 06.0**	**-0.4**
MTN				IAmb	IAmb	13 44 10.9	
	comp=Z,44nm,1.1s						
SWI	**Sorong**	**19.25**	**64**	P	**Pn**	**13 44 31.4**	**-1.0**
	comp=Z,43nm,0.7s						
FAKI	**Fak Fak**	**19.30**	**71**	P	**P**	**13 44 31.7**	**+0.2**
FAKI				IAmb	IAmb	13 44 43.9	
	comp=Z,92nm,1.1s						
FAKI	**Fak Fak**	**19.30**	**71**	P	**P**	**13 44 31.7**	**+0.2**
	comp=Z,87nm,1.6s						
MORW	**Morawa**	**19.31**	**175**		**P**	**13 44 29.9**	**-1.6**
PSI	**Prapat**	**19.56**	**309**	LR	LR	13 53 20.7	
	comp=Z,346nm,18.2s,baz=140,slow=40						
KULM	**Kulim**	**20.04**	**318**	P	**P**	**13 44 38.3**	**-1.3**
DAV	**Davao City (W)**	**20.27**	**35**	LR	LR	13 53 39.5	
	comp=Z,192nm,19.6s,baz=200,slow=40						
RKPI	**Ransiki, Papua**	**21.61**	**69**	P	**P**	**13 44 59.1**	**+2.5**
	comp=Z,2μmcomp=Z,78nm,0.7s						
WRA	**Warramunga Arr**	**22.04**	**120**	P	**P**	**13 45 00.1**	**-1.0**
WRA	**Warramunga Arr**	**22.04**	**120**	P	**P**	**13 45 01.8**	**+0.6**
	comp=Z,15nm,0.7s,baz=296,slow=11,SNR=72						
WRA				S	**S**	**13 48 59.7**	**-2.0**
	comp=Z,1.9nm,0.6s,baz=305,slow=1.6,SNR=7.4						
WRA				LR	LR	13 53 49.2	
	comp=Z,356nm,21.7s,baz=286,slow=37						
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**22.05**	**120**	P	**P**	**13 45 00.2**	**-1.0**
WRAB				IAmb	IAmb	13 45 05.1	
	comp=Z,24nm,0.9s						
NWAO	**Narrogin (SRO)**	**23.26**	**173**	LR	LR	13 54 20.4	
	comp=Z,144nm,19.8s,baz=311,slow=36						
ASAR	**Alice Springs**	**23.47**	**129**	P	**P**	**13 45 16.9**	**+1.0**
	comp=Z,23nm,0.7s,baz=305,slow=9.0,SNR=184						
ASAR				PcP	**PcP**	**13 49 02.0**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=303,slow=1.9,SNR=4.1						
ASAR				LR	LR	13 54 57.9	
	comp=Z,166nm,20.8s,baz=305,slow=38						
	comp=Z,23nm,0.7s						
SMPI	**Sarmi**	**25.68**	**74**	P	**P**	**13 45 38.3**	**+2.2**
	comp=Z,43nm,1.1s						
BBOO	**Buckleboo**	**30.64**	**142**	P	**P**	**13 46 21.1**	**+0.9**
BBOO				IAmb	IAmb	13 46 22.1	
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.75**	**332**	P	**P**	**13 46 30.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.75**	**332**	P	**P**	**13 46 30.8**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=164,slow=7.8,SNR=15						
CMAR				LR	LR	14 01 16.4	
	comp=Z,178nm,18.4s,baz=150,slow=40						
	comp=Z,3.0nm,0.8s						
PMG	**Port Moresby**	**32.63**	**92**	LR	LR	14 02 27.7	
	comp=Z,118nm,18.4s,baz=246,slow=41						
STKA	**Stephens Creek**	**33.69**	**135**	P	**P**	**13 46 48.4**	**+1.4**
STKA	**Stephens Creek**	**33.69**	**135**	P	**P**	**13 46 48.5**	**+1.4**
	comp=Z,28nm,0.8s,baz=306,slow=9.1,SNR=56						
STKA				LR	LR	14 01 01.4	
	comp=Z,391nm,21.4s,baz=294,slow=37						
	comp=Z,28nm,0.8s						
KMI	**Kunming**	**36.37**	**343**	P	**P**	**13 47 13.6**	**+3.3**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI				LR	LR		
	comp=Z,170nm,21.7s						
KMI				LR	LR		
	comp=Z,180nm,15.8s						
KMI				LR	LR		
	comp=Z,200nm,24.5s						
PALK	**Pallekele**	**37.28**	**296**	LR	LR	14 03 41.7	
	comp=Z,108nm,19.4s,baz=115,slow=38						
TNCH	**TengChong**	**37.74**	**337**	*eP*	**P**	**13 47 23.6**	**+1.7**
TNCH				pmax	pmax		
	comp=Z,18nm,0.9s						
PZH	**PanZhiHua**	**37.97**	**342**	P	**P**	**13 47 26.3**	**+2.6**
GUMO	**Guam**	**38.37**	**53**	LR	LR	14 04 10.2	
	comp=Z,27nm,19.7s,baz=210,slow=38						
BRDH	**Bariadhala**	**38.99**	**326**	LR	LR	14 05 33.2	
	comp=Z,152nm,20.4s,baz=148,slow=39						
H08S2	**Diego Garcia H**	**41.12**	**270**	T	T	14 31 21.7	
	baz=95,slow=74,SNR=40						
H08S3	**Diego Garcia H**	**41.13**	**270**	T	T	14 31 21.6	
	baz=95,slow=74,SNR=71						
H08S1	**Diego Carcia H**	**41.14**	**270**	T	T	14 31 23.0	
	baz=95,slow=74,SNR=57						
NJ2	**Nanjing**	**41.81**	**6**	*eP*	**P**	**13 47 58.1**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	**Xi'an**	**43.81**	**354**	P	**P**	**13 48 12.6**	**+0.9**
XAN				pP	pP	13 48 24.8	+0.8
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HNR	**Honiara**	**45.22**	**94**	LR	LR	14 08 44.5	
	comp=Z,56nm,19.7s,baz=22,slow=38						
JNU	**Nakatsue**	**45.54**	**20**	LR	LR	14 08 52.6	
	comp=Z,45nm,21.9s,baz=206,slow=38						
EVN	**Everest**	**45.83**	**326**	IAmb	IAmb	13 48 31.2	
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**46.59**	**349**	*eP*	**P**	**13 48 34.9**	**+1.1**
LZH				pP	pP	13 48 47.0	+0.9
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				LR	LR		
	comp=Z,180nm,15.5s						
LZH				LR	LR		
	comp=Z,200nm,14.8s						
LZH				LR	LR		
	comp=Z,210nm,14.1s						
KSRS	**Korea Array**	**48.72**	**15**	P	**P**	**13 48 49.9**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=193,slow=6.4,SNR=7.1						
KSRS				PcP	**PcP**	**13 50 15.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=188,slow=6.2,SNR=4.4						
	comp=Z,1.6nm,0.7s						
JHJ	**Hachijo jima 2**	**49.17**	**29**	LR	LR	14 10 30.9	
	comp=Z,40nm,20.7s,baz=50,slow=37						
BJI	**Beijing**	**49.57**	**2**	P	**P**	**13 48 56.4**	**-0.1**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BTO	**Baotou**	**50.23**	**356**	*eP*	**P**	**13 49 02.9**	**+1.2**
BTO				pP	**pP**	**13 49 15.4**	**+1.3**
BTO				sP	**sP**	**13 49 20.8**	**+1.4**
BTO				pmax	pmax		
	comp=Z,41nm,0.6s						
BTO				pmax	pmax		
	comp=Z,310nm,7.1s						
HHC	**Hu-ho-hao-te**	**50.39**	**358**	*eP*	**P**	**13 49 05.5**	**+2.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,4.4s						
GTA	**Gaotai**	**50.66**	**346**	*eP*	**P**	**13 49 06.3**	**+1.3**
GTA				pP	pP	13 49 17.4	0.0
GTA				PcP	**PcP**	**13 50 24.3**	**+2.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=Z,150nm,14.5s						
GTA				LR	LR		
	comp=Z,130nm,17.4s						
GTA				LR	LR		
	comp=Z,120nm,18.2s						
MJAR	**Matsushiro Arr**	**51.34**	**25**	P	**P**	**13 49 08.9**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=206,slow=8.7,SNR=6.5						
MJAR				LR	LR	14 13 41.3	
	comp=Z,27nm,18.6s,baz=197,slow=39						
	comp=Z,1.4nm,0.6s						
DZM	**Mont Dzumac**	**51.62**	**110**	*eP*	**P**	**13 49 11.1**	**-1.4**
	comp=Z,26nm,36.2s						
DZM				*eS*	**S**	**13 56 30.1**	**-0.3**
	comp=Z,54nm,32.1s						
DZM				*eLR*	LR	14 04 00.6	
	comp=Z,142nm,29.8s						
XLT	**XiLinHaoTe**	**53.42**	**2**	*eP*	**P**

	comp=Z,2.4nm,0.6s,baz=151,slow=4.2,SNR=11						
ZALV				LR	LR	14 24 45.2	
	comp=Z,46nm,18.6s,baz=128,slow=39						
	comp=Z,2.4nm,0.6s						
VNDA	**Vanda**	**72.05**	**170**	P	**P**	**13 51 29.8**	**+0.9**
	comp=Z,5.2nm,0.9s,baz=300,slow=6.4,SNR=23						
VNDA				LR	LR	14 20 56.4	
	comp=Z,110nm,20.5s,baz=338,slow=34						
	comp=Z,5.2nm,0.9s						
YAK	**Yakutsk**	**72.59**	**8**	P	**P**	**13 51 31.0**	**-1.2**
YAK	**Yakutsk**	**72.59**	**8**	LR	LR	14 25 54.7	
	comp=Z,34nm,19.3s,baz=211,slow=38						
BVAR	**Borovoye Array**	**72.74**	**334**	P	**P**	**13 51 33.2**	**-0.1**
	comp=Z,4.9nm,0.6s,baz=139,slow=8.5,SNR=25						
BVAR				LR	LR	14 27 31.6	
	comp=Z,50nm,18.3s,baz=138,slow=39						
	comp=Z,4.9nm,0.6s						
PETK	**Petropavlovsk-**	**72.79**	**26**	P	**P**	**13 51 33.4**	**-0.2**
PETK	**Petropavlovsk-**	**72.79**	**26**	P	**P**	**13 51 33.7**	**+0.1**
	comp=Z,8.3nm,1.0s,baz=197,slow=4.6,SNR=6.0						
	comp=Z,8.3nm,1.0s						
BRVK	**Borovoye**	**72.81**	**334**	P	**P**	**13 51 33.5**	**-0.2**
RAYN	**Ar Rayn**	**74.69**	**298**	P	**P**	**13 51 44.9**	**-0.5**
MA2	**Magadan**	**75.08**	**18**	LR	LR	14 26 40.5	
	comp=Z,13nm,20.6s,baz=231,slow=37						
SYO	**Syowa Base**	**75.41**	**201**‖	eP	**P**	**13 51 50.0**	**+1.4**
SYO	**Syowa Base**	**75.41**	**201**‖	ePcP	**PcP**	**13 52 02.6**	**+1.0**
AB31	**Akbulak array**	**75.43**	**327**	IAmb	IAmb	13 52 01.5	
	comp=Z,15nm,0.7s						
ABKAR	**Akbulak array**	**75.43**	**327**	P	**P**	**13 51 48.7**	**-0.4**
KMBO	**Kilima Mbogo**	**76.81**	**271**	LR	LR	14 18 59.5	
	comp=Z,91nm,20.9s,baz=104,slow=30						
AKTO	**Aktyubinsk**	**77.12**	**327**	LR	LR	14 32 46.9	
	comp=Z,58nm,18.2s,baz=275,slow=41						
ARTI	**Arti**	**80.25**	**332**	P	**P**	**13 52 15.5**	**-0.2**
ARTI	**Arti**	**80.25**	**332**	LR	LR	14 32 58.6	
	comp=Z,61nm,19.0s,baz=114,slow=40						
QSPA	**South Pole Qui**	**80.26**	**180**	P	**P**	**13 52 17.5**	**+1.6**
	comp=Z,7.0nm,1.0s,baz=309,slow=4.3,SNR=13						
QSPA				LR	LR	14 25 01.5	
	comp=Z,79nm,19.6s,baz=343,slow=33						
	comp=Z,7.0nm,1.0s						
SHEM	**Shemya Is, Ala**	**80.45**	**32**	LR	LR	14 26 24.3	
	comp=Z,9.4nm,20.3s,baz=158,slow=34						
GNI	**Garni**	**80.86**	**313**	LR	LR	14 34 32.9	
	comp=Z,17nm,18.6s,baz=118,slow=40						
TIXI	**Tiksi**	**81.81**	**5**	LR	LR	14 31 11.0	
	comp=Z,41nm,21.7s,baz=206,slow=37						
BOSA	**Boshof**	**84.36**	**242**	P	**P**	**13 52 38.6**	**+0.5**
	comp=Z,4.6nm,1.0s,baz=71,slow=9.2,SNR=4.2						
BOSA				LR	LR	14 27 23.2	
	comp=Z,50nm,18.0s,baz=78,slow=34						
	comp=Z,4.6nm,1.0s						
ASF	**Jabal al Asfar**	**84.45**	**304**	LR	LR	14 31 23.4	
	comp=Z,36nm,21.9s,baz=134,slow=36						
LBTB	**Lobatse**	**84.56**	**246**	LR	LR	14 24 16.2	
	comp=Z,27nm,18.9s,baz=130,slow=31						
KIRV	**Kirov**	**85.53**	**332**	LR	LR	14 36 06.7	
	comp=Z,53nm,18.9s,baz=139,slow=39						
MMAI	**Mount Meron Ar**	**85.89**	**304**	P	**P**	**13 52 46.7**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=90,slow=12,SNR=1.5						
MMAI				LR	LR	14 35 09.7	
	comp=Z,23nm,19.8s,baz=120,slow=38						
	comp=Z,2.6nm,0.7s						
TROLL	**Troll, Antarti**	**87.28**	**197**	‖P	**P**	**13 52 53.1**	**+1.5**
	comp=Z,75nm,0.8s						
BR131	**Keskin Array S**	**88.88**	**310**	P	**P**	**13 52 60.0**	**+0.1**
BR131				IAmb	IAmb	13 53 11.2	
	comp=Z,6.3nm,1.1s						
BRTR	**Keskin Array B**	**88.88**	**310**	P	**P**	**13 52 59.5**	**-0.4**
BRTR	**Keskin Array B**	**88.88**	**310**	P	**P**	**13 53 00.4**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=136,slow=5.8,SNR=18						
BRTR				LR	LR	14 35 32.2	
	comp=Z,15nm,20.1s,baz=130,slow=37						
	comp=Z,3.1nm,0.8s						
SNAA	**Sanae**	**88.94**	**196**	‖P	**P**	**13 53 00.8**	**+1.4**
	comp=Z,113nm,0.9s						
SNAA	**Sanae**	**88.94**	**196**	P	**P**	**13 53 00.9**	**+1.4**
SNAA				IAmb	IAmb	13 53 02.4	
	comp=Z,7.5nm,1.0s						
SNAA	**Sanae**	**88.94**	**196**	P	**P**	**13 53 00.9**	**+1.4**
	comp=Z,4.5nm,0.9s,baz=128,slow=4.1,SNR=19						
SNAA				LR	LR	14 28 30.4	
	comp=Z,137nm,19.4s,baz=111,slow=32						
	comp=Z,4.5nm,0.9s						
VNA1	**Neumayer--Stat**	**90.98**	**196**	‖P	**P**	**13 53 11.5**	**+2.6**
	comp=Z,2.6nm,1.0s						
VNA3	**Neumayer Olymp**	**91.03**	**196**	‖P	**P**	**13 53 10.7**	**+1.5**
	comp=Z,1.6nm,0.8s						
TBI	**Tubuai**	**92.06**	**114**	eLR	LR	14 22 44.3	
	comp=Z,440nm,23.2s						
PPT2	**Papeete2**	**93.08**	**108**	eLR	LR	14 23 11.5	
	comp=Z,85nm,23.5s						
PPT2				eLR	LR	14 23 12.6	
	comp=Z,141nm,30.2s						
PPT	**Papeete**	**93.08**	**108**	LR	LR	14 36 06.5	
	comp=Z,31nm,18.3s,baz=276,slow=36						
AKASG	**Malin Array Be**	**94.21**	**321**	LR	LR	14 44 52.3	
	comp=Z,21nm,18.1s,baz=44,slow=41						
FINES	**FINESS Array B**	**97.52**	**331**	P	Pdif	13 53 39.1	+0.2
	comp=Z,2.2nm,0.9s,baz=81,slow=6.0,SNR=4.2						
FINES				LR	LR	14 42 57.4	
	comp=Z,31nm,18.7s,baz=68,slow=39						
	comp=Z,2.2nm,0.9s						
ARCES	**ARCESS Array B**	**98.55**	**339**	LR	LR	14 43 41.3	
	comp=Z,57nm,20.2s,baz=103,slow=39						
KDAK	**Kodiak Island**	**99.96**	**33**	LR	LR	14 43 15.3	
	comp=Z,19nm,19.1s,baz=242,slow=38						
SPITS	**Spitsbergen Ar**	**101.05**	**348**	P	**Pdif**	**13 53 53.7**	**-0.7**
	comp=Z,6.3nm,1.0s,baz=98,slow=10,SNR=4.2						
NVAR	**Mina Array Bea**	**125.23**	**50**	PKP	**PKiKP**	**13 59 07.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=307,slow=4.6,SNR=3.5						
PDAR	**Pinedale Array**	**129.74**	**41**	PKP	**PKiKP**	**13 59 15.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=324,slow=4.1,SNR=2.3						
TXAR	**Lajitas Array**	**139.71**	**56**	PKhKP	PKPpre	13 59 27.5	
	comp=Z,0.3nm,0.6s,baz=225,slow=1.6,SNR=3.8						
ACSO	**Alum Creek Sta**	**146.07**	**24**		pPKPab	13 59 56.0	-3.5
BDFB	**Brasilia**	**149.15**	**215**	PKPbc	**PKiKP**	**13 59 55.9**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=122,slow=5.3,SNR=6.1						
LPAZ	**La Paz**	**154.04**	**175**	PKPab	**PKPab**	**14 00 21.6**	**+1.9**
	comp=Z,4.6nm,0.9s,baz=181,slow=1.9,SNR=8.6						

*IDC **13** 14:00:20.4±3.5,57.°69N×154.°94W,h47km±29km,mb3.3/7, mbtmp3.5/9,ML3.3/1,Error ellipse: s-maj=37.6km s-min=19.4km az=34.0*

*NEIC **13** 14:00:21.8±0.7,57.°60N±0.°02×154.°64W±0.°06, h55km±10km,Error ellipse: s-maj=5.2km s-min=2.5km az=56.0*

*AEIC **13** 14:00:22.4±0.8,57.°61N±0.°03×154.°68W±0.°03,h54km±8km, ML3.4,ML3.6/96(NEIC),Error ellipse: s-maj=4.1km s-min=2.1km az=153.0*

ISC 13 14:00:21.7±0.8,57.°62N±0.°04×154.°64W±0.°03,h60km±7km, n156,σ0.°76/155,mb3.6/6,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R18K	**Karluk**	**0.11**	**117**		**Pn**	**14 00 29.9**	**-0.7**
R18K					**Sn**	**14 00 36.9**	**-0.3**
R18K	**Karluk**	**0.11**	**117**	IAML		14 00 37.4	
	comp=E,39μm,0.4s						
R18K				IAML		14 00 38.4	
	comp=N,36μm,0.5s						
ACHA	**Angle Creek He**	**0.70**	**329**		**Pn**	**14 00 35.5**	**-0.4**
ACHA	**Angle Creek He**	**0.70**	**329**		**Sn**	**14 00 45.9**	**-0.5**
KAKN	**Katmai Knife C**	**0.72**	**342**		**Pn**	**14 00 35.8**	**-0.4**
KAKN					**Sn**	**14 00 46.8**	**0.0**
KABU	**Katmai Buttres**	**0.74**	**333**		**Pn**	**14 00 36.3**	**-0.2**
KABU					**Sn**	**14 00 47.4**	**+0.2**
ANCK	**Angle Creek**	**0.74**	**322**		**Pn**	**14 00 36.1**	**-0.3**
ANCK					**Sn**	**14 00 47.0**	**-0.3**
OHAK	**Old Harbor**	**0.83**	**118**		**Pn**	**14 00 37.1**	**-0.4**
OHAK				IAML		14 00 52.9	
	comp=E,1μm,0.5s						
OHAK				IAML		14 00 53.7	
	comp=N,2μm,0.5s						
OHAK	**Old Harbor**	**0.83**	**118**		**Sn**	**14 00 49.5**	**+0.4**
PLK3	**Peulik 3**	**0.88**	**275**		**Pn**	**14 00 38.1**	**0.0**
PLK3					**Sn**	**14 00 50.2**	**0.0**
KAHG	**Katmai Hook Gl**	**0.88**	**3**		**Pn**	**14 00 38.5**	**+0.3**
KAHG					**Sn**	**14 00 50.8**	**+0.4**
PLK2	**Peulik 2**	**0.92**	**280**		**Pn**	**14 00 38.5**	**-0.1**
PLK2					**Sn**	**14 00 50.9**	**-0.2**
PLK4	**Peulik 4**	**0.92**	**272**		**Pn**	**14 00 38.6**	**-0.1**
PLK4					**Sn**	**14 00 51.3**	**-0.1**
CNTC	**Contact Creek**	**0.93**	**315**		**Pn**	**14 00 38.3**	**-0.5**
CNTC					**Sn**	**14 00 51.5**	**0.0**
KAPH	**Katmai Pasha**	**0.99**	**9**		**Pn**	**14 00 39.7**	**+0.1**
KAPH					**Sn**	**14 00 54.2**	**+1.3**
PLK1	**Peulik 1**	**1.07**	**281**		**Pn**	**14 00 40.5**	**0.0**
PLK1					**Sn**	**14 00 54.6**	**0.0**
SII	**Sitkinak Islan**	**1.09**	**167**		**Pn**	**14 00 40.3**	**-0.6**
SII	**Sitkinak Islan**	**1.09**	**167**		**Sn**	**14 00 55.2**	**0.0**
KDAK	**Kodiak Island**	**1.12**	**81**		**Pn**	**14 00 40.9**	**-0.2**
KDAK				IAML		14 01 01.0	
	comp=N,1μm,0.3s						
KDAK	**Kodiak Island**	**1.12**	**81**	P	**Pn**	**14 00 41.2**	**0.0**
	comp=N,330nm,0.3s,baz=206,slow=2.9,SNR=860						
KDAK				S	**Sn**	**14 00 57.4**	**+1.7**
	comp=N,494nm,0.5s,baz=55,slow=20,SNR=12						
KDAK				LR	LR	14 01 14.4	
	comp=N,93nm,21.4s,baz=267,slow=43						
PLBL	**Peulik Blue Cr**	**1.17**	**275**		**Pn**	**14 00 42.1**	**+0.1**
PLK5	**Peulik 5**	**1.26**	**289**		**Pn**	**14 00 42.9**	**-0.1**
PLK5					**Sn**	**14 00 59.0**	**0.0**
Q19K	**Cape Douglas,**	**1.42**	**21**		**Pn**	**14 00 45.5**	**+0.3**
Q19K				IAML		14 01 10.6	
	comp=E,893nm,0.8s						
Q19K				IAML		14 01 14.4	
	comp=N,863nm,0.8s						
Q16K	**King Salmon**	**1.51**	**316**		**Pn**	**14 00 46.0**	**-0.4**
SYI	**Shuyak Island**	**1.55**	**49**		**Pn**	**14 00 47.2**	**+0.2**
SYI				IAML		14 01 10.8	
	comp=N,770nm,0.6s						
SYI				IAML		14 01 12.7	
	comp=E,654nm,0.6s						
R16K	**Pilot Point**	**1.58**	**269**		**Pn**	**14 00 47.1**	**-0.3**
R16K	**Pilot Point**	**1.58**	**269**	IAML		14 01 23.3	
	comp=E,574nm,0.9s						
R16K				IAML		14 01 27.5	
	comp=N,619nm,0.7s						
P18K	**Big Mountain,**	**1.81**	**350**		**Pn**	**14 00 50.2**	**-0.3**
P18K				IAML		14 01 12.5	
	comp=N,360nm,0.7s						
P18K				IAML		14 01 12.7	
	comp=E,353nm,0.4s						
AUCH	**Augustine Cone**	**1.86**	**19**		**Pn**	**14 00 52.0**	**+0.8**
CHIR	**Chirikof Islan**	**1.88**	**197**		**Pn**	**14 00 49.4**	**-2.0**
CHIR				IAML		14 01 27.2	
	comp=N,547nm,0.7s						
AU22	**Augustine Moun**	**1.88**	**20**		**Pn**	**14 00 52.3**	**+0.9**
ANPK	**Aniakchak Peak**	**2.05**	**249**		**Pn**	**14 00 54.0**	**+0.2**
ANPB	**Aniakchak Plen**	**2.14**	**249**		**Pn**	**14 00 55.2**	**+0.1**
P19K	**Oil Pt**	**2.17**	**19**		**Pn**	**14 00 56.3**	**+0.9**
P19K				IAML		14 01 29.2	
	comp=E,489nm,0.5s						
O18K	**Koktuh Hills**	**2.26**	**353**		**Pn**	**14 00 56.8**	**+0.1**
O18K				IAML		14 01 24.4	
	comp=N,235nm,0.4s						
P16K	**Nushagak River**	**2.27**	**310**		**Pn**	**14 00 56.6**	**-0.1**
P16K	**Nushagak River**	**2.27**	**310**	IAML		14 01 26.9	
	comp=N,408nm,0.5s						
ILSW	**Iliamna Southw**	**2.50**	**18**		**Pn**	**14 01 00.4**	**+0.4**
ILSW				IAML		14 01 34.1	
	comp=E,199nm,0.8s						
O17K	**Koliganek Bris**	**2.51**	**330**		**Pn**	**14 00 59.8**	**-0.2**
IVE	**Iliamna Volcan**	**2.55**	**19**		**Pn**	**14 01 01.1**	**+0.5**
O19K	**Port Alsworth**	**2.59**	**4**		**Pn**	**14 01 01.4**	**+0.4**
CNPM	**China Poot**	**2.62**	**42**		**Pn**	**14 01 01.9**	**+0.4**
CNPM				IAML		14 01 41.9	
	comp=N,192nm,0.5s						
CNPM				IAML		14 01 43.2	
	comp=E,183nm,0.6s						
O16K	**Kokwok River B**	**2.68**	**319**		**Pn**	**14 01 02.0**	**-0.3**
O16K				IAML		14 01 34.7	
	comp=N,158nm,0.6s						
O20K	**Slope Mountain**	**2.68**	**22**		**Pn**	**14 01 03.6**	**+1.2**
BRLK	**Bradley Lake**	**2.91**	**41**		**Pn**	**14 01 05.3**	**-0.2**
BRLK				IAML		14 01 49.3	
	comp=N,232nm,0.4s						
BRLK				IAML		14 01 50.0	
	comp=E,222nm,0.5s						
RED	**Redoubt Volcan**	**2.97**	**18**		**Pn**	**14 01 07.0**	**+0.6**
RDSO	**Redoubt South**	**3.01**	**18**		**Pn**	**14 01 07.8**	**+0.8**
RDWB	**Redoubt West**	**3.02**	**17**		**Pn**	**14 01 08.2**	**+1.0**
NCT	**North Crescent**	**3.08**	**16**		**Pn**	**14 01 08.5**	**+0.6**
RDJH	**Redoubt Jeurge**	**3.13**	**17**		**Pn**	**14 01 09.6**	**+1.0**
N18K	**Kilae Creek**	**3.14**	**349**		**Pn**	**14 01 08.9**	**+0.3**
O15K	**Ungalikthiuk R**	**3.14**	**302**		**Pn**	**14 01 08.7**	**0.0**
O15K				IAML		14 02 05.5	
	comp=E,110nm,0.7s						
DFR	**Drift River**	**3.15**	**18**		**Pn**	**14 01 10.0**	**+1.2**
RDT	**Redoubt**	**3.18**	**20**		**Pn**	**14 01 10.0**	**+0.8**
N19K	**Bonanza Creek**	**3.21**	**1**		**Pn**	**14 01 10.1**	**+0.5**
N19K	**Bonanza Creek**	**3.21**	**1**	IAML		14 01 48.5	
	comp=E,112nm,0.6s						
SEW	**Seward**	**3.67**	**45**		**Pn**	**14 01 15.6**	**-0.2**
SLKM	**Skilak Lake**	**3.69**	**36**		**Pn**	**14 01 16.0**	**-0.1**
SLKM	**Skilak Lake**	**3.69**	**36**	IAML		14 02 12.0	
	comp=E,132nm,0.4s						
SPU	**Mount Spurr**	**3.81**	**19**		**Pn**	**14 01 18.5**	**+0.7**
N15K	**Kwethluk River**	**3.81**	**314**		**Pn**	**14 01 18.6**	**+0.8**
N15K				IAML		14 02 03.5	
	comp=N,89nm,0.8s						
N15K				IAML		14 02 05.2	
	comp=E,91nm,0.5s						
SPWE	**Spurr West**	**3.82**	**15**		**Pn**	**14 01 19.1**	**+1.1**
O22K	**Cooper Landing**	**3.83**	**39**		**Pn**	**14 01 18.8**	**+0.8**
SPBG	**Spurr Blockage**	**3.83**	**17**		**Pn**	**14 01 18.5**	**+0.4**
O14K	**Tigyukauivet M**	**3.85**	**298**		**Pn**	**14 01 18.5**	**+0.2**
O14K	**Tigyukauivet M**	**3.85**	**298**	IAML		14 02 34.6	
	comp=N,69nm,0.9s						
SPNN	**North Nagishla**	**3.89**	**14**		**Pn**	**14 01 20.3**	**+1.3**
CNBA	**Chernabura Isl**	**3.94**	**227**		**Pn**	**14 01 18.2**	**-1.2**
CNBA	**Chernabura Isl**	**3.94**	**227**	IAML		14 02 20.9	
	comp=N,114nm,0.4s						
M17K	**Holitna River**	**4.05**	**341**		**Pn**	**14 01 21.4**	**+0.4**
STLK	**Strandline Lak**	**4.15**	**19**		**Pn**	**14 01 22.9**	**+0.5**
RC01	**Rabbit Creek A**	**4.29**	**34**	IAML		14 02 26.2	
	comp=E,87nm,0.5s						
RC01				IAML		14 02 26.5	
	comp=N,85nm,0.5s						
M19K	**Big River Lodg**	**4.30**	**2**		**Pn**	**14 01 25.3**	**+0.8**
N14K	**Kuskokwak Cree**	**4.33**	**305**		**Pn**	**14 01 25.5**	**+0.6**
N14K				IAML		14 03 03.8	
	comp=N,87nm,1.2s						
SUA	**Susitna One**	**4.34**	**26**		**Pn**	**14 01 25.7**	**+0.6**
SUA	**Susitna One**	**4.34**	**26**	IAML		14 02 22.8	
SUA	comp=N,84nm,0.9s			IAML		14 02 27.8	
	comp=E,82nm,0.8s						
S12K	**Black Hills**	**4.52**	**248**		**Pn**	**14 01 28.0**	**+0.4**
L19K	**White Mountain**	**4.58**	**359**		**Pn**	**14 01 29.4**	**+1.1**
L19K				IAML		14 02 37.4	
	comp=E,52nm,0.8s						
PWL	**Port Wells**	**4.59**	**42**	IAML		14 02 36.1	
	comp=E,52nm,0.7s						
PWL				IAML		14 02 42.1	
	comp=N,69nm,0.5s						
L18K	**Granite Mounta**	**4.73**	**348**	IAML		14 02 23.8	
	comp=E,48nm,0.7s						
L18K				IAML		14 02 24.0	
	comp=N,52nm,1.0s						
PMR	**Palmer**	**4.87**	**33**	IAML		14 02 40.1	
	comp=E,28nm,0.5s						
PMR				IAML		14 02 44.6	
	comp=N,27nm,0.6s						
L20K	**Farewell, AK**	**4.89**	**4**		**Pn**	**14 01 33.1**	**+0.5**
HIN	**Hinchinbrook I**	**5.04**	**53**		**Pn**	**14 01 34.4**	**-0.2**
HIN				IAML		14 02 31.3	
	comp=E,50nm,0.8s						
HIN				IAML		14 02 34.9	
	comp=N,45nm,0.6s						
GLI	**Glacier Island**	**5.07**	**47**		**Pn**	**14 01 33.7**	**-1.3**
GLI	**Glacier Island**	**5.07**	**47**	IAML		14 02 56.9	
	comp=N,33nm,0.6s						
GLI				IAML		14 03 00.2	
	comp=E,35nm,0.8s						
FID	**Port Fidalgo**	**5.24**	**50**		**Pn**	**14 01 35.7**	**-1.6**
FID	**Port Fidalgo**	**5.24**	**50**	IAML		14 03 00.8	
FID	comp=E,30nm,0.7s			IAML		14 03 02.0	
	comp=N,29nm,0.8s						
M13K	**Dall Lake**	**5.30**	**306**		**Pn**	**14 01 38.9**	**+0.8**
M13K	**Dall Lake**	**5.30**	**306**	IAML		14 02 59.4	
	comp=N,21nm,1.1s						
M13K				IAML		14 03 24.0	
	comp=E,34nm,1.1s						
K17K	**Iditarod**	**5.43**	**342**		**Pn**	**14 01 40.5**	**+0.6**
EYAK	**Cordova Ski Ar**	**5.44**	**54**		**Pn**	**14 01 39.0**	**-1.1**
L14K	**Kuka Creek**	**5.54**	**316**		**Pn**	**14 01 41.2**	**-0.2**
SCM	**Sheep Creek Mo**	**5.62**	**38**		**Pn**	**14 01 42.2**	**-0.3**
K20K	**Telida**	**5.76**	**3**		**Pn**	**14 01 45.5**	**+0.9**
KAIM	**Kayak Island**	**5.80**	**62**		**Pn**	**14 01 44.8**	**-0.2**
K15K	**Wolf Creek Mou**	**5.83**	**326**		**Pn**	**14 01 45.6**	**+0.3**
RAGM	**Ragged Mountai**	**5.85**	**57**		**Pn**	**14 01 45.4**	**-0.3**
KLU	**Klutina**	**5.89**	**45**		**Pn**	**14 01 45.9**	**-0.4**
CAST	**Castle Rocks**	**5.96**	**11**		**Pn**	**14 01 47.5**	**+0.4**
HMT	**Hamilton**	**6.02**	**59**		**Pn**	**14 01 47.7**	**-0.3**
NICHA	**Nichawak Mount**	**6.12**	**60**		**Pn**	**14 01 49.0**	**-0.3**
BMRM	**Bremner River**	**6.14**	**53**		**Pn**	**14 01 49.3**	**-0.3**
SUCK	**Suckling Hills**	**6.15**	**62**		**Pn**	**14 01 49.4**	**-0.4**
J17K	**VABM Dome**	**6.20**	**341**		**Pn**	**14 01 50.5**	**+0.1**
BERG	**Berg Lake**	**6.30**	**59**		**Pn**	**14 01 51.2**	**-0.6**
J16K	**Anvik River**	**6.40**	**335**		**Pn**	**14 01 53.2**	**0.0**
J19K	**Poorman**	**6.42**	**356**		**Pn**	**14 01 53.6**	**+0.2**
N25K	**Chitina, Valde**	**6.47**	**48**		**Pn**	**14 01 53.9**	**-0.4**
KHIT	**Khitrov Hills**	**6.53**	**60**		**Pn**	**14 01 54.4**	**-0.6**
M11K	**Mekoryuk**	**6.58**	**300**		**Pn**	**14 01 56.2**	**+0.6**
J20K	**Nowinta River**	**6.59**	**2**		**Pn**	**14 01 55.8**	**+0.1**
SNH	**Sunshine Point**	**6.63**	**62**		**Pn**	**14 01 56.3**	**-0.1**
K13K	**Kusilvak Mount**	**6.65**	**315**		**Pn**	**14 01 57.5**	**+0.9**
VRDI	**Verde Repeater**	**6.76**	**53**		**Pn**	**14 01 58.1**	**-0.1**
J14K	**Nanvaranak Lak**	**6.80**	**323**		**Pn**	**14 01 58.2**	**-0.3**
BARK	**Barkley Ridge**	**6.87**	**61**		**Pn**	**14 01 59.4**	**-0.2**
ISLE	**Juniper Island**	**7.00**	**60**		**Pn**	**14 02 01.2**	**-0.3**
BAGL	**Bagley Icefiel**	**7.08**	**61**		**Pn**	**14 02 02.3**	**-0.2**
KIAG	**Kiagna River**	**7.11**	**57**		**Pn**	**14 02 02.9**	**-0.2**
BALM	**Baldy**	**7.16**	**56**		**Pn**	**14 02 03.5**	**-0.2**
PTPK	**Patty Peak**	**7.17**	**55**		**Pn**	**14 02 04.0**	**+0.1**
GCSA	**Galena City Sc**	**7.23**	**352**		**Pn**	**14 02 05.4**	**+0.9**
RKAV	**Rock Avalanche**	**7.38**	**63**		**Pn**	**14 02 06.0**	**-0.8**
CHX	**Chaix Hills**	**7.43**	**65**		**Pn**	**14 02 07.0**	**-0.4**
BARN	**Barnard Glacie**	**7.48**	**57**		**Pn**	**14 02 08.1**	**0.0**
TABL	**Table Mountain**	**7.52**	**62**		**Pn**	**14 02 08.5**	**-0.1**
CTGM	**Chitina Glacie**	**7.59**	**58**		**Pn**	**14 02 09.5**	**-0.2**
SAMH	**Samovar Hills**	**7.61**	**65**		**Pn**	**14 02 09.7**	**-0.2**
LOGN	**Logan Glacier**	**7.70**	**60**		**Pn**	**14 02 10.8**	**-0.3**
H17K	**Granite Mounta**	**7.77**	**343**		**Pn**	**14 02 12.1**	**+0.2**
H18K	**Honhosa River**	**7.77**	**348**		**Pn**	**14 02 11.1**	**-0.7**
PCA	**Pinnacle**	**7.86**	**66**		**Pn**	**14 02 12.8**	**-0.4**
H20K	**Anotleneega Mo**	**7.90**	**359**		**Pn**	**14 02 13.2**	**-0.5**
O28M	**Mount Upton**	**8.06**	**61**		**Pn**	**14 02 15.0**	**-1.1**
ILAR	**Eielson Array**	**8.09**	**24**	P	**Pn**	**14 02 15.1**	**-1.1**
	comp=E,0.4nm,0.3s,baz=218,slow=13,SNR=15						
ILAR				S	**Sn**	**14 03 41.6**	**-4.4**
	comp=E,2.5nm,0.9s,baz=214,slow=20,SNR=7.9						
	comp=E,1.1nm,0.5s						
YUK2	**White River**	**8.13**	**53**		**Pn**	**14 02 15.4**	**-1.4**
PNL	**Peninsula**	**8.21**	**69**		**Pn**	**14 02 17.1**	**-0.9**
J25K	**Salcha River,**	**8.32**	**29**		**Pn**	**14 02 18.5**	**-1.0**
IMAR	**Indian Mountai**	**8.41**	**2**		**Pn**	**14 02 21.3**	**+0.7**
G17K	**Kiwalik Mounta**	**8.41**	**343**		**Pn**	**14 02 20.5**	**-0.1**
YUK8	**Steele Glacier**	**8.42**	**58**		**Pn**	**14 02 22.1**	**+1.1**
H23K	**Yukon River**	**8.58**	**14**		**Pn**	**14 02 23.4**	**+0.4**
G19K	**Purcell Mounta**	**8.63**	**353**		**Pn**	**14 02 22.2**	**-1.4**
O29M	**Mount Kennedy**	**8.72**	**65**		**Pn**	**14 02 24.0**	**-1.0**
M29M	**Somme Creek**	**9.42**	**52**		**Pn**	**14 02 33.7**	**-0.8**
N30M	**Aishikik Lake**	**9.70**	**59**		**Pn**	**14 02 37.4**	**-0.9**
L29M	**L29M**	**9.84**	**49**		**Pn**	**14 02 39.0**	**-1.2**
DLBC	**Dease Lake**	**13.05**	**76**	P	**Pn**	**14 03 24.7**	**+0.7**
	comp=E,2.0nm,0.3s,baz=274,slow=14						
YKA	**Yellowknife Ar**	**20.31**	**59**	P	**P**	**14 04 52.4**	**+0.1**
	comp=E,1.4nm,0.9s,baz=269,slow=11,SNR=4.3						
	comp=E,1.4nm,0.9s						
PDAR	**Pinedale Array**	**31.78**	**98**	P	**P**	**14 06 41.6**	**+1.3**
	comp=E,0.6nm,0.7s,baz=324,slow=3.9,SNR=5.7						
	comp=E,0.6nm,0.7s	

H11S3	**WAKE ISLAND Hy**	**26.97**	**114**	T	T	15 49 43.4	
	baz=304,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**26.97**	**114**	T	T	15 49 45.3	
	baz=304,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**26.98**	**114**	T	T	15 49 46.4	
	baz=304,slow=75,SNR=9.8						
BATI	**Baumata**	**44.98**	**204**	LR	LR	15 40 26.3	
	comp=Z,74nm,21.5s,baz=130,slow=34						
MKAR	**Makanchi Array**	**46.49**	**306**	P	**P**	**15 23 54.2**	**+0.8**
	0.1nm,0.4s,baz=91,slow=7.8,SNR=2.8						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**51.96**	**188**	P	**P**	**15 24 34.4**	**-1.0**
	0.4nm,0.7s,baz=4.3,slow=7.6,SNR=7.4						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**55.68**	**188**	P	**P**	**15 25 02.2**	**-0.3**
	0.2nm,0.6s,baz=8.9,slow=7.3,SNR=6.5						
	0.2nm,0.6s						

*GCG **13** 15:30:53.0±1.2, 14°.33N×92°.79W, h26km±10km, MD4.2, ML4.2*
*CATAC **13** 15:30:54.2±0.6, 14°N±3°×9°.3W±°, h26km±3km, M4.2/15, MLv4.2/15, Error ellipse: s-maj=6.9km s-min=3.3km az=38.5, confirmed*
*MEX **13** 15:30:55.7±0.6, 14°.48N×92°.83W, h23km±22km, MD4.3*
*SNET **13** 15:30:55.1±1.1, 14°.47N×92°.62W, h20km, ML4.5*
*NEIC **13** 15:30:57.0±2.2, 14°.64N±0°.06×92°.74W±0°.04, h37km±10km, mb4.4/16, Md4.3/49(MEX), Error ellipse: s-maj=8.6km s-min=5.2km az=190.0*
*IDC **13** 15:30:59.5±3.1, 14°.78N×92°.75W, h64km±21km, mb3.4/3, mbtmp3.8/6, Error ellipse: s-maj=54.7km s-min=16.9km az=33.0*

ISC 13 15:30:52.1±1.7, **14°.43N**±0°.05×**92°.83W**±0°.03, **h16**km±10km, **n115**, σ1§**95**/159, **mb4.1**/11, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.72**	**49**			**Pb**	**15 31 06.8**	**+0.5**
THIG						**Sg**	**15 31 15.5**	**-0.4**
THIG		**0.72**	**49**	*e*P		**Pb**	**15 31 06.8**	**+0.5**
THIG				*e*S		**Sg**	**15 31 15.5**	**-0.4**
THIG		**0.72**	**49**	*i* P		**Pb**	**15 31 06.9**	**+0.5**
THIG				*i* S		**Sg**	**15 31 16.2**	**+0.4**
THIG				IAML			15 31 17.5	
	comp=N,7μm,0.5s							
SMCA	**Catarina**	**0.84**	**60**	*i* P		**Pb**	**15 31 08.7**	**+0.3**
SMCA				*i* S		**Sg**	**15 31 19.1**	**-0.6**
SMCA				IAML			15 31 20.3	
	comp=N,7μm,0.3s							
PATR	**El Naranjo**	**0.89**	**40**			**Pb**	**15 31 09.1**	**-0.3**
PATR						**Sg**	**15 31 20.1**	**-1.3**
PATR	**El Naranjo**	**0.89**	**40**	*i* P		**Pb**	**15 31 09.1**	**-0.3**
PATR				*e*S		**Sg**	**15 31 20.1**	**-1.3**
PAVE	**Pavencul**	**0.99**	**40**			**Pb**	**15 31 10.6**	**-0.4**
PAVE						**Sb**	**15 31 22.6**	**-1.2**
PAVE	**Pavencul**	**0.99**	**40**	*i* P		**Pb**	**15 31 10.6**	**-0.4**
PAVE				*e*S		**Sb**	**15 31 22.6**	**-1.2**
RTAL	**Retalhuleu**	**1.10**	**85**			**Pb**	**15 31 12.3**	**-0.5**
RTAL	**Retalhuleu**	**1.10**	**85**	*i* P		**Pb**	**15 31 12.5**	**-0.3**
RTAL				*e*S		**Sb**	**15 31 24.7**	**-2.8**
RTAL	**Retalhuleu**	**1.10**	**85**	S		**Sb**	**15 31 26.0**	**-1.0**
RTAL	**Retalhuleu**	**1.10**	**85**	P		**Pb**	**15 31 12.5**	**-0.3**
PCIG		**1.32**	**344**			**Pb**	**15 31 15.6**	**-0.2**
PCIG						**Sn**	**15 31 30.1**	**-3.0**
PCIG		**1.32**	**344**	*e*P		**Pn**	**15 31 15.6**	**-0.2**
PCIG				*e*S		**Sn**	**15 31 30.1**	**-3.0**
SOKI	**Kika Raxquin**	**1.43**	**74**	*i* P		**Pn**	**15 31 17.8**	**0.0**
SOKI				IAML			15 31 38.7	
	comp=E,2μm,1.0s							
HUEH	**Huehuetenango**	**1.56**	**55**			**Pn**	**15 31 19.5**	**+0.1**
HUEH	**Huehuetenango**	**1.56**	**55**	*e*P		**Pn**	**15 31 19.7**	**+0.3**
HUEH				*e*S		**Sn**	**15 31 36.7**	**-2.6**
HUEH	**Huehuetenango**	**1.56**	**55**	*e*P		**Pn**	**15 31 20.0**	**+0.7**
HUEH				*e*S		**Sn**	**15 31 39.3**	**0.0**
HUEH	**Huehuetenango**	**1.56**	**55**	*i* P		**Pn**	**15 31 20.0**	**+0.7**
HUEH	**Huehuetenango**	**1.56**	**55**	P		**Pn**	**15 31 19.7**	**+0.3**
HUEH	**Huehuetenango**	**1.56**	**55**	S		**Sn**	**15 31 38.6**	**-0.7**
QUIS	**Sacapulas**	**1.89**	**63**	*i* P		**Pn**	**15 31 25.0**	**+1.2**
QUIS				*i* S		**Sb**	**15 31 49.1**	**-0.5**
QUIS				IAML			15 31 54.0	
	comp=E,2μm,0.6s							
ESSG	**Sabana Grande**	**1.94**	**91**	*i* P		**Pn**	**15 31 23.2**	**-1.2**
ESSG				IAML			15 31 46.1	
	comp=N,978nm,0.6s							
CCIG	**Comitan**	**1.96**	**20**			**Pn**	**15 31 24.2**	**-0.5**
CCIG	**Comitan**	**1.96**	**20**	*e*P		**Pb**	**15 31 26.7**	**-0.7**
CCIG				*e*S		**Sn**	**15 31 50.6**	**+1.5**
CCIG	**Comitan**	**1.96**	**20**	*i* P		**Pb**	**15 31 26.7**	**-0.7**
CCIG				*i* S		**Sn**	**15 31 51.0**	**+1.9**
CCIG				IAML			15 31 56.0	
	comp=N,2μm,1.0s							
CCIG	**Comitan**	**1.96**	**20**	P		**Pb**	**15 31 27.1**	**-0.4**
FG8	**Yepocapa, Chim**	**2.21**	**94**	*i* P		Pn	15 31 22.5	-5.7
FG16	**Alotenango, Sa**	**2.25**	**94**	*i* P		Pn	15 31 23.8	-5.1
FG16				IAML			15 31 55.1	
	comp=E,11μm,0.6s							
TGIG		**2.35**	**353**			**Pn**	**15 31 30.6**	**+0.6**
TGIG						**Sn**	**15 31 56.7**	**-1.9**
TGIG		**2.35**	**353**	*e*P		**Pn**	**15 31 30.6**	**+0.6**
TGIG				*e*S		**Sn**	**15 31 56.7**	**-1.9**
TGIG		**2.35**	**353**	*i* P		**Pn**	**15 31 30.9**	**+0.9**
NILT	**Santiago Nilte**	**2.73**	**321**			**Pn**	**15 31 36.4**	**+1.2**
NILT						**Sn**	**15 32 07.9**	**0.0**
NILT	**Santiago Nilte**	**2.73**	**321**	*e*P		**Pn**	**15 31 36.4**	**+1.2**
NILT				*e*S		**Sn**	**15 32 07.9**	**0.0**
FAME	**Alcaldia de Sa**	**2.79**	**102**	P		**Pn**	**15 31 36.4**	**+0.3**
NUBE	**Las Nubes**	**3.01**	**100**	*i* P		**Pn**	**15 31 39.5**	**+0.3**
NUBE	**Las Nubes**	**3.01**	**100**	P		**Pn**	**15 31 39.4**	**+0.2**
NUBE	**Las Nubes**	**3.01**	**100**	S		**Sn**	**15 32 13.9**	**-1.1**
UXUV	**UXUV**	**3.13**	**336**			**Pn**	**15 31 43.4**	**+2.6**
UXUV						**Sn**	**15 32 21.6**	**+3.7**
UXUV	**UXUV**	**3.13**	**336**	*e*P		**Pn**	**15 31 43.4**	**+2.6**
UXUV				*e*S		**Sn**	**15 32 21.6**	**+3.7**
CEVE	**Cerro Verde**	**3.17**	**101**	*e*P		**Pn**	**15 31 42.0**	**+0.5**
CEVE				*e*S		**Sn**	**15 32 17.8**	**-1.3**
CEVE	**Cerro Verde**	**3.17**	**101**	P		**Pn**	**15 31 42.0**	**+0.5**
CEVE	**Cerro Verde**	**3.17**	**101**	S		**Sn**	**15 32 18.4**	**-0.8**
CMIG	**Matias Romero**	**3.30**	**323**			**Pn**	**15 31 44.2**	**+1.1**
CMIG						**Sn**	**15 32 21.2**	**-0.9**
CMIG	**Matias Romero**	**3.30**	**323**	P		**Pn**	**15 31 44.4**	**+1.3**
	comp=E,25nm,0.4s,baz=145,slow=10,SNR=36							
CMIG				S		**Sn**	**15 32 22.1**	**+0.1**
	comp=E,66nm,0.4s,baz=53,slow=21,SNR=8.3							
CMIG	**Matias Romero**	**3.30**	**323**	*e*P		**Pn**	**15 31 44.2**	**+1.1**
CMIG				*e*S		**Sn**	**15 32 21.2**	**-0.9**
MTO3	**Montecristo**	**3.36**	**90**	Pn		**Pn**	**15 31 43.7**	**-0.5**
MTO3	**Montecristo**	**3.36**	**90**	P		**Pn**	**15 31 44.9**	**+0.8**
MTO3	**Montecristo**	**3.36**	**90**	S		**Sn**	**15 32 24.3**	**+0.5**
JAYA	**Jayaque - finc**	**3.37**	**103**	*e*P		**Pn**	**15 31 44.4**	**+0.2**
JAYA				*e*S		**Sn**	**15 32 21.9**	**-2.1**
JAYA	**Jayaque - finc**	**3.37**	**103**	P		**Pn**	**15 31 44.6**	**+0.3**
HUIG	**Huatulco**	**3.43**	**293**			**Pn**	**15 31 45.4**	**+0.5**
HUIG						**Sn**	**15 32 20.3**	**-5.0**
HUIG	**Huatulco**	**3.43**	**293**	*e*P		**Pn**	**15 31 45.4**	**+0.5**
HUIG				*e*S		**Sn**	**15 32 20.3**	**-5.0**
BOQS	**Boqueron**	**3.52**	**101**	*e*P		**Pn**	**15 31 46.7**	**+0.5**
PETF	**Flores**	**3.77**	**49**	Pn		**Pn**	**15 31 49.7**	**+0.1**
PETF	**Flores**	**3.77**	**49**	*e*P		**Pn**	**15 31 50.1**	**+0.5**
PETF				*i* S		**Sn**	**15 32 27.8**	**-6.0**
PETF	**Flores**	**3.77**	**49**	*i* P		**Pn**	**15 31 50.5**	**+0.9**
PETF	**Flores**	**3.77**	**49**	P		**Pn**	**15 31 50.1**	**+0.5**
PETF	**Flores**	**3.77**	**49**	S		**Sn**	**15 32 32.9**	**-0.9**
NEUV	**Arroyo Zacate**	**4.33**	**319**			**Pn**	**15 31 58.5**	**+1.1**
NEUV						**Sn**	**15 32 45.0**	**-2.6**
NEUV	**Arroyo Zacate**	**4.33**	**319**	*e*P		**Pn**	**15 31 58.5**	**+1.1**
NEUV				*e*S		**Sn**	**15 32 45.0**	**-2.6**
PEIG	**Puerto Escondi**	**4.45**	**291**			**Pn**	**15 32 00.2**	**+1.3**
PEIG						Sn	15 32 42.4	-8.0
PEIG	**Puerto Escondi**	**4.45**	**291**	*e*P		**Pn**	**15 32 00.2**	**+1.3**
PEIG				*e*S		Sn	15 32 42.4	-8.0
PACA	**Pacayal**	**4.48**	**102**	P		**Pn**	**15 32 01.6**	**+2.1**
OXIG	**Oaxaca**	**4.58**	**305**			**Sn**	**15 32 57.0**	**+3.0**
VHO	**Vista Hermosa**	**4.58**	**305**	*e*S		**Sn**	**15 32 57.0**	**+3.0**
PMUV	**Sontecomapan**	**4.64**	**332**			**Pn**	**15 32 01.9**	**+0.3**
PMUV						**Sn**	**15 32 51.9**	**-3.3**
PMUV	**Sontecomapan**	**4.64**	**332**	*e*P		**Pn**	**15 32 01.9**	**+0.3**
PMUV				*e*S		**Sn**	**15 32 51.9**	**-3.3**
SCIG	**Sabancuy**	**4.78**	**19**	*e*P		**Pn**	**15 32 04.2**	**+0.8**
SCIG				*e*S		**Sn**	**15 32 52.8**	**-5.6**
CNCH	**Conchagua**	**4.99**	**103**	P		**Pn**	**15 32 07.1**	**+0.7**
CNCH	**Conchagua**	**4.99**	**103**	S		**Sn**	**15 33 03.2**	**-0.7**
YOIG	**Yosondua**	**5.14**	**299**			**Pn**	**15 32 11.9**	**+3.2**
YOIG						**Sn**	**15 33 07.1**	**-0.8**
YOIG	**Yosondua**	**5.14**	**299**	*e*P		**Pn**	**15 32 11.9**	**+3.2**
YOIG				*e*S		**Sn**	**15 33 07.1**	**-0.8**
TOIG	**Toxpalan**	**5.46**	**312**			**Pn**	**15 32 11.8**	**-1.1**
TOIG						**Sn**	**15 33 11.4**	**-4.0**
TOIG	**Toxpalan**	**5.46**	**312**	*e*P		**Pn**	**15 32 11.8**	**-1.1**
TOIG				*e*S		**Sn**	**15 33 11.4**	**-4.0**
TXIG	**Tlaxiaco**	**5.52**	**301**			**Pn**	**15 32 17.6**	**+3.7**
TXIG						**Sn**	**15 33 12.0**	**-5.1**
TXIG	**Tlaxiaco**	**5.52**	**301**	*e*P		**Pn**	**15 32 17.6**	**+3.7**
TXIG				*e*S		**Sn**	**15 33 12.0**	**-5.1**
HLIG	**Huajuapan de L**	**5.85**	**306**			Pn	15 32 23.6	+5.2
HLIG						**Sn**	**15 33 23.3**	**-2.0**
HLIG	**Huajuapan de L**	**5.85**	**306**	*e*P		Pn	15 32 23.6	+5.2
HLIG				*e*S		**Sn**	**15 33 23.3**	**-2.0**
CRIN	**San Cristobal**	**5.88**	**106**	Pn		**Pn**	**15 32 21.5**	**+2.8**
HERN	**Volcan Telica**	**6.11**	**107**	Pn		**Pn**	**15 32 24.3**	**+2.5**
JAUV	**Jalcomulco**	**6.21**	**323**			**Pn**	**15 32 22.9**	**-0.3**
JAUV						**Sn**	**15 33 30.9**	**-2.9**
JAUV	**Jalcomulco**	**6.21**	**323**	*e*P		**Pn**	**15 32 22.9**	**-0.3**
JAUV				*e*S		**Sn**	**15 33 30.9**	**-2.9**
PPM	**Popocatepetl**	**7.21**	**310**	*e*P		**Pn**	**15 32 41.9**	**+4.5**
PPM				*e*S		**Sn**	**15 33 56.2**	**-3.1**
PPIG	**Popocatepetl**	**7.22**	**310**			**Pn**	**15 32 41.9**	**+4.5**
PPIG						**Sn**	**15 33 56.2**	**-3.1**
TEIG	**Tepich**	**7.22**	**36**			**Pn**	**15 32 35.8**	**-1.2**
TEIG	**Tepich**	**7.22**	**36**	P		**Pn**	**15 32 38.2**	**+1.3**
	baz=312,slow=24,SNR=40							
TEIG				S		Sn	15 33 49.6	-9.0
	comp=E,0.1nm,0.5s,baz=311,slow=24,SNR=7.0							
BOAB	**BOACO BROADBAN**	**7.24**	**105**			**Pn**	**15 32 39.9**	**+2.6**
CXUV	**Coxquihui**	**7.30**	**322**			**Pn**	**15 32 39.1**	**+1.1**
CXUV						**Sn**	**15 33 59.2**	**-1.4**
CXUV	**Coxquihui**	**7.30**	**322**	*e*P		**Pn**	**15 32 39.1**	**+1.1**
CXUV				*e*S		**Sn**	**15 33 59.2**	**-1.4**
JTS	**Las Juntas de**	**8.73**	**117**	P		Pn	15 33 04.7	+7.0
	comp=E,5.4nm,0.4s,baz=321,slow=16,SNR=5.8							
JTS				S		Sn	15 34 52.0	+16
	comp=E,4.9nm,0.6s,baz=290,slow=22,SNR=2.1							
545A	**Edgard**	**15.69**	**8**	Pn		**Pn**	**15 34 32.2**	**-0.2**
060A	**Indiantown**	**17.11**	**41**	Pn		**Pn**	**15 34 49.7**	**-0.9**
TXAR	**Lajitas Array**	**17.90**	**328**	P		**P**	**15 35 02.9**	**+1.8**
	comp=E,1.3nm,0.8s,baz=142,slow=9.9,SNR=11							
TUMC	**Tumaco**	**18.74**	**131**	P		**Pn**	**15 35 12.9**	**+2.1**
VHRN	**Van Horn**	**19.74**	**328**	P		**Pn**	**15 35 22.9**	**0.0**
PV18	**Skein Mesa, Pa**	**27.66**	**332**	P		**P**	**15 36 41.0**	**+1.5**
PV18					IAmb	IAmb	15 36 53.0	
	comp=Z,3.2nm,1.0s							
PV12	**Saucer Basin,**	**27.67**	**332**	P		**P**	**15 36 40.9**	**+1.3**
PV12					IAmb	IAmb	15 36 42.2	
	comp=Z,5.4nm,0.8s							
PV04	**Paradox Valley**	**27.78**	**332**	P		**P**	**15 36 41.7**	**+1.2**
UCCT	**U. Connecticut**	**32.59**	**29**	P		**P**	**15 37 23.2**	**+0.4**
UCCT					IAmb	IAmb	15 37 23.6	
	comp=Z,21nm,1.0s							
LOHW	**Long Hollow**	**32.82**	**336**	P		**P**	**15 37 25.7**	**+0.7**
NVAR	**Mina Array Bea**	**32.83**	**321**	P		**P**	**15 37 27.0**	**+1.8**
NVAR	**Mina Array Bea**	**32.83**	**321**	P		**P**	**15 37 25.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=106,slow=6.5,SNR=5.4							
	comp=Z,0.9nm,0.6s							
K62A	**Royalston**	**33.26**	**28**	P		**P**	**15 37 29.8**	**+1.1**
K62A					IAmb	IAmb	15 37 31.5	
	comp=Z,7.9nm,0.7s							
MCMT	**McKenzie Canyo**	**34.74**	**335**	P		**P**	**15 37 43.0**	**+1.3**
PLID	**Pearl Lake**	**36.31**	**332**	P		**P**	**15 37 55.3**	**0.0**
LNOR	**Lincton Mounta**	**37.96**	**331**	P		**P**	**15 38 10.1**	**+1.1**
LNOR					IAmb	IAmb	15 38 44.3	
	comp=Z,4.8nm,1.3s							
YKA	**Yellowknife Ar**	**50.42**	**347**	P		**P**	**15 39 46.8**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=144,slow=6.9,SNR=4.0							
	comp=Z,0.9nm,0.7s							
TRCB	**Terra Rica**	**54.02**	**133**	P		**P**	**15 40 17.4**	**+1.5**
M29M	**Somme Creek**	**57.70**	**337**	P		**P**	**15 40 41.7**	**-0.1**
M29M					IAmb	IAmb	15 40 42.6	
	comp=Z,1.6nm,0.8s							
BCAR	**Beaver Creek A**	**59.32**	**336**	P		**P**	**15 40 52.9**	**-0.1**
ILAR	**Eielson Array**	**62.13**	**337**	P		**P**	**15 41 12.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=166,slow=4.5,SNR=4.5							
	comp=Z,0.3nm,0.6s							
BMAR	**Burnt Mountain**	**62.61**	**340**	P		**P**	**15 41 14.9**	**-0.5**
PPLA	**Purkeypile**	**63.49**	**334**	P		**P**	**15 41 22.7**	**+1.3**
PPLA					IAmb	IAmb	15 41 42.0	
	comp=Z,6.1nm,1.0s							
F21K	**Alatna River**	**65.61**	**338**	P		**P**	**15 41 34.8**	**-0.2**
F21K					IAmb	IAmb	15 41 51.5	
	comp=Z,7.4nm,1.5s							

*IDC **13** 15:44:56.0±2.7, 7°.93S×111°.04E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=157.7km s-min=28.3km az=51.0*
*DJA **13** 15:45:05.2±0.3, 8°S±5°×11°.1E±°, h98km±4km, M3.6/12, mb4.0/1, MLv3.3/12*

ISC 13 15:45:06.0±0.9, **8°.1S**±0°.1×**110°.54E**±0°.05, **h104**km±7km, **n14**, σ1§**09**/21, **mb3.2**/4, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.21**	**355**	P		**Pn**	**15 45 20.3**	**-0.5**
UGM				S		**Sn**	**15 45 31.4**	**-0.4**
WOJI	**Wonogiri, Jawa**	**0.47**	**53**	P		**Pn**	**15 45 21.9**	**-0.1**
WOJI				S		**Sn**	**15 45 34.7**	**+0.7**
PCJI	**Pacitan**	**0.63**	**96**	P		**Pn**	**15 45 23.2**	**0.0**
PCJI				S		**Sn**	**15 45 37.0**	**+0.9**
SMRI	**Semarang**	**1.07**	**355**	P		**Pn**	**15 45 26.5**	**-1.0**
SMRI				S		**Sn**	**15 45 42.9**	**-0.9**
KPJI	**Karang Pucung**	**1.78**	**296**	P		**Pn**	**15 45 35.3**	**-0.6**
KPJI				S		**Sn**	**15 45 58.0**	**-0.7**
GRJI	**Gresik**	**2.27**	**58**	P		**Pn**	**15 45 41.3**	**-0.9**
GMJI	**Gumukmas**	**2.88**	**93**	P		**Pn**	**15 45 48.9**	**-1.3**
GMJI				S		**Sn**	**15 46 23.9**	**-0.4**
CNJI	**Cibinong**	**3.48**	**283**	P		**Pn**	**15 45 57.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**3.59**	**96**	P		**Pn**	**15 45 58.7**	**-1.0**
JAGI				S		**Sn**	**15 46 40.9**	**-0.4**
CGJI	**Cibinong**	**5.04**	**287**	P		**Pn**	**15 46 18.1**	**-1.1**
WRA	**Warramunga Arr**	**25.86**	**120**	P		**P**	**15 50 26.9**	**-1.2**
	0.5nm,0.9s,baz=295,slow=12,SNR=4.9							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**27.20**	**127**	P		**P**	**15 50 39.2**	**-0.9**
	0.3nm,0.7s,baz=303,slow=9.0,SNR=5.9							
	0.3nm,0.7s							
STKA	**Stephens Creek**	**37.31**	**134**	P		**P**	**15 52 08.1**	**0.0**
	1.0nm,0.3s,baz=324,slow=7.7,SNR=13							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**60.18**	**338**	P		**P**	**15 55 05.7**	**+2.9**
	0.1nm,0.4s,baz=148,slow=6.0,SNR=1.9							
	0.1nm,0.4s							

*IDC **13** 15:48:16.2±1.3, 31°.12S×177°.54W, h0km, mb4.3/5, mbtmp4.2/6, ML3.8/1, MS2.8/2, Error ellipse: s-maj=34.2km s-min=19.9km az=92.0*
*NEIC **13** 15:48:17.8±1.0, 31°.12S±0°.08×177°.4W±0°.1, h10km±1km, mb4.4/14, Error ellipse: s-maj=22.2km s-min=12.1km az=254.0*

ISC 13 15:48:20.1±0.7, **31°.23S**±0°.06×**177°.6W**±0°.1, **h27**km, **n30**, σ1§**29**/30, **mb4.3**/13, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.98**	**353**	Pn		**Pn**	**15 48 50.1**	**-1.7**
RAO	**Raoul Island**	**1.98**	**353**	Pn		**Pn**	**15 48 50.6**	**-1.3**
	174nm,0.3s,baz=113,slow=9.8,SNR=9.8							
RAO				Sn		**Sn**	**15 49 15.6**	**-0.2**
	320nm,0.3s,baz=74,slow=22,SNR=5.3							
URZ	**Urewera**	**8.24**	**210**	Pn		**Pn**	**15 50 17.0**	**-0.8**
	1.1nm,0.3s,baz=49,slow=9.3,SNR=6.5							
URZ				Sn		**Sn**	**15 51 46.2**	**-3.8**
	2.5nm,0.3s,baz=245,slow=14,SNR=12							
	11nm,0.8s							
RTZ	**Ruatahuna**	**8.60**	**209**	Pn		**Pn**	**15 50 21.9**	**-0.8**
THZ	**Tophouse**	**12.97**	**213**	Pn		**Pn**	**15 51 20.7**	**-1.9**
PINNC	**Pines Island,**	**15.82**	**299**	Pn		**Pn**	**15 52 01.1**	**+0.1**
PINNC					IAmb	IAmb	15 52 10.5	
	comp=Z,43nm,1.2s							
DZM	**Mont Dzumac**	**16.89**	**299**	LR		LR	15 56 32.5	
	comp=Z,33nm,21.4s,baz=184,slow=29							
RAR	**Rarotonga**	**18.85**	**62**	LR		LR	16 00 13.0	
	comp=Z,31nm,18.4s,baz=236,slow=38							
PPTF	**Pamatai, Papee**	**28.84**	**68**	P		**P**	**15 54 15.1**	**-1.3**
STKA	**Stephens Creek**	**34.61**	**258**	P		**P**	**15 55 09.1**	**+2.2**
	comp=Z,3.1nm,0.7s,baz=91,slow=12,SNR=11							
	comp=Z,3.1nm,0.7s							
BBOO	**Buckleboo**	**39.06**	**255**	P		**P**	**15 55 45.7**	**+0.9**
BBOO				IAmb		IAmb	15 56 10.4	
	comp=Z,9.9nm,1.2s							
AS31	**Alice Springs**	**43.39**	**268**	P		**P**	**15 56 20.5**	**0.0**
ASAR	**Alice Springs**	**43.39**	**268**	P		**P**	**15 56 19.8**	**-0.7**
ASAR	**Alice Springs**	**43.39**	**268**	P		**P**	**15 56 20.9**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=106,slow=7.5,SNR=33							
ASAR				PcP		**PcP**	**15 58 08.7**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=100,slow=3.8,SNR=2.1							
	comp=Z,2.3nm,0.7s							
WR8	**Warramunga Arr**	**44.31**	**273**	P		**P**	**15 56 28.9**	**+1.0**
WR8				IAmb		IAmb	15 56 34.9	
	comp=Z,4.7nm,1.0s							
WRAB	**Tennant Creek**	**44.45**	**273**	P		**P**	**15 56 30.2**	**+1.2**
WRAB				IAmb		IAmb	15 56 44.3	
	comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**44.45**	**273**	P		**P**	**15 56 30.5**	**+1.4**
WRA	**Warramunga Arr**	**44.45**	**273**	P		**P**	**15 56 29.4**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=111,slow=8.0,SNR=33							
	comp=Z,2.5nm,0.6s							
WB0	**Warramunga Arr**	**44.48**	**273**	P		**P**	**15 56 30.1**	**+0.8**
WB0				IAmb		IAmb	15 57 12.2	
	comp=Z,9.8nm,1.2s							
VNDA	**Vanda**	**47.31**	**186**	P		**P**	**15 56 51.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.68**	**270**	P		**P**	**15 57 32.9**	**+0.5**
FITZ				IAmb		IAmb	15 57 40.0	
	comp=Z,3.5nm,1.5s							
CASY	**Casey**	**54.56**	**208**	P		**P**	**15 57 46.4**	**+0.9**
CASY				IAmb		IAmb	15 58 01.7	
	comp=Z,3.7nm,1.1s							
QSPA	**South Pole Qui**	**58.89**	**180**	P		**P**	**15 58 18.1**	**+1.7**
QSPA	**South Pole Qui**	**58.89**	**180**	P		**P**	**15 58 17.8**	**+1.5**
	comp=Z,2.5nm,0.7s,baz=2.2,slow=0.4,SNR=16							
	comp=Z,2.5nm,0.7s							
BELA	**Belgrano 2**	**68.92**	**172**	P		**P**	**15 59 22.3**	**+0.3**
BELA				IAmb		IAmb	15 59 25.0	
	comp=Z,2.4nm,0.8s							
MAW	**Mawson**	**71.65**	**201**	P		P	15 59 34.0	-4.8
	comp=Z,2.7nm,0.3s,baz=141,slow=6.5,SNR=21							
KIWB	**Kanaga Island**	**82.72**	**0**	P		**P**	**16 00 40.6**	**-0.3**
PETK	**Petropavlovsk-**	**86.69**	**345**	P		**P**	**16 01 01.3**	**+0.4**
PETK	**Petropavlovsk-**	**86.69**	**345**	P		**P**	**16 01 00.5**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=178,slow=6.7,SNR=3.1							
	comp=Z,1.7nm,0.8s							
FINES	**FINESS Array B**	**146.03**	**340**	PKPbc		**PKPdf**	**16 07 56.1**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=53,slow=5.0,SNR=12							

*IDC **13** 15:49:58.9±0.5, 10°.15S×77°.40W, h0km, mb4.5/19, mbtmp4.5/21, ML4.0/2, MS3.9/44, Error ellipse: s-maj=17.9km s-min=8.7km az=75.0*
*VAO **13** 15:50:02.2±1.2, 10°.09S×77°.09W, h11km±8km, mb4.9*
*NEIC **13** 15:50:02.2±2.1, 10°.20S±0°.03×77°.29W±0°.09, h15km±4km, mb5.1/483, Mww4.9/9, Error ellipse: s-maj=13.4km s-min=2.6km az=76.0*
*GCMT **13** 15:50:03.2±0.3, 10°.13S±0°.01×77°.19W±0°.02, h21km±1km, MW4.8/92, Moment Tensor Solution. s21,c23; s92,c122; Duration: 0 Moment tensor: Scale 10^16Nm

AC06 Mina Casimiro 18.29 160 P Pn 15 54 16.0 +0.7
PTLB Pontes e Lacer 18.42 108 Pn 15 54 17.2 +0.2
PTLB Pontes e Lacer 18.42 108 eP P 15 54 16.3 -0.4
LCO Las Campanas 19.72 163 P P 15 54 29.0 -2.1
SJCC San Jacinto, C 20.05 6 P Pn 15 54 35.4 -1.1
comp=Z,81nm,0.9s
SDV Santo Domingo 20.05 19 P P 15 54 33.8 -1.0
SDV Santo Domingo 20.05 19 P P 15 54 33.0 -1.7
comp=Z,15nm,0.6s,baz=215,slow=8.6,SNR=7.7
SDV S Sn 15 58 22.8 +1.3
comp=Z,4.8nm,0.4s,baz=26,slow=9.6,SNR=1.3
SDV LR LR 16 03 38.8
comp=Z,1µm,20.4s,baz=215,slow=41
comp=Z,15nm,0.6s
SDV Santo Domingo 20.05 19 eP P 15 54 34.1 -0.7
SDV Santo Domingo 20.05 19 P P 15 54 34.5 -0.3
comp=Z,622nmcomp=Z,50nm,0.8s
PDRB Porto dos Gac 20.20 96 eP P 15 54 35.6 -0.7
VCA Vinchina 20.32 157 eP Pn 15 54 39.4 -0.4
GO04 Tololo Observa 20.79 164 P P 15 54 43.1 +0.4
BOAV Boa Vista 20.82 54 P Pn 15 54 44.5 -1.0
BOAV Boa Vista 20.82 54 eP P 15 54 41.8 -1.2
AGUA GUANDACOL 20.89 158 eP Pn 15 54 45.9 -0.4
CLDB Colider 21.10 94 eP P 15 54 45.3 -0.7
AROD Rodeo 21.17 161 eP P 15 54 48.1 +1.2
ACDV Cuesta del Vie 21.29 160 eP P 15 54 49.6 +1.5
ACLC CERRO LA CRUZ 21.44 155 eP P 15 54 50.8 +1.2
CO03 El Pedregal 21.45 164 P P 15 54 49.6 -0.1
CRJC Cerrejon, Guaj 21.50 12 P P 15 54 48.8 -1.5
ACCO Cerro Coronel 21.69 161 eP P 15 54 53.6 +1.1
SOCE Pocosol 21.70 340 IAmb IAmb 15 55 01.4
comp=Z,86nm,0.9s
CO02 Combarbal 21.71 165 IAmb IAmb 15 54 59.1
comp=Z,48nm,0.8s
JTS Las Juntas de 21.73 339 P P 15 54 53.8 +1.1
JTS Las Juntas de 21.73 339 P P 15 54 53.1 +0.4
comp=Z,18nm,0.8s,baz=160,slow=4.0,SNR=11
JTS LR LR 16 02 29.3
comp=Z,597nm,20.9s,baz=158,slow=35
comp=Z,18nm,0.8s
SALV Santo Antonio 21.75 107 eP P 15 54 52.6 -0.3
NPGB Novo Progresso 21.86 84 eP P 15 54 52.5 -1.7
ITTB Itaituba 22.10 76 eP P 15 54 55.8 -0.9
BDQN Bodoquena, MS 22.23 120 eP P 15 54 58.1 0.0
AVFE Valle Fertil 22.33 157 eP P 15 54 59.0 -0.1
APLL PUNTA DE LOS L 22.46 155 eP P 15 55 00.7 +0.1
ZON Zonda 22.70 161 P P 15 55 03.5 +0.4
ZON IAmb IAmb 15 55 08.1
comp=Z,93nm,1.8s
RTLS Leoncito 22.74 162 eP P 15 55 04.2 +0.5
ACHE Chepes 23.08 156 eP P 15 55 08.1 +1.0
AUSP Uspallata 23.11 163 eP P 15 55 09.2 +1.6
H03N1 Juan Fernandez 23.20 184 T T 16 19 26.3
baz=0.7,slow=75,SNR=63
H03N2 Juan Fernandez 23.20 184 T T 16 19 25.4
baz=0.7,slow=75,SNR=75
H03N3 Juan Fernandez 23.22 184 T T 16 19 24.7
baz=0.7,slow=75,SNR=55
ESPN Las Esperanzas 23.30 342 IAmb IAmb 15 55 14.0
comp=Z,40nm,0.9s
ROC1 El Roble 23.41 167 eP P 15 55 08.6 -1.8
ASAL Salagasta 23.62 162 eP P 15 55 13.4 +1.1
PEL Peldehue 23.64 166 IAmb IAmb 15 55 15.9
comp=Z,39nm,1.0s
PCRV Puerto La Cruz 23.80 32 LR LR 16 05 35.7
comp=Z,816nm,19.8s,slow=39
ACAN Cantantal 23.88 159 eP P 15 55 16.5 +1.8
AAGR Agrelo 24.08 162 eP P 15 55 18.4 +1.7
MT08 Bocatoma Ro 24.09 165 IAmb IAmb 15 55 20.3
comp=Z,86nm,1.4s
MT09 Talagante 24.18 167 IAmb IAmb 15 55 23.4
comp=Z,123nm,1.7s
MAL2 Monte Alegre, 24.31 72 P P 15 55 19.7 +0.9
MAL2 IAmb IAmb 15 55 38.3
comp=Z,26nm,0.8s
LMEL Las Melosas 24.43 166 IAmb IAmb 15 55 24.2
comp=Z,41nm,0.8s
CPUP Villa Florida 24.76 133 P P 15 55 24.1 +1.3
comp=Z,6.7nm,0.9s,baz=174,slow=3.0,SNR=12
CPUP LR LR 16 07 16.8
comp=Z,130nm,18.5s,baz=179,slow=42
comp=Z,6.7nm,0.9s
AMBA Amambai (Brazi 24.77 124 eP P 15 55 23.9 +0.9
RPRD Ribas do Rio P 24.88 117 eP P 15 55 24.2 +0.3
SIUN Universidad Ur 24.88 342 IAmb IAmb 15 55 27.9
comp=Z,12nm,1.0s
SJPY San Joaquin 24.91 129 eP P 15 55 25.0 +0.7
ARAG Araguaiana, MT 25.38 105 eP P 15 55 28.8 +0.2
SNDB Serra Nova Dou 25.53 96 eP P 15 55 29.9 0.0
TRCB Terra Rica 26.68 121 P P 15 55 40.4 +0.1
TRCB Terra Rica 26.68 121 eP P 15 55 40.7 +0.4
MTO3 Montecristo 27.21 334 P P 15 55 45.1 -0.2
ITRB Iturama 27.62 113 eP P 15 55 50.7 +2.0
MDP Montagnes des 28.83 59 LR LR 16 06 56.8
comp=Z,300nm,20.2s,baz=236,slow=35
BDFB Brasilia 28.99 104 P P 15 56 01.6 +0.5
BDFB LR LR 16 08 24.4
comp=Z,582nm,18.3s,baz=272,slow=38
comp=Z,3.8nm,0.8s
SMTB Santa Maria do 29.28 90 eP P 15 56 03.3 -0.3
CPSB Cacapava Do Su 29.94 136 eP P 15 56 12.0 +2.7
SJG San Juan 30.17 21 LR LR 16 09 45.1
comp=Z,283nm,21.2s,baz=223,slow=39
PLCA Paso Flores 31.00 170 P P 15 56 18.3 -0.3
comp=Z,3.2nm,0.7s,baz=354,slow=10,SNR=11
PLCA LR LR 16 06 40.0
comp=Z,142nm,20.3s,baz=2.5,slow=32
comp=Z,3.2nm,0.7s
PLCA Paso Flores 31.00 170 eP P 15 56 18.7 +0.1
SDBA SAO DESIDERIO 31.79 97 eP P 15 56 25.7 -0.1
TEIG Tepich 32.10 340 P P 15 56 28.2 -0.1
TEIG IAmb IAmb 15 56 31.7
comp=Z,20nm,0.8s
CMIG Matias Romero 32.22 327 LR LR 16 07 13.3
comp=Z,219nm,21.2s,baz=145,slow=32
JANB Januaria 32.48 102 eP P 15 56 31.6 -0.3
RPN Rapa Nui 34.61 236 LR LR 16 06 37.0
comp=Z,280nm,18.3s,baz=252,slow=29
RIB01 Linhares ES 36.71 109 eP P 15 57 06.3 -2.0
NBAN Anadia - AL 40.35 93 eP P 15 57 38.9 -0.1
451A Vernon 41.37 349 IAmb IAmb 15 57 50.3
comp=Z,76nm,1.1s
HBVL Hebbronville 42.46 331 IAmb IAmb 15 57 59.8
comp=Z,22nm,0.8s
250A Grady 42.80 349 IAmb IAmb 15 58 00.9
comp=Z,72nm,1.3s
HKT Hockley 43.72 336 P P 15 58 07.1 +0.9
HKT IAmb IAmb 15 58 09.7
comp=Z,54nm,1.3s
Y52A Lilburn 44.27 352 IAmb IAmb 15 58 12.5
comp=Z,41nm,1.6s
Z47A Carrollton 44.35 347 IAmb IAmb 15 58 13.1
comp=Z,25nm,0.7s
HODGE Hodges 44.42 354 IAmb IAmb 15 58 12.9
comp=Z,54nm,1.7s
PAULI Pauline 44.96 355 IAmb IAmb 15 58 17.4
comp=Z,17nm,0.8s
X51A Calhoun 45.08 351 IAmb IAmb 15 58 18.3
comp=Z,70nm,1.8s
W57A Gilead 45.16 357 IAmb IAmb 15 58 18.9
comp=Z,11nm,0.5s
BG3 Lake Jocassee 45.24 353 IAmb IAmb 15 58 19.8
comp=Z,34nm,1.4s
DRIO Del Rio 45.36 331 P P 15 58 19.2 -0.2
DRIO IAmb IAmb 15 58 22.5
comp=Z,29nm,0.9s
W52A Murphy 45.47 352 IAmb IAmb 15 58 22.1
comp=Z,16nm,0.8s
V58A Windy Hill, Pi 45.76 358 IAmb IAmb 15 58 23.6
comp=Z,36nm,1.8s
SWET Sewanee 45.89 350 IAmb IAmb 15 58 24.9
comp=Z,19nm,0.8s
CPCT Cooper Cave 45.90 352 IAmb IAmb 15 58 25.3
comp=Z,13nm,0.8s
V55A Taylorsville 45.93 356 IAmb IAmb 15 58 26.1
comp=Z,24nm,1.4s
TKL Tuckaleechee C 46.00 353 LR LR 16 18 00.0
comp=Z,129nm,19.3s,baz=177,slow=37
PLAL Pickwick Lake 46.07 348 IAmb IAmb 15 58 26.1
comp=Z,68nm,1.8s
WHTX Lake Whitney, 46.17 336 IAmb IAmb 15 58 28.6
comp=Z,31nm,0.8s
BRDY Brady 46.20 334 IAmb IAmb 15 58 28.4
comp=Z,14nm,0.7s
U56A King 46.37 357 IAmb IAmb 15 58 28.9
comp=Z,17nm,0.8s
SAND Sanderson 46.53 330 IAmb IAmb 15 58 31.8
comp=Z,16nm,0.8s
V48A Smith Brothers 46.55 349 IAmb IAmb 15 58 30.7
comp=Z,31nm,0.9s
U54A Nelsons Funny 46.65 355 IAmb IAmb 15 58 30.5
comp=Z,15nm,0.9s
TXAR Lajitas Array 46.82 328 P P 15 58 31.8 +0.9
TXAR Lajitas Array 46.82 328 P P 15 58 30.2 -0.7
comp=Z,9.2nm,0.8s,baz=148,slow=9.1,SNR=56
TXAR PcP PcP 16 00 04.8 +1.1
comp=Z,0.9nm,0.6s,baz=120,slow=4.8,SNR=2.0
comp=Z,9.2nm,0.8s
OZNA Ozona 46.85 332 IAmb IAmb 15 58 33.8
comp=Z,18nm,0.9s
T59A Double "B" Far 46.90 360 IAmb IAmb 15 58 34.0
comp=Z,52nm,1.7s
LPIG La Paz 46.94 317 LR LR 16 14 36.3
comp=Z,56nm,18.1s,baz=148,slow=32
BLA Blacksburg 47.23 357 IAmb IAmb 15 58 36.4
comp=Z,11nm,0.8s
WHAR Wooly Hollow 47.41 343 IAmb IAmb 15 58 37.8
comp=Z,31nm,1.0s
T50A Nancy 47.48 352 IAmb IAmb 15 58 36.7
comp=Z,39nm,1.8s
ALPN Alpine 47.64 329 IAmb IAmb 15 58 40.9
comp=Z,17nm,0.9s
S57A Dark Hollow, R 47.71 358 IAmb IAmb 15 58 39.3
comp=Z,48nm,1.6s
LCAR Lake Charles 47.83 345 IAmb IAmb 15 58 40.4
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 47.92 344 IAmb IAmb 15 58 41.3
comp=Z,23nm,1.0s
S51A Beattyville 47.93 353 IAmb IAmb 15 58 40.1
comp=Z,52nm,1.7s
PBMO Polar Bluff 48.32 346 IAmb IAmb 15 58 44.0
comp=Z,20nm,0.9s
PECS Pecos 48.55 329 IAmb IAmb 15 58 47.4
comp=Z,18nm,1.0s
SN07 Snyder 07 48.57 333 IAmb IAmb 15 58 47.0
comp=Z,17nm,0.8s
CGM3 Cape Girardeau 48.64 347 IAmb IAmb 15 58 46.2
comp=Z,29nm,1.2s
R50A Paris 48.66 353 IAmb IAmb 15 58 46.5
comp=Z,30nm,1.3s
VHRN Van Horn 48.66 328 IAmb IAmb 15 58 48.1
comp=Z,19nm,1.0s
R49A Shelbyville 48.78 352 IAmb IAmb 15 58 47.2
comp=Z,35nm,1.5s
S44A Carbondale 48.93 347 IAmb IAmb 15 58 48.5
comp=Z,21nm,0.8s
Q54A Coxs Mills 49.02 356 IAmb IAmb 15 58 49.5
comp=Z,14nm,0.7s
Q52A Bidwell 49.11 355 IAmb IAmb 15 58 50.2
comp=Z,27nm,1.2s
WMOK Wichita Mounta 49.11 336 IAmb IAmb 15 58 50.8
comp=Z,14nm,0.9s
DEOK Depew 49.24 339 IAmb IAmb 15 58 51.7
comp=Z,33nm,1.1s
P57A Homestead Farm 49.41 359 IAmb IAmb 15 58 54.0
comp=Z,64nm,1.9s
P53A Whipple 49.56 356 IAmb IAmb 15 58 52.9
comp=Z,48nm,1.6s
OLIL Olney 49.70 349 IAmb IAmb 15 58 54.0
comp=Z,22nm,0.7s
P51A Williamsport 49.70 354 IAmb IAmb 15 58 54.4
comp=Z,15nm,0.8s
CCM Cathedral Cave 49.73 346 P P 15 58 53.5 +0.3
CCM IAmb IAmb 15 59 25.1
comp=Z,19nm,0.8s
MVL Millersville 49.93 1 P P 15 58 56.3 +1.7
P48A Milroy 49.96 352 IAmb IAmb 15 58 54.9
comp=Z,55nm,1.5s
Q44A Meyer Farm, Va 50.04 348 IAmb IAmb 15 59 56.0
comp=Z,33nm,1.0s
MSTX Muleshoe 50.16 332 IAmb IAmb 15 59 00.3
comp=Z,15nm,0.9s
O52A Adamsville 50.22 355 IAmb IAmb 15 58 58.4
comp=Z,16nm,0.8s
P46A Rosedale 50.40 350 IAmb IAmb 15 58 59.3
comp=Z,21nm,0.9s
ACSO Alum Creek Sta 50.43 354 IAmb IAmb 15 58 59.3
comp=Z,24nm,0.7s
N58A Sunbury 50.76 1 IAmb IAmb 16 00 35.9
comp=Z,29nm,1.2s
N49A Columbus Grove 51.24 353 IAmb IAmb 15 59 05.1
comp=Z,72nm,1.6s
M57A Sunshine Farm, 51.26 0 IAmb IAmb 15 59 08.7
comp=Z,32nm,1.3s
P40A Paris 51.33 345 IAmb IAmb 15 59 53.5
comp=Z,51nm,1.8s
319A Douglas 51.47 325 IAmb IAmb 15 59 10.0
comp=Z,35nm,0.8s
121A Cookes Peak, D 51.51 327 IAmb IAmb 15 59 10.6
comp=Z,25nm,0.8s
M50A Fremont 51.60 354 IAmb IAmb 15 59 07.8
comp=Z,27nm,0.7s
P38A Dawn 51.80 344 IAmb IAmb 15 59 11.3
comp=Z,24nm,1.0s
L56A Greenwood 52.06 360 IAmb IAmb 15 59 12.2
comp=Z,15nm,0.8s
N41A Harden Midland 52.17 347 IAmb IAmb 15 59 13.4
comp=Z,36nm,1.0s
Y22A Socorro 52.17 329 IAmb IAmb 15 59 15.3
comp=Z,34nm,1.6s
RTBA Rita Blanca 52.21 334 IAmb IAmb 15 59 14.5
comp=Z,16nm,0.8s
WVNY West Valley, N 52.34 359 IAmb IAmb 15 59 14.3
comp=Z,24nm,0.9s
ANMO Albuquerque 52.71 330 P P 15 59 15.6 -0.2
ANMO Albuquerque 52.71 330 LR LR 16 20 57.2
comp=Z,68nm,19.4s,baz=224,slow=35
TUC Tucson 53.02 324 P P 15 59 18.6 +0.6
TUC IAmb IAmb 15 59 21.0
comp=Z,14nm,0.8s
L42A Oliver, Polo 53.16 348 IAmb IAmb 15 59 22.0
comp=Z,17nm,1.0s
T25A Trinidad 53.53 333 IAmb IAmb 15 59 24.9
comp=Z,25nm,1.1s
L40A Anamoose 53.54 347 IAmb IAmb 15 59 22.7
comp=Z,60nm,1.5s
PECO Prince Edward 53.85 0 IAmb IAmb 15 59 25.1
comp=Z,16nm,0.8s
214A Organ Pipe Nat 53.96 322 IAmb IAmb 15 59 28.2
comp=Z,18nm,0.9s
X18A Snowflake 54.20 327 IAmb IAmb 15 59 30.7
comp=Z,16nm,0.8s
DELO Deloro Mine 54.44 360 IAmb IAmb 16 00 34.8
comp=Z,14nm,0.9s
SDCO Great Sand Dun 54.52 333 IAmb IAmb 15 59 32.0
comp=Z,15nm,0.8s
SADO Sadowa 54.71 358 LR LR 16 26 07.6
comp=Z,79nm,19.1s,baz=155,slow=40
L34A Svendsen Farm, 54.78 343 IAmb IAmb 15 59 33.3
comp=Z,28nm,0.9s
FRNY Flat Rock 54.85 3 IAmb IAmb 16 00 28.4
comp=Z,19nm,1.2s
X16A Lo Mia Camp, P 54.94 325 IAmb IAmb 15 59 36.1
comp=Z,20nm,1.1s
WBO Williamsburg 54.95 2 IAmb IAmb 15 59 33.4
comp=Z,70nm,2.0s
113A Mohawk Valley, 55.11 322 IAmb IAmb 15 59 36.3
comp=Z,14nm,1.0s
S22A 4UR Ranch, Cre 55.13 332 IAmb IAmb 15 59 36.5
comp=Z,27nm,1.8s
I40A Norwalk 55.17 348 IAmb IAmb 15 59 35.3
comp=Z,14nm,1.0s
H43A Windswept, Lux 55.22 351 IAmb IAmb 15 59 34.2
comp=Z,27nm,0.7s
PMSA Palmer Station 55.30 173 P P 15 59 34.8 +0.8
PMSA Palmer Station 55.30 173 LR LR 16 21 04.9
comp=Z,92nm,18.1s,baz=324,slow=34
G62A West of Eustis 55.47 6 P 15 59 36.8 +1.3
G62A IAmb IAmb 15 59 41.2
comp=Z,19nm,0.9s
MVCO Mesa Verde 55.51 330 IAmb IAmb 15 59 38.5
comp=Z,47nm,1.9s
I37A Lenord, Waseca 55.90 346 IAmb IAmb 15 59 39.2
comp=Z,57nm,1.8s
PV01 Paradox Valley 56.27 330 IAmb IAmb 15 59 44.8
comp=Z,23nm,0.7s
ECSD EROS Data Cent 56.47 343 IAmb IAmb 15 59 44.5
comp=Z,12nm,0.8s
PV05 Paradox Valley 56.49 330 IAmb IAmb 15 59 46.4
comp=Z,17nm,0.8s
PV03 Paradox Valley 56.50 330 IAmb IAmb 15 59 46.0
comp=Z,16nm,0.9s
PV12 Saucer Basin, 56.53 330 IAmb IAmb 15 59 46.5
comp=Z,42nm,1.2s
PV07 Paradox Valley 56.55 331 IAmb IAmb 15 59 47.3
comp=Z,21nm,1.2s
CBX Cerro Bola 56.59 320 P P 15 59 44.6 +0.7
CBX IAmb IAmb 15 59 47.5
comp=Z,34nm,1.4s
PV19 Morning Glory 56.61 330 IAmb IAmb 15 59 46.7
comp=Z,14nm,0.8s
PV20 West Nyswonger 56.63 330 IAmb IAmb 15 59 46.8
comp=Z,14nm,0.8s
PV04 Paradox Valley 56.64 330 IAmb IAmb 15 59 47.1
comp=Z,67nm,1.9s
E46A Sault Ste Mari 56.64 354 IAmb IAmb 15 59 44.7
comp=Z,32nm,1.2s
PV10 Paradox Valley 56.69 330 IAmb IAmb 15 59 46.9
comp=Z,22nm,0.9s
PV23 Carpenter Ridg 56.74 330 IAmb IAmb 15 59 48.2
comp=Z,14nm,0.7s
PV21 Cone Mtn., Par 56.80 330 IAmb IAmb 15 59 48.3
comp=Z,41nm,2.0s
W13A Hualapai Mount 56.82 324 IAmb IAmb 15 59 49.9
comp=Z,16nm,0.9s
IRM Iron Mountain 56.90 323 IAmb IAmb 15 59 50.1
comp=Z,24nm,1.2s
COWI Conover 57.03 350 IAmb IAmb 15 59 47.6
comp=Z,42nm,1.8s
HMU Henry Mountain 57.20 329 IAmb IAmb 15 59 51.6
comp=Z,17nm,0.7s
PFO Pinyon Flats O 57.33 321 LR LR 16 21 54.2
comp=Z,70nm,19.8s,baz=152,slow=34
KNB Kanab 57.61 327 IAmb IAmb 15 59 54.9
comp=Z,20nm,0.9s
PKCU Pink Cliffs 57.65 327 IAmb IAmb 15 59 55.3
comp=Z,22nm,0.9s
O20A White River Ci 57.70 332 IAmb IAmb 15 59 54.7
comp=Z,14nm,0.9s
V12A Nelson 57.82 324 IAmb IAmb 15 59 56.5
comp=Z,16nm,1.1s
E38A The Farm, Brul 57.96 348 IAmb IAmb 16 00 27.5
comp=Z,18nm,1.2s
LDAQ Lac Daran 58.13 5 IAmb IAmb 16 00 00.9
comp=Z,18nm,1.0s
F33A 5 Mile Ranch, 58.33 344 IAmb IAmb 15 59 57.5
comp=Z,18nm,0.9s
P17A Butcher Ranch, 58.38 330 IAmb IAmb 15 59 59.3
comp=Z,16nm,0.9s
MWC Mount Wilson 58.73 321 IAmb IAmb 16 00 59.9
comp=Z,16nm,0.6s
K22A Casper 59.00 335 IAmb IAmb 16 00 03.2
comp=Z,13nm,0.7s
PRN Pahroc Range 59.12 325 IAmb IAmb 16 01 30.3
comp=Z,22nm,1.6s
BSUT Blindstream Ca 59.21 331 IAmb IAmb 16 00 05.5
comp=Z,17nm,0.7s
EYMN Ely 59.23 349 IAmb IAmb 16 00 04.2
comp=Z,21nm,1.4s
RSSD Black Hills 59.26 338 P P 16 00 02.1 -0.5
RSSD IAmb IAmb 16 00 06.2
comp=Z,22nm,1.2s
TPNV Topopah Spring 59.48 324 IAmb IAmb 16 00 56.1
comp=Z,15nm,0.7s
WCT Wildcat Mounta 59.59 324 IAmb IAmb 16 00 43.2
comp=Z,8.7nm,0.7s
JLU Jordanelle 59.59 330 IAmb IAmb 16 00 08.0
comp=Z,13nm,0.8s
SPR3 Spring Creek 3 59.87 327 IAmb IAmb 16 00 09.8
comp=Z,9.9nm,0.9s
DUG Dugway, Tooele 59.96 329 IAmb IAmb 16 00 10.8
comp=Z,24nm,0.9s
TCUT Toone Canyon 59.97 331 IAmb IAmb 16 00 10.5
comp=Z,21nm,1.0s
R11B Troy Canyon, C 60.09 326 P P 16 00 08.0 -0.3
GMN Gold Mountain 60.31 324 IAmb IAmb 16 00 28.8
comp=Z,6.0nm,0.5s
PDAR Pinedale Array 60.40 333 P P 16 00 10.4 -0.1
PDAR Pinedale Array 60.40 333 P P 16 00 10.1 -0.4
comp=Z,4.0nm,0.7s,baz=137,slow=7.4,SNR=30
PDAR LR LR 16 27 48.3
comp=Z,60nm,18.2s,baz=124,slow=38
comp=Z,4.0nm,0.7s
BGU Big Grassy Mou 60.62 329 IAmb IAmb 16 00 15.2
comp=Z,19nm,1.4s
AHID Auburn Hatcher 61.10 332 IAmb IAmb 16 00 17.5
comp=Z,12nm,0.8s
HVU Hansel Valley 61.14 330 IAmb IAmb 16 00 17.8
comp=Z,10nm,0.9s
LHV Little Huntoon 61.67 324 IAmb IAmb 16 00 22.7
comp=Z,11nm,0.8s
NVAR Mina Array Bea 61.68 324 P 16 00 18.6 -0.6
NVAR Mina Array Bea 61.68 324 P P 16 00 18.9 -0.3
comp=Z,4.8nm,0.7s,baz=133,slow=7.1,SNR=20
comp=Z,4.8nm,0.7s
RYN Ryan 61.94 324 IAmb IAmb 16 00 23.1
comp=Z,25nm,1.9s
TAOE Nuku Hiva Isla 61.96 265 eLR LR 16 18 36.6
comp=Z,191nm,25.7s
RLMT Red Lodge 62.16 335 IAmb IAmb 16 00 24.8
comp=Z,11nm,1.0s
LAO LASA Array 62.25 338 IAmb IAmb 16 00 25.1
comp=Z,18nm,1.2s
ULM Lac du Bonnet 62.33 347 P P 16 00 21.6 -1.4
comp=Z,19nm,0.8s,baz=151,slow=7.0,SNR=20
comp=Z,19nm,0.8s
YNE Yellowstone No 62.38 334 IAmb IAmb 16 00 26.5
comp=Z,17nm,0.8s
WAKR Walker 62.39 324 IAmb IAmb 16 00 27.7
comp=Z,9.2nm,0.9s
YHB Horse Butte 62.69 333 IAmb IAmb 16 00 29.9
comp=Z,11nm,0.7s
DGMT Dagmar 63.06 340 IAmb IAmb 16 00 32.9
comp=Z,15nm,0.8s
PAHR Pah Rah Range 63.16 325 IAmb IAmb 16 00 32.7
comp=Z,21nm,0.9s
BOZ Bozeman (W) 63.55 334 IAmb IAmb 16 00 34.4
comp=Z,14nm,1.0s
DLMT Dillon 63.79 333 IAmb IAmb 16 00 36.1
comp=Z,15nm,1.1s
MFID Camas Ranch 63.86 330 IAmb IAmb 16 00 37.4
comp=Z,16nm,0.9s
ORV Oroville 64.29 323 IAmb IAmb 16 00 40.0
comp=Z,20nm,1.0s
WVOR Wild Horse Val 64.61 327 IAmb IAmb 16 00 41.3
comp=Z,16nm,1.4s
SCHQ Schefferville 65.35 7 P P 16 00 42.9 0.0
comp=Z,6.8nm,0.8s,baz=214,slow=8.2,SNR=5.4
SCHQ LR LR 16 30 22.8
comp=Z,98nm,19.9s,baz=187,slow=37
comp=Z,6.8nm,0.8s
K05A Summer Lake 66.03 326 IAmb IAmb 16 01 01.2
comp=Z,22nm,1.1s
YBH Yreka Blue Hor 66.40 324 LR LR 16 28 55.5
comp=Z,4.9nm,18.3s,baz=114,slow=35
F10A Beach Ranch, E 66.40 331 IAmb IAmb 16 01 00.8
comp=Z,19nm,1.2s
L04D Klamath Falls 66.48 325 IAmb IAmb 16 00 53.1
comp=Z,11nm,0.9s
PINE Pine Mountain 66.77 327 IAmb IAmb 16 00 58.4
comp=Z,16nm,0.9s
KRMB Red Mountain 66.96 324 IAmb IAmb 16 00 57.1
comp=Z,11nm,1.1s
J04A Umpqua Nationa 67.04 326 IAmb IAmb 16 00 57.2
comp=Z,18nm,0.7s
L02F Cave Junction 67.14 324 IAmb IAmb 16 00 57.8
comp=Z,14nm,1.5s
I05D Terrebonne, OR 67.35 327 IAmb IAmb 16 00 59.5
comp=Z,12nm,0.7s
FFC Flin Flon 67.93 345 P 16 00 59.7 +0.4
FFC IAmb IAmb 16 01 15.4
comp=Z,28nm,2.0s
J01E Myrtle Point 68.00 325 IAmb IAmb 16 01 08.1
comp=Z,12nm,1.0s
I03D Drain, OR 68.02 326 IAmb IAmb 16 01 03.2
comp=Z,7.4nm,0.7s
NEW Newport 68.02 332 LR LR 16 32 28.6
comp=Z,107nm,18.0s,baz=133,slow=38
BUCK Buck Mountain 68.14 326 IAmb IAmb 16 01 03.8
comp=Z,11nm,0.8s
H04D Lebanon 68.22 327 IAmb IAmb 16 01 04.5
comp=Z,7.7nm,0.6s
I02E Swisshome, OR 68.56 326 IAmb IAmb 16 01 09.6
comp=Z,11nm,1.0s
B08A Colville Reser 69.11 331 IAmb IAmb 16 01 09.0
comp=Z,30nm,1.8s
TBI Tubuai 69.78 249 eS S 16 10 21.9 +3.2
TBI eSS SS 16 14 39.4 -8.3
comp=Z,444nm,35.8s
comp=Z,765nm,38.2s
TBI eLR LR 16 22 13.1

comp=Z,239nm,27.0s
PPT2 Papeete2 70.26 255 *e*S **S 16 10 24.9 +0.3**
comp=Z,40nm,25.8s
PPT2 *e*SS **SS 16 14 50.3 -5.1**
comp=Z,226nm,35.0s
PPT2 *e*LQ LQ 16 19 32.1
comp=Z,222nm,29.5s
PPT2 *e*LR LR 16 22 24.1
comp=Z,122nm,28.2s
PPT2 *e*LR LR 16 22 25.0
comp=Z,98nm,24.2s
PPT Papeete 70.26 255 LR LR 16 22 51.3
comp=Z,43nm,18.9s,baz=12,slow=28
NLWA Neilton Lookou 70.69 328 IAmb IAmb 16 01 22.9
comp=Z,16nm,1.2s
A04D Lummi Island 70.99 330 IAmb IAmb 16 01 24.9
comp=Z,23nm,0.9s
BELA Belgrano 2 71.05 171 P **P 16 01 18.7 +0.4**
LLLB Lillooet 71.88 332 IAmb IAmb 16 01 27.2
comp=Z,27nm,1.5s
VNA3 Neumayer Olymp 73.29 162 ⇓P **P 16 01 31.7 -0.1**
comp=Z,6.4nm,0.8s
VNA3 ⇓PP **PP 16 04 08.8 -6.4**
VNA1 Neumayer--Stat 73.55 161 ⇓P **P 16 01 34.7 +1.4**
comp=Z,13nm,0.8s
FRB Frobisher Bay 74.00 4 LR LR 16 35 56.0
comp=Z,136nm,20.1s,baz=182,slow=37
DBIC Dimbokro 74.00 80 P **P 16 01 38.2 +1.2**
comp=Z,5.5nm,0.7s,baz=272,slow=5.4,SNR=7.1
DBIC LR LR 16 32 46.1
comp=Z,116nm,18.7s,baz=304,slow=35
comp=Z,5.5nm,0.7s
SNAA Sanae 75.51 162 ⇓P **P 16 01 45.3 +0.5**
comp=Z,215nm,0.9s
SNAA ⇑PP PP 16 04 26.2 -7.8
SNAA Sanae 75.51 162 P **P 16 01 44.9 +0.2**
SNAA IAmb IAmb 16 01 48.9
comp=Z,16nm,1.0s
SNAA Sanae 75.51 162 P **P 16 01 45.0 +0.3**
comp=Z,8.4nm,0.8s,baz=280,slow=5.1,SNR=25
comp=Z,8.4nm,0.8s
BLKN Baker Lake 75.63 352 IAmb IAmb 16 03 02.4
comp=Z,38nm,1.8s
TROLL Troll, Antarti 77.22 162 ⇓P **P 16 01 55.2 +0.7**
comp=Z,454nm,0.9s
YKAW1 Yellowknife Wh 77.96 343 IAmb IAmb 16 02 03.3
comp=Z,14nm,1.1s
YKA Yellowknife Ar 78.00 343 P **P 16 01 58.3 -0.5**
YKA Yellowknife Ar 78.00 343 P **P 16 01 57.8 -1.0**
comp=Z,2.1nm,0.6s,baz=138,slow=5.5,SNR=12
YKA LR LR 16 40 18.4
comp=Z,42nm,18.8s,baz=111,slow=39
comp=Z,2.1nm,0.6s
YKAW3 Yellowknife Wh 78.06 343 IAmb IAmb 16 02 04.2
comp=Z,16nm,1.2s
TOAD Toad River Com 78.90 337 P **P 16 02 05.1 +1.3**
baz=132
KOTAN Kotaneelee Air 79.32 338 P **P 16 02 07.4 +1.3**
baz=133
SFJD Kangerlussuaq 79.37 10 LR LR 16 36 29.0
comp=Z,69nm,21.7s,baz=199,slow=35
V35K Ketchikan 79.41 332 P **P 16 02 08.1 +1.5**
baz=126
T35M Bob Quinn 79.78 334 P **P 16 02 10.0 +1.4**
baz=127,SNR=14
QSPA South Pole Qui 79.94 180 P **P 16 02 10.7 +1.1**
QSPA IAmb IAmb 16 02 15.1
comp=Z,18nm,1.1s
QSPA South Pole Qui 79.94 180 P **P 16 02 10.8 +1.2**
comp=Z,7.8nm,0.7s,baz=153,slow=1.8,SNR=28
QSPA LR LR 16 32 38.0
comp=Z,72nm,19.1s,baz=166,slow=32
comp=Z,7.8nm,0.7s
CRAG Craig 80.20 331 P **P 16 02 12.2 +1.4**
baz=124
WRAK Wrangell Islan 80.38 332 P **P 16 02 12.9 +1.0**
baz=125
DLBC Dease Lake 80.56 335 P **P 16 02 13.5 +0.6**
baz=127,SNR=7.4
U33K Whale Pass 80.56 332 P **P 16 02 14.3 +1.5**
baz=124
S34M Telegraph Cree 80.72 334 P **P 16 02 15.2 +1.5**
baz=126
T33K Petersburg 80.88 333 P **P 16 02 16.0 +1.5**
baz=125
WTLY Watson Lake, Y 81.10 337 P **P 16 02 17.1 +1.4**
baz=129
MDT Midelt 81.22 54 P **P 16 02 21.1 +4.0**
comp=Z,2.4nm,0.7s,baz=303,slow=2.5,SNR=6.5
MDT LR LR 16 34 04.6
comp=Z,83nm,21.9s,baz=247,slow=32
WRGLY Wrigley 81.26 341 P **P 16 02 17.5 +1.1**
baz=134
R33M Jennings River 81.53 335 P **P 16 02 17.9 -0.3**
baz=127,SNR=5.4
TORD Torodi Ar. Bea 81.71 75 P **P 16 02 20.8 +0.9**
comp=Z,3.0nm,0.7s,baz=299,slow=5.5,SNR=9.8
comp=Z,3.0nm,0.7s
TGTN Hyland Airport 81.80 338 P **P 16 02 20.1 +0.7**
baz=129
Q32M Nakina River 81.82 335 P **P 16 02 19.8 +0.1**
baz=126,SNR=5.7
S32K Killisnoo 81.98 333 P **P 16 02 21.1 +0.8**
baz=123
R32K Eaglecrest 82.40 333 P **P 16 02 23.3 +0.7**
baz=123
P33M Teslin, Yukon 82.77 335 P **P 16 02 25.2 +0.7**
baz=125,SNR=6.0
P32M Atlin 82.79 335 P **P 16 02 25.2 +0.6**
baz=124
S31K Pelican 83.00 333 P **P 16 02 26.4 +0.8**
baz=122
N32M Quiet Lake 83.42 336 P **P 16 02 28.8 +0.9**
baz=125
MMPY Sheldon Lake, 83.58 338 IAmb IAmb 16 02 31.4
comp=Z,7.4nm,0.9s
MMPY Sheldon Lake, 83.58 338 P **P 16 02 29.4 +0.7**
baz=127
PLBC Pleasant Camp 83.85 334 P **P 16 02 30.6 +0.6**
baz=122
ESDC Sonseca Array 83.86 48 P **P 16 02 32.0 +1.3**
comp=Z,1.2nm,0.8s,baz=264,slow=4.7,SNR=6.7
ESDC LR LR 16 38 23.8
comp=Z,83nm,18.2s,baz=263,slow=35
comp=Z,1.2nm,0.8s
WHY Whitehorse 83.87 335 P **P 16 02 30.9 +0.7**
baz=123
P30M Million Dollar 84.45 334 P **P 16 02 34.1 +0.9**
baz=121
M31M Drury Creek, Y 84.53 337 P **P 16 02 34.2 +0.8**
baz=124
P29M Windy Craggy 84.54 334 P **P 16 02 34.1 +0.5**
baz=121
N31M Braeburn, Yuko 84.69 336 IAmb IAmb 16 02 37.0
comp=Z,8.7nm,0.9s
N31M Braeburn, Yuko 84.69 336 P **P 16 02 34.8 +0.5**
baz=123
HYT Haines Junctio 85.05 335 P **P 16 02 36.3 +0.1**
baz=121
N30M Aishikik Lake 85.21 335 IAmb IAmb 16 02 40.0
comp=Z,32nm,1.9s
N30M Aishikik Lake 85.21 335 P **P 16 02 37.5 +0.6**
baz=121
O29M Mount Kennedy 85.24 334 P **P 16 02 37.1 -0.1**
baz=120
PNL Peninsula 85.29 333 P **P 16 02 37.3 0.0**
baz=119
RES Resolute Bay 85.41 355 LR LR 16 42 25.3
comp=Z,56nm,19.7s,baz=222,slow=37
YUK6 Outpost Mounta 85.47 335 P **P 16 02 38.7 +0.2**
baz=120
BORG Borgarnes 85.52 21 LR LR 16 40 27.6
comp=Z,37nm,19.8s,baz=287,slow=35
M30M Minto, Yukon 85.67 336 P **P 16 02 39.3 +0.1**
baz=122
YUK4 Talbot Arm 85.79 335 P **P 16 02 39.8 -0.2**
baz=120
O28M Mount Upton 86.17 334 P **P 16 02 41.6 -0.4**
baz=119
YUK8 Steele Glacier 86.23 335 P **P 16 02 41.8 -0.5**
baz=119
M29M Somme Creek 86.27 336 IAmb IAmb 16 02 45.0
comp=Z,7.9nm,0.8s
M29M Somme Creek 86.27 336 P **P 16 02 42.1 -0.2**
baz=120,SNR=14
L29M L29M 86.47 337 IAmb IAmb 16 02 45.7
comp=Z,14nm,0.8s
L29M L29M 86.47 337 P **P 16 02 43.0 -0.2**
baz=120

VNDA Vanda 86.48 191 P **P 16 02 43.7 +0.7**
comp=Z,1.2nm,0.8s,baz=30,slow=1.4,SNR=7.0
VNDA LR LR 16 32 38.2
comp=Z,45nm,21.8s,baz=113,slow=30
comp=Z,1.2nm,0.8s
H31M Peel River 86.53 340 P **P 16 02 43.7 +0.4**
baz=124
J30M Hart River 86.56 338 P **P 16 02 43.8 +0.2**
baz=122
K29M Barlow Dome 86.62 337 P **P 16 02 43.8 -0.2**
baz=121
CTGM Chitina Glacie 86.75 334 IAmb IAmb 16 05 49.6
comp=Z,7.7nm,0.8s
CTG Chitna Glacier 86.75 334 P **P 16 02 44.3 -0.4**
baz=118
GRNC Granite Creek 86.83 334 IAmb IAmb 16 05 49.1
comp=Z,8.7nm,0.7s
G31M Satah River 87.14 341 IAmb IAmb 16 02 51.7
comp=Z,8.1nm,0.8s
G31M Satah River 87.14 341 P **P 16 02 46.4 +0.2**
baz=124
F31M Tsiigehtchic 87.26 341 P **P 16 02 47.1 +0.4**
baz=125
CRQE Cirque 87.42 333 P **P 16 02 47.3 -0.6**
baz=116
DAWY Dawson 87.44 337 P **P 16 02 47.7 -0.1**
baz=119
M27K Edge Creek, AK 87.62 335 IAmb IAmb 16 03 00.0
comp=Z,7.4nm,0.9s
M27K Edge Creek, AK 87.62 335 P **P 16 02 48.6 -0.3**
baz=117,SNR=7.5
EPYK Eagle Plains 87.65 340 IAmb IAmb 16 03 00.5
comp=Z,10.0nm,1.1s
EPYK Eagle Plains 87.65 340 P **P 16 02 49.1 +0.3**
baz=122
MCARA McCarthy VSAT 87.67 334 IAmb IAmb 16 03 00.3
comp=Z,11nm,0.8s
MCARA McCarthy VSAT 87.67 334 P **P 16 02 48.9 0.0**
baz=116
I29M Ogilvie Camp, 87.69 338 IAmb IAmb 16 04 01.9
comp=Z,6.8nm,0.8s
I29M Ogilvie Camp, 87.69 338 P **P 16 02 49.0 +0.1**
baz=120
INK Inuvik 87.69 342 IAmb IAmb 16 02 52.0
comp=Z,13nm,1.1s
INK Inuvik 87.69 342 LR LR 16 47 02.0
comp=Z,46nm,18.6s,baz=68,slow=39
INK Inuvik 87.69 342 P **P 16 02 49.0 +0.1**
baz=125
VRDI Verde Repeater 87.79 334 IAmb IAmb 16 02 51.9
comp=Z,8.1nm,1.0s
G30M tAoh Zraii Nji 87.81 340 P **P 16 02 49.7 +0.2**
baz=122
A36M Satah Harbour 87.81 347 P **P 16 02 48.8 -0.6**
baz=133
BCAR Beaver Creek A 87.91 336 P **P 16 02 49.3 -0.8**
L27K Beaver Creek, 87.92 336 IAmb IAmb 16 02 52.2
comp=Z,7.3nm,0.8s
L27K Beaver Creek, 87.92 336 P **P 16 02 49.9 -0.3**
baz=117,SNR=16
F30M Barrier River 88.01 341 IAmb IAmb 16 02 56.0
comp=Z,9.3nm,0.8s
F30M Barrier River 88.01 341 P **P 16 02 50.0 -0.4**
baz=123
GLB Gilahina Butte 88.04 334 IAmb IAmb 16 03 11.0
comp=Z,5.3nm,0.8s
M26K Nabesna, AK 88.11 335 P **P 16 02 51.0 -0.1**
baz=116
H29M Whitestone 88.15 339 IAmb IAmb 16 02 54.4
comp=Z,7.7nm,0.8s
H29M Whitestone 88.15 339 P **P 16 02 50.8 -0.3**
baz=120
BMRM Bremner River 88.19 333 P **P 16 02 51.7 +0.2**
baz=115
I28M Miner Creek 88.32 338 IAmb IAmb 16 02 59.1
comp=Z,6.7nm,0.8s
I28M Miner Creek 88.32 338 P **P 16 02 53.0 +1.0**
baz=119
Q23K Middleton Isla 88.36 331 P **P 16 02 52.5 +0.3**
baz=113
G29M Pine Creek 88.38 340 IAmb IAmb 16 02 57.3
comp=Z,12nm,0.8s
G29M Pine Creek 88.38 340 P **P 16 02 53.0 +0.8**
baz=121
N25K Chitina, Valde 88.45 334 P **P 16 02 53.0 +0.3**
baz=115
K27K Chicken 88.47 337 P **P 16 02 53.0 +0.4**
baz=117
EYAK Cordova Ski Ar 88.53 333 P **P 16 02 53.2 +0.2**
baz=114
L26K Log Cabin Wild 88.53 335 P **P 16 02 52.8 -0.2**
baz=116
KLU Klutina 88.98 333 IAmb IAmb 16 02 57.1
comp=Z,11nm,0.8s
KLU Klutina 88.98 333 P **P 16 02 54.3 -1.0**
baz=114
I27K Kandik River 89.01 338 P **P 16 02 54.4 -0.8**
baz=118
HARP HAARP 89.02 334 P **P 16 02 55.2 -0.1**
baz=114
P23K Montague Islan 89.07 332 P **P 16 02 54.7 -0.9**
baz=112
E29M Blow River 89.10 341 IAmb IAmb 16 02 58.5
comp=Z,13nm,0.7s
E29M Blow River 89.10 341 P **P 16 02 55.1 -0.4**
baz=121
SCRK Sand Creek 89.20 336 IAmb IAmb 16 03 01.3
comp=Z,6.0nm,0.7s
SCRK Sand Creek 89.20 336 P **P 16 02 56.0 -0.3**
baz=115,SNR=8.6
J26L Joseph Creek 89.26 337 P **P 16 02 56.6 +0.1**
baz=116
H27K Steamboat Moun 89.27 339 P **P 16 02 56.8 +0.3**
baz=118
M24K Tolsona, Glenn 89.34 334 P **P 16 02 57.4 +0.5**
baz=113
F28M Old Crow 89.36 340 P **P 16 02 56.9 +0.2**
baz=119
PAX Paxson 89.39 335 IAmb IAmb 16 02 58.8
comp=Z,6.3nm,0.8s
PAX Paxson 89.39 335 P **P 16 02 56.1 -1.0**
baz=114,SNR=9.2
EKA Eskdalemuir Ar 89.42 33 P **P 16 02 57.6 +0.3**
comp=Z,0.9nm,0.5s,baz=244,slow=4.4,SNR=7.6
comp=Z,0.9nm,0.5s
RIDG Independent Ri 89.44 336 IAmb IAmb 16 03 01.8
comp=Z,15nm,1.2s
RIDG Independent Ri 89.44 336 P **P 16 02 57.1 -0.2**
baz=114
I26K Coal Creek Min 89.45 337 P **P 16 02 57.8 +0.6**
baz=116
G27K Doyon Strip 89.58 339 P **P 16 02 58.1 +0.2**
baz=117
E28M Babbage River 89.73 341 P **P 16 02 58.9 +0.4**
baz=119
SCM Sheep Creek Mo 89.73 334 P **P 16 02 58.4 -0.3**
baz=112
SYO Syowa Base 89.80 161 ⇓*ep*P **P 16 03 02.2 +3.3**
J25K Salcha River, 90.01 336 IAmb IAmb 16 03 07.7
comp=Z,5.8nm,0.7s
J25K Salcha River, 90.01 336 P **P 16 03 00.3 +0.3**
baz=114,SNR=7.7
SEW Seward 90.07 332 P **P 16 03 00.3 +0.1**
baz=110
E27K Coleen River 90.20 340 P **P 16 03 00.9 +0.1**
baz=118
PRP Porcupine Dome 90.44 337 P **P 16 03 01.7 -0.3**
baz=114
D27M Malcolm River 90.49 341 P **P 16 03 02.7 +0.6**
baz=118
ILAR Eielson Array 90.67 336 P **P 16 03 01.8 -1.2**
ILAR Eielson Array 90.67 336 P **P 16 03 01.9 -1.0**
comp=Z,0.9nm,0.7s,baz=154,slow=3.1,SNR=11
ILAR PP **PP 16 06 37.9 -0.7**
comp=Z,1.6nm,0.9s,baz=107,slow=7.4,SNR=10
ILAR LR LR 16 48 02.3
comp=Z,53nm,18.6s,baz=96,slow=38
comp=Z,0.9nm,0.7s
F26K Sheenjek River 90.85 339 P **P 16 03 04.4 +0.7**
baz=115
H25L Birch Creek 90.86 338 P **P 16 03 04.1 +0.4**
baz=114
M22K Willow 90.94 333 P **P 16 03 04.8 +0.6**
baz=110
HOM Homer 90.96 331 P **P 16 03 05.3 +0.9**
baz=108
RND Reindeer 90.97 335 IAmb IAmb 16 03 15.6
comp=Z,10nm,1.0s

Q20K Shuyak Island 91.00 330 P **P 16 03 05.0 +0.4**
baz=108
POKR Poker Plat Res 91.02 337 P **P 16 03 05.1 +0.5**
baz=112
OHAK Old Harbor 91.04 328 P **P 16 03 05.0 +0.2**
baz=107
MCK McKinley 91.12 335 P **P 16 03 05.7 +0.6**
baz=111
G25K Bearman Lake 91.16 338 P **P 16 03 05.7 +0.6**
baz=113
TSUM Tsumeb 91.20 110 LR LR 16 42 26.6
comp=Z,140nm,19.0s,baz=272,slow=34
F25K Christian Rive 91.33 339 P **P 16 03 06.7 +0.7**
baz=114
H24K Noodor Dome 91.47 337 P **P 16 03 07.3 +0.6**
baz=112
NEA2 Nenana 91.48 336 IAmb IAmb 16 03 11.7
comp=Z,9.2nm,0.9s
NEA2 Nenana 91.48 336 P **P 16 03 07.0 +0.2**
baz=111
C27K Jago River 91.53 341 P **P 16 03 07.5 +0.6**
baz=116
TRF Thorofare Moun 91.59 335 IAmb IAmb 16 03 09.6
comp=Z,5.9nm,0.7s
TRF Thorofare Moun 91.59 335 P **P 16 03 07.6 +0.1**
baz=110
G24K Hadweenzic Riv 91.64 338 P **P 16 03 07.4 -0.1**
baz=112
SKT Skwentna 91.65 333 P **P 16 03 07.4 -0.2**
baz=109
I23K Minto, Yukon-K 91.79 336 IAmb IAmb 16 03 12.6
comp=Z,4.1nm,0.7s
I23K Minto, Yukon-K 91.79 336 P **P 16 03 08.3 +0.2**
baz=110
C26K Camden Bay 92.03 341 P **P 16 03 09.4 +0.3**
baz=114
F24K Squaw Lake 92.09 339 P **P 16 03 09.7 +0.1**
baz=112
BPAW Bear Paw Mtn. 92.10 335 IAmb IAmb 16 03 13.9
comp=Z,6.6nm,0.6s
BPAW Bear Paw Mtn. 92.10 335 P **P 16 03 09.9 +0.3**
baz=109
H23K Yukon River 92.10 337 P **P 16 03 09.9 +0.3**
baz=110
PPLA Purkeypile 92.23 334 IAmb IAmb 16 03 58.4
comp=Z,8.3nm,0.8s
PPLA Purkeypile 92.23 334 P **P 16 03 10.5 +0.1**
baz=108
D25K Kavik River 92.26 341 IAmb IAmb 16 03 13.9
comp=Z,11nm,1.3s
D25K Kavik River 92.26 341 P **P 16 03 10.8 +0.5**
baz=113
MLY Manley 92.30 336 P **P 16 03 10.6 +0.1**
baz=109
Q18K Katmai Hardscr 92.32 329 P **P 16 03 10.7 -0.2**
baz=106
M20K Styx River 92.34 333 IAmb IAmb 16 03 50.3
comp=Z,10nm,0.7s
M20K Styx River 92.34 333 P **P 16 03 11.0 +0.1**
baz=107
CAST Castle Rocks 92.34 334 IAmb IAmb 16 03 12.1
comp=Z,12nm,0.8s
CAST Castle Rocks 92.34 334 P **P 16 03 09.4 -1.3**
baz=108,SNR=16
E24K Your Creek 92.51 339 P **P 16 03 11.8 +0.3**
baz=111
G23K Bananza Creek 92.59 338 P **P 16 03 12.3 +0.4**
baz=110
N19K Bonanza Creek 92.66 331 P **P 16 03 12.4 0.0**
baz=106
Q17K Contact Creek 92.67 329 P **P 16 03 12.0 -0.4**
baz=105
O18K Koktuh Hills 92.74 330 P **P 16 03 12.6 -0.1**
baz=106
R17L Mt. Peulik Vol 92.75 328 P **P 16 03 12.5 -0.2**
baz=105
H22K Ishtalitna Cre 92.83 337 P **P 16 03 13.4 +0.4**
baz=109
L20K Farewell, AK 92.85 333 P **P 16 03 13.1 0.0**
baz=106
E23K Chandalar 92.90 339 P **P 16 03 13.7 +0.4**
baz=110
D24K Happy Valley 93.01 340 P **P 16 03 13.8 +0.1**
baz=111
TOLK Toolik Lake Re 93.08 340 P **P 16 03 13.2 -0.9**
baz=110
KEST Kesra 93.12 54 LR LR 16 41 24.9
comp=Z,50nm,21.6s,baz=289,slow=33
C24K Franklin Bluff 93.17 341 P **P 16 03 13.9 -0.4**
baz=111
K20K Telida 93.18 334 P **P 16 03 14.1 -0.6**
baz=106
L19K White Mountain 93.20 333 P **P 16 03 14.6 -0.2**
baz=106
G22K Bettles 93.21 338 P **P 16 03 14.5 -0.2**
baz=108
N18K Kilae Creek 93.29 331 P **P 16 03 14.8 -0.4**
baz=105
H21K Melozitna Rive 93.32 336 P **P 16 03 14.8 -0.4**
baz=107
R16K Pilot Point 93.37 328 P **P 16 03 14.7 -0.9**
baz=104
J20K Nowinta River 93.44 335 P **P 16 03 15.2 -0.6**
baz=106
M18K Stony River 93.47 332 P **P 16 03 15.4 -0.6**
baz=105
D23K Nanushuk River 93.57 340 P **P 16 03 16.0 -0.3**
baz=109
O17K Koliganek Bris 93.65 330 P **P 16 03 16.3 -0.5**
baz=104
E22K Anaktuvuk Pass 93.70 339 P **P 16 03 16.3 -0.7**
baz=108
I20K Naaghedeneel 93.75 335 P **P 16 03 17.1 0.0**
baz=106
C23K Itkillik River 93.84 341 P **P 16 03 17.3 -0.1**
baz=109
G21K Allakaket 93.85 337 P **P 16 03 18.0 +0.4**
baz=107
CHNA Chernabura Isl 93.86 325 P **P 16 03 17.8 -0.1**
baz=102
N17K Nushagak Hills 93.87 331 P **P 16 03 18.1 +0.3**
baz=104
P16K Nushagak River 93.92 329 P **P 16 03 18.3 +0.3**
baz=103
J19K Poorman 94.02 334 P **P 16 03 19.0 +0.6**
baz=105
F21K Alatna River 94.04 338 P **P 16 03 18.9 +0.4**
baz=107
L18K Granite Mounta 94.05 332 P **P 16 03 19.0 +0.4**
baz=104
O16K Kokwok River B 94.10 330 P **P 16 03 18.6 -0.3**
baz=103
H20K Anotleneega Mo 94.11 336 P **P 16 03 18.9 0.0**
baz=105
S14K Fog Glacier 94.14 326 P **P 16 03 19.0 -0.3**
baz=102
M17K Holitna River 94.20 332 P **P 16 03 19.1 -0.2**
baz=104
D22K Ayikyak River 94.24 339 P **P 16 03 19.2 -0.1**
baz=107
J18K Innoko River 94.36 334 P **P 16 03 20.1 +0.1**
baz=104
SDPT Sand Point 94.46 325 P **P 16 03 20.3 -0.3**
baz=101
E21K Killik River 94.56 339 P **P 16 03 21.1 +0.2**
baz=106
N16K Nishlik Lake 94.62 331 P **P 16 03 20.8 -0.5**
baz=102
GCSA Galena City Sc 94.73 335 P **P 16 03 21.8 +0.2**
baz=104
H19K Roundabout Mou 94.75 336 P **P 16 03 22.1 +0.4**
baz=104
L17K Donlin 94.76 332 P **P 16 03 21.9 +0.1**
baz=103
M16K Timber Creek 94.83 331 P **P 16 03 22.2 0.0**
baz=102
F20K Avaraart Lake 94.84 337 P **P 16 03 22.8 +0.7**
baz=104
O15K Ungalikthiuk R 94.87 329 P **P 16 03 22.8 +0.3**
baz=102
K17K Iditarod 94.89 333 P **P 16 03 23.0 +0.5**
baz=103
B22K Teshekpuk Lake 94.91 341 P **P 16 03 22.4 +0.1**
baz=106
C21K Kniefblade Rid 95.04 339 P **P 16 03 23.2 +0.2**
baz=105
B21K Ikpikpuk River 95.11 340 P **P 16 03 22.8 -0.4**
baz=105

G19K	**Purcell Mounta** baz=103	95.15 336	P	**P**	**16 03 23.8**	**+0.2**
N15K	**Kwethluk River** baz=101	95.20 330	P	**P**	**16 03 24.4**	**+0.4**
E20K	**Nigu River** baz=104	95.31 338	P	**P**	**16 03 24.7**	**+0.3**
DAVOX	**Davos/Dischmat** comp=Z,64nm,20.1s,baz=266,slow=33	95.37 44	LR	LR	16 42 55.3	
J17K	**VABM Dome** baz=102	95.38 333	P	**P**	**16 03 23.8**	**-0.9**
S12K	**Black Hills** baz=100	95.41 326	P	**P**	**16 03 24.8**	**-0.2**
H18K	**Honhosa River** baz=102	95.44 335	P	**P**	**16 03 24.6**	**-0.4**
E19K	**Redstone River** baz=103	95.50 338	P	**P**	**16 03 25.3**	**+0.1**
D20K	**Ettivluk River** baz=104	95.57 339	P	**P**	**16 03 24.9**	**-0.6**
F19K	**Shaleruckik Mo** baz=103	95.57 337	P	**P**	**16 03 25.4**	**-0.1**
A22K	**Sinclair Lake** baz=105	95.58 341	P	**P**	**16 03 24.4**	**-1.0**
M15K	**Kasigluk River** baz=101	95.59 331	P	**P**	**16 03 24.4**	**-1.3**
O14K	**Tigyukauivet M** baz=100	95.62 329	P	**P**	**16 03 23.8**	**-2.0**
G18K	**Tagagawik** baz=102	95.72 336	P	**P**	**16 03 25.5**	**-0.7**
URZ	**Urewera** comp=Z,44nm,21.5s,baz=104,slow=29	95.78 230	LR	LR	16 36 10.8	
N14K	**Kuskokwak Cree** baz=100	95.94 330	P	**P**	**16 03 26.0**	**-1.3**
BOSA	**Boshof** comp=Z,73nm,21.8s,baz=238,slow=35	95.96 120	LR	LR	16 45 31.6	
J16K	**Anvik River** baz=100	96.03 333	P	**P**	**16 03 27.3**	**-0.3**
FALS	**False Pass** baz=99	96.04 325	P	**P**	**16 03 26.6**	**-1.2**
H17K	**Granite Mounta** baz=101	96.04 335	P	**P**	**16 03 26.9**	**-0.8**
B20K	**Meade River** baz=103	96.06 340	P	**P**	**16 03 27.5**	**-0.1**
D19K	**Kuna River** baz=102	96.06 339	P	**P**	**16 03 27.2**	**-0.5**
L15K	**Ungalak Mounta** baz=100	96.15 331	P	**P**	**16 03 27.3**	**-0.9**
I17K	**Unalakleet** baz=100	96.18 334	P	**P**	**16 03 27.1**	**-1.2**
M14K	**Bethel** baz=100	96.22 331	P	**P**	**16 03 27.7**	**-0.8**
F18K	**Selawik** baz=101	96.25 337	P	**P**	**16 03 28.0**	**-0.6**
K15K	**Wolf Creek Mou** baz=100	96.28 332	P	**P**	**16 03 28.3**	**-0.5**
G17K	**Kiwalik Mounta** baz=100	96.45 335	P	**P**	**16 03 28.5**	**-1.0**
L14K	**Kuka Creek** baz=99	96.66 331	P	**P**	**16 03 29.7**	**-0.8**
C19K	**Lookout Ridge** baz=101	96.70 339	P	**P**	**16 03 29.5**	**-1.2**
E18K	**Tukpahlearik C** baz=100	96.77 337	P	**P**	**16 03 30.2**	**-0.7**
M13K	**Dall Lake** baz=98	96.84 330	P	**P**	**16 03 30.0**	**-1.3**
F17K	**Baldwin Pennin** baz=100	96.86 336	P	**P**	**16 03 30.8**	**-0.5**
H16K	**Elim** baz=99	96.97 334	P	**P**	**16 03 31.3**	**-0.6**
G16K	**Koyuk River** baz=99	97.14 335	P	**P**	**16 03 31.9**	**-0.7**
LBTB	**Lobatse** comp=Z,156nm,19.9s,baz=246,slow=34	97.17 117	LR	LR	16 45 04.9	
E17K	**Hotham Inlet** baz=99	97.19 337	P	**P**	**16 03 32.3**	**-0.5**
C18K	**Utukok River** baz=99	97.20 338	P	**P**	**16 03 32.3**	**-0.6**
J14K	**Nanvaranak Lak** baz=98	97.28 332	P	**P**	**16 03 32.8**	**-0.5**
MAW	**Mawson** comp=Z,53nm,19.7s,baz=234,slow=35	97.32 166	LR	LR	16 46 47.9	
A19K	**Wainwright** baz=99	97.41 340	P	**P**	**16 03 33.2**	**-0.6**
VAE	**Valguarnera** comp=Z,54nm,21.6s,baz=196,slow=34	97.42 53	LR	LR	16 45 58.8	
B18K	**Kokolik River** baz=99	97.53 339	P	**P**	**16 03 33.8**	**-0.5**
D17K	**Noatak River** baz=98	97.76 337	P	**P**	**16 03 34.5**	**-0.9**
G15K	**Niukluk** baz=97	97.78 335	P	**P**	**16 03 34.5**	**-1.1**
C17K	**DeLong Mountai** baz=98	97.89 338	P	**P**	**16 03 35.2**	**-0.8**
NOA	**NORSAR Array B** comp=Z,29nm,19.4s,baz=285,slow=34	98.08 29	LR	LR	16 46 16.8	
F15K	**North Star Dit** baz=97	98.12 335	P	**P**	**16 03 36.7**	**-0.4**
M11K	**Mekoryuk** baz=96	98.25 330	P	**P**	**16 03 36.7**	**-0.9**
ANM	**Nome** baz=96	98.30 334	P	**P**	**16 03 36.6**	**-1.2**
C16K	**Lisburne Hills** baz=96	98.67 338	P	**P**	**16 03 38.7**	**-0.7**
F14K	**Arctic Creek** baz=95	98.80 335	P	**P**	**16 03 39.4**	**-0.7**
NIKH	**Nikolski High** baz=95	99.00 322	P	**Pdif**	**16 03 40.2**	**-1.1**
HFS	**Hagfors** comp=Z,58nm,20.3s,baz=249,slow=34	99.21 30	LR	LR	16 47 00.8	
P08K	**Saint George I** baz=94	99.68 326	P	**Pdif**	**16 03 42.2**	**-1.9**
SPIA	**Saint Paul Isl** baz=93	100.09 326	P	**Pdif**	**16 03 44.4**	**-1.6**
MODS	**Modra-Piesok**	100.52 43	*e*PDIFF	**Pdif**	**16 03 50.8**	**+2.6**
LANS	**Liptovska Anna**	102.01 42	*e*PDIFF	**Pdif**	**16 03 52.0**	**-2.8**
DZM	**Mont Dzumac** comp=Z,64nm,23.9s	109.82 242	*e*LR	LR	16 40 53.0	
H11S2	**WAKE ISLAND Hyl** baz=96	117.75 286	T	T	18 17 36.8	
H11S1	**WAKE ISLAND Hyl** baz=96,slow=74	117.75 286	T	T	18 17 36.6	
H11S3	**WAKE ISLAND Hyl** baz=96,slow=74	117.76 286	T	T	18 17 37.4	
PETK	**Petropavlovsk-** comp=Z,1.7nm,0.9s,baz=160,slow=4.9,SNR=2.2	118.75 326	PKP	**PKPdf**	**16 08 48.3**	**-0.4**
BVAR	**Borovoye Array** comp=Z,1.3nm,0.7s,baz=64,slow=6.6,SNR=6.1	129.96 25	PKP	**PKPdf**	**16 09 09.5**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,1.7nm,0.5s,baz=270,slow=1.5,SNR=8.4	134.05 15	PKP	**PKPdf**	**16 09 18.4**	**+0.5**
ASAR	**Alice Springs** comp=Z,1.2nm,0.7s,baz=117,slow=2.1,SNR=12	134.62 222	PKP	**PKPdf**	**16 09 19.4**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,2.5nm,0.7s,baz=317,slow=2.1,SNR=17	135.01 22	PKP	**PKPdf**	**16 09 19.8**	**0.0**
WRA	**Warramunga Arr** comp=Z,3.9nm,0.7s,baz=119,slow=1.8,SNR=12	136.84 226	PKP	**PKPdf**	**16 09 23.5**	**-0.7**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.8s,baz=81,slow=1.6,SNR=4.9	138.58 315	PKP	**PKPdf**	**16 09 27.1**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=332,slow=2.4,SNR=10.0	139.58 22	PKP	**PKiKP**	**16 09 30.3**	**-0.5**
SONM	**Songino Array** comp=Z,1.4nm,0.7s,baz=328,slow=2.7,SNR=7.4	142.34 356	PKhKP	PKPpre	16 09 29.7	
WMQ	**Urumqi**	144.02 19	*e*PKP	**PKPdf**	**16 09 37.3**	**+0.8**
XLT	**XiLinHaoTe**	144.47 343	*e*PKP	**PKPab**	**16 09 35.0**	**-0.6**
KSRS	**Korea Array** comp=Z,6.1nm,0.6s,baz=51,slow=3.2,SNR=21	144.62 324	PKP	**PKPab**	**16 09 35.5**	**-0.6**
BJI	**Beijing**	147.96 340	PKPbc	**PKPdf**	**16 09 44.0**	**+0.8**
BJI			PP	PP	16 13 20.9	+8.2
BJI	comp=Z,74nm,8.6s		AMB	AMB		
HHC	**Hu-ho-hao-te**	148.47 347	*e*P	**PKPdf**	**16 09 45.0**	**+0.8**
GTA	**Gaotai**	150.77 5	PKPbc	**PKPdf**	**16 09 49.5**	**+1.6**
GOMU	**GeErMu**	153.11 14	PKPbc	**PKPdf**	**16 09 50.5**	**-1.3**
NJ2	**Nanjing**	153.62 328	*e*P	**PKPdf**	**16 09 52.3**	**+0.1**
NJ2	comp=Z,11nm,0.5s		pmax	pmax		
CD2	**Chengdu**	159.35 358	PKP	**PKPdf**	**16 09 58.0**	**-1.7**
PZH	**PanZhiHua**	163.73 3	PKP	**PKPdf**	**16 10 03.3**	**-1.2**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.7s,baz=126,slow=1.9,SNR=1.1	170.98 24	PKP	**PKPdf**	**16 10 10.2**	**+0.4**
CMAR	comp=Z,1.5nm,0.7s,baz=339,slow=3.7,SNR=5.7		PKPab	**PKPab**	**16 11 27.4**	**-1.1**

CATAC 13 16:18:31.0±0.4,12°N±2°×8°6W±°,h11km±2km,M1.8/11, MLv1.8/11,Error ellipse: s-maj=4.4km s-min=2.0km az=31.6,confirmed,Nicaragua

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

SAPS	**Ciudad Sandino**	0.04 286	P	Pg	16 18 33.5	+0.4
SAPS	**Ciudad Sandino**	0.04 286	S	Sg	16 18 34.9	+0.3
APQ2	**Apoyeque**	0.06 44	P	Pg	16 18 33.5	+0.3
APQ2			S	Sg	16 18 35.2	+0.5
ALLN	**Telcor Managua**	0.09 92	P	Pg	16 18 33.9	+0.4
TISN	**Laguna Tiscapa**	0.09 99	P	Pg	16 18 33.5	-0.2
TISN			S	Sg	16 18 35.9	+0.4
AMTN	**Mateare**	0.10 320	S	Sg	16 18 37.6	+1.9
UNAN	**Cigeo UNAN**	0.10 117	P	Pb	16 18 34.4	-0.7
UNAN			S	Sg	16 18 37.0	+1.3
APQ3	**Volcan Apoyequ**	0.11 358	P	Pb	16 18 34.7	-0.5
APQ3			S	Sg	16 18 38.2	+2.2
R4DEC	**Barrio San Lui**	0.11 95	S	Sg	16 18 37.6	+1.7
WILN	**Americas 2**	0.17 89	P	Pb	16 18 36.1	-0.2
WILN			S	Sg	16 18 39.7	+2.3
COPN	**Copaltepe**	0.22 276	P	Pg	16 18 36.1	+0.4
MOM2	**El Cardon**	0.30 337	P	Pb	16 18 38.7	+0.3
MOM2			S	Sb	16 18 43.6	+0.1
MOMN	**Momotombo**	0.30 325	P	Pb	16 18 38.2	-0.3
MOMN			S	Sb	16 18 43.0	-0.5
NANN	**Nandasmo**	0.32 132	S	Sb	16 18 44.5	+0.4
CNGN	**Cerro Negro**	0.47 316	S	Sb	16 18 48.2	-0.1
ROCN	**Rota Cerro Neg**	0.52 314	P	Pg	16 18 41.0	-0.1
BOAB	**BOACO BROADBAN**	0.74 67	P	Pb	16 18 45.7	-0.2
BOAB	**BOACO BROADBAN**	0.74 67	S	Sb	16 18 56.2	0.0
ACON	**Acoyapa**	1.18 99	S	Sb	16 19 08.3	-0.4

*IDC **13** 16:22:32.5±1.6,31°.07S×177°.52W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=39.8km s-min=23.3km az=85.0*
*NEIC **13** 16:22:33.3±1.2,31°.01S±0°.09×177°.3W±0°.1,h10km±2km, mb4.3/4,Error ellipse: s-maj=16.1km s-min=13.4km az=129.0*
ISC 13 16:22:34.5±1.2,31°.19S±0°.06×177°.5W±0°.2,h27km,n15, σ2s36/19,mb4.0/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.97 349		Pn	**Pn**	**16 23 04.7**	**-1.4**
RAO				Sn	**Sn**	**16 23 29.0**	**-0.9**
RAO	**Raoul Island** 87nm,0.3s,baz=202,slow=21,SNR=1.9	1.97 349		Pn	**Pn**	**16 23 05.9**	**-0.1**
RAO	177nm,0.3s,baz=31,slow=23,SNR=6.1			Sn	**Sb**	**16 23 31.6**	**-2.2**
URZ	**Urewera** 0.2nm,0.3s,baz=54,slow=16,SNR=1.9	8.34 211		Pn	**Pn**	**16 24 30.0**	**-3.5**
URZ	1.1nm,0.3s,baz=255,slow=20,SNR=8.9			Sn	**Sn**	**16 26 03.9**	**-2.8**
BKZ	**Black Stump Fm**	9.36 210		Pn	**Pn**	**16 24 45.8**	**-1.8**
THZ	**Tophouse**	13.07 214		Pn	**Pn**	**16 25 39.1**	**+0.8**
STKA	**Stephens Creek** 1.4nm,0.7s,baz=100,slow=11,SNR=3.1	34.74 258		P	**P**	**16 29 24.6**	**+2.1**
	1.4nm,0.7s						
BBOO	**Buckleboo**	39.19 255		P	**P**	**16 30 01.8**	**+1.6**
BBOO	comp=Z,6.8nm,1.1s			IAmb	IAmb	16 30 09.5	
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=105,slow=7.1,SNR=11	43.51 268		P	**P**	**16 30 37.9**	**+1.9**
ASAR				PcP	**PcP**	**16 32 24.1**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=102,slow=2.9,SNR=1.5						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	44.57 273		P	**P**	**16 30 46.7**	**+2.2**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.4s,baz=112,slow=8.0,SNR=14	44.57 273		P	**P**	**16 30 46.0**	**+1.6**
	comp=Z,0.7nm,0.4s						
WB0	**Warramunga Arr**	44.60 273		P	**P**	**16 30 46.5**	**+1.9**
VNDA	**Vanda** comp=Z,0.4nm,0.7s,baz=256,slow=6.9,SNR=2.0	47.36 186		P	**P**	**16 31 01.8**	**-3.8**
QSPA	**South Pole Qui**	58.92 180		P	**P**	**16 32 34.2**	**+3.1**
QSPA	comp=Z,3.6nm,1.4s			IAmb	IAmb	16 32 34.5	
QSPA	**South Pole Qui** comp=Z,1.1nm,0.9s,baz=32,slow=0.8,SNR=7.1	58.92 180		P	**P**	**16 32 34.4**	**+3.4**
	comp=Z,1.1nm,0.9s						
FINES	**FINESS Array B** comp=Z,0.7nm,0.6s,baz=33,slow=5.3,SNR=5.3	146.04 340		PKPbc	**PKPab**	**16 42 12.2**	**+0.5**

*KRNET **13** 16:34:10.3±0.1,40°.55N×79°.14E,mb3.0*
*SOME **13** 16:34:13.3,40°.42N×78°.43E,h15km*
*NNC **13** 16:34:14.4±2.3,40°.42N×78°.25E,h0km,mb3.5,mpv3.0, Error ellipse: s-maj=16.6km s-min=13.5km az=176.0*
ISC 13 16:34:18.8±2.1,40.71N±0°.10×78.56E±0°.06,h10km,n21, σ2s13/35,12C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	1.17 331		⇑*i*P	**Pg**	**16 34 38.6**	**-2.7**
TARG				⇑*i*S	**Sn**	**16 34 59.4**	**+1.6**
KDJ	**Kajisay**	1.76 324		⇓*e*P	**Pn**	**16 34 47.9**	**-1.6**
KDJ				⇓*i*S	**Sg**	**16 35 15.2**	**-0.2**
ULHL	**Ulahol**	2.32 312		⇑*i*P	**Pn**	**16 34 56.3**	**-1.0**
ULHL				⇑*i*S	**Sb**	**16 35 29.9**	**+0.2**
SATY	**Saty** 7.1nm,0.5s	2.35 357		Pg	**Pg**	**16 35 02.5**	**-1.4**
SATY	36nm,0.8s			Lg	Lg	16 35 38.1	
UZB	**Uzynbulak** 1.4nm,0.2s	2.46 8		Pg	**Pb**	**16 35 03.0**	**-0.3**
UZB	**Uzynbulak** 4.4nm,0.3s	2.46 8		*e*P	**Pb**	**16 35 02.8**	**-0.5**
UZB	12nm,0.3s			*e*S	**Sg**	**16 35 38.4**	**+0.5**
SHLS	**Shalkode** 13nm,0.3s	2.54 15		Pg	**Pg**	**16 35 07.5**	**+0.1**
SHLS	25nm,0.4s			Lg	Lg	16 35 46.7	
SHLS	**Shalkode** 13nm,0.3s	2.54 15		*e*P	**Pg**	**16 35 07.6**	**+0.2**
SHLS	25nm,0.4s			*e*S	**Sg**	**16 35 46.7**	**+6.4**
TNSS	**Tian-Shan** 2.4nm,0.4s	2.62 333		Pg	**Pb**	**16 35 04.9**	**-1.2**
TNSS	5.3nm,0.7s			Lg	Lg	16 35 43.3	
TNSS	**Tian-Shan** 2.4nm,0.4s	2.62 333		*e*P	**Pb**	**16 35 05.7**	**-0.4**
TNSS	5.3nm,0.7s			*e*S	**Sg**	**16 35 43.3**	**+0.3**
PDGK	**Podgornoye** 2.2nm,0.5s	2.71 15		⇓Pn	**Pb**	**16 35 04.8**	**-2.7**
PDGK	13nm,0.7s			⇓Sn	**Sg**	**16 35 42.9**	**-2.9**
KPKS	**Kokpek** 0.2nm,0.2s	2.75 2		Pg	**Pg**	**16 35 09.6**	**-2.1**
KPKS	22nm,0.3s			Lg	Lg	16 35 50.0	
KURS	**Kuram** 4.7nm,0.5s	2.79 354		Pg	**Pb**	**16 35 09.0**	**+0.2**
KURS	6.8nm,0.7s			Lg	Lg	16 35 49.3	
KST	**Kastek** 2.8nm,0.6s	3.03 321		Pg	**Pb**	**16 35 12.1**	**-0.8**
KST	6.4nm,0.6s			Lg	Lg	16 35 55.1	
KST	**Kastek** 3.8nm,0.6s	3.03 321		*e*P	**Pb**	**16 35 12.5**	**-0.5**
KST	6.4nm,0.6s			*e*S	**Sg**	**16 35 55.0**	**-1.2**
TKM2	**Tokmak 2**	3.13 316		⇑*i*P	**Pn**	**16 35 07.4**	**-1.0**
TKM2				⇑*i*S	**Sn**	**16 35 49.0**	**+3.1**
UCH	**Uchtor**	3.40 298		⇓*i*P	**Pn**	**16 35 11.8**	**-0.5**
UCH				⇓*i*S	**Sn**	**16 35 56.6**	**+3.7**
CHMS	**Chumysh**	3.65 310		⇑*i*P	**Pn**	**16 35 14.6**	**-0.8**
CHMS				⇑*i*S	**Sn**	**16 36 01.7**	**+3.2**
USP	**Ospenovka**	3.96 311		⇓*e*P	**Pn**	**16 35 19.0**	**-0.7**
USP				⇓*i*S	**Sn**	**16 36 09.0**	**+2.8**
EKS2	**Erkin-Say**	4.08 300		⇑*i*P	**Pn**	**16 35 20.9**	**-0.5**
EKS2				⇑*i*S	**Sn**	**16 36 12.5**	**+3.3**
ARSB	**Arslanbob**	4.26 280		⇑*i*P	**Pn**	**16 35 23.6**	**-0.4**
ARSB				⇑*i*S	**Sn**	**16 36 17.0**	**+3.1**

IDC 13 17:00:54.8±2.0,31°.33S×177°.48W,h0km,mb3.5/3, mbtmp3.7/4,ML3.1/1,Error ellipse: s-maj=45.6km s-min=34.5km az=91.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.2nm,0.3s,baz=164,slow=11,SNR=1.5	8.22 211		Pn	Pn	17 02 53.2	-2.1
URZ	0.7nm,0.3s,baz=109,slow=22,SNR=9.4			Sn	Sn	17 04 28.1	-0.8

	25nm,1.3s					
ASAR	**Alice Springs** 0.3nm,0.6s,baz=110,slow=7.5,SNR=5.7	43.51 268	P	P	17 09 00.8	+0.5
WRA	**Warramunga Arr** 0.3nm,0.6s	44.59 273	P	P	17 09 09.1	+0.1
	0.3nm,0.3s,baz=112,slow=8.0,SNR=5.5					
	0.3nm,0.3s					
QSPA	**South Pole Qui** 0.6nm,0.9s,baz=333,slow=2.3,SNR=1.3	58.78 180	P	P	17 10 55.6	+1.0
	0.6nm,0.9s					
FINES	**FINESS Array B** 2.8nm,1.0s,baz=29,slow=3.2,SNR=6.5	146.17 340	PKPbc	PKPdf	17 20 34.4	-0.9

*UPP **13** 17:00:54.2±0.1,67°.06N×20°.98E,h0km,ML2.5,Unknown Suspected explosion*
*IDC **13** 17:00:54.9±1.2,67°.03N×21°.10E,h0km,mbtmp2.6/3, ML1.9/3,Error ellipse: s-maj=21.8km s-min=9.7km az=103.0*
*HEL **13** 17:00:54.3±0.3,67°.02N×20°.82E,h0km,ML2.0,Explosion*
ISC 13 17:00:54.3±0.8,67°.06N±0°.02×21°.01E±0°.02,h0km,n54, σ1s02/80,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	0.18 289		P	**Pg**	**17 00 57.8**	**0.0**
DUNU				S	**Sg**	**17 01 00.2**	**0.0**
DUNU	**Dundret** baz=100	0.18 289		P	**Pg**	**17 00 59.2**	**+1.5**
DUNU				S	**Sg**	**17 01 00.9**	**+0.8**
ERTU	**Ertsjaerv**	0.69 137		PG	**Pg**	**17 01 06.9**	**-0.6**
ERTU				SG	**Sg**	**17 01 17.0**	**+0.5**
PAJU	**Pajala**	0.83 92		P	**Pg**	**17 01 09.9**	**-0.2**
PAJU				S	**Sg**	**17 01 21.6**	**+0.8**
PAJU	**Pajala**	0.83 92		P	**Pn**	**17 01 13.3**	**0.0**
PAJU	**Pajala**	0.83 92		PG	**Pg**	**17 01 09.8**	**-0.2**
PAJU				SG	**Sg**	**17 01 21.6**	**+0.8**
KUA	**Kurravaara**	0.93 344		P	**Pg**	**17 01 11.6**	**-0.6**
KUA	**Kurravaara**	0.93 344		P	**Pb**	**17 01 13.3**	**-0.1**
KUA				S	**Sb**	**17 01 25.6**	**-0.6**
RATU	**Laukkuluspa**	0.94 325		P	**Pg**	**17 01 11.6**	**-0.7**
RATU				S	**Sg**	**17 01 24.8**	**+0.3**
RATU	**Laukkuluspa**	0.94 325		P	**Pb**	**17 01 13.4**	**-0.1**
RATU				S	**Sg**	**17 01 25.1**	**+0.7**
SALU	**Saltoluokta**	1.02 289		P	**Pg**	**17 01 13.2**	**-0.8**
SALU	**Saltoluokta**	1.02 289		P	**Pb**	**17 01 14.9**	**0.0**
SALU	**Saltoluokta**	1.02 289		*e*P	**Pg**	**17 01 13.6**	**-0.3**
LANU	**Lannavaara**	1.06 21		PG	**Pg**	**17 01 13.9**	**-0.7**
LANU				SG	**Sb**	**17 01 29.4**	**-0.5**
NIKU	**Nikkaluokta**	1.11 318		P	**Pg**	**17 01 14.8**	**-0.8**
NIKU	**Nikkaluokta**	1.11 318		P	**Pn**	**17 01 16.6**	**-0.5**
KLF	**Kolari**	1.17 80		PG	**Pg**	**17 01 16.1**	**-0.6**
KLF	comp=Z,13nm,0.2s			MSG		17 01 32.1	
KLF				SG	**Sb**	**17 01 33.0**	**0.0**
KOVU	**Salmi**	1.21 345		P	**Pg**	**17 01 16.7**	**-0.8**
KALU	**Kalix**	1.53 141		P	**Pn**	**17 01 22.3**	**-0.6**
KALU	**Kalix**	1.53 141		PG	**Pn**	**17 01 22.2**	**-0.6**
SJUU	**Sjulsmark**	1.58 171		P	**Pn**	**17 01 23.0**	**-0.6**
SJUU	**Sjulsmark**	1.58 171		*e*P	**Pn**	**17 01 22.8**	**-0.7**
TOF	**Tornio**	1.65 125		PG	**Pn**	**17 01 24.5**	**0.0**
TOF				MSG		17 01 44.8	
TOF	comp=Z,7.9nm,0.2s			SG	**Sb**	**17 01 47.2**	**+0.2**
HEF	**Hetta**	1.69 36		*e*P	**Pn**	**17 01 25.2**	**+0.2**
HEF	**Hetta** baz=219	1.69 36		PB	**Pn**	**17 01 24.9**	**-0.1**
HEF	comp=Z,12nm,0.2s			MSG		17 01 46.9	
HEF				SB	**Sb**	**17 01 48.1**	**+0.2**
KIF	**Kilpisjarvi**	1.95 358		PB	**Pb**	**17 01 30.2**	**-0.5**
KIF	comp=Z,29nm,0.2s			MSG		17 01 54.7	
KIF				SB	**Sg**	**17 01 57.0**	**+0.1**
RNF	**Rovaniemi**	2.03 101		PB	**Pn**	**17 01 30.8**	**+1.0**
RNF				SB	**Sb**	**17 01 58.5**	**+0.7**
KTK1	**Kautokeino**	2.13 22		PB	**Pb**	**17 02 32.8**	**-0.9**
KTK1				SB	**Sg**	**17 02 01.9**	**-0.8**
I37NO	**I37NO** baz=155,slow=320,SNR=2.8	2.21 337		I	I	17 14 50.9	
RANF	**Ranua**	2.54 112		PN	**Pn**	**17 01 37.7**	**+1.0**
RANF				SG	**Sb**	**17 02 13.2**	**+0.7**
TRO	**Tromso**	2.69 344		PB	**Pb**	**17 01 42.0**	**-1.3**
TRO				SB	**Sb**	**17 02 14.8**	**-2.1**
OUL	**Oulu**	2.81 133		PB	**Pn**	**17 01 42.0**	**+1.5**
OUL				SG	**Sg**	**17 02 23.0**	**-1.6**
OBF4	**Vikkela, Lumij** baz=323	2.81 142		PB	**Pn**	**17 01 41.7**	**+1.2**
OBF4				MSG		17 02 17.5	
OBF0	comp=Z,2.7nm,0.2s	2.90 151		PB	**Pn**	**17 01 42.6**	**+0.9**
OBF0	**Syolatti, Pyha**			MSG		17 02 19.6	
ARA0	comp=Z,3.6nm,0.2s **ARCESS Array S**	2.99 32		PN	**Pn**	**17 01 43.9**	**+0.9**
ARA0				SN	**Sn**	**17 02 21.9**	**+2.4**
ARCES	**ARCESS Array B** comp=Z,0.2nm,0.3s,baz=209,slow=14,SNR=48	2.99 32		Pn	**Pn**	**17 01 43.5**	**+0.5**
ARCES				Sn	**Sn**	**17 02 21.6**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=212,slow=24,SNR=11						
	comp=Z,0.6nm,0.2s						
OUF	**Merijarvi** baz=334	3.11 149		PB	**Pn**	**17 01 45.4**	**+0.8**
OUF	comp=Z,2.0nm,0.2s			MSG		17 02 26.0	
RAJF	**Raja-Jooseppi**	3.12 60		PN	**Pn**	**17 01 47.0**	**+2.4**
RAJF				SB	**Sg**	**17 02 32.4**	**-1.9**
UMAU	**Umeaa**	3.20 183		PB	**Pn**	**17 01 46.1**	**+0.4**
KU2	**Taivalkoski**	3.21 112		PN	**Pn**	**17 01 44.9**	**-1.0**
VRF	**Varrio**	3.39 74		PN	**Pn**	**17 01 49.5**	**+1.1**
VRF				SB	**Sb**	**17 02 37.9**	**+1.0**
OLKF	**Oulanka, Finla**	3.42 99		PN	**Pn**	**17 01 49.9**	**+1.1**
OLKF				SN	**Sn**	**17 02 32.3**	**+2.3**
MSF	**Maaselka** baz=296	3.42 106		PN	**Pn**	**17 01 49.6**	**+0.7**
MSF				SG	**Sg**	**17 02 41.5**	**-2.6**
KEV	**Kevo**	3.50 37		PN	**Pn**	**17 01 50.8**	**+1.0**
KEV				SN	**Sn**	**17 02 33.0**	**+1.1**
KU6	**Riekki** baz=289	3.70 102		PN	**Pn**	**17 01 53.2**	**+0.5**
KU6				SG	**Sg**	**17 02 52.2**	**-0.9**
KU1	**Kurvinen**	3.76 110		PN	**Pn**	**17 01 54.4**	**+0.9**
NIF	**Nilsia**	4.67 139		PN	**Pn**	**17 02 06.9**	**+1.0**
RMF	**Romuvaara**	4.67 124		PN	**Pn**	**17 02 07.5**	**+1.5**
KEF	**Keuruu**	5.19 160		*e*P	**Pn**	**17 02 13.7**	**+0.6**
JOF	**Joensuu**	6.03 129		*e*P	**Pn**	**17 02 25.1**	**+0.5**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=13	6.06 156		Pn	**Pn**	**17 02 25.8**	**+0.8**
FINES				Sn	**Sn**	**17 03 33.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=344,slow=24,SNR=1.2						
	comp=Z,0.4nm,0.3s						
RAF	**Rauma**	6.07 177		*e*P	**Pn**	**17 02 25.6**	**+0.4**
MEF	**Metsahovi**	7.04 166		*e*P	**Pn**	**17 02 38.4**	**0.0**
NOA	**NORSAR Array B** baz=34,slow=15,SNR=1.3	7.41 220		Pn	**Pn**	**17 02 42.5**	**-1.0**
	comp=Z,0.2nm,0.6s						

IDC 13 17:25:29.4±3.6,47°.60N×93°.03W,h0km,mbtmp2.3/1, ML1.4/1,Error ellipse: s-maj=64.5km s-min=26.6km az=56.0,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet** 0.6nm,0.3s,ba

*DJA **13** 17:47:41.8±0.3,5°N±3°×9°8E±°, h10km, M4.0/9, MLv4.0/9*
ISC 13 17:47:40.5±0.6,4°57N±0.05×97°84E±0.06, h10km, n20, σ1ᵎ30/24, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**1.05**	**184**	P	**Pg**	**17 48 00.2**	**-0.5**
KCSI				S	**Sb**	**17 48 14.5**	**-0.1**
LHMI	**Lhok Sumawe**	**1.10**	**306**	P	**Pb**	**17 48 02.6**	**+0.9**
LHMI				S	**Sg**	**17 48 18.3**	**+2.2**
TSI	**Tuntungan**	**1.29**	**146**	P	**Pb**	**17 48 05.6**	**+0.8**
TSI				S	**Sg**	**17 48 22.1**	**+0.1**
MLSI	**Meulaboh, Aceh**	**1.47**	**258**	P	**Pn**	**17 48 06.8**	**-0.2**
MLSI				S	**Sn**	**17 48 27.2**	**+0.9**
PSI	**Prapat**	**2.07**	**148**	Pn	**Pn**	**17 48 17.5**	**+2.1**
	6.9nm,0.3s,baz=334,slow=13,SNR=23						
PSI				Lg	Lg	17 48 51.6	
	23nm,0.3s,baz=67,slow=22,SNR=6.3						
	19nm,0.3s						
GSI	**Gunungsitoli**	**3.26**	**185**	P	**Pn**	**17 48 32.9**	**+1.2**
RNTT	**Ranong**	**4.83**	**7**	P	**Pn**	**17 48 53.3**	**0.0**
KHLT	**Khaolaem Dam**	**10.19**	**4**	P	**Pn**	**17 50 05.8**	**-1.1**
CM05	**Chiang Mai Arr**	**13.79**	**4**	P	**Pn**	**17 50 55.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**13.84**	**4**	Pn	Pn	17 51 02.8	+5.9
	baz=191,slow=10,SNR=4.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.36**	**125**	P	**P**	**17 55 43.6**	**+0.2**
	0.9nm,0.8s,baz=302,slow=9.4,SNR=4.5						
WRA				PcP	**PcP**	**17 57 30.9**	**-1.3**
	0.3nm,0.4s,baz=309,slow=3.2,SNR=5.5						
	0.9nm,0.8s						
SONM	**Songino Array**	**43.72**	**8**	P	**P**	**17 55 48.1**	**+2.0**
	1.5nm,0.5s,baz=191,slow=9.3,SNR=9.2						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**44.16**	**345**	P	**P**	**17 55 50.4**	**+1.0**
	2.4nm,0.7s,baz=157,slow=8.8,SNR=23						
	2.4nm,0.7s						
ASAR	**Alice Springs**	**44.99**	**130**	P	**P**	**17 55 56.2**	**-0.2**
	1.5nm,0.7s,baz=300,slow=7.7,SNR=28						
ASAR				PcP	**PcP**	**17 57 36.5**	**-1.1**
	0.7nm,1.0s,baz=289,slow=3.4,SNR=3.6						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**48.68**	**344**	P	**P**	**17 56 23.6**	**-1.3**
	0.4nm,0.3s,baz=164,slow=7.8,SNR=2.2						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**50.36**	**350**	P	**P**	**17 56 38.9**	**+1.3**
	3.3nm,0.5s,baz=173,slow=7.1,SNR=15						
	3.3nm,0.5s						
BVAR	**Borovoye Array**	**53.31**	**340**	P	**P**	**17 56 58.7**	**-0.9**
	0.4nm,0.5s,baz=111,slow=8.0,SNR=3.7						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**55.18**	**134**	P	**P**	**17 57 13.1**	**-0.6**
	3.3nm,0.7s,baz=302,slow=5.5,SNR=6.4						
	3.3nm,0.7s						
BRTR	**Keskin Array B**	**67.36**	**311**	P	**P**	**17 58 33.5**	**-2.8**
	0.7nm,0.8s,baz=114,slow=7.7,SNR=5.0						
	0.7nm,0.8s						
VNDA	**Vanda**	**88.99**	**169**	P	P	18 00 29.9	-5.2
	0.2nm,0.3s,baz=217,slow=5.1,SNR=8.1						
	0.2nm,0.3s						

IDC 13 17:50:13.7±3.2,31°40S×177°39W, h0km, mb3.4/2, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=77.6km s-min=37.6km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.20**	**212**	Pn	Pn	17 52 13.6	-0.3
	0.3nm,0.3s,baz=164,slow=23,SNR=1.6						
URZ				Sn	Sn	17 53 47.0	-0.2
	0.4nm,0.3s,baz=351,slow=18,SNR=1.3						
	6.2nm,0.8s						
ASAR	**Alice Springs**	**43.58**	**268**	P	P	17 58 20.1	+0.2
	0.3nm,0.7s,baz=113,slow=8.0,SNR=4.5						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.66**	**273**	P	P	17 58 28.3	-0.2
	0.3nm,0.4s,baz=112,slow=7.9,SNR=6.1						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**146.26**	**340**	PKPbc	PKPdf	18 09 54.5	+0.1
	1.7nm,0.9s,baz=49,slow=3.3,SNR=5.5						

*NEIC **13** 17:50:39.1±1.9,31°53S±0.08×176°3W±0.2, h10km±2km, mb4.2/5, Error ellipse: s-maj=23.2km s-min=11.6km az=74.0*
*IDC **13** 17:50:44.2±2.7,31°51S×177°28W, h0km, mb3.9/3, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=67.2km s-min=35.2km az=122.0*
ISC 13 17:50:40.7±2.5,31°6S±0.1×176°6W±0.3, h10km, n16, σ1ᵎ39/18, mb4.1/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.60**	**333**	Pn	**Pn**	**17 51 21.4**	**-1.5**
URZ	**Urewera**	**8.44**	**216**	Pn	**Pn**	**17 52 42.8**	**-0.2**
	0.7nm,0.3s,baz=247,slow=5.0,SNR=6.2						
URZ				Sn	**Sn**	**17 54 16.2**	**-2.1**
	1.6nm,0.3s,baz=266,slow=22,SNR=8.0						
	9.4nm,0.9s						
RTZ	**Ruatahuna**	**8.78**	**215**	Pn	**Pn**	**17 52 48.9**	**+1.1**
BKZ	**Black Stump Fm**	**9.44**	**215**	Pn	**Pn**	**17 52 56.0**	**-0.9**
BFZ	**Birch Farm**	**10.77**	**211**	Pn	**Pn**	**17 53 15.0**	**0.0**
MRZ	**Mangatainoka R**	**11.05**	**213**	Pn	**Pn**	**17 53 18.4**	**-0.5**
SNZO	**South Karori**	**11.97**	**213**	Pn	**Pn**	**17 53 31.9**	**+0.5**
CTAO	**Charters Tower**	**35.21**	**280**	P	**P**	**17 57 34.5**	**-0.8**
STKA	**Stephens Creek**	**35.42**	**258**	P	**P**	**17 57 37.2**	**+0.1**
STKA	**Stephens Creek**	**35.42**	**258**	P	**P**	**17 57 37.9**	**+0.8**
	1.2nm,0.4s,baz=96,slow=11,SNR=5.1						
	1.2nm,0.4s						
BBOO	**Buckleboo**	**39.84**	**255**	P	**P**	**17 58 14.9**	**+0.4**
BBOO				IAmb	IAmb	17 58 18.0	
	comp=Z,4.5nm,0.9s						
ASAR	**Alice Springs**	**44.28**	**268**	P	**P**	**17 58 51.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=110,slow=7.8,SNR=6.6						
ASAR				PcP	**PP**	**18 00 38.2**	**+4.2**
	comp=Z,0.3nm,0.8s,baz=112,slow=3.2,SNR=1.8						
	comp=Z,0.9nm,0.8s						
WRA	**Warramunga Arr**	**45.37**	**273**	P	**P**	**17 58 59.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=112,slow=7.9,SNR=9.7						
	comp=Z,0.7nm,0.3s						
WB0	**Warramunga Arr**	**45.40**	**273**	P	**P**	**17 58 59.3**	**-0.5**
WB0				IAmb	IAmb	17 59 04.8	
	comp=Z,3.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**53.59**	**270**	P	**P**	**18 00 02.3**	**+0.1**
FINES	**FINESS Array B**	**146.68**	**340**	PKPbc	**PKiKP**	**18 10 25.3**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=20,slow=4.4,SNR=7.4						

*IDC **13** 18:14:50.0±2.7,17°49S×178°94W, h520km±29km, mb3.4/11, mbtmp4.3/12, Error ellipse: s-maj=18.2km s-min=17.5km az=113.0*
*NEIC **13** 18:14:52.1±1.6,17°5S±0.1×178°91W±0.09, h546km±7km, mb4.4/40, Error ellipse: s-maj=19.4km s-min=11.6km az=161.0*
ISC 13 18:14:52.0±0.5,17°51S±0.09×178°88W±0.08, h550km, n68, σ1ᵎ25/72, mb4.3/31, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.94**	**265**	P	**P**	**18 16 09.1**	**+2.4**
MSVF				S	**S**	**18 17 11.7**	**+4.1**
FUTU	**Fugatoga**	**3.27**	**13**	P	**P**	**18 16 09.0**	**+0.1**
AFI	**Afiamalu**	**7.72**	**63**	P	**P**	**18 16 44.9**	**-2.2**
NIUE	**Niue**	**8.65**	**102**	P	**P**	**18 16 55.8**	**-0.4**
SANVU	**Saraoutou**	**13.50**	**277**	P	**P**	**18 17 45.3**	**-0.9**
PINNC	**Pines Island,**	**13.81**	**246**	P	**P**	**18 17 48.0**	**-1.3**
DZM	**Mont Dzumac**	**14.54**	**249**	P	**P**	**18 17 55.4**	**-1.4**
DZM	**Mont Dzumac**	**14.54**	**249**	P	**P**	**18 17 55.9**	**-0.9**
	14nm,0.7s,baz=86,slow=22,SNR=14						
ONTNC	**Ouen Toro**	**14.59**	**249**	P	**P**	**18 17 56.1**	**-1.1**
TOZ	**Tahuroa Road**	**20.74**	**193**	P	**P**	**18 18 53.2**	**-1.4**
URZ	**Urewera**	**20.97**	**189**	P	**P**	**18 18 54.8**	**-1.8**
	16nm,0.5s,baz=40,slow=4.9,SNR=20						
	16nm,0.5s						
BKZ	**Black Stump Fm**	**21.95**	**190**	P	**P**	**18 19 03.2**	**-2.4**
MRZ	**Mangatainoka R**	**23.56**	**191**	P	**P**	**18 19 17.0**	**-2.8**
PLWZ	**Palliser**	**24.50**	**191**	P	**P**	**18 19 26.2**	**-2.0**
DSZ	**Denniston Nort**	**25.44**	**196**	P	**P**	**18 19 35.3**	**-1.2**
LTZ	**Lake Taylor**	**26.29**	**195**	P	**P**	**18 19 42.0**	**-1.9**
LBZ	**Lake Benmore**	**28.33**	**197**	P	**P**	**18 19 59.7**	**-2.1**
EIDS	**Eidsvold**	**28.98**	**249**	P	**P**	**18 20 07.4**	**-0.3**
EIDS				IAmb	IAmb	18 20 08.3	
	comp=Z,6.2nm,0.8s						
WKZ	**Wanaka**	**29.07**	**198**	P	**P**	**18 20 07.0**	**-1.2**
ARMA	**Armidale**	**29.75**	**239**	P	**P**	**18 20 13.8**	**-0.7**
ARMA				IAmb	IAmb	18 20 15.6	
	comp=Z,6.9nm,0.6s						
MLZ	**Mavora Lakes**	**29.82**	**199**	P	**P**	**18 20 14.9**	**+0.2**
WHZ	**Wether Hill Ro**	**30.35**	**198**	P	**P**	**18 20 19.4**	**+0.2**
CTAO	**Charters Tower**	**33.07**	**260**	P	**P**	**18 20 41.5**	**-1.4**
CTAO				IAmb	IAmb	18 21 21.5	
	comp=Z,18nm,1.2s						
CAN	**Canberra**	**33.59**	**232**	P	**P**	**18 20 47.0**	**0.0**
PMG	**Port Moresby**	**33.95**	**279**	P	**P**	**18 20 51.0**	**+0.7**
PMG				IAmb	IAmb	18 20 51.5	
	comp=Z,17nm,0.8s						
MANU	**Manus Island**	**36.54**	**291**	P	**P**	**18 21 11.4**	**-0.4**
MANU				IAmb	IAmb	18 21 13.3	
	comp=Z,18nm,0.8s						
COEN	**Coen**	**36.65**	**270**	P	**P**	**18 21 12.0**	**-0.7**
COEN				IAmb	IAmb	18 21 13.7	
	comp=Z,12nm,0.6s						
TOO	**Toolangi**	**37.07**	**230**	P	**P**	**18 21 16.3**	**+0.4**
STKA	**Stephens Creek**	**38.43**	**241**	P	**P**	**18 21 26.9**	**-0.1**
STKA	**Stephens Creek**	**38.43**	**241**	P	**P**	**18 21 27.6**	**+0.6**
	comp=Z,3.2nm,0.4s,baz=75,slow=10,SNR=16						
	comp=Z,3.2nm,0.4s						
INKA	**Innaminka**	**38.48**	**247**	P	**P**	**18 21 27.9**	**+0.4**
BBOO	**Buckleboo**	**43.20**	**241**	P	**P**	**18 22 04.6**	**-0.3**
BBOO				IAmb	IAmb	18 22 46.8	
	comp=Z,24nm,1.4s						
WR8	**Warramunga Arr**	**44.11**	**259**	P	**P**	**18 22 10.7**	**-1.5**
WR8				IAmb	IAmb	18 22 12.0	
	comp=Z,4.7nm,0.7s						
WB0	**Warramunga Arr**	**44.23**	**259**	P	**P**	**18 22 11.8**	**-1.2**
WB0				IAmb	IAmb	18 22 12.3	
	comp=Z,7.8nm,1.2s						
WB0				PcP	**PcP**	**18 23 46.5**	**+0.8**
WRA	**Warramunga Arr**	**44.26**	**259**	P	**P**	**18 22 12.1**	**-1.3**
	comp=Z,3.5nm,0.6s,baz=97,slow=7.5,SNR=68						
	comp=Z,3.5nm,0.6s						
AS31	**Alice Springs**	**44.47**	**254**	P	**P**	**18 22 14.2**	**-0.7**
AS31				IAmb	IAmb	18 22 15.1	
	comp=Z,12nm,0.5s						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**18 22 14.2**	**-0.7**
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**18 22 14.6**	**-0.3**
	comp=Z,31nm,0.5s,baz=89,slow=8.0,SNR=684						
ASAR				ScP	**ScP**	**18 26 48.4**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=99,slow=5.7,SNR=2.8						
MTN	**Manton Dam**	**48.36**	**268**	P	**P**	**18 22 43.5**	**-0.9**
MTN				IAmb	IAmb	18 22 45.2	
	comp=Z,24nm,1.1s						
KNRA	**Kununurra**	**50.08**	**264**	P	**P**	**18 22 56.5**	**-0.6**
KNRA				IAmb	IAmb	18 22 57.3	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	**P**	**18 23 15.4**	**-0.2**
SOEI	**Soe**	**55.62**	**270**	P	**P**	**18 23 37.7**	**+1.0**
SOEI				IAmb	IAmb	18 23 44.3	
	comp=Z,64nm,1.3s						
SOEI				PcP	**PcP**	**18 24 26.7**	**-1.6**
PSA00	**Pilbara Seismi**	**57.57**	**255**	P	**P**	**18 23 48.7**	**-1.2**
MBWA	**Marble Bar**	**57.73**	**256**	P	**P**	**18 23 49.7**	**-1.3**
MORW	**Morawa**	**60.23**	**246**	P	**P**	**18 24 06.6**	**-1.0**
MORW				IAmb	IAmb	18 24 32.8	
	comp=Z,34nm,1.5s						
SBA	**Scott Base**	**60.78**	**183**	P	**P**	**18 24 11.6**	**+1.3**
VNDA	**Vanda**	**60.80**	**185**	P	**P**	**18 24 11.0**	**+0.5**
VNDA	**Vanda**	**60.80**	**185**	P	**P**	**18 24 11.8**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=357,slow=8.3,SNR=5.4						
	comp=Z,0.7nm,0.5s						
GIRL	**Giralia**	**62.58**	**253**	P	**P**	**18 24 22.1**	**-0.9**
CASY	**Casey**	**66.31**	**205**	P	**P**	**18 24 45.8**	**0.0**
CASY				IAmb	IAmb	18 24 56.9	
	comp=Z,7.8nm,1.4s						
MJAR	**Matsushiro Arr**	**67.32**	**324**	P	**P**	**18 24 51.9**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=186,slow=9.8,SNR=2.3						
	comp=Z,0.9nm,1.0s						
KKM	**Kota Kinabalu**	**68.21**	**284**	P	**P**	**18 24 58.4**	**-0.2**
KKM				IAmb	IAmb	18 25 27.9	
	comp=Z,6.1nm,1.0s						
QSPA	**South Pole Qui**	**72.54**	**180**	P	**P**	**18 25 25.0**	**+1.7**
QSPA				IAmb	IAmb	18 25 25.9	
	comp=Z,5.1nm,0.8s						
QSPA	**South Pole Qui**	**72.54**	**180**	P	**P**	**18 25 24.8**	**+1.5**
	comp=Z,4.2nm,0.6s,baz=52,slow=2.8,SNR=58						
	comp=Z,4.2nm,0.6s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**18 26 02.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=219,slow=7.7,SNR=4.3						
	comp=Z,0.8nm,0.6s						
K05A	**Summer Lake**	**80.18**	**39**	P	**P**	**18 26 05.7**	**+0.1**
BELA	**Belgrano 2**	**82.61**	**173**	P	**P**	**18 26 17.1**	**-0.2**
BELA				IAmb	IAmb	18 26 18.1	
	comp=Z,5.7nm,0.8s						
MAW	**Mawson**	**84.08**	**200**	P	**P**	**18 26 25.2**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=146,slow=6.1,SNR=11						
	comp=Z,2.2nm,0.6s						
Q32M	**Nakina River**	**85.19**	**22**	P	**P**	**18 26 30.5**	**+0.1**
TX31	**Lajitas Ar. Si**	**86.17**	**58**	P	**P**	**18 26 36.2**	**+0.6**
TX31				IAmb	IAmb	18 26 38.3	
	comp=Z,6.8nm,1.5s						
TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**18 26 36.1**	**+0.4**
TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**18 26 37.2**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=208,slow=6.6,SNR=9.2						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**18 26 41.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=244,slow=1.8,SNR=4.7						
	comp=Z,0.4nm,0.6s						
TROLL	**Troll, Antarti**	**90.70**	**180**	⇑P	**P**	**18 26 56.1**	**0.0**
	comp=Z,119nm,0.5s						
SNAA	**Sanae**	**91.00**	**179**	⇑P	**P**	**18 26 57.0**	**-0.4**
	comp=Z,26nm,0.5s						
SNAA	**Sanae**	**91.00**	**179**	P	**P**	**18 26 56.9**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=216,slow=8.4,SNR=16						
	comp=Z,1.0nm,0.5s						
VNA3	**Neumayer Olymp**	**91.16**	**177**	⇑P	**P**	**18 26 58.2**	**+0.2**
	comp=Z,7.2nm,0.7s						
VNA1	**Neumayer~Stat**	**91.83**	**177**	⇑P	**P**	**18 27 02.0**	**+1.0**
	comp=Z,5.2nm,1.1s						

*IDC **13** 18:29:22.2±0.7,11°65S×164°95E, h0km, mb4.3/14, mbtmp4.3/16, ML4.4/2, MS3.4/10, Error ellipse: s-maj=22.1km s-min=18.8km az=95.0*
*NEIC **13** 18:29:24.0±1.2,11°62S±0.09×165°09E±0.10, h10km±1km, mb4.6/30, Error ellipse: s-maj=21.0km s-min=7.8km az=46.0*
ISC 13 18:29:27.0±0.5,11°75S±0.07×164°99E±0.08, h34km, n67, σ1ᵎ17/57, mb4.5/28, MS3.5/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.26**	**150**		**Pn**	**18 30 29.2**	**-0.3**
SANVU				Sn	**Sn**	**18 31 14.3**	**-3.8**
HNR	**Honiara**	**5.46**	**294**		**Pn**	**18 30 45.3**	**-0.7**
HNR				Sn	**Sn**	**18 31 44.6**	**-3.2**
HNR	**Honiara**	**5.46**	**294**	Pn	**Pn**	**18 30 45.7**	**-0.4**
	25nm,0.3s,baz=147,slow=8.6,SNR=5.2						
HNR				Sn	**Sn**	**18 31 46.0**	**-1.7**
	28nm,0.3s,baz=187,slow=19,SNR=4.3						
HNR				LR	LR	18 32 52.0	
	comp=Z,187nm,19.1s,baz=178,slow=39						
	56nm,0.3s						
DZM	**Mont Dzumac**	**10.36**	**172**	Pn	**Pn**	**18 31 53.8**	**+0.5**
	1.7nm,0.3s,baz=43,slow=8.0,SNR=47						
DZM				Sn	**Sn**	**18 33 44.8**	**-3.5**
	0.2nm,0.3s,baz=68,slow=22,SNR=1.1						
	3.7nm,0.3s						
ONTNC	**Ouen Toro**	**10.59**	**173**	Pn	**Pn**	**18 31 57.5**	**+1.0**
PINNC	**Pines Island,**	**11.06**	**168**	Pn	**Pn**	**18 32 03.5**	**+0.7**
PMG	**Port Moresby**	**17.68**	**276**	LR	LR	18 39 07.3	
	comp=Z,136nm,22.0s,baz=132,slow=33						
COEN	**Coen**	**21.38**	**262**	P	**P**	**18 34 11.7**	**-0.1**
ARMA	**Armidale**	**22.33**	**212**	P	**P**	**18 34 23.9**	**+1.9**
RAO	**Raoul Island**	**23.60**	**140**	LR	LR	18 42 03.7	
	comp=Z,2μm,21.3s,baz=309,slow=32						
INKA	**Innaminka**	**27.73**	**231**	P	**P**	**18 35 13.7**	**+1.2**
BKZ	**Black Stump Fm**	**29.16**	**161**	P	**P**	**18 35 25.9**	**+0.8**
STKA	**Stephens Creek**	**29.42**	**223**	LR	LR	18 46 22.9	
	comp=Z,84nm,18.9s,baz=26,slow=35						
H11S2	**WAKE ISLAND Hy**	**30.09**	**3**	T	T	19 07 10.1	
	baz=183,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**30.10**	**3**	T	T	19 07 05.3	
	baz=183,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**30.11**	**3**	T	T	19 07 08.2	
	baz=183,slow=76,SNR=11						
WR8	**Warramunga Arr**	**30.40**	**251**	P	**P**	**18 35 36.0**	**-0.3**
WB0	**Warramunga Arr**	**30.47**	**251**	P	**P**	**18 35 36.7**	**-0.1**
WRA	**Warramunga Arr**	**30.55**	**251**	P	**P**	**18 35 37.4**	**-0.2**
	2.0nm,0.6s,baz=80,slow=9.1,SNR=19						
WRA				PcP	**PcP**	**18 38 37.0**	**+0.9**
	0.9nm,1.0s,baz=99,slow=1.9,SNR=3.9						
	2.0nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**31.32**	**3**	T	T	19 08 41.8	
	baz=182,slow=76,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**31.32**	**3**	T	T	19 08 39.6	
	baz=182,slow=76,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**31.34**	**3**	T	T	19 08 38.4	
	baz=182,slow=76,SNR=5.8						
ASAR	**Alice Springs**	**31.82**	**244**	P	**P**	**18 35 47.9**	**-0.8**
	1.0nm,0.6s,baz=77,slow=8.8,SNR=6.8						
ASAR				PcP	**PcP**	**18 38 40.0**	**+0.6**
	0.8nm,1.0s,baz=69,slow=3.3,SNR=4.6						
	1.0nm,0.6s						
GUMO	**Guam**	**32.12**	**321**	LR	LR	18 47 05.8	
	comp=Z,28nm,21.1s,baz=307,slow=33						
MTN	**Manton Dam**	**33.08**	**264**	P	**P**	**18 36 02.6**	**+2.7**
RAR	**Rarotonga**	**35.01**	**110**	LR	LR	18 48 01.1	
	comp=Z,25nm,21.0s,baz=268,slow=32						
FITZ	**Fitzroy Crossi**	**38.48**	**256**	P	**P**	**18 36 46.0**	**-0.2**
KKM	**Kota Kinabalu**	**51.63**	**287**	P	**P**	**18 38 30.5**	**-0.4**
MJAR	**Matsushiro Arr**	**54.26**	**333**	P	**P**	**18 38 48.5**	**-1.2**
	4.0nm,0.9s,baz=172,slow=8.4,SNR=5.0						
	4.0nm,0.9s						
KSRS	**Korea Array**	**60.04**	**326**	P	**P**	**18 39 30.8**	**+0.2**
	1.0nm,0.8s,baz=114,slow=8.1,SNR=3.1						
	1.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**63.24**	**334**	P	**P**	**18 39 52.1**	**+0.1**
	3.7nm,0.7s,baz=104,slow=9.1,SNR=6.4						
	3.7nm,0.7s						
PETK	**Petropavlovsk-**	**64.90**	**355**	P	**P**	**18 40 02.6**	**-0.1**
	5.4nm,1.1s,baz=187,slow=7.0,SNR=3.9						
	5.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**71.72**	**294**	P	**P**	**18 40 47.2**	**+1.1**
	0.7nm,0.3s,baz=117,slow=4.2,SNR=7.1						
	0.7nm,0.3s						
QSPA	**South Pole Qui**	**78.26**	**180**	P	**P**	**18 41 24.9**	**+1.7**
QSPA				IAmb	IAmb	18 41 28.6	
	comp=Z,6.9nm,0.9s						
QSPA	**South Pole Qui**	**78.26**	**180**	P	**P**	**18 41 25.0**	**+1.7**
	comp=Z,7.8nm,1.0s,baz=354,slow=1.0,SNR=24						
	comp=Z,7.8nm,1.0s						
SONM	**Songino Array**	**78.79**	**324**	P	**P**	**18 41 26.8**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=141,slow=6.9,SNR=8.7						
	comp=Z,1.6nm,0.8s						
CAST	**Castle Rocks**	**81.84**	**18**		**P**	**18 41 41.9**	**-0.5**
CAST				IAmb	IAmb	18 41 44.6	
	comp=Z,3.9nm,0.8s						
N25K	**Chitina, Valde**	**83.07**	**22**	P	**P**	**18 41 48.8**	**-0.1**
N25K				IAmb	IAmb	18 41 50.1	
	comp=Z,3.2nm,0.8s						
CCB	**Clear Creek Bu**	**84.04**	**19**	P	**P**	**18 41 52.8**	**-0.8**
CCB				IAmb	IAmb	18 41 54.4	
	comp=Z,2.5nm,0.7s						
HDA	**Harding Lake**	**84.14**	**19**	P	**P**	**18 41 53.4**	**-0.9**
M26K	**Nabesna, AK**	**84.16**	**22**	P	**P**	**18 41 54.2**	**-0.3**
M26K				IAmb	IAmb	18 41 55.7	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**84.41**	**19**	P	**P**	**18 41 55.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=238,slow=5.9,SNR=18						
	comp=Z,1.7nm,0.7s						
M27K	**Edge Creek, AK**	**84.54**	**22**	P	**P**	**18 41 55.9**	**-0.6**
M27K				IAmb	IAmb	18 41 58.0	
	comp=Z,5.4nm,1.1s						
DOT	**Dot Lake**	**84.59**	**20**	P	**P**	**18 41 56.2**	**-0.3**
DOT				IAmb	IAmb	18 41 57.8	
	comp=Z,4.5nm,1.0s						
J25K	**Salcha River,**	**84.79**	**19**		**P**	**18 41 57.2**	**-0.3**
J25K				IAmb	IAmb	18 42 07.0	
	comp=Z,4.5nm,1.4s						
BBB	**Bella Bella**	**85.57**	**35**	LR	LR	19 11 57.7	
	comp=Z,79nm,19.4s,baz=22,slow=30						
I26K	**Coal Creek Min**	**85.96**	**19**	P	**P**	**18 42 03.6**	**+0.3**
I26K				IAmb	IAmb	18 42 04.9	
	comp=Z,7.2nm,1.2s						
J05D	**Fort Rock, OR**	**86.47**	**45**	P	**P**	**18 42 06.1**	**-0.5**
J05D				IAmb	IAmb	18 42 10.0	
	comp=Z,3.8nm,1.1s						
G26K	**Porcupine Rive**	**86.82**	**18**		**P**	**18 42 08.0**	**+0.6**
NVAR	**Mina Array Bea**	**87.04**	**50**	P	**P**	**18 42 10.4**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=243,slow=6.5,SNR=4.6						
	comp=Z,1.2nm,0.9s						
PFO	**Pinyon Flats O**	**87.09**	**55**	LR	LR	19 14 46.3	
	comp=Z,23nm,18.7s,baz=41,slow=31						
G08A	**Pilot Rock**	**88.66

GSI Gunungsitoli 5.70 319 **Pn** **18 40 00.5 +0.4**
GSI Sn **Sn** **18 40 59.6 -4.6**
GSI Gunungsitoli 5.70 319 P **Pn** **18 40 02.2 +2.1**
1.6nm4µm162nm,0.6s
RPSI Rantau Prapat 6.18 337 **Pn** **18 40 09.8 +3.2**
RPSI **Sn** **18 41 18.7 +2.7**
RPSI Rantau Prapat 6.18 337 **Pn** **18 40 06.8 +0.1**
PSI Prapat 6.28 338 P **Pn** **18 40 09.8 +1.8**
14nm,0.4s,baz=181,slow=12,SNR=11
PSI S **Sn** **18 41 18.7 +0.2**
12nm,0.6s,baz=146,slow=23,SNR=6.2
PSI LR LR 18 42 55.9
comp=Z,746nm,20.2s,baz=148,slow=41
PSI Prapat 6.28 338 P **Pn** **18 40 06.8 -1.3**
TPI Tanjungpandan 6.36 88 P **Pn** **18 40 10.6 +1.5**
0.3nm25nm,0.7s
DBJI Dramaga 6.46 123 P **Pn** **18 40 11.6 +1.2**
0.7nm3µm86nm,0.8s
SKJI Sukabumi 6.55 127 P **Pn** **18 40 12.9 +1.2**
3µm194nm,0.9s
CNJI Cibinong 7.19 126 P **Pn** **18 40 20.3 -0.2**
0.2nm5µm1µm32nm,0.5s
LEM Lembang 7.33 121 LR LR 18 43 45.4
comp=Z,160nm,19.5s,baz=184,slow=42
KCSI Kotacane, Aceh 7.42 332 P **Pn** **18 40 24.8 +1.2**
IPM Ipoh 7.49 358 **Pn** **18 40 25.9 +1.3**
KULM Kulim 8.31 356 **Pn** **18 40 37.9 +2.0**
KPJI Karang Pucung 8.72 119 P **Pn** **18 40 43.1 +1.7**
43nm,0.7s
MLSI Meulaboh, Aceh 8.76 326 P **Pn** **18 40 43.6 +1.6**
LHMI Lhok Sumawe 9.30 332 P **Pn** **18 40 51.3 +1.9**
92nm,0.9s
KSM Kuching 10.07 64 **Pn** **18 40 58.8 -1.2**
UGM Wanagama 10.38 118 Pn **Pn** **18 41 01.4 -2.8**
UGM Wanagama 10.38 118 P **Pn** **18 41 05.3 +1.1**
75nm,1.3s
WOJI Wonogiri, Jawa 10.70 117 P **Pn** **18 41 09.7 +1.1**
18nm,0.6s
PCJI Pacitan 11.08 118 P **Pn** **18 41 13.3 -0.5**
41nm,0.5s
SBUM Sibu 12.22 64 **Pn** **18 41 28.3 -1.0**
GMJI Gumukmas 13.16 114 P **Pn** **18 41 43.3 +1.2**
14nm,0.4s
JAGI Jajag, Banyuwa 13.88 113 **Pn** **18 41 50.2 -1.9**
JAGI Jajag, Banyuwa 13.88 113 P **Pn** **18 41 50.6 -1.4**
PBA Port Blair 16.90 330 Pn **Pn** **18 42 28.5 -2.5**
PBA IAmb IAmb 18 42 30.7
comp=Z,189nm,1.3s
PLAI Plampang 17.37 110 P **Pn** **18 42 34.9 -1.9**
comp=Z,69nm,0.6s
KKM Kota Kinabalu 17.43 59 P **Pn** **18 42 38.0 +0.3**
TTSI Tana Toraja 18.50 90 P **Pn** **18 42 52.2 +1.5**
comp=Z,31nm,0.9s
KAPI Kappang 18.52 97 P **Pn** **18 42 51.4 +0.5**
comp=Z,38nm,0.7s,baz=261,slow=10,SNR=10
KAPI Kappang 18.52 97 P **Pn** **18 42 51.1 +0.2**
KAPI pmax pmax
comp=Z,59nm,1.0s
PCI Palu 18.66 84 P **Pn** **18 42 54.3 +1.7**
comp=Z,43nm,0.9s
BNSI Bone 18.82 95 P **Pn** **18 42 55.6 +1.0**
comp=Z,53nm,1.1s
BKSI Bulukumba 18.92 97 P **Pn** **18 42 56.0 +0.3**
comp=Z,823nmcomp=Z,68nm,0.6s
MYLDM Lahad Datu 19.04 65 P **P** **18 42 55.1 -0.8**
WBSI Waikabubak, Su 19.14 111 P **P** **18 42 55.1 -1.9**
comp=Z,1µmcomp=Z,117nm,0.7s
TOLI2 Tolitoli 19.92 78 P **P** **18 43 05.7 +0.1**
WSI Waingapu 19.99 110 P **P** **18 43 06.1 -0.2**
BASI Baing, Sumba 20.43 111 P Pn 18 43 12.8 -0.8
APSI Ampana 20.46 84 P Pn 18 43 13.7 -0.2
comp=Z,1µmcomp=Z,88nm,1.1s
MRSI Marisa 20.94 81 P Pn 18 43 18.3 -1.4
comp=Z,40nm,0.7s
CM31 Chiang Mai Arr 21.50 354 P **P** **18 43 20.5 -2.0**
CMAR Chiang Mai Arr 21.50 354 P **P** **18 43 20.7 -1.9**
CMAR Chiang Mai Arr 21.50 354 P **P** **18 43 20.2 -2.3**
comp=Z,8.6nm,0.7s,baz=184,slow=8.6,SNR=28
CMAR PcP **PcP** **18 47 24.9 +0.9**
comp=Z,1.4nm,0.6s,baz=217,slow=2.5,SNR=9.1
CMAR ScP **ScP** **18 50 56.9 -0.1**
comp=Z,0.5nm,0.8s,baz=130,slow=2.9,SNR=2.9
CMAR LR LR 18 51 44.7
comp=Z,97nm,19.6s,baz=180,slow=36
CMAR Chiang Mai Arr 21.50 354 *eP* **P** **18 43 21.2 -1.3**
CHTO Chiang Mai 21.85 354 P **P** **18 43 23.8 -2.5**
CHTO Chiang Mai 21.85 354 P **P** **18 43 23.8 -2.5**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
PALK Pallekele 22.96 297 LR LR 18 51 34.5
comp=Z,35nm,19.9s,baz=116,slow=34
BATI Baumata 23.32 109 P **P** **18 43 42.1 +0.4**
comp=Z,47nm,1.2s
QIZ Qiongzhong 23.50 21 P **P** **18 43 45.8 +2.4**
QIZ S **S** **18 47 58.9 +5.4**
QIZ LR LR
comp=Z,130nm,4.1s
QIZ LR LR
comp=Z,350nm,7.7s
SLVN Son La 24.37 6 P **P** **18 43 51.5 +0.1**
DAV Davao City (W) 26.25 67 LR LR 18 55 20.8
comp=Z,107nm,20.8s,baz=256,slow=38
BRDH Bariadhala 27.25 340 LR LR 18 56 31.4
comp=Z,71nm,18.9s,baz=140,slow=39
KMI Kunming 28.04 3 P **P** **18 44 24.9 +0.2**
KMI pmax pmax
comp=Z,10.0nm,1.3s
KMI LR LR
comp=Z,180nm,19.0s
KMI LR LR
comp=Z,120nm,23.5s
KMI LR LR
comp=Z,170nm,20.0s
TNCH TengChong 28.04 355 *eP* **P** **18 44 22.6 -2.1**
TNCH pmax pmax
comp=Z,10.0nm,0.7s
FITZ Fitzroy Crossi 28.16 124 P **P** **18 44 24.9 -0.6**
PZH PanZhiHua 29.39 1 P **P** **18 44 40.8 +4.3**
SHL Shillong 29.88 343 P **P** **18 44 39.9 -1.0**
SHL Shillong 29.88 343 P **P** **18 44 39.9 -1.0**
SHL pmax pmax
comp=Z,11nm,0.7s
YULB Yu-li 32.73 36 P **P** **18 45 04.8 -1.1**
YULB IAmb IAmb 18 45 53.6
comp=Z,49nm,1.8s
SSLB Suanglung 32.84 35 P **P** **18 45 05.8 -1.1**
SSLB IAmb IAmb 18 46 05.2
comp=Z,68nm,2.0s
NACB Ninganchiao 33.51 35 P **P** **18 45 13.1 +0.5**
NACB IAmb IAmb 18 45 28.1
comp=Z,11nm,0.7s
YHNB Yeheng 33.77 34 P **P** **18 45 14.4 -0.6**
YHNB IAmb IAmb 18 46 12.1
comp=Z,63nm,1.5s
EVN Everest 33.83 337 P **P** **18 45 16.0 -0.2**
EVN IAmb IAmb 18 45 19.9
comp=Z,29nm,0.8s
H01W3 Cape Leeuwin H 33.85 161 T T 19 20 09.4
baz=337,slow=75,SNR=6.9
CD2 Chengdu 33.85 4 *eP* **P** **18 45 15.3 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
H01W2 Cape Leeuwin H 33.86 161 T T 19 20 00.8
baz=337,slow=75,SNR=4.3
H01W1 Cape Leeuwin H 33.86 161 T T 19 19 57.5
baz=337,slow=75,SNR=5.1
LSA Lhasa 33.98 344 P **P** **18 45 16.9 -0.4**
LSA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 36.35 120 P **P** **18 45 36.5 -0.8**
WRA Warramunga Arr 36.35 120 P **P** **18 45 36.9 -0.5**
comp=Z,9.7nm,0.4s,baz=303,slow=9.0,SNR=156
WRA PcP **PcP** **18 48 01.5 +0.3**
comp=Z,1.4nm,0.5s,baz=300,slow=2.6,SNR=4.5
WRA S **S** **18 51 10.8 -4.4**
comp=Z,0.9nm,0.7s,baz=297,slow=16,SNR=4.5
comp=Z,9.7nm,0.4s
WRA Warramunga Arr 36.35 120 P **P** **18 45 36.5 -0.8**
WRAB Tennant Creek 36.36 120 P **P** **18 45 36.1 -1.2**
WRAB IAmb IAmb 18 45 38.1
comp=Z,17nm,0.7s
WRAB Tennant Creek 36.36 120 ⇓*i* P **P** **18 45 36.0 -1.4**
WRAB pmax pmax
comp=Z,15nm,0.6s
XAN Xi'an 37.59 10 P **P** **18 45 47.5 -0.1**
XAN pmax pmax
comp=Z,39nm,0.8s
XAN LR LR
comp=Z,200nm,19.2s
ASAR Alice Springs 37.59 126 P **P** **18 45 48.0 +0.1**
ASAR Alice Springs 37.59 126 P **P** **18 45 48.1 +0.3**
comp=Z,8.0nm,0.3s,baz=300,slow=8.0,SNR=226
ASAR PcP **PcP** **18 48 05.8 +0.8**
comp=Z,2.2nm,0.6s,baz=312,slow=2.2,SNR=6.5
ASAR S **S** **18 51 30.9 -3.1**
comp=Z,1.5nm,0.6s,baz=298,slow=14,SNR=12
comp=Z,8.0nm,0.3s
ASAR Alice Springs 37.59 126 P **P** **18 45 48.0 +0.1**
LYN LuoYang 38.85 15 P **P** **18 45 59.3 +1.1**
LYN pP pP 18 46 12.3 +0.6
LYN pmax pmax
comp=Z,81nm,0.9s
LZH Lanzhou 39.01 3 *eP* **P** **18 46 00.8 +1.1**
LZH pP pP 18 46 14.5 +1.3
LZH pmax pmax
comp=Z,28nm,1.3s
LZH LR LR
comp=Z,260nm,16.1s
LZH LR LR
comp=Z,160nm,18.9s
LZH LR LR
comp=Z,350nm,17.5s
GOMU GeErMu 39.51 352 P **P** **18 46 05.8 +1.7**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
GTA Gaotai 42.28 358 *eP* **P** **18 46 27.4 +0.9**
GTA pP pP 18 46 38.4 -1.8
GTA PcP **PcP** **18 48 20.5 +0.8**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA LR LR
comp=Z,150nm,16.4s
GTA LR LR
comp=Z,90nm,14.5s
GTA LR LR
comp=Z,170nm,16.4s
COEN Coen 42.74 107 P **P** **18 46 28.9 -1.7**
COEN IAmb IAmb 18 47 54.1
comp=Z,74nm,1.8s
BBOO Buckleboo 44.00 136 P **P** **18 46 40.9 +0.4**
BBOO IAmb IAmb 18 48 02.6
comp=Z,35nm,1.6s
HHC Hu-ho-hao-te 44.69 11 *eP* **P** **18 46 49.8 +3.9**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.7s
BJI Beijing 45.01 16 P **P** **18 46 49.3 +1.0**
BJI pmax pmax
comp=Z,4.0nm,0.5s
NIL Nilore 45.09 326 P **P** **18 46 49.4 +0.2**
NIL Nilore 45.09 326 P **P** **18 46 49.4 +0.2**
NIL pmax pmax
comp=Z,67nm,0.7s
JNU Nakatsue 45.58 35 P **P** **18 46 53.5 +0.5**
JNU IAmb IAmb 18 46 55.6
comp=Z,53nm,1.4s
JNU Nakatsue 45.58 35 LR LR 19 05 07.0
comp=Z,50nm,21.9s,baz=202,slow=35
DL2 Dalian 45.77 22 *eP* **P** **18 46 58.5 +4.1**
DL2 pmax pmax
comp=Z,66nm,1.3s
CTAO Charters Tower 46.99 115 P **P** **18 47 04.5 +0.2**
CTAO IAmb IAmb 18 47 05.4
comp=Z,9.4nm,0.7s
CTAO Charters Tower 46.99 115 P **P** **18 47 04.5 +0.2**
CTAO pmax pmax
comp=Z,9.0nm,0.7s
CTAO Charters Tower 46.99 115 P **P** **18 47 04.6 +0.2**
KSAR Wonju Array Be 47.26 29 P **P** **18 47 06.3 +0.2**
KSAR Wonju Array Be 47.26 29 P **P** **18 47 06.3 +0.2**
KSRS Korea Array 47.28 29 P **P** **18 47 07.0 +0.8**
comp=Z,4.2nm,0.9s,baz=226,slow=8.4,SNR=15
KSRS PcP **PcP** **18 48 37.2 +0.5**
comp=Z,1.1nm,0.8s,baz=222,slow=1.6,SNR=2.9
KSRS LR LR 19 06 00.3
comp=Z,8µm,21.6s,baz=210,slow=35
comp=Z,4.2nm,0.9s
STKA Stephens Creek 47.49 132 P **P** **18 47 08.2 +0.1**
STKA Stephens Creek 47.49 132 P **P** **18 47 08.6 +0.5**
comp=Z,3.1nm,0.3s,baz=314,slow=9.7,SNR=18
comp=Z,3.1nm,0.3s
JMN Monobe 47.78 37 P **P** **18 47 10.3 0.0**
KBL Kabul 48.14 324 P **P** **18 47 13.8 +0.6**
KBL pmax pmax
comp=Z,9.0nm,1.0s
WMQ Urumqi 48.24 347 *eP* **P** **18 47 15.8 +2.2**
WMQ sP sP 18 47 37.5 +4.1
WMQ pmax pmax
comp=Z,94nm,0.9s
KSH Kashi 48.34 334 P **P** **18 47 14.3 -0.3**
KSH pP pP 18 47 26.8 -1.6
KSH pmax pmax
comp=Z,22nm,0.8s
XLT XiLinHaoTe 48.59 14 *eP* **P** **18 47 18.0 +1.6**
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,150nm,4.7s
TARG Taragay, Kyrgy 49.42 337 P **P** **18 47 23.5 +0.3**
TARG IAmb IAmb 18 47 27.8
comp=Z,9.9nm,0.5s
TARG Taragay, Kyrgy 49.42 337 P **P** **18 47 23.5 +0.3**
TARG pmax pmax
comp=Z,10.0nm,0.5s
PRZ Przheval'sk 49.84 338 P **P** **18 47 26.3 +0.2**
PRZ Przheval'sk 49.84 338 P **P** **18 47 26.3 +0.2**
PRZ pmax pmax
comp=Z,59nm,1.2s
KDJ Kajisay 50.01 337 P **P** **18 47 27.9 +0.5**
KDJ Kajisay 50.01 337 P **P** **18 47 27.9 +0.5**
KDJ pmax pmax
comp=Z,33nm,0.7s
SHLS Shalkode 50.04 339 *eP* **P** **18 47 26.2 -1.3**
SHLS pmax pmax
comp=Z,5.0nm,0.5s
SHLS Shalkode 50.04 339 *eP* **P** **18 47 26.2 -1.3**
comp=Z,5.3nm,0.5s
UZB Uzynbulak 50.19 339 *eP* **P** **18 47 28.4 -0.2**
UZB pmax pmax
comp=Z,10.0nm,1.0s
UZB Uzynbulak 50.19 339 *eP* **P** **18 47 28.4 -0.2**
comp=Z,10nm,1.0s
SATY Saty 50.33 338 *eP* **P** **18 47 29.6 -0.1**
SATY pmax pmax
comp=Z,4.0nm,0.6s
SATY Saty 50.33 338 *eP* **P** **18 47 29.6 -0.1**
comp=Z,4.4nm,0.6s
OHH Osh 50.60 332 P **P** **18 47 32.3 +0.5**
OHH P **pP** **18 47 45.9 +0.3**
OHH pmax pmax
comp=Z,38nm,1.0s
GAR Garm 50.65 329 P **P** **18 47 32.1 -0.1**
GAR IAmb IAmb 18 47 34.7
comp=Z,30nm,1.0s
TNSS Tian-Shan 50.87 337 *eP* **P** **18 47 33.6 -0.5**
TNSS Tian-Shan 50.87 337 *eP* **P** **18 47 33.6 -0.5**
SONM Songino Array 50.87 4 P **P** **18 47 34.5 +0.8**
SONM IAmb IAmb 18 47 35.7
comp=Z,10nm,0.6s
SONM PcP **PcP** **18 48 49.1 -0.7**
SONM Songino Array 50.87 4 P **P** **18 47 34.8 +1.0**
comp=Z,11nm,0.6s,baz=186,slow=9.6,SNR=51
SONM PcP **PcP** **18 48 49.9 +0.2**
comp=Z,2.5nm,0.5s,baz=182,slow=4.7,SNR=6.3
SONM LR LR 19 10 52.8
comp=Z,62nm,20.0s,baz=178,slow=38
comp=Z,11nm,0.6s
SONM Songino Array 50.87 4 P **P** **18 47 34.5 +0.8**
SONM PCP **PcP** **18 48 49.1 -0.7**
SONM pmax pmax
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 50.96 5 P **P** **18 47 34.9 +0.5**
ULN PcP **PcP** **18 48 49.4 -0.7**
ULN Ulaanbaatar 50.96 5*d* *i*P **P** **18 47 34.8 +0.4**
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 50.96 5 P **P** **18 47 35.3 +0.9**
ULN pP **pP** **18 47 46.9 -1.5**
ULN PcP **PcP** **18 48 49.9 -0.2**
AAA Alma-Ata 51.03 337 *eP* **P** **18 47 34.8 -0.1**
AAA pmax pmax
comp=Z,8.0nm,0.5s
AAA Alma-Ata 51.03 337 *eP* **P** **18 47 34.8 -0.1**
comp=Z,7.7nm,0.5s
SIMJ Simiganj 51.09 327 P **P** **18 47 35.4 -0.2**
ARSB Arslanbob 51.14 333 P **P** **18 47 35.8 -0.1**
ARSB Arslanbob 51.14 333 P **P** **18 47 35.8 -0.1**
ARSB pmax pmax
comp=Z,34nm,0.7s
JGF Kuroka 51.16 38 P **P** **18 47 35.8 -0.2**
JHJ Hachijo jima 2 51.16 42 LR LR 19 11 00.3
comp=Z,23nm,18.7s,baz=352,slow=38
UCH Uchtor 51.19 335 P **P** **18 47 37.7 +1.1**
SNR=14
TKM2 Tokmak 2 51.31 336 P **P** **18 47 38.2 +1.0**
SNR=48
KBK Karagaybulak 51.36 335 P **P** **18 47 39.2 +1.6**
SNR=6.9
CN2 Changchun 51.45 22 P **P** **18 47 38.0 +0.1**
CN2 sP sP 18 47 56.0 -1.8
CN2 pmax pmax
comp=Z,20nm,0.6s
AAK Ala-Archa 51.53 335 P **P** **18 47 39.1 +0.3**
AAK Ala-Archa 51.53 335 LR LR 19 12 42.9
comp=Z,26nm,21.2s,baz=142,slow=40
AAK Ala-Archa 51.53 335 ⇓*i* P **P** **18 47 39.6 +0.8**
AAK pmax pmax
comp=Z,4.0nm,0.4s
CHMS Chumysh 51.72 335 P **P** **18 47 40.8 +0.7**
SNR=6.1
EKS2 Erkin-Say 51.86 334 P **P** **18 47 42.7 +1.5**
SNR=63
TDK Taldyqorghan 52.02 340 *eP* **P** **18 47 42.1 -0.1**
TDK pmax pmax
comp=Z,7.0nm,0.6s
TDK Taldyqorghan 52.02 340 *eP* **P** **18 47 42.1 -0.1**
comp=Z,7.1nm,0.6s
USP Ospenovka 52.05 335 P **P** **18 47 43.2 +0.7**
SNR=35
SGDS Sogindy 52.15 336 *eP* **P** **18 47 43.2 0.0**
MAJO Matsushiro 52.30 38 P **P** **18 47 43.3 -1.1**
MAJO Matsushiro 52.30 38 P **P** **18 47 43.3 -1.1**
MAJO pmax pmax
comp=Z,12nm,1.3s
MJAR Matsushiro Arr 52.30 38 P **P** **18 47 43.8 -0.6**
MJAR Matsushiro Arr 52.30 38 P **P** **18 47 43.7 -0.8**
comp=Z,1.9nm,0.7s,baz=209,slow=7.0,SNR=10
MJAR LR LR 19 09 54.7
comp=Z,28nm,21.0s,baz=197,slow=36
comp=Z,1.9nm,0.7s
MJAR Matsushiro Arr 52.30 38 P **P** **18 47 43.8 -0.6**
MJAR pmax pmax
comp=Z,6.0nm,1.4s
MJB9 Matsu-Tunnel 52.30 38 P **P** **18 47 44.4 -0.1**
ZSN Zaisan 52.32 346 *eP* **P** **18 47 44.3 -0.1**
ZSN Zaisan 52.32 346 *eP* **P** **18 47 44.4 -0.1**
MK31 Makanchi Array 52.39 344 *c* *i*P **P** **18 47 45.2 +0.2**
MKAR Makanchi Array 52.39 344 P **P** **18 47 45.0 +0.1**
MKAR Makanchi Array 52.39 344 P **P** **18 47 45.4 +0.4**
comp=Z,39nm,0.7s,baz=146,slow=8.1,SNR=404
MKAR LR LR 19 14 57.3
comp=Z,33nm,19.0s,baz=110,slow=42
comp=Z,39nm,0.7s
MKAR Makanchi Array 52.39 344 P **P** **18 47 45.0 +0.1**
MAKZ Makanchi 52.49 343 P **P** **18 47 45.8 +0.1**
EIDS Eidsvold 52.72 120 P **P** **18 47 47.5 -0.3**
EIDS IAmb IAmb 18 48 07.1
comp=Z,27nm,1.4s
DZA Taraz 53.13 333 *eP* **P** **18 47 50.4 -0.1**
DZA pmax pmax
comp=Z,6.0nm,0.6s
DZA Taraz 53.13 333 *eP* **P** **18 47 50.4 -0.1**
comp=Z,6.5nm,0.6s
IUG luzhnay 53.17 331 *eP* **P** **18 47 50.8 -0.1**
IUG pmax pmax
comp=Z,11nm,0.8s
IUG luzhnay 53.17 331 *eP* **P** **18 47 50.8 -0.1**
comp=Z,11nm,0.8s
ZAK Zakamensk 53.25 2 *eP* **P** **18 47 50.2 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
CHM Chimkent 53.51 331 *eP* **P** **18 47 53.4 +0.1**
CHM pmax pmax
comp=Z,6.0nm,0.5s
CHM Chimkent 53.51 331 *eP* **P** **18 47 53.4 +0.1**
comp=Z,5.8nm,0.5s
KK31 Karatay Array 53.68 332 P **P** **18 47 54.0 -0.5**
KK31 Karatay Array 53.68 332 P **P** **18 47 54.0 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 53.68 332 P **P** **18 47 53.8 -0.7**
KKAR Karatay Array 53.68 332 P **P** **18 47 53.8 -0.7**
BTLS Baital 53.69 336 *eP* **P** **18 47 54.4 -0.1**
BTLS Baital 53.69 336 *eP* **P** **18 47 54.5 -0.1**
BNX BinXian 53.83 22 ⇓P **P** **18 47 56.1 +0.6**
BNX pmax pmax
comp=Z,14nm,1.3s
BRLS Boroldaу 53.94 332 *eP* **P** **18 47 55.4 -1.0**
BRLS Boroldaу 53.94 332 *eP* **P** **18 47 55.5 -1.0**
USA0B Ussuriysk Arra 54.49 27 P **P** **18 48 00.7 +0.3**
USA0B IAmb IAmb 18 48 01.8
comp=Z,22nm,0.6s
USA0B PcP **PcP** **18 49 02.1 -1.2**
USA0B Ussuriysk Arra 54.49 27 *c* *i*P **P** **18 48 00.7 +0.3**
USRK Ussuriysk Ar. 54.49 27 P **P** **18 48 00.6 +0.2**
USRK Ussuriysk Ar. 54.49 27 P **P** **18 48 01.2 +0.8**
comp=Z,23nm,0.5s,baz=220,slow=5.2,SNR=75
USRK LR LR 19 13 39.4
comp=Z,44nm,18.0s,baz=211,slow=39
comp=Z,23nm,0.5s
USRK Ussuriysk Ar. 54.49 27 P **P** **18 48 00.6 +0.2**
MOY Mondy 54.51 360 *eP* **P** **18 48 01.0 +0.5**
MOY pmax pmax
comp=Z,8.0nm,1.9s
CAN Canberra 54.55 132 P **P** **18 48 02.4 +1.3**
CAN IAmb IAmb 18 49 02.1
comp=Z,64nm,1.6s
CAN Canberra 54.55 132 P **P** **18 48 02.4 +1.3**
CAN pmax pmax
comp=Z,64nm,1.6s
JMM Marumori 54.73 38 P **P** **18 48 03.1 +0.9**
JTM Tenmabayashi 56.75 36 P **P** **18 48 16.2 -0.5**
KURBB Kurchatov Arra 56.92 343 P **P** **18 48 17.9 +0.2**
comp=Z,12nm,0.6s,baz=163,slow=7.3,SNR=134
comp=Z,12nm,0.6s
KURK Kurchatov 56.98 343 P **P** **18 48 18.1 0.0**
KURK IAmb IAmb 18 48 19.9
comp=Z,22nm,0.7s
KURK Kurchatov 56.98 343 *c* *i*P **P** **18 48 18.3 +0.3**
KURK pmax pmax
comp=Z,24nm,0.7s
KURK Kurchatov 56.98 343 P **P** **18 48 18.4 +0.3**
KURK pP **pP** **18 48 32.3 +0.2**
HEH HeiHe 57.66 20 *eP* **P** **18 48 22.9 +0.1**
HEH pmax pmax
comp=Z,9.0nm,1.0s
ZAA0 Zalesovo Array 58.44 349 P **P** **18 48 28.3 0.0**
ZALV Zalesovo Beam 58.44 349 P **P** **18 48 27.8 -0.4**
ZALV Zalesovo Beam 58.44 349 P **P** **18 48 28.5 +0.2**
comp=Z,85nm,0.7s,baz=170,slow=5.4,SNR=290
ZALV LR LR 19 14 05.9
comp=Z,36nm,18.8s,baz=140,slow=36
ZALV Zalesovo Beam 58.44 349 P **P** **18 48 27.8 -0.4**
ASAJ Asahikawa 59.76 33 LR LR 19 15 35.8
comp=Z,12nm,18.5s,baz=185,slow=37
ASAJ Asahikawa 59.76 33 P **P** **18 48 38.4 +0.8**
ASAJ pmax pmax
comp=Z,74nm,1.7s
JKA Kamikawa-asahi 59.76 33 P **P** **18 48 38.4 +0.7**
RAYN Ar Rayn 60.37 299 P **P** **18 48 41.4 -0.9**
RAYN Ar Rayn 60.37 299 P **P** **18 48 41.4 -0.9**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
ZEA Zeya 60.60 17 *eP* **P** **18 48 44.3 +1.1**
H04N2 CROZET ISLANDS 60.73 217 T T 19 53 54.6
baz=59,slow=75,SNR=400
H04N1 CROZET ISLANDS 60.74 217 T T 19 53 53.4
baz=59,slow=75,SNR=355
H04N3 CROZET ISLANDS 60.75 217 T T 19 53 53.7
baz=59,slow=75,SNR=358
H04S1 CROZET ISLANDS 61.00 217 T T 19 54 13.8
baz=60,slow=75,SNR=168
H04S3 CROZET ISLANDS 61.02 217 T T 19 54 14.1
baz=60,slow=75,SNR=320
H04S2 CROZET ISLANDS 61.02 217 T T 19 54 18.0

baz=60,slow=75,SNR=174
BOD Bodaibo 61.53 8 *e*P **P 18 48 48.7 -0.7**
BOD pmax pmax
comp=Z,14nm,0.8s
BVAR Borovoye Array 61.61 339 P **P 18 48 49.7 -0.4**
comp=Z,17nm,0.6s,baz=142,slow=9.0,SNR=117
BVAR LR LR 19 19 01.6
comp=Z,20nm,20.0s,baz=147,slow=39
comp=Z,17nm,0.6s
BRVK Borovoye 61.68 339 P **P 18 48 49.8 -0.7**
BRVK IAmb IAmb 18 48 50.6
comp=Z,10.0nm,0.6s
BRVK Borovoye 61.68 339*c i*P **P 18 48 50.0 -0.5**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 61.68 339 P **P 18 48 50.1 -0.3**
YSS Yuzhno-Sakhali 61.70 31 P **P 18 48 50.4 -0.3**
YSS IAmb IAmb 18 48 52.8
comp=Z,27nm,0.8s
YSS Yuzhno-Sakhali 61.70 31 *e*P **P 18 48 51.5 +0.8**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzhno-Sakhali 61.70 31 P **P 18 48 51.9 +1.2**
YSS pP **pP 18 49 03.0 -2.0**
AB31 Akbulak array 63.18 331 P **P 18 48 59.9 -0.7**
AB31 IAmb IAmb 18 49 01.4
comp=Z,27nm,0.8s
ABKAR Akbulak array 63.18 331 P **P 18 48 59.9 -0.7**
AKT Akhty 65.75 318 *e*P **P 18 49 14.5 -3.2**
AKT *e* 18 49 46.3
AKT *e* 18 51 38.4
AKT pmax pmax
comp=Z,7.0nm,0.6s
DZM Mont Dzumac 65.86 113 P **P 18 49 18.6 -0.1**
DZM IAmb IAmb 18 50 58.3
comp=Z,81nm,1.9s
DZM Mont Dzumac 65.86 113 *e*LR LR 19 09 03.9
comp=Z,54nm,23.6s
GNI Garni 67.17 316 LR LR 19 21 16.8
comp=Z,14nm,18.9s,baz=158,slow=38
SVE Sverdlovsk 68.14 337 *e*P **P 18 49 32.7 +0.3**
SVE pmax pmax
comp=Z,19nm,0.9s
YAK Yakutsk 68.44 14 P **P 18 49 33.2 -0.9**
YAK Yakutsk 68.44 14 LR LR 19 22 48.7
comp=Z,42nm,18.7s,baz=206,slow=39
YAK Yakutsk 68.44 14*c i*P **P 18 49 33.2 -0.9**
YAK *e**PP **pP 18 49 48.9 +0.3**
YAK *e* 18 49 57.4
YAK *e* 18 52 04.7
YAK *e*PPP PPP 18 53 46.6
YAK *e*S **S 18 58 32.1 +0.3**
YAK *e**SS **sS 18 58 58.4 +2.1**
YAK *e* 18 59 29.9
YAK pmax pmax
comp=Z,56nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,86nm,5.2s
YAK pmax pmax
comp=N,47nm,6.2s
YAK pmax pmax
comp=E,63nm,5.6s
YAK smax smax
comp=E,36nm,5.6s
YAK smax smax
comp=N,56nm,4.6s
YAK Yakutsk 68.44 14 P **P 18 49 33.7 -0.5**
GURO Guroymak-BITLI 68.44 314 P **P 18 49 35.0 +0.1**
ARTI Arti 68.72 336 P **P 18 49 35.4 -0.7**
ARTI IAmb IAmb 18 49 36.6
comp=Z,22nm,0.6s
ARTI Arti 68.72 336 LR LR 19 22 37.2
comp=Z,24nm,19.0s,baz=86,slow=38
ARTI Arti 68.72 336*c i*P **P 18 49 35.9 -0.1**
ARTI *PP **pP 18 49 49.2 -1.3**
ARTI 18 50 00.4
ARTI S **S 18 58 36.8 +1.4**
ARTI SS **SS 19 03 00.9 -0.2**
ARTI pmax pmax
comp=Z,14nm,0.7s
ARTI Arti 68.72 336 P **P 18 49 36.0 -0.1**
MARD Mardin 68.90 312 P **P 18 49 37.7 -0.1**
MARD IAmb IAmb 18 49 39.7
comp=Z,13nm,0.7s
DRV Dumont d'Urvil 68.97 165 P **P 18 49 38.1 +0.7**
DRV pP **pP 18 49 50.6 -1.3**
MAW Mawson 69.59 195 P **P 18 49 41.8 +0.5**
comp=Z,6.5nm,0.3s,baz=60,slow=10.0,SNR=59
comp=Z,6.5nm,0.3s
KBZ Khabaz 69.94 319 P **P 18 49 44.5 +0.7**
comp=Z,7.4nm,0.7s,baz=120,slow=6.9,SNR=19
comp=Z,7.4nm,0.7s
KBZ Khabaz 69.94 319*c i*P **P 18 49 44.8 +1.0**
KIV Kislovodsk 70.18 319 *e*P **P 18 49 46.0 +0.6**
KIV pmax pmax
comp=Z,11nm,1.1s
GAZ Gaziantep 71.53 311 **P 18 49 53.2 -0.6**
GAZ IAmb IAmb 18 50 11.1
comp=Z,10nm,0.7s
MMAI Mount Meron Ar 71.69 306 P **P 18 49 57.0 +2.2**
comp=Z,3.3nm,0.5s,baz=104,slow=7.0,SNR=11
comp=Z,3.3nm,0.5s
MATP Matopo 72.82 250 LR LR 19 17 15.1
comp=Z,23nm,20.2s,baz=68,slow=32
PEA0B Petropavlovsk- 73.09 32 P **P 18 50 02.4 -0.2**
PEA0B Petropavlovsk- 73.09 32 P **P 18 50 02.4 -0.2**
PEA0B pmax pmax
comp=Z,10.0nm,0.9s
PETK Petropavlovsk- 73.09 32 P **P 18 50 01.8 -0.8**
PETK Petropavlovsk- 73.09 32 P **P 18 50 02.2 -0.5**
comp=Z,5.2nm,0.7s,baz=274,slow=2.8,SNR=12
PETK LR LR 19 22 45.3
comp=Z,11nm,19.7s,baz=260,slow=36
comp=Z,5.2nm,0.7s
PETK Petropavlovsk- 73.09 32 P **P 18 50 01.8 -0.8**
RPZ Rata Peaks 73.33 135 P **P 18 50 05.4 +1.1**
MA2 Magadan 73.46 24 P **P 18 50 04.7 0.0**
MA2 IAmb IAmb 18 50 06.4
comp=Z,22nm,0.7s
MA2 Magadan 73.46 24 LR LR 19 23 31.9
comp=Z,26nm,21.3s,baz=260,slow=37
MA2 Magadan 73.46 24*c i*P **P 18 50 05.4 +0.7**
MA2 pmax pmax
comp=Z,21nm,0.9s
PET Petropavlovsk 73.55 32 P **P 18 50 05.3 -0.1**
PET IAmb IAmb 18 50 06.3
comp=Z,24nm,0.8s
PET Petropavlovsk 73.55 32 *e*P **P 18 50 05.2 -0.1**
PET pmax pmax
comp=Z,38nm,0.9s
KIRV Kirov 73.87 335*d i*P **P 18 50 07.7 +0.7**
VRH Novokhopyorsk 73.91 326 *e*P **P 18 50 04.4 -3.1**
VRH pmax pmax
comp=Z,20nm,0.8s
BR131 Keskin Array S 74.98 312 **P 18 50 13.7 -0.4**
BRTR Keskin Array B 74.98 312 P **P 18 50 13.8 -0.4**
BRTR Keskin Array B 74.98 312 P **P 18 50 14.2 0.0**
comp=Z,4.5nm,0.6s,baz=138,slow=7.3,SNR=34
comp=Z,4.5nm,0.6s
BRTR Keskin Array B 74.98 312 P **P 18 50 13.8 -0.4**
VSR Storozhevoye 75.37 325 *e*P **P 18 50 14.4 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 75.54 325 *e*P **P 18 50 14.9 -2.0**
VORR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 76.08 326 *e*P **P 18 50 17.4 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 76.12 22 *e*P **P 18 50 19.4 -0.6**
SEY pmax pmax
comp=Z,16nm,1.1s
BOSA Boshof 76.28 241 P **P 18 50 22.9 +1.0**
comp=Z,1.4nm,0.6s,baz=85,slow=6.7,SNR=3.9
BOSA LR LR 19 20 07.6
comp=Z,24nm,20.8s,baz=84,slow=32
comp=Z,1.4nm,0.6s
BKZ Black Stump Fm 76.61 129 P **P 18 50 23.9 +0.5**
BKZ IAmb IAmb 18 50 24.1
comp=Z,71nm,1.4s
TIXI Tiksi 76.69 9 P **P 18 50 21.9 -1.1**
TIXI IAmb IAmb 18 50 22.9
comp=Z,30nm,1.4s
TIXI Tiksi 76.69 9 LR LR 19 28 04.4
comp=Z,73nm,18.3s,baz=208,slow=39
TIXI Tiksi 76.69 9*⇑i*P **P 18 50 22.1 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
SYO Syowa Base 77.30 199*⇑e*pP pP 18 50 40.4 -0.6
OBN Obninsk 78.36 328 *e*P **P 18 50 33.2 +0.5**
OBN *e* 18 50 40.4
OBN pmax pmax
comp=Z,14nm,0.8s
KARP Karpathos 78.92 307 P **P 18 50 37.5 +1.2**
KLMR Klimovskoe 79.33 334 *e*P **P 18 50 35.2 -2.7**
KLMR pmax pmax
comp=Z,18nm,1.3s
IDI Anoyia 80.70 306 P **P 18 50 46.7 +0.8**
IDI IAmb IAmb 18 51 32.3
comp=Z,30nm,1.3s
VNDA Vanda 80.89 169 P **P 18 50 47.9 +1.8**
comp=Z,0.7nm,0.8s,baz=294,slow=6.5,SNR=3.9
comp=Z,0.7nm,0.8s
AKASG Malin Array Be 81.10 322 P **P 18 50 47.5 -0.2**
comp=Z,1.4nm,0.5s,baz=90,slow=4.6,SNR=12
AKASG LR LR 19 31 11.8
comp=Z,17nm,18.4s,baz=278,slow=39
comp=Z,1.4nm,0.5s
AKBB Malin Array Si 81.10 322*⇑i*P **P 18 50 47.6 0.0**
VRI Vrincioaia 81.50 317 P **P 18 50 51.4 +1.5**
VRI pmax pmax
comp=Z,15nm,1.0s
MLR Muntele Rosu 81.94 317 **P 18 50 52.2 -0.3**
MLR IAmb IAmb 18 50 54.6
comp=Z,16nm,1.1s
MLR Muntele Rosu 81.94 317 P **P 18 50 52.2 -0.3**
MLR pmax pmax
comp=Z,16nm,1.1s
BURAR Bucovina Array 82.90 319 P **P 18 50 58.7 +1.4**
BURAR IAmb IAmb 18 50 59.8
comp=Z,8.6nm,0.8s
BURAR Bucovina Array 82.90 319 P **P 18 50 58.7 +1.4**
BURAR pmax pmax
comp=Z,9.0nm,0.7s
MNK Minsk 82.91 326 *i*P **P 18 50 55.9 -1.2**
MNK *i**PP **pP 18 51 10.8 -1.0**
MNK *i* 18 54 05.5
MNK *i*PPP PPP 18 55 57.3
MNK *i*S **S 19 01 11.4 -0.5**
MNK *i*SS **SS 19 06 36.7 +0.7**
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.7s
TSUM Tsumeb 83.06 251 LR LR 19 25 55.5
comp=Z,50nm,18.1s,baz=322,slow=34
ITM Ithomi 83.37 308 P **P 18 50 59.3 -0.6**
ITM IAmb IAmb 18 51 06.4
comp=Z,17nm,1.4s
DEV Deva 84.11 317 P **P 18 51 05.2 +1.7**
DEV pmax pmax
comp=Z,19nm,1.0s
AMKA Amchitka 84.91 38 P **P 18 51 06.7 -0.6**
BZS Buzias 84.95 316 P **P 18 51 07.9 +0.2**
BZS P **pP 18 51 23.2 +0.7**
BZS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 85.08 319 *e*P **P 18 51 10.4 +2.1**
KOLS pmax pmax
comp=Z,35nm,0.8s
KOLS Kolonicke sedl 85.08 319 *e*P **P 18 51 10.4 +2.1**
SUW Suwalki 85.48 325 *e*P **P 18 51 10.9 +0.8**
SUW Suwalki 85.48 325 P **P 18 51 07.5 -2.6**
FIA1 FINESS Array S 85.64 332 P **P 18 51 11.3 +0.6**
FINES FINESS Array B 85.64 332 P **P 18 51 10.9 +0.2**
FINES FINESS Array B 85.64 332 P **P 18 51 11.1 +0.4**
comp=Z,2.7nm,0.9s,baz=104,slow=6.1,SNR=11
comp=Z,2.7nm,0.9s
FINES FINESS Array B 85.64 332 P **P 18 51 10.9 +0.2**
STHS Stebnicka Huta 85.83 320 *e*P **P 18 51 12.6 +0.6**
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 85.83 320 *e*P **P 18 51 12.6 +0.6**
PDG Podgorica 86.17 313 IAmb IAmb 18 51 15.2
comp=Z,9.7nm,0.9s
NIE Niedzica 86.44 320 *e*P **P 18 51 16.8 +1.7**
NIE Niedzica 86.44 320 P **P 18 51 16.9 +1.8**
NIE pmax pmax
comp=Z,3.0nm,1.3s
PSZ Piszkesteto 86.48 318 **P 18 51 15.0 -0.3**
PSZ Piszkesteto 86.48 318 P **P 18 51 15.0 -0.3**
PSZ pmax pmax
comp=Z,6.0nm,0.9s
QSPA South Pole Qui 86.92 180 P **P 18 51 18.6 +1.5**
QSPA IAmb IAmb 18 52 03.8
comp=Z,21nm,1.9s
QSPA South Pole Qui 86.92 180 P **P 18 51 18.8 +1.6**
comp=Z,0.8nm,0.6s,baz=47,slow=0.9,SNR=6.1
comp=Z,0.8nm,0.6s
LANS Liptovska Anna 86.94 319 *e*P **P 18 51 18.4 +0.9**
LANS pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 86.94 319 *e*P **P 18 51 18.4 +0.9**
KIWB Kanaga Island 87.17 38 P **P 18 51 18.3 -0.2**
KIWB IAmb IAmb 18 51 19.2
comp=Z,26nm,1.1s
VYHS Vyhne 87.26 319 *e*P **P 18 51 19.1 0.0**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 87.26 319 *e*P **P 18 51 19.1 0.0**
GSTR Great Sitkin T 87.87 38 P **P 18 51 22.0 +0.1**
OKC Ostrava-Krasne 87.89 320 *e*P **P 18 51 23.9 +1.9**
OKC Ostrava-Krasne 87.89 320 *e*P **P 18 51 23.9 +1.9**
ARCES ARCESS Array B 87.89 340 P **P 18 51 21.7 +0.1**
ARCES ARCESS Array B 87.89 340 P **P 18 51 22.3 +0.7**
comp=Z,2.8nm,0.6s,baz=91,slow=4.1,SNR=14
ARCES LR LR 19 34 42.3
comp=Z,20nm,18.2s,baz=98,slow=38
comp=Z,2.8nm,0.6s
ARCES ARCESS Array B 87.89 340 P **P 18 51 21.7 +0.1**
ARCES pmax pmax
comp=Z,62nm,1.9s
JAVC Velka Javorina 88.08 319 *e*P **P 18 51 24.9 +1.9**
MORC Moravsky Berou 88.27 320 IAmb IAmb 18 51 26.2
comp=Z,7.4nm,0.8s
MORC Moravsky Berou 88.27 320 *e*P **P 18 51 25.0 +1.1**
MORC Moravsky Berou 88.27 320 P **P 18 51 25.3 +1.4**
MORC pmax pmax
comp=Z,12nm,1.3s
MODS Modra-Piesok 88.28 318 *e*P **P 18 51 21.8 -2.1**
MODS pmax pmax
comp=Z,15nm,1.1s
MODS Modra-Piesok 88.28 318 *e*P **P 18 51 21.8 -2.1**
KOGS Kog 88.77 316 *i*P **P 18 51 27.5 +1.3**
KRLC Kraliky 88.79 320 *e*P **P 18 51 28.0 +1.7**
KRLC Kraliky 88.79 320 *e*P **P 18 51 28.0 +1.7**
VRAC Vranov 88.83 319 *e*P **P 18 51 27.5 +1.0**
KRUC Moravsky 88.93 319 *e*P **P 18 51 27.6 +0.6**
DPC Dobruska-Polom 89.11 320 *e*P **P 18 51 29.8 +2.0**
DPC Dobruska-Polom 89.11 320 *e*P **P 18 51 29.8 +2.0**
CONA Conrad Observa 89.18 318 *e*P **P 18 51 29.0 +0.7**
comp=Z,1.7nm,0.8s
KSP Ksiaz 89.18 321 *e*P **P 18 51 30.1 +2.1**
KSP Ksiaz 89.18 321 P **P 18 51 30.2 +2.1**
KSP pmax pmax
comp=Z,9.0nm,0.9s
OSTC Ostas 89.20 321 *e*P **P 18 51 30.3 +2.1**
OSTC Ostas 89.20 321 *e*P **P 18 51 30.3 +2.1**
CHVC Chvalec 89.31 321 *e*P **P 18 51 30.5 +1.8**
CHVC Chvalec 89.31 321 *e*P **P 18 51 30.5 +1.8**
UPC Upice 89.33 320 *e*P **P 18 51 30.5 +1.7**
UPC Upice 89.33 320 *e*P **P 18 51 30.5 +1.7**
ARSA Arzberg 89.34 317 IAmb IAmb 18 51 31.2
comp=Z,6.1nm,0.9s
ARSA Arzberg 89.34 317 *e*PcP **PcP 18 51 30.5 +0.1**
comp=Z,5.0nm,0.8s
SOKA Soboth 89.63 317 *e*PcP **PcP 18 51 31.6 -0.1**
comp=Z,8.6nm,1.1s
OBKA Obir 89.94 316 *i* PcP **PcP 18 51 33.0 -0.1**
comp=Z,0.4nm,0.2s
PRU Pruhonice 90.22 320 *e*P **P 18 51 34.9 +1.9**
PRU Pruhonice 90.22 320 *e*P **P 18 51 34.9 +1.9**
CKRC Cesky Krumlov 90.28 319 *e*P **P 18 51 35.0 +1.7**
CKRC Cesky Krumlov 90.28 319 *e*P **P 18 51 35.0 +1.7**
MYKA Terra Mystica 90.58 316 *e*P **P 18 51 35.6 +0.8**
comp=Z,2.3nm,0.5s
ROBS Robic 90.64 316 *i*P **P 18 51 35.7 +0.6**
BRG Berggiesshubel 90.67 321 P **P 18 51 35.3 +0.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 90.67 321 *e*P **P 18 51 37.1 +2.1**
BRG Amp 18 51 38.1
comp=Z,4.5nm,0.8s
GEC2 GERESS Array S 90.69 319 IAmb IAmb 18 51 37.4
comp=Z,4.4nm,0.9s
GERES GERESS Array B 90.69 319 P **P 18 51 35.9 +0.6**
GERES GERESS Array B 90.69 319 P **P 18 51 36.2 +1.0**
comp=Z,2.8nm,0.7s,baz=76,slow=5.6,SNR=24
comp=Z,2.8nm,0.7s
GERES GERESS Array B 90.69 319 P **P 18 51 35.9 +0.6**
KHC Kasperske Hory 90.78 319 *e*P **P 18 51 36.9 +1.2**
KHC Kasperske Hory 90.78 319 *e*P **P 18 51 36.9 +1.2**
STAL STALIGIAL 91.20 316 IAmb IAmb 18 51 39.5
comp=Z,15nm,1.1s
WET Wettzell 91.24 319 P **P 18 51 39.5 +1.7**
WET pmax pmax
comp=Z,7.0nm,0.9s
LESA Schwarzleotal 91.28 317 *e*P **P 18 51 38.2 +0.1**
comp=Z,2.9nm,0.5s,SNR=4.6
ABTA Abfaltersbach 91.36 317 *e*P **P 18 51 38.5 0.0**
comp=Z,1.7nm,0.7s
HFS Hagfors 91.42 330 P **P 18 51 38.6 +0.3**
comp=Z,3.5nm,0.7s,baz=79,slow=11,SNR=4.9
comp=Z,3.5nm,0.7s
SNAA Sanae 91.54 198*⇑*P **P 18 51 39.0 +0.2**
comp=Z,16nm,0.6s
SNAA *⇓*sP **sP 18 52 00.9 +1.8**
SNAA Sanae 91.54 198 P **P 18 51 40.2 +1.4**
SNAA IAmb IAmb 18 53 17.7
comp=Z,15nm,1.9s
SNAA Sanae 91.54 198 P **P 18 51 39.9 +1.1**
comp=Z,0.7nm,0.7s,baz=41,slow=9.3,SNR=5.2
comp=Z,0.7nm,0.7s
SNAA Sanae 91.54 198 P **P 18 51 40.2 +1.4**
SNAA pmax pmax
comp=Z,15nm,1.9s
SPITS Spitsbergen Ar 91.92 348 P **P 18 51 39.7 -0.6**
comp=Z,1.0nm,0.4s,baz=132,slow=17,SNR=1.6
comp=Z,1.0nm,0.4s
CTI Castel Tesino 91.92 316 IAmb IAmb 18 51 43.4
comp=Z,11nm,0.9s
WTTA Wattenberg 91.98 317 P **P 18 51 42.0 +0.5**
WTTA pmax pmax
comp=Z,8.0nm,1.2s
WTTA Wattenberg 91.98 317 *e*P **P 18 51 41.7 +0.2**
comp=Z,7.1nm,0.9s
WATA Walderalm 92.03 317 *i*P **P 18 51 41.5 -0.2**
comp=Z,2.4nm,0.7s
SQTA Sankt Quirin 92.27 317 *e*P **P 18 51 43.2 +0.5**
comp=Z,3.6nm,0.6s,SNR=4.3
MOTA Moosalm 92.35 317 *i*P **P 18 51 43.5 +0.4**
comp=Z,2.2nm,0.7s,SNR=5.8
RETA Reutte 92.58 317 *i*P **P 18 51 44.7 +0.6**
comp=Z,2.6nm,0.6s
FETA Feichten 92.59 317 *i* PcP **PcP 18 51 44.8 -0.1**
comp=Z,2.3nm,0.7s
NB2 NORSAR Subarra 92.69 331 P **P 18 51 44.1 -0.1**
comp=Z,1.9nm,0.8s,baz=95,slow=4.6
NOA NORSAR Array B 92.69 331 P **P 18 51 44.3 +0.1**
comp=Z,1.0nm,0.7s,baz=92,slow=4.6,SNR=4.1
NOA LR LR 19 37 37.5
comp=Z,16nm,21.7s,baz=200,slow=38
comp=Z,1.0nm,0.7s
FUORN Ofenpass-Fuorn 92.90 316 P **P 18 51 45.8 0.0**
FUORN IAmb IAmb 18 51 47.9
comp=Z,5.4nm,0.8s
DAVOX Davos/Dischmat 93.17 317 P **P 18 51 47.5 +0.6**
comp=Z,4.0nm,0.7s,baz=62,slow=12,SNR=12
comp=Z,4.0nm,0.7s
DAVA Damuels 93.18 317 *e*PcP **PcP 18 51 47.8 +0.3**
comp=Z,8.8nm,1.0s
VNA1 Neumayer--Stat 93.53 198*⇑*P **P 18 51 47.9 +0.1**
comp=Z,1.7nm,0.8s
H17K Granite Mounta 96.48 25 P **P 18 52 01.0 -0.5**
H17K IAmb IAmb 18 53 12.4
comp=Z,9.0nm,1.3s
H18K Honhosa River 97.11 25 P **P 18 52 03.5 -0.8**
H18K IAmb IAmb 18 52 04.8
comp=Z,25nm,1.7s
G19K Purcell Mounta 97.48 24 P **P 18 52 06.0 0.0**
G19K IAmb IAmb 18 52 26.9
comp=Z,23nm,1.9s
H19K Roundabout Mou 97.84 24 Pdif 18 52 07.8 +0.3
TBI Tubuai 106.36 115 *e*LR LR 19 27 54.4
comp=Z,588nm,42.5s
PPT2 Papeete2 107.24 109 *e*LR LR 19 28 15.8
comp=Z,115nm,25.5s
PPT2 *e*LR LR 19 28 18.3
comp=Z,34nm,24.2s
TAOE Nuku Hiva Isla 117.63 102 *e*LR LR 19 33 02.6
comp=Z,339nm,28.4s
RKT Rikitea 119.34 119 *e*LR LR 19 33 48.7
comp=Z,14μm,41.0s
J08A Circle Bar Ran 126.59 36 **PKPdf 18 57 36.0 +0.1**
PLID Pearl Lake 126.88 32 **PKPdf 18 57 36.2 -0.4**
NVAR Mina Array Bea 129.58 40 PKP **PKiKP 18 57 43.4 +0.7**
comp=Z,0.7nm,0.6s,baz=254,slow=2.8,SNR=2.8
ULM Lac du Bonnet 130.77 14 PKP **PKPdf 18 57 43.6 +0.1**
comp=Z,2.6nm,0.4s,baz=265,slow=0.7,SNR=7.3
CLC China Lake 131.50 43 **PKPdf 18 57 45.4 0.0**
CLC China Lake 131.50 43 PKIKP **PKPdf 18 57 45.4 0.0**
PDAR Pinedale Array 131.84 30 PKP **PKPdf 18 57 46.5 +0.4**
comp=Z,0.4nm,0.6s,baz=11,slow=1.5,SNR=4.7
RSSD Black Hills 133.38 25 **PKPdf 18 57 48.8 -0.1**
RSSD Black Hills 133.38 25 PKIKP **PKPdf 18 57 48.8 -0.1**
PLCA Paso Flores 135.79 189 PKP **PKiKP 18 57 54.6 -0.3**
comp=Z,0.4nm,0.5s,baz=220,slow=7.9,SNR=3.1
CPUP Villa Florida 144.21 214 PKP **PKPdf 18 58 08.8 -0.2**
comp=Z,0.8nm,0.8s,baz=150,slow=3.7,SNR=3.5
BDFB Brasilia 144.40 238 PKP **PKPdf 18 58 09.4 -0.2**
comp=Z,1.4nm,0.3s,baz=142,slow=6.6,SNR=3.0
TXAR Lajitas Array 144.72 40 PKPbc 18 58 09.2 +0.4
TXAR Lajitas Array 144.72 40 PKP **PKPdf 18 58 09.6 -0.3**
comp=Z,8.3nm,0.7s,baz=298,slow=1.1,SNR=91
TXAR Lajitas Array 144.72 40 PKIKP PKPbc 18 58 09.2 +0.4
R55A Marlinton 144.91 2 **PKPab 18 58 07.9 -1.1**
R58B Mineral 145.25 359 **PKPbc 18 58 09.6 -0.5**
S57A Dark Hollow, R 145.46 0 **PKPbc 18 58 10.4 -0.3**
MIAR Mount Ida 145.75 22 PKIKP **PKPab 18 58 12.3 +0.2**
T59A Double "B" Far 146.23 358 **PKPdf 18 58 10.5 -1.5**
V55A Taylorsville 147.28 4 **PKPdf 18 58 14.8 +0.9**
BG3 Lake Jocassee 147.98 7 **PKPdf 18 58 16.1 +1.0**
AC02 Maricunga 148.88 197 **PKiKP 18 58 23.5 +0.7**
GOGA Godfrey 149.47 8 **PKPbc 18 58 19.9 -2.2**
GOGA Godfrey 149.47 8 PKHKP **PKPbc 18 58 19.8 -2.2**

NEIC ***13*** *18:48:22.6±2.1, 8.°75S±0.°07×124.°09E±0.°08, h105km±6km, mb4.7/68, Error ellipse: s-maj=12.6km s-min=7.3km az=53.0*
IDC ***13*** *18:48:22.5±1.0, 8.°73S×123.°99E, h110km±8km, mb4.1/17, mbtmp4.5/19, MS3.3/2, Error ellipse: s-maj=20.4km s-min=9.4km az=84.0*
DJA ***13*** *18:48:25.5±0.7, 9.°5S±2.°×12.°4E±.°, h11km±7km, M4.6/18, mB5.1/5, mb4.7/8, MLv4.6/18, Mw(mB)4.5/5*
ISC 13 18:48:22.3±0.6, 8.°88S±0.°04×124.°05E±0.°04, h109km±6km, n145, σ1°79/156, mb4.7/52, 3C-2D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.90**	**166**		**Pn**	**18 48 43.8**	**+1.2**
SOEI				Sn	**Sn**	**18 48 59.1**	**+1.3**
SOEI	**Soe**	**0.90**	**166**	P	**Pn**	**18 48 44.7**	**+2.1**
SOEI				S	**Sn**	**18 49 00.8**	**+3.0**
BATI	**Baumata**	**1.38**	**196**	P	**Pn**	**18 48 49.5**	**+1.8**
	10μm,0.4s,baz=32,slow=3.0,SNR=3383						
BATI				S	**Sn**	**18 49 09.8**	**+2.9**
	2μm,0.4s,baz=17,slow=21,SNR=5.6						
BATI				LR	LR	18 49 24.3	
	comp=Z,547nm,18.1s,baz=349,slow=41						
BATI	**Baumata**	**1.38**	**196**	P	**Pn**	**18 48 49.8**	**+2.1**
BATI				S	**Sn**	**18 49 10.1**	**+3.2**
MMRI	**Maumere**	**1.81**	**277**		**Pn**	**18 48 54.4**	**+1.5**
MMRI				Sn	**Sn**	**18 49 15.3**	**-0.9**
MMRI	**Maumere**	**1.81**	**277**	P	**Pn**	**18 48 54.5**	**+1.6**
MMRI				S	**Sn**	**18 49 13.7**	**-2.5**
EDFI	**Ende, Flores**	**2.34**	**273**	P	**Pn**	**18 49 01.9**	**+2.2**
EDFI				S	**Sn**	**18 49 27.5**	**-0.9**
BBSI	**Bau Bau**	**3.67**	**336**	P	**Pn**	**18 49 20.3**	**+3.0**

BBSI				S		**Sn**	18 50 03.4 +3.5
BASI	**Baing, Sumba**	**3.68**	**248**	P		**Pn**	18 49 18.7 +1.3
BASI				S		**Sn**	18 50 00.1 +0.1
WSI	**Waingapu**	**3.79**	**258**	P		**Pn**	18 49 19.9 +1.0
WSI				S		**Sn**	18 50 03.7 +1.1
BSSI	**Bau Bau, Buton**	**4.46**	**307**	P		**Pn**	18 49 29.7 +1.9
WBSI	**Waikabubak, Su**	**4.67**	**260**	P		**Pn**	18 49 32.4 +1.7
BKSI	**Bulukumba**	**5.26**	**312**	P		**Pn**	18 49 39.9 +1.2
	0.3nm74nm,0.7s						
KAPI	**Kappang**	**5.74**	**312**			**Pn**	18 49 45.0 -0.2
KAPI	**Kappang**	**5.74**	**312**	P		**Pn**	18 49 47.3 +2.1
	28nm,0.6s,baz=147,slow=9.7,SNR=12						
BNSI	**Bone**	**5.93**	**318**	P		**Pn**	18 49 51.8 +4.1
	0.4nm1µm124nm,1.0s						
PLAI	**Plampang**	**6.20**	**270**	P		**Pn**	18 49 53.0 +1.5
	0.8nm2µm89nm,0.6s						
NLAI	**Namlea**	**6.37**	**29**	P		Pn	18 49 59.3 +5.6
	0.2nm38nm,1.0s						
SPSI	**Sidrap Palu**	**6.47**	**319**	P		**Pn**	18 49 56.3 +1.1
	0.2nm761nm27nm,0.7s						
TTSI	**Tana Toraja**	**7.16**	**324**	P		Pn	18 50 10.2 +5.7
	0.1nm32nm,0.9s						
SAUI	**Saumlaki**	**7.22**	**83**	Pn		**Pn**	18 50 03.9 -1.4
SAUI				Sn		**Sn**	18 51 21.6 -4.3
MTN	**Manton Dam**	**7.99**	**120**			**Pn**	18 50 15.0 -0.7
MTN				Sn		Sn	18 51 36.1 -8.4
KNRA	**Kununurra**	**8.18**	**146**			**Pn**	18 50 16.9 -1.3
KNRA				Sn		**Sn**	18 51 42.4 -6.6
FITZ	**Fitzroy Crossi**	**9.30**	**171**			**Pn**	18 50 30.8 -2.6
FITZ				Sn		Sn	18 52 07.3 -8.9
FITZ	**Fitzroy Crossi**	**9.30**	**171**	P		**Pn**	18 50 31.1 -2.3
	18nm,0.3s,baz=1.6,slow=9.2,SNR=38						
FITZ				S		**Sn**	18 52 08.7 -7.5
	243nm,0.6s,baz=167,slow=7.1,SNR=23						
JAGI	**Jajag, Banyuwa**	**9.80**	**272**	Pn		**Pn**	18 50 36.9 -3.4
JAGI				Sn		Sn	18 52 17.4 -11
FAKI	**Fak Fak**	**10.07**	**55**	Pn		**Pn**	18 50 43.1 -0.9
TOLI2	**Tolitoli**	**10.44**	**342**	Pn		**Pn**	18 50 48.1 -1.0
MBWA	**Marble Bar**	**12.90**	**198**			**Pn**	18 51 20.4 -1.3
UGM	**Wanagama**	**13.42**	**273**	Pn		**Pn**	18 51 28.1 -0.5
WRA	**Warramunga Arr**	**14.83**	**139**			**Pn**	18 51 43.3 -3.3
WRA	**Warramunga Arr**	**14.83**	**139**	P		**Pn**	18 51 43.7 -2.9
	9.1nm,0.6s,baz=310,slow=13,SNR=49						
WRA				S		Sn	18 54 15.4 -15
	66nm,0.8s,baz=311,slow=24,SNR=16						
WRAB	**Tennant Creek**	**14.83**	**139**			**Pn**	18 51 44.1 -2.5
MYLDM	**Lahad Datu**	**15.02**	**338**			**Pn**	18 51 49.5 +0.5
SBUM	**Sibu**	**16.30**	**313**			**Pn**	18 52 06.9 +0.9
GIRL	**Giralia**	**16.62**	**213**			**P**	18 52 10.4 +1.0
GIRL				IAmb		IAmb	18 52 35.6
	comp=Z,73nm,1.2s						
KKM	**Kota Kinabalu**	**16.76**	**332**	P		**P**	18 52 11.0 -0.1
AS31	**Alice Springs**	**17.47**	**148**			**P**	18 52 19.3 +0.5
AS31				IAmb		IAmb	18 52 23.4
	comp=Z,28nm,0.6s						
ASAR	**Alice Springs**	**17.47**	**148**	P		**P**	18 52 18.9 +0.1
	comp=Z,59nm,0.7s,baz=323,slow=11,SNR=121						
ASAR				S		Sn	18 55 20.0 -14
	comp=Z,16nm,0.7s,baz=317,slow=23,SNR=12						
ASAR				ScP		**ScP**	19 00 19.0 -0.4
	comp=Z,2.6nm,0.6s,baz=320,slow=2.3,SNR=5.4						
JAY	**Jayapura**	**17.73**	**70**	P		**Pn**	18 52 22.9 +0.5
	comp=Z,16nm,0.8s,baz=299,slow=8.5,SNR=5.6						
COEN	**Coen**	**19.41**	**107**	P		**P**	18 52 38.8 -1.3
COEN				IAmb		IAmb	18 52 43.2
	comp=Z,35nm,1.4s						
MNAI	**Manna**	**21.43**	**281**	P		**P**	18 53 00.9 -1.0
MORW	**Morawa**	**21.45**	**199**	P		**P**	18 53 01.6 -0.4
MORW				IAmb		IAmb	18 53 04.5
	comp=Z,21nm,0.7s						
CTAO	**Charters Tower**	**24.18**	**120**	P		**P**	18 53 30.4 +1.7
NWAO	**Narrogin (SRO)**	**24.75**	**194**	P		**P**	18 53 33.7 -0.1
NWAO				IAmb		IAmb	18 53 34.5
	comp=Z,38nm,1.1s						
BBOO	**Buckleboo**	**26.28**	**157**	P		**P**	18 53 48.3 +0.7
BBOO				IAmb		IAmb	18 53 49.2
	comp=Z,33nm,0.7s						
KULM	**Kulim**	**27.25**	**300**	P		**P**	18 53 55.5 -1.0
KULM				IAmb		IAmb	18 54 28.4
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**28.09**	**147**	P		**P**	18 54 05.0 +1.2
STKA	**Stephens Creek**	**28.09**	**147**	P		**P**	18 54 04.8 +0.9
	comp=Z,7.9nm,0.5s,baz=326,slow=8.7,SNR=24						
	comp=Z,7.9nm,0.5s						
GSI	**Gunungsitoli**	**28.26**	**290**	P		**P**	18 54 07.0 +1.5
GSI				IAmb		IAmb	18 54 40.3
	comp=Z,35nm,1.2s						
GUMO	**Guam**	**30.42**	**43**	LR		LR	19 08 49.6
	comp=Z,32nm,18.0s,baz=233,slow=40						
NACB	**Ninganchiao**	**32.94**	**356**	P		**P**	18 54 45.4 -1.1
NACB				IAmb		IAmb	18 54 50.6
	comp=Z,11nm,0.8s						
YHNB	**Yeheng**	**33.44**	**356**	P		**P**	18 54 49.8 -1.2
ARMA	**Armidale**	**33.50**	**134**	P		**P**	18 54 54.0 +2.4
ARMA				IAmb		IAmb	18 55 23.5
	comp=Z,18nm,1.4s						
TOO	**Toolangi**	**34.52**	**149**	P		**P**	18 55 02.3 +2.0
CAN	**Canberra**	**34.82**	**143**	P		**P**	18 55 04.7 +1.8
CAN				IAmb		IAmb	18 55 11.3
	comp=Z,12nm,1.1s						
CM31	**Chiang Mai Arr**	**36.77**	**318**	P		**P**	18 55 20.2 +0.6
CMAR	**Chiang Mai Arr**	**36.77**	**318**	P		**P**	18 55 20.1 +0.4
CMAR	**Chiang Mai Arr**	**36.77**	**318**	P		**P**	18 55 19.3 -0.3
	comp=Z,2.7nm,0.8s,baz=146,slow=7.0,SNR=24						
CMAR				ScP		**ScP**	19 01 15.8 -1.0
	comp=Z,1.7nm,1.0s,baz=156,slow=3.3,SNR=7.3						
	comp=Z,2.7nm,0.8s						
CHTO	**Chiang Mai**	**37.02**	**318**	P		**P**	18 55 22.3 +0.5
GYA	**Guiyang**	**38.97**	**335**	P		**P**	18 55 40.8 +2.6
GYA				pmax		pmax	
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**39.67**	**329**	P		**P**	18 55 45.0 +0.9
KMI				pmax		pmax	
	comp=Z,10.0nm,0.8s						
WHN	**Wuhan**	**40.29**	**347**	P		P	18 55 54.3 +5.4
NJ2	**Nanjing**	**41.00**	**353**	P		**P**	18 55 56.3 +1.6
NJ2				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**41.31**	**329**	P		**P**	18 55 59.4 +1.9
INU	**Inuyama**	**45.66**	**15**	P		**P**	18 56 31.4 -0.7
INU				IAmb		IAmb	18 57 08.0
	comp=Z,35nm,1.5s						
JGF	**Kuroka**	**45.98**	**15**	P		**P**	18 56 33.8 -0.9
JGF				IAmb		IAmb	18 56 43.9
	comp=Z,25nm,1.2s						
KSRS	**Korea Array**	**46.23**	**4**	P		**P**	18 56 35.5 -1.0
	comp=Z,1.4nm,0.7s,baz=180,slow=9.5,SNR=7.4						
	comp=Z,1.4nm,0.7s						
MAJO	**Matsushiro**	**47.10**	**16**	P		**P**	18 56 42.1 -1.3
MAJO				IAmb		IAmb	18 56 43.0
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**47.10**	**16**	P		**P**	18 56 41.8 -1.5
MJAR	**Matsushiro Arr**	**47.10**	**16**	P		**P**	18 56 41.8 -1.5
	comp=Z,7.8nm,0.8s,baz=188,slow=8.3,SNR=22						
	comp=Z,7.8nm,0.8s						
MJB9	**Matsu-Tunnel**	**47.10**	**16**	P		**P**	18 56 42.6 -0.8
MJB9				IAmb		IAmb	18 56 44.0
	comp=Z,11nm,0.9s						
JMM	**Marumori**	**49.06**	**18**	P		**P**	18 56 57.9 -0.5
LSA	**Lhasa**	**49.74**	**322**	P		**P**	18 57 02.3 -2.0
LSA				pmax		pmax	
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.80**	**348**	*e*P		**P**	18 57 15.0 +3.3
HHC				pmax		pmax	
	comp=Z,9.0nm,0.7s						
HHC				pmax		pmax	
	comp=Z,100nm,5.3s						
EVN	**Everest**	**51.36**	**317**			**P**	18 57 16.0 -0.7
JTM	**Tenmabayashi**	**51.85**	**16**	P		**P**	18 57 19.1 -0.2
GTA	**Gaotai**	**53.05**	**337**	*e*P		**P**	18 57 28.8 +0.3
GTA				pmax		pmax	
	comp=Z,3.0nm,0.7s						
USA0B	**Ussuriysk Arra**	**53.31**	**7**	P		**P**	18 57 29.3 -0.8
USA0B				IAmb		IAmb	18 57 30.5
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**53.31**	**7**	P		**P**	18 57 29.0 -1.1
USRK	**Ussuriysk Ar.**	**53.31**	**7**	P		**P**	18 57 29.4 -0.6
	comp=Z,7.3nm,0.7s,baz=194,slow=6.7,SNR=16						
	comp=Z,7.3nm,0.7s						
ERM	**Erimo**	**53.59**	**18**	P		**P**	18 57 30.2 -2.0
THZ	**Tophouse**	**53.97**	**136**	P		**P**	18 57 37.7 +2.6
GVZ	**Greta Valley S**	**54.54**	**137**	P		**P**	18 57 39.7 +0.5
TUWZ	**Tuamarina**	**54.56**	**135**	P		**P**	18 57 41.4 +2.1
TCW	**Tory Channel**	**54.72**	**135**	P		**P**	18 57 41.6 +1.1
JKA	**Kamikawa-asahi**	**55.36**	**16**	P		**P**	18 57 45.2 +0.3
BKZ	**Black Stump Fm**	**55.62**	**132**	P		**P**	18 57 49.1 +2.0
URZ	**Urewera**	**55.80**	**130**	LR		LR	19 22 21.5
	comp=Z,47nm,19.1s,baz=247,slow=36						
CASY	**Casey**	**58.07**	**186**	P		**P**	18 58 04.5 +0.7
CASY				IAmb		IAmb	18 58 05.5
	comp=Z,6.5nm,1.0s						
SONM	**Songino Array**	**58.59**	**346**	P		**P**	18 58 07.1 -0.7
SONM	**Songino Array**	**58.59**	**346**	P		**P**	18 58 07.0 -0.8
	comp=Z,1.9nm,0.6s,baz=165,slow=8.0,SNR=11						
	comp=Z,1.9nm,0.6s						
HEH	**HeiHe**	**58.95**	**3**	*e*P		**P**	18 58 09.8 -0.3
HEH				pmax		pmax	
	comp=Z,15nm,0.9s						
WMQ	**Urumqi**	**61.95**	**331**	*e*P		**P**	18 58 33.5 +2.8
WMQ				LR		LR	
	comp=Z,140nm,18.7s						
NIL	**Nilore**	**64.12**	**314**	P		**P**	18 58 44.2 -1.1
KSH	**Kashi**	**65.57**	**321**	P		**P**	18 58 54.6 -0.1
KSH				pmax		pmax	
	comp=Z,7.0nm,0.7s						
KDJ	**Kajisay**	**66.42**	**324**	P		**P**	18 59 00.0 -0.1
KDJ				IAmb		IAmb	18 59 08.9
	comp=Z,8.6nm,1.0s						
MKAR	**Makanchi Array**	**66.73**	**330**	P		**P**	18 59 01.1 -0.8
	comp=Z,6.5nm,0.7s,baz=134,slow=7.2,SNR=65						
	comp=Z,6.5nm,0.7s						
MAKZ	**Makanchi**	**66.90**	**330**	P		**P**	18 59 01.5 -1.4
MAKZ				IAmb		IAmb	18 59 02.7
	comp=Z,4.0nm,0.6s						
PEA0B	**Petropavlovsk-**	**68.06**	**21**	P		**P**	18 59 10.2 +0.1
PEA0B				IAmb		IAmb	18 59 11.8
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**68.06**	**21**	P		**P**	18 59 09.5 -0.5
PETK	**Petropavlovsk-**	**68.06**	**21**	P		**P**	18 59 10.0 0.0
	comp=Z,1.5nm,0.5s,baz=200,slow=3.0,SNR=8.1						
	comp=Z,1.5nm,0.5s						
ARSB	**Arslanbob**	**68.48**	**321**	P		**P**	18 59 12.5 -0.6
ARSB				IAmb		IAmb	18 59 13.4
	comp=Z,11nm,0.5s						
GAR	**Garm**	**68.94**	**318**	P		**P**	18 59 17.1 +1.1
ZAA0	**Zalesovo Array**	**70.81**	**337**			**P**	18 59 24.6 -2.3
ZALV	**Zalesovo Beam**	**70.81**	**337**			**P**	18 59 24.7 -2.2
ZALV	**Zalesovo Beam**	**70.81**	**337**	P		**P**	18 59 24.9 -2.0
	comp=Z,4.9nm,0.7s,baz=136,slow=4.3,SNR=23						
	comp=Z,4.9nm,0.7s						
YAK	**Yakutsk**	**70.83**	**3**			**P**	18 59 25.7 -1.1
KK31	**Karatay Array**	**70.99**	**321**			**P**	18 59 26.3 -2.0
KKAR	**Karatay Array**	**70.99**	**321**	P		**P**	18 59 27.1 -1.3
MAW	**Mawson**	**71.09**	**201**	P		**P**	18 59 28.4 -0.1
	comp=Z,4.5nm,0.6s,baz=74,slow=7.9,SNR=18						
	comp=Z,4.5nm,0.6s						
KURBB	**Kurchatov Arra**	**71.17**	**331**	P		**P**	18 59 27.8 -1.3
	comp=Z,4.2nm,0.7s,baz=141,slow=5.1,SNR=41						
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**71.19**	**331**			**P**	18 59 27.6 -1.6
KURK				IAmb		IAmb	18 59 29.0
	comp=Z,9.0nm,0.8s						
VNDA	**Vanda**	**71.37**	**172**	P		**P**	18 59 30.8 +0.8
VNDA	**Vanda**	**71.37**	**172**	P		**P**	18 59 31.4 +1.4
	comp=Z,0.9nm,0.4s,baz=314,slow=11,SNR=19						
	comp=Z,0.9nm,0.4s						
MA2	**Magadan**	**71.50**	**14**	P		**P**	18 59 30.4 -0.6
MA2				IAmb		IAmb	18 59 35.4
	comp=Z,14nm,1.2s						
SBA	**Scott Base**	**72.32**	**171**	P		**P**	18 59 37.2 +1.5
ABPO	**Ambohimpanom**	**74.77**	**253**	P		**P**	18 59 51.7 +0.4
ABPO				IAmb		IAmb	19 00 11.6
	comp=Z,13nm,1.4s						
VOI	**Vohitsoka**	**74.98**	**250**	P		**P**	18 59 53.3 +0.9
VOI				IAmb		IAmb	19 00 24.2
	comp=Z,16nm,1.4s						
BVAR	**Borovoye Array**	**76.61**	**330**	P		**P**	18 59 59.6 -1.3
	comp=Z,0.9nm,0.6s,baz=130,slow=8.2,SNR=7.1						
	comp=Z,0.9nm,0.6s						
BRVK	**Borovoye**	**76.69**	**330**	P		**P**	19 00 00.2 -1.1
SYO	**Syowa Base**	**79.78**	**201⇑**	*e*P		**P**	19 00 19.6 +1.5
SYO	**Syowa Base**	**79.78**	**201⇑**	*e*PcP		**PcP**	19 00 26.6 +1.2
AB31	**Akbulak array**	**80.39**	**323**			**P**	19 00 20.3 -1.4
ABKAR	**Akbulak array**	**80.39**	**323**	P		**P**	19 00 20.3 -1.4
TIXI	**Tiksi**	**80.42**	**2**	P		**P**	19 00 19.9 -1.5
TIXI				IAmb		IAmb	19 00 21.9
	comp=Z,11nm,1.3s						
QSPA	**South Pole Qui**	**81.11**	**180**	P		**P**	19 00 27.3 +1.8
QSPA				IAmb		IAmb	19 00 28.2
	comp=Z,8.5nm,0.6s						
QSPA	**South Pole Qui**	**81.11**	**180**	P		**P**	19 00 27.3 +1.8
	comp=Z,6.8nm,0.5s,baz=203,slow=0.4,SNR=104						
	comp=Z,6.8nm,0.5s						
RAYN	**Ar Rayn**	**83.15**	**295**			**P**	19 00 37.7 +0.8
MWH	**Mokuaweoweo**	**83.95**	**69**	P		**P**	19 00 40.6 -1.0
ARTI	**Arti**	**84.32**	**329**	P		**P**	19 00 40.8 -1.1
ARTI				IAmb		IAmb	19 00 41.3
	comp=Z,6.1nm,0.6s						
TROLL	**Troll, Antarti**	**90.85**	**195**	⇓P		**P**	19 01 14.8 +1.4
	comp=Z,166nm,0.5s						
SNAA	**Sanae**	**92.42**	**195**	⇓P		**P**	19 01 22.1 +1.6
	comp=Z,102nm,1.0s						
SNAA	**Sanae**	**92.42**	**195**	P		**P**	19 01 22.2 +1.6
SNAA				IAmb		IAmb	19 01 23.2
	comp=Z,5.4nm,1.0s						
SNAA	**Sanae**	**92.42**	**195**	P		**P**	19 01 22.1 +1.6
	comp=Z,4.4nm,1.0s,baz=197,slow=6.0,SNR=17						
	comp=Z,4.4nm,1.0s						
BELA	**Belgrano 2**	**92.57**	**184**	P		**P**	19 01 22.1 +1.1
H18K	**Honhosa River**	**92.82**	**24**	P		**P**	19 01 22.7 +0.3
H18K				IAmb		IAmb	19 01 28.9
	comp=Z,11nm,1.4s						
BOSA	**Boshof**	**93.43**	**241**	P		**P**	19 01 27.0 +0.8
	comp=Z,1.8nm,0.8s,baz=121,slow=6.8,SNR=1.8						
	comp=Z,1.8nm,0.8s						
D19K	**Kuna River**	**93.77**	**21**	P		**P**	19 01 25.7 -0.9
F20K	**Avaraart Lake**	**94.31**	**23**	P		**P**	19 01 27.6 -1.5
F20K				IAmb		IAmb	19 01 54.0
	comp=Z,6.9nm,1.4s						
VNA3	**Neumayer Olymp**	**94.35**	**194**	⇑P		**P**	19 01 30.8 +1.4
	comp=Z,1.9nm,0.6s						
BRTR	**Keskin Array B**	**95.92**	**309**	P		**P**	19 01 34.8 -2.5
	comp=Z,0.4nm,0.6s,baz=26,slow=7.0,SNR=2.2						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**123.36**	**280**	PKP		**PKPdf**	19 07 07.6 -0.1
	comp=Z,0.8nm,0.5s,baz=69,slow=2.4,SNR=6.3						
TXAR	**Lajitas Array**	**130.94**	**59**	PKP		**PKPdf**	19 07 19.6 -2.3
	comp=Z,0.1nm,0.4s,baz=356,slow=3.3,SNR=2.0						
TXAR				SKPbc		**SKPbc**	19 10 35.3 -1.1
	comp=Z,0.7nm,0.8s,baz=312,slow=4.5,SNR=7.8						
CPUP	**Villa Florida**	**144.98**	**178**	PKPbc		**PKPdf**	19 07 47.6 0.0
	comp=Z,1.3nm,0.6s,baz=49,slow=5.5,SNR=6.2						

DJA 13 18:50:10.5±0.7, 3°S±6′, 112°9E±°, h10km, M2.9/3, MLv2.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.18**	**48**	P	Pg	18 50 15.0	+0.5
MSAI				S	Sg	18 50 19.0	+1.8
MSAI	**Masohi**	**0.18**	**48**	P	Pg	18 50 14.9	+0.4
AAI	**Ambon**	**0.63**	**250**	P	Pb	18 50 23.5	-0.2
AAI				S	Sb	18 50 32.5	-0.1
AAI	**Ambon**	**0.63**	**250**	P	Pb	18 50 24.6	+0.9

*GII **13** 19:01:15.4±0.0, 26°969N±0°002×35°082E±0°001, h1km, Mws2.9, confirmed*
*SGS **13** 19:01:16.6, 26°91N×35°03E, h10km, MI1.9*
*HLW **13** 19:01:17.0, 26°84N×34°82E, h18km±15km, Md1.9, MI2.1*

ISC 13 19:01:13.2±1.5, 26.79N±0°07×34.93E±0°04, h12km, n35, σ1°11′38, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWLHS	**Almuwaylih**	**1.08**	**29**	S	**Sb**	**19 01 46.4**	**-1.6**
MWLHS	**Almuwaylih**	**1.08**	**29**	P	**Pb**	**19 01 33.7**	**-0.1**
HHRG	**Al Ghardaqah**	**1.28**	**290**	P	**Pn**	**19 01 36.7**	**-0.2**
HHRG				S	**Sb**	**19 01 51.8**	**-2.0**
KRABS	**KRABS**	**1.33**	**12**	P	**Pn**	**19 01 37.4**	**-0.2**
AYUS	**ʿAynunah**	**1.42**	**12**	P	**Pn**	**19 01 38.8**	**0.0**
TR1	**Tor 1**	**1.49**	**325**	P	**Pn**	**19 01 40.3**	**+0.6**
WTBKS	**WTBKS**	**1.56**	**34**	P	**Pn**	**19 01 41.2**	**+0.5**
WTBKS	**WTBKS**	**1.56**	**34**	S	**Sn**	**19 01 58.9**	**-2.1**
BDAS	**Al Bad̄**	**1.64**	**5**	P	**Pn**	**19 01 42.1**	**+0.3**
URD07	**Al Anba**	**1.73**	**59**	P	**Pn**	**19 01 44.0**	**+0.7**
TAYS	**Tayyib Ism**	**1.75**	**358**	P	**Pn**	**19 01 43.4**	**+0.1**
URD06	**Shuwaq**	**1.76**	**68**	P	**Pn**	**19 01 44.2**	**+0.6**
BIDS	**Bi'r al Bayda'**	**1.81**	**87**	P	**Pn**	**19 01 44.4**	**+0.2**
URD05	**Al Faraah**	**1.86**	**76**	P	**Pn**	**19 01 45.3**	**+0.3**
HKAT	**Jabal Katrina**	**1.91**	**334**	P	**Pn**	**19 01 47.2**	**+1.5**
HKAT				S	**Sn**	**19 02 09.4**	**-0.5**
TR2	**Tor 2**	**1.91**	**326**	P	**Pn**	**19 01 46.9**	**+1.3**
JLOS		**2.00**	**14**	P	**Pn**	**19 01 47.6**	**+0.7**
TBKS	**Tabuk**	**2.02**	**45**	P	**Pn**	**19 01 48.7**	**+1.6**
URD04	**Abu Rakah**	**2.10**	**82**	P	**Pn**	**19 01 48.8**	**+0.6**
HAQS	**Haql**	**2.25**	**360**	P	**Pn**	**19 01 51.1**	**+0.9**
URD10	**Hayder**	**2.37**	**54**	P	**Pn**	**19 01 53.3**	**+1.4**
JMOS	**Jabal al Moall**	**2.37**	**4**	P	**Pn**	**19 01 53.2**	**+1.3**
HRDS	**Abu Rudays**	**2.40**	**323**	P	**Pn**	**19 01 53.5**	**+1.3**
HRDS				S	**Sn**	**19 02 21.1**	**-0.5**
GRB	**Gharib**	**2.41**	**308**	P	**Pn**	**19 01 54.1**	**+1.7**
OLAS	**OLAS**	**2.48**	**102**	P	**Pn**	**19 01 55.1**	**+1.6**
EIL	**Elat**	**2.87**	**0**	P	**Pn**	**19 01 59.9**	**+1.2**
EIL	**Elat**	**2.87**	**0**	S	**Sn**	**19 02 33.4**	**+0.2**
MBRI	**Mt Berech**	**2.99**	**360**	P	**Pn**	**19 02 01.7**	**+1.3**
MBRI	**Mt Berech**	**2.99**	**360**	S	**Sn**	**19 02 37.4**	**+1.1**
HRFI	**Mount Harif**	**3.23**	**2**	P	**Pn**	**19 02 04.9**	**+1.2**
HRFI	**Mount Harif**	**3.23**	**2**	S	**Sn**	**19 02 42.9**	**+0.6**
KRMI	**Paran Flat**	**3.32**	**357**	P	**Pn**	**19 02 06.6**	**+1.6**
KRMI	**Paran Flat**	**3.32**	**357**	S	**Sn**	**19 02 44.9**	**+0.6**
PRNI	**Paran**	**3.55**	**1**	P	**Pn**	**19 02 09.3**	**+1.3**
PRNI	**Paran**	**3.55**	**1**	S	**Sn**	**19 02 50.4**	**+0.4**

*NEIC **13** 19:01:56.0±1.5, 44°52N±0°06×105°61W±0°05, h0km±1km, ML2.7/21, Error ellipse: s-maj=9.9km s-min=5.4km az=195.0*
*IDC **13** 19:01:57.6±1.5, 44°53N×105°84W, h0km, mbtmp2.9/2, ML3.0/2, Error ellipse: s-maj=66.3km s-min=9.5km az=143.0*

ISC 13 19:01:57.1±1.1, 44°53N±0°07×105°56W±0°07, h0km, n17, σ0s92/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.17**	**110**		**Pg**	**19 02 18.7**	**-0.7**
K22A	**Casper**	**2.00**	**201**		**Pn**	**19 02 32.1**	**-0.2**
K22A				IAML		19 03 00.7	
	89nm,0.4s						
LAO	**LASA Array**	**2.21**	**348**		**Pn**	**19 02 35.4**	**+0.3**
RLMT	**Red Lodge**	**2.71**	**284**		**Pn**	**19 02 42.8**	**+0.7**
RLMT				IAML		19 03 32.5	
	23nm,0.5s						
YNE	**Yellowstone No**	**3.21**	**280**		**Pn**	**19 02 46.8**	**-2.2**
YNE				IAML		19 03 47.7	
	comp=E,18nm,0.8s						
YMP	**Mirror Lake Pl**	**3.29**	**275**		Pn	19 02 45.6	-4.6
YMP				IAML		19 03 45.3	
	comp=E,23nm,0.8s						
YMP				IAML		19 03 46.6	
	comp=N,27nm,0.5s						
BW06	**Boulder Array**	**3.39**	**240**	Pn	**Pn**	**19 02 51.4**	**-0.2**
BW06				IAML		19 03 42.8	
	comp=N,11nm,0.6s						
PD31	**Pinedale Array**	**3.39**	**240**	Pn	**Pn**	**19 02 51.9**	**+0.3**
PDAR	**Pinedale Array**	**3.39**	**240**		**Pn**	**19 02 51.9**	**+0.3**
PDAR	**Pinedale Array**	**3.39**	**240**	Pn	**Pn**	**19 02 52.8**	**+1.2**
	comp=N,1.7nm,0.3s,baz=53,slow=13,SNR=23						
PDAR				Pg	**Pb**	**19 02 58.3**	**0.0**
	comp=N,1.9nm,0.3s,baz=52,slow=19,SNR=19						
PDAR				Lg	Lg	19 03 39.8	
	comp=N,4.3nm,0.3s,baz=58,slow=32,SNR=18						
	comp=N,0.4nm,0.4s						
LOHW	**Long Hollow**	**3.75**	**258**		**Pn**	**19 02 56.9**	**+0.5**
LOHW				IAML		19 04 22.4	
	comp=N,7.8nm,4.7s						
YHL	**Hebgen Lake**	**4.03**	**277**		**Pn**	**19 02 59.7**	**-0.6**
YHL				IAML		19 04 09.7	
	comp=N,9.8nm,1.4s						
YHL				IAML		19 04 14.9	
	comp=E,13nm,1.7s						
BOZ	**Bozeman (W)**	**4.43**	**286**		**Pn**	**19 03 06.4**	**+0.6**
BOZ				IAML		19 03 45.9	
	comp=E,

MWH				IAML		19 39 26.4		
	comp=N,2µm,0.5s							
HPO	**Honuapo**	**0.42**	**236**		Sg	19 39 25.0	+0.8	
HPO	**Honuapo**	**0.42**	**236**	Pg	Pg	19 39 18.4	-0.2	
ALEP	**Alea Permanent**	**0.48**	**296**		Pg	19 39 19.4	-0.5	
ALEP					Sg	19 39 27.0	+0.7	
POHA	**Pohakuloa**	**0.54**	**323**		Pg	19 39 20.6	-0.4	
POHA					Sg	19 39 27.6	-0.4	
POHA	**Pohakuloa**	**0.54**	**323**	IAML		19 39 28.9		
	comp=N,2µm,0.5s							
POHA				IAML		19 39 29.2		
	comp=N,2µm,0.6s							
CPH	**Captain Cook**	**0.71**	**283**		Pg	19 39 23.3	-0.9	
HUH	**Hualalai**	**0.71**	**300**		Pg	19 39 22.8	-1.4	
HPAH	**Hawaii Prepara**	**0.85**	**326**		Sg	19 39 37.6	-0.4	
HPAH	**Hawaii Prepara**	**0.85**	**326**		Pg	19 39 24.3	-2.6	
HPAH				IAML		19 39 38.0		
	comp=E,324nm,0.5s							
HPAH				IAML		19 39 40.7		
	comp=N,268nm,0.5s							
MHA	**Mahukona**	**1.09**	**322**		Pg	19 39 27.8	-3.6	
HLK	**Haleakala**	**1.74**	**325**	Pn	Pn	19 39 40.0	-1.5	
KHLH	**Kahului Airpor**	**1.95**	**324**	Pn	Pn	19 39 42.9	-1.2	

*NEIC **13** 19:40:19.9±0.4,36°.70N±0°.01×97°.66W±0°.01,h7km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=179.0*

NEIC 13 19:40:19.7±0.5,36°.706N±0°.010×97°.661W±0°.009, h3km±2km,mb_Lg3.1/108,ML3.4/35,ML3.6/46,Error ellipse: s-maj=1.6km s-min=0.9km az=203.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.21**	**312**		Pg	19 40 24.8	+0.9
GC02				Sg	Sg	19 40 27.9	+1.3
CROK	**Carrier**	**0.33**	**232**		Pg	19 40 26.7	+0.7
CROK					Sg	19 40 31.3	+1.1
KAN13	**South Haven SW**	**0.34**	**26**		Pg	19 40 27.2	+0.9
KAN13					Sg	19 40 32.0	+1.3
KAN14	**Manchester OK**	**0.35**	**316**		Pg	19 40 27.2	+0.9
KAN14				Sg	Sg	19 40 32.0	+1.1
KAN14				IAML		19 40 32.5	
	comp=E,8µm,0.1s						
KAN14				IAML		19 40 34.1	
	comp=N,7µm,0.1s						
BLOK	**Blackwell**	**0.36**	**81**		Pg	19 40 27.3	+0.7
BLOK				Sg	Sg	19 40 32.6	+1.2
KAN01	**Argonia South**	**0.45**	**350**		Pg	19 40 29.1	+0.8
KAN01				Sg	Sg	19 40 35.5	+1.2
KAN01				IAML		19 40 35.7	
	comp=N,5µm,0.2s						
OK038	**West end E0370**	**0.90**	**256**		Pg	19 40 37.0	+0.1
OK038					Pn	19 40 49.0	+10
OK038					Sg	19 40 49.3	+0.7
OK029	**Liberty Lake**	**0.92**	**170**		Pg	19 40 37.4	0.0
OK029					Sg	19 40 49.9	+0.6
QUOK	**Quay**	**0.94**	**124**		Pg	19 40 37.6	0.0
QUOK				Sg	Sg	19 40 49.8	0.0
QUOK				IAML		19 40 56.1	
	comp=N,3µm,0.3s						
QUOK				IAML		19 40 56.6	
	comp=E,3µm,0.2s						
T35A	**Sooner Cattle**	**0.95**	**77**		Pg	19 40 38.0	+0.2
T35A				Sg	Sg	19 40 50.2	+0.1
OK052	**Battle Ridge R**	**0.99**	**135**		Pg	19 40 38.8	+0.1
OK052				Sg	Sg	19 40 51.2	-0.3
OK052				IAML		19 40 57.6	
	comp=E,2µm,0.2s						
OK052				IAML		19 40 58.1	
	comp=E,2µm,0.3s						
NOKA	**Waynoka**	**1.02**	**266**		Pg	19 40 39.2	-0.1
NOKA					Sg	19 40 52.5	-0.1
NOKA				IAML		19 40 56.3	
	comp=E,2µm,0.2s						
NOKA				IAML		19 41 00.1	
	comp=N,2µm,0.3s						
BCOK	**Bluff Creek, N**	**1.05**	**178**		Pg	19 40 39.8	0.0
BCOK					Sb	19 40 54.9	+0.3
ADOK	**Arcadia Dam**	**1.08**	**167**		Pg	19 40 40.2	-0.1
OK004	**Okla Sci Mus**	**1.19**	**173**		Pg	19 40 42.3	-0.1
OK004					Sb	19 40 58.7	+0.1
DEOK	**Depew**	**1.27**	**132**		Pg	19 40 43.5	-0.6
OKCFA	**Oklahoma City**	**1.30**	**172**		Pg	19 40 44.2	-0.4
OKCFA					Sn	19 41 02.4	-0.2
OKCSW	**OKLAHOMA CITY**	**1.31**	**172**	Pg	Pg	19 40 44.1	-0.7
CSTR	**Hydro, Custer**	**1.35**	**218**		Pn	19 40 45.0	-0.4
FNO	**Franklin**	**1.46**	**172**		Pn	19 40 46.7	-0.2
ELIS	**Ellis County**	**1.56**	**246**		Pn	19 40 48.4	+0.1
TUL3	**Leonard**	**1.71**	**117**		Pn	19 40 50.7	+0.4
R32A	**Long Quarter,**	**1.91**	**334**		Pn	19 40 54.0	+0.9
WMOK	**Wichita Mounta**	**2.17**	**205**		Pn	19 40 56.8	+0.1
WMOK	**Wichita Mounta**	**2.17**	**205**	IAmb_Lg		19 41 29.8	
	comp=Z,74nm,0.7s						
RLO	**Rose Lookout**	**2.19**	**103**		Pn	19 40 57.4	+0.4
RLO					Sb	19 41 27.1	-0.5
SMWD	**Samnorwood**	**2.63**	**233**		Pn	19 41 03.8	+0.6
U38A	**Gravette**	**2.65**	**95**		Pn	19 41 04.3	+0.9
CBKS	**Cedar Bluff**	**2.67**	**323**		Pn	19 41 04.8	+1.1
LOOK	**Love County**	**2.74**	**172**		Pn	19 41 04.9	+0.4
WTFS	**Witchita Falls**	**3.01**	**193**		Pn	19 41 08.5	+0.3
HHAR	**Hobbs**	**3.03**	**97**		Pn	19 41 08.9	+0.3
Z35A	**Perchaven, San**	**3.38**	**174**		Pn	19 41 13.6	+0.2
FW06	**Azle**	**3.73**	**179**		Pn	19 41 16.7	-1.4
PLPT	**Palo Pinto**	**3.92**	**188**		Pn	19 41 20.6	-0.2
APMT	**Aspermont**	**3.93**	**212**		Pn	19 41 20.8	-0.2
MIAR	**Mount Ida**	**3.96**	**122**		Pn	19 41 22.1	+0.7
MIAR				IAmb_Lg		19 42 27.0	
	comp=Z,78nm,0.9s						
DKNS	**Dickens**	**4.04**	**222**		Pn	19 41 23.2	+0.7
DKNS				IAmb_Lg		19 42 39.7	
	comp=Z,81nm,1.0s						
Z38A	**Mt. Pleasant**	**4.08**	**147**		Pn	19 41 23.1	+0.2
RTBA	**Rita Blanca**	**4.09**	**268**		Pn	19 41 23.1	-0.2
RTBA				IAmb_Lg		19 42 40.8	
	comp=Z,31nm,0.9s						
MGMO	**Mountain Grove**	**4.34**	**82**		Pn	19 41 27.2	+0.6
MGMO				IAmb_Lg		19 42 36.3	
	comp=Z,45nm,0.8s						
FW13	**Cleburne**	**4.35**	**177**		Pn	19 41 27.5	+0.9
P38A	**Dawn**	**4.37**	**47**		Pn	19 41 26.7	-0.2
ABTX	**Abilene, Hawle**	**4.39**	**202**		Pn	19 41 26.5	-0.7
ABTX				IAmb_Lg		19 42 38.4	
	comp=Z,53nm,1.1s						
N35A	**Tabor**	**4.44**	**20**		Pn	19 41 28.6	+0.7
SN07	**Snyder 07**	**4.48**	**217**	IAmb_Lg		19 42 43.8	
	comp=Z,34nm,0.9s						
X40A	**Basin Creek Fa**	**4.51**	**118**		Pn	19 41 29.3	+0.4
FCAR	**Ozark Folk Cen**	**4.55**	**99**	IAmb_Lg		19 42 41.1	
	comp=Z,52nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.55**	**302**	IAmb_Lg		19 42 46.2	
	comp=Z,50nm,0.7s						
R40A	**Maddies Statio**	**4.57**	**68**	IAmb_Lg		19 42 46.9	
	comp=Z,54nm,0.8s						
WHAR	**Wooly Hollow**	**4.58**	**106**	IAmb_Lg		19 42 46.7	
	comp=Z,47nm,0.8s						
WHTX	**Lake Whitney,**	**4.71**	**178**		Pn	19 41 31.7	+0.1
BGNE	**Belgrade**	**4.71**	**356**	Pn	Pn	19 41 31.7	0.0
BGNE				IAmb_Lg		19 42 58.7	
	comp=Z,46nm,0.7s						
UALR	**University of**	**4.74**	**112**	IAmb_Lg		19 43 02.3	
	comp=Z,54nm,0.9s						
WLAR	**White Oak Lake**	**4.79**	**128**	IAmb_Lg		19 43 01.5	
	comp=Z,52nm,1.0s						
POST	**Post**	**4.81**	**222**		Pn	19 41 33.1	0.0
POST				IAmb_Lg		19 42 52.1	
	comp=Z,31nm,0.7s						
237A	**Washetta, Mont**	**4.94**	**161**	IAmb_Lg		19 43 08.1	
	comp=Z,29nm,1.0s						
P40A	**Paris**	**5.25**	**56**	IAmb_Lg		19 43 08.7	
	comp=Z,61nm,0.8s						
Z41A	**Richland Creek**	**5.27**	**129**	IAmb_Lg		19 43 19.0	
	comp=Z,49nm,0.7s						
CCM	**Cathedral Cave**	**5.29**	**73**		Pn	19 41 39.6	+0.1
LCAR	**Lake Charles**	**5.29**	**95**	IAmb_Lg		19 43 11.6	
	comp=Z,32nm,0.8s						
L34A	**Svendsen Farm,**	**5.35**	**10**		Pn	19 41 40.6	+0.3
T25A	**Trinidad**	**5.42**	**277**		Pn	19 41 41.7	0.0
BRDY	**Brady**	**5.52**	**192**		Pn	19 41 41.9	-0.9
NATX	**Nacogdoches**	**5.52**	**152**	IAmb_Lg		19 43 30.0	
	comp=Z,26nm,0.7s						
CCAR	**Cane Creek**	**5.56**	**118**	IAmb_Lg		19 43 23.9	
	comp=Z,52nm,0.7s						
SGCY	**Sterling City**	**5.57**	**212**		Pn	19 41 43.2	-0.4
SGCY				IAmb_Lg		19 43 25.3	
	comp=Z,37nm,0.9s						
PBMO	**Poplar Bluff**	**5.81**	**87**	IAmb_Lg		19 43 30.3	
	comp=Z,45nm,0.7s						
FVM	**French Village**	**5.90**	**75**	IAmb_Lg		19 43 28.2	
	comp=Z,52nm,0.9s						
435B	**Jarrell**	**5.91**	**179**	IAmb_Lg		19 43 31.1	
	comp=Z,20nm,0.7s						
K30B	**Basset**	**6.15**	**346**	IAmb_Lg		19 43 49.7	
	comp=Z,48nm,0.8s						
SLM	**Saint Louis**	**6.20**	**70**	IAmb_Lg		19 43 43.8	
	comp=Z,32nm,0.7s						
Q24A	**Divide**	**6.34**	**293**	IAmb_Lg		19 43 43.4	
	comp=Z,20nm,0.8s						
SDCO	**Great Sand Dun**	**6.34**	**282**		Pn	19 41 53.3	-1.0
SDCO				IAmb_Lg		19 43 55.1	
	comp=Z,20nm,1.0s						
CGM3	**Cape Girardeau**	**6.43**	**82**	IAmb_Lg		19 43 40.2	
	comp=Z,42nm,1.0s						
OZNA	**Ozona**	**6.45**	**208**	IAmb_Lg		19 44 00.7	
	comp=Z,19nm,0.8s						
JCT	**Junction City**	**6.46**	**197**	IAmb_Lg		19 43 56.7	
	comp=Z,30nm,0.9s						
143A	**Socs Landing,**	**6.52**	**126**	IAmb_Lg		19 44 03.3	
	comp=Z,36nm,0.8s						
S44A	**Carbondale**	**6.78**	**79**	IAmb_Lg		19 43 59.9	
	comp=Z,37nm,0.7s						
MNHN	**Monahans**	**6.82**	**220**		Pn	19 41 59.1	-1.6
MLDN	**Muldoon**	**6.92**	**176**	IAmb_Lg		19 44 18.6	
	comp=Z,16nm,0.7s						
ISCO	**Idaho Springs**	**6.98**	**299**		Pn	19 42 02.2	-0.9
ISCO				IAmb_Lg		19 44 06.9	
	comp=Z,25nm,1.0s						
ECSD	**EROS Data Cent**	**7.07**	**6**		Pn	19 42 02.1	-1.9
HNDO	**Hondo**	**7.29**	**191**		Pn	19 42 05.7	-1.3
HNDO				IAmb_Lg		19 44 16.8	
	comp=Z,16nm,0.7s						
L40A	**Anamosa**	**7.31**	**41**	IAmb_Lg		19 44 11.6	
	comp=Z,41nm,0.8s						
PECS	**Pecos**	**7.41**	**226**	IAmb_Lg		19 44 30.6	
	comp=Z,14nm,0.7s						
DRIO	**Del Rio**	**7.67**	**200**		Pn	19 42 11.3	-1.1
DRIO				IAmb_Lg		19 44 29.8	
	comp=Z,15nm,0.7s						
SAND	**Sanderson**	**7.70**	**210**	IAmb_Lg		19 44 38.9	
	comp=Z,24nm,1.1s						
PLAL	**Pickwick Lake**	**7.97**	**100**	IAmb_Lg		19 44 34.0	
	comp=Z,19nm,0.9s						
I37A	**Lemond, Waseca**	**7.99**	**23**	IAmb_Lg		19 44 50.3	
	comp=Z,18nm,0.7s						
ALPN	**Alpine**	**8.05**	**220**	IAmb_Lg		19 44 45.7	
	comp=Z,17nm,0.9s						
USIN	**University of**	**8.06**	**78**	IAmb_Lg		19 44 42.9	
	comp=Z,29nm,0.8s						
MNTX	**Cornudas Mount**	**8.11**	**234**		Pn	19 42 18.3	-0.1
HAYD	**Hayden**	**8.42**	**300**	IAmb_Lg		19 45 03.3	
	comp=Z,14nm,0.8s						
VHRN	**Van Horn**	**8.49**	**228**		Pn	19 42 22.8	-0.8
TXAR	**Lajitas Array**	**8.91**	**216**	Pn	Pn	19 42 27.6	-1.9
I40A	**Norwalk**	**8.97**	**35**	IAmb_Lg		19 45 04.4	
	comp=Z,19nm,0.8s						
I42A	**Draeger Farm,**	**9.80**	**40**	IAmb_Lg		19 45 33.6	
	comp=Z,17nm,0.9s						

VIE 13 19:58:07.8±0.2,47°.61N×15°.85E,h6km±3km,ml0.8/3, Error ellipse: s-maj=1.3km s-min=1.0km az=135.0 3 km S of Semmering,Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RONA	**Rosalia, Austr**	**0.32**	**73**	*e*Pg	Pg	19 58 14.0	0.0
	0.2nm,0.1s						
RONA				*e*Sg	Sg	19 58 18.5	+0.3
	2.7nm,0.2s						
CONA	**Conrad Observa**	**0.32**	**2**	*e*Pg	Pg	19 58 14.4	+0.3
	0.1nm,0.0s						
CONA				*e*Sg	Sg	19 58 18.3	0.0
	0.6nm,0.1s						
ARSA	**Arzberg**	**0.42**	**211**	*e*Pg	Pg	19 58 15.9	0.0
	0.1nm,0.1s						
ARSA				*e*Sg	Sg	19 58 21.4	0.0
	0.4nm,0.1s						
KRUC	**Moravsky**	**1.50**	**14**	*e*SG	Sn	19 58 53.2	-2.0

*PRU **13** 19:58:48.2,46°.46N×12°.77E,h7km*

ROM 13 19:58:44.7±0.1,46°.342N±0°.004×12°.772E±0°.005, h4km,ML2.4/80,8C-10D,Error ellipse: s-maj=0.5km s-min=0.3km az=338.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STAL	**STALIGIAL**	**0.09**	**208**	P	Pg	19 58 47.5	+0.9
STAL				S	Sg	19 58 49.1	+1.2
STAL				AML	AML		
	comp=N,6715µm,0.3s						
STAL				AML	AML		
	comp=E,6555µm,1.6s						
STAL				AML	AML		
	comp=E,5705µm,0.3s						
STAL				AML	AML		
	comp=E,6555µm,1.6s						
STAL				AML	AML		
	comp=N,8005µm,0.2s						
STAL				AML	AML		
	comp=E,6555µm,0.4s						
CLUD	**Cludinico**	**0.14**	**33**↑	*e*Pg	Pg	19 58 48.1	+0.7
CLUD				*e*Sg	Sg	19 58 50.6	+1.2
CLUD	**Cludinico**	**0.14**	**33**↑	*i*P	Pg	19 58 48.2	+0.7
CLUD				S	Sg	19 58 50.4	+1.1
CLUD				AML	AML		
	comp=N,1255µm,0.5s						
CLUD				AML	AML		
	comp=N,1360µm,0.5s						
CLUD				AML	AML		
	comp=E,1102µm,0.7s						
CLUD				AML	AML		
	comp=N,1360µm,1.5s						
CLUD				AML	AML		
	comp=N,1255µm,1.5s						
CLUD				AML	AML		
	comp=E,1180µm,0.7s						
DST2	**Trieste**	**0.14**	**132**↓	*i*P	Pg	19 58 48.4	+0.9
DST2				S	Sg	19 58 51.8	+2.4
DST2				AML	AML		
	comp=E,2705µm,0.5s						
DST2				AML	AML		
	comp=N,2755µm,0.7s						
DST2				AML	AML		
	comp=E,2705µm,0.5s						
DST2				AML	AML		
	comp=N,2755µm,1.3s						
FUSE	**Fusea**	**0.17**	**65**↓	*e*Pg	Pg	19 58 48.8	+0.7
FUSE				*e*Sg	Sg	19 58 51.8	+1.4
FUSE	**Fusea**	**0.17**	**65**	P	Pg	19 58 48.8	+0.7
FUSE				S	Sg	19 58 52.1	+1.7
MPRI	**Monte Prat**	**0.18**	**124**↓	*i*Pg	Pg	19 58 48.9	+0.7
MPRI				*i*Sg	Sg	19 58 51.9	+1.3
MPRI	**Monte Prat**	**0.18**	**124**↓	*i*P	Pg	19 58 48.9	+0.7
MPRI				S	Sg	19 58 52.2	+1.6
MPRI				AML	AML		
	comp=N,931µm,0.4s						
MPRI				AML	AML		
	comp=E,1190µm,0.4s						
MPRI				AML	AML		
	comp=N,1225µm,0.4s						
MPRI				AML	AML		
	comp=E,1575µm,0.4s						
MPRI				AML	AML		
	comp=N,930µm,0.4s						
CSMI	**Casera Mimoias**	**0.19**	**334**↓	*e*Pg	Pg	19 58 49.0	+0.5
CSMI				*e*Sg	Sg	19 58 51.7	+0.7
MLNI	**Malnisio**	**0.22**	**210**↑	*e*Pg	Pg	19 58 49.3	+0.3
MLNI				*e*Sg	Sg	19 58 53.2	+1.2
BOO	**Bordano**	**0.23**	**95**↓	*e*Pg	Pg	19 58 49.5	+0.4
BOO				*e*Sg	Sg	19 58 53.0	+0.9
BOO	**Bordano**	**0.23**	**95**↓	*i*P	Pg	19 58 49.5	+0.4
BOO				S	Sg	19 58 53.2	+1.1
CIMO	**Cimolais**	**0.23**	**262**↑	*e*Pg	Pg	19 58 49.1	-0.1
CIMO				*e*Sg	Sg	19 58 52.5	+0.3
CIMO	**Cimolais**	**0.23**	**262**	P	Pg	19 58 49.1	-0.1
CIMO				S	Sg	19 58 52.8	+0.6
CIMO				AML	AML		
	comp=N,608µm,0.5s						
CIMO				AML	AML		
	comp=N,627µm,0.5s						
CIMO				AML	AML		
	comp=E,584µm,0.3s						
CIMO				AML	AML		
	comp=N,608µm,0.5s						
CIMO				AML	AML		
	comp=E,587µm,0.3s						
CIMO				AML	AML		
	comp=E,587µm,1.7s						
CIMO				AML	AML		
	comp=E,584µm,1.7s						
CIMO				AML	AML		
	comp=N,608µm,1.5s						
CIMO				AML	AML		
	comp=N,627µm,1.5s						
FVI	**Forni Avoltri**	**0.26**	**1**	P	Pg	19 58 50.2	+0.5
FVI				S	Sg	19 58 53.9	+0.9
FVI				AML	AML		
	comp=E,4410µm,0.7s						
FVI				AML	AML		
	comp=N,2920µm,0.5s						
ZOU	**Zoufplan**	**0.26**	**33**↑	*e*Pg	Pg	19 58 50.3	+0.6
ZOU				*e*Sg	Sg	19 58 54.4	+1.3
ZOU	**Zoufplan**	**0.26**	**33**↑	*i*P	Pg	19 58 50.4	+0.7
ZOU				S	Sg	19 58 54.4	+1.3
ZOU				AML	AML		
	comp=E,1265µm,1.1s						
ZOU				AML	AML		
	comp=N,834µm,0.3s						
ZOU				AML	AML		
	comp=E,1255µm,1.1s						
ZOU				AML	AML		
	comp=E,1255µm,0.9s						
ZOU				AML	AML		
	comp=E,1265µm,0.9s						
ZOU				AML	AML		
	comp=N,836µm,0.3s						
GEPF	**Gemona**	**0.26**	**105**	P	Pg	19 58 50.2	+0.4
GEPF				S	Sg	19 58 54.8	+1.6
GEPF				AML	AML		
	comp=E,956µm,0.3s						
GEPF				AML	AML		
	comp=N,1080µm,0.2s						
BUA	**Buia**	**0.27**	**117**↓	*e*Pg	Pg	19 58 50.4	+0.5
BUA				*e*Sg	Sg	19 58 55.0	+1.5
CSO	**Casso**	**0.32**	**258**↑	*e*Pg	Pg	19 58 50.6	-0.2
CSO				*e*Sg	Sg	19 58 55.6	+0.6
PLRO	**Paularo**	**0.33**	**51**	*e*Pg	Pg	19 58 51.6	+0.5
PLRO				*e*Sg	Sg	19 58 56.8	+1.3
PLRO	**Paularo**	**0.33**	**51**	P	Pg	19 58 51.6	+0.5
PLRO				S	Sg	19 58 56.9	+1.3
APGO	**Alpago**	**0.34**	**236**	*e*Pg	Pg	19 58 51.3	0.0
APGO				*e*Sg	Sg	19 58 56.7	+1.0
BAD	**Bernadia**	**0.34**	**108**↓	*e*Pg	Pg	19 58 51.4	+0.1
BAD				*e*Sg	Sg	19 58 57.0	+1.2
BAD	**Bernadia**	**0.34**	**108**	P	Pg	19 58 51.4	+0.1
BAD				S	Sb	19 58 57.7	-1.4
VINO	**Villanova**	**0.36**	**103**↓	*e*Pg	Pg	19 58 51.7	0.0
VINO				*e*Sg	Sg	19 58 57.6	+1.1
POLC	**Polcenigo**	**0.37**	**211**	P	Pg	19 58 52.5	+0.7
POLC				S	Sb	19 58 59.0	-0.7
PTCC	**Patocco-Chiusa**	**0.41**	**81**	P	Pg	19 58 53.2	+0.6
PTCC				AML	AML		
	comp=E,500µm,0.4s						
PTCC				AML	AML		
	comp=N,448µm,0.1s						
PTCC				AML	AML		
	comp=N,448µm,1.9s						
PTCC				AML	AML		
	comp=E,500µm,0.4s						
CAE	**Caneva**	**0.41**	**215**	*e*Pg	Pg	19 58 52.7	+0.2
CAE				*e*Sg	Sg	19 58 58.9	+1.1
CAE	**Caneva**	**0.41**	**215**	P	Pg	19 58 52.7	+0.2
CAE				S	Sb	19 58 59.7	-1.3
FRE8	**Fregona**	**0.44**	**222**	P	Pg	19 58 53.4	+0.3
FRE8				S	Sb	19 59 01.0	-0.8
ABTA	**Abfaltersbach**	**0.44**	**336**	*i*Pg	Pg	19 58 53.6	+0.3
	comp=E,36nm,0.1s,SNR=202						
ABTA				*e*Sg	Sg	19 58 59.3	+0.3
	comp=E,46nm,0.1s						
AFL	**Alpe Faloria**	**0.45**	**295**	*e*Pg	Pg	19 58 53.6	+0.2
AFL				*e*Sg	Sg	19 59 00.3	+1.0
COLI	**Coloredo**	**0.47**	**116**	*e*Pg	Pg	19 58 54.1	+0.4
COLI				*e*Sg	Sb	19 59 01.4	-1.3
AGOR	**Agordo**	**0.51**	**264**	*e*Pg	Pg	19 58 54.7	+0.3
AGOR				*e*Sg	Sg	19 59 02.2	+1.2
AGOR	**Agordo**	**0.51**	**264**	P	Pg	19 58 55.0	+0.6
AGOR				S	Sb	19 59 02.5	-1.3
ROBS	**Robic**	**0.52**	**101**	*i*Pg	Pg	19 58 54.1	-0.5
ROBS				*i*Sg	Sb	19 59 03.1	-1.0
LSR	**Lussari**	**0.54**	**75**	*e*Pg	Pg	19 58 55.3	+0.3
LSR				*e*Sg	Sb	19 59 03.6	-1.3
ACOM	**Acomizza, Ital**	**0.55**	**68**↑	*e*Pg	Pg	19 58 55.8	+0.5
ACOM				*e*Sg	Sg	19 59 03.7	+1.2
ACOM	**Acomizza, Ital**	**0.55**	**68**	P	Pg	19 58 55.8	+0.5
FAU	**Forcella Aurin**	**0.56**	**259**	*e*Pg	Pg	19 58 55.4	-0.1
VARN	**Col Varnada, M**	**0.58**	**233**	*e*Pg	Pg	19 58 55.9	+0.1
VARN	**Col Varnada, M**	**0.58**	**233**	P	Pg	19 58 55.8	0.0
VARN				AML	AML		
	comp=E,507µm,1.2s						
VARN				AML	AML		
	comp=N,399µm,0.4s						
VARN				AML	AML		
	comp=E,507µm,0.8s						
VARN				AML	AML		
	comp=N,399µm,1.6s						
ED06	**Collalto TV**	**0.62**	**219**	*e*Pg	Pg	19 58 56.8	+0.1
MYKA	**Terra Mystica**	**0.67**	**64**	*i*Pg	Pg	19 58 57.5	0.0
	comp=N,6.3nm,0.1s,SNR=28						
MYKA				*e*Sg	Sg	19 59 07.1	+1.0
	comp=N,15nm,0.1s						
SABO	**M.te Sabotino**	**0.68**	**122**	*e*Pg	Pg	19 58 58.1	+0.4
SABO	**M.te Sabotino**	**0.68**	**122**	P	Pg	19 58 58.1	+0.4
SABO				S	Sb	19 59 09.6	+0.8
SABO				AML	AML		
	comp=E,288µm,0.6s						
SABO				AML	AML		
	comp=N,334µm,0.5s						
SABO				AML	AML		
	comp=N,1235µm,0.5s						
SABO				AML	AML		
	comp=E,1240µm,0.5s						
MTLO	**Montello**	**0.71**	**222**	*e*Pg	Pg	19 58 58.5	+0.3
BRES	**Bressanone**	**0.80**	**297**	P	Pg	19 59 00.0	0.0
ASOL	**Asolo**	**0.81**	**229**	P	Pb	19 59 01.1	-0.2
CGRP	**Cima Grappa**	**0.82**	**236**	P	Pg	19 59 00.7	+0.3
CGRP				AML	AML		
	comp=E,192µm,0.4s						
CGRP				AML	AML		
	comp=N,162µm,0.5s						
CGRP				AML	AML		
	comp=N,162µm,1.5s						
CTI	**Castel Tesino**	**0.83**	**250**	P	Pg	19 59 00.5	-0.1
CTI				AML	AML		
	comp=N,411µm,0.3s						
CTI				AML	AML		
	comp=E,467µm,0.9s						
CTI				AML	AML		
	comp=N,412µm,0.3s						
KBA	**Koelnbreinsper**	**0.84**	**28

comp=N,217μm,0.5s
PANI AML AML
comp=E,162μm,0.6s
PANI AML AML
comp=N,217μm,1.5s
SANR Sandrigo 1.07 230 P Pb 19 59 06.0 +0.3
LESA Schwarzleotal 1.08 357 *e*Pg Pg 19 59 05.4 -0.1
comp=N,2.0nm,0.1s,SNR=18
LESA *e*Sg Sg 19 59 19.2 -0.3
comp=N,38nm,0.2s
ROSI Rosskopf 1.11 303 P Pg 19 59 05.9 +0.1
ROSI AML AML
comp=E,122μm,1.2s
ROSI AML AML
comp=N,114μm,0.3s
OZOL Ozolo 1.19 274 P Pg 19 59 07.3 -0.3
OZOL AML AML
comp=E,454μm,0.9s
OZOL AML AML
comp=N,402μm,0.6s
OZOL AML AML
comp=E,454μm,1.2s
OZOL AML AML
comp=E,400μm,0.6s
OZOL AML AML
comp=N,402μm,0.6s
OZOL AML AML
comp=N,390μm,0.6s
DOSS Dosso del Somm 1.19 248 P Pg 19 59 07.5 0.0
DOSS AML AML
comp=N,283μm,1.2s
DOSS AML AML
comp=E,279μm,1.1s
DOSS AML AML
comp=E,236μm,0.6s
DOSS AML AML
comp=N,282μm,1.2s
DOSS AML AML
comp=N,260μm,0.5s
DOSS AML AML
comp=E,236μm,1.4s
DOSS AML AML
comp=N,282μm,0.8s
DOSS AML AML
comp=E,279μm,0.9s
WTTA Wattenberg 1.21 320 *e*Pg Pg 19 59 07.8 0.0
comp=E,19nm,0.2s,SNR=112
WTTA *e*Sg Sg 19 59 23.3 -0.2
comp=E,6.6nm,0.2s
WTTA Wattenberg 1.21 320 P Pg 19 59 07.9 +0.1
WTTA AML AML
comp=E,58μm,1.5s
WTTA AML AML
comp=E,58μm,0.5s
WTTA AML AML
comp=N,111μm,0.2s
WTTA AML AML
comp=N,81μm,0.4s
OBKA Obir 1.24 82 *e*Pg Pb 19 59 08.6 -0.1
comp=N,0.9nm,0.1s
OBKA Sg Sn 19 59 25.7 -0.3
comp=N,19nm,0.3s,SNR=5.9
LJU Ljubljana 1.25 103 P Pn 19 59 09.1 +0.2
LJU AML AML
comp=N,1465μm,1.1s
LJU AML AML
comp=E,1555μm,0.2s
LJU AML AML
comp=N,1465μm,0.9s
GAGG Gaggia 1.28 259 P Pg 19 59 09.2 -0.1
GAGG AML AML
comp=N,259μm,0.2s
GAGG AML AML
comp=E,226μm,0.5s
GAGG AML AML
comp=N,260μm,0.2s
GAGG AML AML
comp=E,289μm,1.6s
GAGG AML AML
comp=N,233μm,0.4s
GAGG AML AML
comp=E,289μm,0.4s
WATA Walderalm 1.29 321 *i* Pg Pg 19 59 09.3 -0.1
comp=E,10nm,0.2s,SNR=50
LUSI Trento, Gardas 1.33 254 P Pg 19 59 10.1 0.0
LUSI AML AML
comp=E,274μm,0.6s
LUSI AML AML
comp=N,370μm,0.8s
ROVR Rover Verones 1.37 240 P Pn 19 59 10.4 -0.2
ROVR AML AML
comp=N,204μm,0.2s
ROVR AML AML
comp=E,77μm,1.3s
ROVR AML AML
comp=E,77μm,0.7s
KNDS Knezji Dol 1.39 125 *i* Pn Pn 19 59 10.8 0.0
KNDS *i* Sn Sn 19 59 30.5 +0.9
SQTA Sankt Quirin 1.39 310 *e*Pg Pn 19 59 10.6 -0.3
comp=E,13nm,0.3s,SNR=24
SQTA Sg Sn 19 59 30.4 +0.7
comp=E,6.5nm,0.3s
VARA Varagna 1.40 249 P Pn 19 59 11.2 +0.1
VARA AML AML
comp=N,267μm,0.3s
VARA AML AML
comp=E,356μm,0.9s
CARE Lago del Cares 1.44 274 P Pg 19 59 12.4 +0.1
CARE AML AML
comp=N,126μm,1.1s
CARE AML AML
comp=E,72μm,0.4s
CARE AML AML
comp=E,72μm,1.6s
CARE AML AML
comp=N,127μm,1.1s
BIOA Bad Ischl, Aus 1.48 23 *e*Pg Pg 19 59 12.9 -0.1
comp=N,3.8nm,0.3s,SNR=8.8
BIOA Sg Sg 19 59 32.4 +0.3
comp=N,40nm,0.5s,SNR=6.4
MOTA Moosalm 1.52 312 *e*Pg Pn 19 59 13.1 +0.3
comp=N,2.0nm,0.1s,SNR=16
MOTA Sg Sg 19 59 35.1 +1.5
comp=N,9.0nm,0.2s
RONC Roncone 1.54 257 P Pb 19 59 13.5 -0.3
RONC AML AML
comp=N,682μm,0.2s
RONC AML AML
comp=E,333μm,0.2s
MOSI Grossmontoni 1.56 281 P Pb 19 59 14.2 +0.1
MOSI AML AML
comp=E,302μm,1.2s
MOSI AML AML
comp=N,577μm,0.6s
MOSI AML AML
comp=N,577μm,1.4s
MOSI AML AML
comp=E,302μm,0.8s
FETA Feichten 1.56 297 *e*Pg Pb 19 59 13.9 -0.2
comp=E,8.1nm,0.3s,SNR=22
FETA *e*Sn Sn 19 59 33.8 -0.2
comp=E,4.7nm,0.4s
MABI Malga Bissina 1.59 260 P Pb 19 59 14.6 -0.2
MABI AML AML
comp=N,111μm,1.6s
MABI AML AML
comp=E,80μm,0.7s
MABI AML AML
comp=N,111μm,0.4s
MAGA Magasa 1.60 250 P Pn 19 59 14.0 +0.3
MAGA AML AML
comp=E,514μm,0.3s
MAGA AML AML
comp=N,340μm,0.3s
SOKA Soboth 1.60 77 *e*Pg Pn 19 59 14.1 +0.4
comp=N,1.4nm,0.2s,SNR=6.6
SOKA *e*Sn Sg 19 59 35.8 -0.1
comp=N,4.9nm,0.3s
BRMO Bormio 1.67 275 P Pb 19 59 15.9 0.0
BRMO AML AML
comp=E,91μm,0.3s
BRMO AML AML
comp=N,102μm,0.6s
FUORN Ofenpass-Fuorn 1.76 280 P Pb 19 59 17.3 -0.2
FUORN AML AML
comp=N,70μm,1.4s
FUORN AML AML
comp=N,70μm,0.6s
FUORN AML AML
comp=E,90μm,0.6s
RETA Reutte 1.79 310 *e*Pg Pg 19 59 19.1 +0.1
comp=E,4.3nm,0.2s
RETA Sg Sg 19 59 44.3 +2.1
comp=E,7.2nm,0.2s
MOA Molln 1.82 34 *e*Pg Pb 19 59 18.5 0.0
SNR=17
MOA Sg Sg 19 59 42.8 -0.3
comp=E,13nm,0.6s
DOBS Dobrina 1.88 95 *i* Pn Pn 19 59 17.5 0.0
ARSA Arzberg 2.10 63 Pg Pb 19 59 23.5 +0.3
comp=E,0.4nm,0.2s
ARSA Sg Sg 19 59 52.7 +0.7
comp=E,5.3nm,0.6s
DAVA Damuels 2.20 296 *e*Pg Pb 19 59 25.3 +0.2
comp=E,1.6nm,0.2s
DAVA Sg Sg 19 59 54.6 -0.7
comp=E,6.0nm,0.2s
CONA Conrad Observa 2.64 52 *e*Pn Pn 19 59 29.1 +1.1
comp=E,0.4nm,0.2s
CKRC Cesky Krumlov 2.69 22 *e*PN Pn 19 59 30.1 +1.4
CKRC *e*PG Pg 19 59 35.1 -1.1
CKRC *e*SN Sn 20 00 02.6 +1.0
CKRC *e*SG Sg 20 00 09.5 -1.5
comp=E,8.4nm,0.8s
RONA Rosalia, Austr 2.77 59 Pn Pn 19 59 30.2 +0.5
comp=E,0.3nm,0.1s
KHC Kasperske Hory 2.84 11 *e*PN Pn 19 59 31.3 +0.5
KHC *e*PG Pg 19 59 38.2 -0.9
KHC *e*SN Sn 20 00 05.6 +0.1
KHC *e*SG Sg 20 00 14.3 -1.7
comp=E,8.9nm,0.4s
ZVC Zvikov 3.24 17 *e*PG Pg 19 59 45.2 -1.6
ZVC *e*SN Sn 20 00 15.1 -0.2
ZVC *e*SG Sg 20 00 27.6 -1.2
comp=E,5.4nm,0.5s
KRUC Moravsky 3.66 41 *e*PN Pn 19 59 41.4 -0.6
KRUC *e*SG Sg 20 00 40.1 -2.0
BRG Berggiesshubel 4.60 9 Sg Sg 20 01 11.3 -1.1
BRG Amp 20 01 14.9
comp=Z,2.7nm,0.6s
CLL Collm 4.97 2 *i* Sg Sg 20 01 24.1 -0.2

DJA 13 20:27:10.9±0.3, 8°S±4′×11°2E±°, h131km±3km, M3.9/18, mB5.0/1, mb4.4/5, MLv3.6/18, Mw(mB)4.3/1, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.55**	**276**	P	Pn	20 27 31.5	+1.2
PCJI				S	Sn	20 27 48.0	+3.0
WOJI	**Wonogiri, Jawa**	**0.90**	**297**	P	Pn	20 27 33.4	+0.4
WOJI				S	Sn	20 27 50.5	+0.8
NGJI	**Ngawi**	**0.92**	**343**	P	Pn	20 27 34.7	+1.5
NGJI				S	Sn	20 27 51.0	+1.0
UGM	**Wanagama**	**1.24**	**286**	P	Pn	20 27 36.7	+0.4
UGM				S	Sn	20 27 56.1	+0.5
TBJI	**Tambak Boyo**	**1.43**	**5**	P	Pn	20 27 38.3	0.0
TBJI				S	Sn	20 28 00.0	+0.9
GRJI	**Gresik**	**1.52**	**29**	P	Pn	20 27 39.1	-0.2
GRJI				S	Sn	20 28 01.6	+0.6
GMJI	**Gumukmas**	**1.70**	**91**	P	Pn	20 27 41.6	+0.3
GMJI				S	Sn	20 28 05.2	+0.7
SMRI	**Semarang**	**1.75**	**313**	P	Pn	20 27 42.0	0.0
SMRI				S	Sn	20 28 06.1	+0.4
JAGI	**Jajag, Banyuwa**	**2.41**	**95**	P	Pn	20 27 49.8	-0.2
JAGI				S	Sn	20 28 19.4	-0.6
KMMI	**Kalianget**	**2.52**	**62**	P	Pn	20 27 50.9	-0.5
KMMI				S	Sn	20 28 22.4	-0.1
KPJI	**Karang Pucung**	**2.92**	**288**	P	Pn	20 27 56.5	0.0
KPJI				S	Sn	20 28 31.9	+0.2
CNJI	**Cibinong**	**4.65**	**281**	P	Pn	20 28 19.2	-0.2
SKJI	**Sukabumi**	**5.28**	**283**	P	Pn	20 28 28.1	+0.4
	111nm,1.3s						
PLAI	**Plampang**	**6.01**	**96**	P	Pn	20 28 37.7	+0.1
	0.1nm24nm,1.2s						
CGJI	**Cibinong**	**6.20**	**285**	P	Pn	20 28 40.1	-0.1
KASI	**Kota Agung**	**7.67**	**290**	P	Pn	20 28 59.9	-0.1

IDC 13 20:33:43.4±1.8, 4°54N×124°09E, h0km, mb3.5/4, mbtmp3.5/4, MS3.1/1, Error ellipse: s-maj=221.7km s-min=22.3km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.33**	**158**	P	P	20 39 20.4	-0.8
	0.6nm,0.5s,baz=336,slow=10,SNR=8.1						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**29.62**	**162**	P	P	20 39 51.6	+0.9
	0.3nm,0.4s,baz=342,slow=8.5,SNR=8.7						
	0.3nm,0.4s						
DZM	**Mont Dzumac**	**49.16**	**124**	LR	LR	21 01 24.0	
	comp=Z,19nm,20.8s,baz=10,slow=34						
MKAR	**Makanchi Array**	**55.41**	**326**	P	P	20 43 19.5	-0.1
	0.2nm,0.4s,baz=120,slow=6.1,SNR=6.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**59.65**	**328**	P	P	20 43 49.3	-0.1
	0.2nm,0.4s,baz=128,slow=6.8,SNR=3.1						
	0.2nm,0.4s						

TRN 13 20:44:45.5, 17°50N×61°81W, h8km, MD4.0, South of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.17**	**9**	*e*P	Pg	20 44 50.7	+1.7
ANWB				*e*S	Sg	20 44 53.0	+1.6
MBWH		**0.84**	**206**	*e*P	Pn	20 45 05.0	+1.4
MBWH				*e*S	Sn	20 45 17.8	+1.7
MBFL	**Flemmings, Mon**	**0.84**	**207**	*e*P	Pn	20 45 05.2	+1.6
MLYT	**Lee's Yard**	**0.86**	**205**	*e*P	Pn	20 45 05.7	+1.9
MLYT				*e*S	Sn	20 45 19.2	+2.6
SKI	**Saint Kitts**	**0.90**	**259**	*e*P	Pn	20 45 06.8	+2.4
SKI				*e*S	Sn	20 45 20.5	+2.9
DHSZ	**Broadband at M**	**1.23**	**178**	*e*P	Pg	20 45 10.7	+1.6
DHSZ				*e*S	Sn	20 45 29.1	+3.5
DSDZ	**La Diserade, G**	**1.38**	**149**	*e*P	Pg	20 45 11.9	-0.2
ATGZ	**Broadband at L**	**1.40**	**177**	*e*P	Pg	20 45 13.5	+1.0
ATGZ				*e*S	Sg	20 45 33.4	+2.8
MMLZ	**Guadeloupe Bro**	**1.46**	**175**	*e*P	Pg	20 45 14.1	+0.6
MMLZ				*e*S	Sg	20 45 34.1	+1.7
TBG	**Guadaloupe-3**	**1.65**	**174**	*e*P	Pg	20 45 17.2	+0.1
TBG				*e*S	Sg	20 45 40.3	+1.7
DSLB	**Salisbury**	**2.09**	**170**	*e*P	Pb	20 45 23.6	-0.1
DSLB				*e*S	Sb	20 45 50.5	+0.7
DLDT	**Laudat, Domini**	**2.21**	**168**	*e*P	Pb	20 45 25.5	-0.2
DLDT				*e*S	Sb	20 45 53.7	+0.5
MDN	**Morne-Daniel**	**2.21**	**169**	*e*S	Sb	20 45 52.5	-0.8
AOPR	**Arecibo Observ**	**4.78**	**281**	*e*P	Pn	20 46 01.4	+3.5

*KRSC **13** 20:55:45.3±1.3, 53°.71N×156°.54E, h434km±13km, Ml3.8*
*IDC **13** 20:55:45.4±1.4, 54°.05N×155°.23E, h387km±18km, mb2.7/6, mbtmp3.5/6, Error ellipse: s-maj=32.6km s-min=17.4km az=159.0*

ISC 13 20:55:43.8±0.9, 53°.68N±0°.10×156°.54E±0°.10, h450km, n33, σ1s50/35, mb3.1/6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.83**	**88**	*e*P	**P**	**20 56 39.5**	**-0.2**
GNL				*e*S	**S**	**20 57 23.1**	**-2.0**
APC	**Apacha**	**0.84**	**154**	*e*P	**P**	**20 56 40.0**	**+0.3**
PETK	**Petropavlovsk-**	**0.90**	**129**	P	**P**	**20 56 38.6**	**-1.2**
	3.3nm,0.6s,baz=338,slow=7.1,SNR=5.6						
KRMR	**Karymshinskiy**	**1.28**	**131**	*e*P	**P**	**20 56 41.4**	**+0.4**
KRX	**Arik**	**1.30**	**103**	*e*P	**P**	**20 56 42.0**	**+0.8**
KOK	**Koryaka**	**1.31**	**106**	*e*P	**P**	**20 56 42.3**	**+1.1**
KRER	**Koryakskii**	**1.37**	**105**	*e*P	**P**	**20 56 43.1**	**+1.5**
AVH	**Avacha**	**1.38**	**107**	*e*P	**P**	**20 56 42.8**	**+1.4**
SMAR	**Somma**	**1.41**	**106**	*e*P	**P**	**20 56 43.3**	**+1.6**
UGLR	**Uglovaya**	**1.44**	**108**	*e*P	**P**	**20 56 43.0**	**+1.2**
SDLR	**Sedlovina**	**1.46**	**105**	*e*P	**P**	**20 56 42.9**	**+1.1**
GRL	**Gorelyy**	**1.46**	**140**	*e*P	**P**	**20 56 43.1**	**+1.2**
ASAK	**Asacha**	**1.54**	**147**	*e*P	**P**	**20 56 43.2**	**+1.0**
MTVR	**Mutnovka**	**1.55**	**140**	*e*P	**P**	**20 56 43.3**	**+0.9**
RUS	**Russkaya**	**1.72**	**136**	*e*S	**S**	**20 57 29.9**	**-0.9**
NLC	**Nalytchevo**	**1.75**	**106**	*e*S	**S**	**20 57 30.2**	**-0.9**
SPN	**Mys Shipunski**	**2.17**	**104**	*e*P	**P**	**20 56 46.2**	**+1.0**
SPN				*e*S	**S**	**20 57 32.0**	**-3.1**
ESO	**Esso**	**2.58**	**28**	*e*P	**P**	**20 56 48.0**	**+0.3**
TUMD	**Tumrok D**	**2.72**	**54**	*e*P	**P**	**20 56 50.5**	**+1.8**
KMNR	**Kamenistaya**	**2.99**	**44**	*e*P	**P**	**20 56 52.1**	**+1.4**
KIRR	**Kirishev**	**3.17**	**42**	*e*P	**P**	**20 56 53.8**	**+1.7**
MKZ	**Mys Kozlova**	**3.18**	**72**	*e*P	**P**	**20 56 53.2**	**+1.1**
MKZ				*e*S	**S**	**20 57 45.1**	**-2.5**
BZMR	**Bezymyannaya**	**3.21**	**44**	*e*P	**P**	**20 56 54.0**	**+1.6**
SRDR	**Sredinnyy**	**3.21**	**33**	*e*P	**P**	**20 56 53.4**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.24**	**43**	*e*P	**P**	**20 56 54.2**	**+1.5**
SMKR	**Semkarok**	**4.06**	**42**	*e*P	**P**	**20 57 01.9**	**+2.5**
KBTR	**Krutoberegovo**	**4.42**	**52**	*e*P	**P**	**20 57 03.2**	**+0.7**
KBTR				*e*S	**S**	**20 58 05.5**	**-1.3**
MJAR	**Matsushiro Arr**	**21.36**	**224**	P	**P**	**21 00 00.6**	**+3.0**
	1.2nm,0.6s,baz=24,slow=12,SNR=6.0						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**29.92**	**46**	P	P	21 01 21.3	+8.2
	0.3nm,0.6s,baz=273,slow=10,SNR=4.2						
	0.3nm,0.6s						
SONM	**Songino Array**	**31.70**	**280**	P	**P**	**21 01 28.7**	**-0.1**
	0.3nm,0.6s,baz=53,slow=7.6,SNR=2.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.98**	**293**	P	**P**	**21 03 23.9**	**-0.9**
	0.2nm,0.5s,baz=53,slow=6.8,SNR=3.7						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**48.34**	**306**	P	**P**	**21 03 42.1**	**-0.5**
	0.4nm,0.3s,baz=62,slow=6.6,SNR=2.5						
	0.4nm,0.3s						
TXAR	**Lajitas Array**	**72.34**	**65**	P	P	21 06 33.5	+11
	0.3nm,0.4s,baz=304,slow=5.5,SNR=7.0						
	0.3nm,0.4s						

*NAO **13** 21:11:10.3,34°.95N×24°.51E,h10km,mb4.1*
*IDC **13** 21:11:16.8±0.6,35°.72N×23°.54E, h0km, mb4.2/22, mbtmp4.1/33, ML3.5/8, MS2.9/5, Error ellipse: s-maj=13.9km s-min=10.6km az=16.0*
*ISK **13** 21:11:18.0,35°.72N×23°.55E, h8km, ML4.1/14*
*ATH **13** 21:11:18.3,35°.69N×23°.48E, h13km±1km, ML3.9/15, Manual Solution by S.Liakopoulos First location: 2019/08/13 21:12:22, This location: 2019/08/13 21:24:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **13** 21:11:19.2,36°N±1°×2°3E±°, h3km±1km, M4.0/7, MLh4.0/7*
*MED_RC **13** 21:11:19.0±0.7,35°.65N×23°.55E, h10km±5km, MW4.5/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-0.98±.66; Mθθ-0.55±.52; Mϕϕ1.53±.38; Mrθ6.27±2.53; Mθϕ-0.65±.45; Mϕr-2.27±.98; Best double couple: Mo6.80000×1015 NP1:ϕs188.00000°,δ11.00000°, λ-14.00000°. NP2:ϕs292.00000°,δ87.00000°, λ-100.00000°. Principal axes: T 6.3900, Plg42.0000°, Azm32.0000°; N 0.8200, Plg10.0000°, Azm293.0000°; P -7.2000, Plg47.0000°, Azm192.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*HLW **13** 21:11:19.2,35°.71N×23°.43E, h22km±4km, Md3.7, Ml3.5*
*PDG **13** 21:11:19.0±0.9,35°.77N×23°.60E, h10km±2km, ML4.5/11, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0*
*NEIC **13** 21:11:21.5±2.2,35°.66N±0°.07×23°.45E±0°.06, h31km±4km, mb4.5/49, Error ellipse: s-maj=10.7km s-min=5.6km az=209.0*
*AFAD **13** 21:11:23.0,36°.28N×23°.80E, h14km, MW4.0*
*GII **13** 21:11:26.0±0.0,35°.445N±0°.002×24°.272E±0°.001, h1km, Mws4.2, confirmed*

ISC 13 21:11:19.0±0.8, 35°.67N±0°.02×23°.48E±0°.02, h17km±5km, n357, σ1s99/409, mb4.5/43, MS2.7/3, 18C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.24**	**323**	P	**Pg**	**21 11 23.8**	**-0.8**
ANKY				S	**Sg**	**21 11 26.9**	**-1.4**
ANKY	**Antikythira Is**	**0.24**	**323**	P	**Pg**	**21 11 23.7**	**-0.8**
ANKY				S	**Sg**	**21 11 26.7**	**-1.7**
KNDR	**Palaiochora Ch**	**0.47**	**159**	Pg	**Pg**	**21 11 27.5**	**-1.0**
KNDR				Sg	**Sg**	**21 11 35.2**	**+0.3**
KNDR	**Palaiochora Ch**	**0.47**	**159**	P	**Pg**	**21 11 27.7**	**-0.8**
KNDR				S	**Sg**	**21 11 34.6**	**-0.3**
KNDR	**Palaiochora Ch**	**0.47**	**159**	P	**Pg**	**21 11 27.5**	**-1.0**
KNDR				S	**Sg**	**21 11 34.3**	**-0.6**
CHAN	**Chania**	**0.48**	**108**	P	**Pg**	**21 11 28.5**	**-0.3**
CHAN				S	**Sg**	**21 11 35.0**	**-0.3**
CHAN	**Chania**	**0.48**	**108**	P	**Pg**	**21 11 28.4**	**-0.3**
CHAN				S	**Sg**	**21 11 34.6**	**-0.7**
KTHA	**Kythira Island**	**0.67**	**330**	Pg	**Pg**	**21 11 31.4**	**-0.9**
KTHA				Sg	**Sg**	**21 11 40.9**	**-0.4**
KTHA	**Kythira Island**	**0.67**	**330**	P	**Pg**	**21 11 31.6**	**-0.7**
PRNS	**Prines Rethymn**	**0.89**	**110**	P	**Pb**	**21 11 35.0**	**-1.0**
PRNS				S	**Sb**	**21 11 46.8**	**-0.7**
PRNS	**Prines Rethymn**	**0.89**	**110**	P	**Pb**	**21 11 34.6**	**-1.4**
PRNS				S	**Sb**	**21 11 45.6**	**-1.9**
GVD	**Gavdhos**	**0.97**	**149**	Pg	**Pb**	**21 11 37.5**	**+0.2**
GVD				Sg	**Sn**	**21 11 51.8**	**+0.7**
GVD	**Gavdhos**	**0.97**	**149**	P	**Pn**	**21 11 37.7**	**-0.1**
GVD				S	**Sn**	**21 11 52.4**	**+1.2**
GVD	**Gavdhos**	**0.97**	**149**	P	**Pb**	**21 11 37.3**	**0.0**
GVD				S	**Sb**	**21 11 49.8**	**0.0**
VLI	**Veliai**	**1.13**	**337**	P	**Pn**	**21 11 39.9**	**-0.1**
VLI				S	**Sg**	**21 11 56.1**	**+0.3**
VLI	**Veliai**	**1.13**	**337**	P	**Pn**	**21 11 39.5**	**-0.5**
VLI				S	**Sb**	**21 11 53.9**	**-0.6**
TMBK	**Timbaki Herakl**	**1.21**	**119**	P	**Pb**	**21 11 41.6**	**+0.2**
TMBK				S	**Sg**	**21 11 59.8**	**+1.5**
TMBK	**Timbaki Herakl**	**1.21**	**119**	P	**Pn**	**21 11 41.1**	**0.0**
TMBK				S	**Sg**	**21 11 57.9**	**-0.4**
IDI	**Anoyia**	**1.21**	**108**	Pn	**Pn**	**21 11 41.3**	**0.0**
IDI				Sn	**Sn**	**21 11 57.4**	**+0.1**
IDI	**Anoyia**	**1.21**	**108**	Pn	**Pn**	**21 11 41.2**	**0.0**
IDI				Sn	**Sb**	**21 11 57.1**	**+0.1**
IDI	**Anoyia**	**1.21**	**108**	Pn	**Pn**	**21 11 41.2**	**0.0**
	210nm,0.3s,baz=318,slow=14,SNR=921						
IDI				Sn	**Sb**	**21 11 56.5**	**-0.4**
	546nm,0.3s,baz=70,slow=16,SNR=15						
IDI	**Anoyia**	**1.21**	**108**	P	**Pn**	**21 11 41.0**	**-0.2**
IDI				S	**Sb**	**21 11 56.5**	**-0.4**
MHLO	**Agia Marina, M**	**1.26**	**36**	P	**Pb**	**21 11 42.5**	**+0.2**
MHLO				S	**Sg**	**21 12 01.4**	**+1.6**
MHLO	**Agia Marina, M**	**1.26**	**36**	P	**Pn**	**21 11 41.0**	**-0.8**
MHLO				S	**Sn**	**21 11 58.5**	**+0.2**
IACM	**Heraklion**	**1.35**	**105**	P	**Pb**	**21 11 44.0**	**+0.2**
IACM				S	**Sg**	**21 12 03.1**	**+0.5**
IACM	**Heraklion**	**1.35**	**105**	P	**Pb**	**21 11 43.9**	**+0.2**
IACM				S	**Sb**	**21 12 01.0**	**+0.2**
THERA	**Ancient Thera,**	**1.76**	**66**	P	**Pn**	**21 11 48.5**	**-0.2**
THERA				S	**Sn**	**21 12 11.3**	**+0.7**
NPS	**Neapolis**	**1.79**	**103**	P	**Pn**	**21 11 49.8**	**+0.7**
NPS				S	**Sb**	**21 12 13.4**	**-0.1**
NPS	**Neapolis**	**1.79**	**103**	P	**Pn**	**21 11 49.5**	**+0.4**
NPS				S	**Sn**	**21 12 11.5**	**+0.1**
MET6	**Megalochori,Me**	**1.92**	**357**	P	**Pn**	**21 11 50.9**	**+0.1**
MET6				S	**Sn**	**21 12 14.9**	**+0.4**
MET5	**Makryloggos,Me**	**1.95**	**357**	P	**Pn**	**21 11 51.5**	**+0.3**
ITM	**Ithomi**	**1.96**	**321**	Pn	**Pb**	**21 11 53.9**	**-0.3**
ITM	**Ithomi**	**1.96**	**321**	Pn	**Pb**	**21 11 54.4**	**+0.2**
ITM				Sn	**Sn**	**21 12 13.6**	**-2.0**
ATHU	**Athens Univers**	**2.30**	**6**	P	**Pn**	**21 11 55.5**	**-0.7**
ATH	**Athens Observa**	**2.30**	**5**	P	**Pn**	**21 11 55.8**	**-0.4**
ZKR	**Zakros**	**2.31**	**103**	Pn	**Pn**	**21 11 56.8**	**+0.6**
ZKR	**Zakros**	**2.31**	**103**	P	**Pn**	**21 11 57.4**	**+1.2**
LOUT	**Loutraki**	**2.34**	**350**	P	**Pn**	**21 11 57.3**	**+0.6**
PTL	**Penteli**	**2.39**	**7**	P	**Pn**	**21 11 56.8**	**-0.6**
MAGU	**Magoula**	**2.40**	**1**	P	**Pn**	**21 11 57.3**	**-0.2**
DION	**Dionisos Attik**	**2.43**	**8**	P	**Pn**	**21 11 57.3**	**-0.6**
FILI	**Fyli**	**2.44**	**4**	P	**Pn**	**21 11 57.5**	**-0.6**
KARY	**Karystos**	**2.48**	**18**	P	**Pn**	**21 11 58.0**	**-0.6**
STFN	**Stefani**	**2.50**	**1**	P	**Pn**	**21 11 58.9**	**0.0**
VIL2	**Platees**	**2.54**	**356**	P	**Pn**	**21 11 58.6**	**-0.8**
KLV	**Kalavryta, Ach**	**2.59**	**336**	P	**Pn**	**21 12 01.4**	**+1.1**
KALE	**Kalithea**	**2.92**	**339**	P	**Pn**	**21 12 05.7**	**+1.1**
KYMI	**Kymi, Euboea I**	**3.00**	**9**	P	**Pn**	**21 12 05.8**	**+0.1**
LKR	**Lokris**	**3.00**	**353**	P	**Pn**	**21 12 05.7**	**0.0**
KARP	**Karpathos**	**3.00**	**91**	Pn	**Pn**	**21 12 06.5**	**+0.7**
KARP	**Karpathos**	**3.00**	**91**	Pn	**Pn**	**21 12 06.0**	**+0.1**
KARP	**Karpathos**	**3.00**	**91**	P	**Pn**	**21 12 05.9**	**+0.1**
YAZI	**Mula-Dat§a-**	**3.37**	**71**	P	**Pn**	**21 12 10.3**	**-0.5**
CHOS	**Chios island**	**3.40**	**37**	Pn	**Pn**	**21 12 11.9**	**+0.6**
AGG	**Agios Georgios**	**3.47**	**345**	P	**Pn**	**21 12 13.5**	**+1.3**
DAT	**Datca**	**3.48**	**71**	Pn	**Pn**	**21 12 13.0**	**+0.6**
BDRM	**Kayabasi**	**3.49**	**65**	P	**Pn**	**21 12 11.7**	**-0.8**

DDIM Aydin, Didim 3.51 58 P Pn 21 12 10.8 -2.0
ZEYE Izmir, Urla-Ze 3.52 43 P Pn 21 12 12.1 -0.8
DGB zmir 3.62 48 P Pn 21 12 14.9 +0.7
GCAM G?zelcaml? 3.63 55 P Pn 21 12 16.3 +1.9
URLA Izmir 3.66 42 P Pn 21 12 13.1 -1.8
ARG Arkhangelos 3.81 80 Pn Pn 21 12 17.8 +1.0
ARG Arkhangelos 3.81 80 Pn Pn 21 12 18.0 +1.1
BLCB Balcova 3.93 45 Pn Pn 21 12 19.3 +0.8
SIGR SIGRI 4.00 27 Pn Pn 21 12 20.5 +1.0
TURN Turunc 4.01 73 P Pn 21 12 20.8 +1.3
AYDN Tasoluk 4.05 59 P Pn 21 12 20.4 +0.1
AYDB Zeytinkoy-Aydi 4.20 56 Pn Pn 21 12 23.9 +1.5
MULA Mugla, Merkez- 4.21 67 P Pn 21 12 24.5 +2.0
SLUM Salum 4.42 160 P Pn 21 12 25.6 +0.4
SLUM S Sn 21 13 15.3 -0.9
ESEN Aydn-Nazilli 4.45 60 P Pn 21 12 27.7 +2.0
NAZL Nazilli-Aydin 4.49 58 Pn Pn 21 12 27.4 +1.2
ODEM Odemis-Izmir 4.50 53 Pn Pn 21 12 27.7 +1.2
SABU Mula-Dalaman 4.58 74 P Pn 21 12 30.9 +3.4
EZN Ezine 4.72 28 ⇑P Pn 21 12 31.1 +1.8
TAVA DENIZLI_Tavas 4.72 66 P Pn 21 12 30.9 +1.3
DNIZ Denizli-Tavas- 4.88 65 P Pn 21 12 35.9 +4.3
CAEL Denizli, Camel 4.93 71 P Pn 21 12 36.8 +4.4
MANT Manisa 4.94 54 Pn Pn 21 12 35.7 +3.1
KEK Kerkira 4.98 325 Pn Pn 21 12 37.0 +4.1
BALY Balya 5.22 38 P Pn 21 12 34.1 -2.2
INCE Denizli-Bozkur 5.30 66 P Pn 21 12 40.5 +3.0
FNA Florina 5.36 343 Pn Pn 21 12 40.4 +2.2
FNA Florina 5.36 343 P Pn 21 12 40.9 +2.6
FNA S Sn 21 13 26.6 -13
FNA *i* IAML 21 14 02.0
comp=E,19nm,0.5s
PASA Karahalli, USA 5.50 59 P Pn 21 12 42.3 +2.1
DURS Dursunbey 5.57 44 P Pn 21 12 39.5 -1.7
ALN Alexandroupoli 5.59 20 Pn Pn 21 12 40.8 -0.6
ALN Alexandroupoli 5.59 20 P Pn 21 12 41.8 +0.5
VAY Valandovo 5.68 353 *i* Pn Pn 21 12 45.5 +2.9
OHR Ohrid 5.82 340 *i* Pn Pn 21 12 47.4 +2.8
MMB Musomishta 5.87 2 *i* P Pn 21 12 47.4 +2.2
EMET Ktahya-Emet 5.93 50 P Pn 21 12 42.3 -3.9
ISP Isparta 6.05 67 Pn Pn 21 12 50.4 +2.7
RZN Rozhen 6.09 9 *eP* Pn 21 12 49.7 +1.3
KKB Krupnik 6.17 358 *i* P Pn 21 12 50.5 +1.3
TIP Timpagrande 6.39 305 Pn Pn 21 12 52.7 +0.3
TIP Timpagrande 6.39 305 ⇓P Pn 21 12 53.3 +0.9
DIM Dimitrovgrad 6.57 14 *eP* Pn 21 12 58.3 +3.5
CEL Celeste 6.60 295 Pn Pn 21 12 55.2 0.0
SWA2 6.63 165 P Pn 21 11 08.8 -1.9
SWA2 S Sn 21 11 09.8 -1.9
PLNA Plana 6.79 360 *eP* Pn 21 13 02.0 +4.0
VTS Vitosha 6.94 359 *eP* Pn 21 13 02.2 +2.2
ULC Ulcinj 7.10 334 ⇑*i*Pn Pn 21 13 03.0 +1.0
ULC *i* Sn Sn 21 14 22.4 +0.1
WDD Wied Dalam 7.28 274 Pn Pn 21 13 03.7 -0.9
DRME Dracevica, Mon 7.31 334 ⇑*i*Pn Pn 21 13 04.8 -0.2
DRME *i* Sn Sn 21 14 28.4 +0.9
CUC Castrocucco 7.44 308 Pn Pn 21 13 08.5 +1.7
ELND Elena 7.48 14 ⇑P Pn 21 13 08.9 +1.7
PDG Podgorica 7.50 335 Pn Pn 21 13 08.1 +0.5
PDG Podgorica 7.50 335 ⇑P Pn 21 13 07.8 +0.2
PDG Podgorica 7.50 335 ⇑*i*Pn Pn 21 13 08.8 +1.2
PDG *i* Sn Sn 21 14 32.4 +0.2
RAFF Raffo Rosso 7.51 285 Pn Pn 21 13 08.2 +0.5
VAE Valguarnera 7.51 287 Pn Pn 21 13 09.4 +1.6
13nm,0.6s,baz=12,slow=16,SNR=9.5
VAE Sn Sn 21 14 33.8 +1.1
1.5nm,0.3s,baz=331,slow=18,SNR=5.9
BUM Brajici-Budva 7.52 333 ⇑*i*Pn Pn 21 13 07.8 -0.1
BUM *i* Sn Sn 21 14 33.0 +0.3
MPEP Malo Peshtene 7.67 1 *eP* Pn 21 13 14.6 +4.7
IVA Berane 7.71 340 ⇑*i*Pn Pn 21 13 11.7 +1.2
IVA *i* Sn Sn 21 14 37.4 +0.1
CEME Cevo 7.72 334 ⇑*i*Pn Pn 21 13 10.6 -0.1
CEME *i* Sn Sn 21 14 38.2 +0.5
PLVB Pleven 7.75 6 ⇑P Pn 21 13 12.0 +1.0
HCY Herceg Novi 7.79 332 ⇓*i*Pn Pn 21 13 12.5 +0.9
HCY *i* Sn Sn 21 14 39.9 +0.5
KOME Kolasin 7.80 338 ⇑*i*Pn Pn 21 13 12.5 +0.8
KOME *i* Sn Sn 21 14 39.2 -0.4
ACER Acerenza 7.82 313 Pn Pn 21 13 12.7 +0.6
NKME Niksic 7.91 335 ⇑*i*Pn Pn 21 13 16.6 +3.5
NKME *i* Sn Sn 21 14 42.2 0.0
BOVS Bovan 8.07 351 ⇑P Pn 21 13 16.3 +1.0
TREB Trebinje 8.08 332 *eP*n Pn 21 13 14.9 -0.6
CSS Mathiatis 8.08 92 Pn Pn 21 13 15.3 -0.3
CSS Mathiatis 8.08 92 P Pn 21 13 15.8 +0.2
CSS Mathiatis 8.08 92 S Sn 21 14 41.6 -4.9
BRY Bratogost 8.17 334 ⇓*i*Pn Pn 21 13 18.0 +1.1
BRY *i* Sn Sn 21 14 48.4 -0.4
UPM Unac-Piva 8.31 336 ⇑*i*Pn Pn 21 13 20.3 +1.5
UPM *i* Sn Sn 21 14 52.4 +0.1
KLINJ Klinje 8.39 335 *eP*n Pn 21 13 21.3 +1.5
STON Ston 8.47 330 *eP*n Pn 21 13 19.6 -1.2
ANTO Ankara 8.48 58 Pn 21 13 25.3 +4.2
RUDO Rudo 8.54 339 *eP*n Pn 21 13 21.2 -0.6
SGRT San Giovanni R 8.57 317 Pn Pn 21 13 21.8 -0.5
PAOL Paolisi 8.81 310 Pn Pn 21 13 26.4 +0.9
BR31 Keskin Array S 9.01 60 Pn Pn 21 13 31.4 +3.0
BRTR Keskin Array B 9.01 60 Pn Pn 21 13 31.6 +3.2
BRTR Keskin Array B 9.01 60 Pn Pn 21 13 31.0 +2.6
0.8nm,0.3s,baz=237,slow=14,SNR=22
8.5nm,0.8s
HFRF Wahat Farafira 9.45 153 P Pn 21 13 34.5 +0.2
NBNS Bani Suef 9.66 135 P Pn 21 13 38.6 +1.4
INTR Introdacqua 9.79 313 Pn Pn 21 13 41.1 +2.2
VOIR 9.83 6 ⇑P Pn 21 13 40.8 +1.3
KIJV Kijevo 9.94 329 *eP*n Pn 21 13 40.4 -0.6
MLR Muntele Rosu 9.98 10 Pn Pn 21 13 43.7 +2.0
MLR Muntele Rosu 9.98 10 Pn Pn 21 13 43.5 +1.8
0.1nm,0.3s,baz=283,slow=16,SNR=3.2
2.4nm,0.8s
MLR Muntele Rosu 9.98 10 ⇑P Pn 21 13 43.0 +1.3
OFRI `Ofer 10.01 104 P Pn 21 13 42.1 0.0
OFRI `Ofer 10.01 104 S Sn 21 15 27.9 -6.0
ZNM Zenema 10.11 126 P Pn 21 13 45.3 +1.9
BLGI Bet Lehem HaGe 10.13 103 P Pn 21 13 43.9 +0.2
BLGI Bet Lehem HaGe 10.13 103 S Sn 21 15 31.2 -5.7
TAMRE El Minia 10.18 139 P Pn 21 13 46.1 +1.8
SLTI Sal'it 10.19 106 P Pn 21 13 44.6 0.0
SLTI Sal'it 10.19 106 S Sn 21 15 32.9 -5.5
MMA0B Mount Meron ar 10.21 102 P Pn 21 13 45.8 +1.0
MMA0B Mount Meron ar 10.21 102 S Sn 21 15 33.2 -5.7
MMAI Mount Meron Ar 10.21 102 Pn Pn 21 13 42.9 -1.9
2.7nm,0.3s,baz=292,slow=11,SNR=16
MMAI Sn Sn 21 15 32.6 -6.2
4.6nm,0.3s,baz=294,slow=21,SNR=6.8
1.4nm,0.3s
BLY Banja Luka 10.26 334 *eP*n Pn 21 13 45.1 -0.3
BLY Banja Luka 10.26 334 ⇓P Pn 21 13 45.5 +0.2
A050A Klekovaca 10.28 331 *eP*n Pn 21 13 47.0 +1.3
KZIT Kziot 10.30 114 P Pn 21 13 45.8 -0.2
KZIT Kziot 10.30 114 S Sn 21 15 34.4 -6.5
GEM Giv'at Ha'Em 10.36 100 P Pn 21 13 46.8 +0.1
GEM Giv'at Ha'Em 10.36 100 S Sn 21 15 36.9 -5.5
AMAZ Amatzia 10.39 110 P Pn 21 13 47.4 +0.1
AMAZ Amatzia 10.39 110 S Sn 21 15 36.9 -6.3
NATI Neve Ativ 10.40 100 P Pn 21 13 47.6 +0.3
NATI Neve Ativ 10.40 100 S Sn 21 15 37.9 -5.5
MMLI Mount Malkishu 10.42 105 P Pn 21 13 47.6 0.0
MMLI Mount Malkishu 10.42 105 S Sn 21 15 37.7 -6.3
PLOR Plostina 10.45 12 ⇑P Pn 21 13 49.7 +1.7
VRI Vrincioaia 10.47 13 ⇑P Pn 21 13 50.1 +1.8
HMDT Nahal Hemdat 10.57 105 P Pn 21 13 49.6 0.0
HMDT Nahal Hemdat 10.57 105 S Sn 21 15 41.9 -5.6
A051A Mrakovica 10.59 334 *eP*n Pn 21 13 48.5 -1.4
YTIR Yattir 10.62 111 P Pn 21 13 50.5 0.0
YTIR Yattir 10.62 111 S Sn 21 15 43.2 -5.8
UJAP Al Uja 10.64 107 P Pn 21 13 50.4 -0.2
UJAP Al Uja 10.64 107 S Sn 21 15 43.7 -5.5
DSI Dead Sea 10.73 109 P Pn 21 13 51.9 +0.1
DSI Dead Sea 10.73 109 S Sn 21 15 45.9 -5.6
ASUT 10.75 138 P Pn 21 13 54.1 +2.0
NRCA Norcia 10.75 315 Pn Pn 21 13 54.1 +1.9
GRB Gharib 10.81 130 P Pn 21 13 55.4 +2.4
MSBI Mazada 10.83 110 P Pn 21 13 53.1 -0.1
MSBI Mazada 10.83 110 S Sn 21 15 48.4 -5.4
FDMO Fiordimonte 10.89 316 Pn Pn 21 13 55.4 +1.4
KRMI Paran Flat 10.95 117 P Pn 21 13 55.0 0.0
KRMI Paran Flat 10.95 117 S Sn 21 15 50.9 -6.1
GHAJ Ghor Haditha 10.99 110 Pn Pn 21 13 55.6 +0.2
GHAJ Ghor Haditha 10.99 110 P Pn 21 13 55.6 +0.2
GHAJ Ghor Haditha 10.99 110 S Sn 21 15 52.2 -5.7
PRNI Paran 11.03 116 P Pn 21 13 55.8 -0.2
PRNI Paran 11.03 116 S Sn 21 15 53.0 -6.0
ZFRI Zfri 11.05 114 P Pn 21 13 56.2 -0.1
ZFRI Zfri 11.05 114 S Sn 21 15 54.0 -5.5
MORH Mrgy, Hungar 11.14 342 *eP*n Pn 21 13 55.8 -1.6
MORH Mrgy, Hungar 11.14 342 ⇓P Pn 21 13 57.4 0.0
MOSL Moslavina 11.16 335 *eP*n Pn 21 13 56.3 -1.4
GAZ Gaziantep 11.17 78 Pn Pn 21 13 58.6 +0.7
HRFI Mount Harif 11.22 117 P Pn 21 13 58.7 +0.1
HRFI Mount Harif 11.22 117 S Sn 21 15 58.5 -5.3
MBRI Mt Berech 11.27 118 P Pn 21 13 59.3 0.0
MBRI Mt Berech 11.27 118 S Sn 21 15 60.0 -4.9
HDK1 Dakhla 11.31 152 P Pn 21 14 02.2 +2.3
TR2 Tor 2 11.32 127 P Pn 21 13 58.9 -1.1
EIL Elat 11.37 119 Pn Pn 21 13 56.4 -4.2
1.4nm,0.3s,baz=269,slow=5.8,SNR=11
EIL Sn Sn 21 15 59.6 -7.5
1.8nm,0.3s,baz=4.8,slow=6.8,SNR=4.3
EIL Elat 11.37 119 P Pn 21 14 00.8 +0.3
EIL Elat 11.37 119 S Sn 21 16 01.2 -5.9
HBST Basata 11.48 121 P Pn 21 14 04.3 +2.3
KEST Kesra 11.49 274 Sn Sn 21 16 04.5 -5.9
0.1nm,0.3s,baz=256,slow=23,SNR=1.2
NUB Nuweibaa 11.53 122 P Pn 21 14 05.7 +2.9
OZLJ Ozalj 11.64 331 *eP*n Pn 21 14 03.1 -1.1
ASF Jabal al Asfar 11.68 104 Pn Pn 21 14 04.3 -0.7
0.8nm,0.3s,baz=317,slow=5.4,SNR=6.2
ASF Sn Sn 21 16 09.0 -5.9
0.2nm,0.3s,baz=106,slow=20,SNR=1.6
1.5nm,0.3s
HDHB Dhahab 11.70 123 P Pn 21 14 07.7 +2.6
AKRG Al Kharijah 11.80 147 P Pn 21 14 07.2 +0.8
GTR Jabal at Tayr 11.82 147 P Pn 21 14 08.2 +1.5
BURAR Bucovina Array 12.00 6 Pn Pn 21 14 12.0 +2.7
HHRG Al Ghardaqah 12.04 132 P Pn 21 14 14.7 +4.8
SOKA Soboth 12.69 333 *eP*n Pn 21 14 18.4 -0.3
1.6nm,0.4s,SNR=5.5
SABO M.te Sabotino 12.71 327 Pn Pn 21 14 18.2 -0.8
OBKA Obir 12.74 331 *eP*n Pn 21 14 18.3 -1.0
0.9nm,0.3s
ARSA Arzberg 13.01 335 *eP*n Pn 21 14 23.1 +0.2
1.1nm,0.4s
STAL STALIGIAL 13.33 326 Pn Pn 21 14 27.0 -0.3
ABTA Abfaltersbach 13.79 327 *eP*n Pn 21 14 34.7 +1.1
0.9nm,0.3s
MOA Molln 13.96 333 *eP*n Pn 21 14 35.9 0.0
0.5nm,0.3s
BIOA Bad Ischl, Aus 14.06 332 *eP*n Pn 21 14 37.6 +0.3
0.6nm,0.4s
KOPT Kop Dagi 14.13 67 Pn Pn 21 14 39.8 +1.2
LESA Schwarzleotal 14.24 329 *eP*n Pn 21 14 40.4 +0.6
1.6nm,0.5s
KRUC Moravsky 14.36 341 *eP* P 21 14 49.5 +1.2
VRAC Vranov 14.53 342 Pn Pn 21 14 45.2 +1.4
0.9nm,0.4s,baz=185,slow=12,SNR=11
VRAC Vranov 14.53 342 *eP* P 21 14 51.8 +1.5
WTTA Wattenberg 14.57 326 *eP*n Pn 21 14 45.9 +1.4
2.2nm,0.4s
MORC Moravsky Berou 14.75 345 Pn Pn 21 14 48.9 +2.2
MORC Moravsky Berou 14.75 345 *eP* P 21 14 54.4 +1.7
FUORN Ofenpass-Fuorn 14.77 322 Pn Pn 21 14 47.9 +0.7
CKRC Cesky Krumlov 14.77 336 *eP* P 21 14 55.1 +2.2
FETA Feichten 14.82 324 *eP*n Pn 21 14 49.6 +1.8
0.1nm,0.2s
TREC Trest 14.82 339 *eP* P 21 14 55.2 +1.7
MOTA Moosalm 14.87 325 *eP*n Pn 21 14 48.8 +0.3
0.9nm,0.4s
GEC2 GERESS Array S 15.00 334 Pn Pn 21 14 51.0 +0.8
GERES GERESS Array B 15.00 334 Pn Pn 21 14 50.6 +0.3
GERES GERESS Array B 15.00 334 Pn Pn 21 14 51.5 +1.2
baz=154,slow=12,SNR=9.8
0.8nm,0.6s
DAVOX Davos/Dischmat 15.07 322 Pn Pn 21 14 52.0 +0.8
0.1nm,0.3s,baz=136,slow=21,SNR=1.6
DAVOX Sn Sn 21 17 32.6 -5.1
0.2nm,0.3s,baz=352,slow=14,SNR=3.6
1.0nm,0.6s
KRLC Kraliky 15.20 343 *eP* P 21 14 59.7 +2.0
KHC Kasperske Hory 15.29 335 *eP* P 21 15 01.1 +2.4
ZVC Zvikov 15.35 337 *eP* P 21 15 01.0 +1.7
DAVA Damuels 15.41 323 *eP*n Pn 21 14 58.2 -2.0
0.4nm,0.2s
DPC Dobruska-Polom 15.56 343 *eP* P 21 15 03.4 +1.7
KIEV Kiev 15.58 14 Pn 21 14 58.0 +0.4
GOPC GO Pecny, Ondr 15.58 339 *eP* P 21 15 03.2 +1.3
AKASG Malin Array Be 15.59 14 Pn Pn 21 14 57.2 -0.6
2.6nm,0.8s,baz=206,slow=11,SNR=10
AKASG LR LR 21 21 00.5
comp=Z,46nm,19.3s,baz=226,slow=38
AKBB Malin Array Si 15.59 14 Pn 21 14 58.0 +0.3
PRU Pruhonice 15.72 338 *eP* P 21 15 04.9 +1.5
OSTC Ostas 15.78 343 *eP* P 21 15 06.8 +2.7
UPC Upice 15.78 342 *eP* P 21 15 06.4 +2.3
CHVC Chvalec 15.85 342 *eP* P 21 15 07.3 +2.4
GEVA Gevas 15.87 75 P 21 15 03.8 -1.5
SENIN Lac Senin/Sane 16.19 316 Pn Pn 21 15 05.8 0.0
GRFO Grafenberg 16.62 331 P 21 15 12.7 -0.8
GRFO IAmb IAmb 21 15 18.2
comp=Z,17nm,1.1s
BRG Berggiesshubel 16.68 339 *eP* P 21 15 16.1 +2.1
BRG Amp 21 15 17.0
comp=Z,6.7nm,1.1s
KVAR Kislovodsk Arr 16.89 55 Pn Pn 21 15 15.3 +0.7
baz=263,slow=16
comp=Z,2.1nm,0.6s
KBZ Khabaz 16.95 56 Pn P 21 15 17.9 +0.9
comp=Z,0.3nm,0.3s,baz=271,slow=6.0,SNR=13
comp=Z,8.3nm,0.9s
CLL Collm 17.35 337 Pn 21 15 20.6 +0.5
CLL Collm 17.35 337 *i* P P 21 15 22.8 +1.4
GNI Garni 17.35 69 Pn Pn 21 15 21.0 +0.5
GNI Garni 17.35 69 P P 21 15 22.6 +0.9
comp=Z,3.7nm,0.6s,baz=143,slow=14,SNR=3.0
GNI LR LR 21 22 53.4
comp=Z,60nm,20.9s,baz=264,slow=40
MNK Minsk 19.08 8 *i* P P 21 15 38.6 -1.8
comp=E,11nm,1.0s
MNK *i* P P 21 15 38.6 -1.8
comp=N,9.0nm,1.0s
MNK *i* P P 21 15 38.6 -1.8
comp=Z,14nm,0.9s,baz=191
MNK *i* PP PnPn 21 15 52.3 -1.6
MNK *i* PPP PPP 21 15 58.9
MNK *i* S Sn 21 19 12.4 -1.9
MNK *i* SS SnSn 21 19 28.6 +0.1
MNK *i* LR LR 21 22 01.1
MNK *i* LRM MLR 21 23 51.3
comp=N,38nm,19.8s
MNK *i* LRM MLR 21 24 07.9
comp=Z,25nm,13.3s
MNK *i* LRM MLR 21 24 17.3
comp=E,26nm,15.7s
NACGM Naroch 19.37 6 *eP* P 21 15 44.0 +0.4
PABE Paberze 19.84 1 P P 21 15 48.4 -0.3
PABE IAmb IAmb 21 15 54.8
comp=Z,24nm,0.8s
BSD Bornholm Skovb 20.32 346 *i* P P 21 15 53.3 -0.7
BSD IAmb IAmb 21 16 32.3
comp=Z,37nm,1.2s
LUNU Lund 21.11 344 *i* P P 21 16 02.5 -0.1
BLEU Blekinge 21.28 348 *i* P P 21 16 02.9 -1.5
COP Copenhagen 21.40 343 *i* P P 21 16 08.5 +2.9
OBN Obninsk 21.44 21 P P 21 16 07.1 +1.1
DEL Delary 21.80 346 *i* P P 21 16 09.3 -0.7
ESDC Sonseca Array 22.05 289 P P 21 16 15.1 +2.2
comp=Z,1.1nm,0.8s,baz=83,slow=9.7,SNR=12
ESDC LR LR 21 25 31.8
comp=Z,18nm,18.5s,baz=136,slow=39
comp=Z,1.1nm,0.8s
RAYN Ar Rayn 22.60 116 P P 21 16 21.0 +2.1
MDT Midelt 23.36 271 LR LR 21 26 55.0
comp=Z,29nm,20.9s,baz=76,slow=40
TJOU Tjoern 23.72 344 *i* P P 21 16 30.9 +1.1
BELG Belogornoye 23.92 38 P P 21 16 31.4 -0.4
comp=Z,9.5nm,0.6s,baz=276,slow=2.7,SNR=8.1
comp=Z,9.5nm,0.6s
PBRG Braganca 24.28 294 *eP* P 21 16 36.6 +1.2
MVO Moncorvo 24.45 292 *eP* P 21 16 36.9 -0.1
STRU Stroemstad 24.73 345 *i* P P 21 16 38.0 -1.2
PESTR Estremoz 24.87 287 *eP* P 21 16 41.4 +0.7
PVRL Vila Real 24.97 292 *eP* P 21 16 43.5 +1.9
POLO Lamas de Olo 25.04 293 *eP* P 21 16 43.0 +0.7
PBEJ Beja 25.14 285 *eP* P 21 16 44.0 +0.9
HFS Hagfors 25.28 349 P P 21 16 43.6 -0.5
comp=Z,7.4nm,0.5s,baz=154,slow=11,SNR=63
comp=Z,7.4nm,0.5s
FINES FINESS Array B 25.84 3 P P 21 16 48.4 -0.9
comp=Z,1.2nm,0.5s,baz=158,slow=10,SNR=11
comp=Z,1.2nm,0.5s
FIA1 FINESS Array S 25.84 3 P P 21 16 48.5 -0.7
NAO01 NORSAR Array S 26.45 346 P P 21 16 54.9 +0.2
NAO01 IAmb IAmb 21 17 29.9
comp=Z,15nm,1.2s
NB2 NORSAR Subarra 26.57 347 P P 21 16 55.7 -0.2
comp=Z,1.6nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 26.57 347 P P 21 16 55.0 -0.8
comp=Z,2.1nm,0.6s,baz=149,slow=9.9,SNR=12
comp=Z,2.1nm,0.6s
EKA Eskdalemuir Ar 26.83 325 P P 21 16 58.0 -0.3
comp=Z,8.4nm,0.5s,baz=124,slow=8.7,SNR=41
comp=Z,8.4nm,0.5s
ESK Eskdalemuir 26.85 325 P P 21 17 00.5 +2.1
ESK IAmb IAmb 21 17 01.6
comp=Z,10nm,0.7s
TORD Torodi Ar. Bea 29.81 227 P P 21 17 26.4 +1.3
comp=Z,7.5nm,0.6s,baz=37,slow=9.3,SNR=66
comp=Z,7.5nm,0.6s
AB31 Akbulak array 29.82 52 P P 21 17 24.2 -0.7
ABKAR Akbulak array 29.82 52 P P 21 17 24.5 -0.4
ARTI Arti 31.36 38 P P 21 17 38.3 -0.2
ARCES ARCESS Array B 33.94 1 P P 21 18 00.2 -0.6
ARCES IAmb IAmb 21 18 33.2
comp=Z,19nm,1.5s
ARCES ARCESS Array B 33.94 1 P P 21 18 00.1 -0.7
comp=Z,1.8nm,0.5s,baz=176,slow=8.7,SNR=12
comp=Z,1.8nm,0.5s
KK31 Karatay Array 36.70 64 P P 21 18 25.6 +0.6
KK31 IAmb IAmb 21 18 30.7
comp=Z,3.6nm,0.6s
KKAR Karatay Array 36.70 64 P P 21 18 24.6 -0.4
BRVK Borovoye 36.94 47 P P 21 18 26.7 -0.2
BVAR Borovoye Array 36.99 47 P P 21 18 26.9 -0.4
comp=Z,1.4nm,0.6s,baz=274,slow=7.4,SNR=9.3
BVAR LR LR 21 34 56.2
comp=Z,19nm,18.9s,baz=249,slow=38
comp=Z,1.4nm,0.6s
ARSB Arslanbob 38.72 66 P P 21 18 43.6 +1.3
ARSB IAmb IAmb 21 18 55.0
comp=Z,4.4nm,0.9s
DBIC Dimbokro 38.84 229 P P 21 18 43.2 -0.1
DBIC IAmb IAmb 21 19 18.4
comp=Z,23nm,1.5s
DBIC Dimbokro 38.84 229 P P 21 18 44.5 +1.1
comp=Z,4.9nm,0.6s,baz=71,slow=6.6,SNR=5.3
comp=Z,4.9nm,0.6s
KURK Kurchatov 41.93 51 P P 21 19 08.0 -0.5
SPB2 Spitsbergen Ar 42.71 358 P P 21 19 14.9 +0.3
SPITS Spitsbergen Ar 42.72 358 P P 21 19 14.8 +0.2
comp=Z,1.0nm,0.3s,baz=149,slow=12,SNR=18
comp=Z,1.0nm,0.3s
KBS Kingsbay 43.63 357 P P 21 19 22.4 +0.5
MKAR Makanchi Array 44.64 57 P P 21 19 30.7 +0.2
MKAR Makanchi Array 44.64 57 P P 21 19 30.9 +0.4
comp=Z,3.4nm,0.5s,baz=270,slow=8.2,SNR=45
comp=Z,3.4nm,0.5s
ZAA0 Zalesovo Array 45.64 47 P P 21 19 38.0 -0.3
ZAA0 IAmb IAmb 21 19 38.8
comp=Z,6.5nm,0.7s
ZALV Zalesovo Beam 45.64 47 P P 21 19 37.8 -0.5
ZALV Zalesovo Beam 45.64 47 P P 21 19 38.1 -0.2
comp=Z,3.6nm,0.3s,baz=269,slow=9.0,SNR=30
comp=Z,3.6nm,0.3s
LSA Lhasa 56.27 75 P P 21 20 58.9 -0.3
LSA IAmb IAmb 21 21 01.5
comp=Z,3.5nm,0.7s
GRTLG Ghanzi 56.76 183 P P 21 21 02.8 +0.6
GRTLG IAmb IAmb 21 21 25.3
comp=Z,4.0nm,1.1s
KGCAE Kacgae 58.22 181 P P 21 21 12.7 +0.3
WIN Windhoek 58.24 187 P P 21 21 13.8 +1.2
LPHEP Lephephe 58.76 177 P P 21 21 17.4 +1.3
LPHEP IAmb IAmb 21 21 23.2
comp=Z,9.5nm,1.1s
GTA Gaotai 58.93 62 *eP* P 21 21 17.6 +0.2
GTA pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 60.22 50 P P 21 21 26.4 +0.3
SONM IAmb IAmb 21 21 30.6
comp=Z,4.0nm,1.5s
SONM Songino Array 60.22 50 P P 21 21 26.5 +0.3
comp=Z,1.4nm,0.6s,baz=285,slow=7.9,SNR=11
comp=Z,1.4nm,0.6s
LBTB Lobatse 60.39 178 P P 21 21 28.5 +1.1
LBTB IAmb IAmb 21 22 06.3
comp=Z,9.1nm,1.3s
BOSA Boshof 63.97 178 P P 21 21 51.2 -0.1
BOSA IAmb IAmb 21 21 58.8
comp=Z,8.0nm,1.4s
PZH PanZhiHua 66.04 74 P P 21 22 06.6 +1.5
HHC Hu-ho-hao-te 66.49 56 *eP* P 21 22 09.4 +1.6
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,66nm,4.5s
CMAR Chiang Mai Arr 67.87 83 P P 21 22 17.4 +0.7
comp=Z,0.5nm,0.4s,baz=302,slow=7.4,SNR=6.3
comp=Z,0.5nm,0.4s
B20K Meade River 74.62 0 P P 21 22 57.2 +0.6
C23K Itkillik River 74.71 358 P P 21 22 58.4 +1.2
INK Inuvik 74.91 351 P P 21 22 58.5 +0.1
INK IAmb IAmb 21 23 31.6
comp=Z,8.2nm,1.5s
C18K Utukok River 75.93 2 P P 21 23 05.3 +0.9
NJ2 Nanjing 76.00 61 *eP* P 21 23 04.5 -0.8
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
D19K Kuna River 76.14 1 P P 21 23 06.3 +0.8
G31M Satah River 76.32 351 P P 21 23 06.1 -0.4
G31M IAmb IAmb 21 23 30.7
comp=Z,14nm,1.4s
YKA Yellowknife Ar 76.53 341 P P 21 23 07.2 -0.6
comp=Z,0.9nm,0.7s,baz=38,slow=6.3,SNR=3.7
comp=Z,0.9nm,0.7s
E19K Redstone River 77.19 0 P P 21 23 12.3 +0.9
E19K IAmb IAmb 21 23 14.0
comp=Z,7.3nm,0.8s
USRK Ussuriysk Ar. 77.44 44 P P 21 23 12.7 -0.5
comp=Z,1.7nm,0.6s,baz=262,slow=6.6,SNR=4.5
comp=Z,1.7nm,0.6s
I30M Mount Dempster 78.21 351 P P 21 23 17.8 +0.5
I30M IAmb IAmb 21 23 28.4
comp=Z,6.9nm,1.4s
J30M Hart River 78.82 351 P P 21 23 21.2 +0.5
J30M IAmb IAmb 21 23 26.7
comp=Z,2.1nm,0.7s
KSRS Korea Array 79.05 52 P P 21 23 22.6 +0.4
comp=Z,1.5nm,0.6s,baz=309,slow=4.4,SNR=6.9
comp=Z,1.5nm,0.6s
ULM Lac du Bonnet 79.11 325 P P 21 23 22.9 +0.6
comp=Z,1.3nm,0.4s,baz=81,slow=7.7,SNR=4.2
comp=Z,1.3nm,0.4s
ILAR Eielson Array 79.60 356 P P 21 23 25.2 +0.4
comp=Z,0.2nm,0.6s,baz=7.4,slow=2.1,SNR=2.7
comp=Z,0.2nm,0.6s
K27K Chicken 79.97 354 P P 21 23 27.8 +1.0
K27K IAmb IAmb 21 23 35.9
comp=Z,3.5nm,1.0s
BCAR Beaver Creek A 80.89 353 P P 21 23 32.9 +1.0
M29M Somme Creek 81.14 352 P P 21 23 34.2 +1.0
M29M IAmb IAmb 21 23 39.8
comp=Z,2.7nm,0.6s
L18K Granite Mounta 82.45 0 P P 21 23 40.7 +0.7
L18K IAmb IAmb 21 23 52.8
comp=Z,5.5nm,1.2s
SKT Skwentna 82.60 358 P P 21 23 40.6 -0.3
SKT IAmb IAmb 21 23 49.0
comp=Z,6.3nm,1.2s
MJAR Matsushiro Arr 85.99 47 P P 21 23 59.2 +0.7
comp=Z,1.8nm,0.8s,baz=320,slow=5.2,SNR=5.1
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 90.94 327 P P 21 24 22.6 +0.3
comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=3.8
comp=Z,0.4nm,0.7s
BELA Belgrano 2 118.46 192 PKPdf PKPdf 21 30 03.7 -0.7
ASAR Alice Springs 119.49 99 PKPdf PKPdf 21 30 08.1 +0.1
QSPA South Pole Qui 125.53 180 PKPdf PKiKP 21 30 19.8 +1.2
QSPA South Pole Qui 125.53 180 PKP PKiKP 21 30 19.1 +0.4
comp=Z,0.5nm,0.7s,baz=334,slow=0.9,SNR=6.8

TRN ***13*** *21:41:08.8, 10˚.79N× 62˚.76W, h83km, MD3.7, North of the Paria peninsula. Felt by few in Trinidad, MMI IV.*
FUNV ***13*** *21:41:10.3, 10˚.77N× 62˚.71W, h33km, MW4.2*
ISC 13 21:41:08.7±1.6, 10˚.82N±0˚.06× 62˚.76W±0˚.06, h86km±26km, n32, σ1§54/50, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.20**	**96**	*eP*			**Pn**	**21 41 31.5**	**+1.1**
DMDM				*eS*			**Sn**	**21 41 46.7**	**0.0**
PSMG	**Mucurapo Girls**	**1.22**	**97**	*eP*			**Pn**	**21 41 30.4**	**-0.3**
PSMG				*eS*			**Sn**	**21 41 45.9**	**-1.3**
PSWS	**West Secondary**	**1.23**	**97**	*eP*			**Pn**	**21 41 30.4**	**-0.4**
PSWS				*eS*			**Sn**	**21 41 46.1**	**-1.3**
PSQC	**Port of Spain**	**1.23**	**97**	*eP*			**Pn**	**21 41 30.4**	**-0.4**
TRN	**Trinidad (W)**	**1.35**	**97**	*eP*			**Pn**	**21 41 31.4**	**-0.8**
TRN				*eS*			**Sn**	**21 41 48.0**	**-2.0**
GRFF	**Grenada Fort F**	**1.58**	**39**	*eP*			**Pn**	**21 41 35.5**	**+0.3**
GRFF				*eS*			**Sn**	**21 41 55.4**	**0.0**
GRGR	**Grenville**	**1.70**	**40**	*eP*			**Pn**	**21 41 37.2**	**+0.5**
GRGR				*eS*			**Sn**	**21 41 58.7**	**+0.6**
TBH	**Brigand Hill**	**1.70**	**101**	*eP*			**Pn**	**21 41 38.1**	**+1.3**
TBH				*eS*			**Sn**	**21 41 59.1**	**+0.9**
GRW	**Mount Saint Ca**	**1.71**	**39**	*eP*			**Pn**	**21 41 38.7**	**+1.6**
GRW				*eS*			**Sn**	**21 42 00.1**	**+1.5**
GRSS	**Sisters**	**1.85**	**37**	*eP*			**Pn**	**21 41 39.4**	**+0.6**
GRSS				*eS*			**Sn**	**21 42 02.7**	**+1.0**
TPR	**Prospect**	**1.98**	**79**	*eP*			**Pn**	**21 41 41.9**	**+1.4**
TPR				*eS*			**Sn**	**21 42 05.1**	**+0.3**
GCMP	**Grenada, Carri**	**2.11**	**38**	*eP*			**Pn**	**21 41 42.4**	**+0.2**
GCMP				*eS*			**Sn**	**21 42 08.3**	**+0.5**
SVT	**Saint Vincent**	**2.77**	**32**	*eP*			**Pn**	**21 41 50.9**	**-0.1**
SVT				*eS*			**Sn**	**21 42 22.1**	**-1.4**
SLBI	**Saint Lucia, B**	**3.63**	**29**	*eP*			**Pn**	**21 42 02.9**	**+0.3**
SLBI				*eS*			**Sn**	**21 42 42.5**	**-1.9**
BBGH	**Gun Hill**	**3.89**	**53**	*eP*			**Pn**	**21 42 07.9**	**+1.7**
BBGH				*eS*			**Sn**	**21 42 49.1**	**-1.7**
FUNV	**FUNVISIS**	**4.00**	**265**	*eP*			**Pn**	**21 42 09.2**	**+1.5**
FUNV				*eS*			**Sn**	**21 42 51.3**	**-2.2**
BIM	**Bigot**	**4.03**	**24**	*eP*			**Pn**	**21 42 08.8**	**+0.7**
BIM				*eS*			**Sn**	**21 42 52.7**	**-1.4**
SVN	**Savane Anatole**	**4.29**	**21**	*eP*			**Pn**	**21 42 11.7**	**+0.1**
SVN				*eS*			**Sn**	**21 42 59.0**	**-1.5**
ILAM	**Ilet Lapin Mar**	**4.34**	**25**	*eP*			**Pn**	**21 42 10.2**	**-0.1**
ILAM				*eS*			**Sn**	**21 42 59.3**	**-2.3**
DSLB	**Salisbury**	**4.77**	**16**	*eP*			**Pn**	**21 42 18.7**	**+0.6**
DSLB	**Salisbury**	**4.77**	**16**	*eP*			**Pn**	**21 42 19.4**	**+1.3**
TBG	**Guadaloupe-3**	**5.12**	**12**	*eP*			**Pn**	**21 42 27.3**	**+4.4**
TBG	**Guadaloupe-3**	**5.12**	**12**	*eP*			**Pn**	**21 42 24.3**	**+1.5**
MMLZ	**Guadeloupe Bro**	**5.30**	**11**	*eP*			**Pn**	**21 42 22.6**	**-2.8**
MMLZ	**Guadeloupe Bro**	**5.30**	**11**	*eP*			**Pn**	**21 42 25.3**	**-0.1**
ATGZ	**Broadband at L**	**5.34**	**11**	*eP*			**Pn**	**21 42 28.3**	**+2.4**
ATGZ	**Broadband at L**	**5.34**	**11**	*eP*			**Pn**	**21 42 28.5**	**+2.6**
DHSZ	**Broadband at M**	**5.50**	**10**	*eP*			**Pn**	**21 42 27.8**	**-0.3**
DHSZ	**Broadband at M**	**5.50**	**10**	*eP*			**Pn**	**21 42 29.3**	**+1.2**
DSDZ	**La Diserade, G**	**5.70**	**17**	*eP*			**Pn**	**21 42 27.4**	**-3.4**
DSDZ	**La Diserade, G**	**5.70**	**17**	*eP*			**Pn**	**21 42 31.9**	**+1.0**
JACV	**Jacura**	**5.96**	**273**	*eP*			**Pn**	**21 42 35.7**	**+1.2**

MOS ***13*** *22:02:49.4±0.8, 38˚.89N× 142˚.50E, h53km, mb4.7/15, Error ellipse: s-maj=8.1km s-min=5.6km az=85.5*
NEIC ***13*** *22:02:50.6±2.4, 38˚.82N±0˚.05× 142˚.4E±0˚.1, h39km±6km, mb4.5/36, Error ellipse: s-maj=12.6km s-min=7.0km az=110.0*
JMA ***13*** *22:02:51.1±0.1, 38˚.8N±0˚.4× 142˚.4E±0˚.9, h49km±2km, MD4.3/40, MV4.6/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
NIED ***13*** *22:02:51.1, 38˚.84N× 142˚.41E, h49km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr2.03; Mθθ-0.25; Mφφ-1.77; Mrθ-0.27; Mθφ-0.30; Mφr0.11; Fault plane solution: M₀1.95000×10¹⁵ NP1: φs198.00000°, δ45.00000°, λ100.00000°. NP2: φs4.00000°, δ46.00000°, λ80.00000°.*
IDC ***13*** *22:02:52.1±0.6, 38˚.79N× 142˚.39E, h62km±5km, mb3.9/22, mbtmp4.2/28, MS3.1/9 Error ellipse: s-maj=14.1km s-min=11.5km az=90.0*
ISC 13 22:02:50.3±0.5, 38˚.84N±0˚.04× 142˚.53E±0˚.05, h47km±3km, h47km: pP-P, n195, σ1§59/194, mb4.4/54, MS3.2/6, 9C-21D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.71**	**290**	⇓*iP*			**Pn**	**22 03 04.1**	**0.0**
OFUJ				⇓S			**Sn**	**22 03 13.3**	**-0.7**
OFUJ	**Ofunato**	**0.71**	**290**	A			A	22 03 04.1	
	comp=N,22nm,0.2s,comp=E,37nm,0.8s								
JKMT	**Kesennumamotoy**	**0.82**	**268**	⇓*iP*			**Pn**	**22 03 05.3**	**-0.3**
JKMT				⇓S			**Sn**	**22 03 15.3**	**-1.4**
JKMT	**Kesennumamotoy**	**0.82**	**268**	A			A	22 03 05.3	
	comp=N,5.0nm,0.6s,comp=E,20nm,0.4s								
MIYJ	**Miyakonagasawa**	**0.92**	**323**	A			A	22 03 07.2	
	comp=N,15nm,0.8s,comp=E,16nm,1.0s								
JIKH	**Ishinomakikobu**	**0.99**	**238**	A			A	22 03 07.7	
	comp=N,15nm,1.2s,comp=E,17nm,1.0s								
JIO	**Ouri**	**1.00**	**248**	⇓*iP*			**Pn**	**22 03 07.5**	**-0.4**
JIO				⇓S			**Sn**	**22 03 18.9**	**-2.0**
JIO	**Ouri**	**1.00**	**248**	A			A	22 03 07.5	
	comp=N,9.0nm,1.3s,comp=E,10.0nm,0.5s								
JMK	**Ichinoseki**	**1.03**	**277**	⇓*iP*			**Pn**	**22 03 08.1**	**-0.2**
JMK				⇓S			**Sn**	**22 03 20.4**	**-1.1**
JMK	**Ichinoseki**	**1.03**	**277**	A			A	22 03 08.1	
	comp=N,5.0nm,0.2s,comp=E,5.0nm,1.9s								
JOM	**Ohasama**	**1.15**	**304**	⇓*iP*			**Pn**	**22 03 10.1**	**+0.1**
JOFO	**Osakifurukawao**	**1.29**	**260**	A			A	22 03 11.8	
	comp=N,31nm,0.4s,comp=E,31nm,0.6s								
JKEN	**Kujiedanarisaw**	**1.50**	**335**	A			A	22 03 15.7	
	comp=N,5.0nm,0.3s,comp=E,7.0nm,2.7s								
JOU	**Okura**	**1.54**	**253**	⇓*iP*			**Pn**	**22 03 15.1**	**-0.1**
JOU				⇓S			**Sn**	**22 03 32.5**	**-1.5**
JOU	**Okura**	**1.54**	**253**	A			A	22 03 15.1	
	comp=N,7.0nm,0.2s,comp=E,6.0nm,1.3s								
JRG	**Rokugo**	**1.57**	**291**	⇓*iP*			**Pn**	**22 03 15.9**	**+0.2**
JRG	**Rokugo**	**1.57**	**291**	A			A	22 03 15.9	
	comp=N,6.0nm,0.3s,comp=E,10.0nm,0.3s								
JMM	**Marumori**	**1.67**	**235**				**Pn**	**22 03 16.6**	**-0.5**
JMM						Sn	**Sn**	**22 03 34.7**	**-2.6**
JMM	**Marumori**	**1.67**	**235**	⇓*iP*			**Pn**	**22 03 16.7**	**-0.5**
JMM				⇓S			**Sn**	**22 03 35.3**	**-2.1**
JYK	**Kaneyama**	**1.69**	**273**	⇓*iP*			**Pn**	**22 03 17.4**	**0.0**
JMST	**Minamisoumatoc**	**1.70**	**230**	A			A	22 03 18.1	
	comp=N,4.0nm,1.0s,comp=E,5.0nm,0.9s								
JANG	**Nango**	**1.72**	**333**	P			**Pn**	**22 03 17.8**	**+0.1**
JYW	**Yuwa**	**1.93**	**292**	A			A	22 03 21.2	
	comp=N,9.0nm,1.3s,comp=E,8.0nm,1.7s								
JFK	**Kawauchi**	**1.96**	**222**	*i* P			**Pn**	**22 03 20.8**	**-0.4**
JFK				S			**Sn**	**22 03 42.4**	**-2.2**
JAH	**Hinai**	**1.99**	**313**	⇓P			**Pn**	**22 03 21.8**	**+0.4**
JYS	**Shirataka**	**2.03**	**253**	⇓*iP*			**Pn**	**22 03 22.2**	**+0.3**
JYS				⇓S			**Sn**	**22 03 45.1**	**-1.0**
JYS	**Shirataka**	**2.03**	**253**	A			A	22 03 22.2	
	comp=N,6.0nm,3.2s,comp=E,5.0nm,0.7s								
JYAR	**Yonezawaarcadi**	**2.09**	**244**	A			A	22 03 23.4	
	comp=N,7.0nm,1.2s,comp=E,7.0nm,1.2s								
JTM	**Tenmabayashi**	**2.25**	**330**	Pn			**Pn**	**22 03 25.1**	**+0.1**
JTM				Sn			**Sn**	**22 03 50.7**	**-0.8**
JNTW	**Noshirotokiwa**	**2.32**	**309**	A			A	22 03 26.9	
	comp=N,8.0nm,1.1s,comp=E,8.0nm,1.8s								
JHHS	**Hirosakihyakuz**	**2.46**	**318**	A			A	22 03 29.0	
	comp=N,6.0nm,1.8s,comp=E,7.0nm,3.0s								
ERM	**Erimo**	**3.21**	**8**	Pn			**Pn**	**22 03 38.9**	**+0.8**
ERM	**Erimo**	**3.21**	**8**	P			**Pn**	**22 03 38.9**	**+0.8**
MJA0	**Matsu Arr-Jizo**	**4.10**	**237**	*eP*			**Pn**	**22 03 52.6**	**+2.2**
MJA0				pmax		pmax			
	comp=Z,41nm,0.4s								
MJAR	**Matsushiro Arr**	**4.12**	**238**	Pn			**Pn**	**22 03 52.0**	**+1.3**
MJAR	**Matsushiro Arr**	**4.12**	**238**	P			**Pn**	**22 03 52.6**	**+1.9**
	comp=Z,15nm,0.3s,baz=34,slow=14,SNR=177								
MJAR				S			**Sn**	**22 04 28.9**	**-8.8**
	comp=Z,8.2nm,0.4s,baz=28,slow=30,SNR=4.6								
MJAR				LR		LR	LR	22 05 45.0	
	comp=Z,298nm,20.9s,baz=59,slow=43								
MJAR	**Matsushiro Arr**	**4.12**	**238**	P			**Pn**	**22 03 52.0**	**+1.3**
MAJO	**Matsushiro**	**4.12**	**238**	Pn			**Pn**	**22 03 52.1**	**+1.4**
MAJO	**Matsushiro**	**4.12**	**238**	*d*P			**Pn**	**22 03 52.6**	**+1.9**
NMR	**Nemuro--Hokkai**	**5.13**	**27**	⇓*iP*			**Pn**	**22 04 03.8**	**-0.7**
NMR				*i* S			**Sn**	**22 04 57.8**	**-4.6**
JGF	**Kuroka**	**5.24**	**234**	Pn			**Pn**	**22 04 07.1**	**+1.0**
JKA	**Kamikawa-asahi**	**5.27**	**1**	Pn			**Pn**	**22 04 07.1**	**+0.7**
ASAJ	**Asahikawa**	**5.27**	**1**	P			**Pn**	**22 04 07.5**	**+1.0**
	comp=Z,4.6nm,0.3s,baz=205,slow=10,SNR=19								
ASAJ				S			**Sn**	**22 05 03.0**	**-2.9**
	comp=Z,22nm,0.6s,baz=8.0,slow=25,SNR=6.1								
GLVR	**Golovnino**	**5.39**	**24**	*eP*			**Pn**	**22 04 08.0**	**0.0**
GLVR				*i* S			**Sn**	**22 05 06.0**	**-2.7**
GLVR				pmax		pmax			
	comp=Z,144nm,0.5s								
GLVR				pmax		pmax			
	comp=N,63nm,0.1s								
GLVR				pmax		pmax			
	comp=E,58nm,0.1s								
GLVR				smax		smax			
	comp=N,811nm,0.2s								
GLVR				smax		smax			
	comp=E,717nm,0.2s								
INU	**Inuyama**	**5.62**	**233**	Pn			**Pn**	**22 04 12.1**	**+0.9**
RUSJ	**Misakicho**	**5.64**	**20**	*i* P			**Sn**	**22 04 11.0**	**-0.5**
RUSJ				*i* S			**Sn**	**22 05 12.7**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**5.76**	**25**	*eP*			**Pn**	**22 04 13.1**	**-0.1**
YUK				*i* S			**Sn**	**22 05 14.1**	**-3.8**
YUK				pmax		pmax			
	comp=Z,140nm,0.3s								
YUK				pmax		pmax			
	comp=N,59nm,0.2s								
YUK				pmax		pmax			
	comp=E,24nm,0.1s								
YUK				smax		smax			
	comp=N,596nm,0.3s								
YUK				smax		smax			
	comp=E,330nm,0.4s								
SHO	**Shikotan**	**5.98**	**31**	*eP*			**Pn**	**22 04 18.1**	**+2.0**
SHO				*i* S			**Sn**	**22 05 20.1**	**-3.1**
SHO				pmax		pmax			
	comp=Z,26nm,0.5s								
SHO				pmax		pmax			
	comp=N,17nm,0.2s								
SHO				pmax		pmax			
	comp=E,15nm,0.2s								
SHO				smax		smax			
	comp=N,168nm,0.5s								
SHO				smax		smax			
	comp=E,248nm,0.2s								
JHJ	**Hachijo jima 2**	**6.12**	**202**	P			**Pn**	**22 04 17.8**	**-0.4**
	comp=E,95nm,0.4s,baz=72,slow=20,SNR=5.8								
JHJ				S			**Sn**	**22 05 21.8**	**-5.2**
	comp=E,149nm,0.2s,baz=77,slow=22,SNR=9.6								
KUR	**Kuril'sk**	**7.52**	**30**	*eP*			**Pn**	**22 04 38.1**	**+0.8**
KUR				*i* S			**Sn**	**22 05 55.8**	**-5.3**
YSS	**Yuzhno-Sakhali**	**8.11**	**1**	*eP*			Pn	22 04 51.0	+5.6
YSS				pmax		pmax			
	comp=Z,10.0nm,0.7s								
YSS				MLR		MLR			
	comp=Z,100nm,16.0s								
MSHR	**Mys Shultsa**	**9.41**	**297**	*eP*			**Pn**	**22 05 03.8**	**+0.7**
USA0B	**Ussuriysk Arra**	**9.54**	**307**	Pn			**Pn**	**22 05 04.1**	**-0.8**
USA0B	**Ussuriysk Arra**	**9.54**	**307**	⇑*iP*			**Pn**	**22 05 06.4**	**+1.4**
USRK	**Ussuriysk Ar.**	**9.54**	**307**	P			**Pn**	**22 05 06.4**	**+1.4**
	comp=Z,3.8nm,0.7s,baz=113,slow=14,SNR=5.2								
USRK				LR		LR		22 08 51.4	
	comp=Z,66nm,18.5s,baz=99,slow=38								
JNU	**Nakatsue**	**11.02**	**242**	P			**Pn**	**22 05 26.6**	**+1.2**
	comp=Z,8.4nm,0.8s,baz=18,slow=16,SNR=2.2								
JNU				LR		LR		22 09 44.6	
	comp=Z,189nm,20.2s,baz=34,slow=38								
KSRS	**Korea Array**	**11.59**	**268**	P			**Pn**	**22 05 35.1**	**+2.2**
	comp=Z,3.7nm,0.3s,baz=82,slow=14,SNR=12								
KSAR	**Wonju Array Be**	**11.62**	**268**	Pn			**Pn**	**22 05 34.3**	**+0.9**
KSAR	**Wonju Array Be**	**11.62**	**268**	P			**Pn**	**22 05 34.3**	**+0.9**
KS19	**Wonju Array Si**	**11.62**	**268**	Pn			**Pn**	**22 05 34.8**	**+1.4**
BNX	**BinXian**	**13.14**	**307**	⇑P			**Pn**	**22 05 51.0**	**-3.1**
BNX				pmax		pmax			
	comp=Z,6.0nm,2.5s								
HEH	**HeiHe**	**15.66**	**322**	*eP*			**Pn**	**22 06 23.3**	**-4.3**
PEA0B	**Petropavlovsk-**	**17.69**	**31**	⇑*iP*			**P**	**22 06 53.5**	**+0.1**
PETK	**Petropavlovsk-**	**17.69**	**31**	LR		LR	LR	22 13 26.2	
	comp=Z,20nm,20.9s,baz=230,slow=36								
ZEA	**Zeya**	**18.20**	**330**	*eP*			**P**	**22 06 58.8**	**-0.2**
ZEA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
NJ2	**Nanjing**	**20.41**	**258**	*eP*			**P**	**22 07 23.4**	**+0.1**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
XLT	**XiLinHaoTe**	**20.44**	**293**	*eP*			Pn	22 07 28.8	+2.6
XLT				pmax		pmax			
	comp=Z,8.0nm,0.8s								
XLT				pmax		pmax			
	comp=Z,110nm,5.3s								
MA2	**Magadan**	**21.41**	**12**	LR		LR		22 15 32.5	
	comp=Z,30nm,19.5s,baz=109,slow=35								
HHC	**Hu-ho-hao-te**	**23.80**	**285**	*eP*			**P**	**22 07 58.4**	**-0.3**
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,62nm,4.7s								
YAK	**Yakutsk**	**24.53**	**345**	P			**P**	**22 08 03.9**	**-1.1**
YAK				lAmb		lAmb	lAmb	22 08 05.9	
	comp=Z,12nm,0.6s								
YAK	**Yakutsk**	**24.53**	**345**	*eP*			**P**	**22 08 04.9**	**-0.1**
YAK				*e**PP			**pP**	**22 08 16.3**	**-0.7**
YAK				*e*				22 08 37.2	
YAK				*eS			**S**	**22 12 22.8**	**+0.7**
YAK				*e*SS			**sS**	**22 12 43.3**	**+1.3**
YAK				*eSS			**SnSn**	**22 13 11.0**	**+0.9**
YAK				*e*				22 19 04.8	
YAK				pmax		pmax			
	comp=Z,11nm,0.9s								
YAK				pmax		pmax			
	comp=N,2.0nm,0.9s								
YAK				pmax		pmax			
	comp=E,1.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,121nm,6.6s								
YAK				pmax		pmax			
	comp=N,45nm,3.5s								
YAK				pmax		pmax			
	comp=E,66nm,6.2s								
YAK				smax		smax			
	comp=E,54nm,3.6s								
YAK				smax		smax			
	comp=N,30nm,2.8s								
XAN	**Xi'an**	**27.36**	**270**	*eP*			**P**	**22 08 32.4**	**+1.4**
SONM	**Songino Array**	**27.56**	**301**	P			**P**	**22 08 32.6**	**-0.1**
SONM	**Songino Array**	**27.56**	**301**	P			**P**	**22 08 33.0**	**+0.2**
	comp=N,0.5nm,0.4s,baz=94,slow=8.7,SNR=6.5								
SONM				LR		LR	LR	22 19 53.7	
	comp=N,33nm,20.3s,baz=84,slow=37								
	comp=N,0.5nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.39**	**125**	T		T	T	22 39 10.3	
	baz=317,slow=75,SNR=1297								
H11N1	**WAKE ISLAND Hy**	**28.40**	**125**	T		T	T	22 39 11.4	
	baz=317,slow=75,SNR=1422								
ENH	**Enshi**	**28.40**	**263**	P			**P**	**22 08 39.4**	**-0.9**
ENH				lAmb		lAmb	lAmb	22 08 52.7	
	comp=Z,10nm,0.5s								
H11N3	**WAKE ISLAND Hy**	**28.41**	**125**	T		T	T	22 39 12.0	
	baz=317,slow=75,SNR=1191								
H11S1	**WAKE ISLAND Hy**	**29.17**	**127**	T		T	T	22 40 11.0	
	baz=319,slow=76,SNR=90								
H11S3	**WAKE ISLAND Hy**	**29.17**	**127**	T		T	T	22 40 10.7	
	baz=319,slow=76,SNR=164								
H11S2	**WAKE ISLAND Hy**	**29.19**	**127**	T		T	T	22 40 08.2	
	baz=319,slow=76,SNR=95								
GTA	**Gaotai**	**32.92**	**285**	*eP*			**P**	**22 09 21.8**	**+1.7**
GTA				pP		pP	pP	22 09 31.8	-0.6
GTA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
TIXI	**Tiksi**	**33.61**	**352**	LR		LR	LR	22 25 49.3	
	comp=Z,44nm,18.0s,baz=210,slow=41								
QIZ	**Qiongzhong**	**34.49**	**244**	P			**P**	**22 09 33.9**	**+0.1**
QIZ				S			**S**	**22 15 00.8**	**+1.7**
QIZ				LR		LR	LR		
	comp=E,190nm,7.3s								
QIZ				LR		LR	LR		
	comp=Z,320nm,8.4s								
PZH	**PanZhiHua**	**36.19**	**262**	P			P	22 09 43.3	-5.2
WMQ	**Urumqi**	**40.84**	**295**	*eP*			**P**	**22 10 28.8**	**+1.5**
WMQ				LR		LR	LR		
	comp=Z,120nm,19.3s								
N15K	**Kwethluk River**	**41.29**	**40**	P			**P**	**22 10 33.1**	**+2.4**
N15K				lAmb		lAmb	lAmb	22 10 46.1	
	comp=Z,9.4nm,1.1s								
ZAA0	**Zalesovo Array**	**41.38**	**311**	P			**P**	**22 10 30.8**	**-0.7**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P			**P**	**22 10 29.9**	**-1.6**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P			**P**	**22 10 31.5**	**0.0**
	comp=Z,1.3nm,0.4s,baz=90,slow=8.3,SNR=8.4								
ZALV				pP			**pP**	**22 10 46.8**	**+2.9**
	comp=Z,1.9nm,0.5s,baz=90,slow=7.4,SNR=4.6								
ZALV				PcP			**PcP**	**22 12 28.3**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=88,slow=3.8,SNR=3.4								
	comp=Z,1.3nm,0.4s								
C18K	**Utukok River**	**42.27**	**27**	P			**P**	**22 10 40.3**	**+1.6**
C18K				lAmb		lAmb	lAmb	22 10 41.3	
	comp=Z,17nm,1.2s								
H18K	**Honhosa River**	**42.65**	**32**	P			**P**	**22 10 43.9**	**+2.2**
H18K				lAmb		lAmb	lAmb	22 10 45.1	
	comp=Z,6.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**42.82**	**254**	P			**P**	**22 10 42.6**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=46,slow=6.2,SNR=1.8								
	comp=Z,0.6nm,0.3s								
MK31	**Makanchi Array**	**43.93**	**301**	*d*P			**P**	**22 10 52.3**	**-0.1**
MKAR	**Makanchi Array**	**43.93**	**301**				**P**	**22 10 51.7**	**-0.7**
MKAR	**Makanchi Array**	**43.93**	**301**	P			**P**	**22 10 52.0**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=79,slow=9.9,SNR=15								
MKAR				pP			**sP**	**22 11 09.6**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=85,slow=9.5,SNR=6.4								
	comp=Z,2.8nm,0.8s								
MKAR	**Makanchi Array**	**43.93**	**301**	*eP*			**P**	**22 10 52.1**	**-0.3**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
IMAR	**Indian Mountai**	**44.65**	**31**	P			**P**	**22 11 00.8**	**+2.9**
G21K	**Allakaket**	**44.80**	**31**	P			**P**	**22 11 01.0**	**+2.0**
KDAK	**Kodiak Island**	**45.17**	**43**	*i* P			**P**	**22 11 02.4**	**+0.4**
KDAK				pmax		pmax			
	comp=Z,8.0nm,1.2s								
D22K	**Ayikyak River**	**45.36**	**27**	P			**P**	**22 11 06.0**	**+2.6**
D22K				lAmb		lAmb	lAmb	22 11 27.5	
	comp=Z,8.0nm,1.1s								
KURK	**Kurchatov**	**45.53**	**307**	P			**P**	**22 11 04.5**	**-0.4**
KURK				lAmb		lAmb	lAmb	22 11 05.4	
	comp=Z,6.7nm,0.9s								
KURK	**Kurchatov**	**45.53**	**307**	*c* P			**P**	**22 11 04.6**	**-0.4**
KURK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KURBB	**Kurchatov Arra**	**45.61**	**307**	P			**P**	**22 11 05.3**	**-0.2**
	comp=Z,4.3nm,0.3s,baz=81,slow=8.2,SNR=26								
	comp=Z,4.3nm,0.3s								
C24K	**Franklin Bluff**	**46.84**	**26**	P			**P**	**22 11 16.8**	**+1.8**
C24K				lAmb		lAmb	lAmb	22 11 18.4	
	comp=Z,9.3nm,0.9s								
COLA	**College**	**47.09**	**33**	⇑*eP*			**P**	**22 11 17.4**	**+0.4**
COLA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**47.50**	**33**	P			**P**	**22 11 22.0**	**+1.8**
ILAR	**Eielson Array**	**47.50**	**33**	P			**P**	**22 11 22.0**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=270,slow=6.2,SNR=17								
ILAR				pP			**sP**	**22 11 37.5**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=272,slow=6.5,SNR=6.1								
	comp=Z,1.6nm,0.6s								
F25K	**Christian Five**	**47.92**	**29**	P			**P**	**22 11 26.1**	**+2.6**
F25K				lAmb		lAmb	lAmb	22 11 38.2	
	comp=Z,3.9nm,1.3s								
BMAR	**Burnt Mountain**	**48.33**	**30**	P			**P**	**22 11 28.9**	**+2.2**
SCRK	**Sand Creek**	**48.82**	**34**	P			**P**	**22 11 32.2**	**+1.7**
SCRK				lAmb		lAmb	lAmb	22 11 32.9	
	comp=Z,2.3nm,0.7s								
E27K	**Coleen River**	**49.42**	**29**	P			**P**	**22 11 37.4**	**+2.4**
E27K				lAmb		lAmb	lAmb	22 11 38.7	
	comp=Z,2.7nm,0.9s								
L27K	**Beaver Creek,**	**49.89**	**35**	P			**P**	**22 11 41.3**	**+2.6**
BVAR	**Borovoye Array**	**50.03**	**311**	P			**P**	**22 11 39.6**	**-0.1**
	comp=Z,1.2n

AKASG	**Malin Array Be**	**73.41**	**322**	P		**P**		**22**	**14**	**16.3**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=46,slow=6.3,SNR=16										
	comp=Z,2.0nm,0.4s										
AKASG	**Malin Array Be**	**73.41**	**322**	*e*P		**P**		**22**	**14**	**16.9**	**-0.2**
AKASG				pmax		pmax					
	comp=Z,2.0nm,0.4s										
AKBB	**Malin Array Si**	**73.41**	**322**	⇑*i*P		**P**		**22**	**14**	**16.8**	**-0.3**
AKBB				pmax		pmax					
	comp=Z,2.0nm,0.5s										
AKBB	**Malin Array Si**	**73.41**	**322**	P		**P**		**22**	**14**	**15.2**	**-1.9**
AK01	**Malin Array Si**	**73.42**	**322**	P		**P**		**22**	**14**	**16.2**	**-1.0**
KIEV	**Kiev**	**73.42**	**322**	P		**P**		**22**	**14**	**15.3**	**-1.9**
	comp=Z,20nm,0.8s										
AK04	**Malin Array Si**	**73.42**	**322**	P		**P**		**22**	**14**	**16.3**	**-0.9**
AK08	**Malin Array Si**	**73.44**	**322**	P		**P**		**22**	**14**	**16.2**	**-1.1**
AK15	**Malin Array Si**	**73.46**	**322**	P		**P**		**22**	**14**	**16.3**	**-1.2**
LUBAR	**Lubar, Ukraine**	**74.63**	**323**	P		**P**		**22**	**14**	**22.7**	**-1.6**
PDAR	**Pinedale Array**	**75.78**	**46**	P		**P**		**22**	**14**	**32.6**	**+1.2**
PDAR	**Pinedale Array**	**75.78**	**46**	P		**P**		**22**	**14**	**32.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=263,slow=1.1,SNR=6.5										
PDAR				pP		**sP**		**22**	**14**	**50.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=240,slow=6.0,SNR=2.6										
	comp=Z,0.4nm,0.6s										
STNU	**Starunia**	**77.01**	**323**	P		**P**		**22**	**14**	**36.7**	**-1.2**
BURAR	**Bucovina Array**	**77.44**	**322**	P		**P**		**22**	**14**	**41.0**	**+0.5**
BURAR	**Bucovina Array**	**77.44**	**322**	P		**P**		**22**	**14**	**41.0**	**+0.5**
BURAR				pmax		pmax					
	comp=Z,2.0nm,0.6s										
BISRR	**Bisoca**	**78.15**	**320**	P		**P**		**22**	**14**	**42.7**	**-1.7**
	comp=Z,3μmcomp=Z,126nm,1.5s										
BR131	**Keskin Array S**	**78.31**	**312**	*e*P		**P**		**22**	**14**	**45.3**	**-0.2**
BRTR	**Keskin Array B**	**78.31**	**312**	P		**P**		**22**	**14**	**45.7**	**+0.1**
BRTR	**Keskin Array B**	**78.31**	**312**	P		**P**		**22**	**14**	**45.4**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=96,slow=3.2,SNR=6.0										
	comp=Z,0.4nm,0.5s										
CLL	**Collm**	**79.97**	**331**	*i* P		**P**		**22**	**14**	**50.5**	**-3.6**
CLL				pmax		pmax					
	comp=Z,4.0nm,0.8s										
CLL	**Collm**	**79.97**	**331**	*i* P		**P**		**22**	**14**	**54.5**	**+0.4**
	comp=Z,4.0nm,0.8s										
VRAC	**Vranov**	**80.08**	**327**	LR		LR		22	54	22.5	
	comp=Z,11nm,20.3s,baz=269,slow=39										
KHC	**Kasperske Hory**	**81.46**	**329**	⇑*i*P		**P**		**22**	**15**	**02.9**	**+0.6**
KHC				pmax		pmax					
	comp=Z,3.0nm,0.9s										
MMAI	**Mount Meron Ar**	**81.64**	**306**	P		**P**		**22**	**15**	**04.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=67,slow=9.2,SNR=3.6										
	comp=Z,0.3nm,0.3s										
GERES	**GERESS Array B**	**81.64**	**329**	P		**P**		**22**	**15**	**03.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=36,slow=5.0,SNR=6.4										
	comp=Z,0.7nm,0.5s										
STAL	**STALIGIAL**	**84.10**	**328**	P		**P**		**22**	**15**	**15.1**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**84.81**	**329**	P		**P**		**22**	**15**	**20.1**	**+0.3**
FUORN				IAmb		IAmb		22	15	21.1	
	comp=Z,4.3nm,0.8s										
ITM	**Ithomi**	**86.66**	**316**	P		**P**		**22**	**15**	**28.1**	**-0.8**
TXAR	**Lajitas Array**	**88.33**	**53**	P		**P**		**22**	**15**	**37.8**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=325,slow=7.0,SNR=3.8										
	comp=Z,0.7nm,0.6s										
ESDC	**Sonseca Array**	**96.05**	**335**	P		**P**		**22**	**16**	**11.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=46,slow=4.8,SNR=2.5										
	comp=Z,0.3nm,0.7s										
QSPA	**South Pole Qui**	**128.58**	**180**	PKPdf		**PKiKP**		**22**	**21**	**52.5**	**+0.8**
QSPA	**South Pole Qui**	**128.58**	**180**	PKP		**PKiKP**		**22**	**21**	**51.6**	**0.0**
	comp=Z,0.6nm,0.5s,baz=281,slow=1.8,SNR=9.7										
LPAZ	**La Paz**	**145.01**	**59**	PKPbc		**PKPdf**		**22**	**22**	**23.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=295,slow=1.1,SNR=4.6										
H03N2	**Juan Fernandez**	**146.30**	**94**	T		T		01	06	57.5	
	baz=300,slow=74,SNR=5.6										
H03N3	**Juan Fernandez**	**146.31**	**94**	T		T		01	07	07.8	
	baz=300,slow=74,SNR=4.4										
H03N1	**Juan Fernandez**	**146.31**	**94**	T		T		01	06	51.2	
	baz=300,slow=74,SNR=4.7										
LCO	**Las Campanas**	**150.87**	**80**	PKPbc		**PKiKP**		**22**	**22**	**39.0**	**+0.4**
LCO	**Las Campanas**	**150.87**	**80**	PKIKP		**PKiKP**		**22**	**22**	**39.0**	**+0.4**
CO02	**Combarbal**	**151.62**	**85**	PKPbc		**PKPbc**		**22**	**22**	**39.5**	**0.0**

FUNV ***13*** *22:05:49.9, 10.29N×62.71W, h7km, MW3.5*
TRN ***13*** *22:05:51.2, 10.28N×62.72W, h85km, MD3.7, Venezuela near Gulf of Paria.*

ISC 13 22:05:48.4±2.3, 10.35N±0.07×62.81W±0.04, h9km±18km, n20, σ1s07/33, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DMDM	**Guralp CMG5TDE**	**1.28**	**74**	*e*P	**Pn**	**22**	**06 13.4**	**+1.0**
PSMG	**Mucurapo Girls**	**1.29**	**75**	*e*S	**Sn**	**22**	**06 30.2**	**+0.2**
PSKH	**Kent House, Po**	**1.30**	**75**	*e*P	**Pb**	**22**	**06 12.8**	**-0.3**
PSGH	**Port of Spain**	**1.31**	**76**	*e*P	**Pb**	**22**	**06 13.2**	**0.0**
PSGH				*e*S	**Sn**	**22**	**06 31.0**	**+0.5**
TRN	**Trinidad (W)**	**1.41**	**78**	*e*P	**Pn**	**22**	**06 14.3**	**+0.1**
TRN				*e*S	**Sg**	**22**	**06 32.7**	**-1.1**
TBH	**Brigand Hill**	**1.71**	**85**	*e*P	**Pb**	**22**	**06 20.4**	**+0.3**
GRFF	**Grenada Fort F**	**1.99**	**32**	*e*P	**Pn**	**22**	**06 22.4**	**+0.2**
GRFF				*e*S	**Sn**	**22**	**06 47.1**	**-0.2**
GRGR	**Grenville**	**2.10**	**32**	*e*P	**Pn**	**22**	**06 24.4**	**+0.6**
GRGR				*e*S	**Sn**	**22**	**06 50.5**	**+0.4**
GRW	**Mount Saint Ca**	**2.12**	**32**	*e*P	**Pn**	**22**	**06 25.1**	**+1.0**
GRW				*e*S	**Sn**	**22**	**06 51.0**	**+0.3**
GRSS	**Sisters**	**2.27**	**31**	*e*P	**Pn**	**22**	**06 27.4**	**+1.4**
GRSS				*e*S	**Sn**	**22**	**06 53.3**	**-0.8**
GCMP	**Grenada, Carri**	**2.52**	**32**	*e*P	**Pn**	**22**	**06 30.6**	**+1.1**
GCMP				*e*S	**Sn**	**22**	**06 59.2**	**-1.1**
SVT	**Saint Vincent**	**3.20**	**28**	*e*P	**Pn**	**22**	**06 39.8**	**+1.0**
SVT				*e*S	**Sn**	**22**	**07 16.4**	**-0.7**
FUNV	**FUNVISIS**	**3.94**	**272**	*e*S	**Sn**	**22**	**07 35.6**	**0.0**
SLBI	**Saint Lucia, B**	**4.07**	**26**	*e*P	**Pn**	**22**	**06 52.2**	**+1.4**
SLBI				*e*S	**Sn**	**22**	**07 36.8**	**-1.8**
BIM	**Bigot**	**4.48**	**22**	*e*P	**Pn**	**22**	**06 57.4**	**+0.9**
BIM				*e*S	**Sn**	**22**	**07 46.7**	**-2.0**
CACV	**CAICARA DEL OR**	**4.61**	**233**	*e*P	Pn	22	06 54.0	-4.3
CACV				*e*S	Sn	22	07 41.3	-11
BENV	**Beln**	**4.74**	**266**	*e*P	**Pn**	**22**	**07 01.5**	**+1.4**
BENV				*e*S	**Sn**	**22**	**07 54.3**	**-0.8**
BAUV	**El Baul**	**5.35**	**255**	*e*P	**Pn**	**22**	**07 09.4**	**+1.0**
BAUV				*e*S	**Sn**	**22**	**08 08.2**	**-2.0**
BAUV	**El Baul**	**5.35**	**255**	*e*P	**Pn**	**22**	**07 08.9**	**+0.5**
BAUV				*e*S	**Sn**	**22**	**08 08.8**	**-1.4**
JACV	**Jacura**	**5.97**	**278**	*e*P	**Pn**	**22**	**07 18.5**	**+1.6**
JACV				*e*S	**Sn**	**22**	**08 24.7**	**-0.8**

IDC ***13*** *22:10:52.2±10.0, 36.54N×70.26E, h170km±70km, mb3.3/4, mbtmp3.8/6, Error ellipse: s-maj=104.1km s-min=51.9km az=166.0*
NNC ***13*** *22:10:55.1±8.8, 36.82N×69.85E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=82.1km s-min=63.0km az=128.0*

ISC 13 22:10:56.1±2.3, 36.6N±0.2×70.5E±0.1, h200km, n16, σ1s58/17, mb3.5/3, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
IUG	**luzhnay**	**5.53**	**357**	Pg	**Pn**	**22**	**12 18.0**	**+0.7**
	57nm,0.4s							
IUG				Lg	Lg	22	13 21.3	
	64nm,0.5s							
UCH	**Uchtor**	**6.41**	**28**	P	**Pn**	**22**	**12 30.0**	**+1.0**
	SNR=18							
MRKS	**Merke**	**6.47**	**18**	Pg	**Pn**	**22**	**12 30.2**	**+0.7**
	11nm,0.3s							
MRKS				Lg	Lg	22	13 42.8	
	25nm,0.5s							
KK31	**Karatay Array**	**6.48**	**0**	⇓P	**Pn**	**22**	**12 29.1**	**-0.4**
	2.2nm,0.2s,baz=180,slow=12,SNR=103							
KK31				⇑S	**Sn**	**22**	**13 43.0**	**-0.5**
	4.1nm,0.6s,baz=186,slow=23							
EKS2	**Erkin-Say**	**6.55**	**22**	P	**Pn**	**22**	**12 31.5**	**+1.0**
	SNR=5.7							
AAK	**Ala-Archa**	**6.76**	**26**	P	**Pn**	**22**	**12 31.0**	**-2.3**
	3.0nm,0.4s,baz=219,slow=13,SNR=2.5							
AAK				S	**Sn**	**22**	**13 49.2**	**-1.1**
	6.3nm,0.5s,baz=2.5,slow=19,SNR=14							
CHMS	**Chumysh**	**7.17**	**26**	P	**Pn**	**22**	**12 39.0**	**+0.5**
	SNR=5.1							
USP	**Ospenovka**	**7.32**	**24**	P	**Pn**	**22**	**12 41.0**	**+0.6**
	SNR=9.4							
TKM2	**Tokmak 2**	**7.42**	**30**	P	**Pn**	**22**	**12 43.1**	**+1.2**
	SNR=7.8							
MK31	**Makanchi Array**	**13.44**	**37**	P	Pn	22	13 49.1	-10
	1.6nm,0.7s,baz=190,slow=21,SNR=3.0							
AB31	**Akbulak array**	**14.78**	**332**	P	**P**	**22**	**14 19.8**	**+3.4**
	0.7nm,0.4s,baz=144,slow=11,SNR=23							
AKTO	**Aktyubinsk**	**16.47**	**331**	P	**P**	**22**	**14 34.5**	**-0.5**
	1.6nm,0.5s,baz=139,slow=11,SNR=5.6							
ZALV	**Zalesovo Beam**	**19.98**	**25**	P	**P**	**22**	**15 13.2**	**+0.2**
	0.7nm,0.4s,baz=218,slow=9.3,SNR=4.9							
	0.7nm,0.4s							
FINES	**FINESS Array B**	**37.15**	**326**	P	**P**	**22**	**17 44.5**	**-2.8**
	2.0nm,0.8s,baz=100,slow=7.8,SNR=3.1							
	2.0nm,0.8s							
ARCES	**ARCESS Array B**	**40.88**	**338**	P	**P**	**22**	**18 17.1**	**-1.0**
	0.6nm,0.4s,baz=108,slow=7.9,SNR=5.7							
	0.6nm,0.4s							
HFS	**Hagfors**	**42.72**	**322**	P	**P**	**22**	**18 31.8**	**-1.3**
	1.4nm,0.8s,baz=96,slow=12,SNR=5.3							
	1.4nm,0.8s							

IDC ***13*** *22:12:27.7±0.5, 9.10N×126.24E, h0km, mb4.4/26, mbtmp4.4/26, MS3.3/19, Error ellipse: s-maj=23.9km s-min=12.0km az=75.0*
NEIC ***13*** *22:12:38.7±1.5, 9.10N±0.06×126.3E±0.1, h78km±6km, mb4.7/80, Error ellipse: s-maj=15.2km s-min=8.3km az=98.0*
DJA ***13*** *22:12:43.5±1.1, 10.1N±9.1×12.6E±1, h97km±12km, M5.0/11, mb4.9/11, mBb.2/1, MLv5.1/6, Mw(mB)5.9/1*

ISC 13 22:12:38.4±1.2, 9.12N±0.05×126.28E±0.08, h81km±11km, n372, σ0s75/360, mb4.6/72, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DAV	**Davao City (W)**	**2.15**	**199**	Pn	**Pn**	**22**	**13 11.9**	**-0.4**
DAV	**Davao City (W)**	**2.15**	**199**	Pn	**Pn**	**22**	**13 11.7**	**-0.6**
	93nm,0.3s,baz=265,slow=8.5,SNR=5.4							
DAV				Sn	**Sn**	**22**	**13 40.7**	**+2.5**
	119nm,0.3s,baz=281,slow=22,SNR=6.4							
SGSI	**Sangihe**	**5.45**	**188**	P	Pn	22	14 09.4	+12
TGY	**Tagaytay City**	**7.21**	**314**	LR	LR	22	17 12.4	
	comp=Z,320nm,21.9s,baz=130,slow=40							
KKM	**Kota Kinabalu**	**10.43**	**254**	Pn	**Pn**	**22**	**15 05.5**	**+0.2**
FAKI	**Fak Fak**	**13.35**	**153**	Pn	**Pn**	**22**	**15 43.0**	**-1.7**
YULB	**Yu-li**	**14.98**	**342**	Pn	**Pn**	**22**	**16 05.7**	**-0.1**
TPUB	**Ta-pu**	**15.11**	**340**	Pn	**Pn**	**22**	**16 07.2**	**-0.2**
TPUB				IAmb	IAmb	22	16 09.7	
	comp=Z,44nm,1.1s							
SSLB	**Suanglung**	**15.45**	**341**		**Pn**	**22**	**16 11.9**	**0.0**
SBUM	**Sibu**	**15.47**	**246**	P	**P**	**22**	**16 13.6**	**-1.2**
KAPI	**Kappang**	**15.47**	**205**	LR	LR	22	22 41.4	
	comp=Z,82nm,19.7s,baz=58,slow=40							
QIZ	**Qiongzhong**	**18.73**	**304**	P	**Pn**	**22**	**16 51.8**	**-0.3**
QIZ				S	**S**	**22**	**20 20.1**	**+0.5**
QIZ				LR	LR			
	comp=Z,310nm,6.1s							
GUMO	**Guam**	**18.76**	**75**	LR	LR	22	24 56.7	
	comp=Z,59nm,18.8s,baz=270,slow=40							
MTN	**Manton Dam**	**22.34**	**167**	P	**P**	**22**	**17 30.2**	**+0.4**
MTN				IAmb	IAmb	22	18 07.1	
	comp=Z,23nm,1.1s							
NJ2	**Nanjing**	**23.84**	**344**	*e*P	**P**	**22**	**17 46.1**	**+1.9**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
JNU	**Nakatsue**	**24.27**	**9**	LR	LR	22	25 47.4	
	comp=Z,41nm,21.4s,baz=204,slow=33							
SLVN	**Son La**	**24.73**	**302**	P	**P**	**22**	**17 52.5**	**0.0**
KNRA	**Kununurra**	**24.75**	**174**	P	**P**	**22**	**17 52.9**	**+0.3**
KNRA				IAmb	IAmb	22	18 28.8	
	comp=Z,25nm,1.3s							
FITZ	**Fitzroy Crossi**	**27.05**	**181**	P	**P**	**22**	**18 12.9**	**-0.4**
CM31	**Chiang Mai Arr**	**28.09**	**292**	P	**P**	**22**	**18 23.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**28.09**	**292**	P	**P**	**22**	**18 23.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**28.09**	**292**	P	**P**	**22**	**18 22.8**	**0.0**
	comp=Z,2.6nm,0.9s,baz=104,slow=6.8,SNR=12							
CMAR				PcP	**PcP**	**22**	**21 37.2**	**+1.8**
	comp=Z,1.2nm,0.4s,baz=110,slow=0.7,SNR=9.6							
	comp=Z,2.6nm,0.9s							
KSAR	**Wonju Array Be**	**28.24**	**3**	P	**P**	**22**	**18 23.5**	**-0.3**
KSRS	**Korea Array**	**28.25**	**3**	P	**P**	**22**	**18 24.1**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=181,slow=11,SNR=23							
	comp=Z,5.1nm,0.5s							
KS19	**Wonju Array Si**	**28.30**	**3**	P	**P**	**22**	**18 24.0**	**-0.3**
KS19				IAmb	IAmb	22	18 24.9	
	comp=Z,18nm,1.0s							
PZH	**PanZhiHua**	**28.97**	**310**	P	**P**	**22**	**18 32.6**	**+2.0**
MJAR	**Matsushiro Arr**	**29.38**	**20**	P	**P**	**22**	**18 31.8**	**-2.2**
	comp=Z,3.0nm,0.8s,baz=194,slow=9.0,SNR=6.0							
MJAR				LR	LR	22	28 14.9	
	comp=Z,24nm,21.9s,baz=185,slow=32							
	comp=Z,3.0nm,0.8s							
GSI	**Gunungsitoli**	**29.60**	**256**	P	**P**	**22**	**18 35.6**	**-0.6**
WB0	**Warramunga Arr**	**29.79**	**164**	P	**P**	**22**	**18 36.1**	**-1.6**
WB0				IAmb	IAmb	22	19 12.7	
	comp=Z,12nm,1.3s							
WRA	**Warramunga Arr**	**29.95**	**165**	P	**P**	**22**	**18 37.6**	**-1.5**
WRA	**Warramunga Arr**	**29.95**	**165**	P	**P**	**22**	**18 37.0**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=346,slow=9.2,SNR=9.7							
WRA				PcP	**PcP**	**22**	**21 38.5**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=340,slow=3.1,SNR=2.6							
	comp=Z,1.1nm,0.7s							
MBWA	**Marble Bar**	**30.77**	**192**	P	**P**	**22**	**18 47.6**	**+1.3**
MBWA				IAmb	IAmb	22	19 20.3	
	comp=Z,19nm,1.5s							
JMM	**Marumori**	**31.48**	**22**	P	**P**	**22**	**18 51.5**	**-0.9**
ASAR	**Alice Springs**	**33.42**	**167**	P	**P**	**22**	**19 08.4**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=17,slow=10,SNR=12							
ASAR				PcP	**PcP**	**22**	**21 49.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=355,slow=2.5,SNR=5.8							
ASAR				LR	LR	22	32 34.4	
	comp=Z,27nm,20.3s,baz=301,slow=36							
	comp=Z,0.6nm,0.4s							
JTM	**Tenmabayashi**	**34.16**	**20**	P	**P**	**22**	**19 15.8**	**0.0**
HHC	**Hu-ho-hao-te**	**34.20**	**340**	*e*P	**P**	**22**	**19 19.0**	**+2.8**
HHC				pmax	pmax			
	comp=Z,16nm,0.6s							
HHC				pmax	pmax			
	comp=Z,110nm,5.2s							
CN2	**Changchun**	**34.56**	**359**	P	**P**	**22**	**19 18.9**	**-0.3**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**35.30**	**7**	P	**P**	**22**	**19 25.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**35.30**	**7**	P	**P**	**22**	**19 25.4**	**-0.1**
	comp=Z,8.5nm,0.7s,baz=192,slow=7.7,SNR=18							
USRK				LR	LR	22	32 14.6	
	comp=Z,29nm,21.2s,baz=175,slow=34							
	comp=Z,8.5nm,0.7s							
USA0B	**Ussuriysk Arra**	**35.30**	**7**	P	**P**	**22**	**19 25.4**	**-0.2**
USA0B				IAmb	IAmb	22	19 27.0	
	comp=Z,10nm,0.9s							
MDJ	**Mudanjiang**	**35.49**	**4**	P	**P**	**22**	**19 28.8**	**+1.7**
MDJ				pmax	pmax			
	comp=Z,26nm,0.9s							
XLT	**XiLinHaoTe**	**35.77**	**347**	*e*P	**P**	**22**	**19 29.3**	**-0.4**
XLT				pmax	pmax			
	comp=Z,9.0nm,0.7s							
XLT				pmax	pmax			
	comp=Z,220nm,5.4s							
BRDH	**Bariadhala**	**35.83**	**296**	LR	LR	22	34 42.4	
	comp=Z,71nm,18.1s,baz=218,slow=37							
BNX	**BinXian**	**36.51**	**1**	⇑P	**P**	**22**	**19 36.6**	**+0.8**
BNX				pmax	pmax			
	comp=Z,13nm,0.6s							
SHL	**Shillong**	**36.53**	**301**	P	**P**	**22**	**19 35.9**	**-0.7**
SHL				IAmb	IAmb	22	19 37.0	
	comp=Z,16nm,1.1s							
ASAJ	**Asahikawa**	**37.65**	**19**	LR	LR	22	35 50.0	
	comp=Z,40nm,19.1s,baz=187,slow=37							
JKA	**Kamikawa-asahi**	**37.65**	**19**	P	**P**	**22**	**19 46.2**	**+0.7**
HNR	**Honiara**	**38.25**	**118**	LR	LR	22	33 33.2	
	comp=Z,25nm,21.5s,baz=219,slow=33							
GTA	**Gaotai**	**38.34**	**326**	*e*P	**P**	**22**	**19 51.5**	**-0.1**
GTA				PcP	**PcP**	**22**	**22 05.1**	**+1.2**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LSA	**Lhasa**	**38.71**	**307**	P	**P**	**22**	**19 56.1**	**+0.8**
MORW	**Morawa**	**39.22**	**194**	P	**P**	**22**	**19 59.5**	**+0.6**
MORW				IAmb	IAmb	22	20 29.7	
	comp=Z,11nm,1.2s							
H11S3	**WAKE ISLAND Hy**	**40.25**	**72**	T	T	23	03 07.0	
	baz=262,slow=74,SNR=246							
H11S1	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	23	03 02.9	
	baz=262,slow=74,SNR=193							
H11S2	**WAKE ISLAND Hy**	**40.27**	**72**	T	T	23	03 05.5	
	baz=262,slow=74,SNR=252							
HEH	**HeiHe**	**41.02**	**1**	*e*P	**P**	**22**	**20 13.8**	**+0.3**
HEH				pmax	pmax			
	comp=Z,13nm,0.6s							
EVN	**Everest**	**41.60**	**302**	P	**P**	**22**	**20 19.5**	**+0.1**
ULN	**Ulaanbaatar**	**41.91**	**341**	P	**P**	**22**	**20 20.4**	**-0.7**
ULN				IAmb	IAmb	22	20 21.7	
	comp=Z,3.4nm,0.5s							
SONM	**Songino Array**	**42.10**	**340**	P	**P**	**22**	**20 21.1**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=165,slow=8.3,SNR=4.8							
SONM				PcP	**PcP**	**22**	**22 15.6**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=113,slow=2.6,SNR=2.8							
SONM				LR	LR	22	38 25.0	
	comp=Z,25nm,18.7s,baz=156,slow=37							
	comp=Z,0.6nm,0.5s							
BBOO	**Buckleboo**	**42.72**	**168**	P	**P**	**22**	**20 27.9**	**+0.3**
BBOO				IAmb	IAmb	22	20 29.4	
	comp=Z,13nm,0.8s							
STKA	**Stephens Creek**	**43.31**	**161**	P	**P**	**22**	**20 32.1**	**-0.3**
STKA	**Stephens Creek**	**43.31**	**161**	P	**P**	**22**	**20 32.0**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=336,slow=9.9,SNR=6.7							
	comp=Z,2.3nm,0.6s							
TOO	**Toolangi**	**49.80**	**160**	P	**P**	**22**	**21 23.2**	**+0.1**
DZM	**Mont Dzumac**	**50.12**	**129**	*e*LR	LR	22	35 42.0	
	comp=Z,63nm,29.2s							
PEA0B	**Petropavlovsk-**	**50.68**	**24**	P	**P**	**22**	**21 29.9**	**+0.3**
PEA0B				IAmb	IAmb	22	21 31.4	
	comp=Z,6.6nm,0.8s							
PETK	**Petropavlovsk-**	**50.68**	**24**	P	**P**	**22**	**21 29.9**	**+0.4**
PETK	**Petropavlovsk-**	**50.68**	**24**	P	**P**	**22**	**21 30.7**	**+1.2**
	comp=Z,3.3nm,0.6s,baz=217,slow=4.3,SNR=7.0							
	comp=Z,3.3nm,0.6s							
YAK	**Yakutsk**	**52.88**	**2**	LR	LR	22	47 23.7	
	comp=Z,20nm,18.3s,baz=116,slow=40							
MKAR	**Makanchi Array**	**52.95**	**323**	P	**P**	**22**	**21 46.2**	**-0.3**
MKAR	**Makanchi Array**	**52.95**	**323**	P	**P**	**22**	**21 46.5**	**-0.1**
	comp=Z,7.2nm,0.5s,baz=126,slow=7.9,SNR=91							
MKAR				PcP	**PcP**	**22**	**22 55.1**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=109,slow=3.2,SNR=4.6							
MKAR				LR	LR	22	46 22.4	
	comp=Z,48nm,18.6s,baz=75,slow=38							
	comp=Z,7.2nm,0.5s							
TARG	**Taragay, Kyrgy**	**53.53**	**316**	P	**P**	**22**	**21 51.5**	**+0.1**
KDJ	**Kajisay**	**54.12**	**316**	P	**P**	**22**	**21 55.3**	**0.0**
KDJ				IAmb	IAmb	22	21 56.5	
	comp=Z,11nm,1.0s							
NIL	**Nilore**	**54.39**	**305**	P	**P**	**22**	**21 57.5**	**+0.1**
ZAA0	**Zalesovo Array**	**55.64**	**332**	P	**P**	**22**	**22 04.8**	**-1.1**
ZALV	**Zalesovo Beam**	**55.64**	**332**	P	**P**	**22**	**22 04.9**	**-1.0**
ZALV	**Zalesovo Beam**	**55.64**	**332**	P	**P**	**22**	**22 04.8**	**-1.1**
	comp=Z,1.9nm,0.4s,baz=111,slow=7.3,SNR=9.4							
	comp=Z,1.9nm,0.4s							
AAK	**Ala-Archa**	**56.15**	**316**	LR	LR	22	47 35.9	
	comp=Z,96nm,21.9s,baz=100,slow=38							
ARSB	**Arslanbob**	**56.77**	**314**	P	**P**	**22**	**22 14.4**	**+0.1**
KURK	**Kurchatov**	**57.02**	**326**	P	**P**	**22**	**22 15.3**	**-0.5**
KURBB	**Kurchatov Arra**	**57.02**	**326**	P	**P**	**22**	**22 15.8**	**0.0**
	comp=Z,6.6nm,0.5s,baz=124,slow=6.7,SNR=36							
	comp=Z,6.6nm,0.5s							
KBL	**Kabul**	**57.99**	**305**	P	**P**	**22**	**22 22.9**	**-0.3**
KBL				IAmb	IAmb	22	22 23.9	
	comp=Z,5.9nm,0.7s							
GAR	**Garm**	**58.04**	**310**	P	**P**	**22**	**22 23.1**	**-0.2**
KK31	**Karatay Array**	**59.07**	**315**	P	**P**	**22**	**22 29.7**	**-0.6**
KKAR	**Karatay Array**	**59.07**	**315**	P	**P**	**22**	**22 29.8**	**-0.4**
TIXI	**Tiksi**	**62.50**	**1**	P	**P**	**22**	**22 53.1**	**+0.1**
TIXI	**Tiksi**	**62.50**	**1**	LR	LR	22	50 03.7	
	comp=Z,20nm,21.4s,baz=194,slow=36							
BVAR	**Borovoye Array**	**62.62**	**326**	P	**P**	**22**	**22 54.0**	**-0

C18K	**Utukok River**	75.22	21	P	P	22 24 12.8	+0.7
	baz=257						
K17K	**Iditarod**	75.27	27	P	P	22 24 11.9	-0.4
	baz=261						
F18K	**Selawik**	75.37	23	P	P	22 24 12.7	-0.1
	baz=259						
KIRV	**Kirov**	75.43	328	P	P	22 24 12.9	-0.4
	comp=Z,24nm,0.6s,baz=155,slow=1.8,SNR=11						
	comp=Z,24nm,0.6s						
O17K	**Koliganek Bris**	75.44	31	P	P	22 24 13.5	+0.1
	baz=263						
M17K	**Holitna River**	75.48	29	P	P	22 24 15.1	+1.5
M17K				lAmb	lAmb	22 24 16.8	
	comp=Z,7.0nm,0.8s						
M17K	**Holitna River**	75.48	29	P	P	22 24 14.0	+0.4
	baz=262						
N17K	**Nushagak Hills**	75.49	30	P	P	22 24 14.1	+0.4
	baz=263						
R17L	**Mt. Peulik Vol**	75.59	33	P	P	22 24 14.5	+0.2
	baz=264						
H18K	**Honhosa River**	75.63	25	P	P	22 24 14.7	+0.3
	baz=260						
G18K	**Tagagawik**	75.64	24	P	P	22 24 14.5	0.0
	baz=260						
P17K	**Kvichak River**	75.71	31	P	P	22 24 15.2	+0.3
	baz=264						
CHIR	**Chirikof Islan**	75.83	35	P	P	22 24 16.0	+0.3
	baz=265						
C19K	**Lookout Ridge**	75.89	21	P	P	22 24 16.3	+0.4
	baz=258						
Q17K	**Contact Creek**	75.90	32	P	P	22 24 16.7	+0.5
	baz=264						
BELG	**Belogornoye**	75.91	322	P	P	22 24 12.3	-3.9
	comp=Z,9.8nm,0.6s,baz=86,slow=3.2,SNR=5.1						
L18K	**Granite Mounta**	75.94	28	P	P	22 24 16.7	+0.4
	baz=263						
CASY	**Casey**	76.08	186	P	P	22 24 17.5	+0.7
CASY				lAmb	lAmb	22 24 18.6	
	comp=Z,5.2nm,0.8s						
J18K	**Innoko River**	76.09	27	P	P	22 24 16.3	-0.7
	baz=262						
N18K	**Kilae Creek**	76.14	30	P	P	22 24 16.8	-0.6
	baz=264						
F19K	**Shaleruckik Mo**	76.15	23	P	P	22 24 16.9	-0.4
	baz=261						
GCSA	**Galena City Sc**	76.20	25	P	P	22 24 17.9	+0.3
	baz=262						
M18K	**Stony River**	76.27	29	P	P	22 24 17.8	-0.3
	baz=264						
D19K	**Kuna River**	76.30	22	P	P	22 24 18.2	0.0
	baz=260						
G19K	**Purcell Mounta**	76.31	24	P	P	22 24 18.4	+0.2
	baz=261						
P18K	**Big Mountain,**	76.35	31	P	P	22 24 18.6	0.0
	baz=265						
Q18K	**Katmai Hardscr**	76.39	32	P	P	22 24 18.7	-0.3
	baz=265						
O18K	**Koktuh Hills**	76.40	31	P	P	22 24 19.0	+0.1
	baz=265						
E19K	**Redstone River**	76.46	23	P	P	22 24 19.2	+0.2
	baz=261						
H19K	**Roundabout Mou**	76.48	25		P	22 24 20.2	+1.0
H19K				lAmb	lAmb	22 24 21.9	
	comp=Z,7.6nm,0.7s						
H19K	**Roundabout Mou**	76.48	25	P	P	22 24 19.4	+0.2
	baz=262						
R18K	**Karluk**	76.60	33	P	P	22 24 20.0	0.0
	baz=266						
J19K	**Poorman**	76.64	26	P	P	22 24 20.4	+0.2
	baz=263						
SII	**Sitkinak Islan**	76.68	34	P	P	22 24 20.7	+0.2
	baz=266						
L19K	**White Mountain**	76.79	28	P	P	22 24 21.4	+0.4
	baz=264						
N19K	**Bonanza Creek**	76.85	30	P	P	22 24 21.8	+0.4
	baz=265						
D20K	**Etivluk River**	76.88	21	P	P	22 24 22.3	+0.8
	baz=261,SNR=5.6						
B20K	**Meade River**	76.90	20	P	P	22 24 22.4	+0.9
	baz=260						
E20K	**Nigu River**	76.97	22	P	P	22 24 22.7	+0.7
	baz=262,SNR=5.2						
F20K	**Avaraart Lake**	76.98	23	P	P	22 24 21.8	-0.2
	baz=262						
H20K	**Anotleneega Mo**	77.13	25	P	P	22 24 23.0	+0.1
	baz=264						
OHAK	**Old Harbor**	77.21	33	P	P	22 24 23.7	+0.2
	baz=267						
K20K	**Telida**	77.26	27	P	P	22 24 24.1	+0.4
	baz=265						
L20K	**Farewell, AK**	77.27	28	P	P	22 24 24.2	+0.5
	baz=265						
J20K	**Nowinta River**	77.31	26	P	P	22 24 24.0	+0.1
	baz=265						
M20K	**Styx River**	77.58	29	P	P	22 24 25.3	-0.3
	baz=266						
C21K	**Knifeblade Rid**	77.60	21	P	P	22 24 25.1	-0.3
	baz=263						
KDAK	**Kodiak Island**	77.62	33	P	P	22 24 25.9	+0.2
KDAK	**Kodiak Island**	77.62	33	LR	LR	22 56 18.8	
	comp=Z,18nm,21.1s,baz=64,slow=34						
KDAK	**Kodiak Island**	77.62	33	P	P	22 24 25.5	-0.2
	baz=267						
IMAR	**Indian Mountai**	77.64	24	P	P	22 24 26.8	+1.1
B21K	**Ikpikpuk River**	77.72	21	P	P	22 24 26.0	0.0
	baz=263						
Q20K	**Shuyak Island**	77.76	32	P	P	22 24 26.5	0.0
	baz=267						
G21K	**Allakaket**	77.79	24	P	P	22 24 27.2	+0.7
	baz=265,SNR=6.0						
E21K	**Killik River**	77.81	22	P	P	22 24 27.0	+0.4
	baz=264						
F21K	**Alatna River**	77.87	23	P	P	22 24 27.3	+0.3
	baz=264						
H21K	**Melozitna Rive**	78.00	25	P	P	22 24 27.0	-0.7
	baz=266						
RAYN	**Ar Rayn**	78.01	292	P	P	22 24 28.8	+0.1
RAYN				lAmb	lAmb	22 24 30.5	
	comp=Z,5.4nm,0.7s						
PPLA	**Purkeypile**	78.08	28	P	P	22 24 28.4	0.0
	baz=267						
CHUM	**Lake Minchumin**	78.09	27	P	P	22 24 28.4	+0.2
	baz=266						
CAST	**Castle Rocks**	78.16	27		P	22 24 29.4	+0.7
CAST				lAmb	lAmb	22 24 30.9	
	comp=Z,6.5nm,0.8s						
CAST	**Castle Rocks**	78.16	27	P	P	22 24 28.9	+0.3
	baz=267						
I21K	**Tanana**	78.31	25	P	P	22 24 29.9	+0.5
	baz=266						
D22K	**Ayikyak River**	78.32	21	P	P	22 24 30.2	+0.7
	baz=265						
SKT	**Skwentna**	78.34	29	P	P	22 24 30.0	+0.3
	baz=267						
CAPN	**Captain Cook N**	78.47	30	P	P	22 24 31.2	+0.9
	baz=268						
E22K	**Anaktuvuk Pass**	78.58	22	P	P	22 24 31.4	+0.4
	baz=266						
H22K	**Ishtalitna Cre**	78.61	25	P	P	22 24 32.1	+1.0
	baz=267						
G22K	**Bettles**	78.62	23	P	P	22 24 31.5	+0.5
	baz=266						
BPAW	**Bear Paw Mtn.**	78.68	26	P	P	22 24 31.8	+0.3
	baz=268						
SUA	**Susitna One**	78.69	29	P	P	22 24 32.5	+0.7
	baz=268						
MLY	**Manley**	78.83	25	P	P	22 24 33.0	+0.7
	baz=268						
TRF	**Thorofare Moun**	78.97	27	P	P	22 24 34.0	+0.7
	baz=268						
KBZ	**Khabaz**	78.99	313	P	P	22 24 33.2	-0.4
	comp=Z,3.2nm,0.8s,baz=108,slow=2.8,SNR=7.1						
	comp=Z,3.2nm,0.8s						
M22K	**Willow**	79.00	29	P	P	22 24 33.7	+0.5
	baz=269						
D23K	**Nanushuk River**	79.05	21	P	P	22 24 34.4	+0.9
	baz=267						
GEVA	**Gevas**	79.11	307		P	22 24 34.7	0.0
GEVA				lAmb	lAmb	22 24 36.4	
	comp=Z,7.1nm,0.6s						
C23K	**Itkillik River**	79.12	21	P	P	22 24 34.4	+0.7
	baz=267						
KIV	**Kislovodsk**	79.14	313	P	P	22 24 35.0	+0.5
COLD	**Coldfoot**	79.14	23	P	P	22 24 35.3	+1.3
COLD				lAmb	lAmb	22 24 36.7	
	comp=Z,5.3nm,0.7s						
COLD	**Coldfoot**	79.14	23	P	P	22 24 34.4	+0.5
	baz=268						
RC01	**Rabbit Creek A**	79.17	29	P	P	22 24 34.7	+0.4
	baz=269						
G23K	**Bananza Creek**	79.19	24	P	P	22 24 34.2	-0.1
	baz=268						
SEW	**Seward**	79.30	30	P	P	22 24 34.9	0.0
	baz=270						
H23K	**Yukon River**	79.36	25	P	P	22 24 35.8	+0.6
	baz=268,SNR=6.5						
E23K	**Chandalar**	79.40	22	P	P	22 24 36.1	+0.7
	baz=268,SNR=6.6						
I23K	**Minto, Yukon-K**	79.42	25	P	P	22 24 36.5	+1.1
I23K				lAmb	lAmb	22 24 38.0	
	comp=Z,5.8nm,0.6s						
I23K	**Minto, Yukon-K**	79.42	25	P	P	22 24 36.1	+0.7
	baz=269,SNR=10						
TOLK	**Toolik Lake Re**	79.44	22	P	P	22 24 37.2	+1.6
TOLK				lAmb	lAmb	22 24 38.3	
	comp=Z,7.7nm,0.8s						
TOLK	**Toolik Lake Re**	79.44	22	P	P	22 24 36.4	+0.8
	baz=268						
PMR	**Palmer**	79.47	29	P	P	22 24 36.5	+0.7
	baz=270						
NEA2	**Nenana**	79.53	26	P	P	22 24 36.4	+0.3
	baz=269,SNR=8.1						
MCK	**McKinley**	79.58	27		P	22 24 36.9	+0.5
MCK	**McKinley**	79.58	27	P	P	22 24 36.8	+0.3
	baz=269,SNR=7.6						
RND	**Reindeer**	79.61	27	P	P	22 24 37.3	+0.6
RND				lAmb	lAmb	22 24 37.9	
	comp=Z,11nm,1.4s						
D24K	**Happy Valley**	79.72	21	P	P	22 24 37.6	+0.5
	baz=268						
C24K	**Franklin Bluff**	79.78	21	P	P	22 24 37.8	+0.4
	baz=268						
KNK	**Knik Glacier**	79.79	29	P	P	22 24 37.8	+0.2
	baz=270						
E24K	**Your Creek**	79.82	22	P	P	22 24 38.4	+0.7
	baz=269						
PWL	**Port Wells**	79.86	30	P	P	22 24 38.3	+0.3
	baz=270						
GURO	**Guroymak-BITLI**	79.91	308	P	P	22 24 39.5	+0.7
H24K	**Noodor Dome**	80.04	25	P	P	22 24 39.5	+0.6
	baz=270,SNR=6.7						
F24K	**Squaw Lake**	80.05	23	P	P	22 24 39.6	+0.7
	baz=270,SNR=6.6						
CCB	**Clear Creek Bu**	80.08	26	P	P	22 24 39.4	+0.3
CCB				lAmb	lAmb	22 24 40.1	
	comp=Z,2.8nm,0.5s						
M23K	**Glacier View**	80.14	29	P	P	22 24 39.8	+0.3
	baz=271						
G24K	**Hadweenzic Riv**	80.20	24	P	P	22 24 40.4	+0.6
	baz=270,SNR=5.6						
POKR	**Poker Plat Res**	80.23	25	P	P	22 24 40.9	+0.9
	baz=270						
SCM	**Sheep Creek Mo**	80.33	29	P	P	22 24 41.5	+0.9
SCM				lAmb	lAmb	22 24 43.0	
	comp=Z,7.3nm,0.8s						
SCM	**Sheep Creek Mo**	80.33	29	P	P	22 24 41.5	+0.9
	baz=271						
P23K	**Montague Islan**	80.33	31	P	P	22 24 41.5	+1.0
	baz=271						
HDA	**Harding Lake**	80.45	26	P	P	22 24 40.9	-0.2
HDA				lAmb	lAmb	22 24 41.7	
	comp=Z,6.8nm,0.6s						
HDA	**Harding Lake**	80.45	26	P	P	22 24 41.2	+0.1
	baz=271,SNR=7.0						
GLI	**Glacier Island**	80.46	30	P	P	22 24 41.2	0.0
	baz=272						
ILAR	**Eielson Array**	80.47	26	P	P	22 24 40.6	-0.6
ILAR	**Eielson Array**	80.47	26	P	P	22 24 40.9	-0.3
	comp=Z,2.0nm,0.7s,baz=239,slow=4.9,SNR=26						
	comp=Z,2.0nm,0.7s						
D25K	**Kavik River**	80.60	21	P	P	22 24 42.5	+0.6
	baz=271						
G25K	**Bearman Lake**	80.75	24	P	P	22 24 43.0	+0.4
	baz=271						
M24K	**Tolsona, Glenn**	80.86	28	P	P	22 24 43.5	+0.1
	baz=272						
H25L	**Birch Creek**	80.88	24	P	P	22 24 43.9	+0.7
	baz=272						
Q23K	**Middleton Isla**	80.88	31	P	P	22 24 43.7	+0.2
	baz=272						
F25K	**Christian Rive**	80.91	23	P	P	22 24 43.5	0.0
	baz=272,SNR=5.6						
K24K	**Donnelly Dome**	80.98	27	P	P	22 24 43.9	-0.1
	baz=272						
MARD	**Mardin**	80.98	306	P	P	22 24 45.2	+0.6
KOPT	**Kop Dagi**	80.99	309		P	22 24 45.6	+0.8
KOPT				lAmb	lAmb	22 24 49.9	
	comp=Z,8.5nm,1.1s						
KLU	**Klutina**	81.01	29	P	P	22 24 44.3	+0.1
	baz=272						
PRP	**Porcupine Dome**	81.02	25	P	P	22 24 44.8	+0.5
	baz=272						
J25K	**Salcha River,**	81.13	26	P	P	22 24 44.9	+0.2
	baz=272						
PAX	**Paxson**	81.16	28	P	P	22 24 45.5	+0.5
PAX	**Paxson**	81.16	28	P	P	22 24 45.5	+0.5
	baz=273						
BMAR	**Burnt Mountain**	81.32	23	P	P	22 24 47.7	+2.0
HARP	**HAARP**	81.33	28	P	P	22 24 46.2	+0.4
	baz=273						
RIDG	**Independent Ri**	81.40	27	P	P	22 24 46.3	+0.1
	baz=273,SNR=8.3						
F26K	**Sheenjek River**	81.47	23	P	P	22 24 47.0	+0.5
	baz=273						
C27K	**Jago River**	81.53	21	P	P	22 24 47.1	+0.4
	baz=273						
N25K	**Chitina, Valde**	81.64	29	P	P	22 24 47.9	+0.4
	baz=274						
G26K	**Porcupine Rive**	81.66	23	P	P	22 24 47.9	+0.5
	baz=274						
BMRM	**Bremner River**	81.67	30	P	P	22 24 48.0	+0.3
	baz=274						
DOT	**Dot Lake**	81.75	27	P	P	22 24 48.3	+0.3
SCRK	**Sand Creek**	81.76	26	P	P	22 24 48.6	+0.4
	baz=274,SNR=5.6						
KAIM	**Kayak Island**	81.83	31	P	P	22 24 49.1	+0.6
	baz=274						
J26L	**Joseph Creek**	81.91	26	P	P	22 24 49.4	+0.4
	baz=274,SNR=6.2						
GLB	**Gilahina Butte**	82.02	29		P	22 24 50.8	+1.3
GLB				lAmb	lAmb	22 24 52.5	
	comp=Z,7.4nm,1.1s						
I26K	**Coal Creek Min**	82.03	25	P	P	22 24 49.8	+0.4
	baz=274,SNR=6.8						
M26K	**Nabesna, AK**	82.33	28	P	P	22 24 51.1	0.0
	baz=275						
E27K	**Coleen River**	82.40	22	P	P	22 24 52.8	+1.5
	baz=275						
MCARA	**McCarthy VSAT**	82.41	29	P	P	22 24 52.2	+0.7
	baz=275						
CRQE	**Cirque**	82.43	30	P	P	22 24 52.2	+0.4
	baz=275						
G27K	**Doyon Strip**	82.51	24	P	P	22 24 52.4	+0.4
	baz=276						
D27M	**Malcolm River**	82.52	21	P	P	22 24 52.1	+0.1
	baz=276						
K27K	**Chicken**	82.60	26	P	P	22 24 52.4	0.0
	baz=276						
H27K	**Steamboat Moun**	82.61	24	P	P	22 24 52.7	+0.2
	baz=276						
I27K	**Kandik River**	82.64	25	P	P	22 24 53.4	+0.7
	baz=276,SNR=14						
L27K	**Beaver Creek,**	82.81	27	P	P	22 24 53.6	0.0
	baz=276,SNR=6.6						
BCAR	**Beaver Creek A**	82.82	27	P	P	22 24 55.0	+1.3
M27K	**Edge Creek, AK**	82.85	28	P	P	22 24 54.0	+0.1
	baz=276,SNR=6.1						
MESA	**MESA**	83.05	30	P	P	22 24 55.3	+0.2
	baz=276						
F28M	**Old Crow**	83.11	23	P	P	22 24 55.6	+0.6
	baz=277						
E28M	**Babbage River**	83.11	22	P	P	22 24 54.8	-0.2
	baz=277						
YAH	**Yahtse**	83.13	30	P	P	22 24 56.8	+1.3
YAH				lAmb	lAmb	22 24 58.1	
	comp=Z,7.7nm,0.7s						
CTG	**Chitna Glacier**	83.26	29	P	P	22 24 57.0	+1.0
	baz=276,SNR=9.9						
D28M	**Skookum Point**	83.30	21	P	P	22 24 56.4	+0.5
	baz=278						
BVCY	**Beaver Creek**	83.32	28	P	P	22 24 56.3	+0.1
	baz=277						
I28M	**Miner Creek**	83.35	25	P	P	22 24 56.9	+0.5
	baz=277,SNR=17						
E29M	**Blow River**	83.74	22	P	P	22 24 58.5	+0.3
	baz=279						
VOI	**Vohitsoka**	83.75	247	P	P	22 24 58.2	-1.1
DAWY	**Dawson**	83.77	26	P	P	22 24 59.7	+1.2
DAWY				lAmb	lAmb	22 25 01.3	
	comp=Z,7.7nm,1.0s						
DAWY	**Dawson**	83.77	26	P	P	22 24 58.8	+0.3
	baz=278						
GAZ	**Gaziantep**	83.83	307		P	22 24 59.7	+0.3
GAZ				lAmb	lAmb	22 25 01.1	
	comp=Z,9.9nm,0.9s						
O28M	**Mount Upton**	83.84	30	P	P	22 24 59.6	+0.4
	baz=278,SNR=6.3						
H29M	**Whitestone**	83.89	24	P	P	22 24 59.8	+0.8
	baz=279						
PINM	**Pinnacle**	83.90	30	P	P	22 25 00.3	+1.0
	baz=278						
G29M	**Pine Creek**	83.92	23	P	P	22 24 59.9	+0.7
	baz=279						
YUK8	**Steele Glacier**	83.98	29	P	P	22 25 00.5	+0.6
	baz=278						
I29M	**Ogilvie Camp,**	84.04	25	P	P	22 25 00.4	+0.6
	baz=279,SNR=6.1						
J29N	**Klondike Camp**	84.22	26	P	P	22 25 01.7	+0.9
	baz=279						
PNL	**Peninsula**	84.39	31	P	P	22 25 02.8	+1.1
	baz=278						
M29M	**Somme Creek**	84.42	28	P	P	22 25 03.0	+1.1
	baz=279,SNR=15						
L29M	**L29M**	84.47	27	P	P	22 25 02.6	+0.5
	baz=279,SNR=16						
YUK4	**Talbot Arm**	84.50	29	P	P	22 25 02.7	+0.2
	baz=279						
EPYK	**Eagle Plains**	84.52	24	P	P	22 25 02.4	+0.1
	baz=280						
G30M	**tAoh Zraii Nji**	84.61	23	P	P	22 25 03.5	+0.8
	baz=280						
K29M	**Barlow Dome**	84.62	26	P	P	22 25 03.8	+0.9
	baz=280						
F30M	**Barrier River**	84.66	22	P	P	22 25 03.1	+0.2
	baz=281						
BNN	**Bunyan**	84.69	308		P	22 25 03.8	0.0
BNN				lAmb	lAmb	22 25 05.6	
	comp=Z,6.5nm,0.9s						
O29M	**Mount Kennedy**	84.70	30	P	P	22 25 04.4	+1.0
	baz=279						
YUK6	**Outpost Mounta**	84.70	29	P	P	22 25 04.0	+0.4
	baz=279						
I30M	**Mount Dempster**	84.86	25	P	P	22 25 04.3	+0.2
	baz=280						
J30M	**Hart River**	85.00	25	P	P	22 25 05.0	+0.2
	baz=281						
HYT	**Haines Junctio**	85.14	29	P	P	22 25 06.4	+0.8
	baz=280,SNR=7.5						
SPITS	**Spitsbergen Ar**	85.14	349	P	P	22 25 05.3	+0.1
	comp=Z,3.2nm,0.5s,baz=91,slow=6.7,SNR=10						
	comp=Z,3.2nm,0.5s						
M30M	**Minto, Yukon**	85.16	27	P	P	22 25 07.1	+1.5
	baz=280,SNR=7.7						
N30M	**Aishikik Lake**	85.22	29	P	P	22 25 06.9	+1.0
	baz=280,SNR=6.5						
P29M	**Windy Craggy**	85.22	30	P	P	22 25 06.9	+1.0
	baz=280						
ARCES	**ARCESS Array B**	85.27	340	P	P	22 25 06.0	+0.1
ARCES				lAmb	lAmb	22 25 06.7	
	comp=Z,5.0nm,0.6s						
ARCES	**ARCESS Array B**	85.27	340	P	P	22 25 06.0	+0.1
	comp=Z,5.0nm,0.6s,baz=79,slow=6.6,SNR=33						
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	85.35	22	P	P	22 25 07.0	+0.7
	baz=283						
G31M	**Satah River**	85.37	23	P	P	22 25 07.1	+0.7
	baz=282						
F31M	**Tsiigehtchic**	85.46	22	P	P	22 25 07.5	+0.7
	baz=283						
P30M	**Million Dollar**	85.53	30	P	P	22 25 08.2	+0.8
	baz=280						
H31M	**Peel River**	85.58	24	P	P	22 25 08.0	+0.5
	baz=282						
MMAI	**Mount Meron Ar**	85.83	303	P	P	22 25 10.1	+0.5
	comp=Z,2.0nm,0.7s,baz=76,slow=4.6,SNR=6.0						
	comp=Z,2.0nm,0.7s						
N31M	**Braeburn, Yuko**	85.84	28	P	P	22 25 09.5	+0.6
	baz=281						
PLBC	**Pleasant Camp**	85.94	31	P	P	22 25 09.4	-0.1
	baz=281						
BR131	**Keskin Array S**	86.27	309	P	P	22 25 10.9	-0.7
BRTR	**Keskin Array B**	86.27	309	P	P	22 25 11.0	-0.7
BRTR	**Keskin Array B**	86.27	309	P	P	22 25 10.8	-0.9
	comp=Z,1.0nm,0.6s,baz=109,slow=3.5,SNR=10						
	comp=Z,1.0nm,0.6s						
S31K	**Pelican**	86.30	32	P	P	22 25 11.1	-0.1
	baz=281						
M31M	**Drury Creek, Y**	86.33	28	P	P	22 25 11.5	+0.1
	baz=282						
WHY	**Whitehorse**	86.43	29	P	P	22 25 11.4	-0.6
	baz=282						
FIA1	**FINESS Array S**	86.91	332	P	P	22 25 13.2	-0.9
FINES	**FINESS Array B**	86.91	332	P	P	22 25 13.0	-1.0
FINES	**FINESS Array B**	86.91	332	P	P	22 25 13.7	-0.4
	comp=Z,3.1nm,0.8s,baz=89,slow=4.4,SNR=12						
	comp=Z,3.1nm,0.8s						
A36M	**Sachs Harbour**	87.01	17	P	P	22 25 14.5	+0.2
	baz=290						
N32M	**Quiet Lake**	87.18	29	P	P	22 25 15.6	+0.1
	baz=284						
PPT2	**Papeete2**	87.20	108	*e*LR	LR	22 52 55.3	
	comp=Z,60nm,28.0s						
P32M	**Atlin**	87.24	30	P	P	22 25 16.2	+0.4
	baz=283						
CSS	**Mathiatis**	87.25	305	P	P	22 25 16.5	+0.2
S32K	**Killisnoo**	87.27	32	P	P	22 25 16.2	+0.3
	baz=283						
AKASG	**Malin Array Be**	87.46	321	P	P	22 25 15.8	-1.2
	comp=Z,0.5nm,0.3s,baz=68,slow=5.2,SNR=4.2						
	comp=Z,0.5nm,0.3s						
MMPY	**Sheldon Lake,**	87.65	27	P	P	22 25 18.1	+0.3
	baz=285						
Q32M	**Nakina River**	88.11	31	P	P	22 25 20.1	-0.1
	baz=284						
CRAG	**Craig**	88.51	34	P	P	22 25 21.4	-0.4
	baz=284						
MAW	**Mawson**	88.62	200	P	P	22 25 22.9	+0.8
	comp=Z,6.1nm,1.2s,baz=82,slow=4.9,SNR=4.0						
	comp=Z,6.1nm,1.2s						
R33M	**Jennings River**	88.64	30	P	P	22 25 22.3	-0.3
	baz=286						
VNDA	**Vanda**	88.79	173	P	P	22 25 23.3	+0.7
VNDA	**Vanda**	88.79	173	P	P	22 25 22.9	+0.2
	comp=Z,1.0nm,0.7s,baz=327,slow=5.2,SNR=14						
	comp=Z,1.0nm,0.7s						
V35K	**Ketchikan**	89.38	34	P	P	22 25 27.2	+1.3
	baz=285						
BURAR	**Bucovina Array**	90.71	318	P	P	22 25 32.0	-0.5
HFS	**Hagfors**	93.07	332	P	P	22 25 41.4	-1.6
	comp=Z,2.1nm,0.9s,baz=75,slow=7.6,SNR=6.0						
	comp=Z,2.1nm,0.9s						
NOA	**NORSAR Array B**	93.79	334	P	P	22 25 46.3	-0.1
	comp=Z,0.5nm,0.6s,baz=64,slow=4.9,SNR=2.1						
NOA				LR	LR	23 11 17.1	
	comp=Z,17nm,20.1s,baz=75,slow=38						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	98.99	180	P	P	22 26 10.3	+0.6
QSPA				lAmb	lAmb	22 26 45.5	
	comp=Z,3.6nm,1.4s						
RKT	**Rikitea**	101.52	112	*e*LR	LR	22 59 39.4	
	comp=Z,13μm,37.5s						
TORD	**Torodi Ar. Bea**	120.70	291	PKP	PKPdf	22 31 21.8	-0.2
	comp=Z,1.3nm,0.8s,baz=72,slow=2.0,SNR=7.9						
PLCA	**Paso Flores**	145.15	157	PKPbc	PKPdf	22 32 07.8	+0.8
	comp=Z,3.1nm,0.7s,ba

SC01	**Santiago de lo**	**0.22 180**	Pg	**Pb**	**22 27 34.8**	**+0.4**
SC01			Sg	**Sg**	**22 27 38.8**	**+1.6**
SC01			IAML		22 27 39.3	
	comp=N,3μm,0.6s					
SC01	**Santiago de lo**	**0.22 180**	*i* P	**Pb**	**22 27 34.8**	**+0.4**
SC01			*e*S	**Sg**	**22 27 39.1**	**+1.9**
SC01			IAML		22 27 42.0	
	comp=Z,1μm,0.3s					
SC01	**Santiago de lo**	**0.22 180**⇓	*e*Pg	**Pb**	**22 27 34.8**	**+0.4**
SC01		⇓	*e*Sg	**Sg**	**22 27 38.4**	**+1.2**
SC01			IAML		22 27 39.2	
	comp=N,3μm,0.2s					
LUDR	**Luperon**	**0.33 320**⇑	*e*Pg	**Pn**	**22 27 38.3**	**-0.5**
LOPP1	**Punta Rusia, P**	**0.49 295**	*i* P	**Pn**	**22 27 41.0**	**0.0**
LOPP1			*e*S	**Sb**	**22 27 48.9**	**+3.0**
LOPP1			IAML		22 27 51.7	
	comp=Z,478nm,0.5s					
CADR	**Cabrera**	**0.74 88**⇑	*e*Sg	**Sn**	**22 27 56.2**	**+0.6**
CADR			IAML		22 28 09.5	
	comp=N,1μm,0.6s					
REDR	**Restauracion**	**0.79 233**⇓	*e*Pg	**Pn**	**22 27 47.3**	**+2.1**
REDR		⇑	*e*Sg	**Sn**	**22 27 59.8**	**+3.2**
REDR			IAML		22 28 00.8	
	comp=N,935nm,0.2s					
ABDR	**Alto Bandera**	**0.83 173**⇓	*e*Pg	**Pg**	**22 27 43.8**	**-1.3**
ABDR		⇑	*e*Sg	**Sg**	**22 27 54.5**	**-1.6**
ABDR			IAML		22 27 55.1	
	comp=N,646nm,0.3s					
SDDR	**Presa de Saban**	**0.84 219**	Pn	**Pg**	**22 27 44.2**	**-1.0**
SDDR			Sn	**Sg**	**22 27 54.9**	**-1.5**
LONA1	**Toro Cenizo, N**	**0.86 108**	*e*S	**Sn**	**22 28 00.1**	**+1.7**
LONA1			IAML		22 28 07.8	
	comp=Z,690nm,0.6s					
NADR	**Nagua**	**0.87 109**⇑	*e*Pg	**Pn**	**22 27 45.8**	**-0.6**
NADR		⇑	*e*Sg	**Sn**	**22 27 59.6**	**+0.9**
NADR			IAML		22 28 02.3	
	comp=N,2μm,0.4s					
MCDR	**Montecristi**	**0.91 286**⇑	*e*Pg	**Pn**	**22 27 46.6**	**-0.2**
MCDR			IAML		22 28 08.1	
	comp=N,428nm,0.2s					
LODA1	**ITESIL, Dajabo**	**0.92 264**	*i* P	**Pn**	**22 27 47.2**	**+0.2**
LODA1			*e*S	**Sn**	**22 27 59.9**	**-0.1**
LODA1	**ITESIL, Dajabo**	**0.92 264**⇑	*e*Sg	**Sn**	**22 28 00.3**	**+0.3**
DR08	**Loma La Naviza**	**0.95 135**⇑	*e*Pg	**Pn**	**22 27 47.5**	**0.0**
DR08		⇑	*e*Sg	**Sg**	**22 27 57.7**	**-2.1**
DR08			IAML		22 28 02.2	
	comp=N,4μm,0.2s					
BANI	**BANI**	**1.29 164**	Pn	**Pn**	**22 27 51.7**	**-0.5**
BANI			Sn	**Sb**	**22 28 09.2**	**0.0**
BANI	**BANI**	**1.29 164**⇑	*e*Pg	**Pn**	**22 27 51.9**	**-0.4**
BANI		⇑	*e*Sg	**Sb**	**22 28 08.6**	**-0.6**
BANI			IAML		22 28 10.7	
	comp=N,254nm,0.2s					
NEDR	**Neiba UASD**	**1.33 210**⇑	*e*Sg	**Sg**	**22 28 11.2**	**-0.5**
NEDR			IAML		22 28 11.7	
	comp=N,152nm,0.9s					
SDD	**Santo Domingo**	**1.41 147**	Pn	**Pn**	**22 27 53.6**	**-0.1**
SDD	**Santo Domingo**	**1.41 147**⇑	*e*Sg	**Sn**	**22 28 11.9**	**-0.1**
SDD			IAML		22 28 31.6	
	comp=N,24nm,0.9s					
LODU1	**El Espartillar**	**1.47 209**	*i* P	**Pg**	**22 27 55.9**	**-1.1**
SMDR	**Samana, DR**	**1.50 103**⇑	*e*Pg	**Pb**	**22 27 56.2**	**0.0**
SMDR		⇑	*e*Sg	**Sg**	**22 28 17.3**	**+0.2**
SMDR			IAML		22 28 19.7	
	comp=N,170nm,0.5s					
DR12	**Loma Pena Alta**	**1.53 124**	Pn	**Pn**	**22 27 55.3**	**-0.2**
HATOM	**Hato Mayor del**	**1.53 124**⇑	*e*Pg	**Pn**	**22 27 55.3**	**-0.2**
HATOM		⇑	*e*Sg	**Sg**	**22 28 16.8**	**-1.4**
HATOM			IAML		22 28 17.9	
	comp=N,420nm,0.4s					
PODR	**Polo**	**1.56 200**	*i* P	**Pb**	**22 27 57.2**	**-0.1**
PODR			*e*S	**Sg**	**22 28 17.8**	**-1.4**
PODR	**Polo**	**1.56 200**⇓	*e*Pg	**Pb**	**22 27 57.1**	**-0.3**
PODR			IAML		22 28 21.6	
	comp=N,197nm,0.6s					
JIDR	**Jimani**	**1.56 223**⇑	*e*Pg	**Pg**	**22 27 57.8**	**-1.1**
JIDR			IAML		22 28 19.2	
	comp=N,454nm,0.6s					
MIDR	**Miches**	**1.72 112**⇑	*e*Pg	**Pb**	**22 27 59.4**	**-0.5**
MIDR		⇑	*e*Sg	**Sg**	**22 28 22.4**	**-1.7**
MIDR			IAML		22 28 28.0	
	comp=N,72nm,0.6s					
GRTK	**Grand Turk**	**1.90 349**	*e*P	**Pn**	**22 28 00.2**	**-0.2**
GRTK			*e*S	**Sg**	**22 28 27.8**	**-2.0**
GRTK			IAML		22 28 28.6	
	comp=N,378nm,0.3s					
GRTK			IAML		22 28 30.7	
	comp=N,136nm,0.2s					
GRTK	**Grand Turk**	**1.90 349**	*i* P	**Pg**	**22 28 03.8**	**-1.5**
GRTK			*e*S	**Sg**	**22 28 27.9**	**-1.9**
GRTK			IAML		22 28 29.7	
	comp=Z,70nm,0.2s					
GRTK	**Grand Turk**	**1.90 349**⇓	*e*Pg	**Pb**	**22 28 03.0**	**0.0**
GRTK		⇑	*e*Sg	**Sg**	**22 28 28.2**	**-1.7**
GRTK			IAML		22 28 30.7	
	comp=N,136nm,0.2s					
LOBH	**Bahia de las A**	**1.97 206**	*i* P	**Pb**	**22 28 04.0**	**-0.3**
LOBH			*e*S	**Sg**	**22 28 30.3**	**-2.0**
HIDR	**Higuey Centro**	**2.17 118**⇑	*e*Sg	**Sb**	**22 28 35.5**	**+1.2**
HIDR			IAML		22 28 38.3	
	comp=N,319nm,0.2s					
MASC	**Masc**	**3.34 280**	*e*P	**Pn**	**22 28 20.0**	**-0.3**
MASC			*e*S	**Sn**	**22 29 02.4**	**+2.8**
MASC			IAML		22 29 12.8	
	comp=E,33nm,0.1s					
MASC			IAML		22 29 13.7	
	comp=N,39nm,0.3s					
CRPR	**Cabo Rojo, PR**	**3.80 115**	Pn	**Pn**	**22 28 27.8**	**+1.2**
CRPR			IAML		22 28 57.2	
	comp=E,29nm,2.2s					
CRPR			IAML		22 30 30.0	
	comp=N,35nm,2.1s					
QMBU	**Quimbuelo**	**3.88 279**	*e*P	**Pn**	**22 28 26.6**	**-1.2**
QMBU			*e*S	**Sn**	**22 29 13.2**	**+0.2**
QMBU			IAML		22 29 25.1	
	comp=N,25nm,1.6s					
QMBU			IAML		22 29 30.2	
	comp=E,35nm,0.6s					
AOPR	**Arecibo Observ**	**3.98 108**	Pn	**Pn**	**22 28 29.7**	**+0.5**
NMDO	**Nuevo Mundo**	**4.10 284**	Pn	**Pn**	**22 28 29.4**	**-1.4**
NMDO	**Nuevo Mundo**	**4.10 284**	*e*P	**Pn**	**22 28 29.6**	**-1.1**
NMDO			*e*S	**Sn**	**22 29 17.1**	**-1.3**
NMDO			IAML		22 29 36.0	
	comp=N,13nm,0.0s					
NMDO			IAML		22 29 37.0	
	comp=E,14nm,0.7s					
GTBY	**Guantanamo Bay**	**4.13 275**	*e*P	**Pn**	**22 28 31.9**	**+0.7**
GTBY			*e*S	**Sn**	**22 29 17.7**	**-1.6**
GTBY			IAML		22 29 20.6	
	comp=E,4.1nm,0.8s					
GTBY			IAML		22 29 24.4	
	comp=E,4.3nm,0.6s					
OBIP	**Obispado Ponce**	**4.22 112**	Pn	**Pn**	**22 28 33.7**	**+1.3**
OBIP			IAML		22 29 49.1	
	comp=N,28nm,1.3s					
OBIP			IAML		22 31 17.7	
	comp=E,21nm,3.1s					
CELP	**Cerrillos**	**4.23 111**	Pn	**Pn**	**22 28 33.2**	**+0.7**
CELP			IAML		22 29 41.0	
	comp=E,23nm,1.1s					
CELP			IAML		22 29 45.6	
	comp=N,25nm,1.2s					
RCC	**Rio Carpintero**	**4.69 275**	*e*P	**Pn**	**22 28 39.4**	**+0.5**
RCC			*e*S	**Sn**	**22 29 34.4**	**+1.5**
RCC			IAML		22 29 40.2	
	comp=N,6.2nm,0.9s					
RCC			IAML		22 29 41.7	
	comp=E,8.3nm,1.1s					
PDPR	**Patillas Dam,**	**4.74 109**	Pn	**Pn**	**22 28 40.9**	**+1.3**
HUMP	**Col San Antoni**	**4.86 107**	Pn	**Pn**	**22 28 41.5**	**+0.4**
HUMP			IAML		22 29 41.6	
	comp=N,18nm,0.2s					
HLGC	**Holguin**	**5.16 285**	*e*S	**Sn**	**22 29 50.9**	**+6.3**

*AFAD **13** 22:35:06.7,35°.16N×28°.00E,h7km,3km,ML2.9*
*IDC **13** 22:35:06.7±1.0,35°.23N×27°.90E,h0km,mb3.5/5,*
mbtmp3.5/11,ML3.1/5,MS2.4/1,Error ellipse:
s-maj=25.1km s-min=15.7km az=177.0
*ISK **13** 22:35:07.9,35°.19N×27°.90E,h4km,ML3.3/9*
*NIC **13** 22:35:07.0,35°.14N×27°.93E,h0km±1km,ML3.1/12*
*ATH **13** 22:35:07.8±1.4,35°.09N×28°.11E,h5km,ML3.2/5,Manual*
Solution by S.Liakopoulos First location: 2019/08/13

22:36:48, This location: 2020/11/13 14:31:16 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 7 km;
Longitude uncertainty: 8 km
*THE **13** 22:35:08.8,35°.N±8°×2°.8E±1°.2,h0km±15km,M3.1/10,*
MLh3.1/10
*GII **13** 22:35:10.3±0.0,34°.916N±0°.002×28°.061E±0°.001,h8km,*
Mws3.2,confirmed

ISC 13 22:35:08.2±1.2,35°.17N±0°.03×27°.94E±0°.02,h9km±8km, n113,σ1ş47/141,mb3.5/4,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.74**	**301**	Pg	**Pg**	**22 35 21.7**	**-0.8**
KARP				Sg	**Sg**	**22 35 32.4**	**+0.1**
KARP	**Karpathos**	**0.74**	**301**	P	**Pg**	**22 35 21.7**	**-0.8**
KARP				S	**Sg**	**22 35 32.7**	**+0.4**
KARP	**Karpathos**	**0.74**	**301**	P	**Pg**	**22 35 21.8**	**-0.7**
KARP				S	**Sb**	**22 35 34.8**	**+1.2**
KARP				AML	AML	22 35 40.4	
	5.2nm,0.6s						
KARP				AML	AML	22 35 40.4	
	5.3nm,0.7s						
ARG	**Arkhangelos**	**1.06**	**8**	Pg	**Pn**	**22 35 29.1**	**-0.1**
ARG				Sg	**Sn**	**22 35 43.9**	**-0.1**
ARG	**Arkhangelos**	**1.06**	**8**	P	**Pb**	**22 35 28.6**	**-0.1**
ARG				S	**Sn**	**22 35 44.5**	**+0.5**
ARG	**Arkhangelos**	**1.06**	**8**	P	**Pn**	**22 35 29.1**	**-0.1**
ARG				S	**Sn**	**22 35 45.0**	**+1.0**
ARG				AML	AML	22 35 53.9	
	1.4nm,1.1s						
ARG				AML	AML	22 36 01.8	
	1.8nm,0.8s						
ARG	**Arkhangelos**	**1.06**	**8**	P	**Pb**	**22 35 28.7**	**+0.1**
ARG				S	**Sn**	**22 35 44.4**	**+0.5**
ZKR	**Zakros**	**1.42**	**268**	Pn	**Pb**	**22 35 34.7**	**0.0**
ZKR				Sn	**Sg**	**22 35 54.5**	**+0.8**
ZKR	**Zakros**	**1.42**	**268**	P	**Pb**	**22 35 34.5**	**-0.2**
ZKR	**Zakros**	**1.42**	**268**	P	**Pn**	**22 35 34.3**	**+0.2**
ZKR				AML	AML	22 36 03.3	
	1.2nm,0.5s						
ZKR				AML	AML	22 36 14.4	
	0.8nm,0.8s						
ZKR	**Zakros**	**1.42**	**268**	P	**Pg**	**22 35 35.2**	**-0.1**
ZKR				S	**Sg**	**22 35 56.5**	**+2.8**
YAZI	**Mula-Dat§a-**	**1.56**	**345**	P	**Pn**	**22 35 36.3**	**+0.2**
YAZI				S	**Sg**	**22 35 58.2**	**-0.3**
YAZI				*i* IAML		22 36 01.0	
	comp=E,252nm,0.8s						
YAZI				*i* IAML		22 36 09.0	
	comp=N,146nm,0.8s						
DAT	**Datca**	**1.59**	**349**	Pn	**Pb**	**22 35 37.3**	**-0.4**
DAT				Sn	**Sb**	**22 35 58.7**	**+0.8**
DATC	**Datca-Mugla**	**1.60**	**352**	Pn	**Pb**	**22 35 37.8**	**-0.2**
TURN	**Turunc**	**1.62**	**9**	P	**Pn**	**22 35 37.4**	**+0.5**
TURN				S	**Sg**	**22 36 00.4**	**0.0**
TURN				*i* IAML		22 36 05.0	
	comp=E,193nm,0.7s						
IZZE	**Mula-Seydike**	**1.64**	**39**	P	**Pn**	**22 35 36.3**	**-0.9**
KSL	**Kastellorizon**	**1.66**	**53**	P	**Pb**	**22 35 38.6**	**-0.2**
KSL				S	**Sg**	**22 36 02.6**	**+1.1**
KSL	**Kastellorizon**	**1.66**	**53**	P	**Pn**	**22 35 37.5**	**+0.2**
KSL				S	**Sg**	**22 36 01.7**	**+0.2**
KSL				AML	AML	22 36 28.6	
	0.4nm,1.2s						
KSL				AML	AML	22 36 40.5	
	0.3nm,1.6s						
SABU	**Mula-Dalaman**	**1.85**	**26**	P	**Pb**	**22 35 41.8**	**-0.4**
SABU				S	**Sg**	**22 36 10.2**	**+2.5**
SABU				*i* IAML		22 36 29.0	
	comp=E,107nm,1.0s						
NPS	**Neapolis**	**1.91**	**274**	P	**Pb**	**22 35 43.0**	**-0.2**
NPS	**Neapolis**	**1.91**	**274**	P	**Pb**	**22 35 43.4**	**+0.2**
BDRM	**Kayabasi**	**1.94**	**348**	P	**Pb**	**22 35 43.4**	**-0.2**
CAME	**Cameli-Denizli**	**2.09**	**31**	Pn	**Pn**	**22 35 44.7**	**+1.2**
MULA	**Mugla, Merkez-**	**2.11**	**8**	P	**Pb**	**22 35 47.2**	**+0.7**
KNIK	**Mula-Seydike**	**2.13**	**38**	P	**Pn**	**22 35 45.1**	**+1.0**
CAEL	**Denizli, Camel**	**2.25**	**29**	P	**Pg**	**22 35 51.1**	**-0.2**
DNZT	**Denizli-Tavas-**	**2.28**	**22**	P	**Pn**	**22 35 45.6**	**-0.5**
THERA	**Ancient Thera,**	**2.34**	**302**	P	**Pb**	**22 35 49.2**	**-1.2**
DDIM	**Aydin, Didim**	**2.35**	**346**	P	**Pb**	**22 35 49.4**	**-1.3**
THR6	**Thira Island,**	**2.39**	**301**	P	**Pn**	**22 35 47.5**	**+0.1**
THR3	**Thira Island,**	**2.41**	**302**	P	**Pn**	**22 35 48.6**	**+0.9**
SNT5	**Nea Kammeni, S**	**2.41**	**302**	P	**Pn**	**22 35 47.9**	**+0.2**
SNT5	**Nea Kammeni, S**	**2.41**	**302**	P	**Pb**	**22 35 50.0**	**-1.8**
TAVA	**DENIZLI_Tavas**	**2.42**	**19**	P	**Pb**	**22 35 50.0**	**-2.0**
GOLH	**Golhisar**	**2.44**	**32**	P	**Pb**	**22 35 50.5**	**-1.8**
SAP3	**Santorini-Thir**	**2.46**	**302**	P	**Pb**	**22 35 50.8**	**-1.8**
AYDN	**Tasoluk**	**2.49**	**359**	P	**Pn**	**22 35 50.0**	**+1.1**
IDI	**Anoyia**	**2.50**	**274**	Pn	**Pn**	**22 35 50.5**	**+1.4**
IDI	**Anoyia**	**2.50**	**274**	Pn	**Pn**	**22 35 49.9**	**+0.8**
IDI	19nm,0.6s,baz=17,slow=6.6,SNR=21			Sn	**Sn**	**22 36 19.1**	**-0.6**
	4.3nm,0.3s,baz=226,slow=18,SNR=6.4						
IDI	**Anoyia**	**2.50**	**274**	P	**Pb**	**22 35 51.3**	**-2.0**
GCAM	**Ortzelcami?**	**2.59**	**347**	P	**Pn**	**22 35 49.4**	**+0.8**
DNIZ	**Denizli-Tavas-**	**2.61**	**19**	P	**Pn**	**22 35 51.1**	**+0.5**
ESEN	**Aydn-Nazilli**	**2.65**	**7**	P	**Pn**	**22 35 51.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.77**	**359**	Pn	**Pn**	**22 35 53.6**	**+0.7**
IZMR	**zmir-demi**	**2.96**	**0**	P	**Pn**	**22 35 54.9**	**-0.4**
DGB	**zmir**	**3.00**	**344**	P	**Pn**	**22 35 54.9**	**-1.0**
GVD	**Gavdhos**	**3.18**	**265**	Pn	**Pn**	**22 36 00.2**	**+1.8**
GVD	**Gavdhos**	**3.18**	**265**	P	**Pn**	**22 35 59.7**	**+1.4**
MANT	**Manisa**	**3.35**	**8**	P	**Pn**	**22 35 59.3**	**-1.6**
CHOS	**Chios island**	**3.55**	**335**	P	**Pn**	**22 36 04.1**	**+0.6**
AKMS	**Akamas**	**3.60**	**91**	P	**Pn**	**22 36 04.6**	**+0.4**
AKMS				S	**Sn**	**22 36 49.7**	**+2.9**
AKMS				AML	AML	22 36 55.1	
	0.1nm,0.7s						
AKMS				AML	AML	22 37 00.8	
	0.2nm,1.0s						
ALFC	**Alefka**	**3.81**	**89**	P	**Pn**	**22 36 07.4**	**+0.3**
ALFC				S	**Sn**	**22 36 55.1**	**+3.0**
ALFC				AML	AML	22 36 59.6	
	0.2nm,0.7s						
ALFC				AML	AML	22 37 03.6	
	0.1nm,0.8s						
NATA	**Nata**	**3.82**	**95**	P	**Pn**	**22 36 08.3**	**+1.2**
NATA				S	**Sn**	**22 36 55.0**	**+2.9**
NATA				AML	AML	22 36 57.0	
	0.4nm,0.6s						
NATA				AML	AML	22 37 01.9	
	0.4nm,0.7s						
ANKY	**Antikythira Is**	**3.85**	**282**	P	**Pn**	**22 36 08.7**	**+1.2**
TROD	**Troodos**	**4.04**	**92**	P	**Pn**	**22 36 10.4**	**0.0**
TROD				S	**Sn**	**22 37 00.2**	**+2.3**
TROD				AML	AML	22 37 09.0	
	0.1nm,0.7s						
TROD				AML	AML	22 37 12.9	
	0.1nm,0.7s						
KTHA	**Kythira Island**	**4.12**	**287**	Pn	**Pn**	**22 36 12.7**	**+1.5**
KTHA	**Kythira Island**	**4.12**	**287**	P	**Pn**	**22 36 12.1**	**+0.9**
XYLS	**Xyliatos**	**4.19**	**91**	P	**Pn**	**22 36 12.3**	**0.0**
XYLS				S	**Sn**	**22 37 04.2**	**+2.8**
XYLS				AML	AML	22 37 17.9	
	0.1nm,0.8s						
XYLS				AML	AML	22 37 23.7	
	0.1nm,0.6s						
DION	**Dionisos Attik**	**4.34**	**313**	P	**Pn**	**22 36 15.9**	**+1.6**
VLI	**Veliai**	**4.35**	**292**	P	**Pn**	**22 36 14.6**	**+0.3**
VLI				S	**Sn**	**22 37 06.9**	**+1.8**
ASGA	**Asgata**	**4.37**	**93**	P	**Pn**	**22 36 15.5**	**+0.7**
ASGA				S	**Sn**	**22 37 09.3**	**+3.6**
ASGA				AML	AML	22 37 12.1	
	0.1nm,0.5s						
ASGA				AML	AML	22 37 13.6	
	0.4nm,0.6s						
CSS	**Mathiatis**	**4.42**	**91**	P	**Pn**	**22 36 16.7**	**+1.3**
CSS				S	**Sn**	**22 37 09.0**	**+2.0**
CSS				AML	AML	22 37 12.5	
	0.1nm,0.7s						
CSS				AML	AML	22 37 16.8	
	0.1nm,0.6s						
CSS	**Mathiatis**	**4.42**	**91**	P	**Pn**	**22 36 16.1**	**+0.6**
CSS	**Mathiatis**	**4.42**	**91**	S	**Sn**	**22 37 07.4**	**+0.3**
MVOU	**Mavrovouni**	**4.67**	**90**	P	**Pn**	**22 36 19.2**	**+0.4**
MVOU				S	**Sn**	**22 37 17.2**	**+4.2**
MVOU				AML	AML	22 37 21.1	
	0.1nm,0.8s						
MVOU				AML	AML	22 37 27.3	
	0.1nm,0.7s						
ITM	**Ithomi**	**5.26**	**294**	P	**Pn**	**22 36 28.7**	**+1.6**
BRTR	**Keskin Array B**	**6.42**	**43**	Pn	**Pn**	**22 36 43.4**	**+0.4**
	0.1nm,0.3s,baz=216,slow=14,SNR=6.4						
BRTR				Sn	**Sn**	**22 37 52.7**	**-3.8**
	baz=108,slow=16						
	1.0nm,0.8s						
MMA0B	**Mount Meron ar**	**6.55**	**107**	P	**Pn**	**22 36 44.6**	**-0.1**
MMA0B	**Mount Meron ar**	**6.55**	**107**	S	**Sn**	**22 37 58.2**	**-1.4**
MMAI	**Mount Meron Ar**	**6.55**	**107**	Pn	**Pn**	**22 36 44.4**	**-0.4**
	1.4nm,0.3s,baz=293,slow=11,SNR=12						
MMAI				Sn	**Sn**	**22 37 58.4**	**-1.2**
	1.0nm,0.3s,baz=300,slow=26,SNR=3.3						
	1.0nm,0.3s						
SLTI	**Sal'it**	**6.60**	**114**	P	**Pn**	**22 36 45.1**	**-0.2**
SLTI	**Sal'it**	**6.60**	**114**	S	**Sn**	**22 37 58.9**	**-1.7**
GEM	**Giv'at Ha'Em**	**6.69**	**105**	P	**Pn**	**22 36 46.8**	**+0.3**
GEM	**Giv'at Ha'Em**	**6.69**	**105**	S	**Sn**	**22 38 02.2**	**-0.7**
NATI	**Neve Ativ**	**6.73**	**104**	P	**Pn**	**22 36 47.1**	**0.0**
NATI	**Neve Ativ**	**6.73**	**104**	S	**Sn**	**22 38 02.9**	**-1.0**
MMLI	**Mount Malkishu**	**6.79**	**112**	P	**Pn**	**22 36 47.5**	**-0.6**
MMLI	**Mount Malkishu**	**6.79**	**112**	S	**Sn**	**22 38 04.2**	**-1.4**
AMAZ	**Amatzia**	**6.87**	**120**	P	**Pn**	**22 36 48.8**	**-0.3**
AMAZ	**Amatzia**	**6.87**	**120**	S	**Sn**	**22 38 05.4**	**-1.9**
KZIT	**Kziot**	**6.89**	**126**	P	**Pn**	**22 36 48.8**	**-0.5**
KZIT	**Kziot**	**6.89**	**126**	S	**Sn**	**22 38 04.7**	**-3.1**
HMDT	**Nahal Hemdat**	**6.96**	**113**	P	**Pn**	**22 36 50.3**	**+0.1**
HMDT	**Nahal Hemdat**	**6.96**	**113**	S	**Sn**	**22 38 08.2**	**-1.3**
YTIR	**Yattir**	**7.10**	**120**	P	**Pn**	**22 36 52.0**	**-0.3**
YTIR	**Yattir**	**7.10**	**120**	S	**Sn**	**22 38 10.9**	**-2.3**
DSI	**Dead Sea**	**7.18**	**118**	P	**Pn**	**22 36 53.0**	**-0.4**
DSI	**Dead Sea**	**7.18**	**118**	S	**Sn**	**22 38 13.4**	**-1.6**
MSBI	**Mazada**	**7.30**	**120**	P	**Pn**	**22 36 54.9**	**0.0**
MSBI	**Mazada**	**7.30**	**120**	S	**Sn**	**22 38 15.7**	**-2.3**
GHAJ	**Ghor Haditha**	**7.46**	**119**	P	**Pn**	**22 36 57.1**	**0.0**
GHAJ	**Ghor Haditha**	**7.46**	**119**	S	**Sn**	**22 38 19.4**	**-2.4**
KRMI	**Paran Flat**	**7.62**	**129**	P	**Pn**	**22 36 59.0**	**-0.4**
KRMI	**Paran Flat**	**7.62**	**129**	S	**Sn**	**22 38 22.7**	**-3.2**
ZFRI	**Zfri**	**7.63**	**125**	P	**Pn**	**22 36 58.7**	**-0.8**
ZFRI	**Zfri**	**7.63**	**125**	S	**Sn**	**22 38 22.7**	**-3.3**
PRNI	**Paran**	**7.64**	**127**	P	**Pn**	**22 36 59.2**	**-0.5**
PRNI	**Paran**	**7.64**	**127**	S	**Sn**	**22 38 23.4**	**-3.0**
HRFI	**Mount Harif**	**7.87**	**129**	P	**Pn**	**22 37 02.5**	**-0.4**
HRFI	**Mount Harif**	**7.87**	**129**	S	**Sn**	**22 38 28.9**	**-3.1**
MBRI	**Mt Berech**	**7.96**	**130**	P	**Pn**	**22 37 03.8**	**-0.3**
MBRI	**Mt Berech**	**7.96**	**130**	S	**Sn**	**22 38 30.9**	**-3.4**
ASF	**Jabal al Asfar**	**8.04**	**109**	Pn	**Pn**	**22 37 05.4**	**+0.2**
	0.3nm,0.3s,baz=315,slow=12,SNR=4.4						
ASF				Sn	**Sn**	**22 38 35.6**	**-0.7**
	0.1nm,0.3s,baz=118,slow=20,SNR=7.1						
	1.6nm,0.5s						
EIL	**Elat**	**8.07**	**131**	Pn	**Pn**	**22 37 05.6**	**+0.1**
	0.6nm,0.3s,baz=339,slow=19,SNR=5.8						
EIL				Sn	**Sn**	**22 38 33.4**	**-3.5**
	0.5nm,0.3s,baz=36,slow=18,SNR=6.1						
	3.6nm,0.6s						
EIL	**Elat**	**8.07**	**131**	P	**Pn**	**22 37 05.0**	**-0.6**
EIL	**Elat**	**8.07**	**131**	S	**Sn**	**22 38 33.4**	**-3.5**
MLR	**Muntele Rosu**	**10.42**	**352**	LR	LR	22 42 06.6	
	comp=Z,25nm,21.4s,baz=177,slow=40						
GERES	**GERESS Array B**	**17.24**	**327**	P	**Pn**	**22 39 09.2**	**0.0**
	baz=126,slow=14,SNR=4.9						
	0.7nm,0.7s						
ESDC	**Sonseca Array**	**25.66**	**290**	P	**P**	**22 40 37.1**	**-1.2**
	0.6nm,0.8s,baz=82,slow=9.2,SNR=6.2						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**26.32**	**358**	P	**P**	**22 40 42.0**	**-2.0**
	1.9nm,0.9s,baz=168,slow=13,SNR=3.5						
	1.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**32.29**	**234**	P	**P**	**22 41 37.1**	**-0.3**
	0.5nm,0.5s,baz=39,slow=9.8,SNR=8.5						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**41.87**	**57**	P	**P**	**22 42 59.7**	**+1.2**
	0.3nm,0.6s,baz=275,slow=5.3,SNR=1.7						
	0.3nm,0.6s						
SONM	**Songino Array**	**57.71**	**51**	P	**P**	**22 44 59.8**	**+0.6**
	0.2nm,0.3s,baz=282,slow=7.4,SNR=3.9						
	0.2nm,0.3s						

KRSC 13 22:37:52.8±2.3,49°.46N×154°.60E,h239km±21km,MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.57**	**38**	*e*P	Pn	22 38 31.1	+0.6
MIPR	**Malaya Ipel'ka**	**3.14**	**25**	*e*P	Pn	22 38 45.6	-0.4
ASAK	**Asacha**	**3.60**	**34**	*e*P	Pn	22 38 53.6	+2.3
MTVR	**Mutnovka**	**3.78**	**35**	*e*P	Pn	22 38 56.1	+2.6
RUS	**Russkaya**	**3.87**	**38**	*e*S	S	22 39 45.0	+1.7
SPN	**Mys Shipunski**	**4.99**	**41**	*e*P	Pn	22 39 09.8	+1.9
SPN				*e*S	S	22 40 06.0	-1.6
MKZ	**Mys Kozlova**	**6.74**	**38**	*e*P	Pn	22 39 31.2	+1.4

JMU IAML 22 59 38.1
comp=N,160nm,0.3s
KBK Karagaybulak 5.44 22 P **Pn** **22 58 40.3 +2.3**
SNR=8.0
FRU1 Bishkek 5.50 19 Pn **Pn** **22 58 40.8 +2.2**
FRU1 Bishkek 5.50 19 PN **Pn** **22 58 40.8 +2.2**
ULHL Ulahol 5.57 33 P **Pn** **22 58 40.5 +0.8**
SNR=14
KK31 Karatay Array 5.59 348 Pn **Pn** **22 58 40.6 +0.7**
KK31 Karatay Array 5.59 348 ⇑Pn **Pn** **22 58 37.7 -2.2**
comp=N,8.4nm,0.3s,baz=165,slow=11,SNR=103
KK31 ⇑Lg Lg 22 59 40.3
comp=N,51nm,0.5s
KK31 Karatay Array 5.59 348 PN **Pn** **22 58 40.6 +0.7**
KKAR Karatay Array 5.59 348 **Pn** **22 58 40.8 +0.9**
KKAR Karatay Array 5.59 348 PN **Pn** **22 58 40.8 +0.9**
BRLS Boroldaу 5.66 343 *eP* **Pn** **22 58 38.9 -1.9**
comp=N,29nm,0.2s
BRLS *eS* **Sn** **22 59 37.4 -7.3**
comp=N,44nm,0.5s
CHMS Chumysh 5.70 20 P **Pn** **22 58 43.0 +1.6**
SNR=24
TKM2 Tokmak 2 5.89 26 P **Pn** **22 58 45.6 +1.6**
SNR=7.6
USP Ospenovka 5.89 17 P **Pn** **22 58 45.0 +1.0**
SNR=19
KDJ Kajisay 5.92 39 Pn **Pn** **22 58 45.1 +0.7**
KDJ Kajisay 5.92 39 PN **Pn** **22 58 45.1 +0.7**
TARG Taragay, Kyrgy 5.97 45 **Pn** **22 58 46.0 +0.7**
TARG Taragay, Kyrgy 5.97 45 PN **Pn** **22 58 46.1 +0.7**
SGDS Sogindy 6.10 17 Pg Pn 22 58 51.2 +4.4
comp=N,3.1nm,0.2s
SGDS Lg Lg 22 59 58.2
comp=N,16nm,0.5s
KST Kastek 6.13 27 Pg Pn 22 58 51.6 +4.4
comp=N,3.4nm,0.2s
KST Lg Lg 22 59 58.8
comp=N,30nm,1.0s
KST Kastek 6.13 27 *eP* Pn 22 58 51.6 +4.4
comp=N,3.4nm,0.2s
KST *eS* **Sn** **22 59 58.8 +2.6**
comp=N,30nm,1.0s
DGS Degeres 6.24 25 Pg Pn 22 58 53.4 +4.8
comp=N,2.5nm,0.3s
DGS Lg Lg 23 00 01.9
comp=N,12nm,0.7s
TNSS Tian-Shan 6.51 33 *eP* Pn 22 59 06.0 +13
comp=N,1.0nm,0.2s
TNSS *eS* Sn 23 00 23.3 +17
comp=N,5.3nm,0.9s
PRZ Przheval'sk 6.81 43 Pn **Pn** **22 58 57.4 +1.0**
PRZ Przheval'sk 6.81 43 PN **Pn** **22 58 57.4 +1.0**
BHK Bhakra 7.14 149 *eS* **Sn** **23 00 18.0 -2.6**
BHK IAML 23 00 19.3
comp=N,95nm,0.2s
BHK IAML 23 00 19.6
comp=E,66nm,0.3s
BTLS Baital 7.52 10 Pg Pn 22 59 17.6 +12
comp=E,1.1nm,0.2s
BTLS Lg Lg 23 00 43.3
comp=E,18nm,0.7s
BTLS Baital 7.52 10 *eP* Pn 22 59 17.6 +12
comp=E,1.1nm,0.2s
BTLS *eS* Sn 23 00 43.3 +14
comp=E,18nm,0.7s
SMLA Simla 7.71 146 *eP* **Pn** **22 59 05.9 -2.6**
SMLA *eS* Sn 23 00 25.6 -8.7
SMLA IAML 23 00 28.2
comp=E,186nm,0.6s
SMLA IAML 23 00 28.4
comp=N,140nm,1.0s
KLP Kalpa 7.91 139 *eS* Sn 23 00 29.2 -10
KLP IAML 23 00 36.7
comp=E,86nm,0.4s
KLP IAML 23 00 38.1
comp=N,54nm,1.1s
MK31 Makanchi Array 11.83 36 *eP* **Pn** **23 00 05.8 +2.4**
MKAR Makanchi Array 11.83 36 Pn **Pn** **23 00 03.8 +0.4**
MKAR Makanchi Array 11.83 36 P **Pn** **23 00 04.2 +0.8**
comp=N,0.5nm,0.5s,baz=221,slow=15,SNR=7.5
MKAR Makanchi Array 11.83 36 *eP* **Pn** **23 00 04.6 +1.2**
WMQ Urumqi 13.30 58 *eP* **Pn** **23 00 25.8 +3.2**
KURBB Kurchatov Arra 13.75 17 P **Pn** **23 00 27.8 -0.4**
comp=N,1.4nm,0.2s,baz=205,slow=11,SNR=8.3
KURK Kurchatov 13.86 17 P **P** **23 00 33.0 -0.6**
KURK Kurchatov 13.86 17 P **P** **23 00 33.0 -0.6**
AB31 Akbulak array 14.58 327 Pn **Pn** **23 00 37.2 -1.5**
AB31 Akbulak array 14.58 327 P **P** **23 00 42.2 +0.6**
comp=N,3.0nm,0.7s,baz=160,slow=9.2,SNR=34
AB31 Akbulak array 14.58 327 P **P** **23 00 42.2 +0.6**
AB31 S Sn 23 03 09.7 -10
ABKAR Akbulak array 14.58 327 Pn **Pn** **23 00 37.2 -1.5**
BVA0 Borovoye Array 15.43 356 P **P** **23 00 51.5 +0.5**
BVAR Borovoye Array 15.43 356 P **Pn** **23 00 48.3 -1.0**
comp=N,3.2nm,0.4s,baz=165,slow=11,SNR=25
BVAR S **Sn** **23 03 32.9 -7.4**
comp=N,2.3nm,0.9s,baz=170,slow=27,SNR=6.2
BRVK Borovoye 15.47 356 Pn **Pn** **23 00 49.5 -0.3**
BRVK Borovoye 15.47 356 ⇑*iP* **Pn** **23 00 50.7 +0.9**
AKTO Aktyubinsk 16.29 326 P **Pn** **23 00 59.9 -0.2**
comp=N,1.9nm,0.3s,baz=139,slow=7.9,SNR=9.6
AKTO S **Sn** **23 03 51.1 -10**
comp=N,2.0nm,0.6s,baz=324,slow=22,SNR=6.6
AKTO Aktyubinsk 16.29 326 ⇑P **P** **23 01 05.2 +4.6**
comp=N,2.5nm,0.8s
ZAA0 Zalesovo Array 18.49 24 P **P** **23 01 25.1 +0.3**
ZAA0 IAmb IAmb 23 01 26.4
comp=E,3.2nm,0.6s
ZALV Zalesovo Beam 18.49 24 P **P** **23 01 25.3 +0.6**
comp=E,2.8nm,0.4s,baz=221,slow=10,SNR=17
ZALV Zalesovo Beam 18.49 24 *eP* **P** **23 01 25.5 +0.8**
ZALV pmax pmax
comp=E,1.0nm,0.3s
ARTI Arti 20.89 338 P **P** **23 01 50.5 -0.1**
ARTI Arti 20.89 338 P **P** **23 01 51.4 +0.8**
comp=E,3.4nm,0.7s,baz=146,slow=9.0,SNR=5.1
comp=E,3.4nm,0.7s
ARTI Arti 20.89 338 *c iP* **P** **23 01 51.5 +0.9**
ARTI 23 02 17.5
ARTI S **S** **23 05 38.9 +2.8**
ARTI pmax pmax
comp=E,6.0nm,1.1s
GNI Garni 21.44 285 ⇑*iP* **P** **23 01 57.1 +0.2**
GNI pmax pmax
comp=E,2.0nm,0.6s
BELG Belogornoye 22.60 319 *eP* **P** **23 02 09.3 +0.9**
BELG pmax pmax
comp=E,2.0nm,1.2s
KBZ Khabaz 22.92 295 *eP* **P** **23 02 11.8 +0.2**
KBZ pmax pmax
comp=E,2.0nm,0.9s
KIV Kislovodsk 23.10 295 *eP* **P** **23 02 11.7 -1.6**
KIV pmax pmax
comp=E,4.0nm,1.1s
ULN Ulaanbaatar 27.38 57 ⇑*iP* **P** **23 02 53.2 +1.2**
ULN pmax pmax
comp=E,1.0nm,0.9s
OBN Obninsk 29.69 318 ⇓*iP* **P** **23 03 13.1 +0.9**
OBN pmax pmax
comp=E,3.0nm,0.9s
BR131 Keskin Array S 29.98 286 ⇑*iP* **P** **23 03 15.1 -0.1**
HHC Hu-ho-hao-te 30.52 72 *eP* **P** **23 03 20.8 +0.9**
HHC pmax pmax
comp=E,7.0nm,0.6s
HHC pmax pmax
comp=E,150nm,5.0s
AKBB Malin Array Si 32.96 307 ⇑*iP* **P** **23 03 40.5 -0.5**
AKBB pmax pmax
comp=E,2.0nm,0.9s
MLR Muntele Rosu 35.04 298 **P** **23 04 00.9 +1.7**
MLR IAmb IAmb 23 04 03.6
comp=E,3.3nm,0.8s
MLR Muntele Rosu 35.04 298 P **P** **23 04 00.9 +1.7**
MLR pmax pmax
comp=E,3.0nm,0.8s
BURAR Bucovina Array 35.45 302 P **P** **23 04 03.4 +0.8**
BURAR Bucovina Array 35.45 302 P **P** **23 04 04.8 +2.2**
FIA1 FINESS Array S 37.06 325 P **P** **23 04 16.7 +0.8**
FINES FINESS Array B 37.06 325 P **P** **23 04 16.6 +0.6**
FINES FINESS Array B 37.06 325 P **P** **23 04 17.2 +1.3**
comp=E,1.1nm,0.4s,baz=116,slow=9.0,SNR=15
comp=E,1.1nm,0.4s
KOLS Kolonicke sedl 37.38 304 *eP* **P** **23 04 17.2 -1.7**
KOLS pmax pmax
comp=E,4.0nm,0.8s
KOLS Kolonicke sedl 37.38 304 *eP* **P** **23 04 17.2 -1.7**

PSZ Piszkesteto 39.02 302 P **P** **23 04 32.9 +0.2**
PSZ IAmb IAmb 23 04 39.6
comp=E,3.6nm,0.9s
PSZ Piszkesteto 39.02 302 P **P** **23 04 32.9 +0.2**
PSZ pmax pmax
comp=E,4.0nm,0.9s
LANS Liptovska Anna 39.22 304 *e*PP PP 23 06 10.4 +3.7
ARCES ARCESS Array B 40.44 337 P **P** **23 04 44.4 +0.3**
ARCES IAmb IAmb 23 05 00.5
comp=E,5.6nm,1.0s
ARCES ARCESS Array B 40.44 337 P **P** **23 04 45.4 +1.2**
comp=E,3.7nm,0.9s,baz=115,slow=8.6,SNR=10
comp=E,3.7nm,0.9s
ARCES ARCESS Array B 40.44 337 *eP* **P** **23 04 45.6 +1.5**
ARCES pmax pmax
comp=E,3.0nm,0.7s
HFS Hagfors 42.74 321 P **P** **23 05 03.9 +1.0**
comp=E,3.0nm,0.5s,baz=104,slow=12,SNR=13
comp=E,3.9nm,0.5s
NORES NORESS Array B 43.85 322 P **P** **23 05 12.5 +0.7**
NC303 NORSAR Array S 43.96 323 P **P** **23 05 13.2 +0.5**
NC303 IAmb IAmb 23 05 32.5
comp=E,5.3nm,1.0s
NB2 NORSAR Subarra 44.03 322 P **P** **23 05 13.9 +0.6**
comp=E,2.0nm,0.5s,baz=93,slow=7.9
NOA NORSAR Array B 44.03 322 P **P** **23 05 13.9 +0.6**
comp=E,1.1nm,0.6s,baz=93,slow=7.7,SNR=5.6
comp=E,1.1nm,0.6s
FDMO Fiordimonte 44.53 296 P **P** **23 05 18.2 +0.6**
FDMO IAmb IAmb 23 05 44.5
comp=E,2.8nm,1.1s
SCO Scoresbysund 56.37 336 P **P** **23 06 46.9 +0.9**
SCO Scoresbysund 56.37 336 P **P** **23 06 46.9 +0.9**
SCO pmax pmax
comp=E,42nm,1.0s
ESDC Sonseca Array 57.73 298 P **P** **23 06 56.3 +0.1**
comp=E,0.5nm,0.7s,baz=55,slow=7.4,SNR=5.1
comp=E,0.5nm,0.7s
SUMG Summit 60.28 341 P **P** **23 07 14.1 +0.5**
SUMG Summit 60.28 341 P **P** **23 07 14.1 +0.5**
ANGG Ammassalik, Gr 63.78 334 P **P** **23 07 37.4 +0.8**
TORD Torodi Ar. Bea 66.66 269 P **P** **23 07 54.6 -1.3**
comp=E,0.4nm,0.8s,baz=47,slow=6.8,SNR=2.5
comp=E,0.4nm,0.8s
F21K Alatna River 69.87 17 P **P** **23 08 15.4 +0.2**
F21K IAmb IAmb 23 08 22.2
comp=E,1.8nm,0.8s
INK Inuvik 72.62 10 P **P** **23 08 31.8 +0.2**
INK IAmb IAmb 23 08 56.4
comp=E,3.1nm,1.1s
INK Inuvik 72.62 10 P **P** **23 08 31.8 +0.2**
INK pmax pmax
comp=E,3.0nm,1.2s
C36M Paulatuk 72.65 6 P **P** **23 08 32.0 +0.3**
C36M IAmb IAmb 23 08 55.5
comp=E,7.1nm,1.1s
ILAR Eielson Array 73.42 16 P **P** **23 08 36.1 -0.3**
comp=E,0.4nm,0.8s,baz=324,slow=6.3,SNR=4.3
comp=E,0.4nm,0.8s
ILAR Eielson Array 73.42 16 *eP* **P** **23 08 37.4 +1.0**
I28M Miner Creek 74.24 13 P **P** **23 08 41.8 +0.5**
H31M Peel River 74.85 11 P **P** **23 08 45.1 +0.4**
BCAR Beaver Creek A 76.02 15 P **P** **23 08 50.8 -0.6**

*IDC **13** 23:02:28.7±0.9, 30.°85S×59.°28E, h0km, mb4.0/9, mbtmp4.0/10, ML3.8/1, MS3.4/8, Error ellipse: s-maj=32.7km s-min=20.2km az=70.0*
*NEIC **13** 23:02:30.5±2.0, 31.°0S±0.°1×59.°1E±0.°1, h10km±1km, mb4.7/11, Error ellipse: s-maj=25.4km s-min=20.3km az=204.0*
ISC 13 23:02:30.2±0.5, **30.°9S**±0.°1×**59.°1E**±0.°1, **h10**km, **n56, σ0.°74/38, mb4.5/14, MS3.4/9, 1C-1D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOMA	**Nahampoana Res**	**12.22**	**296**	Pn	**Pn**	**23 05 23.8**	**-0.5**
VOI	**Vohitsoka**	**14.19**	**306**	Pn	**Pn**	**23 05 51.3**	**-0.1**
ABPO	**Ambohimpanom**	**15.97**	**315**	Pn	**Pn**	**23 06 16.1**	**+0.9**
H04N2	**CROZET ISLANDS**	**16.28**	**198**	T	T	23 23 03.4	
	baz=24,slow=75,SNR=104						
H04N1	**CROZET ISLANDS**	**16.28**	**198**	T	T	23 22 59.0	
	baz=24,slow=75,SNR=77						
H04N3	**CROZET ISLANDS**	**16.30**	**198**	T	T	23 22 57.8	
	baz=24,slow=75,SNR=114						
OPO	**Ambohidratompo**	**16.33**	**316**	Pn	**Pn**	**23 06 20.7**	**+0.8**
	baz=45,slow=20,SNR=1.3						
OPO				Sn	Sn	23 09 10.3	-11
	0.1nm,0.3s,baz=128,slow=15,SNR=2.7						
	1.1nm,0.5s						
POGA	**Pongola**	**24.17**	**271**	P	**P**	**23 07 47.2**	**+0.5**
POGA				IAmb	IAmb	23 07 59.5	
	comp=E,26nm,1.4s						
H08S1	**Diego Garcia H**	**26.29**	**31**	T	T	23 35 23.6	
	baz=208,slow=76						
H08S2	**Diego Garcia H**	**26.30**	**31**	T	T	23 35 30.0	
	baz=208						
H08S3	**Diego Garcia H**	**26.31**	**31**	T	T	23 35 24.6	
	baz=208,slow=76						
MATP	**Matopo**	**29.40**	**283**	LR	LR	23 18 41.3	
	comp=E,45nm,21.4s,baz=198,slow=33						
BOSA	**Boshof**	**29.41**	**266**	LR	LR	23 18 32.2	
	comp=E,55nm,18.2s,baz=66,slow=33						
LBTB	**Lobatse**	**30.09**	**273**	LR	LR	23 18 38.1	
	comp=E,46nm,19.9s,baz=133,slow=32						
KDWAN	**Kaudwane**	**31.45**	**275**	P	**P**	**23 08 52.2**	**0.0**
LSZ	**Lusaka**	**32.26**	**292**	LR	LR	23 21 45.4	
	comp=E,66nm,18.2s,baz=156,slow=36						
KOOLE	**Kule**	**35.42**	**273**	P	**P**	**23 09 26.1**	**-0.7**
KOOLE				IAmb	IAmb	23 09 58.1	
	comp=E,15nm,1.3s						
SYO	**Syowa Base**	**39.79**	**191**	⇑*eP*	**P**	**23 10 03.5**	**+0.5**
SYO	**Syowa Base**	**39.79**	**191**	⇓*ep*P	pP	23 10 06.1	+1.4
H01W2	**Cape Leeuwin H**	**45.90**	**110**	T	T	00 00 05.7	
	baz=259,slow=74						
H01W3	**Cape Leeuwin H**	**45.91**	**110**	T	T	00 00 04.0	
	baz=259,slow=74						
H01W1	**Cape Leeuwin H**	**45.92**	**110**	T	T	00 00 03.8	
	baz=259						
IPM	**Ipoh**	**53.27**	**56**	P	**P**	**23 11 51.1**	**+1.6**
IPM				IAmb	IAmb	23 11 51.7	
	comp=E,6.5nm,0.7s						
QSPA	**South Pole Qui**	**59.28**	**180**	P	**P**	**23 12 32.1**	**+0.2**
QSPA				IAmb	IAmb	23 12 35.2	
	comp=E,8.0nm,1.4s						
QSPA	**South Pole Qui**	**59.28**	**180**	P	**P**	**23 12 31.8**	**-0.1**
	comp=E,1.4nm,0.7s,baz=257,slow=1.5,SNR=10						
	comp=E,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**62.23**	**43**	P	**P**	**23 12 52.4**	**0.0**
	comp=E,3.9nm,0.8s,baz=228,slow=7.4,SNR=20						
	comp=E,3.9nm,0.8s						
VNDA	**Vanda**	**62.79**	**166**	P	**P**	**23 12 56.4**	**+1.0**
	comp=E,0.9nm,0.9s,baz=237,slow=7.0,SNR=3.6						
VNDA				LR	LR	23 38 23.8	
	comp=E,16nm,18.3s,baz=246,slow=34						
	comp=E,0.9nm,0.9s						
ASAR	**Alice Springs**	**65.77**	**104**	P	**P**	**23 13 14.6**	**-1.2**
	comp=E,0.7nm,0.7s,baz=239,slow=6.1,SNR=7.0						
	comp=E,0.7nm,0.7s						
MMAI	**Mount Meron Ar**	**67.39**	**339**	P	**P**	**23 13 26.6**	**+0.8**
	comp=E,2.9nm,0.9s,baz=135,slow=9.5,SNR=5.0						
	comp=E,2.9nm,0.9s						
WRA	**Warramunga Arr**	**67.71**	**101**	P	**P**	**23 13 27.1**	**-1.1**
	comp=E,1.9nm,0.9s,baz=245,slow=5.4,SNR=8.1						
	comp=E,1.9nm,0.9s						
WB0	**Warramunga Arr**	**67.84**	**100**	P	**P**	**23 13 27.6**	**-1.4**
WB0				IAmb	IAmb	23 13 50.4	
	comp=E,7.5nm,1.2s						
WR8	**Warramunga Arr**	**67.84**	**101**	P	**P**	**23 13 27.8**	**-1.2**
WR8				IAmb	IAmb	23 13 37.3	
	comp=E,7.7nm,1.2s						
DBIC	**Dimbokro**	**71.58**	**290**	LR	LR	23 42 14.1	
	comp=E,26nm,20.9s,baz=140,slow=33						
GNI	**Garni**	**71.92**	**348**	LR	LR	23 43 31.2	
	comp=E,63nm,21.7s,baz=94,slow=34						
BR131	**Keskin Array S**	**74.12**	**340**	P	**P**	**23 14 06.5**	**-0.2**
BR131				IAmb	IAmb	23 14 16.3	
	comp=E,5.9nm,1.4s						
BRTR	**Keskin Array B**	**74.12**	**340**	P	**P**	**23 14 07.2**	**+0.5**
BRTR	**Keskin Array B**	**74.12**	**340**	P	**P**	**23 14 06.8**	**+0.1**
	comp=E,0.9nm,0.7s,baz=163,slow=6.6,SNR=6.9						
	comp=E,0.9nm,0.7s						
KBZ	**Khabaz**	**75.72**	**348**	LR	LR	23 45 26.8	
	comp=E,41nm,21.8s,baz=165,slow=34						
AB31	**Akbulak array**	**79.78**	**1**	P	**P**	**23 14 38.5**	**+0.3**
ABKAR	**Akbulak array**	**79.78**	**1**	P	**P**	**23 14 38.0**	**-0.2**
MLR	**Muntele Rosu**	**81.76**	**337**	P	**P**	**23 14 49.2**	**+0.1**
BVAR	**Borovoye Array**	**84.13**	**7**	P	**P**	**23 15 00.5**	**-0.5**
	comp=E,0.6nm,0.5s,baz=184,slow=4.5,SNR=4.5						
	comp=E,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**87.37**	**15**	P	**P**	**23 15 15.8**	**-1.3**
	comp=E,0.6nm,0.6s,baz=222,slow=3.7,SNR=2.3						
	comp=E,0.6nm,0.6s						
DZM	**Mont Dzumac**	**92.69**	**118**	LR	LR	23 47 38.4	
	comp=E,390nm,20.8s,baz=160,slow=29						
IMAR	**Indian Mountai**	**139.61**	**20**	PKPdf	**PKiKP**	**23 21 58.9**	**-0.7**
RC01	**Rabbit Creek A**	**144.33**	**24**	PKPdf	**PKPab**	**23 22 03.8**	**-0.1**
WVNY	**West Valley, N**	**144.50**	**301**	PKPdf	**PKPab**	**23 22 05.1**	**0.0**
J30M	**Hart River**	**144.93**	**12**		**PKPab**	**23 22 05.7**	**-0.5**
L27K	**Beaver Creek,**	**145.13**	**17**		**PKPdf**	**23 22 07.4**	**+0.1**
BCAR	**Beaver Creek A**	**145.13**	**16**		**PKPdf**	**23 22 07.2**	**-0.1**
K29M	**Barlow Dome**	**145.38**	**13**	PKPdf	**PKPbc**	**23 22 07.2**	**-0.5**
N25K	**Chitina, Valde**	**145.58**	**20**	PKPdf	**PKPab**	**23 22 08.9**	**+0.3**
M29M	**Somme Creek**	**146.44**	**15**	PKPdf	**PKPbc**	**23 22 10.9**	**-0.1**
CRQM	**Cirque**	**146.69**	**20**	PKPdf	**PKPbc**	**23 22 11.8**	**0.0**
MMPY	**Sheldon Lake,**	**147.55**	**9**		**PKPbc**	**23 22 14.7**	**+0.7**
HYT	**Haines Junctio**	**148.09**	**15**		**PKPbc**	**23 22 14.3**	**-1.3**

*UPA **13** 23:10:55.1±2.3, 9.°39N×84.°79W, h10km±36km*
*CATAC **13** 23:10:58.3±0.4, 9.°N±3.°×8.°4W±.°, h7km±2km, M3.8/10, MLv3.8/10, Error ellipse: s-maj=6.4km s-min=2.7km az=31.3, confirmed*
*UCR **13** 23:11:00.0±1.2, 9.°46N×84.°46W, h20km±3km, MW4.0*
ISC 13 23:10:58.1±1.2, **9.°39N**±0.°03×**84.°50W**±0.°02, **h7**km±10km, **n111, σ0.°43/124, 2C-1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAR1A	**Puntarenas Pro**	**0.32**	**50**	*eP*	**Pb**	**23 11 06.1**	**0.0**
PAR1A				*eS*	**Sb**	**23 11 11.4**	**0.0**
SVQ2	**Quepos**	**0.33**	**83**	*eS*	**Sb**	**23 11 11.1**	**-0.6**
QUEP	**Quepos**	**0.33**	**83**	*eS*	**Sb**	**23 11 11.1**	**-0.7**
QUEP	**Quepos**	**0.33**	**83**	P	**Pb**	**23 11 06.2**	**-0.1**
QUEP	**Quepos**	**0.33**	**83**	S	**Sb**	**23 11 11.2**	**-0.7**
LLNJ	**Naranjito**	**0.40**	**78**	*eP*	**Pb**	**23 11 07.3**	**-0.2**
PISJ	**San Jermim**	**0.44**	**57**	*eP*	**Pn**	**23 11 10.3**	**-0.7**
PURI	**Puriscal**	**0.49**	**22**	*eP*	**Pb**	**23 11 08.6**	**-0.5**
ACOS	**Acosta**	**0.52**	**39**	*eP*	**Pg**	**23 11 08.8**	**+0.6**
ACOS				*eS*	**Sg**	**23 11 15.6**	**+0.6**
RAZU	**San Marcos de**	**0.54**	**60**	*eP*	**Pg**	**23 11 09.2**	**+0.6**
PITB	**Pirrs, San**	**0.54**	**60**	*eP*	**Pb**	**23 11 09.4**	**-0.6**
PIEC	**Cerro El Cedra**	**0.58**	**66**	*eP*	**Pb**	**23 11 10.4**	**-0.4**
ATEO	**Atenas**	**0.59**	**11**	*eP*	**Pb**	**23 11 10.2**	**-0.7**
LCR2	**La Lucha 2**	**0.60**	**54**	*eP*	**Pg**	**23 11 10.2**	**+0.5**
LCR2				*eS*	**Sg**	**23 11 17.7**	**+0.2**
LCR2	**La Lucha 2**	**0.60**	**54**	P	**Pg**	**23 11 10.1**	**+0.5**
PAQE	**Paquera**	**0.61**	**315**	*eP*	**Pb**	**23 11 11.1**	**0.0**
SANTA	**Santa Ana**	**0.62**	**30**	*eP*	**Pg**	**23 11 10.3**	**+0.2**
BELE	**Belen**	**0.66**	**28**	*eP*	**Pg**	**23 11 11.0**	**+0.2**
CENT	**San Jose**	**0.68**	**37**	*eP*	**Pg**	**23 11 11.3**	**+0.1**
TCS1	**Tacares**	**0.68**	**17**	*eP*	**Pb**	**23 11 11.9**	**-0.4**
TCS1	**Tacares**	**0.68**	**17**	P	**Pb**	**23 11 12.0**	**-0.4**
LUJA	**Lujan**	**0.68**	**38**	*eP*	**Pg**	**23 11 11.5**	**+0.3**
RAMO	**San Ramon**	**0.69**	**2**	*eP*	**Pg**	**23 11 11.9**	**+0.5**
HEME	**Heredia, Merce**	**0.70**	**31**	*eP*	**Pb**	**23 11 12.3**	**-0.4**
SJS	**Escuela Geolog**	**0.70**	**39**	*eP*	**Pg**	**23 11 11.8**	**+0.2**
ECI	**Escuela Centro**	**0.70**	**39**	*eP*	**Pg**	**23 11 11.9**	**+0.4**
SJS3	**Mercedes San J**	**0.70**	**39**	*eP*	**Pg**	**23 11 12.1**	**+0.5**
LUPE	**Guadalupe**	**0.70**	**38**	*eP*	**Pg**	**23 11 12.1**	**+0.4**
DOMI	**Santo Domingo**	**0.71**	**34**	*eP*	**Pg**	**23 11 12.3**	**+0.5**
TRIO	**Tres Rios**	**0.71**	**44**	*eP*	**Pg**	**23 11 11.8**	**0.0**
HDC	**Heredia**	**0.71**	**32**	*eP*	**Pg**	**23 11 12.2**	**+0.3**
TAGO	**Cartago**	**0.74**	**50**	*eP*	**Pg**	**23 11 12.5**	**+0.2**
CORON	**Coronado**	**0.76**	**40**	*eP*	**Pb**	**23 11 13.2**	**-0.5**
REPA	**Paraso**	**0.76**	**55**	*eP*	**Pg**	**23 11 12.8**	**+0.1**
ZARE	**Zarcero**	**0.80**	**8**	*eS*	**Sb**	**23 11 25.3**	**-0.2**
VPS8	**V Poas**	**0.82**	**18**	*eP*	**Pb**	**23 11 14.4**	**-0.5**
CVIMO	**Finca Echandi**	**0.83**	**41**	*eP*	**Pg**	**23 11 14.4**	**+0.2**
VPS5	**V. Poas**	**0.84**	**18**	*eP*	**Pg**	**23 11 14.4**	**+0.2**
PCAYA	**Pacayas**	**0.85**	**52**	*eP*	**Pg**	**23 11 14.7**	**+0.1**
VPL1	**V. Platanar**	**0.87**	**9**	*eP*	**Pg**	**23 11 14.9**	**0.0**
VICA	**Volcano Irazu**	**0.87**	**47**	*eP*	**Pg**	**23 11 14.9**	**-0.1**
RAFA	**San Farael, Vo**	**0.88**	**50**	*eP*	**Pg**	**23 11 15.2**	**+0.2**
OCHAL	**Ojochal**	**0.89**	**109**	P	**Pg**	**23 11 15.6**	**+0.5**
OCHAL	**Ojochal**	**0.89**	**109**	S	**Sb**	**23 11 27.6**	**-0.3**
VINA	**Juan Vinas**	**0.89**	**56**	*eP*	**Pg**	**23 11 15.3**	**0.0**
VPL2	**V. Platanar**	**0.92**	**7**	*eP*	**Pg**	**23 11 15.8**	**+0.1**
EDPE	**Pejibaye, P**	**0.94**	**104**	*eP*	**Pg**	**23 11 16.5**	**+0.3**
CVTQ	**Turrialba Volc**	**0.94**	**50**	*eP*	**Pg**	**23 11 16.4**	**+0.1**
TURIB	**Turrialba**	**0.95**	**57**	*eP*	**Pg**	**23 11 16.0**	**-0.3**
CVTV	**Tajo**	**0.96**	**50**	*eP*	**Pg**	**23 11 16.6**	**+0.1**
VTR0	**Volcan Turrial**	**0.96**	**49**	*eP*	**Pg**	**23 11 16.7**	**+0.1**
NYURE	**Nandayure**	**0.96**	**309**	*eP*	**Pn**	**23 11 17.5**	**-0.4**
CVTR	**Volcan Turrial**	**0.96**	**49**	*eP*	**Pg**	**23 11 16.6**	**+0.1**
VTCV	**VTCV, Calle Va**	**0.96**	**52**	*eP*	**Pg**	**23 11 16.6**	**0.0**
SAJE	**San Jernim**	**0.98**	**93**	*eP*	**Pg**	**23 11 17.0**	**+0.1**
ABRB	**Las Abras (San**	**0.98**	**51**	*eP*	**Pg**	**23 11 17.1**	**+0.1**
ABRB				*eS*	**Sg**	**23 11 30.1**	**+0.3**
ARTO	**Ro Cuarto**	**0.99**	**16**	*eP*	**Pg**	**23 11 17.1**	**0.0**
SOCE	**Pocosol**	**0.99**	**353**	*eP*	**Pg**	**23 11 17.2**	**0.0**
SOCE	**Pocosol**	**0.99**	**353**	P	**Pb**	**23 11 17.5**	**-0.1**
SOCE	**Pocosol**	**0.99**	**353**	S	**Sb**	**23 11 31.1**	**+0.1**
JTS	**Las Juntas de**	**1.00**	**333**	⇑*iP*	**Pg**	**23 11 17.2**	**-0.1**
JTS				*eS*	**Sg**	**23 11 30.2**	**-0.1**
JTS	**Las Juntas de**	**1.00**	**333**	*eP*	**Pg**	**23 11 17.2**	**-0.1**
JTS	**Las Juntas de**	**1.00**	**333**	P	**Pg**	**23 11 17.3**	**0.0**
JTS				S	**Sg**	**23 11 30.4**	**0.0**
RESJ	**San Isidro (Tu**	**1.05**	**53**	*eP*	**Pg**	**23 11 18.2**	**-0.1**
CASO	**Castillo**	**1.06**	**347**	*eP*	**Pb**	**23 11 18.8**	**-0.1**
PILE	**Guapiles**	**1.08**	**40**	*eP*	**Pg**	**23 11 18.6**	**-0.2**
FORC	**Fortuna**	**1.08**	**351**	*eP*	**Pg**	**23 11 18.9**	**0.0**
VARE2	**V. Arenal**	**1.09**	**348**	*eP*	**Pg**	**23 11 19.1**	**-0.1**
INDI	**Punta indio, G**	**1.10**	**296**	P	**Pb**	**23 11 18.8**	**-0.6**
INDI	**Punta indio, G**	**1.10**	**296**	S	**Sb**	**23 11 33.8**	**-0.2**
CMARA	**Lajas Hojancha**	**1.11**	**304**	*eP*	**Pg**	**23 11 19.1**	**-0.5**
CMARA	**Lajas Hojancha**	**1.11**	**304**	P	**Pb**	**23 11 19.1**	**-0.5**
CMARA	**Lajas Hojancha**	**1.11**	**304**	S	**Sb**	**23 11 34.3**	**0.0**
CEDE	**Laguna Cedeo**	**1.11**	**349**	*eP*	**Pn**	**23 11 19.8**	**-0.3**
TABAC	**Tabacon**	**1.13**	**346**	*eP*	**Pn**	**23 11 20.4**	**-0.1**
RVLA	**Villa Bonita**	**1.15**	**51**	*eP*	**Pb**	**23 11 19.8**	**-0.4**
LCOCO	**El Coco**	**1.15**	**53**	*eP*	**Pb**	**23 11 19.7**	**-0.6**
BURE	**Buenos Aires**	**1.16**	**

UPP ***13*** *23:19:47.6±0.3,67.85N×20.21E,h0km±1km,ML2.4, Unknown Suspected explosion*
IDC ***13*** *23:19:48.6±1.2,67.82N×20.67E,h0km,mbtmp2.9/4, ML2.0/4,Error ellipse: s-maj=22.5km s-min=7.6km az=122.0*
ISC 13 23:19:47.7±1.0,67°83N±0.03×20°23E±0.03,h0km,n16,σ0s44/21,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**18**	P	**Pg**	**23 19 50.1**	**-0.1**
KUA				S	**Sg**	**23 19 51.8**	**-0.1**
RATU	**Laukkuluspa**	**0.24**	**269**	P	**Pg**	**23 19 52.2**	**-0.1**
RATU				S	**Sg**	**23 19 55.4**	**0.0**
KOVU	**Salmi**	**0.40**	**356**	P	**Pg**	**23 19 54.8**	**-0.4**
KOVU				S	**Sg**	**23 20 00.3**	**-0.1**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pg**	**23 19 56.1**	**-0.3**
NIKU				S	**Sg**	**23 20 02.3**	**0.0**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 20 00.9**	**-0.2**
LANU				S	**Sg**	**23 20 10.4**	**+0.2**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**23 20 01.4**	**0.0**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**23 20 02.6**	**-0.4**
SALU	**Saltoluokta**	**0.80**	**236**	*e*P	**Pg**	**23 20 02.5**	**-0.4**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**23 20 10.2**	**-0.5**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**23 20 13.1**	**-0.9**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**23 20 15.5**	**-0.2**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**23 20 19.1**	**+0.6**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 20 31.4**	**+0.7**
	0.6nm,0.3s,baz=232,slow=14,SNR=21						
ARCES				Lg	Lg	23 21 05.3	
	1.1nm,0.3s,baz=229,slow=25,SNR=12						
	1.2nm,0.3s						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**23 21 30.4**	**+0.8**
	0.1nm,0.3s,baz=340,slow=11,SNR=3.7						
FINES				Lg	Lg	23 23 20.6	
	0.2nm,0.3s,baz=345,slow=27,SNR=4.5						
	1.8nm,1.0s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 21 42.4**	**-0.5**
	baz=25,slow=12,SNR=2.4						
	0.3nm,0.7s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**23 21 48.4**	**+0.1**
	0.1nm,0.3s,baz=18,slow=12,SNR=6.6						
	1.8nm,0.9s						

NEIC ***13*** *23:25:17.0±1.1,35.13N±0.02×95.36W±0.02,h5km±1km, Error ellipse: s-maj=3.4km s-min=2.9km az=144.0*
NEIC 13 23:25:16.9±0.9,35.13N±0.02×95.35W±0.01,h5km±1km, mb_Lg2.6/35,ML2.7,ML3.0/10,Error ellipse: s-maj=3.7km s-min=2.9km az=154.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.86**	**335**	Pg	Pg	23 25 33.2	-0.1
TUL3				Sg	Sg	23 25 44.7	+0.1
TUL3				IAML		23 25 45.2	
	230nm,0.3s						
RLO	**Rose Lookout**	**1.07**	**14**	Pg	Pg	23 25 36.9	-0.4
RLO				Sg	Sg	23 25 51.4	+0.2
RLO				IAML		23 25 56.8	
	comp=N,690nm,0.2s						
DEOK	**Depew**	**1.18**	**307**	Pg	Pg	23 25 39.1	-0.4
DEOK					Sg	23 25 54.4	-0.3
DEOK				IAML		23 25 56.8	
	comp=E,290nm,0.2s						
DEOK				IAML		23 25 59.5	
	comp=N,358nm,0.3s						
OK052	**Battle Ridge R**	**1.47**	**306**		Pn	23 25 43.8	-0.2
OK052				Sg	Sb	23 26 03.7	+0.1
QUOK	**Quay**	**1.52**	**314**		Pn	23 25 44.9	+0.1
U38A	**Gravette**	**1.52**	**31**		Pn	23 25 44.6	-0.1
U38A					Sn	23 26 05.1	+0.1
MIAR	**Mount Ida**	**1.57**	**111**		Pn	23 25 45.7	+0.3
HHAR	**Hobbs**	**1.62**	**44**		Pn	23 25 46.6	+0.4
FNO	**Franklin**	**1.69**	**275**		Pn	23 25 47.5	+0.5
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pb	23 25 48.6	-0.5
OKCSW				IAmb_Lg		23 26 11.3	
	comp=Z,25nm,0.7s						
OKCFA	**Oklahoma City**	**1.75**	**280**		Pb	23 25 48.9	-0.5
OKCFA					Sg	23 26 12.8	-0.1
OK029	**Liberty Lake**	**1.84**	**292**	Pn	Pn	23 25 50.0	+0.8
Z38A	**Mt. Pleasant**	**1.89**	**171**	Pn	Pn	23 25 50.8	+1.0
Z38A				IAmb_Lg		23 26 20.8	
	comp=Z,35nm,0.9s						
LOOK	**Love County**	**1.89**	**234**	Pn	Pn	23 25 50.8	+0.9
BCOK	**Bluff Creek, N**	**1.92**	**287**		Pb	23 25 51.4	-1.0
T35A	**Sooner Cattle**	**2.02**	**332**	Pn	Pn	23 25 52.3	+0.7
X40A	**Basin Creek Fa**	**2.17**	**107**	Pn	Pb	23 25 55.1	-1.4
X40A				IAmb_Lg		23 26 30.8	
	comp=Z,24nm,0.8s						
BLOK	**Blackwell**	**2.22**	**318**	Pn	Pn	23 25 55.6	+1.2
WLAR	**White Oak Lake**	**2.34**	**127**	IAmb_Lg		23 26 36.4	
	comp=Z,37nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**	Pn	Pn	23 25 57.6	+0.9
TREL	**Terrell**	**2.47**	**195**	IAmb_Lg		23 26 41.7	
	comp=Z,15nm,0.8s						
UALR	**University of**	**2.49**	**97**	Pn	Pn	23 25 59.3	+1.2
WHAR	**Wooly Hollow**	**2.51**	**85**	Pn	Pn	23 25 58.8	+0.5
CROK	**Carrier**	**2.54**	**303**	Pn	Pn	23 25 59.8	+1.0
FCAR	**Ozark Folk Cen**	**2.74**	**73**	Pn	Pn	23 26 02.0	+0.5
KAN01	**Argonia South**	**2.81**	**317**	Pn	Pn	23 26 02.5	0.0
KAN01				IAmb_Lg		23 26 48.4	
	comp=Z,23nm,1.1s						
Z41A	**Richland Creek**	**2.82**	**131**	Pn	Pn	23 26 03.5	+1.0
WMOK	**Wichita Mounta**	**2.85**	**263**	Pn	Pn	23 26 02.9	-0.1
KAN08	**Anthony NE Sta**	**2.98**	**315**	IAmb_Lg		23 26 50.1	
	comp=Z,22nm,0.7s						
237A	**Washetta, Mont**	**3.14**	**187**	Pn	Pn	23 26 08.0	+1.0
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		23 27 05.2	
	comp=Z,11nm,0.8s						
PLPT	**Palo Pinto**	**3.38**	**228**	Pn	Pn	23 26 09.8	-0.6
LCAR	**Lake Charles**	**3.54**	**73**	Pn	Pn	23 26 12.3	-0.2
R40A	**Maddies Statio**	**4.01**	**37**	Pn	Pn	23 26 19.8	+0.8
R40A				IAmb_Lg		23 27 23.6	
	comp=Z,16nm,0.7s						
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		23 27 30.5	
	comp=Z,8.3nm,0.8s						
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		23 27 36.7	
	comp=Z,13nm,0.8s						
CCM	**Cathedral Cave**	**4.41**	**47**	Pn	Pn	23 26 24.2	-0.2
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		23 27 43.8	
	comp=Z,9.2nm,0.7s						
P38A	**Dawn**	**4.71**	**17**	Pn	Pn	23 26 28.4	-0.2
FVM	**French Village**	**4.88**	**53**	IAmb_Lg		23 28 01.3	
	comp=Z,7.1nm,0.7s						
BRDY	**Brady**	**4.91**	**220**	Pn	Pn	23 26 30.7	-0.6
CGM3	**Cape Girardeau**	**5.08**	**63**	IAmb_Lg		23 27 59.0	
	comp=Z,9.0nm,0.9s						
CBKS	**Cedar Bluff**	**5.09**	**318**	IAmb_Lg		23 28 01.3	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		23 28 02.3	
	comp=Z,12nm,0.7s						
SIUC	**Southern Illin**	**5.58**	**61**	IAmb_Lg		23 28 24.5	
	comp=Z,14nm,0.8s						
N35A	**Tabor**	**5.73**	**358**	IAmb_Lg		23 28 31.7	
	comp=Z,17nm,0.8s						
SGCY	**Sterling City**	**5.79**	**238**	IAmb_Lg		23 28 30.5	
	comp=Z,7.9nm,0.8s						

MOS ***13*** *23:31:05.9±1.2,34.77N×56.73E,h17km,mb4.2/6,Error ellipse: s-maj=9.3km s-min=6.5km az=122.4*
IDC ***13*** *23:31:06.3±1.0,34.86N×56.61E,h0km,mb3.7/11, mbtmp3.8/19,ML3.5/7,MS3.3/9,Error ellipse: s-maj=18.4km s-min=14.8km az=169.0*
TEH ***13*** *23:31:08.6,34.93N×56.54E,h15km±18km*
THR ***13*** *23:31:09.2±0.0,34.97N×56.55E,h18km±2km,mb4.5*
NEIC ***13*** *23:31:09.6±1.2,34.94N±0.07×56.55E±0.10,h10km±2km, mb4.1/11,Error ellipse: s-maj=15.5km s-min=7.5km az=127.0*
ISC 13 23:31:08.5±0.5,34.96N±0.03×56.60E±0.04,h10km,n148,σ1s55/144,mb3.9/17,MS3.3/8,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPT	**Tabas- Tapeh t**	**0.46**	**99**	Pg	**Pg**	**23 31 18.5**	**+0.9**
TNSJ	**Nastanj**	**1.00**	**180**	Pg	**Pg**	**23 31 27.0**	**-0.6**
TNSJ				Sg	**Sg**	**23 31 40.5**	**-0.2**
SHRO	**Shahrood**	**1.13**	**335**	*e*Pg	**Pb**	**23 31 29.4**	**-0.9**
SHRO				IAML		23 31 48.9	
	comp=Z,0.0nm,1.0s						
TABS	**Tabas**	**1.38**	**162**	*e*Pg	**Pn**	**23 31 35.3**	**+1.4**
TABS				IAML		23 32 05.4	
	comp=Z,25μm,1.0s						
TKDS	**Koohdasht(Taba**	**1.41**	**162**	Pg	**Pn**	**23 31 35.4**	**+1.0**
TKDS				Sg	**Sn**	**23 31 54.6**	**+1.5**
SBZV	**Sabzevar**	**1.64**	**30**	Pg	**Pn**	**23 31 39.4**	**+1.7**
SBZV	**Sabzevar**	**1.64**	**30**	*e*Pn	**Pn**	**23 31 39.3**	**+1.7**
SBZV				IAML		23 32 12.7	
	comp=Z,4.7nm,1.0s						
TPRV	**Parvadeh(Tabas**	**1.93**	**178**	Pn	**Pn**	**23 31 42.2**	**+0.7**
TBHD	**Torbat heydari**	**2.20**	**77**	Pn	**Pn**	**23 31 47.1**	**+1.8**
ISFR	**Sfrayin**	**2.38**	**28**	Pn	**Pn**	**23 31 50.2**	**+2.4**
IAKL	**Akhelmad**	**2.40**	**46**	Pn	**Pn**	**23 31 50.4**	**+2.3**
IPAY	**Payeh**	**2.45**	**52**	Pn	**Pn**	**23 31 51.0**	**+2.3**
IMND	**Minoodasht**	**2.49**	**337**	Pn	**Pn**	**23 31 50.2**	**+1.1**
IMOG	**Moghan**	**2.51**	**62**	Pn	**Pn**	**23 31 51.7**	**+2.1**
AFRZ	**Afriz**	**2.52**	**127**	Pn	**Pn**	**23 31 51.4**	**+1.7**
IKIA	**Kiasar**	**2.68**	**298**	Pn	**Pn**	**23 31 52.8**	**+0.8**
MRVT	**Maraveh tapeh**	**2.72**	**351**	Pn	**Pn**	**23 31 54.2**	**+1.8**
MRVT	**Maraveh tapeh**	**2.72**	**351**	*e*Pn	**Pn**	**23 31 54.0**	**+1.6**
MRVT				IAML		23 32 47.0	
	comp=Z,1.9nm,1.0s						
ITEG	**Tejag**	**2.73**	**138**	Pn	**Pn**	**23 31 54.0**	**+1.5**
IGLO	**Ghaloghah**	**2.73**	**305**	Pn	**Pn**	**23 31 54.1**	**+1.5**
BJRD	**Bojnurd**	**2.81**	**13**	*i* P	**Pn**	**23 31 55.8**	**+2.2**
BJRD				IAML		23 32 45.6	
	comp=Z,0.9nm,1.0s						
IEMG	**Emamgholi**	**2.96**	**34**	Pn	**Pn**	**23 31 58.1**	**+2.3**
ANAR	**Anarak**	**2.97**	**234**	Pn	**Pn**	**23 31 55.8**	**0.0**
IKRD	**Kardeh**	**2.98**	**52**	Pn	**Pn**	**23 31 58.5**	**+2.4**
ILAS	**Lasjerd**	**3.01**	**279**	Pn	**Pn**	**23 31 57.1**	**+0.5**
TBJM	**Torbat-e-JAM**	**3.07**	**83**	Pn	**Pn**	**23 31 59.0**	**+1.8**
JRKH	**Jarkhoshk**	**3.20**	**72**	Pn	**Pn**	**23 32 01.0**	**+2.0**
IFIR	**Firoozkooh**	**3.22**	**283**	Pn	**Pn**	**23 31 59.8**	**+0.4**
IKOO	**Kooshah**	**3.23**	**141**	Pn	**Pn**	**23 32 01.0**	**+1.5**
ICHK	**Chekchek**	**3.27**	**215**	Pn	**Pn**	**23 32 00.0**	**0.0**
IALA	**Alasht**	**3.29**	**291**	Pn	**Pn**	**23 32 01.5**	**+1.2**
SHRT	**Shahrakht**	**3.32**	**112**	Pn	**Pn**	**23 32 02.4**	**+1.8**
SHRT	**Shahrakht**	**3.32**	**112**	*e*Pn	**Pn**	**23 32 02.6**	**+2.0**
SHRT				IAML		23 33 10.4	
	comp=Z,1.4nm,1.0s						
IBAF	**Bafgh**	**3.47**	**195**	Pn	**Pn**	**23 32 04.0**	**+1.3**
IDAH	**Dahanechah**	**3.51**	**128**	Pn	**Pn**	**23 32 04.5**	**+1.1**
IPRN	**Peran**	**3.70**	**291**	Pn	**Pn**	**23 32 07.0**	**+1.1**
IDMV	**Damavand**	**3.79**	**281**	Pn	**Pn**	**23 32 08.1**	**+0.8**
KRSH	**Karshahi**	**3.82**	**256**	Pn	**Pn**	**23 32 07.6**	**0.0**
DAMV	**Damavand**	**3.85**	**281**	*e*Pn	**Pn**	**23 32 08.4**	**+0.4**
DAMV				IAML		23 34 15.6	
	comp=Z,0.0nm,1.0s						
IMEH	**Mehriz**	**3.93**	**206**	Pn	**Pn**	**23 32 09.9**	**+0.8**
ZRDN	**Zarand Kerman**	**3.98**	**181**	Pn	**Pn**	**23 32 10.8**	**+1.0**
IVRN	**Varamin**	**4.00**	**272**	Pn	**Pn**	**23 32 10.3**	**+0.3**
IZEF	**Zefreh**	**4.11**	**241**	Pn	**Pn**	**23 32 12.0**	**+0.4**
GHVR	**GHOM**	**4.40**	**265**	*e*Pn	**Pn**	**23 32 17.0**	**+1.6**
GHVR				IAML		23 32 59.4	
	comp=Z,5.6nm,1.0s						
IKLH	**Kolahrood**	**4.48**	**250**	Pn	**Pn**	**23 32 16.8**	**+0.2**
QAMS	**Qamsar**	**4.48**	**256**	Pn	**Pn**	**23 32 17.2**	**+0.5**
KRM1	**Kerman Provinc**	**4.48**	**173**	Pn	**Pn**	**23 32 17.8**	**+1.1**
IQOM	**Qom**	**4.55**	**270**	Pn	**Pn**	**23 32 18.2**	**+0.5**
CHTH	**Charan**	**4.57**	**283**	*e*Pn	**Pn**	**23 32 19.4**	**+1.5**
CHTH				IAML		23 33 47.0	
	comp=Z,0.2nm,1.0s						
KHGB	**Koh Gabri**	**4.58**	**181**	Pn	**Pn**	**23 32 19.7**	**+1.7**
IGAR	**Gharneh**	**4.58**	**237**	Pn	**Pn**	**23 32 17.9**	**-0.1**
NHDN	**Nehbandan**	**4.58**	**140**	Pn	**Pn**	**23 32 19.7**	**+1.6**
IRAM	**Ramesheh**	**4.73**	**229**	Pn	**Pn**	**23 32 20.6**	**+0.5**
THKV	**Tehran--Karaj**	**4.77**	**283**	*e*Pn	**Pn**	**23 32 22.4**	**+1.8**
THKV				IAML		23 34 01.6	
	comp=Z,0.9nm,1.0s						
KRBR	**Kerman**	**4.97**	**178**	Pn	**Pn**	**23 32 24.5**	**+1.0**
KRBR	**Kerman**	**4.97**	**178**	*e*Pn	**Pn**	**23 32 25.7**	**+2.2**
KRBR				IAML		23 33 59.3	
	comp=Z,2.0nm,1.0s						
CHMN	**Cheshme madani**	**5.15**	**171**	Pn	**Pn**	**23 32 27.4**	**+1.5**
IPIR	**Pirpir**	**5.27**	**246**	Pn	**Pn**	**23 32 28.7**	**+1.1**
NGRK	**Negar Kerman**	**5.30**	**179**	Pn	**Pn**	**23 32 29.5**	**+1.4**
IGZV	**Ghazvin**	**5.39**	**287**	Pn	**Pn**	**23 32 31.0**	**+1.9**
IBRJ	**Brojen**	**5.41**	**237**	Pn	**Pn**	**23 32 30.8**	**+1.3**
ASAO	**Ashtian**	**5.43**	**268**	*e*Pn	**Pn**	**23 32 30.1**	**+0.3**
ASAO				IAML		23 34 16.1	
	comp=Z,0.4nm,1.0s						
ZNGN	**Zangian**	**5.58**	**241**	Pn	**Pn**	**23 32 32.2**	**+0.4**
KHMZ	**Khomeyn**	**5.63**	**259**	*e*Pn	**Pn**	**23 32 34.0**	**+1.5**
KHMZ				IAML		23 34 23.9	
	comp=Z,0.3nm,1.0s						
JHBN	**Jahan bin**	**5.65**	**243**	Pn	**Pn**	**23 32 33.4**	**+0.5**
KLNJ	**Kolanjah**	**5.77**	**228**	Pn	**Pn**	**23 32 35.7**	**+1.2**
KLNJ	**Kolanjah**	**5.77**	**228**	*e*Pn	**Pn**	**23 32 36.1**	**+1.6**
KLNJ				IAML		23 34 33.6	
	comp=Z,0.4nm,1.0s						
GIDE	**GILAN DEYLAMAN**	**5.77**	**292**	*e*Pn	**Pn**	**23 32 35.5**	**+1.1**
GIDE				IAML		23 34 36.3	
	comp=Z,0.8nm,1.0s						
QABG	**Abgarm-Qazvin**	**5.79**	**279**	Pn	**Pn**	**23 32 34.7**	**+0.1**
HAGD	**Aghdareh**	**6.13**	**271**	Pn	**Pn**	**23 32 40.0**	**+0.6**
HGHA	**Hamedan- Ghaye**	**6.36**	**277**	Pn	**Pn**	**23 32 43.5**	**+1.0**
ZHSF	**Zahedan**	**6.40**	**145**	Pn	**Pn**	**23 32 44.3**	**+1.3**
ZHSF	**Zahedan**	**6.40**	**145**	*e*Pn	**Pn**	**23 32 45.0**	**+2.0**
ZHSF				IAML		23 34 48.8	
	comp=Z,0.1nm,1.0s						
BDRS	**Dareh Seyedi**	**6.46**	**263**	Pn	**Pn**	**23 32 44.8**	**+0.9**
ZNJK	**Zanjan**	**6.66**	**287**	*e*Pn	**Pn**	**23 32 48.0**	**+1.4**
ZNJK				IAML		23 34 49.0	
	comp=Z,0.0nm,1.0s						
GTMR	**Gotvand**	**6.72**	**250**	*e*Pn	**Pn**	**23 32 48.7**	**+1.5**
GTMR				IAML		23 35 07.8	
	comp=Z,0.3nm,1.0s						
LKRN	**Lenkeran, Azer**	**7.30**	**303**	P	**Pn**	**23 32 58.1**	**+2.9**
SNQR	**Sonqor, Kerman**	**7.37**	**272**	Pn	**Pn**	**23 32 57.7**	**+1.2**
GRMI	**Germi**	**7.96**	**301**	Pn	**Pn**	**23 33 05.9**	**+1.5**
GRMI	**Germi**	**7.96**	**301**	*e*Pn	**Pn**	**23 33 05.6**	**+1.2**
GRMI				IAML		23 35 07.0	
	comp=Z,0.1nm,1.0s						
DSBU	**Dashti - Bushe**	**8.00**	**216**	Pn	**Pn**	**23 33 04.8**	**0.0**
ILBA	**Ilam Banvizeh**	**8.71**	**264**	*e*Pn	**Pn**	**23 33 16.4**	**+1.8**
ILBA				IAML		23 33 26.7	
	comp=Z,6.4nm,0.8s						
MNGR	**Mingechevir, A**	**9.50**	**310**	P	**Pn**	**23 33 26.9**	**+1.6**
AKT	**Akhty**	**9.54**	**316**	*e*P	**Pn**	**23 33 27.8**	**+1.8**
AKT				*e*S	**Sn**	**23 35 14.8**	**+1.5**
AKT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKT				smax	smax		
	comp=E,12nm,0.4s						
AKT				smax	smax		
	comp=N,14nm,0.5s						
SEKA	**Sheki**	**9.68**	**313**	P	**Pn**	**23 33 28.3**	**+0.4**
NAX	**Nakhchivan**	**9.82**	**299**	P	**Pn**	**23 33 33.0**	**+3.2**
GANJ	**Ganja**	**9.91**	**308**	P	**Pn**	**23 33 32.9**	**+1.8**
UOSS	**Minazif**	**9.99**	**182**	Pn	**Pn**	**23 33 32.6**	**+0.5**
GNI	**Garni**	**10.74**	**302**	Pn	**Pn**	**23 33 45.4**	**+2.8**
	comp=N,0.2nm,0.3s,baz=12,slow=22,SNR=1.8						
	comp=N,6.3nm,0.9s						
WSAR	**Wadi Sarin**	**11.81**	**171**	Pn	**Pn**	**23 33 56.0**	**-1.1**
	baz=340,slow=24,SNR=1.7						
KK31	**Karatay Array**	**13.51**	**49**	Pn	**Pn**	**23 34 20.7**	**+0.4**
KK31	**Karatay Array**	**13.51**	**49**	P	**Pn**	**23 34 20.7**	**+0.4**
KKAR	**Karatay Array**	**13.51**	**49**	Pn	**Pn**	**23 34 18.5**	**-1.8**
KKAR	**Karatay Array**	**13.51**	**49**	P	**Pn**	**23 34 18.5**	**-1.8**
KBZ	**Khabaz**	**13.74**	**314**	Pn	**Pn**	**23 34 24.9**	**+1.6**
	comp=N,0.1nm,0.3s,baz=241,slow=23,SNR=1.3						
KBZ				Sn	**Sn**	**23 36 54.5**	**-1.4**
	comp=N,0.1nm,0.3s,baz=256,slow=16,SNR=2.0						
	comp=N,0.4nm,0.4s						
KIV	**Kislovodsk**	**13.99**	**314**	Pn	**Pn**	**23 34 27.0**	**+0.1**
ARSB	**Arslanbob**	**14.36**	**59**	Pn	**Pn**	**23 34 29.6**	**-2.4**
ARSB	**Arslanbob**	**14.36**	**59**	P	**Pn**	**23 34 29.6**	**-2.4**
AB31	**Akbulak array**	**14.49**	**9**	Pn	**Pn**	**23 34 30.7**	**-2.9**
ABKAR	**Akbulak array**	**14.49**	**9**	Pn	**Pn**	**23 34 31.5**	**-2.1**
RAYN	**Ar Rayn**	**14.95**	**223**	Pn	Pn	23 34 35.4	-4.5
RAYN	**Ar Rayn**	**14.95**	**223**	P	Pn	23 34 35.4	-4.5
AKTO	**Aktyubinsk**	**15.50**	**3**	Pn	**Pn**	**23 34 45.0**	**-2.1**
	comp=N,0.4nm,0.3s,baz=180,slow=13,SNR=7.4						
AKTO				Sn	**Sn**	**23 37 33.1**	**-5.6**
	comp=N,0.1nm,0.3s,baz=105,slow=22,SNR=1.2						
	comp=N,1.5nm,0.5s						
ASF	**Jabal al Asfar**	**16.66**	**266**	Pn	**Pn**	**23 35 01.1**	**-1.0**
	comp=N,0.2nm,0.3s,baz=97,slow=12,SNR=2.0						
ASF				LR	LR	23 42 25.4	
	comp=N,71nm,18.7s,baz=104,slow=41						
	comp=N,0.7nm,0.2s						
MMAI	**Mount Meron Ar**	**17.69**	**270**	P	**Pn**	**23 35 15.9**	**+0.9**
	comp=N,0.8nm,0.6s,baz=113,slow=11,SNR=3.2						
BELG	**Belogornoye**	**18.57**	**343**	P	**P**	**23 35 26.1**	**+0.7**
	comp=N,0.5nm,0.3s,baz=153,slow=9.0,SNR=2.7						
	comp=N,9.4nm,0.7s						
BRTR	**Keskin Array B**	**18.85**	**291**	P	**P**	**23 35 28.6**	**-0.2**
BRTR	**Keskin Array B**	**18.85**	**291**	P	**P**	**23 35 29.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=110,slow=12,SNR=6.7						
	comp=N,1.8nm,1.0s						
EIL	**Eilat**	**19.03**	**260**	P	**P**	**23 35 31.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=35,slow=14,SNR=2.4						
	comp=N,2.6nm,0.6s						
BRVK	**Borovoye**	**20.53**	**24**	P	**P**	**23 35 47.3**	**+0.5**
BRVK				IAmb	IAmb	23 35 52.4	
	comp=Z,7.9nm,1.0s						
BRVK	**Borovoye**	**20.53**	**24**	P	**P**	**23 35 47.3**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BVAR	**Borovoye Array**	**20.54**	**24**	P	**P**	**23 35 48.4**	**+1.4**
	comp=Z,12nm,0.8s,baz=203,slow=9.8,SNR=33						
BVAR				LR	LR	23 44 49.0	
	comp=Z,106nm,18.7s,baz=207,slow=40						
	comp=Z,12nm,0.8s						
ARTI	**Arti**	**21.46**	**3**	P	**P**	**23 35 58.6**	**+1.8**
ARTI				IAmb	IAmb	23 36 02.4	
	comp=Z,7.9nm,0.9s						
ARTI	**Arti**	**21.46**	**3**	P	**P**	**23 35 58.0**	**+1.1**
	comp=Z,5.4nm,0.7s,baz=168,slow=6.7,SNR=9.0						
ARTI				LR	LR	23 44 55.8	
	comp=Z,42nm,20.4s,baz=283,slow=38						
	comp=Z,5.4nm,0.7s						
ARTI	**Arti**	**21.46**	**3**	P	**P**	**23 35 58.7**	**+1.8**
ARTI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KURBB	**Kurchatov Arra**	**22.32**	**39**	P	**P**	**23 36 07.3**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=242,slow=12,SNR=3.2						
	comp=Z,0.8nm,1.0s						
KURK	**Kurchatov**	**22.42**	**39**	P	**P**	**23 36 07.3**	**+0.1**
MKAR	**Makanchi Array**	**22.63**	**51**	P	**P**	**23 36 10.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=241,slow=12,SNR=6.1						
	comp=Z,0.4nm,0.6s						
KIRV	**Kirov**	**24.11**	**351**	LR	LR	23 47 57.3	
	comp=Z,65nm,19.1s,baz=167,slow=42						
AKASG	**Malin Array Be**	**25.30**	**317**	P	**P**	**23 36 35.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=124,slow=8.6,SNR=7.2						
	comp=Z,1.3nm,0.5s						
AKBB	**Malin Array Si**	**25.30**	**317**	P	**P**	**23 36 35.8**	**+0.7**
AKBB				IAmb	IAmb	23 37 01.1	
	comp=Z,7.5nm,1.1s						
AKBB	**Malin Array Si**	**25.30**	**317**	P	**P**	**23 36 35.8**	**+0.7**
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIEV	**Kiev**	**25.31**	**317**	P	**P**	**23 36 36.2**	**+1.1**
KIEV				IAmb	IAmb	23 37 01.0	
	comp=Z,6.1nm,1.1s						
KIEV	**Kiev**	**25.31**	**317**	P	**P**	**23 36 36.2**	**+1.1**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MLR	**Muntele Rosu**	**25.52**	**304**	P	**P**	**23 36 37.6**	**+0.4**
MLR				IAmb	IAmb	23 36 43.1	
	comp=Z,10.0nm,1.0s						
MLR	**Muntele Rosu**	**25.52**	**304**	P	**P**	**23 36 37.6**	**+0.4**
MLR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
IDI	**Anoyia**	**25.89**	**280**	P	**P**	**23 36 41.4**	**+0.8**
BURAR	**Bucovina Array**	**26.56**	**308**	P	**P**	**23 36 47.5**	**+0.8**
BUR08	**Bucovina Ar. S**	**26.58**	**308**	P	**P**	**23 36 47.2**	**+0.3**
ZALV	**Zalesovo Beam**	**27.39**	**37**	P	**P**	**23 36 52.5**	**-1.3**
	comp=Z,2.0nm

	0.5nm,0.7s,baz=249,slow=7.4,SNR=3.6								
	0.5nm,0.7s								
TXAR	**Lajitas Array**	**86.08**	**57**	P		**P**	**00 12 00.6**	**+1.5**	
	0.8nm,0.8s,baz=239,slow=5.2,SNR=4.0								
	0.8nm,0.8s								
ILAR	**Eielson Array**	**86.44**	**13**	P		**P**	**00 11 59.4**	**-0.4**	
	0.4nm,0.5s,baz=210,slow=4.8,SNR=6.5								
	0.4nm,0.5s								
PDAR	**Pinedale Array**	**87.60**	**43**	P		**P**	**00 12 06.1**	**0.0**	
	0.3nm,0.6s,baz=233,slow=8.1,SNR=4.0								
	0.3nm,0.6s								
BVAR	**Borovoye Array**	**117.53**	**321**	PKP		**PKPdf**	**00 17 57.0**	**-2.1**	
	0.3nm,0.4s,baz=122,slow=1.9,SNR=2.0								
ARCES	**ARCESS Array B**	**127.00**	**350**	PKP		**PKPdf**	**00 18 16.1**	**-0.7**	
	3.1nm,1.0s,baz=15,slow=2.4,SNR=9.0								
FINES	**FINESS Array B**	**133.88**	**344**	PKP		**PKPdf**	**00 18 29.8**	**-0.2**	
	2.9nm,1.0s,baz=70,slow=1.6,SNR=4.9								
AKASG	**Malin Array Be**	**141.27**	**332**	PKhKP		PKPpre	00 18 37.1		
	0.2nm,0.3s,baz=45,slow=4.5,SNR=5.3								
EKA	**Eskdalemuir Ar**	**143.08**	**5**	PKP		PKPab	00 18 43.9	-0.7	
	1.1nm,0.7s,baz=340,slow=2.7,SNR=3.8								
BRTR	**Keskin Array B**	**145.45**	**314**	PKPbc		**PKPbc**	**00 18 52.9**	**-0.2**	
	0.8nm,0.6s,baz=98,slow=4.2,SNR=6.2								
MMAI	**Mount Meron Ar**	**146.75**	**302**	PKPbc		**PKPbc**	**00 18 57.6**	**+0.8**	
	1.1nm,0.5s,baz=55,slow=5.5,SNR=4.9								
GERES	**GERESS Array B**	**148.31**	**345**	PKPbc		**PKPbc**	**00 18 60.0**	**-0.4**	
	0.8nm,0.7s,baz=48,slow=1.5,SNR=5.7								

*NEIC **14** 00:00:49.1±1.1, 10.5°S±0.1°×166.0°E±0.1°, h134km±5km, mb4.2/6, Error ellipse: s-maj=22.4km s-min=13.7km az=111.0*
*IDC **14** 00:00:53.2±4.8, 10.6°S×165.85°E, h179km±43km, mb3.6/10, mbtmp4.1/11, Error ellipse: s-maj=26.8km s-min=20.4km az=88.0*
ISC 14 00:00:50.4±0.6, **10.58°S**±0.07°×**166.0°E**±0.1, **h155km**, **n34, σ0°93/38, mb3.8**/14, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.98**	**166**	Pn	**Pn**	**00 02 02.1**	**-1.5**
DZM	**Mont Dzumac**	**11.43**	**178**	Pn	**Pn**	**00 03 31.4**	**+2.1**
DZM	**Mont Dzumac**	**11.43**	**178**	P	**Pn**	**00 03 31.7**	**+2.5**
	8.4nm,0.7s,baz=30,slow=20,SNR=9.2						
DZM				S	**Sn**	**00 05 35.0**	**-0.9**
	11nm,1.0s,baz=346,slow=18,SNR=3.1						
PINNC	**Pines Island,**	**12.05**	**174**	Pn	**Pn**	**00 03 36.6**	**-0.5**
EIDS	**Eidsvold**	**20.40**	**222**	P	**P**	**00 05 15.5**	**+0.2**
CTAO	**Charters Tower**	**21.23**	**241**	P	**P**	**00 05 25.0**	**+0.7**
ARMA	**Armidale**	**23.84**	**212**	P	**P**	**00 05 49.9**	**+0.4**
ARMA				IAmb	IAmb	00 05 50.2	
	comp=Z,4.4nm,1.3s						
BKZ	**Black Stump Fm**	**29.97**	**164**	P	**P**	**00 06 44.8**	**+0.5**
STKA	**Stephens Creek**	**30.94**	**223**	P	**P**	**00 06 53.4**	**+0.6**
STKA	**Stephens Creek**	**30.94**	**223**	P	**P**	**00 06 53.7**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=53,slow=10,SNR=7.7						
	comp=Z,3.1nm,0.5s						
WR8	**Warramunga Arr**	**31.72**	**249**	P	**P**	**00 06 59.4**	**-0.5**
WB0	**Warramunga Arr**	**31.78**	**250**	P	**P**	**00 06 59.8**	**-0.6**
WB2	**Warramunga Arr**	**31.86**	**249**	P	**P**	**00 07 01.0**	**-0.1**
WRA	**Warramunga Arr**	**31.87**	**249**	P	**P**	**00 07 00.6**	**-0.6**
WRA	**Warramunga Arr**	**31.87**	**249**	P	**P**	**00 06 60.0**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=78,slow=8.8,SNR=12						
WRA				PcP	**PcP**	**00 09 48.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=68,slow=2.6,SNR=3.0						
	comp=Z,1.3nm,0.5s						
AS31	**Alice Springs**	**33.21**	**243**	P	**P**	**00 07 12.1**	**-0.8**
ASAR	**Alice Springs**	**33.21**	**243**	P	**P**	**00 07 11.4**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=72,slow=9.1,SNR=10						
ASAR				PcP	**PcP**	**00 09 50.7**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=63,slow=2.1,SNR=5.6						
	comp=Z,1.5nm,0.8s						
BBOO	**Buckleboo**	**35.32**	**227**	P	**P**	**00 07 30.8**	**-0.1**
BBOO				IAmb	IAmb	00 07 31.2	
	comp=Z,5.1nm,0.6s						
KNRA	**Kununurra**	**36.57**	**258**	P	**P**	**00 07 41.2**	**-0.4**
KNRA				IAmb	IAmb	00 07 41.8	
	comp=Z,21nm,1.5s						
FITZ	**Fitzroy Crossi**	**39.73**	**254**	P	**P**	**00 08 07.6**	**-0.5**
MBWA	**Marble Bar**	**45.57**	**251**	P	**P**	**00 08 55.4**	**+0.1**
MJAR	**Matsushiro Arr**	**53.67**	**332**	P	**P**	**00 09 55.5**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=148,slow=7.4,SNR=1.8						
	comp=Z,0.5nm,0.4s						
CMAR	**Chiang Mai**	**72.15**	**293**	P	**P**	**00 11 59.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=114,slow=4.9,SNR=4.7						
	comp=Z,0.6nm,0.3s						
K15K	**Wolf Creek Mou**	**76.92**	**15**	P	**P**	**00 12 26.3**	**+1.0**
SONM	**Songino Array**	**78.44**	**324**	P	**P**	**00 12 33.9**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=129,slow=4.6,SNR=2.6						
	comp=Z,0.3nm,0.4s						
QSPA	**South Pole Qui**	**79.42**	**180**	P	**P**	**00 12 39.7**	**+0.4**
QSPA	**South Pole Qui**	**79.42**	**180**	P	**P**	**00 12 39.2**	**0.0**
	comp=Z,1.4nm,0.6s,baz=27,slow=2.3,SNR=16						
	comp=Z,1.4nm,0.6s						
E19K	**Redstone River**	**82.22**	**13**	P	**P**	**00 12 54.8**	**+1.0**
ILAR	**Eielson Array**	**83.00**	**18**	P	**P**	**00 12 57.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=232,slow=6.4,SNR=4.7						
	comp=Z,0.5nm,0.7s						
J25K	**Salcha River,**	**83.37**	**19**	P	**P**	**00 13 00.3**	**+0.5**
J25K				IAmb	IAmb	00 13 00.6	
	comp=Z,0.5nm,0.5s						
F03A	**Seaside**	**84.32**	**41**	P	**P**	**00 13 05.6**	**+0.6**
ZALV	**Zalesovo Beam**	**93.32**	**324**	P	**P**	**00 13 47.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=77,slow=7.6,SNR=2.0						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**93.35**	**317**	P	**P**	**00 13 47.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=100,slow=4.4,SNR=7.0						
	comp=Z,0.7nm,0.6s						
ESDC	**Sonseca Array**	**149.68**	**345**	PKPbc	**PKPbc**	**00 20 20.7**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=18,slow=3.8,SNR=3.0						
ESDC				PKPab	**PKPab**	**00 20 28.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=26,slow=3.6,SNR=4.7						

*SDD **14** 00:10:02.9±2.2, 18.2°S×71.95°W, h13km±14km, MD2.7, ML2.7, MW3.0*
*OSPL **14** 00:10:07.0±2.8, 18.3°S×71.81°W, h5km±24km, ML2.3*
ISC 14 00:10:05.4±1.1, **18.36°N**±0.03°×**71.84°W**±0.04, **h10km**±9km, **n15, σ0°80/27, 7C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.13**	**354**	*i* P	**Pg**	**00 10 08.3**	**-0.2**
JIDR				IAML		00 10 10.8	
	comp=N,2μm,0.8s						
JIDR				⇑*e*Sg	**Sg**	**00 10 10.9**	**+0.4**
LODU1	**El Espartillar**	**0.34**	**91**	*i* P	**Pg**	**00 10 11.4**	**-0.8**
LODU1				*e*S	**Sg**	**00 10 17.2**	**+0.3**
LODU1				IAML		00 10 17.8	
	comp=Z,2μm,0.2s						
NEDR	**Neiba UASD**	**0.42**	**73**	*i* P	**Pg**	**00 10 13.6**	**+0.1**
NEDR				⇑*e*Sg	**Sb**	**00 10 21.2**	**-0.1**
NEDR				IAML		00 10 21.9	
	comp=N,1μm,0.1s						
PAPH	**Port-au-Prince**	**0.47**	**290**	*e*S	**Sb**	**00 10 23.3**	**+0.5**
LOBH	**Bahia de las A**	**0.53**	**159**	*i* P	**Pg**	**00 10 15.4**	**-0.3**
LOBH				*e*S	**Sb**	**00 10 24.1**	**-0.5**
LOBH				IAML		00 10 29.7	
	comp=Z,167nm,0.4s						
PODR	**Polo**	**0.56**	**110**	*i* P	**Pg**	**00 10 15.8**	**-0.6**
PODR				*e*S	**Sg**	**00 10 25.1**	**+1.3**
PODR	**Polo**	**0.56**	**110**	*i* P	**Pg**	**00 10 15.8**	**-0.6**
PODR				⇑*e*Sg	**Sg**	**00 10 23.0**	**-0.8**
PODR				IAML		00 10 29.8	
	comp=N,431nm,0.8s						
LOVI	**El Cajuil, Ovi**	**0.71**	**141**	*i* P	**Pb**	**00 10 19.6**	**-0.3**
LOVI				*e*S	**Sb**	**00 10 30.6**	**+0.7**
LOVI				IAML		00 10 40.6	
	comp=Z,197nm,0.5s						
SDDR	**Presa de Saban**	**0.81**	**40**	*i* P	**Pg**	**00 10 19.7**	**-1.3**
SDDR				*e*S	**Sg**	**00 10 32.3**	**+0.6**
SDDR				IAML		00 10 42.0	
	comp=Z,60nm,0.6s						
SDDR	**Presa de Saban**	**0.81**	**40**	*i* P	**Pg**	**00 10 19.5**	**-1.6**
SDDR				⇑*e*Sg	**Sb**	**00 10 33.4**	**+0.7**
SDDR				IAML		00 10 38.1	
	comp=N,71nm,1.4s						
REDR	**Restauracion**	**0.91**	**28**	*i* P	**Pg**	**00 10 21.9**	**-0.9**
REDR				⇑*e*Sg	**Sg**	**00 10 34.9**	**+0.2**
REDR				IAML		00 10 36.0	
	comp=N,68nm,0.3s						
BANI	**BANI**	**1.41**	**88**	*i* P	**Pn**	**00 10 30.3**	**-0.9**
BANI				⇑*e*Sg	**Sg**	**00 10 51.4**	**+0.7**
BANI				IAML		00 10 56.9	
	comp=N,152nm,1.1s						

LOPP1	**Punta Rusia, P**	**1.60**	**22**	*i* P		**Pn**	**00 10 34.1**	**+0.2**	
HATOM	**Hato Mayor del**	**2.37**	**79**	*i* P		**Pn**	**00 10 45.2**	**+0.8**	
HATOM				⇑*e*Sg		**Sb**	**00 11 18.6**	**+1.1**	
HATOM				IAML			00 11 18.8		
	comp=N,34nm,1.7s								
MIDR	**Miches**	**2.71**	**76**	*i* P		**Pn**	**00 10 50.1**	**+0.9**	
MIDR				IAML			00 12 01.4		
	comp=N,35nm,2.0s								

*SDD **14** 00:22:13.5±1.6, 18.35°N×71.96°W, h7km±73km, MD2.3, ML1.9, MW2.6*
*OSPL **14** 00:22:16.5±2.6, 18.42°N×71.79°W, h12km±48km, ML1.8*
ISC 14 00:22:14.4±1.1, **18.44°N**±0.05°×**71.83°W**±0.05, **h19km**±2km, **n10, σ0°93/20, 3C-1D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.06**	**340**	*i* P	**Pb**	**00 22 17.5**	**-0.4**
JIDR				⇑*e*Sg	**Sb**	**00 22 20.2**	**+0.1**
JIDR				IAML		00 22 20.9	
	comp=N,336nm,0.1s						
LODU1	**El Espartillar**	**0.35**	**104**	*i* P	**Pb**	**00 22 21.1**	**-1.0**
LODU1				*e*S	**Sb**	**00 22 26.9**	**-0.3**
LODU1				IAML		00 22 28.8	
	comp=Z,179nm,0.2s						
NEDR	**Neiba UASD**	**0.39**	**83**	*i* P	**Pb**	**00 22 21.8**	**-1.0**
NEDR				⇑*e*Sg	**Sn**	**00 22 30.7**	**-1.3**
NEDR				IAML		00 22 31.7	
	comp=N,142nm,0.3s						
PAPH	**Port-au-Prince**	**0.45**	**281**	*i* P	**Pn**	**00 22 25.7**	**-0.2**
PAPH				*e*S	**Sn**	**00 22 33.3**	**-0.2**
PAPH				IAML		00 22 36.0	
	comp=Z,56nm,0.3s						
PODR	**Polo**	**0.59**	**117**	*i* P	**Pb**	**00 22 26.8**	**+0.7**
PODR				*e*S	**Sb**	**00 22 35.7**	**+1.7**
PODR	**Polo**	**0.59**	**117**	*i* P	**Pb**	**00 22 26.7**	**+0.7**
PODR				⇓*e*Sg	**Sn**	**00 22 36.1**	**-0.9**
PODR				IAML		00 22 40.8	
	comp=N,55nm,0.3s						
LOBH	**Bahia de las A**	**0.60**	**162**	*i* P	**Pb**	**00 22 26.5**	**+0.3**
LOBH				*e*S	**Sb**	**00 22 33.7**	**-0.5**
LOBH				IAML		00 22 41.6	
	comp=Z,59nm,1.4s						
SDDR	**Presa de Saban**	**0.75**	**43**	*i* P	**Pn**	**00 22 29.4**	**-0.5**
SDDR				*i* S	**Sn**	**00 22 41.4**	**+0.6**
LOVI	**El Cajuil, Ovi**	**0.77**	**145**	*i* P	**Pb**	**00 22 29.3**	**+0.1**
LOVI				*e*S	**Sn**	**00 22 41.4**	**+0.1**
REDR	**Restauracion**	**0.83**	**30**	*i* P	**Pn**	**00 22 31.5**	**+0.4**
REDR				⇑*e*Sg	**Sn**	**00 22 44.9**	**+2.0**
REDR				IAML		00 22 47.1	
	comp=N,30nm,0.1s						

*IDC **14** 00:35:21.1±1.3, 25.81°S×179.25°E, h526km±13km, mb3.3/7, mbtmp4.2/9, Error ellipse: s-maj=22.4km s-min=14.0km az=11.0*
ISC 14 00:35:22.4±0.8, **26.07°S**±0.08°×**179.39°E**±0.10, **h550km**, **n30, σ1°54/41, mb3.6/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.97**	**144**	P	**P**	**00 36 42.3**	**-1.7**
	599nm,0.2s,baz=0.0,slow=20,SNR=16						
RAO				S	**S**	**00 37 49.7**	**-0.9**
	202nm,0.4s,baz=328,slow=19,SNR=1.5						
GLKZ	**Green Lake**	**3.97**	**144**	P	**P**	**00 36 42.3**	**-1.7**
GLKZ				S	**S**	**00 37 47.6**	**-3.0**
WCZ	**Waipu Caves**	**10.74**	**203**	P	**P**	**00 37 50.2**	**+2.4**
KUZ	**Kuaotunu**	**11.09**	**195**	P	**P**	**00 37 53.2**	**+1.9**
MBAZ	**Motutapu North**	**11.33**	**199**	P	P	00 38 02.0	+8.1
MXZ	**Matakaoa Point**	**11.49**	**184**	P	**P**	**00 37 55.9**	**+0.3**
HAZ	**Te Kaha**	**11.73**	**186**	P	**P**	**00 37 58.5**	**+0.5**
WMGZ	**Waiomatatini S**	**11.74**	**184**	P	**P**	**00 37 57.0**	**-1.1**
WMGZ				S	**S**	**00 40 06.5**	**+0.3**
RUGZ	**Raukumara Rang**	**11.95**	**187**	P	**P**	**00 37 59.2**	**-1.1**
PUZ	**Puketiti**	**12.00**	**184**	P	**P**	**00 38 01.5**	**+0.6**
PUZ				S	**S**	**00 40 10.5**	**-0.7**
TOZ	**Tahuroa Road**	**12.08**	**195**	P	**P**	**00 38 03.1**	**+1.5**
TWGZ	**Tauwhareparae**	**12.13**	**185**	P	**P**	**00 38 01.4**	**-0.8**
TWGZ				S	**S**	**00 40 13.6**	**0.0**
LIRZ	**Lichensteins R**	**12.16**	**191**	P	**P**	**00 38 03.3**	**+0.8**
URZ	**Urewera**	**12.30**	**188**	P	**P**	**00 38 02.5**	**-1.4**
	42nm,0.6s,baz=352,slow=2.9,SNR=24						
URZ				S	**S**	**00 40 17.5**	**+0.7**
	9.1nm,0.5s,baz=9.5,slow=18,SNR=8.4						
URZ	**Urewera**	**12.30**	**188**	P	**P**	**00 38 02.1**	**-1.8**
URZ				S	**S**	**00 40 17.3**	**+0.5**
MWZ	**Matawai**	**12.33**	**187**	P	**P**	**00 38 02.3**	**-1.9**
MWZ				S	**S**	**00 40 16.7**	**-0.7**
DZM	**Mont Dzumac**	**12.48**	**286**	P	**P**	**00 38 03.6**	**-2.4**
	5.1nm,0.7s,baz=107,slow=17,SNR=5.7						
RAGZ	**Rawiri**	**12.50**	**187**	P	**P**	**00 38 04.2**	**-1.8**
BKZ	**Black Stump Fm**	**13.28**	**190**	P	**P**	**00 38 11.3**	**-2.8**
BKZ				S	**S**	**00 40 35.3**	**-0.1**
PXZ	**Pawanui**	**14.08**	**188**	S	**S**	**00 40 49.7**	**-0.6**
TSZ	**Takapari Road**	**14.24**	**191**	P	**P**	**00 38 21.3**	**-2.6**
TSZ				S	**S**	**00 40 51.8**	**-1.6**
RPZ	**Rata Peaks**	**18.86**	**199**	P	**P**	**00 39 10.0**	**+2.0**
	7.3nm,0.6s,baz=24,slow=10.0,SNR=1.2						
ASAR	**Alice Springs**	**41.18**	**263**	P	**P**	**00 42 20.0**	**+0.3**
	1.5nm,0.4s,baz=103,slow=7.8,SNR=18						
ASAR				S	**S**	**00 47 53.9**	**0.0**
	0.4nm,0.6s,baz=101,slow=17,SNR=5.9						
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**41.76**	**269**	P	**P**	**00 42 23.6**	**-0.6**
	2.5nm,0.4s,baz=104,slow=8.0,SNR=16						
WRA				S	**S**	**00 48 00.6**	**-1.6**
	0.9nm,0.9s,baz=106,slow=15,SNR=4.9						
	2.5nm,0.4s						
QSPA	**South Pole Qui**	**64.02**	**180**	P	**P**	**00 45 05.0**	**+2.9**
	2.5nm,0.6s,baz=15,slow=1.3,SNR=28						
	2.5nm,0.6s						
MAW	**Mawson**	**75.53**	**201**	P	**P**	**00 46 11.6**	**+1.3**
	1.4nm,0.6s,baz=124,slow=3.6,SNR=2.5						
	1.4nm,0.6s						
SNAA	**Sanae**	**82.51**	**179**	P	**P**	**00 46 49.2**	**+1.8**
	2.1nm,1.1s,baz=197,slow=8.1,SNR=3.7						
	2.1nm,1.1s						
NVAR	**Mina Array Bea**	**86.69**	**44**	P	**P**	**00 47 08.6**	**+0.2**
	0.4nm,0.6s,baz=240,slow=4.2,SNR=4.7						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**92.04**	**58**	P	**P**	**00 47 34.2**	**+0.9**
	0.5nm,0.9s,baz=237,slow=5.2,SNR=3.6						
	0.5nm,0.9s						
HFS	**Hagfors**	**144.55**	**348**	PKP	**PKPdf**	**00 53 55.2**	**-0.7**
	1.2nm,0.4s,baz=49,slow=4.2,SNR=14						

*AFAD **14** 00:56:10.3, 37.90N×30.00E, h7km±2km, ML1.7*
ISK 14 00:56:10.7, 37.90N×30.00E, h13km, ML1.4/10, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASM	**Basmaki-Afyon**	**0.04**	**65**	Pg	Pg	00 56 12.9	-0.4
BASM				Sg	Sg	00 56 15.1	0.0
BRDR	**BURDUR-Merkez**	**0.21**	**166**	P	Pg	00 56 15.4	+0.1
BRDR				S	Sg	00 56 18.5	0.0
BRDR				*i* IAML		00 56 19.0	
	comp=N,293nm,0.3s						
BRDR				*i* IAML		00 56 19.0	
	comp=E,205nm,0.3s						
BRDR	**BURDUR-Merkez**	**0.21**	**166**	P	Pg	00 56 15.0	-0.4
BRDR				S	Sg	00 56 18.7	+0.2
BRDR				*i* IAML		00 56 19.0	
	comp=N,293nm,0.3s						
KZIL	**AFYON_Kizioren**	**0.37**	**18**	P	Pg	00 56 18.1	-0.2
KZIL				S	Sb	00 56 24.3	-0.8
INCE	**Denizli-Bozkur**	**0.39**	**240**	P	Pg	00 56 17.5	-0.9
INCE	**Denizli-Bozkur**	**0.39**	**240**	P	Pg	00 56 18.3	-0.2
ISP	**Isparta**	**0.42**	**100**	Pg	Pg	00 56 18.8	-0.3
ISP				Sg	Sb	00 56 25.9	-0.5
AFYN	**Afyon-Dinar-K**	**0.54**	**47**	P	Pg	00 56 21.0	-0.4
AFYN				S	Sb	00 56 29.4	-0.6
PASA	**Karahalli, USA**	**0.60**	**318**	P	Pg	00 56 21.5	-1.0
PASA				S	Sg	00 56 29.2	-1.3
PASA				*i* IAML		00 56 33.0	
	comp=E,21nm,0.2s						
BAGO	**Egridir - ISPA**	**0.63**	**82**	P	Pg	00 56 22.2	-0.8
UZP	**Denizli**	**0.66**	**282**	P	Pg	00 56 22.4	-1.3
UZP				S	Sb	00 56 33.1	-0.3
UZP				*i* IAML		00 56 37.0	
	comp=E,100nm,0.3s						
APMY	**Acipayam-Deniz**	**0.70**	**232**	Pg	Pg	00 56 23.5	-0.8
APMY				Sg	Sb	00 56 34.9	+0.6
GOLH	**Golhisar**	**0.75**	**208**	P	Pg	00 56 24.7	-0.5
GOLH				S	Sn	00 56 37.1	-1.2
GOLH				*i* IAML		00 56 39.0	
	comp=N,8.7nm,0.4s						
GOLH				*i* IAML		00 56 39.0	
	comp=E,14nm,0.3s						
BNAZ	**Uak-Banaz**	**0.78**	**353**	P	Pg	00 56 25.7	-0.2
BNAZ				S	Sb	00 56 37.2	+0.4
BNAZ				*i* IAML		00 56 42.0	
	comp=E,24nm,0.3s						
SDAG	**Sultandagi-AFY**	**0.90**	**53**	Pg	Pg	00 56 28.2	0.0
SDAG				Sg	Sn	00 56 41.8	-0.4
TAVA	**DENIZLI_Tavas**	**0.96**	**244**	P	Pb	00 56 29.3	0.0
DNZT	**Denizli-Tavas-**	**0.99**	**232**	P	Pb	00 56 29.5	-0.3
DNZT				S	Sb	00 56 41.8	-1.0
YVAC	**Isparta, Yalva**	**1.05**	**69**	P	Pb	00 56 30.7	-0.1
CAME	**Cameli-Denizli**	**1.10**	**210**	Pn	Pg	00 56 32.3	+0.3
CAME				Sn	Sn	00 56 48.1	+0.9
KURO	**Afyon-Bolvadin**	**1.11**	**41**	P	Pb	00 56 30.9	-0.9
KURO				S	Sg	00 56 46.7	0.0
KULA	**Kula-Manisa**	**1.22**	**301**	Pn	Pb	00 56 33.8	+0.1
BLVD	**Bolvadin-AFYON**	**1.24**	**44**	Pn	Pg	00 56 34.6	0.0
BYAT	**Afyon-Bayat**	**1.30**	**36**	P	Pn	00 56 34.2	-0.4
NAZL	**Nazilli-Aydin**	**1.35**	**273**	Pn	Pb	00 56 36.1	+0.2
SIMA	**Simav-Kutahya**	**1.43**	**326**	Pn	Pb	00 56 37.1	-0.1
ODEM	**Odemis-Izmir**	**1.56**	**284**	Pn	Pb	00 56 39.1	-0.4
TVSB	**Tavsanli**	**1.60**	**345**	Pn	Pb	00 56 39.7	-0.5
AYDB	**Zeytinkoy-Aydi**	**1.67**	**272**	Pn	Pb	00 56 40.6	-0.7
GORD	**Gordes-Manisa**	**1.75**	**306**	Pn	Pb	00 56 41.8	-0.9

*IDC **14** 01:08:28.3±0.5, 58.03N×137.67W, h0km, mb4.1/24, mbtmp4.1/31, ML3.9/7, MS3.7/46, Error ellipse: s-maj=11.1km s-min=6.5km az=40.0*
*NEIC **14** 01:08:29.5±1.3, 57.97N±0.04×137.76W±0.09, h10km±1km, Error ellipse: s-maj=7.9km s-min=7.1km az=239.0*
*ANF **14** 01:08:29.4±0.1, 57.95N×137.73W, h15km, ML5.1/43, Error ellipse: s-maj=1.6km s-min=1.0km az=168.0*
*PMR **14** 01:08:29.0, 57.99N×137.74W, h6km*
*NEIC **14** 01:08:30.9, 58.00N×137.76W, h12km, Moment Tensor Solution. Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr=4.73; Mθθ2.24; Mϕϕ2.49; Mrθ1.70; Mθϕ6.92; Mϕr-3.05; Fault plane solution: Mo8.77000×10^15^ NP1:θs10.05000°, δ62.88000°, λ-140.97000°. NP2:θs259.77000°, δ55.90000°, λ-33.39000°. Principal axes: T 9.3640, Plg4.0000°, Azm133.0000°; N -1.3347, Plg44.0000°, Azm39.0000°; P -8.0293, Plg46.0000°, Azm228.0000°;*
*NEIC **14** 01:08:30.9, 58.00N×137.76W, h12km*
*AEIC **14** 01:08:30.2±1.6, 57.92N±0.07×137.83W±0.09, h20km±4km, ML4.6, mb4.4/80(NEIC), ML4.8/92(NEIC), Mww4.6/94(NEIC), Error ellipse: s-maj=11.1km s-min=6.1km az=199.0*
ISC 14 01:08:28.1±1.4, **57.95N**±0.03°×**137.77W**±0.03, **h2km**±8km, **n588, σ1°07/593, mb4.5**/57, **MS3.8**/46, **Off coast of southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
S31K	**Pelican**	**0.82**	**89**		**Pg**	**01 08 44.0**	**+0.2**
S31K				Sg	**Sg**	**01 08 54.0**	**-0.4**
S31K	**Pelican**	**0.82**	**89**	P	**Pg**	**01 08 44.3**	**+0.5**
	baz=273,SNR=1000						
S31K				S	**Sg**	**01 08 54.8**	**+0.4**
	baz=273						
SIT	**Sitka**	**1.59**	**123**	Pn	**Pn**	**01 08 55.4**	**-1.9**
SIT	**Sitka**	**1.59**	**123**		**Sn**	**01 09 14.8**	**-3.7**
SIT	**Sitka**	**1.59**	**123**	P	**Pn**	**01 08 55.7**	**-1.6**
SIT	**Sitka**	**1.59**	**123**	P	**Pn**	**01 08 55.8**	**-1.5**
	baz=307,SNR=195						
BESE	**Bessie Mountai**	**1.67**	**66**	Pn	**Pn**	**01 08 56.9**	**-1.5**
BESE				IAML		01 09 20.3	
	comp=E,10μm,0.9s						
BESE				IAML		01 09 20.3	
	comp=N,14μm,1.0s						
BESE	**Bessie Mountai**	**1.67**	**66**		**Sn**	**01 09 18.1**	**-2.3**
BESE					**Sb**	**01 09 19.3**	**-1.7**
PLBC	**Pleasant Camp**	**1.68**	**25**		**Pn**	**01 08 57.5**	**-1.1**
PLBC					**Sn**	**01 09 18.2**	**-2.4**
PLBC	**Pleasant Camp**	**1.68**	**25**	P	**Pn**	**01 08 57.6**	**-0.9**
	baz=206,SNR=1000						
PLBC				S	**Sn**	**01 09 18.5**	**-2.1**
	baz=206						
P29M	**Windy Craggy**	**

baz=182,SNR=370
HYT S Sn 01 09 49.3 -1.3
baz=182
RKAV Rock Avalanche 2.99 323 Pn 01 09 15.2 -1.5
YUK6 Outpost Mounta 3.02 354 P Pn 01 09 16.8 -0.3
baz=174,SNR=52
YUK6 Sb Sb 01 09 59.8 -0.2
baz=174
TABL Table Mountain 3.04 327 Pn Pn 01 09 17.2 -0.3
TABL IAML 01 10 13.4
comp=N,4μm,1.0s
TABL IAML 01 10 16.5
comp=E,3μm,0.9s
Q32M Nakina River 3.06 68 Pn Pn 01 09 17.0 -0.7
Q32M IAML 01 10 09.6
comp=N,4μm,1.2s
Q32M IAML 01 10 10.7
comp=E,4μm,1.3s
Q32M Nakina River 3.06 68 P Pn 01 09 17.4 -0.3
baz=254,SNR=71
Q32M Sb Sb 01 10 03.2 +1.9
baz=254
O28M Mount Upton 3.09 337 Pn Pn 01 09 17.6 -0.6
O28M IAML 01 10 11.3
comp=E,3μm,1.0s
O28M IAML 01 10 12.4
comp=N,3μm,0.8s
O28M Mount Upton 3.09 337 P Pn 01 09 17.4 -0.8
baz=155,SNR=86
O28M S Sn 01 09 55.4 -0.4
baz=155
WHY Whitehorse 3.10 27 Pn Pn 01 09 17.1 -1.0
WHY Whitehorse 3.10 27 P Pn 01 09 17.7 -0.4
baz=210,SNR=398
WHY Sb Sb 01 10 02.2 0.0
baz=210
MESA MESA 3.11 318 Pn Pn 01 09 17.6 -0.7
MESA MESA 3.11 318 P Pn 01 09 16.6 -1.8
baz=134,SNR=198
MESA Sb Sb 01 10 04.2 +1.6
baz=134
U33K Whale Pass 3.14 124 Pn Pn 01 09 17.0 -1.5
U33K Whale Pass 3.14 124 P Pn 01 09 17.7 -0.8
baz=309,SNR=30
YAH Yahtse 3.17 321 Pn Pn 01 09 18.1 -1.2
YAH IAML 01 10 18.8
comp=E,2μm,1.7s
YAH IAML 01 10 34.6
comp=N,3μm,1.2s
YUK5 Granite Creek 3.19 359 Pn 01 09 19.5 +0.1
LOGN Logan Glacier 3.32 332 Pn Pn 01 09 20.8 -0.4
LOGN IAML 01 10 15.6
comp=E,2μm,1.0s
LOGN IAML 01 10 17.8
comp=N,3μm,0.7s
WRAK Wrangell Islan 3.33 115 Pn Pn 01 09 20.0 -1.1
WRAK IAML 01 10 21.7
comp=N,2μm,0.8s
WRAK IAML 01 10 25.9
comp=N,1μm,0.8s
WRAK Wrangell Islan 3.33 115 P Pn 01 09 19.8 -1.3
baz=300,SNR=35
WRAK Sb Sb 01 10 11.7 +3.1
baz=300
BAGL Bagley Icefiel 3.38 321 Pn 01 09 20.4 -1.5
P33M Teslin, Yukon 3.42 46 Pn Pn 01 09 21.6 -0.9
P33M Teslin, Yukon 3.42 46 P Pn 01 09 21.1 -1.3
baz=231,SNR=95
P33M Sb Sb 01 10 13.1 +1.7
baz=231
YUK4 Talbot Arm 3.44 353 P Pn 01 09 24.4 +1.6
baz=173,SNR=96
YUK4 S Sn 01 10 05.3 +1.1
baz=173
SNH Sunshine Point 3.44 313 Pn Pn 01 09 21.5 -1.3
GRNC Granite Creek 3.46 326 Pn Pn 01 09 23.4 +0.2
GRNC IAML 01 10 26.6
comp=N,2μm,0.8s
GRNC IAML 01 10 28.0
comp=E,1μm,1.0s
BARK Barkley Ridge 3.46 317 Pn 01 09 21.6 -1.4
YUK8 Steele Glacier 3.50 344 Pn 01 09 23.7 0.0
YUK8 Steele Glacier 3.50 344 P Pn 01 09 23.4 -0.3
baz=162,SNR=22
YUK8 Sb Sb 01 10 14.6 +0.8
baz=162
CTGM Chitina Glacie 3.53 330 Pn Pn 01 09 24.2 +0.2
CTGM IAML 01 10 21.7
comp=N,1μm,0.8s
CTGM IAML 01 10 31.4
comp=E,1μm,0.9s
CTG Chitna Glacier 3.53 330 P Pn 01 09 23.7 -0.4
baz=147,SNR=55
CTG S Sn 01 10 06.1 -0.4
baz=147
N30M Aishikik Lake 3.54 5 Pn Pn 01 09 23.6 -0.5
N30M IAML 01 10 16.2
comp=E,2μm,0.9s
N30M Aishikik Lake 3.54 5 P Pn 01 09 23.9 -0.2
baz=186,SNR=178
N30M S Sn 01 10 05.7 -0.9
baz=186
S34M Telegraph Cree 3.54 88 P Pn 01 09 23.4 -0.6
baz=274,SNR=38
S34M Sb Sb 01 10 17.1 +2.3
baz=274
CRAG Craig 3.57 132 Pn Pn 01 09 24.1 -0.4
CRAG Craig 3.57 132 P Pn 01 09 22.6 -1.8
CRAG Craig 3.57 132 P Pn 01 09 23.8 -0.6
baz=317
BGLC Bering Glacier 3.59 310 P Pn 01 09 24.3 -0.3
baz=124
BGLC S Sn 01 10 08.3 +0.7
baz=124
N31M Braeburn, Yuko 3.69 15 P Pn 01 09 26.0 -0.2
baz=197,SNR=300
N31M Sb Sb 01 10 20.0 +0.9
baz=197
GRIN Grindle Hills 3.69 312 Pn 01 09 24.8 -1.4
SUCK Suckling Hills 3.77 307 Pn Pn 01 09 28.0 +0.8
SUCK IAML 01 11 03.6
comp=N,2μm,1.6s
SUCK IAML 01 11 08.8
comp=E,2μm,1.2s
KIAG Kiagna River 3.79 324 Pn 01 09 27.1 -0.6
R33M Jennings River 3.84 65 Pn 01 09 28.1 -0.2
R33M Jennings River 3.84 65 IAML 01 10 32.5
comp=N,1μm,0.8s
R33M Jennings River 3.84 65 P Pn 01 09 28.1 -0.2
baz=251,SNR=245
BALM Baldy 3.88 325 Pn 01 09 28.5 -0.3
BERG Berg Lake 3.92 311 Pn 01 09 27.5 -1.7
CRQE Cirque 3.92 318 P Pn 01 09 28.7 -0.6
baz=133,SNR=70
CRQE S Sn 01 10 15.2 -0.7
baz=133
NICHA Nichawak Mount 3.93 308 Pn 01 09 28.4 -1.1
KAIM Kayak Island 3.98 303 Pn Pn 01 09 30.6 +0.5
KAIM IAML 01 10 43.2
comp=E,1μm,0.9s
KAIM IAML 01 11 02.5
comp=N,1μm,1.4s
KAIM Kayak Island 3.98 303 P Pn 01 09 29.2 -0.8
baz=116,SNR=13
KAIM Sb Sb 01 10 30.4 +3.0
baz=116
N32M Quiet Lake 4.00 35 Pn 01 09 29.8 -0.7
N32M Quiet Lake 4.00 35 P Pn 01 09 29.8 -0.7
baz=219
N32M Sb Sb 01 10 30.4 +2.3
baz=219
YUK3 Moose Creek 4.07 342 P Pn 01 09 30.7 -0.8
baz=159
YUK3 Sb Sb 01 10 32.6 +2.3
baz=159
DLBC Dease Lake 4.13 80 Pn Pn 01 09 31.9 -0.3
comp=N,5.0nm,0.3s,baz=252,slow=13,SNR=53
DLBC Lg Lg 01 10 36.2
comp=N,87nm,0.3s,baz=336,slow=19,SNR=12
comp=N,18nm,0.4s
DLBC Dease Lake 4.13 80 P Pn 01 09 31.7 -0.5
baz=267,SNR=48
T35M Bob Quinn 4.17 100 Pn Pn 01 09 33.6 +0.7
T35M IAML 01 10 47.0
comp=N,1μm,1.2s
T35M IAML 01 10 55.2
comp=E,1μm,1.1s
T35M Bob Quinn 4.17 100 P Pn 01 09 32.7 -0.1
baz=287,SNR=11
V35K Ketchikan 4.29 125 P Pn 01 09 34.0 -0.4
baz=311
RAGM Ragged Mountai 4.31 307 Pn Pn 01 09 33.8 -0.9
MCARA **McCarthy VSAT 4.35 324** Pn Pn 01 09 35.0 -0.3
MCARA IAML 01 11 07.6
comp=N,2μm,1.0s
MCARA **McCarthy VSAT 4.35 324** P Pn 01 09 35.6 +0.4
baz=140,SNR=52
VRDI Verde Repeater 4.38 321 Pn Pn 01 09 35.4 -0.3
VRDI IAML 01 10 51.3
comp=N,761nm,1.2s
VRDI IAML 01 11 01.2
comp=E,972nm,1.1s
M29M Somme Creek 4.52 356 P Pn 01 09 37.7 +0.1
baz=175,SNR=73
M29M S Sn 01 10 29.5 -1.3
baz=175
M31M Drury Creek, Y 4.59 20 Pn Pn 01 09 38.1 -0.4
M31M IAML 01 11 10.9
comp=N,632nm,0.9s
M31M Drury Creek, Y 4.59 20 P Pn 01 09 38.7 +0.2
baz=203,SNR=94
BMRM Bremner River 4.62 314 P Pn 01 09 38.4 -0.6
baz=128,SNR=50
GLB Gilahina Butte 4.65 321 Pn Pn 01 09 39.2 -0.2
GLB IAML 01 11 07.9
comp=N,692nm,1.2s
GLB IAML 01 11 11.4
comp=E,851nm,1.5s
M30M Minto, Yukon 4.67 6 Pn Pn 01 09 38.9 -0.7
M30M IAML 01 10 53.9
comp=N,518nm,1.1s
M30M IAML 01 11 00.0
comp=E,854nm,1.7s
M30M Minto, Yukon 4.67 6 P Pn 01 09 39.3 -0.3
baz=186,SNR=82
U35K Hyder 4.71 112 P Pn 01 09 40.1 +0.1
baz=299
Q23K Middleton Isla 4.72 292 P Pn 01 09 38.9 -1.3
baz=104
BVCY Beaver Creek 4.74 342 P Pn 01 09 40.1 -0.4
baz=159
EYAK Cordova Ski Ar 4.86 306 P Pn 01 09 44.1 +2.0
EYAK Cordova Ski Ar 4.86 306 P Pn 01 09 42.0 -0.1
baz=118
M27K Edge Creek, AK 4.88 337 Pn Pn 01 09 42.3 -0.2
M27K IAML 01 11 19.2
comp=E,504nm,1.2s
M27K IAML 01 11 20.8
comp=N,704nm,1.3s
M27K Edge Creek, AK 4.88 337 P Pn 01 09 42.7 +0.1
baz=153,SNR=34
N25K Chitina, Valde 5.03 320 P Pn 01 09 44.7 0.0
baz=133,SNR=71
WTLY Watson Lake, Y 5.12 61 Pn Pn 01 09 44.0 -1.8
WTLY Watson Lake, Y 5.12 61 P Pn 01 09 45.0 -0.8
baz=249,SNR=12
HIN Hinchinbrook I 5.12 302 Pn Pn 01 09 45.5 -0.3
HIN IAML 01 11 01.8
comp=N,734nm,0.7s
HIN IAML 01 11 08.1
comp=E,900nm,0.7s
DIV Divide 5.17 311 Pn 01 09 46.1 -0.4
DIV Divide 5.17 311 IAML 01 11 15.7
comp=N,443nm,1.2s
M26K Nabesna, AK 5.17 332 Pn Pn 01 09 47.1 +0.6
M26K Nabesna, AK 5.17 332 P Pn 01 09 46.9 +0.4
baz=147,SNR=32
L29M L29M 5.18 358 Pn Pn 01 09 46.5 -0.1
L29M L29M 5.18 358 P Pn 01 09 47.0 +0.4
baz=178,SNR=139
P23K Montague Islan 5.39 296 P Pn 01 09 48.4 -1.1
baz=108,SNR=5.3
KLU Klutina 5.44 314 Pn Pn 01 09 50.0 -0.3
KLU Klutina 5.44 314 P Pn 01 09 50.5 +0.2
baz=127,SNR=56
BCAR Beaver Creek A 5.50 341 Pn Pn 01 09 50.2 -0.8
L27K Beaver Creek, 5.51 340 P Pn 01 09 50.6 -0.5
baz=157,SNR=19
RUBB Prince Rupert 5.55 128 Pn Pn 01 09 53.0 +1.3
GLI Glacier Island 5.59 306 Pn Pn 01 09 50.8 -1.5
GLI Glacier Island 5.59 306 P Pn 01 09 52.2 -0.1
baz=117
DIB Dawson Inlet, 5.62 146 Pn Pn 01 09 51.5 -1.2
H02S2 DAWSON INLET T 5.62 146 Pn Pn 01 09 51.8 -0.9
H02S2 Sn Sn 01 10 53.0 -4.8
MMPY Sheldon Lake, 5.69 32 Pn Pn 01 09 53.6 0.0
MMPY Sheldon Lake, 5.69 32 P Pn 01 09 53.7 0.0
baz=218,SNR=235
MAYO Mayo, Yukon 5.74 8 P Pn 01 09 54.6 +0.3
baz=190,SNR=7.5
HARP HAARP 5.79 324 P Pn 01 09 55.9 +1.0
baz=137,SNR=15
L26K Log Cabin Wild 5.79 334 P Pn 01 09 55.2 +0.2
baz=149
MOBC Moresby Island 5.83 143 Pn Pn 01 09 55.8 +0.2
K29M Barlow Dome 5.92 1 Pn Pn 01 09 56.8 0.0
K29M Barlow Dome 5.92 1 P Pn 01 09 57.2 +0.4
baz=181,SNR=155
M24K Tolsona, Glenn 5.92 318 Pn Pn 01 09 57.8 +1.0
M24K Tolsona, Glenn 5.92 318 P Pn 01 09 57.9 +1.0
baz=131,SNR=29
TGTN Hyland Airport 5.99 49 Pn 01 09 58.0 +0.2
TGTN Hyland Airport 5.99 49 P Pn 01 09 58.0 +0.2
baz=238,SNR=68
BNAB Bonilla 6.01 135 Pn 01 09 57.0 -1.0
PWL Port Wells 6.13 303 P Pn 01 09 58.7 -1.0
baz=113,SNR=11
SCM Sheep Creek Mo 6.19 313 P Pn 01 10 00.5 0.0
baz=124,SNR=42
DAWY Dawson 6.19 353 Pn Pn 01 10 00.2 -0.3
DAWY Dawson 6.19 353 P Pn 01 10 00.6 +0.1
baz=172,SNR=44
PAX Paxson 6.31 326 Pn Pn 01 10 02.6 +0.4
PAX Paxson 6.31 326 P Pn 01 10 02.4 +0.2
baz=139,SNR=65
M23K Glacier View 6.32 312 P Pn 01 10 02.6 +0.4
baz=123,SNR=37
SEW Seward 6.41 295 Pn Pn 01 10 03.7 +0.3
SEW Seward 6.41 295 P Pn 01 10 03.0 -0.4
baz=104
KNK Knik Glacier 6.43 307 P Pn 01 10 03.5 -0.3
baz=118,SNR=14
K27K Chicken 6.45 343 P Pn 01 10 04.1 +0.1
baz=159,SNR=29
J29N Klondike Camp 6.53 358 P Pn 01 10 05.6 +0.5
baz=178,SNR=7.7
O22K Cooper Landing 6.64 298 Pn Pn 01 10 07.2 +0.6
O22K Cooper Landing 6.64 298 P Pn 01 10 06.6 0.0
baz=107
TOAD Toad River Com 6.65 77 P Pn 01 10 06.8 0.0
baz=268,SNR=36
J30M Hart River 6.69 5 P Pn 01 10 07.7 +0.3
baz=186,SNR=47
RIDG Independent Ri 6.76 332 P Pn 01 10 08.4 +0.1
baz=146,SNR=23
SCRK Sand Creek 6.76 336 P Pn 01 10 08.3 -0.1
baz=150,SNR=31
PMR Palmer 6.80 307 P Pn 01 10 10.4 +1.6
PMR Palmer 6.80 307 P Pn 01 10 08.7 -0.1
baz=117,SNR=13
RC01 Rabbit Creek A 6.85 302 Pn Pn 01 10 09.6 +0.1
RC01 Rabbit Creek A 6.85 302 P Pn 01 10 09.3 -0.2
baz=112,SNR=7.3
K24K Donnelly Dome 7.05 330 Pn Pn 01 10 13.4 +1.1
K24K Donnelly Dome 7.05 330 P Pn 01 10 12.7 +0.5
baz=142,SNR=20
J26L Joseph Creek 7.14 339 Pn Pn 01 10 13.2 -0.4
J26L Joseph Creek 7.14 339 P Pn 01 10 13.5 -0.1
baz=154,SNR=31
M22K Willow 7.29 307 P Pn 01 10 16.4 +0.9
baz=116,SNR=10.0
I30M Mount Dempster 7.33 5 Pn Pn 01 10 16.4 +0.2
I30M Mount Dempster 7.33 5 P Pn 01 10 16.9 +0.7
baz=186,SNR=226
KOTAN Kotaneelee Air 7.41 67 P Pn 01 10 17.2 +0.1
baz=259,SNR=10
HOM Homer 7.41 289 P Pn 01 10 18.7 +1.6
baz=97
I29M Ogilvie Camp, 7.44 358 P Pn 01 10 18.0 +0.4
baz=178,SNR=74
SUA Susitna One 7.45 304 P Pn 01 10 18.3 +0.6
baz=112,SNR=11
I28M Miner Creek 7.60 353 Pn Pn 01 10 20.1 +0.3
I28M Miner Creek 7.60 353 P Pn 01 10 20.4 +0.6
baz=171,SNR=66
J25K Salcha River, 7.62 335 Pn Pn 01 10 19.1 -1.0
J25K Salcha River, 7.62 335 P Pn 01 10 19.8 -0.3
baz=148,SNR=27
CUT Chulitna 7.66 311 P Pn 01 10 21.3 +0.7
baz=120,SNR=21
RND Reindeer 7.71 320 Pn Pn 01 10 22.1 +0.8
Q20K Shuyak Island 7.74 281 P Pn 01 10 21.6 -0.1
baz=88
I26K Coal Creek Min 7.81 343 Pn Pn 01 10 23.1 +0.4
I26K Coal Creek Min 7.81 343 P Pn 01 10 23.1 +0.4
baz=158
HDA Harding Lake 7.84 329 P Pn 01 10 23.7 +0.6
baz=141,SNR=18
I27K Kandik River 7.89 348 Pn Pn 01 10 24.1 +0.3
I27K Kandik River 7.89 348 P Pn 01 10 24.1 +0.3
baz=165,SNR=17
KDAK Kodiak Island 7.90 275 Pn Pn 01 10 23.5 -0.5
KDAK Kodiak Island 7.90 275 Pn Pn 01 10 22.5 -1.4
comp=N,4.7nm,0.3s,baz=76,slow=7.0,SNR=75
KDAK Sn Sn 01 11 46.9 -7.0
comp=N,3.2nm,0.3s,baz=54,slow=19,SNR=6.9
comp=N,18nm,0.5s
KDAK Kodiak Island 7.90 275 P Pn 01 10 23.3 -0.6
baz=82
MCK McKinley 7.95 321 Pn Pn 01 10 25.1 +0.5
MCK McKinley 7.95 321 P Pn 01 10 25.0 +0.4
baz=132,SNR=22
O20K Slope Mountain 7.96 292 P Pn 01 10 24.9 +0.2
baz=99
SKT Skwentna 8.00 306 Pn Pn 01 10 24.7 -0.5
SKT Skwentna 8.00 306 P Pn 01 10 24.9 -0.3
baz=114,SNR=35
BBB Bella Bella 8.00 132 Pn Pn 01 10 26.1 +0.8
BBB Bella Bella 8.00 132 Pn Pn 01 10 24.5 -0.8
comp=N,2.0nm,0.3s,baz=320,slow=13,SNR=12
BBB Sn Sn 01 11 53.9 -2.3
comp=N,2.9nm,0.3s,baz=310,slow=17,SNR=8.1
BBB Lg Lg 01 12 40.7
comp=N,0.4nm,0.3s,baz=252,slow=20,SNR=7.0
comp=N,17nm,0.9s
N20K Mount Spurr 8.02 300 P Pn 01 10 25.2 -0.3
baz=107
SPCR Spurr Chakacha 8.02 300 P Pn 01 10 25.2 -0.3
baz=107
H31M Peel River 8.05 10 P Pn 01 10 25.2 -0.7
baz=193,SNR=15
ILAR Eielson Array 8.12 331 Pn Pn 01 10 25.6 -1.2
ILAR Eielson Array 8.12 331 Pn Pn 01 10 25.8 -1.0
comp=N,0.9nm,0.3s,baz=148,slow=12,SNR=56
ILAR Sn Sn 01 11 59.0 -0.1
baz=144,slow=17
ILAR Lg Lg 01 12 43.4
comp=N,1.5nm,0.3s,baz=153,slow=22,SNR=6.0
ILAR LR LR 01 13 24.9
comp=N,659nm,20.6s,baz=120,slow=37
comp=N,7.5nm,0.9s
P19K Oil Pt 8.21 289 Pn Pn 01 10 28.9 +0.7
P19K Oil Pt 8.21 289 P Pn 01 10 28.1 0.0
baz=95
TRF Thorofare Moun 8.24 317 Pn Pn 01 10 29.2 +0.4
TRF Thorofare Moun 8.24 317 P Pn 01 10 29.6 +0.9
baz=126,SNR=122
SPNN North Nagishla 8.29 301 Pn 01 10 30.1 +0.6
H29M Whitestone 8.30 358 P Pn 01 10 28.5 -0.9
baz=178,SNR=5.6
OHAK Old Harbor 8.37 272 Pn 01 10 28.6 -1.7
OHAK Old Harbor 8.37 272 P Pn 01 10 29.2 -1.1
OHAK Old Harbor 8.37 272 P Pn 01 10 29.4 -0.9
baz=78,SNR=8.2
Q19K Cape Douglas, 8.39 283 Pn Pn 01 10 31.2 +0.6
Q19K Cape Douglas, 8.39 283 P Pn 01 10 30.9 +0.3
baz=90
BWN Browne 8.42 323 Pn Pn 01 10 31.1 +0.1
PRP Porcupine Dome 8.43 337 P Pn 01 10 31.0 -0.3
baz=150
COLA College 8.45 329 Pn Pn 01 10 32.2 +0.8
COLA College 8.45 329 P Pn 01 10 33.1 +1.7
COLA College 8.45 329 P Pn 01 10 31.9 +0.5
baz=140
EPYK Eagle Plains 8.47 3 Pn Pn 01 10 31.6 -0.1
EPYK Eagle Plains 8.47 3 P Pn 01 10 31.6 -0.1
baz=184,SNR=16
H27K Steamboat Moun 8.49 350 Pn Pn 01 10 32.5 +0.5
H27K Steamboat Moun 8.49 350 P Pn 01 10 32.3 +0.2
baz=166,SNR=11
KTH Kantishna Hill 8.54 317 Pn Pn 01 10 33.8 +1.1
POKR Poker Plat Res 8.54 331 Pn Pn 01 10 34.2 +1.6
POKR Poker Plat Res 8.54 331 P Pn 01 10 32.7 +0.1
baz=143
NEA2 Nenana 8.59 326 P Pn 01 10 33.6 +0.3
baz=135,SNR=20
M20K Styx River 8.66 304 Pn Pn 01 10 34.7 +0.3
M20K Styx River 8.66 304 P Pn 01 10 34.7 +0.3
baz=110
WRGLY Wrigley 8.80 47 Pn Pn 01 10 35.7 -0.5
WRGLY Wrigley 8.80 47 P Pn 01 10 36.3 +0.2
baz=240
KAHG Katmai Hook Gl 8.87 281 Pn 01 10 37.5 +0.2
BPAW Bear Paw Mtn. 8.88 319 P Pn 01 10 37.3 -0.1
baz=128
CAST Castle Rocks 8.90 314 Pn Pn 01 10 37.0 -0.6
CAST Castle Rocks 8.90 314 P Pn 01 10 37.4 -0.2
baz=121,SNR=43
R18K Karluk 8.93 275 P Pn 01 10 37.4 -0.5
baz=80
N19K Bonanza Creek 9.00 296 Pn 01 10 38.0 -1.0
N19K Bonanza Creek 9.00 296 P Pn 01 10 38.5 -0.5
baz=101
G29M Pine Creek 9.00 359 P Pn 01 10 38.1 -0.9
baz=179
SII Sitkinak Islan 9.01 268 P Pn 01 10 38.7 -0.4
baz=74
G27K Doyon Strip 9.07 350 Pn 01 10 39.8 -0.1
G27K Doyon Strip 9.07 350 P Pn 01 10 39.9 -0.1
baz=167,SNR=10
I23K Minto, Yukon-K 9.08 327 P Pn 01 10 40.5 +0.5
baz=137,SNR=15
G30M tAoh Zrail Nji 9.09 4 P Pn 01 10 40.0 -0.2
baz=185,SNR=22
KAHC Katmai Hardscr 9.11 282 Pn 01 10 40.3 -0.2
Q18K Katmai Hardscr 9.11 282 P Pn 01 10 40.4 -0.1
baz=87
G31M Satah River 9.15 9 Pn Pn 01 10 40.8 -0.2
G31M Satah River 9.15 9 P Pn 01 10 40.8 -0.2
baz=192,SNR=30
H25L Birch Creek 9.15 339 P Pn 01 10 41.2 +0.2
baz=152
L20K Farewell, AK 9.20 306 P Pn 01 10 40.9 -0.8
baz=112,SNR=16
P18K Big Mountain, 9.21 286 P Pn 01 10 40.9 -0.9
baz=91
O18K Koktuh Hills 9.22 289 P Pn 01 10 41.4 -0.6
baz=94
H24K Noodor Dome 9.23 333 P Pn 01 10 41.7 -0.4
baz=144,SNR=14
M19K Big River Lodg 9.23 302 P Pn 01 10 41.7 -0.4
baz=108
CHUM Lake Minchumin 9.23 316 P Pn 01 10 42.0 -0.2
baz=123,SNR=12
ACHA Angle Creek He 9.30 279 Pn Pn 01 10 43.2 0.0
FYU Fort Yukon 9.31 341 Pn Pn 01 10 43.3 +0.1
MLY Manley 9.41 324 Pn 01 10 44.3 -0.3
MLY Manley 9.41 324 P Pn 01 10 44.3 -0.3
baz=133
G26K Porcupine Rive 9.45 345 P Pn 01 10 44.7 -0.3
baz=160
L19K White Mountain 9.52 304 Pn Pn 01 10 45.4 -0.8
L19K White Mountain 9.52 304 P Pn 01 10 45.9 -0.3
baz=108,SNR=24
Q17K Contact Creek 9.60 280 P Pn 01 10 46.6 -0.6
baz=84
H23K Yukon River 9.64 330 P Pn 01 10 46.8 -1.0
baz=139,SNR=13
G25K Bearman Lake 9.64 340 P Pn 01 10 47.5 -0.2
baz=152
K20K Telida 9.65 311 Pn Pn 01 10 47.0 -0.8
K20K Telida 9.65 311 P Pn 01 10 47.8 0.0
baz=116,SNR=36
N18K Kilae Creek 9.65 294 P Pn 01 10 47.4 -0.5
baz=98
F31M Tsiigehtchic 9.70 9 Pn Pn 01 10 48.1 -0.4
F31M Tsiigehtchic 9.70 9 P Pn 01 10 47.6 -1.0
baz=193,SNR=7.3
F30M Barrier River 9.74 4 P Pn 01 10 48.1 -1.0
baz=186,SNR=9.2

M18K **Stony River** 9.78 299 P Pn 01 10 48.1 -1.4
baz=103,SNR=7.3
P17K **Kvichak River** 9.83 285 P Pn 01 10 50.5 +0.2
baz=89
G24K **Hadweenzic Riv** 9.86 337 P Pn 01 10 50.4 -0.3
baz=148
I21K **Tanana** 9.90 323 P Pn 01 10 50.4 -0.9
baz=130
R17L **Mt. Peulik Vol** 9.93 276 P Pn 01 10 51.1 -0.6
baz=80
Q16K **King Salmon** 9.96 282 P Pn 01 10 51.7 -0.4
baz=86
BMAR **Burnt Mountain** 10.01 345 Pn Pn 01 10 53.2 +0.4
J20K **Nowinta River** 10.07 315 Pn Pn 01 10 52.8 -0.9
J20K **Nowinta River** 10.07 315 P Pn 01 10 53.7 +0.1
baz=120,SNR=49
O17K **Koliganek Bris** 10.17 289 P Pn 01 10 54.1 -0.8
baz=92
F26K **Sheenjek River** 10.20 346 P Pn 01 10 55.0 -0.4
baz=160,SNR=11
H22K **Ishtalitna Cre** 10.20 327 P Pn 01 10 55.0 -0.5
baz=135,SNR=18
N17K **Nushagak Hills** 10.27 293 P Pn 01 10 56.3 -0.1
baz=96,SNR=6.4
F25K **Christian Rive** 10.32 343 Pn Pn 01 10 57.1 0.0
F25K **Christian Rive** 10.32 343 P Pn 01 10 55.4 -1.6
baz=156,SNR=15
L18K **Granite Mounta** 10.36 302 P Pn 01 10 56.9 -0.6
baz=106
E27K **Coleen River** 10.42 352 P Pn 01 10 57.2 -1.2
baz=168
G23K **Bananza Creek** 10.45 332 Pn Pn 01 10 59.9 +1.0
G23K **Bananza Creek** 10.45 332 P Pn 01 10 59.1 +0.2
baz=141,SNR=23
H21K **Melozitna Rive** 10.48 324 P Pn 01 10 59.4 +0.2
baz=130,SNR=17
E29M **Blow River** 10.48 360 Pn Pn 01 10 58.9 -0.3
E29M **Blow River** 10.48 360 P Pn 01 10 58.4 -0.8
baz=180
M17K **Holitna River** 10.52 297 P Pn 01 10 59.0 -0.7
baz=100,SNR=6.3
I20K **Naaghedeneel** 10.53 318 Pn Pn 01 11 00.2 +0.4
I20K **Naaghedeneel** 10.53 318 P Pn 01 10 59.4 -0.4
baz=123,SNR=5.4
J19K **Poorman** 10.55 312 P Pn 01 10 59.1 -1.1
baz=117,SNR=21
INK **Inuvik** 10.57 9 Pn Pn 01 11 00.2 -0.2
INK **Inuvik** 10.57 9 Pn Pn 01 10 59.6 -0.7
comp=N,0.3nm,0.3s,baz=199,slow=10,SNR=10
INK Sn Sn 01 12 53.4 -5.8
comp=N,0.4nm,0.3s,baz=173,slow=14,SNR=1.8
INK Lg Lg 01 13 50.4
comp=N,0.5nm,0.3s,baz=137,slow=19,SNR=3.3
INK LR LR 01 14 46.7
comp=N,204nm,21.6s,baz=188,slow=36
comp=N,5.2nm,0.8s
INK **Inuvik** 10.57 9 P Pn 01 10 59.6 -0.7
baz=192,SNR=6.5
P16K **Nushagak River** 10.63 284 P Pn 01 11 00.6 -0.7
baz=87
F24K **Squaw Lake** 10.65 339 Pn Pn 01 11 01.8 +0.3
F24K **Squaw Lake** 10.65 339 P Pn 01 11 00.2 -1.3
baz=149,SNR=15
O16K **Kokwok River B** 10.67 287 P Pn 01 11 01.1 -0.8
baz=90
E28M **Babbage River** 10.73 357 P Pn 01 11 01.8 -0.7
baz=175,SNR=5.7
J18K **Innoko River** 10.78 309 Pn Pn 01 11 02.1 -1.1
J18K **Innoko River** 10.78 309 P Pn 01 11 02.6 -0.7
baz=112,SNR=9.7
COLD **Coldfoot** 10.90 334 P Pn 01 11 04.3 -0.6
baz=142
IMAR **Indian Mountai** 10.98 324 Pn Pn 01 11 06.3 +0.2
G22K **Bettles** 10.99 331 P Pn 01 11 05.4 -0.8
baz=138
N16K **Nishlik Lake** 11.04 292 P Pn 01 11 06.1 -0.8
baz=94,SNR=8.0
H20K **Anotleneega Mo** 11.06 320 P Pn 01 11 06.6 -0.5
baz=125,SNR=38
L17K **Donlin** 11.07 301 P Pn 01 11 06.3 -0.9
baz=103
M16K **Timber Creek** 11.19 295 P Pn 01 11 07.5 -1.4
baz=96
K17K **Iditarod** 11.21 304 Pn Pn 01 11 08.4 -0.8
K17K **Iditarod** 11.21 304 P Pn 01 11 08.5 -0.7
baz=106,SNR=9.6
E24K **Your Creek** 11.24 339 P Pn 01 11 09.1 -0.6
baz=149
G21K **Allakaket** 11.26 326 P Pn 01 11 09.9 0.0
baz=132,SNR=27
GCSA **Galena City Sc** 11.39 315 P Pn 01 11 11.1 -0.4
baz=118
D27M **Malcolm River** 11.43 354 P Pn 01 11 11.3 -0.9
baz=171
D28M **Stokes Point** 11.43 358 P Pn 01 11 12.2 0.0
baz=177
E23K **Chandalar** 11.45 337 P Pn 01 11 12.6 0.0
baz=146,SNR=7.2
L16K **Owhat River** 11.53 298 P Pn 01 11 12.5 -1.1
baz=99
O15K **Ungalikthiuk R** 11.57 285 P Pn 01 11 13.1 -1.1
baz=86
F22K **John River** 11.61 332 P Pn 01 11 13.5 -1.1
baz=139
H19K **Roundabout Mou** 11.62 319 Pn Pn 01 11 13.9 -0.8
H19K **Roundabout Mou** 11.62 319 P Pn 01 11 13.8 -1.0
baz=122,SNR=50
N15K **Kwethluk River** 11.69 290 P Pn 01 11 15.1 -0.6
baz=91
F21K **Alatna River** 11.74 329 Pn Pn 01 11 17.0 +0.5
F21K **Alatna River** 11.74 329 P Pn 01 11 15.6 -0.8
baz=135,SNR=9.2
J17K **VABM Dome** 11.75 307 P Pn 01 11 15.0 -1.5
baz=108
TOLK **Toolik Lake Re** 11.94 339 P Pn 01 11 18.2 -0.9
baz=148
S14K **Fog Glacier** 11.95 271 P Pn 01 11 18.8 -0.6
baz=73
E22K **Anaktuvuk Pass** 12.00 334 P Pn 01 11 19.9 -0.1
baz=141
M15K **Kasigluk River** 12.00 293 P Pn 01 11 18.9 -1.2
baz=93
C27K **Jago River** 12.00 350 Pn Pn 01 11 20.6 +0.6
C27K **Jago River** 12.00 350 P Pn 01 11 20.2 +0.2
baz=164
D25K **Kavik River** 12.02 345 Pn Pn 01 11 21.8 +1.6
D25K **Kavik River** 12.02 345 P Pn 01 11 19.2 -1.1
baz=157,SNR=7.0
H18K **Honhosa River** 12.14 315 P Pn 01 11 20.5 -1.4
baz=117
G19K **Purcell Mounta** 12.18 320 Pn Pn 01 11 21.3 -1.1
G19K **Purcell Mounta** 12.18 320 P Pn 01 11 21.0 -1.4
baz=123,SNR=12
D24K **Happy Valley** 12.24 341 P Pn 01 11 22.3 -1.0
baz=151
F20K **Avaraart Lake** 12.28 325 P Pn 01 11 22.7 -1.0
baz=129
O14K **Tigyukauivet M** 12.30 286 P Pn 01 11 23.5 -0.7
baz=86
YKA **Yellowknife Ar** 12.35 59 Pn Pn 01 11 22.9 -1.8
YKA **Yellowknife Ar** 12.35 59 Pn Pn 01 11 22.5 -2.2
comp=N,1.2nm,0.3s,baz=261,slow=13,SNR=15
YKA Sn Sn 01 13 32.6 -10
comp=N,0.3nm,0.3s,baz=261,slow=27,SNR=2.0
YKA Lg Lg 01 14 49.8
comp=N,0.1nm,0.3s,baz=261,slow=31,SNR=4.4
YKA LR LR 01 16 05.2
comp=N,304nm,19.6s,baz=262,slow=37
comp=N,6.8nm,0.7s
YKAW3 **Yellowknife Wh** 12.36 58 Pn Pn 01 11 24.4 -0.5
J16K **Anvik River** 12.38 305 P Pn 01 11 24.5 -0.6
baz=105
YKAW1 **Yellowknife Wh** 12.40 59 Pn Pn 01 11 24.4 -1.0
C26K **Camden Bay** 12.40 348 P Pn 01 11 24.4 -1.0
baz=162
D23K **Nanushuk River** 12.43 338 P Pn 01 11 24.7 -1.1
baz=146
CHNA **Chernabura Isl** 12.47 265 P Pn 01 11 25.8 -0.6
baz=66
L15K **Ungalak Mounta** 12.47 297 P Pn 01 11 25.8 -0.7
baz=97
N14K **Kuskokwak Cree** 12.49 289 P Pn 01 11 25.7 -0.9
baz=88
K15K **Wolf Creek Mou** 12.58 300 Pn Pn 01 11 26.6 -1.3
K15K **Wolf Creek Mou** 12.58 300 P Pn 01 11 27.4 -0.6
baz=99
I17K **Unalakleet** 12.59 308 P Pn 01 11 27.5 -0.4
baz=108
G18K **Tagagawik** 12.59 318 Pn Pn 01 11 26.9 -1.1
G18K **Tagagawik** 12.59 318 P Pn 01 11 26.8 -1.3
baz=119,SNR=10
M14K **Bethel** 12.63 293 P Pn 01 11 28.2 -0.3
baz=92
H17K **Granite Mounta** 12.64 313 Pn Pn 01 11 28.5 -0.2
H17K **Granite Mounta** 12.64 313 P Pn 01 11 27.6 -1.1
baz=113
C24K **Franklin Bluff** 12.73 343 P Pn 01 11 29.6 -0.3
baz=153
SDPT **Sand Point** 12.75 268 P Pn 01 11 29.6 -0.6
baz=69
E21K **Killik River** 12.76 332 P Pn 01 11 29.7 -0.6
baz=138
D22K **Ayikyak River** 12.79 335 P Pn 01 11 30.0 -0.7
baz=142
F19K **Shaleruckik Mo** 12.79 322 Pn Pn 01 11 31.7 +1.0
F19K **Shaleruckik Mo** 12.79 322 P Pn 01 11 29.4 -1.3
baz=124
C36M **Paulatuk** 12.91 22 P Pn 01 11 30.9 -1.4
baz=214
E19K **Redstone River** 12.99 325 Pn Pn 01 11 34.3 +0.8
E19K **Redstone River** 12.99 325 P Pn 01 11 32.5 -0.9
baz=128
L14K **Kuka Creek** 13.01 296 Pn Pn 01 11 33.1 -0.6
L14K **Kuka Creek** 13.01 296 P Pn 01 11 32.8 -1.0
baz=94
G17K **Kiwalik Mounta** 13.15 315 P Pn 01 11 35.3 -0.4
baz=114
C23K **Itkillik River** 13.15 340 P Pn 01 11 35.0 -0.7
baz=148
E20K **Nigu River** 13.21 329 P Pn 01 11 35.0 -1.4
baz=132,SNR=13
F18K **Selawik** 13.30 320 P Pn 01 11 36.2 -1.4
baz=120
M13K **Dall Lake** 13.31 291 P Pn 01 11 36.8 -1.0
baz=89
H16K **Elim** 13.46 310 P Pn 01 11 38.7 -1.2
baz=108
S12K **Black Hills** 13.47 271 P Pn 01 11 39.3 -0.7
baz=70
C21K **Knifeblade Rid** 13.49 333 P Pn 01 11 38.8 -1.4
baz=138
J14K **Nanvaranak Lak** 13.58 302 P Pn 01 11 40.7 -0.8
baz=99
D20K **Etivluk River** 13.63 330 Pn Pn 01 11 42.1 -0.1
D20K **Etivluk River** 13.63 330 P Pn 01 11 41.2 -1.0
baz=133,SNR=8.5
G16K **Koyuk River** 13.77 313 P Pn 01 11 43.3 -0.7
baz=111
F17K **Baldwin Pennin** 13.78 318 P Pn 01 11 43.8 -0.5
baz=117
B21K **Ikpikpuk River** 13.80 335 P Pn 01 11 43.6 -0.8
baz=140
D19K **Kuna River** 13.90 328 Pn Pn 01 11 46.0 +0.1
D19K **Kuna River** 13.90 328 P Pn 01 11 45.2 -0.8
baz=129
K13K **Kusilvak Mount** 14.00 298 P Pn 01 11 46.9 -0.3
baz=94
E18K **Tukpahlearik C** 14.04 322 P Pn 01 11 47.1 -0.7
baz=121
B22K **Teshekpuk Lake** 14.11 338 P Pn 01 11 47.4 -1.3
baz=144
E17K **Hotham Inlet** 14.28 320 P Pn 01 11 50.9 -0.2
baz=118
G15K **Niukluk** 14.31 310 P Pn 01 11 50.8 -0.6
baz=107
E03A **Lebam** 14.32 137 P 01 12 01.1 +2.1
B08A **Colville Reser** 14.60 123 Pn Pn 01 11 57.7 +2.2
B20K **Meade River** 14.68 333 P Pn 01 11 56.1 -0.4
baz=136
C19K **Lookout Ridge** 14.70 328 P Pn 01 11 55.9 -1.0
baz=129
M11K **Mekoryuk** 14.73 292 P Pn 01 11 56.6 -0.5
baz=87
ANM **Nome** 14.74 308 P Pn 01 11 56.3 -1.0
baz=104
F15K **North Star Dit** 14.77 313 P Pn 01 11 56.6 -1.2
baz=109
C18K **Utukok River** 14.90 326 Pn Pn 01 11 59.4 -0.2
C18K **Utukok River** 14.90 326 P Pn 01 11 58.3 -1.3
baz=124,SNR=6.2
A22K **Sinclair Lake** 14.96 338 P Pn 01 11 58.8 -1.4
baz=142
A36M **Sachs Harbour** 15.00 15 Pn Pn 01 11 58.0 -2.8
A36M IAmb IAmb 01 11 59.5
comp=Z,24nm,0.9s
A36M **Sachs Harbour** 15.00 15 P Pn 01 11 58.1 -2.6
baz=206,SNR=7.7
D17K **Noatak River** 15.01 321 P Pn 01 11 58.8 -2.1
baz=118
F14K **Arctic Creek** 15.37 311 P Pn 01 12 04.4 -1.3
baz=106
G03D **McMinnville, O** 15.57 139 P P 01 12 14.7 +1.7
G03D IAmb IAmb 01 12 18.2
comp=Z,26nm,0.9s
NEW **Newport** 15.68 119 Pn Pn 01 12 08.9 -1.0
comp=Z,0.1nm,0.3s,baz=323,slow=12,SNR=4.9
NEW Lg Lg 01 16 43.2
comp=Z,0.3nm,0.3s,baz=309,slow=5.1,SNR=6.4
NEW LR LR 01 17 37.7
comp=Z,246nm,21.2s,baz=312,slow=35
comp=Z,2.7nm,1.0s
WAH2 **Wahluke Slope** 15.73 128 P P 01 12 16.4 +1.8
D08A **Wollman Farm,** 15.77 126 P P 01 12 13.3 -1.8
HAWA **Hanford** 16.03 128 Pn 01 12 16.1 +1.6
TNA **Tin City** 16.03 311 P Pn 01 12 14.3 -0.1
baz=104
COR **Corvallis** 16.10 140 P 01 12 17.7 -1.2
COR IAmb IAmb 01 12 27.4
comp=Z,41nm,1.1s
H04D **Lebanon** 16.35 139 P P 01 12 24.7 +3.1
H04D IAmb IAmb 01 12 27.0
comp=Z,30nm,1.2s
H04A **Detroit Lake** 16.41 137 P P 01 12 24.6 +2.2
H04A IAmb IAmb 01 12 27.3
comp=Z,41nm,1.1s
G06A **Carlson Farm,** 16.53 133 P P 01 12 26.1 +2.5
BUCK **Buck Mountain** 16.55 140 P P 01 12 27.1 +3.1
BUCK IAmb IAmb 01 12 29.3
comp=Z,33nm,1.2s
LNOR **Lincton Mounta** 16.97 127 Pn 01 12 27.2 +0.6
SPIA **Saint Paul Isl** 17.35 281 P Pn 01 12 31.3 +0.2
baz=74
GAMB **Gambell** 17.36 304 P Pn 01 12 31.6 +0.4
baz=94
PINE **Pine Mountain** 17.63 136 P 01 12 37.3 +1.2
PINE IAmb IAmb 01 12 44.3
comp=Z,31nm,1.3s
BBOR **Butler Butte** 17.82 141 P 01 12 38.4 +0.4
MSO **Missoula** 18.20 117 Pn 01 12 41.9 0.0
MSO IAmb IAmb 01 12 49.8
comp=Z,27nm,1.3s
OVMT **Ovando** 18.49 115 P Pn 01 12 45.4 0.0
K05A **Summer Lake** 18.58 138 P P 01 12 46.4 0.0
PLID **Pearl Lake** 18.58 124 P Pn 01 12 47.1 +0.5
BPMT **Black Pine Rid** 18.72 117 P Pn 01 12 48.5 +0.1
YBH **Yreka Blue Hor** 18.84 143 P P 01 12 49.2 0.0
YBH **Yreka Blue Hor** 18.84 143 P Pn 01 12 50.8 +1.1
comp=Z,0.2nm,0.9s,baz=333,slow=2.3,SNR=9.3
YBH LR LR 01 18 59.2
comp=Z,23nm,18.8s,baz=316,slow=33
EGMT **Eagleton** 19.43 109 P P 01 12 55.3 -0.3
FFC **Flin Flon** 19.95 84 P P 01 13 01.6 +0.4
FFC IAmb IAmb 01 13 03.2
comp=Z,13nm,0.8s
MFID **Camas Ranch** 19.99 127 P P 01 13 01.6 -0.2
MFID IAmb IAmb 01 13 08.6
comp=Z,15nm,1.1s
MCMT **McKenzie Canyo** 20.20 120 P P 01 13 03.1 -1.2
BLKN **Baker Lake** 20.81 55 P P 01 13 09.7 -0.8
BLKN IAmb IAmb 01 13 16.3
comp=Z,20nm,0.8s
YHH **Holmes Hill** 21.17 117 P P 01 13 15.2 +0.4
YNE **Yellowstone No** 21.41 115 P P 01 13 17.7 +0.4
YNE IAmb IAmb 01 13 28.4
comp=Z,13nm,1.1s
PAHR **Pah Rah Range** 21.77 139 P P 01 13 21.2 +0.1
PAHR IAmb IAmb 01 13 28.8
comp=Z,27nm,1.3s
AFDM **Forest Hills D** 21.92 143 P P 01 13 22.3 -0.3
AFDM IAmb IAmb 01 13 32.2
comp=Z,15nm,1.2s
FXWY **Fox Creek** 21.95 119 P P 01 13 23.5 +0.3
FXWY IAmb IAmb 01 13 32.0
comp=Z,20nm,1.3s
TPAW **Teton Pass** 22.10 119 P P 01 13 24.4 -0.4
TPAW IAmb IAmb 01 13 44.1
comp=Z,14nm,1.1s
ELK **Elko** 22.45 130 P P 01 13 29.0 +0.6
ELK **Elko** 22.45 130 LR LR 01 22 07.6
comp=Z,317nm,21.5s,baz=328,slow=36
FCC **Fort Churchill** 22.64 69 P P 01 13 30.8 +0.8
FCC IAmb IAmb 01 13 35.4
comp=Z,24nm,1.2s
RES **Resolute Bay** 23.16 27 LR LR 01 22 20.7
comp=Z,30nm,21.5s,baz=1.0,slow=36
NVAR **Mina Array Bea** 23.29 139 P P 01 13 36.9 -0.4
NVAR **Mina Array Bea** 23.29 139 P P 01 13 39.1 +1.8
comp=Z,1.9nm,0.8s,baz=322,slow=11,SNR=14
NVAR PcP PcP 01 17 24.0 -0.5
comp=Z,0.8nm,0.8s,baz=314,slow=2.5,SNR=4.3
comp=Z,1.9nm,0.8s
HWUT **Hardware Ranch** 23.30 123 P P 01 13 38.3 +0.9
HWUT IAmb IAmb 01 13 44.9
comp=Z,14nm,1.2s
PDAR **Pinedale Array** 23.31 118 P P 01 13 38.2 +0.7
PDAR **Pinedale Array** 23.31 118 P P 01 13 37.8 +0.3
comp=Z,1.0nm,0.8s,baz=304,slow=8.2,SNR=8.4
comp=Z,1.0nm,0.8s
TCUT **Toone Canyon** 23.77 124 P P 01 13 42.6 +0.5
TCUT IAmb IAmb 01 13 50.7
comp=Z,12nm,1.1s
K22A **Casper** 24.85 114 P P 01 13 51.4 -0.5
K22A IAmb IAmb 01 14 00.8
comp=Z,9.6nm,1.2s
RSSD **Black Hills** 25.00 109 P P 01 13 54.3 +0.9
TPNV **Topopah Spring** 25.35 137 P P 01 13 56.5 0.0
TPNV IAmb IAmb 01 14 05.2
comp=Z,16nm,1.1s
WCT **Wildcat Mounta** 25.35 137 P P 01 13 57.4 +1.1
WCT IAmb IAmb 01 14 05.3
comp=Z,13nm,1.4s
ULM **Lac du Bonnet** 25.39 89 P P 01 13 57.7 +1.2
comp=Z,8.8nm,0.8s,baz=305,slow=11,SNR=13
comp=Z,8.8nm,0.8s
MSU **Marysvale** 25.59 128 P P 01 13 58.5 -0.2
CCUT **Cedar City** 25.93 131 P P 01 14 01.4 -0.4
QSM **Queen of Sheba** 26.00 139 P P 01 14 01.9 -0.4
QSM IAmb IAmb 01 14 11.9
comp=Z,12nm,1.3s
HAYD **Hayden** 26.14 119 P P 01 14 02.7 -1.0
HAYD IAmb IAmb 01 14 10.5
comp=Z,10nm,1.1s
CCCA **Chr Cany lake** 26.23 140 P P 01 14 04.6 +0.3
CCCA IAmb IAmb 01 14 10.9
comp=Z,11nm,1.2s
ILON **Igloolik, Nuna** 26.25 42 P P 01 14 04.5 +0.4
AGMN **Agassiz Nation** 26.53 93 P P 01 14 07.6 +0.8
EPLO **Experimental L** 26.86 89 P P 01 14 09.8 0.0
EPLO IAmb IAmb 01 14 12.0
comp=Z,6.9nm,0.9s
PV05 **Paradox Valley** 27.28 124 P P 01 14 14.3 +0.3
PV13 **Radium Mtn., P** 27.34 124 P P 01 14 15.1 +0.6
SHEM **Shemya Is, Ala** 27.38 280 LR LR 01 25 22.6
comp=Z,107nm,18.2s,baz=151,slow=37
ISCO **Idaho Springs** 27.48 117 P P 01 14 16.6 +0.7
PFO **Pinyon Flats O** 28.28 140 LR LR 01 26 05.1
comp=Z,146nm,18.2s,baz=1.0,slow=37
EYMN **Ely** 29.07 90 P P 01 14 30.5 +0.9
EYMN IAmb IAmb 01 14 31.9
comp=Z,7.8nm,0.8s
ECSD **EROS Data Cent** 29.10 101 P P 01 14 30.0 +0.1
L34A **Svendsen Farm,** 30.47 103 P P 01 14 41.5 -0.5
ANMO **Albuquerque** 31.06 124 LR LR 01 27 00.7
comp=Z,140nm,21.0s,baz=64,slow=36
N35A **Tabor** 31.65 104 P P 01 14 53.1 +0.6
CRNM **Carthage** 31.78 126 P P 01 14 54.2 +0.3
FRB **Frobisher Bay** 32.67 50 LR LR 01 28 30.7
comp=Z,335nm,18.4s,baz=284,slow=37
AMTX **Amarillo** 33.29 118 P P 01 15 07.0 0.0
OK038 **West end E0370** 33.42 113 P P 01 15 08.5 +0.4
P40A **Paris** 34.49 102 P P 01 15 17.7 +0.4
P40A IAmb IAmb 01 15 34.1
comp=Z,8.8nm,1.2s
WMOK **Wichita Mounta** 34.80 115 P P 01 15 18.9 -1.0
WMOK IAmb IAmb 01 15 26.7
comp=Z,9.5nm,1.4s
POST **Post** 34.88 120 P P 01 15 20.4 -0.4
MA2 **Magadan** 35.46 304 LR LR 01 31 23.0
comp=Z,59nm,19.3s,baz=34,slow=39
PETK **Petropavlovsk-** 35.59 291 P P 01 15 27.1 +0.4
comp=Z,1.4nm,0.5s,baz=63,slow=12,SNR=5.1
PETK LR LR 01 30 28.4
comp=Z,29nm,19.8s,baz=66,slow=37
comp=Z,1.4nm,0.5s
U38A **Gravette** 35.63 108 P P 01 15 26.9 -0.3
U38A IAmb IAmb 01 15 29.9
comp=Z,5.7nm,0.7s
TXAR **Lajitas Array** 37.07 126 P P 01 15 41.9 +2.3
comp=Z,0.5nm,0.7s,baz=332,slow=7.5,SNR=5.6
TXAR LR LR 01 31 35.4
comp=Z,78nm,18.8s,baz=321,slow=37
comp=Z,0.5nm,0.7s
MIAR **Mount Ida** 37.52 109 P P 01 15 44.2 +0.9
MIAR IAmb IAmb 01 15 46.6
comp=Z,4.2nm,0.8s
TIXI **Tiksi** 37.58 329 LR LR 01 32 55.1
comp=Z,127nm,19.0s,baz=74,slow=39
SCHQ **Schefferville** 37.74 63 P P 01 15 45.3 +0.4
comp=Z,4.1nm,0.8s,baz=297,slow=2.3,SNR=3.1
SCHQ LR LR 01 31 31.1
comp=Z,265nm,18.5s,baz=304,slow=37
comp=Z,4.1nm,0.8s
USIN **University of** 37.95 100 P P 01 15 47.2 +0.4
SFJD **Kangerlussuaq** 37.97 40 LR LR 01 31 55.8
comp=Z,278nm,18.3s,baz=306,slow=37
SUMG **Summit** 38.68 28 P P 01 15 53.0 -0.1
LPIG **La Paz** 39.11 138 LR LR 01 32 13.4
comp=Z,72nm,20.7s,baz=326,slow=36
LDAQ **Lac Daran** 39.72 75 P P 01 16 02.1 +0.4
LDAQ IAmb IAmb 01 16 15.7
comp=Z,7.3nm,1.0s
CLTN **Cedars of Leba** 40.06 100 P P 01 16 04.7 +0.2
X48A **Hartselle** 40.95 103 P P 01 16 11.4 -0.5
X48A IAmb IAmb 01 16 13.3
comp=Z,4.4nm,0.8s
FPAL **Fort Paine** 41.62 101 P P 01 16 17.3 -0.2
TKL **Tuckaleechee C** 41.73 98 LR LR 01 33 46.3
comp=Z,205nm,20.0s,baz=330,slow=36
YAK **Yakutsk** 42.70 316 LR LR 01 35 24.2
comp=Z,106nm,18.9s,baz=48,slow=38
BORG **Borgarnes** 48.52 31 LR LR 01 37 48.2
comp=Z,83nm,18.0s,baz=323,slow=36
CMIG **Matias Romero** 51.63 124 LR LR 01 42 19.8
comp=Z,71nm,19.9s,baz=349,slow=39
HEH **HeiHe** 51.69 305 eP P 01 17 36.8 +0.7
HEH LR LR
comp=N,170nm,11.2s
HEH LR LR
comp=E,240nm,11.2s
ARCES **ARCESS Array B** 52.24 7 P P 01 17 38.0 -2.0
comp=E,2.8nm,0.7s,baz=354,slow=8.2,SNR=5.4
comp=E,2.8nm,0.7s
USRK **Ussuriysk Ar.** 54.12 297 LR LR 01 43 34.7
comp=E,52nm,19.5s,baz=52,slow=39
H11N2 **WAKE ISLAND Hy** 55.28 251 T T 02 17 52.1
baz=32,slow=76,SNR=4445
H11N3 **WAKE ISLAND Hy** 55.28 250 T T 02 17 30.6
baz=32,slow=76,SNR=5381
H11N1 **WAKE ISLAND Hy** 55.29 250 T T 02 17 34.3
baz=32,slow=76,SNR=2611
H11S1 **WAKE ISLAND Hy** 56.41 250 T T 02 18 59.3
baz=32,slow=75
H11S2 **WAKE ISLAND Hy** 56.42 250 T T 02 19 00.5
baz=32
H11S3 **WAKE ISLAND Hy** 56.42 250 T T 02 19 08.8
baz=32,slow=75,SNR=449
MJAR **Matsushiro Arr** 56.89 287 P P 01 18 14.6 +0.4
comp=E,0.8nm,0.7s,baz=37,slow=8.2,SNR=4.3
comp=E,0.8nm,0.7s
NB2 **NORSAR Subarra** 58.90 17 P P 01 18 27.6 -0.4
comp=Z,8.2nm,1.1s,baz=345,slow=6.9
NOA **NORSAR Array B** 58.90 17 P P 01 18 27.4 -0.6
comp=Z,2.4nm,0.9s,baz=343,slow=7.3,SNR=6.5
NOA LR LR 01 44 17.8
comp=Z,40nm,18.9s,baz=330,slow=37
comp=Z,2.4nm,0.9s
HFS **Hagfors** 60.14 16 P P 01 18 35.9 -0.6
comp=Z,2.8nm,0.8s,baz=331,slow=8.7,SNR=5.0
comp=Z,2.8nm,0.8s
FINES **FINESS Array B** 60.28 9 P P 01 18 36.7 -0.7

comp=Z,4.2nm,0.8s,baz=348,slow=4.8,SNR=11
comp=Z,4.2nm,0.8s
KSRS Korea Array 61.29 295 P **P** **01 18 43.9 -0.8**
comp=Z,0.8nm,0.6s,baz=28,slow=5.7,SNR=4.5
comp=Z,0.8nm,0.6s
EKA Eskdalemuir Ar 61.30 28 P **P** **01 18 44.8 +0.3**
comp=Z,3.6nm,0.8s,baz=331,slow=7.4,SNR=11
comp=Z,3.6nm,0.8s
KSAR Wonju Array Be 61.32 295 P **P** **01 18 44.1 -0.7**
SONM Songino Array 62.06 317 P **P** **01 18 50.0 +0.2**
SONM IAmb IAmb 01 18 55.6
comp=Z,3.8nm,1.1s
SONM Songino Array 62.06 317 P **P** **01 18 51.5 +1.6**
comp=Z,2.7nm,0.9s,baz=26,slow=6.9,SNR=11
comp=Z,2.7nm,0.9s
JTS Las Juntas de 62.14 118 LR LR 01 48 22.4
comp=Z,57nm,20.0s,baz=337,slow=38
ZALV Zalesovo Beam 63.24 333 P **P** **01 18 57.3 -0.2**
ZALV Zalesovo Beam 63.24 333 P **P** **01 18 56.8 -0.7**
comp=Z,2.4nm,0.7s,baz=28,slow=6.5,SNR=8.4
ZALV LR LR 01 48 44.8
comp=Z,62nm,19.4s,baz=353,slow=38
comp=Z,2.4nm,0.7s
KIRV Kirov 63.67 356 LR LR 01 50 44.2
comp=Z,38nm,18.5s,baz=9.9,slow=40
SJG San Juan 65.08 96 LR LR 01 49 56.9
comp=Z,33nm,18.1s,baz=255,slow=38
ARTI Arti 65.28 350 P **P** **01 19 10.8 0.0**
HHC Hu-ho-hao-te 65.89 309 *e*P **P** **01 19 15.4 +0.2**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.3s
HHC LR LR
comp=N,300nm,13.8s
HHC LR LR
comp=E,280nm,13.8s
HHC LR LR
comp=Z,170nm,13.8s
BRVK Borovoye 67.02 342 P **P** **01 19 22.2 +0.2**
BRVK IAmb IAmb 01 19 23.2
comp=Z,2.7nm,0.9s
BVAR Borovoye Array 67.03 342 P **P** **01 19 22.4 +0.3**
comp=Z,2.1nm,0.9s,baz=24,slow=5.0,SNR=9.7
BVAR LR LR 01 52 06.0
comp=Z,59nm,21.4s,baz=16,slow=39
comp=Z,2.1nm,0.9s
MNK Minsk 67.30 9 *i* P **P** **01 19 23.7 -0.1**
comp=E,9.0nm,0.9s
MNK *i* P **P** **01 19 23.7 -0.1**
comp=N,7.0nm,1.0s
MNK *i* P **P** **01 19 23.7 -0.1**
comp=Z,16nm,0.8s,baz=352
MNK *i* PP **PP** **01 21 53.0 +1.7**
MNK *i* PPP PPP 01 23 29.7
MNK *i* S **S** **01 28 19.1 -0.2**
MNK *i* SS **SS** **01 32 39.1 +1.5**
MNK *i* SSS SSS 01 35 54.4
MNK *i* LQ LQ 01 44 16.1
MNK *i* LR LR 01 49 15.7
MNK *i* LRM MLR 01 50 17.9
comp=N,43nm,15.9s
MNK *i* LRM MLR 01 51 16.4
comp=Z,50nm,17.4s
MNK *i* LRM MLR 01 51 25.4
comp=E,49nm,16.2s
KURBB Kurchatov Arra 67.77 336 LR LR 01 51 36.7
comp=E,71nm,20.2s,baz=173,slow=38
CLL Collm 68.50 19 *e*P **P** **01 19 32.0 +0.6**
comp=Z,3.0nm,0.9s
CLL L L 01 50 00.0
comp=Z,100nm,20.9s
NJ2 Nanjing 70.00 298 *e*P **P** **01 19 40.8 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SDV Santo Domingo 70.45 105 LR LR 01 51 46.7
comp=Z,98nm,20.5s,baz=282,slow=37
MKAR Makanchi Array 70.47 332 P **P** **01 19 43.5 -0.2**
comp=Z,0.6nm,0.7s,baz=35,slow=5.3,SNR=5.1
MKAR LR LR 01 55 11.5
comp=Z,63nm,18.3s,baz=352,slow=40
comp=Z,0.6nm,0.7s
LYN LuoYang 70.81 305 P **P** **01 19 49.0 +3.1**
LYN pmax pmax
comp=Z,20nm,0.9s
GERES GERESS Array B 71.00 19 P **P** **01 19 47.4 +0.4**
GERES GERESS Array B 71.00 19 P **P** **01 19 47.2 +0.2**
comp=Z,1.2nm,0.8s,baz=344,slow=5.5,SNR=8.4
comp=Z,1.2nm,0.8s
VRAC Vranov 71.04 17 LR LR 01 50 55.1
comp=Z,24nm,20.4s,baz=323,slow=36
AKASG Malin Array Be 71.19 9 P **P** **01 19 47.4 -0.5**
comp=Z,3.3nm,0.7s,baz=354,slow=5.9,SNR=15
comp=Z,3.3nm,0.7s
AKBB Malin Array Si 71.19 9 P **P** **01 19 47.5 -0.4**
KIEV Kiev 71.19 9 P **P** **01 19 47.5 -0.4**
STHS Stebnicka Huta 71.61 14 *e*P **P** **01 19 54.1 +3.5**
GTA Gaotai 71.73 316 *e*P **P** **01 19 52.3 +0.7**
GTA pP sP 01 19 56.1 +4.0
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA LR LR
comp=N,170nm,15.1s
GTA LR LR
comp=E,170nm,16.3s
GTA LR LR
comp=Z,140nm,19.9s
AB31 Akbulak array 72.17 348 P **P** **01 19 54.0 +0.2**
AB31 IAmb IAmb 01 19 55.1
comp=Z,5.0nm,0.9s
ABKAR Akbulak array 72.17 348 P **P** **01 19 54.0 +0.1**
VYHS Vyhne 72.17 16 *e*P **P** **01 19 53.7 -0.3**
DAVOX Davos/Dischmat 72.24 23 LR LR 01 52 31.7
comp=Z,44nm,20.5s,baz=76,slow=37
PCRV Puerto La Cruz 72.49 99 LR LR 01 53 26.7
comp=Z,71nm,19.2s,slow=37
PSZ Piszkesteto 72.89 16 P **P** **01 19 59.0 +0.7**
PSZ IAmb IAmb 01 20 03.5
comp=Z,3.6nm,0.9s
ESDC Sonseca Array 75.34 35 P **P** **01 20 13.0 +0.3**
ESDC IAmb IAmb 01 20 14.9
comp=Z,8.8nm,1.4s
ESDC Sonseca Array 75.34 35 P **P** **01 20 13.9 +1.1**
comp=Z,2.2nm,0.8s,baz=330,slow=6.2,SNR=17
comp=Z,2.2nm,0.8s
AAK Ala-Archa 76.22 336 LR LR 01 57 56.5
comp=Z,69nm,18.3s,baz=30,slow=39
KK31 Karatay Array 76.58 339 P **P** **01 20 19.7 -0.1**
KK31 IAmb IAmb 01 20 24.4
comp=Z,6.2nm,1.5s
KKAR Karatay Array 76.58 339 P **P** **01 20 19.7 -0.1**
KBZ Khabaz 78.69 360 P **P** **01 20 32.2 +0.8**
comp=Z,2.1nm,0.8s,baz=25,slow=14,SNR=5.5
KBZ LR LR 02 01 52.3
comp=Z,24nm,18.7s,baz=336,slow=41
comp=Z,2.1nm,0.8s
KSH Kashi 78.86 334 P **P** **01 20 36.4 +3.8**
KSH pmax pmax
comp=Z,4.0nm,0.6s
ATAH Atahualpa 80.49 120 LR LR 01 56 56.7
comp=Z,46nm,21.2s,baz=357,slow=36
GAR Garm 80.58 338 P **P** **01 20 42.1 +0.1**
SIMJ Simiganj 81.17 339 P **P** **01 20 44.6 -0.5**
GNI Garni 82.24 358 LR LR 02 05 39.8
comp=Z,23nm,18.3s,baz=356,slow=42
PZH PanZhiHua 82.35 309 P **P** **01 20 52.1 +0.6**
BRTR Keskin Array B 82.42 7 P **P** **01 20 51.0 -0.7**
comp=Z,0.9nm,0.8s,baz=352,slow=3.6,SNR=4.2
comp=Z,0.9nm,0.8s
MDP Montagnes des 83.12 91 LR LR 02 03 04.3
comp=Z,26nm,18.1s,baz=119,slow=39
BNN Bunyan 83.41 5 P **P** **01 20 57.2 +0.3**
HNR Honiara 83.86 241 LR LR 01 52 12.6
comp=Z,40nm,19.1s,baz=36,slow=31
DAV Davao City (W) 87.58 279 LR LR 01 57 53.2
comp=Z,28nm,20.1s,baz=344,slow=34
MMAI Mount Meron Ar 89.20 6 P **P** **01 21 25.9 +0.6**
comp=Z,0.1nm,0.2s,baz=336,slow=3.2,SNR=1.4
comp=Z,0.1nm,0.2s
CMAR Chiang Mai Arr 90.66 307 P **P** **01 21 32.8 +0.6**
comp=Z,2.9nm,0.8s,baz=24,slow=4.9,SNR=10
CMAR LR LR 02 05 59.6
comp=Z,41nm,18.4s,baz=30,slow=38
comp=Z,2.9nm,0.8s
RAO Raoul Island 93.16 214 LR LR 01 56 27.5
comp=Z,192nm,20.8s,baz=298,slow=31
LPAZ La Paz 93.30 116 LR LR 02 08 21.5
comp=Z,42nm,19.1s,baz=314,slow=38
SIV San Ignacio 96.52 110 LR LR 02 08 01.1
comp=Z,46nm,20.6s,baz=324,slow=37
QSPA South Pole Qui 147.76 180 **PKPbc** **01 28 13.3 +0.4**
QSPA South Pole Qui 147.76 180 PKPbc **PKiKP** **01 28 14.5 -0.4**
comp=Z,5.6nm,0.9s,baz=39,slow=0.5,SNR=21
BOSA Boshof 148.37 29 PKPbc **PKPbc** **01 28 15.7 -0.1**
comp=Z,3.0nm,0.8s,baz=5.1,slow=5.9,SNR=5.1

*MEX **14** 01:14:32.5±0.8, 13°.68N×92°.20W, h16km, MD4.2*
*CATAC **14** 01:14:33.4±0.6, 14°N±4°×-9°.2W±°, h28km±6km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=10.9km s-min=3.4km az=37.2, confirmed*
*GCG **14** 01:14:34.4±0.8, 13°.78N×91°.88W, h30km±7km, MD4.0, ML3.6*

ISC 14 01:14:30.9±2.0, 13°.70N±0°.08×92°.03W±0°.04, h24km±15km, n54, σ2s01/68, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.88**	**22**	*e*P	**Pb**	**01 14 48.1**	**+0.5**
RTAL				*e*S	**Sb**	**01 14 59.3**	**+0.3**
RTAL	**Retalhuleu**	**0.88**	**22**	P	**Pb**	**01 14 48.1**	**+0.5**
THIG		**1.22**	**349**	*e*P	**Pn**	**01 14 51.3**	**-1.2**
THIG				*e*S	**Sn**	**01 14 55.0**	**+0.7**
ESSG	**Sabana Grande**	**1.35**	**60**	*i* P	**Pn**	**01 14 55.0**	**+0.7**
ESSG				IAML		01 15 11.8	
	comp=E,880nm,0.3s						
PATR	**El Naranjo**	**1.42**	**352**	*e*P	**Pn**	**01 14 54.0**	**-1.4**
PATR				*e*S	**Sn**	**01 15 10.7**	**-2.8**
PAVE	**Pavencul**	**1.49**	**355**	*e*P	**Pn**	**01 14 55.1**	**-1.3**
PAVE				*e*S	**Sn**	**01 15 13.0**	**-2.2**
FG8	**Yepocapa, Chim**	**1.53**	**69**	*e*P	**Pn**	**01 14 54.5**	**-2.4**
FG16	**Alotenango, Sa**	**1.58**	**69**	*e*P	**Pn**	**01 14 55.6**	**-2.1**
FG16				*i* S	**Sn**	**01 15 12.6**	**-4.9**
FG16				IAML		01 15 17.6	
	comp=N,10μm,0.2s						
HUEH	**Huehuetenango**	**1.69**	**18**	*e*P	**Pn**	**01 15 00.5**	**+1.4**
HUEH				*e*S	**Sn**	**01 15 19.3**	**-0.8**
FAME	**Alcaldia de Sa**	**1.96**	**86**	S	**Sn**	**01 15 25.9**	**-0.7**
FAME	**Alcaldia de Sa**	**1.96**	**86**	P	**Pn**	**01 15 04.0**	**+1.3**
NUBE	**Las Nubes**	**2.20**	**85**	*i* P	**Pn**	**01 15 07.4**	**+1.3**
NUBE				⇓*i*S	**Sn**	**01 15 33.0**	**+0.4**
NUBE	**Las Nubes**	**2.20**	**85**	S	**Sn**	**01 15 33.2**	**+0.6**
NUBE	**Las Nubes**	**2.20**	**85**	P	**Pn**	**01 15 07.4**	**+1.3**
LOAL	**Lomas de Alarc**	**2.21**	**82**	P	**Pn**	**01 15 08.1**	**+2.0**
LOAL	**Lomas de Alarc**	**2.21**	**82**	S	**Sb**	**01 15 34.0**	**-3.2**
SLOZ	**Alcaldia de Sa**	**2.21**	**81**	P	**Pn**	**01 15 07.6**	**+1.5**
SLOZ	**Alcaldia de Sa**	**2.21**	**81**	S	**Sn**	**01 15 33.7**	**+1.0**
PCIG		**2.30**	**330**	*e*P	**Pn**	**01 15 06.6**	**-0.8**
PCIG				*e*S	**Sn**	**01 15 30.7**	**-4.1**
CEVE	**Cerro Verde**	**2.34**	**87**	S	**Sn**	**01 15 37.0**	**+0.7**
CEVE	**Cerro Verde**	**2.34**	**87**	P	**Pn**	**01 15 10.7**	**+2.6**
JAYA	**Jayaque - finc**	**2.51**	**91**	*i* P	**Pn**	**01 15 12.2**	**+1.8**
JAYA	**Jayaque - finc**	**2.51**	**91**	S	**Sn**	**01 15 41.4**	**+1.0**
JAYA	**Jayaque - finc**	**2.51**	**91**	P	**Pn**	**01 15 13.3**	**+2.9**
CCIG	**Comitan**	**2.57**	**358**	*e*P	**Pn**	**01 15 14.1**	**+2.9**
CCIG				*e*S	**Sn**	**01 15 43.1**	**+1.3**
CCIG	**Comitan**	**2.57**	**358**	*i* P	**Pn**	**01 15 14.0**	**+2.9**
CCIG				IAML		01 15 49.5	
	comp=N,130nm,0.5s						
CCIG	**Comitan**	**2.57**	**358**	P	**Pn**	**01 15 14.0**	**+2.9**
PMON	**Piamonte**	**2.64**	**89**	P	**Pn**	**01 15 13.9**	**+1.8**
PMON	**Piamonte**	**2.64**	**89**	S	**Sn**	**01 15 44.6**	**+1.2**
LALI	**Alcalda de L**	**2.65**	**94**	P	**Pn**	**01 15 13.9**	**+1.9**
MTO3	**Montecristo**	**2.68**	**75**	*i* P	**Pn**	**01 15 15.1**	**+2.3**
MTO3	**Montecristo**	**2.68**	**75**	S	**Sn**	**01 15 46.5**	**+1.8**
MTO3	**Montecristo**	**2.68**	**75**	P	**Pn**	**01 15 14.6**	**+1.7**
ESQI	**Esquipulas**	**2.75**	**72**	P	**Pn**	**01 15 14.7**	**+1.1**
ESQI	**Esquipulas**	**2.75**	**72**	S	**Sn**	**01 15 47.2**	**+1.1**
LOMA	**Loma Larga**	**2.78**	**91**	P	**Pn**	**01 15 15.5**	**+1.4**
LOMA	**Loma Larga**	**2.78**	**91**	S	**Sn**	**01 15 48.7**	**+1.7**
TECO	**Alcaldia de Te**	**3.17**	**93**	P	**Pn**	**01 15 21.5**	**+2.2**
TECO	**Alcaldia de Te**	**3.17**	**93**	S	**Sn**	**01 15 57.9**	**+1.6**
SCLA	**Alcaldia de Sa**	**3.21**	**90**	P	**Pn**	**01 15 21.5**	**+1.6**
TGIG		**3.23**	**341**	*e*P	**Pn**	**01 15 20.4**	**+0.2**
TGIG				*e*S	**Sn**	**01 15 56.0**	**-2.1**
SARH	**Santa Rosa de**	**3.35**	**71**	P	**Pn**	**01 15 22.7**	**+0.8**
PACA	**Pacayal**	**3.61**	**93**	P	**Pn**	**01 15 26.9**	**+1.3**
NILT	**Santiago Nilte**	**3.79**	**319**	*e*P	**Pn**	**01 15 27.8**	**0.0**
NILT				*e*S	**Sn**	**01 16 08.6**	**-3.0**
UXUV	**UXUV**	**4.13**	**331**	*e*P	**Pn**	**01 15 33.3**	**+0.7**
UXUV				*e*S	**Sn**	**01 16 18.4**	**-1.8**
CMIG	**Matias Romero**	**4.35**	**321**	*e*P	**Pn**	**01 15 36.2**	**+0.6**
CMIG				*e*S	**Sn**	**01 16 24.2**	**-1.3**
HUIG	**Huatulco**	**4.45**	**298**	*e*S	Sn	01 16 22.4	-5.5
PMUV	**Sontecomapan**	**5.66**	**329**	*e*S	**Sn**	**01 17 02.9**	**+5.0**
YOIG	**Yosondua**	**6.18**	**301**	*e*P	**Pn**	**01 16 05.1**	**+4.2**
YOIG				*e*S	**Sn**	**01 17 10.1**	**-0.9**
PNIG	**Pinotepa**	**6.47**	**295**	*e*P	**Pn**	**01 16 15.5**	**+1.8**
PNIG				*e*S	Sn	01 17 07.3	-11
TOIG	**Toxpalan**	**6.52**	**313**	*e*P	Pn	01 16 10.4	+4.9
TOIG				*e*S	**Sn**	**01 17 20.2**	**+1.0**
TXIG	**Tlaxiaco**	**6.56**	**303**	*e*P	**Pn**	**01 16 08.8**	**+2.6**
TXIG				*e*S	**Sn**	**01 17 19.4**	**-1.0**
JAUV	**Jalcomulco**	**7.26**	**322**	*e*P	Pn	01 16 12.1	-3.5
JAUV				*e*S	Sn	01 17 30.7	-6.5
CXUV	**Coxquihui**	**8.35**	**321**	*e*P	**Pn**	**01 16 29.8**	**-0.7**
CXUV				*e*S	**Sn**	**01 18 03.7**	**-0.3**

TAP 14 01:20:02.2, 23°.47N×120°.31E, h9km, ML2.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSL	**Shuilin Townsh**	**0.09**	**305**	*i* P	Pg	01 20 05.4	+0.8
CHY	**Chiayi**	**0.11**	**75**	P	Pg	01 20 05.5	+0.7
CHY				S	Sg	01 20 08.7	+2.1
ICHU	**Yijhu**	**0.11**	**195**	P	Pg	01 20 05.6	+0.7
CHN8	**Yiju**	**0.15**	**217**	P	Pg	01 20 06.3	+0.8
WSF	**Szhu**	**0.19**	**334**	*e*P	Pg	01 20 07.0	+0.9
WSF				S	Sg	01 20 11.6	+2.8
WTK	**Tuku**	**0.23**	**18**	*i* P	Pg	01 20 07.9	+1.0
WTK				*i* S	Sg	01 20 12.5	+2.5
TWK	**Hsinying**	**0.26**	**141**	P	Pb	01 20 08.7	-0.4
WCKO	**Fanlu**	**0.27**	**96**	P	Pb	01 20 09.0	-0.3
CHN4	**Tsaushan**	**0.28**	**114**	P	Pb	01 20 08.9	-0.6
SNST	**Tainan City**	**0.30**	**145**	*e*P	Pb	01 20 10.4	+0.6
WDLH	**Douliu**	**0.30**	**44**	*i* P	Pb	01 20 09.5	-0.3
WGK	**Gukeng**	**0.32**	**47**	P	Pb	01 20 10.0	0.0
WGK				S	Sb	01 20 16.3	+1.0
TPUB	**Ta-pu**	**0.34**	**120**	P	Pb	01 20 09.8	-0.6
TPUB				S	Sb	01 20 15.8	-0.2
CHN1	**Nanshi**	**0.35**	**145**	P	Pb	01 20 10.2	-0.4
CHN1				*e*S	Sb	01 20 16.5	+0.3
WTP	**Ta-pu**	**0.36**	**128**	P	Pb	01 20 10.5	-0.3
WTP				S	Sb	01 20 16.8	+0.3
CHN5	**Tsauling**	**0.36**	**69**	*e*P	Pb	01 20 10.3	-0.5
CHN5				*e*S	Sb	01 20 16.5	-0.2
TSCK	**Chigu Township**	**0.38**	**213**	*e*P	Pb	01 20 11.4	+0.3
ALS	**Alishan**	**0.46**	**85**	*i* P	Pb	01 20 12.5	-0.1
ALS				*e*S	Sb	01 20 19.5	-0.1
SGST	**Jiashian**	**0.46**	**147**	P	Pb	01 20 12.1	-0.4
SGST				*e*S	Sb	01 20 19.6	+0.1
STYH	**Taoyuan**	**0.52**	**125**	P	Pb	01 20 13.1	-0.4
STYH				S	Sb	01 20 20.6	-0.6
WHYT	**Xinyi Township**	**0.55**	**65**	*i* P	Pb	01 20 13.8	-0.2
WHYT				S	Sb	01 20 22.2	+0.2
SCST	**Cishan**	**0.60**	**164**	*e*P	Pn	01 20 16.7	-0.3
TYC	**Yuchr**	**0.66**	**49**	*e*P	Pb	01 20 15.9	-0.1
TYC				*e*S	Sb	01 20 26.4	+1.1
SSLB	**Suanglung**	**0.67**	**62**	*i* P	Pb	01 20 16.1	0.0
SSLB				*e*S	Sb	01 20 25.5	0.0
SSLB	**Suanglung**	**0.67**	**62**	P	Pg	01 20 15.6	+0.4
SMLT	**Sun Moon Lake**	**0.68**	**53**	*e*P	Pb	01 20 16.6	+0.2
SSD	**Sandimen**	**0.78**	**158**	*e*P	Pn	01 20 18.8	-0.6
SSD				*e*S	Sn	01 20 31.1	-0.1
WCS	**Beigang Elemen**	**0.80**	**43**	*e*P	Pb	01 20 18.1	-0.3
VWDT	**VWDT**	**0.81**	**69**	*e*P	Pb	01 20 18.6	+0.1
VCHM	**Qimei**	**0.85**	**252**	*e*P	Pg	01 20 18.7	+0.1
VCHM				*e*S	Sb	01 20 30.8	+0.1
EHD	**Haiduan**	**0.88**	**111**	*e*P	Pb	01 20 20.3	+0.6
MASBT	**Mashibuluo**	**0.90**	**161**	*e*P	Pn	01 20 20.9	-0.2
WUSB	**Renai**	**0.91**	**55**	*e*P	Pg	01 20 19.6	0.0
WUSB				*e*S	Sb	01 20 32.4	0.0
YULB	**Yu-li**	**0.91**	**95**	*e*P	Pg	01 20 19.8	+0.1
YULB	**Yu-li**	**0.91**	**95**	P	Pg	01 20 17.0	-2.7
TWF1	**Yuli**	**0.91**	**97**	*e*P	Pn	01 20 21.0	-0.3
TWF1				*e*S	Sn	01 20 34.5	-0.1
OWD	**Renai**	**0.93**	**58**	*e*P	Pg	01 20 20.2	+0.1
OWD				S	Sb	01 20 33.5	+0.4
EHY	**Hungye**	**0.93**	**88**	*e*P	Pg	01 20 20.3	+0.2
EHY				*e*S	Sn	01 20 34.8	-0.2
WHP	**Taichung City**	**0.99**	**36**	*e*P	Pg	01 20 21.3	-0.1
WARBT	**Fenglin Townsh**	**1.02**	**76**	*e*P	Pb	01 20 21.9	-0.1
WARBT				*e*S	Sn	01 20 36.7	-0.4
HGSD	**Ruisui**	**1.02**	**88**	*e*P	Pn	01 20 22.8	0.0
ECL	**Taimali**	**1.05**	**146**	*e*P	Pn	01 20 23.2	+0.1
WHF	**Hehuan Shan**	**1.10**	**52**	*e*P	Pg	01 20 23.2	-0.3
ETLH	**Xiulin Townshi**	**1.30**	**55**	*e*P	Pb	01 20 26.8	-0.1
LIOB	**Emei**	**1.34**	**29**	*e*P	Pn	01 20 26.9	-0.2
NNSB	**Datong**	**1.37**	**46**	*e*P	Pn	01 20 26.7	-0.9
NACB	**Ninganchiao**	**1.37**	**59**	*e*P	Pn	01 20 27.6	0.0
NACB				*e*S	Sg	01 20 46.8	+0.5
NFF	**Wufeng Townshi**	**1.37**	**32**	*e*P	Pn	01 20 27.2	-0.4
LATG	**Datong**	**1.54**	**46**	*e*P	Pb	01 20 30.6	-0.4
YHNB	**Yeheng**	**1.54**	**39**	*e*P	Pn	01 20 30.1	+0.1

IDC 14 01:39:00.6±2.0, 17°.25S×178°.09W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=146.6km s-min=28.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.27**	**254**	P	P	01 47 20.3	0.0
	4.3nm,0.7s,baz=93,slow=7.7,SNR=41						
	4.3nm,0.7s						
NVAR	**Mina Array Bea**	**78.74**	**44**	P	P	01 51 06.6	+1.2
	0.7nm,0.7s,baz=239,slow=7.4,SNR=5.9						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**85.18**	**13**	P	P	01 51 37.6	-0.8
	0.3nm,0.6s,baz=210,slow=4.9,SNR=2.1						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**85.39**	**58**	P	P	01 51 40.1	-0.3
	0.8nm,0.7s,baz=234,slow=4.8,SNR=6.6						
	0.8nm,0.7s						
PDAR	**Pinedale Array**	**86.67**	**43**	P	P	01 51 45.9	-0.7
	0.3nm,0.7s,baz=227,slow=4.4,SNR=3.4						
	0.3nm,0.7s						

*IDC **14** 01:39:40.7±1.8, 19°.52N×145°.88E, h140km±17km, mb4.0/18, mbtmp4.4/21, MS3.0/3, Error ellipse: s-maj=17.6km s-min=10.2km az=77.0*
*NEIC **14** 01:39:41.4±1.4, 19°.50N±0°.09×145°.7E±0°.2, h136km±7km, mb4.5/97, Error ellipse: s-maj=22.0km s-min=13.0km az=87.0*

ISC 14 01:39:41.9±0.4, 19°.49N±0°.06×145°.85E±0°.10, h150km, n316, σ0s73/294, mb4.5/69, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.95**	**189**	Pn	**Pn**	**01 41 07.0**	**-1.0**
GUMO	**Guam**	**5.95**	**189**	P	**Pn**	**01 41 07.6**	**-0.4**
	110nm,0.3s,baz=0.0,slow=20,SNR=2.7						
GUMO				S	**Sn**	**01 42 15.7**	**+0.5**
	192nm,0.3s,baz=15,slow=20,SNR=4.3						
GUMO				LR	LR	01 42 54.0	
	comp=Z,81nm,21.5s,baz=3.0,slow=32						
INU	**Inuyama**	**17.62**	**336**	P	**P**	**01 43 35.1**	**-1.8**
INU				IAmb	IAmb	01 43 37.0	
	comp=Z,25nm,1.2s						
JGF	**Kuroka**	**17.71**	**337**	P	**P**	**01 43 37.5**	**-0.5**
JMN	**Monobe**	**17.74**	**325**	P	**P**	**01 43 38.5**	**+0.1**
MJAR	**Matsushiro Arr**	**18.26**	**340**	P	**P**	**01 43 43.2**	**-0.8**
	comp=Z,7.6nm,0.6s,baz=167,slow=9.3,SNR=21						
MAJO	**Matsushiro**	**18.26**	**340**	P	**P**	**01 43 43.5**	**-0.5**
MAJO				IAmb	IAmb	01 43 51.0	
	comp=Z,23nm,0.8s						
MJB9	**Matsu-Tunnel**	**18.27**	**340**	P	**P**	**01 43 44.5**	**+0.5**
MJB9				IAmb	IAmb	01 43 52.0	
	comp=Z,22nm,0.8s						
JMM	**Marumori**	**18.83**	**348**	P	**Pn**	**01 43 51.5**	**-0.9**
JNU	**Nakatsue**	**19.05**	**318**	P	**P**	**01 43 52.3**	**-0.3**
	comp=Z,15nm,0.9s,baz=90,slow=2.0,SNR=3.1						
H11S3	**WAKE ISLAND Hy**	**19.73**	**89**	T	T	02 05 10.6	
	baz=274,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy**	**19.75**	**89**	T	T	02 04 52.7	
	baz=274,slow=74,SNR=22						
H11S2	**WAKE ISLAND Hy**	**19.75**	**89**	T	T	02 05 07.2	
	baz=274,slow=74,SNR=25						
H11N1	**WAKE ISLAND Hy**	**19.83**	**86**	T	T	02 05 40.8	
	baz=267,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**19.83**	**86**	T	T	02 05 26.8	
	baz=267,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**19.85**	**86**	T	T	02 05 41.3	
	baz=267,slow=74,SNR=13						
KSRS	**Korea Array**	**23.77**	**323**	P	**P**	**01 44 40.3**	**-0.2**
	comp=Z,6.5nm,0.7s,baz=149,slow=8.6,SNR=23						
	comp=Z,6.5nm,0.7s						
KSAR	**Wonju Array Be**	**23.78**	**323**	P	**P**	**01 44 39.1**	**-1.6**
USA0B	**Ussuriysk Arra**	**27.22**	**338**	P	**P**	**01 45 11.5**	**-0.2**
USA0B				IAmb	IAmb	01 45 13.6	
	comp=Z,8.4nm,0.8s						
USRK	**Ussuriysk Ar.**	**27.22**	**338**	P	**P**	**01 45 11.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**27.22**	**338**	P	**P**	**01 45 11.5**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=138,slow=9.1,SNR=9.0						
	comp=Z,5.1nm,0.7s						
NJ2	**Nanjing**	**27.25**	**303**	*e*P	**P**	**01 45 12.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BNX	**BinXian**	**30.28**	**334**	⇑P	**P**	**01 45 39.8**	**+1.0**
BNX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HEH	**HeiHe**	**34.02**	**339**	*e*P	**P**	**01 46 11.3**	**0.0**
HEH				pmax	pmax		
	comp=Z,25nm,1.1s						
MTN	**Manton Dam**	**35.25**	**205**	P	**P**	**01 46 22.1**	**-0.1**
HHC	**Hu-ho-hao-te**	**36.15**	**314**	*e*P	**P**	**01 46 30.4**	**+0.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,94nm,5.4s						
WB0	**Warramunga Arr**	**40.60**	**197**	P	**P**	**01 47 07.2**	**+0.1**
WB0				IAmb	IAmb	01 47 08.2	
	comp=Z,9.3nm,1.2s						
WR8	**Warramunga Arr**	**40.75**	**196**	P	**P**	**01 47 08.1**	**-0.3**
WR8				IAmb	IAmb	01 47 09.5	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**40.78**	**197**	P	**P**	**01 47 07.7**	**-0.9**
WRA	**Warramunga Arr**	**40.78**	**197**	P	**P**	**01 47 08.1**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=15,slow=7.9,SNR=30						
WRA				ScP	**ScP**	**01 52 43.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=25,slow=3.6,SNR=2.2					

M11K **Mekoryuk** 53.01 28 P P 01 48 43.0 +0.1
baz=241
S12K **Black Hills** 53.02 34 P P 01 48 42.8 -0.3
S12K **Black Hills** 53.02 34 P P 01 48 42.6 -0.5
baz=249
SDPT **Sand Point** 53.74 35 P P 01 48 48.4 0.0
baz=251
WMQ **Urumqi** 53.90 310 eP P 01 48 50.0 +0.1
WMQ sP sP 01 49 37.8 -2.8
WMQ pmax pmax
comp=Z,46nm,0.7s
CHNA **Chernabura Isl** 54.05 36 P P 01 48 50.7 0.0
baz=252
M13K **Dall Lake** 54.28 28 P P 01 48 52.0 -0.2
baz=244
K13K **Kusilvak Mount** 54.41 26 P P 01 48 52.4 -0.7
baz=242
N14K **Kuskokwak Cree** 54.83 29 P P 01 48 56.0 -0.2
baz=246
L14K **Kuka Creek** 54.98 27 P P 01 48 57.0 -0.2
baz=244
M14K **Bethel** 55.04 28 P P 01 48 57.4 -0.2
M14K **Bethel** 55.04 28 P P 01 48 56.6 -1.1
baz=246
CHGN **Chignik** 55.15 34 P P 01 48 58.2 -0.3
baz=252
J14K **Nanvaranak Lak** 55.24 26 P P 01 48 59.0 0.0
baz=243
ANM **Nome** 55.41 23 P P 01 48 60.0 -0.3
baz=240
O15K **Ungalikthiuk R** 55.41 31 P P 01 49 01.1 +0.7
O15K IAmb IAmb 01 49 02.3
comp=Z,8.3nm,0.8s
O15K **Ungalikthiuk R** 55.41 31 P P 01 49 00.3 -0.1
baz=249
M15K **Kasigluk River** 55.59 29 P P 01 49 01.3 -0.3
baz=247
L15K **Ungalak Mounta** 55.64 27 P P 01 49 01.7 -0.2
baz=245
N15K **Kwethluk River** 55.66 29 P P 01 49 03.2 +1.0
N15K **Kwethluk River** 55.66 29 P P 01 49 01.8 -0.4
baz=248
K15K **Wolf Creek Mou** 55.88 27 P P 01 49 01.6 -2.0
baz=245
P16K **Nushagak River** 56.25 31 P P 01 49 06.1 -0.2
baz=251
F15K **North Star Dit** 56.26 22 P P 01 49 06.1 -0.2
baz=240
N16K **Nishlik Lake** 56.38 29 P P 01 49 07.1 -0.2
baz=249
O16K **Kokwok River B** 56.39 30 P P 01 49 07.6 +0.3
baz=250
M16K **Timber Creek** 56.50 29 P P 01 49 08.3 +0.2
M16K **Timber Creek** 56.50 29 P P 01 49 08.7 +0.7
baz=248
R17L **Mt. Peulik Vol** 56.63 33 P P 01 49 08.2 -0.9
baz=253
H16K **Elim** 56.63 24 P P 01 49 08.2 -0.8
baz=243
J16K **Anvik River** 56.69 26 P P 01 49 09.6 +0.3
baz=245
O17K **Koliganek Bris** 56.93 30 P P 01 49 10.8 -0.4
baz=251
P17K **Kvichak River** 57.06 31 P P 01 49 11.1 -0.9
baz=252
N17K **Nushagak Hills** 57.14 30 P P 01 49 14.2 +1.6
N17K IAmb IAmb 01 49 15.1
comp=Z,7.1nm,1.1s
N17K **Nushagak Hills** 57.14 30 P P 01 49 12.8 +0.2
baz=250
L17K **Donlin** 57.21 28 P P 01 49 13.0 0.0
baz=248
M17K **Holitna River** 57.32 29 P P 01 49 14.4 +0.5
baz=250
J17K **VABM Dome** 57.36 26 P P 01 49 15.9 +1.8
J17K IAmb IAmb 01 49 16.7
comp=Z,6.8nm,0.8s
J17K **VABM Dome** 57.36 26 P P 01 49 14.3 +0.2
baz=247
K17K **Iditarod** 57.42 27 P P 01 49 15.4 +0.8
K17K **Iditarod** 57.42 27 P P 01 49 14.3 -0.3
baz=248
ZAA0 **Zalesovo Array** 57.47 322 P P 01 49 14.8 -0.2
ZAA0 IAmb IAmb 01 49 15.7
comp=Z,6.3nm,0.8s
ZALV **Zalesovo Beam** 57.47 322 P P 01 49 14.6 -0.4
ZALV **Zalesovo Beam** 57.47 322 P P 01 49 14.8 -0.3
comp=Z,6.1nm,0.7s,baz=104,slow=7.1,SNR=20
comp=Z,6.1nm,0.7s
SII **Sitkinak Islan** 57.48 35 P P 01 49 15.1 0.0
baz=256
Q18K **Katmai Hardscr** 57.61 32 P P 01 49 15.3 -0.8
baz=254
G17K **Kiwalik Mounta** 57.62 23 P P 01 49 16.0 +0.1
baz=244
H17K **Granite Mounta** 57.66 24 P P 01 49 16.4 +0.3
baz=245
N18K **Kilae Creek** 57.79 30 P P 01 49 18.8 +1.6
N18K IAmb IAmb 01 49 19.6
comp=Z,5.7nm,0.9s
N18K **Kilae Creek** 57.79 30 P P 01 49 17.6 +0.4
baz=252
O18K **Koktuh Hills** 57.86 31 P P 01 49 19.1 +1.4
O18K **Koktuh Hills** 57.86 31 P P 01 49 18.1 +0.4
baz=253
L18K **Granite Mounta** 57.94 28 P P 01 49 18.3 +0.1
baz=250
MKAR **Makanchi Array** 58.02 314 P P 01 49 19.5 +0.4
MKAR **Makanchi Array** 58.02 314 P P 01 49 19.3 +0.3
comp=Z,3.9nm,0.7s,baz=91,slow=9.1,SNR=28
comp=Z,3.9nm,0.7s
M18K **Stony River** 58.08 29 P P 01 49 19.6 +0.4
baz=251
OHAK **Old Harbor** 58.12 34 P P 01 49 19.6 +0.1
baz=256
H18K **Honhosa River** 58.35 24 P P 01 49 22.2 +1.2
H18K **Honhosa River** 58.35 24 P P 01 49 21.0 0.0
baz=246
N19K **Bonanza Creek** 58.49 30 P P 01 49 22.3 +0.1
baz=253
E18K **Tukpahlearik C** 58.51 21 P P 01 49 21.9 -0.1
baz=243
G18K **Tagagawik** 58.54 23 P P 01 49 23.6 +1.3
G18K **Tagagawik** 58.54 23 P P 01 49 22.4 +0.1
baz=246
KDAK **Kodiak Island** 58.62 33 LR LR 02 14 45.2
comp=Z,17nm,18.7s,baz=328,slow=36
KDAK **Kodiak Island** 58.62 33 P P 01 49 23.4 +0.5
baz=256
L19K **White Mountain** 58.74 28 P P 01 49 23.7 -0.1
baz=252
M19K **Big River Lodg** 58.86 29 P P 01 49 24.7 +0.1
baz=252
C18K **Utukok River** 58.88 20 P P 01 49 25.0 +0.3
baz=242
Q20K **Shuyak Island** 58.92 33 P P 01 49 24.2 -0.8
baz=256
J19K **Poorman** 59.01 26 P P 01 49 26.9 +1.3
J19K IAmb IAmb 01 49 27.6
comp=Z,5.9nm,0.8s
J19K **Poorman** 59.01 26 P P 01 49 25.5 -0.1
baz=250
O20K **Slope Mountain** 59.17 31 P P 01 49 26.9 0.0
baz=255
G19K **Purcell Mounta** 59.23 23 P P 01 49 27.4 +0.4
baz=247
H19K **Roundabout Mou** 59.23 24 P P 01 49 28.5 +1.5
H19K **Roundabout Mou** 59.23 24 P P 01 49 27.7 +0.7
baz=248
F19K **Shaleruckik Mo** 59.25 23 P P 01 49 26.6 -0.5
baz=246
M20K **Styx River** 59.43 29 P P 01 49 29.1 +0.5
baz=254
K20K **Telida** 59.46 27 P P 01 49 29.5 +0.8
baz=252
C19K **Lookout Ridge** 59.61 20 P P 01 49 30.3 +0.6
baz=243
A19K **Wainwright** 59.67 18 P P 01 49 31.1 +1.1
baz=241
J20K **Nowinta River** 59.69 26 P P 01 49 31.3 +1.1
J20K **Nowinta River** 59.69 26 P P 01 49 29.6 -0.5
baz=251,SNR=8.2
E19K **Redstone River** 59.70 22 P P 01 49 31.0 +0.7
baz=246
D19K **Kuna River** 59.82 21 P P 01 49 31.0 -0.1
baz=245
H20K **Anotleneega Mo** 59.83 25 P P 01 49 31.7 +0.5
baz=250
F20K **Avaraart Lake** 60.08 23 P P 01 49 33.1 +0.3
baz=248
SKT **Skwentna** 60.18 29 P P 01 49 34.0 +0.4
SKT IAmb IAmb 01 49 36.0
comp=Z,6.1nm,1.1s
SKT **Skwentna** 60.18 29 P P 01 49 33.8 +0.2
baz=255
CAST **Castle Rocks** 60.33 27 P P 01 49 35.1 +0.5
CAST IAmb IAmb 01 49 36.6
comp=Z,6.5nm,0.8s
CAST **Castle Rocks** 60.33 27 P P 01 49 34.9 +0.3
baz=254,SNR=6.1
E20K **Nigu River** 60.38 21 P P 01 49 34.3 -0.6
baz=247
D20K **Etivluk River** 60.42 21 P P 01 49 34.3 -0.8
baz=246
G21K **Allakaket** 60.71 24 P P 01 49 38.7 +1.6
G21K IAmb IAmb 01 50 20.0
comp=Z,9.1nm,1.4s
G21K **Allakaket** 60.71 24 P P 01 49 37.4 +0.2
baz=251
SEW **Seward** 60.72 31 P P 01 49 37.5 +0.2
baz=258
KURK **Kurchatov** 60.78 318 P P 01 49 37.4 -0.4
B20K **Meade River** 60.78 19 P P 01 49 38.1 +0.7
baz=245
KURBB **Kurchatov Arra** 60.83 318 P P 01 49 38.2 0.0
comp=Z,11nm,0.7s,baz=94,slow=7.5,SNR=124
KURBB LR LR 02 18 04.8
comp=Z,235nm,18.6s,baz=188,slow=38
comp=Z,11nm,0.7s
I21K **Tanana** 60.88 25 P P 01 49 38.8 +0.5
baz=253
F21K **Alatna River** 60.96 23 P P 01 49 40.0 +1.2
F21K IAmb IAmb 01 49 56.7
comp=Z,8.5nm,1.4s
F21K **Alatna River** 60.96 23 P P 01 49 39.2 +0.3
baz=250
BPAW **Bear Paw Mtn.** 60.98 27 P P 01 49 39.7 +0.6
BPAW **Bear Paw Mtn.** 60.98 27 P P 01 49 39.2 +0.1
baz=254
TRF **Thorofare Moun** 61.11 27 P P 01 49 40.6 +0.5
TRF **Thorofare Moun** 61.11 27 P P 01 49 39.9 -0.2
baz=255,SNR=6.3
PMR **Palmer** 61.20 30 P P 01 49 40.6 +0.2
baz=258
E21K **Killik River** 61.21 21 P P 01 49 41.0 +0.4
baz=249
H22K **Ishtalitna Cre** 61.34 25 P P 01 49 39.4 -1.9
baz=253
KNK **Knik Glacier** 61.47 30 P P 01 49 42.8 +0.4
baz=258
G22K **Bettles** 61.59 23 P P 01 49 43.5 +0.5
baz=252
D22K **Ayikyak River** 61.81 21 P P 01 49 45.7 +1.2
D22K **Ayikyak River** 61.81 21 P P 01 49 45.3 +0.8
baz=250
E22K **Anaktuvuk Pass** 61.86 22 IAmb IAmb 01 49 47.2
comp=Z,6.1nm,0.8s
E22K **Anaktuvuk Pass** 61.86 22 P P 01 49 45.2 +0.3
baz=252
M23K **Glacier View** 61.89 30 P P 01 49 44.9 -0.3
baz=259
NEA2 **Nenana** 61.92 26 P P 01 49 45.7 +0.4
baz=256
I23K **Minto, Yukon-K** 61.94 26 P P 01 49 45.7 +0.4
baz=255
H23K **Yukon River** 62.04 25 P P 01 49 46.6 +0.5
baz=255
SCM **Sheep Creek Mo** 62.09 30 P P 01 49 46.5 -0.1
SCM **Sheep Creek Mo** 62.09 30 P P 01 49 46.9 +0.3
baz=259
G23K **Bananza Creek** 62.09 24 P P 01 49 47.1 +0.6
baz=254
COLD **Coldfoot** 62.17 23 P P 01 49 47.6 +0.7
baz=254
D23K **Nanushuk River** 62.52 21 P P 01 49 49.6 +0.4
D23K IAmb IAmb 01 49 52.0
comp=Z,5.1nm,0.8s
D23K **Nanushuk River** 62.52 21 P P 01 49 49.6 +0.4
baz=252
KSH **Kashi** 62.53 305 P P 01 49 53.8 +3.8
KSH pmax pmax
comp=Z,4.0nm,0.5s
E23K **Chandalar** 62.62 22 IAmb IAmb 01 49 52.8
comp=Z,10nm,1.1s
E23K **Chandalar** 62.62 22 P P 01 49 50.6 +0.6
baz=254
M24K **Tolsona, Glenn** 62.67 29 P P 01 49 50.2 -0.2
baz=260
KLU **Klutina** 62.68 30 IAmb IAmb 01 49 52.5
comp=Z,4.3nm,0.8s
KLU **Klutina** 62.68 30 P P 01 49 51.1 +0.6
baz=260
H24K **Noodor Dome** 62.71 25 P P 01 49 51.6 +1.1
H24K IAmb IAmb 01 49 53.1
comp=Z,3.5nm,0.7s
H24K **Noodor Dome** 62.71 25 P P 01 49 50.3 -0.3
baz=256,SNR=5.1
POKR **Poker Plat Res** 62.72 26 P P 01 49 50.6 0.0
baz=257
HDA **Harding Lake** 62.77 27 P P 01 49 51.9 +0.9
baz=258
TOLK **Toolik Lake Re** 62.81 22 P P 01 49 51.8 +0.6
baz=253
C23K **Itkillik River** 62.81 20 P P 01 49 51.1 0.0
baz=252
ILAR **Eielson Array** 62.87 26 P P 01 49 51.2 -0.5
ILAR **Eielson Array** 62.87 26 P P 01 49 50.5 -1.1
comp=Z,3.6nm,0.8s,baz=257,slow=6.6,SNR=34
comp=Z,3.6nm,0.8s
E24K **Your Creek** 63.04 23 IAmb IAmb 01 49 54.6
comp=Z,7.1nm,1.1s
E24K **Your Creek** 63.04 23 P P 01 49 52.5 -0.2
baz=255
G24K **Hadweenzic Riv** 63.07 24 P P 01 49 53.1 +0.2
baz=256
F24K **Squaw Lake** 63.11 23 P P 01 49 53.6 +0.4
baz=256
PAX **Paxson** 63.14 28 IAmb IAmb 01 49 55.1
comp=Z,4.3nm,0.9s
PAX **Paxson** 63.14 28 P P 01 49 54.0 +0.4
baz=260
KAIM **Kayak Island** 63.18 32 P P 01 49 54.5 +0.7
baz=263
HARP **HAARP** 63.19 29 P P 01 49 53.9 +0.2
baz=261
D24K **Happy Valley** 63.21 21 P P 01 49 55.5 +1.7
D24K **Happy Valley** 63.21 21 P P 01 49 54.2 +0.5
baz=254
BMRM **Bremner River** 63.23 31 P P 01 49 54.7 +0.6
baz=252
N25K **Chitina, Valde** 63.33 30 IAmb IAmb 01 49 56.8
comp=Z,4.9nm,0.8s
N25K **Chitina, Valde** 63.33 30 P P 01 49 54.9 +0.1
baz=262
J25K **Salcha River,** 63.48 27 P P 01 49 55.1 -0.6
J25K **Salcha River,** 63.48 27 P P 01 49 56.0 +0.3
baz=260
RIDG **Independent Ri** 63.55 28 IAmb IAmb 01 49 57.5
comp=Z,8.3nm,0.9s
RIDG **Independent Ri** 63.55 28 P P 01 49 56.3 +0.1
baz=260,SNR=7.3
PRP **Porcupine Dome** 63.59 26 P P 01 49 56.6 +0.1
baz=259
G25K **Bearman Lake** 63.62 24 P P 01 49 56.0 -0.4
baz=258
H25L **Birch Creek** 63.62 25 P P 01 49 56.6 +0.1
baz=258
GLB **Gilahina Butte** 63.68 30 IAmb IAmb 01 49 59.1
comp=Z,6.8nm,1.1s
DOT **Dot Lake** 63.88 28 IAmb IAmb 01 49 59.6
comp=Z,3.9nm,0.7s
SCRK **Sand Creek** 63.97 28 IAmb IAmb 01 50 00.3
comp=Z,5.0nm,0.9s
SCRK **Sand Creek** 63.97 28 P P 01 49 58.8 -0.2
baz=261,SNR=6.9
F25K **Christian Rive** 63.97 23 P P 01 50 00.5 +1.6
F25K IAmb IAmb 01 50 01.5
comp=Z,5.8nm,0.9s
F25K **Christian Rive** 63.97 23 P P 01 49 59.0 +0.1
baz=258,SNR=5.5
MCARA **McCarthy VSAT** 64.05 30 P P 01 50 00.0 +0.6
baz=263
D25K **Kavik River** 64.10 21 P P 01 50 00.0 +0.4
baz=256
L26K **Log Cabin Wild** 64.11 29 P P 01 50 00.1 +0.2
baz=262
M26K **Nabesna, AK** 64.19 29 P P 01 50 00.9 +0.6
baz=263
J26L **Joseph Creek** 64.23 27 P P 01 50 01.0 +0.3
J26L IAmb IAmb 01 50 02.0
comp=Z,7.1nm,0.8s
J26L **Joseph Creek** 64.23 27 P P 01 50 00.5 -0.2
baz=261,SNR=12
I26K **Coal Creek Min** 64.53 26 P P 01 50 03.1 +0.7
baz=261
G26K **Porcupine Rive** 64.55 24 IAmb IAmb 01 50 06.3
comp=Z,6.5nm,1.0s
G26K **Porcupine Rive** 64.55 24 P P 01 50 02.4 -0.1
baz=260,SNR=5.8
F26K **Sheenjek River** 64.55 23 IAmb IAmb 01 50 05.3
comp=Z,4.9nm,0.8s
F26K **Sheenjek River** 64.55 23 P P 01 50 02.3 -0.3
baz=259
M27K **Edge Creek, AK** 64.70 29 P P 01 50 03.6 -0.1
baz=264
C26K **Camden Bay** 64.74 21 P P 01 50 03.2 -0.5
baz=257
L27K **Beaver Creek,** 64.80 29 P P 01 50 04.1 -0.2
baz=264
K27K **Chicken** 64.81 28 P P 01 50 04.7 +0.4
baz=263
CTG **Chitna Glacier** 64.81 31 P P 01 50 05.0 +0.4
baz=265
BVCY **Beaver Creek** 65.18 29 P P 01 50 06.8 0.0
baz=265
I27K **Kandik River** 65.21 26 P P 01 50 06.9 0.0
baz=262
H27K **Steamboat Moun** 65.33 25 IAmb IAmb 01 50 09.8
comp=Z,5.2nm,0.8s
H27K **Steamboat Moun** 65.33 25 P P 01 50 06.3 -1.4
baz=262,SNR=6.6
G27K **Doyon Strip** 65.36 25 P P 01 50 07.4 -0.5
baz=262
O28M **Mount Upton** 65.36 31 P P 01 50 07.7 -0.6
baz=266
E27K **Coleen River** 65.58 23 P P 01 50 09.8 +0.6
baz=261
YUK8 **Steele Glacier** 65.60 31 P P 01 50 10.0 +0.2
baz=266
PNL **Peninsula** 65.69 33 P P 01 50 10.4 +0.3
baz=267
I28M **Miner Creek** 65.89 26 P P 01 50 11.6 +0.2
baz=264
BVAR **Borovoye Array** 65.95 320 P P 01 50 12.1 +0.2
comp=Z,13nm,0.6s,baz=90,slow=7.8,SNR=60
comp=Z,13nm,0.6s
D27M **Malcolm River** 65.97 22 P P 01 50 12.1 +0.3
baz=262
DAWY **Dawson** 65.99 28 P P 01 50 11.0 -1.0
baz=265
BRVK **Borovoye** 66.02 320 P P 01 50 12.7 +0.4
O29M **Mount Kennedy** 66.13 32 P P 01 50 11.9 -1.1
baz=268
YUK4 **Talbot Arm** 66.14 31 P P 01 50 13.0 -0.2
baz=267,SNR=8.1
F28M **Old Crow** 66.15 24 P P 01 50 12.0 -0.9
baz=263
YUK6 **Outpost Mounta** 66.26 31 P P 01 50 14.0 0.0
baz=268
M29M **Somme Creek** 66.29 29 IAmb IAmb 01 50 16.5
comp=Z,4.4nm,0.8s
M29M **Somme Creek** 66.29 29 P P 01 50 14.2 +0.2
baz=267,SNR=7.6
KK31 **Karatay Array** 66.37 309 P P 01 50 15.2 +0.4
KKAR **Karatay Array** 66.37 309 P P 01 50 15.2 +0.4
E28M **Babbage River** 66.40 23 P P 01 50 14.9 +0.5
baz=263
L29M **L29M** 66.48 29 IAmb IAmb 01 50 17.8
comp=Z,6.4nm,0.8s
L29M **L29M** 66.48 29 P P 01 50 15.8 +0.7
baz=267,SNR=9.2
P29M **Windy Craggy** 66.53 33 P P 01 50 15.9 +0.5
baz=269
H29M **Whitestone** 66.60 25 P P 01 50 16.9 +1.1
baz=265
HYT **Haines Junctio** 66.68 31 IAmb IAmb 01 50 19.1
comp=Z,6.6nm,0.9s
HYT **Haines Junctio** 66.68 31 P P 01 50 17.0 +0.5
baz=268,SNR=6.5
G29M **Pine Creek** 66.80 25 P P 01 50 18.4 +1.4
baz=265
K29M **Barlow Dome** 66.80 28 P P 01 50 17.7 +0.5
baz=267,SNR=5.6
N30M **Aishikik Lake** 66.90 31 P P 01 50 18.0 +0.2
baz=268
P30M **Million Dollar** 66.93 32 P P 01 50 18.5 +0.5
baz=269
E29M **Blow River** 66.97 23 P P 01 50 17.2 -0.9
baz=265
M30M **Minto, Yukon** 67.07 29 P P 01 50 19.2 +0.4
baz=268
PLBC **Pleasant Camp** 67.23 33 P P 01 50 20.1 +0.3
baz=270
EPYK **Eagle Plains** 67.28 25 P P 01 50 20.9 +0.9
baz=267
S31K **Pelican** 67.30 34 P P 01 50 19.8 -0.5
baz=271
J30M **Hart River** 67.35 27 P P 01 50 21.3 +0.7
baz=268
I30M **Mount Dempster** 67.36 27 P P 01 50 20.6 -0.1
baz=268
G30M **tAoh Zraii Nji** 67.51 25 P P 01 50 22.6 +1.1
baz=267
N31M **Braeburn, Yuko** 67.53 31 IAmb IAmb 01 50 27.4
comp=Z,6.0nm,1.1s
N31M **Braeburn, Yuko** 67.53 31 P P 01 50 23.0 +1.3
baz=270
F30M **Barrier River** 67.71 24 P P 01 50 23.4 +0.7
baz=267
WHY **Whitehorse** 67.97 31 P P 01 50 23.9 -0.7
baz=271
M31M **Drury Creek, Y** 68.19 30 P P 01 50 26.6 +0.8
baz=271
H31M **Peel River** 68.22 26 IAmb IAmb 01 50 28.4
comp=Z,5.0nm,0.8s
H31M **Peel River** 68.22 26 P P 01 50 26.3 +0.3
baz=269
G31M **Satah River** 68.27 25 IAmb IAmb 01 50 27.8
comp=Z,7.5nm,0.7s
G31M **Satah River** 68.27 25 P P 01 50 26.3 +0.1
baz=269
INK **Inuvik** 68.59 23 P P 01 50 28.0 -0.1
INK **Inuvik** 68.59 23 P P 01 50 28.2 0.0
baz=269
N32M **Quiet Lake** 68.83 31 P P 01 50 28.4 -1.5
baz=272
P33M **Teslin, Yukon** 69.00 32 P P 01 50 31.0 +0.1
baz=273
CRAG **Craig** 69.12 37 P P 01 50 31.7 +0.1
baz=274
Q32M **Nakina River** 69.35 33 P P 01 50 33.4 +0.1
baz=274
WRAK **Wrangell Islan** 69.48 36 P P 01 50 34.1 +0.3
baz=275
MMPY **Sheldon Lake,** 69.63 29 P P 01 50 34.8 +0.1
baz=273
R33M **Jennings River** 69.98 33 P P 01 50 36.9 -0.1
baz=275
V35K **Ketchikan** 69.99 37 P P 01 50 36.4 -0.5
baz=276
S34M **Telegraph Cree** 70.02 34 P P 01 50 36.9 -0.2
baz=276
DLBC **Dease Lake** 70.56 34 P P 01 50 40.6 +0.1
baz=276,SNR=5.0
TGTN **Hyland Airport** 71.12 30 P P 01 50 43.8 -0.1
baz=276
A36M **Sachs Harbour** 71.28 19 P P 01 50 43.1 -1.4
baz=275
C36M **Paulatuk** 71.96 22 P P 01 50 47.9 -0.7
baz=277
ARTI **Arti** 72.61 324 P P 01 50 52.7 0.0
HOLB **Holberg** 72.69 42 P P 01 50 55.6 +2.2
HOLB IAmb IAmb 01 51 22.4
comp=Z,12nm,1.1s
ABKAR **Akbulak array** 72.86 317 P P 01 50 54.0 -0.4
WRGLY **Wrigley** 73.11 28 P P 01 50 56.3 +0.8
baz=280
KOTAN **Kotaneelee Air** 73.36 31 P P 01 50 57.5 +0.4
baz=280
YKA **Yellowknife Ar** 77.22 28 P P 01 51 17.0 -2.1
comp=Z,1.9nm,0.7s,baz=294,slow=6.8,SNR=3.9
comp=Z,1.9nm,0.7s
PINE **Pine Mountain** 79.02 47 P P 01 51 30.9 +1.3

PINE				IAmb	IAmb	01 51 32.3		
	comp=Z,8.1nm,0.9s							
ARCES	**ARCESS Array B**	**81.78**	**342**	P	**P**	**01 51 44.3**	**+0.6**	
ARCES				IAmb	IAmb	01 52 17.2		
	comp=Z,14nm,1.3s							
ARCES	**ARCESS Array B**	**81.78**	**342**	P	**P**	**01 51 43.5**	**-0.2**	
	comp=Z,2.0nm,0.6s,baz=61,slow=5.4,SNR=12							
	comp=Z,2.0nm,0.6s							
NVAR	**Mina Array Bea**	**82.54**	**52**	P	**P**	**01 51 49.3**	**+0.8**	
NVAR	**Mina Array Bea**	**82.54**	**52**	P	**P**	**01 51 49.5**	**+1.0**	
	comp=Z,2.5nm,0.8s,baz=287,slow=5.4,SNR=17							
	comp=Z,2.5nm,0.8s							
BLKN	**Baker Lake**	**83.99**	**23**	P	**P**	**01 51 55.4**	**+0.4**	
BLKN				IAmb	IAmb	01 52 10.1		
	comp=Z,8.9nm,1.3s							
FINES	**FINESS Array B**	**86.22**	**335**	P	**P**	**01 52 05.4**	**-0.8**	
	comp=Z,1.9nm,0.5s,baz=55,slow=5.1,SNR=25							
	comp=Z,1.9nm,0.5s							
HWUT	**Hardware Ranch**	**86.26**	**47**	P	**P**	**01 52 07.5**	**+0.4**	
HWUT				IAmb	IAmb	01 52 09.2		
	comp=Z,4.9nm,0.8s							
KNB	**Kanab**	**87.11**	**52**	P	**P**	**01 52 12.6**	**+1.2**	
KNB				IAmb	IAmb	01 52 14.0		
	comp=Z,6.2nm,1.1s							
PDAR	**Pinedale Array**	**87.17**	**46**	P	**P**	**01 52 12.0**	**+0.5**	
	comp=Z,0.4nm,0.7s,baz=288,slow=2.2,SNR=4.1							
	comp=Z,0.4nm,0.7s							
WUAZ	**Wupatki**	**88.76**	**53**	P	**P**	**01 52 20.3**	**+1.1**	
WUAZ				IAmb	IAmb	01 52 21.8		
	comp=Z,5.1nm,1.0s							
PV23	**Carpenter Ridg**	**89.32**	**49**	P	**P**	**01 52 23.0**	**+1.1**	
PV13	**Radium Mtn., P**	**89.57**	**49**	P	**P**	**01 52 24.1**	**+1.1**	
PV02	**Paradox Valley**	**89.61**	**49**	P	**P**	**01 52 24.4**	**+1.2**	
PV02				IAmb	IAmb	01 52 35.0		
	comp=Z,3.3nm,0.7s							
BRTR	**Keskin Array B**	**93.66**	**314**	P	**P**	**01 52 41.3**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=98,slow=2.9,SNR=3.6							
	comp=Z,0.7nm,0.8s							
CPRX	**Cap Rock**	**95.44**	**52**	P	**P**	**01 52 50.8**	**+0.8**	
PMSA	**Palmer Station**	**130.56**	**164**	PKPdf	**PKPdf**	**01 58 32.2**	**-2.0**	
LPAZ	**La Paz**	**147.54**	**90**	PKPbc	**PKPbc**	**01 59 10.3**	**+0.3**	
	comp=Z,1.3nm,0.7s,baz=281,slow=5.2,SNR=6.2							

*IDC **14** 01:57:08.0±0.6, 15.°91S×173.°89W, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=31.0km s-min=19.4km az=134.0*
*NEIC **14** 01:57:23.1±1.0, 16.°13S±0.°08×173.°39W±0.°08, h98km±6km, mb4.2/38, Error ellipse: s-maj=11.7km s-min=11.0km az=174.0*

ISC 14 01:57:20.9±0.6, 16.°10S±0.°09×173.°7W±0.°1, h100km, n64, σ1s25/60, mb4.2/27, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.84**	**40**	Pn	**Pn**	**01 58 04.7**	**0.0**
AFI				Sn	**Sn**	**01 58 35.3**	**-3.1**
NIUE	**Niue**	**4.64**	**130**	Pn	**Pn**	**01 58 27.5**	**-1.3**
FUTU	**Fugatoga**	**4.64**	**292**	Pn	Pn	01 58 34.3	+5.4
MSVF	**Nonsavu**	**8.09**	**257**	Pn	Pn	01 59 21.3	+5.6
INKA	**Innaminka**	**43.62**	**247**	P	P	02 05 18.9	+3.2
WR8	**Warramunga Arr**	**49.28**	**257**	P	**P**	**02 05 58.7**	**-1.4**
WR8				IAmb	IAmb	02 06 33.3	
	comp=Z,5.3nm,1.1s						
WB0	**Warramunga Arr**	**49.39**	**258**	P	**P**	**02 05 59.4**	**-1.5**
WB0				IAmb	IAmb	02 06 01.0	
	comp=Z,4.2nm,1.0s						
WRA	**Warramunga Arr**	**49.43**	**257**	P	**P**	**02 05 60.0**	**-1.2**
WRA	**Warramunga Arr**	**49.43**	**257**	P	**P**	**02 05 58.8**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=92,slow=7.1,SNR=12						
WRA				PcP	**PcP**	**02 07 21.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=101,slow=3.1,SNR=3.0						
	comp=Z,0.6nm,0.4s						
ASAR	**Alice Springs**	**49.65**	**252**	P	**P**	**02 06 00.4**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=92,slow=7.7,SNR=17						
	comp=Z,1.1nm,0.4s						
MTN	**Manton Dam**	**53.41**	**266**	P	**P**	**02 06 29.2**	**-1.7**
VNDA	**Vanda**	**62.66**	**186**	P	**P**	**02 07 35.8**	**+1.3**
VNDA	**Vanda**	**62.66**	**186**	P	**P**	**02 07 35.6**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=14,slow=12,SNR=8.2						
	comp=Z,1.0nm,0.7s						
MNRC	**McLaughlin Min**	**72.69**	**40**	P	**P**	**02 08 40.3**	**+2.2**
KRMB	**Red Mountain**	**73.49**	**37**	P	**P**	**02 08 44.0**	**+1.2**
KSXB	**Camp Six Broad**	**73.70**	**36**	P	**P**	**02 08 45.1**	**+1.0**
QSPA	**South Pole Qui**	**73.95**	**180**	P	**P**	**02 08 46.3**	**+1.0**
QSPA	**South Pole Qui**	**73.95**	**180**	P	**P**	**02 08 46.4**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=51,slow=3.0,SNR=8.8						
	comp=Z,1.3nm,0.7s						
M02C	**Callahan**	**74.01**	**37**	P	**P**	**02 08 47.4**	**+1.5**
BELC	**Belle Mtn. Jos**	**74.12**	**47**	P	**P**	**02 08 47.7**	**+0.9**
BELC				IAmb	IAmb	02 08 49.1	
	comp=Z,2.0nm,0.7s						
YBH	**Yreka Blue Hor**	**74.31**	**37**	P	**P**	**02 08 48.7**	**+1.1**
YBH				IAmb	IAmb	02 08 49.8	
	comp=Z,4.3nm,0.8s						
WAKR	**Walker**	**74.34**	**41**	P	**P**	**02 08 49.1**	**+1.1**
WAKR				IAmb	IAmb	02 08 49.5	
	comp=Z,3.1nm,1.1s						
QSM	**Queen of Sheba**	**74.58**	**45**	P	**P**	**02 08 50.6**	**+1.3**
L04D	**Klamath Falls**	**74.85**	**37**	P	**P**	**02 08 51.6**	**+0.8**
L04D				IAmb	IAmb	02 08 53.1	
	comp=Z,7.6nm,1.1s						
NVAR	**Mina Array Bea**	**75.02**	**42**	P	**P**	**02 08 53.1**	**+1.2**
NVAR	**Mina Array Bea**	**75.02**	**42**	P	**P**	**02 08 52.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=245,slow=9.0,SNR=9.2						
	comp=Z,1.1nm,0.7s						
BBOR	**Butler Butte**	**75.06**	**36**	P	**P**	**02 08 53.1**	**+1.1**
BBOR				IAmb	IAmb	02 09 28.9	
	comp=Z,5.0nm,1.5s						
GMN	**Gold Mountain**	**75.06**	**43**	P	**P**	**02 08 53.2**	**+1.0**
HEBO	**Mount Hebo**	**75.96**	**34**	P	**P**	**02 08 57.8**	**+0.8**
K05A	**Summer Lake**	**75.98**	**37**	P	**P**	**02 08 58.8**	**+1.4**
K05A				IAmb	IAmb	02 08 59.2	
	comp=Z,3.5nm,0.9s						
J05D	**Fort Rock, OR**	**76.13**	**37**	P	**P**	**02 08 59.6**	**+1.5**
J05D				IAmb	IAmb	02 09 00.1	
	comp=Z,3.7nm,0.7s						
PINE	**Pine Mountain**	**76.61**	**36**	P	**P**	**02 09 02.0**	**+1.1**
PINE				IAmb	IAmb	02 09 02.9	
	comp=Z,5.2nm,0.8s						
U15A	**North Rim**	**77.97**	**46**	P	**P**	**02 09 09.7**	**+0.9**
U15A				IAmb	IAmb	02 09 11.0	
	comp=Z,3.0nm,1.0s						
PSUT	**Pine Spring**	**77.99**	**44**	P	**P**	**02 09 09.6**	**+0.8**
PSUT				IAmb	IAmb	02 09 10.2	
	comp=Z,2.4nm,0.7s						
PKCU	**Pink Cliffs**	**78.47**	**45**	P	**P**	**02 09 12.7**	**+1.2**
PKCU				IAmb	IAmb	02 09 13.9	
	comp=Z,3.1nm,0.8s						
K15K	**Wolf Creek Mou**	**78.72**	**6**	P	**P**	**02 09 13.8**	**+1.9**
MTPU	**Mount Pierson**	**78.86**	**45**	P	**P**	**02 09 15.2**	**+1.5**
MSU	**Marysvale**	**79.11**	**45**	P	**P**	**02 09 15.1**	**+0.2**
L18K	**Granite Mounta**	**79.20**	**8**	P	**P**	**02 09 16.2**	**+1.6**
L18K				IAmb	IAmb	02 09 16.3	
	comp=Z,4.3nm,1.0s						
F10A	**Beach Ranch, E**	**80.03**	**36**	P	**P**	**02 09 20.1**	**+0.5**
F10A				IAmb	IAmb	02 09 20.5	
	comp=Z,3.7nm,0.8s						
PLID	**Pearl Lake**	**80.23**	**37**	P	**P**	**02 09 21.3**	**+0.5**
HLID	**Hailey**	**80.33**	**39**	P	**P**	**02 09 23.1**	**+1.8**
VHRN	**Van Horn**	**80.78**	**54**	P	**P**	**02 09 24.7**	**+0.8**
VHRN				IAmb	IAmb	02 09 25.8	
	comp=Z,3.8nm,0.7s						
PV10	**Paradox Valley**	**81.18**	**46**	P	**P**	**02 09 27.0**	**+0.9**
PV10				IAmb	IAmb	02 09 30.0	
	comp=Z,2.9nm,0.8s						
PV19	**Morning Glory**	**81.19**	**46**	P	**P**	**02 09 26.8**	**+0.7**
TXAR	**Lajitas Array**	**81.22**	**56**	P	**P**	**02 09 26.7**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=242,slow=4.9,SNR=6.6						
	comp=Z,1.2nm,1.0s						
BNX	**BinXian**	**81.32**	**323**	⇓P	P	02 09 31.5	+5.2
BNX				pmax	pmax		
	comp=Z,7.0nm,3.2s						
ANMO	**Albuquerque**	**81.45**	**50**	P	**P**	**02 09 28.5**	**+1.0**
S22A	**4UR Ranch, Cre**	**82.43**	**47**	P	**P**	**02 09 34.3**	**+1.6**
S22A				IAmb	IAmb	02 09 34.7	
	comp=Z,3.9nm,1.0s						
BPMT	**Black Pine Rid**	**82.47**	**37**	P	**P**	**02 09 32.8**	**+0.2**
PDAR	**Pinedale Array**	**82.96**	**42**	P	**P**	**02 09 34.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=243,slow=4.2,SNR=18						
	comp=Z,1.5nm,0.6s						
YHL	**Hebgen Lake**	**82.98**	**39**	P	**P**	**02 09 36.8**	**+1.4**
ILAR	**Eielson Array**	**83.18**	**11**	P	**P**	**02 09 35.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=206,slow=5.1,SNR=6.0						
	comp=Z,0.5nm,0.7s						
LYMT	**Lyon Mountain**	**83.43**	**37**	P	**P**	**02 09 37.6**	**0.0**
HHC	**Hu-ho-hao-te**	**89.30**	**313**	*e*P	P	02 10 10.9	+4.6
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,85nm,5.5s						
PZH	**PanZhiHua**	**92.35**	**297**	P	P	02 10 25.4	+4.6
ARCES	**ARCESS Array B**	**125.26**	**352**	PKP	**PKPdf**	**02 16 07.8**	**-1.6**
	comp=Z,4.1nm,1.0s,baz=35,slow=3.0,SNR=3.9						
BURAR	**Bucovina Array**	**144.91**	**338**	PKPbc	**PKPdf**	**02 16 46.6**	**+0.1**
BRTR	**Keskin Array B**	**146.52**	**320**	PKPdf	**PKPbc**	**02 16 50.7**	**-0.5**
BRTR	**Keskin Array B**	**146.52**	**320**	PKPbc	**PKPbc**	**02 16 51.0**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=48,slow=2.4,SNR=10						
GERES	**GERESS Array B**	**146.79**	**351**	PKPbc	**PKPbc**	**02 16 51.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=20,slow=3.3,SNR=7.3						
FUORN	**Ofenpass-Fuorn**	**149.39**	**355**	PKPbc	**PKPbc**	**02 16 59.0**	**+0.3**
FNA	**Florina**	**152.15**	**335**		**PKPbc**	**02 17 04.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**174.65**	**123**	PKPab	**PKPab**	**02 18 54.1**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=218,slow=3.3,SNR=2.5						

DJA 14 02:06:07.5±0.3, 7.°5S±6.°×12.°5E±.°, h467km±4km, M4.0/10, mB4.7/1, mb4.2/10, MLv3.9/7, Mw(mB)4.0/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.51**	**199**	P	P	02 07 13.7	+1.0
SOEI				S	S	02 08 04.2	-1.4
MMRI	**Maumere**	**3.10**	**246**	P	P	02 07 16.6	0.0
BATI	**Baumata**	**3.16**	**207**	P	P	02 07 18.9	+1.8
EDFI	**Ende, Flores**	**3.64**	**248**	P	P	02 07 21.5	+0.6
BASI	**Baing, Sumba**	**5.29**	**237**	P	P	02 07 35.5	0.0
	154nm,1.0s						
WBSI	**Waikabubak, Su**	**6.08**	**248**	P	P	02 07 43.1	-0.3
	0.2nm28nm,1.5s						
PLAI	**Plampang**	**7.39**	**258**	P	P	02 07 57.8	+1.0
	0.2nm28nm,1.6s						
FAKI	**Fak Fak**	**8.38**	**59**	P	P	02 08 07.8	+0.5
	41nm,0.7s						
SBJI	**Serang**	**18.88**	**273**	P	P	02 09 57.7	-0.2

DJA 14 02:17:09.4±0.6, 1.°N±4.°×12.°4E±.°, h210km±8km, M4.0/11, mb4.1/1, MLv3.9/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.50**	**206**	P	Pn	02 17 38.6	+0.9
MRSI	**Marisa**	**2.33**	**256**	P	Pn	02 17 51.7	-0.3
LUWI	**Luwuk**	**2.50**	**215**	P	Pn	02 17 53.7	-0.3
LUWI				S	S	02 18 29.0	+0.5
TNTI	**Ternate**	**3.18**	**95**	P	Pn	02 18 01.8	+0.2
APSI	**Ampana**	**3.20**	**233**	P	Pn	02 18 00.8	-1.1
SANI	**Sanana**	**3.54**	**150**	P	Pn	02 18 05.2	-0.8
SANI				S	S	02 18 50.8	+0.7
PCI	**Palu**	**4.77**	**246**	P	Pn	02 18 22.1	+0.9
BNSI	**Bone**	**6.77**	**217**	P	Pn	02 18 47.5	+0.7

*IDC **14** 02:49:57.0±1.5, 0.°66S×128.°97E, h0km, mb4.0/5, mbtmp4.0/7, ML3.9/2, MS3.3/1, Error ellipse: s-maj=111.9km s-min=13.6km az=73.0*
*DJA **14** 02:50:02.6±0.6, 1.°S±2.°×12.°8E±.°, h13km±4km, M4.5/13, mB5.4/3, mb4.9/5, MLv4.3/13, Mw(mB)4.8/3*
*NEIC **14** 02:50:03.4±2.1, 0.°85S±0.°08×128.°36E±0.°04, h26km±5km, mb4.3/11, Error ellipse: s-maj=11.0km s-min=6.0km az=182.0*

ISC 14 02:50:01.5±0.6, 0.°87S±0.°04×128.°35E±0.°06, h17km, n39, σ1s26/44, mb4.2/9, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.91**	**329**		**Pn**	**02 50 33.9**	**+0.7**
TNTI	**Ternate**	**1.91**	**329**	P	**Pn**	**02 50 34.4**	**+1.1**
MSAI	**Masohi**	**2.52**	**167**	P	**Pb**	**02 50 44.8**	**-1.5**
MSAI				S	**Sb**	**02 51 16.3**	**-0.8**
SANI	**Sanana**	**2.64**	**244**	P	**Pn**	**02 50 43.0**	**-0.3**
SANI				S	**Sn**	**02 51 13.2**	**-1.7**
NLAI	**Namlea**	**2.66**	**208**	P	**Pn**	**02 50 44.9**	**+1.3**
NLAI				S	**Sn**	**02 51 15.7**	**+0.2**
AAI	**Ambon**	**2.80**	**183**	P	**Pn**	**02 50 46.8**	**+1.3**
SWI	**Sorong**	**2.91**	**90**	P	**Pn**	**02 50 48.9**	**+2.0**
SWI				S	**Sb**	**02 51 26.3**	**-1.8**
FAKI	**Fak Fak**	**4.39**	**118**	Pn	**Pn**	**02 51 08.1**	**+0.7**
LUWI	**Luwuk**	**5.58**	**268**	Pn	**Pn**	**02 51 23.9**	**0.0**
LUWI	**Luwuk**	**5.58**	**268**	P	**Pn**	**02 51 23.8**	**0.0**
	56nm,0.5s						
MRSI	**Marisa**	**6.55**	**282**	P	**Pn**	**02 51 38.2**	**+1.1**
	0.2nm42nm,0.6s						
APSI	**Ampana**	**6.71**	**270**	P	**Pn**	**02 51 40.0**	**+0.8**
TOLI2	**Tolitoli**	**7.83**	**285**	Pn	**Pn**	**02 51 55.7**	**+1.1**
SPSI	**Sidrap Palu**	**9.11**	**250**	P	**Pn**	**02 52 13.4**	**+1.2**
MTN	**Manton Dam**	**12.21**	**167**		**Pn**	**02 52 53.9**	**-0.8**
KNRA	**Kununurra**	**14.71**	**178**	Pn	**Pn**	**02 53 28.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**17.32**	**189**	P	**P**	**02 54 05.1**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.32**	**189**	P	**P**	**02 54 05.7**	**+1.7**
	0.1nm,0.3s,baz=14,slow=4.2,SNR=1.9						
	2.7nm,0.8s						
COEN	**Coen**	**19.60**	**132**	P	**Pn**	**02 54 30.6**	**+0.2**
COEN				IAmb	IAmb	02 55 09.7	
	comp=Z,21nm,1.1s						
WB0	**Warramunga Arr**	**19.68**	**163**	P	**P**	**02 54 29.4**	**-0.6**
WB0				IAmb	IAmb	02 54 41.3	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**19.83**	**163**	P	**Pn**	**02 54 34.6**	**+1.4**
WRAB				IAmb	IAmb	02 54 35.5	
	comp=Z,8.8nm,0.7s						
WRA	**Warramunga Arr**	**19.84**	**163**	P	**P**	**02 54 30.1**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=344,slow=12,SNR=24						
WRA				S	S	02 58 03.5	-11
	comp=Z,0.7nm,0.7s,baz=342,slow=21,SNR=3.0						
	comp=Z,5.1nm,0.9s						
WR8	**Warramunga Arr**	**19.89**	**163**	P	**P**	**02 54 31.2**	**-1.1**
WR8				IAmb	IAmb	02 54 57.8	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**23.29**	**167**	P	**P**	**02 55 09.7**	**+1.1**
ASAR	**Alice Springs**	**23.29**	**167**	P	**P**	**02 55 09.7**	**+1.1**
ASAR	**Alice Springs**	**23.29**	**167**	P	**P**	**02 55 07.8**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=346,slow=11,SNR=20						
ASAR				S	**S**	**02 59 22.4**	**+1.9**
	comp=Z,1.2nm,0.8s,baz=347,slow=19,SNR=6.8						
ASAR				LR	LR	03 06 25.7	
	comp=Z,69nm,19.7s,baz=310,slow=42						
	comp=Z,1.4nm,0.4s						
SHL	**Shillong**	**43.97**	**309**	P	**P**	**02 58 08.4**	**+0.1**
BNX	**BinXian**	**46.42**	**359**	⇑P	**P**	**02 58 30.4**	**+3.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.4s						
EVN	**Everest**	**49.08**	**309**	P	**P**	**02 58 49.8**	**+0.9**
EVN				IAmb	IAmb	02 58 50.6	
	comp=Z,4.6nm,0.7s						
SONM	**Songino Array**	**52.15**	**341**	P	**P**	**02 59 08.1**	**-3.0**
	comp=Z,0.8nm,0.5s,baz=152,slow=9.4,SNR=4.0						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**62.25**	**326**	P	**P**	**03 00 22.2**	**-0.3**
MKAR	**Makanchi Array**	**62.25**	**326**	P	**P**	**03 00 22.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=131,slow=7.4,SNR=10						
	comp=Z,0.6nm,0.3s						
TARG	**Taragay, Kyrgy**	**62.26**	**319**	P	**P**	**03 00 23.2**	**0.0**
KURBB	**Kurchatov Arra**	**66.47**	**328**	P	**P**	**03 00 49.4**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=124,slow=6.6,SNR=12						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**66.48**	**328**	P	**P**	**03 00 48.8**	**-1.2**
KURK				IAmb	IAmb	03 00 50.8	
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**72.04**	**327**	P	**P**	**03 01 23.6**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=104,slow=9.1,SNR=4.0						
	comp=Z,1.0nm,0.8s						
AB31	**Akbulak array**	**76.73**	**321**	P	**P**	**03 01 51.3**	**-0.6**
AB31				IAmb	IAmb	03 02 10.6	
	comp=Z,2.2nm,1.2s						
ABKAR	**Akbulak array**	**76.73**	**321**	P	**P**	**03 01 51.0**	**-0.8**
NRS	**Narsarsuaq**	**119.68**	**357**	PKPdf	**PKiKP**	**03 08 50.4**	**0.0**

*IDC **14** 03:02:27.1±0.5, 54.°64S×1.°01W, h0km, mb4.5/14, mbtmp4.5/15, ML4.3/1, MS4.4/47, Error ellipse: s-maj=17.9km s-min=15.5km az=66.0*
*NEIC **14** 03:02:29.0±1.5, 54.°74S±0.°03×1.°0W±0.°2, h10km±1km, mb5.2/51, Error ellipse: s-maj=21.3km s-min=5.8km az=94.0*
*GCMT **14** 03:02:31.0±0.1, 54.°61S±0.°01×0.°65W±0.°02, h12km, MW5.1/124, Moment Tensor Solution. s69,c86; s124,c220; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.99±.11; $M_{\theta\theta}$3.89±.10; $M_{\phi\phi}$-1.90±.11; $M_{r\theta}$1.40±.29; $M_{\theta\phi}$-5.11±.08; $M_{r\phi}$-2.03±.30; Best double couple: M_o6.33300×10^{16} NP1:ϕ_s75.00000°, δ66.00000°, λ-175.00000°. NP2:ϕ_s343.00000°, δ86.00000°, λ-24.00000°. Principal axes: T 7.4030, Plg13.0000°, Azm31.0000°; N -2.1410, Plg65.0000°, Azm153.0000°; P -5.2630, Plg20.0000°, Azm296.00000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 03:02:28.5±0.3, 54.°75S±0.°06×0.°96W±0.°09, h10km, n156, σ1s51/115, mb5.1/39, MS4.5/48, 4C-2D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.29**	**189**	⇑P	**P**	**03 06 19.0**	**-1.0**
	comp=Z,121nm,1.0s						
VNA3	**Neumayer Olymp**	**16.99**	**190**	⇑P	**Pn**	**03 06 26.3**	**+0.4**
	comp=Z,49nm,0.8s						
SNAA	**Sanae**	**17.01**	**182**	⇑P	**Pn**	**03 06 26.3**	**+0.1**
	comp=Z,10μm,1.9s						
SNAA	**Sanae**	**17.01**	**182**		**Pn**	**03 06 26.5**	**+0.3**
SNAA	**Sanae**	**17.01**	**182**	P	P	**03 06 27.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=351,slow=13,SNR=71						
SNAA				S	**Sn**	**03 09 29.2**	**-5.8**
	comp=Z,4.5nm,1.0s,baz=163,slow=18,SNR=3.1						
SNAA				LR	LR	03 11 38.9	
	comp=Z,2μm,19.3s,baz=358,slow=32						
	comp=Z,53nm,1.2s						
TROLL	**Troll, Antarti**	**17.39**	**176**	⇑P	**Pn**	**03 06 31.7**	**+0.6**
	comp=Z,2μm,0.7s						
SYO	**Syowa Base**	**23.25**	**144**	⇓*e*P	**P**	**03 07 33.2**	**-2.3**
SYO	**Syowa Base**	**23.25**	**144**	⇓*i*pP	**P**	**03 07 36.5**	**+1.0**
BELA	**Belgrano 2**	**26.06**	**195**	P	**P**	**03 08 01.4**	**-0.1**
BELA				IAmb	IAmb	03 08 13.0	
	comp=Z,88nm,1.5s						
MAW	**Mawson**	**31.73**	**139**	P	**P**	**03 08 52.8**	**+0.8**
	comp=Z,14nm,1.1s,baz=265,slow=8.1,SNR=19						
MAW				LR	LR	03 19 21.9	
	comp=Z,698nm,20.1s,baz=275,slow=32						
	comp=Z,14nm,1.1s						
PMSA	**Palmer Station**	**31.94**	**226**	LR	LR	03 18 44.8	
	comp=Z,770nm,19.7s,baz=98,slow=31						
BOSA	**Boshof**	**32.27**	**47**	P	**P**	**03 08 57.6**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=217,slow=6.2,SNR=5.2						
BOSA				LR	LR	03 19 09.9	
	comp=Z,1μm,21.2s,baz=210,slow=31						
	comp=Z,5.1nm,0.9s						
H04S2	**CROZET ISLANDS**	**33.60**	**99**	T	T	03 45 01.6	
	baz=238,slow=75,SNR=376						
H04S3	**CROZET ISLANDS**	**33.61**	**99**	T	T	03 45 03.6	
	baz=238,slow=75,SNR=384						
H04S1	**CROZET ISLANDS**	**33.62**	**99**	T	T	03 45 02.6	
	baz=238,slow=75,SNR=509						
PHPEN	**Phepeng**	**34.11**	**41**	P	**P**	**03 09 13.5**	**+0.2**
PHPEN				IAmb	IAmb	03 09 14.8	
	comp=Z,30nm,1.2s						
KOOLE	**Kule**	**35.44**	**35**	P	**P**	**03 09 24.8**	**0.0**
KOOLE				IAmb	IAmb	03 09 28.9	
	comp=Z,28nm,1.0s						
QSPA	**South Pole Qui**	**35.49**	**180**	P	**P**	**03 09 26.3**	**+1.3**
	comp=Z,15nm,0.7s,baz=222,slow=4.5,SNR=33						
QSPA				LR	LR	03 23 52.7	
	comp=Z,1μm,18.1s,baz=214,slow=36						
	comp=Z,15nm,0.7s						
LBTB	**Lobatse**	**35.59**	**44**	LR	LR	03 21 41.0	
	comp=Z,1μm,18.3s,baz=210,slow=32						
GRTLG	**Ghanzi**	**37.30**	**35**	P	**P**	**03 09 40.4**	**-0.3**
USHA	**Ushuaia**	**37.53**	**241**	LR	LR	03 21 32.3	
	comp=Z,1μm,20.6s,baz=130,slow=30						
TSUM	**Tsumeb**	**38.20**	**29**		**P**	**03 09 48.2**	**-0.2**
TSUM	**Tsumeb**	**38.20**	**29**	LR	LR	03 22 48.9	
	comp=Z,1μm,19.4s,baz=178,slow=32						
MREMI	**Moremi**	**38.53**	**45**		**P**	**03 09 51.1**	**0.0**
GMARE	**Gumare**	**39.45**	**36**	P	**P**	**03 09 58.0**	**-0.8**
MATP	**Matopo**	**40.88**	**45**	LR	LR	03 24 43.9	
	comp=Z,517nm,19.2s,baz=202,slow=33						
KSANE	**Kasane**	**41.97**	**39**		**P**	**03 10 18.1**	**-1.5**
KSANE				IAmb	IAmb	03 10 21.0	
	comp=Z,69nm,1.8s						
TRQA	**Tornquist**	**43.79**	**266**		**P**	**03 10 34.2**	**0.0**
AY03	**C

comp=Z,16nm,1.2s
PB05 IPOC Station P 59.72 273 P **P** 03 12 33.5 +0.1
SIV San Ignacio 59.94 286 LR LR 03 34 60.0
comp=Z,266nm,21.4s,baz=118,slow=33
PB09 IPOC Station P 59.99 274 P **P** 03 12 35.3 0.0
PB01 IPOC Station P 60.72 275 P **P** 03 12 39.9 -0.3
PB01 IAmb IAmb 03 12 47.6
comp=Z,31nm,1.3s
KIBK Kibwezi 61.10 46 P **P** 03 12 43.0 +0.2
KIBK IAmb IAmb 03 12 47.1
comp=Z,23nm,1.3s
PB08 IPOC Station P 61.23 276 P **P** 03 12 44.2 +0.2
PB08 IAmb IAmb 03 12 49.6
comp=Z,17nm,1.1s
DBIC Dimbokro 61.28 356 P **P** 03 12 43.4 -0.4
DBIC LR LR 03 32 25.0
comp=Z,218nm,21.7s,baz=186,slow=29
comp=Z,8.1nm,1.1s
GO01 Chusmiza 61.63 276 **P** 03 12 46.4 -0.5
GO01 IAmb IAmb 03 12 59.9
comp=Z,16nm,1.1s
PB11 IPOC Station P 61.82 275 P **P** 03 12 46.6 -1.1
KMBO Kilima Mbogo 61.88 45 P **P** 03 12 48.8 +0.5
comp=Z,2.0nm,0.8s,baz=213,slow=7.1,SNR=6.7
KMBO LR LR 03 37 15.7
comp=Z,1μm,20.6s,baz=194,slow=34
comp=Z,2.0nm,0.8s
VILB Vilhena 61.93 288 P **P** 03 12 47.5 -0.9
PB16 IPOC Station P 62.86 277 P **P** 03 12 54.3 -0.9
PB16 IAmb IAmb 03 13 10.8
comp=Z,24nm,1.4s
PB18 Visviri 63.43 277 P **P** 03 12 58.8 -0.2
LPAZ La Paz 63.70 279 P **P** 03 13 00.2 -0.6
comp=Z,16nm,0.9s,baz=119,slow=6.6,SNR=32
LPAZ LR LR 03 38 33.4
comp=Z,123nm,21.3s,baz=128,slow=34
comp=Z,16nm,0.9s
TORD Torodi Ar. Bea 67.67 3 P **P** 03 13 23.5 -2.0
comp=Z,0.9nm,0.8s,baz=187,slow=5.4,SNR=5.6
TORD LR LR 03 37 33.9
comp=Z,669nm,20.4s,baz=168,slow=31
comp=Z,0.9nm,0.8s
NNA Nana 72.15 275 LR LR 03 43 29.8
comp=Z,134nm,20.5s,baz=134,slow=34
MDP Montagnes des 73.37 305 LR LR 03 41 37.4
comp=Z,206nm,19.5s,baz=140,slow=32
H01W2 Cape Leeuwin H 74.81 130 T T 04 37 12.3
baz=212,slow=75,SNR=71
H01W1 Cape Leeuwin H 74.83 130 T T 04 37 06.2
baz=212,slow=75,SNR=48
H01W3 Cape Leeuwin H 74.83 130 T T 04 37 16.0
baz=212,slow=75,SNR=65
ATD Arta Tunnel 75.62 44 LR LR 03 46 37.1
comp=Z,51nm,19.4s,baz=217,slow=35
ATAH Atahualpa 76.95 276 LR LR 03 47 26.2
comp=Z,103nm,20.5s,baz=157,slow=35
TAM Tamanrasset 77.42 6 **P** 03 14 24.4 +0.7
TAM IAmb IAmb 03 14 47.6
comp=Z,35nm,1.9s
NWAO Narrogin (SRO) 77.85 131 LR LR 03 44 48.3
comp=Z,269nm,18.1s,baz=273,slow=33
RPN Rapa Nui 78.07 240 LR LR 03 39 05.3
comp=Z,42nm,21.0s,baz=176,slow=28
RPZ Rata Peaks 81.68 174 LR LR 03 48 03.5
comp=Z,351nm,20.7s,baz=148,slow=34
OTAV Otavalo 82.98 280 **P** 03 14 54.4 0.0
OTAV IAmb IAmb 03 15 02.4
comp=Z,16nm,1.3s
PCRV Puerto La Cruz 83.68 297 LR LR 03 49 15.9
comp=Z,354nm,18.2s,slow=34
ROSC El Rosal 84.42 286 LR LR 03 51 07.6
comp=Z,278nm,18.8s,baz=209,slow=35
SDV Santo Domingo 85.76 292 LR LR 03 49 58.6
comp=Z,204nm,21.8s,baz=118,slow=33
MDT Midelt 87.26 357 LR LR 03 50 30.6
comp=Z,315nm,18.6s,baz=180,slow=33
URZ Urewera 87.35 178 LR LR 03 50 30.3
comp=Z,407nm,21.1s,baz=168,slow=33
STKA Stephens Creek 87.90 149 P **P** 03 15 17.4 -0.8
comp=Z,1.3nm,0.4s,baz=149,slow=7.2,SNR=4.9
comp=Z,1.3nm,0.4s
EIL Elat 89.58 31 LR LR 03 52 25.8
comp=Z,379nm,21.6s,baz=212,slow=34
KEST Kesra 90.55 8 LR LR 03 52 02.8
comp=Z,198nm,20.0s,baz=275,slow=33
PALK Pallekele 91.09 79 LR LR 03 49 01.9
comp=Z,127nm,19.2s,baz=222,slow=31
SJG San Juan 91.17 300 LR LR 03 53 17.6
comp=Z,205nm,19.6s,baz=152,slow=34
IDI Anoyia 92.39 21 LR LR 03 57 20.8
comp=Z,318nm,19.6s,baz=137,slow=36
ASF Jabal al Asfar 92.50 31 LR LR 03 56 27.3
comp=Z,454nm,18.3s,baz=236,slow=35
VAE Valguarnera 92.80 12 LR LR 03 56 32.6
comp=Z,240nm,18.0s,baz=161,slow=35
MMAI Mount Meron Ar 92.84 30 LR LR 03 58 12.0
comp=Z,239nm,18.3s,baz=206,slow=36
ASAR Alice Springs 92.85 139 P **P** 03 15 41.9 +0.4
comp=Z,1.3nm,0.9s,baz=201,slow=4.3,SNR=7.1
ASAR LR LR 03 50 25.7
comp=Z,137nm,21.7s,baz=206,slow=31
comp=Z,1.3nm,0.9s
ESDC Sonseca Array 94.08 358 P **P** 03 15 46.7 +0.2
comp=Z,1.0nm,1.1s,baz=172,slow=4.5,SNR=4.8
ESDC LR LR 03 55 45.3
comp=Z,108nm,18.3s,baz=184,slow=34
comp=Z,1.0nm,1.1s
FITZ Fitzroy Crossi 94.43 130 LR LR 03 53 23.9
comp=Z,238nm,18.5s,baz=228,slow=32
JTS Las Juntas de 94.87 281 LR LR 03 58 60.0
comp=Z,24nm,19.5s,baz=90,slow=36
LEM Lembang 95.00 109 LR LR 03 49 49.5
comp=Z,182nm,19.8s,baz=179,slow=30
WRA Warramunga Arr 96.40 138 LR LR 03 57 03.5
comp=Z,81nm,18.0s,baz=237,slow=34
TBI Tubuai 97.66 209 *e*S **S** 03 27 21.7 -7.0
comp=Z,509nm,36.2s
TBI *e*SS **SS** 03 34 12.2 +5.4
comp=Z,504nm,31.5s
TBI *e*LQ LQ 03 43 38.5
comp=Z,840nm,35.5s
TBI *e*LR LR 03 47 38.0
comp=Z,2μm,23.8s
BRTR Keskin Array B 98.66 26 LR LR 04 00 31.7
comp=Z,176nm,21.8s,baz=168,slow=35
DZM Mont Dzumac 102.74 168 *e*SS SS 03 35 14.4 -3.2
comp=Z,46nm,24.7s
DZM Mont Dzumac 102.74 168 *e*LQ LQ 03 45 21.4
comp=Z,444nm,30.1s
DZM *e*LR LR 03 50 10.3
comp=Z,576nm,21.1s
PPT2 Papeete2 103.14 211 *e*S **Sdif** 03 28 17.7 +2.7
comp=Z,143nm,27.5s
PPT2 *e*SS **SS** 03 35 31.0 +7.4
comp=Z,112nm,26.2s
PPT2 Papeete2 103.14 211 *e*LQ LQ 03 45 48.7
comp=Z,124nm,28.8s
PPT2 *e*LR LR 03 50 08.1
comp=Z,105nm,20.5s
PPT2 *e*LR LR 03 50 09.7
comp=Z,151nm,33.2s
TAOE Nuku Hiva Isla 108.00 223 *e*LR LR 03 52 31.0
comp=Z,425nm,30.1s
PZH PanZhiHua 118.42 84 PKP **PKiKP** 03 21 16.5 +0.4
TXAR Lajitas Array 120.56 278 PKP **PKiKP** 03 21 20.8 +0.6
comp=Z,0.5nm,0.8s,baz=134,slow=3.6,SNR=4.4
BVAR Borovoye Array 122.50 43 PKP **PKiKP** 03 21 23.4 +0.3
comp=Z,2.4nm,0.8s,baz=252,slow=0.9,SNR=9.1
CD2 Chengdu 122.89 82 PKP **PKPdf** 03 21 24.5 +0.1
MKAR Makanchi Array 123.04 54 PKP **PKPdf** 03 21 23.6 -0.6
comp=Z,1.7nm,0.9s,baz=222,slow=1.6,SNR=7.0
WMQ Urumqi 123.53 60 *e*PKP **PKiKP** 03 21 26.9 +1.4
WMQ LR LR
comp=Z,220nm,22.7s
KURBB Kurchatov Arra 124.11 49 PKP **PKPdf** 03 21 24.6 -1.4
comp=Z,1.3nm,0.9s,baz=239,slow=3.1,SNR=8.0
ANMO Albuquerque 126.29 281 **PKPdf** 03 21 30.1 -0.9
XAN Xi'an 128.15 83 PKP **PKiKP** 03 21 39.8 +4.8
ZALV Zalesovo Beam 129.20 50 PKP **PKiKP** 03 21 36.5 +0.2
comp=Z,0.5nm,0.3s,baz=248,slow=1.6,SNR=3.6
ISCO Idaho Springs 129.23 286 **PKiKP** 03 21 37.4 +0.1
AGMN Agassiz Nation 129.76 300 **PKPdf** 03 21 36.0 -0.9
NJ2 Nanjing 132.46 93 *e*PKP **PKPdf** 03 21 43.0 +0.5
PSUT Pine Spring 133.03 279 **PKPdf** 03 21 43.4 -0.3
PDAR Pinedale Array 133.42 286 PKhKP PKPpre 03 21 35.9
comp=Z,0.2nm,0.5s,baz=58,slow=34,SNR=1.8
SPR3 Spring Creek 3 133.62 279 **PKPdf** 03 21 45.3 +0.4

HHC Hu-ho-hao-te 134.38 79 *e*PKP **PKPdf** 03 21 43.3 -2.7
FXWY Fox Creek 134.81 286 **PKiKP** 03 21 48.1 -0.3
ELK Elko 135.31 280 **PKiKP** 03 21 49.3 -0.2
NVAR Mina Array Bea 135.52 275 PKP **PKiKP** 03 21 50.5 +0.5
comp=Z,0.9nm,0.8s,baz=149,slow=2.9,SNR=5.5
SONM Songino Array 135.94 68 PKP **PKiKP** 03 21 51.1 +0.7
comp=Z,1.3nm,1.0s,baz=226,slow=2.8,SNR=3.8
MSO Missoula 138.40 288 **PKPdf** 03 21 53.8 +0.5
PLID Pearl Lake 138.50 284 **PKPdf** 03 21 53.8 +0.1
BMO Blue Mountains 139.09 283 **PKPdf** 03 21 55.5 +0.8
G08A Pilot Rock 140.29 283 **PKPdf** 03 21 57.6 +0.8
CN2 Changchun 144.21 85 PKP PKPbc 03 22 02.3 +0.4
PGC Sidney 144.72 284 **PKPab** 03 22 03.2 0.0
LLLB Lillooet 144.87 288 **PKPab** 03 22 02.8 -1.0
YKA Yellowknife Ar 146.06 310 PKPbc **PKPdf** 03 22 05.9 -0.3
comp=Z,6.8nm,1.0s,baz=93,slow=2.6,SNR=9.4
CBB Campbell River 146.51 285 **PKPdf** 03 22 07.1 -0.3
MJAR Matsushiro Arr 146.75 106 PKPbc **PKPbc** 03 22 09.6 -0.5
comp=Z,9.5nm,1.1s,baz=210,slow=3.3,SNR=13
MDJ Mudanjiang 147.09 87 PKPbc **PKPab** 03 22 12.3 -0.1
USRK Ussuriysk Ar. 148.23 90 PKPbc **PKPbc** 03 22 14.1 +0.3
comp=Z,4.4nm,0.8s,baz=236,slow=6.8,SNR=5.7
HEH HeiHe 148.85 77 PKPbc **PKiKP** 03 22 16.1 -0.5
HEH LR LR
comp=Z,100nm,20.4s
HEH LR LR
comp=Z,280nm,21.0s
HEH LR LR
comp=Z,360nm,19.4s
WRGLY Wrigley 150.17 310 PKPdf **PKPdf** 03 22 14.2 +1.3
RUBB Prince Rupert 151.10 290 PKPdf **PKPdf** 03 22 15.3 +0.7
A36M Sachs Harbour 151.16 328 **PKPdf** 03 22 15.6 +1.4
DIB Dawson Inlet, 151.89 287 **PKPdf** 03 22 16.1 +0.2
P33M Teslin, Yukon 154.04 302 **PKPdf** 03 22 19.8 +0.8
ILAR Eielson Array 160.38 314 PKP **PKPdf** 03 22 26.8 +0.1
comp=Z,0.3nm,0.7s,baz=13,slow=2.7,SNR=4.9
ILAR PKPab **PKPab** 03 23 08.1 +0.2
comp=Z,2.0nm,1.0s,baz=74,slow=3.4,SNR=11

*IDC **14** 03:04:24.6±7.9,31°.92S×179°.75E,h339km±89km,mb3.3/2, mbtmp4.2/3,Error ellipse: s-maj=97.2km s-min=43.6km az=1.0*
*WEL **14** 03:04:30.7±1.0,32°S±19'×17°9E±4'.8,h258km±44km, M4.1/12,mB4.7/12,ML4.8/6,MLv4.6/12,Mw(mB)3.9/12, Error ellipse: s-maj=67.0km s-min=4.5km az=110.8, confirmed*
ISC 14 03:04:25.5±2.3,31°.5S±0'.1×178°.0E±0'.2,h250km,n28, σ2s35/41,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.14**	**59**	P		**Pn**		**03 05 30.5**	**-0.5**
GLKZ				S		S		03 06 21.9	-1.0
HAZ	**Te Kaha**	**6.25**	**182**	P		**Pn**		**03 06 00.5**	**+3.9**
HAZ				S		**S**		**03 07 11.4**	**+1.7**
WMGZ	**Waiomatatini S**	**6.32**	**177**	P		**Pn**		**03 05 59.0**	**+1.4**
WMGZ				S		**S**		**03 07 11.1**	**-0.1**
PKGZ	**Pakihiroa**	**6.36**	**180**	P		**Pn**		**03 06 00.2**	**+2.2**
PKGZ				S		**S**		**03 07 11.2**	**-0.9**
RUGZ	**Raukumara Rang**	**6.46**	**183**	P		**Pn**		**03 06 01.0**	**+1.5**
TWGZ	**Tauwhareparae**	**6.67**	**180**	P		**Pn**		**03 06 06.4**	**+4.4**
TWGZ				S		**S**		**03 07 18.7**	**-0.6**
URZ	**Urewera**	**6.79**	**186**	P		**Pn**		**03 06 04.7**	**+1.2**
	20nm,0.3s,baz=264,slow=5.1,SNR=66								
URZ				S		**S**		**03 07 20.8**	**-1.3**
	7.7nm,0.2s,baz=31,slow=23,SNR=12								
TKGZ	**Te Karaka**	**6.93**	**181**	P		**Pn**		**03 06 08.6**	**+3.4**
TKGZ				S		**S**		**03 07 22.4**	**-2.8**
CNGZ	**Carnagh Statio**	**6.98**	**179**	P		**Pn**		**03 06 06.5**	**+0.8**
RAGZ	**Rawiri**	**7.00**	**184**	P		**Pn**		**03 06 06.4**	**+0.1**
RAGZ				S		**S**		**03 07 27.6**	**+0.5**
RIGZ	**Rimuhau**	**7.20**	**182**	P		**Pn**		**03 06 11.9**	**+3.2**
RIGZ				S		**S**		**03 07 28.9**	**-2.6**
MTHZ	**Maungataniwha**	**7.41**	**187**	P		**Pn**		**03 06 15.0**	**+3.8**
MTHZ				S		**S**		**03 07 35.8**	**-0.5**
PRGZ	**Paritu Road**	**7.41**	**181**	P		**Pn**		**03 06 12.5**	**+1.2**
MRHZ	**Matea Rd**	**7.44**	**190**	P		**Pn**		**03 06 16.1**	**+4.4**
RAHZ	**Arahi**	**7.45**	**186**	P		**Pn**		**03 06 15.6**	**+3.8**
RAHZ				S		**S**		**03 07 37.5**	**+0.3**
NMHZ	**Naumai**	**7.65**	**187**	P		**Pn**		**03 06 17.4**	**+3.0**
BKZ	**Black Stump Fm**	**7.76**	**189**	P		**Pn**		**03 06 17.5**	**+1.8**
BKZ				S		**S**		**03 07 42.8**	**-1.6**
MCHZ	**McNeill Hill**	**8.01**	**188**	P		**Pn**		**03 06 21.7**	**+2.9**
MCHZ				S		**S**		**03 07 49.6**	**+0.5**
KRHZ	**Kereru**	**8.24**	**189**	P		**Pn**		**03 06 23.6**	**+1.8**
KRHZ				S		**S**		**03 07 52.1**	**-3.5**
KAHZ	**Kahuranaki**	**8.34**	**186**	P		**Pn**		**03 06 24.0**	**+1.0**
KAHZ				S		**S**		**03 07 54.8**	**-3.0**
PNHZ	**Pukenui**	**8.53**	**190**	P		**Pn**		**03 06 25.6**	**+0.1**
PNHZ				S		**S**		**03 07 58.0**	**-4.3**
PXZ	**Pawanui**	**8.57**	**186**	P		**Pn**		**03 06 27.1**	**+1.2**
BFZ	**Birch Farm**	**9.28**	**188**	P		**Pn**		**03 06 34.9**	**0.0**
OGWZ	**Otaki Gorge**	**9.59**	**193**	P		**Pn**		**03 06 39.0**	**+0.3**
HOWZ	**Holdsworth Sta**	**9.60**	**192**	P		**Pn**		**03 06 39.1**	**+0.1**
ASAR	**Alice Springs**	**39.68**	**270**	P		P		03 11 36.9	+3.0
	0.7nm,0.4s,baz=111,slow=8.4,SNR=12								
	0.7nm,0.4s								
WRA	**Warramunga Arr**	**40.78**	**276**	P		P		03 11 46.0	+3.2
	1.2nm,0.3s,baz=114,slow=8.1,SNR=27								
	1.2nm,0.3s								
FINES	**FINESS Array B**	**144.91**	**337**	PKPbc		PKPdf		03 23 22.5	-9.4
	2.1nm,0.9s,baz=60,slow=8.3,SNR=4.7								

KRSC 14 03:07:43.5±1.4,50°.96N×158°.33E,h48km±22km,MI3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.08**	**299**	*e*P		Pn		03 08 03.6	+1.3
PAU				*e*S		Sn		03 08 16.8	+0.7
SKR	**Severo-Kuril's**	**1.43**	**260**	*e*P		Pn		03 08 08.3	+1.3
SKR				*e*S		Sn		03 08 25.1	+0.6
ASAK	**Asacha**	**1.45**	**350**	*e*P		Pn		03 08 09.3	+1.8
RUS	**Russkaya**	**1.48**	**4**	*e*P		Pn		03 08 09.1	+1.3
RUS				*e*S		Sn		03 08 26.8	+0.9
MTVR	**Mutnovka**	**1.53**	**357**	*e*P		Pn		03 08 10.4	+1.8
GRL	**Gorelyy**	**1.61**	**355**	*e*P		Pn		03 08 11.9	+2.3
GRL				*e*S		Sn		03 08 31.3	+2.1
MIPR	**Malaya Ipel'ka**	**1.64**	**324**	*e*P		Pn		03 08 12.3	+2.3
KRMR	**Karymshinskiy**	**1.88**	**356**	*e*P		Pn		03 08 15.7	+2.5
PET	**Petropavlovsk**	**2.08**	**5**	*e*P		Pn		03 08 18.2	+2.2
PET				*e*S		Sn		03 08 42.6	+2.0
DALK	**Dalny**	**2.10**	**7**	*e*P		Pn		03 08 18.4	+2.2
APC	**Apacha**	**2.10**	**340**	*e*P		Pn		03 08 19.9	+3.7
UGLR	**Uglovaya**	**2.28**	**8**	*e*P		Pn		03 08 21.5	+2.8
AVH	**Avacha**	**2.33**	**6**	*e*P		Pn		03 08 22.5	+3.1
SMAR	**Somma**	**2.33**	**7**	*e*P		Pn		03 08 22.8	+3.2
KOK	**Koryaka**	**2.35**	**5**	*e*P		Pn		03 08 23.0	+3.3
SDLR	**Sedlovina**	**2.35**	**8**	*e*P		Pn		03 08 22.1	+2.3
KRER	**Koryakskii**	**2.37**	**6**	*e*P		Pn		03 08 23.2	+3.1
SPN	**Mys Shipunski**	**2.39**	**25**	*e*P		Pn		03 08 23.5	+3.4
SPN				*e*S		Sn		03 08 51.4	+3.2
KRX	**Arik**	**2.42**	**5**	*e*P		Pn		03 08 23.7	+3.0
GNL	**Ganaly**	**2.75**	**355**	*e*P		Pn		03 08 28.3	+3.0
MKZ	**Mys Kozlova**	**4.16**	**29**	*e*P		Pn		03 08 46.6	+2.2
TUMD	**Tumrok D**	**4.43**	**16**	*e*P		Pn		03 08 54.1	+5.8
KBTR	**Krutoberegovo**	**5.90**	**25**	*e*P		Pn		03 09 11.9	+3.6
SMKR	**Semkarok**	**5.94**	**17**	*e*P		Pn		03 09 13.3	+4.4

*ROM **14** 03:18:45.8±0.1,42°.053N±0°.006×16°.623E±0°.009, h22km±1km,ML2.6/28,Error ellipse: s-maj=0.7km s-min=0.3km az=154.0*
*RHSSO **14** 03:18:48.0±0.9,42°.20N×16°.62E,h8km±3km,ML2.5/7*
ISC 14 03:18:46.1±1.0,42°.06N±0°.02×16°.61E±0°.03,h15km±9km, n40,σ0s79/69,3C,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.63**	**236**	⇑P		**Pg**		**03 18 58.9**	**+0.5**
MSAG				S		**Sg**		**03 19 07.5**	**+0.8**
SGRT	**San Giovanni R**	**0.71**	**245**	P		**Pg**		**03 19 00.1**	**+0.1**
SGRT				S		**Sg**		**03 19 09.4**	**0.0**
SGRT				AML		AML			
	comp=E,351μm,0.2s								
SGRT				AML		AML			
	comp=N,368μm,0.4s								
LSTV	**Lastovo**	**0.74**	**17**	Pg		**Pn**		**03 19 01.4**	**-0.5**
LSTV				Sg		**Sn**		**03 19 11.9**	**-1.0**
MRVN	**Minervino Murg**	**1.05**	**197**	P		**Pb**		**03 19 04.8**	**-1.1**
MRVN				S		**Sb**		**03 19 19.0**	**-0.4**
MRVN				AML		AML			
	comp=N,198μm,0.8s								
MRVN				AML		AML			
	comp=E,280μm,0.5s								
MRVN				AML		AML			
	comp=N,198μm,1.2s								
CAPA	**Cerignola FG**	**1.08**	**213**	P		**Pb**		**03 19 06.3**	**-0.1**
CAPA				S		**Sb**		**03 19 20.3**	**0.0**
CAPA				AML		AML			
	comp=E,611μm,0.8s								
CAPA				AML		AML			
	comp=N,534μm,0.9s								
CAPA				AML		AML			
	comp=E,611μm,1.2s								
CAPA				AML		AML			
	comp=N,534μm,1.1s								
HVAR	**Hvar**	**1.12**	**354**	P		**Pb**		**03 19 05.8**	**-1.3**
HVAR				S		**Sn**		**03 19 21.8**	**-0.5**
STON	**Ston**	**1.15**	**45**	*e*Pg		**Pb**		**03 19 06.8**	**-0.7**
STON				*e*Sg		**Sb**		**03 19 21.6**	**-0.6**
STON	**Ston**	**1.15**	**45**	Pg		**Pg**		**03 19 08.5**	**+0.4**
STON				Sg		**Sn**		**03 19 23.9**	**+1.1**
STON	**Ston**	**1.15**	**45**	P		**Pb**		**03 19 07.1**	**-0.4**
STON				S		**Sn**		**03 19 22.7**	**-0.2**
STON				AML		AML			
	comp=E,140μm,1.0s								
STON				AML		AML			
	comp=N,126μm,1.4s								
STON				AML		AML			
	comp=E,140μm,1.0s								
AMUR	**Altamura**	**1.15**	**180**	⇑P		**Pn**		**03 19 06.6**	**-1.0**
AMUR				S		**Sb**		**03 19 21.3**	**-1.2**
AMUR				AML		AML			
	comp=E,268μm,0.4s								
AMUR				AML		AML			
	comp=N,288μm,1.5s								
AMUR				AML		AML			
	comp=N,288μm,0.5s								
MELA	**Melanico ??? S**	**1.16**	**253**	P		**Pn**		**03 19 06.6**	**-1.1**
MELA				S		**Sb**		**03 19 23.4**	**+0.8**
PALZ	**Palazzo San Ge**	**1.22**	**204**	P		**Pn**		**03 19 08.8**	**+0.3**
PALZ				S		**Sb**		**03 19 25.1**	**+0.8**
PALZ				AML		AML			
	comp=N,214μm,1.6s								
PALZ				AML		AML			
	comp=E,227μm,1.6s								
PALZ				AML		AML			
	comp=N,214μm,0.4s								
MAKA	**Makarska**	**1.26**	**14**	Pg		**Pg**		**03 19 09.7**	**-0.7**
MAKA				Sg		**Sg**		**03 19 26.6**	**-0.3**
DBRK	**Dubrovnik**	**1.29**	**62**	Pg		**Pn**		**03 19 10.0**	**+0.5**
DBRK				Sg		**Sg**		**03 19 27.9**	**0.0**
NOCI	**Noci**	**1.32**	**165**	P		**Pn**		**03 19 09.3**	**-0.6**
NOCI				S		**Sn**		**03 19 26.5**	**-0.7**
NOCI				AML		AML			
	comp=E,368μm,0.1s								
NOCI				AML		AML			
	comp=N,420μm,1.5s								
NOCI				AML		AML			
	comp=N,420μm,0.5s								
CIGN	**Sant'Elia a Pi**	**1.33**	**253**	P		**Pn**		**03 19 10.7**	**+0.6**
CIGN				S		**Sn**		**03 19 28.7**	**+1.1**
ACER	**Acerenza**	**1.37**	**202**	P		**Pn**		**03 19 12.1**	**+1.5**
ACER				S		**Sn**		**03 19 30.4**	**+1.9**
ACER				AML		AML			
	comp=E,490μm,0.4s								
ACER				AML		AML			
	comp=N,415μm,0.5s								
ACER				AML		AML			
	comp=E,520μm,0.3s								
ACER				AML		AML			
	comp=N,406μm,0.5s								
ACER				AML		AML			
	comp=E,319μm,0.4s								
ACER				AML		AML			
	comp=N,406μm,1.5s								
ACER				AML		AML			
	comp=N,415μm,1.5s								
ACER				AML		AML			
	comp=E,520μm,1.7s								
ACER				AML		AML			
	comp=E,490μm,1.6s								
GATE	**Gambatesa**	**1.38**	**247**	P		**Pn**		**03 19 11.6**	**+0.8**
TREB	**Trebinje**	**1.45**	**63**	*e*Pg		**Pb**		**03 19 13.1**	**+0.4**
TREB				*e*Sg		**Sb**		**03 19 31.0**	**+0.1**
MIGL	**Miglionico**	**1.46**	**185**	P		**Pn**		**03 19 11.3**	**-0.6**
MIGL				AML		AML			
	comp=E,446μm,0.3s								
MIGL				AML		AML			
	comp=N,504μm,0.6s								
MIGL				AML		AML			
	comp=N,504μm,1.4s								
LTRZ	**Laterza**	**1.47**	**174**	⇑P		**Pn**		**03 19 11.1**	**-0.8**
RICI	**Ricice**	**1.48**	**15**	Pg		**Pb**		**03 19 13.5**	**+0.1**
RICI				Sg		**Sg**		**03 19 33.4**	**-0.5**
TRIV	**Trivento**	**1.56**	**260**	P		**Pn**		**03 19 13.7**	**+0.5**
SACR	**S. Croce Del S**	**1.57**	**246**	P		**Pn**		**03 19 13.6**	**+0.2**
BSSO	**Busso**	**1.59**	**252**	P		**Pn**		**03 19 14.1**	**+0.4**
TAR1	**Taranto**	**1.62**	**161**	P		**Pn**		**03 19 13.4**	**-0.6**
TAR1				S		**Sn**		**03 19 33.5**	**-1.1**
TAR1				AML		AML			
	comp=N,182μm,0.6s								
TAR1				AML		AML			
	comp=E,214μm,0.2s								
MCRV	**Calabrutti - M**	**1.67**	**221**	AML		AML			
	comp=N,124μm,0.2s								
MCRV				AML		AML			
	comp=E,113μm,0.2s								
VITU	**Vitulano (BN)**	**1.72**	**240**	P		**Pn**		**03 19 15.1**	**-0.4**
ZIRJ	**Zirje**	**1.74**	**336**	Pn		**Pn**		**03 19 14.8**	**-0.9**
ZIRJ				Sn		**Sn**		**03 19 37.2**	**-0.4**
KLINJ	**Klinje**	**1.83**	**52**	*e*Pn		**Pn**		**03 19 18.0**	**+0.9**
KLINJ				*e*Sn		**Sn**		**03 19 40.7**	**+0.7**
MCEL	**Monticello**	**1.84**	**200**	P		**Pn**		**03 19 16.9**	**-0.2**
MCEL				AML		AML			
	comp=N,68μm,1.3s								
MCEL				AML		AML			
	comp=E,64μm,0.6s								
MCEL				AML		AML			
	comp=N,67μm,0.3s								
MCEL				AML		AML			
	comp=E,66μm,0.4s								
MORI	**Morici**	**1.92**	**340**	Pn		**Pn**		**03 19 17.7**	**-0.4**
MORI				Sn		**Sn**		**03 19 41.4**	**-0.6**
KIJV	**Kijevo**	**1.95**	**356**	*e*Pn		**Pn**		**03 19 18.4**	**-0.2**
KIJV				*e*Sn		**Sn**		**03 19 42.9**	**+0.2**
KIJV	**Kijevo**	**1.95**	**356**	Pn		**Pn**		**03 19 18.5**	**0.0**
KIJV				Sn		**Sn**		**03 19 42.7**	**0.0**
SALB	**San Lorenzo Be**	**2.19**	**185**	P		**Pn**		**03 19 21.5**	**-0.5**
SALB				AML		AML			
	comp=E,50μm,0.2s								
SALB				AML		AML			
	comp=N,34μm,0.2s								
DUGI	**Dugi Otok**	**2.24**	**330**	Pn		**Pn**		**03 19 23.1**	**+0.6**
DUGI				Sn		**Sn**		**03 19 49.6**	**-0.2**
VIRC	**Vir**	**2.50**	**334**	Pn		**Pn**		**03 19 26.3**	**+0.2**
VIRC				Sn		**Sn**		**03 19 56.4**	**0.0**
RUDO	**Rudo**	**2.56**	**52**	*e*Pn		**Pn**		**03 19 29.4**	**+2.4**
RUDO				*e*Sn		**Sn**		**03 19 59.0**	**+1.2**
BLY	**Banja Luka**	**2.72**	**9**	*e*Pn		**Pn**		**03 19 30.9**	**+1.8**
BLY				*e*Sn		**Sn**		**03 20 01.9**	**+0.2**
NVLJ	**Novalja**	**2.80**	**334**	Pn		**Pn**		**03 19 31.1**	**+0.9**
NVLJ				Sn		**Sn**		**03 20 03.7**	**0.0**

*SDD **14** 03:26:18.6±2.1,18°.38N×72°.01W,h7km±34km,MD3.2, ML2.7,MW3.1*
*OSPL **14** 03:26:21.

NEDR IAML 03 26 42.6
comp=N,648nm,0.8s
PAPH Port-au-Prince 0.44 286 *i* P **Pb 03 26 30.3 +0.5**
PAPH *e*S **Sb 03 26 38.0 +1.5**
LOBH Bahia de las A 0.57 159 *i* P **Pg 03 26 29.8 -1.4**
LOBH *e*S **Sg 03 26 38.7 0.0**
LOBH IAML 03 26 44.1
comp=Z,192nm,0.6s
PODR Polo 0.59 113 *i* P **Pg 03 26 31.1 -0.5**
PODR *e*S **Sg 03 26 40.5 +1.0**
PODR Polo 0.59 113 ⇓*e*Pg **Pg 03 26 32.6 +1.0**
PODR ⇓*e*Sg **Sg 03 26 40.6 +1.2**
PODR IAML 03 26 44.1
comp=N,314nm,0.7s
LOVI El Cajuil, Ovi 0.76 142 *i* P **Pg 03 26 33.9 -0.8**
LOVI IAML 03 26 56.0
comp=Z,194nm,0.6s
SDDR Presa de Saban 0.79 43 *i* P **Pg 03 26 34.0 -1.4**
SDDR IAML 03 26 51.8
comp=Z,66nm,0.7s
SDDR Presa de Saban 0.79 43 ⇓*e*Pg **Pg 03 26 34.0 -1.4**
SDDR ⇓*e*Sg **Sg 03 26 47.4 +1.7**
SDDR IAML 03 26 52.4
comp=N,86nm,1.4s
REDR Restauracion 0.88 30 ⇑*e*Pg **Pg 03 26 36.2 -0.8**
REDR ⇓*e*Sg **Sg 03 26 49.4 +0.9**
REDR IAML 03 26 51.8
comp=N,190nm,0.2s
MCDR Montecristi 1.50 7 ⇑*e*Pg **Pn 03 26 46.2 -0.8**
MCDR ⇓*e*Sg **Sn 03 27 05.3 -1.3**
MCDR IAML 03 27 10.8
comp=N,101nm,0.9s
LOPP1 Punta Rusia, P 1.57 23 *i* P **Pn 03 26 48.5 +0.5**
LOPP1 IAML 03 27 16.9
comp=Z,66nm,1.1s

GCMT 14 04:17:15.0±0.6, 36.03S±0.03×103.45W±0.03, h24km±2km, MW4.9/72, Moment Tensor Solution. s10,c10; s72,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.57±.19; Mθθ-1.00±.14; Mϕϕ1.56±.15; Mrθ-0.52±.20; Mθϕ-2.00±.12; Mϕr-0.01±.17; Best double couple: M$_o$2.44600×10^{16} NP1:ϕs15.00000°,δ76.00000°, λ-8.00000°. NP2:ϕs107.00000°,δ82.00000°, λ-166.00000°. Principal axes: T 2.6730, Plg4.0000°, Azm241.0000°; N -0.4550, Plg74.0000°, Azm136.0000°; P -2.2200, Plg16.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southeast of Easter Island

SDD 14 04:22:36.7±1.8, 18.38N×72.03W, h14km±32km, MD2.6, ML1.9, MW2.4
OSPL 14 04:22:38.3±0.4, 18.46N×71.70W, h41km±6km, ML1.8
ISC 14 04:22:38.8±1.1, 18.38N±0.06×71.82W±0.05, h10km, n6, σ0s81/11, 3C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.12**	**344**	⇑*e*Pg		**Pg**		**04 22 41.7**	**+0.1**
JIDR				⇑*e*Sg		**Sg**		**04 22 43.7**	**+0.1**
JIDR				IAML				04 22 43.9	
	comp=N,223nm,0.6s								
LODU1	**El Espartillar**	**0.33**	**95**	*i* P		**Pg**		**04 22 45.2**	**-0.1**
LODU1				*e*S		**Sg**		**04 22 50.8**	**+1.0**
NEDR	**Neiba UASD**	**0.39**	**75**	*e*Pg		**Pg**		**04 22 45.3**	**-1.2**
NEDR				⇑*e*Sg		**Sb**		**04 22 54.5**	**+0.5**
NEDR				IAML				04 22 56.1	
	comp=N,88nm,0.2s								
PAPH	**Port-au-Prince**	**0.48**	**287**	*e*S		**Sb**		**04 22 57.2**	**+0.8**
LOBH	**Bahia de las A**	**0.54**	**162**	*i* P		**Pb**		**04 22 49.7**	**-0.7**
LOBH				*e*S		**Sb**		**04 22 57.8**	**-0.5**
LOBH				IAML				04 23 07.5	
	comp=Z,46nm,1.6s								
PODR	**Polo**	**0.55**	**112**	*e*Pg		**Pg**		**04 22 50.4**	**+0.8**
PODR				*e*Sg		**Sb**		**04 22 59.4**	**+0.6**
PODR				IAML				04 23 05.2	
	comp=N,39nm,1.4s								

SDD 14 04:36:46.8±1.4, 18.55N×72.11W, h18km±15km, MD2.9, ML2.2, MW2.7
OSPL 14 04:36:51.7±2.2, 18.41N×71.78W, h21km±31km, ML1.8
ISC 14 04:36:49.4±1.1, 18.45N±0.06×71.81W±0.04, h18km±3km, n8, σ0s74/16, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.06**	**315**	⇑*e*Pg		**Pg**		**04 36 53.0**	**+0.2**
JIDR				⇑*e*Sg		**Sg**		**04 36 55.4**	**+0.3**
JIDR				IAML				04 36 56.4	
	comp=N,460nm,0.4s								
LODU1	**El Espartillar**	**0.33**	**107**	*i* P		**Pg**		**04 36 56.7**	**+0.1**
LODU1				*e*S		**Sb**		**04 37 02.5**	**+0.7**
LODU1				IAML				04 37 05.2	
	comp=Z,149nm,0.3s								
NEDR	**Neiba UASD**	**0.37**	**85**	*e*Pg		**Pg**		**04 36 57.1**	**-0.1**
NEDR				⇓*e*Sg		**Sn**		**04 37 06.4**	**-0.2**
NEDR				IAML				04 37 07.0	
	comp=N,114nm,0.6s								
PAPH	**Port-au-Prince**	**0.47**	**279**	*i* P		**Pn**		**04 37 01.2**	**-0.1**
PAPH				*e*S		**Sn**		**04 37 08.8**	**-0.3**
PAPH				IAML				04 37 11.6	
	comp=Z,49nm,0.1s								
PODR	**Polo**	**0.57**	**119**	*i* P		**Pn**		**04 37 02.1**	**-0.7**
PODR				*e*S		**Sn**		**04 37 11.3**	**-0.6**
PODR	**Polo**	**0.57**	**119**	⇑*e*Pg		**Pn**		**04 37 02.1**	**-0.7**
PODR				*e*Sg		**Sn**		**04 37 13.9**	**+2.0**
PODR				IAML				04 37 15.2	
	comp=N,61nm,1.1s								
LOBH	**Bahia de las A**	**0.61**	**165**	*i* P		**Pb**		**04 37 01.4**	**0.0**
LOBH				*e*S		**Sb**		**04 37 09.2**	**-0.4**
LOVI	**El Cajuil, Ovi**	**0.77**	**147**	*i* P		**Pg**		**04 37 04.7**	**+0.2**
LOVI				*e*S		**Sg**		**04 37 15.1**	**+0.2**
LOVI				IAML				04 37 20.1	
	comp=Z,45nm,1.1s								

IDC 14 05:02:55.8±1.9, 16.19S×72.20W, h0km, mb4.3/1, mbtmp3.9/2, ML3.0/1, MS3.6/27, Error ellipse: s-maj=42.3km s-min=26.1km az=174.0
NEIC 14 05:02:55.7±1.0, 16.04S±0.08×72.39W±0.10, h10km±2km, mb4.4/8, Error ellipse: s-maj=17.0km s-min=12.1km az=235.0
ISC 14 05:02:55.2±0.8, 16.01S±0.09×72.4W±0.1, h10km, n57, σ0s66/32, MS3.6/23, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.05**	**141**	Pn		**Pn**		**05 03 44.6**	**+1.1**
PB18	**Visviri**	**3.19**	**120**			**Pn**		**05 03 48.2**	**+2.3**
PB16	**IPOC Station P**	**3.58**	**131**			**Pn**		**05 03 50.7**	**-0.7**
LPAZ	**La Paz**	**4.09**	**94**	Pn		**Pn**		**05 03 57.8**	**-0.6**
	0.7nm,0.3s,baz=271,slow=7.9,SNR=20								
LPAZ				Lg		Lg		05 05 00.3	
	baz=314,slow=24								
LPAZ				LR		LR		05 05 36.9	
	comp=Z,538nm,21.2s,baz=245,slow=41 3.6nm,0.6s								
PB11	**IPOC Station P**	**4.54**	**146**			**Pn**		**05 04 04.1**	**0.0**
GO01	**Chusmiza**	**4.73**	**141**			**Pn**		**05 04 07.8**	**+0.7**
TA02	**Huaiquique**	**4.74**	**154**			**Pn**		**05 04 07.2**	**+0.4**
TA01	**Diego Aracena**	**4.99**	**156**			**Pn**		**05 04 10.2**	**0.0**
PB08	**IPOC Station P**	**5.12**	**144**			**Pn**		**05 04 12.4**	**0.0**
PATCX	**Punta Patache**	**5.23**	**157**			**Pn**		**05 04 13.6**	**+0.1**
PB01	**IPOC Station P**	**5.71**	**152**			**Pn**		**05 04 19.8**	**-0.3**
PB02	**IPOC Station P**	**5.78**	**156**			**Pn**		**05 04 21.2**	**0.0**
NNA	**Nana**	**5.90**	**312**	Pn		**Pn**		**05 04 23.2**	**+0.4**
PB09	**IPOC Station P**	**6.47**	**153**			**Pn**		**05 04 31.3**	**+0.5**
PB03	**IPOC Station P**	**6.50**	**158**			**Pn**		**05 04 31.0**	**-0.1**
PB05	**IPOC Station P**	**7.11**	**164**			**Pn**		**05 04 39.2**	**-0.2**
PB06	**IPOC Station P**	**7.17**	**159**			**Pn**		**05 04 39.8**	**-0.5**
PB10	**IPOC Station P**	**7.66**	**167**			**Pn**		**05 04 46.8**	**-0.1**
PB14	**IPOC Station P**	**8.77**	**168**			**Pn**		**05 05 01.9**	**-0.5**
GO02	**Mina Guanaco**	**9.47**	**164**			**Pn**		**05 05 11.6**	**-0.5**
AC01	**Pan de Azucar**	**10.22**	**171**	Pn		**Pn**		**05 05 21.6**	**-0.4**
ATAH	**Atahualpa**	**10.61**	**326**	LR		LR		05 09 31.7	
	comp=Z,314nm,20.3s,baz=171,slow=36								
SIV	**San Ignacio**	**10.87**	**91**	LR		LR		05 10 19.0	
	comp=Z,126nm,18.4s,baz=298,slow=41								
AC02	**Maricunga**	**11.19**	**165**			**Pn**		**05 05 35.8**	**+0.1**
AC06	**Mina Casimiro**	**11.44**	**171**			**Pn**		**05 05 38.4**	**-0.4**
ZON	**Zonda**	**15.83**	**168**	Pn		**Pn**		**05 06 38.3**	**0.0**
ZON				IAmb		IAmb		05 06 47.0	
	comp=Z,28nm,1.3s								
CPUP	**Villa Florida**	**17.37**	**129**	LR		LR		05 15 00.1	
	comp=Z,41nm,18.8s,baz=165,slow=42								
MT08	**Bocatoma Ro**	**17.49**	**173**	P		**Pn**		**05 06 58.9**	**-0.6**
BOAV	**Boa Vista**	**21.72**	**34**	P		**P**		**05 07 47.3**	**+0.5**
BDFB	**Brasilia**	**22.44**	**92**	LR		LR		05 17 31.9	
	comp=Z,106nm,21.0s,baz=305,slow=38								
PLCA	**Paso Flores**	**24.68**	**177**	P		**P**		**05 08 16.5**	**0.0**
PLCA				IAmb		IAmb		05 08 20.8	
	comp=Z,13nm,1.2s								
PLCA	**Paso Flores**	**24.68**	**177**	P		**P**		**05 08 17.0**	**+0.5**
	comp=Z,9.2nm,1.1s,baz=357,slow=9.9,SNR=8.4								
PLCA				LR		LR		05 18 24.7	
	comp=Z,64nm,19.4s,baz=358,slow=38 comp=Z,9.2nm,1.1s								
SDV	**Santo Domingo**	**24.80**	**4**	LR		LR		05 18 36.1	
	comp=Z,133nm,18.8s,baz=244,slow=38								
BAUV	**El Baul**	**25.16**	**10**	P		**P**		**05 08 19.5**	**-1.4**
PCRV	**Puerto La Cruz**	**27.13**	**17**	LR		LR		05 20 14.7	
	comp=Z,375nm,18.5s,slow=38								
LCR2	**La Lucha 2**	**28.06**	**335**	P		**P**		**05 08 46.8**	**-0.4**
MDP	**Montagnes des**	**28.66**	**45**	LR		LR		05 20 45.4	
	comp=Z,206nm,19.5s,baz=227,slow=37								
JTS	**Las Juntas de**	**28.95**	**334**	LR		LR		05 20 29.1	
	comp=Z,87nm,18.5s,baz=149,slow=36								
SJG	**San Juan**	**34.46**	**11**	LR		LR		05 24 36.0	
	comp=Z,72nm,19.6s,baz=222,slow=38								
RPN	**Rapa Nui**	**35.98**	**246**	LR		LR		05 20 46.5	
	comp=Z,122nm,20.3s,baz=180,slow=30								
CMIG	**Matias Romero**	**39.68**	**325**	LR		LR		05 25 08.5	
	comp=Z,57nm,20.8s,baz=164,slow=33								
TKL	**Tuckaleechee C**	**52.51**	**348**	LR		LR		05 35 42.3	
	comp=Z,52nm,18.8s,baz=156,slow=37								
MIAR	**Mount Ida**	**54.17**	**338**	P		**P**		**05 12 21.1**	**+0.2**
MIAR				IAmb		IAmb		05 12 34.8	
	comp=Z,5.7nm,1.1s								
ELK	**Elko**	**69.06**	**326**	LR		LR		05 42 58.5	
	comp=Z,61nm,18.4s,baz=115,slow=35								
SCHQ	**Schefferville**	**70.72**	**3**	LR		LR		05 47 00.7	
	comp=Z,29nm,18.7s,baz=150,slow=37								
TORD	**Torodi Ar. Bea**	**78.75**	**73**	LR		LR		05 49 24.8	
	comp=Z,99nm,18.6s,baz=14,slow=36								
FRB	**Frobisher Bay**	**79.56**	**2**	LR		LR		05 51 56.1	
	comp=Z,25nm,18.7s,baz=52,slow=37								
VNDA	**Vanda**	**81.65**	**190**	LR		LR		05 44 07.8	
	comp=Z,33nm,20.8s,baz=92,slow=30								
SFJD	**Kangerlussuaq**	**84.32**	**8**	LR		LR		05 54 22.5	
	comp=Z,28nm,18.4s,baz=176,slow=36								
YKA	**Yellowknife Ar**	**84.96**	**342**	LR		LR		05 57 57.7	
	comp=Z,25nm,18.9s,baz=14,slow=39								
BOSA	**Boshof**	**88.95**	**119**	LR		LR		05 52 18.5	
	comp=Z,20nm,20.8s,baz=322,slow=33								
BORG	**Borgarnes**	**89.33**	**19**	LR		LR		05 53 21.8	
	comp=Z,14nm,20.7s,baz=223,slow=34								
MAW	**Mawson**	**90.49**	**164**	LR		LR		05 56 00.8	
	comp=Z,41nm,18.1s,baz=265,slow=35								
RES	**Resolute Bay**	**91.62**	**354**	LR		LR		05 59 09.4	
	comp=Z,22nm,21.5s,baz=28,slow=37								
INK	**Inuvik**	**94.70**	**341**	LR		LR		06 03 05.9	
	comp=Z,20nm,18.0s,baz=37,slow=38								
VAE	**Valguarnera**	**97.08**	**53**	LR		LR		06 01 31.5	
	comp=Z,34nm,18.1s,baz=294,slow=36								
SONM	**Songino Array**	**148.25**		2	PKPbc		**PKiKP**	**05 22 43.9**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=6.7,slow=1.1,SNR=6.9								

ROM 14 05:24:21.9±0.1, 42.645N±0.004×13.184E±0.005, h10km, ML2.7/106, 5C, Error ellipse: s-maj=0.4km s-min=0.2km az=240.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.11**	**97**	⇑P		Pg		05 24 25.4	+0.6
SMA1				S		Sg		05 24 27.7	+0.9
SMA1				AML		AML			
	comp=E,58500μm,0.3s								
SMA1				AML		AML			
	comp=N,32650μm,0.2s								
SMA1				AML		AML			
	comp=N,32672μm,0.2s								
SMA1				AML		AML			
	comp=E,58495μm,0.3s								
LNSS	**Leonessa**	**0.11**	**249**	⇑P		Pg		05 24 25.4	+0.6
LNSS				S		Sg		05 24 27.8	+1.0
LNSS				AML		AML			
	comp=E,27500μm,0.4s								
LNSS				AML		AML			
	comp=N,27600μm,0.3s								
LNSS				AML		AML			
	comp=E,27500μm,0.4s								
LNSS				AML		AML			
	comp=E,27250μm,0.4s								
LNSS				AML		AML			
	comp=N,30450μm,0.3s								
LNSS				AML		AML			
	comp=N,27550μm,0.3s								
LNSS				AML		AML			
	comp=E,21973μm,0.2s								
LNSS				AML		AML			
	comp=N,30449μm,0.3s								
LNSS				AML		AML			
	comp=E,27505μm,0.4s								
LNSS				AML		AML			
	comp=N,27591μm,0.3s								
LNSS				AML		AML			
	comp=E,21973μm,1.8s								
LNSS				AML		AML			
	comp=E,27505μm,1.6s								
LNSS				AML		AML			
	comp=N,27591μm,1.7s								
LNSS				AML		AML			
	comp=N,30449μm,1.7s								
RM33	**Pellescritta (**	**0.14**	**170**	P		Pg		05 24 25.7	+0.6
RM33				S		Sg		05 24 28.4	+1.0
RM33				AML		AML			
	comp=N,11300μm,0.9s								
RM33				AML		AML			
	comp=E,9915μm,0.5s								
RM33				AML		AML			
	comp=E,9895μm,0.5s								
RM33				AML		AML			
	comp=N,11450μm,0.9s								
RM33				AML		AML			
	comp=N,9844μm,0.1s								
RM33				AML		AML			
	comp=E,9653μm,0.3s								
RM33				AML		AML			
	comp=N,9914μm,0.1s								
RM33				AML		AML			
	comp=E,8967μm,0.2s								
MTRA	**Matera**	**0.19**	**54**	P		Pg		05 24 26.3	+0.3
MTRA				S		Sg		05 24 29.5	+0.6
MTRA				AML		AML			
	comp=N,5725μm,0.6s								
MTRA				AML		AML			
	comp=N,5645μm,0.6s								
MTRA				AML		AML			
	comp=E,8125μm,0.4s								
MTRA				AML		AML			
	comp=E,8045μm,1.2s								
MTRA				AML		AML			
	comp=E,7698μm,0.3s								
MTRA				AML		AML			
	comp=E,7836μm,0.3s								
MTRA				AML		AML			
	comp=E,7836μm,1.7s								
MTRA				AML		AML			
	comp=E,7698μm,1.7s								
MTRA				AML		AML			
	comp=N,5645μm,0.6s								
MTRA				AML		AML			
	comp=N,5723μm,0.6s								
NRCA	**Norcia**	**0.20**	**345**	P		Pg		05 24 26.4	+0.3
NRCA				S		Sg		05 24 29.6	+0.6
NRCA				AML		AML			
	comp=E,17450μm,0.1s								
NRCA				AML		AML			
	comp=E,19100μm,0.1s								
NRCA				AML		AML			
	comp=E,17450μm,0.1s								
NRCA				AML		AML			
	comp=N,7200μm,1.4s								
NRCA				AML		AML			
	comp=N,8930μm,0.6s								
NRCA				AML		AML			
	comp=N,7058μm,0.1s								
NRCA				AML		AML			
	comp=E,19091μm,0.1s								
NRCA				AML		AML			
	comp=E,17446μm,0.1s								
NRCA				AML		AML			
	comp=N,8184μm,0.1s								
CAMP	**Campotosto**	**0.20**	**123**	P		Pg		05 24 26.6	+0.4
CAMP				S		Sg		05 24 29.8	+0.8
CAMP				AML		AML			
	comp=E,2845μm,0.6s								
CAMP				AML		AML			
	comp=N,1900μm,0.4s								
CAMP				AML		AML			
	comp=E,2845μm,0.6s								
CAMP				AML		AML			
	comp=N,1903μm,0.4s								
GAVE	**Gavelli**	**0.22**	**283**	P		Pg		05 24 27.0	+0.5
GAVE				S		Sg		05 24 30.5	+0.9
GAVE				AML		AML			
	comp=N,1880μm,0.6s								
GAVE				AML		AML			
	comp=E,8745μm,0.5s								
GAVE				AML		AML			
	comp=N,1885μm,0.6s								
GAVE				AML		AML			
	comp=E,8320μm,0.3s								
GAVE				AML		AML			
	comp=N,6515μm,0.6s								
GAVE				AML		AML			
	comp=E,7090μm,0.1s								
GAVE				AML		AML			
	comp=E,6820μm,0.1s								
GAVE				AML		AML			
	comp=N,6146μm,0.2s								
GAVE				AML		AML			
	comp=E,7090μm,1.9s								
GAVE				AML		AML			
	comp=E,6820μm,1.9s								
GAVE				AML		AML			
	comp=N,1843μm,0.2s								
MC2	**Monte Cornacci**	**0.27**	**1**	⇑P		Pg		05 24 27.8	+0.3
MC2				S		Sg		05 24 32.4	+1.2
MMO1	**Montemonaco**	**0.28**	**22**	⇑P		Pg		05 24 27.8	+0.3
MMO1				S		Sg		05 24 32.2	+0.9
TERO	**Teramo**	**0.31**	**94**	P		Pg		05 24 28.2	+0.1
TERO				S		Sg		05 24 32.9	+0.6
TERO				AML		AML			
	comp=E,1230μm,1.5s								
TERO				AML		AML			
	comp=N,1890μm,0.4s								
TERO				AML		AML			
	comp=E,2465μm,1.0s								
TERO				AML		AML			
	comp=N,4205μm,0.4s								
TERO				AML		AML			
	comp=E,1225μm,1.5s								
TERO				AML		AML			
	comp=E,1920μm,0.2s								
TERO				AML		AML			
	comp=N,3339μm,0.3s								
TERO				AML		AML			
	comp=E,1077μm,0.2s								
TERO				AML		AML			
	comp=N,1620μm,0.3s								
ARRO	**Arrone**	**0.32**	**258**	P		Pg		05 24 28.6	+0.4
ARRO				S		Sg		05 24 33.6	+1.1
ARRO				AML		AML			
	comp=E,1500μm,0.6s								
ARRO				AML		AML			
	comp=N,1460μm,0.4s								
ARRO				AML		AML			
	comp=N,1340μm,0.1s								
ARRO				AML		AML			
	comp=E,1145μm,0.2s								
AQU	**L'Aquila**	**0.33**	**151**	P		Pg		05 24 29.0	+0.4
AQU				S		Sb		05 24 34.7	-0.6
FEMA	**Monte Fema**	**0.33**	**343**	P		Pg		05 24 28.9	+0.3
FEMA				S		Sg		05 24 34.0	+1.0
GIGS	**Gran Sasso**	**0.34**	**124**	P		Pg		05 24 28.8	0.0
GIGS				S		Sg		05 24 34.2	+0.8
GIGS				AML		AML			
	comp=N,1228μm,0.1s								
GIGS				AML		AML			
	comp=E,690μm,0.3s								
GIGS				AML		AML			
	comp=E,606μm,0.2s								
GIGS				AML		AML			
	comp=N,1101μm,0.3s								
FIAM	**Fiamignano**	**0.38**	**187**	⇑P		Pg		05 24 29.7	+0.3
FIAM				S		Sb		05 24 35.6	-1.1
FIAM				AML		AML			
	comp=E,1100μm,0.6s								
FIAM				AML		AML			
	comp=N,938μm,1.3s								
FIAM				AML		AML			
	comp=N,916μm,0.4s								
FIAM				AML		AML			
	comp=E,2121μm,0.6s								
FIAM				AML		AML			
	comp=N,1783μm,0.4s								
FIAM				AML		AML			
	comp=E,1003μm,0.2s								
FIAM				AML		AML			
	comp=E,2121μm,1.4s								
FIAM				AML		AML			
	comp=N,1783μm,1.6s								
FIAM				AML		AML			
	comp=N,916μm,1.6s								
FDMO	**Fiordimonte**	**0.40**	**350**	P		Pg		05 24 29.8	+0.1
FDMO				S		Sb		05 24 36.2	-1.0
FDMO				AML		AML			
	comp=E,1460μm,0.1s								
FDMO				AML		AML			
	comp=N,1455μm,0.1s								
FDMO				AML		AML			
	comp=E,1455μm,0.1s								
FDMO				AML		AML			
	comp=N,1456μm,0.1s								
MF5	**Montefalcone A**	**0.40**	**31**	P		Pg		05 24 30.3	+0.5
MF5				S		Sb		05 24 37.1	-0.2
MF5				AML		AML			
	comp=E,1195μm,0.6s								
MF5				AML		AML			
	comp=N,1625μm,0.5s								
MF5				AML		AML			
	comp=N,1153μm,0.4s								
MF5				AML		AML			
	comp=E,1196μm,0.6s								
CESI	**CESI - Serrava**	**0.41**	**330**	P		Pg		05 24 30.3	+0.2
CESI				S		Sb		05 24 36.7	-1.1
CESI				AML		AML			
	comp=E,931μm,0.2s								
CESI				AML		AML			
	comp=E,931μm,0.2s								
CESI				AML		AML			
	comp=N,1595μm,0.3s								
CESI				AML		AML			
	comp=E,1085μm,0.2s								
CESI				AML		AML			
	comp=N,1705μm,0.9s								
CESI				AML		AML			
	comp=N,1592μm,0.3s								
CESI				AML		AML			
	comp=N,1694μm,0.3s								
CESI				AML		AML			
	comp=E,1083μm,0.2s								
CESI				AML		AML			
	comp=E,931μm,0.2s								
GUMA	**Gualdo di Mace**	**0.43**	**15**	P		Pg		05 24 30.9	+0.5
GUMA				S		Sb		05 24 37.9	-0.3
CESX	**Cesi**	**0.45**	**266**	P		Pg		05 24 30.6	0.0
CESX				S		Sb		05 24 37.8	-0.9
CESX				AML		AML			
	comp=E,676μm,0.4s								
CESX				AML		AML			
	comp=N,801μm,0.6s								
CESX				AML		AML			
	comp=E,676μm,0.4s								
CESX				AML		AML			
	comp=N,801μm,0.6s								
CSP1	**Cessapalombo**	**0.45**	**2**	P		Pg		05 24 30.8	+0.1
CSP1				S		Sb		05 24 37.8	-0.9
CSP1				AML		AML			
	comp=E,1850μm,0.4s								

CSP1 AML AML
comp=E,1845µm,0.4s
CSP1 AML AML
comp=N,1395µm,0.4s
CSP1 AML AML
comp=E,1638µm,0.3s
CSP1 AML AML
comp=N,1050µm,0.3s
OFFI Offida 0.47 52 P Pb 05 24 32.0 -0.3
OFFI AML AML
comp=N,2155µm,0.4s
OFFI AML AML
comp=E,1960µm,1.4s
OFFI AML AML
comp=E,1878µm,0.3s
OFFI AML AML
comp=N,2156µm,0.4s
MOMA Monte Martano 0.48 290 P Pg 05 24 31.4 +0.1
MOMA S Sb 05 24 39.0 -0.7
MOMA AML AML
comp=E,1475µm,0.1s
MOMA AML AML
comp=N,1180µm,0.8s
MOMA AML AML
comp=N,959µm,0.2s
MOMA AML AML
comp=E,1475µm,0.1s
MOMA AML AML
comp=N,1162µm,0.2s
MOMA AML AML
comp=E,1410µm,0.2s
SAP2 Sant'Angelo in 0.48 19 P Pb 05 24 31.9 -0.5
SAP2 S Sb 05 24 39.8 +0.3
SAP2 AML AML
comp=E,1390µm,1.4s
SAP2 AML AML
comp=N,7865µm,0.4s
SAP2 AML AML
comp=E,1141µm,0.2s
SAP2 AML AML
comp=N,6329µm,0.1s
FAGN Fagnano 0.48 142 P Pg 05 24 31.3 +0.1
FAGN AML AML
comp=E,1490µm,0.4s
FAGN AML AML
comp=N,1685µm,0.4s
MML1 Montelago di S 0.49 342 P Pg 05 24 31.5 0.0
MML1 S Sb 05 24 39.3 -0.8
PF6 Pievefavera 0.50 1 P Pg 05 24 31.4 -0.3
MNTT Montottone 0.52 36 P Pb 05 24 32.7 -0.4
MNTT AML AML
comp=N,1865µm,0.4s
MNTT AML AML
comp=E,1855µm,0.5s
MNTT AML AML
comp=N,1870µm,0.4s
MNTT AML AML
comp=E,1846µm,0.3s
MNTT AML AML
comp=N,1869µm,0.4s
MNTP Montappone 0.54 23 P Pb 05 24 32.9 -0.5
MNTP AML AML
comp=E,1600µm,0.2s
MNTP AML AML
comp=N,1635µm,0.6s
MNTP AML AML
comp=E,1599µm,0.2s
MNTP AML AML
comp=N,1412µm,0.2s
MNTP AML AML
comp=E,1599µm,1.8s
VCEL Villa Celiera 0.55 117 P Pg 05 24 32.9 +0.4
VCEL S Sb 05 24 41.7 +0.1
VCEL AML AML
comp=E,2160µm,0.4s
VCEL AML AML
comp=N,2055µm,0.4s
VCEL AML AML
comp=E,1955µm,1.1s
VCEL AML AML
comp=N,2055µm,0.4s
VCEL AML AML
comp=E,1955µm,0.9s
VCEL AML AML
comp=N,2055µm,1.6s
ASSB Assisi San Ben 0.55 316 P Pg 05 24 32.7 0.0
ASSB AML AML
comp=E,712µm,1.2s
ASSB AML AML
comp=N,896µm,0.5s
ASSB AML AML
comp=N,665µm,0.1s
ASSB AML AML
comp=E,670µm,0.2s
TRTR Tortoreto Alta 0.56 73 P Pb 05 24 33.6 -0.2
TRTR AML AML
comp=E,2855µm,0.6s
TRTR AML AML
comp=N,2075µm,0.4s
TRTR AML AML
comp=N,2075µm,0.4s
TRTR AML AML
comp=E,2855µm,0.6s
T0110 Collepietro 0.61 133 P Pg 05 24 33.6 0.0
T0110 AML AML
comp=N,1260µm,0.4s
T0110 AML AML
comp=E,1076µm,0.4s
T0110 AML AML
comp=N,1260µm,0.4s
T0110 AML AML
comp=N,1260µm,1.6s
SNTG Esanatoglia 0.64 344 P Pg 05 24 34.0 -0.2
SNTG AML AML
comp=E,335µm,1.5s
SNTG AML AML
comp=N,332µm,1.5s
SNTG AML AML
comp=E,324µm,0.1s
SNTG AML AML
comp=N,292µm,0.2s
SNTG AML AML
comp=E,307µm,0.1s
SNTG AML AML
comp=N,300µm,0.1s
PTQR Pietraquaria 0.64 165 P Pg 05 24 34.7 +0.3
SRES S.Oreste - Sor 0.64 231 P Pg 05 24 33.8 -0.6
EL6 Elcito 0.69 355 P Pg 05 24 34.9 -0.3
EL6 S Sb 05 24 45.8 +0.2
EL6 AML AML
comp=E,722µm,0.2s
EL6 AML AML
comp=N,760µm,0.2s
EL6 AML AML
comp=E,722µm,0.2s
EL6 AML AML
comp=N,761µm,0.2s
MTCE Montecelio 0.70 208 P Pg 05 24 34.9 -0.6
MTCE AML AML
comp=N,360µm,0.5s
MTCE AML AML
comp=E,521µm,0.4s
MTCE AML AML
comp=N,360µm,0.5s
MTCE AML AML
comp=E,521µm,0.4s
MTCE AML AML
comp=N,360µm,0.5s
CERT Cerreto 0.71 192 P Pg 05 24 35.0 -0.6
CERT AML AML
comp=E,965µm,0.6s
CERT AML AML
comp=N,656µm,0.5s
CERT AML AML
comp=E,963µm,0.5s
CERT AML AML
comp=E,963µm,1.5s
CERT AML AML
comp=N,656µm,0.5s
FOSV Fossato di Vic 0.72 335 P Pg 05 24 35.8 0.0
FOSV AML AML
comp=N,337µm,0.4s
FOSV AML AML
comp=E,236µm,0.6s
FOSV AML AML
comp=E,207µm,0.2s
FOSV AML AML
comp=N,337µm,0.4s
RCAV Rocca di Cave 0.82 193 P Pg 05 24 37.0 -0.7
INTR Introdacqua 0.83 140 P Pg 05 24 37.2 -0.7
INTR AML AML
comp=E,510µm,0.4s
INTR AML AML
comp=N,830µm,0.5s
INTR AML AML
comp=E,332µm,0.5s
INTR AML AML
comp=N,806µm,0.5s
INTR AML AML
comp=E,511µm,0.4s
INTR AML AML
comp=N,830µm,0.5s
INTR AML AML
comp=N,806µm,0.5s
INTR AML AML
comp=E,332µm,0.5s
INTR AML AML
comp=E,511µm,1.6s
MGAB Montegabbione 0.83 289 P Pg 05 24 38.1 +0.2
MGAB AML AML
comp=E,496µm,1.6s
MGAB AML AML
comp=N,488µm,0.6s
MGAB AML AML
comp=E,560µm,1.6s
MGAB AML AML
comp=N,506µm,0.6s
MGAB AML AML
comp=E,387µm,0.5s
MGAB AML AML
comp=N,506µm,0.6s
MGAB AML AML
comp=N,489µm,0.6s
MGAB AML AML
comp=E,435µm,0.5s
VVLD Villa Vallelon 0.84 157 P Pb 05 24 39.0 +0.4
SSFR Montelago di S 0.84 340 P Pg 05 24 38.1 -0.1
SSFR AML AML
comp=E,700µm,0.2s
SSFR AML AML
comp=N,592µm,1.4s
SSFR AML AML
comp=E,675µm,0.2s
SSFR AML AML
comp=N,526µm,1.4s
SSFR AML AML
comp=E,700µm,0.2s
SSFR AML AML
comp=E,675µm,0.2s
SSFR AML AML
comp=N,483µm,0.2s
SSFR AML AML
comp=N,540µm,0.4s
SSFR AML AML
comp=E,675µm,1.8s
SSFR AML AML
comp=E,700µm,1.8s
GUAR Guarcino 0.85 174 P Pn 05 24 39.6 -0.4
ARVD Arcevia 0.87 348 P Pg 05 24 38.2 -0.4
ARVD AML AML
comp=N,402µm,0.7s
ARVD AML AML
comp=E,314µm,1.3s
ARVD AML AML
comp=E,287µm,0.6s
ARVD AML AML
comp=N,402µm,0.6s
ARVD AML AML
comp=N,402µm,1.4s
ATLO AVT- Montelove 0.88 320 P Pg 05 24 38.9 +0.1
ATVA AVT- Monte Val 0.92 314 P Pg 05 24 39.3 -0.2
BARO Barbarano Roma 0.93 245 P Pg 05 24 39.5 -0.2
LPEL Lama dei Peligi 0.95 129 P Pg 05 24 39.3 -0.9
LPEL AML AML
comp=E,324µm,1.6s
LPEL AML AML
comp=N,268µm,0.7s
LPEL AML AML
comp=E,327µm,1.0s
LPEL AML AML
comp=E,324µm,1.5s
LPEL AML AML
comp=N,283µm,0.8s
LPEL AML AML
comp=N,254µm,0.5s
LPEL AML AML
comp=E,303µm,0.6s
LPEL AML AML
comp=N,268µm,0.7s
LPEL AML AML
comp=E,304µm,0.4s
LPEL AML AML
comp=E,303µm,1.4s
LPEL AML AML
comp=N,254µm,1.5s
SACS San Casciano d 0.96 283 P Pg 05 24 40.3 -0.1
SACS AML AML
comp=E,316µm,0.9s
SACS AML AML
comp=N,340µm,0.8s
SACS AML AML
comp=E,278µm,0.8s
SACS AML AML
comp=N,294µm,0.8s
SACS AML AML
comp=E,316µm,0.9s
SACS AML AML
comp=N,339µm,0.8s
SACS AML AML
comp=E,278µm,0.8s
SACS AML AML
comp=N,294µm,0.8s
SACS AML AML
comp=E,316µm,1.1s
SACS AML AML
comp=E,278µm,1.2s
ATPI Pietralunga - 0.99 325 P Pg 05 24 40.9 -0.1
ATPI AML AML
comp=E,252µm,0.8s
ATPI AML AML
comp=N,171µm,0.7s
POFI Posta Fibreno 1.01 157 P Pb 05 24 41.8 +0.3
POFI AML AML
comp=E,108µm,0.9s
POFI AML AML
comp=N,108µm,1.2s
POFI AML AML
comp=E,104µm,0.7s
POFI AML AML
comp=N,104µm,0.7s
POFI AML AML
comp=E,104µm,1.3s
PIEI Pieia 1.01 332 P Pg 05 24 40.7 -0.7
PIEI AML AML
comp=E,150µm,0.5s
PIEI AML AML
comp=N,229µm,0.4s
PIEI AML AML
comp=N,216µm,0.3s
MPAG Monte Paganucc 1.03 343 P Pg 05 24 41.4 -0.3
MPAG AML AML
comp=E,202µm,0.5s
MPAG AML AML
comp=N,174µm,0.4s
MPAG AML AML
comp=E,202µm,0.5s
MPAG AML AML
comp=N,175µm,0.4s
MPAG AML AML
comp=E,202µm,1.5s
MPAG AML AML
comp=N,175µm,1.6s
LRP Arpino 1.04 163 P Pn 05 24 43.2 +0.7
TOLF Tolfa 1.05 237 P Pg 05 24 41.5 -0.6
GIUL Giuliano Di Ro 1.09 177 P Pn 05 24 43.0 -0.2
CAFI Castiglion Fio 1.12 308 P Pb 05 24 43.4 -0.1
CAFI AML AML
comp=E,146µm,0.5s
CAFI AML AML
comp=N,90µm,0.8s
ARCI Arcidosso 1.27 280 P Pb 05 24 46.1 +0.1
CRE Caprese Michel 1.33 318 P Pg 05 24 47.5 +0.1

ROM 14 05:24:36.4±0.1, 42°.638N±0°.004×13°.197E±0°.005, h12km, ML2.7/33, Error ellipse: s-maj=0.5km s-min=0.1km az=139.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**94**	P		Pg		05 24 39.8	+0.4
SMA1				S		Sg		05 24 42.2	+0.6
SMA1					AML	AML			
	comp=E,58500µm,0.3s								
SMA1					AML	AML			
	comp=N,32650µm,0.2s								
SMA1					AML	AML			
	comp=N,26867µm,0.2s								
SMA1					AML	AML			
	comp=E,53104µm,0.3s								
LNSS	**Leonessa**	**0.12**	**253**	P		Pg		05 24 39.8	+0.2
LNSS				S		Sg		05 24 42.2	+0.3
LNSS					AML	AML			
	comp=E,27500µm,0.4s								
LNSS					AML	AML			
	comp=N,27600µm,0.3s								
LNSS					AML	AML			
	comp=E,27500µm,0.4s								
LNSS					AML	AML			
	comp=N,30450µm,0.3s								
LNSS					AML	AML			
	comp=N,27550µm,0.3s								
LNSS					AML	AML			
	comp=E,27250µm,0.4s								
LNSS					AML	AML			
	comp=N,18025µm,0.3s								
LNSS					AML	AML			
	comp=N,16162µm,0.3s								
LNSS					AML	AML			
	comp=E,17923µm,0.2s								
LNSS					AML	AML			
	comp=E,17697µm,0.2s								
RM33	**Pellescritta (**	**0.13**	**174**	P		Pg		05 24 40.2	+0.5
RM33				S		Sg		05 24 42.7	+0.6
RM33					AML	AML			
	comp=E,9915µm,0.5s								
RM33					AML	AML			
	comp=N,11300µm,0.9s								
RM33					AML	AML			
	comp=N,11450µm,0.9s								
RM33					AML	AML			
	comp=E,9895µm,0.5s								
RM33					AML	AML			
	comp=E,7942µm,0.2s								
RM33					AML	AML			
	comp=N,8953µm,0.1s								
RM33					AML	AML			
	comp=E,7828µm,0.2s								
CAMP	**Campotosto**	**0.19**	**123**	P		Pg		05 24 41.0	+0.4
CAMP				S		Sg		05 24 44.3	+0.7
CAMP					AML	AML			
	comp=N,1900µm,0.4s								
CAMP					AML	AML			
	comp=E,2845µm,0.6s								
CAMP					AML	AML			
	comp=N,1492µm,0.3s								
CAMP					AML	AML			
	comp=E,2072µm,0.5s								
MTRA	**Matera**	**0.19**	**51**	P		Pg		05 24 40.8	+0.2
MTRA				S		Sg		05 24 43.9	+0.4
MTRA					AML	AML			
	comp=E,8045µm,1.2s								
MTRA					AML	AML			
	comp=E,8125µm,0.4s								
MTRA					AML	AML			
	comp=N,5645µm,0.6s								
MTRA					AML	AML			
	comp=N,5725µm,0.6s								
MTRA					AML	AML			
	comp=E,4118µm,0.3s								
MTRA					AML	AML			
	comp=N,5243µm,0.3s								
MTRA					AML	AML			
	comp=N,5278µm,0.3s								
MTRA					AML	AML			
	comp=E,4192µm,0.3s								
NRCA	**Norcia**	**0.20**	**343**	P		Pg		05 24 41.3	+0.4
NRCA					AML	AML			
	comp=E,17450µm,0.1s								
NRCA					AML	AML			
	comp=E,19100µm,0.1s								
NRCA					AML	AML			
	comp=N,8930µm,0.6s								
NRCA					AML	AML			
	comp=N,7200µm,1.4s								
NRCA					AML	AML			
	comp=E,17450µm,0.1s								
NRCA					AML	AML			
	comp=N,1104µm,0.1s								
NRCA					AML	AML			
	comp=E,2338µm,0.3s								
NRCA					AML	AML			
	comp=E,2167µm,0.3s								
NRCA					AML	AML			
	comp=N,1203µm,0.2s								
GAVE	**Gavelli**	**0.23**	**284**	P		Pg		05 24 41.5	+0.2
GAVE				S		Sg		05 24 45.1	+0.4
GAVE					AML	AML			
	comp=N,1880µm,0.6s								
GAVE					AML	AML			
	comp=E,8320µm,0.3s								
GAVE					AML	AML			
	comp=E,8745µm,0.5s								
GAVE					AML	AML			
	comp=N,1885µm,0.6s								
GAVE					AML	AML			
	comp=N,6515µm,0.6s								
GAVE					AML	AML			
	comp=N,1361µm,0.3s								
GAVE					AML	AML			
	comp=E,3126µm,0.3s								
GAVE					AML	AML			
	comp=E,3628µm,0.3s								
GAVE					AML	AML			
	comp=N,4445µm,0.3s								
TERO	**Teramo**	**0.30**	**93**	P		Pg		05 24 43.0	+0.4
TERO				S		Sg		05 24 47.4	+0.7
TERO					AML	AML			
	comp=E,1230µm,1.5s								
TERO					AML	AML			
	comp=N,1890µm,0.4s								
TERO					AML	AML			
	comp=E,2465µm,1.0s								
TERO					AML	AML			
	comp=N,4205µm,0.4s								
TERO					AML	AML			
	comp=E,1225µm,1.5s								
TERO					AML	AML			
	comp=E,1648µm,0.2s								
TERO					AML	AML			
	comp=E,733µm,0.1s								
TERO					AML	AML			
	comp=N,1744µm,0.3s								
TERO					AML	AML			
	comp=N,1127µm,0.3s								
AQU	**L'Aquila**	**0.32**	**152**	P		Pb		05 24 43.6	-0.5
ARRO	**Arrone**	**0.32**	**260**	P		Pb		05 24 43.7	-0.4
ARRO					AML	AML			
	comp=E,1500µm,0.6s								
ARRO					AML	AML			
	comp=N,1460µm,0.4s								
ARRO					AML	AML			
	comp=E,782µm,0.2s								
GIGS	**Gran Sasso**	**0.33**	**124**	P		Pg		05 24 43.7	+0.5
GIGS				S		Sg		05 24 48.6	+0.9
GIGS					AML	AML			
	comp=E,690µm,0.3s								
GIGS					AML	AML			
	comp=N,1228µm,0.1s								
GIGS					AML	AML			
	comp=E,520µm,0.1s								
GIGS					AML	AML			
	comp=N,1229µm,0.1s								
FIAM	**Fiamignano**	**0.38**	**189**	P		Pg		05 24 44.1	+0.2
FIAM				S		Sb		05 24 50.1	-0.7
FIAM					AML	AML			
	comp=N,938µm,1.3s								
FIAM					AML	AML			
	comp=E,1100µm,0.6s								
FIAM					AML	AML			
	comp=N,703µm,0.2s								
FIAM					AML	AML			

comp=N,1254μm,0.2s
FIAM AML AML
comp=E,689μm,0.2s
MF5 Montefalcone A 0.40 29 AML AML
comp=E,1195μm,0.6s
MF5 AML AML
comp=N,1625μm,0.5s
FDMO Fiordimonte 0.41 349 AML AML
comp=N,1455μm,0.1s
FDMO AML AML
comp=E,1460μm,0.1s
CESI CESI - Serrava 0.42 330 AML AML
comp=N,1705μm,0.9s
CESI AML AML
comp=E,931μm,0.2s
CESI AML AML
comp=N,1595μm,0.3s
CESI AML AML
comp=E,1085μm,0.2s
CESI AML AML
comp=E,931μm,0.2s
GUMA Gualdo di Mace 0.44 13 P Pb 05 24 45.7 -0.4
GUMA S Sb 05 24 52.5 -0.1
CSP1 Cessapalombo 0.45 1 AML AML
comp=N,1395μm,0.4s
CSP1 AML AML
comp=E,1850μm,0.4s
CSP1 AML AML
comp=E,1845μm,0.4s
CESX Cesi 0.46 267 AML AML
comp=N,801μm,0.6s
CESX AML AML
comp=E,676μm,0.4s
OFFI Offida 0.47 50 AML AML
comp=N,2155μm,0.4s
OFFI AML AML
comp=E,1960μm,1.4s
FAGN Fagnano 0.47 142 AML AML
comp=E,1490μm,0.4s
FAGN AML AML
comp=N,1685μm,0.4s
SAP2 Sant'Angelo in 0.48 18 AML AML
comp=E,1390μm,1.4s
SAP2 AML AML
comp=N,7865μm,0.4s
MOMA Monte Martano 0.49 290 AML AML
comp=E,1475μm,0.1s
MOMA AML AML
comp=N,1180μm,0.8s
MNTT Montottone 0.52 35 AML AML
comp=E,1855μm,0.5s
MNTT AML AML
comp=N,1865μm,0.4s
MNTT AML AML
comp=N,1870μm,0.4s
VCEL Villa Celiera 0.54 117 AML AML
comp=N,2055μm,0.4s
VCEL AML AML
comp=E,2160μm,0.4s
MNTP Montappone 0.54 22 AML AML
comp=E,1600μm,0.2s
MNTP AML AML
comp=N,1635μm,0.6s
TRTR Tortoreto Alta 0.56 72 AML AML
comp=E,2855μm,0.6s
TRTR AML AML
comp=N,2075μm,0.4s
ASSB Assisi San Ben 0.56 316 AML AML
comp=E,712μm,1.2s
ASSB AML AML
comp=N,896μm,0.5s
T0110 Collepietro 0.60 133 AML AML
comp=N,1260μm,0.4s
T0110 AML AML
comp=E,1076μm,0.4s
SNTG Esanatoglia 0.64 343 AML AML
comp=E,335μm,1.5s
SNTG AML AML
comp=N,332μm,1.5s
EL6 Elcito 0.69 354 AML AML
comp=E,722μm,0.2s
EL6 AML AML
comp=N,760μm,0.2s
MTCE Montecelio 0.70 209 AML AML
comp=E,521μm,0.4s
MTCE AML AML
comp=N,360μm,0.5s
MTCE AML AML
comp=N,360μm,0.5s
CERT Cerreto 0.71 193 AML AML
comp=N,656μm,0.5s
CERT AML AML
comp=E,965μm,0.6s
FOSV Fossato di Vic 0.73 334 AML AML
comp=N,337μm,0.4s
FOSV AML AML
comp=E,236μm,0.6s
INTR Introdacqua 0.82 140 AML AML
comp=E,510μm,0.4s
INTR AML AML
comp=N,830μm,0.5s
INTR AML AML
comp=E,332μm,0.5s
INTR AML AML
comp=N,806μm,0.5s
MGAB Montegabbione 0.84 289 AML AML
comp=E,496μm,1.6s
MGAB AML AML
comp=N,488μm,0.6s
MGAB AML AML
comp=E,560μm,1.6s
MGAB AML AML
comp=N,506μm,0.6s
SSFR Montelago di S 0.85 339 AML AML
comp=N,592μm,1.4s
SSFR AML AML
comp=E,700μm,0.2s
SSFR AML AML
comp=E,675μm,0.2s
SSFR AML AML
comp=N,526μm,1.4s
ARVD Arcevia 0.88 348 AML AML
comp=N,402μm,0.7s
ARVD AML AML
comp=E,314μm,1.3s
LPEL Lama dei Pelig 0.94 129 AML AML
comp=N,283μm,0.8s
LPEL AML AML
comp=E,324μm,1.6s
LPEL AML AML
comp=N,268μm,0.7s
LPEL AML AML
comp=E,324μm,1.5s
LPEL AML AML
comp=E,327μm,1.0s
SACS San Casciano d 0.97 283 AML AML
comp=E,278μm,0.8s
SACS AML AML
comp=E,316μm,0.9s
SACS AML AML
comp=N,340μm,0.8s
SACS AML AML
comp=N,294μm,0.8s
POFI Posta Fibreno 1.00 157 AML AML
comp=E,108μm,0.9s
POFI AML AML
comp=N,108μm,1.2s
ATPI Pietralunga - 1.00 325 AML AML
comp=N,171μm,0.7s
ATPI AML AML
comp=E,252μm,0.8s
PIEI Pieia 1.02 332 AML AML
comp=N,229μm,0.4s
PIEI AML AML
comp=E,150μm,0.5s
MPAG Monte Paganucc 1.04 342 AML AML
comp=E,202μm,0.5s
MPAG AML AML
comp=N,174μm,0.4s
CAFI Castiglion Fio 1.14 308 AML AML
comp=E,146μm,0.5s
CAFI AML AML
comp=N,90μm,0.8s

*SJA **14** 05:40:59.3±0.7, 23°.36S×66°.37W, h264km±4km, ML3.5, MW3.4*
ISC 14 05:41:00.4±1.3, **23°.38S**±0°.04×**66°.47W**±0°.06, **h250**km, **n31**,
σ1§14/46, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.85**	**172**	*e*P	**Pn**	**05 41 35.6**	**+0.3**
SALTA		**0.85**	**172**	*e*P	**Pn**	**05 41 35.6**	**+0.3**
YJA	**Yavi**	**1.48**	**37**	*e*P	**Pn**	**05 41 39.7**	**+0.4**
YJA				*e*S	**S**	**05 42 09.1**	**-0.5**
SLA	**San Lorenzo**	**1.60**	**147**	*e*P	**Pn**	**05 41 40.2**	**+0.5**
AF01	**San Pedro de A**	**1.63**	**285**	*e*P	Pn	05 41 51.3	+11
AF01				*e*S	**S**	**05 42 12.4**	**+1.1**
FSA	**Cafayete**	**2.76**	**171**	*e*P	**Pn**	**05 41 50.8**	**+0.3**
PB06	**IPOC Station P**	**2.94**	**283**	*e*P	**Pn**	**05 41 53.7**	**+1.2**
PB06				IAML		05 42 33.8	
	comp=N,122nm,0.2s						
PB06	**IPOC Station P**	**2.94**	**283**	*e*P	**Pn**	**05 41 53.6**	**+1.2**
PB06				*e*S	**S**	**05 42 32.8**	**-0.7**
PB06				IAML		05 42 36.7	
	comp=Z,77nm,0.4s						
PB09	**IPOC Station P**	**3.01**	**301**	*e*P	**Pn**	**05 41 54.8**	**+1.5**
PB09				IAML		05 42 36.4	
	comp=N,50nm,0.3s						
PB09	**IPOC Station P**	**3.01**	**301**	*e*P	**Pn**	**05 41 54.7**	**+1.5**
PB09				*e*S	**S**	**05 42 35.2**	**+0.2**
PB09				IAML		05 42 37.4	
	comp=Z,45nm,0.2s						
PB03	**IPOC Station P**	**3.31**	**293**	*e*P	**Pn**	**05 41 57.3**	**+0.8**
PB03	**IPOC Station P**	**3.31**	**293**	*e*P	**Pn**	**05 41 57.4**	**+0.8**
PB03				*e*S	**S**	**05 42 39.4**	**-1.5**
PB03				IAML		05 42 41.1	
	comp=Z,103nm,0.1s						
GO02	**Mina Guanaco**	**3.36**	**237**	*e*P	**Pn**	**05 41 58.4**	**+1.2**
GO02	**Mina Guanaco**	**3.36**	**237**	*e*P	**Pn**	**05 41 58.5**	**+1.3**
GO02				IAML		05 42 45.8	
	comp=Z,77nm,0.4s						
PB05	**IPOC Station P**	**3.48**	**278**	*i* P	**Pn**	**05 41 59.3**	**+1.0**
PB05	**IPOC Station P**	**3.48**	**278**	*e*P	**Pn**	**05 41 59.4**	**+1.0**
PB05				*e*S	**S**	**05 42 43.5**	**-0.7**
PB05				IAML		05 42 46.8	
	comp=Z,42nm,0.2s						
PB01	**IPOC Station P**	**3.63**	**309**	*e*P	**Pn**	**05 42 01.1**	**+0.9**
PB01				*e*S	**S**	**05 42 46.4**	**-1.1**
PB01				IAML		05 42 47.9	
	comp=Z,61nm,0.2s						
PB10	**IPOC Station P**	**3.75**	**267**	*e*P	**Pn**	**05 42 02.2**	**+0.8**
PB10	**IPOC Station P**	**3.75**	**267**	*e*P	**Pn**	**05 42 02.4**	**+1.0**
PB10				*e*S	**S**	**05 42 49.2**	**-0.6**
PB10				IAML		05 42 50.9	
	comp=Z,37nm,0.4s						
PB02	**IPOC Station P**	**3.77**	**302**	*e*P	**Pn**	**05 42 02.6**	**+0.9**
PB02				*e*S	**S**	**05 42 48.1**	**-2.3**
PB02				IAML		05 42 53.4	
	comp=Z,75nm,0.2s						
PB14	**IPOC Station P**	**3.81**	**250**	*e*P	**Pn**	**05 42 03.1**	**+0.8**
PB14	**IPOC Station P**	**3.81**	**250**	*e*P	**Pn**	**05 42 02.6**	**+0.3**
PB14				*e*S	**S**	**05 42 50.6**	**-0.7**
PB14				IAML		05 42 51.4	
	comp=Z,50nm,0.2s						
PB08	**IPOC Station P**	**4.07**	**322**	*e*P	**Pn**	**05 42 07.0**	**+1.5**
PB08				*e*S	**S**	**05 42 56.8**	**-0.4**
PB08				IAML		05 43 14.4	
	comp=Z,16nm,0.1s						
AC02	**Maricunga**	**4.20**	**214**	*e*P	**Pn**	**05 42 08.4**	**+1.3**
PATCX	**Punta Patache**	**4.26**	**306**	*e*P	**Pn**	**05 42 07.7**	**+0.2**
TA01	**Diego Aracena**	**4.44**	**308**	*e*P	**Pn**	**05 42 10.0**	**+0.6**
TA01				*e*S	**S**	**05 43 02.3**	**-2.0**
TA01				IAML		05 43 29.7	
	comp=Z,27nm,1.8s						
GO01	**Chusmiza**	**4.48**	**325**	*e*P	**Pn**	**05 42 11.9**	**+1.5**
GO01				*e*S	**S**	**05 43 07.4**	**+1.4**
AC01	**Pan de Azucar**	**4.66**	**233**	*e*P	**Pn**	**05 42 12.1**	**0.0**
AC01				*e*S	**S**	**05 43 06.9**	**-2.2**
AC01				IAML		05 43 35.6	
	comp=Z,24nm,2.1s						
PB11	**IPOC Station P**	**4.66**	**320**	*e*P	**Pn**	**05 42 12.1**	**-0.3**
PB11	**IPOC Station P**	**4.66**	**320**	*e*P	**Pn**	**05 42 12.2**	**-0.2**
PB11				*e*S	**S**	**05 43 06.8**	**-2.8**
PB11				IAML		05 43 09.0	
	comp=Z,15nm,0.1s						
GO03	**Copiapo**	**5.40**	**218**	*e*P	**Pn**	**05 42 21.6**	**+0.4**
GO03				*e*S	**S**	**05 43 26.0**	**+0.3**

IDC 14 05:56:55.5±306.0, **22°.09N**×**157°.89W**, **h0**km, **Error ellipse: s-maj=134.5km s-min=68.5km az=149.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I59US	**HAWAII INFRASO**	**3.11**	**143**	I	I	06 16 40.0	
	baz=324,slow=318,SNR=3.0						
I58US	**Midway Islands**	**18.66**	**293**	I	I	07 53 20.0	
	baz=107,slow=316,SNR=1.3						
I60US	**Wake Island**	**33.28**	**272**	I	I	09 17 50.0	
	baz=77,slow=312,SNR=0.7						

*SDD **14** 06:29:59.4±2.2, 18°.35N×72°.00W, h5km±50km, MD3.1, ML2.3, MW2.7*
*OSPL **14** 06:30:02.0±2.2, 18°.40N×71°.80W, h0km±24km, ML2.0*
ISC 14 06:30:01.0±1.1, **18°.40N**±0°.03×**71°.82W**±0°.03, **h9**km±7km, **n12**, **σ0§64/22, 4C-5D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.09**	**344**	⇑*e*Pg	**Pg**	**06 30 03.0**	**-0.5**
JIDR				⇑*e*Sg	**Sg**	**06 30 05.6**	**+0.5**
JIDR				IAML		06 30 05.8	
	comp=N,2μm,0.6s						
LODU1	**El Espartillar**	**0.34**	**98**	*i* P	**Pg**	**06 30 06.8**	**-0.8**
LODU1				*e*S	**Sg**	**06 30 12.3**	**+0.2**
LODU1				IAML		06 30 15.4	
	comp=Z,446nm,0.4s						
NEDR	**Neiba UASD**	**0.39**	**78**	⇑*e*Pg	**Pg**	**06 30 08.5**	**-0.3**
NEDR				⇑*e*Sg	**Sb**	**06 30 16.5**	**+0.2**
NEDR				IAML		06 30 17.1	
	comp=N,404nm,0.8s						
PAPH	**Port-au-Prince**	**0.47**	**285**	*i* P	**Pg**	**06 30 10.0**	**-0.1**
PAPH				*e*S	**Sb**	**06 30 18.5**	**+0.1**
LOBH	**Bahia de las A**	**0.57**	**162**	*i* P	**Pg**	**06 30 10.8**	**-1.2**
LOBH				*e*S	**Sg**	**06 30 19.4**	**0.0**
LOBH				IAML		06 30 23.0	
	comp=Z,58nm,0.7s						
PODR	**Polo**	**0.57**	**114**	*i* P	**Pg**	**06 30 11.8**	**-0.3**
PODR				*e*S	**Sg**	**06 30 20.5**	**+1.0**
PODR	**Polo**	**0.57**	**114**	⇓*e*Pg	**Pg**	**06 30 11.8**	**-0.3**
PODR				⇓*e*Sg	**Sb**	**06 30 22.6**	**+1.1**
PODR				IAML		06 30 25.1	
	comp=N,138nm,0.8s						
LOVI	**El Cajuil, Ovi**	**0.74**	**144**	*i* P	**Pg**	**06 30 15.0**	**-0.3**
LOVI				*e*S	**Sg**	**06 30 25.2**	**+0.2**
LOVI				IAML		06 30 39.5	
	comp=Z,128nm,0.8s						
SDDR	**Presa de Saban**	**0.77**	**41**	*i* P	**Pg**	**06 30 15.3**	**-0.6**
SDDR				IAML		06 30 32.9	
	comp=Z,30nm,0.6s						
SDDR	**Presa de Saban**	**0.77**	**41**	⇓*e*Pg	**Pg**	**06 30 15.0**	**-0.8**
SDDR				⇓*e*Sg	**Sb**	**06 30 26.9**	**-0.2**
SDDR				IAML		06 30 33.1	
	comp=N,31nm,0.8s						
REDR	**Restauracion**	**0.86**	**28**	⇓*e*Pg	**Pg**	**06 30 17.2**	**-0.5**
REDR				⇓*e*Sg	**Sn**	**06 30 31.2**	**-0.8**
REDR				IAML		06 30 32.9	
	comp=N,72nm,0.2s						
LOPP1	**Punta Rusia, P**	**1.56**	**22**	*i* P	**Pn**	**06 30 29.4**	**+0.5**

*TIR **14** 06:34:20.2, 41°.24N×19°.50E, h27km±1km, Md2.8/7, Ml2.6/4*
*THE **14** 06:34:22.1, 41°.N±2°×2°.0E±°, h0km±3km, M2.5/9, MLh2.5/9*
*BEO **14** 06:34:23.6±0.5, 41°.34N×19°.81E, h0km, ML2.3/11*
*PDG **14** 06:34:24.1±0.2, 41°.42N×19°.57E, h2km, ML2.7/10, Error ellipse: s-maj=0.5km s-min=1.1km az=0.0*
ISC 14 06:34:21.2±1.0, **41°.34N**±0°.02×**19°.79E**±0°.03, **h17**km±9km, **n43**, **σ1§66/80, 6C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.60**	**55**	P	**Pn**	**06 34 33.9**	**-1.1**
PHP				S	**Sn**	**06 34 48.4**	**+4.1**
PHP				AML	AML	06 34 51.8	
	1.2nm,0.4s						
PHP				AMd		06 35 14.7	
PHP	**Peshkopia**	**0.60**	**55**	P	**Pn**	**06 34 33.4**	**-1.6**
PUK	**Puka**	**0.70**	**6**	P	**Pn**	**06 34 36.6**	**+0.1**
PUK				S	**Sn**	**06 34 49.4**	**+2.4**
PUK				AML	AML	06 34 57.2	
	1.0nm,0.3s						
PUK				AMd		06 35 36.3	
PUK	**Puka**	**0.70**	**6**	P	**Pn**	**06 34 36.0**	**-0.5**
ULC	**Ulcinj**	**0.74**	**327**	⇓*i*Pg	**Pb**	**06 34 35.2**	**-0.6**
ULC				*i* Sg	**Sb**	**06 34 44.3**	**-1.3**
VLO	**Vlora**	**0.90**	**194**	P	**Pn**	**06 34 38.7**	**-0.4**
DRME	**Dracevica, Mon**	**0.96**	**332**	*e*Pg	**Pg**	**06 34 40.1**	**+0.3**
DRME	**Dracevica, Mon**	**0.96**	**332**	⇑*i*Pg	**Pg**	**06 34 39.3**	**-0.5**
DRME				*i* Sg	**Sg**	**06 34 52.0**	**-0.4**
KBN	**Korca**	**1.04**	**133**	P	**Pg**	**06 34 41.5**	**+0.1**
KBN				S	**Sn**	**06 34 56.8**	**+1.5**
BCI	**Bajram Curri**	**1.04**	**11**	P	**Pg**	**06 34 42.6**	**+1.1**
BCI				S	**Sn**	**06 34 59.2**	**+3.9**
PDG	**Podgorica**	**1.16**	**340**	*e*Pg	**Pg**	**06 34 43.7**	**+0.1**
PDG				*e*Sg	**Sg**	**06 35 01.1**	**+2.4**
PDG	**Podgorica**	**1.16**	**340**	⇓*i*Pg	**Pg**	**06 34 43.4**	**-0.2**
PDG				*i* Sg	**Sg**	**06 34 59.2**	**+0.5**
BUM	**Brajici-Budva**	**1.17**	**325**	⇑*i*Pg	**Pb**	**06 34 42.9**	**-0.1**
BUM				*i* Sg	**Sg**	**06 34 59.2**	**+0.1**
FNA	**Florina**	**1.32**	**114**	P	**Pg**	**06 34 48.1**	**+1.4**
FNA				S	**Sg**	**06 35 09.0**	**+5.1**
FNA				AMd		06 36 04.9	
FNA	**Florina**	**1.32**	**114**	P	**Pg**	**06 34 47.1**	**+0.4**
FNA				S	**Sg**	**06 35 06.5**	**+2.5**
FNA	**Florina**	**1.32**	**114**	*e*Pg	**Pg**	**06 34 46.8**	**+0.1**
FNA				*e*Sg	**Sg**	**06 35 06.2**	**+2.2**
NEST	**Nestorio**	**1.33**	**134**	P	**Pg**	**06 34 47.2**	**+0.3**
NEST				S	**Sg**	**06 35 07.3**	**+3.0**
NEST				AML	AML	06 35 11.8	
	0.2nm,0.8s						
NEST				AMd		06 35 51.3	
CEME	**Cevo**	**1.37**	**332**	⇓*i*Pg	**Pb**	**06 34 46.4**	**0.0**
CEME				*i* Sg	**Sg**	**06 35 06.4**	**+0.9**
SRN	**Sarande**	**1.47**	**174**	P	**Pb**	**06 34 47.1**	**-1.0**
SRN				S	**Sg**	**06 35 07.3**	**-1.3**
SRN				AML	AML	06 35 09.9	
	0.2nm,0.6s						
SRN				AMd		06 36 02.0	
SRN	**Sarande**	**1.47**	**174**	P	**Pg**	**06 34 48.1**	**-1.4**
SRN				S	**Sg**	**06 35 08.7**	**0.0**
KOME	**Kolasin**	**1.52**	**352**	*e*Pg	**Pg**	**06 34 50.5**	**0.0**
KOME				*e*Sg	**Sg**	**06 35 12.9**	**+2.6**
KOME	**Kolasin**	**1.52**	**352**	⇓*i*Pg	**Pg**	**06 34 50.3**	**-0.2**
KOME				*i* Sg	**Sg**	**06 35 13.0**	**+2.6**
BEY	**Berane**	**1.53**	**3**	*e*Pg	**Pg**	**06 34 51.4**	**+0.7**
BEY				*e*Sg	**Sg**	**06 35 10.7**	**+0.1**
IVA	**Berane**	**1.53**	**3**	⇑*i*Pg	**Pg**	**06 34 51.0**	**+0.3**
IVA				*i* Sg	**Sg**	**06 35 14.6**	**+4.0**
NKME	**Niksic**	**1.55**	**337**	⇑*i*Pg	**Pg**	**06 34 50.2**	**-0.9**
NKME				*i* Sg	**Sg**	**06 35 13.2**	**+1.8**
KEK	**Kerkira**	**1.63**	**180**	P	**Pg**	**06 34 51.6**	**-0.9**
KEK				S	**Sb**	**06 35 10.4**	**-0.7**
KEK				AMd		06 35 58.1	
KEK	**Kerkira**	**1.63**	**180**	P	**Pg**	**06 34 51.3**	**-1.2**
KEK				S	**Sg**	**06 35 14.3**	**+0.6**
BRY	**Bratogost**	**1.81**	**330**	⇑*i*Pn	**Pb**	**06 34 53.6**	**-0.5**
BRY				*i* Sn	**Sg**	**06 35 20.1**	**+0.4**
SJES	**Sjenica**	**1.92**	**4**	*e*Pn	**Pg**	**06 34 57.6**	**-0.6**
SJES				*e*Sn	**Sg**	**06 35 22.5**	**-0.6**
UPM	**Unac-Piva**	**1.97**	**341**	⇑*i*Pn	**Pg**	**06 34 58.5**	**-0.6**
UPM				*i* Sn	**Sg**	**06 35 24.4**	**-0.3**
PLE	**Pljevlja**	**2.01**	**352**	⇓*i*Pn	**Pg**	**06 34 58.8**	**-1.0**
PLE				*i* Sn	**Sg**	**06 35 26.4**	**+0.5**
BARS	**Barje**	**2.11**	**45**	*e*Pn	**Pg**	**06 34 59.4**	**-2.3**
BARS				*e*Sn	**Sg**	**06 35 27.5**	**-1.5**
SELS	**Selova**	**2.12**	**27**	*e*Pn	**Pb**	**06 34 58.6**	**-0.6**
SELS				*e*Sn	**Sg**	**06 35 27.9**	**-1.5**
IVAS	**Ivanjica**	**2.25**	**7**	*e*Pn	**Pg**	**06 35 02.5**	**-1.9**
IVAS				*e*Sn	**Sg**	**06 35 31.7**	**-1.8**
BOSS	**Bosilegrad**	**2.31**	**59**	*e*Pn	**Pb**	**06 35 02.0**	**-0.5**
BOSS				*e*Sn	**Sg**	**06 35 31.1**	**-4.5**
KNT	**Kendrikon**	**2.35**	**93**	P	**Pb**	**06 35 01.5**	**-1.6**
KNT				S	**Sb**	**06 35 31.7**	**-0.1**
GOCS	**Kraljevo Serbi**	**2.36**	**19**	*e*Pn	**Pb**	**06 35 03.5**	**+0.2**
GOCS				*e*Sn	**Sb**	**06 35 32.5**	**+0.3**
BBLS	**Lazi&#263i**	**2.54**	**354**	*e*Pn	**Pg**	**06 35 07.4**	**-2.5**
BBLS				*e*Sn	**Sb**	**06 35 38.3**	**+1.0**
GRUS	**Gruza**	**2.63**	**15**	*e*Pn	**Pb**	**06 35 07.9**	**-0.1**
LKD2	**Lefkada island**	**2.64**	**165**	P	**Pn**	**06 35 03.3**	**+0.3**
LKD2				S	**Sb**	**06 35 38.1**	**-2.0**
LKD2				AMd		06 36 26.6	
BOVS	**Bovan**	**2.69**	**31**	*e*Pn	**Pb**	**06 35 07.2**	**-1.8**
BOVS				*e*Sn	**Sb**	**06 35 40.0**	**-1.7**
DIVS	**Divibare**	**2.76**	**3**	*e*Pn	**Pb**	**06 35 09.2**	**-0.9**
ZAPS	**Zavoj**	**2.86**	**47**	*e*Pn	**Pb**	**06 35 10.3**	**-1.5**
ZAPS				*e*Sn	**Sb**	**06 35 45.5**	**-1.0**

*TIR **14** 06:36:21.9, 41°.26N×19°.65E, h0km, Md2.6/6, Ml2.6/4*
*THE **14** 06:36:24.2, 41°.N±3°×2°.0E±°, h0km±6km, M2.3/6, MLh2.3/6*
*BEO **14** 06:36:24.3±0.6, 41°.26N×19°.67E, h14km±3km, ML2.1/8*
*PDG **14** 06:36:24.6±0.2, 41°.35N×19°.53E, h14km, ML2.6/10, Error ellipse: s-maj=1.3km s-min=2.8km az=0.0*
ISC 14 06:36:23.7±1.1, **41°.32N**±0°.02×**19°.67E**±0°.03, **h8**km±9km, **n38**, **σ0§94/74, 6C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.69**	**57**	P	**Pg**	**06 36 35.7**	**-1.2**
PHP				S	**Sb**	**06 36 48.2**	**+0.7**
PHP				AML	AML	06 36 53.6	
	1.2nm,0.4s						
PHP	**Peshkopia**	**0.69**	**57**	P	**Pg**	**06 36 35.4**	**-1.5**
PHP				S	**Sg**	**06 36 44.7**	**-1.1**
ULC	**Ulcinj**	**0.72**	**334**	⇑*i*Pg	**Pg**	**06 36 36.8**	**-0.8**
ULC				*i* Sg	**Sg**	**06 36 47.7**	**+0.6**
PUK	**Puka**	**0.74**	**13**	P	**Pg**	**06 36 38.5**	**+0.5**
PUK				S	**Sn**	**06 36 50.9**	**-1.2**
PUK				AML	AML	06 36 56.0	
	0.7nm,0.4s						
PUK				AMd		06 37 15.5	
PUK	**Puka**	**0.74**	**13**	P	**Pg**	**06 36 38.0**	**0.0**
PUK				S	**Sb**	**06 36 49.4**	**+0.2**
DRME	**Dracevica, Mon**	**0.94**	**337**	*e*Pg	**Pb**	**06 36 42.1**	**-0.2**
DRME				*e*Sg	**Sn**	**06 36 57.2**	**+0.4**
DRME	**Dracevica, Mon**	**0.94**	**337**	⇑*i*Pg	**Pb**	**06 36 41.3**	**-1.0**
DRME				*i* Sg	**Sg**	**06 36 55.5**	**+1.4**
BCI	**Bajram Curri**	**1.09**	**16**	P	**Pb**	**06 36 44.4**	**-0.3**
BCI				S	**Sn**	**06 37 00.3**	**-0.2**
BUM	**Brajici-Budva**	**1.15**	**330**	⇓*i*Pg	**Pb**	**06 36 44.5**	**-1.2**
BUM				*i* Sg	**Sn**	**06 37 01.4**	**-0.5**
PDG	**Podgorica**	**1.16**	**344**	*e*Pg	**Pb**	**06 36 45.4**	**-0.5**
PDG				*e*Sg	**Sn**	**06 37 02.5**	**+0.4**
PDG	**Podgorica**	**1.16**	**344**	⇑*i*Pg	**Pb**	**06 36 45.0**	**-0.9**
PDG				*i* Sg	**Sn**	**06 37 02.9**	**+0.8**
CEME	**Cevo**	**1.35**	**336**	⇓*i*Pg	**Pn**	**06 36 48.4**	**-0.5**
CEME				*i* Sg	**Sg**	**06 37 08.5**	**+1.3**
NEST	**Nestorio**	**1.38**	**130**	P	**Pn**	**06 36 49.1**	**-0.1**
NEST				S	**Sg**	**06 37 09.5**	**+1.5**
NEST				AML	AML	06 37 15.5	
	0.1nm,0.4s						
NEST				AMd		06 37 45.8	
NEST	**Nestorio**	**1.38**	**130**	P	**Pn**	**06 36 49.4**	**+0.1**
NEST				S	**Sb**	**06 37 07.9**	**+0.5**
FNA	**Florina**	**1.39**	**112**	P	**Pb**	**06 36 49.8**	**-0.1**
FNA				S	**Sg**	**06 37 10.8**	**+2.3**
FNA				AMd		06 37 41.1	
FNA	**Florina**	**1.39**	**112**	P	**Pn**	**06 36 48.8**	**-0.5**
FNA				S	**Sb**	**06 37 08.0**	**+0.2**
FNA	**Florina**	**1.39**	**112**	*e*Pg	**Pn**	**06 36 49.2**	**-0.2**
FNA				*e*Sg	**Sg**	**06 37 08.6**	**+0.2**
SRN	**Sarande**	**1.46**	**170**	P	**Pn**	**06 36 48.9**	**-1.3**
SRN				S	**Sg**	**06 37 11.5**	**+1.1**
SRN				AMd		06 38 01.3	
SRN	**Sarande**	**1.46**	**170**	P	**Pn**	**06 36 50.6**	**+0.4**
SRN				S	**Sg**	**06 37 11.2**	**+0.7**
KOME	**Kolasin**	**1.54**	**356**	*e*Pg	**Pb**	**06 36 52.8**	**+0.4**
KOME				*e*Sg	**Sg**	**06 37 15.5**	**+2.3**
KOME	**Kolasin**	**1.54**	**356**	⇓*i*Pg	**Pn**	**06 36 51.9**	**+0.5**
KOME				*i* Sg	**Sg**	**06 37 14.0**	**+0.8**
NKME	**Niksic**	**1.55**	**340**	⇑*i*Pg	**Pn**	**06 36 52.0**	**+0.5**
NKME				*i* Sg	**Sg**	**06 37 13.1**	**-0.3**
BEY	**Berane**	**1.56**	**6**	*e*Pg	**Pb**	**06 36 53.4**	**+0.5**
BEY				*e*Sg	**Sg**	**06 37 15.4**	**+1.5**
IVA	**Berane**	**1.56**	**6**	⇑*i*Pg	**Pb**	**06 36 53.1**	**+0.2**
IVA				*i* Sg	**Sg**	**06 37 15.5**	**+1.5**
PENT	**Pentalofos**	**1.58**	**135**	P	**Pn**	**06 36 52.1**	**+0.1**
KEK	**Kerkira**	**1.60**	**177**	P	**Pn**	**06 36 52.5**	**+0.3**

KEK				S	Sg	06 37 15.4	+0.2
KEK				AML	AML	06 37 18.3	
	731nm,0.3s						
KEK				AMd		06 37 50.5	
KEK	**Kerkira**	**1.60**	**177**	P	**Pb**	**06 36 53.3**	**-0.2**
KEK				S	**Sg**	**06 37 16.6**	**+1.4**
BRY	**Bratogost**	**1.80**	**332**	*i* Pn	**Pn**	**06 36 54.7**	**-0.3**
BRY				*i* Sn	**Sn**	**06 37 18.4**	**+0.3**
SJES	**Sjenica**	**1.96**	**6**	*e*Pn	**Pb**	**06 36 58.6**	**-1.0**
SJES				*e*Sn	**Sn**	**06 37 22.6**	**+0.6**
UPM	**Unac-Piva**	**1.97**	**343**	*i* Pn	**Pn**	**06 36 57.7**	**+0.2**
UPM				*i* Sn	**Sb**	**06 37 23.9**	**-0.7**
SELS	**Selova**	**2.19**	**29**	*e*Pn	**Pn**	**06 37 01.0**	**+0.7**
SELS				*e*Sn	**Sn**	**06 37 28.3**	**+0.8**
BARS	**Barje**	**2.19**	**46**	*e*Pn	**Pn**	**06 37 01.5**	**+1.2**
BARS				*e*Sn	**Sb**	**06 37 29.0**	**-1.7**
IVAS	**Ivanjica**	**2.29**	**9**	*e*Pn	**Pn**	**06 37 01.6**	**-0.1**
IVAS				*e*Sn	**Sn**	**06 37 31.0**	**+0.9**
BOSS	**Bosilegrad**	**2.40**	**60**	*e*Pn	**Pn**	**06 37 03.3**	**0.0**
BOSS				*e*Sn	**Sn**	**06 37 32.1**	**-0.8**
GOCS	**Kraljevo Serbi**	**2.42**	**21**	*e*Pn	**Pn**	**06 37 04.0**	**+0.5**
GOCS				*e*Sn	**Sb**	**06 37 35.0**	**-2.3**
BBLS	**Lazi&#263i**	**2.56**	**356**	*e*Pn	**Pn**	**06 37 06.4**	**+1.0**
LKD2	**Lefkada island**	**2.63**	**163**	P	**Pn**	**06 37 05.0**	**-1.5**
LKD2				S	**Sb**	**06 37 44.6**	**+1.1**
LKD2				AMd		06 38 07.2	
BOVS	**Bovan**	**2.76**	**32**	*e*Pn	**Pn**	**06 37 08.9**	**+0.7**
BOVS				*e*Sn	**Sn**	**06 37 41.9**	**+0.2**

IDC ***14*** *06:39:49.4±1.7,3˝.48S×145˚.65E, h0km, mb4.1/8, mbtmp4.2/9, ML3.9/1, MS3.6/33, Error ellipse: s-maj=54.1km s-min=20.1km az=106.0*
NEIC ***14*** *06:39:50.9±1.0,3˝.5S±0˝.1×145˚.8E±0˚.1, h10km±2km, mb4.6/10, Error ellipse: s-maj=26.3km s-min=13.6km az=308.0*

ISC 14 06:39:50.4±0.8,3˝.5S±0˝.1×145˚.8E±0˚.1, h10km, n50, σ0s62/22, mb4.2/8, MS3.6/30, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.12**	**48**		**Pn**	**06 40 25.9**	**-0.1**
JAY	**Jayapura**	**5.17**	**280**	LR	LR	06 42 55.8	
	comp=Z,784nm,18.6s,baz=33,slow=37						
RABL	**Rabaul**	**6.39**	**97**	Pn	**Pn**	**06 41 24.6**	**-0.1**
SAUI	**Saumlaki**	**15.10**	**252**	Pn	**Pn**	**06 43 24.5**	**+0.5**
HNR	**Honiara**	**15.25**	**114**	LR	LR	06 48 35.1	
	comp=Z,187nm,19.3s,baz=294,slow=34						
GUMO	**Guam**	**16.98**	**357**	LR	LR	06 50 15.5	
	comp=Z,90nm,18.1s,baz=166,slow=37						
WB0	**Warramunga Arr**	**19.65**	**214**	P	**P**	**06 44 19.4**	**-0.2**
WB0				IAmb	IAmb	06 44 22.1	
	comp=Z,37nm,1.2s						
WR0	**Warramunga Arr**	**19.72**	**213**	P	**P**	**06 44 19.9**	**-0.5**
WR0				IAmb	IAmb	06 44 22.3	
	comp=Z,37nm,0.9s						
WR8	**Warramunga Arr**	**19.74**	**213**	P	**P**	**06 44 21.1**	**+0.5**
WR8				IAmb	IAmb	06 44 22.6	
	comp=Z,38nm,1.0s						
WRAB	**Tennant Creek**	**19.81**	**213**		**P**	**06 44 21.1**	**-0.1**
WRAB				IAmb	IAmb	06 44 23.4	
	comp=Z,36nm,1.1s						
WB2	**Warramunga Arr**	**19.81**	**213**	P	**P**	**06 44 21.7**	**+0.3**
WB2				IAmb	IAmb	06 44 23.5	
	comp=Z,32nm,0.9s						
WRA	**Warramunga Arr**	**19.82**	**213**		**P**	**06 44 20.9**	**-0.5**
WRA	**Warramunga Arr**	**19.82**	**213**	P	**P**	**06 44 21.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=37,slow=12,SNR=48						
	comp=Z,20nm,1.0s						
KNRA	**Kununurra**	**20.69**	**233**		**P**	**06 44 31.5**	**+0.6**
AS31	**Alice Springs**	**23.13**	**209**	P	**P**	**06 44 57.5**	**+0.6**
ASAR	**Alice Springs**	**23.13**	**209**	P	**P**	**06 44 56.6**	**-0.4**
ASAR	**Alice Springs**	**23.13**	**209**	P	**P**	**06 44 57.3**	**+0.3**
	comp=Z,11nm,0.9s,baz=36,slow=9.3,SNR=39						
ASAR				LR	LR	06 54 07.3	
	comp=Z,205nm,19.4s,baz=48,slow=37						
	comp=Z,11nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.51**	**232**	P	**P**	**06 45 09.5**	**-0.8**
FITZ				IAmb	IAmb	06 45 15.3	
	comp=Z,6.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**24.51**	**232**	P	**P**	**06 45 08.8**	**-1.5**
	comp=Z,13nm,0.8s,baz=68,slow=6.7,SNR=14						
FITZ				LR	LR	06 54 15.0	
	comp=Z,179nm,19.1s,baz=51,slow=36						
	comp=Z,13nm,0.8s						
KAPI	**Kappang**	**26.02**	**266**	LR	LR	06 56 23.7	
	comp=Z,60nm,18.2s,baz=94,slow=38						
STKA	**Stephens Creek**	**28.53**	**188**	LR	LR	06 57 47.1	
	comp=Z,100nm,18.6s,baz=111,slow=38						
JOW	**Kunigami**	**34.56**	**332**	LR	LR	06 57 01.9	
	comp=Z,259nm,21.1s,baz=334,slow=30						
JNU	**Nakatsue**	**39.04**	**340**	LR	LR	07 00 34.8	
	comp=Z,145nm,19.2s,baz=192,slow=32						
NWAO	**Narrogin (SRO)**	**39.65**	**219**	LR	LR	07 04 51.6	
	comp=Z,331nm,20.7s,baz=89,slow=38						
KSRS	**Korea Array**	**43.98**	**339**	P	**P**	**06 47 57.5**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=149,slow=9.3,SNR=5.5						
	comp=Z,1.8nm,0.7s						
URZ	**Urewera**	**44.89**	**145**	LR	LR	07 05 40.5	
	comp=Z,63nm,19.8s,baz=314,slow=34						
ASAJ	**Asahikawa**	**47.47**	**357**	LR	LR	07 05 52.3	
	comp=Z,18nm,20.6s,baz=168,slow=33						
USRK	**Ussuriysk Ar.**	**49.05**	**347**	LR	LR	07 08 01.7	
	comp=Z,46nm,18.5s,baz=216,slow=34						
CMAR	**Chiang Mai Arr**	**51.02**	**297**	P	**P**	**06 48 52.5**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=113,slow=8.0,SNR=7.1						
CMAR				LR	LR	07 10 28.3	
	comp=Z,17nm,19.4s,baz=80,slow=36						
	comp=Z,0.8nm,0.3s						
RAR	**Rarotonga**	**55.71**	**113**	LR	LR	07 12 56.0	
	comp=Z,23nm,18.2s,baz=310,slow=36						
PETK	**Petropavlovsk-**	**57.26**	**8**	LR	LR	07 11 01.2	
	comp=Z,21nm,21.0s,baz=213,slow=33						
SHEM	**Shemya Is, Ala**	**60.88**	**19**	LR	LR	07 13 05.3	
	comp=Z,34nm,18.9s,baz=354,slow=33						
SONM	**Songino Array**	**61.63**	**331**	LR	LR	07 15 05.4	
	comp=Z,72nm,21.5s,baz=130,slow=34						
MA2	**Magadan**	**62.98**	**3**	LR	LR	07 20 37.3	
	comp=Z,15nm,18.4s,baz=194,slow=39						
VNDA	**Vanda**	**74.49**	**176**	LR	LR	07 23 26.8	
	comp=Z,50nm,18.8s,baz=336,slow=35						
MKAR	**Makanchi Array**	**74.80**	**320**	P	**P**	**06 51 31.8**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=108,slow=9.3,SNR=4.4						
MKAR				LR	LR	07 26 37.3	
	comp=Z,22nm,18.0s,baz=144,slow=38						
	comp=Z,1.2nm,1.0s						
TIXI	**Tiksi**	**75.80**	**355**	LR	LR	07 26 51.5	
	comp=Z,16nm,19.4s,baz=182,slow=37						
ZALV	**Zalesovo Beam**	**76.25**	**328**	P	**P**	**06 51 40.0**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=121,slow=5.7,SNR=4.1						
ZALV				LR	LR	07 23 59.1	
	comp=Z,87nm,21.0s,baz=142,slow=35						
	comp=Z,0.7nm,0.3s						
KDAK	**Kodiak Island**	**78.27**	**29**	LR	LR	07 19 05.3	
	comp=Z,51nm,21.9s,baz=245,slow=30						
KURBB	**Kurchatov Arra**	**78.51**	**323**	P	**P**	**06 51 52.1**	**+0.2**
	comp=Z,2.8nm,1.1s,baz=107,slow=5.6,SNR=8.1						
	comp=Z,2.8nm,1.1s						
AAK	**Ala-Archa**	**78.73**	**315**	LR	LR	07 26 57.0	
	comp=Z,34nm,19.5s,baz=107,slow=36						
ILAR	**Eielson Array**	**83.65**	**23**	P	**P**	**06 52 19.5**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=255,slow=5.3,SNR=5.5						
	comp=Z,0.5nm,0.8s						
MAW	**Mawson**	**84.10**	**202**	LR	LR	07 29 22.9	
	comp=Z,22nm,18.3s,baz=48,slow=35						
INK	**Inuvik**	**89.76**	**22**	LR	LR	07 30 31.0	
	comp=Z,42nm,19.2s,baz=259,slow=34						
BBB	**Bella Bella**	**90.32**	**38**	LR	LR	07 24 01.5	
	comp=Z,65nm,20.9s,baz=228,slow=29						
AKTO	**Aktyubinsk**	**91.24**	**320**	LR	LR	07 33 08.5	
	comp=Z,32nm,21.6s,baz=158,slow=35						
ARTI	**Arti**	**91.43**	**326**	LR	LR	07 33 35.9	
	comp=Z,36nm,21.3s,baz=73,slow=35						
KIRV	**Kirov**	**96.28**	**328**	LR	LR	07 36 42.0	
	comp=Z,105nm,21.3s,baz=89,slow=36						
NEW	**Newport**	**97.30**	**42**	LR	LR	07 30 38.8	
	comp=Z,24nm,19.2s,baz=356,slow=31						
PFO	**Pinyon Flats O**	**98.36**	**57**	LR	LR	07 31 05.8	
	comp=Z,35nm,18.6s,baz=290,slow=31						

RSNC ***14*** *06:46:36.7±1.4,9˚N×4˚×7˚1W, h18km±16km, M2.9, mB4.3, mb3.7, ML2.6, Mw(mB)3.5*
FUNV ***14*** *06:46:37.1,8˝.57N×71˚.43W, h3km, MW3.5*

ISC 14 06:46:36.4±1.3,8˝.54N±0˝.04×71˚.37W±0˝.03, h15km±10km, n27, σ1s41/38, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.80**	**65**	P	**Pg**	**06 46 52.0**	**-0.1**
SDV				S	**Sg**	**06 47 03.7**	**+1.1**
CAPV	**Capacho**	**1.16**	**234**	*e*P	**Pb**	**06 46 57.8**	**-0.5**
CAPV				*e*S	**Sg**	**06 47 13.6**	**-0.3**
PAMC	**Pamplona, Colo**	**1.78**	**228**	P	**Pn**	**06 47 08.0**	**+0.8**
PAMC				S	**Sn**	**06 47 30.9**	**+1.0**
MCQV	**Machiques**	**1.89**	**322**	*e*P	**Pn**	**06 47 09.2**	**+1.0**
MCQV				*e*S	**Sb**	**06 47 33.1**	**-1.1**
OCAC	**Ocana**	**1.96**	**261**	P	**Pn**	**06 47 08.9**	**-0.4**
OCAC				S	**Sn**	**06 47 33.6**	**-0.1**
BARC	**Barichara**	**2.65**	**223**	P	**Pb**	**06 47 23.3**	**-0.4**
BARC				S	**Sb**	**06 47 57.3**	**+1.1**
BRJC	**Barrancabermej**	**2.83**	**237**	P	**Pn**	**06 47 24.2**	**+3.1**
ARGC	**Ariguani, Magd**	**3.13**	**295**	P	**Pn**	**06 47 24.9**	**-0.4**
RUSC	**La Rusia**	**3.14**	**213**	P	**Pn**	**06 47 26.5**	**+0.7**
RUSC				S	**Sn**	**06 48 04.0**	**+0.7**
URIC	**Uribia, Colomb**	**3.20**	**349**	P	**Pn**	**06 47 25.0**	**-1.3**
BAUV	**El Baul**	**3.31**	**83**	*e*P	**Pn**	**06 47 30.1**	**+2.3**
BAUV				*e*S	**Sn**	**06 48 08.7**	**+1.7**
ZARC	**Zaragoza, Cauc**	**3.61**	**253**	P	**Pn**	**06 47 31.1**	**-0.9**
PTBC	**PUERTO BERRIO,**	**3.65**	**237**	P	**Pn**	**06 47 31.0**	**-1.6**
BENV	**Beln**	**3.98**	**69**	*e*P	**Pn**	**06 47 38.7**	**+1.7**
BENV				*e*S	**Sn**	**06 48 24.1**	**+0.6**
SJCC	**San Jacinto, C**	**4.00**	**290**	P	**Pn**	**06 47 38.1**	**+0.8**
UREC	**San Jos de Ur**	**4.20**	**260**	P	**Pn**	**06 47 41.1**	**+1.0**
TACV	**Tcata**	**4.56**	**69**	*e*P	**Pn**	**06 47 46.3**	**+1.2**
TACV				*e*S	**Sn**	**06 48 37.3**	**-0.7**
HELC	**Santa Helena**	**4.75**	**241**	P	**Pn**	**06 47 49.9**	**+2.0**
CACV	**CAICARA DEL OR**	**4.88**	**101**	*e*P	Pb	06 47 57.7	-3.9
CACV				*e*S	**Sb**	**06 48 58.3**	**-1.9**
FUNV	**FUNVISIS**	**4.88**	**67**	*e*P	**Pn**	**06 47 51.4**	**+1.9**
FUNV				*e*S	**Sn**	**06 48 44.8**	**-1.2**
VILC	**Villavicencio,**	**4.97**	**208**	P	**Pn**	**06 47 50.3**	**-0.5**
	323nm16nm,0.5s						
GUY2C	**Guyana, Caldas**	**5.16**	**231**	P	**Pn**	**06 47 56.0**	**+2.3**
	9.2nm,0.7s						
PRAC	**Prado**	**5.94**	**216**	P	**Pn**	**06 48 03.6**	**-0.4**
	5.1nm,2.4s						
ORTC	**Ortega, Tolima**	**6.01**	**220**	P	**Pn**	**06 48 04.1**	**-0.8**
	3.3nm,0.7s						
PLMC	**San Jos del P**	**6.08**	**234**	P	**Pn**	**06 48 06.8**	**+0.9**
	4.4nm,1.4s						
MACC	**Macarena, Meta**	**6.82**	**201**	P	**Pn**	**06 48 13.3**	**-2.8**
	9.1nm,0.5s						
FLOC	**Florencia**	**8.13**	**212**	P	**Pn**	**06 48 32.3**	**-1.8**

TIR ***14*** *06:55:43.9,41˚.28N×19˚.64E, h0km±1km, Md2.7/6, Ml2.9/4*
THE ***14*** *06:55:44.2,41˚.N±6˚×1˚.9E±1˚.0, h7km±39km, M2.5/8, MLh2.5/8*
PDG ***14*** *06:55:44.9±0.2,41˚.28N×19˚.64E, h8km, ML2.8/11, Error ellipse: s-maj=0.9km s-min=1.3km az=0.0*
BEO ***14*** *06:55:45.8±0.6,41˚.24N×19˚.73E, h5km±3km, ML2.4/10*

ISC 14 06:55:45.0±1.2,41˚.27N±0˚.02×19˚.67E±0˚.03, h4km±10km, n43, σ1s10/79, 7C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.71**	**54**	P	**Pg**	**06 55 58.0**	**-0.7**
PHP				S	**Sb**	**06 56 09.8**	**-0.4**
PHP				AML	AML	06 56 15.8	
	1.8nm,0.4s						
PHP				AMd		06 56 48.2	
ULC	**Ulcinj**	**0.77**	**335**	*i* Pg	**Pg**	**06 55 58.7**	**-1.0**
ULC				*i* Sg	**Sg**	**06 56 10.6**	**+1.0**
PUK	**Puka**	**0.79**	**12**	P	**Pg**	**06 55 59.8**	**-0.4**
PUK				S	**Sb**	**06 56 13.0**	**+0.4**
OHR	**Ohrid**	**0.87**	**100**	*i* Pn	**Pb**	**06 56 01.8**	**-0.8**
DRME	**Dracevica, Mon**	**0.99**	**339**	*e*Pg	**Pg**	**06 56 04.1**	**+0.2**
DRME				*e*Sg	**Sn**	**06 56 19.3**	**-0.8**
DRME	**Dracevica, Mon**	**0.99**	**339**	*i* Pg	**Pg**	**06 56 03.6**	**-0.3**
DRME				*i* Sg	**Sb**	**06 56 18.1**	**0.0**
KBN	**Korca**	**1.06**	**127**	P	**Pn**	**06 56 07.0**	**+0.2**
KBN				S	**Sn**	**06 56 24.1**	**+2.1**
BCI	**Bajram Curri**	**1.14**	**15**	P	**Pg**	**06 56 06.7**	**-0.1**
BCI				S	**Sn**	**06 56 23.6**	**-0.3**
BCI				AML	AML	06 56 26.4	
	1.4nm,0.6s						
BCI				AMd		06 57 12.1	
BCI	**Bajram Curri**	**1.14**	**15**	P	**Pg**	**06 56 06.5**	**-0.3**
BCI				S	**Sn**	**06 56 24.1**	**+0.2**
BUM	**Brajici-Budva**	**1.18**	**331**	*i* Pg	**Pg**	**06 56 07.3**	**-0.4**
BUM				*i* Sg	**Sn**	**06 56 24.9**	**-0.2**
PDG	**Podgorica**	**1.20**	**345**	*e*Pg	**Pg**	**06 56 07.3**	**-0.8**
PDG				*e*Sg	**Sb**	**06 56 24.5**	**+0.2**
PDG	**Podgorica**	**1.20**	**345**	*i* Pg	**Pg**	**06 56 07.0**	**-1.1**
PDG				*i* Sg	**Sb**	**06 56 24.4**	**+0.2**
NEST	**Nestorio**	**1.35**	**129**	P	**Pb**	**06 56 11.4**	**+0.5**
NEST				S	**Sn**	**06 56 32.1**	**+3.0**
NEST				AML	AML	06 56 35.8	
	0.2nm,0.8s						
NEST				AMd		06 57 17.8	
FNA	**Florina**	**1.38**	**110**	P	**Pg**	**06 56 12.0**	**+0.6**
FNA				S	**Sn**	**06 56 31.9**	**+2.1**
FNA				AMd		06 57 11.2	
FNA	**Florina**	**1.38**	**110**	P	**Pn**	**06 56 10.6**	**-0.5**
FNA				S	**Sn**	**06 56 31.2**	**+1.4**
FNA	**Florina**	**1.38**	**110**	*i* Pn	**Pg**	**06 56 11.1**	**-0.3**
FNA	**Florina**	**1.38**	**110**	*e*Pg	**Pb**	**06 56 10.8**	**-0.6**
FNA				*e*Sg	**Sg**	**06 56 28.0**	**-1.3**
CEME	**Cevo**	**1.40**	**337**	*i* Pg	**Pn**	**06 56 10.3**	**-1.1**
CEME				*i* Sg	**Sn**	**06 56 31.5**	**+1.2**
SRN	**Sarande**	**1.41**	**170**	P	**Pn**	**06 56 10.6**	**-0.8**
SRN				S	**Sn**	**06 56 30.1**	**-0.4**
HCY	**Herceg Novi**	**1.47**	**324**	*i* Pg	**Pn**	**06 56 11.5**	**-0.8**
HCY				*i* Sg	**Sg**	**06 56 34.3**	**+2.1**
SKO	**Skopje**	**1.50**	**61**	*i* Pn	**Pg**	**06 56 13.8**	**0.0**
KEK	**Kerkira**	**1.56**	**176**	P	**Pg**	**06 56 14.9**	**+0.1**
KEK				S	**Sg**	**06 56 38.1**	**+3.1**
KEK				AML	AML	06 56 40.4	
	1µm,0.4s						
KEK				AMd		06 57 19.6	
KOME	**Kolasin**	**1.58**	**356**	*e*Pg	**Pb**	**06 56 14.8**	**-0.2**
KOME				*e*Sg	**Sg**	**06 56 37.5**	**+1.5**
KOME	**Kolasin**	**1.58**	**356**	*i* Pg	**Pn**	**06 56 14.0**	**0.0**
KOME				*i* Sg	**Sg**	**06 56 37.3**	**+1.3**
NKME	**Niksic**	**1.59**	**341**	*i* Pg	**Pn**	**06 56 13.6**	**-0.4**
NKME				*i* Sg	**Sg**	**06 56 37.3**	**+1.2**
BEY	**Berane**	**1.61**	**6**	*e*Pg	**Pn**	**06 56 14.3**	**0.0**
BEY				*e*Sg	**Sg**	**06 56 38.3**	**+1.5**
IVA	**Berane**	**1.61**	**6**	*i* Pn	**Pn**	**06 56 14.3**	**0.0**
IVA				*i* Sn	**Sg**	**06 56 38.2**	**+1.5**
BRY	**Bratogost**	**1.84**	**333**	*i* Pn	**Pn**	**06 56 17.5**	**0.0**
BRY				*i* Sn	**Sb**	**06 56 43.2**	**+0.5**
SJES	**Sjenica**	**2.00**	**6**	*e*Pn	**Pb**	**06 56 20.8**	**-1.3**
SJES				*e*Sn	**Sn**	**06 56 46.3**	**+0.9**
UPM	**Unac-Piva**	**2.02**	**344**	*i* Pn	**Pn**	**06 56 20.2**	**+0.2**
UPM				*i* Sn	**Sb**	**06 56 48.4**	**+0.5**
BARS	**Barje**	**2.22**	**45**	*e*Pn	**Pn**	**06 56 21.5**	**-1.2**
BARS				*e*Sn	**Sn**	**06 56 50.2**	**-0.4**
SELS	**Selova**	**2.23**	**28**	*e*Pn	**Pn**	**06 56 22.5**	**-0.3**
SELS				*e*Sn	**Sn**	**06 56 51.9**	**+1.2**
IVAS	**Ivanjica**	**2.33**	**9**	*e*Pn	**Pn**	**06 56 23.7**	**-0.6**
IVAS				*e*Sn	**Sn**	**06 56 54.8**	**+1.4**
BOSS	**Bosilegrad**	**2.43**	**59**	*e*Pn	**Pn**	**06 56 25.4**	**-0.1**
BOSS				*e*Sn	**Sn**	**06 56 55.4**	**-0.3**
GOCS	**Kraljevo Serbi**	**2.46**	**21**	*e*Pn	**Pb**	**06 56 28.0**	**-1.9**
GOCS				*e*Sn	**Sn**	**06 56 56.9**	**+0.3**
TSLK	**Tsoukalades, L**	**2.56**	**162**	P	**Pn**	**06 56 25.5**	**-1.4**
LKD2	**Lefkada island**	**2.59**	**163**	P	**Pn**	**06 56 27.1**	**-0.6**
LKD2				S	**Sg**	**06 57 07.2**	**-1.0**
LKD2				AMd		06 57 35.5	
LKD2	**Lefkada island**	**2.59**	**163**	P	**Pn**	**06 56 27.0**	**-0.7**
LKD2				S	**Sn**	**06 56 58.6**	**-1.0**
BBLS	**Lazi&#263i**	**2.60**	**356**	*e*Pn	**Pn**	**06 56 29.2**	**+1.2**
BBLS				*e*Sn	**Sn**	**06 57 01.4**	**+1.3**
GRUS	**Gruza**	**2.73**	**16**	*e*Pn	**Pb**	**06 56 32.0**	**-2.4**
DIVS	**Divibare**	**2.84**	**5**	*e*Pn	**Pn**	**06 56 32.8**	**+1.6**
ZAPS	**Zavoj**	**2.98**	**47**	*e*Pn	**Pn**	**06 56 32.8**	**-0.2**
ZAPS				*e*Sn	**Sn**	**06 57 09.0**	**-0.2**
VLS	**Valsamata**	**3.17**	**167**	P	**Pn**	**06 56 33.6**	**-2.1**

IDC 14 07:32:31.7±2.5,4˚.07S×146˚.44E, h0km, mb3.3/2, mbtmp3.4/3, ML3.5/1, MS3.7/1, Error ellipse:
s-maj=401.2km s-min=32.0km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.70**	**216**	P	P	07 37 02.9	+0.1
	0.1nm,0.3s,baz=40,slow=11,SNR=6.6						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**22.94**	**211**	P	P	07 37 37.7	0.0
	1.1nm,0.9s,baz=33,slow=12,SNR=7.4						
	1.1nm,0.9s						
RPZ	**Rata Peaks**	**45.08**	**155**	LR	LR	08 00 32.1	
	comp=Z,89nm,18.8s,baz=142,slow=37						
ILAR	**Eielson Array**	**83.94**	**23**	P	P	07 45 03.3	0.0
	0.2nm,0.8s,baz=259,slow=5.3,SNR=2.6						
	0.2nm,0.8s						

CATAC ***14*** *07:44:17.9±0.5, 13˚.N±3˚×8˚.9W±˚, h26km±2km, M2.9/21, MLv2.9/21, Error ellipse: s-maj=6.7km s-min=3.2km az=24.5, confirmed*
SNET ***14*** *07:44:18.4±1.1, 13˚.04N×89˚.23W, h31km, ML2.9*
GCG ***14*** *07:44:19.7±0.5, 13˚.22N×89˚.26W, h58km±7km, MD3.7*

ISC 14 07:44:17.3±1.7, 13˚.02N±0˚.07×89˚.28W±0˚.04, h24km±13km, n58, σ0s49/69, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**355**	S	**Sn**	**07 44 36.4**	**+0.4**
LALI	**Alcalda de L**	**0.47**	**355**	P	**Pb**	**07 44 25.1**	**-1.8**
PANCS	**Alcalda de**	**0.60**	**10**	P	**Pn**	**07 44 30.1**	**-0.2**
PANCS	**Alcalda de**	**0.60**	**10**	S	**Sn**	**07 44 38.6**	**-0.7**
LOMA	**Loma Larga**	**0.63**	**10**	*e*P	**Pn**	**07 44 30.7**	**-0.2**
LOMA				*e*S	**Sn**	**07 44 40.1**	**-0.1**
LOMA	**Loma Larga**	**0.63**	**10**	P	**Pb**	**07 44 30.5**	**+0.7**
LOMA	**Loma Larga**	**0.63**	**10**	S	**Sn**	**07 44 40.0**	**-0.3**
JAYA	**Jayaque - finc**	**0.65**	**346**	*e*P	**Pn**	**07 44 31.3**	**+0.1**
JAYA				*e*S	**Sn**	**07 44 40.3**	**-0.5**
JAYA	**Jayaque - finc**	**0.65**	**346**	*i* P	**Pn**	**07 44 31.3**	**+0.1**
JAYA				*i* S	**Sn**	**07 44 40.0**	**-0.8**
JAYA	**Jayaque - finc**	**0.65**	**346**	P	**Pn**	**07 44 31.2**	**+0.1**
UTEC	**Universidad Te**	**0.68**	**7**	S	**Sn**	**07 44 41.3**	**-0.1**
UTEC	**Universidad Te**	**0.68**	**7**	P	**Pn**	**07 44 31.5**	**0.0**
PMON	**Piamonte**	**0.69**	**357**	*e*P	**Pn**	**07 44 31.7**	**+0.1**
PMON				*e*S	**Sn**	**07 44 42.0**	**+0.4**
PMON	**Piamonte**	**0.69**	**357**	P	**Pn**	**07 44 31.8**	**+0.2**
PMON	**Piamonte**	**0.69**	**357**	S	**Sn**	**07 44 41.5**	**-0.1**
UEES	**Universidad Ev**	**0.69**	**3**	S	**Sn**	**07 44 41.6**	**-0.1**
UEES	**Universidad Ev**	**0.69**	**3**	P	**Pn**	**07 44 31.7**	**0.0**
UDBS	**Universidad Do**	**0.70**	**10**	P	**Pn**	**07 44 31.8**	**0.0**
UDBS	**Universidad Do**	**0.70**	**10**	S	**Sn**	**07 44 41.7**	**-0.2**
TECO	**Alcaldia de Te**	**0.71**	**43**	S	**Sn**	**07 44 41.0**	**-1.0**
TECO	**Alcaldia de Te**	**0.71**	**43**	P	**Pb**	**07 44 31.4**	**+0.4**
BOQS	**Boqueron**	**0.71**	**0**	*e*P	**Pn**	**07 44 32.3**	**+0.3**
BOQS				*e*S	**Sn**	**07 44 42.4**	**0.0**
LFU	**La Fuente**	**0.74**	**13**	*e*P	**Pn**	**07 44 32.8**	**+0.4**
PAVA	**Las Pavas**	**0.77**	**26**	P	**Pn**	**07 44 32.4**	**-0.3**
PAVA	**Las Pavas**	**0.77**	**26**	S	**Sn**	**07 44 42.9**	**-0.6**
UESV	**Universidad de**	**0.78**	**38**	S	**Sn**	**07 44 42.8**	**-1.0**
UESV	**Universidad de**	**0.78**	**38**	P	**Pn**	**07 44 32.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.87**	**38**	S	**Sb**	**07 44 45.3**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.87**	**38**	P	**Pn**	**07 44 34.0**	**-0.1**
CEVE	**Cerro Verde**	**0.87**	**338**	P	**Pb**	**07 44 34.6**	**+0.7**
PQSS	**Presa 15 de Se**	**0.92**	**49**	*e*P	**Pn**	**07 44 34.7**	**0.0**
PQSS				*e*S	**Sb**	**07 44 47.0**	**+0.5**
PQSS	**Presa 15 de Se**	**0.92**	**49**	P	**Pn**	**07 44 34.5**	**-0.2**
PQSS	**Presa 15 de Se**	**0.92**	**49**	S	**Sb**	**07 44 46.6**	**+0.1**
UNIC	**Universidad Ca**	**0.99**	**345**	S	**Sb

*DJA **14** 07:56:36.8±1.4,9°S±3°×12°8E±°, h25km±13km, M4.8/7, mB5.6/3, mb4.8/7, MLv4.8/7, Mw(mB)5.1/3*
ISC 14 07:56:36.5±0.5, 8°64S±0°05×128°38E±0°05, h35km, n74, σ2§11/71, mb4.5/26, MS3.6/5, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.96**	**77**	Pn	**Pn**	**07 57 21.2**	**+0.2**
SAUI	**Saumlaki**	**2.96**	**77**	S	**Sn**	**07 57 59.6**	**+4.2**
SOEI	**Soe**	**4.21**	**254**		**Pn**	**07 57 39.7**	**+1.4**
SOEI	**Soe**	**4.21**	**254**	P	**Pn**	**07 57 39.3**	**+1.0**
SOEI				S	**Sn**	**07 58 27.4**	**+1.0**
BNDI	**Bandanaira**	**4.36**	**20**	P	**Pn**	**07 57 40.6**	**+0.3**
BATI	**Baumata**	**4.91**	**251**	Pn	**Pn**	**07 57 49.4**	**+1.5**
	24nm,0.3s,baz=157,slow=7.7,SNR=5.7						
BATI				Sn	**Sn**	**07 58 43.8**	**+0.3**
	35nm,0.3s,baz=129,slow=22,SNR=3.7						
	51nm,0.3s						
BATI	**Baumata**	**4.91**	**251**	P	**Pn**	**07 57 49.5**	**+1.7**
MTN	**Manton Dam**	**4.98**	**147**		**Pn**	**07 57 52.2**	**+3.5**
EDFI	**Ende, Flores**	**6.62**	**269**	P	**Pn**	**07 58 11.8**	**+0.4**
FAKI	**Fak Fak**	**6.86**	**34**	Pn	**Pn**	**07 58 14.4**	**-0.3**
FAKI	**Fak Fak**	**6.86**	**34**	P	**Pn**	**07 58 15.4**	**+0.7**
	0.3nm65nm,1.3s						
KNRA	**Kununurra**	**7.00**	**177**		**Pn**	**07 58 18.3**	**+1.7**
BASI	**Baing, Sumba**	**7.86**	**258**	P	**Pn**	**07 58 29.1**	**+0.8**
BNSI	**Bone**	**9.24**	**297**	P	**Pn**	**07 58 47.1**	**-0.2**
	3µm46nm,1.2s						
KAPI	**Kappang**	**9.29**	**292**	LR	LR	08 02 42.2	
	comp=Z,393nm,19.1s,baz=110,slow=40						
FITZ	**Fitzroy Crossi**	**9.77**	**196**	Pn	**Pn**	**07 58 55.0**	**+0.4**
	1.4nm,0.3s,baz=25,slow=12,SNR=9.5						
FITZ				Sn	**Sn**	**08 00 39.7**	**-3.5**
	4.3nm,0.3s,baz=127,slow=22,SNR=7.2						
WB0	**Warramunga Arr**	**12.50**	**153**	Pn	**Pn**	**07 59 31.1**	**-0.9**
WRAB	**Tennant Creek**	**12.63**	**153**		**Pn**	**07 59 32.6**	**-1.1**
WRA	**Warramunga Arr**	**12.63**	**153**		**Pn**	**07 59 31.3**	**-2.4**
WRA	**Warramunga Arr**	**12.63**	**153**	Pn	**Pn**	**07 59 32.2**	**-1.6**
	1.5nm,0.3s,baz=338,slow=13,SNR=48						
WRA				Sn	**Sn**	**08 01 46.9**	**-6.4**
	2.8nm,0.3s,baz=334,slow=22,SNR=16						
WRA				LR	LR	08 04 07.9	
	comp=Z,135nm,20.0s,baz=59,slow=35						
WB2	**Warramunga Arr**	**12.63**	**153**	Pn	**Pn**	**07 59 32.7**	**-1.1**
WR8	**Warramunga Arr**	**12.71**	**153**	Pn	**Pn**	**07 59 33.1**	**-1.8**
WR0	**Warramunga Arr**	**12.73**	**153**	Pn	**Pn**	**07 59 34.0**	**-1.2**
MBWA	**Marble Bar**	**14.98**	**213**	Pn	**Pn**	**08 00 04.3**	**-1.5**
PSA00	**Pilbara Seismi**	**15.26**	**212**	Pn	**Pn**	**08 00 08.0**	**-1.5**
PSA00				IAmb	IAmb	08 00 19.2	
	comp=Z,19nm,0.8s						
COEN	**Coen**	**15.44**	**111**	Pn	**Pn**	**08 00 12.9**	**+1.1**
AS31	**Alice Springs**	**15.85**	**161**	Pn	**Pn**	**08 00 16.5**	**-0.6**
ASAR	**Alice Springs**	**15.85**	**161**		**Pn**	**08 00 17.9**	**+0.8**
ASAR	**Alice Springs**	**15.85**	**161**	Pn	**Pn**	**08 00 16.0**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=331,slow=9.2,SNR=62						
ASAR				Sn	**Sn**	**08 03 03.5**	**-8.4**
	comp=Z,1.1nm,0.3s,baz=329,slow=24,SNR=7.4						
ASAR				LR	LR	08 07 12.9	
	comp=Z,155nm,18.1s,baz=332,slow=40						
PMG	**Port Moresby**	**18.56**	**94**	LR	LR	08 10 05.3	
	comp=Z,104nm,19.5s,baz=170,slow=44						
SBUM	**Sibu**	**19.52**	**304**		**P**	**08 01 00.6**	**-0.4**
MORW	**Morawa**	**23.40**	**208**	P	**P**	**08 01 43.3**	**+0.9**
MORW				IAmb	IAmb	08 01 51.7	
	comp=Z,23nm,1.2s						
BBOO	**Buckleboo**	**25.08**	**165**	P	**P**	**08 02 00.6**	**+2.7**
BBOO				IAmb	IAmb	08 02 01.3	
	comp=Z,18nm,0.6s						
STKA	**Stephens Creek**	**26.18**	**154**	P	**P**	**08 02 09.6**	**+1.7**
STKA	**Stephens Creek**	**26.18**	**154**	P	**P**	**08 02 10.3**	**+2.5**
	comp=Z,3.8nm,0.6s,baz=328,slow=10,SNR=12						
	comp=Z,3.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**26.28**	**202**	P	**P**	**08 02 10.6**	**+1.9**
NWAO				IAmb	IAmb	08 02 38.5	
	comp=Z,32nm,1.2s						
HNR	**Honiara**	**31.18**	**94**	LR	LR	08 14 28.0	
	comp=Z,23nm,21.5s,baz=168,slow=34						
DZM	**Mont Dzumac**	**38.93**	**114**	LR	LR	08 20 20.9	
	comp=Z,80nm,19.0s,baz=221,slow=37						
CMAR	**Chiang Mai Arr**	**39.61**	**313**	LR	LR	08 21 09.1	
	comp=Z,36nm,21.9s,baz=125,slow=38						
KSRS	**Korea Array**	**45.85**	**359**	LR	LR	08 22 32.0	
	comp=Z,10µm,21.9s,baz=80,slow=34						
MJAR	**Matsushiro Arr**	**45.88**	**11**	P	**P**	**08 04 52.5**	**-3.0**
	comp=Z,1.3nm,0.7s,baz=187,slow=9.1,SNR=4.2						
	comp=Z,1.3nm,0.7s						
CN2	**Changchun**	**52.26**	**357**	P	P	08 05 37.9	-6.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**59.51**	**343**	P	**P**	**08 06 34.1**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=149,slow=6.7,SNR=2.1						
	comp=Z,0.4nm,0.4s						
PETK	**Petropavlovsk-**	**66.38**	**19**	P	**P**	**08 07 19.9**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=197,slow=6.7,SNR=3.2						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**68.73**	**328**	P	**P**	**08 07 35.5**	**-1.2**
MKAR	**Makanchi Array**	**68.73**	**328**	P	**P**	**08 07 35.4**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=130,slow=7.9,SNR=13						
	comp=Z,1.6nm,0.6s						
VNDA	**Vanda**	**71.03**	**173**	LR	LR	08 38 57.2	
	comp=Z,37nm,18.2s,baz=326,slow=36						
ZALV	**Zalesovo Beam**	**72.35**	**335**	P	**P**	**08 07 56.8**	**-1.8**
	comp=Z,2.3nm,0.3s,baz=134,slow=6.2,SNR=1.0						
	comp=Z,2.3nm,0.3s						
MAW	**Mawson**	**72.85**	**201**	P	**P**	**08 08 04.5**	**+3.1**
	comp=Z,2.5nm,0.6s,baz=86,slow=4.7,SNR=15						
	comp=Z,2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**73.08**	**329**	P	**P**	**08 08 01.8**	**-1.2**
	comp=Z,4.2nm,0.7s,baz=135,slow=5.2,SNR=26						
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**73.09**	**330**	P	**P**	**08 08 01.8**	**-1.3**
KURK				IAmb	IAmb	08 08 02.5	
	comp=Z,6.2nm,0.8s						
BVAR	**Borovoye Array**	**78.60**	**328**	P	**P**	**08 08 33.2**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=134,slow=6.4,SNR=7.4						
	comp=Z,1.1nm,0.5s						
VOI	**Vohitsoka**	**79.06**	**249**	P	**P**	**08 08 40.1**	**+2.2**
QSPA	**South Pole Qui**	**81.35**	**180**	P	**P**	**08 08 52.3**	**+3.0**
QSPA				IAmb	IAmb	08 09 12.8	
	comp=Z,10nm,1.5s						
QSPA	**South Pole Qui**	**81.35**	**180**	P	**P**	**08 08 51.0**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=265,slow=1.6,SNR=8.4						
	comp=Z,1.1nm,0.8s						
ABKAR	**Akbulak array**	**82.80**	**322**	P	**P**	**08 08 55.8**	**-1.2**
AKTO	**Aktyubinsk**	**84.39**	**323**	P	**P**	**08 09 03.2**	**-2.0**
	comp=Z,1.7nm,0.6s,baz=149,slow=3.7,SNR=6.2						
	comp=Z,1.7nm,0.6s						
ARTI	**Arti**	**86.33**	**328**	P	**P**	**08 09 12.7**	**-2.0**
	comp=Z,3.2nm,0.7s,baz=113,slow=1.8,SNR=5.5						
	comp=Z,3.2nm,0.7s						
M14K	**Bethel**	**87.78**	**27**	P	**P**	**08 09 22.4**	**+0.8**
M16K	**Timber Creek**	**89.25**	**28**	P	**P**	**08 09 29.3**	**+0.6**
M16K				IAmb	IAmb	08 10 13.5	
	comp=Z,5.6nm,1.2s						
J20K	**Nowinta River**	**92.31**	**25**	P	**P**	**08 09 43.5**	**+0.8**
J20K				IAmb	IAmb	08 10 24.5	
	comp=Z,6.0nm,1.3s						
SKT	**Skwentna**	**92.93**	**28**	P	**P**	**08 09 45.0**	**-0.7**
SKT				IAmb	IAmb	08 10 10.3	
	comp=Z,9.2nm,1.5s						
CAST	**Castle Rocks**	**93.01**	**26**	P	**P**	**08 09 46.3**	**+0.2**
CAST				IAmb	IAmb	08 09 48.0	
	comp=Z,1.8nm,0.8s						
SUA	**Susitna One**	**93.19**	**28**	P	**P**	**08 09 47.0**	**0.0**
SNAA	**Sanae**	**93.70**	**194**	P	**P**	**08 09 52.1**	**+2.8**
SNAA	**Sanae**	**93.70**	**194**	P	**P**	**08 09 52.1**	**+2.8**
	comp=Z,1.2nm,0.7s,baz=161,slow=7.9,SNR=14						
	comp=Z,1.2nm,0.7s						
RND	**Reindeer**	**94.43**	**27**	P	**P**	**08 09 51.9**	**-0.8**
CCB	**Clear Creek Bu**	**95.10**	**25**	P	**P**	**08 09 54.9**	**-0.7**
CCB				IAmb	IAmb	08 10 04.0	
	comp=Z,5.3nm,1.2s						
ILAR	**Eielson Array**	**95.51**	**25**	P	**P**	**08 09 55.8**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.1,SNR=5.7						
	comp=Z,0.6nm,0.8s						
L27K	**Beaver Creek,**	**97.54**	**27**	P	**P**	**08 10 07.1**	**+0.3**
L27K				IAmb	IAmb	08 10 08.4	
	comp=Z,2.2nm,0.8s						
BCAR	**Beaver Creek A**	**97.56**	**27**	P	**P**	**08 10 07.3**	**+0.4**
DAWY	**Dawson**	**98.68**	**26**	P	**P**	**08 10 12.4**	**+0.4**
DAWY				IAmb	IAmb	08 10 12.9	
	comp=Z,1.4nm,0.8s						
CPUP	**Villa Florida**	**144.80**	**171**	PKPbc	**PKPdf**	**08 16 11.8**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=5.2,slow=1.8,SNR=14						
LPAZ	**La Paz**	**150.33**	**147**	PKPbc	**PKiKP**	**08 16 28.6**	**+1.9**
	comp=Z,3.1nm,0.8s,baz=140,slow=2.7,SNR=12						

*ASRS **14** 07:59:34.0±0.9,54°.15N×86°.39E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 14 07:59:37.3±2.5, 54°.11N×86°.47E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=20.4km s-min=13.9km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**261**	I	I	08 06 16.5	
	baz=79,slow=314,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.99**	**261**	Pg	Pg	07 59 55.1	-1.2
	1.0nm,0.3s,baz=81,slow=17,SNR=7.6						
ZALV				Lg	Lg	08 00 11.1	
	2.2nm,0.3s,baz=81,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	08 01 07.8	+0.7
	0.1nm,0.3s,baz=55,slow=13,SNR=9.7						
KURBB				Sn	Sn	08 02 14.8	-1.5
	baz=206,slow=27,SNR=1.7						
KURBB				Lg	Lg	08 02 46.6	
	baz=53,slow=35,SNR=2.7						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.80**	**202**	Pn	Pn	08 01 33.2	+1.2
	0.3nm,0.3s,baz=25,slow=13,SNR=10.0						
	0.5nm,0.3s						

*JMA **14** 08:06:05.5±0.1,24°.4N±0°.6×122°.3E±0°.2, h70km±1km, MV2.6/13, TAIWAN REGION*
*TAP **14** 08:06:05.5,24°.48N×122°.23E, h70km, ML3.5, C*
ISC 14 08:06:05.3±1.2, 24°.48N±0°.02×122°.26E±0°.02, h73km±5km, n117, σ1§06/232, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.07**	**200**	*e*P	**Pn**	**08 06 16.5**	**+0.9**
EOS2				*e*S	**Sn**	**08 06 24.6**	**+1.4**
EOS3	**EOS3**	**0.20**	**164**	*e*P	**Pn**	**08 06 16.8**	**+0.7**
EOS3				*e*S	**Sn**	**08 06 25.4**	**+1.6**
EOS4	**EOS4**	**0.36**	**171**	*e*P	**Pn**	**08 06 17.8**	**+1.1**
EOS4				*e*S	**Sn**	**08 06 25.7**	**+0.5**
ESAO	**Su ao**	**0.39**	**284**	*i* P	**Pn**	**08 06 17.6**	**+0.3**
ESAO				*i* S	**Sn**	**08 06 25.8**	**-0.4**
TWC	**Suao**	**0.39**	**289**	*i* P	**Pn**	**08 06 17.2**	**-0.2**
TWC				*i* S	**Sn**	**08 06 25.4**	**-0.9**
EWUT	**Wuta**	**0.44**	**266**	*i* P	**Pn**	**08 06 17.6**	**-0.1**
EWUT				S	**Sn**	**08 06 26.9**	**-0.1**
EGS		**0.47**	**321**	*i* P	**Pn**	**08 06 17.8**	**-0.2**
EGS				S	**Sn**	**08 06 26.5**	**-0.9**
ENA	**Nanau**	**0.47**	**264**	*i* P	**Pn**	**08 06 18.0**	**-0.1**
ENA				*i* S	**Sn**	**08 06 27.3**	**-0.2**
EAHA	**Aohua**	**0.49**	**252**	*i* P	**Pn**	**08 06 18.1**	**-0.2**
EAHA				*i* S	**Sn**	**08 06 27.9**	**0.0**
NTC	**Toucheng**	**0.54**	**314**	*e*P	**Pn**	**08 06 19.3**	**+0.6**
NTC				*i* S	**Sn**	**08 06 28.3**	**-0.3**
ILA	**Ilan**	**0.54**	**302**	*e*P	**Pn**	**08 06 19.1**	**+0.4**
ILA				*i* S	**Sn**	**08 06 28.8**	**+0.1**
TWB1	**Santiao Chiao**	**0.58**	**335**	*i* P	**Pn**	**08 06 18.6**	**-0.5**
TWB1				*i* S	**Sn**	**08 06 27.8**	**-1.4**
TWE	**Neicheng**	**0.59**	**294**	*i* P	**Pn**	**08 06 19.4**	**+0.3**
TWE				*i* S	**Sn**	**08 06 29.1**	**-0.3**
TIPB	**Shuangxi**	**0.63**	**321**	*i* P	**Pn**	**08 06 19.4**	**-0.3**
TIPB				*i* S	**Sn**	**08 06 29.2**	**-1.0**
JYNG	**Yonagunijimaku**	**0.63**	**92**	P	**Pn**	**08 06 19.9**	**+0.3**
JYNG				S	**Sn**	**08 06 30.1**	**-0.1**
ENTT	**Nioudou**	**0.65**	**284**	⇓*i*P	**Pn**	**08 06 20.2**	**+0.4**
ENTT				S	**Sn**	**08 06 30.4**	**-0.2**
ETL	**Fush Village**	**0.66**	**241**	*i* P	**Pn**	**08 06 19.4**	**-0.5**
ETL				*i* S	**Sn**	**08 06 30.2**	**-0.7**
LATG	**Datong**	**0.67**	**275**	*i* P	**Pn**	**08 06 20.2**	**+0.1**
LATG				*i* S	**Sn**	**08 06 30.7**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.67**	**295**	*i* P	**Pn**	**08 06 20.5**	**+0.4**
FUSB				*i* S	**Sn**	**08 06 30.9**	**-0.2**
NACB	**Ninganchiao**	**0.68**	**243**	*i* P	**Pn**	**08 06 19.4**	**-0.8**
NACB				*e*S	**Sn**	**08 06 30.1**	**-1.0**
YOJ	**Yonaguni jima**	**0.69**	**91**	*i* P	**Pn**	**08 06 20.6**	**+0.3**
YOJ				*i* S	**Sn**	**08 06 31.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.69**	**91**	P	**Pn**	**08 06 20.5**	**+0.3**
YOJ				S	**Sn**	**08 06 31.2**	**-0.1**
SXI1	**Grass Mountain**	**0.70**	**331**	*i* P	**Pn**	**08 06 20.2**	**-0.3**
SXI1				*i* S	**Sn**	**08 06 30.9**	**-0.9**
NWF	**Wu-fen Shan**	**0.73**	**324**	*i* P	**Pn**	**08 06 20.8**	**0.0**
NWF				*i* S	**Sn**	**08 06 31.6**	**-0.7**
WFSB	**Wu-fen Shan**	**0.73**	**324**	*i* P	**Pn**	**08 06 20.9**	**+0.2**
WFSB				*i* S	**Sn**	**08 06 31.5**	**-0.6**
NWLT	**Wulai**	**0.75**	**293**	⇓*i*P	**Pn**	**08 06 21.5**	**+0.6**
NWLT				*i* S	**Sn**	**08 06 32.6**	**+0.1**
ETLH	**Xiulin Townshi**	**0.76**	**249**	*i* P	**Pn**	**08 06 20.9**	**-0.2**
ETLH				*i* S	**Sn**	**08 06 32.4**	**-0.4**
HWA	**Hwalien**	**0.78**	**230**	*i* P	**Pn**	**08 06 21.2**	**0.0**
HWA				*i* S	**Sn**	**08 06 33.2**	**+0.1**
TWA	**Mucha**	**0.79**	**309**	*i* P	**Pn**	**08 06 21.3**	**-0.1**
TWA				*i* S	**Sn**	**08 06 32.5**	**-0.9**
NNSB	**Datong**	**0.80**	**266**	*i* P	**Pn**	**08 06 21.6**	**0.0**
NNSB				S	**Sn**	**08 06 32.6**	**-0.2**
TNOU	**National Taiwa**	**0.80**	**327**	*i* P	**Pn**	**08 06 21.0**	**-0.5**
TNOU				*i* S	**Sn**	**08 06 32.8**	**-0.7**
NHDH	**Xindian Distri**	**0.82**	**306**	*i* P	**Pn**	**08 06 22.6**	**+0.8**
NHDH				*i* S	**Sn**	**08 06 33.8**	**-0.1**
YHNB	**Yeheng**	**0.82**	**283**	⇓*i*P	**Pn**	**08 06 22.2**	**+0.3**
YHNB				*i* S	**Sn**	**08 06 34.3**	**+0.2**
TEYL	**Yanliau Villag**	**0.86**	**225**	*i* P	**Pn**	**08 06 22.1**	**-0.1**
TEYL				*e*S	**Sn**	**08 06 34.0**	**-0.6**
ETM	**Tongmen**	**0.86**	**234**	*i* P	**Pn**	**08 06 21.9**	**-0.4**
ETM				*i* S	**Sn**	**08 06 34.0**	**-0.9**
YM01	**YM01**	**0.91**	**317**	*i* P	**Pn**	**08 06 22.8**	**-0.1**
YM01				*i* S	**Sn**	**08 06 35.2**	**-0.8**
YM08	**YM08**	**0.93**	**319**	P	**Pn**	**08 06 22.9**	**-0.2**
YM08				*i* S	**Sn**	**08 06 34.7**	**-1.6**
SHUL	**Shoufeng**	**0.94**	**223**	*i* P	**Pn**	**08 06 23.0**	**-0.1**
SHUL				*i* S	**Sn**	**08 06 35.5**	**-0.9**
ZUZH	**Zhuzihu**	**0.94**	**317**	*i* P	**Pn**	**08 06 22.9**	**-0.3**
ZUZH				*i* S	**Sn**	**08 06 35.2**	**-1.3**
FUSS	**Fushou**	**0.95**	**256**	*i* P	**Pn**	**08 06 23.9**	**+0.3**
FUSS				*e*S	**Sn**	**08 06 36.0**	**-1.1**
WHF	**Hehuan Shan**	**0.96**	**250**	*i* P	**Pn**	**08 06 23.8**	**-0.1**
WHF				*i* S	**Sn**	**08 06 37.1**	**-0.5**
TWS1	**Kuangyinshan**	**0.98**	**309**	*i* P	**Pn**	**08 06 23.9**	**+0.3**
TWS1				*i* S	**Sn**	**08 06 37.3**	**-0.1**
TWY	**Chenhua**	**0.99**	**323**	P	**Pn**	**08 06 23.6**	**-0.2**
TWY				*i* S	**Sn**	**08 06 37.5**	**-0.1**
NTST	**Danshui**	**1.00**	**313**	*i* P	**Pn**	**08 06 24.3**	**+0.4**
NTST				*i* S	**Sn**	**08 06 37.5**	**-0.3**
ESL	**Shilin**	**1.00**	**229**	*i* P	**Pn**	**08 06 23.3**	**-0.7**
ESL				*i* S	**Sn**	**08 06 36.7**	**-1.1**
TEGC	**Jichi Village**	**1.01**	**221**	*i* P	**Pn**	**08 06 24.2**	**+0.2**
TEGC				*i* S	**Sn**	**08 06 37.7**	**-0.3**
TWT	**Tachien**	**1.01**	**257**	P	**Pn**	**08 06 24.3**	**+0.1**
TWT				*i* S	**Sn**	**08 06 38.5**	**+0.2**
KSHI	**Guanxi Townshi**	**1.03**	**287**	*i* P	**Pn**	**08 06 25.0**	**+0.8**
KSHI				*i* S	**Sn**	**08 06 39.7**	**+1.3**
TDCB	**Techi**	**1.03**	**258**	*i* P	**Pn**	**08 06 24.9**	**+0.6**
TDCB				*i* S	**Sn**	**08 06 38.4**	**-0.2**
NFF	**Wufeng Townshi**	**1.05**	**279**	*i* P	**Pn**	**08 06 25.1**	**+0.6**
NFF				*i* S	**Sn**	**08 06 39.0**	**0.0**
NCUH	**Zhongli**	**1.09**	**297**	*i* P	**Pn**	**08 06 25.4**	**+0.4**
NCUH				*i* S	**Sn**	**08 06 40.3**	**+0.5**
WARBT	**Fenglin Townsh**	**1.10**	**227**	*i* P	**Pn**	**08 06 24.4**	**-0.8**
WARBT				*i* S	**Sn**	**08 06 38.1**	**-1.9**
EGFH	**Guangfu**	**1.11**	**223**	*i* P	**Pn**	**08 06 24.9**	**-0.4**
EGFH				*i* S	**Sn**	**08 06 38.4**	**-1.8**
OWD	**Renai**	**1.12**	**242**	*i* P	**Pn**	**08 06 25.5**	**0.0**
OWD				*i* S	**Sn**	**08 06 39.2**	**-1.4**
LIOB	**Emei**	**1.14**	**279**	*i* P	**Pn**	**08 06 26.5**	**+0.8**
LIOB				*i* S	**Sn**	**08 06 41.9**	**+0.9**
WUSB	**Renai**	**1.15**	**245**	*i* P	**Pn**	**08 06 26.2**	**+0.3**
WUSB				*i* S	**Sn**	**08 06 40.0**	**-1.3**
NSTT	**Nanjuang**	**1.15**	**278**	*i* P	**Pn**	**08 06 26.4**	**+0.6**
NSTT				*i* S	**Sn**	**08 06 41.5**	**+0.3**
PCYT	**Pengchaiyu**	**1.16**	**352**	*i* P	**Pn**	**08 06 26.4**	**+0.5**
PCYT				*e*S	**Sn**	**08 06 41.3**	**0.0**
SBCB	**Hsinchu**	**1.20**	**285**	*e*P	**Pn**	**08 06 26.5**	**+0.1**
SBCB				S	**Sn**	**08 06 44.0**	**+1.8**
WHP	**Taichung City**	**1.21**	**261**	*i* P	**Pn**	**08 06 28.0**	**+1.3**
WHP				*i* S	**Sn**	**08 06 43.2**	**+0.5**
HGSD	**Ruisui**	**1.24**	**218**	*i* P	**Pn**	**08 06 26.7**	**-0.3**
HGSD				S	**Sn**	**08 06 43.1**	**-0.2**
VWDT	**VWDT**	**1.25**	**235**	⇓*i*P	**Pn**	**08 06 27.3**	**+0.3**
VWDT				*i* S	**Sn**	**08 06 42.6**	**-0.8**
EHYH	**Wanrong**	**1.29**	**221**	*i* P	**Pn**	**08 06 26.5**	**-1.1**
EHYH				*i* S	**Sn**	**08 06 42.7**	**-1.6**
WCS	**Beigang Elemen**	**1.30**	**251**	*i* P	**Pn**	**08 06 28.7**	**+1.0**
WCS				*i* S	**Sn**	**08 06 46.0**	**+1.5**
NMLH	**Miaoli**	**1.34**	**273**	*i* P	**Pn**	**08 06 29.1**	**+0.9**
NMLH				*e*S	**Sn**	**08 06 46.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.35**	**96**	P	**Pn**	**08 06 28.6**	**+0.2**
IRIF				S	**Sn**	**08 06 45.8**	**0.0**
TWQ1	**Liyutan**	**1.36**	**265**	*i* P	**Pn**	**08 06 29.0**	**+0.5**
TWQ1				S	**Sn**	**08 06 46.2**	**+0.3**
NSY	**Sanyi**	**1.36**	**268**	*i* P	**Pn**	**08 06 29.8**	**+1.2**
NSY				*e*S	**Sn**	**08 06 46.2**	**+0.1**
ECBN	**Changbin**	**1.37**	**213**	*e*P	**Pn**	**08 06 28.3**	**-0.4**
ECBN				*i* S	**Sn**	**08 06 44.9**	**-1.3**
SMLT	**Sun Moon Lake**	**1.37**	**245**	*i* P	**Pn**	**08 06 29.7**	**+1.0**
SMLT				*i* S	**Sn**	**08 06 47.9**	**+1.4**
SSLB	**Suanglung**	**1.38**	**240**	*i* P	**Pn**	**08 06 29.1**	**+0.4**
SSLB				*i* S	**Sn**	**08 06 46.3**	**0.0**
YULB	**Yu-li**	**1.39**	**219**	*i* P	**Pn**	**08 06 28.1**	**-0.9**
YULB				*e*S	**Sn**	**08 06 44.8**	**-2.0**
TYC	**Yuchr**	**1.40**	**246**	*i* P	**Pn**	**08 06 30.3**	**+1.3**
TYC				*i* S	**Sn**	**08 06 48.7**	**+1.8**
TWF1	**Yuli**	**1.43**	**218**	*i* P	**Pn**	**08 06 28.7**	**-0.7**
TWF1				*i* S	**Sn**	**08 06 45.6**	**-1.9**
TCU	**Taichung**	**1.48**	**257**	*e*P	**Pn**	**08 06 30.8**	**+0.8**
TCU				*i* S	**Sn**	**08 06 51.0**	**+2.3**
WDJ	**Dajia District**	**1.48**	**265**	*i* P	**Pn**	**08 06 31.1**	**+1.0**
WDJ				*e*S	**Sn**	**08 06 49.1**	**+0.4**
WHYT	**Xinyi Township**	**1.50**	**239**	*i* P	**Pn**	**08 06 31.7**	**+1.3**
WHYT				*i* S	**Sn**	**08 06 50.5**	**+1.2**
CHKH	**Chenggong**	**1.50**	**212**	*e*P	**Pn**	**08 06 30.0**	**-0.4**
CHKH				*i* S	**Sn**	**08 06 47.5**	**-1.8**
WJS	**Zhushan**	**1.54**	**245**	*i* P	**Pn**	**08 06 32.5**	**+1.6**
WJS				*i* S	**Sn**	**08 06 52.2**	**+1.9**
FULB	**Fuli**	**1.55**	**215**	*i* P	**Pn**	**08 06 31.0**	**0.0**
FULB				*i* S	**Sn**	**08 06 49.9**	**-0.5**
WNT	**Mingjian**	**1.56**	**248**	*i* P	**Pn**	**08 06 32.8**	**+1.7**
WNT				*i* S	**Sn**	**08 06 52.9**	**+2.3**
CHKT	**Chengkung**	**1.60**	**211**	P	**Pn**	**08 06 31.9**	**+0.3**
CHKT				*i* S	**Sn**	**08 06 48.9**	**-2.6**
WCHH	**Zhanghua**	**1.60**	**256**	P	**Pn**	**08 06 31.9**	**+0.3**
WCHH				*i* S	**Sn**	**08 06 52.9**	**+1.3**
JKRS	**Kuro-shima**	**1.62**	**98**	P	**Pn**	**08 06 32.7**	**+0.8**
JKRS				S	**Sn**	**08 06 52.7**	**+0.7**
EHD	**Haiduan**	**1.64**	**216**	*i* P	**Pn**	**08 06 31.9**	**-0.2**
EHD				*e*S	**Sn**	**08 06 50.1**	**-2.4**
ALS	**Alishan**	**1.64**	**234**	*i* P	**Pn**	**08 06 33.8**	**+1.3**
ALS				*i* S	**Sn**	**08 06 54.6**	**+1.6**
ECS	**Chishang**	**1.67**	**215**	*e*P	**Pn**	**08 06 31.3**	**-1.4**
ECS				*i* S	**Sn**	**08

TIMP	**Tierras Morena**	**1.27**	**80**	⇑*iP*	**Pn**	**08 12 44.7**	**+0.2**
TIMP				*eS*	**Sn**	**08 13 01.6**	**+0.4**
JAPN	**Al SSO del Vol**	**1.30**	**28**	*eP*	**Pn**	**08 12 44.9**	**+0.1**
JAPN	**Al SSO del Vol**	**1.30**	**28**	P	**Pn**	**08 12 45.0**	**+0.1**
OMEN	**Al SSO del Vol**	**1.31**	**30**	P	**Pn**	**08 12 45.1**	**+0.1**
JUNT	**Juntas**	**1.31**	**94**	*eP*	**Pn**	**08 12 44.6**	**-0.4**
JTS	**Las Juntas de**	**1.32**	**93**	*eP*	**Pn**	**08 12 44.9**	**-0.2**
JTS	**Las Juntas de**	**1.32**	**93**	P	**Pn**	**08 12 44.5**	**-0.6**
TENO	**El Achiote**	**1.33**	**75**	*eP*	**Pn**	**08 12 44.5**	**-0.8**
UPAL	**Upala**	**1.36**	**67**	*eP*	**Pn**	**08 12 45.8**	**+0.1**
UPAL	**Upala**	**1.36**	**67**	P	**Pn**	**08 12 45.8**	**+0.1**
UPAL	**Upala**	**1.36**	**67**	S	**Sn**	**08 13 02.9**	**-0.4**
NADN	**Granada**	**1.40**	**10**	P	**Pn**	**08 12 46.2**	**0.0**
NADN				S	**Sg**	**08 13 06.8**	**+0.2**
QUEB	**Quebradon, Cot**	**1.40**	**79**	*eP*	**Pn**	**08 12 46.8**	**+0.6**
QUEB				*eS*	**Sg**	**08 13 05.7**	**-1.0**
TABAC	**Tabacon**	**1.50**	**85**	*eP*	**Pb**	**08 12 49.0**	**0.0**
CASO	**Castillo**	**1.53**	**87**	*eP*	**Pb**	**08 12 49.2**	**-0.2**
VARE2	**V. Arenal**	**1.55**	**86**	*eP*	**Pn**	**08 12 48.7**	**+0.4**
NANN	**Nandasmo**	**1.57**	**6**	P	**Pb**	**08 12 49.9**	**-0.2**
SOCE	**Pocosol**	**1.65**	**89**	*eP*	**Pb**	**08 12 51.4**	**+0.1**
SOCE	**Pocosol**	**1.65**	**89**	P	**Pb**	**08 12 50.9**	**-0.5**
UNAN	**Cigeo UNAN**	**1.73**	**1**	P	**Pn**	**08 12 51.0**	**+0.2**
COPN	**Copaltepe**	**1.82**	**351**	*eP*	**Pn**	**08 12 51.9**	**-0.1**
COPN	**Copaltepe**	**1.82**	**351**	P	**Pn**	**08 12 52.4**	**+0.3**
ACON	**Acoyapa**	**1.93**	**35**	P	**Pn**	**08 12 52.5**	**-1.0**
ACON	**Acoyapa**	**1.93**	**35**	S	**Sn**	**08 13 17.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**2.16**	**16**	P	**Pn**	**08 12 56.5**	**-0.1**

BJI **14** *08:13:51.9,30˚.37N×94˚.83E,h8km,mB4.9/8,mb4.5/41, ML4.1/12,Ms4.0/25,Ms7 3.7/26*
NDI **14** *08:13:53.6±1.9,30˚.50N×94˚.81E,h8km±15km,ML4.9, MW4.6,mb4.9(NEIC)*
MOS **14** *08:13:53.7±1.2,30˚.36N×94˚.84E,h21km,mb5.1/35,Error ellipse: s-maj=8.1km s-min=4.1km az=122.6*
NEIC **14** *08:13:54.6±2.4,30˚.5N±0˚.1×94˚.8E±0˚.1,h10km±1km, mb4.9/122,Error ellipse: s-maj=17.4km s-min=14.4km az=24.0*
IDC **14** *08:13:58.3±2.5,30˚.39N×94˚.82E,h49km±25km,mb4.1/19, mbtmp4.3/23,ML4.1/4,MS3.3/4,Error ellipse: s-maj=19.5km s-min=11.4km az=49.0*
ISC 14 08:13:55.7±0.3**,30˚.37N**±0˚.04×**94˚.84E**±0˚.03**,h23**km**,n309,** σ1**ś76**/286**,mb4.8**/123**,MS3.2**/5**,17C-11D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIBR	**DIBRUGARH**	**2.89**	**179**	*eP*	Pb	08 15 14.3	+28
DIBR				*eS*	Sb	08 16 13.3	+52
DIBR				IAML		08 16 13.8	
	comp=E,5μm,0.3s						
DIBR				IAML		08 16 14.1	
	comp=N,5μm,0.4s						
LSA	**Lhasa**	**3.27**	**259**		**Pn**	**08 14 46.8**	**+0.8**
LSA	**Lhasa**	**3.27**	**259**	Pn	**Pn**	**08 14 47.3**	**+1.3**
LSA				Sn	**Sb**	**08 15 33.6**	**+0.7**
LSA				LR	LR		
	comp=N,2μm,4.6s						
LSA				LR	LR		
	comp=N,2μm,3.8s						
LSA	**Lhasa**	**3.27**	**259**	P	**Pn**	**08 14 46.8**	**+0.8**
ITAN	**ITANAGAR**	**3.36**	**197**	*eP*	**Pn**	**08 14 47.7**	**+0.9**
ITAN				*eS*	**Sn**	**08 15 27.1**	**+1.1**
ITAN				IAML		08 15 32.6	
	comp=E,5μm,0.7s						
JORH	**JORHAT**	**3.65**	**188**	*eP*	**Pn**	**08 14 52.1**	**+1.2**
JORH				*eS*	**Sn**	**08 15 35.0**	**+1.8**
JORH				IAML		08 15 38.2	
	comp=E,4μm,0.4s						
JORH				IAML		08 15 38.8	
	comp=N,4μm,0.1s						
TEZP	**TEZPUR**	**4.15**	**206**	*eP*	**Pn**	**08 15 00.2**	**+2.5**
TEZP				*eS*	**Sn**	**08 15 46.0**	**+0.5**
TEZP				IAML		08 15 48.4	
	comp=E,1μm,0.4s						
KOHI	**KOHIMA**	**4.68**	**188**	*eP*	**Pn**	**08 15 05.2**	**+0.1**
KOHI				*eS*	**Sn**	**08 15 59.6**	**+0.8**
KOHI				IAML		08 16 07.3	
	comp=N,2μm,0.8s						
GUWA	**GUWAHATI**	**5.00**	**214**	*eP*	**Pn**	**08 15 10.4**	**+1.0**
GUWA				*eS*	**Sn**	**08 16 07.6**	**+1.0**
GUWA				IAML		08 16 08.8	
	comp=E,3μm,0.9s						
GUWA				IAML		08 16 10.4	
	comp=N,3μm,0.6s						
SHL	**Shillong**	**5.45**	**209**		**Pn**	**08 15 15.4**	**-0.4**
SHL	**Shillong**	**5.45**	**209**	*eP*	**Pn**	**08 15 16.5**	**+0.7**
SHL				*eS*	**Sn**	**08 16 16.2**	**-1.7**
SHL				IAML		08 16 17.6	
	comp=E,2μm,0.8s						
SHL				IAML		08 16 17.9	
	comp=N,2μm,0.7s						
SHL	**Shillong**	**5.45**	**209**	P	**Pn**	**08 15 15.4**	**-0.4**
IMP	**Imphal**	**5.58**	**188**	*eP*	**Pn**	**08 15 17.6**	**+0.2**
IMP				*eS*	**Sn**	**08 16 19.5**	**-1.3**
IMP				IAML		08 16 20.0	
	comp=E,4μm,0.3s						
IMP				IAML		08 16 20.5	
	comp=N,4μm,0.3s						
GOMU	**GeErMu**	**5.81**	**360**	Pn	**Pn**	**08 15 21.8**	**+0.9**
GOMU				Sn	**Sn**	**08 16 29.8**	**+2.8**
GOMU				LR	LR		
	comp=N,640nm,8.4s						
GOMU				LR	LR		
	comp=N,620nm,8.2s						
GOMU				LR	LR		
	comp=N,300nm,8.7s						
TNCH	**TengChong**	**6.24**	**148**	Pn	**Pn**	**08 15 24.1**	**-2.5**
TNCH				Sn	**Sn**	**08 16 39.0**	**+1.6**
TNCH				Sg	Sb	08 17 14.6	+16
TNCH				smax	smax		
	comp=N,300nm,1.5s						
TNCH				smax	smax		
	comp=N,280nm,1.8s						
TNCH				LR	LR		
	comp=N,280nm,4.0s						
GTK	**Tadong**	**6.26**	**242**	*eP*	**Pn**	**08 15 25.8**	**-1.1**
GTK				*eS*	**Sn**	**08 16 33.9**	**-3.9**
GTK				IAML		08 16 35.0	
	comp=N,3μm,0.2s						
GTK				IAML		08 16 35.1	
	comp=E,3μm,0.2s						
AZL	**Aizawl**	**6.88**	**197**	*eP*	**Pn**	**08 15 36.8**	**+1.5**
AZL				*eS*	**Sn**	**08 16 51.2**	**-1.8**
AZL				IAML		08 16 54.5	
	comp=N,4μm,0.2s						
PZH	**PanZhiHua**	**7.19**	**121**	P	**Pn**	**08 15 43.9**	**+4.2**
PZH				S	**Sn**	**08 17 07.3**	**+6.6**
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
PZH				LR	LR		
	comp=N,590nm,10.2s						
PZH				LR	LR		
	comp=E,530nm,6.2s						
PZH				LR	LR		
	comp=Z,470nm,8.8s						
EVN	**Everest**	**7.42**	**253**	Pn	**Pn**	**08 15 43.5**	**+0.3**
CD2	**Chengdu**	**7.70**	**84**	Pn	**Pn**	**08 15 46.1**	**-0.4**
CD2				Sn	**Sn**	**08 17 15.8**	**+2.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CD2				LR	LR		
	comp=Z,550nm,5.9s						
CD2				LR	LR		
	comp=Z,800nm,8.0s						
BRDH	**Bariadhala**	**8.18**	**201**	P	**Pn**	**08 15 55.3**	**+2.2**
	comp=Z,8.0nm,0.3s,baz=52,slow=22,SNR=1.6						
	comp=Z,36nm,0.3s						
KMI	**Kunming**	**8.73**	**125**	P	**Pn**	**08 16 02.8**	**+1.9**
KMI				smax	smax		
	comp=Z,75nm,1.8s						
KMI				smax	smax		
	comp=Z,47nm,1.5s						
KMI				LR	LR		
	comp=Z,350nm,3.8s						
KMI				LR	LR		
	comp=Z,220nm,3.6s						
KMI				LR	LR		
	comp=Z,240nm,7.4s						
LZH	**Lanzhou**	**9.45**	**51**	*eP*	**Pn**	**08 16 06.9**	**-3.7**
LZH				sP		08 16 13.8	
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				LR	LR		
	comp=Z,370nm,13.3s						
LZH				LR	LR		
	comp=Z,450nm,10.8s						
LZH				LR	LR		
	comp=Z,310nm,9.5s						
GTA	**Gaotai**	**9.90**	**23**	*eP*	**Pn**	**08 16 18.5**	**+1.8**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				LR	LR		
	comp=Z,260nm,10.0s						
GTA				LR	LR		
	comp=Z,210nm,10.8s						
GTA				LR	LR		
	comp=Z,230nm,9.2s						
GYA	**Guiyang**	**11.11**	**108**	⇑P	**Pn**	**08 16 33.9**	**+0.5**
GYA				pmax	pmax		
	comp=Z,25nm,0.8s						
CHTO	**Chiang Mai**	**12.10**	**161**		**Pn**	**08 16 48.3**	**+1.6**
CHTO	**Chiang Mai**	**12.10**	**161**	P	**Pn**	**08 16 48.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**12.43**	**162**		**Pn**	**08 16 51.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**12.43**	**162**	P	**Pn**	**08 16 53.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=332,slow=12,SNR=21						
	comp=Z,6.5nm,1.0s						
XAN	**Xi'an**	**12.47**	**69**	P	**P**	**08 16 59.4**	**-4.1**
XAN				pmax	pmax		
	comp=Z,15nm,0.9s						
XAN				LR	LR		
	comp=N,400nm,14.4s						
WMQ	**Urumqi**	**14.58**	**339**	*eP*	**P**	**08 17 24.3**	**-2.6**
WMQ				pmax	pmax		
	comp=N,24nm,0.7s						
LYN	**LuoYang**	**15.45**	**70**	P	**P**	**08 17 34.3**	**-2.2**
LYN				sP	pP	08 17 39.6	-4.6
LYN				pmax	pmax		
	comp=N,18nm,0.7s						
BTO	**Baotou**	**16.01**	**46**	*eP*	**Pn**	**08 17 36.6**	**-2.9**
BTO				pP	**P**	**08 17 40.4**	**-2.5**
BTO				sP	**pP**	**08 17 43.6**	**-6.8**
BTO				PP	**PnPn**	**08 17 49.9**	**+1.6**
BTO				pmax	pmax		
	comp=N,18nm,0.4s						
BTO				pmax	pmax		
	comp=N,160nm,4.5s						
WHN	**Wuhan**	**16.82**	**84**	P	**Pn**	**08 17 48.3**	**-1.5**
WHN				pmax	pmax		
	comp=N,66nm,0.7s						
HHC	**Hu-ho-hao-te**	**17.12**	**48**	*eP*	**Pn**	**08 17 52.0**	**-1.6**
HHC				pmax	pmax		
	comp=N,15nm,0.6s						
HHC				pmax	pmax		
	comp=N,92nm,3.8s						
HHC				LR	LR		
	comp=N,170nm,7.6s						
HHC				LR	LR		
	comp=N,190nm,8.0s						
HHC				LR	LR		
	comp=N,150nm,9.8s						
QIZ	**Qiongzhong**	**17.68**	**126**	P	**P**	**08 18 01.3**	**0.0**
QIZ				S	**S**	**08 21 20.8**	**-3.2**
QIZ				LR	LR		
	comp=N,110nm,6.5s						
QIZ				LR	LR		
	comp=N,250nm,7.5s						
SHLS	**Shalkode**	**17.70**	**320**	*eP*	**Pn**	**08 17 58.2**	**-2.6**
SHLS	**Shalkode**	**17.70**	**320**	*eP*	**Pn**	**08 17 58.2**	**-2.6**
TARG	**Taragay, Kyrgy**	**17.80**	**314**	P	**P**	**08 18 03.9**	**+0.9**
TARG	**Taragay, Kyrgy**	**17.80**	**314**	P	**P**	**08 18 03.9**	**+0.9**
TARG				pmax	pmax		
	comp=Z,59nm,1.2s						
PRZ	**Przheval'sk**	**17.88**	**317**	P	**P**	**08 18 06.1**	**+2.4**
PRZ				IAmb	IAmb	08 18 11.1	
	comp=Z,203nm,1.4s						
PRZ	**Przheval'sk**	**17.88**	**317**	P	**P**	**08 18 06.1**	**+2.4**
PRZ				pmax	pmax		
	comp=Z,203nm,1.4s						
HNS	**HongShan**	**17.91**	**62**	⇑P	**Pn**	**08 18 02.6**	**-0.6**
KSH	**Kashi**	**17.93**	**306**	P	**P**	**08 18 04.9**	**+0.7**
KSH				pmax	pmax		
	comp=Z,12nm,1.4s						
UZB	**Uzynbulak**	**17.94**	**320**	*eP*	**P**	**08 18 03.5**	**-0.7**
UZB	**Uzynbulak**	**17.94**	**320**	*eP*	**P**	**08 18 03.6**	**-0.7**
KDJ	**Kajisay**	**18.41**	**314**	P	**Pn**	**08 18 10.1**	**+0.5**
KDJ	**Kajisay**	**18.41**	**314**	P	**Pn**	**08 18 10.1**	**+0.5**
KDJ				pmax	pmax		
	comp=Z,58nm,1.2s						
NIL	**Nilore**	**18.59**	**286**	P	**P**	**08 18 08.8**	**-2.6**
NIL				IAmb	IAmb	08 18 18.4	
	comp=Z,186nm,1.9s						
NIL	**Nilore**	**18.59**	**286**	P	**P**	**08 18 08.8**	**-2.6**
NIL				pmax	pmax		
	comp=Z,186nm,1.9s						
ZSN	**Zaisan**	**18.71**	**338**	*eP*	**Pn**	**08 18 13.3**	**+0.3**
ZSN	**Zaisan**	**18.71**	**338**	*eP*	**Pn**	**08 18 13.3**	**+0.3**
MK31	**Makanchi Array**	**19.07**	**333**	*deP*	**P**	**08 18 15.5**	**-1.0**
MKAR	**Makanchi Array**	**19.07**	**333**	P	**P**	**08 18 14.8**	**-1.7**
MKAR	**Makanchi Array**	**19.07**	**333**	P	**P**	**08 18 15.3**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=141,slow=13,SNR=22						
	comp=Z,4.7nm,0.7s						
TNSS	**Tian-Shan**	**19.07**	**316**	*eP*	**Pn**	**08 18 16.9**	**-0.9**
TNSS	**Tian-Shan**	**19.07**	**316**	*eP*	**Pn**	**08 18 16.9**	**-0.9**
ARXS	**Arharly**	**19.29**	**320**	*eP*	**Pn**	**08 18 19.8**	**-0.3**
SONM	**Songino Array**	**19.57**	**24**	P	**P**	**08 18 22.1**	**0.0**
SONM	**Songino Array**	**19.57**	**24**	P	**P**	**08 18 22.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=20						
SONM				LR	LR	08 26 31.4	
	comp=Z,64nm,18.2s,baz=174,slow=38						
	comp=Z,9.4nm,0.8s						
SONM	**Songino Array**	**19.57**	**24**	P	**P**	**08 18 22.1**	**0.0**
SONM				pmax	pmax		
	comp=Z,28nm,1.2s						
HYB	**Hyderabad**	**19.67**	**233**	*eP*	**Pn**	**08 18 25.7**	**+0.9**
TKM2	**Tokmak 2** SNR=6.9	**19.83**	**314**	P	**Pn**	**08 18 25.9**	**-0.8**
ULN	**Ulaanbaatar**	**19.83**	**25**		**Pn**	**08 18 25.4**	**-1.1**
ULN	**Ulaanbaatar**	**19.83**	**25**	*iP*	**P**	**08 18 24.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**19.88**	**55**	P	**P**	**08 18 23.9**	**-1.5**
BJI				pP	**Pn**	**08 18 27.9**	**+0.8**
BJI				sP	**pP**	**08 18 30.6**	**-2.4**
BJI				S	**S**	**08 22 00.3**	**-7.7**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,68nm,4.6s						
BJI				LR	LR		
	comp=Z,100nm,12.6s						
BJI				LR	LR		
	comp=Z,110nm,12.3s						
BJI				LR	LR		
	comp=Z,180nm,11.8s						
KUU	**Kurty**	**19.93**	**318**	*eP*	**Pn**	**08 18 26.1**	**-1.6**
KUU	**Kurty**	**19.93**	**318**	*eP*	**Pn**	**08 18 26.2**	**-1.6**
UCH	**Uchtor** SNR=18	**20.15**	**312**	P	Pn	08 18 29.7	-1.1
AAK	**Ala-Archa**	**20.37**	**313**		Pn	08 18 32.0	-1.0
AAK				IAmb	IAmb	08 18 39.6	
	comp=Z,109nm,1.3s						
AAK	**Ala-Archa**	**20.37**	**313**	P	Pn	08 18 31.7	-1.3
	comp=Z,7.4nm,0.5s,baz=116,slow=12,SNR=11						
	comp=Z,7.4nm,0.5s						
AAK	**Ala-Archa** SNR=9.9	**20.37**	**313**	P	Pn	08 18 33.1	+0.1
AAK	**Ala-Archa**	**20.37**	**313**	*ceP*	Pn	08 18 31.5	-1.5
AAK				pmax	pmax		
	comp=Z,77nm,1.7s						
NJ2	**Nanjing**	**20.60**	**79**	*eP*	Pn	08 18 37.5	+1.9
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USP	**Ospenovka** SNR=12	**20.69**	**314**	P	Pn	08 18 37.7	+1.1
SGDS	**Sogindy**	**20.71**	**315**	*eP*	Pn	08 18 35.0	-1.8
EKS2	**Erkin-Say** SNR=16	**20.84**	**312**	P	Pn	08 18 37.4	-1.1
XLT	**XiLinHaoTe**	**21.58**	**45**	*eP*	**P**	**08 18 44.1**	**+0.3**
XLT				PP	**PnPn**	**08 19 07.6**	**+3.1**
XLT				pmax	pmax		
	comp=Z,26nm,1.2s						
MOY	**Mondy**	**21.76**	**10**	*eP*	**P**	**08 18 46.3**	**+0.6**
MOY				pmax	pmax		
	comp=Z,48nm,1.8s						
GAR	**Garm**	**21.88**	**300**	P	**P**	**08 18 46.4**	**-0.7**
BTLS	**Baital**	**21.94**	**318**	*eP*	**P**	**08 18 47.7**	**+0.2**
BTLS	**Baital**	**21.94**	**318**	*eP*	**P**	**08 18 47.7**	**+0.2**
KBL	**Kabul**	**22.14**	**288**	P	**P**	**08 18 50.2**	**+0.1**
KBL				pmax	pmax		
	comp=Z,124nm,1.2s						
DZA	**Taraz**	**22.54**	**310**	*eP*	**P**	**08 18 54.5**	**+0.4**
DZA				pmax	pmax		
	comp=Z,31nm,1.5s						
DZA	**Taraz**	**22.54**	**310**	*eP*	**P**	**08 18 54.5**	**+0.4**
	comp=Z,31nm,1.5s						
SIMJ	**Simiganj**	**22.78**	**298**	P	**P**	**08 18 56.0**	**-0.7**
SEM	**Semipalatinsk**	**22.81**	**335**	*eP*	**P**	**08 18 57.4**	**+0.3**
SEM	**Semipalatinsk**	**22.81**	**335**	*eP*	**P**	**08 18 57.5**	**+0.3**
IUG	**Iuzhnay**	**23.11**	**307**	*eP*	**P**	**08 19 00.6**	**+0.5**
IUG				pmax	pmax		
	comp=Z,22nm,0.9s						
IUG	**Iuzhnay**	**23.11**	**307**	*eP*	**P**	**08 19 00.7**	**+0.5**
	comp=Z,22nm,0.9s						
KK31	**Karatay Array**	**23.18**	**310**	P	**P**	**08 19 00.6**	**-0.1**
KK31				IAmb	IAmb	08 19 06.5	
	comp=Z,44nm,1.4s						
KK31	**Karatay Array**	**23.18**	**310**	*i* P	**P**	**08 19 01.2**	**+0.5**
KKAR	**Karatay Array**	**23.18**	**310**	P	**P**	**08 18 59.8**	**-0.9**
KKAR	**Karatay Array**	**23.18**	**310**	P	**P**	**08 18 59.8**	**-0.9**
BRLS	**Boroldaу**	**23.60**	**309**	*eP*	**P**	**08 19 05.5**	**+0.7**
BRLS	**Boroldaу**	**23.60**	**309**	*eP*	**P**	**08 19 05.5**	**+0.7**
KURBB	**Kurchatov Arra**	**23.63**	**333**	P	**P**	**08 19 04.1**	**-0.9**
	comp=Z,9.0nm,0.9s,baz=144,slow=10,SNR=35						
KURBB				PcP	**PcP**	**08 22 48.5**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=157,slow=1.9,SNR=4.1						
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**23.67**	**334**	P	**P**	**08 19 04.4**	**-1.0**
KURK				IAmb	IAmb	08 19 10.3	
	comp=Z,56nm,1.4s						
KURK	**Kurchatov**	**23.67**	**334**	*ceP*	**P**	**08 19 04.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,40nm,1.3s						
ZAA0	**Zalesovo Array**	**24.66**	**346**	IAmb	IAmb	08 19 19.6	
	comp=Z,57nm,1.6s						
ZALV	**Zalesovo Beam**	**24.66**	**346**	P	**P**	**08 19 13.8**	**-0.7**
ZALV	**Zalesovo Beam**	**24.66**	**346**	P	**P**	**08 19 13.4**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=161,slow=9.7,SNR=17						
	comp=Z,5.2nm,0.7s						
ZALV	**Zalesovo Beam**	**24.66**	**346**	*i* P	**P**	**08 19 14.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRZS	**Berezniki**	**25.72**	**326**	*eP*	**P**	**08 19 25.2**	**+0.9**
BRZS	**Berezniki**	**25.72**	**326**	*eP*	**P**	**08 19 25.2**	**+0.9**
CN2	**Changchun**	**27.68**	**53**	P	**P**	**08 19 42.5**	**+0.6**
CN2				pmax	pmax		
	comp=Z,30nm,1.2s						
BVA0	**Borovoye Array**	**28.82**	**329**	P	**P**	**08 19 51.6**	**-0.4**
BVAR	**Borovoye Array**	**28.82**	**329**	P	**P**	**08 19 51.4**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=132,slow=11,SNR=20						
BVAR				PcP	**PcP**	**08 23 01.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=134,slow=4.2,SNR=5.1						
	comp=Z,4.5nm,0.8s						
BRVK	**Borovoye**	**28.89**	**329**	P	**P**	**08 19 52.9**	**+0.3**
BRVK				IAmb	IAmb	08 19 57.5	
	comp=Z,29nm,1.3s						
BRVK	**Borovoye**	**28.89**	**329**	*ceP*	**P**	**08 19 53.1**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,27nm,1.3s						
BNX	**BinXian**	**29.63**	**50**	⇑P	**P**	**08 19 58.8**	**-0.5**
BNX				pmax	pmax		
	comp=Z,11nm,1.0s						
HEH	**HeiHe**	**31.43**	**42**	*eP*	**P**	**08 20 14.0**	**-1.1**
USA0B	**Ussuriysk Arra**	**32.33**	**54**	*i* P	**P**	**08 20 25.1**	**+2.0**
AB31	**Akbulak array**	**32.38**	**316**	*i* P	**P**	**08 20 24.3**	**+0.8**
ABKAR	**Akbulak array**	**32.38**	**316**	P	**P**	**08 20 23.9**	**+0.4**
ZEA	**Zeya**	**33.06**	**36**	*eP*	**P**	**08 20 32.5**	**+3.2**
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
SVE	**Sverdlovsk**	**35.59**	**328**	*eP*	**P**	**08 20 52.3**	**+1.0**
SVE				pmax	pmax		
	comp=Z,38nm,1.2s						
ARTI	**Arti**	**36.42**	**326**	P	**P**	**08 20 58.1**	**-0.2**
ARTI				IAmb	IAmb	08 21 02.3	
	comp=Z,16nm,0.9s						
ARTI	**Arti**	**36.42**	**326**	*d iP*	**P**	**08 20 58.7**	**+0.3**
ARTI						08 22 18.6	
ARTI						08 23 22.9	
ARTI				S	**S**	**08 26 42.2**	**+3.7**
ARTI				SS	**SnSn**	**08 29 07.9**	**+0.8**
ARTI				pmax	pmax		
	comp=Z,21nm,1.1s						
MJAR	**Matsushiro Arr**	**36.47**	**69**	P	**P**	**08 20 60.0**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=261,slow=7.3,SNR=5.9						
MJAR				LR	LR	08 37 17.0	
	comp=Z,38nm,20.3s,baz=214,slow=38						
	comp=Z,3.2nm,1.0s						
MJAR	**Matsushiro Arr**	**36.47**	**69**	P	**P**	**08 21 00.0**	**+0.9**
LKRN	**Lenkeran, Azer**	**38.51**	**295**	P	**P**	**08 21 17.5**	**+1.2**
YAK	**Yakutsk**	**38.91**	**25**	*i* P	**P**	**08 21 19.5**	**+0.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
AKT	**Akhty**	**39.29**	**300**	*eP*	**P**	**08 21 20.2**	**-2.8**
SEKA	**Sheki**	**39.69**	**299**	P	**P**	**08 21 27.2**	**+1.0**
KPJI	**Karang Pucung**	**39.85**	**158**	P	**P**	**08 21 29.0**	**+1.4**
	comp=Z,22nm,1.3s						
ASAJ	**Asahikawa**	**39.87**	**56**	LR	LR	08 38 54.2	
	comp=Z,50nm,18.5s,baz=216,slow=38						
YSS	**Yuzhno-Sakhali**	**40.24**	**52**	*eP*	**P**	**08 21 31.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.4s						
GANJ	**Ganja**	**40.36**	**298**	P	**P**	**08 21 33.7**	**+2.0**
BELG	**Belogornoye**	**40.77**	**316**	*i* P	**P**	**08 21 35.0**	**+0.1**
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GNI	**Garni**	**41.58**	**298**	P	**P**	**08 21 42.8**	**+0.8**
GNI				IAmb	IAmb	08 21 48.3	
	comp=Z,62nm,1.6s						
GNI	**Garni**	**41.58**	**298**	*i* P	**P**	**08 21 42.5**	**+0.5**
GNI				pmax	pmax		
	comp=Z,30nm,1.2s						
KIRV	**Kirov**	**41.73**	**326**	*ceP*	**P**	**08 21 43.3**	**+0.6**
KBZ	**Khabaz**	**42.88**	**303**	P	**P**	**08 21 53.2**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=38,slow=7.7,SNR=4.1						
	comp=Z,1.2nm,0.6s						
KBZ	**Khabaz**	**42.88**	**303**	*ceP*	**P**	**08 21 53.4**	**+1.1**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KIV	**Kislovodsk**	**43.04**	**303**	*eP*	**P**	**08 21 55.8**	**+2.1**
KIV				pmax	pmax		
	comp=Z,25nm,1.1s						
VRH	**Novokhopyorsk**	**44.16**	**314**	*eP*	**P**	**08 22 00.9**	**-1.6**
VRH

KLMR pmax pmax
comp=Z,52nm,1.3s
OBN Obninsk 47.71 319 *c* iP **P 08 22 33.1 +2.7**
OBN 08 24 00.0
OBN PPP PPP 08 25 07.0
OBN S **S 08 29 32.0 +7.0**
OBN SS **SS 08 32 50.0 -3.1**
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,19nm,14.0s
SEY Seymchan 48.73 31 *i* P **P 08 22 39.4 +1.2**
SEY pmax pmax
comp=Z,7.0nm,1.2s
KIRS Kirsehir-Merke 49.99 297 ⇑P **P**
BR131 Keskin Array S 50.11 298 *i* P **P 08 22 49.5 +0.2**
BRTR Keskin Array B 50.11 298 P **P 08 22 48.1 -1.2**
BRTR Keskin Array B 50.11 298 P **P 08 22 48.6 -0.7**
comp=Z,3.7nm,1.0s,baz=57,slow=4.7,SNR=14
comp=Z,3.7nm,1.0s
BR106 Keskin Array S 50.12 298 P **P 08 22 50.1 +0.7**
comp=Z,5.1nm,1.1s
BR105 Keskin Array S 50.13 298 P **P 08 22 50.4 +1.0**
comp=Z,5.9nm,1.1s
PETK Petropavlovsk- 50.28 44 P **P 08 22 50.7 +0.5**
comp=Z,1.8nm,0.7s,baz=260,slow=18,SNR=4.6
comp=Z,1.8nm,0.7s
ANTO Ankara 50.73 299 P **P 08 22 53.7 -0.2**
ANTO Ankara 50.73 299 P **P 08 22 53.7 -0.2**
ANTO pmax pmax
comp=Z,51nm,1.3s
APA Apatity 51.45 334 *e*P **P 08 22 56.9 -1.9**
APA *e* 08 24 12.6
APA MLR MLR
comp=Z,335nm,4.3s
AK09 Malin Array Si 52.00 313 P **P 08 23 02.9 -0.2**
AK09 pP **pP 08 23 06.4 -5.4**
AK08 Malin Array Si 52.02 313 P **P 08 23 03.2 -0.1**
AK08 pP **pP 08 23 06.4 -5.5**
SAHE Sakarya_HENDEK 52.02 300 ⇓P **P 08 23 03.2 -0.3**
AK10 Malin Array Si 52.03 313 P **P 08 23 02.7 -0.6**
AK03 Malin Array Si 52.04 313 P **P 08 23 02.6 -0.8**
AKASG Malin Array Be 52.04 313 P **P 08 23 01.8 -1.6**
comp=Z,7.8nm,0.9s,baz=78,slow=6.9,SNR=21
comp=Z,7.8nm,0.9s
AKBB Malin Array Si 52.04 313 P **P 08 23 03.1 -0.3**
AK01 Malin Array Si 52.05 313 P **P 08 23 02.6 -0.8**
KIEV Kiev 52.05 313 P **P 08 23 02.9 -0.6**
KIEV Kiev 52.05 313 ⇑P **P 08 23 03.4 -0.1**
KIEV Kiev 52.05 313 ⇑P **P 08 23 03.4 -0.1**
KIEV Kiev 52.05 313 P **P 08 23 03.1 -0.4**
comp=Z,95nm,1.2s
AK02 Malin Array Si 52.05 313 P **P 08 23 02.7 -0.8**
AK05 Malin Array Si 52.06 313 P **P 08 23 02.7 -0.8**
MNK Minsk 52.70 318 *i* P **P 08 23 08.1 -0.1**
comp=E,22nm,0.9s
MNK *i* P **P 08 23 08.1 -0.1**
comp=N,24nm,0.8s
MNK *i* P **P 08 23 08.1 -0.1**
comp=Z,23nm,0.8s,baz=88
MNK *i* PP **PP 08 25 07.0 -0.3**
MNK *i* PPP PPP 08 26 10.7
MNK *i* S **S 08 30 36.8 +2.2**
MNK *i* SS **SS 08 34 16.7 +3.8**
MNK *i* SSS SSS 08 36 01.9
MNK *i* LQ LQ 08 41 56.5
MNK *i* LR LR 08 45 57.0
MNK *i* LRM MLR 08 48 57.7
comp=Z,18nm,13.7s
MNK *i* LRM MLR 08 49 10.6
comp=N,405nm,20.6s
MNK *i* LRM MLR 08 49 11.6
comp=E,271nm,20.6s
MNK Minsk 52.70 318 *i* P **P 08 23 08.1 -0.1**
MNK *i* 08 25 07.0
MNK *i* PPP PPP 08 26 10.7
MNK *i* S **S 08 30 36.8 +2.2**
MNK *i* SS **SS 08 34 16.6 +3.8**
MNK *i* SSS SSS 08 36 01.9
MNK pmax pmax
comp=E,22nm,0.9s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=N,24nm,0.8s
MNK MLR MLR
comp=Z,18nm,14.0s
MNK MLR MLR
comp=N,405nm,21.0s
MNK MLR MLR
comp=E,271nm,21.0s
ISP Isparta 52.86 296 IAmb IAmb 08 23 14.3
comp=Z,24nm,1.2s
ISP Isparta 52.86 296 *i* P **P 08 23 10.3 +0.5**
ISP pmax pmax
comp=Z,13nm,1.3s
MI28 Mi28,Pidlybu 53.01 313 P **P 08 23 10.3 -0.3**
CFR Carcaliu 53.32 306 ⇓P **P 08 23 12.7 -0.2**
CFR Carcaliu 53.32 306 ⇓P **P 08 23 12.7 -0.2**
VSU Vasula 53.32 323 *c*eP **P 08 23 13.4 +0.7**
VSU pmax pmax
comp=Z,29nm,1.3s
FINES FINESS Array B 53.73 326 P **P 08 23 14.1 -1.6**
comp=Z,3.1nm,0.8s,baz=100,slow=7.9,SNR=10.0
comp=Z,3.1nm,0.8s
RNPP5 Staryi Chortor 54.10 314 P **P 08 23 18.6 0.0**
RNPP8 Varash 54.11 314 P **P 08 23 18.6 -0.1**
MANT Manisa 54.23 298 IAmb IAmb 08 23 24.6
comp=Z,12nm,1.3s
PLOR5 Plostina Array 54.24 307 P **P 08 23 20.4 +0.6**
comp=Z,37nm,1.2s
PLOR Plostina 54.25 307 ⇑P **P 08 23 20.8 +0.9**
PLOR Plostina 54.25 307 ⇑P **P 08 23 20.8 +0.9**
MLR Muntele Rosu 54.80 307 ⇓P **P 08 23 23.4 -0.5**
MLR Muntele Rosu 54.80 307 ⇓P **P 08 23 23.4 -0.5**
MLR Muntele Rosu 54.80 307 P **P 08 23 24.6 +0.7**
BURAR Bucovina Array 54.97 309 P **P 08 23 27.6 +2.5**
BURAR Bucovina Array 54.97 309 ⇓P **P 08 23 24.6 -0.5**
BURAR Bucovina Array 54.97 309 P **P 08 23 24.6 -0.5**
KSV Kosov 54.97 310 P **P 08 23 26.5 +1.5**
BILL Bilibino 55.27 26 *i* P **P 08 23 28.7 +1.9**
BILL pmax pmax
comp=Z,14nm,1.6s
STNU Starunia 55.28 311 P **P 08 23 27.3 +0.1**
VOIR 55.43 307 ⇓P **P 08 23 28.6 +0.2**
VOIR 55.43 307 P **P 08 23 28.6 +0.2**
ALN Alexandroupoli 55.59 301 IAmb IAmb 08 23 33.4
comp=Z,20nm,1.2s
TRSU Trosnyk 56.40 310 P **P 08 23 38.5 +3.3**
MARR Marisel-Cluj 56.53 308 ⇓P **P 08 23 36.4 +0.1**
KOLS Kolonicke sedl 56.71 311 *e*P **P 08 23 39.7 +2.3**
KOLS Kolonicke sedl 56.71 311 *e*P **P 08 23 39.7 +2.3**
NIE Niedzica 57.90 312 P P 08 23 50.5 +4.6
LANS Liptovska Anna 58.48 312 *e*P **P 08 23 51.6 +1.6**
LANS Liptovska Anna 58.48 312 *e*P **P 08 23 51.6 +1.6**
VYHS Vyhne 59.02 311 *e*P **P 08 23 57.4 +3.7**
VYHS Vyhne 59.02 311 *e*P **P 08 23 57.4 +3.7**
MORC Moravsky Berou 59.59 313 *e*P **P 08 23 57.8 +0.2**
HFS Hagfors 59.86 325 P **P 08 23 58.0 -1.2**
comp=Z,5.5nm,1.0s,baz=101,slow=6.0,SNR=3.2
comp=Z,5.5nm,1.0s
VRAC Vranov 60.29 312 *e*P **P 08 24 02.7 +0.3**
KRUC Moravsky 60.48 312 *e*P **P 08 24 03.8 +0.1**
RONA Rosalia, Austr 60.86 311 *e*P **P 08 24 09.5 +3.1**
comp=Z,5.5nm,0.7s
NB2 NORSAR Subarra 60.91 326 P **P 08 24 05.7 -0.8**
comp=Z,1.5nm,0.6s,baz=79,slow=6.9
NOA NORSAR Array B 60.91 326 P **P 08 24 05.4 -1.1**
comp=Z,3.1nm,0.8s,baz=79,slow=6.8,SNR=9.1
comp=Z,3.1nm,0.8s
CONA Conrad Observa 61.09 311 *e*P **P 08 24 11.2 +3.2**
comp=Z,20nm,1.3s
ARSA Arzberg 61.48 310 *e*P **P 08 24 13.5 +2.9**
comp=Z,9.8nm,1.8s
BRG Berggiesshubel 61.59 315 *e*P **P 08 24 12.5 +1.3**
BRG Amp 08 24 16.2
comp=Z,3.9nm,1.0s
SOKA Soboth 61.96 310 *e*P **P 08 24 16.9 +3.0**
comp=Z,11nm,1.4s
CLL Collm 62.05 315 *i* P **P 08 24 17.4 +3.1**
comp=Z,8.0nm,1.1s
MOA Molln 62.15 311 *e*P **P 08 24 17.7 +2.6**
comp=Z,9.6nm,1.3s
GEC2 GERESS Array S 62.25 312 IAmb IAmb 08 24 20.1
comp=Z,9.9nm,1.1s
GERES GERESS Array B 62.25 312 P **P 08 24 15.4 -0.4**
GERES GERESS Array B 62.25 312 P **P 08 24 15.2 -0.6**
comp=Z,2.8nm,0.8s,baz=72,slow=6.2,SNR=12
comp=Z,2.8nm,0.8s
GERES GERESS Array B 62.25 312 P **P 08 24 15.4 -0.4**
OBKA Obir 62.33 310 *i* P **P 08 24 19.0 +2.7**
comp=Z,6.2nm,1.1s
WRA Warramunga Arr 62.82 138 P **P 08 24 18.2 -1.6**
comp=Z,2.2nm,0.8s,baz=326,slow=7.3,SNR=14
comp=Z,2.2nm,0.8s
TIP Timpagrande 62.92 301 IAmb IAmb 08 24 23.4
comp=Z,12nm,1.0s
LESA Schwarzleotal 63.30 311 *e*P **P 08 24 25.4 +2.6**
comp=Z,22nm,1.5s
CEL Celeste 63.85 301 P **P 08 24 25.4 -1.2**
WTTA Wattenberg 64.02 311 *e*P **P 08 24 30.1 +2.4**
comp=Z,8.0nm,1.2s
MOTA Moosalm 64.34 311 *e*P **P 08 24 32.3 +2.5**
comp=Z,4.8nm,0.7s
RETA Reutte 64.52 312 *i* P **P 08 24 33.4 +2.5**
comp=Z,0.1nm,0.2s
FETA Feichten 64.69 311 *e*P **P 08 24 34.3 +2.2**
comp=Z,9.4nm,1.1s
ASAR Alice Springs 65.51 141 P **P 08 24 36.2 -1.2**
comp=Z,2.7nm,0.9s,baz=325,slow=6.4,SNR=19
comp=Z,2.7nm,0.9s
WLF Walferdange 66.72 315 P **P 08 24 44.0 -0.9**
WLF Walferdange 66.72 315 P **P 08 24 44.0 -0.9**
WLF pmax pmax
comp=Z,24nm,1.2s
H18K Honhosa River 69.48 26 IAmb IAmb 08 25 06.0
comp=Z,15nm,1.1s
KEST Kesra 69.65 300 P **P 08 25 03.5 -0.1**
KEST Kesra 69.65 300 P **P 08 25 02.9 -0.7**
comp=Z,8.2nm,1.0s,baz=90,slow=4.0,SNR=4.0
comp=Z,8.2nm,1.0s
IMAR Indun Mountai 70.74 24 P **P 08 25 11.8 +2.2**
J18K Innoko River 70.93 27 IAmb IAmb 08 25 15.4
comp=Z,15nm,1.1s
J19K Poorman 71.09 26 IAmb IAmb 08 25 16.8
comp=Z,14nm,1.1s
E24K Your Creek 71.30 21 IAmb IAmb 08 25 18.0
comp=Z,16nm,1.2s
J20K Nowinta River 71.55 26 IAmb IAmb 08 25 19.1
comp=Z,10nm,1.1s
L18K Granite Mounta 71.57 28 IAmb IAmb 08 25 19.6
comp=Z,9.8nm,1.2s
K20K Telida 72.01 26 IAmb IAmb 08 25 22.6
comp=Z,12nm,1.2s
O16K Kokwok River B 72.29 31 IAmb IAmb 08 25 23.2
comp=Z,13nm,1.1s
MLY Manley 72.31 24 IAmb IAmb 08 25 24.0
comp=Z,14nm,1.4s
L19K White Mountain 72.33 28 IAmb IAmb 08 25 24.4
comp=Z,13nm,1.2s
SUMG Summit 72.47 347 P **P 08 25 19.6 -0.8**
SUMG IAmb IAmb 08 25 24.0
comp=Z,15nm,1.3s
SUMG Summit 72.47 347 P **P 08 25 19.7 -0.8**
SUMG pmax pmax
comp=Z,15nm,1.3s
CAST Castle Rocks 72.73 26 **P 08 25 22.3 +0.6**
CAST IAmb IAmb 08 25 26.7
comp=Z,15nm,1.2s
BPAW Bear Paw Mtn. 72.75 25 IAmb IAmb 08 25 27.6
comp=Z,12nm,1.1s
BMAR Burnt Mountain 72.88 20 **P 08 25 23.3 +0.8**
PPLA Purkeypile 72.98 26 P **P 08 25 24.8 +1.4**
NEA2 Nenana 73.15 24 IAmb IAmb 08 25 27.9
comp=Z,8.3nm,1.0s
M20K Styx River 73.17 27 IAmb IAmb 08 25 37.3
comp=Z,16nm,1.2s
COLA College 73.40 23 P **P 08 25 26.0 +0.4**
COLA IAmb IAmb 08 25 29.8
comp=Z,9.1nm,0.8s
COLA College 73.40 23 P **P 08 25 26.0 +0.4**
COLA pmax pmax
comp=Z,9.0nm,0.9s
E28M Babbage River 73.54 18 IAmb IAmb 08 25 31.3
comp=Z,11nm,1.1s
SKT Skwentna 73.75 27 IAmb IAmb 08 25 31.7
comp=Z,18nm,1.4s
ILAR Eielson Array 73.79 23 P **P 08 25 26.6 -1.3**
ILAR Eielson Array 73.79 23 P **P 08 25 26.9 -1.0**
comp=Z,3.0nm,1.0s,baz=298,slow=5.2,SNR=16
comp=Z,3.0nm,1.0s
RND Reindeer 73.93 25 IAmb IAmb 08 25 32.6
comp=Z,12nm,1.3s
F28M Old Crow 74.13 19 IAmb IAmb 08 25 34.6
comp=Z,12nm,1.2s
A36M Sachs Harbour 74.19 12 **P 08 25 30.3 +0.2**
I26K Coal Creek Min 74.69 22 IAmb IAmb 08 25 37.8
comp=Z,11nm,1.2s
K24K Donnelly Dome 74.77 24 IAmb IAmb 08 25 36.6
comp=Z,19nm,1.1s
PMR Palmer 74.90 26 IAmb IAmb 08 25 38.2
comp=Z,18nm,1.2s
G29M Pine Creek 75.14 19 IAmb IAmb 08 25 40.6
comp=Z,19nm,1.3s
F30M Barrier River 75.25 18 IAmb IAmb 08 25 40.6
comp=Z,10nm,0.9s
INK Inuvik 75.31 17 IAmb IAmb 08 25 41.0
comp=Z,19nm,1.4s
SCM Sheep Creek Mo 75.44 26 IAmb IAmb 08 25 42.9
comp=Z,22nm,1.5s
H29M Whitestone 75.52 20 IAmb IAmb 08 25 43.1
comp=Z,22nm,1.4s
M24K Tolsona, Glenn 75.70 25 P **P 08 25 38.0 -1.1**
M24K IAmb IAmb 08 25 44.0
comp=Z,21nm,1.1s
EPYK Eagle Plains 75.89 19 IAmb IAmb 08 25 43.4
comp=Z,11nm,1.2s
F31M Tsiigehtchic 75.91 17 IAmb IAmb 08 25 43.7
comp=Z,20nm,1.4s
STKA Stephens Creek 76.15 140 P **P 08 25 42.0 +0.1**
comp=Z,2.7nm,0.9s,baz=321,slow=3.0,SNR=3.6
comp=Z,2.7nm,0.9s
G31M Satah River 76.15 18 IAmb IAmb 08 25 45.5
comp=Z,13nm,1.1s
KLU Klutina 76.18 26 IAmb IAmb 08 25 46.5
comp=Z,12nm,1.1s
N25K Chitina, Valde 76.59 25 IAmb IAmb 08 25 48.5
comp=Z,8.3nm,1.1s
C36M Pautauk 76.60 13 IAmb IAmb 08 25 47.2
comp=Z,14nm,1.1s
L27K Beaver Creek, 76.61 23 IAmb IAmb 08 25 49.6
comp=Z,17nm,1.4s
BCAR Beaver Creek A 76.62 23 P **P 08 25 44.8 +0.6**
M26K Nabesna, AK 76.65 24 P **P 08 25 42.8 -1.6**
I30M Mount Dempster 76.81 20 IAmb IAmb 08 25 48.9
comp=Z,8.9nm,1.0s
BMRM Bremner River 77.00 26 IAmb IAmb 08 25 51.0
comp=Z,13nm,1.1s
M27K Edge Creek, AK 77.07 24 IAmb IAmb 08 25 51.7
comp=Z,11nm,1.2s
ESBB Sonseca Array 77.42 309 **P 08 25 48.7 -0.5**
ESBB IAmb IAmb 08 25 54.0
comp=Z,12nm,1.4s
ESDC Sonseca Array 77.42 309 P **P 08 25 49.2 0.0**
ESDC Sonseca Array 77.42 309 P **P 08 25 48.9 -0.3**
comp=Z,5.2nm,1.1s,baz=46,slow=5.7,SNR=13
comp=Z,5.2nm,1.1s
LSZ Lusaka 78.53 245 P **P 08 25 56.3 +0.6**
LSZ IAmb IAmb 08 25 59.1
comp=Z,8.8nm,0.9s
LSZ Lusaka 78.53 245 P **P 08 25 56.3 +0.6**
LSZ pmax pmax
comp=Z,9.0nm,0.9s
HYT Haines Junctio 79.64 23 IAmb IAmb 08 26 06.2
comp=Z,13nm,1.3s
MMPY Sheldon Lake, 80.27 20 IAmb IAmb 08 26 09.7
comp=Z,25nm,1.7s
N32M Quiet Lake 80.85 21 IAmb IAmb 08 26 12.1
comp=Z,17nm,1.1s
SKAG Skagway 81.38 23 IAmb IAmb 08 26 15.9
comp=Z,21nm,1.2s
P33M Teslin, Yukon 81.65 22 IAmb IAmb 08 26 16.7
comp=Z,13nm,1.6s
KSANE Kasane 82.35 244 **P 08 26 17.5 +1.3**
KSANE IAmb IAmb 08 26 20.6
comp=Z,17nm,1.1s
R33M Jennings River 82.88 22 **P 08 26 18.0 -0.4**
KDWAN Kaudwane 85.94 240 P **P 08 26 36.6 +2.2**
DZM Mont Dzumac 86.27 118 *e*LR LR 08 53 50.7
comp=Z,50nm,29.0s
FFC Flin Flon 94.02 10 P **P 08 27 11.8 0.0**
FFC pmax pmax
comp=Z,9.0nm,1.3s
PPT2 Papeete2 120.47 93 *e*LR LR 09 09 42.7
comp=Z,46nm,30.0s

ASRS ***14*** *08:14:56.0±0.5,54°.41N×86°.86E,h0km,M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 14 08:14:57.5±3.0,54°.44N×86°.92E,h0km,mbtmp3.1/2, ML2.8/2,Error ellipse: s-maj=26.2km s-min=20.5km az=28.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**249**	I	I		08 23 20.0	
	baz=68,slow=311,SNR=6.9							
ZALV	**Zalesovo Beam**	**1.33**	**249**	Pg	Pg		08 15 21.6	-1.3
	1.5nm,0.3s,baz=66,slow=17,SNR=12							
ZALV				Lg	Lg		08 15 39.7	
	1.7nm,0.3s,baz=73,slow=29,SNR=7.3							
KURBB	**Kurchatov Arra**	**6.38**	**237**	Pn	Pn		08 16 33.8	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=16							
KURBB				Sn	Sn		08 17 45.5	-0.7
	baz=37,slow=20,SNR=2.2							
KURBB				Lg	Lg		08 18 21.2	
	baz=58,slow=32,SNR=4.5							
	1.6nm,0.5s							
MKAR	**Makanchi Array**	**8.20**	**203**	Pn	Pn		08 16 58.4	+0.7
	0.2nm,0.3s,baz=18,slow=11,SNR=5.8							
	0.2nm,0.3s							

ZUR 14 08:37:57.8,46°.26N×7°.39E,h7km±1km,MLh0.9/14,5C-2D, Error ellipse: s-maj=2150.7km s-min=697.8km az=233.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SIOV	**Sion-Valere**	**0.03**	**209**	⇑Pg	Pg		08 37 59.4	+0.1
SAYF2	**Ayent-Fortunoz**	**0.03**	**40**	Pg	Pg		08 37 59.5	+0.2
SAYF2				Sg	Sg		08 38 00.5	0.0
RAW2	**Sanetsch, VS**	**0.07**	**317**	⇓Pg	Pg		08 38 00.1	+0.2
RAW2				Sg	Sg		08 38 01.6	+0.3
SHER	**Hrmence, R**	**0.08**	**175**	Pg	Pg		08 38 00.2	+0.3
SIE01	**Sierre, Farmho**	**0.08**	**84**	Pg	Pg		08 37 60.0	+0.2
SIE01				Sg	Sg		08 38 01.7	+0.5
STSW2	**Zeuzier, Staus**	**0.09**	**22**	Pg	Pg		08 38 00.3	+0.1
VET01	**Vtroz, Route**	**0.09**	**244**	⇑Pg	Pg		08 38 00.2	+0.2
VET01				Sg	Sg		08 38 01.6	+0.2
SENIN	**Lac Senin/Sane**	**0.12**	**329**	⇓Pg	Pg		08 38 00.7	+0.2
SENIN				Sg	Sg		08 38 02.7	+0.3
RAW4	**Former Reservo**	**0.15**	**249**	Pg	Pg		08 38 01.5	+0.4
RAW1	**Lenk, BE**	**0.16**	**13**	Pg	Pg		08 38 01.3	+0.1
RAW1				Sg	Sg		08 38 03.8	+0.2
DIX	**Grande Dixence**	**0.18**	**175**	⇑Pg	Pg		08 38 01.9	+0.3
DIX				Sg	Sg		08 38 04.4	+0.2
GRYON	**Gryon**	**0.19**	**267**	Sg	Sg		08 38 04.8	+0.4
FULLY	**Reservoir Maze**	**0.20**	**239**	⇑Pg	Pg		08 38 02.1	+0.2
FULLY				Sg	Sg		08 38 05.0	+0.3
LKBD2	**Leukerbad 2**	**0.21**	**58**	⇑Pg	Pg		08 38 00.1	-2.0

ZUR 14 08:38:14.1,46°.27N×7°.39E,h6km±1km,MLh0.9/9,4C-1D, Error ellipse: s-maj=2945.4km s-min=777.8km az=140.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SIOV	**Sion-Valere**	**0.04**	**205**	⇑Pg	Pg		08 38 15.5	+0.1
SIOV				Sg	Sg		08 38 16.4	+0.1
SHER	**Hrmence, R**	**0.08**	**176**	Pg	Pg		08 38 16.3	+0.2
STSW2	**Zeuzier, Staus**	**0.08**	**23**	Pg	Pg		08 38 16.4	+0.3
STSW2				Sg	Sg		08 38 17.9	+0.3
VET01	**Vtroz, Route**	**0.09**	**241**	⇑Pg	Pg		08 38 16.3	+0.1
VET01				Sg	Sg		08 38 17.8	+0.2
SENIN	**Lac Senin/Sane**	**0.11**	**328**	⇓Pg	Pg		08 38 16.8	+0.2
SENIN				Sg	Sg		08 38 18.8	+0.5
RAW1	**Lenk, BE**	**0.16**	**13**	Pg	Pg		08 38 17.5	+0.2
RAW1				Sg	Sg		08 38 19.9	+0.4
FULLY	**Reservoir Maze**	**0.21**	**237**	⇑Pg	Pg		08 38 18.3	+0.1
LKBD2	**Leukerbad 2**	**0.21**	**59**	⇑Pg	Pg		08 38 16.3	-2.0

ASRS ***14*** *08:38:45.0±1.9,53°.76N×91°.09E,h0km,M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 14 08:38:54.1±4.0,53°.55N×90°.51E,h0km,mbtmp2.8/3, ML2.3/3,Error ellipse: s-maj=37.3km s-min=27.2km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.41**	**279**	I	I		09 00 20.0	
	0.2nm,0.8s,baz=90,slow=316,SNR=9.2							
ZALV	**Zalesovo Beam**	**3.41**	**279**	Pn	Pn		08 39 50.2	+1.8
	0.6nm,0.3s,baz=95,slow=16,SNR=7.1							
ZALV				Lg	Lg		08 40 42.4	
	0.9nm,0.3s,baz=91,slow=26,SNR=6.8							
	1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**7.94**	**253**	Pn	Pn		08 40 50.5	-0.3
	baz=64,slow=14,SNR=2.9							
KURBB				Lg	Lg		08 43 05.8	
	baz=63,slow=32,SNR=1.2							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**8.57**	**221**	Pn	Pn		08 41 00.0	+0.6
	0.1nm,0.3s,baz=34,slow=15,SNR=2.0							
MKAR				Lg	Lg		08 43 24.4	
	0.1nm,0.3s,baz=22,slow=35,SNR=1.8							
	0.2nm,0.5s							

CATAC ***14*** *08:39:38.8±0.4,15°.N±3°.×9°.3W±°.,h35km±5km,M4.3/26, mb4.3/3,mB4.7/2,MLv4.2/26,Mw(mB)3.9/2,Error ellipse: s-maj=8.3km s-min=2.7km az=44.5,confirmed*
MEX ***14*** *08:39:38.9±1.3,14°.88N×92°.92W,h62km±15km,MD4.4*
GCG ***14*** *08:39:39.0±1.1,15°.03N×92°.79W,h54km±12km,MD4.1, ML4.2*

ISC 14 08:39:37.9±1.2,14°.99N±0°.04×92°.87W±0°.03,h69km±10km, n79,σ1972/107,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
THIG		**0.59**	**98**	*e*P		**Pn**	**08 39 50.9**	**-0.6**
THIG				*e*S		**Sn**	**08 40 00.8**	**-0.7**
THIG		**0.59**	**98**	*i* P		**Pn**	**08 39 50.9**	**-0.6**
THIG				IAML			08 40 03.0	
	comp=E,17μm,0.6s							
PATR	**El Naranjo**	**0.63**	**78**	*e*P		**Pn**	**08 39 51.4**	**-0.8**
PATR				*e*S		**Sn**	**08 40 01.8**	**-0.8**
PAVE	**Pavencul**	**0.70**	**73**	*e*P		**Pn**	**08 39 52.6**	**-0.3**
PAVE				*e*S		**Sn**	**08 40 04.0**	**0.0**
SMCA	**Catarina**	**0.78**	**100**	*i* P		**Pn**	**08 39 52.9**	**-0.8**
SMCA				*i* S		**Sn**	**08 40 04.0**	**-1.2**
SMCA				IAML			08 40 05.1	
	comp=N,5μm,0.2s							
PCIG		**0.79**	**335**	*e*P		**Pn**	**08 39 54.1**	**+0.3**
PCIG				*e*S		**Sn**	**08 40 06.5**	**+1.1**
RTAL	**Retalhuleu**	**1.23**	**112**	*e*P		**Pn**	**08 39 58.6**	**-0.6**
RTAL				*e*S		**Sn**	**08 40 14.7**	**-0.5**
RTAL	**Retalhuleu**	**1.23**	**112**	P		**Pn**	**08 39 59.2**	**0.0**
HUEH	**Huehuetenango**	**1.36**	**76**	*e*P		**Pn**	**08 40 01.2**	**0.0**
HUEH				*e*S		**Sn**	**08 40 19.6**	**+1.0**
HUEH	**Huehuetenango**	**1.36**	**76**	*e*P		**Pn**	**08 40 01.4**	**+0.3**
HUEH				IAML			08 40 26.9	
	comp=E,12μm,0.7s							
HUEH	**Huehuetenango**	**1.36**	**76**	P		**Pn**	**08 40 01.7**	**+0.5**
CCIG	**Comitan**	**1.47**	**29**	*e*P		**Pn**	**08 40 03.4**	**+0.8**
CCIG				*e*S		**Sn**	**08 40 21.4**	**+0.3**
CCIG	**Comitan**	**1.47**	**29**	*i* P		**Pn**	**08 40 03.7**	**+1.1**
CCIG				*i* S		**Sn**	**08 40 21.4**	**+0.3**
CCIG				IAML			08 40 23.0	
	comp=N,1μm,0.6s							
CCIG	**Comitan**	**1.47**	**29**	P		**Pn**	**08 40 03.5**	**+1.0**
QUIS	**Sacapulas**	**1.74**	**80**	*e*P		**Pn**	**08 40 06.7**	**+0.6**
QUIS				IAML			08 40 34.5	
	comp=E,1μm,0.6s							
TGBT	**Tuxtla Gutierr**	**1.79**	**353**	*e*S		**Sn**	**08 40 27.3**	**-1.2**
TGIG		**1.79**	**352**	*e*P		**Pn**	**08 40 06.4**	**-0.4**
TGIG				*e*S		**Sn**	**08 40 28.6**	**-0.1**
TGIG		**1.79**	**352**	*e*P		**Pn**	**08 40 06.5**	**-0.4**
TGIG				IAML			08 40 42.3	
	comp=E,1μm,0.6s							
ESSG	**Sabana Grande**	**2.06**	**107**	*i* P		**Pn**	**08 40 11.3**	**+0.9**

ESSG				*i* S	**Sn**	**08 40 35.2**	**0.0**	
ESSG				IAML		08 40 40.1		
	comp=E,684nm,0.4s							
NILT	**Santiago Nilte**	**2.30**	**313**	*e*P	**Pn**	**08 40 14.3**	**+0.7**	
NILT				*e*S	**Sn**	**08 40 42.4**	**+1.6**	
FG8	**Yepocapa, Chim**	**2.35**	**108**	*i* P	Pn	08 40 09.6	-4.7	
FG16	**Alotenango, Sa**	**2.39**	**107**	*i* P	Pn	08 40 10.8	-4.2	
FG16				IAML		08 40 40.4		
	comp=N,5μm,0.2s							
UXUV	**UXUV**	**2.62**	**332**	*e*P	**Pn**	**08 40 17.9**	**0.0**	
UXUV				*e*S	**Sn**	**08 40 50.2**	**+1.5**	
CMIG	**Matias Romero**	**2.85**	**317**	*e*P	**Pn**	**08 40 21.2**	**+0.2**	
CMIG				*e*S	**Sn**	**08 40 57.3**	**+3.0**	
FAME	**Alcaldia de Sa**	**2.99**	**112**	S	**Sn**	**08 40 56.6**	**-1.1**	
FAME	**Alcaldia de Sa**	**2.99**	**112**	P	**Pn**	**08 40 23.5**	**+0.5**	
NUBE	**Las Nubes**	**3.18**	**109**	*i* P	**Pn**	**08 40 26.2**	**+0.5**	
NUBE	**Las Nubes**	**3.18**	**109**	P	**Pn**	**08 40 26.1**	**+0.4**	
NUBE	**Las Nubes**	**3.18**	**109**	S	**Sn**	**08 41 03.5**	**+0.9**	
HUIG	**Huatulco**	**3.22**	**284**	*e*P	**Pn**	**08 40 26.0**	**-0.1**	
HUIG				*e*S	**Sn**	**08 40 59.2**	**-4.1**	
CEVE	**Cerro Verde**	**3.35**	**110**	P	**Pn**	**08 40 29.0**	**+0.9**	
CEVE	**Cerro Verde**	**3.35**	**110**	S	**Sn**	**08 41 09.4**	**+2.6**	
UNIC	**Universidad Ca**	**3.37**	**107**	P	**Pn**	**08 40 28.9**	**+0.7**	
TUIG	**Tuzandepetl**	**3.37**	**334**	P	**Pn**	**08 40 28.8**	**+0.6**	
TUIG	**Tuzandepetl**	**3.37**	**334**	S	**Sn**	**08 41 08.3**	**+1.2**	
ESQI	**Esquipulas**	**3.44**	**97**	P	**Pn**	**08 40 29.7**	**+0.5**	
MTO3	**Montecristo**	**3.44**	**99**	P	**Pn**	**08 40 29.9**	**+0.6**	
PETF	**Flores**	**3.47**	**56**	*e*P	**Pn**	**08 40 28.3**	**-1.1**	
PETF				*e*S	**Sn**	**08 41 03.7**	**-5.6**	
CEDA	**San Andres**	**3.57**	**109**	P	**Pn**	**08 40 30.7**	**-0.1**	
JAYA	**Jayaque - finc**	**3.57**	**111**	S	**Sn**	**08 41 12.8**	**+0.6**	
JAYA	**Jayaque - finc**	**3.57**	**111**	P	**Pn**	**08 40 33.3**	**+2.3**	
PMON	**Piamonte**	**3.67**	**110**	S	**Sn**	**08 41 17.2**	**+2.7**	
PMON	**Piamonte**	**3.67**	**110**	P	**Pn**	**08 40 33.8**	**+1.5**	
UEES	**Universidad Ev**	**3.74**	**109**	P	**Pn**	**08 40 34.3**	**+1.1**	
UEES	**Universidad Ev**	**3.74**	**109**	S	**Sn**	**08 41 17.7**	**+1.6**	
LOMA	**Loma Larga**	**3.83**	**110**	P	**Pn**	**08 40 35.5**	**+1.0**	
LOMA	**Loma Larga**	**3.83**	**110**	S	**Sn**	**08 41 19.7**	**+1.4**	
NEUV	**Arroyo Zacate**	**3.91**	**314**	*e*P	**Pn**	**08 40 35.5**	**0.0**	
NEUV				*e*S	**Sn**	**08 41 23.0**	**+2.9**	
SARH	**Santa Rosa de**	**3.98**	**93**	P	**Pn**	**08 40 36.9**	**+0.4**	
PAVA	**Las Pavas**	**4.02**	**108**	P	**Pn**	**08 40 38.9**	**+1.8**	
PMUV	**Sontecomapan**	**4.14**	**329**	*i* P	**Pn**	**08 40 38.6**	**-0.1**	
PMUV				*e*S	**Sn**	**08 41 20.9**	**-5.0**	
UESV	**Universidad de**	**4.18**	**108**	P	**Pn**	**08 40 40.5**	**+1.3**	
UESV	**Universidad de**	**4.18**	**108**	S	**Sn**	**08 41 28.4**	**+1.5**	
IZAB	**Izabal, Puerto**	**4.20**	**79**	P	**Pn**	**08 40 40.1**	**+0.6**	
SCLA	**Alcaldia de Sa**	**4.21**	**107**	P	**Pn**	**08 40 40.7**	**+1.0**	
TECO	**Alcaldia de Te**	**4.22**	**109**	P	**Pn**	**08 40 41.5**	**+1.7**	
TECO	**Alcaldia de Te**	**4.22**	**109**	S	**Sn**	**08 41 30.3**	**+2.5**	
PEIG	**Puerto Escondi**	**4.25**	**284**	*e*P	**Pn**	**08 40 37.8**	**-2.3**	
PEIG				*e*S	**Sn**	**08 41 24.1**	**-4.4**	
VHO	**Vista Hermosa**	**4.25**	**300**	*e*P	**Pn**	**08 40 42.5**	**+2.1**	
VHO				*e*S	**Sn**	**08 41 29.6**	**+0.7**	
SCIG	**Sabancuy**	**4.27**	**22**	*e*P	**Pn**	**08 40 39.6**	**-0.8**	
SCIG				*e*S	**Sn**	**08 41 26.3**	**-2.7**	
SCIG	**Sabancuy**	**4.27**	**22**	P	**Pn**	**08 40 40.4**	**-0.1**	
PACA	**Pacayal**	**4.66**	**108**	P	**Pn**	**08 40 50.5**	**+4.6**	
MARCA	**Marcala la Paz**	**4.75**	**99**	P	**Pn**	**08 40 48.3**	**+1.2**	
YOIG	**Yosondua**	**4.87**	**293**	*e*P	**Pn**	**08 40 49.5**	**+0.6**	
YOIG				*e*S	**Sn**	**08 41 45.1**	**+1.0**	
TOIG	**Toxpalan**	**5.07**	**308**	*e*P	**Pn**	**08 40 53.3**	**+1.8**	
TOIG				*e*S	**Sn**	**08 41 51.0**	**+2.2**	
LCND	**La Caada**	**5.11**	**108**	P	**Pn**	**08 40 54.5**	**+2.6**	
CNCH	**Conchagua**	**5.17**	**109**	P	**Pn**	**08 40 54.3**	**+1.4**	
CNCH	**Conchagua**	**5.17**	**109**	S	**Sn**	**08 41 53.9**	**+2.6**	
TXIG	**Tlaxiaco**	**5.22**	**296**	*e*P	**Pn**	**08 40 56.1**	**+2.4**	
TXIG				*e*S	**Sn**	**08 41 53.1**	**+0.4**	
PNIG	**Pinotepa**	**5.25**	**286**	*e*P	**Pn**	**08 40 54.7**	**+0.8**	
PNIG				*e*S	**Sn**	**08 41 50.0**	**-3.2**	
TGUH	**Tegucigalpa,Un**	**5.50**	**99**	P	**Pn**	**08 40 58.3**	**+0.9**	
HLIG	**Huajuapan de L**	**5.51**	**301**	*e*P	**Pn**	**08 40 58.1**	**+0.5**	
HLIG				*e*S	**Sn**	**08 41 59.7**	**-0.2**	
CSGN	**Cosiguina Volc**	**5.53**	**111**	P	**Pn**	**08 40 58.5**	**+0.8**	
JAUV	**Jalcomulco**	**5.75**	**320**	*e*P	**Pn**	**08 40 58.5**	**-2.2**	
JAUV				*e*S	**Sn**	**08 42 02.8**	**-2.6**	
YUSH	**Yuscaran**	**5.93**	**99**	P	**Pn**	**08 41 03.5**	**+0.3**	
MGIG	**Malinaltepec**	**5.97**	**293**	*e*P	**Pn**	**08 41 03.6**	**-0.3**	
MGIG				*e*S	**Sn**	**08 42 09.4**	**-1.6**	
TLIG	**Tlapa**	**6.04**	**296**	*e*S	**Sn**	**08 42 13.2**	**+0.6**	
CRIG	**Cruz Grande**	**6.27**	**287**	*e*P	**Pn**	**08 41 09.2**	**+1.2**	
CRIG				*e*S	**Sn**	**08 42 14.3**	**+1.8**	
CXUV	**Coxquihui**	**6.84**	**320**	*e*P	**Pn**	**08 41 14.3**	**-1.4**	
CXUV				*e*S	**Sn**	**08 42 30.3**	**-1.9**	

*IDC **14** 08:47:34.6±0.9, 2°.77S×139°.07E, h0km, mb3.8/8, mbtmp3.9/9, ML4.0/1, MS3.2/4, Error ellipse: s-maj=21.2km s-min=12.9km az=160.0*
*DJA **14** 08:47:39.3±0.6, 3°.5S×13°.9E±°, h13km±9km, M4.2/6, mb4.5/1, MLv4.1/6*
ISC 14 08:47:36.2±0.6, 2°.84S±0°.06×139°.25E±0°.05, h10km, n18, σ1°13/18, mb3.9/7, MS3.1/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.95**	**75**	P	**Pn**	**08 47 56.6**	**+1.0**
GENI				S	**Sn**	**08 48 08.8**	**-0.4**
SMPI	**Sarmi**	**1.00**	**327**	P	**Pb**	**08 47 55.6**	**-0.1**
SMPI				S	**Sg**	**08 48 07.5**	**-1.2**
WAMI	**Wamena**	**1.17**	**208**	P	Pg	08 48 06.4	+7.7
WAMI				S	Sn	08 48 26.5	+12
JAY	**Jayapura**	**1.49**	**77**	Pg	**Pg**	**08 48 05.8**	**+1.0**
	27nm,0.3s,baz=227,slow=10,SNR=63						
JAY				Lg	Lg	08 48 26.1	
	34nm,0.3s,baz=76,slow=16,SNR=9.0						
JAY	**Jayapura**	**1.49**	**77**	P	**Pg**	**08 48 05.3**	**+0.5**
SRPI	**Serui, Papua**	**3.16**	**288**	P	Pn	08 48 18.6	-7.5
BAKI	**Biak**	**3.54**	**297**	P	**Pn**	**08 48 33.7**	**+2.3**
FAKI	**Fak Fak**	**7.00**	**269**	P	**Pn**	**08 49 20.2**	**+1.4**
WRA	**Warramunga Arr**	**17.66**	**195**	P	**Pn**	**08 51 41.4**	**-1.1**
	0.6nm,0.3s,baz=17,slow=13,SNR=26						
WRA				S	Sn	08 54 48.4	-11
	1.1nm,0.8s,baz=11,slow=25,SNR=3.1 1.8nm,0.5s						
KAPI	**Kappang**	**19.57**	**263**	LR	LR	09 00 43.9	
	comp=Z,39nm,18.0s,baz=60,slow=41						
FITZ	**Fitzroy Crossi**	**20.20**	**220**	P	**P**	**08 52 10.1**	**-1.3**
	1.1nm,0.5s,baz=69,slow=13,SNR=6.0						
FITZ				S	S	08 55 47.8	-10
	2.1nm,0.6s,baz=154,slow=12,SNR=5.1						
FITZ				LR	LR	09 00 04.2	
	comp=Z,88nm,21.7s,baz=35,slow=37 1.1nm,0.5s						
ASAR	**Alice Springs**	**21.34**	**194**	P	**P**	**08 52 23.6**	**0.0**
	1.5nm,0.6s,baz=11,slow=11,SNR=20						
ASAR				S	**S**	**08 56 19.8**	**-1.0**
	0.6nm,0.8s,baz=7.8,slow=28,SNR=3.0						
ASAR				LR	LR	09 00 04.9	
	comp=Z,57nm,21.3s,baz=338,slow=35 1.5nm,0.6s						
STKA	**Stephens Creek**	**28.96**	**176**	P	**P**	**08 53 36.2**	**+0.2**
	1.7nm,0.9s,baz=340,slow=15,SNR=2.0						
STKA				LR	LR	09 07 03.8	
	comp=Z,74nm,18.1s,baz=18,slow=40 1.7nm,0.9s						
MKAR	**Makanchi Array**	**70.22**	**322**	P	**P**	**08 58 49.0**	**-0.6**
	0.8nm,0.6s,baz=106,slow=6.6,SNR=4.5 0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**72.32**	**330**	P	**P**	**08 59 01.1**	**-1.0**
	0.5nm,0.4s,baz=134,slow=8.2,SNR=1.6 0.5nm,0.4s						
VNDA	**Vanda**	**75.60**	**175**	P	**P**	**08 59 22.2**	**+1.3**
	1.2nm,0.7s,baz=329,slow=6.0,SNR=13 1.2nm,0.7s						
ILAR	**Eielson Array**	**85.73**	**24**	P	**P**	**09 00 14.3**	**-1.0**
	0.3nm,0.7s,baz=243,slow=4.0,SNR=2.7 0.3nm,0.7s						
QSPA	**South Pole Qui**	**87.10**	**180**	P	**P**	**09 00 22.7**	**+0.5**
	0.6nm,0.5s,baz=290,slow=2.3,SNR=9.3 0.6nm,0.5s						

NNC 14 08:51:16.6±4.4, 37°.43N×71°.46E, h125km±100km, mb3.1, mpv4.0, 2C-1D, Error ellipse: s-maj=41.1km s-min=35.7km az=6.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.70**	**23**	⇑P	Pn	08 52 38.3	-0.8
	3.7nm,0.5s						
AAK				⇓S	Sn	08 53 44.3	+0.9
	7.6nm,0.7s						
KK31	**Karatay Array**	**5.71**	**353**	⇑P	Pn	08 52 39.9	+0.7
	15nm,0.4s,baz=177,slow=13,SNR=91						
KK31				S	Sn	08 53 43.6	0.0
	2.8nm,0.3s,baz=170,slow=20,SNR=11						
AB31	**Akbulak array**	**14.47**	**328**	P	Pn	08 54 35.3	0.0
	0.3nm,0.4s,baz=136,slow=13,SNR=11						

*IDC **14** 08:57:18.6±1.6, 31°.57N×139°.59E, h0km, mb3.4/3, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=75.2km s-min=19.7km az=86.0*
*JMA **14** 08:57:24.5±0.2, 32°.N±1°.×140°.8E±0°.9, h50km, MV3.1/17, E OFF HACHIJOJIMA ISLAND*
ISC 14 08:57:21.0±1.3, 31°.85N±0°.09×140°.9E±0°.1, h35km, n16, σ2°18/14, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.54**	**325**	*e*P	**Pn**	**08 57 47.3**	**+1.3**
JHJ2				*e*S	**Sn**	**08 58 03.9**	**-0.9**
JHJ	**Hachijo jima 2**	**1.56**	**325**	Pn	**Pn**	**08 57 47.2**	**+0.9**
	16nm,0.3s,baz=98,slow=19,SNR=2.1						
JHJ				Sn	**Sn**	**08 58 02.6**	**-2.8**
	28nm,0.3s,baz=127,slow=21,SNR=9.4						
BSO1	**Boso 1**	**2.80**	**2**	*e*P	**Pn**	**08 58 04.7**	**+1.8**
BSO3	**Boso 3**	**2.96**	**354**	*e*P	**Pn**	**08 58 07.1**	**+1.8**
BSO3				*e*S	**Sn**	**08 58 39.1**	**-0.4**
TTO1	**TONANKAI O.B.S**	**3.87**	**298**	*e*P	**Pn**	**08 58 21.4**	**+3.7**
JHO	**Hitachi**	**4.76**	**357**	*e*P	**Pn**	**08 58 32.6**	**+2.4**
MJAR	**Matsushiro Arr**	**5.18**	**336**	Pn	**Pn**	**08 58 37.8**	**+1.8**
	0.1nm,0.3s,baz=164,slow=11,SNR=6.6						
MJAR				Sn	**Sn**	**08 59 35.6**	**+1.1**
	baz=82,slow=8.7 1.5nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**26.29**	**111**	T	T	09 31 02.5	
	baz=301,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.29**	**111**	T	T	09 31 00.3	
	baz=301						
H11N3	**WAKE ISLAND Hy**	**26.30**	**111**	T	T	09 31 02.6	
	baz=301,slow=74						
H11S3	**WAKE ISLAND Hy**	**26.80**	**114**	T	T	09 31 37.9	
	baz=304,slow=75						
H11S1	**WAKE ISLAND Hy**	**26.80**	**114**	T	T	09 31 37.6	
	baz=304,slow=75						
H11S2	**WAKE ISLAND Hy**	**26.82**	**114**	T	T	09 31 37.4	
	baz=304,slow=75						
KURBB	**Kurchatov Arra**	**48.97**	**312**	P	**P**	**09 06 01.2**	**-2.6**
	0.2nm,0.4s,baz=89,slow=6.6,SNR=2.6 0.2nm,0.4s						
WRA	**Warramunga Arr**	**51.87**	**188**	P	**P**	**09 06 24.5**	**-1.5**
	0.4nm,0.6s,baz=6.1,slow=7.5,SNR=7.2 0.4nm,0.6s						
ASAR	**Alice Springs**	**55.60**	**188**	P	**P**	**09 06 54.7**	**+1.4**
	0.2nm,0.5s,baz=0.9,slow=7.9,SNR=4.3 0.2nm,0.5s						

*UPP **14** 09:00:24.7±0.2, 67°.42N×23°.33E, h0km, ML2.1, Unknown Suspected explosion*
*HEL **14** 09:00:24.8±0.1, 67°.44N×23°.33E, h0km, ML1.7, Explosion*
*IDC **14** 09:00:25.4±1.7, 67°.41N×23°.63E, h0km, mbtmp2.8/2, ML1.9/1, Error ellipse: s-maj=40.6km s-min=10.3km az=93.0*
ISC 14 09:00:24.2±0.8, 67°.44N±0°.02×23°.34E±0°.02, h0km, n42, σ1°17/63, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLF	**Kolari**	**0.31**	**130**	PG	**Pg**	**09 00 30.6**	**+0.4**
	baz=312						
KLF				SG	**Sg**	**09 00 34.9**	**+0.7**
PAJU	**Pajala**	**0.42**	**192**	P	**Pg**	**09 00 32.6**	**+0.4**
PAJU				S	**Sg**	**09 00 38.5**	**+0.8**
PAJU	**Pajala**	**0.42**	**192**	PG	**Pg**	**09 00 32.3**	**+0.1**
	baz=10.0						
PAJU				SG	**Sg**	**09 00 38.5**	**+0.8**
MASU	**Masugnsbyn**	**0.52**	**273**	P	**Pg**	**09 00 34.5**	**+0.4**
MASU				S	**Sg**	**09 00 41.7**	**+0.9**
LANU	**Lannavaara**	**0.80**	**321**	P	**Pg**	**09 00 39.9**	**+0.4**
LANU				S	**Sg**	**09 00 50.9**	**+1.1**
LANU	**Lannavaara**	**0.80**	**321**	PB	**Pg**	**09 00 39.8**	**+0.3**
LANU				SB	**Sb**	**09 00 52.2**	**-0.1**
HEF	**Hetta**	**0.98**	**7**	*e*P	**Pg**	**09 00 43.2**	**+0.2**
HEF	**Hetta**	**0.98**	**7**	PB	**Pg**	**09 00 43.3**	**+0.2**
HEF				SG	**Sg**	**09 00 52.3**	**-3.4**
HEF				MSG		09 00 54.9	
	comp=Z,9.4nm,0.2s						
ERTU	**Ertsjaerv**	**0.99**	**208**	P	**Pg**	**09 00 42.7**	**-0.5**
ERTU	**Ertsjaerv**	**0.99**	**208**	PG	**Pg**	**09 00 42.6**	**-0.5**
ERTU				SG	**Sg**	**09 00 54.4**	**-1.6**
DUNU	**Dundret**	**1.12**	**255**	P	**Pg**	**09 00 45.6**	**0.0**
KUA	**Kurravaara**	**1.26**	**296**	P	**Pg**	**09 00 48.1**	**-0.2**
RNF	**Rovaniemi**	**1.34**	**127**	PG	**Pg**	**09 00 49.1**	**-0.6**
RNF				SN	**Sg**	**09 01 07.3**	**+0.3**
TOF	**Tornio**	**1.42**	**164**	PG	**Pn**	**09 00 50.6**	**-0.5**
TOF				MSG		09 01 07.6	
	comp=Z,3.7nm,0.2s						
TOF				SG	**Sg**	**09 01 09.1**	**-0.5**
KOVU	**Salmi**	**1.44**	**305**	P	**Pn**	**09 00 51.6**	**0.0**
RATU	**Laukkuluspa**	**1.49**	**287**	P	**Pn**	**09 00 52.1**	**0.0**
KALU	**Kalix**	**1.58**	**180**	P	**Pn**	**09 00 53.4**	**0.0**
KALU	**Kalix**	**1.58**	**180**	PG	**Pn**	**09 00 53.5**	**0.0**
KALU				SN	**Sg**	**09 01 16.6**	**+1.7**
HARU	**Harads**	**1.58**	**217**	P	**Pn**	**09 00 53.2**	**-0.2**
KTK1	**Kautokeino**	**1.58**	**359**	*e*P	**Pn**	**09 00 53.4**	**-0.1**
KTK1	**Kautokeino**	**1.58**	**359**	PN	**Pn**	**09 00 53.6**	**+0.1**
KTK1				SN	**Sg**	**09 01 16.8**	**+1.8**
NIKU	**Nikkaluokta**	**1.70**	**287**	P	**Pb**	**09 00 55.9**	**-0.4**
KIF	**Kilpisjarvi**	**1.84**	**330**	PG	**Pb**	**09 00 58.5**	**-0.1**
KIF				MSG		09 01 20.3	
	comp=Z,6.9nm,0.2s						
KIF				SN	**Sg**	**09 01 24.4**	**+1.3**
RANF	**Ranua**	**1.98**	**135**	PG	**Pb**	**09 01 00.3**	**-0.7**
RANF				SG	**Sb**	**09 01 26.3**	**+0.2**
SJUU	**Sjulsmark**	**2.06**	**201**	*e*P	**Pb**	**09 01 01.2**	**-1.1**
RAJF	**Raja-Jooseppi**	**2.15**	**59**	PG	**Pn**	**09 01 02.2**	**+1.0**
RAJF				SG	**Sg**	**09 01 32.4**	**-0.6**
ARA0	**ARCESS Array S**	**2.26**	**20**	PG	**Pn**	**09 01 03.8**	**+1.1**
ARA0				SG	**Sb**	**09 01 33.5**	**-0.7**
ARCES	**ARCESS Array B**	**2.26**	**20**	Pn	**Pn**	**09 01 03.7**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=199,slow=14,SNR=39						
ARCES				Sn	**Sb**	**09 01 33.1**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=195,slow=20,SNR=21 comp=Z,1.7nm,0.5s						
I37NO	**I37NO**	**2.41**	**315**	I	I	09 15 20.0	
	baz=132,slow=320,SNR=3.9						
VRF	**Varrio**	**2.42**	**80**	PG	**Pb**	**09 01 07.4**	**-1.2**
VRF				MSG		09 01 36.6	
	comp=Z,6.0nm,0.2s						
VRF				SG	**Sb**	**09 01 38.6**	**-0.3**
OUL	**Oulu**	**2.58**	**155**	PG	**Pb**	**09 01 09.9**	**-1.3**
	baz=338						
KU2	**Taivalkoski**	**2.61**	**129**	PB	**Pn**	**09 01 09.5**	**+2.0**
OLKF	**Oulanka, Finla**	**2.64**	**112**	PB	**Pn**	**09 01 09.7**	**+1.7**
OLKF				MSG		09 01 42.8	
	comp=Z,2.4nm,0.2s						
OLKF				SG	**Sb**	**09 01 46.0**	**+0.8**
KEV	**Kevo**	**2.69**	**28**	PB	**Pn**	**09 01 09.9**	**+1.3**
KEV				SG	**Sb**	**09 01 46.6**	**0.0**
OBF4	**Vikkela, Lumij**	**2.73**	**164**	PG	**Pb**	**09 01 12.5**	**-1.3**
OBF4				MSG		09 01 45.4	
	comp=Z,1.2nm,0.2s						
MSF	**Maaselka**	**2.74**	**121**	SG	**Sb**	**09 01 48.6**	**+0.6**
KU6	**Riekki**	**2.96**	**116**	PB	**Pn**	**09 01 13.8**	**+1.5**
KU6				MSG		09 01 52.1	
	comp=Z,1.4nm,0.2s						
KU6				SG	**Sb**	**09 01 55.2**	**+0.9**
KU1	**Kurvinen**	**3.12**	**124**	PN	**Pn**	**09 01 15.8**	**+1.3**
OUF	**Merijarvi**	**3.13**	**169**	PB	**Pn**	**09 01 17.7**	**+3.0**
	baz=347						
OUF				MSG		09 01 57.0	
	comp=Z,1.2nm,0.2s						
UMAU	**Umeaa**	**3.73**	**198**	PN	**Pn**	**09 01 25.2**	**+2.3**
	baz=19						
NIF	**Nilsia**	**4.47**	**153**	PB	**Pb**	**09 01 40.4**	**-3.0**
FINES	**FINESS Array B**	**6.13**	**168**	Pn	**Pn**	**09 01 57.7**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=349,slow=14,SNR=0.9						
FINES				Sn	**Sn**	**09 03 05.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=350,slow=23,SNR=1.4						
FINES				Lg	Lg	09 03 31.1	
	comp=Z,0.1nm,0.3s,baz=0.0,slow=33,SNR=2.1						

HEL 14 09:00:25.2±0.3, 61°.14N×29°.90E, h0km, ML2.0, Suspected explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.54**	**302**	PG	Pg	09 00 35.3	-0.3
	baz=119						
RUF				SG	Sg	09 00 41.9	-0.7
RUF				MSG		09 00 42.6	
	comp=Z,18nm,0.2s						
VJF	**Virojoki**	**1.30**	**243**	PG	Pg	09 00 48.3	-1.7
VJF				MSG		09 01 04.3	
	comp=Z,13nm,0.2s						
VJF				SN	Sn	09 01 09.2	+0.7
FIA0	**FINESS Array S**	**1.87**	**281**	PG	Pn	09 00 58.0	-0.4
	baz=101						
FIA0				MSG		09 01 20.9	
	comp=Z,15nm,0.2s						
FIA0				SG	Sn	09 01 22.6	-0.1
JOF	**Joensuu**	**1.91**	**20**	*e*P	Pn	09 00 57.2	-1.8
JOF	**Joensuu**	**1.91**	**20**	PG	Pn	09 00 59.3	+0.4
	baz=198						
JOF				SG	Sb	09 01 24.7	-0.4
KAF	**Kangasniemi**	**1.98**	**301**	PG	Pn	09 01 00.5	+0.6
KAF				MSG		09 01 24.0	
	comp=Z,10nm,0.2s						
KAF				SG	Sn	09 01 26.1	+0.8
PVF	**Pernaja**	**2.07**	**255**	PB	Pn	09 01 01.1	+0.1
PVF				MSG		09 01 26.6	
	comp=Z,20nm,0.2s						
PVF				SG	Sb	09 01 30.0	+0.3
SUF	**Sumiainen**	**2.38**	**313**	PG	Pb	09 01 07.5	-1.4
SUF				MSG		09 01 35.7	
	comp=Z,3.5nm,0.2s						
SUF				SG	Sb	09 01 39.6	+0.8
NIF	**Nilsia**	**2.46**	**338**	PG	Pn	09 01 08.3	+1.7
	baz=152						
NIF				MSG		09 01 38.0	
	comp=Z,6.1nm,0.2s						
KEF	**Keuruu**	**2.61**	**295**	*e*P	Pn	09 01 04.4	-4.2
KEF	**Keuruu**	**2.61**	**295**	PB	Pn	09 01 10.2	+1.5
KEF				MSG		09 01 42.4	
	comp=Z,3.6nm,0.2s						
KEF				SB	Sb	09 01 43.8	-1.6
NUR	**Nurmijarvi**	**2.65**	**259**	PG	Pb	09 01 11.5	-1.9
	baz=72						
NUR				MSG		09 01 43.2	
	comp=Z,3.6nm,0.2s						
HEL5	**Espoo, Suvisaa**	**2.74**	**250**	PB	Pn	09 01 12.7	+2.3
HEL5				MSG		09 01 46.0	
	comp=Z,4.8nm,0.2s						
MEF	**Metsahovi**	**2.86**	**254**	PB	Pb	09 01 15.0	-2.1
MEF				SN	Sn	09 01 47.2	0.0
MEF				MSG		09 01 49.4	
	comp=Z,4.1nm,0.2s						
RMF	**Romuvaara**	**3.09**	**0**	PB	Pb	09 01 18.2	-2.8
RMF				MSG		09 01 55.9	
	comp=Z,2.4nm,0.2s						
RMF				SG	Sb	09 01 57.7	-1.5
RAF	**Rauma**	**3.96**	**272**	*e*P	Pn	09 01 28.1	+1.1
OUF	**Merijarvi**	**4.02**	**326**	PG	Pb	09 01 37.3	+0.5
OUL	**Oulu**	**4.36**	**337**	PG	Pb	09 01 43.6	+1.0
KU2	**Taivalkoski**	**4.65**	**351**	PB	Pb	09 01 45.4	-2.1

*SOF **14** 09:25:02.5, 41°.23N±0°.01×24°.64E±0°.01, h20km±3km, MD2.5/7*
*ATH **14** 09:25:03.6, 41°.26N×24°.65E, h6km±2km, ML2.1/8, Manual Solution by F.Xalaris First location: 2019/08/14 09:25:32, This location: 2019/08/14 09:31:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*BEO **14** 09:25:05.3±1.1, 41°.13N×24°.65E, h2km±3km, ML2.2/6*
ISC 14 09:25:03.9±1.0, 41°.23N±0°.02×24°.64E±0°.02, h8km±9km, n30, σ0°58/51, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.25**	**203**	P	**Pg**	**09 25 09.1**	**+0.1**
KAVA				S	**Sg**	**09 25 12.9**	**+0.6**
XANC	**Avdira**	**0.34**	**137**	P	**Pb**	**09 25 11.2**	**-1.0**
XANC				S	**Sb**	**09 25 16.4**	**-1.4**
KVLA	**Kavala**	**0.35**	**213**	P	**Pg**	**09 25 10.8**	**0.0**
KVLA				S	**Sg**	**09 25 16.0**	**+0.6**
RZN	**Rozhen**	**0.47**	**9**	*i* Pg	**Pg**	**09 25 12.8**	**-0.2**
RZN				Sg	**Sg**	**09 25 19.6**	**+0.4**
THAS	**Thassos island**	**0.63**	**175**	P	**Pg**	**09 25 16.0**	**0.0**
THAS				S	**Sg**	**09 25 24.6**	**+0.5**
RDO	**Rodhopi**	**0.68**	**97**	P	**Pg**	**09 25 16.9**	**-0.1**
RDO				S	**Sg**	**09 25 25.7**	**-0.2**
MMB	**Musomishta**

s-maj=1.3km s-min=0.7km az=79.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.10**	**141**		Pg	09 34 22.1	+0.1
CLC				IAML		09 34 24.1	
	comp=N,17μm,0.8s						
TOW	**Tower One**	**0.11**	**219**		Pg	09 34 22.8	+0.5
TOW					Sg	09 34 25.3	+1.5
WVPM	**Volcano Peak E**	**0.13**	**296**		Pg	09 34 22.8	+0.2
WVPM					Sg	09 34 24.9	+0.7
JRC2	**Joshua Ridge**	**0.14**	**309**		Pg	09 34 25.2	+2.4
WCSM	**Coso Springs S**	**0.15**	**331**		Pg	09 34 23.0	0.0
WCSM					Sg	09 34 25.4	+0.4
WNMM	**Nine Mile Cany**	**0.19**	**254**		Pg	09 34 23.9	+0.2
WRVM	**Rose V. Centra**	**0.21**	**303**		Pg	09 34 24.2	+0.1
WRVM					Sg	09 34 27.2	+0.5
SRTC	**Snort**	**0.21**	**196**		Pg	09 34 24.6	+0.5
SRTC					Sg	09 34 28.5	+1.7
MPMC	**Manual Prospec**	**0.22**	**43**		Pg	09 34 24.3	-0.1
MPMC				IAML		09 34 28.0	
	comp=N,20μm,0.4s						
MPMC				IAML		09 34 29.6	
	comp=E,20μm,0.7s						
MFS	**McCloud Flat S**	**0.26**	**327**		Pg	09 34 25.2	0.0
MFS					Sg	09 34 29.2	+0.5
WSHM	**Spangler Hills**	**0.33**	**153**		Pg	09 34 26.4	+0.1
WSHM				IAML		09 34 31.8	
	comp=E,11μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.41**	**181**		Pg	09 34 27.9	-0.1
LRMC				IAML		09 34 34.8	
	comp=E,3μm,0.6s						
LRMC				IAML		09 34 35.1	
	comp=N,3μm,0.4s						
CCCA	**Chr Cany lake**	**0.45**	**145**		Pg	09 34 29.1	+0.5
CCCA					Sg	09 34 35.7	+1.3
WORM	**Onyx Ranch**	**0.50**	**247**		Pg	09 34 29.4	-0.2
WORM					Sg	09 34 36.1	0.0
WBSM	**Bird Springs**	**0.52**	**227**		Pg	09 34 29.9	-0.1
WBSM					Sg	09 34 37.0	+0.3
WHFM	**Hanning Flat**	**0.58**	**250**		Pg	09 34 31.0	-0.2
WHFM					Sg	09 34 38.5	-0.2
CWC	**Cottonwood Cre**	**0.63**	**329**		Pg	09 34 32.3	+0.1
CWC					Sg	09 34 40.2	-0.2
DTP	**Desert Tortois**	**0.64**	**192**		Pg	09 34 31.9	-0.4
DTP					Sg	09 34 41.2	+0.6
QSM	**Queen of Sheba**	**0.66**	**84**		Pg	09 34 32.3	-0.3
QSM				IAML		09 34 46.5	
	comp=E,2μm,0.6s						
CGO	**Cerro Gordo**	**0.66**	**351**		Pg	09 34 32.2	-0.5
CGO					Sg	09 34 41.1	-0.2
ISA	**Isabella, Lake**	**0.69**	**251**		Pg	09 34 33.1	-0.1
ISA	**Isabella, Lake**	**0.69**	**251**		Sg	09 34 41.8	-0.3
WASM	**Alta Sierra Ca**	**0.73**	**258**		Pg	09 34 33.8	-0.2
WASM					Sg	09 34 43.7	+0.1
CCAC	**Calif City Air**	**0.79**	**201**		Pg	09 34 34.8	-0.3
CCAC					Sg	09 34 45.8	+0.4
GWY	**Greenwater Val**	**0.87**	**70**		Pg	09 34 36.6	0.0
GWY				IAML		09 34 53.4	
	comp=N,2μm,0.4s						
GWY				IAML		09 34 53.6	
	comp=E,3μm,0.5s						
FURC	**Furnace Creek,**	**0.87**	**49**		Pg	09 34 36.9	+0.3
FURC				Sg	Sg	09 34 48.5	+0.6
FURC				IAML		09 34 52.2	
	comp=E,3μm,0.6s						
FURC				IAML		09 35 00.4	
	comp=N,3μm,1.0s						
GSC	**Goldstone, Bar**	**0.92**	**130**		Sg	09 34 49.8	+0.1
GSC	**Goldstone, Bar**	**0.92**	**130**		Pg	09 34 37.1	-0.5
GSC				IAML		09 34 52.9	
	comp=N,2μm,0.9s						
SPG2	**Springville 2**	**0.93**	**289**		Pg	09 34 37.1	-0.7
SPG2					Sg	09 34 50.0	0.0
HYS	**Haystack Butte**	**1.03**	**175**		Pg	09 34 39.0	-0.7
HYS					Sg	09 34 53.5	+0.3
EDW2	**Edwards Air Fo**	**1.04**	**194**		Pg	09 34 39.1	-0.9
EDW2					Sg	09 34 53.0	-0.5
TEJ	**El Tejon**	**1.06**	**231**		Pg	09 34 39.4	-0.9
TEJ					Sg	09 34 53.3	-0.7
TPO	**Tropico Hills**	**1.11**	**204**		Pg	09 34 40.5	-0.7
TPO				IAML		09 35 03.1	
	comp=N,1μm,0.8s						
TPO				IAML		09 35 03.4	
	comp=E,2μm,0.8s						
SHOC	**Shoshone, Teco**	**1.14**	**89**		Pg	09 34 41.3	-0.5
VES	**Vestal, Richgr**	**1.15**	**268**		Pg	09 34 41.5	-0.4
VES				IAML		09 35 11.6	
	comp=N,994nm,0.7s						
VES	**Vestal, Richgr**	**1.15**	**268**		Sg	09 34 56.9	+0.2
RRX	**Edison Barstow**	**1.16**	**151**		Pg	09 34 42.2	0.0
SGV	**South Grapevin**	**1.20**	**25**		Pg	09 34 42.4	-0.7
SBB	**Saddle Back Bu**	**1.21**	**186**		Pg	09 34 42.2	-1.0
ARVC	**Arvin**	**1.21**	**231**		Pb	09 34 43.4	-0.1
TJR	**Tejon Ranch**	**1.23**	**225**		Sg	09 34 59.0	-0.4
WCT	**Wildcat Mounta**	**1.23**	**43**		Pg	09 34 42.9	-0.8
WCT				IAML		09 35 04.1	
	comp=E,791nm,0.8s						
TIN	**Tinemaha, Big**	**1.24**	**339**		Pg	09 34 43.1	-0.6
TIN				IAML		09 35 06.2	
	comp=E,856nm,0.8s						
TIN				IAML		09 35 16.3	
	comp=N,746nm,0.9s						
AMDNV	**Amargosa**	**1.26**	**63**		Pg	09 34 43.0	-1.1
THC	**Tehachapi Micr**	**1.27**	**220**		Pg	09 34 43.3	-1.1
BAKC	**Calstate**	**1.29**	**245**		Sb	09 35 01.9	+0.3
LCH	**Last Change Ra**	**1.33**	**1**		Pn	09 34 45.2	-0.3
LEOC	**Leona Valley**	**1.36**	**202**		Pn	09 34 44.7	-1.2
VTV	**Victorville**	**1.36**	**168**		Pg	09 34 46.2	+0.1
LRRC	**Littlerock Res**	**1.40**	**192**		Pn	09 34 45.1	-1.1
LRRC					Sn	09 35 05.1	0.0
HOLC	**Holcomb Ridge**	**1.44**	**186**		Pn	09 34 45.7	-1.2
GMN	**Gold Mountain**	**1.44**	**13**		Pn	09 34 46.9	-0.2
VOG	**Valley Oaks Go**	**1.45**	**288**		Pn	09 34 46.6	-0.2
VOG					Sb	09 35 06.2	0.0
JNH	**Juniper Hills**	**1.46**	**189**		Pn	09 34 46.1	-1.1
DSP	**Deep Springs**	**1.49**	**351**		Pn	09 34 47.6	0.0
TUQ	**Turquoise Moun**	**1.50**	**107**		Pn	09 34 46.3	-1.4
HEC	**Hector,Ludlow**	**1.53**	**134**		Pn	09 34 46.8	-1.3
OSI	**Osito Audit: C**	**1.54**	**214**		Pn	09 34 47.1	-1.1
OSI				IAML		09 35 12.2	
	comp=E,630nm,0.6s						
OSI				IAML		09 35 15.8	
	comp=N,530nm,0.7s						
TPNV	**Topopah Spring**	**1.56**	**47**		Pn	09 34 48.0	-0.7
TPNV				IAML		09 35 11.9	
	comp=N,606nm,0.6s						
TPNV				IAML		09 35 13.7	
	comp=N,853nm,1.0s						
CHFC	**Chilao Flat St**	**1.58**	**191**		Pn	09 34 47.8	-1.2
MTUM	**Tungsten Hills**	**1.62**	**334**		Pb	09 34 50.1	-0.5
BFSC	**Mount Baldy Ra**	**1.65**	**179**		Pn	09 34 49.0	-0.8
SSK	**Sunset Peak**	**1.68**	**180**		Pg	09 34 52.0	-0.2
SIL	**Silver Peak**	**1.69**	**155**		Pg	09 34 52.1	-0.3
MWC	**Mount Wilson**	**1.70**	**191**		Pn	09 34 49.9	-0.6
MWC				IAML		09 35 20.4	
	comp=N,396nm,0.7s						
MWC				IAML		09 35 24.7	
	comp=E,353nm,0.8s						
PASC	**Pasadena Art C**	**1.77**	**194**		Pn	09 34 50.8	-0.6
MTPC	**Mountain Pass**	**1.78**	**103**		Pn	09 34 50.1	-1.5
MTPC				IAML		09 35 17.2	
	comp=N,662nm,0.8s						
MTPC				IAML		09 35 18.8	
	comp=E,502nm,0.7s						
CRGC	**Crocker Grade**	**1.79**	**249**		Pb	09 34 53.3	-0.1
MZP	**Montezuma Peak**	**1.82**	**7**		Pn	09 34 51.5	-0.8
BLCC	**Black Canyon**	**1.84**	**207**		Pn	09 34 52.0	-0.4
KCC	**Kaiser Creek**	**1.94**	**318**		Pb	09 34 55.5	-0.5
MLAC	**Mammoth, Mammo**	**1.97**	**332**		Pb	09 34 56.4	-0.1
SMMC	**Simmler**	**1.98**	**254**		Pn	09 34 55.4	+1.1
GMRC	**Granite Mounta**	**1.99**	**123**		Pn	09 34 52.5	-2.0
SHPR	**Sheep Range**	**2.12**	**73**		Pn	09 34 55.9	-0.6
TPH	**Tonopah**	**2.21**	**9**		Pn	09 34 57.4	-0.2
TPH				IAML		09 35 40.5	
	comp=N,203nm,0.9s						
ELS	**Elsinore Mount**	**2.25**	**175**		Pn	09 34 57.4	-0.7
DANC	**Danby, Needles**	**2.26**	**123**		Pn	09 34 56.6	-1.5
DANC				IAML		09 35 41.6	
	comp=N,556nm,0.7s						
V12A	**Nelson**	**2.30**	**93**		Pn	09 34 57.7	-1.1
V12A				IAML		09 35 40.7	
	comp=N,221nm,0.5s						
S11A	**Rachel**	**2.33**	**41**		Pn	09 34 59.3	+0.1
BELC	**Belle Mtn. Jos**	**2.34**	**143**		Pn	09 34 58.3	-1.0
BELC				IAML		09 35 37.2	
	comp=E,360nm,0.7s						
BELC				IAML		09 35 40.7	
	comp=N,279nm,0.7s						
LHV	**Little Huntoon**	**2.44**	**345**		Pn	09 35 01.8	+1.2
LHV				IAML		09 35 49.8	
	comp=N,166nm,1.5s						
PMD	**Palm Desert**	**2.48**	**154**		Pn	09 34 59.9	-1.3
PMD				IAML		09 35 45.8	
	comp=E,164nm,0.9s						
PFO	**Pinyon Flats O**	**2.49**	**156**		Pn	09 35 00.5	-0.8
PFO				IAML		09 35 44.0	
	comp=E,174nm,1.6s						
PMPB	**Monarch Peak**	**2.55**	**278**		Pn	09 35 02.4	+0.2
PMPB				IAML		09 35 47.5	
	comp=E,404nm,0.9s						
PMPB				IAML		09 35 48.0	
	comp=N,377nm,1.0s						
PRN	**Pahroc Range**	**2.59**	**54**		Pn	09 35 02.8	-0.1
PRN				IAML		09 35 55.1	
	comp=E,244nm,0.7s						
PRN				IAML		09 35 56.0	
	comp=N,394nm,0.8s						
IRM	**Iron Mountain**	**2.71**	**129**		Pn	09 35 02.4	-1.9
IRM				IAML		09 35 45.8	
	comp=N,134nm,0.8s						
IRM				IAML		09 35 52.0	
	comp=E,212nm,0.9s						
BORC	**Borrego Spring**	**2.82**	**158**		Pn	09 35 05.0	-0.8
BORC				IAML		09 35 51.8	
	comp=E,129nm,0.9s						
BC3	**Big Chuckawall**	**2.89**	**140**		Pn	09 35 05.2	-1.7
BC3				IAML		09 35 52.8	
	comp=E,165nm,0.7s						
BC3				IAML		09 35 57.1	
	comp=N,240nm,0.6s						
DPP	**Dos Picos Cty**	**2.95**	**168**		Pn	09 35 06.9	-0.8
DPP				IAML		09 35 53.5	
	comp=E,121nm,0.9s						
W13A	**Hualapai Mount**	**3.19**	**103**		Pn	09 35 09.9	-1.3
W13A				IAML		09 36 05.3	
	comp=E,91nm,0.6s						
W13A				IAML		09 36 06.7	
	comp=N,107nm,0.8s						
BAR	**Barrett**	**3.31**	**165**	Pn	Pn	09 35 11.8	-0.9
BAR				IAML		09 36 04.1	
	comp=E,164nm,0.7s						
BAR				IAML		09 36 04.8	
	comp=N,99nm,0.7s						
CBX	**Cerro Bola**	**3.67**	**166**		Pn	09 35 17.4	-0.2
ESJX	**Sierra Juarez**	**4.14**	**159**	Pn	Pn	09 35 24.0	-0.1
ESJX				IAML		09 36 31.8	
	comp=E,43nm,0.7s						
Y14A	**Wickenburg**	**4.31**	**116**		Pn	09 35 25.1	-1.2
Y14A				IAML		09 36 38.0	
	comp=E,61nm,0.7s						
Y14A				IAML		09 36 44.1	
	comp=N,86nm,0.8s						

STR 14 09:35:59.4±0.3, 46°N±2°×±°, h0km, MLv1.8/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.34**	**158**	Pg	Pg	09 36 05.9	-0.1
OG35				Sg	Sg	09 36 11.5	+1.2
RIVEL	**MONT RIVEL**	**0.54**	**43**	Pg	Pg	09 36 09.8	0.0
RIVEL				Sg	Sg	09 36 17.2	+0.4
OGMY	**Moye**	**0.59**	**144**	Pg	Pg	09 36 11.0	+0.3
OGMY				Sg	Sg	09 36 18.6	+0.2
GIMEL	**St. Georges /**	**0.63**	**74**	Pg	Pg	09 36 11.3	-0.2
GIMEL				Sg	Sg	09 36 19.7	+0.1
PLYF	**Puligny Montra**	**0.74**	**323**	Pg	Pg	09 36 14.1	+0.4
PLYF				Sg	Sg	09 36 24.6	+1.3
OGSM	**Saint Maurice**	**0.78**	**164**	Pg	Pg	09 36 14.8	+0.4
OGSM				Sg	Sg	09 36 25.2	+0.7
FOURG	**Fourg**	**0.80**	**21**	Pg	Pg	09 36 14.7	+0.1
FOURG				Sg	Sg	09 36 25.6	+0.6
BOUC	**Bouclans**	**1.07**	**34**	Pg	Pg	09 36 19.6	-0.3
BOUC				Sg	Sb	09 36 34.8	-0.5
AIGLE	**Aigle**	**1.08**	**91**	Pg	Pg	09 36 20.3	+0.1
AIGLE				Sg	Sg	09 36 34.9	+0.7
RSL	**Roselend**	**1.09**	**128**	Pg	Pg	09 36 20.2	-0.2
RSL				Sg	Sg	09 36 35.3	+0.8
GRN	**Grenoble**	**1.15**	**167**	Pg	Pg	09 36 21.6	+0.2
GRN				Sg	Sb	09 36 37.1	-0.5
TORNY	**Torny/Romont**	**1.16**	**69**	Pg	Pb	09 36 22.1	-0.2
TORNY				Sg	Sb	09 36 37.9	0.0
SSB	**Saint Sauveur**	**1.24**	**209**	Pg	Pg	09 36 23.0	-0.1
SSB				Sg	Sg	09 36 39.6	+0.5
CHMF	**Charmoille**	**1.24**	**44**	Pg	Pg	09 36 23.0	-0.2
CHMF				Sg	Sb	09 36 40.1	-0.2
PLDF	**La Plantade**	**1.29**	**253**	Pg	Pg	09 36 23.9	-0.3
PLDF				Sg	Sg	09 36 41.3	+0.4
DIX	**Grande Dixence**	**1.43**	**101**	Pg	Pb	09 36 27.3	+0.2

IDC 14 09:36:13.6±1.0, 13°.28N×50°.37E, h0km, mb3.9/9, mbtmp3.8/10, ML2.9/1, MS3.3/16, Error ellipse: s-maj=30.5km s-min=23.0km az=169.0
ISC 14 09:36:17.0±0.9, 13°.4N±0°.2×50°.3E±0°.1, h21km, n26, σ0$57/12, mb4.0/8, MS3.2/16, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.54**	**257**	Pn	**Pn**	**09 38 06.3**	**+0.4**
	0.2nm,0.3s,baz=14,slow=3.6,SNR=8.1						
ATD				LR	LR	09 40 19.2	
	comp=Z,9.4nm,19.4s,baz=220,slow=32 0.5nm,0.2s						
ASF	**Jabal al Asfar**	**22.43**	**329**	LR	LR	09 50 27.6	
	comp=Z,76nm,19.4s,baz=226,slow=38						
MMAI	**Mount Meron Ar**	**23.86**	**328**	LR	LR	09 51 47.0	
	comp=Z,21nm,20.9s,baz=155,slow=39						
GNI	**Garni**	**27.15**	**351**	LR	LR	09 54 41.7	
	comp=Z,98nm,18.7s,baz=182,slow=41						
KBZ	**Khabaz**	**30.95**	**349**	LR	LR	09 57 27.1	
	comp=Z,53nm,18.3s,baz=174,slow=41						
AAK	**Ala-Archa**	**35.89**	**31**	LR	LR	09 59 20.9	
	comp=Z,41nm,18.3s,baz=248,slow=39						
AKTO	**Aktyubinsk**	**37.51**	**8**	LR	LR	10 02 17.8	
	comp=Z,43nm,19.8s,baz=39,slow=42						
MLR	**Muntele Rosu**	**38.13**	**332**	LR	LR	10 00 03.7	
	comp=Z,55nm,18.5s,baz=188,slow=37						
MATP	**Matopo**	**39.85**	**213**	LR	LR	09 59 36.7	
	comp=Z,36nm,19.8s,baz=38,slow=35						
BVAR	**Borovoye Array**	**42.68**	**18**	P	**P**	**09 44 12.6**	**+0.4**
	0.4nm,0.5s,baz=191,slow=6.9,SNR=1.9						
BVAR				PcP	**PcP**	**09 46 04.3**	**+0.4**
	0.8nm,0.7s,baz=221,slow=1.5,SNR=3.7						
BVAR				LR	LR	10 03 56.2	
	comp=Z,31nm,18.2s,baz=195,slow=39 0.4nm,0.5s						
MKAR	**Makanchi Array**	**42.77**	**32**	P	**P**	**09 44 13.4**	**+0.4**
	0.5nm,0.5s,baz=236,slow=8.6,SNR=4.4 0.5nm,0.5s						
ARTI	**Arti**	**43.40**	**7**	LR	LR	10 05 20.5	
	comp=Z,23nm,20.8s,baz=168,slow=40						
LBTB	**Lobatse**	**45.13**	**212**	LR	LR	10 02 09.5	
	comp=Z,41nm,18.2s,baz=56,slow=34						
KIRV	**Kirov**	**45.16**	**359**	LR	LR	10 07 35.4	
	comp=Z,30nm,20.4s,baz=223,slow=42						
CMAR	**Chiang Mai Arr**	**46.91**	**77**	P	**P**	**09 44 46.9**	**+0.5**
	0.6nm,0.3s,baz=279,slow=8.6,SNR=4.6 0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.29**	**276**	P	**P**	**09 44 49.1**	**-0.4**
	0.8nm,0.7s,baz=82,slow=7.6,SNR=5.0 0.8nm,0.7s						
BOSA	**Boshof**	**48.26**	**210**	LR	LR	10 04 13.7	
	comp=Z,22nm,19.1s,baz=17,slow=35						
ZALV	**Zalesovo Beam**	**48.75**	**26**	P	**P**	**09 44 59.5**	**-0.7**
	1.3nm,0.2s,baz=224,slow=8.1,SNR=2.5 1.3nm,0.2s						
FINES	**FINESS Array B**	**51.13**	**345**	P	**P**	**09 45 17.6**	**-0.5**
	1.2nm,0.7s,baz=115,slow=13,SNR=3.4 1.2nm,0.7s						
NOA	**NORSAR Array B**	**55.40**	**338**	LR	LR	10 12 16.6	
	comp=Z,20nm,18.1s,baz=105,slow=39						
SONM	**Songino Array**	**57.61**	**41**	P	**P**	**09 46 06.1**	**+0.5**
	0.7nm,0.5s,baz=236,slow=9.8,SNR=2.3 0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**66.99**	**353**	LR	LR	10 17 51.2	
	comp=Z,28nm,18.5s,baz=226,slow=37						
DAV	**Davao City (W)**	**74.08**	**86**	LR	LR	10 19 41.3	
	comp=Z,34nm,22.0s,baz=174,slow=35						
WRA	**Warramunga Arr**	**88.97**	**111**	P	**P**	**09 49 10.2**	**-0.6**
	0.8nm,0.7s,baz=296,slow=3.7,SNR=13 0.8nm,0.7s						
ASAR	**Alice Springs**	**89.51**	**114**	P	**P**	**09 49 12.7**	**-0.7**
	0.5nm,0.6s,baz=283,slow=4.7,SNR=13 0.5nm,0.6s						
NVAR	**Mina Array Bea**	**127.41**	**349**	PKP	**PKiKP**	**09 55 22.0**	**+0.4**
	0.3nm,0.6s,baz=28,slow=4.1,SNR=3.6						

TRN 14 10:17:38.6, 10°.28N×61°.87W, h175km, MD2.9, Gulf of Paria.
FUNV 14 10:17:39.3, 10°.50N×62°.80W, h11km, MW3.2
ISC 14 10:17:39.2±1.3, 10°.22N±0°.09×62°.82W±0°.05, h35km, n8, σ2$12/16, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.34**	**69**	*e*P	**Pn**	**10 18 02.8**	**+1.4**
DMDM				*e*S	**Sn**	**10 18 21.3**	**+3.3**
TRN	**Trinidad (W)**	**1.46**	**73**	*e*P	**Pn**	**10 18 02.4**	**-0.7**
TRN				*e*S	**Sn**	**10 18 21.1**	**+0.2**
GRGR	**Grenville**	**2.22**	**31**	*e*P	**Pn**	**10 18 13.9**	**+0.3**
GRGR				*e*S	**Sn**	**10 18 38.6**	**-1.1**
GCMP	**Grenada, Carri**	**2.64**	**31**	*e*P	**Pn**	**10 18 18.5**	**-0.7**
GCMP				*e*S	**Sn**	**10 18 46.7**	**-3.4**
TACV	**Tcata**	**4.14**	**269**	*e*P	**Pn**	**10 18 41.6**	**+1.5**
TACV				*e*S	**Sn**	**10 19 28.4**	**+1.1**
CACV	**CAICARA DEL OR**	**4.52**	**235**	*e*P	**Pn**	**10 18 44.2**	**-1.0**
CACV				*e*S	**Sn**	**10 19 32.2**	**-4.4**
BENV	**Beln**	**4.71**	**267**	*e*P	**Pn**	**10 18 48.8**	**+0.9**
BENV				*e*S	**Sn**	**10 19 41.1**	**-0.3**
BAUV	**El Baul**	**5.30**	**257**	*e*P	**Pn**	**10 18 58.4**	**+2.5**
BAUV				*e*S	**Sn**	**10 19 56.0**	**+0.1**

NNC 14 10:38:10.3±0.7, 43°.13N×78°.35E, h0km, mb2.4, mpv2.2, Error ellipse: s-maj=10.2km s-min=3.9km az=171.0
KRNET 14 10:38:10.8±0.1, 43°.18N×78°.33E, h20km, mb2.8
SOME 14 10:38:11.3, 43°.17N×78°.30E, h20km
ISC 14 10:38:11.4±0.8, 43°.17N±0°.04×78°.27E±0°.02, h10km, n20, σ1$85/40, 12C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.42**	**45**	P	**Pg**	**10 38 18.8**	**-1.0**
	0.2nm,0.2s						
KPKS				S	**Sg**	**10 38 24.5**	**-1.0**
	58nm,0.2s						
KPKS	**Kokpek**	**0.42**	**45**	*e*P	**Pg**	**10 38 18.8**	**-1.0**
KPKS				*e*S	**Sg**	**10 38 24.4**	**-1.0**
UZB	**Uzynbulak**	**0.55**	**92**	P	**Pg**	**10 38 20.6**	**-1.6**
	5.6nm,0.1s						
UZB				S	**Sg**	**10 38 27.3**	**-2.1**
	22nm,0.1s						
UZB	**Uzynbulak**	**0.55**	**92**	*e*P	**Pg**	**10 38 20.7**	**-1.4**
UZB				*e*S	**Sg**	**10 38 27.3**	**-2.1**
UZB	**Uzynbulak**	**0.55**	**92**	*e*P	**Pg**	**10 38 20.7**	**-1.4**
	4.2nm,0.1s						
UZB				*e*S	**Sg**	**10 38 27.3**	**-2.1**
	18nm,0.1s						
SHLS	**Shalkode**	**0.87**	**90**	P	**Pn**	**10 38 32.0**	**+2.1**
	1.5nm,0.3s						
SHLS				S	**Sn**	**10 38 47.4**	**+4.7**
	9.2nm,0.3s						
SHLS	**Shalkode**	**0.87**	**90**	*e*P	**Pn**	**10 38 32.0**	**+2.1**
SHLS				*e*S	**Sn**	**10 38 47.4**	**+4.7**
SHLS	**Shalkode**	**0.87**	**90**	*e*P	**Pn**	**10 38 32.0**	**+2.1**
	1.1nm,0.1s						
SHLS				*e*S	**Sn**	**10 38 47.4**	**+4.7**
	5.8nm,0.1s						
PDGK	**Podgornoye**	**0.90**	**79**	⇑P	**Pg**	**10 38 27.2**	**-1.7**
	0.6nm,0.2s						
PDGK				⇑S	**Sg**	**10 38 37.9**	**-2.7**
	1.8nm,0.2s						
TNSS	**Tian-Shan**	**0.98**	**263**	P	**Pg**	**10 38 29.9**	**-0.4**
	1.3nm,0.2s						
TNSS				S	**Sb**	**10 38 43.7**	**-0.2**
	0.9nm,0.2s						
TNSS	**Tian-Shan**	**0.98**	**263**	*e*P	**Pg**	**10 38 29.9**	**-0.4**
TNSS				*e*S	**Sb**	**10 38 43.7**	**-0.2**
TNSS	**Tian-Shan**	**0.98**	**263**	*e*P	**Pg**	**10 38 29.9**	**-0.4**
	0.5nm,0.1s						
TNSS				*e*S	**Sb**	**10 38 43.7**	**-0.2**
	2.2nm,0.1s						
ARXS	**Arharly**	**1.09**	**343**	*e*P	**Pg**	**10 38 31.9**	**-0.6**
ARXS				*e*S	**Sb**	**10 38 46.5**	**-0.4**
KDJ	**Kajisay**	**1.31**	**218**	⇑*e*P	**Pb**	**10 38 36.0**	**-0.3**
KDJ				⇑*e*S	**Sn**	**10 38 53.3**	**-0.4**
TARG	**Taragay, Kyrgy**	**1.48**	**194**	⇑*e*P	**Pb**	**10 38 38.4**	**-0.9**
TARG				⇑*e*S	**Sb**	**10 38 58.1**	**-0.2**
ULHL	**Ulahol**	**1.76**	**239**	⇑*e*P	**Pb**	**10 38 42.9**	**-1.0**
ULHL				⇑*e*S	**Sb**	**10 39 06.6**	**+0.5**
DGS	**Degeres**	**1.83**	**273**	P	**Pb**	**10 38 45.0**	**0.0**
	1.6nm,0.6s						
DGS				S	**Sg**	**10 39 09.9**	**-0.3**
	6.1nm,0.4s						
TKM2	**Tokmak 2**	**1.98**	**264**	⇑*e*P	**Pb**	**10 38 46.3**	**-1.3**
TKM2				⇑*e*S	**Sb**	**10 39 11.9**	**-0.5**
UCH	**Uchtor**	**2.93**	**253**	⇑*e*P	**Pn**	**10 38 59.5**	**+1.1**
UCH				⇑*e*S	**Sn**	**10 39 34.7**	**+0.8**
MK31	**Makanchi Array**	**4.61**	**37**	Pn	**Pn**	**10 39 22.7**	**+1.5**
	0.5nm,0.6s,baz=211,slow=12,SNR=5.7						
MK31				⇓Sn	**Sn**	**10 40 12.8**	**-2.0**
	0.1nm,0.3s						
MK31				⇓Lg	Lg	10 40 31.6	
	0.1nm,0.3s						

IDC 14 10:56:42.2±2.5, 51°.62N×82°.21E, h0km, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=48.3km s-min=14.7km az=108.0, Southwestern Siberia

| Code |

RUGZ S Sn 11 03 29.8 -0.6
TWGZ Tauwhareparae 7.86 208 P Pn 11 01 59.9 -2.7
TWGZ S Sn 11 03 30.0 -1.6
KUZ Kuaotunu 7.90 225 P Pn 11 02 05.3 +2.2
CNGZ Carnagh Statio 8.04 206 P Pn 11 02 02.4 -2.6
CNGZ S Sn 11 03 35.9 0.0
MWZ Matawai 8.18 209 P Pn 11 02 03.7 -3.3
MWZ S Sn 11 03 35.6 -3.9
OPRZ Ohinepanea 8.23 216 P Pn 11 02 06.8 -0.9
URZ Urewera 8.30 212 Pn Pn 11 02 05.5 -3.0
2.0nm,0.3s,baz=256,slow=3.7,SNR=16
URZ Sn Sn 11 03 37.8 -4.5
4.4nm,0.3s,baz=242,slow=4.7,SNR=11
URZ Urewera 8.30 212 P Pn 11 02 05.4 -3.1
URZ S Sn 11 03 39.3 -3.0
WCZ Waipu Caves 8.32 234 P Pn 11 02 14.5 +5.6
RIGZ Rimuhau 8.40 207 P Pn 11 02 06.8 -3.3
RIGZ S Sn 11 03 42.5 -2.5
OUZ Omahuta 8.52 240 P Pn 11 02 17.2 +5.6
RTZ Ruatahuna 8.65 211 P Pn 11 02 11.1 -2.4
RTZ S Sn 11 03 48.1 -3.0
TOZ Tahuroa Road 8.70 221 P Pn 11 02 16.1 +1.9
RAHZ Arahi 8.85 209 P Pn 11 02 14.1 -2.2
RAHZ S Sn 11 03 52.8 -3.3
MTHZ Maungataniwha 8.90 211 P Pn 11 02 14.3 -2.6
MTHZ S Sn 11 03 54.3 -3.1
BKZ Black Stump Fm 9.31 211 P Pn 11 02 18.7 -3.9
BKZ S Sn 11 04 04.3 -3.2
MCHZ McNeill Hill 9.46 209 P Pn 11 02 20.2 -4.4
MCHZ S Sn 11 04 09.1 -1.9
KWHZ Kaweka Forest 9.56 210 P Pn 11 02 23.1 -2.8
KWHZ S Sn 11 04 07.8 -5.7
HIZ Hauiti 9.62 219 P Pn 11 02 29.3 +2.6
KAHZ Kahuranaki 9.68 207 P Pn 11 02 22.0 -5.7
KAHZ S Sn 11 04 13.2 -3.4
OTVZ Oturere 9.69 214 P Pn 11 02 26.7 -1.3
KRHZ Kereru 9.76 210 P Pn 11 02 24.3 -4.5
WNVZ Wahianoa 9.86 214 P Pn 11 02 30.1 0.0
PNHZ Pukenui 10.06 210 P Pn 11 02 29.0 -3.8
RPZ Rata Peaks 15.41 213 Pn Pn 11 03 41.4 -4.3
3.2nm,0.3s,baz=26,slow=2.3,SNR=10
RPZ Sn Sn 11 06 21.2 -15
0.4nm,0.3s,baz=161,slow=14,SNR=1.3
DZM Mont Dzumac 17.12 299 Pn Pn 11 04 06.5 -1.3
DZM Mont Dzumac 17.12 299 *e*Pn Pn 11 04 07.7 -0.1
120nm,1.3s
DZM *e*LR LR 11 08 03.8
674nm,26.4s
DZM Mont Dzumac 17.12 299 Pn Pn 11 04 06.6 -1.2
0.4nm,0.3s,baz=92,slow=16,SNR=5.6
9.6nm,1.1s
RAR Rarotonga 18.68 62 P P 11 04 25.7 -0.9
0.7nm,0.3s,baz=236,slow=7.3,SNR=3.4
RAR LR LR 11 11 10.2
comp=Z,273nm,18.4s,baz=241,slow=36
5.5nm,0.5s
TBI Tubuai 25.98 79 *e*S S 11 10 10.0 -1.8
1µm,26.8s
TBI *e*LR LR 11 11 59.8
916nm,27.5s
ARMA Armidale 26.59 264 P P 11 05 47.3 +0.4
ARMA IAmb IAmb 11 06 19.3
comp=Z,15nm,1.1s
CAN Canberra 28.31 253 P P 11 06 02.1 -0.1
EIDS Eidsvold 28.33 274 P P 11 06 01.9 -0.5
EIDS IAmb IAmb 11 06 05.1
comp=Z,19nm,1.0s
PPT2 Papeete2 28.65 68 *e*S S 11 10 50.9 -3.3
comp=Z,222nm,25.0s
PPT2 *e*LR LR 11 13 09.0
comp=Z,184nm,27.8s
PPT2 *e*LR LR 11 13 20.1
comp=Z,150nm,28.8s
PPT Papeete 28.66 68 LR LR 11 15 38.8
comp=Z,112nm,20.4s,baz=242,slow=32
TOO Toolangi 31.12 248 P 11 06 28.3 +1.3
TOO IAmb IAmb 11 06 30.1
comp=Z,9.6nm,1.1s
CTAO Charters Tower 34.48 280 P 11 06 56.5 0.0
STKA Stephens Creek 34.81 258 P P 11 07 00.2 +0.9
STKA Stephens Creek 34.81 258 P P 11 07 00.1 +0.7
comp=Z,16nm,0.8s,baz=94,slow=9.8,SNR=24
STKA LR LR 11 18 30.9
comp=Z,103nm,21.8s,baz=49,slow=32
comp=Z,16nm,0.8s
BBOO Buckleboo 39.26 255 P 11 07 37.6 +0.5
BBOO IAmb IAmb 11 07 38.1
comp=Z,27nm,0.8s
PMG Port Moresby 39.48 296 LR LR 11 20 19.3
comp=Z,67nm,21.7s,baz=130,slow=31
COEN Coen 40.04 286 P P 11 07 43.7 -0.1
COEN IAmb IAmb 11 09 14.8
comp=Z,40nm,1.4s
TAOE Nuku Hiva Isla 41.18 65 *e*LR LR 11 18 57.2
comp=Z,121nm,26.8s
AS31 Alice Springs 43.61 268 P P 11 08 13.1 +0.2
ASAR Alice Springs 43.61 268 P 11 08 12.7 -0.3
ASAR Alice Springs 43.61 268 P P 11 08 12.9 -0.1
comp=Z,11nm,0.7s,baz=106,slow=7.3,SNR=116
ASAR PcP PcP 11 10 00.6 +0.1
comp=Z,2.6nm,0.9s,baz=111,slow=3.3,SNR=5.4
ASAR ScP ScP 11 13 54.8 +2.7
comp=Z,0.9nm,1.0s,baz=123,slow=4.1,SNR=4.2
ASAR LR LR 11 26 03.8
comp=Z,116nm,18.2s,baz=155,slow=36
comp=Z,11nm,0.7s
WR0 Warramunga Arr 44.50 273 P P 11 08 20.1 0.0
WR0 IAmb IAmb 11 08 40.3
comp=Z,13nm,1.1s
WR8 Warramunga Arr 44.53 273 P P 11 08 20.3 -0.1
WR8 IAmb IAmb 11 08 21.5
comp=Z,11nm,0.8s
WB2 Warramunga Arr 44.67 273 P P 11 08 21.4 -0.1
WRAB Tennant Creek 44.67 273 P 11 08 21.4 -0.1
WRAB IAmb IAmb 11 08 22.5
comp=Z,11nm,0.7s
WRA Warramunga Arr 44.68 273 P 11 08 21.2 -0.4
WRA Warramunga Arr 44.68 273 P P 11 08 21.3 -0.2
comp=Z,11nm,0.7s,baz=114,slow=7.6,SNR=105
WRA PcP PcP 11 10 04.3 +0.2
comp=Z,2.4nm,0.9s,baz=120,slow=3.5,SNR=4.9
WRA ScP ScP 11 13 58.3 +1.9
comp=Z,0.5nm,0.8s,baz=119,slow=3.5,SNR=2.0
WRA LR LR 11 27 17.1
comp=Z,161nm,18.7s,baz=333,slow=36
comp=Z,11nm,0.7s
WB0 Warramunga Arr 44.70 273 P P 11 08 21.8 0.0
VNDA Vanda 47.26 186 P P 11 08 41.9 +0.8
VNDA Vanda 47.26 186 LR LR 11 24 51.8
comp=Z,60nm,21.3s,baz=344,slow=31
JAY Jayapura 48.79 297 LR LR 11 26 37.9
comp=Z,50nm,21.2s,baz=53,slow=33
MTN Manton Dam 50.66 279 P P 11 09 07.8 -0.2
KNRA Kununurra 51.32 275 P P 11 09 13.2 +0.3
KNRA IAmb IAmb 11 09 29.6
comp=Z,13nm,1.0s
FITZ Fitzroy Crossi 52.90 270 P 11 09 24.5 -0.3
FITZ Fitzroy Crossi 52.90 270 LR LR 11 32 35.4
comp=Z,119nm,18.8s,baz=99,slow=37
CASY Casey 54.60 208 P 11 09 38.1 +1.5
CASY IAmb IAmb 11 09 38.6
comp=Z,7.8nm,0.9s
GUMO Guam 57.50 315 LR LR 11 33 39.2
comp=Z,44nm,18.3s,baz=134,slow=35
BATI Baumata 58.30 278 LR LR 11 36 45.2
comp=Z,153nm,18.7s,baz=166,slow=38
RPN Rapa Nui 58.68 105 LR LR 11 30 21.5
comp=Z,73nm,19.3s,baz=228,slow=31
QSPA South Pole Qui 58.82 180 P P 11 10 10.0 +3.3
comp=Z,13nm,0.8s,baz=40,slow=1.6,SNR=53
comp=Z,13nm,0.8s
KAPI Kappang 64.30 280 LR LR 11 39 23.5
comp=Z,81nm,18.4s,baz=74,slow=37
BELA Belgrano 2 68.83 172 P P 11 11 12.8 +0.5
BELA IAmb IAmb 11 11 41.2
comp=Z,15nm,1.6s
PMSA Palmer Station 71.22 155 LR LR 11 37 05.2
comp=Z,84nm,19.7s,baz=238,slow=31
MAW Mawson 71.66 201 P P 11 11 31.6 +1.9
comp=Z,4.6nm,1.0s,baz=114,slow=7.4,SNR=8.2
comp=Z,4.6nm,1.0s
SBUM Sibu 74.64 283 P P 11 11 48.6 +0.4
KSM Kuching 75.72 281 P P 11 11 53.4 -1.0
KSM IAmb IAmb 11 12 08.0
comp=Z,12nm,1.1s

TROLL Troll, Antarti 76.98 180 ⇓P P 11 12 02.2 +1.3
comp=Z,444nm,0.9s
SNAA Sanae 77.25 178 ⇓P P 11 12 03.0 +0.8
comp=Z,100nm,0.8s
SNAA Sanae 77.25 178 P 11 12 03.2 +1.0
SNAA IAmb IAmb 11 12 30.1
comp=Z,12nm,1.2s
SNAA Sanae 77.25 178 P P 11 12 02.7 +0.4
comp=Z,5.4nm,0.9s,baz=193,slow=3.8,SNR=20
comp=Z,5.4nm,0.9s
VNA3 Neumayer Olymp 77.38 176 ⇓P P 11 12 03.5 +0.5
comp=Z,19nm,0.8s
VNA1 Neumayer--Stat 78.04 176 ⇓P P 11 12 07.7 +1.1
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 79.29 325 P P 11 12 12.9 -1.0
comp=Z,3.7nm,0.9s,baz=159,slow=4.8,SNR=6.0
comp=Z,3.7nm,0.9s
PLCA Paso Flores 81.50 133 P P 11 12 27.7 +1.6
comp=Z,3.3nm,0.8s,baz=220,slow=2.5,SNR=7.4
PLCA LR LR 11 41 05.9
comp=Z,71nm,19.9s,baz=240,slow=30
comp=Z,3.3nm,0.8s
ASAJ Asahikawa 83.48 332 LR LR 11 50 09.4
comp=Z,26nm,18.1s,baz=174,slow=36
LPIG La Paz 84.55 58 LR LR 11 43 06.9
comp=Z,87nm,18.2s,baz=209,slow=30
KSRS Korea Array 85.38 319 P P 11 12 45.3 -0.4
comp=Z,2.4nm,0.9s,baz=146,slow=5.9,SNR=7.2
comp=Z,2.4nm,0.9s
KSAR Wonju Array Be 85.39 319 P P 11 12 44.8 -0.9
PSI Prapat 86.06 276 LR LR 11 52 01.4
comp=Z,76nm,21.0s,baz=153,slow=36
PFO Pinyon Flats O 86.42 47 LR LR 11 45 05.1
comp=Z,62nm,18.1s,baz=218,slow=31
ISA Isabella, Lake 86.56 44 P 11 12 51.3 -0.3
ISA IAmb IAmb 11 12 54.1
comp=Z,6.5nm,1.0s
PETK Petropavlovsk- 86.81 345 P 11 12 52.2 -0.2
PETK Petropavlovsk- 86.81 345 P P 11 12 52.5 +0.1
comp=Z,5.7nm,0.8s,baz=134,slow=6.4,SNR=9.4
comp=Z,5.7nm,0.8s
NJ2 Nanjing 87.24 310 *e*P P 11 12 55.1 +0.1
NJ2 pmax pmax
comp=Z,17nm,0.5s
USRK Ussuriysk Ar. 88.21 326 P P 11 12 59.4 +0.1
comp=Z,5.7nm,0.9s,baz=105,slow=4.6,SNR=6.4
comp=Z,5.7nm,0.9s
NVAR Mina Array Bea 88.53 42 P P 11 13 02.5 +1.3
comp=Z,3.7nm,0.9s,baz=219,slow=8.3,SNR=21
comp=Z,3.7nm,0.9s
CN2 Changchun 91.18 323 P P 11 13 13.9 +0.7
CN2 pmax pmax
comp=Z,20nm,0.8s
BNX BinXian 91.55 325 ⇑P P 11 13 15.1 +0.2
BNX pmax pmax
comp=Z,13nm,1.0s
TXAR Lajitas Array 92.42 57 P P 11 13 20.2 +0.8
comp=Z,0.5nm,0.9s,baz=212,slow=5.9,SNR=4.9
TXAR LR LR 11 47 26.3
comp=Z,32nm,18.9s,baz=190,slow=31
comp=Z,0.5nm,0.9s
CMIG Matias Romero 92.52 72 LR LR 11 48 34.6
comp=Z,31nm,18.0s,baz=196,slow=31
ATAH Atahualpa 93.94 101 LR LR 11 47 02.9
comp=Z,28nm,21.3s,baz=70,slow=30
CMAR Chiang Mai Arr 94.21 289 P P 11 13 27.9 +0.1
comp=Z,0.6nm,0.4s,baz=117,slow=5.6,SNR=1.7
CMAR LR LR 11 57 50.5
comp=Z,12nm,20.0s,baz=170,slow=37
comp=Z,0.6nm,0.4s
PZH PanZhiHua 96.20 297 P P 11 13 38.3 +1.4
PDAR Pinedale Array 96.41 43 P P 11 13 37.4 -0.3
comp=Z,0.4nm,0.7s,baz=198,slow=4.4,SNR=4.8
PDAR LR LR 11 52 21.6
comp=Z,32nm,18.4s,baz=260,slow=32
comp=Z,0.4nm,0.7s
HHC Hu-ho-hao-te 97.25 314 *e*P Pdif 11 13 42.1 +0.7
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.4s
LPAZ La Paz 97.28 114 P Pdif 11 13 42.9 0.0
comp=Z,1.2nm,0.6s,baz=298,slow=2.2,SNR=3.5
comp=Z,1.2nm,0.6s
DLBC Dease Lake 97.73 23 LR LR 11 49 23.5
comp=Z,17nm,20.1s,baz=246,slow=30
ILAR Eielson Array 98.68 13 LR LR 11 57 40.8
comp=Z,22nm,18.8s,baz=104,slow=35
CPUP Villa Florida 99.00 128 LR LR 11 52 32.2
comp=Z,12nm,18.1s,baz=28,slow=32
MKAR Makanchi Array 118.76 310 PKP **PKPdf** 11 18 55.9 -0.6
comp=Z,1.0nm,0.8s,baz=99,slow=1.6,SNR=5.1
ZALV Zalesovo Beam 119.06 318 PKP **PKiKP** 11 18 56.8 0.0
comp=Z,0.5nm,0.3s,baz=90,slow=1.7,SNR=1.3
KURBB Kurchatov Arra 122.10 313 PKP **PKPdf** 11 19 02.4 -0.3
comp=Z,1.7nm,0.7s,baz=106,slow=2.0,SNR=14
BVAR Borovoye Array 127.42 315 PKP **PKPdf** 11 19 12.7 -0.1
comp=Z,2.4nm,0.8s,baz=101,slow=3.0,SNR=9.8
ARCES ARCESS Array B 139.58 348 PKP **PKPdf** 11 19 34.5 -0.6
comp=Z,2.0nm,0.8s,baz=46,slow=5.2,SNR=3.8
KBZ Khabaz 146.06 303 PKPbc **PKPab** 11 19 48.7 -0.1
comp=Z,9.8nm,1.0s,baz=128,slow=2.2,SNR=13
FINES FINESS Array B 146.17 340 PKPbc **PKPbc** 11 19 47.9 -0.1
comp=Z,21nm,0.9s,baz=49,slow=3.2,SNR=39
NB2 NORSAR Subarra 149.72 352 PKP **PKPbc** 11 19 57.6 0.0
comp=Z,2.3nm,0.8s,baz=16,slow=2.7
NOA NORSAR Array B 149.72 352 PKPbc **PKPbc** 11 19 57.4 -0.3
comp=Z,5.0nm,0.9s,baz=14,slow=4.2,SNR=9.6
HFS Hagfors 150.23 349 PKPbc **PKPbc** 11 19 58.4 -0.4
comp=Z,12nm,0.9s,baz=112,slow=1.6,SNR=12
MMAI Mount Meron Ar 152.26 282 PKPbc **PKiKP** 11 20 05.7 +0.9
comp=Z,17nm,1.1s,baz=84,slow=10,SNR=7.5
AKASG Malin Array Be 152.34 322 PKPbc **PKPbc** 11 20 03.8 -0.2
comp=Z,5.3nm,0.9s,baz=49,slow=2.5,SNR=12
BRTR Keskin Array B 153.50 297 PKPbc **PKPbc** 11 20 06.9 -0.3
comp=Z,2.4nm,0.9s,baz=163,slow=1.3,SNR=9.8
BRTR PKPab **PKPab** 11 20 19.6 0.0
comp=Z,2.8nm,0.9s,baz=126,slow=3.5,SNR=6.6
TORD Torodi Ar. Bea 161.91 177 PKP **PKPdf** 11 20 11.7 +1.2
comp=Z,0.2nm,0.7s,baz=242,slow=3.1,SNR=4.4
TORD PKPab **sPKPab** 11 20 56.8 -1.1
comp=Z,2.3nm,0.9s,baz=176,slow=3.2,SNR=6.7
ESDC Sonseca Array 170.07 31 PKPab **PKPab** 11 21 32.0 +0.5
comp=Z,0.5nm,0.8s,baz=310,slow=4.2,SNR=4.4

*UCR **14** 11:16:25.6±1.1, 8°.34N×82°.94W, h0km±3km, MW3.7*
*UPA **14** 11:16:26.3±1.6, 8°.38N×82°.91W, h0km±3km, ML3.4, MW3.7*
ISC 14 11:16:26.9±0.8, **8°.35N**±0°.03×**82°.94W**±0°.03, **h13**km±6km, **n74**,σ1°**s24**/104, **2C-21D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.15**	**158**	⇑*i*P		**Pg**	**11 16 30.1**	**-0.5**
PTPM				AMP			11 16 30.4	
	comp=Z,53µm,0.2s							
PTPM				*e*S		**Sg**	**11 16 34.0**	**+0.9**
LESP3	**La Esperanza,**	**0.16**	**67**	⇓*i*P		**Pg**	**11 16 30.8**	**+0.2**
LESP3				AMP			11 16 31.0	
	comp=Z,5µm,0.3s							
PTPA	**Petro Terminal**	**0.16**	**156**	⇑*e*P		**Pg**	**11 16 30.0**	**-0.7**
PTPA				*e*S		**Sg**	**11 16 34.0**	**+0.7**
NELY	**Ciudad Neily**	**0.30**	**358**	⇓*i*P		**Pb**	**11 16 33.0**	**-1.1**
NELY				*e*S		**Sb**	**11 16 39.1**	**+0.1**
DMCAL	**E. de Neily**	**0.35**	**24**	⇓*e*P		**Pb**	**11 16 34.4**	**-0.6**
FITO	**Golfito**	**0.35**	**322**	⇓*e*P		**Pg**	**11 16 32.8**	**-1.3**
FITO				*e*S		**Sg**	**11 16 38.1**	**-0.7**
EDAD	**Golfito**	**0.38**	**323**	⇓*e*P		**Pg**	**11 16 33.2**	**-1.3**
EDAD				*e*S		**Sg**	**11 16 39.2**	**-0.5**
RSRNO	**Rio Sereno**	**0.47**	**9**	⇓*e*P		**Pb**	**11 16 36.8**	**-0.4**
DVD	**David**	**0.49**	**79**	*e*P		**Pb**	**11 16 36.3**	**-1.0**
DVD				AMP			11 16 38.4	
	comp=Z,2µm,0.1s							
DVD				*e*S		**Sb**	**11 16 44.6**	**+0.2**
BRU2	**Volcan**	**0.51**	**28**	⇓*i*P		**Pb**	**11 16 37.2**	**-0.5**
BRU2				AMP			11 16 37.8	
	comp=Z,2µm,0.2s							
BRU2				*e*S		**Sb**	**11 16 46.2**	**+1.1**
BRU2	**Volcan**	**0.51**	**28**	⇓*e*P		**Pb**	**11 16 37.2**	**-0.5**
BRU2				*e*S		**Sb**	**11 16 46.2**	**+1.1**
CLLRA	**Cordillera,**	**0.51**	**39**	⇓*e*P		**Pb**	**11 16 37.3**	**-0.5**
PEDE3	**Pedregal, Chir**	**0.51**	**86**	*i* P		**Pg**	**11 16 36.5**	**-0.4**
PEDE3				AMP			11 16 37.0	
	comp=Z,3µm,0.2s							
PEDE3				*e*S		**Sb**	**11 16 44.3**	**-0.7**
JEFFS	**S de V. Baru**	**0.51**	**51**	⇓*e*P		**Pb**	**11 16 37.3**	**-0.4**

LOCO3 Loma Colorada, 0.52 83 *e*P Pb 11 16 36.8 -1.0
LOCO3 *e*S Sb 11 16 45.3 +0.2
LOMA3 Las Lomas, Chi 0.55 81 *e*P Pb 11 16 37.2 -1.0
LOMA3 *e*S Sb 11 16 45.8 -0.3
BANCO falda S V. Bar 0.55 47 ⇓*e*P Pb 11 16 37.8 -0.6
PTAR3 Potrerillos Ar 0.56 52 ⇓*i*P Pb 11 16 38.0 -0.6
PTAR3 AMP 11 16 38.2
comp=Z,3µm,0.1s
PTAR3 *e*S Sb 11 16 47.6 +1.2
BC3P Paso Ancho 0.57 35 ⇓*i*P Pb 11 16 38.1 -0.7
BC3P AMP 11 16 38.3
comp=Z,5µm,0.2s
BC3P *e*S Sb 11 16 47.6 +0.8
CGUAY Guayabal, Coch 0.59 79 *e*P Pg 11 16 37.7 -0.7
CHIR3 Chiriqui UPA, 0.60 85 *e*P Pg 11 16 37.9 -0.7
CHIR3 AMP 11 16 40.1
comp=Z,1µm,0.1s
CHIR3 *e*S Sb 11 16 47.9 +0.2
ALCO Alturas Coton, 0.61 10 ⇓*e*P Pb 11 16 38.4 -1.1
ALCO *e*S Sb 11 16 47.3 -0.8
BQTLY Boquete Panama 0.62 49 ⇓*e*P Pb 11 16 38.8 -0.9
BQSF3 Alto Boquete, 0.63 52 *e*P Pb 11 16 38.9 -1.0
BQSF3 AMP 11 16 39.1
comp=Z,4µm,0.1s
BQSF3 *e*S Sb 11 16 48.6 -0.1
WILLF Boquete 0.64 51 ⇓*e*P Pb 11 16 39.0 -1.0
LNBQ3 Los Naranjos, 0.66 48 *e*P Pb 11 16 39.2 -1.1
LNBQ3 AMP 11 16 40.5
comp=Z,2µm,0.3s
LNBQ3 *e*S Sb 11 16 50.0 +0.5
DAP26 falda E V. Bar 0.67 49 ⇓*e*P Pg 11 16 39.3 -0.7
PSOM3 Paja de Sombre 0.69 61 ⇓*i*P Pg 11 16 39.6 -0.8
PSOM3 AMP 11 16 41.9
comp=Z,2µm,0.1s
PSOM3 *e*S Sb 11 16 50.4 0.0
FIMO Fila Mora 0.76 327 *e*P Pg 11 16 40.5 -1.2
PBNVO Pueblo Nuevo, 0.91 54 ⇓*e*P Pg 11 16 43.1 -1.4
RBALA Bur 0.94 56 ⇓*e*P Pg 11 16 43.9 -1.1
DRK0 Durika 0.96 341 *e*P Pg 11 16 44.0 -1.5
DRK0 *e*S Sn 11 17 00.3 +0.4
DRK0 Durika 0.96 341 ⇓*e*P Pg 11 16 44.0 -1.5
EDPE Pejibaye, P 1.02 322 *e*P Pg 11 16 44.5 -2.2
RMDIO Remedios, Chir 1.10 96 *e*P Pg 11 16 46.4 -1.7
SAJE San Jernim 1.14 330 *e*P Pg 11 16 46.9 -2.1
PDCAN Manzana , Fuen 1.23 92 *e*P Pg 11 16 47.6 -2.9
CEUA Cerro Uatsi, L 1.27 360 *e*P Pn 11 16 51.1 +0.7
CVEJO Cerro Viej 1.35 94 *e*P Pg 11 16 49.5 -3.3
LAES El Progreso Va 1.41 355 *e*P Pn 11 16 52.5 +0.2
LAES *e*S Sn 11 17 13.8 +3.0
VERH Veragua Rainfo 1.59 351 *e*P Pn 11 16 54.5 -0.3
LLNJ Naranjito 1.61 314 *e*P Pn 11 16 54.5 -0.5
PIEC Cerro El Cedra 1.62 322 *e*P Pn 11 16 55.1 -0.3
PITB Pirrs, San 1.69 321 *e*P Pn 11 16 56.8 +0.5
TURIB Turrialba 1.72 335 *e*P Pn 11 16 56.9 +0.3
PISJ San Jernim 1.73 318 *e*P Pg 11 16 59.4 -0.9
VINA Juan Vinas 1.73 333 *e*P Pn 11 16 57.3 +0.4
LCR2 La Lucha 2 1.74 323 *e*P Pn 11 16 57.3 +0.3
LCR2 *e*S Sg 11 17 22.3 -0.8
MESA3 La Mesa, Verag 1.74 96 *e*P Pn 11 16 57.8 +0.9
MESA3 *e*S Sn 11 17 19.8 +0.8
VERB Verbena 1.76 335 *e*P Pn 11 16 57.8 +0.6
PICV PH. Pirrs 1.78 316 *e*P Pn 11 16 57.4 0.0
GMAL Guarumal, Vera 1.78 109 *e*P Pn 11 16 56.5 -0.9
GMAL *e*S Sn 11 17 21.2 +1.3
GMAL Guarumal, Vera 1.78 109 *e*P Pn 11 16 56.5 -0.9
PCAYA Pacayas 1.78 331 *e*P Pn 11 16 58.6 +1.0
RSUS3 Rio de Jesus, 1.79 101 *e*P Pn 11 16 57.5 0.0
RSUS3 *e*S Sb 11 17 22.2 +0.2
VTCV VTCV, Calle Va 1.81 334 *e*P Pn 11 16 58.7 +0.8
VTCV *e*S Sb 11 17 23.3 +0.8
RESJ San Isidro (Tu 1.81 337 *e*P Pn 11 16 58.7 +0.8
RESJ *e*S Sb 11 17 23.2 +0.6
LCOCO El Coco 1.83 340 *e*P Pn 11 16 58.9 +0.8
VICA Volcano Irazu 1.86 331 *e*S Sg 11 17 26.9 +0.1
RVLA Villa Bonita 1.87 340 *e*P Pn 11 16 59.1 +0.6
CVIMO Finca Echandi 1.94 329 *e*P Pn 11 17 00.2 +0.5
CALO3 Calobre, Verag 2.07 91 *e*P Pn 11 17 00.9 -0.5
CALO3 *e*S Sn 11 17 28.7 +1.6
CACAO El Cacao, Vera 2.28 116 *e*P Pn 11 17 05.0 +0.7
CACAO *e*S Sn 11 17 34.5 +2.3
SOCE Pocosol 2.62 321 *e*P Pn 11 17 11.3 +2.3
AZU Azuero 2.69 102 *e*P Pn 11 17 10.6 +0.7
AZU *e*S Sn 11 17 44.0 +1.6
FORC Fortuna 2.71 321 *e*P Pn 11 17 12.7 +2.4
VACR Volcan Arenal 2.72 321 *e*P Pb 11 17 13.9 -1.6
CASO Castillo 2.73 320 *e*P Pb 11 17 13.7 -2.0
VARE2 V. Arenal 2.74 320 *e*P Pn 11 17 12.9 +2.3
CEDE Laguna Cedeo 2.75 321 *e*P Pn 11 17 13.1 +2.4
JTS Las Juntas de 2.77 314 *e*P Pn 11 17 12.7 +1.6
JTS *e*S Sn 11 17 47.0 +2.5
JTS Las Juntas de 2.77 314 *e*P Pn 11 17 12.6 +1.5
QUEB Quebradon, Cot 2.98 320 *e*P Pn 11 17 17.1 +3.2
VMAR Armenia, Volca 3.26 319 *e*P Pn 11 17 19.3 +1.5

OMAN 14 11:17:09.0±0.9, **27°.72N×63°.40E, h10km, mb5.0/5, Error ellipse: s-maj=7.7km s-min=5.8km az=21.0, Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah** SNR=8.3	**3.11**	**221**	P		Pn	11 17 59.8	+1.7
WSAR	**Wadi Sarin**	**6.20**	**225**	P		Pn	11 18 39.7	-1.0
WBK	**Wadi Bani Khal**	**6.48**	**219**	P		Pn	11 18 44.1	-0.4
BANOM	**Banah**	**6.59**	**256**	P		Pn	11 18 46.3	+0.2
BANOM				S		Sn	11 20 02.5	+1.1
JLN	**Jalan Bani Buh**	**6.62**	**214**	P		Pn	11 18 47.1	+0.6
JLN				S		Sn	11 20 03.2	+1.2
SHME	**Shamm**	**6.69**	**257**	P		Pn	11 18 48.4	+1.0
SMDO	**Samad**	**6.71**	**227**	P		Pn	11 18 49.0	+1.4
MDH	**Madha**	**6.81**	**251**	P		Pn	11 18 48.6	-0.3
HOQ	**Hoqain**	**6.87**	**235**	P		Pn	11 18 49.4	-0.5
MASF	**Masafi**	**6.90**	**252**	P		Pn	11 18 50.2	0.0
UOSS	**Minazif**	**7.02**	**248**	P		Pn	11 18 51.8	-0.2
UOSS				S		Sn	11 20 11.8	-0.2
HATD	**Hatta, Dubai**	**7.13**	**248**	P		Pn	11 18 55.2	+1.7
SOHO	**SOHO**	**7.14**	**242**	P		Pn	11 18 53.6	0.0
JMDO	**Jabal Madar** SNR=7.0	**7.17**	**223**	P		Pn	11 18 55.2	+1.2
ASHO	**Ashiyiah** SNR=5.2	**7.26**	**247**	P		Pn	11 18 55.3	+0.1
ASHO				S		Sn	11 20 19.6	+1.9
MHTO	**MHTO**	**8.33**	**218**	P		Pn	11 19 10.3	+0.4
MHTO				S		Sn	11 20 46.2	+2.1

*SOME **14** 11:23:31.5, 40°.38N×72°.65E, h15km*
*KRNET **14** 11:23:32.1±0.1, 40°.42N×72°.61E, mb3.0*
*ISU **14** 11:23:32, 40°.51N×72°.62E, h5km*
*NNC **14** 11:23:39.2±5.5, 40°.72N×72°.41E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=44.8km s-min=18.2km az=172.0*
ISC 14 11:23:32.6±1.1, **40°.53N**±0°.06×**72°.60E**±0°.03, **h6**km±9km, **n15**,σ1°**s15**/25, **13C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.11**	**297**	P		**Pg**	**11 23 34.7**	**-0.2**
TSTA				S		**Sg**	**11 23 36.8**	**+0.2**
OHH	**Osh**	**0.14**	**92**	⇑*e*P		**Pg**	**11 23 35.5**	**0.0**
OHH				⇑*e*S		**Sg**	**11 23 38.2**	**+0.7**
CHMI	**Chimion**	**0.86**	**253**	S		**Sb**	**11 24 02.7**	**+0.9**
SALK	**Salom-Alik**	**0.99**	**69**	⇑*e*P		**Pb**	**11 23 51.6**	**-0.6**
SALK				⇑*e*S		**Sb**	**11 24 05.8**	**+0.2**
TRKS	**Terek-Say**	**1.49**	**313**	⇑*e*P		**Pn**	**11 24 00.1**	**+0.1**
TRKS				⇑*e*S		**Sg**	**11 24 20.5**	**0.0**
UCH	**Uchtor**	**2.22**	**40**	⇑*e*P		**Pb**	**11 24 12.8**	**-0.6**
UCH				⇑*e*S		**Sb**	**11 24 42.4**	**+1.0**
MRKS	**Merke** 20nm,0.3s	**2.26**	**12**	Pg		**Pg**	**11 24 15.9**	**-0.1**
MRKS	54nm,0.3s			Lg		Lg	11 24 47.8	
MRKS	**Merke** 20nm,0.3s	**2.26**	**12**	*e*P		**Pg**	**11 24 14.9**	**-1.0**
MRKS	54nm,0.3s			*e*S		**Sg**	**11 24 46.7**	**+1.4**
EKS2	**Erkin-Say**	**2.31**	**22**	⇑*e*P		**Pb**	**11 24 13.9**	**-0.7**
EKS2				⇑*e*S		**Sb**	**11 24 44.6**	**+1.2**
IUG	**Iuzhnay** 4.3nm,0.1s	**2.52**	**311**	Pg		**Pg**	**11 24 20.1**	**-0.8**
IUG				Lg		Lg	11 24 54.8	

	17nm,0.3s								
AAK	**Ala-Archa**	**2.54**	**33**	⇑Pn		**Pg**	**11 24 20.6**	**-0.6**	
	3.0nm,0.5s								
AAK				⇓Sn		**Sg**	**11 24 55.1**	**+1.0**	
	6.6nm,0.6s								
AAK	**Ala-Archa**	**2.54**	**33**	⇑*e*P		**Pb**	**11 24 17.0**	**-1.6**	
AAK				⇑*e*S		**Sb**	**11 24 49.9**	**-0.3**	
KK31	**Karatay Array**	**3.01**	**329**	Pn		**Pb**	**11 24 24.0**	**-2.6**	
	0.6nm,0.3s,baz=140,slow=13,SNR=5.9								
KK31				⇓Lg		Lg	11 25 03.8		
	1.7nm,0.5s,baz=142,slow=28,SNR=5.8								
BRLS	**Borolday**	**3.25**	**321**	Pg		**Pb**	**11 24 30.8**	**+0.3**	
	1.1nm,0.1s								
BRLS				Lg		Lg	11 25 13.0		
	1.7nm,0.2s								
BRLS	**Borolday**	**3.25**	**321**	*e*P		**Pb**	**11 24 30.5**	**-0.1**	
	0.9nm,0.1s								
BRLS				*e*S		**Sb**	**11 25 13.1**	**+2.8**	
	1.8nm,0.1s								

NEIC ***14*** *11:29:16.3±1.2,4.9S±0.1×154.1E±0.1,h124km±11km, mb4.1/20,Error ellipse: s-maj=21.2km s-min=15.5km az=221.0*

IDC ***14*** *11:29:17.5±2.4,4.95S×153.99E,h131km±19km,mb3.6/15, mbtmp4.0/16,MS2.9/1,Error ellipse: s-maj=22.2km s-min=13.9km az=97.0*

ISC 14 11:29:19.4±0.6,4.93S±0.07×153.83E±0.07,h150km,n53, σ1§28/52,mb3.9/21,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.81**	**294**	Pn		**Pn**	**11 29 49.6**	**-2.8**
TATA	**Tatamba Isabel**	**6.86**	**120**	P		**Pn**	**11 30 57.0**	**-0.6**
HNR	**Honiara**	**7.54**	**127**	LR		LR	11 33 41.3	
	comp=Z,80nm,18.1s,baz=208,slow=36							
PMG	**Port Moresby**	**7.97**	**236**	Pn		**Pn**	**11 31 13.2**	**+0.8**
PMG	**Port Moresby**	**7.97**	**236**	P		**Pn**	**11 31 14.2**	**+1.7**
	6.9nm,0.3s,baz=271,slow=12,SNR=1.6							
PMG				S		**Sn**	**11 32 43.1**	**+1.8**
	24nm,0.5s,baz=215,slow=20,SNR=5.8							
PMG	**Port Moresby**	**7.97**	**236**	P		Pn	11 31 17.6	+5.1
PMG	**Port Moresby**	**7.97**	**236**	P		Pn	11 31 17.5	+5.0
COEN	**Coen**	**13.81**	**229**	Pn		**Pn**	**11 32 28.3**	**-0.7**
CTAO	**Charters Tower**	**16.77**	**205**	P		**P**	**11 33 04.9**	**-0.4**
CTAO				IAmb		IAmb	11 33 09.7	
	comp=Z,11nm,0.9s							
EIDS	**Eidsvold**	**20.49**	**187**	P		**P**	**11 33 44.3**	**-1.4**
EIDS				IAmb		IAmb	11 33 52.0	
	comp=Z,12nm,0.8s							
QIS	**Mount Isa**	**20.79**	**220**	P		Pn	11 33 52.0	-1.3
DZM	**Mont Dzumac**	**20.97**	**146**	P		**P**	**11 33 48.0**	**-2.9**
DZM				IAmb		IAmb	11 34 16.6	
	comp=Z,13nm,1.1s							
DZM	**Mont Dzumac**	**20.97**	**146**	P		**P**	**11 33 49.4**	**-1.5**
	comp=Z,6.4nm,1.0s,baz=307,slow=20,SNR=5.7							
	comp=Z,6.4nm,1.0s							
DZM	**Mont Dzumac**	**20.97**	**146**	P		**P**	**11 33 51.6**	**+0.7**
KDU	**Kakadu**	**22.45**	**249**	P		**P**	**11 34 07.4**	**+1.2**
MTN	**Manton Dam**	**23.74**	**249**	P		**P**	**11 34 18.5**	**+0.4**
MTN				IAmb		IAmb	11 34 38.8	
	comp=Z,12nm,1.1s							
MTN	**Manton Dam**	**23.74**	**249**	P		**P**	**11 34 18.4**	**+0.2**
WB0	**Warramunga Arr**	**23.99**	**230**	P		**P**	**11 34 20.7**	**+0.3**
WB0				IAmb		IAmb	11 34 33.0	
	comp=Z,9.2nm,1.1s							
WR8	**Warramunga Arr**	**24.02**	**230**	P		**P**	**11 34 21.1**	**+0.4**
WR8				IAmb		IAmb	11 34 33.5	
	comp=Z,4.9nm,0.8s							
WRAB	**Tennant Creek**	**24.12**	**230**	P		**P**	**11 34 22.4**	**+0.8**
WRAB				IAmb		IAmb	11 34 34.8	
	comp=Z,4.1nm,0.8s							
WRA	**Warramunga Arr**	**24.14**	**230**	P		**P**	**11 34 20.2**	**-1.5**
WRA	**Warramunga Arr**	**24.14**	**230**	P		**P**	**11 34 22.3**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=54,slow=9.6,SNR=14							
WRA				ScP		**ScP**	**11 41 25.8**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=52,slow=2.9,SNR=1.7							
	comp=Z,0.9nm,0.5s							
ARMA	**Armidale**	**25.44**	**184**	P		**P**	**11 34 32.7**	**-0.8**
ARMA				IAmb		IAmb	11 34 35.1	
	comp=Z,5.8nm,0.7s							
INKA	**Innaminka**	**25.88**	**207**	P		**P**	**11 34 37.2**	**-0.1**
AS01	**Alice Springs**	**26.72**	**224**	P		**P**	**11 34 46.1**	**+1.0**
AS31	**Alice Springs**	**26.75**	**224**	P		**P**	**11 34 45.0**	**-0.4**
ASAR	**Alice Springs**	**26.75**	**224**	P		**P**	**11 34 45.7**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=55,slow=9.0,SNR=22							
ASAR				ScP		**ScP**	**11 41 34.6**	**+3.5**
	comp=Z,0.3nm,0.6s,baz=28,slow=1.6,SNR=5.3							
	comp=Z,0.5nm,0.4s							
KNRA	**Kununurra**	**26.84**	**245**	P		**P**	**11 34 45.9**	**-0.2**
KNRA				IAmb		IAmb	11 34 50.3	
	comp=Z,8.2nm,1.0s							
CMSA	**Cobar Meteorol**	**27.55**	**195**	P		**P**	**11 34 52.9**	**+0.6**
STKA	**Stephens Creek**	**29.16**	**202**	P		**P**	**11 35 05.8**	**-0.7**
STKA	**Stephens Creek**	**29.16**	**202**	P		**P**	**11 35 05.8**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=14,slow=12,SNR=3.0							
	comp=Z,1.4nm,0.6s							
SOEI	**Soe**	**29.69**	**259**	P		**P**	**11 35 11.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**30.50**	**242**	P		**P**	**11 35 18.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.50**	**242**	P		**P**	**11 35 18.9**	**+0.3**
CAN	**Canberra**	**30.57**	**188**	P		**P**	**11 35 17.2**	**-1.8**
MYLDM	**Lahad Datu**	**36.68**	**285**	P		**P**	**11 36 08.9**	**-3.2**
MBWA	**Marble Bar**	**36.80**	**241**	P		**P**	**11 36 12.5**	**-0.5**
PSA00	**Pilbara Seismi**	**36.85**	**240**	P		**P**	**11 36 13.1**	**-0.4**
TAU	**Tasmania Unive**	**38.26**	**188**	P		**P**	**11 36 26.1**	**+1.1**
KHEZ	**Kahui Hut**	**38.79**	**155**	P		**P**	**11 36 29.1**	**-0.5**
SBUM	**Sibu**	**42.21**	**279**	P		**P**	**11 36 57.9**	**-0.1**
KSRS	**Korea Array**	**48.58**	**332**	P		**P**	**11 37 48.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=146,slow=7.0,SNR=5.0							
	comp=Z,1.2nm,0.7s							
PETK	**Petropavlovsk-**	**57.91**	**3**	P		**P**	**11 38 56.9**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=185,slow=6.5,SNR=7.5							
	comp=Z,1.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**58.86**	**295**	P		**P**	**11 39 05.0**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=108,slow=4.7,SNR=6.2							
	comp=Z,1.3nm,0.7s							
SONM	**Songino Array**	**66.98**	**327**	P		**P**	**11 39 56.4**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=130,slow=5.8,SNR=2.0							
	comp=Z,0.8nm,0.6s							
VNDA	**Vanda**	**72.67**	**178**	P		**P**	**11 40 30.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=352,slow=7.9,SNR=4.1							
	comp=Z,0.7nm,0.8s							
MKAR	**Makanchi Array**	**81.09**	**319**	P		**P**	**11 41 19.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=106,slow=6.4,SNR=9.5							
	comp=Z,0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**81.83**	**326**	P		**P**	**11 41 22.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=136,slow=3.2,SNR=2.5							
	comp=Z,0.6nm,0.4s							
ILAR	**Eielson Array**	**81.90**	**22**	P		**P**	**11 41 21.5**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=259,slow=5.5,SNR=3.7							
	comp=Z,0.6nm,1.0s							
KURBB	**Kurchatov Arra**	**84.53**	**322**	P		**P**	**11 41 35.2**	**-0.4**
	comp=Z,1.0nm,0.2s,baz=112,slow=4.6,SNR=6.6							
	comp=Z,1.0nm,0.2s							
QSPA	**South Pole Qui**	**85.03**	**180**	P		**P**	**11 41 36.9**	**-1.1**
QSPA				IAmb		IAmb	11 41 44.7	
	comp=Z,1.9nm,1.1s							
MAW	**Mawson**	**85.84**	**203**	P		**P**	**11 41 42.3**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=90,slow=14,SNR=2.4							
	comp=Z,1.5nm,0.7s							
BVAR	**Borovoye Array**	**89.96**	**323**	P		**P**	**11 42 01.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=79,slow=7.5,SNR=6.5							
	comp=Z,1.2nm,0.7s							

IDC ***14*** *11:29:22.8±1.1,37.80N×29.67E,h0km,mb4.0/3, mbtmp3.8/10,ML3.6/5,MS2.9/9,Error ellipse: s-maj=17.6km s-min=14.8km az=25.0*

ISK ***14*** *11:29:22.9,37.84N×29.66E,h3km,ML3.7/24*

AFAD ***14*** *11:29:23.4,37.81N×29.68E,h12km±1km,MW3.8 GII* ***14*** *11:29:26.7±0.0,37.77N±0.02×29.913E±0.007,h10km, Mws4.2,confirmed*

ISC 14 11:29:23.8±0.9,37.82N±0.02×29.67E±0.02,h9km±6km, n100,σ0§81/118,mb3.8/3,MS2.9/4,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.14**	**215**	P		**Pg**	**11 29 26.9**	**0.0**
INCE				S		**Sg**	**11 29 29.9**	**+0.8**
BASM	**Basmaki-Afyon**	**0.31**	**72**	Pg		**Pg**	**11 29 29.5**	**-0.6**
BASM				Sg		**Sg**	**11 29 35.0**	**+0.7**
BRDR	**BURDUR-Merkez**	**0.33**	**112**	P		**Pg**	**11 29 29.9**	**-0.5**
BRDR				S		**Sg**	**11 29 34.9**	**0.0**
APMY	**Acipayam-Deniz**	**0.46**	**220**	Pg		**Pg**	**11 29 32.4**	**-0.3**
APMY				Sg		**Sb**	**11 29 40.1**	**-0.8**
KHL	**Karahalli**	**0.52**	**347**	Pg		**Pg**	**11 29 33.4**	**-0.4**
KHL				Sg		**Sg**	**11 29 40.8**	**+0.1**
DNIZ	**Denizli-Tavas-**	**0.54**	**249**	P		**Pg**	**11 29 34.0**	**-0.3**
PASA	**Karahalli, USA**	**0.55**	**344**	P		**Pg**	**11 29 34.1**	**-0.3**
PASA				S		**Sg**	**11 29 42.0**	**+0.3**
KZIL	**AFYON_Kizioren**	**0.57**	**40**	P		**Pg**	**11 29 34.4**	**-0.5**
KZIL				S		**Sb**	**11 29 43.3**	**-1.0**
GOLH	**Golhisar**	**0.59**	**189**	P		**Pg**	**11 29 34.8**	**-0.5**
GOLH				S		**Sb**	**11 29 43.8**	**-1.0**
ISP	**Isparta**	**0.67**	**90**	Pg		**Pg**	**11 29 36.4**	**-0.4**
ISP				Sg		**Sb**	**11 29 47.2**	**0.0**
ISP	**Isparta**	**0.67**	**90**	P		**Pg**	**11 29 36.2**	**-0.6**
ISP				S		**Sg**	**11 29 44.6**	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.70**	**240**	P		**Pg**	**11 29 37.2**	**-0.1**
TAVA				S		**Sg**	**11 29 46.0**	**-0.5**
DNZT	**Denizli-Tavas-**	**0.75**	**224**	P		**Pg**	**11 29 37.8**	**-0.4**
AFYN	**Afyon-Dinar-K**	**0.79**	**55**	P		**Pg**	**11 29 39.0**	**-0.1**
AFYN				P		**Pg**	**11 29 39.0**	**-0.1**
BUCA	**Burdur, Bucak-**	**0.86**	**125**	P		**Pg**	**11 29 39.9**	**-0.5**
BUCA				S		**Sb**	**11 29 52.8**	**+0.3**
BNAZ	**Uak-Banaz**	**0.87**	**11**	P		**Pg**	**11 29 40.2**	**-0.4**
BNAZ				S		**Sn**	**11 29 54.1**	**-1.1**
BAGO	**Egridir - ISPA**	**0.90**	**79**	P		**Pg**	**11 29 39.9**	**-1.2**
BAGO				S		**Sb**	**11 29 53.4**	**-0.3**
CAME	**Cameli-Denizli**	**0.93**	**199**	Pg		**Pb**	**11 29 41.9**	**-0.2**
KNIK	**Mula-Seydike**	**0.98**	**185**	P		**Pb**	**11 29 42.5**	**-0.4**
USAK	**Uak-Merkez**	**1.03**	**330**	P		**Pg**	**11 29 43.4**	**-0.2**
USAK				S		**Sb**	**11 29 57.1**	**-0.4**
KULA	**Kula-Manisa**	**1.06**	**311**	Pg		**Pg**	**11 29 43.8**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.10**	**278**	Pn		**Pg**	**11 29 44.7**	**-0.3**
MANT	**Manisa**	**1.10**	**308**	P		**Pg**	**11 29 44.7**	**-0.4**
MANT				S		**Sn**	**11 30 00.4**	**-0.7**
SABU	**Mula-Dalaman**	**1.14**	**210**	P		**Pb**	**11 29 45.7**	**-0.3**
SDAG	**Sultandagi-AFY**	**1.16**	**57**	Pn		**Pb**	**11 29 45.7**	**-0.3**
ANTB	**Antalya**	**1.21**	**139**	Pn		**Pg**	**11 29 47.9**	**+0.9**
MULA	**Mugla, Merkez-**	**1.21**	**243**	P		**Pb**	**11 29 46.3**	**-0.7**
MULA				S		**Sn**	**11 30 03.2**	**-0.4**
GEDZ	**Gediz**	**1.24**	**350**	Pn		**Pg**	**11 29 47.3**	**-0.3**
SHAP	**Saphane-Kutahy**	**1.25**	**344**	Pn		**Pg**	**11 29 47.6**	**-0.2**
GDZ	**Gediz**	**1.27**	**353**	P		**Pb**	**11 29 47.7**	**-0.3**
GDZ				S		**Sn**	**11 30 05.2**	**+0.1**
YVAC	**Isparta, Yalva**	**1.31**	**70**	P		**Pb**	**11 29 48.2**	**-0.5**
ODEM	**Odemis-Izmir**	**1.34**	**290**	Pn		**Pb**	**11 29 48.9**	**-0.2**
KURO	**Afyon-Bolvadin**	**1.35**	**47**	P		**Pb**	**11 29 48.7**	**-0.5**
KURO				S		**Sg**	**11 30 08.2**	**+1.0**
SIMA	**Simav-Kutahya**	**1.37**	**337**	Pn		**Pb**	**11 29 49.6**	**-0.1**
SMAA	**Simav-Kutahya**	**1.39**	**337**	Pn		**Pb**	**11 29 49.8**	**-0.1**
IZMR	**zmir-demi**	**1.40**	**284**	P		**Pn**	**11 29 49.1**	**-0.3**
IZMR				S		**Sb**	**11 30 07.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.42**	**276**	Pn		**Pn**	**11 29 49.4**	**-0.4**
IZZE	**Mula-Seydike**	**1.43**	**195**	P		**Pg**	**11 29 51.2**	**0.0**
AYDN	**Tasoluk**	**1.43**	**264**	P		**Pb**	**11 29 50.4**	**-0.2**
DEMI	**Demirci**	**1.43**	**329**	P		**Pb**	**11 29 50.3**	**-0.4**
BLVD	**Bolvadin-AFYON**	**1.48**	**49**	Pn		**Pb**	**11 29 51.1**	**-0.4**
BYAT	**Afyon-Bayat**	**1.52**	**42**	P		**Pb**	**11 29 51.8**	**-0.5**
TURN	**Turunc**	**1.55**	**228**	P		**Pg**	**11 29 52.5**	**-0.9**
EMET	**Ktahya-Emet**	**1.58**	**350**	P		**Pn**	**11 29 52.2**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.59**	**160**	P		**Pg**	**11 29 54.5**	**+0.3**
DEMR	**Demre-Antalya**	**1.59**	**173**	Pn		**Pg**	**11 29 53.4**	**-0.9**
GORD	**Gordes-Manisa**	**1.60**	**313**	Pn		**Pb**	**11 29 53.1**	**-0.4**
UCKU	**Afyonkarahisar**	**1.60**	**59**	P		**Pn**	**11 29 52.4**	**0.0**
DOGA	**KONYA_Doganhis**	**1.60**	**79**	P		**Pb**	**11 29 53.3**	**-0.3**
TVSB	**Tavsanli**	**1.63**	**354**	Pn		**Pn**	**11 29 52.9**	**+0.1**
GOMA	**Golmarmara-Man**	**1.64**	**303**	Pn		**Pb**	**11 29 53.4**	**-0.8**
SEYD	**Seydisehir-KON**	**1.77**	**103**	Pn		**Pb**	**11 29 55.6**	**-0.8**
AKS	**Akhisar**	**1.80**	**306**	Pn		**Pn**	**11 29 55.5**	**+0.5**
CIFT	**Cifteler, Eski**	**1.88**	**35**	Pn		**Pn**	**11 29 56.7**	**+0.5**
LADK	**Ladik-KONYA**	**2.16**	**79**	Pn		**Pb**	**11 30 01.1**	**-2.0**
HDMB	**Hadim**	**2.40**	**110**	Pn		**Pn**	**11 30 04.5**	**+1.1**
BRTR	**Keskin Array B**	**3.64**	**57**	Pn		**Pn**	**11 30 21.3**	**+1.0**
	0.7nm,0.3s,baz=235,slow=16,SNR=34							
BRTR				Sn		**Sn**	**11 31 06.1**	**+2.7**
	0.7nm,0.3s,baz=241,slow=29,SNR=5.4							
	8.4nm,0.7s							
CSS	**Mathiatis**	**4.10**	**133**	P		**Pn**	**11 30 27.1**	**+0.5**
CSS	**Mathiatis**	**4.10**	**133**	S		**Sn**	**11 31 13.4**	**-1.4**
IDI	**Anoyia**	**4.61**	**238**	Pn		**Pn**	**11 30 35.1**	**+1.4**
	13nm,0.7s,baz=52,slow=14,SNR=12							
IDI				Sn		**Sn**	**11 31 28.5**	**+1.3**
	1.1nm,0.3s,baz=45,slow=3.8,SNR=4.2							
MMC7	**Mount Meron ar**	**6.69**	**134**	P		**Pn**	**11 31 03.2**	**+0.9**
MMA0B	**Mount Meron ar**	**6.70**	**134**	P		**Pn**	**11 31 03.4**	**+1.0**
MMA0B	**Mount Meron ar**	**6.70**	**134**	S		**Sn**	**11 32 17.7**	**-1.1**
MMAI	**Mount Meron Ar**	**6.70**	**134**	Pn		**Pn**	**11 31 02.7**	**+0.4**
	5.1nm,0.3s,baz=317,slow=12,SNR=19							
MMAI				Sn		**Sn**	**11 32 19.1**	**+0.3**
	3.0nm,0.3s,baz=298,slow=31,SNR=2.0							
	9.7nm,0.5s							
GEM	**Giv'Ha'Em**	**6.71**	**132**	P		**Pn**	**11 31 03.2**	**+0.7**
GEM	**Giv'at Ha'Em**	**6.71**	**132**	S		**Sn**	**11 32 17.5**	**-1.5**
NATI	**Neve Ativ**	**6.72**	**131**	P		**Pn**	**11 31 03.7**	**+1.1**
NATI	**Neve Ativ**	**6.72**	**131**	S		**Sn**	**11 32 18.0**	**-1.1**
MMLI	**Mount Malkishu**	**7.14**	**137**	P		**Pn**	**11 31 09.2**	**+0.7**
MMLI	**Mount Malkishu**	**7.14**	**137**	S		**Sn**	**11 32 28.7**	**-0.9**
HMDT	**Nahal Hemdat**	**7.34**	**137**	P		**Pn**	**11 31 12.2**	**+1.1**
HMDT	**Nahal Hemdat**	**7.34**	**137**	S		**Sn**	**11 32 33.7**	**-0.8**
DSI	**Dead Sea**	**7.81**	**141**	P		**Pn**	**11 31 18.2**	**+0.7**
DSI	**Dead Sea**	**7.81**	**141**	S		**Sn**	**11 32 45.0**	**-1.0**
YTIR	**Yattir**	**7.85**	**144**	P		**Pn**	**11 31 18.9**	**+0.7**
YTIR	**Yattir**	**7.85**	**144**	S		**Sn**	**11 32 46.5**	**-0.7**
MSBI	**Mazada**	**8.01**	**143**	P		**Pn**	**11 31 20.4**	**+0.2**
MSBI	**Mazada**	**8.01**	**143**	S		**Sn**	**11 32 49.8**	**-1.1**
GHAJ	**Ghor Haditha**	**8.12**	**141**	P		**Pn**	**11 31 22.4**	**+0.7**
MLR	**Muntele Rosu**	**8.15**	**341**	Pn		**Pn**	**11 31 24.9**	**+2.5**
	0.3nm,0.3s,baz=170,slow=12,SNR=4.0							
MLR				LR		LR	11 35 17.1	
	comp=Z,89nm,19.6s,baz=197,slow=43							
	4.1nm,0.8s							
ASF	**Jabal al Asfar**	**8.18**	**131**	Pn		**Pn**	**11 31 23.6**	**+0.9**
	0.4nm,0.3s,baz=340,slow=12,SNR=7.2							
ASF				Sn		**Sn**	**11 32 57.1**	**+1.9**
	0.1nm,0.3s,baz=133,slow=18,SNR=1.0							
	2.0nm,0.5s							
PRNI	**Paran**	**8.66**	**148**	P		**Pn**	**11 31 30.4**	**+1.2**
PRNI	**Paran**	**8.66**	**148**	S		**Sn**	**11 33 07.0**	**0.0**
MBRI	**Mt Berech**	**9.11**	**150**	P		**Pn**	**11 31 36.9**	**+1.4**
MBRI	**Mt Berech**	**9.11**	**150**	S		**Sn**	**11 33 18.0**	**-0.2**
EIL	**Elat**	**9.24**	**150**	Pn		**Pn**	**11 31 37.9**	**+0.7**
	0.7nm,0.3s,baz=358,slow=11,SNR=6.8							
EIL				Sn		**Sn**	**11 33 20.8**	**-0.4**
	0.5nm,0.3s,baz=104,slow=7.0,SNR=1.8							
	7.9nm,0.6s							
EIL	**Elat**	**9.24**	**150**	P		**Pn**	**11 31 38.4**	**+1.3**
EIL	**Elat**	**9.24**	**150**	S		**Sn**	**11 33 21.3**	**+0.1**
GNI	**Garni**	**11.96**	**74**	LR		LR	11 37 32.0	
	comp=Z,38nm,18.8s,baz=300,slow=41							
AKASG	**Malin Array Be**	**12.88**	**359**	LR		LR	11 37 35.2	
	comp=Z,29nm,20.3s,baz=180,slow=38							
VRAC	**Vranov**	**14.86**	**325**	LR		LR	11 39 24.7	
	comp=Z,42nm,19.2s,baz=131,slow=40							
GERES	**GERESS Array B**	**15.98**	**319**	Pn		**P**	**11 33 11.4**	**-0.8**
	0.7nm,0.8s,baz=130,slow=9.1,SNR=5.8							
DAVOX	**Davos/Dischmat**	**17.13**	**308**	LR		LR	11 41 26.7	
	comp=Z,30nm,18.2s,baz=256,slow=42							
FINES	**FINESS Array B**	**23.75**	**356**	LR		LR	11 44 15.4	
	comp=Z,31nm,18.1s,baz=198,slow=38							
HFS	**Hagfors**	**24.54**	**341**	LR		LR	11 44 25.1	
	comp=Z,42nm,19.4s,baz=143,slow=37							
NOA	**NORSAR Array B**	**25.97**	**339**	LR		LR	11 47 28.1	
	comp=Z,23nm,18.2s,baz=270,slow=42							
ESDC	**Sonseca Array**	**26.21**	**285**	P		**P**	**11 34 57.5**	**-1.4**
	0.7nm,0.9s,baz=68,slow=7.4,SNR=5.3							
	0.7nm,0.9s							
ARCES	**ARCESS Array B**	**31.85**	**357**	LR		LR	11 49 47.4	
	comp=Z,27nm,19.3s,baz=246,slow=38							
KURBB	**Kurchatov Arra**	**36.62**	**54**	P		**P**	**11 36 30.8**	**+0.6**
	1.9nm,0.2s,baz=276,slow=8.8,SNR=7.7							
	1.9nm,0.2s							
MKAR	**Makanchi Array**	**39.28**	**60**	P		**P**	**11 36 53.3**	**+0.6**
	1.8nm,0.8s,baz=290,slow=6.4,SNR=10							
	1.8nm,0.8s							

SJA ***14*** *11:42:40.3±0.7,31.97S×71.70W,h14km±2km,ML3.6, MW3.5*

GUC ***14*** *11:42:43.7±0.9,31.97S×71.53W,h38km±3km,ML3.8*

ISC 14 11:42:42.2±1.2,31.98S±0.02×71.59W±0.05,h17km±9km, n50,σ1§42/76,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VA06	**Catapilco**	**0.63**	**157**	⇑*e*P		**Pn**	**11 42 56.3**	**-0.1**
VA06				*e*S		**Sn**	**11 43 04.9**	**-1.3**
VA06				IAML			11 43 08.5	
	comp=E,8μm,0.4s							
CO02	**Combarbal**	**0.92**	**33**	⇓*i*P		**Pg**	**11 43 00.5**	**+0.5**
CO02				*e*S		**Sb**	**11 43 12.3**	**+0.6**
CO02	**Combarbal**	**0.92**	**33**	*e*P		**Pb**	**11 42 59.6**	**-0.2**
CO02				*e*S		**Sg**	**11 43 12.8**	**+0.7**
CO02				IAML			11 43 12.9	
	comp=Z,6μm,0.1s							
VA01	**Torpederas**	**1.04**	**183**	*e*P		**Pg**	**11 43 02.8**	**+0.4**
VA01	**Torpederas**	**1.04**	**183**	*e*P		**Pg**	**11 43 02.2**	**-0.2**
VA01				*e*S		**Sn**	**11 43 18.2**	**+1.9**
VA01				IAML			11 43 19.7	
	comp=Z,1μm,0.2s							
ROCH	**El Roble**	**1.11**	**154**	⇑*i*P		**Pn**	**11 43 03.2**	**+0.1**
ROCH				*e*S		**Sg**	**11 43 17.6**	**-0.5**
ROCH				IAML			11 43 20.8	
	comp=N,6μm,0.3s							
VA03	**San Esteban**	**1.18**	**132**	*e*P		**Pb**	**11 43 04.1**	**-0.1**
VA03				*e*S		**Sn**	**11 43 19.5**	**-0.3**
VA03				IAML			11 43 22.4	
	comp=E,4μm,0.3s							
VA03	**San Esteban**	**1.18**	**132**	*e*P		**Pb**	**11 43 04.2**	**0.0**
VA03				*e*S		**Sg**	**11 43 21.3**	**+0.9**
VA03				IAML			11 43 24.5	
	comp=Z,2μm,0.7s							
CO06	**Fray Jorge**	**1.30**	**358**	*e*P		**Pn**	**11 43 06.2**	**+0.6**
CO06				*e*S		**Sb**	**11 43 23.5**	**+1.0**
CO06				IAML			11 43 26.9	
	comp=E,2μm,0.2s							
MT02	**Curacav**	**1.33**	**164**	*e*P		**Pb**	**11 43 06.3**	**-0.5**
MT02	**Curacav**	**1.33**	**164**	*e*P		**Pb**	**11 43 06.5**	**-0.3**
MT02				*e*S		**Sg**	**11 43 25.2**	**-0.1**
MT02				IAML			11 43 31.7	
	comp=Z,446nm,0.5s							
CO03	**El Pedregal**	**1.37**	**34**	*e*P		**Pn**	**11 43 07.3**	**+0.7**
CO03				IAML			11 43 26.4	
	comp=E,2μm,0.1s							
CO03	**El Pedregal**	**1.37**	**34**	*e*P		**Pn**	**11 43 07.3**	**+0.7**
CO03				*e*S		**Sg**	**11 43 26.3**	**-0.2**
CO03				IAML			11 43 27.0	
	comp=Z,634nm,0.4s							
PEL	**Peldehue**	**1.39**	**147**	*e*P		**Pb**	**11 43 07.5**	**-0.3**
PEL				IAML			11 43 26.1	
	comp=E,2μm,0.3s							
MT10	**Hacienda Santa**	**1.57**	**146**	⇑*i*P		**Pb**	**11 43 10.4**	**-0.4**
MT10				*e*S		**Sb**	**11 43 30.4**	**-0.1**
MT10				IAML

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**32**	***eP***	**Pn**	**11 47 26.4**	**+0.1**
LALI				*eS*	**Sn**	**11 47 33.9**	**+0.3**
LALI	**Alcalda de L**	**0.47**	**32**	***i P***	**Pn**	**11 47 26.4**	**+0.1**
LALI				*i S*	**Sn**	**11 47 33.0**	**-0.6**
LALI	**Alcalda de L**	**0.47**	**32**	P	**Pn**	**11 47 26.6**	**+0.3**
JAYA	**Jayaque - finc**	**0.57**	**12**	***eP***	**Pn**	**11 47 27.6**	**-0.3**
JAYA				*eS*	**Sn**	**11 47 36.5**	**+0.1**
JAYA	**Jayaque - finc**	**0.57**	**12**	***eP***	**Pn**	**11 47 27.6**	**-0.3**
JAYA				*i S*	**Sn**	**11 47 36.2**	**-0.2**
JAYA				IAML		11 47 38.3	
	comp=N,4μm,0.3s						
JAYA	**Jayaque - finc**	**0.57**	**12**	P	**Pn**	**11 47 27.9**	**0.0**
PANCS	**Alcalda de**	**0.64**	**37**	P	**Pn**	**11 47 27.7**	**-1.1**
PANCS	**Alcalda de**	**0.64**	**37**	S	**Sn**	**11 47 37.5**	**-0.4**
PMON	**Piamonte**	**0.67**	**22**	P	**Pn**	**11 47 28.8**	**-0.3**
LOMA	**Loma Larga**	**0.68**	**36**	***eP***	**Pn**	**11 47 28.6**	**-0.7**
LOMA				*eS*	**Sn**	**11 47 38.9**	**+0.1**
LOMA	**Loma Larga**	**0.68**	**36**	P	**Pn**	**11 47 28.4**	**-0.8**
BOQS	**Boqueron**	**0.70**	**24**	***eP***	**Pn**	**11 47 29.5**	**-0.2**
LFRS	**El Faro**	**0.73**	**43**	***eP***	**Pn**	**11 47 29.7**	**-0.2**
CEVE	**Cerro Verde**	**0.73**	**356**	***eP***	**Pn**	**11 47 30.2**	**+0.1**
CEVE				*eS*	**Sn**	**11 47 42.0**	**+1.7**
CEVE	**Cerro Verde**	**0.73**	**356**	P	**Pn**	**11 47 30.1**	**0.0**
CEVE	**Cerro Verde**	**0.73**	**356**	S	**Sn**	**11 47 41.3**	**+1.0**
NUBE	**Las Nubes**	**0.83**	**346**	***eP***	**Pn**	**11 47 31.0**	**-0.3**
NUBE				*eS*	**Sn**	**11 47 43.0**	**+0.4**
NUBE	**Las Nubes**	**0.83**	**346**	***i P***	**Pn**	**11 47 31.0**	**-0.3**
NUBE				*i S*	**Sn**	**11 47 42.0**	**-0.5**
NUBE	**Las Nubes**	**0.83**	**346**	P	**Pn**	**11 47 31.2**	**-0.1**
FAME	**Alcaldia de Sa**	**0.86**	**330**	P	**Pn**	**11 47 31.3**	**-0.3**
FAME	**Alcaldia de Sa**	**0.86**	**330**	S	**Sn**	**11 47 42.8**	**-0.3**
PAVA	**Las Pavas**	**0.88**	**45**	***eP***	**Pn**	**11 47 31.9**	**0.0**
PAVA				*eS*	**Sn**	**11 47 44.6**	**+1.0**
PAVA	**Las Pavas**	**0.88**	**45**	P	**Pn**	**11 47 32.0**	**0.0**
UESV	**Universidad de**	**0.94**	**55**	P	**Pn**	**11 47 31.9**	**-0.8**
UESV	**Universidad de**	**0.94**	**55**	S	**Sn**	**11 47 45.0**	**0.0**
SCLA	**Alcaldia de Sa**	**1.02**	**54**	S	**Sn**	**11 47 47.8**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.02**	**54**	P	**Pn**	**11 47 33.4**	**-0.4**
PQSS	**Presa 15 de Se**	**1.12**	**62**	P	**Pn**	**11 47 35.0**	**-0.2**
PQSS	**Presa 15 de Se**	**1.12**	**62**	S	**Sn**	**11 47 49.2**	**-0.2**
PACA	**Pacayal**	**1.27**	**73**	***eP***	**Pn**	**11 47 37.8**	**+0.3**
PACA				*eS*	**Sn**	**11 47 53.5**	**+0.1**
PACA	**Pacayal**	**1.27**	**73**	P	**Pn**	**11 47 37.7**	**+0.3**
MTO3	**Montecristo**	**1.32**	**9**	P	**Pn**	**11 47 38.1**	**0.0**
MTO3	**Montecristo**	**1.32**	**9**	S	**Sn**	**11 47 54.3**	**-0.2**
BLLM	**Bellamira**	**1.35**	**75**	***eP***	**Pn**	**11 47 38.2**	**-0.1**

HEL 14 12:10:29.5±0.2, 67°64N×33°44E, h0km, ML1.1, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.53**	**60**	PG	Pg	12 10 39.1	-0.5
VRF	**Varrio**	**1.47**	**276**	MSG		12 11 13.6	
	comp=Z,1.2nm,0.2s						
VRF				SN	Sb	12 11 16.7	0.0
OLKF	**Oulanka, Finla**	**2.06**	**232**	PG	Pb	12 11 06.6	-1.2
OLKF				MSG		12 11 30.7	
	comp=Z,0.9nm,0.2s						
OLKF				SG	Sg	12 11 35.2	-0.6
RAJF	**Raja-Jooseppi**	**2.10**	**296**	SG	Sb	12 11 34.4	-0.6
KU6	**Riekki** baz=48	**2.14**	**223**	PB	Pn	12 11 06.5	+0.1
KU6				MSG		12 11 33.0	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	12 11 35.6	-0.5
MSF	**Maaselka**	**2.46**	**227**	SG	Sb	12 11 46.2	+1.0
RANF	**Ranua**	**3.09**	**241**	SG	Sb	12 12 05.0	+1.6
KEV	**Kevo**	**3.17**	**315**	PN	Pn	12 11 19.6	-0.9
KEV				SG	Sb	12 12 07.2	+1.5
ARA0	**ARCESS Array S**	**3.48**	**307**	PN	Pn	12 11 23.2	-1.6
ERTU	**Ertsjaerv**	**4.53**	**261**	SG	Sb	12 12 48.3	+3.6

KOLA 14 12:11:14.5, 67°67N×33°73E, h0km, ML1.4, Error ellipse: s-maj=2.5km s-min=1.3km az=140.0, Khibiny, mines Kirovsk, Yukspor, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.16**	**232**	P	Pg	12 11 17.2	-0.4
APA				S	Sg	12 11 19.8	+0.3
APA0	**Apatity Array**	**0.29**	**258**	P	Pg	12 11 19.8	-0.2
APA0				S	Sg	12 11 23.7	-0.1
LVZ	**Lovozero**	**0.42**	**56**	S	Sg	12 11 28.1	+0.2
KVDA	**Kovda**	**1.03**	**199**	S	Sg	12 11 46.5	-1.3
TERR	**Teriberka**	**1.62**	**18**	P	Pn	12 11 43.5	-0.8
TERR				S	Sn	12 12 04.5	-1.5
ARCES	**ARCESS Array B**	**3.55**	**306**	S	Sn	12 12 51.4	-2.0

*VAO **14** 12:22:47.5±1.9, 19°40S×70°70W, h47km±9km, mb5.3*
*SJA **14** 12:23:06.0±0.6, 18°63S×69°51W, h128km±3km, ML3.9, MW3.8*
*GUC **14** 12:23:07.4±0.9, 18°62S×69°48W, h114km±5km, ML4.0*
*NEIC **14** 12:23:08.3±1.4, 18°67S±0°04×69°60W±0°08, h119km±5km, mb4.4/11, ML4.0(GUC), Error ellipse: s-maj=11.0km s-min=5.5km az=86.0*
*IDC **14** 12:23:10.4±2.6, 18°54S×69°14W, h145km±21km, mb3.6/5, mbtmp4.0/7, MS3.8/2, Error ellipse: s-maj=28.5km s-min=22.6km az=48.0*

ISC 14 12:23:06.9±0.6, 18°66S±0°03×69°38W±0°06, h115km±6km, n85, σ1s67/101, mb4.0/5, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.34**	**339**		**Pn**	**12 23 25.1**	**+0.9**
PB16				Sn	**Sn**	**12 23 38.1**	**+0.9**
PB16	**IPOC Station P**	**0.34**	**339**	***i P***	**Pn**	**12 23 24.9**	**+0.7**
PB16				*eS*	**Sn**	**12 23 38.1**	**+0.9**
PB16				IAML		12 23 39.9	
	comp=E,6μm,0.3s						
PB16	**IPOC Station P**	**0.34**	**339**	***eP***	**Pn**	**12 23 25.1**	**+0.9**
PB16				*eS*	**Sn**	**12 23 39.1**	**+1.9**
PB16				IAML		12 23 40.3	
	comp=Z,4μm,0.6s						
AP01	**Chacalluta**	**0.96**	**287**		**Pn**	**12 23 27.8**	**-0.2**
AP01				Sn	**Sn**	**12 23 43.3**	**-0.8**
AP01	**Chacalluta**	**0.96**	**287**	***i P***	**Pn**	**12 23 27.9**	**-0.2**
AP01				*eS*	**Sn**	**12 23 43.5**	**-0.6**
AP01	**Chacalluta**	**0.96**	**287**	***eP***	**Pn**	**12 23 27.9**	**-0.2**
GO01	**Chusmiza**	**1.02**	**170**		**Pn**	**12 23 31.6**	**+2.3**
GO01	**Chusmiza**	**1.02**	**170**	***eP***	**Pn**	**12 23 31.3**	**+2.1**
GO01				*eS*	**Sn**	**12 23 49.7**	**+3.6**
GO01				IAML		12 23 57.3	
	comp=E,4μm,0.1s						
GO01	**Chusmiza**	**1.02**	**170**	***eP***	**Pn**	**12 23 31.5**	**+2.3**
GO01				*eS*	**Sn**	**12 23 38.9**	**-7.3**
PB18	**Visviri**	**1.07**	**355**		**Pn**	**12 23 31.7**	**+1.9**
PB18				Sn	**Sn**	**12 23 50.2**	**+3.1**
PB18	**Visviri**	**1.07**	**355**	***eP***	**Pn**	**12 23 31.7**	**+1.9**
PB11	**IPOC Station P**	**1.13**	**193**		**Pn**	**12 23 31.3**	**+1.3**
PB11				Sn	**Sn**	**12 23 49.1**	**+1.6**
PB11	**IPOC Station P**	**1.13**	**193**	***i P***	**Pn**	**12 23 31.3**	**+1.3**
PB11				*eS*	**Sn**	**12 23 49.3**	**+1.7**
PB11				IAML		12 23 50.0	
	comp=E,5μm,0.3s						
PB11	**IPOC Station P**	**1.13**	**193**	***eP***	**Pn**	**12 23 31.1**	**+1.0**
PB11				*eS*	**Sn**	**12 23 49.8**	**+2.2**
PB11				IAML		12 23 55.5	
	comp=Z,1μm,0.1s						
PB08	**IPOC Station P**	**1.49**	**172**		**Pn**	**12 23 36.5**	**+2.2**
HMBC	**Humberstone**	**1.68**	**196**		**Pn**	**12 23 36.8**	**+0.4**
TA01	**Diego Aracena**	**2.04**	**202**		**Pn**	**12 23 41.2**	**+0.5**
TA01	**Diego Aracena**	**2.04**	**202**	***eP***	**Pn**	**12 23 41.1**	**+0.4**
PATCX	**Punta Patache**	**2.27**	**199**		**Pn**	**12 23 44.5**	**+0.8**
PATCX	**Punta Patache**	**2.27**	**199**	***eP***	**Pn**	**12 23 44.2**	**+0.5**
PATCX				*eS*	**Sn**	**12 24 11.8**	**-0.1**
PATCX				IAML		12 24 14.1	
	comp=Z,317nm,0.3s						
PB01	**IPOC Station P**	**2.38**	**182**		**Pn**	**12 23 46.5**	**+1.5**
PB01	**IPOC Station P**	**2.38**	**182**	***eP***	**Pn**	**12 23 46.2**	**+1.1**
PB01				*eS*	**Sn**	**12 24 15.2**	**+0.9**
PB01				IAML		12 24 20.3	
	comp=N,568nm,0.3s						
PB01	**IPOC Station P**	**2.38**	**182**	***eP***	**Pn**	**12 23 46.1**	**+1.1**
PB01				*eS*	**Sn**	**12 24 15.5**	**+1.3**
PB01				IAML		12 24 17.0	
	comp=Z,328nm,0.3s						
LPAZ	**La Paz**	**2.64**	**27**	Pn	**Pn**	**12 23 51.2**	**+2.2**
LPAZ	**La Paz**	**2.64**	**27**	P	**Pn**	**12 23 51.3**	**+2.4**
	comp=Z,80nm,0.3s,baz=200,slow=7.0,SNR=744						
LPAZ				S	**Sn**	**12 24 23.2**	**+2.0**
	comp=Z,34nm,0.7s,baz=71,slow=8.6,SNR=3.5						
LPAZ	**La Paz**	**2.64**	**27**	***eP***	**Pn**	**12 23 46.2**	**-2.8**
PB02	**IPOC Station P**	**2.69**	**190**		**Pn**	**12 23 50.6**	**+1.4**
PB02	**IPOC Station P**	**2.69**	**190**	***eP***	**Pn**	**12 23 50.2**	**+1.0**
PB02				IAML		12 24 29.9	
	comp=N,584nm,0.5s						
PB02	**IPOC Station P**	**2.69**	**190**	***eP***	**Pn**	**12 23 50.0**	**+0.8**
PB02				*eS*	**Sn**	**12 24 22.5**	**+0.9**
PB02				IAML		12 24 30.8	
	comp=Z,450nm,0.2s						
PB09	**IPOC Station P**	**3.12**	**178**		**Pn**	**12 23 56.5**	**+1.6**
PB09	**IPOC Station P**	**3.12**	**178**	***eP***	**Pn**	**12 23 56.7**	**+1.8**
PB09				IAML		12 24 37.0	
	comp=E,217nm,0.2s						
PB09	**IPOC Station P**	**3.12**	**178**	***eP***	**Pn**	**12 23 56.2**	**+1.3**
PB09				*eS*	Sn	12 24 22.0	-10
PB09				IAML		12 24 40.2	
	comp=Z,205nm,0.4s						
PB03	**IPOC Station P**	**3.39**	**186**		**Pn**	**12 23 59.4**	**+1.0**
PB03	**IPOC Station P**	**3.39**	**186**	***eP***	**Pn**	**12 23 58.9**	**+0.5**
PB03				IAML		12 24 41.6	
	comp=E,283nm,0.4s						
PB03	**IPOC Station P**	**3.39**	**186**	***eP***	**Pn**	**12 23 59.2**	**+0.8**
PB03				*eS*	**Sn**	**12 24 38.3**	**+0.2**
PB03				IAML		12 24 42.7	
	comp=Z,224nm,0.1s						
PB06	**IPOC Station P**	**4.03**	**183**		**Pn**	**12 24 07.8**	**+0.9**
PB06	**IPOC Station P**	**4.03**	**183**	***eP***	**Pn**	**12 24 07.6**	**+0.7**
PB06				*eS*	**Sn**	**12 24 52.8**	**-0.6**
PB06				IAML		12 24 56.8	
	comp=Z,205nm,0.1s						
PB05	**IPOC Station P**	**4.24**	**190**		**Pn**	**12 24 09.9**	**+0.2**
PB05	**IPOC Station P**	**4.24**	**190**	***eP***	**Pn**	**12 24 09.5**	**-0.2**
PB05				*eS*	**Sn**	**12 24 57.8**	**-0.7**
PB05				IAML		12 24 58.9	
	comp=Z,271nm,0.3s						
PB10	**IPOC Station P**	**4.95**	**193**	Pn	**Pn**	**12 24 18.3**	**-0.8**
PB10	**IPOC Station P**	**4.95**	**193**	***eP***	**Pn**	**12 24 18.2**	**-1.0**
PB10				*eS*	**Sn**	**12 25 12.9**	**-2.5**
PB10				IAML		12 25 17.2	
	comp=Z,66nm,0.3s						
PB14	**IPOC Station P**	**6.01**	**189**		**Pn**	**12 24 32.2**	**-1.6**
GO02	**Mina Guanaco**	**6.48**	**182**		**Pn**	**12 24 39.7**	**-0.3**
AC02	**Maricunga**	**8.14**	**178**	Pn	**Pn**	**12 25 02.4**	**-0.4**
SIV	**San Ignacio**	**8.37**	**73**	P	**Pn**	**12 25 04.8**	**-0.6**
	comp=Z,6.9nm,0.4s,baz=264,slow=10.0,SNR=30						
SIV				S	**Sn**	**12 26 34.9**	**-3.3**
	comp=Z,3.0nm,0.6s,baz=150,slow=23,SNR=6.2						
BBSD	**Serra de San D**	**8.47**	**81**	***eP***	**Pn**	**12 25 06.0**	**-0.9**
PTLB	**Pontes e Lacer**	**10.30**	**74**	***eP***	**Pn**	**12 25 32.6**	**+1.0**
VILB	**Vilhena**	**10.50**	**59**	***eP***	**Pn**	**12 25 34.1**	**-0.1**
MURT	**Porto Murtinho**	**11.45**	**107**	***eP***	**Pn**	**12 25 41.7**	**-5.3**
BDQN	**Bodoquena, MS**	**12.04**	**101**	***eP***	**Pn**	**12 25 52.0**	**-2.8**
SALV	**Santo Antonio**	**13.36**	**80**	***eP***	**Pn**	**12 26 14.1**	**+2.1**
PDRB	**Porto dos Gac**	**14.07**	**62**	***eP***	**P**	**12 26 24.3**	**-1.0**
MT02	**Curacav**	**14.63**	**186**	Pn	**Pn**	**12 26 28.8**	**+0.6**
MT03	**Universidad Ad**	**14.81**	**184**	Pn	**P**	**12 26 32.3**	**-1.2**
RPRD	**Ribas do Rio P**	**14.89**	**100**	***eP***	**Pn**	**12 26 30.1**	**-1.5**
CLDB	**Colider**	**15.24**	**61**	***eP***	**P**	**12 26 37.7**	**-0.6**
TEFE	**Tefe**	**15.76**	**18**	***eP***	**Pn**	**12 26 40.9**	**-1.6**
ARAG	**Araguaiana, MT**	**17.04**	**83**	***eP***	**Pn**	**12 26 58.8**	**+0.5**
PTGB	**Pitanga**	**17.18**	**114**	***eP***	**P**	**12 26 54.5**	**-5.3**
ITAB	**Concordia**	**18.02**	**121**	P	**Pn**	**12 27 10.6**	**+0.6**
ITAB				IAmb	IAmb	12 27 37.4	
	comp=Z,52nm,1.4s						
SNDB	**Serra Nova Dou**	**18.66**	**72**	***eP***	**P**	**12 27 15.8**	**-0.2**
PLTB	**Pedras Altas**	**19.31**	**136**	P	**P**	**12 27 23.2**	**+0.2**
PLTB				IAmb	IAmb	12 27 42.5	
	comp=Z,25nm,1.3s						
ITTB	**Itaituba**	**19.48**	**45**	***eP***	**P**	**12 27 23.9**	**-1.1**
BB19B	**Bebedouro**	**19.76**	**100**	***eP***	**P**	**12 27 25.9**	**-2.0**
CNLB	**Canela**	**19.95**	**126**	***eP***	P	12 27 22.6	-7.3
IPMB	**Ipameri, GO**	**20.11**	**91**	***eP***	**P**	**12 27 30.3**	**-1.5**
TRQA	**Tornquist**	**20.38**	**163**	P	**P**	**12 27 35.9**	**+1.4**
TRQA				IAmb	IAmb	12 27 36.4	
	comp=Z,13nm,0.7s						
BDFB	**Brasilia**	**20.63**	**85**	P	Pn	12 27 40.2	-0.7
BDFB				IAmb	IAmb	12 27 40.6	
	comp=Z,20nm,1.3s						
BDFB	**Brasilia**	**20.63**	**85**	P	**P**	**12 27 36.8**	**-0.7**
	comp=Z,7.5nm,0.4s,baz=264,slow=12,SNR=9.1 comp=Z,7.5nm,0.4s						
MAL2	**Monte Alegre,**	**22.26**	**44**	P	**P**	**12 27 53.4**	**-1.2**
MAL2				IAmb	IAmb	12 28 14.8	
	comp=Z,25nm,1.0s						
BOAV	**Boa Vista**	**22.66**	**24**	P	**P**	**12 27 58.4**	**-0.3**
SMTB	**Santa Maria do**	**23.27**	**68**	***eP***	**P**	**12 28 05.4**	**+0.8**
NBAN	**Anadia - AL**	**33.27**	**79**	***eP***	**P**	**12 29 33.7**	**+0.2**
RCBR	**Riachuelo**	**35.03**	**73**	P	**P**	**12 29 49.6**	**+0.8**
TKL	**Tuckaleechee C**	**55.72**	**346**	LR	LR	12 57 45.2	
	comp=Z,43nm,18.9s,baz=63,slow=37						
SNAA	**Sanae**	**65.10**	**161**	P	**P**	**12 33 36.0**	**+1.1**
SNAA				IAmb	IAmb	12 33 45.8	
	comp=Z,3.6nm,1.3s						
SNAA	**Sanae**	**65.10**	**161**	P	**P**	**12 33 35.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=277,slow=7.4,SNR=13 comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**71.44**	**330**	P	**P**	**12 34 14.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=124,slow=3.7,SNR=2.5 comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**71.52**	**180**	P	**P**	**12 34 17.2**	**+2.1**
QSPA				IAmb	IAmb	12 34 49.7	
	comp=Z,3.7nm,1.4s						
PLID	**Pearl Lake**	**76.30**	**328**	P	**P**	**12 34 43.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.84**	**71**	P	**P**	**12 34 45.1**	**-1.6**
	comp=Z,1.1nm,0.4s,baz=252,slow=5.3,SNR=8.2 comp=Z,1.1nm,0.4s						
RAR	**Rarotonga**	**83.78**	**250**	LR	LR	13 03 54.6	
	comp=Z,81nm,20.8s,baz=280,slow=29						
ESDC	**Sonsera Array**	**84.13**	**45**	P	**P**	**12 35 25.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=242,slow=5.8,SNR=5.7 comp=Z,0.9nm,0.7s						
HHC	**Hu-ho-hao-te**	**157.87**	**358**	***eP***	**PKPdf**	**12 42 52.3**	**+2.0**
PZH	**PanZhiHua**	**168.68**	**45**	PKP	**PKPdf**	**12 43 00.6**	**-0.3**

*NNC **14** 12:24:30.6±5.0, 41°57N×84°04E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=36.9km s-min=25.1km az=150.0*
*SOME **14** 12:24:40.6, 42°15N×84°12E, h10km*

ISC 14 12:24:35.9±3.0, 41°5N±0°1×83°80E±0°10, h10km, n15, σ2s04/19, 7C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.61**	**299**	Pg	**Pn**	**12 25 30.6**	**-1.4**
	6.5nm,0.3s						
SHLS				Lg	Lg	12 26 23.1	
	31nm,0.3s						
SHLS	**Shalkode**	**3.61**	**299**	***eP***	**Pb**	**12 25 41.0**	**+1.1**
	7.1nm,0.2s						
SHLS				*eS*	**Sb**	**12 26 24.5**	**+0.7**
	55nm,0.4s						
PDGK	**Podgornoye**	**3.67**	**301**	⇑Pn	**Pn**	**12 25 33.3**	**+0.5**
	1.3nm,0.3s						
PDGK				⇑Pg	**Pg**	**12 25 46.9**	**+0.7**
	2.6nm,0.4s						
PDGK				⇓Lg	Lg	12 26 32.3	
	22nm,0.7s						
UZB	**Uzynbulak**	**3.90**	**296**	Pg	**Pb**	**12 25 41.4**	**-3.5**
	4.5nm,0.2s						
UZB				Lg	Lg	12 26 40.3	
	9.5nm,0.3s						
UZB	**Uzynbulak**	**3.90**	**296**	***eP***	**Pg**	**12 25 52.2**	**+1.6**
	1.1nm,0.2s						
UZB				*eS*	**Sg**	**12 26 43.8**	**+2.6**
	16nm,0.4s						
KPKS	**Kokpek**	**4.26**	**299**	Pg	**Pb**	**12 25 47.1**	**-3.8**
	0.2nm,0.2s						
KPKS				Lg	Lg	12 26 49.7	
	9.8nm,0.4s						
SATY	**Saty**	**4.29**	**293**	Pg	**Pb**	**12 25 49.5**	**-2.0**
	2.6nm,0.1s						
SATY				Lg	Lg	12 26 54.1	
	10nm,0.3s						
ARXS	**Arharly**	**5.16**	**304**	Pg	**Pb**	**12 26 04.7**	**-1.5**
	2.7nm,0.4s						
ARXS				Lg	Lg	12 27 20.1	
	8.8nm,0.3s						
TNSS	**Tian-Shan**	**5.31**	**289**	Pg	**Pb**	**12 26 09.9**	**+0.9**
	0.8nm,0.2s						
TNSS				Lg	Lg	12 27 28.7	
	2.0nm,0.6s						
MK31	**Makanchi Array**	**5.40**	**349**	⇑Pn	**Pn**	**12 25 57.5**	**+1.0**
	0.1nm,0.2s,baz=175,slow=13,SNR=4.9						
MK31				⇑Pg	**Pb**	**12 26 11.2**	**+0.9**
	0.5nm,0.3s,baz=160,slow=17,SNR=5.6						
MK31				⇑Sn	**Sn**	**12 26 54.5**	**-4.2**
	0.9nm,0.4s						
MK31				⇑Lg	Lg	12 27 19.0	
	6.7nm,0.5s,baz=167,slow=27,SNR=6.2						
KTBS	**Karatobe**	**5.69**	**295**	Pg	**Pb**	**12 26 15.5**	**+0.2**
	0.6nm,0.2s						
KTBS				Lg	Lg	12 27 39.9	
	10nm,0.3s						
ZSN	**Zaisan**	**6.00**	**7**	***eP***	**Pb**	**12 26 20.4**	**-0.1**
	5.6nm,0.1s						
ZSN				*eS*	**Sb**	**12 27 32.0**	**-0.2**
	15nm,0.5s						
DGS	**Degeres**	**6.19**	**289**	Pg	**Pb**	**12 26 24.1**	**+0.2**
	2.2nm,0.4s						
DGS				Lg	Lg	12 27 53.2	
	4.2nm,0.4s						
KURBB	**Kurchatov Arra**	**9.82**	**340**	⇑Lg	Lg	12 29 45.5	
	3.1nm,0.6s						
KURK	**Kurchatov**	**9.89**	**340**	⇓Lg	Lg	12 29 43.2	
	1.1nm,0.5s						

RSNC 14 12:27:00.2±0.0, 7°N±1°×7°3W±°, h150km±2km, M2.5, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**199**	P	Pn	12 27 20.3	-0.6
BARC				S	Sn	12 27 35.8	-0.8
BRJC	**Barrancabermej**	**0.65**	**285**	P	Pn	12 27 22.0	-0.4
BRJC				S	Sn	12 27 39.3	0.0
PAMC	**Pamplona, Colo**	**0.67**	**37**	P	Pn	12 27 23.0	-0.1
PAMC				S	Sn	12 27 40.3	-0.3
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	12 27 24.2	-0.6
RUSC				S	Sn	12 27 42.5	-1.0
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	P	Pn	12 27 27.3	-1.1
PTBC				S	Sn	12 27 48.1	-1.8
OCAC	**Ocana**	**1.45**	**352**	P	Pn	12 27 28.8	-0.6
OCAC				S	Sn	12 27 50.6	-1.2
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	12 27 33.0	-0.8
ZARC				S	Sn	12 27 59.1	-0.5
NORC	**Norcasia**	**2.14**	**235**	P	Pn	12 27 36.1	-0.9
NORC				S	Sn	12 28 04.8	-0.5
ROSC	**El Rosal**	**2.29**	**212**	P	Pn	12 27 39.9	+0.7
ROSC				S	Sn	12 28 10.3	+1.2
ROSC	**El Rosal**	**2.29**	**212**	P	Sn	12 28 10.0	+0.8
HELC	**Santa Helena**	**2.48**	**256**	P	Pn	12 27 41.8	+0.4
HELC				S	Sn	12 28 15.2	+2.1
UREC	**San Jos de Ur**	**2.58**	**292**	P	Pn	12 27 40.7	-1.7
UREC				S	Sn	12 28 11.8	-3.1
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	12 27 44.3	-0.1
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	12 27 44.5	-0.2
GUY2C				S	Sn	12 28 21.1	+2.1
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	12 27 42.9	-1.7
PTGC				S	Sn	12 28 16.9	-2.0
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	12 27 47.6	-1.1
DBBC				S	Sn	12 28 24.3	-2.0
ANIL	**Santa Ana**	**3.24**	**225**	P	Pn	12 27 52.3	+1.4
ANIL				S	Sn	12 28 29.7	-0.4
PRAC	**Prado**	**3.54**	**210**	P	Pn	12 27 53.6	-1.0
PRAC				S	Sn	12 28 36.5	-0.2
ORTC	**Ortega, Tolima**	**3.57**	**217**	P	Pn	12 27 54.9	-0.1
ORTC				S	Sn	12 28 37.7	+0.2
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	12 27 53.8	-1.6
APAC				S	Sn	12 28 37.2	-1.0
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	12 27 56.2	-0.1
PLMC				S	Sn	12 28 40.2	+0.3
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	12 27 54.5	-2.1
SJCC				S	Sn	12 28 35.7	-4.7

IDC 14 12:37:30.5±3.6, 22°68N×12°14W, h0km, mb3.4/1, mbtmp3.5/2, ML3.3/1, Error ellipse: s-maj=127.2km s-min=66.1km az=63.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.21**	**123**	Pn	Pn	12 41 19.3	-0.5
	0.1nm,0.3s,baz=313,slow=12,SNR

BVAR	**Borovoye Array**	**49.25**	**308**	P		**P**	12 47 39.8	-4.2
	0.4nm,0.4s,baz=57,slow=5.3,SNR=2.5							
	0.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**49.81**	**254**	P		**P**	**12 47 46.1**	**-2.6**
	0.6nm,0.5s,baz=39,slow=7.0,SNR=4.5							
	0.6nm,0.5s							
NVAR	**Mina Array Bea**	**64.89**	**60**	P		**P**	**12 49 35.9**	**+0.7**
	0.4nm,0.6s,baz=296,slow=7.4,SNR=5.1							
	0.4nm,0.6s							
PDAR	**Pinedale Array**	**67.07**	**52**	P		**P**	**12 49 50.0**	**+0.9**
	0.2nm,0.5s,baz=90,slow=1.5,SNR=4.0							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**67.25**	**195**	P		**P**	**12 49 50.5**	**+0.4**
	0.6nm,0.6s,baz=12,slow=6.7,SNR=7.5							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**70.96**	**195**	P		**P**	**12 50 14.6**	**+1.5**
	1.0nm,0.7s,baz=8.1,slow=5.5,SNR=19							
	1.0nm,0.7s							
TXAR	**Lajitas Array**	**79.92**	**58**	P		**P**	**12 51 05.9**	**+1.1**
	0.8nm,0.7s,baz=303,slow=4.3,SNR=8.8							
	0.8nm,0.7s							
SNAA	**Sanae**	**151.30**	**198**	PKPbc		**PKPbc**	**12 58 47.7**	**-0.1**
	0.1nm,0.4s,baz=168,slow=4.2,SNR=5.7							

*IDC **14** 12:49:17.0±2.4,23°.42S×179°.98E, h498km±25km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=27.1km s-min=19.5km az=174.0*

ISC 14 12:49:17.0±0.9,**23°.6S**±0°.1×**180°.0W**±0°.2,**h500**km,**n9, σ0°93/11, mb3.6/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.84**	**189**	P		**P**		**12 52 25.8**	**+0.4**
	3.8nm,0.5s,baz=12,slow=14,SNR=1.1								
URZ				S		**S**		**12 54 59.1**	**-1.6**
	24nm,1.2s,baz=10.0,slow=10.0,SNR=1.9								
ASAR	**Alice Springs**	**42.09**	**260**	P		**P**		**12 56 25.0**	**+0.2**
	1.0nm,0.5s,baz=102,slow=7.2,SNR=20								
ASAR				ScP		**ScP**		**13 01 10.1**	**-0.8**
	0.4nm,0.7s,baz=106,slow=4.0,SNR=6.6								
	1.0nm,0.5s								
WRA	**Warramunga Arr**	**42.44**	**266**	P		**P**		**12 56 27.1**	**-0.4**
	2.0nm,0.4s,baz=95,slow=8.6,SNR=5.2								
WRA				ScP		**ScP**		**13 01 11.6**	**-0.7**
	0.6nm,0.9s,baz=101,slow=3.9,SNR=2.9								
	2.0nm,0.4s								
FITZ	**Fitzroy Crossi**	**50.86**	**265**	P		**P**		**12 57 31.6**	**+0.2**
	3.3nm,1.0s,baz=92,slow=5.9,SNR=6.8								
	3.3nm,1.0s								
QSPA	**South Pole Qui**	**66.50**	**180**	P		**P**		**12 59 17.7**	**+1.4**
	1.2nm,0.6s,baz=16,slow=5.9,SNR=12								
	1.2nm,0.6s								
NVAR	**Mina Array Bea**	**84.52**	**44**	P		**P**		**13 00 56.5**	**-0.6**
	0.3nm,0.7s,baz=252,slow=6.7,SNR=2.8								
	0.3nm,0.7s								
TXAR	**Lajitas Array**	**90.26**	**58**	P		**P**		**13 01 24.6**	**+0.3**
	0.5nm,0.7s,baz=204,slow=6.5,SNR=6.2								
	0.5nm,0.7s								
PDAR	**Pinedale Array**	**92.46**	**44**	P		**P**		**13 01 33.5**	**-0.8**
	0.1nm,0.3s,baz=225,slow=3.7,SNR=3.0								
	0.1nm,0.3s								
HFS	**Hagfors**	**142.23**	**349**	PKhKP		PKPpre		13 07 46.4	
	1.1nm,0.4s,baz=58,slow=3.6,SNR=7.6								

SJA 14 12:50:10.0±0.7,**36°.00S**×**69°.43W, h238km, ML3.6, MW3.2, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAGR	**Agrelo**	**2.95**	**10**	*e*P		Pn		12 51 02.0	+0.6
PEL	**Peldehue**	**3.04**	**340**	*e*P		Pn		12 51 02.7	+0.4
PEL				*e*S		S		12 51 41.3	-2.1
ASAL	**Salagasta**	**3.44**	**8**	*e*S		S		12 51 41.8	-10
AUSP	**Uspallata**	**3.77**	**0**	*e*P		Pn		12 51 12.0	+1.0
AUSP				*e*S		S		12 51 58.0	-1.0
RTLS	**Loncito**	**4.20**	**1**	*e*P		Pn		12 51 16.6	+0.6
RTLS				*e*S		S		12 52 06.4	-1.7
RTLS				IAML				12 52 28.9	
	comp=Z,36nm,2.2s								
RTLL	**Cerro Villicun**	**4.73**	**10**	*e*P		Pn		12 51 22.3	+0.1
RTLL				*e*S		S		12 52 15.3	-4.2
RTLL				IAML				12 52 42.8	
	comp=Z,39nm,1.2s								
ACHE	**Chepes**	**5.35**	**26**	*e*P		Pn		12 51 11.6	-18
ACCO	**Cerro Coronel**	**5.41**	**3**	*e*P		Pn		12 51 31.1	+0.2
ACCO				*e*S		S		12 52 32.0	-3.1
AVFE	**Valle Fertil**	**5.58**	**18**	*e*P		Pn		12 51 32.2	-0.6
AVFE				*e*S		S		12 52 33.7	-4.9
AROD	**Rodeo**	**5.82**	**360**	*e*P		Pn		12 51 36.6	+0.6
AROD				*e*S		S		12 52 40.2	-4.3
ACDV	**Cuesta del Vie**	**5.82**	**3**	*e*P		Pn		12 51 36.1	+0.2
ACDV				*e*S		S		12 52 40.5	-3.8
ACDV				IAML				12 52 51.7	
	comp=Z,13nm,2.9s								
APLL	**PUNTA DE LOS L**	**6.10**	**24**	*e*P		Pn		12 51 38.5	-0.7
APLL				*e*S		S		12 52 46.5	-3.9
AGUA	**GUANDACOL**	**6.54**	**7**	*e*P		Pn		12 51 44.9	0.0
AGUA				*e*S		S		12 52 55.5	-5.3
AGUA				IAML				12 53 20.2	
	comp=Z,15nm,3.9s								
ACLC	**CERRO LA CRUZ**	**6.88**	**18**	*e*P		Pn		12 51 48.6	-0.7
ACLC				*e*S		S		12 53 01.8	-6.9
ACLC				IAML				12 53 28.8	
	comp=Z,6.7nm,3.3s								
VCA	**Vinchina**	**7.32**	**8**	*e*P		Pn		12 51 54.9	+0.1
VCA				*e*S		S		12 53 12.0	-6.8
VCA				IAML				12 53 20.9	
	comp=Z,12nm,4.1s								
AANI	**Anillaco**	**7.47**	**17**	*e*P		Pn		12 51 53.1	-3.7
CYA	**Choya**	**8.14**	**23**	*e*P		Pn		12 51 53.9	-11
CYA				*e*S		S		12 53 30.1	-7.6
CYA				IAML				12 53 47.0	
	comp=Z,5.3nm,1.8s								

*IDC **14** 12:55:51.0±2.6,25°.30S×174°.62W, h0km, mb4.0/6, mbtmp4.0/7, ML3.7/1, MS3.1/2, Error ellipse: s-maj=176.7km s-min=24.2km az=161.0*

ISC 14 12:55:52.8±1.5,**25°.2S**±0°.8×**174°.6W**±0°.2,**h10**km,**n12, σ0°79/10, mb4.1/6, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.22**	**77**	Pn		**Pn**		**12 59 14.3**	**0.0**
	3.4nm,0.3s,baz=278,slow=17,SNR=10								
RAR				Sn		Sn		13 01 38.2	-14
	1.8nm,0.3s,baz=49,slow=15,SNR=2.4								
	12nm,0.5s								
PPT	**Papeete**	**24.50**	**77**	LR		LR		13 08 56.0	
	comp=Z,63nm,18.9s,baz=226,slow=32								
ASAR	**Alice Springs**	**46.66**	**261**	P		**P**		**13 04 21.5**	**-0.3**
	0.7nm,0.5s,baz=97,slow=6.8,SNR=10								
	0.7nm,0.5s								
WRA	**Warramunga Arr**	**47.20**	**266**	P		**P**		**13 04 25.1**	**-1.0**
	1.7nm,0.7s,baz=92,slow=8.3,SNR=32								
	1.7nm,0.7s								
FITZ	**Fitzroy Crossi**	**55.60**	**265**	P		**P**		**13 05 29.3**	**+0.3**
	2.7nm,0.9s,baz=82,slow=9.6,SNR=2.2								
	2.7nm,0.9s								
RPN	**Rapa Nui**	**58.02**	**107**	LR		LR		13 27 13.3	
	comp=Z,8.5nm,18.1s,baz=210,slow=32								
NVAR	**Mina Array Bea**	**82.38**	**41**	P		**P**		**13 08 15.7**	**+0.3**
	0.2nm,0.5s,baz=224,slow=6.2,SNR=2.6								
	0.2nm,0.5s								
PDAR	**Pinedale Array**	**90.30**	**42**	P		**P**		**13 08 54.2**	**+0.1**
	0.3nm,0.8s,baz=267,slow=5.9,SNR=2.6								
	0.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**94.57**	**288**	P		**P**		**13 09 15.3**	**+1.1**
	1.7nm,0.8s,baz=117,slow=4.3,SNR=9.8								
	1.7nm,0.8s								
KURBB	**Kurchatov Arra**	**119.58**	**315**	PKP		**PKiKP**		**13 14 42.4**	**-0.3**
	0.1nm,0.3s,baz=84,slow=2.0,SNR=2.3								
AKASG	**Malin Array Be**	**148.61**	**330**	PKPbc		**PKPbc**		**13 15 38.6**	**-1.3**
	0.5nm,0.5s,baz=39,slow=5.3,SNR=4.1								
BRTR	**Keskin Array B**	**152.24**	**308**	PKPbc		**PKiKP**		**13 15 49.1**	**-0.3**
	0.7nm,0.8s,baz=50,slow=4.5,SNR=3.7								

IDC 14 13:00:39.5±2.1,**7°.32S**×**149°.58E, h0**km,**mb3.6/2, mbtmp3.6/4, ML1.0/1, Error ellipse: s-maj=131.3km s-min=31.1km az=138.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.17**	**229**	Pn		Pn		13 01 32.1	+1.4
	1.3nm,0.3s,baz=10,slow=11,SNR=2.7								
PMG				Sn		Sn		13 02 02.6	-6.6
	0.8nm,0.3s,baz=39,slow=14,SNR=1.1								
	12nm,0.7s								
WRA	**Warramunga Arr**	**19.39**	**228**	P		Pn		13 05 08.3	0.0
	1.3nm,0.6s,baz=52,slow=9.9,SNR=9.7								
ASAR	**Alice Springs**	**22.15**	**221**	P		P		13 05 35.5	-1.7
	1.1nm,0.9s,baz=49,slow=9.1,SNR=6.0								
	1.1nm,0.9s								
NVAR	**Mina Array Bea**	**96.15**	**52**	P		P		13 14 10.0	0.0
	0.2nm,0.6s,baz=240,slow=4.2,SNR=3.6								
	0.2nm,0.6s								

*NEIC **14** 13:01:13.9±1.2,30°.7S±0°.2×176°.9W±0°.2, h10km±1km, mb4.2/10, Error ellipse: s-maj=33.8km s-min=15.5km az=47.0*

*IDC **14** 13:01:14.5±1.2,31°.08S×177°.37W, h0km, mb4.1/6, mbtmp4.1/6, MS3.0/1, Error ellipse: s-maj=32.7km s-min=20.4km az=74.0*

ISC 14 13:01:16.1±1.0,**31°.30S**±0°.06×**177°.5W**±0°.2,**h10**km,**n40, σ2°12/47, mb4.2/8, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.06**	**351**	P		P	**Pn**	**13 01 49.3**	**-1.5**
GLKZ				S		S	**Sn**	**13 02 14.0**	**-2.6**
RAO	**Raoul Island**	**2.07**	**351**	Pn		Pn		13 01 44.0	-7.0
RAO	**Raoul Island**	**2.07**	**351**	Pn		Pn		13 01 47.3	-3.7
	159nm,0.3s,baz=155,slow=19,SNR=11								
RAO				Sn		Sn		**13 02 13.9**	**-2.9**
	212nm,0.3s,baz=276,slow=23,SNR=6.0								
RAO	**Raoul Island**	**2.07**	**351**	P		**Pn**		**13 01 49.6**	**-1.4**
RIZ	**Raoul Island**	**2.08**	**350**	P		**Pn**		**13 01 49.6**	**-1.5**
RIZ				S		**Sn**		**13 02 14.4**	**-2.6**
MXZ	**Matakaoa Point**	**7.13**	**208**	P		**Pn**		**13 02 57.8**	**-2.6**
MXZ				S		**Sn**		**13 04 22.2**	**+0.8**
HAZ	**Te Kaha**	**7.51**	**210**	P		**Pn**		**13 03 04.3**	**-1.3**
HAZ				S		**Sn**		**13 04 32.8**	**+2.0**
PUZ	**Puketiti**	**7.59**	**206**	P		**Pn**		**13 03 04.3**	**-2.5**
PUZ				S		**Sn**		**13 04 31.7**	**-1.2**
KUZ	**Kuaotunu**	**7.80**	**224**	P		Pn		13 03 14.2	+4.6
CNGZ	**Carnagh Statio**	**7.97**	**205**	P		**Pn**		**13 03 07.9**	**-4.1**
CNGZ				S		**Sn**		**13 04 37.8**	**-4.4**
MWZ	**Matawai**	**8.10**	**209**	P		**Pn**		**13 03 11.8**	**-2.1**
MWZ				S		**Sn**		**13 04 45.5**	**-0.1**
URZ	**Urewera**	**8.22**	**211**	Pn		**Pn**		**13 03 14.6**	**-0.8**
	1.2nm,0.3s,baz=273,slow=4.4,SNR=7.0								
URZ				Sn		**Sn**		**13 04 43.6**	**-4.7**
	2.1nm,0.3s,baz=11,slow=24,SNR=9.7								
URZ	**Urewera**	**8.22**	**211**	P		**Pn**		**13 03 14.2**	**-1.2**
URZ				S		**Sn**		**13 04 46.4**	**-1.9**
RAGZ	**Rawiri**	**8.29**	**209**	S		**Sn**		**13 04 51.3**	**+1.2**
RIGZ	**Rimuhau**	**8.33**	**206**	P		**Pn**		**13 03 12.9**	**-4.1**
RIGZ				S		**Sn**		**13 04 49.2**	**-1.9**
MKAZ	**Moumakai**	**8.37**	**224**	P		Pn		13 03 21.9	+4.4
OUZ	**Omahuta**	**8.39**	**240**	P		Pn		13 03 24.8	+7.0
PRGZ	**Paritu Road**	**8.48**	**205**	S		**Sn**		**13 04 51.8**	**-3.0**
RTZ	**Ruatahuna**	**8.57**	**210**			**Pn**		**13 03 20.5**	**+0.2**
BKZ	**Black Stump Fm**	**9.24**	**210**			**Pn**		**13 03 26.9**	**-2.5**
BKZ	**Black Stump Fm**	**9.24**	**210**	P		**Pn**		**13 03 25.9**	**-3.5**
BKZ				S		**Sn**		**13 05 11.1**	**-2.4**
DZM	**Mont Dzumac**	**17.00**	**299**	LR		LR		13 10 21.7	
	comp=Z,56nm,21.1s,baz=185,slow=32								
CTAO	**Charters Tower**	**34.34**	**280**	P		**P**		**13 08 04.9**	**+1.6**
STKA	**Stephens Creek**	**34.67**	**258**	P		**P**		**13 08 07.5**	**+1.5**
	2.4nm,0.7s,baz=99,slow=14,SNR=5.0								
	2.4nm,0.7s								
BBOO	**Buckleboo**	**39.12**	**255**	P		**P**		**13 08 45.1**	**+1.2**
BBOO				IAmb		IAmb		13 08 55.5	
	comp=Z,7.0nm,1.1s								
AS31	**Alice Springs**	**43.47**	**268**	P		**P**		**13 09 21.1**	**+1.4**
ASAR	**Alice Springs**	**43.47**	**268**	P		**P**		**13 09 20.9**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=105,slow=7.3,SNR=25								
ASAR				PcP		**PcP**		**13 11 09.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=102,slow=4.1,SNR=2.5								
	comp=Z,1.7nm,0.6s								
WRA	**Warramunga Arr**	**44.54**	**273**	P		**P**		**13 09 29.2**	**+0.9**
WRA	**Warramunga Arr**	**44.54**	**273**	P		**P**		**13 09 29.1**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=113,slow=7.8,SNR=24								
	comp=Z,2.0nm,0.6s								
WB0	**Warramunga Arr**	**44.56**	**273**	P		**P**		**13 09 28.9**	**+0.4**
KNRA	**Kununurra**	**51.18**	**275**	P		**P**		**13 10 21.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.76**	**270**	P		**P**		**13 10 31.9**	**+0.3**
FITZ				IAmb		IAmb		13 10 33.8	
	comp=Z,1.6nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.76**	**270**	P		**P**		**13 10 31.9**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=106,slow=7.4,SNR=7.0								
	comp=Z,2.8nm,0.8s								
CASY	**Casey**	**54.53**	**208**	P		**P**		**13 10 45.3**	**+1.4**
CASY				IAmb		IAmb		13 11 04.4	
	comp=Z,3.3nm,1.1s								
QSPA	**South Pole Qui**	**58.81**	**180**	P		**P**		**13 11 16.4**	**+1.9**
QSPA				IAmb		IAmb		13 11 34.4	
	comp=Z,2.9nm,1.1s								
QSPA	**South Pole Qui**	**58.81**	**180**	P		**P**		**13 11 16.3**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=22,slow=1.3,SNR=13								
	comp=Z,1.7nm,0.7s								
SNAA	**Sanae**	**77.24**	**178**	P		**P**		**13 13 10.8**	**+0.7**
SNAA				IAmb		IAmb		13 13 33.8	
	comp=Z,2.6nm,1.1s								
SNAA	**Sanae**	**77.24**	**178**	P		**P**		**13 13 10.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=181,slow=4.9,SNR=3.8								
	comp=Z,0.8nm,0.9s								
KURBB	**Kurchatov Arra**	**122.00**	**313**	PKP		**PKPdf**		**13 20 09.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=119,slow=1.5,SNR=4.2								
FINES	**FINESS Array B**	**146.13**	**340**	PKPbc		**PKPbc**		**13 20 55.4**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=57,slow=3.2,SNR=16								

*THE **14** 13:09:35.7,37°.N±1°.×2°.1E±°, h0km±1km, M3.2/12, MLh3.2/12*

*ATH **14** 13:09:36.1,37°.42N×20°.79E, h2km, ML3.2/19, Manual Solution by S.Koutrakis First location: 2019/08/14 13:10:31, This location: 2020/06/30 05:15:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

ISC 14 13:09:36.1±1.5,**37°.40N**±0°.05×**20°.79E**±0°.04,**h3**km±10km, **n43, σ0°66/70, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**4**	P		P	**Pg**	**13 09 41.2**	**+0.1**
KRI1				S		S	**Sg**	**13 09 45.3**	**+0.8**
LTHK	**Lithakia**	**0.31**	**7**	P		P	**Pg**	**13 09 41.8**	**-0.2**
LTHK				S		S	**Sg**	**13 09 46.6**	**+0.6**
LTHK	**Lithakia**	**0.31**	**7**	P		P	**Pg**	**13 09 41.9**	**-0.2**
LTHK				S		S	**Sg**	**13 09 46.1**	**+0.1**
KYPS	**Kipseli, Zakin**	**0.41**	**3**	P		P	**Pg**	**13 09 44.2**	**+0.1**
KYPS				S		S	**Sg**	**13 09 49.9**	**+0.4**
ORTH	**Orthonies,Zaky**	**0.45**	**350**	P		P	**Pg**	**13 09 44.7**	**-0.2**
ORTH				S		S	**Sg**	**13 09 52.1**	**+1.3**
ORTH	**Orthonies,Zaky**	**0.45**	**350**	P		P	**Pg**	**13 09 44.5**	**-0.3**
ORTH				S		S	**Sg**	**13 09 51.5**	**+0.8**
CLEM	**Kyllini,Ilia,G**	**0.56**	**29**	P		P	**Pg**	**13 09 46.8**	**0.0**
CLEM				S		S	**Sg**	**13 09 54.8**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.73**	**347**	P		P	**Pg**	**13 09 49.7**	**-0.4**
PSDA				S		S	**Sb**	**13 10 01.1**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.73**	**347**	P		P	**Pg**	**13 09 49.6**	**-0.4**
PSDA				S		S	**Sg**	**13 10 00.0**	**+0.5**
VLS	**Valsamata**	**0.79**	**348**	P		P	**Pg**	**13 09 50.3**	**-0.9**
VLS				S		S	**Sb**	**13 10 02.5**	**-1.1**
VLS	**Valsamata**	**0.79**	**348**	P		P	**Pg**	**13 09 50.6**	**-0.6**
VLS				S		S	**Sg**	**13 10 01.1**	**-0.3**
ARG2	**Argostoli**	**0.81**	**343**	P		P	**Pg**	**13 09 51.1**	**-0.6**
ARG2				S		S	**Sb**	**13 10 03.7**	**-0.5**
RLS	**Riolos of Patr**	**0.84**	**39**	P		P	**Pg**	**13 09 51.2**	**-1.1**
RLS				S		S	**Sg**	**13 10 03.9**	**+0.7**
RLS	**Riolos of Patr**	**0.84**	**39**	P		P	**Pg**	**13 09 52.0**	**-0.3**
RLS				S		S	**Sg**	**13 10 03.1**	**-0.2**
DRO	**Drossia**	**0.91**	**53**	P		P	**Pg**	**13 09 52.3**	**-1.3**
DRO				S		S	**Sb**	**13 10 06.7**	**-0.4**
DRO	**Drossia**	**0.91**	**53**	P		P	**Pb**	**13 09 54.6**	**0.0**
DRO				S		S	**Sg**	**13 10 05.5**	**+0.1**
AXS	**Araxos**	**0.92**	**30**	P		P	**Pg**	**13 09 53.9**	**+0.2**
AXS				S		S	**Sg**	**13 10 05.3**	**-0.2**
ITM	**Ithomi**	**0.93**	**104**	P		P	**Pg**	**13 09 53.5**	**-0.5**
ITM				S		S	**Sg**	**13 10 06.7**	**+0.6**
ITM	**Ithomi**	**0.93**	**104**	P		P	**Pg**	**13 09 54.1**	**+0.2**
ITM				S		S	**Sg**	**13 10 06.7**	**+0.6**
FSK	**Fiskardo**	**1.07**	**350**	P		P	**Pg**	**13 09 55.7**	**-0.9**
FSK				S		S	**Sb**	**13 10 11.4**	**-0.3**
EVGI	**Lefkada island**	**1.22**	**355**	P		P	**Pg**	**13 09 58.8**	**-0.7**
EVGI				S		S	**Sb**	**13 10 16.2**	**+0.1**
EVGI	**Lefkada island**	**1.22**	**355**	P		P	**Pb**	**13 09 59.8**	**-0.1**
KLV	**Kalavryta, Ach**	**1.25**	**59**	P		P	**Pg**	**13 09 59.6**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.31**	**357**	P		P	**Pg**	**13 10 00.6**	**-0.6**
NYDR				S		S	**Sn**	**13 10 19.0**	**-0.3**
PVO	**Paravola**	**1.34**	**25**	P		P	**Pb**	**13 10 02.6**	**+0.6**
PVO				S		S	**Sb**	**13 10 19.5**	**0.0**
EFP	**Efpalio**	**1.35**	**40**	P		P	**Pg**	**13 10 00.9**	**-1.1**
EFP				S		S	**Sn**	**13 10 20.4**	**+0.1**
EFP	**Efpalio**	**1.35**	**40**	P		P	**Pg**	**13 10 01.1**	**-0.9**
LKD2	**Lefkada island**	**1.39**	**356**	P		P	**Pn**	**13 10 01.5**	**-0.9**
LKD2				S		S	**Sn**	**13 10 22.1**	**+0.7**
LKD2	**Lefkada island**	**1.39**	**356**	P		P	**Pb**	**13 10 02.9**	**+0.2**
LKD2				S		S	**Sb**	**13 10 20.6**	**-0.2**
TSLK	**Tsoukalades, L**	**1.42**	**356**	P		P	**Pn**	**13 10 03.0**	**+0.1**
TSLK				S		S	**Sn**	**13 10 23.3**	**+1.1**
TSLK	**Tsoukalades, L**	**1.42**	**356**	P		P	**Pb**	**13 10 03.7**	**+0.4**
KALE	**Kalithea**	**1.45**	**47**	P		P	**Pb**	**13 10 04.6**	**+0.8**
ANX	**Ano Chora**	**1.48**	**37**	P		P	**Pg**	**13 10 05.0**	**+0.4**
EVR	**Evrytania**	**1.71**	**28**	P		P	**Pb**	**13 10 07.8**	**-0.4**
VLI	**Velíai**	**1.85**	**111**	P		P	**Pn**	**13 10 09.2**	**+0.5**
TETR	**Tetrakomo, Epi**	**1.97**	**11**	P		P	**Pn**	**13 10 11.4**	**+0.8**
AXAR	**Agios Charalam**	**2.00**	**47**	P		P	**Pb**	**13 10 12.2**	**-1.0**
AGG	**Agios Georgios**	**2.02**	**36**	P		P	**Pb**	**13 10 12.4**	**-1.1**
MET2	**Kameni Chora,**	**2.03**	**83**	P		P	**Pb**	**13 10 12.5**	**-1.2**
MET5	**Makryloggos,Me**	**2.05**	**83**	P		P	**Pn**	**13 10 12.1**	**+0.5**
VIL2	**Platees**	**2.12**	**67**	P		P	**Pn**	**13 10 13.7**	**+1.1**
LKR	**Lokris**	**2.14**	**54**	P		P	**Pn**	**13 10 12.8**	**0.0**
ATAL	**Atalanti**	**2.18**	**53**	P		P	**Pn**	**13 10 14.1**	**+0.8**

*SDD **14** 13:12:57.4±0.6, 18°.45N×72°.08W, h13km±9km, MD2.8, ML2.3, MW2.8*

*OSPL **14** 13:13:01.2±2.0, 18°.40N×71°.76W, h8km±25km, ML2.1*

ISC 14 13:12:58.7±1.1,**18°.44N**±0°.07×**71°.82W**±0°.05,**h18**km±4km, **n8, σ0°73/15, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.06**	**334**	*e*Pg		**Pg**		**13 13 02.1**	**0.0**
JIDR				IAML				13 13 04.7	
	comp=N,397nm,1.0s								
JIDR				*e*Sg		**Sg**		**13 13 04.8**	**+0.4**
LODU1	**El Espartillar**	**0.34**	**104**	*i* P		**Pg**		**13 13 05.4**	**-0.7**
LODU1				*e*S		**Sg**		**13 13 10.5**	**-0.5**
LODU1				IAML				13 13 13.1	
	comp=Z,394nm,0.2s								
NEDR	**Neiba UASD**	**0.39**	**83**	*e*Pg		**Pb**		**13 13 07.6**	**+0.5**
NEDR				*e*Sg		**Sn**		**13 13 15.6**	**-0.7**
NEDR				IAML				13 13 16.0	
	comp=N,266nm,0.1s								
PAPH	**Port-au-Prince**	**0.46**	**281**	*e*S		**Sn**		**13 13 18.4**	**+0.2**
PODR	**Polo**	**0.58**	**118**	*i* P		**Pg**		**13 13 11.2**	**+0.7**
PODR				*e*S		**Sg**		**13 13 19.2**	**+0.9**
PODR	**Polo**	**0.58**	**118**	*e*Pg		**Pn**		**13 13 11.6**	**-0.7**
PODR				*e*Sg		**Sn**		**13 13 22.5**	**+1.0**
PODR				IAML				13 13 23.6	
	comp=N,88nm,0.8s								
LOBH	**Bahia de las A**	**0.60**	**163**	*i* P		**Pb**		**13 13 10.7**	**+0.1**
LOBH				*e*S		**Sb**		**13 13 17.9**	**-0.8**
LOBH				IAML				13 13 20.9	
	comp=Z,44nm,0.9s								
LOVI	**El Cajuil, Ovi**	**0.77**	**146**	*i* P		**Pb**		**13 13 13.5**	**-0.1**
LOVI				*e*S		**Sb**		**13 13 24.4**	**+0.7**
LOVI				IAML				13 13 31.8	
	comp=Z,84nm,1.2s								

NEIC 14 13:44:36.4±0.9,**38°.01N**±0°.03×**97°.99W**±0°.04,**h5

KEK	**Kerkira**	**0.35 351**	P	Pn	13 54 34.4 +3.6
KEK			S	Sn	13 54 41.1 +3.7
SRN	**Sarande**	**0.52 11**	Pg	Pn	13 54 33.3 +0.4
SRN			Sg	Sn	13 54 41.5 +0.6
SRN			AML	AML	13 54 43.5
	62nm,0.5s				
SRN			AMd		13 55 21.8
JAN	**Janina**	**0.81 69**	P	Pn	13 54 37.1 +0.4
JAN			S	Sn	13 54 48.8 +1.1
JAN	**Janina**	**0.81 69**	P	Pn	13 54 37.1 +0.4
JAN			S	Sn	13 54 48.8 +1.1
JAN	**Janina**	**0.81 69**	P	Pn	13 54 37.0 +0.3
TSLK	**Tsoukalades, L**	**0.82 131**	P	Pn	13 54 37.1 +0.3
TSLK			S	Sn	13 54 48.7 +0.9
TSLK	**Tsoukalades, L**	**0.82 131**	P	Pn	13 54 37.3 +0.5
TSLK			S	Sn	13 54 47.9 +0.2
LKD2	**Lefkada island**	**0.84 133**	Pg	Pn	13 54 36.0 -1.1
LKD2			Sg	Sn	13 54 48.7 +0.2
LKD2			AMd		13 56 09.3
LKD2	**Lefkada island**	**0.84 133**	P	Pn	13 54 37.3 +0.2
LKD2			S	Sn	13 54 49.5 +1.1
LKD2	**Lefkada island**	**0.84 133**	P	Pn	13 54 37.6 +0.4
LKD2			S	Sn	13 54 47.5 -0.9
DRAG	**Dragano-Lefkad**	**0.88 141**	P	Pn	13 54 38.1 +0.5
DRAG			S	Sn	13 54 49.3 +0.1
NYDR	**Nydri-Lefkada**	**0.92 135**	P	Pn	13 54 38.4 +0.3
NYDR			S	Sn	13 54 50.6 +0.5
PRMD	**Pramanda**	**0.96 80**	P	Pn	13 54 39.4 +0.6
PRMD			S	Sn	13 54 52.7 +1.3
EVGI	**Lefkada island**	**0.96 140**	P	Pn	13 54 39.7 +1.0
EVGI			S	Sn	13 54 52.5 +1.1
EVGI	**Lefkada island**	**0.96 140**	P	Pn	13 54 39.4 +0.6
EVGI			S	Sn	13 54 51.3 0.0
FSK	**Fiskardo**	**1.05 149**	P	Pn	13 54 40.0 +0.1
FSK			S	Sn	13 54 54.4 +0.9
FSK	**Fiskardo**	**1.05 149**	P	Pn	13 54 40.2 +0.2
FSK			S	Sn	13 54 53.3 -0.3
TETR	**Tetrakomo, Epi**	**1.09 91**	P	Pn	13 54 41.1 +0.5
TETR			S	Sn	13 54 56.2 +1.7
TETR	**Tetrakomo, Epi**	**1.09 91**	P	Pn	13 54 41.1 +0.5
TETR			S	Sn	13 54 54.8 +0.3
AMPL	**Ampelaki**	**1.13 113**	P	Pn	13 54 41.2 +0.1
AMPL			S	Sn	13 54 55.7 +0.2
VLO	**Vlora**	**1.14 345**	Pg	Pn	13 54 40.5 -0.6
VLO			Sg	Sn	13 54 59.1 +3.6
VLO			AML	AML	13 55 09.1
	32nm,0.4s				
VLO			AMd		13 56 20.3
VLO	**Vlora**	**1.14 345**	P	Pn	13 54 44.0 +2.9
PENT	**Pentalofos**	**1.28 49**	P	Pn	13 54 44.6 +1.4
PENT			S	Sn	13 55 01.4 +2.2
PENT	**Pentalofos**	**1.28 49**	P	Pn	13 54 44.8 +1.6
SCTE	**Santa Cesarea**	**1.29 304**	Pg	Pn	13 54 43.0 -0.3
SCTE			Sg	Sn	13 55 01.0 +1.7
SCTE			AML	AML	13 55 12.8
	32nm,0.5s				
SCTE			AMd		13 56 20.3
SCTE	**Santa Cesarea**	**1.29 304**	P	Pn	13 54 44.5 +1.3
SCTE			S	Sn	13 55 01.0 +1.7
VLS	**Valsamata**	**1.31 154**	P	Pn	13 54 43.2 -0.3
VLS			S	Sn	13 55 01.4 +1.4
VLS	**Valsamata**	**1.31 154**	P	Pn	13 54 43.2 -0.3
VLS			S	Sn	13 55 01.3 +1.4
VLS	**Valsamata**	**1.31 154**	P	Pn	13 54 43.3 -0.3
PSDA	**Pessada-Kefalo**	**1.37 156**	P	Pn	13 54 44.4 +0.1
PSDA			S	Sn	13 55 01.2 0.0
PSDA	**Pessada-Kefalo**	**1.37 156**	P	Pn	13 54 44.2 -0.1
NEST	**Nestorio**	**1.38 41**	Pn	Pn	13 54 44.6 0.0
NEST			Sn	Sn	13 55 04.1 +2.3
NEST			AML	AML	13 55 12.3
	14nm,1.1s				
NEST			AMd		13 56 13.6
NEST	**Nestorio**	**1.38 41**	P	Pn	13 54 46.1 +1.5
NEST			S	Sn	13 55 04.0 +2.3
NEST	**Nestorio**	**1.38 41**	P	Pn	13 54 46.4 +1.8
KBN	**Korca**	**1.44 29**	Pn	Pn	13 54 45.1 -0.2
KBN			Sn	Sn	13 55 03.1 0.0
KBN			AML	AML	13 55 22.1
	17nm,0.8s				
KBN			AMd		13 56 17.5
PVO	**Paravola**	**1.49 120**	P	Pn	13 54 46.7 +0.7
PVO			S	Sn	13 55 04.5 +0.3
PVO	**Paravola**	**1.49 120**	P	Pn	13 54 46.6 +0.7
EVR	**Evrytania**	**1.57 106**	P	Pn	13 54 48.5 +1.3
EVR			S	Sn	13 55 07.6 +1.2
EVR	**Evrytania**	**1.57 106**	P	Pn	13 54 48.5 +1.3
ORTH	**Orthonies,Zaky**	**1.65 157**	P	Pn	13 54 48.1 0.0
AXS	**Araxos**	**1.66 134**	P	Pn	13 54 48.8 +0.5
THL	**Klokotos Trika**	**1.67 83**	P	Pn	13 54 49.7 +1.3
THL			S	Sn	13 55 09.6 +1.0
THL	**Klokotos Trika**	**1.67 83**	P	Pn	13 54 49.7 +1.3
KZN	**Kozani**	**1.74 57**	P	Pn	13 54 50.0 +0.6
ANX	**Ano Chora**	**1.77 115**	P	Pn	13 54 51.5 +1.5
ANX			S	Sn	13 55 12.9 +1.5
ANX	**Ano Chora**	**1.77 115**	P	Pn	13 54 51.3 +1.4
ANX			S	Sn	13 55 12.7 +1.3
CLEM	**Kyllini,Ilia,G**	**1.77 146**	P	Pn	13 54 50.1 +0.2
CLEM			S	Sn	13 55 11.4 +0.2
MAKR	**Makrakomi, Fth**	**1.79 101**	P	Pn	13 54 52.0 +1.9
MAKR			S	Sn	13 55 12.7 +1.0
MAKR	**Makrakomi, Fth**	**1.79 101**	P	Pn	13 54 52.0 +1.9
MAKR			S	Sn	13 55 12.0 +0.3
RLS	**Riolos of Patr**	**1.81 136**	P	Pn	13 54 51.1 +0.8
RLS			S	Sn	13 55 12.8 +0.8
RLS	**Riolos of Patr**	**1.81 136**	P	Pn	13 54 51.0 +0.8
FNA	**Florina**	**1.83 39**	Pn	Pn	13 54 50.8 +0.1
FNA			AMd		13 56 22.6
FNA	**Florina**	**1.83 39**	*e*P	Pn	13 54 52.0 +1.4
FNA	**Florina**	**1.83 39**	*e*Pn	Pn	13 54 52.0 +1.4
EFP	**Efpalio**	**1.84 120**	P	Pn	13 54 52.3 +1.5
EFP			S	Sn	13 55 14.0 +1.1
OHR	**Ohrid**	**1.88 22**	*i* Pn	Pn	13 54 54.1 +2.7
AGG	**Agios Georgios**	**1.94 99**	P	Pn	13 54 53.3 +1.1
TIP	**Timpagrande**	**2.42 267**	⇑P	Pn	13 55 00.1 +1.3
ULC	**Ulcinj**	**2.64 350**	⇓*i* Pn	Pn	13 55 01.8 +0.1
ULC			*i* Sn	Sn	13 55 32.6 +0.1
THE	**Thessaloniki**	**2.69 61**	Pn	Pn	13 55 02.4 0.0
THE			AMd		13 56 29.5
THE	**Thessaloniki**	**2.69 61**	P	Pn	13 55 03.4 +1.0
VAY	**Valandovo**	**2.84 46**	*i* Pn	Pn	13 55 05.2 +0.8
SKO	**Skopje**	**2.86 24**	*i* Pn	Pn	13 55 05.8 +1.8
DRME	**Dracevica, Mon**	**2.87 350**	*e*Pn	Pn	13 55 05.6 +0.8
DRME	**Dracevica, Mon**	**2.87 350**	⇓*i* Pn	Pn	13 55 05.6 +0.8
DRME			*i* Sn	Sn	13 55 38.0 -0.1
KNT	**Kendrikon**	**2.93 51**	P	Pn	13 55 05.9 +0.2
PLG	**Polygyros**	**2.93 69**	P	Pn	13 55 05.4 -0.3
BUM	**Brajici-Budva**	**3.02 346**	⇓*i* Pn	Pn	13 55 06.9 -0.2
BUM			*i* Sn	Sn	13 55 42.1 +0.1
SOH	**Sokhos**	**3.04 60**	P	Pn	13 55 07.7 +0.4
PDG	**Podgorica**	**3.10 352**	⇓P	Pn	13 55 07.9 -0.1
PDG	**Podgorica**	**3.10 352**	*e*Pn	Pn	13 55 09.0 +1.0
PDG	**Podgorica**	**3.10 352**	⇑*i* Pn	Pn	13 55 08.1 +0.1
PDG			*i* Sn	Sn	13 55 44.2 +0.5
HCY	**Herceg Novi**	**3.25 342**	⇑*i* Pn	Pn	13 55 09.9 -0.2
HCY			*i* Sn	Sn	13 55 46.6 -0.9
CEME	**Cevo**	**3.26 348**	⇓*i* Pn	Pn	13 55 10.5 +0.2
CEME			*i* Sn	Sn	13 55 47.5 -0.3
MRVN	**Minervino Murg**	**3.28 302**	Pn	Pn	13 55 11.6 +1.0
MRVN			AMd		13 57 29.2
ATH	**Athens Observa**	**3.32 114**	P	Pn	13 55 11.6 +0.6
SRS	**Serrai**	**3.34 57**	*e*P	Pn	13 55 11.2 -0.2
SRS	**Serrai**	**3.34 57**	*e*Pn	Pn	13 55 11.2 -0.2
NKME	**Niksic**	**3.47 349**	⇑*i* Pn	Pn	13 55 13.4 +0.3
NKME			*i* Sn	Sn	13 55 52.1 -0.8
KOME	**Kolasin**	**3.49 356**	*e*Pn	Pn	13 55 15.1 +1.6
KOME	**Kolasin**	**3.49 356**	⇑*i* Pn	Pn	13 55 15.7 +2.2
KOME			*i* Sn	Sn	13 55 52.7 -0.9
KKB	**Krupnik**	**3.50 44**	P	Pn	13 55 12.9 -0.7
KKB	**Krupnik**	**3.50 44**	*i* P	Pn	13 55 14.6 +1.0
IVA	**Berane**	**3.50 0**	⇓*i* Pn	Pn	13 55 15.2 +1.6
IVA			*i* Sn	Sn	13 55 53.7 -0.2
TREB	**Trebinje**	**3.54 342**	*e*Pn	Pn	13 55 13.7 -0.4
BRY	**Bratogost**	**3.67 345**	⇑*i* Pn	Pn	13 55 15.8 -0.2
BRY			*i* Sn	Sn	13 55 57.3 -0.8
MMB	**Musomishta**	**3.67 52**	*i* P	Pn	13 55 16.4 +0.4
MMB	**Musomishta**	**3.67 52**	P	Pn	13 55 16.8 +0.8
BOSS	**Bosilegrad**	**3.70 31**	*e*Pn	Pn	13 55 16.7 +0.4
BOSS			*e*Sn	Sn	13 55 57.9 -0.7
BARS	**Barje**	**3.75 22**	*e*Pn	Pn	13 55 17.2 +0.3
BARS			*e*Sn	Sn	13 55 58.0 -1.8
STON	**Ston**	**3.87 336**	*e*Pn	Pn	13 55 18.2 -0.3
STON	**Ston**	**3.87 336**	*e*Pn	Pn	13 55 18.2 -0.3
STON			*e*Sn	Sn	13 56 00.5 -2.2
SJES	**Sjenica**	**3.89 1**	*e*Pn	Pn	13 55 20.5 +1.5
SJES			*e*Sn	Sn	13 56 03.0 -0.5
UPM	**Unac-Piva**	**3.90 350**	⇑*i* Pn	Pn	13 55 19.6 +0.4
UPM			*i* Sn	Sn	13 56 02.9 -0.9
KLINJ	**Klinje**	**3.92 346**	*e*Pn	Pn	13 55 18.7 -0.7
SGRT	**San Giovanni R**	**3.95 309**	Pn	Pn	13 55 20.6 +0.9
SGRT			AMd		13 57 39.2
SELS	**Selova**	**3.96 13**	*e*Pn	Pn	13 55 20.3 +0.4
SELS			*e*Sn	Sn	13 56 04.1 -1.0
PLE	**Pljevlja**	**3.98 355**	⇓*i* Pn	Pn	13 55 21.2 +1.0
PLE			*i* Sn	Sn	13 56 04.3 -1.3
PLNA	**Plana**	**4.11 40**	*i* P	Pn	13 55 23.3 +1.3
VTS	**Vitosha**	**4.13 37**	*i* P	Pn	13 55 22.7 +0.4
VTS	**Vitosha**	**4.13 37**	P	Pn	13 55 23.6 +1.3
VTS	**Vitosha**	**4.13 37**	*e*Pn	Pn	13 55 23.1 +0.8
VTS			*e*Sn	Sn	13 56 08.4 -0.9
IVAS	**Ivanjica**	**4.21 3**	*e*Pn	Pn	13 55 23.3 -0.1
IVAS			*e*Sn	Sn	13 56 10.0 -1.3
GOCS	**Kraljevo Serbi**	**4.26 10**	*e*Pn	Pn	13 55 24.5 +0.5
GOCS			*e*Sn	Sn	13 56 08.7 -3.8
RUDO	**Rudo**	**4.26 355**	*e*Pn	Pn	13 55 24.1 +0.1
RZN	**Rozhen**	**4.38 56**	*i* P	Pn	13 55 26.4 +0.6
RZN	**Rozhen**	**4.38 56**	P	Pn	13 55 26.3 +0.5
ZAPS	**Zavoj**	**4.42 27**	*e*Pn	Pn	13 55 26.8 +0.6
BOVS	**Bovan**	**4.48 17**	⇑P	Pn	13 55 26.8 -0.1
BBLS	**Lazi&#263i**	**4.51 356**	*e*Pn	Pn	13 55 27.9 +0.4
PGB	**Panagyurishte**	**4.53 45**	*i* P	Pn	13 55 28.9 +1.2
PGB	**Panagyurishte**	**4.53 45**	P	Pn	13 55 28.7 +1.0
GRUS	**Gruza**	**4.56 8**	*e*Pn	Pn	13 55 28.6 +0.5
GRUS			*e*Sn	Sn	13 56 16.8 -3.0
PLD	**Plovdiv**	**4.63 52**	*i* P	Pn	13 55 29.7 +0.7
PLD	**Plovdiv**	**4.63 52**	*e*P	Pn	13 55 29.7 +0.7
PLD	**Plovdiv**	**4.63 52**	*e*Pn	Pn	13 55 29.7 +0.7
VAE	**Valguarnera**	**4.68 248**	Pn	Pn	13 55 29.8 -0.1
	6.2nm,0.4s,baz=60,slow=20				
VAE			Sn	Sn	13 56 20.8 -2.2
	15nm,0.3s,baz=105,slow=6.6,SNR=5.2				
DIVS	**Divibare**	**4.73 1**	*e*Pn	Pn	13 55 31.1 +0.6
DIVS			*e*Sn	Sn	13 56 21.2 -2.9
KDZ	**Kurdzhali**	**4.74 60**	*i* P	Pn	13 55 30.6 0.0
KDZ	**Kurdzhali**	**4.74 60**	P	Pn	13 55 30.5 0.0
BLKB	**Belogradchik**	**4.75 25**	*e*Pn	Pn	13 55 29.4 -1.3
BLKB			*e*Sn	Sn	13 56 22.2 -2.2
ZAGS	**Zajecar**	**4.78 21**	*e*Pn	Pn	13 55 31.4 +0.3
ZAGS			*e*Sn	Sn	13 56 21.8 -3.4
TRUS	**Trudelj**	**4.87 5**	*e*Pn	Pn	13 55 32.3 0.0
TRUS			*e*Sn	Sn	13 56 25.0 -2.4
MPEP	**Malo Peshtene**	**4.94 35**	*i* P	Pn	13 55 34.2 +1.0
EZN	**Ezine**	**5.01 83**	⇓P	Pn	13 55 35.3 +1.1
EZN	**Ezine**	**5.01 83**	⇓P	Pn	13 55 35.3 +1.1
DIM	**Dimitrovgrad**	**5.10 57**	*i* P	Pn	13 55 36.1 +0.7
TEKS	**Tekeris**	**5.18 357**	*e*Pn	Pn	13 55 36.0 -0.7
TEKS			*e*Sn	Sn	13 56 30.7 -4.5
KIJV	**Kijevo**	**5.31 332**	*e*Pn	Pn	13 55 39.0 +0.6
AVAS	**Avala Beograd**	**5.35 5**	*e*Pn	Pn	13 55 38.1 -0.8
AVAS			*e*Sn	Sn	13 56 34.8 -4.4
PLVB	**Pleven**	**5.38 40**	⇑P	Pn	13 55 40.0 +0.8
MDVR	**Moldovita**	**5.58 14**	⇑P	Pn	13 55 42.6 +0.4
MDVR	**Moldovita**	**5.58 14**	*e*Pn	Pn	13 55 42.1 0.0
MDVR			*e*Sn	Sn	13 56 40.5 -4.5
DJES	**Djerdap**	**5.65 20**	⇑P	Pn	13 56 00.1 +17
A050A	**Klekovaca**	**5.69 335**	*e*Pn	Pn	13 55 44.6 +1.0
IDI	**Anoyia**	**5.71 134**	Pn	Pn	13 55 41.6 -2.3
	4.8nm,0.3s,baz=279,slow=14,SNR=14				
IDI			Sn	Sn	13 56 42.3 -5.8
	12nm,0.3s,baz=298,slow=19,SNR=11				
BLY	**Banja Luka**	**5.74 340**	*e*Pn	Pn	13 55 44.3 +0.1
BLY	**Banja Luka**	**5.74 340**	*e*Pn	Pn	13 55 44.5 +0.3
BLY			*e*Sn	Sn	13 56 46.6 -2.1
AQU	**L'Aquila**	**5.74 303**	P	Pn	13 55 49.4 +5.1
AQU			pmax	pmax	
	comp=Z,73nm,0.9s				
ELND	**Elena**	**5.76 50**	⇓P	Pn	13 55 44.9 +0.4
FRGS	**Fruska Gora**	**5.79 360**	*e*Pn	Pn	13 55 44.3 -0.6
FRGS			*e*Sn	Sn	13 56 45.3 -4.7
HERR	**Herculane**	**5.83 18**	⇑P	Pn	13 55 45.6 +0.2
VRSS	**Vrsac**	**5.85 10**	*e*Pn	Pn	13 55 45.5 -0.3
VRSS			*e*Sn	Sn	13 56 46.1 -5.5
JMB	**Yambol**	**5.93 56**	*i* P	Pn	13 55 46.9 0.0
SZH	**Strazhitsa**	**6.02 48**	*i* P	Pn	13 55 49.3 +1.1
A051A	**Mrakovica**	**6.05 340**	*e*Pn	Pn	13 55 48.8 +0.1
NPS	**Neapolis**	**6.14 130**	P	Pn	13 55 49.7 -0.1
PHSR	**Pinarhisar**	**6.26 66**	⇓P	Pn	13 55 52.4 +1.0
BZS	**Buzias**	**6.38 11**	⇑P	Pn	13 55 53.1 +0.1
BZS	**Buzias**	**6.38 11**	⇑P	Pn	13 55 53.1 +0.1
BZS	**Buzias**	**6.38 11**	*e*Pn	Pn	13 55 52.8 -0.2
BZS			*e*Sn	Sn	13 57 00.0 -4.5
GZR	**Gura Zlata**	**6.39 19**	⇓P	Pn	13 55 54.2 +0.9
GZR	**Gura Zlata**	**6.39 19**	⇓P	Pn	13 55 54.2 +0.9
GZR	**Gura Zlata**	**6.39 19**	*e*Pn	Pn	13 55 54.5 +1.2
GZR			*e*Sn	Sn	13 57 01.3 -3.7
BAND	**Balkesir-Ban**	**6.41 79**	⇓P	Pn	13 55 54.5 +1.0
LOZB	**Loznitsa**	**6.45 49**	⇑P	Pn	13 55 54.4 +0.4
RAZG	**Razgrad**	**6.51 48**	⇑P	Pn	13 55 59.6 +4.7
MOSL	**Moslavina**	**6.65 341**	*e*Pn	Pn	13 55 56.2 -0.6
LOT	**Lotru**	**6.73 24**	⇓P	Pn	13 55 59.0 +1.1
MORH	**Mrgy, Hungar**	**6.90 353**	*e*Pn	Pn	13 55 59.1 -1.1
MORH	**Mrgy, Hungar**	**6.90 353**	*e*Pn	Pn	13 55 59.3 -0.9
MORH			*e*Sn	Sn	13 57 11.3 -6.1
ARR	**Arges**	**6.96 29**	⇑P	Pn	13 56 02.5 +1.5
MTUR	**Matau**	**7.00 32**	⇑P	Pn	13 56 03.5 +1.8
MTUR	**Matau**	**7.00 32**	⇑P	Pn	13 56 03.5 +1.8
BOJS	**Bojanci**	**7.02 332**	*e*Pn	Pn	13 56 02.5 +0.6
BOJS	**Bojanci**	**7.02 332**	*e*Pn	Pn	13 56 02.4 +0.6
BOJS			*e*Sn	Sn	13 57 17.5 -2.7
SIRR	**Siria**	**7.02 10**	*e*Pn	Pn	13 56 02.0 +0.2
SIRR			*e*Sn	Sn	13 57 15.7 -4.6
OZLJ	**Ozalj**	**7.04 334**	*e*Pn	Pn	13 56 02.4 +0.3
BRJN	**Brijuni**	**7.16 323**	*e*Pn	Pn	13 56 04.2 +0.5
VOIR		**7.17 31**	⇑P	Pn	13 56 05.2 +1.2
VOIR		**7.17 31**	⇑P	Pn	13 56 05.2 +1.2
CRES	**Cresnjevec Ost**	**7.23 335**	*i* Pn	Pn	13 56 04.8 +0.1
CRES			*e*Sn	Sn	13 57 20.6 -4.9
CEY	**Cerknica**	**7.53 330**	*e*Pn	Pn	13 56 09.4 +0.6
CEY			*e*Sn	Sn	13 57 28.7 -4.1
SKDS	**Skadanscina**	**7.54 327**	*e*Pn	Pn	13 56 08.8 -0.2
SKDS	**Skadanscina**	**7.54 327**	*e*Pn	Pn	13 56 09.0 0.0
SKDS			*e*Sn	Sn	13 57 27.9 -5.2
ISR	**Istrita**	**7.58 39**	⇓P	Pn	13 56 11.5 +1.9
ISR	**Istrita**	**7.58 39**	⇓P	Pn	13 56 11.5 +1.9
MLR	**Muntele Rosu**	**7.59 34**	Pn	Pn	13 56 09.3 -0.5
	comp=Z,3.7nm,0.3s,baz=339,slow=5.1,SNR=14				
MLR			LR	LR	13 59 58.5
	comp=Z,360nm,19.5s,baz=203,slow=45				
	comp=Z,14nm,0.4s				
MLR	**Muntele Rosu**	**7.59 34**	⇑P	Pn	13 56 11.0 +1.2
NEHR	**Nehoiu**	**7.70 36**	⇓P	Pn	13 56 13.2 +2.0
LJU	**Ljubljana**	**7.75 331**	*e*P	Pn	13 56 12.4 +0.6
LJU	**Ljubljana**	**7.75 331**	*e*Pn	Pn	13 56 12.4 +0.6
DOPR	**Dopca**	**7.75 30**	⇓P	Pn	13 56 13.3 +1.5
BISRR	**Bisoca**	**7.98 37**	⇓P	Pn	13 56 17.4 +2.3
COVR	**Voineasa-Covas**	**7.98 34**	⇑P	Pn	13 56 17.2 +2.2
GRER		**7.98 39**	⇑P	Pn	13 56 18.8 +3.8
TLBR	**Topalu**	**7.99 47**	⇓P	Pn	13 56 16.0 +0.9
HARR	**Harsova**	**8.02 46**	⇑P	Pn	13 56 16.7 +1.3
HARR	**Harsova**	**8.02 46**	⇑P	Pn	13 56 16.7 +1.3
PERS	**Pernice**	**8.05 336**	*i* Pn	Pn	13 56 16.0 -0.1
PERS			*e*Sn	Sn	13 57 39.6 -6.2
SOKA	**Soboth**	**8.12 336**	*e*Pn	Pn	13 56 16.6 -0.4
	comp=Z,3.4nm,0.3s,SNR=8.1				
SOKA			*e*Sn	Sn	13 57 40.9 -6.5
	comp=Z,6.1nm,0.4s				
OBKA	**Obir**	**8.13 333**	*i* Pn	Pn	13 56 17.3 +0.1
	comp=Z,2.1nm,0.1s,SNR=7.5				
OBKA			*e*Sn	Sn	13 57 44.7 -3.0
	comp=Z,50nm,0.5s				
PLOR	**Plostina**	**8.18 35**	⇑P	Pn	13 56 19.7 +1.9
PLOR	**Plostina**	**8.18 35**	⇑P	Pn	13 56 19.7 +1.9
VRI	**Vrincioaia**	**8.23 36**	⇑P	Pn	13 56 20.4 +2.0
VRI	**Vrincioaia**	**8.23 36**	⇑P	Pn	13 56 20.4 +2.0
TPGR	**Topolog**	**8.39 46**	⇓P	Pn	13 56 21.1 +0.5
CFR	**Carcaliu**	**8.44 44**	⇑P	Pn	13 56 22.6 +1.4
ISP	**Isparta**	**8.48 97**	*i* P	Pn	13 56 23.4 +1.4
ARSA	**Arzberg**	**8.49 340**	*e*Pn	Pn	13 56 21.7 -0.3
	comp=Z,4.1nm,0.4s				
ARSA			*e*Sn	Sn	13 57 50.5 -5.9
	comp=Z,1.7nm,0.3s				
PSZ	**Piszkesteto**	**8.55 0**	⇓P	Pn	13 56 22.6 -0.2
PSZ	**Piszkesteto**	**8.55 0**	⇓P	Pn	13 56 22.6 -0.2
MYKA	**Terra Mystica**	**8.57 330**	*i* Pn	Pn	13 56 23.8 +0.6
	comp=Z,1.1nm,0.2s				
MYKA			*e*Sn	Sn	13 57 52.7 -5.8
	comp=Z,10nm,0.4s				
TESR	**Tescani**	**8.70 33**	⇓P	Pn	13 56 18.6 -6.2
SCTR	**Scanteiesti**	**8.70 41**	⇑P	Pn	13 56 28.6 +3.8
TLCR		**8.81 46**	⇓P	Pn	13 56 28.4 +2.0
TLCR		**8.81 46**	⇓P	Pn	13 56 28.4 +2.0
SLUM	**Salum**	**8.98 149**	P	Pn	13 56 22.8 -6.0
SLUM			S	Sn	13 57 58.3 -10
CONA	**Conrad Observa**	**9.04 343**	*e*Pn	Pn	13 56 29.7 +0.2
	comp=Z,0.5nm,0.2s				
BURAR	**Bucovina Array**	**9.11 23**	⇑P	Pn	13 56 32.6 +2.0
BURAR	**Bucovina Array**	**9.11 23**	⇑P	Pn	13 56 32.6 +2.0
KEST	**Kesra**	**9.11 250**	Pn	Pn	13 56 28.9 -1.7
	comp=Z,0.1nm,0.3s,baz=281,slow=22,SNR=1.7				
KEST			Sn	Sn	13 58 10.8 -1.0
	comp=Z,0.2nm,0.3s,baz=135,slow=18,SNR=1.4				
	comp=Z,2.8nm,0.8s				
KECS	**Kecovo**	**9.12 3**	*e*P	Pn	13 56 33.3 +2.7
KECS			*e*		13 58 06.7
KECS	**Kecovo**	**9.12 3**	*e*PN	Pn	13 56 33.3 +2.7
KECS			*e*SN	Sn	13 58 06.7 -5.2
ABTA	**Abfaltersbach**	**9.13 326**	*e*Pn	Pn	13 56 30.8 0.0
	comp=Z,0.6nm,0.1s				
ABTA			*e*Sn	Sn	13 58 09.5 -2.7
	comp=Z,41nm,0.7s				
VYHS	**Vyhne**	**9.15 356**	*e*P	Pn	13 56 34.2 +3.1
VYHS	**Vyhne**	**9.15 356**	*e*PN	Pn	13 56 34.2 +3.1
VYHS			*e*SN	Sn	13 58 05.4 -7.3
MODS	**Modra-Piesok**	**9.20 349**	*e*SN	Sn	13 58 04.4 -9.3
MOA	**Molln**	**9.40 336**	*i* Pn	Pn	13 56 35.0 +0.5
	comp=Z,2.4nm,0.2s,SNR=9.4				
MOA			*e*Sn	Sn	13 58 15.5 -3.2
	comp=Z,7.8nm,0.4s				
MOA	**Molln**	**9.40 336**	*e*Pn	Pn	13 56 35.4 +1.0
MOA			*e*Sn	Sn	13 58 13.1 -5.6
LESA	**Schwarzleotal**	**9.60 329**	*e*Pn	Pn	13 56 37.6 +0.3
	comp=Z,4.2nm,0.3s				
LESA			*e*Sn	Sn	13 58 19.1 -4.6
	comp=Z,13nm,0.4s				
WTTA	**Wattenberg**	**9.91 325**	*e*Pn	Pn	13 56 42.7 +1.1
	comp=Z,3.4nm,0.3s				
WTTA			*e*Sn	Sn	13 58 26.4 -5.0
	comp=Z,23nm,0.6s				
WATA	**Walderalm**	**9.99 326**	*e*Pn	Pn	13 56 43.8 +1.2
	comp=Z,2.2nm,0.2s				
WATA			*e*Sn	Sn	13 58 29.4 -3.9
	comp=Z,12nm,0.4s				
SQTA	**Sankt Quirin**	**10.07 324**	*e*Sn	Sn	13 58 31.6 -3.6
	comp=Z,18nm,0.5s				
MOTA	**Moosalm**	**10.21 324**	*e*Pn	Pn	13 56 46.1 +0.5
	comp=Z,2.1nm,0.3s				
MOTA			*e*Sn	Sn	13 58 37.1 -1.6
	comp=Z,8.0nm,0.4s				
VRAC	**Vranov**	**10.21 348**	LR	LR	14 01 34.2
	comp=Z,109nm,21.3s,baz=203,slow=43				
CKRC	**Cesky Krumlov**	**10.26 339**	*e*P	Pn	13 56 45.6 -0.6
CKRC			*e*		13 58 33.4
CKRC	**Cesky Krumlov**	**10.26 339**	*e*PN	Pn	13 56 45.6 -0.6
CKRC			*e*SN	Sn	13 58 33.4 -6.3
DAVOX	**Davos/Dischmat**	**10.40 319**	Pn	Pn	13 56 48.0 -0.3
	comp=Z,0.1nm,0.3s,baz=143,slow=20,SNR=1.1				
DAVOX			Sn	Sn	13 58 40.6 -2.8
	comp=Z,2.1nm,0.3s,baz=319,slow=23,SNR=4.4				
DAVOX			LR	LR	14 01 30.4
	comp=Z,92nm,19.7s,baz=328,slow=42				
	comp=Z,1.1nm,0.3s				
DAVOX	**Davos/Dischmat**	**10.40 319**	P	Pn	13 56 48.0 -0.3
GERES	**GERESS Array B**	**10.46 337**	Pn	Pn	13 56 47.5 -1.4
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=9.9				
GERES			Sn	Sn	13 58 37.8 -7.0
	comp=Z,0.1nm,0.3s,baz=159,slow=23,SNR=4.7				
	comp=Z,1.3nm,0.5s				
BR131	**Keskin Array S**	**10.64 84**	*i* P	Pn	13 56 53.8 +2.2
BRTR	**Keskin Array B**	**10.64 84**	Pn	Pn	13 56 52.8 +1.2
	comp=Z,0.7nm,0.3s,baz=267,slow=13,SNR=22				
	comp=Z,2.7nm,0.5s				
BRTR	**Keskin Array B**	**10.64 84**	*i* P	Pn	13 56 53.9 +2.3
BRTR			pmax	pmax	
	comp=Z,3.0nm,0.5s				
KHC	**Kasperske Hory**	**10.75 337**	*i* P	Pn	13 56 53.4 +0.5
KHC			pmax	pmax	
	comp=Z,1.0nm,0.2s				
KHC	**Kasperske Hory**	**10.75 337**	*e*PN	Pn	13 56 53.9 +1.0
KHC			*e*SN	Sn	13 58 44.9 -6.9
KIRS	**Kirsehir-Merke**	**10.90 87**	⇓P	Pn	13 56 57.7 +2.7
SWA2		**11.10 154**	P	Pn	13 56 51.6 -6.2
SWA2			S	Sn	13 58 47.7 -13
AKASG	**Malin Array Be**	**13.11 27**	Pn	Pn	13 57 23.8 -1.3
	comp=Z,1.2nm,0.3s,baz=212,slow=11,SNR=4.5				
AKASG			LR	LR	14 03 59.7
	comp=Z,51nm,18.8s,baz=237,slow=45				
	comp=Z,0.6nm,0.4s				
MMAI	**Mount Meron Ar**	**14.05 112**	Pn	Pn	13 57 34.8 -3.2
	comp=Z,1.1nm,0.3s,baz=354,slow=15,SNR=4.1				
MMAI			LR	LR	14 04 21.7
	comp=Z,97nm,18.2s,baz=299,slow=43				
	comp=Z,1.5nm,0.4s				
HFRF	**Wahat Farafira**	**14.07 147**	P	Pn	13 57 34.5 -3.9
SOC	**Sochi**	**15.45 68**	*e*P	Pn	13 57 55.0 -1.5
SOC			*e*		14 00 45.5
ASF	**Jabal al Asfar**	**15.56 112**	Pn	Pn	13 57 59.4 +1.4
	comp=Z,0.3nm,0.3s,baz=302,slow=9.5,SNR=4.1				
ASF			Sn	Sn	14 00 48.8 -0.5
	comp=Z,0.3nm,0.3s,baz=16,slow=18,SNR=1.5				
EIL	**Elat**	**15.73 123**	Sn	Sn	14 00 38.3 -15
	comp=Z,0.6nm,0.3s,baz=194,slow=15,SNR=6.5				
MNK	**Minsk**	**16.08 17**	*i* P	Pn	13 58 02.3 -2.2
	comp=E,23nm,1.0s				
MNK			*i* P	Pn	13 58 02.3 -2.2
	comp=N,20nm,1.0s				
MNK			*i* P	Pn	13 58 02.3 -2.2
	comp=Z,6.0nm,0.7s,baz=203				
MNK			*i* PP	P	13 58 11.5 +4.3
MNK			*i* S	Sn	14 00 57.9 -3.6
MNK			*i* SS	S	14 01 13.0 -0.3
MNK			*i* LQ	LQ	14 02 51.2
MNK			*i* LR	LR	14 03 57.6
MNK			*i* LRM	MLR	14 04 35.4
	comp=N,49nm,17.6s				
MNK			*i* LRM	MLR	14 04 56.2
	comp=Z,91nm,16.2s				
MNK	**Minsk**	**16.08 17**	*i* P	Pn	13 58 02.2 -2.2
MNK			*i* S	Sn	14 00 57.9 -3.6
MNK			pmax	pmax	
	comp=E,23nm,1.0s				
MNK			pmax	pmax	
	comp=N,20nm,1.0s				
MNK			pmax	pmax	
	comp=Z,6.0nm,0.7s				
MNK			MLR	MLR	
	comp=N,49nm,18.0s				
MNK			MLR	MLR	
	comp=Z,91nm,16.0s				
NACGM	**Naroch**	**16.23 14**	*e*P	Pn	13 58 06.3 +0.1
	comp=Z,13nm,0.8s,baz=199				
SHA1	**Shidzhatmaz**	**17.59 68**	*i* P	Pn	13 58 23.8 +0.2
KIV	**Kislovodsk**	**17.64 68**	*e*P	Pn	13 58 23.6 -0.4
KIV			pmax	pmax	
	comp=Z,8.0nm,1.0s				
KIV			MLR	MLR	
	comp=Z,15nm,14.0s				
KBZ	**Khabaz**	**17.76 68**	P	Pn	13 58 24.4 -1.1
	comp=Z,0.4nm,0.3s,baz=267,slow=12,SNR=9.3				
	comp=Z,4.9nm,0.7s				
KBZ	**Khabaz**	**17.76 68**	*c*eP	Pn	13 58 25.6 +0.2
KBZ			pmax	pmax	
	comp=Z,7.0nm,1.0s				
VORD	**Divnogorie**	**17.88 43**	*e*P	Pn	13 58 23.8 -3.1
VORD			pmax	pmax	
	comp=Z,10.0nm,1.0s				
VSR	**Storozhevoye**	**17.95 42**	*e*P	Pn	13 58 24.0 -3.8
VSR			pmax	pmax	
	comp=Z,3.0nm,0.9s				
ESDC	**Sonseca Array**	**18.38 279**	P	P	13 58 33.5 +0.6
	comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=15				
ESDC			LR	LR	14 05 33.3
	comp=Z,68nm,19.1s,baz=102,slow=37				
	comp=Z,1.8nm,0.7s				
GNI	**Garni**	**19.12 80**	P	P	13 58 40.7 -0.4
	comp=Z,1.3nm,0.3s,baz=32,slow=8.8,SNR=7.1				
	comp=Z,9.2nm,0.5s				
GNI	**Garni**	**19.12 80**	*i* P	P	13 58 41.5 +0.5
GNI			pmax	pmax	

comp=Z,23nm,1.0s
OBN Obninsk 19.33 30 eP P 13 58 42.7 -0.2
OBN S **S 14 02 16.0 -3.0**
OBN pmax pmax
comp=Z,16nm,0.6s
OBN MLR MLR
comp=Z,125nm,18.0s
MOS Moscow 20.19 30 eP P 13 58 50.8 -1.5
PBRG Braganca 20.33 285 eP Pn 13 59 03.3 +6.9
PBRG *i* IAmb IAmb 13 59 07.5
comp=Z,15nm,1.7s
MVO Moncorvo 20.58 284 eP Pn 13 59 03.1 +3.8
MVO *i* IAmb IAmb 13 59 19.4
comp=Z,13nm,1.6s
MDT Midelt 20.80 259 P **P 13 58 59.1 -0.1**
comp=Z,1.8nm,0.9s,baz=61,slow=12,SNR=2.5
comp=Z,1.8nm,0.9s
MTE Manteigas 21.04 282 eP P 13 59 14.8 +13
MTE *i* IAmb IAmb 13 59 19.0
comp=Z,13nm,1.3s
PMRV Marv??o 21.04 279 eP P 13 59 18.3 +17
PMRV *i* IAmb IAmb 13 59 28.5
comp=Z,22nm,1.8s
HFS Hagfors 21.15 351 P **P 13 59 02.8 +0.2**
comp=Z,5.7nm,0.6s,baz=163,slow=11,SNR=14
HFS LR LR 14 08 55.5
comp=Z,56nm,19.6s,baz=200,slow=42
comp=Z,5.7nm,0.6s
AKT Akhty 21.28 75 eP P 13 59 02.6 -1.8
AKT *e* 13 59 23.9
AKT pmax pmax
comp=Z,23nm,1.2s
PSARD Sardoal 21.61 280 eP P 13 59 20.0 +12
PSARD *i* IAmb IAmb 13 59 26.7
comp=Z,15nm,1.2s
PVAQ Vaqueiros 21.69 274 *i* tx tx 13 59 18.9
PBDV Barranco-do-Ve 21.89 273 eP P 13 59 14.2 +3.4
PBDV *i* IAmb IAmb 13 59 26.3
comp=Z,65nm,1.8s
NORES NORESS Array B 22.02 349 P **P 13 59 12.8 +0.9**
EKA Eskdalemuir Ar 22.17 324 P **P 13 59 14.8 +1.3**
comp=Z,6.0nm,0.6s,baz=124,slow=9.1,SNR=21
comp=Z,6.0nm,0.6s
NB2 NORSAR Subarra 22.36 349 P **P 13 59 16.2 +0.7**
comp=Z,5.0nm,1.0s,baz=162,slow=11
NOA NORSAR Array B 22.36 349 P **P 13 59 16.3 +0.7**
comp=Z,1.8nm,0.6s,baz=163,slow=11,SNR=7.3
NOA LR LR 14 09 38.3
comp=Z,46nm,20.2s,baz=175,slow=41
comp=Z,1.8nm,0.6s
PARRA Arraiolos 22.41 278 eP P 13 59 09.3 -7.1
PARRA *i* IAmb IAmb 13 59 20.7
comp=Z,15nm,1.4s
FINES FINESS Array B 22.43 8 P **P 13 59 16.4 0.0**
comp=Z,1.2nm,0.3s,baz=180,slow=12,SNR=12
FINES LR LR 14 08 09.0
comp=Z,70nm,21.0s,baz=202,slow=37
comp=Z,1.2nm,0.3s
BELG Belogornoye 23.13 47 *i* P **P 13 59 24.6 +0.9**
BELG pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 24.73 23 eP P 13 59 37.6 -0.9
KLMR pmax pmax
comp=Z,15nm,1.1s
KIRV Kirov 26.95 35 LR LR 14 11 56.6
comp=Z,97nm,20.0s,baz=239,slow=39
AKTO Aktyubinsk 28.89 55 LR LR 14 13 30.3
comp=Z,51nm,18.4s,baz=252,slow=40
ARCES ARCESS Array B 30.38 4 P **P 14 00 28.2 -0.8**
comp=Z,2.2nm,0.8s,baz=186,slow=10,SNR=5.5
ARCES LR LR 14 14 07.8
comp=Z,44nm,19.4s,baz=191,slow=39
comp=Z,2.2nm,0.8s
ARTI Arti 30.42 43 LR LR 14 13 44.7
comp=Z,63nm,18.6s,baz=275,slow=38
ARTI Arti 30.42 43 *c* **iP P 14 00 29.9 +0.4**
ARTI 14 01 24.8
ARTI S **S 14 05 28.8 +1.8**
ARTI pmax pmax
comp=Z,4.0nm,0.6s
TORD Torodi Ar. Bea 30.66 217 P **P 14 00 32.9 +1.0**
comp=Z,4.4nm,0.7s,baz=30,slow=9.6,SNR=30
comp=Z,4.4nm,0.7s
SVE Sverdlovsk 31.74 43 eP P 14 00 41.4 +0.3
SVE pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 36.69 51 *i* P **P 14 01 24.5 +0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 36.76 51 P **P 14 01 23.9 -0.7**
comp=Z,0.9nm,0.5s,baz=263,slow=5.8,SNR=6.3
BVAR LR LR 14 16 39.0
comp=Z,37nm,18.5s,baz=268,slow=37
comp=Z,0.9nm,0.5s
DBIC Dimbokro 39.44 221 LR LR 14 20 14.0
comp=Z,53nm,18.7s,baz=150,slow=40
AAK Ala-Archa 40.75 67 LR LR 14 23 17.5
comp=Z,27nm,20.1s,baz=267,slow=43
KURBB Kurchatov Arra 41.94 54 P **P 14 02 07.2 -0.6**
comp=Z,0.9nm,0.6s,baz=288,slow=9.7,SNR=10
comp=Z,0.9nm,0.6s
KURK Kurchatov 41.99 54 *i* P **P 14 02 07.1 -1.1**
KURK pmax pmax
comp=Z,5.0nm,1.4s
MK31 Makanchi Array 45.12 59 *ce* **P P 14 02 33.1 -0.4**
MKAR Makanchi Array 45.12 59 P **P 14 02 32.8 -0.7**
comp=Z,1.9nm,0.5s,baz=283,slow=7.4,SNR=26
MKAR LR LR 14 22 54.0
comp=Z,38nm,19.9s,baz=276,slow=38
comp=Z,1.9nm,0.5s
MKAR Makanchi Array 45.12 59 *ce* **P P 14 02 32.7 -0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 45.28 49 P **P 14 02 33.6 -1.0**
comp=Z,3.3nm,0.4s,baz=278,slow=9.2,SNR=17
ZALV LR LR 14 25 29.4
comp=Z,32nm,18.1s,baz=298,slow=41
comp=Z,3.3nm,0.4s
ZALV Zalesovo Beam 45.28 49 *i* P **P 14 02 34.2 -0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
TSUM Tsumeb 58.30 183 LR LR 14 30 34.8
comp=Z,56nm,18.2s,baz=80,slow=37
TIXI Tiksi 58.72 21 LR LR 14 31 39.5
comp=Z,27nm,18.8s,baz=297,slow=38
TIXI Tiksi 58.72 21 *ce* **P P 14 04 12.6 -1.6**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
YAK Yakutsk 64.33 29 LR LR 14 34 43.6
comp=Z,65nm,18.4s,baz=297,slow=38
BOSA Boshof 67.82 175 P **P 14 05 16.1 +1.1**
comp=Z,2.2nm,0.7s,baz=27,slow=6.8,SNR=3.2
comp=Z,2.2nm,0.7s
BILL Bilibino 69.97 13 *i* P **P 14 05 30.8 +2.9**
BILL pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 72.10 340 P **P 14 05 42.5 +1.6**
comp=Z,1.3nm,0.7s,baz=17,slow=15,SNR=6.5
comp=Z,1.3nm,0.7s
MA2 Magadan 73.41 24 LR LR 14 41 59.9
comp=Z,37nm,18.5s,baz=300,slow=39
ULM Lac du Bonnet 74.44 323 P **P 14 05 56.1 +1.2**
comp=Z,3.7nm,0.7s,baz=62,slow=6.2,SNR=6.0
comp=Z,3.7nm,0.7s
ILAR Eielson Array 75.68 354 P **P 14 06 03.6 +1.9**
comp=Z,0.5nm,0.8s,baz=342,slow=3.4,SNR=4.8
comp=Z,0.5nm,0.8s
SJG San Juan 75.74 282 LR LR 14 32 53.0
comp=Z,23nm,20.7s,baz=158,slow=31
KSRS Korea Array 78.97 50 P **P 14 06 20.9 +0.3**
comp=Z,0.9nm,0.6s,baz=309,slow=6.8,SNR=4.2
comp=Z,0.9nm,0.6s
PDAR Pinedale Array 86.28 325 P **P 14 06 59.8 +0.9**
comp=Z,0.2nm,0.3s,baz=26,slow=5.0,SNR=2.7
PDAR LR LR 14 45 48.6
comp=Z,12nm,18.6s,baz=47,slow=36
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 93.79 313 P **P 14 07 35.0 +0.8**
comp=Z,0.6nm,0.9s,baz=28,slow=8.5,SNR=4.0
comp=Z,0.6nm,0.9s
WRA Warramunga Arr 121.08 91 PKP **PKPdf 14 13 09.5 -0.2**
comp=Z,0.6nm,1.1s,baz=332,slow=2.7,SNR=1.9
ASAR Alice Springs 122.79 95 PKP **PKPdf 14 13 12.3 -0.7**
comp=Z,0.2nm,0.7s,baz=305,slow=1.8,SNR=5.4

JMA 14 14:03:54.1±0.2, 24.0N±0.7×122.7E±0.9, h29km, MV2.3/9,

NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.56**	**26**	P	Pb	14 04 05.2	-0.3
JYNG				*e*S	Sb	14 04 12.6	-0.5
YOJ	**Yonaguni jima**	**0.59**	**30**	P	Pb	14 04 05.9	-0.2
YOJ				*e*S	Sb	14 04 13.9	-0.2
IRIF	**Iriomote-Funau**	**1.03**	**68**	P	Pn	14 04 12.7	+0.1
IRIF				S	Sb	14 04 26.4	-0.1
HATJ	**Hateruma jima**	**1.03**	**84**	P	Pn	14 04 12.2	-0.4
HATJ				*e*S	Sn	14 04 25.1	-1.1
JKRS	**Kuro-shima**	**1.25**	**76**	P	Pb	14 04 16.5	-0.6
JKRS				*e*S	Sn	14 04 31.9	+0.5
JIJ	**Ishigaki jima**	**1.40**	**73**	P	Pn	14 04 18.3	+0.6
JIJ				S	Sn	14 04 35.7	+0.5
JISG	**Ishigakijimahi**	**1.62**	**67**	P	Pb	14 04 22.3	-1.0
JISG				*e*S	Sb	14 04 42.1	-1.3

TAP 14 14:04:03.8, 24.58N×121.34E, h12km, ML2.0, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YHNB	**Yeheng**	**0.10**	**18**	P	Pg	14 04 07.1	+0.4
YHNB				S	Sg	14 04 08.6	-0.2
NNSB	**Datong**	**0.15**	**166**	P	Pb	14 04 08.4	-0.2
NNSB				*e*S	Sg	14 04 10.5	+0.4
LATG	**Datong**	**0.17**	**105**	*i* P	Pb	14 04 09.0	0.0
LATG				S	Sg	14 04 11.9	+1.3
ENTT	**Nioudou**	**0.21**	**73**	*i* P	Pb	14 04 09.3	-0.3
NFF	**Wufeng Townshi**	**0.21**	**284**	P	Pb	14 04 09.2	-0.4
NFF				S	Sg	14 04 12.3	+0.7
NWLT	**Wulai**	**0.24**	**36**	P	Pb	14 04 09.6	-0.6
NWLT				S	Sg	14 04 12.8	+0.3
KSHI	**Guanxi Townshi**	**0.25**	**322**	*e*P	Pb	14 04 10.5	+0.3
KSHI				*i* S	Sg	14 04 14.5	+1.9
FUSB	**Fushanzhiwuyua**	**0.29**	**51**	P	Pb	14 04 10.5	-0.4
FUSB				S	Sg	14 04 14.4	+0.7
LIOB	**Emei**	**0.30**	**283**	P	Pb	14 04 11.3	+0.2
LIOB				*e*S	Sb	14 04 15.7	-0.4
NSTT	**Nanjuang**	**0.32**	**280**	P	Pb	14 04 11.3	0.0
NSTT				S	Sb	14 04 15.8	-0.6
TWE	**Neicheng**	**0.33**	**64**	P	Pb	14 04 11.6	0.0
FUSS	**Fushou**	**0.34**	**195**	*e*P	Pb	14 04 11.9	0.0
TWT	**Tachien**	**0.36**	**205**	*e*S	Sg	14 04 16.4	+0.5
ETLH	**Xiulin Townshi**	**0.39**	**161**	*e*P	Pb	14 04 13.1	+0.4
ETLH				*e*S	Sb	14 04 18.3	-0.4
ENA	**Nanau**	**0.39**	**112**	*e*P	Pb	14 04 12.9	+0.3
ENA				*e*S	Sb	14 04 18.5	-0.1
WHF	**Hehuan Shan**	**0.44**	**189**	*e*S	Sg	14 04 19.3	+0.8
ESAO	**Su ao**	**0.46**	**90**	*e*P	Pb	14 04 13.4	-0.3
TWC	**Suao**	**0.46**	**86**	*e*P	Pb	14 04 13.7	-0.1
NACB	**Ninganchiao**	**0.46**	**150**	*e*P	Pb	14 04 13.4	-0.4
WHP	**Taichung City**	**0.47**	**230**	*e*P	Pb	14 04 13.9	-0.1
WHP				*e*S	Sg	14 04 19.6	+0.3
TIPB	**Shuangxi**	**0.59**	**48**	*e*P	Pb	14 04 16.2	+0.2
EGS		**0.60**	**64**	*e*P	Pb	14 04 16.5	+0.4
WUSB	**Renai**	**0.62**	**199**	P	Pb	14 04 16.5	-0.1
WUSB				*e*S	Sg	14 04 24.3	+0.2
OWD	**Renai**	**0.64**	**194**	*e*P	Pb	14 04 16.7	-0.3
OWD				*e*S	Sg	14 04 23.8	-0.9
SXI1	**Grass Mountain**	**0.70**	**43**	*e*P	Pb	14 04 18.6	+0.6
TWB1	**Santiao Chiao**	**0.73**	**54**	*e*P	Pb	14 04 18.7	+0.4
SSLB	**Suanglung**	**0.86**	**204**	*e*P	Pb	14 04 20.8	0.0

IDC 14 14:43:37.9±1.1, 3.85N×126.16E, h0km, mb3.6/6, mbtmp3.6/6, MS3.4/4, Error ellipse: s-maj=59.1km s-min=19.1km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.82**	**181**	P	P	14 48 31.9	0.0
	1.2nm,0.7s,baz=0.3,slow=10.0,SNR=7.1						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**24.98**	**162**	P	P	14 49 03.6	+0.2
	2.1nm,0.5s,baz=342,slow=10.0,SNR=35						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**28.38**	**165**	P	P	14 49 33.9	-0.2
	0.3nm,0.4s,baz=341,slow=6.9,SNR=18						
	0.3nm,0.4s						
JHJ	**Hachijo jima 2**	**31.78**	**22**	LR	LR	15 01 53.9	
	comp=Z,172nm,21.4s,baz=58,slow=34						
PETK	**Petropavlovsk-**	**55.53**	**22**	P	P	14 53 14.9	+0.1
	2.0nm,0.8s,baz=224,slow=8.1,SNR=3.0						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**57.13**	**325**	P	P	14 53 26.8	+0.4
	0.2nm,0.4s,baz=126,slow=6.2,SNR=4.7						
	0.2nm,0.4s						
YAK	**Yakutsk**	**58.10**	**2**	LR	LR	15 21 03.3	
	comp=Z,18nm,18.3s,baz=254,slow=39						
KURBB	**Kurchatov Arra**	**61.33**	**328**	P	P	14 53 54.6	-0.7
	0.2nm,0.5s,baz=131,slow=6.6,SNR=1.7						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**91.45**	**332**	LR	LR	15 42 49.9	
	comp=Z,20nm,18.0s,baz=234,slow=39						
NOA	**NORSAR Array B**	**98.42**	**334**	LR	LR	15 45 18.0	
	comp=Z,8.5nm,18.2s,baz=195,slow=38						

*NOU **14** 14:53:31.3, 31.10S×179.52W, h545km, mb3.8/6, Kermadec Islands Region*
*IDC **14** 14:53:37.8±7.4, 31.48S×179.44E, h455km±92km, mb3.1/3, mbtmp4.1/4, Error ellipse: s-maj=96.6km s-min=39.5km az=7.0*
*WEL **14** 14:53:43.0±1.1, 32.5±6.1°×18.0W±1.5, h416km±16km, M4.0/9, mB4.3/6, MLv4.5/9, Mw(mB)3.4/6, Error ellipse: s-maj=19.8km s-min=5.6km az=104.8, confirmed*
ISC 14 14:53:37.8±1.1, 31.50S±0.09×179.38E±0.1, h450km, n33, σ2°77/45, mb3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.96**	**42**	P	**P**	**14 54 46.1**	**+1.4**
GLKZ				S	**S**	**14 54 51.1**	**+2.2**
GRZ	**Great Barrier**	**5.97**	**216**	P	**P**	**14 55 15.5**	**+3.8**
MXZ	**Matakaoa Point**	**6.18**	**191**	P	**P**	**14 55 16.1**	**+2.4**
MXZ	**Matakaoa Point**	**6.18**	**191**	P	**P**	**14 55 16.2**	**+2.4**
MXZ				S	**S**	**14 56 32.9**	**+0.6**
KUZ	**Kuaotunu**	**6.24**	**212**	P	**P**	**14 55 18.4**	**+4.0**
KUZ	**Kuaotunu**	**6.24**	**212**	P	**P**	**14 55 18.5**	**+4.0**
WCZ	**Waipu Caves**	**6.36**	**224**	P	**P**	**14 55 19.4**	**+3.8**
OUZ	**Omahuta**	**6.39**	**233**	P	**P**	**14 55 19.6**	**+3.5**
OUZ	**Omahuta**	**6.39**	**233**	P	**P**	**14 55 19.5**	**+3.5**
WMGZ	**Waiomatatini S**	**6.41**	**190**	P	**P**	**14 55 19.3**	**+3.1**
WMGZ				S	**S**	**14 56 38.8**	**+2.0**
HAZ	**Te Kaha**	**6.46**	**194**	P	**P**	**14 55 19.3**	**+2.5**
HAZ				S	**S**	**14 56 39.0**	**+1.2**
PKGZ	**Pakihiroa**	**6.51**	**192**	P	**P**	**14 55 17.4**	**+0.1**
PKGZ				S	**S**	**14 56 36.3**	**-2.5**
WIAZ	**Waiheke Island**	**6.55**	**215**	P	**P**	**14 55 21.9**	**+4.2**
MBAZ	**Motutapu North**	**6.65**	**216**	P	**P**	**14 55 23.0**	**+4.2**
PUZ	**Puketiti**	**6.68**	**191**	P	**P**	**14 55 22.0**	**+2.9**
PUZ				S	**S**	**14 56 42.1**	**+0.1**
RUGZ	**Raukumara Rang**	**6.69**	**195**	P	**P**	**14 55 21.6**	**+2.3**
RUGZ				S	**S**	**14 56 41.8**	**-0.5**
ETAZ	**East Tamaki Re**	**6.78**	**215**	P	**P**	**14 55 24.3**	**+4.1**
MKAZ	**Moumakai**	**6.79**	**213**	P	**P**	**14 55 24.4**	**+4.2**
TWGZ	**Tauwhareparae**	**6.83**	**192**	P	**P**	**14 55 22.6**	**+1.9**
TWGZ				S	**S**	**14 56 44.3**	**-0.7**
AWAZ	**Awhitu Peninsu**	**7.01**	**216**	P	**P**	**14 55 26.7**	**+4.1**
MWZ	**Matawai**	**7.08**	**195**	P	**P**	**14 55 25.8**	**+2.6**
MWZ				S	**S**	**14 56 49.3**	**-0.3**
CNGZ	**Carnagh Statio**	**7.09**	**190**	P	**P**	**14 55 26.7**	**+3.4**
URZ	**Urewera**	**7.10**	**197**	P	**P**	**14 55 24.4**	**+1.0**
	19nm,0.3s,baz=351,slow=18,SNR=58						
URZ				S	**S**	**14 56 46.9**	**-3.2**
	9.9nm,0.5s,baz=49,slow=19,SNR=14						
URZ	**Urewera**	**7.10**	**197**	P	**P**	**14 55 25.5**	**+2.0**
URZ	**Urewera**	**7.10**	**197**	P	**P**	**14 55 24.7**	**+1.3**
URZ				S	**S**	**14 56 48.2**	**-1.8**
TOZ	**Tahuroa Road**	**7.16**	**209**	P	**P**	**14 55 28.1**	**+4.0**
RAGZ	**Rawiri**	**7.25**	**195**	P	**P**	**14 55 27.2**	**+2.0**
RAGZ				S	**S**	**14 56 54.4**	**+1.2**
BKZ	**Black Stump Fm**	**8.12**	**199**	P	**P**	**14 55 34.7**	**+0.3**
KHZ	**Kahutara**	**11.99**	**203**	P	**P**	**14 56 16.0**	**-0.4**
ASAR	**Alice Springs**	**41.20**	**269**	P	**P**	**15 00 38.9**	**-3.1**
	1.1nm,0.6s,baz=106,slow=7.2,SNR=34						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**42.29**	**275**	P	**P**	**15 00 47.3**	**-3.3**
	1.7nm,0.4s,baz=112,slow=7.9,SNR=38						
	1.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.50**	**272**	P	**P**	**15 01 51.5**	**-1.9**
	1.1nm,0.9s,baz=135,slow=6.9,SNR=1.2						
	1.1nm,0.9s						
FINES	**FINESS Array B**	**145.49**	**338**	PKPbc	**PKPdf**	**15 12 21.9**	**-1.0**
	2.4nm,0.9s,baz=43,slow=3.0,SNR=5.7						

*GUC **14** 15:06:16.7±0.8, 28.68S×71.45W, h28km±5km, ML3.1*
*SJA **14** 15:06:17.5±0.7, 28.83S×71.73W, h40km±999km, ML3.1, MW3.5*
ISC 14 15:06:14.6±1.7, 28.67S±0.04×71.52W±0.07, h8km±11km, n16, σ1°41/30, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.61**	**40**	*e*P	**Pg**	**15 06 27.2**	**+0.8**
AC04				*e*S	**Sg**	**15 06 34.6**	**+0.2**
AC04				IAML		15 06 35.1	
	comp=N,1μm,0.1s						
LCO	**Las Campanas**	**0.79**	**115**	*e*P	**Pg**	**15 06 30.0**	**+0.1**
LCO				*e*S	**Sg**	**15 06 40.5**	**+0.2**
LCO				IAML		15 06 41.1	
	comp=N,3μm,0.2s						
CO05	**La Serena**	**1.27**	**169**	*e*P	**Pb**	**15 06 38.8**	**+0.1**
CO05				*e*S	**Sb**	**15 06 54.5**	**-0.7**
CO05				IAML		15 06 56.4	
	comp=E,613nm,0.3s						
GO03	**Copiapo**	**1.56**	**47**	*e*P	**Pn**	**15 06 42.6**	**-0.2**
GO03				*e*S	**Sn**	**15 07 02.9**	**-0.4**
GO03				IAML		15 07 05.4	
	comp=N,310nm,0.3s						
GO04	**Tololo Observa**	**1.62**	**157**	*e*P	**Pn**	**15 06 44.2**	**+0.5**
GO04				*e*S	**Sb**	**15 07 05.0**	**-0.6**
AC06	**Mina Casimiro**	**1.67**	**38**	*e*P	**Pn**	**15 06 44.4**	**+0.2**
AC06				*e*S	**Sn**	**15 07 05.9**	**+0.1**
AC06				IAML		15 07 08.0	
	comp=E,221nm,0.3s						
CO01	**Juntas del Tor**	**1.80**	**137**	*e*P	**Pb**	**15 06 47.3**	**-0.7**
CO01				*e*S	**Sn**	**15 07 09.7**	**+0.3**
CO03	**El Pedregal**	**2.28**	**162**	*e*P	**Pn**	**15 06 53.4**	**+0.8**
CO03				IAML		15 07 30.5	
	comp=E,178nm,0.7s						
AROD	**Rodeo**	**2.33**	**130**	*e*P	**Pb**	**15 06 56.2**	**-0.8**
AROD				*e*S	**Sb**	**15 07 26.0**	**-0.1**
CO02	**Combarbal**	**2.56**	**170**	*e*P	**Pn**	**15 06 57.1**	**+0.6**
CO02				*e*S	**Sb**	**15 07 30.1**	**-2.6**
ACDV	**Cuesta del Vie**	**2.57**	**126**	*e*P	**Pb**	**15 06 60.0**	**-1.1**
ACDV				*e*S	**Sb**	**15 07 31.0**	**-2.0**
ACDV				IAML		15 07 41.9	
	comp=Z,42nm,1.0s						
AGUA	**GUANDACOL**	**2.77**	**108**	*e*P	**Pb**	**15 07 03.7**	**-0.8**
AGUA				*e*S	**Sb**	**15 07 37.7**	**-1.0**
AGUA				IAML		15 07 45.1	
	comp=Z,80nm,0.3s						
AC02	**Maricunga**	**2.80**	**50**	*e*P	**Pn**	**15 07 01.1**	**+0.9**
AC02				IAML		15 07 46.7	
	comp=E,98nm,0.6s						
ACCO	**Cerro Coronel**	**2.87**	**132**	*e*P	**Pb**	**15 07 04.5**	**-1.7**
ACCO				*e*S	**Sb**	**15 07 38.4**	**-3.2**
VCA	**Vinchina**	**2.91**	**92**	*e*P	**Pb**	**15 07 06.2**	**-0.7**
VCA				*e*S	**Sb**	**15 07 42.2**	**-0.6**
VCA				IAML		15 07 52.8	
	comp=Z,50nm,0.4s						
AVFE	**Valle Fertil**	**4.05**	**120**	*e*P	**Pn**	**15 07 19.4**	**+2.3**
AVFE				*e*S	**Sn**	**15 08 08.5**	**+3.7**
AVFE				IAML		15 08 18.4	
	comp=Z,40nm,0.5s						

*IDC **14** 15:10:15.7±6.2, 29.28N×50.91E, h0km, mb3.7/9, mbtmp3.7/11, ML3.2/2, MS2.7/1, Error ellipse: s-maj=120.0km s-min=26.3km az=3.0*
*TEH **14** 15:10:22.6, 29.81N×51.05E, h15km±23km*
*SGS **14** 15:10:26.6, 29.49N×50.97E, h7km, Ml3.9*
ISC 14 15:10:21.7±0.7, 29.81N±0.04×50.99E±0.04, h10km, n48, σ1°66/47, mb3.7/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAZ2	**Kazeron-Fars-I**	**0.61**	**108**	Pg	**Pg**	**15 10 34.5**	**+0.9**
ABEH	**Behbahan**	**1.02**	**321**	Pg	**Pg**	**15 10 42.9**	**+1.7**
KLNJ	**Kolanjah**	**1.30**	**23**	Pg	**Pn**	**15 10 46.6**	**+0.3**
SHI	**Shiraz**	**1.33**	**97**	Pg	**Pn**	**15 10 47.1**	**+0.6**
DSBU	**Dashti - Bushe**	**1.46**	**171**	Pg	**Pn**	**15 10 49.6**	**+1.5**
IBRJ	**Brojen**	**2.11**	**6**	Pn	**Pn**	**15 10 59.0**	**+1.7**
QIR1	**Qir**	**2.23**	**126**	Pn	**Pn**	**15 11 00.5**	**+1.7**
ZNGN	**Zangian**	**2.31**	**357**	Pn	**Pn**	**15 11 02.0**	**+2.0**
IRAM	**Ramesheh**	**2.33**	**31**	Pn	**Pn**	**15 11 02.0**	**+1.8**
JHBN	**Jahan bin**	**2.43**	**353**	Pn	**Pn**	**15 11 03.8**	**+2.0**
KFJS2	**Khafji**	**2.70**	**238**	S	**Sn**	**15 11 36.2**	**-1.8**
KFJS2	**Khafji**	**2.70**	**238**	P	**Pn**	**15 11 06.7**	**+1.6**
IGAR	**Gharneh**	**2.74**	**19**	Pn	**Pn**	**15 11 07.7**	**+1.8**
IPIR	**Pirpir**	**2.87**	**358**	Pn	**Pn**	**15 11 09.5**	**+1.8**
KFJS1	**Al Wafrah**	**3.12**	**240**	S	**Sn**	**15 11 48.1**	**-0.2**
KFJS1	**Al Wafrah**	**3.12**	**240**	P	**Pn**	**15 11 12.8**	**+1.8**
IZEF	**Zefreh**	**3.28**	**20**	Pn	**Pn**	**15 11 15.7**	**+2.2**
IMEH	**Mehriz**	**3.50**	**62**	Pn	**Pn**	**15 11 18.6**	**+2.2**
IKLH	**Kolahrood**	**3.54**	**8**	Pn	**Pn**	**15 11 18.6**	**+1.7**
ICHK	**Chekchek**	**3.81**	**49**	Pn	**Pn**	**15 11 21.6**	**+1.0**
QAMS	**Qamsar**	**3.93**	**5**	Pn	**Pn**	**15 11 24.6**	**+2.2**
ANAR	**Anarak**	**4.10**	**34**	Pn	**Pn**	**15 11 26.2**	**+1.6**
QYSM	**Um Kedad**	**4.10**	**243**	P	**Pg**	**15 11 39.5**	**-0.8**
KRSH	**Karshahi**	**4.26**	**13**	Pn	**Pn**	**15 11 28.7**	**+1.8**
SMAN	**Sihmah**	**4.45**	**216**	P	**Pg**	**15 11 49.8**	**+2.9**
BDRS	**Dareh Seyedi**	**4.51**	**337**	Pn	**Pn**	**15 11 32.1**	**+1.8**
ISFB	**Sefidab**	**4.65**	**13**	Pn	**Pn**	**15 11 33.8**	**+1.7**
KRBR	**Kerman**	**5.01**	**87**	Pn	**Pn**	**15 11 38.9**	**+1.6**
RQBS	**RQBS**	**5.06**	**242**	P	**Pn**	**15 11 38.5**	**+0.8**
IVRN	**Varamin**	**5.21**	**7**	Pn	**Pn**	**15 11 40.9**	**+1.1**
NHRD	**Haradh**	**5.36**	**200**	P	**Pn**	**15 11 43.7**	**+1.9**
IDMV	**Damavand**	**5.82**	**8**	Pn	**Pn**	**15 11 49.9**	**+1.6**
IGHG	**Ghaleghazi**	**5.87**	**321**	Pn	**Pn**	**15 11 51.6**	**+2.7**
IDHR	**Dehrash**	**6.25**	**323**	Pn	**Pn**	**15 11 56.6**	**+2.5**
IGZV	**Ghazvin**	**6.59**	**355**	Pn	**Pn**	**15 12 00.5**	**+1.6**
IKIA	**Kiasar**	**6.77**	**19**	Pn	**Pn**	**15 12 03.3**	**+2.0**
GNI	**Garni**	**11.52**	**335**	LR	LR	15 18 09.2	
	comp=Z,38nm,20.8s,baz=94,slow=40						
KBZ	**Khabaz**	**15.32**	**337**	Pn	**P**	**15 14 02.8**	**+0.1**
	0.2nm,0.3s,baz=153,slow=3.9,SNR=3.7						
	2.8nm,0.8s						
BRTR	**Keskin Array B**	**17.33**	**309**	P	**Pn**	**15 14 23.9**	**+0.1**
	0.1nm,0.3s,baz=134,slow=12,SNR=4.0						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**26.50**	**328**	P	**P**	**15 15 57.1**	**-2.0**
	0.3nm,0.4s,baz=113,slow=8.5,SNR=4.5						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**27.21**	**26**	P	**P**	**15 16 05.5**	**0.0**
	0.8nm,0.5s,baz=211,slow=8.4,SNR=4.4					

WRA	**Warramunga Arr**	**48.73**	**262**	P		P		15 24 32.1	-1.5
	0.9nm,0.7s,baz=97,slow=7.6,SNR=30 0.9nm,0.7s								
LPAZ	**La Paz**	**97.53**	**111**	P		P		15 29 24.1	-0.2
	5.9nm,1.0s,baz=259,slow=5.8,SNR=8.5 5.9nm,1.0s								

IDC 14 15:23:59.3±3.4, 4°27'S×151°44'E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=168.9km s-min=27.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.81**	**226**	P	P	15 29 04.9	+0.8
	0.4nm,0.5s,baz=50,slow=10,SNR=4.7 0.4nm,0.5s						
ASAR	**Alice Springs**	**25.66**	**220**	P	P	15 29 30.4	-0.6
	0.4nm,0.7s,baz=55,slow=9.6,SNR=12 0.4nm,0.7s						
PETK	**Petropavlovsk-**	**57.41**	**4**	P	P	15 33 49.6	0.0
	1.7nm,0.6s,baz=160,slow=5.4,SNR=4.8 1.7nm,0.6s						

*IDC **14** 15:27:48.0±2.3, 37°57'N×21°07'E, h0km, mb3.5/7, mbtmp3.5/8, ML3.7/1, Error ellipse: s-maj=49.7km s-min=27.2km az=17.0*
*THE **14** 15:27:51.3, 37°N±1'×2°1'E±°, h10km±1km, M3.7/16, MLh3.7/16*
*ATH **14** 15:27:51.0, 37°40'N×20°73'E, h8km±1km, ML3.7/19, Manual Solution by M.Charalampakis First location: 2019/08/14 15:28:44, This location: 2019/08/14 16:55:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
ISC 14 15:27:51.1±1.2, 37°41'N±0°04×20°77'E±0°04, h17km±6km, n76, σ1°19/101, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**8**	P	**Pg**	**15 27 56.7**	**-0.2**
KRI1				S	**Sg**	**15 28 00.7**	**-0.1**
LTHK	**Lithakia**	**0.30**	**10**	P	**Pg**	**15 27 57.4**	**-0.3**
LTHK				S	**Sg**	**15 28 02.1**	**-0.1**
LTHK	**Lithakia**	**0.30**	**10**	P	**Pg**	**15 27 57.4**	**-0.3**
LTHK				S	**Sg**	**15 28 02.0**	**-0.1**
ZAK2	**Zakynthos**	**0.39**	**15**	P	**Pb**	**15 28 00.4**	**+0.8**
ZAK2				S	**Sb**	**15 28 07.0**	**+1.6**
KYPS	**Kipseli, Zakin**	**0.41**	**6**	P	**Pg**	**15 27 59.5**	**0.0**
KYPS				S	**Sg**	**15 28 05.5**	**+0.2**
ORTH	**Orthonies,Zaky**	**0.45**	**352**	P	**Pg**	**15 27 59.9**	**-0.3**
ORTH				S	**Sg**	**15 28 06.4**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.56**	**31**	P	**Pg**	**15 28 02.0**	**-0.3**
CLEM				S	**Sg**	**15 28 09.9**	**0.0**
PSDA	**Pessada-Kefalo**	**0.72**	**348**	P	**Pg**	**15 28 04.9**	**-0.3**
PSDA				S	**Sb**	**15 28 15.8**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.72**	**348**	P	**Pg**	**15 28 04.6**	**-0.7**
PSDA				S	**Sg**	**15 28 13.6**	**-1.2**
VLS	**Valsamata**	**0.78**	**349**	P	**Pg**	**15 28 05.8**	**-0.6**
VLS				S	**Sb**	**15 28 17.6**	**+1.1**
VLS	**Valsamata**	**0.78**	**349**	P	**Pg**	**15 28 05.4**	**-1.0**
ARG2	**Argostoli**	**0.80**	**344**	P	**Pg**	**15 28 06.7**	**-0.1**
ARG2				S	**Sb**	**15 28 18.8**	**+1.7**
RLS	**Riolos of Patr**	**0.85**	**40**	P	**Pg**	**15 28 06.7**	**-1.0**
RLS				S	**Sb**	**15 28 19.5**	**+1.0**
RLS	**Riolos of Patr**	**0.85**	**40**	P	**Pg**	**15 28 06.5**	**-1.2**
RLS				S	**Sg**	**15 28 18.9**	**-0.1**
AXS	**Araxos**	**0.92**	**31**	P	**Pg**	**15 28 07.9**	**-1.1**
AXS				S	**Sb**	**15 28 21.6**	**+1.1**
AXS	**Araxos**	**0.92**	**31**	P	**Pg**	**15 28 07.7**	**-1.3**
AXS				S	**Sb**	**15 28 21.4**	**+0.9**
DRO	**Drossia**	**0.92**	**54**	P	**Pg**	**15 28 08.3**	**-0.7**
DRO				S	**Sb**	**15 28 22.2**	**+1.6**
ITM	**Ithomi**	**0.95**	**104**	P	**Pg**	**15 28 09.1**	**-0.5**
ITM				S	**Sb**	**15 28 22.9**	**+1.6**
ITM	**Ithomi**	**0.95**	**104**	P	**Pg**	**15 28 08.7**	**-0.9**
FSK	**Fiskardo**	**1.06**	**351**	P	**Pg**	**15 28 10.4**	**-1.3**
FSK				S	**Sn**	**15 28 26.5**	**+1.0**
FSK	**Fiskardo**	**1.06**	**351**	P	**Pg**	**15 28 10.4**	**-1.3**
EVGI	**Lefkada island**	**1.21**	**356**	P	**Pb**	**15 28 12.9**	**-0.7**
EVGI				S	**Sn**	**15 28 30.8**	**+1.5**
EVGI	**Lefkada island**	**1.21**	**356**	P	**Pb**	**15 28 13.0**	**-0.7**
EVGI				S	**Sb**	**15 28 29.6**	**+0.6**
KLV	**Kalavryta, Ach**	**1.26**	**59**	P	**Pn**	**15 28 14.0**	**0.0**
KLV				S	**Sn**	**15 28 32.4**	**+1.7**
NYDR	**Nydri-Lefkada**	**1.30**	**358**	P	**Pn**	**15 28 14.7**	**+0.2**
NYDR				S	**Sn**	**15 28 33.3**	**+1.9**
PVO	**Paravola**	**1.34**	**26**	P	**Pn**	**15 28 15.6**	**+0.5**
GUR	**Goura**	**1.35**	**67**	P	**Pn**	**15 28 14.9**	**-0.4**
EFP	**Efpalio**	**1.36**	**41**	P	**Pn**	**15 28 15.2**	**0.0**
EFP				S	**Sg**	**15 28 34.6**	**-0.3**
EFP	**Efpalio**	**1.36**	**41**	P	**Pn**	**15 28 15.2**	**0.0**
EFP				S	**Sg**	**15 28 35.0**	**+0.1**
LKD2	**Lefkada island**	**1.38**	**356**	P	**Pn**	**15 28 16.0**	**+0.4**
LKD2				S	**Sb**	**15 28 34.4**	**+0.6**
LKD2	**Lefkada island**	**1.38**	**356**	P	**Pn**	**15 28 15.9**	**+0.3**
TSLK	**Tsoukalades, L**	**1.42**	**356**	P	**Pn**	**15 28 17.1**	**+1.0**
TSLK				S	**Sg**	**15 28 36.5**	**-0.4**
TSLK	**Tsoukalades, L**	**1.42**	**356**	P	**Pn**	**15 28 17.1**	**+1.0**
SERG	**Sergoula**	**1.43**	**45**	P	**Pn**	**15 28 16.6**	**+0.3**
SERG				S	**Sg**	**15 28 36.8**	**-0.5**
KALE	**Kalithea**	**1.46**	**47**	P	**Pn**	**15 28 17.4**	**+0.7**
ANX	**Ano Chora**	**1.49**	**37**	P	**Pn**	**15 28 17.8**	**+0.6**
LOUT	**Loutraki**	**1.84**	**71**	P	**Pn**	**15 28 23.9**	**+1.4**
LTK	**Loutraki**	**1.85**	**70**	P	**Pn**	**15 28 23.4**	**+1.4**
VLI	**Veliai**	**1.86**	**111**	P	**Pn**	**15 28 23.9**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.93**	**33**	P	**Pb**	**15 28 26.4**	**+0.6**
TETR	**Tetrakomo, Epi**	**1.97**	**11**	P	**Pb**	**15 28 26.2**	**-0.3**
AXAR	**Agios Charalam**	**2.01**	**47**	P	**Pb**	**15 28 27.5**	**+0.2**
MET2	**Kameni Chora,**	**2.04**	**84**	P	**Pn**	**15 28 25.4**	**+0.7**
MET6	**Megalochori,Me**	**2.06**	**84**	P	**Pn**	**15 28 26.0**	**+1.0**
MET5	**Makryloggos,Me**	**2.07**	**83**	P	**Pn**	**15 28 27.0**	**+1.9**
VIL2	**Platees**	**2.13**	**67**	P	**Pn**	**15 28 26.9**	**+1.0**
LKR	**Lokris**	**2.15**	**54**	P	**Pn**	**15 28 27.8**	**+1.6**
ATAL	**Atalanti**	**2.19**	**54**	P	**Pn**	**15 28 28.7**	**+2.0**
JAN	**Janina**	**2.25**	**2**	P	**Pb**	**15 28 30.5**	**-0.7**
PARN3	**Mandra,Attica,**	**2.27**	**72**	P	**Pn**	**15 28 29.1**	**+1.4**
PARN2	**Moni Osiou Mel**	**2.27**	**69**	P	**Pn**	**15 28 29.3**	**+1.5**
MAGU	**Magoula**	**2.27**	**72**	P	**Pn**	**15 28 29.5**	**+1.6**
STFN	**Stefani**	**2.33**	**70**	P	**Pn**	**15 28 30.0**	**+1.4**
THL	**Klokotos Trika**	**2.36**	**24**	P	**Pn**	**15 28 31.1**	**+2.1**
PARN1	**Fyli,Attica,Gr**	**2.40**	**72**	P	**Pn**	**15 28 31.1**	**+1.5**
ATHU	**Athens Univers**	**2.46**	**76**	P	**Pn**	**15 28 31.3**	**+1.0**
PTL	**Penteli**	**2.54**	**74**	P	**Pn**	**15 28 32.6**	**+1.2**
ANKY	**Antikythira Is**	**2.55**	**126**	P	**Pn**	**15 28 33.7**	**+2.1**
DION	**Dionisos Attik**	**2.59**	**74**	P	**Pn**	**15 28 33.1**	**+0.8**
NEO	**Neokhori**	**2.70**	**45**	P	**Pn**	**15 28 34.9**	**+1.2**
PENT	**Pentalofos**	**2.80**	**6**	P	**Pn**	**15 28 38.1**	**+3.0**
KYMI	**Kymi, Euboea I**	**2.90**	**64**	P	**Pn**	**15 28 37.5**	**+1.1**
KARY	**Karystos**	**2.97**	**77**	P	**Pn**	**15 28 38.1**	**+0.7**
KZN	**Kozani**	**3.00**	**15**	P	**Pn**	**15 28 39.9**	**+2.0**
LIT	**Litokhoron**	**3.00**	**26**	P	**Pn**	**15 28 39.6**	**+1.7**
NEST	**Nestorio**	**3.01**	**4**	P	**Pn**	**15 28 41.0**	**+3.0**
SCTE	**Santa Cesarea**	**3.21**	**327**	P	**Pn**	**15 28 42.4**	**+1.7**
FNA	**Florina**	**3.40**	**8**	P	**Pn**	**15 28 44.9**	**+1.4**
ESDC	**Sonseca Array**	**19.47**	**284**	P	**P**	**15 32 17.9**	**+0.9**
	baz=86,slow=11,SNR=5.8 1.4nm,1.0s						
HFS	**Hagfors**	**23.19**	**351**	P	**P**	**15 32 54.4**	**-2.3**
	1.4nm,0.5s,baz=163,slow=10,SNR=2.0 1.4nm,0.5s						
FINES	**FINESS Array B**	**24.29**	**6**	P	**P**	**15 33 05.3**	**-1.9**
	2.3nm,0.8s,baz=179,slow=9.0,SNR=5.0 2.3nm,0.8s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**15 33 07.9**	**-0.5**
	0.4nm,0.6s,baz=159,slow=11,SNR=1.4 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.53**	**53**	P	P	15 35 40.8	-4.7
	0.3nm,0.6s,baz=280,slow=8.6,SNR=2.5 0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.54**	**58**	P	**P**	**15 36 08.1**	**-1.6**
	0.1nm,0.4s,baz=271,slow=8.5,SNR=5.5 0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**46.06**	**48**	P	P	15 36 10.2	-3.5
	0.2nm,0.3s,baz=263,slow=8.0,SNR=2.0 0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**69.80**	**82**	P	**P**	**15 38 59.3**	**-1.5**
	0.4nm,0.3s,baz=296,slow=6.8,SNR=4.0 0.4nm,0.3s						

*IDC **14** 15:53:52.4±0.8, 49°91'S×122°61'E, h0km, mb3.9/8, mbtmp3.9/8, MS3.5/12, Error ellipse: s-maj=37.6km s-min=17.3km az=101.0*
ISC 14 15:53:53.9±0.8, 49°9S±0°1×122°6E±0°2, h10km, n19, σ1°08/10, mb3.7/8, MS3.5/11, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.25**	**334**	T	T	16 14 30.0	
	baz=159,slow=74,SNR=1240						
H01W2	**Cape Leeuwin H**	**16.25**	**334**	T	T	16 14 30.0	
	baz=159,slow=74,SNR=1295						
H01W3	**Cape Leeuwin H**	**16.27**	**334**	T	T	16 14 30.0	
	baz=159,slow=74,SNR=1270						
NWAO	**Narrogin (SRO)**	**17.45**	**345**	LR	LR	16 03 31.1	
	comp=Z,55nm,20.2s,baz=253,slow=33						
STKA	**Stephens Creek**	**22.92**	**45**	P	**P**	**15 58 59.6**	**+1.6**
	2.0nm,0.7s,baz=162,slow=16,SNR=3.7						
STKA				LR	LR	16 07 11.8	
	comp=Z,47nm,18.0s,baz=205,slow=35 2.0nm,0.7s						
ASAR	**Alice Springs**	**27.66**	**23**	P	**P**	**15 59 41.5**	**-0.3**
	1.0nm,0.8s,baz=200,slow=7.8,SNR=13						
ASAR				LR	LR	16 09 20.3	
	comp=Z,151nm,21.5s,baz=176,slow=34 1.0nm,0.8s						
WRA	**Warramunga Arr**	**31.34**	**22**	P	**P**	**16 00 13.1**	**-1.4**
	0.6nm,1.0s,baz=193,slow=11,SNR=3.2						
WRA				LR	LR	16 11 55.9	
	comp=Z,150nm,20.7s,baz=32,slow=35 0.6nm,1.0s						
VNDA	**Vanda**	**31.38**	**165**	P	**P**	**16 00 13.4**	**-0.9**
	0.4nm,0.4s,baz=261,slow=17,SNR=9.2						
VNDA				LR	LR	16 12 17.2	
	comp=Z,90nm,18.3s,baz=325,slow=35 0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**31.84**	**5**	LR	LR	16 11 55.7	
	comp=Z,100nm,18.8s,baz=194,slow=34						
MAW	**Mawson**	**33.95**	**216**	LR	LR	16 12 00.8	
	comp=Z,50nm,18.3s,baz=74,slow=32						
QSPA	**South Pole Qui**	**40.20**	**180**	P	**P**	**16 01 31.2**	**+1.0**
	0.7nm,0.6s,baz=276,slow=1.9,SNR=9.2						
QSPA				LR	LR	16 17 36.1	
	comp=Z,106nm,18.8s,baz=6.0,slow=35 0.7nm,0.6s						
JAY	**Jayapura**	**49.68**	**24**	LR	LR	16 22 54.0	
	comp=Z,75nm,21.1s,baz=209,slow=35						
SNAA	**Sanae**	**52.76**	**199**	P	**P**	**16 03 08.2**	**-0.3**
	1.6nm,0.9s,baz=156,slow=11,SNR=6.7						
SNAA				LR	LR	16 23 59.5	
	comp=Z,90nm,19.5s,baz=116,slow=34 1.6nm,0.9s						
GUMO	**Guam**	**66.20**	**24**	LR	LR	16 34 06.7	
	comp=Z,21nm,18.9s,baz=4.5,slow=36						
CMAR	**Chiang Mai Arr**	**71.23**	**336**	P	**P**	**16 05 13.3**	**+0.2**
	0.9nm,0.3s,baz=194,slow=6.6,SNR=5.4 0.9nm,0.3s						
KMBO	**Kilima Mbogo**	**86.16**	**273**	P	**P**	**16 06 36.4**	**+0.7**
	2.4nm,0.3s,baz=209,slow=16,SNR=2.6 2.4nm,0.3s						
PLCA	**Paso Flores**	**88.98**	**170**	LR	LR	16 44 17.5	
	comp=Z,21nm,18.4s,baz=60,slow=34						
YKA	**Yellowknife Ar**	**146.96**	**46**	PKPbc	**PKPbc**	**16 13 35.1**	**-0.2**
	0.5nm,0.6s,baz=276,slow=3.0,SNR=4.2						
EKA	**Eskdalemuir Ar**	**147.37**	**301**	PKPbc	**PKPbc**	**16 13 35.9**	**-0.8**
	0.7nm,0.5s,baz=132,slow=3.9,SNR=4.8						

*RHSSO **14** 16:13:51.5±0.2, 43°58N×17°53E, h6km±2km, ML2.5/10*
*PDG **14** 16:13:51.2±0.1, 43°58N×17°49E, h5km, ML2.7/12, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0*
*BEO **14** 16:13:52.2±0.3, 43°59N×17°52E, h0km, ML2.3/4*
ISC 14 16:13:51.3±1.0, 43°59N±0°02×17°52E±0°02, h6km±9km, n52, σ1°08/94, 7C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.30**	**252**	Pg	**Pg**	**16 13 57.2**	**0.0**
RICI				Sg	**Sg**	**16 14 01.7**	**+0.6**
MAKA	**Makarska**	**0.47**	**231**	Pg	**Pg**	**16 13 59.8**	**-0.7**
MAKA				Sg	**Sg**	**16 14 07.5**	**+0.9**
STON	**Ston**	**0.73**	**170**	⇓iPg	**Pg**	**16 14 03.9**	**-1.4**
STON				eSg	**Sg**	**16 14 15.0**	**+0.3**
STON	**Ston**	**0.73**	**170**	Pg	**Pg**	**16 14 04.2**	**-1.1**
STON				Sg	**Sg**	**16 14 15.4**	**+0.7**
STON	**Ston**	**0.73**	**170**	ePg	**Pg**	**16 14 04.2**	**-1.1**
STON				eSg	**Sb**	**16 14 15.6**	**-1.0**
KLINJ	**Klinje**	**0.88**	**118**	ePg	**Pg**	**16 14 07.7**	**-0.5**
KLINJ				eSg	**Sg**	**16 14 20.0**	**+0.4**
KIJV	**Kijevo**	**0.91**	**298**	ePg	**Pg**	**16 14 08.0**	**-0.8**
KIJV				eSg	**Sb**	**16 14 21.5**	**-0.5**
KIJV	**Kijevo**	**0.91**	**298**	Pg	**Pb**	**16 14 09.6**	**0.0**
KIJV				Sg	**Sg**	**16 14 21.2**	**+0.5**
LSTV	**Lastovo**	**0.94**	**210**	Pg	**Pg**	**16 14 08.6**	**-0.8**
LSTV				Sg	**Sb**	**16 14 22.7**	**0.0**
BRY	**Bratogost**	**1.01**	**132**	⇑iPg	**Pg**	**16 14 09.4**	**-1.3**
BRY				i Sg	**Sn**	**16 14 26.0**	**-0.8**
DBRK	**Dubrovnik**	**1.03**	**153**	Pg	**Pg**	**16 14 10.1**	**-0.9**
DBRK				Sg	**Sg**	**16 14 24.6**	**+0.3**
TREB	**Trebinje**	**1.06**	**145**	⇑iPg	**Pg**	**16 14 10.1**	**-1.5**
TREB				eSg	**Sg**	**16 14 25.1**	**-0.3**
UPM	**Unac-Piva**	**1.08**	**110**	⇓iPg	**Pg**	**16 14 11.5**	**-0.5**
UPM				i Sg	**Sn**	**16 14 28.5**	**-0.1**
BLY	**Banja Luka**	**1.19**	**348**	⇑iPg	**Pg**	**16 14 13.0**	**-0.8**
BLY				eSg	**Sg**	**16 14 29.5**	**+0.1**
BLY	**Banja Luka**	**1.19**	**348**	ePg	**Pg**	**16 14 13.9**	**-0.1**
BLY				eSg	**Sn**	**16 14 30.7**	**-0.3**
DOB	**Doboj**	**1.22**	**20**	ePg	**Pb**	**16 14 13.6**	**-1.2**
DOB				eSg	**Sg**	**16 14 30.5**	**+0.1**
NKME	**Niksic**	**1.33**	**128**	⇓iPg	**Pn**	**16 14 15.9**	**-0.6**
NKME				i Sg	**Sn**	**16 14 37.0**	**+2.4**
RUDO	**Rudo**	**1.34**	**88**	ePg	**Pn**	**16 14 15.0**	**-1.6**
RUDO				eSg	**Sb**	**16 14 33.3**	**-1.0**
HCY	**Herceg Novi**	**1.34**	**148**	⇓iPg	**Pn**	**16 14 16.4**	**-0.3**
HCY				i Sg	**Sg**	**16 14 37.1**	**+2.6**
MORI	**Morici**	**1.35**	**283**	Pg	**Pg**	**16 14 18.0**	**+0.9**
MORI				Sg	**Sg**	**16 14 36.4**	**+1.9**
ZIRJ	**Zirje**	**1.37**	**273**	Pg	**Pn**	**16 14 16.7**	**-0.2**
ZIRJ				Sg	**Sg**	**16 14 35.9**	**+0.7**
PLE	**Pljevlja**	**1.38**	**100**	⇑iPg	**Pb**	**16 14 17.4**	**-0.2**
PLE				i Sg	**Sg**	**16 14 39.8**	**+4.1**
BBLS	**Lazi&#263i**	**1.39**	**78**	ePn	**Pn**	**16 14 17.4**	**0.0**
BBLS				eSg	**Sg**	**16 14 36.6**	**+0.6**
CEME	**Cevo**	**1.46**	**135**	⇓iPg	**Pn**	**16 14 18.4**	**+0.1**
CEME				i Sg	**Sg**	**16 14 40.8**	**+2.6**
A051A	**Mrakovica**	**1.49**	**343**	ePg	**Pn**	**16 14 18.6**	**-0.2**
A051A				eSg	**Sb**	**16 14 38.7**	**0.0**
KOME	**Kolasin**	**1.63**	**116**	ePn	**Pg**	**16 14 22.9**	**+0.3**
KOME	**Kolasin**	**1.63**	**116**	⇓iPn	**Pb**	**16 14 21.5**	**-0.4**
KOME				i Sn	**Sg**	**16 14 46.7**	**+3.0**
BUM	**Brajici-Budva**	**1.63**	**142**	⇑iPn	**Pn**	**16 14 21.1**	**+0.4**
BUM				i Sn	**Sg**	**16 14 45.0**	**+1.2**
PDG	**Podgorica**	**1.72**	**132**	ePn	**Pb**	**16 14 23.7**	**+0.4**
PDG				eSn	**Sg**	**16 14 48.0**	**+1.5**
PDG	**Podgorica**	**1.72**	**132**	⇑iPn	**Pn**	**16 14 22.2**	**+0.4**
PDG				i Sn	**Sg**	**16 14 48.0**	**+1.5**
TEKS	**Tekeris**	**1.73**	**56**	ePn	**Pg**	**16 14 24.4**	**-0.2**
TEKS				eSn	**Sg**	**16 14 47.2**	**+0.2**
SJES	**Sjenica**	**1.81**	**100**	ePn	**Pb**	**16 14 24.2**	**-0.8**
DUGI	**Dugi Otok**	**1.83**	**284**	Pn	**Pb**	**16 14 24.3**	**-1.0**
DUGI				Sn	**Sg**	**16 14 49.5**	**-0.6**
DRME	**Dracevica, Mon**	**1.86**	**138**	ePn	**Pb**	**16 14 25.1**	**-0.6**
DRME	**Dracevica, Mon**	**1.86**	**138**	⇑iPn	**Pb**	**16 14 25.1**	**-0.6**
DRME				i Sn	**Sg**	**16 14 51.8**	**+0.8**
IVA	**Berane**	**1.87**	**112**	⇓iPn	**Pg**	**16 14 26.6**	**-0.6**
IVA				i Sn	**Sg**	**16 14 52.7**	**+1.2**
PLIT	**Plitvice**	**1.88**	**314**	Pn	**Pb**	**16 14 26.2**	**+0.1**
PLIT				Sn	**Sg**	**16 14 50.8**	**-0.9**
IVAS	**Ivanjica**	**1.91**	**89**	ePn	**Pn**	**16 14 24.4**	**-0.1**
VIRC	**Vir**	**1.92**	**292**	Pn	**Pb**	**16 14 25.8**	**-0.9**
VIRC				Sn	**Sb**	**16 14 51.7**	**+0.8**
ULC	**Ulcinj**	**2.06**	**141**	⇓iPn	**Pn**	**16 14 27.2**	**+0.7**
ULC				i Sn	**Sg**	**16 14 56.6**	**-0.9**
MOSL	**Moslavina**	**2.10**	**345**	ePn	**Pn**	**16 14 27.6**	**+0.5**
MOSL				eSn	**Sn**	**16 14 53.2**	**-0.3**
MOSL	**Moslavina**	**2.10**	**345**	Pn	**Pb**	**16 14 28.5**	**-1.3**
MOSL				Sn	**Sb**	**16 14 56.3**	**+0.1**
TRUS	**Trudelj**	**2.18**	**72**	ePn	**Pn**	**16 14 27.7**	**-0.4**
OZLJ	**Ozalj**	**2.50**	**325**	ePn	**Pn**	**16 14 33.2**	**+0.6**
OZLJ				eSn	**Sn**	**16 15 04.2**	**+0.8**
BOJS	**Bojanci**	**2.51**	**320**	ePn	**Pn**	**16 14 33.7**	**+1.0**
BOJS				eSn	**Sb**	**16 15 06.1**	**-1.9**

MORH	**Mrgy, Hungar**	**2.74**	**16**	ePn		**Pn**		**16 14 36.9**	**+1.0**
MORH				eSn		**Sn**		**16 15 09.5**	**+0.1**
BRJN	**Brijuni**	**3.02**	**297**	ePn		**Pn**		**16 14 39.9**	**+0.3**
BRJN				eSn		**Sn**		**16 15 15.8**	**-0.2**
CEY	**Cerknica**	**3.08**	**315**	ePn		**Pn**		**16 14 42.1**	**+1.5**
ARSA	**Arzberg**	**3.92**	**340**	ePn		**Pn**		**16 14 53.0**	**+0.9**
MOA	**Molln**	**4.83**	**333**	ePn		**Pn**		**16 15 07.0**	**+2.4**
VYHS	**Vyhne**	**4.99**	**10**	ePn		**Pn**		**16 15 07.3**	**+0.5**
VYHS	**Vyhne**	**4.99**	**10**	ePN		**Pb**		**16 15 18.4**	**-0.7**

*IPEC **14** 16:14:46.8±0.2, 50°25N×18°71E, h1km, ML2.5/5, Error ellipse: s-maj=2.0km s-min=1.0km az=5.0*
*PRU **14** 16:14:49.8, 50°29N×18°49E, h0km*
ISC 14 16:14:47.2±1.0, 50°18N±0°04×18°64E±0°03, h0km, n23, σ1°06/39, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.47**	**223**	ePG	**Pb**	**16 14 58.1**	**-0.2**
OKC				eSG	**Sb**	**16 15 07.6**	**+1.9**
	133nm,1.1s						
STEB	**Steborice**	**0.61**	**246**	ePG	**Pb**	**16 15 00.3**	**-0.4**
STEB				eSG	**Sb**	**16 15 09.9**	**+0.1**
MORC	**Moravsky Berou**	**0.81**	**241**	ePg	**Pb**	**16 15 03.8**	**-0.5**
	baz=58						
MORC				eSg	**Sg**	**16 15 14.6**	**+1.3**
	76nm,0.5s,baz=58						
ANAC	**Anensky vrch**	**0.81**	**263**	ePg	**Pg**	**16 15 03.5**	**+0.7**
	baz=78						
ANAC				eSg	**Sg**	**16 15 14.2**	**+0.8**
	179nm,0.4s,baz=78						
LANS	**Liptovska Anna**	**1.17**	**152**	ePG	**Pn**	**16 15 10.9**	**+0.1**
LANS				eSG	**Sn**	**16 15 27.7**	**+0.3**
KRLC	**Kraliky**	**1.20**	**266**	ePG	**Pg**	**16 15 09.6**	**-0.6**
KRLC				eSG	**Sg**	**16 15 25.8**	**+0.1**
	38nm,0.7s						
NIE	**Niedzica**	**1.32**	**125**	ePg	**Pg**	**16 15 12.0**	**-0.5**
NIE				eSg	**Sn**	**16 15 31.3**	**0.0**
JAVC	**Velka Javorina**	**1.47**	**206**	ePn	**Pb**	**16 15 15.5**	**+0.1**
	baz=26						
DPC	**Dobruska-Polom**	**1.49**	**277**	ePG	**Pn**	**16 15 15.1**	**-0.3**
DPC				eSG	**Sn**	**16 15 35.8**	**+0.2**
	30nm,0.7s						
VRAC	**Vranov**	**1.59**	**237**	ePn	**Pb**	**16 15 17.1**	**-0.3**
	baz=55						
VRAC				eSg	**Sg**	**16 15 39.1**	**+0.9**
	35nm,0.5s,baz=55						
KSP	**Ksiaz**	**1.64**	**295**	ePg	**Pb**	**16 15 17.9**	**-0.3**
KSP				eSg	**Sg**	**16 15 40.5**	**+0.7**
CHVC	**Chvalec**	**1.70**	**285**	ePG	**Pb**	**16 15 19.5**	**+0.1**
CHVC				eSG	**Sn**	**16 15 37.6**	**-3.1**
	14nm,0.5s						
UPC	**Upice**	**1.71**	**282**	ePG	**Pb**	**16 15 18.9**	**-0.7**
UPC				eSG	**Sg**	**16 15 43.4**	**+1.2**
	14nm,0.5s						
KRUC	**Moravsky**	**1.84**	**233**	ePn	**Pn**	**16 15 20.4**	**+0.4**
	baz=51						
KRUC				eSg	**Sg**	**16 15 46.6**	**+0.4**
	23nm,0.6s,baz=51						
KRUC	**Moravsky**	**1.84**	**233**	ePN	**Pn**	**16 15 20.5**	**+0.4**
KRUC				eSG	**Sg**	**16 15 46.7**	**+0.5**
STHS	**Stebnicka Huta**	**1.85**	**113**	ePN	**Pn**	**16 15 20.2**	**-0.1**
STHS				eLG	Lg	16 16 01.8	
MODS	**Modra-Piesok**	**2.02**	**207**	eSN	**Sn**	**16 15 46.7**	**-1.7**
GOPC	**GO Pecny, Ondr**	**2.50**	**265**	eSG	**Sg**	**16 16 06.5**	**-0.8**
	26nm,0.9s						
PRU	**Pruhonice**	**2.64**	**267**	eSG	**Sb**	**16 16 10.1**	**+1.7**
	7.6nm,0.4s						
BRG	**Berggiesshubel**	**3.07**	**285**	Pg	**Pg**	**16 15 45.9**	**-0.2**
BRG				Sg	**Sg**	**16 16 26.0**	**+0.1**
BRG				Amp		16 16 31.7	
	comp=Z,6.1nm,0.4s						
CKRC	**Cesky Krumlov**	**3.13**	**246**	eSG	**Sg**	**16 16 26.0**	**-1.8**
	comp=Z,8.4nm,0.6s						

uncertainty: 1 km; Longitude uncertainty: 1 km,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.40**	**3**	P	Pg	16 21 19.5	+0.1
LTHK				S	Sg	16 21 24.1	-0.9
KYPS	**Kipseli, Zakin**	**0.51**	**1**	P	Pb	16 21 21.9	0.0
KYPS				S	Sg	16 21 28.4	0.0
ORTH	**Orthonies,Zaky**	**0.55**	**351**	P	Pg	16 21 22.3	+0.1
ORTH				S	Sg	16 21 29.1	-0.5
CLEM	**Kyllini,Ilia,G**	**0.64**	**24**	P	Pg	16 21 23.8	0.0
CLEM				S	Sg	16 21 32.4	+0.1
PSDA	**Pessada-Kefalo**	**0.82**	**348**	P	Pb	16 21 27.2	0.0
PSDA				S	Sg	16 21 38.3	+0.1
VLS	**Valsamata**	**0.88**	**349**	P	Pb	16 21 27.7	-0.6
VLS				S	Sb	16 21 39.9	+0.1
RLS	**Riolos of Patr**	**0.91**	**35**	P	Pb	16 21 28.6	-0.1
RLS				S	Sg	16 21 41.1	+0.1
DRO	**Drossia**	**0.96**	**48**	P	Pg	16 21 30.0	+0.1
DRO				S	Sb	16 21 42.1	0.0
AXS	**Araxos**	**0.99**	**27**	P	Pb	16 21 30.0	-0.1
AXS				S	Sb	16 21 43.0	0.0
FSK	**Fiskardo**	**1.17**	**350**	P	Pn	16 21 33.0	0.0
FSK				S	Sn	16 21 48.6	+0.1
KLV	**Kalavryta, Ach**	**1.29**	**55**	P	Pg	16 21 35.9	-0.4

THE 14 16:21:33.7,39°N±1°×21°.8E±0°.7, h0km±2km, M1.0/4, MLh1.0/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANX	**Ano Chora**	**0.10**	**81**	P	Pg	16 21 36.1	+0.5
ANX				S	Sg	16 21 37.9	+1.0
EFP	**Efpalio**	**0.17**	**150**	P	Pg	16 21 37.2	+0.2
EFP				S	Sg	16 21 40.1	+0.9
PVO	**Paravola**	**0.21**	**281**	P	Pg	16 21 38.2	+0.3
PVO				S	Sg	16 21 41.4	+0.7
SERG	**Sergoula**	**0.26**	**128**	P	Pg	16 21 38.7	0.0
KALE	**Kalithea**	**0.33**	**124**	P	Pg	16 21 40.2	+0.2
KALE				S	Sg	16 21 45.6	+1.4

KRSC 14 16:41:29.1±2.2, 49°.04N×156°.55E, h16km±33km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.67**	**350**	*eP*	Pn	16 41 56.9	-0.8
SKR				*eS*	Sn	16 42 17.9	-0.8
PAU	**Pauzhetka**	**2.43**	**4**	*eP*	Pn	16 42 09.7	+1.5
PAU				*eS*	Sb	16 42 40.2	-1.9
MIPR	**Malaya Ipel'ka**	**3.24**	**2**	*eP*	Pn	16 42 20.6	+1.3
ASAK	**Asacha**	**3.45**	**14**	*eP*	Pn	16 42 26.0	+3.7
MTVR	**Mutnovka**	**3.60**	**16**	*eP*	Pb	16 42 28.6	-3.8
MTVR				*eS*	Sb	16 43 11.2	-4.6
RUS	**Russkaya**	**3.61**	**19**	*eP*	Pn	16 42 27.8	+3.4
RUS				*eS*	Sn	16 43 11.2	+4.4
GRL	**Gorelyy**	**3.64**	**15**	*eP*	Pb	16 42 29.2	-4.0
PET	**Petropavlovsk**	**4.20**	**18**	*eP*	Pn	16 42 36.6	+4.2
PET				*eS*	Sb	16 43 27.2	-5.8
DALK	**Dalny**	**4.23**	**18**	*eP*	Pn	16 42 36.9	+4.1
UGLR	**Uglovaya**	**4.41**	**18**	*eP*	Pn	16 42 40.2	+4.7
AVH	**Avacha**	**4.45**	**17**	*eP*	Pn	16 42 41.0	+5.1
KOK	**Koryaka**	**4.45**	**16**	*eP*	Pn	16 42 41.3	+5.3
SMAR	**Somma**	**4.46**	**18**	*eP*	Pn	16 42 40.5	+4.4
KRER	**Koryakskii**	**4.48**	**17**	*eP*	Pn	16 42 41.4	+4.8
SDLR	**Sedlovina**	**4.49**	**18**	*eP*	Pn	16 42 40.5	+4.0
KRX	**Arik**	**4.52**	**16**	*eP*	Pn	16 42 41.5	+4.5
SPN	**Mys Shipunski**	**4.61**	**27**	*eP*	Pn	16 42 42.6	+4.5
SPN				*eS*	Sn	16 43 35.2	+3.9
GNL	**Ganaly**	**4.74**	**10**	*eP*	Pn	16 42 43.9	+4.0
MKZ	**Mys Kozlova**	**6.38**	**28**	*eP*	Pn	16 43 05.7	+3.2

IDC 14 16:42:40.4±3.3, 17°.07S×175°.60W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=187.0km s-min=29.1km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.43**	**258**	P	P	16 51 16.7	-0.5
	0.5nm,0.4s,baz=93,slow=6.6,SNR=23 0.5nm,0.4s						
ASAR	**Alice Springs**	**47.60**	**253**	P	P	16 51 18.6	+0.1
	3.5nm,0.5s,baz=86,slow=8.0,SNR=89 3.5nm,0.5s						
ILAR	**Eielson Array**	**84.49**	**12**	P	P	16 55 15.4	+0.6
	0.3nm,0.4s,baz=219,slow=4.6,SNR=2.9 0.3nm,0.4s						
PDAR	**Pinedale Array**	**84.91**	**42**	P	P	16 55 17.4	-0.4
	0.5nm,0.7s,baz=235,slow=4.6,SNR=5.0 0.5nm,0.7s						

*NOU **14** 17:04:39.0, 19°.07S×113°.89E, h11km, mb4.4/14, Northwest of Australia*
*AUST **14** 17:04:40.2±0.3, 19°.S±2°×11°.4E±°, h25km, mb4.7/22, ML3.8/8, Error ellipse: s-maj=9.3km s-min=4.8km az=89.2*

ISC 14 17:04:38.1±0.9, 19°.02S±0°.06×114°.03E±0°.07, h10km, n48, σ2s59/45, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIRL	**Giralia**	**3.61**	**177**	P	**Pn**	**17 05 36.3**	**+2.3**
GIRL				S	**Sn**	**17 06 13.7**	**-3.1**
CVQOZ	**Cooralya Stati**	**5.39**	**180**	P	**Pn**	**17 06 00.6**	**+1.9**
	comp=Z,1μm,0.4s,comp=Z,4.4nm						
CVQOZ				S	**Sn**	**17 06 55.6**	**-5.2**
MBWA	**Marble Bar**	**5.76**	**113**	P	**Pn**	**17 06 06.1**	**+2.4**
	comp=Z,52nm,0.5s,comp=Z,0.2nm						
MBWA				S	**Sn**	**17 07 05.1**	**-4.8**
MBWA	**Marble Bar**	**5.76**	**113**	P	**Pn**	**17 06 06.1**	**+2.4**
PSA00	**Pilbara Seismi**	**6.02**	**116**	P	**Pn**	**17 06 09.7**	**+2.5**
	comp=Z,80nm,0.6s,comp=Z,0.2nm						
PSA00				S	**Sn**	**17 07 11.6**	**-4.6**
PSA00	**Pilbara Seismi**	**6.02**	**116**	P	**Pn**	**17 06 09.7**	**+2.5**
PSAC2	**Pilbara Seismi**	**6.06**	**116**	P	**Pn**	**17 06 10.2**	**+2.4**
	comp=Z,77nm,0.6s,comp=Z,0.2nm						
AUBRM	**Broome Senior**	**7.85**	**84**	P	**Pn**	**17 06 34.5**	**+2.1**
	comp=Z,133nm,0.9s,comp=Z,0.4nm						
AUBRM	**Broome Senior**	**7.85**	**84**	S	**Sn**	**17 07 58.4**	**-3.1**
MEEK	**Meekatharra**	**8.67**	**152**	P	**Pn**	**17 06 45.9**	**+2.2**
	comp=Z,19nm,1.7s,comp=Z,0.3nm						
MEEK	**Meekatharra**	**8.67**	**152**	S	**Sn**	**17 08 15.2**	**-6.5**
MEEK	**Meekatharra**	**8.67**	**152**	P	**Pn**	**17 06 46.0**	**+2.2**
MORW	**Morawa**	**10.16**	**170**	P	**Pn**	**17 07 05.0**	**+0.8**
	comp=Z,19nm,2.6s,comp=Z,0.2nm						
MORW	**Morawa**	**10.16**	**170**	S	Sn	17 08 48.9	-9.4
MORW	**Morawa**	**10.16**	**170**	P	**Pn**	**17 07 04.9**	**+0.8**
JAGI	**Jajag, Banyuwa**	**10.49**	**1**	P	**Pn**	**17 07 08.2**	**-0.5**
	comp=Z,20nm,0.4s,comp=Z,0.1nm						
JAGI	**Jajag, Banyuwa**	**10.49**	**1**	S	Sn	17 08 57.8	-8.6
JAGI	**Jajag, Banyuwa**	**10.49**	**1**	P	**Pn**	**17 07 09.0**	**+0.3**
PLAI	**Plampang**	**10.77**	**20**	P	**Pn**	**17 07 11.8**	**-0.6**
	comp=Z,32nm,1.0s,comp=Z,0.1nm						
PLAI	**Plampang**	**10.77**	**20**	S	Sn	17 09 03.7	-9.4
PLAI	**Plampang**	**10.77**	**20**	P	**Pn**	**17 07 14.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**11.05**	**87**	P	**Pn**	**17 07 15.2**	**-1.0**
UGM	**Wanagama**	**11.56**	**342**	P	**Pn**	**17 07 23.6**	**+0.2**
	comp=Z,96nm,1.9s						
UGM	**Wanagama**	**11.56**	**342**	S	**Sn**	**17 09 26.3**	**-6.3**
UGM	**Wanagama**	**11.56**	**342**	P	**Pn**	**17 07 25.2**	**+1.9**
BLDU	**Ballidu**	**11.79**	**169**	P	**Pn**	**17 07 26.8**	**+0.3**
	comp=Z,30nm,2.2s						
BLDU	**Ballidu**	**11.79**	**169**	S	Sn	17 09 30.2	-8.0
BLDU	**Ballidu**	**11.79**	**169**	P	**Pn**	**17 07 26.7**	**+0.3**
EDFI	**Ende, Flores**	**12.63**	**37**	P	**Pn**	**17 07 37.7**	**-0.3**
	comp=Z,12nm,0.9s						
EDFI	**Ende, Flores**	**12.63**	**37**	S	Sn	17 09 46.6	-12
KLBR	**Kellerberrin**	**12.96**	**166**	P	**Pn**	**17 07 43.3**	**+1.0**
	comp=Z,35nm,1.5s						
KLBR	**Kellerberrin**	**12.96**	**166**	S	Sn	17 09 53.9	-13
MUN	**Mundaring**	**13.05**	**172**	P	**Pn**	**17 07 44.4**	**+0.8**
	comp=Z,34nm,1.1s						
MUN	**Mundaring**	**13.05**	**172**	P	**Pn**	**17 07 44.1**	**+0.5**
NWAO	**Narrogin (SRO)**	**14.14**	**169**	P	**Pn**	**17 07 57.7**	**-0.8**
NWAO	**Narrogin (SRO)**	**14.14**	**169**	S	Sn	17 10 23.2	-12
NWAO	**Narrogin (SRO)**	**14.14**	**169**	P	**Pn**	**17 07 57.1**	**-1.4**
KNRA	**Kununurra**	**14.45**	**79**	P	**Pn**	**17 08 02.7**	**-0.1**
	comp=Z,10nm,0.6s						
KNRA				S	Sn	17 10 35.6	-7.7
RKGY	**Rocky Gully**	**15.74**	**171**	P	**Pn**	**17 08 20.0**	**0.0**
	comp=Z,104nm,1.5s						
DNDOZ	**Balladonia**	**16.03**	**148**	P	**Pn**	**17 08 22.7**	**-1.1**
	comp=Z,144nm,2.0s						
DNDOZ				S	Sn	17 11 07.1	-15
MTN	**Manton Dam**	**17.55**	**72**	P	**Pn**	**17 08 45.0**	**+2.0**
KDU	**Kakadu**	**18.82**	**73**	P	**Pn**	**17 09 00.5**	**+1.9**
AS15	**Alice Springs**	**19.07**	**107**	P	**P**	**17 09 01.9**	**+1.0**
	comp=Z,8.8nm,0.8s						
AS01	**Alice Springs**	**19.11**	**107**	P	**P**	**17 09 02.1**	**+0.7**
WC4	**Waramunga Arr**	**19.17**	**96**	P	**P**	**17 09 03.5**	**+1.6**
MULG	**Mulgathing**	**21.34**	**126**	P	**P**	**17 09 29.2**	**+3.8**
	comp=Z,8.1nm,1.4s						
OOD	**Oodnadatta**	**21.68**	**118**	P	**P**	**17 09 32.2**	**+3.1**
	comp=Z,3.4nm,0.6s						
QIS	**Mount Isa**	**24.10**	**98**	P	**P**	**17 09 56.8**	**+2.6**

KRSC 14 17:07:13.8±1.9, 49°.75N×157°.14E, h48km±25km, MI3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.14**	**325**	*eP*	Pn	17 07 33.7	+0.4
SKR				*eS*	Sn	17 07 47.2	-0.7
PAU	**Pauzhetka**	**1.73**	**353**	*eP*	Pn	17 07 44.0	+2.7
PAU				*eS*	Sn	17 08 04.7	+2.4
MIPR	**Malaya Ipel'ka**	**2.54**	**355**	*eP*	Pn	17 07 54.2	+1.8
ASAK	**Asacha**	**2.68**	**10**	*eP*	Pn	17 07 57.9	+3.4
MTVR	**Mutnovka**	**2.81**	**13**	*eP*	Pn	17 07 59.9	+3.6
MTVR				*eS*	Sn	17 08 33.1	+4.0
RUS	**Russkaya**	**2.82**	**17**	*eP*	Pn	17 07 59.5	+3.2
RUS				*eS*	Sn	17 08 32.3	+3.3
GRL	**Gorelyy**	**2.87**	**11**	*eP*	Pn	17 08 01.0	+4.0
GRL				*eS*	Sn	17 08 34.9	+4.5
KRMR	**Karymshinskiy**	**3.15**	**11**	*eS*	Sn	17 08 41.8	+4.8
PET	**Petropavlovsk**	**3.41**	**16**	*eP*	Pn	17 08 08.2	+3.9
PET				*eS*	Sn	17 08 48.1	+4.6
DALK	**Dalny**	**3.44**	**16**	*eP*	Pn	17 08 07.8	+3.1
UGLR	**Uglovaya**	**3.62**	**16**	*eP*	Pn	17 08 11.4	+4.1
AVH	**Avacha**	**3.66**	**15**	*eP*	Pn	17 08 12.5	+4.7
KOK	**Koryaka**	**3.67**	**14**	*eP*	Pn	17 08 12.5	+4.5
SMAR	**Somma**	**3.67**	**16**	*eP*	Pn	17 08 13.3	+5.2
KRER	**Koryakskii**	**3.70**	**15**	*eP*	Pn	17 08 12.3	+3.8
KRX	**Arik**	**3.73**	**14**	*eP*	Pn	17 08 12.9	+4.0
SPN	**Mys Shipunski**	**3.81**	**27**	*eP*	Pn	17 08 13.7	+3.9
SPN				*eS*	Sn	17 08 57.0	+3.7
MKZ	**Mys Kozlova**	**5.58**	**29**	*eP*	Pn	17 08 36.8	+2.7

*NOU **14** 17:08:19.2, 39°.65S×174°.27E, h199km, ML3.6/12, North Island, New Zealand*
*WEL **14** 17:08:19.7±1.0, 40°.S±7°×17°.4E±°, h193km±6km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=8.7km s-min=6.9km az=168.5, confirmed*

ISC 14 17:08:17.4±2.0, 39°.55S±0°.06×174°.27E±0°.05, h212km±11km, n91, σ0s90/106, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.14**	**49**	P	**Pn**	**17 08 46.3**	**+1.2**
LREZ				S	**S**	**17 09 06.8**	**+0.1**
PREZ	**Palmer Road**	**0.22**	**337**	P	**Pn**	**17 08 46.1**	**+0.8**
PREZ				S	**S**	**17 09 07.3**	**+0.3**
NEZ	**North Egmont**	**0.31**	**334**	P	**Pn**	**17 08 46.8**	**+1.3**
NEZ				S	**S**	**17 09 07.6**	**+0.2**
NMEZ	**Namu Road**	**0.33**	**294**	P	**Pn**	**17 08 45.3**	**-0.2**
NMEZ				S	**S**	**17 09 07.9**	**+0.7**
DREZ	**Durham Road**	**0.36**	**352**	S	**S**	**17 09 05.6**	**-1.9**
PKE	**Pukeiti**	**0.42**	**328**	P	**Pn**	**17 08 47.2**	**+1.4**
PKE				S	**S**	**17 09 07.1**	**-0.7**
NBEZ	**Newall Road No**	**0.42**	**312**	P	**Pn**	**17 08 44.7**	**-1.0**
NBEZ				S	**S**	**17 09 08.2**	**+0.5**
VRZ	**Vera Road**	**0.57**	**42**	P	**Pn**	**17 08 46.5**	**+0.2**
VRZ				S	**S**	**17 09 07.5**	**-1.1**
WAZ	**Wanganui**	**0.59**	**111**	P	**Pn**	**17 08 47.8**	**+1.5**
WAZ				S	**S**	**17 09 08.4**	**-0.4**
PKVZ	**Pokaka**	**0.87**	**73**	P	**Pn**	**17 08 48.4**	**+0.7**
PKVZ				S	**S**	**17 09 10.1**	**-1.1**
MTVZ	**Mangateitei**	**0.94**	**80**	P	**Pn**	**17 08 49.0**	**+0.8**
MTVZ				S	**S**	**17 09 10.9**	**-1.1**
TRVZ	**Turoa**	**1.02**	**76**	P	**Pn**	**17 08 49.6**	**+0.7**
TRVZ				S	**S**	**17 09 11.4**	**-1.8**
TWVZ	**Taurewa**	**1.02**	**63**	P	**Pn**	**17 08 49.1**	**+0.4**
FWVZ	**Far West T-bar**	**1.04**	**74**	P	**Pn**	**17 08 49.6**	**+0.7**
FWVZ				S	**S**	**17 09 11.4**	**+1.9**
OHWZ	**Ohakea**	**1.04**	**130**	S	**S**	**17 09 12.5**	**-0.4**
MAVZ	**Matarangi**	**1.04**	**75**	P	**Pn**	**17 08 49.8**	**+0.7**
COVZ	**Chateau Observ**	**1.05**	**71**	P	**Pn**	**17 08 49.4**	**+0.6**
COVZ				S	**S**	**17 09 11.8**	**-1.4**
WNVZ	**Wahianoa**	**1.05**	**78**	P	**Pn**	**17 08 49.8**	**+0.8**
WNVZ				S	**S**	**17 09 11.8**	**-1.6**
WHVZ	**Whangaehu Hut**	**1.06**	**76**	P	**Pn**	**17 08 49.8**	**+0.7**
NGZ	**Ngauruhoe**	**1.10**	**71**	P	**Pn**	**17 08 49.6**	**+0.3**
TUVZ	**Tukino**	**1.11**	**76**	P	**Pn**	**17 08 50.3**	**+1.0**
WTVZ	**West Tongariro**	**1.11**	**67**	P	**Pn**	**17 08 50.1**	**+0.7**
NNVZ	**North Ngauruho**	**1.12**	**69**	P	**Pn**	**17 08 50.3**	**+0.8**
OTVZ	**Oturere**	**1.15**	**71**	P	**Pn**	**17 08 50.4**	**+0.8**
KRVZ	**Karewarewa**	**1.16**	**67**	P	**Pn**	**17 08 50.4**	**+0.8**
MOVZ	**Moawhango**	**1.16**	**83**	P	**Pn**	**17 08 50.0**	**+0.4**
ETVZ	**East Tongariro**	**1.19**	**70**	P	**Pn**	**17 08 50.9**	**+1.0**
TMVZ	**Te Maari**	**1.19**	**69**	P	**Pn**	**17 08 50.8**	**+0.9**
FAHS	**Feilding Agric**	**1.20**	**124**	P	**Pn**	**17 08 49.9**	**+0.2**
KATZ	**Kakaramea**	**1.25**	**63**	P	**Pn**	**17 08 51.3**	**+0.9**
DUWZ	**D'Urville Isla**	**1.28**	**192**	P	**Pn**	**17 08 51.4**	**+1.0**
DUWZ				S	**S**	**17 09 15.6**	**-0.5**
KIW	**Kapiti Island**	**1.40**	**160**	P	**Pn**	**17 08 52.1**	**+0.7**
TSZ	**Takapari Road**	**1.40**	**112**	P	**Pn**	**17 08 52.2**	**+0.8**
POWZ	**Post Office Ro**	**1.43**	**127**	P	**Pn**	**17 08 52.2**	**+0.7**
OGWZ	**Otaki Gorge**	**1.44**	**152**	P	**Pn**	**17 08 52.6**	**+1.0**
MRZ	**Mangatainoka R**	**1.50**	**138**	P	**Pn**	**17 08 52.8**	**+0.7**
PNHZ	**Pukenui**	**1.53**	**104**	P	**Pn**	**17 08 53.3**	**+0.8**
KHLK	**Kaihoka Lakes**	**1.62**	**231**	P	**Pn**	**17 08 53.8**	**+0.6**
KRHZ	**Kereru**	**1.62**	**94**	P	**Pn**	**17 08 54.0**	**+0.7**
DVHZ	**Dannevirke**	**1.64**	**118**	P	**Pn**	**17 08 54.1**	**+0.7**
PRWZ	**Pori Road**	**1.65**	**128**	P	**Pn**	**17 08 54.5**	**+1.1**
HOWZ	**Holdsworth Sta**	**1.65**	**145**	P	**Pn**	**17 08 54.0**	**+0.5**
TCW	**Tory Channel**	**1.66**	**180**	P	**Pn**	**17 08 54.7**	**+1.1**
KWHZ	**Kaweka Forest**	**1.67**	**86**	P	**Pn**	**17 08 54.8**	**+1.0**
CAW	**Cannon Point**	**1.67**	**159**	P	**Pn**	**17 08 54.4**	**+0.7**
TIWZ	**Tiniroto**	**1.74**	**135**	P	**Pn**	**17 08 55.0**	**+0.7**
WPHZ	**Waipukurau**	**1.75**	**108**	P	**Pn**	**17 08 55.3**	**+0.9**
BKZ	**Black Stump Fm**	**1.77**	**78**	P	**Pn**	**17 08 54.9**	**+0.3**
BKZ	**Black Stump Fm**	**1.77**	**78**	P	**Pn**	**17 08 55.0**	**+0.3**
WEL	**Wellington**	**1.77**	**168**	P	**Pn**	**17 08 55.3**	**+0.7**
TKNZ	**Takaka Hill**	**1.79**	**214**	P	**Pn**	**17 08 55.3**	**+0.6**
SNZO	**South Karori**	**1.79**	**169**	P	**Pn**	**17 08 55.2**	**+0.5**
SNZO	**South Karori**	**1.79**	**169**	S	**S**	**17 09 22.7**	**-1.0**
NNZ	**Nelson**	**1.80**	**202**	P	**Pn**	**17 08 55.7**	**+0.9**
MRHZ	**Matea Rd**	**1.81**	**68**	P	**Pn**	**17 08 55.0**	**-0.1**
QRZ	**Quartz Range**	**1.84**	**226**	P	**Pn**	**17 08 55.8**	**+0.5**
QRZ	**Quartz Range**	**1.84**	**226**	S	**S**	**17 09 24.0**	**-0.6**
QRZ	**Quartz Range**	**1.84**	**226**	P	**Pn**	**17 08 55.7**	**+0.4**
MTW	**Mount Morrison**	**1.86**	**150**	P	**Pn**	**17 08 55.9**	**+0.5**
MCHZ	**McNeill Hill**	**1.88**	**88**	P	**Pn**	**17 08 57.1**	**+1.4**
BFZ	**Birch Farm**	**1.89**	**127**	P	**Pn**	**17 08 56.3**	**+0.6**
BFZ	**Birch Farm**	**1.89**	**127**	S	**S**	**17 09 25.1**	**-0.3**
BFZ	**Birch Farm**	**1.89**	**127**	P	**Pn**	**17 08 56.8**	**+0.5**
TUWZ	**Tuamarina**	**1.90**	**187**	P	**Pn**	**17 08 56.9**	**+1.1**
ANWZ	**Angora Road**	**1.92**	**119**	P	**Pn**	**17 08 57.1**	**+1.1**
PRHZ	**Porangahau**	**1.96**	**112**	P	**Pn**	**17 08 57.4**	**+1.1**
TMWZ	**Te Maipa**	**1.99**	**142**	P	**Pn**	**17 08 57.3**	**+0.6**
CPWZ	**Castlepoint**	**2.01**	**133**	P	**Pn**	**17 08 58.1**	**+1.3**
MSWZ	**Moikau Station**	**2.01**	**158**	P	**Pn**	**17 08 57.3**	**+0.4**
KAHZ	**Kahuranaki**	**2.03**	**98**	P	**Pn**	**17 08 58.3**	**+1.2**
PAWZ	**Paruwai Farm**	**2.03**	**155**	P	**Pn**	**17 08 57.5**	**+0.4**
PXZ	**Pawanui**	**2.05**	**104**	P	**Pn**	**17 08 58.3**	**+0.9**
MTHZ	**Maungataniwha**	**2.12**	**72**	P	**Pn**	**17 08 58.4**	**+0.3**
TRWZ	**Traveller**	**2.14**	**150**	P	**Pn**	**17 08 58.7**	**+0.5**
PLWZ	**Palliser**	**2.15**	**160**	P	**Pn**	**17 08 58.6**	**+0.2**
MRNZ	**Matariki Terra**	**2.18**	**211**	P	**Pn**	**17 08 59.3**	**+0.7**
BSWZ	**Blackbirch Sta**	**2.19**	**188**	P	**Pn**	**17 08 59.9**	**+1.2**
CMWZ	**Cape Campbell**	**2.20**	**181**	P	**Pn**	**17 08 59.9**	**+1.2**
RAHZ	**Arahi**	**2.28**	**75**	P	**Pn**	**17 09 01.2**	**+1.6**
RTZ	**Ruatahuna**	**2.31**	**67**	P	**Pn**	**17 09 01.7**	**0.0**
THZ	**Tophouse**	**2.44**	**205**	P	**Pn**	**17 09 02.2**	**+0.7**
URZ	**Urewera**	**2.56**	**61**	P	**Pn**	**17 09 04.1**	**+1.4**
URZ	**Urewera**	**2.56**	**61**	P	**Pn**	**17 09 03.7**	**+1.0**
RAGZ	**Rawiri**	**2.67**	**68**	P	**Pn**	**17 09 05.3**	**+1.3**
MWZ	**Matawai**	**2.81**	**66**	P	**Pn**	**17 09 06.1**	**+0.5**
RIGZ	**Rimuhau**	**2.84**	**74**	P	**Pn**	**17 09 06.4**	**+0.4**
KHZ	**Kahutara**	**2.92**	**191**	P	**Pn**	**17 09 07.3**	**+0.7**
KHZ	**Kahutara**	**2.92**	**191**	P	**S**	**17 09 43.2**	**-1.7**
KHZ	**Kahutara**	**2.92**	**191**	P	**Pn**	**17 09 07.2**	**+0.6**
RPZ	**Rata Peaks**	**4.81**	**209**	P	**Pn**	**17 09 29.7**	**+0.1**
ODZ	**Otahua Downs**	**6.11**	**205**	P	**Pn**	**17 09 46.6**	**+0.4**

IDC 14 17:09:58.3±2.2, 19°.12S×177°.53W, h0km, mb3.8/3, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=59.3km s-min=38.9km az=124.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.64**	**193**	P	P	17 14 28.6	+0.1
	0.5nm,0.3s,baz=23,slow=13,SNR=2.5 15nm,1.0s						
WRA	**Warramunga Arr**	**45.24**	**261**	P	P	17 18 17.6	-0.3
	0.4nm,0.3s,baz=97,slow=8.3,SNR=6.7 0.4nm,0.3s						
ASAR	**Alice Springs**	**45.28**	**255**	P	P	17 18 18.1	0.0
	2.4nm,0.7s,baz=91,slow=9.2,SNR=21 2.4nm,0.7s						
ILAR	**Eielson Array**	**86.87**	**13**	P	P	17 22 44.3	-0.1
	0.1nm,0.5s,baz=198,slow=5.7,SNR=1.7 0.1nm,0.5s						

*SIGU **14** 17:17:43.1, 45°.66N×26°.56E, h138km*
*MCSM **14** 17:17:45.1±0.4, 46°.N±3°×2°.7E±°, h144km±6km, mb3.9, MLv3.6*
*BUC **14** 17:17:45.5±0.2, 45°.64N×26°.53E, h141km±1km, ml3.9/77, Error ellipse: s-maj=1.2km s-min=1.0km az=22.0*
*IDC **14** 17:17:45.1±0.6, 45°.81N×26°.53E, h136km±6km, mb3.3/9, mbtmp3.7/13, Error ellipse: s-maj=18.0km s-min=12.9km az=102.0*
*CFUSG **14** 17:17:45.8, 45°.71N×27°.75E, h33km, mb2.4/3, MD3.2/2, Romania Magtype MSH 3.4 from 2 stations*
*SOF **14** 17:17:46.8, 45°.53N±0°.02×26°.53E±0°.02, h130km±3km, MD3.7/7*
*BEO **14** 17:17:49.6±0.6, 45°.52N×26°.13E, h114km±4km, ML3.2/4*

ISC 14 17:17:44.9±0.7, 45°.68N±0°.02×26°.52E±0°.02, h152km±4km, n213, σ1s25/297, mb3.5/8, 84C-62D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.19**	**135**	⇓P	**Pn**	**17 18 05.5**	**0.0**
BISRR				⇓S	**Sn**	**17 18 19.7**	**-1.4**
PLOR	**Plostina**	**0.19**	**27**	⇑P	**Pn**	**17 18 05.0**	**-0.5**
PLOR				⇓S	**Sn**	**17 18 19.5**	**-1.6**
VRI	**Vrincioaia**	**0.23**	**37**	⇓P	**Pn**	**17 18 05.3**	**-0.2**
VRI				⇑S	**Sn**	**17 18 20.1**	**-1.2**
COVR	**Voineasa-Covas**	**0.28**	**307**	⇓P	**Pn**	**17 18 04.9**	**-0.7**
COVR				⇓S	**Sn**	**17 18 20.0**	**-1.5**
NEHR	**Nehoiu**	**0.30**	**213**	⇓P	**Pn**	**17 18 05.7**	**-0.1**
NEHR				⇓S	**Sn**	**17 18 20.4**	**-1.1**
ODBI	**Odobesti**	**0.38**	**77**	P	**Pn**	**17 18 06.4**	**+0.5**
MLR	**Muntele Rosu**	**0.45**	**245**	⇑P	**Pn**	**17 18 06.1**	**-0.3**
MLR				⇑S	**Sn**	**17 18 22.0**	**-0.7**
MLR	**Muntele Rosu**	**0.45**	**245**	P	**Pn**	**17 18 06.2**	**-0.3**
	399nm,0.3s,baz=271,slow=3.8,SNR=1411						
MLR				S	**Sn**	**17 18 21.5**	**-1.2**
	1μm,0.4s,baz=309,slow=23,SNR=46						
MLR	**Muntele Rosu**	**0.45**	**245**	*eP*	**Pn**	**17 18 06.2**	**-0.3**
MLR				*eS*	**Sn**	**17 18 18.4**	**

TIRR				⇑S		Sn	17 18 41.7	-1.6	
TIRR	**Tirgusor**	**1.81**	**132**	P		Pn	17 18 17.6	-0.3	
JURR	**Jurilovca**	**1.90**	**118**	⇑P		Pn	17 18 18.9	0.0	
LOT	**Lotru**	**1.95**	**264**	⇑P		Pn	17 18 19.5	-0.2	
LOT				⇓S		Sn	17 18 45.5	-0.8	
MILM	**Milestii Mici**	**2.01**	**51**	⇑P		Pn	17 18 19.6	-0.7	
MILM	**Milestii Mici** 70nm,0.2s	**2.01**	**51**	⇑*i*P		Pn	17 18 19.5	-0.7	
MILM				*e*S		Sn	17 18 44.2	-3.2	
	380nm,0.2s								
MILM	**Milestii Mici**	**2.01**	**51**	P		Pn	17 18 19.5	-0.7	
MILM				S		Sn	17 18 44.5	-2.9	
MILM				m			17 18 45.0		
MFTR	**Murfatlar**	**2.02**	**137**	⇑P		Pn	17 18 20.1	-0.2	
MFTR				⇓S		Sn	17 18 45.7	-1.9	
KIS	**Kishinev** 52nm,0.2s	**2.06**	**50**	⇑*i*P		Pn	17 18 20.3	-0.6	
KIS				*e*S		Sn	17 18 46.0	-2.5	
	410nm,0.3s								
KIS	**Kishinev**	**2.06**	**50**	P		Pn	17 18 20.3	-0.6	
KIS				Pm			17 18 20.9		
KIS				S		Sn	17 18 46.0	-2.5	
KIS				Sm			17 18 46.2		
KIS				m			17 18 47.3		
KIS	**Kishinev**	**2.06**	**50**	P		Pn	17 18 20.3	-0.6	
RAZG	**Razgrad**	**2.11**	**180**	⇑P		Pn	17 18 21.2	-0.3	
RAZG				⇓S		Sn	17 18 47.7	-1.9	
BURAR	**Bucovina Array**	**2.13**	**336**	⇓P		Pn	17 18 23.0	+1.2	
BURAR				⇑S		Sn	17 18 51.8	+1.6	
TSCT	**Constanta Port**	**2.15**	**134**	⇓S		Sn	17 18 48.5	-1.7	
ZIMR		**2.19**	**203**	⇑P		Pn	17 18 22.1	-0.3	
ZIMR				⇑S		Sn	17 18 49.1	-2.0	
EFOR	**EFORIE**	**2.19**	**136**	⇑S		Sn	17 18 50.0	-1.2	
VLAD	**Vladila**	**2.26**	**223**	⇑P		Pn	17 18 22.7	-0.5	
CJR	**Cluj-Napoca**	**2.28**	**298**	⇓P		Pn	17 18 23.1	-0.3	
LOZB	**Loznitsa**	**2.31**	**179**	⇑P		Pn	17 18 23.6	-0.3	
CBBR	**Cluj-Babes-Bol**	**2.33**	**299**	⇑P		Pn	17 18 24.2	+0.1	
PSN	**Preselentsi**	**2.34**	**150**	P		Pn	17 18 24.2	0.0	
PSN				S		Sn	17 18 50.9	-3.6	
MANR	**Mangalia**	**2.37**	**141**	⇑P		Pn	17 18 24.6	0.0	
MANR				⇓S		Sn	17 18 53.4	-1.7	
TSMN	**Mangalia Port-**	**2.39**	**141**	⇑S		Sn	17 18 54.2	-1.3	
SZH	**Strazhitsa**	**2.45**	**189**	P		Pn	17 18 24.9	-0.6	
SZH				S		Sn	17 18 53.9	-2.8	
NEF	**NEVSHA**	**2.48**	**167**	P		Pn	17 18 25.6	-0.3	
NEF				S		Sn	17 18 51.7	-5.7	
PURM	**Purcari**	**2.48**	**69**	P		Pn	17 18 25.4	-0.4	
SRE	**Strehaia**	**2.56**	**248**	⇑P		Pn	17 18 26.7	-0.2	
SRE				⇑S		Sn	17 18 57.8	-1.4	
MARR	**Marisel-Cluj**	**2.57**	**294**	⇑P		Pn	17 18 26.8	-0.2	
PRD	**Provadia**	**2.60**	**166**	P		Pn	17 18 27.2	-0.1	
GZR	**Gura Zlata**	**2.65**	**265**	⇓P		Pn	17 18 28.1	+0.1	
GZR				⇑S		Sn	17 19 01.5	+0.3	
GZR	**Gura Zlata**	**2.65**	**265**	*e*P		Pn	17 18 28.1	+0.1	
GZR				*e*S		Sn	17 19 00.9	-0.3	
ROIA	**ROIAK**	**2.66**	**166**	P		Pn	17 18 27.2	-0.9	
PLVB	**Pleven**	**2.67**	**211**	⇑P		Pn	17 18 27.9	-0.3	
PLVB				⇓S		Sn	17 19 00.2	-1.3	
AVR	**AVREN**	**2.69**	**162**	P		Pn	17 18 28.7	+0.2	
SORM	**Soroca**	**2.76**	**26**	⇓P		Pn	17 18 28.8	-0.4	
SORM	**Soroca**	**2.76**	**26**	P		Pn	17 18 28.6	-0.6	
ELND	**Elena**	**2.79**	**190**	⇑P		Pn	17 18 29.6	-0.2	
ELND				⇓S		Sn	17 19 04.3	-0.1	
KSV	**Kosov**	**2.82**	**340**	*i* Pn		Pn	17 18 29.2	-0.8	
KSV				Pm			17 18 31.4		
KSV				*e*Sn		Sn	17 19 03.5	-1.5	
KSV				Sm			17 19 06.6		
KSV	**Kosov**	**2.82**	**340**	P		Pn	17 18 29.4	-0.6	
RAKU	**Rahkiv**	**2.85**	**326**	*e*Pn		Pn	17 18 29.7	-0.7	
DRGR		**2.87**	**294**	⇑P		Pn	17 18 30.1	-0.6	
DRGR		**2.87**	**294**	*e*P		Pn	17 18 30.0	-0.8	
KMPD	**K-Podol'skiy**	**2.88**	**359**	P		Pn	17 18 30.3	-0.5	
KMPD				P		Pn	17 18 30.3	-0.5	
NSLU	**Nyzhne Selyshc**	**2.89**	**331**	*e*Pn		Pn	17 18 35.1	+4.2	
RMGR	**Halanga-Turnu**	**2.90**	**251**	⇓P		Pn	17 18 30.6	-0.4	
VALD	**Valchedram**	**2.97**	**229**	P		Pn	17 18 31.4	-0.5	
NDNU	**Novodnistrovsk**	**2.97**	**11**	*e*Pn		Pn	17 18 30.7	-1.2	
NDNU				Pm			17 18 31.8		
NDNU				*e*Sn		Sn	17 19 05.7	-2.7	
NDNU				Sm			17 19 06.6		
NDNU	**Novodnistrovsk**	**2.97**	**11**	P		Pn	17 18 31.5	-0.4	
HERR	**Herculane**	**3.01**	**256**	⇑P		Pn	17 18 31.8	-0.6	
MPEP	**Malo Peshtene**	**3.06**	**222**	P		Pn	17 18 32.7	-0.4	
SURR	**Surduc**	**3.08**	**273**	⇑P		Pn	17 18 33.4	+0.1	
JMB	**Yambol**	**3.19**	**180**	P		Pn	17 18 34.5	-0.3	
STNU	**Starunia**	**3.33**	**336**	P		Pn	17 18 36.7	+0.2	
KORU	**Korolevo**	**3.40**	**318**	*e*Pn		Pn	17 18 35.8	-1.5	
KORU	**Korolevo**	**3.40**	**318**	P		Pn	17 18 35.8	-1.5	
BLKB	**Belogradchik**	**3.43**	**235**	*e*P		Pn	17 18 36.8	-1.1	
BLKB				*e*S		Sn	17 19 14.2	-4.7	
TRSU	**Trosnyk**	**3.44**	**316**	*e*Pn		Pn	17 18 37.4	-0.4	
BZS	**Buzias**	**3.44**	**271**	⇑P		Pn	17 18 37.9	0.0	
BZS	**Buzias**	**3.44**	**271**	*e*P		Pn	17 18 38.0	0.0	
SIRR	**Siria**	**3.44**	**282**	⇓P		Pn	17 18 38.1	+0.1	
SIRR	**Siria**	**3.44**	**282**	*e*P		Pn	17 18 37.9	-0.1	
MEZ	**Mezhgor'ye**	**3.50**	**325**	*i* Pn		Pn	17 18 38.7	-0.6	
MDVR	**Moldovita**	**3.52**	**257**	⇓P		Pn	17 18 38.7	-0.3	
MDVR	**Moldovita**	**3.52**	**257**	*e*P		Pn	17 18 38.6	-0.3	
MDVR				*e*S		Sn	17 19 17.9	-3.0	
HORU	**Horodok**	**3.54**	**359**	*e*Pn		Pn	17 18 38.4	-0.7	
HORU				*e*Sn		Sn	17 19 20.4	-0.9	
BRIU	**Brid**	**3.58**	**319**	Pn		Pn	17 18 39.0	-0.7	
BRIU	**Brid**	**3.58**	**319**	P		Pn	17 18 39.8	+0.1	
ZAGS	**Zajecar**	**3.58**	**240**	*e*P		Pn	17 18 38.6	-1.2	
ZAGS				*e*S		Sn	17 19 17.6	-4.7	
PGB	**Panagyurishte**	**3.59**	**209**	P		Pn	17 18 39.5	-0.5	
ZAPS	**Zavoj**	**3.68**	**231**	*e*P		Pn	17 18 40.2	-0.9	
ZAPS				*e*S		Sn	17 19 20.3	-4.4	
BERU	**Beregovo**	**3.68**	**315**	*e*Pn		Pn	17 18 41.0	0.0	
BERU	**Beregovo**	**3.68**	**315**	P		Pn	17 18 41.3	+0.3	
VRSS	**Vrsac**	**3.71**	**263**	*e*P		Pn	17 18 41.2	-0.2	
PLD	**Plovdiv**	**3.76**	**201**	*e*P		Pn	17 18 41.5	-0.6	
MUKU	**Mukachevo**	**3.82**	**318**	*e*Pn		Pn	17 18 42.4	-0.3	
MUKU	**Mukachevo**	**3.82**	**318**	P		Pn	17 18 43.1	+0.3	
VTS	**Vitosha**	**3.87**	**219**	P		Pn	17 18 43.7	0.0	
VTS	**Vitosha**	**3.87**	**219**	*e*P		Pn	17 18 43.6	-0.1	
VTS				*e*S		Sn	17 19 29.8	+0.5	
BOVS	**Bovan**	**4.00**	**241**	⇑P		Pn	17 18 44.6	-0.5	
BOVS	**Bovan**	**4.00**	**241**	*e*P		Pn	17 18 44.7	-0.5	
BOVS				*e*S		Sn	17 19 28.2	-3.8	
HOLU	**Holmets**	**4.01**	**317**	*e*Pn		Pn	17 18 44.5	-0.8	
HOLU	**Holmets**	**4.01**	**317**	P		Pn	17 18 44.5	-0.8	
KDZ	**Kurdzhali**	**4.14**	**192**	P		Pn	17 18 46.4	-0.7	
SHIU	**Shidnytsya**	**4.14**	**330**	*i* Pn		Pn	17 18 46.6	-0.4	
TARU	**Tarkhankut**	**4.23**	**92**	*e*P		Pn	17 18 48.5	+0.3	
TARU				Pm			17 18 48.7		
	comp=Z,10.0nm,0.2s								
TARU				*e*S		Sn	17 19 36.3	-1.1	
TARU				Sm			17 19 36.7		
	comp=N,2.0nm,0.3s								
TARU				Sm			17 19 36.7		
	comp=E,14nm,0.4s								
STZU	**Stuzhytsa**	**4.26**	**323**	*e*Pn		Pn	17 18 48.2	-0.4	
BOSS	**Bosilegrad**	**4.32**	**224**	*e*P		Pn	17 18 49.6	+0.2	
LUBAR	**Lubar, Ukraine**	**4.32**	**11**	P		Pn	17 18 49.0	-0.4	
KOLS	**Kolonicke sedl**	**4.35**	**320**	*e*P		Pn	17 18 50.6	+0.8	
AVAS	**Avala Beograd**	**4.36**	**259**	*e*P		Pn	17 18 49.4	-0.5	
AVAS				*e*S		Sn	17 19 36.5	-4.0	
BARS	**Barje**	**4.43**	**231**	*e*P		Pn	17 18 50.6	-0.3	
GRUS	**Gruza**	**4.51**	**249**	*e*P		Pn	17 18 51.3	-0.5	
TRUS	**Trudelj**	**4.58**	**254**	*e*P		Pn	17 18 52.5	-0.3	
TRUS				*e*S		Sn	17 19 42.1	-3.6	
SELS	**Selova**	**4.58**	**239**	*e*P		Pn	17 18 52.7	-0.2	
SELS				*e*S		Sn	17 19 44.3	-1.5	
DNZ2	**Donuzlav2**	**4.71**	**91**	*e*S		Sn	17 19 46.1	-2.6	
DNZ2				Sm			17 19 48.3		
	comp=N,44nm,0.6s								
DNZ2				Sm			17 19 48.4		
	comp=E,52nm,0.5s								
IVAS	**Ivanjica**	**5.01**	**247**	*e*P		Pn	17 18 57.7	-0.8	
SRS	**Serrai**	**5.04**	**206**	*e*P		Pn	17 18 58.7	-0.2	
TEKS	**Tekeris**	**5.08**	**260**	*e*P		Pn	17 18 58.8	-0.6	
STHS	**Stebnicka Huta**	**5.17**	**318**	*e*P		Pn	17 19 01.1	+0.5	
SEV	**Sevastopol'**	**5.18**	**100**	P		Pn	17 19 00.5	-0.2	
SEV				Pm			17 19 00.7		
SEV				S		Sn	17 19 58.8	-1.1	
SEV				Sm			17 19 59.8		
SEV	**Sevastopol'**	**5.18**	**100**	⇑*i*P		Pn	17 19 00.5	-0.2	
SEV				Pm			17 19 00.7		
	comp=Z,9.0nm,0.3s								
SEV				*e*S		Sn	17 19 58.8	-1.1	
SEV				Sm			17 19 59.8		
	comp=N,8.0nm,0.4s								
SEV				Sm			17 19 59.8		
	comp=E,10.0nm,0.4s								
AK07	**Malin Array Si**	**5.19**	**19**	P		Pn	17 19 00.4	-0.4	
AK13	**Malin Array Si**	**5.22**	**18**	P		Pn	17 19 00.2	-0.9	
AK06	**Malin Array Si**	**5.22**	**19**	P		Pn	17 19 00.8	-0.4	
AK14	**Malin Array Si**	**5.25**	**18**	P		Pn	17 19 01.2	-0.3	
AK10	**Malin Array Si**	**5.25**	**19**	P		Pn	17 19 01.1	-0.5	
AK05	**Malin Array Si**	**5.26**	**19**	P		Pn	17 19 01.4	-0.3	
AK12	**Malin Array Si**	**5.27**	**19**	P		Pn	17 19 01.5	-0.3	
AK09	**Malin Array Si**	**5.27**	**20**	P		Pn	17 19 01.3	-0.6	
AK16	**Malin Array Si**	**5.28**	**18**	P		Pn	17 19 01.3	-0.7	
AK17	**Malin Array Si**	**5.29**	**18**	P		Pn	17 19 01.4	-0.6	
AK02	**Malin Array Si**	**5.29**	**19**	P		Pn	17 19 01.7	-0.4	
AK11	**Malin Array Si**	**5.30**	**19**	P		Pn	17 19 01.8	-0.5	
MI28	**Mi28,Pidlybu**	**5.31**	**8**	P		Pn	17 19 02.2	-0.1	
AK15	**Malin Array Si**	**5.31**	**18**	P		Pn	17 19 01.9	-0.5	
AK19	**Malin Array Si**	**5.31**	**17**	P		Pn	17 19 01.6	-0.8	
AK18	**Malin Array Si**	**5.32**	**18**	P		Pn	17 19 01.8	-0.7	
AK01	**Malin Array Si**	**5.33**	**19**	P		Pn	17 19 02.2	-0.4	
KIEV	**Kiev**	**5.33**	**19**	P		Pn	17 19 02.2	-0.4	
	comp=E,0.3nmcomp=E,43nm,1.5s								
AK20	**Malin Array Si**	**5.33**	**17**	P		Pn	17 19 01.6	-1.0	
AKBB	**Malin Array Si**	**5.34**	**19**	P		Pn	17 19 02.3	-0.4	
AKASG	**Malin Array Be** comp=E,1.9nm,0.3s,baz=209,slow=12,SNR=30	**5.34**	**19**	P		Pn	17 19 01.2	-1.5	
AKASG				S		Sn	17 19 59.3	-4.3	
	comp=E,7.7nm,0.5s,baz=203,slow=22,SNR=13								
AK04	**Malin Array Si**	**5.35**	**18**	P		Pn	17 19 02.1	-0.7	
AK03	**Malin Array Si**	**5.36**	**19**	P		Pn	17 19 02.4	-0.6	
AK22	**Malin Array Si**	**5.36**	**18**	P		Pn	17 19 02.2	-0.8	
AK21	**Malin Array Si**	**5.37**	**17**	P		Pn	17 19 02.3	-0.8	
AK23	**Malin Array Si**	**5.37**	**18**	P		Pn	17 19 02.3	-0.9	
BBLS	**Lazi&#263i**	**5.38**	**253**	*e*P		Pn	17 19 03.8	+0.3	
RNPP5	**Staryi Chortor**	**5.57**	**356**	P		Pn	17 19 05.3	-0.5	
RNPP8	**Varash**	**5.68**	**356**	P		Pn	17 19 06.8	-0.4	
RNPP9	**Sopachiv**	**5.75**	**356**	P		Pn	17 19 07.8	-0.4	
LANS	**Liptovska Anna**	**5.91**	**308**	*e*P		Pn	17 19 11.0	+0.5	
VYHS	**Vyhne**	**5.96**	**301**	*e*P		Pn	17 19 11.4	+0.4	
SUDU	**Sudak**	**6.03**	**95**	S		Sn	17 20 18.8	-1.3	
SUDU				Sm			17 20 22.6		
SUDU	**Sudak**	**6.03**	**95**	*e*S		Sn	17 20 18.8	-1.3	
SUDU				Sm			17 20 22.6		
	comp=N,31nm,0.5s								
SUDU				Sm			17 20 22.6		
	comp=E,2.0nm,0.2s								
DRME	**Dracevica, Mon**	**6.35**	**239**	*e*P		Pn	17 19 18.5	+2.3	
BRTR	**Keskin Array B** comp=E,0.6nm,0.5s,baz=315,slow=12,SNR=4.6	**7.93**	**136**	P		Pn	17 19 37.4	-0.1	
BRTR				S		Sn	17 21 07.5	+1.6	
	comp=E,0.3nm,0.6s,baz=322,slow=16,SNR=1.3								
CSS	**Mathiatis**	**11.89**	**152**	P		Pn	17 20 30.6	+0.8	
FINES	**FINESS Array B** comp=E,2.6nm,0.8s,baz=172,slow=13,SNR=3.6	**15.80**	**359**	P		Pn	17 21 16.6	-2.1	
NOA	**NORSAR Array B** comp=E,0.9nm,0.7s,baz=146,slow=10,SNR=3.4	**17.82**	**335**	P		P	17 21 40.5	-1.3	
AKTO	**Aktyubinsk** comp=E,1.1nm,0.7s,baz=287,slow=9.1,SNR=3.6 comp=E,1.1nm,0.7s	**21.48**	**66**	P		P	17 22 22.2	+0.8	
ARTI	**Arti** comp=E,3.4nm,0.4s,baz=265,slow=9.4,SNR=9.1 comp=E,3.4nm,0.4s	**22.51**	**50**	P		P	17 22 31.9	+0.2	
ARCES	**ARCESS Array B** comp=E,1.6nm,0.7s,baz=188,slow=8.2,SNR=2.3 comp=E,1.6nm,0.7s	**23.93**	**359**	P		P	17 22 45.2	+0.7	
BVAR	**Borovoye Array** comp=E,0.2nm,0.4s,baz=280,slow=8.3,SNR=2.0 comp=E,0.2nm,0.4s	**29.12**	**59**	P		P	17 23 33.2	+2.0	
SPITS	**Spitsbergen Ar** comp=E,12nm,1.1s,baz=147,slow=8.7,SNR=1.9 comp=E,12nm,1.1s	**32.85**	**356**	P		P	17 24 04.8	+1.1	
KURBB	**Kurchatov Arra** comp=E,0.4nm,0.6s,baz=285,slow=9.0,SNR=2.5 comp=E,0.4nm,0.6s	**34.45**	**63**	P		P	17 24 19.0	+1.2	
ZALV	**Zalesovo Beam** comp=E,1.1nm,0.6s,baz=293,slow=7.9,SNR=5.1 comp=E,1.1nm,0.6s	**37.54**	**56**	P		P	17 24 45.3	+1.3	
MKAR	**Makanchi Array** comp=E,0.4nm,0.6s,baz=292,slow=7.8,SNR=3.8 comp=E,0.4nm,0.6s	**37.90**	**68**	P		P	17 24 48.6	+1.4	
TORD	**Torodi Ar. Bea** comp=E,0.2nm,0.3s,baz=36,slow=8.4,SNR=2.5 comp=E,0.2nm,0.3s	**38.65**	**221**	P		P	17 24 54.9	+1.2	

*IDC **14** 17:24:39.6±6.9, 27°.28N×83°.93E, h0km, mb3.3/4, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=331.2km s-min=24.5km az=68.0*
*DMN **14** 17:24:43.2±0.0, 27°.62N×86°.21E, h2km, Ml4.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 14 17:24:42.9±0.9, 27°.62N±0°.06×86°.21E±0°.04, h10km, n17, σ0s98/25, mb3.3/4, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUN	**Gumba** baz=315,slow=0.0	**0.41**	**315**	Pg		**Pg**	**17 24 51.1**	**-0.1**
GUN				Sg		**Sg**	**17 24 56.8**	**0.0**
	baz=315,slow=0.0							
PKI	**Pulchoki** baz=266,slow=0.0	**0.71**	**266**	Pg		**Pg**	**17 24 57.3**	**+0.5**
PKI				Sg		**Sg**	**17 25 06.2**	**0.0**
	baz=266,slow=0.0							
PKIN	**Phulchoki** baz=267,slow=0.0	**0.72**	**267**	Pg		**Pg**	**17 24 57.4**	**+0.4**
PKIN				Sg		**Sg**	**17 25 06.5**	**0.0**
	baz=267,slow=0.0							
RAMN	**Ramite** baz=152,slow=0.0	**0.75**	**152**	Pg		**Pg**	**17 24 57.1**	**-0.3**
RAMN				Sg		**Sg**	**17 25 07.6**	**+0.4**
	1μm,0.4s,baz=152,slow=0.0							
KKN	**Kakani** baz=282,slow=0.0	**0.84**	**282**	Pg		**Pg**	**17 24 59.4**	**+0.2**
DMN	**Daman** baz=270,slow=0.0	**0.98**	**270**	Pg		**Pn**	**17 25 02.9**	**-0.1**
DMN				Sg		**Sb**	**17 25 15.2**	**-0.1**
	436nm,0.2s,baz=270,slow=0.0							
ODAN	**Odare** baz=125,slow=0.0	**1.29**	**125**	Pg		**Pn**	**17 25 07.3**	**0.0**
ODAN				Sg		**Sn**	**17 25 25.1**	**+0.4**
	482nm,0.2s,baz=125,slow=0.0							
GKN	**Gorkha** baz=286,slow=0.0	**1.45**	**286**	Pg		**Pn**	**17 25 09.9**	**+0.6**
GKN				Sg		**Sg**	**17 25 29.7**	**+0.2**
	2μm,0.3s,baz=286,slow=0.0							
DANN	**Dangsing** baz=289,slow=0.0	**2.29**	**289**	Pn		**Pn**	**17 25 22.1**	**+1.1**
DANN	**Dangsing** baz=289,slow=0.0	**2.29**	**289**	Pg		**Pb**	**17 25 24.8**	**+0.3**
DANN				Sg		**Sb**	**17 25 53.7**	**+0.7**
	312nm,0.3s,baz=289,slow=0.0							
KOLN	**Koldanda** baz=274,slow=0.0	**2.32**	**274**	Pg		**Pb**	**17 25 24.9**	**-0.1**
KOLN				Sg		**Sg**	**17 25 56.2**	**-1.4**
	267nm,0.3s,baz=274,slow=0.0							
PYUN	**Piuthan** baz=280,slow=0.0	**2.89**	**280**	Pn		**Pn**	**17 25 29.9**	**+0.6**
PYUN				Sg		**Sg**	**17 26 13.3**	**-2.6**
	214nm,0.3s,baz=280,slow=0.0							
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=175,slow=12,SNR=7.7 0.7nm,0.6s	**19.39**	**352**	P		**P**	**17 29 08.2**	**-0.8**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=168,slow=9.5,SNR=4.7 0.6nm,0.6s	**23.71**	**348**	P		**P**	**17 29 52.5**	**-2.4**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=188,slow=8.7,SNR=2.1 0.2nm,0.3s	**26.32**	**358**	P		**P**	**17 30 20.4**	**+1.6**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=318,slow=6.0,SNR=1.8 0.2nm,0.6s	**66.37**	**130**	P		P	17 35 38.3	+6.0
ASAR	**Alice Springs** 0.2nm,0.9s,baz=314,slow=5.9,SNR=1.4 0.2nm,0.9s	**68.68**	**133**	P		P	17 35 54.1	+7.2

IDC 14 17:33:51.7±4.3, 47°.46N×92°.66W, h0km, mbtmp2.4/1, ML0.8/1, Error ellipse: s-maj=74.1km s-min=29.4km az=54.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ULM	**Lac du Bonnet** 0.2nm,0.3s,baz=137,slow=13,SNR=1.5	**3.51**	**324**	Pn		Pn	17 34 45.7	-1.7
ULM				Pg		Pb	17 34 54.5	-0.1
	0.3nm,0.3s,baz=146,slow=14,SNR=4.2							
ULM				Lg		Lg	17 35 39.7	
	1.0nm,0.3s,baz=240,slow=22,SNR=14							
	0.6nm,0.4s							
I10CA	**LAC DU BONNET** 0.1nm,1.2s,baz=140,slow=34,SNR=7.0	**3.53**	**322**	I		I	17 54 45.0	
I56US	**NEWPORT INFRASI** baz=84,slow=314,SNR=4.6	**6.42**	**282**	I		I	19 17 00.0	

*IDC **14** 17:49:38.6±1.2, 6°.06S×151°.56E, h0km, mb3.8/7, mbtmp3.9/8, ML2.1/1, MS2.8/3, Error ellipse: s-maj=48.0km s-min=21.1km az=119.0*
*NEIC **14** 17:49:42.0±2.6, 6°.3S±0°.1×151°.9E±0°.2, h10km±2km, mb4.4/11, Error ellipse: s-maj=29.8km s-min=12.6km az=116.0*
ISC 14 17:49:45.5±0.9, 6°.0S±0°.2×151°.5E±0°.2, h41km, n26, σ1s30/24, mb4.1/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.95**	**21**			**Pn**	**17 50 15.8**	**-0.3**
PMG	**Port Moresby**	**5.43**	**231**			**Pn**	**17 51 05.5**	**+1.6**
PMG						**Sn**	**17 52 05.6**	**+0.4**
PMG	**Port Moresby** 3.6nm,0.3s,baz=56,slow=11,SNR=11	**5.43**	**231**	Pn		**Pn**	**17 51 02.4**	**-1.5**
PMG				Sn		**Sn**	**17 52 04.8**	**-0.4**
	3.8nm,0.3s,baz=145,slow=22,SNR=6.0							
	24nm,0.7s							
MANU	**Manus Island**	**5.68**	**314**	Pn		Pn	17 51 14.7	+7.2
HNR	**Honiara** comp=Z,28nm,18.5s,baz=41,slow=38	**9.07**	**112**	LR		LR	17 55 15.8	
GUMO	**Guam** comp=Z,22nm,19.3s,baz=160,slow=35	**20.55**	**341**	LR		LR	18 01 46.3	
WB0	**Warramunga Arr**	**21.50**	**229**	P		**P**	**17 54 30.2**	**-0.7**
WB0				IAmb		IAmb	17 54 43.7	
	comp=Z,16nm,1.3s							
WR8	**Warramunga Arr**	**21.53**	**228**	P		**P**	**17 54 30.8**	**-0.5**
WR8				IAmb		IAmb	17 54 44.0	
	comp=Z,7.8nm,0.9s							
WRA	**Warramunga Arr** comp=Z,2.0nm,0.8s,baz=54,slow=10,SNR=0.1 comp=Z,2.0nm,0.8s	**21.64**	**229**	P		**P**	**17 54 31.2**	**-1.3**
INKA	**Innaminka**	**23.88**	**204**	P		**P**	**17 54 54.8**	**-0.5**
AS31	**Alice Springs**	**24.35**	**222**	P		**P**	**17 54 59.8**	**0.0**
AS31				IAmb		IAmb	17 55 11.4	
	comp=Z,2.7nm,0.6s							
ASAR	**Alice Springs** comp=Z,3.8nm,0.7s,baz=53,slow=9.0,SNR=57 comp=Z,3.8nm,0.7s	**24.36**	**222**	P		**P**	**17 54 58.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**27.91**	**242**	P		**P**	**17 55 34.8**	**+2.9**
PETK	**Petropavlovsk-** comp=Z,12nm,18.0s,baz=300,slow=38	**59.14**	**4**	LR		LR	18 26 49.9	
SONM	**Songino Array** comp=Z,0.3nm,0.6s,baz=142,slow=7.3,SNR=2.6 comp=Z,0.3nm,0.6s	**66.65**	**329**	P		**P**	**18 00 31.9**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,baz=111,slow=8.0,SNR=1.3 comp=Z,0.3nm,0.3s	**81.43**	**327**	P		**P**	**18 01 57.0**	**-1.1**
ILAR	**Eielson Array** comp=Z,1.5nm,0.7s,baz=246,slow=5.0,SNR=12 comp=Z,1.5nm,0.7s	**83.79**	**22**	P		**P**	**18 02 09.2**	**-0.9**
COLD	**Coldfoot**	**83.84**	**19**	P		**P**	**18 02 11.8**	**+1.4**
QSPA	**South Pole Qui** comp=Z,0.8nm,0.9s,baz=20,slow=2.7,SNR=5.1 comp=Z,0.8nm,0.9s	**83.95**	**180**	P		**P**	**18 02 10.2**	**-1.0**
J25K	**Salcha River,**	**84.29**	**23**	P		**P**	**18 02 13.0**	**+0.2**
M27K	**Edge Creek, AK**	**84.75**	**25**	P		**P**	**18 02 16.7**	**+1.4**
M27K				IAmb		IAmb	18 02 28.0	
	comp=Z,3.8nm,0.8s							
M30M	**Minto, Yukon**	**87.03**	**26**	P		**P**	**18 02 28.4**	**+2.0

TNSS				Lg	Lg	18 03 23.1		
	4.7nm,0.3s							
TNSS	**Tian-Shan**	**5.81**	**285**	*eP*	**Pg**	**18 02 06.0**	**-1.9**	
	0.6nm,0.1s							
TNSS				*eS*	**Sg**	**18 03 23.1**	**0.0**	
	5.2nm,0.4s							
CHKK	**Chushkaly**	**5.97**	**292**	Pg	**Pg**	**18 02 08.7**	**-2.1**	
	18nm,0.3s							
CHKK				Lg	Lg	18 03 28.8		
	14nm,0.3s							
CHKK	**Chushkaly**	**5.97**	**292**	*eP*	**Pg**	**18 02 08.7**	**-2.1**	
	3.7nm,0.1s							
CHKK				*eS*	**Sg**	**18 03 27.8**	**-0.3**	
	12nm,0.2s							
KTBS	**Karatobe**	**6.14**	**290**	Pg	**Pg**	**18 02 12.3**	**-1.8**	
	1.7nm,0.2s							
KTBS				Lg	Lg	18 03 34.6		
	30nm,0.5s							
MTBS	**Maitube**	**6.20**	**285**	Pg	**Pg**	**18 02 14.5**	**-0.7**	
	2.5nm,0.1s							
MTBS				Lg	Lg	18 03 37.8		
	9.6nm,0.2s							
MTBS	**Maitube**	**6.20**	**285**	*eP*	**Pg**	**18 02 14.3**	**-0.9**	
	2.3nm,0.1s							
MTBS				*eS*	**Sg**	**18 03 37.3**	**+1.8**	
	5.6nm,0.1s							
KUU	**Kurty**	**6.43**	**291**	Pg	**Pg**	**18 02 17.7**	**-2.0**	
	3.0nm,0.1s							
KUU				Lg	Lg	18 03 43.6		
	4.6nm,0.1s							
KUU	**Kurty**	**6.43**	**291**	*eP*	**Pg**	**18 02 17.7**	**-2.0**	
	3.0nm,0.1s							
KUU				*eS*	**Sg**	**18 03 43.3**	**+0.4**	
	3.8nm,0.1s							
DGS	**Degeres**	**6.69**	**285**	Pg	**Pg**	**18 02 23.3**	**-1.4**	
	2.0nm,0.3s							
DGS				Lg	Lg	18 03 51.0		
	13nm,0.6s							
KURBB	**Kurchatov Arra**	**9.75**	**336**	⇑Lg	Lg	18 05 40.9		
	14nm,0.8s							
KURK	**Kurchatov**	**9.81**	**337**	⇓Sn	Sn	18 04 48.5	+21	
	2.2nm,0.6s							
KURK				⇑Lg	Lg	18 05 38.8		
	5.3nm,0.8s							

*IDC **14** 18:06:00.9±1.8,22.˚71S×178.˚18W,h0km,mb4.0/5, mbtmp4.0/5,Error ellipse: s-maj=51.0km s-min=35.3km az=25.0*
*NEIC **14** 18:06:60.0±1.1,24.˚1S±0.˚2×179.˚7W±0.˚2,h482km±24km, mb4.4/19,Error ellipse: s-maj=33.6km s-min=18.6km az=49.0*
ISC 14 18:07:00.8±0.8**,24.˚32S**±0.˚09×**179.˚8W**±0.˚1**,h500**km**,n31,** σ**2s05**/34**,mb4.1**/11**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.84**	**343**		**P**	**18 08 41.8**	**-3.9**
NIUE	**Niue**	**10.59**	**62**	P	**P**	**18 09 25.6**	**+1.1**
RTZ	**Ruatahuna**	**14.51**	**190**	P	**P**	**18 10 08.9**	**+3.1**
RTZ				S	**S**	**18 12 33.0**	**-5.3**
BKZ	**Black Stump Fm**	**15.12**	**191**	P	**P**	**18 10 14.1**	**+1.9**
BKZ				IAmb	IAmb	18 10 55.0	
	comp=Z,37nm,1.5s						
BKZ				S	**S**	**18 12 45.1**	**-5.0**
BFZ	**Birch Farm**	**16.64**	**190**	P	**P**	**18 10 25.8**	**-2.2**
MRZ	**Mangatainoka R**	**16.74**	**192**	P	**P**	**18 10 27.2**	**-1.8**
MRZ				IAmb	IAmb	18 10 44.1	
	comp=Z,44nm,1.3s						
QRZ	**Quartz Range**	**17.66**	**199**	P	**P**	**18 10 38.4**	**+0.6**
TKNZ	**Takaka Hill**	**17.72**	**198**		**P**	**18 10 39.0**	**+0.5**
NNZ	**Nelson**	**17.78**	**197**	P	**P**	**18 10 39.0**	**0.0**
THZ	**Tophouse**	**18.41**	**197**	P	**P**	**18 10 45.2**	**+0.3**
LTZ	**Lake Taylor**	**19.54**	**198**	P	**P**	**18 10 56.2**	**+1.1**
CTAO	**Charters Tower**	**31.63**	**271**	P	**P**	**18 12 44.0**	**+1.6**
CTAO				IAmb	IAmb	18 13 03.6	
	comp=Z,17nm,1.3s						
STKA	**Stephens Creek**	**34.71**	**249**	P	**P**	**18 13 09.7**	**+1.4**
STKA	**Stephens Creek**	**34.71**	**249**	P	**P**	**18 13 09.7**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=81,slow=9.6,SNR=3.3						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**39.42**	**247**	P	**P**	**18 13 47.8**	**+0.7**
AS31	**Alice Springs**	**42.11**	**261**	P	**P**	**18 14 09.8**	**+0.9**
ASAR	**Alice Springs**	**42.12**	**261**	P	**P**	**18 14 09.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=94,slow=6.9,SNR=42						
ASAR				PcP	**PcP**	**18 15 53.0**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=101,slow=3.3,SNR=2.7						
	comp=Z,0.8nm,0.6s						
WR0	**Warramunga Arr**	**42.34**	**267**	P	**P**	**18 14 10.8**	**+0.2**
WR0				IAmb	IAmb	18 14 39.5	
	comp=Z,11nm,1.5s						
WR8	**Warramunga Arr**	**42.38**	**267**	P	**P**	**18 14 11.0**	**+0.1**
WRAB	**Tennant Creek**	**42.52**	**267**	P	**P**	**18 14 12.4**	**+0.4**
WRAB				IAmb	IAmb	18 14 30.3	
	comp=Z,9.1nm,1.4s						
WB0	**Warramunga Arr**	**42.52**	**267**	P	**P**	**18 14 12.1**	**+0.1**
WB0				IAmb	IAmb	18 14 26.6	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**42.53**	**267**	P	**P**	**18 14 12.1**	**0.0**
	comp=Z,1.8nm,0.4s,baz=97,slow=8.3,SNR=62						
	comp=Z,1.8nm,0.4s						
MTN	**Manton Dam**	**47.64**	**275**	P	**P**	**18 14 51.5**	**+0.1**
MTN				IAmb	IAmb	18 15 32.7	
	comp=Z,24nm,1.4s						
KNRA	**Kununurra**	**48.84**	**270**	P	**P**	**18 15 01.0**	**+0.6**
KNRA				IAmb	IAmb	18 15 16.1	
	comp=Z,9.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.95**	**266**	P	**P**	**18 15 16.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**50.95**	**266**	P	**P**	**18 15 16.8**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=107,slow=6.4,SNR=9.4						
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**65.77**	**180**	P	**P**	**18 16 58.2**	**+2.6**
QSPA	**South Pole Qui**	**65.77**	**180**	P	**P**	**18 16 57.9**	**+2.4**
	comp=Z,0.9nm,0.6s,baz=31,slow=5.9,SNR=8.7						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**142.99**	**349**	PKP	**PKPdf**	**18 25 33.1**	**-3.6**
	comp=Z,1.0nm,0.4s,baz=29,slow=3.4,SNR=7.6						
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	**PKPbc**	**18 25 49.2**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=93,slow=1.7,SNR=2.9						
MMAI	**Mount Meron Ar**	**148.01**	**294**	PKPbc	**PKPbc**	**18 25 50.9**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=106,slow=3.1,SNR=4.2						

*HEL **14** 18:07:31.0±0.1,61.˚00N×30.˚18E,h0km,ML2.0,Explosion*
*IDC **14** 18:07:34.6±2.2,60.˚93N×29.˚80E,h0km,mbtmp3.1/3, ML2.4/3,Error ellipse: s-maj=24.5km s-min=14.9km az=172.0*
ISC 14 18:07:31.9±1.5**,60.˚93N**±0.˚05×**29.˚97E**±0.˚07**,h0**km**,n25,** σ**1s74**/37**,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.70**	**316**	PB	**Pg**	**18 07 44.8**	**-0.5**
RUF				SG	**Sg**	**18 07 53.6**	**-0.7**
RUF				MSG		18 07 54.1	
	comp=Z,10.0nm,0.2s						
VJF	**Virojoki**	**1.25**	**253**	PN	**Pb**	**18 07 57.0**	**+0.8**
VJF				MSG		18 08 12.2	
	comp=Z,13nm,0.2s						
FIA0	**FINESS Array S**	**1.95**	**287**	PG	**Pn**	**18 08 07.5**	**+1.3**
	baz=100						
FIA0				MSG		18 08 31.6	
	comp=Z,6.3nm,0.2s						
FIA0				SG	**Sb**	**18 08 33.8**	**+0.7**
FINES	**FINESS Array B**	**1.95**	**287**	Pg	**Pb**	**18 08 07.9**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=108,slow=16,SNR=112						
FINES				Lg	Lg	18 08 33.3	
	comp=Z,0.3nm,0.3s,baz=108,slow=25,SNR=4.1						
PVF	**Pernaja**	**2.05**	**261**	PG	**Pb**	**18 08 10.0**	**+0.1**
PVF				MSG		18 08 35.3	
	comp=Z,17nm,0.2s						
PVF				SG	**Sg**	**18 08 39.8**	**+2.1**
JOF	**Joensuu**	**2.10**	**17**	PG	**Pn**	**18 08 06.9**	**-1.2**
JOF				SG	**Sn**	**18 08 33.2**	**-1.7**
KAF	**Kangasniemi**	**2.12**	**306**	PG	**Pn**	**18 08 10.2**	**+1.8**
KAF				MSG		18 08 35.3	
	comp=Z,12nm,0.2s						
KAF				SG	**Sb**	**18 08 38.0**	**+0.1**
ARBE	**Arbavere**	**2.49**	**235**	PG	**Pb**	**18 08 17.9**	**+0.5**
SUF	**Sumiainen**	**2.55**	**316**	PG	**Pn**	**18 08 16.2**	**+1.8**
	baz=128						
SUF				MSG		18 08 46.9	
	comp=Z,5.4nm,0.2s						
SUF				SG	**Sb**	**18 08 49.3**	**-1.0**
NUR	**Nurmijarvi**	**2.65**	**263**	PB	**Pn**	**18 08 18.2**	**+2.5**
	baz=76						
NUR				MSG		18 08 52.4	
	comp=Z,5.8nm,0.2s						
NIF	**Nilsia**	**2.67**	**339**	PB	**Pn**	**18 08 16.8**	**+0.8**
NIF				MSG		18 08 49.0	
	comp=Z,5.3nm,0.2s						
NIF				SB	**Sn**	**18 08 50.1**	**+1.1**
HEL5	**Espoo, Suvisaa**	**2.71**	**255**	PG	**Pb**	**18 08 21.3**	**+0.2**
	baz=73						
HEL5				MSG		18 08 54.2	
	comp=Z,4.3nm,0.2s						
KEF	**Keuruu**	**2.74**	**299**	PB	**Pn**	**18 08 19.2**	**+2.2**
KEF				MSG		18 08 53.4	
	comp=Z,3.5nm,0.2s						
KEF				SB	**Sb**	**18 08 54.5**	**-1.2**
MEF	**Metsahovi**	**2.84**	**258**	PB	**Pb**	**18 08 22.0**	**-1.3**
	baz=72						
MEF				MSG		18 08 58.1	
	comp=Z,6.2nm,0.2s						
MEF				SB	**Sb**	**18 08 58.7**	**+0.1**
VSU	**Vasula**	**2.97**	**215**	PB	**Pb**	**18 08 24.5**	**-1.0**
RMF	**Romuvaara**	**3.30**	**360**	PB	**Pn**	**18 08 24.6**	**-0.1**
	baz=177						
TVF	**Tvarminne**	**3.51**	**255**	SG	**Sg**	**18 09 24.8**	**+0.4**
OUF	**Merijarvi**	**4.21**	**327**	PG	**Pb**	**18 08 45.5**	**-1.2**
OUF				SG	**Sb**	**18 09 41.5**	**+3.5**
OBF0	**Syolatti, Pyha**	**4.45**	**326**	PG	**Pb**	**18 08 50.7**	**0.0**
OBF4	**Vikkela, Lumij**	**4.49**	**332**	PG	**Pb**	**18 08 51.4**	**0.0**
OUL	**Oulu**	**4.56**	**338**	PB	**Pn**	**18 08 46.5**	**+4.4**
OUL				SN	**Sn**	**18 09 34.5**	**-1.2**
KU1	**Kurvinen**	**4.66**	**358**	PN	**Pn**	**18 08 41.2**	**-2.2**
HFS	**Hagfors**	**8.06**	**271**	Pn	**Pn**	**18 09 30.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=82,slow=13,SNR=7.2						
HFS				Sn	**Sn**	**18 10 57.1**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=82,slow=25,SNR=1.2						
HFS				Lg	Lg	18 11 45.9	
	comp=Z,0.1nm,0.3s,baz=86,slow=30,SNR=1.9						
	comp=Z,0.6nm,0.2s						
ARCES	**ARCESS Array B**	**8.84**	**350**	Pn	**Pn**	**18 09 39.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=164,slow=13,SNR=1.7						
	comp=Z,1.2nm,0.8s						
NOA	**NORSAR Array B**	**9.11**	**279**	Pn	**Pn**	**18 09 42.8**	**-1.7**
	baz=89,slow=13,SNR=5.6						
	comp=Z,0.1nm,0.3s						

*ROM **14** 18:11:04.4±0.1,42.˚640N±0.˚003×13.˚179E±0.˚004, h10km,ML3.4/168,Mw3.3,Error ellipse: s-maj=0.3km s-min=0.2km az=72.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.11; $M_{\phi\phi}$0.97; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.51; $M_{\phi r}$-0.03; Fault plane solution: $M_0$1.17833×10^{14} NP1:ϕ_s323.00000°,δ50.00000°, λ-106.00000°. NP2:ϕ_s168.00000°,δ43.00000°, λ-72.00000°.*
*IDC **14** 18:11:05.0±1.8,42.˚82N×13.˚42E,h0km,mb3.3/2, mbtmp3.3/7,ML3.7/4,MS3.6/1 Error ellipse: s-maj=26.0km s-min=17.0km az=69.0*
*LDG **14** 18:11:06.5±0.2,42.˚58N×13.˚32E,h13km,Ml2.9/11,Error ellipse: s-maj=5.1km s-min=4.3km az=26.0*
ISC 14 18:11:04.8±0.7**,42.˚63N**±0.˚02×**13.˚20E**±0.˚02**,h15**km±4km**, n112,** σ**1s26**/164**,20C-2D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**90**	⇑P	**Pg**	**18 11 08.1**	**-0.2**
SMA1				S	**Sg**	**18 11 10.4**	**-0.1**
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
SMA1				AML	AML		
LNSS	**Leonessa**	**0.12**	**257**	⇑P	**Pg**	**18 11 08.0**	**-0.5**
LNSS				S	**Sg**	**18 11 10.5**	**-0.4**
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
	comp=E,96550μm,0.4s						
LNSS				AML	AML		
LNSS				AML	AML		
LNSS				AML	AML		
RM33	**Pellescritta (**	**0.12**	**175**	⇑P	**Pg**	**18 11 08.3**	**-0.2**
RM33				S	**Sg**	**18 11 11.0**	**+0.1**
RM33				AML	AML		
	comp=E,50950μm,1.4s						
RM33				AML	AML		
	comp=N,74550μm,0.1s						
RM33				AML	AML		
	comp=E,50050μm,1.4s						
RM33				AML	AML		
	comp=N,74550μm,0.1s						
RM33				AML	AML		
	comp=E,50050μm,0.6s						
RM33				AML	AML		
	comp=E,50950μm,0.6s						
CAMP	**Campotosto**	**0.18**	**122**	⇑P	**Pb**	**18 11 09.2**	**-0.7**
CAMP				S	**Sg**	**18 11 12.5**	**+0.2**
CAMP				AML	AML		
	comp=E,15450μm,0.8s						
CAMP				AML	AML		
	comp=E,15450μm,1.2s						
CAMP				AML	AML		
	comp=N,11750μm,0.5s						
MTRA	**Matera**	**0.19**	**49**	⇑P	**Pb**	**18 11 09.0**	**-1.1**
MTRA				S	**Sg**	**18 11 12.2**	**-0.3**
MTRA				AML	AML		
	comp=E,26050μm,1.0s						
MTRA				AML	AML		
	comp=N,31850μm,0.4s						
MTRA				AML	AML		
	comp=N,31550μm,0.4s						
MTRA				AML	AML		
	comp=E,26050μm,1.0s						
MTRA				AML	AML		
	comp=E,26450μm,1.0s						
MTRA				AML	AML		
	comp=N,31850μm,0.4s						
MTRA				AML	AML		
	comp=E,26050μm,1.0s						
MTRA				AML	AML		
	comp=E,26450μm,1.0s						
NRCA	**Norcia**	**0.21**	**343**	⇓P	**Pg**	**18 11 09.0**	**-0.7**
NRCA				S	**Sg**	**18 11 12.3**	**-0.7**
NRCA				AML	AML		
	comp=E,22950μm,0.4s						
NRCA				AML	AML		
	comp=N,9985μm,1.4s						
NRCA				AML	AML		
	comp=N,10150μm,0.5s						
NRCA				AML	AML		
	comp=E,22950μm,0.4s						
NRCA				AML	AML		
	comp=N,9985μm,1.4s						
NRCA				AML	AML		
	comp=E,25250μm,0.4s						
NRCA				AML	AML		
	comp=N,9985μm,0.6s						
GAVE	**Gavelli**	**0.23**	**285**	⇑P	**Pg**	**18 11 09.6**	**-0.5**
GAVE				S	**Sg**	**18 11 13.3**	**-0.3**
GAVE				AML	AML		
	comp=N,10110μm,0.3s						
GAVE				AML	AML		
	comp=N,33800μm,0.3s						
GAVE				AML	AML		
	comp=E,33400μm,0.7s						
GAVE				AML	AML		
	comp=N,10110μm,0.3s						
GAVE				AML	AML		
	comp=E,30250μm,0.7s						
MC2	**Monte Cornacci**	**0.28**	**359**	⇑P	**Pg**	**18 11 10.5**	**-0.5**
MC2				S	**Sg**	**18 11 15.0**	**-0.2**
MMO1	**Montemonaco**	**0.28**	**19**	⇑P	**Pg**	**18 11 10.4**	**-0.5**
MMO1				S	**Sg**	**18 11 14.8**	**-0.3**
TERO	**Teramo**	**0.30**	**91**	P	**Pb**	**18 11 10.9**	**-1.0**
TERO				S	**Sg**	**18 11 15.6**	**+0.2**
TERO				AML	AML		
	comp=N,7530μm,0.5s						
TERO				AML	AML		
	comp=N,13850μm,0.4s						
TERO				AML	AML		
	comp=E,5115μm,0.5s						
TERO				AML	AML		
	comp=E,11100μm,0.9s						
TERO				AML	AML		
	comp=N,7530μm,0.5s						
TERO				AML	AML		
	comp=E,11100μm,1.1s						
TERO				AML	AML		
	comp=N,13850μm,1.6s						
AQU	**L'Aquila**	**0.31**	**152**	P	**Pg**	**18 11 11.5**	**+0.1**
ARRO	**Arrone**	**0.33**	**261**	⇑P	**Pg**	**18 11 11.2**	**-0.4**
ARRO				S	**Sg**	**18 11 16.2**	**+0.1**
ARRO				AML	AML		
	comp=N,5450μm,0.4s						
ARRO				AML	AML		
	comp=N,5450μm,1.6s						
ARRO				AML	AML		
	comp=E,5915μm,0.4s						
GIGS	**Gran Sasso**	**0.33**	**123**	⇑P	**Pb**	**18 11 11.4**	**-1.0**
GIGS				S	**Sb**	**18 11 16.7**	**-0.8**
GIGS				AML	AML		
	comp=E,3950μm,0.2s						
GIGS				AML	AML		
	comp=N,6415μm,0.1s						
FEMA	**Monte Fema**	**0.35**	**342**	P	**Pg**	**18 11 11.6**	**-0.5**
FEMA				S	**Sg**	**18 11 16.7**	**-0.3**
FIAM	**Fiamignano**	**0.37**	**190**	⇑P	**Pg**	**18 11 12.4**	**0.0**
FIAM				S	**Sg**	**18 11 18.3**	**+0.8**
FIAM				AML	AML		
FIAM				AML	AML		
	comp=E,5800μm,0.6s						
FIAM				AML	AML		
	comp=N,4775μm,0.4s						
MF5	**Montefalcone A**	**0.41**	**28**	⇑P	**Pb**	**18 11 13.0**	**-0.8**
MF5				S	**Sb**	**18 11 19.8**	**0.0**
MF5				AML	AML		
	comp=E,8275μm,1.2s						
MF5				AML	AML		
	comp=N,6880μm,0.4s						
MF5				AML	AML		
	comp=E,8280μm,1.2s						
MF5				AML	AML		
	comp=N,6875μm,0.4s						
MF5				AML	AML		
	comp=E,8280μm,0.8s						
FDMO	**Fiordimonte**	**0.41**	**348**	⇑P	**Pg**	**18 11 12.5**	**-0.7**
FDMO				S	**Sg**	**18 11 19.0**	**+0.1**
FDMO				AML	AML		
	comp=N,3050μm,0.6s						
FDMO				AML	AML		
	comp=E,2715μm,0.6s						
CESI	**CESI - Serrava**	**0.43**	**330**	⇓P	**Pg**	**18 11 13.1**	**-0.5**
CESI				S	**Sg**	**18 11 19.3**	**-0.2**
CESI				AML	AML		
	comp=N,5505μm,0.3s						
CESI				AML	AML		
	comp=E,4400μm,0.3s						
CESI				AML	AML		
	comp=E,3870μm,0.3s						
CESI				AML	AML		
	comp=N,5950μm,0.3s						
CESI				AML	AML		
	comp=N,5510μm,0.3s						
GUMA	**Gualdo di Mace**	**0.44**	**13**	P	**Pg**	**18 11 13.5**	**-0.2**
GUMA				S	**Sb**	**18 11 20.6**	**-0.2**
CESX	**Cesi**	**0.46**	**268**	⇑P	**Pg**	**18 11 13.3**	**-0.7**
CESX				S	**Sg**	**18 11 21.0**	**+0.8**
CESX				AML	AML		
	comp=E,4905μm,0.5s						
CESX				AML	AML		
	comp=N,4975μm,0.5s						
CESX				AML	AML		
	comp=N,4975μm,1.5s						
CSP1	**Cessapalombo**	**0.46**	**0**	⇑P	**Pg**	**18 11 13.4**	**-0.6**
CSP1				S	**Sg**	**18 11 20.4**	**0.0**
CSP1				AML	AML		
	comp=E,6450μm,0.5s						
CSP1				AML	AML		
	comp=N,6275μm,0.4s						
FAGN	**Fagnano**	**0.46**	**142**	P	**Pb**	**18 11 13.9**	**-0.8**
FAGN				AML	AML		
	comp=N,7815μm,0.4s						
FAGN				AML	AML		
	comp=E,8295μm,1.5s						
FAGN				AML	AML		
	comp=N,7815μm,1.6s						
OFFI	**Offida**	**0.47**	**49**	⇑P	**Pb**	**18 11 14.7**	**-0.1**
OFFI				AML	AML		
	comp=E,10470μm,0.5s						
OFFI				AML	AML		
	comp=N,8980μm,0.5s						
OFFI				AML	AML		
	comp=N,8980μm,1.5s						
SAP2	**Sant'Angelo in**	**0.49**	**17**	P	**Pg**	**18 11 14.5**	**-0.1**
SAP2				S	**Sb**	**18 11 22.7**	**+0.6**
SAP2				AML	AML		
	comp=E,5060μm,0.9s						
SAP2				AML	AML		
	comp=N,26950μm,0.3s						
SAP2				AML	AML		
	comp=E,5060μm,1.1s						
MOMA	**Monte Martano**	**0.50**	**291**	⇑P	**Pg**	**18 11 14.1**	**-0.6**
MOMA				S	**Sg**	**18 11 21.6**	**+0.2**
MOMA				AML	AML		
	comp=E,5175μm,0.3s						
MOMA				AML	AML		
	comp=N,4100μm,0.3s						
MOMA				AML	AML		
	comp=E,5450μm,0.3s						
MOMA				AML	AML		
	comp=N,4575μm,0.3s						
MOMA				AML	AML		
	comp=N,4105μm,0.3s						
MOMA				AML	AML		
	comp=E,5450μm,1.7s						
MOMA				AML	AML		
	comp=E,5175μm,1.7s						
MML1	**Montelago di S**	**0.51**	**341**	P	**Pg**	**18 11 14.3**	**-0.7**
PF6	**Pievefavera**	**0.52**	**359**	P	**Pg**	**18 11 14.1**	**-1.0**
PF6				S	**Sg**	**18 11 22.1**	**0.0**
MNTT	**Montottone**	**0.52**	**34**	⇑P	**Pb**	**18 11 15.4**	**-0.3**
MNTT				S	**Sb**	**18 11 24.5**	**+1.4**
MNTT				AML	AML		
	comp=E,10900μm,0.4s						
MNTT				AML	AML		
	comp=E,10895μm,0.4s						
MNTT				AML	AML		
	comp=N,11450μm,0.6s						
MNTT				AML	AML		
	comp=E,10895μm,1.6s						
VCEL	**Villa Celiera**	**0.53**	**116**	P	**Pb**	**18 11 15.3**	**-0.6**
VCEL				S	**Sb**	**18 11 24.4**	**+1.1**
VCEL				AML	AML		
	comp=E,9335μm,0.7s						
VCEL				AML	AML		
	comp=N,11850μm,0.5s						
MNTP	**Montappone**	**0.54**	**21**	P	**Pb**	**18 11 15.6**	**-0.5**
MNTP				S	**Sb**	**18 11 24.8**	**+1.1**
MNTP				AML	AML		
	comp=E,8800μm,0.3s						
MNTP				AML	AML		
	comp=N,7475μm,0.3s						
MNTP				AML	AML		
	comp=E,8805μm,0.3s						
MNTP				AML	AML		
	comp=N,7475μm,0.3s						
SEF1	**Sefro**	**0.55**	**340**	P	**Pg**	**18 11 14.6**	**-1.1**
TRTR	**Tortoreto Alta**	**0.56**	**71**	⇑P	**Pn**	**18 11 16.6**	**-1.6**
TRTR				AML	AML		
	comp=E,13350μm,0.5s						
TRTR				AML	AML		
	comp=N,9865μm,1.1s						
TRTR				AML	AML		
	comp=N,9865μm,0.9s						
MDAR	**Monte D'Aria**	**0.56**	**356**	P	**Pg**	**18 11 15.2**	**-0.8**
MDAR				S	**Sg**	**18 11 23.8**	**+0.3**
ASSB	**Assisi San Ben**	**0.57**	**316**	P	**Pg**	**18 11 15.3**	**-0.8**
ASSB				S	**Sg**	**18 11 23.9**	**+0.1**
T0110	**Collepietro**	**0.59**	**133**	P	**Pb**	**18 11 16.1**	**-0.7**
T0110				S	**Sb**	**18 11 25.6**	**+0.6**
T0110				AML	AML		
	comp=E,4980μm,0.3s						
T0110				AML	AML		
	comp=N,5475μm,0.5s						
SSM1	**San Severino M**	**0.60**	**358**	P	**Pg**	**18 11 15.7**	**-0.9**
PTQR	**Pietraquaria**	**0.63**	**166**	P	**Pg**	**18 11 16.6**	**-0.5**
PTQR				AML	AML		
	comp=E,1018μm,1.1s						
PTQR				AML	AML		
	comp=E,1038μm,0.7s						
PTQR				AML	AML		
	comp=N,1115μm,0.6s						
MTL1	**Matelica**	**0.64**	**347**	P	**Pg**	**18 11 17.8**	**+0.4**

SRES	**S.Oreste - Sor**	**0.65**	**233**	P	**Pg**	**18 11 16.8**	**-0.7**
SNTG	**Esanatoglia**	**0.65**	**343**	P	**Pg**	**18 11 17.0**	**-0.7**
SNTG				AML	AML		
	comp=E,1360µm,0.6s						
SNTG				AML	AML		
	comp=N,1440µm,0.5s						
SNTG				AML	AML		
	comp=E,1400µm,0.7s						
SNTG				AML	AML		
	comp=E,1400µm,1.3s						
SNTG				AML	AML		
	comp=N,1360µm,0.5s						
MTCE	**Montecelio**	**0.70**	**209**	⇑P	**Pg**	**18 11 17.5**	**-0.9**
MTCE				AML	AML		
	comp=N,2565µm,0.5s						
MTCE				AML	AML		
	comp=E,3025µm,0.4s						
MTCE				AML	AML		
	comp=N,2565µm,1.5s						
CADA	**Capodarco di F**	**0.70**	**36**	P	**Pn**	**18 11 19.3**	**-0.8**
CERT	**Cerreto**	**0.70**	**193**	P	**Pg**	**18 11 17.6**	**-0.9**
CERT				AML	AML		
	comp=N,4070µm,0.5s						
CERT				AML	AML		
	comp=E,6635µm,0.6s						
CERT				AML	AML		
	comp=N,4070µm,1.5s						
EL6	**Elcito**	**0.70**	**354**	P	**Pg**	**18 11 17.7**	**-0.9**
EL6				AML	AML		
	comp=E,3420µm,0.7s						
EL6				AML	AML		
	comp=E,3420µm,1.3s						
EL6				AML	AML		
	comp=N,2945µm,0.7s						
FOSV	**Fossato di Vic**	**0.74**	**334**	P	**Pg**	**18 11 18.4**	**-0.8**
FOSV				AML	AML		
	comp=N,1680µm,1.5s						
FOSV				AML	AML		
	comp=E,1120µm,0.7s						
FOSV				AML	AML		
	comp=N,1680µm,0.5s						
CING	**Cingoli**	**0.74**	**360**	P	**Pg**	**18 11 18.3**	**-1.0**
CIMA	**Civitanova Mar**	**0.76**	**27**	P	**Pb**	**18 11 20.2**	**+0.5**
RCAV	**Rocca di Cave**	**0.81**	**194**	P	**Pg**	**18 11 19.4**	**-1.1**
INTR	**Introdacqua**	**0.81**	**140**	P	**Pg**	**18 11 19.8**	**-0.8**
INTR				AML	AML		
	comp=E,2640µm,0.7s						
INTR				AML	AML		
	comp=N,4945µm,0.5s						
INTR				AML	AML		
	comp=E,2640µm,0.7s						
INTR				AML	AML		
	comp=E,1800µm,0.7s						
INTR				AML	AML		
	comp=N,4945µm,0.6s						
INTR				AML	AML		
	comp=E,2640µm,1.3s						
INTR				AML	AML		
	comp=N,5110µm,0.6s						
VVLD	**Villa Vallelon**	**0.82**	**157**	P	**Pb**	**18 11 21.0**	**+0.1**
VVLD				AML	AML		
	comp=E,2325µm,0.6s						
VVLD				AML	AML		
	comp=E,2125µm,0.6s						
VVLD				AML	AML		
	comp=N,1750µm,0.6s						
VVLD				AML	AML		
	comp=N,1820µm,0.6s						
VVLD				AML	AML		
	comp=E,2325µm,1.4s						
VVLD				AML	AML		
	comp=E,2125µm,1.4s						
GUAR	**Guarcino**	**0.84**	**174**	P	**Pb**	**18 11 21.7**	**+0.6**
GUAR				AML	AML		
	comp=E,2460µm,1.4s						
GUAR				AML	AML		
	comp=E,2460µm,0.6s						
GUAR				AML	AML		
	comp=N,2875µm,1.2s						
ATTE	**AVT- Monte Tez**	**0.84**	**313**	P	**Pg**	**18 11 20.3**	**-0.9**
MGAB	**Montegabbione**	**0.85**	**290**	P	**Pg**	**18 11 20.4**	**-0.9**
MGAB				AML	AML		
	comp=E,3770µm,0.6s						
MGAB				AML	AML		
	comp=E,4335µm,0.6s						
MGAB				AML	AML		
	comp=N,3900µm,0.6s						
MGAB				AML	AML		
	comp=E,4335µm,1.4s						
MGAB				AML	AML		
	comp=N,3670µm,0.6s						
MGAB				AML	AML		
	comp=E,3770µm,1.4s						
SSFR	**Montelago di S**	**0.86**	**339**	P	**Pg**	**18 11 20.7**	**-0.9**
SSFR				AML	AML		
	comp=N,2160µm,0.5s						
SSFR				AML	AML		
	comp=N,2205µm,0.9s						
SSFR				AML	AML		
	comp=E,2295µm,0.3s						
SSFR				AML	AML		
	comp=E,1950µm,0.4s						
SSFR				AML	AML		
	comp=N,2160µm,1.5s						
ATSC	**Scheggia e Pas**	**0.88**	**335**	P	**Pg**	**18 11 20.9**	**-1.0**
ARVD	**Arcevia**	**0.89**	**348**	P	**Pg**	**18 11 21.1**	**-0.9**
ARVD				AML	AML		
	comp=N,2295µm,0.7s						
ARVD				AML	AML		
	comp=E,1985µm,1.4s						
ARVD				AML	AML		
	comp=N,2295µm,1.3s						
BRJN	**Brijuni**	**2.31**	**10**	*e*Pn	**Pn**	**18 11 42.2**	**-0.1**
KIJV	**Kijevo**	**2.71**	**58**	*e*Pn	**Pn**	**18 11 49.8**	**+1.9**
SLCN	**Sala Consilina**	**2.89**	**140**	AML	AML		
	comp=N,80µm,1.1s						
SLCN				AML	AML		
	comp=N,80µm,0.9s						
SLCN				AML	AML		
	comp=E,132µm,0.6s						
SKDS	**Skadanscina**	**2.97**	**11**	*e*Pn	**Pn**	**18 11 51.7**	**+0.2**
PGF	**Pioggiola**	**3.10**	**270**	*e*Pn	**Pn**	**18 11 54.5**	**+1.2**
PGF				*e*Sn	**Sn**	**18 12 29.9**	**-0.3**
	comp=E,2.0nm,0.2s						
STON	**Ston**	**3.32**	**84**	*e*Pn	**Pn**	**18 11 57.1**	**+0.9**
STON	**Ston**	**3.32**	**84**	AML	AML		
	comp=N,74µm,0.8s						
STON				AML	AML		
	comp=E,73µm,0.4s						
OZLJ	**Ozalj**	**3.40**	**28**	*e*Pn	**Pn**	**18 11 58.2**	**+0.9**
GBAS	**Gorenja Brezov**	**3.42**	**15**	*e*Pn	**Pn**	**18 11 58.8**	**+1.1**
BLY	**Banja Luka**	**3.58**	**52**	*e*Pn	**Pn**	**18 12 02.4**	**+2.6**
A051A	**Mrakovica**	**3.59**	**47**	*e*Pn	**Pn**	**18 12 02.0**	**+2.1**
ROBS	**Robic**	**3.62**	**3**	*i* Pn	**Pn**	**18 12 00.6**	**+0.3**
TREB	**Trebinje**	**3.80**	**87**	*e*Pn	**Pn**	**18 12 03.9**	**+1.1**
MOSL	**Moslavina**	**3.93**	**39**	*e*Pn	**Pn**	**18 12 04.6**	**0.0**
KLINJ	**Klinje**	**3.99**	**80**	*e*Pn	**Pn**	**18 12 07.5**	**+2.0**
OBKA	**Obir**	**4.00**	**13**	*e*Pn	**Pn**	**18 12 05.4**	**-0.2**
	comp=E,0.4nm,0.2s						
MYKA	**Terra Mystica**	**4.01**	**4**	*e*Pn	**Pn**	**18 12 06.4**	**+0.7**
	comp=E,3.1nm,0.3s						
MYKA				*e*Sn	**Sn**	**18 12 54.7**	**+2.2**
	comp=E,8.5nm,0.4s						
ABTA	**Abfaltersbach**	**4.14**	**353**	*e*Pn	**Pn**	**18 12 09.2**	**+1.6**
	comp=E,19nm,0.5s,SNR=12						
ABTA				*e*Sn	**Sn**	**18 12 57.4**	**+1.6**
	comp=E,10nm,0.6s						
SOKA	**Soboth**	**4.25**	**17**	*e*Pn	**Pn**	**18 12 09.4**	**+0.3**
	comp=E,1.1nm,0.3s						
SOKA				*e*Sn	**Sn**	**18 12 59.6**	**+1.1**
	comp=E,5.6nm,0.8s						
SBF	**Sospel**	**4.39**	**288**	*e*Pn	**Pn**	**18 12 12.0**	**+1.1**
SBF				*e*Sn	**Sn**	**18 13 01.3**	**-0.5**
	comp=E,1.9nm,0.3s						
KBA	**Koelnbreinsper**	**4.45**	**1**	*e*Pn	**Pn**	**18 12 13.7**	**+1.8**
	comp=E,6.6nm,0.4s						
KBA				*e*Sn	**Sn**	**18 13 02.9**	**-0.6**
	comp=E,12nm,0.5s						
RUDO	**Rudo**	**4.62**	**76**	*e*Pn	**Pn**	**18 12 14.9**	**+0.8**
FETA	**Feichten**	**4.73**	**339**	*e*Pn	**Pn**	**18 12 18.9**	**+3.2**
	comp=E,3.3nm,0.6s						
FETA				*e*Sn	**Sn**	**18 13 12.0**	**+1.7**
	comp=E,4.9nm,0.7s						
WTTA	**Wattenberg**	**4.76**	**347**	*e*Pn	**Pn**	**18 12 18.7**	**+2.4**
	comp=E,2.6nm,0.3s,SNR=5.7						
WTTA				*e*Sn	**Sn**	**18 13 13.2**	**+2.0**
	comp=E,7.4nm,0.4s						

DAVOX	**Davos/Dischmat**	**4.78**	**331**	Pn	**Pn**	**18 12 18.9**	**+2.5**
	comp=E,1.3nm,0.3s,baz=151,slow=16,SNR=26						
DAVOX				Sn	**Sn**	**18 13 12.5**	**+1.0**
	comp=E,1.1nm,0.3s,baz=187,slow=23,SNR=5.8						
	comp=E,7.4nm,0.5s						
SQTA	**Sankt Quirin**	**4.80**	**344**	*e*Pn	**Pn**	**18 12 19.4**	**+2.7**
	comp=E,2.5nm,0.3s						
SQTA				*e*Sn	**Sn**	**18 13 15.0**	**+2.9**
	comp=E,10nm,0.4s						
LESA	**Schwarzleotal**	**4.81**	**356**	*e*Pn	**Pn**	**18 12 19.4**	**+2.6**
	comp=E,3.1nm,0.3s,SNR=8.5						
LESA				*e*Sn	**Sn**	**18 13 14.1**	**+2.0**
	comp=E,13nm,0.6s						
WATA	**Walderalm**	**4.84**	**347**	*e*Pn	**Pn**	**18 12 20.1**	**+2.8**
	comp=E,2.1nm,0.2s,SNR=6.1						
WATA				*e*Sn	**Sn**	**18 13 15.4**	**+2.3**
	comp=E,6.1nm,0.3s						
ARSA	**Arzberg**	**4.91**	**19**	*e*Pn	**Pn**	**18 12 18.7**	**+0.7**
	comp=E,2.5nm,0.3s,SNR=6.7						
ARSA				*e*Sn	**Sn**	**18 13 13.8**	**-0.7**
	comp=E,4.5nm,0.4s						
MOTA	**Moosalm**	**4.94**	**343**	*e*Pn	**Pn**	**18 12 21.8**	**+3.2**
	comp=E,4.7nm,0.6s						
MOTA				*e*Sn	**Sn**	**18 13 17.1**	**+1.5**
	comp=E,4.9nm,0.4s						
LMR	**La Mourre**	**4.96**	**280**	*e*Pn	**Pn**	**18 12 19.1**	**+0.4**
LMR				*e*Sn	**Sn**	**18 13 14.0**	**-1.8**
	comp=E,1.2nm,0.2s						
BIOA	**Bad Ischl, Aus**	**5.07**	**3**	*e*Pn	**Pn**	**18 12 21.9**	**+1.6**
	comp=E,3.2nm,0.4s						
BIOA				Sn	**Sn**	**18 13 20.8**	**+2.2**
	comp=E,12nm,0.5s						
MBDF	**Montbardon**	**5.11**	**296**	*e*Pn	**Pn**	**18 12 23.5**	**+2.5**
DAVA	**Damuels**	**5.22**	**334**	*e*Pn	**Pn**	**18 12 25.1**	**+2.7**
	comp=E,1.2nm,0.3s						
MOA	**Molln**	**5.27**	**8**	*e*Pn	**Pn**	**18 12 24.5**	**+1.4**
	comp=E,1.9nm,0.3s						
MOA				*e*Sn	**Sn**	**18 13 23.7**	**+0.1**
	comp=E,7.8nm,0.4s						
MORH	**Mrgy, Hungar**	**5.29**	**46**	*e*Pn	Pb	18 12 30.4	-6.6
LPG	**La Plagne**	**5.46**	**304**	*e*Pn	**Pn**	**18 12 26.4**	**+0.5**
LPG				*e*Sn	**Sn**	**18 13 26.8**	**-1.7**
	comp=E,3.2nm,0.3s						
LPL	**La Plagne**	**5.48**	**304**	*e*Pn	**Pn**	**18 12 27.5**	**+1.4**
LPL				*e*Sn	**Sn**	**18 13 28.0**	**-0.9**
	comp=E,4.9nm,0.4s						
RONA	**Rosalia, Austr**	**5.52**	**22**	*e*Pn	**Pn**	**18 12 27.9**	**+1.4**
	comp=E,3.4nm,0.4s,SNR=4.4						
RONA				*e*Sn	**Sn**	**18 13 29.0**	**-0.6**
	comp=E,3.3nm,0.4s						
CONA	**Conrad Observa**	**5.62**	**19**	*i* Pn	**Pn**	**18 12 27.9**	**0.0**
	comp=E,3.3nm,0.4s,SNR=8.1						
CONA				*e*Sn	**Sn**	**18 13 31.2**	**-1.0**
	comp=E,5.5nm,0.5s						
SMRF	**Simiane la Rot**	**5.72**	**286**	*e*Pn	**Pn**	**18 12 30.9**	**+1.6**
ORIF	**Oris-en-Rattie**	**5.77**	**296**	*e*Pn	**Pn**	**18 12 31.2**	**+1.2**
ORIF				*e*Sn	**Sn**	**18 13 34.4**	**-1.6**
	comp=E,3.2nm,0.5s						
GERES	**GERESS Array B**	**6.22**	**3**	Pn	**Pn**	**18 12 35.3**	**-0.9**
	comp=E,0.4nm,0.3s,baz=180,slow=12,SNR=6.3						
GERES				Sn	**Sn**	**18 13 45.1**	**-2.0**
	comp=E,0.2nm,0.3s,baz=186,slow=26,SNR=12						
CKRC	**Cesky Krumlov**	**6.24**	**7**	*e*SN	**Sn**	**18 13 45.7**	**-1.6**
CABF	**La Chapelle**	**6.45**	**311**	*e*Pn	**Pn**	**18 12 39.6**	**+0.3**
CABF				*e*Sn	**Sn**	**18 13 51.5**	**-1.1**
	comp=E,0.5nm,0.2s						
KHC	**Kasperske Hory**	**6.51**	**2**	*e*PN	**Pn**	**18 12 41.9**	**+1.9**
KHC				*e*SN	**Sn**	**18 13 51.3**	**-2.6**
ZVC	**Zvikov**	**6.84**	**5**	*e*SN	**Sn**	**18 14 00.8**	**-1.4**
HINF	**Hinteralfeld**	**6.85**	**321**	*e*Pn	**Pn**	**18 12 46.7**	**+1.9**
HINF				*e*Sn	**Sn**	**18 13 59.8**	**-2.7**
	comp=E,4.2nm,0.4s						
VRAC	**Vranov**	**7.08**	**18**	Pn	**Pn**	**18 12 48.4**	**+0.5**
	comp=E,0.3nm,0.3s,baz=204,slow=12,SNR=2.2						
	comp=E,1.1nm,0.4s						
CDF	**Champ du Feu**	**7.12**	**326**	*e*Pn	**Pn**	**18 12 49.1**	**+0.6**
CDF				*e*Sn	**Sn**	**18 14 07.1**	**-2.0**
	comp=E,7.3nm,0.5s						
HAU	**Haudompre**	**7.22**	**320**	*e*Pn	**Pn**	**18 12 51.3**	**+1.5**
HAU				*e*Sn	**Sn**	**18 14 08.9**	**-2.7**
	comp=E,12nm,0.5s						
KEST	**Kesra**	**7.51**	**205**	Pn	Pn	18 13 00.1	+6.2
	comp=E,0.5nm,0.3s,baz=29,slow=9.1,SNR=4.2						
	comp=E,2.1nm,0.5s						
MLR	**Muntele Rosu**	**9.61**	**68**	Pn	**Pn**	**18 13 23.1**	**+0.5**
	comp=E,0.4nm,0.3s,baz=260,slow=18,SNR=3.1						
	comp=E,0.8nm,0.4s						
BVAR	**Borovoye Array**	**38.80**	**54**	P	**P**	**18 18 28.5**	**-0.2**
	comp=E,0.2nm,0.4s,baz=276,slow=4.2,SNR=1.8						
	comp=E,0.2nm,0.4s						
AAK	**Ala-Archa**	**44.19**	**68**	LR	LR	18 38 28.3	
	comp=E,67nm,20.7s,baz=180,slow=37						
MKAR	**Makanchi Array**	**47.83**	**60**	P	**P**	**18 19 41.7**	**0.0**
	comp=E,0.3nm,0.7s,baz=286,slow=6.2,SNR=3.6						
	comp=E,0.3nm,0.7s						

*IDC **14** 18:17:23.7±0.5,31°.64S×58°.32E,h0km,mb4.3/19, mbtmp4.3/20,ML4.6/1,MS3.5/24,Error ellipse: s-maj=20.2km s-min=13.9km az=75.0*
*NEIC **14** 18:17:25.8±1.4,31°.75±0°.1×58°.2E±0°.1,h10km±1km, mb4.8/32,Error ellipse: s-maj=22.1km s-min=17.3km az=234.0*

ISC 14 18:17:26.0±0.5,**31°.61S**±0°.08×**58°.26E**±0°.09,**h14**km,**n79,**
σ1§**14**/55,**mb4.7**/34,**MS3.5**/23,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**10.64**	**347**		**Pn**	**18 19 54.8**	**-3.4**
FOMA	**Nahampoana Res**	**11.93**	**301**	Pn	**Pn**	**18 20 15.5**	**-0.2**
VOI	**Vohitsoka**	**14.07**	**311**		**Pn**	**18 20 43.9**	**-1.2**
H04N2	**CROZET ISLANDS**	**15.37**	**197**	T	T	18 36 55.2	
	baz=22,slow=75,SNR=428						
H04N1	**CROZET ISLANDS**	**15.38**	**197**	T	T	18 36 47.6	
	baz=22,slow=75,SNR=468						
H04N3	**CROZET ISLANDS**	**15.39**	**197**	T	T	18 36 44.0	
	baz=22,slow=75,SNR=585						
ABPO	**Ambohimpanom**	**16.00**	**319**		**Pn**	**18 21 09.1**	**-1.8**
OPO	**Ambohidratompo**	**16.39**	**320**	Pn	**P**	**18 21 17.6**	**-1.0**
	0.2nm,0.3s,baz=136,slow=13,SNR=16						
OPO				Sn	Sn	18 24 05.7	-12
	baz=35,slow=21,SNR=1.8						
OPO				LR	LR	18 26 32.9	
	comp=E,84nm,19.5s,baz=40,slow=33						
	21nm,0.9s						
H08S1	**Diego Carcia H**	**27.28**	**32**	T	T	18 51 35.3	
	baz=206,slow=75,SNR=50						
H08S2	**Diego Garcia H**	**27.29**	**32**	T	T	18 51 36.2	
	baz=206,slow=75,SNR=22						
H08S3	**Diego Garcia H**	**27.30**	**32**	T	T	18 51 35.3	
	baz=206,slow=75,SNR=69						
BOSA	**Boshof**	**28.65**	**267**	LR	LR	18 33 51.9	
	comp=E,64nm,18.3s,baz=51,slow=34						
MATP	**Matopo**	**28.88**	**285**	LR	LR	18 32 58.2	
	comp=E,44nm,20.9s,baz=112,slow=32						
LBTB	**Lobatse**	**29.42**	**275**	LR	LR	18 33 45.0	
	comp=E,69nm,18.3s,baz=130,slow=33						
LSZ	**Lusaka**	**31.88**	**294**	LR	LR	18 35 18.6	
	comp=E,108nm,19.9s,baz=130,slow=34						
KSANE	**Kasane**	**32.92**	**287**	P	**P**	**18 23 59.2**	**-1.0**
KSANE				IAmb	IAmb	18 24 03.9	
	comp=E,10nm,0.9s						
KGCAE	**Kacgae**	**33.10**	**276**	P	**P**	**18 24 01.0**	**-0.7**
GRTLG	**Ghanzi**	**34.55**	**278**	P	**P**	**18 24 14.0**	**-0.3**
GRTLG				IAmb	IAmb	18 25 29.7	
	comp=E,34nm,1.8s						
KOOLE	**Kule**	**34.76**	**275**	P	**P**	**18 24 15.2**	**-1.0**
KOOLE				IAmb	IAmb	18 24 16.3	
	comp=E,10.0nm,0.8s						
MAW	**Mawson**	**36.14**	**177**	P	**P**	**18 24 27.0**	**-0.3**
	comp=E,7.3nm,0.9s,baz=316,slow=12,SNR=11						
MAW				LR	LR	18 35 11.6	
	comp=E,105nm,21.7s,baz=344,slow=30						
	comp=E,7.3nm,0.9s						
KMBO	**Kilima Mbogo**	**36.24**	**323**	LR	LR	18 39 06.7	
	comp=E,40nm,18.7s,baz=96,slow=36						
LODK	**Lodwar**	**41.09**	**324**	P	**P**	**18 25 10.9**	**+1.3**
H01W2	**Cape Leeuwin H**	**46.33**	**110**	T	T	19 15 03.5	
	baz=257,slow=75,SNR=41						
H01W3	**Cape Leeuwin H**	**46.34**	**110**	T	T	19 15 02.9	
	baz=257,slow=75,SNR=60						
H01W1	**Cape Leeuwin H**	**46.35**	**110**	T	T	19 15 07.2	
	baz=257,slow=75,SNR=73						
SNAA	**Sanae**	**51.30**	**201**	P	**P**	**18 26 28.2**	**-1.0**
SNAA	**Sanae**	**51.30**	**201**	P	**P**	**18 26 28.4**	**-0.9**
	comp=E,4.1nm,0.8s,baz=88,slow=6.8,SNR=18						
	comp=E,4.1nm,0.8s						

RAYN	**Ar Rayn**	**56.16**	**346**	P	**P**	**18 27 05.9**	**+0.5**
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**18 27 22.1**	**+0.1**
QSPA	**South Pole Qui**	**58.56**	**180**	P	**P**	**18 27 22.5**	**+0.6**
	comp=E,8.0nm,0.6s,baz=262,slow=1.7,SNR=83						
QSPA				LR	LR	18 48 54.4	
	comp=E,84nm,19.5s,baz=328,slow=32						
	comp=E,8.0nm,0.6s						
VNDA	**Vanda**	**62.26**	**166**	P	**P**	**18 27 46.4**	**-0.4**
VNDA	**Vanda**	**62.26**	**166**	P	**P**	**18 27 46.5**	**-0.4**
	comp=E,1.6nm,0.9s,baz=275,slow=7.1,SNR=7.7						
VNDA				LR	LR	18 53 13.5	
	comp=E,56nm,18.3s,baz=276,slow=35						
	comp=E,1.6nm,0.9s						
CM31	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	**18 27 54.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**63.25**	**44**	P	**P**	**18 27 54.8**	**+0.5**
	comp=E,6.0nm,0.8s,baz=230,slow=7.3,SNR=27						
CMAR				LR	LR	18 50 43.6	
	comp=E,22nm,21.4s,baz=215,slow=32						
	comp=E,6.0nm,0.8s						
SHL	**Shillong**	**65.30**	**33**	P	**P**	**18 28 09.7**	**+1.9**
ASAR	**Alice Springs**	**66.29**	**104**	P	**P**	**18 28 13.8**	**-0.5**
	comp=E,5.2nm,0.7s,baz=242,slow=5.9,SNR=138						
	comp=E,5.2nm,0.7s						
AS31	**Alice Springs**	**66.29**	**104**	P	**P**	**18 28 14.1**	**-0.2**
KBL	**Kabul**	**66.57**	**10**	P	**P**	**18 28 14.9**	**-0.9**
KBL				IAmb	IAmb	18 28 18.2	
	comp=E,4.3nm,0.7s						
ASF	**Jabal al Asfar**	**66.58**	**340**	LR	LR	18 55 23.8	
	comp=E,34nm,18.5s,baz=183,slow=34						
MMAI	**Mount Meron Ar**	**67.80**	**339**	P	**P**	**18 28 24.6**	**+1.1**
	comp=E,2.4nm,0.7s,baz=149,slow=6.8,SNR=4.1						
MMAI				LR	LR	18 53 44.2	
	comp=E,21nm,19.2s,baz=181,slow=32						
	comp=E,2.4nm,0.7s						
WRA	**Warramunga Arr**	**68.29**	**101**	P	**P**	**18 28 26.4**	**-0.5**
	comp=E,5.3nm,0.7s,baz=240,slow=5.7,SNR=46						
	comp=E,5.3nm,0.7s						
WRAB	**Tennant Creek**	**68.30**	**101**	P	**P**	**18 28 27.1**	**+0.1**
WRAB				IAmb	IAmb	18 28 27.7	
	comp=E,7.0nm,0.8s						
WB0	**Warramunga Arr**	**68.41**	**100**	P	**P**	**18 28 27.3**	**-0.4**
WB0				IAmb	IAmb	18 28 28.2	
	comp=E,7.0nm,0.8s						
WR8	**Warramunga Arr**	**68.42**	**101**	P	**P**	**18 28 27.2**	**-0.6**
STKA	**Stephens Creek**	**69.00**	**115**	P	**P**	**18 28 31.0**	**-0.2**
	comp=E,2.5nm,0.7s,baz=221,slow=6.8,SNR=5.0						
	comp=E,2.5nm,0.7s						
INKA	**Innaminka**	**70.10**	**111**	P	**P**	**18 28 37.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**70.12**	**300**	P	**P**	**18 28 38.1**	**-0.1**
	comp=E,1.5nm,0.9s,baz=128,slow=7.4,SNR=4.5						
	comp=E,1.5nm,0.9s						
SIMJ	**Simiganj**	**70.62**	**9**	P	**P**	**18 28 42.4**	**+1.5**
SIMJ				IAmb	IAmb	18 28 45.8	
	comp=E,4.7nm,0.8s						
GEVA	**Gevas**	**70.99**	**347**	P	**P**	**18 28 45.2**	**+2.0**
GEVA				IAmb	IAmb	18 29 10.0	
	comp=E,4.6nm,0.4s						
DBIC	**Dimbokro**	**71.15**	**291**	P	**P**	**18 28 45.2**	**+0.7**
	comp=E,3.7nm,0.8s,baz=150,slow=9.6,SNR=3.5						
DBIC				LR	LR	18 58 13.2	
	comp=E,49nm,18.5s,baz=156,slow=34						
	comp=E,3.7nm,0.8s						
GURO	**Guroymak-BITLI**	**71.42**	**347**	P	**P**	**18 28 46.4**	**+0.7**
GNI	**Garni**	**72.49**	**349**	LR	LR	19 01 24.2	
	comp=E,26nm,18.1s,baz=195,slow=36						
BRTR	**Keskin Array B**	**74.56**	**341**	P	**P**	**18 29 04.4**	**0.0**
	comp=E,1.0nm,0.7s,baz=166,slow=8.3,SNR=7.9						
	comp=E,1.0nm,0.7s						
TARG	**Taragay, Kyrgy**	**75.16**	**15**	P	**P**	**18 29 04.6**	**-3.6**
KK31	**Karatay Array**	**75.19**	**9**	P	**P**	**18 29 07.9**	**+0.2**
KK31				IAmb	IAmb	18 29 19.1	
	comp=E,6.2nm,1.1s						
AAK	**Ala-Archa**	**75.37**	**12**	P	**P**	**18 29 10.0**	**+1.0**
AAK				IAmb	IAmb	18 29 13.5	
	comp=E,9.9nm,1.4s						
AAK	**Ala-Archa**	**75.37**	**12**	LR	LR	18 59 09.4	
	comp=Z,32nm,21.0s,baz=206,slow=33						
KDJ	**Kajisay**	**75.41**	**14**		**P**	**18 29 10.1**	**+0.9**
KDJ				IAmb	IAmb	18 29 20.2	
	comp=E,7.1nm,0.9s						
PRZ	**Przheval'sk**	**76.02**	**15**	P	**P**	**18 29 13.3**	**+0.6**
PRZ				IAmb	IAmb	18 29 17.5	
	comp=E,11nm,0.8s						
KBZ	**Khabaz**	**76.28**	**349**	LR	LR	19 03 14.1	
	comp=E,27nm,18.4s,baz=144,slow=36						
AB31	**Akbulak array**	**80.51**	**1**	P	**P**	**18 29 37.3**	**+0.1**
AB31				IAmb	IAmb	18 29 48.5	
	comp=E,11nm,1.5s						
MKAR	**Makanchi Array**	**81.00**	**16**	P	**P**	**18 29 40.0**	**0.0**
	comp=E,1.2nm,0.6s,baz=209,slow=6.9,SNR=12						
	comp=E,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**81.68**	**360**	LR	LR	19 01 39.4	
	comp=Z,20nm,21.3s,baz=134,slow=32						
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	**18 29 55.0**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=208,slow=5.8,SNR=15						
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**83.92**	**13**		**P**	**18 29 55.2**	**+0.3**
KURK				IAmb	IAmb	18 30 06.0	
	comp=E,6.9nm,1.0s						
BVAR	**Borovoye Array**	**84.94**	**7**	P	**P**	**18 30 00.8**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=176,slow=4.5,SNR=19						
BVAR				LR	LR	19 04 43.1	
	comp=Z,22nm,21.4s,baz=205,slow=33						
	comp=Z,4.2nm,0.8s						
BRVK	**Borovoye**	**84.96**	**7**	P	**P**	**18 30 02.0**	**+1.8**
BRVK				IAmb	IAmb	18 30 11.1	
	comp=E,5.8nm,0.9s						
AKASG	**Malin Array Be**	**85.88**	**342**	P	**P**	**18 30 05.0**	**+0.2**
	comp=E,0.5nm,0.6s,baz=179,slow=5.1,SNR=4.7						
	comp=E,0.5nm,0.6s

SHI	**Shiraz**	**1.11**	**82**	Pg	**Pn**	**18 27 36.3**	**+2.0**
DSBU	**Dashti - Bushe**	**1.13**	**180**	Pg	**Pb**	**18 27 36.0**	**+1.4**
ABEH	**Behbahan**	**1.40**	**322**	Pg	**Pn**	**18 27 37.6**	**-0.6**
KLNJ	**Kolanjah**	**1.54**	**11**	Pg	**Pn**	**18 27 41.0**	**+0.6**
QIR1	**Qir**	**1.87**	**122**	Pn	**Pb**	**18 27 47.0**	**-0.2**
IRAM	**Ramesheh**	**2.50**	**23**	Pn	**Pn**	**18 27 54.8**	**+1.3**
ZNGN	**Zangian**	**2.63**	**353**	Pn	**Pn**	**18 27 55.6**	**+0.2**
JHBN	**Jahan bin**	**2.77**	**350**	Pn	**Pn**	**18 27 57.8**	**+0.5**
IGAR	**Gharneh**	**2.98**	**13**	Pn	**Pn**	**18 28 01.2**	**+1.1**
KBD	**Kabd**	**3.12**	**265**	P	**Pb**	**18 28 09.4**	**+0.8**
IPIR	**Pirpir**	**3.19**	**355**	Pn	**Pn**	**18 28 03.2**	**+0.1**
IMEH	**Mehriz**	**3.46**	**56**	Pn	**Pn**	**18 28 08.9**	**+2.2**
IZEF	**Zefreh**	**3.51**	**15**	Pn	**Pn**	**18 28 08.8**	**+1.3**
SAKB	**Bahrain**	**3.56**	**190**	P	**Pn**	**18 28 09.6**	**+1.7**
SAKB				S	**Sn**	**18 28 50.7**	**+1.3**
IKLH	**Kolahrood**	**3.82**	**4**	Pn	**Pn**	**18 28 12.8**	**+1.1**
QAMS	**Qamsar**	**4.23**	**2**	Pn	**Pn**	**18 28 17.9**	**+0.6**
IBAF	**Bafgh**	**4.27**	**60**	Pn	**Pn**	**18 28 20.2**	**+2.5**
KRSH	**Karshahi**	**4.52**	**9**	Pn	**Pn**	**18 28 22.5**	**+1.3**
TRNA	**Turayna** SNR=7.9	**4.74**	**180**	P	**Pn**	**18 28 26.0**	**+1.9**
TRNA				S	**Sn**	**18 29 18.1**	**-0.4**
SMRA	**Abu-Samra**	**4.75**	**185**	P	**Pn**	**18 28 25.7**	**+1.5**
SMRA				S	**Sn**	**18 29 18.2**	**-0.5**
JRN	**Qarnain Island**	**4.75**	**162**	P	**Pn**	**18 28 24.3**	**+0.1**
KRBR	**Kerman**	**4.81**	**83**	Pn	**Pn**	**18 28 28.4**	**+3.0**
BDRS	**Dareh Seyedi**	**4.88**	**336**	Pn	**Pn**	**18 28 27.0**	**+0.6**
ISFB	**Sefidab**	**4.91**	**10**	Pn	**Pn**	**18 28 27.3**	**+0.8**
SHME	**Shamm**	**5.53**	**127**	P	**Pn**	**18 28 36.7**	**+1.8**
GHWR	**Ruwais**	**5.70**	**165**	P	**Pn**	**18 28 38.8**	**+1.6**
GHWR				S	**Sn**	**18 29 41.3**	**-0.8**
AJN	**Ajban**	**5.94**	**145**	P	**Pn**	**18 28 43.0**	**+2.4**
NAZ	**Nazwa, Dubai**	**5.96**	**138**	P	**Pn**	**18 28 42.4**	**+1.5**
MASF	**Masafi**	**5.99**	**132**	P	**Pn**	**18 28 42.7**	**+1.4**
MASF				S	**Sn**	**18 29 48.1**	**-1.3**
ASUD	**Al Ashush, Dub** SNR=24	**6.06**	**142**	P	**Pn**	**18 28 45.0**	**+2.7**
FAQ	**Al Faqa, Dubai**	**6.11**	**140**	P	**Pn**	**18 28 46.0**	**+3.0**
MDH	**Madha**	**6.13**	**132**	P	**Pn**	**18 28 44.1**	**+0.9**
MDH				S	**Sn**	**18 29 52.6**	**-0.2**
MZWR	**Madinat Zayed**	**6.18**	**157**	P	**Pn**	**18 28 45.4**	**+1.5**
MZWR				S	**Sn**	**18 29 52.0**	**-1.9**
UOSS	**Minazif**	**6.32**	**135**	P	**Pn**	**18 28 46.5**	**+0.6**
UOSS				S	**Sn**	**18 29 56.0**	**-1.5**
HATD	**Hatta, Dubai**	**6.37**	**136**	P	**Pn**	**18 28 48.4**	**+2.0**
HATD				S	**Sn**	**18 29 57.2**	**-1.4**
ASHO	**Ashiyiah** SNR=7.1	**6.43**	**137**	P	**Pn**	**18 28 49.3**	**+2.0**
ASHO				S	**Sn**	**18 29 59.1**	**-1.0**
IDHR	**Dehrash**	**6.63**	**323**	Pn	**Pn**	**18 28 49.5**	**-0.7**
ALNE	**Al Ain** SNR=5.6	**6.75**	**142**	P	**Pn**	**18 28 53.7**	**+2.0**
MZR	**Muzera** SNR=16	**6.77**	**162**	P	**Pn**	**18 28 53.6**	**+1.6**
MZR				S	**Sn**	**18 30 07.8**	**-0.7**
SOHO	**SOHO**	**7.12**	**137**	P	**Pn**	**18 28 57.6**	**+0.7**
SOHO				S	**Sn**	**18 30 16.5**	**-0.8**
UMZA	**Um Al Zommool**	**7.61**	**152**	P	**Pn**	**18 29 04.7**	**+1.2**
ARQ	**Araqi** SNR=9.3	**7.74**	**141**	P	**Pn**	**18 29 06.5**	**+1.1**
ARQ				S	**Sn**	**18 30 31.6**	**-0.9**
SMDO	**Samad**	**8.85**	**135**	P	**Pn**	**18 29 21.7**	**+1.1**
SMDO				S	**Sn**	**18 30 58.7**	**-1.1**
WSAR	**Wadi Sarin**	**9.09**	**132**	P	**Pn**	**18 29 24.0**	**+0.1**
NGCH	**Negor - Chabah**	**9.70**	**113**	P	**Pn**	**18 29 33.0**	**+0.8**
JLN	**Jalan Bani Buh**	**10.37**	**133**	P	**Pn**	**18 29 40.9**	**-0.4**
MHTO	**MHTO** SNR=6.7	**10.43**	**143**	P	**Pn**	**18 29 42.7**	**+0.6**
MHTO				S	**Sn**	**18 31 36.0**	**-2.4**
DQM	**DQM**	**11.10**	**148**	P	**Pn**	**18 29 50.7**	**-0.8**
DOK	**Doka**	**11.14**	**166**	P	**Pn**	**18 29 51.2**	**-0.8**
WHFO	**Wadi Hawf**	**11.75**	**168**	P	**Pn**	**18 30 00.4**	**0.0**
DMTO	**DMTO**	**12.20**	**163**	P	**Pn**	**18 30 05.6**	**-0.9**
ABTO	**Aybut**	**12.23**	**171**	P	**Pn**	**18 30 06.8**	**-0.2**

*KRSC **14** 18:34:20.2±0.6,54˚.39N×160˚.64E, h130km±8km, Ml4.0*
*IDC **14** 18:34:21.2±3.2,54˚.82N×159˚.99E, h116km±52km, mb3.3/10, mbtmp3.7/12, MS3.3/1, Error ellipse: s-maj=66.8km s-min=21.7km az=168.0*

ISC 14 18:34:20.4±0.7, 54˚.41N±0˚.04×160˚.54E±0˚.05, h135km±6km, n60, σ1ᵖ21/63, mb3.5/10, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.71**	**78**	*eP*	**Pn**	**18 34 41.9**	**+0.7**
MKZ				*eS*	**Sn**	**18 34 56.6**	**-0.5**
KII	**Karymskiy**	**0.74**	**240**	*eP*	**Pn**	**18 34 42.2**	**+0.6**
TUMD	**Tumrok D**	**0.80**	**354**	*iP*	**Pn**	**18 34 42.2**	**+0.2**
TUMD				*eS*	**Sn**	**18 34 57.9**	**-0.7**
SPN	**Mys Shipunski**	**1.35**	**193**	*iP*	**Pn**	**18 34 47.3**	**+0.1**
SPN				*eS*	**Sn**	**18 35 06.6**	**-0.9**
KMNR	**Kamenistaya**	**1.36**	**353**	*eP*	**Pn**	**18 34 48.3**	**+1.0**
NLC	**Nalytchevo**	**1.43**	**210**	*iP*	**Pn**	**18 34 48.6**	**+0.7**
NLC				*eS*	**Sn**	**18 35 09.5**	**+0.4**
SDLR	**Sedlovina**	**1.50**	**222**	*eP*	**Pn**	**18 34 49.9**	**+1.0**
BZMR	**Bezymyannaya**	**1.53**	**359**	*eP*	**Pn**	**18 34 50.2**	**+0.9**
KRER	**Koryakskii**	**1.54**	**225**	*eP*	**Pn**	**18 34 50.5**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.54**	**3**	*eP*	**Pn**	**18 34 50.1**	**+0.8**
KRX	**Arik**	**1.54**	**228**	*eP*	**Pn**	**18 34 50.5**	**+1.1**
SMAR	**Somma**	**1.54**	**223**	*eP*	**Pn**	**18 34 50.5**	**+0.9**
KIRR	**Kirishev**	**1.55**	**356**	*iP*	**Pn**	**18 34 50.3**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.56**	**359**	*eP*	**Pn**	**18 34 50.6**	**+1.0**
AVH	**Avacha**	**1.57**	**224**	*eP*	**Pn**	**18 34 50.8**	**+1.2**
KPT	**Kopyto**	**1.57**	**353**	*iP*	**Pn**	**18 34 50.3**	**+0.7**
UGLR	**Uglovaya**	**1.58**	**221**	*eP*	**Pn**	**18 34 50.9**	**+1.2**
KOK	**Koryaka**	**1.59**	**226**	*eP*	**Pn**	**18 34 51.0**	**+1.1**
ZLN	**Zelenaya**	**1.62**	**5**	*eP*	**Pn**	**18 34 51.5**	**+1.3**
GNL	**Ganaly**	**1.69**	**246**	*eP*	**Pn**	**18 34 51.9**	**+0.9**
KOZ	**Kozyrevsk**	**1.70**	**347**	*iP*	**Pn**	**18 34 51.7**	**+0.8**
CIRR	**Tsirk**	**1.71**	**4**	*eP*	**Pn**	**18 34 52.7**	**+1.4**
DALK	**Dalny**	**1.74**	**218**	*eP*	**Pn**	**18 34 52.4**	**+0.9**
INSR	**Institute**	**1.77**	**221**	*eP*	**Pn**	**18 34 52.9**	**+1.1**
INSR				*eS*	**Sn**	**18 35 16.8**	**+0.9**
PET	**Petropavlovsk**	**1.79**	**220**	*eP*	**Pn**	**18 34 53.0**	**+1.0**
ESO	**Esso**	**1.85**	**326**	*eP*	**Pn**	**18 34 53.2**	**+0.4**
KLY	**Klyuchi**	**1.91**	**2**	*iP*	**Pn**	**18 34 54.4**	**+1.0**
SRDR	**Sredinnyy**	**1.97**	**346**	*eP*	**Pn**	**18 34 54.7**	**+0.4**
PETK	**Petropavlovsk-** 13nm,0.5s,baz=64,slow=18,SNR=69	**2.13**	**233**	P	**Pn**	**18 34 56.3**	**+0.1**
PETK	16nm,0.7s,baz=76,slow=25,SNR=6.0			S	**Sn**	**18 35 24.8**	**+1.1**
KRMR	**Karymshinskiy**	**2.14**	**223**	*eP*	**Pn**	**18 34 57.0**	**+0.8**
KBTR	**Krutoberegovo**	**2.22**	**35**	*eP*	**Pn**	**18 34 58.6**	**+1.4**
KBTR				*eS*	**Sn**	**18 35 25.3**	**-0.3**
KBG	**Krutoberegovo**	**2.22**	**33**	*eP*	**Pn**	**18 34 58.5**	**+1.3**
KBG				*eS*	**Sn**	**18 35 25.8**	**+0.2**
SMKR	**Semkarok**	**2.24**	**13**	*eP*	**Pn**	**18 34 58.6**	**+1.1**
SRKR	**Sorokina**	**2.28**	**9**	*eS*	**Sn**	**18 35 28.7**	**+1.8**
RUS	**Russkaya**	**2.32**	**212**	*eP*	**Pn**	**18 34 58.9**	**+0.4**
RUS				*eS*	**Sn**	**18 35 27.4**	**-0.4**
GRL	**Gorelyy**	**2.38**	**219**	*eP*	**Pn**	**18 35 00.9**	**+1.6**
MTVR	**Mutnovka**	**2.39**	**217**	*eP*	**Pn**	**18 35 00.9**	**+1.4**
APC	**Apacha**	**2.50**	**235**	*eP*	**Pn**	**18 35 03.6**	**+2.9**
ASAK	**Asacha**	**2.57**	**219**	*eP*	**Pn**	**18 35 03.2**	**+1.4**
MIPR	**Malaya Ipel'ka**	**3.12**	**228**	*eP*	**Pn**	**18 35 10.0**	**+1.3**
BKI	**Bering**	**3.24**	**74**	*eP*	**Pn**	**18 35 11.1**	**+0.9**
BKI				*eS*	**Sn**	**18 35 46.9**	**-1.8**
SKR	**Severo-Kuril's**	**4.61**	**218**	*eP*	**Pn**	**18 35 28.8**	**+0.6**
YAK	**Yakutsk** 7.6nm,0.6s,baz=80,slow=3.6,SNR=4.6	**17.81**	**308**	P	**P**	**18 38 15.5**	**-2.6**
ILAR	**Eielson Array** 0.6nm,0.6s,baz=273,slow=10.0,SNR=6.7 0.6nm,0.6s	**27.71**	**47**	P	**P**	**18 39 57.4**	**+1.9**
H11N2	**WAKE ISLAND Hy** baz=355,slow=76,SNR=54	**34.96**	**170**	T	T	19 18 40.4	
H11N3	**WAKE ISLAND Hy** baz=355,slow=76,SNR=32	**34.97**	**169**	T	T	19 18 37.5	
H11N1	**WAKE ISLAND Hy** baz=355,slow=76,SNR=36	**34.97**	**170**	T	T	19 18 37.7	
H11S1	**WAKE ISLAND Hy** baz=346,slow=76	**36.15**	**170**	T	T	19 19 32.8	
H11S3	**WAKE ISLAND Hy** baz=346,slow=76	**36.16**	**170**	T	T	19 19 31.6	
H11S2	**WAKE ISLAND Hy** baz=346,slow=76	**36.16**	**170**	T	T	19 19 35.0	
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=298,slow=7.4,SNR=2.5 0.3nm,0.6s	**42.02**	**44**	P	**P**	**18 41 58.9**	**+1.2**
KURBB	**Kurchatov Arra**	**47.38**	**301**	P	**P**	**18 42 37.6**	**-2.8**
	0.1nm,0.3s,baz=54,slow=7.8,SNR=1.5 0.1nm,0.3s						
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=57,slow=10,SNR=1.3 0.2nm,0.4s	**47.83**	**295**	P	**P**	**18 42 42.9**	**-1.1**
BVAR	**Borovoye Array** 0.4nm,0.4s,baz=49,slow=6.8,SNR=3.2 0.4nm,0.4s	**49.79**	**308**	P	**P**	**18 42 56.6**	**-2.2**
ARTI	**Arti** comp=Z,30nm,20.9s,baz=184,slow=39	**52.71**	**317**	LR	LR	19 08 10.9	
FINES	**FINESS Array B** 0.6nm,0.4s,baz=34,slow=7.1,SNR=5.6 0.6nm,0.4s	**59.02**	**336**	P	**P**	**18 44 05.6**	**+0.3**
NOA	**NORSAR Array B** 0.2nm,0.4s,baz=16,slow=4.0,SNR=2.0 0.2nm,0.4s	**62.35**	**344**	P	**P**	**18 44 28.0**	**+0.1**
AKASG	**Malin Array Be** 0.6nm,0.5s,baz=34,slow=6.7,SNR=2.7 0.6nm,0.5s	**67.62**	**329**	P	**P**	**18 45 01.3**	**-0.8**
EKA	**Eskdalemuir Ar** 0.3nm,0.4s,baz=15,slow=5.3,SNR=3.7 0.3nm,0.4s	**69.80**	**350**	P	**P**	**18 45 15.9**	**+0.4**
ESDC	**Sonseca Array** 1.2nm,0.9s,baz=0.2,slow=5.1,SNR=7.6 1.2nm,0.9s	**85.35**	**348**	P	**P**	**18 46 43.5**	**+1.4**

*DJA **14** 18:34:39.2±0.4,9˚S×11˚8E±˚, h61km±9km, M3.7/10, mb3.7/1, MLv3.7/10, Sumbawa region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.83**	**314**	P	Pn	18 34 55.8	+0.7
PLAI				S	Sn	18 35 08.2	+1.3
WBSI	**Waikabubak, Su**	**1.02**	**103**	P	Pn	18 34 57.3	-0.3
WBSI				S	Sn	18 35 11.6	+0.3
WSI	**Waingapu**	**1.91**	**98**	P	Pn	18 35 09.4	0.0
WSI				S	Sn	18 35 33.8	+1.4
BASI	**Baing, Sumba**	**2.31**	**111**	P	Pn	18 35 16.0	+1.1
DNP	**Denpasar**	**3.21**	**283**	P	Pn	18 35 26.8	-0.5
EDFI	**Ende, Flores**	**3.33**	**79**	P	Pn	18 35 28.8	-0.2
EDFI				S	Sn	18 36 06.8	-0.7
BSSI	**Bau Bau, Buton**	**3.86**	**33**	P	Pn	18 35 36.2	+0.1
MMRI	**Maumere**	**3.89**	**79**	P	Pn	18 35 37.5	+1.0
JAGI	**Jajag, Banyuwa**	**4.28**	**282**	P	Pn	18 35 40.8	-1.1
BKSI	**Bulukumba**	**4.41**	**23**	P	Pn	18 35 43.8	+0.1
GMJI	**Gumukmas**	**5.01**	**283**	P	Pn	18 35 50.7	-1.1

*IDC **14** 18:37:21.1±1.7,3˚.31N×126˚.15E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=171.1km s-min=29.2km az=67.0*
*DJA **14** 18:37:25.4±1.5,3˚N±3˚×127˚7E±˚, h15km±15km, M4.2/12, mB5.1/2, mb4.5/6, MLv4.1/12, Mw(mB)4.4/2*

ISC 14 18:37:23.0±1.3, 3˚.2N±0˚.1×127˚.2E±0˚.1, h35km, n11, σ1ᵖ71/10, mb3.7/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.76**	**287**	P	**Pn**	**18 37 53.0**	**+2.0**
SGSI				S	**Sn**	**18 38 13.9**	**+1.7**
TNTI	**Ternate**	**2.39**	**176**	P	**Pn**	**18 38 02.0**	**+2.4**
KMSI	**Cibinong**	**4.14**	**231**	P	**Pn**	**18 38 24.2**	**+0.5**
SWI	**Sorong** 0.1nm18nm,0.7s	**5.69**	**135**	P	Pn	18 38 50.0	+4.9
MRSI	**Marisa**	**5.91**	**243**	P	**Pn**	**18 38 49.2**	**+1.1**
LUWI	**Luwuk** 0.3nm1μm70nm,1.4s	**6.10**	**227**	P	**Pn**	**18 38 49.9**	**-0.8**
APSI	**Ampana**	**6.89**	**234**	P	**Pn**	**18 39 00.5**	**-1.0**
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=341,slow=10,SNR=2.1 0.9nm,0.6s	**24.01**	**163**	P	P	18 42 42.2	+7.4
SONM	**Songina Array** 0.5nm,0.7s,baz=169,slow=7.3,SNR=3.4 0.5nm,0.7s	**47.98**	**341**	P	**P**	**18 45 58.3**	**-0.2**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=126,slow=7.3,SNR=6.3 0.4nm,0.5s	**58.29**	**325**	P	**P**	**18 47 12.6**	**-1.7**
KURBB	**Kurchatov Arra** 0.8nm,0.5s,baz=128,slow=6.2,SNR=8.1 0.8nm,0.5s	**62.47**	**327**	P	**P**	**18 47 41.4**	**-1.3**

*DJA **14** 18:38:53.2±0.5,7˚S×12˚9E±˚, h210km±16km, M4.5/7, mB4.9/3, mb4.3/7, MLv4.6/7, Mw(mB)4.2/3*
*IDC **14** 18:38:54.5±2.8,7˚.32S×129˚.23E, h149km±31km, mb3.5/3, mbtmp4.1/8, Error ellipse: s-maj=25.7km s-min=19.7km az=26.0*

ISC 14 18:38:54.0±0.8, 7˚.17S±0˚.09×129˚.21E±0˚.07, h150km, n25, σ1ᵖ53/25, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.22**	**111**	P	**Pn**	**18 39 32.9**	**+1.2**
SAUI	**Saumlaki**	**2.22**	**111**	P	**Pn**	**18 39 32.0**	**+0.3**
FAKI	**Fak Fak**	**5.20**	**36**	P	**Pn**	**18 40 07.9**	**-2.2**
FAKI	**Fak Fak** 0.3nm2μm35nm,1.0s	**5.20**	**36**	P	**Pn**	**18 40 07.9**	**-2.2**
DRS	**Darwin Rock St**	**5.48**	**162**	P	**Pn**	**18 40 13.6**	**-0.2**
SOEI	**Soe** 0.3nm46nm,0.9s	**5.52**	**242**	P	**Pn**	**18 40 16.0**	**+1.6**
KMPI	**Kaimana, Papua**	**5.67**	**52**	P	**Pn**	**18 40 15.0**	**-1.4**
MTN	**Manton Dam**	**5.94**	**162**	P	**Pn**	**18 40 19.5**	**-0.5**
BATI	**Baumata** 43nm,0.3s,baz=53,slow=5.1,SNR=29	**6.26**	**241**	P	**Pn**	**18 40 25.4**	**+1.2**
BATI	56nm,0.5s,baz=75,slow=24,SNR=10			S	**Sn**	**18 41 33.9**	**-0.8**
BATI	**Baumata** 0.3nm2μm65nm,0.7s	**6.26**	**241**	P	**Pn**	**18 40 25.2**	**+1.0**
KDU	**Kakadu**	**6.35**	**150**	P	**Pn**	**18 40 24.5**	**-0.9**
EDFI	**Ende, Flores**	**7.61**	**258**	P	Pn	18 40 26.9	-15
WBSI	**Waikabubak, Su**	**10.02**	**255**	P	**Pn**	**18 41 15.1**	**+0.8**
FITZ	**Fitzroy Crossi** 1.6nm,0.3s,baz=28,slow=11,SNR=25	**11.40**	**197**	P	**Pn**	**18 41 30.0**	**-2.5**
FITZ	6.6nm,0.3s,baz=96,slow=19,SNR=9.4			S	Sn	18 43 28.6	-10
FITZ	**Fitzroy Crossi** 12nm,0.8s,baz=156,slow=9.6,SNR=4.9	**11.40**	**197**	P	**Pn**	**18 41 30.3**	**-2.2**
JAY	**Jayapura** 1.7nm,0.4s,baz=339,slow=12,SNR=26	**12.35**	**69**	P	**Pn**	**18 41 45.0**	**+0.1**
WRA	**Warramunga Arr** 1.7nm,0.4s,baz=253,slow=8.2,SNR=2.6	**13.63**	**159**	P	**Pn**	**18 41 58.4**	**-3.0**
WRA	5.2nm,0.5s,baz=332,slow=22,SNR=11			S	Sn	18 44 21.6	-11
COEN	**Coen**	**15.29**	**117**	P	**P**	**18 42 24.7**	**+1.2**
QIS	**Mount Isa**	**16.69**	**144**	P	**P**	**18 42 40.1**	**+1.2**
ASAR	**Alice Springs** 2.7nm,0.5s,baz=340,slow=12,SNR=64	**17.01**	**165**	P	**P**	**18 42 42.2**	**-0.3**
ASAR	1.0nm,0.5s,baz=341,slow=23,SNR=7.3			S	S	18 45 43.3	-8.9
AS01	**Alice Springs**	**17.02**	**165**	P	**P**	**18 42 43.2**	**+0.6**
MTSU	**Mount Surprise**	**18.31**	**128**	P	**P**	**18 42 58.7**	**+1.9**
STKA	**Stephens Creek** 1.9nm,0.7s,baz=0.0,slow=9.1,SNR=2.5 1.9nm,0.7s	**27.16**	**156**	P	**P**	**18 44 24.0**	**+0.7**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=111,slow=7.9,SNR=4.7 0.2nm,0.3s	**67.94**	**327**	P	**P**	**18 49 38.1**	**+1.5**
KURBB	**Kurchatov Arra** 0.3nm,0.2s,baz=131,slow=5.2,SNR=1.6 0.3nm,0.2s	**72.25**	**329**	P	**P**	**18 50 04.0**	**+1.3**

IDC 14 18:49:17.6±1.6, 24˚.15S×69˚.29E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=53.2km s-min=31.3km az=73.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H** baz=190,slow=76,SNR=19	**16.69**	**11**	T	T	19 10 04.3	
H08S2	**Diego Garcia H** baz=190,slow=76,SNR=17	**16.69**	**11**	T	T	19 10 04.5	
H08S3	**Diego Garcia H** baz=190,slow=76,SNR=63	**16.71**	**11**	T	T	19 10 25.3	
H04N2	**CROZET ISLANDS** baz=40	**26.10**	**208**	T	T	19 22 37.8	
H04N1	**CROZET ISLANDS** baz=40	**26.10**	**208**	T	T	19 22 33.1	
H04N3	**CROZET ISLANDS** baz=40	**26.11**	**208**	T	T	19 22 30.3	
ASAR	**Alice Springs** 0.5nm,0.6s,baz=254,slow=6.4,SNR=9.9 0.5nm,0.6s	**58.57**	**104**	P	P	18 59 16.6	+0.1
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=254,slow=6.8,SNR=2.6 0.4nm,0.7s	**59.97**	**100**	P	P	18 59 26.0	-0.3
QSPA	**South Pole Qui** 1.1nm,1.0s,baz=292,slow=5.4,SNR=3.1 1.1nm,1.0s	**65.98**	**180**	P	P	19 00 05.7	+0.1
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=206,slow=5.3,SNR=6.8 0.7nm,0.7s	**71.58**	**9**	P	P	19 00 40.7	+0.2
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=193,slow=5.9,SNR=3.6 0.6nm,0.6s	**78.92**	**9**	P	P	19 01 22.4	-0.2

IDC 14 18:50:50.9±3.8, 23˚.87S×70˚.05E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=135.2km s-min=29.7km az=44.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H** baz=190,slow=76,SNR=9.5	**16.30**	**9**	T	T	19 11 34.8	
H08S2	**Diego Garcia H** baz=190,slow=76,SNR=11	**16.31**	**9**	T	T	19 11 36.4	
H08S3	**Diego Garcia H** baz=190,slow=76,SNR=16	**16.32**	**9**	T	T	19 11 40.1	
H04N2	**CROZET ISLANDS** baz=40,slow=74,SNR=40	**26.67**	**209**	T	T	19 24 14.5	
H04N1	**CROZET ISLANDS** baz=40,slow=74,SNR=9.4	**26.68**	**209**	T	T	19 24 00.2	
H04N3	**CROZET ISLANDS** baz=40,slow=74,SNR=8.0	**26.69**	**209**	T	T	19 23 59.6	
ASAR	**Alice Springs** 0.4nm,0.8s,baz=258,slow=6.0,SNR=5.2 0.4nm,0.8s	**57.96**	**104**	P	P	19 00 46.6	+1.1
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=247,slow=7.3,SNR=4.6 0.4nm,0.8s	**59.33**	**100**	P	P	19 00 53.9	-1.2
MKAR	**Makanchi Array** 1.0nm,0.9s,baz=197,slow=6.2,SNR=6.2 1.0nm,0.9s	**71.20**	**9**	P	P	19 02 11.2	-0.2
BRTR	**Keskin Array B** 0.6nm,1.0s,baz=140,slow=9.2,SNR=2.6 0.6nm,1.0s	**71.82**	**331**	P	P	19 02 15.5	0.0
KURBB	**Kurchatov Arra** 0.4nm,0.2s,baz=202,slow=6.3,SNR=1.9	**74.55**	**6**	P	P	19 02 31.8	+0.6
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=191,slow=6.8,SNR=3.6 0.6nm,0.5s	**78.54**	**9**	P	P	19 02 53.7	-0.1

*IDC **14** 19:01:07.8±0.9,55˚.04N×164˚.83E, h0km, mb4.0/15, mbtmp4.0/18, Ml4.1/3, MS3.0/7, Error ellipse: s-maj=22.8km s-min=16.9km az=143.0*
*KRSC **14** 19:01:08.6±0.9,54˚.94N×164˚.75E, h51km±20km, Ml4.3*
*MOS **14** 19:01:09.1±0.7,54˚.96N×164˚.81E, h53km, mb4.6/11, Error ellipse: s-maj=5.9km s-min=5.1km az=70.1*
*NEIC **14** 19:01:10.2±2.0,55˚.0N±0˚.1×164˚.61E±0˚.06, h10km±2km, mb4.3/18, Error ellipse: s-maj=20.8km s-min=5.0km az=167.0*

ISC 14 19:01:12.4±0.5, 54˚.95N±0˚.05×164˚.80E±0˚.04, h34km, n159, σ1ᵖ33/160, mb4.2/28, MS3.3/5, 7C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.72**	**69**	PN	**Pn**	**19 01 23.9**	**-2.2**
BKI				S	**Sn**	**19 01 34.2**	**-1.7**
BKI	**Bering**	**0.72**	**69**	*i* P	**Pn**	**19 01 24.0**	**-2.2**
BKI				*eS*	**Sn**	**19 01 34.3**	**-1.7**
KBTR	**Krutoberegovo**	**1.69**	**319**	PN	**Pn**	**19 01 36.3**	**-3.1**
KBTR	**Krutoberegovo**	**1.69**	**319**	*eP*	**Pn**	**19 01 36.3**	**-3.1**
KBG	**Krutoberegovo**	**1.76**	**319**	PN	**Pn**	**19 01 37.5**	**-2.9**
KBG				S	**Sn**	**19 01 59.3**	**-2.3**
KBG	**Krutoberegovo**	**1.76**	**319**	*i* P	**Pn**	**19 01 37.6**	**-2.9**
KBG				*eS*	**Sn**	**19 01 59.4**	**-2.3**
MKZ	**Mys Kozlova**	**1.82**	**259**	PN	**Pn**	**19 01 39.4**	**-1.8**
MKZ				S	**Sn**	**19 02 00.6**	**-2.5**
MKZ	**Mys Kozlova**	**1.82**	**259**	*eP*	**Pn**	**19 01 39.4**	**-1.8**
MKZ				*eS*	**Sn**	**19 02 00.6**	**-2.5**
SMKR	**Semkarok**	**2.49**	**312**	PN	**Pn**	**19 01 49.2**	**-1.3**
SMKR	**Semkarok**	**2.49**	**312**	*eP*	**Pn**	**19 01 49.2**	**-1.3**
ZLN	**Zelenaya**	**2.51**	**297**	PN	**Pn**	**19 01 50.7**	**-0.1**
ZLN	**Zelenaya**	**2.51**	**297**	*eP*	**Pn**	**19 01 50.8**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.54**	**295**	PN	**Pn**	**19 01 50.6**	**-0.6**
BZGR	**Bezymyannyi-Gr**	**2.54**	**295**	*eP*	**Pn**	**19 01 50.7**	**-0.6**
TUMD	**Tumrok D**	**2.54**	**277**	PN	**Pn**	**19 01 50.1**	**-1.1**
TUMD	**Tumrok D**	**2.54**	**277**	*eP*	**Pn**	**19 01 50.1**	**-1.1**
CIRR	**Tsirk**	**2.58**	**298**	PN	**Pn**	**19 01 51.1**	**-0.7**
CIRR	**Tsirk**	**2.58**	**298**	*eP*	**Pn**	**19 01 51.1**	**-0.7**
BZMR	**Bezymyannaya**	**2.64**	**294**	PN	**Pn**	**19 01 52.3**	**-0.4**
BZMR	**Bezymyannaya**	**2.64**	**294**	*eP

MIPR	**Malaya Ipel'ka**	**5.49**	**244**	*eP*		**Pn**	**19 02 31.9**	**+0.2**
TILK	**Tilichiki**	**5.55**	**7**	PN		**Pn**	**19 02 32.5**	**0.0**
TILK	**Tilichiki**	**5.55**	**7**	*eP*		**Pn**	**19 02 32.6**	**0.0**
PAU	**Pauzhetka**	**5.93**	**237**	PN		**Pn**	**19 02 37.6**	**-0.1**
PAU	**Pauzhetka**	**5.93**	**237**	*eP*		**Pn**	**19 02 37.6**	**-0.1**
SHEM	**Shemya Is, Ala**	**5.94**	**108**	LR		LR	19 04 39.1	
	comp=Z,150nm,18.8s,baz=342,slow=36							
SKR	**Severo-Kuril's**	**6.78**	**234**	PN		**Pn**	**19 02 48.7**	**-0.6**
SKR	**Severo-Kuril's**	**6.78**	**234**	*eP*		**Pn**	**19 02 48.8**	**-0.6**
KMSK	**Kamenskaya**	**7.57**	**5**	PN		**Pn**	**19 03 01.0**	**+0.9**
KMSK	**Kamenskaya**	**7.57**	**5**	*eP*		**Pn**	**19 03 01.1**	**+0.9**
MA2	**Magadan**	**8.89**	**307**	Pn		**Pn**	**19 03 18.1**	**-0.2**
MA2	**Magadan**	**8.89**	**307**	LR		LR	19 07 08.2	
	comp=Z,64nm,18.6s,baz=92,slow=41							
MA2	**Magadan**	**8.89**	**307**	PN		**Pn**	**19 03 18.1**	**-0.2**
BILL	**Bilibino**	**13.15**	**2**	*i* PN		**Pn**	**19 04 15.6**	**-0.8**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
JKA	**Kamikawa-asahi**	**17.95**	**242**			**Pn**	**19 05 18.0**	**-1.1**
ASAJ	**Asahikawa**	**17.95**	**242**	P		**P**	**19 05 19.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=44,slow=4.4,SNR=6.2							
	comp=Z,3.8nm,0.6s							
ASAJ	**Asahikawa**	**17.95**	**242**	P		**Pn**	**19 05 18.0**	**-1.1**
ASAJ				pmax	pmax			
	comp=Z,18nm,1.1s							
ERM	**Erimo**	**19.22**	**237**	P		**P**	**19 05 33.5**	**+0.2**
ERM	**Erimo**	**19.22**	**237**	P		**P**	**19 05 33.5**	**+0.2**
ERM				pmax	pmax			
	comp=Z,66nm,1.4s							
N15K	**Kwethluk River**	**19.38**	**60**	P		**Pn**	**19 05 36.8**	**+0.6**
YAK	**Yakutsk**	**19.47**	**306**	P		**P**	**19 05 35.0**	**-0.9**
YAK				IAmb		IAmb	19 05 37.4	
	comp=Z,11nm,0.6s							
YAK	**Yakutsk**	**19.47**	**306**	P		**P**	**19 05 34.4**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=64,slow=1.4,SNR=5.3							
	comp=Z,9.7nm,0.4s							
YAK	**Yakutsk**	**19.47**	**306**	*eP*		**P**	**19 05 34.0**	**-1.9**
YAK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
YAK				pmax	pmax			
	comp=N,2.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.8s							
M16K	**Timber Creek**	**19.95**	**58**	P		**P**	**19 05 42.7**	**+1.6**
H17K	**Granite Mounta**	**20.01**	**46**	P		Pn	19 05 44.1	+0.3
H17K				IAmb		IAmb	19 06 11.8	
	comp=Z,12nm,1.1s							
M17K	**Holitna River**	**20.69**	**57**	P		**P**	**19 05 51.4**	**+2.2**
M17K				IAmb		IAmb	19 06 22.0	
	comp=Z,10nm,1.1s							
H18K	**Honhosa River**	**20.70**	**46**	P		**P**	**19 05 51.2**	**+1.8**
H18K				IAmb		IAmb	19 06 14.6	
	comp=Z,18nm,1.4s							
C19K	**Lookout Ridge**	**21.45**	**35**	P		**P**	**19 05 57.1**	**-0.3**
C19K				IAmb		IAmb	19 06 37.0	
	comp=Z,28nm,1.4s							
J20K	**Nowinta River**	**22.35**	**49**	P		**P**	**19 06 08.6**	**+1.5**
TIXI	**Tiksi**	**22.67**	**331**			**P**	**19 06 09.8**	**-0.5**
TIXI				IAmb		IAmb	19 06 14.7	
	comp=Z,5.2nm,0.6s							
TIXI	**Tiksi**	**22.67**	**331**	*ceP*		**P**	**19 06 11.2**	**+0.9**
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**23.62**	**257**	LR		LR	19 16 14.0	
	comp=Z,46nm,18.0s,baz=188,slow=38							
SUA	**Susitna One**	**23.90**	**56**	P		**P**	**19 06 24.0**	**+1.2**
SUA				IAmb		IAmb	19 07 00.9	
	comp=Z,18nm,1.4s							
G23K	**Bananza Creek**	**24.33**	**43**	P		**P**	**19 06 26.9**	**+0.4**
G23K				IAmb		IAmb	19 06 36.5	
	comp=Z,8.9nm,1.4s							
E24K	**Your Creek**	**25.10**	**40**	P		**P**	**19 06 35.2**	**+1.7**
E24K				IAmb		IAmb	19 06 57.7	
	comp=Z,7.6nm,1.1s							
CCB	**Clear Creek Bu**	**25.12**	**48**			**P**	**19 06 34.5**	**+0.8**
CCB				IAmb		IAmb	19 06 47.4	
	comp=Z,3.9nm,0.7s							
ILAR	**Eielson Array**	**25.52**	**48**	P		**P**	**19 06 36.9**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=266,slow=9.3,SNR=15							
	comp=Z,1.3nm,0.6s							
MJB9	**Matsu-Tunnel**	**25.88**	**236**	P		**P**	**19 06 42.1**	**+1.2**
MAJO	**Matsushiro**	**25.89**	**236**	P		**P**	**19 06 41.9**	**+1.0**
MAJO	**Matsushiro**	**25.89**	**236**	P		**P**	**19 06 41.9**	**+1.0**
MAJO				pmax	pmax			
	comp=Z,11nm,0.7s							
MJAR	**Matsushiro Ar**	**25.89**	**236**	P		**P**	**19 06 41.6**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=36,slow=9.0,SNR=16							
	comp=Z,1.8nm,0.7s							
KSRS	**Korea Array**	**30.47**	**250**	P		**P**	**19 07 23.6**	**+1.8**
	comp=Z,2.6nm,0.8s,baz=39,slow=9.2,SNR=7.9							
	comp=Z,2.6nm,0.8s							
KSRS	**Korea Array**	**30.47**	**250**	*eP*		**P**	**19 07 23.9**	**+2.1**
KSRS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**35.20**	**177**	T		T	19 46 30.2	
	baz=359,slow=76,SNR=499							
H11N3	**WAKE ISLAND Hy**	**35.21**	**177**	T		T	19 46 30.1	
	baz=359,slow=76,SNR=220							
H11N1	**WAKE ISLAND Hy**	**35.22**	**177**	T		T	19 46 29.8	
	baz=359,slow=76,SNR=323							
SONM	**Songino Array**	**36.17**	**284**	P		**P**	**19 08 12.7**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=73,slow=6.7,SNR=6.9							
	comp=Z,0.9nm,0.5s							
SONM	**Songino Array**	**36.17**	**284**	*eP*		**P**	**19 08 13.0**	**+1.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**36.41**	**177**	T		T	19 47 56.5	
	baz=359,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**36.42**	**177**	T		T	19 47 56.4	
	baz=359,slow=76,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**36.43**	**177**	T		T	19 48 08.6	
	baz=359,slow=76,SNR=4.9							
ZALV	**Zalesovo Beam**	**44.09**	**303**	LR		LR	19 28 14.5	
	comp=Z,19nm,18.4s,baz=152,slow=37							
KURK	**Kurchatov**	**49.08**	**303**			**P**	**19 09 55.5**	**-0.4**
KURK	**Kurchatov**	**49.08**	**303**	*ceP*		**P**	**19 09 55.9**	**0.0**
KURK				pmax	pmax			
	comp=Z,15nm,2.5s							
KURBB	**Kurchatov Arra**	**49.18**	**303**	P		**P**	**19 09 56.6**	**-0.1**
	comp=Z,5.5nm,0.6s,baz=56,slow=7.9,SNR=16							
	comp=Z,5.5nm,0.6s							
MK31	**Makanchi Array**	**49.82**	**297**	*ceP*		**P**	**19 10 00.9**	**-0.7**
MKAR	**Makanchi Array**	**49.82**	**297**	P		**P**	**19 10 01.2**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=57,slow=7.4,SNR=26							
	comp=Z,2.3nm,0.7s							
BVAR	**Borovoye Array**	**51.37**	**310**	P		**P**	**19 10 13.5**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=58,slow=9.7,SNR=11							
	comp=Z,3.4nm,0.6s							
BRVK	**Borovoye**	**51.40**	**310**	*ceP*		**P**	**19 10 13.7**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
ARTI	**Arti**	**53.97**	**319**	LR		LR	19 38 09.7	
	comp=Z,26nm,18.5s,baz=5.0,slow=41							
ARTI	**Arti**	**53.97**	**319**	*c i* P		**P**	**19 10 32.9**	**+0.6**
ARTI							19 12 29.3	
ARTI				S		**S**	**19 18 08.9**	**+3.6**
ARTI				SS		**SS**	**19 21 49.8**	**+3.8**
AAK	**Ala-Archa**	**56.70**	**298**	*ceP*		**P**	**19 10 50.3**	**-2.1**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**59.46**	**338**	P		**P**	**19 11 11.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=21,slow=7.3,SNR=3.4							
	comp=Z,1.5nm,0.8s							
BELG	**Belogornoye**	**61.05**	**321**	*i* P		**P**	**19 11 23.0**	**+0.8**
BELG				pmax	pmax			
	comp=Z,2.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**61.25**	**261**	P		**P**	**19 11 25.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=21,slow=8.0,SNR=5.4							
CMAR				LR		LR	19 39 34.0	
	comp=Z,20nm,18.1s,baz=225,slow=38							
	comp=Z,0.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**61.25**	**261**	*eP*		**P**	**19 11 24.6**	**+0.6**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
OBN	**Obninsk**	**62.38**	**329**	*eP*		**P**	**19 11 30.8**	**-0.3**
OBN				*PP		**pP**	**19 11 35.0**	**-4.9**
OBN				*SP		**sP**	**19 11 40.0**	**-3.2**
OBN							19 12 10.0	
OBN				S		S	19 20 06.0	+11
OBN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,34nm,15.0s							
TXAR	**Lajitas Array**	**67.38**	**71**	P		**P**	**19 12 05.0**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=332,slow=7.5,SNR=2.8							
	comp=Z,0.3nm,0.6s							
AKASG	**Malin Array Be**	**68.38**	**331**	P		**P**	**19 12 09.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=30,slow=6.6,SNR=2.6							
	comp=Z,0.4nm,0.3s							
KIV	**Kislovodsk**	**69.91**	**319**	*eP*		**P**	**19 12 19.6**	**-0.1**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KBZ	**Khabaz**	**70.02**	**319**	P		**P**	**19 12 20.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=119,slow=2.5,SNR=3.6							
	comp=Z,1.5nm,0.7s							
KBZ	**Khabaz**	**70.02**	**319**	*eP*		**P**	**19 12 22.1**	**+1.8**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**76.87**	**323**	P		**P**	**19 13 01.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=78,slow=3.7,SNR=4.1							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**79.00**	**209**	P		**P**	**19 13 12.6**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=24,slow=5.8,SNR=2.5							
	comp=Z,0.5nm,0.9s							
ASAR	**Alice Springs**	**82.66**	**208**	P		**P**	**19 13 33.2**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=20,slow=5.8,SNR=7.7							
	comp=Z,0.8nm,0.9s							
QSPA	**South Pole Qui**	**144.71**	**180**	PKP		**PKPdf**	**19 20 44.5**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=0.0,slow=1.0,SNR=5.7							

NEIC ***14*** *19:09:13.6±2.4, 45°.13N±0°.05×106°.83W±0°.09, h0km±1km, ML3.0/30, Error ellipse: s-maj=13.0km s-min=3.6km az=56.0*
IDC ***14*** *19:09:14.9±1.4, 44°.95N×106°.83W, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=60.8km s-min=10.0km az=136.0*
ISC 14 19:09:15.1±1.2, 45°.19N±0°.06×106°.82W±0°.07, h0km, n23, σ1s09/22, Montana

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAO	**LASA Array**	**1.56**	**15**			**Pg**	**19 09 45.5**	**+0.5**
LAO				IAML			19 10 15.3	
	187nm,1.7s							
RLMT	**Red Lodge**	**1.73**	**269**			**Pn**	**19 09 45.9**	**-0.7**
RSSD	**Black Hills**	**2.25**	**117**	Pn		**Pn**	**19 09 54.9**	**+1.1**
RSSD				IAML			19 10 26.6	
	93nm,0.6s							
RSSD				IAML			19 10 27.2	
	135nm,0.6s							
YNE	**Yellowstone No**	**2.26**	**267**	Pn		**Pn**	**19 09 54.0**	**0.0**
YNE				IAML			19 10 40.1	
	comp=N,67nm,0.7s							
YNE				IAML			19 10 42.2	
	comp=E,64nm,1.2s							
K22A	**Casper**	**2.54**	**175**	Pn		**Pn**	**19 09 56.7**	**-1.0**
K22A				IAML			19 10 31.5	
	comp=E,64nm,1.1s							
K22A				IAML			19 10 32.4	
	comp=E,54nm,0.8s							
YNR	**Norris Junctio**	**2.78**	**262**			**Pn**	**19 10 01.8**	**+0.7**
YNR				IAML			19 10 44.1	
	comp=N,46nm,1.8s							
YNR				IAML			19 10 56.3	
	comp=E,46nm,1.6s							
YHH	**Holmes Hill**	**2.89**	**264**			**Pn**	**19 10 04.0**	**+1.5**
YFT	**Old Faithful**	**2.95**	**257**			**Pn**	**19 10 02.4**	**-1.0**
YFT				IAML			19 11 04.1	
	comp=N,41nm,2.5s							
YFT				IAML			19 11 05.0	
	comp=E,34nm,1.6s							
YHL	**Hebgen Lake**	**3.11**	**265**			**Pn**	**19 10 04.7**	**-1.0**
YHL				IAML			19 10 58.5	
	comp=E,60nm,1.5s							
PD31	**Pinedale Array**	**3.12**	**220**	Pn		**Pn**	**19 10 06.4**	**+0.7**
PDAR	**Pinedale Array**	**3.12**	**220**	Pn		**Pn**	**19 10 06.0**	**+0.3**
	comp=E,1.3nm,0.3s,baz=53,slow=17,SNR=31							
PDAR				Lg		Lg	19 10 46.7	
	comp=E,3.5nm,0.3s,baz=47,slow=28,SNR=5.2							
	comp=E,0.9nm,0.3s							
LOHW	**Long Hollow**	**3.13**	**241**			**Pn**	**19 10 05.1**	**-0.8**
LOHW				IAML			19 11 06.9	
	comp=E,29nm,3.0s							
QLMT	**Earthquake Lak**	**3.29**	**265**			**Pn**	**19 10 08.3**	**+0.3**
FXWY	**Fox Creek**	**3.39**	**244**			**Pn**	**19 10 09.7**	**+0.3**
BOZ	**Bozeman (W)**	**3.41**	**279**			**Pn**	**19 10 08.8**	**-0.9**
BOZ				IAML			19 11 05.4	
	comp=E,40nm,2.5s							
EGMT	**Eagleton**	**3.49**	**326**	Pn		**Pn**	**19 10 09.0**	**-1.6**
AHID	**Auburn Hatcher**	**3.92**	**233**	Pn		**Pn**	**19 10 16.9**	**+0.2**
AHID				IAML			19 11 20.3	
	comp=E,29nm,1.6s							
AHID				IAML			19 11 33.7	
	comp=E,26nm,1.5s							
LRM	**Limekiln Ridge**	**4.01**	**281**	Pn		**Pn**	**19 10 16.3**	**-1.7**
MCMT	**McKenzie Canyo**	**4.29**	**267**			**Pn**	**19 10 21.2**	**-0.6**
HWUT	**Hardware Ranch**	**4.97**	**226**			**Pn**	**19 10 29.5**	**-1.6**
P18A	**Preston Nutter**	**6.10**	**206**	Pn		**Pn**	**19 10 44.6**	**-2.2**
I56US	**NEWPORT INFRAS**	**7.72**	**297**	I		I	19 52 00.0	
	comp=E,0.1nm,1.1s,baz=111,slow=311,SNR=7.1							
ULM	**Lac du Bonnet**	**8.95**	**52**	Pn		**Pn**	**19 11 25.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=1.5							
ULM				Lg		Lg	19 13 55.2	
	comp=E,0.1nm,0.3s,baz=311,slow=20,SNR=3.0							
	comp=E,1.0nm,0.4s							

IDC ***14*** *19:19:12.3±10.0, 7°.68S×127°.32E, h110km±109km, mb3.3/2, mbtmp3.9/4, ML4.1/2, Error ellipse: s-maj=260.7km s-min=43.7km az=62.0*
NEIC ***14*** *19:19:16.3±2.3, 7°.66S±0°.05×127°.78E±0°.10, h136km±18km, mb4.1/5, Error ellipse: s-maj=15.2km s-min=5.5km az=113.0*
ISC 14 19:19:15.6±0.8, 7°.73S±0°.06×127°.79E±0°.05, h142km, n27, σ2s25/34, mb3.8/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**3.48**	**94**	Pn		**Pn**	**19 20 06.5**	**-2.5**
SAUI				Sn		**Sn**	**19 20 49.6**	**-0.6**
SOEI	**Soe**	**4.02**	**240**	Pn		**Pn**	**19 20 16.7**	**+0.6**
SOEI				Sn		**Sn**	**19 21 01.3**	**-1.7**
SOEI	**Soe**	**4.02**	**240**	P		**Pn**	**19 20 18.0**	**+1.9**
SOEI	**Soe**	**4.02**	**240**	S		**Sn**	**19 21 04.8**	**+1.8**
DRS	**Darwin Rock St**	**5.58**	**147**	P		**Pn**	**19 20 39.6**	**+2.9**
	29nm,0.4s							
DRS	**Darwin Rock St**	**5.58**	**147**	S		**Sn**	**19 21 39.7**	**-0.3**
	29nm,0.4s							
MTN	**Manton Dam**	**6.05**	**147**			**Pn**	**19 20 45.2**	**+2.3**
MTN				Sn		**Sn**	**19 21 51.3**	**+0.1**
MTN	**Manton Dam**	**6.05**	**147**	P		**Pn**	**19 20 45.4**	**+2.5**
	26nm,0.5s							
MTN	**Manton Dam**	**6.05**	**147**	S		**Sn**	**19 21 51.4**	**+0.2**
	26nm,0.5s							
FAKI	**Fak Fak**	**6.52**	**43**	Pn		**Pn**	**19 20 49.5**	**+0.2**
KDU	**Kakadu**	**6.74**	**137**	P		**Pn**	**19 20 54.5**	**+2.3**
	33nm,0.7s							
KNRA	**Kununurra**	**7.95**	**173**			**Pn**	**19 21 09.3**	**+0.9**
KNRA						**Sn**	**19 22 33.3**	**-3.7**
FITZ	**Fitzroy Crossi**	**10.51**	**191**	Pn		**Pn**	**19 21 41.1**	**-1.5**
FITZ						Sn	19 23 31.5	-7.3
FITZ	**Fitzroy Crossi**	**10.51**	**191**	P		**Pn**	**19 21 41.4**	**-1.2**
	13nm,1.0s							
WB0	**Warramunga Arr**	**13.57**	**153**	Pn		**Pn**	**19 22 21.7**	**-0.7**
WB0				P		**P**	**19 22 29.0**	**+2.5**
WRAB	**Tennant Creek**	**13.69**	**153**	Pn		**Pn**	**19 22 23.8**	**-0.3**
WRA	**Warramunga Arr**	**13.70**	**153**	P		**Pn**	**19 22 24.3**	**+0.2**
	0.8nm,0.3s,baz=325,slow=13,SNR=40							
WRA				S		Sn	19 24 48.1	-7.6
	3.8nm,0.8s,baz=330,slow=22,SNR=9.6							
	1.1nm,0.4s							
WR8	**Warramunga Arr**	**13.78**	**153**	Pn		**Pn**	**19 22 24.7**	**-0.5**
WR8				P		**P**	**19 22 31.4**	**+2.5**
DAV	**Davao City (W)**	**14.87**	**351**	Pn		**Pn**	**19 22 37.9**	**-1.0**
MBWA	**Marble Bar**	**15.45**	**209**	Pn		**Pn**	**19 22 45.7**	**-0.4**
MBWA				IAmb		IAmb	19 23 17.4	
	comp=Z,12nm,1.1s							
AS31	**Alice Springs**	**16.89**	**160**	Pn		**Pn**	**19 23 06.6**	**+2.8**
AS31				IAmb		IAmb	19 23 07.1	
	comp=Z,3.1nm,0.3s							
ASAR	**Alice Springs**	**16.89**	**160**	P		**Pn**	**19 23 06.3**	**+2.6**
	comp=Z,1.3nm,0.3s,baz=338,slow=11,SNR=144							
ASAR				S		**S**	**19 26 04.7**	**-7.6**
	comp=Z,0.4nm,0.3s,baz=323,slow=18,SNR=6.4							
	comp=Z,3.9nm,0.4s							
BBOO	**Buckleboo**	**26.11**	**164**	P		**P**	**19 24 37.9**	**+1.6**
STKA	**Stephens Creek**	**27.25**	**154**	P		**P**	**19 24 47.9**	**+1.3**
STKA	**Stephens Creek**	**27.25**	**154**	P		**P**	**19 24 48.0**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=332,slow=9.6,SNR=3.0							
	comp=Z,1.0nm,0.4s							

ARMA	**Armidale**	**31.75**	**138**	P		**P**	**19 25 27.2**	**+0.8**
ARMA				IAmb		IAmb	19 25 48.9	
	comp=Z,9.3nm,1.2s							
MKAR	**Makanchi Array**	**67.66**	**328**	P		**P**	**19 29 55.7**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=141,slow=6.4,SNR=1.8							
	comp=Z,0.1nm,0.5s							

IDC ***14*** *19:21:14.8±1.6, 41°.27N×113°.11W, h0km, mbtmp1.8/1, ML2.9/1, Error ellipse: s-maj=60.0km s-min=11.2km az=148.0*
NEIC ***14*** *19:21:16.0±0.8, 41°.12N±0°.02×112°.87W±0°.03, h0km±2km, ML1.9/32, Error ellipse: s-maj=4.3km s-min=3.0km az=311.0*
ISC 14 19:21:13.6±1.0, 41°.22N±0°.03×112°.93W±0°.04, h0km, n20, σ0s73/20, Utah

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.31**	**194**			**Pb**	**19 21 20.9**	**-1.1**
BGU				IAML			19 21 28.1	
	comp=E,169nm,0.3s							
HVU	**Hansel Valley**	**0.57**	**12**	Pg		**Pn**	**19 21 28.9**	**-0.2**
HVU				IAML			19 21 43.4	
	comp=E,79nm,0.4s							
DUG	**Dugway, Tooele**	**1.03**	**175**			**Pg**	**19 21 33.5**	**+0.2**
DUG				IAML			19 21 52.4	
	comp=E,38nm,0.4s							
DUG				IAML			19 21 54.2	
	comp=E,30nm,0.6s							
CTU	**Camp Tracy**	**1.04**	**120**			**Pb**	**19 21 34.2**	**-0.4**
CTU				IAML			19 21 51.3	
	comp=N,37nm,0.4s							
CTU				IAML			19 21 56.9	
	comp=E,32nm,0.5s							
HWUT	**Hardware Ranch**	**1.10**	**69**			**Pn**	**19 21 37.0**	**+0.6**
HWUT				IAML			19 21 58.8	
	comp=E,26nm,0.4s							
HWUT				IAML			19 21 59.8	
	comp=E,28nm,0.4s							
TCUT	**Toone Canyon**	**1.15**	**95**			**Pn**	**19 21 37.6**	**+0.4**
JLU	**Jordanelle**	**1.28**	**118**			**Pb**	**19 21 38.6**	**-0.2**
MPU	**Maple Canyon**	**1.56**	**140**	Pn		**Pn**	**19 21 42.8**	**0.0**
BSUT	**Blindstream Ca**	**1.78**	**112**			**Pb**	**19 21 47.1**	**-0.3**
ELK	**Elko**	**1.81**	**256**			**Pg**	**19 21 49.1**	**+0.8**
ELK				IAML			19 22 17.5	
	comp=E,12nm,0.3s							
TMUT	**Trail Mountain**	**2.33**	**145**	Pn		**Pn**	**19 21 52.8**	**-0.7**
TMUT				IAML			19 22 35.5	
	comp=E,9.9nm,0.5s							
SPR3	**Spring Creek 3**	**2.47**	**206**	Pn		**Pb**	**19 21 58.2**	**-0.8**
SPR3				IAML			19 22 37.9	
	comp=E,5.0nm,0.4s							
SPR3				IAML			19 22 39.1	
	comp=N,4.7nm,0.5s							
HLID	**Hailey**	**2.58**	**335**			**Pg**	**19 22 03.2**	**0.0**
HLID				IAML			19 22 31.8	
	comp=N,3.7nm,4.8s							
HLID				IAML			19 22 40.0	
	comp=N,5.8nm,4.6s							
TCRU	**Three Creeks R**	**2.63**	**172**	Pn		**Pn**	**19 21 57.7**	**+0.1**
MSU	**Marysvale**	**2.77**	**168**			**Pn**	**19 22 00.2**	**+0.8**
PSUT	**Pine Spring**	**2.78**	**195**			**Pn**	**19 22 00.7**	**+1.1**
PSUT				IAML			19 22 44.1	
	comp=E,4.5nm,3.9s							
PSUT				IAML			19 22 51.5	
	comp=N,4.0nm,0.5s							
PDAR	**Pinedale Array**	**2.95**	**57**	Pn		**Pb**	**19 22 05.7**	**-1.5**
	comp=N,0.2nm,0.3s,baz=243,slow=14,SNR=2.9							
PDAR				Pg		**Pg**	**19 22 10.8**	**+0.7**
	comp=N,1.2nm,0.3s,baz=229,slow=14,SNR=11							
PDAR				Lg		Lg	19 22 50.7	
	comp=N,1.1nm,0.3s,baz=237,slow=28,SNR=6.2							
	comp=N,0.2nm,0.3s							
MCMT	**McKenzie Canyo**	**3.60**	**1**			**Pb**	**19 22 18.4**	**0.0**
NVAR	**Mina Array Bea**	**4.99**	**238**	Pg		**Pb**	**19 22 41.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=42,slow=16,SNR=2.1							
I56US	**NEWPORT INFRAS**	**7.65**	**338**	I		I	20 05 40.0	
	comp=N,0.1nm,1.0s,baz=159,slow=316,SNR=1.9							

NOU ***14*** *19:46:33.9, 17°.93S×177°.52W, h750km, MLv3.9/4, Fiji Islands Region*
IDC ***14*** *19:46:49.0±2.1, 17°.94S×178°.54W, h589km±25km, mb3.5/14, mbtmp4.5/15, Error ellipse: s-maj=17.3km s-min=10.7km az=143.0*
NEIC ***14*** *19:46:49.3±1.5, 18°.1S±0°.1×178°.4W±0°.1, h591km±8km, mb4.2/86, Error ellipse: s-maj=21.1km s-min=16.0km az=165.0*
ISC 14 19:46:49.3±0.5, 18°.02S±0°.09×178°.42W±0°.08, h600km, n95, σ1s02/62, mb4.1/57, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.43**	**240**	P		**P**	**19 47 59.3**	**

CCCA	**Chr Cany lake**	**78.59**	**47**	IAmb	IAmb	19 57 53.9
	comp=Z,6.1nm,0.8s					
YBH	**Yreka Blue Hor**	**78.62**	**39**	P	**P**	**19 57 51.4 +1.1**
	comp=Z,0.4nm,0.7s,baz=211,slow=4.5,SNR=11					
L04D	**Klamath Falls**	**79.15**	**39**	P	**P**	**19 57 54.0 +0.8**
L04D				IAmb	IAmb	19 57 54.8
	comp=Z,9.4nm,0.8s					
QSM	**Queen of Sheba**	**79.17**	**47**	IAmb	IAmb	19 58 38.4
	comp=Z,1.1nm,1.4s					
LHV	**Little Huntoon**	**79.28**	**44**	IAmb	IAmb	19 57 56.0
	comp=Z,7.2nm,0.9s					
RYN	**Ryan**	**79.48**	**44**	P	**P**	**19 57 56.0 +1.0**
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**19 57 56.0 +0.8**
	comp=Z,3.3nm,0.7s,baz=224,slow=9.0,SNR=21					
	comp=Z,3.3nm,0.7s					
O18K	**Koktuh Hills**	**79.86**	**12**	IAmb	IAmb	19 57 56.8
	comp=Z,14nm,0.9s					
K05A	**Summer Lake**	**80.29**	**39**	IAmb	IAmb	19 58 01.3
	comp=Z,11nm,1.0s					
O19K	**Port Alsworth**	**80.35**	**12**	IAmb	IAmb	19 57 59.0
	comp=Z,14nm,0.8s					
PINE	**Pine Mountain**	**80.89**	**38**		**P**	**19 58 03.4 +1.2**
PINE				IAmb	IAmb	19 58 04.3
	comp=Z,12nm,0.9s					
K15K	**Wolf Creek Mou**	**81.16**	**8**	IAmb	IAmb	19 58 04.7
	comp=Z,14nm,0.9s					
PRN	**Pahroc Range**	**81.16**	**46**	IAmb	IAmb	19 58 06.0
	comp=Z,8.4nm,0.9s					
TUC	**Tucson**	**81.78**	**52**		**P**	**19 58 08.3 +1.5**
TUC				IAmb	IAmb	19 58 09.6
	comp=Z,5.8nm,1.0s					
L18K	**Granite Mounta**	**81.81**	**10**	IAmb	IAmb	19 58 07.7
	comp=Z,4.1nm,0.8s					
BELA	**Belgrano 2**	**82.06**	**173**	P	**P**	**19 58 07.3 -0.1**
X16A	**Lo Mia Camp, P**	**82.26**	**50**	IAmb	IAmb	19 58 12.3
	comp=Z,4.8nm,0.9s					
319A	**Douglas**	**82.50**	**54**	IAmb	IAmb	19 58 13.4
	comp=Z,9.0nm,1.0s					
PSUT	**Pine Spring**	**82.55**	**46**	IAmb	IAmb	19 58 12.4
	comp=Z,3.7nm,0.7s					
U15A	**North Rim**	**82.60**	**48**	IAmb	IAmb	19 58 13.5
	comp=Z,9.5nm,0.8s					
ELK	**Elko**	**82.75**	**43**	IAmb	IAmb	19 58 13.3
	comp=Z,5.6nm,1.1s					
ELK	**Elko**	**82.75**	**43**	P	**P**	**19 58 12.2 +0.4**
	comp=Z,2.9nm,0.9s,baz=232,slow=5.0,SNR=8.5					
	comp=Z,2.9nm,0.9s					
G08A	**Pilot Rock**	**82.91**	**38**		**P**	**19 58 12.8 +0.5**
G08A				IAmb	IAmb	19 58 13.5
	comp=Z,4.2nm,0.7s					
J18K	**Innoko River**	**82.97**	**10**	IAmb	IAmb	19 58 13.0
	comp=Z,5.4nm,0.8s					
LTY	**Liberty**	**83.06**	**35**	IAmb	IAmb	19 58 14.2
	comp=Z,5.3nm,1.0s					
K20K	**Telida**	**83.32**	**11**	IAmb	IAmb	19 58 14.5
	comp=Z,5.1nm,0.8s					
CAST	**Castle Rocks**	**83.74**	**12**	IAmb	IAmb	19 58 15.5
	comp=Z,5.6nm,0.7s					
MAW	**Mawson**	**83.75**	**200**	P	**P**	**19 58 16.6 +0.7**
	comp=Z,1.2nm,0.4s,baz=131,slow=6.1,SNR=4.1					
	comp=Z,1.2nm,0.4s					
VRDI	**Verde Repeater**	**83.79**	**16**	IAmb	IAmb	19 58 17.1
	comp=Z,4.2nm,1.0s					
D08A	**Wollman Farm,**	**83.92**	**36**	IAmb	IAmb	19 58 18.3
	comp=Z,7.1nm,0.9s					
BARN	**Barnard Glacie**	**84.14**	**17**	IAmb	IAmb	19 58 19.1
	comp=Z,7.2nm,0.9s					
F10A	**Beach Ranch, E**	**84.30**	**38**	IAmb	IAmb	19 58 26.6
	comp=Z,8.3nm,0.8s					
B08A	**Colville Reser**	**84.44**	**35**	IAmb	IAmb	19 58 20.5
	comp=Z,5.1nm,0.9s					
HLID	**Hailey**	**84.72**	**41**	IAmb	IAmb	19 58 23.3
	comp=Z,3.6nm,0.8s					
M26K	**Nabesna, AK**	**84.89**	**16**	IAmb	IAmb	19 58 22.6
	comp=Z,6.3nm,1.0s					
M27K	**Edge Creek, AK**	**85.15**	**16**	IAmb	IAmb	19 58 24.2
	comp=Z,8.4nm,1.2s					
S34M	**Telegraph Cree**	**85.15**	**23**	IAmb	IAmb	19 58 24.6
	comp=Z,6.2nm,0.8s					
Q32M	**Nakina River**	**85.49**	**22**	IAmb	IAmb	19 58 25.8
	comp=Z,2.9nm,0.6s					
NEW	**Newport**	**85.61**	**36**	P	**P**	**19 58 24.9 -0.4**
	comp=Z,2.2nm,0.6s,baz=220,slow=7.9,SNR=4.2					
	comp=Z,2.2nm,0.6s					
CCB	**Clear Creek Bu**	**85.69**	**13**	IAmb	IAmb	19 58 25.3
	comp=Z,6.7nm,1.2s					
ILAR	**Eielson Array**	**86.00**	**13**	P	**P**	**19 58 25.8 -1.0**
	comp=Z,1.1nm,0.4s,baz=222,slow=5.3,SNR=12					
	comp=Z,1.1nm,0.4s					
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**19 58 29.1 +1.1**
	comp=Z,4.2nm,0.7s,baz=221,slow=5.9,SNR=28					
	comp=Z,4.2nm,0.7s					
J26L	**Joseph Creek**	**86.51**	**14**	IAmb	IAmb	19 58 30.3
	comp=Z,2.9nm,0.6s					
M30M	**Minto, Yukon**	**86.74**	**18**	IAmb	IAmb	19 58 31.3
	comp=Z,5.9nm,1.0s					
L29M	**L29M**	**86.78**	**17**	IAmb	IAmb	19 58 32.0
	comp=Z,7.7nm,1.2s					
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**19 58 34.4 0.0**
	comp=Z,2.1nm,0.6s,baz=216,slow=3.5,SNR=23					
	comp=Z,2.1nm,0.6s					
BOZ	**Bozeman (W)**	**87.46**	**40**	IAmb	IAmb	19 58 36.2
	comp=Z,7.9nm,1.4s					
CMAR	**Chiang Mai Arr**	**88.91**	**290**	P	**P**	**19 58 42.9 +1.5**
	comp=Z,1.1nm,0.5s,baz=108,slow=2.2,SNR=13					
	comp=Z,1.1nm,0.5s					
SNAA	**Sanae**	**90.49**	**179**	P	**P**	**19 58 47.5 -0.3**
	comp=Z,0.9nm,0.6s,baz=206,slow=8.1,SNR=16					
	comp=Z,0.9nm,0.6s					
BVAR	**Borovoye Array**	**116.92**	**321**	PKP	**PKPdf**	**20 04 25.6 -1.0**
	comp=Z,0.4nm,0.4s,baz=152,slow=2.4,SNR=5.5					
BNN	**Bunyan**	**143.72**	**312**		**PKPdf**	**20 05 17.2 -0.2**
BRTR	**Keskin Array B**	**144.85**	**315**	PKP	PKPbc	20 05 20.0 0.0
	comp=Z,0.8nm,0.5s,baz=98,slow=2.4,SNR=6.4					
MMAI	**Mount Meron Ar**	**146.19**	**303**	PKPbc	**PKPbc**	**20 05 24.2 +0.2**
	comp=Z,1.7nm,0.5s,baz=54,slow=4.8,SNR=5.2					
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	**PKPbc**	**20 05 27.8 +0.2**
	comp=Z,0.4nm,0.6s,baz=32,slow=3.9,SNR=2.7					
DAVOX	**Davos/Dischmat**	**150.51**	**348**	PKPbc	**PKiKP**	**20 05 35.8 +0.9**
	comp=Z,1.2nm,0.6s,baz=8.1,slow=7.1,SNR=2.4					

NNC 14 19:51:09.9±6.0, 54.10N×85.91E, h0km, mb3.6, mpv3.2, 7C-1D, Error ellipse: s-maj=53.1km s-min=33.4km az=173.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.60**	**236**	↑Sn	Sn	19 53 38.5	-0.9
	1.8nm,0.6s						
KURK				↑Lg	Lg	19 54 10.4	
	6.8nm,0.7s						
KURBB	**Kurchatov Arra**	**5.70**	**235**	↑Pn	Pn	19 52 36.4	+0.6
	2.3nm,0.5s						
KURBB				↑Sn	Sn	19 53 43.4	+1.5
	2.7nm,0.5s						
KURBB				↑Lg	Lg	19 54 17.1	
	9.5nm,0.7s						
MK31	**Makanchi Array**	**7.67**	**199**	↓P	Pn	19 53 03.0	+0.2
	0.3nm,0.3s,baz=26,slow=13,SNR=27						
MK31				↑Sn	Sn	19 54 31.3	+0.9
	0.3nm,0.4s,baz=27,slow=27,SNR=6.3						
MK31				↑Lg	Lg	19 55 13.7	
	2.6nm,0.8s,baz=20,slow=31,SNR=4.2						

IDC ***14*** *19:51:50.0±0.7, 22.15S×12.31W, h0km, mb4.0/14, mbtmp4.0/14, MS3.9/49, Error ellipse: s-maj=22.1km s-min=15.9km az=132.0*

NEIC ***14*** *19:51:51.7±1.5, 22.2S±0.1×12.4W±0.1, h10km±1km, mb4.7/23, Error ellipse: s-maj=21.4km s-min=15.9km az=150.0*

GCMT ***14*** *19:51:54.7±0.3, 22.48S±0.02×12.34W±0.02, h18km±1km, MW4.9/98, Moment Tensor Solution. s28,c31; s98,c137; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.11±.10; Mθθ=1.53±.10; Mϕϕ 1.65±.11; Mrθ=-1.38±.26; Mrϕ2.14±.08; Mθϕ=0.99±.25; Best double couple: Mo3.13100×10^16 NP1:ϕs160.00000°, δ59.00000°, λ176.00000°. NP2: ϕs252.00000°, δ86.00000°, λ31.00000°. Principal axes: T 3.3940, Plg24.0000°, Azm120.0000°; N -0.5160, Plg59.0000°, Azm258.0000°; P -2.8690, Plg18.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

2019 AUG

ISC 14 19:51:51.3±0.5, 22.19S±0.10×12.38W±0.09, h10km, n81, σ1815/38, mb4.5/22, MS4.0/49, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**8.82**	**46**	Pn	**Pn**	**19 54 00.6**	**+1.6**
H10N1	**ASCENSION HYDR**	**14.41**	**352**	T	T	20 10 15.7	
	baz=179,slow=74						
H10N3	**ASCENSION HYDR**	**14.41**	**352**	T	T	20 10 14.6	
	baz=179,slow=74						
H10N2	**ASCENSION HYDR**	**14.43**	**352**	T	T	20 10 16.2	
	baz=179						
RCBR	**Riachuelo**	**27.95**	**302**	LR	LR	20 05 52.0	
	comp=Z,231nm,21.9s,baz=80,slow=30						
TSUM	**Tsumeb**	**28.17**	**89**	P	**P**	**19 57 43.2**	**-1.0**
TSUM				IAmb	IAmb	19 57 48.8	
	comp=Z,15nm,1.3s						
TSUM	**Tsumeb**	**28.17**	**89**	LR	LR	20 06 41.1	
	comp=Z,207nm,20.3s,baz=264,slow=32						
DBIC	**Dimbokro**	**29.62**	**15**	P	**P**	**19 57 56.2**	**-0.7**
DBIC	**Dimbokro**	**29.62**	**15**	P	**P**	**19 57 56.5**	**-0.4**
	comp=Z,8.5nm,1.1s,baz=170,slow=7.7,SNR=3.4						
DBIC				LR	LR	20 06 55.4	
	comp=Z,246nm,21.1s,baz=199,slow=31						
	comp=Z,8.5nm,1.1s						
KOOLE	**Kule**	**30.06**	**98**	P	**P**	**19 58 00.7**	**-0.3**
KOOLE				IAmb	IAmb	19 58 07.2	
	comp=Z,12nm,1.1s						
PHPEN	**Phepeng**	**32.34**	**103**	P	**P**	**19 58 20.6**	**-0.5**
MAKGR	**Makgori**	**34.09**	**104**	P	**P**	**19 58 36.2**	**-0.2**
MAKGR				IAmb	IAmb	19 58 40.6	
	comp=Z,11nm,1.2s						
BDFB	**Brasilia**	**34.27**	**275**	P	**P**	**19 58 37.5**	**-0.6**
BDFB				IAmb	IAmb	19 58 39.0	
	comp=Z,12nm,1.2s						
BDFB	**Brasilia**	**34.27**	**275**	P	**P**	**19 58 38.1**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=102,slow=12,SNR=3.9						
BDFB				LR	LR	20 09 54.6	
	comp=Z,311nm,21.8s,baz=123,slow=32						
	comp=Z,2.6nm,0.6s						
BOSA	**Boshof**	**34.49**	**109**	P	**P**	**19 58 38.5**	**-1.4**
BOSA				IAmb	IAmb	19 58 40.3	
	comp=Z,9.4nm,0.9s						
BOSA	**Boshof**	**34.49**	**109**	P	**P**	**19 58 39.2**	**-0.6**
	comp=Z,6.2nm,0.9s,baz=265,slow=5.7,SNR=7.6						
BOSA				LR	LR	20 10 02.4	
	comp=Z,284nm,20.8s,baz=264,slow=32						
	comp=Z,6.2nm,0.9s						
LBTB	**Lobatse**	**34.84**	**102**	LR	LR	20 10 41.1	
	comp=Z,317nm,20.2s,baz=260,slow=32						
TORD	**Torodi Ar. Bea**	**37.74**	**23**	P	**P**	**19 59 08.0**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=201,slow=8.7,SNR=19						
	comp=Z,4.9nm,0.8s						
PLTB	**Pedras Altas**	**37.76**	**246**	P	**P**	**19 59 09.2**	**+1.5**
PLTB				IAmb	IAmb	19 59 12.0	
	comp=Z,14nm,1.0s						
MATP	**Matopo**	**38.05**	**95**	LR	LR	20 12 14.8	
	comp=Z,131nm,21.9s,baz=262,slow=32						
LSZ	**Lusaka**	**38.94**	**87**	LR	LR	20 13 18.9	
	comp=Z,213nm,20.8s,baz=258,slow=33						
CPUP	**Villa Florida**	**41.03**	**255**	P	**P**	**19 59 36.4**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=88,slow=2.5,SNR=4.7						
CPUP				LR	LR	20 13 38.6	
	comp=Z,36nm,19.0s,baz=320,slow=32						
	comp=Z,0.9nm,0.9s						
TRQA	**Tornquist**	**45.19**	**238**	P	**P**	**20 00 08.3**	**-0.3**
SIV	**San Ignacio**	**46.27**	**269**	P	**P**	**20 00 18.7**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=112,slow=9.4,SNR=6.6						
SIV				LR	LR	20 17 56.2	
	comp=Z,243nm,19.8s,baz=118,slow=34						
	comp=Z,1.8nm,0.8s						
MDP	**Montagnes des**	**47.83**	**300**	LR	LR	20 17 54.8	
	comp=Z,170nm,21.3s,baz=133,slow=33						
SNAA	**Sanae**	**49.80**	**176**	P	**P**	**20 00 43.0**	**-1.0**
SNAA	**Sanae**	**49.80**	**176**	P	**P**	**20 00 45.1**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=331,slow=3.4,SNR=5.6						
SNAA				LR	LR	20 17 03.0	
	comp=Z,80nm,18.8s,baz=302,slow=30						
	comp=Z,1.5nm,0.9s						
PLCA	**Paso Flores**	**52.01**	**235**	P	**P**	**20 01 00.5**	**-0.6**
PLCA				IAmb	IAmb	20 01 34.9	
	comp=Z,14nm,1.5s						
PLCA	**Paso Flores**	**52.01**	**235**	P	**P**	**20 01 01.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=78,slow=6.5,SNR=4.3						
PLCA				LR	LR	20 19 20.8	
	comp=Z,150nm,21.5s,baz=72,slow=32						
	comp=Z,1.6nm,0.8s						
GO02	**Mina Guanaco**	**52.15**	**255**	P	**P**	**20 01 02.0**	**-0.6**
GO02				IAmb	IAmb	20 01 14.1	
	comp=Z,7.8nm,0.7s						
KMBO	**Kilima Mbogo**	**52.59**	**74**	LR	LR	20 21 08.1	
	comp=Z,67nm,18.7s,baz=100,slow=34						
PB08	**IPOC Station P**	**52.72**	**261**	P	**P**	**20 01 05.4**	**-1.6**
LPAZ	**La Paz**	**52.73**	**266**	P	**P**	**20 01 06.6**	**-0.7**
LPAZ	**La Paz**	**52.73**	**266**	P	**P**	**20 01 07.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=108,slow=3.2,SNR=2.4						
LPAZ				LR	LR	20 23 25.8	
	comp=Z,103nm,18.4s,baz=99,slow=36						
	comp=Z,1.1nm,0.8s						
PB03	**IPOC Station P**	**52.86**	**259**	P	**P**	**20 01 05.2**	**-2.6**
PB03				IAmb	IAmb	20 01 17.1	
	comp=Z,10nm,1.2s						
GO01	**Chusmiza**	**52.86**	**262**	P	**P**	**20 01 07.0**	**-1.2**
BOAV	**Boa Vista**	**52.96**	**291**	P	**P**	**20 01 08.2**	**-0.2**
BOAV				IAmb	IAmb	20 01 11.3	
	comp=Z,14nm,1.4s						
PMSA	**Palmer Station**	**54.15**	**205**	LR	LR	20 19 41.3	
	comp=Z,140nm,19.9s,baz=69,slow=31						
MDT	**Midelt**	**55.20**	**8**	LR	LR	20 23 38.7	
	comp=Z,146nm,18.9s,baz=200,slow=35						
BELA	**Belgrano 2**	**56.74**	**185**	P	**P**	**20 01 34.1**	**-0.8**
CZSB	**Cruzeiro do Su**	**59.67**	**274**	P	**P**	**20 01 56.0**	**-0.4**
PCRV	**Puerto La Cruz**	**60.49**	**297**	LR	LR	20 26 43.6	
	comp=Z,157nm,19.2s,slow=35						
KEST	**Kesra**	**61.18**	**20**	LR	LR	20 26 04.7	
	comp=Z,134nm,20.2s,baz=326,slow=34						
ESDC	**Sonseca Array**	**62.05**	**7**	P	**P**	**20 02 13.1**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=193,slow=6.5,SNR=4.4						
ESDC				LR	LR	20 28 36.0	
	comp=Z,67nm,18.1s,baz=172,slow=36						
	comp=Z,0.3nm,0.7s						
NNA	**Nana**	**62.06**	**268**	LR	LR	20 27 05.5	
	comp=Z,74nm,20.5s,baz=110,slow=34						
MAW	**Mawson**	**64.07**	**156**	LR	LR	20 23 40.4	
	comp=Z,96nm,20.4s,baz=286,slow=30						
SDV	**Santo Domingo**	**64.89**	**292**	LR	LR	20 28 40.9	
	comp=Z,224nm,20.1s,baz=110,slow=34						
ATAH	**Atahualpa**	**65.15**	**272**	LR	LR	20 29 41.2	
	comp=Z,605nm,19.7s,baz=109,slow=35						
RUSC	**La Rusia**	**65.61**	**288**	P	**P**	**20 02 37.3**	**+0.7**
RUSC				IAmb	IAmb	20 02 40.5	
	comp=Z,5.9nm,0.9s						
FLOC	**Florencia**	**66.02**	**282**	P	**P**	**20 02 38.5**	**-0.2**
ROSC	**El Rosal**	**66.23**	**286**	LR	LR	20 30 53.5	
	comp=Z,266nm,19.5s,baz=198,slow=35						
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**20 02 53.4**	**+2.7**
QSPA				IAmb	IAmb	20 03 02.9	
	comp=Z,6.2nm,1.1s						
QSPA	**South Pole Qui**	**68.01**	**180**	P	**P**	**20 02 51.5**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=229,slow=5.4,SNR=6.6						
QSPA				LR	LR	20 27 35.6	
	comp=Z,101nm,21.1s,baz=208,slow=32						
	comp=Z,1.4nm,0.8s						
MMAI	**Mount Meron Ar**	**71.36**	**41**	LR	LR	20 31 55.2	
	comp=Z,69nm,20.4s,baz=222,slow=34						
DAVOX	**Davos/Dischmat**	**71.54**	**16**	LR	LR	20 34 06.0	
	comp=Z,139nm,18.1s,baz=225,slow=36						
ASF	**Jabal al Asfar**	**71.72**	**43**	LR	LR	20 31 27.3	
	comp=Z,62nm,21.9s,baz=331,slow=33						
GERES	**GERESS Array B**	**74.46**	**18**	P	**P**	**20 03 28.0**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=186,slow=5.8,SNR=2.1						
GERES				LR	LR	20 36 17.8	
	comp=Z,93nm,18.2s,baz=210,slow=36						
	comp=Z,0.2nm,0.6s						
BRTR	**Keskin Array B**	**75.09**	**35**	P	**P**	**20 03 33.5**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=188,slow=8.4,SNR=6.8						
	comp=Z,0.9nm,0.9s						
VRAC	**Vranov**	**75.72**	**19**	LR	LR	20 36 29.1	
	comp=Z,81nm,18.2s,baz=212,slow=35						
MLR	**Muntele Rosu**	**75.85**	**27**	P	**P**	**20 03 35.7**	**-2.1**
MLR				IAmb	IAmb	20 04 06.3	
	comp=Z,4.7nm,0.8s						
MLR	**Muntele Rosu**	**75.85**	**27**	LR	LR	20 39 12.2	
	comp=Z,33nm,18.3s,baz=250,slow=38						
JTS	**Las Juntas de**	**78.08**	**286**	LR	LR	20 38 00.1	
	comp=Z,119nm,19.6s,baz=110,slow=36						
VNDA	**Vanda**	**80.45**	**179**	LR	LR	20 34 33.5	
	comp=Z,84nm,21.9s,baz=178,slow=32						
AKASG	**Malin Array Be**	**81.33**	**25**	P	**P**	**20 04 07.6**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=224,slow=5.3,SNR=4.5						
AKASG				LR	LR	20 40 57.6	
	comp=Z,24nm,19.8s,baz=237,slow=36						
	comp=Z,0.7nm,0.5s						
GNI	**Garni**	**81.70**	**41**	LR	LR	20 39 37.8	
	comp=Z,35nm,18.1s,baz=236,slow=35						
HFS	**Hagfors**	**84.75**	**13**	LR	LR	20 43 13.8	
	comp=Z,47nm,18.3s,baz=206,slow=36						
NOA	**NORSAR Array B**	**85.11**	**11**	LR	LR	20 43 59.0	
	comp=Z,31nm,18.4s,baz=185,slow=37						
TKL	**Tuckaleechee C**	**88.69**	**309**	LR	LR	20 36 07.4	
	comp=Z,99nm,21.5s,baz=118,slow=30						
FINES	**FINESS Array B**	**88.89**	**17**	LR	LR	20 45 45.7	
	comp=Z,52nm,18.9s,baz=230,slow=36						
CMIG	**Matias Romero**	**89.66**	**289**	LR	LR	20 43 46.1	
	comp=Z,114nm,21.8s,baz=166,slow=35						
SCHQ	**Schefferville**	**89.69**	**332**	LR	LR	20 38 17.7	
	comp=Z,159nm,18.6s,baz=123,slow=31						
SADO	**Sadowa**	**90.18**	**319**	LR	LR	20 36 38.1	
	comp=Z,72nm,19.8s,baz=138,slow=30						
SFJD	**Kangerlussuaq**	**93.40**	**346**	LR	LR	20 37 46.5	
	comp=Z,44nm,20.3s,baz=164,slow=30						
AKTO	**Aktyubinsk**	**95.16**	**37**	LR	LR	20 50 40.3	
	comp=Z,22nm,18.1s,baz=50,slow=37						
KIRV	**Kirov**	**95.19**	**28**	LR	LR	20 50 49.2	
	comp=Z,32nm,18.0s,baz=221,slow=37						
ARCES	**ARCESS Array B**	**95.41**	**13**	LR	LR	20 47 51.1	
	comp=Z,42nm,20.7s,baz=242,slow=35						
PALK	**Pallekele**	**95.55**	**84**	LR	LR	20 41 19.2	
	comp=Z,103nm,20.6s,baz=250,slow=31						
ARTI	**Arti**	**98.18**	**32**	LR	LR	20 51 04.4	
	comp=Z,27nm,20.9s,baz=213,slow=36						
H01W2	**Cape Leeuwin H**	**103.85**	**137**	T	T	22 02 26.1	
	baz=230						
H01W3	**Cape Leeuwin H**	**103.86**	**137**	T	T	22 02 28.1	
	baz=230						
H01W1	**Cape Leeuwin H**	**103.87**	**137**	T	T	22 02 28.0	
	baz=230						

IDC 14 20:07:41.0±2.3, 3.54S×127.72E, h0km, mb3.5/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=176.3km s-min=29.2km az=66.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.54**	**159**	P	Pn	20 11 46.4	-0.7
	0.2nm,0.3s,baz=341,slow=13,SNR=10						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**20.88**	**164**	P	P	20 12 25.4	+0.4
	2.8nm,0.7s,baz=341,slow=10,SNR=43						
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**64.11**	**327**	P	P	20 18 17.0	-0.1
	0.3nm,0.7s,baz=121,slow=5.6,SNR=2.9						
	0.3nm,0.7s						

CATAC 14 20:08:06.4±0.5, 11.7N±3.3°×87.7W±3.5°, h36km±8km, M3.2/18, MLv3.2/18, Error ellipse: s-maj=7.1km s-min=3.6km az=43.0, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.75**	**52**	P	Pn	20 08 20.7	+0.2
NADN				S	Sn	20 08 32.3	+1.7
NANN	**Nandasmo**	**0.82**	**38**	S	Sn	20 08 33.9	+1.5
NANN	**Nandasmo**	**0.82**	**38**	P	Pn	20 08 22.3	+0.8
COPN	**Copaltepe**	**0.88**	**3**	P	Pn	20 08 22.2	-0.2
UNAN	**Cigeo UNAN**	**0.89**	**24**	P	Pn	20 08 23.1	+0.6
UNAN				S	Sn	20 08 35.2	+1.0
SAPS	**Ciudad Sandino**	**0.90**	**15**	S	Sn	20 08 35.6	+1.1
SAPS	**Ciudad Sandino**	**0.90**	**15**	P	Pn	20 08 23.1	+0.5
TISN	**Laguna Tiscapa**	**0.92**	**23**	P	Pn	20 08 23.6	+0.8
JAPN	**AI SSO del Vol**	**0.97**	**76**	P	Pn	20 08 24.7	+1.2
WILN	**Americas 2**	**0.97**	**27**	P	Pn	20 08 23.6	+0.1
WILN				S	Sn	20 08 36.8	+0.8
APQ3	**Volcan Apoyequ**	**1.01**	**15**	P	Pn	20 08 24.4	+0.4
APQ3				S	Sn	20 08 38.0	+0.9
OMEN	**AI SSO del Vol**	**1.01**	**78**	P	Pn	20 08 24.7	+0.6
CNGA	**AI SSO del Vol**	**1.20**	**357**	P	Pn	20 08 26.6	-0.1
CNGN	**Cerro Negro**	**1.20**	**357**	P	Pn	20 08 26.8	+0.1
CNGN	**Cerro Negro**	**1.20**	**357**	S	Sn	20 08 42.6	+0.7
CRIN	**San Cristobal**	**1.46**	**344**	P	Pn	20 08 30.3	+0.1
CRIN	**San Cristobal**	**1.46**	**344**	S	Sn	20 08 48.3	+0.1
BOAB	**BOACO BROADBAN**	**1.49**	**39**	P	Pn	20 08 30.9	+0.2
BOAB	**BOACO BROADBAN**	**1.49**	**39**	S	Sn	20 08 49.7	+0.8
MATN	**Matagalpa**	**1.77**	**23**	P	Pn	20 08 34.3	-0.3
POTN	**Potosi Cosigui**	**1.90**	**333**	P	Pn	20 08 36.3	0.0
POTN				S	Sn	20 08 59.6	+0.6
CSGN	**Cosiguina Volc**	**1.90**	**332**	P	Pn	20 08 36.4	0.0
CSGN				S	Sn	20 09 00.5	+1.4
JTS	**Las Juntas de**	**1.93**	**121**	P	Pn	20 08 36.8	0.0
JTS				S	Sn	20 09 00.4	+0.6
SOCE	**Pocosol**	**2.18**	**114**

JRBN				S		**Sg**	**20 24 24.0**	**+0.3**
JRR	**Rishiri**	**0.68**	**203**	*e*P		**Pg**	**20 24 19.1**	**+0.1**
JRR				S		**Sb**	**20 24 29.9**	**-0.3**
NEVR	**Nevel`sk**	**0.92**	**8**	*e*Pg		**Pb**	**20 24 24.3**	**-0.2**
NEVR				AMB	AMB		20 24 26.3	
	60nm,0.2s							
NEVR				*e*Sg		**Sn**	**20 24 38.8**	**-0.6**
NEVR				A	A		20 24 42.0	
	360nm,0.2s							
NEVR				A	A		20 24 42.0	
	350nm,0.2s							
JSE	**Soyaes**	**1.03**	**141**	P		**Pg**	**20 24 24.6**	**-1.1**
JSE				S		**Sg**	**20 24 39.0**	**0.0**
KHLM	**Kholmsk**	**1.31**	**11**	*e*Pg		**Pg**	**20 24 31.2**	**0.0**
KHLM				AMB	AMB		20 24 36.3	
	180nm,0.3s							
KHLM				*e*Sg		**Sn**	**20 24 51.0**	**+1.8**
KHLM				A	A		20 24 54.3	
	460nm,0.2s							
KHLM				A	A		20 24 54.3	
	500nm,0.2s							
YSS	**Yuzhno-Sakhali**	**1.40**	**32**	*e*Pg		**Pn**	**20 24 31.9**	**-0.5**
YSS				AMB	AMB		20 24 32.7	
	40nm,0.3s							
YSS				*e*Sg		**Sn**	**20 24 52.1**	**+0.7**
YSS				A	A		20 24 53.1	
	100nm,0.3s							
YSS				A	A		20 24 53.1	
	120nm,0.3s							

IDC ***14*** *21:01:00.0±1.7, 40˚.80N×112˚.80W, h0km, mbtmp2.3/1, ML3.0/1, Error ellipse: s-maj=33.7km s-min=5.4km az=161.0*

NEIC ***14*** *21:01:02.4±1.9, 41˚.09N±0˚.01×112˚.83W±0˚.04, h0km±1km, ML1.9/26, Error ellipse: s-maj=5.5km s-min=2.8km az=269.0*

ISC 14 21:01:03.0±1.0**, 41˚.10N**±0˚.04×**112˚.84W**±0˚.04**, h0**km**, n21, σ0$66/20, Utah**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.23**	**220**	Pg		**Pg**	**21 01 07.6**	**+0.3**
HVU	**Hansel Valley**	**0.68**	**4**	Pg		**Pg**	**21 01 15.6**	**-0.5**
HVU				IAML			21 01 32.6	
	comp=E,60nm,0.4s							
HVU				IAML			21 01 33.1	
	comp=N,96nm,0.4s							
DUG	**Dugway, Tooele**	**0.90**	**179**	Pg		**Pb**	**21 01 21.3**	**-0.4**
DUG				IAML			21 01 42.1	
	comp=N,59nm,0.5s							
DUG				IAML			21 01 42.4	
	comp=N,36nm,0.5s							
CTU	**Camp Tracy**	**0.92**	**116**	Pg		**Pb**	**21 01 21.7**	**-0.3**
CTU				IAML			21 01 39.2	
	comp=N,29nm,0.7s							
CTU				IAML			21 01 39.5	
	comp=E,33nm,0.6s							
TCUT	**Toone Canyon**	**1.08**	**88**	Pg		**Pb**	**21 01 24.6**	**-0.1**
HWUT	**Hardware Ranch**	**1.08**	**62**	Pg		**Pg**	**21 01 23.9**	**0.0**
HWUT				IAML			21 01 48.5	
	comp=E,29nm,0.4s							
HWUT				IAML			21 01 55.6	
	comp=E,17nm,0.6s							
MPU	**Maple Canyon**	**1.42**	**139**			**Pg**	**21 01 29.6**	**-0.6**
BSUT	**Blindstream Ca**	**1.67**	**109**	Pg		**Pn**	**21 01 33.9**	**-0.1**
BSUT				IAML			21 02 06.6	
	comp=E,11nm,3.1s							
ELK	**Elko**	**1.85**	**260**			**Pn**	**21 01 36.0**	**-0.4**
ELK				IAML			21 02 06.5	
	comp=E,9.4nm,0.4s							
ELK	**Elko**	**1.85**	**260**	Pg		**Pn**	**21 01 35.6**	**-0.7**
	comp=E,2.2nm,0.3s,baz=80,slow=6.1,SNR=23							
ELK				Lg		Lg	21 01 58.6	
	comp=E,2.3nm,0.3s,baz=119,slow=17,SNR=12							
AHID	**Auburn Hatcher**	**2.11**	**37**			**Pn**	**21 01 39.0**	**-0.9**
SPR3	**Spring Creek 3**	**2.39**	**209**	Pn		**Pn**	**21 01 44.8**	**+1.0**
SPR3				IAML			21 02 28.5	
	comp=E,5.4nm,0.5s							
SPR3				IAML			21 02 34.1	
	comp=N,6.1nm,0.6s							
MSU	**Marysvale**	**2.63**	**169**			**Pn**	**21 01 46.7**	**-0.3**
SRU	**San Rafael Swe**	**2.66**	**137**	Pn		**Pn**	**21 01 47.9**	**+0.5**
PSUT	**Pine Spring**	**2.68**	**197**			**Pn**	**21 01 47.5**	**-0.1**
HLID	**Hailey**	**2.73**	**335**			**Pn**	**21 01 49.3**	**+1.0**
HLID				IAML			21 02 34.6	
	comp=N,4.4nm,0.5s							
HLID				IAML			21 02 42.9	
	comp=N,4.4nm,1.9s							
PD31	**Pinedale Array**	**2.96**	**55**	Pn		**Pn**	**21 01 51.7**	**+0.2**
PDAR	**Pinedale Array**	**2.96**	**55**	Pn		**Pn**	**21 01 52.8**	**+1.3**
	comp=N,0.2nm,0.3s,baz=241,slow=13,SNR=6.4							
PDAR				Pg		**Pb**	**21 01 57.1**	**+0.3**
	comp=N,1.2nm,0.3s,baz=232,slow=12,SNR=18							
PDAR				Lg		Lg	21 02 37.6	
	comp=N,1.8nm,0.3s,baz=234,slow=27,SNR=6.9							
	comp=N,0.8nm,0.4s							
MTPU	**Mount Pierson**	**3.09**	**170**	Pn		**Pn**	**21 01 54.5**	**+1.0**
NVAR	**Mina Array Bea**	**4.98**	**239**	Pg		Pn	21 02 24.9	+5.5
	comp=N,0.3nm,0.3s,baz=53,slow=18,SNR=3.0							
I56US	**NEWPORT INFRAS**	**7.79**	**338**	I		I	21 46 10.0	
	baz=160,slow=314,SNR=3.4							

NEIC ***14*** *21:04:10.5±1.3, 35˚.892N±0˚.008×117˚.67W±0˚.01, h5km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=61.0, Moment Tensor Solution. Moment tensor: Scale 1014Nm; Mrr-0.03; Mθθ-3.29; Mφφ3.32; Mrθ-0.04; Mθφ3.20; Mφr2.12; Fault plane solution: M0 5.06000×10^14 NP1: φs336.07000°, δ83.63000°, λ157.58000°. NP2: φs68.69000°, δ67.73000°, λ6.88000°. Principal axes: T 5.3327, Plg20.0000°, Azm290.0000°; N -0.5869, Plg67.0000°, Azm141.0000°; P -4.7458, Plg11.0000°, Azm24.0000°;*

NEIC ***14*** *21:04:11, 35˚.89N×117˚.68W, h3km*

PAS 14 21:04:11.0±1.2**, 35˚.892N**±0˚.004×**117˚.68W**±0˚.01**, h3**km±2km**, Mwr3.8/6, ML3.7**/159(NEIC)**, Mwr3.7**/71(NEIC)**, Error ellipse: s-maj=1.3km s-min=0.5km az=104.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**140**			Pg	21 04 13.2	+0.2
CLC				Sg		Sg	21 04 14.8	+0.5
CLC				IAML			21 04 15.2	
	comp=N,21μm,0.7s							
WVPM	**Volcano Peak E**	**0.13**	**297**			Pg	21 04 13.8	+0.3
JRC2	**Joshua Ridge**	**0.14**	**310**			Pg	21 04 14.1	+0.2
JRC2						Sg	21 04 16.3	+0.6
WNMM	**Nine Mile Cany**	**0.19**	**255**			Pg	21 04 15.0	+0.3
WNMM						Sg	21 04 18.0	+0.8
SRTC	**Snort**	**0.21**	**196**			Pg	21 04 15.6	+0.6
SRTC						Sg	21 04 19.7	+1.9
MPMC	**Manual Prospec**	**0.23**	**43**			Pg	21 04 15.6	+0.1
MPMC						Sg	21 04 18.9	+0.5
MPMC	**Manual Prospec**	**0.23**	**43**	IAML			21 04 20.6	
	comp=N,23μm,0.6s							
MPMC				IAML			21 04 22.8	
	comp=E,13μm,0.6s							
MFS	**McCloud Flat S**	**0.27**	**327**			Pg	21 04 16.3	+0.1
MFS						Sg	21 04 20.3	+0.6
WSHM	**Spangler Hills**	**0.33**	**153**	Pg		Pg	21 04 17.4	+0.1
WSHM				Sg		Sg	21 04 22.2	+0.6
WSHM				IAML			21 04 23.1	
	comp=E,11μm,0.4s							
LRMC	**Laurel Mtn Rad**	**0.41**	**181**	Pg		Pg	21 04 18.9	0.0
LRMC				IAML			21 04 25.8	
	comp=E,8μm,0.7s							
LRMC				Sg		Sg	21 04 25.0	+0.7
LRMC				IAML			21 04 26.2	
	comp=N,6μm,0.6s							
CCCA	**Chr Cany lake**	**0.45**	**145**	Pg		Pg	21 04 20.0	+0.4
CCCA						Sg	21 04 26.7	+1.3
CCCA				IAML			21 04 30.6	
	comp=E,10μm,0.6s							
WORM	**Onyx Ranch**	**0.50**	**247**			Pg	21 04 20.4	-0.1
WORM						Sg	21 04 27.2	+0.2
WBSM	**Bird Springs**	**0.52**	**227**			Sg	21 04 28.1	+0.5
CWC	**Cottonwood Cre**	**0.64**	**329**	Pg		Pg	21 04 23.4	+0.1
CWC						Sg	21 04 32.1	+0.6
DTP	**Desert Tortois**	**0.64**	**192**			Pg	21 04 23.0	-0.3
DTP						Sg	21 04 31.9	+0.4
QSM	**Queen of Sheba**	**0.66**	**83**	Pg		Pg	21 04 23.3	-0.4
QSM				Sg		Sg	21 04 32.2	0.0
QSM				IAML			21 04 33.1	
	comp=N,4μm,0.7s							
QSM				IAML			21 04 37.4	
	comp=E,5μm,0.6s							
CGO	**Cerro Gordo**	**0.67**	**351**			Sg	21 04 32.8	+0.4
ISA	**Isabella, Lake**	**0.69**	**251**			Sg	21 04 33.0	-0.1
ISA	**Isabella, Lake**	**0.69**	**251**	Pg		Pg	21 04 23.9	-0.2
ISA	**Isabella, Lake**	**0.69**	**251**	IAML			21 04 33.6	
	comp=N,3μm,0.6s							
ISA				IAML			21 04 34.4	
	comp=E,2μm,0.5s							
WASM	**Alta Sierra Ca**	**0.73**	**258**			Sg	21 04 34.7	+0.2
CCAC	**Calif City Air**	**0.79**	**201**			Sg	21 04 36.9	+0.6
GWY	**Greenwater Val**	**0.87**	**70**	Pg		Pg	21 04 27.5	-0.2
GWY						Sg	21 04 38.9	0.0
GWY				IAML			21 04 44.9	
	comp=N,2μm,0.4s							
GWY				IAML			21 04 47.9	
	comp=E,3μm,0.4s							
FURC	**Furnace Creek,**	**0.87**	**49**	Pg		Pg	21 04 27.9	+0.1
GSC	**Goldstone, Bar**	**0.92**	**129**	Pg		Pg	21 04 28.2	-0.5
GSC				IAML			21 04 44.0	
	comp=N,2μm,0.9s							
SPG2	**Springville 2**	**0.93**	**290**			Pg	21 04 28.2	-0.7
TPO	**Tropico Hills**	**1.11**	**204**	Pg		Pg	21 04 31.4	-0.8
TPO				IAML			21 04 49.7	
	comp=N,3μm,0.9s							
TPO				IAML			21 04 54.8	
	comp=E,2μm,0.6s							
SHOC	**Shoshone, Teco**	**1.14**	**89**	Pg		Pg	21 04 32.1	-0.7
VES	**Vestal, Richgr**	**1.14**	**268**	Pg		Pg	21 04 32.4	-0.5
VES				IAML			21 04 54.4	
	comp=E,2μm,0.6s							
WCT	**Wildcat Mounta**	**1.24**	**43**	Pg		Pg	21 04 34.0	-0.7
WCT				IAML			21 04 55.2	
	comp=E,1μm,0.9s							
TIN	**Tinemaha, Big**	**1.24**	**339**	Pg		Pg	21 04 34.2	-0.7
TIN				IAML			21 05 07.8	
	comp=N,2μm,0.8s							
GMN	**Gold Mountain**	**1.45**	**13**			Pn	21 04 37.6	-0.7
GMN				IAML			21 04 43.7	
	comp=N,774nm,0.5s							
VOG	**Valley Oaks Go**	**1.45**	**288**			Pn	21 04 37.8	-0.3
DSP	**Deep Springs**	**1.49**	**351**			Pn	21 04 38.4	-0.4
DSP				IAML			21 05 00.4	
	comp=E,1μm,0.6s							
HEC	**Hector,Ludlow**	**1.53**	**134**			Pn	21 04 37.8	-1.5
OSI	**Osito Audit: C**	**1.54**	**214**			Pn	21 04 38.6	-0.8
OSI				IAML			21 05 06.8	
	comp=N,695nm,0.8s							
OSI				IAML			21 05 08.9	
	comp=E,656nm,0.6s							
TPNV	**Topopah Spring**	**1.56**	**47**			Pn	21 04 38.9	-1.0
TPNV				IAML			21 05 12.0	
	comp=E,912nm,0.6s							
TPNV				IAML			21 05 12.1	
	comp=E,747nm,0.7s							
CHFC	**Chilao Flat St**	**1.58**	**191**			Pn	21 04 38.8	-1.3
BFSC	**Mount Baldy Ra**	**1.65**	**179**			Pn	21 04 40.8	-0.3
BFSC				IAML			21 05 05.8	
	comp=N,437nm,0.9s							
BFSC				IAML			21 05 08.8	
	comp=E,608nm,0.7s							
SS2	**San Sevaine**	**1.69**	**175**			Pn	21 04 40.8	-0.6
SIL	**Silver Peak**	**1.69**	**155**			Pn	21 04 41.6	-0.1
MWC	**Mount Wilson**	**1.69**	**191**			Pn	21 04 40.9	-0.8
MWC	**Mount Wilson**	**1.69**	**191**	IAML			21 05 13.1	
	comp=N,730nm,0.6s							
MWC				IAML			21 05 16.1	
	comp=E,529nm,0.8s							
PASC	**Pasadena Art C**	**1.77**	**194**	Pn		Pn	21 04 41.8	-0.7
MTPC	**Mountain Pass**	**1.78**	**103**	Pn		Pn	21 04 41.2	-1.6
MTPC				IAML			21 05 08.7	
	comp=N,795nm,0.7s							
MTPC				IAML			21 05 10.0	
	comp=E,777nm,0.6s							
PSRC	**Puddingstone R**	**1.80**	**183**			Pn	21 04 42.6	-0.3
MZP	**Montezuma Peak**	**1.82**	**7**	Pn		Pn	21 04 42.9	-0.6
KCC	**Kaiser Creek**	**1.94**	**318**			Pb	21 04 46.6	-0.6
MLAC	**Mammoth, Mammo**	**1.97**	**332**			Pb	21 04 47.6	-0.1
MCSM	**Casa Diablo Ho**	**2.02**	**331**			Pb	21 04 48.5	0.0
SHPR	**Sheep Range**	**2.13**	**73**	Pn		Pn	21 04 47.2	-0.4
TPH	**Tonopah**	**2.21**	**9**	Pn		Pn	21 04 48.4	-0.4
TPH				IAML			21 05 30.5	
	comp=N,289nm,1.0s							
ELS	**Elsinore Mount**	**2.25**	**175**	Pn		Pn	21 04 48.2	-1.1
ELS				IAML			21 05 30.4	
	comp=E,267nm,1.4s							
V12A	**Nelson**	**2.30**	**93**			Pn	21 04 48.7	-1.3
V12A				IAML			21 05 26.4	
	comp=N,532nm,1.1s							
V12A				IAML			21 05 28.4	
	comp=E,314nm,0.6s							
PKD	**Bear Valley Ra**	**2.33**	**272**			Pn	21 04 51.2	+1.0
S11A	**Rachel**	**2.34**	**41**	Pn		Pn	21 04 50.0	-0.5
BELC	**Belle Mtn. Jos**	**2.34**	**143**	Pn		Pn	21 04 49.0	-1.5
BELC				IAML			21 05 32.1	
	comp=N,316nm,0.6s							
BELC				IAML			21 05 37.3	
	comp=E,355nm,0.7s							
LHV	**Little Huntoon**	**2.45**	**345**	Pn		Pn	21 04 51.5	-0.4
LHV				IAML			21 05 35.7	
	comp=E,395nm,1.2s							
LHV				IAML			21 05 41.0	
	comp=N,266nm,1.8s							
PMD	**Palm Desert**	**2.48**	**154**	Pn		Pn	21 04 50.4	-1.9
PMD				IAML			21 05 31.9	
	comp=E,219nm,0.6s							
PFO	**Pinyon Flats O**	**2.49**	**156**	Pn		Pn	21 04 52.1	-0.5
PFO				IAML			21 05 36.0	
	comp=E,284nm,1.4s							
PMPB	**Monarch Peak**	**2.55**	**278**	Pn		Pn	21 04 53.4	0.0
PRN	**Pahroc Range**	**2.60**	**54**			Pn	21 04 53.5	-0.6
PRN				IAML			21 05 46.7	
	comp=N,522nm,0.7s							
PRN				IAML			21 05 51.9	
	comp=E,372nm,0.8s							
RAMR	**Ramage Ranch**	**2.61**	**265**			Pn	21 04 55.6	+1.5
MYLM	**Yosemite Lake**	**2.66**	**305**			Pb	21 04 58.2	-1.2
BUCR	**Buckhorn Ranch**	**2.66**	**313**	Pn		Pn	21 04 54.5	-0.5
BUCR				IAML			21 05 36.5	
	comp=E,294nm,0.8s							
BUCR				IAML			21 05 36.6	
	comp=N,217nm,0.9s							
IRM	**Iron Mountain**	**2.70**	**129**	Pn		Pn	21 04 53.2	-2.2
IRM				IAML			21 05 43.0	
	comp=E,248nm,0.9s							
RYN	**Ryan**	**2.81**	**346**	Pn		Pn	21 04 56.8	-0.2
BORC	**Borrego Spring**	**2.82**	**158**	Pn		Pn	21 04 56.8	-0.2
BORC				IAML			21 05 44.5	
	comp=E,281nm,0.9s							
BORC				IAML			21 05 46.5	
	comp=N,192nm,0.9s							
BC3	**Big Chuckawall**	**2.89**	**140**	Pn		Pn	21 04 56.1	-1.9
BC3				IAML			21 05 43.9	
	comp=E,166nm,0.8s							
BC3				IAML			21 05 48.2	
	comp=N,258nm,0.7s							
HULI	**Fort Hunter Li**	**2.89**	**274**	Pn		Pn	21 04 57.2	-0.8
HULI				IAML			21 05 43.1	
	comp=E,274nm,0.7s							
HULI				IAML			21 05 46.4	
	comp=N,253nm,0.9s							
DPP	**Dos Picos Cty**	**2.95**	**168**	Pn		Pn	21 04 57.9	-0.9
DPP				IAML			21 04 44.9	
	comp=E,184nm,0.7s							
DPP				IAML			21 04 48.8	
	comp=N,130nm,0.8s							
Q09A	**Carvers**	**2.96**	**8**	Pn		Pn	21 04 59.6	+0.4
Q09A				IAML			21 05 53.9	
	comp=N,377nm,0.7s							
R11B	**Troy Canyon, C**	**2.97**	**34**	Pn		Pn	21 04 58.3	-0.9
SAO	**San Andreas Ge**	**3.17**	**287**	Pn		Pn	21 05 01.4	-0.3
W13A	**Hualapai Mount**	**3.19**	**103**	Pn		Pn	21 05 00.8	-1.5
W13A				IAML			21 05 57.4	
	comp=E,112nm,0.7s							
CBX	**Cerro Bola**	**3.67**	**166**	Pn		Pn	21 05 08.5	-0.3
GLA	**Glamis**	**3.68**	**139**	Pn		Pn	21 05 07.0	-2.0
GLA				IAML			21 06 13.9	
	comp=N,161nm,0.6s							
LCMT	**Little Creek M**	**3.75**	**71**	Pn		Pn	21 05 10.2	+0.3
CCUT	**Cedar City**	**3.84**	**63**	Pn		Pn	21 05 11.9	+0.6
CCUT				IAML			21 06 18.6	
	comp=N,68nm,1.6s							
PSUT	**Pine Spring**	**4.03**	**48**	Pn		Pn	21 05 14.2	+0.3
PSUT				IAML			21 06 30.1	
	comp=E,111nm,1.4s							
PSUT				IAML			21 06 34.2	
	comp=N,78nm,1.1s							
PAHR	**Pah Rah Range**	**4.04**	**341**	Pn		Pn	21 05 15.8	+1.9
SZCU	**Shurtz Canyon**	**4.06**	**64**	Pn		Pn	21 05 14.5	+0.3
KNB	**Kanab**	**4.07**	**73**	Pn		Pn	21 05 14.8	+0.4
KNB				IAML			21 06 19.8	
	comp=E,80nm,1.0s							
KNB				IAML			21 06 22.9	
	comp=N,79nm,0.8s							
ESJX	**Sierra Juarez**	**4.13**	**159**	Pn		Pn	21 05 15.5	+0.2
ESJX				IAML			21 06 21.4	
	comp=E,80nm,1.0s							
ESJX				IAML			21 06 26.5	
	comp=N,67nm,0.8s							
U15A	**North Rim**	**4.39**	**81**	Pn		Pn	21 05 19.7	+0.8
U15A				IAML			21 06 30.8	
	comp=N,69nm,0.8s							
113A	**Mohawk Valley,**	**4.49**	**133**	Pn		Pn	21 05 19.8	-0.2
PKCU	**Pink Cliffs**	**4.58**	**69**	Pn		Pn	21 05 22.2	+0.6
PKCU				IAML			21 06 39.3	
	comp=E,90nm,0.6s							
PKCU				IAML			21 06 48.2	
	comp=N,96nm,1.5s							
MTPU	**Mount Pierson**	**4.89**	**62**	Pn		Pn	21 05 26.3	+0.5
MTPU				IAML			21 06 54.6	
	comp=E,32nm,1.2s							
MTPU				IAML			21 06 58.9	
	comp=N,36nm,1.6s							
MSU	**Marysvale**	**5.11**	**58**	Pn		Pn	21 05 28.9	+0.1
WUAZ	**Wupatki**	**5.14**	**92**	Pn		Pn	21 05 28.7	-0.4
ELK	**Elko**	**5.21**	**21**	Pn		Pn	21 05 29.8	-0.3
X16A	**Lo Mia Camp, P**	**5.32**	**104**	Pn		Pn	21 05 31.1	-0.4
X16A				IAML			21 07 14.7	
	comp=N,20nm,1.2s							
TMUT	**Trail Mountain**	**6.16**	**55**	Pn		Pn	21 05 43.8	+0.6
X18A	**Snowflake**	**6.47**	**100**	Pn		Pn	21 05 48.0	+0.6
BSUT	**Blindstream Ca**	**7.15**	**48**	Pn		Pn	21 05 59.3	+2.4
PV04	**Paradox Valley**	**7.44**	**68**	Pn		Pn	21 06 00.6	0.0

CATAC 14 21:06:25.9±0.8**, 11˚N**±4˚×**8˚7W**±˚**, h19**km±8km**, M3.3**/19**, MLv3.3**/19**, 11C-9D, Error ellipse: s-maj=12.2km s-min=4.1km az=47.4, confirmed, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELI1	**Hacienda Flor**	**1.44**	**88**	↑↑P		Pn	21 06 49.7	-1.2
ELI1	**Hacienda Flor**	**1.44**	**88**	S		Sb	21 07 11.1	+1.2
NANN	**Nandasmo**	**1.60**	**33**	↓↓P		Pn	21 06 53.0	-0.1
JAPN	**Al SSO del Vol**	**1.61**	**55**	↓↓P		Pn	21 06 53.0	+0.4
COPN	**Copaltepe**	**1.63**	**15**	↓↓P		Pn	21 06 53.9	+0.3
OMEN	**Al SSO del Vol**	**1.64**	**56**	↑↑P		Pn	21 06 53.3	-0.4
MORN	**Al O del Volca**	**1.64**	**55**	↓↓P		Pn	21 06 53.0	-0.8
UNAN	**Cigeo UNAN**	**1.68**	**26**	P		Pn	21 06 54.3	+0.1
UNAN				S		Sn	21 07 15.4	+0.2
SAPS	**Ciudad Sandino**	**1.68**	**21**	P		Pn	21 06 54.8	+0.7
SAPS	**Ciudad Sandino**	**1.68**	**21**	S		Sb	21 07 16.8	-0.1
TISN	**Laguna Tiscapa**	**1.71**	**25**	↓↓P		Pn	21 06 54.5	-0.1
WILN	**Americas 2**	**1.76**	**27**	↓↓P		Pn	21 06 55.4	+0.1
CNGA	**Al SSO del Vol**	**1.92**	**9**	P		Pn	21 06 56.9	-0.6
CNGN	**Cerro Negro**	**1.92**	**9**	S		Sn	21 07 21.2	-0.1
CNGN	**Cerro Negro**	**1.92**	**9**	↑↑P		Pn	21 06 56.9	-0.7
UPAL	**Upala**	**1.99**	**81**	P		Pn	21 06 58.7	+0.2
JTS	**Las Juntas de**	**2.05**	**98**	↓↓P		Pn	21 06 59.1	-0.2
POLN	**Al Sur del Vol**	**2.05**	**6**	↓↓P		Pn	21 06 59.5	+0.1
CRIN	**San Cristobal**	**2.10**	**359**	↓↓P		Pn	21 07 00.4	+0.4
ACON	**Acoyapa**	**2.27**	**53**	↑↑P		Pn	21 07 01.7	-0.5
BOAB	**BOACO BROADBAN**	**2.27**	**35**	↑↑P		Pn	21 07 01.5	-0.8
SOCE	**Pocosol**	**2.37**	**95**	↑↑P		Pn	21 07 03.6	-0.1
SOCE	**Pocosol**	**2.37**	**95**	S		Sb	21 07 35.2	-1.6
CSGN	**Cosiguina Volc**	**2.43**	**347**	↑↑P		Pn	21 07 05.4	+0.8
CSGN				S		Sn	21 07 33.6	-0.2
MATN	**Matagalpa**	**2.56**	**25**	↑↑P		Pn	21 07 05.2	-1.1
LCND	**La Caada**	**2.83**	**342**	↑↑P		Pn	21 07 10.7	+0.6
CHOHN	**Orocuina**	**2.87**	**357**	↑↑P		Pn	21 07 11.8	+1.0
LCR2	**La Lucha 2**	**3.08**	**106**	↑↑P		Pn	21 07 14.0	+0.3
LCR2	**La Lucha 2**	**3.08**	**106**	S		Sn	21 07 48.9	-1.2
YUSH	**Yuscaran**	**3.34**	**3**	P		Pn	21 07 18.3	+1.0

IDC 14 21:16:43.7±4.8**, 5˚.28S**×**129˚.63E, h171**km±43km**, mb2.8**/1**, mbtmp3.5**/4**, Error ellipse: s-maj=86.4km s-min=17.8km az=73.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.32**	**197**	P		P	21 19 48.1	-1.8
	1.2nm,0.4s,baz=14,slow=12,SNR=10							
FITZ				S		Sn	21 22 06.0	-8.3
	3.4nm,0.8s,baz=18,slow=19,SNR=6.8							
WRA	**Warramunga Arr**	**15.28**	**163**	P		Pn	21 20 09.3	-1.4
	0.4nm,0.7s,baz=340,slow=13,SNR=7.6							
WRA				S		Sn	21 22 51.1	-10
	0.2nm,0.3s,baz=334,slow=22,SNR=5.1							
ASAR	**Alice Springs**	**18.74**	**168**	P		P	21 20 49.8	+0.2
	1.1nm,0.5s,baz=347,slow=11,SNR=22							
ASAR				S		S	21 24 14.4	+0.5
	0.1nm,0.5s,baz=353,slow=22,SNR=4.2							
MKAR	**Makanchi Array**	**66.59**	**327**	P		P	21 27 15.4	-0.2
	0.2nm,0.7s,baz=121,slow=5.4,SNR=2.1							
	0.2nm,0.7s							

VAO ***14*** *21:33:03.0±2.1, 21˚.19S×70˚.56W, h16km, mb4.1*

SJA ***14*** *21:33:10.1±0.7, 20˚.73S×70˚.09W, h34km±1km, ML4.2, MW4.2*

NEIC ***14*** *21:33:11

comp=N,39μm,0.4s
PB02 IPOC Station P 0.61 163 eP Pb 21 33 23.2 -0.4
PB02 eS **Sb 21 33 31.4 -0.5**
PB02 IAML 21 33 33.0
comp=Z,24μm,0.1s
PB01 IPOC Station P 0.64 118 Pb 21 33 24.1 -0.1
PB01 Sg **Sb 21 33 32.9 0.0**
PB01 IPOC Station P 0.64 118⇓eP Pb 21 33 24.2 0.0
PB01 eS **Sb 21 33 33.3 +0.5**
PB01 IAML 21 33 33.8
comp=N,16μm,0.3s
PB01 IPOC Station P 0.64 118 eP Pb 21 33 24.0 -0.1
PB01 eS **Sb 21 33 33.4 +0.5**
PB01 IAML 21 33 33.5
comp=Z,7μm,0.3s
PB11 IPOC Station P 1.05 23 Pn 21 33 30.1 -0.3
PB11 **Sn 21 33 43.8 -0.4**
PB11 IPOC Station P 1.05 23⇓eP Pn 21 33 30.1 -0.3
PB11 eS **Sn 21 33 44.0 -0.2**
PB11 IAML 21 33 45.1
comp=N,23μm,0.5s
PB11 IPOC Station P 1.05 23 eP Pn 21 33 29.5 -0.9
PB11 IAML 21 33 45.6
comp=Z,8μm,0.1s
PB08 IPOC Station P 1.06 56 Pn 21 33 31.0 +0.2
PB08 **Sn 21 33 45.0 +0.4**
PB08 IPOC Station P 1.06 56⇓eP Pn 21 33 30.9 +0.2
PB08 eS **Sb 21 33 45.5 +0.5**
PB08 IAML 21 33 46.1
comp=N,11μm,0.1s
PB08 IPOC Station P 1.06 56 eP Pn 21 33 30.9 +0.2
PB08 eS **Sn 21 33 44.5 -0.1**
PB08 IAML 21 33 45.8
comp=Z,3μm,0.2s
PB09 IPOC Station P 1.32 143 Pb 21 33 35.3 -0.3
PB09 Sg **Sb 21 33 52.9 +0.8**
PB09 IPOC Station P 1.32 143⇑eP Pb 21 33 34.9 -0.7
PB09 eS **Sb 21 33 52.7 +0.5**
PB09 IAML 21 33 55.4
comp=E,8μm,0.4s
PB09 IPOC Station P 1.32 143 eP Pn 21 33 34.8 +0.7
PB09 eS **Sb 21 33 54.0 +1.8**
PB09 IAML 21 33 54.6
comp=Z,6μm,0.5s
PB03 IPOC Station P 1.34 167 Pn Pn 21 33 34.0 -0.4
PB03 IPOC Station P 1.34 167⇓eP Pn 21 33 34.4 0.0
PB03 eS **Sb 21 33 52.2 -0.6**
PB03 IAML 21 33 55.4
comp=E,6μm,0.5s
PB03 IPOC Station P 1.34 167 eP Pn 21 33 34.4 0.0
PB03 eS **Sb 21 33 54.3 +1.4**
PB03 IAML 21 33 55.6
comp=Z,4μm,0.4s
GO01 Chusmiza 1.36 38 Pn Pn 21 33 35.3 +0.4
GO01 Chusmiza 1.36 38⇓eP Pn 21 33 35.3 +0.4
GO01 eS **Sb 21 33 53.4 -0.2**
GO01 Chusmiza 1.36 38 eP Pn 21 33 35.3 +0.4
GO01 eS **Sb 21 33 53.4 -0.2**
GO01 IAML 21 33 54.5
comp=Z,5μm,0.3s
PX02 IPOC Station P 1.77 357 eP Pn 21 33 39.5 -0.7
PX02 IAML 21 34 07.3
comp=N,3μm,0.7s
PB06 IPOC Station P 2.02 166 Pn Pn 21 33 44.4 +0.8
PB06 IPOC Station P 2.02 166⇓eP Pn 21 33 44.4 +0.8
PB06 eS **Sb 21 34 10.3 -1.9**
PB06 IAML 21 34 16.0
comp=E,2μm,0.3s
PB06 IPOC Station P 2.02 166 eP Pn 21 33 44.5 +0.9
PB06 eS **Sn 21 34 05.7 -2.3**
PB06 IAML 21 34 17.6
comp=Z,2μm,0.6s
PB05 IPOC Station P 2.11 183 Pn Pn 21 33 45.0 +0.1
PB05 IPOC Station P 2.11 183⇓eP Pn 21 33 44.9 +0.1
PB05 eS **Sn 21 34 10.9 +0.7**
PB05 IAML 21 34 26.3
comp=N,2μm,0.6s
PB05 IPOC Station P 2.11 183 eP Pn 21 33 45.0 +0.1
PB05 eS **Sn 21 34 11.7 +1.5**
PB05 IAML 21 34 17.0
comp=Z,985nm,1.0s
AP01 Chacalluta 2.37 354 Pn Pn 21 33 49.1 +0.8
AP01 Chacalluta 2.37 354 eP Pn 21 33 49.0 +0.7
AP01 Chacalluta 2.37 354 eP Pn 21 33 49.7 +1.4
AP01 eS **Sn 21 34 19.1 +2.7**
AP01 IAML 21 34 28.0
comp=Z,2μm,0.5s
PB16 IPOC Station P 2.45 13 Pn Pn 21 33 50.5 +0.5
PB16 IPOC Station P 2.45 13 eP Pn 21 33 50.8 +0.7
PB16 eS **Sb 21 34 22.8 -2.3**
PB16 IAML 21 34 31.6
comp=N,949nm,0.8s
PB16 IPOC Station P 2.45 13 eP Pn 21 33 50.4 +0.4
PB16 eS **Sn 21 34 20.5 +1.2**
PB16 IAML 21 34 31.1
comp=Z,522nm,0.5s
PB10 IPOC Station P 2.79 189 Pn Pn 21 33 53.8 -0.4
PB10 IPOC Station P 2.79 189 eP Pn 21 33 53.4 -0.8
PB10 IPOC Station P 2.79 189 eP Pn 21 33 53.5 -0.8
PB10 eS **Sb 21 34 31.7 -2.8**
PB10 IAML 21 34 45.2
comp=Z,301nm,0.7s
AF01 San Pedro de A 2.83 142 eP Pn 21 33 54.3 -0.6
AF01 eS **Sb 21 34 41.2 +5.4**
AF01 IAML 21 34 59.8
comp=Z,3μm,0.7s
PB14 IPOC Station P 3.88 184 Pn Pn 21 34 08.3 -1.1
PB14 IPOC Station P 3.88 184 eP Pn 21 34 08.6 -0.8
PB14 eS **Sb 21 35 07.4 +1.4**
PB14 IAML 21 35 16.5
comp=Z,304nm,1.1s
GO02 Mina Guanaco 4.43 174 Pn Pn 21 34 17.1 +0.2
LPAZ La Paz 4.80 23 P Pn 21 34 26.9 +4.6
comp=Z,35nm,0.6s,baz=205,slow=6.0,SNR=46
LPAZ LR LR 21 36 28.4
comp=Z,194nm,18.3s,baz=154,slow=40
AC01 Pan de Azucar 5.41 185 Pn Pn 21 34 27.8 -2.4
BBSD Serra de San D 9.64 70 eP Pn 21 35 27.9 -0.4
SIV San Ignacio 9.77 63 P Pn 21 35 30.1 -0.1
comp=Z,5.5nm,0.4s,baz=244,slow=7.8,SNR=29
CFA Coronel Fontan 10.95 172 P Pn 21 35 45.4 -0.8
comp=Z,1.1nm,0.3s,baz=346,slow=16,SNR=4.4
CFA S **Sn 21 37 39.8 -7.9**
comp=Z,1.2nm,0.4s,baz=288,slow=13,SNR=1.7
PTLB Pontes e Lacer 11.66 65 Pn Pn 21 35 56.0 0.0
PTLB Pontes e Lacer 11.66 65 eP Pn 21 35 57.1 +1.2
VILB Vilhena 12.22 52 Pn Pn 21 36 04.4 +0.7
VILB Vilhena 12.22 52 eP Pn 21 36 05.4 +1.7
BDQN Bodoquena, MS 12.50 91 eP Pn 21 36 07.1 -0.3
CPUP Villa Florida 12.96 118 P Pn 21 36 13.8 +0.2
comp=Z,0.6nm,0.7s,baz=267,slow=18,SNR=3.5
SALV Santo Antonio 14.49 73 eP Pn 21 36 35.2 +0.6
H03N1 Juan Fernandez 14.88 210 T T 21 51 42.6
baz=34,slow=72,SNR=741
H03N2 Juan Fernandez 14.89 210 T T 21 51 39.2
baz=34,slow=72,SNR=451
H03N3 Juan Fernandez 14.90 210 T T 21 51 41.5
baz=34,slow=72,SNR=761
PDRB Porto dos Gac 15.71 57 eP Pn 21 36 52.4 +1.7
ITAB Concordia 17.63 115 Pn 21 37 15.3 +0.4
ITAB IAmb IAmb 21 37 52.1
comp=Z,24nm,1.2s
TRQA Tornquist 18.63 160 P P 21 37 26.3 -0.5
PLCA Paso Flores 19.93 181 P P 21 37 41.8 +0.8
PLCA IAmb IAmb 21 37 52.3
comp=Z,7.4nm,1.2s
PLCA Paso Flores 19.93 181 P Pn 21 37 42.4 -0.5
comp=Z,3.4nm,0.9s,baz=22,slow=12,SNR=2.9
SNDB Serra Nova Dou 20.01 67 eP P 21 37 40.3 -1.7
COHC Cochancay 20.24 333 P P 21 37 44.1 -0.3
ITTB Itaituba 21.44 43 eP P 21 37 57.6 +0.2
BDFB Brasilia 21.57 80 P P 21 37 58.2 -0.7
BDFB IAmb IAmb 21 38 32.1
comp=Z,5.7nm,1.0s
BDFB Brasilia 21.57 80 P P 21 37 56.1 -2.8
comp=Z,1.6nm,0.4s,baz=223,slow=13,SNR=3.2
comp=Z,1.6nm,0.4s
VAO Valinhos 21.57 100 P P 21 37 57.8 -1.1
VAO IAmb IAmb 21 38 29.4
comp=Z,30nm,1.3s
BOAV Boa Vista 24.83 23 P P 21 38 30.5 -0.9
BOAV IAmb IAmb 21 38 36.5
comp=Z,6.5nm,1.0s
BOAV Boa Vista 24.83 23 eP P 21 38 30.3 -1.1

RUSC La Rusia 26.63 353 P P 21 38 47.4 -0.8
RUSC IAmb IAmb 21 38 49.3
comp=Z,9.1nm,0.6s
BAUV El Baul 29.56 4 P P 21 39 12.1 -1.8
TEIG Tepich 44.43 335 P P 21 41 24.2 +4.4
comp=Z,0.1nm,0.6s,baz=129,slow=24,SNR=2.7
SNAA Sanae 63.35 161 P P 21 43 37.5 -0.2
SNAA IAmb IAmb 21 43 38.6
comp=Z,2.4nm,0.8s
SNAA Sanae 63.35 161 P P 21 43 37.8 +0.2
comp=Z,2.2nm,0.7s,baz=281,slow=6.0,SNR=9.2
comp=Z,2.2nm,0.7s
QSPA South Pole Qui 69.45 180 P P 21 44 17.9 +1.1
QSPA South Pole Qui 69.45 180 P P 21 44 18.6 +1.8
comp=Z,1.3nm,0.5s,baz=191,slow=6.9,SNR=24
comp=Z,1.3nm,0.5s
VNDA Vanda 77.40 190 P P 21 45 02.9 -0.4
comp=Z,0.3nm,0.5s,baz=81,slow=3.5,SNR=2.8
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 78.14 71 P P 21 45 07.2 -1.3
comp=Z,2.5nm,0.7s,baz=257,slow=6.3,SNR=10
comp=Z,2.5nm,0.7s
MAW Mawson 85.37 164 P P 21 45 45.6 0.0
comp=Z,4.5nm,0.5s,baz=277,slow=23,SNR=16
comp=Z,4.5nm,0.5s
YKA Yellowknife Ar 90.11 341 P P 21 46 11.6 +3.4
comp=Z,0.6nm,0.9s,baz=139,slow=4.3,SNR=2.2
comp=Z,0.6nm,0.9s
H11S2 WAKE ISLAND Hyl 26.69 278 T T 00 11 33.5
baz=102,slow=75,SNR=502
H11S1 WAKE ISLAND Hyl 26.69 278 T T 00 11 33.0
baz=102,slow=75,SNR=278
H11S3 WAKE ISLAND Hyl 26.70 278 T T 00 11 34.9
baz=102,slow=75,SNR=382
H11N3 WAKE ISLAND Hyl 26.75 280 T T 00 11 36.2
baz=102,slow=75,SNR=361
H11N2 WAKE ISLAND Hyl 26.77 280 T T 00 11 37.4
baz=102,slow=75,SNR=413
H11N1 WAKE ISLAND Hyl 26.77 280 T T 00 11 40.1
baz=102,slow=75,SNR=251
WRA Warramunga Arr 133.03 212 PKP PKPdf 21 52 24.6 -0.4
comp=Z,0.2nm,0.6s,baz=147,slow=1.8,SNR=4.8
ZALV Zalesovo Beam 141.72 24 PKP PKPdf 21 52 40.4 +0.6
comp=Z,0.4nm,0.4s,baz=358,slow=3.3,SNR=2.6
MKAR Makanchi Array 145.65 34 PKPbc PKPdf 21 52 47.1 +0.1
comp=Z,1.5nm,0.7s,baz=329,slow=3.8,SNR=11

IDC **14** *21:35:16.5±0.6,20.°53N×109.°26W,h0km,mb4.7/19, mbtmp4.7/24,ML4.1/6,MS5.6/65,Error ellipse: s-maj=22.9km s-min=10.8km az=62.0*
MOS **14** *21:35:17.1±1.2,20.°50N×109.°18W,h12km,mb5.4/31, MS5.7/18,Error ellipse: s-maj=8.2km s-min=4.5km az=94.0*
NEIC **14** *21:35:18.5±1.2,20.°50N±0.°05×109.°29W±0.°06,h10km±1km, mb5.4/192,Ms_20 5.5/786,Mwb5.8/42,Mww5.9/98,Error ellipse: s-maj=9.8km s-min=8.8km az=101.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr~0.37; Mθθ-4.85; Mϕϕ5.23; Mrθ-1.80; Mθϕ2.60; Mϕr-0.42; Fault plane solution: M₀5.97000×10¹⁷ NP1:ϕ₀57.69000°, δ83.89000°,λ-17.38000°. NP2:ϕ₀149.60000°,δ72.72000°, λ-173.60000°. Principal axes: T 5.9729, Plg8.0000°, Azm105.0000°; N 0.0035, Plg72.0000°, Azm219.0000°; P -5.9764, Plg17.0000°, Azm12.0000°;*
MEX **14** *21:35:18.3±0.5,20.°45N×109.°27W,h15km±10km,MD5.8, Mw5.8*
NEIC **14** *21:35:19.7,20.°47N×109.°24W,h18km*
NEIC **14** *21:35:19.7,20.°47N×109.°13W,h18km,Moment Tensor Solution. Duration: 4⁂3 Moment tensor: Scale 10¹⁷Nm; Mrr~0.09; Mθθ-6.67; Mϕϕ6.76; Mrθ2.29; Mθϕ4.48; Mϕr1.43; Fault plane solution: M₀8.52000×10¹⁷ NP1:ϕ₀61.91000°, δ89.30000°,λ18.44000°. NP2:ϕ₀331.68000°,δ71.56000°, λ179.27000°. Principal axes: T 8.6056, Plg13.0000°, Azm288.0000°; N -0.1836, Plg72.0000°, Azm64.0000°; P -8.4221, Plg12.0000°, Azm195.0000°;*
IPGP **14** *21:35:19.0,20.°47N×109.°24W,h7km,Mw5.9,Fault plane solution: NP1:ϕ₀243.00000°,δ86.00000°,λ16.00000°. NP2:ϕ₀152.00000°,δ74.00000°,λ176.00000°.*
NEIC **14** *21:35:19.7,20.°46N×109.°22W,h10km*
GCMT **14** *21:35:21.5±0.1,20.°57N×109.°16W,h12km,MW5.8/162, Moment Tensor Solution. s150,c311; s162,c533; Duration: 2⁂0 Moment tensor: Scale 10¹⁷Nm; Mrr~0.03±.04; Mθθ-5.87±.05; Mϕϕ5.90±.05; Mrθ-0.45±.11; Mθϕ4.49±.04; Mϕr0.23±.11; Best double couple: M₀7.41900×10¹⁷ NP1:ϕ₀64.00000°,δ87.00000°, λ-2.00000°. NP2:ϕ₀154.00000°,δ88.00000°, λ-177.00000°. Principal axes: T 7.4180, Plg1.0000°, Azm289.0000°; N 0.0000, Plg86.0000°, Azm190.0000°; P -7.4210, Plg4.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 14 21:35:17.7±0.6,20.°34N±0.°03×109.°23W±0.°03,h10km±3km, n1228,σ2⁂87/1252,mb5.3/142,MS5.5/467,60C-13D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H06N1	**SOCORRO T-PHAS**	**2.21**	**229**	Pn	**Pn**		**21 35 53.0**	**-1.5**
H06N1				Sn	**Sn**		**21 36 17.2**	**-4.8**
H06N1				T	T		21 38 20.1	
	SNR=151							
H06N	**Isla Socorro**	**2.22**	**229**	*eP*	**Pn**		**21 35 52.2**	**-2.3**
H06N				eS	**Sn**		**21 36 18.1**	**-3.9**
H06E		**2.23**	**226**	*eP*	**Pn**		**21 35 52.6**	**-2.1**
H06E				eS	**Sn**		**21 36 19.1**	**-3.0**
H06E1	**SOCORRO T-PHAS**	**2.23**	**226**	Pn	**Pn**		**21 35 53.0**	**-1.7**
H06E1				Sn	**Sn**		**21 36 17.6**	**-4.7**
H06E1				T	T		21 38 31.4	
	SNR=147							
H06S1	**SOCORRO T**	**2.28**	**226**	Pn	**Pn**		**21 35 52.4**	**-3.0**
H06S1				Sn	**Sn**		**21 36 17.8**	**-5.8**
H06S1				T	T		21 38 36.5	
	SNR=23							
H06S		**2.29**	**226**	*eP*	**Pn**		**21 35 52.6**	**-2.9**
H06S				eS	**Sn**		**21 36 19.1**	**-4.6**
SLBS	**Sierra La Lagu**	**3.39**	**349**	Pn	**Pn**		**21 36 06.1**	**-4.7**
SLBS	**Sierra La Lagu**	**3.39**	**349**	*eP*	**Pn**		**21 36 06.9**	**-3.9**
SLBS				eS	**Sn**		**21 36 44.1**	**-7.0**
PUVA	**Puert Vallarta**	**3.77**	**85**	*eP*	**Pn**		**21 36 13.3**	**-2.7**
PUVA				eS	**Sn**		**21 36 53.5**	**-7.0**
MAIG	**Mazatlaan**	**3.85**	**42**	*eP*	**Pn**		**21 36 12.9**	**-4.1**
MAIG				eS	**Sn**		**21 36 55.1**	**-7.2**
LPIG	**La Paz**	**3.87**	**345**		**Pn**		**21 36 13.5**	**-3.8**
LPIG	**La Paz**	**3.87**	**345**	Pn	**Pn**		**21 36 13.6**	**-3.6**
	20nm,0.3s,baz=158,slow=8.8,SNR=13							
LPIG				Sn	**Sn**		**21 36 55.6**	**-7.2**
	15nm,0.3s,baz=90,slow=20,SNR=9.3							
	259nm,0.9s							
LPIG	**La Paz**	**3.87**	**345**	*eP*	**Pn**		**21 36 13.5**	**-3.8**
LPIG				eS	**Sn**		**21 36 55.6**	**-7.2**
CJM	**Chamela**	**4.03**	**101**	*eP*	**Pn**		**21 36 16.0**	**-3.5**
CJM				eS	**Sn**		**21 36 59.6**	**-7.2**
ANIG	**Ahuacatlan**	**4.47**	**80**		**Pn**		**21 36 23.2**	**-2.5**
ANIG	**Ahuacatlan**	**4.47**	**80**	*eP*	**Pn**		**21 36 23.2**	**-2.5**
ANIG				eS	**Sn**		**21 37 13.7**	**-4.0**
SSIG	**Sanalona**	**4.86**	**23**		**Pn**		**21 36 28.1**	**-2.7**
SSIG	**Sanalona**	**4.86**	**23**	*eP*	**Pn**		**21 36 28.1**	**-2.7**
SSIG				eS	**Sn**		**21 37 21.2**	**-5.9**
CDAR	**Ciudad de Arme**	**5.12**	**105**	*eP*	**Pn**		**21 36 33.7**	**-0.7**
CDAR				eS	**Sn**		**21 37 31.4**	**-2.1**
CEGR	**Campo Tres**	**5.15**	**100**	*eP*	**Pn**		**21 36 33.7**	**-1.4**
CEGR				eS	**Sn**		**21 37 30.3**	**-4.3**
TSIG	**Topolobambo**	**5.24**	**2**		**Pn**		**21 36 33.1**	**-2.9**
TSIG	**Topolobambo**	**5.24**	**2**	*eP*	**Pn**		**21 36 33.1**	**-2.9**
TSIG				eS	**Sn**		**21 37 28.0**	**-8.4**
SOMAC	**Volcano de Col**	**5.33**	**98**	*eP*	**Pn**		**21 36 37.0**	**-0.8**
SOMAC				eS	**Sn**		**21 37 32.2**	**-7.3**
MNGA	**Volcan de Coli**	**5.35**	**98**	*eP*	**Pn**		**21 36 38.3**	**+0.4**
MNGA				eS	**Sn**		**21 37 35.8**	**-4.0**
INCO	**Volcan de Coli**	**5.36**	**98**	*eP*	**Pn**		**21 36 37.4**	**-0.8**
INCO				eS	**Sn**		**21 37 32.2**	**-7.9**
PDIG	**Papasquiaro**	**5.87**	**36**		**Pn**		**21 36 43.6**	**-1.3**
PDIG					**Sn**		**21 37 49.4**	**-3.0**
PDIG	**Papasquiaro**	**5.87**	**36**	*eP*	**Pn**		**21 36 43.6**	**-1.3**
PDIG				eS	**Sn**		**21 37 49.4**	**-3.0**
MMIG	**Aquila**	**5.92**	**109**	*eP*	**Pn**		**21 36 43.4**	**-2.1**
MMIG				eS	**Sn**		**21 37 52.0**	**-1.5**
CSIG	**Choix**	**6.50**	**7**		**Pn**		**21 36 52.2**	**-1.3**
CSIG					**Sn**		**21 38 03.7**	**-4.1**
CSIG	**Choix**	**6.50**	**7**	*eP*	**Pn**		**21 36 52.2**	**-1.3**
CSIG				eS	**Sn**		**21 38 03.7**	**-4.1**
ZAIG	**Zacatecas**	**6.66**	**68**	Pn	**Pn**		**21 36 55.3**	**-0.6**
ZAIG	**Zacatecas**	**6.66**	**68**	*eP*	**Pn**		**21 36 54.3**	**-1.5**
ZAIG				eS	**Sn**		**21 38 03.1**	**-8.8**
HPIG		**7.33**	**26**	Pn	**Pn**		**21 37 03.8**	**-1.3**
HPIG		**7.33**	**26**	*eP*	**Pn**		**21 37 04.5**	**-0.5**
HPIG				eS	**Sn**		**21 38 29.3**	**+0.8**
IGIG	**Irapuato, Guan**	**7.42**	**85**		**Pn**		**21 37 05.5**	**-0.7**
IGIG	**Irapuato, Guan**	**7.42**	**85**	*eP*	**Pn**		**21 37 05.5**	**-0.7**
SRIG	**Santa Rosalia**	**7.47**	**339**	Pn	**Pn**		**21 37 04.3**	**-2.4**
SRIG	**Santa Rosalia**	**7.47**	**339**	*eP*	**Pn**		**21 37 03.4**	**-3.3**
SRIG				eS	**Sn**		**21 38 31.7**	**+0.2**
MOIG	**Morelia**	**7.59**	**94**	Pn	**Pn**		**21 37 09.9**	**+1.2**
MOIG	**Morelia**	**7.59**	**94**	*eP*	**Pn**		**21 37 09.9**	**+1.2**
MOIG				eS	**Sn**		**21 38 29.6**	**-5.4**
GUYB	**Guaymas**	**7.67**	**349**	*eP*	Pn		21 37 03.3	-6.2
GUYB				eS	**Sn**		**21 38 29.3**	**-7.1**
ZIIG	**Zihuatanejo**	**7.84**	**109**		**Pn**		**21 37 10.4**	**-1.5**
ZIIG					**Sn**		**21 38 45.2**	**+4.6**
ZIIG	**Zihuatanejo**	**7.84**	**109**	*eP*	**Pn**		**21 37 10.4**	**-1.5**
ZIIG				eS	**Sn**		**21 38 45.2**	**+4.6**
BCIG	**La Boquilla**	**7.97**	**25**		**Pn**		**21 37 11.2**	**-2.6**
BCIG	**La Boquilla**	**7.97**	**25**	*eP*	**Pn**		**21 37 11.2**	**-2.6**
BCIG				eS	**Sn**		**21 38 35.8**	**-8.3**
JRQG	**Juriquilla Cam**	**8.24**	**86**	Pn	**Pn**		**21 37 20.9**	**+3.3**
JRQG	**Juriquilla Cam**	**8.24**	**86**	*eP*	**Pn**		**21 37 17.4**	**-0.2**
JRQG				eS	**Sn**		**21 38 47.8**	**-3.1**
ARIG	**Puente Sto Nin**	**8.64**	**102**		**Pn**		**21 37 21.9**	**-0.9**
ARIG	**Puente Sto Nin**	**8.64**	**102**	*eP*	**Pn**		**21 37 21.9**	**-0.9**
ARIG				eS	**Sn**		**21 38 54.2**	**-6.2**
RPIG	**Rio Verde**	**8.77**	**78**		**Pn**		**21 37 24.8**	**+0.1**
RPIG	**Rio Verde**	**8.77**	**78**	*eP*	**Pn**		**21 37 24.8**	**+0.1**
RPIG				eS	**Sn**		**21 38 55.2**	**-8.5**
HSIG		**8.78**	**350**	Pn	**Pn**		**21 37 24.2**	**-0.5**
HSIG		**8.78**	**350**	*eP*	**Pn**		**21 37 20.1**	**-4.6**
HSIG				eS	Sn		21 38 52.8	-11
ACIG	**Acambay**	**8.79**	**91**		**Pn**		**21 37 26.2**	**+1.1**
ACIG	**Acambay**	**8.79**	**91**	*eP*	**Pn**		**21 37 26.2**	**+1.1**
ACIG				eS	**Sn**		**21 38 59.2**	**-5.2**
ATVM	**ATLACOMULCO**	**8.85**	**92**		**Pn**		**21 37 27.5**	**+1.5**
ATVM					**Sn**		**21 39 05.2**	**-0.8**
ATVM	**ATLACOMULCO**	**8.85**	**92**	*eP*	**Pn**		**21 37 27.5**	**+1.5**
ATVM				eS	**Sn**		**21 39 05.2**	**-0.8**
CAIG	**El Cayaco**	**9.11**	**110**		**Pn**		**21 37 30.0**	**+0.8**
CAIG					**Sn**		**21 39 13.2**	**+1.3**
CAIG	**El Cayaco**	**9.11**	**110**	*eP*	**Pn**		**21 37 30.0**	**+0.8**
CAIG				eS	**Sn**		**21 39 13.2**	**+1.3**
MAVM	**Malinalco, Edo**	**9.28**	**97**	*eP*	**Pn**		**21 37 28.7**	**-3.1**
MAVM				eS	**Sn**		**21 39 14.7**	**-1.7**
INVM	**La Marquesa**	**9.33**	**95**		**Pn**		**21 37 33.5**	**+0.8**
INVM	**La Marquesa**	**9.33**	**95**	*eP*	**Pn**		**21 37 33.5**	**+0.8**
INVM				eS	**Sn**		**21 39 13.2**	**-4.8**
AOVM	**Tlapan**	**9.39**	**95**		**Pn**		**21 37 34.1**	**+0.6**
AOVM	**Tlapan**	**9.39**	**95**	*eP*	**Pn**		**21 37 34.1**	**+0.6**
AOVM				eS	**Sn**		**21 39 16.5**	**-3.0**
MEIG	**Mezcala**	**9.40**	**103**		**Pn**		**21 37 33.8**	**+0.4**
MEIG					**Sn**		**21 39 24.1**	**+4.9**
MEIG	**Mezcala**	**9.40**	**103**	*eP*	**Pn**		**21 37 33.8**	**+0.4**
MEIG				eS	**Sn**		**21 39 24.1**	**+4.9**
CJVM	**Cuajimalpa**	**9.41**	**94**		**Pn**		**21 37 35.5**	**+1.8**
CJVM					**Sn**		**21 39 18.5**	**-1.3**
CJVM	**Cuajimalpa**	**9.41**	**94**	*eP*	**Pn**		**21 37 35.5**	**+1.8**
CJVM				eS	**Sn**		**21 39 18.5**	**-1.3**
BAHB	**Baha de los**	**9.42**	**336**		**Pn**		**21 37 33.0**	**-0.5**
BAHB	**Baha de los**	**9.42**	**336**	*eP*	**Pn**		**21 37 33.0**	**-0.5**
APVM	**Azcapotzalco**	**9.47**	**93**		**Pn**		**21 37 36.8**	**+2.3**
APVM	**Azcapotzalco**	**9.47**	**93**	*eP*	**Pn**		**21 37 36.8**	**+2.3**
APVM				eS	**Sn**		**21 39 15.3**	**-5.9**
CTVM	**Cuauhtemoc**	**9.52**	**94**		**Sn**		**21 39 23.8**	**+1.5**
CTVM	**Cuauhtemoc**	**9.52**	**94**	eS	**Sn**		**21 39 23.8**	**+1.5**
UNM	**Universidad Na**	**9.52**	**94**	Pn	**Pn**		**21 37 39.4**	**+2.8**
UNM	**Universidad Na**	**9.52**	**94**	P	**Pn**		**21 37 39.4**	**+2.8**
UNM	**Universidad Na**	**9.52**	**94**	*eP*	**Pn**		**21 37 36.0**	**+0.9**
UNM				eS	**Sn**		**21 39 22.3**	**0.0**
BJVM	**Benito Juarez**	**9.52**	**94**		**Pn**		**21 37 36.8**	**+1.7**
BJVM	**Benito Juarez**	**9.52**	**94**	*eP*	**Pn**		**21 37 36.8**	**+1.7**
BJVM				eS	**Sn**		**21 39 20.4**	**-2.0**
COVM	**Coyoacan**	**9.54**	**94**	eS	**Sn**		**21 39 17.6**	**-5.1**
TLVM	**San Miguel Top**	**9.56**	**95**		**Pn**		**21 37 37.8**	**+2.1**
TLVM					**Sn**		**21 39 24.2**	**+0.8**
TLVM	**San Miguel Top**	**9.56**	**95**	*eP*	**Pn**		**21 37 37.8**	**+2.1**
TLVM				eS	**Sn**		**21 39 24.2**	**+0.8**
VRVM	**Mexico City**	**9.57**	**94**		**Sn**		**21 39 22.5**	**-1.1**
VRVM	**Mexico City**	**9.57**	**94**	eS	**Sn**		**21 39 22.5**	**-1.1**
DEIG	**Demacu**	**9.57**	**88**	*eP*	**Pn**		**21 37 37.6**	**+1.8**
DEIG				eS	**Sn**		**21 39 23.4**	**-0.1**
DHIG	**Demacu**	**9.57**	**88**		**Pn**		**21 37 37.6**	**+1.8**
DHIG					**Sn**		**21 39 23.4**	**-0.1**
PBVM	**Pinon**	**9.59**	**94**		**Pn**		**21 37 38.7**	**+2.8**
PBVM	**Pinon**	**9.59**	**94**	*eP*	**Pn**		**21 37 38.7**	**+2.8**
PBVM				eS	**Sn**		**21 39 21.1**	**-2.6**
DAIG	**Los Arroyos**	**9.66**	**108**		**Pn**		**21 37 37.1**	**+0.2**
DAIG	**Los Arroyos**	**9.66**	**108**	*eP*	**Pn**		**21 37 37.1**	**+0.2**
DAIG				eS	**Sn**		**21 39 22.9**	**-2.7**
MPVM	**San Francisco**	**9.69**	**95**		**Pn**		**21 37 37.4**	**-0.1**
MPVM					**Sn**		**21 39 28.8**	**+2.2**
MPVM	**San Francisco**	**9.69**	**95**	*eP*	**Pn**		**21 37 37.4**	**-0.1**
MPVM				eS	**Sn**		**21 39 28.8**	**+2.2**
THVM	**De Xico**	**9.71**	**94**		**Pn**		**21 37 38.8**	**+1.0**
THVM	**De Xico**	**9.71**	**94**	*eP*	**Pn**		**21 37 38.8**	**+1.0**
THVM				eS	**Sn**		**21 39 23.7**	**-3.5**
GTIG	**Gomez Farias**	**9.74**	**72**		**Pn**		**21 37 37.9**	**0.0**
GTIG	**Gomez Farias**	**9.74**	**72**	*eP*	**Pn**		**21 37 37.9**	**0.0**
GTIG				eS	**Sn**		**21 39 20.8**	**-6.7**
TXVM	**Universitario**	**9.75**	**94**		**Pn**		**21 37 41.5**	**+3.2**
TXVM	**Universitario**	**9.75**	**94**	*eP*	**Pn**		**21 37 41.5**	**+3.2**
MNIG	**Monterrey**	**9.76**	**56**		**Pn**		**21 37 38.3**	**0.0**
MNIG	**Monterrey**	**9.76**	**56**	*eP*	**Pn**		**21 37 38.3**	**0.0**
MNIG				eS	**Sn**		**21 39 21.9**	**-6.2**
VTVM	**Tizayuca**	**9.85**	**92**		**Pn**		**21 37 41.5**	**+1.8**
VTVM	**Tizayuca**	**9.85**	**92**	*eP*	**Pn**		**21 37 41.5**	**+1.8**
VTVM				eS	**Sn**		**21 39 27.8**	**-2.7**
AMVM	**AMECAMECA**	**9.91**	**95**		**Pn**		**21 37 42.4**	**+1.9**
AMVM	**AMECAMECA**	**9.91**	**95**	*eP*	**Pn**		**21 37 42.4**	**+1.9**
AMVM				eS	**Sn**		**21 39 25.1**	**-7.0**
NZIG	**Nacozari, Sono**	**9.99**	**358**		**Pn**		**21 37 42.4**	**+0.9**
N

PNIG Sn 21 40 06.4 +1.8
PNIG Pinotepa 11.25 109 eP Pn 21 37 58.9 +0.2
PNIG eS Sn 21 40 06.4 +1.8
TXIG Tlaxiaco 11.28 104 Pn Pn 21 38 01.0 +1.6
TXIG Tlaxiaco 11.28 104 eP Pn 21 38 01.0 +1.6
TXIG eS Sn 21 40 00.7 -5.1
POHV Veracruz 11.33 94 Pn 21 38 03.0 +2.8
POHV Veracruz 11.33 94 eP Pn 21 38 03.0 +2.8
TPIG Tehuac#an 11.37 98 Pn 21 38 00.2 -0.2
TPIG Tehuac#an 11.37 98 eP Pn 21 38 00.2 -0.2
TPIG eS Sn 21 40 02.7 -4.9
YOIG Yosondua 11.61 105 Pn 21 38 04.8 +1.0
YOIG Yosondua 11.61 105 eP Pn 21 38 04.8 +1.0
YOIG eS Sn 21 40 08.9 -4.8
TOIG Toxpalan 11.71 99 Pn 21 38 06.2 +1.2
TOIG Sn 21 40 16.3 +0.3
TOIG Toxpalan 11.71 99 eP Pn 21 38 06.2 +1.2
TOIG eS Sn 21 40 16.3 +0.3
JAUV Jalcomulco 11.74 93 Pn 21 38 08.3 +2.9
JAUV Jalcomulco 11.74 93 eP Pn 21 38 08.3 +2.9
JAUV eS Sn 21 40 14.0 -2.5
SFX San Felipe 11.79 336 Pn Pn 21 38 04.9 -1.1
SFX San Felipe 11.79 336 eP Pn 21 38 04.7 -1.3
SFX eS Sn 21 40 09.8 -7.8
MNTX Cornudas Mount 11.82 16 eP Pn 21 38 07.6 +1.1
MNTX eS Sn 21 40 17.0 -1.5
DRIO Del Rio 11.95 39 Pn Pn 21 38 07.9 -0.3
PECS Pecos 11.99 23 Pn Pn 21 38 08.5 -0.4
TUC Tucson 12.00 354 P Pn 21 38 10.0 +1.1
TUC pmax pmax
comp=Z,197nm,1.6s
TUC Tucson 12.00 354 eP Pn 21 38 10.0 +1.1
TUC eS Sn 21 40 13.9 -8.9
SPIG San Pedro Mart 12.04 333 eP Pn 21 38 04.3 -5.4
SPIG eS Sn 21 40 23.4 -1.0
LVIG Laguna Verde 12.06 91 eP Pn 21 38 11.7 +1.9
LVIG eS Sn 21 40 27.4 +3.1
DUN6 Lazy B Ranch 12.16 1 Pn 21 38 10.9 -0.2
121A Cookes Peak, D 12.21 6 Pn Pn 21 38 12.9 +1.1
PEIG Puerto Escondi 12.27 109 Pn 21 38 12.8 +0.2
PEIG Puerto Escondi 12.27 109 eP Pn 21 38 12.8 +0.2
PEIG eS Sn 21 40 23.3 -6.3
OXIG Oaxaca 12.28 103 Pn 21 38 15.0 +2.0
VHO Vista Hermosa 12.28 103 eP Pn 21 38 15.0 +2.0
VHO eS Sn 21 40 23.1 -7.0
KVTX Kingsville 12.60 53 Pn Pn 21 38 19.2 +2.1
KVTX Kingsville 12.60 53 eP Pn 21 38 16.5 -0.5
KVTX eS Sn 21 40 31.6 -5.9
NEUV Arroyo Zacate 12.97 99 Pn 21 38 23.6 +1.5
NEUV Arroyo Zacate 12.97 99 eP Pn 21 38 23.6 +1.5
NEUV eS Sn 21 40 43.7 -2.9
113A Mohawk Valley, 13.02 343 Pn 21 38 22.6 -0.2
ESJX Sierra Juarez 13.08 334 Pn 21 38 23.0 -0.8
MBIG Mexicali 13.14 337 eP Pn 21 38 26.1 +1.6
MBIG eS Sn 21 40 43.7 -7.0
JCT Junction City 13.20 38 Pn Pn 21 38 25.0 -0.3
JCT Junction City 13.20 38 P Pn 21 38 25.0 -0.3
JCT Junction City 13.20 38 eP Pn 21 38 25.3 0.0
JCT eS Sn 21 40 48.8 -3.4
HUIG Huatulco 13.28 108 Pn 21 38 26.9 +0.5
HUIG Sn 21 40 54.2 -0.1
HUIG Huatulco 13.28 108 eP Pn 21 38 26.9 +0.5
HUIG eS Sn 21 40 54.2 -0.1
735A Kenedy 13.40 49 Pn Pn 21 38 29.2 +1.2
PMUV Sontecomapan 13.43 95 Pn 21 38 28.6 -1.9
PMUV Sontecomapan 13.43 95 eP Pn 21 38 28.6 -1.9
PMUV eS Sn 21 40 52.2 -5.8
GLA Glamis 13.60 340 Pn Pn 21 38 30.0 -0.8
GLA Glamis 13.60 340 P Pn 21 38 30.0 -0.8
CBX Cerro Bola 13.65 332 eP Pn 21 38 27.9 -3.6
CBX eS Sn 21 40 57.2 -6.1
TJIG Tijuana 13.76 333 eP Pn 21 38 29.4 -3.4
TJIG eS Sn 21 40 54.0 -12
Y22D IRIS PASSCAL I 13.83 8 Pn Pn 21 38 34.8 +0.8
Y22D IRIS PASSCAL I 13.83 8 P Pn 21 38 37.0 +3.1
baz=189
BAR Barrett 13.97 333 Pn Pn 21 38 34.0 -1.7
CMIG Matias Romero 13.97 101 Pn 21 38 36.2 +0.3
CMIG Matias Romero 13.97 101 Pn Pn 21 38 37.5 +1.6
comp=Z,0.5nm,0.3s,baz=288,slow=10,SNR=41
CMIG LR LR 21 43 34.6
comp=Z,58µm,19.9s,baz=285,slow=36
comp=Z,44nm,0.9s
CMIG Matias Romero 13.97 101 eP Pn 21 38 36.2 +0.3
CMIG eS Sn 21 41 07.1 -4.1
TUIG Tuzandepetl 14.18 97 eP Pn 21 38 36.1 -2.6
TUIG eS Sn 21 41 07.9 -8.3
NILT Santiago Nilte 14.37 103 Pn 21 38 42.6 +1.3
NILT Santiago Nilte 14.37 103 eP Pn 21 38 42.6 +1.3
NILT eS Sn 21 41 13.4 -7.3
UXUV UXUV 14.60 99 Pn 21 38 44.7 +0.3
UXUV UXUV 14.60 99 eP Pn 21 38 44.7 +0.3
UXUV eS Sn 21 41 20.3 -6.1
PFO Pinyon Flats O 14.69 336 Pn Pn 21 38 44.2 -1.6
PFO Pinyon Flats O 14.69 336 Pn Pn 21 38 46.9 +1.1
comp=Z,0.7nm,0.3s,baz=161,slow=13,SNR=15
PFO LR LR 21 43 55.7
comp=Z,36µm,19.4s,baz=148,slow=36
comp=Z,4.5nm,0.5s
PFO Pinyon Flats O 14.69 336 i P Pn 21 38 46.2 +0.4
ANMO Albuquerque 14.75 9 Pn Pn 21 38 45.9 -0.8
ANMO Albuquerque 14.75 9 Pn Pn 21 38 46.2 -0.5
comp=Z,0.3nm,0.3s,baz=278,slow=13,SNR=62
ANMO LR LR 21 44 12.1
comp=Z,60µm,19.4s,baz=281,slow=37
comp=Z,34nm,1.2s
ANMO Albuquerque 14.75 9 i P Pn 21 38 46.9 +0.3
BELC Belle Mtn. Jos 14.87 338 Pn Pn 21 38 46.9 -1.3
ABTX Abilene, Hawle 14.93 33 Pn 21 38 47.8 -1.2
NEE2 Needles Airpor 15.14 343 Pn Pn 21 38 50.9 -0.7
DKNS Dickens 15.19 27 Pn Pn 21 38 50.8 -1.5
HKT Hockley 15.44 49 Pn Pn 21 38 55.2 -0.3
HKT Hockley 15.44 49 i P Pn 21 38 56.8 +1.3
TGIG 15.68 100 Pn 21 38 58.6 -0.3
TGIG 15.68 100 eP Pn 21 38 58.6 -0.3
TGIG eS Sn 21 41 43.3 -10
PCIG 15.91 104 Pn 21 39 01.9 +0.1
PCIG 15.91 104 eP Pn 21 39 01.9 +0.1
PCIG eS Sn 21 41 51.7 -6.6
V12A Nelson 16.10 343 Pn 21 39 02.8 -1.5
CCIG Comitan 16.73 101 Pn P 21 39 14.0 -0.8
CCIG IAmb IAmb 21 39 20.2
comp=Z,564nm,1.5s
CCIG Comitan 16.73 101 eP Pn 21 39 13.5 +1.1
CCIG eS Sn 21 42 11.5 -6.9
MVCO Mesa Verde 16.82 2 Pn 21 39 12.6 -1.0
MVCO IAmb IAmb 21 39 18.3
comp=Z,626nm,1.6s
KNB Kanab 16.91 350 Pn 21 39 14.7 +0.1
KNB IAmb IAmb 21 39 21.1
comp=Z,539nm,1.8s
KNB Kanab 16.91 350 P Pn 21 39 14.7 +0.1
KNB pmax pmax
comp=Z,539nm,1.8s
PATR El Naranjo 17.00 105 eS Sn 21 42 22.5 -2.7
RTBA Rita Blanca 17.01 18 P Pn 21 39 15.3 -0.6
PAVE Pavencul 17.03 105 P P 21 39 18.1 -0.1
PAVE Pavencul 17.03 105 eP P 21 39 18.1 -0.1
THIG 17.05 106 P P 21 39 17.5 -0.6
THIG 17.05 106 eP P 21 39 17.5 -0.6
THIG eS Sn 21 42 18.7 -7.2
WMOK Wichita Mounta 17.05 31 Pn 21 39 14.9 -1.4
WMOK IAmb IAmb 21 39 22.4
comp=Z,446nm,1.4s
WMOK Wichita Mounta 17.05 31 P Pn 21 39 14.9 -1.4
WMOK pmax pmax
comp=Z,446nm,1.4s
SCIG Sabancuy 17.06 92 eP Pn 21 39 15.8 -0.6
SCIG eS Sn 21 42 20.0 -6.1
T25A Trinidad 17.25 13 P Pn 21 39 18.2 -0.8
T25A IAmb IAmb 21 39 25.2
comp=Z,671nm,1.6s
LOOK Love County 17.29 36 Pn 21 39 18.9 -0.5
HUEH Huehuetenango 17.60 104 P 21 39 25.8 +1.3
HUEH IAmb IAmb 21 39 30.3
comp=Z,849nm,1.7s
SDCO Great Sand Dun 17.64 10 Pn 21 39 23.5 -0.4
SDCO IAmb IAmb 21 39 31.1
comp=Z,358nm,1.4s
TPNV Topopah Spring 17.64 341 P Pn 21 39 23.1 -0.7
TPNV Topopah Spring 17.64 341 P Pn 21 39 23.1 -0.7
TPNV pmax pmax
comp=Z,187nm,1.9s
RTAL Retalhuleu 17.70 106 P 21 39 26.2 +0.8
441A DeRidder 17.78 51 Pn 21 39 24.6 -0.8
441A IAmb IAmb 21 39 30.4
comp=Z,193nm,0.7s
S11A Rachel 18.15 343 Pn 21 39 28.5 -1.5
MYIG Merida 18.25 85 eP P 21 39 31.5 +0.1
MYIG eS Sn 21 42 56.5 +1.3
RAMR Ramage Ranch 18.35 329 Pn 21 39 30.9 -1.5
TIN Tinemaha, Big 18.41 337 P Pn 21 39 34.2 +1.0
TIN pmax pmax
comp=Z,50nm,1.0s
PETF Flores 18.66 97 P Pn 21 39 36.9 +0.6
PETF IAmb IAmb 21 39 43.5
comp=Z,472nm,1.3s
SRU San Rafael Swe 18.74 357 P P 21 39 35.4 -1.4
SRU San Rafael Swe 18.74 357 P P 21 39 35.4 -1.4
SRU pmax pmax
comp=Z,74nm,1.3s
PMPB Monarch Peak 18.78 330 P 21 39 36.5 -0.8
TPH Tonopah 18.98 340 P 21 39 37.1 -2.4
TPH Tonopah 18.98 340 P P 21 39 37.1 -2.4
TPH pmax pmax
comp=Z,73nm,1.4s
Z41A Richland Creek 19.47 45 P P 21 39 44.3 -0.4
SAO San Andreas Ge 19.53 329 P 21 39 44.2 -1.2
SAO San Andreas Ge 19.53 329 P P 21 39 44.2 -1.2
SAO pmax pmax
comp=Z,66nm,1.6s
ISCO Idaho Springs 19.64 8 P 21 39 46.4 -0.4
ISCO Idaho Springs 19.64 8 P P 21 39 46.4 -0.4
ISCO pmax pmax
comp=Z,735nm,1.9s
NVAR Mina Arroyo Bea 19.66 338 P P 21 39 47.0 0.0
comp=Z,0.2nm,0.3s,baz=167,slow=11,SNR=34
comp=Z,3.5nm,0.9s
TEIG Tepich 19.66 87 P P 21 39 47.4 +0.5
TEIG IAmb IAmb 21 39 49.5
comp=Z,317nm,1.5s
TEIG Tepich 19.66 87 eP P 21 39 46.4 -0.5
TEIG eS S 21 43 25.6 -3.1
MIAR Mount Ida 19.79 41 P P 21 39 47.4 -0.8
MIAR Mount Ida 19.79 41 P P 21 39 47.4 -0.8
MIAR pmax pmax
comp=Z,133nm,1.5s
ESQI Esquipulas 19.82 104 P Pn 21 39 51.5 +1.2
MTO3 Montecristo 19.86 104 P Pn 21 39 50.9 0.0
MTO3 IAmb IAmb 21 39 54.6
comp=Z,305nm,1.4s
DUG Dugway, Tooele 20.02 352 P Pn 21 39 52.1 -0.5
DUG pmax pmax
comp=Z,101nm,2.3s
CMB Columbia Colle 20.11 334 P Pn 21 39 52.7 -0.8
CMB pmax pmax
comp=Z,42nm,1.7s
CBKS Cedar Bluff 20.15 22 P P 21 39 51.1 -1.0
CBKS Cedar Bluff 20.15 22 P P 21 39 51.2 -1.0
CBKS pmax pmax
comp=Z,554nm,1.5s
CBKS MLR MLR
comp=Z,88µm,18.0s
X40A Basin Creek Fa 20.22 42 P P 21 39 52.1 -0.8
X40A IAmb IAmb 21 47 41.5
comp=Z,21µm,19.0s
VBMS Vicksburg 20.49 51 P P 21 39 56.3 +0.5
WELL Weller Preserv 20.59 334 IAmb 20 IAmb 20 21 46 28.4
comp=Z,22µm,20.0s
UALR University of 20.71 43 P P 21 39 57.5 -0.8
UALR IAmb IAmb 21 40 05.4
comp=Z,415nm,1.5s
HHAR Hobbs 20.77 37 IAmb 20 IAmb 20 21 47 26.9
comp=Z,21µm,22.0s
ELK Elko 20.97 347 P P 21 39 59.9 -1.3
ELK IAmb 20 IAmb 20 21 47 41.9
comp=Z,17µm,18.0s
ELK Elko 20.97 347 P P 21 40 01.2 0.0
comp=Z,20nm,1.0s,baz=188,slow=8.7,SNR=43
ELK LR LR 21 47 53.5
comp=Z,16µm,19.4s,baz=170,slow=36
comp=Z,20nm,1.0s
FARB Farallon Islan 21.03 328 IAMs_20 IAMs_20 21 47 08.6
comp=Z,17µm,18.0s
AFDM Forest Hills D 21.13 334 P P 21 40 00.7 -2.0
RUSS Russell Ranch 21.17 332 IAMs_20 IAMs_20 21 46 40.7
comp=Z,14µm,19.0s
CVS Carmenet Viney 21.28 330 IAMs_20 IAMs_20 21 47 38.4
comp=Z,31µm,19.0s
HWUT Hardware Ranch 21.29 355 P P 21 40 03.3 -1.3
HWUT IAmb IAmb 21 40 12.8
comp=Z,174nm,1.2s
HWUT IAMs_20 IAMs_20 21 48 02.7
comp=Z,19µm,18.0s
MCCM Marconi Confer 21.32 329 IAMs_20 IAMs_20 21 47 47.4
comp=Z,19µm,18.0s
OGNE Ogallala 21.43 15 P P 21 40 05.0 -1.1
OGNE IAmb IAmb 21 40 09.7
comp=Z,373nm,1.5s
MNRC McLaughlin Min 21.70 331 IAMs_20 IAMs_20 21 48 10.7
comp=Z,24µm,19.0s
SUTB Sutter Butte 21.70 333 IAMs_20 IAMs_20 21 46 58.7
comp=Z,15µm,20.0s
ORV Oroville 21.86 334 IAMs_20 IAMs_20 21 47 06.1
comp=Z,19µm,20.0s
TGUH Tegucigalpa,Un 21.88 103 P P 21 40 12.6 +1.5
TGUH Tegucigalpa,Un 21.88 103 i P P 21 40 13.9 +2.8
TGUH eS S 21 44 12.2 -0.9
Y45A Yeager Farm, C 22.05 48 P P 21 40 14.0 +1.3
K22A Casper 22.36 5 P 21 40 15.1 -1.0
K22A IAMs_20 IAMs_20 21 48 40.2
comp=Z,18µm,20.0s
BW06 Boulder Array 22.36 359 IAMs_20 IAMs_20 21 48 37.3
comp=Z,17µm,18.0s
PDAR Pinedale Array 22.36 359 P P 21 40 15.1 -1.0
comp=Z,32nm,1.0s,baz=168,slow=7.6,SNR=96
PDAR LR LR 21 48 48.4
comp=Z,9µm,19.1s,baz=177,slow=37
comp=Z,32nm,1.0s
AHID Auburn Hatcher 22.41 356 P P 21 40 14.7 -1.9
AHID IAmb IAmb 21 40 36.3
comp=Z,162nm,1.4s
AHID IAMs_20 IAMs_20 21 48 28.3
comp=Z,15µm,19.0s
CRIN San Cristobal 22.57 106 P P 21 40 19.3 +0.9
CRIN IAMs_20 IAMs_20 21 49 06.7
comp=Z,14µm,18.0s
O03E Paynes Creek 22.61 334 IAMs_20 IAMs_20 21 47 29.7
comp=Z,20µm,21.0s
HERN Volcan Telica 22.80 106 P P 21 40 22.4 +1.5
HERN IAmb IAmb 21 40 25.4
comp=Z,1µm,1.9s
HERN IAMs_20 IAMs_20 21 49 15.1
comp=Z,13µm,18.0s
HATC Hat Creek Radi 22.91 336 IAMs_20 IAMs_20 21 47 47.3
comp=Z,16µm,22.0s
O02D Mt. Diablo Mer 22.92 333 IAMs_20 IAMs_20 21 47 36.9
comp=Z,24µm,20.0s
CNGN Cerro Negro 22.96 106 P P 21 40 24.4 +1.8
SNOW Snow King Moun 23.09 357 P P 21 40 22.9 -0.9
PEBM Pemiscott Bayo 23.13 43 P P 21 40 23.4 -0.6
R40A Maddies Statio 23.14 36 IAMs_20 IAMs_20 21 49 04.7
comp=Z,29µm,21.0s
LOHW Long Hollow 23.23 357 IAMs_20 IAMs_20 21 49 04.1
comp=Z,15µm,20.0s
WVOR Wild Horse Val 23.41 342 P P 21 40 27.4 +0.4
WVOR pmax pmax
comp=Z,186nm,1.5s
P38A Dawn 23.48 32 IAMs_20 IAMs_20 21 49 03.3
comp=Z,20µm,22.0s
CCM Cathedral Cave 23.55 38 P P 21 40 27.5 -0.8
CCM Cathedral Cave 23.55 38 IAMs_20 IAMs_20 21 49 26.6
comp=Z,27µm,20.0s
CCM Cathedral Cave 23.55 38 P P 21 40 27.5 -0.8
CCM pmax pmax
comp=Z,302nm,1.4s
CCM MLR MLR
comp=Z,27µm,20.0s
HLID Hailey 23.55 351 P 21 40 27.5 -1.0
HLID IAmb IAmb 21 40 34.1
comp=Z,276nm,1.9s
HLID IAMs_20 IAMs_20 21 48 58.3
comp=Z,13µm,18.0s
GLAT Glass 23.59 44 P P 21 40 28.7 +0.1
TULE Intermountain 23.91 337 IAMs_20 IAMs_20 21 49 34.4
comp=Z,16µm,20.0s
BOAB BOACO BROADBAN 28.91 106 P P 21 40 33.3 +1.4
JCC Jacoby Creek, 23.99 332 IAMs_20 IAMs_20 21 49 33.2
comp=Z,22µm,18.0s
RSSD Black Hills 24.10 9 P P 21 40 31.9 -1.8
RSSD Black Hills 24.10 9 P P 21 40 32.0 -1.8
RSSD pmax pmax
comp=Z,101nm,1.4s
RSSD MLR MLR
comp=Z,60µm,18.0s
LKWY Lake 24.17 358 IAMs_20 IAMs_20 21 49 52.3
comp=Z,26µm,20.0s
YBH Yreka Blue Hor 24.19 335 LR LR 21 49 58.4
comp=Z,703nm,19.6s,baz=134,slow=37
J08A Circle Bar Ran 24.22 343 P 21 40 33.4 -1.3
SIUN Universidad Ur 24.28 102 P P 21 40 35.8 +0.4
SIUN IAmb IAmb 21 40 48.5
comp=Z,123nm,1.2s
SIUN IAMs_20 IAMs_20 21 50 18.0
comp=Z,12µm,22.0s
Y49A Blount Mountai 24.30 52 IAMs_20 IAMs_20 21 50 59.5
comp=Z,13µm,22.0s
YNR Norris Junctio 24.33 357 P P 21 40 34.9 -1.0
YNR IAmb IAmb 21 40 59.8
comp=Z,206nm,1.8s
L04D Klamath Falls 24.44 336 P 21 40 35.0 -1.8
QLMT Earthquake Lak 24.49 356 P P 21 40 35.9 -1.3
S44A Carbondale 24.49 41 IAMs_20 IAMs_20 21 50 15.0
comp=Z,15µm,19.0s
SLM Saint Louis 24.52 38 IAMs_20 IAMs_20 21 49 03.7
comp=Z,14µm,18.0s
SIUC Southern Illin 24.53 41 IAMs_20 IAMs_20 21 50 15.9
comp=Z,15µm,19.0s
ACON Acoyapa 24.54 106 P P 21 40 38.8 +1.1
RLMT Red Lodge 24.71 360 P 21 40 38.0 -1.2
RLMT IAmb IAmb 21 40 52.4
comp=Z,113nm,1.4s
DLMT Dillon 25.11 354 IAMs_20 IAMs_20 21 50 33.9
comp=Z,22µm,18.0s
FPAL Fort Paine 25.20 51 P 21 40 43.5 -0.1
FPAL IAmb IAmb 21 40 51.7
comp=Z,90nm,1.2s
ESPN Las Esperanzas 25.24 105 P P 21 40 45.1 +1.0
ESPN IAmb IAmb 21 41 17.3
comp=Z,119nm,1.3s
ESPN IAMs_20 IAMs_20 21 50 56.5
comp=Z,15µm,21.0s
BOZ Bozeman (W) 25.26 356 IAMs_20 IAMs_20 21 50 32.1
comp=Z,17µm,18.0s
BOZ Bozeman (W) 25.26 356 P P 21 40 44.8 +0.6
SWET Sewanee 25.30 49 P P 21 40 43.9 -0.6
PLID Pearl Lake 25.30 349 IAMs_20 IAMs_20 21 50 31.6
comp=Z,16µm,18.0s
BMO Blue Mountains 25.34 347 P 21 40 43.6 -1.2
BMO IAmb IAmb 21 40 58.4
comp=Z,93nm,1.5s
BMO Blue Mountains 25.34 347 P P 21 40 43.6 -1.2
BMO pmax pmax
comp=Z,93nm,1.5s
BMO MLR MLR
comp=Z,10µm,18.0s
SCIA State Center 25.41 29 P P 21 40 44.2 -1.2
SCIA IAmb IAmb 21 40 56.0
comp=Z,68nm,0.5s
Q44A Meyer Farm, Va 25.41 39 IAMs_20 IAMs_20 21 50 35.2
comp=Z,20µm,21.0s
JTS Las Juntas de 25.43 110 P P 21 40 45.8 0.0
JTS Las Juntas de 25.43 110 LR LR 21 49 06.8
comp=Z,5µm,21.0s,baz=309,slow=32
JTS Las Juntas de 25.43 110 P P 21 40 45.8 0.0
JTS pmax pmax
comp=Z,269nm,1.9s
JTS MLR MLR
comp=Z,7µm,22.0s
T47A Sharon Grove 25.44 45 IAMs_20 IAMs_20 21 51 01.2
comp=Z,20µm,21.0s
BILN Bilwi Airport 25.46 100 IAMs_20 IAMs_20 21 51 33.1
comp=Z,14µm,18.0s
ECSD EROS Data Cent 25.60 22 P 21 40 45.8 -1.3
ECSD IAmb IAmb 21 40 52.5
comp=Z,237nm,1.8s
SOCE Pocosol 25.68 109 P P 21 40 49.2 +1.0
SOCE IAmb IAmb 21 41 19.9
comp=Z,90nm,1.2s
OLIL Olney 25.85 40 IAMs_20 IAMs_20 21 50 57.9
comp=Z,16µm,20.0s
CAMR Camarioca 26.01 79 P P 21 40 51.2 +0.2
CAMR IAmb IAmb 21 41 21.9
comp=Z,450nm,1.1s
U49A Red Boiling Sp 26.07 47 IAMs_20 IAMs_20 21 51 33.9
comp=Z,13µm,19.0s
GOGA Godfrey 26.33 55 P P 21 40 54.1 +0.3
GOGA Godfrey 26.33 55 P P 21 40 54.1 +0.3
GOGA pmax pmax
comp=Z,52nm,1.4s
GOGA MLR MLR
comp=Z,5µm,20.0s
HDIL Hopedale 26.37 36 P 21 40 53.8 -0.3
LAO LASA Array 26.39 5 P P 21 40 52.8 -1.5
DWPF Disney Wildern 26.46 68 P P 21 40 54.7 -0.4
DWPF IAmb IAmb 21 40 59.1
comp=Z,96nm,0.7s
LCR2 La Lucha 2 26.50 110 P P 21 40 56.4 +0.6
LCR2 IAmb IAmb 21 41 09.4
comp=Z,154nm,1.3s
WCI Wyandotte Cave 26.68 43 P P 21 40 56.6 -0.3
WCI IAmb IAmb 21 41 04.1
comp=Z,196nm,1.4s
WCI Wyandotte Cave 26.68 43 P P 21 40 56.6 -0.3
WCI pmax pmax
comp=Z,196nm,1.4s
WCI MLR MLR
comp=Z,8µm,19.0s
MSO Missoula 26.70 353 P 21 40 55.3 -1.9
MSO IAmb IAmb 21 41 11.1
comp=Z,107nm,1.7s
MSO IAMs_20 IAMs_20 21 51 23.0
comp=Z,10µm,19.0s
COR Corvallis 26.85 337 IAMs_20 IAMs_20 21 51 41.5
comp=Z,13µm,18.0s
COR Corvallis 26.85 337 P P 21 41 02.1 +3.7
COR pmax pmax
comp=Z,60nm,1.4s
P46A Rosedale 26.95 40 IAMs_20 IAMs_20 21 51 33.0
comp=Z,16µm,21.0s
T50A Nancy 26.98 47 IAMs_20 IAMs_20 21 52 02.1
comp=Z,12µm,19.0s
TKL Tuckaleechee C 27.06 50 P P 21 41 00.2 -0.2
TKL Tuckaleechee C 27.06 50 LR LR 21 52 40.9
comp=Z,9µm,18.9s,baz=241,slow=39
TKL Tuckaleechee C 27.06 50 P P 21 41 00.2 -0.2
TKL pmax pmax
comp=Z,49nm,1.2s
BLO Bloomington 27.09 41 IAMs_20 IAMs_20 21 51 46.8
comp=Z,12µm,20.0s
HAWA Hanford 27.32 344 IAMs_20 IAMs_20 21 52 04.7
comp=Z,15µm,18.0s
BG3 Lake Jocassee 27.38 52 IAMs_20 IAMs_20 21 52 42.0
comp=Z,11µm,21.0s
R49A Shelbyville 27.44 44 IAMs_20 IAMs_20 21 52 19.2
comp=Z,12µm,18.0s
SFIN Lafayette 27.50 39 IAMs_20 IAMs_20 21 51 50.5
comp=Z,22µm,21.0s
PRVC Isla de Provid 27.53 100 IAMs_20 IAMs_20 21 52 12.1
comp=Z,19µm,20.0s
HODGE Hodges 27.57 54 P P 21 41 04.4 -0.6
HODGE IAmb IAmb 21 41 38.6
comp=Z,113nm,1.9s
HODGE IAMs_20 IAMs_20 21 53 12.3
comp=Z,17µm,18.0s
JFWS Jewell Farm 27.58 31 P P 21 41 03.3 -1.7
JFWS Jewell Farm 27.58 31 P P 21 41 03.3 -1.7
JFWS pmax pmax
comp=Z,57nm,1.3s
JFWS MLR MLR
comp=Z,50µm,18.0s
EGMT Eagleton 27.62 359 P 21 41 03.7 -1.7
M44A Midewin, Midew 27.63 36 P P 21 41 05.0 -0.4
M44A IAmb IAmb 21 41 11.8
comp=Z,170nm,1.4s
TZTN Tazewell 27.64 49 P P 21 41 05.1 -0.5
TZTN IAmb IAmb 21 41 09.8
comp=Z,147nm,1.6s
V53A Saluda 27.76 51 IAMs_20 IAMs_20 21 52 52.1
comp=Z,8µm,18.0s
BRU2 Volcan 28.09 110 P P 21 41 09.7 -0.3
BRU2 IAmb IAmb 21 41 33.7
comp=Z,154nm,1.4s

PAULI Pauline 28.14 53 P **P** 21 41 09.7 -0.5
PAULI IAmb IAmb 21 41 16.5
comp=Z,71nm,1.4s
PAULI IAMs_20 IAMs_20 21 53 27.4
comp=Z,12µm,19.0s
S51A Beattyville 28.15 47 IAMs_20 IAMs_20 21 52 39.1
comp=Z,13µm,21.0s
LON Longmire 28.27 342 P **P** 21 41 09.8 -1.4
LON Longmire 28.27 342 P **P** 21 41 09.8 -1.4
LON pmax pmax
comp=Z,29nm,1.3s
JSC Jenkinsville 28.36 55 IAMs_20 IAMs_20 21 53 47.1
comp=Z,16µm,18.0s
NEW Newport 28.57 349 **P** 21 41 12.4 -1.4
NEW Newport 28.57 349 IAMs_20 IAMs_20 21 52 32.1
comp=Z,14µm,18.0s
NEW Newport 28.57 349 LR LR 21 52 43.0
comp=Z,13µm,18.4s,baz=169,slow=37
NEW Newport 28.57 349 P **P** 21 41 12.5 -1.4
NEW pmax pmax
comp=Z,55nm,1.5s
NEW MLR MLR
comp=Z,14µm,18.0s
O48B Farmland 28.59 41 IAMs_20 IAMs_20 21 52 43.4
comp=Z,16µm,20.0s
I42A Draeger Farm, 28.96 31 IAMs_20 IAMs_20 21 52 23.8
comp=Z,20µm,21.0s
V55A Taylorsville 29.01 52 IAMs_20 IAMs_20 21 53 43.3
comp=Z,10µm,20.0s
Q51A Peebles 29.04 44 IAMs_20 IAMs_20 21 53 04.5
comp=Z,9µm,21.0s
O49A Covington 29.05 42 IAMs_20 IAMs_20 21 53 07.7
comp=Z,9µm,18.0s
BIRD Birdtown, Kers 29.10 55 IAMs_20 IAMs_20 21 54 08.7
comp=Z,13µm,19.0s
NLWA Neilton Lookou 29.49 340 P **P** 21 41 20.2 -1.7
N49A Columbus Grove 29.58 41 IAMs_20 IAMs_20 21 53 13.5
comp=Z,14µm,21.0s
W57A Gilead 29.65 54 IAMs_20 IAMs_20 21 54 14.2
comp=Z,8µm,20.0s
Q52A Bidwell 29.72 45 IAMs_20 IAMs_20 21 53 42.5
comp=Z,15µm,18.0s
S54A Dingess, Beckl 29.80 48 IAMs_20 IAMs_20 21 53 43.9
comp=Z,13µm,20.0s
U56A King 29.83 52 IAMs_20 IAMs_20 21 54 09.8
comp=Z,10µm,19.0s
AGMN Agassiz Nation 29.90 18 **P** 21 41 23.2 -2.4
AGMN IAmb IAmb 21 41 31.9
comp=Z,79nm,1.4s
ACSO Alum Creek Sta 29.93 43 P **P** 21 41 25.8 -0.1
ACSO IAmb IAmb 21 41 32.6
comp=Z,140nm,1.4s
MTDJ Mount Denham 29.97 89 P **P** 21 41 26.6 0.0
MTDJ IAMs_20 IAMs_20 21 53 08.8
comp=Z,9µm,20.0s
P52A Corning 30.16 44 IAMs_20 IAMs_20 21 53 47.2
comp=Z,12µm,20.0s
BCIP Isla Barro Col 30.46 107 IAMs_20 IAMs_20 21 54 09.0
comp=Z,11µm,21.0s
COWI Conover 30.52 28 P **P** 21 41 29.4 -1.7
COWI IAmb IAmb 21 41 36.3
comp=Z,120nm,1.5s
V58A Windy Hill, Pi 30.56 53 IAMs_20 IAMs_20 21 54 51.1
comp=Z,8µm,20.0s
P53A Whipple 30.57 45 IAMs_20 IAMs_20 21 54 09.0
comp=Z,13µm,19.0s
Q54A Coxs Mills 30.70 47 IAMs_20 IAMs_20 21 54 25.4
comp=Z,16µm,18.0s
CHIV Chivirico 30.78 85 P **P** 21 41 34.0 +0.3
CHIV IAmb IAmb 21 41 41.1
comp=Z,68nm,1.3s
CHIV IAMs_20 IAMs_20 21 54 36.1
comp=Z,6µm,19.0s
CLRS Cowichan Lake 30.83 341 **P** 21 41 31.9 -1.8
R55A Marlinton 30.86 48 IAMs_20 IAMs_20 21 54 26.9
comp=Z,12µm,20.0s
T57A Hurt 30.93 51 IAMs_20 IAMs_20 21 54 41.7
comp=Z,13µm,18.0s
EYMN Ely 31.05 23 **P** 21 41 34.0 -1.7
O53A New Philadelph 31.08 44 IAMs_20 IAMs_20 21 54 34.6
comp=Z,8µm,20.0s
S57A Dark Hollow, R 31.46 50 IAMs_20 IAMs_20 21 54 47.8
comp=Z,9µm,22.0s
O54A Avella 31.59 45 IAMs_20 IAMs_20 21 54 51.1
comp=Z,13µm,18.0s
K50A Casco 31.61 39 IAMs_20 IAMs_20 21 54 18.3
comp=Z,15µm,21.0s
ULM Lac du Bonnet 31.67 16 P **P** 21 41 38.6 -2.5
comp=Z,33nm,1.1s,baz=200,slow=9.3,SNR=24
ULM LR LR 21 54 33.0
comp=Z,30µm,19.0s,baz=187,slow=37
comp=Z,33nm,1.1s
ULM Lac du Bonnet 31.67 16 *i* P **P** 21 41 39.4 -1.7
M52A Chesterland 31.68 42 IAMs_20 IAMs_20 21 54 30.1
comp=Z,8µm,21.0s
EPLO Experimental L 31.77 19 P **P** 21 41 39.8 -2.3
EPLO IAmb IAmb 21 41 52.5
comp=Z,78nm,1.1s
Q56A Snyder Ridge, 31.86 48 IAMs_20 IAMs_20 21 54 57.2
comp=Z,14µm,21.0s
NMDO Nuevo Mundo 32.06 84 P **P** 21 41 44.4 -0.5
NMDO IAmb IAmb 21 41 52.4
comp=Z,43nm,1.2s
NMDO IAMs_20 IAMs_20 21 56 08.8
comp=Z,10µm,18.0s
PAMR Moraine State 32.16 44 IAMs_20 IAMs_20 21 56 13.1
comp=Z,9µm,18.0s
T59A Double "B" Far 32.17 52 IAMs_20 IAMs_20 21 55 39.6
comp=Z,12µm,19.0s
R58B Mineral 32.32 50 IAMs_20 IAMs_20 21 55 23.5
comp=Z,9µm,20.0s
TBO Thunder Bay 32.42 25 P **P** 21 41 46.4 -1.4
TBO IAmb IAmb 21 42 57.3
comp=Z,78nm,1.7s
CBN Corbin Frederi 32.78 50 IAMs_20 IAMs_20 21 55 46.8
comp=Z,10µm,18.0s
SSPA Standing Stone 33.48 46 P **P** 21 41 57.3 +0.2
SSPA IAmb IAmb 21 42 03.4
comp=Z,146nm,1.9s
SSPA Standing Stone 33.48 46 IAMs_20 IAMs_20 21 56 01.0
comp=Z,11µm,19.0s
SDMD Soldier's Deli 33.66 48 P **P** 21 41 58.6 -0.1
S61A Accomac 33.82 52 IAMs_20 IAMs_20 21 56 39.4
comp=Z,9µm,18.0s
WVNY West Valley, N 33.88 43 IAMs_20 IAMs_20 21 55 58.6
comp=Z,9µm,19.0s
MVL Millersville 34.25 48 IAMs_20 IAMs_20 21 56 20.6
comp=Z,13µm,21.0s
R61A Willards 34.30 51 IAMs_20 IAMs_20 21 56 44.3
comp=Z,8µm,18.0s
M57A Sunshine Farm, 34.31 45 IAMs_20 IAMs_20 21 56 26.2
comp=Z,11µm,18.0s
N58A Sunbury 34.36 46 IAMs_20 IAMs_20 21 56 37.6
comp=Z,11µm,18.0s
MMNY Mt. Morris Dam 34.48 43 IAMs_20 IAMs_20 21 56 16.7
comp=Z,8µm,19.0s
WUPA West Chester U 34.74 48 IAMs_20 IAMs_20 21 56 37.7
comp=Z,8µm,21.0s
FFC Flin Flon 34.77 7 P **P** 21 42 06.6 -1.5
FFC Flin Flon 34.77 7 P **P** 21 42 06.6 -1.5
FFC pmax pmax
comp=Z,28nm,1.0s
FFC MLR MLR
comp=Z,36µm,20.0s
SADO Sadowa 34.83 39 P **P** 21 42 09.0 +0.2
SADO IAmb IAmb 21 42 14.7
comp=Z,73nm,1.7s
SADO Sadowa 34.83 39 LR LR 21 56 25.5
comp=Z,20µm,18.3s,baz=245,slow=37
SMRC Santa Marta, M 34.84 100 P **P** 21 42 10.2 +1.0
SMRC IAmb IAmb 21 42 22.3
comp=Z,142nm,1.6s
SMRC IAMs_20 IAMs_20 21 57 48.3
comp=Z,12µm,18.0s
BBB Bella Bella 35.02 340 LR LR 21 56 51.0
comp=Z,9µm,18.9s,baz=164,slow=37
P61A Hammonton 35.21 49 IAMs_20 IAMs_20 21 57 02.2
comp=Z,11µm,22.0s
KSPA Keystone Colle 35.32 46 IAMs_20 IAMs_20 21 57 07.0
comp=Z,10µm,18.0s
BINY Binghamton 35.47 45 IAMs_20 IAMs_20 21 57 11.8
comp=Z,6µm,19.0s
GRTK Grand Turk 35.55 81 IAMs_20 IAMs_20 21 57 17.0
comp=Z,8µm,20.0s
DELO Deloro Mine 35.59 40 IAMs_20 IAMs_20 21 56 40.9
comp=Z,12µm,22.0s
PECO Prince Edward 35.67 41 IAMs_20 IAMs_20 21 56 45.0
comp=Z,9µm,22.0s
SDDR Presa de Saban 35.71 86 P **P** 21 42 15.7 -1.1
SDDR IAmb IAmb 21 42 24.7
comp=Z,99nm,1.4s
L59A Walton 36.09 45 IAMs_20 IAMs_20 21 57 30.3
comp=Z,10µm,19.0s
SC01 Santiago de lo 36.17 85 P **P** 21 42 20.6 0.0
SC01 IAMs_20 IAMs_20 21 58 38.5
comp=Z,7µm,20.0s
PAL Palisades 36.36 48 IAMs_20 IAMs_20 21 57 35.5
comp=Z,14µm,21.0s
N62A Caumsett State 36.63 48 IAMs_20 IAMs_20 21 57 43.8
comp=Z,14µm,22.0s
BANI BANI 36.67 86 P **P** 21 42 24.9 -0.1
J59A Piesco 37.02 44 IAMs_20 IAMs_20 21 57 47.8
comp=Z,7µm,22.0s
COHC Cochancay 37.12 124 P **P** 21 42 29.0 +0.2
ROSC El Rosal 37.27 110 P **P** 21 42 32.8 +2.2
comp=Z,15nm,0.7s,baz=311,slow=10,SNR=7.4
comp=Z,15nm,0.7s
NCB Newcomb 37.43 43 IAMs_20 IAMs_20 21 59 00.8
comp=Z,9µm,20.0s
LONY Lake Ozonia 37.51 42 IAMs_20 IAMs_20 21 59 19.8
comp=Z,7µm,19.0s
DR12 Loma Pena Alta 37.52 85 P **P** 21 42 31.9 -0.3
ACCN Adirondack Com 37.53 44 IAMs_20 IAMs_20 21 58 42.3
comp=Z,8µm,20.0s
FLOC Florencia 37.73 115 P **P** 21 42 34.7 +0.8
FLOC IAmb IAmb 21 42 46.5
comp=Z,79nm,1.4s
FLOC IAMs_20 IAMs_20 21 54 26.5
comp=Z,5µm,19.0s
RUSC La Rusia 37.91 107 P **P** 21 42 36.0 0.0
RUSC IAMs_20 IAMs_20 21 58 33.9
comp=Z,10µm,22.0s
K62A Royalston 38.17 46 IAMs_20 IAMs_20 21 58 55.4
comp=Z,10µm,20.0s
FRNY Flat Rock 38.24 42 IAMs_20 IAMs_20 21 59 42.0
comp=Z,7µm,18.0s
J61A Chester 38.24 45 IAMs_20 IAMs_20 21 59 07.2
comp=Z,8µm,18.0s
MNTQ Montreal, Queb 38.53 41 P **P** 21 42 40.4 +0.1
VT1 Waterbury 38.54 43 IAMs_20 IAMs_20 21 58 40.9
comp=Z,9µm,19.0s
HNH Hanover 38.57 44 IAMs_20 IAMs_20 21 59 08.9
comp=Z,8µm,18.0s
WES Weston 38.68 47 IAMs_20 IAMs_20 21 59 19.9
comp=Z,10µm,18.0s
BCX Boston College 38.77 47 IAMs_20 IAMs_20 21 59 22.2
comp=Z,7µm,18.0s
U35K Hyder 38.78 341 P **P** 21 42 43.1 +0.8
baz=148
U35K S **S** 21 48 45.2 +5.7
baz=148
V35K Ketchikan 38.79 340 P **P** 21 42 42.9 +0.6
baz=145
V35K S **S** 21 48 46.4 +6.7
baz=145
M65A Busby, Falmout 38.84 48 IAMs_20 IAMs_20 21 59 09.3
comp=Z,12µm,20.0s
M65A Busby, Falmout 38.84 48 P **P** 21 42 43.5 +0.5
baz=249
L64A Middleborough 38.84 48 IAMs_20 IAMs_20 21 59 00.3
comp=Z,12µm,21.0s
SDV Santo Domingo 38.95 101 P **P** 21 42 45.1 +0.7
SDV Santo Domingo 38.95 101 *e*P **P** 21 42 44.1 -0.4
LBNH Lisbon 39.03 44 IAMs_20 IAMs_20 21 58 16.1
comp=Z,6µm,20.0s
I62A Tamworth 39.27 45 IAMs_20 IAMs_20 21 59 31.3
comp=Z,6µm,19.0s
CRAG Craig 39.41 339 P **P** 21 42 47.9 +0.4
baz=143
CRAG S **S** 21 48 54.6 +5.7
baz=143
T35M Bob Quinn 39.76 342 IAMs_20 IAMs_20 21 58 29.1
comp=Z,9µm,20.0s
T35M Bob Quinn 39.76 342 P **P** 21 42 51.7 +1.3
baz=148
T35M S **S** 21 49 00.8 +6.5
baz=148
I63A Otisfield 39.84 45 IAMs_20 IAMs_20 21 58 46.4
comp=Z,6µm,18.0s
WRAK Wrangell Islan 39.92 340 P **P** 21 42 51.0 -0.7
WRAK Wrangell Islan 39.92 340 IAMs_20 IAMs_20 21 59 30.1
comp=Z,6µm,18.0s
WRAK Wrangell Islan 39.92 340 P **P** 21 42 53.3 +1.6
baz=145
WRAK S **S** 21 49 01.4 +4.8
baz=145
U33K Whale Pass 39.92 339 P **P** 21 42 53.0 +1.2
baz=144
U33K S **S** 21 49 04.5 +7.8
baz=144
UUPR Utuado, UPR, P 40.10 86 P **P** 21 42 53.2 -0.6
UUPR IAmb IAmb 21 43 02.1
comp=Z,92nm,0.8s
TOAD Toad River Com 40.17 347 P **P** 21 42 54.8 +0.9
baz=156,SNR=6.9
TOAD S **S** 21 49 02.8 +2.4
baz=156
EMPR Esperanza - Ma 40.24 85 IAMs_20 IAMs_20 21 59 27.5
comp=Z,7µm,21.0s
G62A West of Eustis 40.35 43 IAMs_20 IAMs_20 22 01 07.9
comp=Z,10µm,20.0s
WVL Waterville 40.65 44 IAMs_20 IAMs_20 21 59 30.8
comp=Z,5µm,19.0s
SJG San Juan 40.66 86 P **P** 21 42 58.2 -0.2
SJG San Juan 40.66 86 LR LR 22 00 22.5
comp=Z,2µm,21.1s,baz=296,slow=37
SJG San Juan 40.66 86 P **P** 21 42 58.2 -0.2
SJG pmax pmax
comp=Z,233nm,1.3s
SJG MLR MLR
comp=Z,2µm,21.0s
PDPR Patillas Dam, 40.80 86 P **P** 21 42 58.7 -0.8
PDPR IAmb IAmb 21 43 06.3
comp=Z,188nm,1.4s
S34M Telegraph Cree 40.80 342 P **P** 21 43 00.3 +1.3
baz=148
S34M S **S** 21 49 18.3 +8.5
baz=148
ATAH Atahualpa 40.81 129 P **P** 21 43 03.4 +3.3
comp=Z,22nm,0.9s,baz=317,slow=7.2,SNR=21
ATAH LR LR 21 56 16.4
comp=Z,15µm,21.5s,baz=303,slow=31
comp=Z,22nm,0.9s
LIRD Liard River Hi 40.86 347 P **P** 21 43 00.8 +1.2
baz=155
LIRD S **S** 21 49 14.6 +3.9
baz=155
DLBC Dease Lake 40.94 343 LR LR 22 00 58.9
comp=Z,14µm,18.2s,baz=142,slow=38
DLBC Dease Lake 40.94 343 P **P** 21 43 02.0 +1.7
baz=149
DLBC S **S** 21 49 19.7 +7.7
baz=149
KOTAN Kotaneelee Air 41.12 349 P **P** 21 43 02.4 +0.7
baz=159,SNR=8.6
KOTAN S **S** 21 49 17.9 +3.3
baz=159
PKME Peaks-Kenny Pk 41.17 44 IAMs_20 IAMs_20 22 01 44.6
comp=Z,9µm,19.0s
BAUV El Baul 41.32 100 P **P** 21 43 03.5 -0.4
SIT Sitka 41.42 339 P **P** 21 43 04.6 +0.5
baz=141
SIT S S 21 49 28.0 +9.1
baz=141
S32K Killisnoo 41.49 340 P **P** 21 43 05.9 +1.2
baz=143
S32K S **S** 21 49 28.6 +8.6
baz=143
E62A Clayton Lake 41.59 42 IAMs_20 IAMs_20 21 59 11.5
comp=Z,7µm,20.0s
Q32M Nakina River 42.01 342 IAMs_20 IAMs_20 22 02 17.7
comp=Z,8µm,18.0s
Q32M Nakina River 42.01 342 P **P** 21 43 09.8 +0.6
baz=147
Q32M S **S** 21 49 35.6 +7.6
baz=147
R33M Jennings River 42.02 344 P **P** 21 43 10.1 +0.9
baz=149,SNR=10
R33M S **S** 21 49 36.2 +8.1
baz=149
TAOE Nuku Hiva Isla 42.03 229 IAMs_20 IAMs_20 21 55 12.6
comp=Z,8µm,19.0s
TAOE Nuku Hiva Isla 42.03 229 *e*P P 21 43 00.5 -9.3
comp=Z,122nm,27.4s
TAOE *e*S **S** 21 49 25.5 -3.7
comp=Z,1µm,26.0s
TAOE *e*SS **SS** 21 52 40.6 +4.0
comp=Z,24µm,27.7s
TAOE *e*LR LR 21 54 42.7
comp=Z,12µm,25.9s
D62A Allapoint, All 42.08 41 IAMs_20 IAMs_20 21 59 27.5
comp=Z,9µm,19.0s
WTLY Watson Lake, Y 42.10 346 P **P** 21 43 11.3 +1.5
baz=152
WTLY S **S** 21 49 34.1 +5.0
baz=152
R32K Eaglecrest 42.12 340 P **P** 21 43 11.5 +1.6
baz=143
EMMW East Machias 42.16 45 IAMs_20 IAMs_20 22 02 51.8
comp=Z,9µm,18.0s
G65A Princeton 42.27 44 IAMs_20 IAMs_20 22 02 31.7
comp=Z,8µm,18.0s
YKA Yellowknife Ar 42.28 356 P **P** 21 43 09.2 -1.9
comp=Z,2.9nm,1.0s,baz=173,slow=7.2,SNR=15
YKA PcP **PcP** 21 45 04.5 -0.3
comp=Z,1.3nm,0.9s,baz=159,slow=2.5,SNR=2.3
YKA LR LR 22 01 00.7
comp=Z,17µm,19.8s,baz=170,slow=37
comp=Z,2.9nm,1.0s
S31K Pelican 42.43 339 IAMs_20 IAMs_20 22 01 10.4
comp=Z,6µm,18.0s
S31K Pelican 42.43 339 P **P** 21 43 12.5 +0.2
baz=141
S31K S S 21 49 42.8 +8.9
baz=141
BESE Bessie Mountai 42.47 340 IAMs_20 IAMs_20 21 59 31.5
comp=Z,5µm,20.0s
P32M Atlin 42.95 342 P **P** 21 43 17.2 +0.5
baz=145
P32M S **S** 21 49 48.4 +6.8
baz=145
P33M Teslin, Yukon 43.21 343 IAMs_20 IAMs_20 22 02 31.5
comp=Z,9µm,20.0s
P33M Teslin, Yukon 43.21 343 P **P** 21 43 19.3 +0.5
baz=147
P33M S **S** 21 49 51.4 +5.9
baz=147
TGTN Hyland Airport 43.24 347 P **P** 21 43 19.5 +0.5
baz=154
TGTN S **S** 21 49 51.3 +5.3
baz=154
SKAG Skagway 43.32 341 P **P** 21 43 20.7 +1.1
baz=143
SKAG S **S** 21 49 54.7 +7.7
baz=143
PLBC Pleasant Camp 43.64 340 P **P** 21 43 24.0 +1.8
baz=142
PLBC S **S** 21 49 59.6 +8.0
baz=142
WRGLY Wrigley 43.94 351 P **P** 21 43 25.2 +0.7
baz=161
WRGLY S **S** 21 49 58.1 +2.3
baz=161
BATG Bathurst New B 44.02 42 P **P** 21 43 24.7 -0.8
BATG IAmb IAmb 21 43 32.2
comp=Z,109nm,1.7s
N32M Quiet Lake 44.07 344 P **P** 21 43 26.6 +0.9
baz=147
N32M S **S** 21 50 03.0 +5.0
baz=147
PCRV Puerto La Cruz 44.07 96 LR LR 22 04 56.4
comp=Z,4µm,18.0s,slow=40
WHY Whitehorse 44.16 342 P **P** 21 43 27.1 +0.6
baz=144
WHY S **S** 21 50 04.2 +4.8
baz=144
P29M Windy Craggy 44.22 340 IAMs_20 IAMs_20 22 03 22.7
comp=Z,5µm,20.0s
P29M Windy Craggy 44.22 340 P **P** 21 43 27.6 +0.7
baz=140
P29M S **S** 21 50 05.1 +5.0
baz=140
P30M Million Dollar 44.35 341 P **P** 21 43 29.1 +1.2
baz=141
P30M S **S** 21 50 10.9 +8.7
baz=141
PNL Peninsula 44.80 339 P **P** 21 43 32.4 +0.8
baz=138
PNL S **S** 21 50 16.8 +8.2
baz=138
MMPY Sheldon Lake, 44.88 346 P **P** 21 43 30.3 -1.8
MMPY IAmb IAmb 21 43 45.7
comp=Z,99nm,2.0s
MMPY Sheldon Lake, 44.88 346 P **P** 21 43 32.8 +0.6
baz=150
MMPY S **S** 21 50 16.3 +6.6
baz=150
O29M Mount Kennedy 45.01 340 IAMs_20 IAMs_20 22 01 33.5
comp=Z,5µm,19.0s
O29M Mount Kennedy 45.01 340 P **P** 21 43 33.9 +0.6
baz=139
O29M S **S** 21 50 19.8 +8.0
baz=139
HYT Haines Junctio 45.07 341 P **P** 21 43 34.6 +0.8
baz=141
HYT S **S** 21 50 20.3 +7.6
baz=141
N31M Braeburn, Yuko 45.09 342 P **P** 21 43 32.5 -1.3
N31M IAMs_20 IAMs_20 22 01 44.1
comp=Z,7µm,18.0s
N31M Braeburn, Yuko 45.09 342 P **P** 21 43 33.7 -0.1
baz=144,SNR=8.2
N31M S **S** 21 50 20.0 +7.2
baz=144
BCPM Bancas Point 45.09 339 IAMs_20 IAMs_20 22 02 41.8
comp=Z,5µm,19.0s
GDHS Morne Mazeau, 45.13 87 P **P** 21 43 33.9 -0.8
GDHS IAMs_20 IAMs_20 22 06 05.1
comp=Z,5µm,19.0s
NNA Nana 45.25 132 P **P** 21 43 35.8 +0.1
NNA IAmb IAmb 21 43 40.4
comp=Z,36nm,0.9s
NNA Nana 45.25 132 P **P** 21 43 36.6 +0.9
comp=Z,29nm,0.8s,baz=312,slow=10,SNR=8.4
NNA LR LR 21 58 33.8
comp=Z,11µm,20.8s,baz=322,slow=31
comp=Z,29nm,0.8s
NNA Nana 45.25 132 *i* P **P** 21 43 37.4 +1.7
NNA pmax pmax
comp=Z,45nm,0.8s
M31M Drury Creek, Y 45.30 344 P **P** 21 43 35.7 +0.2
baz=146
M31M S **S** 21 50 21.4 +5.7
baz=146
CBE Ff, Capester 45.32 87 P **P** 21 43 36.5 +0.2
ABD La Joyeuse, An 45.35 87 IAMs_20 IAMs_20 22 06 10.9
comp=Z,5µm,18.0s
PINM Pinnacle 45.41 339 P **P** 21 43 36.3 -0.1
baz=137
PINM S **S** 21 50 22.1 +4.6
baz=137
PCA Pinnacle 45.41 339 IAMs_20 IAMs_20 22 02 53.1
comp=Z,4µm,20.0s
YUK6 Outpost Mounta 45.43 341 P **P** 21 43 37.9 +1.1
baz=140
YUK6 S **S** 21 50 26.9 +8.8
baz=140
KIP Kipapa 45.44 280 IAMs_20 IAMs_20 21 56 35.2
comp=Z,5µm,20.0s
N30M Aishikik Lake 45.45 342 IAMs_20 IAMs_20 22 03 17.5
comp=Z,8µm,18.0s
N30M Aishikik Lake 45.45 342 P **P** 21 43 37.5 +0.9
baz=142,SNR=11
N30M S S 21 50 27.0 +9.1
baz=142
CZSB Cruzeiro do Su 45.48 124 P **P** 21 43 38.4 +0.9
CZSB IAMs_20 IAMs_20 22 00 54.6
comp=Z,5µm,19.0s
CZSB Cruzeiro do Su 45.48 124 *e*P **P** 21 43 38.1 +0.6
TBTG Tabatinga, AM 45.66 118 P **P** 21 43 39.3 +0.4
TBTG IAMs_20 IAMs_20 22 01 57.9
comp=Z,4µm,18.0s
TBTG Tabatinga, AM 45.66 118 *e*P **P** 21 43 38.6 -0.3
GDSD La Desirade Is 45.78 87 IAMs_20 IAMs_20 22 06 24.3
comp=Z,5µm,18.0s
YUK4 Talbot Arm 45.83 341 P **P** 21 43 41.1 +1.2
baz=140
YUK4 S **S** 21 50 32.7 +8.9
baz=140
O28M Mount Upton 45.89 339 IAMs_20 IAMs_20 22 03 30.8
comp=Z,4µm,21.0s
O28M Mount Upton 45.89 339 P **P** 21 43 41.7 +1.2
baz=138,SNR=7.6

O28M S **S** **21 50 33.3 +8.5**
baz=138
SVN Savane Anatole 46.02 89 IAMs_20 IAMs_20 22 02 06.9
comp=Z,5µm,20.0s
MESA MESA 46.06 338 IAMs_20 IAMs_20 22 05 23.2
comp=Z,6µm,19.0s
MESA MESA 46.06 338 P **P** **21 43 43.0 +1.3**
baz=135
MESA S **S** **21 50 32.8 +5.7**
baz=135
FDF Fort de France 46.06 89 IAMs_20 IAMs_20 22 02 18.1
comp=Z,5µm,20.0s
YAH Yahtse 46.12 338 IAMs_20 IAMs_20 22 04 05.8
comp=Z,5µm,18.0s
YUK8 Steele Glacier 46.13 340 P **P** **21 43 43.1 +0.8**
baz=139,SNR=8.5
YUK8 S **S** **21 50 37.1 +8.8**
baz=139
BIM Bigot 46.19 89 IAMs_20 IAMs_20 22 02 21.5
comp=Z,4µm,20.0s
LOGN Logan Glacier 46.20 339 P **P** **21 43 41.6 -1.1**
LOGN IAmb IAmb 21 44 21.9
comp=Z,48nm,1.4s
M30M Minto, Yukon 46.25 343 P **P** **21 43 41.8 -1.2**
M30M IAMs_20 IAMs_20 22 02 23.9
comp=Z,5µm,18.0s
M30M Minto, Yukon 46.25 343 P **P** **21 43 43.6 +0.6**
baz=143
M30M S **S** **21 50 34.8 +5.3**
baz=143
ILAM Ilet Lapin Mar 46.31 89 IAMs_20 IAMs_20 22 02 14.5
comp=Z,6µm,20.0s
SNH Sunshine Point 46.37 338 IAMs_20 IAMs_20 22 03 55.5
comp=Z,5µm,21.0s
GRNC Granite Creek 46.38 339 IAMs_20 IAMs_20 22 04 20.9
comp=Z,4µm,18.0s
CTG Chitna Glacier 46.41 339 P **P** **21 43 45.2 +0.8**
baz=136
CTG S **S** **21 50 40.2 +8.2**
baz=136
BGLC Bering Glacier 46.49 337 P **P** **21 43 46.3 +1.5**
baz=134
BGLC S **S** **21 50 40.4 +7.6**
baz=134
BARN Barnard Glacie 46.59 339 P **P** **21 43 44.8 -1.1**
M29M Somme Creek 46.62 342 IAMs_20 IAMs_20 22 03 54.7
comp=Z,8µm,19.0s
M29M Somme Creek 46.62 342 P **P** **21 43 47.3 +1.3**
baz=141,SNR=24
M29M S **S** **21 50 42.8 +7.8**
baz=141
SUCK Suckling Hills 46.64 337 IAMs_20 IAMs_20 22 03 55.9
comp=Z,5µm,19.0s
YUK3 Moose Creek 46.72 340 P **P** **21 43 47.3 +0.4**
baz=138
YUK3 S **S** **21 50 42.7 +6.0**
baz=138
TGL Tana Glacier 46.77 338 IAMs_20 IAMs_20 22 01 59.1
comp=Z,4µm,18.0s
KAIM Kayak Island 46.78 337 P **P** **21 43 48.0 +0.9**
baz=132
KAIM S **S** **21 50 43.5 +6.5**
baz=132
MAYO Mayo, Yukon 46.84 344 S **S** **21 50 44.0 +6.2**
baz=145
CRQE Cirque 46.86 338 P **P** **21 43 48.2 +0.2**
baz=134
CRQM Cirque 46.88 338 P **P** **21 43 47.2 -1.0**
CRQM IAmb IAmb 21 44 07.2
comp=Z,35nm,1.3s
SCHQ Schefferville 46.94 32 P **P** **21 43 47.0 -1.4**
comp=Z,16nm,0.9s,baz=243,slow=6.9,SNR=11
SCHQ LR LR 22 03 28.6
comp=Z,7µm,21.9s,baz=242,slow=36
comp=Z,16nm,0.9s
HMT Hamilton 47.00 337 IAMs_20 IAMs_20 22 04 06.0
comp=Z,4µm,18.0s
L29M L29M 47.05 343 IAMs_20 IAMs_20 22 02 57.0
comp=Z,4µm,18.0s
L29M L29M 47.05 343 P **P** **21 43 49.7 +0.4**
baz=142,SNR=28
L29M S **S** **21 50 48.0 +7.1**
baz=142
RAGM Ragged Mountai 47.18 337 IAMs_20 IAMs_20 22 04 19.9
comp=Z,4µm,20.0s
RPN Rapa Nui 47.19 180 IAMs_20 IAMs_20 21 59 04.0
comp=Z,4µm,20.0s
RPN Rapa Nui 47.19 180 LR LR 21 59 00.5
comp=Z,4µm,18.3s,baz=3.0,slow=30
Q23K Middleton Isla 47.19 335 S **S** **21 50 50.9 +8.1**
baz=130
VA02 Isla de Pascua 47.22 180 IAMs_20 IAMs_20 21 58 41.9
comp=Z,5µm,20.0s
MCARA McCarthy VSAT 47.28 339 IAMs_20 IAMs_20 22 05 46.7
comp=Z,4µm,19.0s
MCARA McCarthy VSAT 47.28 339 P **P** **21 43 51.7 +0.6**
baz=135
MCARA S **S** **21 50 52.2 +7.9**
baz=135
VRDI Verde Repeater 47.32 338 P **P** **21 43 50.8 -0.8**
BVCY Beaver Creek 47.33 341 P **P** **21 43 52.6 +1.2**
baz=138,SNR=7.7
BVCY S **S** **21 50 51.1 +6.2**
baz=138
K29M Barlow Dome 47.47 343 IAMs_20 IAMs_20 22 05 26.0
comp=Z,7µm,19.0s
K29M Barlow Dome 47.47 343 P **P** **21 43 53.0 +0.4**
baz=143,SNR=20
K29M S **S** **21 50 51.7 +4.7**
baz=143
BMRM Bremner River 47.55 337 P **P** **21 43 54.1 +0.9**
baz=133
BMRM S **S** **21 50 55.6 +7.5**
baz=133
GLB Gilahina Butte 47.59 338 P **P** **21 43 53.2 -0.4**
GLB IAmb IAmb 21 44 09.6
comp=Z,33nm,1.2s
GLB IAMs_20 IAMs_20 22 05 54.9
comp=Z,4µm,19.0s
M27K Edge Creek, AK 47.60 340 IAMs_20 IAMs_20 22 04 00.3
comp=Z,5µm,18.0s
M27K Edge Creek, AK 47.60 340 P **P** **21 43 54.6 +0.9**
baz=137,SNR=12
M27K S **S** **21 50 56.5 +7.5**
baz=137
EYAK Cordova Ski Ar 47.69 337 IAMs_20 IAMs_20 22 07 09.3
comp=Z,4µm,18.0s
EYAK Cordova Ski Ar 47.69 337 P **P** **21 43 55.7 +1.6**
baz=131
EYAK S **S** **21 50 56.7 +6.8**
baz=131
J30M Hart River 47.75 345 P **P** **21 43 54.1 -0.7**
J30M Hart River 47.75 345 P **P** **21 43 55.2 +0.4**
baz=145,SNR=7.6
J30M S **S** **21 50 55.8 +4.8**
baz=145
HIN Hinchinbrook I 47.87 336 P **P** **21 43 55.2 -0.5**
HIN IAMs_20 IAMs_20 22 03 07.2
comp=Z,5µm,18.0s
BBGH Gun Hill 47.96 90 IAMs_20 IAMs_20 22 02 41.4
comp=Z,6µm,22.0s
P23K Montague Islan 47.97 335 IAMs_20 IAMs_20 22 03 05.6
comp=Z,4µm,18.0s
P23K Montague Islan 47.97 335 P **P** **21 43 57.3 +0.9**
baz=129
P23K S **S** **21 51 01.0 +7.1**
baz=129
N25K Chitina, Valde 47.98 338 IAMs_20 IAMs_20 22 06 08.1
comp=Z,4µm,18.0s
N25K Chitina, Valde 47.98 338 P **P** **21 43 57.2 +0.6**
baz=133
N25K S **S** **21 51 00.4 +6.1**
baz=133
M26K Nabesna, AK 48.00 340 IAMs_20 IAMs_20 22 06 21.6
comp=Z,5µm,18.0s
M26K Nabesna, AK 48.00 340 P **P** **21 43 57.8 +1.1**
baz=135
M26K S **S** **21 51 00.0 +5.6**
baz=135
FID Port Fidalgo 48.09 336 P **P** **21 43 56.5 -0.8**
FID IAmb IAmb 21 44 14.2
comp=Z,57nm,1.2s
L27K Beaver Creek, 48.11 341 IAMs_20 IAMs_20 22 06 29.8
comp=Z,5µm,18.0s
L27K Beaver Creek, 48.11 341 P **P** **21 43 58.1 +0.7**
baz=137,SNR=11
L27K S **S** **21 51 02.3 +6.3**
baz=137
J29N Klondike Camp 48.14 344 P **P** **21 43 58.8 +1.1**
baz=142
J29N S **S** **21 51 00.6 +4.3**
baz=142
DAWY Dawson 48.15 343 P **P** **21 43 56.9 -0.9**
DAWY Dawson 48.15 343 P **P** **21 43 58.7 +0.9**
baz=141
DAWY S **S** **21 51 00.7 +4.2**
baz=141
I30M Mount Dempster 48.29 345 P **P** **21 43 60.0 +1.0**
baz=145
I30M S **S** **21 51 02.7 +4.1**
baz=145
H31M Peel River 48.31 346 IAMs_20 IAMs_20 22 06 06.6
comp=Z,6µm,19.0s
H31M Peel River 48.31 346 P **P** **21 43 59.4 +0.4**
baz=148
H31M S **S** **21 51 02.6 +3.9**
baz=148
KLU Klutina 48.38 337 P **P** **21 43 59.0 -0.6**
KLU IAmb IAmb 21 44 15.7
comp=Z,42nm,1.2s
KLU Klutina 48.38 337 P **P** **21 44 01.0 +1.4**
baz=131
KLU S **S** **21 51 04.1 +4.3**
baz=131
GLI Glacier Island 48.41 336 P **P** **21 44 00.5 +0.7**
baz=130
GLI S **S** **21 51 05.9 +5.8**
baz=130
L26K Log Cabin Wild 48.56 340 P **P** **21 44 01.3 +0.3**
baz=135
L26K S **S** **21 51 08.9 +6.6**
baz=135
HARP HAARP 48.72 339 P **P** **21 44 02.7 +0.6**
baz=133
HARP S **S** **21 51 10.9 +6.4**
baz=133
SEW Seward 48.85 335 P **P** **21 44 03.0 -0.1**
baz=126
SEW S **S** **21 51 11.9 +5.6**
baz=126
PWL Port Wells 48.87 336 P **P** **21 44 02.9 -0.4**
PWL Port Wells 48.87 336 P **P** **21 44 03.3 0.0**
baz=128
PWL S **S** **21 51 11.8 +5.1**
baz=128
M24K Tolsona, Glenn 48.87 338 P **P** **21 44 04.3 +0.8**
baz=132
M24K S **S** **21 51 11.3 +4.5**
baz=132
I29M Ogilvie Camp, 48.88 344 P **P** **21 44 04.7 +1.3**
baz=143
I29M S **S** **21 51 11.2 +4.4**
baz=143
K27K Chicken 48.90 342 P **P** **21 44 04.5 +1.1**
baz=138
K27K S **S** **21 51 14.9 +8.0**
baz=138
KDAK Kodiak Island 48.90 331 IAMs_20 IAMs_20 22 00 40.1
comp=Z,4µm,20.0s
KDAK Kodiak Island 48.90 331 LR LR 22 01 01.7
comp=Z,4µm,20.3s,baz=118,slow=32
KDAK Kodiak Island 48.90 331 / P **P** **21 44 05.0 +1.4**
KDAK pmax pmax
comp=Z,18nm,1.1s
KDAK Kodiak Island 48.90 331 P **P** **21 44 04.2 +0.6**
baz=121
KDAK S **S** **21 51 13.1 +6.0**
baz=121
OHAK Old Harbor 48.94 330 P **P** **21 44 04.5 +0.6**
baz=120
OHAK S **S** **21 51 13.9 +6.2**
baz=120
SII Sitkinak Islan 49.04 329 P **P** **21 44 05.7 +0.9**
baz=119
SII S **S** **21 51 15.2 +6.0**
baz=119
SCM Sheep Creek Mo 49.11 337 P **P** **21 44 06.7 +1.5**
baz=130
SCM S **S** **21 51 14.7 +4.5**
baz=130
O22K Cooper Landing 49.18 335 P **P** **21 44 07.2 +1.5**
baz=126
O22K S **S** **21 51 15.8 +4.8**
baz=126
PAX Paxson 49.21 339 IAMs_20 IAMs_20 22 06 31.7
comp=Z,4µm,18.0s
PAX Paxson 49.21 339 P **P** **21 44 07.1 +1.0**
baz=133
PAX S **S** **21 51 17.1 +5.4**
baz=133
M23K Glacier View 49.23 337 S **S** **21 51 16.9 +5.2**
baz=130
DOT Dot Lake 49.23 340 IAMs_20 IAMs_20 22 07 16.2
comp=Z,5µm,18.0s
G31M Satah River 49.25 347 IAMs_20 IAMs_20 22 06 39.4
comp=Z,6µm,19.0s
G31M Satah River 49.25 347 P **P** **21 44 06.6 +0.5**
baz=148
G31M S **S** **21 51 15.3 +3.5**
baz=148
Q20K Shuyak Island 49.25 332 P **P** **21 44 05.8 -0.5**
baz=122
Q20K S **S** **21 51 16.0 +4.0**
baz=122
KNK Knik Glacier 49.26 336 P **P** **21 44 05.8 -0.6**
KNK IAmb IAmb 21 44 20.4
comp=Z,32nm,1.0s
KNK Knik Glacier 49.26 336 P **P** **21 44 07.1 +0.8**
baz=128
KNK S **S** **21 51 16.4 +4.2**
baz=128
EPYK Eagle Plains 49.32 346 P **P** **21 44 07.7 +1.0**
baz=145
EPYK S **S** **21 51 17.1 +4.2**
baz=145
I28M Miner Creek 49.37 344 IAMs_20 IAMs_20 22 05 59.5
comp=Z,8µm,20.0s
I28M Miner Creek 49.37 344 P **P** **21 44 08.3 +1.1**
baz=141
I28M S **S** **21 51 14.9 +1.1**
baz=141
SLKM Skilak Lake 49.40 335 P **P** **21 44 06.6 -0.8**
SLKM IAmb IAmb 21 44 33.5
comp=Z,28nm,1.0s
CHIR Chirikof Islan 49.41 327 IAMs_20 IAMs_20 22 03 15.6
comp=Z,4µm,18.0s
CHIR Chirikof Islan 49.41 327 P **P** **21 44 08.8 +1.3**
baz=116
CHIR S **S** **21 51 20.4 +6.0**
baz=116
SCRK Sand Creek 49.44 341 IAMs_20 IAMs_20 22 04 53.1
comp=Z,7µm,18.0s
SCRK Sand Creek 49.44 341 P **P** **21 44 08.4 +0.6**
baz=135
SCRK S **S** **21 51 20.9 +6.0**
baz=135
HOM Homer 49.50 333 P **P** **21 44 09.4 +1.3**
baz=124
HOM S **S** **21 51 19.5 +4.0**
baz=124
RIDG Independent Ri 49.54 340 IAMs_20 IAMs_20 22 04 46.5
comp=Z,4µm,19.0s
RIDG Independent Ri 49.54 340 P **P** **21 44 09.9 +1.4**
baz=134,SNR=18
RIDG S **S** **21 51 21.1 +5.0**
baz=134
RC01 Rabbit Creek A 49.55 335 P **P** **21 44 09.0 +0.4**
baz=127
RC01 S **S** **21 51 20.7 +4.5**
baz=127
H29M Whitestone 49.59 345 P **P** **21 44 09.4 +0.6**
baz=143
F31M Tsiigehtchic 49.59 348 IAMs_20 IAMs_20 22 06 04.4
comp=Z,5µm,20.0s
F31M Tsiigehtchic 49.59 348 P **P** **21 44 09.5 +0.9**
baz=149
F31M S **S** **21 51 21.0 +4.5**
baz=149
PMR Palmer 49.62 336 P **P** **21 44 09.5 +0.5**
baz=128
PMR S **S** **21 51 21.0 +3.8**
baz=128
GHO Glory Hole Cre 49.66 337 IAMs_20 IAMs_20 22 06 36.3
comp=Z,3µm,18.0s
R18K Karluk 49.66 330 P **P** **21 44 10.0 +0.6**
baz=119
R18K S **S** **21 51 22.8 +5.0**
baz=119
J26L Joseph Creek 49.69 341 IAMs_20 IAMs_20 22 05 28.6
comp=Z,7µm,18.0s
J26L Joseph Creek 49.69 341 P **P** **21 44 10.9 +1.3**
baz=136,SNR=24
J26L S **S** **21 51 25.6 +7.4**
baz=136
G30M tAoh Zraii Nji 49.71 346 IAMs_20 IAMs_20 22 06 54.6
comp=Z,6µm,18.0s
G30M tAoh Zraii Nji 49.71 346 P **P** **21 44 10.9 +1.2**
baz=146
G30M S **S** **21 51 19.6 +1.1**
baz=146
TEFE Tefe 49.77 113 *e*P **P** **21 44 10.2 -0.6**
C36M Paulatuk 49.84 353 IAMs_20 IAMs_20 22 06 18.5
comp=Z,7µm,19.0s
C36M Paulatuk 49.84 353 P **P** **21 44 11.3 +0.7**
baz=162
C36M S **S** **21 51 22.1 +2.2**
baz=162
K24K Donnelly Dome 49.89 340 IAMs_20 IAMs_20 22 03 59.5
comp=Z,4µm,18.0s
K24K Donnelly Dome 49.89 340 P **P** **21 44 12.1 +1.0**
baz=133
K24K S **S** **21 51 25.8 +4.9**
baz=133
CAPN Captain Cook N 49.92 335 S **S** **21 51 27.7 +6.3**
baz=125
I27K Kandik River 49.94 343 P **P** **21 44 12.2 +0.7**
baz=139
I27K S **S** **21 51 26.5 +4.8**
baz=139
RKT Rikitea 49.97 211 *e*S **S** **21 51 23.2 +0.4**
RKT *e*SS **SS** **21 54 53.0 -3.1**
comp=Z,9µm,28.0s
RKT *e*LQ LQ 21 56 12.0
comp=Z,6µm,39.0s
RKT *e*LR LR 21 58 25.8
comp=Z,9µm,28.2s
comp=Z,51µm,27.8s
Q19K Cape Douglas, 49.97 332 P **P** **21 44 11.9 +0.1**
baz=121
Q19K S **S** **21 51 27.2 +5.0**
baz=121
G29M Pine Creek 50.06 346 P **P** **21 44 13.1 +0.7**
baz=144
G29M S **S** **21 51 26.7 +3.4**
baz=144
M22K Willow 50.10 336 P **P** **21 44 13.8 +1.2**
baz=127
M22K S **S** **21 51 28.2 +4.4**
baz=127
O20K Slope Mountain 50.14 333 P **P** **21 44 13.1 0.0**
baz=123
O20K S **S** **21 51 29.1 +4.4**
baz=123
F30M Barrier River 50.15 347 IAMs_20 IAMs_20 22 05 23.1
comp=Z,5µm,20.0s
F30M Barrier River 50.15 347 P **P** **21 44 13.5 +0.5**
baz=147
F30M S **S** **21 51 27.3 +2.9**
baz=147
I26K Coal Creek Min 50.15 342 IAMs_20 IAMs_20 22 07 01.4
comp=Z,4µm,19.0s
I26K Coal Creek Min 50.15 342 P **P** **21 44 13.5 +0.5**
baz=137
I26K S **S** **21 51 29.2 +4.6**
baz=137
SUA Susitna One 50.17 336 P **P** **21 44 13.7 +0.4**
baz=126,SNR=11
SUA S **S** **21 51 29.2 +4.2**
baz=126
P19K Oil Pt 50.17 333 P **P** **21 44 13.7 +0.3**
baz=122
P19K S **S** **21 51 28.8 +3.8**
baz=122
INK Inuvik 50.30 349 P **P** **21 44 13.3 -0.7**
INK IAmb IAmb 21 44 26.2
comp=Z,34nm,1.1s
INK Inuvik 50.30 349 LR LR 22 07 46.0
comp=Z,6µm,21.4s,baz=162,slow=39
INK Inuvik 50.30 349 P **P** **21 44 13.3 -0.7**
INK pmax pmax
comp=Z,34nm,1.1s
INK Inuvik 50.30 349 P **P** **21 44 13.7 -0.3**
baz=150,SNR=9.2
INK S **S** **21 51 28.4 +2.1**
baz=150
J25K Salcha River, 50.32 341 IAMs_20 IAMs_20 22 05 29.3
comp=Z,6µm,19.0s
J25K Salcha River, 50.32 341 P **P** **21 44 14.2 -0.2**
baz=134,SNR=12
J25K S **S** **21 51 29.9 +2.9**
baz=134
H27K Steamboat Moun 50.40 344 IAMs_20 IAMs_20 22 07 00.5
comp=Z,8µm,19.0s
H27K Steamboat Moun 50.40 344 P **P** **21 44 15.5 +0.6**
baz=139
H27K S **S** **21 51 30.2 +2.2**
baz=139
XMAS Kiritimati 50.42 255 IAMs_20 IAMs_20 21 58 25.7
comp=Z,4µm,20.0s
Q18K Katmai Hardscr 50.45 331 P **P** **21 44 15.7 +0.2**
baz=119
Q18K S **S** **21 51 32.9 +3.9**
baz=119
CUT Chulitna 50.55 337 IAMs_20 IAMs_20 22 08 15.8
comp=Z,3µm,18.0s
CUT Chulitna 50.55 337 P **P** **21 44 16.7 +0.7**
baz=127
CUT S **S** **21 51 35.0 +4.9**
baz=127
N20K Mount Spurr 50.59 335 P **P** **21 44 16.6 +0.1**
baz=124
N20K S **S** **21 51 33.5 +2.6**
baz=124
SPCR Spurr Chakacha 50.59 335 P **P** **21 44 15.9 -0.6**
baz=124
SPCR S **S** **21 51 33.2 +2.3**
baz=124
R17L Mt. Peulik Vol 50.60 329 P **P** **21 44 17.1 +0.5**
baz=117
R17L S **S** **21 51 35.3 +4.4**
baz=117
RND Reindeer 50.66 338 IAMs_20 IAMs_20 22 07 53.9
comp=Z,3µm,19.0s
HDA Harding Lake 50.68 340 IAMs_20 IAMs_20 22 04 24.4
comp=Z,4µm,19.0s
HDA Harding Lake 50.68 340 P **P** **21 44 17.6 +0.5**
baz=132
HDA S **S** **21 51 34.9 +3.1**
baz=132
BOAV Boa Vista 50.73 104 P **P** **21 44 17.5 -0.6**
BOAV IAmb IAmb 21 44 28.3
comp=Z,58nm,1.4s
BOAV IAMs_20 IAMs_20 22 07 34.6
comp=Z,7µm,20.0s
BOAV Boa Vista 50.73 104 *e*P **P** **21 44 18.8 +0.7**
SKT Skwentna 50.77 336 P **P** **21 44 17.4 -0.4**
SKT IAmb IAmb 21 44 33.1
comp=Z,101nm,1.7s
SKT Skwentna 50.77 336 P **P** **21 44 18.3 +0.5**
baz=125,SNR=13
SKT S **S** **21 51 37.7 +4.4**
baz=125
G27K Doyon Strip 50.87 344 P **P** **21 44 17.8 -0.7**
baz=140
G27K S **S** **21 51 38.7 +4.2**
baz=140
MCK McKinley 50.89 339 P **P** **21 44 17.4 -1.3**
MCK McKinley 50.89 339 P **P** **21 44 17.4 -1.3**
MCK pmax pmax
comp=Z,29nm,1.1s
MCK MLR MLR
comp=Z,3µm,19.0s
MCK McKinley 50.89 339 P **P** **21 44 18.1 -0.6**
baz=129
MCK S **S** **21 51 38.1 +3.2**
baz=129
ILAR Eielson Array 50.90 340 P **P** **21 44 18.1 -0.6**
comp=Z,9.9nm,1.1s,baz=153,slow=5.4,SNR=31
ILAR LR LR 22 04 14.8
comp=Z,3µm,19.4s,baz=127,slow=34
comp=Z,9.9nm,1.1s
P18K Big Mountain, 50.91 332 P **P** **21 44 18.4 -0.5**
baz=120
P18K S **S** **21 51 38.0 +2.7**

baz=120
O19K Port Alsworth 50.92 333 S **S** 21 51 38.6 +3.3
baz=121
PRP Porcupine Dome 51.00 341 P **P** 21 44 18.8 -0.8
PRP IAMs_20 IAMs_20 22 06 48.3
comp=Z,6µm,20.0s
PRP Porcupine Dome 51.00 341 P **P** 21 44 19.2 -0.4
baz=134
PRP S **S** 21 51 41.0 +4.4
baz=134
CHGN Chignik 51.03 327 P **P** 21 44 19.4 -0.4
baz=114
CHGN S **S** 21 51 40.7 +3.8
baz=114
F28M Old Crow 51.06 345 P **P** 21 44 20.2 +0.3
baz=142
F28M S **S** 21 51 40.9 +3.8
baz=142
CHNA Chernabura Isl 51.08 325 P **P** 21 44 20.1 0.0
baz=112
CHNA S **S** 21 51 41.5 +4.0
baz=112
WRH Wood River Hil 51.09 340 IAMs_20 IAMs_20 22 08 26.3
comp=Z,6µm,19.0s
CCB Clear Creek Bu 51.11 340 IAMs_20 IAMs_20 22 04 37.2
comp=Z,4µm,18.0s
O18K Koktuh Hills 51.13 332 P **P** 21 44 20.7 +0.1
baz=120
O18K S **S** 21 51 41.7 +3.4
baz=120
R16K Pilot Point 51.15 329 P **P** 21 44 20.7 0.0
baz=116
R16K S **S** 21 51 42.6 +4.1
baz=116
TRF Thorofare Moun 51.19 338 IAMs_20 IAMs_20 22 08 21.9
comp=Z,4µm,19.0s
TRF Thorofare Moun 51.19 338 P **P** 21 44 20.8 -0.3
baz=128,SNR=18
TRF S **S** 21 51 41.1 +1.8
baz=128
Q16K King Salmon 51.22 330 P **P** 21 44 20.5 -0.6
baz=118
Q16K S **S** 21 51 42.9 +3.5
baz=118
E29M Blow River 51.24 347 P **P** 21 44 20.9 -0.3
baz=145
E29M S **S** 21 51 41.0 +1.5
baz=145
FRB Frobisher Bay 51.24 22 LR LR 22 05 34.2
comp=Z,13µm,19.9s,baz=229,slow=36
COLA College 51.28 340 *i* P **P** 21 44 23.0 +1.5
COLA pmax pmax
comp=Z,8.0nm,1.1s
COLA College 51.28 340 P **P** 21 44 22.0 +0.5
baz=131
COLA S **S** 21 51 43.4 +3.3
baz=131
POKR Poker Plat Res 51.31 340 IAMs_20 IAMs_20 22 05 50.1
comp=Z,3µm,18.0s
POKR Poker Plat Res 51.31 340 P **P** 21 44 21.1 -0.7
baz=132
POKR S **S** 21 51 43.8 +3.2
baz=132
N19K Bonanza Creek 51.31 334 P **P** 21 44 21.7 -0.3
baz=121,SNR=12
N19K S **S** 21 51 44.4 +3.4
baz=121
M20K Styx River 51.34 335 IAMs_20 IAMs_20 22 07 58.8
comp=Z,4µm,18.0s
M20K Styx River 51.34 335 P **P** 21 44 22.2 +0.1
baz=124,SNR=19
M20K S **S** 21 51 44.6 +3.3
baz=124
BWN Browne 51.35 339 P **P** 21 44 21.3 -0.8
BWN IAmb IAmb 21 44 36.8
comp=Z,55nm,0.9s
BWN IAMs_20 IAMs_20 22 05 24.8
comp=Z,3µm,19.0s
P17K Kvichak River 51.36 331 P **P** 21 44 21.9 -0.3
baz=118
P17K S **S** 21 51 44.5 +3.1
baz=118
KTH Kantishna Hill 51.48 338 IAMs_20 IAMs_20 22 05 37.5
comp=Z,4µm,19.0s
NEA2 Nenana 51.49 339 IAMs_20 IAMs_20 22 08 39.9
comp=Z,5µm,20.0s
NEA2 Nenana 51.49 339 P **P** 21 44 23.0 -0.1
baz=130,SNR=14
NEA2 S **S** 21 51 45.2 +2.1
baz=130
G26K Porcupine Rive 51.54 343 IAMs_20 IAMs_20 22 07 47.6
comp=Z,7µm,19.0s
G26K Porcupine Rive 51.54 343 P **P** 21 44 23.3 -0.2
baz=137,SNR=10
G26K S **S** 21 51 49.2 +5.6
baz=137
PPLA Purkeypile 51.55 337 IAMs_20 IAMs_20 22 05 17.4
comp=Z,4µm,18.0s
PPLA Purkeypile 51.55 337 P **P** 21 44 23.9 +0.1
baz=125
PPLA S **S** 21 51 47.2 +2.9
baz=125
H25L Birch Creek 51.61 342 P **P** 21 44 24.1 +0.2
baz=134
H25L S **S** 21 51 50.3 +5.6
baz=134
S14K Fog Glacier 51.61 327 P **P** 21 44 24.6 +0.3
baz=113
S14K S **S** 21 51 47.9 +2.7
baz=113
FYU Fort Yukon 51.66 343 IAMs_20 IAMs_20 22 08 07.7
comp=Z,5µm,18.0s
SDPT Sand Point 51.74 325 P **P** 21 44 25.2 +0.1
baz=111
SDPT S **S** 21 51 49.4 +2.6
baz=111
E28M Babbage River 51.77 346 P **P** 21 44 26.0 +0.8
baz=143
E28M S **S** 21 51 50.4 +3.5
baz=143
ILON Igloolik, Nuna 51.80 12 P **P** 21 44 23.9 -1.4
CAST Castle Rocks 51.82 337 P **P** 21 44 25.0 -0.7
CAST IAmb IAmb 21 44 40.0
comp=Z,71nm,1.8s
CAST Castle Rocks 51.82 337 P **P** 21 44 25.8 +0.1
baz=126,SNR=11
CAST S **S** 21 51 48.9 +1.2
baz=126
BPAW Bear Paw Mtn. 51.83 338 IAMs_20 IAMs_20 22 08 45.9
comp=Z,3µm,19.0s
BPAW Bear Paw Mtn. 51.83 338 P **P** 21 44 25.6 -0.1
baz=127
BPAW S **S** 21 51 50.6 +2.7
baz=127
N18K Kilae Creek 51.84 333 P **P** 21 44 26.5 +0.6
baz=120,SNR=12
N18K S **S** 21 51 51.7 +3.6
baz=120
M19K Big River Lodg 51.85 335 IAMs_20 IAMs_20 22 08 10.3
comp=Z,3µm,18.0s
M19K Big River Lodg 51.85 335 P **P** 21 44 26.5 +0.6
baz=122,SNR=6.8
M19K S **S** 21 51 52.3 +4.1
baz=122
E27K Coleen River 51.92 345 P **P** 21 44 26.9 +0.5
baz=140
E27K S **S** 21 51 50.5 +1.5
baz=140
H24K Noodor Dome 51.93 341 IAMs_20 IAMs_20 22 06 27.9
comp=Z,5µm,19.0s
H24K Noodor Dome 51.93 341 P **P** 21 44 26.9 +0.5
baz=132,SNR=12
H24K S **S** 21 51 51.8 +2.6
baz=132
O17K Koliganek Bris 51.93 332 P **P** 21 44 26.8 +0.4
baz=118
O17K S **S** 21 51 52.9 +3.7
baz=118
I23K Minto, Yukon-K 51.94 340 IAMs_20 IAMs_20 22 08 44.9
comp=Z,4µm,20.0s
I23K Minto, Yukon-K 51.94 340 P **P** 21 44 27.4 +0.9
baz=130,SNR=8.8
I23K S **S** 21 51 53.2 +4.0
baz=130
L20K Farewell, AK 51.96 336 P **P** 21 44 26.8 0.0
baz=123,SNR=12
L20K S **S** 21 51 52.6 +2.9
baz=123
P16K Nushagak River 52.00 330 P **P** 21 44 27.3 +0.4
baz=116
P16K S **S** 21 51 52.8 +2.7
baz=116
G25K Bearman Lake 52.04 342 P **P** 21 44 28.0 +0.9
baz=134
G25K S **S** 21 51 52.4 +1.9
baz=134
CHUM Lake Minchumin 52.17 337 P **P** 21 44 28.0 -0.2
baz=126
CHUM S **S** 21 51 53.9 +1.4
baz=126
F26K Sheenjek River 52.18 344 P **P** 21 44 28.2 -0.1
baz=137
F26K S **S** 21 51 56.1 +3.5
baz=137
L19K White Mountain 52.19 335 P **P** 21 44 29.2 +0.8
baz=122,SNR=15
L19K S **S** 21 51 55.6 +2.8
baz=122
D28M Stokes Point 52.19 347 P **P** 21 44 29.2 +1.0
baz=144
D28M S **S** 21 51 57.2 +4.7
baz=144
M18K Stony River 52.22 334 P **P** 21 44 28.7 +0.1
baz=120,SNR=9.9
M18K S **S** 21 51 55.8 +2.6
baz=120
O16K Kokwok River B 52.30 331 P **P** 21 44 30.9 +1.7
baz=117,SNR=5.3
O16K S **S** 21 51 58.7 +4.5
baz=117
MLY Manley 52.32 339 IAMs_20 IAMs_20 22 08 54.9
comp=Z,6µm,20.0s
MLY Manley 52.32 339 P **P** 21 44 30.5 +1.1
baz=128
MLY S **S** 21 51 57.4 +2.7
baz=128
N17K Nushagak Hills 52.33 332 P **P** 21 44 29.8 +0.4
baz=118,SNR=9.4
N17K S **S** 21 51 58.4 +3.7
baz=118
G24K Hadweenzic Riv 52.39 342 IAMs_20 IAMs_20 22 08 31.2
comp=Z,6µm,19.0s
G24K Hadweenzic Riv 52.39 342 P **P** 21 44 30.2 +0.3
baz=133
G24K S **S** 21 51 59.4 +4.0
baz=133
H23K Yukon River 52.44 340 IAMs_20 IAMs_20 22 08 09.0
comp=Z,5µm,18.0s
H23K Yukon River 52.44 340 P **P** 21 44 30.1 -0.1
baz=130
H23K S **S** 21 51 59.8 +3.6
baz=130
A36M Sachs Harbour 52.48 354 P **P** 21 44 30.0 -0.3
baz=161
A36M S **S** 21 51 59.1 +2.7
baz=161
F25K Christian Rive 52.50 343 P **P** 21 44 30.2 -0.5
F25K Christian Rive 52.50 343 P **P** 21 44 31.0 +0.3
baz=135
F25K S **S** 21 52 02.6 +5.6
baz=135
K20K Telida 52.52 336 P **P** 21 44 30.5 -0.4
K20K Telida 52.52 336 P **P** 21 44 31.5 +0.6
baz=124,SNR=10.0
K20K S **S** 21 52 00.1 +2.8
baz=124
D27M Malcolm River 52.60 346 P **P** 21 44 31.2 -0.1
baz=142
D27M S **S** 21 52 01.0 +2.7
baz=142
S12K Black Hills 52.71 325 P **P** 21 44 32.1 -0.3
baz=110
S12K S **S** 21 52 03.8 +3.8
baz=110
I21K Tanana 52.83 339 IAMs_20 IAMs_20 22 09 06.3
comp=Z,6µm,18.0s
I21K Tanana 52.83 339 P **P** 21 44 33.3 +0.3
baz=127
I21K S **S** 21 52 04.5 +3.1
baz=127
M17K Holitna River 52.85 333 P **P** 21 44 33.3 0.0
baz=119,SNR=13
M17K S **S** 21 52 04.6 +2.8
baz=119
O15K Ungalikthiuk R 52.91 330 P **P** 21 44 34.0 +0.3
baz=115
O15K S **S** 21 52 04.8 +2.1
baz=115
L18K Granite Mounta 52.94 334 P **P** 21 44 34.3 +0.4
baz=120,SNR=13
L18K S **S** 21 52 05.8 +2.8
baz=120
N16K Nishlik Lake 53.00 332 P **P** 21 44 34.5 +0.1
baz=117,SNR=10
N16K S **S** 21 52 08.0 +4.1
baz=117
J20K Nowinta River 53.01 337 P **P** 21 44 34.0 -0.4
baz=124,SNR=15
J20K S **S** 21 52 06.8 +3.0
baz=124
MACA Manacapuru-AM 53.04 111 P **P** 21 44 34.8 -0.5
MACA IAmb IAmb 21 44 43.8
comp=Z,46nm,0.9s
MACA Manacapuru-AM 53.04 111 *e*P **P** 21 44 35.5 +0.2
H22K Ishtalitna Cre 53.07 340 P **P** 21 44 35.4 +0.5
baz=128,SNR=8.1
H22K S **S** 21 52 07.0 +2.3
baz=128
F24K Squaw Lake 53.07 343 IAMs_20 IAMs_20 22 08 30.1
comp=Z,6µm,19.0s
F24K Squaw Lake 53.07 343 P **P** 21 44 34.9 0.0
baz=133
F24K S **S** 21 52 10.4 +5.7
baz=133
G23K Bananza Creek 53.16 341 IAMs_20 IAMs_20 22 08 48.4
comp=Z,5µm,19.0s
G23K Bananza Creek 53.16 341 P **P** 21 44 35.7 +0.1
baz=130
G23K S **S** 21 52 09.5 +3.5
baz=130
FALS False Pass 53.17 324 P **P** 21 44 36.3 +0.6
baz=108
FALS S **S** 21 52 08.8 +2.5
baz=108
M16K Timber Creek 53.33 332 P **P** 21 44 37.4 +0.6
baz=117,SNR=12
M16K S **S** 21 52 12.6 +4.2
baz=117
H21K Melozitna Rive 53.39 339 IAMs_20 IAMs_20 22 09 37.2
comp=Z,6µm,19.0s
H21K Melozitna Rive 53.39 339 P **P** 21 44 36.9 -0.4
baz=126,SNR=18
H21K S **S** 21 52 12.0 +2.9
baz=126
J19K Poorman 53.45 337 IAMs_20 IAMs_20 22 09 58.5
comp=Z,3µm,18.0s
J19K Poorman 53.45 337 P **P** 21 44 37.5 -0.1
baz=122
J19K S **S** 21 52 11.9 +2.0
baz=122
N15K Kwethluk River 53.45 331 P **P** 21 44 37.0 -0.8
baz=115
N15K S **S** 21 52 13.0 +2.9
baz=115
I20K Naaghedeneel 53.47 338 IAMs_20 IAMs_20 22 06 50.2
comp=Z,4µm,18.0s
I20K Naaghedeneel 53.47 338 P **P** 21 44 37.8 0.0
baz=124
I20K S **S** 21 52 12.8 +2.7
baz=124
C27K Jago River 53.51 346 IAMs_20 IAMs_20 22 09 10.0
comp=Z,8µm,21.0s
C27K Jago River 53.51 346 P **P** 21 44 37.4 -0.7
baz=139
C27K S **S** 21 52 14.2 +3.6
baz=139
COLD Coldfoot 53.55 341 IAMs_20 IAMs_20 22 09 18.7
comp=Z,5µm,18.0s
COLD Coldfoot 53.55 341 P **P** 21 44 37.8 -0.6
baz=130
COLD S **S** 21 52 14.4 +3.3
baz=130
L17K Donlin 53.56 334 P **P** 21 44 38.8 +0.2
baz=118,SNR=7.3
L17K S **S** 21 52 12.4 +1.0
baz=118
J18K Innoko River 53.59 336 IAMs_20 IAMs_20 22 06 13.1
comp=Z,3µm,19.0s
J18K Innoko River 53.59 336 P **P** 21 44 38.3 -0.4
baz=121,SNR=11
J18K S **S** 21 52 13.2 +1.3
baz=121
E24K Your Creek 53.62 343 P **P** 21 44 39.2 +0.3
baz=132
E24K S **S** 21 52 17.3 +5.1
baz=132
O14K Tigyukauivet M 53.62 330 P **P** 21 44 38.4 -0.6
baz=113
O14K S **S** 21 52 15.2 +2.9
baz=113
G22K Bettles 53.75 341 S **S** 21 52 16.4 +2.6
baz=128
K17K Iditarod 53.84 334 P **P** 21 44 40.2 -0.3
baz=119
K17K S **S** 21 52 16.3 +1.1
baz=119
L16K Owhat River 53.86 333 P **P** 21 44 40.6 -0.1
baz=117
L16K S **S** 21 52 18.8 +3.3
baz=117
E23K Chandalar 53.92 342 IAMs_20 IAMs_20 22 09 07.6
comp=Z,5µm,19.0s
E23K Chandalar 53.92 342 P **P** 21 44 41.2 0.0
baz=131,SNR=10
E23K S **S** 21 52 19.8 +3.4
baz=131
D25K Kavik River 53.93 345 P **P** 21 44 40.8 -0.4
baz=136
D25K S **S** 21 52 19.1 +2.7
baz=136
M15K Kasigluk River 53.95 332 P **P** 21 44 42.1 +0.8
baz=115
M15K S **S** 21 52 18.4 +1.7
baz=115
H20K Anotleneega Mo 54.00 338 P **P** 21 44 42.0 +0.3
baz=124
H20K S **S** 21 52 18.5 +1.1
baz=124
C26K Camden Bay 54.01 346 S **S** 21 52 21.2 +3.9
baz=137
N14K Kuskokwak Cree 54.08 330 P **P** 21 44 41.9 -0.4
baz=113
N14K S **S** 21 52 19.6 +1.1
baz=113
G21K Allakaket 54.13 340 IAMs_20 IAMs_20 22 06 28.8
comp=Z,3µm,19.0s
G21K Allakaket 54.13 340 P **P** 21 44 42.4 -0.3
baz=126
G21K S **S** 21 52 22.1 +3.0
baz=126
AP01 Chacalluta 54.17 133 IAMs_20 IAMs_20 22 02 56.2
comp=Z,7µm,21.0s
PB18 Visviri 54.24 131 P **P** 21 44 45.6 +0.9
PB18 IAMs_20 IAMs_20 22 05 14.1
comp=Z,6µm,21.0s
TOLK Toolik Lake Re 54.30 343 P **P** 21 44 43.1 -0.7
TOLK IAMs_20 IAMs_20 22 09 29.5
comp=Z,7µm,20.0s
TOLK Toolik Lake Re 54.30 343 P **P** 21 44 44.0 +0.2
baz=132
TOLK S **S** 21 52 24.8 +3.5
baz=132
GCSA Galena City Sc 54.31 337 P **P** 21 44 43.9 0.0
baz=121
GCSA S **S** 21 52 22.9 +1.4
baz=121
F22K John River 54.32 341 P **P** 21 44 44.6 +0.6
baz=128
F22K S **S** 21 52 25.5 +3.9
baz=128
LPAZ La Paz 54.36 129 P **P** 21 44 45.3 -0.3
LPAZ La Paz 54.36 129 P **P** 21 44 46.7 +1.1
comp=Z,18nm,0.9s,baz=339,slow=7.9,SNR=29
LPAZ LR LR 22 04 40.6
comp=Z,8µm,21.6s,baz=294,slow=32
comp=Z,18nm,0.9s
LPAZ La Paz 54.36 129 *e*P **P** 21 44 45.0 -0.7
D24K Happy Valley 54.44 344 IAMs_20 IAMs_20 22 07 11.4
comp=Z,6µm,21.0s
D24K Happy Valley 54.44 344 P **P** 21 44 44.7 -0.1
baz=133
D24K S **S** 21 52 26.9 +3.8
baz=133
J17K VABM Dome 54.48 335 P **P** 21 44 44.6 -0.5
baz=118
J17K S **S** 21 52 24.6 +0.8
baz=118
M14K Bethel 54.54 331 P **P** 21 44 45.3 -0.3
baz=114
M14K S **S** 21 52 27.1 +2.5
baz=114
F21K Alatna River 54.55 341 IAMs_20 IAMs_20 22 08 49.0
comp=Z,5µm,19.0s
F21K Alatna River 54.55 341 P **P** 21 44 45.6 -0.1
baz=126
F21K S **S** 21 52 27.7 +3.0
baz=126
H19K Roundabout Mou 54.57 338 P **P** 21 44 45.4 -0.4
baz=122
H19K S **S** 21 52 24.7 -0.2
baz=122
E22K Anaktuvuk Pass 54.60 342 P **P** 21 44 46.2 +0.1
baz=129
E22K S **S** 21 52 29.4 +3.9
baz=129
UNV Unalaska Valle 54.62 322 P **P** 21 44 46.9 +0.6
baz=104
UNV S **S** 21 52 28.5 +2.5
baz=104
PPT Papeete 54.65 229 LR LR 22 01 58.7
comp=Z,3µm,20.3s,baz=41,slow=29
PPT2 Papeete2 54.66 229 *e*P **P** 21 44 45.3 -1.9
comp=Z,134nm,33.2s
PPT2 *e*S **S** 21 52 26.7 -0.8
comp=Z,2µm,26.2s
PPT2 *e*SS **SS** 21 56 09.0 -1.8
comp=Z,428nm,26.2s
PPT2 *e*LQ LQ 21 58 21.2
comp=Z,4µm,27.0s
PPT2 *e*LR LR 22 00 27.8
comp=Z,9µm,28.2s
PPT2 *e*LR LR 22 00 34.3
comp=Z,13µm,26.0s
L15K Ungalak Mounta 54.71 332 P **P** 21 44 46.9 0.0
baz=115
L15K S **S** 21 52 29.7 +2.7
baz=115
PB16 IPOC Station P 54.73 132 P **P** 21 44 49.1 +0.9
PB16 IAmb IAmb 21 44 57.2
comp=Z,96nm,1.5s
PB16 IAMs_20 IAMs_20 22 03 19.8
comp=Z,7µm,22.0s
C24K Franklin Bluff 54.80 344 S **S** 21 52 31.1 +3.2
baz=133
D23K Nanushuk River 54.81 343 P **P** 21 44 48.1 +0.6
baz=130
D23K S **S** 21 52 31.5 +3.2
baz=130
RES Resolute Bay 54.91 5 LR LR 22 08 38.3
comp=Z,26µm,19.9s,baz=198,slow=37
K15K Wolf Creek Mou 54.99 333 P **P** 21 44 49.4 +0.5
baz=115
K15K S **S** 21 52 32.4 +1.7
baz=115
J16K Anvik River 55.03 334 P **P** 21 44 49.0 -0.2
baz=116
J16K S **S** 21 52 33.3 +2.0
baz=116
M13K Dall Lake 55.04 331 P **P** 21 44 49.7 +0.5
baz=112
M13K S **S** 21 52 33.3 +2.0
baz=112
H18K Honhosa River 55.06 337 IAMs_20 IAMs_20 22 07 38.2
comp=Z,3µm,18.0s
H18K Honhosa River 55.06 337 P **P** 21 44 49.4 0.0
baz=120
H18K S **S** 21 52 34.3 +2.6
baz=120
L14K Kuka Creek 55.10 332 P **P** 21 44 50.0 +0.4
baz=113
L14K S **S** 21 52 35.1 +2.9
baz=113
G19K Purcell Mounta 55.12 338 IAMs_20 IAMs_20 22 10 36.9
comp=Z,4µm,20.0s

G19K Purcell Mounta 55.12 338 P P 21 44 50.2 +0.3
baz=122
G19K S S 21 52 33.2 +0.7
baz=122
F20K Avaraart Lake 55.16 340 IAMs_20 IAMs_20 22 08 21.9
comp=Z,4µm,18.0s
F20K Avaraart Lake 55.16 340 P P 21 44 49.9 -0.1
baz=124
F20K S S 21 52 34.7 +1.9
baz=124
D22K Ayikyak River 55.32 342 P P 21 44 51.6 +0.3
baz=128
D22K S S 21 52 38.5 +3.5
baz=128
I17K Unalakleet 55.34 335 P P 21 44 52.1 +0.7
baz=117
I17K S S 21 52 39.4 +4.1
baz=117
C23K Itkillik River 55.37 344 IAMs_20 IAMs_20 22 07 51.9
comp=Z,5µm,22.0s
C23K Itkillik River 55.37 344 P P 21 44 52.4 +0.9
baz=131
C23K S S 21 52 36.7 +1.2
baz=131
E21K Killik River 55.42 342 IAMs_20 IAMs_20 22 09 01.3
comp=Z,6µm,19.0s
E21K Killik River 55.42 342 P P 21 44 52.4 +0.4
baz=127
E21K S S 21 52 38.2 +1.7
baz=127
H17K Granite Mounta 55.53 336 P P 21 44 53.5 +0.7
baz=118
H17K S S 21 52 41.0 +3.1
baz=118
G18K Tagagawik 55.54 338 P P 21 44 52.7 -0.2
baz=120
G18K S S 21 52 41.9 +3.8
baz=120
PB11 IPOC Station P 55.59 133 P P 21 44 54.6 +0.6
PB11 IAmb IAmb 21 45 02.1
comp=Z,56nm,1.1s
TA02 Huaiquique 55.62 134 P P 21 44 54.3 +0.3
TA02 IAmb IAmb 21 45 02.4
comp=Z,58nm,1.2s
F19K Shaleruckik Mo 55.72 339 P P 21 44 54.4 +0.3
baz=122
F19K S S 21 52 44.0 +3.6
baz=122
NIKH Nikolski High 55.79 321 IAMs_20 IAMs_20 22 01 46.0
comp=Z,3µm,22.0s
NIKH Nikolski High 55.79 321 P P 21 44 55.5 +0.7
baz=102
NIKH S S 21 52 44.0 +2.3
baz=102
HMBC Humberstone 55.79 134 P P 21 44 56.3 +0.9
HMBC IAmb IAmb 21 45 03.4
comp=Z,67nm,1.6s
HMBC IAMs_20 IAMs_20 22 03 57.2
comp=Z,5µm,21.0s
TA01 Diego Aracena 55.80 134 P P 21 44 56.1 +0.9
TA01 IAmb IAmb 21 45 03.7
comp=Z,46nm,1.1s
TA01 IAMs_20 IAMs_20 22 05 50.2
comp=Z,4µm,20.0s
GO01 Chusmiza 55.85 133 P P 21 44 56.8 +0.6
GO01 IAmb IAmb 21 45 01.8
comp=Z,41nm,1.1s
GO01 IAMs_20 IAMs_20 22 06 26.6
comp=Z,3µm,21.0s
E19K Redstone River 55.88 340 IAMs_20 IAMs_20 22 11 11.8
comp=Z,4µm,18.0s
E19K Redstone River 55.88 340 P P 21 44 54.9 -0.3
baz=123
E19K S S 21 52 45.3 +2.9
baz=123
E20K Nigu River 55.99 341 P P 21 44 56.3 +0.2
baz=124
E20K S S 21 52 47.2 +3.1
baz=124
PATCX Punta Patache 55.99 135 P P 21 44 57.6 +0.9
PATCX IAmb IAmb 21 45 05.2
comp=Z,49nm,1.1s
PATCX IAMs_20 IAMs_20 22 03 38.4
comp=Z,4µm,22.0s
J14K Nanvaranak Lak 56.03 333 P P 21 44 56.6 +0.3
baz=113
J14K S S 21 52 49.0 +4.5
baz=113
G17K Kiwalik Mounta 56.07 337 P P 21 44 56.7 0.0
baz=118
G17K S S 21 52 49.3 +4.2
baz=118
C21K Knifeblade Rid 56.09 342 P P 21 44 56.6 -0.2
baz=126
C21K S S 21 52 48.9 +3.7
baz=126
K13K Kusilvak Mount 56.19 332 P P 21 44 57.6 0.0
baz=112
K13K S S 21 52 50.2 +3.4
baz=112
PB08 IPOC Station P 56.20 133 P P 21 44 59.6 +1.0
PB08 IAmb IAmb 21 45 12.1
comp=Z,58nm,1.1s
PB08 IAMs_20 IAMs_20 22 04 58.9
comp=Z,4µm,22.0s
F18K Selawik 56.24 338 P P 21 44 57.6 -0.2
baz=120
F18K S S 21 52 51.3 +4.1
baz=120
H16K Elim 56.28 336 P P 21 44 58.2 0.0
baz=116
H16K S S 21 52 52.4 +4.5
baz=116
B21K Ikpikpuk River 56.32 343 IAMs_20 IAMs_20 22 10 54.9
comp=Z,5µm,19.0s
B21K Ikpikpuk River 56.32 343 P P 21 44 58.5 +0.2
baz=127
B21K S S 21 52 50.0 +1.8
baz=127
M11K Mekoryuk 56.36 330 IAMs_20 IAMs_20 22 05 16.2
comp=Z,3µm,20.0s
M11K Mekoryuk 56.36 330 P P 21 44 58.7 0.0
baz=109
M11K S S 21 52 52.9 +4.0
baz=109
D20K Etivluk River 56.37 341 IAMs_20 IAMs_20 22 10 29.4
comp=Z,5µm,18.0s
D20K Etivluk River 56.37 341 P P 21 44 59.1 +0.3
baz=124
D20K S S 21 52 52.3 +3.2
baz=124
B22K Teshekpuk Lake 56.43 344 P P 21 44 59.0 -0.1
baz=128
PB02 IPOC Station P 56.51 135 P P 21 45 02.0 +1.5
PB02 IAMs_20 IAMs_20 22 03 54.2
comp=Z,4µm,21.0s
PB01 IPOC Station P 56.59 134 P P 21 45 02.2 +1.1
PB01 IAmb IAmb 21 45 06.5
comp=Z,40nm,1.0s
PB01 IAMs_20 IAMs_20 22 04 08.3
comp=Z,5µm,22.0s
G16K Koyuk River 56.66 336 IAMs_20 IAMs_20 22 08 40.4
comp=Z,3µm,20.0s
G16K Koyuk River 56.66 336 P P 21 45 00.8 0.0
baz=116
G16K S S 21 52 55.8 +3.0
baz=116
D19K Kuna River 56.72 341 IAMs_20 IAMs_20 22 11 24.4
comp=Z,5µm,21.0s
D19K Kuna River 56.72 341 P P 21 45 01.8 +0.5
baz=122
D19K S S 21 52 56.5 +2.9
baz=122
F17K Baldwin Pennin 56.73 338 P P 21 45 01.8 +0.5
baz=118
F17K S S 21 52 56.6 +2.9
baz=118
MDP Montagnes des 56.96 97 LR LR 22 11 01.7
comp=Z,3µm,20.1s,baz=290,slow=38
E18K Tukpahlearik C 56.97 339 P P 21 45 03.5 +0.5
baz=119
E18K S S 21 53 00.2 +3.2
baz=119
P08K Saint George I 56.98 325 P P 21 45 04.0 +0.8
baz=104
PB03 IPOC Station P 57.12 135 P P 21 45 05.9 +1.1
PB03 IAmb IAmb 21 45 10.3
comp=Z,47nm,1.1s
PB03 IAMs_20 IAMs_20 22 03 59.2
comp=Z,5µm,21.0s
G15K Niukluk 57.13 336 P P 21 45 05.0 +0.8
baz=114
G15K S S 21 53 03.6 +4.5
baz=114
E17K Hotham Inlet 57.23 338 P P 21 45 05.6 +0.7
baz=118
E17K S S 21 53 01.7 +1.3
baz=118
A22K Sinclair Lake 57.25 344 P P 21 45 05.1 +0.2
baz=127
A22K S S 21 53 01.8 +1.4
baz=127
B20K Meade River 57.26 342 IAMs_20 IAMs_20 22 07 53.9
comp=Z,5µm,21.0s
B20K Meade River 57.26 342 P P 21 45 05.3 +0.3
baz=124
B20K S S 21 53 04.0 +3.3
baz=124
PB09 IPOC Station P 57.28 135 P P 21 45 07.0 +1.0
PB09 IAMs_20 IAMs_20 22 04 17.5
comp=Z,5µm,22.0s
PB05 IPOC Station P 57.39 136 P P 21 45 07.5 +0.8
PB05 IAmb IAmb 21 45 15.4
comp=Z,46nm,1.2s
PB05 IAMs_20 IAMs_20 22 03 54.5
comp=Z,6µm,22.0s
ANM Nome 57.49 335 P P 21 45 07.5 +0.8
baz=112
ANM S S 21 53 08.2 +4.4
baz=112
SPIA Saint Paul Isl 57.49 326 P P 21 45 07.7 +1.0
baz=103
C19K Lookout Ridge 57.49 341 IAMs_20 IAMs_20 22 11 57.9
comp=Z,6µm,18.0s
C19K Lookout Ridge 57.49 341 P P 21 45 07.2 +0.4
baz=121
C19K S S 21 53 06.2 +2.2
baz=121
PB10 IPOC Station P 57.63 137 IAMs_20 IAMs_20 22 03 51.0
comp=Z,5µm,21.0s
F15K North Star Dit 57.66 336 IAMs_20 IAMs_20 22 09 09.8
comp=Z,3µm,18.0s
F15K North Star Dit 57.66 336 P P 21 45 08.4 +0.5
baz=114
F15K S S 21 53 10.4 +4.4
baz=114
PB06 IPOC Station P 57.70 136 P P 21 45 09.8 +0.9
PB06 IAmb IAmb 21 45 13.8
comp=Z,50nm,1.1s
PB06 IAMs_20 IAMs_20 22 04 04.6
comp=Z,5µm,21.0s
C18K Utukok River 57.77 340 IAMs_20 IAMs_20 22 12 08.9
comp=Z,4µm,20.0s
C18K Utukok River 57.77 340 P P 21 45 09.1 +0.4
baz=119
C18K S S 21 53 09.4 +1.8
baz=119
A21K Barrow 57.87 344 P P 21 45 09.3 +0.1
baz=125
D17K Noatak River 57.95 339 P P 21 45 10.5 +0.6
baz=117
D17K S S 21 53 14.0 +4.3
baz=117
ITTB Itaituba 57.96 109 eP P 21 45 09.4 -1.4
RDOG Red Dog Mine 58.05 339 IAMs_20 IAMs_20 22 11 10.2
comp=Z,3µm,19.0s
RDOG Red Dog Mine 58.05 339 P P 21 45 11.1 +0.5
baz=117
RDOG S S 21 53 14.7 +3.6
baz=117
F14K Arctic Creek 58.21 336 P P 21 45 12.6 +0.8
baz=112
F14K S S 21 53 16.4 +3.1
baz=112
B18K Kokolik River 58.31 341 P P 21 45 12.4 0.0
baz=119
B18K S S 21 53 16.3 +1.9
baz=119
MAL2 Monte Alegre, 58.32 106 P P 21 45 13.3 0.0
MAL2 IAmb IAmb 21 45 20.3
comp=Z,52nm,1.1s
C17K Deng Mountai 58.33 339 P P 21 45 13.2 +0.6
baz=117
C17K S S 21 53 17.7 +2.9
baz=117
VILB Vilhena 58.48 120 P P 21 45 14.7 +0.3
VILB Vilhena 58.48 120 eP P 21 45 14.7 +0.3
A19K Wainwright 58.50 342 P P 21 45 13.9 +0.2
baz=120
A19K S S 21 53 20.0 +3.1
baz=120
TBI Tubuai 58.52 224 eP P 21 45 07.3 -7.1
comp=Z,911nm,38.2s
TBI eS S 21 53 21.2 +3.0
comp=Z,8µm,29.5s
TBI eSS SS 21 57 06.8 -4.4
comp=Z,3µm,30.0s
TBI eLQ LQ 21 59 43.1
comp=Z,16µm,44.8s
TBI eLR LR 22 02 16.0
comp=Z,36µm,27.5s
TBI eLR LR 22 02 18.8
comp=Z,10µm,28.8s
PB14 IPOC Station P 58.53 138 P P 21 45 16.1 +1.1
PB14 IAmb IAmb 21 45 23.4
comp=Z,44nm,1.1s
PB14 IAMs_20 IAMs_20 22 04 06.7
comp=Z,6µm,22.0s
AF01 San Pedro de A 58.78 135 IAMs_20 IAMs_20 22 05 05.4
comp=Z,5µm,22.0s
TNA Tin City 58.86 335 IAMs_20 IAMs_20 22 13 51.5
comp=Z,3µm,19.0s
TNA Tin City 58.86 335 S S 21 53 25.3 +3.7
baz=110
ATKA Atka Island 58.88 319 IAMs_20 IAMs_20 22 03 22.8
comp=Z,4µm,22.0s
C16K Lisburne Hills 58.97 339 IAMs_20 IAMs_20 22 15 06.4
comp=Z,3µm,19.0s
C16K Lisburne Hills 58.97 339 P P 21 45 17.5 +0.5
baz=115
C16K S S 21 53 26.3 +3.3
baz=115
SFJD Kangerlussuaq 59.34 23 LR LR 22 11 00.8
comp=Z,20µm,18.6s,baz=239,slow=36
GO02 Mina Guanaco 59.42 138 IAMs_20 IAMs_20 22 04 46.5
comp=Z,5µm,21.0s
SIV San Ignacio 59.51 124 LR LR 22 08 22.1
comp=Z,9µm,20.3s,baz=318,slow=33
AC01 Pan de Azucar 59.51 139 IAMs_20 IAMs_20 22 04 37.8
comp=Z,6µm,22.0s
NPGB Novo Progresso 59.54 112 eP P 21 45 21.2 -0.5
GAMB Gambell 59.85 333 P P 21 45 24.0 +0.9
baz=106
GAMB S S 21 53 37.1 +2.6
baz=106
ADK Adak 60.38 319 IAMs_20 IAMs_20 22 04 26.4
comp=Z,4µm,22.0s
AC06 Mina Casimiro 60.55 140 P P 21 45 29.8 +1.3
AC06 IAmb IAmb 21 45 33.5
comp=Z,19nm,0.8s
BBSD Serra de San D 60.57 125 eP P 21 45 28.6 -0.2
PDRB Porto dos Gac 60.62 117 eP P 21 45 29.1 -0.1
PTLB Pontes e Lacer 60.73 122 P P 21 45 29.5 -0.3
PTLB IAmb IAmb 21 45 36.6
comp=Z,30nm,1.3s
PTLB IAMs_20 IAMs_20 22 08 48.4
comp=Z,4µm,21.0s
PTLB Pontes e Lacer 60.73 122 eP P 21 45 30.1 +0.3
AC04 Llanos de Chal 60.74 141 IAMs_20 IAMs_20 22 06 09.5
comp=Z,4µm,20.0s
H03N2 Juan Fernandez 60.80 151 T T 22 51 39.5
baz=329,slow=78,SNR=82
H03N1 Juan Fernandez 60.81 151 T T 22 51 37.1
baz=329,slow=78,SNR=399
H03N3 Juan Fernandez 60.81 151 T T 22 51 38.7
baz=329,slow=78,SNR=81
AC02 Maricunga 60.91 139 IAMs_20 IAMs_20 22 05 31.9
comp=Z,5µm,21.0s
CLDB Colider 61.03 116 eP P 21 45 31.4 -0.7
LCO Las Campanas 61.56 142 IAMs_20 IAMs_20 22 06 35.5
comp=Z,5µm,20.0s
MIDW Midway 61.91 292 IAMs_20 IAMs_20 22 07 09.6
comp=Z,3µm,19.0s
CO05 La Serena 61.93 143 IAMs_20 IAMs_20 22 06 38.0
comp=Z,5µm,20.0s
CO06 Fray Jorge 62.28 144 IAMs_20 IAMs_20 22 06 40.2
comp=Z,6µm,20.0s
GO04 Tololo Observa 62.37 143 P P 21 45 42.1 +1.1
GO04 IAmb IAmb 21 46 03.6
comp=Z,40nm,1.1s
GO04 IAMs_20 IAMs_20 22 06 51.7
comp=Z,4µm,20.0s
CO03 El Pedregal 62.94 143 P P 21 45 45.6 +1.0
CO03 IAmb IAmb 21 45 48.5
comp=Z,23nm,0.8s
CO03 IAMs_20 IAMs_20 22 07 10.6
comp=Z,5µm,21.0s
CO02 Combarbal 63.04 143 IAMs_20 IAMs_20 22 07 03.2
comp=Z,5µm,20.0s
NEEM North Greenlan 63.54 12 i P P 21 45 46.7 -1.5
NEEM IAmb IAmb 21 45 58.1
comp=Z,269nm,2.3s
SALV Santo Antonio 63.74 120 eP P 21 45 50.4 +0.3
VA06 Catapilco 63.91 145 P P 21 45 52.3 +1.5
VA06 IAmb IAmb 21 45 55.6
comp=Z,36nm,1.0s
VA06 IAMs_20 IAMs_20 22 06 49.3
comp=Z,3µm,20.0s
PRPB Parauapebas 64.04 108 eP P 21 45 52.0 -0.1
VA01 Torpederas 64.07 145 IAMs_20 IAMs_20 22 06 45.8
comp=Z,4µm,21.0s
RAR Rarotonga 64.40 233 LR LR 22 06 03.2
comp=Z,2µm,20.0s,baz=47,slow=29
VA03 San Esteban 64.47 144 P P 21 45 55.6 +0.9
VA03 IAMs_20 IAMs_20 22 07 46.1
comp=Z,4µm,21.0s
MT02 Curacav 64.53 145 P P 21 45 55.9 +0.9
MT02 IAMs_20 IAMs_20 22 07 08.7
comp=Z,4µm,21.0s
ZON Zonda 64.61 142 P P 21 45 56.6 +1.0
ZON IAmb IAmb 21 46 18.7
comp=Z,31nm,1.2s
ZON IAMs_20 IAMs_20 22 08 26.8
comp=Z,4µm,19.0s
ZON Zonda 64.61 142 P P 21 45 56.6 +1.0
ZON pmax pmax
comp=Z,31nm,1.2s
ZON MLR MLR
comp=Z,4µm,19.0s
PEL Peldehue 64.68 145 P P 21 45 57.2 +1.2
PEL IAMs_20 IAMs_20 22 09 45.0
comp=Z,3µm,18.0s
PEL Peldehue 64.68 145 P P 21 45 57.2 +1.2
PEL pmax pmax
comp=Z,147nm,1.8s
PEL MLR MLR
comp=Z,3µm,18.0s
MT05 Renca 64.84 145 P P 21 45 57.9 +0.9
MT05 IAMs_20 IAMs_20 22 07 16.1
comp=Z,3µm,20.0s
CFA Coronel Fontan 64.91 142 LR LR 22 08 54.1
comp=Z,2µm,19.5s,baz=336,slow=31
MT01 Popeta 64.93 146 IAMs_20 IAMs_20 22 08 27.4
comp=Z,4µm,20.0s
MT16 CCHEN 64.98 145 IAMs_20 IAMs_20 22 07 22.9
comp=Z,3µm,20.0s
MT09 Talagante 65.00 145 P P 21 45 58.7 +0.6
MT09 IAmb IAmb 21 46 02.5
comp=Z,44nm,1.2s
MT09 IAMs_20 IAMs_20 22 07 12.3
comp=Z,4µm,22.0s
SUMG Summit 65.00 18 P P 21 45 56.2 -1.8
SUMG IAmb IAmb 21 46 06.5
comp=Z,28nm,1.2s
SUMG Summit 65.00 18 P P 21 45 56.2 -1.8
SUMG pmax pmax
comp=Z,28nm,1.2s
SUMG MLR MLR
comp=Z,20µm,18.0s
MT03 Universidad Ad 65.04 145 IAMs_20 IAMs_20 22 07 24.4
comp=Z,3µm,21.0s
MT08 Bocatoma Ro 65.27 144 IAMs_20 IAMs_20 22 07 54.0
comp=Z,4µm,20.0s
MT13 San Alfonso 65.35 145 IAMs_20 IAMs_20 22 10 05.6
comp=Z,4µm,18.0s
BO04 La Punta 65.37 145 IAMs_20 IAMs_20 22 07 34.0
comp=Z,3µm,20.0s
SNDB Serra Nova Dou 65.41 114 eP P 21 46 01.2 +0.2
BO01 Tunca 65.42 146 IAMs_20 IAMs_20 22 08 42.4
comp=Z,3µm,19.0s
BDQN Bodoquena, MS 65.43 125 eP P 21 46 00.5 -0.6
LMEL Las Melosas 65.48 145 IAMs_20 IAMs_20 22 07 28.8
comp=Z,3µm,21.0s
BO02 Sierra Bellavi 65.89 146 P P 21 46 04.5 +0.7
BO02 IAmb IAmb 21 46 25.4
comp=Z,32nm,1.1s
BO02 IAMs_20 IAMs_20 22 08 57.8
comp=Z,4µm,20.0s
SHEM Shemya Is, Ala 66.05 320 LR LR 22 08 10.8
comp=Z,2µm,21.1s,baz=104,slow=30
AQDB Aquidauana 66.25 125 P P 21 46 06.5 +0.1
AQDB IAmb IAmb 21 46 10.3
comp=Z,36nm,1.2s
AQDB Aquidauana 66.25 125 eP P 21 46 06.9 +0.5
ARAG Araguaiana, MT 66.82 118 eP P 21 46 10.2 +0.2
SMTB Santa Maria do 67.20 109 eP P 21 46 13.1 +0.5
C2SB Chapadao do Su 67.57 121 eP P 21 46 16.4 +1.6
RPRD Ribas do Rio P 67.81 123 eP P 21 46 17.4 +1.1
CPUP Villa Florida 68.46 131 P P 21 46 20.8 +0.5
CPUP Villa Florida 68.46 131 P P 21 46 20.9 +0.7
comp=Z,6.8nm,1.0s,baz=266,slow=2.9,SNR=22
CPUP LR LR 22 14 03.9
comp=Z,1µm,21.9s,baz=179,slow=34
comp=Z,6.8nm,1.0s
CPUP Villa Florida 68.46 131 eP P 21 46 21.7 +1.5
SJPY San Joaquin 68.55 129 eP P 21 46 22.2 +1.4
LR04 Corral 68.60 151 IAMs_20 IAMs_20 22 10 00.6
comp=Z,3µm,18.0s
LR03 Panguipulli 68.90 150 IAMs_20 IAMs_20 22 10 42.5
comp=Z,3µm,18.0s
BILL Bilibino 69.26 336 IAMs_20 IAMs_20 22 16 33.7
comp=Z,3µm,20.0s
BILL Bilibino 69.26 336 i P P 21 46 26.0 +1.4
BILL pmax pmax
comp=Z,14nm,1.3s
BILL MLR MLR
comp=Z,2µm,17.0s
LR05 Currie 69.53 150 P P 21 46 27.7 +1.1
LR05 IAmb IAmb 21 46 46.7
comp=Z,54nm,1.4s
LR05 IAMs_20 IAMs_20 22 10 36.3
comp=Z,3µm,18.0s
LL05 Los Muermos 69.81 152 IAMs_20 IAMs_20 22 10 20.9
comp=Z,2µm,19.0s
BDFB Brasilia 69.96 116 P P 21 46 30.4 +0.5
BDFB IAmb IAmb 21 46 41.6
comp=Z,79nm,1.8s
BDFB Brasilia 69.96 116 P P 21 46 30.9 +1.0
comp=Z,14nm,0.8s,baz=268,slow=6.4,SNR=13
comp=Z,14nm,0.8s
DBG Daneborg 70.31 17 i P P 21 46 34.3 +3.3
DAG Danmarks Havn 70.48 14 i P P 21 46 30.0 -2.0
DAG IAmb IAmb 21 46 39.9
comp=Z,28nm,1.1s
PLCA Paso Flores 70.61 150 P P 21 46 35.2 +1.9
PLCA IAmb IAmb 21 46 50.3
comp=Z,40nm,1.5s
PLCA Paso Flores 70.61 150 P P 21 46 36.1 +2.8
comp=Z,8.0nm,1.1s,baz=341,slow=5.6,SNR=6.8
PLCA LR LR 22 11 15.8
comp=Z,2µm,18.2s,baz=322,slow=30
comp=Z,8.0nm,1.1s
PLCA Paso Flores 70.61 150 eP P 21 46 36.6 +3.2
BORG Borgarnes 70.92 27 LR LR 22 17 27.4
comp=Z,15µm,18.2s,baz=268,slow=36
IPMB Ipameri, GO 70.94 118 eP P 21 46 36.4 +0.7
LL07 Hotel Espejo d 70.97 153 IAMs_20 IAMs_20 22 09 54.5
comp=Z,3µm,20.0s
GO07 Milladeo Hill, 71.12 153 IAMs_20 IAMs_20 22 10 38.5
comp=Z,3µm,19.0s
SDBA SAO DESIDERIO 71.14 111 eP P 21 46 39.5 +2.5
PTGB Pitanga 71.40 126 eP P 21 46 39.8 +1.3
LL02 Futaleuf 71.96 152 P P 21 46 42.8 +1.4
BB19B Bebedouro 72.22 121 eP P 21 46 44.5 +1.1
TRQA Tornquist 73.10 143 P P 21 46 49.4 +1.1
TRQA IAmb IAmb 21 47 17.9
comp=Z,103nm,1.9s
TRQA Tornquist 73.10 143 P P 21 46 49.4 +1.1
TRQA pmax pmax
comp=Z,103nm,2.0s
TRQA MLR MLR
comp=Z,6µm,19.0s

COYC Coyhaique 73.78 154 IAMs_20 IAMs_20 22 12 01.9
comp=Z,2µm,20.0s
PLTB Pedras Altas 74.32 133 P **P** **21 46 55.8 +0.2**
JMIC Jan Mayen 74.38 20 LR LR 22 19 45.4
comp=Z,10µm,19.9s,baz=288,slow=36
SPB Sao Paulo 74.38 123 IAMs_20 IAMs_20 22 20 14.5
comp=Z,3µm,18.0s
VAO Valinhos 74.45 122 IAMs_20 IAMs_20 22 21 59.2
comp=Z,4µm,22.0s
PET Petropavlovsk 75.25 321 P **P** **21 47 00.4 -0.3**
PET IAmb IAmb 21 47 24.8
comp=Z,37nm,1.1s
PET Petropavlovsk 75.25 321 *e*P **P** **21 46 57.9 -2.8**
PET *e* 21 49 46.2
PET *e*S **S** **21 56 33.8 -6.0**
PET *e*SS **SS** **22 01 27.6 -1.3**
PET pmax pmax
comp=Z,200nm,6.6s
PET pmax pmax
comp=Z,400nm,6.1s
PET pmax pmax
comp=Z,35nm,1.1s
PET MLR MLR
comp=Z,700nm,16.0s
PEA0B Petropavlovsk- 75.79 322 P **P** **21 47 03.5 -0.3**
PEA0B IAmb IAmb 21 47 23.1
comp=Z,71nm,1.3s
PEA0B Petropavlovsk- 75.79 322*ce*P **P** **21 47 08.2 +4.4**
PETK Petropavlovsk- 75.79 322 P **P** **21 47 04.9 +1.1**
comp=Z,4.5nm,0.9s,baz=91,slow=12,SNR=4.5
PETK LR LR 22 12 59.9
comp=Z,2µm,21.9s,baz=76,slow=30
comp=Z,4.5nm,0.9s
SEY Seymchan 75.83 332 LR LR 22 16 35.1
comp=Z,2µm,21.0s,baz=68,slow=33
SEY Seymchan 75.83 332 *e*P **P** **21 47 04.6 +0.8**
SEY pmax pmax
comp=Z,24nm,1.5s
RCBR Riachuelo 76.53 101 IAMs_20 IAMs_20 22 22 49.5
comp=Z,2µm,19.0s
RCBR Riachuelo 76.53 101 LR LR 22 23 09.6
comp=Z,851nm,19.4s,baz=312,slow=38
SPITS Spitsbergen Ar 76.97 10 P **P** **21 47 10.7 +0.6**
comp=Z,6.3nm,0.8s,baz=318,slow=14,SNR=2.2
SPITS LR LR 22 21 52.1
comp=Z,6µm,18.3s,baz=308,slow=36
comp=Z,6.3nm,0.8s
SKR Severo-Kuril's 77.39 319*c i*P **P** **21 47 12.5 -0.4**
SKR *e* 21 47 30.7
SKR *i* S **S** **21 57 07.5 +4.2**
SKR *e*SS **SS** **22 01 57.3 -4.0**
SKR pmax pmax
comp=Z,500nm,5.8s
SKR pmax pmax
comp=Z,400nm,11.6s
MA2 Magadan 77.61 329 P **P** **21 47 13.7 -0.2**
MA2 IAmb IAmb 21 47 20.8
comp=Z,34nm,1.3s
MA2 Magadan 77.61 329*ce*P **P** **21 47 16.2 +2.2**
MA2 pmax pmax
comp=Z,38nm,1.7s
MA2 MLR MLR
comp=Z,903nm,16.0s
GO09 Cerro Castillo 78.31 157 IAMs_20 IAMs_20 22 14 20.9
comp=Z,3µm,20.0s
TIXI Tiksi 80.17 344 P **P** **21 47 26.7 -1.1**
TIXI IAMs_20 IAMs_20 22 25 49.5
comp=Z,4µm,22.0s
TIXI Tiksi 80.17 344 LR LR 22 26 09.6
comp=Z,2µm,19.7s,baz=66,slow=38
TIXI Tiksi 80.17 344*ce*P **P** **21 47 27.7 -0.1**
TIXI pmax pmax
comp=Z,32nm,1.7s
TIXI MLR MLR
comp=Z,3µm,20.0s
PMOZ Porto Moniz, M 80.89 58 *e*P **P** **21 47 32.1 -0.5**
PMOZ *e*PP **PP** **21 50 33.3 -3.5**
PMOZ *e*S S 21 57 56.0 +14
PMOZ *e*SS SS 22 03 13.2 +18
PMOZ *e*LR LR 22 18 41.8
PMOZ *i* IAMs_20 IAMs_20 22 25 15.6
comp=Z,1µm,18.0s
PMAR Madeira 81.14 58 *e*P **P** **21 47 38.3 +4.3**
PMAR *i* IAmb IAmb 21 47 52.2
comp=Z,220nm,1.7s
PMPST Porto Santo, M 81.50 58 *e*P **P** **21 47 35.4 -0.2**
ESK Eskdalemuir 82.21 34 IAMs_20 IAMs_20 22 22 08.0
comp=Z,2µm,22.0s
EKA Eskdalemuir Ar 82.23 34 P **P** **21 47 38.8 -0.3**
comp=Z,4.8nm,1.0s,baz=280,slow=5.1,SNR=4.1
comp=Z,4.8nm,1.0s
RAO Raoul Island 82.53 235 LR LR 22 19 38.2
comp=Z,571nm,18.4s,baz=68,slow=32
USHA Ushuaia 82.58 158 LR LR 22 17 11.6
comp=Z,2µm,20.2s,baz=306,slow=30
MG01 Puerto William 82.95 157 IAMs_20 IAMs_20 22 17 50.5
comp=Z,2µm,19.0s
PGAV Gavieira, Arco 84.42 47 *e*P P 21 47 56.5 +5.7
PGAV *i* IAmb IAmb 21 48 10.3
comp=Z,48nm,1.7s
PGAV *e*S **S** **21 58 20.8 +3.5**
PGAV *e*SS SS 22 03 59.9 +13
PGAV *e*LQ LQ 22 10 12.4
PGAV *e*LR LR 22 15 48.9
PGAV *i* IAMs_20 IAMs_20 22 27 39.8
comp=Z,2µm,18.0s
EFI East Falkland 84.49 151 IAMs_20 IAMs_20 22 19 17.3
comp=Z,2µm,20.0s
ARCES ARCESS Array B 84.77 15 P **P** **21 47 50.5 -1.4**
comp=Z,4.9nm,0.9s,baz=323,slow=3.9,SNR=5.7
ARCES LR LR 22 25 49.9
comp=Z,8µm,20.7s,baz=324,slow=36
comp=Z,4.9nm,0.9s
PMAFR Mafra 84.84 50 *e*P **P** **21 47 54.7 +1.9**
POLO Lamas de Olo 84.98 48 *e*P **P** **21 47 53.9 +0.3**
POLO *i* IAmb IAmb 21 48 04.5
comp=Z,24nm,1.8s
PCAS Casmilo, Conde 84.99 49 *e*P **P** **21 47 55.4 +1.8**
PCAS *i* IAmb IAmb 21 48 13.2
comp=Z,51nm,1.9s
COI Coimbra 84.99 49 IAMs_20 IAMs_20 22 25 59.6
comp=Z,3µm,18.0s
PARRA Arraiolos 85.06 51 *e*P P 21 47 59.1 +5.2
PARRA *i* IAmb IAmb 21 48 16.8
comp=Z,36nm,1.7s
PVIS Viseu 85.16 48 *e*P **P** **21 47 56.0 +1.5**
TYV Tymovskoe 85.27 323 *e*P **P** **21 47 54.8 +0.1**
TYV *e*S **S** **21 58 23.0 -2.1**
TYV pmax pmax
comp=Z,300nm,7.8s
TYV pmax pmax
comp=Z,20nm,1.0s
TYV smax smax
comp=N,700nm,10.8s
TYV smax smax
comp=E,1µm,10.8s
PSARD Sardoal 85.40 50 *e*P **P** **21 47 56.5 +0.9**
PSARD *i* IAmb IAmb 21 48 23.4
comp=E,44nm,1.5s
MTE Manteigas 85.53 49 *e*P **P** **21 47 59.2 +2.9**
MTE *i* IAmb IAmb 21 48 33.6
comp=E,38nm,1.5s
MTE *e*S **S** **21 58 31.8 +3.5**
MTE *e*SS **SS** **22 04 10.8 +7.6**
MTE *e*LQ LQ 22 16 35.8
MTE *e*LR LR 22 16 37.7
MTE *i* IAMs_20 IAMs_20 22 26 19.7
comp=E,2µm,18.0s
PBRG Braganca 85.54 47 *e*P P 21 48 02.3 +5.9
PMTG Montargil 85.56 50 *e*P **P** **21 47 56.2 -0.2**
PMTG *i* IAmb IAmb 21 48 08.9
comp=E,38nm,1.4s
MVO Moncorvo 85.59 48 *e*P **P** **21 47 58.6 +2.0**
MVO *i* IAmb IAmb 21 48 15.5
comp=E,29nm,1.5s
MVO *e*S **S** **21 58 29.6 +0.7**
MVO *e*SS **SS** **22 04 09.2 +5.2**
MVO *e*LQ LQ 22 13 20.0
MVO *e*LR LR 22 16 32.7
MVO *i* IAMs_20 IAMs_20 22 25 59.7
comp=E,3µm,18.0s
YAK Yakutsk 85.62 336 P **P** **21 47 55.7 -0.5**
YAK Yakutsk 85.62 336 IAMs_20 IAMs_20 22 33 29.9
comp=Z,2µm,18.0s
YAK Yakutsk 85.62 336 LR LR 22 26 35.4
comp=Z,1µm,18.4s,baz=38,slow=36

YAK Yakutsk 85.62 336 *e*P **P** **21 47 57.0 +0.8**
YAK *e**PP **pwP** **21 48 06.4 +4.1**
YAK *e* 21 51 14.2
YAK *e*PPP PPP 21 53 06.9
YAK *e*S **SKSac** **21 58 18.9 -2.6**
YAK *e*SSS SSS 22 07 34.0
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,13nm,1.8s
YAK pmax pmax
comp=Z,346nm,7.7s
YAK pmax pmax
comp=N,89nm,8.4s
YAK pmax pmax
comp=E,49nm,3.6s
YAK smax smax
comp=N,870nm,14.0s
YAK smax smax
comp=E,663nm,11.8s
YAK MLR MLR
comp=N,468nm,23.0s
YAK MLR MLR
comp=E,1µm,19.0s
PTEO Sao Teotonio 85.77 52 *e*P **P** **21 48 00.6 +3.1**
PCBR Castelo Branco 85.79 49 *e*P **P** **21 47 59.0 +1.5**
PFVI Vila Bisbo 85.86 52 *e*P **P** **21 47 59.8 +1.8**
EVO Evora 85.92 50 *e*P **P** **21 47 56.5 -1.7**
MORF Marmelete 85.92 52 *e*SKSac **SKSac** **21 58 24.0 -0.5**
MORF IAMs_20 IAMs_20 22 28 27.9
comp=Z,2µm,16.6s
MORF Marmelete 85.92 52 IAMs_20 IAMs_20 22 26 22.4
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 85.96 25 P **P** **21 47 54.3 -3.7**
comp=Z,6.9nm,1.4s,baz=305,slow=5.1
NOA NORSAR Array B 85.96 25 P **P** **21 47 54.4 -3.6**
comp=Z,1.4nm,1.0s,baz=305,slow=5.4,SNR=2.9
NOA LR LR 22 26 33.5
comp=Z,6µm,18.5s,baz=305,slow=36
PMRV Marv??o 86.02 49 *e*P **P** **21 47 58.4 -0.3**
PMRV *i* IAmb IAmb 21 48 11.3
comp=Z,42nm,1.5s
PMRV *e*PP **PP** **21 51 24.6 +6.2**
PMRV *e*S **S** **21 58 39.0 +6.1**
PMRV *e*SS **SS** **22 04 16.8 +6.5**
PMRV *e*LQ LQ 22 13 10.9
PMRV *e*LR LR 22 18 44.5
PMRV *i* IAMs_20 IAMs_20 22 26 33.9
comp=Z,2µm,18.0s
MESJ Messejana 86.03 51 *e*P **P** **21 47 59.9 +1.1**
MESJ *e*SKSac **SKSac** **21 58 24.7 -0.4**
MESJ IAMs_20 IAMs_20 22 26 38.5
comp=Z,3µm,21.8s
MESJ Messejana 86.03 51 IAMs_20 IAMs_20 22 26 31.4
comp=Z,2µm,18.0s
MESJ Messejana 86.03 51 *e*P P 21 48 03.8 +5.0
MESJ Messejana 86.03 51 *e*P **P** **21 47 59.9 +1.1**
MESJ *e* 21 58 24.7
PESTR Estremoz 86.09 50 *e*P **P** **21 48 02.5 +3.4**
PBEJ Beja 86.22 51 *e*P **P** **21 48 00.6 +0.9**
PBEJ *i* IAmb IAmb 21 48 23.4
comp=Z,21nm,2.1s
PCVE Castro Verde 86.24 51 *e*P **P** **21 47 59.7 -0.1**
PCVE *i* IAmb IAmb 21 48 24.9
comp=Z,30nm,1.5s
PVAQ Vaqueiros 86.57 51 *e*P **P** **21 48 02.6 +1.1**
PVAQ *e*S **S** **21 58 39.4 +1.0**
PVAQ *e*SS SS 22 04 29.8 +11
PVAQ *e*LR LR 22 19 05.1
PVAQ *i* IAMs_20 IAMs_20 22 27 12.5
comp=Z,3µm,20.0s
PBAR Barrancos 86.76 50 *e*P **P** **21 48 04.5 +2.1**
YSS Yuzhno-Sakhali 86.96 319 *e*P **P** **21 48 06.7 +3.6**
YSS *e* 21 51 29.5
YSS *e* 21 58 32.9
YSS *e*S **S** **21 58 45.1 +3.3**
YSS *e* 21 59 49.6
YSS *e*SS **SS** **22 04 28.0 +4.4**
YSS pmax pmax
comp=Z,300nm,7.8s
YSS pmax pmax
comp=E,100nm,6.3s
YSS pmax pmax
comp=Z,20nm,1.1s
HFS Hagfors 87.48 25 LR LR 22 27 39.3
comp=Z,6µm,18.4s,baz=306,slow=36
LVZ Lovozero 88.11 13 *i* P **P** **21 48 10.2 +1.9**
LVZ pmax pmax
comp=Z,7.0nm,1.5s
LVZ MLR MLR
comp=Z,5µm,19.0s
ESDC Sonseca Array 88.34 48 P **P** **21 48 08.1 -1.9**
comp=Z,0.6nm,0.9s,baz=338,slow=1.4,SNR=3.2
ESDC LR LR 22 27 39.4
comp=Z,2µm,18.8s,baz=300,slow=36
ASAJ Asahikawa 88.34 317 LR LR 22 24 14.0
comp=Z,1µm,19.0s,baz=72,slow=33
AVE Averroes 88.40 55 IAMs_20 IAMs_20 22 27 21.1
comp=Z,2µm,19.0s
ERM Erimo 88.92 315 IAMs_20 IAMs_20 22 18 20.5
comp=Z,3µm,22.0s
URZ Urewera 90.30 229 LR LR 22 19 20.8
comp=Z,3µm,21.9s,baz=62,slow=29
CEST Esterri de Car 90.54 44 IAMs_20 IAMs_20 22 30 46.8
comp=Z,2µm,19.0s
MDT Midelt 90.75 55 LR LR 22 27 18.5
comp=Z,708nm,19.2s,baz=317,slow=34
FINES FINESS Array B 91.00 20 LR LR 22 28 14.4
comp=Z,4µm,21.5s,baz=320,slow=35
CART Cartagena 91.34 49 IAMs_20 IAMs_20 22 29 30.5
comp=Z,2µm,18.0s
ZEA Zeya 91.71 330 *e*P **P** **21 48 29.4 +4.0**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
DZM Mont Dzumac 92.47 248 *e*P P 21 48 09.8 -20
comp=Z,47nm,21.9s
DZM Mont Dzumac 92.47 248 *e*PP PP 21 51 57.7 -13
comp=Z,52nm,23.1s
DZM Mont Dzumac 92.47 248 *e*SS SS 22 05 35.7 -10
comp=Z,282nm,30.4s
DZM *e*LQ LQ 22 13 53.3
comp=Z,6µm,35.1s
DZM *e*LR LR 22 17 55.8
comp=Z,2µm,26.1s
CLL Collm 92.59 32 *e*P **P** **21 48 29.0 -0.5**
CLL *e*PP **PP** **21 52 12.0 +1.7**
CLL *e*SKSac **SKSac** **21 59 04.0 +0.8**
CLL *e*S **ScS** **21 59 37.0 +0.9**
CLL *e*PS PS 22 00 45.0 -0.8
CLL *e*PPS PPS 22 01 23.0
CLL *ex* x 22 02 25.0
CLL *e*SS **SS** **22 05 48.0 +3.3**
ESPZ Base Esperanza 92.86 159 IAMs_20 IAMs_20 22 37 11.9
comp=Z,2µm,21.0s
BRG Berggiesshubel 93.32 32 PP **PP** **21 52 20.0 +3.9**
BRG Berggiesshubel 93.32 32 SP SP 22 00 54.0 +1.8
BRG Berggiesshubel 93.32 32 SS SS 22 06 02.0 +6.8
VSU Vasula 93.47 21 *i* P **P** **21 48 34.1 +0.7**
VSU pmax pmax
comp=Z,8.0nm,1.0s
VSU MLR MLR
comp=Z,13µm,17.0s
DAVOX Davos/Dischmat 93.59 37 LR LR 22 30 32.9
comp=Z,7µm,18.4s,baz=304,slow=36
HEH HeiHe 93.80 327 *e*P **P** **21 48 33.9 -1.2**
HEH pP **pwP** **21 48 40.6 -0.6**
HEH S **S** **21 59 42.8 -1.9**
HEH SS **SS** **22 06 04.3 +2.3**
HEH pmax pmax
comp=Z,3.0nm,1.2s
HEH pmax pmax
comp=Z,140nm,7.6s
HEH LR LR
comp=Z,560nm,24.7s
HEH LR LR
comp=Z,830nm,22.2s
HEH LR LR
comp=Z,2µm,24.6s
HNR Honiara 93.99 261 LR LR 22 21 48.0
comp=Z,3µm,21.8s,baz=66,slow=30
GERES GERESS Array B 94.45 34 LR LR 22 30 41.4
comp=Z,3µm,20.4s,baz=306,slow=35
USRK Ussuriysk Ar. 94.86 321 P **P** **21 48 40.4 +0.3**
comp=Z,1.5nm,0.7s,baz=64,slow=6.6,SNR=2.6
USRK LR LR 22 25 26.5
comp=Z,1µm,21.8s,baz=50,slow=32
comp=Z,1.5nm,0.7s
MJAR Matsushiro Arr 94.88 312 P **P** **21 48 38.5 -1.8**
comp=Z,2.0nm,0.7s,baz=48,slow=4.0,SNR=6.5
MJAR LR LR 22 23 55.9
comp=Z,2µm,20.2s,baz=80,slow=31
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 95.24 15 *e*P **P** **21 48 43.6 +2.1**
KLMR *e* 21 52 33.6
KLMR S **SKSac** **21 59 20.1 +2.8**
KLMR SS **SS** **22 06 22.1 +0.3**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR MLR MLR
comp=Z,3µm,18.0s
JHJ Hachijo jima 2 95.40 308 LR LR 22 26 46.7
comp=Z,4µm,19.3s,baz=89,slow=32
VRAC Vranov 95.64 32 LR LR 22 32 11.9
comp=Z,5µm,19.6s,baz=300,slow=36
MSHR Mys Shultsa 96.28 320 *i* P **P** **21 48 48.0 +1.4**
MSHR pmax pmax
comp=Z,61nm,1.4s
MSHR MLR MLR
comp=Z,457nm,18.0s
JCJ Chichijima 96.32 302 LR LR 22 22 52.7
comp=Z,4µm,21.8s,baz=100,slow=30
CASP Castiglione de 96.46 40 IAMs_20 IAMs_20 22 32 46.6
comp=Z,2µm,18.0s
BNX BinXian 96.59 324 ||P **P** **21 48 46.9 -1.0**
BNX S **S** **22 00 06.9 -2.2**
BNX pmax pmax
comp=Z,4.0nm,1.2s
BNX pmax pmax
comp=Z,150nm,4.9s
BNX LR LR
comp=Z,430nm,23.7s
BNX LR LR
comp=Z,1µm,22.2s
BNX LR LR
comp=Z,690nm,16.8s
RPZ Rata Peaks 96.69 226 LR LR 22 24 26.0
comp=Z,2µm,20.8s,baz=51,slow=30
MNK Minsk 96.91 24 *i* P **P** **21 48 47.3 -1.9**
MNK *i* 21 52 43.8
MNK *i* PPP PPP 21 54 46.6
MNK *i* S **SKSac** **21 59 24.0 -2.3**
MNK *i* SS **SS** **22 06 46.2 +0.4**
MNK *i* SSS SSS 22 10 31.2
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK MLR MLR
comp=N,4µm,16.0s
MNK MLR MLR
comp=E,3µm,15.0s
MNK MLR MLR
comp=Z,5µm,15.0s
VSL Villasalto 97.40 43 IAMs_20 IAMs_20 22 32 32.9
comp=Z,1µm,20.0s
HIA Hailar 98.18 330 IAMs_20 IAMs_20 22 40 41.1
comp=Z,2µm,20.0s
RNPP5 Staryi Chortor 98.59 27 P **P** **21 48 54.8 -2.0**
OBN Obninsk 99.38 19 LR LR 22 35 15.6
comp=Z,5µm,18.2s,baz=262,slow=36
OBN Obninsk 99.38 19|| *e*P **Pdif** **21 49 00.8 +0.6**
OBN *e**PP **pwP** **21 49 06.0 -0.4**
OBN *e**SP **sP** **21 49 08.8 +5.1**
OBN *i* 21 53 09.0
OBN *i* PPP PPP 21 55 18.2
OBN *e*S **SKSac** **21 59 33.2 -5.6**
OBN *e* 22 00 23.6
OBN *i* PS PS 22 02 01.3 +1.6
OBN *i* PPS PPS 22 02 52.7
OBN *i* SS **SS** **22 07 19.3 -1.0**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,6µm,17.0s
KIRV Kirov 99.40 11 LR LR 22 35 30.4
comp=Z,4µm,19.0s,baz=337,slow=36
KEST Kesra 99.46 46 LR LR 22 33 47.0
comp=Z,2µm,19.6s,baz=311,slow=35
RAFF Raffo Rosso 101.91 43 IAMs_20 IAMs_20 22 42 44.2
comp=Z,2µm,18.0s
INCN Inchon 102.09 318 IAMs_20 IAMs_20 22 29 28.2
comp=Z,1µm,20.0s
CEL Celeste 102.24 41 IAMs_20 IAMs_20 22 39 39.7
comp=Z,2µm,19.0s
ARTI Arti 102.86 7 *i* P **Pdif** **21 49 17.2 +1.5**
ARTI pmax pmax
comp=Z,1.0nm,0.9s
KIS Kishinev 103.05 28 *e*P **Pdif** **21 49 24.0 +7.2**
KIS *e*L L 22 30 30.0
KIS LRM MLR 22 38 49.0
comp=Z,2µm,15.5s
MILM Milestii Mici 103.11 28 *e*P **Pdif** **21 49 13.0 -4.0**
MILM Milestii Mici 103.11 28 *e*PS PS 22 02 34.0 -5.7
MILM *e*L L 22 24 04.0
MILM LRM MLR 22 38 51.0
comp=Z,5µm,15.6s
TAM Tamanrasset 103.27 59 IAMs_20 IAMs_20 22 34 51.8
comp=Z,2µm,21.0s
KEK Kerkira 103.64 38 IAMs_20 IAMs_20 22 37 19.6
comp=Z,2µm,19.0s
DL2 Dalian 104.24 321 Pdif **Pdif** **21 49 16.5 -5.7**
DL2 PP **PP** **21 53 36.5 -3.2**
DL2 Dalian 104.24 321 SS SS 22 08 25.0 -3.6
DL2 AMB AMB
comp=Z,440nm,10.6s
DL2 LR LR
comp=N,1µm,17.7s
DL2 LR LR
comp=E,1µm,17.8s
DL2 LR LR
comp=Z,2µm,19.7s
ULN Ulaanbaatar 104.70 336 IAMs_20 IAMs_20 22 45 09.8
comp=Z,2µm,19.0s
ACRG Accra 105.71 78 IAMs_20 IAMs_20 22 44 33.6
comp=Z,2µm,18.0s
BJI Beijing 106.52 325 Pdif **Pdif** **21 49 29.9 -2.4**
BJI PP **PP** **21 53 55.6 -0.8**
BJI Beijing 106.52 325 SS SS 22 08 58.8 -0.7
BJI AMB AMB
comp=Z,51nm,7.9s
BJI LR LR
comp=N,320nm,23.6s
BJI LR LR
comp=E,550nm,23.7s
BJI LR LR
comp=Z,830nm,24.1s
BJT Baijiatuao 106.54 325 IAMs_20 IAMs_20 22 30 47.4
comp=Z,1µm,21.0s
SIM Simferopol' 106.93 26 *e*P **Pdif** **21 49 36.8 +2.7**
SIM *e*SSS SSS 22 13 12.0
SIM MLR MLR
comp=Z,3µm,15.0s
SBA Scott Base 108.48 193 IAMs_20 IAMs_20 22 28 15.6
comp=Z,2µm,21.0s
KURBB Kurchatov Arra 109.02 355 PP **PP** **21 54 11.8 -2.3**
comp=Z,1.0nm,0.9s,baz=2.8,slow=6.4,SNR=4.3
QSPA South Pole Qui 110.24 180 IAMs_20 IAMs_20 22 30 43.8
comp=Z,2µm,22.0s
SOC Sochi 110.29 24 *i* PKIKP **PKiKP** **21 53 43.5 -6.7**
SOC *e*PPP PPP 21 56 45.4
SOC *e* 22 00 30.2
SOC *e*PS **PS** **22 03 43.1 -10**
SOC MLR MLR
comp=Z,8µm,17.0s
KARP Karpathos 110.74 37 IAMs_20 IAMs_20 22 39 39.2
comp=Z,2µm,21.0s
ARG Arkhangelos 110.79 36 IAMs_20 IAMs_20 22 42 24.4
comp=Z,2µm,20.0s
KIV Kislovodsk 111.03 21 *i* PKIKP **PKiKP** **21 53 51.5 -0.2**
KIV *e* 21 54 28.4
KIV *e*PS **PS** **22 04 00.2 -0.4**
KIV *e*SS SS 22 09 58.9 -1.1
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,4µm,21.0s
TOKA Tokat 111.72 28 IAMs_20 IAMs_20 22 44 25.9

comp=Z,2µm,19.0s
MAK Makhachkala 113.46 18 *i* P **Pdif** **21 49 58.8 -4.4**
MAK *e*PPP PPP 21 57 17.5
MAK *e* 22 00 34.1
MAK *e*PS **PS** **22 04 19.7 -3.0**
MAK *e*SSS SSS 22 14 47.1
MAK pmax pmax
comp=Z,214nm,1.5s
NACB Ninganchiao 113.62 309 IAMs_20 IAMs_20 22 37 25.8
comp=Z,1µm,20.0s
WMQ Urumqi 114.29 347 *e*PKP PKPdf 21 53 59.9 +2.0
WMQ LR LR
comp=Z,1µm,20.3s
WMQ LR LR
comp=Z,1µm,22.1s
WMQ LR LR
comp=Z,2µm,23.7s
YULB Yu-li 114.31 309 IAMs_20 IAMs_20 22 32 26.1
comp=Z,2µm,22.0s
WHN Wuhan 114.31 319 PKP **PKiKP** **21 53 55.6 -2.6**
CSS Mathiatis 114.51 33 IAMs_20 IAMs_20 22 45 43.6
comp=Z,2µm,19.0s
TWG Pinlang 114.82 309 IAMs_20 IAMs_20 22 41 41.5
comp=Z,2µm,20.0s
XAN Xi'an 114.85 326 *e*Pdif **Pdif** **21 50 09.9 +0.3**
XAN LR LR
comp=Z,1µm,17.8s
XAN LR LR
comp=Z,2µm,18.2s
XAN LR LR
comp=Z,2µm,17.9s
LZH Lanzhou 115.74 331 *e*PKP **PKPdf** **21 54 04.6 +3.6**
LZH LR LR
comp=Z,1µm,18.1s
LZH LR LR
comp=Z,2µm,18.4s
LZH LR LR
comp=Z,2µm,20.3s
ENH Enshi 117.39 322 IAMs_20 IAMs_20 22 50 09.7
comp=Z,2µm,21.0s
GHAJ Ghor Haditha 118.53 34 IAMs_20 IAMs_20 22 50 27.6
comp=Z,1µm,18.0s
GOMU GeErMu 119.34 338 PKP **PKPdf** **21 54 06.8 -1.4**
GOMU SS SS 22 11 49.5 -0.2
GOMU LR LR
comp=Z,1µm,18.3s
GOMU LR LR
comp=Z,910nm,18.1s
GOMU LR LR
comp=Z,1µm,18.5s
CD2 Chengdu 119.99 327 PKP **PKPdf** **21 54 08.0 -1.2**
CD2 PP **PP** **21 55 32.1 -0.2**
CD2 SS SS 22 11 56.3 -1.7
CD2 AMB AMB
comp=Z,230nm,6.0s
CD2 LR LR
comp=Z,3µm,17.0s
CD2 LR LR
comp=Z,2µm,19.6s
HKPS Hong Kong Po S 120.10 313 IAMs_20 IAMs_20 22 46 09.3
comp=Z,1µm,20.0s
WRAB Tennant Creek 120.66 258 IAMs_20 IAMs_20 22 41 49.6
comp=Z,2µm,20.0s
WRA Warramunga Arr 120.67 258 PKP **PKPdf** **21 54 10.5 -0.2**
comp=Z,4.4nm,0.8s,baz=73,slow=1.9,SNR=13
WRA PKKPbc **PKKPab** **22 04 16.4 +0.1**
comp=Z,2.1nm,0.9s,baz=251,slow=2.4,SNR=11
TNTI Ternate 120.79 284 IAMs_20 IAMs_20 22 37 18.6
comp=Z,1µm,20.0s
ASAR Alice Springs 121.78 254 PKP **PKPdf** **21 54 12.7 -0.1**
comp=Z,3.0nm,0.8s,baz=89,slow=1.9,SNR=7.8
ASAR PKKPbc **PKKPab** **22 04 11.4 +0.2**
comp=Z,1.3nm,0.8s,baz=265,slow=3.5,SNR=7.4
PZH PanZhiHua 124.58 326 PKP **PKPdf** **21 54 17.8 -0.4**
PZH PP **PP** **21 56 05.9 +2.2**
PZH AMB AMB
comp=Z,130nm,7.7s
PZH LR LR
comp=Z,610nm,24.3s
PZH LR LR
comp=Z,880nm,22.0s
PZH LR LR
comp=Z,730nm,21.2s
KMI Kunming 125.15 324 PKP **PKiKP** **21 54 20.8 +1.0**
KMI LR LR
comp=Z,550nm,20.7s
KMI LR LR
comp=Z,1µm,21.6s
KMI LR LR
comp=Z,940nm,20.5s
QIZ Qiongzhong 125.25 313 IAMs_20 IAMs_20 22 53 51.8
comp=Z,1µm,20.0s
QIZ Qiongzhong 125.25 313 PKP **PKPdf** **21 54 19.3 -0.2**
QIZ SS SS 22 13 05.3 -0.5
QIZ AMB AMB
comp=Z,360nm,4.3s
QIZ LR LR
comp=Z,920nm,15.1s
QIZ LR LR
comp=Z,2µm,16.3s
LSA Lhasa 126.51 338 IAMs_20 IAMs_20 22 54 21.8
comp=Z,1µm,21.0s
SLVN Son La 127.41 320 IAMs_20 IAMs_20 22 49 20.6
comp=Z,1µm,20.0s
TNCH TengChong 127.44 328 *e*PKP **PKiKP** **21 54 25.1 +0.7**
TNCH PP **PP** **21 56 25.4 +2.7**
TNCH SS SS 22 13 30.9 -1.7
TNCH AMB AMB
comp=Z,140nm,5.3s
TNCH LR LR
comp=Z,910nm,17.7s
TNCH LR LR
comp=Z,810nm,16.7s
TNCH LR LR
comp=Z,2µm,23.0s
SOEI Soe 127.47 273 IAMs_20 IAMs_20 22 43 35.7
comp=Z,1µm,20.0s
SYO Syowa Base 127.71 166 ⇓*e*Pdiff **Pdif** **21 51 06.2 +0.5**
KKM Kota Kinabalu 128.21 296 IAMs_20 IAMs_20 22 41 16.9
comp=Z,964nm,21.0s
FITZ Fitzroy Crossi 128.34 263 PKP **PKPdf** **21 54 25.6 +0.3**
comp=Z,5.1nm,0.9s,baz=67,slow=7.7,SNR=5.6
MMRI Maumere 129.02 275 IAMs_20 IAMs_20 22 39 42.4
comp=Z,1µm,22.0s
KAPI Kappang 130.05 281 IAMs_20 IAMs_20 22 38 34.4
comp=Z,1µm,22.0s
TSUM Tsumeb 130.12 98 IAMs_20 IAMs_20 22 48 52.3
comp=Z,1µm,19.0s
WIN Windhoek 130.22 103 IAMs_20 IAMs_20 22 50 34.9
comp=Z,1µm,21.0s
DLV Lat 130.95 308 IAMs_20 IAMs_20 23 04 28.1
comp=Z,1µm,19.0s
BKB Balikpapan 131.13 287 IAMs_20 IAMs_20 22 42 10.2
comp=Z,2µm,22.0s
CHTO Chiang Mai 132.28 323 IAMs_20 IAMs_20 22 46 34.1
comp=Z,1µm,22.0s
MAW Mawson 132.49 176 PKP **PKPdf** **21 54 31.7 -0.1**
comp=Z,2.0nm,0.8s,baz=108,slow=3.2,SNR=4.0
CMAR Chiang Mai Arr 132.56 323 PKP **PKPdf** **21 54 33.6 +0.1**
comp=Z,2.6nm,0.8s,baz=343,slow=2.4,SNR=19
UOSS Minazif 132.81 18 IAMs_20 IAMs_20 22 57 44.8
comp=Z,2µm,20.0s
KOOLE Kule 133.11 103 PKPdf **PKPdf** **21 54 34.6 +0.1**
GRTLG Ghanzi 133.84 100 IAMs_20 IAMs_20 22 49 17.8
comp=Z,1µm,21.0s
MBWA Marble Bar 134.35 260 IAMs_20 IAMs_20 22 52 42.6
comp=Z,1µm,20.0s
JAGI Jajag, Banyuwa 136.49 279 IAMs_20 IAMs_20 22 48 44.0
comp=Z,1µm,20.0s
PHDHD Phuduhudu 136.75 98 IAMs_20 IAMs_20 22 50 46.8
comp=Z,1µm,20.0s
KSANE Kasane 136.93 95 PKPdf **PKPdf** **21 54 41.2 -0.5**
KSANE IAMs_20 IAMs_20 22 51 11.4
comp=Z,1µm,21.0s
FURI Furi 137.09 50 IAMs_20 IAMs_20 23 05 22.8
comp=Z,1µm,19.0s
BOSA Boshof 137.97 110 PKP **PKPdf** **21 54 41.4 -2.0**
comp=Z,4.2nm,0.8s,baz=208,slow=1.2,SNR=6.2
BOSA Boshof 137.97 110 PKiKP **PKPdf** **21 54 41.5 -1.9**
LODK Lodwar 137.99 60 IAMs_20 IAMs_20 22 56 58.9
comp=Z,1µm,20.0s
ATD Arta Tunnel 138.07 43 IAMs_20 IAMs_20 22 59 51.5
comp=Z,1µm,22.0s
KULM Kulim 141.13 308 IAMs_20 IAMs_20 22 50 02.9
comp=Z,1µm,21.0s
HYB Hyderabad 141.70 348 *e*PKiKP **PKiKP** **21 54 52.6 -0.7**
HYB *e*SKiKP **SKiKP** **21 58 28.8 -0.8**

PMBI Palembang 142.60 293 IAMs_20 IAMs_20 23 03 20.9
comp=Z,865nm,20.0s
BKNI Bangkinang 143.94 301 IAMs_20 IAMs_20 23 13 42.1
comp=Z,1µm,20.0s
PSI Prapat 144.06 307 PKP PKPbc 21 54 52.8 +0.2
comp=Z,28nm,0.8s,baz=90,slow=2.0,SNR=10
PSI Prapat 144.06 307 PKIKP PKPbc 21 54 52.8 +0.2
PSI MLR MLR
comp=Z,1µm,22.0s
RPSI Rantau Prapat 144.12 306 PKPbc 21 54 52.8 +0.1
RPSI IAMs_20 IAMs_20 22 49 29.5
comp=Z,1µm,22.0s

MEX 14 21:38:50.6±0.5, 15.72N×93.98W, h77km±23km, MD3.8, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCIG		**0.73**	**91**	*e*P		Pn	21 39 04.7	-1.7
PCIG				*e*S		Sn	21 39 16.6	-1.5
TGIG		**1.34**	**38**	*e*P		Pn	21 39 11.5	-2.3
TGIG				*e*S		Sn	21 39 27.5	-3.7
UXUV	**UXUV**	**1.60**	**354**	*e*P		Pn	21 39 16.2	-0.9
UXUV				*e*S		Sn	21 39 36.0	-1.2
CMIG	**Matias Romero**	**1.62**	**328**	*e*P		Pn	21 39 16.1	-1.2
CMIG				*e*S		Sn	21 39 35.3	-2.3
PATR	**El Naranjo**	**1.79**	**109**	P		Pn	21 39 17.6	-2.3
PATR	**El Naranjo**	**1.79**	**109**	*e*P		Pn	21 39 17.9	-1.9
PATR				*e*S		Sn	21 39 39.9	-2.1
PATR	**El Naranjo**	**1.79**	**109**	⇑*e*P		Pn	21 39 17.6	-2.3
PAVE	**Pavencul**	**1.82**	**106**	*e*P		Pn	21 39 19.5	-0.7
PAVE				*e*S		Sn	21 39 41.3	-1.4
HUIG	**Huatulco**	**2.05**	**272**	*e*P		Pn	21 39 23.6	+0.5
HUIG				*e*S		Sn	21 39 43.2	-4.6
NEUV	**Arroyo Zacate**	**2.64**	**319**	*e*P		Pn	21 39 27.2	-3.9
NEUV				*e*S		Sn	21 39 59.3	-2.9
YOIG	**Yosondua**	**3.60**	**289**	*e*P		Pn	21 39 48.9	+4.5
YOIG				*e*S		Sn	21 40 23.4	-2.6
TXIG	**Tlaxiaco**	**3.94**	**293**	*e*P		Pn	21 39 48.9	-0.1
TXIG				*e*S		Sn	21 40 28.9	-5.2
PNIG	**Pinotepa**	**4.04**	**280**	*e*S		Sn	21 40 34.1	-2.2

IDC 14 21:39:57.0±0.8, 30.49S×177.86W, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=28.4km s-min=17.9km az=103.0
ISC 14 21:40:03.3±0.8, 30.53S±0.09×178.1W±0.2, h46km, n23, σ1s72/18, mb3.9/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.28**	**5**	Pn		**Pn**	**21 40 22.1**	**-2.6**
	158nm,0.3s,baz=105,slow=19,SNR=6.8							
RAO				Sn		**Sn**	**21 40 39.8**	**-1.0**
	601nm,0.3s,baz=118,slow=23,SNR=10							
URZ	**Urewera**	**8.68**	**206**	Pn		Pn	21 41 59.8	-6.4
	0.3nm,0.3s,baz=74,slow=12,SNR=2.0							
URZ				Sn		**Sn**	**21 43 37.9**	**-4.9**
	1.4nm,0.3s,baz=22,slow=19,SNR=7.6							
STKA	**Stephens Creek**	**34.41**	**257**	P		**P**	**21 46 46.4**	**+0.1**
	4.8nm,0.8s,baz=58,slow=8.6,SNR=6.3							
	4.8nm,0.8s							
ASAR	**Alice Springs**	**43.06**	**267**	P		**P**	**21 48 00.7**	**+1.7**
	1.1nm,0.7s,baz=109,slow=8.4,SNR=13							
	1.1nm,0.7s							
WRA	**Warramunga Arr**	**44.06**	**272**	P		**P**	**21 48 08.5**	**+1.5**
	1.4nm,0.5s,baz=112,slow=8.1,SNR=19							
	1.4nm,0.5s							
QSPA	**South Pole Qui**	**59.58**	**180**	P		**P**	**21 50 03.4**	**+1.3**
	0.8nm,0.8s,baz=321,slow=0.4,SNR=6.1							
	0.8nm,0.8s							
MAW	**Mawson**	**72.17**	**201**	P		**P**	**21 51 23.4**	**+0.6**
	0.9nm,0.8s,baz=118,slow=8.6,SNR=2.1							
	0.9nm,0.8s							
H03S2	**Juan Fernandez**	**80.43**	**124**	T		T	23 21 20.0	
	baz=236,slow=74							
H03S1	**Juan Fernandez**	**80.44**	**124**	T		T	23 21 21.6	
	baz=236,slow=74							
H03S3	**Juan Fernandez**	**80.45**	**124**	T		T	23 21 26.3	
	baz=236							
H03N3	**Juan Fernandez**	**80.62**	**123**	T		T	23 21 36.7	
	baz=240							
H03N2	**Juan Fernandez**	**80.62**	**123**	T		T	23 21 33.8	
	baz=240							
H03N1	**Juan Fernandez**	**80.64**	**123**	T		T	23 21 31.1	
	baz=240							
PETK	**Petropavlovsk-**	**85.93**	**346**	P		**P**	**21 52 38.6**	**+0.7**
	2.2nm,0.8s,baz=160,slow=5.6,SNR=3.6							
	2.2nm,0.8s							
TXAR	**Lajitas Array**	**92.50**	**57**	P		**P**	**21 53 09.5**	**-0.3**
	0.1nm,0.4s,baz=246,slow=4.2,SNR=4.0							
	0.1nm,0.4s							
MKAR	**Makanchi Array**	**117.82**	**310**	PKP		**PKiKP**	**21 58 46.1**	**+1.7**
	0.5nm,1.0s,baz=103,slow=4.6,SNR=2.1							
FINES	**FINESS Array B**	**145.25**	**340**	PKPbc		**PKPab**	**21 59 35.2**	**+0.1**
	7.3nm,0.7s,baz=58,slow=3.7,SNR=27							
NB2	**NORSAR Subarra**	**148.87**	**351**	PKP		**PKPbc**	**21 59 45.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=15,slow=2.6							
NOA	**NORSAR Array B**	**148.87**	**351**	PKPbc		**PKPbc**	**21 59 44.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=8.5,slow=3.6,SNR=4.5							
HFS	**Hagfors**	**149.36**	**348**	PKPbc		**PKPbc**	**21 59 45.9**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=39,slow=7.4,SNR=2.0							
AKASG	**Malin Array Be**	**151.38**	**323**	PKPbc		**PKPbc**	**21 59 51.5**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=53,slow=2.0,SNR=8.0							
MMAI	**Mount Meron Ar**	**151.52**	**284**	PKPbc		**PKiKP**	**21 59 54.0**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=91,slow=5.8,SNR=12							
BRTR	**Keskin Array B**	**152.62**	**298**	PKPbc		**PKPbc**	**21 59 54.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=138,slow=4.5,SNR=6.0							

IDC 14 21:48:19.9±2.0, 5.70S×150.98E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=106.4km s-min=28.1km az=128.0
ISC 14 21:48:25.0±2.4, 5.8S±0.8×151.0E±0.9, h35km, n6, σ0s52/6, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**227**	Sn		**Sn**	**21 50 39.1**	**-0.5**
	2.9nm,0.3s,baz=30,slow=20,SNR=3.3							
WRA	**Warramunga Arr**	**21.44**	**228**	P		**P**	**21 53 10.5**	**+0.1**
	1.0nm,0.4s,baz=53,slow=11,SNR=23							
	1.0nm,0.4s							
ASAR	**Alice Springs**	**24.21**	**221**	P		**P**	**21 53 39.0**	**+0.3**
	1.9nm,0.7s,baz=53,slow=9.2,SNR=23							
	1.9nm,0.7s							
FITZ	**Fitzroy Crossi**	**27.60**	**242**	P		**P**	**21 54 09.8**	**+0.5**
	1.6nm,0.7s,baz=65,slow=12,SNR=1.9							
	1.6nm,0.7s							
ILAR	**Eielson Array**	**83.77**	**22**	P		**P**	**22 00 50.0**	**-0.4**
	0.5nm,0.6s,baz=234,slow=4.7,SNR=4.4							
	0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**148.88**	**286**	PKPbc		**PKPbc**	**22 08 10.3**	**+0.1**
	0.3nm,0.4s,baz=68,slow=2.2,SNR=2.4							

SOME 14 21:51:09.3, 41.47N×84.53E, h5km
NNC 14 21:51:22.6±7.2, 41.77N×84.01E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=53.4km s-min=34.1km az=145.0
ISC 14 21:51:04.2±3.7, 41.2N±0.2×84.7E±0.1, h10km, n10, σ1s66/15, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**4.30**	**298**	Pg		**Pb**	**21 52 21.0**	**+0.9**
	2.2nm,0.3s							
SHLS				Lg		Lg	21 53 12.9	
	20nm,0.3s							
SHLS	**Shalkode**	**4.30**	**298**	*e*P		**Pb**	**21 52 20.9**	**+0.9**
	2.6nm,0.2s							
SHLS				*e*S		**Sb**	**21 53 12.7**	**+0.6**
	25nm,0.3s							
PDGK	**Podgornoye**	**4.36**	**300**	⇑Pn		**Pg**	**21 52 25.3**	**-2.4**
	0.5nm,0.3s							
PDGK				⇓Pg		Pg	21 52 40.6	+13
	1.9nm,0.4s							
PDGK				⇓Lg		Lg	21 53 21.2	
	11nm,0.6s							
UZB	**Uzunbulak**	**4.59**	**296**	Pg		**Pg**	**21 52 31.5**	**-0.8**
	2.1nm,0.2s							
UZB				Lg		Lg	21 53 31.0	
	6.1nm,0.3s							
UZB	**Uzunbulak**	**4.59**	**296**	*e*P		**Pg**	**21 52 31.5**	**-0.8**
	2.1nm,0.2s							
UZB				*e*S		**Sg**	**21 53 30.6**	**-1.1**
	6.8nm,0.3s							

KPKS Kokpek 4.95 299 Pg **Pg** **21 52 37.3 -1.7**
0.3nm,0.1s
KPKS Lg Lg 21 53 40.5
5.9nm,0.2s
SATY Saty 4.98 293 Pg **Pg** **21 52 39.2 -0.5**
1.2nm,0.1s
SATY Lg Lg 21 53 43.8
8.1nm,0.1s
MK31 Makanchi Array 5.81 344 ⇑Pn **Pb** **21 52 45.7 +0.1**
baz=54,slow=2.9,SNR=7.0
MK31 Pg Pg 21 53 01.7 +6.3
0.2nm,0.2s,baz=166,slow=16,SNR=7.9
MK31 ⇑Sn **Sn** **21 53 40.8 +3.8**
0.8nm,0.5s
MK31 ⇓Lg Lg 21 54 07.6
4.0nm,0.5s,baz=150,slow=28,SNR=6.1
TDK Taldyqorghan 5.92 312 *e*P **Pg** **21 52 56.2 -1.3**
8.8nm,0.1s
TDK *e*S **Sg** **21 54 13.2 -0.9**
13nm,0.1s
ZSN Zaisan 6.21 1 *e*P **Pg** **21 53 01.7 -1.4**
0.3nm,0.1s
ZSN *e*S **Sg** **21 54 22.7 -0.8**
11nm,0.5s

IDC 14 21:52:34.8±7.7, 1.60N×127.35E, h154km±72km, mb3.5/7, mbtmp3.9/8, Error ellipse: s-maj=91.6km s-min=16.5km az=67.0
DJA 14 21:52:36.4±0.7, 2.1N±4.1×12.7E±.1, h146km±6km, M4.0/7, MLv4.0/7
ISC 14 21:52:34.3±0.9, 1.76N±0.08×127.5E±0.1, h150km, n12, σ1s22/15, mb3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**187**	P		**Pn**	**21 53 01.5**	**+2.5**
TNTI				S		**Sn**	**21 53 19.6**	**+1.8**
SGSI	**Sangihe**	**2.74**	**315**	P		**Pn**	**21 53 19.1**	**+0.7**
SGSI				S		**Sn**	**21 53 52.7**	**+0.3**
KMSI	**Cibinong**	**3.69**	**252**	P		**Pn**	**21 53 31.3**	**+0.7**
SANI	**Sanana**	**4.07**	**202**	P		**Pn**	**21 53 36.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.81**	**185**	P		**P**	**21 56 51.8**	**-1.6**
	1.2nm,0.6s,baz=9.0,slow=9.5,SNR=9.9							
WRA	**Warramunga Arr**	**22.59**	**163**	P		**P**	**21 57 21.3**	**-1.1**
	2.7nm,0.5s,baz=339,slow=10,SNR=98							
WRA				PcP		**PcP**	**22 01 10.1**	**-0.4**
	0.3nm,0.7s,baz=334,slow=1.7,SNR=2.3							
	2.7nm,0.5s							
ASAR	**Alice Springs**	**26.03**	**166**	P		**P**	**21 57 52.8**	**-0.9**
	0.8nm,0.5s,baz=344,slow=7.6,SNR=13							
	0.8nm,0.5s							
STKA	**Stephens Creek**	**36.03**	**159**	P		**P**	**21 59 20.5**	**-0.7**
	4.0nm,0.6s,baz=348,slow=7.8,SNR=10							
	4.0nm,0.6s							
SONM	**Songino Array**	**49.40**	**341**	P		**P**	**22 01 09.5**	**+0.6**
	0.8nm,0.6s,baz=134,slow=10,SNR=2.4							
	0.8nm,0.6s							
MKAR	**Makanchi Array**	**59.60**	**326**	P		**P**	**22 02 22.8**	**+0.4**
	0.3nm,0.4s,baz=115,slow=7.4,SNR=7.0							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**63.80**	**328**	P		**P**	**22 02 50.8**	**+0.4**
	0.7nm,0.6s,baz=127,slow=6.1,SNR=4.5							
	0.7nm,0.6s							
VNDA	**Vanda**	**81.39**	**173**	P		**P**	**22 04 32.9**	**-0.9**
	0.5nm,0.6s,baz=314,slow=6.7,SNR=6.0							
	0.5nm,0.6s							

NEIC 14 21:56:25.1±1.9, 4.49N±0.09×94.90E±0.10, h40km±8km, mb4.6/30, Error ellipse: s-maj=14.9km s-min=11.3km az=58.0
IDC 14 21:56:26.4±0.7, 4.52N×95.01E, h59km±4km, mb3.9/20, mbtmp4.2/23, MS3.2/3, Error ellipse: s-maj=25.1km s-min=8.9km az=42.0
BKK 14 21:56:31.1±1.4, 5.1N±8.3×9.6E±1.2, h10km, M4.2/17, mB4.6/9, mb4.5/12, Mjma3.9/17, ML4.5/3, MLv4.5/3, Mw(mB)3.8/9
ISC 14 21:56:26.5±0.6, 4.49N±0.06×94.97E±0.06, h61km±4km, h61km:pP-P, n104, σ1s09/110, mb4.4/45, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.10**	**69**	Pn		**Pn**	**21 56 58.6**	**-0.8**
LHMI	**Lhok Sumawe**	**2.10**	**69**	P		**Pn**	**21 56 58.9**	**-0.5**
GSI	**Gunungsitoli**	**4.09**	**140**	Pn		**Pn**	**21 57 25.6**	**-1.0**
PSI	**Prapat**	**4.29**	**113**	P		**Pn**	**21 57 30.9**	**+1.5**
	12nm,0.4s,baz=328,slow=12,SNR=6.8							
PSI				S		**Sn**	**21 58 19.0**	**+0.8**
	27nm,0.6s,baz=356,slow=19,SNR=5.1							
PSI				LR		LR	21 59 16.9	
	comp=Z,208nm,18.8s,baz=274,slow=40							
PSI	**Prapat**	**4.29**	**113**	P		**Pn**	**21 57 31.5**	**+2.1**
RPSI	**Rantau Prapat**	**4.33**	**114**	Pn		**Pn**	**21 57 29.1**	**-0.8**
RPSI	**Rantau Prapat**	**4.33**	**114**			**Pn**	**21 57 30.9**	**+1.0**
RPSI						**Sn**	**21 58 19.0**	**-0.1**
KULM	**Kulim**	**5.72**	**82**	Pn		**Pn**	**21 57 47.3**	**-1.6**
KULM	**Kulim**	**5.72**	**82**	P		**Pn**	**21 57 47.5**	**-1.4**
RNTT	**Ranong**	**5.99**	**35**	P		**Pn**	**21 57 51.8**	**-0.8**
IPM	**Ipoh**	**6.04**	**90**	Pn		**Pn**	**21 57 51.8**	**-1.5**
IPM	**Ipoh**	**6.04**	**90**	P		**Pn**	**21 57 52.7**	**-0.6**
SRIT	**Nakonsritamara**	**6.15**	**48**			**Pn**	**21 57 53.3**	**-1.5**
SRIT	**Nakonsritamara**	**6.15**	**48**	P		**Pn**	**21 57 53.5**	**-1.3**
KHLT	**Khaolaem Dam**	**10.85**	**19**	P		**Pn**	**21 59 00.1**	**+1.0**
MNAI	**Manna**	**11.87**	**138**	Pn		**Pn**	**21 59 12.6**	**-0.4**
CM05	**Chiang Mai Arr**	**14.37**	**15**	P		**P**	**21 59 50.1**	**-2.0**
	0.0nm14nm,0.9s							
CM04	**Chiang Mai Arr**	**14.38**	**16**	P		**P**	**21 59 50.2**	**-2.0**
	0.0nm120nm16nm,0.8s							
CM13	**Chiang Mai Arr**	**14.38**	**15**	P		**Pn**	**21 59 49.2**	**+2.3**
	0.0nm144nm17nm,0.8s							
CM01	**Chiang Mai Arr**	**14.39**	**15**	P		**P**	**21 59 51.0**	**-1.4**
	0.0nm141nm18nm,0.8s							
CM02	**Chiang Mai Arr**	**14.40**	**15**	P		**P**	**21 59 50.7**	**-1.8**
	0.0nm123nm17nm,0.8s							
CM09	**Chiang Mai Arr**	**14.42**	**16**	P		**P**	**21 59 50.5**	**-2.2**
CM31	**Chiang Mai Arr**	**14.42**	**15**	Pn		**Pn**	**21 59 47.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**14.42**	**15**	P		**Pn**	**21 59 47.8**	**+0.3**
	8.6nm,0.7s,baz=201,slow=12,SNR=76							
CMAR				LR		LR	22 05 36.8	
	comp=Z,87nm,19.6s,baz=205,slow=38							
PALK	**Pallekele**	**14.46**	**282**	P		**Pn**	**21 59 48.3**	**+0.2**
	7.9nm,1.0s,baz=97,slow=15,SNR=1.5							
PALK				S		Sn	22 02 14.2	-13
	8.7nm,0.5s,baz=0.5,slow=19,SNR=8.6							
PALK				LR		LR	22 04 35.2	
	comp=Z,135nm,20.0s,baz=110,slow=34							
CHTO	**Chiang Mai**	**14.76**	**15**			**Pn**	**21 59 53.4**	**+1.5**
KMI	**Kunming**	**21.84**	**19**	P		**P**	**22 01 16.3**	**+2.1**
KMI				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KMI				LR		LR		
	comp=N,170nm,14.0s							
KMI				LR		LR		
	comp=E,190nm,18.6s							
KMI				LR		LR		
	comp=Z,200nm,19.1s							
PZH	**PanZhiHua**	**22.83**	**16**	P		**P**	**22 01 26.4**	**+1.6**
LSA	**Lhasa**	**25.34**	**352**	P		**P**	**22 01 48.1**	**-0.3**
LSA	**Lhasa**	**25.34**	**352**	P		**P**	**22 01 46.8**	**-1.5**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
H08S2	**Diego Garcia H**	**25.46**	**242**	T		T	22 28 55.4	
	baz=64,slow=75							
H08S3	**Diego Garcia H**	**25.46**	**242**	T		T	22 28 51.9	
	baz=64,slow=75							
H08S1	**Diego Garcia H**	**25.48**	**242**	T		T	22 28 55.5	
	baz=64,slow=75							
TOLI2	**Tolitoli**	**25.99**	**97**	P		**P**	**22 01 55.2**	**+1.2**
XAN	**Xi'an**	**32.14**	**22**	P		**P**	**22 02 46.5**	**-1.9**
XAN				pP		pP	22 02 58.9	-4.3
XAN				pmax		pmax		
	comp=Z,27nm,0.7s							
LYN	**LuoYang**	**34.04**	**26**	P		**P**	**22 03 04.8**	**-0.1**
LYN				pmax		pmax		
	comp=Z,28nm,0.7s							
GTA	**Gaotai**	**35.04**	**7**	*e*P		**P**	**22 03 12.9**	**-0.7**
GTA				sP		pP	22 03 28.6	0.0
GTA				SS		SS	22 10 54.5	-22
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GTA				LR		LR		
	comp=N,220nm,15.9s							

GTA				LR	LR		
	comp=E,290nm,15.9s						
GTA				LR	LR		
	comp=Z,170nm,19.5s						
NIL	**Nilore**	**35.37**	**328**	P	**P**	**22 03 15.6**	**-0.9**
NIL				IAmb	IAmb	22 03 18.5	
	comp=Z,4.5nm,0.8s						
NJ2	**Nanjing**	**35.40**	**36**	*eP*	**P**	**22 03 18.0**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**37.66**	**127**	P	**P**	**22 03 35.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**37.66**	**127**	P	**P**	**22 03 35.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=10,slow=5.8,SNR=2.0						
	comp=Z,1.0nm,0.5s						
FAKI	**Fak Fak**	**37.97**	**101**	P	**P**	**22 03 39.4**	**+0.6**
KSH	**Kashi**	**38.88**	**336**	P	**P**	**22 03 45.6**	**-0.7**
KSH				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.16**	**20**	*eP*	**P**	**22 03 50.4**	**+1.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,5.7s						
WMQ	**Urumqi**	**39.70**	**352**	*eP*	**P**	**22 03 54.5**	**+1.6**
TARG	**Taragay, Kyrgy**	**40.14**	**340**	P	**P**	**22 03 57.4**	**+0.5**
BJT	**Baijiatuau**	**40.22**	**25**	P	**P**	**22 03 58.1**	**+0.9**
BJI	**Beijing**	**40.24**	**25**	P	**P**	**22 03 57.1**	**-0.2**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KDJ	**Kajisay**	**40.71**	**340**	P	**P**	**22 04 02.3**	**+0.9**
GAR	**Garm**	**41.00**	**330**	P	**P**	**22 04 03.1**	**-0.7**
GAR				IAmb	IAmb	22 04 24.0	
	comp=Z,21nm,1.3s						
SIMJ	**Simiganj**	**41.40**	**329**	P	**P**	**22 04 07.4**	**+0.3**
ARSB	**Arslanbob**	**41.64**	**335**	P	**P**	**22 04 09.5**	**+0.4**
UCH	**Uchtor**	**41.77**	**337**	P	**P**	**22 04 11.7**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**41.96**	**339**	P	**P**	**22 04 12.7**	**+1.0**
	SNR=7.5						
KBK	**Karagaybulak**	**41.97**	**338**	P	**P**	**22 04 13.4**	**+1.7**
	SNR=9.7						
AAK	**Ala-Archa**	**42.13**	**337**	P	**P**	**22 04 14.2**	**+1.1**
AAK				IAmb	IAmb	22 04 19.7	
	comp=Z,8.4nm,0.8s						
EKS2	**Erkin-Say**	**42.43**	**337**	P	**P**	**22 04 15.6**	**+0.1**
	SNR=6.1						
USP	**Ospenovka**	**42.67**	**338**	P	**P**	**22 04 18.2**	**+1.0**
	SNR=29						
MKAR	**Makanchi Array**	**43.55**	**347**	P	**P**	**22 04 23.8**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=173,slow=7.1,SNR=31						
	comp=Z,3.4nm,0.6s						
KK31	**Karatay Array**	**44.15**	**334**	P	**P**	**22 04 29.9**	**+0.7**
SONM	**Songino Array**	**44.29**	**11**	P	**P**	**22 04 29.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=175,slow=8.7,SNR=2.8						
	comp=Z,1.1nm,0.6s						
KSRS	**Korea Array**	**44.54**	**38**	P	**P**	**22 04 31.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=221,slow=9.5,SNR=4.1						
	comp=Z,1.3nm,0.6s						
WB0	**Warramunga Arr**	**45.64**	**123**	P	**P**	**22 04 41.6**	**+0.3**
WB0				IAmb	IAmb	22 04 43.1	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**45.67**	**123**	P	**P**	**22 04 42.0**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=299,slow=8.2,SNR=23						
	comp=Z,2.8nm,0.8s						
AS31	**Alice Springs**	**47.15**	**128**	P	**P**	**22 04 53.3**	**+0.1**
ASAR	**Alice Springs**	**47.15**	**128**	P	**P**	**22 04 53.7**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=300,slow=8.4,SNR=8.8						
ASAR				pP	**pP**	**22 05 07.3**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=302,slow=7.6,SNR=8.0						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**48.01**	**346**	P	**P**	**22 04 59.7**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=169,slow=7.0,SNR=29						
KURBB				pP	**pP**	**22 05 15.8**	**+1.4**
	comp=Z,2.8nm,0.8s,baz=165,slow=7.3,SNR=6.4						
KURBB				PcP	**PcP**	**22 06 27.5**	**+0.9**
	baz=158,slow=2.8						
	comp=Z,3.1nm,0.6s						
KURK	**Kurchatov**	**48.08**	**346**	P	**P**	**22 04 59.8**	**-0.1**
KURK				IAmb	IAmb	22 05 01.9	
	comp=Z,4.4nm,0.8s						
BNX	**BinXian**	**49.85**	**29**	⇑P	**P**	**22 05 12.4**	**-1.2**
BNX				pP	**pP**	**22 05 29.0**	**-0.2**
BNX				sP	**sP**	**22 05 36.0**	**-0.1**
BNX				PcP	**PcP**	**22 06 32.8**	**-0.6**
BNX				S	**S**	**22 12 19.8**	**+0.8**
BNX				sS	**sS**	**22 12 46.6**	**+1.8**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,200nm,4.7s						
BNX				LR	LR		
	comp=N,560nm,17.9s						
BNX				LR	LR		
	comp=E,600nm,16.1s						
BNX				LR	LR		
	comp=Z,1μm,18.6s						
ZAA0	**Zalesovo Array**	**50.00**	**352**	P	**P**	**22 05 13.6**	**-1.0**
ZAA0				IAmb	IAmb	22 05 16.4	
	comp=Z,2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**50.00**	**352**	P	**P**	**22 05 13.9**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=182,slow=7.2,SNR=14						
ZALV				pP	**pP**	**22 05 30.0**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=184,slow=5.4,SNR=3.9						
	comp=Z,1.9nm,0.4s						
BVAR	**Borovoye Array**	**52.44**	**342**	P	**P**	**22 05 32.5**	**-0.3**
	comp=Z,9.0nm,0.7s,baz=142,slow=8.6,SNR=37						
BVAR				pP	**pP**	**22 05 47.2**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=115,slow=6.7,SNR=4.3						
	comp=Z,9.0nm,0.7s						
BRVK	**Borovoye**	**52.51**	**341**	P	**P**	**22 05 32.8**	**-0.5**
BRVK				IAmb	IAmb	22 05 34.1	
	comp=Z,7.6nm,0.7s						
AB31	**Akbulak array**	**53.59**	**332**		**P**	**22 05 41.9**	**+0.6**
AB31				IAmb	IAmb	22 06 01.2	
	comp=Z,5.1nm,0.8s						
AKTO	**Aktyubinsk**	**55.30**	**332**	P	**P**	**22 05 53.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=167,slow=6.8,SNR=5.5						
	comp=Z,1.4nm,0.6s						
STKA	**Stephens Creek**	**57.20**	**133**	P	**P**	**22 06 06.2**	**-1.4**
	comp=Z,3.3nm,1.1s,baz=14,slow=12,SNR=2.7						
	comp=Z,3.3nm,1.1s						
ARTI	**Arti**	**59.35**	**337**	P	**P**	**22 06 21.9**	**-0.3**
ARTI				IAmb	IAmb	22 06 40.9	
	comp=Z,7.7nm,0.9s						
ARTI	**Arti**	**59.35**	**337**	P	**P**	**22 06 21.4**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=130,slow=2.6,SNR=7.1						
ARTI				pP	**pP**	**22 06 36.9**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=163,slow=3.5,SNR=5.6						
	comp=Z,3.0nm,0.5s						
KBZ	**Khabaz**	**60.15**	**319**	P	**P**	**22 06 28.1**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=117,slow=9.1,SNR=4.1						
	comp=Z,1.6nm,0.8s						
H04N2	**CROZET ISLANDS**	**63.29**	**212**	T	T	23 16 02.0	
	baz=51,slow=75,SNR=100						
H04N1	**CROZET ISLANDS**	**63.30**	**212**	T	T	23 16 00.3	
	baz=51,slow=75,SNR=98						
H04N3	**CROZET ISLANDS**	**63.30**	**212**	T	T	23 15 59.9	
	baz=51,slow=75,SNR=98						
H04S1	**CROZET ISLANDS**	**63.67**	**212**	T	T	23 16 29.4	
	baz=49,slow=76,SNR=25						
H04S3	**CROZET ISLANDS**	**63.68**	**212**	T	T	23 16 29.1	
	baz=49,slow=76,SNR=53						
H04S2	**CROZET ISLANDS**	**63.69**	**212**	T	T	23 16 30.3	
	baz=49,slow=76,SNR=29						
BRTR	**Keskin Array B**	**65.27**	**312**	P	**P**	**22 07 02.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=127,slow=7.9,SNR=16						
BRTR				pP	**pP**	**22 07 18.5**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=126,slow=8.4,SNR=6.6						
	comp=Z,1.6nm,0.6s						
IDI	**Anoyia**	**71.18**	**306**	P	**P**	**22 07 39.2**	**-0.1**
IDI				IAmb	IAmb	22 08 22.5	
	comp=Z,14nm,1.2s						
IDI	**Anoyia**	**71.18**	**306**	LR	LR	22 44 57.0	
	comp=Z,608nm,18.0s,baz=335,slow=41						
AKASG	**Malin Array Be**	**71.31**	**322**	P	**P**	**22 07 38.7**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=92,slow=5.3,SNR=14						
	comp=Z,1.2nm,0.5s						
KIEV	**Kiev**	**71.32**	**322**	P	**P**	**22 07 38.6**	**-1.1**
MLR	**Muntele Rosu**	**72.17**	**316**	P	**P**	**22 07 44.7**	**-0.4**
MLR				IAmb	IAmb	22 07 47.2	
	comp=Z,4.4nm,0.9s						
BUR08	**Bucovina Ar. S**	**73.12**	**318**	P	**P**	**22 07 51.3**	**+0.6**
BUR08				IAmb	IAmb	22 08 09.4	
	comp=Z,7.7nm,1.4s						
LVZ	**Lovozero**	**75.01**	**340**	P	**P**	**22 08 00.8**	**-0.3**
LVZ				IAmb	IAmb	22 08 27.4	
	comp=Z,11nm,1.1s						

KOLS	**Kolonicke sedl**	**75.29**	**319**	*eP*	**P**	**22 08 06.7**	**+3.5**
FINES	**FINESS Array B**	**76.08**	**332**	P	**P**	**22 08 07.4**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=110,slow=5.6,SNR=24						
FINES				pP	**pP**	**22 08 23.9**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=77,slow=4.1,SNR=4.4						
	comp=Z,1.2nm,0.3s						
KEV	**Kevo**	**78.29**	**341**	P	**P**	**22 08 18.6**	**-1.0**
KEV				IAmb	IAmb	22 08 20.7	
	comp=Z,14nm,1.0s						
ARCES	**ARCESS Array B**	**78.71**	**340**	P	**P**	**22 08 22.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=96,slow=6.2,SNR=10						
	comp=Z,2.3nm,0.8s						
GERES	**GERESS Array B**	**80.89**	**319**	P	**P**	**22 08 35.4**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=95,slow=6.7,SNR=8.6						
GERES				pP	**pwP**	**22 08 52.3**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=102,slow=4.4,SNR=7.5						
	comp=Z,1.2nm,0.7s						
STAL	**STALIGIAL**	**81.42**	**316**	P	**P**	**22 08 37.4**	**+0.3**
STAL				IAmb	IAmb	22 08 47.5	
	comp=Z,15nm,1.3s						
HFS	**Hagfors**	**81.78**	**330**	P	**P**	**22 08 38.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=119,slow=5.1,SNR=5.6						
	comp=Z,0.8nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**83.13**	**316**	P	**P**	**22 08 48.0**	**+1.7**
FUORN				IAmb	IAmb	22 09 08.8	
	comp=Z,5.0nm,1.1s						
SPITS	**Spitsbergen Ar**	**83.30**	**348**	P	**P**	**22 08 45.7**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=96,slow=11,SNR=3.6						
	comp=Z,4.1nm,0.8s						
C18K	**Utukok River**	**90.86**	**21**	P	**P**	**22 09 22.7**	**-0.5**
E19K	**Redstone River**	**92.63**	**22**	P	**P**	**22 09 32.0**	**+0.7**

IDC ***14*** *22:42:39.6±11.0, 17.44S×177.99W, h392km±119km, mb3.3/8, mbtmp4.1/8, Error ellipse: s-maj=38.4km s-min=27.6km az=36.0*

ISC 14 22:42:40.3±0.8, 17.4S±0.2×178.0W±0.2, h400km, n9, σ1§15/9, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.18**	**191**	P	**P**		**22 46 54.0**	**-1.3**
	2.9nm,0.5s,baz=310,slow=7.9,SNR=1.4							
	2.9nm,0.5s							
STKA	**Stephens Creek**	**39.18**	**241**	P	**P**		**22 49 32.8**	**+1.1**
	3.3nm,0.5s,baz=93,slow=10,SNR=9.1							
	3.3nm,0.5s							
WRA	**Warramunga Arr**	**45.08**	**259**	P	**P**		**22 50 18.6**	**-0.3**
	1.3nm,0.6s,baz=96,slow=6.8,SNR=11							
	1.3nm,0.6s							
ASAR	**Alice Springs**	**45.27**	**254**	P	**P**		**22 50 20.4**	**0.0**
	16nm,0.6s,baz=89,slow=8.2,SNR=136							
	16nm,0.6s							
QSPA	**South Pole Qui**	**72.61**	**180**	P	**P**		**22 53 25.5**	**+0.3**
	0.7nm,0.8s,baz=301,slow=0.3,SNR=5.5							
	0.7nm,0.8s							
ILAR	**Eielson Array**	**85.35**	**13**	P	**P**		**22 54 32.8**	**-0.4**
	0.2nm,0.5s,baz=204,slow=4.7,SNR=2.4							
	0.2nm,0.5s							
TXAR	**Lajitas Array**	**85.44**	**58**	P	**P**		**22 54 36.1**	**+1.6**
	0.7nm,0.8s,baz=202,slow=6.2,SNR=4.4							
	0.7nm,0.8s							
PDAR	**Pinedale Array**	**86.76**	**43**	P	**P**		**22 54 40.1**	**-0.7**
	0.4nm,0.6s,baz=293,slow=6.4,SNR=2.9							
	0.4nm,0.6s							
GERES	**GERESS Array B**	**147.25**	**346**	PKPbc	**PKPbc**		**23 01 36.2**	**-1.3**
	0.3nm,0.6s,baz=56,slow=6.1,SNR=2.7							

BJI ***14*** *22:42:58.9, 1.31N×128.60E, h126km, mb4.6/31*
NEIC ***14*** *22:43:05.4±1.6, 1.99N±0.08×128.23E±0.07, h117km±6km, mb4.6/38, Error ellipse: s-maj=12.9km s-min=9.7km az=209.0*
DJA ***14*** *22:43:06.4±0.4, 2.1N±3.1×12.8E±.1, h109km±5km, M4.6/15, mB5.3/7, mb4.9/12, MLv4.4/15, Mw(mB)4.7/7*
IDC ***14*** *22:43:07.6±1.9, 1.89N×128.17E, h149km±17km, mb3.9/24, mbtmp4.3/27, Error ellipse: s-maj=19.0km s-min=9.0km az=77.0*

ISC 14 22:43:06.2±0.3, 1.91N±0.05×128.17E±0.06, h134km, n105, σ1§08/110, mb4.4/51, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.39**	**215**			**Pn**	**22 43 31.9**	**-1.4**
TNTI					Sn	**Sn**	**22 43 53.0**	**-1.1**
TNTI	**Ternate**	**1.39**	**215**	P	**P**	**Pn**	**22 43 32.3**	**-1.1**
TNTI					S	**Sn**	**22 43 54.3**	**+0.3**
SGSI	**Sangihe**	**3.18**	**304**	P	**P**	**Pn**	**22 43 55.0**	**-0.3**
SGSI					S	**Sn**	**22 44 32.5**	**-0.7**
SWI	**Sorong**	**4.14**	**132**	P	**P**	**Pn**	**22 44 07.3**	**-0.6**
KMSI	**Cibinong**	**4.39**	**253**	P	**P**	**Pn**	**22 44 10.6**	**-0.7**
SANI	**Sanana**	**4.50**	**209**	P	**P**	**Pn**	**22 44 11.1**	**-1.6**
NLAI	**Namlea**	**5.22**	**192**	P	**P**	**Pn**	**22 44 23.3**	**+0.9**
	0.4nm118nm,0.9s							
MSAI	**Masohi**	**5.27**	**172**	P	**P**	**Pn**	**22 44 24.7**	**+1.6**
	0.4nm5μm96nm,1.4s							
LUWI	**Luwuk**	**6.14**	**242**	Pn	**Pn**		**22 44 35.9**	**+1.1**
LUWI	**Luwuk**	**6.14**	**242**	P	**Pn**		**22 44 36.1**	**+1.4**
	0.9nm3μm245nm,0.8s							
FAKI	**Fak Fak**	**6.29**	**140**	Pn	**Pn**		**22 44 36.7**	**0.0**
MRSI	**Marisa**	**6.39**	**257**	P	**Pn**		**22 44 38.6**	**+0.6**
	0.4nm100nm,0.6s							
APSI	**Ampana**	**7.10**	**247**	P	**Pn**		**22 44 46.4**	**-1.2**
	0.6nm2μm207nm,0.7s							
TOLI2	**Tolitoli**	**7.43**	**264**	Pn	**Pn**		**22 44 51.8**	**-0.2**
PCI	**Palu**	**8.79**	**252**	P	**Pn**		**22 45 11.5**	**+1.2**
	62nm,0.6s							
TTSI	**Tana Toraja**	**9.69**	**240**	P	**Pn**		**22 45 22.0**	**-0.4**
BNSI	**Bone**	**10.21**	**232**	P	**Pn**		**22 45 29.1**	**-0.2**
	108nm,0.8s							
SPSI	**Sidrap Palu**	**10.22**	**235**	P	**Pn**		**22 45 30.9**	**+1.3**
BKSI	**Bulukumba**	**10.78**	**228**	P	**Pn**		**22 45 38.7**	**+1.7**
KAPI	**Kappang**	**10.86**	**231**	Pn	**Pn**		**22 45 38.4**	**+0.3**
KAPI	**Kappang**	**10.86**	**231**	P	**Pn**		**22 45 38.9**	**+0.8**
	22nm,0.7s,baz=51,slow=5.7,SNR=8.6							
BATI	**Baumata**	**12.84**	**200**	P	**Pn**		**22 46 04.7**	**+0.6**
	24nm,0.8s,baz=295,slow=17,SNR=2.4							
JAY	**Jayapura**	**13.28**	**109**	P	**Pn**		**22 46 12.3**	**+2.7**
	10.0nm,0.8s,baz=194,slow=4.2,SNR=4.3							
SBUM	**Sibu**	**15.95**	**272**		**Pn**		**22 46 45.1**	**+1.8**
JAGI	**Jajag, Banyuwa**	**17.37**	**233**	P	**P**		**22 47 01.3**	**+1.5**
JAGI					IAmb	IAmb	22 47 11.7	
	comp=Z,61nm,1.4s							
KNRA	**Kununurra**	**17.48**	**178**	P	**P**		**22 47 01.1**	**0.0**
FITZ	**Fitzroy Crossi**	**20.04**	**187**	P	**P**		**22 47 29.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.04**	**187**	P	**P**		**22 47 27.4**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=15,slow=9.9,SNR=1.4							
	comp=Z,1.4nm,0.8s							
COEN	**Coen**	**21.67**	**137**	P	**P**		**22 47 46.0**	**-0.5**
COEN					IAmb	IAmb	22 48 28.3	
	comp=Z,21nm,1.3s							
WB0	**Warramunga Arr**	**22.39**	**164**	P	**P**		**22 47 53.3**	**-0.4**
WRA	**Warramunga Arr**	**22.54**	**165**	P	**P**		**22 47 54.9**	**-0.3**
	comp=Z,3.4nm,0.5s,baz=347,slow=10,SNR=44							
WRA				ScP	**ScP**		**22 55 06.6**	**-3.0**
	comp=Z,0.3nm,0.6s,baz=342,slow=2.7,SNR=1.6							
	comp=Z,3.4nm,0.5s							
ASAR	**Alice Springs**	**26.02**	**168**	P	**P**		**22 48 26.8**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=357,slow=7.2,SNR=11							
ASAR				PcP	**PcP**		**22 51 51.6**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=344,slow=2.3,SNR=17							
ASAR				ScP	**ScP**		**22 55 17.8**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=335,slow=4.1,SNR=3.2							
	comp=Z,0.7nm,0.3s							
CTAO	**Charters Tower**	**28.15**	**142**	P	**P**		**22 48 46.8**	**+0.8**
CTAO					IAmb	IAmb	22 49 23.6	
	comp=Z,21nm,1.3s							
GSI	**Gunungsitoli**	**30.59**	**269**	P	**P**		**22 49 06.9**	**-0.8**
GSI					IAmb	IAmb	22 49 41.0	
	comp=Z,25nm,1.2s							
NJ2	**Nanjing**	**31.24**	**345**	*eP*	**P**		**22 49 15.1**	**+1.9**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**33.04**	**302**	P	**P**		**22 49 30.2**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=104,slow=7.7,SNR=5.4							
CMAR				PcP	**PcP**		**22 52 10.7**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=142,slow=2.4,SNR=4.1							
	comp=Z,0.7nm,0.3s							
CHTO	**Chiang Mai**	**33.20**	**302**	P	**P**		**22 49 31.3**	**+0.8**
KMI	**Kunming**	**33.68**	**315**	P	**P**		**22 49 37.3**	**+2.5**
KMI					pmax	pmax		
	comp=Z,8.0nm,1.0s							
EIDS	**Eidsvold**	**35.04**	**142**	P	**P**		**22 49 45.3**	**-1.0**
EIDS					IAmb	IAmb	22 49 46.8	
	comp=Z,11nm,0.9s							
PZH	**PanZhiHua**	**35.25**	**316**	P	**P**		**22 49 51.3**	**+3.1**

BBOO	**Buckleboo**	**35.33**	**168**	P	**P**	**22 49 47.8**	**-0.8**
BBOO				IAmb	IAmb	22 50 11.0	
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**35.37**	**360**	P	**P**	**22 49 48.4**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=176,slow=10,SNR=4.5						
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**35.69**	**14**	P	**P**	**22 49 50.5**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=180,slow=8.0,SNR=3.1						
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**35.93**	**160**	P	**P**	**22 49 53.9**	**0.0**
	comp=Z,12nm,0.4s,baz=335,slow=9.0,SNR=23						
	comp=Z,12nm,0.4s						
XAN	**Xi'an**	**36.68**	**333**	P	**P**	**22 50 01.4**	**+1.1**
XAN				pP	pP	22 50 27.5	-1.2
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
ARMA	**Armidale**	**39.16**	**147**	P	**P**	**22 50 21.7**	**+0.5**
ARMA				IAmb	IAmb	22 50 22.6	
	comp=Z,7.0nm,0.8s						
BJI	**Beijing**	**39.49**	**345**	P	**P**	**22 50 23.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LZH	**Lanzhou**	**40.79**	**329**	*eP*	**P**	**22 50 35.9**	**+1.2**
LZH				pP	pP	22 51 01.8	-1.7
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
H11S3	**WAKE ISLAND Hy**	**41.19**	**64**	T	T	23 34 28.3	
	baz=24,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**41.20**	**64**	T	T	23 34 13.7	
	baz=24,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**41.20**	**64**	T	T	23 34 13.5	
	baz=24,slow=76,SNR=13						
HHC	**Hu-ho-hao-te**	**41.57**	**341**	*eP*	**P**	**22 50 41.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO	**Baotou**	**41.88**	**339**	*eP*	P	22 50 34.0	-9.4
BTO				pP	pP	22 51 02.5	-10
BTO				sP	pwP	22 51 17.3	+0.7
BTO				pmax	pmax		
	comp=Z,12nm,0.5s						
BTO				pmax	pmax		
	comp=Z,980nm,13.3s						
SHL	**Shillong**	**42.11**	**307**	P	**P**	**22 50 45.9**	**+0.3**
USRK	**Ussuriysk Ar.**	**42.25**	**4**	P	**P**	**22 50 46.6**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=202,slow=3.7,SNR=4.7						
	comp=Z,2.5nm,0.7s						
GTA	**Gaotai**	**45.39**	**329**	P	**P**	**22 51 13.3**	**+1.8**
GTA				sP	sP	22 51 53.0	-2.7
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ULN	**Ulaanbaatar**	**49.29**	**341**	P	**P**	**22 51 41.7**	**+0.1**
ULN				IAmb	IAmb	22 51 43.3	
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**49.48**	**341**	P	**P**	**22 51 43.3**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=154,slow=7.8,SNR=15						
SONM				PcP	**PcP**	**22 53 02.0**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=131,slow=4.4,SNR=4.0						
	comp=Z,5.4nm,0.6s						
PETK	**Petropavlovsk-**	**56.59**	**21**	P	**P**	**22 52 35.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=225,slow=6.5,SNR=1.6						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**59.86**	**325**	P	**P**	**22 52 58.4**	**+0.6**
	comp=Z,13nm,0.4s,baz=116,slow=8.1,SNR=288						
MKAR				PcP	**PcP**	**22 53 42.5**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=117,slow=5.9,SNR=5.3						
	comp=Z,13nm,0.4s						
YAK	**Yakutsk**	**59.99**	**1**	P	**P**	**22 52 58.1**	**-0.2**
NIL	**Nilore**	**60.17**	**308**	P	**P**	**22 53 00.2**	**+0.1**
NIL				IAmb	IAmb	22 53 08.5	
	comp=Z,6.6nm,1.1s						
KSH	**Kashi**	**60.34**	**315**	P	**P**	**22 53 03.5**	**+2.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KDJ	**Kajisay**	**60.66**	**318**	P	**P**	**22 53 03.7**	**+0.2**
ZAA0	**Zalesovo Array**	**62.85**	**333**	P	**P**	**22 53 16.3**	**-1.4**
ZAA0				IAmb	IAmb	22 53 17.9	
	comp=Z,4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**62.85**	**333**	P	**P**	**22 53 16.9**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=122,slow=7.7,SNR=11						
	comp=Z,1.8nm,0.4s						
ARSB	**Arslanbob**	**63.16**	**316**	P	**P**	**22 53 20.0**	**-0.2**
ARSB				IAmb	IAmb	22 53 21.4	
	comp=Z,3.7nm,0.7s						
KBL	**Kabul**	**63.77**	**308**	P	**P**	**22 53 24.2**	**-0.2**
KURBB	**Kurchatov Arra**	**64.04**	**327**	P	**P**	**22 53 25.7**	**+0.2**
	comp=Z,16nm,0.7s,baz=126,slow=6.0,SNR=144						
	comp=Z,16nm,0.7s						
**

*NEIC **14** 22:52:26.4±1.1,36°.074N×0°.010×117°.85W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=227.0*

PAS 14 22:52:26.7±1.1,**36°.079N**×0°.009×**117°.86W**±0°.01, **h2**km±2km, **ML3.5**/297, **ML3.2**/133(NEIC), **Error ellipse: s-maj=1.6km s-min=1.3km az=73.0, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**9**		Pg	22 52 28.7	+1.1
WRVM	**Rose V. Centra**	**0.07**	**197**		Pg	22 52 29.8	+1.6
JRC2	**Joshua Ridge**	**0.10**	**156**		Pg	22 52 30.8	+2.0
WVPM	**Volcano Peak E**	**0.13**	**164**		Pg	22 52 29.5	+0.2
WVPM					Sg	22 52 31.7	+0.6
WNMM	**Nine Mile Cany**	**0.24**	**188**		Pg	22 52 31.4	+0.1
WNMM					Sg	22 52 34.9	+0.6
MPMC	**Manual Prospec**	**0.30**	**94**		Pg	22 52 32.6	0.0
CLC	**China Lake**	**0.34**	**141**		Pg	22 52 33.2	0.0
CLC				Sg	Sg	22 52 37.9	+0.3
SRTC	**Snort**	**0.40**	**167**		Pg	22 52 34.9	+0.6
SRTC					Sb	22 52 41.3	-1.7
CWC	**Cottonwood Cre**	**0.40**	**334**	Pg	Pg	22 52 34.3	-0.1
CWC				Sg	Sg	22 52 39.9	+0.2
CWC				IAML		22 52 44.7	
	comp=N,1μm,0.2s						
CWC				IAML		22 52 46.0	
	comp=E,1μm,0.2s						
CGO	**Cerro Gordo**	**0.47**	**6**	Pg	Pg	22 52 35.7	-0.1
WORM	**Onyx Ranch**	**0.49**	**219**		Sg	22 52 42.7	+0.2
WHFM	**Hanning Flat**	**0.55**	**226**		Sg	22 52 44.7	+0.4
WSHM	**Spangler Hills**	**0.56**	**148**	Pg	Pg	22 52 37.5	0.0
WSHM				Sg	Sg	22 52 45.4	+0.6
WSHM				IAML		22 52 45.7	
	comp=E,2μm,0.3s						
WSHM				IAML		22 52 45.7	
	comp=E,2μm,0.4s						
LRMC	**Laurel Mtn Rad**	**0.62**	**166**	Pg	Pg	22 52 38.6	+0.1
LRMC				Sg	Sg	22 52 46.9	+0.4
LRMC				IAML		22 52 48.9	
	comp=N,2μm,0.2s						
ISA	**Isabella, Lake**	**0.65**	**230**	Pg	Pg	22 52 39.1	0.0
ISA				Sg	Sg	22 52 47.7	+0.3
WASM	**Alta Sierra Ca**	**0.66**	**239**		Sg	22 52 48.4	+0.5
CCCA	**Chr Cany lake**	**0.69**	**144**	Pg	Pg	22 52 40.2	+0.3
DTP	**Desert Tortois**	**0.81**	**179**		Sg	22 52 52.8	+0.1
QSM	**Queen of Sheba**	**0.81**	**98**	Pg	Pg	22 52 42.1	-0.2
QSM				Sg	Sg	22 52 52.7	-0.2
QSM				IAML		22 52 57.1	
	comp=E,1μm,0.7s						
QSM				IAML		22 53 00.0	
	comp=N,936nm,0.9s						
FURC	**Furnace Creek,**	**0.90**	**64**	Pg	Pg	22 52 44.0	+0.1
FURC					Sg	22 52 55.6	+0.2
CCAC	**Calif City Air**	**0.93**	**188**		Sg	22 52 57.0	+0.3
GWY	**Greenwater Val**	**0.97**	**83**	Pg	Pg	22 52 45.0	-0.4
GWY				Sg	Sg	22 52 58.0	0.0
TIN	**Tinemaha, Big**	**1.02**	**343**	Pg	Pg	22 52 45.7	-0.5
TIN				Sg	Sg	22 52 59.8	+0.3
VES	**Vestal, Richgr**	**1.02**	**257**	Pg	Pg	22 52 45.9	-0.4
VES				Sg	Sg	22 52 59.8	+0.3
TEJ	**El Tejon**	**1.08**	**219**		Sg	22 53 01.1	-0.4
GSC	**Goldstone, Bar**	**1.16**	**132**	Pg	Pg	22 52 48.0	-0.9
GSC				IAML		22 53 07.5	
	comp=E,532nm,0.6s						
GSC				IAML		22 53 08.0	
	comp=N,450nm,0.5s						
WCT	**Wildcat Mounta**	**1.23**	**54**	Pg	Pg	22 52 49.5	-0.7
WCT				Sg	Sg	22 53 05.4	-0.7
WCT				IAML		22 53 13.3	
	comp=E,438nm,0.7s						
WCT				IAML		22 53 14.4	
	comp=N,326nm,0.7s						
TPO	**Tropico Hills**	**1.23**	**194**	Pg	Pg	22 52 49.4	-1.0
TPO				Sg	Sg	22 53 06.0	-0.4
TPO				IAML		22 53 06.7	
	comp=N,493nm,0.4s						
VOG	**Valley Oaks Go**	**1.25**	**282**		Pg	22 52 50.2	-0.5
DSP	**Deep Springs**	**1.29**	**356**	Pg	Pg	22 52 50.4	-1.1
DSP				IAML		22 53 14.0	
	comp=E,259nm,1.5s						
SHOC	**Shoshone, Teco**	**1.30**	**97**	Pg	Pg	22 52 50.4	-1.3
GMN	**Gold Mountain**	**1.31**	**21**	Pg	Pg	22 52 51.2	-0.7
SBB	**Saddle Back Bu**	**1.39**	**179**		Pn	22 52 52.0	-1.1
RRX	**Edison Barstow**	**1.39**	**149**		Pn	22 52 52.7	-0.5
TPNV	**Topopah Spring**	**1.56**	**56**		Pn	22 52 54.9	-0.8
TPNV				IAML		22 53 22.8	
	comp=E,417nm,0.8s						
TPNV				IAML		22 53 24.9	
	comp=E,457nm,0.8s						
OSI	**Osito Audit: C**	**1.62**	**206**		Pn	22 52 56.0	-0.3
OSI				IAML		22 53 21.4	
	comp=N,440nm,0.6s						
OSI				IAML		22 53 24.2	
	comp=E,371nm,0.7s						
MZP	**Montezuma Peak**	**1.66**	**13**		Pn	22 52 57.0	-0.2
KCC	**Kaiser Creek**	**1.71**	**317**		Pn	22 52 57.9	+0.3
CRGC	**Crocker Grade**	**1.73**	**242**		Pb	22 52 59.1	-0.2
BFSC	**Mount Baldy Ra**	**1.84**	**175**	Pn	Pn	22 52 58.7	-0.7
BFSC				IAML		22 53 26.9	
	comp=E,313nm,0.7s						
BFSC				IAML		22 53 29.1	
	comp=N,200nm,0.8s						
MWC	**Mount Wilson**	**1.86**	**185**	Pn	Pn	22 52 59.2	-0.5
MWC				IAML		22 53 27.8	
	comp=E,350nm,0.9s						
MWC				IAML		22 53 31.6	
	comp=N,329nm,0.6s						
PASC	**Pasadena Art C**	**1.92**	**188**	Pn	Pn	22 53 00.3	-0.1
PASC				IAML		22 53 30.8	
	comp=E,259nm,0.8s						
PASC				IAML		22 53 33.2	
	comp=N,120nm,0.9s						
MTPC	**Mountain Pass**	**1.97**	**107**	Pn	Pn	22 52 59.7	-1.5
MTPC				IAML		22 53 31.4	
	comp=N,126nm,0.8s						
PSMM	**Smith Mountain**	**2.21**	**271**		Pb	22 53 06.2	-1.3
SHPR	**Sheep Range**	**2.22**	**78**	Pn	Pn	22 53 04.3	-0.5
LHV	**Little Huntoon**	**2.23**	**347**	Pn	Pn	22 53 04.9	+0.3
LHV				IAML		22 53 43.1	
	comp=E,146nm,1.6s						
LHV				IAML		22 53 49.0	
	comp=N,101nm,1.8s						
S11A	**Rachel**	**2.31**	**47**	Pn	Pn	22 53 06.3	+0.4
MYLM	**Yosemite Lake**	**2.43**	**303**		Pb	22 53 10.2	-1.0
ELS	**Elsinore Mount**	**2.45**	**171**	Pn	Pn	22 53 07.1	-0.7
ELS				IAML		22 53 50.3	
	comp=E,74nm,1.1s						
ELS				IAML		22 53 53.9	
	comp=N,65nm,0.8s						
V12A	**Nelson**	**2.47**	**97**	Pn	Pn	22 53 07.1	-1.0
DANC	**Danby, Needles**	**2.49**	**125**	Pn	Pn	22 53 06.8	-1.4
DANC				IAML		22 53 56.6	
	comp=E,180nm,0.8s						
DANC				IAML		22 54 00.5	
	comp=N,151nm,0.9s						
POB	**Polly Butte**	**2.51**	**162**		Pn	22 53 08.2	-0.4
BELC	**Belle Mtn. Jos**	**2.58**	**143**	Pn	Pn	22 53 08.5	-1.1
BELC				IAML		22 53 52.1	
	comp=N,77nm,0.7s						
BELC				IAML		22 53 58.7	
	comp=E,87nm,0.7s						
PRN	**Pahroc Range**	**2.62**	**59**	Pn	Pn	22 53 09.5	-0.6
PRN				IAML		22 54 00.3	
	comp=N,127nm,1.0s						
PMD	**Palm Desert**	**2.71**	**153**	Pn	Pn	22 53 10.3	-1.0
PMD				IAML		22 53 59.5	
	comp=E,51nm,0.6s						
PFO	**Pinyon Flats O**	**2.72**	**154**	Pn	Pn	22 53 10.5	-1.0
R11B	**Troy Canyon, C**	**2.91**	**38**	Pn	Pn	22 53 13.4	-0.8
IRM	**Iron Mountain**	**2.94**	**130**	Pn	Pn	22 53 12.6	-1.9
SAO	**San Andreas Ge**	**2.97**	**284**	Pn	Pn	22 53 15.0	+0.2
BORC	**Borrego Spring**	**3.05**	**157**	Pn	Pn	22 53 16.1	+0.2
BORC				IAML		22 54 11.8	
	comp=N,45nm,0.9s						
BORC				IAML		22 54 12.7	
	comp=E,74nm,0.8s						
BC3	**Big Chuckawall**	**3.12**	**140**	Pn	Pn	22 53 15.8	-1.3
BC3				IAML		22 54 10.0	
	comp=N,44nm,0.6s						
BC3				IAML		22 54 19.4	
	comp=E,37nm,1.7s						
W13A	**Hualapai Mount**	**3.39**	**106**	Pn	Pn	22 53 19.1	-1.7
BLYC	**Blythe**	**3.59**	**129**	Pn	Pn	22 53 21.7	-1.8
BLYC				IAML		22 54 26.8	
	comp=N,30nm,1.1s						
BLYC				IAML		22 54 42.8	
	comp=E,24nm,0.8s						
YUH	**Yuha Desert**	**3.78**	**154**	Pn	Pn	22 53 24.8	-1.1
LCMT	**Little Creek M**	**3.83**	**75**	Pn	Pn	22 53 27.4	+0.5
CBX	**Cerro Bola**	**3.88**	**165**	Pn	Pn	22 53 27.9	+0.4
CCUT	**Cedar City**	**3.90**	**67**	Pn	Pn	22 53 27.5	-0.3
GLA	**Glamis**	**3.92**	**139**	Pn	Pn	22 53 26.3	-1.7
GLA				IAML		22 54 36.9	
	comp=E,48nm,1.0s						
GLA				IAML		22 54 37.5	
	comp=N,40nm,0.6s						
SPR3	**Spring Creek 3**	**4.05**	**43**	Pn	Pn	22 53 29.7	-0.3
SPR3				IAML		22 54 36.9	
	comp=N,27nm,1.1s						
SPR3				IAML		22 54 54.3	
	comp=E,25nm,1.2s						
SZCU	**Shurtz Canyon**	**4.12**	**67**	Pn	Pn	22 53 31.4	+0.5
KNB	**Kanab**	**4.17**	**76**	Pn	Pn	22 53 31.6	+0.2
KNB				IAML		22 54 53.5	
	comp=N,29nm,1.5s						
KNB				IAML		22 55 08.3	
	comp=E,19nm,1.8s						
U15A	**North Rim**	**4.52**	**84**	Pn	Pn	22 53 37.4	+1.0
U15A				IAML		22 54 56.6	
	comp=E,24nm,1.1s						
U15A				IAML		22 55 02.2	
	comp=N,18nm,1.1s						
Y14A	**Wickenburg**	**4.52**	**117**	Pn	Pn	22 53 36.3	+0.1
Y14A				IAML		22 54 59.1	
	comp=N,26nm,1.6s						
Y14A				IAML		22 55 07.2	
	comp=E,17nm,2.1s						
PKCU	**Pink Cliffs**	**4.66**	**71**	Pn	Pn	22 53 39.2	+0.8
MTPU	**Mount Pierson**	**4.95**	**65**	Pn	Pn	22 53 42.5	+0.2
MTPU				IAML		22 55 11.8	
	comp=E,11nm,3.4s						
MTPU				IAML		22 55 18.9	
	comp=N,14nm,2.3s						
ELK	**Elko**	**5.09**	**23**	Pn	Pn	22 53 45.0	+0.7
ELK				IAML		22 55 15.6	
	comp=N,10nm,0.8s						
O02D	**Mt. Diablo Mer**	**5.64**	**318**	Pn	Pn	22 53 52.0	+0.4
PV23	**Carpenter Ridg**	**7.45**	**69**	Pn	Pn	22 54 19.1	+2.5
PV18	**Skein Mesa, Pa**	**7.47**	**71**	Pn	Pn	22 54 16.2	-0.7
PV13	**Radium Mtn., P**	**7.52**	**71**	Pn	Pn	22 54 19.2	+1.6
PV03	**Paradox Valley**	**7.52**	**71**	Pn	Pn	22 54 18.7	+1.2
PV12	**Saucer Basin,**	**7.57**	**70**	Pn	Pn	22 54 19.9	+1.7

MDD 14 23:05:45.7±0.8,**28°.10N**×**16°.18W, h27**km±15km, **mb_Lg2.6/16, Error ellipse: s-maj=8.5km s-min=3.7km az=17.0, Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGRA	**Granadilla de**	**0.31**	**272**	P	Pb	23 05 52.6	-0.5
CGRA				S	Sb	23 05 57.9	-0.3
CGRA				*i* IVmb_Lg		23 05 58.9	
CGRA	**Granadilla de**	**0.31**	**272**	P	Pb	23 05 53.4	+0.3
CGRA				S	Sb	23 05 55.9	-2.2
CGRA				*i* IVmb_Lg		23 05 57.9	
CGUI	**Guimar, Teneri**	**0.32**	**314**	P	Pb	23 05 52.8	-0.6
CGUI				S	Sb	23 05 57.9	-0.6
CGUI				*i* IVmb_Lg		23 05 58.3	
CGUI	**Guimar, Teneri**	**0.32**	**314**	P	Pn	23 05 54.7	0.0
CGUI				S	Sb	23 05 57.3	-1.2
CGUI				*i* IVmb_Lg		23 05 58.3	
CDIE	**La Orotava (Te**	**0.39**	**299**	P	Pb	23 05 53.5	-0.9
CDIE				S	Sb	23 05 58.3	-1.9
CDIE	**La Orotava (Te**	**0.39**	**299**	P	Pn	23 05 55.4	-0.4
CDIE				S	Sb	23 05 58.5	-1.8
CCAN	**Las Canadas**	**0.40**	**289**	P	Pb	23 05 53.2	-1.4
CCAN				S	Sb	23 05 58.8	-1.8
CCAN				*i* IVmb_Lg		23 05 59.1	
CCAN	**Las Canadas**	**0.40**	**289**	P	Pn	23 05 55.5	-0.5
CCAN				S	Sb	23 05 58.7	-2.0
CRAJ	**Montana Rajada**	**0.41**	**295**	P	Pb	23 05 53.5	-1.2
CRAJ				S	Sb	23 05 59.3	-1.5
CRAJ				*i* IVmb_Lg		23 06 03.0	
CRAJ	**Montana Rajada**	**0.41**	**295**	P	Pb	23 05 54.5	-0.2
CRAJ				S	Sb	23 05 57.9	-2.9
CRAJ				*i* IVmb_Lg		23 06 03.0	
CVIL	**Vilaflor**	**0.41**	**279**	P	Pb	23 05 53.7	-1.1
CVIL				S	Sb	23 05 59.4	-1.5
CVIL				*i* IVmb_Lg		23 06 00.2	
CVIL	**Vilaflor**	**0.41**	**279**	P	Pn	23 05 55.7	-0.4
CVIL				S	Sb	23 05 59.3	-1.6
CVIL				*i* IVmb_Lg		23 06 00.8	
CFOR	**Fortaleza, Los**	**0.43**	**301**	P	Pb	23 05 54.0	-1.0
CFOR				S	Sb	23 05 59.9	-1.4
CFOR				*i* IVmb_Lg		23 06 02.1	
CFOR	**Fortaleza, Los**	**0.43**	**301**	P	Pb	23 05 55.5	+0.5
CFOR				S	Sb	23 05 58.8	-2.5
CFOR				*i* IVmb_Lg		23 06 02.9	
CREA	**Los Realejos,**	**0.44**	**306**	P	Pb	23 05 54.0	-1.1
CREA				*i* IVmb_Lg		23 06 03.0	
CREA	**Los Realejos,**	**0.44**	**306**	P	Pn	23 05 56.3	0.0
CREA				S	Sb	23 05 59.9	-1.6
CREA				*i* IVmb_Lg		23 06 02.5	
CLAJ	**Vilaflor (Tene**	**0.44**	**278**	P	Pb	23 05 53.7	-1.5
CLAJ				S	Sb	23 05 59.4	-2.2
CLAJ				*i* IVmb_Lg		23 06 00.1	
CLAJ	**Vilaflor (Tene**	**0.44**	**278**	P	Pb	23 05 55.5	+0.3
CLAJ				S	Sb	23 05 59.3	-2.3
CLAJ				*i* IVmb_Lg		23 06 00.1	
CCHO	**La Orotava (Te**	**0.46**	**287**	P	Pb	23 05 53.9	-1.6
CCHO				S	Sb	23 05 60.0	-2.1
CCHO				*i* IVmb_Lg		23 06 01.5	
CCHO	**La Orotava (Te**	**0.46**	**287**	P	Pb	23 05 56.1	+0.6
CCHO				S	Sb	23 05 59.9	-2.2
CCHO				*i* IVmb_Lg		23 06 02.0	
CPVI	**La Orotava (Te**	**0.46**	**291**	P	Pb	23 05 54.4	-1.2
CPVI				S	Sb	23 06 00.7	-1.5
CPVI	**La Orotava (Te**	**0.46**	**291**	P	Pb	23 05 55.8	+0.2
CPVI				S	Sb	23 06 00.4	-1.9
EBAJ	**Bajamar**	**0.47**	**342**	P	Pb	23 05 54.6	-0.9
EBAJ				S	Sb	23 06 00.1	-2.0
EBAJ				*i* IVmb_Lg		23 06 01.5	
EBAJ	**Bajamar**	**0.47**	**342**	P	Pn	23 05 56.6	-0.1
EBAJ				S	Sb	23 06 00.7	-1.4
EBAJ				*i* IVmb_Lg		23 06 02.5	
CNOR	**Icod de los Vi**	**0.48**	**297**	P	Pb	23 05 54.7	-1.1
CNOR				S	Sb	23 06 01.0	-1.6
CNOR	**Icod de los Vi**	**0.48**	**297**	P	Pn	23 05 56.4	-0.6
CNOR				S	Sb	23 06 00.2	-2.4
CADE	**Adeje, Tenerif**	**0.50**	**278**	P	Pb	23 05 54.2	-2.0
CADE				S	Sb	23 06 00.2	-3.0
CADE				*i* IVmb_Lg		23 06 00.4	
CADE	**Adeje, Tenerif**	**0.50**	**278**	P	Pn	23 05 56.8	-0.5
CADE				S	Sb	23 06 00.1	-3.0
CADE				*i* IVmb_Lg		23 06 00.4	
GUIA	**Guia de Isora,**	**0.50**	**288**	P	Pb	23 05 54.7	-1.5
GUIA				S	Sb	23 06 00.8	-2.6
GUIA				*i* IVmb_Lg		23 06 04.0	
GUIA	**Guia de Isora,**	**0.50**	**288**	P	Pn	23 05 56.8	-0.5
GUIA				S	Sb	23 06 00.7	-2.6
GUIA				*i* IVmb_Lg		23 06 02.9	
CDOS	**Garachico, Isl**	**0.53**	**292**	P	Pb	23 05 55.4	-1.3
CDOS				S	Sb	23 06 02.2	-1.9
CDOS				*i* IVmb_Lg		23 06 03.1	
CDOS	**Garachico, Isl**	**0.53**	**292**	P	Pb	23 05 57.1	+0.4
CDOS				S	Sb	23 06 01.9	-2.3
CDOS				*i* IVmb_Lg		23 06 03.1	
CLUM	**San Bartolome**	**0.54**	**121**	P	Pb	23 05 55.4	-1.3
CLUM				S	Sb	23 06 02.6	-1.7
CLUM				*i* IVmb_Lg		23 06 02.7	
EOSO	**Osorio**	**0.55**	**92**	P	Pb	23 05 55.2	-1.7
EOSO				S	Sb	23 06 02.3	-2.3
EOSO				*i* IVmb_Lg		23 06 02.6	
CBOL	**Buenavista del**	**0.61**	**291**	P	Pb	23 05 56.5	-1.5
CBOL				S	Sb	23 06 04.4	-2.0
CBOL				*i* IVmb_Lg		23 06 06.0	
CBOL	**Buenavista del**	**0.61**	**291**	P	Pn	23 05 58.5	-0.3
CBOL				S	Sb	23 06 03.6	-2.8
CBOL				*i* IVmb_Lg		23 06 05.7	

*IDC **14** 23:13:49.5±1.0,6°.98S×12°.33W, h0km, mb4.0/11, mbtmp4.1/12, ML3.5/1, MS3.7/3, Error ellipse: s-maj=42.7km s-min=20.3km az=100.0*

*NEIC **14** 23:13:50.6±1.3,7°.05S±0°.06×12°.57W±0°.08, h10km±1km, mb4.6/12, Error ellipse: s-maj=14.3km s-min=9.3km az=72.0*

ISC 14 23:13:51.8±0.6,**7°.06S**±0°.09×**12°.49W**±0°.10,**h19**km,**n40,** σ1s**71**/33,**mb4.3/22, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**2.05**	**245**	Pn	**Pn**	**23 14 23.1**	**-2.1**
H10N1	**ASCENSION HYDR**	**2.12**	**248**	T	T	23 16 51.3	
	baz=69,slow=74,SNR=229						
H10N2	**ASCENSION HYDR**	**2.12**	**249**	T	T	23 16 49.1	
	baz=69,slow=74,SNR=4264						
H10N3	**ASCENSION HYDR**	**2.14**	**249**	T	T	23 16 53.4	
	baz=69,slow=74,SNR=206						
H10S2	**ASCENSION HYDR**	**2.85**	**228**	T	T	23 17 35.1	
	baz=172,slow=74,SNR=525						
H10S3	**ASCENSION HYDR**	**2.86**	**229**	T	T	23 17 44.4	
	baz=48,slow=74,SNR=261						
SHEL	**Horse Pasture**	**11.04**	**144**	Pn	**Pn**	**23 16 27.6**	**-1.2**
DBIC	**Dimbokro**	**15.62**	**29**	Pn	**Pn**	**23 17 28.1**	**-3.0**
DBIC	**Dimbokro**	**15.62**	**29**	Pn	**Pn**	**23 17 27.4**	**-3.7**
	0.2nm,0.3s,baz=224,slow=14,SNR=4.7						
DBIC				LR	LR	23 21 31.9	
	comp=Z,157nm,19.2s,baz=352,slow=30 6.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**24.53**	**35**	P	**P**	**23 19 08.2**	**-2.2**
	4.5nm,0.5s,baz=213,slow=10.0,SNR=9.0 4.5nm,0.5s						
KOOLE	**Kule**	**35.19**	**120**	P	**P**	**23 20 44.6**	**-0.5**
KOOLE				IAmb	IAmb	23 21 10.6	
	comp=Z,9.6nm,1.1s						
GRTLG	**Ghanzi**	**35.52**	**117**	P	**P**	**23 20 47.6**	**-0.4**
GRTLG				IAmb	IAmb	23 20 48.7	
	comp=Z,7.0nm,1.1s						
LSZ	**Lusaka**	**40.67**	**105**	P	**P**	**23 21 31.6**	**+0.1**
BOSA	**Boshof**	**41.56**	**126**	P	**P**	**23 21 38.4**	**-0.3**
BOSA	**Boshof**	**41.56**	**126**	P	**P**	**23 21 38.3**	**-0.4**
	comp=Z,5.3nm,0.9s,baz=303,slow=5.1,SNR=4.7 comp=Z,5.3nm,0.9s						
KEST	**Kesra**	**47.27**	**24**	P	**P**	**23 22 24.6**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=309,slow=16,SNR=3.8 comp=Z,4.6nm,0.8s						
BOAV	**Boa Vista**	**48.85**	**279**	P	**P**	**23 22 36.5**	**-0.1**
BOAV				IAmb	IAmb	23 22 38.4	
	comp=Z,4.9nm,0.8s						
DAVA	**Damuels**	**57.63**	**18**	*e*P	**P**	**23 23 43.2**	**+2.4**
	comp=Z,1.5nm,0.5s						
SQTA	**Sankt Quirin**	**57.98**	**19**	*e*P	**P**	**23 23 45.4**	**+2.2**
	comp=Z,2.6nm,0.6s						
ABTA	**Abfaltersbach**	**58.00**	**20**	*e*P	**P**	**23 23 46.3**	**+3.0**
	comp=Z,1.6nm,0.7s						
MOTA	**Moosalm**	**58.06**	**19**	*i* P	**P**	**23 23 46.4**	**+2.6**
	comp=Z,1.6nm,0.6s						
RETA	**Reutte**	**58.08**	**18**	*e*P	**P**	**23 23 45.7**	**+1.8**
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**58.16**	**19**	*e*P	**P**	**23 23 46.8**	**+2.2**
	comp=Z,0.8nm,0.5s						
LESA	**Schwarzleotal**	**58.65**	**20**	*e*P	**P**	**23 23 50.1**	**+2.3**
	comp=Z,0.8nm,0.4s						
GERES	**GERESS Array B**	**60.22**	**20**	P	**P**	**23 23 58.5**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=231,slow=7.4,SNR=5.3 comp=Z,0.9nm,0.8s						
VRAC	**Vranov**	**61.62**	**21**	LR	LR	23 51 35.9	
	comp=Z,87nm,20.5s,baz=132,slow=37						
PSZ	**Piszkesteto**	**61.74**	**24**	P	**P**	**23 24 09.3**	**+0.3**
PSZ				IAmb	IAmb	23 24 20.1	
	comp=Z,2.8nm,0.7s						
BRTR	**Keskin Array B**	**63.08**	**39**	P	**P**	**23 24 18.9**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=216,slow=6.1,SNR=3.7 comp=Z,0.5nm,0.8s						
SNAA	**Sanae**	**64.82**	**177**	P	**P**	**23 24 29.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=39,slow=10,SNR=2.7 comp=Z,1.1nm,0.9s						
KIEV	**Kiev**	**67.85**	**27**	P	**P**	**23 24 48.3**	**-0.3**
KIEV				IAmb	IAmb	23 24 58.6	
	comp=Z,5.4nm,0.8s						
AKASG	**Malin Array Be**	**67.86**	**27**	P	**P**	**23 24 47.5**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=229,slow=6.8,SNR=7.3 comp=Z,1.8nm,0.7s						
LMN	**Caledonia Moun**	**70.32**	**324**	P	**P**	**23 25 03.9**	**-0.3**
KBZ	**Khabaz**	**71.06**	**39**	P	**P**	**23 25 10.1**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=159,slow=3.0,SNR=3.6 comp=Z,0.5nm,0.5s						
BATG	**Bathurst New B**	**71.83**	**325**	P	**P**	**23 25 12.8**	**-0.5**
F64A	**Sherman**	**72.43**	**323**	P	**P**	**23 25 16.9**	**0.0**
FINES	**FINESS Array B**	**74.59**	**18**	P	**P**	**23 25 30.8**	**+1.6**
	comp=Z,1.7nm,0.9s,baz=223,slow=5.7,SNR=1.4 comp=Z,1.7nm,0.9s						
QSPA	**South Pole Qui**	**83.05**	**180**	P	**P**	**23 26 17.3**	**+1.3**
QSPA				IAmb	IAmb	23 26 29.9	
	comp=Z,8.2nm,1.4s						
QSPA	**South Pole Qui**	**83.05**	**180**	P	**P**	**23 26 18.0**	**+2.0**
	comp=Z,1.1nm,1.0s,baz=280,slow=2.4,SNR=5.5 comp=Z,1.1nm,1.0s						
SPITS	**Spitsbergen Ar**	**86.57**	**6**	LR	LR	00 03 52.8	
	comp=Z,45nm,20.5s,baz=135,slow=35						
TXAR	**Lajitas Array**	**94.44**	**299**	P	**P**	**23 27 11.7**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=64,slow=4.4,SNR=4.1 comp=Z,0.7nm,1.0s						

*IDC **14** 23:26:20.2±1.2,37°.96N×15°.95E, h0km, mb3.5/5, mbtmp3.5/10, ML2.7/3, Error ellipse: s-maj=23.3km s-min=12.4km az=153.0*

*ROM **14** 23:26:22.2±0.2,37°.96N±0°.01×15°.91E±0°.01, h18km±1km, ML3.2/106, Error ellipse: s-maj=1.3km s-min=0.8km az=316.0*

ISC 14 23:26:21.8±0.9,**37°.91N**±0°.03×**15°.92E**±0°.03,**h17**km±6km, **n68,** σ0s**79**/77,**mb3.7**/5,**4C-1D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOI	**Samo**	**0.19**	**33**	P	**Pg**	**23 26

MILZ				AML	AML			
	comp=N,5460µm,1.2s							
MILZ				AML	AML			
	comp=E,15150µm,0.4s							
MILZ				AML	AML			
	comp=N,5455µm,1.2s							
MILZ				AML	AML			
	comp=N,5455µm,0.8s							
PLAC	**Placanica**	**0.68**	**37**	⇑P	**Pb**	**23 26 35.3**	**+0.1**	
PLAC				AML	AML			
	comp=E,4830µm,0.6s							
PLAC				AML	AML			
	comp=N,4975µm,0.6s							
PLAC				AML	AML			
	comp=E,4830µm,1.4s							
PLAC				AML	AML			
	comp=N,4975µm,1.4s							
PLAC				AML	AML			
	comp=N,4145µm,0.6s							
PLAC				AML	AML			
	comp=E,4430µm,0.6s							
EMSG	**Monte Spagnolo**	**0.77**	**264**	P	**Pn**	**23 26 38.4**	**+0.3**	
EMSG				AML	AML			
	comp=N,3810µm,0.6s							
EMSG				AML	AML			
	comp=N,3810µm,1.4s							
EMSG				AML	AML			
	comp=E,3925µm,0.5s							
ESLN	**Serra La Nave**	**0.78**	**254**	P	**Pn**	**23 26 38.3**	**+0.1**	
ESLN				AML	AML			
	comp=N,1072µm,1.2s							
ESLN				AML	AML			
	comp=E,1280µm,1.1s							
ESLN				AML	AML			
	comp=N,1072µm,0.8s							
ESLN				AML	AML			
	comp=E,1280µm,0.9s							
MUCR	**Ucria**	**0.84**	**280**	P	**Pb**	**23 26 37.7**	**-0.3**	
MUCR				AML	AML			
	comp=E,1625µm,0.6s							
MUCR				AML	AML			
	comp=N,2385µm,0.6s							
EPZF	**Pizzo Felice**	**0.85**	**265**	⇓P	**Pn**	**23 26 39.5**	**+0.5**	
EPZF				AML	AML			
	comp=E,2190µm,1.0s							
EPZF				AML	AML			
	comp=N,2950µm,0.7s							
EPZF				AML	AML			
	comp=N,2950µm,1.3s							
AGST	**Augusta-Monte**	**0.85**	**220**	P	**Pb**	**23 26 38.1**	**0.0**	
AGST				AML	AML			
	comp=E,1230µm,0.6s							
AGST				AML	AML			
	comp=N,1960µm,0.8s							
HAGA	**Augusta**	**0.87**	**225**	P	**Pb**	**23 26 38.3**	**-0.1**	
HAGA				AML	AML			
	comp=E,1260µm,0.6s							
HAGA				AML	AML			
	comp=N,1565µm,0.8s							
HAGA				AML	AML			
	comp=N,1565µm,1.2s							
HAGA				AML	AML			
	comp=E,1260µm,1.4s							
VPL	**Vulcano Piano**	**0.88**	**303**	P	**Pb**	**23 26 38.2**	**-0.4**	
VPL				S	**Sb**	**23 26 50.7**	**+0.7**	
VPL				AML	AML			
	comp=N,6215µm,0.6s							
VPL				AML	AML			
	comp=E,4570µm,0.4s							
VPL				AML	AML			
	comp=E,4570µm,1.6s							
VPL				AML	AML			
	comp=N,6215µm,1.4s							
LLI	**Lipari**	**0.94**	**305**	P	**Pb**	**23 26 39.4**	**-0.1**	
LLI				AML	AML			
	comp=E,29300µm,0.5s							
LLI				AML	AML			
	comp=N,65600µm,0.5s							
LLI				AML	AML			
	comp=N,65600µm,1.5s							
MNO	**Monte Soro**	**0.97**	**272**	P	**Pg**	**23 26 41.7**	**+1.0**	
MNO				AML	AML			
	comp=E,2335µm,0.8s							
MNO				AML	AML			
	comp=N,2220µm,0.6s							
GRI	**Girifalco**	**0.99**	**23**	P	**Pb**	**23 26 40.1**	**-0.5**	
GRI				AML	AML			
	comp=E,2170µm,1.5s							
GRI				AML	AML			
	comp=E,2170µm,0.5s							
GRI				AML	AML			
	comp=N,2155µm,0.4s							
HLNI	**Lentini**	**1.00**	**236**	P	**Pb**	**23 26 40.6**	**-0.1**	
HLNI				S	**Sn**	**23 26 54.7**	**-0.1**	
HLNI				AML	AML			
	comp=E,777µm,0.9s							
HLNI				AML	AML			
	comp=N,1005µm,0.2s							
SSY	**Sortino**	**1.01**	**222**	P	**Pb**	**23 26 40.5**	**-0.4**	
SSY				AML	AML			
	comp=N,4030µm,1.1s							
SSY				AML	AML			
	comp=N,4030µm,0.9s							
SSY				AML	AML			
	comp=E,1920µm,0.7s							
MSFR	**San Fratello**	**1.06**	**277**	P	**Pb**	**23 26 41.9**	**+0.2**	
MSFR				AML	AML			
	comp=E,708µm,0.8s							
MSFR				AML	AML			
	comp=N,453µm,0.7s							
GALF	**Gagliano Caste**	**1.09**	**260**	P	**Pg**	**23 26 43.7**	**+0.8**	
GALF				AML	AML			
	comp=E,4105µm,0.6s							
GALF				AML	AML			
	comp=N,5730µm,0.6s							
GALF				AML	AML			
	comp=E,433µm,0.6s							
GALF				AML	AML			
	comp=N,779µm,0.6s							
HVZN	**Vizzini**	**1.21**	**233**	P	**Pn**	**23 26 43.7**	**-0.2**	
IFIL	**Filicudi I Eol**	**1.25**	**302**	P	**Pn**	**23 26 43.9**	**-0.6**	
VAE	**Valguarnera**	**1.27**	**251**	Pg	**Pb**	**23 26 45.9**	**+0.5**	
	comp=N,6.7nm,0.3s,baz=345,slow=5.9,SNR=17							
VAE				Lg	Lg	23 27 03.3		
	comp=N,12nm,0.3s,baz=163,slow=20,SNR=7.0							
CAR1	**CAROLEI**	**1.36**	**10**	P	**Pn**	**23 26 45.5**	**-0.6**	
CAR1				AML	AML			
	comp=N,1555µm,0.5s							
CAR1				AML	AML			
	comp=E,1485µm,0.8s							
CAR1				AML	AML			
	comp=N,1525µm,1.0s							
CAR1				AML	AML			
	comp=E,1460µm,0.8s							
HPAC	**Pachino**	**1.37**	**208**	P	**Pn**	**23 26 46.3**	**+0.2**	
IACL	**Alicudi**	**1.38**	**297**	P	**Pn**	**23 26 45.8**	**-0.5**	
IACL				AML	AML			
	comp=E,1044µm,1.6s							
IACL				AML	AML			
	comp=N,1095µm,1.6s							
IACL				AML	AML			
	comp=N,1095µm,0.4s							
IACL				AML	AML			
	comp=E,1044µm,0.4s							
ISPIC	**ISPICA**	**1.39**	**216**	P	**Pn**	**23 26 46.2**	**-0.2**	
PLLN	**Pollina**	**1.41**	**274**	P	**Pg**	**23 26 49.1**	**+0.1**	
PLLN				AML	AML			
	comp=N,1960µm,0.7s							
PLLN				AML	AML			
	comp=E,1720µm,0.7s							
PLLN				AML	AML			
	comp=N,1960µm,1.3s							
PLLN				AML	AML			
	comp=E,1720µm,1.3s							
RAFF	**Raffo Rosso**	**1.42**	**242**	P	**Pb**	**23 26 47.7**	**-0.1**	
RAFF				AML	AML			
	comp=N,782µm,0.6s							
RAFF				AML	AML			
	comp=E,854µm,0.5s							
SPS2	**Spezzano della**	**1.42**	**13**	P	**Pn**	**23 26 47.5**	**+0.6**	
SPS2				AML	AML			
	comp=E,312µm,0.4s							
SPS2				AML	AML			
	comp=N,412µm,1.5s							
SPS2				AML	AML			
	comp=E,312µm,1.6s							
TIP	**Timpagrande**	**1.43**	**27**	P	**Pb**	**23 26 48.2**	**+0.2**	
TIP				AML	AML			
	comp=N,454µm,1.2s							
TIP				AML	AML			
	comp=N,434µm,1.2s							
TIP				AML	AML			
	comp=E,354µm,0.8s							
TIP				AML	AML			
	comp=E,354µm,0.8s							
TIP				AML	AML			
	comp=N,454µm,1.2s							
CSLB	**Castelbuono**	**1.47**	**272**	P	**Pb**	**23 26 49.6**	**+0.8**	
CSLB				AML	AML			
	comp=E,245µm,0.5s							
CSLB				AML	AML			
	comp=N,237µm,0.6s							
CPTP	**Pietraperzia**	**1.48**	**251**	P	**Pb**	**23 26 50.1**	**+1.1**	
CPTP				AML	AML			
	comp=E,584µm,1.6s							
CPTP				AML	AML			
	comp=E,584µm,0.4s							
CPTP				AML	AML			
	comp=N,529µm,0.8s							
CELI	**Celico**	**1.56**	**17**	P	**Pn**	**23 26 49.4**	**+0.5**	
CELI				AML	AML			
	comp=N,1042µm,0.7s							
CELI				AML	AML			
	comp=N,406µm,0.7s							
CELI				AML	AML			
	comp=E,796µm,1.0s							
CELI				AML	AML			
	comp=N,406µm,1.3s							
CELI				AML	AML			
	comp=N,1042µm,1.3s							
CELI				AML	AML			
	comp=E,320µm,0.5s							
CET2	**Cetraro**	**1.62**	**1**	P	**Pn**	**23 26 49.0**	**-0.6**	
CET2				AML	AML			
	comp=E,992µm,0.8s							
CET2				AML	AML			
	comp=N,1805µm,0.7s							
CET2				AML	AML			
	comp=E,992µm,1.2s							
PIPA	**Pietrapaola**	**1.72**	**24**	P	**Pb**	**23 26 53.6**	**+0.6**	
PIPA				AML	AML			
	comp=E,402µm,1.6s							
PIPA				AML	AML			
	comp=N,392µm,1.3s							
PIPA				AML	AML			
	comp=E,383µm,0.9s							
PIPA				AML	AML			
	comp=N,392µm,0.7s							
PIPA				AML	AML			
	comp=N,392µm,1.0s							
CLTA	**Licata**	**1.73**	**245**	P	**Pb**	**23 26 53.2**	**+0.1**	
CLTA				AML	AML			
	comp=E,636µm,1.2s							
CLTA				AML	AML			
	comp=N,327µm,0.6s							
CLTA				AML	AML			
	comp=E,636µm,0.8s							
GRIS	**Grisolia**	**1.83**	**358**	P	**Pn**	**23 26 52.1**	**-0.4**	
MMN	**Mormanno**	**1.98**	**2**	P	**Pn**	**23 26 54.2**	**-0.3**	
SALB	**San Lorenzo Be**	**1.99**	**9**	P	**Pn**	**23 26 55.7**	**+0.8**	
SALB				AML	AML			
	comp=N,166µm,0.6s							
SALB				AML	AML			
	comp=N,166µm,1.4s							
SALB				AML	AML			
	comp=E,184µm,0.3s							
CUC	**Castrocucco**	**2.08**	**358**	P	**Pn**	**23 26 55.5**	**-0.5**	
BULG	**Bulgheria - Ca**	**2.21**	**349**	P	**Pn**	**23 26 57.2**	**-0.5**	
BULG				AML	AML			
	comp=E,216µm,0.4s							
BULG				AML	AML			
	comp=N,459µm,0.5s							
BULG				AML	AML			
	comp=E,232µm,0.5s							
BULG				AML	AML			
	comp=N,459µm,1.5s							
BULG				AML	AML			
	comp=E,216µm,1.6s							
BULG				AML	AML			
	comp=E,232µm,1.5s							
BULG				AML	AML			
	comp=N,510µm,1.5s							
MGR	**Morigerati**	**2.24**	**353**	P	**Pn**	**23 26 57.8**	**-0.3**	
MGR				AML	AML			
	comp=E,227µm,1.6s							
MGR				AML	AML			
	comp=N,178µm,1.6s							
MGR				AML	AML			
	comp=E,227µm,0.4s							
MGR				AML	AML			
	comp=N,178µm,0.4s							
SIRI	**Monte Sirino -**	**2.27**	**359**	P	**Pn**	**23 26 58.2**	**-0.4**	
SIRI				AML	AML			
	comp=E,285µm,1.0s							
SIRI				AML	AML			
	comp=N,223µm,1.4s							
SIRI				AML	AML			
	comp=E,280µm,0.4s							
SIRI				AML	AML			
	comp=N,216µm,1.4s							
SIRI				AML	AML			
	comp=E,280µm,1.6s							
SIRI				AML	AML			
	comp=N,216µm,0.6s							
SIRI				AML	AML			
	comp=N,223µm,0.6s							
SIRI				AML	AML			
	comp=E,285µm,1.0s							
CMPR	**Campora**	**2.45**	**349**	P	**Pn**	**23 27 00.5**	**-0.6**	
CMPR				AML	AML			
	comp=E,174µm,1.6s							
CMPR				AML	AML			
	comp=N,316µm,0.4s							
CMPR				AML	AML			
	comp=E,174µm,0.4s							
CDRU	**Civita di Ruta**	**2.62**	**350**	P	**Pn**	**23 27 03.2**	**-0.2**	
CDRU				AML	AML			
	comp=E,94µm,0.3s							
CDRU				AML	AML			
	comp=N,112µm,0.3s							
CDRU				AML	AML			
	comp=E,94µm,1.7s							
LTRZ	**Laterza**	**2.78**	**14**	P	**Pn**	**23 27 06.6**	**+1.1**	
TAR1	**Taranto**	**2.82**	**22**	P	**Pn**	**23 27 06.5**	**+0.5**	
TAR1				AML	AML			
	comp=E,87µm,0.6s							
TAR1				AML	AML			
	comp=N,101µm,0.6s							
TAR1				AML	AML			
	comp=E,87µm,1.4s							
ACER	**Acerenza**	**2.87**	**0**	P	**Pn**	**23 27 09.1**	**+2.2**	
ACER				AML	AML			
	comp=E,290µm,1.6s							
ACER				AML	AML			
	comp=N,222µm,1.0s							
ACER				AML	AML			
	comp=E,290µm,0.4s							
ACER				AML	AML			
	comp=N,222µm,1.0s							
MCRV	**Calabrutti - M**	**2.93**	**349**	AML	AML			
	comp=N,118µm,0.8s							
MCRV				AML	AML			
	comp=N,118µm,1.2s							
MCRV				AML	AML			
	comp=E,104µm,0.4s							
NOCI	**Noci**	**3.01**	**17**	P	**Pn**	**23 27 09.1**	**+0.4**	
NOCI				AML	AML			
	comp=E,85µm,1.1s							
NOCI				AML	AML			
	comp=N,114µm,1.6s							
NOCI				AML	AML			
	comp=N,114µm,0.4s							
AMUR	**Altamura**	**3.04**	**10**	P	**Pn**	**23 27 10.2**	**+1.0**	
AMUR				AML	AML			
	comp=N,82µm,0.4s							
AMUR				AML	AML			
	comp=E,86µm,0.9s							
MRVN	**Minervino Murg**	**3.15**	**4**	P	**Pn**	**23 27 12.3**	**+1.5**	
MRVN				AML	AML			
	comp=N,53µm,1.3s							
MRVN				AML	AML			
	comp=E,55µm,0.4s							
MRVN				AML	AML			
	comp=N,53µm,0.7s							
KEK	**Kerkira**	**3.52**	**58**	AML	AML			
	comp=E,170µm,1.4s							
KEK				AML	AML			
	comp=E,170µm,0.6s							
KEK				AML	AML			
	comp=N,150µm,0.5s							
KEST	**Kesra**	**5.70**	**250**	Pn	**Pn**	**23 27 47.0**	**+1.1**	
	comp=N,0.2nm,0.3s,baz=119,slow=5.4,SNR=4.5							
	comp=N,2.0nm,0.6s							
IDI	**Anoyia**	**7.67**	**107**	Pn	**Pn**	**23 28 14.2**	**+1.4**	
	comp=N,2.3nm,0.6s,baz=290,slow=15,SNR=1.2							
IDI				Sn	**Sn**	**23 29 36.1**	**-3.3**	
	comp=N,1.0nm,0.3s,baz=291,slow=17,SNR=7.9							
DAVOX	**Davos/Dischmat**	**9.93**	**335**	Pn	**Pn**	**23 28 45.2**	**+1.4**	
	comp=N,0.1nm,0.3s,baz=180,slow=20,SNR=3.8							
	comp=N,0.5nm,0.4s							
GERES	**GERESS Array B**	**11.05**	**352**	Pn	**Pn**	**23 28 59.8**	**+0.8**	
	baz=176,slow=12,SNR=5.9							
	comp=N,0.8nm,0.8s							
MMAI	**Mount Meron Ar**	**16.60**	**101**	Pn	**Pn**	**23 30 12.3**	**-1.5**	
	comp=N,0.3nm,0.3s,baz=277,slow=12,SNR=1.5							
EKA	**Eskdalemuir Ar**	**21.68**	**330**	P	**P**	**23 31 11.9**	**+0.4**	
	comp=N,0.4nm,0.4s,baz=131,slow=9.2,SNR=3.5							
	comp=N,0.4nm,0.4s							
HFS	**Hagfors**	**22.29**	**357**	P	**P**	**23 31 19.0**	**+1.0**	
	comp=N,2.7nm,1.0s,baz=162,slow=15,SNR=1.7							
	comp=N,2.7nm,1.0s							
FINES	**FINESS Array B**	**24.40**	**12**	P	**P**	**23 31 37.6**	**-1.3**	
	comp=N,2.7nm,0.9s,baz=189,slow=18,SNR=4.7							
	comp=N,2.7nm,0.9s							
KURBB	**Kurchatov Arra**	**45.30**	**53**	P	**P**	**23 34 39.2**	**+0.8**	
	comp=N,0.1nm,0.4s,baz=280,slow=9.3,SNR=1.9							
	comp=N,0.1nm,0.4s							
MKAR	**Makanchi Array**	**48.52**	**57**	P	**P**	**23 35 04.9**	**+1.2**	
	comp=N,0.5nm,0.6s,baz=278,slow=7.5,SNR=7.8							
	comp=N,0.5nm,0.6s							

SKHL ***14*** *23:29:54.6±0.2, 45.80N×141.50E, h10km±1km, mb3.9/3*
JMA ***14*** *23:29:55.3±0.3, 46.0N±1.1×141.7E±0.8, h7km±4km,*
MV2.5/21, SOUTH SAKHALIN

ISC 14 23:29:57.4±1.7, 45.70N±0.05×141.58E±0.06, h17km±12km, n6, σ0.5s82/12, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.45**	**149**	P	**Pg**	**23 30 06.5**	**+0.1**
JWK2				S	**Sb**	**23 30 14.2**	**+1.1**
JRBN	**Rebuntou**	**0.45**	**232**	P	**Pb**	**23 30 07.5**	**+0.6**
JRBN				S	**Sn**	**23 30 15.4**	**-1.3**
JRR	**Rishiri**	**0.59**	**198**	*e*P	**Pn**	**23 30 10.4**	**-0.6**
JRR				*e*S	**Sn**	**23 30 20.9**	**+0.7**
JSE	**Soyaes**	**1.03**	**136**	P	**Pb**	**23 30 16.1**	**-0.6**
JSE				*e*S	**Sb**	**23 30 30.1**	**+0.3**
KHLM	**Kholmsk**	**1.40**	**14**	*e*Pg	**Pn**	**23 30 21.3**	**-0.7**
KHLM				AMB	AMB	23 30 24.7	
	80nm,0.7s						
KHLM				*e*Sg	**Sn**	**23 30 40.2**	**+0.2**
KHLM				A	A	23 30 45.0	
	170nm,0.6s						
KHLM				A	A	23 30 45.0	
	260nm,0.6s						
YSS	**Yuzhno-Sakhali**	**1.50**	**33**	*e*Pg	**Pn**	**23 30 23.2**	**-0.2**
YSS				AMB	AMB	23 30 27.6	
	30nm,0.5s						
YSS				*e*Sg	**Sn**	**23 30 43.1**	**+0.6**
YSS				A	A	23 30 44.5	
	40nm,0.4s						
YSS				A	A	23 30 44.5	
	60nm,0.4s						

NEIC ***14*** *23:32:45.4±1.2, 35.960N±0.009×117.40W±0.01,*
h6km±2km, Error ellipse: s-maj=1.4km s-min=1.3km
az=110.0

PAS 14 23:32:45.8±1.0, 35.960N±0.009×117.40W±0.01,
h1km, ML3.2/243, ML3.1/80(NEIC), Error ellipse:
s-maj=1.3km s-min=1.2km az=120.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.12**	**324**	Pg	Pg	23 32 48.4	+0.2
MPMC				Sg	Sg	23 32 50.4	+0.6
CLC	**China Lake**	**0.22**	**228**	Pg	Pg	23 32 50.2	+0.3
CLC				Sg	Sg	23 32 53.4	+0.6
CLC				IAML		23 32 53.7	
	comp=E,4µm,0.6s						
CLC				IAML		23 32 53.7	
	comp=N,5µm,0.5s						
JRC2	**Joshua Ridge**	**0.33**	**274**		Pg	23 32 52.5	+0.3
JRC2					Sg	23 32 57.5	+1.0
TOW	**Tower One**	**0.33**	**243**		Pg	23 32 53.0	+0.8
TOW					Sb	23 32 58.6	-1.8
WSHM	**Spangler Hills**	**0.37**	**192**	Pg	Pg	23 32 52.9	+0.1
WSHM				Sg	Sg	23 32 58.3	+0.7
SRTC	**Snort**	**0.39**	**227**		Pg	23 32 53.9	+0.6
SRTC					Sb	23 33 00.2	-1.8
MFS	**McCloud Flat S**	**0.40**	**293**		Pg	23 32 53.7	+0.2
MFS					Sg	23 32 59.5	+0.8
WRVM	**Rose V. Centra**	**0.40**	**277**		Pg	23 32 53.6	+0.1
WRVM					Sg	23 32 59.5	+0.8
WNMM	**Nine Mile Cany**	**0.43**	**254**		Sg	23 33 00.5	+1.0
QSM	**Queen of Sheba**	**0.43**	**89**	Pg	Pg	23 32 54.1	+0.1
QSM				Sg	Sg	23 32 58.5	-1.2
QSM				IAML		23 33 04.0	
	comp=N,1µm,0.7s						
CCCA	**Chr Cany lake**	**0.43**	**176**	Pg	Pg	23 32 54.7	+0.6
CCCA				Sg	Sg	23 33 01.2	+1.5
CCCA				IAML		23 33 01.8	
	comp=N,2µm,0.4s						
CCCA				IAML		23 33 05.0	
	comp=E,2µm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.53**	**206**	Pg	Pg	23 32 56.1	+0.1
LRMC				Sg	Sg	23 33 03.2	+0.3
LRMC				IAML		23 33 04.0	
	comp=E,796nm,0.4s						
LRMC				IAML		23 33 06.5	
	comp=N,826nm,0.3s						
GWY	**Greenwater Val**	**0.63**	**69**	Pg	Pg	23 32 58.0	+0.1
GWY				Sg	Sg	23 33 06.2	0.0
GWY				IAML		23 33 11.1	
	comp=E,2µm,0.3s						
FURC	**Furnace Creek,**	**0.67**	**40**	Pg	Pg	23 32 58.7	+0.1
FURC				Sg	Sg	23 33 07.9	+0.6
CGO	**Cerro Gordo**	**0.67**	**331**		Pg	23 32 58.5	-0.3
CWC	**Cottonwood Cre**	**0.73**	**311**	Pg	Pg	23 32 59.5	-0.3
CWC				Sg	Sg	23 33 09.5	+0.2
CWC				IAML		23 33 11.7	
	comp=E,1µm,0.2s						
WORM	**Onyx Ranch**	**0.73**	**249**		Pg	23 32 59.8	-0.1
WORM					Sg	23 33 09.5	+0.1
WBSM	**Bird Springs**	**0.73**	**235**		Pg	23 32 59.8	-0.1
WBSM					Sg	23 33 09.8	+0.4
GSC	**Goldstone, Bar**	**0.82**	**143**	Pg	Pg	23 33 01.3	-0.1
GSC				Sg	Sg	23 33 12.3	+0.3
GSC				IAML		23 33 15.4	
	comp=N,817nm,0.5s						
SHOC	**Shoshone, Teco**	**0.92**	**93**	Pg	Pg	23 33 03.3	0.0
SHOC				IAML		23 33 18.5	
	comp=E,905nm,0.5s						
ISA	**Isabella, Lake**	**0.92**	**252**	Pg	Pg	23 33 03.2	-0.3
ISA				Sg	Sg	23 33 15.0	-0.5
ISA				IAML		23 33 16.5	
	comp=N,529nm,0.2s						
ISA				IAML		23 33 17.3	
	comp=E,491nm,0.2s						
WASM	**Alta Sierra Ca**	**0.97**	**257**		Sg	23 33 16.9	0.0
AMDNV	**Amargosa**	**1.03**	**61**		Sg	23 33 18.6	-0.3
WCT	**Wildcat Mounta**	**1.04**	**37**	Pg	Pg	23 33 05.1	-0.6
WCT				Sg	Sg	23 33 18.6	-0.6
WCT				IAML		23 33 20.2	
	comp=E,542nm,0.4s						
WCT				IAML		23 33 21.4	
	comp=N,367nm,0.4s						
SGV	**South Grapevin**	**1.06**	**16**		Sg	23 33 19.9	0.0
HYS	**Haystack Butte**	**1.10**	**187**		Sg	23 33 21.3	+0.1
RRX	**Edison Barstow**	**1.13**	**163**		Pg	23 33 07.2	-0.3
SPG2	**Springville 2**	**1.13**	**283**		Pg	23 33 06.8	-0.7
EDW2	**Edwards Air Fo**	**1.18**	**204**		Pg	23 33 07.5	-0.9
EDW2					Sg	23 33 23.6	-0.1
TPO	**Tropico Hills**	**1.27**	**212**	Pg	Pg	23 33 09.3	-0.9
TPO				Sg	Sg	23 33 26.9	+0.2
TPO				IAML		23 33 30.3	
	comp=E,487nm,0.8s						

TPO					IAML			23 33 30.6		
	comp=N,457nm,0.7s									
TIN	**Tinemaha, Big**	**1.28**	**329**		Pg	Pg		23 33 10.1	-0.3	
TIN					Sg	Sg		23 33 26.7	-0.3	
TIN					IAML			23 33 32.3		
	comp=E,473nm,0.8s									
SBB	**Saddle Back Bu**	**1.32**	**195**			Pg		23 33 09.8	-1.2	
DSCC	**Desert Studies**	**1.33**	**127**			Pg		23 33 09.6	-1.8	
GMN	**Gold Mountain**	**1.34**	**5**		Pg	Pg		23 33 10.7	-0.8	
TPNV	**Topopah Spring**	**1.35**	**43**		Pg	Pg		23 33 10.7	-1.1	
TPNV					IAML			23 33 33.3		
	comp=E,429nm,0.5s									
VES	**Vestal, Richgr**	**1.37**	**266**		Pg	Pn		23 33 11.3	-0.8	
VES					IAML			23 33 32.9		
	comp=N,455nm,0.4s									
VES					IAML			23 33 35.8		
	comp=E,342nm,0.6s									
HEC	**Hector,Ludlow**	**1.43**	**142**			Pn		23 33 11.4	-1.5	
DSP	**Deep Springs**	**1.48**	**342**		Pg	Pn		23 33 12.6	-0.9	
MTPC	**Mountain Pass**	**1.58**	**107**			Pn		23 33 13.1	-1.9	
MTPC					IAML			23 33 37.5		
	comp=E,198nm,0.4s									
MTPC					IAML			23 33 39.2		
	comp=N,134nm,0.5s									
MTUM	**Tungsten Hills**	**1.68**	**326**			Pn		23 33 16.6	+0.2	
BFSC	**Mount Baldy Ra**	**1.73**	**187**			Pn		23 33 16.7	-0.4	
MZP	**Montezuma Peak**	**1.74**	**0**			Pn		23 33 16.5	-0.9	
SHPR	**Sheep Range**	**1.89**	**73**		Pn	Pn		23 33 18.2	-1.2	
PASC	**Pasadena Art C**	**1.90**	**200**		Pn	Pn		23 33 19.0	-0.2	
PASC					IAML			23 33 50.9		
	comp=N,86nm,0.8s									
MLAC	**Mammoth, Mammo**	**2.03**	**326**			Pb		23 33 23.9	+0.4	
KCC	**Kaiser Creek**	**2.06**	**312**			Pb		23 33 23.6	-0.4	
V12A	**Nelson**	**2.08**	**96**		Pn	Pn		23 33 20.2	-1.8	
DANC	**Danby, Needles**	**2.11**	**128**		Pn	Pn		23 33 20.4	-1.9	
DANC					IAML			23 33 59.1		
	comp=N,206nm,0.8s									
TPH	**Tonopah**	**2.12**	**4**		Pn	Pn		23 33 21.7	-0.8	
S11A	**Rachel**	**2.14**	**38**		Pn	Pn		23 33 21.8	-0.9	
S11A					IAML			23 33 59.6		
	comp=N,162nm,0.7s									
BELC	**Belle Mtn. Jos**	**2.27**	**149**		Pn	Pn		23 33 23.3	-1.3	
BELC					IAML			23 33 59.5		
	comp=E,127nm,0.6s									
BELC					IAML			23 34 00.6		
	comp=N,142nm,0.5s									
ELS	**Elsinore Mount**	**2.31**	**181**		Pn	Pn		23 33 23.5	-1.4	
PRN	**Pahroc Range**	**2.38**	**52**		Pn	Pn		23 33 25.2	-0.8	
LHV	**Little Huntoon**	**2.45**	**339**		Pn	Pn		23 33 26.4	-0.5	
IRM	**Iron Mountain**	**2.58**	**134**		Pn	Pn		23 33 26.6	-2.1	
BC3	**Big Chuckawall**	**2.80**	**145**		Pn	Pn		23 33 29.7	-2.1	
BORC	**Borrego Spring**	**2.81**	**163**		Pn	Pn		23 33 30.9	-0.8	
RYN	**Ryan**	**2.81**	**342**		Pn	Pn		23 33 31.5	-0.5	
MYLM	**Yosemite Lake**	**2.81**	**301**			Pb		23 33 36.9	+0.1	
BBGB	**Big Mountain B**	**3.00**	**283**		Pn	Pn		23 33 34.9	+0.3	
BLYC	**Blythe**	**3.23**	**132**		Pn	Pn		23 33 35.4	-2.2	
BLYC					IAML			23 34 31.6		
	comp=E,29nm,0.3s									
BLYC					IAML			23 34 34.3		
	comp=N,37nm,0.6s									
LCMT	**Little Creek M**	**3.51**	**71**		Pn	Pn		23 33 41.5	-0.1	
CCUT	**Cedar City**	**3.61**	**63**		Pn	Pn		23 33 43.0	-0.1	
KNB	**Kanab**	**3.84**	**73**		Pn	Pn		23 33 46.1	0.0	
MTPU	**Mount Pierson**	**4.66**	**62**		Pn	Pn		23 33 58.4	+0.8	

IDC ***14*** *23:35:41.9±1.2,34˚.68N×24˚.90E,h0km,mb3.3/4, mbtmp3.4/11,ML3.4/7,MS3.6/1,Error ellipse: s-maj=19.9km s-min=10.5km az=83.0*
HLW ***14*** *23:35:43.2,34˚.80N×25˚.06E,h4km±4km,Md3.0,Ml2.9*
ISK ***14*** *23:35:44.1,34˚.82N×24˚.68E,h4km,ML3.3/15*
ATH ***14*** *23:35:44.5,34˚.86N×24˚.66E,h30km±2km,ML3.3/6, Manual Solution by P.Lantzourakis First location: 2019/08/14 23:36:09, This location: 2021/06/18 14:05:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
THE ***14*** *23:35:45.1,35˚.N±3˚×2˚.5E±˚,h25km±7km,M3.4/4, MLh3.4/4*
AFAD ***14*** *23:35:54.1,34˚.92N×25˚.59E,h6km±3km,ML2.6*

ISC 14 23:35:43.8±0.7,34˚.75N±0˚.03×24˚.73E±0˚.02,h20km±3km, n77,σ2§44/101**,mb3.3/3,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TMBK	**Timbak Herakl**	**0.32**	**6**	P		**Pb**	**23**	**35**	**51.3**	**+0.4**
TMBK				S		**Sb**	**23**	**35**	**55.8**	**+0.1**
TMBK	**Timbak Herakl**	**0.32**	**6**	**P**		**Pb**	**23**	**35**	**51.1**	**+0.3**
TMBK				S		**Sb**	**23**	**35**	**55.5**	**-0.2**
GVD	**Gavdhos**	**0.53**	**280**	Pg		**Pb**	**23**	**35**	**54.4**	**-0.1**
GVD				Sg		**Sb**	**23**	**36**	**01.8**	**0.0**
GVD	**Gavdhos**	**0.53**	**280**	P		**Pb**	**23**	**35**	**54.1**	**-0.5**
GVD				S		**Sb**	**23**	**36**	**01.3**	**-0.5**
GVD	**Gavdhos**	**0.53**	**280**	P		**Pb**	**23**	**35**	**54.0**	**-0.5**
GVD				S		**Sb**	**23**	**36**	**01.3**	**-0.5**
IDI	**Anoyia**	**0.56**	**14**	Pg		**Pb**	**23**	**35**	**54.4**	**-0.6**
IDI				Sg		**Sb**	**23**	**36**	**01.9**	**-0.7**
IDI	**Anoyia**	**0.56**	**14**	P		**Pb**	**23**	**35**	**54.4**	**-0.6**
IDI				S		**Sb**	**23**	**36**	**01.9**	**-0.7**
IDI	**Anoyia**	**0.56**	**14**	Pg		**Pb**	**23**	**35**	**54.4**	**-0.6**
	81nm,0.3s,baz=239,slow=20,SNR=734									
IDI				Lg		Lg	23	36	01.3	
	baz=270,slow=20									
IDI	**Anoyia**	**0.56**	**14**	P		**Pb**	**23**	**35**	**54.2**	**-0.8**
IDI				S		**Sb**	**23**	**36**	**01.7**	**-0.9**
IACM	**Heraklion**	**0.62**	**27**	P		**Pb**	**23**	**35**	**56.0**	**-0.1**
IACM				S		**Sb**	**23**	**36**	**04.7**	**+0.2**
IACM	**Heraklion**	**0.62**	**27**	P		**Pb**	**23**	**35**	**55.8**	**-0.3**
PRNS	**Prines Rethymn**	**0.64**	**343**	P		**Pb**	**23**	**35**	**55.6**	**-0.8**
PRNS				S		**Sb**	**23**	**36**	**03.2**	**-1.7**
PRNS	**Prines Rethymn**	**0.64**	**343**	P		**Pb**	**23**	**35**	**55.1**	**-1.3**
PRNS				S		**Sb**	**23**	**36**	**03.6**	**-1.4**
NPS	**Neapolis**	**0.89**	**55**	P		**Pb**	**23**	**36**	**01.4**	**+0.8**
NPS				S		**Sn**	**23**	**36**	**14.4**	**+0.9**
NPS	**Neapolis**	**0.89**	**55**	P		**Pb**	**23**	**36**	**00.9**	**+0.3**
CHNB	**Souda**	**0.91**	**324**	P		**Pb**	**23**	**36**	**01.0**	**0.0**
CHAN	**Chania**	**0.95**	**324**	P		**Pb**	**23**	**36**	**01.2**	**-0.4**
CHAN				S		**Sb**	**23**	**36**	**11.2**	**-2.5**
CHAN	**Chania**	**0.95**	**324**	P		**Pb**	**23**	**36**	**00.1**	**-1.5**
CH01	**Chania**	**0.96**	**323**	P		**Pb**	**23**	**36**	**01.3**	**-0.5**
KNDR	**Palaiochora Ch**	**0.98**	**300**	Pg		**Pn**	**23**	**36**	**02.7**	**+0.3**
KNDR				Sg		**Sn**	**23**	**36**	**17.1**	**+1.4**
KNDR	**Palaiochora Ch**	**0.98**	**300**	P		**Pb**	**23**	**36**	**01.6**	**-0.6**
ZKR	**Zakros**	**1.28**	**73**	Pn		**Pb**	**23**	**36**	**09.3**	**+2.1**
ZKR	**Zakros**	**1.28**	**73**	P		**Pb**	**23**	**36**	**08.4**	**+1.2**
ANKY	**Antikythira Is**	**1.61**	**314**	P		**Pn**	**23**	**36**	**11.2**	**0.0**
THERA	**Ancient Thera,**	**1.73**	**21**	P		**Pn**	**23**	**36**	**13.3**	**+0.7**
SAP3	**Santorini-Thir**	**1.76**	**17**	P		**Pn**	**23**	**36**	**13.2**	**+0.1**
MHLO	**Agia Marina, M**	**1.95**	**352**	P		**Pn**	**23**	**36**	**15.0**	**-0.8**
KTHA	**Kythira Island**	**2.03**	**318**	Pn		**Pb**	**23**	**36**	**18.9**	**-1.0**
KARP	**Karpathos**	**2.15**	**68**	Pn		**Pb**	**23**	**36**	**22.0**	**-0.1**
YAZI	**Mula-Dat§a-**	**2.94**	**48**	P		**Pn**	**23**	**36**	**31.1**	**+1.7**
YAZI				S		**Sn**	**23**	**37**	**02.5**	**-1.5**
DAT	**Datca**	**3.05**	**49**	Pn		**Pn**	**23**	**36**	**34.3**	**+3.4**
DAT	**Datca**	**3.05**	**49**	P		**Pb**	**23**	**36**	**35.1**	**-2.3**
ARG	**Arkhangelos**	**3.14**	**61**	Pn		**Pb**	**23**	**36**	**36.1**	**-2.8**
SLUM	**Salum**	**3.27**	**173**	P		**Pn**	**23**	**36**	**34.9**	**+1.0**
SLUM				S		**Sn**	**23**	**37**	**12.8**	**+0.6**
ITM	**Ithomi**	**3.32**	**318**	Pn		**Pn**	**23**	**36**	**37.2**	**+2.6**
TURN	**Turunc**	**3.50**	**54**	P		**Pn**	**23**	**36**	**40.1**	**+3.0**
TURN				S		**Sn**	**23**	**37**	**13.5**	**-4.4**
TURN				*i*	IAML		23	37	39.0	
	comp=N,17nm,0.6s									
CHOS	**Chios island**	**3.79**	**16**	Pn		**Pn**	**23**	**36**	**44.2**	**+3.1**
MULA	**Mugla, Merkez-**	**3.84**	**48**	P		**Pn**	**23**	**36**	**45.1**	**+3.3**
AYDN	**Tasoluk**	**3.87**	**40**	P		**Pn**	**23**	**36**	**46.2**	**+4.0**
URLA	**Izmir**	**3.91**	**22**	P		**Pb**	**23**	**36**	**55.9**	**+3.9**
SABU	**Mula-Dalaman**	**4.02**	**58**	P		**Pn**	**23**	**36**	**47.8**	**+3.5**
SABU				S		**Sn**	**23**	**37**	**26.3**	**-4.5**
SABU				*i*	IAML		23	37	49.0	
	comp=N,18nm,1.0s									
IZZE	**Mula-Seydike**	**4.04**	**64**	P		**Pn**	**23**	**36**	**46.6**	**+2.2**
IZZE				S		Sn	23	37	22.0	-9.1
IZZE				*i*	IAML		23	37	37.0	
	comp=N,35nm,0.5s									
IZZE				*i*	IAML		23	37	37.0	
	comp=E,26nm,0.4s									
BLCB	**Balcova**	**4.08**	**27**	Pn		**Pn**	**23**	**36**	**48.6**	**+3.6**
AYDB	**Zeytinkoy-Aydi**	**4.09**	**38**	Pn		**Pn**	**23**	**36**	**49.0**	**+3.7**
ESEN	**Aydn-Nazilli**	**4.22**	**43**	P		**Pn**	**23**	**36**	**50.2**	**+3.3**
ESEN				S		**Sn**	**23**	**37**	**33.2**	**-2.5**
DNZT	**Denizli-Tavas-**	**4.30**	**53**	P		**Pn**	**23**	**36**	**51.1**	**+2.9**
DNZT				S		**Sn**	**23**	**37**	**35.6**	**-2.2**
DNZT				*i*	IAML		23	37	47.0	
	comp=N,9.5nm,0.7s									
DNZT				*i*	IAML		23	37	58.0	
	comp=E,10nm,1.2s									
NAZL	**Nazilli-Aydin**	**4.31**	**41**	Pn		**Pn**	**23**	**36**	**52.1**	**+3.9**
CAME	**Cameli-Denizli**	**4.32**	**58**	Pn		**Pn**	**23**	**36**	**51.8**	**+3.4**
TAVA	**DENIZLI_Tavas**	**4.34**	**50**	P		**Pn**	**23**	**36**	**51.0**	**+2.3**
CAEL	**Denizli, Camel**	**4.42**	**56**	P		Pn	23	36	55.8	+5.9
ODEM	**Odemis-Izmir**	**4.43**	**36**	Pn		**Pn**	**23**	**36**	**53.9**	**+3.9**
KNIK	**Mula-Seydike**	**4.46**	**61**	P		**Pn**	**23**	**36**	**52.8**	**+2.4**
KNIK				*i*	IAML		23	37	36.0	
	comp=N,12nm,1.4s									
KNIK				S		**Sn**	**23**	**37**	**36.5**	**-5.2**
KNIK				*i*	IAML		23	37	53.0	
	comp=E,8.8nm,0.6s									
DNIZ	**Denizli-Tavas-**	**4.52**	**49**	P		**Pn**	**23**	**36**	**55.8**	**+4.6**
DNIZ				*i*	IAML		23	38	05.0	
	comp=N,13nm,0.8s									
DNIZ				*i*	IAML		23	38	12.0	
	comp=E,11nm,0.3s									
KIRA	**zmir-Kiraz**	**4.54**	**40**	P		**Pn**	**23**	**36**	**54.9**	**+3.5**
APMY	**Acipayam-Deniz**	**4.59**	**52**	Pn		**Pn**	**23**	**36**	**56.4**	**+4.2**
GOLH	**Golhisar**	**4.64**	**56**	P		**Pn**	**23**	**36**	**55.4**	**+2.6**
GOLH				S		**Sn**	**23**	**37**	**40.9**	**-5.3**
GOLH				*i*	IAML		23	37	55.0	
	comp=N,12nm,0.8s									
GOLH				*i*	IAML		23	38	13.0	
	comp=E,10.0nm,0.6s									
MANT	**Manisa**	**4.84**	**38**	P		**Pn**	**23**	**36**	**59.7**	**+3.9**
AKUM	**Antalya-Kumluc**	**4.84**	**69**	P		**Pn**	**23**	**36**	**56.7**	**+1.2**
AKUM				S		Sn	23	37	42.5	-8.4
AKUM				*i*	IAML		23	38	22.0	
	comp=E,20nm,1.1s									
AKUM				*i*	IAML		23	38	31.0	
	comp=N,12nm,1.7s									
INCE	**Denizli-Bozkur**	**4.91**	**52**	P		**Pn**	**23**	**37**	**01.2**	**+4.6**
INCE				*i*	IAML		23	38	20.0	
	comp=E,12nm,0.8s									
INCE				*i*	IAML		23	38	21.0	
	comp=N,16nm,0.3s									
USAK	**Uak-Merkez**	**5.25**	**40**	P		**Pn**	**23**	**37**	**04.7**	**+3.6**
USAK				*i*	IAML		23	39	46.0	
	comp=N,12nm,5.3s									
BUCA	**Burdur, Bucak-**	**5.38**	**60**	P		**Pn**	**23**	**37**	**06.0**	**+3.0**
BUCA				*i*	IAML		23	38	44.0	
	comp=E,8.2nm,0.1s									
SWA2		**5.52**	**173**	P		**Pn**	**23**	**37**	**06.1**	**+1.2**
SWA2				S		**Sn**	**23**	**38**	**07.3**	**-0.5**
RYAN	**Fayoum**	**7.36**	**139**	P		**Pn**	**23**	**37**	**29.5**	**-0.6**
HFRF	**Wahat Farafira**	**8.18**	**157**	P		**Pn**	**23**	**37**	**41.7**	**+0.4**
HFRF				S		**Sn**	**23**	**39**	**09.6**	**-3.6**
BRTR	**Keskin Array B**	**8.67**	**52**	Pn		Pn	23	37	54.6	+6.5
	0.1nm,0.3s,baz=238,slow=16,SNR=6.4									
MMAI	**Mount Meron Ar**	**9.04**	**98**	Pn		**Pn**	**23**	**37**	**53.7**	**+0.4**
	0.8nm,0.3s,baz=281,slow=12,SNR=6.2									
MMAI						Sn	**Sn**	**23**	**39**	**30.7**	**-3.8**
	1.0nm,0.3s,baz=308,slow=27,SNR=1.7									
	0.6nm,0.3s									
EIL	**Elat**	**10.03**	**117**	Pn		**Pn**	**23**	**38**	**05.3**	**-1.4**
	0.3nm,0.3s,baz=333,slow=2.3,SNR=1.7									
EIL						Sn	**Sn**	**23**	**39**	**51.9**	**-6.8**
	0.2nm,0.3s,baz=297,slow=2.3,SNR=1.8									
	1.3nm,0.5s									
ASF	**Jabal al Asfar**	**10.49**	**101**	Pn		**Pn**	**23**	**38**	**11.8**	**-1.3**
	0.1nm,0.3s,baz=16,slow=5.6,SNR=1.7									
ASF						Sn	**Sn**	**23**	**40**	**06.6**	**-3.4**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.6									
	0.9nm,0.7s									
VRAC	**Vranov**	**15.74**	**340**	Pn		**P**	**23**	**39**	**27.3**	**-0.8**
	0.2nm,0.3s,baz=214,slow=16,SNR=1.5									
	0.6nm,0.3s									
AKASG	**Malin Array Be**	**16.28**	**10**	Pn		**Pn**	**23**	**39**	**32.6**	**+1.6**
	0.4nm,0.3s,baz=203,slow=11,SNR=5.2									
	0.1nm,0.3s									
GERES	**GERESS Array B**	**16.28**	**333**	Pn		**P**	**23**	**39**	**34.8**	**+0.7**
	baz=143,slow=17,SNR=5.9									
	0.3nm,0.5s									
KBZ	**Khabaz**	**16.66**	**52**	Pn		**P**	**23**	**39**	**38.1**	**-0.1**
	0.1nm,0.3s,baz=262,slow=9.6,SNR=6.3									
	2.3nm,0.9s									
ESDC	**Sonseca Array**	**23.32**	**291**	P		**P**	**23**	**40**	**53.6**	**+3.0**
	0.4nm,0.9s,baz=89,slow=9.7,SNR=2.5									
	0.4nm,0.9s									
HFS	**Hagfors**	**26.40**	**348**	LR		LR	23	52	29.2	
	comp=Z,144nm,20.7s,baz=130,slow=38									
TORD	**Torodi Ar. Bea**	**29.95**	**230**	P		**P**	**23**	**41**	**51.8**	**+1.0**
	0.4nm,0.7s,baz=35,slow=8.8,SNR=3.8									
	0.4nm,0.7s									
KURBB	**Kurchatov Arra**	**41.66**	**51**	P		**P**	**23**	**43**	**29.7**	**-0.9**
	0.3nm,0.5s,baz=274,slow=8.7,SNR=2.2									
	0.3nm,0.5s									
MKAR	**Makanchi Array**	**44.30**	**56**	P		**P**	**23**	**43**	**52.3**	**+0.2**
	0.9nm,0.9s,baz=274,slow=7.8,SNR=4.4									
	0.9nm,0.9s									

IDC ***14*** *23:47:01.8±0.6,30˚.40N×95˚.00E,h0km,mb4.3/21, mbtmp4.3/25,ML4.4/4,Error ellipse: s-maj=20.4km s-min=12.6km az=56.0*
BJI ***14*** *23:47:02.2,30˚.36N×94˚.84E,h6km,mB4.8/3,mb4.4/35, ML4.3/5,Ms4.0/12,Ms7 3.8/13*
MOS ***14*** *23:47:02.8±1.0,30˚.34N×94˚.91E,h18km,mb4.9/38,Error ellipse: s-maj=7.5km s-min=3.7km az=124.5*
NEIC ***14*** *23:47:03.7±1.2,30˚.37N±0˚.09×94˚.9E±0˚.1,h10km±1km, mb4.9/60,Error ellipse: s-maj=15.8km s-min=13.4km az=43.0*
NDI ***14*** *23:47:07.4±2.2,30˚.28N×94˚.57E,h10km,ML4.6,MW4.3, mb4.9(NEIC)*

ISC 14 23:47:03.6±0.3,30˚.33N±0˚.04×94˚.78E±0˚.04,h10km,n499, σ1§**22**/512**,mb4.8**/93**,MS3.9**/3**,36C-16D,Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ZIRO	**ZIRO**	**2.91**	**197**	*e*P		**Pn**	**23**	**47**	**54.8**	**+4.7**
LSA	**Lhasa**	**3.21**	**260**			**Pn**	**23**	**47**	**56.6**	**+2.1**
LSA	**Lhasa**	**3.21**	**260**	Pn		**Pn**	**23**	**47**	**56.9**	**+2.4**
LSA				Sn		**Sb**	**23**	**48**	**44.9**	**+4.5**
LSA				LR		LR				
	comp=N,1μm,4.9s									
LSA				LR		LR				
	comp=Z,2μm,5.0s									
LSA	**Lhasa**	**3.21**	**260**	P		**Pn**	**23**	**47**	**56.6**	**+2.1**
GUWA	**GUWAHATI**	**4.94**	**214**	*e*P		**Pn**	**23**	**48**	**19.4**	**+1.6**
GUWA				*e*S		**Sn**	**23**	**49**	**11.7**	**-3.3**
GUWA				IAML			23	49	13.0	
	comp=N,1μm,0.4s									
GUWA				IAML			23	49	13.0	
	comp=E,1μm,0.6s									
SHL	**Shillong**	**5.39**	**209**	Pn		**Pn**	**23**	**48**	**23.7**	**-0.5**
SHL	**Shillong**	**5.39**	**209**	*e*P		**Pn**	**23**	**48**	**25.1**	**+0.8**
SHL				*e*S		**Sn**	**23**	**49**	**23.6**	**-2.9**
SHL				IAML			23	49	25.1	
	comp=N,1μm,0.7s									
SHL				IAML			23	49	25.3	
	comp=E,1μm,0.6s									
SHL	**Shillong**	**5.39**	**209**	P		**Pn**	**23**	**48**	**23.7**	**-0.5**
IMP	**Imphal**	**5.52**	**188**	*e*P		**Pn**	**23**	**48**	**27.4**	**+1.5**
IMP				*e*S		**Sn**	**23**	**49**	**27.6**	**-2.1**
IMP				IAML			23	49	29.2	
	comp=N,1μm,0.2s									
IMP				IAML			23	49	29.5	
	comp=E,1μm,0.5s									
GOMU	**GeErMu**	**5.86**	**0**	Pn		**Pn**	**23**	**48**	**30.3**	**-0.5**
GOMU				Sn		**Sn**	**23**	**49**	**37.1**	**-1.1**
GOMU				LR		LR				
	comp=E,720nm,8.0s									
GOMU				LR		LR				
	comp=E,560nm,8.5s									
GOMU				LR		LR				
	comp=E,450nm,8.7s									
TNCH	**TengChong**	**6.23**	**147**	*e*Pn		**Pn**	**23**	**48**	**36.5**	**+0.7**
TNCH				Sg		**Sg**	**23**	**50**	**22.1**	**-1.6**
TNCH				smax		smax				
	comp=E,220nm,1.3s									
TNCH				smax		smax				
	comp=E,230nm,1.6s									
TNCH				LR		LR				
	comp=E,310nm,4.3s									
PZH	**PanZhiHua**	**7.21**	**120**	Pn		**Pn**	**23**	**48**	**50.6**	**+1.4**
PZH				Sn		**Sn**	**23**	**50**	**18.0**	**+6.7**
PZH				LR		LR				
	comp=E,490nm,9.8s									
PZH				LR		LR				
	comp=E,470nm,9.2s									
PZH				LR		LR				
	comp=E,420nm,8.5s									
BRDH	**Bariadhala**	**8.12**	**201**	Pn		**Pn**	**23**	**49**	**03.4**	**+1.9**
	comp=E,17nm,0.3s,baz=83,slow=18,SNR=1.9									
	comp=E,54nm,0.4s									
KMI	**Kunming**	**8.75**	**124**	P		**Pn**	**23**	**49**	**11.9**	**+1.5**
KMI				pmax		pmax				
	comp=E,9.0nm,0.8s									
KMI				LR		LR				
	comp=E,580nm,4.8s									
KMI				LR		LR				
	comp=E,290nm,4.0s									
KMI				LR		LR				
	comp=E,210nm,5.4s									
LZH	**Lanzhou**	**9.52**	**50**	*e*P		**Pn**	**23**	**49**	**20.0**	**-0.8**
LZH				sP			23	49	30.0	
LZH				sS		Sn	23	51	12.3	+4.3
LZH				pmax		pmax				
	comp=E,20nm,1.2s									
LZH				LR		LR				
	comp=E,370nm,8.9s									
LZH				LR		LR				
	comp=E,340nm,9.2s									
LZH				LR		LR				
	comp=E,240nm,9.2s									
GTA	**Gaotai**	**9.96**	**23**	*e*P		**Pn**	**23**	**49**	**26.8**	**0.0**
GTA				sP			23	49	36.0	
GTA				pmax		pmax				
	comp=E,3.0nm,0.8s									
CHTO	**Chiang Mai**	**12.07**	**161**	Pn		**Pn**	**23**	**49**	**56.2**	**+0.5**
CHTO	**Chiang Mai**	**12.07**	**161**	P		**Pn**	**23**	**49**	**56.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**12.41**	**161**	Pn		**Pn**	**23**	**50**	**00.8**	**+0.5**
	comp=E,1.0nm,0.3s,baz=340,slow=11,SNR=15									
	comp=E,1.4nm,0.3s									
CMAR	**Chiang Mai Arr**	**12.41**	**161**	*i* P		**Pn**	**23**	**50**	**02.9**	**+2.6**
CMAR				pmax		pmax				
	comp=Z,2.0nm,0.3s									
XAN	**Xi'an**	**12.54**	**69**	P		**Pn**	**23**	**49**	**59.9**	**-2.2**
XAN				pmax		pmax				
	comp=Z,7.0nm,0.7s									
WMQ	**Urumqi**	**14.60**	**339**	*e*P		**Pn**	**23**	**50**	**30.9**	**+0.7**
LYN	**LuoYang**	**15.51**	**70**	P		**P**	**23**	**50**	**47.1**	**+0.3**
LYN				PP		sP	23	50	59.8	+7.2
LYN				pmax		pmax				
	comp=Z,23nm,0.7s									
BTO	**Baotou**	**16.08**	**46**	*e*P		**P**	**23**	**50**	**51.3**	**-1.9**
BTO				PP		**sP**	**23**	**51**	**05.3**	**+6.2**
BTO				pmax		pmax				
	comp=Z,15nm,0.8s									
BTO				pmax		pmax				
	comp=Z,440nm,10.8s									
WHN	**Wuhan**	**16.88**	**84**	P		**Pn**	**23**	**50**	**58.6**	**-1.4**
WHN				pmax		pmax				
	comp=Z,58nm,1.0s									
QIZ	**Qiongzhong**	**17.69**	**126**	P		**P**	**23**	**51**	**10.8**	**-0.3**
QIZ				S		**Sn**	**23**	**54**	**29.3**	**+1.9**
QIZ				LR		LR				
	comp=Z,150nm,6.7s									
QIZ				LR		LR				
	comp=Z,310nm,7.9s									
SHLS	**Shalkode**	**17.70**	**321**	*e*P		**Pn**	**23**	**51**	**07.3**	**-3.0**
SHLS	**Shalkode**	**17.70**	**321**	*e*P		**Pn**	**23**	**51**	**07.4**	**-3.0**
TARG	**Taragay, Kyrgy**	**17.80**	**314**	P		**P**	**23**	**51**	**13.1**	**+0.5**
TARG	**Taragay, Kyrgy**	**17.80**	**314**	P		**P**	**23**	**51**	**13.1**	**+0.5**
TARG				pmax		pmax				
	comp=Z,55nm,1.2s									
PRZ	**Przheval'sk**	**17.88**	**317**			**P**	**23**	**51**	**

IUG Iuzhnay 23.10 307 *e*P **P** **23 52 09.5 -0.2**
IUG pmax pmax
comp=Z,25nm,1.2s
IUG Iuzhnay 23.10 307 *e*P **P** **23 52 09.5 -0.2**
comp=Z,25nm,1.2s
KK31 Karatay Array 23.17 310 *i* P **P** **23 52 10.6 +0.4**
CHM Chimkent 23.46 308 *e*P **P** **23 52 13.3 +0.1**
CHM Chimkent 23.46 308 *e*P **P** **23 52 13.4 +0.1**
BRLS Borolday 23.59 309 *e*P **P** **23 52 14.8 +0.4**
BRLS Borolday 23.59 309 *e*P **P** **23 52 14.8 +0.4**
KURBB Kurchatov Arra 23.65 334 P **P** **23 52 14.8 -0.1**
comp=Z,17nm,1.1s,baz=142,slow=10,SNR=48
KURBB PcP **PcP** **23 55 59.7 +0.4**
comp=Z,0.3nm,0.3s,baz=150,slow=2.0,SNR=2.9
comp=Z,17nm,1.1s
KURBB Kurchatov Arra 23.65 334 P **P** **23 52 14.6 -0.3**
KURK Kurchatov 23.69 334 P **P** **23 52 14.0 -1.3**
KURK Kurchatov 23.69 334 *ce*P **P** **23 52 14.8 -0.5**
KURK pmax pmax
comp=Z,31nm,1.3s
ZAA0 Zalesovo Array 24.69 346 P **P** **23 52 23.2 -1.3**
ZALV Zalesovo Beam 24.69 346 P **P** **23 52 24.1 -0.4**
comp=Z,6.8nm,0.7s,baz=164,slow=9.0,SNR=35
comp=Z,6.8nm,0.7s
ZALV Zalesovo Beam 24.69 346 *i* P **P** **23 52 24.7 +0.2**
ZALV pmax pmax
comp=Z,7.0nm,0.7s
BRZS Berezniki 25.73 326 *e*P **P** **23 52 34.0 -0.1**
BRZS Berezniki 25.73 326 *e*P **P** **23 52 34.0 -0.1**
HIA Hailar 26.74 38 P **P** **23 52 42.1 -1.1**
HIA Hailar 26.74 38 P **P** **23 52 42.1 -1.1**
HIA pmax pmax
comp=Z,10.0nm,0.7s
CN2 Changchun 27.75 52 P **P** **23 52 52.8 +0.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
BVAR Borovoye Array 28.83 329 P **P** **23 53 02.8 +0.9**
comp=Z,6.3nm,0.9s,baz=123,slow=11,SNR=35
BVAR PcP **PcP** **23 56 11.4 +0.2**
comp=Z,1.2nm,0.7s,baz=110,slow=3.1,SNR=5.0
comp=Z,6.3nm,0.9s
BRVK Borovoye 28.90 329 P **P** **23 53 02.7 +0.2**
BRVK lAmb lAmb 23 53 05.4
comp=Z,15nm,0.9s
BRVK Borovoye 28.90 329 *ce*P **P** **23 53 03.0 +0.5**
BRVK pmax pmax
comp=Z,20nm,1.0s
BNX BinXian 29.70 50 ⇑P **P** **23 53 10.0 +0.3**
BNX pmax pmax
comp=Z,7.0nm,1.6s
AB31 Akbulak array 32.38 316 P **P** **23 53 33.1 -0.1**
AB31 Akbulak array 32.38 316 *i* P **P** **23 53 33.6 +0.4**
ZEA Zeya 33.12 36 *e*P **P** **23 53 40.8 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
SVE Sverdlovsk 35.60 328 *e*P **P** **23 54 02.6 +1.5**
SVE pmax pmax
comp=Z,31nm,1.1s
ARTI Arti 36.43 326 P **P** **23 54 07.5 -0.7**
ARTI lAmb lAmb 23 54 09.6
comp=Z,11nm,0.6s
ARTI Arti 36.43 326 *c* *i*P **P** **23 54 08.9 +0.7**
ARTI 23 55 27.9
ARTI 23 56 30.4
ARTI S **S** **23 59 52.6 +2.9**
ARTI SS **SnSn** **00 02 18.3 +0.8**
ARTI pmax pmax
comp=Z,17nm,1.3s
LKRN Lenkeran, Azer 38.48 295 P **P** **23 54 27.0 +1.2**
YAK Yakutsk 38.98 25 P **P** **23 54 28.8 -0.9**
YAK Yakutsk 38.98 25 *e*P **P** **23 54 27.8 -1.9**
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.2s
AKT Akhty 39.27 300 *e*P **P** **23 54 33.8 +1.2**
AKT pmax pmax
comp=Z,10.0nm,0.8s
SEKA Sheki 39.67 299 P **P** **23 54 36.3 +0.5**
MNGR Mingechevir, A 39.75 299 P **P** **23 54 37.5 +1.1**
YSS Yuzhno-Sakhali 40.31 52 *e*P **P** **23 54 41.4 +0.4**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,200nm,14.0s
GANJ Ganja 40.34 298 P **P** **23 54 42.4 +1.1**
BELG Belogornoye 40.77 317 *i* P **P** **23 54 45.9 +1.2**
BELG pmax pmax
comp=Z,3.0nm,1.1s
NAX Nakhchivan 41.02 296 P **P** **23 54 48.1 +1.0**
GNI Garni 41.56 298 P **P** **23 54 52.6 +1.1**
GNI lAmb lAmb 23 54 56.2
comp=Z,29nm,1.3s
GNI Garni 41.56 298 *i* P **P** **23 54 52.6 +1.1**
GNI pmax pmax
comp=Z,27nm,1.3s
KIRV Kirov 41.74 326 *ce*P **P** **23 54 53.5 +0.9**
KBZ Khabaz 42.87 303 P **P** **23 55 02.4 +0.4**
comp=Z,2.6nm,1.0s,baz=72,slow=3.2,SNR=3.8
comp=Z,2.6nm,1.0s
KBZ Khabaz 42.87 303 *i* P **P** **23 55 03.1 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
KIV Kislovodsk 43.02 303 *e*P **P** **23 55 04.8 +1.4**
KIV pmax pmax
comp=Z,21nm,1.1s
SHA1 Shidzhatmaz 43.04 303 *i* P **P** **23 55 04.5 +0.8**
GURO Guroymak-BITLI 43.77 296 P **P** **23 55 10.2 +0.6**
GURO lAmb lAmb 23 55 13.2
comp=Z,31nm,1.5s
VRH Novokhopyorsk 44.16 314 *e*P **P** **23 55 10.5 -1.8**
VRH pmax pmax
comp=Z,10.0nm,1.0s
RAYN Ar Rayn 44.18 273 P **P** **23 55 12.6 -0.3**
RAYN Ar Rayn 44.18 273 P **P** **23 55 12.6 -0.3**
RAYN pmax pmax
comp=Z,5.0nm,1.2s
KOPT Kop Dagi 44.81 298 P **P** **23 55 18.4 +0.3**
KOPT lAmb lAmb 23 55 27.3
comp=Z,27nm,1.9s
MARD Mardin 44.89 294 P **P** **23 55 18.6 +0.1**
MARD lAmb lAmb 23 55 21.3
comp=Z,25nm,1.3s
VSLR Vesyoloye 44.95 303 *i* P **P** **23 55 19.9 +1.1**
VSLR pmax pmax
comp=Z,31nm,1.2s
SOC Sochi 45.18 303 *e*P **P** **23 55 18.9 -1.6**
SOC *e* 23 57 10.3
SOC *e*PPP PPP 23 57 43.0
SOC *e*S **S** **00 01 58.9 -1.3**
SOC *e*SSS SSS 00 06 08.5
SOC pmax pmax
comp=Z,24nm,1.1s
TIXI Tiksi 45.30 14 P **P** **23 55 20.6 -0.5**
TIXI Tiksi 45.30 14 P **P** **23 55 20.6 -0.5**
TIXI pmax pmax
comp=Z,11nm,1.2s
VSR Storozhevoye 45.76 314 *e*P **P** **23 55 22.1 -2.9**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORR Voronezh 45.77 314 *e*P **P** **23 55 22.2 -2.9**
VORR pmax pmax
comp=Z,20nm,1.1s
LPSR Galich'ya Gora 46.04 315 *e*P **P** **23 55 24.5 -2.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
ARPR Arapgir-MALATY 46.57 297 P **P** **23 55 32.5 +0.7**
ARPR lAmb lAmb 23 55 36.2
comp=Z,23nm,1.4s
MOS Moscow 47.19 320 *e*P **P** **23 55 34.5 -1.7**
MOS pmax pmax
comp=Z,100nm,1.5s
MOS pmax pmax
comp=Z,60nm,1.2s
KLMR Klimovskoe 47.21 327 *e*P **P** **23 55 34.9 -1.4**
KLMR *e* 23 57 05.9
KLMR *e* 23 57 25.4
KLMR pmax pmax
comp=Z,46nm,1.3s
MA2 Magadan 47.26 35 P **P** **23 55 35.8 -0.9**
MA2 lAmb lAmb 23 55 37.6
comp=Z,19nm,1.5s
MA2 Magadan 47.26 35 P **P** **23 55 35.8 -0.9**
MA2 pmax pmax
comp=Z,19nm,1.5s
OBN Obninsk 47.71 319 P **P** **23 55 39.9 -0.3**
OBN Obninsk 47.71 319 ⇓*i*P **P** **23 55 39.9 -0.3**
OBN *e*PP **pP** **23 55 44.1 -0.5**
OBN *e* 23 57 08.6
OBN *e* 23 57 31.5
OBN *i*SS SS 00 06 04.3 +0.2
OBN *e*SSS SSS 00 07 15.6
OBN pmax pmax
comp=Z,61nm,2.5s
OBN MLR MLR
comp=Z,87nm,15.0s
TOKA Tokat 47.84 299 P **P** **23 55 42.1 +0.5**
TOKA lAmb lAmb 23 55 44.4
comp=Z,20nm,1.3s
BNN Bunyan 48.53 297 P **P** **23 55 47.5 +0.5**
BNN lAmb lAmb 23 55 51.1
comp=Z,18nm,1.2s
SEY Seymchan 48.80 31 *e*P **P** **23 55 46.7 -1.9**
SEY pmax pmax
comp=Z,5.0nm,1.4s
BZK Bozkurt 49.50 301 ⇓P **P** **23 55 55.1 +0.9**
KIRS Kirsehir-Merke 49.97 297 ⇓P **P** **23 55 58.7 +0.7**
BR131 Keskin Array S 50.09 298 *i* P **P** **23 55 59.8 +0.9**
BRTR Keskin Array B 50.09 298 P **P** **23 55 59.4 +0.5**
comp=Z,3.7nm,1.1s,baz=98,slow=6.4,SNR=14
comp=Z,3.7nm,1.1s
PETK Petropavlovsk- 50.34 44 P **P** **23 56 00.0 -0.5**
comp=Z,2.7nm,0.9s,baz=261,slow=8.0,SNR=4.4
comp=Z,2.7nm,0.9s
ANTO Ankara 50.71 299 P **P** **23 56 03.2 -0.3**
ANTO Ankara 50.71 299 P **P** **23 56 03.2 -0.3**
ANTO pmax pmax
comp=Z,43nm,1.3s
MDUB Mudurnu 51.81 300 P **P** **23 56 12.3 +0.4**
PURM Purcari 51.93 307 ⇓P **P** **23 56 13.5 +1.0**
AKASG Malin Array Be 52.03 313 P **P** **23 56 13.3 +0.2**
comp=Z,8.4nm,0.9s,baz=83,slow=6.3,SNR=27
comp=Z,8.4nm,0.9s
AKASG Malin Array Be 52.03 313 *i* P **P** **23 56 13.5 +0.3**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 52.03 313 *ce*P **P** **23 56 12.9 -0.3**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 52.04 313 P **P** **23 56 12.7 -0.5**
KIEV lAmb lAmb 23 56 14.6
comp=Z,23nm,1.2s
KIEV Kiev 52.04 313 ⇑P **P** **23 56 14.0 +0.8**
KIEV Kiev 52.04 313 P **P** **23 56 12.7 -0.5**
KIEV pmax pmax
comp=Z,23nm,1.2s
MILM Milestii Mici 52.62 308 ⇓P **P** **23 56 17.3 -0.3**
MNK Minsk 52.70 318 *i* P **P** **23 56 17.3 -0.8**
comp=E,6.0nm,1.0s
MNK *i* P **P** **23 56 17.3 -0.8**
comp=N,13nm,1.1s
MNK *i* P **P** **23 56 17.3 -0.8**
comp=Z,14nm,1.0s,baz=89
MNK *i* PP **PP** **23 58 17.3 +0.2**
MNK *i* PPP PPP 23 59 19.6
MNK *i* S **S** **00 03 46.2 +0.4**
MNK *i* SS **SS** **00 07 26.9 +3.0**
MNK *i* SSS SSS 00 09 14.8
MNK *i* LQ LQ 00 15 32.1
MNK *i* LR LR 00 15 48.6
MNK *i* LRM MLR 00 21 09.7
comp=N,121nm,18.8s
MNK *i* LRM MLR 00 21 19.4
comp=E,138nm,22.6s
MNK *i* LRM MLR 00 21 41.7
comp=Z,48nm,16.9s
MNK Minsk 52.70 318 *i* P **P** **23 56 17.3 -0.8**
MNK *i* 23 58 17.2
MNK *i* PPP PPP 23 59 19.6
MNK *i* S **S** **00 03 46.1 +0.4**
MNK *i* SS **SS** **00 07 26.8 +3.0**
MNK *i* SSS SSS 00 09 14.8
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK pmax pmax
comp=N,13nm,1.1s
MNK MLR MLR
comp=N,121nm,19.0s
MNK MLR MLR
comp=E,138nm,23.0s
MNK MLR MLR
comp=Z,48nm,17.0s
SORM Soroca 52.80 310 ⇑P **P** **23 56 19.5 +0.6**
ISP Isparta 52.83 296 P **P** **23 56 18.4 -1.1**
ISP lAmb lAmb 23 56 22.2
comp=Z,13nm,0.9s
ISP Isparta 52.83 296 *ce*P **P** **23 56 20.3 +0.8**
ISP pmax pmax
comp=Z,7.0nm,0.7s
TPGR Topolog 53.15 305 ⇑P **P** **23 56 22.6 +1.0**
CFR Carcaliu 53.30 306 ⇓P **P** **23 56 23.2 +0.6**
HARR Harsova 53.52 305 ⇓P **P** **23 56 25.1 +0.9**
ICOR Ion Corvin 53.70 305 ⇓P **P** **23 56 26.5 +0.9**
FIA1 FINESS Array S 53.74 326 P **P** **23 56 25.9 +0.4**
FINES FINESS Array B 53.74 326 P **P** **23 56 25.3 -0.3**
comp=Z,2.2nm,0.6s,baz=91,slow=6.5,SNR=21
comp=Z,2.2nm,0.6s
FINES FINESS Array B 53.74 326 *i* P **P** **23 56 26.2 +0.6**
FINES pmax pmax
comp=Z,2.0nm,0.5s
VRI Vrincioaia 54.18 307 ⇑P **P** **23 56 30.0 +0.8**
VRI Vrincioaia 54.18 307 ⇑P **P** **23 56 30.0 +0.8**
PLOR Plostina 54.24 307 ⇑P **P** **23 56 31.2 +1.6**
PLOR Plostina 54.24 307 ⇑P **P** **23 56 31.2 +1.6**
ONER Baraj Valea Uz 54.34 308 ⇓P **P** **23 56 31.9 +1.6**
ISR Istrita 54.43 306 ⇓P **P** **23 56 32.9 +1.9**
ISR Istrita 54.43 306 ⇓P **P** **23 56 32.9 +1.9**
COVR Voineasa-Covas 54.55 307 ⇓P **P** **23 56 33.6 +1.7**
TURR Turia 54.65 307 ⇓P **P** **23 56 34.1 +1.6**
ARCES ARCESS Array B 54.70 336 P **P** **23 56 32.5 0.0**
comp=Z,5.1nm,1.1s,baz=72,slow=4.0,SNR=4.5
comp=Z,5.1nm,1.1s
MLR Muntele Rosu 54.78 307 P **P** **23 56 34.1 +0.4**
MLR Muntele Rosu 54.78 307 ⇑P **P** **23 56 35.5 +1.8**
MLR Muntele Rosu 54.78 307 ⇑P **P** **23 56 35.5 +1.8**
BOSR Bodos 54.89 307 ⇓P **P** **23 56 35.8 +1.5**
PABE Paberze 54.91 319 P **P** **23 56 34.4 +0.2**
BURAR Bucovina Array 54.96 309 ⇑P **P** **23 56 35.9 +1.0**
BURAR Bucovina Array 54.96 309 ⇑P **P** **23 56 35.9 +1.0**
KSV Kosov 54.96 310 P **P** **23 56 35.4 +0.6**
DOPR Dopca 55.09 307 ⇑P **P** **23 56 36.5 +0.8**
BILL Bilíbino 55.34 26 *i* P **P** **23 56 37.6 +0.5**
BILL pmax pmax
comp=Z,5.0nm,1.0s
LVV L'vov 55.43 312 P **P** **23 56 39.2 +1.1**
SUW Suwalki 55.48 317 *e*P **P** **23 56 38.9 +0.5**
SUW Suwalki 55.48 317 P **P** **23 56 38.6 +0.2**
SUW Suwalki 55.48 317 P **P** **23 56 38.6 +0.2**
ALN Alexandroupoli 55.57 301 P **P** **23 56 38.8 -0.5**
ALN lAmb lAmb 23 56 40.5
comp=Z,14nm,1.1s
ALN Alexandroupoli 55.57 301 P **P** **23 56 38.8 -0.5**
ALN pmax pmax
comp=Z,14nm,1.1s
RDO Rodhopi 55.90 301 P **P** **23 56 41.1 -0.5**
RDO lAmb lAmb 23 56 44.8
comp=Z,16nm,1.3s
BMR Baia Mare 56.10 310 ⇑P **P** **23 56 43.7 +0.8**
BMR Baia Mare 56.10 310 ⇑P **P** **23 56 43.7 +0.8**
CJR Cluj-Napoca 56.19 308 ⇑P **P** **23 56 45.5 +1.8**
CJR Cluj-Napoca 56.19 308 ⇑P **P** **23 56 45.5 +1.8**
LOT Lotru 56.30 307 ⇑P **P** **23 56 45.5 +1.0**
KWP Kalwaria Pacla 56.31 312 *e*P **P** **23 56 45.2 +0.7**
TRSU Trosnyk 56.39 310 P **P** **23 56 46.6 +1.6**
MARR Marisel-Cluj 56.52 308 ⇑P **P** **23 56 47.4 +1.3**
DRGR 56.78 309 ⇑P **P** **23 56 49.3 +1.4**
DRGR 56.78 309 ⇑P **P** **23 56 49.3 +1.4**
GZR Gura Zlata 57.00 307 ⇑P **P** **23 56 50.8 +1.3**
GZR Gura Zlata 57.00 307 ⇑P **P** **23 56 50.8 +1.3**
BEL Belsk 57.19 315 *e*P **P** **23 56 51.0 +0.4**
SURR Surduc 57.37 307 ⇑P **P** **23 56 53.7 +1.7**
BZS Buzias 57.75 307 ⇑P **P** **23 56 55.6 +0.9**
BZS Buzias 57.75 307 ⇑P **P** **23 56 55.6 +0.9**
MDVR Moldovita 57.86 306 ⇓P **P** **23 56 56.1 +0.6**
NIE Niedzica 57.89 312 *e*P **P** **23 56 56.7 +1.0**
NIE Niedzica 57.89 312 P **P** **23 56 58.0 +2.3**
BOVS Bovan 58.12 305 ⇑P **P** **23 56 58.4 +1.1**
VYHS Vyhne 59.02 311 *e*P **P** **23 57 04.9 +1.4**
VYHS Vyhne 59.02 311 *e*P **P** **23 57 04.9 +1.4**
SRO Srobarova 59.50 310 *e*P **P** **23 57 09.2 +2.4**
SRO Srobarova 59.50 310 *e*P **P** **23 57 09.2 +2.4**
MORC Moravsky Berou 59.58 313 *e*P **P** **23 57 08.4 +1.0**
MORH Mrgy, Hungar 59.64 309 ⇓P **P** **23 57 08.3 +0.5**
JAVC Velka Javorina 59.69 312 *e*P **P** **23 57 09.2 +0.9**
HFS Hagfors 59.87 325 P **P** **23 57 09.1 -0.1**
comp=Z,2.2nm,0.7s,baz=84,slow=13,SNR=3.8
comp=Z,2.2nm,0.7s
KRLC Kraliky 60.00 313 *e*P **P** **23 57 11.7 +1.4**
KRLC Kraliky 60.00 313 *e*P **P** **23 57 11.7 +1.4**
KSP Ksiaz 60.14 314 *e*P **P** **23 57 12.3 +1.2**
KSP Ksiaz 60.14 314 P **P** **23 57 12.9 +1.7**
DPC Dobruska-Polom 60.23 314 *e*P **P** **23 57 13.4 +1.5**
DPC Dobruska-Polom 60.23 314 *e*P **P** **23 57 13.4 +1.5**
OSTC Ostas 60.25 314 *e*P **P** **23 57 13.5 +1.5**
OSTC Ostas 60.25 314 *e*P **P** **23 57 13.5 +1.5**
VRAC Vranov 60.29 312 *e*P **P** **23 57 13.3 +1.0**
CHVC Chvalec 60.34 314 *e*P **P** **23 57 14.1 +1.5**
CHVC Chvalec 60.34 314 *e*P **P** **23 57 14.1 +1.5**
UPC Upice 60.38 314 *e*P **P** **23 57 14.9 +2.0**
UPC Upice 60.38 314 *e*P **P** **23 57 14.9 +2.0**
KRUC Moravsky 60.47 312 *e*P **P** **23 57 12.9 -0.6**
NC405 NORSAR Array S 60.67 326 P **P** **23 57 14.9 +0.2**
RONA Rosalia, Austr 60.85 311 *e*P **P** **23 57 16.8 +0.6**
comp=Z,1.1nm,1.4s
NB2 NORSAR Subarra 60.92 326 P **P** **23 57 16.0 -0.4**
comp=Z,12nm,1.2s,baz=80,slow=6.9
NB2 NORSAR Subarra 60.92 326 P **P** **23 57 15.8 -0.6**
NOA NORSAR Array B 60.92 326 P **P** **23 57 15.6 -0.8**
comp=Z,6.3nm,1.1s,baz=79,slow=6.7,SNR=8.7
comp=Z,6.3nm,1.1s
CONA Conrad Observa 61.08 311 *e*P **P** **23 57 18.7 +0.9**
comp=Z,10.0nm,1.1s,SNR=6.0
PRU Pruhonice 61.42 314 *e*P **P** **23 57 21.4 +1.4**
PRU Pruhonice 61.42 314 *e*P **P** **23 57 21.4 +1.4**
ARSA Arzberg 61.47 310 *e*P **P** **23 57 19.3 -1.0**
comp=Z,2.6nm,1.4s
BRG Berggiesshubel 61.58 315 *e*P **P** **23 57 23.1 +2.1**
BRG Amp 23 57 23.4
comp=Z,3.7nm,1.0s
ZVC Zvikov 61.78 313 *e*P **P** **23 57 24.0 +1.6**
CKRC Cesky Krumlov 61.86 312 *e*P **P** **23 57 24.7 +1.7**
CKRC Cesky Krumlov 61.86 312 *e*P **P** **23 57 24.7 +1.7**
CLL Colim 62.05 315 *e*P **P** **23 57 24.0 -0.1**
GERES GERESS Array B 62.24 312 P **P** **23 57 25.7 +0.1**
comp=Z,1.5nm,0.7s,baz=65,slow=4.7,SNR=16
comp=Z,1.5nm,0.7s
KHC Kasperske Hory 62.25 313 *ce*P **P** **23 57 27.1 +1.5**
KHC pmax pmax
comp=Z,6.0nm,1.7s
KHC Kasperske Hory 62.25 313 *e*P **P** **23 57 27.2 +1.6**
WB0 Warramunga Arr 62.71 137 P **P** **23 57 27.9 -1.0**
WB0 lAmb lAmb 23 59 13.7
comp=Z,19nm,1.6s
WRA Warramunga Arr 62.82 138 P **P** **23 57 28.8 -0.9**
comp=Z,1.6nm,1.0s,baz=328,slow=7.3,SNR=8.0
comp=Z,1.6nm,1.0s
MYKA Terra Mystica 62.88 310 *e*P **P** **23 57 30.2 +0.3**
comp=Z,6.1nm,1.2s
KMBO Kilima Mbogo 62.98 251 P **P** **23 57 33.6 +2.4**
comp=Z,1.1nm,0.3s,baz=345,slow=19,SNR=2.8
comp=Z,1.1nm,0.3s
LESA Schwarzleotal 63.29 311 *e*P **P** **23 57 32.5 -0.1**
comp=Z,4.5nm,0.9s
ABTA Abfalterbach 63.59 310 *e*P **P** **23 57 33.1 -1.6**
comp=Z,5.6nm,1.3s
WTTA Wattenberg 64.02 311 *e*P **P** **23 57 35.9 -1.6**
comp=Z,5.2nm,1.4s
WATA Walderalm 64.03 311 *e*P **P** **23 57 37.2 -0.4**
comp=Z,1.7nm,0.5s
SQTA Sankt Quirin 64.31 311 *e*P **P** **23 57 39.0 -0.4**
comp=Z,5.6nm,0.8s
MOTA Moosalm 64.34 311 *e*P **P** **23 57 39.6 0.0**
comp=Z,5.4nm,1.1s
RETA Reutte 64.51 312 *e*P **P** **23 57 40.9 +0.3**
comp=Z,13nm,1.3s,SNR=5.2
FETA Feichten 64.68 311 *e*P **P** **23 57 41.9 +0.1**
comp=Z,8.6nm,1.1s,SNR=5.3
GAMB Gambell 64.75 29 P **P** **23 57 40.5 -1.3**
baz=287
FUORN Ofenpass-Fuorn 65.11 311 P **P** **23 57 44.8 0.0**
FUORN lAmb lAmb 23 58 20.4
comp=Z,13nm,1.6s
ASAR Alice Springs 65.51 141 P **P** **23 57 46.5 -0.8**
comp=Z,1.4nm,0.8s,baz=326,slow=6.6,SNR=15
comp=Z,1.4nm,0.8s
TNA Tin City 65.72 27 P **P** **23 57 46.7 -1.3**
baz=290
TUE Stuetta 65.75 311 P **P** **23 57 48.7 -0.2**
TUE lAmb lAmb 23 57 57.3
comp=Z,7.3nm,1.1s
F14K Arctic Creek 66.37 27 P **P** **23 57 51.7 -0.6**
baz=291
C17K DeLong Mountai 66.40 23 P **P** **23 57 51.7 -0.7**
baz=293
A19K Wainwright 66.40 21 P **P** **23 57 51.5 -0.9**
baz=294
D17K Noatak River 66.73 24 P **P** **23 57 53.9 -0.6**
baz=293
SENIN Lac Senin/Sane 67.12 311 P **P** **23 57 56.3 -1.4**
SENIN lAmb lAmb 23 58 06.8
comp=Z,12nm,1.4s
G15K Niukluk 67.45 27 P **P** **23 57 58.4 -0.7**
baz=293
SPIA Saint Paul Isl 67.63 36 P **P** **23 57 59.3 -1.1**
baz=291
E18K Tukpahlearik C 67.72 24 P **P** **23 58 00.6 -0.2**
baz=295
A22K Sinclair Lake 67.87 19 P **P** **23 58 01.5 -0.1**
baz=299
F17K Baldwin Pennin 67.91 25 P **P** **23 58 01.3 -0.6**
baz=295
D19K Kuna River 68.08 22 P **P** **23 58 02.5 -0.6**
baz=297
M11K Mekoryuk 68.36 32 P **P** **23 58 03.9 -1.0**
baz=293
F18K Selawik 68.41 24 P **P** **23 58 04.5 -0.6**
baz=296
K13K Kusilvak Mount 68.43 30 P **P** **23 58 04.1 -1.2**
baz=294
D20K Etivluk River 68.47 22 P **P** **23 58 04.5 -1.1**
baz=298
G17K Kiwalik Mounta 68.53 26 P **P** **23 58 05.0 -0.9**
baz=296
J14K Nanvaranak Lak 68.56 29 P **P** **23 58 05.4 -0.7**
baz=295
B22K Teshekpuk Lake 68.65 20 P **P** **23 58 05.8 -0.7**
baz=300
B21K Ikpikpuk River 68.66 21 P **P** **23 58 06.0 -0.6**
baz=300
E20K Nigu River 68.83 22 P **P** **23 58 06.9 -0.9**
baz=299
C21K Knifeblade Rid 68.83 21 P **P** **23 58 07.3 -0.5**
baz=300
E19K Redstone River 68.86 23 P **P** **23 58 07.4 -0.6**
baz=298
F19K Shaleruckik Mo 68.97 24 P **P** **23 58 08.0 -0.7**
baz=298
H17K Granite Mounta 69.06 26 P **P** **23 58 08.3 -1.0**
baz=297
G18K Tagagawik 69.09 25 P **P** **23 58 08.4 -1.0**
baz=298
I17K Unalakleet 69.23 27 P **P** **23 58 08.5 -1.8**
baz=296
E21K Killik River 69.45 22 P **P** **23 58 10.1 -1.5**
baz=301
L14K Kuka Creek 69.53 30 P **P** **23 58 11.2 -0.9**
baz=296
G19K Purcell Mounta 69.54 24 P **P** **23 58 11.3 -0.9**
baz=299
J16K Anvik River 69.54 28 P **P** **23 58 11.1 -1.2**
baz=297
H18K Honhosa River 69.55 26 P **P** **23 58 11.8 -0.5**
H18K Honhosa River 69.55 26 P **P** **23 58 11.3 -1.0**
baz=298
F20K Avaraart Lake 69.57 23 P **P** **23 58 10.7 -1.7**
baz=300
K15K Wolf Creek Mou 69.60 29 P **P** **23 58 11.4 -1.3**
baz=296
D22K Ayikyak River 69.63 21 P **P** **23 58 11.2 -1.5**
baz=302
M13K Dall Lake 69.64 31 P **P** **23 58 11.6 -1.2**
baz=296

C23K	Itkillik River	69.73	20	P	P	23 58 12.5	-0.8
	baz=303						
L15K	Ungalak Mounta	69.90	30	P	P	23 58 13.7	-0.7
	baz=297						
H19K	Roundabout Mou	70.07	25	P	P	23 58 14.8	-0.7
	baz=300						
J17K	VABM Dome	70.10	27	P	P	23 58 14.7	-1.0
	baz=298						
M14K	Bethel	70.11	31	P	P	23 58 15.0	-0.7
	baz=296						
D23K	Nanushuk River	70.19	20	P	P	23 58 15.6	-0.6
	baz=303						
F21K	Alatna River	70.24	23	P	P	23 58 15.1	-1.4
	baz=301						
E22K	Anaktuvuk Pass	70.30	21	P	P	23 58 16.3	-0.5
	baz=303						
G21K	Allakaket	70.60	23	P	P	23 58 17.7	-1.0
	baz=302						
H20K	Anotleneega Mo	70.66	24	P	P	23 58 18.2	-0.9
	baz=301						
M15K	Kasigluk River	70.69	30	P	P	23 58 18.2	-1.1
	baz=298						
TOLK	Toolik Lake Re	70.71	20	P	P	23 58 18.4	-1.0
	baz=304						
L16K	Owhat River	70.73	29	P	P	23 58 19.3	-0.3
	baz=298						
K17K	Iditarod	70.73	28	P	P	23 58 19.9	+0.3
K17K	Iditarod	70.73	28	P	P	23 58 19.1	-0.5
	baz=299						
UNV	Unalaska Valle	70.91	38	P	P	23 58 19.4	-1.3
	baz=295						
J18K	Innoko River	71.00	27		P	23 58 20.8	-0.4
J18K				IAmb	IAmb	23 58 22.7	
	comp=Z,11nm,1.1s						
J18K	Innoko River	71.00	27	P	P	23 58 20.4	-0.8
	baz=300,SNR=5.3						
L17K	Donlin	71.02	28	P	P	23 58 20.0	-1.3
	baz=299						
E23K	Chandalar	71.03	21	P	P	23 58 19.9	-1.5
	baz=304						
O14K	Tigyukauivet M	71.10	32	P	P	23 58 20.2	-1.6
	baz=298						
J19K	Poorman	71.15	26	P	P	23 58 20.3	-1.8
	baz=301,SNR=5.1						
I20K	Naaghedeneel	71.16	25	P	P	23 58 20.3	-1.8
	baz=301						
N15K	Kwethluk River	71.20	31	P	P	23 58 21.2	-1.2
	baz=298						
M16K	Timber Creek	71.28	30	P	P	23 58 21.9	-1.0
	baz=299						
C26K	Camden Bay	71.29	18	P	P	23 58 22.1	-0.7
	baz=308						
H21K	Melozitna Rive	71.30	24	P	P	23 58 22.2	-0.8
	baz=302						
E24K	Your Creek	71.36	21	P	P	23 58 22.1	-1.2
	baz=305						
J20K	Nowinta River	71.61	26		P	23 58 25.4	+0.5
J20K				IAmb	IAmb	23 58 27.0	
	comp=Z,12nm,1.1s						
J20K	Nowinta River	71.61	26	P	P	23 58 24.2	-0.6
	baz=302,SNR=6.8						
L18K	Granite Mounta	71.63	28	P	P	23 58 24.3	-0.7
	baz=300						
H22K	Ishtalitna Cre	71.67	23	P	P	23 58 24.0	-1.2
	baz=304						
M17K	Holitna River	71.74	29	P	P	23 58 25.0	-0.7
	baz=300						
O15K	Ungalikthiuk R	71.79	32	P	P	23 58 25.1	-0.9
	baz=299						
C27K	Jago River	71.80	18	P	P	23 58 24.9	-1.0
	baz=309						
K20K	Telida	72.07	26	P	P	23 58 26.9	-0.8
	baz=302						
N17K	Nushagak Hills	72.28	30	P	P	23 58 28.1	-0.9
	baz=300						
H23K	Yukon River	72.33	23	P	P	23 58 28.6	-0.5
	baz=305						
M18K	Stony River	72.36	28	P	P	23 58 28.8	-0.5
	baz=301						
O16K	Kokwok River B	72.36	31	P	P	23 58 29.1	-0.3
	baz=300						
MLY	Manley	72.37	24	P	P	23 58 28.9	-0.6
	baz=304						
S12K	Black Hills	72.38	35	P	P	23 58 29.1	-0.5
	baz=298						
L19K	White Mountain	72.39	27	P	P	23 58 29.0	-0.6
	baz=302						
CHUM	Lake Minchumin	72.45	25	P	P	23 58 29.8	0.0
	baz=303						
F25K	Christian Rive	72.52	20	P	P	23 58 30.1	-0.2
	baz=308						
L20K	Farewell, AK	72.62	27	P	P	23 58 30.5	-0.5
	baz=302						
O17K	Koliganek Bris	72.71	30	P	P	23 58 31.2	-0.3
	baz=301						
M19K	Big River Lodg	72.72	28	P	P	23 58 30.8	-0.8
	baz=302						
N18K	Kilae Creek	72.75	29	P	P	23 58 31.3	-0.5
	baz=301						
I23K	Minto, Yukon-K	72.78	23	P	P	23 58 31.7	-0.1
	baz=306						
D27M	Malcolm River	72.79	18	P	P	23 58 31.3	-0.6
	baz=312						
CAST	Castle Rocks	72.79	26		P	23 58 31.7	-0.3
CAST	Castle Rocks	72.79	26	P	P	23 58 31.6	-0.3
	baz=304,SNR=6.7						
BPAW	Bear Paw Mtn.	72.81	25	P	P	23 58 32.1	0.0
	baz=304						
H24K	Noodor Dome	72.88	22	P	P	23 58 31.5	-0.9
	baz=307						
PPLA	Purkeypile	73.04	26	P	P	23 58 32.4	-1.2
	baz=304						
NEA2	Nenana	73.21	24	P	P	23 58 33.8	-0.7
NEA2				IAmb	IAmb	23 58 35.9	
	comp=Z,10nm,1.2s						
NEA2	Nenana	73.21	24	P	P	23 58 33.6	-0.8
	baz=306						
M20K	Styx River	73.24	27	P	P	23 58 33.4	-1.3
	baz=303						
N19K	Bonanza Creek	73.27	29	P	P	23 58 33.9	-1.0
	baz=302						
P17K	Kvichak River	73.29	31	P	P	23 58 34.4	-0.5
	baz=301						
D28M	Stokes Point	73.31	17	P	P	23 58 34.3	-0.5
	baz=314						
E27K	Coleen River	73.32	19	P	P	23 58 34.2	-0.8
	baz=311						
SDPT	Sand Point	73.34	35	P	P	23 58 34.6	-0.6
	baz=299						
TRF	Thorofare Moun	73.44	25	P	P	23 58 34.8	-1.2
	baz=305						
POKR	Poker Plat Res	73.46	23	P	P	23 58 35.8	-0.1
POKR				IAmb	IAmb	23 58 37.6	
	comp=Z,10nm,0.9s						
POKR	Poker Plat Res	73.46	23	P	P	23 58 34.8	-1.1
	baz=307						
COLA	College	73.47	23	P	P	23 58 37.2	+1.4
O18K	Koktuh Hills	73.48	30	P	P	23 58 35.1	-0.9
	baz=302						
G26K	Porcupine Rive	73.49	21	P	P	23 58 34.2	-1.7
	baz=310						
E28M	Babbage River	73.60	18	P	P	23 58 35.3	-1.3
	baz=313						
P18K	Big Mountain,	73.72	30	P	P	23 58 35.8	-1.8
	baz=302						
SKT	Skwentna	73.81	27		P	23 58 37.6	-0.4
SKT				IAmb	IAmb	23 58 38.9	
	comp=Z,14nm,1.3s						
SKT	Skwentna	73.81	27	P	P	23 58 37.0	-1.0
	baz=304						
ILAR	Eielson Array	73.86	23	P	P	23 58 37.8	-0.4
	comp=Z,2.2nm,0.9s,baz=293,slow=5.1,SNR=17						
	comp=Z,2.2nm,0.9s						
CHNA	Chernabura Isl	74.04	35	P	P	23 58 37.3	-2.1
	baz=300						
HDA	Harding Lake	74.06	23	P	P	23 58 38.1	-1.3
	baz=308						
R17L	Mt. Peulik Vol	74.15	32	P	P	23 58 38.7	-1.3
	baz=302						
F28M	Old Crow	74.19	19	P	P	23 58 38.8	-1.3
	baz=313						
E29M	Blow River	74.19	18	P	P	23 58 38.9	-1.2
	baz=314						
Q18K	Katmai Hardscr	74.21	31	P	P	23 58 39.0	-1.5
	baz=303						
G27K	Doyon Strip	74.22	20	P	P	23 58 38.6	-1.7
	baz=312						
A36M	Sachs Harbour	74.25	12	P	P	23 58 39.0	-1.3
	baz=325						
SUA	Susitna One	74.41	27	P	P	23 58 40.0	-1.6
	baz=305						
O20K	Slope Mountain	74.44	29	P	P	23 58 40.6	-1.2
	baz=304						
J25K	Salcha River,	74.47	23	P	P	23 58 40.4	-1.4
	baz=309						
H27K	Steamboat Moun	74.64	20	P	P	23 58 42.3	-0.5
H27K				IAmb	IAmb	23 58 45.1	
	comp=Z,15nm,1.1s						
H27K	Steamboat Moun	74.64	20	P	P	23 58 41.8	-1.0
	baz=312,SNR=7.2						
I26K	Coal Creek Min	74.75	22	P	P	23 58 43.1	-0.3
	baz=311						
K24K	Donnelly Dome	74.84	24	P	P	23 58 43.1	-0.8
	baz=309						
PMR	Palmer	74.97	26	P	P	23 58 44.4	-0.3
	baz=306						
RC01	Rabbit Creek A	75.03	27	P	P	23 58 44.4	-0.7
	baz=306						
I27K	Kandik River	75.03	21	P	P	23 58 44.1	-1.0
	baz=312,SNR=8.8						
HOM	Homer	75.09	29	P	P	23 58 44.1	-1.3
	baz=305						
J26L	Joseph Creek	75.14	22	P	P	23 58 44.9	-0.9
	baz=310						
G29M	Pine Creek	75.19	19	P	P	23 58 44.8	-1.1
	baz=315						
RIDG	Independent Ri	75.20	23	P	P	23 58 44.7	-1.4
	baz=310						
F30M	Barrier River	75.30	18	P	P	23 58 45.3	-1.2
	baz=316						
KNK	Knik Glacier	75.33	26	P	P	23 58 45.9	-0.9
	baz=307						
SCRK	Sand Creek	75.34	23	P	P	23 58 46.6	-0.3
SCRK				IAmb	IAmb	23 58 48.1	
	comp=Z,12nm,1.2s						
SCRK	Sand Creek	75.34	23	P	P	23 58 45.8	-1.2
	baz=310						
INK	Inuvik	75.37	17	P	P	23 58 45.7	-1.1
	baz=318						
CHIR	Chirikof Islan	75.46	33	P	P	23 58 46.5	-1.1
	baz=303						
PAX	Paxson	75.47	24	P	P	23 58 46.2	-1.5
	baz=309						
SCM	Sheep Creek Mo	75.50	26	P	P	23 58 46.5	-1.3
	baz=308						
H29M	Whitestone	75.58	20	P	P	23 58 47.0	-1.2
	baz=314						
G30M	tAoh Zraii Nji	75.64	18	P	P	23 58 48.3	-0.3
G30M				IAmb	IAmb	23 58 49.9	
	comp=Z,20nm,1.2s						
G30M	tAoh Zraii Nji	75.64	18	P	P	23 58 47.6	-0.9
	baz=316,SNR=7.5						
I28M	Miner Creek	75.65	21	P	P	23 58 47.6	-1.1
	baz=313						
PWL	Port Wells	75.72	27	P	P	23 58 48.0	-1.0
	baz=307						
SII	Sitkinak Islan	75.73	32	P	P	23 58 48.1	-1.1
	baz=304						
SEW	Seward	75.73	28	P	P	23 58 48.0	-1.1
	baz=307						
KDAK	Kodiak Island	75.76	31	P	P	23 58 48.3	-1.0
	baz=305						
M24K	Tolsona, Glenn	75.76	25	P	P	23 58 48.5	-0.9
	baz=309						
OHAK	Old Harbor	75.76	31	P	P	23 58 47.8	-1.6
	baz=304						
K27K	Chicken	75.94	22	P	P	23 58 49.0	-1.2
	baz=312						
HARP	HAARP	75.94	25	P	P	23 58 48.9	-1.4
	baz=310						
EPYK	Eagle Plains	75.95	19	P	P	23 58 48.8	-1.5
	baz=316						
F31M	Tsiigehtchic	75.96	17	P	P	23 58 48.7	-1.6
	baz=318						
STKA	Stephens Creek	76.15	140	P	P	23 58 50.4	-1.4
	comp=Z,2.0nm,0.7s,baz=340,slow=9.1,SNR=3.3						
	comp=Z,2.0nm,0.7s						
L26K	Log Cabin Wild	76.18	24	P	P	23 58 49.5	-2.1
	baz=311						
GLI	Glacier Island	76.18	26	P	P	23 58 49.3	-2.4
	baz=308						
I29M	Ogilvie Camp,	76.21	20	P	P	23 58 50.5	-1.3
	baz=315						
G31M	Satah River	76.21	18	P	P	23 58 50.8	-0.9
	baz=318						
KLU	Klutina	76.24	26	P	P	23 58 51.8	-0.3
KLU				IAmb	IAmb	23 58 53.8	
	comp=Z,9.7nm,1.1s						
KLU	Klutina	76.24	26	P	P	23 58 50.3	-1.8
	baz=309						
P23K	Montague Islan	76.61	27	P	P	23 58 52.7	-1.4
	baz=308						
C36M	Paulatuk	76.65	13	P	P	23 58 52.8	-1.4
	baz=326						
N25K	Chitina, Valde	76.66	25	P	P	23 58 53.0	-1.5
	baz=310						
L27K	Beaver Creek,	76.67	23	P	P	23 58 53.3	-1.2
	baz=312,SNR=7.1						
M26K	Nabesna, AK	76.71	24	P	P	23 58 53.2	-1.6
	baz=311						
DAWY	Dawson	76.78	21	P	P	23 58 53.7	-1.4
	baz=314						
I30M	Mount Dempster	76.87	20	P	P	23 58 54.3	-1.4
	baz=316,SNR=8.8						
J29N	Klondike Camp	76.88	21	P	P	23 58 54.3	-1.3
	baz=315						
H31M	Peel River	77.02	19	P	P	23 58 55.7	-0.7
	baz=318,SNR=6.4						
BMRM	Bremner River	77.07	26	P	P	23 58 56.0	-0.8
	baz=310						
M27K	Edge Creek, AK	77.13	24	P	P	23 58 56.5	-0.6
	baz=312						
J30M	Hart River	77.36	20	P	P	23 58 57.1	-1.3
	baz=316						
MCARA	McCarthy VSAT	77.38	25	P	P	23 58 57.8	-0.6
	baz=312						
Q23K	Middleton Isla	77.38	27	P	P	23 58 57.9	-0.5
	baz=309						
ESDC	Sonseca Array	77.41	309	P	P	23 58 59.1	0.0
	comp=Z,4.4nm,1.2s,baz=60,slow=5.9,SNR=12						
	comp=Z,4.4nm,1.2s						
K29M	Barlow Dome	77.53	21	P	P	23 58 58.5	-0.8
	baz=316						
CRQE	Cirque	77.77	25	P	P	23 59 00.8	0.0
	baz=312						
KAIM	Kayak Island	77.81	26	P	P	23 59 00.5	-0.3
	baz=311						
L29M	L29M	77.86	22	P	P	23 59 01.1	-0.1
	baz=315						
YUK3	Moose Creek	78.02	24	P	P	23 59 01.8	-0.4
	baz=314						
M29M	Somme Creek	78.22	22	P	P	23 59 02.9	-0.4
	baz=315						
CTG	Chitna Glacier	78.26	24	P	P	23 59 03.2	-0.3
	baz=313						
LSZ	Lusaka	78.47	245	P	P	23 59 04.5	-0.8
LSZ	Lusaka	78.47	245	P	P	23 59 04.5	-0.8
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MESA	MESA	78.58	25	P	P	23 59 04.2	-1.2
	baz=312						
YUK8	Steele Glacier	78.60	24	P	P	23 59 04.0	-1.5
	baz=314						
M30M	Minto, Yukon	78.67	22	P	P	23 59 04.9	-0.8
	baz=316						
YUK4	Talbot Arm	78.94	23	P	P	23 59 06.5	-0.8
	baz=315						
PINM	Pinnacle	79.25	25	P	P	23 59 07.9	-1.0
	baz=314						
YUK6	Outpost Mounta	79.32	23	P	P	23 59 08.8	-0.7
	baz=315						
N30M	Aishikik Lake	79.38	23	P	P	23 59 08.8	-0.8
	baz=316						
HYT	Haines Junctio	79.70	23	P	P	23 59 10.4	-1.0
	baz=316						
M31M	Drury Creek, Y	79.70	21	P	P	23 59 10.4	-0.9
	baz=318						
O29M	Mount Kennedy	79.70	24	P	P	23 59 10.2	-1.2
	baz=315						
N31M	Braeburn, Yuko	79.79	22	P	P	23 59 11.5	-0.3
	baz=317						
PNL	Peninsula	79.86	25	P	P	23 59 12.0	-0.2
	baz=315						
MMPY	Sheldon Lake,	80.33	20	P	P	23 59 15.3	+0.6
	baz=321						
P30M	Million Dollar	80.40	23	P	P	23 59 14.9	-0.2
	baz=316						
P29M	Windy Craggy	80.48	24	P	P	23 59 15.1	-0.4
	baz=316						
WHY	Whitehorse	80.70	22	P	P	23 59 16.2	-0.5
	baz=318						
N32M	Quiet Lake	80.91	21	P	P	23 59 17.8	0.0
	baz=320						
PLBC	Pleasant Camp	81.09	24	P	P	23 59 17.9	-0.8
	baz=317						
P33M	Teslin, Yukon	81.71	22	P	P	23 59 22.1	-0.1
	baz=320						
P32M	Atlin	81.89	23	P	P	23 59 22.7	-0.4
	baz=319						
R32K	Eaglecrest	82.61	24	P	P	23 59 26.3	-0.4
	baz=319						
Q32M	Nakina River	82.85	22	P	P	23 59 26.8	-1.4
	baz=320						
R33M	Jennings River	82.94	22	P	P	23 59 27.7	-0.9
	baz=321						
S32K	Killisnoo	83.20	24	P	P	23 59 28.6	-1.2
	baz=319						
SIT	Sitka	83.24	25	P	P	23 59 29.9	-0.1
	baz=318						
DLBC	Dease Lake	83.99	22	P	P	23 59 33.7	-0.3
	baz=322						
YKA	Yellowknife Ar	84.54	13	P	P	23 59 34.2	-2.3
	comp=Z,0.8nm,0.9s,baz=351,slow=5.2,SNR=4.4						
	comp=Z,0.8nm,0.9s						
YKA	Yellowknife Ar	84.54	13	*i* P	P	23 59 36.2	-0.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
U33K	Whale Pass	84.75	25	P	P	23 59 37.3	-0.4
	baz=320						
T35M	Bob Quinn	85.07	23	P	P	23 59 38.9	-0.5
	baz=322						
CRAG	Craig	85.24	25	P	P	23 59 39.9	-0.3
	baz=320						
V35K	Ketchikan	85.90	25	P	P	23 59 43.2	-0.3
	baz=321						
TORD	Torodi Ar. Bea	86.09	283	P	P	23 59 45.9	+0.7
	comp=Z,6.1nm,1.1s,baz=45,slow=5.5,SNR=21						
	comp=Z,6.1nm,1.1s						
MAKGR	Makgori	87.18	238	P	P	23 59 49.9	-0.5
TXAR	Lajitas Array	118.12	18	PKP	PKiKP	00 05 52.3	+0.8
	comp=Z,0.3nm,0.3s,baz=299,slow=0.8,SNR=6.8						

*WEL **15** 00:24:08.2±0.7, 40°S±3°×17°6E±°, h17km±7km, M2.7/9, ML2.9/9, MLv2.7/9, Error ellipse: s-maj=4.5km s-min=4.0km az=173.6, confirmed*

*NOU **15** 00:24:09.5, 39°.94S×175°.52E, h10km, MLv2.8/9, North Island, New Zealand*

ISC 15 00:24:08.6±0.8**, 39°.95S**±0°.03×**175°.52E**±0°.03**, h10km, n23, σ0.s46**/28**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGS	Mangaweka Scho	0.25	56	P	Pb	00 24 15.4	+0.1
MNGS				S	Sb	00 24 20.3	+0.5
FAHS	Feilding Agric	0.27	171	P	Pb	00 24 14.9	-0.7
OHWZ	Ohakea	0.30	211	P	Pb	00 24 16.3	+0.2
OHWZ				S	Sb	00 24 22.1	+1.0
THHS	Taihape Hospit	0.34	39	P	Pg	00 24 15.5	0.0
TSZ	Takapari Road	0.36	108	P	Pb	00 24 17.3	+0.2
TSZ				S	Sb	00 24 23.3	+0.4
WAZ	Wanganui	0.45	295	P	Pb	00 24 18.4	-0.3
WAZ				S	Sb	00 24 25.6	+0.1
POWZ	Post Office Ro	0.48	157	P	Pb	00 24 19.3	+0.1
PNHZ	Pukenui	0.53	86	P	Pb	00 24 19.6	-0.4
PNHZ				S	Sb	00 24 27.5	-0.2
MTVZ	Mangateitei	0.57	356	P	Pg	00 24 19.8	+0.2
MOVZ	Moawhango	0.57	19	P	Pg	00 24 19.4	-0.3
DVHZ	Dannevirke	0.61	125	P	Pb	00 24 21.6	+0.2
WNVZ	Wahianoa	0.62	6	P	Pg	00 24 20.5	-0.2
WHVZ	Whangaehu Hut	0.67	5	P	Pg	00 24 21.3	-0.3
PKVZ	Pokaka	0.67	349	P	Pg	00 24 21.4	-0.2
BFZ	Birch Farm	0.92	143	P	Pb	00 24 26.8	+0.1
BFZ	Birch Farm	0.92	143	S	Sn	00 24 41.9	+1.0
BKZ	Black Stump Fm	1.09	44	P	Pg	00 24 28.7	-0.8
BKZ	Black Stump Fm	1.09	44	S	Sn	00 24 44.8	-0.3
KHEZ	Kahui Hut	1.33	299	P	Pg	00 24 34.6	+0.4
SNZO	South Karori	1.49	204	P	Pn	00 24 34.8	-0.7
SNZO	South Karori	1.49	204	S	Sg	00 24 56.3	-0.4
HIZ	Hauiti	1.52	340	P	Pn	00 24 36.0	+0.1
HIZ	Hauiti	1.52	340	S	Sg	00 24 57.4	-0.2

*JMA **15** 00:52:21.2±0.7, 31°N±5°×13°9E±°, h478km, MV3.9/34, NEAR TORISHIMA IS*

*IDC **15** 00:52:22.6±1.4, 30°.43N×137°.95E, h440km±21km, mb3.0/10, mbtmp3.8/12, Error ellipse: s-maj=50.2km s-min=11.9km az=80.0*

ISC 15 00:52:21.9±1.0**, 30°.5N**±0°.1×**138°.5E**±0°.1**, h440km, n23, σ1.s93**/28**, mb3.3**/10**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	2.83	23	P	P	00 53 30.0	+3.3
	71nm,0.4s,baz=29,slow=22,SNR=9.2						
JHJ				S	S	00 54 16.8	-2.7
	90nm,0.8s,baz=76,slow=20,SNR=1.1						
JHJ2	Mitsune	2.83	23	*e*P	P	00 53 29.6	+2.8
TTO1	TONANKAI O.B.S	3.42	336	*e*P	P	00 53 34.2	+3.3
JHMK	Hamakita	4.33	352	*e*P	P	00 53 41.9	+2.8
HMMJ	Hamamatsu 2	4.38	352	*e*P	P	00 53 42.6	+3.0
BSO3	Boso 3	4.61	21	*e*P	P	00 53 43.6	+2.1
BSO3				*e*S	S	00 54 47.4	+0.8
BSO1	Boso 1	4.63	26	*e*P	P	00 53 43.1	+1.6
BSO1				*e*S	S	00 54 48.0	+1.5
BSO4	Boso 4	4.73	19	*e*P	P	00 53 44.0	+1.2
BSO4				*e*S	S	00 54 50.5	+1.5
JNY	Yasuok	4.86	354	P	P	00 53 47.0	+2.8
JRY	Ryogami san	5.50	4	P	P	00 53 52.2	+1.6
JAG	Ashikaga	5.95	8	P	P	00 53 55.3	+0.2
MJAR	Matsushiro Arr	6.02	358	P	P	00 53 56.6	+0.8
	3.5nm,0.4s,baz=174,slow=11,SNR=12						
JHO	Hitachi	6.33	15	*e*P	P	00 53 59.2	+0.2
JHO				*e*S	S	00 55 16.1	-2.5
MKAR	Makanchi Array	45.81	307	P	P	01 00 01.5	-1.0
	0.6nm,0.8s,baz=102,slow=11,SNR=2.7						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	48.34	312	P	P	01 00 19.9	-1.7
	0.4nm,0.6s,baz=89,slow=7.3,SNR=5.9						
	0.4nm,0.6s						
FITZ	Fitzroy Crossi	49.89	196	P	P	01 00 33.1	-0.4
	1.7nm,0.9s,baz=8.7,slow=13,SNR=1.6						
	1.7nm,0.9s						
WRA	Warramunga Arr	50.32	185	P	P	01 00 36.2	-0.5
	1.8nm,0.5s,baz=1.6,slow=7.7,SNR=32						
	1.8nm,0.5s						
BVAR	Borovoye Array	53.33	316	P	P	01 00 56.4	-1.9
	0.4nm,0.4s,baz=60,slow=8.5,SNR=3.5						
	0.4nm,0.4s						
ASAR	Alice Springs	54.05	185	P	P	01 01 03.5	-0.1
	0.7nm,0.5s,baz=0.5,slow=5.8,SNR=9.0						
	0.7nm,0.5s						
ARCES	ARCESS Array B	69.24	340	P	P	01 02 43.8	+0.9
	0.9nm,0.5s,baz=70,slow=9.7,SNR=9.5						
	0.9nm,0.5s						
FINES	FINESS Array B	73.44	332	P	P	01 03 07.7	0.0
	0.4nm,0.3s,baz=67,slow=5.3,SNR=10.0						
	0.4nm,0.3s						
HFS	Hagfors	78.99	335	P	P	01 03 38.4	-0.2
	0.5nm,0.3s,baz=90,slow=5.9,SNR=8.3						
	0.5nm,0.3s						
NOA	NORSAR Array B	79.22	337	P	P	01 03 39.7	-0.1
	0.3nm,0.5s,baz=35,slow=5.4,SNR=1.6						
	0.3nm,0.5s						

*IDC **15** 01:03:27.6±1.9, 5°.26S×152°.42E, h0km, mb4.0/7, mbtmp4.1/8, ML2.3/1, Error ellipse: s-maj=73.0km s-min=20.8km az=123.0*

*NEIC **15** 01:03:30.2±1.0, 5°.49S±0°.08×152°.5E±0°.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=28.2km s-min=11.6km az=104.0*

ISC 15 01:03:34.1±0.8**, 5°.46S**±0°.08×**152°.3E**±0°.1**, h40km, n22, σ1.s08**/23**, mb4.2**/13**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.27	354		Pn	01 03 54.9	-0.5
MANU	Manus Island	5.99	304		Pn	01 05 00.3	+0.1
PMG	Port Moresby	6.44	232		Pn	01 05 05.8	-0.6

PMG	**Port Moresby**	**6.44**	**232**	Pn		**Pn**	**01 05 08.0**	**+1.6**
	3.9nm,0.3s,baz=44,slow=7.0,SNR=4.5							
PMG				Sn		**Sn**	**01 06 16.6**	**-2.1**
	18nm,0.3s,baz=324,slow=16,SNR=9.7							
	13nm,0.5s							
COEN	**Coen**	**12.34**	**226**	P		**Pn**	**01 06 29.6**	**+2.3**
EIDS	**Eidsvold**	**19.83**	**183**	P		**Pn**	**01 08 02.8**	**-0.6**
WB0	**Warramunga Arr**	**22.50**	**229**	P		**P**	**01 08 29.0**	**-1.4**
WB0				IAmb	IAmb		01 08 47.1	
	comp=Z,12nm,1.4s							
WR8	**Warramunga Arr**	**22.53**	**229**	P		**P**	**01 08 31.3**	**+0.5**
WB2	**Warramunga Arr**	**22.64**	**229**	P		**P**	**01 08 31.5**	**-0.4**
WB2				IAmb	IAmb		01 08 40.8	
	comp=Z,5.4nm,0.7s							
WRA	**Warramunga Arr**	**22.64**	**229**	P		**P**	**01 08 32.6**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=53,slow=9.9,SNR=10.0							
	comp=Z,1.2nm,0.5s							
ASAR	**Alice Springs**	**25.34**	**223**	P		**P**	**01 08 58.9**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=58,slow=9.0,SNR=21							
	comp=Z,1.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**28.91**	**242**	P		**P**	**01 09 29.1**	**-0.5**
	comp=Z,3.1nm,0.6s,baz=62,slow=6.6,SNR=7.3							
	comp=Z,3.1nm,0.6s							
CASY	**Casey**	**67.25**	**197**	P		**P**	**01 14 24.5**	**+0.4**
CASY				IAmb	IAmb		01 14 33.8	
	comp=Z,2.4nm,1.1s							
J17K	**VABM Dome**	**77.76**	**20**	P		**P**	**01 15 26.2**	**-0.5**
H17K	**Granite Mounta**	**78.50**	**19**	P		**P**	**01 15 30.8**	**+0.1**
L19K	**White Mountain**	**78.54**	**22**	P		**P**	**01 15 31.6**	**+0.5**
L19K				IAmb	IAmb		01 15 33.4	
	comp=Z,5.8nm,1.1s							
J18K	**Innoko River**	**78.63**	**21**	P		**P**	**01 15 32.1**	**+0.6**
J18K				IAmb	IAmb		01 15 32.9	
	comp=Z,5.5nm,1.0s							
ZALV	**Zalesovo Beam**	**81.43**	**326**	P		**P**	**01 15 45.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=123,slow=7.1,SNR=5.8							
	comp=Z,1.2nm,0.5s							
ILAR	**Eielson Array**	**82.95**	**22**	P		**P**	**01 15 53.0**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=256,slow=5.8,SNR=12							
	comp=Z,2.1nm,0.9s							
KURBB	**Kurchatov Arra**	**84.01**	**322**	P		**P**	**01 16 00.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=100,slow=3.8,SNR=1.8							
	comp=Z,0.2nm,0.6s							
QSPA	**South Pole Qui**	**84.51**	**180**	P		**P**	**01 16 02.7**	**0.0**
QSPA				IAmb	IAmb		01 16 10.5	
	comp=Z,4.4nm,1.2s							
BVAR	**Borovoye Array**	**89.47**	**323**	P		**P**	**01 16 26.2**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=81,slow=4.7,SNR=5.4							
	comp=Z,1.0nm,0.6s							

*IDC **15** 01:05:33.3±1.9,3°.60S×130°.28E,h0km,mb3.9/4, mbtmp3.9/6,ML3.7/2,MS3.5/4,Error ellipse: s-maj=110.6km s-min=23.5km az=75.0*
*DJA **15** 01:05:35.2±0.4,3°.S±3°×13°.1E±°,h27km±4km,M3.7/8, MLv3.7/8*

ISC 15 01:05:36.2±0.9,3°.18S±0°.07×130°.97E±0°.05,h35km,n13, σ2ˢ79/15,mb4.0/3,MS3.6/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.31**	**79**	P	**Pn**	**01 05 58.6**	**+0.6**
FAKI				S	**Sn**	**01 06 15.2**	**+0.9**
BNDI	**Bandanaira**	**1.70**	**218**	P	**Pn**	**01 06 04.7**	**+1.3**
BNDI				S	**Sn**	**01 06 26.4**	**+2.4**
MSAI	**Masohi**	**2.04**	**265**	P	**Pn**	**01 06 05.8**	**-2.3**
MSAI				S	**Sn**	**01 06 34.2**	**+1.9**
SWI	**Sorong**	**2.32**	**7**	P	**Pn**	**01 06 09.6**	**-2.3**
KMPI	**Kaimana, Papua**	**2.78**	**100**	P	**Pn**	**01 06 17.6**	**-0.6**
KMPI				S	**Sn**	**01 06 51.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**15.72**	**199**	Pn	**Pn**	**01 09 09.6**	**-5.5**
	0.2nm,0.3s,baz=22,slow=8.6,SNR=11						
FITZ				Sn	Sn	01 11 44.9	-23
	0.1nm,0.3s,baz=189,slow=9.8,SNR=1.6						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**16.98**	**169**	Pn	**Pn**	**01 09 26.9**	**-4.3**
	0.3nm,0.3s,baz=345,slow=9.3,SNR=5.0						
WRA				Sn	Sn	01 12 22.9	-16
	0.2nm,0.3s,baz=351,slow=23,SNR=5.8						
WRA				LR	LR	01 16 05.9	
	comp=Z,128nm,20.2s,baz=358,slow=38						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**20.56**	**172**	P	**P**	**01 10 10.9**	**-1.2**
	3.2nm,0.5s,baz=351,slow=11,SNR=23						
ASAR				S	S	01 13 49.2	-11
	0.7nm,0.8s,baz=353,slow=28,SNR=4.1						
ASAR				LR	LR	01 19 57.2	
	comp=Z,75nm,19.8s,baz=50,slow=43						
	3.2nm,0.5s						
MKAR	**Makanchi Array**	**65.61**	**325**	P	**P**	**01 16 19.4**	**+2.7**
	0.9nm,0.8s,baz=116,slow=8.2,SNR=4.2						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**69.80**	**327**	P	**P**	**01 16 45.0**	**+2.0**
	1.4nm,1.0s,baz=127,slow=5.5,SNR=9.1						
	1.4nm,1.0s						
BVAR	**Borovoye Array**	**75.38**	**327**	P	**P**	**01 17 18.9**	**+2.7**
	1.6nm,0.8s,baz=136,slow=7.0,SNR=5.2						
	1.6nm,0.8s						
QSPA	**South Pole Qui**	**86.77**	**180**	LR	LR	01 56 56.7	
	comp=Z,34nm,20.2s,baz=5.0,slow=36						
KBZ	**Khabaz**	**90.78**	**314**	LR	LR	02 05 54.1	
	comp=Z,22nm,18.1s,baz=67,slow=40						

*UCR **15** 01:16:05.9±0.9,8°.40N×83°.11W,h3km±3km,MW3.5*
*UPA **15** 01:16:07.2±0.5,8°.49N×83°.06W,h13km±1km,MW3.5*

ISC 15 01:16:06.5±1.1,8°.45N±0°.04×83°.12W±0°.03,h18km±4km, n51,σ0ˢ64/67,1C-10D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITO	**Golfito**	**0.18**	**348**	⇓*i*P	**Pg**	**01 16 11.0**	**-0.2**
FITO				*e*S	**Sg**	**01 16 14.5**	**+0.2**
EDAD	**Golfito**	**0.21**	**347**	⇓*i*P	**Pb**	**01 16 11.5**	**-0.1**
EDAD				*e*S	**Sg**	**01 16 15.4**	**+0.2**
NELY	**Ciudad Neily**	**0.26**	**40**	⇓*i*P	**Pg**	**01 16 12.8**	**+0.4**
NELY				*e*S	**Sg**	**01 16 17.8**	**+1.3**
LESP3	**La Esperanza,**	**0.33**	**97**	*e*P	**Pg**	**01 16 13.5**	**0.0**
LESP3				*e*S	**Sg**	**01 16 18.0**	**-0.2**
PTPM	**Petroterminale**	**0.34**	**136**	*e*P	**Pb**	**01 16 14.0**	**-0.1**
PTPM				*e*S	**Sb**	**01 16 20.1**	**+1.0**
PTPA	**Petro Terminal**	**0.35**	**135**	⇑*e*P	**Pb**	**01 16 14.0**	**-0.2**
BRU2	**Volcan**	**0.54**	**51**	*e*P	**Pg**	**01 16 17.8**	**+0.3**
BRU2				*e*S	**Sg**	**01 16 25.2**	**+0.4**
BRU2	**Volcan**	**0.54**	**51**	⇓*i*P	**Pg**	**01 16 17.8**	**+0.3**
BRU2				*e*S	**Sg**	**01 16 28.3**	**+1.4**
TBS2		**0.57**	**53**	*i*P	**Pn**	**01 16 19.2**	**-0.7**
ALCO	**Alturas Coton,**	**0.57**	**29**	⇓*i*P	**Pg**	**01 16 18.1**	**+0.1**
ALCO				*e*S	**Sn**	**01 16 28.9**	**-0.1**
FIMO	**Fila Mora**	**0.59**	**337**	*e*P	**Pg**	**01 16 18.5**	**+0.2**
PANP	**Palmar Norte**	**0.61**	**326**	*e*P	**Pg**	**01 16 18.7**	**+0.1**
BC3P	**Paso Ancho**	**0.62**	**54**	*e*P	**Pb**	**01 16 18.8**	**-0.1**
DVD	**David**	**0.66**	**91**	*e*P	**Pb**	**01 16 19.3**	**-0.2**
DVD				*e*S	**Sg**	**01 16 28.9**	**+0.5**
PTAR3	**Potrerillos Ar**	**0.66**	**68**	*e*P	**Pg**	**01 16 19.6**	**0.0**
PTAR3				*e*S	**Sg**	**01 16 28.8**	**+0.4**
PEDE3	**Pedregal, Chir**	**0.69**	**95**	*e*P	**Pg**	**01 16 20.3**	**+0.2**
LOCO3	**Loma Colorada,**	**0.69**	**93**	*e*P	**Pb**	**01 16 19.8**	**-0.2**
BQTLY	**Boquete Panama**	**0.72**	**65**	⇓*i*P	**Pb**	**01 16 20.4**	**-0.2**
LOMA3	**Las Lomas, Chi**	**0.72**	**91**	*e*P	**Pb**	**01 16 20.4**	**-0.1**
LOMA3				*e*S	**Sg**	**01 16 30.1**	**-0.1**
BQSF3	**Alto Boquete,**	**0.74**	**67**	*e*P	**Pb**	**01 16 20.5**	**-0.4**
LNBQ3	**Los Naranjos,**	**0.75**	**63**	*e*P	**Pb**	**01 16 20.6**	**-0.5**
LNBQ3				*e*S	**Sg**	**01 16 31.3**	**0.0**
BURE	**Buenos Aires**	**0.75**	**343**	*e*P	**Pb**	**01 16 21.4**	**+0.1**
CGUAY	**Guayabal, Coch**	**0.76**	**89**	*e*P	**Pb**	**01 16 20.7**	**-0.5**
CGUAY				*e*S	**Sb**	**01 16 31.0**	**-0.2**
DRK0	**Durika**	**0.82**	**351**	*e*P	**Pg**	**01 16 22.5**	**-0.1**
DRK0				*e*S	**Sg**	**01 16 34.1**	**+0.6**
DRK0	**Durika**	**0.82**	**351**	⇓*e*P	**Pg**	**01 16 22.5**	**-0.1**
DRK0				*e*S	**Sn**	**01 16 35.9**	**+0.8**
EDPE	**Pejibaye, P**	**0.84**	**328**	*e*P	**Pb**	**01 16 22.4**	**-0.2**
SAJE	**San Jernim**	**0.97**	**337**	⇓*e*P	**Pb**	**01 16 24.9**	**-0.1**
PBNVO	**Pueblo Nuevo,**	**1.01**	**64**	*e*P	**Pb**	**01 16 24.8**	**-0.8**
RBALA	**Bur**	**1.04**	**66**	⇓*e*P	**Pb**	**01 16 25.5**	**-0.6**
CHGR2	**Aguacate**	**1.08**	**63**	*e*P	**Pb**	**01 16 25.9**	**-0.8**
CHGR2				*e*S	**Sb**	**01 16 39.6**	**-0.8**
CEUA	**Cerro Uatsi, L**	**1.18**	**9**	*e*P	**Pg**	**01 16 29.4**	**0.0**
KKNTU	**Kakint²**	**1.35**	**73**	⇓*e*P	**Pn**	**01 16 30.0**	**-0.5**
PIEC	**Cerro El Cedra**	**1.43**	**325**	*e*P	**Pb**	**01 16 32.5**	**-0.4**
VERH	**Veragua Rainfo**	**1.47**	**357**	*e*P	**Pb**	**01 16 32.8**	**-0.6**
CVEJO	**Cerro Viej**	**1.54**	**97**	*e*P	**Pn**	**01 16 32.6**	**-0.5**
LCR2	**La Lucha 2**	**1.56**	**326**	*e*P	**Pn**	**01 16 34.0**	**+0.5**
PAR1A	**Puntarenas Pro**	**1.60**	**316**	*e*P	**Pb**	**01 16 35.5**	**0.0**
RESJ	**San Isidro (Tu**	**1.66**	**342**	*e*P	**Pb**	**01 16 37.2**	**+0.6**
CVTV	**Tajo**	**1.67**	**338**	*e*P	**Pb**	**01 16 36.5**	**-0.4**
CVTQ	**Turrialba Volc**	**1.67**	**338**	*e*P	**Pb**	**01 16 37.3**	**+0.2**
LCOCO	**El Coco**	**1.68**	**345**	*e*P	**Pb**	**01 16 37.3**	**+0.3**
VTR0	**Volcan Turrial**	**1.68**	**338**	*e*P	**Pb**	**01 16 37.2**	**0.0**
CVTR	**Volcan Turrial**	**1.69**	**338**	*e*P	**Pb**	**01 16 37.1**	**-0.2**
GMAL	**Guarumal, Vera**	**1.99**	**110**	*e*P	**Pn**	**01 16 39.9**	**+0.6**
FORC	**Fortuna**	**2.52**	**323**	*e*P	**Pb**	**01 16 51.1**	**-0.2**
ARE1	**Arenal 1**	**2.55**	**322**	*e*P	**Pb**	**01 16 52.0**	**+0.2**
VARE2	**V. Arenal**	**2.55**	**322**	*e*P	**Pb**	**01 16 52.5**	**+0.6**
CEDE	**Laguna Cedeo**	**2.56**	**322**	*e*P	**Pb**	**01 16 52.1**	**+0.1**
JTS	**Las Juntas de**	**2.58**	**315**	*e*P	**Pb**	**01 16 50.7**	**-1.5**
COLC	**Colonia**	**3.02**	**317**	*e*P	**Pb**	**01 16 58.2**	**-1.5**
MESS	**Mesas**	**3.06**	**318**	*e*P	**Pb**	**01 16 57.8**	**-2.7**

*IDC **15** 01:17:57.6±1.4,30°.17N×94°.81E,h0km,mb3.6/7, mbtmp3.6/9,ML3.2/2,MS3.4/2,Error ellipse: s-maj=45.0km s-min=26.3km az=57.0*

ISC 15 01:18:03.4±0.9,30°.3N±0°.1×94°.9E±0°.2,h35km,n12, σ1ˢ14/10,mb3.6/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.38**	**162**	Pn	**Pn**	**01 20 57.9**	**+0.7**
	0.6nm,0.3s,baz=335,slow=11,SNR=1.7						
MKAR	**Makanchi Array**	**19.12**	**333**	P	**P**	**01 22 21.6**	**-1.7**
	0.1nm,0.3s,baz=142,slow=9.9,SNR=3.3						
	0.8nm,0.9s						
SONM	**Songino Array**	**19.58**	**24**	P	**Pn**	**01 22 30.5**	**+0.7**
	0.1nm,0.3s,baz=219,slow=12,SNR=5.7						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**23.69**	**333**	P	**P**	**01 23 10.7**	**-1.0**
	0.8nm,0.7s,baz=142,slow=10,SNR=10						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**24.70**	**346**	P	**P**	**01 23 21.5**	**+0.5**
	0.8nm,0.6s,baz=148,slow=8.5,SNR=4.1						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**28.88**	**329**	P	**P**	**01 24 00.0**	**+1.4**
	0.9nm,0.7s,baz=123,slow=11,SNR=5.4						
	0.9nm,0.7s						
USRK	**Ussuriysk Ar.**	**32.30**	**54**	LR	LR	01 38 17.8	
	comp=Z,66nm,20.3s,baz=30,slow=38						
YAK	**Yakutsk**	**38.92**	**25**	LR	LR	01 42 49.2	
	comp=Z,41nm,19.1s,baz=221,slow=38						
BRTR	**Keskin Array B**	**50.18**	**298**	P	**P**	**01 26 56.4**	**+0.6**
	0.6nm,0.8s,baz=101,slow=5.1,SNR=4.7						
	0.6nm,0.8s						
AKASG	**Malin Array Be**	**52.10**	**313**	P	**P**	**01 27 09.3**	**-0.6**
	0.7nm,0.6s,baz=77,slow=7.1,SNR=4.0						
	0.7nm,0.6s						
NOA	**NORSAR Array B**	**60.97**	**326**	P	**P**	**01 28 12.9**	**0.0**
	0.7nm,0.7s,baz=79,slow=7.0,SNR=4.8						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**65.45**	**141**	P	**P**	**01 28 41.7**	**-1.2**
	0.3nm,0.7s,baz=325,slow=6.7,SNR=1.9						
	0.3nm,0.7s						

*NEIC **15** 01:57:22.9±1.2,31°.65N±0°.01×104°.32W±0°.02,h12km±7km, mb_Lg2.6/42,ML2.6/50,Error ellipse: s-maj=2.4km s-min=0.6km az=53.0*

TXNET 15 01:57:22.4,31°.7N±0°.9×10°.4W±°,h6km±1km,ML2.7/11,9C, Error ellipse: s-maj=1.7km s-min=1.1km az=54.3,final, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPB09	**Culberson Coun**	**0.13**	**360**	⇑P	Pg	01 57 26.0	+0.8
TPB09				S	Sg	01 57 28.0	+1.0
TPB11	**China Draw**	**0.37**	**38**	⇑P	Pg	01 57 30.1	+0.6
TPB11				S	Sg	01 57 35.1	+0.6
PECS	**Pecos**	**0.46**	**126**		Pg	01 57 30.9	-0.3
PECS				Sg	Sg	01 57 38.0	+0.7
PECS	**Pecos**	**0.46**	**126**	⇑P	Pb	01 57 32.2	-0.7
PECS				S	Sg	01 57 38.6	+1.3
TPB12	**Southwest of T**	**0.52**	**146**	P	Pb	01 57 33.4	-0.5
TPB12				S	Sg	01 57 40.5	+1.2
TPB07	**Mentone**	**0.54**	**97**	P	Pb	01 57 34.2	-0.2
TPB07				S	Sb	01 57 41.5	-0.9
TPB10	**Southeast of T**	**0.59**	**128**	⇑P	Pb	01 57 34.6	-0.5
TPB10				S	Sb	01 57 42.9	-0.9
LWM1	**Layne Water Mi**	**0.71**	**126**	⇑P	Pb	01 57 36.9	-0.2
LWM1				S	Sb	01 57 46.8	-0.3
CLNB	**Carlsbad**	**0.71**	**30**	P	Pg	01 57 36.7	+0.6
CLNB				S	Sb	01 57 46.7	-0.7
PCOS	**Crockett Middl**	**0.71**	**109**		Sb	01 57 47.1	-0.3
PCOS	**Crockett Middl**	**0.71**	**109**	S	Sb	01 57 47.1	-0.3
LWM2	**Layne Water Mi**	**0.72**	**121**	P	Pb	01 57 37.2	-0.1
LWM2				S	Sb	01 57 47.3	-0.2
TPB01	**Permian Basin**	**0.83**	**147**	⇑P	Pg	01 57 38.4	+0.1
TPB01				S	Sg	01 57 49.3	+0.2
CLN7	**Carlsbad 7**	**0.87**	**29**		Pg	01 57 39.2	0.0
CLN7				Sg	Sg	01 57 51.0	+0.5
CLN7	**Carlsbad 7**	**0.87**	**29**	P	Pg	01 57 39.3	+0.2
TPB03	**Saragosa**	**0.88**	**130**	⇑P	Pb	01 57 39.9	-0.1
TPB03				S	Sb	01 57 51.6	-0.3
TPB06	**Permian Basin**	**0.92**	**90**	S	Sb	01 57 53.7	+0.3
MNTX	**Cornudas Mount**	**0.92**	**274**		Pg	01 57 40.4	+0.2
MNTX					Sg	01 57 52.5	+0.4
MNTX	**Cornudas Mount**	**0.92**	**274**	P	Pg	01 57 40.4	+0.3
MNTX				S	Sg	01 57 52.5	+0.4
TPB04	**Verhalen**	**0.99**	**117**	P	Pb	01 57 41.9	-0.1
HTMS	**Hat Mesa**	**1.00**	**34**		Pg	01 57 41.5	-0.1
HTMS	**Hat Mesa**	**1.00**	**34**	P	Pg	01 57 41.4	-0.2
HTMS				S	Sb	01 57 55.5	-0.2
TPB16	**Coyonosa**	**1.04**	**120**	P	Pb	01 57 42.8	+0.1
TPB16				S	Sb	01 57 56.6	0.0
VHRN	**Van Horn**	**1.04**	**215**		Pg	01 57 42.2	0.0
VHRN				Sg	Sb	01 57 56.7	0.0
VHRN				IAML		01 57 59.8	
	100nm,0.3s						
VHRN				IAML		01 58 02.4	
	101nm,0.5s						
VHRN	**Van Horn**	**1.04**	**215**	P	Pg	01 57 42.3	0.0
VHRN				S	Sg	01 57 56.1	+0.4
NM01	**Eunice**	**1.04**	**47**	P	Pb	01 57 42.7	-0.2
TPB05	**Hovey Rd**	**1.10**	**131**	⇑P	Pg	01 57 43.7	+0.1
TPB05				S	Sb	01 57 58.5	-0.2
MNHN	**Monahans**	**1.35**	**103**		Pg	01 57 48.2	-0.1
MNHN	**Monahans**	**1.35**	**103**	P	Pn	01 57 47.9	+0.1
ALPN	**Alpine**	**1.39**	**156**		Pn	01 57 48.2	-0.2
ALPN					Sb	01 58 06.2	-0.7
ALPN	**Alpine**	**1.39**	**156**	⇑P	Pn	01 57 48.0	-0.4
ALPN				S	Sb	01 58 06.2	-0.7
CPRX	**Cap Rock**	**1.43**	**15**		Pn	01 57 49.2	+0.2
CPRX	**Cap Rock**	**1.43**	**15**	P	Pb	01 57 49.3	-0.2
ODSA	**Odessa**	**1.56**	**72**		Pb	01 57 51.3	-0.5
ODSA					Sn	01 58 11.5	+0.1
ODSA	**Odessa**	**1.56**	**72**	P	Pb	01 57 51.6	-0.1
ODSA				S	Sn	01 58 11.5	+0.1
TMB04	**Seminole**	**1.82**	**57**	P	Pb	01 57 55.7	-0.5
TMB04				S	Sg	01 58 20.6	-0.3
TMB02	**Rankin**	**1.98**	**102**	P	Pb	01 57 58.5	-0.4
TMB02				S	Sb	01 58 24.5	+0.5
TMB06	**Greenwood**	**2.15**	**80**	S	Sb	01 58 28.3	-0.5
TMB05	**Klondike**	**2.29**	**64**	P	Pb	01 58 03.4	-0.7
TMB05				S	Sb	01 58 33.0	+0.3
TX31	**Lajitas Ar. Si**	**2.37**	**167**		Pn	01 58 03.4	+1.6
TX31	**Lajitas Ar. Si**	**2.37**	**167**	P	Pn	01 58 03.4	+1.6
SAND	**Sanderson**	**2.52**	**131**		Pn	01 58 05.6	+1.7
SAND	**Sanderson**	**2.52**	**131**	P	Pb	01 58 06.2	-1.9
MSTX	**Muleshoe**	**2.65**	**29**		Pn	01 58 07.8	+2.1
SGCY	**Sterling City**	**2.72**	**84**	IAmb_Lg		01 58 53.6	
	comp=Z,25nm,0.8s						
POST	**Post**	**2.76**	**58**		Pn	01 58 08.2	+1.0
OZNA	**Ozona**	**2.81**	**104**	Pn	Pn	01 58 07.5	-0.4
121A	**Cookes Peak, D**	**3.09**	**288**	IAML		01 59 11.9	
	comp=N,20nm,0.4s						
121A				IAML		01 59 12.9	
	comp=E,20nm,0.8s						
SN07	**Snyder 07**	**3.22**	**63**	IAmb_Lg		01 59 07.4	
	comp=Z,17nm,0.8s						
DKNS	**Dickens**	**3.49**	**54**	IAmb_Lg		01 59 20.8	
	comp=Z,19nm,0.9s						
ANMO	**Albuquerque**	**3.75**	**332**	IAML		01 59 18.3	
	comp=Z,8.9nm,0.7s						
ANMO				IAML		01 59 19.1	
	comp=Z,15nm,0.6s						
ANMO				IAmb_Lg		01 59 26.3	
	comp=Z,16nm,1.0s						
DRIO	**Del Rio**	**3.87**	**124**	IAmb_Lg		01 59 33.7	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**4.03**	**106**	IAmb_Lg		01 59 42.5	
	comp=Z,14nm,0.8s						
ABTX	**Abilene, Hawle**	**4.07**	**75**	IAmb_Lg		01 59 37.0	
	comp=Z,11nm,0.9s						
BRDY	**Brady**	**4.54**	**93**	IAmb_Lg		01 59 55.4	
	comp=Z,12nm,1.1s						
HNDO	**Hondo**	**4.81**	**115**	IAmb_Lg		02 00 00.3	
	comp=Z,13nm,0.8s						
RTBA	**Rita Blanca**	**4.95**	**15**	IAmb_Lg		02 00 04.2	
	comp=Z,9.9nm,0.8s						
PLPT	**Palo Pinto**	**5.20**	**75**	IAmb_Lg		02 00 22.4	
	comp=Z,6.8nm,0.9s						

IDC 15 02:07:11.1±1.8,0°.60N×126°.73E,h0km,mb3.4/4, mbtmp3.5/4,MS2.8/1,Error ellipse: s-maj=162.9km s-min=22.8km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.74**	**160**	P	P	02 12 03.9	-0.4
	0.8nm,0.5s,baz=339,slow=11,SNR=13						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.11**	**164**	P	P	02 12 38.2	+0.3
	0.7nm,0.6s,baz=352,slow=15,SNR=9.5						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.54**	**305**	LR	LR	02 29 36.7	
	comp=Z,15nm,18.1s,baz=225,slow=41						
MKAR	**Makanchi Array**	**60.12**	**326**	P	P	02 17 19.9	-0.6
	0.2nm,0.5s,baz=110,slow=6.9,SNR=1.8						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.37**	**328**	P	P	02 17 49.2	+0.4
	0.2nm,0.5s,baz=131,slow=6.3,SNR=4.0						
	0.2nm,0.5s						

*IDC **15** 02:13:51.8±5.2,25°.00S×179°.71E,h481km±53km,mb3.1/8, mbtmp4.0/9,Error ellipse: s-maj=35.9km s-min=17.5km az=47.0*
*NEIC **15** 02:13:52.7±1.8,25°.0S±0°.1×179°.9E±0°.2,h496km±8km, mb4.1/16,Error ellipse: s-maj=23.5km s-min=18.0km az=100.0*

ISC 15 02:13:53.1±0.7,25°.07S±0°.08×179°.8E±0°.1,h501km,n29, σ1ˢ31/29,mb3.9/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.47**	**347**	P	**P**	**02 15 43.3**	**-1.0**
URZ	**Urewera**	**13.34**	**189**	P	**P**	**02 16 44.4**	**-1.2**
	11nm,0.5s,baz=332,slow=1.2,SNR=11						
URZ				S	**S**	**02 19 04.6**	**-3.3**
	7.8nm,0.5s,baz=63,slow=23,SNR=11						
QRZ	**Quartz Range**	**16.84**	**199**	P	**P**	**02 17 22.5**	**+0.4**
TUWZ	**Tuamarina**	**17.02**	**195**	P	**P**	**02 17 23.5**	**-0.5**
CTAO	**Charters Tower**	**31.29**	**272**	P	**P**	**02 19 32.5**	**+0.8**
CTAO				IAmb	IAmb	02 19 33.3	
	comp=Z,5.9nm,0.7s						
TOO	**Toolangi**	**31.65**	**239**	P	**P**	**02 19 36.8**	**+2.3**
TOO				IAmb	IAmb	02 20 14.4	
	comp=Z,6.4nm,1.4s						
ASAR	**Alice Springs**	**41.65**	**262**	P	**P**	**02 20 56.4**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=89,slow=10,SNR=11						
	comp=Z,0.9nm,0.7s						
WR8	**Warramunga Arr**	**41.98**	**268**	P	**P**	**02 20 59.6**	**-0.4**
WR8				IAmb	IAmb	02 21 38.2	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**42.13**	**268**	P	**P**	**02 21 00.5**	**-0.6**
WB0				IAmb	IAmb	02 21 03.6	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**42.13**	**267**	P	**P**	**02 21 00.5**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=100,slow=7.7,SNR=20						
	comp=Z,1.2nm,0.4s						
KNRA	**Kununurra**	**48.48**	**271**	P	**P**	**02 21 49.9**	**+0.1**
KNRA				IAmb	IAmb	02 22 18.0	
	comp=Z,9.8nm,1.1s						
**FITZ

ALOL	**LOMAS DE OLMED**	**2.94**	**82**	*eP*		**Pn**	**02 37 16.1**	**+0.1**
PB14	**IPOC Station P**	**2.98**	**262**			**Pn**	**02 37 16.7**	**0.0**
PB14	**IPOC Station P**	**2.98**	**262**	*eP*		**Pn**	**02 37 16.9**	**+0.2**
PB14					IAML		02 37 56.8	
	comp=E,157nm,0.1s							
PB14	**IPOC Station P**	**2.98**	**262**	*eP*		**Pn**	**02 37 17.2**	**+0.5**
PB14				*eS*		**Sn**	**02 37 54.2**	**-0.8**
PB14					IAML		02 37 56.2	
	comp=Z,173nm,0.6s							
AHML	**Horco Molle**	**3.00**	**147**	*eP*		**Pn**	**02 37 16.9**	**+0.2**
AHML				*eS*		**Sn**	**02 37 54.0**	**-1.2**
AC02	**Maricunga**	**3.11**	**214**	*eP*		**Pn**	**02 37 19.2**	**+0.7**
AC02	**Maricunga**	**3.11**	**214**	*eP*		**Pn**	**02 37 19.5**	**+0.9**
AC02	**Maricunga**	**3.11**	**214**	*eP*		**Pn**	**02 37 19.4**	**+0.9**
AC02				*eS*		**Sn**	**02 37 57.7**	**-0.6**
PB09	**IPOC Station P**	**3.12**	**322**			**Pn**	**02 37 19.5**	**+1.1**
PB09	**IPOC Station P**	**3.12**	**322**	*eP*		**Pn**	**02 37 19.3**	**+1.0**
PB09				*eS*		**Sn**	**02 37 57.7**	**-0.2**
PB09					IAML		02 38 02.8	
	comp=N,277nm,0.3s							
PB09	**IPOC Station P**	**3.12**	**322**	*eP*		**Pn**	**02 37 19.4**	**+1.1**
PB09				*eS*		**Sn**	**02 37 58.1**	**+0.2**
PB09					IAML		02 37 58.2	
	comp=Z,200nm,0.5s							
PB05	**IPOC Station P**	**3.13**	**296**			**Pn**	**02 37 18.1**	**-0.2**
PB05	**IPOC Station P**	**3.13**	**296**	*eP*		**Pn**	**02 37 18.7**	**+0.4**
PB05				*eS*		**Sn**	**02 37 56.2**	**-1.7**
PB05				*e*			02 37 58.0	
PB05					IAML		02 37 59.0	
	comp=N,296nm,0.3s							
PB05	**IPOC Station P**	**3.13**	**296**	*eP*		**Pn**	**02 37 18.7**	**+0.4**
PB05				*eS*		**Sn**	**02 37 56.7**	**-1.2**
PB05					IAML		02 37 59.0	
	comp=Z,151nm,0.4s							
PB10	**IPOC Station P**	**3.19**	**283**			**Pn**	**02 37 19.3**	**+0.3**
PB10	**IPOC Station P**	**3.19**	**283**	*eP*		**Pn**	**02 37 19.6**	**+0.6**
PB10				*eS*		**Sn**	**02 37 57.5**	**-1.7**
PB10					IAML		02 38 01.2	
	comp=N,185nm,0.3s							
PB10	**IPOC Station P**	**3.19**	**283**	*eP*		**Pn**	**02 37 19.6**	**+0.6**
PB10				*eS*		**Sn**	**02 37 58.7**	**-0.5**
PB10					IAML		02 38 06.2	
	comp=Z,187nm,0.5s							
PB03	**IPOC Station P**	**3.25**	**312**			**Pn**	**02 37 20.2**	**+0.3**
PB03	**IPOC Station P**	**3.25**	**312**	*iP*		**Pn**	**02 37 20.3**	**+0.3**
PB03				*i* S		**Sn**	**02 37 58.5**	**-2.2**
PB03	**IPOC Station P**	**3.25**	**312**	*eP*		**Pn**	**02 37 19.8**	**-0.1**
PB03				*eS*		**Sn**	**02 37 59.7**	**-1.1**
PB03					IAML		02 38 05.8	
	comp=Z,391nm,0.3s							
AC01	**Pan de Azucar**	**3.63**	**238**			**Pn**	**02 37 23.7**	**-0.7**
AC01	**Pan de Azucar**	**3.63**	**238**	*eP*		**Pn**	**02 37 23.9**	**-0.6**
AC01				*eS*		**Sn**	**02 38 08.1**	**-0.9**
AC01					IAML		02 38 11.9	
	comp=Z,62nm,0.3s							
PB01	**IPOC Station P**	**3.86**	**326**			**Pn**	**02 37 26.9**	**-0.5**
PB01	**IPOC Station P**	**3.86**	**326**	*eP*		**Pn**	**02 37 27.1**	**-0.4**
PB01				*i* S		**Sn**	**02 38 11.9**	**-2.3**
PB01	**IPOC Station P**	**3.86**	**326**	*eP*		**Pn**	**02 37 27.0**	**-0.4**
PB01				*eS*		**Sn**	**02 38 12.8**	**-1.4**
PB01					IAML		02 38 14.1	
	comp=Z,157nm,0.2s							
PB02	**IPOC Station P**	**3.87**	**319**			**Pn**	**02 37 27.1**	**-0.3**
PB02	**IPOC Station P**	**3.87**	**319**	*eP*		**Pn**	**02 37 27.2**	**-0.3**
PB02	**IPOC Station P**	**3.87**	**319**	*eP*		**Pn**	**02 37 26.9**	**-0.6**
PB02				*eS*		**Sn**	**02 38 12.7**	**-1.7**
PB02					IAML		02 38 18.1	
	comp=Z,404nm,0.3s							
AC06	**Mina Casimiro**	**4.21**	**222**			**Pn**	**02 37 30.8**	**-0.9**
GO03	**Copiapo**	**4.32**	**219**			**Pn**	**02 37 32.2**	**-0.9**
GO03	**Copiapo**	**4.32**	**219**	*eP*		**Pn**	**02 37 32.4**	**-0.7**
GO03				*eS*		**Sn**	**02 38 22.7**	**-1.8**
GO03					IAML		02 38 25.1	
	comp=Z,98nm,0.5s							
PATCX	**Punta Patache**	**4.41**	**321**			**Pn**	**02 37 33.5**	**-0.8**
PATCX	**Punta Patache**	**4.41**	**321**	*eP*		**Pn**	**02 37 33.5**	**-0.8**
PATCX				*eS*		**Sn**	**02 38 24.4**	**-2.2**
PATCX					IAML		02 38 36.2	
	comp=Z,75nm,0.4s							
PB08	**IPOC Station P**	**4.50**	**335**			**Pn**	**02 37 35.9**	**+0.1**
PB08	**IPOC Station P**	**4.50**	**335**	*eP*		**Pn**	**02 37 35.9**	**+0.1**
PB08				*eS*		**Sn**	**02 38 28.6**	**-0.7**
PB08					IAML		02 38 30.3	
	comp=Z,44nm,0.3s							
TA01	**Diego Aracena**	**4.62**	**322**			**Pn**	**02 37 35.9**	**-1.1**
TA01	**Diego Aracena**	**4.62**	**322**	*eP*		**Pn**	**02 37 36.3**	**-0.6**
TA01					IAML		02 38 33.1	
	comp=Z,41nm,0.4s							
HMBC	**Humberstone**	**4.71**	**327**			**Pn**	**02 37 36.2**	**-2.0**
TA02	**Huaiquique**	**4.84**	**325**	Pn		**Pn**	**02 37 38.9**	**-0.8**
GO01	**Chusmiza**	**4.95**	**337**			**Pn**	**02 37 41.2**	**-0.5**
PB11	**IPOC Station P**	**5.05**	**332**			**Pn**	**02 37 41.1**	**-1.5**
PB11	**IPOC Station P**	**5.05**	**332**	*eS*		**Sn**	**02 38 38.1**	**-3.4**
PB11					IAML		02 38 44.3	
	comp=Z,66nm,0.4s							
ACLC	**CERRO LA CRUZ**	**5.14**	**178**	*eP*		**Pn**	**02 37 44.7**	**+1.0**
AC04	**Llanos de Chal**	**5.26**	**221**			**Pn**	**02 37 43.5**	**-1.7**
AC04	**Llanos de Chal**	**5.26**	**221**	*eP*		Pn	02 37 40.6	-4.5
AC04				*eS*		**Sn**	**02 38 38.8**	**-7.4**
AC04					IAML		02 38 51.0	
	comp=Z,46nm,0.5s							
LCO	**Las Campanas**	**5.69**	**213**	Pn		**Pn**	**02 37 49.2**	**-1.7**
CO01	**Juntas del Tor**	**6.26**	**204**	Pn		**Pn**	**02 37 56.7**	**-1.6**
PB16	**IPOC Station P**	**6.29**	**339**			**Pn**	**02 37 58.5**	**-0.6**
GO04	**Tololo Observa**	**6.71**	**208**	Pn		**Pn**	**02 38 02.8**	**-1.5**
CFA	**Coronel Fontan**	**7.37**	**187**	P		**Pn**	**02 38 11.9**	**-0.8**
	comp=Z,0.3nm,0.2s,baz=38,slow=18,SNR=7.6							
CFA				S		**Sn**	**02 39 31.9**	**-4.0**
	comp=Z,0.7nm,0.3s,baz=320,slow=23,SNR=6.3							
LPAZ	**La Paz**	**7.99**	**353**	Pn		**Pn**	**02 38 21.7**	**+0.2**
LPAZ	**La Paz**	**7.99**	**353**	P		**Pn**	**02 38 21.3**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=148,slow=4.9,SNR=16							
LPAZ				S		**Sn**	**02 39 47.9**	**-3.8**
	comp=Z,1.3nm,0.7s,baz=26,slow=8.8,SNR=3.7							
SIV	**San Ignacio**	**10.02**	**36**	P		**Pn**	**02 38 45.1**	**-2.4**
	comp=Z,1.5nm,0.5s,baz=265,slow=7.5,SNR=10							
TRQA	**Tornquist**	**14.44**	**163**			**P**	**02 39 44.9**	**-0.1**
PLCA	**Paso Flores**	**16.66**	**189**	Pn		Pn	02 40 17.6	+7.2
VAO	**Valinhos**	**18.55**	**90**	P		**P**	**02 40 29.7**	**-0.6**
LL01	**San Ignacio de**	**18.58**	**192**	P		**Pn**	**02 40 33.6**	**+0.7**
LL01				IAmb		IAmb	02 40 36.5	
	comp=Z,4.9nm,0.5s							
LL02	**Futaleuf**	**19.27**	**190**	P		**Pn**	**02 40 40.4**	**-0.6**
LL02				IAmb		IAmb	02 40 42.3	
	comp=Z,6.4nm,0.7s							
BDFB	**Brasilia**	**19.92**	**68**	P		**P**	**02 40 45.0**	**-0.2**
BDFB				IAmb		IAmb	02 40 45.7	
	comp=Z,13nm,1.2s							
BDFB	**Brasilia**	**19.92**	**68**	P		**P**	**02 40 44.4**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=235,slow=12,SNR=5.0							
RCBR	**Riachuelo**	**35.17**	**64**	P		**P**	**02 43 03.4**	**-0.4**
SNAA	**Sanae**	**59.15**	**161**	P		**P**	**02 46 08.8**	**+0.7**
SNAA	**Sanae**	**59.15**	**161**	P		**P**	**02 46 09.2**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=271,slow=8.1,SNR=7.8							
	comp=Z,0.6nm,0.5s							
QSPA	**South Pole Qui**	**65.94**	**180**	P		**P**	**02 46 55.9**	**+2.6**
QSPA				IAmb		IAmb	02 47 12.7	
	comp=Z,6.0nm,1.4s							
QSPA	**South Pole Qui**	**65.94**	**180**	P		**P**	**02 46 56.1**	**+2.8**
	comp=Z,0.8nm,0.5s,baz=175,slow=6.5,SNR=13							
	comp=Z,0.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P		**P**	**02 47 59.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=253,slow=5.1,SNR=2.3							
	comp=Z,0.4nm,0.6s							
YKA	**Yellowknife Ar**	**94.32**	**340**	P		**P**	**02 49 26.3**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=126,slow=4.2,SNR=3.1							
	comp=Z,0.3nm,0.7s							
WRA	**Warramunga Arr**	**131.32**	**207**	PKP		**PKiKP**	**02 55 19.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=158,slow=1.7,SNR=5.8							
MKAR	**Makanchi Array**	**146.82**	**40**	PKPbc		**PKiKP**	**02 55 48.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=26,slow=4.0,SNR=4.4							

*ISK **15** 02:52:24.4, 38˚.00N×26˚.90E, h7km, ML3.1/33*
*AFAD **15** 02:52:24.4, 38˚.00N×26˚.86E, h8km±1km, ML2.8*
*THE **15** 02:52:24.9, 38˚.N±4˚×2˚.7E±˚, h10km±5km, M3.0/6, MLh3.0/6*
*ATH **15** 02:52:25.3, 37˚.98N×26˚.86E, h13km±2km, ML2.7/9, Manual Solution by N.Liadopoulou First location: 2019/08/15 02:53:51, This location: 2019/08/15 04:34:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*

ISC 15 02:52:24.7±0.8,**38˚.00N**±0˚.02×**26˚.89E**±0˚.02,**h10**km±5km, **n98**,σ=**0°74**/129,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DGB	**zmir**	**0.05**	**355**	P		**Pg**	**02 52 26.6**	**-0.1**
DGB				S		**Sg**	**02 52 27.8**	**-0.4**
DGB				*i*	IAML		02 52 28.0	
	comp=N,9μm,0.2s							
DGB				*i*	IAML		02 52 28.0	
	comp=E,7μm,0.4s							
GMLD	**Gumuldur**	**0.08**	**17**	Pg		**Pg**	**02 52 26.9**	**-0.1**
GMLD				Sg		**Sg**	**02 52 28.6**	**-0.1**
SMG	**Samos**	**0.30**	**188**	P		**Pg**	**02 52 31.3**	**+0.7**
SMG				S		**Sb**	**02 52 36.7**	**-0.3**
SMG	**Samos**	**0.30**	**188**	P		**Pg**	**02 52 31.1**	**+0.4**
SMG				S		**Sg**	**02 52 35.1**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**0.38**	**308**	P		**Pg**	**02 52 32.3**	**0.0**
ZEYE				S		**Sg**	**02 52 37.5**	**+0.2**
BLCB	**Balcova**	**0.40**	**18**	Pg		**Pg**	**02 52 32.7**	**+0.1**
BLCB	**Balcova**	**0.40**	**18**	P		**Pg**	**02 52 32.7**	**+0.1**
BLCB				S		**Sg**	**02 52 37.9**	**0.0**
GCAM	**G?zelcaml?**	**0.41**	**138**	P		**Pg**	**02 52 33.3**	**+0.6**
GCAM				S		**Sg**	**02 52 38.4**	**+0.3**
GCAM				*i*	IAML		02 52 40.0	
	comp=N,2μm,0.4s							
GCAM				*i*	IAML		02 52 40.0	
	comp=E,696nm,0.4s							
URLA	**Izmir**	**0.42**	**327**	P		**Pg**	**02 52 32.9**	**-0.1**
URLA				S		**Sg**	**02 52 38.3**	**-0.3**
URLA				*i*	IAML		02 52 39.0	
	comp=N,2μm,0.5s							
URLA				*i*	IAML		02 52 41.0	
	comp=E,1μm,0.3s							
CESE	**eme**	**0.57**	**305**	Pg		**Pg**	**02 52 36.1**	**+0.4**
CESE				Sg		**Sg**	**02 52 44.5**	**+1.3**
DDIM	**Aydin, Didim**	**0.61**	**153**	P		**Pg**	**02 52 36.9**	**+0.4**
DDIM				S		**Sb**	**02 52 45.6**	**-0.5**
DDIM				*i*	IAML		02 52 49.0	
	comp=N,451nm,0.2s							
DDIM				*i*	IAML		02 52 49.0	
	comp=E,598nm,0.6s							
DIDI	**Didim-Aydin**	**0.69**	**156**	Pg		**Pg**	**02 52 37.9**	**0.0**
DIDI				Sg		**Sb**	**02 52 48.1**	**-0.1**
FOCM	**Foa**	**0.72**	**350**	Pg		**Pg**	**02 52 38.8**	**+0.2**
FOCM				Sg		**Sb**	**02 52 49.3**	**+0.1**
KARB	**zmir-Karabur**	**0.76**	**331**	P		**Pg**	**02 52 38.7**	**-0.6**
KARB				*i*	IAML		02 52 51.0	
	comp=N,631nm,0.5s							
KARB				*i*	IAML		02 52 51.0	
	comp=E,870nm,0.4s							
CHOS	**Chios island**	**0.76**	**301**	Pg		**Pg**	**02 52 39.8**	**+0.5**
CHOS				Sg		**Sb**	**02 52 50.9**	**+0.5**
CHOS	**Chios island**	**0.76**	**301**	P		**Pg**	**02 52 39.5**	**+0.3**
CHOS				S		**Sb**	**02 52 50.6**	**+0.2**
CHOS	**Chios island**	**0.76**	**301**	P		**Pb**	**02 52 40.2**	**+0.2**
CHOS				S		**Sg**	**02 52 50.1**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**94**	Pg		**Pg**	**02 52 40.1**	**+0.1**
AYDB				Sg		**Sb**	**02 52 51.5**	**0.0**
EAG2	**Marmaro, Chios**	**0.82**	**312**	P		**Pb**	**02 52 41.3**	**+0.4**
EAG2				S		**Sb**	**02 52 52.3**	**+0.4**
IZMR	**zmir-demi**	**0.85**	**81**	P		**Pg**	**02 52 41.1**	**0.0**
IZMR				S		**Sg**	**02 52 50.9**	**-1.2**
IZMR				*i*	IAML		02 52 54.0	
	comp=E,257nm,0.4s							
AYDN	**Tasoluk**	**0.86**	**113**	P		**Pb**	**02 52 41.9**	**+0.3**
AYDN				S		**Sg**	**02 52 52.5**	**+0.1**
AYDN				*i*	IAML		02 52 56.0	
	comp=N,423nm,0.4s							
AYDN				*i*	IAML		02 52 56.0	
	comp=E,431nm,0.3s							
ZEDA	**zmir-Bergama**	**0.97**	**9**	P		**Pg**	**02 52 42.8**	**-0.6**
ZEDA				S		**Sg**	**02 52 56.7**	**+0.6**
ZEDA				*i*	IAML		02 53 02.0	
	comp=N,353nm,0.5s							
ODEM	**Odemis-Izmir**	**0.97**	**73**	Pg		**Pg**	**02 52 43.4**	**0.0**
IZMD	**zmir-Dikili-**	**0.98**	**2**	P		**Pg**	**02 52 43.9**	**+0.4**
IZMD				S		**Sb**	**02 52 57.6**	**+0.8**
IZMD				*i*	IAML		02 52 59.0	
	comp=N,193nm,0.8s							
IZMD				*i*	IAML		02 53 00.0	
	comp=E,279nm,0.4s							
BDRM	**Kayabasi**	**1.04**	**155**	P		**Pg**	**02 52 44.4**	**-0.2**
BDRM				*i*	IAML		02 53 02.0	
	comp=E,203nm,0.6s							
GOMA	**Golmarmara-Man**	**1.07**	**49**	Pg		**Pb**	**02 52 45.4**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.11**	**92**	Pn		**Pb**	**02 52 45.9**	**0.0**
NAZL				Sn		**Sn**	**02 53 01.3**	**-0.3**
AKHS	**Akhisar**	**1.14**	**39**	P		**Pb**	**02 52 45.7**	**-0.7**
AKS	**Akhisar**	**1.14**	**39**	Pn		**Pb**	**02 52 46.6**	**+0.2**
AKS				Sn		**Sn**	**02 53 02.9**	**+0.6**
ESEN	**Aydn-Nazilli**	**1.17**	**100**	P		**Pb**	**02 52 46.3**	**-0.7**
KIRA	**zmir-Kiraz**	**1.21**	**80**	P		**Pb**	**02 52 47.7**	**0.0**
KIRA				S		**Sb**	**02 53 02.8**	**-0.6**
SOMA	**Soma-Manisa**	**1.26**	**24**	Pn		**Pn**	**02 52 48.5**	**+0.2**
AYVA	**Ayvalik**	**1.31**	**353**	P		**Pn**	**02 52 48.8**	**-0.2**
AYVA				*i*	IAML		02 53 10.0	
	comp=E,150nm,0.4s							
AYVA				*i*	IAML		02 53 11.0	
	comp=N,205nm,0.6s							
GORD	**Gordes-Manisa**	**1.36**	**48**	Pn		**Pb**	**02 52 50.4**	**+0.2**
GORD				Sn		**Sg**	**02 53 09.2**	**+0.8**
MULA	**Mugla, Merkez-**	**1.36**	**123**	P		**Pn**	**02 52 49.6**	**-0.2**
DAT	**Datca**	**1.39**	**156**	Pn		**Pn**	**02 52 50.2**	**+0.1**
DAT	**Datca**	**1.39**	**156**	P		**Pn**	**02 52 49.3**	**-0.8**
YAZI	**Mula-Dat§a-**	**1.40**	**161**	P		**Pn**	**02 52 49.6**	**-0.6**
MANT	**Manisa**	**1.40**	**69**	P		**Pg**	**02 52 51.6**	**0.0**
MANT				S		**Sb**	**02 53 07.6**	**-2.1**
SIGR	**SIGRI**	**1.45**	**326**	Pn		**Pn**	**02 52 50.6**	**-0.3**
SIGR	**SIGRI**	**1.45**	**326**	P		**Pn**	**02 52 50.5**	**-0.4**
SIGR				S		**Sn**	**02 53 08.5**	**-1.5**
KULA	**Kula-Manisa**	**1.49**	**69**	Pn		**Pb**	**02 52 52.6**	**+0.2**
BUHA	**Balikesir, Bur**	**1.50**	**6**	P		**Pn**	**02 52 51.0**	**-0.6**
BUHA				S		**Sn**	**02 53 11.2**	**-0.1**
BUHA				*i*	IAML		02 53 16.0	
	comp=N,226nm,0.3s							
BUHA				*i*	IAML		02 53 16.0	
	comp=E,259nm,0.5s							
STEP	**BALIKESIR_Sava**	**1.52**	**25**	P		**Pn**	**02 52 50.9**	**-0.9**
STEP				S		**Sb**	**02 53 12.4**	**+0.2**
KOCA	**Canakkale, Ayv**	**1.61**	**339**	P		**Pn**	**02 52 52.2**	**-0.9**
YAYO	**Edremit-Balk**	**1.61**	**5**	Pn		**Pn**	**02 52 51.9**	**+0.8**
TURN	**Turunc**	**1.63**	**138**	P		**Pn**	**02 52 53.1**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.69**	**108**	P		**Pn**	**02 52 53.4**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**1.75**	**351**	P		**Pn**	**02 52 54.3**	**-0.8**
DEMI	**Demirci**	**1.77**	**54**	P		**Pb**	**02 52 57.6**	**+0.4**
DEMI				*i*	IAML		02 53 25.0	
	comp=E,119nm,0.3s							
EZNE	**Ezine-Canakkal**	**1.80**	**347**	Pn		**Pn**	**02 52 56.9**	**+1.2**
USAK	**Uak-Merkez**	**1.82**	**66**	P		**Pn**	**02 52 55.9**	**-0.1**
BALY	**Balya**	**1.83**	**18**	P		**Pn**	**02 52 55.4**	**-0.8**
EZN	**Ezine**	**1.87**	**347**	Pn		**Pn**	**02 52 57.8**	**+1.1**
EZN	**Ezine**	**1.87**	**347**	P		**Pn**	**02 52 56.9**	**+0.3**
KARY	**Karystos**	**1.94**	**272**	P		**Pn**	**02 52 56.7**	**-0.8**
KARY				S		**Sn**	**02 53 20.3**	**-1.7**
KARY	**Karystos**	**1.94**	**272**	P		**Pn**	**02 52 56.8**	**-0.8**
YENI	**Yenice-Canakka**	**1.95**	**8**	Pn		**Pn**	**02 52 58.9**	**+1.1**
SIMA	**Simav-Kutahya**	**1.96**	**56**	Pn		**Pn**	**02 52 59.2**	**+1.1**
APMY	**Acipayam-Deniz**	**1.99**	**105**	Pn		**Pn**	**02 52 59.4**	**+1.0**
SAP3	**Santorini-Thir**	**1.99**	**219**	P		**Pn**	**02 52 58.8**	**+0.4**
CANM	**Can-anakkale**	**2.01**	**4**	Pn		**Pn**	**02 52 59.5**	**+0.9**
ARG	**Arkhangelos**	**2.04**	**151**	Pn		**Pn**	**02 52 59.7**	**+0.7**
ARG	**Arkhangelos**	**2.04**	**151**	P		**Pn**	**02 53 00.1**	**+1.1**
DST	**Dursunbey**	**2.09**	**40**	Pn		**Pn**	**02 53 01.3**	**+1.5**
SHAP	**Saphane-Kutahy**	**2.10**	**60**	Pn		**Pn**	**02 53 00.8**	**+0.9**
COMU	**Canakkale**	**2.12**	**351**	Pn		**Pn**	**02 53 01.2**	**+1.1**
GONE	**Gonen-Balikesi**	**2.13**	**17**	Pn		**Pn**	**02 53 01.1**	**+0.8**
CAME	**Cameli-Denizli**	**2.19**	**118**	Pn		**Pn**	**02 53 02.1**	**+0.8**
GEDZ	**Gediz**	**2.23**	**62**	Pn		**Pn**	**02 53 02.9**	**+1.1**
KYMI	**Kymi, Euboea I**	**2.28**	**287**	P		**Pn**	**02 53 02.6**	**+0.3**
LIA	**Limnos Island**	**2.31**	**325**	P		**Pn**	**02 53 02.2**	**-0.6**
LIA				S		**Sn**	**02 53 28.6**	**-2.6**
LIA	**Limnos Island**	**2.31**	**325**	P		**Pn**	**02 53 02.6**	**-0.2**
GADA	**Gvkgeada**	**2.32**	**341**	Pn		**Pn**	**02 53 04.2**	**+1.4**
GADA	**Gvkgeada**	**2.32**	**341**	P		**Pn**	**02 53 02.5**	**-0.3**
DION	**Dionisos Attik**	**2.33**	**273**	P		**Pn**	**02 53 02.7**	**-0.4**
MHLO	**Agia Marina, M**	**2.38**	**237**	P		**Pn**	**02 53 03.8**	**+0.2**
PTL	**Penteli**	**2.39**	**272**	P		**Pn**	**02 53 03.5**	**-0.3**
KRBG	**Karabiga-Canak**	**2.41**	**7**	Pn		**Pn**	**02 53 04.9**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.41**	**352**	Pn		**Pn**	**02 53 04.2**	**+0.1**
ATHU	**Athens Univers**	**2.45**	**270**	P		**Pn**	**02 53 04.0**	**-0.7**
EDC	**Edincik**	**2.46**	**18**	Pn		**Pn**	**02 53 06.3**	**+1.5**
KARP	**Karpathos**	**2.46**	**175**	Pn		**Pn**	**02 53 06.0**	**+1.2**
KARP	**Karpathos**	**2.46**	**175**	P		**Pn**	**02 53 05.4**	**+0.5**
TVSB	**Tavsanli**	**2.48**	**54**	Pn		**Pn**	**02 53 06.5**	**+1.4**
BASM	**Basmaki-Afyon**	**2.50**	**91**	Pn		**Pn**	**02 53 06.1**	**+0.7**
ERIK	**Erikli-Kesan**	**2.68**	**354**	Pn		**Pn**	**02 53 09.2**	**+1.4**
SMTH	**Samothraki Isl**	**2.68**	**337**	P		**Pn**	**02 53 07.4**	**-0.5**
MET2	**Kameni Chora,**	**2.84**	**263**	P		**Pn**	**02 53 09.2**	**-0.9**
VIL2	**Platees**	**2.86**	**275**	P		**Pn**	**02 53 09.9**	**-0.4**
LKR	**Lokris**	**3.12**	**283**	P		**Pn**	**02 53 13.8**	**-0.1**
RDO	**Rodhopi**	**3.31**	**342**	P		**Pn**	**02 53 16.4**	**0.0**
KLV	**Kalavryta, Ach**	**3.74**	**272**	P		**Pn**	**02 53 22.8**	**+0.3**
KALE	**Kalithea**	**3.76**	**277**	P		**Pn**	**02 53 23.2**	**+0.5**
MAKR	**Makrakomi, Fth**	**3.86**	**287**	P		**Pn**	**02 53 25.4**	**+1.2**
EFP	**Efpalio**	**3.95**	**278**	P		**Pn**	**02 53 25.9**	**+0.7**
ANX	**Ano Chora**	**3.95**	**280**	P		**Pn**	**02 53 26.0**	**+0.6**
EVR	**Evrytania**	**4.09**	**284**	P		**Pn**	**02 53 28.1**	**+0.8**

*IDC **15** 03:16:01.6±1.2, 43˚.30N×126˚.40W, h0km, mb3.9/6, mbtmp4.0/14, ML3.7/8, MS3.6/43, Error ellipse: s-maj=21.5km s-min=10.5km az=58.0*
*PGC **15** 03:16:02.2±1.4, 43˚.37N×127˚.03W, h10km, MLSn3.5/1, Mw4.1/1, 326km west of Eugene, Oregon, Usa Off Coast Of Oregon*
*NEIC **15** 03:16:03.8±1.7, 43˚.14N±0˚.06×126˚.4W±0˚.1, h10km±2km, mb4.1/26, ML3.6/90, Error ellipse: s-maj=14.5km s-min=9.9km az=251.0*

ISC 15 03:16:01.8±0.9,**43˚.24N**±0˚.05×**126˚.58W**±0˚.08,**h10**km, **n254**,σ=**1°58**/230,**mb3.9**/5,**MS3.6**/37,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.69**	**102**			**Pn**	**03 16 29.8**	**-1.6**
KEBM					IAML		03 16 55.2	
	comp=E,1μm,1.0s							
KEBM					IAML		03 16 55.4	
	comp=N,686nm,0.9s							
J01E	**Myrtle Point**	**1.94**	**91**			**Pn**	**03 16 33.5**	**-1.3**
J01E					IAML		03 16 47.1	
	comp=E,699nm,0.3s							
J01E					IAML		03 16 47.5	
	comp=N,598nm,0.2s							
KBO	**Bosley Butte**	**2.02**	**120**			**Pn**	**03 16 34.1**	**-1.9**
KBO					IAML		03 17 09.1	
	comp=E,387nm,1.6s							
I02E	**Swisshome, OR**	**2.17**	**65**			**Pn**	**03 16 37.5**	**-0.4**
I02E					IAML		03 17 09.6	
	comp=N,285nm,0.4s							
I02E					IAML		03 17 09.9	
	comp=E,388nm,0.6s							
K02D	**Willamette Mer**	**2.21**	**103**			**Pn**	**03 16 37.2**	**-1.4**
K02D					IAML		03 17 08.0	
	comp=E,239nm,0.6s							
I03D	**Drain, OR**	**2.40**	**78**			**Pn**	**03 16 40.5**	**-0.6**
I03D					IAML		03 16 55.8	
	comp=E,297nm,0.6s							
I03D					IAML		03 17 13.2	
	comp=N,188nm,0.5s					

PTRF	**Port Renfrew**	**5.52**	**15**	Pn		**Pn**	**03 17 23.9**	**0.0**
PTRF				Sn		**Sn**	**03 18 24.5**	**-2.9**
MXC	**Moxie City**	**5.58**	**51**			**Pn**	**03 17 26.6**	**+1.8**
SYMB	**Survey Mountai**	**5.67**	**19**	Sn		**Sn**	**03 18 28.8**	**-2.4**
B928	**Bamfield**	**5.69**	**10**	Pn		**Pn**	**03 17 26.5**	**+0.2**
B928				Sn		**Sn**	**03 18 29.1**	**-2.4**
BFSB	**Bamfield**	**5.69**	**10**	Pn		**Pn**	**03 17 26.4**	**+0.2**
BFSB				Sn		**Sn**	**03 18 29.2**	**-2.3**
B012	**Ucluelet**	**5.73**	**7**	Sn		**Sn**	**03 18 29.7**	**-3.0**
OZB	**Mount Ozzard**	**5.77**	**7**	Pn		**Pn**	**03 17 26.8**	**-0.7**
OZB				Sn		**Sn**	**03 18 30.6**	**-3.2**
LTY	**Liberty**	**5.79**	**44**			**Pn**	**03 17 29.6**	**+1.8**
LTY	**Liberty**	**5.79**	**44**	Pn		**Pn**	**03 17 29.7**	**+1.8**
E07A	**Sunnyside**	**5.82**	**53**			**Pn**	**03 17 29.8**	**+1.7**
B009	**North Saanich**	**5.83**	**21**	Sn		**Sn**	**03 18 31.9**	**-3.2**
B010	**North Saanich**	**5.84**	**21**	Pn		**Pn**	**03 17 28.6**	**+0.3**
B010				Sn		**Sn**	**03 18 33.9**	**-1.3**
PGC	**Sidney**	**5.84**	**21**	Pn		**Pn**	**03 17 28.9**	**+0.6**
PGC				Sn		**Sn**	**03 18 33.2**	**-2.0**
B011	**North Saanich**	**5.84**	**21**	Pn		**Pn**	**03 17 28.5**	**+0.2**
B011				Sn		**Sn**	**03 18 33.0**	**-2.2**
B926	**Mesachie Lake**	**5.84**	**16**	Sn		**Sn**	**03 18 32.1**	**-3.2**
CLRS	**Cowichan Lake**	**5.84**	**16**	Pn		**Pn**	**03 17 28.5**	**+0.1**
CLRS				Sn		**Sn**	**03 18 31.8**	**-3.5**
G08A	**Pilot Rock**	**5.85**	**67**			**Pn**	**03 17 29.6**	**+1.0**
WVOR	**Wild Horse Val**	**5.90**	**95**			**Pn**	**03 17 28.9**	**-0.4**
MGRB	**Mount Grey**	**5.91**	**12**	Pn		**Pn**	**03 17 29.5**	**0.0**
MGRB				Sn		**Sn**	**03 18 34.2**	**-3.1**
J08A	**Circle Bar Ran**	**5.92**	**86**			**Pn**	**03 17 29.8**	**+0.1**
HAWA	**Hanford**	**5.92**	**55**			**Pn**	**03 17 31.0**	**+1.4**
JCW	**Jim Creek**	**5.93**	**32**	Sn		**Sn**	**03 18 38.6**	**+1.0**
SNB	**Saturna Island**	**6.03**	**22**	Pn		**Pn**	**03 17 31.6**	**+0.7**
SNB				Sn		**Sn**	**03 18 38.3**	**-1.6**
AFDM	**Forest Hills D**	**6.03**	**133**			**Pn**	**03 17 31.1**	**+0.1**
WAH2	**Wahluke Slope**	**6.09**	**52**			**Pn**	**03 17 33.8**	**+1.9**
GOBB	**Galiano Island**	**6.10**	**19**	Pn		**Pn**	**03 17 32.5**	**+0.6**
GOBB				Sn		**Sn**	**03 18 39.9**	**-1.8**
B927	**Port Alberni**	**6.11**	**11**	Sn		**Sn**	**03 18 38.5**	**-3.4**
PABB	**Port Alberni**	**6.11**	**11**	Pn		**Pn**	**03 17 31.3**	**-0.7**
PABB				Sn		**Sn**	**03 18 39.6**	**-2.3**
SHPB	**Sharp Point**	**6.12**	**2**	Pn		**Pn**	**03 17 31.5**	**-0.6**
YPT	**Yellepit**	**6.12**	**60**			**Pn**	**03 17 33.0**	**+0.8**
ETB	**Estevan Point**	**6.14**	**0**	Pn		**Pn**	**03 17 32.0**	**-0.4**
E08A	**Dider Farm, El**	**6.26**	**56**			**Pn**	**03 17 35.4**	**+1.2**
MYRA	**Myra Falls**	**6.35**	**6**	Pn		**Pn**	**03 17 35.5**	**0.0**
MYRA				Sn		**Sn**	**03 18 44.4**	**-3.7**
NTKA	**Nootka**	**6.36**	**360**	Pn		**Pn**	**03 17 33.8**	**-1.7**
PAHR	**Pah Rah Range**	**6.46**	**121**			**Pn**	**03 17 38.2**	**+1.2**
LNOR	**Lincton Mounta**	**6.49**	**61**			**Pn**	**03 17 37.8**	**+0.5**
GDR	**Gold River**	**6.56**	**3**	Pn		**Pn**	**03 17 38.3**	**+0.1**
D08A	**Wollman Farm,**	**6.63**	**52**			**Pn**	**03 17 40.7**	**+1.5**
TXB	**Texada**	**6.63**	**12**	Pn		**Pn**	**03 17 39.5**	**+0.3**
E09A	**Wood Farm, Sta**	**6.83**	**58**			**Pn**	**03 17 42.1**	**+0.2**
WPB	**Watts Point**	**6.83**	**19**	Pn		**Pn**	**03 17 42.6**	**+0.6**
WPB				Sn		**Sn**	**03 18 57.1**	**-2.6**
CBB	**Campbell River**	**6.85**	**7**			**Pn**	**03 17 44.7**	**+2.5**
CBB	**Campbell River**	**6.85**	**7**	Pn		**Pn**	**03 17 42.3**	**0.0**
CBB				Sn		**Sn**	**03 18 56.7**	**-3.5**
BMO	**Blue Mountains**	**6.88**	**73**			**Pn**	**03 17 43.7**	**+0.9**
WOSB	**Woss**	**6.92**	**0**	Pn		**Pn**	**03 17 44.6**	**+1.3**
CMB	**Columbia Colle**	**7.01**	**136**			**Pn**	**03 17 44.6**	**0.0**
NCSB	**Newcastle Ridg**	**7.18**	**3**	Pn		**Pn**	**03 17 49.1**	**+2.2**
MAYB	**Maynard**	**7.18**	**357**	Pn		**Pn**	**03 17 48.3**	**+1.4**
WAKR	**Walker**	**7.19**	**129**			**Pn**	**03 17 46.7**	**-0.4**
B08A	**Colville Reser**	**7.20**	**42**			**Pn**	**03 17 48.1**	**+0.9**
B08A	**Colville Reser**	**7.20**	**42**	Pn		**Pn**	**03 17 48.3**	**+1.2**
F10A	**Beach Ranch, E**	**7.21**	**7**			**Pn**	**03 17 48.2**	**+0.8**
PACB	**Port Alice, BC**	**7.23**	**355**	Pn		**Pn**	**03 17 48.8**	**+1.4**
WSLR	**Whistler**	**7.33**	**19**	Pn		**Pn**	**03 17 51.2**	**+2.2**
C09A	**Chrisman Ranch**	**7.41**	**49**			**Pn**	**03 17 51.6**	**+1.7**
HOLB	**Holberg**	**7.48**	**352**	Pn		**Pn**	**03 17 51.5**	**+0.6**
PHC	**Port Hardy**	**7.49**	**356**	Pn		**Pn**	**03 17 51.4**	**+0.4**
RYN	**Ryan**	**7.64**	**124**			**Pn**	**03 17 52.8**	**-0.5**
PLID	**Pearl Lake**	**7.83**	**73**			**Pn**	**03 17 56.7**	**+0.8**
MFID	**Camas Ranch**	**7.84**	**85**			**Pn**	**03 17 56.1**	**+0.1**
LHV	**Little Huntoon**	**7.90**	**126**	Pn		**Pn**	**03 17 56.5**	**-0.1**
NVAR	**Mina Array Bea**	**7.90**	**125**	Pn		**Pn**	**03 17 58.2**	**+1.3**
	comp=N,0.6nm,0.3s,baz=303,slow=14,SNR=19							
	comp=N,2.2nm,0.6s							
LLLB	**Lillooet**	**8.04**	**22**			**Pn**	**03 18 02.6**	**+4.0**
LLLB	**Lillooet**	**8.04**	**22**	Pn		**Pn**	**03 18 00.1**	**+1.4**
LLLB				Sn		**Sn**	**03 19 28.6**	**-1.1**
NEW	**Newport**	**8.30**	**49**			**Pn**	**03 18 03.6**	**+1.3**
NEW	**Newport**	**8.30**	**49**	Pn		**Pn**	**03 18 02.6**	**+0.3**
	comp=N,0.7nm,0.3s,baz=219,slow=9.3,SNR=17							
NEW				LR		LR	03 21 21.7	
	comp=N,563nm,21.9s,baz=238,slow=39							
	comp=N,14nm,0.9s							
PMPB	**Monarch Peak**	**8.31**	**146**			**Pn**	**03 18 02.5**	**+0.1**
ELK	**Elko**	**8.81**	**103**			**Pn**	**03 18 08.9**	**-0.5**
ELK	**Elko**	**8.81**	**103**	Pn		**Pn**	**03 18 11.8**	**+2.4**
	comp=N,0.6nm,0.3s,baz=300,slow=13,SNR=15							
	comp=N,3.3nm,0.6s							
HLID	**Hailey**	**8.87**	**84**			**Pn**	**03 18 10.2**	**+0.1**
BBB	**Bella Bella**	**9.01**	**354**	Pn		**Pn**	**03 18 13.2**	**+1.4**
	comp=N,0.3nm,0.3s,baz=185,slow=10.0,SNR=4.8							
BBB				LR		LR	03 21 13.6	
	comp=N,280nm,18.1s,baz=192,slow=35							
	comp=N,7.2nm,0.8s							
BBB	**Bella Bella**	**9.01**	**354**	Pn		**Pn**	**03 18 13.6**	**+1.8**
VES	**Vestal, Richgr**	**9.38**	**139**			**Pn**	**03 18 17.7**	**-0.3**
BSMT	**Bassoo Peak**	**9.47**	**57**	Pn		**Pn**	**03 18 20.5**	**+2.1**
HGAB	**Hotspring**	**9.58**	**343**	Pn		**Pn**	**03 18 24.3**	**+4.7**
JEDB	**Jedway, Haida**	**9.58**	**343**	Pn		**Pn**	**03 18 19.7**	**+0.1**
MSO	**Missoula**	**9.64**	**64**			**Pn**	**03 18 21.7**	**+1.0**
JTMT	**Jette**	**9.74**	**58**			**Pn**	**03 18 23.6**	**+1.6**
BPMT	**Black Pine Rid**	**9.87**	**67**			**Pn**	**03 18 24.7**	**+0.9**
BUTB	**Butedale**	**9.91**	**353**	Pn		**Pn**	**03 18 24.7**	**+0.4**
BAIB	**Barry Inlet**	**9.96**	**341**	Pn		**Pn**	**03 18 28.9**	**+3.9**
MCMT	**McKenzie Canyo**	**10.02**	**76**			**Pn**	**03 18 26.6**	**+0.6**
SPR3	**Spring Creek 3**	**10.17**	**110**			**Pn**	**03 18 30.8**	**+2.7**
GRIB	**Gribbell Islan**	**10.25**	**351**	Pn		**Pn**	**03 18 30.9**	**+2.1**
DLMT	**Dillon**	**10.25**	**73**			**Pn**	**03 18 28.1**	**-0.9**
HVU	**Hansel Valley**	**10.30**	**93**			**Pn**	**03 18 27.8**	**-2.0**
OVMT	**Ovando**	**10.33**	**64**			**Pn**	**03 18 30.3**	**+0.2**
BGU	**Big Grassy Mou**	**10.34**	**98**			**Pn**	**03 18 28.9**	**-1.4**
LRM	**Limekiln Ridge**	**10.42**	**71**			**Pn**	**03 18 32.4**	**+1.0**
PRN	**Pahroc Range**	**10.55**	**120**			**Pn**	**03 18 32.4**	**-0.8**
BNAB	**Bonilla**	**10.61**	**347**	Pn		**Pn**	**03 18 30.8**	**+0.1**
DIB	**Dawson Inlet,**	**10.71**	**341**			**Pn**	**03 18 39.1**	**+4.0**
DIB	**Dawson Inlet,**	**10.71**	**341**	Pn		**Pn**	**03 18 31.8**	**-3.4**
PSUT	**Pine Spring**	**10.72**	**112**	Pn		**Pn**	**03 18 35.2**	**-0.3**
LYMT	**Lyon Mountain**	**10.77**	**65**			**Pn**	**03 18 37.1**	**+0.9**
HSPGA	**Hill Springs,**	**10.83**	**51**	Pn		**Pn**	**03 18 39.6**	**+2.7**
GRNB	**Grenville Isla**	**10.85**	**349**	Pn		**Pn**	**03 18 36.0**	**-1.1**
BOZ	**Bozeman (W)**	**10.96**	**72**			**Pn**	**03 18 39.5**	**+0.9**
HRY	**Holter Researc**	**11.01**	**67**			**Pn**	**03 18 40.4**	**+1.0**
QLMT	**Earthquake Lak**	**11.03**	**76**			**Pn**	**03 18 39.4**	**-0.3**
SHPR	**Sheep Range**	**11.05**	**124**			**Pn**	**03 18 43.5**	**+3.4**
YHB	**Horse Butte**	**11.19**	**77**			**Pn**	**03 18 42.9**	**+1.0**
YHL	**Hebgen Lake**	**11.21**	**76**			**Pn**	**03 18 43.1**	**+0.9**
HWUT	**Hardware Ranch**	**11.22**	**93**			**Pn**	**03 18 41.5**	**-0.9**
FXWY	**Fox Creek**	**11.32**	**83**			**Pn**	**03 18 43.6**	**-0.1**
AHID	**Auburn Hatcher**	**11.35**	**87**			**Pn**	**03 18 43.6**	**-0.6**
TPAW	**Teton Pass**	**11.39**	**83**			**Pn**	**03 18 45.5**	**+0.8**
YHH	**Holmes Hill**	**11.44**	**77**			**Pn**	**03 18 45.8**	**+0.4**
YFT	**Old Faithful**	**11.44**	**79**			**Pn**	**03 18 46.8**	**+1.4**
SNOW	**Snow King Moun**	**11.53**	**83**			**Pn**	**03 18 46.5**	**-0.2**
YNR	**Norris Junctio**	**11.56**	**77**			**Pn**	**03 18 46.9**	**-0.1**
CCUT	**Cedar City**	**11.57**	**115**			**Pn**	**03 18 46.6**	**-0.5**
JLU	**Jordanelle**	**11.58**	**98**			**Pn**	**03 18 45.6**	**-1.7**
LOHW	**Long Hollow**	**11.63**	**83**			**Pn**	**03 18 48.4**	**+0.4**
TCRU	**Three Creeks R**	**11.65**	**109**			**Pn**	**03 18 47.1**	**-1.1**
SZCU	**Shurtz Canyon**	**11.72**	**114**			**Pn**	**03 18 47.8**	**-1.5**
LKWY	**Lake**	**11.75**	**78**			**Pn**	**03 18 49.1**	**-0.6**
V12A	**Nelson**	**11.76**	**126**			**Pn**	**03 18 48.2**	**-1.4**
MSU	**Marysvale**	**11.88**	**109**			**Pn**	**03 18 50.5**	**-1.0**
LCMT	**Little Creek M**	**11.95**	**117**			**Pn**	**03 18 50.9**	**-1.4**
BSUT	**Blindstream Ca**	**12.10**	**98**			**Pn**	**03 18 54.4**	**-0.2**
MTPU	**Mount Pierson**	**12.10**	**111**			**Pn**	**03 18 53.7**	**-0.9**
KNB	**Kanab**	**12.22**	**116**			**Pn**	**03 18 55.3**	**-0.8**
DANC	**Danby, Needles**	**12.23**	**131**			**Pn**	**03 18 54.6**	**-1.4**
PKCU	**Pink Cliffs**	**12.33**	**113**			**Pn**	**03 18 55.3**	**-2.3**
PFO	**Pinyon Flats O**	**12.46**	**137**	Pn		**Pn**	**03 19 02.8**	**+3.6**
	comp=N,3.0nm,0.9s,baz=295,slow=8.2,SNR=5.3							
PFO				LR		LR	03 23 52.1	
	comp=N,317nm,18.3s,baz=314,slow=38							
PDAR	**Pinedale Array**	**12.48**	**86**	Pn		**Pn**	**03 19 02.1**	**+2.5**
	comp=N,0.2nm,0.3s,baz=284,slow=12,SNR=60							
PDAR				LR		LR	03 24 15.9	
	comp=N,417nm,18.7s,baz=268,slow=40							
	comp=N,8.8nm,0.9s							
S34M	**Telegraph Cree**	**14.97**	**351**	Pn		**P**	**03 19 39.2**	**+0.4**
S34M				IAmb		IAmb	03 19 43.2	
	comp=Z,8.2nm,0.8s							
S34M	**Telegraph Cree**	**14.97**	**351**	P		**Pn**	**03 19 31.4**	**-1.8**
SFX	**San Felipe**	**15.34**	**139**	Pn		**Pn**	**03 19 35.9**	**-2.3**
SFX				IAmb		IAmb	03 19 43.0	
	comp=Z,16nm,1.4s							
W18A	**Petrified Fore**	**15.36**	**116**	Pn		**Pn**	**03 19 39.8**	**+1.1**
DLBC	**Dease Lake**	**15.37**	**353**	Pn		**Pn**	**03 19 40.7**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=17							
DLBC				LR		LR	03 24 54.7	
	comp=Z,176nm,19.4s,baz=169,slow=35							
	comp=Z,1.0nm,0.8s							
X18A	**Snowflake**	**15.58**	**118**	Pn		**Pn**	**03 19 42.5**	**+0.8**
X18A				IAmb		IAmb	03 19 50.8	
	comp=Z,19nm,1.0s							
214A	**Organ Pipe Nat**	**15.66**	**131**	Pn		**Pn**	**03 19 43.4**	**+0.9**
214A				IAmb		IAmb	03 19 46.2	
	comp=Z,12nm,1.0s							
FNSB	**Fort Nelson**	**15.77**	**7**	P		**P**	**03 19 47.6**	**-0.1**
R32K	**Eaglecrest**	**15.85**	**345**	P		**Pn**	**03 19 46.5**	**+1.6**
S22A	**4UR Ranch, Cre**	**15.99**	**103**	Pn		**Pn**	**03 19 46.1**	**-0.8**
ISCO	**Idaho Springs**	**16.07**	**95**	Pn		**Pn**	**03 19 47.5**	**-0.6**
ISCO				IAmb		IAmb	03 19 55.6	
	comp=Z,15nm,1.1s							
Q32M	**Nakina River**	**16.13**	**349**	Pn		**P**	**03 19 51.8**	**-0.1**
BESE	**Bessie Mountai**	**16.20**	**344**	Pn		**P**	**03 19 52.5**	**-0.1**
BESE				IAmb		IAmb	03 19 55.6	
	comp=Z,18nm,1.2s							
RSSD	**Black Hills**	**16.33**	**79**	Pn		**Pn**	**03 19 49.2**	**-2.1**
R33M	**Jennings River**	**16.40**	**352**	Pn		**P**	**03 19 55.2**	**+0.4**
DGMT	**Dagmar**	**16.43**	**64**	Pn		**Pn**	**03 19 51.7**	**-0.6**
Q24A	**Divide**	**16.70**	**98**	Pn		**Pn**	**03 19 54.3**	**-1.8**
Q24A				IAmb		IAmb	03 20 02.9	
	comp=Z,17nm,0.9s							
SDCO	**Great Sand Dun**	**16.93**	**102**	Pn		**Pn**	**03 19 58.6**	**-0.5**
SDCO				IAmb		IAmb	03 20 01.6	
	comp=Z,18nm,0.9s							
P32M	**Atlin**	**16.95**	**347**	Pn		**P**	**03 20 01.3**	**+0.5**
P32M				IAmb		IAmb	03 20 03.2	
	comp=Z,18nm,1.3s							
WTLY	**Watson Lake, Y**	**16.95**	**356**	Pn		**P**	**03 20 01.4**	**+0.6**
WTLY				IAmb		IAmb	03 20 23.2	
	comp=Z,19nm,1.3s							
PLBC	**Pleasant Camp**	**17.32**	**343**	P		**Pn**	**03 20 01.8**	**-1.6**
P33M	**Teslin, Yukon**	**17.42**	**350**	Pn		**P**	**03 20 07.0**	**+0.9**
ANMO	**Albuquerque**	**17.65**	**111**	Pn		**Pn**	**03 20 05.7**	**-2.3**
ANMO				IAmb		IAmb	03 20 10.7	
	comp=Z,10nm,0.9s							
ANMO	**Albuquerque**	**17.65**	**111**	Pn		**Pn**	**03 20 06.2**	**-1.7**
ANMO				IAmb		IAmb	03 20 10.7	
	comp=Z,11nm,0.9s							
ANMO	**Albuquerque**	**17.65**	**111**	Pn		**Pn**	**03 20 05.9**	**-2.1**
ANMO				IAmb		IAmb	03 20 10.7	
	comp=Z,11nm,0.9s							
ANMO	**Albuquerque**	**17.65**	**111**	P		**P**	**03 20 09.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=42,slow=11,SNR=17							
ANMO				LR		LR	03 27 25.6	
	comp=Z,226nm,19.9s,baz=31,slow=39							
	comp=Z,10nm,0.9s							
WHY	**Whitehorse**	**18.16**	**347**	P		**Pn**	**03 20 12.9**	**-1.0**
TGTN	**Hyland Airport**	**18.35**	**357**	P		**Pn**	**03 20 14.6**	**-1.5**
MMPY	**Sheldon Lake,**	**19.61**	**354**	P		**Pn**	**03 20 34.7**	**+3.3**
YKA	**Yellowknife Ar**	**20.53**	**16**	P		**P**	**03 20 41.2**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=209,slow=10.0,SNR=12							
	comp=Z,2.0nm,0.8s							
YKAW3	**Yellowknife Wh**	**20.59**	**16**	P		**P**	**03 20 42.4**	**+1.7**
BVCY	**Beaver Creek**	**20.96**	**341**	P		**P**	**03 20 46.2**	**+1.4**
KDAK	**Kodiak Island**	**21.84**	**321**	LR		LR	03 27 22.3	
	comp=Z,103nm,20.0s,baz=124,slow=31							
ULM	**Lac du Bonnet**	**22.07**	**61**	P		**P**	**03 20 57.2**	**+0.5**
	comp=Z,16nm,0.8s,baz=271,slow=11,SNR=20							
	comp=Z,16nm,0.8s							
ULM	**Lac du Bonnet**	**22.07**	**61**	P		**P**	**03 20 57.7**	**+1.0**
DAWY	**Dawson**	**22.12**	**345**	P		**P**	**03 20 57.9**	**+0.8**
TXAR	**Lajitas Array**	**23.01**	**120**	P		**P**	**03 21 08.7**	**+1.8**
	comp=Z,3.2nm,0.9s,baz=292,slow=7.8,SNR=24							
	comp=Z,3.2nm,0.9s							
LPIG	**La Paz**	**23.33**	**140**	LR		LR	03 29 33.8	
	comp=Z,116nm,19.1s,baz=344,slow=35							
EPYK	**Eagle Plains**	**23.84**	**350**	P		**P**	**03 21 16.2**	**+1.4**
ILAR	**Eielson Array**	**24.43**	**339**	P		**P**	**03 21 19.6**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=151,slow=8.6,SNR=15							
ILAR				LR		LR	03 29 18.7	
	comp=Z,151nm,21.4s,baz=156,slow=33							
	comp=Z,1.4nm,0.8s							
INK	**Inuvik**	**25.39**	**354**	LR		LR	03 31 10.4	
	comp=Z,156nm,20.4s,baz=192,slow=36							
PKLO	**Pickle Lake**	**25.67**	**59**	P		**P**	**03 21 33.1**	**+1.4**
TKL	**Tuckaleechee C**	**33.62**	**88**	LR		LR	03 37 04.5	
	comp=Z,237nm,18.4s,baz=292,slow=38							
SADO	**Sadowa**	**33.78**	**71**	LR		LR	03 36 24.6	
	comp=Z,126nm,19.0s,baz=298,slow=36							
RES	**Resolute Bay**	**34.58**	**14**	LR		LR	03 36 13.4	
	comp=Z,53nm,20.2s,baz=324,slow=35							
FRB	**Frobisher Bay**	**38.42**	**37**	LR		LR	03 38 47.4	
	comp=Z,55nm,19.6s,baz=38,slow=36							
SCHQ	**Schefferville**	**39.67**	**52**	LR		LR	03 40 11.4	
	comp=Z,172nm,18.1s,baz=274,slow=37							
SFJD	**Kangerlussuaq**	**45.79**	**32**	LR		LR	03 41 41.2	
	comp=Z,64nm,18.6s,baz=276,slow=34							
MA2	**Magadan**	**50.53**	**319**	LR		LR	03 45 06.7	
	comp=Z,43nm,18.1s,baz=102,slow=34							
TIXI	**Tiksi**	**53.89**	**338**	LR		LR	03 49 17.0	
	comp=Z,58nm,19.9s,baz=148,slow=37							
SJG	**San Juan**	**56.37**	**97**	LR		LR	03 49 46.6	
	comp=Z,28nm,21.5s,baz=36,slow=36							
SPITS	**Spitsbergen Ar**	**56.80**	**9**	LR		LR	03 49 50.3	
	comp=Z,46nm,19.1s,baz=310,slow=36							
BORG	**Borgarnes**	**57.72**	**29**	LR		LR	03 52 44.2	
	comp=Z,41nm,18.2s,baz=298,slow=38							
H11N3	**WAKE ISLAND Hy**	**59.78**	**269**	T		T	04 30 41.9	
	baz=51,slow=75,SNR=452							
H11N2	**WAKE ISLAND Hy**	**59.78**	**269**	T		T	04 30 41.0	
	baz=51,slow=75,SNR=331							
H11N1	**WAKE ISLAND Hy**	**59.79**	**269**	T		T	04 30 42.2	
	baz=51,slow=75,SNR=344							
H11S1	**WAKE ISLAND Hy**	**60.69**	**268**	T		T	04 31 46.3	
	baz=50,slow=75,SNR=863							
H11S2	**WAKE ISLAND Hy**	**60.70**	**268**	T		T	04 31 46.2	
	baz=50,slow=75,SNR=663							
H11S3	**WAKE ISLAND Hy**	**60.71**	**268**	T		T	04 31 47.7	
	baz=50,slow=75,SNR=605							
PCRV	**Puerto La Cruz**	**62.73**	**102**	LR		LR	03 55 06.6	
	comp=Z,38nm,21.8s,slow=37							
ARCES	**ARCESS Array B**	**65.68**	**10**	LR		LR	03 56 35.9	
	comp=Z,39nm,18.7s,baz=314,slow=37							
NOA	**NORSAR Array B**	**70.56**	**20**	LR		LR	03 56 28.8	
	comp=Z,21nm,21.7s,baz=345,slow=34							
RPN	**Rapa Nui**	**71.79**	**164**	LR		LR	03 52 54.5	
	comp=Z,25nm,18.8s,baz=317,slow=31							
HFS	**Hagfors**	**71.96**	**20**	LR		LR	03 57 31.8	
	comp=Z,49nm,18.8s,baz=304,slow=35							
ZALV	**Zalesovo Beam**	**79.52**	**342**	LR		LR	04 05 33.2	
	comp=Z,29nm,18.1s,baz=46,slow=37							
GUMO	**Guam**	**79.78**	**279**	LR		LR	03 59 08.4	
	comp=Z,18nm,18.4s,baz=116,slow=32							
LPAZ	**La Paz**	**79.81**	**124**	P		**P**	**03 28 10.5**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=301,slow=7.6,SNR=4.7							
	comp=Z,0.9nm,0.7s							
ARTI	**Arti**	**80.66**	**357**	LR		LR	04 06 55.4	
	comp=Z,24nm,19.0s,baz=7.0,slow=38							
GERES	**GERESS Array B**	**81.89**	**25**	LR		LR	04 06 22.5	
	comp=Z,31nm,18.0s,baz=312,slow=37							
VRAC	**Vranov**	**82.35**	**23**	LR		LR	04 05 40.3	
	comp=Z,27nm,18.3s,baz=291,slow=36							
DAVOX	**Davos/Dischmat**	**82.43**	**29**	LR		LR	04 04 50.2	
	comp=Z,45nm,19.9s,baz=263,slow=36							
ESDC	**Sonseca Array**	**82.53**	**41**	LR		LR	04 02 23.9	
	comp=Z,35nm,18.4s,baz=238,slow=34							
BVAR	**Borovoye Array**	**83.01**	**350**	LR		LR	04 07 07.8	
	comp=Z,32nm,20.3s,baz=2.2,slow=37							
KURBB	**Kurchatov Arra**	**83.99**	**344**	P		**P**	**03 28 34.3**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=13,slow=4.8,SNR=5.0							
	comp=Z,0.2nm,0.3s							
AKASG	**Malin Array Be**	**84.09**	**15**	LR		LR	04 05 29.1	
	comp=Z,24nm,21.9s,baz=56,slow=35							
HNR	**Honiara**	**84.61**	**252**	LR		LR	03 59 11.5	
	comp=Z,41nm,19.4s,baz=78,slow=31							
AKTO	**Aktyubinsk**	**86.62**	**357**	LR		LR	04 11 08.5	
	comp=Z,16nm,18.3s,baz=169,slow=38							
MKAR	**Makanchi Array**	**86.77**	**341**	LR		LR	04 09 39.8	
	comp=Z,13nm,19.1s,baz=352,slow=37							
MLR	**Muntele Rosu**	**88.33**	**19**	LR		LR	04 08 10.1	
	comp=Z,46nm,18.4s,baz=78,slow=36							
AAK	**Ala-Archa**	**92.44**	**345**	LR		LR	04 15 29.1	
	comp=Z,33nm,18.0s,baz=354,slow=39							
BDFB	**Brasilia**	**92.48**	**109**	LR		LR	04 14 33.3	
	comp=Z,44nm,18.2s,baz=353,slow=38							
PMG	**Port Moresby**	**93.66**	**261**	LR		LR	04 02 12.1	
	comp=Z,30nm,21.0s,baz=171,slow=30							
RCBR	**Riachuelo**	**94.44**	**94**	LR		LR	04 14 56.4	
	comp=Z,6.5nm,18.0s,baz=96,slow=38							

*IDC **15** 03:21:38.5±0.9,29°.49S×178°.24W,h72km±16km,mb3.8/4, mbtmp4.1/4,Error ellipse: s-maj=39.9km s-min=29.8km az=23.0*

ISC 15 03:21:30.8±2.2,30°.38S±0°.10×177°.7W±0°.3,h35km,n17, σ1s81/9,mb4.2/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**351**	P		**Pn**	**Pn**	**03 21 50.7**	**+0.5**
	366nm,0.3s,baz=35,slow=19,SNR=11								
RAO				S			**Sn**	**03 22 01.5**	**-3.0**
	2µm,0.3s,baz=35,slow=21,SNR=16								
URZ	**Urewera**	**8.95**	**207**	P		**Pn**	**Pn**	**03 23 35.9**	**-1.6**
	1.0nm,0.3s,baz=25,slow=8.6,SNR=1.0								
URZ				S			**Sn**	**03 25 15.7**	**-1.3**
	4.3nm,0.4s,baz=196,slow=20,SNR=9.3								
STKA	**Stephens Creek**	**34.73**	**257**	P		**P**	**P**	**03 28 19.7**	**+2.1**
	1.7nm,0.5s,baz=100,slow=14,SNR=3.8

PCRV				Sn		**Sn**	**04 07 17.9**	**-1.3**
	10.0nm,0.3s,baz=213,slow=18,SNR=6.1							
PCRV				Lg		Lg	04 07 40.6	
	16nm,0.3s,baz=314,slow=12,SNR=6.5							
	8.8nm,0.4s							
SVT	**Saint Vincent**	**4.13**	**352**	*eS*		**Sn**	**04 07 18.4**	**-2.2**
SLBI	**Saint Lucia, B**	**4.95**	**357**	*eP*		**Pn**	**04 06 46.3**	**+1.4**
SLBI				*eS*		**Sn**	**04 07 37.4**	**-3.5**
BIM	**Bigot**	**5.44**	**356**	*eP*		**Pn**	**04 06 52.9**	**+1.2**
BIM				*eS*		**Sn**	**04 07 51.2**	**-1.9**
CACV	**CAICARA DEL OR**	**5.99**	**256**	*eP*		Pn	04 06 54.9	-4.4
CACV				*eS*		Sn	04 07 53.4	-13
FUNV	**FUNVISIS**	**6.21**	**284**	*eP*		**Pn**	**04 07 04.0**	**+1.6**
FUNV				*eS*		**Sn**	**04 08 10.0**	**-2.3**
TACV	**Tcata**	**6.36**	**280**	*eP*		**Pn**	**04 07 05.5**	**+1.1**
TACV				*eS*		**Sn**	**04 08 12.9**	**-3.0**
DSLB	**Salisbury**	**6.38**	**353**	*eP*		**Pn**	**04 07 06.3**	**+1.7**
BENV	**Beln**	**6.89**	**278**	*eP*		**Pn**	**04 07 13.6**	**+1.9**
BENV				*eS*		**Sn**	**04 08 25.4**	**-3.6**
BAUV	**El Baul**	**7.28**	**270**	*eP*		**Pn**	**04 07 18.1**	**+1.1**
BAUV				*eS*		**Sn**	**04 08 34.8**	**-3.7**
BAUV	**El Baul**	**7.28**	**270**	*eP*		**Pn**	**04 07 19.4**	**+2.4**
BAUV				*eS*		**Sn**	**04 08 38.3**	**-0.2**
MDP	**Montagnes des**	**8.88**	**116**	Pn		**Pn**	**04 07 37.6**	**-1.3**
	0.5nm,0.3s,baz=321,slow=14,SNR=42							
MDP				Sn		Sn	04 09 10.7	-7.2
	4.2nm,0.3s,baz=57,slow=20,SNR=10							
MDP				LR		LR	04 11 38.0	
	comp=Z,99nm,18.5s,baz=267,slow=42							
	3.6nm,0.5s							
SJG	**San Juan**	**10.46**	**330**	LR		LR	04 12 10.8	
	comp=Z,48nm,20.0s,baz=121,slow=39							
LPAZ	**La Paz**	**26.24**	**196**	P		**P**	**04 11 10.9**	**+5.2**
	0.8nm,0.7s,baz=6.3,slow=9.2,SNR=3.8							
	0.8nm,0.7s							
TXAR	**Lajitas Array**	**45.01**	**303**	P		**P**	**04 13 46.9**	**+1.4**
	0.2nm,0.5s,baz=113,slow=9.1,SNR=5.8							
	0.2nm,0.5s							
PDAR	**Pinedale Array**	**54.26**	**317**	P		**P**	**04 14 54.9**	**-1.1**
	0.3nm,0.6s,baz=119,slow=12,SNR=3.9							
	0.3nm,0.6s							
NVAR	**Mina Array Bea**	**59.20**	**309**	P		**P**	**04 15 29.9**	**-1.2**
	0.4nm,0.6s,baz=113,slow=7.2,SNR=3.6							
	0.4nm,0.6s							
YKA	**Yellowknife Ar**	**65.89**	**336**	P		**P**	**04 16 15.5**	**+0.5**
	0.2nm,0.7s,baz=110,slow=6.7,SNR=4.3							
	0.2nm,0.7s							
GERES	**GERESS Array B**	**72.95**	**42**	P		**P**	**04 16 56.3**	**-2.8**
	0.5nm,0.8s,baz=274,slow=5.2,SNR=4.0							
	0.5nm,0.8s							
ILAR	**Eielson Array**	**80.26**	**334**	P		**P**	**04 17 39.8**	**-0.1**
	0.3nm,0.6s,baz=82,slow=5.7,SNR=2.8							
	0.3nm,0.6s							

*IDC **15** 04:39:41.2±1.4, 4.°64S×144.°71E, h0km, mb3.5/4, mbtmp3.6/7, ML3.5/2, MS2.5/1, Error ellipse: s-maj=30.4km s-min=23.4km az=92.0*

ISC 15 04:39:46.2±1.1, 4.°8S±0.°1×144.°7E±0.°1, h35km, n7, σ0s68/9, mb3.6/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.57**	**299**	Pn	**Pn**	**04 40 52.9**	**0.0**
	2.0nm,0.3s,baz=147,slow=9.6,SNR=7.4						
JAY				Sn	**Sn**	**04 41 44.4**	**-0.5**
	0.6nm,0.3s,baz=88,slow=14,SNR=1.6						
	9.2nm,0.9s						
PMG	**Port Moresby**	**5.21**	**152**	Pn	**Pn**	**04 41 01.7**	**0.0**
	8.7nm,0.3s,baz=297,slow=17,SNR=2.2						
PMG				Sn	**Sn**	**04 42 00.2**	**-0.5**
	8.1nm,0.3s,baz=134,slow=23,SNR=8.3						
PMG				LR	LR	04 43 29.6	
	comp=Z,47nm,19.2s,baz=125,slow=43						
WRA	**Warramunga Arr**	**18.14**	**213**	P	**P**	**04 43 55.6**	**0.0**
	0.2nm,0.3s,baz=33,slow=11,SNR=15						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**21.48**	**208**	P	**P**	**04 44 31.6**	**-0.4**
	0.6nm,0.6s,baz=30,slow=10,SNR=7.8						
	0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.86**	**233**	P	**P**	**04 44 47.9**	**+1.1**
	1.8nm,0.8s,baz=46,slow=12,SNR=6.5						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**78.88**	**324**	P	**P**	**04 51 45.2**	**-0.7**
	0.3nm,0.4s,baz=103,slow=6.9,SNR=2.3						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**85.27**	**24**	P	**P**	**04 52 19.7**	**+0.6**
	0.3nm,0.7s,baz=256,slow=5.8,SNR=4.9						
	0.3nm,0.7s						

*IDC **15** 04:41:26.2±7.9, 30.°19N×94.°88E, h0km, mb3.7/5, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=129.8km s-min=48.7km az=162.0*

ISC 15 04:41:31.1±7.0, 30.°3N±0.°8×95.°0E±0.°4, h35km, n7, σ0s18/7, mb3.6/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.23**	**333**	P	**P**	**04 45 52.3**	**+0.1**
	0.1nm,0.3s,baz=160,slow=14,SNR=3.7						
	1.3nm,0.9s						
SONM	**Songino Array**	**19.59**	**23**	P	**Pn**	**04 45 57.9**	**+0.1**
	0.2nm,0.3s,baz=215,slow=12,SNR=9.0						
	4.0nm,1.1s						
AAK	**Ala-Archa**	**20.56**	**312**	P	**P**	**04 46 07.0**	**+0.1**
	3.2nm,0.6s,baz=132,slow=14,SNR=4.7						
	3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**23.79**	**333**	P	**P**	**04 46 40.3**	**-0.1**
	2.9nm,1.1s,baz=144,slow=9.4,SNR=9.4						
	2.9nm,1.1s						
ZALV	**Zalesovo Beam**	**24.79**	**346**	P	**P**	**04 46 49.4**	**-0.2**
	0.3nm,0.3s,baz=163,slow=5.4,SNR=4.4						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**28.99**	**329**	P	**P**	**04 47 27.1**	**-0.2**
	0.5nm,0.5s,baz=106,slow=9.6,SNR=4.2						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**52.23**	**313**	P	**P**	**04 50 38.6**	**+0.1**
	0.8nm,0.6s,baz=78,slow=6.5,SNR=3.1						
	0.8nm,0.6s						

*IDC **15** 04:42:07.3±0.8, 10.°59N×63.°16W, h0km, mb3.6/9, mbtmp3.7/10, ML3.6/1, MS3.0/5, Error ellipse: s-maj=21.2km s-min=17.6km az=179.0*
*FUNV **15** 04:42:10.7, 10.°56N×63.°13W, h5km, MW3.8*
*TRN **15** 04:42:11.9, 10.°45N×62.°94W, h125km, MD4.1, Venezuela.*

ISC 15 04:42:09.0±3.0, 10.°56N±0.°05×63.°15W±0.°03, h12km±20km, n39, σ1s36/50, mb3.6/8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.51**	**256**	Pn	**Pn**	**04 42 36.8**	**+0.9**
	20nm,0.3s,baz=82,slow=4.3,SNR=152						
PCRV				LR	LR	04 42 44.9	
	comp=Z,18nm,19.4s,slow=26						
PCRV				Sn	**Sn**	**04 42 54.7**	**-0.9**
	24nm,0.3s,baz=300,slow=18,SNR=16						
PSMG	**Mucurapo Girls**	**1.59**	**86**	*eP*	**Pn**	**04 42 37.5**	**+0.5**
PSMG				*eS*	**Sb**	**04 42 59.2**	**+0.8**
PSKH	**Kent House, Po**	**1.60**	**85**	*eS*	**Sb**	**04 42 59.5**	**+0.8**
PSGH	**Port of Spain**	**1.61**	**86**	*eP*	**Pb**	**04 42 38.4**	**-0.3**
TRN	**Trinidad (W)**	**1.72**	**87**	*eP*	**Pn**	**04 42 39.4**	**+0.7**
TRN				*eS*	**Sn**	**04 43 00.1**	**-0.6**
GRFF	**Grenada Fort F**	**2.03**	**43**	*eP*	**Pn**	**04 42 44.3**	**+1.3**
GRFF				*eS*	**Sb**	**04 43 10.6**	**-0.4**
TBH	**Brigand Hill**	**2.05**	**92**	*eP*	**Pn**	**04 42 44.7**	**+1.4**
GRGR	**Grenville**	**2.15**	**43**	*eP*	**Pb**	**04 42 46.5**	**-1.3**
GRGR				*eS*	**Sn**	**04 43 12.4**	**+1.2**
GRW	**Mount Saint Ca**	**2.16**	**42**	*eP*	**Pb**	**04 42 47.6**	**-0.5**
GRW				*eS*	**Sn**	**04 43 12.7**	**+1.0**
GRSS	**Sisters**	**2.29**	**41**	*eP*	**Pn**	**04 42 48.4**	**+1.8**
GRSS				*eS*	**Sn**	**04 43 15.1**	**+0.2**
GCMP	**Grenada, Carri**	**2.56**	**41**	*eP*	**Pn**	**04 42 52.2**	**+2.0**
GCMP				*eS*	**Sn**	**04 43 21.7**	**+0.4**
SVT	**Saint Vincent**	**3.20**	**35**	*eP*	**Pn**	**04 43 00.2**	**+1.1**
FUNV	**FUNVISIS**	**3.60**	**269**	*eP*	**Pn**	**04 43 05.8**	**+1.0**
FUNV				*eS*	**Sn**	**04 43 47.4**	**+0.1**
TACV	**Tcata**	**3.84**	**264**	*eP*	**Pn**	**04 43 08.9**	**+0.9**
TACV				*eS*	**Sn**	**04 43 53.6**	**+0.5**
SLBI	**Saint Lucia, B**	**4.05**	**31**	*eP*	**Pn**	**04 43 12.6**	**+1.8**
SLBI				*eS*	**Sn**	**04 43 55.9**	**-2.3**
BENV	**Beln**	**4.42**	**263**	*eP*	**Pn**	**04 43 17.9**	**+1.9**
BENV				*eS*	**Sn**	**04 44 06.8**	**-0.7**
BIM	**Bigot**	**4.43**	**27**	*eP*	**Pn**	**04 43 17.7**	**+1.6**
BIM				*eS*	**Sn**	**04 44 06.1**	**-1.6**
CACV	**CAICARA DEL OR**	**4.48**	**229**	*eP*	Pn	04 43 13.7	-3.0
CACV				*eS*	Sn	04 44 00.2	-8.6
MDN	**Morne-Daniel**	**5.03**	**20**	*eP*	**Pn**	**04 43 25.8**	**+1.5**
MDN				*eS*	**Sn**	**04 44 20.3**	**-2.2**
BAUV	**El Baul**	**5.08**	**252**	*eP*	**Pn**	**04 43 27.0**	**+2.0**
BAUV				*eS*	**Sn**	**04 44 21.9**	**-1.8**
BAUV	**El Baul**	**5.08**	**252**	*eP*	**Pn**	**04 43 27.7**	**+2.7**
BAUV				*eS*	**Sn**	**04 44 24.8**	**+1.0**
DSLB	**Salisbury**	**5.14**	**19**	*eP*	**Pn**	**04 43 27.0**	**+1.2**
MMLZ	**Guadeloupe Bro**	**5.64**	**15**	*eP*	**Pn**	**04 43 34.4**	**+1.6**
ATGZ	**Broadband at L**	**5.68**	**14**	*eP*	**Pn**	**04 43 34.4**	**+1.2**
DSDZ	**La Diserade, G**	**6.07**	**19**	*eP*	**Pn**	**04 43 40.8**	**+2.2**
SDV	**Santo Domingo**	**7.56**	**258**	LR	LR	04 47 15.0	
	comp=Z,98nm,20.3s,baz=40,slow=41						
SJG	**San Juan**	**8.05**	**339**	LR	LR	04 47 27.5	
	comp=Z,28nm,18.9s,baz=160,slow=40						
MDP	**Montagnes des**	**11.73**	**117**	Pn	**Pn**	**04 44 54.7**	**-1.6**
	0.4nm,0.3s,baz=312,slow=14,SNR=14						
MDP				Sn	Sn	04 46 56.8	-11
	1.9nm,0.3s,baz=220,slow=22,SNR=11						
MDP				LR	LR	04 50 06.2	
	comp=Z,65nm,18.6s,baz=266,slow=41						
	8.2nm,0.9s						
ROSC	**El Rosal**	**12.44**	**244**	LR	LR	04 50 46.5	
	comp=Z,201nm,18.2s,baz=79,slow=42						
ATAH	**Atahualpa**	**23.22**	**221**	LR	LR	04 57 36.7	
	comp=Z,67nm,19.5s,baz=348,slow=40						
LPAZ	**La Paz**	**27.12**	**191**	P	**P**	**04 47 53.9**	**+1.1**
	0.6nm,0.6s,baz=9.1,slow=12,SNR=3.2						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**42.15**	**302**	P	**P**	**04 50 01.5**	**-0.2**
	0.3nm,0.9s,baz=134,slow=7.2,SNR=3.7						
	0.3nm,0.9s						
ULM	**Lac du Bonnet**	**47.89**	**332**	P	**P**	**04 50 45.4**	**-1.5**
	1.6nm,0.7s,baz=169,slow=10,SNR=3.0						
	1.6nm,0.7s						
PLCA	**Paso Flores**	**51.49**	**187**	P	**P**	**04 51 13.7**	**-0.8**
	1.6nm,0.9s,baz=24,slow=12,SNR=2.4						
	1.6nm,0.9s						
PDAR	**Pinedale Array**	**51.51**	**317**	P	**P**	**04 51 14.1**	**-0.9**
	0.7nm,0.7s,baz=119,slow=10.0,SNR=8.3						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**56.37**	**309**	P	**P**	**04 51 50.5**	**-0.1**
	0.3nm,0.8s,baz=108,slow=7.7,SNR=4.2						
	0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**63.36**	**81**	P	**P**	**04 52 39.0**	**+0.3**
	0.8nm,0.6s,baz=284,slow=5.4,SNR=6.5						
	0.8nm,0.6s						
YKA	**Yellowknife Ar**	**63.53**	**336**	P	**P**	**04 52 39.3**	**+0.2**
	0.4nm,0.9s,baz=116,slow=6.1,SNR=4.4						
	0.4nm,0.9s						
GERES	**GERESS Array B**	**73.48**	**42**	P	**P**	**04 53 43.6**	**+1.9**
	0.5nm,0.7s,baz=270,slow=4.0,SNR=4.1						
	0.5nm,0.7s						

*SNET **15** 04:43:09.6±2.0, 12.°77N×88.°65W, h26km, ML3.4*
*CATAC **15** 04:43:10.4±0.4, 13.°N±2.°×8.°9W±.°, h30km±2km, M3.4/30, MLv3.4/30, Error ellipse: s-maj=5.2km s-min=1.9km az=24.5, confirmed*
*GCG **15** 04:43:11.6±1.3, 12.°93N×88.°74W, h24km±9km, ML3.5*

ISC 15 04:43:09.1±1.2, 12.°78N±0.°05×88.°69W±0.°03, h20km±8km, n75, σ0s47/87, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.75**	**31**	*eP*	**Pn**	**04 43 24.8**	**+0.2**
TECO	**Alcaldia de Te**	**0.76**	**354**	P	**Pn**	**04 43 24.7**	**0.0**
TECO	**Alcaldia de Te**	**0.76**	**354**	S	**Sb**	**04 43 34.0**	**+0.4**
RANC	**El Ranchito**	**0.76**	**31**	P	**Pn**	**04 43 25.6**	**+0.8**
PACA	**Pacayal**	**0.77**	**28**	P	**Pn**	**04 43 24.9**	**-0.1**
PACA	**Pacayal**	**0.77**	**28**	S	**Sn**	**04 43 35.7**	**-0.4**
PQSS	**Presa 15 de Se**	**0.85**	**9**	P	**Pn**	**04 43 26.1**	**+0.2**
PQSS	**Presa 15 de Se**	**0.85**	**9**	S	**Sn**	**04 43 37.7**	**-0.1**
UESV	**Universidad de**	**0.86**	**354**	P	**Pn**	**04 43 26.2**	**+0.2**
UESV	**Universidad de**	**0.86**	**354**	S	**Sn**	**04 43 37.8**	**-0.3**
CNRM	**Centro Naciona**	**0.86**	**36**	*eP*	**Pn**	**04 43 26.1**	**+0.1**
CNRM				*eS*	**Sn**	**04 43 38.0**	**0.0**
CNRM	**Centro Naciona**	**0.86**	**36**	P	**Pb**	**04 43 25.5**	**+0.2**
LFRS	**El Faro**	**0.91**	**337**	*eP*	**Pn**	**04 43 26.9**	**0.0**
SCLA	**Alcaldia de Sa**	**0.92**	**358**	P	**Pn**	**04 43 27.0**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.92**	**358**	S	**Sn**	**04 43 39.9**	**+0.3**
LALI	**Alcalda de L**	**0.93**	**319**	*i* S	**Sb**	**04 43 37.3**	**-1.3**
LALI	**Alcalda de L**	**0.93**	**319**	P	**Pb**	**04 43 26.8**	**+0.2**
LALI	**Alcalda de L**	**0.93**	**319**	S	**Sb**	**04 43 38.0**	**-0.5**
LCND	**La Caada**	**0.94**	**56**	*eP*	**Pn**	**04 43 27.1**	**0.0**
LCND				*eS*	**Sb**	**04 43 39.4**	**+0.5**
LCND	**La Caada**	**0.94**	**56**	P	**Pn**	**04 43 27.2**	**0.0**
PANCS	**Alcalda de**	**0.95**	**330**	P	**Sb**	**04 43 39.4**	**+0.1**
PAVA	**Las Pavas**	**0.96**	**346**	P	**Pn**	**04 43 27.5**	**0.0**
PAVA	**Las Pavas**	**0.96**	**346**	S	**Sn**	**04 43 40.8**	**+0.2**
CNCH	**Conchagua**	**0.97**	**59**	*eP*	**Pn**	**04 43 27.7**	**0.0**
CNCH				*eS*	**Sn**	**04 43 40.9**	**-0.1**
CNCH	**Conchagua**	**0.97**	**59**	P	**Pn**	**04 43 27.7**	**0.0**
LOMA	**Loma Larga**	**0.98**	**332**	P	**Pn**	**04 43 28.0**	**+0.2**
LOMA	**Loma Larga**	**0.98**	**332**	S	**Sn**	**04 43 41.2**	**+0.1**
LBRS	**Las Brisas**	**1.01**	**340**	*eP*	**Pb**	**04 43 28.6**	**+0.5**
UTEC	**Universidad Te**	**1.04**	**332**	P	**Pb**	**04 43 29.2**	**+0.7**
UTEC	**Universidad Te**	**1.04**	**332**	S	**Sn**	**04 43 42.3**	**-0.3**
UEES	**Universidad Ev**	**1.07**	**330**	P	**Pb**	**04 43 29.5**	**+0.4**
UEES	**Universidad Ev**	**1.07**	**330**	S	**Sb**	**04 43 42.7**	**0.0**
PMON	**Piamonte**	**1.11**	**327**	P	**Pb**	**04 43 29.8**	**+0.1**
PMON	**Piamonte**	**1.11**	**327**	S	**Sb**	**04 43 43.8**	**+0.1**
BOQS	**Boqueron**	**1.11**	**329**	*eP*	**Pn**	**04 43 29.8**	**0.0**
CSGN	**Cosiguina Volc**	**1.12**	**80**	P	**Pb**	**04 43 30.0**	**+0.1**
CSGN				S	**Sb**	**04 43 44.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.14**	**320**	*eP*	**Pn**	**04 43 30.2**	**+0.1**
JAYA				*eS*	**Sb**	**04 43 44.7**	**0.0**
JAYA	**Jayaque - finc**	**1.14**	**320**	*i* P	**Pn**	**04 43 30.0**	**-0.1**
JAYA				*i* S	**Sb**	**04 43 42.7**	**-2.0**
JAYA				IAML		04 43 48.4	
	comp=N,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.14**	**320**	P	**Pb**	**04 43 30.4**	**+0.1**
POTN	**Potosi Cosigui**	**1.18**	**79**	P	**Pb**	**04 43 30.9**	**+0.2**
POTN				S	**Sn**	**04 43 45.4**	**-0.5**
LLGN	**La Laguna**	**1.40**	**350**	P	**Pn**	**04 43 33.1**	**-0.5**
LLGN	**La Laguna**	**1.40**	**350**	S	**Sn**	**04 43 51.0**	**-0.5**
UNIC	**Universidad Ca**	**1.46**	**325**	P	**Pn**	**04 43 34.5**	**+0.2**
UNIC	**Universidad Ca**	**1.46**	**325**	S	**Sn**	**04 43 52.8**	**-0.1**
MARCA	**Marcala la Paz**	**1.51**	**25**	*i* P	**Pn**	**04 43 35.1**	**-0.1**
MARCA	**Marcala la Paz**	**1.51**	**25**	P	**Pn**	**04 43 35.3**	**+0.1**
NUBE	**Las Nubes**	**1.54**	**317**	*i* P	**Pn**	**04 43 35.8**	**+0.3**
NUBE				*i* S	**Sn**	**04 43 54.2**	**-0.8**
NUBE	**Las Nubes**	**1.54**	**317**	P	**Pn**	**04 43 35.8**	**+0.2**
CRIN	**San Cristobal**	**1.60**	**93**	P	**Pn**	**04 43 37.2**	**+0.8**
CRIN	**San Cristobal**	**1.60**	**93**	S	**Sn**	**04 43 56.5**	**0.0**
INTHN	**La Esperanza I**	**1.63**	**21**	P	**Pn**	**04 43 37.0**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.63**	**320**	P	**Pn**	**04 43 37.1**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.63**	**320**	S	**Sn**	**04 43 57.5**	**+0.3**
CHOHN	**Orocuina**	**1.65**	**65**	P	**Pn**	**04 43 36.9**	**-0.2**
CHOHN	**Orocuina**	**1.65**	**65**	S	**Sn**	**04 43 57.4**	**-0.3**
FAME	**Alcaldia de Sa**	**1.67**	**310**	P	**Pn**	**04 43 37.9**	**+0.7**
MTO3	**Montecristo**	**1.74**	**338**	*i* P	**Pn**	**04 43 38.4**	**0.0**
MTO3	**Montecristo**	**1.74**	**338**	P	**Pn**	**04 43 38.3**	**0.0**
MTO3	**Montecristo**	**1.74**	**338**	S	**Sn**	**04 43 59.5**	**-0.5**
POLN	**Al Sur del Vol**	**1.84**	**94**	P	**Pn**	**04 43 40.0**	**+0.4**
POLN				S	**Sn**	**04 44 01.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**1.88**	**47**	P	**Pn**	**04 43 40.3**	**+0.1**
TGUH				S	**Sn**	**04 44 02.8**	**-0.5**
ESQI	**Esquipulas**	**1.88**	**340**	P	**Pn**	**04 43 40.6**	**+0.4**
ESQI	**Esquipulas**	**1.88**	**340**	S	**Sn**	**04 44 03.3**	**0.0**
ROCN	**Rota Cerro Neg**	**1.92**	**98**	P	**Pn**	**04 43 41.4**	**+0.7**
CNGA	**Al SSO del Vol**	**1.96**	**98**	P	**Pn**	**04 43 41.9**	**+0.6**
CNGA				S	**Sn**	**04 44 05.2**	**-0.2**
CNGN	**Cerro Negro**	**1.97**	**98**	P	**Pn**	**04 43 41.6**	**+0.3**
SARH	**Santa Rosa de**	**1.99**	**358**	*i* P	**Pn**	**04 43 42.2**	**+0.6**
SARH	**Santa Rosa de**	**1.99**	**358**	P	**Pn**	**04 43 42.5**	**+0.8**
COPN	**Copaltepe**	**2.14**	**106**	P	**Pn**	**04 43 44.2**	**+0.5**
YUSH	**Yuscaran**	**2.15**	**57**	P	**Pn**	**04 43 43.9**	**+0.1**
YUSH	**Yuscaran**	**2.15**	**57**	S	**Sn**	**04 44 09.4**	**-0.6**
OCON	**Estacion meteo**	**2.32**	**68**	P	**Pn**	**04 43 45.9**	**-0.3**
OCON				S	**Sn**	**04 44 13.9**	**-0.2**
RCVN	**Varillal2**	**2.56**	**72**	P	**Pn**	**04 43 49.7**	**+0.1**
RCPN	**Sur Rio San Ju**	**2.64**	**73**	P	**Pn**	**04 43 50.8**	**+0.1**
MATN	**Matagalpa**	**2.70**	**87**	P	**Pn**	**04 43 50.4**	**-1.1**

*SJA **15** 05:25:37.2±0.9, 21.°68S×70.°17W, h26km±3km, ML3.4, MW3.5*
*GUC **15** 05:25:39.6±0.7, 21.°68S×70.°07W, h44km±2km, ML3.5*

ISC 15 05:25:40.3±1.1, 21.°67S±0.°02×70.°10W±0.°05, h25km±12km, n27, σ1s39/46, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.40**	**28**	*eP*	**Pb**	**05 25 49.6**	**+0.7**
PB02				*eS*	**Sn**	**05 25 56.4**	**-0.9**
PB02				IAML		05 25 56.6	
	comp=E,10μm,0.2s						
PB02	**IPOC Station P**	**0.40**	**28**	*eP*	**Pb**	**05 25 48.3**	**-0.7**
PB02				IAML		05 25 56.9	
	comp=Z,8μm,0.1s						
PB03	**IPOC Station P**	**0.49**	**140**	*i* P	**Pb**	**05 25 50.8**	**+0.3**
PB03				*eS*	**Sb**	**05 25 58.4**	**+0.9**
PB03				IAML		05 25 58.7	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.81**	**99**	*eP*	**Pb**	**05 25 55.3**	**-0.5**
PB09				*eS*	**Sb**	**05 26 06.2**	**-0.1**
PB09				IAML		05 26 06.8	
	comp=N,9μm,0.1s						
PB09	**IPOC Station P**	**0.81**	**99**	*eP*	**Pb**	**05 25 55.1**	**-0.7**
PB09				*eS*	**Sb**	**05 26 06.8**	**+0.5**
PB09				IAML		05 26 06.9	
	comp=Z,2μm,0.4s						
PB01	**IPOC Station P**	**0.85**	**42**	*eP*	**Pb**	**05 25 55.2**	**-1.3**
PB01				IAML		05 26 07.3	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**0.85**	**42**	*eP*	**Pb**	**05 25 55.1**	**-1.3**
PB01				*eS*	**Sb**	**05 26 05.4**	**-2.0**
PB01				IAML		05 26 06.7	
	comp=Z,3μm,0.2s						
TA01	**Diego Aracena**	**1.10**	**356**	*eP*	**Pn**	**05 25 59.3**	**-0.9**
TA01	**Diego Aracena**	**1.10**	**356**	*eP*	**Pn**	**05 25 58.5**	**-1.7**
TA01				IAML		05 26 13.9	
	comp=Z,374nm,0.7s						
TA01				*eS*	**Sb**	**05 26 14.0**	**-0.7**
PB06	**IPOC Station P**	**1.14**	**155**	*eP*	**Pn**	**05 25 59.8**	**-1.1**
PB06				*eS*	**Sb**	**05 26 14.9**	**-0.9**
PB06				IAML		05 26 16.3	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**1.14**	**155**	*eP*	**Pn**	**05 25 59.1**	**-1.7**
PB06				*eS*	**Sb**	**05 26 15.6**	**-0.2**
PB06				IAML		05 26 17.0	
	comp=Z,781nm,0.1s						
PB05	**IPOC Station P**	**1.18**	**185**	*eP*	**Pn**	**05 26 00.8**	**-0.5**
PB05				*eS*	**Sn**	**05 26 16.8**	**+0.1**
PB05	**IPOC Station P**	**1.18**	**185**	*eP*	**Pn**	**05 26 00.1**	**-1.2**
PB05				*eS*	**Sn**	**05 26 16.9**	**+0.2**
PB05				IAML		05 26 19.3	
	comp=Z,492nm,0.4s						
TA02	**Huaiquique**	**1.40**	**359**	*eP*	**Pn**	**05 26 03.7**	**-0.4**
TA02	**Huaiquique**	**1.40**	**359**	*eP*	**Pn**	**05 26 03.8**	**-0.4**
TA02				*eS*	**Sn**	**05 26 22.6**	**+0.7**
TA02				IAML		05 26 27.1	
	comp=Z,447nm,0.1s						
PB08	**IPOC Station P**	**1.76**	**30**	*eP*	**Pn**	**05 26 09.3**	**-0.2**
PB08				*eS*	**Sn**	**05 26 31.8**	**+0.4**
PB08				IAML		05 26 35.4	
	comp=N,466nm,0.3s						
PB08	**IPOC Station P**	**1.76**	**30**	*eP*	**Pn**	**05 26 09.3**	**-0.2**
PB08				*eS*	**Sn**	**05 26 32.9**	**+1.5**
PB08				IAML		05 26 35.7	
	comp=Z,213nm,0.3s						
PB10	**IPOC Station P**	**1.88**	**193**	*eP*	**Pn**	**05 26 09.0**	**-1.9**
PB10				*eP*		05 26 09.3	
PB10				*eS*	**Sb**	**05 26 40.1**	**+3.0**
PB11	**IPOC Station P**	**1.95**	**12**	*

δ37.84000°,λ170.78000°. Principal axes: T 1.6735, Plg39.0000°, Azm47.0000°; N 0.0821, Plg37.0000°, Azm175.0000°; P -1.7555, Plg29.0000°, Azm290.0000°;

NEIC **15** 05:32:53.4, 40.84N×141.24E, h88km

GCMT **15** 05:32:55.1±0.1, 40.87N±0.01×141.27E±0.01, h103km±1km, MW5.5/149, Moment Tensor Solution. s124,c230; s149,c298; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.79±.03; $M_{\theta\theta}$0.11±.03; $M_{\phi\phi}$-0.90±.03; $M_{r\theta}$0.24±.02; $M_{\theta\phi}$-1.31±.03; $M_{\phi r}$-1.67±.02; Best double couple: $M_0$2.29700×10^{17} NP1:ϕs72.00000°,δ38.00000°, λ159.00000°. NP2:ϕs179.00000°,δ77.00000°,λ54.00000°. Principal axes: T 2.2360, Plg46.0000°, Azm53.0000°; N 0.1220, Plg35.0000°, Azm188.0000°; P -2.3570, Plg24.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC **15** 05:32:56.4±1.0, 41.13N×141.25E, h110km±8km, mb5.0/36, mbtmp5.4/39, MS4.3/55 Error ellipse: s-maj=8.7km s-min=7.9km az=9.0

BGR **15** 05:32:59.9, 41.78N×141.44E, h94km±5km, mb5.3, mB_BB5.5

ISC 15 05:32:52.9±0.2, **40.83N**±0.02×**141.28E**±0.02, **h93**km±1km, **h93**km:**pP-P, n1667**, **σ1**s**68**/1395, **mb5.6**/633, **57C-77D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.17**	**257**			**Pn**	**05 33 06.0**	**-0.1**
JTM				Sn		**Sn**	**05 33 16.1**	**+0.1**
JTM	**Tenmabayashi**	**0.17**	**257**	P		**Pn**	**05 33 06.6**	**+0.5**
JTM	**Tenmabayashi**	**0.17**	**257**	S		**Sn**	**05 33 16.6**	**+0.7**
JTM	**Tenmabayashi**	**0.17**	**257**	*i* P		**Pn**	**05 33 06.1**	**0.0**
JTM				S		**Sn**	**05 33 16.1**	**+0.1**
JTM	**Tenmabayashi**	**0.17**	**257**	A		A	05 33 06.1	
	comp=N,267nm,1.9s,comp=E,571nm,2.4s							
JARK	**Aomorirokkasho**	**0.19**	**19**	*i* P		**Pn**	**05 33 06.5**	**+0.3**
JARK				S		**Sn**	**05 33 16.3**	**+0.2**
JARK	**Aomorirokkasho**	**0.19**	**19**	A		A	05 33 06.5	
	comp=N,608nm,1.7s,comp=E,1μm,2.0s							
JAHD	**Aomorihigashid**	**0.44**	**6**	A		A	05 33 07.9	
	comp=N,343nm,2.0s,comp=E,433nm,1.0s							
JANG	**Nango**	**0.48**	**158**	*i* P		**Pn**	**05 33 07.3**	**-0.6**
JANG				S		**Sn**	**05 33 18.0**	**-1.0**
JANG	**Nango**	**0.48**	**158**	A		A	05 33 07.3	
	comp=N,379nm,1.9s,comp=E,939nm,1.9s							
JOT	**Ohata**	**0.58**	**343**	⇓*i* P		**Pn**	**05 33 09.2**	**+0.6**
JOT				⇓S		**Sn**	**05 33 22.1**	**+1.8**
JOT	**Ohata**	**0.58**	**343**	A		A	05 33 09.2	
	comp=N,202nm,4.8s,comp=E,152nm,2.9s							
JSI2	**Shiura 2**	**0.70**	**290**	A		A	05 33 10.4	
	comp=N,333nm,2.4s,comp=E,177nm,3.6s							
JKEN	**Kujiedanarisaw**	**0.70**	**152**	A		A	05 33 09.4	
	comp=N,453nm,1.9s,comp=E,817nm,2.6s							
JHHS	**Hirosakihyakuz**	**0.72**	**256**	A		A	05 33 10.4	
	comp=N,502nm,4.4s,comp=E,459nm,1.4s							
JAH	**Hinai**	**0.80**	**218**	*i* P		**Pn**	**05 33 11.1**	**+0.4**
JAH				S		**Sn**	**05 33 24.8**	**+0.8**
JAH	**Hinai**	**0.80**	**218**	A		A	05 33 11.1	
	comp=N,328nm,3.7s,comp=E,291nm,2.3s							
JKZ	**Kuzumaki**	**0.84**	**177**	A		A	05 33 10.9	
	comp=N,446nm,2.0s,comp=E,1.1μm,1.5s							
JSR	**Shiriuchi**	**0.96**	**317**	⇓*i*P		**Pn**	**05 33 13.2**	**+0.9**
JSR				⇓*e*S		**Sn**	**05 33 28.5**	**+1.6**
JSR	**Shiriuchi**	**0.96**	**317**	A		A	05 33 13.2	
	comp=N,186nm,3.3s,comp=E,85nm,3.3s							
JTH	**Tanohata**	**0.99**	**153**	A		A	05 33 12.3	
	comp=N,323nm,1.0s,comp=E,319nm,2.8s							
JIW	**Iwasaki**	**1.00**	**257**	*i* P		**Pn**	**05 33 13.6**	**+0.8**
JIW	**Iwasaki**	**1.00**	**257**	A		A	05 33 13.6	
	comp=N,111nm,5.6s,comp=E,130nm,4.2s							
JNTW	**Noshirotokiwa**	**1.00**	**237**	A		A	05 33 13.5	
	comp=N,580nm,3.2s,comp=E,577nm,4.0s							
JKB	**Kayabe**	**1.08**	**350**	*i* P		**Pn**	**05 33 14.8**	**+1.1**
JKB				S		**Sn**	**05 33 31.3**	**+2.0**
JKB	**Kayabe**	**1.08**	**350**	A		A	05 33 14.8	
	comp=N,116nm,2.0s,comp=E,176nm,1.9s							
JSZI	**Iwateshizukuis**	**1.11**	**193**	A		A	05 33 14.1	
	comp=N,407nm,2.5s,comp=E,466nm,1.6s							
JOMM	**Oshimamatsumae**	**1.19**	**306**	⇓*i*P		**Pn**	**05 33 15.8**	**+0.8**
JOMM				⇓S		**Sn**	**05 33 32.7**	**+1.1**
JOMM	**Oshimamatsumae**	**1.19**	**306**	A		A	05 33 15.8	
	comp=N,99nm,4.1s,comp=E,76nm,4.1s							
MIYJ	**Miyakogasawa**	**1.31**	**162**	A		A	05 33 16.3	
	comp=N,378nm,1.7s,comp=E,335nm,2.0s							
JOM	**Ohasama**	**1.35**	**180**	⇓*i*P		**Pn**	**05 33 17.0**	**0.0**
JOM				⇓S		**Sn**	**05 33 34.9**	**-0.2**
JOM	**Ohasama**	**1.35**	**180**	A		A	05 33 17.0	
	comp=N,371nm,2.0s,comp=E,466nm,3.5s							
JYM2	**Yakumo 2**	**1.46**	**332**	⇓*i*P		**Pn**	**05 33 19.6**	**+1.3**
JYM2	**Yakumo 2**	**1.46**	**332**	A		A	05 33 19.6	
	comp=N,98nm,2.0s,comp=E,82nm,2.7s							
JRG	**Rokugo**	**1.51**	**199**	*i* P		**Pn**	**05 33 19.6**	**+0.7**
JRG	**Rokugo**	**1.51**	**199**	A		A	05 33 19.6	
	comp=N,210nm,2.9s,comp=E,269nm,2.0s							
JYW	**Yuwa**	**1.52**	**213**	A		A	05 33 19.4	
	comp=N,390nm,1.5s,comp=E,305nm,2.3s							
JNB	**Noboribetsu**	**1.65**	**354**	⇓*i*P		**Pn**	**05 33 22.0**	**+1.3**
JNB	**Noboribetsu**	**1.65**	**354**	A		A	05 33 22.0	
	comp=N,82nm,2.1s,comp=E,150nm,1.8s							
OFUJ	**Ofunato**	**1.77**	**170**	A		A	05 33 22.1	
	comp=N,132nm,1.4s,comp=E,237nm,1.4s							
JSHD	**Hidakashinhida**	**1.82**	**29**	A		A	05 33 23.4	
	comp=N,250nm,2.6s,comp=E,217nm,2.1s							
JNBK	**Urakawa-nobuka**	**1.83**	**37**	A		A	05 33 23.5	
	comp=N,153nm,4.5s,comp=E,179nm,1.5s							
ERM	**Erimo**	**1.84**	**49**			**Pn**	**05 33 24.1**	**+0.9**
ERM				Sn		**Sn**	**05 33 46.2**	**0.0**
ERM	**Erimo**	**1.84**	**49**	P		**Pn**	**05 33 24.2**	**+1.0**
ERM	**Erimo**	**1.84**	**49**	S		**Sn**	**05 33 46.5**	**+0.3**
ERM	**Erimo**	**1.84**	**49**	*ce*P		**Pn**	**05 33 23.8**	**+0.6**
ERM					pmax	pmax		
	comp=Z,6μm,0.7s							
JEM	**Erimo**	**1.85**	**49**	P		**Pn**	**05 33 24.1**	**+0.9**
JEM	**Erimo**	**1.85**	**49**	S		**Sn**	**05 33 46.8**	**+0.6**
JEM	**Erimo**	**1.85**	**49**	A		A	05 33 23.5	
	comp=N,106nm,4.8s,comp=E,114nm,2.0s							
JOSM	**Okushiri--Mats**	**1.85**	**313**	A		A	05 33 24.5	
	comp=N,48nm,4.5s,comp=E,51nm,3.1s							
JIAM	**Iburiatsuma**	**1.86**	**15**	A		A	05 33 24.2	
	comp=N,179nm,1.0s,comp=E,357nm,2.0s							
JMK	**Ichinoseki**	**1.87**	**181**	A		A	05 33 23.6	
	comp=N,150nm,4.2s,comp=E,230nm,3.5s							
JOG3	**Oga3**	**1.91**	**242**	A		A	05 33 18.7	
	comp=N,209nm,2.3s,comp=E,140nm,2.9s							
JHST	**Hiyamasetana**	**1.91**	**327**	A		A	05 33 25.3	
	comp=N,62nm,3.3s,comp=E,134nm,2.0s							
JKMT	**Kesennumamotoy**	**2.02**	**176**	A		A	05 33 25.5	
	comp=N,81nm,3.3s,comp=E,139nm,4.4s							
JEW	**Eniwo**	**2.02**	**4**	A		A	05 33 26.4	
	comp=N,101nm,5.5s,comp=E,99nm,4.0s							
JYK	**Kaneyama**	**2.03**	**201**	A		A	05 33 26.0	
	comp=N,92nm,3.1s,comp=E,68nm,2.0s							
JSH	**Shimam**	**2.04**	**333**	A		A	05 33 27.0	
	comp=N,44nm,3.5s,comp=E,20nm,2.8s							
JYYZ	**Yamagatayuza**	**2.08**	**210**	A		A	05 33 26.8	
	comp=N,280nm,2.0s,comp=E,140nm,2.9s							
JTB	**Tobi-shima**	**2.10**	**220**	A		A	05 33 27.1	
	comp=N,86nm,2.9s,comp=E,45nm,2.5s							
JTHR	**Tokachihiroo**	**2.11**	**45**	A		A	05 33 27.1	
	comp=N,85nm,3.7s,comp=E,86nm,1.6s							
JBT2	**Biratori 2**	**2.11**	**22**	A		A	05 33 27.5	
	comp=N,72nm,2.7s,comp=E,69nm,3.0s							
JOFO	**Osakifurukawao**	**2.24**	**187**	A		A	05 33 28.6	
	comp=N,406nm,2.1s,comp=E,440nm,1.7s							
JIO	**Ouri**	**2.37**	**179**	A		A	05 33 30.2	
	comp=N,59nm,2.3s,comp=E,54nm,3.9s							
JCH	**Churui**	**2.37**	**40**	A		A	05 33 30.7	
	comp=N,95nm,3.9s,comp=E,90nm,3.4s							
JISS	**Ishikarishitsu**	**2.45**	**2**	A		A	05 33 32.3	
	comp=N,85nm,3.2s,comp=E,87nm,2.3s							
JOU	**Okura**	**2.50**	**191**	A		A	05 33 32.2	
	comp=N,111nm,2.6s,comp=E,111nm,1.8s							
JIKH	**Ishinomakikobu**	**2.52**	**177**	A		A	05 33 32.3	
	comp=N,61nm,2.1s,comp=E,49nm,2.7s							
JFR	**Furan**	**2.53**	**22**	A		A	05 33 33.2	
	comp=N,50nm,2.1s,comp=E,35nm,5.6s							
JYA	**Atsumi**	**2.54**	**209**	A		A	05 33 32.9	
	comp=N,177nm,1.3s,comp=E,65nm,2.2s							
JSK	**Shakotan**	**2.60**	**347**	A		A	05 33 34.5	
	comp=N,55nm,2.5s,comp=E,93nm,2.8s							
JYS	**Shirataka**	**2.77**	**200**	A		A	05 33 35.9	
	comp=N,61nm,1.9s,comp=E,84nm,3.6s							
JAB	**Ashibetsu**	**2.77**	**14**	A		A	05 33 36.5	
	comp=N,78nm,2.5s,comp=E,84nm,3.7s							
JOB	**Onbets**	**2.82**	**42**	A		A	05 33 36.8	
	comp=N,89nm,2.1s,comp=E,90nm,3.2s							
JAW	**Awa shima**	**2.84**	**214**	A		A	05 33 37.1	
	comp=N,38nm,2.8s,comp=E,39nm,3.1s							
JHR	**Hokuryu**	**2.94**	**6**	A		A	05 33 38.9	
	comp=N,45nm,3.0s,comp=E,45nm,2.3s							
JMM	**Marumori**	**2.98**	**187**			**Pn**	**05 33 37.7**	**-0.5**
JMM	**Marumori**	**2.98**	**187**	P		**Pn**	**05 33 38.0**	**-0.2**
JMM	**Marumori**	**2.98**	**187**	S		**Sn**	**05 34 12.8**	**-0.3**
JMM	**Marumori**	**2.98**	**187**	A		A	05 33 38.7	
	comp=N,38nm,2.7s,comp=E,45nm,3.8s							
JYAR	**Yonezawaarcadi**	**3.04**	**197**	A		A	05 33 39.7	
	comp=N,114nm,1.1s,comp=E,89nm,1.2s							
JAR	**Ashorobuto**	**3.09**	**36**	A		A	05 33 40.6	
	comp=N,52nm,6.4s,comp=E,50nm,2.7s							
JMST	**Minamisoumatoc**	**3.11**	**186**	A		A	05 33 40.5	
	comp=N,41nm,5.2s,comp=E,29nm,3.7s							
JKK2	**Kamakawa 2**	**3.23**	**19**	A		A	05 33 42.8	
	comp=N,26nm,5.0s,comp=E,22nm,2.0s							
JOTO	**OTAMA OYAMA**	**3.34**	**193**	A		A	05 33 43.8	
	comp=N,101nm,1.4s,comp=E,59nm,3.9s							
JAK	**Akkeshi**	**3.35**	**48**	A		A	05 33 44.0	
	comp=N,61nm,0.5s,comp=E,88nm,1.1s							
JNS	**Sasagawa**	**3.37**	**208**	A		A	05 33 44.3	
	comp=N,17nm,2.0s,comp=E,21nm,2.9s							
ASAJ	**Asahikawa**	**3.43**	**16**	P		**Pn**	**05 33 44.9**	**+0.6**
	comp=E,880nm,0.5s,baz=231,slow=9.6,SNR=557							
ASAJ				S		**Sn**	**05 34 21.9**	**-2.0**
	comp=E,827nm,0.5s,baz=261,slow=19,SNR=7.9							
ASAJ				LR		LR	05 35 07.2	
	comp=E,5μm,19.0s,baz=140,slow=42							
ASAJ	**Asahikawa**	**3.43**	**16**	A		A	05 33 45.6	
	comp=N,38nm,4.2s,comp=E,20nm,3.1s							
JKA	**Kamikawa-asahi**	**3.43**	**16**			**Pn**	**05 33 44.9**	**+0.6**
JFK	**Kawauchi**	**3.47**	**185**	A		A	05 33 45.4	
	comp=N,36nm,4.0s,comp=E,29nm,4.1s							
JMP	**Maruseppu**	**3.53**	**25**	A		A	05 33 46.9	
	comp=N,20nm,3.0s,comp=E,22nm,3.9s							
JSS	**Shosan**	**3.60**	**7**	A		A	05 33 48.0	
	comp=N,22nm,5.1s,comp=E,30nm,4.1s							
JYG	**Yagishiri**	**3.60**	**2**	A		A	05 33 48.1	
	comp=N,23nm,4.7s,comp=E,19nm,5.4s							
JFY	**Yanaizu**	**3.63**	**200**	A		A	05 33 47.8	
	comp=N,25nm,7.1s,comp=E,17nm,3.5s							
JSD	**Sado**	**3.64**	**221**	P		**Pn**	**05 33 48.1**	**+1.0**
JSD	**Sado**	**3.64**	**221**	S		**Sn**	**05 34 31.1**	**+2.2**
JSD	**Sado**	**3.64**	**221**	A		A	05 33 48.2	
	comp=N,10.0nm,3.6s,comp=E,10.0nm,6.4s							
JKHN	**Kushirohamanak**	**3.67**	**51**	A		A	05 33 48.4	
	comp=N,63nm,2.0s,comp=E,57nm,5.0s							
JTKR	**Abashiri--Toko**	**3.70**	**31**	A		A	05 33 49.1	
	comp=N,21nm,2.0s,comp=E,30nm,1.9s							
ONAJ	**Iwakimizuishiy**	**3.74**	**186**	A		A	05 33 49.1	
	comp=N,32nm,2.4s,comp=E,34nm,1.8s							
JNK	**Nakash**	**3.76**	**42**	A		A	05 33 49.8	
	comp=N,24nm,1.5s,comp=E,32nm,1.6s							
JFFD	**Fukushimafurud**	**3.77**	**189**	A		A	05 33 49.7	
	comp=N,26nm,1.9s,comp=E,25nm,1.6s							
JIZZ	**Izumozaki**	**3.85**	**212**	A		A	05 33 51.0	
	comp=N,50nm,4.0s,comp=E,51nm,3.3s							
JSB	**Shiboa**	**4.00**	**196**	A		A	05 33 52.8	
	comp=N,74nm,2.6s,comp=E,51nm,2.0s							
JUON	**Uonuma**	**4.00**	**206**	A		A	05 33 53.1	
	comp=N,8.0nm,6.0s,comp=E,10.0nm,4.2s							
JNSB	**Nemurushibetsu**	**4.04**	**42**	A		A	05 33 53.6	
	comp=N,71nm,1.6s,comp=E,45nm,2.1s							
NMR	**Nemuro--Hokkai**	**4.17**	**51**	⇑*i*P		**Pn**	**05 33 52.4**	**-1.9**
NMR				*i* S		**Sn**	**05 34 37.0**	**-4.9**
NEM2	**Nemuro 2**	**4.18**	**51**	A		A	05 33 55.4	
	comp=N,21nm,1.7s,comp=E,17nm,1.2s							
JRA	**Rausu**	**4.21**	**41**	A		A	05 33 56.1	
	comp=N,78nm,5.0s,comp=E,48nm,1.3s							
JSE	**Soyaes**	**4.24**	**13**	A		A	05 33 56.8	
	comp=N,11nm,3.4s,comp=E,10.0nm,2.6s							
JHO	**Hitachi**	**4.25**	**188**	A		A	05 33 56.1	
	comp=N,15nm,3.2s,comp=E,17nm,3.3s							
JRR	**Rishiri**	**4.31**	**0**	A		A	05 33 57.9	
	comp=N,52nm,4.5s,comp=E,55nm,3.8s							
JKT	**Katashina**	**4.35**	**202**	A		A	05 33 57.8	
	comp=N,15nm,4.3s,comp=E,24nm,4.5s							
RUSJ	**Misakicho**	**4.40**	**41**	⇑*i*P		**Pn**	**05 33 57.3**	**0.0**
RUSJ				*i* S		**Sn**	**05 34 47.4**	**+0.1**
JJN	**Nakama**	**4.44**	**214**	A		A	05 33 59.2	
	comp=N,16nm,2.9s,comp=E,16nm,3.1s							
JHG	**Hegura**	**4.50**	**230**	A		A	05 34 00.3	
	comp=N,10.0nm,4.5s,comp=E,8.0nm,4.5s							
JHYU	**Hitachinakayam**	**4.51**	**187**	A		A	05 33 59.9	
	comp=N,17nm,2.2s,comp=E,21nm,4.4s							
JWK2	**Keihoku**	**4.51**	**6**	A		A	05 34 00.7	
	comp=N,17nm,5.5s,comp=E,15nm,5.0s							
JAG	**Ashikaga**	**4.62**	**199**	A		A	05 34 01.5	
	comp=N,18nm,3.7s,comp=E,20nm,4.9s							
YUK	**Yuzh-Kuril'sk**	**4.67**	**45**	*ci*P		**Pn**	**05 34 00.3**	**-0.7**
YUK				*i* S		**Sn**	**05 34 50.3**	**-3.6**
YUK					pmax	pmax		
	comp=N,5μm,0.5s							
YUK					pmax	pmax		
	comp=Z,16μm,0.5s							
YUK					pmax	pmax		
	comp=E,4μm,0.3s							
YUK					smax	smax		
	comp=E,39μm,0.5s							
YUK					smax	smax		
	comp=N,23μm,0.4s							
JYT	**Yasato**	**4.67**	**191**	A		A	05 34 02.0	
	comp=N,17nm,1.9s,comp=E,31nm,5.8s							
JGK	**Kuni**	**4.73**	**207**	A		A	05 34 03.1	
	comp=N,23nm,4.3s,comp=E,20nm,3.0s							
JIHU	**Itakohorinouch**	**4.89**	**187**	A		A	05 34 05.1	
	comp=N,84nm,2.3s,comp=E,91nm,3.1s							
MAJO	**Matsushiro**	**4.91**	**210**			**Pn**	**05 34 05.6**	**+1.2**
MAJO	**Matsushiro**	**4.91**	**210**	P		**Pn**	**05 34 05.5**	**+1.2**
MAJO	**Matsushiro**	**4.91**	**210**	*ci*P		**Pn**	**05 34 06.1**	**+1.8**
MJAR	**Matsushiro Arr**	**4.91**	**210**	P		**Pn**	**05 34 06.6**	**+2.3**
	comp=E,156nm,0.5s,baz=24,slow=15,SNR=263							
SHO	**Shikotan**	**5.12**	**52**	*e*P		**Pn**	**05 34 07.9**	**+0.9**
SHO				*i* S		**Sn**	**05 35 01.4**	**-3.4**
SHO					pmax	pmax		
	comp=N,582nm,0.2s							
SHO					pmax	pmax		
	comp=Z,2μm,0.2s							
SHO					pmax	pmax		
	comp=E,1μm,0.3s							
SHO					smax	smax		
	comp=N,14μm,0.4s							
SHO					smax	smax		
	comp=E,5μm,0.2s							
JTT	**Ttatey**	**5.22**	**217**	A		A	05 34 10.1	
	comp=N,11nm,3.6s,comp=E,11nm,3.0s							
JJH	**Hakui**	**5.24**	**223**	A		A	05 34 10.4	
	comp=N,12nm,2.9s,comp=E,8.0nm,3.0s							
TOK	**Tokyo**	**5.27**	**194**	A		A	05 34 10.4	
	comp=N,57nm,2.1s,comp=E,57nm,3.9s							
TEY	**Ternei**	**5.43**	**322**	⇓*e*P		**Pn**	**05 34 13.2**	**+1.9**
TEY				*e*			05 35 14.9	
TEY					pmax	pmax		
	comp=N,480nm,0.6s							
TEY					pmax	pmax		
	comp=E,340nm,0.6s							
TEY					pmax	pmax		
	comp=Z,500nm,0.6s							
TEY					pmax	pmax		
	comp=N,4μm,2.5s							
TEY					pmax	pmax		
	comp=E,4μm,2.5s							
TEY					pmax	pmax		
	comp=Z,4μm,2.5s							
JSGW	**Sagamiharawaka**	**5.46**	**198**	A		A	05 34 13.2	
	comp=N,15nm,9.7s,comp=E,18nm,4.3s							
JNT	**Takato**	**5.53**	**208**	A		A	05 34 14.1	
	comp=N,9.0nm,3.8s,comp=E,12nm,3.9s							
JYO	**Yokosk**	**5.74**	**193**	A		A	05 34 16.8	
	comp=N,35nm,5.7s,comp=E,28nm,3.6s							
JYN	**Shimob**	**5.74**	**203**	A		A	05 34 17.0	
	comp=N,18nm,4.0s,comp=E,15nm,4.1s							
JOD2	**Odawara 2**	**5.82**	**198**	A		A	05 34 18.0	
	comp=N,17nm,1.9s,comp=E,13nm,6.1s							
TATJ	**Tateyama 2**	**5.89**	**191**	A		A	05 34 18.9	
	comp=N,28nm,1.9s,comp=E,34nm,3.0s							
JFNN	**Fujinakano**	**5.98**	**201**	A		A	05 34 20.3	
	comp=N,26nm,3.9s,comp=E,29nm,4.5s							
JGF	**Kuroka**	**6.06**	**212**			**Pn**	**05 34 21.9**	**+1.8**
JGF	**Kuroka**	**6.06**	**212**	P		**Pn**	**05 34 21.3**	**+1.3**
JNY	**Yasuok**	**6.09**	**207**	A		A	05 34 21.8	
	comp=N,14nm,3.5s,comp=E,10.0nm,3.7s							
JHTM	**Izuhatsuma**	**6.12**	**198**	A		A	05 34 22.3	
	comp=N,24nm,1.8s,comp=E,24nm,2.9s							
YSS	**Yuzhno-Sakhali**	**6.22**	**9**			**Pn**	**05 34 22.8**	**+0.8**
YSS	**Yuzhno-Sakhali**	**6.22**	**9**	P		**Pn**	**05 34 23.7**	**+1.7**
YSS	**Yuzhno-Sakhali**	**6.22**	**9**	*ce*P		**Pn**	**05 34 22.9**	**+0.8**
YSS				*e*S		**Sn**	**05 35 31.6**	**0.0**
YSS					pmax	pmax		
	comp=Z,1μm,4.9s							
YSS					pmax	pmax		
	comp=N,1μm,4.1s							
YSS					pmax	pmax		
	comp=E,500nm,4.5s							
YSS					pmax	pmax		
	comp=Z,530nm,0.7s							
YSS					pmax	pmax		
	comp=N,790nm,0.6s							
YSS					smax	smax		
	comp=N,2μm,5.1s							
YSS					smax	smax		
	comp=E,5μm,4.6s							
YSS					smax	smax		
	comp=N,240nm,1.0s							
YSS					smax	smax		
	comp=E,250nm,0.7s							
YSS					MLR	MLR		
	comp=Z,5μm,13.0s							
YSS					MLR	MLR		
	comp=N,4μm,11.0s							
SHZ3	**Shizuoka 3**	**6.24**	**204**	A		A	05 34 23.9	
	comp=N,10.0nm,5.4s,comp=E,15nm,5.2s							
INU	**Inuyama**	**6.42**	**213**			**Pn**	**05 34 25.6**	**+0.7**
INU	**Inuyama**	**6.42**	**213**	P		**Pn**	**05 34 26.2**	**+1.4**
KUR	**Kuril'sk**	**6.53**	**45**	*ci*P		**Pn**	**05 34 25.2**	**-1.1**
KUR				*i* S		**Sn**	**05 35 35.7**	**-3.6**
KUR					pmax	pmax		
	comp=Z,14μm,1.7s							
KUR					pmax	pmax		
	comp=N,2μm,0.5s							
KUR					pmax	pmax		
	comp=E,1μm,0.5s							
KUR					pmax	pmax		
	comp=Z,3μm,0.5s							
KUR					smax	smax		
	comp=N,3μm,0.5s							
KUR					smax	smax		
	comp=E,4μm,0.5s							
KUR					smax	smax		
	comp=N,19μm,2.6s							
KUR					smax	smax		
	comp=E,18μm,2.4s							
JSG	**Sagara**	**6.61**	**203**			**Pn**	**05 34 29.1**	**+1.6**
VLA	**Vladivostok**	**7.37**	**291**	*ci*P		**Pn**	**05 34 40.3**	**+2.6**
USA0B	**Ussuriysk Arra**	**7.65**	**299**	*di*P		**Pn**	**05 34 44.2**	**+2.7**
USRK	**Ussuriysk Ar.**	**7.65**	**299**	P		**Pn**	**05 34 43.7**	**+2.2**
	comp=E,616nm,0.6s,baz=107,slow=14,SNR=449							
MSHR	**Mys Shultsa**	**7.78**	**286**	*de*P		**Pn**	**05 34 44.5**	**+1.2**
MSHR					pmax	pmax		
	comp=Z,553nm,1.7s							
JHJ	**Hachijo jima 2**	**7.78**	**189**	P		**Pn**	**05 34 39.8**	**-3.7**
	comp=Z,278nm,0.3s,baz=354,slow=3.6,SNR=10							
JHJ				S		**Sn**	**05 36 04.0**	**-6.0**
	comp=Z,517nm,0.4s,baz=68,slow=23,SNR=6.1							
JHJ				LR		LR	05 37 50.1	
	comp=Z,2μm,21.1s,baz=299,slow=36							
PSTR	**Posyet**	**8.04**	**287**	*i* P		**Pn**	**05 34 48.8**	**+1.9**
UGL	**Uglegorsk**	**8.27**	**4**	*e*P		**Pn**	**05 34 46.1**	**-3.9**
UGL				*e*S		**Sn**	**05 36 20.7**	**-0.9**
UGL					pmax	pmax		
	comp=Z,40nm,0.6s							
UGL					smax	smax		
	comp=E,2μm,2.6s							
UGL					smax	smax		
	comp=N,1μm,2.3s							
MDJ	**Mudanjiang**	**9.40**	**298**			**Pn**	**05 35 08.1**	**+2.7**
MDJ						**Sn**	**05 36 57.8**	**+8.6**
MDJ					pmax	pmax		
	comp=N,720nm,1.5s							
MDJ					LR	LR		
	comp=N,4μm,10.3s							
MDJ					LR	LR		
	comp=N,3μm,11.0s							
MDJ					LR	LR		
	comp=N,5μm,10.3s							
TYV	**Tymovskoe**	**10.09**	**5**	*e*P		**Pn**	**05 35 15.4**	**+0.7**
TYV				*e*S		**Sn**	**05 37 06.9**	**+1.1**
TYV					pmax	pmax		
	comp=Z,600nm,2.5s							
TYV					pmax	pmax		
	comp=Z,153nm,0.8s							
TYV					smax	smax		
	comp=N,63nm,1.5s							
TYV					smax	smax		
	comp=E,33nm,1.5s							
TYV					smax	smax		
	com

OKH					MLR	MLR			
	comp=Z,1μm,16.0s								
SNY	**Shenyang**	**13.35**	**280**	⇓	P	**Pn**	**05 35 59.8**	**+1.3**
SNY					S	**Sn**	**05 38 32.5**	**+7.4**
SNY					pmax	pmax			
	comp=Z,160nm,1.5s								
SNY					pmax	pmax			
	comp=Z,2μm,7.9s								
SNY					LR	LR			
	comp=Z,2μm,13.6s								
SNY					LR	LR			
	comp=Z,2μm,13.3s								
SNY					LR	LR			
	comp=Z,3μm,16.5s								
HEH	**HeiHe**	**13.52**	**319**	*e*	P	**Pn**	**05 35 59.3**	**-1.4**
HEH					sP	P	05 36 23.4	+17
HEH					S	**Sn**	**05 38 26.1**	**-3.1**
HEH					pmax	pmax			
	comp=Z,93nm,0.9s								
HEH					pmax	pmax			
	comp=Z,2μm,7.4s								
SKR	**Severo-Kuril's**	**14.27**	**41**	*c i*	P	**Pn**	**05 36 06.1**	**-4.3**
SKR					*e*S	**Sn**	**05 38 39.7**	**-7.7**
SKR					pmax	pmax			
	comp=Z,600nm,4.0s								
SKR					pmax	pmax			
	comp=Z,195nm,0.7s								
SKR					MLR	MLR			
	comp=Z,4μm,15.0s								
SKR					MLR	MLR			
	comp=N,2μm,14.0s								
SKR					MLR	MLR			
	comp=E,3μm,13.0s								
DL2	**Dalian**	**15.21**	**269**		P	**Pn**	**05 36 20.1**	**-2.5**
DL2					sP	**sP**	**05 36 53.4**	**-1.2**
DL2					S	**Sn**	**05 39 07.4**	**-3.0**
DL2					pmax	pmax			
	comp=E,270nm,2.0s								
DL2					pmax	pmax			
	comp=E,1μm,11.2s								
ZEA	**Zeya**	**16.01**	**329**	*e*	P	**Pn**	**05 36 29.2**	**-3.2**
ZEA					pmax	pmax			
	comp=N,50nm,1.1s								
ZEA					pmax	pmax			
	comp=Z,110nm,1.1s								
ZEA					pmax	pmax			
	comp=Z,300nm,1.9s								
ZEA					MLR	MLR			
	comp=E,900nm,11.0s								
ZEA					MLR	MLR			
	comp=Z,1μm,12.0s								
PEA0B	**Petropavlovsk-**	**16.58**	**37**	*i*	P	**Pn**	**05 36 37.1**	**-2.4**
PETK	**Petropavlovsk-**	**16.58**	**37**		P	**Pn**	**05 36 36.0**	**-3.6**
	comp=Z,31nm,0.5s,baz=216,slow=8.4,SNR=46								
PETK					LR	LR	05 43 19.8		
	comp=Z,1μm,18.2s,baz=230,slow=38								
PET	**Petropavlovsk**	**16.96**	**38**		P	**Pn**	**05 36 43.8**	**-0.4**
PET	**Petropavlovsk**	**16.96**	**38**	*c i*	P	**Pn**	**05 36 39.7**	**-4.5**
PET				*e*	S	**Sn**	**05 39 46.9**	**-5.4**
PET					pmax	pmax			
	comp=Z,600nm,7.8s								
PET					pmax	pmax			
	comp=Z,800nm,7.5s								
PET					pmax	pmax			
	comp=Z,113nm,1.5s								
PET					MLR	MLR			
	comp=Z,2μm,17.0s								
JOW	**Kunigami**	**17.62**	**222**		P	**P**	**05 36 50.0**	**-2.2**
	comp=Z,43nm,0.8s,baz=354,slow=8.1,SNR=4.7								
JOW					LR	LR	05 44 43.1		
	comp=Z,856nm,21.1s,baz=100,slow=40								
XLT	**XiLinHaoTe**	**18.85**	**288**	*e*	P	**P**	**05 37 03.9**	**-1.7**
XLT					pP	pP	05 37 18.5	-4.8
XLT					PP	**PnPn**	**05 37 25.5**	**+2.6**
XLT					S	**S**	**05 40 28.1**	**-6.9**
XLT					pmax	pmax			
	comp=Z,120nm,1.4s								
XLT					pmax	pmax			
	comp=Z,730nm,3.9s								
XLT					LR	LR			
	comp=Z,1μm,13.2s								
XLT					LR	LR			
	comp=Z,2μm,15.3s								
SSE	**Sheshan**	**18.91**	**245**		P	**P**	**05 37 04.6**	**-1.6**
SSE					pP	**pP**	**05 37 23.9**	**-0.2**
SSE					S	**S**	**05 40 35.4**	**-0.7**
SSE					pmax	pmax			
	comp=Z,59nm,1.2s								
SSE					pmax	pmax			
	comp=Z,480nm,3.4s								
SSE					LR	LR			
	comp=Z,840nm,10.3s								
BJI	**Beijing**	**19.11**	**276**		P	**P**	**05 37 06.9**	**-1.5**
BJI					pP	**pP**	**05 37 23.8**	**-2.3**
BJI					PP	**PnPn**	**05 37 26.4**	**0.0**
BJI					sP	**sP**	**05 37 36.3**	**-1.5**
BJI					S	**S**	**05 40 31.5**	**-8.6**
BJI					pmax	pmax			
	comp=Z,73nm,1.6s								
BJI					LR	LR			
	comp=Z,2μm,16.5s								
BJI					LR	LR			
	comp=Z,720nm,16.5s								
BJI					LR	LR			
	comp=Z,1μm,24.5s								
TIA	**Tai'an**	**19.43**	**264**		P	**P**	**05 37 10.4**	**-1.5**
TIA					PP	**PnPn**	**05 37 31.4**	**+0.6**
TIA					S	**S**	**05 40 40.3**	**-6.4**
TIA					ScP	**ScP**	**05 44 58.5**	**+1.6**
TIA					ScS	**ScS**	**05 48 37.3**	**-1.6**
TIA					pmax	pmax			
	comp=Z,340nm,1.2s								
TIA					pmax	pmax			
	comp=Z,2μm,3.7s								
TIA					LR	LR			
	comp=Z,530nm,8.5s								
TIA					LR	LR			
	comp=Z,2μm,12.5s								
TIA					LR	LR			
	comp=Z,2μm,12.1s								
MA2	**Magadan**	**19.69**	**14**		P	**P**	**05 37 13.4**	**-1.1**
MA2	**Magadan**	**19.69**	**14**		P	**P**	**05 37 13.2**	**-1.3**
	comp=Z,170nm,0.8s,baz=201,slow=9.9,SNR=24								
MA2					S	**S**	**05 40 44.0**	**-7.3**
	comp=Z,3.5nm,0.3s,baz=221,slow=20,SNR=1.4								
MA2	**Magadan**	**19.69**	**14**		P	**P**	**05 37 14.5**	**0.0**
MA2	**Magadan**	**19.69**	**14**	*ce*	P	**P**	**05 37 13.0**	**-1.5**
MA2					pmax	pmax			
	comp=Z,239nm,1.0s								
NJ2	**Nanjing**	**20.01**	**251**	⇓	P	**P**	**05 37 16.4**	**-1.8**
NJ2					pP	**pP**	**05 37 37.4**	**+1.1**
NJ2					sP	**sP**	**05 37 49.0**	**+1.0**
NJ2					S	**S**	**05 40 50.0**	**-8.1**
NJ2					pmax	pmax			
	comp=Z,140nm,1.5s								
NJ2					pmax	pmax			
	comp=Z,1μm,3.5s								
JMJ	**Miyako jima 2**	**20.81**	**225**		P	**P**	**05 37 28.2**	**+1.4**
HNS	**HongShan**	**20.87**	**269**	⇓	P	**P**	**05 37 24.8**	**-2.6**
HNS					S	**S**	**05 41 09.5**	**-5.4**
HNS					SS	**SnSn**	**05 41 43.1**	**+0.2**
HNS					pmax	pmax			
	comp=Z,110nm,1.4s								
HNS					LR	LR			
	comp=Z,910nm,15.9s								
HNS					LR	LR			
	comp=Z,1μm,12.7s								
HNS					LR	LR			
	comp=Z,2μm,12.0s								
YOJ	**Yonaguni jima**	**22.35**	**229**		P	**P**	**05 37 39.4**	**-3.9**
YOJ	**Yonaguni jima**	**22.35**	**229**		P	**P**	**05 37 39.4**	**-3.9**
YAK	**Yakutsk**	**22.36**	**346**		P	**P**	**05 37 40.8**	**-2.3**
YAK	**Yakutsk**	**22.36**	**346**		P	**P**	**05 37 40.5**	**-2.5**
	comp=Z,65nm,0.3s,baz=154,slow=7.0,SNR=20								
YAK					S	**S**	**05 41 35.5**	**-6.8**
	comp=Z,124nm,1.1s,baz=344,slow=20,SNR=18								
	comp=Z,65nm,0.3s								
YAK	**Yakutsk**	**22.36**	**346**	*e*	P	**P**	**05 37 39.6**	**-3.4**
YAK				*e*	*'*PP	**pP**	**05 37 57.8**	**-3.5**
YAK				*e*			05 41 34.3		
YAK				*e*	S	**S**	**05 41 37.4**	**-4.9**
YAK				*e*			05 48 42.9		
YAK					pmax	pmax			
	comp=Z,86nm,1.6s								
YAK					pmax	pmax			
	comp=N,83nm,1.5s								
YAK					pmax	pmax			
	comp=E,12nm,1.1s								
YAK					smax	smax			
	comp=N,3μm,2.2s								
YAK					smax	smax			
	comp=E,3μm,2.5s								
HHC	**Hu-ho-hao-te**	**22.44**	**280**	*e*	P	**P**	**05 37 41.5**	**-2.7**
HHC					pP	pP	05 38 01.6	-0.9
HHC					PP	**PnPn**	**05 38 10.6**	**-1.3**
HHC					S	**S**	**05 41 36.0**	**-8.2**
HHC					SS	**SnSn**	**05 42 26.3**	**+4.8**
HHC					pmax	pmax			
	comp=E,78nm,1.7s								
HHC					pmax	pmax			
	comp=E,730nm,4.9s								
HHC					LR	LR			
	comp=E,430nm,9.6s								
HHC					LR	LR			
	comp=E,1μm,8.4s								
HHC					LR	LR			
	comp=E,2μm,11.8s								
TIY	**Taiyuan**	**22.50**	**271**	*e*	P	**P**	**05 37 42.6**	**-2.3**
TIY					pP	**pP**	**05 38 05.6**	**+2.4**
TIY					S	**S**	**05 41 44.9**	**-0.3**
TIY					sS	**sS**	**05 42 13.8**	**-3.7**
TIY					pmax	pmax			
	comp=E,46nm,1.3s								
TIY					pmax	pmax			
	comp=E,380nm,5.4s								
TIY					LR	LR			
	comp=E,570nm,9.0s								
TIY					LR	LR			
	comp=E,440nm,8.4s								
TIY					LR	LR			
	comp=E,750nm,15.3s								
TATO	**Taipei**	**22.85**	**232**		P	**P**	**05 37 47.2**	**-1.2**
TATO	**Taipei**	**22.85**	**232**		P	**P**	**05 37 49.3**	**+0.9**
TATO	**Taipei**	**22.85**	**232**		P	**P**	**05 37 49.3**	**+0.9**
SEY	**Seymchan**	**23.11**	**13**		P	**P**	**05 37 49.3**	**-1.2**
	comp=E,133nm,0.8s,baz=206,slow=8.1,SNR=66								
SEY					S	**S**	**05 41 50.0**	**-4.3**
	comp=E,10nm,0.9s,baz=72,slow=19,SNR=7.8								
	comp=E,133nm,0.8s								
SEY	**Seymchan**	**23.11**	**13**	*e*	P	**P**	**05 37 47.3**	**-3.3**
SEY					pmax	pmax			
	comp=Z,406nm,1.6s								
YHNB	**Yeheng**	**23.15**	**232**		P	**P**	**05 37 50.4**	**-1.0**
YHNB	**Yeheng**	**23.15**	**232**		P	**P**	**05 37 53.3**	**+1.9**
LYN	**LuoYang**	**23.58**	**264**		P	**P**	**05 37 52.4**	**-2.8**
LYN					pP	pP	05 38 14.6	-0.2
LYN					sP	sP	05 38 24.0	-2.4
LYN					S	**S**	**05 41 56.8**	**-5.6**
LYN					sS	sS	05 42 36.6	-1.1
LYN					ScS	**ScS**	**05 48 53.3**	**-0.6**
LYN					pmax	pmax			
	comp=Z,180nm,1.5s								
LYN					pmax	pmax			
	comp=Z,550nm,3.6s								
LYN					LR	LR			
	comp=Z,1μm,10.0s								
LYN					LR	LR			
	comp=Z,3μm,11.7s								
LYN					LR	LR			
	comp=Z,3μm,12.0s								
BTO	**Baotou**	**23.64**	**280**	*e*	P	**P**	**05 37 54.1**	**-1.7**
BTO					pP	**pP**	**05 38 15.3**	**-0.1**
BTO					sP	**sP**	**05 38 27.3**	**+0.5**
BTO					PP	**PnPn**	**05 38 30.9**	**+2.7**
BTO					S	**S**	**05 42 02.4**	**-1.0**
BTO					sS	Sn	05 42 33.3	+0.6
BTO					SS	**SnSn**	**05 42 55.6**	**+4.9**
BTO					pmax	pmax			
	comp=Z,230nm,1.6s								
BTO					pmax	pmax			
	comp=Z,1μm,10.4s								
BTO					LR	LR			
	comp=Z,6μm,14.9s								
BTO					LR	LR			
	comp=Z,3μm,15.8s								
BTO					LR	LR			
	comp=Z,5μm,24.1s								
SSLB	**Suanglung**	**24.07**	**231**		P	**P**	**05 38 01.5**	**+1.9**
WHN	**Wuhan**	**24.07**	**253**		P	**P**	**05 37 57.4**	**-2.2**
WHN					pP	**pP**	**05 38 19.3**	**-0.7**
WHN					S	**S**	**05 42 02.5**	**-7.9**
WHN					pmax	pmax			
	comp=Z,100nm,0.7s								
WHN					LR	LR			
	comp=Z,6μm,13.4s								
WHN					LR	LR			
	comp=Z,3μm,10.6s								
WHN					LR	LR			
	comp=Z,5μm,15.7s								
BOD	**Bodaibo**	**24.34**	**323**	*e*	P	**P**	**05 38 00.4**	**-1.4**
BOD					pmax	pmax			
	comp=Z,507nm,1.4s								
QZH	**Quanzhou**	**24.67**	**237**		P	**P**	**05 38 04.5**	**-0.6**
QZH					pP	**pP**	**05 38 25.0**	**-0.8**
QZH					sP	**sP**	**05 38 38.1**	**+1.3**
QZH					S	**S**	**05 42 21.5**	**+1.5**
QZH					pmax	pmax			
	comp=Z,140nm,1.3s								
QZH					pmax	pmax			
	comp=Z,730nm,3.1s								
QZH					LR	LR			
	comp=Z,570nm,12.7s								
QZH					LR	LR			
	comp=Z,910nm,14.4s								
QZH					LR	LR			
	comp=Z,1μm,9.6s								
TWGBT	**Beinan**	**24.74**	**230**		P	**P**	**05 38 06.0**	**+0.3**
TWG	**Pinlang**	**24.74**	**230**		P	**P**	**05 38 05.4**	**-0.3**
KNMB	**Chin-men Tao**	**25.14**	**237**		P	**P**	**05 38 10.0**	**+0.7**
KNMB					IAmb	IAmb	05 38 31.3		
	comp=Z,659nm,2.0s								
SMY	**Shemya**	**25.20**	**51**		P	**P**	**05 38 10.9**	**+1.3**
SMY	**Shemya**	**25.20**	**51**		P	**P**	**05 38 10.9**	**+1.3**
SMY					pmax	pmax			
	comp=Z,671nm,1.3s								
ULN	**Ulaanbaatar**	**25.32**	**298**		P	**P**	**05 38 10.3**	**-0.7**
ULN	**Ulaanbaatar**	**25.32**	**298**		P	**P**	**05 38 10.9**	**-0.1**
ULN					S	**S**	**05 42 31.1**	**+0.9**
ULN	**Ulaanbaatar**	**25.32**	**298**	*d i*	P	**P**	**05 38 09.7**	**-1.3**
ULN					pmax	pmax			
	comp=Z,98nm,1.8s								
SONM	**Songino Array**	**25.76**	**298**		P	**P**	**05 38 14.7**	**-0.2**
	comp=Z,24nm,0.4s,baz=103,slow=8.3,SNR=66								
SONM					ScP	**ScP**	**05 45 13.4**	**+0.1**
	comp=Z,18nm,1.2s,baz=119,slow=2.0,SNR=14								
SONM					LR	LR	05 48 29.7		
	comp=Z,902nm,19.9s,baz=76,slow=36								
	comp=Z,24nm,0.4s								
XAN	**Xi'an**	**26.47**	**266**	⇓	P	**P**	**05 38 19.6**	**-1.8**
XAN					pP	pP	05 38 40.0	-2.2
XAN					PP	**PnPn**	**05 39 13.0**	**+6.2**
XAN					S	**S**	**05 42 45.9**	**-2.6**
XAN					pmax	pmax			
	comp=Z,120nm,2.0s								
XAN					pmax	pmax			
	comp=Z,970nm,3.9s								
XAN					LR	LR			
	comp=Z,1μm,22.0s								
XAN					LR	LR			
	comp=Z,2μm,23.5s								
XAN					LR	LR			
	comp=Z,2μm,24.0s								
IRK	**Irkutsk**	**27.60**	**307**	*e*	P	**P**	**05 38 29.9**	**-1.4**
IRK					pmax	pmax			
	comp=Z,307nm,2.3s								
ZAK	**Zakamensk**	**27.98**	**303**	*e*	P	**P**	**05 38 33.3**	**-1.5**
ZAK					pmax	pmax			
	comp=Z,90nm,1.5s								
GZH	**Guangzhou**	**29.39**	**242**		P	P	05 38 41.3	-6.1
GZH					S	**S**	**05 43 26.4**	**-8.0**
GZH					LR	LR			
	comp=Z,2μm,12.7s								
GZH					LR	LR			
	comp=Z,2μm,11.6s								
MOY	**Mondy**	**29.54**	**305**	*e*	P	**P**	**05 38 48.6**	**0.0**
MOY					pmax	pmax			
	comp=Z,284nm,2.2s								
LZH	**Lanzhou**	**29.54**	**273**	*e*	P	**P**	**05 38 47.8**	**-1.1**
LZH					pP	pP	05 39 10.8	+0.9
LZH					sP	sP	05 39 20.3	-0.4
LZH					S	**S**	**05 43 36.4**	**-0.7**
LZH					ScP	**ScP**	**05 45 26.3**	**+1.2**
LZH					pmax	pmax			
	comp=Z,53nm,1.6s								
LZH					pmax	pmax			
	comp=Z,510nm,4.1s								
LZH					LR	LR			
	comp=Z,1μm,13.3s								
LZH					LR	LR			
	comp=Z,1μm,13.0s								
LZH					LR	LR			
	comp=Z,1μm,14.0s								
GULI	**GuiLin**	**30.00**	**248**		P	**P**	**05 38 52.5**	**-0.2**
GULI					S	**S**	**05 43 39.3**	**-4.7**
GULI					pmax	pmax			
	comp=Z,27nm,1.5s								
GULI					LR	LR			
	comp=Z,2μm,14.2s								
GULI					LR	LR			
	comp=Z,2μm,14.2s								
GULI					LR	LR			
	comp=Z,1μm,16.4s								
H11N2	**WAKE ISLAND Hy**	**30.33**	**126**		T	T	06 09 55.4		
	baz=318,slow=76,SNR=384								
H11N1	**WAKE ISLAND Hy**	**30.34**	**126**		T	T	06 09 56.5		
	baz=318,slow=76,SNR=376								
H11N3	**WAKE ISLAND Hy**	**30.34**	**126**		T	T	06 09 58.6		
	baz=318,slow=76,SNR=409								
KIWB	**Kanaga Island**	**30.35**	**55**		P	**P**	**05 38 55.1**	**-0.4**
KIWB					IAmb	IAmb	05 38 57.1		
	comp=Z,149nm,1.2s								
BILL	**Bilibino**	**30.44**	**18**		P	**P**	**05 38 57.2**	**+1.0**
BILL	**Bilibino**	**30.44**	**18**	*c i*	P	**P**	**05 38 56.7**	**+0.5**
BILL					pmax	pmax			
	comp=Z,72nm,1.1s								
ADK	**Adak**	**30.64**	**55**		P	**P**	**05 38 58.1**	**0.0**
ADK					IAmb	IAmb	05 38 59.4		
	comp=Z,164nm,1.1s								
ADK	**Adak**	**30.64**	**55**		P	**P**	**05 38 58.1**	**0.0**
ADK					pmax	pmax			
	comp=Z,164nm,1.1s								
H11S1	**WAKE ISLAND Hy**	**31.14**	**128**		T	T	06 10 44.8		
	baz=319,slow=76,SNR=29								
H11S3	**WAKE ISLAND Hy**	**31.14**	**128**		T	T	06 10 43.0		
	baz=319,slow=76,SNR=40								
H11S2	**WAKE ISLAND Hy**	**31.16**	**128**		T	T	06 10 52.6		
	baz=319,slow=76,SNR=62								
TIXI	**Tiksi**	**31.52**	**353**		P	**P**	**05 39 06.0**	**+0.4**
TIXI	**Tiksi**	**31.52**	**353**		P	**P**	**05 39 04.7**	**-0.9**
	comp=Z,12nm,0.3s,baz=153,slow=9.2,SNR=12								
	comp=Z,12nm,0.3s								
TIXI	**Tiksi**	**31.52**	**353**	*ce*	P	**P**	**05 39 05.6**	**-0.1**
TIXI					pmax	pmax			
	comp=Z,51nm,1.7s								
GTA	**Gaotai**	**31.53**	**281**	*e*	P	**P**	**05 39 05.1**	**-1.2**
GTA					PP	**PnPn**	**05 40 14.5**	**+1.4**
GTA					PcP	**PcP**	**05 41 58.0**	**+1.1**
GTA					S	**S**	**05 44 06.0**	**-2.1**
GTA					sS	sS	05 44 44.8	+0.3
GTA					ScP	**ScP**	**05 45 31.8**	**+0.2**
GTA					PcS	**PcS**	**05 45 42.8**	**+1.3**
GTA					ScS	**ScS**	**05 49 28.0**	**-1.7**
GTA					pmax	pmax			
	comp=Z,12nm,1.1s								
GTA					pmax	pmax			
	comp=Z,420nm,4.0s								
GTA					LR	LR			
	comp=Z,2μm,17.9s								
GTA					LR	LR			
	comp=Z,920nm,19.9s								
GTA					LR	LR			
	comp=Z,3μm,17.5s								
CD2	**Chengdu**	**31.77**	**264**		P	**P**	**05 39 07.4**	**-1.0**
CD2					pP	pP	05 39 26.8	-2.7
CD2					PP	**PP**	**05 40 20.6**	**-1.1**
CD2					S	**S**	**05 44 15.8**	**+4.1**
CD2					pmax	pmax			
	comp=Z,70nm,0.5s								
CD2					pmax	pmax			
	comp=Z,390nm,6.5s								
CD2					LR	LR			
	comp=Z,2μm,13.5s								
CD2					LR	LR			
	comp=Z,2μm,14.0s								
CD2					LR	LR			
	comp=Z,1μm,11.4s								
GYA	**Guiyang**	**31.96**	**254**	⇑	P	**P**	**05 39 09.4**	**-0.8**
GYA					S	**S**	**05 44 16.5**	**+1.7**
GYA					pmax	pmax			
	comp=Z,27nm,0.5s								
GYA					LR	LR			
	comp=Z,2μm,16.3s								
ATKA	**Atka Island**	**32.19**	**54**		P	**P**	**05 39 12.6**	**+0.8**
QIZ	**Qiongzhong**	**34.55**	**240**		P	**P**	**05 39 33.8**	**+1.2**
QIZ					sP	**sP**	**05 40 01.6**	**-3.1**
QIZ					PP	**PP**	**05 40 53.8**	**+1.2**
QIZ					S	**S**	**05 44 56.0**	**+1.1**
QIZ					sS	**sS**	**05 45 30.4**	**-1.2**
QIZ					LR	LR			
	comp=Z,920nm,12.0s								
QIZ					LR	LR			
	comp=Z,860nm,9.0s								
SPIA	**Saint Paul Isl**	**34.90**	**45**		P	**P**	**05 39 36.1**	**+0.9**
	baz=263								
P08K	**Saint George I**	**35.22**	**47**		P	**P**	**05 39 38.6**	**+0.7**
	baz=265								
NIKH	**Nikolski High**	**35.46**	**53**		P	**P**	**05 39 40.2**	**+0.1**
	baz=270								
PZH	**PanZhiHua**	**35.56**	**259**		P	**P**	**05 39 42.8**	**+1.4**
PZH					PP	**PP**	**05 41 04.8**	**+1.0**
PZH					S	**S**	**05 45 07.1**	**-3.4**
PZH					pmax	pmax			
	comp=Z,70nm,0.6s								
PZH					pmax	pmax			
	comp=Z,170nm,4.7s								
PZH					LR	LR			
	comp=Z,1μm,15.9s								
PZH					LR	LR			
	comp=Z,770nm,15.8s								
PZH					LR	LR			
	comp=Z,700nm,14.7s								
GAMB	**Gambell**	**35.58**	**34**		P	**P**	**05 39 41.5**	**+0.5**
	baz=253								
KMI	**Kunming**	**35.61**	**256**		P	**P**	**05 39 39.3**	**-2.6**
KMI					pP	pP	05 40 01.1	-2.2
KMI					sP	sP	05 40 15.9	+2.0
KMI					PP	**PnPn**	**05 41 03.1**	**-1.1**
KMI					S	**S**	**05 45 04.6**	**-6.8**
KMI					sS	sS	05 45 48.3	0.0
KMI					SS	**SnSn**	**05 47 31.8**	**-10**
KMI					pmax	pmax			
	comp=Z,43nm,0.8s								
KMI					pmax	pmax			
	comp=Z,570nm,3.7s								
KMI					LR	LR			
	comp=Z,1μm,14.7s								
KMI					LR	LR			
	comp=Z,580nm,11.9s								
KMI					LR	LR			
	comp=Z,890nm,14.1s								
MIDW	**Midway**	**36.00**	**97**		P	**P**	**05 39 45.7**	**+0.8**
GOMU	**GeErMu**	**36.32**	**278**		P	**P**	**05 39 47.3**	**-0.8**
GOMU					pP	pP	05 40 07.4	-2.1
GOMU					sP	sP	05 40 17.0	-3.2
GOMU					PP	**PP**	**05 41 11.3**	**-1.0**
GOMU					PcP	**PcP**	**05 42 12.3**	**+1.4**
GOMU					S	**S**	**05 45 22.3**	**-0.2**
GOMU					pmax	pmax			
	comp=Z,31nm,0.8s								
GOMU					pmax	pmax			
	comp=Z,470nm,5.1s								
GOMU					LR	LR			
	comp=Z,300nm,17.2s								
GOMU					LR	LR			
	comp=Z,570nm,16.0s								
GOMU					LR	LR			
	comp=Z,820nm,17.5s								
UNV	**Unalaska Valle**	**36.86**	**51**		P	**P**	**05 39 51.1**	**-0.9**
	baz=271								
SLVN	**Son La**	**37.08**	**250**		P	**P**	**05 39 54.5**	**+0.2**
SLVN					IAmb	IAmb	05 39 56.2		
	comp=Z,130nm,1.3s								
SLVN	**Son La**	**37.08**	**250**		P	**P**	**05 39 54.7**	**+0.4**
M11K	**Mekoryuk**	**37.38**	**40**		P	**P**	**05 39 58.3**	**+2.0**
	baz=263								
TNA	**Tin City**	**37.65**	**32**		P	**P**	**05 39 59.2**	**+0.7**
TNA	**Tin City**	**37.65**	**32**		P	**P**	**05 39 59.5**	**+1.0**

baz=254
F14K **Arctic Creek** 38.27 32 P P 05 40 05.2 +1.4
baz=256,SNR=12
K13K **Kusilvak Mount** 38.33 38 P P 05 40 05.9 +1.6
baz=262,SNR=30
ANM **Nome** 38.46 34 P P 05 40 06.9 +1.5
baz=258
FALS **False Pass** 38.64 50 P P 05 40 08.4 +1.5
baz=272
TNCH **TengChong** 38.79 259 ‖P P 05 40 08.6 -0.2
TNCH pP pP 05 40 28.5 -1.9
TNCH sP sP 05 40 38.9 -2.1
TNCH PP **PnPn** **05 41 42.6 +0.2**
TNCH S S **05 46 00.3 +0.6**
TNCH sS sS 05 46 37.9 +1.1
TNCH ScS **ScS** **05 50 07.6 -1.9**
TNCH pmax pmax
comp=Z,210nm,1.5s
TNCH pmax pmax
comp=Z,1μm,2.6s
M13K **Dall Lake** 38.79 41 P P 05 40 09.3 +1.1
M13K **Dall Lake** 38.79 41 P P 05 40 10.3 +2.1
baz=265,SNR=8.1
J14K **Nanvaranak Lak** 38.95 37 P P 05 40 10.7 +1.3
J14K IAmb IAmb 05 40 12.6
comp=Z,130nm,1.0s
J14K **Nanvaranak Lak** 38.95 37 P P 05 40 11.1 +1.6
baz=262,SNR=23
F15K **North Star Dit** 39.00 32 P P 05 40 11.4 +1.5
baz=258,SNR=14
G15K **Niukluk** 39.11 33 P P 05 40 12.3 +1.6
baz=259,SNR=27
WMQ **Urumqi** 39.16 293 *e*P P 05 40 12.5 +1.0
WMQ pP pP 05 40 29.0 -4.2
WMQ S S **05 46 04.0 -0.6**
WMQ pmax pmax
comp=Z,170nm,1.1s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ LR LR
comp=Z,1μm,14.7s
WMQ LR LR
comp=Z,690nm,15.1s
WMQ LR LR
comp=Z,950nm,24.9s
L14K **Kuka Creek** 39.20 39 IAmb IAmb 05 40 15.0
comp=Z,140nm,1.1s
L14K **Kuka Creek** 39.20 39 P P 05 40 13.6 +2.1
baz=265,SNR=27
ZALV **Zalesovo Beam** 39.37 309 P P 05 40 12.9 -0.1
comp=Z,52nm,0.4s,baz=89,slow=8.4,SNR=92
ZALV PcP PcP 05 42 20.1 +0.6
comp=Z,30nm,0.5s,baz=93,slow=3.0,SNR=13
ZALV ScP ScP 05 45 59.3 -0.3
comp=Z,23nm,1.0s,baz=66,slow=3.7,SNR=12
ZALV LR LR 05 57 15.1
comp=Z,940nm,19.8s,baz=79,slow=37
comp=Z,52nm,0.4s
ZALV **Zalesovo Beam** 39.37 309 *i* P P 05 40 12.8 -0.2
ZALV pmax pmax
comp=Z,52nm,0.4s
C16K **Lisburne Hills** 39.38 28 P P 05 40 11.9 -1.1
baz=254,SNR=13
S12K **Black Hills** 39.38 48 P P 05 40 11.8 -1.3
baz=272
M14K **Bethel** 39.50 40 IAmb IAmb 05 40 17.3
comp=Z,170nm,1.1s
M14K **Bethel** 39.50 40 P P 05 40 15.7 +1.7
baz=266,SNR=22
N14K **Kuskokwak Cree** 39.59 42 P P 05 40 16.5 +1.7
baz=268,SNR=10.0
O14K **Tigyukauivet M** 39.78 43 P P 05 40 17.7 +1.3
O14K IAmb IAmb 05 40 19.5
comp=Z,144nm,1.3s
O14K **Tigyukauivet M** 39.78 43 P P 05 40 17.9 +1.5
baz=269,SNR=7.6
L15K **Ungalak Mounta** 39.80 39 P P 05 40 18.1 +1.6
baz=266,SNR=20
H16K **Elim** 39.80 34 P P 05 40 18.0 +1.5
baz=261,SNR=38
K15K **Wolf Creek Mou** 39.83 38 IAmb IAmb 05 40 20.4
comp=Z,143nm,1.2s
K15K **Wolf Creek Mou** 39.83 38 P P 05 40 18.7 +1.9
baz=265,SNR=25
G16K **Koyuk River** 39.88 33 IAmb IAmb 05 40 24.2
comp=Z,95nm,0.9s
G16K **Koyuk River** 39.88 33 P P 05 40 18.5 +1.4
baz=260,SNR=27
D17K **Noatak River** 40.06 29 P P 05 40 19.3 +0.7
baz=257,SNR=38
M15K **Kasigluk River** 40.12 40 P P 05 40 20.5 +1.3
baz=268,SNR=38
RDOG **Red Dog Mine** 40.20 29 P P 05 40 20.5 +0.7
baz=257
C17K **DeLong Mountai** 40.21 28 P P 05 40 20.4 +0.5
baz=256,SNR=30
ZSN **Zaisan** 40.25 299 *e*P P 05 40 21.0 +0.5
ZSN *e*S S **05 46 21.5 +0.7**
ZSN pmax pmax
comp=Z,63nm,1.6s
ZSN **Zaisan** 40.25 299 *e*P P 05 40 21.0 +0.5
comp=Z,63nm,1.6s
ZSN *e*S S 05 46 21.6 +0.7
SDPT **Sand Point** 40.30 49 P P 05 40 20.1 -0.6
SDPT **Sand Point** 40.30 49 P P 05 40 21.2 +0.5
SDPT **Sand Point** 40.30 49 P P 05 40 19.8 -0.9
baz=274
J16K **Anvik River** 40.35 36 P P 05 40 23.2 +2.2
J16K IAmb IAmb 05 40 24.5
comp=Z,96nm,1.2s
J16K **Anvik River** 40.35 36 P P 05 40 22.9 +1.8
baz=264,SNR=13
I17K **Unalakleet** 40.37 35 IAmb IAmb 05 40 24.6
comp=Z,134nm,0.8s
I17K **Unalakleet** 40.37 35 P P 05 40 23.2 +2.0
baz=264,SNR=16
E17K **Hotham Inlet** 40.40 30 P P 05 40 22.4 +1.0
baz=259,SNR=63
N15K **Kwethluk River** 40.40 41 P P 05 40 23.1 +1.6
baz=269,SNR=66
F17K **Baldwin Pennin** 40.51 31 IAmb IAmb 05 40 29.3
comp=Z,148nm,1.1s
F17K **Baldwin Pennin** 40.51 31 P P 05 40 23.3 +1.0
baz=260,SNR=27
O15K **Ungalikthiuk R** 40.52 43 IAmb IAmb 05 40 25.4
comp=Z,93nm,0.8s
O15K **Ungalikthiuk R** 40.52 43 P P 05 40 23.9 +1.4
baz=270,SNR=32
G17K **Kiwalik Mounta** 40.60 33 P P 05 40 24.5 +1.5
baz=262,SNR=68
DLV **Lat** 40.69 234 P P 05 40 24.7 +0.1
DLV **Lat** 40.69 234 P P 05 40 25.8 +1.2
S14K **Fog Glacier** 40.76 47 P P 05 40 23.9 -0.7
baz=274
L16K **Owhat River** 40.76 39 IAmb IAmb 05 40 27.4
comp=Z,105nm,1.1s
L16K **Owhat River** 40.76 39 P P 05 40 25.7 +1.2
baz=267,SNR=49
H17K **Granite Mounta** 40.83 34 P P 05 40 26.8 +1.8
H17K IAmb IAmb 05 40 28.4
comp=Z,152nm,1.0s
H17K **Granite Mounta** 40.83 34 P P 05 40 26.8 +1.8
baz=263,SNR=54
CHNA **Chernabura Isl** 40.85 49 P P 05 40 25.4 +0.2
CHNA **Chernabura Isl** 40.85 49 P P 05 40 24.5 -0.7
baz=275,SNR=19
CNBA **Chernabura Isl** 40.85 49 P P 05 40 25.1 -0.1
CNBA IAmb IAmb 05 40 26.0
comp=Z,98nm,0.8s
B18K **Kokolik River** 40.91 27 P P 05 40 26.5 +1.0
baz=256,SNR=14
E18K **Tukpahlearik C** 40.93 30 P P 05 40 27.3 +1.5
E18K IAmb IAmb 05 40 32.6
comp=Z,84nm,0.9s
E18K **Tukpahlearik C** 40.93 30 P P 05 40 26.9 +1.1
baz=260,SNR=35
MYLDM **Lahad Datu** 40.95 216 IAmb IAmb 05 40 30.7
comp=Z,154nm,1.2s
MYLDM **Lahad Datu** 40.95 216 P P 05 40 27.7 +1.2
C18K **Utukok River** 40.96 28 P P 05 40 26.5 +0.4
baz=258,SNR=24
M16K **Timber Creek** 40.98 40 IAmb IAmb 05 40 29.3
comp=Z,200nm,1.4s
M16K **Timber Creek** 40.98 40 P P 05 40 27.8 +1.5
baz=269,SNR=38
J17K **VABM Dome** 41.05 36 P P 05 40 28.9 +2.1
baz=266,SNR=65

N16K **Nishlik Lake** 41.06 41 P P 05 40 28.6 +1.6
baz=269,SNR=60
F18K **Selawik** 41.16 31 P P 05 40 28.9 +1.2
baz=262,SNR=44
KKM **Kota Kinabalu** 41.26 220 P P 05 40 29.3 +0.1
L17K **Donlin** 41.33 38 P P 05 40 31.1 +2.0
baz=268,SNR=60
K17K **Iditarod** 41.36 37 P P 05 40 31.4 +2.0
baz=267,SNR=66
O16K **Kokwok River B** 41.41 42 IAmb IAmb 05 40 32.6
comp=Z,116nm,1.2s
O16K **Kokwok River B** 41.41 42 P P 05 40 31.1 +1.3
baz=271,SNR=25
G18K **Tagagawik** 41.47 33 IAmb IAmb 05 40 37.5
comp=Z,131nm,0.9s
G18K **Tagagawik** 41.47 33 P P 05 40 31.4 +1.2
baz=263,SNR=70
P16K **Nushagak River** 41.47 43 P P 05 40 31.7 +1.4
baz=272,SNR=8.5
H18K **Honhosa River** 41.51 34 P P 05 40 32.1 +1.5
baz=264,SNR=108
C19K **Lookout Ridge** 41.62 28 P P 05 40 31.9 +0.4
baz=259,SNR=20
M17K **Holitna River** 41.73 39 IAmb IAmb 05 40 43.4
comp=Z,155nm,1.1s
M17K **Holitna River** 41.73 39 P P 05 40 34.4 +2.0
baz=270,SNR=34
R16K **Pilot Point** 41.76 45 P P 05 40 33.3 +0.6
baz=274
N17K **Nushagak Hills** 41.85 41 IAmb IAmb 05 40 36.7
comp=Z,129nm,1.4s
N17K **Nushagak Hills** 41.85 41 P P 05 40 35.1 +1.8
baz=271,SNR=25
LSA **Lhasa** 41.90 271 P P 05 40 34.6 -0.2
LSA pmax pmax
comp=Z,130nm,1.5s
LSA LR LR
comp=Z,820nm,25.7s
O17K **Koliganek Bris** 41.91 42 P P 05 40 35.3 +1.5
baz=272,SNR=38
F19K **Shaleruckik Mo** 41.94 31 P P 05 40 34.6 +0.6
baz=263,SNR=98
D19K **Kuna River** 42.04 29 P P 05 40 35.5 +0.7
baz=261,SNR=60
L18K **Granite Mounta** 42.09 38 IAmb IAmb 05 40 38.9
comp=Z,190nm,1.4s
L18K **Granite Mounta** 42.09 38 P P 05 40 37.2 +1.9
baz=269,SNR=45
GCSA **Galena City Sc** 42.11 34 P P 05 40 36.3 +0.9
baz=266,SNR=11
J18K **Innoko River** 42.11 36 IAmb IAmb 05 40 38.4
comp=Z,122nm,1.2s
J18K **Innoko River** 42.11 36 P P 05 40 36.8 +1.3
baz=268,SNR=62
MK31 **Makanchi Array** 42.12 299 *de*P P 05 40 35.8 0.0
MKAR **Makanchi Array** 42.12 299 P P 05 40 35.9 +0.1
comp=Z,93nm,0.7s,baz=79,slow=7.8,SNR=289
MKAR PcP PcP 05 42 28.6 -0.1
comp=Z,6.7nm,0.4s,baz=87,slow=5.9,SNR=2.8
MKAR ScP ScP 05 46 10.3 -0.3
comp=Z,12nm,1.0s,baz=78,slow=6.8,SNR=9.1
MKAR S S 05 46 47.7 -0.7
comp=Z,15nm,1.3s,baz=82,slow=11,SNR=6.0
MKAR LR LR 05 58 37.6
comp=Z,644nm,21.1s,baz=72,slow=37
comp=Z,93nm,0.7s
G19K **Purcell Mounta** 42.13 32 IAmb IAmb 05 40 42.6
comp=Z,90nm,0.9s
G19K **Purcell Mounta** 42.13 32 P P 05 40 36.5 +0.8
baz=265,SNR=44
Q16K **King Salmon** 42.18 43 P P 05 40 37.3 +1.3
baz=273,SNR=6.1
E19K **Redstone River** 42.22 30 P P 05 40 37.6 +1.3
baz=263,SNR=85
CHTO **Chiang Mai** 42.26 252 P P 05 40 37.5 +0.3
CHTO IAmb IAmb 05 40 41.7
comp=Z,82nm,0.9s
CHTO **Chiang Mai** 42.26 252 P P 05 40 37.6 +0.4
CHTO S S 05 46 53.4 +2.4
CHTO **Chiang Mai** 42.26 252 P P 05 40 38.0 +0.8
CHTO **Chiang Mai** 42.26 252 P P 05 40 37.5 +0.3
CHTO pmax pmax
comp=Z,82nm,0.9s
CHTO **Chiang Mai** 42.26 252 P P 05 40 37.7 +0.4
P17K **Kvichak River** 42.27 43 P P 05 40 38.3 +1.6
baz=273,SNR=15
MAKZ **Makanchi** 42.32 299 P P 05 40 37.9 +0.5
MAKZ pP pP 05 40 57.5 -1.8
H19K **Roundabout Mou** 42.34 33 P P 05 40 38.9 +1.6
baz=266,SNR=373
R17L **Mt. Peulik Vol** 42.41 45 P P 05 40 38.1 +0.2
baz=275
N18K **Kilae Creek** 42.48 40 IAmb IAmb 05 40 42.1
comp=Z,150nm,1.1s
N18K **Kilae Creek** 42.48 40 P P 05 40 40.7 +2.1
baz=272,SNR=51
CMAR **Chiang Mai Arr** 42.49 251 P P 05 40 39.6 +0.5
comp=Z,15nm,0.5s,baz=46,slow=6.6,SNR=69
CMAR ScP ScP 05 46 12.7 +0.2
comp=Z,2.2nm,0.3s,baz=23,slow=3.7,SNR=15
CMAR LR LR 05 57 48.4
comp=Z,431nm,20.1s,baz=50,slow=35
comp=Z,15nm,0.5s
CMAR **Chiang Mai Arr** 42.49 251 *ce*P P 05 40 39.5 +0.5
CMAR pmax pmax
comp=Z,16nm,0.5s
M18K **Stony River** 42.50 39 P P 05 40 40.6 +1.9
baz=271,SNR=29
D20K **Etivluk River** 42.62 28 P P 05 40 40.4 +0.9
baz=262,SNR=39
J19K **Poorman** 42.62 35 P P 05 40 40.9 +1.4
baz=268,SNR=131
B20K **Meade River** 42.62 27 P P 05 40 40.3 +0.8
baz=260
E20K **Nigu River** 42.71 29 P P 05 40 41.3 +0.9
baz=263,SNR=56
F20K **Avaraart Lake** 42.76 31 P P 05 40 41.7 +1.0
baz=265
O18K **Koktuh Hills** 42.86 42 IAmb IAmb 05 40 44.7
comp=Z,99nm,1.1s
O18K **Koktuh Hills** 42.86 42 P P 05 40 43.2 +1.6
baz=273,SNR=23
P18K **Big Mountain,** 42.88 42 IAmb IAmb 05 40 44.5
comp=Z,126nm,1.2s
P18K **Big Mountain,** 42.88 42 P P 05 40 42.9 +1.2
baz=274,SNR=15
L19K **White Mountain** 42.95 38 IAmb IAmb 05 40 45.4
comp=Z,118nm,1.4s
L19K **White Mountain** 42.95 38 P P 05 40 43.7 +1.4
baz=271,SNR=43
H20K **Anotleneega Mo** 42.99 33 P P 05 40 44.2 +1.6
baz=267,SNR=221
CHIR **Chirikof Islan** 43.00 48 P P 05 40 43.5 +0.8
CHIR **Chirikof Islan** 43.00 48 P P 05 40 43.3 +0.6
baz=277,SNR=7.5
Q18K **Katmai Hardscr** 43.04 43 P P 05 40 43.8 +0.6
baz=275,SNR=21
I20K **Naaghedeneel** 43.14 34 P P 05 40 45.6 +1.9
baz=268,SNR=53
N19K **Bonanza Creek** 43.17 40 P P 05 40 45.8 +1.6
baz=273,SNR=20
M19K **Big River Lodg** 43.17 39 P P 05 40 45.9 +1.8
baz=272,SNR=31
GENI **Genyem** 43.22 182 P P 05 40 45.7 +0.8
comp=Z,62nm,0.9s
J20K **Nowinta River** 43.27 35 P P 05 40 46.6 +1.8
baz=270,SNR=124
O19K **Port Alsworth** 43.28 41 IAmb IAmb 05 40 48.1
comp=Z,111nm,1.4s
O19K **Port Alsworth** 43.28 41 P P 05 40 46.4 +1.4
baz=274,SNR=11
K20K **Telida** 43.30 36 IAmb IAmb 05 40 48.4
comp=Z,93nm,0.9s
K20K **Telida** 43.30 36 P P 05 40 47.0 +1.9
baz=270,SNR=76
C21K **Knifeblade Rid** 43.33 28 P P 05 40 46.4 +1.2
baz=264,SNR=24
L20K **Farewell, AK** 43.40 38 P P 05 40 47.6 +1.6
baz=272,SNR=52
R18K **Karluk** 43.44 45 P P 05 40 45.6 -0.6
baz=276
B21K **Ikpikpuk River** 43.44 27 P P 05 40 47.1 +1.0
baz=263
SHL **Shillong** 43.48 265 P P 05 40 46.4 -0.8
SHL IAmb IAmb 05 40 48.2
comp=Z,234nm,1.6s
SHL **Shillong** 43.48 265 P P 05 40 46.8 -0.4
SHL **Shillong** 43.48 265 P P 05 40 46.4 -0.8

SHL pmax pmax
comp=Z,234nm,1.6s
A22K **Sinclair Lake** 43.51 25 P P 05 40 46.5 -0.1
baz=261
E21K **Killik River** 43.55 29 P P 05 40 47.8 +0.7
baz=265
KURK **Kurchatov** 43.59 305 P P 05 40 47.5 0.0
KURK **Kurchatov** 43.59 305 P P 05 40 47.8 +0.2
KURK S S 05 47 06.5 -3.3
KURK **Kurchatov** 43.59 305 P P 05 40 48.3 +0.7
KURK 05 42 34.2
KURK S S 05 47 07.4 -2.4
KURK **Kurchatov** 43.59 305 ‖P P 05 40 47.6 0.0
G21K **Allakaket** 43.60 32 P P 05 40 49.1 +1.6
baz=268,SNR=125
F21K **Alatna River** 43.65 31 P P 05 40 48.8 +0.9
baz=267,SNR=38
KURBB **Kurchatov Arra** 43.67 305 P P 05 40 48.2 +0.1
comp=Z,185nm,0.9s,baz=81,slow=8.8,SNR=312
KURBB PcP PcP 05 42 34.1 +0.4
comp=Z,17nm,0.9s,baz=90,slow=3.4,SNR=5.8
KURBB S S 05 47 07.4 -3.5
comp=Z,1.1nm,0.7s,baz=77,slow=13,SNR=5.7
comp=Z,185nm,0.9s
TOLI2 **Tolitoli** 43.68 210 P P 05 40 49.1 +0.5
TOLI2 IAmb IAmb 05 41 22.3
comp=Z,147nm,1.8s
TOLI2 **Tolitoli** 43.68 210 P P 05 40 49.6 +1.0
SII **Sitkinak Islan** 43.70 46 P P 05 40 49.3 +0.9
SII **Sitkinak Islan** 43.70 46 P P 05 40 48.6 +0.2
baz=276,SNR=6.7
Q19K **Cape Douglas,** 43.72 43 P P 05 40 48.9 +0.3
baz=275,SNR=8.3
M20K **Styx River** 43.77 39 P P 05 40 50.9 +1.9
baz=273
MRSI **Marisa** 43.83 209 P P 05 40 50.4 +0.6
comp=Z,2μmcomp=Z,151nm,0.9s
H21K **Melozitna Rive** 43.86 33 IAmb IAmb 05 40 52.6
comp=Z,127nm,0.8s
H21K **Melozitna Rive** 43.86 33 P P 05 40 51.0 +1.4
baz=269,SNR=116
P19K **Oil Pt** 43.87 42 IAmb IAmb 05 40 52.5
comp=Z,280nm,1.8s
P19K **Oil Pt** 43.87 42 P P 05 40 50.7 +1.0
baz=275
B22K **Teshekpuk Lake** 43.94 26 IAmb IAmb 05 40 58.9
comp=Z,102nm,0.8s
B22K **Teshekpuk Lake** 43.94 26 P P 05 40 50.8 +0.7
baz=264
RED **Redoubt Volcan** 44.04 41 IAmb IAmb 05 40 53.5
comp=Z,81nm,0.9s
D22K **Ayikyak River** 44.06 28 IAmb IAmb 05 40 53.8
comp=Z,100nm,0.7s
D22K **Ayikyak River** 44.06 28 P P 05 40 52.4 +1.3
baz=266,SNR=33
CHUM **Lake Minchumin** 44.08 36 P P 05 40 53.2 +1.9
baz=271,SNR=11
OHAK **Old Harbor** 44.10 45 P P 05 40 51.6 +0.1
OHAK IAmb IAmb 05 40 53.2
comp=Z,209nm,1.4s
OHAK **Old Harbor** 44.10 45 P P 05 40 52.3 +0.7
OHAK **Old Harbor** 44.10 45 P P 05 40 51.8 +0.2
baz=278,SNR=23
O20K **Slope Mountain** 44.14 41 P P 05 40 52.8 +0.9
baz=275,SNR=7.5
F22K **John River** 44.16 30 P P 05 40 53.5 +1.5
baz=268
PPLA **Purkeypile** 44.16 37 P P 05 40 54.3 +2.1
baz=272,SNR=52
CAST **Castle Rocks** 44.19 36 IAmb IAmb 05 40 55.7
comp=Z,85nm,0.9s
CAST **Castle Rocks** 44.19 36 P P 05 40 54.1 +1.8
baz=272,SNR=79
I21K **Tanana** 44.20 34 IAmb IAmb 05 40 55.6
comp=Z,116nm,0.9s
I21K **Tanana** 44.20 34 P P 05 40 54.0 +1.8
baz=270,SNR=23
N20K **Mount Spurr** 44.25 40 P P 05 40 54.6 +1.8
baz=274,SNR=17
SPCR **Spurr Chakacha** 44.25 40 P P 05 40 54.6 +1.7
baz=274,SNR=15
FAKI **Fak Fak** 44.31 193 P P 05 40 54.7 +1.0
SPU **Mount Spurr** 44.33 40 IAmb IAmb 05 40 56.5
comp=Z,163nm,1.3s
E22K **Anaktuvuk Pass** 44.33 30 P P 05 40 54.6 +1.3
baz=268,SNR=78
Q20K **Shuyak Island** 44.41 43 P P 05 40 54.1 +0.2
baz=273,SNR=8.7
SYI **Shuyak Island** 44.41 43 IAmb IAmb 05 40 55.6
comp=Z,107nm,0.7s
KDAK **Kodiak Island** 44.41 44 P P 05 40 54.5 +0.5
KDAK IAmb IAmb 05 40 55.7
comp=Z,141nm,0.9s
KDAK **Kodiak Island** 44.41 44 *c* *i*P P 05 40 53.7 -0.3
KDAK pmax pmax
comp=Z,91nm,0.7s
KDAK **Kodiak Island** 44.41 44 P P 05 40 54.3 +0.3
baz=278
KDAK **Kodiak Island** 44.41 44 P P 05 40 54.0 0.0
KDAK pP pP 05 41 15.0 -0.7
KDAK PcP PcP 05 42 36.8 +0.7
G22K **Bettles** 44.41 31 P P 05 40 54.9 +1.0
baz=269
H22K **Ishtalitna Cre** 44.45 33 P P 05 40 56.2 +1.9
baz=270,SNR=177
SKT **Skwentna** 44.52 38 P P 05 40 55.7 +0.8
baz=274,SNR=25
BPAW **Bear Paw Mtn.** 44.65 35 IAmb IAmb 05 40 59.0
comp=Z,242nm,1.6s
BPAW **Bear Paw Mtn.** 44.65 35 P P 05 40 57.5 +1.5
baz=272,SNR=16
HOM **Homer** 44.67 42 P P 05 40 56.8 +0.8
baz=276
MLY **Manley** 44.73 34 IAmb IAmb 05 40 59.9
comp=Z,134nm,1.0s
MLY **Manley** 44.73 34 P P 05 40 58.4 +1.9
baz=272,SNR=52
D23K **Nanushuk River** 44.78 28 P P 05 40 58.6 +1.7
baz=268
CAPN **Captain Cook N** 44.80 40 P P 05 40 58.5 +1.4
baz=276
C23K **Itkillik River** 44.85 27 IAmb IAmb 05 40 59.9
comp=Z,102nm,0.9s
C23K **Itkillik River** 44.85 27 P P 05 40 58.4 +1.0
baz=267,SNR=8.1
CNPM **China Poot** 44.89 42 IAmb IAmb 05 41 09.7
comp=Z,99nm,1.1s
SANI **Sanana** 44.89 202 P P 05 40 59.3 +1.0
SANI **Sanana** 44.89 202 P P 05 40 58.3 0.0
comp=Z,1μmcomp=Z,117nm,1.1s
COLD **Coldfoot** 44.92 31 IAmb IAmb 05 41 00.8
comp=Z,132nm,1.2s
COLD **Coldfoot** 44.92 31 P P 05 40 59.3 +1.3
baz=270,SNR=29
SUA **Susitna One** 44.94 39 P P 05 40 58.7 +0.4
baz=275,SNR=41
G23K **Bananza Creek** 44.99 32 IAmb IAmb 05 41 01.9
comp=Z,131nm,0.8s
G23K **Bananza Creek** 44.99 32 P P 05 40 59.9 +1.3
baz=271,SNR=102
TRF **Thorofare Moun** 45.00 36 P P 05 40 59.9 +1.1
baz=274,SNR=25
BRLK **Bradley Lake** 45.04 41 IAmb IAmb 05 41 01.8
comp=Z,288nm,1.8s
CUT **Chulitna** 45.08 38 P P 05 40 59.9 +0.7
baz=275,SNR=12
SHLS **Shalkode** 45.08 294 *e*P P 05 40 57.4 -2.3
SHLS pmax pmax
comp=Z,52nm,0.7s
SHLS **Shalkode** 45.08 294 *e*P P 05 40 57.5 -2.3
comp=Z,52nm,0.7s
E23K **Chandalar** 45.15 30 P P 05 41 01.4 +1.5
baz=270,SNR=38
TOLK **Toolik Lake Re** 45.18 29 IAmb IAmb 05 41 07.4
comp=Z,203nm,1.6s
TOLK **Toolik Lake Re** 45.18 29 P P 05 41 01.2 +1.1
baz=269,SNR=16
M22K **Willow** 45.21 39 P P 05 41 00.2 -0.1
baz=276,SNR=10
H23K **Yukon River** 45.21 33 P P 05 41 02.3 +2.0
baz=272,SNR=183
TDK **Taldyqorghan** 45.22 297 *e*P P 05 41 00.8 +0.2
TDK *e*S S **05 47 34.1 +0.5**
TDK pmax pmax
comp=Z,65nm,1.0s
TDK **Taldyqorghan** 45.22 297 *e*P P 05 41 00.9 +0.2
comp=Z,66nm,1.0s

TDK eS S 05 47 34.1 +0.5
BRDH Bariadhala 45.29 262 LR LR 06 00 25.2
comp=Z,404nm,19.9s,baz=113,slow=36
I23K Minto, Yukon-K 45.31 34 P P **05 41 02.8 +1.7**
baz=273,SNR=94
UZB Uzynbulak 45.39 295*d i* P P **05 41 02.2 0.0**
UZB eS S **05 47 36.4 0.0**
UZB pmax pmax
comp=Z,103nm,1.2s
UZB Uzynbulak 45.39 295 ⇓*i* P P **05 41 02.2 0.0**
comp=Z,103nm,1.2s
UZB eS S **05 47 36.4 0.0**
D24K Happy Valley 45.46 28 P P **05 41 03.3 +1.2**
baz=269,SNR=38
RC01 Rabbit Creek A 45.46 40 IAmb IAmb 05 41 04.2
comp=Z,105nm,1.0s
RC01 Rabbit Creek A 45.46 40 P P **05 41 02.6 +0.3**
baz=276,SNR=44
NEA2 Nenana 45.46 35 P P **05 41 03.7 +1.4**
baz=274,SNR=49
C24K Franklin Bluff 45.51 27 P P **05 41 03.6 +1.0**
baz=269,SNR=8.2
O22K Cooper Landing 45.53 40 P P **05 41 03.2 +0.3**
baz=277
E24K Your Creek 45.58 30 P P **05 41 04.7 +1.5**
baz=271
MCK McKinley 45.58 36 IAmb IAmb 05 41 05.7
comp=Z,81nm,1.0s
MCK McKinley 45.58 36 P P **05 41 04.3 +1.1**
baz=274,SNR=31
RND Reindeer 45.64 36 IAmb IAmb 05 41 05.9
comp=Z,179nm,1.3s
PMR Palmer 45.69 39 P P **05 41 05.1 +1.0**
PMR Palmer 45.69 39 P P **05 41 04.3 +0.2**
baz=276,SNR=48
SEW Seward 45.72 41 IAmb IAmb 05 41 15.2
comp=Z,91nm,0.8s
SEW Seward 45.72 41 P P **05 41 04.6 +0.3**
baz=278,SNR=10
F24K Squaw Lake 45.81 30 IAmb IAmb 05 41 07.9
comp=Z,56nm,0.7s
F24K Squaw Lake 45.81 30 P P **05 41 06.5 +1.4**
baz=272,SNR=50
SATY Saty 45.84 295*d i* P P **05 41 05.7 0.0**
SATY eS S **05 47 42.9 0.0**
SATY pmax pmax
comp=Z,28nm,0.5s
SATY Saty 45.84 295 ⇓*i* P P **05 41 05.8 0.0**
comp=Z,28nm,0.5s
SATY eS S **05 47 42.9 0.0**
ARXS Arharly 45.86 296 *e*P P **05 41 06.8 +1.0**
H24K Noodor Dome 45.89 33 P P **05 41 07.8 +2.1**
baz=273,SNR=124
COLA College 45.97 34 P P **05 41 07.6 +1.4**
COLA IAmb IAmb 05 41 15.1
comp=Z,117nm,0.8s
COLA College 45.97 34 P P **05 41 07.5 +1.3**
COLA College 45.97 34 P P **05 41 07.6 +1.4**
COLA pmax pmax
comp=Z,117nm,0.8s
COLA College 45.97 34 P P **05 41 07.7 +1.4**
baz=274
COLA College 45.97 34 P P **05 41 07.5 +1.3**
COLA pP **pP** **05 41 29.1 +1.0**
COLA PcP **PcP** **05 42 42.5 +1.1**
CCB Clear Creek Bu 46.00 34 IAmb IAmb 05 41 10.7
comp=Z,189nm,1.6s
G24K Hadweenzic Riv 46.01 32 P P **05 41 08.6 +2.0**
baz=273,SNR=40
KNK Knik Glacier 46.03 39 P P **05 41 07.6 +0.8**
baz=277,SNR=15
EVN Everest 46.06 272 P P **05 41 08.9 +0.6**
POKR Poker Plat Res 46.12 34 P P **05 41 09.4 +1.9**
baz=274,SNR=34
PWL Port Wells 46.16 40 P P **05 41 07.8 -0.1**
PWL IAmb IAmb 05 41 10.3
comp=Z,147nm,1.3s
PWL Port Wells 46.16 40 P P **05 41 08.1 +0.2**
baz=278,SNR=36
D25K Kavik River 46.33 28 P P **05 41 10.2 +1.1**
baz=271
M23K Glacier View 46.33 38 P P **05 41 09.7 +0.5**
baz=277,SNR=18
SBUM Sibu 46.34 222 P P **05 41 09.5 -0.2**
SBUM Sibu 46.34 222 P P **05 41 11.0 +1.3**
IL31 46.39 34 P P **05 41 10.1 +0.6**
IL31 IAmb IAmb 05 41 11.8
comp=Z,90nm,0.8s
ILAR Eielson Array 46.39 34 P P **05 41 09.9 +0.4**
comp=Z,47nm,0.7s,baz=267,slow=5.3,SNR=372
ILAR LR LR 06 00 27.5
comp=Z,397nm,21.9s,baz=260,slow=36
comp=Z,47nm,0.7s
ILAR Eielson Array 46.39 34 P P **05 41 10.0 +0.4**
HDA Harding Lake 46.39 35 IAmb IAmb 05 41 11.6
comp=Z,69nm,0.8s
HDA Harding Lake 46.39 35 P P **05 41 10.0 +0.4**
baz=276,SNR=73
SCM Sheep Creek Mo 46.52 38 IAmb IAmb 05 41 13.2
comp=Z,97nm,0.9s
SCM Sheep Creek Mo 46.52 38 P P **05 41 11.7 +1.0**
baz=278,SNR=37
CHKK Chushkaly 46.55 296 *e*P P **05 41 11.2 +0.1**
CHKK Chushkaly 46.55 296 *e*P P **05 41 11.2 +0.1**
G25K Bearman Lake 46.55 31 P P **05 41 12.8 +2.1**
baz=274,SNR=36
F25K Christian Rive 46.67 30 P P **05 41 13.7 +1.9**
baz=274,SNR=50
H25L Birch Creek 46.70 32 P P **05 41 14.3 +2.3**
baz=275,SNR=98
TARG Taragay, Kyrgy 46.72 293 IAmb IAmb 05 41 17.7
comp=Z,102nm,0.8s
TARG Taragay, Kyrgy 46.72 293 P P **05 41 13.9 +0.9**
TARG pmax pmax
comp=Z,154nm,0.9s
P23K Montague Islan 46.75 41 IAmb IAmb 05 41 24.1
comp=Z,102nm,0.8s
P23K Montague Islan 46.75 41 P P **05 41 13.4 +0.9**
baz=279,SNR=19
GLI Glacier Island 46.76 40 P P **05 41 13.0 +0.4**
baz=279,SNR=25
AAA Alma-Ata 46.82 295 *e*P P **05 41 13.8 +0.5**
AAA Alma-Ata 46.82 295 *e*P P **05 41 13.8 +0.5**
TNSS Tian-Shan 46.85 295 *e*P P **05 41 14.0 0.0**
TNSS Tian-Shan 46.85 295 *e*P P **05 41 14.1 0.0**
PRP Porcupine Dome 46.89 33 IAmb IAmb 05 41 16.7
comp=Z,107nm,0.8s
PRP Porcupine Dome 46.89 33 P P **05 41 14.8 +1.2**
baz=276,SNR=36
K24K Donnelly Dome 46.97 35 IAmb IAmb 05 41 16.2
comp=Z,139nm,1.1s
K24K Donnelly Dome 46.97 35 P P **05 41 14.8 +0.6**
baz=277,SNR=41
KUU Kurty 46.98 296 *e*P P **05 41 14.7 +0.3**
KUU Kurty 46.98 296 *e*P P **05 41 14.8 +0.3**
KDJ Kajisay 47.02 294 IAmb IAmb 05 41 18.4
comp=Z,101nm,1.2s
M24K Tolsona, Glenn 47.02 38 IAmb IAmb 05 41 17.8
comp=Z,158nm,1.1s
M24K Tolsona, Glenn 47.02 38 P P **05 41 16.3 +1.7**
baz=278,SNR=24
J25K Salcha River, 47.05 34 P P **05 41 14.4 -0.5**
baz=277,SNR=27
PAX Paxson 47.22 37 P P **05 41 16.7 +0.5**
baz=278,SNR=26
KLU Klutina 47.23 39 IAmb IAmb 05 41 18.9
comp=Z,101nm,1.0s
KLU Klutina 47.23 39 P P **05 41 17.5 +1.2**
baz=279,SNR=48
F26K Sheenjek River 47.24 30 P P **05 41 18.5 +2.3**
baz=275,SNR=126
C27K Jago River 47.25 27 P P **05 41 17.8 +1.5**
baz=274,SNR=19
DIV Divide 47.36 39 IAmb IAmb 05 41 20.0
comp=Z,140nm,1.0s
Q23K Middleton Isla 47.37 41 P P **05 41 18.7 +1.5**
baz=281
RIDG Independent Ri 47.39 35 P P **05 41 17.6 +0.2**
baz=278,SNR=33
G26K Porcupine Rive 47.45 31 P P **05 41 20.1 +2.4**
baz=276,SNR=194
HARP HAARP 47.45 37 P P **05 41 19.6 +1.8**
baz=279,SNR=36
BRZS Berezniki 47.46 305 *e*P P **05 41 18.1 0.0**
BRZS Berezniki 47.46 305 *e*P P **05 41 18.2 0.0**
EYAK Cordova Ski Ar 47.47 40 IAmb IAmb 05 41 20.8
comp=Z,78nm,0.9s
EYAK Cordova Ski Ar 47.47 40 P P **05 41 19.0 +1.0**
EYAK Cordova Ski Ar 47.47 40 P P **05 41 19.2 +1.3**
baz=280,SNR=26
ULHL Ulahol 47.62 294 P P **05 41 21.6 +1.9**
SNR=12
SCRK Sand Creek 47.73 35 IAmb IAmb 05 41 22.2
comp=Z,116nm,0.8s
SCRK Sand Creek 47.73 35 P P **05 41 20.8 +0.6**
baz=278,SNR=90
TKM2 Tokmak 2 47.82 295 P P **05 41 22.0 +0.7**
SNR=280
N25K Chitina, Valde 47.84 38 P P **05 41 22.4 +1.4**
baz=280,SNR=38
J26L Joseph Creek 47.84 34 P P **05 41 21.0 +0.1**
baz=278
I26K Coal Creek Min 47.90 33 P P **05 41 21.3 +0.1**
baz=278
BMRM Bremner River 47.95 39 IAmb IAmb 05 41 24.6
comp=Z,113nm,1.0s
BMRM Bremner River 47.95 39 P P **05 41 23.1 +1.3**
baz=281,SNR=36
BVAR Borovoye Array 48.01 310 P P **05 41 22.5 +0.2**
comp=Z,40nm,0.4s,baz=77,slow=9.8,SNR=165
BVAR PcP **PcP** **05 42 49.8 +0.9**
comp=Z,37nm,0.8s,baz=67,slow=5.0,SNR=5.8
BVAR ScP **ScP** **05 46 35.0 +0.2**
comp=Z,2.9nm,0.6s,baz=83,slow=6.1,SNR=8.7
BVAR S S **05 48 11.4 -1.7**
comp=Z,7.7nm,0.9s,baz=87,slow=9.1,SNR=8.4
BVAR LR LR 06 03 00.4
comp=Z,528nm,20.7s,baz=71,slow=38
comp=Z,40nm,0.4s
MENT Mentasta 48.01 36 IAmb IAmb 05 41 25.5
comp=Z,80nm,0.8s
BRVK Borovoye 48.06 310 P P **05 41 22.8 +0.1**
BRVK Borovoye 48.06 310 P P **05 41 23.2 +0.5**
BRVK S S **05 48 11.5 -2.3**
BRVK Borovoye 48.06 310 P P **05 41 22.8 +0.1**
BRVK pmax pmax
comp=Z,77nm,1.3s
BRVK Borovoye 48.06 310 P P **05 41 23.3 +0.6**
BRVK PcP **PcP** **05 42 49.6 +0.6**
BTLS Baital 48.13 299*d i* P P **05 41 23.0 -0.3**
BTLS pmax pmax
comp=Z,46nm,1.4s
BTLS Baital 48.13 299 ⇓*i* P P **05 41 23.1 -0.3**
comp=Z,46nm,1.4s
E27K Coleen River 48.15 29 IAmb IAmb 05 41 26.6
comp=Z,172nm,1.2s
E27K Coleen River 48.15 29 P P **05 41 25.0 +1.8**
baz=277,SNR=58
KSM Kuching 48.16 224 P P **05 41 24.3 +0.4**
L26K Log Cabin Wild 48.17 36 IAmb IAmb 05 41 26.6
comp=Z,96nm,0.8s
L26K Log Cabin Wild 48.17 36 P P **05 41 25.0 +1.6**
baz=280,SNR=105
HMT Hamilton 48.23 40 IAmb IAmb 05 41 27.0
comp=Z,161nm,1.3s
GLB Gilahina Butte 48.24 38 IAmb IAmb 05 41 26.9
comp=Z,134nm,1.4s
KAIM Kayak Island 48.24 41 IAmb IAmb 05 41 27.2
comp=Z,86nm,0.8s
KAIM Kayak Island 48.24 41 P P **05 41 25.6 +1.6**
baz=282,SNR=8.0
D27M Malcolm River 48.25 28 P P **05 41 25.6 +1.6**
baz=276
SGDS Sogindy 48.29 296 ⇓*i* P P **05 41 24.8 0.0**
comp=Z,55nm,1.5s
G27K Doyon Strip 48.30 31 IAmb IAmb 05 41 28.0
comp=Z,160nm,1.4s
G27K Doyon Strip 48.30 31 P P **05 41 26.3 +2.0**
baz=278,SNR=81
KBK Karagaybulak 48.36 295 P P **05 41 26.0 +0.6**
SNR=80
CHMS Chumysh 48.37 296 P P **05 41 25.6 +0.3**
SNR=13
H27K Steamboat Moun 48.43 32 P P **05 41 27.9 +2.4**
baz=279,SNR=111
M26K Nabesna, AK 48.44 37 P P **05 41 27.4 +1.9**
baz=281,SNR=94
VRDI Verde Repeater 48.45 39 IAmb IAmb 05 41 28.6
comp=Z,89nm,1.0s
USP Ospenovka 48.45 296 P P **05 41 26.0 +0.1**
SNR=57
I27K Kandik River 48.49 33 P P **05 41 27.3 +1.4**
baz=279,SNR=45
K27K Chicken 48.55 35 P P **05 41 27.9 +1.5**
baz=280
MCARA McCarthy VSAT 48.62 38 IAmb IAmb 05 41 30.1
comp=Z,90nm,0.7s
MCARA McCarthy VSAT 48.62 38 P P **05 41 28.5 +1.6**
baz=282,SNR=32
AAK Ala-Archa 48.68 295 P P **05 41 28.1 +0.2**
AAK Ala-Archa 48.68 295 LR LR 06 02 39.8
comp=Z,861nm,19.6s,baz=77,slow=37
AAK Ala-Archa 48.68 295 P P **05 41 28.4 +0.5**
AAK S S **05 48 24.0 +0.8**
AAK Ala-Archa 48.68 295 P P **05 41 28.6 +0.8**
SNR=29
AAK Ala-Archa 48.68 295*de*P P **05 41 28.0 +0.2**
AAK pmax pmax
comp=Z,69nm,1.1s
AAK Ala-Archa 48.68 295 *i* P P **05 41 28.4 +0.5**
SNR=8.7
AAK Ala-Archa 48.68 295 P P **05 41 28.2 +0.3**
AAK pP **pP** **05 41 50.3 +0.2**
CRQE Cirque 48.72 39 P P **05 41 29.2 +1.5**
baz=282,SNR=34
BGLC Bering Glacier 48.76 40 P P **05 41 30.2 +2.3**
baz=282
UCH Uchtor 48.82 295 P P **05 41 30.4 +1.1**
SNR=36
TGL Tana Glacier 48.84 39 IAmb IAmb 05 41 31.6
comp=Z,122nm,1.1s
L27K Beaver Creek, 48.84 36 IAmb IAmb 05 41 31.9
comp=Z,100nm,0.9s
L27K Beaver Creek, 48.84 36 P P **05 41 30.5 +1.9**
baz=281,SNR=117
E28M Babbage River 48.85 29 IAmb IAmb 05 41 31.9
comp=Z,113nm,0.9s
E28M Babbage River 48.85 29 P P **05 41 30.4 +1.8**
baz=278,SNR=76
KSH Kashi 48.86 291 P P **05 41 33.4 +4.2**
KSH pP pP 05 41 55.6 +4.1
KSH PP **PP** **05 43 28.3 +5.3**
KSH S S **05 48 33.6 +7.9**
KSH pmax pmax
comp=Z,52nm,1.4s
KSH pmax pmax
comp=Z,780nm,6.0s
KSH LR LR
comp=Z,530nm,12.6s
KSH LR LR
comp=Z,620nm,13.5s
KSH LR LR
comp=Z,1μm,13.9s
F28M Old Crow 48.87 30 P P **05 41 30.9 +2.1**
baz=279,SNR=102
WAX Waxell Ridge 48.90 40 IAmb IAmb 05 41 32.1
comp=Z,104nm,0.9s
M27K Edge Creek, AK 48.96 37 IAmb IAmb 05 41 32.7
comp=Z,120nm,1.1s
M27K Edge Creek, AK 48.96 37 P P **05 41 31.3 +1.7**
baz=282,SNR=84
BNSI Bone 49.01 208 P P **05 41 32.3 +2.0**
comp=Z,59nm,1.0s
D28M Stokes Point 49.03 28 P P **05 41 31.4 +1.6**
baz=278,SNR=9.7
ISLE Juniper Island 49.11 39 IAmb IAmb 05 41 33.3
comp=Z,118nm,1.0s
EKS2 Erkin-Say 49.16 296 P P **05 41 31.7 +0.3**
SNR=42
I28M Miner Creek 49.21 33 P P **05 41 33.3 +1.9**
baz=281,SNR=109
BARN Barnard Glacie 49.33 39 IAmb IAmb 05 41 35.4
comp=Z,60nm,0.8s
GRNC Granite Creek 49.36 39 IAmb IAmb 05 41 35.5
comp=Z,102nm,1.1s
MESA MESA 49.39 40 IAmb IAmb 05 41 35.9
comp=Z,106nm,1.1s
MESA MESA 49.39 40 P P **05 41 34.5 +1.5**
baz=283,SNR=12
BVCY Beaver Creek 49.41 37 P P **05 41 34.5 +1.6**
baz=282,SNR=76
E29M Blow River 49.48 29 P P **05 41 35.6 +2.2**
baz=280,SNR=128
CTG Chitna Glacier 49.51 39 P P **05 41 35.3 +1.5**
baz=283,SNR=37
CTGM Chitina Glacie 49.51 39 IAmb IAmb 05 41 36.6
comp=Z,115nm,1.2s
H29M Whitestone 49.69 32 IAmb IAmb 05 41 38.5
comp=Z,100nm,0.9s
H29M Whitestone 49.69 32 P P **05 41 37.0 +2.0**
baz=281,SNR=38
G29M Pine Creek 49.70 31 P P **05 41 37.2 +2.2**
baz=281,SNR=65
KAPI Kappang 49.70 209 P P **05 41 34.5 -1.1**
KAPI IAmb IAmb 05 42 32.2
comp=Z,118nm,1.4s
KAPI Kappang 49.70 209 P P **05 41 36.2 +0.6**
KAPI S S **05 48 36.3 -1.3**
KAPI Kappang 49.70 209 P P **05 41 34.5 -1.1**
KAPI pmax pmax
comp=Z,118nm,1.4s
DAWY Dawson 49.71 35 P P **05 41 36.2 +1.0**
baz=282,SNR=16
TABL Table Mountain 49.72 39 IAmb IAmb 05 41 38.0
comp=Z,59nm,1.0s
YUK3 Moose Creek 49.73 38 P P **05 41 36.8 +1.2**
baz=283,SNR=56
I29M Ogilvie Camp, 49.89 33 P P **05 41 38.2 +1.6**
baz=282,SNR=82
O28M Mount Upton 50.10 39 P P **05 41 39.5 +1.0**
baz=284,SNR=20
J29N Klondike Camp 50.12 34 IAmb IAmb 05 41 41.5
comp=Z,141nm,1.8s
J29N Klondike Camp 50.12 34 P P **05 41 39.8 +1.4**
baz=283,SNR=6.7
YUK8 Steele Glacier 50.17 38 P P **05 41 40.2 +1.2**
baz=284,SNR=13
PCA Pinnacle 50.23 40 IAmb IAmb 05 41 41.8
comp=Z,90nm,1.3s
PINM Pinnacle 50.24 40 P P **05 41 40.1 +0.8**
baz=285,SNR=8.7
PMG Port Moresby 50.27 172 LR LR 06 02 45.2
comp=Z,76nm,21.8s,baz=318,slow=35
EPYK Eagle Plains 50.32 31 P P **05 41 41.6 +1.8**
baz=283,SNR=173
G30M tAoh Zraii Nji 50.38 30 P P **05 41 41.8 +1.6**
baz=282,SNR=96
F30M Barrier River 50.41 30 P P **05 41 42.7 +2.3**
baz=282,SNR=117
L29M L29M 50.47 36 P P **05 41 43.3 +2.3**
baz=284,SNR=179
M29M Somme Creek 50.49 36 P P **05 41 43.2 +2.0**
baz=284,SNR=61
K29M Barlow Dome 50.56 35 P P **05 41 43.6 +1.8**
baz=284,SNR=58
BCPM Bancas Point 50.57 40 IAmb IAmb 05 41 44.5
comp=Z,120nm,1.4s
YUK4 Talbot Arm 50.68 38 P P **05 41 44.5 +1.7**
baz=285,SNR=31
I30M Mount Dempster 50.71 33 P P **05 41 44.5 +1.6**
baz=284,SNR=314
KULM Kulim 50.72 237 IAmb IAmb 05 41 45.4
comp=Z,100nm,1.2s
KULM Kulim 50.72 237 P P **05 41 44.5 +1.2**
DZA Taraz 50.74 297 *e*P P **05 41 43.5 +0.2**
DZA pmax pmax
comp=Z,21nm,0.6s
DZA Taraz 50.74 297 *e*P P **05 41 43.5 +0.2**
comp=Z,21nm,0.6s
PNL Peninsula 50.77 40 P P **05 41 44.3 +1.1**
PNL Peninsula 50.77 40 P P **05 41 44.4 +1.2**
baz=286,SNR=10
J30M Hart River 50.89 33 IAmb IAmb 05 41 47.4
comp=Z,55nm,0.9s
J30M Hart River 50.89 33 P P **05 41 45.9 +1.7**
baz=284,SNR=64
YUK6 Outpost Mounta 50.92 38 P P **05 41 46.5 +1.9**
baz=286,SNR=22
O29M Mount Kennedy 50.99 39 P P **05 41 47.0 +2.0**
baz=286,SNR=56
INK Inuvik 51.08 28 P P **05 41 46.6 +1.3**
baz=284,SNR=94
IPM Ipoh 51.10 236 IAmb IAmb 05 41 47.5
comp=Z,67nm,1.2s
IPM Ipoh 51.10 236 P P **05 41 47.7 +1.5**
G31M Satah River 51.14 30 P P **05 41 47.0 +1.2**
baz=284,SNR=77
M30M Minto, Yukon 51.20 36 IAmb IAmb 05 41 50.1
comp=Z,67nm,0.9s
M30M Minto, Yukon 51.20 36 P P **05 41 48.4 +2.0**
baz=286,SNR=89
F31M Tsiigehtchic 51.21 30 P P **05 41 47.5 +1.1**
baz=284,SNR=43
MAYO Mayo, Yukon 51.33 35 P P **05 41 49.3 +2.0**
baz=285,SNR=10.0
HYT Haines Junctio 51.35 38 P P **05 41 50.1 +2.4**
baz=286,SNR=214
N30M Aishikik Lake 51.37 37 IAmb IAmb 05 41 51.3
comp=Z,137nm,1.6s
N30M Aishikik Lake 51.37 37 P P **05 41 49.7 +2.0**
baz=286,SNR=26
H31M Peel River 51.39 32 P P **05 41 49.5 +1.8**
baz=285,SNR=186
P29M Windy Craggy 51.59 40 P P **05 41 51.8 +2.4**
baz=287,SNR=102
BRLS Borolday 51.69 298*d i* P P **05 41 51.7 +1.3**
BRLS pmax pmax
comp=Z,34nm,1.3s
BRLS Borolday 51.69 298 ⇓*i* P P **05 41 51.8 +1.3**
comp=Z,34nm,1.3s
P30M Million Dollar 51.82 39 P P **05 41 53.4 +2.3**
baz=287
IUG Iuzhnay 51.92 297 *e*P P **05 41 52.4 +0.2**
IUG Iuzhnay 51.92 297 *e*P P **05 41 52.4 +0.2**
N31M Braeburn, Yuko 51.97 37 P P **05 41 54.2 +2.1**
baz=287,SNR=114
CHM Chimkent 52.14 297 *e*P P **05 41 53.9 +0.2**
CHM pmax pmax
comp=Z,16nm,0.5s
CHM Chimkent 52.14 297 *e*P P **05 41 54.0 +0.2**
comp=Z,16nm,0.5s
SVE Sverdlovsk 52.28 317 *c i* P P **05 41 55.1 +0.6**
SVE eS S **05 49 12.6 +0.3**
SVE pmax pmax
comp=Z,162nm,1.7s
SVE MLR MLR
comp=Z,1μm,16.0s
PLBC Pleasant Camp 52.30 40 P P **05 41 56.4 +1.7**
baz=288,SNR=61
M31M Drury Creek, Y 52.38 36 IAmb IAmb 05 41 58.4
comp=Z,75nm,1.1s
M31M Drury Creek, Y 52.38 36 P P **05 41 56.9 +1.7**
baz=288,SNR=39
EDFI Ende, Flores 52.53 205 P P **05 41 55.8 -1.1**
WHY Whitehorse 52.63 38 P P **05 41 58.7 +1.5**
WHY Whitehorse 52.63 38 P P **05 41 59.1 +1.9**
baz=288,SNR=61
SOEI Soe 52.72 201 P P **05 41 59.1 +0.8**
SOEI Soe 52.72 201 P P **05 42 00.7 +2.4**
A36M Sachs Harbour 52.80 23 P P **05 41 59.5 +1.5**
baz=288,SNR=18
SKAG Skagway 52.80 40 IAmb IAmb 05 42 01.8
comp=Z,147nm,1.4s
SKAG Skagway 52.80 40 P P **05 42 00.4 +2.1**
baz=289,SNR=19
S31K Pelican 52.85 42 IAmb IAmb 05 42 01.9
comp=Z,110nm,1.4s
S31K Pelican 52.85 42 P P **05 42 00.5 +1.9**
baz=289,SNR=13
HNR Honiara 52.89 157 LR LR 06 03 04.0
comp=Z,232nm,21.6s,baz=322,slow=34
N32M Quiet Lake 53.31 37 IAmb IAmb 05 42 04.9
comp=Z,65nm,1.1s
N32M Quiet Lake 53.31 37 P P **05 42 03.5 +1.4**
baz=289,SNR=41
BESE Bessie Mountai 53.33 40 IAmb IAmb 05 42 05.6
comp=Z,136nm,1.2s
NIL Nilore 53.41 286 P P **05 42 04.0 +0.8**
NIL Nilore 53.41 286 P P **05 42 04.7 +1.5**
NIL Nilore 53.41 286 P P **05 42 04.0 +0.8**
NIL pmax pmax
comp=Z,238nm,1.0s
P32M Atlin 53.54 39 IAmb IAmb 05 42 07.1
comp=Z,98nm,1.2s
P32M Atlin 53.54 39 P P **05 42 05.4 +1.6**
baz=290,SNR=24
ARTI Arti 53.60 317 P P **05 42 04.4 +0.2**
ARTI Arti 53.60 317 LR LR 06 07 12.1
comp=Z,896nm,19.8s,baz=74,slow=38
ARTI Arti 53.60 317*d i* P P **05 42 04.6 +0.4**
ARTI *PP **pP** **05 42 27.6 +0.7**

ARTI 05 43 09.1
ARTI 05 44 04.7
ARTI PPP PPP 05 45 15.5
ARTI S **S** **05 49 30.9 +0.7**
ARTI *SS **sS** **05 50 11.2 +4.0**
ARTI 05 51 41.0
ARTI SS **SKiKP** **05 53 08.5 -0.7**
ARTI pmax pmax
comp=Z,169nm,1.3s
ARTI MLR MLR
comp=Z,1µm,16.0s
ARTI Arti 53.60 317 P **P** **05 42 04.1 -0.1**
R32K Eaglecrest 53.60 41 IAmb IAmb 05 42 08.2
comp=Z,55nm,0.9s
R32K Eaglecrest 53.60 41 P **P** **05 42 06.0 +1.9**
baz=290,SNR=40
SIT Sitka 53.62 42 IAmb IAmb 05 42 07.9
comp=Z,132nm,1.2s
SIT Sitka 53.62 42 P **P** **05 42 05.1 +0.8**
SIT Sitka 53.62 42 P **P** **05 42 06.5 +2.2**
baz=291,SNR=21
MMPY Sheldon Lake, 53.63 35 P **P** **05 42 06.2 +1.8**
baz=290,SNR=60
JIS Juneau Island 53.67 41 P **P** **05 42 05.7 +1.1**
PSI Prapat 53.72 237 LR LR 06 06 45.7
comp=Z,197nm,19.1s,baz=28,slow=38
P33M Teslin, Yukon 53.75 38 P **P** **05 42 07.3 +2.0**
baz=290,SNR=130
S32K Killisnoo 53.85 42 IAmb IAmb 05 42 09.3
comp=Z,70nm,1.2s
S32K Killisnoo 53.85 42 P **P** **05 42 07.8 +1.8**
baz=291,SNR=25
KDU Kakadu 53.86 191 P **P** **05 42 05.2 -1.3**
comp=Z,55nm,1.5s
C36M Paulatuk 54.05 26 P **P** **05 42 08.4 +1.1**
baz=291,SNR=20
SIMJ Simiganj 54.12 293 P **P** **05 42 08.4 0.0**
MTN Manton Dam 54.22 192 P **P** **05 42 09.0 -0.1**
MTN IAmb IAmb 05 42 34.2
comp=Z,52nm,0.9s
MTN Manton Dam 54.22 192 P **P** **05 42 08.9 -0.1**
comp=Z,58nm,1.0s
MLSI Meulaboh, Aceh 54.24 240 P **P** **05 42 08.4 -0.9**
comp=Z,80nm,0.9s
KIP Kipapa 54.38 92 P **P** **05 42 11.1 +0.8**
KIP Kipapa 54.38 92 P **P** **05 42 11.1 +0.8**
KIP pmax pmax
comp=Z,146nm,1.0s
Q32M Nakina River 54.46 39 IAmb IAmb 05 42 14.2
comp=Z,74nm,1.2s
Q32M Nakina River 54.46 39 P **P** **05 42 12.6 +2.0**
baz=292,SNR=41
COEN Coen 54.53 178 P **P** **05 42 11.1 -0.3**
COEN Coen 54.53 178 P **P** **05 42 10.4 -0.9**
comp=Z,20nm,0.7s
COEN Coen 54.53 178 P **P** **05 42 11.8 +0.5**
R33M Jennings River 54.92 39 IAmb IAmb 05 42 17.5
comp=Z,55nm,1.0s
R33M Jennings River 54.92 39 P **P** **05 42 16.2 +2.3**
baz=292,SNR=58
T33K Petersburg 54.92 42 P **P** **05 42 15.9 +2.2**
baz=292
U33K Whale Pass 55.10 43 P **P** **05 42 17.2 +2.2**
baz=293,SNR=15
TGTN Hyland Airport 55.34 36 P **P** **05 42 18.7 +1.9**
baz=293,SNR=32
CRAG Craig 55.35 44 IAmb IAmb 05 42 20.4
comp=Z,97nm,1.2s
CRAG Craig 55.35 44 P **P** **05 42 17.8 +1.0**
CRAG Craig 55.35 44 P **P** **05 42 19.0 +2.2**
baz=293,SNR=9.2
WRAK Wrangell Islan 55.38 42 IAmb IAmb 05 42 20.6
comp=Z,72nm,1.1s
WRAK Wrangell Islan 55.38 42 P **P** **05 42 19.1 +2.1**
baz=293,SNR=10
S34M Telegraph Cree 55.41 40 P **P** **05 42 19.4 +2.2**
baz=293
WTLY Watson Lake, Y 55.65 37 IAmb IAmb 05 42 22.2
comp=Z,74nm,1.0s
WTLY Watson Lake, Y 55.65 37 P **P** **05 42 20.6 +1.6**
baz=293,SNR=11
PDSI Padang 55.67 232 P **P** **05 42 20.2 +0.5**
comp=Z,25nm,1.0s
GSI Gunungsitoli 55.73 237 P **P** **05 42 19.5 -0.6**
GSI Gunungsitoli 55.73 237 P **P** **05 42 21.5 +1.4**
GSI Gunungsitoli 55.73 237 P **P** **05 42 19.9 -0.2**
comp=Z,121nm,1.7s
DLBC Dease Lake 55.74 40 LR LR 06 07 17.7
comp=Z,173nm,21.9s,baz=236,slow=37
DLBC Dease Lake 55.74 40 P **P** **05 42 21.9 +2.2**
baz=294,SNR=62
KBL Kabul 56.04 289 P **P** **05 42 21.9 -0.5**
KBL Kabul 56.04 289 P **P** **05 42 21.9 -0.5**
KBL S **S** **05 50 01.3 -2.6**
KBL Kabul 56.04 289 P **P** **05 42 21.9 -0.5**
KBL pmax pmax
comp=Z,155nm,1.0s
AKTO Aktyubinsk 56.11 310 LR LR 06 07 59.2
comp=Z,577nm,18.8s,baz=56,slow=38
UGM Wanagama 56.16 218 P **P** **05 42 24.6 +1.5**
V35K Ketchikan 56.20 43 IAmb IAmb 05 42 26.0
comp=Z,122nm,1.4s
V35K Ketchikan 56.20 43 P **P** **05 42 24.5 +1.7**
baz=294,SNR=11
T35M Bob Quinn 56.22 41 P **P** **05 42 25.7 +2.6**
baz=294,SNR=49
LHSI Lahat 56.26 227 P **P** **05 42 24.6 +0.8**
comp=Z,115nm,1.0s
ALE Alert 56.34 4 P **P** **05 42 24.5 +0.9**
ALE PcP **PcP** **05 43 18.6 -1.1**
KPJI Karang Pucung 56.40 220 P **P** **05 42 24.3 -0.5**
comp=Z,65nm,1.0s
MDSI Maura Dua 56.44 226 P **P** **05 42 25.0 -0.1**
comp=Z,2µmcomp=Z,55nm,1.9s
DIB Dawson Inlet, 56.62 46 IAmb IAmb 05 42 28.5
comp=Z,73nm,1.0s
WRGLY Wrigley 56.69 33 P **P** **05 42 27.9 +1.7**
baz=295,SNR=27
U35K Hyder 56.77 42 P **P** **05 42 28.9 +2.0**
baz=295
SPA0 Spitsbergen Ar 56.79 348 *eP* **P** **05 42 27.5 +0.7**
SPITS Spitsbergen Ar 56.79 348 P **P** **05 42 27.1 +0.3**
comp=Z,8.5nm,0.6s,baz=70,slow=8.4,SNR=29
SPITS LR LR 06 08 06.6
comp=Z,193nm,21.1s,baz=24,slow=37
comp=Z,8.5nm,0.6s
KBS Kingsbay 56.91 350 P **P** **05 42 28.3 +0.7**
KBS IAmb IAmb 05 42 32.2
comp=Z,62nm,1.0s
KBS Kingsbay 56.91 350 P **P** **05 42 28.3 +0.7**
KBS pmax pmax
comp=Z,62nm,1.0s
KBS Kingsbay 56.91 350 *eP* **P** **05 42 28.8 +1.2**
KBS Kingsbay 56.91 350 *i P* **P** **05 42 28.9 +1.2**
LIRD Liard River Hi 57.19 37 P **P** **05 42 31.8 +1.9**
baz=296,SNR=11
KIRV Kirov 57.19 321 *ceP* **P** **05 42 30.1 +0.2**
POHA Pohakuloa 57.23 91 P **P** **05 42 31.3 +0.3**
POHA Pohakuloa 57.23 91 P **P** **05 42 32.6 +1.6**
NOR Nord 57.27 356 *i P* **P** **05 42 30.2 +0.1**
NOR IAmb IAmb 05 42 31.2
comp=Z,32nm,0.7s
RUBB Prince Rupert 57.34 44 IAmb IAmb 05 42 33.9
comp=Z,70nm,1.0s
KNRA Kununurra 57.40 194 P **P** **05 42 31.6 -0.2**
KNRA Kununurra 57.40 194 P **P** **05 42 31.5 -0.2**
comp=Z,57nm,1.1s
HG4B Hotspring 57.72 47 IAmb IAmb 05 42 35.9
comp=Z,77nm,1.0s
HSPB Hornsund (broa 57.73 347 *eP* **P** **05 42 34.5 +1.2**
KOTAN Kotaneelee Air 57.80 36 P **P** **05 42 35.5 +1.3**
baz=297,SNR=13
TOAD Toad River Com 57.84 38 P **P** **05 42 36.2 +1.7**
baz=297,SNR=80
HYB Hyderabad 58.28 266 *eP* **P** **05 42 38.6 +0.5**
HYB *es*P **sP** **05 43 09.9 -1.5**
HYB *ePcP* **PcP** **05 43 28.9 +0.5**
HYB *ePP* **PP** **05 44 48.7 +0.7**
LVZ Lovozero 58.63 335 P **P** **05 42 39.5 -0.4**
LVZ Lovozero 58.63 335 *ceP* **P** **05 42 38.6 -1.2**
LVZ pmax pmax
comp=Z,18nm,1.0s
MTSU Mount Surprise 58.72 177 P **P** **05 42 39.3 -1.7**
comp=Z,12nm,0.8s
RES Resolute Bay 58.96 15 LR LR 06 12 08.2
comp=Z,221nm,18.7s,baz=322,slow=40

VADS Vadso 59.00 338 *eP* **P** **05 42 42.6 +0.3**
APA Apatity 59.20 335 *eP* **P** **05 42 41.3 -2.5**
APA *e* 05 43 30.4
APA *e* 05 44 53.9
APA *i* S S 05 50 31.3 -13
APA MLR MLR
comp=Z,403nm,4.5s
BBB Bella Bella 59.45 46 LR LR 06 09 28.9
comp=Z,71nm,19.3s,baz=298,slow=37
KEV Kevo 59.87 338 P **P** **05 42 48.3 0.0**
KEV Kevo 59.87 338 P **P** **05 42 48.3 0.0**
KEV pmax pmax
comp=Z,28nm,1.0s
KEV Kevo 59.87 338 P **P** **05 42 47.9 -0.4**
FITZ Fitzroy Crossi 60.40 197 P **P** **05 42 52.8 +0.3**
FITZ Fitzroy Crossi 60.40 197 P **P** **05 42 53.0 +0.5**
ARA0 ARCESS Array S 60.42 339 *eP* **P** **05 42 52.4 +0.2**
ARCES ARCESS Array B 60.42 339 P **P** **05 42 52.3 +0.2**
comp=Z,4.8nm,0.4s,baz=61,slow=8.4,SNR=93
ARCES LR LR 06 15 04.9
comp=Z,172nm,19.1s,baz=50,slow=42
comp=Z,4.8nm,0.4s
KLMR Klimovskoe 60.52 327 *eP* **P** **05 42 51.5 -1.4**
KLMR *e* 05 45 05.7
KLMR S **S** **05 50 57.9 -3.0**
KLMR SS **SS** **05 54 53.2 -6.4**
KLMR pmax pmax
comp=Z,120nm,1.4s
KLMR MLR MLR
comp=Z,272nm,17.0s
YKA Yellowknife Ar 60.60 31 P **P** **05 42 53.9 +0.5**
comp=Z,24nm,0.9s,baz=307,slow=7.0,SNR=124
YKA LR LR 06 10 57.9
comp=Z,139nm,19.7s,baz=298,slow=38
comp=Z,24nm,0.9s
CTA Charters Tower 60.78 175 P **P** **05 42 53.5 -1.5**
WRAB Tennant Creek 60.79 187 P **P** **05 42 54.4 -0.8**
WRAB Tennant Creek 60.79 187 *i P* **P** **05 42 54.2 -0.9**
WRAB pmax pmax
comp=Z,25nm,1.0s
WRA Warramunga Arr 60.80 187 P **P** **05 42 54.2 -1.0**
comp=Z,9.2nm,0.3s,baz=6.4,slow=7.2,SNR=227
WRA S **S** **05 50 58.6 -6.7**
comp=Z,4.6nm,1.1s,baz=4.6,slow=11,SNR=11
WRA PKP2bc 06 12 22.1
comp=Z,4.8nm,1.2s,baz=199,slow=2.2,SNR=9.3
BELG Belogornoye 60.99 316 *d iP* **P** **05 42 56.0 -0.2**
BELG pmax pmax
comp=Z,19nm,1.1s
QIS Mount Isa 61.09 182 P **P** **05 42 55.9 -1.2**
comp=Z,28nm,1.0s
QIS Mount Isa 61.09 182 P **P** **05 42 57.9 +0.8**
TULEG Thule 61.36 8 *i P* **P** **05 42 57.8 -0.5**
KTK1 Kautokeino 61.38 339 *eP* **P** **05 42 58.9 +0.3**
SGF Sodankyl 61.43 336 P **P** **05 42 59.1 +0.2**
SGF pmax pmax
comp=Z,54nm,1.5s
NEEM North Greenlan 61.75 3 *i P* **P** **05 43 02.3 +0.9**
JETT Jettan, Norway 61.78 340 *eP* **P** **05 43 01.4 +0.1**
DAG Danmarks Havn 61.99 355 P **P** **05 43 03.2 +0.6**
DAG pmax pmax
comp=Z,86nm,0.8s
DAG Danmarks Havn 61.99 355 *i P* **P** **05 43 02.6 0.0**
DAG IAmb IAmb 05 43 04.0
comp=Z,49nm,0.7s
TRO Tromso 62.11 340 *eP* **P** **05 43 03.6 +0.2**
OZB Mount Ozzard 62.51 48 IAmb IAmb 05 43 08.9
comp=Z,73nm,1.1s
JOF Joensuu 62.59 331 *eP* **P** **05 43 06.3 -0.4**
OUL Oulu 63.12 335 P **P** **05 43 10.2 0.0**
OUL pmax pmax
comp=Z,73nm,1.4s
PALK Pallekele 63.15 256 P **P** **05 43 11.3 +0.2**
PALK Pallekele 63.15 256 LR LR 06 12 55.1
comp=Z,206nm,18.5s,baz=49,slow=38
PALK Pallekele 63.15 256 P **P** **05 43 11.1 -0.1**
PALK P **P** **05 43 11.2 0.0**
PALK Pallekele 63.15 256 P **P** **05 43 11.4 +0.2**
PALK pmax pmax
comp=Z,64nm,1.3s
CLRS Cowichan Lake 63.35 47 IAmb IAmb 05 43 14.5
comp=Z,85nm,1.2s
POIN Pond Inlet 63.54 12 IAmb IAmb 05 43 14.8
comp=Z,51nm,0.8s
LLLB Lillooet 63.62 45 IAmb IAmb 05 43 16.3
comp=Z,79nm,1.0s
PGC Sidney 63.82 47 IAmb IAmb 05 43 17.5
comp=Z,67nm,1.0s
MOS Moscow 64.17 322 *eP* **P** **05 43 15.5 -1.8**
MOS *e**PP **pP** **05 43 42.1 +1.5**
MOS *e*PPP PPP 05 47 08.3
MOS *e*S **S** **05 51 44.8 -2.1**
MOS *e**SS **sS** **05 52 27.7 +0.9**
MOS *e*SS **SS** **05 55 50.2 -6.6**
MOS pmax pmax
comp=Z,300nm,1.9s
MOS pmax pmax
comp=Z,160nm,1.8s
MOS MLR MLR
comp=Z,500nm,15.0s
A04D Lummi Island 64.19 47 IAmb IAmb 05 43 20.3
comp=Z,112nm,1.0s
SJUU Sjulsmark 64.19 336 *eP* **P** **05 43 17.4 +0.2**
NLWA Neilton Lookou 64.26 49 IAmb IAmb 05 43 22.0
comp=Z,151nm,1.1s
STEI Steigen 64.27 340 *eP* **P** **05 43 17.4 -0.3**
DBG Daneborg 64.48 355 *i P* **P** **05 43 20.7 +1.7**
AS01 Alice Springs 64.52 187 P **P** **05 43 20.0 +0.1**
AS31 Alice Springs 64.53 187 P **P** **05 43 19.3 -0.6**
comp=Z,15nm,0.9s
ASAR Alice Springs 64.53 187 P **P** **05 43 19.2 -0.7**
comp=Z,10.0nm,0.7s,baz=3.6,slow=7.7,SNR=84
ASAR PKP2bc 06 12 11.7
comp=Z,1.4nm,0.8s,baz=177,slow=2.7,SNR=4.6
FAUS Fauske 64.66 340 *eP* **P** **05 43 20.5 +0.3**
VRH Novokhopyorsk 64.73 317 *eP* **P** **05 43 17.8 -3.2**
VRH pmax pmax
comp=Z,60nm,1.0s
GNW Green Mountain 64.76 48 IAmb IAmb 05 43 24.4
comp=Z,107nm,1.4s
MBWA Marble Bar 64.84 202 P **P** **05 43 21.7 -0.3**
MBWA Marble Bar 64.84 202 P **P** **05 43 20.6 -1.3**
comp=Z,29nm,1.6s
MBWA Marble Bar 64.84 202 P **P** **05 43 21.6 -0.3**
MBWA Marble Bar 64.84 202 P **P** **05 43 22.6 +0.6**
PUL Pulkovo 64.89 329 *ceP* **P** **05 43 22.9 +1.0**
PUL pmax pmax
comp=Z,107nm,1.0s
OBN Obninsk 65.02 322 P **P** **05 43 22.6 -0.2**
OBN Obninsk 65.02 322 LR LR 06 13 55.9
comp=Z,331nm,20.0s,baz=344,slow=38
OBN Obninsk 65.02 322 *d iP* **P** **05 43 22.7 -0.1**
OBN *e**PP **pP** **05 43 47.3 +1.1**
OBN *e* 05 43 54.6
OBN *e* 05 45 49.5
OBN *e*PPP PPP 05 47 19.7
OBN *i* S S 05 51 47.5 -10
OBN pmax pmax
comp=Z,52nm,1.1s
PSAC1 Pilbara Seismi 65.17 202 P **P** **05 43 23.1 -1.1**
comp=Z,31nm,2.5s
PSAC2 Pilbara Seismi 65.18 202 P **P** **05 43 23.6 -0.5**
comp=Z,35nm,1.3s
PSA00 Pilbara Seismi 65.20 202 P **P** **05 43 24.2 -0.1**
PSA00 Pilbara Seismi 65.20 202 P **P** **05 43 25.4 +1.1**
LPSR Galich'ya Gora 65.35 319 *eP* **P** **05 43 23.1 -1.9**
LPSR pmax pmax
comp=Z,70nm,1.0s
KEF Keuruu 65.38 332 *eP* **P** **05 43 24.4 -0.7**
FINES FINESS Array B 65.43 331 P **P** **05 43 25.4 0.0**
comp=Z,49nm,0.7s,baz=46,slow=6.5,SNR=140
FINES LR LR 06 13 38.5
comp=Z,511nm,21.1s,baz=44,slow=38
comp=Z,49nm,0.7s
FINES FINESS Array B 65.43 331 *i P* **P** **05 43 25.3 0.0**
FINES pmax pmax
comp=Z,79nm,0.9s
F04D Rainier, OR 65.48 50 IAmb IAmb 05 43 28.9
comp=Z,124nm,1.2s
HEBO Mount Hebo 65.53 51 IAmb IAmb 05 43 29.6
comp=Z,134nm,1.1s
ILON Igloolik, Nuna 65.63 15 IAmb IAmb 05 43 27.6
comp=Z,88nm,1.0s
VAGH Vaagaholmen 65.67 340 *eP* **P** **05 43 26.4 -0.4**
VORR Voronezh 65.75 318 *eP* **P** **05 43 25.0 -2.6**

VORR pmax pmax
comp=Z,70nm,1.0s
MOR8 Moi Rana 65.78 339 *eP* **P** **05 43 26.5 -1.1**
G03D McMinnville, O 65.82 50 IAmb IAmb 05 43 31.3
comp=Z,145nm,1.4s
KONS Konsvik 65.89 340 *eP* **P** **05 43 29.5 +1.3**
VSR Storozhevoye 66.04 318 *eP* **P** **05 43 26.8 -2.6**
VSR pmax pmax
comp=Z,60nm,1.0s
UPNV Upernavik 66.04 6 *i P* **P** **05 43 29.0 -0.1**
MAK Makhachkala 66.08 307 *eP* **P** **05 43 30.6 +0.8**
MAK *e**PP **pP** **05 43 53.3 +0.1**
MAK *e**SP **sP** **05 44 04.4 +1.0**
MAK *e* 05 45 59.7
MAK *eS* **S** **05 52 12.7 +2.1**
MAK pmax pmax
comp=Z,210nm,1.0s
MAK MLR MLR
comp=Z,363nm,15.0s
I02E Swisshome, OR 66.09 52 IAmb IAmb 05 43 33.1
comp=Z,112nm,1.1s
VORD Divnogorie 66.12 317 *eP* **P** **05 43 28.3 -1.7**
VORD pmax pmax
comp=Z,50nm,1.0s
LTY Liberty 66.14 48 IAmb IAmb 05 43 32.6
comp=Z,79nm,1.0s
COR Corvallis 66.15 51 P **P** **05 43 31.5 +1.3**
COR Corvallis 66.15 51 P **P** **05 43 31.5 +1.3**
COR pmax pmax
comp=Z,189nm,1.2s
COR Corvallis 66.15 51 P **P** **05 43 32.4 +2.1**
COR pP **pP** **05 43 52.4 -1.1**
COR PcP **sP** **05 44 03.6 0.0**
LEIR Leirfjorden 66.18 340 *eP* **P** **05 43 30.5 +0.4**
B08A Colville Reser 66.25 46 IAmb IAmb 05 43 33.3
comp=Z,136nm,1.4s
G04A Mulino 66.28 50 IAmb IAmb 05 43 34.0
comp=Z,99nm,1.0s
EIDS Eidsvold 66.48 170 P **P** **05 43 32.8 +0.4**
EIDS Eidsvold 66.48 170 P **P** **05 43 32.3 -0.1**
comp=Z,30nm,0.8s
J01E Myrtle Point 66.58 53 IAmb IAmb 05 43 36.3
comp=Z,113nm,1.0s
NGCH Negor - Chabah 66.74 284 P **P** **05 43 35.4 +1.1**
H04A Detroit Lake 66.75 50 IAmb IAmb 05 43 36.8
comp=Z,113nm,1.1s
MXC Moxie City 66.75 48 IAmb IAmb 05 43 36.9
comp=Z,126nm,1.1s
AKT Akhty 66.77 305 *eP* **P** **05 43 34.2 -0.3**
AKT *e**PP **pP** **05 43 58.1 +0.2**
AKT *e* 05 44 00.8
AKT *e* 05 46 01.2
AKT *eS* **S** **05 52 20.6 +1.2**
AKT *eS* SKSac 05 52 46.4 -36
AKT pmax pmax
comp=Z,109nm,1.1s
AKT MLR MLR
comp=Z,402nm,16.0s
NOUC Port Laguerre 66.79 155 P **P** **05 43 35.1 +0.7**
ARBE Arbavere 66.79 330 *eP* **P** **05 43 34.7 +0.6**
DZM Mont Dzumac 66.81 155 *eP* **P** **05 43 32.3 -2.4**
comp=Z,68nm,1.2s
DZM *ep*P **pP** **05 43 53.8 -4.5**
comp=Z,102nm,1.4s
DZM *eS* **S** **05 52 24.6 +4.7**
comp=Z,210nm,23.5s
DZM *eSS* **SS** **05 56 44.0 +3.9**
comp=Z,146nm,23.6s
DZM *eLQ* LQ 06 00 48.7
comp=Z,528nm,35.8s
DZM *eLR* LR 06 03 47.3
comp=Z,674nm,34.2s
MEF Metsahovi 66.86 331 *eP* **P** **05 43 34.7 +0.2**
SUMG Summit 66.90 360 IAmb IAmb 05 43 39.2
comp=Z,156nm,1.3s
E07A Sunnyside 67.00 48 IAmb IAmb 05 43 38.5
comp=Z,142nm,1.2s
VSU Vasula 67.15 329 *ceP* **P** **05 43 35.6 -0.8**
VSU pmax pmax
comp=Z,74nm,1.3s
VSU Vasula 67.15 329 *eP* **P** **05 43 36.2 -0.2**
XMAS Kiritimati 67.19 108 P **P** **05 43 39.6 +2.3**
D08A Wollman Farm, 67.24 47 IAmb IAmb 05 43 39.5
comp=Z,81nm,0.6s
RAF Rauma 67.25 333 *eP* **P** **05 43 37.7 +0.7**
SEKA Sheki 67.25 305 P **P** **05 43 36.7 -0.8**
HAWA Hanford 67.28 48 IAmb IAmb 05 43 40.2
comp=Z,102nm,1.1s
G06A Carlson Farm, 67.33 49 IAmb IAmb 05 43 40.7
comp=Z,99nm,1.3s
F07A Phinny Hill Vi 67.35 48 IAmb IAmb 05 43 41.2
comp=Z,93nm,0.8s
KSXB Camp Six Broad 67.37 54 IAmb IAmb 05 43 41.4
comp=Z,102nm,1.0s
I05D Terrebonne, OR 67.44 50 IAmb IAmb 05 43 41.3
comp=Z,87nm,1.2s
BBOR Butler Butte 67.49 52 IAmb IAmb 05 43 42.0
comp=Z,108nm,1.3s
E08A Dider Farm, El 67.49 47 IAmb IAmb 05 43 41.3
comp=Z,83nm,0.7s
NEW Newport 67.51 45 IAmb IAmb 05 43 41.3
comp=Z,78nm,1.0s
NEW Newport 67.51 45 P **P** **05 43 39.3 +0.4**
comp=Z,38nm,0.8s,baz=305,slow=5.7,SNR=75
NEW LR LR 06 11 04.4
comp=Z,165nm,21.3s,baz=304,slow=34
comp=Z,38nm,0.8s
KRMB Red Mountain 67.52 54 IAmb IAmb 05 43 42.5
comp=Z,77nm,1.1s
MSVF Nonsavu 67.53 142 P **P** **05 43 40.5 +1.2**
MSVF Nonsavu 67.53 142 P **P** **05 43 40.5 +1.2**
MSVF pmax pmax
comp=Z,38nm,1.2s
MNGR Mingechevir, A 67.57 305 P **P** **05 43 39.2 -0.2**
J04A Umpqua Nationa 67.62 52 P **P** **05 43 41.5 +1.6**
J04A IAmb IAmb 05 43 42.9
comp=Z,119nm,0.9s
LKRN Lenkeran, Azer 67.69 302 P **P** **05 43 39.7 -0.4**
NSS Namsos 67.71 339 *eP* **P** **05 43 39.9 0.0**
PINE Pine Mountain 67.99 51 IAmb IAmb 05 43 45.4
comp=Z,134nm,1.0s
KHMM Horse Mountain 68.01 55 IAmb IAmb 05 43 45.7
comp=Z,104nm,0.8s
KMPM Mount Pierce 68.03 55 IAmb IAmb 05 43 45.8
comp=Z,89nm,0.9s
J05D Fort Rock, OR 68.12 51 IAmb IAmb 05 43 46.1
comp=Z,133nm,1.2s
GANJ Ganja 68.12 305 P **P** **05 43 42.6 -0.3**
YBH Yreka Blue Hor 68.14 53 IAmb IAmb 05 43 46.2
comp=Z,69nm,0.9s
YBH Yreka Blue Hor 68.14 53 LR LR 06 10 16.1
comp=Z,10nm,22.0s,baz=302,slow=33
LNOR Lincton Mounta 68.29 48 IAmb IAmb 05 43 46.6
comp=Z,204nm,1.7s
SCO Scoresbysund 68.34 354 *i P* **P** **05 43 44.1 +0.4**
SCO IAmb IAmb 05 43 48.1
comp=Z,16nm,0.9s
KIV Kislovodsk 68.38 310 P **P** **05 43 45.0 +0.5**
KIV Kislovodsk 68.38 310 P **P** **05 43 45.2 +0.7**
KIV S **S** **05 52 38.1 -0.4**
KIV Kislovodsk 68.38 310 *eP* **P** **05 43 45.0 +0.5**
KIV *e**PP **PcP** **05 44 09.8 +0.4**
KIV *e* 05 46 16.4
KIV *eS* **S** **05 52 38.5 +0.1**
KIV pmax pmax
comp=Z,190nm,1.1s
KIV pmax pmax
comp=Z,70nm,3.5s
KIV MLR MLR
comp=Z,292nm,17.0s
KIV Kislovodsk 68.38 310 *i P* **P** **05 43 45.7 +1.2**
SNR=17
KIV Kislovodsk 68.38 310 P **P** **05 43 45.9 +1.4**
KBZ Khabaz 68.39 310 P **P** **05 43 45.1 +0.7**
comp=Z,32nm,0.7s,baz=58,slow=4.6,SNR=55
KBZ LR LR 06 15 54.2
comp=Z,535nm,19.4s,baz=34,slow=38
comp=Z,32nm,0.7s
KBZ Khabaz 68.39 310 *ceP* **P** **05 43 44.9 +0.5**
KBZ pmax pmax
comp=Z,48nm,1.0s
SHA1 Shidzhatmaz 68.52 310 *d iP* **P** **05 43 46.1 +0.5**
ERBR Yeremizino-Bor 68.59 312 *eP* **P** **05 43 45.8 +0.1**
ERBR *e**PP **PcP** **05 44 10.7 +0.6**
ERBR *e* 05 46 16.8

ERBR eS S 05 52 39.0 -1.7
ERBR pmax pmax
comp=Z,162nm,1.1s
ERBR MLR MLR
comp=Z,503nm,19.0s
KCPM Cahto Peak 68.79 56 IAmb IAmb 05 43 50.2
comp=Z,84nm,0.9s
TRLG Trialeti 68.96 307 P P 05 43 48.8 +0.5
O02D Mt. Diablo Mer 69.00 55 IAmb IAmb 05 43 51.6
comp=Z,81nm,0.9s
MNK Minsk 69.32 325 *i* P P 05 43 49.6 -0.4
MNK *i* *PP pP 05 44 14.9 +1.3
MNK *i* 05 46 24.0
MNK *i* PPP PPP 05 48 06.0
MNK *i* S S 05 52 49.2 +0.3
MNK *i* *SS SKiKP 05 53 33.1 +3.1
MNK *i* 05 53 41.3
MNK *i* SS SS 05 57 19.2 +2.8
MNK pmax pmax
comp=N,18nm,0.6s
MNK pmax pmax
comp=Z,85nm,0.9s
MNK pmax pmax
comp=E,54nm,1.0s
MNK MLR MLR
comp=Z,307nm,17.0s
MNK MLR MLR
comp=N,303nm,18.0s
MNK MLR MLR
comp=E,301nm,16.0s
ISAL Salakas 69.34 327 *e*P P 05 43 52.0 +1.8
GNI Garni 69.39 306 P P 05 43 51.7 +0.8
GNI IAmb IAmb 05 43 55.0
comp=Z,130nm,1.4s
GNI Garni 69.39 306 LR LR 06 16 15.2
comp=Z,221nm,18.5s,baz=52,slow=38
GNI Garni 69.39 306 P P 05 43 51.2 +0.2
GNI Garni 69.39 306 *d* *i* P P 05 43 51.9 +1.0
GNI pmax pmax
comp=Z,120nm,1.3s
HATC Hat Creek Radi 69.44 54 IAmb IAmb 05 43 54.0
comp=Z,124nm,0.8s
NAX Nakhchivan 69.50 304 P P 05 43 50.3 -1.2
UPP Uppsala 69.52 333 *e*P P 05 43 51.5 +0.4
HOPS Hopland Field 69.52 56 IAmb IAmb 05 43 54.9
comp=Z,105nm,1.4s
J08A Circle Bar Ran 69.69 50 IAmb IAmb 05 43 55.6
comp=Z,100nm,1.2s
GDH Godhavn 69.69 6 *i* P P 05 43 51.2 -0.8
GDH IAmb IAmb 05 43 55.6
comp=Z,18nm,1.0s
GDXM Geysers 69.80 56 IAmb IAmb 05 43 56.5
comp=Z,127nm,1.4s
WSAR Wadi Sarin 69.83 284 P P 05 43 54.8 +1.1
ILULI Ilulissat 69.90 5 IAmb IAmb 05 43 56.1
comp=Z,199nm,1.8s
ILULI Ilulissat 69.90 5 *i* P P 05 43 53.8 +0.5
JLN Jalan Bani Buh 69.90 282 P P 05 43 55.1 +0.9
SNR=6.6
BANOM Banah 69.94 287 P P 05 43 55.0 +0.6
BANOM Banah 69.94 287 *i* P P 05 43 55.0 +0.6
SNR=8.1
WBK Wadi Bani Khal 69.95 283 P P 05 43 55.4 +0.9
VSVD Vaisvydziai 69.96 328 *e*P P 05 43 54.4 +0.5
SHME Shamm 69.98 287 P P 05 43 55.0 +0.4
SHME Shamm 69.98 287 *i* P P 05 43 55.0 +0.4
SNR=18
BIDO Bidbid 70.03 284 P P 05 43 56.2 +1.3
SNR=6.1
WVOR Wild Horse Val 70.16 51 IAmb IAmb 05 43 58.3
comp=Z,127nm,1.4s
WVOR Wild Horse Val 70.16 51 P P 05 43 56.6 +1.0
VSLR Vesyoloye 70.21 311 *d* *i* P P 05 43 56.0 +0.3
VSLR pmax pmax
comp=Z,128nm,1.1s
PABE Paberze 70.28 328 *e*P P 05 43 56.2 +0.3
MDH Madha 70.31 287 P P 05 43 57.0 +0.4
MDH Madha 70.31 287 P P 05 43 56.4 -0.3
SOC Sochi 70.32 311 *e*P P 05 43 53.5 -2.8
SOC *e* 05 46 33.6
SOC *e*S S 05 52 56.8 -4.2
SOC *e*SS SS 05 57 28.8 -3.6
SOC pmax pmax
comp=Z,60nm,1.0s
SMDO Samad 70.37 284 P P 05 43 57.9 +0.8
SNR=6.1
MASF Masafi 70.37 287 P P 05 43 57.6 +0.5
MASF S S 05 53 03.9 +1.5
MSFE Esma-Masafi 70.38 287 *i* P P 05 43 57.3 +0.2
SNR=10.0
MOL Molde 70.47 339 *e*P P 05 43 57.5 +0.6
FFC Flin Flon 70.59 33 P P 05 43 58.4 +0.6
FFC IAmb IAmb 05 43 59.7
comp=Z,90nm,0.8s
FFC Flin Flon 70.59 33 P P 05 43 58.4 +0.6
FFC pmax pmax
comp=Z,90nm,0.9s
FFC Flin Flon 70.59 33 P P 05 43 58.2 +0.4
UOSS Minazif 70.59 286 P P 05 43 58.3 0.0
UOSS IAmb IAmb 05 43 59.9
comp=Z,93nm,1.1s
UOSS Minazif 70.59 286 P P 05 43 59.4 +1.0
UOSS S S 05 53 05.2 +0.4
UOSS Minazif 70.59 286 *i* P P 05 43 58.5 +0.2
SNR=15
UOSS Minazif 70.59 286 P P 05 43 58.6 +0.3
UOSS PcP pP 05 44 21.8 -0.3
HOQ Hoqain 70.60 285 P P 05 43 58.9 +0.5
SNR=7.6
HFS Hagfors 70.60 335 P P 05 43 58.0 +0.2
comp=Z,10.0nm,0.4s,baz=28,slow=6.7,SNR=60
HFS LR LR 06 16 54.9
comp=Z,452nm,20.3s,baz=40,slow=38
comp=Z,10.0nm,0.4s
HFS Hagfors 70.60 335 P P 05 43 58.0 +0.2
NC204 NORSAR Array S 70.61 337 P P 05 43 58.2 +0.3
UMQ Umm Al-Quwin 70.64 287 P P 05 43 59.4 +0.8
NB2 NORSAR Subarra 70.66 337 P P 05 43 58.0 -0.2
comp=Z,40nm,0.9s,baz=37,slow=6.5
NB2 NORSAR Subarra 70.66 337 P P 05 43 55.0 -3.2
NB2 pmax pmax
comp=Z,10.0nm,0.9s
NB2 NORSAR Subarra 70.66 337 P P 05 43 58.0 -0.2
baz=37,slow=6.5
NOA NORSAR Array B 70.66 337 P P 05 43 58.3 +0.1
comp=Z,18nm,0.8s,baz=37,slow=6.0,SNR=51
NOA LR LR 06 18 10.4
comp=Z,316nm,22.0s,baz=30,slow=39
comp=Z,18nm,0.8s
HATD Hatta, Dubai 70.72 286 P P 05 43 59.7 +0.6
SNR=6.9
HATD S S 05 53 06.5 +0.2
HATD Hatta, Dubai 70.72 286 *i* P P 05 43 59.4 +0.3
SNR=17
PBUR Paburge 70.73 329 *e*P P 05 43 59.4 +0.8
JMDO Jabal Madar 70.74 283 P P 05 43 59.8 +0.5
NC602 NORSAR Array S 70.80 336 *e*P P 05 43 58.5 -0.4
NORES NORESS Array B 70.80 336 P P 05 44 02.3 +3.3
SOHO SOHO 70.84 286 P P 05 44 00.1 +0.3
SOHO SOHO 70.84 286 *i* P P 05 43 59.6 -0.2
SNR=21
ANN Anapa 70.85 313 *d* *i* P P 05 43 59.3 -0.2
ANN *e**PP pP 05 44 22.0 -1.2
ANN eS S 05 53 05.2 -2.0
ANN *e*SS SS 05 57 40.3 -0.2
ANN pmax pmax
comp=Z,92nm,0.9s
ANN MLR MLR
comp=Z,342nm,17.0s
AFDM Forest Hills D 70.86 55 IAmb IAmb 05 44 02.2
comp=Z,114nm,1.4s
ASHO Ashiyiah 70.86 286 P P 05 44 00.5 +0.5
SNR=6.9
ASHO S S 05 53 08.4 +0.4
ASHO Ashiyiah 70.86 286 *i* P P 05 44 00.2 +0.2
SNR=14
NAZ Nazwa, Dubai 70.96 287 P P 05 44 01.6 +1.1
SNR=5.9
SOEG Soedalen 71.15 357 *i* P P 05 44 00.5 -0.5
FAQ Al Faqa, Dubai 71.16 287 P P 05 44 02.2 +0.5
SNR=6.9
FAQ Al Faqa, Dubai 71.16 287 *i* P P 05 44 01.4 -0.3
SNR=8.3
BSY Bisya 71.18 284 P P 05 44 02.6 +0.7
SNR=7.0

MPK Martis Peak 71.23 54 IAmb IAmb 05 44 05.2
comp=Z,137nm,1.0s
AKASG Malin Array Be 71.25 322 P P 05 44 01.8 -0.1
comp=Z,12nm,0.5s,baz=46,slow=6.3,SNR=112
AKASG S S 05 53 10.8 -0.8
comp=Z,0.2nm,0.2s,baz=47,slow=14,SNR=6.9
comp=Z,12nm,0.5s
AKASG Malin Array Be 71.25 322 *i* P P 05 44 01.7 -0.1
AKASG pmax pmax
comp=Z,13nm,0.5s
AKBB Malin Array Si 71.25 322 *ce*P P 05 44 01.5 -0.4
AKBB pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 71.27 322 P P 05 44 01.7 -0.2
KIEV IAmb IAmb 05 44 03.0
comp=Z,79nm,1.1s
KIEV Kiev 71.27 322 P P 05 44 01.7 -0.2
KIEV pmax pmax
comp=Z,79nm,1.1s
KIEV Kiev 71.27 322 *i* P P 05 44 01.9 -0.1
SNR=5.4
KIEV Kiev 71.27 322 P P 05 44 01.8 -0.2
ARQ Araqi 71.32 285 P P 05 44 03.5 +0.7
SNR=7.5
PAHR Pah Rah Range 71.37 53 IAmb IAmb 05 44 05.5
comp=Z,78nm,1.0s
ASUD Al Ashush, Dub 71.42 287 P P 05 44 04.0 +0.7
SNR=8.3
ASUD Al Ashush, Dub 71.42 287 *i* P P 05 44 03.6 +0.3
SNR=18
ALNE Al Ain 71.45 286 P P 05 44 04.0 +0.5
SNR=11
ALNE Al Ain 71.45 286 *i* P P 05 44 03.7 +0.1
SNR=26
SUW Suwalki 71.65 327 *e*P P 05 44 04.2 0.0
SUW Suwalki 71.65 327 *e*P P 05 44 04.8 +0.6
MHTO MHTO 71.67 282 P P 05 44 05.5 +0.6
SNR=13
AJN Ajban 71.71 287 P P 05 44 05.3 +0.2
CMB Columbia Colle 71.78 55 IAmb IAmb 05 44 08.0
comp=Z,103nm,1.2s
SKAR Skarslia 71.80 338 *e*P P 05 44 06.0 +0.9
HYA Hoyanger 72.00 339 *e*P P 05 44 06.8 +0.7
GURO Guroymak-BITLI 72.03 306 IAmb IAmb 05 44 09.2
comp=Z,86nm,1.0s
BOZ Bozeman (W) 72.11 45 IAmb IAmb 05 44 09.8
comp=Z,90nm,0.8s
SFJD Kangerlussuaq 72.12 5 P P 05 44 07.5 +0.8
SFJD Kangerlussuaq 72.12 5 LR LR 06 17 04.1
comp=Z,39nm,21.8s,baz=349,slow=37
SFJD Kangerlussuaq 72.12 5 P P 05 44 07.6 +0.8
SFJD pmax pmax
comp=Z,56nm,1.1s
SFJD Kangerlussuaq 72.12 5 *i* P P 05 44 07.5 +0.8
STRU Stroemstad 72.26 335 *i* P P 05 44 08.2 +0.5
STKA Stephens Creek 72.34 180 P P 05 44 09.0 +0.6
comp=Z,4.2nm,0.7s,baz=332,slow=8.4,SNR=6.1
STKA LR LR 06 17 20.3
comp=Z,68nm,19.6s,baz=7.7,slow=37
SIM Simferopol' 72.57 315 *e*P P 05 44 10.6 +0.7
SIM eS S 05 53 27.3 +0.3
SIM pmax pmax
comp=Z,71nm,0.8s
DQM DQM 72.63 282 P P 05 44 11.5 +0.8
UMZA Um Al Zommool 72.70 285 P P 05 44 11.1 +0.2
LHV Little Huntoon 72.81 54 IAmb IAmb 05 44 14.8
comp=Z,162nm,1.1s
NVAR Mina Array Bea 72.82 54 P P 05 44 13.0 +1.2
comp=Z,22nm,0.7s,baz=294,slow=5.7,SNR=156
comp=Z,22nm,0.7s
BLEU Blekinge 72.83 332 *i* P P 05 44 10.7 -0.4
BLEU IAmb IAmb 05 44 12.0
comp=Z,21nm,0.7s
ASK Askoy 72.84 339 *e*P P 05 44 11.9 +0.8
BORU Boraas 72.85 334 *i* P P 05 44 11.4 +0.1
BER Bergen 72.88 339 *e*P P 05 44 12.7 +1.4
YHB Horse Butte 72.89 45 IAmb IAmb 05 44 15.3
comp=Z,70nm,0.8s
ODD1 Odda 72.91 338 *e*P P 05 44 13.0 +1.3
TJOU Tjoern 72.92 335 *i* P P 05 44 11.6 -0.1
JRN Qarnain Island 73.02 288 P P 05 44 12.1 -0.7
FRB Frobisher Bay 73.11 13 LR LR 06 19 58.6
comp=Z,154nm,19.6s,baz=334,slow=39
YNR Nanisivvik 73.20 45 IAmb IAmb 05 44 17.9
comp=Z,141nm,1.5s
ELK Elko 73.20 51 P P 05 44 15.3 +1.3
comp=Z,8.5nm,0.5s,baz=320,slow=5.0,SNR=55
comp=Z,8.5nm,0.5s
Q09A Carvers 73.25 53 IAmb IAmb 05 44 17.0
comp=Z,73nm,0.9s
ONAU Onsala 73.32 334 *i* P P 05 44 14.3 +0.2
KAAM Kaadhehdhoo 73.36 256 P P 05 44 16.4 +1.5
FABU Falkenberg 73.37 333 *i* P P 05 44 14.2 -0.1
BLS5 Blasjo 73.37 338 *e*P P 05 44 15.4 +1.1
MORW Morawa 73.37 203 P P 05 44 14.6 0.0
MORW Morawa 73.37 203 P P 05 44 13.4 -1.2
comp=Z,28nm,1.0s
MORW Morawa 73.37 203 P P 05 44 15.8 +1.2
DEL Delary 73.39 333 *i* P P 05 44 15.5 +1.1
DEL IAmb IAmb 05 44 18.8
comp=Z,6.8nm,0.6s
BBOO Buckleboo 73.43 185 P P 05 44 14.1 -0.7
comp=Z,31nm,1.0s
BBOO Buckleboo 73.43 185 P P 05 44 16.0 +1.2
MARD Mardin 73.57 305 IAmb IAmb 05 44 18.1
comp=Z,90nm,0.9s
GHWR Ruwais 73.60 288 P P 05 44 15.6 -0.7
TPH Tonopah 73.71 54 IAmb IAmb 05 44 19.7
comp=Z,89nm,1.0s
TIN Tinemaha, Big 73.73 55 IAmb IAmb 05 44 19.9
comp=Z,190nm,1.4s
MZR Muzera 73.75 286 P P 05 44 17.0 -0.1
SNR=13
MZR Muzera 73.75 286 *i* P P 05 44 16.8 -0.4
SNR=18
R9F13 Warsaw-Wawer 73.80 326 *e*P P 05 44 18.0 +1.1
TPAW Teton Pass 73.86 46 IAmb IAmb 05 44 21.1
comp=Z,81nm,1.1s
BORG Borgarnes 73.88 352 LR LR 06 17 31.3
comp=Z,65nm,19.5s,baz=15,slow=36
BORG Borgarnes 73.88 352 P P 05 44 19.0 +1.8
ANGG Ammassalik, Gr 73.89 360 P P 05 44 17.8 +0.6
ANGG Ammassalik, Gr 73.89 360 *jj* P P 05 44 17.6 +0.4
DGMT Dagmar 73.95 39 IAmb IAmb 05 44 19.9
comp=Z,98nm,0.7s
KIS Kishinev 73.96 319 *e*P P 05 44 17.5 -0.5
comp=Z,90nm,1.8s
KIS *e*S S 05 53 40.0 -2.6
KIS *e*L L 06 14 30.0
KIS LRM MLR 06 19 38.0
comp=Z,200nm,14.5s
BJUU Bjuv 73.99 333 *i* P P 05 44 18.6 +0.7
MILM Milestii Mici 74.02 319 *e*P P 05 44 17.0 -1.3
comp=Z,140nm,1.8s
MILM *e*pP pP 05 44 40.0 -2.2
MILM Milestii Mici 74.02 319 *e*PP PP 05 47 04.0 0.0
comp=Z,320nm,5.2s
MILM *i* S SKiKP 05 53 40.0 +2.8
MILM Milestii Mici 74.02 319 LRM MLR 06 19 40.0
MILM Milestii Mici 74.02 319 *e*PS 05 54 15.0
MILM Milestii Mici 74.02 319 *e*L L 06 09 06.0
MILM Milestii Mici 74.02 319 LQM 06 14 01.0
comp=Z,500nm,20.5s
SAKB Bahrain 74.05 291 P P 05 44 18.3 -0.5
KBD Kabd 74.08 295 P P 05 44 18.7 -0.3
LAO LASA Array 74.19 41 IAmb IAmb 05 44 21.9
comp=Z,119nm,1.1s
LUNU Lund 74.19 332 *i* P P 05 44 19.5 +0.3
BEL Belsk 74.23 326 *e*P P 05 44 19.8 +0.3
LVV L'vov 74.27 323 P P 05 44 20.7 +0.9
TRNA Turayna 74.33 289 P P 05 44 19.8 -0.7
SLWR Sila 74.39 288 P P 05 44 20.6 -0.2
R11B Troy Canyon, C 74.53 53 IAmb IAmb 05 44 24.3
comp=Z,242nm,1.8s
GKP Gorka Klasztor 74.60 329 *e*P P 05 44 21.8 +0.3
BLDU Ballidu 74.63 202 P P 05 44 21.2 -0.7
comp=Z,28nm,1.1s
BLDU Ballidu 74.63 202 P P 05 44 23.0 +1.1
HWUT Hardware Ranch 74.75 48 IAmb IAmb 05 44 25.8
comp=Z,154nm,1.4s
MPMC Manual Prospec 74.82 55 IAmb IAmb 05 44 25.9
comp=Z,118nm,1.4s
SPR3 Spring Creek 3 74.86 51 IAmb IAmb 05 44 27.1
comp=Z,204nm,1.7s
KSV Kosov 74.86 322 P P 05 44 23.8 +0.6

S11A Rachel 74.88 53 IAmb IAmb 05 44 26.6
comp=Z,94nm,0.8s
WCT Wildcat Mounta 74.89 54 IAmb IAmb 05 44 26.3
comp=Z,122nm,1.5s
OSI Osito Audit: C 74.95 57 IAmb IAmb 05 44 26.7
comp=Z,79nm,1.1s
MUD Monsted U'grnd 74.98 335 *e*P P 05 44 23.9 +0.3
MUD IAmb IAmb 05 44 25.5
comp=Z,12nm,0.6s
KWP Kalwaria Pacla 75.00 324 *e*P P 05 44 25.3 +1.2
TPNV Topopah Spring 75.02 54 IAmb IAmb 05 44 27.2
comp=Z,181nm,1.2s
LRMC Laurel Mtn Rad 75.06 56 IAmb IAmb 05 44 27.1
comp=Z,93nm,1.3s
PDAR Pinedale Array 75.10 46 P P 05 44 25.4 +0.5
comp=Z,24nm,0.7s,baz=263,slow=1.7,SNR=194
PDAR LR LR 06 18 27.4
comp=Z,76nm,21.2s,baz=320,slow=36
comp=Z,24nm,0.7s
WSHM Spangler Hills 75.11 56 IAmb IAmb 05 44 27.3
comp=Z,102nm,1.3s
TCUT Toone Canyon 75.17 48 IAmb IAmb 05 44 28.1
comp=Z,86nm,0.9s
TLCR 75.20 317 ⇓P P 05 44 26.5 +1.2
TLCR 75.20 317 P P 05 44 26.4 +1.2
SHAO Shalim 75.23 281 P P 05 44 26.2 +0.5
CCCA Chr Cany lake 75.23 56 IAmb IAmb 05 44 28.3
comp=Z,167nm,1.3s
GWY Greenwater Val 75.25 55 IAmb IAmb 05 44 28.4
comp=Z,210nm,1.4s
BURAR Bucovina Array 75.29 321 ⇑P P 05 44 26.2 +0.3
BURAR Bucovina Array 75.29 321 P P 05 44 26.1 +0.3
TESR Tescani 75.37 320 ⇓P P 05 44 26.5 +0.4
PRN Pahroc Range 75.45 53 IAmb IAmb 05 44 29.9
comp=Z,101nm,1.3s
JLU Jordanelle 75.48 49 IAmb IAmb 05 44 29.9
comp=Z,158nm,1.7s
CFR Carcaliu 75.56 318 ⇓P P 05 44 27.6 +0.3
CFR Carcaliu 75.56 318 P P 05 44 27.5 +0.3
BNN Bunyan 75.57 309 IAmb IAmb 05 44 29.8
comp=Z,88nm,1.1s
MWC Mount Wilson 75.62 57 IAmb IAmb 05 44 30.3
comp=Z,97nm,1.1s
TPGR Topolog 75.64 317 ⇑P P 05 44 28.7 +0.9
SHOC Shoshone, Teco 75.68 55 IAmb IAmb 05 44 30.7
comp=Z,117nm,1.2s
ODBI Odobesti 75.69 319 ⇓P P 05 44 29.6 +1.6
KOLS Kolonicke sedl 75.71 323 *e*P P 05 44 28.9 +0.8
KOLS pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 75.71 323 *e*P P 05 44 28.9 +0.8
GSC Goldstone, Bar 75.73 56 IAmb IAmb 05 44 31.0
comp=Z,95nm,1.2s
MPU Maple Canyon 75.77 49 IAmb IAmb 05 44 31.4
comp=Z,50nm,0.7s
VRI Vrincioaia 75.79 319 ⇑P P 05 44 29.8 +1.2
VRI Vrincioaia 75.79 319 P P 05 44 29.8 +1.2
STHS Stebnicka Huta 75.81 324 *e*P P 05 44 29.3 +0.6
STHS pmax pmax
comp=Z,24nm,0.9s
STHS Stebnicka Huta 75.81 324 *e*P P 05 44 29.3 +0.6
PLOR Plostina 75.84 319 ⇓P P 05 44 29.8 +0.9
PLOR Plostina 75.84 319 P P 05 44 29.8 +0.9
GAZ Gaziantep 75.85 307 IAmb IAmb 05 44 31.7
comp=Z,103nm,1.1s
TIRR Tirgusor 75.92 317 ⇑P P 05 44 30.0 +0.8
TIRR Tirgusor 75.92 317 P P 05 44 30.0 +0.8
DMTO DMTO 75.92 281 P P 05 44 29.7 0.0
DOK Doka 75.97 283 P P 05 44 29.7 -0.3
COVR Voineasa-Covas 76.06 319 ⇓P P 05 44 31.6 +1.4
ARCR ARCALIA 76.08 321 ⇑P P 05 44 31.7 +1.5
OZUR 76.09 320 ⇓P P 05 44 31.9 +1.5
MFTR Murfatlar 76.10 317 ⇑P P 05 44 31.2 +0.8
CAN Canberra 76.11 174 P P 05 44 31.2 +0.9
CAN Canberra 76.11 174 P P 05 44 29.1 -1.2
comp=Z,28nm,1.6s
CAN Canberra 76.11 174 P P 05 44 31.2 +0.9
CAN pmax pmax
comp=Z,34nm,1.2s
CNB Canberra Magne 76.13 173 P P 05 44 28.8 -1.6
comp=Z,15nm,1.6s
NIE Niedzica 76.23 325 *e*P P 05 44 32.3 +1.3
BR131 Keskin Array S 76.28 311 P P 05 44 31.4 -0.2
BR131 Keskin Array S 76.28 311 *d* *i* P P 05 44 31.9 +0.3
BRTR Keskin Array B 76.28 311 P P 05 44 32.0 +0.3
comp=Z,13nm,0.9s,baz=58,slow=4.7,SNR=47
BRTR PP PP 05 47 20.8 -2.8
comp=Z,4.9nm,1.0s,baz=68,slow=3.3,SNR=5.1
BRTR LR LR 06 22 53.2
comp=Z,170nm,19.2s,baz=64,slow=39
comp=Z,13nm,0.9s
DOPR Dopca 76.38 320 ⇑P P 05 44 33.4 +1.5
MTPC Mountain Pass 76.39 55 IAmb IAmb 05 44 35.1
comp=Z,161nm,1.3s
ELS Elsinore Mount 76.40 57 IAmb IAmb 05 44 34.5
comp=Z,168nm,1.6s
ULM Lac du Bonnet 76.40 34 P P 05 44 31.7 -0.2
comp=Z,41nm,0.8s,baz=319,slow=6.1,SNR=44
ULM LR LR 06 20 19.9
comp=Z,166nm,20.3s,baz=294,slow=37
comp=Z,41nm,0.8s
ULM Lac du Bonnet 76.40 34 *c* *i* P P 05 44 31.5 -0.5
ISR Istrita 76.41 319 ⇓P P 05 44 33.6 +1.5
ISR Istrita 76.41 319 P P 05 44 33.6 +1.5
MLR Muntele Rosu 76.44 319 ⇓P P 05 44 32.9 +0.5
MLR Muntele Rosu 76.44 319 P P 05 44 32.9 +0.5
ICOR Ion Corvin 76.47 317 ⇓P P 05 44 32.7 +0.3
TMUT Trail Mountain 76.49 50 IAmb IAmb 05 44 35.6
comp=Z,120nm,1.6s
KIRS Kirsehir-Merke 76.52 310 ⇑P P 05 44 33.2 +0.2
RUE Ruedersdorf 76.55 330 *e*P P 05 44 33.9 +1.2
comp=Z,104nm,1.3s,baz=36,slow=5.5
RBK Rabkut 76.61 282 P P 05 44 33.9 +0.2
P17A Butcher Ranch, 76.64 49 IAmb IAmb 05 44 36.4
comp=Z,228nm,1.5s
V12A Nelson 76.67 54 IAmb IAmb 05 44 36.7
comp=Z,154nm,1.3s
WHFO Wadi Hawf 76.67 282 P P 05 44 33.1 -0.9
NWAO Narrogin (SRO) 76.67 201 P P 05 44 33.0 -0.5
comp=Z,47nm,1.2s
NWAO Narrogin (SRO) 76.67 201 P P 05 44 33.9 +0.5
NWAO Narrogin (SRO) 76.67 201 P P 05 44 34.9 +1.4
CBBR Cluj-Babes-Bol 76.69 321 ⇑P P 05 44 34.7 +1.1
MESR Meseseni 76.69 322 ⇑P P 05 44 35.1 +1.4
CJR Cluj-Napoca 76.70 321 ⇓P P 05 44 35.2 +1.3
CJR Cluj-Napoca 76.70 321 P P 05 44 35.1 +1.3
Q16A Castle Valley 76.76 50 IAmb IAmb 05 44 37.4
comp=Z,166nm,1.6s
LANS Liptovska Anna 76.79 325 *e*P P 05 44 36.1 +1.9
LANS pmax pmax
comp=Z,22nm,1.2s
LANS Liptovska Anna 76.79 325 *e*P P 05 44 36.1 +1.9
K22A Casper 76.81 45 IAmb IAmb 05 44 36.6
comp=Z,155nm,1.5s
P18A Preston Nutter 76.82 49 IAmb IAmb 05 44 37.6
comp=Z,208nm,1.6s
KSP Ksiaz 76.84 328 *e*P P 05 44 35.1 +0.7
KSP Ksiaz 76.84 328 P P 05 44 35.1 +0.7
OKC Ostrava-Krasne 76.84 326 *e*S S 05 54 13.8 -0.5
OKC AMS AMS 06 20 20.0
comp=Z,400nm,15.2s
KECS Kecovo 76.84 324 *e*P P 05 44 36.1 +1.6
KECS pmax pmax
comp=Z,31nm,1.0s
KECS Kecovo 76.84 324 *e*P P 05 44 36.1 +1.6
VOIR 76.92 320 ⇑P P 05 44 35.2 +0.1
STEB Steborice 76.92 326 *e*P P 05 44 35.9 +1.0
MARR Marisel-Cluj 76.96 321 ⇑P P 05 44 36.2 +0.9
E28A Huff 76.97 39 IAmb IAmb 05 44 37.1
comp=Z,91nm,0.9s
PFO Pinyon Flats O 77.04 57 P P 05 44 36.4 +0.4
PFO IAmb IAmb 05 44 38.3
comp=Z,106nm,1.2s
PFO Pinyon Flats O 77.04 57 P P 05 44 36.3 +0.3
comp=Z,58nm,1.1s,baz=314,slow=4.8,SNR=43
PFO LR LR 06 12 35.2
comp=Z,182nm,21.8s,baz=298,slow=31
comp=Z,58nm,1.1s
PFO Pinyon Flats O 77.04 57 *c* *i* P P 05 44 35.5 -0.5
KNB Kanab 77.06 52 IAmb IAmb 05 44 39.3
comp=Z,133nm,1.3s
PMD Palm Desert 77.06 57 IAmb IAmb 05 44 38.1
comp=Z,100nm,1.2s
DRGR 77.07 322 ⇑P P 05 44 36.9 +1.1
DRGR 77.07 322 P P 05 44 36.9 +1.1

PKCU **Pink Cliffs** 77.08 52 IAmb IAmb 05 44 39.8
comp=Z,92nm,1.2s
RSSD **Black Hills** 77.08 42 P P 05 44 36.5 +0.3
RSSD IAmb IAmb 05 44 38.0
comp=Z,105nm,1.2s
RSSD **Black Hills** 77.08 42 P P 05 44 36.5 +0.3
RSSD pmax pmax
comp=Z,105nm,1.3s
OSTC **Ostas** 77.09 328 eS S 05 54 15.4 -1.6
CHVC **Chvalec** 77.13 328 eP P 05 44 37.2 +1.1
CHVC eS S 05 54 18.9 +1.4
CHVC MLR MLR
comp=Z,500nm,19.1s
CHVC **Chvalec** 77.13 328 eP P 05 44 37.2 +1.1
CHVC eS S 05 54 18.9 +1.4
CHVC AMS AMS 06 20 20.0
comp=Z,500nm,19.1s
MORC **Moravsky Berou** 77.14 326 eP P 05 44 36.8 +0.6
TNR **Turnu Rosu** 77.15 320 ⇓P P 05 44 37.4 +1.1
TNR **Turnu Rosu** 77.15 320 P P 05 44 37.3 +1.1
MDUB **Mudurnu** 77.16 313 IAmb IAmb 05 44 38.6
comp=Z,79nm,1.0s
ARR **Arges** 77.18 320 ⇑P P 05 44 36.9 +0.4
DPC **Dobruska-Polom** 77.20 327 eP P 05 44 37.9 +1.4
DPC eS S 05 54 18.7 +0.3
DPC MLR MLR
comp=Z,400nm,20.3s
DPC **Dobruska-Polom** 77.20 327 eP P 05 44 37.9 +1.4
DPC eS S 05 54 18.7 +0.3
DPC AMS AMS 06 20 20.0
comp=Z,400nm,20.3s
UPC **Upice** 77.21 328 eP P 05 44 37.8 +1.3
UPC eS S 05 54 18.1 -0.2
UPC MLR MLR
comp=Z,400nm,21.5s
UPC **Upice** 77.21 328 eP P 05 44 37.8 +1.3
UPC eS S 05 54 18.1 -0.2
UPC AMS AMS 06 20 30.0
comp=Z,400nm,21.5s
KRLC **Kraliky** 77.23 327 eP P 05 44 37.8 +1.1
KRLC MLR MLR
comp=Z,400nm,21.2s
KRLC **Kraliky** 77.23 327 eP P 05 44 37.8 +1.1
KRLC AMS AMS 06 19 50.0
comp=Z,400nm,21.2s
MAUC **Maruska** 77.33 326 eP P 05 44 38.0 +0.8
MAUC eS S 05 54 19.9 +0.2
ABTO **Aybut** 77.38 282 P P 05 44 37.8 -0.2
IRM **Iron Mountain** 77.51 56 IAmb IAmb 05 44 41.2
comp=Z,148nm,1.3s
PSZ **Piszkesteto** 77.53 324 ⇓P P 05 44 39.2 +0.7
PSZ **Piszkesteto** 77.53 324 P P 05 44 39.1 +0.7
PSZ **Piszkesteto** 77.53 324 eP P 05 44 39.6 +1.2
VYHS **Vyhne** 77.56 325 eP P 05 44 39.8 +1.3
VYHS pmax pmax
comp=Z,38nm,1.3s
VYHS **Vyhne** 77.56 325 eP P 05 44 39.8 +1.3
HUMR **Humele** 77.61 319 ⇓P P 05 44 38.8 0.0
FLTG **Flechtingen** 77.61 331 eP P 05 44 39.1 +0.5
comp=Z,45nm,0.8s,baz=36,slow=5.5
FLTG epP pP 05 45 03.7 +1.0
baz=36,slow=5.5
LOZB **Loznitsa** 77.61 317 ⇑P P 05 44 38.9 0.0
DEV **Deva** 77.64 321 P P 05 44 40.4 +1.4
BC3 **Big Chuckawall** 77.64 56 IAmb IAmb 05 44 41.7
comp=Z,127nm,1.2s
HMU **Henry Mountain** 77.67 50 IAmb IAmb 05 44 42.2
comp=Z,92nm,0.8s
EPLO **Experimental L** 77.74 33 IAmb IAmb 05 44 40.6
comp=Z,100nm,1.0s
CBX **Cerro Bola** 77.75 58 IAmb IAmb 05 44 42.4
comp=Z,120nm,1.1s
BRG **Berggiesshubel** 77.75 329 eP P 05 44 41.2 +1.7
comp=Z,20nm,1.0s,baz=36,slow=5.5
BRG **Berggiesshubel** 77.75 329 *i* P P 05 44 41.0 +1.5
BRG Amp 05 44 42.1
comp=Z,20nm,1.0s
BRG ⇑PP PcP 05 44 50.7 +1.5
BRG Amp 05 44 51.1
comp=Z,14nm,1.0s
BRG pP pP 05 45 05.3 +1.8
BRG Amp 05 45 05.6
comp=Z,10nm,1.0s
BRG **Berggiesshubel** 77.75 329 S S 05 54 26.0 +1.9
CLL **Collm** 77.77 330 ⇓*i*P P 05 44 39.9 +0.3
CLL *i* *PP pP 05 45 04.2 +0.6
CLL eS S 05 54 23.0 -1.3
CLL pmax pmax
comp=Z,42nm,0.9s
CLL MLR MLR
comp=Z,300nm,18.2s
CLL **Collm** 77.77 330 eP P 05 44 40.2 +0.6
comp=Z,34nm,0.8s,baz=36,slow=5.5
CLL epP pP 05 45 04.6 +1.0
baz=36,slow=5.5
PVCC **Panska Ves** 77.77 328 eP P 05 44 40.3 +0.7
PVCC MLR MLR
comp=Z,300nm,15.8s
PVCC **Panska Ves** 77.77 328 eP P 05 44 40.3 +0.7
PVCC AMS AMS 06 20 50.0
comp=Z,300nm,15.8s
JAVC **Velka Javorina** 77.78 326 eP P 05 44 41.3 +1.5
NRDL **Niedersach Rie** 77.89 332 eP P 05 44 41.1 +1.0
comp=Z,15nm,0.9s,baz=36,slow=5.5
VRAC **Vranov** 77.89 327 LR LR 06 21 36.2
comp=Z,374nm,19.7s,baz=40,slow=38
VRAC **Vranov** 77.89 327 eP P 05 44 41.0 +0.7
SIRR **Siria** 77.94 322 ⇑P P 05 44 41.2 +0.5
RETH **Rethem/Aller,** 77.95 332 eP P 05 44 41.6 +1.1
comp=Z,33nm,1.1s,baz=36,slow=5.5
RETH epP pP 05 45 06.0 +1.4
baz=36,slow=5.5
ASSE **Asse, Remlinge** 77.98 331 eP P 05 44 41.6 +1.0
comp=Z,17nm,0.9s,baz=36,slow=5.5
ASSE epP pP 05 45 05.9 +1.2
baz=36,slow=5.5
YUH **Yuha Desert** 78.00 57 IAmb IAmb 05 44 43.6
comp=Z,83nm,1.1s
IVI **Ivigtut** 78.03 5 *i* P P 05 44 40.8 0.0
CCX **Cicese** 78.03 58 IAmb IAmb 05 44 43.5
comp=Z,121nm,1.3s
GZR **Gura Zlata** 78.06 321 ⇑P P 05 44 42.5 +1.1
GZR **Gura Zlata** 78.06 321 P P 05 44 42.4 +1.1
SURR **Surduc** 78.11 321 ⇓P P 05 44 42.6 +1.0
SMOL **Smolenice** 78.15 326 eP P 05 44 43.5 +1.7
SMOL pmax pmax
comp=Z,20nm,1.1s
GOPC **GO Pecny, Ondr** 78.17 328 eP P 05 44 42.7 +0.9
GOPC eS S 05 54 28.7 0.0
GOPC MLR MLR
comp=Z,500nm,18.9s
GOPC **GO Pecny, Ondr** 78.17 328 eP P 05 44 42.7 +0.9
GOPC eS S 05 54 28.7 0.0
GOPC AMS AMS 06 21 00.0
comp=Z,500nm,18.9s
KRUC **Moravsky** 78.17 327 eP P 05 44 42.4 +0.6
PRU **Pruhonice** 78.21 328 eP P 05 44 42.8 +0.8
PRU eS S 05 54 27.6 -1.4
PRU MLR MLR
comp=Z,400nm,19.5s
PRU **Pruhonice** 78.21 328 eP P 05 44 42.8 +0.8
PRU eS S 05 54 27.6 -1.4
PRU AMS AMS 06 21 10.0
comp=Z,400nm,19.5s
PV21 **Cone Mtn., Par** 78.27 49 IAmb IAmb 05 44 45.5
comp=Z,64nm,0.9s
SRO **Srobarova** 78.30 325 eP P 05 44 45.5 +2.9
SRO pmax pmax
comp=Z,59nm,1.1s
SRO **Srobarova** 78.30 325 eP P 05 44 45.5 +2.9
NEUB **Neuenburg** 78.31 330 eP P 05 44 43.4 +0.8
comp=Z,46nm,0.8s,baz=36,slow=5.5
CLZ **Clausthal** 78.32 331 eP P 05 44 43.9 +1.2
comp=Z,42nm,0.9s,baz=36,slow=5.5
CLZ epP pP 05 45 08.4 +1.6
baz=36,slow=5.5
MODS **Modra-Piesok** 78.32 326 eP P 05 44 40.9 -1.8
MODS pmax pmax
comp=Z,62nm,1.1s
MODS **Modra-Piesok** 78.32 326 eP P 05 44 40.9 -1.8
PV23 **Carpenter Ridg** 78.32 49 IAmb IAmb 05 44 45.8
comp=Z,148nm,1.0s
KUQ **Kuujjuuaa** 78.35 16 IAmb IAmb 05 44 44.2
comp=Z,54nm,0.7s
PHSR **Pinarhisar** 78.36 316 ⇓P P 05 44 43.2 +0.1
TREC **Trest** 78.36 327 eP P 05 44 43.8 +0.8
TREC MLR MLR
comp=Z,500nm,21.2s
TREC **Trest** 78.36 327 eP P 05 44 43.8 +0.8
TREC AMS AMS 06 21 20.0
comp=Z,500nm,21.2s
PV14 **Lion Creek, Pa** 78.37 49 IAmb IAmb 05 44 46.0
comp=Z,77nm,0.9s
ESJX **Sierra Juarez** 78.41 58 IAmb IAmb 05 44 46.3
comp=Z,134nm,1.1s
PV04 **Paradox Valley** 78.42 49 IAmb IAmb 05 44 46.4
comp=Z,126nm,1.2s
GLA **Glamis** 78.44 56 IAmb IAmb 05 44 46.3
comp=Z,108nm,0.9s
BZS **Buzias** 78.45 322 ⇓P P 05 44 44.0 +0.6
BZS **Buzias** 78.45 322 P P 05 44 44.0 +0.6
PV17 **East Wray Mesa** 78.47 49 IAmb IAmb 05 44 46.6
comp=Z,93nm,0.9s
PV16 **Nyswonger Mesa** 78.47 49 IAmb IAmb 05 44 46.6
comp=Z,89nm,1.1s
PV11 **David Mesa, Pa** 78.51 49 IAmb IAmb 05 44 46.8
comp=Z,144nm,1.2s
PV18 **Skein Mesa, Pa** 78.52 49 IAmb IAmb 05 44 46.9
comp=Z,140nm,1.0s
PV05 **Paradox Valley** 78.53 49 IAmb IAmb 05 44 47.0
comp=Z,108nm,0.9s
PV03 **Paradox Valley** 78.55 49 IAmb IAmb 05 44 46.9
comp=Z,128nm,1.4s
HERR **Herculane** 78.61 321 ⇓P P 05 44 45.4 +1.1
PLVB **Pleven** 78.61 318 ⇑P P 05 44 44.9 +0.6
PV13 **Radium Mtn., P** 78.63 49 IAmb IAmb 05 44 47.5
comp=Z,215nm,1.4s
TANN **Tannenbergstha** 78.69 329 eP P 05 44 45.7 +0.9
comp=Z,10nm,0.9s,baz=36,slow=5.5
TANN epP pP 05 45 10.1 +1.3
baz=36,slow=5.5
TANN eSP sP 05 45 20.7 +1.8
GTTG **Gottingen** 78.71 331 eP P 05 44 45.8 +1.0
comp=Z,32nm,0.9s,baz=36,slow=5.5
PLN **Plauen** 78.75 330 eP P 05 44 46.0 +1.0
comp=Z,6.1nm,1.1s,baz=36,slow=5.5
PLN epP pP 05 45 10.5 +1.4
baz=36,slow=5.5
INVG **Invergeldie, C** 78.77 341 eP P 05 44 45.1 +0.1
INVG IAmb IAmb 05 44 47.2
comp=Z,14nm,0.8s
ZVC **Zvikov** 78.78 328 eP P 05 44 46.0 +0.8
PV01 **Paradox Valley** 78.79 49 IAmb IAmb 05 44 48.3
comp=Z,182nm,1.8s
MOX **Mox** 78.83 330 eP P 05 44 46.3 +0.9
comp=Z,15nm,0.8s,baz=36,slow=5.5
IBBN **Ibbenburen** 78.86 333 eP P 05 44 46.3 +0.7
comp=Z,37nm,0.7s,baz=36,slow=5.5
IBBN epP pP 05 45 10.7 +1.0
baz=36,slow=5.5
VTX **Valle De La Tr** 78.91 58 IAmb IAmb 05 44 48.9
comp=Z,93nm,1.2s
WUAZ **Wupatki** 78.93 53 IAmb IAmb 05 44 50.1
comp=Z,111nm,1.1s
BAND **Balkesir-Ban** 78.94 314 ⇑P P 05 44 47.3 +1.0
Y14A **Wickenburg** 78.99 55 IAmb IAmb 05 44 49.4
comp=Z,118nm,1.2s
MDVR **Moldovita** 79.02 321 ⇑P P 05 44 46.7 +0.1
RAYN **Ar Rayn** 79.14 292 P P 05 44 47.4 -0.4
RAYN **Ar Rayn** 79.14 292 P P 05 44 47.8 +0.1
RAYN **Ar Rayn** 79.14 292 P P 05 44 47.9 +0.2
RAYN **Ar Rayn** 79.14 292 *i* P P 05 44 47.5 -0.2
SNR=27
SOP **Sopron** 79.16 326 P P 05 44 48.7 +1.4
MANZ **Manzenberg** 79.17 329 eP P 05 44 48.4 +1.0
comp=Z,4.0nm,0.8s,baz=36,slow=5.5
MANZ epP pP 05 45 12.9 +1.4
baz=36,slow=5.5
CKRC **Cesky Krumlov** 79.22 327 eP P 05 44 48.5 +0.9
CKRC eS S 05 54 39.7 -0.2
CKRC MLR MLR
comp=Z,400nm,23.3s
CKRC **Cesky Krumlov** 79.22 327 eP P 05 44 48.5 +0.9
CKRC eS S 05 54 39.7 -0.2
CKRC AMS AMS 06 21 30.0
comp=Z,400nm,23.3s
LAWE **Loch Awe, Argy** 79.25 342 eP P 05 44 48.7 +1.1
LAWE IAmb IAmb 05 44 49.1
comp=Z,69nm,1.3s
RONA **Rosalia, Austr** 79.26 326 *i* P P 05 44 49.1 +1.2
comp=Z,77nm,1.1s,SNR=23
KHC **Kasperske Hory** 79.27 328 eP P 05 44 48.7 +0.8
KHC eS S 05 54 39.5 -1.0
KHC MLR MLR
comp=Z,500nm,19.1s
KHC **Kasperske Hory** 79.27 328 eP P 05 44 48.7 +0.8
KHC eS S 05 54 39.5 -1.0
KHC AMS AMS 06 21 30.0
comp=Z,500nm,19.1s
CONA **Conrad Observa** 79.27 326 eP P 05 44 49.0 +1.0
comp=Z,62nm,1.2s,SNR=17
UBBA **Unterbreizbach** 79.29 331 eP P 05 44 48.8 +1.0
comp=Z,37nm,1.7s,baz=36,slow=5.5
113A **Mohawk Valley,** 79.29 56 IAmb IAmb 05 44 50.7
comp=Z,78nm,1.0s
ISCO **Idaho Springs** 79.29 46 P P 05 44 49.7 +1.1
ROTZ **Rotzenmuhle** 79.30 329 eP P 05 44 49.4 +1.3
comp=Z,5.2nm,0.9s,baz=36,slow=5.5
ROTZ epP pP 05 45 13.9 +1.7
baz=36,slow=5.5
ROTZ eSP sP 05 45 24.5 +2.3
RAO **Raoul Island** 79.31 144 LR LR 06 17 46.0
comp=Z,103nm,19.2s,baz=348,slow=34
ISP **Isparta** 79.36 311 *c*eP P 05 44 49.1 +0.4
ISP pmax pmax
comp=Z,51nm,1.7s
MORH **Mrgy, Hungar** 79.37 323 ⇑P P 05 44 48.6 +0.2
GEC2 **GERESS Array S** 79.44 328 eP P 05 44 49.7 +0.7
comp=Z,22nm,1.0s,baz=36,slow=5.5
GERES **GERESS Array B** 79.44 328 P P 05 44 49.4 +0.4
comp=Z,38nm,1.1s,baz=35,slow=4.9,SNR=71
GERES LR LR 06 22 32.0
comp=Z,448nm,19.0s,baz=28,slow=38
comp=Z,38nm,1.1s
EKA **Eskdalemuir Ar** 79.53 340 P P 05 44 49.6 +0.5
comp=Z,6.3nm,0.5s,baz=30,slow=4.9,SNR=34
comp=Z,6.3nm,0.5s
WET **Wettzell** 79.54 328 eP P 05 44 50.7 +1.3
comp=Z,39nm,1.0s,baz=36,slow=5.5
KASTN **Kahler Asten** 79.55 332 eP P 05 44 50.2 +0.8
comp=Z,14nm,0.9s,baz=36,slow=5.5
KASTN epP pP 05 45 14.9 +1.4
baz=36,slow=5.5
KASTN eSP sP 05 45 25.4 +1.8
F33A **5 Mile Ranch,** 79.56 37 IAmb IAmb 05 44 51.0
comp=Z,62nm,0.8s
X16A **Lo Mia Camp, P** 79.63 53 IAmb IAmb 05 44 54.0
comp=Z,95nm,1.1s
MMAI **Mount Meron Ar** 79.70 305 P P 05 44 51.2 +0.6
comp=Z,32nm,0.9s,baz=39,slow=5.6,SNR=23
MMAI LR LR 06 25 11.4
comp=Z,178nm,18.8s,baz=47,slow=39
comp=Z,32nm,0.9s
GRA1 **Grafenberg Arr** 79.74 330 IAmb IAmb 05 44 52.7
comp=Z,58nm,0.8s
GRF **Grafenberg Arr** 79.74 330 eP P 05 44 51.9 +1.4
comp=Z,61nm,0.9s,baz=36,slow=5.5
GRFO **Grafenberg** 79.75 330 P P 05 44 51.7 +1.2
GRFO **Grafenberg** 79.75 330 P P 05 44 51.7 +1.2
GRFO pmax pmax
comp=Z,57nm,0.8s
SFX **San Felipe** 79.75 58 IAmb IAmb 05 44 53.1
comp=Z,87nm,1.0s
BUG **Bochum--Univer** 79.75 333 eP P 05 44 51.1 +0.6
comp=Z,24nm,0.8s,baz=36,slow=5.5
BUG epP pP 05 45 15.8 +1.2
baz=36,slow=5.5
BOVS **Bovan** 79.87 320 ⇓P P 05 44 51.4 +0.1
ARSA **Arzberg** 79.94 326 *i* P P 05 44 52.1 +0.5
comp=Z,45nm,1.3s,SNR=12
MOA **Molln** 80.00 327 eP P 05 44 52.8 +0.9
comp=Z,80nm,2.3s,SNR=7.1
EYMN **Ely** 80.01 33 IAmb IAmb 05 44 53.3
comp=Z,79nm,0.9s
EZN **Ezine** 80.28 315 ⇑P P 05 44 54.1 +0.6
EZN **Ezine** 80.28 315 P P 05 44 54.1 +0.6
PIX **Pinacate** 80.29 57 IAmb IAmb 05 44 56.0
comp=Z,105nm,1.1s
TNS **Taunus Mts** 80.35 331 eP P 05 44 54.6 +0.9
comp=Z,24nm,1.0s,baz=36,slow=5.5
TNS epP pP 05 45 19.3 +1.3
baz=36,slow=5.5
K30B **Basset** 80.35 41 IAmb IAmb 05 44 55.8
comp=Z,91nm,0.8s
BIOA **Bad Ischl, Aus** 80.39 327 eP P 05 44 54.8 +0.8
comp=Z,44nm,0.8s,SNR=19
OGNE **Ogallala** 80.39 43 IAmb IAmb 05 44 56.0
comp=Z,221nm,1.4s
X18A **Snowflake** 80.45 52 IAmb IAmb 05 44 57.7
comp=Z,126nm,1.3s
CLGH **Cloghs, Cushen** 80.49 342 eP P 05 44 55.0 +0.7
PERS **Pernice** 80.60 326 *i* P P 05 44 55.5 +0.3
PERS eS S 05 54 53.0 -1.6
SOKA **Soboth** 80.60 326 eP P 05 44 55.8 +0.6
comp=Z,59nm,0.8s,SNR=24
RJOB **Jochberg** 80.69 328 eP P 05 44 57.1 +1.4
comp=Z,41nm,0.9s,baz=36,slow=5.5
RJOB epP pP 05 45 21.5 +1.7
baz=36,slow=5.5
GHAJ **Ghor Haditha** 80.75 303 IAmb IAmb 05 44 58.2
comp=Z,139nm,1.6s
BEBN **Eben Emael** 80.84 333 *d*P P 05 44 56.4 +0.1
BTNL **Ternell** 80.86 333 *d*P P 05 44 56.0 -0.5
comp=Z,19nm,0.9s
MEM **Membach** 80.89 333 *d*P P 05 44 57.1 +0.6
comp=Z,20nm,0.9s
OBKA **Obir** 80.94 326 eP P 05 44 57.0 0.0
comp=Z,34nm,1.0s,SNR=7.6
FUR **Furstenfeldbru** 80.96 329 eP P 05 44 58.2 +1.1
comp=Z,75nm,0.8s,baz=36,slow=5.5
LESA **Schwarzleotal** 80.99 328 *i* P P 05 44 57.8 +0.5
comp=Z,80nm,1.1s,SNR=25
BSTI **Sart Tilman** 81.06 333 *d*P P 05 44 58.0 +0.6
BHOU **Houvegnez** 81.10 333 *d*P P 05 44 57.9 +0.2
comp=Z,11nm,1.0s
BLY **Banja Luka** 81.15 323 ⇑P P 05 44 58.7 +0.6
VAY **Valandovo** 81.15 318 *i* P P 05 44 58.9 +0.8
MYKA **Terra Mystica** 81.23 326 *i* P P 05 44 58.2 -0.3
comp=Z,29nm,0.5s,SNR=14
SKO **Skopje** 81.24 319 *i* P P 05 44 59.7 +1.1
STU **Stuttgart** 81.27 330 P P 05 44 59.7 +1.1
STU pmax pmax
comp=Z,174nm,1.0s
STU **Stuttgart** 81.27 330 eP P 05 44 59.5 +0.9
STU **Stuttgart** 81.27 330 eP P 05 44 59.5 +0.9
comp=Z,111nm,0.7s,baz=36,slow=5.5
STU epP pP 05 45 24.1 +1.3
baz=36,slow=5.5
UCC **Uccle** 81.28 334 *d*P P 05 44 58.9 +0.3
BCLA **Clavier** 81.29 333 *d*P P 05 44 58.4 -0.3
comp=Z,12nm,0.9s
BGES **Gesves** 81.39 333 *d*P P 05 44 59.6 +0.4
BOJS **Bojanci** 81.43 325 *i* P P 05 44 59.4 -0.1
BOJS eS S 05 55 00.2 -2.9
BOJS 05 55 47.9
TUC **Tucson** 81.46 55 P P 05 45 00.9 +0.9
TUC **Tucson** 81.46 55 P P 05 45 00.9 +0.9
TUC pmax pmax
comp=Z,55nm,1.1s
KSCO **Kaye Shedlock'** 81.47 45 IAmb IAmb 05 45 01.9
comp=Z,102nm,1.2s
WATA **Walderalm** 81.51 328 *i* P P 05 45 00.5 +0.4
comp=Z,31nm,0.7s,SNR=13
RCHB **Rochefort** 81.54 333 *d*P P 05 44 60.0 0.0
RCHB *d*pP pP 05 45 24.7 +0.5
WTTA **Wattenberg** 81.54 328 *i* P P 05 45 00.7 +0.4
comp=Z,62nm,1.1s,SNR=16
BMRD **Maredsous** 81.57 334 *d*P P 05 45 00.3 +0.2
BMRD *d*pP pP 05 45 25.1 +0.7
CEY **Cerknica** 81.60 325 *i* P P 05 45 00.1 -0.4
ABTA **Abfaltersbach** 81.60 327 eP P 05 44 59.8 -0.7
comp=Z,54nm,1.3s,SNR=11
WLF **Walferdange** 81.63 332 *d*P P 05 45 00.8 +0.3
comp=Z,15nm,1.0s
WLF **Walferdange** 81.63 332 eP P 05 45 03.0 +2.5
comp=Z,15nm,0.9s,baz=36,slow=5.5
WLF epP pP 05 45 26.3 +1.6
baz=36,slow=5.5
MOTA **Moosalm** 81.69 328 *i* P P 05 45 01.4 +0.3
comp=Z,67nm,0.8s,SNR=36
RETA **Reutte** 81.71 329 eP P 05 45 01.8 +0.7
comp=Z,89nm,1.1s,SNR=23
SCHQ **Schefferville** 81.72 16 P P 05 45 01.6 +0.7
comp=Z,49nm,0.7s,baz=356,slow=5.9,SNR=60
SCHQ LR LR 06 26 06.8
comp=Z,177nm,19.1s,baz=340,slow=39
comp=Z,49nm,0.7s
FOEL **Foel Wylfa** 81.73 339 eP P 05 45 02.0 +1.0
FOEL IAmb IAmb 05 45 02.6
comp=Z,48nm,0.8s
SQTA **Sankt Quirin** 81.75 328 *i* P P 05 45 01.7 +0.4
comp=Z,32nm,0.6s,SNR=19
DOU **Dourbes** 81.80 333 *d*P P 05 45 01.0 -0.4
comp=Z,8.3nm,1.1s
ARG **Arkhangelos** 81.85 311 IAmb IAmb 05 45 03.5
comp=Z,82nm,1.1s
LLW **Llanuwchllyn** 81.89 339 eP P 05 45 02.8 +1.0
BFO **Black Forest** 81.95 330 P P 05 45 02.7 +0.4
BFO **Black Forest** 81.95 330 P P 05 45 02.7 +0.4
BFO pmax pmax
comp=Z,47nm,1.0s
BFO **Black Forest** 81.95 330 eP P 05 45 03.2 +0.9
comp=Z,36nm,0.9s,baz=36,slow=5.5
BFO epP pP 05 45 27.6 +1.1
baz=36,slow=5.5
PDG **Podgorica** 81.96 321 ⇑P P 05 45 02.9 +0.6
FETA **Feichten** 82.10 328 *i* P P 05 45 03.6 +0.3
comp=Z,42nm,0.8s,SNR=27
OHR **Ohrid** 82.20 319 *i* P P 05 45 04.5 +0.8
DAVA **Damuels** 82.22 329 *i* P P 05 45 04.2 +0.3
comp=Z,63nm,0.9s,SNR=33
ANMO **Albuquerque** 82.23 50 P P 05 45 05.3 +1.1
ANMO IAmb IAmb 05 45 07.1
comp=Z,97nm,1.2s
ANMO **Albuquerque** 82.23 50 P P 05 45 05.1 +0.9
comp=Z,65nm,1.1s,baz=37,slow=6.5,SNR=80
comp=Z,65nm,1.1s
ANMO **Albuquerque** 82.23 50 *c* *i*P P 05 45 04.8 +0.6
ANMO pmax pmax
comp=Z,99nm,1.3s
I37A **Lemond, Waseca** 82.28 36 IAmb IAmb 05 45 05.8
comp=Z,112nm,0.8s
STRD **Stroud** 82.44 338 eP P 05 45 05.8 +1.1
STRD IAmb IAmb 05 45 06.1
comp=Z,76nm,0.7s
L34A **Svendsen Farm,** 82.47 39 IAmb IAmb 05 45 06.3
comp=Z,62nm,0.9s
RAR **Rarotonga** 82.47 126 LR LR 06 13 53.1
comp=Z,159nm,21.9s,baz=320,slow=30
MCH1 **Michaelchurch** 82.48 339 eP P 05 45 05.3 +0.5
MCH1 IAmb IAmb 05 45 07.6
comp=Z,49nm,0.8s
ECH **Echery** 82.48 331 P P 05 45 05.0 0.0
MONM **Monmouth** 82.56 338 eP P 05 45 06.3 +1.0
MONM IAmb IAmb 05 45 06.7
comp=Z,41nm,0.9s
Y22D **IRIS PASSCAL I** 82.57 51 P P 05 45 07.7 +1.8
baz=315
WOL **Wolverton** 82.58 337 eP P 05 45 06.2 +0.8
FUORN **Ofenpass-Fuorn** 82.61 328 P P 05 45 06.5 +0.5
FUORN IAmb IAmb 05 45 08.0
comp=Z,80nm,0.6s
DAVOX **Davos/Dischmat** 82.64 329 LR LR 06 26 08.3
comp=Z,177nm,20.1s,baz=28,slow=39
KARP **Karpathos** 82.88 311 eP P 05 45 03.0 -4.3
319A **Douglas** 83.03 54 IAmb IAmb 05 45 11.5
comp=Z,110nm,1.0s
TUE **Stuetta** 83.10 329 P P 05 45 08.7 +0.2
121A **Cookes Peak, D** 83.14 53 IAmb IAmb 05 45 11.9
comp=Z,93nm,1.1s
HSIG 83.60 57 IAmb IAmb 05 45 13.4
comp=Z,118nm,1.3s
SRIG **Santa Rosalia** 83.93 59 IAmb IAmb 05 45 15.1
comp=Z,104nm,1.1s
DYA **Yadsworthy** 84.14 338 eP P 05 45 14.0 +0.6
DYA IAmb IAmb 05 45 16.3
comp=Z,67nm,1.3s
E46A **Sault Ste Mari** 84.14 30 IAmb IAmb 05 45 15.4
comp=Z,80nm,1.1s
TOZ **Tahuroa Road** 84.22 153 P P 05 45 15.9 +2.2
TOZ IAmb IAmb 05 45 16.7
comp=Z,66nm,1.2s
FDMO **Fiordimonte** 84.33 325 IAmb IAmb 05 45 19.8
comp=Z,46nm,0.8s
I42A **Draeger Farm,** 84.34 34 IAmb IAmb 05 45 16.1
comp=Z,60nm,0.8s
CLF **Chambon-Foret** 84.37 334 IAmb IAmb 05 45 23.9
comp=Z,88nm,1.5s

NRCA **Norcia** **84.48 324** lAmb lAmb 05 45 17.8
comp=Z,75nm,0.9s
HIZ **Hauiti** **84.71 154** lAmb lAmb 05 45 19.5
comp=Z,119nm,1.3s
AQU **L'Aquila** **84.74 324** P **P** **05 45 17.4 +0.7**
JSA **Saint Aubin** **84.75 337** *e*P **P** **05 45 17.5 +1.0**
JSA lAmb lAmb 05 45 17.8
comp=Z,56nm,1.1s
INTR **Introdacqua** **84.78 324** lAmb lAmb 05 45 19.1
comp=Z,49nm,0.8s
L40A **Anamosa** **84.80 36** lAmb lAmb 05 45 18.0
comp=Z,83nm,1.1s
ACER **Acerenza** **84.81 322** lAmb lAmb 05 45 18.8
comp=Z,86nm,0.9s
N38A **Joes South For** **84.87 38** lAmb lAmb 05 45 18.9
comp=Z,90nm,0.8s
VLDQ **Val d'Or** **85.03 25** lAmb lAmb 05 45 18.5
comp=Z,73nm,0.6s
MSTX **Muleshoe** **85.05 49** P **P** **05 45 18.9 +0.3**
MSTX lAmb lAmb 05 45 20.3
comp=Z,79nm,1.3s
NOKA **Waynoka** **85.20 44** lAmb lAmb 05 45 21.1
comp=Z,84nm,1.0s
URZ **Urewera** **85.25 152** LR LR 06 21 24.5
comp=Z,163nm,20.2s,baz=342,slow=34
KAN08 **Anthony NE Sta** **85.26 43** lAmb lAmb 05 45 21.0
comp=Z,57nm,0.9s
BNI **Bardonecchia** **85.32 330** P **P** **05 45 20.4 +0.8**
BNI pmax pmax
comp=Z,208nm,0.9s
ELIS **Ellis County** **85.37 45** lAmb lAmb 05 45 22.3
comp=Z,117nm,1.1s
OK038 **West end E0370** **85.42 44** lAmb lAmb 05 45 22.3
comp=Z,133nm,1.2s
KAN14 **Manchester OK** **85.47 44** lAmb lAmb 05 45 22.1
comp=Z,63nm,1.1s
RTZ **Ruatahuna** **85.53 153** lAmb lAmb 05 45 21.1
comp=Z,79nm,1.1s
K43A **Burlington** **85.55 34** lAmb lAmb 05 45 21.8
comp=Z,83nm,1.0s
SMWD **Samnorwood** **85.63 46** lAmb lAmb 05 45 23.5
comp=Z,66nm,0.9s
P38A **Dawn** **85.64 39** lAmb lAmb 05 45 22.9
comp=Z,59nm,0.8s
SSB **Saint Sauveur** **85.93 331** P **P** **05 45 23.1 +0.5**
BLOK **Blackwell** **86.01 43** lAmb lAmb 05 45 24.9
comp=Z,74nm,1.0s
N41A **Harden Midland** **86.04 37** lAmb lAmb 05 45 24.6
comp=Z,102nm,1.2s
VHRN **Van Horn** **86.05 52** lAmb lAmb 05 45 25.9
comp=Z,61nm,1.2s
T35A **Sooner Cattle** **86.25 43** lAmb lAmb 05 45 26.1
comp=Z,74nm,1.0s
PPT **Papeete** **86.42 117** P **P** **05 45 26.9 +1.7**
comp=Z,41nm,1.0s,baz=282,slow=9.3,SNR=4.1
PPT LR LR 06 16 22.3
comp=Z,216nm,21.7s,baz=318,slow=30
comp=Z,41nm,1.0s
P40A **Paris** **86.43 38** lAmb lAmb 05 45 26.8
comp=Z,73nm,1.0s
POST **Post** **86.44 48** lAmb lAmb 05 45 27.3
comp=Z,95nm,1.3s
PPT2 **Papeete2** **86.44 117** *e*P P 05 45 18.9 -6.5
comp=Z,116nm,24.8s
PPT2 **Papeete2** **86.44 117** *e*PP PP 05 48 40.4 -7.9
PPT2 *e*S **S** **05 55 54.9 +0.9**
comp=Z,328nm,25.0s
PPT2 *e*SS **SS** **06 01 31.9 -4.6**
comp=Z,71nm,24.2s
PPT2 *e*LQ LQ 06 08 46.0
comp=Z,217nm,23.2s
PPT2 *e*LR LR 06 12 26.7
comp=Z,784nm,28.8s
PPT2 *e*LR LR 06 12 32.4
comp=Z,2µm,31.5s
ODSA **Odessa** **86.53 50** lAmb lAmb 05 45 27.9
comp=Z,111nm,1.4s
ICQ **Pointe Anglais** **86.59 18** lAmb lAmb 05 45 28.0
comp=Z,54nm,0.9s
OK029 **Liberty Lake** **86.61 44** lAmb lAmb 05 45 28.1
comp=Z,92nm,1.0s
QUOK **Quay** **86.72 43** lAmb lAmb 05 45 28.4
comp=Z,96nm,1.2s
OK052 **Battle Ridge R** **86.81 44** lAmb lAmb 05 45 28.9
comp=Z,125nm,1.3s
HDIL **Hopedale** **86.87 36** lAmb lAmb 05 45 28.7
comp=Z,104nm,1.1s
MRZ **Mangatainoka R** **86.89 155** lAmb lAmb 05 45 32.1
comp=Z,78nm,1.0s
MNHN **Monahans** **86.97 50** lAmb lAmb 05 45 30.2
comp=Z,151nm,1.8s
L46A **Eue Claire** **86.98 33** lAmb lAmb 05 45 29.2
comp=Z,85nm,1.1s
LDAQ **Lac Daran** **87.01 21** lAmb lAmb 05 45 29.3
comp=Z,68nm,1.2s
APMT **Aspermont** **87.02 47** lAmb lAmb 05 45 29.8
comp=Z,84nm,1.3s
THZ **Tophouse** **87.06 157** lAmb lAmb 05 45 29.7
comp=Z,136nm,1.7s
DEOK **Depew** **87.08 43** lAmb lAmb 05 45 30.2
comp=Z,78nm,1.0s
TAOE **Nuku Hiva Isla** **87.19 104** *e*S **S** **05 56 00.6 -0.9**
comp=Z,223nm,26.9s
TAOE **Nuku Hiva Isla** **87.19 104** *e*LR LR 06 12 46.4
comp=Z,721nm,30.4s
R40A **Maddies Statio** **87.30 39** lAmb lAmb 05 45 30.7
comp=Z,56nm,0.9s
SADO **Sadowa** **87.39 28** P **P** **05 45 28.1 -1.5**
comp=Z,13nm,1.0s,baz=329,slow=7.3,SNR=5.6
SADO LR LR 06 27 43.1
comp=Z,107nm,18.6s,baz=334,slow=38
comp=Z,13nm,1.0s
LPIG **La Paz** **87.40 60** LR LR 06 18 43.9
comp=Z,59nm,20.2s,baz=322,slow=32
TUL3 **Leonard** **87.40 43** lAmb lAmb 05 45 31.6
comp=Z,48nm,0.8s
SGCY **Sterling City** **87.50 49** lAmb lAmb 05 45 32.4
comp=Z,116nm,1.3s
P43A **Skaggs, Pawnee** **87.51 37** lAmb lAmb 05 45 31.8
comp=Z,50nm,0.9s
WTFS **Witchita Falls** **87.61 46** lAmb lAmb 05 45 32.5
comp=Z,71nm,1.2s
TRQ **Mont Tremblant** **87.62 24** lAmb lAmb 05 45 32.8
comp=Z,90nm,1.0s
LMQ **La Malbaie** **87.64 21** lAmb lAmb 05 45 32.3
comp=Z,43nm,0.7s
U38A **Gravette** **87.71 42** lAmb lAmb 05 45 32.7
comp=Z,56nm,1.1s
ABTX **Abilene, Hawle** **87.81 48** lAmb lAmb 05 45 33.9
comp=Z,76nm,1.3s
AAM **Ann Arbor** **87.81 32** lAmb lAmb 05 45 33.7
comp=Z,49nm,0.9s
K50A **Casco** **87.82 31** lAmb lAmb 05 45 33.6
comp=Z,81nm,1.1s
TXAR **Lajitas Array** **87.89 52** P **P** **05 45 32.9 +0.4**
comp=Z,15nm,0.8s,baz=295,slow=2.8,SNR=123
TXAR PKKPbc **PKKPbc** **06 03 17.7 +1.3**
comp=Z,0.3nm,0.9s,baz=157,slow=6.7,SNR=3.8
comp=Z,15nm,0.8s
CCM **Cathedral Cave** **87.98 39** P **P** **05 45 32.4 -0.1**
CCM **Cathedral Cave** **87.98 39** P **P** **05 45 32.4 -0.1**
CCM pmax pmax
comp=Z,122nm,1.2s
SFIN **Lafayette** **87.98 35** lAmb lAmb 05 45 34.1
comp=Z,36nm,0.7s
SLM **Saint Louis** **87.99 38** lAmb lAmb 05 45 34.1
comp=Z,78nm,0.9s
N47A **Urbana** **88.17 34** lAmb lAmb 05 45 34.8
comp=Z,47nm,0.8s
MGMO **Mountain Grove** **88.20 40** lAmb lAmb 05 45 34.9
comp=Z,62nm,1.1s
OXZ **Oxford** **88.24 158** lAmb lAmb 05 45 34.9
comp=Z,99nm,1.4s
Q44A **Meyer Farm, Va** **88.33 37** lAmb lAmb 05 45 35.9
comp=Z,68nm,1.0s
HPIG **Hopedale** **88.39 55** lAmb lAmb 05 45 37.1
comp=Z,49nm,1.1s
PLPT **Palo Pinto** **88.41 47** lAmb lAmb 05 45 36.6
comp=Z,79nm,1.4s
D62A **Allapoint, All** **88.41 20** lAmb lAmb 05 45 36.2
comp=Z,31nm,0.7s
FVM **French Village** **88.42 38** lAmb lAmb 05 45 36.4
comp=Z,64nm,1.1s
FW06 **Azle** **88.70 46** lAmb lAmb 05 45 37.9
comp=Z,101nm,1.4s
LBZ **Lake Benmore** **88.72 160** P **P** **05 45 36.3 +0.7**
LBZ lAmb lAmb 05 45 38.1
comp=Z,104nm,1.3s
N49A **Columbus Grove** **88.76 33** lAmb lAmb 05 45 38.0
comp=Z,71nm,1.0s
M50A **Fremont** **88.82 32** lAmb lAmb 05 45 38.1
comp=Z,53nm,1.1s
OLIL **Olney** **88.89 36** lAmb lAmb 05 45 38.8
comp=Z,83nm,1.1s
O48B **Farmland** **88.91 34** lAmb lAmb 05 45 38.4
comp=Z,68nm,0.9s
BATG **Bathurst New B** **88.97 18** lAmb lAmb 05 45 39.3
comp=Z,48nm,0.8s
J55A **Hilton** **89.17 27** lAmb lAmb 05 45 40.2
comp=Z,92nm,1.3s
BLO **Bloomington** **89.23 35** lAmb lAmb 05 45 40.3
comp=Z,57nm,1.1s
FW13 **Cleburne** **89.24 46** lAmb lAmb 05 45 40.6
comp=Z,107nm,1.4s
FCAR **Ozark Folk Cen** **89.27 41** lAmb lAmb 05 45 40.0
comp=Z,85nm,1.2s
O49A **Covington** **89.31 33** lAmb lAmb 05 45 40.5
comp=Z,56nm,1.0s
CGM3 **Cape Girardeau** **89.33 38** lAmb lAmb 05 45 40.6
comp=Z,51nm,1.3s
ERPA **Erie** **89.38 29** lAmb lAmb 05 45 41.2
comp=Z,38nm,0.7s
P48A **Milroy** **89.46 34** lAmb lAmb 05 45 41.0
comp=Z,66nm,1.2s
N51A **Ashland** **89.49 32** lAmb lAmb 05 45 41.9
comp=Z,80nm,1.1s
WHTX **Lake Whitney,** **89.50 47** lAmb lAmb 05 45 41.8
comp=Z,75nm,1.3s
MMNY **Mt. Morris Dam** **89.60 28** lAmb lAmb 05 45 41.8
comp=Z,46nm,0.8s
LCAR **Lake Charles** **89.60 40** lAmb lAmb 05 45 41.9
comp=Z,113nm,1.6s
DRIO **Del Rio** **89.63 50** lAmb lAmb 05 45 42.2
comp=Z,92nm,1.3s
WVNY **West Valley, N** **89.64 28** lAmb lAmb 05 45 42.2
comp=Z,54nm,0.9s
J57A **Williamstown** **89.66 26** lAmb lAmb 05 45 42.0
comp=Z,50nm,1.0s
TREL **Terrell** **89.68 45** lAmb lAmb 05 45 42.4
comp=Z,103nm,1.6s
USIN **University of** **89.71 37** lAmb lAmb 05 45 42.5
comp=Z,49nm,1.2s
G62A **West of Eustis** **89.72 22** lAmb lAmb 05 45 42.9
comp=Z,47nm,1.1s
ACSO **Alum Creek Sta** **89.83 32** lAmb lAmb 05 45 43.6
comp=Z,59nm,0.8s
VT1 **Waterbury** **89.87 24** lAmb lAmb 05 45 43.5
comp=Z,35nm,1.0s
X40A **Basin Creek Fa** **90.02 42** lAmb lAmb 05 45 44.8
comp=Z,66nm,1.1s
K57A **Scipio Center** **90.09 27** lAmb lAmb 05 45 44.0
comp=Z,92nm,1.4s
J59A **Piesco** **90.11 25** lAmb lAmb 05 45 44.1
comp=Z,29nm,0.7s
WCI **Wyandotte Cave** **90.11 36** P **P** **05 45 43.0 +0.5**
WCI lAmb lAmb 05 45 44.4
comp=Z,41nm,0.9s
WCI **Wyandotte Cave** **90.11 36** P **P** **05 45 43.0 +0.5**
WCI pmax pmax
comp=Z,41nm,0.9s
LBNH **Lisbon** **90.21 23** lAmb lAmb 05 45 45.4
comp=Z,44nm,1.2s
L56A **Greenwood** **90.25 28** lAmb lAmb 05 45 45.0
comp=Z,49nm,0.8s
435B **Jarrell** **90.35 47** lAmb lAmb 05 45 46.1
comp=Z,30nm,0.9s
O52A **Adamsville** **90.39 32** lAmb lAmb 05 45 45.7
comp=Z,60nm,1.0s
237A **Washetta, Mont** **90.39 46** lAmb lAmb 05 45 45.9
comp=Z,74nm,1.4s
P51A **Williamsport** **90.44 33** lAmb lAmb 05 45 46.1
comp=Z,60nm,1.1s
ACCN **Adirondack Com** **90.44 25** lAmb lAmb 05 45 45.9
comp=Z,30nm,0.9s
O53A **New Philadelph** **90.52 31** lAmb lAmb 05 45 46.4
comp=Z,63nm,1.1s
G65A **Princeton** **90.54 20** lAmb lAmb 05 45 46.5
comp=Z,31nm,0.9s
R49A **Shelbyville** **90.55 35** lAmb lAmb 05 45 46.7
comp=Z,73nm,1.5s
H06N1 **SOCORRO T-PHAS** **90.55 64** T T 07 26 38.7
SNR=45
TBI **Tubuai** **90.55 121** *e*P **P** **05 45 44.7 +0.1**
comp=Z,353nm,28.0s
TBI **Tubuai** **90.55 121** *e*PP **PP** **05 49 15.0 -6.0**
comp=Z,185nm,25.5s
TBI *e*S **S** **05 56 32.9 +0.5**
TBI comp=Z,1µm,26.5s *e*SS **SS** **06 02 25.9 -10**
comp=Z,210nm,26.8s
TBI *e*LQ LQ 06 10 49.7
comp=Z,1µm,33.5s
TBI *e*LR LR 06 14 13.1
comp=Z,3µm,32.0s
TBI *e*LR LR 06 14 19.9
comp=Z,1µm,31.8s
LMN **Caledonia Moun** **90.61 18** lAmb lAmb 05 45 46.7
comp=Z,32nm,0.8s
P52A **Corning** **90.69 32** lAmb lAmb 05 45 46.7
comp=Z,40nm,1.1s
BINY **Binghamton** **90.74 27** lAmb lAmb 05 45 47.4
comp=Z,31nm,0.8s
T47A **Sharon Grove** **90.77 37** lAmb lAmb 05 45 48.2
comp=Z,70nm,1.1s
O54A **Avella** **90.91 31** lAmb lAmb 05 45 48.3
comp=Z,57nm,1.1s
R50A **Paris** **90.92 34** lAmb lAmb 05 45 48.2
comp=Z,50nm,1.2s
P53A **Whipple** **91.11 32** lAmb lAmb 05 45 49.0
comp=Z,73nm,1.4s
833A **Chaparral WMA,** **91.16 50** lAmb lAmb 05 45 50.0
comp=Z,43nm,1.1s
Q52A **Bidwell** **91.20 32** lAmb lAmb 05 45 49.2
comp=Z,43nm,1.3s
KSPA **Keystone Colle** **91.39 27** lAmb lAmb 05 45 50.3
comp=Z,30nm,0.8s
SSPA **Standing Stone** **91.45 29** P **P** **05 45 48.7 0.0**
HNVL **Huntsville, TX** **91.54 46** lAmb lAmb 05 45 51.7
comp=Z,33nm,0.8s
K62A **Royalston** **91.54 24** lAmb lAmb 05 45 51.5
comp=Z,48nm,1.2s
N58A **Sunbury** **91.69 28** lAmb lAmb 05 45 51.8
comp=Z,46nm,1.1s
T50A **Nancy** **91.75 35** lAmb lAmb 05 45 51.9
comp=Z,50nm,1.2s
GBN **Guysborough** **91.75 16** lAmb lAmb 05 45 52.5
comp=Z,48nm,1.2s
U49A **Red Boiling Sp** **91.76 36** lAmb lAmb 05 45 52.7
comp=Z,55nm,1.1s
HRV **Adam Dziewonsk** **91.89 24** P **P** **05 45 51.0 +0.3**
HRV lAmb lAmb 05 45 53.1
comp=Z,51nm,1.3s
HRV **Adam Dziewonsk** **91.89 24** P **P** **05 45 51.0 +0.3**
HRV pmax pmax
comp=Z,51nm,1.3s
V48A **Smith Brothers** **91.92 37** lAmb lAmb 05 45 52.6
comp=Z,50nm,1.3s
KEST **Kesra** **91.95 323** P **P** **05 45 51.4 +0.1**
comp=Z,6.4nm,0.8s,baz=38,slow=6.7,SNR=5.1
KEST LR LR 06 33 11.6
comp=Z,221nm,19.2s,baz=22,slow=39
comp=Z,6.4nm,0.8s
HKT **Hockley** **91.96 47** P **P** **05 45 52.7 +1.5**
HKT pmax pmax
comp=Z,11nm,1.4s
HAL **Halifax** **92.03 17** lAmb lAmb 05 48 57.0
comp=Z,49nm,1.6s
WES **Weston** **92.08 24** lAmb lAmb 05 45 53.8
comp=Z,41nm,1.0s
UCCT **U. Connecticut** **92.34 24** lAmb lAmb 05 45 54.8
comp=Z,22nm,0.9s
BRNJ **Basking Ridge** **92.58 26** lAmb lAmb 05 45 56.0
comp=Z,28nm,0.9s
L64A **Middleborough** **92.63 23** lAmb lAmb 05 45 56.2
comp=Z,23nm,0.8s
R55A **Marlinton** **92.65 31** lAmb lAmb 05 45 56.3
comp=Z,23nm,0.9s
TZTN **Tazewell** **92.71 35** lAmb lAmb 05 45 56.4
comp=Z,34nm,1.1s
SWET **Sewanee** **92.76 37** lAmb lAmb 05 45 56.1
comp=Z,30nm,1.1s
PBRG **Braganca** **92.80 337** *e*P **P** **05 45 55.4 +0.4**
PBRG *i* lAmb lAmb 05 45 59.3
comp=Z,29nm,1.3s
X48A **Hartselle** **92.88 38** lAmb lAmb 05 45 56.5
comp=Z,25nm,0.9s
PGAV **Gavieira, Arco** **93.10 338** *e*P **P** **05 45 57.2 +0.8**
PGAV *i* lAmb lAmb 05 46 12.8
comp=Z,52nm,1.7s
PGAV *e*PP **PP** **05 49 42.9 +3.2**
PGAV *e*S **S** **05 56 56.7 +1.5**
PGAV *e*LR LR 06 17 08.8
PGAV *i* lAMs_20 lAMs_20 06 30 47.4
comp=Z,122nm,20.0s
CPCT **Cooper Cave** **93.20 36** lAmb lAmb 05 45 58.5
comp=Z,30nm,1.1s
PCAB **Cabril** **93.26 337** *e*P **P** **05 45 58.2 +1.1**
ZAIG **Zacatecas** **93.33 56** lAmb lAmb 05 46 00.8
comp=Z,35nm,1.3s
TKL **Tuckaleechee C** **93.36 35** P **P** **05 45 57.7 +0.1**
comp=Z,13nm,0.8s,baz=166,slow=3.4,SNR=16
TKL LR LR 06 28 45.6
comp=Z,244nm,21.9s,baz=338,slow=36
comp=Z,13nm,0.8s
Z47A **Carrollton** **93.42 40** lAmb lAmb 05 45 59.4
comp=Z,31nm,1.0s
BLA **Blacksburg** **93.45 32** lAmb lAmb 05 45 59.7
comp=Z,54nm,1.4s
MVO **Moncorvo** **93.47 337** *e*P **P** **05 45 58.4 +0.3**
MVO *i* lAmb lAmb 05 46 01.8
comp=Z,28nm,1.4s
MVO *e*S **S** **05 57 00.3 +1.9**
MVO *e*SS **SS** **06 03 17.8 +2.4**
MVO *e*LR LR 06 16 19.1
MVO *i* lAMs_20 lAMs_20 06 30 35.6
comp=Z,238nm,22.0s
POLO **Lamas de Olo** **93.50 337** *e*P **P** **05 45 58.7 +0.3**
Y49A **Blount Mountai** **93.67 38** lAmb lAmb 05 46 00.8
comp=Z,20nm,0.9s
ESDC **Sonseca Array** **93.85 334** P **P** **05 46 00.3 +0.4**
comp=Z,7.0nm,0.8s,baz=17,slow=4.0,SNR=54
ESDC LR LR 06 32 51.4
comp=Z,178nm,20.5s,baz=16,slow=38
comp=Z,7.0nm,0.8s
PAB **San Pablo** **94.09 334** P **P** **05 46 00.9 -0.1**
PAB **San Pablo** **94.09 334** P **P** **05 46 00.9 -0.1**
PAB pmax pmax
comp=Z,6.0nm,0.7s
PVIS **Viseu** **94.14 337** *e*P **P** **05 46 02.2 +1.0**
MTE **Manteigas** **94.33 337** *e*P **P** **05 46 01.8 -0.3**
MTE *e*S **S** **05 57 08.5 +2.5**
MTE *e*SS **SS** **06 03 31.8 +4.2**
MTE *e*LR LR 06 18 23.9
MTE *i* lAMs_20 lAMs_20 06 32 23.2
comp=Z,205nm,20.0s
T59A **Double "B" Far** **94.79 30** lAmb lAmb 05 46 05.2
comp=Z,32nm,1.5s
PAULI **Pauline** **94.92 34** lAmb lAmb 05 46 06.1
comp=Z,31nm,1.5s
PCAS **Casmilo, Conde** **94.93 337** *e*P **P** **05 46 05.7 +1.0**
PMRV **Marv??o** **95.17 336** *e*P **P** **05 46 07.2 +1.3**
PMRV *e*PP **PP** **05 49 59.2 +3.5**
PMRV *e*S **S** **05 57 17.2 +3.9**
PMRV *e*SS **SS** **06 03 44.4 +4.9**
PMRV *e*LR LR 06 18 50.1
PMRV *i* lAMs_20 lAMs_20 06 32 29.2
comp=Z,195nm,20.0s
W57A **Gilead** **95.40 33** lAmb lAmb 05 46 08.3
comp=Z,25nm,1.2s
PARRA **Arraiolos** **96.23 337** *e*P **P** **05 46 11.3 +0.6**
PBEJ **Beja** **96.60 336** *e*P **P** **05 46 13.9 +1.5**
TIGA **Tifton** **96.99 37** lAmb lAmb 05 46 16.1
comp=Z,33nm,1.1s
PVAQ **Vaqueiros** **97.13 336** *e*S **S** **05 57 31.7 +1.6**
PVAQ *e*SS **SS** **06 04 09.4 +2.2**
PVAQ *e*LR LR 06 19 57.0
PVAQ *i* lAMs_20 lAMs_20 06 34 23.9
comp=Z,396nm,20.0s
MDT **Midelt** **100.25 331** LR LR 06 35 13.5
comp=Z,120nm,21.8s,baz=36,slow=37
RKT **Rikitea** **100.26 112** *e*SS SS 06 04 49.2 -4.7
comp=Z,4µm,40.5s
RKT **Rikitea** **100.26 112** *e*LR LR 06 18 56.7
comp=Z,5µm,36.2s
VNDA **Vanda** **118.76 175** PKP **PKiKP** **05 51 29.1 +0.2**
comp=Z,1.9nm,0.8s,baz=299,slow=3.7,SNR=13
VNDA PKKPbc **PKKPbc** **06 01 46.2 0.0**
comp=Z,2.2nm,0.9s,baz=184,slow=3.1,SNR=10
MAW **Mawson** **122.89 207** PKP **PKiKP** **05 51 37.0 -0.1**
comp=Z,4.0nm,0.9s,baz=320,slow=6.4,SNR=11
MAW PKKPbc **PKKPbc** **06 01 30.8 +0.3**
comp=Z,1.9nm,0.7s,baz=185,slow=3.7,SNR=6.6
DBIC **Dimbokro** **123.42 318** PKP **PKPdf** **05 51 38.6 -1.1**
comp=Z,8.6nm,0.5s,baz=74,slow=1.8,SNR=14
ROSC **El Rosal** **124.08 44** PKP **PKiKP** **05 51 41.9 +0.1**
comp=Z,9.0nm,0.6s,baz=329,slow=1.7,SNR=7.5
FLOC **Florencia** **126.05 48** **PKPdf** **05 51 44.9 +0.1**
BOSA **Boshof** **127.09 262** PKP **PKPdf** **05 51 46.6 +0.2**
comp=Z,6.3nm,0.9s,baz=95,slow=4.5,SNR=6.0
QSPA **South Pole Qui** **130.56 180** PKP **PKiKP** **05 51 52.3 -0.4**
comp=Z,4.1nm,0.6s,baz=288,slow=0.8,SNR=36
SYO **Syowa Base** **131.52 208**↑ *e*PKPdf **PKiKP** **05 51 54.6 +0.2**
SYO **Syowa Base** **131.52 208**↑ *e*pPKiKP pPKiKP 05 52 22.4 +2.4
BOAV **Boa Vista** **132.61 30** **PKiKP** **05 51 57.9 -0.5**
BOAV **Boa Vista** **132.61 30** *e*P **PKiKP** **05 51 59.3 +0.9**
NNA **Nana** **135.93 60** **PKPdf** **05 52 04.1 +0.7**
NNA **Nana** **135.93 60** PKIKP **PKPdf** **05 52 04.1 +0.7**
ITTB **Itaituba** **140.61 27** *e*P **PKiKP** **05 52 13.4 -1.2**
TROLL **Troll, Antarti** **142.78 200**↑ P **PKPdf** **05 52 10.3 -4.0**
comp=Z,136nm,0.8s
NBCL **Cascavel-CE** **143.56 359** *e*P **PKPdf** **05 52 16.7 -0.6**
PRPB **Parauapebas** **144.09 19** *e*P **PKPdf** **05 52 17.7 -0.5**
SNAA **Sanae** **144.32 199** P **PKPab** **05 52 14.9 -0.3**
SNAA **Sanae** **144.32 199** PKP PKPbc 05 52 15.6 +0.1
comp=Z,37nm,0.8s,baz=149,slow=3.3,SNR=96
LPAZ **La Paz** **144.72 55** PKP **PKPab** **05 52 18.9 0.0**
comp=Z,6.1nm,0.3s,baz=327,slow=4.2,SNR=51
LPAZ **La Paz** **144.72 55** *e*P PKPbc 05 52 19.4 +0.3
NBPB **Pedra_Branca-C** **144.86 1** *e*P **PKPdf** **05 52 19.4 -0.2**
RCBR **Riachuelo** **145.06 355** *e*P **PKPdf** **05 52 20.0 +0.1**
VNA3 **Neumayer Olymp** **146.18 196** P **PKPdf** **05 52 19.8 -0.3**
VNA1 **Neumayer--Stat** **146.31 198** P **PKPdf** **05 52 19.0 -1.2**
VILB **Vilhena** **146.46 40** **PKPbc** **05 52 24.1 +0.4**
VILB **Vilhena** **146.46 40** *e*P **PKPab** **05 52 24.3 -0.4**
CLDB **Colider** **146.58 32** *e*P **PKPbc** **05 52 23.7 -0.3**
PDRB **Porto dos Gac** **146.86 34** *e*P **PKPbc** **05 52 24.6 -0.3**
SMTB **Santa Maria do** **147.21 16** *e*P **PKPbc** **05 52 25.6 -0.3**
H03N2 **Juan Fernandez** **147.33 90** T T 08 37 34.7
baz=300,slow=77,SNR=46
H03N3 **Juan Fernandez** **147.34 90** T T 08 37 30.9
baz=300,slow=77,SNR=49
H03N1 **Juan Fernandez** **147.34 90** T T 08 37 38.7
baz=300,slow=77,SNR=40
PB14 **IPOC Station P** **149.04 68** **PKPbc** **05 52 31.3 +0.5**
PTLB **Pontes e Lacer** **149.12 41** *e*P **PKPdf** **05 52 28.3 +1.8**
SNDB **Serra Nova Dou** **149.21 25** *e*P **PKPdf** **05 52 28.5 +1.7**
BBSD **Serra de San D** **149.81 45** *e*P **PKPdf** **05 52 29.3 +1.7**
AC06 **Mina Casimiro** **150.73 73** **PKiKP** **05 52 35.8 +0.7**
SALV **Santo Antonio** **151.13 36** *e*P **PKPdf** **05 52 31.1 +1.5**
SDBA **SAO DESIDERIO** **151.18 13** *e*P **PKPdf** **05 52 30.1 +0.2**
VA01 **Torpederas** **152.67 84** PKPdf **PKPdf** **05 52 32.1 +0.6**
VA01 **PKiKP** **05 52 39.2 +0.4**
VA01 **PKPab** **05 52 50.4 +0.7**
BDFB **Brasilia** **153.64 21** **PKPab** **05 52 55.1 +1.0**
BDFB **Brasilia** **153.64 21** PKP **PKPdf** **05 52 34.2 +0.6**
comp=Z,5.4nm,1.0s,baz=90,slow=7.5,SNR=3.9
BDFB PKPab **PKPab** **05 52 54.7 +0.6**
comp=Z,10nm,0.6s,baz=298,slow=3.8,SNR=12
BO02 **Sierra Bellavi** **154.06 87** **PKPdf** **05 52 33.7 +0.1**
BO02 PKPbc **PKiKP** **05 52 42.8 +1.0**
BO02 PKPab **PKPab** **05 52 55.4 -0.3**
MG05 **Puerto Natales** **154.46 127** **PKiKP** **05 52 43.7 +1.8**
BDQN **Bodoquena, MS** **154.54 42** *e*P **PKPdf** **05 52 36.4 +1.9**
CFA **Coronel Fontan** **154.57 78** PKP **PKPdf** **05 52 33.9 -0.5**
comp=Z,1.4nm,0.9s,baz=297,slow=19,SNR=3.8
CFA PKPab **PKPab** **05 52 58.4 +0.5**
comp=Z,22nm,1.0s,baz=288,slow=3.5,SNR=20
GO09 **Cerro Castillo** **154.65 126** **PKiKP** **05 52 43.5 +1.2**
LR05 **Currie** **154.77 100** **PKiKP** **05 52 43.9 +0.9**
ESPZ **Base Esperanza** **154.95 161** **PKiKP** **05 52 43.5 +1.0**
ESPZ **PKPab** **05 52 58.8 +0.4**
PLCA **Paso Flores** **155.96 100** PKPab **PKPab** **05 53 04.6 +0.9**
comp=Z,10nm,0.9s,baz=291,slow=1.5,SNR=10
AMBA **Amambai (Brazi** **157.50 42** *e*P **PKPdf** **05 52 39.7 +1.3**
CPUP **Vila Florida** **158.86 53** PKP **PKPdf** **05 52 40.4 +0.4**
comp=Z,1.8nm,1.1s,baz=45,slow=2.1,SNR=4.8
CPUP PKPab **PKPab** **05 53 16.4 0.0**
comp=Z,2.9nm,1.0s,baz=189,slow=4.3,SNR=8.0
PLTB **Pedras Altas** **164.99 58** **PKPab** **05 53 44.4 +1.2**

IDC 15 05:42:46.8±0.8, 30°.37N×94°.83E, h0km, mb3.9/13, mbtmp3.9/16, ML4.0/3, Error ellipse: s-maj=32.1km s-min=16.1km az=53.0

NEIC 15 05:42:53.6±0.8, 30°.5N±0°.1×94°.9E±0°.1, h36km±9km, mb4.5/14, Error ellipse: s-maj=21.0km s-min=12.1km az=213.0

ISC 15 05:42:51.1±0.6, **30°.46N**±0°.07×**94°.94E**±0°.09, **h23**km, **n36**, σ1§**10**/37, **mb4.0**/18, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.37**	**258**	Pn		**Pn**		**05 43 43.1**	**+0.3**
SHL	**Shillong**	**5.57**	**210**	Pn		**Pn**		**05 44 12.2**	**-0.5**
CRAI	**Chiangrai**	**11.31**	**153**	Pn		**Pn**		**05 45 32.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**12.49**	**162**	Pn		**Pn**		**05 45 46.9**	**-0.6**
	0.6nm,0.3s,baz=341,slow=11,SNR=4.5								
	1.6nm,0.3s								
KDJ	**Kajisay**	**18.41**	**314**	P		**Pn**		**05 47 04.5**	**-0.5**
KDJ				IAmb		IAmb		05 47 11.7	
	comp=Z,36nm,1.3s								
MKAR	**Makanchi Array**	**19.03**	**333**	P		**P**		**05 47 11.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=128,slow=13,SNR=1.9								
	comp=Z,1.3nm,0.6s								
SONM	**Songino Array**	**19.45**	**24**	P		**P**		**05 47 17.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=215,slow=13,SNR=8.8								
	comp=Z,4.9nm,0.8s								
HYB	**Hyderabad**	**19.79**	**233**	*e*P		**Pn**		**05 47 25.7**	**+4.2**
HYB				*e*S		**Sn**		**05 51 01.4**	**-1.9**
AAK	**Ala-Archa**	**20.37**	**312**	P		**P**		**05 47 26.6**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=139,slow=9.3,SNR=8.6								
	comp=Z,3.9nm,0.5s								
ARSB	**Arslanbob**	**20.78**	**307**			**P**		**05 47 30.6**	**0.0**
GAR	**Garm**	**21.91**	**300**			**P**		**05 47 42.6**	**-0.2**
GAR				IAmb		IAmb		05 47 46.7	
	comp=Z,28nm,1.1s								
KBL	**Kabul**	**22.20**	**287**	P		**P**		**05 47 45.9**	**-0.1**
SIMJ	**Simiganj**	**22.82**	**298**	P		**P**		**05 47 52.4**	**-0.1**
KK31	**Karatay Array**	**23.19**	**310**	P		**P**		**05 47 56.3**	**+0.2**
KKAR	**Karatay Array**	**23.19**	**310**			**P**		**05 47 56.7**	**+0.6**
KURBB	**Kurchatov Arra**	**23.59**	**333**	P		**P**		**05 47 58.5**	**-1.5**
	comp=Z,3.8nm,0.8s,baz=144,slow=10,SNR=6.2								
	comp=Z,3.8nm,0.8s								
KURK	**Kurchatov**	**23.63**	**334**	P		**P**		**05 48 00.8**	**+0.4**
KURK				IAmb		IAmb		05 48 03.6	
	comp=Z,7.0nm,0.8s								
ZAA0	**Zalesovo Array**	**24.59**	**346**	P		**P**		**05 48 08.3**	**-1.0**
ZALV	**Zalesovo Beam**	**24.59**	**346**	P		**P**		**05 48 08.9**	**-0.3**
ZALV	**Zalesovo Beam**	**24.59**	**346**	P		**P**		**05 48 09.7**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=160,slow=8.5,SNR=3.1								
	comp=Z,1.9nm,0.6s								
BVAR	**Borovoye Array**	**28.79**	**329**	P		**P**		**05 48 47.4**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=134,slow=6.2,SNR=2.1								
	comp=Z,2.6nm,0.9s								
BRTR	**Keskin Array B**	**50.14**	**298**	P		**P**		**05 51 43.8**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=73,slow=4.5,SNR=4.7								
	comp=Z,1.1nm,0.9s								
AKASG	**Malin Array Be**	**52.04**	**313**	P		**P**		**05 51 57.7**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=77,slow=6.7,SNR=8.3								
	comp=Z,1.5nm,0.6s								
AKBB	**Malin Array Si**	**52.04**	**313**			**P**		**05 51 58.8**	**+0.1**
AKBB				IAmb		IAmb		05 52 00.6	
	comp=Z,6.5nm,1.0s								
KIEV	**Kiev**	**52.05**	**313**			**P**		**05 51 58.9**	**0.0**
KIEV				IAmb		IAmb		05 52 00.6	
	comp=Z,5.8nm,1.0s								
FINES	**FINESS Array B**	**53.70**	**326**	P		**P**		**05 52 12.3**	**+1.4**
MLR	**Muntele Rosu**	**54.81**	**307**			**P**		**05 52 19.4**	**0.0**
MLR				IAmb		IAmb		05 52 30.6	
	comp=Z,4.9nm,0.8s								
BUR08	**Bucovina Ar. S**	**54.99**	**309**	P		**P**		**05 52 20.9**	**+0.3**
BUR08				IAmb		IAmb		05 52 28.7	
	comp=Z,2.6nm,1.1s								
NOA	**NORSAR Array B**	**60.88**	**326**	P		**P**		**05 53 00.1**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=78,slow=6.7,SNR=3.6								
	comp=Z,1.1nm,0.8s								
GERES	**GERESS Array B**	**62.25**	**312**	P		**P**		**05 53 09.6**	**-1.6**
GERES	**GERESS Array B**	**62.25**	**312**	P		**P**		**05 53 10.0**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=63,slow=4.8,SNR=6.0								
	comp=Z,0.9nm,0.7s								
WRA	**Warramunga Arr**	**62.83**	**138**	P		**P**		**05 53 14.2**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=321,slow=6.6,SNR=5.0								
	comp=Z,0.9nm,0.8s								
ASAR	**Alice Springs**	**65.53**	**141**	P		**P**		**05 53 32.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=325,slow=6.4,SNR=6.6								
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**73.68**	**23**	P		**P**		**05 54 22.2**	**-0.4**
	comp=Z,2.2nm,1.2s,baz=319,slow=4.0,SNR=7.9								
	comp=Z,2.2nm,1.2s								
ESDC	**Sonseca Array**	**77.43**	**309**	P		**P**		**05 54 44.2**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=40,slow=7.5,SNR=4.7								
	comp=Z,0.9nm,1.0s								
YKA	**Yellowknife Ar**	**84.38**	**13**	P		**P**		**05 55 21.8**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=344,slow=5.9,SNR=3.6								
	comp=Z,0.9nm,1.1s								

ASRS 15 06:04:24.0±1.1, 53°.71N×88°.23E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 15 06:04:29.3±3.8, **53°.76N**×**88°.13E**, **h0**km, **mbtmp3.5**/2, **ML2.6**/2, **Error ellipse: s-maj=37.5km s-min=20.8km az=45.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**277**	I		I		06 17 10.0	
	0.1nm,0.8s,baz=93,slow=313,SNR=25								
ZALV	**Zalesovo Beam**	**1.97**	**277**	Pn		Pn		06 05 04.2	+0.3
	1.4nm,0.3s,baz=94,slow=12,SNR=20								
ZALV				Lg		Lg		06 05 31.4	
	3.0nm,0.3s,baz=95,slow=16,SNR=17								
KURBB	**Kurchatov Arra**	**6.69**	**246**	Pn		Pn		06 06 09.4	+0.8
	0.1nm,0.3s,baz=64,slow=15,SNR=2.5								
	3.2nm,0.2s								
MKAR	**Makanchi Array**	**7.91**	**211**	Pn		Pn		06 06 26.3	+0.8
	0.1nm,0.3s,baz=27,slow=14,SNR=2.6								
	0.8nm,0.8s								

BJI 15 06:06:05.4, 40°.73N×141°.44E, h96km, mB5.1/9, mb4.8/50

MOS 15 06:06:07.8±0.9, 40°.86N×141°.32E, h98km, mb4.7/39, Error ellipse: s-maj=6.5km s-min=4.6km az=96.1

JMA 15 06:06:08.7±0.1, 40°.8N±0°.3×141°.3E±0°.7, h91km, MD4.5/39, MW4.6/39, SHIMOKITA PENINSULA REG

JMA Felt III J1 at SHIMOKITA PENINSULA REG .

NIED 15 06:06:08.7, 40°.79N×141°.33E, h91km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.43; Mθθ2.16; Mφφ-2.59; Mrθ1.19; Mθφ-5.94; Mφr-4.07; Fault plane solution: M0 7.68000×10¹⁵ NP1:ϕs78.00000°, δ57.00000°, λ176.00000°. NP2:ϕs170.00000°, δ87.00000°, λ33.00000°.

NEIC 15 06:06:09.2±1.0, 40°.92N±0°.07×141°.19E±0°.09, h90km±3km, mb4.7/349 Error ellipse: s-maj=12.1km s-min=7.4km az=136.0

IDC 15 06:06:10.1±1.2, 40°.92N×141°.27E, h102km±9km, mb4.2/27, mbtmp4.6/33, MS3.4/5, Error ellipse: s-maj=10.2km s-min=8.8km az=115.0

ISC 15 06:06:08.3±0.4, **40°.81N**±0°.03×**141°.32E**±0°.04, **h91**km±3km, **h91**km:**pP-P, n752**, σ1§**42**/596, **mb4.7**/242, **31C-23D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.19**	**264**				**Pn**	**06 06 21.7**	**+0.4**
JTM							**Sn**	**06 06 31.4**	**+0.5**
JTM	**Tenmabayashi**	**0.19**	**264**	P			**Pn**	**06 06 21.6**	**+0.3**
JTM	**Tenmabayashi**	**0.19**	**264**	S			**Sn**	**06 06 31.8**	**+0.8**
JTM	**Tenmabayashi**	**0.19**	**264**	P			**Pn**	**06 06 21.7**	**+0.3**
JTM				*e*S			**Sn**	**06 06 31.5**	**+0.5**
JTM	**Tenmabayashi**	**0.19**	**264**	A			A	06 06 21.7	
	comp=N,36nm,0.5s,comp=E,75nm,1.5s								
JARK	**Aomorirokkasho**	**0.20**	**9**	P			**Pn**	**06 06 21.9**	**+0.6**
JARK				*e*S			**Sn**	**06 06 31.8**	**+0.7**
JARK	**Aomorirokkasho**	**0.20**	**9**	A			A	06 06 21.9	
	comp=N,92nm,0.4s,comp=E,153nm,0.5s								
JANG	**Nango**	**0.46**	**161**	⇓P			**Pn**	**06 06 22.9**	**+0.1**
JANG				⇓*e*S			**Sn**	**06 06 33.3**	**-0.2**
JAHD	**Aomorihigashid**	**0.46**	**1**	A			A	06 06 23.4	
	comp=N,69nm,0.6s,comp=E,40nm,0.8s								
JOT	**Ohata**	**0.61**	**340**	⇓P			**Pn**	**06 06 24.8**	**+0.8**
JOT				⇓*e*S			**Sn**	**06 06 37.3**	**+1.6**
JOT	**Ohata**	**0.61**	**340**	A			A	06 06 24.8	
	comp=N,13nm,0.9s,comp=E,12nm,0.7s								
JKEN	**Kujiedanarisaw**	**0.67**	**154**	A			A	06 06 25.0	
	comp=N,108nm,1.1s,comp=E,125nm,1.3s								
JSI2	**Shiura 2**	**0.73**	**290**	A			A	06 06 25.9	
	comp=N,87nm,0.6s,comp=E,37nm,1.1s								
JHHS	**Hirosakihyakuz**	**0.75**	**258**	A			A	06 06 25.9	
	comp=N,107nm,0.8s,comp=E,45nm,2.7s								
JAH	**Hinai**	**0.81**	**221**	P			**Pn**	**06 06 26.6**	**+0.7**
JAH				*e*S			**Sn**	**06 06 40.1**	**+1.0**
JAH	**Hinai**	**0.81**	**221**	A			A	06 06 26.6	
	comp=N,31nm,0.7s,comp=E,23nm,1.7s								
JKZ	**Kuzumaki**	**0.82**	**180**	A			A	06 06 26.5	
	comp=N,65nm,1.1s,comp=E,115nm,0.6s								
JTH	**Tanohata**	**0.96**	**154**	A			A	06 06 28.0	
	comp=N,55nm,1.3s,comp=E,48nm,1.6s								
JSR	**Shiriuchi**	**0.99**	**317**	⇓P			**Pn**	**06 06 28.8**	**+0.8**
JSR				⇓*e*S			**Sn**	**06 06 43.5**	**+0.9**
JSR	**Shiriuchi**	**0.99**	**317**	A			A	06 06 28.8	
	comp=N,7.0nm,1.2s,comp=E,8.0nm,1.3s								
JIW	**Iwasaki**	**1.02**	**258**	P			**Pn**	**06 06 29.0**	**+0.8**
JIW	**Iwasaki**	**1.02**	**258**	A			A	06 06 29.0	
	comp=N,18nm,1.7s,comp=E,20nm,1.3s								
JNTW	**Noshirotokiwa**	**1.03**	**239**	A			A	06 06 29.0	
	comp=N,75nm,3.8s,comp=E,57nm,1.4s								
JSZI	**Iwateshizukuis**	**1.10**	**195**	A			A	06 06 29.7	
	comp=N,30nm,2.3s,comp=E,41nm,1.5s								
JKB	**Kayabe**	**1.10**	**349**	⇓P			**Pn**	**06 06 30.2**	**+1.1**
JKB	**Kayabe**	**1.10**	**349**	A			A	06 06 30.2	
	comp=N,25nm,0.4s,comp=E,38nm,1.9s								
JOMM	**Oshimamatsumae**	**1.23**	**306**	⇓P			**Pn**	**06 06 31.3**	**+0.7**
JOMM				⇓*e*S			**Sn**	**06 06 48.0**	**+0.5**
JOMM	**Oshimamatsumae**	**1.23**	**306**	A			A	06 06 31.3	
	comp=N,6.0nm,2.5s,comp=E,12nm,1.0s								
MIYJ	**Miyakonagasawa**	**1.29**	**163**	A			A	06 06 31.9	
	comp=N,27nm,1.8s,comp=E,26nm,2.4s								
JOM	**Ohasama**	**1.33**	**181**	⇓P			**Pn**	**06 06 32.6**	**+0.6**
JOM				⇓*e*S			**Sn**	**06 06 50.4**	**+0.6**
JOM	**Ohasama**	**1.33**	**181**	A			A	06 06 32.6	
	comp=N,68nm,0.6s,comp=E,41nm,1.5s								
JYM2	**Yakumo 2**	**1.49**	**332**	⇓P			**Pn**	**06 06 35.2**	**+1.2**
JYM2	**Yakumo 2**	**1.49**	**332**	A			A	06 06 35.2	
	comp=N,9.0nm,0.4s,comp=E,13nm,2.6s								
JRG	**Rokugo**	**1.50**	**201**	P			**Pn**	**06 06 35.2**	**+1.1**
JRG	**Rokugo**	**1.50**	**201**	A			A	06 06 35.2	
	comp=N,11nm,0.7s,comp=E,19nm,2.0s								
JYW	**Yuwa**	**1.53**	**214**	A			A	06 06 35.0	
	comp=N,21nm,0.6s,comp=E,14nm,2.4s								
JNB	**Noboribetsu**	**1.68**	**353**	P			**Pn**	**06 06 37.5**	**+1.3**
JNB	**Noboribetsu**	**1.68**	**353**	A			A	06 06 37.5	
	comp=N,17nm,0.7s,comp=E,20nm,1.8s								
OFUJ	**Ofunato**	**1.75**	**171**	A			A	06 06 37.8	
	comp=N,11nm,0.9s,comp=E,29nm,1.0s								
JSHD	**Hidakashinhida**	**1.82**	**28**	A			A	06 06 39.1	
	comp=N,14nm,1.0s,comp=E,14nm,1.9s								
JNBK	**Urakawa-nobuka**	**1.82**	**36**	A			A	06 06 39.2	
	comp=N,25nm,1.0s,comp=E,24nm,0.6s								
ERM	**Erimo**	**1.83**	**48**				**Pn**	**06 06 39.4**	**+1.2**
ERM							**Sn**	**06 07 02.0**	**+0.9**
ERM	**Erimo**	**1.83**	**48**	P			**Pn**	**06 06 39.8**	**+1.5**
ERM	**Erimo**	**1.83**	**48**	S			**Sn**	**06 07 04.5**	**+3.4**
ERM	**Erimo**	**1.83**	**48**	*ce*P			**Pn**	**06 06 39.5**	**+1.2**
ERM				pmax			pmax		
	comp=Z,628nm,0.6s								
JEM	**Erimo**	**1.83**	**48**	P			**Pn**	**06 06 39.8**	**+1.5**
JEM	**Erimo**	**1.83**	**48**	S			**Sn**	**06 07 04.4**	**+3.2**
JEM	**Erimo**	**1.83**	**48**	A			A	06 06 39.3	
	comp=N,11nm,2.5s,comp=E,9.0nm,1.0s								
JMK	**Ichinoseki**	**1.85**	**182**	A			A	06 06 39.2	
	comp=N,13nm,1.2s,comp=E,26nm,3.5s								
JIAM	**Iburiatsuma**	**1.87**	**14**	A			A	06 06 39.9	
	comp=N,34nm,0.8s,comp=E,35nm,1.2s								
JOG3	**Oga3**	**1.93**	**243**	A			A	06 06 34.2	
	comp=N,12nm,1.5s,comp=E,12nm,1.6s								
JHST	**Hiyamasetana**	**1.94**	**327**	A			A	06 06 40.9	
	comp=N,12nm,1.9s,comp=E,21nm,2.3s								
JKMT	**Kesennumamotoy**	**2.00**	**177**	A			A	06 06 41.2	
	comp=N,7.0nm,3.4s,comp=E,15nm,2.2s								
JYK	**Kaneyama**	**2.03**	**202**	A			A	06 06 41.6	
	comp=N,7.0nm,1.8s,comp=E,6.0nm,1.3s								
JEW	**Eniwo**	**2.04**	**3**	A			A	06 06 42.1	
	comp=N,9.0nm,1.8s,comp=E,8.0nm,2.7s								
JYYZ	**Yamagatayuza**	**2.08**	**211**	A			A	06 06 42.4	
	comp=N,10.0nm,5.7s,comp=E,10.0nm,5.0s								
JTHR	**Tokachihiroo**	**2.10**	**44**	A			A	06 06 42.9	
	comp=N,12nm,3.0s,comp=E,9.0nm,1.3s								
JBT2	**Biratori 2**	**2.12**	**21**	A			A	06 06 43.2	
	comp=N,4.0nm,1.3s,comp=E,5.0nm,2.4s								
JOFO	**Osakifurukawao**	**2.22**	**188**	A			A	06 06 44.3	
	comp=N,29nm,2.9s,comp=E,43nm,1.6s								
JIO	**Ouri**	**2.35**	**179**	A			A	06 06 45.9	
	comp=N,6.0nm,2.2s,comp=E,9.0nm,3.9s								
JCH	**Churui**	**2.37**	**40**	A			A	06 06 46.5	
	comp=N,8.0nm,2.1s,comp=E,8.0nm,1.7s								
JOU	**Okura**	**2.49**	**192**	A			A	06 06 47.8	
	comp=N,9.0nm,1.7s,comp=E,14nm,1.5s								
JYA	**Atsumi**	**2.54**	**210**	A			A	06 06 48.5	
	comp=N,11nm,1.8s,comp=E,12nm,0.7s								
JAB	**Ashibetsu**	**2.78**	**14**	A			A	06 06 52.2	
	comp=N,7.0nm,0.7s,comp=E,6.0nm,1.8s								
JMM	**Marumori**	**2.96**	**188**				**Pn**	**06 06 53.1**	**-0.3**
JMM	**Marumori**	**2.96**	**188**	P			**Pn**	**06 06 53.7**	**+0.4**
ASAJ	**Asahikawa**	**3.44**	**15**	P			**Pn**	**06 07 00.5**	**+0.8**
	comp=E,168nm,0.6s,baz=204,slow=15,SNR=140								
ASAJ						S	**Sn**	**06 07 40.0**	**+0.6**
	comp=E,202nm,0.5s,baz=208,slow=17,SNR=4.8								
JKA	**Kamikawa-asahi**	**3.44**	**16**				**Pn**	**06 07 00.3**	**+0.6**
JSD	**Sado**	**3.64**	**222**	P			**Pn**	**06 07 03.8**	**+1.3**
NMR	**Nemuro--Hokkai**	**4.16**	**51**	⇑*i*P			**Pn**	**06 07 08.0**	**-1.4**
NMR				*i* S			**Sn**	**06 07 52.2**	**-4.7**
RUSJ	**Misakicho**	**4.39**	**40**	*e*P			**Pn**	**06 07 12.8**	**+0.2**
RUSJ				*e*S			**Sn**	**06 08 02.2**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**4.66**	**45**	*e*P			**Pn**	**06 07 15.7**	**-0.5**
YUK				*i* S			**Sn**	**06 08 06.2**	**-2.8**
YUK				pmax			pmax		
	comp=Z,4μm,0.4s								
YUK				pmax			pmax		
	comp=E,532nm,0.2s								
YUK				pmax			pmax		
	comp=N,1μm,0.3s								
YUK				smax			smax		
	comp=E,5μm,0.4s								
YUK				smax			smax		
	comp=N,4μm,0.5s								
MJB9	**Matsu-Tunnel**	**4.90**	**211**				**Pn**	**06 07 22.5**	**+2.8**
MAJO	**Matsushiro**	**4.91**	**211**				**Pn**	**06 07 21.5**	**+1.9**
MAJO	**Matsushiro**	**4.91**	**211**	P			**Pn**	**06 07 21.4**	**+1.8**
MAJO	**Matsushiro**	**4.91**	**211**	*c i*P			**Pn**	**06 07 21.3**	**+1.6**
MJAR	**Matsushiro Arr**	**4.91**	**211**				**Pn**	**06 07 21.1**	**+1.4**
MJAR	**Matsushiro Arr**	**4.91**	**211**	P			**Pn**	**06 07 21.9**	**+2.2**
MJAR						LR	LR	06 09 10.8	
	comp=N,69nm,0.5s,baz=20,slow=15,SNR=142								
	comp=N,236nm,18.2s,baz=32,slow=36								
MJAR	**Matsushiro Arr**	**4.91**	**211**	P			**Pn**	**06 07 21.1**	**+1.4**
SHO	**Shikotan**	**5.10**	**51**	*c i*P			**Pn**	**06 07 23.9**	**+1.7**
SHO				*e*S			**Sn**	**06 08 17.3**	**-2.5**
SHO				pmax			pmax		
	comp=Z,504nm,0.3s								
SHO				pmax			pmax		
	comp=N,172nm,0.2s								
SHO				smax			smax		
	comp=N,1μm,0.2s								
SHO				smax			smax		
	comp=E,2μm,0.4s								
TEY	**Ternei**	**5.46**	**322**	⇑*e*P			**Pn**	**06 07 28.3**	**+1.1**
TEY				*e*				06 08 26.0	
TEY				pmax			pmax		
	comp=N,200nm,0.5s								
TEY				pmax			pmax		
	comp=E,130nm,0.5s								
TEY				pmax			pmax		
	comp=Z,220nm,0.5s								
JGF	**Kuroka**	**6.06**	**212**				**Pn**	**06 07 37.8**	**+2.4**
JGF	**Kuroka**	**6.06**	**212**	P			**Pn**	**06 07 37.5**	**+2.1**
YSS	**Yuzhno-Sakhali**	**6.23**	**9**				**Pn**	**06 07 37.3**	**-0.3**
YSS	**Yuzhno-Sakhali**	**6.23**	**9**	P			**Pn**	**06 07 39.7**	**+2.1**
YSS	**Yuzhno-Sakhali**	**6.23**	**9**	⇑*e*P			**Pn**	**06 07 38.3**	**+0.7**
YSS				*e*S			**Sn**	**06 08 47.2**	**-0.1**
YSS				pmax			pmax		
	comp=Z,100nm,0.9s								
YSS				pmax			pmax		
	comp=N,70nm,0.7s								
YSS				pmax			pmax		
	comp=E,90nm,0.8s								
YSS				smax			smax		
	comp=E,200nm,4.1s								
YSS				smax			smax		
	comp=N,100nm,4.9s								
YSS				MLR		MLR			
	comp=Z,4μm,13.0s								
INU	**Inuyama**	**6.42**	**213**				**Pn**	**06 07 41.9**	**+1.6**
INU	**Inuyama**	**6.42**	**213**	P			**Pn**	**06 07 42.3**	**+2.1**
KUR	**Kuril'sk**	**6.52**	**45**	*e*P			**Pn**	**06 07 40.8**	**-0.8**
KUR				*i* S			**Sn**	**06 08 51.8**	**-2.6**
KUR				pmax			pmax		
	comp=N,71nm,0.4s								
KUR				pmax			pmax		
	comp=E,126nm,0.4s								
KUR				pmax			pmax		
	comp=Z,547nm,0.4s								
KUR				pmax			pmax		
	comp=Z,2μm,1.5s								
VLA	**Vladivostok**	**7.40**	**291**	*i* P			**Pn**	**06 07 55.5**	**+1.9**
USA0B	**Ussuriysk Arra**	**7.68**	**299**				**Pn**	**06 07 59.7**	**+2.3**
USA0B	**Ussuriysk Arra**	**7.68**	**299**	*d i*P			**Pn**	**06 07 59.5**	**+2.1**
USRK	**Ussuriysk Ar.**	**7.68**	**299**				**Pn**	**06 07 58.9**	**+1.5**
USRK	**Ussuriysk Ar.**	**7.68**	**299**	P			**Pn**	**06 07 58.7**	**+1.3**
	comp=Z,135nm,0.7s,baz=109,slow=14,SNR=149								
USRK	**Ussuriysk Ar.**	**7.68**	**299**	P			**Pn**	**06 07 58.9**	**+1.5**
JHJ	**Hachijo jima 2**	**7.77**	**190**	P			**Pn**	**06 07 55.1**	**-3.5**
	comp=Z,96nm,0.3s,baz=70,slow=12,SNR=12								
JHJ						S	**Sn**	**06 09 18.0**	**-7.0**
	comp=Z,96nm,0.4s,baz=52,slow=22,SNR=1.3								
JHJ2	**Mitsune**	**7.77**	**189**	Pn			**Pn**	**06 07 55.4**	**-3.3**
MSHR	**Mys Shultsa**	**7.81**	**286**	*ce*P			**Pn**	**06 08 00.2**	**+1.1**
MSHR				pmax			pmax		
	comp=Z,103nm,1.7s								
MDJ	**Mudanjiang**	**9.44**	**298**				**Pn**	**06 08 21.3**	**0.0**
MDJ	**Mudanjiang**	**9.44**	**298**	P			**Pn**	**06 08 23.8**	**+2.6**
MDJ				pmax			pmax		
	comp=Z,21nm,1.1s								
TYV	**Tymovskoe**	**10.10**	**5**	*e*P			**Pn**	**06 08 31.0**	**+0.8**
TYV				*e*S			**Sn**	**06 10 22.9**	**+1.3**
TYV				pmax			pmax		
	comp=Z,200nm,4.3s								
TYV				pmax			pmax		
	comp=Z,47nm,0.7s								
TYV				smax			smax		
	comp=E,7.0nm,1.1s								
TYV				smax			smax		
	comp=N,300nm,6.3s								
TYV				smax			smax		
	comp=E,400nm,6.3s								
KSRS	**Korea Array**	**10.93**	**256**	P			**Pn**	**06 08 43.8**	**+2.1**
	comp=E,4.3nm,0.6s,baz=65,slow=15,SNR=7.5								
KSRS						S	**Sn**	**06 10 47.2**	**+5.3**
	comp=E,10nm,0.8s,baz=70,slow=24,SNR=6.3								
BNX	**BinXian**	**11.28**	**301**	⇑P			**Pn**	**06 08 46.8**	**+0.5**
BNX				pmax			pmax		
	comp=E,31nm,1.0s								
JNU	**Nakatsue**	**11.33**	**231**	Pn			**Pn**	**06 08 46.2**	**-1.0**
JNU	**Nakatsue**	**11.33**	**231**	P			**Pn**	**06 08 49.5**	**+2.4**
	comp=E,12nm,1.1s,baz=38,slow=12,SNR=4.9								
JNU						LR	LR	06 12 59.2	
	comp=E,162nm,18.5s,baz=32,slow=36								
JNU	**Nakatsue**	**11.33**	**231**	P			**Pn**	**06 08 50.4**	**+3.2**
TJN	**Taejon**	**11.78**	**252**	P			**Pn**	**06 08 57.4**	**+4.3**
CN2	**Changchun**	**12.13**	**290**	P			**Pn**	**06 08 57.8**	**0.0**
CN2				pmax			pmax		
	comp=E,10.0nm,0.9s								
CN2				pmax			pmax		
	comp=E,300nm,3.0s								
HEH	**HeiHe**	**13.55**	**319**	*e*P			**Pn**	**06 09 16.4**	**-0.2**
HEH				pmax			pmax		
	comp=E,16nm,0.9s								
DL2	**Dalian**	**15.25**	**269**	P			**Pn**	**06 09 39.1**	**+0.7**
DL2				pmax			pmax		
	comp=E,46nm,0.8s								
ZEA	**Zeya**	**16.04**	**328**	*e*P			**Pn**	**06 09 49.1**	**+0.8**
ZEA				pmax			pmax		

comp=Z,210nm,7.2s
BTO LR LR
comp=Z,540nm,12.2s
BTO LR LR
comp=Z,290nm,14.5s
BTO LR LR
comp=Z,370nm,14.8s
WHN Wuhan 24.10 253 P **P** **06 11 16.8 +1.4**
WHN pmax pmax
comp=Z,34nm,0.7s
BOD Bodaibo 24.38 323 *e*P **P** **06 11 17.0 -0.7**
BOD pmax pmax
comp=Z,46nm,1.0s
ULN Ulaanbaatar 25.35 298 P **P** **06 11 25.5 -1.4**
ULN Ulaanbaatar 25.35 298 *i* P **P** **06 11 25.9 -1.0**
ULN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 25.79 298 **P** **06 11 29.9 -0.9**
SONM Songino Array 25.79 298 P **P** **06 11 30.6 -0.2**
comp=Z,1.7nm,0.4s,baz=87,slow=9.1,SNR=8.4
comp=Z,1.7nm,0.4s
XAN Xi'an 26.50 266 P **P** **06 11 35.3 -1.9**
XAN pmax pmax
comp=Z,16nm,1.3s
ZAK Zakamensk 28.02 303 *e*P **P** **06 11 49.8 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,1.6s
LZH Lanzhou 29.58 273 *e*P **P** **06 12 03.8 -0.9**
LZH pP pP 06 12 27.0 +1.7
LZH pmax pmax
comp=Z,20nm,1.2s
LZH LR LR
comp=Z,140nm,13.0s
LZH LR LR
comp=Z,150nm,12.7s
LZH LR LR
comp=Z,200nm,12.4s
H11N2 WAKE ISLAND Hy 30.29 126 T T 06 43 08.1
baz=318,slow=74
H11N1 WAKE ISLAND Hy 30.30 126 T T 06 43 10.8
baz=318,slow=74
H11N3 WAKE ISLAND Hy 30.31 126 T T 06 43 58.8
baz=318
BILL Bilibino 30.45 18 *i* P **P** **06 12 12.5 +0.6**
BILL pmax pmax
comp=Z,6.0nm,0.9s
H11S1 WAKE ISLAND Hy 31.11 128 T T 06 45 07.1
baz=322,slow=76,SNR=120
H11S3 WAKE ISLAND Hy 31.11 128 T T 06 45 02.7
baz=322,slow=76,SNR=128
H11S2 WAKE ISLAND Hy 31.12 128 T T 06 45 05.3
baz=322,slow=76,SNR=122
GTA Gaotai 31.57 281 *e*P **P** **06 12 22.6 +0.4**
GTA pmax pmax
comp=Z,9.0nm,0.7s
P08K Saint George I 35.21 46 P **P** **06 12 54.1 +0.7**
baz=265
NIKH Nikolski High 35.45 53 P **P** **06 12 56.3 +0.7**
baz=271
GAMB Gambell 35.58 34 P **P** **06 12 57.2 +0.7**
baz=253
PZH PanZhiHua 35.59 259 P **P** **06 12 58.8 +1.6**
UNV Unalaska Valle 36.85 51 P **P** **06 13 08.4 +1.0**
baz=271
SLVN Son La 37.10 250 **P** **06 13 10.2 +0.1**
SLVN IAmb IAmb 06 13 11.3
comp=Z,6.5nm,0.9s
M11K Mekoryuk 37.38 40 P **P** **06 13 12.6 +0.8**
baz=263
TNA Tin City 37.65 32 P **P** **06 13 14.3 +0.2**
baz=254
F14K Arctic Creek 38.27 32 P **P** **06 13 20.0 +0.7**
baz=256
K13K Kusilvak Mount 38.33 38 P **P** **06 13 21.1 +1.2**
K13K IAmb IAmb 06 13 23.0
comp=Z,8.8nm,0.9s
K13K Kusilvak Mount 38.33 38 P **P** **06 13 21.0 +1.2**
baz=262
ANM Nome 38.46 34 P **P** **06 13 21.1 +0.2**
baz=258
M13K Dall Lake 38.79 41 P **P** **06 13 24.3 +0.6**
baz=266
J14K Nanvaranak Lak 38.95 37 P **P** **06 13 26.4 +1.4**
J14K IAmb IAmb 06 13 27.6
comp=Z,10.0nm,0.9s
J14K Nanvaranak Lak 38.95 37 P **P** **06 13 25.5 +0.5**
baz=262
F15K North Star Dit 39.00 32 P **P** **06 13 27.0 +1.6**
F15K North Star Dit 39.00 32 P **P** **06 13 26.1 +0.7**
baz=258
G15K Niukluk 39.11 33 P **P** **06 13 27.0 +0.6**
baz=259
L14K Kuka Creek 39.19 39 **P** **06 13 28.2 +1.2**
L14K Kuka Creek 39.19 39 P **P** **06 13 27.9 +0.9**
baz=265
WMQ Urumqi 39.19 293 *e*P **P** **06 13 28.3 +0.9**
WMQ pmax pmax
comp=Z,36nm,1.1s
S12K Black Hills 39.37 48 P **P** **06 13 29.1 +0.5**
baz=272
C16K Lisburne Hills 39.38 28 P **P** **06 13 29.1 +0.6**
baz=254
ZAA0 Zalesovo Array 39.40 309 **P** **06 13 28.8 -0.1**
ZALV Zalesovo Beam 39.40 309 **P** **06 13 29.0 0.0**
ZALV Zalesovo Beam 39.40 309 P **P** **06 13 28.7 -0.2**
comp=Z,15nm,0.6s,baz=88,slow=8.5,SNR=46
ZALV PcP **PcP** **06 15 35.3 0.0**
comp=Z,7.5nm,0.5s,baz=91,slow=3.2,SNR=10
ZALV ScP **ScP** **06 19 14.2 -1.4**
comp=Z,0.6nm,0.4s,baz=101,slow=3.1,SNR=3.7
comp=Z,15nm,0.6s
M14K Bethel 39.50 40 P **P** **06 13 30.3 +0.7**
baz=266
N14K Kuskokwak Cree 39.59 42 P **P** **06 13 31.1 +0.8**
baz=268
O14K Tigyukauivet M 39.78 43 P **P** **06 13 32.7 +0.7**
baz=269
L15K Ungalak Mounta 39.80 39 P **P** **06 13 32.8 +0.7**
baz=266
H16K Elim 39.80 34 P **P** **06 13 32.7 +0.6**
baz=261
K15K Wolf Creek Mou 39.83 38 P **P** **06 13 32.9 +0.6**
baz=265
G16K Koyuk River 39.88 33 P **P** **06 13 33.3 +0.6**
baz=260
D17K Noatak River 40.06 29 P **P** **06 13 34.7 +0.6**
baz=257
M15K Kasigluk River 40.12 40 P **P** **06 13 35.6 +0.8**
baz=268,SNR=6.6
RDOG Red Dog Mine 40.20 29 P **P** **06 13 35.9 +0.5**
baz=257
C17K DeLong Mountai 40.21 28 P **P** **06 13 35.9 +0.5**
baz=256
SDPT Sand Point 40.29 49 P **P** **06 13 37.1 +0.9**
baz=274
J16K Anvik River 40.35 36 P **P** **06 13 37.2 +0.6**
baz=265
I17K Unalakleet 40.37 35 P **P** **06 13 37.3 +0.5**
baz=264
N15K Kwethluk River 40.40 41 P **P** **06 13 37.9 +0.8**
baz=269,SNR=9.9
E17K Hotham Inlet 40.40 30 P **P** **06 13 37.8 +0.8**
baz=259,SNR=14
F17K Baldwin Pennin 40.51 31 P **P** **06 13 38.7 +0.8**
F17K IAmb IAmb 06 13 43.7
comp=Z,11nm,0.8s
F17K Baldwin Pennin 40.51 31 P **P** **06 13 38.8 +0.9**
baz=260
O15K Ungalikthiuk R 40.52 43 P **P** **06 13 39.2 +1.1**
O15K IAmb IAmb 06 13 40.4
comp=Z,9.1nm,0.8s
O15K Ungalikthiuk R 40.52 43 P **P** **06 13 39.4 +1.3**
baz=270
G17K Kiwalik Mounta 40.60 33 P **P** **06 13 39.6 +0.9**
baz=262
S14K Fog Glacier 40.75 47 P **P** **06 13 40.8 +0.7**
baz=274
L16K Owhat River 40.75 39 IAmb IAmb 06 13 48.7
comp=Z,17nm,0.9s
L16K Owhat River 40.75 39 P **P** **06 13 41.1 +1.1**
baz=268
H17K Granite Mounta 40.83 34 IAmb IAmb 06 13 43.3
comp=Z,14nm,0.8s
H17K Granite Mounta 40.83 34 P **P** **06 13 40.7 +0.1**
baz=263,SNR=8.1
CHNA Chernabura Isl 40.84 49 P **P** **06 13 41.3 +0.5**
baz=275
B18K Kokolik River 40.91 27 P **P** **06 13 41.4 +0.2**
baz=256
E18K Tukpahlearik C 40.93 30 IAmb IAmb 06 13 47.0
comp=Z,17nm,0.9s
E18K Tukpahlearik C 40.93 30 P **P** **06 13 42.1 +0.8**
baz=260
C18K Utukok River 40.96 28 P **P** **06 13 41.9 +0.2**
baz=258
M16K Timber Creek 40.98 40 IAmb IAmb 06 13 51.4
comp=Z,17nm,0.9s
M16K Timber Creek 40.98 40 P **P** **06 13 42.4 +0.6**
baz=269,SNR=5.7
J17K VABM Dome 41.04 36 IAmb IAmb 06 13 45.4
comp=Z,18nm,1.1s
J17K VABM Dome 41.04 36 P **P** **06 13 43.4 +1.1**
baz=266,SNR=7.5
N16K Nishlik Lake 41.06 41 P **P** **06 13 43.8 +1.2**
baz=270,SNR=6.2
F18K Selawik 41.16 31 P **P** **06 13 44.3 +1.0**
baz=262,SNR=6.1
L17K Donlin 41.33 38 P **P** **06 13 46.3 +1.6**
baz=268
K17K Iditarod 41.35 37 IAmb IAmb 06 13 53.7
comp=Z,18nm,0.9s
K17K Iditarod 41.35 37 P **P** **06 13 46.3 +1.4**
baz=267
A19K Wainwright 41.36 26 P **P** **06 13 45.6 +0.8**
baz=256
CHGN Chignik 41.38 47 P **P** **06 13 46.3 +1.2**
baz=275
O16K Kokwok River B 41.40 42 IAmb IAmb 06 13 55.6
comp=Z,6.8nm,0.8s
O16K Kokwok River B 41.40 42 P **P** **06 13 46.7 +1.4**
baz=271
P16K Nushagak River 41.46 43 P **P** **06 13 47.2 +1.4**
baz=272
G18K Tagagawik 41.47 32 P **P** **06 13 47.0 +1.2**
baz=263,SNR=18
H18K Honhosa River 41.51 34 P **P** **06 13 47.9 +1.7**
baz=265,SNR=9.7
C19K Lookout Ridge 41.62 28 P **P** **06 13 48.1 +1.0**
baz=259
M17K Holitna River 41.72 39 P **P** **06 13 49.5 +1.5**
baz=270,SNR=6.4
R16K Pilot Point 41.75 45 P **P** **06 13 49.3 +1.1**
baz=274
N17K Nushagak Hills 41.84 41 P **P** **06 13 49.9 +1.0**
baz=271
O17K Koliganek Bris 41.90 42 P **P** **06 13 50.4 +1.0**
baz=272
F19K Shaleruckik Mo 41.94 31 P **P** **06 13 50.5 +0.9**
baz=263,SNR=9.6
D19K Kuna River 42.04 29 P **P** **06 13 51.1 +0.6**
baz=261
L18K Granite Mounta 42.09 38 IAmb IAmb 06 13 59.7
comp=Z,11nm,0.8s
L18K Granite Mounta 42.09 38 P **P** **06 13 52.2 +1.3**
baz=269
GCSA Galena City Sc 42.10 34 P **P** **06 13 51.9 +0.9**
baz=266
J18K Innoko River 42.11 36 IAmb IAmb 06 13 58.5
comp=Z,8.6nm,0.8s
J18K Innoko River 42.11 36 P **P** **06 13 52.1 +1.0**
baz=268,SNR=9.3
G19K Purcell Mounta 42.13 32 IAmb IAmb 06 13 57.5
comp=Z,14nm,0.8s
G19K Purcell Mounta 42.13 32 P **P** **06 13 52.4 +1.1**
baz=265,SNR=9.1
MK31 Makanchi Array 42.15 299 *ce* P **P** **06 13 51.2 -0.5**
MKAR Makanchi Array 42.15 299 **P** **06 13 51.6 -0.1**
MKAR Makanchi Array 42.15 299 P **P** **06 13 51.3 -0.3**
comp=Z,18nm,0.7s,baz=84,slow=9.8,SNR=62
comp=Z,18nm,0.7s
MKAR Makanchi Array 42.15 299 *i* P **P** **06 13 51.2 -0.5**
MKAR pmax pmax
comp=Z,19nm,0.7s
Q16K King Salmon 42.17 43 P **P** **06 13 52.5 +1.0**
baz=273
E19K Redstone River 42.22 30 P **P** **06 13 52.7 +0.8**
baz=263,SNR=16
P17K Kvichak River 42.26 43 P **P** **06 13 52.7 +0.4**
baz=273
CHTO Chiang Mai 42.28 252 **P** **06 13 53.2 +0.2**
CHTO IAmb IAmb 06 13 55.9
comp=Z,12nm,0.8s
CHTO Chiang Mai 42.28 252 P **P** **06 13 53.2 +0.2**
CHTO pmax pmax
comp=Z,12nm,0.8s
H19K Roundabout Mou 42.34 33 P **P** **06 13 54.1 +1.3**
baz=266,SNR=37
R17L Mt. Peulik Vol 42.40 45 P **P** **06 13 54.4 +0.9**
baz=275
N18K Kilae Creek 42.48 40 P **P** **06 13 55.1 +1.0**
N18K IAmb IAmb 06 14 04.5
comp=Z,12nm,0.8s
N18K Kilae Creek 42.48 40 P **P** **06 13 55.8 +1.6**
baz=272
M18K Stony River 42.49 39 P **P** **06 13 55.5 +1.3**
baz=271
CMAR Chiang Mai Arr 42.51 251 P **P** **06 13 55.4 +0.5**
comp=Z,2.9nm,0.7s,baz=43,slow=7.6,SNR=14
CMAR PcP **PcP** **06 15 46.0 0.0**
comp=Z,0.7nm,0.4s,baz=15,slow=2.2,SNR=4.3
comp=Z,2.9nm,0.7s
CMAR Chiang Mai Arr 42.51 251 *i* P **P** **06 13 56.0 +1.1**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
J19K Poorman 42.61 35 IAmb IAmb 06 13 57.4
comp=Z,13nm,0.8s
J19K Poorman 42.61 35 P **P** **06 13 56.0 +0.9**
baz=268,SNR=12
D20K Etivluk River 42.62 28 P **P** **06 13 56.0 +0.9**
baz=262,SNR=11
B20K Meade River 42.63 27 P **P** **06 13 55.5 +0.4**
baz=260
E20K Nigu River 42.71 29 P **P** **06 13 56.7 +0.7**
baz=263,SNR=14
F20K Avaraart Lake 42.76 31 P **P** **06 13 57.0 +0.7**
baz=265
O18K Koktuh Hills 42.85 42 P **P** **06 13 58.2 +1.1**
baz=273
P18K Big Mountain, 42.87 42 P **P** **06 13 58.6 +1.3**
baz=274
L19K White Mountain 42.95 38 P **P** **06 13 59.3 +1.5**
baz=271
H20K Anotleneega Mo 42.99 33 P **P** **06 13 59.7 +1.5**
baz=268,SNR=16
Q18K Katmai Hardscr 43.03 43 P **P** **06 13 59.3 +0.5**
baz=275
A21K Barrow 43.04 25 P **P** **06 13 59.7 +1.2**
baz=260
I20K Naaghedeneel 43.13 34 P **P** **06 14 00.3 +1.0**
baz=269
N19K Bonanza Creek 43.16 40 P **P** **06 14 00.8 +1.1**
baz=273
M19K Big River Lodg 43.17 39 P **P** **06 14 00.9 +1.3**
baz=272
J20K Nowinta River 43.27 35 IAmb IAmb 06 14 08.6
comp=Z,12nm,0.8s
J20K Nowinta River 43.27 35 P **P** **06 14 01.9 +1.5**
baz=270,SNR=14
O19K Port Alsworth 43.28 41 P **P** **06 14 01.7 +1.2**
baz=274
K20K Telida 43.30 36 **P** **06 14 01.6 +0.9**
K20K IAmb IAmb 06 14 09.2
comp=Z,9.6nm,0.8s
K20K Telida 43.30 36 P **P** **06 14 02.4 +1.7**
baz=270,SNR=7.9
C21K Knifeblade Rid 43.33 28 P **P** **06 14 02.1 +1.2**
baz=264
L20K Farewell, AK 43.40 38 P **P** **06 14 02.9 +1.4**
baz=272
B21K Ikpikpuk River 43.45 27 P **P** **06 14 03.0 +1.3**
baz=263
IMAR Indian Mountai 43.48 33 P **P** **06 14 03.1 +1.0**
SHL Shillong 43.51 265 **P** **06 14 02.4 -0.7**
SHL IAmb IAmb 06 14 06.6
comp=Z,12nm,0.7s
SHL Shillong 43.51 265 P **P** **06 14 02.4 -0.7**
SHL pmax pmax
comp=Z,12nm,0.7s
A22K Sinclair Lake 43.51 25 P **P** **06 14 03.1 +0.9**
baz=262
E21K Killik River 43.55 29 IAmb IAmb 06 14 08.8
comp=Z,21nm,1.0s
E21K Killik River 43.55 29 P **P** **06 14 03.4 +0.7**
baz=265
G21K Allakaket 43.60 32 P **P** **06 14 04.7 +1.6**
baz=268,SNR=15
KURK Kurchatov 43.63 305 **P** **06 14 03.4 -0.1**
KURK Kurchatov 43.63 305 *ce* P **P** **06 14 03.0 -0.5**
KURK pmax pmax
comp=Z,38nm,1.0s
F21K Alatna River 43.65 31 IAmb IAmb 06 14 13.0
comp=Z,8.7nm,0.8s
F21K Alatna River 43.65 31 P **P** **06 14 04.7 +1.3**
baz=267,SNR=7.8
SII Sitkinak Islan 43.69 46 P **P** **06 14 05.2 +1.3**
baz=278
KURBB Kurchatov Arra 43.70 305 P **P** **06 14 03.8 -0.3**
comp=Z,20nm,0.4s,baz=81,slow=8.6,SNR=95
KURBB PcP **PcP** **06 15 49.4 -0.1**
comp=Z,3.8nm,0.6s,baz=87,slow=3.6,SNR=6.0
comp=Z,20nm,0.4s
Q19K Cape Douglas, 43.72 43 P **P** **06 14 04.8 +0.7**
baz=276
M20K Styx River 43.77 39 IAmb IAmb 06 14 14.5
comp=Z,11nm,0.8s
M20K Styx River 43.77 39 P **P** **06 14 05.7 +1.2**
baz=273
H21K Melozitna Rive 43.86 33 P **P** **06 14 06.1 +0.9**
baz=269,SNR=7.6
P19K Oil Pt 43.86 42 P **P** **06 14 06.9 +1.6**
baz=275
B22K Teshekpuk Lake 43.94 26 P **P** **06 14 06.4 +0.8**
baz=264
D22K Ayikyak River 44.06 28 **P** **06 14 07.3 +0.7**
D22K Ayikyak River 44.06 28 P **P** **06 14 07.4 +0.7**
baz=266
CHUM Lake Minchumin 44.07 36 P **P** **06 14 08.0 +1.1**
baz=272
OHAK Old Harbor 44.09 45 P **P** **06 14 07.5 +0.3**
OHAK IAmb IAmb 06 14 48.2
comp=Z,21nm,1.3s
OHAK Old Harbor 44.09 45 P **P** **06 14 07.4 +0.3**
baz=278
O20K Slope Mountain 44.13 41 P **P** **06 14 08.3 +0.9**
baz=275
PPLA Purkeypile 44.16 37 IAmb IAmb 06 14 16.9
comp=Z,11nm,1.0s
PPLA Purkeypile 44.16 37 P **P** **06 14 08.9 +1.2**
baz=273
F22K John River 44.16 30 P **P** **06 14 08.7 +1.1**
baz=268
CAST Castle Rocks 44.19 36 IAmb IAmb 06 14 16.7
comp=Z,16nm,0.8s
CAST Castle Rocks 44.19 36 P **P** **06 14 09.8 +2.0**
baz=272,SNR=9.2
I21K Tanana 44.20 34 IAmb IAmb 06 14 10.1
comp=Z,9.9nm,0.7s
I21K Tanana 44.20 34 P **P** **06 14 09.2 +1.3**
baz=270
N20K Mount Spurr 44.25 40 P **P** **06 14 08.4 0.0**
baz=274
SPCR Spurr Chakacha 44.25 40 P **P** **06 14 08.6 +0.2**
baz=274
SPU Mount Spurr 44.32 40 IAmb IAmb 06 14 19.2
comp=Z,18nm,1.0s
E22K Anaktuvuk Pass 44.33 30 P **P** **06 14 10.2 +1.3**
baz=268,SNR=16
Q20K Shuyak Island 44.40 43 P **P** **06 14 10.2 +0.7**
baz=277
KDAK Kodiak Island 44.40 44 P **P** **06 14 10.1 +0.6**
baz=278
STLK Strandline Lak 44.41 39 IAmb IAmb 06 14 19.6
comp=Z,7.7nm,0.8s
G22K Bettles 44.41 31 P **P** **06 14 10.2 +0.7**
baz=269
H22K Ishtalitna Cre 44.45 33 P **P** **06 14 11.3 +1.4**
baz=270,SNR=18
SKT Skwentna 44.52 38 P **P** **06 14 11.3 +0.9**
baz=274
BPAW Bear Paw Mtn. 44.65 35 IAmb IAmb 06 14 19.4
comp=Z,7.9nm,0.8s
BPAW Bear Paw Mtn. 44.65 35 P **P** **06 14 12.9 +1.4**
baz=272
HOM Homer 44.67 42 P **P** **06 14 12.0 +0.4**
baz=276
MLY Manley 44.73 34 IAmb IAmb 06 14 14.9
comp=Z,11nm,0.9s
MLY Manley 44.73 34 P **P** **06 14 13.9 +1.8**
baz=272,SNR=10.0
D23K Nanushuk River 44.78 28 P **P** **06 14 13.4 +1.0**
baz=268
C23K Itkillik River 44.85 27 P **P** **06 14 13.7 +0.8**
baz=267
COLD Coldfoot 44.92 31 IAmb IAmb 06 14 20.7
comp=Z,12nm,1.1s
COLD Coldfoot 44.92 31 P **P** **06 14 15.0 +1.5**
baz=270
SUA Susitna One 44.93 39 IAmb IAmb 06 14 17.1
comp=Z,9.0nm,0.8s
SUA Susitna One 44.93 39 P **P** **06 14 15.6 +1.8**
baz=275
TRF Thorofare Moun 44.99 36 IAmb IAmb 06 14 23.1
comp=Z,12nm,1.4s
TRF Thorofare Moun 44.99 36 P **P** **06 14 15.5 +1.1**
baz=274
G23K Bananza Creek 44.99 32 P **P** **06 14 15.6 +1.4**
baz=271,SNR=18
CUT Chulitna 45.08 38 P **P** **06 14 16.3 +1.5**
baz=275
E23K Chandalar 45.15 30 IAmb IAmb 06 14 22.6
comp=Z,26nm,1.4s
E23K Chandalar 45.15 30 P **P** **06 14 17.0 +1.5**
baz=270,SNR=7.6
TOLK Toolik Lake Re 45.18 29 P **P** **06 14 16.7 +1.1**
baz=269
H23K Yukon River 45.21 33 P **P** **06 14 17.5 +1.6**
baz=272,SNR=29
I23K Minto, Yukon-K 45.31 34 IAmb IAmb 06 14 24.4
comp=Z,7.4nm,0.8s
I23K Minto, Yukon-K 45.31 34 P **P** **06 14 18.4 +1.8**
baz=273,SNR=7.1
UZB Uzynbulak 45.42 295 *e*P **P** **06 14 16.6 -1.5**
UZB pmax pmax
comp=Z,19nm,1.9s
RC01 Rabbit Creek A 45.45 40 IAmb IAmb 06 14 27.2
comp=Z,11nm,0.9s
RC01 Rabbit Creek A 45.45 40 P **P** **06 14 18.5 +0.7**
baz=276
D24K Happy Valley 45.46 28 P **P** **06 14 18.6 +0.9**
baz=269
NEA2 Nenana 45.46 35 P **P** **06 14 19.5 +1.6**
baz=274,SNR=7.4
C24K Franklin Bluff 45.51 27 P **P** **06 14 18.8 +0.6**
baz=269
O22K Cooper Landing 45.53 40 P **P** **06 14 19.7 +1.3**
baz=277
E24K Your Creek 45.58 30 IAmb IAmb 06 14 20.6
comp=Z,8.9nm,0.7s
E24K Your Creek 45.58 30 P **P** **06 14 19.8 +1.0**
baz=271
MCK McKinley 45.58 36 IAmb IAmb 06 14 27.2
comp=Z,7.8nm,0.8s
MCK McKinley 45.58 36 P **P** **06 14 19.9 +1.0**
baz=275
RND Reindeer 45.64 36 IAmb IAmb 06 14 20.9
comp=Z,11nm,1.0s
PMR Palmer 45.69 39 IAmb IAmb 06 14 28.7
comp=Z,8.2nm,0.9s
PMR Palmer 45.69 39 P **P** **06 14 20.5 +0.8**
baz=276,SNR=5.4
SEW Seward 45.71 41 P **P** **06 14 20.8 +1.0**
baz=278
F24K Squaw Lake 45.81 30 IAmb IAmb 06 14 29.1
comp=Z,8.0nm,0.8s
F24K Squaw Lake 45.81 30 P **P** **06 14 22.1 +1.4**
baz=272,SNR=5.7
H24K Noodor Dome 45.89 33 IAmb IAmb 06 14 24.3
comp=Z,17nm,0.9s
H24K Noodor Dome 45.89 33 P **P** **06 14 22.9 +1.6**
baz=274,SNR=12
WRH Wood River Hil 45.89 35 IAmb IAmb 06 14 30.0
comp=Z,10nm,0.8s
ARXS Arharly 45.90 296 *e*P **P** **06 14 21.0 -0.7**
COLA College 45.96 34 P **P** **06 14 22.0 +0.2**
COLA College 45.96 34 *e*P **P** **06 14 23.7 +1.9**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 45.96 34 P **P** **06 14 23.6 +1.9**
baz=274
G24K Hadweenzic Riv 46.01 32 IAmb IAmb 06 14 24.6
comp=Z,12nm,0.8s
G24K Hadweenzic Riv 46.01 32 P **P** **06 14 23.7 +1.5**
baz=273

KNK **Knik Glacier** 46.03 39 P P 06 14 23.1 +0.7
KNK **Knik Glacier** 46.03 39 P P 06 14 24.0 +1.6
baz=277
POKR **Poker Plat Res** 46.12 34 P P 06 14 24.7 +1.6
baz=275,SNR=5.0
PWL **Port Wells** 46.16 40 IAmb IAmb 06 14 32.9
comp=Z,16nm,1.1s
PWL **Port Wells** 46.16 40 P P 06 14 24.0 +0.5
baz=278
M23K **Glacier View** 46.33 38 P P 06 14 25.7 +0.9
baz=278
D25K **Kavik River** 46.33 28 IAmb IAmb 06 14 31.0
comp=Z,12nm,0.8s
D25K **Kavik River** 46.33 28 P P 06 14 25.6 +0.9
baz=271
HDA **Harding Lake** 46.39 35 IAmb IAmb 06 14 26.6
comp=Z,7.8nm,0.8s
HDA **Harding Lake** 46.39 35 P P 06 14 26.2 +1.0
baz=276,SNR=6.3
SCM **Sheep Creek Mo** 46.51 38 IAmb IAmb 06 14 39.5
comp=Z,16nm,1.0s
SCM **Sheep Creek Mo** 46.51 38 P P 06 14 27.6 +1.4
baz=278,SNR=5.3
G25K **Bearman Lake** 46.55 31 P P 06 14 27.9 +1.6
baz=274
F25K **Christian Rive** 46.67 30 IAmb IAmb 06 14 35.6
comp=Z,7.7nm,0.9s
F25K **Christian Rive** 46.67 30 P P 06 14 29.4 +1.9
baz=274,SNR=5.3
H25L **Birch Creek** 46.70 32 P P 06 14 29.5 +2.0
baz=275,SNR=13
P23K **Montague Islan** 46.74 41 P P 06 14 29.2 +1.2
baz=279
GLI **Glacier Island** 46.76 40 P P 06 14 29.2 +1.1
baz=279
TARG **Taragay, Kyrgy** 46.76 293 P P 06 14 29.8 +0.9
TARG pmax pmax
comp=Z,33nm,0.7s
C26K **Camden Bay** 46.83 27 P P 06 14 29.6 +1.2
baz=272
PRP **Porcupine Dome** 46.89 33 P P 06 14 30.3 +1.1
baz=276,SNR=7.5
K24K **Donnelly Dome** 46.97 35 P P 06 14 30.2 +0.5
baz=277,SNR=10
M24K **Tolsona, Glenn** 47.01 38 P P 06 14 31.6 +1.5
baz=278
J25K **Salcha River,** 47.05 34 P P 06 14 31.1 +0.7
baz=277
FID **Port Fidalgo** 47.08 40 IAmb IAmb 06 14 44.5
comp=Z,6.2nm,0.8s
BMAR **Burnt Mountain** 47.09 30 P 06 14 31.2 +0.5
PAX **Paxson** 47.21 37 P P 06 14 32.5 +0.8
baz=278
KLU **Klutina** 47.22 39 IAmb IAmb 06 14 41.8
comp=Z,12nm,0.9s
KLU **Klutina** 47.22 39 P P 06 14 32.6 +0.8
baz=279,SNR=6.1
F26K **Sheenjek River** 47.24 30 P P 06 14 33.5 +1.8
baz=275,SNR=15
C27K **Jago River** 47.26 27 P P 06 14 32.9 +1.0
baz=274
DIV **Divide** 47.35 39 IAmb IAmb 06 14 43.1
comp=Z,20nm,1.1s
Q23K **Middleton Isla** 47.37 41 P P 06 14 33.9 +1.1
baz=281
RIDG **Independent Ri** 47.39 35 IAmb IAmb 06 14 41.7
comp=Z,12nm,0.9s
RIDG **Independent Ri** 47.39 35 P P 06 14 33.5 +0.5
baz=278
HARP **HAARP** 47.44 37 P P 06 14 34.4 +1.0
baz=279
G26K **Porcupine Rive** 47.45 31 P P 06 14 35.2 +1.9
baz=276,SNR=20
EYAK **Cordova Ski Ar** 47.46 40 IAmb IAmb 06 14 44.2
comp=Z,11nm,0.9s
EYAK **Cordova Ski Ar** 47.46 40 P P 06 14 34.5 +1.0
baz=280
SCRK **Sand Creek** 47.73 35 IAmb IAmb 06 14 37.2
comp=Z,14nm,0.8s
SCRK **Sand Creek** 47.73 35 P P 06 14 36.0 +0.2
baz=279,SNR=8.1
DOT **Dot Lake** 47.74 36 IAmb IAmb 06 14 44.6
comp=Z,6.1nm,0.8s
N25K **Chitina, Valde** 47.83 38 P P 06 14 37.8 +1.3
baz=280,SNR=5.3
J26L **Joseph Creek** 47.84 34 P P 06 14 37.2 +0.6
baz=278
I26K **Coal Creek Min** 47.90 33 P P 06 14 37.4 +0.5
baz=278
BMRM **Bremner River** 47.94 39 IAmb IAmb 06 14 39.1
comp=Z,8.8nm,0.8s
BMRM **Bremner River** 47.94 39 P P 06 14 38.3 +1.0
baz=281
MENT **Mentasta** 48.01 36 IAmb IAmb 06 14 40.4
comp=Z,7.5nm,0.8s
BVAR **Borovoye Array** 48.04 310 P P 06 14 38.0 -0.2
comp=Z,6.7nm,0.4s,baz=80,slow=10,SNR=43
BVAR PcP PcP 06 16 04.9 +0.2
comp=Z,5.6nm,0.6s,baz=83,slow=5.6,SNR=5.9
BVAR S S 06 21 28.9 -0.5
comp=Z,1.0nm,0.7s,baz=74,slow=16,SNR=4.3
comp=Z,6.7nm,0.4s
BRVK **Borovoye** 48.09 310 P 06 14 38.6 0.0
BRVK IAmb IAmb 06 14 39.4
comp=Z,5.1nm,0.5s
BRVK **Borovoye** 48.09 310 *ceP* P 06 14 37.8 -0.8
BRVK pmax pmax
comp=Z,4.0nm,0.6s
E27K **Coleen River** 48.15 29 IAmb IAmb 06 14 41.1
comp=Z,12nm,1.1s
E27K **Coleen River** 48.15 29 P P 06 14 40.1 +1.3
baz=277
L26K **Log Cabin Wild** 48.16 36 P P 06 14 40.6 +1.6
baz=280,SNR=8.2
BTLS **Baital** 48.16 299 *eP* P 06 14 38.4 -0.8
BTLS pmax pmax
comp=Z,38nm,3.7s
D27M **Malcolm River** 48.26 28 P P 06 14 40.9 +1.3
baz=276
G27K **Doyon Strip** 48.30 31 IAmb IAmb 06 14 44.6
comp=Z,8.4nm,0.7s
G27K **Doyon Strip** 48.30 31 P P 06 14 41.3 +1.3
baz=278,SNR=12
H27K **Steamboat Moun** 48.43 32 IAmb IAmb 06 14 43.8
comp=Z,7.7nm,0.8s
H27K **Steamboat Moun** 48.43 32 P P 06 14 42.4 +1.4
baz=279,SNR=5.9
M26K **Nabesna, AK** 48.43 37 IAmb IAmb 06 14 51.8
comp=Z,8.3nm,1.1s
M26K **Nabesna, AK** 48.43 37 P P 06 14 42.6 +1.5
baz=281,SNR=6.8
VRDI **Verde Repeater** 48.44 39 IAmb IAmb 06 14 43.1
comp=Z,7.4nm,0.8s
I27K **Kandik River** 48.49 33 P P 06 14 42.6 +1.1
baz=279
K27K **Chicken** 48.55 35 IAmb IAmb 06 14 50.6
comp=Z,14nm,0.9s
K27K **Chicken** 48.55 35 P P 06 14 43.1 +1.2
baz=280
MCARA **McCarthy VSAT** 48.61 38 P P 06 14 43.4 +1.0
baz=282
CRQE **Cirque** 48.71 39 P P 06 14 44.7 +1.3
baz=282
AAK **Ala-Archa** 48.72 295 P 06 14 43.2 -0.6
AAK IAmb IAmb 06 14 46.4
comp=Z,14nm,0.9s
AAK **Ala-Archa** 48.72 295 *ceP* P 06 14 43.0 -0.7
AAK pmax pmax
comp=Z,23nm,1.3s
BGLC **Bering Glacier** 48.75 40 P P 06 14 45.0 +1.6
baz=283
L27K **Beaver Creek,** 48.84 36 IAmb IAmb 06 14 46.9
comp=Z,8.5nm,0.8s
L27K **Beaver Creek,** 48.84 36 P P 06 14 45.4 +1.2
baz=281,SNR=12
E28M **Babbage River** 48.85 29 IAmb IAmb 06 14 46.8
comp=Z,12nm,0.9s
E28M **Babbage River** 48.85 29 P P 06 14 45.2 +1.1
baz=278,SNR=9.3
BCAR **Beaver Creek A** 48.85 36 P 06 14 44.9 +0.5
F28M **Old Crow** 48.87 30 IAmb IAmb 06 14 47.4
comp=Z,11nm,0.8s
F28M **Old Crow** 48.87 30 P P 06 14 46.0 +1.6
baz=279,SNR=8.2
KSH **Kashi** 48.89 291 P P 06 14 48.8 +3.8
KSH pmax pmax
comp=Z,7.0nm,1.0s
M27K **Edge Creek, AK** 48.95 37 IAmb IAmb 06 14 47.7
comp=Z,12nm,0.9s
M27K **Edge Creek, AK** 48.95 37 P P 06 14 46.8 +1.6
baz=282,SNR=10
D28M **Stokes Point** 49.03 28 P P 06 14 46.7 +1.2
baz=278
I28M **Miner Creek** 49.20 33 IAmb IAmb 06 14 56.2
comp=Z,14nm,1.0s
I28M **Miner Creek** 49.20 33 P P 06 14 48.2 +1.2
baz=281,SNR=12
GRNC **Granite Creek** 49.36 39 IAmb IAmb 06 14 58.7
comp=Z,13nm,1.2s
MESA **MESA** 49.39 40 P P 06 14 49.5 +0.9
baz=284,SNR=6.4
BVCY **Beaver Creek** 49.40 37 P P 06 14 49.8 +1.3
baz=282
E29M **Blow River** 49.48 29 P P 06 14 51.1 +2.1
baz=280,SNR=11
CTG **Chitna Glacier** 49.50 39 P P 06 14 50.8 +1.4
baz=283
CTGM **Chitina Glacie** 49.50 39 IAmb IAmb 06 14 51.6
comp=Z,8.4nm,0.9s
H29M **Whitestone** 49.69 32 IAmb IAmb 06 14 55.5
comp=Z,10nm,1.1s
H29M **Whitestone** 49.69 32 P P 06 14 52.2 +1.6
baz=281
G29M **Pine Creek** 49.70 31 P P 06 14 52.6 +2.0
baz=281,SNR=7.9
DAWY **Dawson** 49.70 35 P P 06 14 52.0 +1.2
baz=282
YUK3 **Moose Creek** 49.73 38 P P 06 14 52.2 +1.0
baz=283,SNR=6.1
I29M **Ogilvie Camp,** 49.89 33 IAmb IAmb 06 14 54.2
comp=Z,9.0nm,0.8s
I29M **Ogilvie Camp,** 49.89 33 P P 06 14 53.3 +1.2
baz=282,SNR=13
O28M **Mount Upton** 50.09 39 P P 06 14 55.0 +1.0
baz=284
EPYK **Eagle Plains** 50.31 31 P P 06 14 56.9 +1.6
baz=283,SNR=21
G30M **tAoh Zraii Nji** 50.38 30 P P 06 14 57.2 +1.4
baz=283,SNR=11
F30M **Barrier River** 50.41 30 P P 06 14 57.8 +1.9
baz=282,SNR=14
L29M **L29M** 50.47 36 P P 06 14 58.4 +1.9
baz=284,SNR=15
M29M **Somme Creek** 50.48 36 P P 06 14 58.7 +1.9
baz=284,SNR=5.0
K29M **Barlow Dome** 50.56 35 IAmb IAmb 06 15 00.0
comp=Z,9.4nm,0.8s
K29M **Barlow Dome** 50.56 35 P P 06 14 59.3 +2.0
baz=284,SNR=8.1
YUK4 **Talbot Arm** 50.68 38 P P 06 14 59.8 +1.5
baz=285
I30M **Mount Dempster** 50.71 33 P P 06 14 59.7 +1.3
baz=284,SNR=44
PNL **Peninsula** 50.76 40 P P 06 15 00.5 +1.7
baz=286
J30M **Hart River** 50.89 33 IAmb IAmb 06 15 08.3
comp=Z,4.5nm,0.8s
J30M **Hart River** 50.89 33 P P 06 15 01.1 +1.3
baz=284,SNR=6.8
YUK6 **Outpost Mounta** 50.91 38 P P 06 15 01.8 +1.6
baz=286
O29M **Mount Kennedy** 50.99 39 IAmb IAmb 06 15 03.7
comp=Z,6.2nm,0.8s
O29M **Mount Kennedy** 50.99 39 P P 06 15 02.6 +2.0
baz=286
INK **Inuvik** 51.09 28 LR LR 06 39 04.8
comp=Z,28nm,18.1s,baz=265,slow=39
INK **Inuvik** 51.09 28 P P 06 15 02.5 +1.5
INK pmax pmax
comp=Z,19nm,0.9s
INK **Inuvik** 51.09 28 P P 06 15 02.2 +1.2
baz=284,SNR=13
G31M **Satah River** 51.14 30 P P 06 15 02.3 +0.9
baz=284,SNR=10
M30M **Minto, Yukon** 51.20 36 IAmb IAmb 06 15 04.6
comp=Z,4.8nm,0.8s
M30M **Minto, Yukon** 51.20 36 P P 06 15 03.9 +1.9
baz=286,SNR=7.4
F31M **Tsiigehtchic** 51.21 30 P P 06 15 03.1 +1.1
baz=284
KK31 **Karatay Array** 51.25 298 P 06 15 02.0 -0.6
KK31 IAmb IAmb 06 15 05.5
comp=Z,8.8nm,0.8s
KK31 **Karatay Array** 51.25 298 P P 06 15 02.0 -0.6
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR **Karatay Array** 51.25 298 P 06 15 02.1 -0.5
KKAR **Karatay Array** 51.25 298 P P 06 15 02.1 -0.5
MAYO **Mayo, Yukon** 51.32 35 P P 06 15 04.3 +1.4
baz=286
HYT **Haines Junctio** 51.35 38 P P 06 15 05.2 +1.9
baz=286,SNR=24
N30M **Aishikik Lake** 51.37 37 P P 06 15 05.2 +1.9
baz=286
H31M **Peel River** 51.39 32 P P 06 15 05.1 +1.7
baz=285,SNR=24
P29M **Windy Craggy** 51.58 40 P P 06 15 06.6 +1.7
baz=287,SNR=8.5
P30M **Million Dollar** 51.81 39 P P 06 15 08.6 +1.9
baz=287
IUG **luzhnay** 51.95 297 *eP* P 06 15 04.6 -3.4
N31M **Braeburn, Yuko** 51.96 37 P P 06 15 09.6 +1.9
baz=287,SNR=10.0
PLBC **Pleasant Camp** 52.30 40 P P 06 15 11.7 +1.6
baz=288,SNR=5.7
SVE **Sverdlovsk** 52.31 317 *eP* P 06 15 10.7 +0.4
SVE pmax pmax
comp=Z,16nm,0.9s
M31M **Drury Creek, Y** 52.38 36 P P 06 15 12.5 +1.7
baz=288
WHY **Whitehorse** 52.63 38 P P 06 15 14.2 +1.5
baz=288,SNR=5.8
SKAG **Skagway** 52.80 40 P P 06 15 15.4 +1.6
baz=289
A36M **Sachs Harbour** 52.80 23 P P 06 15 14.8 +1.1
baz=288
N32M **Quiet Lake** 53.30 37 IAmb IAmb 06 15 19.9
comp=Z,5.8nm,0.9s
N32M **Quiet Lake** 53.30 37 P P 06 15 19.0 +1.3
baz=290
NIL **Nilore** 53.45 286 P 06 15 19.1 0.0
NIL **Nilore** 53.45 286 P P 06 15 19.1 0.0
NIL pmax pmax
comp=Z,34nm,0.7s
P32M **Atlin** 53.53 39 P P 06 15 20.8 +1.5
baz=290
R32K **Eaglecrest** 53.59 41 IAmb IAmb 06 15 22.6
comp=Z,7.7nm,0.9s
R32K **Eaglecrest** 53.59 41 P P 06 15 21.7 +2.0
baz=290,SNR=6.7
MMPY **Sheldon Lake,** 53.63 35 IAmb IAmb 06 15 22.4
comp=Z,3.7nm,0.6s
MMPY **Sheldon Lake,** 53.63 35 P P 06 15 21.7 +1.7
baz=290,SNR=6.1
ARTI **Arti** 53.63 317 P 06 15 19.7 -0.3
ARTI **Arti** 53.63 317 *c iP* P 06 15 20.1 +0.1
ARTI 06 17 17.8
ARTI S S 06 22 47.4 +0.9
ARTI 06 25 01.4
ARTI pmax pmax
comp=Z,17nm,0.8s
P33M **Teslin, Yukon** 53.74 38 IAmb IAmb 06 15 23.7
comp=Z,12nm,1.0s
P33M **Teslin, Yukon** 53.74 38 P P 06 15 22.6 +1.7
baz=290,SNR=12
S32K **Killisnoo** 53.85 42 P P 06 15 22.4 +0.8
baz=291
C36M **Paulatuk** 54.05 26 P P 06 15 23.8 +0.9
baz=291
SIMJ **Simiganj** 54.16 293 P P 06 15 23.9 -0.5
Q32M **Nakina River** 54.45 39 IAmb IAmb 06 15 29.3
comp=Z,6.5nm,1.1s
Q32M **Nakina River** 54.45 39 P P 06 15 28.2 +2.0
baz=292
R33M **Jennings River** 54.91 39 P P 06 15 31.0 +1.5
baz=292
U33K **Whale Pass** 55.09 43 P P 06 15 32.0 +1.4
baz=293
TGTN **Hyland Airport** 55.33 36 P P 06 15 34.1 +1.7
baz=293
CRAG **Craig** 55.34 44 P P 06 15 34.0 +1.6
baz=293
WRAK **Wrangell Islan** 55.37 42 P P 06 15 34.1 +1.5
baz=293
S34M **Telegraph Cree** 55.40 40 P P 06 15 34.9 +2.1
baz=293
AB31 **Akbulak array** 55.50 308 P 06 15 33.4 -0.3
ABKAR **Akbulak array** 55.50 308 P 06 15 33.2 -0.5
WTLY **Watson Lake, Y** 55.65 37 IAmb IAmb 06 15 37.1
comp=Z,6.4nm,0.9s
WTLY **Watson Lake, Y** 55.65 37 P P 06 15 36.5 +1.9
baz=293
DLBC **Dease Lake** 55.73 40 P P 06 15 37.1 +1.9
baz=294
KBL **Kabul** 56.07 289 P P 06 15 37.7 -0.5
KBL pmax pmax
comp=Z,23nm,1.1s
T35M **Bob Quinn** 56.21 41 IAmb IAmb 06 15 42.3
comp=Z,10nm,0.8s
T35M **Bob Quinn** 56.21 41 P P 06 15 40.6 +1.9
baz=294,SNR=5.3
WRGLY **Wrigley** 56.69 33 IAmb IAmb 06 15 44.5
comp=Z,9.4nm,0.9s
WRGLY **Wrigley** 56.69 33 P P 06 15 43.1 +1.2
baz=296
SPITS **Spitsbergen Ar** 56.82 348 P P 06 15 42.5 -0.2
comp=Z,2.7nm,0.7s,baz=79,slow=6.0,SNR=7.7
comp=Z,2.7nm,0.7s
LIRD **Liard River Hi** 57.18 37 P P 06 15 47.0 +1.5
baz=296,SNR=7.2
KIRV **Kirov** 57.23 321 *ceP* P 06 15 45.7 0.0
TOAD **Toad River Com** 57.83 38 P P 06 15 51.8 +1.7
baz=297,SNR=8.9
APA **Apatity** 59.23 335 *eP* P 06 15 53.7 -5.9
APA *e* 06 25 37.0
APA MLR MLR
comp=Z,616nm,4.0s
ARCES **ARCESS Array B** 60.45 339 P P 06 16 06.8 -1.1
comp=Z,0.6nm,0.3s,baz=79,slow=9.0,SNR=21
comp=Z,0.6nm,0.3s
KLMR **Klimovskoe** 60.55 327 *eP* P 06 16 07.7 -1.0
KLMR *e*PP pP 06 16 32.4 +1.1
KLMR pmax pmax
comp=Z,20nm,1.6s
YKAW3 **Yellowknife Wh** 60.56 31 P 06 16 09.5 +0.7
YKAW3 IAmb IAmb 06 16 09.9
comp=Z,4.1nm,0.8s
YKA **Yellowknife Ar** 60.60 31 P P 06 16 08.2 -0.8
comp=Z,2.7nm,0.8s,baz=310,slow=6.8,SNR=27
comp=Z,2.7nm,0.8s
YKA **Yellowknife Ar** 60.60 31 *i* P P 06 16 09.8 +0.8
YKA pmax pmax
comp=Z,3.0nm,0.8s
WB0 **Warramunga Arr** 60.60 187 P P 06 16 08.3 -1.2
YKAW1 **Yellowknife Wh** 60.66 31 P 06 16 09.8 +0.4
YKAW1 IAmb IAmb 06 16 11.0
comp=Z,8.9nm,1.1s
WRA **Warramunga Arr** 60.78 188 P 06 16 09.4 -1.4
WRA **Warramunga Arr** 60.78 188 P P 06 16 09.4 -1.4
comp=Z,3.0nm,0.5s,baz=7.8,slow=7.7,SNR=58
WRA **Warramunga Arr** 60.78 188 *i* P P 06 16 09.3 -1.4
WRA pmax pmax
comp=Z,3.0nm,0.5s
BELG **Belogornoye** 61.02 316 *i* P P 06 16 12.3 +0.3
BELG pmax pmax
comp=Z,4.0nm,0.8s
MOS **Moscow** 64.20 322 *eP* P 06 16 33.8 +0.7
MOS *e* 06 17 00.4
MOS *e* 06 18 55.1
MOS *e* 06 24 59.7
ASAR **Alice Springs** 64.51 188 P P 06 16 34.8 -0.7
comp=Z,1.4nm,0.7s,baz=3.8,slow=7.8,SNR=15
comp=Z,1.4nm,0.7s
VRH **Novokhopyorsk** 64.76 317 *eP* P 06 16 34.3 -2.5
VRH pmax pmax
comp=Z,10.0nm,0.8s
E03A **Lebam** 64.89 49 P 06 16 39.6 +1.9
E03A IAmb IAmb 06 16 40.8
comp=Z,16nm,1.0s
OBN **Obninsk** 65.05 322 || *eP* P 06 16 38.8 +0.2
OBN *e**PP pP 06 17 01.9 +0.4
OBN *e* 06 19 00.8
OBN *eS* S 06 25 16.8 +3.2
OBN pmax pmax
comp=Z,5.0nm,0.7s
D05A **Enumclaw** 65.43 48 IAmb IAmb 06 16 44.1
comp=Z,14nm,1.0s
FIA1 **FINESS Array S** 65.46 331 P 06 16 41.0 -0.1
FINES **FINESS Array B** 65.46 331 P P 06 16 41.2 0.0
comp=Z,9.8nm,0.7s,baz=51,slow=6.4,SNR=43
comp=Z,9.8nm,0.7s
FINES **FINESS Array B** 65.46 331 P P 06 16 41.3 +0.1
ILON **Igloolik, Nuna** 65.64 15 IAmb IAmb 06 16 42.5
comp=Z,8.4nm,0.9s
BLKN **Baker Lake** 65.96 24 P 06 16 44.8 +0.5
VSR **Storozhevoye** 66.07 318 *eP* P 06 16 43.1 -2.2
VSR pmax pmax
comp=Z,9.0nm,0.9s
LTY **Liberty** 66.14 48 IAmb IAmb 06 16 47.2
comp=Z,5.2nm,0.6s
VORD **Divnogorie** 66.15 317 *eP* P 06 16 43.1 -2.7
VORD pmax pmax
comp=Z,8.0nm,1.0s
H04A **Detroit Lake** 66.73 50 IAmb IAmb 06 16 51.8
comp=Z,7.9nm,1.0s
MXC **Moxie City** 66.74 48 IAmb IAmb 06 16 52.0
comp=Z,8.0nm,0.8s
DZM **Mont Dzumac** 66.78 155 *e*LR LR 06 37 03.6
comp=Z,180nm,24.1s
AKT **Akhty** 66.81 305 *eP* P 06 16 48.9 -1.4
AKT pmax pmax
comp=Z,8.0nm,1.4s
SUMG **Summit** 66.92 360 IAmb IAmb 06 16 54.6
comp=Z,12nm,1.1s
C09A **Chrisman Ranch** 67.15 46 IAmb IAmb 06 16 54.0
comp=Z,11nm,0.8s
D08A **Wollman Farm,** 67.23 47 IAmb IAmb 06 16 54.4
comp=Z,10.0nm,0.6s
HAWA **Hanford** 67.27 48 IAmb IAmb 06 16 55.1
comp=Z,7.2nm,0.7s
E08A **Dider Farm, El** 67.48 48 IAmb IAmb 06 16 56.2
comp=Z,11nm,0.7s
NEW **Newport** 67.50 45 IAmb IAmb 06 16 56.2
comp=Z,5.3nm,0.8s
YPT **Yellepit** 67.79 48 IAmb IAmb 06 16 58.4
comp=Z,9.3nm,0.8s
E09A **Wood Farm, Sta** 67.98 47 IAmb IAmb 06 16 59.5
comp=Z,12nm,0.8s
PINE **Pine Mountain** 67.98 51 IAmb IAmb 06 17 00.4
comp=Z,13nm,0.9s
L04D **Klamath Falls** 68.08 53 IAmb IAmb 06 17 00.8
comp=Z,14nm,0.9s
YBH **Yreka Blue Hor** 68.12 53 IAmb IAmb 06 17 01.7
comp=Z,18nm,1.5s
LNOR **Lincton Mounta** 68.28 48 IAmb IAmb 06 17 02.6
comp=Z,8.1nm,1.2s
KIV **Kislovodsk** 68.41 310 *eP* P 06 17 01.1 +0.8
KIV pmax pmax
comp=Z,25nm,1.0s
KBZ **Khabaz** 68.42 310 P P 06 17 00.8 +0.5
comp=Z,9.2nm,0.8s,baz=34,slow=4.2,SNR=18
comp=Z,9.2nm,0.8s
KBZ **Khabaz** 68.42 310 *ceP* P 06 17 00.3 +0.1
KBZ pmax pmax
comp=Z,8.0nm,0.9s
K05A **Summer Lake** 68.63 52 IAmb IAmb 06 17 04.5
comp=Z,8.9nm,0.8s
MNK **Minsk** 69.35 325 *i* P P 06 17 07.0 +1.2
MNK *i**PP pP 06 17 32.2 +3.3
MNK *i* 06 19 41.2
MNK *i* PPP PPP 06 21 23.1
MNK *i* S S 06 26 06.3 +1.2
MNK *i**SS SKiKP 06 26 50.2 +4.3
MNK *i* 06 26 58.6
MNK *i* SS SS 06 30 36.0 +3.3
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=E,15nm,0.9s
MNK MLR MLR
comp=E,355nm,23.0s
MNK MLR MLR
comp=N,251nm,20.0s
MNK MLR MLR
comp=Z,36nm,13.0s
PLID **Pearl Lake** 70.03 47 P 06 17 10.7 +0.2
FFC **Flin Flon** 70.58 33 P 06 17 14.0 +0.6
FFC IAmb IAmb 06 17 14.6
comp=Z,7.3nm,0.8s
FFC **Flin Flon** 70.58 33 P P 06 17 14.0 +0.6

FFC pmax pmax
comp=Z,7.0nm,0.8s
BPMT Black Pine Rid 70.59 45 P 06 17 14.6 +0.6
HFS Hagfors 70.63 335 P **P 06 17 13.6 0.0**
comp=Z,2.3nm,0.3s,baz=39,slow=7.2,SNR=23
comp=Z,2.3nm,0.3s
NC204 NORSAR Array S 70.64 337 P 06 17 13.8 +0.2
NC204 IAmb IAmb 06 17 16.3
comp=Z,9.6nm,0.9s
NB2 NORSAR Subarra 70.69 337 P **P 06 17 13.5 -0.5**
comp=Z,1.7nm,0.7s,baz=38,slow=6.5
NB2 NORSAR Subarra 70.69 337 P **P 06 17 14.1 +0.1**
NOA NORSAR Array B 70.69 337 P **P 06 17 14.1 +0.1**
comp=Z,2.5nm,0.7s,baz=38,slow=6.1,SNR=11
comp=Z,2.5nm,0.7s
AKASG Malin Array Be 71.29 322 P P 06 17 17.6 0.0
comp=Z,1.4nm,0.4s,baz=46,slow=6.2,SNR=29
comp=Z,1.4nm,0.4s
AKBB Malin Array Si 71.29 322 IAmb IAmb 06 17 19.8
comp=Z,8.8nm,0.8s
AKBB Malin Array Si 71.29 322 *ce*P **P 06 17 17.8 +0.1**
KIEV Kiev 71.30 322 P 06 17 17.5 -0.2
KIEV IAmb IAmb 06 17 19.8
comp=Z,8.4nm,0.8s
KIEV Kiev 71.30 322 ⇑P **P 06 17 17.2 -0.5**
KIEV Kiev 71.30 322 P **P 06 17 17.5 -0.2**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
GURO Guroymak-BITLI 72.06 306 IAmb IAmb 06 17 26.0
comp=Z,9.1nm,0.8s
BOZ Bozeman (W) 72.10 45 IAmb IAmb 06 17 24.7
comp=Z,9.8nm,0.7s
NVAR Mina Array Bea 72.81 54 P 06 17 28.4 +1.1
NVAR Mina Array Bea 72.81 54 P **P 06 17 28.6 +1.2**
comp=Z,2.9nm,0.7s,baz=292,slow=5.6,SNR=32
comp=Z,2.9nm,0.7s
YHL Hebgen Lake 72.83 45 IAmb IAmb 06 17 29.9
comp=Z,7.1nm,0.9s
YHB Horse Butte 72.89 45 IAmb IAmb 06 17 29.8
comp=Z,9.9nm,0.8s
SORM Soroca 73.45 320 ⇑P **P 06 17 30.6 0.0**
SORM Soroca 73.45 320 ⇑P **P 06 17 30.6 0.0**
LAO LASA Array 74.18 41 IAmb IAmb 06 17 36.8
comp=Z,8.7nm,0.8s
S11A Rachel 74.86 53 IAmb IAmb 06 17 41.5
comp=Z,8.9nm,0.7s
FURC Furnace Creek, 74.93 55 IAmb IAmb 06 17 42.4
comp=Z,12nm,0.8s
TPNV Topopah Spring 75.00 54 IAmb IAmb 06 17 42.3
comp=Z,15nm,1.2s
PDAR Pinedale Array 75.09 46 P **P 06 17 41.3 +0.8**
PDAR Pinedale Array 75.09 46 P **P 06 17 41.1 +0.6**
comp=Z,3.7nm,0.7s,baz=276,slow=1.9,SNR=46
comp=Z,3.7nm,0.7s
BURAR Bucovina Array 75.32 321 P 06 17 41.7 +0.1
BURAR IAmb IAmb 06 17 43.1
comp=Z,6.7nm,0.7s
BURAR Bucovina Array 75.32 321 ⇑P **P 06 17 42.2 +0.6**
BURAR Bucovina Array 75.32 321 ⇑P **P 06 17 42.2 +0.6**
TESR Tescani 75.41 320 ⇑P **P 06 17 42.4 +0.4**
BNN Bunyan 75.61 309 IAmb IAmb 06 17 45.0
comp=Z,9.3nm,0.8s
MPU Maple Canyon 75.76 49 IAmb IAmb 06 17 46.3
comp=Z,5.3nm,0.6s
STHS Stebnicka Huta 75.85 324 *e*P **P 06 17 47.1 +2.6**
STHS Stebnicka Huta 75.85 324 *e*P **P 06 17 47.1 +2.6**
NIE Niedzica 76.26 325 *e*P **P 06 17 47.9 +1.1**
NIE Niedzica 76.26 325 P **P 06 17 48.1 +1.3**
BRTR Keskin Array B 76.32 311 P 06 17 47.2 -0.2
BRTR Keskin Array B 76.32 311 P **P 06 17 47.6 +0.1**
comp=Z,1.4nm,0.5s,baz=65,slow=3.4,SNR=11
comp=Z,1.4nm,0.5s
BRTR Keskin Array B 76.32 311 *i*P **P 06 17 47.5 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
ULM Lac du Bonnet 76.40 34 P **P 06 17 47.6 0.0**
comp=Z,5.7nm,0.8s,baz=327,slow=5.6,SNR=9.8
comp=Z,5.7nm,0.8s
LANS Liptovska Anna 76.82 325 *e*P **P 06 17 51.5 +1.5**
LANS Liptovska Anna 76.82 325 *e*P **P 06 17 51.5 +1.5**
KSP Ksiaz 76.87 328 *e*P **P 06 17 51.0 +0.8**
KECS Kecovo 76.87 324 *e*P **P 06 17 52.1 +1.8**
KECS Kecovo 76.87 324 *e*P **P 06 17 52.1 +1.8**
STEB Steborice 76.95 326 *e*P **P 06 17 51.8 +1.1**
VOIR 76.96 320 ⇓P **P 06 17 51.4 +0.5**
VOIR 76.96 320 ⇓P **P 06 17 51.4 +0.5**
MARR Marisel-Cluj 76.99 321 ⇓P **P 06 17 51.0 -0.1**
RSSD Black Hills 77.07 42 P 06 17 51.3 -0.4
RSSD Black Hills 77.07 42 P **P 06 17 51.3 -0.4**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
DRGR 77.10 322 ⇓P **P 06 17 51.5 -0.2**
DRGR 77.10 322 ⇓P **P 06 17 51.5 -0.2**
ARR Arges 77.21 320 ⇓P **P 06 17 53.2 +0.8**
DPC Dobruska-Polom 77.24 327 *e*P **P 06 17 53.3 +1.0**
DPC Dobruska-Polom 77.24 327 *e*P **P 06 17 53.3 +1.0**
KRLC Kraliky 77.26 327 *e*P **P 06 17 52.8 +0.3**
KRLC Kraliky 77.26 327 *e*P **P 06 17 52.8 +0.3**
VYHS Vyhne 77.59 325 *e*P **P 06 17 57.1 +2.8**
VYHS Vyhne 77.59 325 *e*P **P 06 17 57.1 +2.8**
EPLO Experimental L 77.74 33 IAmb IAmb 06 17 55.5
comp=Z,9.8nm,0.9s
U15A North Rim 77.75 52 IAmb IAmb 06 17 58.9
comp=Z,7.6nm,0.9s
CLL Collm 77.80 330 IAmb IAmb 06 17 56.3
comp=Z,5.9nm,0.7s
CLL Collm 77.80 330 *i*P **P 06 17 55.3 -0.1**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 77.80 330 *i*P **P 06 17 55.3 -0.1**
comp=Z,7.0nm,0.8s
VRAC Vranov 77.93 327 LR LR 06 58 01.2
comp=Z,58nm,18.5s,baz=87,slow=40
GZR Gura Zlata 78.09 321 ⇓P **P 06 17 57.3 +0.1**
GZR Gura Zlata 78.09 321 ⇓P **P 06 17 57.3 +0.1**
SURR Surduc 78.14 321 ⇓P **P 06 17 57.3 -0.1**
PV21 Cone Mtn., Par 78.26 49 IAmb IAmb 06 18 00.4
comp=Z,7.4nm,0.8s
PV23 Carpenter Ridg 78.31 49 IAmb IAmb 06 18 00.8
comp=Z,10nm,0.9s
PV14 Lion Creek, Pa 78.36 49 IAmb IAmb 06 18 00.5
comp=Z,6.0nm,0.8s
PV22 Blue Mesa, Par 78.38 49 IAmb IAmb 06 18 01.9
comp=Z,5.6nm,0.7s
ESJX Sierra Juarez 78.39 58 IAmb IAmb 06 18 01.3
comp=Z,11nm,1.0s
PV20 West Nyswonger 78.41 49 IAmb IAmb 06 18 01.2
comp=Z,13nm,0.8s
GLA Glamis 78.42 56 IAmb IAmb 06 18 01.3
comp=Z,11nm,0.8s
PV17 East Wray Mesa 78.46 49 IAmb IAmb 06 18 01.5
comp=Z,9.2nm,0.8s
BZS Buzias 78.48 322 ⇑P **P 06 17 59.1 -0.1**
BZS Buzias 78.48 322 ⇑P **P 06 17 59.1 -0.1**
PV18 Skein Mesa, Pa 78.51 49 IAmb IAmb 06 18 01.8
comp=Z,12nm,0.8s
PV05 Paradox Valley 78.52 49 IAmb IAmb 06 18 02.0
comp=Z,7.9nm,0.8s
PV13 Radium Mtn., P 78.62 49 IAmb IAmb 06 18 02.9
comp=Z,5.7nm,0.7s
PV02 Paradox Valley 78.64 49 IAmb IAmb 06 18 08.0
comp=Z,6.5nm,0.8s
ZVC Zvikov 78.81 328 *e*P **P 06 18 01.4 +0.4**
MDVR Moldovita 79.05 321 ⇑P **P 06 18 02.1 -0.4**
RAYN Ar Rayn 79.18 292 P 06 18 02.8 -0.7
RAYN Ar Rayn 79.18 292 P **P 06 18 02.8 -0.7**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
RONA Rosalia, Austr 79.30 326 *i*P **P 06 18 04.8 +1.1**
comp=Z,5.5nm,0.7s
KHC Kasperske Hory 79.30 328 *ce*P **P 06 18 04.9 +1.2**
KHC pmax pmax
comp=Z,11nm,1.7s
KHC Kasperske Hory 79.30 328 *e*P **P 06 18 04.1 +0.4**
CONA Conrad Observa 79.30 326 *e*P **P 06 18 04.9 +1.1**
comp=Z,3.4nm,0.8s
GERES GERESS Array B 79.48 328 P P 06 18 04.5 -0.2
GERES GERESS Array B 79.48 328 P **P 06 18 05.2 +0.4**
comp=Z,1.2nm,0.5s,baz=35,slow=4.9,SNR=9.0
comp=Z,1.2nm,0.5s
F33A 5 Mile Ranch, 79.56 37 IAmb IAmb 06 18 05.9
comp=Z,6.8nm,0.7s
EKA Eskdalemuir Ar 79.56 340 P **P 06 18 04.8 -0.1**
comp=Z,1.8nm,0.6s,baz=29,slow=4.2,SNR=6.7
comp=Z,1.8nm,0.6s
MMAI Mount Meron Ar 79.74 305 P **P 06 18 07.1 +0.6**
comp=Z,0.8nm,0.3s,baz=13,slow=5.1,SNR=2.5
comp=Z,0.8nm,0.3s
RDO Rodhopi 79.79 316 IAmb IAmb 06 18 08.0
comp=Z,10nm,0.9s
EYMN Ely 80.01 33 P **P 06 18 07.2 -0.3**
EYMN IAmb IAmb 06 18 08.2
comp=Z,11nm,0.9s
BIOA Bad Ischl, Aus 80.42 327 *e*P **P 06 18 10.5 +0.7**
comp=Z,4.3nm,0.6s
SOKA Soboth 80.63 326 *e*P **P 06 18 11.5 +0.5**
comp=Z,12nm,1.1s,SNR=7.8
OBKA Obir 80.97 326 *e*P **P 06 18 12.9 +0.1**
comp=Z,6.0nm,0.7s,SNR=5.3
LESA Schwarzleotal 81.03 328 *e*P **P 06 18 13.8 +0.8**
comp=Z,4.9nm,0.8s
KBA Koelnbreinsper 81.03 327 *e*P **P 06 18 14.0 +0.8**
comp=Z,3.7nm,0.6s
E38A The Farm, Brul 81.04 34 IAmb IAmb 06 18 13.5
comp=Z,7.7nm,0.8s
TUC Tucson 81.44 55 P **P 06 18 16.7 +1.1**
TUC pmax pmax
comp=Z,3.0nm,0.9s
WATA Walderalm 81.54 328 *e*P **P 06 18 16.4 +0.5**
comp=Z,3.6nm,0.6s
WTTA Wattenberg 81.58 328 *i*P **P 06 18 16.7 +0.6**
comp=Z,5.6nm,0.7s
MOTA Moosalm 81.72 328 *i*P **P 06 18 17.1 +0.2**
comp=Z,8.6nm,0.8s
SCHQ Schefferville 81.73 16 P **P 06 18 16.8 +0.2**
comp=Z,5.1nm,0.6s,baz=12,slow=6.2,SNR=8.2
comp=Z,5.1nm,0.6s
RETA Reutte 81.74 329 *e*P **P 06 18 17.2 +0.4**
comp=Z,10nm,0.7s
SQTA Sankt Quirin 81.78 328 *i*P **P 06 18 17.4 +0.3**
comp=Z,5.5nm,0.7s
STAL STALIGIAL 81.94 327 IAmb IAmb 06 18 18.0
comp=Z,9.2nm,0.8s
FETA Feichten 82.14 328 *e*P **P 06 18 19.3 +0.3**
comp=Z,3.5nm,0.6s,SNR=7.5
ANMO Albuquerque 82.22 50 P 06 18 19.9 +0.2
ANMO Albuquerque 82.22 50 P **P 06 18 19.9 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
DAVA Damuels 82.25 329 *i*P **P 06 18 20.0 +0.3**
comp=Z,8.1nm,0.7s,SNR=5.7
ECH Echery 82.52 331 IAmb IAmb 06 18 23.8
comp=Z,11nm,1.2s
CTI Castel Tesino 82.55 327 IAmb IAmb 06 18 21.1
comp=Z,6.1nm,0.7s
G40A Rib Lake 82.68 34 IAmb IAmb 06 18 22.2
comp=Z,8.7nm,0.6s
TUE Stuetta 83.13 329 IAmb IAmb 06 18 27.0
comp=Z,5.1nm,0.7s
SENIN Lac Senin/Sane 84.01 330 IAmb IAmb 06 18 30.7
comp=Z,7.0nm,0.9s
IDI Anoyia 84.38 313 IAmb IAmb 06 18 32.5
comp=Z,7.5nm,0.8s
URZ Urewera 85.22 152 P **P 06 18 36.5 +2.1**
comp=Z,2.0nm,0.3s,baz=314,slow=4.5,SNR=1.6
comp=Z,2.0nm,0.3s
BNI Bardonecchia 85.35 330 IAmb IAmb 06 18 38.5
comp=Z,5.8nm,0.9s
SMWD Samnorwood 85.62 46 IAmb IAmb 06 18 38.5
comp=Z,7.5nm,0.9s
SSB Saint Sauveur 85.96 331 IAmb IAmb 06 18 39.1
comp=Z,5.4nm,0.8s
DKNS Dickens 86.31 48 IAmb IAmb 06 18 42.8
comp=Z,6.9nm,0.9s
PPT2 Papeete2 86.40 117 *e*LR LR 06 46 03.8
comp=Z,76nm,27.2s
PPT2 *e*LR LR 06 46 10.1
comp=Z,114nm,27.8s
POST Post 86.42 48 IAmb IAmb 06 18 42.3
comp=Z,5.3nm,0.9s
OK029 Liberty Lake 86.61 44 IAmb IAmb 06 18 43.0
comp=Z,6.6nm,0.8s
TAOE Nuku Hiva Isla 87.16 104 *e*LR LR 06 46 35.9
comp=Z,166nm,26.2s
SGCY Sterling City 87.48 49 IAmb IAmb 06 18 49.5
comp=Z,5.9nm,1.1s
TRQ Mont Tremblant 87.62 24 IAmb IAmb 06 18 47.0
comp=Z,8.8nm,0.9s
TXAR Lajitas Array 87.88 52 P **P 06 18 48.6 +0.6**
comp=Z,1.7nm,0.8s,baz=296,slow=3.0,SNR=22
comp=Z,1.7nm,0.8s
CCM Cathedral Cave 87.97 39 P **P 06 18 49.0 +0.8**
CCM pmax pmax
comp=Z,10.0nm,1.1s
FCAR Ozark Folk Cen 89.26 41 IAmb IAmb 06 18 55.0
comp=Z,5.6nm,1.0s
PBMO Poplar Bluff 89.38 39 IAmb IAmb 06 18 56.6
comp=Z,8.7nm,1.1s
DRIO Del Rio 89.62 50 IAmb IAmb 06 18 57.2
comp=Z,14nm,1.5s
X40A Basin Creek Fa 90.01 42 IAmb IAmb 06 18 59.7
comp=Z,7.1nm,1.1s
TBI Tubuai 90.52 121 *e*LR LR 06 48 07.2
comp=Z,407nm,36.5s
H06N1 SOCORRO T-PHAS 90.53 64 T T 07 59 54.1
SNR=17
ESDC Sonseca Array 93.88 334 P **P 06 19 15.3 -0.4**
comp=Z,1.1nm,0.7s,baz=21,slow=4.4,SNR=12
comp=Z,1.1nm,0.7s
RKT Rikitea 100.23 112 *e*LR LR 06 52 29.5
comp=Z,3μm,39.0s
TORD Torodi Ar. Bea 114.60 316 PKP **PKiKP 06 24 37.5 -0.9**
comp=Z,0.6nm,0.6s,baz=20,slow=2.2,SNR=4.2
VNDA Vanda 118.73 175 PKP **PKiKP 06 24 44.5 +0.1**
comp=Z,0.4nm,0.9s,baz=316,slow=9.1,SNR=3.6
MAW Mawson 122.89 207 PKP **PKiKP 06 24 52.9 +0.1**
comp=Z,1.4nm,0.8s,baz=297,slow=6.5,SNR=4.6
QSPA South Pole Qui 130.54 180 PKP **PKPdf 06 25 07.5 +0.2**
comp=Z,1.3nm,0.6s,baz=277,slow=1.3,SNR=21
TROLL Troll, Antarti 142.77 200 ⇑P **PKPdf 06 25 25.3 -4.6**
comp=Z,136nm,0.8s
SNAA Sanae 144.31 199 P **PKPab 06 25 30.2 -0.7**
SNAA Sanae 144.31 199 PKP **PKPab 06 25 30.8 0.0**
comp=Z,11nm,0.8s,baz=154,slow=3.3,SNR=58
LPAZ La Paz 144.71 55 PKP **PKPab 06 25 34.1 -0.4**
comp=Z,1.6nm,0.5s,baz=337,slow=2.9,SNR=15
VNA3 Neumayer Olymp 146.18 196 P **PKPdf 06 25 35.6 -0.1**
VNA1 Neumayer--Stat 146.30 198 P **PKPbc 06 25 37.3 +0.1**
H03N2 Juan Fernandez 147.29 90 T T 09 10 36.6
baz=300,slow=76,SNR=55
H03N3 Juan Fernandez 147.31 90 T T 09 10 46.1
baz=300,slow=76,SNR=32
H03N1 Juan Fernandez 147.31 90 T T 09 10 37.9
baz=300,slow=76,SNR=57
SIV San Ignacio 148.57 45 PKPbc **PKPbc 06 25 45.2 +0.1**
comp=Z,8.8nm,0.6s,baz=270,slow=2.0,SNR=33
CFA Coronel Fontan 154.54 78 PKPbc **PKPbc 06 25 57.6 -0.9**
comp=Z,0.7nm,0.5s,baz=257,slow=23,SNR=2.7
CFA PKPab **PKPab 06 26 14.1 +0.7**
comp=Z,2.2nm,0.7s,baz=293,slow=3.8,SNR=8.8
PLCA Paso Flores 155.93 100 PKPab **PKPab 06 26 20.6 +1.4**
comp=Z,2.2nm,1.0s,baz=249,slow=6.1,SNR=3.2
3.7nm,0.9s,baz=316,slow=2.0,SNR=3.5
BRTR Keskin Array B 145.88 312 PKPbc **PKPbc 06 33 43.6 +0.4**
1.1nm,0.7s,baz=100,slow=6.1,SNR=6.1
GERES GERESS Array B 149.53 343 PKPbc **PKiKP 06 33 53.1 +0.2**
0.4nm,0.5s,baz=335,slow=1.4,SNR=2.4

IDC ***15*** *06:15:08.2±6.0, 20°.52S×178°.72W, h591km±67km, mb2.8/5, mbtmp3.7/5, Error ellipse: s-maj=138.1km s-min=26.9km az=157.0*

ISC 15 06:15:09.5±2.0, 20°.1S±0°.9×179°.0W±0°.4, h600km, n10, σ0s77/11, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.76**	**256**	P		**P**	**06 22 23.8**	**+0.2**
ASAR	0.6nm,0.6s,baz=98,slow=7.7,SNR=7.2			PcP		**PcP**	**06 23 56.8**	**+0.1**
	0.5nm,0.8s,baz=94,slow=3.6,SNR=4.8							
	0.6nm,0.6s							
WRA	**Warramunga Arr**	**43.78**	**262**	P		**P**	**06 22 23.9**	**+0.1**
	0.3nm,0.3s,baz=97,slow=8.0,SNR=19							
	0.3nm,0.3s							
NVAR	**Mina Array Bea**	**81.32**	**44**	P		**P**	**06 26 25.4**	**+0.6**
	0.4nm,0.6s,baz=260,slow=5.3,SNR=3.9							
	0.4nm,0.6s							
TXAR	**Lajitas Array**	**87.57**	**58**	P		**P**	**06 26 55.3**	**+0.1**
	0.3nm,0.7s,baz=246,slow=5.4,SNR=2.7							
	0.3nm,0.7s							
PDAR	**Pinedale Array**	**89.25**	**44**	P		**P**	**06 27 02.8**	**-0.1**
	0.4nm,0.4s,baz=234,slow=5.4,SNR=5.2							
	0.4nm,0.4s							
BVAR	**Borovoye Array**	**118.17**	**320**	PKP		**PKiKP**	**06 32 49.5**	**+0.4**
	0.9nm,0.4s,baz=160,slow=1.2,SNR=2.9							
AKASG	**Malin Array Be**	**142.19**	**331**	PKP		**PKPdf**	**06 33 32.3**	**-2.0**
	1.9nm,0.4s,baz=44,slow=4.1,SNR=16							
EKA	**Eskdalemuir Ar**	**144.63**	**4**	PKPbc		**PKPab**	**06 33 39.3**	**-0.2**

BUT ***15*** *06:19:18.9±0.7, 47°.22N±0°.02×113°.21W±0°.02, h16km±4km, Error ellipse: s-maj=3.1km s-min=1.7km az=207.0*

NEIC 15 06:19:18.5±0.6, 47°.23N±0°.01×113°.22W±0°.02, h14km±5km, ML2.7/34, ML3.0/21(BUT), Error ellipse: s-maj=2.5km s-min=1.6km az=48.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SLMT	**Seeley Lake**	**0.19**	**274**			Pb	06 19 23.6	-0.3
SLMT						Sg	06 19 26.4	+0.3
OVMT	**Ovando**	**0.22**	**138**			Pg	06 19 23.7	+0.1
CHMT	**Chamberlain Mo**	**0.32**	**184**			Pg	06 19 25.3	+0.2
CHMT						Sg	06 19 30.1	+0.4
PCMT	**Pistol Creek**	**0.55**	**269**			Pg	06 19 29.7	+0.2
SWMT	**Swartz Lake**	**0.60**	**298**			Pg	06 19 30.3	0.0
MSO	**Missoula**	**0.64**	**231**			Pg	06 19 31.2	+0.2
MSO					Sg	Sg	06 19 38.9	-0.6
LYMT	**Lyon Mountain**	**0.69**	**112**			Pg	06 19 31.6	-0.4
BEMT	**Mount Belmont**	**0.78**	**128**			Pg	06 19 33.3	-0.3
BPMT	**Black Pine Rid**	**0.81**	**191**			Pg	06 19 34.0	-0.2
YBMT	**Yellow Bay**	**0.83**	**320**			Pg	06 19 34.5	-0.2
FBMT	**Ferry Basin**	**0.84**	**283**			Pg	06 19 34.5	-0.2
ALMT	**Alberton, Mont**	**0.86**	**257**			Pg	06 19 35.2	0.0
JTMT	**Jette**	**0.89**	**306**			Pg	06 19 35.3	-0.4
VCMT	**Victor**	**1.03**	**221**			Pb	06 19 38.0	-0.2
NDMT	**Ninemile Divid**	**1.08**	**273**			Pb	06 19 38.8	-0.2
HRY	**Holter Researc**	**1.08**	**118**			Pb	06 19 39.0	-0.1
BLMT	**Blacktail Moun**	**1.10**	**316**			Pb	06 19 39.2	-0.2
BSMT	**Bassoo Peak**	**1.23**	**301**			Pb	06 19 41.6	0.0
BHMT	**Big Hole Peak**	**1.28**	**287**			Pb	06 19 42.7	+0.2
BUT	**Butte**	**1.30**	**159**			Pn	06 19 42.2	-0.2
MKMT	**Mink Peak**	**1.30**	**265**			Pn	06 19 42.5	+0.1
HBMT	**Mount Humbug**	**1.50**	**163**			Pn	06 19 45.0	-0.1
LRMT	**Limekiln Ridge**	**1.50**	**159**			Pn	06 19 45.2	0.0
SXM	**Sixmile**	**1.76**	**127**			Pn	06 19 49.1	+0.4
LDM	**Libby Dam**	**1.87**	**312**			Pn	06 19 50.9	+0.8
DLMT	**Dillon**	**1.92**	**167**			Pn	06 19 50.9	+0.1
DLMT					IAML		06 20 20.1	
	86nm,0.7s							
BOZ	**Bozeman (W)**	**1.97**	**145**			Pn	06 19 51.7	+0.1
BOZ					IAML		06 20 22.5	
	46nm,0.3s							
MKRVA	**Milk River, Al**	**2.14**	**26**			Pn	06 19 55.4	+1.5
HSPGA	**Hill Springs,**	**2.15**	**352**			Pb	06 19 56.7	-0.5
BGMT	**Barton Gulch**	**2.16**	**157**			Pn	06 19 54.3	+0.1
BZMT	**Bozeman Pass**	**2.30**	**133**			Pn	06 19 56.7	+0.5
MCMT	**McKenzie Canyo**	**2.42**	**174**	Pn		Pn	06 19 58.0	+0.2
EGMT	**Eagleton**	**2.47**	**70**			Pn	06 19 59.7	+1.3
MSMT	**Mission Creek**	**2.55**	**128**			Pn	06 20 00.2	+0.7
MOMT	**Monida**	**2.70**	**167**			Pn	06 20 01.9	+0.2
QLMT	**Earthquake Lak**	**2.70**	**152**			Pn	06 20 01.8	+0.1
YHL	**Hebgen Lake**	**2.77**	**148**			Pn	06 20 03.3	+0.6
YHL					IAML		06 20 48.5	
	comp=N,30nm,0.9s							
YHL					IAML		06 20 50.3	
	comp=E,35nm,0.4s							
CRMT	**Chrome Mountai**	**2.77**	**129**			Pn	06 20 03.1	+0.3
NEW	**Newport**	**2.83**	**293**			Pn	06 20 03.5	+0.1
NEW					IAML		06 20 48.2	
	comp=E,30nm,0.5s							
NEW					IAML		06 20 50.8	
	comp=E,20nm,0.6s							
YHB	**Horse Butte**	**2.85**	**150**	Pn	Pn	Pn	06 20 03.9	+0.2
YHB					IAML		06 20 50.9	
	comp=E,30nm,0.8s							
YHB					IAML		06 20 51.1	
	comp=N,25nm,0.6s							
YPDC	**Denny Creek**	**2.87**	**151**			Pn	06 20 04.5	+0.4
PLID	**Pearl Lake**	**2.89**	**223**			Pn	06 20 04.4	+0.1
YMC	**Maple Creek**	**2.91**	**147**			Pn	06 20 05.4	+0.8
YHH	**Holmes Hill**	**2.95**	**145**			Pn	06 20 05.8	+0.6
YPWB	**West Boundary**	**3.01**	**150**			Pn	06 20 07.5	+1.5
F10A	**Beach Ranch, E**	**3.04**	**247**			Pn	06 20 07.4	+1.2
YPM	**Purple Mountai**	**3.05**	**147**			Pn	06 20 08.2	+1.6
YNE	**Yellowstone No**	**3.15**	**134**			Pn	06 20 08.6	+0.7
YNE					IAML		06 21 00.9	
	comp=E,16nm,0.4s							
YPSB	**Soda Butte**	**3.17**	**137**			Pn	06 20 09.4	+1.2
YMP	**Mirror Lake Pl**	**3.28**	**138**			Pn	06 20 10.2	+0.5
YMP					IAML		06 21 04.8	
	comp=N,14nm,0.7s							
YMP					IAML		06 21 06.0	
	comp=E,21nm,0.4s							
MCID	**Moose Creek**	**3.36**	**154**			Pn	06 20 12.0	+1.3
E09A	**Wood Farm, Sta**	**3.46**	**260**	Pn	Pn	Pn	06 20 12.1	+0.3
E09A					IAML		06 21 16.0	
	comp=E,23nm,0.2s							
RLMT	**Red Lodge**	**3.46**	**126**			Pn	06 20 13.7	+1.6
RLMT					IAML		06 21 06.1	
	comp=E,20nm,0.3s							
RLMT					IAML		06 21 09.6	
	comp=E,14nm,0.4s							
BMO	**Blue Mountains**	**3.71**	**232**			Pn	06 20 15.6	+0.1
LNOR	**Lincton Mounta**	**3.75**	**251**			Pn	06 20 17.4	+1.4
LNOR					IAML		06 21 25.1	
	comp=N,8.2nm,1.1s							
LNOR					IAML		06 21 26.4	
	comp=E,8.2nm,1.6s							
HAWA	**Hanford**	**4.42**	**261**	Pn	Pn	Pn	06 20 25.3	+0.2
HAWA					IAML		06 21 41.4	
	comp=E,8.6nm,0.7s							
G08A	**Pilot Rock**	**4.43**	**246**	Pn	Pn	Pn	06 20 26.5	+1.2
G08A					IAML		06 21 57.0	
	comp=E,6.5nm,4.9s							

IDC ***15*** *06:24:29.5±0.6, 13°.14N×50°.35E, h0km, mb4.2/25, mbtmp4.2/27, ML2.2/2, MS3.8/40, Error ellipse: s-maj=15.4km s-min=14.0km az=9.0*

GCMT ***15*** *06:24:31.7±0.4, 13°.31N±0°.03×50°.06E±0°.06, h12km, MW4.8/74, Moment Tensor Solution. s13,c16; s74,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.28±.07; $M_{\theta\theta}$1.25±.05; $M_{\phi\phi}$0.03±.07; $M_{r\theta}$0.67±.22; $M_{r\phi}$-0.13±.06; $M_{\theta\phi}$0.95±.38; Best double couple: $M_0$1.66900×10^{16} NP1:ϕs115.00000°, δ36.00000°, λ-47.00000°. NP2: ϕs245.00000°, δ65.00000°, λ-117.00000°. Principal axes: T 1.4240, Plg16.0000°, Azm354.0000°; N 0.4930, Plg24.0000°, Azm257.0000°; P -1.9140, Plg61.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *06:24:31.7±1.1, 13°.1N±0°.1×50°.33E±0°.03, h10km±1km, mb4.7/35 Error ellipse: s-maj=18.1km s-min=4.8km az=170.0*

ISC 15 06:24:31.2±1.1, 13°.14N±0°.09×50°.35E±0°.06, h10km±6km, n112, σ0s86/101, mb4.5/55, MS3.8/39, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**7.50**	**259**			**Pn**	**06 26 20.0**	**-0.8**
ATD	**Arta Tunnel**	**7.50**	**259**	Pn		Pn	**06 26 21.6**	**+0.8**
	0.4nm,0.3s,baz=66,slow=8.3,SNR=12							
ATD					Sn	**Sn**	**06 27 47.9**	**+2.0**
	0.2nm,0.3s,baz=115,slow=17,SNR=2.0							
	1.0nm,0.3s							
RAYN	**Ar Rayn**	**11.31**	**337**			**Pn**	**06 27 12.4**	**-0.6**
WSAR	**Wadi Sarin**	**12.76**	**37**	Pn		**Pn**	**06 27 33.2**	**+0.4**
	baz=218,slow=20,SNR=1.9							
WSAR					Sn	Sn	06 29 45.4	-10
	baz=197,slow=19,SNR=2.2							
UOSS	**Minazif**	**12.98**	**24**	Pn		**Pn**	**06 27 35.9**	**0.0**
KMBO	**Kilima Mbogo**	**19.22**	**223**	P		**P**	**06 28 55.8**	**-0.1**
	1.1nm,0.3s,baz=48,slow=11,SNR=4.3							
KMBO					LR	LR	06 36 14.8	
	comp=Z,272nm,18.5s,baz=41,slow=37							
KIBK	**Kibwezi**	**19.63**	**219**			**P**	**06 28 59.1**	**-1.1**
EIL	**Elat**	**21.78**	**321**	P		**P**	**06 29 24.2**	**+0.9**
	10nm,0.8s,baz=140,slow=2.8,SNR=8.9							
EIL					Lg	Lg	06 35 50.6	
	0.2nm,0.3s,baz=14,slow=17,SNR=3.7							
EIL					LR	LR	06 37 46.2	
	comp=Z,477nm,18.7s,baz=134,slow=37							

ASF	**Jabal al Asfar**	**22.61**	**329**	LR	LR	06 38 44.8			
	comp=Z,343nm,21.5s,baz=174,slow=38								
GHAJ	**Ghor Haditha**	**22.63**	**325**		**P**	**06 29 29.5**	**-2.9**		
GHAJ				IAmb	IAmb	06 29 36.3			
	comp=Z,33nm,1.0s								
MMAI	**Mount Meron Ar**	**24.04**	**328**	P	**P**	**06 29 47.6**	**+1.0**		
	comp=Z,5.1nm,0.7s,baz=136,slow=11,SNR=6.6								
MMAI				LR	LR	06 40 02.5			
	comp=Z,164nm,19.4s,baz=142,slow=39								
	comp=Z,5.1nm,0.7s								
MARD	**Mardin**	**25.55**	**342**		**P**	**06 30 00.5**	**+0.1**		
MARD				IAmb	IAmb	06 30 09.2			
	comp=Z,16nm,0.9s								
GEVA	**Gevas**	**25.90**	**347**		**P**	**06 30 03.5**	**-0.1**		
GURO	**Guroymak-BITLI**	**26.37**	**345**	P	**P**	**06 30 08.3**	**+0.5**		
GAZ	**Gaziantep**	**26.67**	**336**	P	**P**	**06 30 10.3**	**-0.1**		
KBL	**Kabul**	**27.23**	**35**		**P**	**06 30 15.9**	**+0.2**		
KBL				IAmb	IAmb	06 30 28.0			
	comp=Z,11nm,0.9s								
GNI	**Garni**	**27.36**	**351**	P	**P**	**06 30 16.5**	**-0.2**		
GNI				IAmb	IAmb	06 30 25.4			
	comp=Z,22nm,1.3s								
GNI	**Garni**	**27.36**	**351**	LR	LR	06 42 58.4			
	comp=Z,602nm,18.8s,baz=174,slow=40								
NIL	**Nilore**	**29.18**	**42**	P	**P**	**06 30 33.1**	**+0.2**		
BR131	**Keskin Array S**	**30.31**	**334**	P	**P**	**06 30 43.1**	**+0.1**		
BRTR	**Keskin Array B**	**30.31**	**334**	P	**P**	**06 30 42.5**	**-0.4**		
BRTR	**Keskin Array B**	**30.31**	**334**	P	**P**	**06 30 43.7**	**+0.7**		
	comp=Z,1.0nm,0.8s,baz=159,slow=11,SNR=5.8								
BRTR				LR	LR	06 45 06.0			
	comp=Z,107nm,18.4s,baz=134,slow=41								
	comp=Z,1.0nm,0.8s								
PALK	**Pallekele**	**30.42**	**98**	LR	LR	06 40 18.6			
	comp=Z,106nm,20.2s,baz=319,slow=31								
KBZ	**Khabaz**	**31.15**	**350**	P	**P**	**06 30 51.0**	**+0.8**		
	comp=Z,2.4nm,0.8s,baz=238,slow=8.9,SNR=4.4								
KBZ				LR	LR	06 45 44.6			
	comp=Z,303nm,18.2s,baz=164,slow=41								
	comp=Z,2.4nm,0.8s								
GAR	**Garm**	**31.25**	**31**	P	**P**	**06 30 51.0**	**-0.2**		
GAR				IAmb	IAmb	06 31 01.0			
	comp=Z,21nm,1.4s								
OPO	**Ambohidratompo**	**31.66**	**186**	LR	LR	06 41 54.1			
	comp=Z,138nm,19.8s,baz=160,slow=33								
MANT	**Manisa**	**31.81**	**326**		**P**	**06 30 56.1**	**-0.2**		
MANT				IAmb	IAmb	06 31 04.4			
	comp=Z,14nm,1.1s								
KK31	**Karatay Array**	**34.56**	**26**	P	**P**	**06 31 21.1**	**+1.0**		
KKAR	**Karatay Array**	**34.56**	**26**	P	**P**	**06 31 21.1**	**+1.0**		
LSZ	**Lusaka**	**35.74**	**219**	LR	LR	06 46 45.4			
	comp=Z,335nm,19.0s,baz=34,slow=37								
AAK	**Ala-Archa**	**36.07**	**31**	P	**P**	**06 31 33.3**	**+0.1**		
AAK				IAmb	IAmb	06 31 50.4			
	comp=Z,11nm,1.2s								
AAK	**Ala-Archa**	**36.07**	**31**	P	**P**	**06 31 32.5**	**-0.7**		
AAK				LR	LR	06 48 29.7			
	comp=Z,1.4nm,0.3s,baz=247,slow=6.6,SNR=3.6								
	comp=Z,130nm,20.6s,baz=236,slow=40								
	comp=Z,1.4nm,0.3s								
AB31	**Akbulak array**	**36.88**	**10**		**P**	**06 31 40.0**	**+0.2**		
ABKAR	**Akbulak array**	**36.88**	**10**	P	**P**	**06 31 40.1**	**+0.3**		
EVN	**Everest**	**37.03**	**61**	P	**P**	**06 31 41.2**	**-1.0**		
EVN				IAmb	IAmb	06 31 43.5			
	comp=Z,9.6nm,1.0s								
TARG	**Taragay, Kyrgy**	**37.18**	**35**	P	**P**	**06 31 43.9**	**+0.9**		
TARG				IAmb	IAmb	06 31 51.8			
	comp=Z,16nm,1.1s								
AKTO	**Aktyubinsk**	**37.72**	**8**	P	**P**	**06 31 46.5**	**-0.4**		
	comp=Z,1.2nm,0.3s,baz=203,slow=9.9,SNR=4.8								
AKTO				LR	LR	06 50 34.5			
	comp=Z,165nm,19.9s,baz=212,slow=42								
	comp=Z,1.2nm,0.3s								
MLR	**Muntele Rosu**	**38.32**	**332**	LR	LR	06 49 33.2			
	comp=Z,145nm,18.3s,baz=154,slow=39								
MATP	**Matopo**	**39.67**	**213**	LR	LR	06 48 14.0			
	comp=Z,104nm,21.4s,baz=44,slow=36								
BURAR	**Bucovina Array**	**40.27**	**334**	P	**P**	**06 32 09.3**	**+0.8**		
KIEV	**Kiev**	**41.22**	**340**	P	**P**	**06 32 16.0**	**-0.1**		
KIEV				IAmb	IAmb	06 32 16.6			
	comp=Z,8.0nm,0.8s								
AKASG	**Malin Array Be**	**41.23**	**340**	P	**P**	**06 32 15.6**	**-0.6**		
	comp=Z,3.7nm,0.8s,baz=152,slow=7.3,SNR=15								
AKASG				PcP	**PcP**	**06 34 15.8**	**+0.7**		
	comp=Z,1.4nm,0.8s,baz=132,slow=2.3,SNR=5.8								
AKASG				LR	LR	06 52 17.6			
	comp=Z,84nm,18.5s,baz=66,slow=40								
	comp=Z,3.7nm,0.8s								
AKBB	**Malin Array Si**	**41.23**	**340**	P	**P**	**06 32 16.0**	**-0.2**		
AKBB				IAmb	IAmb	06 32 16.6			
	comp=Z,9.4nm,0.8s								
KOLS	**Kolonicke sedl**	**42.56**	**333**	*eP*	**P**	**06 32 29.6**	**+2.4**		
BVAR	**Borovoye Array**	**42.88**	**18**	P	**P**	**06 32 29.8**	**+0.1**		
	comp=Z,1.7nm,0.7s,baz=191,slow=7.1,SNR=6.8								
BVAR				PcP	**PcP**	**06 34 20.8**	**+0.3**		
	comp=Z,4.8nm,0.7s,baz=208,slow=2.9,SNR=15								
BVAR				LR	LR	06 52 59.1			
	comp=Z,154nm,20.1s,baz=212,slow=40								
	comp=Z,1.7nm,0.7s								
MKAR	**Makanchi Array**	**42.94**	**32**	P	**P**	**06 32 30.6**	**+0.3**		
	comp=Z,2.1nm,0.6s,baz=220,slow=8.1,SNR=12								
MKAR				LR	LR	06 52 40.5			
	comp=Z,94nm,20.6s,baz=253,slow=39								
	comp=Z,2.1nm,0.6s								
KEST	**Kesra**	**43.16**	**309**	LR	LR	06 50 10.7			
	comp=Z,93nm,21.6s,baz=352,slow=36								
OBN	**Obninsk**	**43.25**	**348**	LR	LR	06 54 30.9			
	comp=Z,80nm,18.2s,baz=182,slow=42								
TAM	**Tamanrasset**	**43.56**	**289**	P	**P**	**06 32 36.0**	**+0.2**		
ARTI	**Arti**	**43.60**	**6**	LR	LR	06 54 08.8			
KURBB	**Kurchatov Arra**	**43.86**	**26**	P	**P**	**06 32 38.0**	**+0.4**		
	comp=Z,1.3nm,0.7s,baz=226,slow=8.2,SNR=9.2								
KURBB				PcP	**PcP**	**06 34 23.9**	**+0.1**		
	comp=Z,0.9nm,0.8s,baz=226,slow=3.9,SNR=5.9								
KURBB				LR	LR	06 53 19.1			
	comp=Z,87nm,18.3s,baz=170,slow=39								
	comp=Z,1.3nm,0.7s								
RONA	**Rosalia, Austr**	**44.62**	**327**	P	**P**	**06 32 44.4**	**+0.5**		
	comp=Z,4.5nm,1.2s								
LBTB	**Lobatse**	**44.95**	**213**	LR	LR	06 50 35.5			
	comp=Z,187nm,20.6s,baz=32,slow=35								
CONA	**Conrad Observa**	**45.00**	**327**	P	**P**	**06 32 47.2**	**+0.3**		
	comp=Z,6.5nm,1.3s								
KIRV	**Kirov**	**45.37**	**359**	LR	LR	06 55 52.8			
	comp=Z,164nm,18.2s,baz=188,slow=42								
KBA	**Koelnbreinsper**	**45.85**	**325**	*eP*	**P**	**06 32 53.9**	**+0.1**		
	comp=Z,7.2nm,1.7s								
SUW	**Suwalki**	**46.07**	**338**	P	**P**	**06 32 55.1**	**0.0**		
GEC2	**GERESS Array S**	**46.70**	**327**	P	**P**	**06 33 00.2**	**-0.1**		
GEC2				IAmb	IAmb	06 33 00.4			
	comp=Z,5.3nm,1.2s								
GERES	**GERESS Array B**	**46.70**	**327**	P	**P**	**06 33 00.0**	**-0.3**		
GERES	**GERESS Array B**	**46.70**	**327**	P	**P**	**06 32 58.9**	**-1.4**		
	comp=Z,0.6nm,0.6s,baz=119,slow=4.7,SNR=6.2								
GERES				PcP	**PcP**	**06 34 33.5**	**-0.3**		
	comp=Z,1.7nm,0.7s,baz=132,slow=4.0,SNR=11								
	comp=Z,0.6nm,0.6s								
WTTA	**Wattenberg**	**46.92**	**324**	P	**P**	**06 33 01.8**	**-0.4**		
	comp=Z,10.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**46.95**	**77**	P	**P**	**06 33 02.4**	**-0.3**		
	comp=Z,4.7nm,0.8s,baz=276,slow=8.9,SNR=25								
CMAR				PcP	**PcP**	**06 34 35.0**	**-0.2**		
	comp=Z,0.6nm,0.3s,baz=271,slow=5.2,SNR=5.1								
CMAR				LR	LR	06 52 19.7			
	comp=Z,27nm,18.4s,baz=205,slow=36								
	comp=Z,4.7nm,0.8s								
WATA	**Walderalm**	**46.99**	**324**	*eP*	**P**	**06 33 02.1**	**-0.6**		
	comp=Z,3.5nm,0.8s								
SQTA	**Sankt Quirin**	**47.14**	**324**	*eP*	**P**	**06 33 03.3**	**-0.5**		
	comp=Z,3.0nm,0.7s								
MOTA	**Moosalm**	**47.26**	**324**	*eP*	**P**	**06 33 04.1**	**-0.7**		
	comp=Z,7.8nm,1.2s								
TORD	**Torodi Ar. Bea**	**47.31**	**276**	P	**P**	**06 33 05.5**	**0.0**		
	comp=Z,3.1nm,0.9s,baz=81,slow=8.4,SNR=3.8								
TORD				PcP	**PcP**	**06 34 36.0**	**-0.6**		
	comp=Z,1.5nm,0.9s,baz=73,slow=4.7,SNR=5.4								
	comp=Z,3.1nm,0.9s								
DAVA	**Damuels**	**47.94**	**323**	*eP*	**P**	**06 33 09.6**	**-0.5**		
	comp=Z,4.1nm,0.7s								
BOSA	**Boshof**	**48.08**	**210**	LR	LR	06 52 48.3			
	comp=Z,131nm,18.4s,baz=64,slow=35								
CLL	**Collm**	**48.55**	**329**	*i* P	**P**	**06 33 15.0**	**+0.4**		
	comp=Z,3.0nm,0.6s								
ZALV	**Zalesovo Beam**	**48.94**	**26**	P	**P**	**06 33 17.1**	**-0.4**		
ZALV	**Zalesovo Beam**	**48.94**	**26**	P	**P**	**06 33 15.8**	**-1.7**		
	comp=Z,2.4nm,0.6s,baz=230,slow=8.0,SNR=7.2								
ZALV				LR	LR	06 56 28.9			
	comp=Z,59nm,18.2s,baz=220,slow=39								
	comp=Z,2.4nm,0.6s								
SENIN	**Lac Senin/Sane**	**49.01**	**321**	P	**P**	**06 33 18.4**	**0.0**		
SENIN				IAmb	IAmb	06 33 33.3			
	comp=Z,6.4nm,0.9s								
PZH	**PanZhiHua**	**49.84**	**66**	P	**P**	**06 33 26.8**	**+1.8**		
GTA	**Gaotai**	**50.71**	**50**	*eP*	**P**	**06 33 32.1**	**+0.7**		
GTA				sP	pwP	06 33 52.5	+16		
GTA				pmax	pmax				
	comp=Z,5.0nm,1.2s								
FIA1	**FINESS Array S**	**51.34**	**345**	P	**P**	**06 33 35.5**	**-0.1**		
FINES	**FINESS Array B**	**51.34**	**345**	P	**P**	**06 33 35.2**	**-0.3**		
FINES	**FINESS Array B**	**51.34**	**345**	P	**P**	**06 33 35.1**	**-0.4**		
	comp=Z,8.6nm,0.8s,baz=126,slow=9.7,SNR=20								
FINES				LR	LR	06 58 40.5			
	comp=Z,86nm,18.6s,baz=135,slow=40								
	comp=Z,8.6nm,0.8s								
LZH	**Lanzhou**	**53.00**	**55**	*eP*	P	06 33 40.6	-8.0		
LZH				pP	pP	06 33 45.8	-5.5		
LZH				pmax	pmax				
	comp=Z,16nm,1.2s								
MDT	**Midelt**	**53.64**	**301**	LR	LR	06 57 47.9			
	comp=Z,88nm,18.3s,baz=108,slow=37								
HFS	**Hagfors**	**54.08**	**338**	P	**P**	**06 33 55.0**	**-0.9**		
	comp=Z,4.8nm,0.8s,baz=127,slow=11,SNR=6.6								
HFS				LR	LR	07 00 09.5			
	comp=Z,108nm,19.1s,baz=126,slow=40								
	comp=Z,4.8nm,0.8s								
ESBB	**Sonseca Array**	**54.39**	**310**	P	**P**	**06 33 58.8**	**+0.2**		
ESBB				IAmb	IAmb	06 33 59.1			
	comp=Z,5.0nm,0.9s								
ESDC	**Sonseca Array**	**54.39**	**310**	P	**P**	**06 33 58.6**	**0.0**		
ESDC				IAmb	IAmb	06 34 10.8			
	comp=Z,6.1nm,1.4s								
ESDC	**Sonseca Array**	**54.39**	**310**	P	**P**	**06 33 58.5**	**-0.1**		
	comp=Z,2.4nm,0.7s,baz=92,slow=6.6,SNR=21								
	comp=Z,2.4nm,0.7s								
NB2	**NORSAR Subarra**	**55.60**	**338**	P	**P**	**06 34 05.4**	**-1.5**		
	comp=Z,3.2nm,0.7s,baz=128,slow=7.9								
NOA	**NORSAR Array B**	**55.60**	**338**	P	**P**	**06 34 05.8**	**-1.1**		
	comp=Z,2.2nm,0.8s,baz=128,slow=7.3,SNR=5.6								
NOA				LR	LR	07 01 06.4			
	comp=Z,87nm,19.9s,baz=145,slow=40								
	comp=Z,2.2nm,0.8s								
LVZ	**Lovozero**	**55.67**	**353**	P	**P**	**06 34 07.3**	**-0.1**		
LVZ				IAmb	IAmb	06 34 12.9			
	comp=Z,11nm,1.0s								
XAN	**Xi'an**	**56.80**	**58**	P	**P**	**06 34 16.4**	**+0.4**		
XAN				PcP	**PcP**	**06 35 15.3**	**+3.5**		
XAN				pmax	pmax				
	comp=Z,9.0nm,1.0s								
SONM	**Songino Array**	**57.76**	**41**	P	**P**	**06 34 23.1**	**+0.4**		
SONM				IAmb	IAmb	06 34 24.5			
	comp=Z,4.7nm,0.9s								
SONM	**Songino Array**	**57.76**	**41**	P	**P**	**06 34 23.0**	**+0.3**		
	comp=Z,4.1nm,0.8s,baz=243,slow=7.6,SNR=13								
SONM				LR	LR	07 02 44.3			
	comp=Z,59nm,18.6s,baz=286,slow=40								
	comp=Z,4.1nm,0.8s								
KEV	**Kevo**	**58.47**	**351**	P	**P**	**06 34 26.7**	**-0.3**		
KEV				IAmb	IAmb	06 34 27.8			
	comp=Z,11nm,0.9s								
ARCES	**ARCESS Array B**	**58.51**	**350**	P	**P**	**06 34 26.9**	**-0.5**		
ARCES				IAmb	IAmb	06 34 33.8			
	comp=Z,11nm,1.1s								
ARCES	**ARCESS Array B**	**58.51**	**350**	P	**P**	**06 34 26.6**	**-0.8**		
	comp=Z,7.2nm,0.8s,baz=146,slow=6.9,SNR=18								
ARCES				LR	LR	07 02 22.6			
	comp=Z,115nm,19.3s,baz=136,slow=39								
	comp=Z,7.2nm,0.8s								
BTO	**Baotou**	**58.61**	**50**	*eP*	**P**	**06 34 26.9**	**-1.8**		
BTO				pP	**pP**	**06 34 31.8**	**+0.4**		
BTO				sP	**pwP**	**06 34 33.9**	**-0.1**		
BTO				pmax	pmax				
	comp=Z,30nm,0.6s								
BTO				pmax	pmax				
	comp=Z,170nm,5.5s								
HHC	**Hu-ho-hao-te**	**59.81**	**50**	*eP*	**P**	**06 34 37.0**	**0.0**		
HHC				pmax	pmax				
	comp=Z,9.0nm,0.6s								
HHC				pmax	pmax				
	comp=Z,140nm,4.5s								
XLT	**XiLinHaoTe**	**63.55**	**47**	*eP*	**P**	**06 35 03.4**	**+1.2**		
XLT				sP	pwP	06 35 10.9	+3.4		
XLT				PcP	**PcP**	**06 35 39.6**	**+0.9**		
XLT				pmax	pmax				
	comp=Z,7.0nm,0.8s								
NJ2	**Nanjing**	**65.02**	**61**	*eP*	**P**	**06 35 12.1**	**+0.2**		
NJ2				pmax	pmax				
	comp=Z,11nm,0.9s								
SPITS	**Spitsbergen Ar**	**67.20**	**353**	P	**P**	**06 35 23.9**	**-1.2**		
	comp=Z,7.0nm,0.8s,baz=126,slow=8.6,SNR=5.1								
SPITS				LR	LR	07 07 51.3			
	comp=Z,81nm,19.9s,baz=133,slow=39								
	comp=Z,7.0nm,0.8s								
JMIC	**Jan Mayen**	**67.76**	**342**	LR	LR	07 07 01.4			
	comp=Z,29nm,19.3s,baz=157,slow=38								
BORG	**Borgarnes**	**70.41**	**334**	LR	LR	07 09 24.6			
	comp=Z,34nm,18.4s,baz=86,slow=38								
KAPI	**Kappang**	**71.23**	**100**	LR	LR	07 06 45.8			
	comp=Z,64nm,18.1s,baz=206,slow=36								
HEH	**HeiHe**	**71.75**	**41**	*eP*	**P**	**06 35 53.4**	**-0.3**		
HEH				pmax	pmax				
	comp=Z,11nm,0.9s								
KSRS	**Korea Array**	**72.33**	**55**	P	**P**	**06 35 56.8**	**-0.6**		
	comp=Z,1.6nm,0.8s,baz=292,slow=3.8,SNR=3.3								
	comp=Z,1.6nm,0.8s								
TIXI	**Tiksi**	**74.00**	**19**	LR	LR	07 12 13.2			
	comp=Z,74nm,18.5s,baz=341,slow=39								
USRK	**Ussuriysk Ar.**	**75.01**	**47**	LR	LR	07 13 43.7			
	comp=Z,58nm,18.9s,baz=322,slow=39								
MAW	**Mawson**	**81.03**	**175**	P	**P**	**06 36 44.6**	**-1.2**		
	comp=Z,1.3nm,0.9s,baz=348,slow=9.0,SNR=4.8								
	comp=Z,1.3nm,0.9s								
WRA	**Warramunga Arr**	**88.89**	**111**		**P**	**06 37 26.2**	**-0.2**		
WRA	**Warramunga Arr**	**88.89**	**111**	P	**P**	**06 37 26.8**	**+0.4**		
	comp=Z,1.5nm,0.7s,baz=300,slow=3.7,SNR=31								
	comp=Z,1.5nm,0.7s								
ASAR	**Alice Springs**	**89.42**	**114**	P	**P**	**06 37 29.3**	**+0.4**		
	comp=Z,1.1nm,0.7s,baz=289,slow=4.5,SNR=13								
	comp=Z,1.1nm,0.7s								
RES	**Resolute Bay**	**89.72**	**351**	LR	LR	07 21 44.4			
	comp=Z,39nm,18.1s,baz=28,slow=38								
INK	**Inuvik**	**98.73**	**1**	LR	LR	07 30 05.5			
	comp=Z,38nm,19.6s,baz=57,slow=40								
NVAR	**Mina Array Bea**	**127.52**	**349**	PKP	**PKiKP**	**06 43 38.5**	**+0.5**		
	comp=Z,1.2nm,0.8s,baz=3.8,slow=1.0,SNR=10								
TXAR	**Lajitas Array**	**130.89**	**330**	PKP	**PKPdf**	**06 43 42.8**	**-0.9**		
	comp=Z,0.3nm,0.8s,baz=116,slow=2.9,SNR=3.5								

IDC ***15*** *06:25:52.1±1.4,24.2°18S×67.0°02W,h155km±13km,mb4.2/16, mbtmp4.6/23,Error ellipse: s-maj=14.2km s-min=8.3km az=76.0*

VAO ***15*** *06:25:52.6±0.6,24.1°14S×67.0°09W,h170km±4km,mb4.8*

NEIC ***15*** *06:25:52.5±1.9,24.2°22S±0.0°06×67.0°08W±0.0°09,h162km±6km, mb4.8/371,Mww4.9/14,Mwr4.9(GUC),Error ellipse: s-maj=11.6km s-min=8.6km az=82.0*

SJA ***15*** *06:25:52.6±1.1,24.1°21S×67.2°1W,h191km±6km,ML4.7, MW4.5*

NEIC ***15*** *06:25:53,24.2°23S×67.0°09W,h160km*

NEIC ***15*** *06:25:53,24.3°33S×67.0°09W,h160km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10¹⁶Nm; Mrr-1.28; Mθθ-1.24; Mφφ2.52; Mrθ0.29; Mθφ0.49; Mφr-0.80; Fault plane solution: M₀2.39000×10¹⁶ NP1: φs336.20000°,δ66.66000°,λ-134.05000°. NP2: φs223.93000°,δ48.70000°,λ-31.82000°. Principal axes: T 2.7210, Plg11.0000°, Azm96.0000°; N -0.9700, Plg40.0000°, Azm357.0000°; P -1.7510, Plg48.0000°, Azm199.0000°;*

GUC ***15*** *06:25:54.9±0.7,24.1°19S×67.4°1W,h201km±12km,ML5.0*

ISC 15 06:25:52.6±0.5,24°23S±0.0°03×67°20W±0.0°03,h171km±5km, n375,σ1°§46/242,mb4.8/179,12C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALTA		**0.78**	**90**	*eP*		**Pn**	**06 26 21.2**	**+2.7**
SALTA				*eS*		**S**	**06 26 42.5**	**+4.3**
SALTA				IAML			06 26 49.3	
	comp=Z,1μm,0.8s							
AF01	**San Pedro de A**	**1.56**	**325**			**Pn**	**06 26 27.8**	**+2.9**
AF01	**San Pedro de A**	**1.56**	**325**	*i* P		**Pn**	**06 26 27.7**	**+2.9**
AF01				IAML			06 26 55.6	
	comp=E,5μm,0.5s							
AF01	**San Pedro de A**	**1.56**	**325**	*eP*		**Pn**	**06 26 27.4**	**+2.6**
AF01				*eS*		**S**	**06 26 51.6**	**+2.2**
AF01				IAML			06 27 15.9	
	comp=Z,2μm,0.5s							
SLA	**San Lorenzo**	**1.62**	**108**	*eP*		**Pn**	**06 26 28.1**	**+2.9**
SLA				*eS*		**S**	**06 26 53.5**	**+3.3**
SLA				IAML			06 26 54.6	
	comp=Z,2μm,1.7s							
FSA	**Cafayete**	**2.17**	**150**	*eP*		**Pn**	**06 26 33.4**	**+2.2**
FSA				*eS*		**S**	**06 27 03.3**	**+2.3**
GO02	**Mina Guanaco**	**2.37**	**246**			**Pn**	**06 26 36.0**	**+2.5**
GO02	**Mina Guanaco**	**2.37**	**246**	*i* P		**Pn**	**06 26 36.1**	**+2.5**
GO02				*eS*		**S**	**06 27 07.6**	**+2.4**
GO02				IAML			06 27 08.8	
	comp=N,11μm,0.3s							
GO02	**Mina Guanaco**	**2.37**	**246**	*eP*		**Pn**	**06 26 36.0**	**+2.5**
GO02				*eS*		**S**	**06 27 07.5**	**+2.3**
GO02				IAML			06 27 08.9	
	comp=Z,7μm,0.4s							
YJA	**Yavi**	**2.57**	**37**	*eP*		**Pn**	**06 26 38.1**	**+2.0**
YJA				*eS*		**S**	**06 27 11.5**	**+1.8**
PB06	**IPOC Station P**	**2.66**	**304**			**Pn**	**06 26 39.1**	**+2.1**
PB06	**IPOC Station P**	**2.66**	**304**	*i* P		**Pn**	**06 26 39.0**	**+2.1**
PB06				*i* S		**S**	**06 27 12.1**	**+1.0**
PB06	**IPOC Station P**	**2.66**	**304**	*eP*		**Pn**	**06 26 39.0**	**+2.1**
PB06				*eS*		**S**	**06 27 12.4**	**+1.3**
PB06				IAML			06 27 14.9	
	comp=Z,5μm,0.1s							
PB14	**IPOC Station P**	**2.95**	**262**			**Pn**	**06 26 42.0**	**+1.5**
PB14	**IPOC Station P**	**2.95**	**262**	*eP*		**Pn**	**06 26 42.1**	**+1.5**
PB14				IAML			06 27 20.8	
	comp=E,1μm,0.3s							
PB14	**IPOC Station P**	**2.95**	**262**	*eP*		**Pn**	**06 26 42.0**	**+1.5**
PB14				*eS*		**S**	**06 27 18.6**	**+0.9**
PB14				IAML			06 27 22.8	
	comp=Z,1μm,0.2s							
PB09	**IPOC Station P**	**3.07**	**322**			**Pn**	**06 26 44.1**	**+2.2**
PB09	**IPOC Station P**	**3.07**	**322**	*eP*		**Pn**	**06 26 44.1**	**+2.2**
PB09				*eS*		**S**	**06 27 21.3**	**+1.1**
PB09				IAML			06 27 22.4	
	comp=N,5μm,0.3s							
PB09	**IPOC Station P**	**3.07**	**322**	*eP*		**Pn**	**06 26 43.9**	**+2.0**
PB09				*eS*		**S**	**06 27 20.7**	**+0.5**
PB09				IAML			06 27 22.2	
	comp=Z,5μm,0.5s							
PB05	**IPOC Station P**	**3.08**	**296**			**Pn**	**06 26 43.4**	**+1.4**
PB05	**IPOC Station P**	**3.08**	**296**	*i* P		**Pn**	**06 26 43.4**	**+1.4**
PB05				IAML			06 27 23.7	
	comp=N,2μm,0.4s							
PB05	**IPOC Station P**	**3.08**	**296**	*eP*		**Pn**	**06 26 43.4**	**+1.4**
PB05				*eS*		**S**	**06 27 20.2**	**-0.1**
PB05				IAML			06 27 22.5	
	comp=Z,1μm,0.7s							
AC02	**Maricunga**	**3.12**	**214**			**Pn**	**06 26 45.3**	**+2.4**
AC02	**Maricunga**	**3.12**	**214**	*eP*		**Pn**	**06 26 45.0**	**+2.2**
AC02				*eS*		**S**	**06 27 23.6**	**+1.8**
AC02				IAML			06 27 33.2	
	comp=Z,410nm,0.2s							
PB10	**IPOC Station P**	**3.16**	**282**			**Pn**	**06 26 44.6**	**+1.8**
PB10	**IPOC Station P**	**3.16**	**282**	*i* P		**Pn**	**06 26 44.6**	**+1.8**
PB10				IAML			06 27 27.6	
	comp=N,2μm,0.3s							
PB10	**IPOC Station P**	**3.16**	**282**	*eP*		**Pn**	**06 26 44.5**	**+1.6**
PB10				*eS*		**S**	**06 27 22.1**	**+0.4**
PB10				IAML			06 27 25.5	
	comp=Z,1μm,0.6s							
PB03	**IPOC Station P**	**3.20**	**312**			**Pn**	**06 26 45.1**	**+1.5**
PB03	**IPOC Station P**	**3.20**	**312**	*i* P		**Pn**	**06 26 45.1**	**+1.5**
PB03	**IPOC Station P**	**3.20**	**312**	*eP*		**Pn**	**06 26 44.9**	**+1.4**
PB03				*eS*		**S**	**06 27 23.1**	**0.0**
PB03				IAML			06 27 26.8	
	comp=Z,3μm,0.3s							
AC01	**Pan de Azucar**	**3.62**	**238**			**Pn**	**06 26 49.3**	**+0.6**
AC01	**Pan de Azucar**	**

NNA Nana 15.23 321 P P 06 29 21.4 +1.2
comp=Z,22nm,0.8s,baz=162,slow=11,SNR=15
NNA S S 06 32 09.2 -2.0
comp=Z,10nm,0.8s,baz=215,slow=6.6,SNR=4.0
CNLB Canela 15.45 113 eP P 06 29 20.1 -2.4
PDRB Porto dos Gac 16.01 40 eP P 06 29 27.7 -1.0
FRTB Fartura 16.17 90 eP P 06 29 29.4 -1.1
ITRB Iturama 16.25 77 eP P 06 29 30.2 -1.2
PLCA Paso Flores 16.69 189 P Pn 06 29 37.4 +0.7
comp=Z,4.2nm,0.4s,baz=9.0,slow=9.7,SNR=49
PLCA Paso Flores 16.69 189 eP Pn 06 29 37.7 +0.9
ARAG Araguaiana, MT 16.75 62 eP P 06 29 35.6 -1.3
CLDB Colider 17.15 41 eP P 06 29 40.2 -1.1
CZSB Cruzeiro do Su 17.24 341 P Pn 06 29 42.1 -1.3
CZSB Cruzeiro do Su 17.24 341 eP Pn 06 29 42.1 -1.3
BB19B Bebedouro 17.52 83 eP P 06 29 45.6 +0.3
SPB Sao Paulo 18.08 92 P P 06 29 50.6 -0.8
SPB Sao Paulo 18.08 92 eP P 06 29 50.6 -0.8
RCLB Rio Claro- Sao 18.15 88 eP P 06 29 51.5 -0.7
PET01 Itanhaem-SP 18.17 94 eP P 06 29 51.5 -0.8
VAO Valinhos 18.58 90 P P 06 29 55.9 -1.1
VAO Valinhos 18.58 90 eP P 06 29 55.9 -1.1
IPMB Ipameri, GO 18.76 74 eP P 06 29 58.3 -0.7
SNDB Serra Nova Dou 19.39 54 eP P 06 30 04.2 -1.6
PARB Paraibuna 19.76 92 eP P 06 30 08.9 -0.9
BDFB Brasilia 19.94 68 P P 06 30 10.8 -0.9
BDFB Brasilia 19.94 68 eP P 06 30 11.2 -0.5
comp=Z,84nm,0.5s,baz=241,slow=10.0,SNR=151
TBTG Tabatinga, AM 20.10 352 P P 06 30 14.0 +0.7
TBTG Tabatinga, AM 20.10 352 eP P 06 30 14.5 +1.2
ATAH Atahualpa 20.11 326 P Pn 06 30 16.9 -0.8
comp=Z,8.3nm,0.7s,baz=148,slow=8.1,SNR=7.9
comp=Z,8.3nm,0.7s
PMNB Patos De Minas 20.14 78 eP P 06 30 12.4 -1.4
NPGB Novo Progresso 20.52 36 eP P 06 30 15.3 -2.4
TEFE Tefe 20.75 7 eP P 06 30 19.2 -1.1
BSCB Bom Sucesso 20.94 86 eP P 06 30 20.9 -1.4
MAN01 Angra dos Reis 21.34 91 eP P 06 30 25.0 -1.6
COYC Coyhaique 21.66 189 P P 06 30 29.1 -0.5
VAS01 Vassouras-RJ 21.91 90 eP P 06 30 31.7 -0.7
ITTB Itaituba 22.63 31 eP P 06 30 37.5 -1.8
DIAM Diamantina, MG 22.69 79 eP P 06 30 38.5 -1.5
DUB01 Friburgo-RJ 22.92 90 eP P 06 30 41.5 -0.5
JANB Januaria 23.38 71 eP P 06 30 44.8 -1.4
CAM01 Campos-RJ 23.62 89 eP P 06 30 47.6 -0.7
SDBA SAO DESIDERIO 24.17 65 eP P 06 30 51.7 -1.7
SMTB Santa Maria do 24.17 54 eP P 06 30 53.0 -0.4
PRPB Parauapebas 24.52 46 eP P 06 30 54.5 -2.1
SJMB Sao Joao De Ma 24.80 82 eP P 06 30 57.6 -1.5
RIB01 Linhares ES 25.35 84 eP P 06 31 02.8 -1.3
GUA01 Guaratinga, BA 26.74 79 eP P 06 31 15.6 -1.0
FLOC Florencia 26.94 341 P P 06 31 18.7 +0.3
FLOC IAmb IAmb 06 31 20.5
comp=Z,36nm,1.0s
BOAV Boa Vista 27.25 15 P P 06 31 20.3 -0.7
BOAV Boa Vista 27.25 15 eP P 06 31 20.2 -0.9
GO09 Cerro Castillo 27.28 187 P P 06 31 21.4 +0.4
GO09 IAmb IAmb 06 32 03.4
comp=Z,68nm,1.8s
CMC01 Camacan, BA 27.45 76 eP P 06 31 19.5 -3.5
ROSC El Rosal 29.72 346 P P 06 31 45.9 +2.5
comp=Z,7.7nm,0.5s,baz=76,slow=12,SNR=4.7
comp=Z,7.7nm,0.5s
RUSC La Rusia 30.49 348 P P 06 31 50.1 -0.2
RUSC IAmb IAmb 06 31 53.2
comp=Z,23nm,0.9s
NBPB Pedra_Branca-C 32.40 59 eP P 06 32 04.6 -1.9
NBAN Anadia - AL 32.83 69 eP P 06 32 08.5 -1.8
BAUV El Baul 32.98 358 P P 06 32 10.7 -0.9
BAUV IAmb IAmb 06 32 11.4
comp=Z,27nm,0.8s
SDV Santo Domingo 33.09 354 eP P 06 32 11.3 -1.4
RCBR Riachuelo 35.19 64 P P 06 32 30.0 -0.7
RCBR IAmb IAmb 06 33 47.2
comp=Z,47nm,1.3s
BCIP Isla Barro Col 35.42 338 P P 06 32 33.1 +0.6
SMRC Santa Marta, M 35.84 348 P P 06 32 34.1 -2.0
JTS Las Juntas de 38.45 331 P P 06 32 58.2 +0.1
JTS IAmb IAmb 06 33 01.9
comp=Z,39nm,1.4s
FDF Fort de France 39.18 9 P P 06 33 02.7 -1.4
ESPZ Base Esperanza 39.74 173 P P 06 33 09.4 +1.2
BOAB BOACO BROADBAND 40.68 332 P P 06 33 17.6 +1.1
BOAB IAmb IAmb 06 33 52.0
comp=Z,43nm,1.2s
SIUN Universidad Ur 41.44 334 IAmb IAmb 06 33 24.7
comp=Z,11nm,0.5s
OBIP Obispado Ponce 42.02 1 P P 06 33 25.5 -1.9
OBIP IAmb IAmb 06 33 27.3
comp=Z,31nm,0.7s
UUPR Utuado, UPR, P 42.23 1 P P 06 33 27.0 -2.0
UUPR IAmb IAmb 06 33 28.1
comp=Z,19nm,0.8s
TGUH Tegucigalpa,Un 42.81 331 IAmb IAmb 06 33 36.2
comp=Z,28nm,0.7s
MTO3 Montecristo 44.08 328 IAmb IAmb 06 33 46.6
comp=Z,20nm,0.7s
ESQI Esquipulas 44.21 328 IAmb IAmb 06 33 47.9
comp=Z,26nm,0.7s
PETF Flores 46.50 329 IAmb IAmb 06 34 05.1
comp=Z,20nm,0.7s
TEIG Tepich 48.73 333 P P 06 34 20.6 +0.6
TEIG IAmb IAmb 06 34 20.8
comp=Z,17nm,0.7s
TEIG Tepich 48.73 333 P P 06 34 20.3 +0.2
CAMR Camarioca 48.98 343 P P 06 34 23.0 +1.0
CAMR IAmb IAmb 06 34 23.9
comp=Z,66nm,0.7s
553A Crawfordville 56.58 342 P P 06 35 18.5 +0.9
VNA3 Neumayer Olymp 56.99 161 ⇑P P 06 35 21.1 +1.0
comp=Z,11nm,0.8s
VNA1 Neumayer–Stat 57.19 160 ⇑P P 06 35 22.8 +1.4
comp=Z,5.7nm,0.4s
ZAIG Zacatecas 57.99 321 IAmb IAmb 06 35 30.9
comp=Z,12nm,0.6s
250A Grady 58.79 341 P 06 35 33.0 0.0
152A Waverly Hall 59.00 343 IAmb IAmb 06 35 34.6
comp=Z,8.3nm,0.6s
SNAA Sanae 59.19 161 ⇑P P 06 35 36.1 +0.8
comp=Z,171nm,0.8s
SNAA Sanae 59.19 161 P 06 35 36.2 +0.8
SNAA IAmb IAmb 06 35 39.8
comp=Z,7.7nm,0.8s
SNAA Sanae 59.19 161 P P 06 35 36.1 +0.8
comp=Z,5.0nm,0.6s,baz=273,slow=7.5,SNR=22
comp=Z,5.0nm,0.6s
346A Big Creek Wild 59.27 338 P P 06 35 36.8 +0.5
GOGA Godfrey 59.38 344 P P 06 35 36.9 -0.1
GOGA IAmb IAmb 06 35 37.4
comp=Z,7.0nm,0.7s
JSC Jenkinsville 59.71 347 P P 06 35 39.9 +0.7
BIRD Birdtown, Kers 59.89 347 P 06 35 41.3 +0.8
Y52A Lilburn 59.96 344 IAmb IAmb 06 35 41.7
comp=Z,11nm,0.8s
W57A Gilead 60.29 348 IAmb IAmb 06 35 44.6
comp=Z,18nm,0.7s
Z47A Carrollton 60.48 340 IAmb IAmb 06 35 44.7
comp=Z,13nm,0.6s
HKT Hockley 60.48 331 P 06 35 45.5 +1.0
HKT IAmb IAmb 06 35 46.2
comp=Z,11nm,1.1s
Y49A Blount Mountai 60.59 342 IAmb IAmb 06 35 45.5
comp=Z,9.6nm,1.0s
BG3 Lake Jocassee 60.76 345 IAmb IAmb 06 35 47.3
comp=Z,8.4nm,0.7s
TROLL Troll, Antarti 60.91 161 ⇑P P 06 35 47.9 +0.8
comp=Z,717nm,0.8s
HNVL Huntsville, TX 61.02 332 IAmb IAmb 06 35 50.2
comp=Z,13nm,0.8s
W52A Murphy 61.10 344 IAmb IAmb 06 35 49.8
comp=Z,26nm,1.4s
X48A Hartselle 61.33 341 IAmb IAmb 06 35 51.2
comp=Z,29nm,1.2s
V53A Saluda 61.38 346 IAmb IAmb 06 35 51.7
comp=Z,11nm,1.0s
U56A King 61.53 348 IAmb IAmb 06 35 52.9
comp=Z,13nm,0.6s
W50A Signal Mountai 61.55 343 IAmb IAmb 06 35 52.7
comp=Z,16nm,1.0s
CPCT Cooper Cave 61.58 344 IAmb IAmb 06 35 52.8
comp=Z,8.3nm,0.7s
HNDO Hondo 61.71 328 IAmb IAmb 06 35 54.7
comp=Z,17nm,0.7s
PLAL Pickwick Lake 62.13 341 IAmb IAmb 06 35 56.0
comp=Z,14nm,1.1s
Z41A Richland Creek 62.16 336 IAmb IAmb 06 35 58.7
comp=Z,13nm,0.6s
237A Washetta, Mont 62.25 333 IAmb IAmb 06 35 58.7
comp=Z,24nm,0.9s
DRIO Del Rio 62.27 327 IAmb IAmb 06 35 58.3
comp=Z,14nm,1.3s
BLA Blacksburg 62.37 348 IAmb IAmb 06 35 58.8
comp=Z,9.2nm,0.7s
CCAR Cane Creek 62.38 337 IAmb IAmb 06 35 58.5
comp=Z,19nm,0.8s
V48A Smith Brothers 62.47 342 IAmb IAmb 06 35 58.2
comp=Z,13nm,0.7s
CLTN Cedars of Leba 62.66 343 IAmb IAmb 06 35 59.8
comp=Z,8.0nm,0.7s
JCT Junction City 62.75 328 P P 06 36 00.2 +0.4
U49A Red Boiling Sp 62.91 343 IAmb IAmb 06 36 01.1
comp=Z,7.5nm,0.6s
WHTX Lake Whitney, 62.95 331 IAmb IAmb 06 36 02.2
comp=Z,14nm,0.6s
HPIG 62.99 321 IAmb IAmb 06 36 03.8
comp=Z,8.7nm,0.6s
BRDY Brady 63.04 330 IAmb IAmb 06 36 02.7
comp=Z,12nm,0.6s
T50A Nancy 63.15 344 IAmb IAmb 06 36 02.7
comp=Z,9.1nm,0.7s
SLBS Sierra La Lagu 63.16 316 P P 06 36 05.2 +2.5
R55A Marlinton 63.36 349 IAmb IAmb 06 36 06.0
comp=Z,10nm,0.7s
SAND Sanderson 63.46 326 IAmb IAmb 06 36 06.9
comp=Z,19nm,1.1s
MIAR Mount Ida 63.60 336 IAmb IAmb 06 36 06.1
comp=Z,11nm,0.6s
T47A Sharon Grove 63.72 342 IAmb IAmb 06 36 06.5
comp=Z,22nm,0.9s
TXAR Lajitas Array 63.76 325 P 06 36 07.5 +0.9
TXAR Lajitas Array 63.76 325 P P 06 36 07.6 +1.1
comp=Z,22nm,0.5s,baz=151,slow=7.6,SNR=44
comp=Z,2.2nm,0.5s
WHAR Wooly Hollow 63.79 337 IAmb IAmb 06 36 07.0
comp=Z,8.1nm,0.9s
FW06 Azle 63.83 332 IAmb IAmb 06 36 08.4
comp=Z,10nm,0.5s
PLPT Palo Pinto 64.02 331 IAmb IAmb 06 36 09.7
comp=Z,14nm,0.7s
Q54A Coxs Mills 64.17 348 IAmb IAmb 06 36 09.8
comp=Z,11nm,0.7s
R50A Paris 64.23 345 IAmb IAmb 06 36 09.8
comp=Z,41nm,1.9s
FCAR Ozark Folk Cen 64.28 338 IAmb IAmb 06 36 09.8
comp=Z,5.9nm,0.7s
Q52A Bidwell 64.43 347 IAmb IAmb 06 36 11.3
comp=Z,11nm,0.7s
PBMO Poplar Bluff 64.52 339 IAmb IAmb 06 36 12.1
comp=Z,30nm,1.3s
SGCY Sterling City 64.57 328 IAmb IAmb 06 36 13.2
comp=Z,8.6nm,0.6s
ALPN Alpine 64.58 325 IAmb IAmb 06 36 14.3
comp=Z,11nm,0.7s
WCI Wyandotte Cave 64.67 343 P P 06 36 11.3 -0.8
WCI Wyandotte Cave 64.67 343 P P 06 36 11.5 -0.6
WCI PcP PcP 06 36 44.8 +0.4
Q51A Peebles 64.72 346 IAmb IAmb 06 36 13.2
comp=Z,16nm,1.2s
CGM3 Cape Girardeau 64.75 340 IAmb IAmb 06 36 14.4
comp=Z,7.6nm,0.8s
P53A Whipple 64.76 348 IAmb IAmb 06 36 14.1
comp=Z,18nm,0.7s
S44A Carbondale 65.00 341 IAmb IAmb 06 36 16.4
comp=Z,11nm,1.1s
SIUC Southern Illin 65.01 341 IAmb IAmb 06 36 14.4
comp=Z,8.2nm,0.7s
P51A Williamsport 65.09 347 IAmb IAmb 06 36 14.9
comp=Z,11nm,0.7s
O54A Avella 65.25 349 IAmb IAmb 06 36 18.8
comp=Z,24nm,1.3s
HHAR Hobbs 65.28 336 IAmb IAmb 06 36 17.4
comp=Z,11nm,0.9s
O53A New Philadelph 65.47 348 IAmb IAmb 06 36 17.9
comp=Z,9.7nm,0.5s
MGMO Mountain Grove 65.47 338 IAmb IAmb 06 36 18.8
comp=Z,36nm,1.5s
PECS Pecos 65.49 326 IAmb IAmb 06 36 19.5
comp=Z,8.6nm,0.6s
U38A Grette 65.58 336 IAmb IAmb 06 36 19.1
comp=Z,9.6nm,0.6s
TUL3 Leonard 65.65 335 IAmb IAmb 06 36 20.3
comp=Z,9.4nm,0.6s
POST Post 65.69 329 IAmb IAmb 06 36 22.7
comp=Z,8.3nm,0.6s
ACSO Alum Creek Sta 65.80 347 IAmb IAmb 06 36 20.1
comp=Z,17nm,0.7s
DKNS Dickens 65.92 330 IAmb IAmb 06 36 21.7
comp=Z,12nm,0.6s
CCM Cathedral Cave 65.95 339 P P 06 36 20.7 +0.4
CCM Cathedral Cave 65.95 339 P P 06 36 20.4 +0.1
QSPA South Pole Qui 65.97 180 P P 06 36 23.0 +2.6
QSPA IAmb IAmb 06 36 24.3
comp=Z,7.1nm,0.7s
QSPA South Pole Qui 65.97 180 P P 06 36 23.0 +2.6
comp=Z,8.7nm,0.7s,baz=207,slow=0.7,SNR=85
comp=Z,8.7nm,0.7s
QSPA South Pole Qui 65.97 180 P P 06 36 23.2 +2.8
QSPA sP pP 06 37 18.6 +17
O49A Covington 66.05 346 IAmb IAmb 06 36 21.0
comp=Z,12nm,0.8s
PAOC Oil Creek Stat 66.43 350 IAmb IAmb 06 36 24.3
comp=Z,7.8nm,0.7s
BINY Binghamton 66.59 353 IAmb IAmb 06 36 26.4
comp=Z,24nm,1.2s
T35A Sooner Cattle 66.81 335 IAmb IAmb 06 36 27.4
comp=Z,30nm,1.5s
P43A Skaggs, Pawnee 66.88 341 IAmb IAmb 06 36 26.5
comp=Z,41nm,1.5s
KAN01 Argonia South 67.50 334 IAmb IAmb 06 36 31.9
comp=Z,23nm,0.8s
NOKA Waynoka 67.54 333 IAmb IAmb 06 36 32.3
comp=Z,11nm,0.8s
P40A Paris 67.55 339 IAmb IAmb 06 36 31.4
comp=Z,13nm,0.7s
HDIL Hopedale 67.66 342 IAmb IAmb 06 36 31.3
comp=Z,16nm,0.6s
DBIC Dimbokro 68.05 72 P P 06 36 34.0 -0.2
comp=Z,3.0nm,0.3s,baz=239,slow=4.7,SNR=9.3
comp=Z,3.0nm,0.3s
N41A Harden Midland 68.25 341 IAmb IAmb 06 36 34.8
comp=Z,18nm,0.9s
121A Cookes Peak, D 68.46 324 IAmb IAmb 06 36 39.4
comp=Z,13nm,0.8s
RTBA Rita Blanca 69.04 330 IAmb IAmb 06 36 43.0
comp=Z,12nm,0.7s
ANMO Albuquerque 69.64 326 P 06 36 45.8 +2.0
ANMO IAmb IAmb 06 36 46.6
comp=Z,17nm,1.1s
ANMO Albuquerque 69.64 326 P P 06 36 45.6 +1.8
LMN Caledonia Moun 69.78 2 P P 06 36 44.2 0.0
LMN IAmb IAmb 06 39 16.6
comp=Z,27nm,1.7s
TUC Tucson 69.95 322 P 06 36 46.2 +0.6
TUC Tucson 69.95 322 P P 06 36 47.8 +2.1
T25A Trinidad 70.39 329 IAmb IAmb 06 36 50.6
comp=Z,11nm,0.8s
214A Organ Pipe Nat 70.86 320 P 06 36 53.5 +2.4
214A IAmb IAmb 06 36 54.6
comp=Z,44nm,1.7s
KSCO Kaye Shedlock' 71.12 331 IAmb IAmb 06 36 54.7
comp=Z,18nm,0.6s
W18A Petrified Fore 71.48 324 IAmb IAmb 06 36 58.0
comp=Z,16nm,1.0s
X16A Lo Mia Camp, P 71.88 323 IAmb IAmb 06 37 00.8
comp=Z,18nm,1.3s
Q24A Divide 72.21 330 IAmb IAmb 06 37 02.1
comp=Z,26nm,1.2s
Y14A Wickenburg 72.41 321 IAmb IAmb 06 37 03.5
comp=Z,21nm,1.5s
MVCO Mesa Verde 72.44 326 IAmb IAmb 06 37 03.5
comp=Z,61nm,1.8s
WUAZ Wupatki 72.66 323 IAmb IAmb 06 37 04.8
comp=Z,12nm,0.8s
ECSD EROS Data Cent 72.83 338 IAmb IAmb 06 37 03.3
comp=Z,8.3nm,0.6s
GLA Glamis 72.83 320 IAmb IAmb 06 37 05.9
comp=Z,57nm,1.9s
SPMN Marine on St. 72.96 341 IAmb IAmb 06 37 04.1
comp=Z,14nm,1.0s
K30B Basset 72.98 336 IAmb IAmb 06 37 05.4
comp=Z,36nm,1.2s
ISCO Idaho Springs 73.09 330 IAmb IAmb 06 37 07.3
comp=Z,22nm,1.5s
PV01 Paradox Valley 73.19 327 IAmb IAmb 06 37 08.2
comp=Z,36nm,1.6s
PV15 Paradox Valley 73.31 327 IAmb IAmb 06 37 09.1
comp=Z,12nm,1.0s
PV02 Paradox Valley 73.33 327 IAmb IAmb 06 37 09.0
comp=Z,29nm,1.4s
SYO Syowa Base 73.40 159⇓eP P 06 37 06.9 +1.4
SBA Scott Base 73.44 190 P 06 37 08.7 +3.1
PV12 Saucer Basin, 73.44 327 IAmb IAmb 06 37 09.0
comp=Z,9.6nm,0.7s
PV22 Blue Mesa, Par 73.61 327 IAmb IAmb 06 37 10.3
comp=Z,22nm,1.3s
PV10 Paradox Valley 73.61 327 IAmb IAmb 06 37 09.8
comp=Z,12nm,0.8s
PV23 Carpenter Ridg 73.65 327 IAmb IAmb 06 37 10.7
comp=Z,18nm,1.2s
IRM Iron Mountain 73.80 320 IAmb IAmb 06 37 11.6
comp=Z,31nm,1.6s
HMU Henry Mountain 74.14 326 IAmb IAmb 06 37 13.5
comp=Z,9.2nm,0.7s
PFO Pinyon Flats O 74.20 319 P 06 37 13.4 +2.5
DANC Danby, Needles 74.28 320 IAmb IAmb 06 37 14.6
comp=Z,24nm,0.8s
VNDA Vanda 74.44 190 P P 06 37 14.1 +2.5
VNDA Vanda 74.44 190 P P 06 37 14.2 +2.7
comp=Z,2.5nm,1.0s,baz=122,slow=6.1,SNR=12
comp=Z,2.5nm,1.0s
KNB Kanab 74.55 324 IAmb IAmb 06 37 16.7
comp=Z,33nm,1.1s
O20A White River Ci 74.59 329 IAmb IAmb 06 37 16.0
comp=Z,16nm,0.8s
SRU San Rafael Swe 74.92 326 IAmb IAmb 06 37 17.6
comp=Z,17nm,0.6s
SZCU Shurtz Canyon 75.12 324 IAmb IAmb 06 37 19.8
comp=Z,29nm,1.7s
P18A Preston Nutter 75.17 327 IAmb IAmb 06 37 19.6
comp=Z,12nm,0.7s
TBO Thunder Bay 75.22 345 IAmb IAmb 06 37 17.5
comp=Z,29nm,1.1s
CCUT Cedar City 75.24 324 IAmb IAmb 06 37 20.7
comp=Z,16nm,0.8s
BFSC Mount Baldy Ra 75.35 319 P 06 37 17.9 +0.4
GSC Goldstone, Bar 75.58 320 IAmb IAmb 06 37 22.3
comp=Z,28nm,1.6s
K22A Casper 75.79 331 IAmb IAmb 06 37 22.7
comp=Z,18nm,1.4s
RSSD Black Hills 75.94 334 P 06 37 21.1 +0.4
PRN Pahroc Range 76.06 323 IAmb IAmb 06 37 25.1
comp=Z,18nm,1.3s
BSUT Blindstream Ca 76.12 327 IAmb IAmb 06 37 24.6
comp=Z,11nm,0.7s
LRMC Laurel Mtn Rad 76.22 320 IAmb IAmb 06 38 20.2
comp=Z,7.1nm,0.4s
PSUT Pine Spring 76.22 324 IAmb IAmb 06 37 25.6
comp=Z,11nm,0.7s
CLC China Lake 76.40 320 IAmb IAmb 06 37 25.1
comp=Z,7.5nm,0.5s
TPNV Topopah Spring 76.41 321 IAmb IAmb 06 37 27.0
comp=Z,27nm,1.4s
AGMN Agassiz Nation 76.64 341 IAmb IAmb 06 37 25.6
comp=Z,15nm,1.1s
SPR3 Spring Creek 3 76.81 324 IAmb IAmb 06 37 28.2
comp=Z,9.0nm,0.7s
TORD Torodi Ar. Bea 76.82 69 P P 06 37 25.5 -0.6
comp=Z,5.2nm,0.5s,baz=257,slow=5.4,SNR=3.9
comp=Z,5.2nm,0.5s
R11B Troy Canyon, C 77.03 323 IAmb IAmb 06 37 30.5
comp=Z,21nm,1.5s
PDAR Pinedale Array 77.26 329 P P 06 37 28.7 +0.5
PDAR Pinedale Array 77.26 329 P P 06 37 29.3 +1.1
comp=Z,2.0nm,0.5s,baz=132,slow=7.9,SNR=35
comp=Z,2.0nm,0.5s
EPLO Experimental L 77.27 343 IAmb IAmb 06 37 28.9
comp=Z,16nm,0.7s
VES Vestal, Richgr 77.30 319 IAmb IAmb 06 37 31.3
comp=Z,21nm,1.0s
HWUT Hardware Ranch 77.33 327 IAmb IAmb 06 37 31.9
comp=Z,11nm,0.6s
BGU Big Grassy Mou 77.55 326 IAmb IAmb 06 37 32.6
comp=Z,21nm,1.6s
AHID Auburn Hatcher 77.98 329 IAmb IAmb 06 37 34.2
comp=Z,14nm,0.7s
ULM Lac du Bonnet 78.39 342 P P 06 37 34.2 +0.2
comp=Z,10nm,0.6s,baz=153,slow=6.5,SNR=29
comp=Z,10nm,0.6s
NVAR Mina Array Bea 78.61 321 P 06 37 36.8 +1.0
NVAR Mina Array Bea 78.61 321 P P 06 37 37.5 +1.8
comp=Z,2.1nm,0.6s,baz=144,slow=5.7,SNR=21
comp=Z,2.1nm,0.6s
SCHQ Schefferville 78.74 0 P P 06 37 36.0 +0.3
comp=Z,3.3nm,0.6s,baz=217,slow=3.8,SNR=13
comp=Z,3.3nm,0.6s
LAO LASA Array 78.92 334 IAmb IAmb 06 37 38.8
comp=Z,11nm,0.7s
RLMT Red Lodge 78.96 331 IAmb IAmb 06 37 39.6
comp=Z,8.1nm,0.6s
LKWY Lake 79.03 330 IAmb IAmb 06 37 42.1
comp=Z,26nm,1.8s
YMP Mirror Lake Pl 79.06 330 IAmb IAmb 06 37 59.1
comp=Z,22nm,1.7s
WAKR Walker 79.31 321 IAmb IAmb 06 37 43.0
comp=Z,31nm,1.8s
PAHR Pah Rah Range 80.09 322 IAmb IAmb 06 37 46.8
comp=Z,16nm,0.9s
MPK Martis Peak 80.18 321 IAmb IAmb 06 37 47.7
comp=Z,25nm,1.4s
HLID Hailey 80.19 327 IAmb IAmb 06 37 47.4
comp=Z,14nm,0.8s
DLMT Dillon 80.65 329 IAmb IAmb 06 37 49.6
comp=Z,24nm,1.4s
MFID Camas Ranch 80.79 326 IAmb IAmb 06 37 50.3
comp=Z,32nm,1.9s
BOSA Boshof 80.79 117 P P 06 37 48.1 +0.4
comp=Z,7.9nm,0.5s,baz=260,slow=3.5,SNR=31
comp=Z,7.9nm,0.5s
MAW Mawson 81.27 163 P P 06 37 50.6 +1.3
comp=Z,3.7nm,0.5s,baz=215,slow=6.1,SNR=25
comp=Z,3.7nm,0.5s
MAKGR Makgori 81.48 114 P P 06 37 49.7 -1.8
MAKGR IAmb IAmb 06 37 52.6
comp=Z,18nm,1.1s
PLID Pearl Lake 82.08 327 IAmb IAmb 06 37 56.5
comp=Z,12nm,0.8s
J08A Circle Bar Ran 82.11 325 IAmb IAmb 06 37 56.9
comp=Z,43nm,1.5s
MSO Missoula 82.37 330 IAmb IAmb 06 37 58.4
comp=Z,22nm,1.8s
BMO Blue Mountains 82.56 327 IAmb IAmb 06 37 59.2
comp=Z,30nm,1.9s
K05A Summer Lake 82.97 323 IAmb IAmb 06 38 01.7
comp=Z,18nm,1.0s
PINE Pine Mountain 83.71 324 IAmb IAmb 06 38 05.4
comp=Z,11nm,0.7s
J04A Umpqua Nationa 83.98 323 IAmb IAmb 06 38 06.1
comp=Z,14nm,0.8s
I05D Terrebonne, OR 84.29 324 IAmb IAmb 06 38 07.9
comp=Z,9.8nm,0.6s
MREMI Moremi 84.98 112 P P 06 38 10.3 +0.9
MREMI IAmb IAmb 06 38 11.4
comp=Z,23nm,0.8s
C09A Chrisman Ranch 85.11 328 IAmb IAmb 06 38 11.4
comp=Z,16nm,0.8s
B08A Colville Reser 86.01 328 IAmb IAmb 06 38 15.4
comp=Z,19nm,1.9s
ESDC Sonseca Array 86.69 44 P P 06 38 17.8 +0.5
comp=Z,1.0nm,0.8s,baz=238,slow=3.8,SNR=6.1
comp=Z,1.0nm,0.8s
E03A Lebam 86.92 325 IAmb IAmb 06 38 20.3
comp=Z,16nm,1.0s
LLLB Lillooet 88.76 329 P P 06 38 27.1 +0.4
LLLB IAmb IAmb 06 38 28.3
comp=Z,25nm,1.8s
CASY Casey 89.76 179 P 06 38 31.2 -0.1
CASY IAmb IAmb 06 38 33.8
comp=Z,24nm,1.6s
YKAW1 Yellowknife Wh 94.23 340 P P 06 38 52.5 +0.8
YKAW1 IAmb IAmb 06 38 52.9
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 94.28 340 P P 06 38 52.5 +0.5
comp=Z,3.1nm,0.7s,baz=39,slow=7.1,SNR=36
comp=Z,3.1nm,0.7s
YKAW3 Yellowknife Wh 94.33 340 IAmb IAmb 06 38 53.4
comp=Z,5.1nm,0.7s
ASAR Alice Springs 128.17 205 PKP PKiKP 06 44 39.7 -0.2
comp=Z,2.2nm,0.5s,baz=132,slow=1.8,SNR=45
WRA Warramunga Arr 131.34 207 PKhKP PKPpre 06 44 30.9
comp=Z,0.3nm,0.4s,baz=122,slow=2.1,SNR=4.9
WRA PKP PKiKP 06 44 46.1 -0.2

comp=Z,2.9nm,0.6s,baz=158,slow=1.5,SNR=51
PETK Petropavlovsk- 135.69 322 PKhKP PKPpre 06 44 45.8
comp=Z,0.7nm,0.5s,baz=58,slow=4.1,SNR=5.7
PETK PKP **PKiKP 06 44 53.4 -0.7**
comp=Z,1.8nm,0.5s,baz=63,slow=2.1,SNR=8.3
FITZ Fitzroy Crossi 136.10 198 PKhKP PKPpre 06 44 44.8
comp=Z,1.6nm,1.0s,baz=186,slow=1.2,SNR=3.0
FITZ PKP **PKiKP 06 44 55.5 -0.5**
comp=Z,2.1nm,0.6s,baz=210,slow=1.3,SNR=9.1
BVAR Borovoye Array 137.09 37 PKP **PKiKP 06 44 55.8 -1.1**
comp=Z,0.9nm,0.5s,baz=273,slow=3.7,SNR=4.8
KURBB Kurchatov Arra 142.67 36 PKhKP PKPpre 06 45 02.1
comp=Z,0.8nm,0.6s,baz=305,slow=2.7,SNR=4.5
KURBB PKP **PKiKP 06 45 06.5 -1.9**
comp=Z,0.7nm,0.5s,baz=308,slow=3.0,SNR=5.5
ZALV Zalesovo Beam 143.68 28 PKP **PKPdf 06 45 05.8 -1.1**
comp=Z,6.3nm,0.6s,baz=305,slow=4.1,SNR=26
KSH Kashi 145.48 55 PKPbc **PKPab 06 45 11.9 +0.4**
MKAR Makanchi Array 146.82 40 PKPbc **PKPbc 06 45 13.6 -1.1**
comp=Z,6.2nm,0.6s,baz=325,slow=1.9,SNR=44
WMQ Urumqi 151.64 40 *e*PKPbc **PKPdf 06 45 21.3 +0.9**
WMQ LR LR
comp=Z,830nm,18.9s
MJAR Matsushiro Arr 154.97 305 PKP **PKPdf 06 45 27.0 +1.6**
comp=Z,0.9nm,0.3s,baz=88,slow=1.2,SNR=1.4
MJAR PKPab **PKPab 06 45 51.9 +1.4**
comp=Z,1.2nm,0.6s,baz=80,slow=3.8,SNR=6.9
SONM Songino Array 155.90 11 PKP **PKPdf 06 45 29.0 +2.6**
comp=Z,0.6nm,0.4s,baz=316,slow=4.0,SNR=2.0
SONM PKPab **PKPab 06 45 54.9 +0.8**
comp=Z,1.3nm,0.6s,baz=330,slow=5.0,SNR=4.8
HHC Hu-ho-hao-te 163.40 3 *e*P **PKPdf 06 45 35.4 +0.3**
CMAR Chiang Mai Arr 165.87 111 PKPab **PKPab 06 46 38.8 +0.3**
comp=Z,1.3nm,0.4s,baz=256,slow=5.3,SNR=6.5
PZH PanZhiHua 169.75 75 PKP **PKPdf 06 45 39.6 -0.8**
NJ2 Nanjing 170.56 327 *e*P **PKPdf 06 45 40.8 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,1.0s

ASRS ***15*** *06:34:12.0±1.1,54°.37N×86°.94E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 06:34:10.8±3.5, 54°.43N×87°.07E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=32.7km s-min=21.7km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**251**	I	I	06 42 50.0	
	baz=71,slow=314,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.41**	**251**	Pg	Pn	06 34 35.2	-2.5
	1.1nm,0.3s,baz=72,slow=15,SNR=10						
ZALV				Lg	Lg	06 34 55.9	
	0.8nm,0.3s,baz=69,slow=28,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.46**	**237**	Pn	Pn	06 35 47.9	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=6.0						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.23**	**204**	Pn	Pn	06 36 12.9	+1.5
	0.1nm,0.3s,baz=25,slow=13,SNR=1.9						
	0.2nm,0.3s						

CATAC 15 06:35:42.1±0.6, 12°N±4°×87°W±°, h22km±6km, M2.8/18, MLv2.8/18, Error ellipse: s-maj=7.9km s-min=4.3km az=21.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.91**	**53**	P	Pb	06 35 59.0	-0.2
ROCN	**Rota Cerro Neg**	**1.05**	**33**	P	Pn	06 36 00.9	-0.7
ROCN				S	Sn	06 36 16.5	+0.8
SAPS	**Ciudad Sandino**	**1.05**	**59**	P	Pb	06 36 02.4	+0.6
CNGA	**Al SSO del Vol**	**1.06**	**36**	P	Pn	06 36 00.8	-0.9
CNGA				S	Sn	06 36 15.9	+0.1
CNGN	**Cerro Negro**	**1.06**	**36**	P	Pn	06 36 00.9	-0.9
CNGN	**Cerro Negro**	**1.06**	**36**	S	Sb	06 36 15.7	+0.3
CRUN	**El Crucero**	**1.07**	**71**	P	Pb	06 36 03.5	+1.5
CRIN	**San Cristobal**	**1.10**	**15**	P	Pn	06 36 01.0	-1.3
CRIN	**San Cristobal**	**1.10**	**15**	S	Sn	06 36 18.3	+1.5
POLN	**Al Sur del Vol**	**1.13**	**27**	P	Pn	06 36 01.6	-1.1
POLN				S	Sn	06 36 19.3	+1.7
UNAN	**Cigeo UNAN**	**1.15**	**65**	P	Pn	06 36 02.5	-0.4
UNAN				S	Sn	06 36 18.4	+0.5
MOM2	**El Cardon**	**1.15**	**46**	P	Pn	06 36 01.9	-1.1
MOM2				S	Sb	06 36 17.6	-0.4
TISN	**Laguna Tiscapa**	**1.16**	**64**	P	Pn	06 36 02.5	-0.6
R4DEC	**Barrio San Lui**	**1.18**	**64**	P	Pn	06 36 03.5	+0.1
R4DEC	**Barrio San Lui**	**1.18**	**64**	S	Sn	06 36 19.5	+0.7
NANN	**Nandasmo**	**1.23**	**75**	P	Pb	06 36 05.4	+0.7
WILN	**Americas 2**	**1.24**	**65**	P	Pn	06 36 03.6	-0.6
WILN				S	Sb	06 36 20.6	+0.2
CSGN	**Cosiguina Volc**	**1.35**	**351**	P	Pn	06 36 05.5	-0.4
CSGN				S	Sn	06 36 22.9	-0.3
CNCH	**Conchagua**	**1.71**	**343**	P	Pn	06 36 10.2	-0.6
CNCH	**Conchagua**	**1.71**	**343**	S	Sb	06 36 33.1	-0.9
LCND	**La Caada**	**1.75**	**342**	P	Pn	06 36 11.2	-0.1
LCND	**La Caada**	**1.75**	**342**	S	Sb	06 36 34.6	-0.6
BOAB	**BOACO BROADBAN**	**1.82**	**63**	P	Pn	06 36 12.1	-0.1
BOAB	**BOACO BROADBAN**	**1.82**	**63**	S	Sn	06 36 35.6	+1.0
CHOHN	**Orocuina**	**1.84**	**5**	S	Sn	06 36 36.3	+0.9
CHOHN	**Orocuina**	**1.84**		S	Pn	06 36 12.9	+0.3
MATA	**Matagalpa**	**1.89**	**47**	S	Sn	06 36 34.7	-1.7
RCVN	**Varillal2**	**2.24**	**30**	P	Pn	06 36 17.8	-0.3
RCPN	**Sur Rio San Ju**	**2.24**	**33**	P	Pn	06 36 17.2	-0.9
YUSH	**Yuscaran**	**2.36**	**12**	P	Pn	06 36 20.3	+0.6
TGUH	**Tegucigalpa,Un**	**2.41**	**1**	P	Pn	06 36 20.2	-0.2

IDC 15 06:36:59.1±1.6, 3°.55S×139°.80E, h0km, mb3.4/2, mbtmp3.3/3, ML3.0/1, Error ellipse: s-maj=67.3km s-min=15.7km az=124.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.37**	**41**	Pg	Pg	06 37 23.6	-1.8
	2.9nm,0.3s,baz=222,slow=15,SNR=9.2						
JAY				Lg	Lg	06 37 43.3	
	3.0nm,0.3s,baz=270,slow=20,SNR=7.9						
WRA	**Warramunga Arr**	**17.14**	**198**	P	Pn	06 41 00.2	-0.1
	0.1nm,0.3s,baz=14,slow=12,SNR=4.8						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**20.80**	**195**	P	P	06 41 42.3	+0.2
	0.4nm,0.7s,baz=13,slow=10,SNR=4.3						
	0.4nm,0.7s						
PETK	**Petropavlovsk-**	**58.43**	**13**	P	P	06 46 56.8	+0.3
	1.1nm,0.5s,baz=202,slow=8.4,SNR=7.3						
	1.1nm,0.5s						

ASRS ***15*** *06:39:00.0±1.0,54°.33N×86°.65E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 06:39:02.7±3.8, 54°.39N×86°.67E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=31.3km s-min=19.7km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**248**	I	I	06 46 50.0	
	baz=67,slow=315,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.17**	**248**	Pg	Pg	06 39 24.2	-0.9
	0.6nm,0.3s,baz=67,slow=17,SNR=8.8						
ZALV				Lg	Lg	06 39 41.1	
	0.9nm,0.3s,baz=64,slow=28,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.24**	**236**	Pn	Pn	06 40 37.3	+1.4
	baz=51,slow=12,SNR=2.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.10**	**202**	Pn	Pn	06 41 02.3	+0.7
	0.1nm,0.3s,baz=22,slow=13,SNR=2.4						
	0.5nm,0.7s						

ASRS ***15*** *06:45:09.0±2.0,53°.73N×88°.29E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 15 06:45:10.5±3.5, 53°.85N×88°.25E, h0km, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=32.7km s-min=21.2km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.03**	**274**	I	I	06 57 50.0	
	0.1nm,1.1s,baz=92,slow=317,SNR=5.6						
ZALV	**Zalesovo Beam**	**2.03**	**274**	Pn	Pn	06 45 45.9	0.0
	1.6nm,0.3s,baz=92,slow=15,SNR=15						
ZALV				Lg	Lg	06 46 14.7	
	2.5nm,0.3s,baz=90,slow=27,SNR=15						
ZALV				I	I	06 57 59.5	
	baz=77,slow=37,SNR=4.1						
	4.7nm,0.5s						
KURBB	**Kurchatov Arra**	**6.79**	**245**	Pn	Pn	06 46 52.1	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=5.0						
KURBB				Lg	Lg	06 48 46.7	
	baz=52,slow=31						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**8.03**	**211**	Pn	Pn	06 47 08.9	+0.6
	0.1nm,0.3s,baz=29,slow=14,SNR=1.6						
	0.8nm,0.8s						

IDC ***15*** *06:54:42.9±1.9,38°.16N×142°.15E,h46km±19km,mb3.5/6, mbtmp3.7/10,ML3.2/4,Error ellipse: s-maj=22.6km s-min=11.2km az=107.0*

JMA ***15*** *06:54:44.9±0.1,38°.2N±0°.4×141°.8E±0°.6,h62km,MV4.0/40, E OFF MIYAGI PREF*

JMA Felt II J1 at E OFF MIYAGI PREF .

ISC 15 06:54:43.6±1.3, 38°.18N±0°.05×142°.02E±0°.10, h53km±12km, n31,σ1s00/36, mb3.8/6,11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.46**	**287**	*i* P	**Pn**	**06 54 55.3**	**+0.8**
JIKH				*e*S	**Sn**	**06 55 02.7**	**+0.3**
JIO	**Ouri**	**0.60**	**298**	P	**Pn**	**06 54 56.6**	**+0.4**
JIO				*e*S	**Sn**	**06 55 04.8**	**-0.4**
JKMT	**Kesennumamotoy**	**0.77**	**326**	*i* P	**Pn**	**06 54 58.8**	**+0.5**
JKMT				*e*S	**Sn**	**06 55 08.6**	**-0.4**
OFUJ	**Ofunato**	**0.94**	**343**	P	**Pn**	**06 55 01.2**	**+0.5**
OFUJ				*e*S	**Sn**	**06 55 13.0**	**-0.2**
JMK	**Ichinoseki**	**1.00**	**321**	⇓P	**Pn**	**06 55 01.6**	**+0.2**
JMK				⇓*e*S	**Sn**	**06 55 13.4**	**-1.0**
JMM	**Marumori**	**1.02**	**253**	⇓P	**Pn**	**06 55 01.4**	**-0.2**
JMM				⇓*e*S	**Sn**	**06 55 13.6**	**-1.4**
JOU	**Okura**	**1.08**	**280**	⇓P	**Pn**	**06 55 02.2**	**-0.3**
JOU				⇓*e*S	**Sn**	**06 55 15.1**	**-1.5**
JFK	**Kawauchi**	**1.22**	**229**	P	**Pn**	**06 55 04.8**	**+0.5**
JFK				*e*S	**Sn**	**06 55 19.6**	**-0.1**
JOM	**Ohasama**	**1.41**	**337**	⇓P	**Pn**	**06 55 07.2**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.47**	**246**	P	**Pn**	**06 55 08.0**	**+0.3**
JYK	**Kaneyama**	**1.50**	**300**	⇓P	**Pn**	**06 55 07.7**	**-0.4**
JYS	**Shirataka**	**1.54**	**272**	⇓P	**Pn**	**06 55 08.5**	**-0.3**
JRG	**Rokugo**	**1.63**	**319**	⇓P	**Pn**	**06 55 09.9**	**0.0**
JYA	**Atsumi**	**1.86**	**284**	⇓*e*P	**Pn**	**06 55 12.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.45**	**243**	P	**Pn**	**06 55 36.2**	**+1.4**
	0.4nm,0.3s,baz=14,slow=16,SNR=9.8						
MJAR				S	**Sn**	**06 56 17.1**	**+2.7**
	2.4nm,0.6s,baz=9.9,slow=15,SNR=4.2						
	1.5nm,0.3s						
JHJ	**Hachijo jima 2**	**5.37**	**201**	P	**Pn**	**06 56 02.3**	**+1.2**
	2.2nm,0.3s,baz=70,slow=16,SNR=1.9						
JHJ				S	**Sn**	**06 56 58.8**	**-2.8**
	46nm,0.4s,baz=343,slow=22,SNR=1.6						
	164nm,0.9s						
ASAJ	**Asahikawa**	**5.95**	**4**	P	**Pn**	**06 56 09.0**	**-0.1**
	0.8nm,0.3s,baz=224,slow=7.8,SNR=4.7						
ASAJ				S	**Sn**	**06 57 14.1**	**-1.8**
	3.7nm,0.7s,baz=127,slow=20,SNR=1.2						
	2.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**9.66**	**312**	P	**Pn**	**06 57 00.3**	**+0.5**
	0.4nm,0.3s,baz=121,slow=14,SNR=7.8						
	1.1nm,0.3s						
H11N2	**WAKE ISLAND Hy 28.34**	**123**		T	T	07 30 54.0	
	baz=316,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy 28.35**	**123**		T	T	07 30 59.9	
	baz=316,slow=75,SNR=208						
H11N3	**WAKE ISLAND Hy 28.36**	**123**		T	T	07 31 00.4	
	baz=316,slow=75,SNR=135						
H11S1	**WAKE ISLAND Hy 29.10**	**125**		T	T	07 31 50.0	
	baz=318,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy 29.10**	**125**		T	T	07 31 50.6	
	baz=318,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy 29.12**	**125**		T	T	07 31 51.2	
	baz=318,slow=76,SNR=67						
MKAR	**Makanchi Array**	**43.93**	**301**	P	**P**	**07 02 44.9**	**-0.3**
	0.8nm,0.6s,baz=83,slow=9.9,SNR=5.5						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**45.69**	**307**	P	**P**	**07 02 58.8**	**-0.2**
	1.1nm,0.4s,baz=80,slow=7.9,SNR=6.6						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**58.26**	**189**	P	**P**	**07 04 32.0**	**-0.7**
	0.8nm,0.5s,baz=7.8,slow=7.7,SNR=17						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**61.99**	**188**	P	**P**	**07 04 57.9**	**-0.3**
	0.7nm,0.7s,baz=10.0,slow=4.3,SNR=7.2						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**76.52**	**46**	P	**P**	**07 06 29.3**	**+0.9**
	0.2nm,0.4s,baz=292,slow=7.4,SNR=1.6						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**89.05**	**53**	P	**P**	**07 07 34.0**	**+0.8**
	0.1nm,0.5s,baz=325,slow=3.8,SNR=2.0						
	0.1nm,0.5s						
LPAZ	**La Paz**	**145.69**	**59**	PKPbc	**PKPbc**	**07 14 17.9**	**+0.2**
	0.7nm,0.7s,baz=279,slow=1.9,SNR=4.7						

AFAD ***15*** *07:03:34.9,35°.19N×27°.92E,h9km±1km,MW3.6*

ISK ***15*** *07:03:35.8,35°.21N×27°.87E,h10km,ML2.5/9*

ISC 15 07:03:36.0±1.9, 35°.23N±0°.08×27°.90E±0°.05, h7km±13km, n17,σ1s07/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.68**	**298**	Pg	**Pg**	**07 03 49.0**	**-0.1**
KARP				Sg	**Sb**	**07 03 58.9**	**-1.0**
ARG	**Arkhangelos**	**1.00**	**10**	Pg	**Pn**	**07 03 55.9**	**-0.5**
ZKR	**Zakros**	**1.39**	**266**	Pn	**Pb**	**07 04 01.4**	**-0.8**
YAZI	**Mula-Dat§a-**	**1.49**	**346**	P	**Pb**	**07 04 03.6**	**-0.4**
YAZI				S	**Sg**	**07 04 24.9**	**+1.1**
DAT	**Datca**	**1.52**	**350**	Pn	**Pb**	**07 04 03.9**	**-0.6**
TURN	**Turunc**	**1.56**	**10**	P	**Pg**	**07 04 05.6**	**-0.4**
TURN				S	**Sg**	**07 04 26.9**	**+0.7**
IZZE	**Mula-Seydike**	**1.61**	**41**	P	**Pn**	**07 04 04.9**	**0.0**
IZZE				S	**Sg**	**07 04 28.8**	**+1.0**
SABU	**Mula-Dalaman**	**1.81**	**28**	P	**Pn**	**07 04 06.2**	**-1.3**
SABU				S	**Sg**	**07 04 35.0**	**+1.0**
CAME	**Cameli-Denizli**	**2.05**	**33**	Pn	**Pn**	**07 04 11.8**	**+0.8**
DNZT	**Denizli-Tavas-**	**2.23**	**24**	P	**Pn**	**07 04 13.8**	**+0.3**
DNZT				S	**Sb**	**07 04 45.8**	**+1.1**
TAVA	**DENIZLI_Tavas**	**2.37**	**20**	P	**Pb**	**07 04 17.1**	**-2.0**
TAVA				S	**Sn**	**07 04 45.3**	**+0.5**
GOLH	**Golhisar**	**2.41**	**33**	P	**Pb**	**07 04 17.6**	**-2.1**
GOLH				S	**Sb**	**07 04 49.5**	**-0.1**
AYDN	**Tasoluk**	**2.42**	**360**	P	**Pn**	**07 04 16.9**	**+0.9**
IDI	**Anoyia**	**2.46**	**272**	Pn	**Pn**	**07 04 17.2**	**+0.5**
APMY	**Acipayam-Deniz**	**2.50**	**26**	Pn	**Pn**	**07 04 18.1**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.71**	**360**	Pn	**Pn**	**07 04 20.9**	**+0.8**
HDMB	**Hadim**	**4.09**	**64**	Pn	**Pn**	**07 04 41.0**	**+1.8**

IDC ***15*** *07:24:38.8±0.7,56°.24N×164°.29E,h0km,mb3.8/17, mbtmp3.9/20,ML3.7/3,MS3.5/31,Error ellipse: s-maj=19.6km s-min=14.3km az=155.0*

KRSC ***15*** *07:24:39.5±1.1,56°.20N×164°.38E,h48km±16km,Mc4.6, Ml4.8*

NEIC ***15*** *07:24:41.9±1.5,56°.31N±0°.10×163°.9E±0°.1,h10km±1km, mb4.3/22,Error ellipse: s-maj=20.1km s-min=6.2km az=142.0*

MOS ***15*** *07:24:42.5±1.0,56°.19N×164°.26E,h46km,mb4.7/11,Error ellipse: s-maj=7.5km s-min=4.5km az=59.0*

ISC 15 07:24:40.5±1.3, 56°.19N±0°.04×164°.29E±0°.03, h12km±8km, n181,σ1s49/169, mb4.3/29, MS3.6/30, 7C-6D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.82**	**272**	PN	**Pg**	**07 24 55.5**	**-0.9**
KBTR	**Krutoberegovo**	**0.82**	**272**	*e*P	**Pg**	**07 24 55.5**	**-0.9**
KBG	**Krutoberegovo**	**0.89**	**275**	PN	**Pb**	**07 24 56.5**	**-1.2**
KBG				S	**Sg**	**07 25 08.7**	**-0.4**
KBG	**Krutoberegovo**	**0.89**	**275**	*e*P	**Pb**	**07 24 56.6**	**-1.2**
KBG				*e*S	**Sg**	**07 25 08.7**	**-0.4**
BKI	**Bering**	**1.37**	**135**	PN	**Pn**	**07 25 04.0**	**-1.4**
BKI				S	**Sn**	**07 25 21.5**	**-1.9**
BKI	**Bering**	**1.37**	**135**	*e*P	**Pn**	**07 25 04.1**	**-1.4**
BKI				*e*S	**Sn**	**07 25 21.5**	**-1.9**
SMKR	**Semkarok**	**1.62**	**285**	PN	**Pn**	**07 25 08.9**	**+0.1**
SMKR	**Semkarok**	**1.62**	**285**	*e*P	**Pn**	**07 25 08.9**	**+0.1**
ZLN	**Zelenaya**	**1.96**	**266**	PN	**Pn**	**07 25 14.4**	**+0.9**
ZLN	**Zelenaya**	**1.96**	**266**	*i* P	**Pn**	**07 25 14.5**	**+0.9**
CIRR	**Tsirk**	**1.98**	**269**	PN	**Pn**	**07 25 14.8**	**+0.9**
CIRR	**Tsirk**	**1.98**	**269**	*e*P	**Pn**	**07 25 14.9**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**2.03**	**264**	PN	**Pn**	**07 25 15.2**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.03**	**264**	*e*P	**Pn**	**07 25 15.2**	**+0.7**
KLY	**Klyuchi**	**2.03**	**275**	PN	**Pn**	**07 25 13.4**	**-1.0**
KLY				S	**Sn**	**07 25 37.6**	**-2.1**
KLY	**Klyuchi**	**2.03**	**275**	*e*P	**Pn**	**07 25 13.4**	**-1.0**
KLY				*e*S	**Sn**	**07 25 37.6**	**-2.1**
BZWR	**Bezymyannyi-We**	**2.14**	**265**	PN	**Pn**	**07 25 17.2**	**+1.1**
BZWR	**Bezymyannyi-We**	**2.14**	**265**	*e*P	**Pn**	**07 25 17.2**	**+1.1**
BZMR	**Bezymyannaya**	**2.14**	**265**	PN	**Pn**	**07 25 17.2**	**+1.1**
BZMR	**Bezymyannaya**	**2.14**	**265**	*e*P	**Pn**	**07 25 17.2**	**+1.1**
MKZ	**Mys Kozlova**	**2.19**	**223**	PN	**Pn**	**07 25 16.0**	**-0.6**
MKZ				S	**Sn**	**07 25 41.7**	**-1.9**
MKZ	**Mys Kozlova**	**2.19**	**223**	*e*P	**Pn**	**07 25 16.1**	**-0.6**
MKZ				*e*S	**Sn**	**07 25 41.8**	**-1.9**
KIRR	**Kirishev**	**2.22**	**266**	PN	**Pn**	**07 25 18.2**	**+1.0**
KIRR				S	**Sn**	**07 25 45.6**	**+1.0**
KIRR	**Kirishev**	**2.22**	**266**	*e*P	**Pn**	**07 25 18.2**	**+1.0**
KIRR				*e*S	**Sn**	**07 25 45.7**	**+1.0**
KPT	**Kopyto**	**2.29**	**266**	PN	**Pn**	**07 25 19.2**	**+1.1**
KPT	**Kopyto**	**2.29**	**266**	*e*P	**Pn**	**07 25 19.2**	**+1.1**
KMNR	**Kamenistaya**	**2.32**	**261**	PN	**Pn**	**07 25 19.9**	**+1.4**
KMNR	**Kamenistaya**	**2.32**	**261**	*e*P	**Pn**	**07 25 19.9**	**+1.4**
TUMD	**Tumrok D**	**2.41**	**247**	PN	**Pn**	**07 25 20.3**	**+0.6**
TUMD				S	**Sn**	**07 25 50.0**	**+0.9**
TUMD	**Tumrok D**	**2.41**	**247**	*e*P	**Pn**	**07 25 20.4**	**+0.6**
TUMD				*e*S	**Sn**	**07 25 50.1**	**+0.9**
KOZ	**Kozyrevsk**	**2.48**	**269**	PN	**Pn**	**07 25 22.1**	**+1.6**
KOZ	**Kozyrevsk**	**2.48**	**269**	*e*P	**Pn**	**07 25 22.2**	**+1.6**
SRDR	**Sredinnyy**	**2.55**	**275**	PN	**Pn**	**07 25 23.2**	**+1.5**
SRDR				S	**Sn**	**07 25 53.9**	**+1.3**
SRDR	**Sredinnyy**	**2.55**	**275**	*e*P	**Pn**	**07 25 23.3**	**+1.5**
SRDR				*e*S	**Sn**	**07 25 54.0**	**+1.3**
OSSR	**Ossora**	**3.14**	**348**	PN	**Pn**	**07 25 28.6**	**-1.0**
OSSR	**Ossora**	**3.14**	**348**	*e*P	**Pn**	**07 25 28.6**	**-1.0**
ESO	**Esso**	**3.14**	**267**	PN	**Pn**	**07 25 30.4**	**+0.6**
ESO	**Esso**	**3.14**	**267**	*e*P	**Pn**	**07 25 30.4**	**+0.6**
KII	**Karymskiy**	**3.52**	**234**	PN	**Pn**	**07 25 36.6**	**+1.7**
KII	**Karymskiy**	**3.52**	**234**	*e*P	**Pn**	**07 25 36.7**	**+1.7**
PALN	**Palana**	**3.72**	**323**	PN	**Pn**	**07 25 37.4**	**-0.2**
PALN	**Palana**	**3.72**	**323**	*e*P	**Pn**	**07 25 37.4**	**-0.2**
SPN	**Mys Shipunski**	**3.97**	**220**	PN	**Pn**	**07 25 40.5**	**-0.5**
SPN	**Mys Shipunski**	**3.97**	**220**	*e*P	**Pn**	**07 25 40.6**	**-0.5**
NLC	**Nalytchevo**	**4.17**	**226**	PN	**Pn**	**07 25 44.9**	**+1.1**
NLC	**Nalytchevo**	**4.17**	**226**	*e*P	**Pn**	**07 25 44.9**	**+1.1**
SDLR	**Sedlovina**	**4.28**	**229**	PN	**Pn**	**07 25 46.6**	**+1.2**
SDLR	**Sedlovina**	**4.28**	**229**	*e*P	**Pn**	**07 25 46.6**	**+1.2**
KRER	**Koryakskii**	**4.32**	**230**	PN	**Pn**	**07 25 47.7**	**+1.6**
KRER	**Koryakskii**	**4.32**	**230**	*e*P	**Pn**	**07 25 47.7**	**+1.6**
KRX	**Arik**	**4.32**	**231**	PN	**Pn**	**07 25 47.5**	**+1.4**
KRX	**Arik**	**4.32**	**231**	*e*P	**Pn**	**07 25 47.6**	**+1.4**
SMAR	**Somma**	**4.33**	**230**	PN	**Pn**	**07 25 47.2**	**+1.0**
SMAR	**Somma**	**4.33**	**230**	*e*P	**Pn**	**07 25 47.2**	**+1.0**
AVH	**Avacha**	**4.35**	**230**	PN	**Pn**	**07 25 47.9**	**+1.5**
AVH	**Avacha**	**4.35**	**230**	*e*P	**Pn**	**07 25 47.9**	**+1.5**
UGLR	**Uglovaya**	**4.35**	**229**	PN	**Pn**	**07 25 47.6**	**+1.1**
UGLR	**Uglovaya**	**4.35**	**229**	*e*P	**Pn**	**07 25 47.7**	**+1.1**
KOK	**Koryaka**	**4.38**	**231**	PN	**Pn**	**07 25 48.2**	**+1.5**
KOK	**Koryaka**	**4.38**	**231**	*e*P	**Pn**	**07 25 48.2**	**+1.5**
TILK	**Tilichiki**	**4.38**	**12**	*e*S	**Sn**	**07 26 36.3**	**-1.2**
GNL	**Ganaly**	**4.43**	**238**	PN	**Pn**	**07 25 49.3**	**+1.8**
GNL	**Ganaly**	**4.43**	**238**	*e*P	**Pn**	**07 25 49.4**	**+1.8**
DALK	**Dalny**	**4.51**	**228**	PN	**Pn**	**07 25 49.1**	**+0.6**
DALK	**Dalny**	**4.51**	**228**	*e*P	**Pn**	**07 25 49.1**	**+0.6**
PET	**Petropavlovsk**	**4.56**	**228**		**Pn**	**07 25 49.7**	**+0.5**
PET	**Petropavlovsk**	**4.56**	**228**	*e*PN	**Pn**	**07 25 49.9**	**+0.7**
PET				pmax	pmax		
	comp=Z,86nm,0.8s						
PET				MLR	MLR		
	comp=Z,300nm,15.0s						
PET				MLR	MLR		
	comp=Z,500nm,11.0s						
PET	**Petropavlovsk**	**4.56**	**228**	*e*P	**Pn**	**07 25 49.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**4.92**	**234**		**Pn**	**07 25 54.7**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.92**	**234**	*c i*PN

TIXI IAmb IAmb 07 29 31.9
comp=Z,12nm,0.8s
TIXI Tiksi 21.45 330 P **P** **07 29 28.3 +0.3**
comp=Z,8.9nm,0.7s,baz=116,slow=12,SNR=5.1
TIXI LR LR 07 38 12.4
comp=Z,87nm,20.9s,baz=174,slow=38
comp=Z,8.9nm,0.7s
TIXI Tiksi 21.45 330⇓ *eP* **P** **07 29 30.3 +2.2**
TIXI pmax pmax
comp=Z,14nm,0.9s
STLK Strandline Lak 22.95 58 P **P** **07 29 46.9 +2.5**
USRK Ussuriysk Ar. 23.66 253 LR LR 07 39 01.9
comp=Z,120nm,20.8s,baz=53,slow=36
JMM Marumori 24.14 230 P **P** **07 29 56.5 +0.5**
E24K Your Creek 24.35 42 P **P** **07 29 58.4 +0.6**
E24K IAmb IAmb 07 30 10.3
comp=Z,9.3nm,0.9s
CCB Clear Creek Bu 24.54 50 P **P** **07 30 00.3 +0.9**
CCB IAmb IAmb 07 30 12.4
comp=Z,9.7nm,1.0s
ILAR Eielson Array 24.92 50 P **P** **07 30 02.7 -0.3**
comp=Z,0.8nm,0.8s,baz=266,slow=7.2,SNR=10.0
ILAR LR LR 07 40 24.1
comp=Z,67nm,18.8s,baz=275,slow=38
comp=Z,0.8nm,0.8s
SCM Sheep Creek Mo 25.04 57 P **P** **07 30 06.7 +2.6**
SCM Sheep Creek Mo 25.04 57 P **P** **07 30 06.7 +2.6**
SCM pmax pmax
comp=Z,23nm,1.1s
J25K Salcha River, 25.59 50 P **P** **07 30 12.2 +3.1**
J25K IAmb IAmb 07 30 21.8
comp=Z,6.7nm,1.1s
BMAR Burnt Mountain 25.80 44 P **P** **07 30 11.9 +0.9**
MJAR Matsushiro Arr 26.37 233 LR LR 07 41 32.2
comp=Z,111nm,20.7s,baz=44,slow=38
KSRS Korea Array 30.65 248 P **P** **07 30 55.2 +0.9**
comp=Z,0.7nm,0.4s,baz=27,slow=8.2,SNR=1.9
comp=Z,0.7nm,0.4s
KSAR Wonju Array Be 30.68 248 P **P** **07 30 54.2 -0.4**
KSAR Wonju Array Be 30.68 248 P **P** **07 30 54.3 -0.4**
JMN Monobe 30.68 236 P **P** **07 30 55.7 +0.9**
INCN Inchon 31.30 249 P **P** **07 30 59.3 -0.8**
INCN Inchon 31.30 249 P **P** **07 30 59.3 -0.8**
INCN pmax pmax
comp=Z,51nm,1.5s
JNU Nakatsue 32.59 239 LR LR 07 43 29.7
comp=Z,78nm,21.5s,baz=32,slow=35
DLBC Dease Lake 34.28 58 LR LR 07 44 28.5
comp=Z,84nm,21.5s,baz=284,slow=35
ULN Ulaanbaatar 35.24 281⇓ *eP* **P** **07 31 35.2 +0.6**
ULN pmax pmax
comp=Z,16nm,3.5s
SONM Songino Array 35.62 282 P **P** **07 31 37.2 -0.7**
comp=Z,0.3nm,0.3s,baz=33,slow=9.1,SNR=1.9
SONM LR LR 07 47 53.1
comp=Z,123nm,18.1s,baz=52,slow=39
comp=Z,0.3nm,0.3s
H11N2 WAKE ISLAND Hy 36.45 176 T T 08 10 41.0
baz=357,slow=76,SNR=1280
H11N3 WAKE ISLAND Hy 36.47 176 T T 08 10 43.1
baz=357,slow=76,SNR=1007
H11N1 WAKE ISLAND Hy 36.47 176 T T 08 10 43.4
baz=357,slow=76,SNR=1177
HHC Hu-ho-hao-te 37.15 268 *eP* **P** **07 31 49.4 -1.5**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,40nm,4.4s
HHC LR LR
comp=N,330nm,16.8s
HHC LR LR
comp=E,300nm,16.8s
HHC LR LR
comp=Z,140nm,16.0s
JOW Kunigami 39.08 236 LR LR 07 49 58.9
comp=Z,99nm,18.6s,baz=324,slow=39
YKA Yellowknife Ar 39.24 46 P **P** **07 32 07.8 -0.3**
comp=Z,0.6nm,0.8s,baz=304,slow=8.9,SNR=4.9
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 39.24 46 *i* P **P** **07 32 08.6 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.8s
ZALV Zalesovo Beam 43.18 302 LR LR 07 52 12.6
comp=Z,43nm,19.2s,baz=49,slow=38
XAN Xi'an 43.46 263 *eP* **P** **07 32 41.3 -1.9**
XAN LR LR
comp=N,290nm,15.1s
XAN LR LR
comp=E,310nm,16.5s
XAN LR LR
comp=Z,210nm,17.9s
GUMO Guam 45.07 207 LR LR 07 49 15.1
comp=Z,26nm,20.4s,baz=10,slow=33
KURK Kurchatov 48.17 302 *c iP* **P** **07 33 21.3 +1.2**
KURK pmax pmax
comp=Z,8.0nm,0.7s
WMQ Urumqi 48.25 289 *eP* **P** **07 33 23.1 +2.2**
WMQ LR LR
comp=N,670nm,18.5s
MKAR Makanchi Array 49.01 296 P **P** **07 33 26.5 -0.2**
comp=N,0.5nm,0.7s,baz=46,slow=8.7,SNR=4.1
comp=N,0.5nm,0.7s
MKAR Makanchi Array 49.01 296 *eP* **P** **07 33 25.1 -1.6**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
BVAR Borovoye Array 50.37 309 P **P** **07 33 36.9 0.0**
comp=Z,3.6nm,0.7s,baz=51,slow=8.0,SNR=17
BVAR LR LR 07 55 46.6
comp=Z,34nm,18.2s,baz=55,slow=37
comp=Z,3.6nm,0.7s
BRVK Borovoye 50.39 309 *de* **P** **07 33 36.6 -0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 51.08 343 LR LR 07 57 52.3
comp=Z,41nm,18.1s,baz=323,slow=39
NVAR Mina Array Bea 52.49 75 P **P** **07 33 54.5 +1.3**
comp=Z,0.4nm,0.8s,baz=313,slow=7.7,SNR=3.0
comp=Z,0.4nm,0.8s
ARTI Arti 52.85 318 P **P** **07 33 55.3 -0.1**
comp=Z,2.8nm,0.7s,baz=117,slow=2.4,SNR=4.3
ARTI LR LR 07 59 33.9
comp=Z,78nm,18.4s,baz=26,slow=40
comp=Z,2.8nm,0.7s
ARTI Arti 52.85 318 *c iP* **P** **07 33 55.7 +0.3**
ARTI 07 35 03.6
ARTI 07 35 53.0
ARTI S **S** **07 41 23.5 +0.1**
ARTI SS **SS** **07 44 57.6 -3.8**
ARTI pmax pmax
comp=Z,22nm,3.5s
PZH PanZhiHua 53.20 263 P **P** **07 33 59.6 +1.1**
PDAR Pinedale Array 53.95 65 P **P** **07 34 04.6 +0.6**
comp=Z,0.6nm,0.8s,baz=328,slow=2.4,SNR=6.7
PDAR LR LR 07 56 47.9
comp=Z,23nm,18.6s,baz=349,slow=36
comp=Z,0.6nm,0.8s
KLMR Klimovskoe 55.46 331 *eP* **P** **07 34 11.4 -2.9**
KLMR pmax pmax
comp=Z,25nm,1.9s
AAK Ala-Archa 55.87 297⇓ *eP* **P** **07 34 17.9 +0.1**
AAK pmax pmax
comp=Z,9.0nm,2.1s
AKTO Aktyubinsk 57.50 313 P **P** **07 34 28.9 -0.1**
comp=Z,1.1nm,0.3s,baz=30,slow=5.0,SNR=1.7
AKTO LR LR 08 02 08.8
comp=Z,52nm,21.7s,baz=50,slow=39
comp=Z,1.1nm,0.3s
FINES FINESS Array B 58.20 338 LR LR 08 01 56.2
comp=Z,42nm,21.8s,baz=72,slow=38
BELG Belogornoye 59.90 321 *de* **P** **07 34 45.8 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 61.16 260 P **P** **07 34 55.5 +0.7**
comp=Z,0.8nm,0.3s,baz=16,slow=7.2,SNR=8.9
CMAR LR LR 08 02 18.5
comp=Z,47nm,18.7s,baz=35,slow=37
comp=Z,0.8nm,0.3s
NOA NORSAR Array B 61.20 345 P **P** **07 34 54.5 0.0**
comp=Z,0.3nm,0.5s,baz=17,slow=6.8,SNR=3.3
NOA LR LR 08 02 40.6
comp=Z,16nm,20.8s,baz=205,slow=37
comp=Z,0.3nm,0.5s
HFS Hagfors 61.70 344 LR LR 08 03 00.4
comp=Z,52nm,19.7s,baz=24,slow=37
KIV Kislovodsk 68.78 319 *eP* **P** **07 35 42.4 -1.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s

KBZ Khabaz 68.90 318 LR LR 08 09 08.8
comp=Z,38nm,19.9s,baz=14,slow=39
GNI Garni 71.26 315 LR LR 08 10 47.2
comp=Z,62nm,20.2s,baz=25,slow=39
VRAC Vranov 71.48 338 LR LR 08 10 01.4
comp=Z,23nm,21.6s,baz=14,slow=38
TKL Tuckaleechee C 71.87 53 LR LR 08 09 04.0
comp=Z,50nm,18.5s,baz=348,slow=37
MLR Muntele Rosu 72.81 331 LR LR 08 10 56.2
comp=Z,58nm,20.0s,baz=50,slow=38
BRTR Keskin Array B 75.70 323 P **P** **07 36 25.6 0.0**
comp=Z,0.8nm,0.8s,baz=20,slow=4.6,SNR=3.2
comp=Z,0.8nm,0.8s
WRA Warramunga Arr 79.95 208 P **P** **07 36 49.4 +0.3**
comp=Z,0.5nm,0.7s,baz=19,slow=5.8,SNR=5.1
comp=Z,0.5nm,0.7s
WRA Warramunga Arr 79.95 208 *i* P **P** **07 36 50.4 +1.3**
ASF Jabal al Asfar 81.29 317 LR LR 08 19 17.8
comp=Z,49nm,18.2s,baz=239,slow=40
PPT Papeete 83.06 136 LR LR 08 08 46.2
comp=Z,44nm,18.5s,baz=0.0,slow=32
ASAR Alice Springs 83.61 208 P **P** **07 37 09.2 +0.9**
comp=Z,0.3nm,0.7s,baz=16,slow=6.9,SNR=2.7
comp=Z,0.3nm,0.7s
ESDC Sonseca Array 83.98 351 P **P** **07 37 10.9 +0.6**
comp=Z,0.2nm,0.7s,baz=12,slow=4.5,SNR=1.0
comp=Z,0.2nm,0.7s
STKA Stephens Creek 89.83 199 LR LR 08 18 58.8
comp=Z,47nm,18.7s,baz=241,slow=36
LPAZ La Paz 123.96 67 PKP **PKPdf** **07 43 37.1 -2.0**
comp=Z,0.4nm,0.3s,baz=0.6,slow=5.6,SNR=6.4

NNC ***15*** *07:33:07.0±1.1, 49°.94N×78°.57E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=25.0km s-min=4.6km az=81.0, Suspected Mining explosion.*
IDC ***15*** *07:33:10.0±0.8, 50°.07N×78°.77E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=12.1km s-min=6.0km az=58.0*
ISC 15 07:33:09.2±0.9, 50°.05N±0°.05×78°.70E±0°.07, h0km, n17, σ0s96/31, 11C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.55**	**348**	⇑P	**Pg**	**07 33 19.6**	**-0.1**
KUR07				⇓S	**Sb**	**07 33 28.6**	**-1.5**
KUR06	**Kurchatov Arra**	**0.56**	**348**	⇓P	**Pg**	**07 33 20.1**	**+0.1**
KUR06				⇓S	**Sb**	**07 33 28.9**	**-1.7**
KUR14	**Kurchatov Arra**	**0.57**	**353**	⇑P	**Pg**	**07 33 19.9**	**-0.3**
KUR14				⇓S	**Sb**	**07 33 28.9**	**-1.8**
KUR15	**Kurchatov Arra**	**0.57**	**351**	⇑P	**Pg**	**07 33 19.0**	**-1.3**
KUR15				⇓S	**Sb**	**07 33 29.4**	**-1.5**
KURBB	**Kurchatov Arra**	**0.58**	**349**	Pg	**Pg**	**07 33 20.6**	**+0.2**
	1.3nm,0.3s,baz=168,slow=18,SNR=48						
KURBB				Lg	Lg	07 33 29.8	
	2.2nm,0.3s,baz=168,slow=32,SNR=14						
KURBB	**Kurchatov Arra**	**0.58**	**349**	⇑P	**Pg**	**07 33 20.3**	**-0.1**
	11nm,0.5s						
KURBB				⇑S	**Sb**	**07 33 31.1**	**0.0**
	94nm,0.6s						
KUR16	**Kurchatov Arra**	**0.59**	**347**	⇓P	**Pg**	**07 33 20.5**	**-0.1**
KUR16				⇑S	**Sg**	**07 33 29.3**	**+1.1**
KUR17	**Kurchatov Arra**	**0.60**	**346**	⇓P	**Pg**	**07 33 20.6**	**-0.1**
KUR17				⇓S	**Sb**	**07 33 30.2**	**-1.4**
KUR05	**Kurchatov Arra**	**0.60**	**350**	⇓P	**Pg**	**07 33 20.4**	**-0.4**
KUR05				⇑S	**Sg**	**07 33 29.4**	**+0.8**
KUR04	**Kurchatov Arra**	**0.62**	**351**	⇓P	**Pg**	**07 33 20.9**	**-0.2**
KUR04				⇓S	**Sg**	**07 33 30.1**	**+0.9**
KURK	**Kurchatov**	**0.67**	**356**	⇑P	**Pg**	**07 33 21.9**	**-0.1**
	4.0nm,0.4s						
KURK				⇑S	**Sb**	**07 33 32.8**	**-0.8**
	41nm,0.8s						
MAKZ	**Makanchi**	**3.91**	**145**	Pg	**Pb**	**07 34 16.8**	**-2.2**
	2.4nm,0.6s						
MAKZ				Lg	Lg	07 35 07.8	
	5.4nm,0.6s						
MK31	**Makanchi Array**	**4.04**	**142**	⇑Pn	**Pn**	**07 34 12.5**	**+0.1**
	0.6nm,0.5s,baz=322,slow=10,SNR=12						
MK31				⇓Pg	**Pb**	**07 34 21.8**	**+0.5**
	1.5nm,0.5s,baz=322,slow=14,SNR=8.9						
MK31				⇑Lg	Lg	07 35 14.2	
	4.1nm,0.5s,baz=313,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**4.04**	**142**	Pn	**Pn**	**07 34 12.6**	**+0.2**
	0.3nm,0.3s,baz=322,slow=10,SNR=13						
MKAR				Pg	**Pb**	**07 34 21.0**	**-0.3**
	0.8nm,0.3s,baz=329,slow=16,SNR=9.9						
MKAR				Sn	**Sn**	**07 35 01.0**	**+0.6**
	0.3nm,0.3s,baz=331,slow=26,SNR=2.0						
MKAR				Lg	Lg	07 35 13.6	
	1.6nm,0.3s,baz=331,slow=25,SNR=11						
	0.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**5.43**	**42**	I	I	08 03 20.0	
	baz=227,slow=325,SNR=3.4						
ZALV	**Zalesovo Beam**	**5.43**	**42**	Pn	**Pn**	**07 34 32.0**	**+0.6**
	0.8nm,0.3s,baz=233,slow=14,SNR=7.7						
ZALV				Sn	**Sn**	**07 35 35.3**	**+0.7**
	0.2nm,0.3s,baz=230,slow=16,SNR=1.3						
ZALV				Lg	Lg	07 35 58.1	
	0.2nm,0.3s,baz=227,slow=32,SNR=3.7						
	2.0nm,0.4s						
BVAR	**Borovoye Array**	**5.98**	**303**	Pn	**Pn**	**07 34 40.0**	**+1.1**
	baz=113,slow=15,SNR=1.6						
BVAR				Sn	**Sn**	**07 35 48.0**	**0.0**
	0.1nm,0.3s,baz=111,slow=23,SNR=12						
BVAR				Lg	Lg	07 36 20.3	
	0.1nm,0.3s,baz=118,slow=30,SNR=4.0						
	0.3nm,0.4s						

ASRS ***15*** *07:56:10.0±0.9, 54°.29N×86°.15E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 07:56:13.9±2.6, 54°.26N×85°.96E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=18.5km s-min=12.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.74**	**246**	I	I	08 01 40.0	
	baz=67,slow=318,SNR=2.2						
ZALV	**Zalesovo Beam**	**0.74**	**246**	Pg	Pg	07 56 27.4	-0.7
	0.7nm,0.3s,baz=60,slow=16,SNR=9.0						
ZALV				Lg	Lg	07 56 38.4	
	2.0nm,0.3s,baz=65,slow=27,SNR=15						
KURBB	**Kurchatov Arra**	**5.82**	**234**	Pn	Pn	07 57 42.2	+0.8
	0.1nm,0.3s,baz=52,slow=13,SNR=3.2						
KURBB				Lg	Lg	07 59 22.4	
	0.1nm,0.3s,baz=46,slow=29,SNR=2.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.83**	**199**	Pn	Pn	07 58 10.1	+1.0
	0.2nm,0.3s,baz=21,slow=16,SNR=7.2						
	0.4nm,0.4s						

DJA 15 08:05:26.1±0.4, 9°S±3°×117°E±°, h10km, M3.7/16, mb3.9/1, MLv3.5/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**0.82**	**350**	P	Pg	08 05 42.0	0.0
PCJI				S	Sb	08 05 53.4	-0.2
WOJI	**Wonogiri, Jawa**	**1.23**	**341**	P	Pn	08 05 48.2	-1.2
WOJI				S	Sb	08 06 05.4	0.0
UGM	**Wanagama**	**1.35**	**324**	P	Pn	08 05 50.0	-1.0
UGM				S	Sb	08 06 08.5	-0.3
NGJI	**Ngawi**	**1.64**	**5**	P	Pb	08 05 56.5	+0.1
NGJI				S	Sb	08 06 16.8	-0.3
SMRI	**Semarang**	**2.13**	**336**	P	Pn	08 06 02.1	+0.3
GMJI	**Gumukmas**	**2.22**	**71**	P	Pn	08 06 02.0	-1.1
GMJI				S	Sn	08 06 30.8	+0.2
TBJI	**Tambak Boyo**	**2.24**	**14**	P	Pn	08 06 02.3	-1.0
GRJI	**Gresik**	**2.38**	**29**	P	Pn	08 06 06.0	+0.8
GRJI				S	Sn	08 06 35.7	+1.3
JAGI	**Jajag, Banyuwa**	**2.85**	**79**	P	Pn	08 06 09.7	-2.0
JAGI				S	Sn	08 06 47.0	+0.9
KPJI	**Karang Pucung**	**2.89**	**305**	P	Pn	08 06 13.2	+0.9
KPJI				S	Sn	08 06 48.1	+1.0
ABJI	**Asem Bagus**	**3.13**	**68**	P	Pn	08 06 15.9	+0.4
TWSI	**Taliwang, Sumb**	**5.50**	**88**	P	Pn	08 06 48.7	+0.5
BKNI	**Bangkinang**	**13.82**	**312**	P	Pn	08 08 34.8	-7.4

CATAC ***15*** *08:06:37.8±0.4, 13°N±2°×97°W±°, h27km±2km, M3.5/30, MLv3.5/30, Error ellipse: s-maj=4.8km s-min=2.9km az=30.6, confirmed*

GCG ***15*** *08:06:39.7±0.9, 13°.18N×89°.57W, h41km±10km, MD3.9, ML3.3, MW3.1*
SNET ***15*** *08:06:39.4±1.5, 13°.26N×89°.48W, h62km, ML3.3*
ISC 15 08:06:37.7±1.5, 13°.05N±0°.05×89°.52W±0°.04, h25km±13km, n79, σ0s65/88, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.47**	**24**	*eP*	**Pn**	**08 06 48.8**	**-0.1**
LALI				*eS*	**Sn**	**08 06 56.9**	**+0.5**
LALI	**Alcalda de L**	**0.47**	**24**	*i* P	**Pn**	**08 06 48.9**	**-0.1**
LALI				*i* S	**Sn**	**08 06 56.6**	**+0.1**
LALI				IAML		08 06 57.6	
	comp=E,257nm,0.1s						
LALI	**Alcalda de L**	**0.47**	**24**	P	**Pn**	**08 06 49.0**	**+0.1**
JAYA	**Jayaque - finc**	**0.60**	**6**	*i* P	**Pn**	**08 06 50.5**	**-0.4**
JAYA	**Jayaque - finc**	**0.60**	**6**	P	**Pn**	**08 06 50.5**	**-0.4**
JAYA	**Jayaque - finc**	**0.60**	**6**	S	**Sn**	**08 06 59.2**	**-0.7**
PANCS	**Alcalda de**	**0.64**	**30**	P	**Pn**	**08 06 51.0**	**-0.4**
PANCS	**Alcalda de**	**0.64**	**30**	S	**Sb**	**08 06 59.7**	**+0.7**
LOMA	**Loma Larga**	**0.68**	**30**	P	**Pn**	**08 06 51.4**	**-0.5**
LOMA	**Loma Larga**	**0.68**	**30**	S	**Sn**	**08 07 01.1**	**-0.7**
PMON	**Piamonte**	**0.68**	**17**	P	**Pn**	**08 06 51.5**	**+0.4**
PMON	**Piamonte**	**0.68**	**17**	S	**Sn**	**08 07 03.0**	**+1.1**
UEES	**Universidad Ev**	**0.71**	**22**	P	**Pn**	**08 06 51.9**	**-0.4**
UEES	**Universidad Ev**	**0.71**	**22**	S	**Sn**	**08 07 02.0**	**-0.6**
UTEC	**Universidad Te**	**0.71**	**25**	P	**Pb**	**08 06 51.7**	**+0.1**
UTEC	**Universidad Te**	**0.71**	**25**	S	**Sn**	**08 07 01.6**	**-0.9**
BOQS	**Boqueron**	**0.71**	**19**	*eP*	**Pb**	**08 06 51.9**	**+0.2**
LFRS	**El Faro**	**0.72**	**38**	*eP*	**Pn**	**08 06 52.1**	**-0.3**
UDBS	**Universidad Do**	**0.74**	**28**	P	**Pn**	**08 06 52.7**	**-0.1**
UDBS	**Universidad Do**	**0.74**	**28**	S	**Sn**	**08 07 02.9**	**-0.4**
CEDA	**San Andres**	**0.75**	**9**	P	**Pn**	**08 06 52.6**	**-0.3**
CEDA	**San Andres**	**0.75**	**9**	S	**Sn**	**08 07 03.4**	**-0.1**
CEVE	**Cerro Verde**	**0.78**	**352**	*eP*	**Pn**	**08 06 53.1**	**-0.3**
CEVE				*eS*	**Sn**	**08 07 05.6**	**+1.2**
CEVE	**Cerro Verde**	**0.78**	**352**	P	**Pn**	**08 06 53.5**	**+0.1**
CEVE	**Cerro Verde**	**0.78**	**352**	S	**Sn**	**08 07 04.6**	**+0.2**
TECO	**Alcaldia de Te**	**0.86**	**56**	P	**Pb**	**08 06 53.9**	**-0.1**
TECO	**Alcaldia de Te**	**0.86**	**56**	S	**Sb**	**08 07 05.4**	**+0.2**
PAVA	**Las Pavas**	**0.86**	**41**	P	**Pn**	**08 06 54.7**	**+0.3**
PAVA	**Las Pavas**	**0.86**	**41**	S	**Sn**	**08 07 06.4**	**+0.1**
NUBE	**Las Nubes**	**0.88**	**343**	*i* P	**Pb**	**08 06 54.1**	**-0.4**
NUBE				*i* S	**Sb**	**08 07 05.2**	**-0.7**
NUBE	**Las Nubes**	**0.88**	**343**	P	**Pb**	**08 06 54.0**	**-0.4**
UESV	**Universidad de**	**0.92**	**51**	P	**Pn**	**08 06 54.9**	**-0.2**
UESV	**Universidad de**	**0.92**	**51**	S	**Sb**	**08 07 06.9**	**+0.1**
FAME	**Alcaldia de Sa**	**0.92**	**328**	P	**Pn**	**08 06 54.4**	**-0.7**
FAME	**Alcaldia de Sa**	**0.92**	**328**	S	**Sb**	**08 07 06.0**	**-0.9**
UNIC	**Universidad Ca**	**0.92**	**358**	P	**Pb**	**08 06 55.3**	**+0.2**
UNIC	**Universidad Ca**	**0.92**	**358**	S	**Sn**	**08 07 08.1**	**+0.4**
LOAL	**Lomas de Alarc**	**0.97**	**345**	P	**Pb**	**08 06 56.2**	**+0.2**
LOAL	**Lomas de Alarc**	**0.97**	**345**	S	**Sn**	**08 07 09.2**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.00**	**50**	P	**Pb**	**08 06 56.3**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.00**	**50**	S	**Sn**	**08 07 09.8**	**+0.1**
PQSS	**Presa 15 de Se**	**1.09**	**59**	P	**Pn**	**08 06 57.6**	**+0.2**
PQSS	**Presa 15 de Se**	**1.09**	**59**	S	**Sn**	**08 07 10.8**	**-0.9**
PACA	**Pacayal**	**1.23**	**70**	*eP*	**Pn**	**08 07 00.4**	**-0.0**
PACA	**Pacayal**	**1.23**	**70**	P	**Pb**	**08 07 00.1**	**-0.3**
PACA	**Pacayal**	**1.23**	**70**	S	**Sb**	**08 07 16.2**	**+0.3**
LLGN	**La Laguna**	**1.23**	**27**	*eP*	**Pn**	**08 06 59.2**	**-0.3**
LLGN	**La Laguna**	**1.23**	**27**	P	**Pn**	**08 06 59.5**	**0.0**
LLGN	**La Laguna**	**1.23**	**27**	S	**Sb**	**08 07 16.0**	**+0.1**
MTO3	**Montecristo**	**1.34**	**6**	*i* P	**Pn**	**08 07 00.8**	**-0.3**
MTO3	**Montecristo**	**1.34**	**6**	P	**Pn**	**08 07 01.0**	**-0.2**
MTO3	**Montecristo**	**1.34**	**6**	S	**Sn**	**08 07 17.6**	**-0.8**
CNRM	**Centro Naciona**	**1.37**	**72**	P	**Pn**	**08 07 00.6**	**-0.8**
CNRM	**Centro Naciona**	**1.37**	**72**	S	**Sb**	**08 07 19.3**	**-0.6**
ESQI	**Esquipulas**	**1.51**	**6**	P	**Pn**	**08 07 02.9**	**-0.4**
FG16	**Alotenango, Sa**	**1.55**	**322**	*i* P	**Pb**	**08 07 08.9**	**+3.0**
FG16				IAML		08 07 41.4	
	comp=N,2μm,0.3s						
LCND	**La Caada**	**1.60**	**81**	*eP*	**Pn**	**08 07 04.7**	**+0.2**
LCND	**La Caada**	**1.60**	**81**	P	**Pn**	**08 07 05.1**	**+0.6**
LCND	**La Caada**	**1.60**	**81**	S	**Sn**	**08 07 25.2**	**+0.8**
CNCH	**Conchagua**	**1.65**	**82**	P	**Pn**	**08 07 05.5**	**+0.2**
CNCH	**Conchagua**	**1.65**	**82**	S	**Sn**	**08 07 26.2**	**+0.4**
ESSG	**Sabana Grande**	**1.84**	**316**	*i* P	**Pn**	**08 07 07.3**	**-0.5**
ESSG				*i* S	**Sn**	**08 07 28.7**	**-1.6**
SARH	**Santa Rosa de**	**1.86**	**23**	*i* P	**Pn**	**08 07 08.4**	**+0.3**
SARH	**Santa Rosa de**	**1.86**	**23**	P	**Pn**	**08 07 08.4**	**+0.3**
SARH	**Santa Rosa de**	**1.86**	**23**	S	**Sn**	**08 07 31.0**	**0.0**
CSGN	**Cosiguina Volc**	**1.91**	**92**	P	**Pn**	**08 07 08.7**	**-0.1**
CSGN				S	**Sn**	**08 07 31.7**	**-0.4**
POTN	**Potosi Cosigui**	**1.96**	**91**	P	**Pn**	**08 07 09.4**	**0.0**
POTN				S	**Sn**	**08 07 34.1**	**+0.9**
CHOHN	**Orocuina**	**2.33**	**79**	P	**Pn**	**08 07 14.3**	**-0.3**
CHOHN	**Orocuina**	**2.33**	**79**	S	**Sn**	**08 07 43.6**	**+1.0**
CRIN	**San Cristobal**	**2.43**	**98**	P	**Pn**	**08 07 15.7**	**-0.2**
CRIN	**San Cristobal**	**2.43**	**98**	S	**Sn**	**08 07 45.5**	**+0.6**
POLN	**Al Sur del Vol**	**2.67**	**98**	P	**Pn**	**08 07 16.8**	**-0.4**
POLN				S	**Sn**	**08 07 48.6**	**-2.1**
YUSH	**Yuscaran**	**2.75**	**71**	P	**Pn**	**08 07 20.9**	**+0.5**
ROCN	**Rota Cerro Neg**	**2.76**	**101**	P	**Pn**	**08 07 20.0**	**-0.4**
CNGA	**Al SSO del Vol**	**2.80**	**101**	P	**Pn**	**08 07 21.2**	**+0.1**
CNGN	**Cerro Negro**	**2.80**	**101**	P	**Pn**	**08 07 20.9**	**-0.2**
OCON	**Estacion meteo**	**3.01**	**79**	P	**Pn**	**08 07 24.3**	**+0.4**
OCON				S	**Sn**	**08 07 59.7**	**+0.4**
RCVN	**Varillal2**	**3.28**	**80**	P	**Pn**	**08 07 27.9**	**+0.2**
MATN	**Matagalpa**	**3.50**	**92**	P	**Pn**	**08 07 29.6**	**-1.2**

IDC ***15*** *08:08:18.9±2.8, 16°.22S×167°.95E, h177km±19km, mb3.9/10, mbtmp4.4/10, Error ellipse: s-maj=29.8km s-min=17.0km az=58.0*
NEIC ***15*** *08:08:18.6±1.3, 16°.2S±0°.1×168°.1E±0°.1, h178km±8km, mb4.5/17, Error ellipse: s-maj=17.4km s-min=12.4km az=215.0*
NOU ***15*** *08:08:19.6, 16°.06S×168°.24E, h167km, MLv4.5/17, Vanuatu Islands*
ISC 15 08:08:18.5±0.7, 16°.15S±0°.06×168°.0E±0°.1, h177km, n52, σ1s43/55, mb4.5/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**0.56**	**274**	P	**Pn**	**08 08 44.6**	**+1.4**
SANVU	**Saraoutou**	**1.03**	**312**		**Pn**	**08 08 46.6**	**+0.5**
SANVU	**Saraoutou**	**1.03**	**312**	P	**Pn**	**08 08 47.1**	**+0.9**
SANVU	**Saraoutou**	**1.03**	**312**	S	**Sn**	**08 09 09.4**	**+1.9**
DVP	**Devils Point**	**1.58**	**173**	P	**Pn**	**08 08 52.3**	**+1.3**
DVP	**Devils Point**	**1.58**	**173**	S	**Sn**	**08 09 17.7**	**+1.4**
LUES	**Luesalemba Tem**	**5.82**	**339**	P	**Pn**	**08 09 43.3**	**+0.2**
LUES	**Luesalemba Tem**	**5.82**	**339**	S	**Sn**	**08 10 49.6**	**-0.1**
YATNC	**Mamie plateau,**	**5.97**	**190**	P	**Pn**	**08 09 47.3**	**+2.2**
DZM	**Mont Dzumac**	**6.08**	**194**	P	**Pn**	**08 09 45.8**	**-0.7**
	10nm,0.4s,baz=55,slow=13,SNR=19						
DZM				S	**Sn**	**08 10 55.1**	**-0.7**
	19nm,1.0s,baz=319,slow=21,SNR=6.5						
ONTNC	**Ouen Toro**	**6.30**	**193**	Pn	**Pn**	**08 09 49.2**	**-0.2**
OUENC	**Ouen Island, N**	**6.33**	**190**	P	**Pn**	**08 09 52.4

comp=Z,1.0nm,0.9s,baz=98,slow=4.7,SNR=6.7
comp=Z,18nm,0.8s
MTN Manton Dam 35.81 270 P **P** **08 15 00.7 -0.5**
MTN IAmb IAmb 08 15 07.7
comp=Z,8.3nm,0.9s
KNRA Kununurra 37.70 265 **P** **08 15 16.2 -0.9**
KNRA IAmb IAmb 08 15 17.7
comp=Z,24nm,1.1s
FITZ Fitzroy Crossi 40.47 261 **P** **08 15 40.0 -0.1**
FITZ IAmb IAmb 08 15 41.3
comp=Z,6.0nm,0.7s
MBWA Marble Bar 45.87 256 **P** **08 16 23.4 0.0**
MBWA IAmb IAmb 08 16 24.7
comp=Z,19nm,0.8s
JMM Marumori 59.50 335 P **P** **08 18 02.1 -0.8**
VNDA Vanda 61.47 182 P **P** **08 18 15.8 -0.1**
comp=Z,0.6nm,0.6s,baz=353,slow=5.4,SNR=3.9
comp=Z,0.6nm,0.6s
SBA Scott Base 61.73 180 P **P** **08 18 18.4 +0.8**
CASY Casey 62.49 203 P **P** **08 18 22.6 -0.2**
CASY IAmb IAmb 08 18 31.5
comp=Z,11nm,1.4s
NJ2 Nanjing 67.18 316 *eP* **P** **08 18 55.1 +1.5**
NJ2 pmax pmax
comp=Z,14nm,0.5s
QSPA South Pole Qui 73.89 180 P **P** **08 19 34.4 +0.6**
QSPA IAmb IAmb 08 19 35.9
comp=Z,7.0nm,1.1s
QSPA South Pole Qui 73.89 180 P **P** **08 19 34.8 +0.9**
comp=Z,3.5nm,0.8s,baz=18,slow=2.8,SNR=25
comp=Z,3.5nm,0.8s
XAN Xi'an 75.16 313 *eP* **P** **08 19 39.5 -2.1**
CMAR Chiang Mai Arr 76.17 294 P **P** **08 19 48.9 +1.3**
comp=Z,1.3nm,0.7s,baz=133,slow=4.7,SNR=6.2
comp=Z,1.3nm,0.7s
XLT XiLinHaoTe 76.26 324 *eP* **P** **08 19 48.8 +1.2**
XLT pP pP 08 20 29.3 -0.6
XLT pmax pmax
comp=Z,7.0nm,0.8s
PZH PanZhiHua 77.05 303 P **P** **08 19 54.3 +1.8**
HHC Hu-ho-hao-te 77.11 320 *eP* **P** **08 19 55.4 +2.9**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.9s
LZH Lanzhou 79.79 312 *eP* **P** **08 20 09.3 +1.9**
LZH sP sP 08 21 12.9 +4.0
LZH pmax pmax
comp=Z,18nm,1.3s
SONM Songino Array 84.05 323 P **P** **08 20 29.7 +0.4**
comp=Z,1.4nm,0.8s,baz=116,slow=3.4,SNR=4.7
comp=Z,1.4nm,0.8s
SHL Shillong 84.85 298 P **P** **08 20 33.2 -0.7**
SHL IAmb IAmb 08 20 35.1
comp=Z,12nm,0.9s
SNAA Sanae 92.18 183 P **P** **08 21 06.1 -1.6**
SNAA IAmb IAmb 08 21 20.2
comp=Z,6.9nm,1.5s
SNAA Sanae 92.18 183 P **P** **08 21 06.6 -1.1**
comp=Z,2.3nm,1.1s,baz=190,slow=7.2,SNR=8.7
comp=Z,2.3nm,1.1s
MKAR Makanchi Array 98.71 316 P Pdif 08 21 38.6 +0.9
comp=Z,0.5nm,0.8s,baz=77,slow=3.1,SNR=2.4
comp=Z,0.5nm,0.8s
ARCES ARCESS Array B 121.79 345 PKP **PKiKP** **08 26 50.6 -0.3**
comp=Z,0.5nm,0.7s,baz=45,slow=1.9,SNR=0.8

---

*THE **15** 08:16:57.8,35˚N±29˚×2˚8E±3˚3, h0km±30km, M2.6/4, MLh2.6/4*
*AFAD **15** 08:16:58.1,35˚20N×27˚97E, h27km±2km, ML2.5*
*ATH **15** 08:17:01.6±1.2,35˚38N×27˚66E, h13km±5km, ML2.6/7, Manual Solution by N.Liadopoulou First location: 2019/08/15 08:18:44, This location: 2019/08/15 08:27:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 5 km*

ISC 15 08:16:59.5±1.9,35˚21N±0˚07×27˚75E±0˚05, h6km±11km, n20,σ1°52/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.59**	**305**	P	**Pg**	**08 17 10.2**	**-0.6**
KARP				S	**Sb**	**08 17 20.2**	**-0.6**
KARP	**Karpathos**	**0.59**	**305**	P	**Pg**	**08 17 10.3**	**-0.6**
KARP				S	**Sg**	**08 17 18.7**	**+0.2**
ARG	**Arkhangelos**	**1.05**	**17**	P	**Pg**	**08 17 18.1**	**-1.5**
ARG				S	**Sb**	**08 17 34.6**	**+0.6**
ARG	**Arkhangelos**	**1.05**	**17**	P	**Pg**	**08 17 19.6**	**-0.1**
ARG				S	**Sg**	**08 17 32.5**	**-0.7**
ZKR	**Zakros**	**1.26**	**266**	P	**Pn**	**08 17 22.5**	**-1.2**
ZKR	**Zakros**	**1.26**	**266**	P	**Pn**	**08 17 23.6**	**-0.1**
ZKR				S	**Sg**	**08 17 40.5**	**+0.4**
YAZI	**Mula-Dat§a-**	**1.48**	**351**	P	**Pn**	**08 17 25.8**	**-1.0**
YAZI				S	**Sg**	**08 17 47.8**	**+0.5**
YAZI				*i* IAML		08 17 52.0	
	comp=E,62nm,0.5s						
YAZI				*i* IAML		08 17 54.0	
	comp=N,45nm,0.4s						
DAT	**Datca**	**1.52**	**355**	P	**Pn**	**08 17 26.5**	**-0.9**
DAT				S	**Sg**	**08 17 48.5**	**+0.1**
TURN	**Turunc**	**1.61**	**14**	P	**Pn**	**08 17 27.8**	**-0.7**
TURN				S	**Sg**	**08 17 53.9**	**+2.6**
TURN				*i* IAML		08 17 56.0	
	comp=E,69nm,0.8s						
TURN				*i* IAML		08 18 01.0	
	comp=N,72nm,0.7s						
IZZE	**Mula-Seydike**	**1.71**	**44**	P	**Pn**	**08 17 27.6**	**-2.3**
IZZE				S	**Sb**	**08 17 53.4**	**+0.2**
IZZE				*i* IAML		08 18 03.0	
	comp=E,59nm,0.5s						
IZZE				*i* IAML		08 18 07.0	
	comp=N,68nm,0.5s						
NPS	**Neapolis**	**1.75**	**272**	P	**Pn**	**08 17 30.4**	**0.0**
BDRM	**Kayabasi**	**1.86**	**352**	P	**Pn**	**08 17 30.7**	**-1.3**
BDRM				S	**Sn**	**08 17 56.4**	**+0.5**
BDRM				*i* IAML		08 18 03.0	
	comp=E,55nm,0.7s						
SABU	**Mula-Dalaman**	**1.89**	**31**	P	**Pn**	**08 17 29.9**	**-2.4**
SABU				S	**Sg**	**08 18 05.0**	**+4.8**
SABU				*i* IAML		08 18 23.0	
	comp=N,47nm,0.8s						
SABU				*i* IAML		08 18 23.0	
	comp=E,36nm,0.8s						
THERA	**Ancient Thera,**	**2.18**	**303**	P	**Pn**	**08 17 36.6**	**+0.3**
THERA	**Ancient Thera,**	**2.18**	**303**	P	**Pn**	**08 17 35.1**	**-1.3**
DNZT	**Denizli-Tavas-**	**2.30**	**26**	P	**Pn**	**08 17 36.7**	**-1.4**
DNZT				S	**Sb**	**08 18 12.3**	**+2.0**
IDI	**Anoyia**	**2.34**	**273**	P	**Pn**	**08 17 39.5**	**+0.9**
TAVA	**DENİZLİ_Tavas**	**2.44**	**22**	P	**Pn**	**08 17 38.3**	**-1.6**
TAVA				S	**Sn**	**08 18 11.3**	**+1.2**
TAVA				*i* IAML		08 18 26.0	
	comp=N,28nm,0.6s						
TAVA				*i* IAML		08 18 28.0	
	comp=E,33nm,0.6s						
AYDN	**Tasoluk**	**2.44**	**2**	P	**Pn**	**08 17 39.1**	**-1.0**
AYDN				S	**Sn**	**08 18 10.2**	**0.0**
AYDN				*i* IAML		08 18 22.0	
	comp=N,29nm,0.5s						
AYDN				*i* IAML		08 18 28.0	
	comp=E,27nm,0.4s						
SMG	**Samos**	**2.60**	**344**	P	**Pn**	**08 17 40.2**	**-1.9**

---

*DJA **15** 08:17:53.5±0.9,5˚N±2˚×12˚6E±˚, h18km±7km, M4.6/11, mB4.9/3, mb4.7/6, MLv4.5/11, Mw(mB)4.2/3, MwMwp5.0/1, Mwp5.3/1*
*IDC **15** 08:17:56.0±1.7,5˚22N×125˚75E, h107km±15km, mb3.6/12, mbtmp3.9/12, Error ellipse: s-maj=57.2km s-min=12.7km az=72.0*

ISC 15 08:17:54.7±0.6,5˚30N±0˚05×126˚3E±0˚1, h100km, n21,σ1°37/29, mb4.0/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.79**	**206**	P	**Pn**	**08 18 23.8**	**-0.8**
SGSI				S	**Sn**	**08 18 46.5**	**-0.9**
DAV	**Davao City (W)**	**1.91**	**337**	P	**Pn**	**08 18 26.5**	**+0.3**
	280nm,0.4s,baz=249,slow=11,SNR=2.4			S			
DAV					**Sn**	**08 18 51.3**	**+1.2**
	249nm,0.3s,baz=141,slow=23,SNR=2.0						
MRSI	**Marisa**	**6.49**	**223**	P	**Pn**	**08 19 27.6**	**-0.1**
LUWI	**Luwuk**	**7.23**	**209**	P	**Pn**	**08 19 39.7**	**+1.9**
	94nm,1.2s						
LUWI				S	**Sn**	**08 21 00.0**	**+1.6**
	94nm,1.2s						
SANI	**Sanana**	**7.31**	**183**	P	**Pn**	**08 19 35.9**	**-3.0**
	0.2nm6µm731nm24nm,0.7s						
APSI	**Ampana**	**7.74**	**217**	P	**Pn**	**08 19 47.8**	**+3.1**
	0.2nm32nm,0.9s						
SWI	**Sorong**	**7.86**	**141**	P	**Pn**	**08 19 46.3**	**-0.1**
	0.2nm29nm,0.8s						
NLAI	**Namlea**	**8.52**	**175**	P	**Pn**	**08 19 53.9**	**-1.4**
WRA	**Warramunga Arr**	**26.29**	**163**	P	**P**	**08 23 23.3**	**+2.2**
	0.8nm,0.6s,baz=342,slow=10,SNR=29						
WRA				PcP	**PcP**	**08 26 46.0**	**+0.9**
	0.3nm,0.5s,baz=327,slow=2.2,SNR=2.7						
WRA				ScP	**ScP**	**08 30 16.6**	**+0.5**
	0.3nm,0.7s,baz=340,slow=3.1,SNR=2.9						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**29.72**	**166**	P	**P**	**08 23 51.8**	**+0.1**
	0.5nm,0.5s,baz=344,slow=7.0,SNR=13						
ASAR				PcP	**PcP**	**08 26 54.3**	**+0.8**
	0.9nm,0.6s,baz=339,slow=2.5,SNR=12						
ASAR				ScP	**ScP**	**08 30 27.5**	**+0.8**
	0.3nm,0.9s,baz=328,slow=3.7,SNR=2.2						
	0.5nm,0.5s						
CN2	**Changchun**	**38.35**	**359**	P	P	08 25 15.3	+9.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**45.69**	**341**	P	**P**	**08 26 05.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=163,slow=5.9,SNR=1.8						
SONM				PcP	**PcP**	**08 27 42.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=144,slow=5.2,SNR=2.2						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**56.05**	**325**	P	**P**	**08 27 22.2**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=116,slow=7.5,SNR=11						
MKAR				PcP	**PcP**	**08 28 19.3**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=118,slow=2.9,SNR=1.6						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**60.21**	**327**	P	**P**	**08 27 51.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=122,slow=5.9,SNR=6.5						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**65.79**	**327**	P	**P**	**08 28 27.9**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=134,slow=8.3,SNR=2.3						
	comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**83.87**	**25**	P	**P**	**08 30 14.3**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=278,slow=7.3,SNR=1.8						
	comp=Z,0.2nm,0.7s						
VNDA	**Vanda**	**85.02**	**173**	P	**P**	**08 30 19.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=320,slow=7.2,SNR=6.3						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**88.85**	**340**	P	**P**	**08 30 36.2**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=100,slow=3.7,SNR=3.9						
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**90.27**	**332**	P	**P**	**08 30 43.3**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=43,slow=5.5,SNR=2.0						
	comp=Z,1.6nm,0.7s						
QSPA	**South Pole Qui**	**95.19**	**180**	P	**P**	**08 31 07.3**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=304,slow=3.2,SNR=3.0						
	comp=Z,0.8nm,0.9s						
HFS	**Hagfors**	**96.45**	**332**	P	**P**	**08 31 11.1**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=100,slow=4.8,SNR=1.3						
	comp=Z,0.9nm,0.8s						

---

*IDC **15** 08:19:50.5±2.0, 10˚17S×74˚22W, h133km±25km, mb2.9/1, mbtmp3.5/5, Error ellipse: s-maj=24.3km s-min=16.2km az=53.0*

ISC 15 08:19:47.0±1.0, 10˚11S±0˚10×73˚93W±0˚08, h100km, n6,σ1°22/8, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.42**	**237**	P	**Pn**	**08 20 39.4**	**+1.1**
	17nm,0.3s,baz=60,slow=8.0,SNR=23						
NNA				S	**Sn**	**08 21 17.2**	**-0.8**
	109nm,0.3s,baz=84,slow=10,SNR=33						
ATAH	**Atahualpa**	**5.32**	**303**	P	**Pn**	**08 21 05.6**	**+1.2**
	4.1nm,0.3s,baz=190,slow=6.9,SNR=23						
ATAH				S	**Sn**	**08 22 04.7**	**0.0**
	9.7nm,0.4s,baz=150,slow=20,SNR=4.1						
LPAZ	**La Paz**	**8.34**	**138**	P	Pn	08 21 52.0	+6.3
	0.4nm,0.6s,baz=320,slow=6.9,SNR=1.6						
SIV	**San Ignacio**	**13.81**	**116**	P	**P**	**08 23 02.6**	**-1.0**
	2.0nm,0.5s,baz=297,slow=11,SNR=14						
SIV				S	**Sn**	**08 25 32.3**	**+1.5**
	0.5nm,0.5s,baz=330,slow=19,SNR=1.6						
TXAR	**Lajitas Array**	**48.59**	**325**	P	**P**	**08 28 19.7**	**-1.0**
	0.2nm,0.4s,baz=154,slow=8.1,SNR=8.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**139.18**	**223**	PKP	**PKPdf**	**08 39 03.2**	**0.0**
	0.7nm,1.1s,baz=118,slow=2.1,SNR=6.6						

---

*TRN **15** 08:29:08.6, 11˚28N×63˚75W, h52km, MD3.8, North of Margarita, Venezuela.*
*FUNV **15** 08:29:11.0, 11˚17N×63˚61W, h13km, MW3.5*

ISC 15 08:29:11.1±1.2, 11˚12N±0˚07×63˚66W±0˚04, h35km, n16,σ2°38/26, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRFF	**Grenada Fort F**	**2.10**	**64**	*eP*	**Pn**	**08 29 42.1**	**-1.7**
GRFF				*eS*	**Sn**	**08 30 08.1**	**-0.6**
PSMG	**Mucurapo Girls**	**2.13**	**102**	*eS*	**Sn**	**08 30 11.3**	**+1.7**
PSKH	**Kent House, Po**	**2.14**	**101**	*eS*	**Sn**	**08 30 12.2**	**+2.4**
PSQC	**Port of Spain**	**2.15**	**102**	*eS*	**Sn**	**08 30 12.2**	**+2.3**
PSGH	**Port of Spain**	**2.16**	**102**	*eS*	**Sn**	**08 30 12.6**	**+2.4**
GRGR	**Grenville**	**2.21**	**63**	*eP*	**Pn**	**08 29 44.7**	**-0.6**
GRGR				*eS*	**Sn**	**08 30 10.4**	**-1.0**
TRN	**Trinidad (W)**	**2.26**	**102**	*eP*	**Pn**	**08 29 47.4**	**+1.3**
TRN				*eS*	**Sn**	**08 30 14.7**	**+1.9**
GRSS	**Sisters**	**2.32**	**59**	*eP*	**Pn**	**08 29 45.5**	**-1.3**
GRSS				*eS*	**Sn**	**08 30 13.2**	**-1.1**
SVT	**Saint Vincent**	**3.12**	**49**	*eP*	**Pn**	**08 29 57.4**	**-0.5**
FUNV	**FUNVISIS**	**3.16**	**259**	*eP*	**Pn**	**08 30 01.2**	**+2.6**
FUNV				*eS*	**Sn**	**08 30 36.5**	**+1.3**
SVB	**Belmont**	**3.18**	**47**	*eP*	**Pn**	**08 29 57.3**	**-1.4**
TACV	**Tcata**	**3.45**	**254**	*eP*	**Pn**	**08 30 04.3**	**+1.9**
TACV				*eS*	**Sn**	**08 30 44.5**	**+2.3**
BENV	**Beln**	**4.04**	**254**	*eP*	**Pn**	**08 30 12.8**	**+2.3**
BENV				*eS*	**Sn**	**08 30 57.5**	**+0.7**
CACV	**CAICARA DEL OR**	**4.53**	**219**	*eP*	**Pn**	**08 30 14.9**	**-2.4**
CACV				*eS*	**Sn**	**08 31 02.0**	**-6.8**
BAUV	**El Baul**	**4.83**	**244**	*eP*	**Pn**	**08 30 22.2**	**+0.8**
BAUV				*eS*	**Sn**	**08 31 15.9**	**-0.2**
BAUV	**El Baul**	**4.83**	**244**	*eP*	**Pn**	**08 30 22.1**	**+0.7**
BAUV				*eS*	**Sn**	**08 31 11.7**	**-4.3**

---

*CATAC **15** 08:40:14.7±0.3, 13˚N±2˚×9˚0W±˚, h35km±3km, M3.4/25, MLv3.4/25, Error ellipse: s-maj=5.2km s-min=3.4km az=42.9, confirmed*
*SNET **15** 08:40:14.7±1.2, 13˚15N×89˚56W, h52km, ML3.3*
*GCG **15** 08:40:14.9±1.1, 13˚21N×89˚54W, h57km±9km, MD3.8, ML2.8, MW3.2*

ISC 15 08:40:14.7±1.1, 13˚14N±0˚07×89˚56W±0˚06, h57km±10km, n82,σ0°54/95, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.41**	**34**	*eP*	**Pn**	**08 40 25.1**	**-0.4**
LALI				*eS*	**Sn**	**08 40 34.0**	**+0.6**
LALI	**Alcalda de L**	**0.41**	**34**	*i P*	**Pn**	**08 40 25.1**	**-0.4**
LALI	**Alcalda de L**	**0.41**	**34**	P	**Pn**	**08 40 25.2**	**-0.4**
JAYA	**Jayaque - finc**	**0.52**	**12**	*eP*	**Pn**	**08 40 26.3**	**-0.5**
JAYA				*eS*	**Sn**	**08 40 35.5**	**-0.1**
JAYA	**Jayaque - finc**	**0.52**	**12**	*i P*	**Pn**	**08 40 26.3**	**-0.5**
JAYA				*i S*	**Sn**	**08 40 35.3**	**-0.3**
JAYA	**Jayaque - finc**	**0.52**	**12**	P	**Pn**	**08 40 26.4**	**-0.4**
PANCS	**Alcalda de**	**0.59**	**39**	P	**Pn**	**08 40 26.8**	**-0.7**
PANCS	**Alcalda de**	**0.59**	**39**	S	**Sn**	**08 40 36.6**	**-0.3**
PMON	**Piamonte**	**0.61**	**23**	*eP*	**Pn**	**08 40 27.4**	**-0.4**
PMON	**Piamonte**	**0.61**	**23**	P	**Pn**	**08 40 27.4**	**-0.4**
PMON	**Piamonte**	**0.61**	**23**	S	**Sn**	**08 40 37.7**	**+0.3**
LOMA	**Loma Larga**	**0.63**	**37**	*eP*	**Pn**	**08 40 27.6**	**-0.4**
LOMA	**Loma Larga**	**0.63**	**37**	P	**Pn**	**08 40 27.5**	**-0.4**
LOMA	**Loma Larga**	**0.63**	**37**	S	**Sn**	**08 40 37.9**	**+0.2**
BOQS	**Boqueron**	**0.65**	**25**	*eP*	**Pn**	**08 40 28.1**	**-0.3**
UEES	**Universidad Ev**	**0.65**	**29**	P	**Pn**	**08 40 28.1**	**-0.1**
UEES	**Universidad Ev**	**0.65**	**29**	S	**Sn**	**08 40 38.1**	**0.0**
UTEC	**Universidad Te**	**0.66**	**32**	P	**Pn**	**08 40 28.0**	**-0.3**
UTEC	**Universidad Te**	**0.66**	**32**	S	**Sn**	**08 40 38.5**	**+0.2**
PIC2	**El Picacho**	**0.67**	**26**	*eP*	**Pn**	**08 40 28.4**	**-0.2**
CEDA	**San Andres**	**0.67**	**14**	*eP*	**Pn**	**08 40 28.2**	**-0.3**
CEDA	**San Andres**	**0.67**	**14**	P	**Pn**	**08 40 28.3**	**-0.2**
CEDA	**San Andres**	**0.67**	**14**	S	**Sn**	**08 40 39.8**	**+1.2**
LFRS	**El Faro**	**0.68**	**46**	*eP*	**Pn**	**08 40 28.3**	**-0.3**
CEVE	**Cerro Verde**	**0.68**	**355**	*eP*	**Pn**	**08 40 28.8**	**0.0**
CEVE				*eS*	**Sn**	**08 40 40.2**	**+1.1**
CEVE	**Cerro Verde**	**0.68**	**355**	P	**Pn**	**08 40 28.9**	**+0.1**
UDBS	**Universidad Do**	**0.69**	**35**	P	**Pn**	**08 40 28.6**	**-0.2**
UDBS	**Universidad Do**	**0.69**	**35**	S	**Sn**	**08 40 39.5**	**+0.5**
AEIL	**Aeropuerto Ilo**	**0.70**	**38**	*eP*	**Pn**	**08 40 28.5**	**-0.3**
AEIL				*eS*	**Sn**	**08 40 41.0**	**+1.9**
LFU	**La Fuente**	**0.74**	**36**	*eP*	**Pn**	**08 40 29.2**	**-0.2**
NUBE	**Las Nubes**	**0.78**	**344**	*eP*	**Pn**	**08 40 29.5**	**-0.4**
NUBE				*eS*	**Sn**	**08 40 41.0**	**-0.1**
NUBE	**Las Nubes**	**0.78**	**344**	*i P*	**Pn**	**08 40 29.7**	**-0.3**
NUBE				*i S*	**Sn**	**08 40 41.0**	**-0.1**
NUBE	**Las Nubes**	**0.78**	**344**	P	**Pn**	**08 40 29.9**	**0.0**
FAME	**Alcaldia de Sa**	**0.82**	**328**	P	**Pn**	**08 40 30.0**	**-0.4**
PAVA	**Las Pavas**	**0.83**	**47**	*eP*	**Pn**	**08 40 30.3**	**-0.2**
PAVA	**Las Pavas**	**0.83**	**47**	P	**Pn**	**08 40 30.6**	**+0.1**
PAVA	**Las Pavas**	**0.83**	**47**	S	**Sn**	**08 40 42.5**	**+0.3**
UNIC	**Universidad Ca**	**0.83**	**1**	P	**Pn**	**08 40 30.3**	**-0.2**
UNIC	**Universidad Ca**	**0.83**	**1**	S	**Sn**	**08 40 43.3**	**+1.1**
TECO	**Alcaldia de Te**	**0.85**	**63**	P	**Pn**	**08 40 29.9**	**-0.9**
TECO	**Alcaldia de Te**	**0.85**	**63**	S	**Sn**	**08 40 42.0**	**-0.6**
UESV	**Universidad de**	**0.90**	**57**	P	**Pn**	**08 40 30.9**	**-0.4**
UESV	**Universidad de**	**0.90**	**57**	S	**Sn**	**08 40 43.6**	**0.0**
SCLA	**Alcaldia de Sa**	**0.98**	**56**	P	**Pn**	**08 40 32.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.98**	**56**	S	**Sn**	**08 40 46.4**	**+0.8**
PQSS	**Presa 15 de Se**	**1.08**	**64**	P	**Pn**	**08 40 33.4**	**-0.3**
PQSS	**Presa 15 de Se**	**1.08**	**64**	S	**Sn**	**08 40 47.8**	**0.0**
LLGN	**La Laguna**	**1.18**	**31**	P	**Pn**	**08 40 34.5**	**-0.6**
LLGN	**La Laguna**	**1.18**	**31**	S	**Sn**	**08 40 49.9**	**-0.3**
PACA	**Pacayal**	**1.25**	**75**	*eP*	**Pn**	**08 40 36.7**	**+0.6**
PACA	**Pacayal**	**1.25**	**75**	P	**Pn**	**08 40 36.4**	**+0.3**
PACA	**Pacayal**	**1.25**	**75**	S	**Sn**	**08 40 52.4**	**+0.5**
MTO3	**Montecristo**	**1.26**	**9**	*eP*	**Pn**	**08 40 36.0**	**-0.4**
MTO3	**Montecristo**	**1.26**	**9**	*i P*	**Pn**	**08 40 36.1**	**-0.3**
MTO3				*i S*	**Sn**	**08 40 52.5**	**0.0**
MTO3	**Montecristo**	**1.26**	**9**	P	**Pn**	**08 40 36.0**	**-0.4**
MTO3	**Montecristo**	**1.26**	**9**	S	**Sn**	**08 40 51.8**	**-0.7**
ESQI	**Esquipulas**	**1.42**	**9**	*eP*	**Pn**	**08 40 38.4**	**0.0**
ESQI	**Esquipulas**	**1.42**	**9**	P	**Pn**	**08 40 38.5**	**+0.1**
ESQI	**Esquipulas**	**1.42**	**9**	S	**Sn**	**08 40 56.1**	**0.0**
LCND	**La Caada**	**1.64**	**84**	*eP*	**Pn**	**08 40 40.8**	**-0.4**
LCND	**La Caada**	**1.64**	**84**	P	**Pn**	**08 40 41.5**	**+0.3**
LCND	**La Caada**	**1.64**	**84**	S	**Sn**	**08 41 01.8**	**+0.6**
CNCH	**Conchagua**	**1.69**	**85**	*eP*	**Pn**	**08 40 41.7**	**-0.3**
CNCH	**Conchagua**	**1.69**	**85**	P	**Pn**	**08 40 41.6**	**-0.3**
CNCH	**Conchagua**	**1.69**	**85**	S	**Sn**	**08 41 03.7**	**+1.1**
MARCA	**Marcala la Paz**	**1.79**	**56**	*i P*	**Pn**	**08 40 43.1**	**-0.4**
MARCA				*i S*	**Sn**	**08 41 05.3**	**+0.1**
MARCA	**Marcala la Paz**	**1.79**	**56**	P	**Pn**	**08 40 43.2**	**-0.2**
SARH	**Santa Rosa de**	**1.80**	**26**	*i P*	**Pn**	**08 40 43.9**	**+0.5**
SARH				*i S*	**Sn**	**08 41 05.2**	**0.0**
SARH	**Santa Rosa de**	**1.80**	**26**	P	**Pn**	**08 40 43.9**	**+0.5**
CSGN	**Cosiguina Volc**	**1.96**	**95**	P	**Pn**	**08 40 46.2**	**+0.6**
CSGN				S	**Sn**	**08 41 09.6**	**+0.4**
CHOHN	**Orocuina**	**2.36**	**82**	P	**Pn**	**08 40 51.2**	**0.0**
CHOHN	**Orocuina**	**2.36**	**82**	S	**Sn**	**08 41 19.5**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.40**	**68**	P	**Pn**	**08 40 51.4**	**-0.3**
TGUH				S	**Sn**	**08 41 19.2**	**-0.9**
POLN	**Al Sur del Vol**	**2.73**	**100**	P	**Pn**	**08 40 56.0**	**-0.1**
YUSH	**Yuscaran**	**2.76**	**73**	P	**Pn**	**08 40 56.5**	**-0.1**
PACN	**Al O del Volca**	**2.77**	**103**	P	**Pn**	**08 40 57.1**	**+0.4**
ROCN	**Rota Cerro Neg**	**2.82**	**102**	P	**Pn**	**08 40 57.3**	**0.0**
ROCN				S	**Sn**	**08 41 29.0**	**-1.1**
CNGN	**Cerro Negro**	**2.87**	**103**	P	**Pn**	**08 40 58.4**	**+0.5**
CNGN	**Cerro Negro**	**2.87**	**103**	S	**Sn**	**08 41 29.6**	**-1.7**
COPN	**Copaltepe**	**3.05**	**108**	P	**Pn**	**08 41 01.3**	**+0.8**
RCVN	**Varillal2**	**3.31**	**82**	P	**Pn**	**08 41 04.1**	**0.0**
RCVN	**Varillal2**	**3.31**	**82**	S	**Sn**	**08 41 41.9**	**-0.4**

---

*GUC **15** 08:40:40.4±0.7, 23˚83S×66˚87W, h197km±10km, ML4.1*
*SJA **15** 08:40:40.0±0.6, 23˚89S×66˚84W, h213km±3km, ML3.8, MW3.7*
*IDC **15** 08:40:41.7±3.6, 23˚76S×66˚64W, h202km±34km, mb3.0/5, mbtmp3.6/7, MS2.5/1, Error ellipse: s-maj=29.3km s-min=21.2km az=36.0*

ISC 15 08:40:41.4±0.8, 23˚88S±0˚04×66˚88W±0˚05, h204km±6km, n41,σ1°40/60, mb3.1/4, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALTA		**0.60**	**125**	*i P*	**Pn**	**08 41 09.5**	**-0.5**
SALTA		**0.60**	**125**	*eP*	Pn	08 41 04.2	-5.8
SALTA				*eP*		08 41 09.6	
SALTA				*eS*	**S**	**08 41 31.8**	**-0.5**
AF01	**San Pedro de A**	**1.51**	**308**	*i P*	**Pn**	**08 41 17.1**	**+1.1**
AF01	**San Pedro de A**	**1.51**	**308**	*eP*	**Pn**	**08 41 12.7**	**-3.2**
AF01				*eS*	**S**	**08 41 48.2**	**+5.9**
SLA	**San Lorenzo**	**1.51**	**124**	*i P*	**Pn**	**08 41 15.3**	**-0.4**
SLA	**San Lorenzo**	**1.51**	**124**	*eP*	**Pn**	**

CYA	**Choya**	**4.64**	**168**	*e*P		**Pn**	08 41 50.8	-0.6
GO01	**Chusmiza**	**4.71**	**332**	*e*P		**Pn**	08 41 53.6	+0.8
GO01				*e*S		**S**	08 42 48.9	+0.4
GO01				IAML			08 42 51.2	
	comp=Z,47nm,0.2s							
GO03	**Copiapo**	**4.78**	**219**	*e*P		**Pn**	08 41 51.5	-1.6
GO03				*e*S		**S**	08 42 46.6	-2.6
GO03				IAML			08 42 49.9	
	comp=Z,65nm,0.3s							
PB11	**IPOC Station P**	**4.84**	**327**	*e*P		**Pn**	08 41 52.4	-1.7
PB11				*e*S		**S**	08 42 48.6	-2.4
PB11				IAML			08 42 49.0	
	comp=Z,78nm,0.8s							
LPAZ	**La Paz**	**7.64**	**351**	P		**Pn**	08 42 30.5	-0.2
	comp=Z,1.5nm,0.3s,baz=168,slow=5.5,SNR=23							
LPAZ				S		**S**	08 43 55.0	-2.5
	comp=Z,1.5nm,0.6s,baz=325,slow=6.3,SNR=5.4							
LPAZ				LR		LR	08 46 38.9	
	comp=Z,38nm,19.5s,baz=46,slow=47							
BDFB	**Brasilia**	**19.54**	**69**	P		**P**	08 44 52.2	-1.6
	comp=Z,6.7nm,0.7s,baz=228,slow=11,SNR=6.6							
SNAA	**Sanae**	**59.43**	**161**	P		**P**	08 50 22.0	-0.2
	comp=Z,1.0nm,1.1s,baz=284,slow=12,SNR=1.8							
	comp=Z,1.0nm,1.1s							
TXAR	**Lajitas Array**	**63.65**	**324**	P		**P**	08 50 51.8	+0.8
	comp=Z,0.1nm,0.5s,baz=144,slow=6.2,SNR=2.5							
	comp=Z,0.1nm,0.5s							
VNDA	**Vanda**	**74.83**	**190**	P		**P**	08 52 01.1	+2.3
	comp=Z,0.3nm,0.6s,baz=331,slow=5.5,SNR=2.1							
	comp=Z,0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.43**	**69**	P		**P**	08 52 07.6	-1.3
	comp=Z,0.4nm,0.5s,baz=260,slow=5.4,SNR=3.6							
	comp=Z,0.4nm,0.5s							
PDAR	**Pinedale Array**	**77.10**	**329**	P		**P**	08 52 13.4	+1.1
	comp=Z,0.1nm,0.4s,baz=110,slow=3.6,SNR=1.5							
	comp=Z,0.1nm,0.4s							

*IDC **15** 08:43:31.6±0.9, 61°.64N×13°.70E, h0km, mbtmp3.1/2, ML2.0/2, Error ellipse: s-maj=8.8km s-min=7.3km az=126.0*
*DNK **15** 08:43:32.5±0.6, 61°.58N×13°.79E, h0km, ML2.2(UPP), Explosion*
*UPP **15** 08:43:32.5±0.2, 61°.56N×13°.84E, h0km, ML2.3, Unknown Suspected explosion*
ISC 15 08:43:31.0±0.9, 61°.59N±0°.03×13°.77E±0°.03, h0km, n33, σ0s72/50, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROTU	**Roteberg**	**1.00**	**99**	P	**Pg**	08 43 50.4	+0.3
ROTU				S	**Sg**	08 44 03.1	+0.1
ROTU	**Roteberg**	**1.00**	**99**	P	**Pg**	08 43 50.4	+0.3
ROTU				S	**Sg**	08 44 03.1	+0.1
NOA	**NORSAR Array B**	**1.35**	**247**	Pg	**Pg**	08 43 56.1	-0.8
	0.1nm,0.3s,baz=60,slow=17,SNR=18						
NOA				Lg	Lg	08 44 13.6	
	0.1nm,0.3s,baz=63,slow=17,SNR=6.8						
HASU	**Hassela**	**1.46**	**66**	P	**Pb**	08 43 58.8	-0.2
HASU				S	**Sn**	08 44 18.3	-0.1
HASU	**Hassela**	**1.46**	**66**	P	**Pb**	08 43 58.8	-0.2
HASU				S	**Sn**	08 44 18.3	-0.1
HFS	**Hagfors**	**1.47**	**181**	Pg	**Pn**	08 43 58.4	-0.3
	1.4nm,0.3s,baz=0.0,slow=13,SNR=47						
HFS				Lg	Lg	08 44 18.9	
	0.5nm,0.3s,baz=3.1,slow=29,SNR=4.9						
FALU	**Falun**	**1.49**	**137**	P	**Pn**	08 43 59.0	0.0
FALU				S	**Sg**	08 44 18.6	-0.2
FALU	**Falun**	**1.49**	**137**	P	**Pn**	08 43 59.0	0.0
FALU				S	**Sg**	08 44 18.6	-0.2
UDD	**Uddeholm**	**1.51**	**183**	P	**Pn**	08 43 59.3	0.0
UDD				S	**Sg**	08 44 19.5	0.0
UDD	**Uddeholm**	**1.51**	**183**	P	**Pn**	08 43 59.3	0.0
UDD				S	**Sg**	08 44 19.5	0.0
HUDU	**Hudiksvall**	**1.61**	**83**	P	**Pb**	08 44 01.4	-0.2
HUDU				S	**Sb**	08 44 21.9	-0.4
HUDU	**Hudiksvall**	**1.61**	**83**	P	**Pb**	08 44 01.4	-0.2
HUDU				S	**Sb**	08 44 21.9	-0.4
ARNU	**Arnoeviken**	**1.73**	**85**	P	**Pb**	08 44 03.3	-0.3
ARNU				S	**Sg**	08 44 26.0	-0.4
ARNU	**Arnoeviken**	**1.73**	**85**	P	**Pb**	08 44 03.3	-0.3
ARNU				S	**Sg**	08 44 26.0	-0.4
IGGU	**Iggoen**	**1.86**	**111**	P	**Pb**	08 44 05.3	-0.6
IGGU				S	**Sb**	08 44 29.7	0.0
IGGU	**Iggoen**	**1.86**	**111**	P	**Pb**	08 44 05.3	-0.6
IGGU				S	**Sb**	08 44 29.7	0.0
NOD	**Norderasen**	**1.93**	**15**	P	**Pb**	08 44 06.9	-0.1
NOD				S	**Sg**	08 44 33.4	+0.6
NRAU	**Nora**	**2.12**	**162**	P	**Pb**	08 44 09.4	-0.9
NRAU				S	**Sn**	08 44 35.6	+0.8
OSTU	**Oestervaala**	**2.14**	**128**	P	**Pb**	08 44 09.6	-1.0
OSTU				S	**Sn**	08 44 35.7	+0.5
HEMU	**Hemsoen**	**2.28**	**60**	P	**Pb**	08 44 11.9	-1.1
FINU	**Finntorp**	**2.29**	**197**	P	**Pn**	08 44 11.0	+1.0
FINU				S	**Sn**	08 44 40.6	+1.8
SOLU	**Sollefteaa**	**2.32**	**43**	P	**Pb**	08 44 13.0	-0.7
BACU	**Backbrunna**	**2.40**	**135**	P	**Pn**	08 44 12.7	+1.3
FIBU	**Brunna**	**2.44**	**132**	P	**Pn**	08 44 13.6	+1.5
GRAU	**Graesoe**	**2.65**	**116**	P	**Pn**	08 44 16.0	+1.1
NASU	**Vaermlandsnaes**	**2.69**	**186**	P	**Pn**	08 44 16.6	+1.1
ESKU	**Eskilstuna**	**2.70**	**150**	P	**Pn**	08 44 16.7	+1.0
STRU	**Stroemstad**	**2.87**	**208**	P	**Pn**	08 44 18.9	+0.9
STRU				S	**Sn**	08 44 53.8	+0.7
UMAU	**Umeaa**	**3.92**	**51**	P	**Pn**	08 44 34.0	+1.5
FINES	**FINESS Array B**	**5.89**	**86**	Pn	**Pn**	08 44 59.2	-0.3
	0.1nm,0.3s,baz=275,slow=17,SNR=1.7						
	1.8nm,0.9s						
I37NO	**I37NO**	**7.78**	**13**	I	I	09 30 00.0	
	0.1nm,0.8s,baz=199,slow=321,SNR=5.6						
ARCES	**ARCESS Array B**	**9.32**	**26**	Pn	**Pn**	08 45 45.2	-1.2
	baz=212,slow=14,SNR=11						
	0.2nm,0.2s						
I26DE	**FREYUNG INFRAS**	**12.77**	**180**	I	I	10 01 50.0	
	baz=1.9,slow=322,SNR=2.5						

*SDD **15** 08:48:02.5±1.3, 19°.71N×70°.89W, h31km±7km, MD3.2, ML2.0, MW2.8, Confirmed Earthquake*
*OSPL **15** 08:48:05.6±1.8, 19°.58N×70°.81W, h12km±10km, ML1.4*
ISC 15 08:48:03.1±1.2, 19°.64N±0°.04×70°.86W±0°.04, h22km±2km, n11, σ0s96/20, 6C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MADR	**Mao Valverde**	**0.24**	**251**	⇓*e*Pg	**Pb**	08 48 09.0	-0.2
MADR				*e*Sg	**Sb**	08 48 12.9	-0.4
MADR				IAML		08 48 19.5	
	comp=N,106nm,1.8s						
SC01	**Santiago de lo**	**0.25**	**149**	*i* P	**Pb**	08 48 08.9	-0.4
SC01				*e*S	**Sb**	08 48 12.8	-0.7
SC01	**Santiago de lo**	**0.25**	**149**	⇓*e*Pg	**Pb**	08 48 09.2	0.0
SC01				⇑*e*Sg	**Sb**	08 48 15.6	+2.2
SC01				IAML		08 48 16.7	
	comp=N,95nm,0.3s						
LUDR	**Luperon**	**0.26**	**341**	⇑*e*Pg	**Pb**	08 48 08.5	-0.9
SODR	**Sosua Marina B**	**0.29**	**68**	⇓*e*Pg	**Pb**	08 48 09.8	0.0
SODR				⇓*e*Sg	**Sb**	08 48 14.8	+0.5
SODR				IAML		08 48 15.9	
	comp=N,155nm,0.4s						
LOPP1	**Punta Rusia, P**	**0.38**	**303**	*i* P	**Pn**	08 48 13.5	+0.2
LOPP1				*e*S	**Sn**	08 48 21.0	+1.0
LOPP1				IAML		08 48 22.6	
	comp=Z,28nm,1.3s						
SDDR	**Presa de Saban**	**0.77**	**212**	*i* P	**Pn**	08 48 17.9	-0.9
SDDR				*e*S	**Sn**	08 48 29.6	-0.1
SDDR				IAML		08 48 32.8	
	comp=Z,16nm,1.2s						
SDDR	**Presa de Saban**	**0.77**	**212**	⇑*e*Pg	**Pn**	08 48 17.4	-1.4
SDDR				⇓*e*Sg	**Sb**	08 48 28.0	+0.1
SDDR				IAML		08 48 30.1	
	comp=N,33nm,0.2s						
LODU1	**El Espartillar**	**1.41**	**204**	*i* P	**Pb**	08 48 29.8	+1.1
LODU1				IAML		08 48 48.6	
	comp=Z,43nm,1.8s						
HATOM	**Hato Mayor del**	**1.64**	**121**	⇑*e*Pg	**Pn**	08 48 30.3	-0.3
HATOM				⇓*e*Sg	**Sn**	08 48 50.6	-0.4
HATOM				IAML		08 48 54.1	
	comp=N,15nm,0.8s						
HIDR	**Higuey Centro**	**2.28**	**117**	⇑*e*Pg	**Pn**	08 48 40.4	+0.9
HIDR				⇑*e*Sg	**Sb**	08 49 09.9	-1.5
HIDR				IAML		08 49 16.9	
	comp=N,24nm,1.1s						

*ASRS **15** 08:50:29.0±0.9, 53°.60N×87°.98E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 08:50:34.3±3.2, 53°.60N×87°.84E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=27.9km s-min=17.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**282**	I	I	09 02 33.8	
	0.1nm,1.1s,baz=98,slow=314,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.83**	**282**	Pg	Pn	08 51 06.7	-0.2
	2.2nm,0.3s,baz=96,slow=16,SNR=18						
ZALV				Lg	Lg	08 51 32.7	
	3.1nm,0.3s,baz=101,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**6.46**	**246**	Pn	Pn	08 52 10.9	+0.3
	0.1nm,0.3s,baz=60,slow=13,SNR=3.7						
KURBB				Lg	Lg	08 53 59.4	
	0.1nm,0.3s,baz=63,slow=32,SNR=4.8						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	08 52 29.5	+2.0
	0.2nm,0.3s,baz=25,slow=15,SNR=1.9						
MKAR				Lg	Lg	08 54 34.7	
	0.1nm,0.3s,baz=30,slow=32,SNR=1.9						
	0.2nm,0.4s						

*IDC **15** 08:52:37.5±2.0, 37°.08N×141°.47E, h56km±19km, mb3.4/8, mbtmp3.7/11, ML3.4/3, MS2.9/1, Error ellipse: s-maj=17.0km s-min=11.9km az=98.0*
*JMA **15** 08:52:39.4±0.1, 37°.1N±0°.3×141°.2E±0°.7, h62km, MD3.8/40, MV4.2/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **15** 08:52:39.4, 37°.11N×141°.23E, h62km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.56; $M_{\theta\theta}$-1.95; $M_{\phi\phi}$-0.61; $M_{r\theta}$-0.20; $M_{\theta\phi}$-1.59; $M_{\phi r}$-4.27; Fault plane solution: $M_0$5.01000×10¹⁴ NP1: ϕ_s76.00000°, δ26.00000°, λ146.00000°. NP2: ϕ_s197.00000°, δ76.00000°, λ68.00000°.*
ISC 15 08:52:38.4±1.1, 37°.09N±0°.04×141°.35E±0°.07, h55km±8km, n50, σ1s33/51, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.44**	**272**	*i* P	**Pn**	**08 52 50.0**	**+0.5**
ONAJ				S	**Sn**	**08 52 57.6**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.44**	**272**	A	A	08 52 50.0	
	comp=N,13nm,0.3s,comp=E,18nm,0.2s						
JFK	**Kawauchi**	**0.47**	**306**	*i* P	**Pn**	**08 52 50.3**	**+0.5**
JFK				S	**Sn**	**08 52 58.2**	**+0.3**
JFK	**Kawauchi**	**0.47**	**306**	A	A	08 52 50.3	
	comp=N,4.0nm,7.1s,comp=E,8.0nm,0.6s						
JFFD	**Fukushimafurud**	**0.63**	**270**	*i* P	**Pn**	**08 52 52.0**	**+0.4**
JFFD				S	**Sn**	**08 53 00.8**	**-0.3**
JMST	**Minamisoumatoc**	**0.73**	**330**	*i* P	**Pn**	**08 52 53.3**	**+0.5**
JMST				S	**Sn**	**08 53 03.5**	**+0.2**
JMST	**Minamisoumatoc**	**0.73**	**330**	A	A	08 52 53.3	
	comp=N,15nm,0.2s,comp=E,8.0nm,1.1s						
JHO	**Hitachi**	**0.79**	**233**	*i* P	**Pn**	**08 52 53.8**	**+0.3**
JHO				S	**Sn**	**08 53 04.2**	**-0.3**
JHO	**Hitachi**	**0.79**	**233**	A	A	08 52 53.8	
	comp=N,7.0nm,0.9s,comp=E,3.0nm,0.5s						
JMM	**Marumori**	**0.89**	**330**	P	**Pn**	**08 52 55.3**	**+0.4**
JMM	**Marumori**	**0.89**	**330**	S	**Sn**	**08 53 07.5**	**+0.5**
JMM	**Marumori**	**0.89**	**330**	*i* P	**Pn**	**08 52 55.5**	**+0.6**
JMM				S	**Sn**	**08 53 07.3**	**+0.3**
JMM	**Marumori**	**0.89**	**330**	A	A	08 52 55.5	
	comp=N,7.0nm,0.3s,comp=E,4.0nm,0.6s						
JOTO	**OTAMA OYAMA**	**0.94**	**300**	*i* P	**Pn**	**08 52 56.1**	**+0.6**
JOTO				S	**Sn**	**08 53 08.3**	**+0.3**
JOTO	**OTAMA OYAMA**	**0.94**	**300**	A	A	08 52 56.1	
	comp=N,21nm,0.7s,comp=E,11nm,0.6s						
JFY	**Yanaizu**	**1.35**	**284**	*i* P	**Pn**	**08 53 01.1**	**+0.1**
JIO	**Ouri**	**1.36**	**360**	P	**Pn**	**08 53 02.0**	**+0.9**
JIO				S	**Sn**	**08 53 18.8**	**+0.6**
JOU	**Okura**	**1.39**	**337**	*i* P	**Pn**	**08 53 01.9**	**+0.5**
JYS	**Shirataka**	**1.52**	**318**	*i* P	**Pn**	**08 53 03.9**	**+0.6**
JYS				S	**Sn**	**08 53 22.7**	**+0.6**
JAG	**Ashikaga**	**1.66**	**247**	*i* P	**Pn**	**08 53 05.5**	**+0.3**
JAG				S	**Sn**	**08 53 25.0**	**-0.4**
JKT	**Katashina**	**1.71**	**260**	P	**Pn**	**08 53 06.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.58**	**259**	P	**Pn**	**08 53 18.8**	**+1.0**
	comp=E,1.8nm,0.3s,baz=80,slow=16,SNR=50						
MJAR				S	**Sn**	**08 53 50.2**	**+2.3**
	comp=E,40nm,0.4s,baz=79,slow=30,SNR=5.5						
MJAR				LR	LR	08 54 35.9	
	comp=E,190nm,18.1s,baz=66,slow=44						
	comp=E,6.8nm,0.3s						
MAJO	**Matsushiro**	**2.58**	**259**	P	**Pn**	**08 53 19.1**	**+1.3**
MAJO	**Matsushiro**	**2.58**	**259**	S	**Sn**	**08 53 49.5**	**+1.5**
JSD	**Sado**	**2.63**	**292**	P	**Pn**	**08 53 17.9**	**-0.5**
JGF	**Kuroka**	**3.55**	**246**	P	**Pn**	**08 53 33.3**	**+2.2**
JGF	**Kuroka**	**3.55**	**246**	S	**Sn**	**08 54 13.8**	**+2.0**
JTM	**Tenmabayashi**	**3.70**	**357**	P	**Pn**	**08 53 35.4**	**+2.4**
JTM	**Tenmabayashi**	**3.70**	**357**	S	**Sn**	**08 54 16.3**	**+1.0**
INU	**Inuyama**	**3.91**	**245**	P	**Pn**	**08 53 38.1**	**+2.2**
INU	**Inuyama**	**3.91**	**245**	S	**Sn**	**08 54 23.1**	**+2.5**
JHJ2	**Mitsune**	**4.16**	**198**	P	**Pn**	**08 53 43.7**	**+4.3**
JHJ	**Hachijo jima 2**	**4.16**	**198**	P	**Pn**	**08 53 39.7**	**+0.2**
	comp=E,18nm,0.3s,baz=65,slow=14,SNR=1.9						
JHJ				S	**Sn**	**08 54 25.5**	**-1.3**
	comp=E,59nm,0.3s,baz=113,slow=23,SNR=6.6						
	comp=E,79nm,0.5s						
JEM	**Erimo**	**5.12**	**15**	S	**Sn**	**08 54 52.2**	**+2.1**
JEM	**Erimo**	**5.12**	**15**	P	**Pn**	**08 53 54.9**	**+2.5**
ASAJ	**Asahikawa**	**7.08**	**7**	P	**Pn**	**08 54 19.1**	**-0.3**
	comp=E,0.8nm,0.3s,baz=225,slow=17,SNR=6.8						
ASAJ				S	**Sn**	**08 55 36.1**	**-2.3**
	comp=E,5.6nm,0.4s,baz=210,slow=20,SNR=4.1						
	comp=E,2.0nm,0.3s						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**08 58 20.6**	**-0.9**
	comp=E,1.2nm,0.7s,baz=105,slow=9.3,SNR=4.7						
	comp=E,1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	09 28 25.3	
	baz=314,slow=75,SNR=87						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	09 28 36.7	
	baz=314,slow=75,SNR=119						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	09 28 43.3	
	baz=314,slow=75,SNR=114						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	09 29 31.0	
	baz=316,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	09 29 30.6	
	baz=316,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	09 29 32.3	
	baz=316,slow=76,SNR=73						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**09 00 21.6**	**-1.0**
	comp=E,0.5nm,0.4s,baz=69,slow=8.1,SNR=3.7						
	comp=E,0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**09 00 40.3**	**-0.4**
	comp=E,0.4nm,0.6s,baz=90,slow=9.5,SNR=2.3						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**09 00 54.4**	**-1.0**
	comp=E,1.4nm,0.6s,baz=84,slow=8.3,SNR=14						
	comp=E,1.4nm,0.6s						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**09 01 22.3**	**-0.4**
	comp=E,0.3nm,0.8s,baz=276,slow=7.5,SNR=3.1						
	comp=E,0.3nm,0.8s						
BVAR	**Borovoye Array**	**50.50**	**312**	P	**P**	**09 01 30.0**	**-0.7**
	comp=E,0.6nm,0.4s,baz=76,slow=9.1,SNR=2.1						
	comp=E,0.6nm,0.4s						
WRA	**Warramunga Arr**	**57.11**	**188**	P	**P**	**09 02 18.6**	**-0.6**
	comp=E,0.2nm,0.6s,baz=1.1,slow=7.5,SNR=9.3						
	comp=E,0.2nm,0.6s						
TXAR	**Lajitas Array**	**90.13**	**52**	P	**P**	**09 05 33.1**	**+0.2**
	comp=E,0.1nm,0.6s,baz=299,slow=3.6,SNR=2.3						
	comp=E,0.1nm,0.6s						

*NEIC **15** 09:00:52.0±0.5, 19°.29N±0°.09×155°.44W±0°.10, h34km±3km, Error ellipse: s-maj=17.0km s-min=8.7km az=135.0*
HVO 15 09:00:52.7±0.6, 19°.24N±0°.06×155°.40W±0°.07, h34km±4km, ML2.5/37, ML2.7/42(NEIC), Error ellipse: s-maj=9.9km s-min=7.4km az=125.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.01**	**165**		Pb	09 00 58.1	-0.3
HLP	**Hilina Pali**	**0.10**	**59**		Pb	09 00 58.4	-0.4
HLP					Sb	09 01 02.6	-0.4
HLP	**Hilina Pali**	**0.10**	**59**	IAML		09 01 04.7	
	comp=N,1μm,0.2s						
HLP				IAML		09 01 05.2	
	comp=E,849nm,0.2s						
AIN	**Ainahou**	**0.14**	**337**		Pb	09 00 58.7	-0.5
AIN					Sb	09 01 03.2	-0.4
AIN	**Ainahou**	**0.14**	**337**	IAML		09 01 03.4	
	comp=E,4μm,0.4s						
AIN				IAML		09 01 03.7	
	comp=N,8μm,0.4s						
SDHH	**Sand Hill**	**0.18**	**34**		Pb	09 00 58.7	-0.8
SDHH					Sb	09 01 03.0	-1.0
WRMH	**West Rim**	**0.19**	**30**		Pb	09 00 58.7	+0.6
WRMH					Sb	09 01 03.2	-1.0
RIM	**Rim**	**0.19**	**38**		Pn	09 00 58.7	+0.5
RIM					Sb	09 01 03.8	-0.5
KKO	**Keanakako'i**	**0.20**	**39**		Pn	09 00 58.8	+0.4
KKO					Sb	09 01 03.2	-1.1
KHU	**Kahuku**	**0.20**	**271**		Pn	09 00 58.9	+0.2
KHU					Sb	09 01 03.2	-1.4
UWE	**Uwekahuna**	**0.20**	**29**		Pn	09 00 58.8	+0.3
UWE	**Uwekahuna**	**0.20**	**29**	IAML		09 01 06.4	
	comp=N,762nm,0.2s						
UWE				IAML		09 01 10.0	
	comp=E,726nm,0.3s						
OBL	**Observatory Le**	**0.20**	**32**		Pn	09 00 58.8	+0.2
HPO	**Honuapo**	**0.21**	**224**		Pn	09 00 58.8	+0.2
BYL	**Byron's Ledge**	**0.21**	**38**		Pn	09 00 58.8	+0.1
BYL					Sb	09 01 03.4	-1.2
BYL	**Byron's Ledge**	**0.21**	**38**	IAML		09 01 06.3	
	comp=E,425nm,0.4s						
BYL				IAML		09 01 07.9	
	comp=N,324nm,0.6s						
UWB	**Uwekahuna Bluf**	**0.21**	**32**		Pn	09 00 58.8	-0.1
UWB					Sb	09 01 03.2	-1.4
PUH	**Pauahi**	**0.22**	**53**		Pn	09 00 58.9	+0.1
PUH					Sb	09 01 03.3	-1.3
PUH	**Pauahi**	**0.22**	**53**	IAML		09 01 03.6	
	comp=N,526nm,0.3s						
PUH				IAML		09 01 03.7	
	comp=E,576nm,0.3s						
SBLHI	**Steaming Bluff**	**0.22**	**34**		Pn	09 00 58.8	-0.2
SBLHI					Sb	09 01 03.4	-1.3
HATHI	**Halema'uma'u T**	**0.22**	**36**		Pn	09 00 58.9	-0.1
HATHI	**Halema'uma'u T**	**0.22**	**36**		Sb	09 01 03.7	-1.0
HATHI	**Halema'uma'u T**	**0.22**	**36**	IAML		09 01 03.6	
	comp=E,431nm,0.5s						
RSD	**Rainshed**	**0.25**	**28**		Pn	09 00 59.1	-0.5
RSD					Sn	09 01 03.7	+0.5
MLH	**Mauna Loa**	**0.25**	**3**		Pn	09 00 59.5	-0.3
MLH					Sn	09 01 04.3	+0.9
MLH	**Mauna Loa**	**0.25**	**3**	IAML		09 01 04.6	
	comp=E,648nm,0.3s						
MLH				IAML		09 01 10.9	
	comp=N,578nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.26**	**58**		Pn	09 00 59.3	-0.5
STCH	**Steam Cracks**	**0.29**	**61**		Pn	09 00 59.7	-0.8
STCH					Sn	09 01 04.7	-0.4
STCH	**Steam Cracks**	**0.29**	**61**	IAML		09 01 05.4	
	comp=E,644nm,0.1s						
STCH				IAML		09 01 05.4	
	comp=N,806nm,0.1s						
MWH	**Mokuaweoweo**	**0.30**	**322**		Pn	09 00 59.9	-0.9
MWH					Sn	09 01 05.3	-0.7
MWH	**Mokuaweoweo**	**0.30**	**322**	IAML		09 01 05.4	
	comp=N,950nm,0.4s						
MWH				IAML		09 01 05.6	
	comp=E,1μm,0.5s						
NPOC	**North of Pu'u**	**0.31**	**61**		Pn	09 00 59.9	-1.0
NPOC					Sn	09 01 05.1	-0.6
JCUZ	**Jacuzzi**	**0.31**	**63**		Pn	09 00 59.9	-1.0
JCUZ					Sn	09 01 05.3	-0.4
HMH	**Humu'ula Sheep**	**0.37**	**348**		Pb	09 01 00.9	-0.9
HMH					Sn	09 01 06.8	-0.7
HMH	**Humu'ula Sheep**	**0.37**	**348**	IAML		09 01 06.9	
	comp=E,319nm,0.2s						
HMH				IAML		09 01 07.1	
	comp=N,409nm,0.3s						
ALEP	**Alea Permanent**	**0.38**	**322**		Pb	09 01 00.4	-1.5
ALEP					Sn	09 01 06.2	-1.7
JOKA	**Jonika Flow**	**0.42**	**63**		Pb	09 01 01.0	-1.3
JOKA	**Jonika Flow**	**0.42**	**63**	IAML		09 01 07.2	
	comp=E,264nm,0.7s						
JOKA				IAML		09 01 07.5	
	comp=N,494nm,0.4s						
POHA	**Pohakuloa**	**0.53**	**346**		Pn	09 01 02.1	-1.9
CPH	**Captain Cook**	**0.55**	**297**		Pn	09 01 02.2	-1.9
HUH	**Hualalai**	**0.60**	**317**		Pn	09 01 03.6	-1.5
HUH					Sn	09 01 12.1	-1.7
HPAH	**Hawaii Prepara**	**0.83**	**340**		Pn	09 01 06.0	-2.1
HPAH					Sn	09 01 15.4	-3.8
HPAH	**Hawaii Prepara**	**0.83**	**340**	IAML		09 01 16.2	
	comp=E,226nm,0.2s						
HPAH				IAML		09 01 16.2	
	comp=N,337nm,0.1s						
MHA	**Mahukona**	**1.05**

MS4.5/6,Error ellipse: s-maj=6.4km s-min=4.2km az=103.6
JMA ***15*** *09:07:35.5±0.1,38.6ᴺ0.2ᴱ142.3ᴱ0.6,h39km±1km, MD4.6/40,MW4.7/40,E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
NIED ***15*** *09:07:35.5,38.59ᴺ142.28E,h39km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.82; Mθθ-0.08; Mφφ-0.74; Mrθ0.40; Mθφ-0.35; Mφr0.88; Fault plane solution: M₀1.29000×10¹⁶ NP1: φs202.00000°,δ21.00000°,λ89.00000°. NP2:φs24.00000°, δ69.00000°,λ91.00000°.*
IDC ***15*** *09:07:37.0±0.4,38.59ᴺ142.23E,h40km±3km,mb4.2/28, mbtmp4.5/35,ML3.9/6,MS3.9/54 Error ellipse: s-maj=11.7km s-min=9.4km az=105.0*
NEIC ***15*** *09:07:37.4±1.6,38.57ᴺ0.06ᴱ142.2E±0.1,h38km±7km, mb4.8/91,Error ellipse: s-maj=13.2km s-min=7.4km az=114.0*
ISC 15 09:07:35.7±0.4,38.51N±0.04ᴱ142.44E±0.04,h34km±1km, h34km:pP-P,n392,σ1s49/323,mb4.8/138,MS4.1/65, 25C-20D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.79**	**256**	⇓*i*	**Pn**	**09 07 48.9**	**-1.5**
JIKH				⇓*e*	**Sn**	**09 07 58.1**	**-2.9**
JIKH	**Ishinomakikobu**	**0.79**	**256**	A	A	09 07 48.9	
	comp=N,86nm,2.0s,comp=E,35nm,1.0s						
JKMT	**Kesennumamotoy**	**0.81**	**292**	⇓*i*	**Pn**	**09 07 48.5**	**-2.2**
JKMT	**Kesennumamotoy**	**0.81**	**292**	A	A	09 07 48.5	
	comp=N,10.0nm,0.9s,comp=E,17nm,1.4s						
OFUJ	**Ofunato**	**0.83**	**314**	⇓P	**Pn**	**09 07 48.8**	**-2.1**
OFUJ	**Ofunato**	**0.83**	**314**	A	A	09 07 48.8	
	comp=N,29nm,1.7s,comp=E,15nm,1.4s						
JIO	**Ouri**	**0.86**	**267**	⇓P	**Pn**	**09 07 49.5**	**-1.8**
JIO				⇓S	**Sn**	**09 07 59.5**	**-3.1**
JIO	**Ouri**	**0.86**	**267**	A	A	09 07 49.5	
	comp=N,47nm,2.2s,comp=E,11nm,0.6s						
JMK	**Ichinoseki**	**1.05**	**295**	⇓P	**Pn**	**09 07 51.9**	**-2.1**
JMK	**Ichinoseki**	**1.05**	**295**	A	A	09 07 51.9	
	comp=N,8.0nm,2.2s,comp=E,10.0nm,1.8s						
JOFO	**Osakifurukawao**	**1.20**	**275**	A	A	09 07 54.4	
	comp=N,82nm,1.0s,comp=E,89nm,1.5s						
JOM	**Ohasama**	**1.31**	**318**	⇓P	**Pn**	**09 07 56.0**	**-1.6**
JOM	**Ohasama**	**1.31**	**318**	A	A	09 07 56.0	
	comp=N,12nm,0.3s,comp=E,13nm,0.3s						
JOU	**Okura**	**1.40**	**265**	P	**Pn**	**09 07 57.6**	**-1.2**
JOU	**Okura**	**1.40**	**265**	A	A	09 07 57.6	
	comp=N,44nm,1.2s,comp=E,47nm,0.9s						
JMM	**Marumori**	**1.45**	**244**	Pn	**Pn**	**09 07 58.8**	**-0.6**
JMM	**Marumori**	**1.45**	**244**	P	**Pn**	**09 07 59.3**	**-0.1**
JMM	**Marumori**	**1.45**	**244**	P	**Pn**	**09 07 58.2**	**-1.2**
JMM	**Marumori**	**1.45**	**244**	A	A	09 07 58.2	
	comp=N,17nm,0.9s,comp=E,11nm,1.5s						
JMST	**Minamisoumatoc**	**1.45**	**238**	A	A	09 07 59.2	
	comp=N,15nm,1.9s,comp=E,17nm,1.6s						
JTH	**Tanohata**	**1.50**	**343**	A	A	09 07 59.1	
	comp=N,7.0nm,1.3s,comp=E,9.0nm,2.9s						
JRG	**Rokugo**	**1.66**	**303**	P	**Pn**	**09 08 01.2**	**-1.2**
JRG	**Rokugo**	**1.66**	**303**	A	A	09 08 01.2	
	comp=N,12nm,1.5s,comp=E,14nm,1.6s						
JYK	**Kaneyama**	**1.68**	**285**	P	**Pn**	**09 08 01.3**	**-1.3**
JYK	**Kaneyama**	**1.68**	**285**	A	A	09 08 01.3	
	comp=N,8.0nm,3.4s,comp=E,13nm,4.6s						
JFK	**Kawauchi**	**1.68**	**228**	P	**Pn**	**09 08 02.2**	**-0.5**
JFK	**Kawauchi**	**1.68**	**228**	A	A	09 08 02.2	
	comp=N,12nm,0.8s,comp=E,6.0nm,2.7s						
JSZI	**Iwateshizukuis**	**1.69**	**317**	A	A	09 08 01.4	
	comp=N,25nm,1.9s,comp=E,22nm,1.9s						
JKZ	**Kuzumaki**	**1.71**	**330**	A	A	09 08 01.9	
	comp=N,9.0nm,1.3s,comp=E,10.0nm,3.0s						
JKEN	**Kujiedanarisaw**	**1.79**	**342**	A	A	09 08 03.2	
	comp=N,16nm,0.8s,comp=E,20nm,1.2s						
JYS	**Shirataka**	**1.89**	**262**	A	A	09 08 04.8	
	comp=N,44nm,1.5s,comp=E,43nm,1.4s						
JYAR	**Yonezawaarcadi**	**1.90**	**253**	A	A	09 08 05.3	
	comp=N,42nm,0.9s,comp=E,30nm,1.1s						
JOTO	**OTAMA OYAMA**	**1.91**	**241**	A	A	09 08 05.8	
	comp=N,29nm,0.8s,comp=E,30nm,0.8s						
ONAJ	**Iwakimizuishiy**	**1.91**	**223**	A	A	09 08 06.4	
	comp=N,12nm,0.3s,comp=E,18nm,0.3s						
JANG	**Nango**	**2.00**	**339**	A	A	09 08 06.2	
	comp=N,8.0nm,2.2s,comp=E,6.0nm,1.4s						
JYW	**Yuwa**	**2.02**	**301**	A	A	09 08 06.2	
	comp=N,19nm,1.7s,comp=E,20nm,1.0s						
JYYZ	**Yamagatayuza**	**2.02**	**285**	A	A	09 08 06.3	
	comp=N,23nm,4.6s,comp=E,33nm,3.7s						
JFFD	**Fukushimafurud**	**2.05**	**227**	A	A	09 08 08.3	
	comp=N,5.0nm,1.0s,comp=E,6.0nm,1.7s						
JYA	**Atsumi**	**2.14**	**273**	A	A	09 08 08.1	
	comp=N,11nm,3.0s,comp=E,12nm,1.2s						
JAH	**Hinai**	**2.19**	**321**	A	A	09 08 08.6	
	comp=N,8.0nm,3.8s,comp=E,9.0nm,1.7s						
JFY	**Yanaizu**	**2.42**	**244**	A	A	09 08 13.1	
	comp=N,4.0nm,3.7s,comp=E,5.0nm,2.9s						
JNTW	**Noshirotokiwa**	**2.49**	**316**	A	A	09 08 12.9	
	comp=N,33nm,2.2s,comp=E,28nm,3.2s						
JAW	**Awa shima**	**2.50**	**270**	A	A	09 08 13.4	
	comp=N,10.0nm,4.2s,comp=E,6.0nm,2.6s						
JTM	**Tenmabayashi**	**2.51**	**336**		**Pn**	**09 08 14.5**	**+0.4**
JTM	**Tenmabayashi**	**2.51**	**336**	P	**Pn**	**09 08 15.3**	**+1.2**
JTM	**Tenmabayashi**	**2.51**	**336**	S	**Sn**	**09 08 43.2**	**-0.3**
JSB	**Shiboa**	**2.52**	**233**	A	A	09 08 14.8	
	comp=N,12nm,1.5s,comp=E,17nm,1.5s						
JNS	**Sasagawa**	**2.55**	**255**	A	A	09 08 14.6	
	comp=N,11nm,5.6s,comp=E,6.0nm,2.8s						
JHHS	**Hirosakihyakuz**	**2.68**	**324**	A	A	09 08 15.6	
	comp=N,19nm,4.0s,comp=E,15nm,4.0s						
JIW	**Iwasaki**	**2.81**	**319**	A	A	09 08 17.4	
	comp=N,9.0nm,4.8s,comp=E,6.0nm,2.4s						
JAHD	**Aomorihigashid**	**2.88**	**343**	A	A	09 08 18.9	
	comp=N,11nm,1.1s,comp=E,11nm,1.1s						
JOG3	**Oga3**	**2.96**	**299**	A	A	09 08 12.8	
	comp=N,8.0nm,2.4s,comp=E,7.0nm,0.9s						
JSI2	**Shiura 2**	**2.99**	**329**	A	A	09 08 20.2	
	comp=N,7.0nm,3.4s,comp=E,8.0nm,3.6s						
JIZZ	**Izumozaki**	**3.10**	**253**	A	A	09 08 22.4	
	comp=N,18nm,5.4s,comp=E,16nm,2.9s						
JAG	**Ashikaga**	**3.15**	**230**	A	A	09 08 23.9	
	comp=N,4.0nm,3.3s,comp=E,3.0nm,2.5s						
JSD	**Sado**	**3.32**	**263**	P	**Pn**	**09 08 25.5**	**+0.3**
ERM	**Erimo**	**3.55**	**9**	Pn	**Pn**	**09 08 29.4**	**+1.1**
ERM	**Erimo**	**3.55**	**9**	P	**Pn**	**09 08 30.2**	**+1.9**
ERM	**Erimo**	**3.55**	**9**	*ce*P	**Pn**	**09 08 28.1**	**-0.2**
ERM				pmax	pmax		
	comp=Z,71nm,1.0s						
JEM	**Erimo**	**3.55**	**9**	P	**Pn**	**09 08 30.0**	**+1.7**
JNBK	**Urakawa-nobuka**	**3.78**	**4**	A	A	09 08 32.2	
	comp=N,6.0nm,3.7s,comp=E,4.0nm,2.2s						
MJAR	**Matsushiro Arr**	**3.89**	**241**	Pn	**Pn**	**09 08 34.6**	**+1.5**
	comp=E,3.0nm,0.3s,baz=35,slow=11,SNR=169						
MJAR				Sn	**Sn**	**09 09 17.1**	**-0.5**
	comp=E,2.1nm,0.3s,baz=34,slow=13,SNR=5.8						
MJAR				LR	LR	09 10 24.1	
	comp=E,2μm,18.3s,baz=65,slow=44 comp=E,76nm,0.7s						
MAJO	**Matsushiro**	**3.89**	**241**		**Pn**	**09 08 34.5**	**+1.5**
MAJO	**Matsushiro**	**3.89**	**241**	P	**Pn**	**09 08 34.6**	**+1.5**
MAJO	**Matsushiro**	**3.89**	**241**	S	**Sn**	**09 09 19.5**	**+1.9**
MAJO	**Matsushiro**	**3.89**	**241**	*de*P	**Pn**	**09 08 34.6**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.89**	**241**		**Pn**	**09 08 35.5**	**+2.3**
JGF	**Kuroka**	**4.99**	**236**		**Pn**	**09 08 50.8**	**+2.6**
JGF	**Kuroka**	**4.99**	**236**	P	**Pn**	**09 08 50.9**	**+2.7**
INU	**Inuyama**	**5.37**	**236**		**Pn**	**09 08 55.8**	**+2.5**
INU	**Inuyama**	**5.37**	**236**	P	**Pn**	**09 08 56.0**	**+2.7**
NMR	**Nemuro--Hokkai**	**5.46**	**26**	⇑*i*	**Pn**	**09 08 53.6**	**-1.0**
NMR				*i*	**Sn**	**09 09 51.4**	**-4.7**
JKA	**Kamikawa-asahi**	**5.61**	**1**		**Pn**	**09 08 58.2**	**+1.6**
ASAJ	**Asahikawa**	**5.61**	**1**	Pn	**Pn**	**09 08 57.6**	**+1.0**
	comp=E,2.8nm,0.3s,baz=205,slow=16,SNR=34						
ASAJ				Sn	**Sn**	**09 10 01.4**	**+1.7**
	comp=E,3.3nm,0.3s,baz=158,slow=32,SNR=5.3 comp=E,30nm,0.8s						
JHJ2	**Mitsune**	**5.79**	**202**	Pn	**Pn**	**09 09 00.3**	**+1.2**
JHJ	**Hachijo jima 2**	**5.79**	**203**	Pn	**Pn**	**09 09 00.4**	**+1.2**
	comp=E,19nm,0.3s,baz=317,slow=22,SNR=10						
JHJ				Sn	**Sn**	**09 10 02.0**	**-2.4**
	comp=E,80nm,0.3s,baz=26,slow=22,SNR=7.5						
JHJ				LR	LR	09 11 20.0	
	comp=E,854nm,21.2s,baz=96,slow=38 comp=E,47nm,0.3s						
RUSJ	**Misakicho**	**5.98**	**20**	*e*P	**Pn**	**09 09 01.6**	**-0.1**
RUSJ				*e*S	**Sn**	**09 10 07.1**	**-1.9**
YUK	**Yuzh-Kuril'sk**	**6.09**	**24**	*e*P	**Pn**	**09 09 02.7**	**-0.6**
YUK				*e*S	**Sn**	**09 10 07.1**	**-4.7**
YUK				pmax	pmax		
	comp=Z,143nm,0.4s						
YUK				pmax	pmax		
	comp=E,47nm,0.3s						
YUK				smax	smax		
	comp=N,868nm,0.7s						
YUK				smax	smax		
	comp=E,173nm,0.2s						
SHO	**Shikotan**	**6.30**	**30**	*e*P	**Pn**	**09 09 07.1**	**+1.0**
SHO				*e*S	**Sn**	**09 10 14.1**	**-2.7**
SHO				pmax	pmax		
	comp=Z,11nm,0.3s						
SHO				smax	smax		
	comp=N,329nm,0.4s						
SHO				smax	smax		
	comp=E,146nm,0.2s						
TEY	**Ternei**	**7.84**	**328**	⇑*e*P	**Pn**	**09 09 31.0**	**+3.7**
TEY				pmax	pmax		
	comp=N,40nm,0.8s						
TEY				pmax	pmax		
	comp=E,30nm,0.8s						
TEY				pmax	pmax		
	comp=Z,40nm,0.8s						
KUR	**Kuril'sk**	**7.85**	**29**	*e*P	**Pn**	**09 09 27.6**	**+0.3**
KUR				*e*S	**Sn**	**09 10 50.5**	**-4.4**
KUR				pmax	pmax		
	comp=Z,38nm,0.4s						
KUR				smax	smax		
	comp=E,173nm,0.5s						
KUR				smax	smax		
	comp=N,101nm,0.8s						
YSS	**Yuzhno-Sakhali**	**8.45**	**1**	P	**Pn**	**09 09 36.5**	**+1.0**
YSS	**Yuzhno-Sakhali**	**8.45**	**1**	⇑*e*P	**Pn**	**09 09 36.1**	**+0.6**
YSS				*e*S	**Sn**	**09 11 08.5**	**-1.1**
YSS				pmax	pmax		
	comp=Z,100nm,2.8s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
VLA	**Vladivostok**	**9.23**	**303**	⇑*e*P	**Pn**	**09 09 48.9**	**+2.6**
MSHR	**Mys Shultsa**	**9.50**	**299**	⇑*e*P	**Pn**	**09 09 49.9**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.70**	**309**		**Pn**	**09 09 54.4**	**+1.7**
USA0B	**Ussuriysk Arra**	**9.70**	**309**	*d*iP	**Pn**	**09 09 55.8**	**+3.1**
USRK	**Ussuriysk Ar.**	**9.70**	**309**		**Pn**	**09 09 53.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.70**	**309**	Pn	**Pn**	**09 09 52.8**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=121,slow=13,SNR=80						
USRK				LR	LR	09 13 22.6	
	comp=Z,1μm,19.0s,baz=127,slow=36 comp=Z,84nm,0.8s						
USRK	**Ussuriysk Ar.**	**9.70**	**309**	P	**Pn**	**09 09 53.6**	**+0.9**
JNU	**Nakatsue**	**10.81**	**244**		**Pn**	**09 10 09.4**	**+1.3**
JNU	**Nakatsue**	**10.81**	**244**	Pn	**Pn**	**09 10 09.6**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=155,slow=1.6,SNR=8.1						
JNU				LR	LR	09 14 43.8	
	comp=Z,993nm,19.1s,baz=40,slow=40 comp=Z,30nm,0.9s						
JCJ	**Chichijima**	**11.38**	**181**	LR	LR	09 14 51.0	
	comp=Z,175nm,20.5s,baz=114,slow=38						
MDJ	**Mudanjiang**	**11.39**	**306**	P	Pn	09 10 20.8	+4.9
MDJ				pmax	pmax		
	comp=Z,41nm,0.8s						
KSRS	**Korea Array**	**11.51**	**269**	Pn	**Pn**	**09 10 18.6**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=88,slow=13,SNR=12 comp=Z,11nm,0.9s						
KSAR	**Wonju Array Be**	**11.54**	**269**	Pn	**Pn**	**09 10 19.0**	**+1.1**
KSAR	**Wonju Array Be**	**11.54**	**269**	P	**Pn**	**09 10 19.0**	**+1.1**
TJN	**Taejon**	**12.17**	**265**	⇑*e*P	**Pn**	**09 10 28.2**	**+1.6**
TYV	**Tymovskoe**	**12.36**	**1**	*e*P	**Pn**	**09 10 30.4**	**+1.4**
TYV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TYV				pmax	pmax		
	comp=Z,100nm,3.4s						
BNX	**BinXian**	**13.28**	**308**	⇑P	**Pn**	**09 10 41.8**	**+0.1**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CN2	**Changchun**	**13.84**	**298**	P	**Pn**	**09 10 50.5**	**+1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,400nm,13.0s						
CN2				LR	LR		
	comp=Z,600nm,13.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
DL2	**Dalian**	**16.25**	**278**	P	**Pn**	**09 11 21.9**	**+0.6**
DL2				S	**Sn**	**09 14 23.5**	**+3.1**
DL2				pmax	pmax		
	comp=Z,74nm,1.2s						
DL2				pmax	pmax		
	comp=Z,130nm,4.7s						
DL2				LR	LR		
	comp=Z,460nm,14.3s						
DL2				LR	LR		
	comp=Z,700nm,15.1s						
DL2				LR	LR		
	comp=Z,900nm,15.6s						
JOW	**Kunigami**	**16.64**	**230**	LR	LR	09 17 54.9	
	comp=Z,120nm,22.0s,baz=186,slow=37						
PEA0B	**Petropavlovsk-**	**18.01**	**31**	⇓*e*P	**P**	**09 11 44.8**	**+1.4**
PETK	**Petropavlovsk-**	**18.01**	**31**	P	**P**	**09 11 45.7**	**+2.3**
	comp=Z,2.5nm,0.9s,baz=226,slow=8.3,SNR=2.4						
PET	**Petropavlovsk**	**18.34**	**32**	*e*P	**Pn**	**09 11 50.3**	**+3.2**
PET				*e*S	**Sn**	**09 15 05.5**	**-5.3**
PET				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PET				pmax	pmax		
	comp=Z,200nm,5.5s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
ZEA	**Zeya**	**18.45**	**331**	*e*P	**P**	**09 11 46.3**	**-1.9**
ZEA				pmax	pmax		
	comp=Z,100nm,0.9s						
ZEA				pmax	pmax		
	comp=N,30nm,1.2s						
ZEA				pmax	pmax		
	comp=E,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,50nm,0.9s						
ZEA				MLR	MLR		
	comp=E,200nm,16.0s						
ZEA				MLR	MLR		
	comp=N,400nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
TIA	**Tai'an**	**20.24**	**271**	P	**P**	**09 12 06.3**	**-1.6**
TIA				pmax	pmax		
	comp=Z,33nm,1.0s						
TIA				LR	LR		
	comp=Z,280nm,19.2s						
TIA				LR	LR		
	comp=Z,450nm,20.8s						
TIA				LR	LR		
	comp=Z,570nm,22.4s						
NJ2	**Nanjing**	**20.27**	**259**	⇑P	**P**	**09 12 06.8**	**-1.5**
NJ2				sP	**sP**	**09 12 20.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,34nm,1.0s						
XLT	**XiLinHaoTe**	**20.51**	**294**	*e*P	**P**	**09 12 07.6**	**-3.3**
XLT				sP	pP	09 12 20.3	+0.6
XLT				pmax	pmax		
	comp=Z,26nm,1.0s						
XLT				LR	LR		
	comp=Z,380nm,17.0s						
XLT				LR	LR		
	comp=Z,260nm,15.7s						
MA2	**Magadan**	**21.75**	**11**		**P**	**09 12 24.4**	**+0.5**
MA2	**Magadan**	**21.75**	**11**	P	**P**	**09 12 23.8**	**-0.2**
	comp=Z,20nm,0.8s,baz=205,slow=8.2,SNR=12						
MA2				LR	LR	09 21 32.1	
	comp=Z,101nm,18.3s,baz=192,slow=38 comp=Z,20nm,0.8s						
MA2	**Magadan**	**21.75**	**11**	*c*iP	**P**	**09 12 24.3**	**+0.3**
MA2				pmax	pmax		
	comp=Z,23nm,0.8s						
HNS	**HongShan**	**21.87**	**276**	⇑P	**P**	**09 12 21.9**	**-3.5**
HNS				LR	LR		
	comp=Z,500nm,18.3s						
HNS				LR	LR		
	comp=Z,530nm,17.6s						
YULB	**Yu-li**	**23.49**	**236**	P	**P**	**09 12 42.5**	**0.0**
YULB				IAmb	IAmb	09 12 56.9	
	comp=Z,68nm,1.7s						
HHC	**Hu-ho-hao-te**	**23.82**	**285**	*e*P	**P**	**09 12 44.6**	**-1.0**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC				LR	LR		
	comp=Z,160nm,13.2s						
HHC				LR	LR		
	comp=Z,630nm,13.2s						
HHC				LR	LR		
	comp=Z,850nm,13.2s						
LYN	**LuoYang**	**24.35**	**270**	P	**P**	**09 12 47.8**	**-2.6**
LYN				pmax	pmax		
	comp=Z,63nm,0.9s						
YAK	**Yakutsk**	**24.83**	**346**	LR	LR	09 23 51.6	
	comp=Z,58nm,20.3s,baz=157,slow=40						
YAK	**Yakutsk**	**24.83**	**346**	*e*P	**P**	**09 12 52.7**	**-1.7**
YAK				*e**PP	**pP**	**09 13 04.0**	**+0.1**
YAK				*e*		09 13 26.8	
YAK				*e*		09 16 28.6	
YAK				*e*S	**S**	**09 17 11.1**	**-3.6**
YAK				*e**SS	**sS**	**09 17 28.3**	**-2.3**
YAK				*e*SS	**SnSn**	**09 18 02.4**	**-1.0**
YAK				*e*		09 23 50.7	
YAK				pmax	pmax		
	comp=N,23nm,1.8s						
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,95nm,2.7s						
YAK				pmax	pmax		
	comp=N,39nm,1.7s						
YAK				pmax	pmax		
	comp=E,39nm,2.5s						
YAK				smax	smax		
	comp=N,44nm,2.0s						
YAK				smax	smax		
	comp=E,45nm,2.3s						
GUMO	**Guam**	**24.91**	**174**	LR	LR	09 22 10.5	
	comp=E,109nm,21.9s,baz=14,slow=35						
BTO	**Baotou**	**25.01**	**285**	*e*P	**P**	**09 12 55.6**	**-0.8**
BTO				pP	**pP**	**09 13 05.3**	**-0.6**
BTO				sP	**sP**	**09 13 09.1**	**-0.6**
BTO				PP		09 13 33.3	
BTO				S	**S**	**09 17 16.8**	**-1.4**
BTO				sS	**pS**	**09 17 30.1**	**+1.6**
BTO				SS	**SnSn**	**09 18 15.8**	**+7.5**
BTO				pmax	pmax		
	comp=E,33nm,1.1s						
BTO				pmax	pmax		
	comp=E,220nm,6.7s						
BTO				LR	LR		
	comp=E,970nm,19.2s						
BTO				LR	LR		
	comp=E,2μm,14.9s						
BTO				LR	LR		
	comp=E,2μm,17.1s						
SEY	**Seymchan**	**25.19**	**11**	LR	LR	09 22 53.1	
	comp=E,88nm,21.6s,baz=148,slow=36						
SEY	**Seymchan**	**25.19**	**11**	*e*P	**P**	**09 12 58.1**	**+0.4**
SEY				pmax	pmax		
	comp=Z,35nm,1.0s						
SHEM	**Shemya Is, Ala**	**26.06**	**47**	LR	LR	09 21 58.7	
	comp=Z,62nm,21.7s,baz=270,slow=33						
ULN	**Ulaanbaatar**	**27.24**	**302**		**P**	**09 13 15.7**	**-0.9**
ULN	**Ulaanbaatar**	**27.24**	**302**	*d*iP	**P**	**09 13 16.1**	**-0.5**
ULN				pmax	pmax		
	comp=Z,12nm,1.2s						
XAN	**Xi'an**	**27.30**	**271**	P	**P**	**09 13 15.5**	**-1.6**
XAN				sP	sP	09 13 28.9	-1.5
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
XAN				LR	LR		
	comp=Z,370nm,15.8s						
XAN				LR	LR		
	comp=Z,400nm,20.6s						
XAN				LR	LR		
	comp=Z,310nm,16.5s						
SONM	**Songino Array**	**27.67**	**301**		**P**	**09 13 19.2**	**-1.3**
SONM	**Songino Array**	**27.67**	**301**	P	**P**	**09 13 19.4**	**-1.1**
	comp=Z,6.5nm,1.1s,baz=114,slow=9.2,SNR=13						
SONM				LR	LR	09 24 40.4	
	comp=Z,315nm,18.2s,baz=64,slow=37 comp=Z,6.5nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.26**	**125**	T	T	09 43 11.3	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**28.27**	**125**	T	T	09 43 52.0	
	baz=318,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.28**	**125**	T	T	09 43 23.1	
	baz=318,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.03**	**127**	T	T	09 44 56.3	
	baz=318,slow=76,SNR=343						
H11S3	**WAKE ISLAND Hy**	**29.03**	**127**	T	T	09 44 56.6	
	baz=318,slow=76,SNR=348						
H11S2	**WAKE ISLAND Hy**	**29.05**	**127**	T	T	09 44 48.7	
	baz=318,slow=76,SNR=277						
ZAK	**Zakamensk**	**30.03**	**306**	*e*P	**P**	**09 13 39.9**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH	**Lanzhou**	**30.65**	**278**	*e*P	**P**	**09 13 45.3**	**-1.7**
LZH				pP	pP	09 13 56.6	0.0
LZH				PcP	**PcP**	**09 16 44.8**	**+0.2**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,3.8s						
LZH				LR	LR		
	comp=Z,280nm,13.0s						
LZH				LR	LR		
	comp=Z,410nm,12.4s						
LZH				LR	LR		
	comp=Z,590nm,12.7s						
BILL	**Bilibino**	**32.39**	**16**	⇑*e*P	**P**	**09 14 01.7**	**0.0**
BILL				pmax	pmax		
	comp=Z,13nm,1.1s						
CD2	**Chengdu**	**32.50**	**268**	P	**P**	**09 14 01.6**	**-1.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
GTA	**Gaotai**	**32.93**	**285**	*e*P	**P**	**09 14 06.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				LR	LR		
	comp=Z,270nm,15.5s						
GTA				LR	LR		
	comp=Z,620nm,16.7s						
GTA				LR	LR		
	comp=Z,910nm,18.7s						
TIXI	**Tiksi**	**33.93**	**352**	LR	LR	09 29 25.7	
	comp=Z,269nm,18.3s,baz=182,slow=39						
TIXI	**Tiksi**	**33.93**	**352**	⇓*e*P	**P**	**09 14 15.3**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s						
QIZ	**Qiongzhong**	**34.28**	**245**	P	**P**	**09 14 18.5**	**-0.3**
QIZ				S	**S**	**09 19 44.5**	**+0.8**
QIZ				LR	LR		
	comp=Z,240nm,7.7s						
QIZ				LR	LR		
	comp=Z,190nm,8.4s						
KMI	**Kunming**	**36.00**	**260**	P	**P**	**09 14 34.9**	**+1.1**
KMI				sP	sP	09 14 48.3	+1.1
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI				LR

ZAA0 IAmb IAmb 09 15 19.6
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 41.54 311 P 09 15 18.7 -0.8
ZALV Zalesovo Beam 41.54 311 P 09 15 18.9 -0.7
comp=Z,12nn,0.8s,baz=88,slow=7.3,SNR=39
ZALV PcP PcP 09 17 15.9 -0.5
comp=Z,3.7nm,0.8s,baz=45,slow=2.3,SNR=3.1
ZALV LR LR 09 33 13.0
comp=Z,361nm,18.4s,baz=85,slow=37
comp=Z,12nn,0.8s
ZALV Zalesovo Beam 41.54 311 *i* P **P 09 15 18.8 -0.8**
ZALV pmax pmax
comp=Z,12nm,0.8s
ZSN Zaisan 42.19 301 *e*P **P 09 15 24.6 -0.5**
ZSN pmax pmax
comp=Z,13nm,0.9s
ZSN Zaisan 42.19 301 *e*P **P 09 15 24.6 -0.5**
comp=Z,13nn,0.9s
CHTO Chiang Mai 42.45 255 P 09 15 27.3 -0.1
CHTO Chiang Mai 42.45 255 P **P 09 15 27.3 -0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 42.66 255 P **P 09 15 28.8 -0.4**
comp=Z,1.3nm,0.3s,baz=46,slow=7.6,SNR=9.6
CMAR PcP **PcP 09 17 21.1 +0.3**
comp=Z,1.0nm,0.3s,baz=41,slow=3.2,SNR=1.4
CMAR LR LR 09 33 25.4
comp=Z,52nn,21.9s,baz=55,slow=36
comp=Z,1.3nn,0.3s
CMAR Chiang Mai Arr 42.66 255 *i* P **P 09 15 29.2 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
H19K Roundabout Mou 43.82 32 IAmb IAmb 09 15 55.0
comp=Z,17nn,0.9s
J19K Poorman 44.01 34 P 09 15 40.6 +1.1
J19K IAmb IAmb 09 15 56.3
comp=Z,11nn,0.9s
MK31 Makanchi Array 44.04 301*c i*P **P 09 15 39.1 -0.9**
MKAR Makanchi Array 44.04 301 P **P 09 15 39.1 -0.9**
comp=Z,14nn,0.9s,baz=84,slow=9.0,SNR=37
MKAR pP **pP 09 15 50.2 +0.3**
comp=Z,9.0nm,0.7s,baz=84,slow=11,SNR=12
MKAR LR LR 09 34 39.0
comp=Z,149nm,18.1s,baz=98,slow=37
comp=Z,14nn,0.9s
MKAR Makanchi Array 44.04 301 *i* P **P 09 15 39.0 -1.0**
MKAR pmax pmax
comp=Z,15nn,0.9s
SHL Shillong 44.25 268 P 09 15 40.5 -1.6
SHL IAmb IAmb 09 16 12.4
comp=Z,16nn,0.8s
SHL Shillong 44.25 268 P **P 09 15 40.5 -1.6**
SHL pmax pmax
comp=Z,16nn,0.8s
KDAK Kodiak Island 45.47 43 LR LR 09 34 25.7
comp=Z,84nn,21.5s,baz=243,slow=35
KURK Kurchatov 45.68 307 P 09 15 51.8 -1.1
KURK Kurchatov 45.68 307*c i*P **P 09 15 51.6 -1.3**
KURK pmax pmax
comp=Z,45nn,1.0s
KURK Kurchatov 45.68 307 P 09 15 52.0 -1.0
KURBB Kurchatov Arra 45.75 307 P **P 09 15 52.2 -1.3**
comp=Z,29nn,0.8s,baz=82,slow=8.4,SNR=28
KURBB PcP **PcP 09 17 30.1 -0.7**
comp=Z,0.9nm,0.6s,baz=76,slow=4.3,SNR=0.9
KURBB LR LR 09 35 29.3
comp=Z,243nm,20.4s,baz=153,slow=37
comp=Z,29nn,0.8s
BRDH Bariadhala 45.91 265 LR LR 09 36 22.6
comp=Z,177nn,18.6s,baz=120,slow=38
H23K Yukon River 46.69 32 IAmb IAmb 09 16 17.8
comp=Z,8.2nn,0.9s
E23K Chandalar 46.74 29 IAmb IAmb 09 16 21.2
comp=Z,14nn,0.9s
SHLS Shalkode 46.89 297 *e*P **P 09 15 59.7 -3.0**
SHLS Shalkode 46.89 297 *e*P **P 09 15 59.7 -3.0**
EVN Everest 47.07 274 IAmb IAmb 09 16 06.0
comp=Z,14nn,0.8s
E24K Your Creek 47.17 29 IAmb IAmb 09 16 20.2
comp=Z,10nn,1.0s
UZB Uzunbulak 47.20 297 *e*P **P 09 16 04.5 -0.7**
UZB pmax pmax
comp=Z,9.0nm,1.2s
UZB Uzunbulak 47.20 297 *e*P **P 09 16 04.6 -0.7**
comp=Z,9.1nm,1.2s
COLA College 47.40 33⇓*e*P **P 09 16 07.0 +0.8**
COLA pmax pmax
comp=Z,5.0nm,0.8s
SATY Saty 47.65 297 *e*P **P 09 16 08.1 -0.6**
SATY pmax pmax
comp=Z,9.0nm,1.3s
SATY Saty 47.65 297 *e*P **P 09 16 08.1 -0.6**
comp=Z,9.4nm,1.3s
ILAR Eielson Array 47.82 33 P **P 09 16 10.8 +1.3**
comp=Z,1.8nm,0.7s,baz=268,slow=6.4,SNR=27
ILAR pP **sP 09 16 22.9 -0.5**
comp=Z,4.4nm,0.7s,baz=269,slow=6.5,SNR=24
comp=Z,1.8nm,0.7s
PMG Port Moresby 47.87 174 LR LR 09 34 59.0
comp=Z,36nm,21.8s,baz=226,slow=34
TNSS Tian-Shan 48.68 297 *e*P **P 09 16 15.9 -1.0**
TNSS Tian-Shan 48.68 297 *e*P **P 09 16 15.9 -1.0**
F26K Sheenjek River 48.81 29 IAmb IAmb 09 16 34.0
comp=Z,10nn,0.9s
L26K Log Cabin Wild 49.52 35 IAmb IAmb 09 16 38.2
comp=Z,5.5nn,0.7s
BTLS Baital 50.05 301 *e*P **P 09 16 26.2 -0.7**
BTLS Baital 50.05 301 *e*P **P 09 16 26.2 -0.7**
SGDS Sogindy 50.15 299 *e*P **P 09 16 27.3 -0.5**
BVAR Borovoye Array 50.19 312 P **P 09 16 26.8 -1.1**
comp=Z,3.9nm,0.6s,baz=75,slow=6.9,SNR=12
BVAR pP **pP 09 16 37.8 -0.1**
comp=Z,3.9nm,0.6s,baz=69,slow=7.5,SNR=4.6
BVAR PcP **PcP 09 17 46.8 +0.1**
comp=Z,5.0nm,0.7s,baz=72,slow=4.0,SNR=4.7
BVAR LR LR 09 38 41.0
comp=Z,250nm,18.4s,baz=78,slow=37
comp=Z,3.9nm,0.6s
BCAR Beaver Creek A 50.22 35 P 09 16 29.3 +1.3
BRVK Borovoye 50.25 312 P 09 16 27.2 -1.0
BRVK IAmb IAmb 09 16 46.1
comp=Z,7.0nm,0.9s
BRVK Borovoye 50.25 312*c i*P **P 09 16 27.4 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
HNR Honiara 50.41 157 LR LR 09 36 25.5
comp=Z,148nm,21.2s,baz=339,slow=34
AAK Ala-Archa 50.52 298 LR LR 09 39 05.1
comp=Z,113nm,19.5s,baz=80,slow=38
AAK Ala-Archa 50.52 298⇑*e*P **P 09 16 30.8 +0.1**
AAK pmax pmax
comp=Z,5.0nm,0.9s
E29M Blow River 51.09 28 P 09 16 36.7 +2.3
E29M IAmb IAmb 09 16 51.0
comp=Z,9.4nm,0.9s
EPYK Eagle Plains 51.85 30 IAmb IAmb 09 16 55.4
comp=Z,6.5nm,0.8s
L29M L29M 51.85 35 IAmb IAmb 09 16 56.9
comp=Z,7.1nm,0.9s
G30M tAoh Zraii Nji 51.94 30 IAmb IAmb 09 16 58.3
comp=Z,19nn,1.4s
I30M Mount Dempster 52.20 32 IAmb IAmb 09 16 60.0
comp=Z,8.5nm,0.8s
DZA Taraz 52.61 299 *e*P **P 09 16 45.7 -0.4**
DZA Taraz 52.61 299 *e*P **P 09 16 45.8 -0.4**
HYT Haines Junctio 52.64 37 IAmb IAmb 09 17 03.0
comp=Z,11nn,1.0s
KK31 Karatay Array 53.10 299 IAmb IAmb 09 17 00.9
comp=Z,10nn,1.0s
KKAR Karatay Array 53.10 299 P 09 16 48.9 -0.9
KKAR Karatay Array 53.10 299 P **P 09 16 48.9 -0.9**
PSI Prapat 53.24 239 LR LR 09 43 33.3
comp=Z,118nm,18.3s,baz=52,slow=40
BRLS Boroldaу 53.59 300 *e*P **P 09 16 54.2 +0.9**
BRLS Boroldaу 53.59 300 *e*P **P 09 16 54.3 +0.9**
IUG Iuzhnay 53.78 299 *e*P **P 09 16 54.6 -0.2**
IUG pmax pmax
comp=Z,15nn,1.2s
IUG Iuzhnay 53.78 299 *e*P **P 09 16 54.7 -0.2**
comp=Z,15nn,1.2s
SVE Sverdlovsk 54.59 318 *e*P **P 09 17 00.5 +0.1**
SVE pmax pmax
comp=Z,31nn,1.0s
SVE MLR MLR
comp=Z,392nn,15.0s
GAR Garm 54.81 295 IAmb IAmb 09 17 17.2
comp=Z,14nn,1.0s

NIL Nilore 54.93 288 P 09 17 01.4 -1.9
NIL Nilore 54.93 288 P **P 09 17 01.4 -1.9**
NIL pmax pmax
comp=Z,20nn,1.0s
KNRA Kununurra 55.40 196 P 09 17 08.2 +1.6
ARTI Arti 55.91 318 P 09 17 09.3 -0.6
ARTI Arti 55.91 318 LR LR 09 43 23.8
comp=Z,426nn,19.2s,baz=78,slow=38
ARTI Arti 55.91 318*c i*P **P 09 17 09.0 -0.9**
ARTI 09 18 04.9
ARTI 09 19 09.2
ARTI S **S 09 24 55.8 +0.8**
ARTI SS **SS 09 28 43.3 +2.8**
ARTI pmax pmax
comp=Z,23nm,1.0s
ARTI MLR MLR
comp=Z,439nm,17.0s
ARTI Arti 55.91 318 P **P 09 17 09.2 -0.6**
ARTI pP **pP 09 17 19.1 -0.9**
AB31 Akbulak array 57.62 310 IAmb IAmb 09 17 33.3
comp=Z,11nn,0.9s
ABKAR Akbulak array 57.62 310 P 09 17 21.3 -0.8
KBL Kabul 57.65 291 P **P 09 17 22.6 -0.3**
KBL pmax pmax
comp=Z,12nn,1.1s
AKTO Aktyubinsk 58.30 312 LR LR 09 43 48.2
comp=Z,216nn,18.3s,baz=50,slow=37
FITZ Fitzroy Crossi 58.47 199 P **P 09 17 29.3 +1.0**
comp=Z,3.4nm,0.9s,baz=45,slow=6.8,SNR=3.8
FITZ pP **sP 09 17 40.8 -1.3**
comp=Z,5.9nm,1.1s,baz=25,slow=12,SNR=3.5
comp=Z,3.4nm,0.9s
WRAB Tennant Creek 58.62 189 P 09 17 30.0 +0.6
WRAB IAmb IAmb 09 17 50.3
comp=Z,6.7nm,0.8s
WRAB Tennant Creek 58.62 189⇑*e*P **P 09 17 29.9 +0.6**
WRAB pmax pmax
comp=Z,31nm,3.1s
WR8 Warramunga Arr 58.63 189 P 09 17 30.4 +1.0
WRA Warramunga Arr 58.63 189 P 09 17 30.0 +0.5
WRA Warramunga Arr 58.63 189 P **P 09 17 29.9 +0.4**
comp=Z,3.8nm,0.6s,baz=5.9,slow=7.0,SNR=50
WRA pP **sP 09 17 41.9 -1.5**
comp=Z,4.6nm,0.5s,baz=5.9,slow=7.3,SNR=9.9
comp=Z,3.8nm,0.6s
KIRV Kirov 59.57 323 LR LR 09 43 17.7
comp=Z,66nn,21.2s,baz=60,slow=36
KIRV Kirov 59.57 323*c i*P **P 09 17 35.1 -0.4**
BBB Bella Bella 60.45 45 LR LR 09 48 39.9
comp=Z,37nn,18.2s,baz=242,slow=41
RES Resolute Bay 60.97 15 LR LR 09 47 59.7
comp=Z,44nn,18.1s,baz=346,slow=40
APA Apatity 61.68 336 *e*P **P 09 17 48.0 -1.8**
APA MLR MLR
comp=Z,417nm,3.8s
YKA Yellowknife Ar 62.13 31 P **P 09 17 53.8 +0.9**
comp=Z,0.8nm,0.9s,baz=306,slow=6.9,SNR=4.9
YKA pP **pP 09 18 04.6 +1.7**
comp=Z,0.8nm,0.8s,baz=304,slow=7.4,SNR=5.5
comp=Z,0.8nm,0.9s
ASAR Alice Springs 62.36 189 P **P 09 17 56.1 +1.3**
ASAR Alice Springs 62.36 189 P **P 09 17 56.0 +1.1**
comp=Z,2.2nm,0.7s,baz=12,slow=7.0,SNR=26
ASAR pP **sP 09 18 07.8 -1.1**
comp=Z,2.7nm,1.0s,baz=13,slow=10,SNR=5.4
ASAR LR LR 09 44 15.4
comp=Z,73nm,21.6s,baz=354,slow=35
comp=Z,2.2nm,0.7s
ASAR Alice Springs 62.36 189 P **P 09 17 56.1 +1.3**
ARCES ARCESS Array B 62.91 339 P **P 09 17 57.3 -0.7**
comp=Z,2.3nm,0.8s,baz=57,slow=8.8,SNR=5.3
ARCES pP **pP 09 18 08.4 +0.3**
comp=Z,3.3nm,0.9s,baz=44,slow=7.4,SNR=2.8
ARCES LR LR 09 48 07.4
comp=Z,92nm,21.7s,baz=50,slow=39
comp=Z,2.3nm,0.8s
KLMR Klimovskoe 62.95 328 *e*P **P 09 17 55.5 -2.9**
KLMR *e**PP **pP 09 18 07.6 -0.9**
KLMR *e* 09 20 13.2
KLMR pmax pmax
comp=Z,23nm,1.6s
BELG Belogornoye 63.28 317*c i*P **P 09 17 59.6 -1.1**
BELG pmax pmax
comp=Z,5.0nm,0.9s
DZM Mont Dzumac 64.33 155 *e*LR LR 09 37 21.7
comp=Z,226nm,22.4s
OUL Oulu 65.60 335 P **P 09 18 15.9 +0.3**
OUL pmax pmax
comp=Z,21nm,1.0s
VRH Novokhopyorsk 67.03 318 *e*P **P 09 18 21.4 -3.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 67.40 323⇓*e*P **P 09 18 26.9 -0.4**
OBN *e* 09 20 54.0
OBN *e*S S 09 27 39.1 +19
OBN pmax pmax
comp=Z,30nn,1.1s
OBN MLR MLR
comp=Z,151nm,16.0s
LPSR Galich'ya Gora 67.69 320 *e*P **P 09 18 26.6 -2.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
BLKN Baker Lake 67.72 24 P 09 18 29.8 +0.6
BLKN IAmb IAmb 09 18 30.6
comp=Z,7.6nm,0.8s
FIA1 FINESS Array S 67.89 332 P 09 18 30.0 -0.3
FINES FINESS Array B 67.89 332 P 09 18 29.8 -0.5
FINES FINESS Array B 67.89 332 P **P 09 18 30.0 -0.3**
comp=Z,13nn,0.8s,baz=52,slow=7.5,SNR=34
FINES LR LR 09 50 07.0
comp=Z,119nm,20.4s,baz=56,slow=38
comp=Z,13nn,0.8s
FINES FINESS Array B 67.89 332 P **P 09 18 30.0 -0.3**
VSR Storozhevoye 68.36 319 *e*P **P 09 18 31.2 -2.2**
VSR pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 68.44 319 *e*P **P 09 18 31.4 -2.5**
VORD pmax pmax
comp=Z,7.0nm,1.0s
PINE Pine Mountain 68.77 51 IAmb IAmb 09 18 53.7
comp=Z,12nn,1.1s
SUMG Summit 69.21 0 P 09 18 39.9 +1.0
SUMG IAmb IAmb 09 18 40.2
comp=Z,7.8nm,0.9s
SUMG Summit 69.21 0 P **P 09 18 39.9 +1.0**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
VSU Vasula 69.60 330*d i*P **P 09 18 40.0 -1.0**
VSU pmax pmax
comp=Z,21nm,0.7s
STKA Stephens Creek 70.03 181 P **P 09 18 44.9 +1.1**
comp=Z,1.1nm,0.6s,baz=344,slow=7.4,SNR=2.0
comp=Z,1.1nn,0.6s
KIV Kislovodsk 70.56 311 *e*P **P 09 18 47.4 +0.1**
KIV pmax pmax
comp=Z,40nn,1.1s
KBZ Khabaz 70.56 311 P **P 09 18 46.9 -0.3**
comp=Z,13nn,0.9s,baz=66,slow=3.1,SNR=25
KBZ LR LR 09 54 35.3
comp=Z,122nn,18.4s,baz=40,slow=40
comp=Z,13nn,0.9s
KBZ Khabaz 70.56 311*c i*P **P 09 18 46.8 -0.3**
KBZ pmax pmax
comp=Z,17nn,0.9s
GNI Garni 71.48 307 LR LR 09 53 24.0
comp=Z,138nn,18.9s,baz=43,slow=38
GNI Garni 71.48 307⇑*e*P **P 09 18 54.3 +1.3**
GNI pmax pmax
comp=Z,18nn,1.6s
MNK Minsk 71.73 326 *i* P **P 09 18 54.6 +0.5**
MNK *i* *PP **pP 09 19 04.8 +0.5**
MNK *i* 09 19 12.8
MNK *i* 09 21 34.4
MNK *i* PPP PPP 09 23 18.5
MNK *i* S **S 09 28 14.2 +2.8**
MNK *i* *SS **SKiKP 09 28 31.8 +2.3**
MNK *i* 09 28 57.7
MNK *i* SS **SS 09 32 52.3 +5.7**
MNK pmax pmax
comp=Z,33nm,0.9s
MNK pmax pmax
comp=E,14nn,0.8s
MNK pmax pmax
comp=N,21nn,0.7s
MNK MLR MLR
comp=N,175nn,18.0s

MNK MLR MLR
comp=Z,228nn,18.0s
MNK MLR MLR
comp=E,151nn,17.0s
NACGM Naroch 71.94 327 *e*P **P 09 18 55.2 -0.1**
comp=Z,13nm,0.9s,baz=48
FFC Flin Flon 72.03 33 P **P 09 18 55.6 -0.3**
FFC IAmb IAmb 09 19 12.5
comp=Z,8.5nm,1.1s
FFC Flin Flon 72.03 33 P **P 09 18 55.6 -0.3**
FFC pmax pmax
comp=Z,9.0nm,1.1s
VSLR Vesyoloye 72.41 312⇓*e*P **P 09 18 58.6 +0.3**
VSLR pmax pmax
comp=Z,47nm,1.1s
HFS Hagfors 73.08 336 P **P 09 19 01.8 -0.2**
comp=Z,7.8nm,0.8s,baz=46,slow=11,SNR=12
HFS LR LR 09 53 59.8
comp=Z,235nm,18.5s,baz=38,slow=38
comp=Z,7.8nm,0.8s
BOZ Bozeman (W) 73.12 45 IAmb IAmb 09 19 19.6
comp=Z,10nm,1.4s
NB2 NORSAR Subarra 73.14 338 P **P 09 19 02.0 -0.4**
comp=Z,7.4nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.14 338 P **P 09 19 02.1 -0.4**
comp=Z,4.7nm,0.7s,baz=39,slow=6.0,SNR=20
NOA LR LR 09 53 42.6
comp=Z,161nm,21.8s,baz=35,slow=38
comp=Z,4.7nm,0.7s
NVAR Mina Array Bea 73.46 54 P **P 09 19 06.4 +1.4**
NVAR Mina Array Bea 73.46 54 P **P 09 19 06.9 +1.9**
comp=Z,1.5nm,0.8s,baz=276,slow=6.3,SNR=3.8
comp=Z,1.5nm,0.8s
AKASG Malin Array Be 73.63 322 P **P 09 19 05.1 -0.3**
AKASG Malin Array Be 73.63 322 P **P 09 19 04.6 -0.8**
comp=Z,10nm,0.8s,baz=48,slow=5.9,SNR=43
AKASG pP **pP 09 19 16.9 +1.1**
comp=Z,1.0nm,0.4s,baz=45,slow=6.1,SNR=4.1
AKASG LR LR 09 54 16.7
comp=Z,241nm,18.1s,baz=60,slow=38
comp=Z,10nn,0.8s
AKASG Malin Array Be 73.63 322 *i* P **P 09 19 04.5 -0.9**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 73.63 322*de*P **P 09 19 04.3 -1.1**
AKBB pmax pmax
comp=Z,18nm,0.9s
KIEV Kiev 73.64 322 P 09 19 04.5 -0.9
KIEV Kiev 73.64 322 P **P 09 19 04.5 -0.9**
KIEV pmax pmax
comp=Z,15nm,0.9s
SFJD Kangerlussuaq 74.35 5 LR LR 09 52 59.1
comp=Z,78nm,21.2s,baz=348,slow=37
TPAW Teton Pass 74.81 46 P **P 09 19 14.2 +1.4**
TPAW IAmb IAmb 09 19 30.0
comp=Z,11nm,1.4s
HVU Hansel Valley 74.82 49 P 09 19 15.0 +2.2
HVU Hansel Valley 74.82 49 P **P 09 19 15.0 +2.2**
HVU pmax pmax
comp=Z,3.0nm,0.8s
MARD Mardin 75.65 306 P **P 09 19 17.7 +0.1**
PDAR Pinedale Array 76.06 46 P **P 09 19 21.2 +1.3**
comp=Z,1.7nm,0.7s,baz=265,slow=2.5,SNR=23
comp=Z,1.7nm,0.7s
BEL Belsk 76.66 327 *e*P **P 09 19 23.6 +0.8**
BSUT Blindstream Ca 76.79 49 IAmb IAmb 09 19 42.2
comp=Z,13nm,1.6s
RAO Raoul Island 76.91 145 LR LR 09 50 40.0
comp=Z,108nm,19.0s,baz=4.5,slow=34
MTPU Mount Pierson 77.51 51 IAmb IAmb 09 19 49.0
comp=Z,14nm,1.7s
PFO Pinyon Flats O 77.55 57 LR LR 09 45 22.1
comp=Z,54nm,21.0s,baz=234,slow=29
BURAR Bucovina Array 77.66 322 P 09 19 28.8 +0.1
BURAR IAmb IAmb 09 19 30.0
comp=Z,8.3nm,0.8s
BURAR Bucovina Array 77.66 322 P **P 09 19 28.7 0.0**
BURAR pmax pmax
comp=Z,8.0nm,0.8s
BNN Bunyan 77.73 310 IAmb IAmb 09 19 42.4
comp=Z,15nn,1.1s
ULM Lac du Bonnet 77.83 34 P **P 09 19 29.5 0.0**
comp=Z,2.4nm,0.7s,baz=322,slow=6.7,SNR=5.0
comp=Z,2.4nm,0.7s
SRU San Rafael Swe 77.84 50 IAmb IAmb 09 19 46.9
comp=Z,8.9nm,1.1s
STHS Stebnicka Huta 78.22 325 *e*P **P 09 19 31.9 +0.2**
STHS Stebnicka Huta 78.22 325 *e*P **P 09 19 31.9 +0.2**
HMU Henry Mountain 78.46 51 IAmb IAmb 09 19 50.5
comp=Z,8.5nm,1.1s
BR131 Keskin Array S 78.48 312*de*P **P 09 19 33.4 0.0**
BRTR Keskin Array B 78.48 312 P **P 09 19 32.2 -1.3**
BRTR Keskin Array B 78.48 312 P **P 09 19 32.6 -0.8**
comp=Z,1.4nm,0.7s,baz=37,slow=4.9,SNR=7.6
BRTR pP **pP 09 19 45.5 +1.7**
comp=Z,2.6nm,0.7s,baz=92,slow=3.8,SNR=8.5
BRTR LR LR 09 57 34.2
comp=Z,67nm,19.7s,baz=120,slow=38
comp=Z,1.4nm,0.7s
BRTR Keskin Array B 78.48 312 *i* P **P 09 19 33.0 -0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
NIE Niedzica 78.64 326 *e*P **P 09 19 34.1 +0.2**
MLR Muntele Rosu 78.78 320 LR LR 09 57 17.7
comp=Z,207nm,18.7s,baz=50,slow=38
LANS Liptovska Anna 79.20 326 *e*P **P 09 19 38.5 +1.4**
LANS Liptovska Anna 79.20 326 *e*P **P 09 19 38.5 +1.4**
VOIR 79.27 320 P **P 09 19 36.0 -1.6**
VOIR pmax pmax
comp=Z,6.0nm,1.2s
KSP Ksiaz 79.27 329 *e*P **P 09 19 37.0 -0.4**
KSP Ksiaz 79.27 329 P **P 09 19 37.7 +0.3**
KSP pmax pmax
comp=Z,13nm,1.0s
PV16 Nyswonger Mesa 79.31 49 IAmb IAmb 09 19 54.8
comp=Z,11nm,1.1s
STEB Steborice 79.35 327 *e*P **P 09 19 38.3 +0.5**
PV05 Paradox Valley 79.36 50 IAmb IAmb 09 19 55.8
comp=Z,11nm,0.9s
PV18 Skein Mesa, Pa 79.36 49 IAmb IAmb 09 19 55.7
comp=Z,10nm,0.8s
PV13 Radium Mtn., P 79.47 49 IAmb IAmb 09 19 56.1
comp=Z,8.6nm,0.9s
OSTC Ostas 79.53 328 AMS AMS 09 57 10.0
comp=Z,200nm,17.0s
MORC Moravsky Berou 79.56 327 *e*P **P 09 19 39.1 0.0**
DPC Dobruska-Polom 79.64 328 *e*P **P 09 19 40.0 +0.5**
DPC MLR MLR
comp=Z,200nm,14.6s
DPC Dobruska-Polom 79.64 328 *e*P **P 09 19 40.0 +0.5**
DPC AMS AMS 09 58 30.0
comp=Z,200nm,14.6s
UPC Upice 79.65 329 AMS AMS 09 57 30.0
comp=Z,200nm,21.0s
KRLC Kraliky 79.66 328 *e*P **P 09 19 39.5 -0.1**
KRLC Kraliky 79.66 328 *e*P **P 09 19 39.5 -0.1**
PSZ Piszkesteto 79.93 325 P **P 09 19 41.7 +0.6**
PSZ IAmb IAmb 09 19 42.6
comp=Z,12nm,1.0s
PSZ Piszkesteto 79.93 325 P **P 09 19 41.7 +0.6**
PSZ pmax pmax
comp=Z,12nn,1.0s
VYHS Vyhne 79.97 326 *e*P **P 09 19 41.5 +0.2**
VYHS Vyhne 79.97 326 *e*P **P 09 19 41.5 +0.2**
BRG Berggiesshubel 80.19 330 P **P 09 19 43.6 +1.2**
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG Berggiesshubel 80.19 330 *e*P **P 09 19 43.5 +1.2**
BRG Amp 09 19 44.2
comp=Z,5.4nm,0.8s
PVCC Panska Ves 80.22 329 AMS AMS 09 57 50.0
comp=Z,200nm,20.0s
CLL Collm 80.22 331 IAmb IAmb 09 19 43.2
comp=Z,12nn,0.8s
CLL Collm 80.22 331⇑*i*P **P 09 19 42.2 -0.3**
CLL pmax pmax
comp=Z,15nn,0.9s
CLL Collm 80.22 331⇑*i*P **P 09 19 42.2 -0.3**
comp=Z,15nn,0.9s
CLL L L 09 58 00.0
comp=Z,100nn,18.8s
VRAC Vranov 80.32 327 LR LR 09 58 02.9
comp=Z,122nn,18.9s,baz=38,slow=38
VRAC Vranov 80.32 327 *e*P **P 09 19 43.3 +0.2**
KRUC Moravsky 80.60 327 *e*P **P 09 19 44.8 +0.2**
PRU Pruhonice 80.65 329 P **P 09 19 45.1 +0.3**

PRU				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TREC	**Trest**	**80.80**	**328**	P	**P**	**09 19 46.1**	**+0.4**
TREC				pmax	pmax		
	comp=Z,11nm,1.2s						
BZS	**Buzias**	**80.82**	**322**	P	**P**	**09 19 45.0**	**-0.8**
BZS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
RAYN	**Ar Rayn**	**80.84**	**293**		**P**	**09 19 45.5**	**-0.9**
RAYN	**Ar Rayn**	**80.84**	**293**	P	**P**	**09 19 45.5**	**-0.9**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ASF	**Jabal al Asfar**	**81.36**	**304**	LR	LR	09 59 22.0	
	comp=Z,82nm,19.0s,baz=98,slow=38						
CKRC	**Cesky Krumlov**	**81.65**	**328**	*e*P	**P**	**09 19 50.6**	**+0.4**
CKRC				MLR	MLR		
	comp=Z,200nm,18.8s						
CKRC	**Cesky Krumlov**	**81.65**	**328**	*e*P	**P**	**09 19 50.6**	**+0.4**
CKRC				AMS	AMS	09 57 50.0	
	comp=Z,200nm,18.8s						
RONA	**Rosalia, Austr**	**81.68**	**327**	*i* P	**P**	**09 19 51.0**	**+0.5**
	comp=Z,21nm,1.1s						
CONA	**Conrad Observa**	**81.69**	**327**	*e*P	**P**	**09 19 51.0**	**+0.5**
	comp=Z,8.5nm,0.9s,SNR=6.2						
KHC	**Kasperske Hory**	**81.71**	**329***c*	*i*P	**P**	**09 19 50.7**	**+0.1**
KHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KHC	**Kasperske Hory**	**81.71**	**329**	*e*P	**P**	**09 19 50.9**	**+0.3**
KHC				AMS	AMS	09 58 10.0	
MMAI	**Mount Meron Ar**	**81.77**	**306**	P	**P**	**09 19 50.6**	**-0.6**
	comp=Z,1.0nm,0.2s,baz=73,slow=4.8,SNR=5.8						
MMAI				LR	LR	09 58 31.0	
	comp=Z,74nm,21.2s,baz=32,slow=37						
	comp=Z,1.0nm,0.2s						
GEC2	**GERESS Array S**	**81.88**	**329**	IAmb	IAmb	09 19 51.5	
	comp=Z,15nm,1.8s						
GERES	**GERESS Array B**	**81.88**	**329**		**P**	**09 19 51.3**	**-0.2**
GERES	**GERESS Array B**	**81.88**	**329**	P	**P**	**09 19 51.1**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=46,slow=3.9,SNR=13						
GERES				pP	**pP**	**09 20 03.9**	**+1.9**
	comp=Z,1.6nm,0.9s,baz=38,slow=6.8,SNR=4.3						
GERES				LR	LR	09 59 09.9	
	comp=Z,173nm,19.2s,baz=12,slow=38						
	comp=Z,2.5nm,0.8s						
GERES	**GERESS Array B**	**81.88**	**329**	P	**P**	**09 19 51.3**	**-0.2**
BUG	**Bochum--Univer**	**82.22**	**334**	P	**P**	**09 19 51.6**	**-1.5**
BUG				pmax	pmax		
	comp=Z,32nm,0.6s						
ARSA	**Arzberg**	**82.36**	**327**	*e*P	**P**	**09 19 54.1**	**+0.1**
	comp=Z,11nm,1.3s						
BIOA	**Bad Ischl, Aus**	**82.82**	**328**	*i* P	**P**	**09 19 56.6**	**+0.3**
	comp=Z,7.2nm,0.8s						
SOKA	**Soboth**	**83.02**	**327**	*i* P	**P**	**09 19 57.4**	**-0.2**
	comp=Z,12nm,0.9s						
ANMO	**Albuquerque**	**83.02**	**51**		**P**	**09 20 00.6**	**+2.7**
ANMO	**Albuquerque**	**83.02**	**51**	LR	LR	09 56 09.7	
	comp=Z,34nm,18.7s,baz=67,slow=35						
ANMO	**Albuquerque**	**83.02**	**51**	⇓*i*P	**P**	**09 20 00.0**	**+2.1**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KBA	**Koelnbreinsper**	**83.42**	**328**	P	**P**	**09 20 00.4**	**+0.7**
KBA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBA	**Koelnbreinsper**	**83.42**	**328**	*i* P	**P**	**09 20 00.3**	**+0.6**
	comp=Z,6.9nm,0.8s						
LESA	**Schwarzleotal**	**83.43**	**328**	*e*P	**P**	**09 19 59.7**	**+0.1**
	comp=Z,7.4nm,1.0s						
319A	**Douglas**	**83.64**	**55**	IAmb	IAmb	09 20 16.4	
	comp=Z,5.5nm,0.8s						
MYKA	**Terra Mystica**	**83.65**	**327**	*i* P	**P**	**09 19 59.8**	**-1.0**
	comp=Z,5.3nm,0.9s						
SCHQ	**Schefferville**	**83.70**	**17**	P	**P**	**09 20 00.7**	**0.0**
	comp=Z,4.0nm,0.9s,baz=294,slow=8.4,SNR=3.5						
SCHQ				LR	LR	10 00 47.0	
	comp=Z,28nm,19.3s,baz=340,slow=38						
	comp=Z,4.0nm,0.9s						
MOTA	**Moosalm**	**84.13**	**329**	P	**P**	**09 20 03.1**	**-0.2**
	comp=Z,12nm,1.2s						
RETA	**Reute**	**84.16**	**329**	*e*P	**P**	**09 20 03.4**	**+0.1**
	comp=Z,11nm,1.0s,SNR=5.2						
SQTA	**Sankt Quirin**	**84.19**	**329**	*e*P	**P**	**09 20 03.5**	**0.0**
	comp=Z,9.2nm,1.4s						
STAL	**STALIGIAL**	**84.34**	**328**	IAmb	IAmb	09 20 03.5	
	comp=Z,6.8nm,0.7s						
FETA	**Feichten**	**84.55**	**329**	*e*P	**P**	**09 20 05.2**	**-0.2**
	comp=Z,6.0nm,0.9s,SNR=4.3						
PPT	**Papeete**	**84.58**	**117**	LR	LR	09 51 47.8	
	comp=Z,48nm,20.3s,baz=324,slow=31						
PPT2	**Papeete2**	**84.59**	**117**	*e*P	P	09 20 11.8	+6.0
	comp=Z,28nm,25.0s						
PPT2	**Papeete2**	**84.59**	**117**	*e*S	**SKSac**	**09 30 26.1**	**-1.3**
	comp=Z,33nm,23.0s						
PPT2	**Papeete2**	**84.59**	**117**	*e*LR	LR	09 46 42.9	
	comp=Z,141nm,26.5s						
PPT2				*e*LR	LR	09 46 47.7	
	comp=Z,191nm,25.0s						
DAVA	**Damuels**	**84.67**	**330**	*e*P	**P**	**09 20 05.4**	**-0.6**
	comp=Z,9.6nm,0.8s						
DAVOX	**Davos/Dischmat**	**85.08**	**329**	LR	LR	10 01 26.8	
	comp=Z,163nm,18.7s,baz=82,slow=38						
TUE	**Stuetta**	**85.55**	**330**	IAmb	IAmb	09 20 34.4	
	comp=Z,6.7nm,1.0s						
TAOE	**Nuku Hiva Isla**	**85.75**	**105**	*e*LR	LR	09 47 14.7	
	comp=Z,172nm,23.6s						
LPIG	**La Paz**	**87.76**	**61**	LR	LR	09 54 30.2	
	comp=Z,23nm,18.5s,baz=230,slow=32						
TXAR	**Lajitas Array**	**88.58**	**53**	P	**P**	**09 20 26.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=298,slow=3.3,SNR=11						
TXAR				pP	**pP**	**09 20 37.9**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=302,slow=3.4,SNR=11						
	comp=Z,0.7nm,0.7s						
TBI	**Tubuai**	**88.59**	**121**	*e*P	P	09 20 19.0	-6.1
	comp=Z,450nm,41.5s						
TBI	**Tubuai**	**88.59**	**121**	*e*LR	LR	09 48 31.3	
	comp=Z,380nm,24.0s						
BRDY	**Brady**	**90.04**	**49**	IAmb	IAmb	09 20 48.7	
	comp=Z,4.8nm,1.1s						
TKL	**Tuckaleechee C**	**94.72**	**36**	LR	LR	10 06 16.1	
	comp=Z,28nm,19.8s,baz=356,slow=37						
ESDC	**Sonseca Array**	**96.32**	**335**	P	**P**	**09 21 00.4**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=0.5,slow=6.7,SNR=5.3						
ESDC				LR	LR	10 09 29.1	
	comp=Z,130nm,18.6s,baz=14,slow=39						
	comp=Z,0.7nm,0.8s						
QSPA	**South Pole Qui**	**128.25**	**180**	PKP	**PKPdf**	**09 26 37.7**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=282,slow=1.4,SNR=7.6						
SNAA	**Sanae**	**142.39**	**197**	PKhKP	PKPpre	09 26 58.7	
	comp=Z,1.2nm,1.0s,baz=178,slow=1.9,SNR=6.6						
LPAZ	**La Paz**	**145.24**	**59**	PKPbc	**PKPbc**	**09 27 10.8**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=278,slow=2.9,SNR=13						

AUST 15 09:07:38.7±0.6, 18°S±4°×12°0E±°, h10km, mb4.0/5, ML2.8/4, mL3.5/5, Error ellipse: s-maj=11.9km s-min=5.6km az=137.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**2.79**	**191**	P	Pn	09 08 26.0	+2.6
MBWA				S	Sb	09 09 00.2	-2.6
PSAC1	**Pilbara Seismi**	**3.14**	**189**	P	Pn	09 08 31.0	+2.7
PSAC1				S	Sn	09 09 08.0	+2.2
PSAA2	**Pilbara Seismi**	**3.16**	**188**	P	Pn	09 08 31.1	+2.6
PSA00	**Pilbara Seismi**	**3.17**	**188**	P	Pn	09 08 31.5	+2.8
PSA00				S	Sn	09 09 08.7	+2.0
FITZ	**Fitzroy Crossi**	**5.08**	**87**	P	Pn	09 08 53.4	-1.5
GIRL	**Giralia**	**7.08**	**233**	P	Pn	09 09 24.0	+1.6
	comp=Z,0.2nmcomp=Z,251µmcomp=Z,61nm,2.1s						
GIRL				S	Sn	09 10 40.1	-2.8
MEEK	**Meekatharra**	**8.33**	**191**	P	Pn	09 09 41.9	+2.3
	comp=Z,0.1nmcomp=Z,16nm,2.4s						
MEEK	**Meekatharra**	**8.33**	**191**	S	Sn	09 11 11.4	-2.5
MORW	**Morawa**	**11.30**	**199**	P	Pn	09 10 20.7	+0.4
	comp=Z,19nm,2.7s						
MORW	**Morawa**	**11.30**	**199**	S	Sn	09 12 20.0	-6.7
BLDU	**Ballidu**	**12.58**	**194**	P	Pn	09 10 38.6	+0.8
KLBR	**Kellerberrin**	**13.32**	**190**	P	Pn	09 10 48.5	+0.5
	comp=Z,14nm,1.3s						
WRAB	**Tennant Creek**	**13.35**	**99**	P	Pn	09 10 46.4	-2.0
	comp=Z,4.8nm,2.2s						
WB2	**Warramunga Arr**	**13.35**	**99**	P	Pn	09 10 45.8	-2.6

*NEIC **15** 09:14:47.4±2.1, 36°.33N±0°.01×120°.34W±0°.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.8km az=317.0*
NCEDC 15 09:14:47.2±1.6, 36°.33N±0°.01×120°.35W±0°.02, h12km±7km,
ML2.9/42, ML2.9/78(NEIC), Error ellipse: s-maj=2.8km s-min=1.9km az=88.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRE	**Westside REC,**	**0.19**	**88**		Pb	09 14 53.0	+0.5
WSRE					Sg	09 14 57.7	+3.6
PSMM	**Smith Mountain**	**0.33**	**217**		Pb	09 14 55.0	0.0
PSMM					Sb	09 15 01.3	+1.0
PPTM	**Peach Tree Val**	**0.37**	**233**		Pb	09 14 55.5	-0.3
PMPB	**Monarch Peak**	**0.38**	**252**		Pb	09 14 55.6	-0.3
PMPB					Sb	09 15 02.4	+0.6
PMPB	**Monarch Peak**	**0.38**	**252**	IAML		09 15 03.0	
	comp=E,1µm,0.5s						
PMPB				IAML		09 15 03.7	
	comp=N,733nm,0.8s						
CTM	**Castle Mountai**	**0.40**	**178**		Pb	09 14 56.2	-0.1
PHPM	**Hope Ranch**	**0.41**	**210**		Pb	09 14 55.8	-0.5
PKD	**Bear Valley Ra**	**0.42**	**202**		Pb	09 14 56.1	-0.4
PKD					Sb	09 15 03.8	+1.0
PSTM	**Stockdale Moun**	**0.42**	**197**		Pb	09 14 56.3	-0.2
PVCM	**Vineyard Canyo**	**0.44**	**200**		Pb	09 14 56.6	-0.3
PHFM	**Heflinger Ranc**	**0.45**	**185**		Pb	09 14 57.2	+0.1
PHFM					Sb	09 15 04.7	+0.9
BMSM	**Mercy Hot Spri**	**0.48**	**312**		Pb	09 14 57.7	+0.1
PPO	**Portuguese Can**	**0.51**	**205**		Pb	09 14 58.1	0.0
PSAM	**San Ardo**	**0.53**	**235**		Pg	09 14 57.9	+0.3
PMRM	**Maxey Ranch**	**0.56**	**170**		Pb	09 14 58.5	-0.3
PKLM	**Kerr Lake**	**0.56**	**179**		Pb	09 14 58.7	-0.2
BBGB	**Big Mountain B**	**0.61**	**294**		Pb	09 14 59.8	0.0
BBGB				IAML		09 15 12.7	
	comp=E,948nm,0.6s						
BBGB				IAML		09 15 13.8	
	comp=N,918nm,0.5s						
PAGB	**Antelope Grade**	**0.61**	**172**		Pg	09 14 59.2	+0.2
THIS	**South End of C**	**0.62**	**171**		Pg	09 14 58.9	-0.3
TCHL	**Shandon**	**0.65**	**184**		Pb	09 15 00.2	-0.1
PCCM	**Crazy Canyon**	**0.70**	**250**		Pb	09 15 01.1	-0.2
PANM	**San Antonio Re**	**0.71**	**219**		Pg	09 15 01.1	+0.1
BSGM	**Shirttail Gulc**	**0.73**	**277**		Pg	09 15 01.3	-0.1
KARE	**Kearney REC, C**	**0.73**	**69**		Pg	09 15 00.6	-0.7
TCAS	**Cass Winery, P**	**0.74**	**193**		Pg	09 15 01.7	+0.2
LCUV	**Le Cuvier**	**0.75**	**205**		Pg	09 15 01.6	-0.1
HULI	**Fort Hunter Li**	**0.78**	**247**		Pg	09 15 02.3	+0.1
HULI	**Fort Hunter Li**	**0.78**	**247**	IAML		09 15 14.7	
	comp=E,374nm,0.6s						
HULI				IAML		09 15 15.1	
	comp=N,536nm,0.6s						
VOG	**Valley Oaks Go**	**0.78**	**91**		Pg	09 15 01.6	-0.8
PBPM	**Bitterwater Pu**	**0.78**	**163**		Pg	09 15 02.1	-0.3
TSCN	**Private Proper**	**0.79**	**180**		Pb	09 15 02.8	0.0
RAMR	**Ramage Ranch**	**0.81**	**211**		Pg	09 15 02.9	0.0
BJOM	**Mount Johnson**	**0.83**	**291**		Pg	09 15 03.2	0.0
FRI	**Friant**	**0.84**	**38**		Pg	09 15 02.4	-0.9
MHDM	**Hidden Dam**	**0.86**	**25**		Pg	09 15 02.9	-1.0
SCZ	**Santa Cruz**	**0.89**	**288**		Pg	09 15 03.9	-0.4
SCZ	**Santa Cruz**	**0.89**	**288**	IAML		09 15 18.4	
	comp=N,243nm,0.7s						
LEGD	**La Grand CA**	**0.90**	**10**		Pg	09 15 03.5	-1.0
SAO	**San Andreas Ge**	**0.98**	**296**		Pg	09 15 05.6	-0.5
SAO	**San Andreas Ge**	**0.98**	**296**	Pn	Pg	09 15 06.0	-0.1
PTAM	**Tassajara Cree**	**0.98**	**197**		Pg	09 15 05.5	-0.6
PCBM	**Cambria**	**1.00**	**215**		Pb	09 15 06.0	-0.4
SLD	**San Luis Dam**	**1.02**	**317**		Pb	09 15 05.7	-1.0
MYLM	**Yosemite Lake**	**1.05**	**357**		Pb	09 15 06.2	-1.1
SMMC	**Simmler**	**1.06**	**164**		Pb	09 15 05.5	-2.0
VES	**Vestal, Richgr**	**1.14**	**115**	IAML		09 15 22.9	
	comp=E,240nm,0.5s						
VES				IAML		09 15 23.4	
	comp=N,299nm,0.4s						
GHS	**Gilroy Hot Spr**	**1.16**	**311**		Pb	09 15 08.0	-1.2
MMIM	**Miami Mountain**	**1.19**	**24**		Pb	09 15 08.7	-1.0
CRGC	**Crocker Grade**	**1.20**	**155**		Pn	09 15 09.0	-0.9
MBUM	**Mount Bullion**	**1.24**	**10**		Pn	09 15 09.5	-1.0
SPG2	**Springville 2**	**1.29**	**95**		Pn	09 15 09.4	-1.7
KCC	**Kaiser Creek**	**1.29**	**40**		Pn	09 15 10.2	-0.9
JELB	**Ellicott, Sant**	**1.33**	**297**		Pn	09 15 11.0	-0.5
BUCR	**Buckhorn Ranch**	**1.35**	**7**		Pn	09 15 11.1	-0.8
BUCR	**Buckhorn Ranch**	**1.35**	**7**	IAML		09 15 29.3	
	comp=N,117nm,0.3s						
CCOB	**Coe Ranch Numb**	**1.41**	**311**		Pn	09 15 12.2	-0.4
MHC	**Mount Hamilton**	**1.44**	**315**		Pn	09 15 12.2	-1.1
WASM	**Alta Sierra Ca**	**1.57**	**112**		Pn	09 15 14.4	-0.7
BCW	**Bitter Crk WRg**	**1.59**	**151**		Pn	09 15 13.6	-1.6
MRDM	**Red Cones**	**1.63**	**39**		Pn	09 15 16.3	+0.3
MDPB	**Devils Postpil**	**1.65**	**38**		Pn	09 15 16.5	+0.3
MMPM	**Mammoth Pass**	**1.66**	**39**		Pn	09 15 16.9	+0.5
ISA	**Isabella, Lake**	**1.66**	**113**		Pn	09 15 15.6	-0.6
ISA				IAML		09 15 37.9	
	comp=N,133nm,0.4s						
ISA				IAML		09 15 38.4	
	comp=E,137nm,0.3s						
MINS	**Minaret Summit**	**1.68**	**38**		Pn	09 15 17.0	+0.4
MLIM	**Lincoln Peak**	**1.68**	**39**		Pn	09 15 17.5	+0.7
CMB	**Columbia Colle**	**1.70**	**359**		Pn	09 15 16.7	0.0
CMB	**Columbia Colle**	**1.70**	**359**	Pn	Pn	09 15 16.5	-0.2
CMB	**Columbia Colle**	**1.70**	**359**	IAML		09 15 41.7	
	comp=N,81nm,0.6s						
CMB				IAML		09 15 43.8	
	comp=E,90nm,0.5s						
MDYM	**Dry Creek**	**1.70**	**39**		Pn	09 15 17.8	+0.8
MLCM	**Laurel Creek C**	**1.72**	**42**		Pn	09 15 17.9	+0.7
MMLB	**Mammoth Lakes**	**1.72**	**39**		Pb	09 15 18.1	-0.8
ARVC	**Arvin**	**1.73**	**134**		Pn	09 15 15.9	-1.1
MDCM	**Deadman Creek**	**1.73**	**37**		Pn	09 15 17.9	+0.5
MGPM	**Gravel Pit**	**1.74**	**42**		Pb	09 15 18.3	-0.8
TEJ	**El Tejon**	**1.74**	**129**		Pn	09 15 15.8	-1.5
MEMM	**East Mammoth H**	**1.75**	**40**		Pb	09 15 18.5	-0.8
MCVM	**Convict Lake**	**1.75**	**44**		Pn	09 15 18.3	+0.7
MCBM	**Casa Benchmark**	**1.75**	**41**		Pb	09 15 18.7	-0.7
MLAC	**Mammoth, Mammo**	**1.77**	**43**		Pb	09 15 18.9	-0.9
MDRNC	**Doe Ridge**	**1.78**	**43**		Pb	09 15 18.9	-0.9
JSFB	**Stanford Teles**	**1.81**	**307**		Pn	09 15 17.1	-1.0
MLHM	**Little Hot Cre**	**1.82**	**42**		Pb	09 15 19.9	-0.7
CWC	**Cottonwood Cre**	**1.84**	**86**		Pn	09 15 19.0	+0.3
TINI	**Tinemaha, Big**	**1.85**	**66**		Pb	09 15 20.0	-1.0
JRSC	**Jasper Ridge**	**1.85**	**306**		Pn	09 15 17.5	-1.2
MCDM	**Chidago Canyon**	**1.95**	**51**		Pb	09 15 21.9	-0.8
THC	**Tehachapi Micr**	**1.98**	**135**		Pn	09 15 19.2	-1.4
DSP	**Deep Springs**	**2.17**	**61**		Pb	09 15 25.3	-1.1
DSP				IAML		09 15 53.5	
	comp=N,105nm,0.7s						
DSP				IAML		09 15 56.6	
	comp=E,63nm,0.6s						
TPO	**Tropico Hills**	**2.26**	**129**		Pn	09 15 24.3	-0.1
TPO				IAML		09 15 59.4	
	comp=E,47nm,0.7s						
WAKR	**Walker**	**2.29**	**18**		Pb	09 15 26.9	-1.6
WAKR				IAML		09 15 59.7	
	comp=N,134nm,0.7s						
WAKR				IAML		09 16 00.8	
	comp=E,99nm,0.7s						
MPMC	**Manual Prospec**	**2.33**	**96**	IAML		09 16 33.1	
	comp=E,69nm,0.6s						
MPMC				IAML		09 16 33.7	
	comp=N,60nm,0.5s						
LHV	**Little Huntoon**	**2.42**	**37**	Pn	Pn	09 15 28.4	+2.0
LHV				IAML		09 16 06.3	
	comp=N,39nm,0.5s						
LHV				IAML		09 16 06.5	
	comp=E,49nm,0.6s						
WSHM	**Spangler Hills**	**2.43**	**107**		Pn	09 15 26.6	-0.1
CCCA	**Chr Cany lake**	**2.56**	**108**	Pn	Pn	09 15 28.4	0.0
AFDM	**Forest Hills D**	**2.66**	**350**	Pn	Pn	09 15 30.9	+1.1
GMN	**Gold Mountain**	**2.66**	**68**	Pn	Pb	09 15 33.9	-1.0
GMN				IAML		09 16 10.7	
	comp=N,32nm,0.4s						
GMN				IAML		09 16 13.6	
	comp=E,30nm,0.4s						
RYN	**Ryan**	**2.71**	**32**	Pn	Pb	09 15 34.8	-1.0
RYN				IAML		09 16 12.3	
	comp=E,48nm,0.4s						
RYN				IAML		09 16 12.6	
	comp=N,42nm,0.3s						
MZP	**Montezuma Peak**	**2.74**	**59**	Pn	Pb	09 15 34.0	-2.3
MWC	**Mount Wilson**	**2.82**	**138**	Pn	Pn	09 15 31.9	-0.3
QSM	**Queen of Sheba**	**2.84**	**96**	Pn	Pn	09 15 33.0	+0.6
QSM				IAML		09 16 42.1	
	comp=N,93nm,0.1s						
MPK	**Martis Peak**	**2.97**	**5**	Pn	Pn	09 15 36.8	+2.4
MPK				IAML		09 16 25.8	
	comp=N,56nm,0.9s						
MPK				IAML		09 16 29.0	
	comp=E,52nm,0.7s						
WCT	**Wildcat Mounta**	**3.04**	**80**	Pn	Pn	09 15 35.4	+0.4
BFSC	**Mount Baldy Ra**	**3.04**	**133**	Pn	Pn	09 15 35.3	+0.1
GSC	**Goldstone, Bar**	**3.06**	**109**	Pn	Pn	09 15 35.6	+0.1
GSC				IAML		09 16 49.5	
	comp=N,68nm,0.3s						
GSC				IAML		09 16 51.1	
	comp=E,49nm,0.3s						
TPNV	**Topopah Spring**	**3.36**	**78**	IAML		09 16 32.5	
	comp=E,22nm,0.5s						
TPNV				IAML		09 16 32.5	
	comp=E,23nm,0.4s						
PMD	**Palm Desert**	**4.22**	**128**	Pn	Pn	09 15 50.6	-0.7

*MOS **15** 09:15:02.5±0.9, 42°.08N×143°.78E, h70km, mb5.0/38, Error ellipse: s-maj=8.0km s-min=5.2km az=90.7*
*IDC **15** 09:15:03.0±1.6, 42°.13N×143°.84E, h57km±13km, mb4.2/29, mbtmp4.4/36, MS3.5/5, Error ellipse: s-maj=13.4km s-min=9.2km az=96.0*
*NEIC **15** 09:15:03.8±2.1, 42°.09N±0°.07×143°.9E±0°.1, h57km±8km, mb4.8/271, Error ellipse: s-maj=14.7km s-min=9.6km az=110.0*
*NIED **15** 09:15:04.1, 42°.15N×143°.81E, h68km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.20; $M_{\theta\theta}$0.38; $M_{\phi\phi}$-0.58; $M_{r\theta}$3.80; $M_{\theta\phi}$2.10; $M_{r\phi}$-1.17; Fault plane solution: $M_0$4.50000×10^{15} NP1:∅$_8$9.00000°, δ28.00000°, λ175.00000°. NP2:∅$_8$103.00000°, δ88.00000°, λ62.00000°.*
*SKHL **15** 09:15:04.4±0.1, 42°.10N×143°.80E, h79km±5km, mb5.5/4*
*JMA **15** 09:15:04.1±0.2, 42°.2N±0°.6×143°.8E±0°.7, h68km±2km, MD4.4/40, MW4.4/40, SE OFF TOKACHI*
JMA Felt II J1 at SE OFF TOKACHI .
*BJI **15** 09:15:06.4, 41°.98N×143°.26E, h72km, mB4.6/1, mb4.6/37, Ms4.5/5, Ms7 4.1/4*
ISC 15 09:15:04.1±0.6, 42°.18N±0°.04×143°.80E±0°.03, h67km±5km, n618, σ1°36/505, mb4.7/209, 10C-24D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.39**	**286**	*i* P	**Pn**	**09 15 15.7**	**+0.1**
JTHR				S	**Sn**	**09 15 24.2**	**+0.2**
JTHR	**Tokachihiroo**	**0.39**	**286**	A	A	09 15 15.7	
	comp=N,19nm,1.3s,comp=E,16nm,0.9s						
JEM	**Erimo**	**0.51**	**251**	*i* P	**Pn**	**09 15 17.2**	**+0.6**
JEM				*e*S	**Sn**	**09 15 27.5**	**+1.6**
JEM	**Erimo**	**0.51**	**251**	A	A	09 15 17.2	
	comp=N,30nm,1.6s,comp=E,12nm,0.7s						
ERM	**Erimo**	**0.51**	**251**		**Pn**	**09 15 17.2**	**+0.5**
ERM	**Erimo**	**0.51**	**251***c*	*i*PN	**Pn**	**09 15 17.1**	**+0.4**
JCH	**Churui**	**0.54**	**323**	*i* P	**Pn**	**09 15 17.6**	**+0.6**
JCH				S	**Sn**	**09 15 27.3**	**+0.8**
JCH	**Churui**	**0.54**	**323**	A	A	09 15 17.6	
	comp=N,21nm,0.3s,comp=E,32nm,1.0s						
JOB	**Onbets**	**0.72**	**2**	*i* P	**Pn**	**09 15 20.1**	**+1.0**
JOB				*e*S	**Sn**	**09 15 32.0**	**+2.0**
JOB	**Onbets**	**0.72**	**2**	A	A	09 15 20.1	
	comp=N,41nm,2.3s,comp=E,22nm,1.3s						
JNBK	**Urakawa-nobuka**	**0.79**	**277**	P	**Pn**	**09 15 20.4**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.79**	**277**	A	A	09 15 20.4	
	comp=N,14nm,0.7s,comp=E,13nm,0.9s						
JSHD	**Hidakashinhida**	**1.02**	**283**	P	**Pn**	**09 15 24.0**	**+1.3**
JAK	**Akkeshi**	**1.05**	**39**	⇓*i*P	**Pn**	**09 15 23.3**	**+0.3**
JAK				⇓*e*S	**Sn**	**09 15 37.4**	**+0.3**
JAK	**Akkeshi**	**1.05**	**39**	A	A	09 15 23.3	
	comp=N,19nm,0.9s,comp=E,25nm,0.7s						
JAR	**Ashorobuto**	**1.11**	**359**	*i* P	**Pn**	**09 15 24.6**	**+0.7**
JAR				*e*S	**Sn**	**09 15 39.5**	**+0.9**
JAR	**Ashorobuto**	**1.11**	**359**	A	A	09 15 24.6	
	comp=N,96nm,0.7s,comp=E,55nm,0.3s						
AKK	**Akkeshi**	**1.13**	**42**	*i* P	**Pn**	**09 15 24.4**	**+0.3**
AKK				*i* S	**Sn**	**09 15 39.3**	**+0.2**
JBT2	**Biratori 2**	**1.22**	**300**	*i* P	**Pn**	**09 15 25.4**	**+0.2**
JBT2				*e*S	**Sn**	**09 15 41.8**	**+0.7**
JFR	**Furan**	**1.32**	**318**	*i* P	**Pn**	**09 15 26.4**	**-0.2**
JFR				S	**Sn**	**09 15 44.2**	**+0.6**
JKHN	**Kushirohamanak**	**1.35**	**48**	⇓*i*P	**Pn**	**09 15 27.4**	**+0.4**
JKHN				⇓*e*S	**Sn**	**09 15 44.8**	**+0.8**
JKHN	**Kushirohamanak**	**1.35**	**48**	A	A	09 15 27.4	
	comp=N,24nm,0.7s,comp=E

KUR pmax pmax
comp=E,109nm,0.6s
KUR pmax pmax
comp=N,88nm,0.4s
KUR smax smax
comp=N,843nm,0.6s
KUR smax smax
comp=E,278nm,0.4s
KUR Kuril'sk 4.24 43 *e*P **Pn 09 16 08.0 +1.9**
KUR AMB AMB 09 16 09.5
comp=E,290nm,0.5s
KUR *e*S **Sn 09 16 55.8 +1.5**
KUR A A 09 17 00.8
comp=E,840nm,0.5s
KUR A A 09 17 00.8
comp=E,280nm,0.5s
YSS Yuzhno-Sakhali 4.83 351 Pn 09 16 14.9 +0.8
YSS Yuzhno-Sakhali 4.83 351 *e*PN **Pn 09 16 15.0 +0.8**
YSS *e*S **Sn 09 17 09.2 +0.5**
YSS pmax pmax
comp=Z,100nm,3.7s
YSS pmax pmax
comp=Z,40nm,0.7s
YSS smax smax
comp=N,300nm,2.4s
YSS smax smax
comp=N,140nm,0.6s
YSS smax smax
comp=E,140nm,0.6s
YSS Yuzhno-Sakhali 4.83 351 *e*P **Pn 09 16 16.2 +2.0**
YSS AMB AMB 09 16 16.7
comp=E,70nm,0.3s
YSS AMB AMB 09 16 24.7
comp=E,100nm,3.7s
YSS *e*S **Sn 09 17 09.4 +0.7**
YSS A A 09 17 10.2
comp=E,300nm,2.4s
YSS A A 09 17 10.2
comp=E,200nm,2.4s
YSS A A 09 17 11.5
comp=E,250nm,0.3s
YSS A A 09 17 11.5
comp=E,110nm,0.3s
YSS AMS AMS 09 18 18.2
comp=E,300nm,15.0s
JMM Marumori 4.89 209 Pn 09 16 12.3 -2.8
MJB9 Matsu-Tunnel 7.10 219 Pn 09 16 45.6 +0.2
MJAR Matsushiro Arr 7.11 219 Pn 09 16 44.2 -1.3
MJAR Matsushiro Arr 7.11 219 P **Pn 09 16 44.3 -1.1**
comp=E,36nm,0.7s,baz=31,slow=14,SNR=77
MJAR LR LR 09 20 03.9
comp=E,320nm,18.7s,baz=36,slow=42
MAJO Matsushiro 7.11 219 Pn 09 16 44.4 -1.0
MAJO Matsushiro 7.11 219‖ *e*PN **Pn 09 16 43.3 -2.1**
JGF Kuroka 8.27 219 Pn 09 17 01.2 -0.2
INU Inuyama 8.64 220 Pn 09 17 05.8 -0.5
TYV Tymovskoe 8.72 355 *e*PN **Pn 09 17 09.9 +2.6**
TYV pmax pmax
comp=Z,300nm,4.0s
TYV pmax pmax
comp=Z,34nm,0.9s
TYV Tymovskoe 8.72 355 *i* P **Pn 09 17 09.8 +2.5**
TYV AMB AMB 09 17 10.3
comp=Z,300nm,4.0s
TYV AMB AMB 09 17 10.7
comp=Z,20nm,0.7s
TYV *e*S **Sn 09 18 44.3 +0.3**
TYV A A 09 18 51.4
comp=Z,10.0nm,0.7s
TYV A A 09 18 51.4
comp=Z,10.0nm,0.7s
VLA Vladivostok 8.83 280⇑ *e*PN **Pn 09 17 05.2 -3.8**
USRK Ussuriysk Ar. 8.86 287 P **Pn 09 17 10.4 +1.1**
comp=Z,3.6nm,0.7s,baz=91,slow=12,SNR=6.3
JHJ Hachijo jima 2 9.59 201 P **Pn 09 17 16.1 -3.3**
comp=Z,69nm,0.6s,baz=75,slow=20,SNR=1.2
PSTR Posyet 9.63 277‖ *e*PN **Pn 09 17 21.0 +1.2**
SKR Severo-Kuril's 12.01 41 AMS AMS 09 16 14.8
comp=Z,300nm,17.0s
BNX BinXian 12.34 292 ⇑P **Pn 09 17 57.3 +0.5**
BNX pmax pmax
comp=Z,10.0nm,1.0s
KSRS Korea Array 13.09 254 P **Pn 09 18 06.0 -1.0**
comp=Z,5.8nm,0.8s,baz=67,slow=13,SNR=8.7
CN2 Changchun 13.54 283 P **Pn 09 18 10.9 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
JNU Nakatsue 13.65 233 LR LR 09 23 05.8
comp=Z,127nm,20.8s,baz=30,slow=35
PETK Petropavlovsk- 14.36 36 P **Pn 09 18 21.5 -2.4**
comp=Z,3.1nm,0.8s,baz=204,slow=9.2,SNR=5.1
ZEA Zeya 15.97 322 *e*P **P 09 18 45.8 -1.0**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA Zeya 15.97 322 *e*P **Pn 09 18 44.3 -0.1**
ZEA AMB AMB 09 18 46.8
comp=Z,40nm,0.7s
MA2 Magadan 17.94 12 P 09 19 07.8 -0.7
MA2 Magadan 17.94 12 P **P 09 19 07.7 -0.8**
comp=Z,4.5nm,0.4s,baz=214,slow=8.4,SNR=6.1
MA2 Magadan 17.94 12 *ce*P **P 09 19 08.1 -0.4**
JOW Kunigami 19.91 225 LR LR 09 27 26.8
comp=Z,101nm,19.0s,baz=294,slow=37
SEY Seymchan 21.39 11 P **P 09 19 43.5 -2.4**
comp=Z,12nm,0.6s,baz=196,slow=6.4,SNR=26
SEY Seymchan 21.39 11 *d i* P **P 09 19 43.9 -2.0**
SEY pmax pmax
comp=Z,14nm,0.7s
TIA Tai'an 21.47 263 P **P 09 19 44.8 -2.2**
TIA pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 21.59 342 P 09 19 45.0 -3.0
YAK Yakutsk 21.59 342 P **P 09 19 45.1 -3.0**
comp=Z,54nm,0.6s,baz=132,slow=3.9,SNR=13
YAK Yakutsk 21.59 342 *eP* **P 09 19 44.7 -3.4**
YAK *e* 09 20 07.5
YAK *e*S **S 09 23 37.2 -6.2**
YAK *e* 09 23 46.9
YAK *e*SS **SnSn 09 24 06.0 -5.8**
YAK *e* 09 31 01.1
YAK pmax pmax
comp=Z,36nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK smax smax
comp=N,33nm,1.3s
YAK smax smax
comp=E,24nm,1.1s
NJ2 Nanjing 22.25 251 *e*P **P 09 19 53.9 -1.4**
NJ2 pmax pmax
comp=E,9.0nm,0.6s
HNS HongShan 22.80 268 ‖P **P 09 20 02.5 +1.3**
HNS pmax pmax
comp=E,12nm,0.7s
HHC Hu-ho-hao-te 24.10 278 *e*P **P 09 20 13.8 +0.3**
HHC pmax pmax
comp=E,10.0nm,0.6s
HHC pmax pmax
comp=E,150nm,5.4s
ULN Ulaanbaatar 26.41 295⇑ *e*P **P 09 20 35.8 +1.3**
ULN pmax pmax
comp=Z,9.0nm,1.5s
SONM Songino Array 26.86 295 P 09 20 37.4 -1.1
SONM Songino Array 26.86 295 P **P 09 20 39.4 +0.9**
comp=Z,3.0nm,0.5s,baz=74,slow=8.7,SNR=12
comp=Z,3.0nm,0.5s
XAN Xi'an 28.47 265 *e*P **P 09 20 54.8 +1.9**
XAN pP pP 09 21 10.9 +1.9
H11N2 WAKE ISLAND Hy 29.71 132 T T 09 52 38.9
baz=326,slow=75,SNR=84
H11N1 WAKE ISLAND Hy 29.72 132 T T 09 52 41.0
baz=326,slow=75,SNR=101
H11N3 WAKE ISLAND Hy 29.73 132 T T 09 52 34.3
baz=326,slow=75,SNR=89
MOY Mondy 30.34 303 *e*P **P 09 21 10.5 +1.1**
MOY pmax pmax
comp=Z,15nm,1.6s
MOY Mondy 30.34 303 *e*P **P 09 21 10.5 +1.1**
H11S1 WAKE ISLAND Hy 30.59 133 T T 09 53 47.3
baz=321,slow=80,SNR=524
H11S3 WAKE ISLAND Hy 30.60 134 T T 09 53 47.5
baz=321,slow=80,SNR=404
H11S2 WAKE ISLAND Hy 30.61 134 T T 09 53 50.2
baz=321,slow=80,SNR=152
LZH Lanzhou 31.37 272 *e*P **P 09 21 20.1 +1.4**
LZH sP sP 09 21 47.0 +4.2
LZH pmax pmax
comp=Z,18nm,1.2s
SPIA Saint Paul Isl 32.59 47 P **P 09 21 30.7 +1.8**
baz=263
P08K Saint George I 32.91 48 P **P 09 21 32.7 +1.1**
baz=264
NIKH Nikolski High 33.13 54 P **P 09 21 34.6 +0.9**
baz=270
GTA Gaotai 33.14 280 *e*P **P**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GAMB Gambell 33.39 34 P **P 09 21 36.9 +1.1**
baz=251
CD2 Chengdu 33.80 264 P **P 09 21 39.8 0.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
UNV Unalaska Valle 34.53 53 P **P 09 21 46.7 +1.0**
baz=271
M11K Mekoryuk 35.12 41 P **P 09 21 51.8 +1.0**
baz=262
TNA Tin City 35.49 32 P **P 09 21 54.8 +0.9**
baz=253
K13K Kusilvak Mount 36.09 39 P **P 09 22 00.7 +1.6**
K13K IAmb IAmb 09 22 01.4
comp=Z,23nm,1.2s
K13K Kusilvak Mount 36.09 39 P **P 09 22 00.5 +1.4**
baz=261
F14K Arctic Creek 36.11 33 P **P 09 22 00.1 +0.9**
baz=255
ANM Nome 36.28 34 P **P 09 22 01.1 +0.5**
baz=257
FALS False Pass 36.31 51 P **P 09 22 01.9 +0.9**
baz=272
M13K Dall Lake 36.53 42 P **P 09 22 04.7 +1.9**
M13K Dall Lake 36.53 42 P **P 09 22 04.4 +1.7**
baz=265
J14K Nanvaranak Lak 36.73 38 P **P 09 22 05.6 +1.2**
baz=261
F15K North Star Dit 36.84 33 P **P 09 22 06.5 +1.1**
baz=256
G15K Niukluk 36.93 34 P **P 09 22 07.6 +1.5**
baz=258
L14K Kuka Creek 36.95 40 IAmb IAmb 09 22 08.9
comp=Z,14nm,0.8s
L14K Kuka Creek 36.95 40 P **P 09 22 07.9 +1.6**
baz=264
S12K Black Hills 37.06 50 P **P 09 22 08.4 +1.0**
baz=272
M14K Bethel 37.24 41 P **P 09 22 10.2 +1.4**
baz=265,SNR=5.1
C16K Lisburne Hills 37.29 28 P **P 09 22 09.7 +0.5**
baz=252
N14K Kuskokwak Cree 37.32 43 P 09 22 11.3 +1.8
N14K Kuskokwak Cree 37.32 43 P **P 09 22 10.9 +1.4**
baz=267
O14K Tigyukauivet M 37.50 44 P **P 09 22 12.3 +1.3**
baz=268
L15K Ungalak Mounta 37.55 40 P **P 09 22 12.8 +1.3**
baz=265
K15K Wolf Creek Mou 37.59 39 P **P 09 22 13.2 +1.3**
baz=264
H16K Elim 37.62 35 P **P 09 22 13.2 +1.2**
baz=260
PZH PanZhiHua 37.68 259 P **P 09 22 13.6 +0.5**
G16K Koyuk River 37.71 34 P **P 09 22 13.5 +0.8**
baz=259
KMI Kunming 37.77 256 P **P 09 22 14.8 +0.8**
KMI pmax pmax
comp=Z,20nm,1.0s
M15K Kasigluk River 37.86 41 P **P 09 22 15.1 +1.0**
baz=267,SNR=13
D17K Noatak River 37.94 30 P **P 09 22 15.5 +0.8**
baz=255
C17K DeLong Mountai 38.11 29 P **P 09 22 17.1 +0.9**
baz=254
N15K Kwethluk River 38.13 42 P 09 22 17.9 +1.6
N15K Kwethluk River 38.13 42 P **P 09 22 17.9 +1.6**
baz=268,SNR=11
J16K Anvik River 38.13 37 P **P 09 22 17.5 +1.2**
baz=263
I17K Unalakleet 38.17 36 P **P 09 22 17.9 +1.3**
baz=263
O15K Ungalikthiuk R 38.24 44 P 09 22 18.7 +1.4
O15K Ungalikthiuk R 38.24 44 P **P 09 22 18.5 +1.2**
baz=269,SNR=6.3
E17K Hotham Inlet 38.27 31 P **P 09 22 18.2 +0.8**
baz=257
F17K Baldwin Pennin 38.36 32 P **P 09 22 18.9 +0.7**
baz=259
G17K Kiwalik Mounta 38.43 34 P **P 09 22 19.3 +0.5**
baz=261,SNR=6.0
S14K Fog Glacier 38.44 49 P **P 09 22 19.8 +0.6**
baz=273
L16K Owhat River 38.51 40 IAmb IAmb 09 22 21.6
comp=Z,13nm,0.7s
L16K Owhat River 38.51 40 P **P 09 22 20.8 +1.2**
baz=266,SNR=7.6
CHNA Chernabura Isl 38.52 51 P **P 09 22 19.9 +0.2**
baz=275
H17K Granite Mounta 38.65 35 P 09 22 21.9 +1.3
H17K IAmb IAmb 09 22 23.0
comp=Z,15nm,0.8s
H17K Granite Mounta 38.65 35 P **P 09 22 22.0 +1.3**
baz=262,SNR=8.6
M16K Timber Creek 38.72 41 IAmb IAmb 09 22 23.6
comp=Z,20nm,0.9s
M16K Timber Creek 38.72 41 P **P 09 22 22.9 +1.5**
baz=268,SNR=7.1
N16K Nishlik Lake 38.80 42 P **P 09 22 23.3 +1.3**
baz=269,SNR=15
E18K Tukpahlearik C 38.80 31 P **P 09 22 22.6 +0.7**
baz=258
J17K VABM Dome 38.83 37 IAmb IAmb 09 22 24.9
comp=Z,20nm,0.9s
J17K VABM Dome 38.83 37 P **P 09 22 23.2 +1.0**
baz=265,SNR=9.6
B18K Kokolik River 38.83 27 P **P 09 22 23.4 +1.2**
baz=255
C18K Utukok River 38.86 29 IAmb IAmb 09 22 23.9
comp=Z,13nm,0.8s
C18K Utukok River 38.86 29 P **P 09 22 23.4 +0.9**
baz=256
F18K Selawik 39.02 32 P **P 09 22 25.1 +1.4**
baz=260
L17K Donlin 39.09 39 P **P 09 22 25.7 +1.3**
baz=267,SNR=6.4
K17K Iditarod 39.12 38 P 09 22 26.6 +1.9
K17K IAmb IAmb 09 22 27.4
comp=Z,23nm,1.0s
K17K Iditarod 39.12 38 P **P 09 22 26.2 +1.5**
baz=266,SNR=8.6
O16K Kokwok River B 39.13 43 IAmb IAmb 09 22 26.9
comp=Z,16nm,0.8s
O16K Kokwok River B 39.13 43 P **P 09 22 25.6 +0.9**
baz=270,SNR=8.8
P16K Nushagak River 39.19 44 P **P 09 22 26.5 +1.4**
baz=271
G18K Tagagawik 39.30 33 P **P 09 22 27.3 +1.2**
baz=262,SNR=5.4
A19K Wainwright 39.31 26 P **P 09 22 27.5 +1.5**
baz=254
H18K Honhosa River 39.33 34 P **P 09 22 27.2 +0.9**
baz=263,SNR=17
R16K Pilot Point 39.46 46 P **P 09 22 28.7 +1.3**
baz=273
M17K Holitna River 39.47 40 P **P 09 22 29.2 +1.6**
baz=269,SNR=14
C19K Lookout Ridge 39.54 28 P **P 09 22 29.3 +1.2**
baz=257
N17K Nushagak Hills 39.58 42 IAmb IAmb 09 22 31.0
comp=Z,12nm,1.0s
N17K Nushagak Hills 39.58 42 P **P 09 22 29.9 +1.4**
baz=270,SNR=5.6
O17K Koliganek Bris 39.63 43 P **P 09 22 30.5 +1.6**
baz=271,SNR=8.6
F19K Shaleruckik Mo 39.79 32 P 09 22 30.4 +0.3
F19K IAmb IAmb 09 22 33.2
comp=Z,8.9nm,0.8s
F19K Shaleruckik Mo 39.79 32 P **P 09 22 30.7 +0.6**
baz=262,SNR=9.0
L18K Granite Mounta 39.85 39 IAmb IAmb 09 22 33.0
comp=Z,12nm,0.6s
L18K Granite Mounta 39.85 39 P **P 09 22 31.9 +1.2**
baz=268,SNR=15
Q16K King Salmon 39.89 45 P **P 09 22 32.4 +1.4**
baz=273
J18K Innoko River 39.89 37 P 09 22 31.9 +0.9
J18K IAmb IAmb 09 22 33.9
comp=Z,32nm,1.7s
J18K Innoko River 39.89 37 P **P 09 22 31.8 +0.7**
baz=267,SNR=7.9
GCSA Galena City Sc 39.91 35 P **P 09 22 31.4 +0.3**
baz=265,SNR=7.1
D19K Kuna River 39.94 29 IAmb IAmb 09 22 33.2
comp=Z,16nm,1.1s
D19K Kuna River 39.94 29 P **P 09 22 31.5 +0.1**
baz=260
G19K Purcell Mounta 39.97 33 P **P 09 22 32.4 +0.7**
baz=263
P17K Kvichak River 39.98 44 P **P 09 22 32.8 +1.0**
baz=272
ZAA0 Zalesovo Array 40.00 308 P 09 22 32.5 +0.4
ZAA0 IAmb IAmb 09 22 35.1
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 40.00 308 P 09 22 31.7 -0.4
ZALV Zalesovo Beam 40.00 308 P **P 09 22 32.2 +0.2**
comp=Z,12nm,0.5s,baz=87,slow=9.1,SNR=31
comp=Z,12nm,0.5s
ZALV Zalesovo Beam 40.00 308 *i* P **P 09 22 32.9 +0.8**
ZALV pmax pmax
comp=Z,12nm,0.5s
E19K Redstone River 40.09 31 IAmb IAmb 09 22 35.3
comp=Z,17nm,1.1s
E19K Redstone River 40.09 31 P **P 09 22 33.0 +0.4**
baz=262
R17L Mt. Peulik Vol 40.10 46 P **P 09 22 33.9 +1.0**
baz=274
H19K Roundabout Mou 40.16 34 P 09 22 34.3 +1.1
H19K Roundabout Mou 40.16 34 P **P 09 22 34.5 +1.2**
baz=265,SNR=31
N18K Kilae Creek 40.22 41 P 09 22 35.7 +1.9
N18K IAmb IAmb 09 22 36.6
comp=Z,16nm,0.9s
N18K Kilae Creek 40.22 41 P **P 09 22 35.2 +1.4**
baz=271,SNR=6.2
M18K Stony River 40.25 40 P **P 09 22 35.5 +1.5**
baz=270,SNR=5.1
WMQ Urumqi 40.39 292 *e*P **P 09 22 36.8 +1.3**
J19K Poorman 40.41 36 P 09 22 36.2 +0.9
J19K IAmb IAmb 09 22 37.2
comp=Z,20nm,0.8s
J19K Poorman 40.41 36 P **P 09 22 36.3 +1.0**
baz=267,SNR=19
D20K Etivluk River 40.52 29 IAmb IAmb 09 22 38.6
comp=Z,22nm,1.0s
D20K Etivluk River 40.52 29 P **P 09 22 36.2 0.0**
baz=261
B20K Meade River 40.56 27 P **P 09 22 36.9 +0.5**
baz=259
O18K Koktuh Hills 40.58 43 IAmb IAmb 09 22 39.3
comp=Z,13nm,0.8s
O18K Koktuh Hills 40.58 43 P **P 09 22 38.1 +1.3**
baz=272
P18K Big Mountain, 40.59 43 P 09 22 38.3 +1.4
P18K IAmb IAmb 09 22 40.0
comp=Z,17nm,0.8s
P18K Big Mountain, 40.59 43 P **P 09 22 37.7 +0.8**
baz=273
E20K Nigu River 40.60 30 P **P 09 22 37.6 +0.7**
baz=262,SNR=6.9
F20K Avaraart Lake 40.62 32 P **P 09 22 37.5 +0.5**
baz=264
CHIR Chirikof Islan 40.68 49 P **P 09 22 38.6 +1.0**
baz=277
L19K White Mountain 40.71 39 IAmb IAmb 09 22 40.2
comp=Z,14nm,1.4s
L19K White Mountain 40.71 39 P **P 09 22 38.5 +0.7**
baz=270,SNR=5.6
Q18K Katmai Hardscr 40.75 45 P **P 09 22 38.6 +0.3**
baz=274,SNR=5.6
H20K Anotleneega Mo 40.81 34 P **P 09 22 39.3 +0.7**
baz=266,SNR=13
TNCH TengChong 40.90 260 P P 09 22 36.8 -3.2
TNCH sP sP 09 23 06.5 +2.2
TNCH S **S 09 28 46.6 -0.3**
TNCH sS sS 09 29 13.0 -1.7
TNCH pmax pmax
comp=Z,29nm,0.6s
TNCH LR LR
comp=Z,160nm,4.1s
TNCH LR LR
comp=Z,130nm,5.8s
N19K Bonanza Creek 40.91 41 P **P 09 22 40.7 +1.2**
baz=272
M19K Big River Lodg 40.93 40 IAmb IAmb 09 22 42.1
comp=Z,7.9nm,0.8s
M19K Big River Lodg 40.93 40 P **P 09 22 41.1 +1.4**
baz=271
I20K Naaghedeneel 40.94 35 IAmb IAmb 09 22 42.2
comp=Z,30nm,1.1s
I20K Naaghedeneel 40.94 35 P **P 09 22 40.7 +1.1**
baz=267,SNR=5.9
O19K Port Alsworth 41.01 42 IAmb IAmb 09 22 53.6
comp=Z,12nm,1.1s
O19K Port Alsworth 41.01 42 P **P 09 22 41.5 +1.2**
baz=273
J20K Nowinta River 41.06 36 P **P 09 22 42.1 +1.4**
baz=268,SNR=23
K20K Telida 41.08 37 IAmb IAmb 09 22 43.3
comp=Z,9.7nm,0.8s
K20K Telida 41.08 37 P **P 09 22 41.7 +0.9**
baz=269
R18K Karluk 41.13 46 P **P 09 22 42.0 +0.7**
baz=276
L20K Farewell, AK 41.16 39 P **P 09 22 42.9 +1.3**
baz=271,SNR=8.8
C21K Knifeblade Rid 41.24 28 P **P 09 22 43.0 +0.9**
baz=262
IMAR Indian Mountai 41.31 33 P **P 09 22 43.5 +0.8**
B21K Ikpikpuk River 41.37 28 P **P 09 22 43.9 +0.8**
baz=262
Q19K Cape Douglas, 41.44 44 P **P 09 22 44.5 +0.7**
baz=275
E21K Killik River 41.44 30 P **P 09 22 44.5 +0.7**
baz=264
G21K Allakaket 41.45 33 IAmb IAmb 09 22 46.3
comp=Z,8.7nm,0.8s
G21K Allakaket 41.45 33 P **P 09 22 44.7 +0.9**
baz=266
A22K Sinclair Lake 41.47 26 P **P 09 22 45.2 +1.3**
baz=260
F21K Alatna River 41.51 31 P 09 22 45.1 +0.8
F21K Alatna River 41.51 31 P **P 09 22 45.1 +0.8**
baz=266,SNR=7.8
M20K Styx River 41.52 40 IAmb IAmb 09 22 47.4
comp=Z,11nm,0.9s
M20K Styx River 41.52 40 P **P 09 22 45.6 +1.0**
baz=272,SNR=6.1
P19K Oil Pt 41.59 43 P **P 09 22 46.1 +1.0**
baz=274
H21K Melozitna River 41.69 34 IAmb IAmb 09 22 47.8
comp=Z,10nm,0.8s
H21K Melozitna River 41.69 34 P **P 09 22 46.7 +1.0**
baz=268,SNR=7.4
OHAK Old Harbor 41.80 47 P 09 22 47.3 +0.5
OHAK IAmb IAmb 09 22 48.7
comp=Z,25nm,1.4s
OHAK Old Harbor 41.80 47 P **P 09 22 47.7 +1.0**
baz=277
CHUM Lake Minchumin 41.86 37 P **P 09 22 47.9 +0.7**
baz=270,SNR=8.0
O20K Slope Mountain 41.87 42 P **P 09 22 47.9 +0.5**
baz=274
B22K Teshekpuk Lake 41.88 27 P **P 09 22 48.3 +1.1**
baz=262
PPLA Purkeypile 41.94 38 P **P 09 22 49.0 +1.0**
baz=272,SNR=5.8
D22K Ayikyak River 41.96 29 IAmb IAmb 09 22 50.2
comp=Z,11nm,0.6s
D22K Ayikyak River 41.96 29 P **P 09 22 48.8 +0.8**
baz=264,SNR=5.1
CAST Castle Rocks 41.97 37 IAmb IAmb 09 22 50.8
comp=Z,17nm,0.9s
CAST Castle Rocks 41.97 37 P **P 09 22 49.2 +1.0**
baz=271,SNR=8.8
SPCR Spurr Chakacha 42.00 41 P **P 09 22 49.9 +1.4**
baz=273
N20K Mount Spurr 42.00 41 P **P 09 22 49.3 +0.8**
baz=273
I21K Tanana 42.02 35 IAmb IAmb 09 22 50.8

comp=Z,22nm,1.2s
I21K **Tanana** 42.02 35 P P 09 22 49.5 +1.1
baz=269,SNR=5.1
F22K **John River** 42.03 31 P P 09 22 49.1 +0.5
baz=266
SPU **Mount Spurr** 42.07 41 IAmb IAmb 09 22 51.5
comp=Z,19nm,1.2s
KDAK **Kodiak Island** 42.11 46 P 09 22 49.9 +0.6
KDAK IAmb IAmb 09 22 50.9
comp=Z,21nm,0.8s
KDAK **Kodiak Island** 42.11 46 *de*P P 09 22 48.7 -0.6
KDAK pmax pmax
comp=Z,68nm,2.2s
KDAK **Kodiak Island** 42.11 46 P P 09 22 49.5 +0.2
baz=277
Q20K **Shuyak Island** 42.12 44 P P 09 22 49.3 0.0
baz=276
STLK **Strandline Lak** 42.16 40 IAmb IAmb 09 22 52.1
comp=Z,9.3nm,0.7s
E22K **Anaktuvuk Pass** 42.21 30 IAmb IAmb 09 22 52.4
comp=Z,14nm,0.6s
E22K **Anaktuvuk Pass** 42.21 30 P P 09 22 50.9 +0.8
baz=266,SNR=11
G22K **Bettles** 42.26 32 P P 09 22 51.5 +1.1
baz=268,SNR=5.3
SKT **Skwentna** 42.28 39 IAmb IAmb 09 22 55.2
comp=Z,25nm,1.9s
SKT **Skwentna** 42.28 39 P P 09 22 51.3 +0.6
baz=273
H22K **Ishtalitna Cre** 42.28 34 P P 09 22 51.7 +1.1
baz=269,SNR=7.5
HOM **Homer** 42.40 43 P P 09 22 51.8 +0.3
baz=276
BPAW **Bear Paw Mtn.** 42.45 36 P P 09 22 52.9 +0.9
baz=271,SNR=5.1
MLY **Manley** 42.54 35 IAmb IAmb 09 22 55.2
comp=Z,17nm,0.8s
MLY **Manley** 42.54 35 P P 09 22 53.8 +1.0
baz=270,SNR=8.0
CNPM **China Poot** 42.62 43 IAmb IAmb 09 22 55.4
comp=Z,14nm,0.8s
SUA **Susitna One** 42.68 40 P P 09 22 54.9 +0.8
SUA IAmb IAmb 09 22 57.7
comp=Z,16nm,0.7s
SUA **Susitna One** 42.68 40 P P 09 22 54.3 +0.2
baz=274,SNR=6.6
D23K **Nanushuk River** 42.68 29 P P 09 22 54.5 +0.6
baz=266
BRLK **Bradley Lake** 42.77 43 IAmb IAmb 09 22 57.6
comp=Z,17nm,0.8s
C23K **Itkillik River** 42.77 28 P P 09 22 54.7 +0.2
baz=265
TRF **Thorofare Moun** 42.78 37 P P 09 22 55.6 +0.7
baz=273,SNR=5.9
COLD **Coldfoot** 42.78 32 P P 09 22 55.1 +0.5
baz=269
G23K **Bananza Creek** 42.84 32 P P 09 22 55.3 +0.1
baz=269,SNR=5.7
CUT **Chulitna** 42.84 39 P P 09 22 55.6 +0.4
baz=274
E23K **Chandalar** 43.03 30 IAmb IAmb 09 22 59.4
comp=Z,9.0nm,0.6s
E23K **Chandalar** 43.03 30 P P 09 22 57.7 +0.9
baz=268,SNR=6.4
H23K **Yukon River** 43.03 34 IAmb IAmb 09 22 59.3
comp=Z,22nm,0.8s
H23K **Yukon River** 43.03 34 P P 09 22 58.0 +1.2
baz=271,SNR=20
TOLK **Toolik Lake Re** 43.07 30 P P 09 22 57.5 +0.5
baz=268
I23K **Minto, Yukon-K** 43.12 35 P P 09 22 58.8 +1.4
baz=272,SNR=15
MK31 **Makanchi Array** 43.14 298 *de*P P 09 22 58.2 +0.3
MKAR **Makanchi Array** 43.14 298 P 09 22 57.7 -0.2
MKAR **Makanchi Array** 43.14 298 P P 09 22 58.4 +0.5
comp=Z,7.9nm,0.7s,baz=83,slow=10,SNR=26
comp=Z,7.9nm,0.7s
MKAR **Makanchi Array** 43.14 298 *i*P P 09 22 58.5 +0.6
MKAR pmax pmax
comp=Z,10.0nm,0.8s
RC01 **Rabbit Creek A** 43.20 41 IAmb IAmb 09 22 59.5
comp=Z,15nm,0.8s
RC01 **Rabbit Creek A** 43.20 41 P P 09 22 58.6 +0.5
baz=276,SNR=6.0
NEA2 **Nenana** 43.27 35 P P 09 22 59.7 +1.1
baz=272,SNR=24
O22K **Cooper Landing** 43.27 41 P P 09 22 58.9 +0.2
baz=276
D24K **Happy Valley** 43.36 29 P P 09 22 59.7 +0.4
baz=268,SNR=6.9
MCK **McKinley** 43.37 37 IAmb IAmb 09 23 01.1
comp=Z,14nm,0.8s
MCK **McKinley** 43.37 37 P P 09 23 00.2 +0.7
baz=274,SNR=7.5
RND **Reindeer** 43.42 37 IAmb IAmb 09 23 01.3
comp=Z,15nm,0.7s
C24K **Franklin Bluff** 43.43 28 P P 09 22 59.9 0.0
baz=267
PMR **Palmer** 43.44 40 P 09 23 00.8 +0.8
PMR IAmb IAmb 09 23 01.8
comp=Z,13nm,1.0s
PMR **Palmer** 43.44 40 P P 09 23 00.8 +0.8
PMR pmax pmax
comp=Z,13nm,1.0s
PMR **Palmer** 43.44 40 P P 09 23 00.3 +0.3
baz=276,SNR=7.9
SEW **Seward** 43.45 42 IAmb IAmb 09 23 05.7
comp=Z,13nm,0.8s
SEW **Seward** 43.45 42 P P 09 23 00.4 +0.3
baz=277
E24K **Your Creek** 43.45 30 P P 09 23 00.7 +0.5
baz=269,SNR=7.1
F24K **Squaw Lake** 43.68 31 P P 09 23 02.4 +0.4
baz=270
WRH **Wood River Hil** 43.70 36 IAmb IAmb 09 23 16.3
comp=Z,13nm,1.0s
H24K **Noodor Dome** 43.72 34 IAmb IAmb 09 23 04.8
comp=Z,19nm,0.8s
H24K **Noodor Dome** 43.72 34 P P 09 23 03.8 +1.5
baz=272,SNR=20
COLA **College** 43.77 35 *c i*P P 09 23 03.4 +0.8
COLA pmax pmax
comp=Z,36nm,0.8s
COLA **College** 43.77 35 P P 09 23 03.8 +1.2
baz=273
KNK **Knik Glacier** 43.78 40 P P 09 23 03.4 +0.6
baz=276
G24K **Hadweenzic Riv** 43.85 32 P P 09 23 04.3 +1.0
baz=272
PWL **Port Wells** 43.91 41 P P 09 23 04.2 +0.4
baz=277,SNR=8.0
POKR **Poker Plat Res** 43.94 35 P P 09 23 05.4 +1.4
baz=273,SNR=8.0
M23K **Glacier View** 44.09 39 P P 09 23 06.2 +0.9
baz=277
HDA **Harding Lake** 44.19 36 IAmb IAmb 09 23 07.3
comp=Z,15nm,0.6s
HDA **Harding Lake** 44.19 36 P P 09 23 06.7 +0.7
baz=274,SNR=8.5
ILAR **Eielson Array** 44.19 35 P P 09 23 06.4 +0.4
comp=Z,12nm,0.8s,baz=265,slow=6.2,SNR=62
comp=Z,12nm,0.8s
D25K **Kavik River** 44.24 29 IAmb IAmb 09 23 08.3
comp=Z,12nm,0.6s
D25K **Kavik River** 44.24 29 P P 09 23 06.6 +0.2
baz=270,SNR=5.6
SCM **Sheep Creek Mo** 44.27 39 IAmb IAmb 09 23 08.6
comp=Z,20nm,0.9s
SCM **Sheep Creek Mo** 44.27 39 P P 09 23 07.8 +1.0
baz=277,SNR=8.2
KURK **Kurchatov** 44.38 304 *de*P P 09 23 08.0 +0.3
KURK pmax pmax
comp=Z,19nm,0.6s
KURK **Kurchatov** 44.38 304 *e*P P 09 23 08.0 +0.3
G25K **Bearman Lake** 44.40 32 P P 09 23 08.6 +1.0
baz=273
KURBB **Kurchatov Arra** 44.46 304 P P 09 23 08.6 +0.3
comp=Z,25nm,0.5s,baz=71,slow=8.9,SNR=5.2
comp=Z,25nm,0.5s
P23K **Montague Islan** 44.48 42 IAmb IAmb 09 23 10.2
comp=Z,28nm,1.1s
P23K **Montague Islan** 44.48 42 P P 09 23 09.3 +0.9
baz=273
GLI **Glacier Island** 44.50 41 IAmb IAmb 09 23 09.9
comp=Z,11nm,0.7s
GLI **Glacier Island** 44.50 41 P P 09 23 09.0 +0.4
baz=278,SNR=5.2
H25L **Birch Creek** 44.54 33 P P 09 23 10.0 +1.3
baz=274
F25K **Christian Rive** 44.54 31 P P 09 23 09.5 +0.7
baz=272
PRP **Porcupine Dome** 44.71 34 P P 09 23 11.6 +1.3
baz=275,SNR=11
CMAR **Chiang Mai Arr** 44.72 252 P P 09 23 11.8 +1.0
comp=Z,1.4nm,0.6s,baz=45,slow=6.3,SNR=10
comp=Z,1.4nm,0.6s
C26K **Camden Bay** 44.75 28 P P 09 23 12.3 +1.9
baz=271
K24K **Donnelly Dome** 44.76 36 P P 09 23 10.9 +0.3
baz=276,SNR=6.9
M24K **Tolsona, Glenn** 44.78 39 P P 09 23 12.2 +1.4
baz=278,SNR=6.2
FID **Port Fidalgo** 44.82 41 IAmb IAmb 09 23 12.7
comp=Z,7.7nm,0.8s
J25K **Salcha River,** 44.86 35 P P 09 23 11.1 -0.3
baz=276
KLU **Klutina** 44.98 40 IAmb IAmb 09 23 14.4
comp=Z,26nm,1.1s
KLU **Klutina** 44.98 40 P P 09 23 13.4 +1.0
baz=278,SNR=9.0
PAX **Paxson** 44.99 38 P P 09 23 13.5 +1.0
baz=277
Q23K **Middleton Isla** 45.10 43 P P 09 23 14.6 +1.4
baz=280
DIV **Divide** 45.11 40 IAmb IAmb 09 23 15.5
comp=Z,18nm,0.8s
F26K **Sheenjek River** 45.11 31 P P 09 23 14.7 +1.4
baz=274,SNR=5.1
C27K **Jago River** 45.17 28 P P 09 23 14.4 +0.6
baz=272
RIDG **Independent Ri** 45.18 36 P P 09 23 14.4 +0.5
RIDG IAmb IAmb 09 23 15.8
comp=Z,9.4nm,1.0s
RIDG **Independent Ri** 45.18 36 P P 09 23 14.3 +0.3
baz=277
EYAK **Cordova Ski Ar** 45.21 41 IAmb IAmb 09 23 16.3
comp=Z,15nm,0.9s
EYAK **Cordova Ski Ar** 45.21 41 P P 09 23 14.8 +0.7
baz=279,SNR=7.9
HARP **HAARP** 45.21 38 P P 09 23 15.6 +1.4
baz=278,SNR=8.5
G26K **Porcupine Rive** 45.30 32 IAmb IAmb 09 23 22.5
comp=Z,9.9nm,0.6s
G26K **Porcupine Rive** 45.30 32 P P 09 23 16.2 +1.4
baz=275,SNR=8.3
SCRK **Sand Creek** 45.53 36 P P 09 23 17.0 +0.3
baz=278,SNR=7.9
N25K **Chitina, Valde** 45.59 39 P P 09 23 18.1 +0.8
baz=279
J26L **Joseph Creek** 45.64 35 IAmb IAmb 09 23 19.7
comp=Z,6.3nm,0.7s
J26L **Joseph Creek** 45.64 35 P P 09 23 18.0 +0.3
baz=277,SNR=11
BMRM **Bremner River** 45.69 40 IAmb IAmb 09 23 20.2
comp=Z,17nm,0.9s
BMRM **Bremner River** 45.69 40 P P 09 23 19.1 +1.1
baz=280,SNR=9.4
I26K **Coal Creek Min** 45.72 34 P P 09 23 18.9 +0.7
baz=277,SNR=6.0
L26K **Log Cabin Wild** 45.95 37 P P 09 23 21.0 +1.0
baz=279,SNR=26
KAIM **Kayak Island** 45.97 42 P P 09 23 21.3 +1.1
baz=281
GLB **Gilahina Butte** 45.99 40 IAmb IAmb 09 23 26.3
comp=Z,7.9nm,0.7s
E27K **Coleen River** 46.03 30 P P 09 23 21.6 +1.0
baz=276
G27K **Doyon Strip** 46.15 32 P P 09 23 22.6 +1.0
baz=277
D27M **Malcolm River** 46.16 29 P P 09 23 22.6 +1.0
baz=275
VRDI **Verde Repeater** 46.20 40 IAmb IAmb 09 23 24.4
comp=Z,17nm,1.0s
M26K **Nabesna, AK** 46.21 38 P P 09 23 23.6 +1.6
baz=280,SNR=19
BERG **Berg Lake** 46.23 41 P P 09 23 23.9 +1.7
H27K **Steamboat Moun** 46.27 33 IAmb IAmb 09 23 25.4
comp=Z,14nm,0.8s
H27K **Steamboat Moun** 46.27 33 P P 09 23 23.8 +1.3
baz=282,SNR=10.0
I27K **Kandik River** 46.32 34 P P 09 23 23.8 +0.9
baz=278
K27K **Chicken** 46.35 36 P P 09 23 24.1 +1.0
baz=279
MCARA **McCarthy VSAT** 46.37 40 P P 09 23 24.8 +1.5
baz=281,SNR=5.3
CRQE **Cirque** 46.46 40 P P 09 23 25.5 +1.3
baz=281,SNR=14
BGLC **Berng Glacier** 46.49 41 P P 09 23 25.1 +0.9
baz=282
TGL **Tana Glacier** 46.59 40 IAmb IAmb 09 23 27.6
comp=Z,15nm,0.9s
L27K **Beaver Creek,** 46.62 37 P P 09 23 26.9 +1.5
baz=280,SNR=57
BCAR **Beaver Creek A** 46.64 37 P 09 23 26.6 +1.1
M27K **Edge Creek, AK** 46.73 38 P P 09 23 27.8 +1.6
baz=281,SNR=21
F28M **Old Crow** 46.74 31 P P 09 23 27.4 +1.2
baz=278
E28M **Babbage River** 46.74 29 IAmb IAmb 09 24 20.7
comp=Z,32nm,1.9s
E28M **Babbage River** 46.74 29 P P 09 23 27.5 +1.3
baz=277
ISLE **Juniper Island** 46.85 41 IAmb IAmb 09 23 29.3
comp=Z,20nm,1.1s
D28M **Stokes Point** 46.94 28 P P 09 23 29.2 +1.5
baz=277
I28M **Miner Creek** 47.03 34 P P 09 23 29.8 +1.3
baz=280,SNR=22
MESA **MESA** 47.13 41 P P 09 23 30.7 +1.2
baz=283
BVCY **Beaver Creek** 47.18 38 P P 09 23 31.0 +1.4
baz=282,SNR=17
YAH **Yahtse** 47.19 41 IAmb IAmb 09 23 32.4
comp=Z,15nm,0.9s
CTG **Chitna Glacier** 47.26 40 P P 09 23 31.7 +1.3
baz=282,SNR=6.2
E29M **Blow River** 47.37 30 IAmb IAmb 09 23 34.7
comp=Z,6.3nm,0.8s
E29M **Blow River** 47.37 30 P P 09 23 32.0 +1.0
baz=279
LOGN **Logan Glacier** 47.45 40 IAmb IAmb 09 23 37.7
comp=Z,6.8nm,0.8s
YUK3 **Moose Creek** 47.50 39 P P 09 23 33.4 +1.1
baz=282,SNR=5.5
DAWY **Dawson** 47.51 35 P P 09 23 33.1 +0.9
DAWY **Dawson** 47.51 35 P P 09 23 33.0 +0.8
baz=281,SNR=6.0
H29M **Whitestone** 47.54 33 IAmb IAmb 09 23 34.9
comp=Z,13nm,0.8s
H29M **Whitestone** 47.54 33 P P 09 23 33.9 +1.5
baz=280,SNR=11
G29M **Pine Creek** 47.56 32 P P 09 23 34.3 +1.8
baz=280,SNR=9.4
I29M **Ogilvie Camp,** 47.72 34 P P 09 23 35.1 +1.3
baz=281,SNR=25
O28M **Mount Upton** 47.85 40 IAmb IAmb 09 23 37.2
comp=Z,11nm,1.1s
O28M **Mount Upton** 47.85 40 P P 09 23 36.3 +1.2
baz=284,SNR=5.3
PINM **Pinnacle** 47.98 41 P P 09 23 37.0 +1.0
baz=284
EPYK **Eagle Plains** 48.17 32 P P 09 23 38.7 +1.4
baz=281,SNR=25
G30M **tAoh Zrail Nji** 48.24 31 P P 09 23 38.9 +1.1
baz=281,SNR=18
L29M **L29M** 48.26 37 P P 09 23 40.4 +2.3
baz=283,SNR=27
M29M **Somme Creek** 48.27 38 IAmb IAmb 09 23 40.5
comp=Z,4.5nm,0.6s
M29M **Somme Creek** 48.27 38 P P 09 23 39.9 +1.7
baz=283,SNR=8.7
F30M **Barrier River** 48.29 30 P P 09 23 39.9 +1.8
baz=281,SNR=13
K29M **Barlow Dome** 48.36 36 P P 09 23 40.3 +1.4
baz=283,SNR=15
YUK4 **Talbot Arm** 48.44 39 P P 09 23 41.0 +1.4
baz=284
PNL **Peninsula** 48.50 41 P P 09 23 41.3 +1.4
baz=285
I30M **Mount Dempster** 48.54 34 P P 09 23 41.5 +1.2
baz=283,SNR=51
BVAR **Borovoye Array** 48.60 309 P P 09 23 41.2 +0.5
comp=Z,6.1nm,0.4s,baz=78,slow=9.4,SNR=6.2
comp=Z,6.1nm,0.4s
BRVK **Borovoye** 48.65 310 *ce*P P 09 23 41.1 0.0
BRVK pmax pmax
comp=Z,15nm,0.8s
YUK6 **Outpost Mounta** 48.67 39 P P 09 23 42.5 +1.1
baz=285
J30M **Hart River** 48.71 34 IAmb IAmb 09 23 43.9
comp=Z,20nm,1.4s
J30M **Hart River** 48.71 34 P P 09 23 43.0 +1.4
baz=283,SNR=7.8
O29M **Mount Kennedy** 48.74 40 IAmb IAmb 09 23 45.5
comp=Z,9.3nm,1.1s
O29M **Mount Kennedy** 48.74 40 P P 09 23 43.1 +1.3
baz=285
INK **Inuvik** 48.98 29 IAmb IAmb 09 23 44.9
comp=Z,9.3nm,0.6s
INK **Inuvik** 48.98 29 LR LR 09 45 19.6
comp=Z,78nm,18.7s,baz=244,slow=37
INK **Inuvik** 48.98 29 P P 09 23 44.3 +0.9
INK pmax pmax
comp=Z,19nm,1.0s
INK **Inuvik** 48.98 29 P P 09 23 44.1 +0.7
baz=282,SNR=13
M30M **Minto, Yukon** 48.98 37 IAmb IAmb 09 23 46.5
comp=Z,12nm,0.9s
M30M **Minto, Yukon** 48.98 37 P P 09 23 45.3 +1.7
baz=285,SNR=19
G31M **Satah River** 49.01 31 P P 09 23 44.5 +0.9
baz=283,SNR=16
F31M **Tsiigehtchic** 49.09 30 P P 09 23 45.1 +0.9
baz=283
HYT **Haines Junctio** 49.11 39 P P 09 23 46.7 +2.0
baz=286,SNR=59
MAYO **Mayo, Yukon** 49.13 36 P P 09 23 46.2 +1.6
baz=284
N30M **Aishikik Lake** 49.14 39 P P 09 23 45.9 +1.1
baz=285
H31M **Peel River** 49.23 33 P P 09 23 46.8 +1.3
baz=284,SNR=31
P29M **Windy Craggy** 49.33 41 P P 09 23 48.3 +2.1
baz=286,SNR=23
P30M **Million Dollar** 49.56 40 P P 09 23 50.0 +1.9
baz=286
N31M **Braeburn, Yuko** 49.73 38 P P 09 23 51.2 +1.9
baz=286,SNR=17
PLBC **Pleasant Camp** 50.05 41 P P 09 23 53.4 +1.8
baz=288,SNR=5.8
M31M **Drury Creek, Y** 50.16 37 IAmb IAmb 09 23 55.1
comp=Z,11nm,0.9s
M31M **Drury Creek, Y** 50.16 37 P P 09 23 54.1 +1.6
baz=287,SNR=7.3
WHY **Whitehorse** 50.39 39 P P 09 23 55.9 +1.6
baz=288,SNR=5.3
SKAG **Skagway** 50.55 41 P P 09 23 56.8 +1.5
baz=288
S31K **Pelican** 50.57 43 P P 09 23 57.0 +1.4
baz=289
N32M **Quiet Lake** 51.08 38 IAmb IAmb 09 24 01.7
comp=Z,8.7nm,1.0s
N32M **Quiet Lake** 51.08 38 P P 09 24 01.0 +1.6
baz=289
P32M **Atlin** 51.28 40 P P 09 24 02.6 +1.6
baz=289
R32K **Eaglecrest** 51.33 42 IAmb IAmb 09 24 04.2
comp=Z,15nm,1.5s
R32K **Eaglecrest** 51.33 42 P P 09 24 03.1 +1.8
baz=290
SIT **Sitka** 51.34 44 P P 09 24 02.8 +1.4
baz=290
MMPY **Sheldon Lake,** 51.42 36 IAmb IAmb 09 24 04.8
comp=Z,20nm,1.5s
MMPY **Sheldon Lake,** 51.42 36 P P 09 24 03.4 +1.4
baz=289,SNR=8.2
P33M **Teslin, Yukon** 51.51 39 IAmb IAmb 09 24 05.6
comp=Z,17nm,1.1s
P33M **Teslin, Yukon** 51.51 39 P P 09 24 04.6 +1.9
baz=290,SNR=13
S32K **Killisnoo** 51.58 43 P P 09 24 04.8 +1.7
baz=290
C36M **Paulatuk** 52.00 27 P P 09 24 07.0 +0.9
baz=290
Q32M **Nakina River** 52.20 41 P P 09 24 09.9 +1.9
baz=291
SVE **Sverdlovsk** 52.59 317 *e*P P 09 24 11.3 +0.6
SVE pmax pmax
comp=Z,32nm,0.8s
SVE **Sverdlovsk** 52.59 317 *e*P P 09 24 11.3 +0.6
R33M **Jennings River** 52.67 40 P P 09 24 13.4 +2.0
baz=292
U33K **Whale Pass** 52.81 44 P P 09 24 14.3 +2.0
baz=292
CRAG **Craig** 53.06 45 P P 09 24 16.1 +2.0
baz=293
TGTN **Hyland Airport** 53.12 37 P P 09 24 16.3 +1.7
baz=292
S34M **Telegraph Cree** 53.14 42 P P 09 24 16.4 +1.7
baz=292
WTLY **Watson Lake, Y** 53.42 39 P P 09 24 18.3 +1.5
baz=292
DLBC **Dease Lake** 53.48 41 P P 09 24 18.8 +1.5
baz=293
ARTI **Arti** 53.91 317 P 09 24 20.4 0.0
ARTI **Arti** 53.91 317 *i*P P 09 24 20.4 0.0
ARTI pmax pmax
comp=Z,21nm,0.7s
ARTI **Arti** 53.91 317 P P 09 24 20.6 +0.2
T35M **Bob Quinn** 53.94 42 P P 09 24 22.6 +2.0
baz=294
WRGLY **Wrigley** 54.52 34 P P 09 24 26.6 +1.9
baz=294
LIRD **Liard River Hi** 54.95 39 P P 09 24 29.7 +1.8
baz=295
TOAD **Toad River Com** 55.60 39 P P 09 24 34.0 +1.5
baz=296
SPITS **Spitsbergen Ar** 55.84 349 P P 09 24 33.1 -0.9
comp=Z,7.8nm,0.7s,baz=61,slow=9.6,SNR=5.9
comp=Z,7.8nm,0.7s
SPB2 **Spitsbergen Ar** 55.84 349 P P 09 24 34.3 +0.3
ABKAR **Akbulak array** 56.12 308 P 09 24 36.8 +0.4
KIRV **Kirov** 57.31 322 ‖ *i*P P 09 24 43.9 -0.7
LVZ **Lovozero** 58.20 335 ‖ *e*P P 09 24 51.0 +0.2
LVZ pmax pmax
comp=Z,15nm,1.5s
YKAW3 **Yellowknife Wh** 58.42 32 IAmb IAmb 09 24 54.7
comp=Z,23nm,1.8s
YKA **Yellowknife Ar** 58.45 32 P P 09 24 52.5 -0.1
YKA **Yellowknife Ar** 58.45 32 P P 09 24 53.1 +0.5
comp=Z,2.7nm,0.9s,baz=308,slow=7.3,SNR=19
YKA LR LR 09 51 47.8
comp=Z,48nm,19.1s,baz=314,slow=38
comp=Z,2.7nm,0.9s
YKA **Yellowknife Ar** 58.45 32 *i*P P 09 24 53.0 +0.4
YKA pmax pmax
comp=Z,3.0nm,0.9s
APA **Apatity** 58.78 335 *e*P P 09 24 53.0 -1.8
APA *e* 09 27 02.9
APA *e*S S 09 32 50.8 -3.7
APA MLR MLR
comp=Z,342nm,3.9s
ARCES **ARCESS Array B** 59.84 339 P P 09 25 02.0 -0.1
comp=Z,2.8nm,0.8s,baz=38,slow=7.2,SNR=14
comp=Z,2.8nm,0.8s
KLMR **Klimovskoe** 60.42 327 *e*P P 09 25 04.4 -1.8
KLMR pmax pmax
comp=Z,17nm,1.3s
BELG **Belogornoye** 61.34 316 *de*P P 09 25 13.1 +0.6
BELG pmax pmax
comp=Z,5.0nm,0.8s
FITZ **Fitzroy Crossi** 62.28 200 P P 09 25 18.9 -0.2
comp=Z,3.8nm,0.9s,baz=90,slow=4.5,SNR=4.3
comp=Z,3.8nm,0.9s
WRAB **Tennant Creek** 62.42 190 ‖ *e*P P 09 25 18.8 -1.3
WRAB pmax pmax
comp=Z,11nm,1.3s
WRA **Warramunga Arr** 62.43 190 P P 09 25 18.6 -1.5
comp=Z,2.7nm,0.8s,baz=8.0,slow=6.8,SNR=22
comp=Z,2.7nm,0.8s
WRA **Warramunga Arr** 62.43 190 *i*P P 09 25 18.8 -1.3
WRA pmax pmax
comp=Z,3.0nm,0.8s
BLKN **Baker Lake** 63.94 25 P 09 25 29.9 +0.2
BLKN IAmb IAmb 09 25 30.6
comp=Z,9.2nm,0.8s
MXC **Moxie City** 64.43 50 IAmb IAmb 09 25 35.5
comp=Z,5.4nm,0.9s
PUL **Pulkovo** 64.71 329 ‖ *e*P P 09 25 36.3 +1.6
PUL pmax pmax
comp=Z,39nm,0.6s
PUL **Pulkovo** 64.71 329 *e*P P 09 25 36.3 +1.6

VRH	**Novokhopyorsk**	**65.03**	**317**	*e*P		**P**		**09 25 36.4**	**-0.6**
VRH					pmax	pmax			
	comp=Z,10.0nm,0.8s								
OBN	**Obninsk**	**65.10**	**323**	⇓*e*P		**P**		**09 25 37.5**	**+0.2**
OBN				*e*				09 27 57.8	
OBN				*e*S		**S**		**09 34 09.2**	**-5.3**
OBN				*e*SS		**SS**		**09 38 36.8**	**+10**
OBN				*i* SSS		SSS		09 41 24.1	
OBN					pmax	pmax			
	comp=Z,7.0nm,0.4s								
OBN					MLR	MLR			
	comp=Z,41nm,18.0s								
OBN	**Obninsk**	**65.10**	**323**	*e*P		**P**		**09 25 37.5**	**+0.2**
FIA1	**FINESS Array S**	**65.13**	**332**			**P**		**09 25 37.7**	**+0.3**
FINES	**FINESS Array B**	**65.13**	**332**	P		**P**		**09 25 37.3**	**-0.1**
	comp=Z,14nm,0.5s,baz=49,slow=7.2,SNR=94								
	comp=Z,14nm,0.5s								
E08A	**Dider Farm, El**	**65.17**	**49**	IAmb		IAmb		09 25 39.9	
	comp=Z,6.2nm,0.6s								
NEW	**Newport**	**65.20**	**47**			**P**		**09 25 39.4**	**+1.1**
NEW	**Newport**	**65.20**	**47**	P		**P**		**09 25 39.4**	**+1.1**
NEW					pmax	pmax			
	comp=Z,4.0nm,0.8s								
SUMG	**Summit**	**65.53**	**1**			**P**		**09 25 41.2**	**+0.8**
SUMG	**Summit**	**65.53**	**1**	P		**P**		**09 25 41.2**	**+0.8**
SUMG					pmax	pmax			
	comp=Z,23nm,0.9s								
LPSR	**Galich'ya Gora**	**65.56**	**320**	*e*P		**P**		**09 25 38.2**	**-2.2**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
PINE	**Pine Mountain**	**65.67**	**52**			**P**		**09 25 42.9**	**+1.4**
PINE					IAmb	IAmb		09 25 44.1	
	comp=Z,7.6nm,0.7s								
LNOR	**Lincton Mounta**	**65.97**	**49**		IAmb	IAmb		09 25 47.5	
	comp=Z,13nm,1.9s								
ASAR	**Alice Springs**	**66.15**	**190**	P		**P**		**09 25 44.0**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=6.8,slow=5.3,SNR=19								
	comp=Z,1.5nm,0.6s								
ASAR	**Alice Springs**	**66.15**	**190**	P		**P**		**09 25 44.0**	**-0.5**
VSR	**Storozhevoye**	**66.30**	**318**	*e*P		**P**		**09 25 44.1**	**-1.0**
VSR					pmax	pmax			
	comp=Z,8.0nm,0.8s								
VORD	**Divnogorie**	**66.39**	**318**	*e*P		**P**		**09 25 45.6**	**-0.1**
VORD					pmax	pmax			
	comp=Z,7.0nm,0.8s								
VSU	**Vasula**	**66.96**	**329**	⇓*e*P		**P**		**09 25 47.8**	**-1.4**
VSU					pmax	pmax			
	comp=Z,19nm,0.8s								
PLID	**Pearl Lake**	**67.73**	**49**			**P**		**09 25 54.9**	**+0.2**
PLID					IAmb	IAmb		09 25 56.4	
	comp=Z,11nm,1.5s								
FFC	**Flin Flon**	**68.40**	**35**	P		**P**		**09 25 59.2**	**+0.8**
FFC	**Flin Flon**	**68.40**	**35**	P		**P**		**09 25 59.2**	**+0.8**
FFC					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KIV	**Kislovodsk**	**68.94**	**311**	*e*P		**P**		**09 26 03.6**	**+1.5**
KIV					pmax	pmax			
	comp=Z,23nm,1.0s								
KIV	**Kislovodsk**	**68.94**	**311**	*e*P		**P**		**09 26 03.6**	**+1.5**
KBZ	**Khabaz**	**68.97**	**310**	P		**P**		**09 26 03.2**	**+1.1**
	comp=Z,4.3nm,0.9s,baz=9.2,slow=3.4,SNR=6.6								
	comp=Z,4.3nm,0.9s								
KBZ	**Khabaz**	**68.97**	**310**	⇓*i*P		**P**		**09 26 03.4**	**+1.3**
KBZ					pmax	pmax			
	comp=Z,8.0nm,0.8s								
KBZ	**Khabaz**	**68.97**	**310**	*e*P		**P**		**09 26 03.4**	**+1.3**
MNK	**Minsk**	**69.27**	**326**	*i* P		P		09 26 15.4	+12
MNK				*i* *PP		sP		09 26 34.1	+5.2
MNK				*i* S		sS		09 35 29.0	-5.9
MNK				*i* *SS		**ScS**		**09 36 01.4**	**+2.7**
MNK					pmax	pmax			
	comp=Z,9.0nm,0.8s								
MNK					pmax	pmax			
	comp=N,7.0nm,0.5s								
MNK					pmax	pmax			
	comp=E,14nm,0.6s								
DLMT	**Dillon**	**69.44**	**47**		IAmb	IAmb		09 26 07.1	
	comp=Z,5.6nm,0.8s								
BOZ	**Bozeman (W)**	**69.81**	**46**		IAmb	IAmb		09 26 09.2	
	comp=Z,6.0nm,0.6s								
NC405	**NORSAR Array S**	**69.94**	**337**	P		**P**		**09 26 08.3**	**+0.5**
NC405					IAmb	IAmb		09 28 33.5	
	comp=Z,30nm,1.6s								
NC303	**NORSAR Array S**	**69.95**	**338**	P		**P**		**09 26 08.4**	**+0.6**
NC204	**NORSAR Array S**	**70.08**	**338**	IAmb		IAmb		09 26 09.8	
	comp=Z,8.1nm,0.6s								
NB2	**NORSAR Subarra**	**70.14**	**338**	P		**P**		**09 26 09.0**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=34,slow=6.5								
NB2	**NORSAR Subarra**	**70.14**	**338**	P		**P**		**09 26 06.4**	**-2.7**
NOA	**NORSAR Array B**	**70.14**	**338**	P		**P**		**09 26 09.1**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=35,slow=6.2,SNR=21								
	comp=Z,3.3nm,0.7s								
HFS	**Hagfors**	**70.15**	**336**	P		**P**		**09 26 09.1**	**0.0**
	comp=Z,5.5nm,0.5s,baz=52,slow=7.7,SNR=43								
	comp=Z,5.5nm,0.5s								
NORES	**NORESS Array B**	**70.30**	**337**	P		**P**		**09 26 12.7**	**+2.7**
LHV	**Little Huntoon**	**70.48**	**56**	IAmb		IAmb		09 26 14.3	
	comp=Z,7.9nm,0.9s								
NVAR	**Mina Array Bea**	**70.49**	**56**	P		**P**		**09 26 13.1**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=289,slow=6.4,SNR=36								
	comp=Z,3.4nm,0.7s								
AKASG	**Malin Array Be**	**71.35**	**322**	P		**P**		**09 26 16.4**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=44,slow=6.6,SNR=11								
	comp=Z,3.6nm,0.6s								
AKBB	**Malin Array Si**	**71.35**	**322**	⇓*e*P		**P**		**09 26 16.6**	**+0.1**
AKBB					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KIEV	**Kiev**	**71.36**	**322**	P		**P**		**09 26 16.2**	**-0.4**
TPH	**Tonopah**	**71.38**	**55**	IAmb		IAmb		09 26 19.3	
	comp=Z,6.4nm,0.8s								
DGMT	**Dagmar**	**71.70**	**41**	IAmb		IAmb		09 26 20.0	
	comp=Z,7.1nm,0.8s								
S11A	**Rachel**	**72.55**	**55**	IAmb		IAmb		09 26 26.4	
	comp=Z,8.1nm,0.7s								
FURC	**Furnace Creek,**	**72.62**	**56**	IAmb		IAmb		09 26 26.6	
	comp=Z,11nm,0.8s								
TPNV	**Topopah Spring**	**72.69**	**56**	IAmb		IAmb		09 26 27.1	
	comp=Z,6.9nm,0.7s								
PDAR	**Pinedale Array**	**72.79**	**48**	P		**P**		**09 26 26.1**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=276,slow=1.4,SNR=25								
	comp=Z,3.1nm,0.8s								
GWY	**Greenwater Val**	**72.92**	**57**	IAmb		IAmb		09 26 28.2	
	comp=Z,6.0nm,0.8s								
QSM	**Queen of Sheba**	**72.94**	**57**	IAmb		IAmb		09 26 28.4	
	comp=Z,9.5nm,1.1s								
STKA	**Stephens Creek**	**73.72**	**182**	P		**P**		**09 26 30.2**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=316,slow=7.2,SNR=3.6								
	comp=Z,2.2nm,0.8s								
ULM	**Lac du Bonnet**	**74.21**	**35**	P		**P**		**09 26 32.3**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=349,slow=12,SNR=2.7								
	comp=Z,1.6nm,0.6s								
P17A	**Butcher Ranch,**	**74.32**	**51**	IAmb		IAmb		09 26 36.6	
	comp=Z,5.3nm,0.7s								
MTPU	**Mount Pierson**	**74.43**	**53**	IAmb		IAmb		09 26 57.1	
	comp=Z,13nm,1.8s								
SRU	**San Rafael Swe**	**74.69**	**51**	IAmb		IAmb		09 26 38.4	
	comp=Z,6.9nm,1.0s								
HMU	**Henry Mountain**	**75.35**	**52**	IAmb		IAmb		09 26 42.4	
	comp=Z,6.7nm,0.7s								
PV21	**Cone Mtn., Par**	**75.95**	**51**	IAmb		IAmb		09 26 45.9	
	comp=Z,6.5nm,0.7s								
PV23	**Carpenter Ridg**	**76.00**	**51**	IAmb		IAmb		09 26 46.1	
	comp=Z,7.5nm,0.7s								
PV14	**Lion Creek, Pa**	**76.05**	**51**	IAmb		IAmb		09 26 46.3	
	comp=Z,5.0nm,0.6s								
PV22	**Blue Mesa, Par**	**76.07**	**50**	IAmb		IAmb		09 26 47.0	
	comp=Z,7.7nm,1.1s								
PV04	**Paradox Valley**	**76.10**	**51**	IAmb		IAmb		09 26 47.2	
	comp=Z,24nm,1.8s								
PV20	**West Nyswonger**	**76.10**	**51**	IAmb		IAmb		09 26 46.7	
	comp=Z,11nm,0.8s								
PV17	**East Wray Mesa**	**76.15**	**51**	IAmb		IAmb		09 26 47.0	
	comp=Z,7.7nm,0.7s								
PV16	**Nyswonger Mesa**	**76.15**	**51**	IAmb		IAmb		09 26 47.0	
	comp=Z,5.2nm,0.7s								
NIE	**Niedzica**	**76.19**	**326**	P		**P**		**09 26 45.5**	**+0.6**
NIE					pmax	pmax			
	comp=Z,3.0nm,0.9s								
PV18	**Skein Mesa, Pa**	**76.20**	**51**	IAmb		IAmb		09 26 47.3	
	comp=Z,9.3nm,0.7s								
PV05	**Paradox Valley**	**76.21**	**51**	IAmb		IAmb		09 26 47.5	
	comp=Z,6.8nm,0.9s								
PV12	**Saucer Basin,**	**76.21**	**51**	IAmb		IAmb		09 26 54.1	
	comp=Z,26nm,1.8s								
PV13	**Radium Mtn., P**	**76.31**	**51**	P		**P**		**09 26 47.3**	**+1.2**
PV13					IAmb	IAmb		09 26 48.0	
	comp=Z,5.9nm,0.8s								
PV02	**Paradox Valley**	**76.33**	**51**	IAmb		IAmb		09 26 57.0	
	comp=Z,8.4nm,1.1s								
PV01	**Paradox Valley**	**76.47**	**51**	IAmb		IAmb		09 26 49.7	
	comp=Z,15nm,1.9s								
BRTR	**Keskin Array B**	**76.80**	**312**	P		**P**		**09 26 49.4**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=93,slow=3.5,SNR=4.6								
	comp=Z,0.7nm,0.5s								
ISCO	**Idaho Springs**	**76.98**	**48**	P		**P**		**09 26 49.8**	**-0.2**
ISCO					pmax	pmax			
	comp=Z,5.0nm,0.7s								
KRLC	**Kraliky**	**77.10**	**328**	P		**P**		**09 26 49.8**	**-0.3**
KRLC					pmax	pmax			
	comp=Z,5.0nm,0.9s								
VYHS	**Vyhne**	**77.51**	**326**	*e*P		**P**		**09 26 51.0**	**-1.4**
VYHS	**Vyhne**	**77.51**	**326**	*e*P		**P**		**09 26 51.0**	**-1.4**
CLL	**Collm**	**77.53**	**331**	*i* P		**P**		**09 26 52.8**	**+0.4**
CLL					pmax	pmax			
	comp=Z,11nm,1.3s								
CLL	**Collm**	**77.53**	**331**	*i* P		**P**		**09 26 52.8**	**+0.4**
	comp=Z,11nm,1.3s								
EKA	**Eskdalemuir Ar**	**78.87**	**341**	P		**P**		**09 26 59.7**	**0.0**
	comp=Z,0.8nm,0.4s,baz=20,slow=4.9,SNR=7.2								
	comp=Z,0.8nm,0.4s								
KHC	**Kasperske Hory**	**79.09**	**329**	⇓*i*P		**P**		**09 27 02.1**	**+1.0**
KHC					pmax	pmax			
	comp=Z,12nm,1.5s								
TUC	**Tucson**	**79.13**	**56**	P		**P**		**09 27 02.8**	**+1.1**
TUC	**Tucson**	**79.13**	**56**	P		**P**		**09 27 02.8**	**+1.1**
TUC					pmax	pmax			
	comp=Z,3.0nm,1.3s								
CONA	**Conrad Observa**	**79.18**	**327**	*e*P		**P**		**09 27 03.2**	**+1.5**
	comp=Z,2.3nm,0.7s								
RONA	**Rosalia, Austr**	**79.19**	**327**	P		**P**		**09 27 03.6**	**+1.9**
	comp=Z,2.9nm,0.8s								
GERES	**GERESS Array B**	**79.28**	**329**	P		**P**		**09 27 02.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=34,slow=5.3,SNR=8.5								
	comp=Z,1.0nm,0.5s								
ARSA	**Arzberg**	**79.86**	**327**	P		**P**		**09 27 06.3**	**+1.0**
	comp=Z,1.0nm,0.6s								
SCHQ	**Schefferville**	**79.88**	**17**	P		**P**		**09 27 05.2**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=314,slow=9.7,SNR=5.3								
	comp=Z,3.7nm,0.7s								
ANMO	**Albuquerque**	**79.91**	**52**			**P**		**09 27 07.3**	**+1.3**
ANMO	**Albuquerque**	**79.91**	**52**	⇑*e*P		**P**		**09 27 07.2**	**+1.2**
ANMO					pmax	pmax			
	comp=Z,10.0nm,3.0s								
MMAI	**Mount Meron Ar**	**80.46**	**306**	P		**P**		**09 27 08.7**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=316,slow=3.5,SNR=4.2								
	comp=Z,0.8nm,0.3s								
SOKA	**Soboth**	**80.52**	**327**	*i* P		**P**		**09 27 09.4**	**+0.4**
	comp=Z,3.2nm,0.6s								
LESA	**Schwarzleotal**	**80.84**	**329**	*e*P		**P**		**09 27 11.7**	**+1.1**
	comp=Z,6.1nm,1.3s								
MYKA	**Terra Mystica**	**81.11**	**328**	*e*P		**P**		**09 27 12.3**	**+0.2**
	comp=Z,9.5nm,1.7s								
WATA	**Walderalm**	**81.33**	**329**	*e*P		**P**		**09 27 14.8**	**+1.4**
	comp=Z,6.1nm,1.1s								
WTTA	**Wattenberg**	**81.37**	**329**	*e*P		**P**		**09 27 14.5**	**+1.0**
	comp=Z,1.9nm,0.5s								
MOTA	**Moosalm**	**81.50**	**330**	*e*P		**P**		**09 27 15.1**	**+0.8**
	comp=Z,7.4nm,1.0s								
RETA	**Reutte**	**81.51**	**330**	*e*P		**P**		**09 27 15.0**	**+0.8**
	comp=Z,5.0nm,1.0s								
SQTA	**Sankt Quirin**	**81.57**	**330**	*e*P		**P**		**09 27 15.2**	**+0.6**
	comp=Z,2.7nm,0.7s								
FETA	**Feichten**	**81.92**	**330**	P		**P**		**09 27 17.5**	**+1.1**
	comp=Z,5.7nm,1.4s								
DAVA	**Damuels**	**82.01**	**330**	P		**P**		**09 27 17.8**	**+0.9**
	comp=Z,14nm,1.5s								
SMWD	**Samnorwood**	**83.32**	**48**	IAmb		IAmb		09 27 26.3	
	comp=Z,21nm,1.5s								
POST	**Post**	**84.11**	**50**	IAmb		IAmb		09 27 30.0	
	comp=Z,8.0nm,0.9s								
P40A	**Paris**	**84.18**	**40**	IAmb		IAmb		09 27 28.8	
	comp=Z,5.2nm,0.9s								
WMOK	**Wichita Mounta**	**84.40**	**47**	P		**P**		**09 27 29.3**	**0.0**
WMOK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
TXAR	**Lajitas Array**	**85.56**	**54**	P		**P**		**09 27 36.1**	**+0.9**
TXAR	**Lajitas Array**	**85.56**	**54**	P		**P**		**09 27 35.8**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=292,slow=3.5,SNR=38								
	comp=Z,2.8nm,0.7s								
CCM	**Cathedral Cave**	**85.72**	**40**	P		**P**		**09 27 35.4**	**-0.4**
CCM					IAmb	IAmb		09 27 36.8	
	comp=Z,5.8nm,0.9s								
CCM	**Cathedral Cave**	**85.72**	**40**	P		**P**		**09 27 35.4**	**-0.4**
CCM					pmax	pmax			
	comp=Z,6.0nm,0.9s								
BRDY	**Brady**	**86.85**	**50**	IAmb		IAmb		09 27 43.0	
	comp=Z,3.2nm,0.8s								
DRIO	**Del Rio**	**87.31**	**52**	IAmb		IAmb		09 27 45.9	
	comp=Z,6.2nm,1.3s								
ESDC	**Sonseca Array**	**93.43**	**336**	P		**P**		**09 28 13.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=63,slow=5.9,SNR=1.7								
	comp=Z,0.1nm,0.3s								
VNDA	**Vanda**	**119.95**	**176**	PKP		**PKPdf**		**09 33 44.2**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=270,slow=9.1,SNR=1.7								
SNAA	**Sanae**	**146.21**	**198**	PKPbc		**PKPdf**		**09 34 34.7**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=154,slow=2.6,SNR=11								

*IDC **15** 09:21:26.5±11.0, 43.°85N×138.°34E, h262km±61km, mb2.9/2, mbtmp3.4/4, Error ellipse: s-maj=222.9km s-min=24.4km az=58.0*
*SKHL **15** 09:21:31.9±0.8, 43.°90N×138.°60E, h238km±7km, mb4.4/5, msha4.6/4*
ISC 15 09:21:27.4±1.2, 43.°8N±0.°1×138.°35E±0.°09, h264km, n10, σ1s99/13, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzhno-Sakhali**	**4.44**	**43**	*e*P		**Pn**	**09 22 38.9**	**+2.1**
YSS					AMB	AMB	09 22 40.3	
	40nm,0.5s							
YSS				*e*S		**S**	**09 23 30.6**	**-1.6**
YSS				A		A	09 23 35.2	
	20nm,0.4s							
YSS				A		A	09 23 35.2	
	20nm,0.4s							
USRK	**Ussuriysk Ar.**	**4.61**	**277**	P		Pn	09 22 37.0	-1.9
	1.5nm,0.7s,baz=89,slow=13,SNR=3.1							
AKK	**Akkeshi**	**4.79**	**97**	*e*P		**Pn**	**09 22 43.2**	**+2.2**
AKK				*e*S		**S**	**09 23 38.1**	**-1.7**
NMR	**Nemuro--Hokkai**	**5.37**	**92**	*e*P		**Pn**	**09 22 49.5**	**+1.5**
NMR					AMB	AMB	09 22 50.0	
	40nm,0.4s							
NMR				*e*S		**S**	**09 23 49.6**	**-3.0**
NMR				A		A	09 23 56.0	
	40nm,0.3s							
NMR				A		A	09 23 56.0	
	20nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.43**	**85**	*e*S		**S**	**09 23 52.7**	**-1.2**
SHO	**Shikotan**	**6.13**	**86**	*e*S		**S**	**09 24 09.2**	**-0.3**
SHO				A		A	09 24 12.5	
	30nm,0.3s							
SHO				A		A	09 24 12.5	
	20nm,0.3s							
KUR	**Kuril'sk**	**6.96**	**75**	*e*P		**Pn**	**09 23 10.2**	**+2.7**
KUR					AMB	AMB	09 23 12.9	
	40nm,0.5s							
KUR				*e*S		**S**	**09 24 26.3**	**-1.8**
MJAR	**Matsushiro Arr**	**7.23**	**181**	P		**Pn**	**09 23 12.2**	**+1.0**
	2.0nm,0.6s,baz=4.4,slow=12,SNR=5.3							
KURBB	**Kurchatov Arra**	**40.24**	**302**	P		**P**	**09 28 37.7**	**-0.7**
	0.3nm,0.4s,baz=77,slow=8.6,SNR=1.5							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**63.51**	**184**	P		**P**	**09 31 29.2**	**-0.5**
	0.2nm,0.5s,baz=3.8,slow=6.9,SNR=5.6							
	0.2nm,0.5s							

*ASRS **15** 09:35:05.0±0.9, 53.°55N×87.°87E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:35:08.1±3.9, 53.°65N×87.°78E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=37.3km s-min=19.2km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**281**	I		I	09 47 00.0	
	baz=100,slow=317,SNR=15							
ZALV	**Zalesovo Beam**	**1.78**	**281**	Pg		Pn	09 35 40.1	0.0
	baz=98,slow=16,SNR=1.8							
ZALV				Lg		Lg	09 36 04.7	
	0.6nm,0.3s,baz=95,slow=18,SNR=3.7							
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn		Pn	09 36 44.8	+0.6
	0.1nm,0.3s,baz=60,slow=15,SNR=2.0							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.71**	**209**	Pn		Pn	09 37 02.8	+1.2
	baz=24,slow=13,SNR=1.9							
	0.1nm,0.3s							

*ASRS **15** 09:50:07.0±1.5, 54.°10N×87.°16E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 15 09:50:06.9±3.3, 54.°17N×87.°49E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=25.0km s-min=17.0km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**263**	I		I	09 59 37.6	
	baz=81,slow=315,SNR=1.3							
ZALV	**Zalesovo Beam**	**1.59**	**263**	Pg		Pn	09 50 35.6	-0.7
	1.4nm,0.3s,baz=81,slow=17,SNR=7.2							
ZALV				Lg		Lg	09 50 57.2	
	1.1nm,0.3s,baz=81,slow=29,SNR=4.8							
KURBB	**Kurchatov Arra**	**6.53**	**241**	Pn		Pn	09 51 43.3	-0.9
	0.1nm,0.3s,baz=55,slow=13,SNR=2.2							
KURBB				Sn		Sn	09 53 00.4	+1.2
	baz=39,slow=29,SNR=1.7							
KURBB				Lg		Lg	09 53 35.3	
	baz=63,slow=34,SNR=4.7							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**8.09**	**206**	Pn		Pn	09 52 08.2	+2.7
	0.1nm,0.3s,baz=28,slow=14,SNR=1.9							
MKAR				Sn		Sn	09 53 35.5	-2.1
	0.1nm,0.3s,baz=17,slow=13,SNR=1.2							
MKAR				Lg		Lg	09 54 22.4	
	0.1nm,0.3s,baz=31,slow=34,SNR=3.5							
	0.4nm,0.8s							

*NOU **15** 09:50:15.0, 39.°24S×174.°77E, h218km, MLv3.7/22, North Island, New Zealand*
*WEL **15** 09:50:18.4±0.7, 39.°5±8.°×17.°5E±.°, h198km±5km, M3.1/26, ML3.5/2, MLv3.1/26, Error ellipse: s-maj=10.6km s-min=7.3km az=172.2, confirmed*
ISC 15 09:50:12.7±1.8, 39.°18S±0.°06×174.°76E±0.°05, h239km±10km, n169, σ1s47/184, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VRZ	**Vera Road**	**0.06**	**0**	P		**Pn**	**09 50 44.5**	**+0.8**
VRZ				S		**S**	**09 51 06.0**	**-1.9**
LREZ	**Lake Rotokare**	**0.39**	**225**	P		**Pn**	**09 50 46.0**	**+1.9**
LREZ				P		**S**	**09 51 08.1**	**-0.5**
DREZ	**Durham Road**	**0.43**	**269**	P		**Pn**	**09 50 45.8**	**+1.6**
DREZ				S		**S**	**09 51 08.0**	**-0.9**
PKVZ	**Pokaka**	**0.47**	**103**	P		**Pn**	**09 50 45.8**	**+1.4**
PKVZ				S		**S**	**09 51 07.3**	**-1.8**
PREZ	**Palmer Road**	**0.49**	**251**	P		**Pn**	**09 50 46.0**	**+1.6**
PREZ				S		**S**	**09 51 08.6**	**-0.6**
NEZ	**North Egmont**	**0.52**	**260**	P		**Pn**	**09 50 46.3**	**+1.7**
NEZ				S		**S**	**09 51 08.8**	**-0.7**
TWVZ	**Taurewa**	**0.54**	**78**	P		**Pn**	**09 50 45.8**	**+1.1**
TWVZ				S		**S**	**09 51 07.5**	**-2.2**
KHEZ	**Kahui Hut**	**0.59**	**259**	P		**Pn**	**09 50 46.5**	**+1.7**
KHEZ	**Kahui Hut**	**0.59**	**259**	S		**S**	**09 51 10.0**	**+0.1**
KHEZ	**Kahui Hut**	**0.59**	**259**	P		**Pn**	**09 50 46.4**	**+1.6**
MTVZ	**Mangateitei**	**0.59**	**110**	P		**Pn**	**09 50 46.2**	**+1.4**
MTVZ				S		**S**	**09 51 08.2**	**-1.7**
WAZ	**Wanganui**	**0.60**	**163**	P		**Pn**	**09 50 46.7**	**+2.0**
PKE	**Pukeiti**	**0.60**	**269**	P		**Pn**	**09 50 46.4**	**+1.6**
COVZ	**Chateau Observ**	**0.61**	**92**	P		**Pn**	**09 50 46.2**	**+1.3**
FWVZ	**Far West T-bar**	**0.62**	**97**	P		**Pn**	**09 50 46.5**	**+1.3**
TRVZ	**Turoa**	**0.62**	**101**	P		**Pn**	**09 50 46.5**	**+1.4**
TRVZ				S		**S**	**09 51 08.1**	**-2.3**
MAVZ	**Matarangi**	**0.63**	**98**	P		**Pn**	**09 50 46.6**	**+1.3**
WTVZ	**West Tongariro**	**0.65**	**84**	P		**Pn**	**09 50 46.4**	**+1.3**
WTVZ				S		**S**	**09 51 08.4**	**-2.0**
WHVZ	**Whangaehu Hut**	**0.65**	**99**	P		**Pn**	**09 50 46.6**	**+1.4**
NGZ	**Ngauruhoe**	**0.66**	**90**	P		**Pn**	**09 50 46.5**	**+1.4**
WNVZ	**Wahianoa**	**0.67**	**103**	P		**Pn**	**09 50 46.5**	**+1.3**
NNVZ	**North Ngauruho**	**0.67**	**86**	P		**Pn**	**09 50 46.5**	**+1.3**
NNVZ				S		**S**	**09 51 08.6**	**-2.0**
HIZ	**Hauiti**	**0.67**	**7**	P		**Pn**	**09 50 45.7**	**+0.6**
HIZ	**Hauiti**	**0.67**	**7**	S		**S**	**09 51 09.1**	**-1.3**
HIZ

WEL	Wellington	2.10	180	P		Pn	09 50 56.8 +1.6
MKAZ	Moumakai	2.10	9	P		Pn	09 50 56.9 +1.6
TMWZ	Te Maipa	2.11	156	P		Pn	09 50 56.9 +1.6
AWAZ	Awhitu Peninsu	2.12	358	P		Pn	09 50 57.2 +1.7
SNZO	South Karori	2.12	181	P		Pn	09 50 56.9 +1.5
SNZO	South Karori	2.12	181	P		S	09 51 27.6 -1.4
RAGZ	Rawiri	2.19	73	P		Pn	09 50 57.4 +1.2
ETAZ	East Tamaki Re	2.23	3	P		Pn	09 50 58.3 +1.7
WTAZ	Waiatarua	2.25	356	P		Pn	09 50 58.9 +2.1
PAWZ	Paruwai Farm	2.25	167	P		Pn	09 50 58.2 +1.5
MSWZ	Moikau Station	2.26	171	P		Pn	09 50 58.3 +1.5
KNZ	Kokohu	2.27	87	P		Pn	09 50 58.5 +1.6
NNZ	Nelson	2.29	207	P		Pn	09 50 58.6 +1.6
TKNZ	Takaka Hill	2.31	216	P		Pn	09 50 58.3 +1.1
TRWZ	Traveller	2.32	162	P		Pn	09 50 59.1 +1.7
MWZ	Matawai	2.33	69	P		Pn	09 50 58.4 +0.9
TUWZ	Tuamarina	2.33	195	P		Pn	09 50 59.5 +2.1
QRZ	Quartz Range	2.37	226	P		Pn	09 50 58.6 +0.8
QRZ	Quartz Range	2.37	226	P		S	09 51 32.3 -1.1
QRZ	Quartz Range	2.37	226	P		Pn	09 50 58.7 +0.8
RIGZ	Rimuhau	2.39	79	P		Pn	09 50 59.7 +1.5
WIAZ	Waiheke Island	2.41	7	P		Pn	09 51 00.1 +1.8
MBAZ	Motutapu North	2.41	3	P		Pn	09 51 00.2 +1.8
PLWZ	Palliser	2.41	171	P		Pn	09 50 59.6 +1.3
PRGZ	Paritu Road	2.45	85	P		Pn	09 51 00.5 +1.8
MHGZ	Mahia Peninsul	2.45	90	P		Pn	09 51 00.6 +2.0
TKGZ	Te Karaka	2.53	74	P		Pn	09 51 01.0 +1.6
KUZ	Kuaotunu	2.55	18	P		Pn	09 51 01.2 +1.4
KUZ	Kuaotunu	2.55	18	P		Pn	09 51 01.2 +1.4
RUGZ	Raukumara Rang	2.59	63	P		Pn	09 51 00.3 -0.1
CMWZ	Cape Campbell	2.60	189	P		Pn	09 51 02.5 +2.3
BSWZ	Blackbirch Sta	2.62	195	P		Pn	09 51 02.3 +1.9
MRNZ	Matariki Terra	2.69	214	P		Pn	09 51 02.3 +1.1
TWGZ	Tauwhareparae	2.71	69	P		Pn	09 51 02.8 +1.3
HAZ	Te Kaha	2.77	60	P		Pn	09 51 02.2 +0.1
CNGZ	Carnagh Statio	2.78	77	P		Pn	09 51 04.0 +1.9
PKGZ	Pakihiroa	2.92	64	P		Pn	09 51 04.4 +0.7
THZ	Tophouse	2.94	208	P		Pn	09 51 05.2 +1.3
PUZ	Puketiti	2.96	69	P		Pn	09 51 05.0 +0.9
WMGZ	Waiomatatini S	3.18	66	P		Pn	09 51 07.3 +0.8
MXZ	Matakaoa Point	3.22	61	P		Pn	09 51 08.2 +1.1
MXZ	Matakaoa Point	3.22	61	P		Pn	09 51 08.1 +1.1
KHZ	Kahutara	3.36	196	P		Pn	09 51 10.0 +1.6
KHZ	Kahutara	3.36	196	S		S	09 51 51.3 -1.3
KHZ	Kahutara	3.36	196	P		Pn	09 51 10.1 +1.6
DSZ	Denniston Nort	3.41	220	P		Pn	09 51 10.1 +0.9
GVZ	Greta Valley S	4.00	198	P		Pn	09 51 17.1 +1.2
LTZ	Lake Taylor	4.06	207	P		Pn	09 51 17.8 +1.1
AMCZ	Amberley	4.29	201	P		Pn	09 51 20.6 +1.2
INZ	Inchbonnie	4.34	214	P		Pn	09 51 20.6 +0.6
OXZ	Oxford	4.62	205	P		Pn	09 51 24.0 +0.6
OKCZ	Okains Bay	4.71	195	P		Pn	09 51 25.6 +1.0
MQZ	McQueen's Vall	4.79	199	P		Pn	09 51 25.8 +0.3
WVZ	Waitaha Valley	4.93	217	P		Pn	09 51 27.6 +0.4
RACZ	Rakaia	4.95	203	P		Pn	09 51 28.1 +0.7
MHCZ	Mount Hutt	4.96	208	P		Pn	09 51 28.5 +0.8
WACZ	Wakanui South	5.24	204	P		Pn	09 51 32.0 +1.1
GCSZ	Gaunt Creek Bo	5.31	218	P		Pn	09 51 32.1 +0.2
RPZ	Rata Peaks	5.31	210	P		Pn	09 51 32.5 +0.5
RPZ	Rata Peaks	5.31	210	P		Pn	09 51 32.6 +0.5
ARCZ	Arundel	5.46	208	P		Pn	09 51 34.6 +0.7
FOZ	Fox Glacier	5.72	219	P		Pn	09 51 37.1 +0.1
TMZ	Timaru	5.90	207	P		Pn	09 51 40.4 +1.1
LBZ	Lake Benmore	6.22	212	P		Pn	09 51 43.8 +0.5
ODZ	Otahua Downs	6.61	206	P		Pn	09 51 49.5 +1.3
ODZ	Otahua Downs	6.61	206	P		Pn	09 51 49.5 +1.3
JCZ	Jackson Bay	6.62	221	P		Pn	09 51 49.4 +0.9
JCZ	Jackson Bay	6.62	221	P		Pn	09 51 48.4 -0.1
WKZ	Wanaka	7.08	215	P		Pn	09 51 54.0 -0.1
EAZ	Earnscleugh	7.27	212	P		Pn	09 51 56.3 -0.3
TUZ	Tuapeka	7.75	208	P		Pn	09 52 04.6 +2.0
SYZ	Scrubby Hill	8.43	207	P		Pn	09 52 12.7 +1.4

WEL 15 09:51:49.8±0.6, 45°S±3″×16°8E±″, h5km, M3.1/8, ML3.3/10, MLv3.1/8, Error ellipse: s-maj=5.8km s-min=2.4km az=124.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res ISC
MSZ	**Milford Sound**	0.15	164	P	Pg	09 51 54.0	+1.1
MSZ				S	Sg	09 51 56.7	+1.8
GLNY	**Glenorchy**	0.51	131	P	Pg	09 51 58.5	-1.2
GLNY				S	Sg	09 52 05.6	-0.7
QTPS	**Queenstown Pol**	0.76	132	P	Pg	09 52 04.4	0.0
QTPS				S	Sg	09 52 14.1	0.0
NSBS	**Neils Beach**	0.78	47	P	Pg	09 52 05.1	+0.4
JCZ	**Jackson Bay**	0.80	56	P	Pg	09 52 04.8	-0.4
JCZ				S	Sg	09 52 15.7	+0.1
MLZ	**Mavora Lakes**	0.85	168	P	Pg	09 52 05.7	-0.6
WKZ	**Wanaka**	0.87	110	P	Pg	09 52 06.6	+0.1
TAFS	**Te Anau Fire S**	0.89	187	P	Pg	09 52 05.4	-1.6
TAFS				S	Sg	09 52 18.4	-0.1
WNPS	**Wanaka Nationa**	0.92	101	P	Pg	09 52 06.2	-1.3
MEKS	**Makarora Emerg**	1.02	73	P	Pg	09 52 09.0	-0.4
MECS				S	Sg	09 52 22.6	-0.1
DCZ	**Deep Cove**	1.06	208	P	Pg	09 52 09.1	-1.2
DCZ				S	Sg	09 52 23.7	-0.4
HDWS	**Haast DOC Work**	1.06	53	P	Pg	09 52 09.8	-0.4
HDWS				S	Sb	09 52 24.6	-0.3
MOSS	**Mossburn Schoo**	1.17	167	P	Pg	09 52 11.6	-0.7
MOSS				S	Sb	09 52 27.8	-0.2
EAZ	**Earnscleugh**	1.24	125	P	Pg	09 52 12.9	-0.7
WHZ	**Wether Hill Ro**	1.36	178	P	Pn	09 52 14.2	-1.4
TWAS	**Twizel Area Sc**	1.62	81	P	Pb	09 52 20.0	-0.2
TWAS				S	Sn	09 52 40.6	+0.2
RRKS	**Rarakau**	1.64	190	P	Pn	09 52 19.7	+0.4
RRKS				S	Sg	09 52 42.1	-0.5
LBZ	**Lake Benmore**	1.66	86	P	Pb	09 52 20.3	-0.6
LBZ				S	Sn	09 52 41.5	+0.1
FOZ	**Fox Glacier**	1.72	55	P	Pn	09 52 21.0	+0.6
FOZ				S	Sb	09 52 43.4	-0.4
MCNS	**Mount Cook Ann**	1.79	64	P	Pn	09 52 21.4	0.0
PYZ	**Puysegur Point**	1.84	207	P	Pn	09 52 22.2	+0.1
PYZ	**Puysegur Point**	1.84	207	P	Pn	09 52 22.3	+0.3
PYZ				S	Sn	09 52 44.9	-0.9
TUZ	**Tuapeka**	1.89	139	P	Pn	09 52 23.3	+0.5
TUZ				S	Sn	09 52 47.7	+0.7
GCSZ	**Gaunt Creek Bo**	2.15	57	P	Pb	09 52 28.5	-0.7
SYZ	**Scrubby Hill**	2.20	156	P	Pn	09 52 27.2	+0.2
APZ	**The Paps**	2.30	178	P	Pn	09 52 29.1	+0.6
APZ				S	Sn	09 52 58.5	+1.2
HHSZ	**Highcliff Hill**	2.36	126	P	Pn	09 52 29.7	+0.5
ARCZ	**Arundel**	2.45	77	P	Pn	09 52 30.2	-0.3

CNRM ***15*** *09:52:01.9, 36′.20N×9′.70W, h48km, ML2.5*
SFS ***15*** *09:52:02.8, 36′.31N×9′.80W, h26km, ML2.9/9, ML2.8/10, MLv2.8/10*
MDD ***15*** *09:52:02.5±0.8, 36′.41N×9′.73W, h8km±3km, mb_Lg3.0/18, Error ellipse: s-maj=6.4km s-min=4.4km az=38.0*
IGIL ***15*** *09:52:03.5, 36′.30N×9′.79W, h26km, ML2.1*
INMG ***15*** *09:52:03.8±1.2, 36′.30N×9′.78W, h27km±15km, ML2.2, Error ellipse: s-maj=9.7km s-min=4.1km az=50.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Cabo S.Vicente*

ISC 15 09:51:59.6±1.7, 36°23N±0′.06×9°89W±0′.07, h35km, n65, σ1§92/106, 3C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res ISC
PFVI	**Vila Bisbo**	1.24	43	S	Sn	09 52 35.9	-0.1
PFVI				P	Pn	09 52 22.2	+1.7
PFVI	**Vila Bisbo**	1.24	43	iP	Pn	09 52 22.3	+1.7
PFVI				eS	Sn	09 52 36.1	+0.1
PFVI				I IAML		09 52 36.6	
PFVI				I IAML		09 52 36.9	
PFVI				I IAML		09 52 37.6	
MORF	**Marmelete**	1.46	42	eP	Pn	09 52 25.4	+1.8
MORF				eS	Sn	09 52 41.1	-0.4
MORF				IAML		09 52 44.5	
	comp=E,54nm,0.2s						
MORF	**Marmelete**	1.46	42	iP	Pn	09 52 25.4	+1.8
MORF				eS	Sn	09 52 41.5	0.0
MORF				I IAML		09 52 42.6	
MORF				I IAML		09 52 42.9	
MORF				I IAML		09 52 44.4	
PTEO	**Sao Teotonio**	1.61	35	eP	Pn	09 52 27.6	+2.0
PTEO				eS	Sn	09 52 45.4	+0.2
PTEO				I IAML		09 52 45.8	
PTEO				I IAML		09 52 46.0	
PTEO				I IAML		09 52 47.2	
PBDV	**Barranco-do-Ve**	1.87	57	eP	Pn	09 52 31.1	+2.0
PBDV				eS	Sn	09 52 51.2	-0.4
PBDV				I IAML		09 52 53.6	
PBDV				I IAML		09 52 53.7	
PBDV				I IAML		09 52 53.8	
PCVE	**Castro Verde**	2.04	46	P	Pn	09 52 33.1	+1.7
PCVE				S	Sn	09 52 55.7	0.0
PCVE	**Castro Verde**	2.04	46	eP	Pn	09 52 33.5	+2.0
PCVE				eS	Sn	09 52 55.7	0.0
PCVE				I IAML		09 52 56.5	
PCVE				I IAML		09 52 57.0	
PCVE				I IAML		09 52 57.2	
MESJ	**Messejana**	2.09	39	eP	Pn	09 52 34.0	+1.8
MESJ				eS	Sn	09 52 56.3	-0.7
MESJ				IAML		09 52 58.8	
	comp=E,6.0nm,0.2s						
MESJ	**Messejana**	2.09	39	iP	Pn	09 52 34.0	+1.8
MESJ				eS	Sn	09 52 56.9	-0.1
MESJ				I IAML		09 52 58.2	
MESJ				I IAML		09 52 58.9	
MESJ				I IAML		09 52 59.2	
PVAQ	**Vaqueiros**	2.10	55	P	Pn	09 52 34.1	+1.9
PVAQ				S	Sn	09 52 57.4	+0.2
PVAQ	**Vaqueiros**	2.10	55	eP	Pn	09 52 34.1	+1.9
PVAQ				eS	Sn	09 52 56.7	-0.5
PVAQ				I IAML		09 52 57.6	
PVAQ				I IAML		09 52 58.0	
PVAQ				I IAML		09 52 58.4	
PVAQ	**Vaqueiros**	2.10	55	P	Pn	09 52 34.2	+1.9
EGRO	**El Granado**	2.33	55	P	Pn	09 52 37.0	+1.6
EGRO				S	Sn	09 53 02.3	-0.5
EGRO	**El Granado**	2.33	55	Pn	Pn	09 52 37.2	+1.8
EGRO				Sn	Sn	09 53 01.8	-1.0
EGRO				I IVmb_Lg		09 53 03.4	
PBEJ	**Beja**	2.42	41	eP	Pn	09 52 38.2	+1.6
PBEJ				eS	Sn	09 53 04.5	-0.5
PBEJ				I IAML		09 53 05.2	
PBEJ				I IAML		09 53 05.7	
PBEJ				I IAML		09 53 06.8	
PARRA	**Arraiolos**	2.67	14	eP	Pn	09 52 45.6	+5.5
PARRA				eS	Sn	09 53 17.5	+6.3
PARRA				I IAML		09 53 19.4	
PARRA				I IAML		09 53 19.5	
PARRA				I IAML		09 53 19.7	
EVO	**Evora**	2.74	32	P	Pn	09 52 42.4	+1.2
EVO				S	Sn	09 53 12.2	-0.9
EVO	**Evora**	2.74	32	eP	Pn	09 52 42.6	+1.4
EVO				eS	Sn	09 53 12.2	-0.9
EVO				I IAML		09 53 13.5	
EVO				I IAML		09 53 13.8	
EVO				I IAML		09 53 13.9	
PMAFR	**Mafra**	2.77	10	P	Pn	09 52 43.5	+2.0
PMAFR				S	Sn	09 53 12.9	-0.8
PMAFR	**Mafra**	2.77	10	eP	Pn	09 52 43.8	+2.3
PMAFR				eS	Sn	09 53 13.3	-0.3
PMAFR				I IAML		09 53 15.6	
PMAFR				I IAML		09 53 16.1	
PMAFR				I IAML		09 53 16.4	
PBAR	**Barrancos**	2.99	49	P	Pn	09 52 46.1	+1.5
PBAR				S	Sn	09 53 18.6	-0.6
PBAR	**Barrancos**	2.99	49	eP	Pn	09 52 46.2	+1.6
PBAR				eS	Sn	09 53 18.7	-0.6
PBAR				I IAML		09 53 19.7	
PBAR				I IAML		09 53 20.0	
PBAR				I IAML		09 53 20.1	
EMIN	**Mina Concepcio**	3.00	58	P	Pn	09 52 45.9	+1.3
EMIN				S	Sn	09 53 18.2	-1.2
EMIN	**Mina Concepcio**	3.00	58	Pn	Pn	09 52 46.3	+1.6
EMIN				Sn	Sn	09 53 18.1	-1.2
PMTG	**Montargil**	3.13	24	eP	Pn	09 52 48.2	+1.7
PMTG				eS	Sn	09 53 21.7	-0.8
PMTG				I IAML		09 53 22.4	
PMTG				I IAML		09 53 22.9	
PMTG				I IAML		09 53 24.1	
PESTR	**Estremoz**	3.21	34	P	Pn	09 52 49.0	+1.5
PESTR				S	Sn	09 53 23.5	-1.1
PESTR	**Estremoz**	3.21	34	eS	Sn	09 53 23.6	-0.9
PESTR				I IAML		09 53 25.0	
PESTR				I IAML		09 53 25.1	
PESTR				I IAML		09 53 25.7	
PESTR	**Estremoz**	3.21	34	P	Pn	09 52 50.7	+3.2
PESTR	**Estremoz**	3.21	34	S	Sn	09 53 24.1	-0.4
ESPR	**Espera**	3.31	78	P	Pn	09 52 51.1	+2.2
ESPR				S	Sn	09 53 26.2	-0.8
ESPR	**Espera**	3.31	78	Pn	Pn	09 52 50.5	+1.6
ESPR				Sn	Sn	09 53 26.2	-0.8
ESPR				I IVmb_Lg		09 53 28.0	
EBAD	**Badajoz**	3.41	41	P	Pn	09 52 51.3	+1.1
EBAD				S	Sn	09 53 28.6	-0.8
EBAD	**Badajoz**	3.41	41	Pn	Pn	09 52 51.4	+1.2
EBAD				Sn	Sn	09 53 28.2	-1.2
PSARD	**Sardoal**	3.63	22	eP	Pn	09 52 55.2	+1.8
PSARD				eS	Sn	09 53 33.6	-1.5
PSARD				I IAML		09 53 36.4	
PSARD				I IAML		09 53 36.6	
PSARD				I IAML		09 53 37.7	
PMRV	**Marv??o**	3.76	31	eP	Pn	09 52 56.4	+1.3
PMRV				eS	Sn	09 53 36.0	-2.1
PMRV				I IAML		09 53 37.9	
PMRV				I IAML		09 53 38.2	
PMRV				I IAML		09 53 38.6	
ZHG	**ZHG**	3.85	135	P	Pn	09 52 56.6	+0.1
PCAS	**Casmilo, Conde**	3.97	16	eS	Sn	09 53 41.8	-1.6
PCAS				I IAML		09 53 44.0	
PCAS				I IAML		09 53 44.4	
PCAS				I IAML		09 53 44.5	
ECAB	**El Cabril**	4.02	61	Pn	Pn	09 52 60.0	+1.2
ECAB				Sn	Sn	09 53 41.5	-3.1
PCBR	**Castelo Branco**	4.08	27	eS	Sn	09 53 44.3	-1.7
PCBR				I IAML		09 53 46.4	
PCBR				I IAML		09 53 46.5	
PCBR				I IAML		09 53 46.8	
EADA	**Adamuz**	4.66	64	Pn	Pn	09 53 08.9	+1.4
EADA				Sn	Sn	09 53 57.4	-3.0
EADA				I IVmb_Lg		09 54 00.1	
EGOR	**Sierra Gorda,**	4.73	78	Sn	Sn	09 54 02.3	0.0
EGOR				I IVmb_Lg		09 54 09.1	
PVIS	**Viseu**	4.75	19	eP	Pn	09 53 10.6	+1.8
PVIS				eS	Sn	09 54 00.8	-1.8
EPLA	**Plasencia**	4.87	37	Pn	Pn	09 53 11.5	+1.2
EPLA				Sn	Sn	09 54 02.9	-2.6
EPLA				I IVmb_Lg		09 54 05.3	
ELGU	**Los Guajares,**	5.08	81	Sn	Sn	09 54 10.8	-0.1
OUK	**Oukaimeden**	5.28	161	P	Pn	09 53 18.8	+2.4
POLO	**Lamas de Olo**	5.39	17	eP	Pn	09 53 18.0	+0.4
POLO				eS	Sn	09 54 15.6	-2.9
POLO				I IAML		09 54 18.3	
POLO				I IAML		09 54 18.4	
POLO				I IAML		09 54 19.3	
MD31	**MD31**	5.40	127	P	Pn	09 53 19.0	+1.3
MVO	**Moncorvo**	5.41	24	eP	Pn	09 53 18.9	+1.0
MVO				eS	Sn	09 54 16.2	-2.8
MVO				I IAML		09 54 17.8	
MVO				I IAML		09 54 18.6	
MVO				I IAML		09 54 18.9	
PAB	**San Pablo**	5.49	51	Pn	Pn	09 53 20.5	+1.5
PAB				Sn	Sn	09 54 17.1	-3.8
PSIM	**Granatula de C**	5.52	60	Sn	Sn	09 54 17.3	-4.2
MDT	**Midelt**	5.53	126	P	Pn	09 53 20.9	+1.3
PCAB	**Cabril**	5.66	14	eS	Sn	09 54 22.5	-2.6
EQES	**Quesada**	5.68	72	Sn	Sn	09 54 23.0	-2.6
EQES				I IVmb_Lg		09 54 24.9	
TIO	**Tiouine**	5.72	157	P	Pn	09 53 23.5	+1.2
TTIG	**Tnine Tigouga,**	5.79	168	P	Pn	09 53 21.8	-1.4
ELOB	**Lobios**	5.81	14	Pn	Pn	09 53 25.0	+1.7
ELOB				Sn	Sn	09 54 24.6	-4.1
ELOB				I IVmb_Lg		09 54 28.6	
ESDC	**Sonseca Array**	5.81	52	Pn	Pn	09 53 25.2	+1.9
ESBB	**Sonseca Array**	5.81	52	Pn	Pn	09 53 25.3	+1.9
ESBB				Sn	Sn	09 54 26.9	-1.9
PGAV	**Gavieira, Arco**	5.87	12	eS	Sn	09 54 26.5	-3.7
PGAV				I IAML		09 54 27.3	
PGAV				I IAML		09 54 30.6	
PGAV				I IAML		09 54 31.1	
OUZM	**OUZ**	5.91	153	P	Pn	09 53 26.7	+1.8
EZAM	**Zamans**	5.99	9	Sn	Sn	09 54 29.4	-3.6
EZAM				I IVmb_Lg		09 54 31.8	
ECAL	**Calabor**	6.21	22	Pn	Pn	09 53 30.7	+1.9
ECAL				Sn	Sn	09 54 36.0	-2.6
ECAL				I IVmb_Lg		09 54 39.9	
GUD	**Guadarrama**	6.30	44	Pn	Pn	09 53 31.5	+1.4
GUD				Sn	Sn	09 54 38.6	-2.4
EAGO	**Agolada(Pontev**	6.71	11	Sn	Sn	09 54 46.8	-4.1
EAGO				I IVmb_Lg		09 54 50.7	

JMA ***15*** *09:55:24.9±0.1, 43′.0N±0′.5×145′.8E±0′.6, h43km, MV2.7/35, OFF NEMURO PENINSULA*
SKHL ***15*** *09:55:26.2±0.1, 43′.10N×145′.80E, h37km±3km, mb4.1/4*
ISC 15 09:55:25.7±1.6, 43°03N±0′.07×145°77E±0′.06, h34km±2km, n14, σ0§57/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res ISC
NEM2	**Nemuro 2**	0.34	357	iP	Pb	09 55 33.9	-0.1
NEM2				S	Sb	09 55 40.1	+0.4
NMR	**Nemuro--Hokkai**	0.34	355	iP	Pb	09 55 33.9	-0.2
NMR				AMB	AMB	09 55 34.0	
	100nm,0.2s						
NMR				iS	Sn	09 55 39.7	+0.2
NMR				A	A	09 55 40.4	
	390nm,0.3s						
NMR				A	A	09 55 40.4	
	660nm,0.3s						
JKHN	**Kushirohamanak**	0.45	277	iP	Pb	09 55 35.5	0.0
JKHN				S	Sn	09 55 42.9	+0.4
AKK	**Akkeshi**	0.68	269	eP	Pn	09 55 38.6	-0.2
AKK				eS	Sn	09 55 48.0	-0.2
JAK	**Akkeshi**	0.79	268	P	Pn	09 55 39.9	-0.4
JAK				S	Sn	09 55 50.8	-0.1
JNSB	**Nemuroshibetsu**	0.93	324	P	Pn	09 55 42.1	-0.2
JNSB				S	Sn	09 55 54.4	0.0
JNK	**Nakash**	0.95	306	iP	Pn	09 55 42.0	-0.5
JNK				S	Sn	09 55 54.2	-0.6
YUK	**Yuzh-Kuril'sk**	1.01	4	eP	Pn	09 55 42.7	-0.7
YUK				AMB	AMB	09 55 43.6	
	140nm,0.2s						
YUK				iS	Sn	09 55 55.0	-1.3
YUK				A	A	09 55 57.9	
	290nm,0.2s						
YUK				A	A	09 55 57.9	
	380nm,0.2s						
JRA	**Rausu**	1.02	333	eP	Pn	09 55 43.3	-0.3
JRA				S	Sn	09 55 57.0	+0.3
SHO	**Shikotan**	1.14	42	eP	Pn	09 55 45.4	+0.2
SHO				AMB	AMB	09 55 48.3	
	20nm,0.4s						
SHO				eS	Sn	09 55 59.9	+0.2
SHO				A	A	09 56 06.7	
	70nm,0.2s						
SHO				A	A	09 56 06.7	
	60nm,0.2s						
JOB	**Onbets**	1.43	266	eP	Pn	09 55 48.8	-0.3
JAR	**Ashorobuto**	1.49	281	P	Pn	09 55 50.0	0.0
JTKR	**Abashiri--Toko**	1.65	305	P	Pn	09 55 52.9	+0.7
JTKR				eS	Sn	09 56 13.6	+1.4
KUR	**Kuril'sk**	2.67	34	eS	Sn	09 56 38.0	+0.6
KUR				A	A	09 56 39.6	
	10.0nm,0.2s						
KUR				A	A	09 56 39.6	
	20nm,0.2s						

NEIC ***15*** *09:56:00.1±0.9, 22°.76S±0′.09×66°.4W±0°.2, h293km±12km, mb4.1/4, ML4.1(GUC), Error ellipse: s-maj=26.1km s-min=11.8km az=100.0*
SJA ***15*** *09:56:01.8±0.7, 22°.67S×66°.33W, h246km±8km, ML4.0, MW3.7*
IDC ***15*** *09:56:01.2±1.6, 22°.74S×66°.28W, h222km±18km, mb3.2/4, mbtmp3.7/8, Error ellipse: s-maj=30.5km s-min=14.1km az=103.0*
GUC ***15*** *09:56:03.3±0.6, 22°.71S×66°.68W, h272km±11km, ML4.0*
ISC 15 09:56:02.0±0.7, 22°72S±0′.04×66°41W±0′.05, h245km, n70, σ1§67/87, mb3.5/3, 5C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res ISC
YJA	**Yavi**	0.99	57	eP	Pn	09 56 37.5	+0.5
YJA				eS	S	09 57 03.0	-1.4
SALTA		1.50	177	eP	Pn	09 56 41.1	+0.7
SALTA				eS	S	09 56 55.3	-15
AF01	**San Pedro de A**	1.65	262		Pn	09 56 43.4	+2.1
AF01	**San Pedro de A**	1.65	262	iP	Pn	09 56 43.2	+1.9
AF01	**San Pedro de A**	1.65	262	eP	Pn	09 56 43.6	+2.3
AF01				eS	S	09 57 20.0	+7.8
PB09	**IPOC Station P**	2.78	289		Pn	09 56 53.5	+1.6
PB09	**IPOC Station P**	2.78	289	iP	Pn	09 56 53.5	+1.6
PB09				eS	S	09 57 31.2	-0.1
PB09				IAML		09 57 35.5	
	comp=E,220nm,0.5s						
PB09	**IPOC Station P**	2.78	289	eP	Pn	09 56 53.0	+1.0
PB09				IAML		09 57 34.6	
	comp=Z,171nm,0.3s						
PB06	**IPOC Station P**	2.92	270	Pn	Pn	09 56 55.1	+1.7
PB06	**IPOC Station P**	2.92	270	eP	Pn	09 56 54.4	+1.0
PB06				iS	S	09 57 33.8	-0.2
PB06	**IPOC Station P**	2.92	270	eP	Pn	09 56 54.9	+1.4
PB06				IAML		09 57 40.1	
	comp=Z,206nm,0.4s						
PB03	**IPOC Station P**	3.16	282		Pn	09 56 56.8	+0.6
PB03	**IPOC Station P**	3.16	282	iP	Pn	09 56 56.9	+0.8
PB03				iS	S	09 57 37.6	-1.3
PB03	**IPOC Station P**	3.16	282	eP	Pn	09 56 56.9	+0.8
PB03				IAML		09 57 40.3	
	comp=Z,499nm,0.2s						
PB01	**IPOC Station P**	3.31	300		Pn	09 56 58.5	+0.7
PB01	**IPOC Station P**	3.31	300	iP	P

PB14	**IPOC Station P**	**4.12 242**	*e*P		**Pn**	**09 57 07.6**	**+0.3**
PB14			*i* S		**S**	**09 57 56.7**	**-2.4**
PB11	**IPOC Station P**	**4.22 314**			**Pn**	**09 57 08.3**	**-0.1**
PB11	**IPOC Station P**	**4.22 314**	*e*P		**Pn**	**09 57 08.5**	**+0.1**
PB11			IAML			09 58 04.4	
	comp=Z,134nm,0.2s						
TA02	**Huaiquique**	**4.23 304**			**Pn**	**09 57 08.4**	**+0.1**
TA02	**Huaiquique**	**4.23 304**	*e*P		**Pn**	**09 57 08.4**	**+0.1**
TA02			*e*S		**S**	**09 57 57.2**	**-3.8**
TA02	**Huaiquique**	**4.23 304**	*e*P		**Pn**	**09 57 09.2**	**+0.8**
TA02			IAML			09 58 02.9	
	comp=Z,144nm,0.1s						
AC02	**Maricunga**	**4.79 210**			**Pn**	**09 57 15.8**	**+0.3**
AC02	**Maricunga**	**4.79 210**	*e*P		**Pn**	**09 57 16.2**	**+0.8**
AC02			*e*S		**S**	**09 58 12.0**	**-1.8**
AC02			IAML			09 59 08.1	
	comp=Z,255nm,1.0s						
AC01	**Pan de Azucar**	**5.12 227**			**Pn**	**09 57 18.2**	**-0.8**
AC01	**Pan de Azucar**	**5.12 227**	*e*P		**Pn**	**09 57 18.4**	**-0.6**
AC01			*e*S		**S**	**09 58 18.1**	**-2.4**
AC01			IAML			09 58 21.9	
	comp=Z,37nm,0.5s						
PB16	**IPOC Station P**	**5.24 326**			**Pn**	**09 57 20.8**	**-0.3**
PB16	**IPOC Station P**	**5.24 326**	*e*P		**Pn**	**09 57 22.3**	**+1.1**
PB16			IAML			09 58 26.0	
	comp=Z,23nm,0.3s						
LPAZ	**La Paz**	**6.60 345**	Pn		**Pn**	**09 57 38.4**	**+0.1**
LPAZ	**La Paz**	**6.60 345**	P		**Pn**	**09 57 39.0**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=153,slow=8.9,SNR=28						
LPAZ			S		**S**	**09 58 53.7**	**-1.4**
	comp=Z,2.4nm,0.6s,baz=69,slow=13,SNR=4.1						
LCO	**Las Campanas**	**7.36 211**	Pn		**Pn**	**09 57 45.6**	**-1.7**
SIV	**San Ignacio**	**8.38 38**	P		**Pn**	**09 57 58.5**	**-1.7**
	comp=Z,10nm,0.6s,baz=217,slow=5.3,SNR=59						
SIV			S		**S**	**09 59 34.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=151,slow=17,SNR=1.2						
CFA	**Coronel Fontan**	**9.00 190**	P		**Pn**	**09 58 06.2**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=58,slow=22,SNR=10						
CFA			S		S	09 59 40.0	-10
	comp=Z,1.8nm,0.3s,baz=287,slow=19,SNR=13						
TRQA	**Tornquist**	**15.76 167**	P		**P**	**09 59 24.4**	**-5.9**
TRQA			IAmb		IAmb	09 59 29.7	
	comp=Z,11nm,1.3s						
PLCA	**Paso Flores**	**18.30 190**	P		P	09 59 50.7	-7.4
PLCA			IAmb		IAmb	10 00 21.2	
	comp=Z,9.4nm,1.4s						
PLCA	**Paso Flores**	**18.30 190**	P		**P**	**09 59 58.9**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=343,slow=9.8,SNR=4.6						
SNAA	**Sanae**	**60.38 161**	P		**P**	**10 05 46.4**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=276,slow=4.6,SNR=15						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**67.48 180**	P		P	10 06 23.7	-7.7
QSPA	**South Pole Qui**	**67.48 180**	P		**P**	**10 06 34.2**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=216,slow=1.3,SNR=7.4						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.61 69**	P		P	10 07 12.8	-7.7
TORD	**Torodi Ar. Bea**	**75.61 69**	P		**P**	**10 07 19.6**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=256,slow=4.9,SNR=2.6						
	comp=Z,0.3nm,0.4s						
VNDA	**Vanda**	**76.05 190**	P		**P**	**10 07 22.7**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=74,slow=15,SNR=6.0						
	comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**129.84 204**	PKP		**PKiKP**	**10 14 44.3**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=128,slow=2.0,SNR=1.8						
WRA	**Warramunga Arr**	**133.01 207**	PKP		**PKiKP**	**10 14 50.2**	**0.0**
	comp=Z,0.3nm,0.9s,baz=159,slow=1.7,SNR=5.0						
MKAR	**Makanchi Array**	**145.19 39**	PKPbc		**PKPab**	**10 15 12.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=294,slow=3.1,SNR=5.4						

*SOME **15** 10:16:21.8,39°.57N×75°.43E,h5km*
*NNC **15** 10:16:22.7±4.6,39°.51N×75°.48E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=34.4km s-min=23.0km az=143.0*
*KRNET **15** 10:16:26.2±0.1,39°.59N×75°.20E,mb3.4*

ISC 15 10:16:28.7±1.7,39°.58N±0°.08×75°.20E±0°.05,h10km,n23, σ1§53/40,16C-18D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.68**	**321**	⇑*iP*	**Pn**	**10 16 57.3**	**-1.0**
SALK				⇑*eS*	**Sb**	**10 17 20.3**	**-0.7**
OHH	**Osh**	**2.08**	**298**	⇑*iP*	**Pn**	**10 17 04.4**	**+0.7**
OHH				⇑*iS*	**Sb**	**10 17 32.1**	**-0.4**
ARSB	**Arslanbob**	**2.43**	**317**	⇓*iP*	**Pn**	**10 17 09.1**	**+0.5**
ARSB				⇓*iS*	**Sb**	**10 17 40.4**	**-2.2**
UCH	**Uchtor**	**2.70**	**349**	⇓*iP*	**Pn**	**10 17 13.0**	**+0.5**
UCH				⇓*iS*	**Sn**	**10 17 47.1**	**+1.6**
ULHL	**Ulahol**	**2.78**	**16**	⇓*iP*	**Pn**	**10 17 13.9**	**+0.4**
ULHL				⇓*iS*	**Sn**	**10 17 48.6**	**+1.4**
TARG	**Taragay, Kyrgy**	**2.92**	**42**	⇓*eP*	**Pn**	**10 17 16.3**	**+0.4**
TARG				⇓*iS*	**Sn**	**10 17 52.3**	**+1.3**
KDJ	**Kajisay**	**2.96**	**30**	⇑*iP*	**Pn**	**10 17 16.1**	**+0.2**
KDJ				⇑*iS*	**Sn**	**10 17 52.8**	**+1.2**
KBK	**Karagaybulak**	**3.08**	**357**	⇑*iP*	**Pn**	**10 17 17.9**	**+0.3**
KBK				⇑*iS*	**Sn**	**10 17 55.8**	**+1.2**
AAK	**Ala-Archa**	**3.10**	**350**	⇑Pg	**Pb**	**10 17 21.6**	**-2.5**
	2.3nm,0.5s						
AAK				⇑Lg	Lg	10 18 07.1	
	5.7nm,0.7s						
AAK	**Ala-Archa**	**3.10**	**350**	⇓*iP*	**Pn**	**10 17 18.5**	**+0.7**
AAK				⇓*iS*	**Sn**	**10 17 56.5**	**+1.4**
EKS2	**Erkin-Say**	**3.26**	**341**	⇓*iP*	**Pn**	**10 17 20.7**	**+0.7**
EKS2				⇓*iS*	**Sn**	**10 18 03.8**	**+1.3**
TKM2	**Tokmak 2**	**3.35**	**5**	⇓*iP*	**Pn**	**10 17 22.0**	**+0.7**
TKM2				⇓*iS*	**Sn**	**10 18 02.6**	**+1.3**
CHMS	**Chumysh**	**3.44**	**355**	⇑*iP*	**Pn**	**10 17 22.8**	**+0.5**
CHMS				⇑*iS*	**Sn**	**10 18 04.0**	**+0.9**
MRKS	**Merke**	**3.50**	**335**	Pg	**Pn**	**10 17 25.9**	**+2.7**
	4.6nm,0.5s						
MRKS				Lg	Lg	10 18 11.8	
	5.1nm,0.4s						
MRKS	**Merke**	**3.50**	**335**	*e*P	**Pb**	**10 17 27.6**	**-3.2**
	4.6nm,0.3s						
MRKS				*e*S	**Sb**	**10 18 14.7**	**+1.4**
	5.4nm,0.5s						
KST	**Kastek**	**3.51**	**9**	Pg	**Pn**	**10 17 26.3**	**+2.9**
	4.5nm,0.5s						
KST				Lg	Lg	10 18 12.7	
	17nm,0.8s						
KST	**Kastek**	**3.51**	**9**	*e*P	**Pn**	**10 17 26.3**	**+2.9**
	4.5nm,0.4s						
KST				*e*S	**Sb**	**10 18 12.7**	**-1.0**
	17nm,0.8s						
TRKS	**Terek-Say**	**3.66**	**304**	⇑*iP*	**Pn**	**10 17 25.4**	**0.0**
TRKS				⇑*iS*	**Sn**	**10 18 08.7**	**0.0**
MTBS	**Maitube**	**3.67**	**14**	Pg	**Pb**	**10 17 31.0**	**-2.7**
MTBS				Lg	Lg	10 18 20.8	
DGS	**Degeres**	**3.69**	**7**	Pg	**Pn**	**10 17 28.1**	**+2.3**
	6.4nm,0.4s						
DGS				Lg	Lg	10 18 15.7	
	10nm,0.7s						
USP	**Ospenovka**	**3.72**	**352**	⇓*iP*	**Pn**	**10 17 27.0**	**+0.7**
USP				⇓*iS*	**Sn**	**10 18 11.1**	**+0.9**
GAR	**Garm**	**3.83**	**263**	⇑*iP*	**Pn**	**10 17 28.5**	**+0.7**
GAR				⇑*iS*	**Sn**	**10 18 14.1**	**+1.1**
KK31	**Karatay Array**	**4.99**	**316**	⇓Pg	**Pb**	**10 17 57.6**	**+1.6**
	0.7nm,0.5s,baz=130,slow=14						
KK31				⇓Lg	Lg	10 19 04.8	
	2.2nm,0.5s,baz=133,slow=22,SNR=4.2						

*NOU **15** 10:16:53.4,12°.55S×163°.09E,h148km,MLv5.0/10, Solomon Islands*
*IDC **15** 10:17:17.7±2.0,10°.82S×161°.27E,h0km,mb3.6/5, mbtmp3.6/5,MS3.4/2,Error ellipse: s-maj=85.6km s-min=28.9km az=141.0*

ISC 15 10:17:18.6±1.0,10°.95S±0°.1×161°.29E±0°.09,h10km,n13, σ1§64/11,mb3.6/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HURO	**Huro Makira**	**0.71**	**58**	P	**Pb**	**10 17 33.0**	**-0.2**
NGOA	**Tingoa Renbel**	**1.39**	**240**	P	**Pn**	**10 17 42.4**	**-1.8**
HNR	**Honiara**	**1.93**	**317**	LR	LR	10 18 13.3	
	comp=Z,45nm,19.6s,baz=145,slow=29						
HNR	**Honiara**	**1.93**	**317**	P	**Pg**	**10 17 58.7**	**+3.0**
ALEG	**Aligegeo Malai**	**2.16**	**344**	P	**Pg**	**10 17 59.8**	**-0.3**
SAVO	**Savo Central**	**2.23**	**319**	P	**Pg**	**10 18 00.8**	**-0.6**
TATA	**Tatamba Isabel**	**2.85**	**329**	P	**Pg**	**10 18 10.8**	**-2.5**
PMG	**Port Moresby**	**13.98**	**275**	LR	LR	10 25 13.3	
	comp=Z,120nm,18.1s,baz=152,slow=34						
WRA	**Warramunga Arr**	**27.48**	**248**	P	**P**	**10 23 06.4**	**+1.1**
	1.3nm,0.8s,baz=76,slow=9.2,SNR=9.0						
WRA				LR	LR	10 32 31.5	
	comp=Z,73nm,18.4s,baz=9.0,slow=33						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**29.02**	**240**	P	**P**	**10 23 18.8**	**-0.3**
	0.3nm,0.7s,baz=68,slow=10,SNR=2.2						
	0.3nm,0.7s						
SONM	**Songino Array**	**75.97**	**325**	P	**P**	**10 29 06.6**	**+0.5**
	0.7nm,0.6s,baz=134,slow=6.2,SNR=2.1						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.76**	**20**	P	**P**	**10 29 53.4**	**+0.7**
	0.4nm,0.9s,baz=228,slow=3.5,SNR=2.5						
	0.4nm,0.9s						
NVAR	**Mina Array Bea**	**89.26**	**51**	P	**P**	**10 30 16.3**	**+0.7**
	0.1nm,0.3s,baz=286,slow=4.4,SNR=1.7						
	0.1nm,0.3s						

*HEL **15** 10:34:01.2±0.1,63°.12N×27°.75E,h0km,ML2.0,Suspected explosion*
*IDC **15** 10:34:01.2±1.6,63°.05N×27°.98E,h0km,mbtmp3.0/2, ML2.0/2,Error ellipse: s-maj=23.2km s-min=5.8km az=106.0*
*UPP **15** 10:34:05.4±2.6,63°.11N×27°.11E,h0km,ML1.8,Presumed earthquake*

ISC 15 10:33:59.7±0.8,62°.99N±0°.03×27°.80E±0°.03,h0km,n45, σ1§97/62,Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.40**	**1**	PG	**Pg**	**10 34 06.3**	**-1.2**
	baz=184						
NIF				SG	**Sg**	**10 34 10.3**	**-2.4**
KAF	**Kangasniemi**	**1.12**	**219**	PB	**Pn**	**10 34 23.2**	**+0.6**
KAF				MSG		10 34 38.0	
	comp=Z,14nm,0.2s						
KAF				SN	**Sn**	**10 34 40.2**	**+1.6**
RMF	**Romuvaara**	**1.56**	**37**	PN	**Pn**	**10 34 28.2**	**-0.5**
	baz=221						
RMF				MSG		10 34 45.3	
	comp=Z,9.4nm,0.2s						
KEF	**Keuruu**	**1.59**	**240**	*e*P	**Pn**	**10 34 27.6**	**-1.4**
KEF	**Keuruu**	**1.59**	**240**	PG	**Pg**	**10 34 30.9**	**+0.8**
KEF				MSG		10 34 50.2	
	comp=Z,11nm,0.2s						
KEF				SN	**Sg**	**10 34 52.8**	**+2.2**
JOF	**Joensuu**	**1.61**	**91**	*e*P	**Pn**	**10 34 29.5**	**+0.2**
JOF	**Joensuu**	**1.61**	**91**	PG	**Pg**	**10 34 30.9**	**+0.4**
JOF				SN	**Sg**	**10 34 52.3**	**+1.1**
RUF	**Ruokolahti**	**1.66**	**161**	PG	**Pg**	**10 34 33.3**	**+1.8**
	baz=345						
RUF				MSG		10 34 54.6	
	comp=Z,11nm,0.2s						
FIA0	**FINESS Array S**	**1.75**	**208**	PG	**Pg**	**10 34 34.5**	**+1.3**
	baz=25						
FIA0				MSG		10 34 56.4	
	comp=Z,9.3nm,0.2s						
FINES	**FINESS Array B**	**1.75**	**208**	Pg	**Pg**	**10 34 34.8**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=25,slow=17,SNR=11						
FINES				Lg	Lg	10 34 58.8	
	comp=Z,0.8nm,0.3s,baz=23,slow=27,SNR=16						
OUF	**Merijarvi**	**1.95**	**317**	PG	**Pn**	**10 34 34.3**	**+0.3**
	baz=133						
OUF				MSG		10 34 55.9	
	comp=Z,9.2nm,0.2s						
OBF4	**Vikkela, Lumij**	**2.19**	**328**	PG	**Pn**	**10 34 38.3**	**+1.0**
OBF4				MSG		10 35 02.4	
	comp=Z,6.4nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.19**	**315**	PG	**Pn**	**10 34 38.3**	**+0.9**
OBF0				MSG		10 35 02.9	
	comp=Z,7.2nm,0.2s						
OUL	**Oulu**	**2.27**	**339**	PG	**Pn**	**10 34 39.2**	**+0.8**
OUL				SG	**Sn**	**10 35 07.9**	**+0.9**
VJF	**Virojoki**	**2.46**	**183**	PG	**Pg**	**10 34 46.4**	**-0.4**
VJF				MSG		10 35 17.6	
	comp=Z,7.8nm,0.2s						
VJF				SG	**Sg**	**10 35 19.6**	**+0.9**
PVF	**Pernaja**	**2.62**	**201**	PG	**Pg**	**10 34 50.0**	**+0.2**
PVF				MSG		10 35 21.8	
	comp=Z,4.7nm,0.2s						
KU1	**Kurvinen**	**2.70**	**16**	PB	**Pn**	**10 34 45.6**	**+1.3**
KU1				SG	**Sb**	**10 35 20.7**	**-1.8**
KU2	**Taivalkoski**	**2.74**	**4**	PG	**Pn**	**10 34 46.7**	**+1.8**
	baz=188						
KU2				SG	**Sb**	**10 35 22.2**	**-1.4**
NUR	**Nurmijarvi**	**2.90**	**212**	PG	**Pg**	**10 34 54.8**	**-0.5**
NUR				MSG		10 35 29.6	
	comp=Z,4.4nm,0.2s						
KPF	**Kankaanpaa**	**2.91**	**249**	PB	**Pb**	**10 34 51.4**	**-1.0**
KPF				MSG		10 35 27.5	
	comp=Z,4.0nm,0.2s						
MSF	**Maaselka**	**2.98**	**10**	PB	**Pn**	**10 34 49.4**	**+1.1**
MSF				SB	**Sn**	**10 35 26.6**	**+1.9**
RANF	**Ranua**	**3.07**	**352**	PB	**Pn**	**10 34 51.8**	**+2.3**
	baz=170						
RANF				SB	**Sn**	**10 35 29.0**	**+2.2**
KU6	**Riekki**	**3.18**	**16**	PB	**Pn**	**10 34 52.7**	**+1.7**
	baz=199						
KU6				MSG		10 35 31.1	
	comp=Z,2.7nm,0.2s						
KU6				SG	**Sn**	**10 35 32.2**	**+2.7**
MEF	**Metsahovi**	**3.22**	**212**	*e*P	**Pn**	**10 34 49.1**	**-2.3**
UMAU	**Umeaa**	**3.33**	**289**	P	**Pn**	**10 34 53.7**	**+0.8**
UMAU				S	**Sn**	**10 35 35.3**	**+2.3**
UMAU	**Umeaa**	**3.33**	**289**	PN	**Pn**	**10 34 54.4**	**+1.5**
UMAU				SB	**Sn**	**10 35 36.3**	**+3.3**
OLKF	**Oulanka, Finla**	**3.42**	**11**	PB	**Pn**	**10 34 56.6**	**+2.4**
OLKF				SB	**Sb**	**10 35 39.8**	**-3.3**
TOF	**Tornio**	**3.45**	**336**	PB	**Pn**	**10 34 56.6**	**+2.0**
ODEU	**Stanfors**	**3.46**	**297**	P	**Pn**	**10 34 55.5**	**+0.7**
RAF	**Rauma**	**3.46**	**238**	*e*P	**Pn**	**10 34 52.9**	**-1.9**
RAF	**Rauma**	**3.46**	**238**	SG	**Sg**	**10 35 51.4**	**+0.5**
KALU	**Kalix**	**3.47**	**328**	P	**Pn**	**10 34 58.2**	**+3.3**
SJUU	**Sjulsmark**	**3.70**	**316**	P	**Pn**	**10 34 58.9**	**+0.8**
SJUU	**Sjulsmark**	**3.70**	**316**	*e*P	**Pn**	**10 35 00.4**	**+2.4**
ERTU	**Ertsjaerv**	**4.31**	**329**	P	**Pn**	**10 35 07.8**	**+1.4**
HARU	**Harads**	**4.34**	**320**	P	**Pn**	**10 35 07.5**	**+0.7**
HEMU	**Hemsoen**	**4.49**	**270**	P	**Pn**	**10 35 10.6**	**+1.7**
HEMU	**Hemsoen**	**4.49**	**270**	PN	**Pn**	**10 35 10.6**	**+1.7**
HEMU				SB	**Sb**	**10 36 09.9**	**-4.0**
PAJU	**Pajala**	**4.51**	**336**	PN	**Pn**	**10 35 10.4**	**+1.1**
KLF	**Kolari**	**4.56**	**341**	PN	**Pn**	**10 35 10.5**	**+0.6**
KLF				SB	**Sn**	**10 36 08.6**	**+5.0**
VSU	**Vasula**	**4.57**	**187**	PG	**Pg**	**10 35 24.5**	**-2.8**
SLIT	**Slitere, Latvi**	**6.03**	**209**	*e*P	**Pn**	**10 35 28.1**	**-1.9**
ARCES	**ARCESS Array B**	**6.64**	**353**	Pn	**Pn**	**10 35 37.8**	**-0.7**
	baz=168,slow=15,SNR=8.4						
ARCES				Sn	**Sn**	**10 36 49.2**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=168,slow=24,SNR=2.2						
	comp=Z,0.7nm,0.7s						
I37NO	**I37NO**	**7.16**	**333**	I	I	11 17 50.0	
	baz=145,slow=326,SNR=4.7						
HFS	**Hagfors**	**7.32**	**253**	Pn	**Pn**	**10 35 49.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=67,slow=14,SNR=1.3						
HFS				Sn	**Sn**	**10 37 12.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=45,slow=27,SNR=2.0						
	comp=Z,1.1nm,0.8s						

*IDC **15** 10:38:29.2±0.5,20°.85S×173°.38E,h0km,mb4.5/18, mbtmp4.5/19,ML4.3/1,MS4.9/54,Error ellipse: s-maj=19.0km s-min=15.4km az=114.0*
*MOS **15** 10:38:30.7±1.4,20°.80S×173°.27E,h10km,mb5.3/25, MS5.0/16,Error ellipse: s-maj=10.4km s-min=9.7km az=150.7*
*NEIC **15** 10:38:32.6,20°.83S×173°.49E,h14km*
*NEIC **15** 10:38:32.6,20°.83S×173°.59E,h14km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10¹⁷Nm; Mrr=0.81; Mθθ=1.05; Mϕϕ=1.86; Mrθ=0.92; Mθϕ=0.82; Mϕr=0.03; Fault plane solution: Mo2.03000×10¹⁷ NP1: ϕs127.18000°,δ68.50000°,λ-147.37000°. NP2: ϕs23.98000°,δ59.89000°,λ-25.06000°. Principal axes: T 2.0985, Plg5.0000°, Azm254.0000°; N -0.1434, Plg52.0000°, Azm157.0000°; P -1.9551, Plg38.0000°, Azm348.0000°;*
*NOU **15** 10:38:32.4,20°.74S×173°.51E,h19km,mb5.1/58,Vanuatu Islands Region*
*NEIC **15** 10:38:32.5,20°.89S×173°.44E,h10km*
*NEIC **15** 10:38:32.2±2.4,20°.81S±0°.08×173°.49E±0°.08,h10km±1km, mb5.2/246,Ms_20 5.2/540,Mwb5.4/14,Mww5.5/22,Error ellipse: s-maj=13.5km s-min=12.5km az=136.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.48; Mθθ=1.13; Mϕϕ=1.61; Mrθ=0.01; Mθϕ=0.57; Mϕr=0.15; Fault plane solution: Mo1.55000×10¹⁷ NP1:ϕs33.66000°, δ88.39000°,λ3.68000°. NP2:ϕs303.56000°,δ86.32000°, λ178.39000°. Principal axes: T 1.7379, Plg4.0000°, Azm259.0000°; N -0.4939, Plg86.0000°, Azm57.0000°; P -1.2440, Plg1.0000°, Azm169.0000°;*
*GCMT **15** 10:38:35.2±0.1,20°.73S±0°.01×173°.36E,h12km, MW5.5/146,Moment Tensor Solution. s127,c232; s146,c292; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.25±.02; Mθθ=1.79±.02; Mϕϕ=2.04±.02; Mrθ=0.19±.05; Mθϕ=0.95±.02; Mϕr=0.24±.04; Best double couple: Mo2.16400×10¹⁷ NP1:ϕs302.00000°,δ81.00000°, λ-178.00000°. NP2:ϕs212.00000°,δ88.00000°, λ-9.00000°. Principal axes: T 2.2790, Plg4.0000°, Azm257.0000°; N -0.2330, Plg81.0000°, Azm16.0000°; P -2.0480, Plg8.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 10:38:31.5±0.3,20°.81S±0°.05×173°.48E±0°.05,h10km,n765, σ1§68/403,mb5.1/178,MS5.1/333,34C-24D,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.30**	**55**		**Pn**	**10 39 48.7**	**-2.0**
MSVF	**Nonsavu**	**5.30**	**55**	P	**Pn**	**10 39 49.1**	**-1.7**
MSVF	**Nonsavu**	**5.30**	**55**	*c iP*	**Pn**	**10 39 49.5**	**-1.3**
YSA	**Yasawairara**	**5.64**	**44**	P	**Pn**	**10 39 52.8**	**-2.7**
PINNC	**Pines Island,**	**5.88**	**251**		**Pn**	**10 39 56.9**	**-1.8**
PINNC	**Pines Island,**	**5.88**	**251**	P	**Pn**	**10 39 58.4**	**-0.3**
YATNC	**Mamie plateau,**	**6.26**	**257**	P	**Pn**	**10 40 03.0**	**-0.9**
OUENC	**Ouen Island, N**	**6.38**	**254**	P	**Pn**	**10 40 04.5**	**-1.0**
DZM	**Mont Dzumac**	**6.67**	**258**	*e*Pn	**Pn**	**10 40 08.5**	**-1.1**
	2μm,1.6s						
DZM				*e*LR	LR	10 41 34.3	
	57μm,25.2s						
DZM	**Mont Dzumac**	**6.67**	**258**	Pn	**Pn**	**10 40 08.9**	**-0.7**
	5.5nm,0.3s,baz=82,slow=18,SNR=63						
	162nm,0.8s						
DZM	**Mont Dzumac**	**6.67**	**258**	P	**Pn**	**10 40 09.8**	**+0.2**
ONTNC	**Ouen Toro**	**6.70**	**256**		**Pn**	**10 40 09.6**	**-0.4**
ONTNC	**Ouen Toro**	**6.70**	**256**	P	**Pn**	**10 40 09.9**	**-0.1**
VLAKA	**Lakatoro**	**7.41**	**308**	P	**Pn**	**10 40 19.6**	**-0.1**
DGTI	**Dogotuki**	**7.44**	**54**	P	**Pn**	**10 40 19.6**	**-0.6**
TAVE	**Taveuni**	**7.48**	**58**	P	**Pn**	**10 40 19.2**	**-1.5**
SANVU	**Saraoutou**	**8.00**	**311**		**Pn**	**10 40 27.8**	**0.0**
SANVU	**Saraoutou**	**8.00**	**311**	P	**Pn**	**10 40 28.8**	**+0.9**
KOUNC	**Koumac, New Ca**	**8.61**	**270**	P	**Pn**	**10 40 37.7**	**+1.5**
RAO	**Raoul Island**	**11.46**	**139**	LR	LR	10 44 50.1	
	comp=Z,6μm,19.9s,baz=310,slow=33						
OUZ	**Omahuta**	**14.35**	**180**	P	**P**	**10 41 59.8**	**-2.0**
WCZ	**Waipu Caves**	**15.09**	**177**	P	**P**	**10 42 09.4**	**-0.6**
WCZ				S	**S**	**10 45 12.3**	**+2.9**
GRZ	**Great Barrier**	**15.48**	**174**	P	**P**	**10 42 15.1**	**+0.8**
KUZ	**Kuaotunu**	**15.99**	**173**	P	**Pn**	**10 42 18.1**	**+1.5**
KUZ	**Kuaotunu**	**15.99**	**173**	P	**P**	**10 42 23.8**	**+3.7**
LHI	**Lord Howe Isla**	**16.75**	**228**	Pn	**Pn**	**10 42 25.3**	**-0.9**
LHI				IAmb	IAmb	10 42 31.3	
	comp=Z,171nm,1.2s						
HNR	**Honiara**	**17.26**	**309**	LR	LR	10 48 05.4	
	comp=Z,2μm,20.0s,baz=144,slow=34						
TLZ	**Tolley Road**	**17.55**	**175**	P	**P**	**10 42 39.1**	**+1.8**
URZ	**Urewera**	**17.67**	**171**	P	**P**	**10 42 40.0**	**+1.4**
	comp=Z,280nm,1.3s,baz=280,slow=5.3,SNR=7.6						
URZ				LR	LR	10 47 50.8	
	comp=Z,8μm,21.3s,baz=354,slow=32						
HIZ	**Hauiti**	**17.68**	**176**		**Pn**	**10 42 37.9**	**0.0**
HIZ				IAmb	IAmb	10 42 44.3	
	comp=Z,396nm,1.5s						
HIZ	**Hauiti**	**17.68**	**176**	P	**P**	**10 42 42.7**	**+3.9**
MWZ	**Matawai**	**17.81**	**170**	P	**P**	**10 42 43.2**	**+3.0**
RTZ	**Ruatahuna**	**18.00**	**171**		**P**	**10 42 45.2**	**+2.9**
RTZ				IAmb	IAmb	10 42 50.8	
	comp=Z,370nm,1.5s						
NNVZ	**North Ngauruho**	**18.35**	**175**	P	**P**	**10 42 49.9**	**+3.6**
OTVZ	**Oturere**	**18.39**	**175**	P	**P**	**10 42 49.9**	**+3.2**
SNVZ	**South Ngauruho**	**18.41**	**175**	P	**P**	**10 42 51.1**	**+4.1**
BKZ	**Black Stump Fm**	**18.47**	**173**		**Pn**	**10 42 48.0**	**+0.4**
BKZ				IAmb	IAmb	10 42 55.1	
	comp=Z,324nm,1.7s						
BKZ	**Black Stump Fm**	**18.47**	**173**	P	**Pn**	**10 42 47.7**	**0.0**
BKZ	**Black Stump Fm**	**18.47**	**173**	P	**Pn**	**10 42 53.0**	**+5.4**
WNVZ	**Wahianoa**	**18.54**	**175**	P	**Pn**	**10 42 51.9**	**+3.3**
TSZ	**Takapari Road**	**19.30**	**174**	P	**Pn**	**10 42 59.5**	**+1.9**
DVHZ	**Dannevirke**	**19.56**	**174**	P	**Pn**	**10 43 01.2**	**+0.5**
GC1S	**Gold Coast 1 S**	**19.57**	**244**	P	**Pn**	**10 43 01.1**	**+0

CNB	**Canberra Magne**	**25.63**	**231**	P	**P**	**10 44 00.8**	**-0.5**	
	comp=Z,53nm,2.1s							
CNB	**Canberra Magne**	**25.63**	**231**	P	**P**	**10 44 01.8**	**+0.5**	
YNG	**Young**	**25.89**	**233**	P	**P**	**10 44 03.0**	**-0.6**	
	comp=Z,55nm,1.4s							
CAN	**Canberra**	**25.89**	**231**	P	**P**	**10 44 03.8**	**+0.1**	
CAN				IAmb	IAmb	10 44 05.5		
	comp=Z,99nm,1.6s							
CAN	**Canberra**	**25.89**	**231**	P	**P**	**10 44 02.7**	**-1.0**	
	comp=Z,31nm,1.6s							
CAN	**Canberra**	**25.89**	**231**	P	**P**	**10 44 04.5**	**+0.8**	
CAN	**Canberra**	**25.89**	**231**	P	**P**	**10 44 03.8**	**+0.1**	
CAN				pmax	pmax			
	comp=Z,99nm,1.6s							
CAN				MLR	MLR			
	comp=Z,3µm,18.0s							
CMSA	**Cobar Meteorol**	**27.05**	**241**	P	**P**	**10 44 13.0**	**-1.2**	
	comp=Z,57nm,1.4s							
CMSA	**Cobar Meteorol**	**27.05**	**241**	P	**P**	**10 44 13.5**	**-0.7**	
QLP	**Quilpie**	**27.35**	**252**	P	**P**	**10 44 15.9**	**-1.0**	
	comp=Z,132nm,1.8s							
QLP	**Quilpie**	**27.35**	**252**	P	**P**	**10 44 16.1**	**-0.8**	
MTSU	**Mount Surprise**	**27.60**	**270**	P	**P**	**10 44 18.5**	**-0.8**	
	comp=Z,29nm,1.3s							
MTSU	**Mount Surprise**	**27.60**	**270**	P	**P**	**10 44 19.5**	**+0.2**	
PMG	**Port Moresby**	**27.77**	**290**	LR	LR	10 53 45.0		
	comp=Z,3µm,19.0s,baz=86,slow=33							
PMG	**Port Moresby**	**27.77**	**290**	‖ *eP*	**P**	**10 44 19.3**	**-1.4**	
PMG				pmax	pmax			
	comp=Z,64nm,1.5s							
TOO	**Toolangi**	**29.43**	**229**		**P**	**10 44 36.2**	**+0.8**	
TOO				IAmb	IAmb	10 44 37.1		
	comp=Z,44nm,1.5s							
TOO	**Toolangi**	**29.43**	**229**	P	**P**	**10 44 33.9**	**-1.6**	
	comp=Z,21nm,2.0s							
TOO	**Toolangi**	**29.43**	**229**	P	**P**	**10 44 36.2**	**+0.8**	
TOO				pmax	pmax			
	comp=Z,44nm,1.5s							
COEN	**Coen**	**29.67**	**278**	P	**P**	**10 44 37.1**	**-0.6**	
COEN	**Coen**	**29.67**	**278**	P	**P**	**10 44 36.8**	**-0.9**	
	comp=Z,43nm,1.8s							
COEN	**Coen**	**29.67**	**278**	P	**P**	**10 44 37.8**	**+0.1**	
STKA	**Stephens Creek**	**30.51**	**242**	P	**P**	**10 44 44.3**	**-0.7**	
	comp=Z,152nm,1.3s							
STKA	**Stephens Creek**	**30.51**	**242**	P	**P**	**10 44 44.0**	**-1.0**	
	comp=Z,9.8nm,0.9s,baz=78,slow=8.1,SNR=14							
STKA				LR	LR	10 55 59.9		
	comp=Z,3µm,19.5s,baz=70,slow=34							
	comp=Z,9.8nm,0.9s							
STKA	**Stephens Creek**	**30.51**	**242**	P	**P**	**10 44 44.7**	**-0.3**	
STKA	**Stephens Creek**	**30.51**	**242**	*c i* P	**P**	**10 44 44.3**	**-0.7**	
BRAT	**Ballarat**	**30.54**	**230**	P	**P**	**10 44 46.2**	**+1.1**	
TAU	**Tasmania Unive**	**31.06**	**219**	IAMs_20	IAMs_20	10 55 29.0		
	comp=Z,3µm,20.0s							
QIS	**Mount Isa**	**31.66**	**264**	P	**P**	**10 44 53.9**	**-1.3**	
HTT	**Hallett**	**33.07**	**240**	P	**P**	**10 45 06.1**	**-1.3**	
	comp=Z,11nm,1.5s							
HTT	**Hallett**	**33.07**	**240**	P	**P**	**10 45 07.2**	**-0.3**	
HTT	**Hallett**	**33.07**	**240**	P	**P**	**10 45 06.9**	**-0.6**	
WHYH	**Whyalla**	**34.08**	**242**	P	**P**	**10 45 16.5**	**+0.3**	
TBI	**Tubuai**	**34.38**	**101**	*eP*	**P**	**10 45 20.7**	**+1.8**	
	comp=Z,472nm,30.2s							
TBI				*eS*	**S**	**10 50 44.6**	**-2.3**	
	comp=Z,2µm,26.0s							
TBI				*eLQ*	LQ	10 52 56.6		
	comp=Z,24µm,28.8s							
TBI				*eLR*	LR	10 54 17.1		
	comp=Z,24µm,29.8s							
TBI				*eLR*	LR	10 54 22.3		
	comp=Z,5µm,28.8s							
PPT2	**Papeete2**	**34.99**	**91**	*eP*	**P**	**10 45 20.9**	**-3.5**	
	comp=Z,118nm,24.8s							
PPT2				*eS*	**S**	**10 50 55.4**	**-1.2**	
	comp=Z,709nm,25.2s							
PPT2				*eLQ*	LQ	10 53 07.9		
	comp=Z,4µm,33.2s							
PPT2				*eLR*	LR	10 54 37.8		
	comp=Z,9µm,28.2s							
PPT2				*eLR*	LR	10 54 39.7		
	comp=Z,6µm,28.2s							
PPT	**Papeete**	**35.00**	**91**	LR	LR	10 56 22.5		
	comp=Z,2µm,20.6s,baz=264,slow=31							
BBOO	**Buckleboo**	**35.29**	**242**	P	**P**	**10 45 26.3**	**-0.5**	
BBOO	**Buckleboo**	**35.29**	**242**	P	**P**	**10 45 25.4**	**-1.4**	
	comp=Z,73nm,1.4s							
BBOO	**Buckleboo**	**35.29**	**242**	P	**P**	**10 45 26.4**	**-0.3**	
XMAS	**Kiritimati**	**36.43**	**55**	IAMs_20	IAMs_20	10 56 24.8		
	comp=Z,5µm,21.0s							
WR0	**Warramunga Arr**	**36.45**	**264**	P	**P**	**10 45 34.1**	**-2.7**	
AS01	**Alice Springs**	**36.62**	**258**	P	**P**	**10 45 36.2**	**-2.1**	
WRAB	**Tennant Creek**	**36.63**	**264**	P	**P**	**10 45 35.8**	**-2.5**	
WRAB	**Tennant Creek**	**36.63**	**264**	P	**P**	**10 45 35.8**	**-2.5**	
WRAB				pmax	pmax			
	comp=Z,107nm,1.6s							
WRAB				MLR	MLR			
	comp=Z,400nm,20.0s							
AS16	**Alice Springs**	**36.64**	**258**	P	**P**	**10 45 36.7**	**-1.7**	
	comp=Z,45nm,0.9s							
WRA	**Warramunga Arr**	**36.64**	**264**	P	**P**	**10 45 35.9**	**-2.6**	
WRA	**Warramunga Arr**	**36.64**	**264**	P	**P**	**10 45 35.8**	**-2.6**	
	comp=Z,8.9nm,0.7s,baz=97,slow=8.3,SNR=55							
WRA				PP	**PnPn**	**10 47 00.3**	**-1.2**	
	comp=Z,5.6nm,1.3s,baz=103,slow=11,SNR=7.9							
WRA				PcP	**PcP**	**10 48 00.1**	**-1.5**	
	comp=Z,1.8nm,1.1s,baz=106,slow=2.7,SNR=1.7							
WRA				LR	LR	11 00 29.9		
	comp=Z,7µm,19.4s,baz=102,slow=36							
	comp=Z,8.9nm,0.7s							
WRA	**Warramunga Arr**	**36.64**	**264**	P	**P**	**10 45 35.9**	**-2.6**	
WRA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
AS31	**Alice Springs**	**36.66**	**258**	P	**P**	**10 45 37.2**	**-1.4**	
AS31	**Alice Springs**	**36.66**	**258**	P	**P**	**10 45 36.7**	**-1.9**	
	comp=Z,16nm,1.2s							
ASAR	**Alice Springs**	**36.66**	**258**	P	**P**	**10 45 37.0**	**-1.6**	
ASAR	**Alice Springs**	**36.66**	**258**	P	**P**	**10 45 36.6**	**-2.0**	
	comp=Z,17nm,0.7s,baz=85,slow=8.9,SNR=153							
ASAR				PcP	**PcP**	**10 48 00.6**	**-1.0**	
	comp=Z,1.0nm,0.8s,baz=77,slow=2.8,SNR=2.1							
ASAR				LR	LR	10 59 56.1		
	comp=Z,5µm,21.5s,baz=97,slow=35							
	comp=Z,17nm,0.7s							
ASAR	**Alice Springs**	**36.66**	**258**	P	**P**	**10 45 37.0**	**-1.6**	
JAY	**Jayapura**	**36.75**	**295**	LR	LR	11 00 26.1		
	comp=Z,2µm,19.3s,baz=108,slow=36							
GENI	**Genyem**	**37.16**	**295**	P	**P**	**10 45 42.5**	**-0.4**	
GENI	**Genyem**	**37.16**	**295**	P	**P**	**10 45 41.8**	**-1.1**	
H11S2	**WAKE ISLAND Hy**	**39.62**	**350**	T	T	11 28 11.3		
	baz=171,slow=76,SNR=5.2							
H11S3	**WAKE ISLAND Hy**	**39.63**	**350**	T	T	11 28 04.1		
	baz=171,slow=76,SNR=4.3							
H11S1	**WAKE ISLAND Hy**	**39.64**	**350**	T	T	11 28 07.0		
	baz=171,slow=76,SNR=5.2							
KDU	**Kakadu**	**39.99**	**275**	P	**P**	**10 46 04.5**	**-2.3**	
	comp=Z,27nm,1.8s							
KDU	**Kakadu**	**39.99**	**275**	P	**P**	**10 46 05.0**	**-1.7**	
MTN	**Manton Dam**	**41.20**	**274**	P	**P**	**10 46 15.2**	**-1.5**	
MTN				IAmb	IAmb	10 46 16.1		
	comp=Z,52nm,1.4s							
MTN	**Manton Dam**	**41.20**	**274**	P	**P**	**10 46 14.7**	**-2.0**	
	comp=Z,26nm,1.7s							
MTN	**Manton Dam**	**41.20**	**274**	P	**P**	**10 46 14.8**	**-1.9**	
BAKI	**Biak**	**41.35**	**293**	P	**P**	**10 46 18.9**	**+0.9**	
KNRA	**Kununurra**	**42.67**	**269**	P	**P**	**10 46 27.1**	**-1.6**	
KNRA	**Kununurra**	**42.67**	**269**	P	**P**	**10 46 26.5**	**-2.2**	
	comp=Z,46nm,2.0s							
GUMO	**Guam**	**44.26**	**318**	LR	LR	11 03 14.9		
	comp=Z,707nm,21.8s,baz=138,slow=34							
FITZ	**Fitzroy Crossi**	**45.06**	**265**	P	**P**	**10 46 47.1**	**-0.8**	
FITZ	**Fitzroy Crossi**	**45.06**	**265**	P	**P**	**10 46 46.7**	**-1.2**	
	comp=Z,31nm,1.7s							
FITZ	**Fitzroy Crossi**	**45.06**	**265**	LR	LR	11 05 10.6		
	comp=Z,5µm,20.5s,baz=111,slow=36							
FITZ	**Fitzroy Crossi**	**45.06**	**265**	P	**P**	**10 46 47.1**	**-0.8**	
TAOE	**Nuku Hiva Isla**	**46.22**	**82**	*eP*	P	10 46 51.5	-5.8	
	comp=Z,76nm,25.8s							
TAOE				*eS*	**S**	**10 53 38.0**	**-6.2**	
	comp=Z,997nm,26.3s							
TAOE				*e*SS	**ScS**	**10 56 57.6**	**+3.9**	
	comp=Z,281nm,27.8s							
TAOE				*eLR*	LR	10 59 47.2		
	comp=Z,5µm,26.3s							
RKT	**Rikitea**	**47.66**	**103**	*eS*	**S**	**10 54 08.3**	**+3.9**	
	comp=Z,2µm,25.0s							
RKT				*eLQ*	LQ	10 58 27.2		
	comp=Z,8µm,33.5s							
RKT				*eLR*	LR	11 00 26.0		
	comp=Z,11µm,29.8s							
SOEI	**Soe**	**48.55**	**275**	IAMs_20	IAMs_20	11 08 37.8		
	comp=Z,2µm,19.0s							
BATI	**Baumata**	**48.97**	**275**	LR	LR	11 07 17.4		
	comp=Z,2µm,21.1s,baz=139,slow=35							
PSAC2	**Pilbara Seismi**	**49.75**	**259**	P	**P**	**10 47 23.1**	**-1.3**	
	comp=Z,51nm,1.6s							
PSAB3	**Pilbara Seismi**	**49.78**	**259**	P	**P**	**10 47 23.2**	**-1.5**	
	comp=Z,65nm,2.1s							
PSA00	**Pilbara Seismi**	**49.80**	**259**	P	**P**	**10 47 23.6**	**-1.2**	
MBWA	**Marble Bar**	**49.97**	**259**		**P**	**10 47 25.0**	**-1.1**	
MBWA	**Marble Bar**	**49.97**	**259**	P	**P**	**10 47 24.4**	**-1.7**	
	comp=Z,60nm,1.6s							
MBWA	**Marble Bar**	**49.97**	**259**	P	**P**	**10 47 25.2**	**-0.9**	
MEEK	**Meekatharra**	**50.25**	**252**	P	**P**	**10 47 26.3**	**-1.9**	
	comp=Z,56nm,1.9s							
MEEK	**Meekatharra**	**50.25**	**252**	P	**P**	**10 47 26.8**	**-1.4**	
KLBR	**Kellerberrin**	**50.67**	**246**	P	**P**	**10 47 29.6**	**-1.6**	
	comp=Z,89nm,0.8s							
KLBR	**Kellerberrin**	**50.67**	**246**	P	**P**	**10 47 29.9**	**-1.4**	
NWAO	**Narrogin (SRO)**	**51.07**	**244**	IAMs_20	IAMs_20	11 08 34.1		
	comp=Z,3µm,20.0s							
NWAO	**Narrogin (SRO)**	**51.07**	**244**	P	**P**	**10 47 33.0**	**-1.4**	
NWAO	**Narrogin (SRO)**	**51.07**	**244**	LR	LR	11 08 56.1		
	comp=Z,3µm,20.0s,baz=94,slow=36							
BLDU	**Ballidu**	**51.61**	**247**	P	**P**	**10 47 36.5**	**-1.9**	
	comp=Z,41nm,2.1s							
MUN	**Mundaring**	**51.97**	**245**	P	**P**	**10 47 39.3**	**-1.7**	
	comp=Z,39nm,1.9s							
MORW	**Morawa**	**52.30**	**249**	IAmb	IAmb	10 47 43.6		
	comp=Z,39nm,1.1s							
MORW	**Morawa**	**52.30**	**249**	P	**P**	**10 47 41.8**	**-1.7**	
	comp=Z,30nm,1.2s							
MORW	**Morawa**	**52.30**	**249**	P	**P**	**10 47 42.3**	**-1.2**	
KAPI	**Kappang**	**54.40**	**279**	LR	LR	11 13 29.2		
	comp=Z,455nm,18.8s,baz=118,slow=39							
KAPI	**Kappang**	**54.40**	**279**	*d i* P	**P**	**10 47 59.0**	**-0.1**	
KAPI				pmax	pmax			
	comp=Z,52nm,1.3s							
DAV	**Davao City (W)**	**54.59**	**295**	LR	LR	11 09 23.7		
	comp=Z,298nm,20.3s,baz=162,slow=34							
JCJ	**Chichijima**	**56.45**	**326**	LR	LR	11 07 47.2		
	comp=Z,440nm,21.6s,baz=120,slow=31							
VNDA	**Vanda**	**57.03**	**183**	P	**P**	**10 48 17.3**	**+0.2**	
	comp=Z,4.4nm,0.9s,baz=360,slow=8.3,SNR=8.4							
VNDA				LR	LR	11 08 26.2		
	comp=Z,1µm,22.0s,baz=17,slow=32							
	comp=Z,4.4nm,0.9s							
SBA	**Scott Base**	**57.18**	**182**		**P**	**10 48 19.5**	**+1.4**	
SBA	**Scott Base**	**57.18**	**182**	IAMs_20	IAMs_20	11 07 50.8		
	comp=Z,1µm,21.0s							
SBA	**Scott Base**	**57.18**	**182**	P	**P**	**10 48 19.5**	**+1.4**	
SBA				pmax	pmax			
	comp=Z,43nm,1.2s							
TGY	**Tagaytay City**	**62.19**	**299**	LR	LR	11 12 12.2		
	comp=Z,283nm,21.3s,baz=124,slow=33							
JHJ	**Hachijo jima 2**	**62.54**	**328**	LR	LR	11 10 13.8		
	comp=Z,375nm,21.7s,baz=102,slow=30							
SBUM	**Sibu**	**64.25**	**283**	P	**P**	**10 49 07.5**	**+0.2**	
SBUM				IAmb	IAmb	10 49 08.2		
	comp=Z,15nm,1.4s							
SBUM	**Sibu**	**64.25**	**283**	P	**P**	**10 49 07.8**	**+0.5**	
JOW	**Kunigami**	**64.51**	**315**	LR	LR	11 13 38.9		
	comp=Z,493nm,21.9s,baz=135,slow=33							
LEM	**Lembang**	**65.06**	**272**	LR	LR	11 20 18.9		
	comp=Z,634nm,18.0s,baz=106,slow=39							
KSM	**Kuching**	**65.60**	**282**		**P**	**10 49 15.3**	**-0.8**	
KSM	**Kuching**	**65.60**	**282**	P	**P**	**10 49 15.8**	**-0.3**	
MJAR	**Matsusiro Anr**	**66.06**	**329**	P	**P**	**10 49 18.2**	**-0.5**	
	comp=Z,2.6nm,0.9s,baz=155,slow=6.0,SNR=6.9							
MJAR				LR	LR	11 13 26.9		
	comp=Z,433nm,21.6s,baz=135,slow=32							
	comp=Z,2.6nm,0.9s							
JNU	**Nakatsue**	**67.31**	**322**	LR	LR	11 14 22.8		
	comp=Z,206nm,21.8s,baz=126,slow=32							
PMBI	**Palembang**	**69.07**	**275**	IAMs_20	IAMs_20	11 25 47.5		
	comp=Z,972nm,18.0s							
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**10 49 38.6**	**+0.1**	
QSPA	**South Pole Qui**	**69.25**	**180**	IAMs_20	IAMs_20	11 14 06.7		
	comp=Z,1µm,22.0s							
QSPA	**South Pole Qui**	**69.25**	**180**	P	**P**	**10 49 38.4**	**-0.2**	
	comp=Z,9.8nm,1.1s,baz=350,slow=0.9,SNR=18							
QSPA				LR	LR	11 14 52.9		
	comp=Z,1µm,21.7s,baz=40,slow=32							
	comp=Z,9.8nm,1.1s							
RPN	**Rapa Nui**	**69.81**	**112**	LR	LR	11 16 57.0		
	comp=Z,333nm,18.6s,baz=266,slow=33							
ASAJ	**Asahikawa**	**70.53**	**337**	LR	LR	11 15 48.2		
	comp=Z,730nm,21.3s,baz=161,slow=32							
KSRS	**Korea Array**	**72.10**	**323**	P	**P**	**10 49 56.9**	**+0.8**	
	comp=Z,2.5nm,1.1s,baz=134,slow=7.1,SNR=5.0							
	comp=Z,2.5nm,1.1s							
SKR	**Severo-Kuril's**	**72.81**	**349**	*eP*	**P**	**10 49 58.9**	**-1.1**	
SKR				*eS*	**S**	**10 59 22.6**	**-3.2**	
SKR				pmax	pmax			
	comp=Z,300nm,7.9s							
YSS	**Yuzhno-Sakhali**	**72.93**	**339**	IAMs_20	IAMs_20	11 16 47.7		
	comp=Z,827nm,20.0s							
YSS	**Yuzhno-Sakhali**	**72.93**	**339**	*eP*	**P**	**10 50 02.1**	**+1.3**	
YSS				*eS*	**S**	**10 59 24.3**	**-3.0**	
YSS				pmax	pmax			
	comp=Z,100nm,3.0s							
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS				smax	smax			
	comp=N,200nm,6.0s							
YSS				smax	smax			
	comp=E,200nm,5.3s							
YSS				MLR	MLR			
	comp=N,200nm,16.0s							
SHEM	**Shemya Is, Ala**	**73.23**	**0**	LR	LR	11 16 21.9		
	comp=N,225nm,20.4s,baz=122,slow=31							
BKNI	**Bangkinang**	**73.72**	**277**	IAMs_20	IAMs_20	11 24 27.9		
	comp=Z,848nm,19.0s							
QIZ	**Qiongzhong**	**73.83**	**298**	P	**P**	**10 50 07.1**	**+0.4**	
QIZ				S	**S**	**10 59 41.4**	**+2.8**	
QIZ				LR	LR			
	comp=Z,310nm,13.3s							
QIZ				LR	LR			
	comp=Z,200nm,7.5s							
NJ2	**Nanjing**	**74.13**	**314**	*eP*	**P**	**10 50 10.3**	**+2.1**	
NJ2				pmax	pmax			
	comp=Z,15nm,0.8s							
PSTR	**Posyet**	**74.40**	**329**	‖ *eP*	**P**	**10 50 11.5**	**+2.0**	
PET	**Petropavlovsk**	**74.65**	**351**	*eP*	P	10 50 16.2	+5.5	
PET				*eS*	**S**	**10 59 51.7**	**+5.3**	
PET				pmax	pmax			
	comp=Z,20nm,1.3s							
PET				MLR	MLR			
	comp=Z,400nm,18.0s							
PET				MLR	MLR			
	comp=Z,400nm,16.0s							
PEA0B	**Petropavlovsk-**	**74.88**	**350**	*d i* P	**P**	**10 50 11.7**	**-0.4**	
PETK	**Petropavlovsk-**	**74.88**	**350**		**P**	**10 50 12.2**	**+0.1**	
PETK	**Petropavlovsk-**	**74.88**	**350**	P	**P**	**10 50 12.6**	**+0.5**	
	comp=Z,7.9nm,0.9s,baz=166,slow=6.5,SNR=9.3							
	comp=Z,7.9nm,0.9s							
USA0B	**Ussuriysk Arra**	**75.01**	**330**	⇑ *eP*	**P**	**10 50 14.1**	**+1.1**	
USRK	**Ussuriysk Ar.**	**75.01**	**330**	P	**P**	**10 50 14.0**	**+0.9**	
USRK	**Ussuriysk Ar.**	**75.01**	**330**	P	**P**	**10 50 13.5**	**+0.5**	
	comp=Z,3.6nm,0.9s,baz=133,slow=6.2,SNR=8.1							
USRK				LR	LR	11 19 05.9		
	comp=Z,501nm,20.6s,baz=142,slow=32							
	comp=Z,3.6nm,0.9s							
USRK	**Ussuriysk Ar.**	**75.01**	**330**	P	**P**	**10 50 14.0**	**+0.9**	
IPM	**Ipoh**	**75.30**	**281**	IAMs_20	IAMs_20	11 22 19.5		
	comp=Z,991nm,22.0s							
KULM	**Kulim**	**75.95**	**281**	IAMs_20	IAMs_20	11 22 31.0		
	comp=Z,804nm,22.0s							
RPSI	**Rantau Prapat**	**76.56**	**278**		**P**	**10 50 20.6**	**-2.0**	
PSI	**Prapat**	**76.60**	**278**	LR	LR	11 28 58.7		
	comp=Z,549nm,18.4s,baz=134,slow=40							
PSI	**Prapat**	**76.60**	**278**	P	**P**	**10 50 20.9**	**-2.1**	
PSI	**Prapat**	**76.60**	**278**	P	**P**	**10 50 20.6**	**-2.4**	
PSI				pmax	pmax			
	comp=Z,74nm,1.7s							
TIA	**Tai'an**	**77.79**	**316**	P	P	10 50 34.6	+5.5	
TIA				PcP	**PcP**	**10 50 43.3**	**+4.3**	
TIA				S	**S**	**11 00 27.0**	**+5.2**	
TIA				pmax	pmax			
	comp=Z,17nm,1.2s							
TIA				LR	LR			
	comp=Z,360nm,22.9s							
TIA				LR	LR			
	comp=Z,490nm,24.9s							
TIA				LR	LR			
	comp=Z,720nm,23.9s							
CN2	**Changchun**	**77.92**	**327**	P	**P**	**10 50 31.3**	**+1.8**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
FALS	**False Pass**	**77.92**	**13**	IAMs_20	IAMs_20	11 16 29.4		
	comp=Z,794nm,21.0s							
BNX	**BinXian**	**78.32**	**329**	⇑ P	**P**	**10 50 31.4**	**-0.4**	
BNX				sP	**pwP**	**10 50 37.8**	**-0.3**	
BNX				S	**S**	**11 00 27.3**	**+0.2**	
BNX				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BNX				pmax	pmax			
	comp=Z,98nm,4.4s							
BNX				LR	LR			
	comp=Z,310nm,20.3s							
BNX				LR	LR			
	comp=Z,430nm,20.0s							
BNX				LR	LR			
	comp=Z,550nm,17.1s							
P08K	**Saint George I**	**78.43**	**9**	IAMs_20	IAMs_20	11 17 57.0		
	comp=Z,682nm,20.0s							
MAW	**Mawson**	**78.45**	**201**	P	**P**	**10 50 30.6**	**-1.6**	
	comp=Z,1.9nm,1.2s							
MAW	**Mawson**	**78.45**	**201**	P	**P**	**10 50 32.0**	**-0.2**	
	comp=Z,1.1nm,0.9s,baz=120,slow=5.5,SNR=3.0							
	comp=Z,1.1nm,0.9s							
CNBA	**Chernabura Isl**	**78.78**	**16**	IAMs_20	IAMs_20	11 22 11.5		
	comp=Z,854nm,19.0s							
SPIA	**Saint Paul Isl**	**78.88**	**9**	IAMs_20	IAMs_20	11 17 24.9		
	comp=Z,902nm,22.0s							
SLVN	**Son La**	**79.82**	**297**	P	**P**	**10 50 40.1**	**-0.5**	
LYN	**LuoYang**	**79.93**	**313**	P	P	10 50 47.4	+6.6	
LYN				S	**S**	**11 00 49.1**	**+4.4**	
LYN				pmax	pmax			
	comp=Z,34nm,1.0s							
LYN				LR	LR			
	comp=Z,610nm,21.3s							
LYN				LR	LR			
	comp=Z,340nm,22.3s							
LYN				LR	LR			
	comp=Z,860nm,22.0s							
HNS	**HongShan**	**80.06**	**316**	⇑ P	**P**	**10 50 45.8**	**+4.4**	
HNS				S	**S**	**11 00 50.0**	**+4.1**	
HNS				pmax	pmax			
	comp=Z,12nm,1.2s							
HNS				LR	LR			
	comp=Z,480nm,20.7s							
HNS				LR	LR			
	comp=Z,530nm,22.6s							
BELA	**Belgrano 2**	**80.16**	**174**	P	**P**	**10 50 39.9**	**-1.6**	
BJI	**Beijing**	**80.70**	**319**	P	**P**	**10 50 45.1**	**+0.3**	
BJI				pP	**pwP**	**10 50 49.8**	**-1.4**	
BJI				S	**S**	**11 00 51.5**	**-1.0**	
BJI				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BJI				pmax	pmax			
	comp=Z,86nm,3.5s							
BJI				LR	LR			
	comp=Z,160nm,17.1s							
BJI				LR	LR			
	comp=Z,110nm,19.7s							
BJI				LR	LR			
	comp=Z,180nm,18.1s							
CHIR	**Chirikof Islan**	**80.71**	**17**	IAMs_20	IAMs_20	11 20 15.4		
	comp=Z,844nm,20.0s							
SII	**Sitkinak Islan**	**81.75**	**17**	IAMs_20	IAMs_20	11 29 00.9		
	comp=Z,854nm,19.0s							
XAN	**Xi'an**	**82.13**	**311**	P	**P**	**10 50 52.8**	**+0.2**	
XAN				S	**S**	**11 01 08.8**	**+1.1**	
XAN				pmax	pmax			
	comp=Z,13nm,1.2s							
XAN				LR	LR			
	comp=Z,420nm,21.3s							
XAN				LR	LR			
	comp=Z,310nm,22.7s							
XAN				LR	LR			
	comp=Z,580nm,22.0s							
MA2	**Magadan**	**82.23**	**349**	IAMs_20	IAMs_20	11 21 53.7		
	comp=Z,639nm,20.0s							
MA2	**Magadan**	**82.23**	**349**	LR	LR	11 22 05.2		
	comp=Z,709nm,21.3s,baz=165,slow=32							
MA2	**Magadan**	**82.23**	**349**	*de* P	**P**	**10 50 52.8**	**+0.3**	
MA2				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KMI	**Kunming**	**82.49**	**300**	P	**P**	**10 50 55.8**	**+0.8**	
KMI				S	**S**	**11 01 13.3**	**+1.1**	
KMI				pmax	pmax			
	comp=Z,13nm,1.5s							
KMI				LR	LR			
	comp=Z,230nm,22.2s							
KMI				LR	LR			
	comp=Z,320nm,20.6s							
KMI				LR	LR			
	comp=Z,400nm,30.1s							
O15K	**Ungalikthiuk R**	**82.67**	**13**	IAMs_20	IAMs_20	11 26 21.2		
	comp=Z,668nm,18.0s							
CMAR	**Chiang Mai Arr**	**82.78**	**293**		**P**	**10 50 56.1**	**-0.2**	
CMAR	**Chiang Mai Arr**	**82.78**	**293**	P	**P**	**10 50 55.8**	**-0.6**	
	comp=Z,3.7nm,0.8s,baz=120,slow=3.6,SNR=14							
	comp=Z,3.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**82.78**	**293**	*i* P	**P**	**10 50 56.7**	**+0.4**	
CMAR				pmax	pm

K13K **Kusilvak Mount** **84.30** **10** IAMs_20 IAMs_20 11 21 08.1
comp=Z,686nm,22.0s
MNRC **McLaughlin Min** **84.36** **45** IAMs_20 IAMs_20 11 19 47.1
comp=Z,1µm,21.0s
CD2 **Chengdu** **84.37** **306** P **P** **10 51 04.6 +0.3**
CD2 S **S** **11 01 34.8 +4.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,500nm,16.0s
CD2 LR LR
comp=Z,600nm,21.0s
JCC **Jacoby Creek,** **84.38** **43** IAMs_20 IAMs_20 11 27 43.0
comp=Z,626nm,19.0s
N17K **Nushagak Hills** **84.48** **14** IAMs_20 IAMs_20 11 27 34.9
comp=Z,698nm,18.0s
SYO **Syowa Base** **84.50** **195**⇓ *e*P **P** **10 51 04.2 0.0**
SYO **Syowa Base** **84.50** **195**⇓ *e*PP PP 10 54 19.0 +0.1
RUSS **Russell Ranch** **84.56** **45** IAMs_20 IAMs_20 11 30 05.0
comp=Z,1µm,18.0s
P19K **Oil Pt** **84.68** **16** IAMs_20 IAMs_20 11 23 05.3
comp=Z,659nm,20.0s
O02D **Mt. Diablo Mer** **84.83** **44** IAMs_20 IAMs_20 11 20 53.8
comp=Z,960nm,20.0s
BTO **Baotou** **84.88** **317** *e*P **P** **10 51 09.5 +2.8**
BTO pP **pwP** **10 51 14.5 +1.4**
BTO sP **PcP** **10 51 16.8 +6.8**
BTO S **S** **11 01 38.5 +3.1**
BTO sS **ScS** **11 01 45.3 -1.0**
BTO pmax pmax
comp=Z,17nm,0.9s
BTO pmax pmax
comp=Z,360nm,8.3s
BTO LR LR
comp=Z,760nm,17.6s
BTO LR LR
comp=Z,490nm,20.0s
BTO LR LR
comp=Z,2µm,22.0s
PASC **Pasadena Art C** **84.91** **51** IAMs_20 IAMs_20 11 19 38.1
comp=Z,1µm,22.0s
SUTB **Sutter Butte** **84.98** **45** IAMs_20 IAMs_20 11 19 45.5
comp=Z,795nm,22.0s
ILSW **Iliamna Southw** **84.99** **16** P **P** **10 51 08.1 +1.3**
L16K **Owhat River** **85.05** **13** IAmb IAmb 10 51 17.7
comp=Z,19nm,1.1s
CPE **Camp Elliot** **85.08** **52** IAMs_20 IAMs_20 11 20 36.3
comp=Z,973nm,19.0s
VES **Vestal, Richgr** **85.08** **49** IAmb IAmb 10 51 24.0
comp=Z,20nm,1.2s
CNPM **China Poot** **85.11** **17** IAMs_20 IAMs_20 11 22 24.6
comp=Z,582nm,19.0s
SEY **Seymchan** **85.11** **350** LR LR 11 23 04.0
comp=Z,1µm,21.9s,baz=156,slow=31
SEY **Seymchan** **85.11** **350** *d* iP **P** **10 51 08.0 +0.8**
SEY pmax pmax
comp=Z,24nm,1.5s
M17K **Holitna River** **85.20** **14** IAmb IAmb 10 51 17.6
comp=Z,14nm,0.9s
M17K IAMs_20 IAMs_20 11 29 30.0
comp=Z,641nm,18.0s
J14K **Nanvaranak Lak** **85.25** **10** IAMs_20 IAMs_20 11 21 37.2
comp=Z,795nm,22.0s
BUCR **Buckhorn Ranch** **85.27** **47** IAMs_20 IAMs_20 11 21 35.8
comp=Z,1µm,20.0s
WELL **Weller Preserv** **85.27** **46** IAMs_20 IAMs_20 11 20 35.8
comp=Z,1µm,21.0s
CMB **Columbia Colle** **85.29** **46** IAmb IAmb 10 51 25.1
comp=Z,15nm,1.1s
CMB IAMs_20 IAMs_20 11 20 57.2
comp=Z,1µm,20.0s
BFSC **Mount Baldy Ra** **85.32** **51** IAmb IAmb 10 51 48.5
comp=Z,14nm,1.4s
ORV **Oroville** **85.33** **45** IAMs_20 IAMs_20 11 20 18.3
comp=Z,725nm,22.0s
AFDM **Forest Hills D** **85.37** **45** **P** **10 51 09.4 +0.3**
ISA **Isabella, Lake** **85.43** **49** IAmb IAmb 10 51 13.7
comp=Z,30nm,1.1s
YBH **Yreka Blue Hor** **85.71** **42** IAmb IAmb 10 51 25.5
comp=Z,37nm,1.7s
TNCH **TengChong** **85.89** **299** P **P** **10 51 11.8 -0.4**
TNCH sP pwP 10 51 17.8 -0.8
TNCH SKS **SKSac** **11 01 31.0 -7.6**
TNCH S **SKSac** **11 01 40.9 +2.3**
TNCH pmax pmax
comp=Z,130nm,3.4s
TNCH LR LR
comp=Z,220nm,13.2s
TNCH LR LR
comp=Z,300nm,15.1s
TNCH LR LR
comp=Z,410nm,19.3s
PFO **Pinyon Flats O** **85.90** **52** IAMs_20 IAMs_20 11 21 12.4
comp=Z,1µm,19.0s
PFO **Pinyon Flats O** **85.90** **52** LR LR 11 20 51.1
comp=Z,1µm,21.0s,baz=243,slow=30
L18K **Granite Mounta** **86.09** **14** IAMs_20 IAMs_20 11 26 57.6
comp=Z,648nm,19.0s
WSHM **Spangler Hills** **86.09** **50** IAMs_20 IAMs_20 11 20 02.6
comp=Z,1µm,21.0s
WAKR **Walker** **86.17** **46** **P** **10 51 13.8 +0.5**
WAKR IAmb IAmb 10 51 31.2
comp=Z,30nm,1.5s
CAPN **Captain Cook N** **86.18** **17** IAMs_20 IAMs_20 11 27 53.9
comp=Z,884nm,19.0s
SLKM **Skilak Lake** **86.21** **17** IAmb IAmb 10 51 20.3
comp=Z,18nm,1.0s
L04D **Klamath Falls** **86.23** **42** IAmb IAmb 10 51 30.0
comp=Z,25nm,1.1s
J16K **Anvik River** **86.26** **11** IAmb IAmb 10 51 19.1
comp=Z,15nm,1.1s
MPMC **Manual Prospec** **86.32** **49** IAmb IAmb 10 54 08.2
comp=Z,6.5nm,0.6s
GSC **Goldstone, Bar** **86.44** **50** IAmb IAmb 10 51 44.8
comp=Z,23nm,1.7s
LPIG **La Paz** **86.55** **63** LR LR 11 20 52.3
comp=Z,2µm,21.4s,baz=240,slow=29
P23K **Montague Islan** **86.60** **19** IAMs_20 IAMs_20 11 22 16.0
comp=Z,610nm,21.0s
DSP **Deep Springs** **86.62** **48** IAmb IAmb 10 51 19.6
comp=Z,13nm,1.3s
BC3 **Big Chuckawall** **86.66** **52** IAmb IAmb 10 51 37.8
comp=Z,19nm,1.7s
ANM **Nome** **86.67** **9** IAMs_20 IAMs_20 11 22 50.7
comp=Z,636nm,21.0s
LHV **Little Huntoon** **86.68** **47** IAmb IAmb 10 51 32.6
comp=Z,30nm,1.4s
QSM **Queen of Sheba** **86.72** **50** IAmb IAmb 10 53 53.3
comp=Z,7.9nm,0.4s
FIS **Fire Island** **86.74** **17** IAMs_20 IAMs_20 11 25 37.8
comp=Z,680nm,20.0s
LZH **Lanzhou** **86.76** **310** *e*P **P** **10 51 16.3 +0.1**
LZH sP pwP 10 51 23.6 +1.0
LZH S **S** **11 01 56.8 +2.7**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH LR LR
comp=Z,250nm,15.6s
LZH LR LR
comp=Z,260nm,15.9s
LZH LR LR
comp=Z,440nm,15.9s
PAHR **Pah Rah Range** **86.81** **45** IAmb IAmb 10 51 33.0
comp=Z,17nm,1.2s
RC01 **Rabbit Creek A** **86.83** **17** P **P** **10 51 17.7 +1.9**
COR **Corvallis** **86.90** **40** IAMs_20 IAMs_20 11 24 01.6
comp=Z,924nm,19.0s
NVAR **Mina Array Bea** **86.91** **47** **P** **10 51 17.1 +0.1**
NVAR **Mina Array Bea** **86.91** **47** P **P** **10 51 16.7 -0.3**
comp=Z,3.6nm,1.0s,baz=227,slow=8.5,SNR=14
comp=Z,3.6nm,1.0s
FURC **Furnace Creek,** **86.96** **49** IAmb IAmb 10 51 42.9
comp=Z,22nm,1.5s
IRM **Iron Mountain** **87.12** **52** IAmb IAmb 10 51 33.1
comp=Z,13nm,1.2s
J18K **Innoko River** **87.19** **13** IAMs_20 IAMs_20 11 27 34.7
comp=Z,612nm,19.0s
TROLL **Troll, Antarti** **87.21** **183** ⇑P **P** **10 51 16.2 -1.7**
comp=Z,662nm,0.8s
TNA **Tin City** **87.27** **8** IAMs_20 IAMs_20 11 24 08.6
comp=Z,654nm,21.0s
M22K **Willow** **87.28** **16** IAMs_20 IAMs_20 11 24 39.0
comp=Z,581nm,20.0s
ESPZ **Base Esperanza** **87.28** **160** P **P** **10 51 19.2 +1.1**
K05A **Summer Lake** **87.39** **42** IAmb IAmb 10 51 31.6
comp=Z,20nm,1.0s
PMR **Palmer** **87.41** **17** **P** **10 51 19.5 +1.0**
PMR IAmb IAmb 10 51 34.6
comp=Z,13nm,1.4s
PMR **Palmer** **87.41** **17** P **P** **10 51 18.1 -0.4**
PMR **Palmer** **87.41** **17** P **P** **10 51 19.5 +1.0**
PMR pmax pmax
comp=Z,13nm,1.4s
FID **Port Fidalgo** **87.48** **18** IAMs_20 IAMs_20 11 23 13.9
comp=Z,568nm,19.0s
TPNV **Topopah Spring** **87.62** **49** IAmb IAmb 10 51 24.4
comp=Z,9.5nm,1.1s
TPNV IAMs_20 IAMs_20 11 21 16.9
comp=Z,1µm,22.0s
H04A **Detroit Lake** **87.62** **40** IAmb IAmb 10 51 31.1
comp=Z,20nm,1.1s
SNAA **Sanae** **87.72** **181** ⇑P **P** **10 51 18.2 -2.1**
comp=Z,161nm,1.0s
SNAA **Sanae** **87.72** **181** **P** **10 51 18.8 -1.5**
SNAA IAMs_20 IAMs_20 11 25 52.8
comp=Z,688nm,22.0s
SNAA **Sanae** **87.72** **181** P **P** **10 51 18.1 -2.1**
comp=Z,4.4nm,1.0s,baz=169,slow=4.2,SNR=9.4
SNAA LR LR 11 26 25.6
comp=Z,567nm,21.8s,baz=174,slow=33
comp=Z,4.4nm,1.0s
RAGM **Ragged Mountai** **87.74** **19** IAMs_20 IAMs_20 11 35 48.1
comp=Z,771nm,18.0s
CUT **Chulitna** **87.78** **16** IAMs_20 IAMs_20 11 32 52.4
comp=Z,555nm,18.0s
HMT **Hamilton** **87.83** **20** IAMs_20 IAMs_20 11 35 23.5
comp=Z,766nm,18.0s
F15K **North Star Dit** **87.85** **9** IAMs_20 IAMs_20 11 23 26.0
comp=Z,753nm,22.0s
214A **Organ Pipe Nat** **87.88** **55** IAmb IAmb 10 51 43.8
comp=Z,19nm,1.6s
J19K **Poorman** **87.89** **13** IAMs_20 IAMs_20 11 28 05.1
comp=Z,676nm,20.0s
H17K **Granite Mounta** **87.90** **11** IAMs_20 IAMs_20 11 22 57.3
comp=Z,734nm,22.0s
PINE **Pine Mountain** **87.91** **41** IAmb IAmb 10 51 29.9
comp=Z,16nm,1.0s
I05D **Terrebonne, OR** **87.95** **41** IAmb IAmb 10 51 38.1
comp=Z,18nm,1.2s
BERG **Berg Lake** **88.05** **20** IAMs_20 IAMs_20 11 31 42.4
comp=Z,557nm,19.0s
USHA **Ushuaia** **88.09** **149** LR LR 11 21 42.3
comp=Z,369nm,21.7s,baz=212,slow=29
NLWA **Neilton Lookou** **88.12** **37** IAMs_20 IAMs_20 11 29 16.8
comp=Z,544nm,18.0s
VNA3 **Neumayer Olymp** **88.16** **179** ⇑P **P** **10 51 23.9 +1.6**
comp=Z,8.2nm,0.8s
CAST **Castle Rocks** **88.19** **15** **P** **10 51 22.1 -0.1**
S11A **Rachel** **88.30** **49** IAmb IAmb 10 51 53.7
comp=Z,21nm,1.3s
J20K **Nowinta River** **88.37** **14** IAMs_20 IAMs_20 11 30 15.8
comp=Z,579nm,19.0s
W13A **Hualapai Mount** **88.47** **52** IAmb IAmb 10 52 05.5
comp=Z,22nm,1.9s
KTH **Kantishna Hill** **88.58** **15** IAMs_20 IAMs_20 11 28 38.4
comp=Z,570nm,20.0s
YAH **Yahtse** **88.65** **20** IAMs_20 IAMs_20 11 23 21.3
comp=Z,580nm,19.0s
BBB **Bella Bella** **88.66** **32** LR LR 11 24 50.5
comp=Z,460nm,19.4s,baz=239,slow=31
WVOR **Wild Horse Val** **88.67** **43** IAmb IAmb 10 51 39.7
comp=Z,20nm,1.4s
WVOR IAMs_20 IAMs_20 11 21 21.5
comp=Z,605nm,20.0s
PRN **Pahroc Range** **88.68** **49** IAmb IAmb 10 51 43.2
comp=Z,22nm,1.4s
R11B **Troy Canyon, C** **88.74** **48** IAmb IAmb 10 51 50.5
comp=Z,23nm,1.8s
VNA1 **Neumayer--Stat** **88.78** **179** ⇑P **P** **10 51 24.8 -0.3**
comp=Z,13nm,1.1s
GNW **Green Mountain** **88.81** **37** IAmb IAmb 10 51 42.1
comp=Z,14nm,1.4s
I20K **Naaghedeneel** **88.84** **13** IAMs_20 IAMs_20 11 30 05.1
comp=Z,629nm,19.0s
G06A **Carlson Farm,** **88.85** **40** P **P** **10 51 25.6 -0.3**
S31K **Pelican** **88.87** **24** IAMs_20 IAMs_20 11 33 33.3
comp=Z,618nm,18.0s
PCA **Pinnacle** **88.95** **21** IAMs_20 IAMs_20 11 34 14.3
comp=Z,795nm,18.0s
RND **Reindeer** **88.98** **16** IAMs_20 IAMs_20 11 25 23.9
comp=Z,655nm,20.0s
G18K **Tagagawik** **88.99** **11** IAMs_20 IAMs_20 11 30 00.3
comp=Z,580nm,19.0s
V35K **Ketchikan** **89.00** **28** IAMs_20 IAMs_20 11 22 16.8
comp=Z,591nm,20.0s
BPAW **Bear Paw Mtn.** **89.03** **15** IAMs_20 IAMs_20 11 30 41.2
comp=Z,548nm,19.0s
PGC **Sidney** **89.05** **36** IAmb IAmb 10 51 29.5
comp=Z,21nm,1.2s
BCPM **Bancas Point** **89.06** **22** IAMs_20 IAMs_20 11 34 34.1
comp=Z,778nm,18.0s
MCK **McKinley** **89.23** **16** IAMs_20 IAMs_20 11 26 12.5
comp=Z,674nm,20.0s
J08A **Circle Bar Ran** **89.23** **43** IAmb IAmb 10 51 44.4
comp=Z,17nm,1.1s
TUC **Tucson** **89.59** **55** **P** **10 51 30.5 +0.8**
TUC **Tucson** **89.59** **55** P **P** **10 51 30.5 +0.8**
TUC pmax pmax
comp=Z,11nm,1.4s
YAK **Yakutsk** **89.61** **341** IAMs_20 IAMs_20 11 25 04.8
comp=Z,743nm,22.0s
YAK **Yakutsk** **89.61** **341** LR LR 11 25 56.5
comp=Z,520nm,21.8s,baz=133,slow=32
O29M **Mount Kennedy** **89.68** **22** IAMs_20 IAMs_20 11 34 28.5
comp=Z,816nm,18.0s
M26K **Nabesna, AK** **89.81** **19** IAmb IAmb 10 52 00.5
comp=Z,14nm,1.4s
LTY **Liberty** **89.88** **38** IAmb IAmb 10 51 41.7
comp=Z,20nm,1.5s
G08A **Pilot Rock** **89.90** **41** IAmb IAmb 10 51 34.7
comp=Z,14nm,1.1s
SPR3 **Spring Creek 3** **89.91** **48** IAmb IAmb 10 51 48.5
comp=Z,19nm,1.3s
H21K **Melozitna Rive** **89.94** **13** IAMs_20 IAMs_20 11 32 08.3
comp=Z,611nm,18.0s
CCUT **Cedar City** **89.94** **50** IAmb IAmb 10 51 40.6
comp=Z,10nm,1.1s
F19K **Shaleruckik Mo** **90.00** **11** IAMs_20 IAMs_20 11 24 22.7
comp=Z,650nm,22.0s
MENT **Mentasta** **90.01** **18** P **P** **10 51 30.5 -0.4**
IMAR **Indian Mountai** **90.02** **13** P **P** **10 51 34.1 +3.3**
PSUT **Pine Spring** **90.03** **48** IAmb IAmb 10 51 46.3
comp=Z,14nm,1.1s
WRH **Wood River Hil** **90.05** **16** IAMs_20 IAMs_20 11 26 47.2
comp=Z,629nm,20.0s
E18K **Tukpahlearik C** **90.05** **10** IAMs_20 IAMs_20 11 24 59.3
comp=Z,649nm,20.0s
ELK **Elko** **90.09** **46** **P** **10 51 32.3 +0.2**
ELK IAmb IAmb 10 51 47.0
comp=Z,12nm,1.2s
ELK IAMs_20 IAMs_20 11 24 11.3
comp=Z,921nm,20.0s
ELK **Elko** **90.09** **46** LR LR 11 25 22.1
comp=Z,929nm,19.6s,baz=244,slow=31
ELK **Elko** **90.09** **46** P **P** **10 51 32.3 +0.2**
ELK pmax pmax
comp=Z,12nm,1.2s
HAWA **Hanford** **90.11** **40** IAmb IAmb 10 51 43.9
comp=Z,19nm,1.1s
HAWA IAMs_20 IAMs_20 11 25 36.4
comp=Z,892nm,18.0s
M27K **Edge Creek, AK** **90.12** **19** IAmb IAmb 10 51 39.9
comp=Z,21nm,1.5s
SZCU **Shurtz Canyon** **90.16** **50** IAmb IAmb 10 52 04.0
comp=Z,27nm,1.5s
C16K **Lisburne Hills** **90.18** **8** IAMs_20 IAMs_20 11 26 00.5
comp=Z,651nm,20.0s
U15A **North Rim** **90.22** **51** IAmb IAmb 10 51 48.4
comp=Z,23nm,1.2s
CCB **Clear Creek Bu** **90.26** **16** IAMs_20 IAMs_20 11 26 52.8
comp=Z,616nm,20.0s
HDA **Harding Lake** **90.29** **16** IAmb IAmb 10 51 45.4
comp=Z,15nm,1.1s
HDA IAMs_20 IAMs_20 11 26 02.5
comp=Z,547nm,20.0s
RDOG **Red Dog Mine** **90.30** **9** IAMs_20 IAMs_20 11 25 44.6
comp=Z,759nm,21.0s
RIDG **Independent Ri** **90.32** **17** IAmb IAmb 10 51 41.0
comp=Z,15nm,1.3s
319A **Douglas** **90.36** **57** IAmb IAmb 10 51 38.1
comp=Z,11nm,1.0s
COLA **College** **90.44** **15** IAMs_20 IAMs_20 11 26 40.4
comp=Z,599nm,19.0s
COLA **College** **90.44** **15** *d* iP **P** **10 51 32.2 -0.5**
COLA **College** **90.44** **15** *d* iP **P** **10 51 31.9 -0.8**
COLA pmax pmax
comp=Z,7.0nm,0.9s
WUAZ **Wupatki** **90.50** **52** IAmb IAmb 10 51 49.4
comp=Z,17nm,1.1s
WUAZ IAMs_20 IAMs_20 11 23 57.2
comp=Z,1µm,20.0s
ULN **Ulaanbaatar** **90.53** **322**⇓ *e*P **P** **10 51 35.8 +2.0**
ULN pmax pmax
comp=Z,8.0nm,1.4s
G21K **Allakaket** **90.53** **13** IAMs_20 IAMs_20 11 31 17.9
comp=Z,579nm,19.0s
ILAR **Eielson Array** **90.60** **16** P **P** **10 51 33.0 -0.4**
ILAR **Eielson Array** **90.60** **16** P **P** **10 51 31.6 -1.9**
comp=Z,1.5nm,0.8s,baz=235,slow=6.3,SNR=11
ILAR LR LR 11 26 34.5
comp=Z,532nm,20.2s,baz=208,slow=32
comp=Z,1.5nm,0.8s
ILAR **Eielson Array** **90.60** **16** P **P** **10 51 33.1 -0.4**
T35M **Bob Quinn** **90.64** **27** IAMs_20 IAMs_20 11 30 44.2
comp=Z,566nm,20.0s
E19K **Redstone River** **90.65** **11** IAmb IAmb 10 51 46.2
comp=Z,8.8nm,0.9s
E19K IAMs_20 IAMs_20 11 24 44.0
comp=Z,640nm,22.0s
BCAR **Beaver Creek A** **90.68** **19** **P** **10 51 33.4 -0.6**
D08A **Wollman Farm,** **90.81** **39** IAmb IAmb 10 51 47.0
comp=Z,14nm,1.1s
S34M **Telegraph Cree** **90.87** **26** IAmb IAmb 10 51 46.9
comp=Z,13nm,1.1s
SONM **Songino Array** **90.89** **322** **P** **10 51 34.3 -1.2**
SONM IAmb IAmb 10 51 56.1
comp=Z,14nm,1.6s
SONM **Songino Array** **90.89** **322** P **P** **10 51 33.1 -2.4**
comp=Z,0.9nm,0.7s,baz=147,slow=3.0,SNR=6.4
SONM LR LR 11 30 52.7
comp=Z,213nm,20.3s,baz=112,slow=35
comp=Z,0.9nm,0.7s
SONM **Songino Array** **90.89** **322** P **P** **10 51 34.3 -1.2**
SONM pmax pmax
comp=Z,14nm,1.6s
P32M **Atlin** **90.94** **24** **P** **10 51 35.6 +0.4**
P32M IAMs_20 IAMs_20 11 34 30.0
comp=Z,603nm,18.0s
MFID **Camas Ranch** **90.95** **43** IAmb IAmb 10 51 50.6
comp=Z,10nm,1.1s
MFID IAMs_20 IAMs_20 11 25 22.9
comp=Z,696nm,20.0s
LLLB **Lillooet** **90.97** **35** IAmb IAmb 10 51 43.3
comp=Z,14nm,1.1s
MTPU **Mount Pierson** **91.00** **49** IAmb IAmb 10 51 45.5
comp=Z,14nm,0.9s
N30M **Aishikik Lake** **91.01** **21** IAMs_20 IAMs_20 11 37 12.8
comp=Z,651nm,18.0s
C18K **Utukok River** **91.09** **9** IAMs_20 IAMs_20 11 25 50.7
comp=Z,676nm,21.0s
GTA **Gaotai** **91.12** **312** *e*P **P** **10 51 36.6 -0.1**
GTA sP pwP 10 51 43.8 +0.7
GTA S **S** **11 02 35.4 +0.4**
GTA pmax pmax
comp=Z,9.0nm,1.6s
GTA LR LR
comp=Z,180nm,16.3s
GTA LR LR
comp=Z,410nm,19.1s
GTA LR LR
comp=Z,550nm,20.7s
F21K **Alatna River** **91.15** **12** IAMs_20 IAMs_20 11 31 48.2
comp=Z,528nm,19.0s
H24K **Noodor Dome** **91.21** **15** IAMs_20 IAMs_20 11 34 30.0
comp=Z,486nm,18.0s
B08A **Colville Reser** **91.22** **38** IAmb IAmb 10 52 57.4
comp=Z,12nm,0.8s
J26L **Joseph Creek** **91.27** **17** IAmb IAmb 10 51 46.7
comp=Z,12nm,1.1s
F10A **Beach Ranch, E** **91.29** **41** P **P** **10 51 37.0 -0.3**
F10A IAmb IAmb 10 51 44.6
comp=Z,10nm,0.9s
K27K **Chicken** **91.33** **18** IAmb IAmb 10 51 46.5
comp=Z,20nm,1.4s
D19K **Kuna River** **91.43** **10** IAMs_20 IAMs_20 11 25 33.6
comp=Z,670nm,22.0s
N31M **Braeburn, Yuko** **91.48** **22** IAmb IAmb 10 51 47.0
comp=Z,8.6nm,1.1s
N31M IAMs_20 IAMs_20 11 36 44.2
comp=Z,630nm,18.0s
DUG **Dugway, Tooele** **91.50** **47** IAmb IAmb 10 52 01.8
comp=Z,11nm,1.1s
DUG IAMs_20 IAMs_20 11 25 17.4
comp=Z,1µm,20.0s
PRP **Porcupine Dome** **91.54** **16** IAMs_20 IAMs_20 11 27 31.7
comp=Z,559nm,20.0s
W18A **Petrified Fore** **91.55** **53** IAmb IAmb 10 51 55.7
comp=Z,15nm,1.1s
PLID **Pearl Lake** **91.63** **42** IAmb IAmb 10 52 05.2
comp=Z,18nm,1.6s
DLBC **Dease Lake** **91.65** **26** LR LR 11 26 36.1
comp=Z,376nm,19.2s,baz=223,slow=32
P33M **Teslin, Yukon** **91.69** **24** IAMs_20 IAMs_20 11 34 53.9
comp=Z,545nm,18.0s
C19K **Lookout Ridge** **91.75** **9** IAMs_20 IAMs_20 11 26 25.1
comp=Z,806nm,21.0s
L29M **L29M** **91.84** **20** IAmb IAmb 10 51 53.6
comp=Z,10nm,1.0s
D20K **Ettvluk River** **91.88** **10** IAMs_20 IAMs_20 11 25 13.4
comp=Z,681nm,22.0s
R33M **Jennings River** **91.88** **25** IAmb IAmb 10 51 49.8
comp=Z,10nm,1.2s
M30M **Minto, Yukon** **91.90** **21** IAmb IAmb 10 51 50.4
comp=Z,6.6nm,0.8s
M30M IAMs_20 IAMs_20 11 37 28.2
comp=Z,627nm,18.0s
HMU **Henry Mountain** **91.98** **50** IAmb IAmb 10 51 58.1
comp=Z,19nm,1.0s
121A **Cookes Peak, D** **91.99** **56** IAmb IAmb 10 51 49.4
comp=Z,8.3nm,0.9s
I26K **Coal Creek Min** **92.00** **17** IAMs_20 IAMs_20 11 33 07.8
comp=Z,534nm,20.0s
E21K **Killik River** **92.11** **11** IAMs_20 IAMs_20 11 28 07.6
comp=Z,532nm,20.0s
DAWY **Dawson** **92.14** **19** IAmb IAmb 10 52 10.2
comp=Z,11nm,1.2s
HVU **Hansel Valley** **92.22** **46** IAmb IAmb 10 51 53.9
comp=Z,7.9nm,0.9s
N32M **Quiet Lake** **92.22** **23** IAmb IAmb 10 51 55.5
comp=Z,7.7nm,0.9s
N32M IAMs_20 IAMs_20 11 37 06.7
comp=Z,520nm,18.0s
TMUT **Trail Mountain** **92.22** **49** IAmb IAmb 10 51 57.4
comp=Z,14nm,1.0s
E22K **Anaktuvuk Pass** **92.26** **12** IAMs_20 IAMs_20 11 30 26.6
comp=Z,543nm,20.0s
M31M **Drury Creek, Y** **92.45** **22** IAMs_20 IAMs_20 11 35 50.9
comp=Z,554nm,18.0s
NEW **Newport** **92.46** **39** IAMs_20 IAMs_20 11 30 14.6
comp=Z,622nm,19.0s
NEW **Newport** **92.46** **39** LR LR 11 27 17.5
comp=Z,530nm,19.6s,baz=242,slow=32
SRU **San Rafael Swe** **92.63** **49** IAmb IAmb 10 52 00.2
comp=Z,7.9nm,0.9s
D22K **Ayikyak River** **92.73** **12** IAMs_20 IAMs_20 11 31 15.0
comp=Z,564nm,19.0s
E24K **Your Creek** **92.91** **13** IAMs_20 IAMs_20 11 32 41.7
comp=Z,534nm,19.0s
B20K **Meade River** **92.94** **10** IAMs_20 IAMs_20 11 26 54.5
comp=Z,836nm,21.0s
HWUT **Hardware Ranch** **92.96** **46** IAmb IAmb 10 52 08.0
comp=Z,8.1nm,1.3s
I28M **Miner Creek** **93.00** **18** IAmb IAmb 10 51 53.6
comp=Z,11nm,1.2s
B21K **Ikpikpuk River** **93.02** **11** IAMs_20 IAMs_20 11 26 01.7
comp=Z,544nm,21.0s
BSUT **Blindstream Ca** **93.06** **48** IAmb IAmb 10 51 49.4
comp=Z,6.7nm,0.9s
G26K **Porcupine Rive** **93.11** **16** IAMs_20 IAMs_20 11 28 60.0
comp=Z,524nm,20.0s
H27K **Steamboat Moun** **93.14** **17** IAmb IAmb 10 52 25.7
comp=Z,16nm,1.5s
TOLK **Toolik Lake Re** **93.14** **13** IAMs_20 IAMs_20 11 32 52.9
comp=Z,710nm,19.0s
F25K **Christian Rive** **93.16** **15** IAMs_20 IAMs_20 11 29 55.4
comp=Z,515nm,20.0s
D23K **Nanushuk River** **93.19** **12** IAMs_20 IAMs_20 11 33 24.2
comp=Z,573nm,19.0s
PV05 **Paradox Valley** **93.22** **50** IAmb IAmb 10 52 03.5
comp=Z,8.9nm,1.1s
MVCO **Mesa Verde** **93.31** **51** IAMs_20 IAMs_20 11 25 36.6
comp=Z,999nm,20.0s
GOMU **GeErMu** **93.38** **307** P **P** **10 51 48.0 +0.4**

PV10	**Paradox Valley**	**93.39**	**50**	IAmb	IAmb	10 51 55.0		
	comp=Z,13nm,1.0s							
PV14	**Lion Creek, Pa**	**93.40**	**50**	IAmb	IAmb	10 52 03.9		
	comp=Z,12nm,1.3s							
I29M	**Ogilvie Camp,**	**93.41**	**18**	IAmb	IAmb	10 51 55.2		
	comp=Z,17nm,1.4s							
PV23	**Carpenter Ridg**	**93.44**	**50**	IAmb	IAmb	10 52 02.6		
	comp=Z,14nm,1.0s							
PV16	**Nyswonger Mesa**	**93.45**	**50**	IAmb	IAmb	10 51 57.0		
	comp=Z,9.2nm,1.3s							
PV13	**Radium Mtn., P**	**93.46**	**51**	IAmb	IAmb	10 52 17.8		
	comp=Z,11nm,1.3s							
PV03	**Paradox Valley**	**93.48**	**50**	IAmb	IAmb	10 52 04.8		
	comp=Z,11nm,1.4s							
PV21	**Cone Mtn., Par**	**93.51**	**50**	IAmb	IAmb	10 52 02.9		
	comp=Z,17nm,1.3s							
VHRN	**Van Horn**	**93.52**	**59**	IAmb	IAmb	10 52 03.1		
	comp=Z,8.4nm,1.2s							
PV12	**Saucer Basin,**	**93.53**	**50**	IAmb	IAmb	10 52 28.0		
	comp=Z,15nm,1.1s							
PV02	**Paradox Valley**	**93.54**	**50**	IAmb	IAmb	10 52 11.2		
	comp=Z,16nm,1.2s							
F26K	**Sheenjek River**	**93.59**	**15**	IAMs_20	IAMs_20	11 28 49.9		
	comp=Z,566nm,20.0s							
PV01	**Paradox Valley**	**93.63**	**51**	IAmb	IAmb	10 52 04.8		
	comp=Z,9.2nm,1.4s							
PV22	**Blue Mesa, Par**	**93.63**	**50**	IAmb	IAmb	10 52 11.2		
	comp=Z,8.1nm,1.1s							
MSO	**Missoula**	**93.70**	**41**	IAMs_20	IAMs_20	11 26 22.6		
	comp=Z,739nm,20.0s							
D24K	**Happy Valley**	**93.72**	**13**	IAMs_20	IAMs_20	11 33 31.2		
	comp=Z,733nm,20.0s							
AHID	**Auburn Hatcher**	**93.76**	**46**	IAMs_20	IAMs_20	11 31 07.4		
	comp=Z,594nm,19.0s							
MMPY	**Sheldon Lake,**	**93.83**	**22**	IAmb	IAmb	10 51 57.3		
	comp=Z,15nm,1.5s							
B22K	**Teshekpuk Lake**	**93.85**	**11**	IAMs_20	IAMs_20	11 33 35.7		
	comp=Z,633nm,19.0s							
I30M	**Mount Dempster**	**93.88**	**19**	IAmb	IAmb	10 52 02.4		
	comp=Z,9.9nm,1.4s							
C23K	**Itkillik River**	**93.93**	**12**	IAMs_20	IAMs_20	11 31 16.8		
	comp=Z,766nm,19.0s							
ANMO	**Albuquerque**	**93.95**	**54**		**P**	**10 51 49.6**	**-0.4**	
ANMO	**Albuquerque**	**93.95**	**54**	IAMs_20	IAMs_20	11 26 05.6		
	comp=Z,1µm,20.0s							
ANMO	**Albuquerque**	**93.95**	**54**	LR	LR	11 27 07.1		
	comp=Z,2µm,19.3s,baz=336,slow=31							
ANMO	**Albuquerque**	**93.95**	**54**⇑	*e*P	**P**	**10 51 48.7**	**-1.3**	
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TXAR	**Lajitas Array**	**94.05**	**60**		**P**	**10 51 50.8**	**+0.3**	
TXAR	**Lajitas Array**	**94.05**	**60**	P	**P**	**10 51 50.6**	**+0.1**	
	comp=Z,1.5nm,0.8s,baz=215,slow=5.5,SNR=18							
TXAR				LR	LR	11 27 17.0		
	comp=Z,809nm,18.7s,baz=236,slow=31							
	comp=Z,1.5nm,0.8s							
TXAR	**Lajitas Array**	**94.05**	**60**	P	**P**	**10 51 50.8**	**+0.3**	
TPAW	**Teton Pass**	**94.17**	**45**	IAMs_20	IAMs_20	11 25 39.9		
	comp=Z,660nm,21.0s							
FXWY	**Fox Creek**	**94.18**	**45**	IAMs_20	IAMs_20	11 24 58.3		
	comp=Z,711nm,22.0s							
C24K	**Franklin Bluff**	**94.21**	**12**	IAMs_20	IAMs_20	11 33 58.2		
	comp=Z,532nm,20.0s							
SNOW	**Snow King Moun**	**94.28**	**45**	IAMs_20	IAMs_20	11 24 59.1		
	comp=Z,761nm,22.0s							
D25K	**Kavik River**	**94.37**	**13**	IAMs_20	IAMs_20	11 33 49.4		
	comp=Z,535nm,19.0s							
LOHW	**Long Hollow**	**94.45**	**45**	IAMs_20	IAMs_20	11 26 21.4		
	comp=Z,636nm,20.0s							
G29M	**Pine Creek**	**94.60**	**17**	IAMs_20	IAMs_20	11 40 46.5		
	comp=Z,522nm,18.0s							
O20A	**White River Ci**	**94.66**	**49**	IAmb	IAmb	10 53 26.2		
	comp=Z,12nm,1.5s							
O20A				IAMs_20	IAMs_20	11 25 58.1		
	comp=Z,1µm,22.0s							
PLCA	**Paso Flores**	**94.69**	**137**	P	**P**	**10 51 53.5**	**+0.2**	
	comp=Z,1.5nm,1.0s,baz=186,slow=10,SNR=1.7							
PLCA				LR	LR	11 25 04.3		
	comp=Z,252nm,21.3s,baz=246,slow=30							
	comp=Z,1.5nm,1.0s							
S22A	**4UR Ranch, Cre**	**94.74**	**52**	IAmb	IAmb	10 52 08.1		
	comp=Z,11nm,1.4s							
S22A				IAMs_20	IAMs_20	11 26 33.5		
	comp=Z,1µm,20.0s							
BW06	**Boulder Array**	**94.80**	**46**	IAMs_20	IAMs_20	11 27 06.3		
	comp=Z,914nm,21.0s							
PDAR	**Pinedale Array**	**94.80**	**46**	P	**P**	**10 51 54.1**	**+0.4**	
	comp=Z,1.1nm,0.9s,baz=224,slow=4.1,SNR=6.3							
PDAR				PP	**PP**	**10 55 39.5**	**-3.2**	
	comp=Z,0.7nm,0.9s,baz=219,slow=3.8,SNR=4.3							
PDAR				LR	LR	11 27 06.0		
	comp=Z,545nm,20.9s,baz=230,slow=31							
	comp=Z,1.1nm,0.9s							
H31M	**Peel River**	**94.90**	**19**	IAMs_20	IAMs_20	11 35 58.6		
	comp=Z,506nm,18.0s							
EFI	**East Falkland**	**94.93**	**151**⇑	*e*P	**P**	**10 51 55.7**	**+1.7**	
EFI				pmax	pmax			
	comp=Z,92nm,1.8s							
PALK	**Pallekele**	**95.12**	**276**	LR	LR	11 35 35.1		
	comp=Z,446nm,20.2s,baz=116,slow=36							
HAYD	**Hayden**	**95.50**	**49**	IAMs_20	IAMs_20	11 25 40.4		
	comp=Z,582nm,22.0s							
D27M	**Malcolm River**	**95.54**	**15**	IAMs_20	IAMs_20	11 31 00.3		
	comp=Z,636nm,20.0s							
G31M	**Satah River**	**95.68**	**18**	IAMs_20	IAMs_20	11 36 58.0		
	comp=Z,454nm,18.0s							
F30M	**Barrier River**	**95.71**	**17**	IAMs_20	IAMs_20	11 29 55.9		
	comp=Z,467nm,19.0s							
SDCO	**Great Sand Dun**	**95.72**	**52**	IAMs_20	IAMs_20	11 27 45.4		
	comp=Z,888nm,20.0s							
RLMT	**Red Lodge**	**95.94**	**44**	IAMs_20	IAMs_20	11 28 34.8		
	comp=Z,734nm,20.0s							
T25A	**Trinidad**	**96.30**	**53**	IAMs_20	IAMs_20	11 29 27.9		
	comp=Z,544nm,20.0s							
ISCO	**Idaho Springs**	**96.39**	**50**	IAMs_20	IAMs_20	11 34 16.2		
	comp=Z,556nm,18.0s							
MSTX	**Muleshoe**	**96.42**	**56**	IAmb	IAmb	10 52 08.3		
	comp=Z,6.0nm,0.8s							
Q24A	**Divide**	**96.42**	**51**	IAMs_20	IAMs_20	11 29 28.0		
	comp=Z,1µm,20.0s							
INK	**Inuvik**	**96.81**	**17**	LR	LR	11 30 10.5		
	comp=Z,350nm,20.6s,baz=226,slow=32							
K22A	**Casper**	**96.81**	**47**	IAMs_20	IAMs_20	11 31 03.2		
	comp=Z,942nm,18.0s							
TIXI	**Tiksi**	**97.13**	**347**	IAMs_20	IAMs_20	11 33 00.1		
	comp=Z,580nm,20.0s							
TIXI	**Tiksi**	**97.13**	**347**	LR	LR	11 33 10.9		
	comp=Z,506nm,19.6s,baz=162,slow=34							
CMIG	**Matias Romero**	**97.40**	**75**	LR	LR	11 26 48.6		
	comp=Z,912nm,20.4s,baz=236,slow=30							
JCT	**Junction City**	**97.59**	**60**	IAMs_20	IAMs_20	11 27 03.3		
	comp=Z,1µm,22.0s							
KSCO	**Kaye Shedlock'**	**98.28**	**52**	IAMs_20	IAMs_20	11 28 51.1		
	comp=Z,1µm,20.0s							
LAO	**LASA Array**	**98.50**	**43**	IAMs_20	IAMs_20	11 27 49.5		
	comp=Z,740nm,22.0s							
RSSD	**Black Hills**	**99.03**	**46**	IAMs_20	IAMs_20	11 31 56.9		
	comp=Z,662nm,19.0s							
OGNE	**Ogallala**	**99.36**	**50**	IAMs_20	IAMs_20	11 35 40.6		
	comp=Z,508nm,18.0s							
YKA	**Yellowknife Ar**	**100.26**	**27**	P	**Pdif**	**10 52 16.4**	**-1.1**	
	comp=Z,0.2nm,0.7s,baz=260,slow=4.2,SNR=2.1							
CBKS	**Cedar Bluff**	**100.34**	**52**	IAMs_20	IAMs_20	11 30 55.8		
	comp=Z,762nm,20.0s							
OK038	**West end E0370**	**100.37**	**55**	IAMs_20	IAMs_20	11 30 15.5		
	comp=Z,1µm,20.0s							
DGMT	**Dagmar**	**100.40**	**42**	IAMs_20	IAMs_20	11 31 10.9		
	comp=Z,486nm,20.0s							
WMQ	**Urumqi**	**101.18**	**313**	*e*P	**Pdif**	**10 52 24.3**	**+2.0**	
WMQ				LR	LR			
	comp=Z,2µm,20.7s							
E28A	**Huff**	**102.05**	**45**	IAMs_20	IAMs_20	11 31 26.7		
	comp=Z,661nm,21.0s							
BGNE	**Belgrade**	**102.29**	**50**	IAMs_20	IAMs_20	11 31 30.2		
	comp=Z,1µm,21.0s							
SUSD	**Miller**	**102.60**	**47**	IAMs_20	IAMs_20	11 35 14.2		
	comp=Z,1µm,18.0s							
MDND	**Maddock**	**103.14**	**44**	IAMs_20	IAMs_20	11 30 35.3		
	comp=Z,673nm,20.0s							
TGUH	**Tegucigalpa,Un**	**103.37**	**80**	IAMs_20	IAMs_20	11 28 20.6		
	comp=Z,558nm,22.0s							
NNA	**Nana**	**103.62**	**109**	IAMs_20	IAMs_20	11 31 38.5		
	comp=Z,591nm,20.0s							
L34A	**Svendsen Farm,**	**103.72**	**50**	IAMs_20	IAMs_20	11 34 01.1		
	comp=Z,1µm,19.0s							
JTS	**Las Juntas de**	**104.32**	**84**	IAMs_20	IAMs_20	11 47 42.8		
	comp=Z,684nm,19.0s							
TEIG	**Tepich**	**104.33**	**74**	IAMs_20	IAMs_20	11 30 30.9		
	comp=Z,576nm,20.0s							
HDC	**Heredia**	**105.01**	**85**	IAMs_20	IAMs_20	11 28 53.1		
	comp=Z,742nm,20.0s							
MKAR	**Makanchi Array**	**105.66**	**314**	Pdiff	**Pdif**	**10 52 42.3**	**+0.3**	
	comp=Z,1.1nm,0.7s,baz=91,slow=5.3,SNR=5.3							
AGMN	**Agassiz Nation**	**105.68**	**44**	IAMs_20	IAMs_20	11 41 17.5		
	comp=Z,658nm,19.0s							
VBMS	**Vicksburg**	**105.69**	**61**	IAMs_20	IAMs_20	11 32 14.7		
	comp=Z,996nm,21.0s							
R40A	**Maddies Statio**	**105.82**	**55**	IAMs_20	IAMs_20	11 32 50.9		
	comp=Z,1µm,20.0s							
SCIA	**State Center**	**105.98**	**51**	IAMs_20	IAMs_20	11 33 44.1		
	comp=Z,1µm,22.0s							
P40A	**Paris**	**106.28**	**53**	IAMs_20	IAMs_20	11 35 49.1		
	comp=Z,900nm,19.0s							
146A	**Union**	**106.99**	**61**	IAMs_20	IAMs_20	11 36 55.1		
	comp=Z,986nm,19.0s							
SPMN	**Marine on St.**	**107.03**	**48**	IAMs_20	IAMs_20	11 35 21.5		
	comp=Z,1µm,20.0s							
P43A	**Skaggs, Pawnee**	**108.21**	**54**	IAMs_20	IAMs_20	11 33 11.2		
	comp=Z,845nm,22.0s							
I40A	**Norwalk**	**108.28**	**49**	IAMs_20	IAMs_20	11 33 57.7		
	comp=Z,1µm,22.0s							
BRAL	**Brewton**	**108.30**	**63**	IAMs_20	IAMs_20	11 34 55.8		
	comp=Z,657nm,22.0s							
T45A	**Paducah**	**108.33**	**57**	IAMs_20	IAMs_20	11 35 11.3		
	comp=Z,878nm,21.0s							
JFWS	**Jewell Farm**	**108.35**	**50**	IAMs_20	IAMs_20	11 38 07.6		
	comp=Z,973nm,19.0s							
EYMN	**Ely**	**108.46**	**45**	IAMs_20	IAMs_20	11 36 28.2		
	comp=Z,655nm,20.0s							
BCIP	**Isla Barro Col**	**108.73**	**87**	IAMs_20	IAMs_20	11 33 23.4		
	comp=Z,419nm,20.0s							
G40A	**Rib Lake**	**108.84**	**48**	IAMs_20	IAMs_20	11 36 30.4		
	comp=Z,1µm,21.0s							
KURBB	**Kurchatov Arra**	**108.89**	**318**	PKiKP	**PKiKP**	**10 57 03.8**	**+2.8**	
	comp=Z,0.3nm,0.3s,baz=124,slow=1.6,SNR=4.1							
250A	**Grady**	**109.13**	**62**	IAMs_20	IAMs_20	11 36 57.9		
	comp=Z,695nm,19.0s							
451A	**Vernon**	**109.26**	**64**	IAMs_20	IAMs_20	11 38 13.3		
	comp=Z,698nm,20.0s							
I42A	**Draeger Farm,**	**109.49**	**49**	IAMs_20	IAMs_20	11 35 31.7		
	comp=Z,866nm,20.0s							
M44A	**Midewin, Midew**	**109.66**	**52**	IAMs_20	IAMs_20	11 36 31.5		
	comp=Z,1µm,21.0s							
COWI	**Conover**	**109.72**	**47**	IAMs_20	IAMs_20	11 43 14.7		
	comp=Z,790nm,18.0s							
HQIL	**Hanson Quary C**	**109.88**	**52**	IAMs_20	IAMs_20	11 34 37.2		
	comp=Z,1µm,22.0s							
P46A	**Rosedale**	**109.96**	**54**	IAMs_20	IAMs_20	11 38 06.5		
	comp=Z,977nm,20.0s							
352A	**Blakely**	**110.14**	**63**	IAMs_20	IAMs_20	11 39 16.8		
	comp=Z,574nm,19.0s							
SFIN	**Lafette**	**110.18**	**53**	IAMs_20	IAMs_20	11 39 40.3		
	comp=Z,995nm,19.0s							
WCI	**Wyandotte Cave**	**110.40**	**56**	IAMs_20	IAMs_20	11 37 37.2		
	comp=Z,977nm,19.0s							
152A	**Waverly Hall**	**110.56**	**62**	IAMs_20	IAMs_20	11 38 50.8		
	comp=Z,880nm,18.0s							
TIGA	**Tifton**	**111.25**	**63**	IAMs_20	IAMs_20	11 40 57.9		
	comp=Z,458nm,19.0s							
R49A	**Shelbyville**	**111.28**	**56**	IAMs_20	IAMs_20	11 35 59.5		
	comp=Z,911nm,22.0s							
N47A	**Urbana**	**111.32**	**53**	IAMs_20	IAMs_20	11 42 34.4		
	comp=Z,814nm,18.0s							
I45A	**Fountain**	**111.42**	**50**	IAMs_20	IAMs_20	11 36 57.9		
	comp=Z,1µm,22.0s							
656A	**Willston**	**111.70**	**66**	IAMs_20	IAMs_20	11 36 36.1		
	comp=Z,505nm,22.0s							
154A	**Montrose**	**111.88**	**62**	IAMs_20	IAMs_20	11 40 24.8		
	comp=Z,874nm,19.0s							
R50A	**Paris**	**111.93**	**56**	IAMs_20	IAMs_20	11 37 01.7		
	comp=Z,768nm,21.0s							
061Z	**Ochoppi**	**112.35**	**70**	IAMs_20	IAMs_20	11 40 21.3		
	comp=Z,412nm,21.0s							
DWPF	**Disney Wildern**	**112.38**	**67**	IAMs_20	IAMs_20	11 41 19.1		
	comp=Z,395nm,21.0s							
456A	**Hilliard**	**112.42**	**64**	IAMs_20	IAMs_20	11 36 33.0		
	comp=Z,673nm,22.0s							
ROSC	**El Rosal**	**112.45**	**93**	Pdiff	**Pdif**	**10 53 16.8**	**+3.3**	
	comp=Z,1nm,0.3s,baz=299,slow=18,SNR=4.1							
N49A	**Columbus Grove**	**112.46**	**53**	IAMs_20	IAMs_20	11 40 37.6		
	comp=Z,811nm,20.0s							
AAM	**Ann Arbor**	**113.05**	**52**	IAMs_20	IAMs_20	11 37 36.9		
	comp=Z,848nm,20.0s							
060A	**Indiantown**	**113.08**	**69**	IAMs_20	IAMs_20	11 38 07.7		
	comp=Z,502nm,20.0s							
257A	**Skidaway Islan**	**113.49**	**63**	IAMs_20	IAMs_20	11 39 23.4		
	comp=Z,826nm,20.0s							
Q52A	**Bidwell**	**113.63**	**56**	IAMs_20	IAMs_20	11 38 23.7		
	comp=Z,969nm,21.0s							
N51A	**Ashland**	**113.82**	**53**	IAMs_20	IAMs_20	11 39 23.5		
	comp=Z,848nm,20.0s							
K50A	**Casco**	**113.86**	**51**	IAMs_20	IAMs_20	11 38 02.5		
	comp=Z,926nm,21.0s							
BVAR	**Borovoye Array**	**114.17**	**320**	PKiKP	PKPdf	10 57 09.1	-1.8	
	comp=Z,1.8nm,0.6s,baz=48,slow=2.2,SNR=7.9							
BRVK	**Borovoye**	**114.24**	**320**⇓	*i*PKIKP	**PKiKP**	**10 57 14.0**	**+3.0**	
M52A	**Chesterland**	**114.65**	**53**	IAMs_20	IAMs_20	11 38 56.6		
	comp=Z,920nm,22.0s							
Y58A	**Scnton**	**114.95**	**61**	IAMs_20	IAMs_20	11 40 02.9		
	comp=Z,912nm,20.0s							
X58A	**Rowland**	**115.32**	**61**	IAMs_20	IAMs_20	11 38 36.6		
	comp=Z,926nm,20.0s							
TULEG	**Thule**	**116.44**	**13**	IAMs_20	IAMs_20	11 49 46.6		
	comp=Z,375nm,19.0s							
SDDR	**Presa de Saban**	**119.45**	**79**	IAMs_20	IAMs_20	11 37 00.7		
	comp=Z,845nm,22.0s							
LONY	**Lake Ozonia**	**119.80**	**50**	IAMs_20	IAMs_20	11 40 49.5		
	comp=Z,999nm,22.0s							
ARTI	**Arti**	**120.94**	**324**	IAMs_20	IAMs_20	11 50 11.5		
	comp=Z,386nm,22.0s							
ARTI	**Arti**	**120.94**	**324**	*i* PKIKP	**PKiKP**	**10 57 24.6**	**+0.7**	
ARTI						10 58 54.5		
ARTI						11 04 36.4		
ARTI				SS	SS	11 15 25.6	+0.8	
ARTI				MLR	MLR			
	comp=Z,329nm,20.0s							
KIRV	**Kirov**	**125.12**	**328**⇑	*i*PKIKP	**PKiKP**	**10 57 34.9**	**+2.8**	
LVZ	**Lovozero**	**126.40**	**342**	IAMs_20	IAMs_20	11 54 38.1		
	comp=Z,360nm,19.0s							
LVZ	**Lovozero**	**126.40**	**342**⇓	*e*PKIKP	**PKiKP**	**10 57 34.8**	**+0.3**	
APA	**Apatity**	**126.98**	**342**	*i* PKIKP	**PKiKP**	**10 57 35.7**	**+0.1**	
APA				*e*PS	**PS**	**11 09 38.1**	**+0.4**	
KEV	**Kevo**	**127.06**	**346**	IAMs_20	IAMs_20	11 51 32.2		
	comp=Z,481nm,20.0s							
BBSR	**BB Station**	**127.28**	**65**	IAMs_20	IAMs_20	11 50 34.6		
	comp=Z,391nm,19.0s							
ARCES	**ARCESS Array B**	**127.56**	**346**	PKP	**PKPdf**	**10 57 35.0**	**-1.2**	
	comp=Z,1.0nm,0.5s,baz=40,slow=1.4,SNR=14							
ARCES	**ARCESS Array B**	**127.56**	**346**	PKiKP	**PKPdf**	**10 57 35.0**	**-1.2**	
BELG	**Belogornoye**	**127.95**	**321**⇓	*e*PKIKP	**PKiKP**	**10 57 37.8**	**-0.1**	
KLMR	**Klimovskoe**	**128.75**	**333**	*e*PKIKP	**PKPdf**	**10 57 37.7**	**-0.9**	
KLMR				pmax	pmax			
	comp=Z,16nm,1.5s							
KLMR				MLR	MLR			
	comp=Z,497nm,19.0s							
LSZ	**Lusaka**	**130.52**	**226**	IAMs_20	IAMs_20	11 49 58.6		
	comp=Z,763nm,22.0s							
RAYN	**Ar Rayn**	**131.95**	**283**	IAMs_20	IAMs_20	11 53 26.9		
	comp=Z,652nm,21.0s							
RAYN	**Ar Rayn**	**131.95**	**283**⇓	PKiKP	**PKiKP**	**10 57 52.0**	**+5.0**	
GNI	**Garni**	**132.50**	**306**	IAMs_20	IAMs_20	12 05 12.7		
	comp=Z,280nm,19.0s							
GNI	**Garni**	**132.50**	**306**⇑	*i*PKIKP	**PKiKP**	**10 57 47.4**	**-0.3**	
OBN	**Obninsk**	**132.97**	**328**	IAMs_20	IAMs_20	11 58 41.2		
	comp=Z,367nm,21.0s							
OBN	**Obninsk**	**132.97**	**328**⇑	*e*PKIKP	**PKiKP**	**10 57 47.9**	**0.0**	
OBN				*e*		11 00 11.2		
OBN				*e*PPP	PPP	11 03 06.3		
OBN				*e*		11 04 55.1		
OBN				pmax	pmax			
	comp=Z,11nm,0.5s							
KIV	**Kislovodsk**	**133.29**	**311**	*i* PKIKP	**PKiKP**	**10 57 49.4**	**+0.3**	
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,211nm,23.0s							
FINES	**FINESS Array B**	**133.51**	**339**	PKP	**PKPdf**	**10 57 46.6**	**-1.0**	
	comp=Z,1.2nm,0.6s,baz=35,slow=7.0,SNR=3.5							
TSUM	**Tsumeb**	**133.75**	**212**	IAMs_20	IAMs_20	11 58 40.5		
	comp=Z,770nm,20.0s							
SOC	**Sochi**	**135.47**	**312**	*e*PKIKP	**PKPdf**	**10 57 48.5**	**-3.4**	
SOC				*e*PPP	PPP	11 03 24.6		
SOC				*e*SS	SS	11 18 16.2	-9.4	
SOC				*e*SSS	SSS	11 23 22.5		
MNK	**Minsk**	**137.49**	**331**	*i* PKIKP	**PKPdf**	**10 57 56.0**	**+0.7**	
MNK				*i*		11 00 40.2		
MNK				*i* PPP	PPP	11 03 39.9		
MNK				*i*		11 05 04.3		
MNK				*i* SS	SS	11 18 50.2	+1.8	
MNK				*i* SSS	SSS	11 23 56.9		
MNK				pmax	pmax			
	comp=Z,13nm,0.7s							
MNK				pmax	pmax			
	comp=N,14nm,0.7s							
MNK				pmax	pmax			
	comp=E,14nm,0.8s							
MNK				MLR	MLR			
	comp=N,180nm,19.0s							
MNK				MLR	MLR			
	comp=E,374nm,20.0s							
MNK				MLR	MLR			
	comp=Z,265nm,19.0s							
NOA	**NORSAR Array B**	**137.93**	**347**	PKP	**PKPdf**	**10 57 55.7**	**-0.3**	
	comp=Z,0.8nm,0.9s,baz=14,slow=2.5,SNR=2.4							
PABE	**Paberze**	**138.52**	**334**	IAMs_20	IAMs_20	11 57 42.8		
	comp=Z,370nm,21.0s							
AKASG	**Malin Array Be**	**139.06**	**325**	PKP	**PKPdf**	**10 57 57.1**	**-1.1**	
	comp=Z,0.3nm,0.3s,baz=57,slow=1.3,SNR=5.2							
AKBB	**Malin Array Si**	**139.06**	**325**⇑	*e*PKIKP	**PKPdf**	**10 57 57.8**	**-0.5**	
KIEV	**Kiev**	**139.08**	**325**	IAMs_20	IAMs_20	11 57 23.6		
	comp=Z,489nm,22.0s							
SUW	**Suwalki**	**139.88**	**333**	IAMs_20	IAMs_20	11 58 30.5		
	comp=Z,430nm,20.0s							
BRTR	**Keskin Array B**	**140.92**	**308**	PKP	**PKPdf**	**10 58 02.2**	**0.0**	
	comp=Z,1.1nm,0.7s,baz=131,slow=3.6,SNR=7.0							
MMAI	**Mount Meron Ar**	**140.93**	**297**	PKP	**PKPdf**	**10 58 00.0**	**-2.4**	
	comp=Z,1.0nm,0.4s,baz=51,slow=11,SNR=2.5							
GHAJ	**Ghor Haditha**	**140.98**	**294**	IAMs_20	IAMs_20	11 56 43.7		
	comp=Z,471nm,21.0s							
CSS	**Mathiatis**	**142.31**	**301**	IAMs_20	IAMs_20	12 00 51.8		
	comp=Z,432nm,22.0s							
BURAR	**Bucovina Array**	**142.98**	**324**⇓	P	**PKPdf**	**10 58 05.5**	**-0.1**	
BURAR	**Bucovina Array**	**142.98**	**324**	PKIKP	**PKPdf**	**10 58 05.5**	**-0.1**	
RGN	**Rugen**	**143.11**	**341**	IAMs_20	IAMs_20	11 58 23.9		
	comp=Z,608nm,22.0s							
NEHR	**Nehoiu**	**143.56**	**320**⇑	P	**PKiKP**	**10 58 11.1**	**+1.1**	
MLR	**Muntele Rosu**	**143.73**	**320**	IAMs_20	IAMs_20	12 04 39.0		
	comp=Z,377nm,21.0s							
MLR	**Muntele Rosu**	**143.73**	**320**	PKP	PKPbc	10 58 05.3	+0.8	
	comp=Z,1.3nm,0.3s,baz=332,slow=10,SNR=3.6							
MLR	**Muntele Rosu**	**143.73**	**320**⇑	P	**PKiKP**	**10 58 09.1**	**-1.3**	
MLR	**Muntele Rosu**	**143.73**	**320**⇑	PKIKP	**PKiKP**	**10 58 09.1**	**-1.3**	
ISP	**Isparta**	**143.81**	**306**	IAMs_20	IAMs_20	12 13 30.1		
	comp=Z,324nm,18.0s							
DOPR	**Dopca**	**143.81**	**321**⇓	P	**PKiKP**	**10 58 11.5**	**+1.1**	
VOIR		**144.29**	**321**⇑	P	**PKiKP**	**10 58 12.2**	**+0.7**	
VOIR		**144.29**	**321**⇑	PKIKP	**PKiKP**	**10 58 12.2**	**+0.7**	
NIE	**Niedzica**	**144.36**	**330**	*e*PKP	**PKiKP**	**10 58 11.0**	**-0.5**	
CJR	**Cluj-Napoca**	**144.40**	**324**⇑	P	**PKiKP**	**10 58 16.2**	**+4.5**	
CJR	**Cluj-Napoca**	**144.40**	**324**⇑	PKIKP	**PKiKP**	**10 58 16.2**	**+4.5**	
ARR	**Arges**	**144.58**	**321**⇑	P	PKPbc	10 58 07.6	+0.5	
MARR	**Marisel-Cluj**	**144.69**	**324**⇓	P	**PKPab**	**10 58 06.9**	**-0.4**	
DRGR		**144.84**	**324**⇓	P	**PKPab**	**10 58 07

	comp=Z,8.2nm,1.3s							
MEM	**Membach**	**148.66**	**345**	*d*PKP		**PKPbc**	**10 58 19.1**	**+0.3**
SOKA	**Soboth**	**148.79**	**331**	PKiKP		**PKiKP**	**10 58 20.9**	**+0.1**
	comp=Z,12nm,1.3s							
BCLA	**Clavier**	**149.01**	**345**	*d*PKP		**PKiKP**	**10 58 22.1**	**+1.1**
FNA	**Florina**	**149.06**	**316**			**PKPbc**	**10 58 19.6**	**-0.6**
FNA	**Florina**	**149.06**	**316**	PKP2		**PKPbc**	**10 58 19.6**	**-0.6**
KBA	**Koeinbreinsper**	**149.23**	**333**	*ep*PKiKP		**PKPab**	**10 58 25.6**	**+0.6**
	comp=Z,12nm,1.0s							
LESA	**Schwarzleotal**	**149.23**	**334**	*e*PKP		**PKPdf**	**10 58 17.7**	**+1.5**
	comp=Z,1.4nm,0.5s							
LESA				*ep*PKiKP		**PKPab**	**10 58 25.5**	**+0.6**
	comp=Z,32nm,1.9s							
STU	**Stuttgart**	**149.39**	**339**	IAMs_20	IAMs_20		12 20 46.1	
	comp=Z,284nm,20.0s							
PDG	**Podgorica**	**149.45**	**321**	IAMs_20	IAMs_20		12 19 13.1	
	comp=Z,273nm,22.0s							
PDG	**Podgorica**	**149.45**	**321**	⇑P		**PKiKP**	**10 58 23.3**	**+1.1**
MYKA	**Terra Mystica**	**149.45**	**332**	*ep*PKP		**PKPab**	**10 58 24.8**	**-0.9**
	comp=Z,15nm,1.3s							
DOU	**Dourbes**	**149.48**	**346**	*d*PKP		**PKPab**	**10 58 25.8**	**+0.1**
WLF	**Walferdange**	**149.50**	**344**	IAMs_20	IAMs_20		12 02 52.6	
	comp=Z,522nm,22.0s							
WATA	**Walderalm**	**149.74**	**335**	*e*PKiKP		**PKiKP**	**10 58 23.4**	**+0.6**
	comp=Z,27nm,1.4s,SNR=7.9							
WTTA	**Wattenberg**	**149.78**	**335**	*ep*PKP		**PKPbc**	**10 58 20.0**	**-2.0**
	comp=Z,9.4nm,1.4s							
WTTA				*i* pPKiKP		**PKPab**	**10 58 26.4**	**-0.8**
	comp=Z,41nm,1.4s,SNR=7.9							
ABTA	**Abfaltersbach**	**149.84**	**333**	*i* pPKP		**PKPab**	**10 58 25.8**	**-1.6**
	comp=Z,28nm,1.4s,SNR=7.9							
MOTA	**Moosalm**	**149.92**	**336**	*e*PKiKP		**PKiKP**	**10 58 23.9**	**+0.7**
	comp=Z,32nm,1.3s,SNR=7.3							
SQTA	**Sankt Quirin**	**149.98**	**335**	PKiKP		**PKiKP**	**10 58 23.1**	**-0.2**
	comp=Z,30nm,1.3s,SNR=6.3							
BFO	**Black Forest**	**150.06**	**340**	PKPdf		**PKPdf**	**10 58 18.7**	**+1.3**
BFO				IAMs_20	IAMs_20		12 15 12.7	
	comp=Z,394nm,20.0s							
BFO	**Black Forest**	**150.06**	**340**	PKHKP	PKPpre		10 58 18.7	
FETA	**Feichten**	**150.33**	**336**	PKP		**PKPbc**	**10 58 23.1**	**-0.1**
	comp=Z,19nm,1.1s							
DAVA	**Damuels**	**150.43**	**337**	*e*PKiKP		**PKiKP**	**10 58 25.0**	**+0.7**
	comp=Z,18nm,1.2s							
ECH	**Echery**	**150.52**	**341**	IAMs_20	IAMs_20		12 14 14.9	
	comp=Z,341nm,19.0s							
CTI	**Castel Tesino**	**150.76**	**334**			**PKPbc**	**10 58 23.5**	**-0.7**
CTI	**Castel Tesino**	**150.76**	**334**	PKIKP		**PKPbc**	**10 58 23.5**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**150.84**	**336**			**PKPbc**	**10 58 24.1**	**-0.5**
FUORN				IAMs_20	IAMs_20		12 12 03.7	
	comp=Z,382nm,20.0s							
DAVOX	**Davos/Dischmat**	**150.85**	**337**	PKPbc		**PKPbc**	**10 58 22.9**	**-1.6**
	comp=Z,4.4nm,0.7s,baz=51,slow=7.0,SNR=7.3							
TUE	**Stuetta**	**151.31**	**337**			**PKPbc**	**10 58 24.9**	**-0.8**
TUE				IAMs_20	IAMs_20		12 11 49.0	
	comp=Z,436nm,22.0s							
SENIN	**Lac Senin/Sane**	**152.12**	**339**	IAMs_20	IAMs_20		12 18 11.4	
	comp=Z,390nm,19.0s							
CUC	**Castrocucco**	**152.99**	**320**	IAMs_20	IAMs_20		12 12 54.9	
	comp=Z,353nm,21.0s							
SSB	**Saint Sauveur**	**153.95**	**342**	IAMs_20	IAMs_20		12 10 27.5	
	comp=Z,278nm,20.0s							
CEL	**Celeste**	**153.98**	**317**	IAMs_20	IAMs_20		12 19 50.5	
	comp=Z,268nm,20.0s							
VSL	**Villasalto**	**156.92**	**327**	IAMs_20	IAMs_20		12 22 53.8	
	comp=Z,269nm,20.0s							
ESDC	**Sonseca Array**	**161.07**	**354**	PKPab		**PKPab**	**10 59 14.9**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=24,slow=2.1,SNR=4.4							
TORD	**Torodi Ar. Bea**	**169.05**	**227**			**PKPdf**	**10 58 38.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**169.05**	**227**	PKP		**PKPdf**	**10 58 38.2**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=202,slow=8.5,SNR=5.5							
TORD				PKPab		**PKPab**	**10 59 48.0**	**-3.1**
	comp=Z,1.9nm,0.9s,baz=132,slow=2.1,SNR=3.6							

*CATAC **15** 10:50:09.7±0.5, 13°N±3°×9°0W±°, h28km±2km, M3.1/17, MLv3.1/17, Error ellipse: s-maj=7.0km s-min=4.6km az=18.1, confirmed*
*SNET **15** 10:50:09.9±1.1, 13°20N×89°60W, h57km, ML3.0*
*GCG **15** 10:50:11.0±1.2, 13°24N×89°56W, h53km±8km, MD3.5, ML2.6*

ISC 15 10:50:09.5±2.3, 13°1N±0°1×89°56W±0°06, h21km±4km, n53, σ0s41/59, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LALI	**Alcalda de L**	**0.41**	**34**	*i* P		**Pn**	**10 50 20.4**	**+0.1**
LALI				*i* S		**Sn**	**10 50 28.5**	**+1.2**
LALI				IAML			10 50 30.0	
	comp=E,123nm,0.2s							
LALI	**Alcalda de L**	**0.41**	**34**	P		**Pn**	**10 50 19.6**	**-0.7**
JAYA	**Jayaque - finc**	**0.52**	**12**	*e*P		**Pn**	**10 50 21.6**	**-0.3**
JAYA				*e*S		**Sn**	**10 50 30.2**	**0.0**
JAYA	**Jayaque - finc**	**0.52**	**12**	*i* P		**Pn**	**10 50 21.5**	**-0.3**
JAYA				*i* S		**Sn**	**10 50 30.5**	**+0.4**
JAYA	**Jayaque - finc**	**0.52**	**12**	P		**Pn**	**10 50 21.7**	**-0.1**
JAYA	**Jayaque - finc**	**0.52**	**12**	S		**Sn**	**10 50 30.0**	**-0.2**
PANCS	**Alcalda de**	**0.59**	**38**	P		Pn	10 50 31.2	+8.4
PMON	**Piamonte**	**0.61**	**23**	P		**Pn**	**10 50 23.5**	**+0.4**
PMON	**Piamonte**	**0.61**	**23**	S		**Sn**	**10 50 32.2**	**-0.2**
LOMA	**Loma Larga**	**0.62**	**37**	*e*P		**Pn**	**10 50 22.9**	**-0.4**
LOMA				*e*S		**Sn**	**10 50 32.8**	**+0.1**
LOMA	**Loma Larga**	**0.62**	**37**	P		**Pn**	**10 50 23.1**	**-0.2**
BOQS	**Boqueron**	**0.65**	**25**	*e*P		**Pn**	**10 50 23.3**	**-0.4**
UEES	**Universidad Ev**	**0.65**	**29**	P		**Pn**	**10 50 23.7**	**+0.1**
UEES	**Universidad Ev**	**0.65**	**29**	S		**Sn**	**10 50 33.4**	**+0.2**
UTEC	**Universidad Te**	**0.65**	**32**	P		**Pn**	**10 50 23.4**	**-0.2**
UTEC	**Universidad Te**	**0.65**	**32**	S		**Sn**	**10 50 33.3**	**0.0**
CEDA	**San Andres**	**0.67**	**14**	P		**Pn**	**10 50 24.0**	**+0.1**
CEDA	**San Andres**	**0.67**	**14**	S		**Sn**	**10 50 34.3**	**+0.5**
LFRS	**El Faro**	**0.68**	**45**	*e*P		**Pn**	**10 50 23.9**	**-0.1**
CEVE	**Cerro Verde**	**0.68**	**355**	*e*P		**Pn**	**10 50 24.0**	**-0.2**
CEVE				*e*S		**Sn**	**10 50 35.5**	**+1.2**
CEVE	**Cerro Verde**	**0.68**	**355**	P		**Pn**	**10 50 24.2**	**0.0**
CEVE	**Cerro Verde**	**0.68**	**355**	S		**Sn**	**10 50 34.9**	**+0.6**
UDBS	**Universidad Do**	**0.69**	**35**	P		**Pn**	**10 50 24.3**	**+0.1**
UDBS	**Universidad Do**	**0.69**	**35**	S		**Sn**	**10 50 34.5**	**+0.3**
LFU	**La Fuente**	**0.74**	**36**	*e*S		**Sn**	**10 50 36.0**	**+0.5**
LBRS	**Las Brisas**	**0.77**	**40**	*e*P		**Pn**	**10 50 25.4**	**+0.1**
NUBE	**Las Nubes**	**0.78**	**344**	⇑P		**Pb**	**10 50 24.9**	**+0.3**
NUBE				*i* S		**Sn**	**10 50 36.2**	**-0.5**
NUBE	**Las Nubes**	**0.78**	**344**	P		**Pb**	**10 50 24.8**	**+0.2**
FAME	**Alcaldia de Sa**	**0.82**	**327**	P		**Pb**	**10 50 25.3**	**+0.1**
PAVA	**Las Pavas**	**0.83**	**47**	P		**Pn**	**10 50 26.0**	**-0.1**
PAVA	**Las Pavas**	**0.83**	**47**	S		**Sn**	**10 50 38.3**	**+0.6**
UNIC	**Universidad Ca**	**0.83**	**1**	P		**Pb**	**10 50 25.6**	**+0.2**
UNIC	**Universidad Ca**	**0.83**	**1**	S		**Sn**	**10 50 37.9**	**+0.1**
TECO	**Alcaldia de Te**	**0.85**	**63**	P		**Pb**	**10 50 25.7**	**0.0**
TECO	**Alcaldia de Te**	**0.85**	**63**	S		**Sb**	**10 50 37.1**	**+0.5**
LOAL	**Lomas de Alarc**	**0.88**	**346**	P		**Pb**	**10 50 26.3**	**+0.2**
LOAL	**Lomas de Alarc**	**0.88**	**346**	S		**Sn**	**10 50 39.2**	**+0.4**
UESV	**Universidad de**	**0.90**	**57**	P		**Pb**	**10 50 25.9**	**-0.5**
UESV	**Universidad de**	**0.90**	**57**	S		**Sn**	**10 50 38.9**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.98**	**55**	P		**Pb**	**10 50 28.1**	**+0.2**
PQSS	**Presa 15 de Se**	**1.08**	**64**	P		**Pn**	**10 50 29.2**	**-0.3**
PQSS	**Presa 15 de Se**	**1.08**	**64**	S		**Sb**	**10 50 43.0**	**-0.2**
LLGN	**La Laguna**	**1.18**	**30**	P		**Pn**	**10 50 30.4**	**-0.4**
LLGN	**La Laguna**	**1.18**	**30**	S		**Sn**	**10 50 47.0**	**+0.7**
MTO3	**Montecristo**	**1.26**	**9**	*i* P		**Pn**	**10 50 31.5**	**-0.7**
MTO3				*i* S		**Sb**	**10 50 48.3**	**-0.3**
MTO3	**Montecristo**	**1.26**	**9**	P		**Pn**	**10 50 31.7**	**-0.5**
MTO3	**Montecristo**	**1.26**	**9**	S		**Sn**	**10 50 48.0**	**-0.6**
ESQI	**Esquipulas**	**1.42**	**8**	P		**Pn**	**10 50 33.8**	**-0.5**
ESQI	**Esquipulas**	**1.42**	**8**	S		**Sb**	**10 50 52.9**	**-0.3**
LCND	**La Caada**	**1.63**	**84**	*e*P		**Pn**	**10 50 37.0**	**0.0**
SARH	**Santa Rosa de**	**1.80**	**25**	*i* P		**Pn**	**10 50 39.3**	**-0.1**
SARH	**Santa Rosa de**	**1.80**	**25**	P		**Pn**	**10 50 39.6**	**+0.2**
SARH	**Santa Rosa de**	**1.80**	**25**	S		**Sn**	**10 51 01.5**	**-0.1**

*ISU **15** 10:56:25, 40°26N×71°98E, h0km*
*KRNET **15** 10:56:27.1±0.1, 40°23N×71°95E, h24km, mb2.6*

ISC 15 10:56:26.3±1.3, 40°26N±0°07×71°93E±0°04, h8km±10km, n8, σ0s74/15, 8C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FRG	**Fergana**	**0.16**	**316**	P		**Pg**	**10 56 29.5**	**-0.1**
CHMI	**Chimion**	**0.31**	**271**	P		**Pg**	**10 56 32.9**	**+0.5**
CHMI				S		**Sb**	**10 56 38.8**	**-0.6**
OHH	**Osh**	**0.70**	**68**	⇓*i* P		**Pb**	**10 56 40.8**	**-0.1**
OHH				⇓*i* S		**Sb**	**10 56 50.4**	**-0.4**
ARSB	**Arslanbob**	**1.33**	**37**	⇓*i* P		**Pg**	**10 56 51.6**	**-0.2**
ARSB				⇓*i* S		**Sg**	**10 57 09.6**	**+0.6**
TRKS	**Terek-Say**	**1.40**	**335**	⇑*i* P		**Pn**	**10 56 52.2**	**-0.1**
TRKS				⇑*i* S		**Sn**	**10 57 10.3**	**-0.8**
SALK	**Salom-Alik**	**1.57**	**66**	⇑*i* P		**Pg**	**10 56 55.5**	**-0.9**
SALK				⇑*i* S		**Sg**	**10 57 16.2**	**-0.5**
GAR	**Garm**	**1.77**	**225**	⇑*e*P		**Pb**	**10 56 58.7**	**-0.4**
GAR				⇑*i* S		**Sb**	**10 57 21.5**	**0.0**
UCH	**Uchtor**	**2.77**	**44**	⇑*i* P		**Pn**	**10 57 12.8**	**+1.4**
UCH				⇑*i* S		**Sn**	**10 57 46.2**	**+1.0**

ATH 15 10:56:43.2, 37°57N×20°74E, h13km±1km, ML2.2/6, Manual Solution by N.Liadopoulou First location: 2019/08/15 10:57:47, This location: 2019/08/15 11:01:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LTHK	**Lithakia**	**0.16**	**30**	P		Pg	10 56 46.8	-0.2
LTHK				S		Sg	10 56 48.6	-1.1
KYPS	**Kipseli, Zakin**	**0.26**	**16**	P		Pg	10 56 49.0	+0.4
KYPS				S		Sg	10 56 53.1	+0.8
ORTH	**Orthonies,Zaky**	**0.28**	**354**	P		Pg	10 56 49.3	+0.2
ORTH				S		Sg	10 56 53.2	+0.1
CLEM	**Kyllini,Ilia,G**	**0.45**	**45**	P		Pb	10 56 52.9	0.0
CLEM				S		Sg	10 56 58.1	+0.1
PSDA	**Pessada-Kefalo**	**0.55**	**348**	P		Pg	10 56 54.1	0.0
PSDA				S		Sb	10 57 02.5	-0.1
VLS	**Valsamata**	**0.61**	**349**	P		Pg	10 56 55.0	-0.2
VLS				S		Sb	10 57 04.2	-0.2
RLS	**Riolos of Patr**	**0.76**	**50**	P		Pg	10 56 57.5	-0.4
RLS				S		Sg	10 57 07.8	0.0
AXS	**Araxos**	**0.80**	**39**	P		Pg	10 56 58.4	-0.4
AXS				S		Sg	10 57 09.0	-0.3
DRO	**Drossia**	**0.86**	**64**	P		Pb	10 57 00.4	+0.4
FSK	**Fiskardo**	**0.90**	**351**	P		Pg	10 57 00.2	-0.3
FSK				S		Sb	10 57 12.7	+0.3
ITM	**Ithomi**	**1.03**	**112**	P		Pg	10 57 03.0	0.0
EVGI	**Lefkada island**	**1.05**	**357**	P		Pg	10 57 03.4	-0.1
KLV	**Kalavryta, Ach**	**1.22**	**67**	P		Pb	10 57 06.3	+0.2
PVO	**Paravola**	**1.22**	**31**	P		Pn	10 57 05.8	0.0
LKD2	**Lefkada island**	**1.22**	**357**	P		Pn	10 57 05.5	-0.4
EFP	**Efpalio**	**1.26**	**47**	P		Pn	10 57 06.3	-0.1
GUR	**Goura**	**1.32**	**74**	P		Pb	10 57 08.1	+0.1

*ATH **15** 10:58:06.7, 37°42N×20°72E, h6km±1km, ML2.9/16, Manual Solution by N.Liadopoulou First location: 2019/08/15 10:58:27, This location: 2019/08/15 11:07:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **15** 10:58:07.0, 37°N±2°×2°1E±°, h15km±1km, M2.8/11, MLh2.8/11*

ISC 15 10:58:06.8±1.6, 37°43N±0°06×20°70E±0°05, h13km±8km, n37, σ0s62/61, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRI1	**kERI**	**0.25**	**21**	P		**Pg**	**10 58 12.3**	**+0.2**
KRI1				S		**Sg**	**10 58 15.8**	**+0.1**
LTHK	**Lithakia**	**0.30**	**20**	P		**Pg**	**10 58 12.8**	**-0.1**
LTHK				S		**Sg**	**10 58 17.3**	**+0.2**
LTHK	**Lithakia**	**0.30**	**20**	P		**Pg**	**10 58 12.7**	**-0.2**
LTHK				S		**Sg**	**10 58 16.8**	**-0.3**
ZAK2	**Zakynthos**	**0.39**	**23**	P		**Pb**	**10 58 16.0**	**+0.4**
ZAK2				S		**Sb**	**10 58 22.6**	**+1.1**
KYPS	**Kipseli, Zakin**	**0.40**	**14**	P		**Pg**	**10 58 15.0**	**+0.2**
KYPS				S		**Sg**	**10 58 20.3**	**+0.1**
ORTH	**Orthonies,Zaky**	**0.42**	**359**	P		**Pg**	**10 58 15.0**	**-0.3**
ORTH				S		**Sg**	**10 58 21.5**	**+0.7**
ORTH	**Orthonies,Zaky**	**0.42**	**359**	P		**Pg**	**10 58 14.9**	**-0.3**
ORTH				S		**Sg**	**10 58 21.3**	**+0.4**
CLEM	**Kyllini,Ilia,G**	**0.57**	**36**	P		**Pg**	**10 58 18.0**	**0.0**
CLEM				S		**Sg**	**10 58 25.6**	**0.0**
PSDA	**Pessada-Kefalo**	**0.69**	**352**	P		**Pg**	**10 58 19.9**	**-0.3**
PSDA				S		**Sb**	**10 58 30.1**	**0.0**
PSDA	**Pessada-Kefalo**	**0.69**	**352**	P		**Pg**	**10 58 19.9**	**-0.3**
PSDA				S		**Sg**	**10 58 29.7**	**+0.4**
VLS	**Valsamata**	**0.75**	**353**	P		**Pg**	**10 58 20.7**	**-0.7**
VLS				S		**Sb**	**10 58 32.4**	**+0.4**
VLS	**Valsamata**	**0.75**	**353**	P		**Pg**	**10 58 21.0**	**-0.4**
VLS				S		**Sb**	**10 58 31.8**	**-0.2**
RLS	**Riolos of Patr**	**0.87**	**44**	P		**Pg**	**10 58 22.6**	**-1.0**
RLS				S		**Sg**	**10 58 34.8**	**-0.3**
RLS	**Riolos of Patr**	**0.87**	**44**	P		**Pg**	**10 58 22.7**	**-1.0**
RLS				S		**Sg**	**10 58 34.2**	**-0.8**
AXS	**Araxos**	**0.93**	**35**	P		**Pg**	**10 58 23.8**	**-1.0**
AXS				S		**Sg**	**10 58 36.6**	**-0.4**
DRO	**Drossia**	**0.95**	**56**	P		**Pg**	**10 58 24.1**	**-1.1**
DRO				S		**Sb**	**10 58 38.3**	**+0.5**
DRO	**Drossia**	**0.95**	**56**	P		**Pg**	**10 58 24.1**	**-1.1**
DRO				S		**Sg**	**10 58 37.4**	**-0.3**
ITM	**Ithomi**	**1.01**	**104**	P		**Pg**	**10 58 25.2**	**-1.0**
ITM				S		**Sn**	**10 58 40.3**	**-0.4**
ITM	**Ithomi**	**1.01**	**104**	P		**Pg**	**10 58 25.9**	**-0.3**
ITM				S		**Sb**	**10 58 39.3**	**+0.1**
FSK	**Fiskardo**	**1.03**	**354**	P		**Pg**	**10 58 25.3**	**-1.4**
FSK				S		**Sb**	**10 58 40.5**	**+0.4**
FSK	**Fiskardo**	**1.03**	**354**	P		**Pg**	**10 58 25.9**	**-0.9**
FSK				S		**Sg**	**10 58 40.1**	**-0.2**
EVGI	**Lefkada island**	**1.19**	**358**	P		**Pb**	**10 58 28.2**	**-1.1**
EVGI				S		**Sb**	**10 58 44.8**	**+0.2**
EVGI	**Lefkada island**	**1.19**	**358**	P		**Pg**	**10 58 29.7**	**0.0**
EVGI				S		**Sn**	**10 58 45.7**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.28**	**360**	P		**Pn**	**10 58 26.6**	**-0.8**
NYDR				S		**Sb**	**10 58 46.3**	**-0.9**
KLV	**Kalavryta, Ach**	**1.30**	**61**	P		**Pb**	**10 58 31.1**	**0.0**
PVO	**Paravola**	**1.35**	**28**	P		**Pn**	**10 58 31.7**	**+0.3**
LKD2	**Lefkada island**	**1.36**	**358**	P		**Pg**	**10 58 32.7**	**-0.3**
EFP	**Efpalio**	**1.38**	**43**	P		**Pn**	**10 58 32.1**	**+0.4**
GUR	**Goura**	**1.40**	**68**	P		**Pb**	**10 58 33.0**	**+0.2**
TSLK	**Tsoukalades, L**	**1.40**	**358**	P		**Pn**	**10 58 32.5**	**+0.5**
KALE	**Kalithea**	**1.49**	**49**	P		**Pb**	**10 58 34.3**	**0.0**
ANX	**Ano Chora**	**1.51**	**39**	P		**Pb**	**10 58 34.8**	**+0.1**
EVR	**Evrytania**	**1.72**	**30**	P		**Pb**	**10 58 38.1**	**-0.3**
VLI	**Velíai**	**1.92**	**111**	P		**Pn**	**10 58 40.4**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.94**	**35**	P		**Pn**	**10 58 40.3**	**+0.8**
AGG	**Agios Georgios**	**2.04**	**38**	P		**Pn**	**10 58 42.2**	**+1.3**
LKR	**Lokris**	**2.19**	**55**	P		**Pn**	**10 58 43.2**	**+0.4**

*NOU **15** 10:59:43.4, 18°00S×172°94W, h243km, mb4.5/9, Tonga Islands Region*
*IDC **15** 11:00:06.6±15.0, 19°96S×175°84W, h170km±122km, mb3.8/6, mbtmp4.3/7, Error ellipse: s-maj=80.8km s-min=25.2km az=47.0*

ISC 15 11:00:09.1±1.6, 20°0S±0°2×175°6W±0°2, h200km, n16, σ1s51/16, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.57**	**300**	P		**Pn**	**11 01 06.6**	**+1.0**
PINNC	**Pines Island,**	**16.05**	**258**	P		**Pn**	**11 03 45.8**	**+1.7**
YATNC	**Mamie plateau,**	**16.51**	**260**	P		**Pn**	**11 03 51.5**	**+1.8**
OUENC	**Ouen Island, N**	**16.59**	**259**	P		**Pn**	**11 03 52.5**	**+2.0**
DZM	**Mont Dzumac**	**16.93**	**260**	P		**P**	**11 03 54.0**	**+0.6**
	14nm,0.6s,baz=76,slow=19,SNR=24							
DZM	**Mont Dzumac**	**16.93**	**260**	P		**Pn**	**11 03 55.7**	**+1.0**
KUZ	**Kuaotunu**	**18.32**	**203**	P		**Pn**	**11 04 10.0**	**-0.8**
URZ	**Urewera**	**19.25**	**198**	P		**P**	**11 04 17.5**	**-0.8**
	9.3nm,0.8s,baz=42,slow=14,SNR=9.1							
URZ	**Urewera**	**19.25**	**198**	P		**P**	**11 04 18.1**	**-0.2**
STKA	**Stephens Creek**	**40.06**	**244**	P		**P**	**11 07 24.3**	**-0.8**
	0.9nm,0.5s,baz=90,slow=16,SNR=2.2							
	0.9nm,0.5s							
JAY	**Jayapura**	**46.09**	**287**	P		**P**	**11 08 12.3**	**-1.4**
	10nm,0.6s,baz=110,slow=7.7,SNR=7.2							
	10nm,0.6s							
ASAR	**Alice Springs**	**46.86**	**256**	P		**P**	**11 08 18.1**	**-1.5**
	7.2nm,0.6s,baz=95,slow=8.5,SNR=129							
	7.2nm,0.6s							
WRA	**Warramunga Arr**	**46.94**	**261**	P		**P**	**11 08 17.9**	**-2.3**
	1.2nm,0.3s,baz=94,slow=7.4,SNR=63							
	1.2nm,0.3s							
QSPA	**South Pole Qui**	**70.03**	**180**	P		**P**	**11 11 01.5**	**+2.4**
	1.6nm,0.9s,baz=36,slow=4.4,SNR=2.8							
	1.6nm,0.9s							
SNAA	**Sanae**	**88.40**	**178**	P		**P**	**11 12 37.9**	**-0.1**
	0.5nm,0.8s,baz=254,slow=7.4,SNR=1.6							
	0.5nm,0.8s							
BRTR	**Keskin Array B**	**148.19**	**314**	PKPbc		**PKPbc**	**11 19 31.7**	**-0.1**
	0.8nm,0.7s,baz=35,slow=5.3,SNR=2.8							

*IDC **15** 11:01:03.5±1.3, 16°27N×98°33W, h0km, mb3.9/9, mbtmp3.9/12, ML3.7/3, MS4.0/5, Error ellipse: s-maj=25.2km s-min=16.3km az=18.0*
*NEIC **15** 11:01:07.0±2.9, 16°42N±0°03×98°41W±0°03, h20km±6km, mb4.3/111, Md4.7/158(MEX), Error ellipse: s-maj=5.5km s-min=2.3km az=220.0*
*MEX **15** 11:01:08.3±0.7, 16°40N×98°42W, h10km±3km, MD4.7, ML4.7*

ISC 15 11:01:06.3±0.9, 16°49N±0°02×98°41W±0°02, h17km±6km, n234, σ2s19/313, mb4.3/40, MS4.0/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.29**	**109**			**Pg**	**11 01 13.3**	**+0.7**
PNIG						**Sg**	**11 01 17.6**	**+0.6**
PNIG	**Pinotepa**	**0.29**	**109**	*i* P		**Pg**	**11 01 13.3**	**+0.7**
PNIG				*i* S		**Sg**	**11 01 17.6**	**+0.6**
CRIG	**Cruz Grande**	**0.73**	**290**			**Pg**	**11 01 20.7**	**+0.1**
CRIG						**Sg**	**11 01 30.5**	**+0.1**
CRIG	**Cruz Grande**	**0.73**	**290**	*e*P		**Pg**	**11 01 20.7**	**+0.1**
CRIG				*e*S		**Sg**	**11 01 30.5**	**+0.1**
MGIG	**Malinaltepec**	**0.77**	**344**			**Pn**	**11 01 21.7**	**-0.9**
MGIG						**Sn**	**11 01 32.5**	**-1.3**
MGIG	**Malinaltepec**	**0.77**	**344**	*e*P		**Pn**	**11 01 21.7**	**-0.9**
MGIG				*e*S		**Sn**	**11 01 32.5**	**-1.3**
YOIG	**Yosondua**	**0.91**	**66**			**Pn**	**11 01 24.1**	**-0.5**
YOIG						**Sn**	**11 01 35.8**	**-1.5**
YOIG	**Yosondua**	**0.91**	**66**	*e*P		**Pn**	**11 01 24.1**	**-0.5**
YOIG				*e*S		**Sn**	**11 01 35.8**	**-1.5**
TXIG	**Tlaxiaco**	**0.98**	**39**			**Pn**	**11 01 25.5**	**0.0**
TXIG						**Sn**	**11 01 38.3**	**-0.8**
TXIG	**Tlaxiaco**	**0.98**	**39**	*e*P		**Pn**	**11 01 25.5**	**0.0**
TXIG				*i* S		**Sn**	**11 01 38.3**	**-0.8**
TLIG	**Tlapa**	**1.08**	**352**			**Pn**	**11 01 26.8**	**+0.1**
TLIG	**Tlapa**	**1.08**	**352**	*e*P		**Pn**	**11 01 27.0**	**+0.2**
TLIG				*e*S		**Sn**	**11 01 40.0**	**-1.3**
DAIG	**Los Arroyos**	**1.30**	**294**			**Pn**	**11 01 29.3**	**-0.4**
DAIG						**Sb**	**11 01 44.9**	**-1.7**
DAIG	**Los Arroyos**	**1.30**	**294**	*e*P		**Pn**	**11 01 29.3**	**-0.4**
DAIG				*i* S		**Sb**	**11 01 44.9**	**-1.7**
HMTT	**Tlapaneco**	**1.31**	**354**			**Pg**	**11 01 30.6**	**-1.0**
HMTT						**Sg**	**11 01 46.8**	**-1.9**
HMTT	**Tlapaneco**	**1.31**	**354**	*e*P		**Pg**	**11 01 30.6**	**-1.0**
HMTT				*e*S		**Sg**	**11 01 46.8**	**-1.9**
PEIG	**Puerto Escondi**	**1.31**	**112**			**Pn**	**11 01 29.0**	**-0.9**
PEIG						**Sn**	**11 01 44.5**	**-2.

THVM				eS		Sn	11 02 26.7	+1.2
AOVM	**Tlapan**	**2.90**	**343**			**Pb**	**11 01 54.4**	**-3.4**
AOVM						Sn	11 02 26.9	+0.2
AOVM	**Tlapan**	**2.90**	**343**	*eP*		**Pb**	**11 01 54.4**	**-3.4**
AOVM				*eS*		Sn	11 02 26.9	+0.2
UNM	**Universidad Na**	**2.92**	**346**			**Pb**	**11 01 55.2**	**-2.8**
UNM	**Universidad Na**	**2.92**	**346**	*eP*		**Pb**	**11 01 56.2**	**-1.8**
UNM				*eS*		Sn	11 02 27.3	+0.3
CUP5	**Mexico City**	**2.92**	**346**			**Pb**	**11 01 55.9**	**-2.2**
CUP5						Sb	11 02 31.7	-1.9
CUP5	**Mexico City**	**2.92**	**346**	*eP*		**Pb**	**11 01 55.9**	**-2.2**
CUP5				*eS*		Sb	11 02 31.7	-1.9
PET2	**Petatlan**	**2.92**	**291**			Sb	11 02 33.7	+0.4
PET2	**Petatlan**	**2.92**	**291**	*eS*		Sb	11 02 33.7	+0.4
COVM	**Coyoacan**	**2.93**	**346**			**Pb**	**11 01 57.5**	**-0.8**
COVM						Sb	11 02 29.5	-4.5
COVM	**Coyoacan**	**2.93**	**346**	*eP*		**Pb**	**11 01 57.5**	**-0.8**
COVM				*eS*		Sb	11 02 29.5	-4.5
INVM	**La Marquesa**	**2.94**	**342**			**Pb**	**11 01 55.8**	**-2.6**
INVM						Sb	11 02 32.9	-1.3
INVM	**La Marquesa**	**2.94**	**342**	*eP*		**Pb**	**11 01 55.8**	**-2.6**
INVM				*eS*		Sb	11 02 32.9	-1.3
BJVM	**Benito Juarez**	**2.96**	**346**			Pn	11 01 52.8	+0.1
BJVM						Sn	11 02 28.9	+0.9
BJVM	**Benito Juarez**	**2.96**	**346**	*eP*		Pn	11 01 52.8	+0.1
BJVM				*eS*		Sn	11 02 28.9	+0.9
TXVM	**Universitario**	**2.97**	**351**			**Pb**	**11 01 56.7**	**-2.2**
TXVM						Sb	11 02 33.1	-1.8
TXVM	**Universitario**	**2.97**	**351**	*eP*		**Pb**	**11 01 56.7**	**-2.2**
TXVM				*eS*		Sb	11 02 33.1	-1.8
CJVM	**Cuajimalpa**	**2.98**	**344**			**Pb**	**11 01 56.4**	**-2.7**
CJVM						Sn	11 02 26.5	-1.9
CJVM	**Cuajimalpa**	**2.98**	**344**	*eP*		**Pb**	**11 01 56.4**	**-2.7**
CJVM				*i S*		Sn	11 02 26.5	-1.9
VRVM	**Mexico City**	**2.99**	**347**			Sn	11 02 25.6	-3.1
VRVM	**Mexico City**	**2.99**	**347**	*eS*		Sn	11 02 25.6	-3.1
PBVM	**Pinon**	**3.00**	**348**			Pn	11 01 54.6	+1.5
PBVM						Sb	11 02 33.4	-2.4
PBVM	**Pinon**	**3.00**	**348**	*eP*		Pn	11 01 54.6	+1.5
PBVM				*eS*		Sb	11 02 33.4	-2.4
CTVM	**Cuauhtemoc**	**3.02**	**346**			Sb	11 02 33.7	-2.9
CTVM	**Cuauhtemoc**	**3.02**	**346**	*eS*		Sb	11 02 33.7	-2.9
APVM	**Azcapotzalco**	**3.08**	**346**			**Pb**	**11 01 59.5**	**-1.2**
APVM						Sb	11 02 35.1	-3.1
APVM	**Azcapotzalco**	**3.08**	**346**	*eP*		**Pb**	**11 01 59.5**	**-1.2**
APVM				*i S*		Sb	11 02 35.1	-3.1
ZIIG	**Zihuatanejo**	**3.12**	**291**			Pn	11 01 55.8	+1.0
ZIIG						Sn	11 02 33.8	+2.1
ZIIG	**Zihuatanejo**	**3.12**	**291**	*eP*		Pn	11 01 55.8	+1.0
ZIIG				*eS*		Sn	11 02 33.8	+2.1
VTVM	**Tizayuca**	**3.28**	**354**			Pn	11 02 04.2	0.0
VTVM						Sb	11 02 38.7	-5.4
VTVM	**Tizayuca**	**3.28**	**354**	*eP*		**Pb**	**11 02 04.2**	**0.0**
VTVM				*eS*		Sb	11 02 38.7	-5.4
CMIG	**Matias Romero**	**3.43**	**79**			Pn	11 01 58.8	-0.2
CMIG						Sn	11 02 37.8	-1.5
CMIG	**Matias Romero**	**3.43**	**79**	Pn		Pn	11 01 59.4	+0.4
	5.7nm,0.3s,baz=272,slow=11,SNR=17							
CMIG					Sn	Sn	11 02 38.2	-1.1
	26nm,0.3s,baz=273,slow=17,SNR=6.7							
CMIG				Lg	Lg		11 02 53.5	
	58nm,0.3s,baz=214,slow=16,SNR=14							
	13nm,0.4s							
CMIG	**Matias Romero**	**3.43**	**79**	*eP*		Pn	11 01 58.8	-0.2
CMIG				*eS*		Sn	11 02 37.8	-1.5
ATVM	**ATLACOMULCO**	**3.53**	**338**			**Pb**	**11 02 05.7**	**-2.7**
ATVM						Sb	11 02 48.3	-2.8
ATVM	**ATLACOMULCO**	**3.53**	**338**	*eP*		**Pb**	**11 02 05.7**	**-2.7**
ATVM				*eS*		Sb	11 02 48.3	-2.8
LVIG	**Laguna Verde**	**3.73**	**30**	*eP*		Pn	11 02 02.0	-1.1
LVIG				*i S*		Sn	11 02 42.4	-4.3
ACIG	**Acambay**	**3.74**	**338**			**Pb**	**11 02 10.5**	**-1.6**
ACIG						Sb	11 02 52.4	-4.8
ACIG	**Acambay**	**3.74**	**338**	*eP*		**Pb**	**11 02 10.5**	**-1.6**
ACIG				*i S*		Sb	11 02 52.4	-4.8
DHIG	**Demacu**	**3.84**	**351**			Pn	11 02 08.4	+3.6
DHIG						Sn	11 02 51.8	+2.2
DEIG	**Demacu**	**3.84**	**351**	*eP*		Pn	11 02 08.4	+3.6
DEIG				*eS*		Sn	11 02 51.8	+2.1
TUIG	**Tuzandepetl**	**4.11**	**67**	*eP*		Pn	11 02 05.0	-3.3
TUIG				*eS*		Sn	11 02 53.9	-2.1
MOIG	**Morelia**	**4.13**	**321**			Pn	11 02 09.8	+1.1
MOIG	**Morelia**	**4.13**	**321**	*eP*		Pn	11 02 11.9	+3.1
MOIG				*eS*		Sn	11 02 52.6	-4.2
UXUV	**UXUV**	**4.17**	**78**			Pn	11 02 09.0	-0.1
UXUV						Sn	11 02 55.3	-2.1
UXUV	**UXUV**	**4.17**	**78**	*eP*		Pn	11 02 09.0	-0.1
UXUV				*eS*		Sn	11 02 55.3	-2.1
JRQG	**Juriquilla Cam**	**4.61**	**336**	*e*		**Pb**	**11 02 25.5**	**-1.5**
JRQG				*eS*		Sn	11 03 13.2	+4.4
MMIG	**Aquila**	**5.04**	**292**			Pn	11 02 22.4	+1.4
MMIG						Sn	11 03 15.5	-3.4
MMIG	**Aquila**	**5.04**	**292**	*eP*		Pn	11 02 22.4	+1.4
MMIG				*eS*		Sn	11 03 15.5	-3.4
PCIG		**5.05**	**98**			Pn	11 02 19.7	-1.6
PCIG						Sn	11 03 12.7	-6.6
PCIG		**5.05**	**98**	*eP*		Pn	11 02 19.7	-1.6
PCIG				*eS*		Sn	11 03 12.7	-6.6
TGIG		**5.08**	**86**			Pb	11 02 28.5	-6.3
TGIG						Sn	11 03 20.8	+0.7
TGIG		**5.08**	**86**	*eP*		Pb	11 02 28.5	-6.3
TGIG				*eS*		Sn	11 03 20.8	+0.7
RPIG	**Rio Verde**	**5.57**	**345**			Pb	11 02 36.7	-6.4
RPIG						Sn	11 03 34.7	+2.5
RPIG	**Rio Verde**	**5.57**	**345**	*eP*		Pb	11 02 36.7	-6.4
RPIG				*i S*		Sn	11 03 34.7	+2.5
MNGA	**Volcan de Coli**	**5.77**	**302**	*eP*		Pn	11 02 34.9	+3.4
MNGA				*eS*		Sn	11 03 33.2	-4.2
INCO	**Volcan de Coli**	**5.79**	**302**	*eP*		Pn	11 02 34.1	+2.3
INCO				*eS*		Sn	11 03 34.6	-3.5
SOMAC	**Volcano de Col**	**5.81**	**302**	*eP*		Pn	11 02 35.4	+3.4
SOMAC				*eS*		Sn	11 03 41.2	+2.7
CDAR	**Ciudad de Arme**	**5.87**	**295**	*eP*		Pn	11 02 35.5	+2.8
CDAR				*i S*		Sn	11 03 38.3	-1.0
CEGR	**Campo Tres**	**5.93**	**300**	*eP*		Pn	11 02 36.8	+3.2
CEGR				*eS*		Sn	11 03 42.6	+1.4
CCIG	**Comitan**	**6.03**	**91**	*eP*		Pn	11 02 31.4	-3.4
CCIG				*eS*		Sn	11 03 44.4	+0.8
PATR	**El Naranjo**	**6.10**	**102**			Pn	11 02 37.3	+1.3
PATR						Sn	11 03 42.9	-2.6
PATR	**El Naranjo**	**6.10**	**102**	*eP*		Pn	11 02 37.3	+1.3
PATR				*eS*		Sn	11 03 42.9	-2.6
PAVE	**Pavencul**	**6.14**	**101**			Pn	11 02 36.3	-0.2
PAVE						Sn	11 03 41.1	-5.3
PAVE	**Pavencul**	**6.14**	**101**	*eP*		Pn	11 02 36.3	-0.2
PAVE				*eS*		Sn	11 03 41.1	-5.3
GTIG	**Gomez Farias**	**6.58**	**354**			Pn	11 02 43.6	+1.2
GTIG						Sn	11 04 01.6	+4.6
GTIG	**Gomez Farias**	**6.58**	**354**	*eP*		Pn	11 02 43.6	+1.2
GTIG				*eS*		Sn	11 04 01.6	+4.6
AAIG	**Aguscalientes**	**6.61**	**326**			Pn	11 02 45.8	+2.8
AAIG						Sn	11 03 59.3	+1.2
AAIG	**Aguscalientes**	**6.61**	**326**	*eP*		Pn	11 02 45.8	+2.8
AAIG				*eS*		Sn	11 03 59.3	+1.2
CIHU	**Emiliano Zapat**	**6.62**	**296**			Pn	11 02 45.5	+2.6
CIHU						Sn	11 03 56.4	-1.6
CIHU	**Emiliano Zapat**	**6.62**	**296**	*eP*		Pn	11 02 45.5	+2.6
CIHU				*eS*		Sn	11 03 56.4	-1.6
CJM	**Chamela**	**6.98**	**296**	*eP*		Pn	11 02 50.4	+2.6
CJM				*eS*		Sn	11 04 09.4	+2.5
ZAIG	**Zacatecas**	**7.37**	**329**			Pn	11 02 56.4	+3.0
ZAIG	**Zacatecas**	**7.37**	**329**	*e*		Pn	11 02 57.6	+4.2
ZAIG				*eS*		Sn	11 04 22.2	+5.3
LNIG	**Linares**	**8.42**	**353**	*e*		Pb	11 03 38.7	+7.0
LNIG				*e*			11 05 04.3	
TEIG	**Tepich**	**10.32**	**67**	Pn		Pn	11 03 34.8	+1.2
TEIG	**Tepich**	**10.32**	**67**	*eP*		Pn	11 03 32.8	-0.8
TEIG				*e*			11 05 20.1	
833A	**Chaparral WMA,**	**11.81**	**356**			Pn	11 03 57.9	+3.8
H06E1	**SOCORRO T-PHAS**	**12.14**	**283**	T		T	11 16 16.8	
	SNR=4.9							
LPIG	**La Paz**	**13.48**	**306**	Pn		**P**	**11 04 22.2**	**-3.8**
	1.6nm,0.3s,baz=26,slow=10,SNR=1.4							
TXAR	**Lajitas Array**	**13.67**	**340**	Pn		Pn	11 04 22.9	+3.4
	0.1nm,0.3s,baz=156,slow=12,SNR=5.8							
TXAR				Lg	Lg		11 08 17.3	
	0.3nm,0.3s,baz=158,slow=25,SNR=4.8							
TXAR				LR	LR		11 10 13.8	
	comp=Z,287nm,18.7s,baz=172,slow=40							
	0.5nm,0.7s							

SAND	**Sanderson**	**13.83**	**346**			**Pn**	**11 04 24.4**	**+2.7**
JCT	**Junction City**	**13.98**	**355**	Pn		**Pn**	**11 04 25.7**	**+1.9**
JTS	**Las Juntas de**	**14.47**	**114**	Pn		**Pn**	**11 04 30.9**	**+0.4**
	0.1nm,0.3s,baz=285,slow=16,SNR=2.4							
OZNA	**Ozona**	**14.58**	**351**			**P**	**11 04 35.6**	**-2.7**
BRDY	**Brady**	**14.74**	**358**			**Pn**	**11 04 34.5**	**+0.4**
MNHN	**Monahans**	**15.31**	**346**	P		**P**	**11 04 48.2**	**+1.9**
MNHN				IAmb	IAmb		11 04 49.7	
	comp=Z,12nm,0.7s							
VHRN	**Van Horn**	**15.45**	**338**			**P**	**11 04 46.2**	**-1.8**
WHTX	**Lake Whitney,**	**15.46**	**3**			**P**	**11 04 49.8**	**+1.8**
WHTX				IAmb	IAmb		11 04 50.5	
	comp=Z,15nm,0.8s							
SGCY	**Sterling City**	**15.55**	**351**	P		**P**	**11 04 51.2**	**+2.1**
237A	**Washetta, Mont**	**15.62**	**8**	P		**P**	**11 04 51.0**	**+1.2**
237A				IAmb	IAmb		11 04 52.0	
	comp=Z,25nm,1.0s							
PECS	**Pecos**	**15.63**	**342**	IAmb	IAmb		11 04 53.2	
	comp=Z,9.9nm,0.7s							
ABTX	**Abilene, Hawle**	**16.10**	**356**	IAmb	IAmb		11 04 58.6	
	comp=Z,20nm,0.9s							
PLPT	**Palo Pinto**	**16.25**	**0**			**Pn**	**11 04 54.5**	**+0.6**
POST	**Post**	**16.74**	**351**	IAmb	IAmb		11 05 05.8	
	comp=Z,12nm,0.8s							
Z35A	**Perchaven, San**	**16.80**	**3**	IAmb	IAmb		11 05 04.9	
	comp=Z,20nm,1.0s							
APMT	**Aspermont**	**16.83**	**355**	P		**P**	**11 05 02.2**	**-1.1**
Z38A	**Mt. Pleasant**	**16.98**	**10**			**P**	**11 05 06.2**	**+1.3**
DKNS	**Dickens**	**17.25**	**353**	IAmb	IAmb		11 05 11.7	
	comp=Z,13nm,0.7s							
MSTX	**Muleshoe**	**17.84**	**348**	IAmb	IAmb		11 05 26.3	
	comp=Z,17nm,1.1s							
TUC	**Tucson**	**19.34**	**327**	P		**Pn**	**11 05 32.4**	**+0.4**
DEOK	**Depew**	**19.35**	**5**	IAmb	IAmb		11 05 33.5	
	comp=Z,18nm,1.1s							
OK052	**Battle Ridge R**	**19.48**	**4**	IAmb	IAmb		11 05 41.8	
	comp=Z,20nm,1.1s							
TUL3	**Leonard**	**19.48**	**6**	IAmb	IAmb		11 05 52.7	
	comp=Z,15nm,0.9s							
ANMO	**Albuquerque**	**19.74**	**340**	P		**P**	**11 05 35.7**	**+0.2**
ANMO	**Albuquerque**	**19.74**	**340**	P		**Pn**	**11 05 37.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=244,slow=11,SNR=16							
ANMO				Lg	Lg		11 11 37.4	
	comp=Z,0.1nm,0.3s,baz=203,slow=15,SNR=1.3							
	comp=Z,4.9nm,0.8s							
CROK	**Carrier**	**19.94**	**1**	IAmb	IAmb		11 05 40.5	
	comp=Z,12nm,0.7s							
Y49A	**Blount Mountai**	**20.39**	**30**	IAmb	IAmb		11 05 51.1	
	comp=Z,7.9nm,0.9s							
T35A	**Sooner Cattle**	**20.42**	**4**	IAmb	IAmb		11 05 43.3	
	comp=Z,12nm,0.7s							
X48A	**Hartselle**	**20.59**	**28**	IAmb	IAmb		11 05 45.1	
	comp=Z,6.6nm,0.8s							
X18A	**Snowflake**	**20.73**	**332**	IAmb	IAmb		11 05 51.1	
	comp=Z,8.8nm,0.8s							
MGMO	**Mountain Grove**	**21.29**	**14**	IAmb	IAmb		11 05 57.2	
	comp=Z,14nm,0.9s							
SWET	**Sewanee**	**21.73**	**29**	IAmb	IAmb		11 05 57.8	
	comp=Z,9.4nm,0.8s							
V48A	**Smith Brothers**	**21.78**	**26**	IAmb	IAmb		11 06 06.1	
	comp=Z,11nm,0.9s							
W50A	**Signal Mountai**	**22.01**	**30**	IAmb	IAmb		11 06 10.6	
	comp=Z,11nm,0.9s							
WUAZ	**Wupatki**	**22.20**	**331**	P		**P**	**11 06 02.4**	**+0.4**
WUAZ				IAmb	IAmb		11 06 15.6	
	comp=Z,12nm,0.9s							
CCM	**Cathedral Cave**	**22.39**	**15**	P		**P**	**11 06 02.8**	**-1.0**
CCM				IAmb	IAmb		11 06 10.1	
	comp=Z,12nm,0.9s							
S22A	**4UR Ranch, Cre**	**22.44**	**342**	P		**P**	**11 06 07.7**	**+3.0**
S22A				IAmb	IAmb		11 06 09.8	
	comp=Z,5.0nm,0.8s							
MVCO	**Mesa Verde**	**22.49**	**339**	IAmb	IAmb		11 06 10.0	
	comp=Z,9.4nm,0.8s							
CPCT	**Cooper Cave**	**22.59**	**31**	IAmb	IAmb		11 06 14.9	
	comp=Z,10nm,0.9s							
KSCO	**Kaye Shedlock'**	**22.74**	**351**	P		**P**	**11 06 07.9**	**+0.3**
U49A	**Red Boiling Sp**	**22.88**	**27**	IAmb	IAmb		11 06 11.1	
	comp=Z,16nm,1.3s							
TKL	**Tuckaleechee C**	**23.13**	**32**	P		**P**	**11 06 11.3**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=221,slow=9.3,SNR=1.8							
PV01	**Paradox Valley**	**23.34**	**339**	IAmb	IAmb		11 06 18.9	
	comp=Z,13nm,1.3s							
PV13	**Radium Mtn., P**	**23.45**	**339**	IAmb	IAmb		11 06 19.5	
	comp=Z,6.5nm,0.9s							
PV05	**Paradox Valley**	**23.47**	**338**	IAmb	IAmb		11 06 19.2	
	comp=Z,6.4nm,1.0s							
PFO	**Pinyon Flats O**	**23.56**	**320**	P		**P**	**11 06 16.5**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=175,slow=6.7,SNR=2.3							
	comp=Z,0.9nm,0.6s							
PV18	**Skein Mesa, Pa**	**23.56**	**339**	IAmb	IAmb		11 06 27.3	
	comp=Z,8.6nm,0.9s							
PV19	**Morning Glory**	**23.64**	**339**	IAmb	IAmb		11 06 42.9	
	comp=Z,7.0nm,1.0s							
PV20	**West Nyswonger**	**23.66**	**339**	IAmb	IAmb		11 06 28.3	
	comp=Z,12nm,1.1s							
PV04	**Paradox Valley**	**23.69**	**339**	P		**P**	**11 06 19.0**	**+1.7**
PV04				IAmb	IAmb		11 06 28.6	
	comp=Z,12nm,1.2s							
PV10	**Paradox Valley**	**23.72**	**339**	IAmb	IAmb		11 06 54.4	
	comp=Z,6.3nm,0.9s							
T50A	**Nancy**	**23.72**	**28**	IAmb	IAmb		11 06 27.2	
	comp=Z,17nm,1.5s							
PV22	**Blue Mesa, Par**	**23.78**	**339**	IAmb	IAmb		11 06 21.7	
	comp=Z,11nm,1.3s							
PV23	**Carpenter Ridg**	**23.78**	**339**	IAmb	IAmb		11 06 21.5	
	comp=Z,7.7nm,0.7s							
PV21	**Cone Mtn., Par**	**23.86**	**339**	IAmb	IAmb		11 06 36.8	
	comp=Z,15nm,1.5s							
ISCO	**Idaho Springs**	**24.06**	**346**	IAmb	IAmb		11 06 24.3	
	comp=Z,5.4nm,0.7s							
KNB	**Kanab**	**24.10**	**331**	IAmb	IAmb		11 06 34.3	
	comp=Z,7.1nm,1.1s							
WCI	**Wyandotte Cave**	**24.14**	**24**	P		**P**	**11 06 21.7**	**+0.3**
SRU	**San Rafael Swe**	**24.90**	**337**	IAmb	IAmb		11 06 32.8	
	comp=Z,7.4nm,0.9s							
Q52A	**Bidwell**	**26.48**	**29**	P		**P**	**11 06 44.1**	**+1.5**
PDAR	**Pinedale Array**	**27.87**	**342**	P		**P**	**11 06 57.7**	**+2.3**
PDAR	**Pinedale Array**	**27.87**	**342**	P		**P**	**11 06 57.5**	**+2.1**
	comp=Z,1.4nm,0.7s,baz=152,slow=9.9,SNR=13							
	comp=Z,1.4nm,0.7s							
NVAR	**Mina Array Bea**	**27.97**	**325**	P		**P**	**11 06 57.3**	**+1.0**
NVAR	**Mina Array Bea**	**27.97**	**325**	P		**P**	**11 06 59.7**	**+3.3**
	comp=Z,2.7nm,0.9s,baz=148,slow=9.8,SNR=16							
	comp=Z,2.7nm,0.9s							
ELK	**Elko**	**28.22**	**332**	P		**P**	**11 07 02.0**	**+3.4**
	comp=Z,1.1nm,0.7s,baz=168,slow=7.7,SNR=3.7							
	comp=Z,1.1nm,0.7s							
LOHW	**Long Hollow**	**28.95**	**342**	IAmb	IAmb		11 07 16.3	
	comp=Z,9.1nm,1.4s							
AGMN	**Agassiz Nation**	**31.79**	**3**	IAmb	IAmb		11 07 32.1	
	comp=Z,4.0nm,0.9s							
F10A	**Beach Ranch, E**	**33.33**	**336**	IAmb	IAmb		11 07 49.4	
	comp=Z,3.8nm,0.8s							
G08A	**Pilot Rock**	**33.49**	**333**	IAmb	IAmb		11 07 47.9	
	comp=Z,3.0nm,0.8s							
GNW	**Green Mountain**	**36.95**	**332**	IAmb	IAmb		11 08 17.2	
	comp=Z,4.2nm,0.8s							
FFC	**Flin Flon**	**38.26**	**357**			**P**	**11 08 26.6**	**+1.2**
FFC				IAmb	IAmb		11 08 27.4	
	comp=Z,5.1nm,0.8s							
SCHQ	**Schefferville**	**45.34**	**25**	P		**P**	**11 09 23.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=225,slow=13,SNR=2.7							
	comp=Z,2.8nm,0.8s							
YKAW1	**Yellowknife Wh**	**47.31**	**350**	P		**P**	**11 09 40.2**	**+1.5**
YKAW1				IAmb	IAmb		11 09 44.7	
	comp=Z,3.1nm,0.8s							
YKA	**Yellowknife Ar**	**47.34**	**350**	P		**P**	**11 09 39.7**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=157,slow=7.2,SNR=6.7							
	comp=Z,1.1nm,0.7s							
H03N2	**Juan Fernandez**	**53.02**	**160**	T		T	12 07 10.4	
	baz=338,slow=77,SNR=516							
H03N1	**Juan Fernandez**	**53.03**	**160**	T		T	12 07 11.7	
	baz=338,slow=77,SNR=517							
H03N3	**Juan Fernandez**	**53.04**	**160**	T		T	12 07 13.4	
	baz=338,slow=77,SNR=569							
ILAR	**Eielson Array**	**58.17**	**338**	P		**P**	**11 11 00.5**	**+1.5**
	comp=Z,1.1nm,1.1s,baz=139,slow=4.3,SNR=7.9							
	comp=Z,1.1nm,1.1s							
CPUP	**Villa Florida**	**58.36**	**136**	LR	LR		11 36 52.5	
	comp=Z,68nm,20.2s,baz=94,slow=37							
PLCA	**Paso Flores**	**62.54**	**156**	P		**P**	**11 11 27.4**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=319,slow=9.2,SNR=4.2							
	comp=Z,1.9nm,0.8s							
JMIC	**Jan Mayen**	**74.51**	**20**	LR	LR		11 47 28.9	
	comp=Z,70nm,20.4s,baz=356,slow=37							
HFS	**Hagfors**	**86.36**	**28**	LR	LR		11 54 13.8	
	comp=Z,66nm,20.9s,baz=38,slow=37							
FINES	**FINESS Array B**	**90.78**	**23**	LR	LR		11 54 06.1	
	comp=Z,425nm,21.9s,baz=58,slow=35							

IDC 15 11:01:10.1±22.0, 2°.17N×128°.03E, h232km±168km, mb3.2/3, mbtmp4.0/4, Error ellipse: s-maj=176.5km s-min=71.4km az=30.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.04**	**199**	P	Pn	11 04 07.0	-0.2
	15nm,0.3s,baz=45,slow=5.7,SNR=6.3						
WRA	**Warramunga Arr**	**22.83**	**165**	P	P	11 05 53.2	-0.1
	0.7nm,0.4s,baz=345,slow=10,SNR=32						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**26.31**	**168**	P	P	11 06 24.9	+0.2
	0.5nm,0.5s,baz=352,slow=7.5,SNR=22						
ASAR				PcP	PcP	11 09 44.2	-0.4
	0.2nm,0.4s,baz=345,slow=2.2,SNR=2.1						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**36.22**	**160**	P	P	11 07 50.8	-0.3
	0.9nm,0.4s,baz=331,slow=10,SNR=4.5						
	0.9nm,0.4s						

*JMA **15** 11:08:30.4±0.1, 24°.2N×122°.6E±0°.5, h64km±1km, MV2.5/12, NW OFF ISHIGAKIJIMA IS*
*TAP **15** 11:08:30.2, 24°.31N×122°.66E, h69km, ML3.0, C*
ISC 15 11:08:30.3±1.3, 24°.27N±0°.03×122°.66E±0°.03, h70km±7km, n74, σ0°.89/148, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.32**	**54**	P	Pn	11 08 41.3	-0.2
JYNG				eS	Sn	11 08 48.9	-1.0
EOS3	**EOS3**	**0.32**	**274**	P	Pn	11 08 42.1	+0.7
EOS3				S	Sn	11 08 51.4	+1.8
EOS4	**EOS4**	**0.35**	**245**	*i P*	Pn	11 08 41.7	+0.4
EOS4				eS	Sn	11 08 50.1	+0.6
YOJ	**Yonaguni jima**	**0.37**	**58**	P	Pn	11 08 42.1	+0.1
YOJ				*i S*	Sn	11 08 50.2	-0.4
EOS2	**EOS2**	**0.42**	**291**	*eP*	Pn	11 08 42.8	+0.6
EOS2				eS	Sn	11 08 52.3	+1.2
ESAO	**Su ao**	**0.81**	**293**	*eP*	Pn	11 08 46.6	+0.1
ESAO				S	Sn	11 08 57.8	-0.7
TWC	**Suao**	**0.82**	**295**	*i P*	Pn	11 08 46.1	-0.4
TWC				*i S*	Sn	11 08 57.3	-1.3
EWUT	**Wuta**	**0.83**	**283**	*eP*	Pn	11 08 46.6	0.0
EWUT				*i S*	Sn	11 08 58.5	-0.3
EAHA	**Aohua**	**0.85**	**274**	*i P*	Pn	11 08 47.1	+0.3
EAHA				eS	Sn	11 08 59.5	+0.3
ENA	**Nanau**	**0.86**	**281**	*eP*	Pn	11 08 47.1	+0.1
ENA				eS	Sn	11 08 59.2	-0.2
EGS		**0.88**	**311**	*i P*	Pn	11 08 47.0	-0.3
EGS				*i S*	Sn	11 08 59.1	-0.8
ETL	**Fush Village**	**0.96**	**264**	*i P*	Pn	11 08 47.7	-0.5
ETL				S	Sn	11 09 00.9	-0.8
TWB1	**Santiao Chiao**	**0.96**	**320**	P	Pn	11 08 47.8	-0.5
TWB1				eS	Sn	11 09 00.1	-1.6
IRIF	**Iriomote-Funau**	**0.97**	**86**	*eP*	Pn	11 08 48.7	+0.2
IRIF				eS	Sn	11 09 02.4	+0.4
NACB	**Ninganchiao**	**0.98**	**265**	*i P*	Pn	11 08 48.2	-0.3
NACB				eS	Sn	11 09 01.2	-0

EHD				S	Sn	11 09 18.6	-1.2
WHYT	Xinyi Township	1.75	251	*i* P	Pn	11 09 00.4	+1.7
WHYT				*i* S	Sn	11 09 21.1	+1.0
ECS	Chishang	1.76	229	P	Pn	11 08 59.6	+0.8
ECS				*i* S	Sn	11 09 20.8	+0.4
EDH	Donghe	1.79	224	*i* P	Pn	11 08 58.6	-0.6
EDH				*i* S	Sn	11 09 19.6	-1.5
WJS	Zhushan	1.82	256	*i* P	Pn	11 09 01.4	+1.8
WJS				*i* S	Sn	11 09 24.4	+2.6
ELDTW	Lidau	1.85	235	*i* P	Pn	11 08 59.7	-0.4
ELDTW				S	Sn	11 09 20.8	-1.9
ALS	Alishan	1.86	247	*i* P	Pn	11 09 01.7	+1.4
ALS				S	Sn	11 09 24.6	+1.5
LONT	Longtian	1.95	226	*e*P	Pn	11 09 01.3	0.0
LONT				*e*S	Sn	11 09 24.3	-0.6
TWGBT	Beinan	2.05	226	*e*P	Pn	11 09 02.4	-0.2
TWGBT				*i* S	Sn	11 09 26.1	-1.1
TWG	Pinlang	2.05	226	*i* P	Pn	11 09 02.2	-0.5
TWG				S	Sn	11 09 25.9	-1.4
WCKO	Fanlu	2.06	247	*e*P	Pn	11 09 04.5	+1.8
WCKO				*i* S	Sn	11 09 29.5	+2.1

*IDC **15** 11:18:59.0±0.6,27.˚44N×128.˚24E, h0km, mb4.0/17, mbtmp3.9/19, ML3.0/1, Error ellipse: s-maj=22.9km s-min=9.8km az=80.0*
*NEIC **15** 11:19:04.7±2.1,27.˚40N±0.˚06×128.˚36E±0.˚07, h35km±8km, mb4.6/15, Error ellipse: s-maj=9.8km s-min=8.0km az=218.0*
*JMA **15** 11:19:06.8±0.1,27.˚2N±0.˚3×128.˚3E±0.˚4, h52km, MD3.9/20, MV4.0/20, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .

ISC 15 11:19:05.6±0.7, 27.˚19N±0.˚04×128.˚35E±0.˚04, h57km±5km, n76, σ1§39/78, mb4.2/26, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**0.19**	**150**	*i* P	**Pn**	**11 19 15.4**	**+0.8**
JYRO				*e*S	**Sn**	**11 19 21.3**	**+0.2**
JYRO	**Yoronjima**	**0.19**	**150**	A	A	11 19 15.4	
	comp=N,22nm,0.6s,comp=E,19nm,0.4s						
JOKE	**Okinoerabujima**	**0.27**	**49**	*i* P	**Pn**	**11 19 15.9**	**+0.7**
JOKE				*e*S	**Sn**	**11 19 22.2**	**+0.2**
JOKE	**Okinoerabujima**	**0.27**	**49**	A	A	11 19 15.9	
	comp=N,51nm,0.4s,comp=E,32nm,0.6s						
JOW	**Kunigami**	**0.36**	**190**	Pn	**Pn**	**11 19 16.7**	**+0.8**
	comp=E,2µm,0.3s,baz=56,slow=6.9,SNR=2332						
JOW				Sn	**Sn**	**11 19 24.2**	**+0.9**
	comp=E,3µm,0.3s,baz=307,slow=20,SNR=20						
JOW	**Kunigami**	**0.36**	**190**	P	**Sn**	**11 19 24.4**	**+1.0**
JOW	**Kunigami**	**0.36**	**190**	*i* P	**Pn**	**11 19 16.8**	**+0.8**
JOW				*e*S	**Sn**	**11 19 24.2**	**+0.9**
JOW	**Kunigami**	**0.36**	**190**	A	A	11 19 16.8	
	comp=N,37nm,0.3s,comp=E,40nm,0.3s						
JIH	**Iheya**	**0.37**	**246**	*i* P	**Pn**	**11 19 16.7**	**+0.7**
JIH				*e*S	**Sn**	**11 19 23.7**	**+0.2**
JIH	**Iheya**	**0.37**	**246**	A	A	11 19 16.7	
	comp=N,19nm,0.7s,comp=E,35nm,0.4s						
JNTH	**Nagotoyohara**	**0.73**	**204**	*i* P	**Pn**	**11 19 21.0**	**+1.0**
JNTH				*e*S	**Sn**	**11 19 31.5**	**+1.0**
JNTH	**Nagotoyohara**	**0.73**	**204**	A	A	11 19 21.0	
	comp=N,4.0nm,1.0s,comp=E,5.0nm,0.4s						
JTK	**Tokunoshima**	**0.80**	**42**	*i* P	**Pn**	**11 19 22.0**	**+1.0**
JTK				S	**Sn**	**11 19 32.9**	**+0.7**
JTK	**Tokunoshima**	**0.80**	**42**	A	A	11 19 22.0	
	comp=N,18nm,0.5s,comp=E,11nm,0.8s						
JAGN	**Aguni-jima**	**1.15**	**239**	*i* P	**Pn**	**11 19 26.5**	**+0.9**
JAGN				*e*S	**Sn**	**11 19 41.3**	**+0.9**
JAGN	**Aguni-jima**	**1.15**	**239**	A	A	11 19 26.5	
	comp=N,6.0nm,0.4s,comp=E,5.0nm,1.9s						
JJT3	**Tamagusuku3**	**1.16**	**206**	P	**Pn**	**11 19 27.6**	**+2.0**
JAMN	**Amaminishikomi**	**1.28**	**35**	*i* P	**Pn**	**11 19 28.2**	**+1.0**
JKE	**Kume jima 2**	**1.64**	**239**	*e*P	**Pn**	**11 19 33.0**	**+0.9**
JKE				*e*S	**Sn**	**11 19 53.2**	**+1.1**
JAM	**Amami Oshima**	**1.65**	**42**	*i* P	**Pn**	**11 19 33.9**	**+1.6**
JAM				*e*S	**Sn**	**11 19 54.2**	**+1.8**
JZK	**Kikaishima**	**1.83**	**52**	*e*P	**Pn**	**11 19 36.7**	**+2.1**
JTAJ	**Takarajima**	**2.10**	**21**	P	**Pn**	**11 19 39.4**	**+1.1**
JTAJ				S	**Sn**	**11 20 03.9**	**+0.6**
JKDJ	**Kitadaitoujima**	**2.92**	**114**	P	**Pn**	**11 19 49.2**	**-0.3**
JKDJ				*e*S	**Sn**	**11 20 21.7**	**-1.6**
JMZ	**Minamidaito 2**	**2.92**	**117**	Pn	**Pn**	**11 19 50.5**	**+1.0**
JMZ	**Minamidaito 2**	**2.92**	**117**	*e*P	**Pn**	**11 19 48.8**	**-0.7**
JNN	**Nakanoshima**	**2.97**	**27**	*e*P	**Pn**	**11 19 51.7**	**+1.4**
YOJ	**Yonaguni jima**	**5.52**	**242**	Pn	**Pn**	**11 20 25.1**	**-0.1**
JNU	**Nakatsue**	**6.31**	**20**	Pn	**Pn**	**11 20 38.9**	**+2.9**
	comp=E,2.3nm,0.3s,baz=197,slow=13,SNR=14						
YHNB	**Yeheng**	**6.76**	**250**		**Pn**	**11 20 42.4**	**+0.2**
NACB	**Ninganchiao**	**6.79**	**245**	P	**Pn**	**11 20 41.3**	**-1.3**
	comp=E,19nm,0.7s						
YULB	**Yu-li**	**7.41**	**241**		**Pn**	**11 20 48.7**	**-2.5**
YULB	**Yu-li**	**7.41**	**241**	P	**Pn**	**11 20 48.5**	**-2.7**
SSLB	**Suanglung**	**7.49**	**245**		**Pn**	**11 20 51.6**	**-0.6**
SSLB	**Suanglung**	**7.49**	**245**	P	**Pn**	**11 20 51.0**	**-1.2**
TWGBT	**Beinan**	**7.90**	**238**	P	**Pn**	**11 20 55.7**	**-2.1**
KSRS	**Korea Array**	**10.24**	**358**	Pn	Pn	11 21 24.1	-5.7
	comp=E,0.1nm,0.3s,baz=177,slow=13,SNR=1.6 comp=E,1.1nm,0.9s						
MJAR	**Matsushiro Arr**	**12.53**	**39**	Pn	**Pn**	**11 21 58.5**	**-2.6**
	comp=E,1.2nm,0.8s,baz=230,slow=8.8,SNR=1.8						
SONM	**Songino Array**	**26.81**	**326**	P	**P**	**11 24 36.8**	**-3.7**
	comp=E,0.4nm,0.5s,baz=144,slow=12,SNR=3.9 comp=E,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**28.41**	**258**	P	**P**	**11 24 54.0**	**-0.8**
	comp=E,0.4nm,0.3s,baz=71,slow=10,SNR=1.8 comp=E,0.4nm,0.3s						
PETK	**Petropavlovsk-**	**33.83**	**32**	P	**P**	**11 25 39.6**	**-2.6**
	comp=E,1.9nm,0.7s,baz=207,slow=16,SNR=3.7 comp=E,1.9nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**36.03**	**93**	T	T	12 03 56.7	
	baz=290,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**36.03**	**94**	T	T	12 04 14.5	
	baz=290,slow=74,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**36.04**	**94**	T	T	12 04 19.4	
	baz=290,slow=74,SNR=10						
MKAR	**Makanchi Array**	**40.98**	**311**	P	**P**	**11 26 43.4**	**+0.6**
MKAR	**Makanchi Array**	**40.98**	**311**	P	**P**	**11 26 42.0**	**-0.9**
	comp=E,1.4nm,0.6s,baz=94,slow=11,SNR=14						
MKAR				PcP	**PcP**	**11 28 42.8**	**+0.7**
	comp=E,0.5nm,0.7s,baz=116,slow=3.4,SNR=2.5 comp=E,1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.55**	**322**	P	**P**	**11 26 45.1**	**-2.3**
	comp=E,1.0nm,0.4s,baz=115,slow=7.9,SNR=3.9 comp=E,1.0nm,0.4s						
KNRA	**Kununurra**	**42.61**	**179**	P	**P**	**11 26 57.8**	**+1.6**
KNRA				IAmb	IAmb	11 27 27.9	
	comp=Z,14nm,1.4s						
KURK	**Kurchatov**	**44.20**	**316**	P	**P**	**11 27 09.3**	**+0.4**
KURK				IAmb	IAmb	11 27 14.8	
	comp=Z,3.9nm,1.1s						
KURBB	**Kurchatov Arra**	**44.24**	**316**	P	**P**	**11 27 09.3**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=102,slow=8.9,SNR=13 comp=Z,2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**45.09**	**184**	P	**P**	**11 27 18.0**	**+1.8**
WB0	**Warramunga Arr**	**47.04**	**172**	P	**P**	**11 27 33.2**	**+1.7**
WB0				IAmb	IAmb	11 27 48.2	
	comp=Z,8.0nm,1.4s						
WRAB	**Tennant Creek**	**47.20**	**172**	P	**P**	**11 27 34.5**	**+1.7**
WRAB				IAmb	IAmb	11 28 02.6	
	comp=Z,9.6nm,1.5s						
WRA	**Warramunga Arr**	**47.21**	**172**	P	**P**	**11 27 34.3**	**+1.5**
WRA	**Warramunga Arr**	**47.21**	**172**	P	**P**	**11 27 34.4**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=352,slow=8.5,SNR=15 comp=Z,0.7nm,0.4s						
WR8	**Warramunga Arr**	**47.24**	**172**	P	**P**	**11 27 34.5**	**+1.4**
WR8				IAmb	IAmb	11 27 39.3	
	comp=Z,13nm,1.5s						
BVAR	**Borovoye Array**	**49.63**	**318**	P	**P**	**11 27 49.1**	**-2.2**
	comp=Z,2.1nm,0.5s,baz=74,slow=11,SNR=9.6 comp=Z,2.1nm,0.5s						
ASAR	**Alice Springs**	**50.84**	**173**	P	**P**	**11 28 02.5**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=6.0,slow=14,SNR=14 comp=Z,0.8nm,0.8s						
AB31	**Akbulak array**	**56.07**	**313**	P	**P**	**11 28 39.0**	**+0.3**
ABKAR	**Akbulak array**	**56.07**	**313**	P	**P**	**11 28 38.4**	**-0.3**
G18K	**Tagagawik**	**58.58**	**27**	P	**P**	**11 28 57.8**	**+1.7**
G18K				IAmb	IAmb	11 29 26.4	
	comp=Z,9.3nm,1.5s						
D19K	**Kuna River**	**58.97**	**24**	P	**P**	**11 29 00.5**	**+1.7**
F19K	**Shaleruckik Mo**	**58.99**	**26**	P	**P**	**11 28 59.3**	**+0.4**
F19K				IAmb	IAmb	11 29 27.2	
	comp=Z,4.0nm,1.2s						
E19K	**Redstone River**	**59.23**	**26**	P	**P**	**11 29 02.5**	**+1.8**
E19K				IAmb	IAmb	11 29 05.9	
	comp=Z,4.0nm,0.8s						
D20K	**Etivluk River**	**59.53**	**24**	P	**P**	**11 29 03.7**	**+1.0**
KDAK	**Kodiak Island**	**61.69**	**37**	P	**P**	**11 29 18.0**	**+0.5**
SUA	**Susitna One**	**62.21**	**32**	P	**P**	**11 29 21.9**	**+0.8**
SUA				IAmb	IAmb	11 29 28.2	
	comp=Z,7.8nm,1.3s						
ILAR	**Eielson Array**	**63.55**	**28**	P	**P**	**11 29 29.7**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=231,slow=6.6,SNR=1.2 comp=Z,2.2nm,0.7s						
ARCES	**ARCESS Array B**	**69.16**	**338**	P	**P**	**11 30 05.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=64,slow=2.8,SNR=4.2 comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**72.08**	**330**	P	**P**	**11 30 23.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=90,slow=5.7,SNR=13 comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**74.87**	**319**	P	**P**	**11 30 40.2**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=60,slow=6.7,SNR=5.9 comp=Z,1.4nm,0.4s						
BRTR	**Keskin Array B**	**76.53**	**308**	P	**P**	**11 30 50.8**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=112,slow=5.0,SNR=8.7 comp=Z,1.5nm,0.6s						
YKA	**Yellowknife Ar**	**77.62**	**25**	P	**P**	**11 30 56.7**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=38,slow=3.6,SNR=8.4 comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**78.02**	**332**	P	**P**	**11 30 58.1**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=101,slow=7.7,SNR=6.2 comp=Z,1.3nm,0.5s						
NB2	**NORSAR Subarra**	**78.50**	**334**	P	**P**	**11 31 00.6**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=53,slow=5.9						
NOA	**NORSAR Array B**	**78.50**	**334**	P	**P**	**11 31 00.5**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=52,slow=5.6,SNR=9.3 comp=Z,1.7nm,0.6s						
QSPA	**South Pole Qui**	**116.96**	**180**	PKP	**PKiKP**	**11 37 44.7**	**+1.5**
	comp=Z,1.5nm,1.2s,baz=328,slow=8.2,SNR=1.9						

*VAO **15** 11:19:11.3±1.4, 17.˚67S×69.˚68W, h145km±7km, mb4.1*
*GUC **15** 11:19:16.3±0.8, 17.˚70S×69.˚48W, h153km±5km, ML3.4*
*IDC **15** 11:19:18.6±3.4, 16.˚72S×69.˚37W, h184km±13km, mb3.9/3, mbtmp4.4/3, MS3.7/1, Error ellipse: s-maj=124.4km s-min=51.4km az=173.0*

ISC 15 11:19:14.5±0.9, 17.˚64S±0.˚07×69.˚4W±0.˚1, h159km±7km, n32, σ1§03/37, 2C-2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.09**	**303**	⇓*i*P	**Pn**	**11 19 37.3**	**+0.9**
PB18				*i* S	**Sn**	**11 19 53.8**	**+0.7**
PB18				IAML		11 19 56.3	
	comp=E,444nm,0.8s						
PB16	**IPOC Station P**	**0.70**	**188**	⇑*i*P	**Pn**	**11 19 39.1**	**+0.4**
PB16				*i* S	**Sn**	**11 19 57.2**	**0.0**
PB16				IAML		11 19 59.1	
	comp=N,522nm,0.6s						
AP01	**Chacalluta**	**1.15**	**231**	⇑*i*P	**Pn**	**11 19 40.7**	**-0.7**
AP01				*i* S	**Sn**	**11 20 00.4**	**-1.7**
AP01				IAML		11 20 01.3	
	comp=N,5µm,0.4s						
LPAZ	**La Paz**	**1.81**	**42**	P	**Pn**	**11 19 49.4**	**+0.6**
	comp=N,361nm,0.3s,baz=251,slow=2.8,SNR=2379						
LPAZ				S	**Sn**	**11 20 13.5**	**-1.5**
	comp=N,20nm,0.3s,baz=317,slow=24,SNR=1.7						
LPAZ	**La Paz**	**1.81**	**42**	*e*P	**Pn**	**11 19 47.7**	**-1.1**
GO01	**Chusmiza**	**2.03**	**174**	⇓*i*P	**Pn**	**11 19 51.8**	**+0.8**
GO01				*i* S	**Sn**	**11 20 19.2**	**0.0**
GO01				IAML		11 20 23.8	
	comp=E,424nm,0.0s						
PB11	**IPOC Station P**	**2.12**	**186**	*e*P	**Pn**	**11 19 51.5**	**-0.4**
PB11				*i* S	**Sn**	**11 20 19.0**	**-1.7**
PB11				IAML		11 20 24.8	
	comp=N,306nm,0.2s						
PATCX	**Punta Patache**	**3.25**	**193**	*e*P	**Pn**	**11 20 04.5**	**-1.0**
PATCX				IAML		11 20 45.4	
	comp=E,133nm,0.5s						
BBSD	**Serra de San D**	**8.41**	**88**	*e*P	**Pn**	**11 21 10.7**	**-2.7**
SALV	**Santo Antonio**	**13.24**	**85**	*e*P	**Pn**	**11 22 18.4**	**+1.8**
PDRB	**Porto dos Gac**	**13.64**	**66**	*e*P	**Pn**	**11 22 22.6**	**+0.9**
CLDB	**Colider**	**14.80**	**65**	*e*P	**Pn**	**11 22 37.2**	**+1.1**
RPRD	**Ribas do Rio P**	**15.11**	**103**	*e*P	**Pn**	**11 22 40.7**	**+0.6**
ARAG	**Araguaiana, MT**	**16.96**	**86**	*e*P	**Pn**	**11 23 03.2**	**+0.6**
PTGB	**Pitanga**	**17.63**	**116**	*e*P	**P**	**11 23 10.0**	**+0.7**
LDASE	**Londrina, Braz**	**18.05**	**112**	*e*P	**P**	**11 23 13.8**	**0.0**
SNDB	**Serra Nova Dou**	**18.39**	**75**	*e*P	**P**	**11 23 17.9**	**+0.4**
ITTB	**Itaituba**	**18.79**	**47**	*e*P	**P**	**11 23 21.0**	**-0.9**
CPSB	**Cacapava Do Su**	**19.31**	**134**	*e*P	**P**	**11 23 27.4**	**0.0**
FRTB	**Fartura**	**19.43**	**110**	*e*P	**P**	**11 23 29.4**	**+0.6**
PLTB	**Pedras Altas**	**20.06**	**137**	*e*P	**P**	**11 23 34.3**	**-1.2**
IPMB	**Ipameri, GO**	**20.18**	**94**	*e*P	**P**	**11 23 37.6**	**+0.7**
BDFB	**Brasilia**	**20.59**	**88**	P	**P**	**11 23 43.2**	**+1.8**
	comp=E,2.8nm,0.3s,baz=235,slow=11,SNR=3.7 comp=E,2.8nm,0.3s						
PRPB	**Parauapebas**	**22.27**	**62**	*e*P	**P**	**11 23 59.3**	**+0.4**
SMTB	**Santa Maria do**	**22.93**	**70**	*e*P	**P**	**11 24 05.3**	**+0.3**
JANB	**Januaria**	**24.21**	**88**	*e*P	**P**	**11 24 16.6**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.21**	**81**	*e*P	**P**	**11 24 16.9**	**+0.1**
DIAM	**Diamantina, MG**	**24.48**	**96**	*e*P	**P**	**11 24 20.3**	**+1.0**
SJG	**San Juan**	**35.67**	**5**	LR	LR	11 40 43.5	
	comp=E,143nm,21.6s,baz=267,slow=37						
DBIC	**Dimbokro**	**68.14**	**75**	P	**P**	**11 29 57.6**	**-0.4**
	comp=E,4.6nm,0.7s,baz=255,slow=7.9,SNR=3.9 comp=E,4.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.53**	**71**	P	**P**	**11 30 47.3**	**-0.5**
	comp=E,2.4nm,0.7s,baz=259,slow=5.3,SNR=13 comp=E,2.4nm,0.7s						
WRA	**Warramunga Arr**	**135.98**	**213**	PKP	**PKiKP**	**11 38 19.8**	**+0.6**
	comp=E,0.1nm,0.4s,baz=137,slow=1.8,SNR=1.4						

*HEL **15** 11:32:13.6±0.4, 67.˚79N×20.˚27E, h0km, ML1.5, Suspected explosion*

UPP 15 11:32:13.2±0.1, 67.˚85N×20.˚21E, h0km, ML2.0, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**23**	P	Pg	11 32 15.7	+0.2
KUA				S	Sg	11 32 17.4	+0.3
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	11 32 17.8	+0.1
KOVU	**Salmi**	**0.38**	**357**	P	Pg	11 32 20.4	-0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	11 32 21.8	+0.1
LANU	**Lannavaara**	**0.70**	**72**	P	Pg	11 32 26.5	-0.2
LANU	**Lannavaara**	**0.70**	**72**	PB	Pg	11 32 26.7	0.0
LANU				SG	Sg	11 32 35.6	-0.1
DUNU	**Dundret**	**0.74**	**169**	P	Pg	11 32 27.0	-0.3
SALU	**Saltoluokta**	**0.80**	**235**	*e*P	Pg	11 32 28.3	-0.2
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	Pg	11 32 35.5	-0.4
KIF	**Kilpisjarvi**	**1.19**	**10**	PB	Pn	11 32 37.1	+0.2
KIF				SG	Sg	11 32 51.4	+0.2
KIF				MSG		11 32 52.2	
	comp=Z,5.7nm,0.2s						
PAJU	**Pajala**	**1.39**	**125**	PN	Pg	11 32 38.5	-1.3
PAJU				SN	Sg	11 32 57.2	-0.6
HEF	**Hetta**	**1.41**	**65**	PG	Pn	11 32 39.2	-0.9
HEF				MSG		11 32 56.1	
	comp=Z,3.5nm,0.2s						
HEF				SG	Sg	11 32 57.1	-1.3
ERTU	**Ertsjaerv**	**1.51**	**148**	PN	Pn	11 32 40.6	-0.8
ERTU				SN	Sn	11 33 01.8	0.0
KLF	**Kolari**	**1.57**	**111**	PN	Pn	11 32 41.9	-0.3
KLF				MSG		11 32 59.2	
	comp=Z,2.9nm,0.2s						
KLF				SN	Sg	11 33 03.6	+0.2
KTK1	**Kautokeino**	**1.62**	**42**	PG	Pn	11 32 43.3	+0.3
KTK1				SG	Sg	11 33 05.3	+0.1
TRO	**Tromso**	**1.86**	**346**	SG	Sb	11 33 12.0	+0.4
KALU	**Kalix**	**2.35**	**147**	PG	Pn	11 32 54.0	+1.0
TOF	**Tornio**	**2.40**	**136**	PG	Pn	11 32 55.2	+1.6
TOF				MSG		11 33 23.1	
	comp=Z,2.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.57**	**46**	PN	Pn	11 32 57.4	+1.3
	baz=227						
ARA0				SB	Sb	11 33 30.4	-1.9
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PB	Pn	11 33 04.4	+1.2
KEV	**Kevo**	**3.13**	**49**	SN	Sn	11 33 42.5	+0.9
VRF	**Varrio**	**3.57**	**87**	PG	Pb	11 33 17.8	+0.6
VRF				SG	Sb	11 34 01.6	+0.7
OLKF	**Oulanka, Finla**	**3.91**	**109**	PB	Pn	11 33 18.6	+4.2
KU6	**Riekki**	**4.22**	**111**	PG	Pb	11 33 29.2	+1.0

*IDC **15** 11:39:12.4±1.3, 7.˚25N×76.˚70W, h0km, mb3.2/1, mbtmp3.9/4, ML3.3/3, Error ellipse: s-maj=38.6km s-min=26.1km az=30.0*
*RSNC **15** 11:39:18.8±0.0, 7.˚N±1.˚×7.˚6W±.˚, h0km±2km, M3.5, mb4.3, ML3.1*
*CATAC **15** 11:39:18.5±0.4, 7.˚N±2.˚×7.˚6W±.˚, h4km±3km, M4.1/10, MLv4.1/10, Error ellipse: s-maj=5.4km s-min=4.6km az=38.2, confirmed*

ISC 15 11:39:17.3±0.9, 6.˚92N±0.˚02×76.˚23W±0.˚03, h11km±6km, n40, σ1§82/71, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.10**	**13**	P	**Pg**	**11 39 20.3**	**+0.2**
DBBC				S	**Sg**	**11 39 22.3**	**+0.2**
HELC	**Santa Helena**	**1.00**	**136**	P	**Pg**	**11 39 36.7**	**-0.1**
HELC				S	**Sg**	**11 39 51.9**	**+1.6**
HELC	**Santa Helena**	**1.00**	**136**	P	**Pg**	**11 39 36.1**	**-0.6**
HELC				S	**Sg**	**11 39 49.7**	**-0.2**
APAC	**Apartado, Choc**	**1.03**	**341**	P	**Pn**	**11 39 38.3**	**+0.5**
APAC				S	**Sn**	**11 39 57.3**	**+5.0**
UREC	**San Jos de Ur**	**1.08**	**40**	P	**Pb**	**11 39 38.6**	**+0.5**
UREC				S	**Sn**	**11 39 55.0**	**+1.5**
SOLC	**Bahia Solano**	**1.35**	**240**	P	**Pn**	**11 39 42.8**	**+0.6**
SOLC				S	**Sn**	**11 40 03.0**	**+2.8**
ZARC	**Zaragoza, Cauc**	**1.48**	**67**	P	**Pn**	**11 39 44.7**	**+0.8**
ZARC				S	**Sg**	**11 40 04.6**	**-0.4**
PTAC	**Punta Ardita,**	**1.58**	**278**	P	**Pn**	**11 39 44.9**	**-0.4**
PTAC				S	**Sg**	**11 40 07.9**	**-0.3**
PTBC	**PUERTO BERRIO,**	**1.80**	**102**	P	**Pb**	**11 39 50.0**	**-0.4**
PTBC				S	**Sg**	**11 40 15.9**	**+0.5**
GUY2C	**Guyana, Caldas**	**1.89**	**153**	P	**Pb**	**11 39 52.0**	**-0.1**
GUY2C				S	**Sg**	**11 40 18.8**	**+0.6**
NORC	**Norcasia**	**1.91**	**135**	P	**Pn**	**11 39 51.5**	**+1.6**
NORC				S	**Sb**	**11 40 16.8**	**+0.7**
LCBC	**Los crdobas,**	**1.93**	**356**	P	**Pn**	**11 39 50.9**	**+0.8**
LCBC				S	**Sg**	**11 40 19.3**	**-0.2**
PLMC	**San Jos del P**	**2.00**	**181**	P	**Pn**	**11 39 52.1**	**+1.0**
PLMC				S	**Sg**	**11 40 21.2**	**-0.4**
CAP2	**Capurgana**	**2.05**	**327**	P	**Pn**	**11 39 52.6**	**+0.8**
BRJC	**Barrancabermej**	**2.47**	**89**	P	**Pb**	**11 40 00.9**	**-0.9**
BRJC				S	**Sb**	**11 40 34.7**	**+2.4**
ANIL	**Santa Ana**	**2.55**	**161**	P	**Pb**	**11 40 03.5**	**+0.2**
ANIL				S	**Sg**	**11 40 38.4**	**-0.9**
ROSC	**El Rosal**	**2.81**	**137**	Pn	**Pb**	**11 40 07.8**	**0.0**
ROSC	32nm,0.3s,baz=265,slow=3.7,SNR=14			Sn	**Sg**	**11 40 46.4**	**-1.2**
	15nm,0.3s,baz=282,slow=20,SNR=5.9 67nm,0.3s						
ROSC	**El Rosal**	**2.81**	**137**	P	**Pb**	**11 40 07.6**	**-0.1**
ROSC				S	**Sg**	**11 40 46.5**	**-1.2**
YOTC	**Yotoco, Valle**	**2.92**	**182**	P	**Pn**	**11 40 04.9**	**+1.1**
YOTC				S	**Sn**	**11 40 41.7**	**+2.7**
BARC	**Barichara**	**3.05**	**96**	P	**Pb**	**11 40 09.7**	**-2.0**
BARC				S	**Sb**	**11 40 49.6**	**+0.5**
SJCC	**San Jacinto, C**	**3.14**	**19**	P	**Pn**	**11 40 07.8**	**+1.0**
SJCC				S	**Sn**	**11 40 43.8**	**-0.6**
ORTC	**Ortega, Tolima**	**3.15**	**162**	P	**Pb**	**11 40 11.7**	**-1.6**
ORTC				S	**Sg**	**11 40 57.2**	**-1.2**
OCAC	**Ocana**	**3.17**	**65**	P	**Pn**	**11 40 08.5**	**+1.1**
OCAC				S	**Sn**	**11 40 48.0**	**+2.7**
RUSC	**La Rusia**	**3.29**	**108**	P	**Pb**	**11 40 14.2**	**-1.9**
RUSC				S	**Sb**	**11 40 53.8**	**-2.6**
RUSC	**La Rusia**	**3.29**	**108**	P	**Pb**	**11 40 13.5**	**-2.6**
RUSC				S	**Sb**	**11 40 55.0**	**-1.4**
PRAC	**Prado**	**3.45**	**157**	P	**Pb**	**11 40 15.7**	**-2.9**
PRAC				S	**Sb**	**11 41 03.1**	**+2.5**
PAMC	**Pamplona, Colo**	**3.53**	**83**	P	**Pn**	**11 40 15.5**	**+2.9**
PAMC				S	**Sn**	**11 40 58.5**	**+3.9**
VILC	**Villavicencio,**	**3.76**	**138**	P	**Pb**	**11 40 21.3**	**-2.6**
AZU	**Azuero**	**4.10**	**282**	P	**Pn**	**11 40 20.2**	**+0.2**
AZU				S	**Sn**	**11 41 07.8**	**-0.2**
BCIP	**Isla Barro Col**	**4.21**	**302**	P	**Pn**	**11 40 22.8**	**+1.3**

ORTC	**Ortega, Tolima**	**3.22**	**161**	P		**Pn**	**11 42 56.3**	**+2.4**	
ORTC				S		**Sb**	**11 43 40.5**	**+0.7**	
RUSC	**La Rusia**	**3.37**	**108**	P		**Pn**	**11 42 57.8**	**+1.4**	
RUSC				S		**Sn**	**11 43 42.1**	**+5.4**	
PAMC	**Pamplona, Colo**	**3.59**	**84**	P		**Pn**	**11 43 01.8**	**+2.4**	
PAMC				S		**Sn**	**11 43 46.5**	**+4.4**	
VILC	**Villavicencio,**	**3.84**	**137**	P		Pn	11 43 07.6	+5.0	
AZU	**Azuero**	**4.03**	**282**	P		**Pn**	**11 43 05.6**	**+0.6**	
AZU				S		**Sn**	**11 43 51.8**	**-0.4**	
BCIP	**Isla Barro Col**	**4.13**	**302**	P		**Pn**	**11 43 07.0**	**+0.6**	
BCIP				S		**Sn**	**11 43 57.2**	**+2.5**	
POPC	**Popayan, Colom**	**4.42**	**185**	P		**Pn**	**11 43 12.2**	**+1.6**	
POPC				S		**Sn**	**11 44 04.0**	**+1.8**	
CACAO	**El Cacao, Vera**	**4.54**	**275**	P		**Pn**	**11 43 12.3**	**+0.2**	
CACAO				S		**Sn**	**11 44 03.5**	**-1.4**	
GMAL	**Guarumal, Vera**	**4.96**	**279**	P		**Pn**	**11 43 19.3**	**+1.5**	
	4µm31nm,0.7s								
CRJC	**Cerrejon, Guaj**	**5.25**	**40**	P		**Pn**	**11 43 23.5**	**+1.5**	
	1µm38nm,0.7s								
CRJC				S		**Sn**	**11 44 19.7**	**-2.9**	
	1µm38nm,0.7s								
MACC	**Macarena, Meta**	**5.38**	**153**	P		**Pn**	**11 43 26.2**	**+2.5**	
FLOC	**Florencia**	**5.39**	**173**	P		**Pn**	**11 43 26.5**	**+2.7**	
FLOC				S		Sn	11 44 17.4	-8.5	
SDV	**Santo Domingo**	**5.93**	**71**	Pn		**Pn**	**11 43 32.6**	**+1.3**	
	3.4nm,0.3s,baz=302,slow=7.6,SNR=1.9								
SDV				Sn		**Sn**	**11 44 39.8**	**+0.5**	
	9.6nm,0.3s,baz=241,slow=14,SNR=2.8								
SDV				Lg		Lg	11 45 08.5		
	12nm,0.3s,baz=263,slow=17,SNR=4.6								
SDV				LR		LR	11 46 14.5		
	comp=Z,866nm,18.1s,baz=242,slow=42 14nm,0.3s								
URIC	**Uribia, Colomb**	**6.34**	**42**	P		**Pn**	**11 43 37.2**	**+0.4**	
URIC				S		**Sn**	**11 44 48.8**	**-0.4**	
PTLC	**Puerto Leguiza**	**6.92**	**167**	P		Pn	11 43 53.0	+8.2	
JTS	**Las Juntas de**	**9.17**	**292**	Pn		Pn	11 44 10.4	-5.3	
	0.2nm,0.3s,baz=163,slow=19,SNR=1.2								
JTS				LR		LR	11 48 03.0		
	comp=Z,660nm,18.7s,baz=130,slow=40 4.1nm,1.1s								
PCRV	**Puerto La Cruz**	**11.96**	**74**	Pn		**Pn**	**11 44 54.0**	**0.0**	
	0.6nm,0.3s,baz=217,slow=10,SNR=1.5								
PCRV				Sn		**Sn**	**11 47 06.7**	**-1.0**	
	baz=187,slow=12 7.2nm,0.8s								
ATAH	**Atahualpa**	**14.17**	**189**	LR		LR	11 52 06.9		
	comp=Z,261nm,19.4s,baz=11,slow=43								
CMIG	**Matias Romero**	**20.75**	**301**	LR		LR	11 55 14.0		
	comp=Z,222nm,19.8s,baz=120,slow=39								
MDP	**Montagnes des**	**23.60**	**93**	P		**P**	**11 47 15.2**	**+0.7**	
	4.6nm,0.9s,baz=261,slow=9.5,SNR=1.5 4.6nm,0.9s								
LPAZ	**La Paz**	**24.48**	**161**	P		**P**	**11 47 24.4**	**+1.0**	
	1.3nm,0.8s,baz=334,slow=0.7,SNR=3.7								
LPAZ				LR		LR	11 56 57.2		
	comp=Z,137nm,20.2s,baz=322,slow=36 1.3nm,0.8s								
SIV	**San Ignacio**	**27.35**	**147**	LR		LR	11 58 57.8		
	comp=Z,256nm,18.8s,baz=293,slow=37								
TXAR	**Lajitas Array**	**34.05**	**314**	P		**P**	**11 48 46.8**	**-1.1**	
	0.1nm,0.3s,baz=109,slow=4.3,SNR=1.6 0.1nm,0.3s								
BDFB	**Brasilia**	**35.91**	**129**	LR		LR	12 05 03.9		
	comp=Z,162nm,21.5s,baz=305,slow=38								
LPIG	**La Paz**	**36.78**	**301**	LR		LR	12 06 29.3		
	comp=Z,87nm,19.1s,baz=218,slow=40								
CPUP	**Villa Florida**	**37.88**	**152**	LR		LR	12 05 24.3		
	comp=Z,28nm,18.4s,baz=196,slow=37								
YKA	**Yellowknife Ar**	**62.07**	**341**	P		**P**	**11 52 23.8**	**0.0**	
	0.3nm,0.8s,baz=135,slow=6.2,SNR=4.6 0.3nm,0.8s								
DLBC	**Dease Lake**	**65.70**	**332**	LR		LR	12 23 20.5		
	comp=Z,36nm,20.1s,baz=50,slow=38								
ESDC	**Sonseca Array**	**71.99**	**51**	P		**P**	**11 53 27.2**	**-0.3**	
	0.3nm,0.6s,baz=257,slow=5.6,SNR=3.2 0.3nm,0.6s								
ILAR	**Eielson Array**	**75.50**	**335**	P		**P**	**11 53 46.2**	**-1.3**	
	0.2nm,0.6s,baz=108,slow=6.5,SNR=1.9 0.2nm,0.6s								
TORD	**Torodi Ar. Bea**	**76.80**	**78**	P		**P**	**11 53 56.2**	**+0.4**	
	0.3nm,0.6s,baz=270,slow=2.9,SNR=1.7 0.3nm,0.6s								
ARCES	**ARCESS Array B**	**87.63**	**20**	P		**P**	**11 54 50.5**	**-1.0**	
	1.0nm,0.8s,baz=295,slow=5.7,SNR=3.7 1.0nm,0.8s								
ASAR	**Alice Springs**	**146.59**	**237**	PKPbc		**PKPdf**	**12 01 44.0**	**-0.4**	
	1.7nm,1.1s,baz=113,slow=3.2,SNR=7.3								
WRA	**Warramunga Arr**	**147.61**	**244**	PKPbc		**PKPdf**	**12 01 45.6**	**-0.6**	
	0.4nm,0.6s,baz=104,slow=3.1,SNR=8.2								
CMAR	**Chiang Mai Arr**	**154.30**	**10**	PKPab		**PKPab**	**12 02 17.1**	**-1.4**	
	0.5nm,0.3s,baz=343,slow=4.3,SNR=1.7								

*PAS **15** 11:50:25.0±0.8,36°.078N±0°.008×117°.86W±0°.01, h2km±3km, Mwr3.9/6, ML3.8/174(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=51.0*

*NEIC **15** 11:50:24.5±0.8,36°.087N±0°.009×117°.86W±0°.01, h5km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=150.0*

*IDC **15** 11:50:25.8±0.7,36°.09N×117°.78W, h0km, mb3.8/3, mbtmp3.5/9, ML3.6/6, MS3.5/4, Error ellipse: s-maj=14.5km s-min=5.2km az=75.0*

ISC 15 11:50:25.2±0.8,36°.09N±0°.01×117°.86W±0°.02, h3km±6km, n105, σ1s01/107, mb3.8/3, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.03**	**6**		**Pg**	**11 50 26.2**	**0.0**
MFS					**Sg**	**11 50 27.2**	**+0.4**
WRVM	**Rose V. Centra**	**0.08**	**198**		**Pg**	**11 50 26.7**	**-0.2**
WRVM					**Sg**	**11 50 28.0**	**-0.1**
WCSM	**Coso Springs S**	**0.10**	**129**		**Pg**	**11 50 27.1**	**-0.1**
WCSM					**Sg**	**11 50 28.6**	**+0.1**
JRC2	**Joshua Ridge**	**0.11**	**159**		**Pg**	**11 50 28.6**	**+1.1**
WVPM	**Volcano Peak E**	**0.14**	**166**		**Pg**	**11 50 27.8**	**-0.3**
WVPM					**Sg**	**11 50 30.0**	**+0.1**
WNMM	**Nine Mile Cany**	**0.25**	**189**		**Pg**	**11 50 29.6**	**-0.3**
WNMM					**Sg**	**11 50 33.2**	**+0.1**
TOW	**Tower One**	**0.29**	**164**		**Pg**	**11 50 31.0**	**+0.2**
TOW					**Sg**	**11 50 35.9**	**+1.3**
MPMC	**Manual Prospec**	**0.30**	**95**		**Pg**	**11 50 30.9**	**-0.2**
MPMC				IAML		11 50 37.0	
	comp=N,11µm,0.7s						
CLC	**China Lake**	**0.34**	**142**		**Pg**	**11 50 31.5**	**-0.4**
CLC					**Sg**	**11 50 35.6**	**-0.7**
CLC	**China Lake**	**0.34**	**142**	IAML		11 50 39.7	
	comp=E,3µm,0.8s						
CLC				IAML		11 50 40.5	
	comp=N,3µm,1.1s						
CWC	**Cottonwood Cre**	**0.40**	**333**		**Sg**	**11 50 38.4**	**+0.3**
CWC	**Cottonwood Cre**	**0.40**	**333**		**Pg**	**11 50 32.7**	**-0.2**
CWC				IAML		11 50 38.8	
	comp=N,10µm,0.2s						
CWC				IAML		11 50 39.0	
	comp=E,9µm,0.2s						
SRTC	**Snort**	**0.40**	**167**		**Pg**	**11 50 33.2**	**+0.2**
SRTC					**Sg**	**11 50 39.9**	**+1.6**
CGO	**Cerro Gordo**	**0.47**	**6**		**Sb**	**11 50 41.6**	**-2.1**
WORM	**Onyx Ranch**	**0.50**	**219**		**Pg**	**11 50 34.3**	**-0.6**
WORM					**Sg**	**11 50 41.0**	**-0.3**
WHFM	**Hanning Flat**	**0.56**	**226**		**Pg**	**11 50 35.4**	**-0.5**
WHFM					**Sg**	**11 50 43.1**	**-0.1**
WSHM	**Spangler Hills**	**0.57**	**148**		**Pg**	**11 50 35.7**	**-0.5**
WSHM					**Sg**	**11 50 43.5**	**-0.1**
WSHM	**Spangler Hills**	**0.57**	**148**	IAML		11 50 44.1	
	comp=E,3µm,0.6s						
WSHM				IAML		11 50 46.3	
	comp=E,3µm,0.4s						
WBSM	**Bird Springs**	**0.59**	**203**		**Pg**	**11 50 36.2**	**-0.5**
WBSM					**Sg**	**11 50 44.0**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.62**	**167**		**Pg**	**11 50 36.8**	**-0.4**
LRMC					**Sg**	**11 50 45.4**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.62**	**167**	IAML		11 50 46.0	
	comp=E,5µm,0.6s						
LRMC				IAML		11 50 47.7	
	comp=N,3µm,0.8s						
ISA	**Isabella, Lake**	**0.65**	**230**		**Pg**	**11 50 37.4**	**-0.4**
ISA				IAML		11 50 46.6	
	comp=N,5µm,0.9s						
ISA				IAML		11 50 47.1	
	comp=E,4µm,0.4s						
ISA	**Isabella, Lake**	**0.65**	**230**		**Sg**	**11 50 46.4**	**+0.1**
WASM	**Alta Sierra Ca**	**0.67**	**239**		**Pg**	**11 50 37.6**	**-0.4**
WASM					**Sg**	**11 50 46.9**	**+0.2**
CCCA	**Chr Cany lake**	**0.69**	**144**		**Pg**	**11 50 38.4**	**0.0**
CCCA					**Sg**	**11 50 48.0**	**+0.6**
CCCA	**Chr Cany lake**	**0.69**	**144**	IAML		11 50 53.8	
	comp=E,7µm,0.7s						
CCCA				IAML		11 50 55.2	
	comp=N,7µm,0.6s						
SPG2	**Springville 2**	**0.74**	**279**		**Pg**	**11 50 38.9**	**-0.6**
SPG2					**Sg**	**11 50 48.5**	**-0.6**
QSM	**Queen of Sheba**	**0.81**	**98**		**Pg**	**11 50 40.3**	**-0.5**
QSM					**Sg**	**11 50 51.2**	**-0.2**
QSM	**Queen of Sheba**	**0.81**	**98**	IAML		11 50 55.3	
	comp=E,5µm,0.6s						
QSM				IAML		11 50 58.4	
	comp=N,5µm,1.0s						
DTP	**Desert Tortois**	**0.82**	**179**		**Pg**	**11 50 40.1**	**-0.8**
DTP					**Sg**	**11 50 51.0**	**-0.5**
FURC	**Furnace Creek,**	**0.89**	**64**		**Pg**	**11 50 42.2**	**-0.1**
FURC					**Sg**	**11 50 54.2**	**+0.3**
CCAC	**Calif City Air**	**0.94**	**188**		**Pg**	**11 50 42.5**	**-0.8**
CCAC					**Sg**	**11 50 55.3**	**-0.2**
GWY	**Greenwater Val**	**0.97**	**84**		**Pg**	**11 50 43.3**	**-0.5**
TIN	**Tinemaha, Big**	**1.01**	**343**		**Pg**	**11 50 44.3**	**-0.4**
TIN					**Sb**	**11 50 57.8**	**-1.4**
VES	**Vestal, Richgr**	**1.02**	**257**		**Pg**	**11 50 44.3**	**-0.5**
TEJ	**El Tejon**	**1.09**	**219**		**Pg**	**11 50 44.9**	**-1.3**
TEJ					**Sg**	**11 50 59.5**	**-0.8**
SGV	**South Grapevin**	**1.11**	**36**		**Pg**	**11 50 45.9**	**-0.7**
SGV					**Sg**	**11 51 01.4**	**+0.3**
MAGC	**SCE Magundon P**	**1.13**	**230**		**Sb**	**11 51 01.5**	**-1.0**
LCH	**Last Change Ra**	**1.16**	**8**		**Pb**	**11 50 46.6**	**-1.4**
GSC	**Goldstone, Bar**	**1.16**	**132**		**Pb**	**11 50 46.5**	**-1.6**
GSC					**Sn**	**11 51 03.8**	**-1.1**
GSC	**Goldstone, Bar**	**1.16**	**132**	IAML		11 51 06.6	
	comp=E,3µm,1.2s						
GSC				IAML		11 51 10.2	
	comp=N,2µm,0.8s						
WCT	**Wildcat Mounta**	**1.22**	**54**		**Pn**	**11 50 47.9**	**-1.4**
WCT				IAML		11 51 07.8	
	comp=N,2µm,0.6s						
WCT				IAML		11 51 10.4	
	comp=E,3µm,0.6s						
TPO	**Tropico Hills**	**1.24**	**194**		**Pn**	**11 50 47.9**	**-1.7**
TPO				IAML		11 51 08.0	
	comp=E,2µm,0.7s						
TPO				IAML		11 51 10.1	
	comp=N,3µm,0.8s						
VOG	**Valley Oaks Go**	**1.25**	**281**		**Pb**	**11 50 48.5**	**-1.1**
DSP	**Deep Springs**	**1.28**	**356**		**Pn**	**11 50 48.9**	**-1.2**
DSP				IAML		11 51 07.9	
	comp=E,1µm,0.5s						
DSP				IAML		11 51 07.9	
	comp=N,917nm,0.3s						
GMN	**Gold Mountain**	**1.30**	**22**		**Pn**	**11 50 49.6**	**-1.0**
GMN				IAML		11 51 15.0	
	comp=N,1µm,0.7s						
TPNV	**Topopah Spring**	**1.56**	**56**		**Pn**	**11 50 53.4**	**-0.7**
TPNV				IAML		11 51 17.1	
	comp=N,2µm,0.8s						
TPNV				IAML		11 51 24.1	
	comp=N,2µm,0.8s						
OSI	**Osito Audit: C**	**1.63**	**206**		**Pb**	**11 50 54.6**	**-1.4**
OSI				IAML		11 51 19.8	
	comp=N,1µm,0.6s						
OSI				IAML		11 51 27.3	
	comp=E,832nm,0.8s						
MZP	**Montezuma Peak**	**1.66**	**13**		**Pb**	**11 50 55.3**	**-1.3**
KCC	**Kaiser Creek**	**1.70**	**317**		**Pb**	**11 50 56.3**	**-1.0**
BFSC	**Mount Baldy Ra**	**1.85**	**175**		**Pn**	**11 50 57.0**	**-1.0**
BFSC				IAML		11 51 31.8	
	comp=E,521nm,0.9s						
MWC	**Mount Wilson**	**1.87**	**185**		**Pn**	**11 50 57.7**	**-0.6**
MWC				IAML		11 51 26.2	
	comp=N,685nm,0.5s						
MWC				IAML		11 51 30.1	
	comp=E,663nm,1.1s						
PASC	**Pasadena Art C**	**1.93**	**188**	IAML		11 51 29.1	
	comp=E,515nm,0.8s						
MTPC	**Mountain Pass**	**1.97**	**107**		**Pn**	**11 50 58.5**	**-1.1**
MTPC				IAML		11 51 32.5	
	comp=N,457nm,1.2s						
MTPC				IAML		11 51 43.7	
	comp=E,411nm,1.2s						
PKD	**Bear Valley Ra**	**2.18**	**267**		**Pn**	**11 51 02.4**	**-0.1**
SHPR	**Sheep Range**	**2.22**	**78**		**Pn**	**11 51 02.8**	**-0.4**
LHV	**Little Huntoon**	**2.22**	**347**		**Pb**	**11 51 03.7**	**-2.3**
LHV				IAML		11 51 43.3	
	comp=E,668nm,0.8s						
LHV				IAML		11 51 49.2	
	comp=N,657nm,1.2s						
S11A	**Rachel**	**2.30**	**47**		**Pn**	**11 51 04.8**	**+0.6**
BLAC	**Blackrock camp**	**2.35**	**149**		**Pn**	**11 51 03.9**	**-0.9**
NVAR	**Mina Array Bea**	**2.37**	**352**		**Pn**	**11 51 05.4**	**+0.2**
NVAR	**Mina Array Bea**	**2.37**	**352**	Pn	**Pn**	**11 51 05.6**	**+0.4**
	comp=N,6.8nm,0.3s,baz=178,slow=14,SNR=42						
NVAR				Pg	**Pg**	**11 51 09.7**	**-0.9**
	comp=N,30nm,0.3s,baz=160,slow=14,SNR=35						
NVAR				Lg	Lg	11 51 40.2	
	comp=N,91nm,0.3s,baz=170,slow=30,SNR=22 comp=N,10nm,0.4s						
PMPB	**Monarch Peak**	**2.38**	**274**		**Pn**	**11 51 05.5**	**+0.2**
ELS	**Elsinore Mount**	**2.46**	**172**		**Pn**	**11 51 05.7**	**-0.7**
V12A	**Nelson**	**2.47**	**97**		**Pn**	**11 51 05.5**	**-1.0**
V12A				IAML		11 51 51.6	
	comp=N,255nm,0.9s						
DANC	**Danby, Needles**	**2.49**	**125**	IAML		11 51 53.8	
	comp=N,670nm,0.9s						
DANC				IAML		11 51 54.4	
	comp=E,744nm,1.2s						
BELC	**Belle Mtn. Jos**	**2.58**	**143**	IAML		11 51 57.0	
	comp=E,272nm,1.4s						
RYN	**Ryan**	**2.59**	**348**		**Pn**	**11 51 08.4**	**+0.2**
RYN				IAML		11 51 59.3	
	comp=E,263nm,1.4s						
PRN	**Pahroc Range**	**2.61**	**59**		**Pn**	**11 51 08.2**	**-0.3**
PMD	**Palm Desert**	**2.72**	**153**		**Pn**	**11 51 08.8**	**-1.0**
WAKR	**Walker**	**2.72**	**333**		**Pn**	**11 51 11.1**	**+1.0**
WAKR				IAML		11 51 56.3	
	comp=E,327nm,0.7s						
WAKR				IAML		11 51 57.6	
	comp=N,335nm,0.9s						
PFO	**Pinyon Flats O**	**2.72**	**155**		**Pn**	**11 51 09.1**	**-1.0**
PFO	**Pinyon Flats O**	**2.72**	**155**	Pn	**Pn**	**11 51 09.0**	**-1.0**
	comp=N,2.5nm,0.3s,baz=336,slow=15,SNR=38						
PFO				Pg	**Pb**	**11 51 15.7**	**+1.0**
	comp=N,9.8nm,0.3s,baz=335,slow=13,SNR=30						
PFO				Lg	Lg	11 51 51.5	
	comp=N,14nm,0.3s,baz=249,slow=22,SNR=6.5						
PFO				LR	LR	11 52 13.0	
	comp=N,152nm,20.8s,baz=358,slow=40 comp=N,10nm,0.4s						
Q09A	**Carvers**	**2.79**	**11**		**Pn**	**11 51 12.2**	**+1.1**
Q09A				IAML		11 52 19.2	
	comp=N,613nm,1.1s						
CMB	**Columbia Colle**	**2.81**	**315**		**Pn**	**11 51 12.1**	**+1.0**
CMB				IAML		11 51 54.8	
	comp=E,574nm,0.7s						
R11B	**Troy Canyon, C**	**2.90**	**38**		**Pn**	**11 51 12.3**	**-0.2**
R11B				IAML		11 52 02.7	
	comp=E,192nm,1.2s						
IRM	**Iron Mountain**	**2.94**	**130**		**Pn**	**11 51 11.1**	**-1.8**
NEE2	**Needles Airpor**	**2.96**	**116**		**Pn**	**11 51 11.7**	**-1.4**
NEE2				IAML		11 52 05.4	
	comp=E,342nm,0.8s						
NEE2				IAML		11 52 08.7	
	comp=N,518nm,0.7s						
SAO	**San Andreas Ge**	**2.97**	**284**		**Pn**	**11 51 14.2**	**+0.8**
BORC	**Borrego Spring**	**3.05**	**157**	IAML		11 52 05.2	
	comp=E,197nm,0.8s						
BORC				IAML		11 52 10.7	
	comp=N,154nm,1.2s						
BC3	**Big Chuckawall**	**3.13**	**140**	IAML		11 52 16.2	
	comp=E,144nm,1.6s						
BC3				IAML		11 52 18.0	
	comp=N,166nm,1.6s						
PAHR	**Pah Rah Range**	**3.81**	**342**	IAML		11 52 39.8	
	comp=N,86nm,1.7s						
LCMT	**Little Creek M**	**3.83**	**75**	IAML		11 52 29.9	
	comp=N,85nm,0.9s						
CBX	**Cerro Bola**	**3.89**	**165**	IAML		11 52 30.6	
	comp=N,233nm,1.4s						
GLA	**Glamis**	**3.93**	**140**	IAML		11 52 36.9	
	comp=N,112nm,0.6s						
GLA				IAML		11 52 52.9	
	comp=E,180nm,0.9s						
SPR3	**Spring Creek 3**	**4.04**	**43**	IAML		11 52 33.5	
	comp=N,154nm,0.7s						
SPR3				IAML		11 52 39.4	
	comp=E,145nm,0.8s						
KNB	**Kanab**	**4.16**	**76**	IAML		11 52 51.9	
	comp=N,124nm,1.5s						
KNB				IAML		11 53 06.6	
	comp=E,88nm,1.7s						
ESJX	**Sierra Juarez**	**4.37**	**158**	IAML		11 52 46.0	
	comp=E,60nm,1.0s						
U15A	**North Rim**	**4.51**	**84**	IAML		11 52 55.0	
	comp=E,98nm,1.1s						
U15A				IAML		11 53 00.5	
	comp=N,89nm,1.1s						
Y14A	**Wickenburg**	**4.52**	**117**	IAML		11 52 58.0	
	comp=N,93nm,0.9s						
Y14A				IAML		11 53 06.5	
	comp=E,60nm,1.6s						
MTPU	**Mount Pierson**	**4.94**	**65**	IAML		11 53 18.0	
	comp=E,41nm,1.8s						
MTPU				IAML		11 53 25.1	
	comp=N,55nm,1.9s						
ELK	**Elko**	**5.08**	**23**	IAML		11 53 09.9	
	comp=N,43nm,0.8s						
ELK	**Elko**	**5.08**	**23**	Pn	**Pn**	**11 51 43.1**	**+0.5**
	comp=N,2.1nm,0.3s,baz=215,slow=9.0,SNR=36						
ELK				Pg	**Pg**	**11 51 59.8**	**-2.9**
	comp=N,3.8nm,0.3s,baz=224,slow=13,SNR=20						
ELK				Sn	**Sn**	**11 52 41.4**	**-0.6**
	comp=N,0.8nm,0.3s,baz=223,slow=19,SNR=1.1						
ELK				Lg	Lg	11 53 04.2	
	comp=N,6.3nm,0.3s,baz=107,slow=23,SNR=11 comp=N,4.4nm,0.3s						
WUAZ	**Wupatki**	**5.30**	**94**	IAML		11 53 15.7	
	comp=N,74nm,1.4s						
YBH	**Yreka Blue Hor**	**6.79**	**328**	Pn	Pn	11 52 10.1	+4.2
	baz=171,slow=13						
YBH				Pg	**Pb**	**11 52 21.9**	**-2.0**
	baz=172,slow=7.9,SNR=4.4						
YBH				Sn	**Sn**	**11 53 22.6**	**-1.1**
	baz=155,slow=16,SNR=3.3						
YBH				Lg	Lg	11 53 55.0	
	baz=180,slow=15,SNR=4.5						
PDAR	**Pinedale Array**	**9.26**	**41**	Pn	Pn	11 52 44.1	+4.3
	comp=N,0.1nm,0.3s,baz=226,slow=12,SNR=5.5						
PDAR				Lg	Lg	11 55 12.4	
	comp=N,0.1nm,0.3s,baz=200,slow=29,SNR=2.3 comp=N,0.6nm,0.7s						
ANMO	**Albuquerque**	**9.37**	**94**	Pg	Pn	11 53 15.4	+34
	comp=N,0.4nm,0.3s,baz=6.7,slow=12,SNR=9.0						
ANMO				Lg	Lg	11 55 14.9	
	comp=N,0.2nm,0.3s,baz=206,slow=16,SNR=1.8						
ANMO				LR	LR	11 56 31.4	
	comp=N,149nm,18.5s,baz=52,slow=39						
NEW	**Newport**	**12.18**	**2**	Pn	**Pn**	**11 53 22.9**	**+3.2**
	comp=N,0.1nm,0.3s,baz=180,slow=15,SNR=1.8 comp=N,0.5nm,0.4s						
TXAR	**Lajitas Array**	**13.71**	**115**	Pn	**Pn**	**11 53 42.6**	**+1.9**
	comp=N,0.3nm,0.3s,baz=294,slow=12,SNR=7.9						
TXAR				Lg	Lg	11 57 37.7	
	baz=300,slow=37 comp=N,0.2nm,0.3s						
ULM	**Lac du Bonnet**	**21.28**	**41**	P	**P**	**11 55 14.0**	**+1.3**
	comp=N,4.6nm,0.9s,baz=242,slow=7.3,SNR=6.1 comp=N,4.6nm,0.9s						
YKA	**Yellowknife Ar**	**26.51**	**3**	P	**P**	**11 56 04.6**	**+1.0**
	comp=N,1.3nm,0.9s,baz=186,slow=8.6,SNR=8.7 comp=N,1.3nm,0.9s						
ILAR	**Eielson Array**	**33.55**	**338**	P	**P**	**11 57 08.3**	**+2.3**
	comp=N,0.9nm,0.7s,baz=154,slow=7.9,SNR=10 comp=N,0.9nm,0.7s						
HFS	**Hagfors**	**76.19**	**23**	LR	LR	12 36 10.0	
	comp=N,105nm,18.4s,baz=181,slow=36						
BVAR	**Borovoye Array**	**90.97**	**355**	LR	LR	12 50 22.7	
	comp=N,48nm,18.3s,baz=286,slow=40						
QSPA	**South Pole Qui**	**125.91**	**180**	PKP	**PKiKP**	**12 09 27.9**	**-0.2**
	comp=N,2.2nm,1.2s,baz=58,slow=3.5,SNR=2.1						
MAW	**Mawson**	**148.43**	**181**	PKPbc	**PKPbc**	**12 10 11.3**	**-0.9**
	comp=N,1.2nm,0.8s,baz=237,slow=3.5,SNR=4.9						

*NEIC **15** 11:52:31.3±0.6,36°.088N±0°.004×117°.87W±0°.01, h4km±2km, Error ellipse: s-maj=1.5km s-min=0.5km az=79.0*

PAS 15 11:52:31.7±0.6,36°.083N±0°.007×117°.86W±0°.01, h2km±2km, ML3.0/48, ML2.7/54(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=127.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.04**	**4**		**Pg**	**11 52 32.8**	**+0.2**
MFS					**Sg**	**11 52 33.6**	**+0.3**
WRVM	**Rose V. Centra**	**0.08**	**199**		**Pg**	**11 52 33.5**	**+0.1**
WRVM					**Sg**	**11 52 34.8**	**+0.3**
WCSM	**Coso Springs S**	**0.09**	**127**		**Pg**	**11 52 33.9**	**+0.3**
WCSM					**Sg**	**11 52 35.3**	**+0.5**
JRC2	**Joshua Ridge**	**0.11**	**158**		**Pg**	**11 52 34.1**	**+0.2**
WVPM	**Volcano Peak E**	**0.14**	**166**		**Pg**	**11 52 34.6**	**+0.1**
WVPM					**Sg**	**11 52 36.8**	**+0.5**
WNMM	**Nine Mile Cany**	**0.24**	**189**		**Pg**	**11 52 36.5**	**+0.1**
WNMM					**Sg**	**11 52 40.1**	**+0.6**
TOW	**Tower One**	**0.28**	**164**		**Pg**	**11 52 37.8**	**+0.6**
TOW					**Sg**	**11 52 42.5**	**+1.6**
MPMC	**Manual Prospec**	**0.30**	**95**	Pg	Pg	11 52 37.7	+0.1
CLC	**China Lake**	**0.34**	**141**	Pg	Pg	11 52 38.3	0.0
CWC	**Cottonwood Cre**	**0.40**	**333**		**Pg**	**11 52 39.4**	**-0.1**
CWC					**Sg**	**11 52 45.2**	**+0.5**
CWC	**Cottonwood Cre**	**0.40**	**333**	IAML		11

TIN	**Tinemaha, Big**	**1.01**	**343**	Pg	Pg	11 52 51.1	-0.2
VES	**Vestal, Richgr**	**1.02**	**257**		Pg	11 52 51.1	-0.3
VES					Sg	11 53 04.3	-0.3
TEJ	**El Tejon**	**1.09**	**219**		Pg	11 52 52.0	-0.5
TEJ					Sg	11 53 06.2	-0.5
GSC	**Goldstone, Bar**	**1.16**	**132**		Pg	11 52 53.4	-0.5
GSC				IAML		11 53 12.0	
	comp=E,128nm,1.1s						
GSC	**Goldstone, Bar**	**1.16**	**132**		Pg	11 52 53.3	-0.7
WCT	**Wildcat Mounta**	**1.22**	**54**	Pg	Pg	11 52 54.6	-0.6
TPO	**Tropico Hills**	**1.24**	**194**	Pg	Pg	11 52 54.8	-0.7
TPO				IAML		11 53 14.7	
	comp=E,205nm,0.6s						
TPO				IAML		11 53 18.6	
	comp=N,126nm,0.5s						
DSP	**Deep Springs**	**1.29**	**356**	Pg	Pg	11 52 55.6	-0.8
SHOC	**Shoshone, Teco**	**1.30**	**98**	Pg	Pg	11 52 56.6	0.0
TPNV	**Topopah Spring**	**1.56**	**56**		Pn	11 53 00.3	-0.3
TPNV				IAML		11 53 27.8	
	comp=N,85nm,0.9s						
TPNV				IAML		11 53 27.9	
	comp=N,99nm,1.1s						
MDPB	**Devils Postpil**	**1.83**	**328**		Pb	11 53 05.5	-0.6
MDPB	**Devils Postpil**	**1.83**	**328**	IAML		11 53 31.7	
	comp=E,120nm,0.5s						
EFD	**Emergency Oper**	**2.45**	**253**		Pn	11 53 11.4	-1.3

IDC ***15*** *11:54:32.8±1.6,7°.16N×76°.60W, h0km, mbtmp4.1/3, ML3.2/3, Error ellipse: s-maj=46.1km s-min=29.0km az=10.0*

CATAC ***15*** *11:54:35.2±0.2,7°.N±3°×7°.6W±°, h1km, M3.9/14, MLv3.9/14, Error ellipse: s-maj=7.2km s-min=4.7km az=36.5, confirmed*

RSNC ***15*** *11:54:36.2±0.0,7°.N±1°×7°.6W±°, h0km±2km, M3.5, mB5.2, mb4.2, ML3.1, Mw(mB)4.6*

ISC 15 11:54:34.9±0.9,6.93N±0.02×76.27W±0.02,h9km±6km,n44, σ1§82/74**,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.10**	**32**	P	**Pg**	**11 54 37.8**	**+0.3**
DBBC				S	**Sg**	**11 54 39.9**	**+0.5**
APAC	**Apartado, Choc**	**1.01**	**342**	P	**Pn**	**11 54 55.9**	**+0.7**
APAC				S	**Sn**	**11 55 15.3**	**+5.7**
HELC	**Santa Helena**	**1.04**	**135**	P	**Pg**	**11 54 53.9**	**-1.0**
HELC				Pn	**Sg**	**11 55 07.9**	**-0.5**
HELC	**Santa Helena**	**1.04**	**135**	P	**Pg**	**11 54 53.7**	**-1.1**
HELC				S	**Sg**	**11 55 07.8**	**-0.5**
UREC	**San Jos de Ur**	**1.09**	**42**	P	**Pg**	**11 54 55.7**	**-0.2**
UREC				S	**Sn**	**11 55 11.9**	**+0.3**
SOLC	**Bahia Solano**	**1.33**	**238**	P	**Pg**	**11 55 01.2**	**+0.7**
ZARC	**Zaragoza, Cauc**	**1.50**	**68**	P	**Pn**	**11 55 02.4**	**+0.4**
ZARC				S	**Sg**	**11 55 23.5**	**+0.2**
PTAC	**Punta Ardita,**	**1.55**	**278**	P	**Pn**	**11 55 02.1**	**-0.5**
PTAC				S	**Sg**	**11 55 24.6**	**-0.1**
PTBC	**PUERTO BERRIO,**	**1.84**	**102**	P	**Pn**	**11 55 07.4**	**+0.8**
PTBC				S	**Sb**	**11 55 32.0**	**+0.2**
GUY2C	**Guyana, Caldas**	**1.92**	**152**	P	**Pb**	**11 55 09.5**	**-0.8**
GUY2C				S	**Sg**	**11 55 36.4**	**-0.2**
LCBC	**Los crdobas,**	**1.92**	**357**	P	**Pn**	**11 55 08.6**	**+0.9**
LCBC				S	**Sg**	**11 55 36.2**	**-0.4**
NORC	**Norcasia**	**1.94**	**134**	P	**Pn**	**11 55 09.0**	**+0.9**
NORC				S	**Sb**	**11 55 34.5**	**-0.3**
CAPC	**Capurgana**	**2.01**	**328**	P	**Pn**	**11 55 09.4**	**+0.5**
CAPC				S	**Sg**	**11 55 38.2**	**-1.2**
PLMC	**San Jos del P**	**2.01**	**180**	P	**Pn**	**11 55 09.6**	**+0.5**
PLMC				S	**Sg**	**11 55 39.9**	**+0.3**
NIZA	**Niza - Manizal**	**2.02**	**157**	P	**Pb**	**11 55 11.3**	**-0.6**
CAP2	**Capurgana**	**2.02**	**328**	P	**Pb**	**11 55 10.7**	**-1.1**
CAP2				Pn	**Sb**	**11 55 36.4**	**-0.8**
PIZC	**Pizarro, Choco**	**2.23**	**209**	P	**Pb**	**11 55 14.2**	**-1.2**
PIZC				S	**Sg**	**11 55 46.9**	**+0.1**
BRJC	**Barrancabermej**	**2.50**	**89**	P	**Pb**	**11 55 18.4**	**-1.6**
BRJC				S	**Sb**	**11 55 52.0**	**+1.1**
ROSC	**El Rosal**	**2.84**	**137**	Pn	**Pb**	**11 55 25.1**	**-0.8**
	29nm,0.3s,baz=309,slow=6.0,SNR=15						
ROSC				Sn	**Sg**	**11 56 05.2**	**-0.9**
	18nm,0.3s,baz=288,slow=20,SNR=6.4						
	65nm,0.3s						
ROSC	**El Rosal**	**2.84**	**137**	P	**Pb**	**11 55 25.6**	**-0.3**
ROSC	**El Rosal**	**2.84**	**137**	P	**Pb**	**11 55 25.0**	**-0.9**
ROSC				S	**Sg**	**11 56 09.4**	**+3.2**
YOTC	**Yotoco, Valle**	**2.93**	**182**	P	**Pn**	**11 55 21.2**	**-0.5**
YOTC				S	**Sn**	**11 55 57.3**	**+0.2**
BARC	**Barichara**	**3.08**	**96**	P	**Pn**	**11 55 25.8**	**+1.9**
BARC				S	**Sb**	**11 56 06.5**	**-1.3**
SJCC	**San Jacinto, C**	**3.14**	**20**	P	Pn	11 55 19.6	-4.9
SJCC	**San Jacinto, C**	**3.14**	**20**	P	**Pn**	**11 55 24.5**	**0.0**
SJCC				S	**Sn**	**11 56 01.4**	**-0.8**
ORTC	**Ortega, Tolima**	**3.17**	**161**	P	**Pb**	**11 55 29.5**	**-1.9**
ORTC				S	**Sb**	**11 56 10.8**	**+0.7**
OCAC	**Ocana**	**3.20**	**66**	P	**Pn**	**11 55 25.8**	**+0.4**
OCAC				S	**Sn**	**11 56 05.8**	**+2.0**
RUSC	**La Rusia**	**3.33**	**108**	P	**Pn**	**11 55 30.6**	**+3.1**
RUSC	**La Rusia**	**3.33**	**108**	P	**Pn**	**11 55 30.5**	**+3.0**
RUSC				S	**Sb**	**11 56 13.3**	**-1.8**
PRAC	**Prado**	**3.48**	**157**	P	**Pb**	**11 55 33.1**	**-3.6**
PRAC	**Prado**	**3.48**	**157**	P	**Pn**	**11 55 32.4**	**+3.2**
PRAC				S	**Sg**	**11 56 23.8**	**-2.9**
PAMC	**Pamplona, Colo**	**3.56**	**83**	P	**Pn**	**11 55 33.4**	**+2.6**
PAMC				S	**Sn**	**11 56 17.2**	**+4.0**
VILC	**Villavicencio,**	**3.79**	**137**	P	**Pb**	**11 55 39.6**	**-2.5**
AZU	**Azuero**	**4.07**	**282**	P	**Pn**	**11 55 37.4**	**+0.1**
BCIP	**Isla Barro Col**	**4.18**	**302**	P	**Pn**	**11 55 38.9**	**+0.2**
BCIP	**Isla Barro Col**	**4.18**	**302**	P	**Pn**	**11 55 39.7**	**+0.9**
BCIP				S	**Sn**	**11 56 29.7**	**+2.0**
CACAO	**El Cacao, Vera**	**4.58**	**275**	P	**Pn**	**11 55 44.1**	**-0.2**
CRJC	**Cerrejon, Guaj**	**5.26**	**39**	P	**Pn**	**11 55 55.0**	**+1.2**
	2µm19nm,0.7s						
CRJC				S	**Sn**	**11 56 51.7**	**-2.9**
	2µm19nm,0.7s						
FLOC	**Florencia**	**5.35**	**173**	P	**Pn**	**11 55 58.1**	**+3.2**
	23nm,0.8s						
SDV	**Santo Domingo**	**5.91**	**70**	Pn	**Pn**	**11 56 05.2**	**+2.5**
	2.6nm,0.3s,baz=349,slow=8.0,SNR=4.5						
SDV				Sn	**Sn**	**11 57 07.5**	**-3.2**
	4.1nm,0.3s,baz=288,slow=12,SNR=3.0						
SDV				Lg	Lg	11 57 32.7	
	4.1nm,0.3s,baz=356,slow=15,SNR=5.9						
	8.5nm,0.4s						
URIC	**Uribia, Colomb**	**6.34**	**41**	P	**Pn**	**11 56 10.2**	**+1.6**
URIC				S	**Sn**	**11 57 20.9**	**-0.3**
PCRV	**Puerto La Cruz**	**11.94**	**74**	Pn	**Pn**	**11 57 28.4**	**+3.0**
	0.7nm,0.3s,baz=299,slow=5.2,SNR=1.5						
PCRV				Sn	**Sn**	**11 59 34.8**	**-4.2**
	0.4nm,0.3s,baz=219,slow=20,SNR=1.2						
	2.0nm,0.4s						
ASAR	**Alice Springs**	**146.60**	**237**	PKPbc	**PKPdf**	**12 14 15.9**	**-0.3**
	0.3nm,0.6s,baz=111,slow=2.6,SNR=5.7						
WRA	**Warramunga Arr**	**147.62**	**243**	PKPbc	**PKPdf**	**12 14 19.0**	**+0.9**
	0.2nm,0.5s,baz=104,slow=3.2,SNR=6.2						

NEIC ***15*** *11:57:27.6±1.1,55°.29N±0°.09×156°.76W±0°.05, h28km±12km, Error ellipse: s-maj=12.5km s-min=3.7km az=177.0*

AEIC ***15*** *11:57:29.1±1.1,55°.34N±0°.06×156°.78W±0°.06, h27km±7km, ML3.3, ML3.4/40(NEIC), Error ellipse: s-maj=9.9km s-min=2.8km az=151.0*

IDC ***15*** *11:57:31.7±5.3,55°.51N×155°.70W, h0km, mb3.0/3, mbtmp3.1/6, ML3.3/3, Error ellipse: s-maj=93.6km s-min=23.6km az=88.0*

ISC 15 11:57:29.4±1.2,55.37N±0.09×156.72W±0.04,h35km,n77, σ1§35/71**,mb2.9/3,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.77**	**54**		**Pn**	**11 57 43.5**	**-0.3**
CHIR				IAML		11 57 57.5	
	comp=E,1µm,0.6s						
CHIR				IAML		11 57 58.5	
	comp=N,1µm,0.6s						
CHIR	**Chirikof Islan**	**0.77**	**54**		**Sn**	**11 57 54.6**	**+0.5**
CHGN	**Chignik**	**1.34**	**315**		**Pn**	**11 57 49.7**	**-1.8**
CHGN				IAML		11 58 10.2	
	comp=E,751nm,0.4s						
CHGN				IAML		11 58 10.4	
	comp=N,609nm,0.6s						
CHGN	**Chignik**	**1.34**	**315**		**Sn**	**11 58 06.8**	**-1.2**
VNHG	**Veniaminof 1**	**1.62**	**303**		**Pn**	**11 57 54.6**	**-0.9**
ANPK	**Aniakchak Peak**	**1.67**	**333**		**Pn**	**11 57 55.4**	**-0.8**
ANPB	**Aniakchak Plen**	**1.68**	**329**		**Pn**	**11 57 55.4**	**-1.0**
ANNE	**Aniakchak Nort**	**1.72**	**335**		**Pn**	**11 57 55.9**	**-1.0**
CNBA	**Chernabura Isl**	**1.74**	**253**		**Pn**	**11 57 55.1**	**-1.8**
ANON	**Aniakchak**	**1.75**	**333**		**Pn**	**11 57 57.0**	**-0.3**
VNSS	**Veniaminof 8**	**1.77**	**300**		**Pn**	**11 57 56.6**	**-1.0**
VNFG	**Fog Glacier, M**	**1.84**	**301**		**Pn**	**11 57 58.3**	**-0.3**
VNFG	**Fog Glacier, M**	**1.84**	**301**		**Pn**	**11 57 58.2**	**-0.3**
VNFG					**Sn**	**11 58 21.4**	**+0.8**
SII	**Sitkinak Islan**	**1.86**	**49**		**Sn**	**11 58 21.7**	**+0.7**
SII	**Sitkinak Islan**	**1.86**	**49**	Pn	**Pn**	**11 57 58.5**	**-0.2**
SII				IAML		11 58 41.6	
	comp=N,394nm,0.6s						
SII				IAML		11 58 49.3	
	comp=E,370nm,0.8s						
SDPT	**Sand Point**	**2.14**	**271**		**Pn**	**11 58 01.1**	**-1.5**
SDPT				IAML		11 58 26.5	
	comp=E,234nm,0.8s						
SDPT				IAML		11 58 36.6	
	comp=N,209nm,1.0s						
SDPT	**Sand Point**	**2.14**	**271**		**Sn**	**11 58 25.9**	**-2.1**
R16K	**Pilot Point**	**2.25**	**348**	Pn	**Pn**	**11 58 06.8**	**+2.7**
PLK4	**Peulik 4**	**2.28**	**5**		**Pn**	**11 58 04.8**	**+0.2**
PLBL	**Peulik Blue Cr**	**2.34**	**359**		**Pn**	**11 58 05.5**	**+0.2**
PLK3	**Peulik 3**	**2.34**	**6**		**Pn**	**11 58 05.9**	**+0.5**
PLK2	**Peulik 2**	**2.41**	**5**		**Pn**	**11 58 06.9**	**+0.5**
PLK1	**Peulik 1**	**2.44**	**1**		**Pn**	**11 58 06.8**	**+0.2**
R18K	**Karluk**	**2.54**	**29**		**Pn**	**11 58 08.5**	**+0.5**
PLK5	**Peulik 5**	**2.64**	**358**		**Pn**	**11 58 09.6**	**+0.2**
OHAK	**Old Harbor**	**2.67**	**44**		**Pn**	**11 58 09.6**	**-0.2**
OHAK	**Old Harbor**	**2.67**	**44**		**Sn**	**11 58 40.4**	**-0.5**
KJL	**Kejulik**	**2.77**	**13**		**Pn**	**11 58 11.2**	**0.0**
CAHL	**Cahill**	**2.80**	**16**		**Pn**	**11 58 11.4**	**-0.3**
ANCK	**Angle Creek**	**2.92**	**13**		**Pn**	**11 58 13.2**	**-0.1**
ACHA	**Angle Creek He**	**2.95**	**15**		**Pn**	**11 58 17.9**	**+4.1**
PN7A	**Pavlof North-7**	**3.01**	**273**		**Pn**	**11 58 13.3**	**-1.3**
KABU	**Katmai Buttres**	**3.02**	**15**		**Pn**	**11 58 14.8**	**+0.1**
S12K	**Black Hills**	**3.05**	**278**		**Pn**	**11 58 14.1**	**-1.0**
S12K				IAML		11 59 00.0	
	comp=E,130nm,0.5s						
S12K				IAML		11 59 01.3	
	comp=N,126nm,0.9s						
S12K	**Black Hills**	**3.05**	**278**		**Sn**	**11 58 49.7**	**-0.7**
DT1	**Dutton Round H**	**3.19**	**268**		**Pn**	**11 58 15.7**	**-1.3**
KDAK	**Kodiak Island**	**3.33**	**42**	Pn	**Pn**	**11 58 18.3**	**-0.6**
KDAK				IAML		11 59 32.0	
	comp=N,75nm,1.1s						
KDAK	**Kodiak Island**	**3.33**	**42**	Pn	**Pn**	**11 58 18.2**	**-0.6**
	comp=N,0.7nm,0.3s,baz=212,slow=3.3,SNR=45						
KDAK				Sn	**Sn**	**11 58 52.1**	**-5.1**
	comp=N,5.4nm,0.3s,baz=168,slow=6.8,SNR=4.4						
	comp=N,2.6nm,0.4s						
KAHG	**Katmai Hook Gl**	**3.35**	**20**		**Pn**	**11 58 19.1**	**-0.2**
KAHC	**Katmai Hardscr**	**3.42**	**15**		**Pn**	**11 58 19.9**	**-0.4**
P17K	**Kvichak River**	**3.84**	**2**		**Pn**	**11 58 25.4**	**-0.5**
Q19K	**Cape Douglas,**	**3.94**	**24**	Pn	**Pn**	**11 58 28.8**	**+1.4**
SYI	**Shuyak Island**	**4.02**	**34**		**Pn**	**11 58 28.1**	**-0.2**
SYI	**Shuyak Island**	**4.02**	**34**	IAML		11 59 38.4	
	comp=E,53nm,1.5s						
SYI				IAML		11 59 54.7	
	comp=N,44nm,1.3s						
O15K	**Ungalikthiuk R**	**4.17**	**337**		**Pn**	**11 58 29.7**	**-0.8**
O15K				IAML		11 59 49.3	
	comp=E,45nm,1.1s						
O15K				IAML		11 59 49.4	
	comp=N,36nm,0.7s						
O16K	**Kokwok River B**	**4.30**	**351**		**Pn**	**11 58 32.6**	**+0.4**
O18K	**Koktuh Hills**	**4.57**	**10**	Pn	**Pn**	**11 58 35.7**	**-0.3**
O18K				IAML		11 59 59.1	
	comp=E,26nm,0.9s						
N15K	**Kwethluk River**	**5.14**	**341**		**Pn**	**11 58 43.5**	**-0.2**
N15K				IAML		12 00 18.8	
	comp=N,34nm,0.7s						
N15K				IAML		12 00 21.7	
	comp=E,34nm,0.8s						
N17K	**Nushagak Hills**	**5.18**	**357**		**Pn**	**11 58 43.9**	**-0.4**
N17K				IAML		12 00 22.8	
	comp=E,18nm,1.1s						
N17K				IAML		12 00 24.4	
	comp=N,20nm,0.8s						
N16K	**Nishlik Lake**	**5.24**	**349**		**Pn**	**11 58 44.8**	**-0.3**
N18K	**Kilae Creek**	**5.35**	**4**		**Pn**	**11 58 46.1**	**-0.5**
M15K	**Kasigluk River**	**5.74**	**340**		**Pn**	**11 58 51.3**	**-0.6**
M16K	**Timber Creek**	**5.79**	**349**		**Pn**	**11 58 52.5**	**-0.2**
M17K	**Holitna River**	**6.06**	**357**	Pn	**Pn**	**11 58 56.0**	**-0.4**
L15K	**Unggalek Mounta**	**6.80**	**340**		**Pn**	**11 59 04.8**	**-1.6**
RC01	**Rabbit Creek A**	**6.82**	**30**	Pn	**Pn**	**11 59 06.7**	**0.0**
L17K	**Donlin**	**6.84**	**354**		**Pn**	**11 59 06.1**	**-0.9**
SUA	**Susitna One**	**6.87**	**25**	Pn	**Pn**	**11 59 07.3**	**-0.3**
PWL	**Port Wells**	**7.07**	**35**		**Pn**	**11 59 08.8**	**-1.5**
HIN	**Hinchinbrook I**	**7.42**	**43**		**Pn**	**11 59 15.8**	**+0.8**
GLI	**Glacier Island**	**7.51**	**39**		**Pn**	**11 59 15.2**	**-1.0**
FID	**Port Fidalgo**	**7.65**	**41**		**Pn**	**11 59 17.4**	**-0.8**
J18K	**Innoko River**	**8.12**	**0**		**Pn**	**11 59 26.6**	**+2.0**
J17K	**VABM Dome**	**8.14**	**352**		**Pn**	**11 59 26.7**	**+1.8**
CAST	**Castle Rocks**	**8.41**	**14**		**Pn**	**11 59 29.8**	**+1.1**
H17K	**Granite Mounta**	**9.73**	**352**		**Pn**	**11 59 48.8**	**+2.2**
ILAR	**Eielson Array**	**10.62**	**23**	Pn	**Pn**	**11 59 55.4**	**-3.4**
	comp=N,0.1nm,0.3s,baz=216,slow=14,SNR=5.3						
ILAR				Sn	Sn	12 01 46.1	-10
	baz=205,slow=26,SNR=1.2						
	comp=N,0.2nm,0.4s						
INK	**Inuvik**	**16.81**	**30**	Pn	**P**	**12 01 22.3**	**-1.2**
	comp=N,0.3nm,0.3s,baz=230,slow=11,SNR=7.6						
	comp=N,3.1nm,1.0s						
YKA	**Yellowknife Ar**	**22.51**	**54**	P	**P**	**12 02 25.4**	**-0.2**
	comp=N,0.1nm,0.5s,baz=288,slow=10.0,SNR=1.3						
	comp=N,0.1nm,0.5s						
NVAR	**Mina Array Bea**	**30.74**	**107**	P	P	12 03 44.4	+3.2
	comp=N,0.1nm,0.5s,baz=288,slow=6.7,SNR=1.8						
	comp=N,0.1nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**44.89**	**232**	T	T	12 54 09.5	
	baz=31						
H11N3	**WAKE ISLAND Hy**	**44.89**	**232**	T	T	12 54 08.8	
	baz=31						
H11N1	**WAKE ISLAND Hy**	**44.91**	**232**	T	T	12 54 18.7	
	baz=31						
TXAR	**Lajitas Array**	**45.59**	**102**	P	**P**	**12 05 48.9**	**+2.9**
	comp=N,0.3nm,0.7s,baz=320,slow=6.7,SNR=3.4						
	comp=N,0.3nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**46.05**	**232**	T	T	12 55 40.9	
	baz=29,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**46.06**	**232**	T	T	12 55 35.7	
	baz=29,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**46.06**	**232**	T	T	12 55 40.4	
	baz=29,slow=75,SNR=6.5						

IDC ***15*** *12:01:03.9±5.0,52°.46N×159°.39E, h120km±20km, mb3.3/4, mbtmp3.6/4, Error ellipse: s-maj=147.9km s-min=29.9km az=11.0*

MOS ***15*** *12:01:03.5±0.5,53°.51N×160°.03E, h83km, mb3.9/1, Error ellipse: s-maj=12.6km s-min=5.3km az=72.5*

KRSC ***15*** *12:01:03.3±0.6,53°.55N×160°.02E, h81km±7km, Ml4.2*

ISC 15 12:01:03.3±0.8,53.54N±0.04×160.01E±0.04,h83km±6km, n83, σ1§76/107**,mb3.6/4,2C-1D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.44**	**179**	PN	**Pn**	**12 01 17.7**	**+0.9**
SPN				S	**Sn**	**12 01 27.9**	**+1.2**
SPN	**Mys Shipunski**	**0.44**	**179**	*eP*	**Pn**	**12 01 17.8**	**+0.9**
SPN				*eS*	**Sn**	**12 01 28.0**	**+1.2**
KII	**Karymskiy**	**0.60**	**327**	PN	**Pn**	**12 01 18.6**	**+0.3**
KII				S	**Sn**	**12 01 29.3**	**-0.1**
KII	**Karymskiy**	**0.60**	**327**	*eP*	**Pn**	**12 01 18.6**	**+0.3**
KII				*eS*	**Sn**	**12 01 29.4**	**-0.1**
SDLR	**Sedlovina**	**0.72**	**250**	PN	**Pn**	**12 01 20.5**	**+1.0**
SDLR	**Sedlovina**	**0.72**	**250**	*eP*	**Pn**	**12 01 20.5**	**+1.0**
SMAR	**Somma**	**0.77**	**250**	PN	**Pn**	**12 01 21.2**	**+1.0**
SMAR	**Somma**	**0.77**	**250**	*eP*	**Pn**	**12 01 21.2**	**+1.0**
UGLR	**Uglovaya**	**0.78**	**246**	PN	**Pn**	**12 01 21.3**	**+1.2**
UGLR				S	**Sn**	**12 01 34.6**	**+1.9**
UGLR	**Uglovaya**	**0.78**	**246**	*eP*	**Pn**	**12 01 21.4**	**+1.2**
UGLR				*eS*	**Sn**	**12 01 34.6**	**+1.9**
KRER	**Koryakskii**	**0.79**	**253**	PN	**Pn**	**12 01 21.5**	**+1.2**
KRER				S	**Sn**	**12 01 34.8**	**+1.8**
KRER	**Koryakskii**	**0.79**	**253**	*eP*	**Pn**	**12 01 21.6**	**+1.2**
KRER				*eS*	**Sn**	**12 01 34.8**	**+1.8**
AVH	**Avacha**	**0.81**	**251**	PN	**Pn**	**12 01 21.7**	**+1.3**
AVH	**Avacha**	**0.81**	**251**	*eP*	**Pn**	**12 01 21.7**	**+1.3**
KRX	**Arik**	**0.83**	**258**	PN	**Pn**	**12 01 21.7**	**+1.0**
KRX				S	**Sn**	**12 01 39.4**	**+1.2**
KRX	**Arik**	**0.83**	**258**	*eP*	**Pn**	**12 01 21.7**	**+1.0**
KRX				*eS*	**Sn**	**12 01 35.0**	**+1.2**
KOK	**Koryaka**	**0.86**	**254**	PN	**Pn**	**12 01 22.0**	**+1.1**
KOK	**Koryaka**	**0.86**	**254**	*eP*	**Pn**	**12 01 22.1**	**+1.1**
DALK	**Dalny**	**0.91**	**237**	PN	**Pn**	**12 01 22.5**	**+1.1**
DALK				S	**Sn**	**12 01 36.5**	**+1.6**
DALK	**Dalny**	**0.91**	**237**	*eP*	**Pn**	**12 01 22.5**	**+1.1**
DALK				*eS*	**Sn**	**12 01 36.5**	**+1.6**
PET	**Petropavlovsk**	**0.96**	**238**	*i* PN	**Pn**	**12 01 23.3**	**+1.3**
PET				*eS*	**Sn**	**12 01 37.9**	**+1.9**
PET				pmax	pmax		
	comp=Z,247nm,0.5s						
PET				smax	smax		
	comp=N,1µm,0.4s						
PET				smax	smax		
	comp=E,1µm,0.4s						
PET	**Petropavlovsk**	**0.96**	**238**	*eP*	**Pn**	**12 01 23.2**	**+1.1**
PET				*eS*	**Sn**	**12 01 37.5**	**+1.5**
INSR	**Institute**	**0.97**	**241**	PN	**Pn**	**12 01 23.3**	**+1.2**
INSR				S	**Sn**	**12 01 38.0**	**+1.9**
INSR	**Institute**	**0.97**	**241**	*eP*	**Pn**	**12 01 23.3**	**+1.2**
INSR				*eS*	**Sn**	**12 01 38.1**	**+1.9**
GNL	**Ganaly**	**1.24**	**278**	PN	**Pn**	**12 01 26.2**	**+0.6**
GNL	**Ganaly**	**1.24**	**278**	*eP*	**Pn**	**12 01 26.2**	**+0.6**
KRMR	**Karymshinskiy**	**1.33**	**239**	PN	**Pn**	**12 01 27.5**	**+0.9**
KRMR				S	**Sn**	**12 01 45.5**	**+1.4**
KRMR	**Karymshinskiy**	**1.33**	**239**	*eP*	**Pn**	**12 01 27.5**	**+0.9**
KRMR				*eS*	**Sn**	**12 01 45.6**	**+1.4**
RUS	**Russkaya**	**1.43**	**220**	PN	**Pn**	**12 01 29.0**	**+1.2**
RUS				S	**Sn**	**12 01 47.5**	**+1.3**
RUS	**Russkaya**	**1.43**	**220**	*eP*	**Pn**	**12 01 29.0**	**+1.2**
RUS				*eS*	**Sn**	**12 01 47.6**	**+1.3**
MKZ	**Mys Kozlova**	**1.44**	**44**	PN	**Pn**	**12 01 28.7**	**+0.8**
MKZ				S	**Sn**	**12 01 46.7**	**+0.3**
MKZ	**Mys Kozlova**	**1.44**	**44**	*eP*	**Pn**	**12 01 28.7**	**+0.8**
MKZ				*eS*	**Sn**	**12 01 46.8**	**+0.3**
PEA0B	**Petropavlovsk-**	**1.45**	**254**	*c i* PN	**Pn**	**12 01 29.0**	**+0.9**
PEA0B				*i* S	**Sn**	**12 01 52.1**	**+5.3**
PETK	**Petropavlovsk-**	**1.45**	**254**	P	**Pn**	**12 01 28.1**	**-0.1**
	comp=E,85nm,0.4s,baz=75,slow=18,SNR=480						
PETK				S	**Sn**	**12 01 46.4**	**-0.4**
	comp=E,75nm,0.5s,baz=89,slow=17,SNR=7.3						
MTVR	**Mutnovka**	**1.53**	**227**	PN	**Pn**	**12 01 30.8**	**+1.6**
MTVR				S	**Sn**	**12 01 51.2**	**+2.5**
MTVR	**Mutnovka**	**1.53**	**227**	*eP*	**Pn**	**12 01 30.9**	**+1.6**
MTVR				*eS*	**Sn**	**12 01 51.2**	**+2.5**
GRL	**Gorelyy**	**1.53**	**231**	PN	**Pn**	**12 01 31.2**	**+2.0**
GRL	**Gorelyy**	**1.53**	**231**	*eP*	**Pn**	**12 01 31.2**	**+2.0**
TUMD	**Tumrok D**	**1.69**	**8**	PN	**Pn**	**12 01 31.9**	**+0.8**
TUMD				S	**Sn**	**12 01 52.9**	**+0.7**
TUMD	**Tumrok D**	**1.69**	**8**	*eP*	**Pn**	**12 01 31.9**	**+0.8**
TUMD				*eS*	**Sn**	**12 01 53.0**	**+0.7**
ASAK	**Asacha**	**1.72**	**229**	PN	**Pn**	**12 01 33.5**	**+1.9**
ASAK	**Asacha**	**1.72**	**229**	*eP*	**Pn**	**12 01 33.6**	**+1.9**
APC	**Apacha**	**1.82**	**252**	PN	**Pn**	**12 01 35.7**	**+2.8**
APC	**Apacha**	**1.82**	**252**	*eP*	**Pn**	**12 01 35.7**	**+2.8**
KMNR	**Kamenistaya**	**2.23**	**3**	PN	**Pn**	**12 01 40.3**	**+1.9**
KMNR	**Kamenistaya**	**2.23**	**3**	*eP*	**Pn**	**12 01 40.4**	**+1.9**
MIPR	**Malaya Ipel'ka**	**2.34**	**239**	PN	**Pn**	**12 01 41.4**	**+1.7**
MIPR	**Malaya Ipel'ka**	**2.34**	**239**	*eP*	**Pn**	**12 01 41.5**	**+1.7**
BZMR	**Bezymyannaya**	**2.42**	**6**	PN	**Pn**	**12 01 43.0**	**+2.0**
BZMR	**Bezymyannaya**	**2.42**	**6**	*eP*	**Pn**	**12 01 43.1**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.44**	**9**	PN	**Pn**	**12 01 43.5**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**2.44**	**9**	*eP*	**Pn**	**12 01 43.6**	**+2.3**
BZWR	**Bezymyannyi-We**	**2.45**	**6**

0.4nm63nm,1.7s
PCJI Pacitan 6.29 104 P **Pn** **12 15 12.1 +0.3**
PPSI Pulau Pagai 6.35 308 P **Pn** **12 15 10.1 -2.5**
JAGI Jajag, Banyuwa 9.23 101 **Pn** **12 15 51.6 -0.4**
SBUM Sibu 11.61 39 **Pn** **12 16 23.6 -0.9**
KAPI Kappang 14.76 84 LR LR 12 23 20.5
comp=Z,142nm,20.0s,baz=248,slow=39
KKM Kota Kinabalu 16.90 42 **P** **12 17 34.6 -0.2**
KKM IAmb IAmb 12 17 38.3
comp=Z,17nm,0.8s
TOLI2 Tolitoli 17.55 64 P **P** **12 17 42.0 0.0**
MYLDM Lahad Datu 17.91 49 P **Pn** **12 17 45.6 -0.6**
GIRL Giralia 18.16 152 P **P** **12 17 45.2 -3.4**
GIRL IAmb IAmb 12 18 19.9
comp=Z,110nm,1.5s
BATI Baumata 18.77 102 P **Pn** **12 17 56.8 +0.3**
comp=Z,50nm,0.7s,baz=239,slow=6.7,SNR=5.8
BATI S **S** **12 21 24.6 -0.6**
comp=Z,9.4nm,0.3s,baz=330,slow=22,SNR=3.7
SOEI Soe 19.29 100 P **P** **12 18 01.5 +0.3**
MBWA Marble Bar 20.22 137 P **P** **12 18 11.2 +0.1**
MBWA IAmb IAmb 12 18 17.6
comp=Z,22nm,1.4s
PSA00 Pilbara Seismi 20.59 137 P **P** **12 18 14.5 -0.5**
FITZ Fitzroy Crossi 23.07 121 P **P** **12 18 41.7 +0.2**
KNRA Kununurra 24.92 113 **P** **12 18 58.4 0.0**
KNRA IAmb IAmb 12 19 00.3
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 25.72 347 P **P** **12 19 05.5 -0.1**
comp=Z,1.1nm,0.6s,baz=178,slow=9.0,SNR=8.5
CMAR LR LR 12 29 30.7
comp=Z,55nm,18.1s,baz=155,slow=37
comp=Z,1.1nm,0.6s
MTN Manton Dam 26.44 105 **P** **12 19 12.6 +0.4**
MTN IAmb IAmb 12 19 18.9
comp=Z,15nm,0.5s
H01W3 Cape Leeuwin H 29.27 165 T T 12 50 02.7
baz=343,slow=76,SNR=54
H01W1 Cape Leeuwin H 29.28 165 T T 12 50 07.7
baz=343,slow=76,SNR=52
H01W2 Cape Leeuwin H 29.28 165 T T 12 50 13.0
baz=343,slow=76,SNR=54
WB0 Warramunga Arr 31.33 117 P **P** **12 19 56.1 +0.4**
WB0 IAmb IAmb 12 20 29.5
comp=Z,13nm,1.5s
WRA Warramunga Arr 31.35 118 P **P** **12 19 55.8 0.0**
WRA Warramunga Arr 31.35 118 P **P** **12 19 55.6 -0.2**
comp=Z,1.9nm,0.8s,baz=290,slow=10,SNR=19
WRA PcP **PcP** **12 22 49.3 +0.9**
comp=Z,0.8nm,0.8s,baz=300,slow=2.0,SNR=2.1
comp=Z,1.9nm,0.8s
WRAB Tennant Creek 31.35 118 P **P** **12 19 56.2 +0.3**
WRAB IAmb IAmb 12 19 58.9
comp=Z,9.2nm,1.4s
WB2 Warramunga Arr 31.36 118 P **P** **12 19 56.3 +0.4**
WB2 IAmb IAmb 12 20 22.1
comp=Z,7.3nm,1.2s
WR8 Warramunga Arr 31.49 118 P **P** **12 19 57.6 +0.6**
WR8 IAmb IAmb 12 20 04.7
comp=Z,9.0nm,1.4s
WR0 Warramunga Arr 31.53 118 P **P** **12 19 58.0 +0.6**
WR0 IAmb IAmb 12 20 15.5
comp=Z,9.3nm,1.2s
BRDH Bariadhala 32.01 336 LR LR 12 34 31.3
comp=Z,150nm,18.1s,baz=142,slow=39
H08S2 Diego Garcia H 32.27 266 T T 12 54 21.3
baz=90,slow=75,SNR=79
H08S3 Diego Garcia H 32.28 266 T T 12 54 07.3
baz=90,slow=75,SNR=92
H08S1 Diego Garcia H 32.29 266 T T 12 54 21.9
baz=90,slow=75,SNR=66
ASAR Alice Springs 32.47 124 P **P** **12 20 05.6 0.0**
ASAR Alice Springs 32.47 124 P **P** **12 20 05.9 +0.3**
comp=Z,0.8nm,0.7s,baz=305,slow=8.0,SNR=16
ASAR PcP **PcP** **12 22 52.6 +1.2**
comp=Z,0.5nm,0.5s,baz=303,slow=2.0,SNR=6.1
ASAR S **S** **12 25 15.8 +0.2**
comp=Z,1.0nm,0.9s,baz=300,slow=14,SNR=7.1
comp=Z,0.8nm,0.7s
AS31 Alice Springs 32.47 124 P **P** **12 20 05.7 +0.1**
COEN Coen 38.19 104 P **P** **12 20 54.2 -0.6**
COEN IAmb IAmb 12 21 17.3
comp=Z,16nm,1.1s
PMG Port Moresby 41.80 97 P **P** **12 21 25.4 +0.6**
STKA Stephens Creek 42.30 131 P **P** **12 21 29.7 +1.1**
STKA Stephens Creek 42.30 131 P **P** **12 21 29.7 +1.1**
comp=Z,11nm,0.8s,baz=301,slow=8.3,SNR=16
comp=Z,11nm,0.8s
JNU Nakatsue 46.62 30 LR LR 12 39 19.4
comp=Z,36nm,21.9s,baz=68,slow=33
XLT XiLinHaoTe 51.37 10 *eP* P 12 22 45.3 +6.1
XLT sP pP 12 22 51.3 -5.6
XLT pmax pmax
comp=Z,4.0nm,0.5s
MJAR Matsushiro Arr 53.10 33 P **P** **12 22 49.7 -2.4**
comp=Z,2.4nm,0.7s,baz=196,slow=7.9,SNR=5.1
comp=Z,2.4nm,0.7s
CN2 Changchun 53.58 18 P P 12 23 04.3 +8.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SONM Songino Array 54.33 1 P **P** **12 23 00.1 -0.9**
comp=Z,0.7nm,0.3s,baz=178,slow=9.3,SNR=6.7
SONM PcP **PcP** **12 24 04.9 +0.7**
comp=Z,1.3nm,0.6s,baz=160,slow=4.7,SNR=2.9
comp=Z,0.7nm,0.3s
USA0B Ussuriysk Arra 56.23 23 P **P** **12 23 14.1 -0.5**
USRK Ussuriysk Ar. 56.23 23 P **P** **12 23 14.1 -0.5**
USRK Ussuriysk Ar. 56.23 23 P **P** **12 23 13.8 -0.7**
comp=Z,6.1nm,0.6s,baz=202,slow=6.0,SNR=12
comp=Z,6.1nm,0.6s
MK31 Makanchi Array 56.97 342 P **P** **12 23 19.1 -0.8**
MKAR Makanchi Array 56.97 342 P **P** **12 23 19.1 -0.8**
MKAR Makanchi Array 56.97 342 P **P** **12 23 19.2 -0.7**
comp=Z,1.6nm,0.5s,baz=150,slow=8.2,SNR=15
MKAR LR LR 12 52 15.0
comp=Z,91nm,19.9s,baz=312,slow=41
comp=Z,1.6nm,0.5s
KKAR Karatay Array 58.64 331 P **P** **12 23 31.1 -0.5**
HEH HeiHe 59.98 16 *eP* **P** **12 23 39.0 -1.6**
HEH pmax pmax
comp=Z,7.0nm,0.7s
H04N2 CROZET ISLANDS 60.20 220 T T 13 29 21.0
baz=66,slow=75,SNR=101
H04N1 CROZET ISLANDS 60.22 220 T T 13 29 22.0
baz=66,slow=75,SNR=142
H04N3 CROZET ISLANDS 60.22 220 T T 13 29 20.7
baz=66,slow=75,SNR=126
H04S1 CROZET ISLANDS 60.40 219 T T 13 29 29.8
baz=67,slow=76,SNR=16
H04S3 CROZET ISLANDS 60.42 219 T T 13 29 33.0
baz=67,slow=76,SNR=12
H04S2 CROZET ISLANDS 60.42 219 T T 13 29 33.8
baz=67,slow=76,SNR=11
JKA Kamikawa-asahi 60.90 30 P **P** **12 23 46.1 -1.0**
KURBB Kurchatov Arra 61.53 341 P **P** **12 23 50.4 -0.8**
comp=Z,1.5nm,0.7s,baz=157,slow=6.2,SNR=11
comp=Z,1.5nm,0.7s
KURK Kurchatov 61.58 341 **P** **12 23 51.3 -0.2**
KURK IAmb IAmb 12 23 52.1
comp=Z,3.8nm,1.1s
ZAA0 Zalesovo Array 62.79 347 P **P** **12 23 58.1 -1.4**
ZAA0 IAmb IAmb 12 23 59.2
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 62.79 347 **P** **12 23 58.2 -1.3**
ZALV Zalesovo Beam 62.79 347 P **P** **12 23 58.5 -1.1**
comp=Z,2.6nm,0.5s,baz=159,slow=4.9,SNR=10
comp=Z,2.6nm,0.5s
BVAR Borovoye Array 66.35 338 P **P** **12 24 22.4 -0.5**
comp=Z,3.8nm,0.5s,baz=148,slow=8.5,SNR=18
comp=Z,3.8nm,0.5s
MAW Mawson 67.07 196 P **P** **12 24 28.8 +1.6**
comp=Z,2.1nm,0.7s,baz=41,slow=6.8,SNR=8.1
comp=Z,2.1nm,0.7s
AB31 Akbulak array 68.17 330 **P** **12 24 34.2 -0.2**
AB31 IAmb IAmb 12 24 35.7
comp=Z,8.6nm,0.8s
ABKAR Akbulak array 68.17 330 **P** **12 24 34.3 -0.1**
ARTI Arti 73.57 335 **P** **12 25 07.1 +0.1**
PETK Petropavlovsk- 74.32 30 P **P** **12 25 10.6 -0.9**
comp=Z,1.6nm,0.6s,baz=203,slow=6.8,SNR=3.0
comp=Z,1.6nm,0.6s
PET Petropavlovsk 74.75 30 P **P** **12 25 13.3 -0.6**
VNDA Vanda 76.61 169 P **P** **12 25 25.4 +1.2**
comp=Z,0.7nm,0.8s,baz=302,slow=7.3,SNR=4.3
comp=Z,0.7nm,0.8s
BRTR Keskin Array B 80.17 312 P **P** **12 25 43.9 -0.8**
comp=Z,0.8nm,0.6s,baz=138,slow=5.8,SNR=4.9
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 83.27 180 P **P** **12 26 00.5 0.0**
QSPA IAmb IAmb 12 26 03.6
comp=Z,5.0nm,1.2s
QSPA South Pole Qui 83.27 180 P **P** **12 26 01.8 +1.3**
comp=Z,1.4nm,0.9s,baz=322,slow=4.3,SNR=3.3
comp=Z,1.4nm,0.9s
BURAR Bucovina Array 88.08 318 P **P** **12 26 24.0 -0.6**
BURAR IAmb IAmb 12 26 46.3
comp=Z,1.6nm,0.8s
SNAA Sanae 89.20 198 P **P** **12 26 31.8 +2.3**
comp=Z,0.6nm,0.5s,baz=91,slow=4.6,SNR=6.1
comp=Z,0.6nm,0.5s
FINES FINESS Array B 90.59 332 P **P** **12 26 37.5 +1.6**
comp=Z,2.5nm,0.9s,baz=112,slow=6.6,SNR=4.0
comp=Z,2.5nm,0.9s
ARCES ARCESS Array B 92.59 340 P **P** **12 26 42.8 -2.2**
comp=Z,1.5nm,0.9s,baz=101,slow=6.3,SNR=4.4
comp=Z,1.5nm,0.9s
NOA NORSAR Array B 97.67 331 LR LR 13 16 05.1
comp=Z,18nm,19.2s,baz=185,slow=38
TXAR Lajitas Array 144.84 47 PKP **PKPdf** **12 33 11.7 +0.2**
comp=Z,4.8nm,0.7s,baz=277,slow=1.4,SNR=51

*SGS **15** 12:23:57.1,24.˚58N×36.˚54E,h6km,Ml2.5*
*HLW **15** 12:23:58.4,24.˚51N×36.˚08E,h17km±2km, Md2.0,Ml2.4*
ISC 15 12:23:52.5±0.9**,24˚57N**±0.˚07×**36˚33E**±0.˚03**,h10km,n48,**
σ1$00/52,Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUMJS	**Umluj**	**0.99**	**79**	S	**Sg**	**12 24 23.1**	**-1.3**
SUMJS	**Umluj**	**0.99**	**79**	P	**Pg**	**12 24 11.9**	**+0.4**
UMJS	**Umm Lajj**	**1.10**	**53**	P	**Pn**	**12 24 14.9**	**+0.9**
UMJS	**Umm Lajj**	**1.10**	**53**	S	**Sg**	**12 24 28.3**	**+0.2**
HAGS	**Hagol**	**1.24**	**261**	P	**Pn**	**12 24 16.6**	**+0.7**
HAGS				S	**Sb**	**12 24 31.0**	**-1.1**
LNY07	**LNY07**	**1.25**	**64**	P	**Pn**	**12 24 16.6**	**+0.6**
LNY07	**LNY07**	**1.25**	**64**	S	**Sb**	**12 24 31.7**	**-0.7**
LNY05	**LNY05**	**1.32**	**69**	P	**Pn**	**12 24 17.7**	**+0.6**
LNY05	**LNY05**	**1.32**	**69**	S	**Sb**	**12 24 33.6**	**-0.9**
UMJ13	**Umluj**	**1.34**	**46**	P	**Pb**	**12 24 18.5**	**+0.8**
UMJ13	**Umluj**	**1.34**	**46**	S	**Sb**	**12 24 34.9**	**0.0**
LNY04	**LNY04**	**1.38**	**59**	S	**Sb**	**12 24 35.7**	**-0.4**
LNY04	**LNY04**	**1.38**	**59**	P	**Pn**	**12 24 18.9**	**+1.1**
LNY16	**LNY16**	**1.38**	**56**	S	**Sb**	**12 24 35.5**	**-0.7**
LNY16	**LNY16**	**1.38**	**56**	P	**Pb**	**12 24 19.0**	**+0.5**
UMJ01	**UMJ01**	**1.44**	**41**	S	**Sn**	**12 24 37.1**	**-0.4**
UMJ01				P	**Pb**	**12 24 19.9**	**+0.5**
LNY08	**LNY08**	**1.45**	**71**	S	**Sn**	**12 24 37.5**	**-0.6**
LNY08	**LNY08**	**1.45**	**71**	P	**Pn**	**12 24 19.8**	**+0.8**
LNY06	**LNY06**	**1.46**	**64**	P	**Pb**	**12 24 20.2**	**+0.5**
LNY14	**LNY14**	**1.47**	**62**	P	**Pn**	**12 24 20.3**	**+1.2**
LNY14	**LNY14**	**1.47**	**62**	S	**Sn**	**12 24 37.7**	**-0.8**
LNY12	**LNY12**	**1.48**	**62**	S	**Sn**	**12 24 37.5**	**-1.3**
LNY12	**LNY12**	**1.48**	**62**	P	**Pb**	**12 24 20.5**	**+0.4**
UMJ02	**UMJ02**	**1.48**	**40**	P	**Pb**	**12 24 20.8**	**+0.6**
LNY17	**LNY17**	**1.49**	**63**	P	**Pb**	**12 24 20.7**	**+0.4**
LNY17	**LNY17**	**1.49**	**63**	S	**Sn**	**12 24 37.9**	**-1.1**
LNY15	**LNY15**	**1.49**	**62**	S	**Sn**	**12 24 39.6**	**+0.5**
LNY15	**LNY15**	**1.49**	**62**	P	**Pn**	**12 24 20.7**	**+1.2**
LNY02	**LNY02**	**1.50**	**68**	P	**Pn**	**12 24 20.4**	**+0.8**
LNY02	**LNY02**	**1.50**	**68**	S	**Sn**	**12 24 37.9**	**-1.3**
LNY11	**LNY11**	**1.50**	**60**	P	**Pn**	**12 24 20.7**	**+1.1**
LNY11	**LNY11**	**1.50**	**60**	S	**Sn**	**12 24 38.4**	**-0.9**
UMJ07	**UMJ07**	**1.52**	**41**	P	**Pb**	**12 24 21.4**	**+0.6**
LNYS	**LNYS**	**1.55**	**71**	P	**Pn**	**12 24 21.4**	**+1.1**
LNYS	**LNYS**	**1.55**	**71**	S	**Sn**	**12 24 38.6**	**-1.9**
LNY10	**LNY10**	**1.55**	**63**	P	**Pb**	**12 24 21.7**	**+0.4**
LNY01	**LNY01**	**1.61**	**66**	P	**Pn**	**12 24 22.4**	**+1.3**
UMJ09	**UMJ09**	**1.70**	**43**	P	**Pb**	**12 24 24.2**	**+0.4**
FGALY	**Al Ais**	**1.82**	**85**	P	**Pb**	**12 24 24.2**	**+0.4**
UMJ10	**UMJ10**	**1.82**	**39**	P	**Pb**	**12 24 26.1**	**+0.1**
NADB	**Abo Dabab**	**1.83**	**295**	P	**Pb**	**12 24 25.8**	**-0.2**
NADB				S	**Sn**	**12 24 46.4**	**-0.8**
MURBA	**Al Muraba'a**	**1.93**	**64**	P	**Pb**	**12 24 27.5**	**-0.2**
TRAS	**Al Qrash**	**2.09**	**76**	P	**Pn**	**12 24 29.1**	**+1.6**
BRNS	**Bernies**	**2.15**	**251**	P	**Pn**	**12 24 30.0**	**+1.6**
YOBS		**2.21**	**95**	P	**Pn**	**12 24 29.7**	**+0.5**
NEDF	**New Edfo**	**3.09**	**277**	P	**Pn**	**12 24 42.9**	**+1.5**
HHRG	**Al Ghardaqah**	**3.62**	**317**	P	**Pn**	**12 24 50.0**	**+1.3**
HHRG				S	**Sn**	**12 25 28.9**	**-2.7**
HMSM	**Jabal Masmas**	**4.41**	**248**	P	**Pn**	**12 25 01.0**	**+1.5**

*IDC **15** 12:25:38.1±1.8,48.˚90N×154.˚58E,h0km,mb3.4/2,*
mbtmp3.5/3,ML2.7/1,Error ellipse: s-maj=272.3km
s-min=27.7km az=113.0
*MOS **15** 12:25:38.1±0.8,48.˚64N×155.˚47E,h12km,mb3.8/1,Error*
ellipse: s-maj=88.2km s-min=5.1km az=76.1
*SKHL **15** 12:25:38.2±0.5,48.˚50N×155.˚70E,h32km±2km,mb4.4/4*
*KRSC **15** 12:25:45.0±1.3,49.˚08N×156.˚33E,h14km±24km,Ml4.2*
ISC 15 12:25:36.6±1.5**,48˚86N**±0.˚07×**156˚9E**±0.˚1**,h10km,n54,**
σ1$32/60,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.89**	**345**	*e*PN	**Pg**	**12 26 13.1**	**+0.3**
SKR				pmax	pmax		
comp=Z,130nm,0.3s							
SKR	**Severo-Kuril's**	**1.89**	**345**	*e*P	**Pg**	**12 26 12.8**	**0.0**
SKR				*e*S	**Sb**	**12 26 33.4**	**-1.4**
SKR	**Severo-Kuril's**	**1.89**	**345**	*e*P	**Pg**	**12 26 12.9**	**0.0**
SKR				AMB	AMB	12 26 14.1	
comp=Z,100nm,0.4s							
SKR				*e*S	**Sg**	**12 26 39.3**	**+2.0**
SKR				A	A	12 26 42.2	
comp=Z,170nm,0.4s							
SKR				A	A	12 26 42.2	
comp=Z,190nm,0.4s							
PAU	**Pauzhetka**	**2.61**	**359**	PN	**Pg**	**12 26 26.3**	**-0.2**
PAU	**Pauzhetka**	**2.61**	**359**	*e*P	**Pg**	**12 26 26.3**	**-0.2**
PAU				*e*S	**Sb**	**12 26 56.6**	**+1.1**
PAU	**Pauzhetka**	**2.61**	**359**	*e*P	**Pg**	**12 26 26.3**	**-0.2**
PAU				AMB	AMB	12 26 27.1	
comp=Z,20nm,0.3s							
MIPR	**Malaya Ipel'ka**	**3.42**	**359**	PN	**Pb**	**12 26 36.2**	**-1.0**
MIPR	**Malaya Ipel'ka**	**3.42**	**359**	*e*P	**Pb**	**12 26 36.3**	**-1.0**
ASAK	**Asacha**	**3.58**	**10**	PN	**Pb**	**12 26 41.8**	**+1.8**
ASAK	**Asacha**	**3.58**	**10**	*e*P	**Pb**	**12 26 41.8**	**+1.8**
MTVR	**Mutnovka**	**3.71**	**12**	PN	**Pb**	**12 26 44.1**	**+1.8**
MTVR	**Mutnovka**	**3.71**	**12**	*e*P	**Pb**	**12 26 44.2**	**+1.8**
MTVR				*e*S	**Sb**	**12 27 27.3**	**-0.1**
RUS	**Russkaya**	**3.72**	**15**	PN	**Pb**	**12 26 43.5**	**+1.2**
RUS	**Russkaya**	**3.72**	**15**	*e*P	**Pb**	**12 26 43.5**	**+1.2**
RUS				*e*S	**Sb**	**12 27 26.6**	**-0.8**
RUS	**Russkaya**	**3.72**	**15**	*e*P	**Pb**	**12 26 43.5**	**+1.2**
GRL	**Gorelyy**	**3.77**	**11**	PN	**Pb**	**12 26 44.8**	**+1.6**
GRL	**Gorelyy**	**3.77**	**11**	*e*P	**Pb**	**12 26 44.9**	**+1.6**
KRMR	**Karymshinskiy**	**4.05**	**11**	PN	**Pb**	**12 26 48.9**	**+1.0**
KRMR	**Karymshinskiy**	**4.05**	**11**	*e*P	**Pb**	**12 26 49.0**	**+1.0**
APC	**Apacha**	**4.07**	**2**	PN	**Pb**	**12 26 48.3**	**+0.1**
APC	**Apacha**	**4.07**	**2**	*e*P	**Pb**	**12 26 48.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**4.28**	**7**	PN	**Pb**	**12 26 51.1**	**-0.8**
PETK	**Petropavlovsk-**	**4.28**	**7**	Pn	**Pb**	**12 26 49.6**	**-2.3**
comp=Z,1.9nm,0.3s,baz=207,slow=13,SNR=31							
PETK				Sn	**Sb**	**12 27 45.0**	**+1.5**
comp=Z,0.2nm,0.3s,baz=149,slow=16,SNR=1.2							
comp=Z,7.9nm,0.6s							
PET	**Petropavlovsk**	**4.31**	**14**	*e*PN	**Pb**	**12 26 52.4**	**0.0**
PET	**Petropavlovsk**	**4.31**	**14**	*e*P	**Pb**	**12 26 52.3**	**-0.1**
PET				*e*S	**Sb**	**12 27 41.6**	**-2.8**
PET	**Petropavlovsk**	**4.31**	**14**	*e*P	**Pb**	**12 26 52.4**	**0.0**
PET				AMB	AMB	12 26 54.0	
comp=Z,10.0nm,0.2s							
PET				*e*S	**Sb**	**12 27 47.7**	**+3.3**
PET				A	A	12 27 55.9	
comp=Z,70nm,0.4s							
PET				A	A	12 27 55.9	
comp=Z,30nm,0.4s							
DALK	**Dalny**	**4.33**	**15**	PN	**Pb**	**12 26 52.7**	**-0.1**
DALK	**Dalny**	**4.33**	**15**	*e*P	**Pb**	**12 26 52.8**	**-0.1**
DALK				*e*S	**Sb**	**12 27 43.3**	**-1.8**
UGLR	**Uglovaya**	**4.52**	**15**	PN	**Pb**	**12 26 55.9**	**-0.1**
UGLR	**Uglovaya**	**4.52**	**15**	*e*P	**Pb**	**12 26 55.9**	**-0.1**
AVH	**Avacha**	**4.56**	**14**	PN	**Pb**	**12 26 56.9**	**+0.3**
AVH	**Avacha**	**4.56**	**14**	*e*P	**Pb**	**12 26 57.0**	**+0.3**
AVH				*e*S	**Sb**	**12 27 47.7**	**-3.9**
AVH	**Avacha**	**4.56**	**14**	*e*P	**Pb**	**12 26 56.9**	**+0.3**
KOK	**Koryaka**	**4.57**	**13**	PN	**Pb**	**12 26 57.1**	**+0.3**
KOK	**Koryaka**	**4.57**	**13**	*e*P	**Pb**	**12 26 57.1**	**+0.3**
KOK	**Koryaka**	**4.57**	**13**	*e*P	**Pb**	**12 26 57.1**	**+0.3**
SDLR	**Sedlovina**	**4.59**	**15**	PN	**Pb**	**12 26 56.4**	**-0.9**
SDLR	**Sedlovina**	**4.59**	**15**	*e*P	**Pb**	**12 26 56.5**	**-0.9**
KRER	**Koryakskii**	**4.60**	**14**	PN	**Pb**	**12 26 57.2**	**-0.2**
KRER	**Koryakskii**	**4.60**	**14**	*e*P	**Pb**	**12 26 57.2**	**-0.2**
KRX	**Arik**	**4.63**	**13**	PN	**Pb**	**12 26 57.6**	**-0.4**
KRX	**Arik**	**4.63**	**13**	*e*P	**Pb**	**12 26 57.7**	**-0.4**
SPN	**Mys Shipunski**	**4.68**	**24**	PN	**Pb**	**12 26 58.5**	**-0.1**
SPN	**Mys Shipunski**	**4.68**	**24**	*e*P	**Pb**	**12 26 58.6**	**-0.1**
SPN				*e*S	**Sb**	**12 27 53.3**	**-1.7**
SPN	**Mys Shipunski**	**4.68**	**24**	*e*P	**Pb**	**12 26 58.5**	**-0.1**
GNL	**Ganaly**	**4.88**	**7**	PN	**Pb**	**12 26 59.5**	**-2.7**
GNL	**Ganaly**	**4.88**	**7**	*e*P	**Pb**	**12 26 59.6**	**-2.7**
KUR	**Kuril'sk**	**7.16**	**243**	*e*P	Pn	12 27 10.1	-11
KUR				AMB	AMB	12 27 13.7	
comp=Z,20nm,0.4s							
SHO	**Shikotan**	**8.56**	**238**	*e*P	Pn	12 27 28.0	-13
H11S1	**WAKE ISLAND Hy 31.30**	**162**		T	T	13 06 03.8	
baz=346,slow=76,SNR=4.5							
H11S3	**WAKE ISLAND Hy 31.32**	**162**		T	T	13 05 45.5	
baz=346,slow=76,SNR=4.2							
H11S2	**WAKE ISLAND Hy 31.32**	**162**		T	T	13 05 40.9	
baz=346,slow=76,SNR=10							
WRA	**Warramunga Arr**	**71.39**	**202**	P	**P**	**12 36 56.2**	**-0.5**
comp=Z,0.2nm,0.8s,baz=16,slow=6.1,SNR=2.0							
comp=Z,0.2nm,0.8s							
ASAR	**Alice Springs**	**75.07**	**202**	P	**P**	**12 37 19.2**	**+0.8**
comp=Z,0.4nm,0.8s,baz=15,slow=5.6,SNR=3.0							
comp=Z,0.4nm,0.8s							

IDC 15 12:31:12.6±327.0**,57˚00N×30˚75E,h0km,Error ellipse:**
s-maj=131.0km s-min=73.7km az=91.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON 3.56**	**92**		I	I	12 53 20.0	
baz=277,slow=321,SNR=4.1							
I26DE	**FREYUNG INFRAS13.09**	**239**		I	I	13 50 00.0	
baz=44,slow=330,SNR=1.0							
I37NO	**I37NO**	**13.27**	**341**	I	I	13 50 30.0	
baz=150,slow=327,SNR=2.1							

*IDC **15** 12:40:36.5±0.9,31.˚74N×85.˚20E,h0km,mb3.6/9,*
mbtmp3.6/12,ML3.8/3,MS3.6/4,Error ellipse:
s-maj=34.8km s-min=16.7km az=60.0
ISC 15 12:40:41.5±1.0**,31˚8N**±0.˚1×**85˚3E**±0.˚2**,h35km,n16,**
σ1$43/12,mb3.7/8,MS3.5/4,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**15.15**	**352**	Pn	**Pn**	**12 44 10.7**	**-2.1**
0.2nm,0.3s,baz=171,slow=12,SNR=5.0							
0.3nm,0.7s							
CMAR	**Chiang Mai Arr**	**18.13**	**134**	P	**Pn**	**12 44 48.5**	**-2.0**
0.3nm,0.3s,baz=326,slow=12,SNR=11							
0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**19.46**	**347**	P	**P**	**12 45 03.2**	**-1.9**
0.1nm,0.3s,baz=167,slow=11,SNR=6.8							
1.4nm,0.6s							
ZALV	**Zalesovo Beam**	**22.14**	**359**	P	**P**	**12 45 33.9**	**0.0**
0.5nm,0.5s,baz=185,slow=10,SNR=2.4							
0.5nm,0.5s							
SONM	**Songino Array**	**22.68**	**39**	P	**P**	**12 45 41.1**	**+1.2**
2.3nm,1.0s,baz=228,slow=12,SNR=5.9							
2.3nm,1.0s							
BVAR	**Borovoye Array**	**23.80**	**337**	P	**P**	**12 45 50.6**	**-0.2**
0.4nm,0.5s,baz=122,slow=11,SNR=2.1							
0.4nm,0.5s							
BELG	**Belogornoye**	**34.16**	**318**	LR	LR	13 03 57.9	
comp=Z,392nm,19.5s,baz=96,slow=41							
MMAI	**Mount Meron Ar**	**41.81**	**285**	LR	LR	13 06 55.7	
comp=Z,43nm,18.1s,baz=134,slow=38							
FINES	**FINESS Array B**	**47.98**	**326**	P	**P**	**12 49 16.3**	**-0.3**
1.6nm,0.9s,baz=101,slow=7.2,SNR=1.2							
1.6nm,0.9s							
ARCES	**ARCESS Array B**	**50.09**	**337**	P	**P**	**12 49 34.3**	**+1.7**
1.1nm,0.8s,baz=81,slow=8.7,SNR=5.9							
1.1nm,0.8s							
VRAC	**Vranov**	**53.20**	**310**	LR	LR	13 16 35.1	
comp=Z,38nm,18.1s,baz=160,slow=41							
GUMO	**Guam**	**57.21**	**94**	LR	LR	13 14 14.3	
comp=Z,39nm,21.5s,baz=276,slow=35							
WRA	**Warramunga Arr**	**69.69**	**131**	P	**P**	**12 51 48.4**	**+0.6**
0.3nm,0.4s,baz=324,slow=6.4,SNR=16							
0.3nm,0.4s							
ASAR	**Alice Springs**	**72.14**	**134**	P	**P**	**12 52 03.1**	**+0.4**
0.7nm,0.7s,baz=316,slow=5.8,SNR=8.6							
0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.81**	**278**	P	**P**	**12 52 35.9**	**+0.2**
0.8nm,0.7s,baz=64,slow=6.6,SNR=4.2							
0.8nm,0.7s							
YKA	**Yellowknife Ar**	**84.68**	**9**	P	**P**	**12 53 12.4**	**+1.1**
0.4nm,0.8s,baz=330,slow=6.2,SNR=4.2							
0.4nm,0.8s							

*IDC **15** 12:53:42.5±5.3,6.˚97S×129.˚64E,h82km±55km,mb3.5/7,*
mbtmp3.9/10,ML4.2/3,Error ellipse: s-maj=50.6km
s-min=23.2km az=53.0
ISC 15 12:53:44.0±0.8**,7˚17S**±0.˚09×**129˚5E**±0.˚1**,h100km,n11,**
σ1$59/12,mb3.7/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.49**	**242**	P	**Pn**	**12 55 19.5**	**+2.4**
6.6nm,0.3s,baz=103,slow=4.1,SNR=2.5							
BATI				S	**Sn**	**12 56 27.6**	**-2.1**
39nm,0.4s,baz=72,slow=19,SNR=10							
18nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.49**	**199**	P	**Pn**	**12 56 23.0**	**-1.9**
1.6nm,0.4s,baz=22,slow=15,SNR=22							
FITZ				S	Sn	12 58 21.2	-10
4.1nm,0.3s,baz=76,slow=19,SNR=8.5							
WRA	**Warramunga Arr**	**13.54**	**160**	P	**Pn**	**12 56 51.1**	**-1.0**
1.0nm,0.3s,baz=339,slow=13,SNR=61							
WRA				S	Sn	12 59 10.2	-11
6.0nm,0.5s,baz=331,slow=22,SNR=15							
1.7nm,0.3s							
ASAR	**Alice Spring

comp=N,268nm,0.4s
DEOK IAML 12 55 01.9
comp=E,198nm,0.2s
OK052 Battle Ridge R 1.46 306 Pn 12 54 43.2 -0.1
QUOK Quay 1.51 313 Pn 12 54 44.1 +0.1
U38A Gravette 1.52 31 Pn 12 54 44.1 0.0
MIAR Mount Ida 1.57 112 Pn 12 54 45.0 +0.2
HHAR Hobbs 1.62 45 Pn 12 54 45.9 +0.3
FNO Franklin 1.68 275 Pn 12 54 47.0 +0.5
OKCFA Oklahoma City 1.74 280 Pb 12 54 48.2 -0.5
OKCFA Sg 12 55 12.3 0.0
OK029 Liberty Lake 1.84 292 Pn Pn 12 54 49.0 +0.4
LOOK Love County 1.89 233 Pn Pn 12 54 49.9 +0.6
Z38A Mt. Pleasant 1.90 171 IAmb_Lg 12 55 20.3
comp=Z,62nm,0.7s
X40A Basin Creek Fa 2.17 107 IAmb_Lg 12 55 27.9
comp=Z,46nm,0.8s
WLAR White Oak Lake 2.35 127 IAmb_Lg 12 55 35.9
comp=Z,19nm,0.8s
Z35A Perchaven, San 2.39 222 Pn Pn 12 54 56.2 0.0
Z35A IAmb_Lg 12 55 33.2
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 2.74 73 IAmb_Lg 12 55 47.9
comp=Z,22nm,0.9s
KAN01 Argonia South 2.80 317 IAmb_Lg 12 55 50.7
comp=Z,20nm,0.7s
Z41A Richland Creek 2.82 131 IAmb_Lg 12 55 47.9
comp=Z,16nm,1.0s
KAN08 Anthony NE Sta 2.97 315 IAmb_Lg 12 55 51.7
comp=Z,14nm,0.7s
MGMO Mountain Grove 3.20 50 IAmb_Lg 12 56 03.4
comp=Z,20nm,1.0s
NATX Nacogdoches 3.42 170 IAmb_Lg 12 56 09.9
comp=Z,18nm,0.8s
LCAR Lake Charles 3.54 74 IAmb_Lg 12 56 10.0
comp=Z,15nm,0.8s
R40A Maddies Statio 4.00 37 IAmb_Lg 12 56 26.0
comp=Z,23nm,0.8s
SMWD Samnorwood 4.01 271 IAmb_Lg 12 56 25.7
comp=Z,12nm,0.8s
CCM Cathedral Cave 4.40 47 IAmb_Lg 12 56 42.9
comp=Z,14nm,0.8s
P38A Dawn 4.71 17 IAmb_Lg 12 56 56.0
comp=Z,14nm,0.8s
DKNS Dickens 4.84 254 IAmb_Lg 12 57 01.2
comp=Z,17nm,1.1s
FVM French Village 4.88 53 IAmb_Lg 12 56 54.6
comp=Z,15nm,1.0s
CBKS Cedar Bluff 5.08 318 IAmb_Lg 12 57 11.6
comp=Z,16nm,0.7s
CGM3 Cape Girardeau 5.08 63 IAmb_Lg 12 57 05.3
comp=Z,16nm,0.9s
P40A Paris 5.11 30 IAmb_Lg 12 57 06.1
comp=Z,17nm,0.9s
POST Post 5.50 250 IAmb_Lg 12 57 24.8
comp=Z,8.8nm,0.8s
S44A Carbondale 5.54 61 IAmb_Lg 12 57 15.6
comp=Z,22nm,0.8s
SGCY Sterling City 5.80 238 IAmb_Lg 12 57 27.3
comp=Z,21nm,1.1s
JCT Junction City 5.97 220 IAmb_Lg 12 57 34.0
comp=Z,8.1nm,0.9s
PLAL Pickwick Lake 5.97 89 IAmb_Lg 12 57 26.5
comp=Z,6.9nm,0.7s
N41A Harden Midland 6.60 31 IAmb_Lg 12 57 48.2
comp=Z,15nm,0.9s
OLIL Olney 6.83 56 IAmb_Lg 12 57 55.7
comp=Z,11nm,0.7s
T47A Sharon Grove 6.93 72 IAmb_Lg 12 57 52.5
comp=Z,9.7nm,0.7s
T25A Trinidad 7.60 288 IAmb_Lg 12 58 31.4
comp=Z,8.0nm,0.9s
OGNE Ogallala 7.83 320 IAmb_Lg 12 58 29.8
comp=Z,14nm,0.8s

IDC 15 13:00:46.4±2.5, 14°.83S×174°.02W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=68.3km s-min=53.9km az=25.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.17**	**330**	T	T	13 48 39.1	
	baz=149,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**38.18**	**330**	T	T	13 48 42.9	
	baz=149,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**38.18**	**330**	T	T	13 48 42.3	
	baz=149,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**39.12**	**331**	T	T	13 49 50.6	
	baz=150,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**39.12**	**331**	T	T	13 49 58.5	
	baz=150,slow=76,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**39.14**	**331**	T	T	13 49 51.2	
	baz=150,slow=76,SNR=6.7						
WRA	**Warramunga Arr**	**49.39**	**256**	P	P	13 09 38.4	+0.1
	0.2nm,0.6s,baz=91,slow=6.8,SNR=1.7						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**49.72**	**251**	P	P	13 09 40.5	-0.3
	1.4nm,0.6s,baz=87,slow=7.8,SNR=20						
	1.4nm,0.6s						
QSPA	**South Pole Qui**	**75.21**	**180**	P	P	13 12 30.9	+0.1
	0.2nm,0.6s,baz=24,slow=6.0,SNR=1.0						
	0.2nm,0.6s						
BRTR	**Keskin Array B**	**145.34**	**321**	PKPbc	PKPbc	13 20 25.8	-0.8
	0.3nm,0.3s,baz=27,slow=4.1,SNR=3.8						

ROM 15 13:03:42.2±0.1, 43°.390N±0°.004×13°.016E±0°.010, h9km, ML0.9/10, 1C-3D, Error ellipse: s-maj=0.8km s-min=0.3km az=249.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARVD	**Arcevia**	**0.12**	**334**	⇓P	Pg	13 03 45.2	+0.2
ARVD				S	Sg	13 03 47.5	+0.6
ARVD				AML	AML		
	comp=N,78μm,1.4s						
ARVD				AML	AML		
	comp=E,112μm,0.2s						
ARVD				AML	AML		
	comp=N,78μm,0.6s						
SNTG	**Esanatoglia**	**0.14**	**202**	⇑P	Pg	13 03 45.6	+0.2
SNTG				S	Sg	13 03 48.6	+1.0
SNTG				AML	AML		
	comp=E,78μm,1.0s						
SNTG				AML	AML		
	comp=N,122μm,0.2s						
SSFR	**Montelago di S**	**0.18**	**285**	⇓P	Pg	13 03 46.9	+1.0
SSFR				S	Sg	13 03 50.0	+1.5
SSFR				AML	AML		
	comp=E,70μm,1.5s						
SSFR				AML	AML		
	comp=N,101μm,1.5s						
SSFR				AML	AML		
	comp=N,101μm,0.5s						
SSFR				AML	AML		
	comp=E,70μm,0.5s						
FOSV	**Fossato di Vic**	**0.21**	**243**	P	Pg	13 03 47.3	+0.8
FOSV				S	Sg	13 03 50.4	+1.0
MPAG	**Monte Paganucc**	**0.30**	**322**	P	Pb	13 03 49.4	-0.5
MPAG				S	Sb	13 03 54.4	-0.7
CSP1	**Cessapalombo**	**0.33**	**155**	P	Pb	13 03 49.9	-0.5
CSP1				S	Sb	13 03 54.8	-1.0
FDMO	**Fiordimonte**	**0.36**	**172**	⇓P	Pg	13 03 50.0	+0.7
FDMO				S	Sb	13 03 55.8	-0.7
FDMO				AML	AML		
	comp=N,22μm,1.4s						
FDMO				AML	AML		
	comp=E,27μm,1.6s						
FDMO				AML	AML		
	comp=N,22μm,0.6s						
FDMO				AML	AML		
	comp=E,27μm,0.4s						
PIEI	**Pieia**	**0.38**	**293**	P	Pg	13 03 50.3	+0.6
PIEI				S	Sb	13 03 56.2	-1.1
PIEI				AML	AML		
	comp=N,19μm,1.4s						
PIEI				AML	AML		
	comp=E,18μm,1.4s						
PIEI				AML	AML		
	comp=E,18μm,0.6s						
PIEI				AML	AML		
	comp=N,19μm,0.6s						

ROM 15 13:04:04.3±0.1, 43°.391N±0°.003×13°.022E±0°.005, h9km, ML1.3/12, 2C-6D, Error ellipse: s-maj=0.5km s-min=0.1km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMUR	**Monte Murano**	**0.05**	**341**	⇓P	Pg	13 04 06.5	+0.2
MMUR				S	Sg	13 04 07.6	-0.1
MMUR				AML	AML		
	comp=E,1372μm,0.2s						
MMUR				AML	AML		
	comp=N,1133μm,0.2s						
EL6	**Elcito**	**0.09**	**136**	⇓P	Pg	13 04 06.8	+0.2
EL6				S	Sg	13 04 09.0	+0.7
EL6				AML	AML		
	comp=E,1060μm,0.3s						
EL6				AML	AML		
	comp=N,1325μm,1.1s						
ARVD	**Arcevia**	**0.12**	**332**	⇓P	Pg	13 04 07.5	+0.4
ARVD				S	Sg	13 04 10.0	+0.8
ARVD				AML	AML		
	comp=N,174μm,0.8s						
ARVD				AML	AML		
	comp=E,255μm,0.9s						
SNTG	**Esanatoglia**	**0.15**	**204**	⇓P	Pg	13 04 08.0	+0.5
SNTG				S	Sg	13 04 10.9	+1.1
SNTG				AML	AML		
	comp=E,192μm,0.3s						
SNTG				AML	AML		
	comp=E,192μm,1.7s						
SNTG				AML	AML		
	comp=N,503μm,0.2s						
SSFR	**Montelago di S**	**0.18**	**285**	P	Pg	13 04 09.0	+0.9
SSFR				AML	AML		
	comp=E,218μm,0.7s						
SSFR				AML	AML		
	comp=N,188μm,1.3s						
SSFR				AML	AML		
	comp=N,188μm,0.7s						
FOSV	**Fossato di Vic**	**0.21**	**243**	⇓P	Pg	13 04 09.2	+0.5
FOSV				S	Sg	13 04 12.8	+1.2
FOSV				AML	AML		
	comp=E,57μm,1.0s						
FOSV				AML	AML		
	comp=N,75μm,0.8s						
MPAG	**Monte Paganucc**	**0.30**	**321**	⇑P	Pg	13 04 11.2	+0.8
MPAG				S	Sb	13 04 16.6	-0.7
CSP1	**Cessapalombo**	**0.33**	**156**	P	Pg	13 04 11.6	+0.7
CSP1				S	Sb	13 04 16.9	-1.0
FDMO	**Fiordimonte**	**0.36**	**172**	⇑P	Pg	13 04 11.8	+0.5
FDMO				S	Sb	13 04 18.1	-0.6
FDMO				AML	AML		
	comp=E,87μm,0.7s						
FDMO				AML	AML		
	comp=N,72μm,0.2s						
PIEI	**Pieia**	**0.38**	**292**	⇓P	Pb	13 04 12.6	-0.7
PIEI				S	Sb	13 04 18.5	-0.9
PIEI				AML	AML		
	comp=E,39μm,0.3s						
PIEI				AML	AML		
	comp=N,27μm,0.2s						

ROM 15 13:04:41.0±0.1, 43°.388N±0°.003×13°.014E±0°.004, h8km, ML1.5/8, 2C-3D, Error ellipse: s-maj=0.3km s-min=0.2km az=43.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMUR	**Monte Murano**	**0.06**	**347**	P	Pg	13 04 43.0	0.0
MMUR				S	Sg	13 04 44.2	-0.1
EL6	**Elcito**	**0.09**	**133**	⇓P	Pg	13 04 43.5	+0.1
EL6				S	Sg	13 04 45.3	+0.4
EL6				AML	AML		
	comp=E,926μm,1.6s						
EL6				AML	AML		
	comp=E,927μm,1.6s						
EL6				AML	AML		
	comp=N,1380μm,0.4s						
EL6				AML	AML		
	comp=E,927μm,0.4s						
EL6				AML	AML		
	comp=E,925μm,0.3s						
EL6				AML	AML		
	comp=N,1380μm,0.4s						
ARVD	**Arcevia**	**0.12**	**334**	⇓P	Pg	13 04 44.1	+0.3
ARVD				S	Sg	13 04 46.5	+0.8
ARVD				AML	AML		
	comp=E,256μm,1.3s						
ARVD				AML	AML		
	comp=N,202μm,1.3s						
ARVD				AML	AML		
	comp=E,256μm,0.7s						
ARVD				AML	AML		
	comp=N,202μm,0.7s						
ARVD				AML	AML		
	comp=E,190μm,0.1s						
ARVD				AML	AML		
	comp=N,199μm,0.1s						
CING	**Cingoli**	**0.13**	**95**	P	Pg	13 04 44.7	+0.7
CING				S	Sg	13 04 47.4	+1.4
SNTG	**Esanatoglia**	**0.14**	**202**	⇓P	Pg	13 04 44.7	+0.5
SNTG				S	Sg	13 04 47.5	+1.3
SNTG				AML	AML		
	comp=E,453μm,0.3s						
SNTG				AML	AML		
	comp=N,825μm,0.4s						
SNTG				AML	AML		
	comp=E,381μm,0.3s						
SNTG				AML	AML		
	comp=N,811μm,0.4s						
SNTG				AML	AML		
	comp=E,200μm,0.3s						
SNTG				AML	AML		
	comp=N,474μm,0.2s						
SNTG				AML	AML		
	comp=E,201μm,0.3s						
SNTG				AML	AML		
	comp=E,228μm,0.2s						
SNTG				AML	AML		
	comp=N,453μm,0.2s						
SNTG				AML	AML		
	comp=N,473μm,0.2s						
SSFR	**Montelago di S**	**0.18**	**286**	P	Pg	13 04 45.0	+0.3
SSFR				S	Sg	13 04 48.8	+1.5
FOSV	**Fossato di Vic**	**0.21**	**243**	⇑P	Pg	13 04 45.8	+0.6
FOSV				S	Sg	13 04 49.4	+1.3
FOSV				AML	AML		
	comp=E,427μm,0.4s						
FOSV				AML	AML		
	comp=N,510μm,0.9s						
FOSV				AML	AML		
	comp=E,246μm,0.5s						
FOSV				AML	AML		
	comp=N,212μm,0.4s						
ATSC	**Scheggia e Pas**	**0.24**	**279**	P	Pg	13 04 46.5	+0.6
ATSC				S	Sg	13 04 51.1	+1.9
COR1	**Corinaldo**	**0.24**	**358**	P	Pg	13 04 47.1	+1.1
PF6	**Pievefavera**	**0.27**	**151**	P	Pb	13 04 47.4	-0.7
PF6				S	Sb	13 04 51.9	-1.0
MML1	**Montelago di S**	**0.28**	**186**	P	Pg	13 04 47.4	+0.8
MML1				S	Sb	13 04 52.3	-0.8
MPAG	**Monte Paganucc**	**0.30**	**323**	P	Pg	13 04 47.8	+0.7
MPAG				S	Sb	13 04 53.1	-0.9
MPAG				AML	AML		
	comp=N,445μm,1.3s						
MPAG				AML	AML		
	comp=N,446μm,1.3s						
MPAG				AML	AML		
	comp=E,417μm,0.7s						
MPAG				AML	AML		
	comp=N,446μm,0.7s						
CSP1	**Cessapalombo**	**0.33**	**155**	P	Pb	13 04 48.5	-0.7
CSP1				S	Sb	13 04 53.7	-0.9
CSP1				AML	AML		
	comp=N,1310μm,1.4s						
CSP1				AML	AML		
	comp=E,2585μm,0.6s						
CSP1				AML	AML		
	comp=N,1605μm,0.9s						
ATBU	**Serra di Buran**	**0.35**	**285**	P	Pg	13 04 48.7	+0.8
ATBU				S	Sb	13 04 54.9	-0.4
FDMO	**Fiordimonte**	**0.35**	**171**	P	Pg	13 04 48.5	+0.4
FDMO				S	Sb	13 04 54.6	-0.8
FDMO				AML	AML		
	comp=E,1295μm,0.7s						
FDMO				AML	AML		
	comp=N,1083μm,0.6s						
FDMO				AML	AML		
	comp=E,1295μm,1.3s						
FDMO				AML	AML		
	comp=N,1083μm,1.4s						
PIEI	**Pieia**	**0.38**	**293**	⇑P	Pg	13 04 49.0	+0.5
PIEI				AML	AML		
PIEI				AML	AML		
	comp=N,356μm,1.2s						
PIEI				AML	AML		
	comp=E,556μm,0.3s						
PIEI				AML	AML		
	comp=N,356μm,0.8s						
CESI	**CESI - Serrava**	**0.39**	**192**	P	Pg	13 04 49.2	+0.5
CESI				S	Sb	13 04 55.8	-0.6
ASSB	**Assisi San Ben**	**0.43**	**217**	P	Pb	13 04 50.4	-0.6
ASSB				S	Sb	13 04 57.1	-0.5
ASSB				AML	AML		
	comp=E,606μm,1.0s						
ASSB				AML	AML		
	comp=N,690μm,0.3s						
MF5	**Montefalcone A**	**0.52**	**141**	P	Pb	13 04 52.0	-0.4
MF5				AML	AML		
	comp=E,1038μm,0.4s						
MF5				AML	AML		
	comp=N,1045μm,0.8s						
MF5				AML	AML		
	comp=E,1038μm,1.6s						
MNTT	**Montottone**	**0.54**	**127**	P	Pb	13 04 52.3	-0.4
MNTT				AML	AML		
	comp=N,1900μm,0.3s						
MNTT				AML	AML		
	comp=N,1900μm,1.7s						
MNTT				AML	AML		
	comp=E,1580μm,0.6s						

*LDG **15** 13:04:53.3±0.3, 43°.31N×13°.11E, h7km, Ml2.8/4, Error ellipse: s-maj=7.8km s-min=5.6km az=100.0*
ROM 15 13:04:52.0±0.0, 43°.380N±0°.002×12°.991E±0°.004, h6km, ML2.4/57, 3C-5D, Error ellipse: s-maj=0.3km s-min=0.0km az=245.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMUR	**Monte Murano**	**0.06**	**4**	P	Pg	13 04 53.5	-0.1
MMUR				S	Sg	13 04 54.7	-0.1
MMUR				AML	AML		
	comp=E,20050μm,0.4s						
MMUR				AML	AML		
	comp=N,12000μm,0.8s						
MMUR				AML	AML		
	comp=E,19767μm,0.4s						
MMUR				AML	AML		
	comp=N,11068μm,0.1s						
EL6	**Elcito**	**0.10**	**122**	⇑P	Pg	13 04 54.2	+0.1
EL6				S	Sg	13 04 56.1	+0.5
EL6				AML	AML		
	comp=E,16150μm,0.7s						
EL6				AML	AML		
	comp=E,16100μm,0.7s						
EL6				AML	AML		
	comp=N,22200μm,0.4s						
EL6				AML	AML		
	comp=E,13905μm,0.4s						
ARVD	**Arcevia**	**0.12**	**343**	⇓P	Pg	13 04 54.7	+0.1
ARVD				S	Sg	13 04 57.0	+0.6
ARVD				AML	AML		
	comp=E,2300μm,0.9s						
ARVD				AML	AML		
	comp=N,2675μm,0.9s						
ARVD				AML	AML		
	comp=N,2675μm,1.1s						
ARVD				AML	AML		
	comp=E,2300μm,1.1s						
ARVD				AML	AML		
	comp=E,1960μm,0.5s						
ARVD				AML	AML		
	comp=N,1920μm,0.4s						
MTL1	**Matelica**	**0.12**	**174**	P	Pg	13 04 55.0	+0.4
MTL1				S	Sg	13 04 57.6	+1.3
SNTG	**Esanatoglia**	**0.13**	**197**	⇓P	Pg	13 04 55.2	+0.5
SNTG				S	Sg	13 04 57.9	+1.4
SNTG				AML	AML		
	comp=E,2880μm,0.7s						
SNTG				AML	AML		
	comp=N,5175μm,0.2s						
SNTG				AML	AML		
	comp=N,5175μm,0.2s						
SNTG				AML	AML		
	comp=E,2875μm,0.7s						
SNTG				AML	AML		
	comp=E,2775μm,0.7s						
SNTG				AML	AML		
	comp=N,5390μm,0.2s						
SNTG				AML	AML		
	comp=E,2875μm,1.3s						
SNTG				AML	AML		
	comp=E,2775μm,1.3s						
SNTG				AML	AML		
	comp=E,1993μm,0.2s						
SNTG				AML	AML		
	comp=N,5392μm,0.2s						
SNTG				AML	AML		
	comp=N,5181μm,0.2s						
SNTG				AML	AML		
	comp=E,2418μm,0.2s						
CING	**Cingoli**	**0.15**	**92**	⇑P	Pg	13 04 55.2	+0.2
CING				S	Sg	13 04 58.0	+0.9
SSFR	**Montelago di S**	**0.16**	**290**	P	Pg	13 04 56.2	+0.9
FOSV	**Fossato di Vic**	**0.19**	**243**	P	Pg	13 04 56.4	+0.7
FOSV				S	Sg	13 04 59.6	+1.4
FOSV				AML	AML		
	comp=N,1010μm,1.2s						
FOSV				AML	AML		
	comp=N,1010μm,1.2s						
FOSV				AML	AML		
	comp=E,1160μm,0.9s						
FOSV				AML	AML		
	comp=N,1010μm,0.8s						
FOSV				AML	AML		
	comp=E,922μm,0.9s						
FOSV				AML	AML		
	comp=N,910μm,0.4s						
FIU1	**Fiuminata**	**0.20**	**193**	P	Pg	13 04 56.7	+0.9
FIU1				S	Sg	13 04 59.9	+1.4
PIO1	**Pioraco**	**0.20**	**182**	P	Pg	13 04 56.8	+0.9
PIO1				S	Sg	13 05 00.5	+1.8
SSM1	**San Severino M**	**0.20**	**138**	P	Pg	13 04 56.8	+0.9
SSM1				S	Sg	13 05 00.6	+2.0
MDAR	**Monte D'Aria**	**0.22**	**149**	P	Pg	13 04 57.2	+0.9
ATSC	**Scheggia e Pas**	**0.23**	**281**	P	Pg	13 04 57.1	+0.7
SEF1	**Sefro**	**0.23**	**188**	P	Pg	13 04 57.5	+0.9
SEF1				S	Sg	13 05 01.6	+1.9
TRE1	**Treia**	**0.24**	**106**	P	Pg	13 04 57.9	+1.2
TRE1				S	Sg	13 05 02.3	+2.3
COR1	**Corinaldo**	**0.25**	**2**	⇓P	Pb	13 04 58.0	-1.0
COR1				AML	AML		
	comp=E,1978μm,1.6s						
COR1				AML	AML		
	comp=E,1980μm,1.6s						
COR1				AML	AML		
	comp=E,1980μm,1.6s						
COR1				AML	AML		
	comp=N,2400μm,1.6s						
COR1				AML	AML		
	comp=E,1980μm,0.4s						
COR1				AML	AML		
	comp=N,2400μm,0.4s						
COR1				AML	AML		
	comp=E,1801μm,0.4s						
COR1				AML	AML		
	comp=N,2043μm,0.8s						
MML1	**Montelago di S**	**0.27**	**183**	⇑P	Pg	13 04 57.7	+0.5
MML1				S	Sg	13 05 02.4	+1.6
PF6	**Pievefavera**	**0.27**	**147**	P	Pg	13 04 58.1	+0.8
MPAG	**Monte Paganucc**	**0.30**	**326**	P	Pg	13 04 58.7	+0.9
MPAG				S	Sb	13 05 04.0	-1.1
MPAG				AML	AML		
	comp=E,474μm,0.3s						
MPAG				AML	AML		
	comp=N,594μm,0.8s						
MPAG				AML	AML		
	comp=E,474μm,0.3s						
MPAG				AML	AML		
	comp=E,928μm,0.7s						
CSP1	**Cessapalombo**	**0.33**	**151**	⇓P	Pg	13 04 58.8	+0.5

CSP1				S	Sb	13 05 04.7	-1.1	
CSP1				AML	AML			
	comp=E,2590μm,0.6s							
CSP1				AML	AML			
	comp=E,2585μm,0.6s							
CSP1				AML	AML			
	comp=N,1785μm,1.3s							
CSP1				AML	AML			
	comp=N,1785μm,0.7s							
CSP1				AML	AML			
	comp=N,1451μm,0.4s							
CSP1				AML	AML			
	comp=E,2587μm,0.6s							
ATBU	**Serra di Buran**	**0.34**	**287**	P	Pg	13 04 59.3	+0.7	
ATBU				S	Sb	13 05 05.6	-0.5	
FDMO	**Fiordimonte**	**0.35**	**168**	P	Pg	13 04 59.2	+0.4	
FDMO				S	Sb	13 05 05.2	-1.2	
FDMO				AML	AML			
	comp=E,1295μm,0.7s							
FDMO				AML	AML			
	comp=N,1083μm,0.6s							
FDMO				AML	AML			
	comp=E,1295μm,1.3s							
FDMO				AML	AML			
	comp=N,1083μm,1.4s							
FDMO				AML	AML			
	comp=E,1111μm,0.2s							
FDMO				AML	AML			
	comp=N,982μm,0.3s							
PIEI	**Pieia**	**0.37**	**295**	P	Pg	13 04 59.7	+0.6	
PIEI				S	Sb	13 05 05.8	-1.1	
PIEI				AML	AML			
	comp=N,356μm,1.2s							
PIEI				AML	AML			
	comp=E,556μm,0.3s							
PIEI				AML	AML			
	comp=N,356μm,0.8s							
PIEI				AML	AML			
	comp=E,555μm,0.3s							
PIEI				AML	AML			
	comp=N,313μm,0.7s							
SENI	**Senigallia**	**0.37**	**28**	P	Pb	13 05 00.6	-0.3	
SENI				AML	AML			
	comp=E,622μm,0.4s							
SENI				AML	AML			
	comp=N,872μm,0.8s							
SENI				AML	AML			
	comp=N,872μm,1.2s							
SENI				AML	AML			
	comp=E,622μm,1.6s							
CESI	**CESI - Serrava**	**0.38**	**190**	P	Pg	13 05 00.0	+0.7	
CESI				S	Sb	13 05 06.4	-0.9	
CESI				AML	AML			
	comp=N,918μm,0.3s							
CESI				AML	AML			
	comp=E,1035μm,0.7s							
CESI				AML	AML			
	comp=E,883μm,0.3s							
CESI				AML	AML			
	comp=E,989μm,0.4s							
CESI				AML	AML			
	comp=N,917μm,0.3s							
GUMA	**Gualdo di Mace**	**0.41**	**141**	P	Pb	13 05 00.8	-0.8	
SAP2	**Sant'Angelo in**	**0.41**	**133**	⇓P	Pg	13 05 00.8	+0.9	
SAP2				S	Sb	13 05 07.8	-0.4	
SAP2				AML	AML			
	comp=E,1545μm,0.3s							
SAP2				AML	AML			
	comp=N,8225μm,0.3s							
SAP2				AML	AML			
	comp=E,1545μm,1.7s							
SAP2				AML	AML			
	comp=E,1545μm,0.3s							
SAP2				AML	AML			
	comp=N,8231μm,0.3s							
ASSB	**Assisi San Ben**	**0.42**	**216**	P	Pg	13 05 00.8	+0.8	
ASSB				S	Sb	13 05 07.8	-0.5	
FEMA	**Monte Fema**	**0.42**	**174**	P	Pg	13 05 00.9	+0.8	
FEMA				S	Sb	13 05 08.4	-0.1	
MNTP	**Montappone**	**0.42**	**125**	P	Pb	13 05 01.1	-0.8	
ATPI	**Pietralunga -**	**0.43**	**280**	P	Pb	13 05 01.3	-0.8	
ATPI				AML	AML			
	comp=N,509μm,1.2s							
ATPI				AML	AML			
	comp=E,544μm,0.8s							
ATPI				AML	AML			
	comp=N,509μm,0.8s							
ATPI				AML	AML			
	comp=E,545μm,0.8s							
ATPI				AML	AML			
	comp=E,569μm,0.6s							
PP3	**Marolino**	**0.45**	**90**	P	Pb	13 05 01.9	-0.3	
AOI	**Ancona**	**0.48**	**69**	P	Pb	13 05 02.1	-0.7	
AOI				S	Sb	13 05 09.6	-0.5	
PE3	**Peglio**	**0.48**	**311**	P	Pb	13 05 03.0	+0.1	
PE3				AML	AML			
	comp=N,2230μm,0.5s							
PE3				AML	AML			
	comp=E,2200μm,0.4s							
PE3				AML	AML			
	comp=N,2231μm,0.5s							
PE3				AML	AML			
	comp=E,2200μm,0.4s							
MC2	**Monte Cornacci**	**0.49**	**163**	P	Pg	13 05 02.1	+0.7	
MC2				S	Sb	13 05 10.2	-0.4	
ATTE	**AVT- Monte Tez**	**0.50**	**249**	P	Pb	13 05 02.4	-0.8	
MF5	**Montefalcone A**	**0.52**	**139**	P	Pb	13 05 03.0	-0.6	
MF5				AML	AML			
	comp=E,1042μm,0.4s							
MF5				AML	AML			
	comp=N,1040μm,0.8s							
MF5				AML	AML			
	comp=E,1038μm,0.4s							
MF5				AML	AML			
	comp=N,1045μm,0.8s							
MF5				AML	AML			
	comp=E,1038μm,1.6s							
MF5				AML	AML			
	comp=N,791μm,0.4s							
MF5				AML	AML			
	comp=E,1041μm,0.4s							
MNTT	**Montottone**	**0.54**	**126**	P	Pb	13 05 03.4	-0.6	
MNTT				AML	AML			
	comp=E,1580μm,0.6s							
MNTT				AML	AML			
	comp=N,1900μm,0.3s							
MNTT				AML	AML			
	comp=N,1900μm,1.7s							
MNTT				AML	AML			
	comp=E,1523μm,0.3s							
MNTT				AML	AML			
	comp=N,1900μm,0.3s							
NRCA	**Norcia**	**0.55**	**171**	P	Pg	13 05 03.2	+0.6	
NRCA				AML	AML			
	comp=N,814μm,0.9s							
NRCA				AML	AML			
	comp=E,610μm,1.3s							
NRCA				AML	AML			
	comp=N,814μm,1.1s							
NRCA				AML	AML			
	comp=E,610μm,0.7s							
NRCA				AML	AML			
	comp=N,737μm,0.1s							
NRCA				AML	AML			
	comp=E,553μm,0.2s							
NRCA				AML	AML			
	comp=E,589μm,0.2s							
NRCA				AML	AML			
	comp=N,666μm,0.2s							
BADI	**Badiali**	**0.56**	**284**	P	Pb	13 05 03.7	-0.5	
BADI				AML	AML			
	comp=N,965μm,0.3s							
BADI				AML	AML			
	comp=E,460μm,0.4s							
BADI				AML	AML			
	comp=N,965μm,0.3s							
BADI				AML	AML			
	comp=E,460μm,0.4s							
PESA	**Pesaro**	**0.57**	**349**	P	Pb	13 05 04.1	-0.3	
PESA				AML	AML			
	comp=E,408μm,0.5s							
PESA				AML	AML			
	comp=N,490μm,1.3s							
PESA				AML	AML			
	comp=N,490μm,0.7s							
PESA				AML	AML			
	comp=E,372μm,0.3s							
PESA				AML	AML			
	comp=N,485μm,0.4s							
PARC	**Parchiule**	**0.61**	**296**	P	Pg	13 05 04.2	+0.5	
PARC				AML	AML			
	comp=E,235μm,0.5s							
PARC				AML	AML			
	comp=E,235μm,1.5s							
PARC				AML	AML			
	comp=N,242μm,1.0s							
PARC				AML	AML			
	comp=E,235μm,0.5s							
PARC				AML	AML			
	comp=N,229μm,0.5s							
CPGN	**Carpegna, Ital**	**0.64**	**311**	P	Pb	13 05 05.8	+0.1	
CPGN				AML	AML			
	comp=N,363μm,0.7s							
CPGN				AML	AML			
	comp=N,275μm,0.4s							
SSP9	**Sansepolcro**	**0.66**	**288**	P	Pb	13 05 05.3	-0.5	
SSP9				AML	AML			
	comp=E,202μm,0.7s							
SSP9				AML	AML			
	comp=E,202μm,1.3s							
SSP9				AML	AML			
	comp=N,246μm,0.9s							
OFFI	**Offida**	**0.68**	**131**	P	Pb	13 05 06.3	+0.1	
OFFI				AML	AML			
	comp=E,1665μm,0.6s							
OFFI				AML	AML			
	comp=N,1910μm,0.6s							
OFFI				AML	AML			
	comp=E,1663μm,0.6s							
OFFI				AML	AML			
	comp=N,1914μm,0.6s							
CAFI	**Castiglion Fio**	**0.75**	**266**	AML	AML			
	comp=E,130μm,0.8s							
CAFI				AML	AML			
	comp=N,134μm,0.5s							
CAFI				AML	AML			
	comp=N,134μm,1.5s							
SMA1	**SAN MARTINO**	**0.79**	**161**	P	Pg	13 05 07.2	+0.1	
SMA1				AML	AML			
	comp=E,390μm,0.7s							
SMA1				AML	AML			
	comp=N,394μm,0.7s							
SMA1				AML	AML			
	comp=N,394μm,0.7s							
SMA1				AML	AML			
	comp=E,390μm,0.7s							
ARRO	**Arrone**	**0.82**	**192**	P	Pg	13 05 07.7	0.0	
ARRO				AML	AML			
	comp=E,228μm,0.7s							
ARRO				AML	AML			
	comp=N,190μm,1.1s							
ARRO				AML	AML			
	comp=E,219μm,0.3s							
ARRO				AML	AML			
	comp=N,182μm,0.3s							
CESX	**Cesi**	**0.83**	**202**	P	Pg	13 05 07.6	-0.2	
CESX				AML	AML			
	comp=E,312μm,0.3s							
CESX				AML	AML			
	comp=N,358μm,1.0s							
CESX				AML	AML			
	comp=E,312μm,0.3s							
CESX				AML	AML			
	comp=N,334μm,0.5s							
FAGN	**Fagnano**	**1.20**	**158**	AML	AML			
	comp=E,370μm,0.4s							
FAGN				AML	AML			
	comp=N,342μm,1.5s							
FAGN				AML	AML			
	comp=N,342μm,0.5s							
FAGN				AML	AML			
	comp=E,370μm,1.6s							
T0110	**Collepietro**	**1.29**	**153**	AML	AML			
	comp=E,230μm,0.4s							
T0110				AML	AML			
	comp=N,258μm,0.5s							
PGF	**Pioggiola**	**3.04**	**256**	*e*Pn	Pn	13 05 41.3	+0.6	
PGF				*e*Sn	Sn	13 06 16.1	-1.5	
	comp=N,1.5nm,0.3s							
ABTA	**Abfaltersbach**	**3.38**	**354**	*e*Pg	Pn	13 05 47.1	+1.7	
	comp=N,3.3nm,0.3s							
ABTA				Sg	Sb	13 06 32.4	-1.4	
	comp=N,8.5nm,1.2s							
KBA	**Koelnbreinsper**	**3.71**	**4**	*e*Pg	Pn	13 05 51.5	+1.6	
	comp=N,2.6nm,0.5s							
KBA				Sg	Sn	13 06 37.2	+3.2	
	comp=N,1.2nm,0.4s							
FETA	**Feichten**	**3.98**	**337**	*e*Pg	Pn	13 05 57.0	+3.4	
	comp=N,1.7nm,0.4s							
WTTA	**Wattenberg**	**4.00**	**347**	*e*Pg	Pn	13 05 56.9	+3.0	
	comp=N,1.2nm,0.3s							
SQTA	**Sankt Quirin**	**4.04**	**342**	*e*Pg	Pn	13 05 58.4	+3.9	
	comp=N,4.2nm,0.3s							
LESA	**Schwarzleotal**	**4.05**	**357**	*e*Pg	Pn	13 05 56.7	+2.2	
	comp=N,1.0nm,0.2s							
WATA	**Walderalm**	**4.08**	**346**	*e*Pg	Pn	13 05 58.0	+3.0	
	comp=N,3.1nm,0.4s							
MOTA	**Moosalm**	**4.18**	**342**	*e*Pg	Pn	13 05 59.9	+3.5	
	comp=N,2.0nm,0.5s							
BIOA	**Bad Ischl, Aus**	**4.34**	**6**	*e*Pg	Pn	13 06 00.7	+2.3	
	comp=N,3.0nm,0.3s							
DAVA	**Damuels**	**4.48**	**332**	*e*Pg	Pn	13 06 03.9	+3.4	
	comp=N,4.4nm,0.3s							
LMR	**La Mourre**	**4.73**	**272**	*e*P	Pn	13 06 06.0	+2.3	
SMRF	**Simiane la Rot**	**5.41**	**279**	*e*Pn	Pn	13 06 13.9	+0.7	
CABF	**La Chapelle**	**5.87**	**306**	*e*Pn	Pn	13 06 20.3	+0.8	
HINF	**Hinteralfeld**	**6.18**	**318**	*e*Pn	Pn	13 06 24.3	+0.5	
HINF				*e*Sn	Sn	13 07 34.4	-0.4	
	comp=N,1.0nm,0.3s							
CDF	**Champ du Feu**	**6.42**	**324**	*e*Pn	Pn	13 06 28.0	+0.9	
CDF				*e*Sn	Sn	13 07 39.0	-1.7	
	comp=N,2.4nm,0.6s							
HAU	**Haudompre**	**6.56**	**317**	*e*Pn	Pn	13 06 28.9	0.0	
HAU				*e*Sn	Sn	13 07 42.6	-1.4	
	comp=N,5.3nm,0.5s							

*IDC **15** 13:06:16.9±1.9,8°.29S×120°.02E,h195km±15km,mb3.3/6, mbtmp3.9/10,Error ellipse: s-maj=49.2km s-min=9.7km az=51.0*

ISC 15 13:06:15.9±0.7,8°.60S±0°.09×119°.67E±0°.06,h200km,n23, σ2s23/23,mb3.6/5,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.89**	**263**	P	**Pn**	**13 06 50.9**	**-2.4**
KAPI	**Kappang**	**3.56**	**1**	P	**Pn**	**13 07 09.7**	**-2.7**
	12nm,0.3s,baz=163,slow=12,SNR=6.3						
BATI	**Baumata**	**4.25**	**112**	P	**Pn**	**13 07 20.9**	**0.0**
	50nm,0.4s,baz=268,slow=2.8,SNR=17						
BATI				S	**Sn**	**13 08 07.5**	**-4.4**
	79nm,0.3s,baz=350,slow=23,SNR=12						
SOEI	**Soe**	**4.68**	**105**	P	**Pn**	**13 07 25.2**	**-1.2**
SOEI	**Soe**	**4.68**	**105**	S	**Sn**	**13 08 18.9**	**-2.9**
JAGI	**Jajag, Banyuwa**	**5.46**	**271**	P	**Pn**	**13 07 34.9**	**-1.4**
UGM	**Wanagama**	**9.08**	**274**	P	**Pn**	**13 08 22.8**	**-0.6**
UGM	**Wanagama**	**9.08**	**274**	S	**Sn**	**13 10 04.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**11.08**	**149**	P	**Pn**	**13 08 50.9**	**+1.7**
	1.6nm,0.3s,baz=315,slow=10,SNR=60						
FITZ				S	**Sn**	**13 10 48.2**	**-4.6**
	4.4nm,0.5s,baz=350,slow=19,SNR=9.7						
DRS	**Darwin Rock St**	**11.68**	**110**	P	**Pn**	**13 08 57.8**	**+1.0**
MTN	**Manton Dam**	**12.02**	**112**	P	**Pn**	**13 09 01.1**	**-0.1**
KDU	**Kakadu**	**13.22**	**109**	P	**Pn**	**13 09 17.1**	**+0.9**
FAKI	**Fak Fak**	**13.72**	**66**	P	Pn	13 09 08.5	-14
MEEK	**Meekatharra**	**17.97**	**183**	P	Pn	13 10 27.7	+14
WRA	**Warramunga Arr**	**18.12**	**130**	P	**Pn**	**13 10 15.6**	**+0.1**
	2.6nm,1.0s,baz=304,slow=12,SNR=33						
WRA				S	**S**	**13 13 31.1**	**+0.6**
	0.9nm,0.4s,baz=296,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**20.25**	**139**	P	**P**	**13 10 39.2**	**+3.1**
	1.0nm,0.3s,baz=309,slow=9.2,SNR=16						
	1.0nm,0.3s						
QIS	**Mount Isa**	**22.62**	**124**	P	P	13 11 09.2	+9.1
COEN	**Coen**	**23.64**	**105**	P	**P**	**13 11 13.4**	**+4.0**
SONM	**Songino Array**	**57.41**	**349**	P	**P**	**13 15 44.4**	**+0.7**
	0.3nm,0.4s,baz=181,slow=7.1,SNR=1.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**64.41**	**332**	P	**P**	**13 16 31.5**	**+0.8**
	0.4nm,0.4s,baz=158,slow=6.7,SNR=5.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**68.91**	**333**	P	**P**	**13 16 59.5**	**+0.5**
	0.3nm,0.5s,baz=142,slow=5.4,SNR=2.4						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**68.91**	**339**	P	**P**	**13 16 58.9**	**0.0**
	1.4nm,0.4s,baz=139,slow=5.8,SNR=7.6						
	1.4nm,0.4s						
BVAR	**Borovoye Array**	**74.26**	**332**	P	**P**	**13 17 31.2**	**+0.2**
	0.5nm,0.4s,baz=110,slow=3.4,SNR=2.5						
	0.5nm,0.4s						

*HLW **15** 13:49:15.8,24°.52N×36°.14E,h4km±1km,Md2.1,Ml2.1*
*SGS **15** 13:49:16.1,24°.56N×36°.55E,h8km,Ml2.6*

ISC 15 13:49:11.7±1.0,24°.54N±0°.10×36°.37E±0°.03,h10km,n22, σ0s53/25,Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUMJS	**Umluj**	**0.96**	**77**	S	**Sg**	**13 49 42.2**	**-0.7**
SUMJS	**Umluj**	**0.96**	**77**	P	**Pb**	**13 49 31.0**	**+0.4**
UMJS	**Umm Lajj**	**1.10**	**51**	P	**Pn**	**13 49 33.8**	**+0.6**
UMJS	**Umm Lajj**	**1.10**	**51**	S	**Sb**	**13 49 47.4**	**+0.1**
UMJ12	**UMJ12**	**1.15**	**36**	P	**Pn**	**13 49 35.1**	**+1.2**
LNY07	**LNY07**	**1.24**	**61**	S	**Sb**	**13 49 50.7**	**-0.7**
LNY07	**LNY07**	**1.24**	**61**	P	**Pg**	**13 49 35.6**	**0.0**
HAGS	**Hagol**	**1.27**	**263**	P	**Pb**	**13 49 35.9**	**+0.1**
LNY05	**LNY05**	**1.31**	**67**	P	**Pb**	**13 49 36.6**	**+0.1**
LNY05	**LNY05**	**1.31**	**67**	S	**Sb**	**13 49 52.5**	**-0.8**
LNY13	**LNY13**	**1.31**	**61**	P	**Pg**	**13 49 36.8**	**-0.2**
LNY13	**LNY13**	**1.31**	**61**	S	**Sb**	**13 49 53.5**	**+0.1**
LNY16	**LNY16**	**1.38**	**54**	S	**Sb**	**13 49 54.4**	**-0.9**
LNY08	**LNY08**	**1.43**	**70**	S	**Sn**	**13 49 56.7**	**-0.2**
LNY08	**LNY08**	**1.43**	**70**	P	**Pb**	**13 49 38.5**	**-0.1**
LNY14	**LNY14**	**1.45**	**60**	P	**Pb**	**13 49 39.1**	**+0.1**
LNY15	**LNY15**	**1.48**	**61**	S	**Sn**	**13 49 57.6**	**-0.4**
LNY15				P	**Pb**	**13 49 39.9**	**+0.4**
LNYS	**LNYS**	**1.53**	**69**	P	**Pb**	**13 49 40.3**	**0.0**
LNY10	**LNY10**	**1.54**	**61**	P	**Pb**	**13 49 40.6**	**+0.2**
NADB	**Abo Dabab**	**1.87**	**296**	P	**Pb**	**13 49 45.9**	**-0.2**
NADB				S	**Sn**	**13 50 07.4**	**-0.2**
BRNS	**Bernies**	**2.17**	**252**	P	**Pn**	**13 49 48.7**	**+0.7**
BRNS				S	**Sn**	**13 50 14.4**	**-0.5**
HHRG	**Al Ghardaqah**	**3.67**	**317**	P	**Pn**	**13 50 09.1**	**+0.5**

*IDC **15** 13:54:23.9±9.3,37°.00N×70°.92E,h200km±56km,mb3.0/1, mbtmp3.6/7,Error ellipse: s-maj=89.1km s-min=44.4km az=175.0*

ISC 15 13:54:23.7±2.5,37°.0N±0°.2×71°.0E±0°.2,h200km,n9, σ0s89/12,2C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.08**	**357**	⇓P	**Pn**	**13 55 51.5**	**-0.5**
	2.9nm,0.3s,baz=179,slow=11,SNR=36						
KK31				⇑S	**Sn**	**13 57 01.7**	**-0.1**
	5.5nm,0.5s,baz=186,slow=21,SNR=13						
AAK	**Ala-Archa**	**6.23**	**25**	P	**Pn**	**13 55 54.1**	**+0.2**
	4.8nm,0.3s,baz=194,slow=6.0,SNR=4.7						
AAK				S	**Sn**	**13 57 06.6**	**+1.2**
	2.1nm,0.3s,baz=194,slow=8.3,SNR=1.5						
AAK	**Ala-Archa**	**6.23**	**25**	⇓P	**Pn**	**13 55 53.8**	**-0.1**
	0.5nm,0.3s						
AAK				⇑S	**Sn**	**13 57 03.6**	**-1.8**
	2.1nm,0.6s						
MKAR	**Makanchi Array**	**12.88**	**37**	P	**P**	**13 57 22.3**	**-0.6**
	0.7nm,0.7s,baz=211,slow=11,SNR=5.5						
KURBB	**Kurchatov Arra**	**14.64**	**19**	P	**P**	**13 57 42.6**	**+0.3**
	0.2nm,0.3s,baz=210,slow=10,SNR=5.3						
BVAR	**Borovoye Array**	**16.01**	**359**	P	**Pn**	**13 57 59.1**	**+1.2**
	0.5nm,0.4s,baz=170,slow=10,SNR=2.2						
AKTO	**Aktyubinsk**	**16.32**	**329**	P	**Pn**	**13 58 01.6**	**0.0**
	0.7nm,0.4s,baz=137,slow=9.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**19.45**	**25**	P	**P**	**13 58 35.3**	**+0.4**
	2.1nm,0.5s,baz=220,slow=12,SNR=9.3						
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**14 01 43.7**	**-0.2**
	0.4nm,0.5s,baz=108,slow=7.8,SNR=6.7						
	0.4nm,0.5s						

*BJI **15** 13:54:28.2,45°.87N×152°.40E,h42km,mB4.8/9,mb4.6/27, Ms4.3/1,Ms7 4.1/3*
*JMA **15** 13:54:29.1±0.7,46°.N±5°.×15°.2E±°.,h30km,MV5.0/18, KURILE ISLANDS REGION*
*BGR **15** 13:54:30.1,46°.42N×154°.58E,h33km,mb4.7,Ms4.1*
*SKHL **15** 13:54:30.5±0.2,45°.90N×152°.30E,h61km±7km,mb5.3/7*
*NEIC **15** 13:54:31.8±2.5,45°.9N±0°.1×152°.2E±0°.1,h54km±4km, mb5.0/24,Error ellipse: s-maj=18.4km s-min=10.1km az=134.0*
*MOS **15** 13:54:31.0±0.9,46°.03N×152°.02E,h53km,mb4.6/19,Error ellipse: s-maj=8.0km s-min=5.9km az=77.8*
*IDC **15** 13:54:33.3±2.4,46°.14N×151°.89E,h58km±21km,mb3.8/26, mbtmp4.1/32,ML4.4/5,MS3.4/24,Error ellipse: s-maj=15.2km s-min=11.9km az=143.0*

ISC 15 13:54:31.4±0.9,45°.90N±0°.05×152°.17E±0°.05,h48km±7km, n229,σ1s44/247,mb4.5/66,MS3.5/20,28C-22D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.09**	**259**	*e*PN	**Pn**	**13 55 18.1**	**+0.5**
KUR				*e*S	**Sn**	**13 55 54.3**	**+1.0**
KUR				pmax	pmax		
	comp=N,238nm,0.3s						
KUR				pmax	pmax		
	comp=Z,488nm,0.3s						
KUR				pmax	pmax		
	comp=E,44nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.4s						
KUR				smax	smax		
	comp=E,663nm,0.4s						
KUR	**Kuril'sk**	**3.09**	**259**	*e*P	**Pn**	**13 55 17.8**	**+0.2**
KUR				AMB	AMB	13 55 20.9	
	comp=E,240nm,0.3s						
KUR				AMB	AMB	13 55 20.9	
	comp=E,40nm,0.3s						
KUR				AMB	AMB	13 55 20.9	
	comp=E,490nm,0.3s						
KUR				*e*S	**Sn**	**13 55 53.4**	**+0.1**
KUR				A	A	13 56 03.5	
	comp=E,1μm,0.4s						
KUR				A	A	13 56 03.5	
	comp=E,660nm,0.4s						
SHO	**Shikotan**	**4.30**	**244**	*c i*PN	**Pn**	**13 55 36.7**	**+2.5**
SHO				*e*S	**Sn**	**13 56 25.6**	**+2.6**
SHO				pmax	pmax		
	comp=Z,174nm,0.4s						
SHO				pmax	pmax		
	comp=N,71nm,0.2s						
SHO				pmax	pmax		
	comp=E,135nm,0.3s						
SHO				smax	smax		
	comp=E,238nm,0.6s						
SHO				smax	smax		
	comp=N,115nm,0.3s						
SHO	**Shikotan**	**4.30**	**244**	*e*P	**Pn**	**13 55 35.5**	**+1.3**
SHO				AMB	AMB	13 55 39.7	
	comp=N,180nm,0.4s						
SHO				*e*S	**Sn**	**13 56 23.4**	**+0.4**
SHO				A	A	13 56 29.6	
	comp=N,160nm,0.4s						
SHO				A	A	13 56 29.6	
	comp=N,240nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.85**	**250**	*e*PN	**Pn**	**13 55 42.8**	**+1.1**
YUK				*e*S	**Sn**	**13 56 37.3**	**+0.8**
YUK				pmax	pmax		
	comp=Z,523nm,0.4s						
YUK				pmax	pmax		
	comp=N,167nm,0.2s						
YUK				smax	smax		
	comp=E,818nm,0.5s						
YUK				smax	smax		
	comp=N,293nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.85**	**250**	*e*P	**Pn**	**13 55 42.8**	**+1.1**
YUK				AMB	AMB	13 55 46.5	
	comp=N,520nm,0.5s						
YUK				*e*S	**Sn**	**13 56 37.3**	**+0.8**
YUK				A	A	13 56 42.8	
	comp=N,290nm,0.5s						
YUK				A	A	13 56 42.8	
	comp=N,820nm,0.5s						
RUSJ	**Misakicho**	**5.22**	**252**	*e*PN	**Pn**	**13 55 48.9**	**+2.0**
RUSJ				S	**Sn**	**13 56 47.6**	**+1.8**
NEM2	**Nemuro 2**	**5.24**	**243**	P	**Pn**	**13 55 46.3**	**-0.7**
NEM2				*e*S	**Sn**	**13 56 43.5**	**-2.5**

NMR Nemuro--Hokkai 5.24 243 *e*PN **Pn 13 55 46.0 -1.1**
NMR *e*S **Sn 13 56 46.5 +0.3**
NMR Nemuro--Hokkai 5.24 243 *e*P **Pn 13 55 46.4 -0.7**
NMR *e*S **Sn 13 56 44.7 -1.5**
JRA Rausu 5.37 251 P **Pn 13 55 50.9 +2.0**
JRA *e*S **Sn 13 56 52.4 +3.0**
SKR Severo-Kuril's 5.47 27 *e*PN **Pn 13 55 51.0 +0.8**
SKR pmax pmax
comp=Z,73nm,0.6s
SKR MLR MLR
comp=Z,400nm,14.0s
SKR Severo-Kuril's 5.47 27 *e*P **Pn 13 55 50.0 -0.2**
SKR AMB AMB 13 55 52.4
comp=Z,70nm,0.5s
SKR *e*S **Sn 13 56 49.0 -2.7**
JNK Nakash 5.79 249 P **Pn 13 55 55.4 +0.8**
JNK *e*S **Sn 13 57 01.2 +1.6**
AKK Akkeshi 5.98 244 *e*P **Pn 13 55 56.6 -0.6**
comp=Z,20nm,0.2s
AKK *e*P **Pn 13 55 56.6 -0.6**
comp=Z,40nm,0.2s
AKK AMS AMS 13 58 16.4
comp=Z,400nm,14.0s
JAK Akkeshi 6.08 244 P **Pn 13 55 57.9 -0.7**
JAK *e*S **Sn 13 57 03.6 -3.3**
JTKR Abashiri--Toko 6.17 255 P **Pn 13 56 01.5 +1.7**
JAR Ashorobuto 6.53 250 P **Pn 13 56 05.9 +1.0**
JAR *e*S **Sn 13 57 19.5 +1.5**
YSS Yuzhno-Sakhali 6.59 283 **Pn 13 56 07.0 +1.4**
YSS Yuzhno-Sakhali 6.59 283 *e*PN **Pn 13 56 06.8 +1.2**
YSS *e*S **Sn 13 57 20.4 +1.0**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS smax smax
comp=N,20nm,0.8s
YSS smax smax
comp=E,20nm,0.6s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,200nm,16.0s
YSS Yuzhno-Sakhali 6.59 283 *e*P **Pn 13 56 07.4 +1.8**
YSS *e*P **Pn 13 56 07.4 +1.8**
YSS AMB AMB 13 56 08.3
comp=E,70nm,0.2s
YSS *e*S **Sn 13 57 19.8 +0.4**
JOB Onbets 6.68 246 P **Pn 13 56 06.9 +0.1**
JOB *e*S **Sn 13 57 20.4 -1.1**
JKK2 Kamakawa 2 6.99 257 P **Pn 13 56 13.2 +2.1**
JKA Kamikawa-asahi 7.01 259 **Pn 13 56 13.8 +2.4**
JKA Kamikawa-asahi 7.01 259 *e*P **Pn 13 56 13.8 +2.4**
comp=E,30nm,0.9s
JKA *e*P **Pn 13 56 13.8 +2.4**
comp=E,20nm,0.9s
ASAJ Asahikawa 7.01 259 P **Pn 13 56 13.4 +2.0**
comp=E,8.1nm,0.3s,baz=75,slow=16,SNR=81
ASAJ LR LR 13 58 52.1
comp=E,205nm,21.6s,baz=63,slow=38
comp=E,28nm,0.4s
ASAJ Asahikawa 7.01 259 PN **Pn 13 56 13.8 +2.4**
JCH Churui 7.12 246 *e*P **Pn 13 56 12.3 -0.6**
JCH *e*S **Sn 13 57 28.7 -3.7**
JWK2 Keihoku 7.23 269 P Pn 13 56 19.4 +5.1
JAB Ashibetsu 7.48 255 *e*P **Pn 13 56 20.4 +2.6**
ERM Erimo 7.57 242 **Pn 13 56 20.0 +1.0**
ERM Erimo 7.57 242 *de*PN **Pn 13 56 19.8 +0.8**
JNBK Urakawa-nobuka 7.68 245 P **Pn 13 56 19.7 -0.9**
JNBK S **Sn 13 57 42.9 -3.2**
TYV Tymovskoe 8.05 312 *e*PN **Pn 13 56 26.4 +0.9**
TYV pmax pmax
comp=Z,200nm,3.8s
TYV pmax pmax
comp=Z,13nm,0.8s
TYV Tymovskoe 8.05 312 *e*P **Pn 13 56 26.6 +1.1**
TYV *e*S **Sn 13 57 54.0 -1.0**
PEA0B Petropavlovsk- 8.06 24 Pn **Pn 13 56 28.0 +2.2**
PEA0B Petropavlovsk- 8.06 24⇑ *e*PN **Pn 13 56 27.0 +1.2**
PETK Petropavlovsk- 8.06 24 **Pn 13 56 27.7 +1.9**
PETK Petropavlovsk- 8.06 24 P **Pn 13 56 26.0 +0.2**
comp=Z,3.0nm,0.5s,baz=184,slow=11,SNR=22
PETK S **Sn 13 57 58.8 +3.3**
comp=Z,2.0nm,0.5s,baz=185,slow=11,SNR=1.1
PETK LR LR 13 59 28.8
comp=Z,66nm,21.9s,baz=202,slow=37
PETK Petropavlovsk- 8.06 24 PN **Pn 13 56 27.7 +1.9**
PET Petropavlovsk 8.29 28 *e*PN **Pn 13 56 29.8 +1.0**
PET pmax pmax
comp=Z,18nm,0.9s
PET MLR MLR
comp=Z,100nm,14.0s
PET Petropavlovsk 8.29 28 *e*P **Pn 13 56 29.0 +0.2**
PET *e*S **Sn 13 57 57.0 -3.9**
JANG Nango 9.54 238 *e*P **Pn 13 56 42.4 -3.6**
JTM Tenmabayashi 9.56 242 Pn **Pn 13 56 44.6 -1.7**
JTH Tanohata 9.62 235 *e*S **Sn 13 58 27.9 -5.8**
OKH Okha 9.71 325 *e*P **Pn 13 56 50.7 +2.4**
TEY Ternei 10.97 271 *e*P **Pn 13 57 07.6 +2.1**
GRNR Gornyy 11.55 301 *e*P **Pn 13 57 15.4 +1.9**
MA2 Magadan 13.73 357 **Pn 13 57 42.3 -0.8**
MA2 Magadan 13.73 357 P **Pn 13 57 41.8 -1.3**
comp=Z,0.6nm,0.3s,baz=188,slow=7.5,SNR=7.5
MA2 LR LR 14 02 40.6
comp=Z,76nm,20.7s,baz=176,slow=36
comp=Z,2.4nm,0.5s
MA2 Magadan 13.73 357 *de*P **Pn 13 57 42.7 -0.4**
MA2 Magadan 13.73 357 *e*P **Pn 13 57 42.7 -0.4**
MAJO Matsushiro 14.04 233 Pn **Pn 13 57 45.4 -2.1**
MAJO Matsushiro 14.04 233⇓ *e*P **Pn 13 57 48.8 +1.3**
MJAR Matsushiro Arr 14.04 233 P **Pn 13 57 45.4 -2.1**
comp=Z,3.7nm,0.8s,baz=28,slow=14,SNR=7.1
MJAR LR LR 14 03 34.8
comp=Z,86nm,19.3s,baz=77,slow=39
USA0B Ussuriysk Arra 14.37 270 Pn **Pn 13 57 49.9 -1.9**
USA0B Ussuriysk Arra 14.37 270 P **Pn 13 57 49.9 -1.9**
USRK Ussuriysk Ar. 14.37 270 P **Pn 13 57 51.0 -0.8**
comp=Z,0.6nm,0.3s,baz=81,slow=13,SNR=13
USRK LR LR 14 03 07.8
comp=Z,141nm,20.1s,baz=62,slow=36
comp=Z,2.3nm,0.5s
USRK Ussuriysk Ar. 14.37 270 P **Pn 13 57 51.0 -0.8**
JGF Kuroka 15.20 233 Pn **Pn 13 58 00.0 -2.7**
SEY Seymchan 17.07 0 P **Pn 13 58 25.5 -0.8**
comp=Z,0.6nm,0.3s,baz=179,slow=18,SNR=6.1
comp=Z,2.2nm,0.8s
SEY Seymchan 17.07 0 *e*P **Pn 13 58 24.5 -1.8**
HEH HeiHe 17.08 294 *e*P **Pn 13 58 25.6 -0.8**
HEH pmax pmax
comp=Z,6.0nm,1.1s
ZEA Zeya 17.82 305 *e*P **Pn 13 58 34.5 -1.1**
ZEA AMB AMB 13 58 40.6
comp=Z,10.0nm,0.3s
CN2 Changchun 19.03 273 P **P 13 58 49.6 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KSRS Korea Array 19.92 254 P **Pn 13 59 00.1 -0.8**
comp=Z,0.3nm,0.3s,baz=59,slow=11,SNR=11
comp=Z,2.1nm,0.6s
YAK Yakutsk 20.70 329 **P 13 59 04.9 -2.3**
YAK Yakutsk 20.70 329 P **P 13 59 04.3 -2.9**
comp=Z,11nm,0.4s,baz=62,slow=3.4,SNR=4.4
YAK LR LR 14 06 44.4
comp=Z,84nm,19.1s,baz=128,slow=36
comp=Z,11nm,0.4s
YAK Yakutsk 20.70 329 *e*P **P 13 59 06.0 -1.2**
YAK *e* 13 59 24.7
YAK *e*S **S 14 02 53.8 -1.6**
YAK *e*SS **SnSn 14 03 16.5 -1.0**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,1.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=E,60nm,2.5s
YAK pmax pmax
comp=N,21nm,3.0s
YAK smax smax
comp=N,33nm,2.7s
YAK smax smax
comp=E,21nm,2.3s
JNU Nakatsue 20.72 239 P **P 13 59 05.4 -2.2**
JNU IAmb IAmb 13 59 07.6
comp=Z,148nm,1.8s
BILL Bilibino 23.37 13⇑ *e*P **P 13 59 35.7 +0.4**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 23.37 13 *e*P **P 13 59 35.7 +0.4**
XLT XiLinHaoTe 25.51 279 *e*P **P 13 59 54.8 -0.4**
XLT pP pP 14 00 05.4 -2.0
XLT sP sP 14 00 11.6 -1.6
XLT PP **PnPn 14 00 37.0 +4.6**
XLT pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 28.11 345 LR LR 14 11 37.3
comp=Z,46nm,19.9s,baz=171,slow=37
TIXI Tiksi 28.11 345⇓ *e*P **P 14 00 19.8 +1.7**
TIXI pmax pmax
comp=Z,22nm,1.4s
TIXI Tiksi 28.11 345 *e*P **P 14 00 19.8 +1.7**
H11N2 WAKE ISLAND Hy 28.78 150 T T 14 30 47.5
baz=339,slow=75,SNR=5844
H11N1 WAKE ISLAND Hy 28.80 150 T T 14 30 48.6
baz=339,slow=75,SNR=3552
H11N3 WAKE ISLAND Hy 28.80 150 T T 14 30 48.8
baz=339,slow=75,SNR=3945
NJ2 Nanjing 29.12 253 *e*P **P 14 00 29.5 +2.0**
NJ2 pmax pmax
comp=Z,18nm,1.2s
HHC Hu-ho-hao-te 29.71 275 *e*P **P 14 00 34.5 +1.7**
HHC pmax pmax
comp=Z,110nm,5.7s
H11S1 WAKE ISLAND Hy 29.85 151 T T 14 32 10.2
baz=339,slow=76,SNR=5003
H11S3 WAKE ISLAND Hy 29.86 151 T T 14 32 09.7
baz=339,slow=76,SNR=4064
H11S2 WAKE ISLAND Hy 29.87 151 T T 14 32 10.7
baz=339,slow=76,SNR=4596
SONM Songino Array 31.01 290 P **P 14 00 42.7 -1.6**
comp=Z,0.4nm,0.5s,baz=97,slow=9.3,SNR=1.5
SONM LR LR 14 13 08.3
comp=Z,58nm,20.7s,baz=106,slow=36
comp=Z,0.4nm,0.5s
C18K Utukok River 32.69 30 P **P 14 00 57.4 -1.3**
C18K IAmb IAmb 14 00 57.6
comp=Z,48nm,1.8s
G18K Tagagawik 32.85 35 P **P 14 01 00.1 +0.1**
C19K Lookout Ridge 33.39 29 P **P 14 01 05.0 +0.2**
H19K Roundabout Mou 33.67 36 P **P 14 01 07.0 -0.1**
H19K IAmb IAmb 14 01 43.1
comp=Z,24nm,2.0s
D19K Kuna River 33.72 30 P **P 14 01 06.1 -1.5**
D19K IAmb IAmb 14 01 46.8
comp=Z,26nm,1.6s
E19K Redstone River 33.77 32 P **P 14 01 06.5 -1.5**
B20K Meade River 34.48 28 P **P 14 01 12.8 -1.3**
D22K Ayikyak River 35.74 31 P **P 14 01 23.7 -1.3**
COLA College 37.21 38*d* *i*P **P 14 01 38.5 +1.0**
COLA pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 37.26 272 *e*P **P 14 01 39.8 +1.2**
LZH pmax pmax
comp=Z,18nm,1.3s
ILAR Eielson Array 37.62 38 P **P 14 01 40.8 -0.3**
comp=Z,0.4nm,0.7s,baz=292,slow=7.4,SNR=5.2
comp=Z,0.4nm,0.7s
D25K Kavik River 38.04 30 P **P 14 01 44.4 -0.2**
D25K IAmb IAmb 14 03 08.8
comp=Z,43nm,2.0s
GTA Gaotai 38.46 280 *e*P **P 14 01 49.1 +0.5**
GTA pP pP 14 01 57.4 -3.8
GTA pmax pmax
comp=Z,2.0nm,0.6s
BMAR Burnt Mountain 38.59 34 P **P 14 01 48.4 -0.8**
GLB Gilahina Butte 39.22 43 P **P 14 01 56.3 +1.7**
GLB IAmb IAmb 14 02 09.2
comp=Z,40nm,1.4s
MCARA McCarthy VSAT 39.61 43 P **P 14 01 57.4 -0.4**
BCAR Beaver Creek A 39.98 40 P **P 14 02 01.1 +0.3**
CD2 Chengdu 40.16 265 *e*P **P 14 02 03.3 +0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
GYA Guiyang 40.89 258⇑ P **P 14 02 08.4 -0.5**
GYA pmax pmax
comp=Z,39nm,0.9s
ZALV Zalesovo Beam 42.58 306 P **P 14 02 18.9 -3.4**
comp=Z,0.5nm,0.5s,baz=74,slow=6.8,SNR=1.9
ZALV PcP **PcP 14 04 13.7 0.0**
comp=Z,1.9nm,0.8s,baz=66,slow=3.6,SNR=7.4
ZALV LR LR 14 21 08.4
comp=Z,100nm,19.1s,baz=58,slow=38
comp=Z,0.5nm,0.5s
GOMU GeErMu 43.48 278 P **P 14 02 30.1 -0.1**
GOMU pP pP 14 02 43.0 0.0
GOMU PcP **PcP 14 04 17.4 -0.2**
GOMU pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 44.63 292 *e*P **P 14 02 41.1 +2.2**
WMQ LR LR
comp=Z,400nm,18.1s
MK31 Makanchi Array 46.75 298⇓ *i*P **P 14 02 54.8 -0.8**
MKAR Makanchi Array 46.75 298 P **P 14 02 53.7 -1.9**
comp=Z,1.4nm,0.7s,baz=66,slow=7.0,SNR=9.8
MKAR PcP **PcP 14 04 29.0 +0.7**
comp=Z,1.8nm,0.6s,baz=64,slow=3.0,SNR=10
MKAR LR LR 14 23 30.8
comp=Z,84nm,18.7s,baz=79,slow=37
comp=Z,1.4nm,0.7s
MKAR Makanchi Array 46.75 298*ce*P **P 14 02 59.7 +4.1**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 47.29 304⇓ *e*P **P 14 02 59.1 -0.6**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 47.29 304 *e*P **P 14 02 59.1 -0.6**
KURBB Kurchatov Arra 47.38 304 P **P 14 02 57.7 -2.7**
comp=Z,1.0nm,0.6s,baz=72,slow=8.5,SNR=8.9
KURBB PcP **PcP 14 04 30.1 -0.2**
comp=Z,0.4nm,0.8s,baz=65,slow=2.9,SNR=4.4
KURBB LR LR 14 23 12.4
comp=Z,39nm,20.9s,baz=169,slow=36
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 50.90 310 P **P 14 03 25.7 -1.6**
comp=Z,0.8nm,0.5s,baz=46,slow=8.3,SNR=2.9
BVAR LR LR 14 26 28.4
comp=Z,62nm,19.1s,baz=50,slow=38
comp=Z,0.8nm,0.5s
CHTO Chiang Mai 51.28 257 P **P 14 03 32.0 +1.4**
CHTO IAmb IAmb 14 03 32.8
comp=Z,6.7nm,0.8s
CHTO Chiang Mai 51.28 257 P **P 14 03 32.0 +1.4**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 51.53 256 P **P 14 03 33.4 +1.0**
comp=Z,2.9nm,0.7s,baz=38,slow=7.4,SNR=22
CMAR LR LR 14 25 38.7
comp=Z,25nm,18.7s,baz=90,slow=36
comp=Z,2.9nm,0.7s
CMAR Chiang Mai Arr 51.53 256*ce*P **P 14 03 34.2 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 52.00 36 P **P 14 03 36.4 +1.1**
comp=Z,1.1nm,0.7s,baz=300,slow=7.3,SNR=6.6
comp=Z,1.1nm,0.7s
SPITS Spitsbergen Ar 53.34 350 P **P 14 03 43.6 -1.4**
comp=Z,3.2nm,0.8s,baz=58,slow=7.9,SNR=5.7
comp=Z,3.2nm,0.8s
AAK Ala-Archa 53.62 296 LR LR 14 27 19.6
comp=Z,41nm,18.8s,baz=72,slow=37
BRDH Bariadhala 53.72 266 LR LR 14 27 46.7
comp=Z,96nm,18.8s,baz=184,slow=37
ARTI Arti 55.30 318 LR LR 14 29 08.1
comp=Z,35nm,18.0s,baz=53,slow=38
ARTI Arti 55.30 318*c* *i*P **P 14 03 57.9 -1.7**
ARTI 14 04 57.2
ARTI 14 06 02.7
ARTI S **S 14 11 39.5 -0.2**
ARTI SS **SS 14 15 21.3 -2.6**
ARTI pmax pmax
comp=Z,5.0nm,1.3s
SBUM Sibu 55.58 231 P **P 14 04 00.3 -1.7**
GAR Garm 58.28 295 **P 14 04 20.8 -0.3**
GAR IAmb IAmb 14 04 21.8
comp=Z,9.9nm,0.8s
ARCES ARCESS Array B 58.44 341 P **P 14 04 20.5 -1.1**
comp=Z,0.3nm,0.3s,baz=42,slow=6.3,SNR=11
ARCES PcP **PcP 14 05 12.3 +0.6**
comp=Z,2.5nm,0.8s,baz=4.8,slow=7.3,SNR=4.5
ARCES LR LR 14 34 26.5
comp=Z,37nm,18.4s,baz=34,slow=41
comp=Z,0.3nm,0.3s
AB31 Akbulak array 58.47 310 **P 14 04 22.0 -0.1**
AKTO Aktyubinsk 58.81 312 LR LR 14 32 07.8
comp=Z,95nm,18.2s,baz=122,slow=38
SIMJ Simiganj 59.31 295 P **P 14 04 27.5 -0.8**
SIMJ IAmb IAmb 14 04 29.3
comp=Z,11nm,0.8s
NIL Nilore 59.55 288 **P 14 04 30.7 +0.8**
NIL IAmb IAmb 14 04 31.7
comp=Z,10nm,0.9s
NIL Nilore 59.55 288 P **P 14 04 30.7 +0.8**
NIL pmax pmax
comp=Z,10.0nm,1.0s
LRM Limekiln Ridge 62.24 52 **S 14 13 09.4 -1.1**
NVAR Mina Array Bea 63.41 61 P **P 14 04 57.6 +1.4**
comp=Z,0.8nm,0.5s,baz=287,slow=6.0,SNR=6.5
comp=Z,0.8nm,0.5s
FINES FINESS Array B 64.53 335 P **P 14 05 01.1 -1.7**
comp=Z,2.6nm,0.5s,baz=36,slow=7.0,SNR=22
comp=Z,2.6nm,0.5s
FINES FINESS Array B 64.53 335 *i* P **P 14 05 01.3 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
PDAR Pinedale Array 65.78 53 P **P 14 05 12.6 +1.0**
comp=Z,1.3nm,0.8s,baz=309,slow=1.3,SNR=11
comp=Z,1.3nm,0.8s
WRA Warramunga Arr 67.49 198 P **P 14 05 22.9 +0.7**
comp=Z,0.7nm,0.5s,baz=15,slow=6.7,SNR=6.9
comp=Z,0.7nm,0.5s
WRA Warramunga Arr 67.49 198 *i* P **P 14 05 23.5 +1.3**
WRA pmax pmax
comp=Z,1.0nm,0.5s
E28A Huff 67.90 45 pP 14 05 38.0 +1.0
NC204 NORSAR Array S 68.72 341 P **P 14 05 29.4 -0.1**
NB2 NORSAR Subarra 68.82 341 P **P 14 05 29.4 -0.8**
comp=Z,2.7nm,0.5s,baz=26,slow=6.5
NB2 NORSAR Subarra 68.82 341 P **P 14 05 29.0 -1.2**
NOA NORSAR Array B 68.82 341 P **P 14 05 29.0 -1.2**
comp=Z,2.4nm,0.5s,baz=28,slow=6.4,SNR=14
NOA LR LR 14 38 59.9
comp=Z,16nm,19.3s,baz=190,slow=39
comp=Z,2.4nm,0.5s
NOA NORSAR Array B 68.82 341 P **P 14 05 29.0 -1.2**
NORES NORESS Array B 69.02 340 P **P 14 05 30.9 -0.4**
HFS Hagfors 69.03 339 P **P 14 05 30.2 -1.2**
comp=Z,6.9nm,0.5s,baz=46,slow=4.3,SNR=29
HFS LR LR 14 38 00.1
comp=Z,29nm,21.4s,baz=28,slow=38
comp=Z,6.9nm,0.5s
MAK Makhachkala 69.13 311*c* *i*P **P 14 05 32.7 +0.4**
MAK *e* 14 08 04.9
MAK *e*PPP PPP 14 09 44.3
MAK *e*S **S 14 14 36.7 +2.6**
KIV Kislovodsk 70.92 314 *e*P **P 14 05 44.3 +0.9**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 70.92 314 *e*P **P 14 05 44.3 +0.9**
KBZ Khabaz 70.98 314 P **P 14 05 43.5 -0.1**
comp=Z,3.0nm,0.6s,baz=33,slow=4.2,SNR=6.2
comp=Z,3.0nm,0.6s
KBZ Khabaz 70.98 314⇓ *i*P **P 14 05 44.5 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.98 314 *e*P **P 14 05 44.5 +0.9**
ASAR Alice Springs 71.19 198 P **P 14 05 46.8 +1.7**
comp=Z,0.6nm,0.5s,baz=13,slow=5.9,SNR=10
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 71.89 326 P **P 14 05 47.5 -1.5**
comp=Z,1.9nm,0.4s,baz=36,slow=6.3,SNR=12
AKASG LR LR 14 39 28.3
comp=Z,32nm,20.2s,baz=48,slow=38
comp=Z,1.9nm,0.4s
AKASG Malin Array Be 71.89 326*ce*P **P 14 05 48.2 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 71.89 326*ce*P **P 14 05 48.5 -0.5**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 72.58 310 LR LR 14 40 42.0
comp=Z,34nm,20.5s,baz=40,slow=38
ANMO Albuquerque 72.84 57⇓ *e*P **P 14 05 54.9 -0.3**
ANMO pmax pmax
comp=Z,10.0nm,4.0s
SCHQ Schefferville 74.35 22 P **P 14 06 03.2 -0.3**
comp=Z,2.2nm,0.7s,baz=258,slow=15,SNR=3.6
comp=Z,2.2nm,0.7s
STHS Stebnicka Huta 75.92 329 *e*P **P 14 06 12.7 +0.1**
STHS Stebnicka Huta 75.92 329 *e*P **P 14 06 12.7 +0.1**
BURAR Bucovina Array 75.94 326 **P 14 06 12.6 -0.2**
BURAR IAmb IAmb 14 06 13.7
comp=Z,10.0nm,0.5s
BURAR Bucovina Array 75.94 326⇓ P **P 14 06 12.7 -0.2**
BURAR Bucovina Array 75.94 326⇓ P **P 14 06 12.7 -0.2**
TESR Tescani 76.27 325⇓ P **P 14 06 14.5 -0.1**
CFR Carcaliu 76.73 323⇓ P **P 14 06 17.1 -0.1**
CFR Carcaliu 76.73 323⇓ P **P 14 06 17.1 -0.1**
VRI Vrincioaia 76.76 324⇑ P **P 14 06 17.2 -0.3**
VRI Vrincioaia 76.76 324⇑ P **P 14 06 17.2 -0.3**
TPGR Topolog 76.87 323⇑ P **P 14 06 18.5 +0.4**
CLL Collm 76.97 335 *i* P **P 14 06 18.3 -0.2**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 76.97 335 *i* P **P 14 06 18.3 -0.2**
comp=Z,7.0nm,0.8s
EKA Eskdalemuir Ar 77.01 346 P **P 14 06 18.6 0.0**
comp=Z,0.9nm,0.3s,baz=20,slow=5.2,SNR=12
comp=Z,0.9nm,0.3s
MLR Muntele Rosu 77.38 324 LR LR 14 42 39.7
comp=Z,25nm,18.6s,baz=100,slow=38
MLR Muntele Rosu 77.38 324⇑ P **P 14 06 21.4 +0.3**
MLR Muntele Rosu 77.38 324⇑ P **P 14 06 21.4 +0.3**
MARR Marisel-Cluj 77.52 327⇑ P **P 14 06 21.9 +0.1**
VYHS Vyhne 77.55 330 *e*P **P 14 06 22.2 +0.4**
VYHS Vyhne 77.55 330 *e*P **P 14 06 22.2 +0.4**
DRGR 77.58 327⇓ P **P 14 06 22.4 +0.3**
DRGR 77.58 327⇓ P **P 14 06 22.4 +0.3**
ICOR Ion Corvin 77.73 323⇑ P **P 14 06 23.1 +0.3**
VOIR 77.79 325⇑ P **P 14 06 23.9 +0.6**
VOIR 77.79 325⇑ P **P 14 06 23.9 +0.6**
ARR Arges 78.01 325⇑ P **P 14 06 26.1 +1.6**
SIRR Siria 78.42 327⇑ P **P 14 06 27.5 +0.8**
TXAR Lajitas Array 78.49 60 P **P 14 06 28.9 +1.4**
comp=Z,1.0nm,0.5s,baz=297,slow=3.8,SNR=14
comp=Z,1.0nm,0.5s
BR131 Keskin Array S 78.56 316⇓ *e*P **P 14 06 28.4 +0.7**
BRTR Keskin Array B 78.56 316 **P 14 06 28.1 +0.4**
BRTR Keskin Array B 78.56 316 P **P 14 06 27.9 +0.1**
comp=Z,2.2nm,0.8s,baz=73,slow=4.5,SNR=9.7
comp=Z,2.2nm,0.8s
BRTR Keskin Array B 78.56 316*ce*P **P 14 06 28.3 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
SURR Surduc 78.67 327⇓ P **P 14 06 28.5 +0.4**
KHC Kasperske Hory 78.72 334⇑ *i*P **P 14 06 28.6 +0.3**
KHC pmax pmax
comp=Z,8.0nm,0.8s
GZR Gura Zlata 78.72 326⇑ P **P 14 06 28.5 0.0**
KIRS Kirsehir-Merke 78.88 316⇓ P **P 14 06 30.2 +0.7**
GRF Grafenberg Arr 78.93 335 *e*P **P 14 06 30.0 +0.5**
comp=Z,6.5nm,0.8s,baz=26,slow=4.8
GRF *e*L L 15 25 00.5
comp=Z,100nm,20.7s
GERES GERESS Array B 78.93 333 P **P 14 06 28.7 -0.9**
GERES GERESS Array B 78.93 333 P **P 14 06 29.4 -0.1**
comp=Z,2.9nm,0.7s,baz=32,slow=5.7,SNR=15
comp=Z,2.9nm,0.7s
GERES GERESS Array B 78.93 333 P **P 14 06 28.7 -0.9**
BZS Buzias 78.98 327⇑ P **P 14 06 30.2 +0.4**
BZS Buzias 78.98 327⇑ P **P 14 06 30.2 +0.4**
CONA Conrad Observa 79.04 332 *i* P **P 14 06 30.9 +0.7**
comp=Z,4.9nm,0.7s
RONA Rosalia, Austr 79.10 331 *i* P **P 14 06 31.4 +1.0**
comp=Z,4.9nm,0.8s,SNR=4.6
MEM Membach 79.51 339 *d*P **P 14 06 33.2 +0.6**
MOA Molln 79.63 333 *i* P **P 14 06 33.6 +0.2**
comp=Z,4.1nm,0.8s
PLVB Pleven 79.65 324⇑ P **P 14 06 34.0 +0.6**
ARSA Arzberg 79.75 332 *i* P **P 14 06 34.4 +0.4**
comp=Z,1.5nm,0.6s
BIOA Bad Ischl, Aus 79.97 333 *e*P **P 14 06 35.8 +0.6**
comp=Z,5.4nm,0.8s
SOKA Soboth 80.41 332 *i* P **P 14 06 37.7 +0.1**
comp=Z,4.9nm,0.9s
LESA Schwarzleotal 80.51 333 *i* P **P 14 06 38.6 +0.5**
comp=Z,5.9nm,0.8s

KBA	Koelnbreinsper	80.61	333	*i* P		P	14 06 39.5	+0.7
	comp=Z,9.7nm,1.0s							
BOVS	Bovan	80.61	326	⇑P		P	14 06 38.7	0.0
WATA	Walderalm	80.93	334	*i* P		P	14 06 40.9	+0.4
	comp=Z,6.6nm,0.7s,SNR=4.9							
WTTA	Wattenberg	80.97	334	*i* P		P	14 06 41.3	+0.5
	comp=Z,10nm,0.9s,SNR=8.7							
RETA	Reutte	81.04	335	*e*P		P	14 06 41.7	+0.8
	comp=Z,4.1nm,0.8s							
MOTA	Moosalm	81.06	334	*i* P		P	14 06 41.5	+0.3
	comp=Z,7.4nm,0.8s							
SQTA	Sankt Quirin	81.14	334	*i* P		P	14 06 40.8	-0.7
	comp=Z,3.2nm,0.7s							
FETA	Feichten	81.47	334	*i* P		P	14 06 44.0	+0.7
	comp=Z,3.8nm,1.1s							
MMAI	Mount Meron Ar	82.88	311	P		P	14 06 51.4	+0.5
	comp=Z,1.9nm,0.5s,baz=27,slow=4.1,SNR=3.8							
MMAI				LR		LR	14 48 50.0	
	comp=Z,36nm,18.3s,baz=9.0,slow=39							
	comp=Z,1.9nm,0.5s							
RAYN	Ar Rayn	84.25	298	⇓P		P	14 06 58.5	+0.5
QSPA	South Pole Qui	135.63	180	PKP		PKiKP	14 13 47.2	+0.6
	comp=Z,1.0nm,0.9s,baz=324,slow=1.7,SNR=8.1							
H03N2	Juan Fernandez	139.40	91	T		T	16 49 27.4	
	baz=306,slow=77,SNR=51							
H03N1	Juan Fernandez	139.41	91	T		T	16 49 28.7	
	baz=306,slow=77,SNR=35							
H03N3	Juan Fernandez	139.41	91	T		T	16 49 27.4	
	baz=306,slow=77,SNR=48							
SYO	Syowa Base	139.84	211	⇓*e*P	diff	pPdif	14 11 22.3	+1.5
PLCA	Paso Flores	148.78	96	PKPbc		PKiKP	14 14 13.9	-0.5
	comp=Z,1.0nm,0.9s,baz=218,slow=4.9,SNR=3.2							
CPUP	Villa Florida	149.46	60	PKPbc		PKPbc	14 14 15.4	+0.4
	comp=Z,0.3nm,0.6s,baz=320,slow=7.9,SNR=1.7							
SNAA	Sanae	151.55	196	PKPbc		PKPbc	14 14 18.7	0.0
	comp=Z,1.0nm,0.9s,baz=207,slow=4.5,SNR=5.9							

*IDC **15** 14:00:27.3±2.1, 10°.31S×118°.41E, h0km, mb3.5/1, mbtmp3.8/6, ML3.7/5, Error ellipse: s-maj=53.9km s-min=23.9km az=55.0*

*DJA **15** 14:00:33.6±0.8, 10°.5S±5°×11°.9E±°, h19km±7km, M4.3/11, mb4.3/3, MLv4.2/11*

ISC 15 14:00:30.7±0.9, 10°.19S±0°.07×118°.80E±0°.04, h10km, n23, σ1⁰58/25, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.80	47	P	Pb	14 00 47.0	+0.3
WSI	Waingapu	1.56	71	P	Pg	14 01 00.5	-0.3
PLAI	Plampang	1.69	323	P	Pb	14 01 01.2	-0.7
PLAI				S	Sb	14 01 22.8	-0.4
BASI	Baing, Sumba	1.75	91	P	Pb	14 01 02.2	-0.8
EDFI	Ende, Flores	3.19	64	P	Pn	14 01 22.1	+1.0
EDFI				S	Sn	14 01 59.7	+0.4
MMRI	Maumere	3.73	66	P	Pn	14 01 30.0	+1.6
DNP	Denpasar	3.84	293	P	Pn	14 01 31.9	+1.9
SRBI	Singaraja	4.11	300	P	Pn	14 01 35.5	+1.9
BSSI	Bau Bau, Buton	4.35	23	P	Pn	14 01 38.7	+1.7
BATI	Baumata	4.79	91	Pn	Pn	14 01 46.0	+3.0
	8.0nm,0.3s,baz=277,slow=8.1,SNR=10						
BATI				Sn	Sn	14 02 38.1	-0.5
	3.5nm,0.3s,baz=70,slow=23,SNR=6.9						
	27nm,0.3s						
BATI	Baumata	4.79	91	P	Pn	14 01 44.3	+1.3
BATI				S	Sn	14 02 39.8	+1.2
JAGI	Jajag, Banyuwa	4.89	290	P	Pn	14 01 46.3	+1.9
BKSI	Bulukumba	5.01	15	P	Pn	14 01 47.8	+1.8
KAPI	Kappang	5.23	10	Pn	Pn	14 01 51.0	+2.0
	5.4nm,0.3s,baz=176,slow=14,SNR=7.6						
KAPI				Sn	Sn	14 02 49.0	-0.3
	18nm,0.3s,baz=85,slow=23,SNR=16						
	17nm,0.3s						
GMJI	Gumukmas	5.62	289	P	Pn	14 01 56.8	+2.4
	0.2nm44nm,1.0s						
BBSI	Bau Bau	5.98	39	P	Pn	14 02 00.8	+1.4
	0.2nm40nm,1.0s						
FITZ	Fitzroy Crossi	10.29	141	Pn	Pn	14 02 58.6	+0.1
	0.8nm,0.3s,baz=324,slow=14,SNR=22						
FITZ				Sn	Sn	14 04 42.2	-12
	0.5nm,0.3s,baz=212,slow=15,SNR=6.6						
	1.9nm,0.3s						
WRA	Warramunga Arr	17.85	125	P	Pn	14 04 38.5	-0.9
	0.1nm,0.3s,baz=299,slow=13,SNR=7.5						
WRA				S	Sn	14 07 43.9	-15
	0.3nm,0.7s,baz=296,slow=25,SNR=2.7						
	0.7nm,0.9s						
ASAR	Alice Springs	19.68	135	P	Pn	14 05 01.6	0.0
	0.1nm,0.3s,baz=318,slow=11,SNR=19						
ASAR				S	S	14 08 30.2	-12
	0.2nm,0.5s,baz=307,slow=22,SNR=1.5						
	0.9nm,0.6s						
H08S2	Diego Garcia H	45.79	269	T	T	14 58 12.3	
	baz=96,slow=75,SNR=51						
H08S3	Diego Garcia H	45.80	269	T	T	14 58 12.0	
	baz=96,slow=75,SNR=24						
H08S1	Diego Garcia H	45.81	269	T	T	14 58 13.4	
	baz=96,slow=75,SNR=26						
MKAR	Makanchi Array	65.42	333	P	P	14 11 10.9	-2.8
	0.3nm,0.5s,baz=134,slow=8.3,SNR=2.9						
	0.3nm,0.5s						

*WEL **15** 14:09:05.6±0.6, 33°.5S±6°×17°.9W±1°.3, h12km, M4.5/8, mB5.3/6, ML4.4/12, MLv4.4/8, Mw(mB)4.8/6, Error ellipse: s-maj=18.0km s-min=4.6km az=111.0, confirmed*

ISC 15 14:09:03.3±1.3, 33°.17S±0°.07×178°.8W±0°.1, h10km, n72, σ1⁰53/65, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.97	11	P	Pn	14 10 05.4	+1.2
GLKZ				S	Sn	14 10 49.9	-0.9
MXZ	Matakaoa Point	4.98	208	P	Pn	14 10 20.3	+2.3
MXZ				S	Sn	14 11 16.4	+0.7
WMGZ	Waiomatatini S	5.16	205	P	Pn	14 10 22.1	+1.5
WMGZ				S	Sn	14 11 19.6	-0.6
PKGZ	Pakihiroa	5.33	208	P	Pn	14 10 23.6	+0.7
PKGZ				S	Sn	14 11 23.3	-1.1
HAZ	Te Kaha	5.36	210	P	Pn	14 10 24.5	+1.2
HAZ				S	Sn	14 11 24.6	-0.4
PUZ	Puketiti	5.45	205	P	Pn	14 10 24.6	+0.1
PUZ				S	Sn	14 11 24.6	-2.6
RUGZ	Raukumara Rang	5.58	210	P	Pn	14 10 27.8	+1.4
GRZ	Great Barrier	5.64	235	P	Pn	14 10 26.9	-0.2
TWGZ	Tauwhareparae	5.64	207	P	Pn	14 10 29.9	+2.7
KUZ	Kuaotunu	5.74	230	P	Pn	14 10 29.1	+0.6
CNGZ	Carnagh Statio	5.83	204	P	Pn	14 10 30.6	+0.8
TKGZ	Te Karaka	5.92	206	P	Pn	14 10 32.1	+1.1
MWZ	Matawai	5.95	209	P	Pn	14 10 30.9	-0.6
OPRZ	Ohinepanea	6.01	218	P	Pn	14 10 33.2	+1.0
URZ	Urewera	6.07	212	P	Pn	14 10 32.5	-0.5
URZ	Urewera	6.07	212	S	Sn	14 10 32.7	-0.3
TGRZ	Tauranga	6.08	220	P	Pn	14 10 35.5	+2.4
KARZ	Kaharoa	6.30	218	P	Pn	14 10 38.4	+2.2
MKAZ	Moumakai	6.32	230	P	Pn	14 10 36.6	+0.2
KMRZ	Kaimai	6.34	221	P	Pn	14 10 39.0	+2.3
MUGZ	Murupara	6.40	213	P	Pn	14 10 38.8	+1.2
SNGZ	Shannon Statio	6.41	208	P	Pn	14 10 39.4	+1.6
RTZ	Ruatahuna	6.42	211	P	Pn	14 10 36.3	-1.7
MHGZ	Mahia Peninsul	6.54	203	P	Pn	14 10 42.1	+2.6
PRRZ	Plateau Road	6.59	215	P	Pn	14 10 41.4	+1.1
RAHZ	Arahi	6.63	209	P	Pn	14 10 42.2	+1.4
MTHZ	Maungataniwha	6.68	211	P	Pn	14 10 41.4	-0.1
MRHZ	Matea Rd	6.85	213	P	Pn	14 10 44.3	+0.4
KUTZ	Kaahu Road	6.87	218	P	Pn	14 10 45.7	+1.6
NMHZ	Naumai	6.90	210	P	Pn	14 10 46.0	+1.5
TLZ	Tolley Road	6.91	220	P	Pn	14 10 45.8	+1.3
BKZ	Black Stump Fm	7.09	211	P	Pn	14 10 45.2	-1.9
MCHZ	McNeill Hill	7.24	209	P	Pn	14 10 49.9	+0.8
HIZ	Hauiti	7.41	222	P	Pn	14 10 54.0	+2.5
HIZ	Hauiti	7.41	222	S	Pn	14 10 53.5	+2.0
TMVZ	Te Maari	7.41	215	P	Pn	14 10 51.7	+0.1
ETVZ	East Tongariro	7.42	215	P	Pn	14 10 51.6	-0.2
NNVZ	North Ngauruho	7.47	216	P	Pn	14 10 52.7	+0.3
OTVZ	Oturere	7.47	215	P	Pn	14 10 52.1	-0.3
KAHZ	Kahuranaki	7.47	207	P	Pn	14 10 50.3	-2.1
SNVZ	South Ngauruho	7.50	215	P	Pn	14 10 52.6	-0.2
NGZ	Ngauruhoe	7.51	215	P	Pn	14 10 52.8	-0.1
TWVZ	Taurewa	7.51	217	P	Pn	14 10 52.9	0.0
KRHZ	Kereru	7.54	210	P	Pn	14 10 51.2	-2.1
TUVZ	Tukino	7.55	215	P	Pn	14 10 53.3	-0.3
FWVZ	Far West T-bar	7.59	215	P	Pn	14 10 54.0	-0.2
MOVZ	Moawhango	7.62	214	P	Pn	14 10 53.1	-1.2
WNVZ	Wahianoa	7.63	215	P	Pn	14 10 53.8	-0.8
WPHZ	Waipukurau	7.87	208	P	Pn	14 10 58.2	+0.4
VRZ	Vera Road	7.90	219	P	Pn	14 10 59.6	+1.5
PRHZ	Porangahau	7.97	206	P	Pn	14 10 56.4	-2.8
TSZ	Takapari Road	8.06	210	P	Pn	14 10 58.3	-2.1
DVHZ	Dannevirke	8.18	208	P	Pn	14 10 60.0	-2.1
WAZ	Wanganui	8.26	216	P	Pn	14 11 01.8	-1.3
NEZ	North Egmont	8.37	221	P	Pn	14 11 05.7	+1.1
OHWZ	Ohakea	8.46	212	P	Pn	14 10 57.7	-8.2
PRWZ	Pori Road	8.48	208	P	Pn	14 11 04.8	-1.3
BFZ	Birch Farm	8.48	206	P	Pn	14 11 02.4	-3.8
MRZ	Mangatainoka R	8.72	209	P	Pn	14 11 06.2	-3.3
HOWZ	Holdsworth Sta	8.95	209	P	Pn	14 11 08.7	-3.8
TMWZ	Te Maipa	8.98	207	P	Pn	14 11 10.2	-2.8
OGWZ	Otaki Gorge	9.03	211	P	Pn	14 11 09.3	-4.3
KIW	Kapiti Island	9.17	211	P	Pn	14 11 10.8	-4.9
MTW	Mount Morrison	9.18	208	P	Pn	14 11 12.0	-3.7
CAW	Cannon Point	9.31	210	P	Pn	14 11 12.7	-4.8
PAWZ	Paruwai Farm	9.40	208	P	Pn	14 11 14.5	-4.2
WEL	Wellington	9.58	210	P	Pn	14 11 16.7	-4.5
PLWZ	Palliser	9.62	208	P	Pn	14 11 17.2	-4.7
QRZ	Quartz Range	10.31	220	P	Pn	14 11 25.5	-5.7
CTZ	Chatham Island	10.69	171	P	Pn	14 11 47.0	+11
CTZ				S	Sn	14 13 38.3	+2.3
KHZ	Kahutara	11.04	211	P	Pn	14 11 35.3	-5.8
ODZ	Otahua Downs	14.40	211	P	Pn	14 12 19.0	-8.1

*AFAD **15** 14:16:48.4, 38°.72N×38°.13E, h7km±3km, ML2.5*
*ISK **15** 14:16:49.9, 38°.83N×38°.10E, h5km, ML2.4/6*

ISC 15 14:16:48.5±1.1, 38°.70N±0°.03×38°.08E±0°.03, h18km±3km, n16, σ1⁰20/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	Malatya_Hekimh	0.20	332	P	Pb	14 16 52.9	-0.6
HEKM				S	Sb	14 16 56.7	0.0
HEKM				*i* IAML		14 16 59.0	
	comp=Z,2μm,0.4s						
AKCD	Akcadag	0.42	197	P	Pg	14 16 57.6	+0.3
AKCD				S	Sb	14 17 04.8	+1.1
AKCD				*i* IAML		14 17 07.0	
	comp=Z,378nm,0.2s						
ARPR	Arapgir-MALATY	0.44	27	Pg	Pg	14 16 57.0	-0.6
MAYA	Malatya/Merkez	0.46	144	P	Pg	14 16 57.5	-0.5
MAYA				S	Sg	14 17 04.6	+0.4
CUGUR	Gurin_SVAS	0.63	272	P	Pb	14 16 57.7	-3.4
CUGUR				S	Sg	14 17 08.8	-0.8
ELZG	Elazig	0.74	106	P	Pb	14 17 02.0	-0.9
ELZG				S	Sb	14 17 13.0	+0.3
ELZG				*i* IAML		14 17 14.0	
	comp=Z,166nm,0.8s						
ILIC	ilic-Erzincan	0.84	27	Pg	Pb	14 17 05.2	+0.5
ILIC				Sg	Sb	14 17 16.2	+0.5
AKCA	Adyaman/Çl‖	0.95	199	P	Pg	14 17 07.8	+0.7
CUAYA	Sivas-Altinyay	1.18	299	P	Pg	14 17 12.5	+0.7
TNCL	Tunceli-Merkez	1.21	70	P	Pn	14 17 09.6	-1.1
TNCL				S	Sb	14 17 26.9	+0.6
TNCL				*i* IAML		14 17 28.0	
	comp=Z,107nm,0.3s						
SCER	sogukcermik	1.38	328	P	Pb	14 17 14.4	+0.6
SVSK	Karacayir	1.48	326	Pn	Pg	14 17 17.3	+0.3
SVSK				Sn	Sg	14 17 37.3	+1.0
GAZ	Gaziantep	1.67	205	Pn	Pg	14 17 23.5	+2.8
BNN	Bunyan	1.75	276	Pn	Pg	14 17 22.3	0.0
RSDY	Resadiye-TOKAT	1.79	341	Pn	Pb	14 17 21.8	+1.0
TOKT	Tokat	2.01	324	Pn	Pb	14 17 25.1	+0.6

*SJA **15** 14:23:36.0±0.6, 29°.83S×72°.41W, h13km, ML5.0, MW4.8*
*IDC **15** 14:23:40.0±0.5, 29°.91S×71°.83W, h0km, mb4.4/13, mbtmp4.3/16, ML4.2/3, MS4.1/32, Error ellipse: s-maj=21.5km s-min=15.0km az=82.0*
*MOS **15** 14:23:40.6±1.5, 29°.92S×71°.91W, h13km, mb5.1/9, Error ellipse: s-maj=12.7km s-min=8.9km az=98.4*
*NEIC **15** 14:23:40.4±2.3, 29°.91S±0°.04×72°.12W±0°.07, h10km±1km, mb5.0/42, Mww4.9/13, Mwr4.8(GUC), Error ellipse: s-maj=9.9km s-min=7.0km az=251.0*
*NEIC **15** 14:23:40.6, 29°.91S×72°.08W, h24km, Moment Tensor Solution. Duration: 18s4 Moment tensor: Scale 10¹⁶Nm; Mrr2.20; Mθθ0.29; Mϕϕ-2.50; Mrθ-0.06; Mrϕ-0.07; Mθϕ-1.51; Fault plane solution: M0 2.81000×10¹⁶ NP1: ϕs181.97000°, δ61.35000°, λ90.65000°. NP2: ϕs0.61000°, δ28.66000°, λ88.81000°. Principal axes: T 2.6471, Plg74.0000°, Azm94.0000°; N 0.2949, Plg1.0000°, Azm2.0000°; P -2.9420, Plg16.0000°, Azm271.0000°;*
*NEIC **15** 14:23:40.6, 29°.91S×72°.08W, h24km*
*GUC **15** 14:23:41.8±0.8, 29°.98S×72°.05W, h24km±5km, ML4.8*
*VAO **15** 14:23:43.7±0.3, 29°.88S×71°.99W, h14km, mb4.1*
*GCMT **15** 14:23:46.4±0.4, 30°.01S±0°.03×72°.11W±0°.03, h24km±1km, MW5.0/80, Moment Tensor Solution. s26,c29; s80,c102; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.94±.19; Mθθ-0.26±.11; Mϕϕ-2.69±.13; Mrθ0.24±.12; Mϕθ-0.10±.06; Mϕr-1.90±.16; Best double couple: M0 3.40600×10¹⁶ NP1: ϕs7.00000°, δ28.00000°, λ98.00000°. NP2: ϕs177.00000°, δ62.00000°, λ86.00000°. Principal axes: T 3.5400, Plg73.0000°, Azm77.0000°; N -0.2740, Plg4.0000°, Azm179.0000°; P -3.2710, Plg17.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 14:23:40.9±0.8, 29°.93S±0°.02×72°.09W±0°.03, h14km±4km, n258, σ2⁰13/268, mb4.9/35, MS4.2/29, 13C-14D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.74	90		Pg	14 23 54.7	-0.7
CO05	La Serena	0.74	90	⇓*e*P	Pg	14 23 54.6	-0.7
CO05				*e*S	Sg	14 24 04.2	-0.9
CO05				IAML		14 24 07.1	
	comp=E,50μm,0.3s						
CO06	Fray Jorge	0.84	152		Pg	14 23 56.4	-0.8
CO06	Fray Jorge	0.84	152	⇓*e*P	Pg	14 23 56.5	-0.8
CO06				*e*S	Sg	14 24 07.0	-1.3
GO04	Tololo Observa	1.15	103		Pb	14 24 01.4	-1.3
GO04	Tololo Observa	1.15	103	*e*P	Pb	14 24 01.2	-1.6
GO04				*e*S	Sg	14 24 16.2	-2.0
GO04	Tololo Observa	1.15	103	*e*P	Pb	14 24 01.3	-1.5
GO04				*e*S	Sn	14 24 19.5	+0.9
GO04				IAML		14 24 20.8	
	comp=Z,30μm,0.6s						
CO03	El Pedregal	1.52	127	Pn	Pn	14 24 07.0	-0.8
CO03	El Pedregal	1.52	127	*e*P	Pn	14 24 07.0	-0.8
CO03				*e*S	Sn	14 24 26.0	-1.4
CO03				IAML		14 24 29.7	
	comp=E,19μm,0.7s						
CO03	El Pedregal	1.52	127	*e*P	Pn	14 24 07.4	-0.4
CO03				*e*S	Sb	14 24 28.2	+0.1
CO03				IAML		14 24 31.1	
	comp=Z,13μm,0.5s						
LCO	Las Campanas	1.52	53		Pn	14 24 07.8	-0.2
LCO	Las Campanas	1.52	53	P	Pn	14 24 07.8	-0.2
LCO	Las Campanas	1.52	53	⇓*e*P	Pn	14 24 07.8	-0.3
LCO				*e*S	Sb	14 24 28.1	-0.3
LCO	Las Campanas	1.52	53	*e*P	Pn	14 24 02.2	-5.8
LCO				*e*P	Pb	14 24 08.0	-1.1
LCO				*e*S	Sg	14 24 31.0	+1.1
LCO				IAML		14 24 36.9	
	comp=Z,23μm,0.5s						
CO02	Combarbal	1.58	144		Pn	14 24 08.6	-0.2
CO02	Combarbal	1.58	144	⇓*e*P	Pn	14 24 08.6	-0.2
CO02				*e*S	Sn	14 24 27.9	-1.2
CO02				IAML		14 24 40.9	
	comp=N,33μm,0.6s						
CO02	Combarbal	1.58	144	*e*P	Pn	14 24 02.2	-6.6
CO02				*e*P	Pb	14 24 08.8	-1.3
CO02				*e*S	Sb	14 24 30.3	+0.3
CO02				IAML		14 24 31.9	
	comp=Z,18μm,0.6s						
CO01	Juntas del Tor	1.74	92		Pn	14 24 11.1	+0.1
CO01	Juntas del Tor	1.74	92	*e*P	Pn	14 24 11.0	+0.1
CO01				*e*S	Sn	14 24 32.9	-0.2
CO01				IAML		14 24 35.9	
	comp=N,9μm,0.5s						
CO01	Juntas del Tor	1.74	92	*e*P	Pn	14 24 11.4	+0.5
CO01				*e*S	Sn	14 24 28.2	-4.9
CO01				IAML		14 24 34.6	
	comp=Z,14μm,0.6s						
AC04	Llanos de Chal	1.94	28		Pn	14 24 12.9	-0.6
AC04	Llanos de Chal	1.94	28	⇑*e*P	Pn	14 24 12.9	-0.6
AC04	Llanos de Chal	1.94	28	*e*P	Pn	14 24 12.1	-1.3
AROD	Rodeo	2.29	97	*e*P	Pb	14 24 21.2	-1.0
AROD				*e*S	Sg	14 24 52.3	-2.2
ACDV	Cuesta del Vie	2.59	96	*e*P	Pb	14 24 25.2	-2.1
ACDV				*e*S	Sg	14 25 02.0	-2.3
ACDV				IAML		14 25 03.5	
	comp=Z,3μm,1.3s						
ACCO	Cerro Coronel	2.70	105	*e*P	Pb	14 24 27.5	-1.8
ACCO				*e*S	Sg	14 25 05.8	-2.0
VA06	Catapilco	2.71	166		Pn	14 24 24.1	0.0
VA06	Catapilco	2.71	166	⇑*e*P	Pn	14 24 24.1	0.0
VA06				IAML		14 25 14.5	
	comp=N,7μm,0.3s						
GO03	Copiapo	2.84	36		Pn	14 24 25.7	-0.3
GO03	Copiapo	2.84	36	⇑*e*P	Pn	14 24 25.7	-0.3
GO03				IAML		14 25 16.8	
	comp=E,3μm,0.4s						
GO03	Copiapo	2.84	36	*e*P	Pn	14 24 25.5	-0.5
GO03				*e*S	Sn	14 25 02.2	+2.1
GO03				IAML		14 25 17.9	
	comp=Z,3μm,0.6s						
AC06	Mina Casimiro	2.98	31		Pn	14 24 27.9	+0.1
AC06	Mina Casimiro	2.98	31	⇑*e*P	Pn	14 24 28.0	+0.1
AC06				*e*S	Sb	14 25 07.3	-2.9
AC06				IAML		14 25 26.2	
	comp=E,2μm,0.2s						
RTLS	Leoncito	3.04	129	*e*P	Pb	14 24 32.2	-2.9
RTLS				*e*S	Sb	14 25 12.2	-0.1
RTLS				IAML		14 25 19.6	
	comp=Z,10μm,1.2s						
VA01	Torpederas	3.11	173		Pn	14 24 29.2	-0.4
VA01	Torpederas	3.11	173	*e*P	Pn	14 24 29.1	-0.4
VA01				IAML		14 25 28.0	
	comp=E,1μm,0.6s						
VA03	San Esteban	3.12	155		Pn	14 24 30.9	+1.0
VA03	San Esteban	3.12	155	*e*P	Pn	14 24 30.4	+0.5
VA03				*e*S	Sn	14 25 07.5	+0.4
VA03				IAML		14 25 25.2	
	comp=N,5μm,0.6s						
VA03	San Esteban	3.12	155	*e*P	Pn	14 24 30.3	+0.5
VA03				*e*S	Sn	14 25 08.5	+1.5
VA03				IAML		14 25 30.7	
	comp=Z,3μm,0.6s						
AGUA	GUANDACOL	3.17	83	*e*P	Pb	14 24 34.2	-2.9
AGUA				*e*S	Sb	14 25 17.7	+2.1
AGUA				IAML		14 25 26.1	
	comp=Z,3μm,1.0s						
ROCH	El Roble	3.17	163	⇑*e*P	Pn	14 24 30.9	+0.2
ROCH				IAML		14 25 34.1	
	comp=N,6μm,0.8s						
ZON	Zonda	3.35	120		Pn	14 24 35.8	+2.8
ZON	Zonda	3.35	120	P	Pn	14 24 35.8	+2.8
ZON	Zonda	3.35	120	*e*P	Pn	14 24 35.9	+2.8
ZON				*e*P	Pb	14 24 36.7	-3.6
ZON				*e*S	Sb	14 25 20.2	-0.8
ZON				IAML		14 25 43.2	
	comp=Z,2μm,1.5s						
RTLL	Cerro Villicun	3.42	115	*e*P	Pn	14 24 37.0	+3.1
RTLL				*e*S	Sb	14 25 24.2	+1.4
RTLL				IAML		14 25 29.9	
	comp=Z,2μm,1.2s						
MT02	Curacav	3.42	166		Pn	14 24 33.4	-0.5
MT02	Curacav	3.42	166	*e*P	Pn	14 24 33.7	-0.2
MT02				IAML		14 25 30.7	
	comp=E,1μm,0.5s						
MT02	Curacav	3.42	166	*e*P	Pn	14 24 33.2	-0.7
MT02				*e*S	Sb	14 25 21.2	-1.6
MT02				IAML		14 25 32.9	
	comp=Z,2μm,1.1s						
PEL	Peldehue	3.42	160		Pn	14 24 34.7	+0.7
PEL	Peldehue	3.42	160	P	Pn	14 24 34.7	+0.7
PEL	Peldehue	3.42	160	⇑*e*P	Pn	14 24 34.7	+0.7
PEL				*e*S	Sn	14 25 14.7	+0.2
PEL				IAML		14 25 35.6	
	comp=N,2μm,0.3s						
MT10	Hacienda Santa	3.59	159	*e*P	Pn	14 24 37.0	+0.6
MT10				*e*S	Sn	14 25 19.0	+0.3
VCA	Vinchina	3.60	72	*e*P	Pb	14 24 40.2	-4.2
VCA				*e*S	Sb	14 25 30.2	+2.1
VCA				IAML		14 25 48.0	
	comp=Z,2μm,0.7s						
MT05	Renca	3.64	162		Pn	14 24 37.7	+0.7
MT05	Renca	3.64	162	*e*P	Pn	14 24 37.5	+0.5
MT05	Renca	3.64	162	*e*P	Pn	14 24 37.8	+0.8
MT05				*e*S	Sb	14 25 25.2	-4.1
MT05				*e*S	Sn	14 25 28.2	+8.3
MT05				IAML		14 25 38.3	
	comp=Z,3μm,1.8s						
CFA	Coronel Fontan	3.72	118	Pn	Pn	14 24 40.3	+2.3
	comp=Z,63nm,0.3s,baz=315,slow=13,SNR=158						
CFA				Sn	Sn	14 25 23.9	+2.3
	comp=Z,49nm,0.3s,baz=84,slow=12,SNR=7.9						
MT16	CCHEN	3.74	159		Pn	14 24 39.5	+1.2
MT03	Universidad Ad	3.80	160		Pn	14 24 40.4	+1.1
MT03	Universidad Ad	3.80	160	*e*P	Pn	14 24 40.3	+1.1
MT03				*e*S	Sn	14 25 24.4	+0.5
MT03				IAML		14 25 47.1	
	comp=Z,3μm,0.8s			

GO02 eS Sn 14 26 00.7 +1.1
PB14 IPOC Station P 5.49 16 Pn 14 25 00.2 -2.5
H03N1 Juan Fernandez 6.78 237 T T 14 32 34.4
baz=67,slow=72
H03N2 Juan Fernandez 6.80 237 T T 14 32 37.2
baz=67,slow=72
H03N3 Juan Fernandez 6.80 237 T T 14 32 32.6
baz=67,slow=72
VA04 Juan Fernndez 6.83 235 Pn 14 25 19.4 -1.3
PB08 IPOC Station P 10.10 16 Pn Pn 14 26 02.6 -3.4
PB11 IPOC Station P 10.36 13 Pn 14 26 04.8 -4.5
GO01 Chusmiza 10.55 15 Pn Pn 14 26 09.9 -2.4
PLCA Paso Flores 10.85 174 Pn Pn 14 26 16.0 0.0
comp=Z,0.4nm,0.3s,baz=353,slow=12,SNR=11
PLCA LR LR 14 30 54.7
comp=Z,759nm,18.4s,baz=350,slow=40
comp=Z,3.5nm,0.6s
PLCA Paso Flores 10.85 174 eP Pn 14 26 18.3 +2.3
TRQA Tornquist 11.66 137 Pn 14 26 27.7 +0.7
TRQA Tornquist 11.66 137 P Pn 14 26 27.7 +0.7
PB16 IPOC Station P 11.78 12 Pn 14 26 26.8 -2.4
LPA La Plata 12.95 116 ceP Pn 14 26 46.0 +1.4
LPA PPP PPP 14 27 30.3
LPA S Sn 14 29 14.2 +5.7
ITQB Itaqui 13.44 93 eP Pn 14 26 52.2 +1.0
ITQB eS Sn 14 29 22.3 +1.8
CPUP Villa Florida 13.51 78 Pn Pn 14 26 50.2 -2.1
comp=Z,0.3nm,0.3s,baz=313,slow=18,SNR=10
CPUP Sn Sn 14 29 18.9 -3.5
comp=Z,0.1nm,0.3s,baz=86,slow=13,SNR=2.9
CPUP LR LR 14 32 23.8
comp=Z,492nm,20.6s,baz=116,slow=39
comp=Z,0.3nm,0.3s
CPUP Villa Florida 13.51 78 eP Pn 14 26 54.2 +1.9
LPAZ La Paz 14.05 16 Pn Pn 14 26 58.3 -2.0
comp=Z,0.8nm,0.3s,baz=192,slow=5.7,SNR=11
LPAZ LR LR 14 33 24.1
comp=Z,830nm,19.0s,baz=185,slow=42
comp=Z,1.6nm,0.4s
LPAZ La Paz 14.05 16 eP Pn 14 27 00.9 +0.5
SJPY San Joaquin 15.02 75 eP Pn 14 27 14.3 +1.5
MURT Porto Murtinho 15.41 61 eP Pn 14 27 18.9 +0.8
PLTB Pedras Altas 15.99 101 Pn 14 27 24.3 -1.3
PLTB Pedras Altas 15.99 101 eP P 14 27 27.3 -1.7
CPSB Cacapava Do Su 16.14 96 eP Pn 14 27 27.2 -0.4
BBSD Serra de San D 16.47 42 eP Pn 14 27 32.5 +0.8
BDQN Bodoquena, MS 16.77 59 eP P 14 27 36.6 -1.2
AMBA Amambai (Brazi 16.82 70 eP Pn 14 27 36.7 +0.5
SIV San Ignacio 17.17 39 P P 14 27 42.0 -0.2
comp=Z,12nm,0.6s,baz=212,slow=9.8,SNR=23
SIV LR LR 14 35 23.8
comp=Z,1µm,19.0s,baz=220,slow=41
AQDB Aquidauana 17.55 61 eP P 14 27 45.8 -0.6
ITAB Concordia 17.74 86 eP P 14 27 48.4 0.0
ITAB eS Sn 14 31 04.6 -0.5
CNLB Canela 18.48 93 eP Pn 14 27 58.0 +1.2
PTGB Pitanga 18.53 79 eP Pn 14 27 57.6 +0.1
PTLB Pontes e Lacer 18.70 42 P P 14 27 58.2 -0.8
PTLB Pontes e Lacer 18.70 42 eP Pn 14 27 59.6 +0.2
RPRD Ribas do Rio P 19.09 65 eP Pn 14 28 04.3 +0.1
VILB Vilhena 20.17 36 P P 14 28 13.9 -1.2
VILB Vilhena 20.17 36 eP Pn 14 28 16.3 -0.7
SALV Santo Antonio 20.53 51 eP P 14 28 19.0 -0.1
FRTB Fartura 21.16 77 eP P 14 28 25.2 -0.7
GO09 Cerro Castillo 21.32 180 P P 14 28 26.2 -1.1
GO09 IAmb IAmb 14 28 35.9
comp=Z,93nm,1.9s
CZSB Cruzeiro do Su 22.09 358 P P 14 28 36.9 +1.1
CZSB IAmb IAmb 14 28 46.9
comp=Z,44nm,0.9s
CZSB Cruzeiro do Su 22.09 358 eP P 14 28 37.5 +1.7
ITRB Iturama 22.16 68 eP P 14 28 37.4 +0.7
PDRB Porto dos Gac 23.16 41 eP P 14 28 46.6 -0.6
ARAG Araguaiana, MT 23.39 57 eP P 14 28 50.3 +0.8
MG03 Isla Dawson 23.93 178 P P 14 28 52.3 -2.1
EFI East Falkland 24.10 158 eP P 14 29 04.6 +8.6
EFI pmax pmax
comp=Z,72nm,1.2s
CLDB Colider 24.29 42 eP P 14 28 57.2 -0.9
IPMB Ipameri, GO 24.80 67 eP P 14 29 02.5 -0.3
PMNB Patos De Minas 25.94 70 eP P 14 29 13.6 +0.4
BDFB Brasilia 26.29 63 P P 14 29 15.1 -1.2
BDFB IAmb IAmb 14 29 17.0
comp=Z,68nm,1.7s
BDFB Brasilia 26.29 63 P P 14 29 14.5 -1.8
comp=Z,6.3nm,0.7s,baz=227,slow=6.4,SNR=5.5
comp=Z,6.3nm,0.7s
BDFB Brasilia 26.29 63 P P 14 29 15.1 -1.2
BDFB pmax pmax
comp=Z,69nm,1.7s
SNDB Serra Nova Dou 26.31 52 eP P 14 29 15.6 -0.8
TEFE Tefe 27.21 16 eP P 14 29 25.7 +1.3
NPGB Novo Progresso 27.67 38 eP P 14 29 30.4 +1.8
DIAM Diamantina, MG 28.33 72 eP P 14 29 35.2 +0.5
JANB Januaria 29.52 66 eP P 14 29 44.7 -0.6
ITTB Itaituba 29.76 34 eP P 14 29 47.7 +0.5
SJMB Sao Joao De Ma 30.21 75 eP P 14 29 51.4 +0.2
SDBA SAO DESIDERIO 30.64 61 eP P 14 29 56.5 +1.4
SMTB Santa Maria do 31.07 53 eP P 14 29 59.6 +0.8
RPN Rapa Nui 32.75 266 LR LR 14 39 51.5
comp=Z,358nm,20.6s,baz=97,slow=30
BOAV Boa Vista 33.99 21 P P 14 30 23.8 -0.6
BOAV IAmb IAmb 14 30 26.1
comp=Z,8.6nm,0.8s
BOAV Boa Vista 33.99 21 eP P 14 30 24.6 +0.2
PMSA Palmer Station 35.23 174 P P 14 30 32.5 -2.1
PMSA Palmer Station 35.23 174 LR LR 14 45 33.0
comp=Z,391nm,18.1s,baz=350,slow=37
PMSA Palmer Station 35.23 174 eP P 14 30 36.7 +2.1
RUSC La Rusia 35.63 358 P P 14 30 38.1 -0.9
TMAB Tom-Au,PA,Br 35.63 44 eP P 14 30 40.0 +1.4
BAUV El Baul 38.84 6 P P 14 31 05.2 -0.6
BAUV IAmb IAmb 14 31 07.9
comp=Z,33nm,0.9s
MDP Montagnes des 39.51 31 LR LR 14 49 32.5
comp=Z,442nm,18.3s,baz=206,slow=39
PCRV Puerto La Cruz 40.51 11 LR LR 14 49 41.8
comp=Z,368nm,18.3s,slow=39
RCBR Riachuelo 41.66 62 LR LR 14 47 53.2
comp=Z,97nm,19.9s,baz=233,slow=35
OBIP Obispado Ponce 47.98 7 P P 14 32 16.8 -2.7
SJG San Juan 48.10 8 LR LR 14 52 17.1
comp=Z,90nm,21.7s,baz=159,slow=36
BELA Belgrano 2 50.89 170 P P 14 32 41.6 +0.6
CMIG Matias Romero 51.65 332 LR LR 14 50 18.1
comp=Z,57nm,18.3s,baz=175,slow=31
TEIG Tepich 52.24 341 P P 14 32 49.8 -2.0
VNA3 Neumayer Olymp 53.15 159 ⇑P P 14 32 58.6 +0.6
comp=Z,11nm,0.7s
VNA1 Neumayer--Stat 53.44 158 ⇑P P 14 33 00.9 +0.8
comp=Z,11nm,0.9s
SNAA Sanae 55.38 159 ⇑P P 14 33 14.8 +0.5
comp=Z,255nm,0.7s
SNAA Sanae 55.38 159 P P 14 33 12.2 -2.1
SNAA IAmb IAmb 14 33 25.1
comp=Z,24nm,1.0s
SNAA Sanae 55.38 159 P P 14 33 15.0 +0.7
comp=Z,12nm,0.8s,baz=279,slow=5.6,SNR=51
SNAA LR LR 14 54 37.3
comp=Z,176nm,21.4s,baz=299,slow=34
comp=Z,12nm,0.8s
TROLL Troll, Antarti 57.09 159 ⇑P P 14 33 27.2 +0.7
comp=Z,346nm,0.8s
QSPA South Pole Qui 60.30 180 P P 14 33 51.9 +2.9
QSPA IAmb IAmb 14 34 03.9
comp=Z,12nm,0.9s
QSPA South Pole Qui 60.30 180 P P 14 33 50.9 +1.9
comp=Z,2.8nm,0.8s,baz=163,slow=1.6,SNR=22
comp=Z,2.8nm,0.8s
LPIG La Paz 65.06 321 LR LR 14 57 49.0
comp=Z,61nm,19.0s,baz=192,slow=31
TXAR Lajitas Array 66.18 330 P P 14 34 31.1 +2.8
comp=Z,1.0nm,0.6s,baz=150,slow=8.8,SNR=9.6
TXAR LR LR 14 59 22.4
comp=Z,79nm,18.2s,baz=134,slow=32
comp=Z,1.0nm,0.6s
TAOE Nuku Hiva Isla 66.64 273 eLR LR 14 54 30.0
comp=Z,142nm,28.6s
LCAR Lake Charles 68.05 343 P P 14 34 41.3 +1.4
LCAR IAmb IAmb 14 34 42.7
comp=Z,5.8nm,0.7s
VNDA Vanda 68.08 191 P P 14 34 42.3 +2.6
comp=Z,0.7nm,0.9s,baz=115,slow=6.8,SNR=4.2
comp=Z,0.7nm,0.9s
TBI Tubuai 68.28 255 eP P 14 34 39.8 -2.0
comp=Z,255nm,34.5s
TBI eS S 14 43 36.0 -6.5
comp=Z,283nm,26.0s
TBI eLQ LQ 14 51 40.0
comp=Z,416nm,28.5s
TBI eLR LR 14 55 15.3
comp=Z,578nm,28.5s
Q51A Peebles 69.40 351 IAmb IAmb 14 34 51.1
comp=Z,20nm,1.2s
FVM French Village 69.70 345 IAmb IAmb 14 34 53.1
comp=Z,25nm,1.2s
MSTX Muleshoe 69.86 333 IAmb IAmb 14 34 55.0
comp=Z,11nm,1.0s
CCM Cathedral Cave 69.96 344 P P 14 34 53.6 +1.8
CCM IAmb IAmb 14 34 56.4
comp=Z,9.0nm,0.8s
CCM Cathedral Cave 69.96 344 P P 14 34 53.6 +1.8
CCM pmax pmax
comp=Z,9.0nm,0.9s
R40A Maddies Statio 70.44 343 IAmb IAmb 14 34 58.7
comp=Z,25nm,1.3s
ACSO Alum Creek Sta 70.53 351 IAmb IAmb 14 34 58.1
comp=Z,16nm,0.8s
PPT2 Papeete2 70.82 260 eS S 14 44 10.3 -2.4
comp=Z,92nm,25.8s
PPT2 eSS SS 14 48 38.7 -6.3
comp=Z,33nm,23.2s
PPT2 eLR LR 14 56 25.5
comp=Z,207nm,23.0s
PPT2 eLR LR 14 56 27.6
comp=Z,186nm,23.2s
P40A Paris 71.56 344 IAmb IAmb 14 35 04.9
comp=Z,19nm,0.9s
ANMO Albuquerque 72.20 331 LR LR 15 02 51.8
comp=Z,118nm,19.8s,baz=233,slow=32
ANMO Albuquerque 72.20 331 eP P 14 35 09.1 +3.4
ANMO pmax pmax
comp=Z,4.0nm,1.2s
N41A Harden Midland 72.40 345 IAmb IAmb 14 35 09.4
comp=Z,15nm,0.7s
L40A Anamosa 73.77 345 IAmb IAmb 14 35 17.6
comp=Z,20nm,1.0s
DBIC Dimbokro 73.96 72 P P 14 35 17.0 +0.7
comp=Z,6.1nm,0.5s,baz=245,slow=6.5,SNR=10
DBIC LR LR 15 06 14.0
comp=Z,369nm,18.6s,baz=206,slow=35
comp=Z,6.1nm,0.5s
SADO Sadowa 74.62 355 LR LR 15 10 17.6
comp=Z,40nm,20.3s,baz=140,slow=38
BUKO Buck Lake 75.31 355 IAmb IAmb 14 35 26.9
comp=Z,28nm,1.3s
I40A Norwalk 75.39 346 IAmb IAmb 14 35 27.1
comp=Z,25nm,1.3s
PFO Pinyon Flats O 75.85 323 LR LR 15 02 28.5
comp=Z,68nm,18.9s,baz=128,slow=31
PFO Pinyon Flats O 75.85 323 eP P 14 35 29.9 +2.9
PFO pmax pmax
comp=Z,12nm,1.0s
MAW Mawson 77.09 164 P P 14 35 34.3 +0.9
comp=Z,3.1nm,0.9s,baz=250,slow=9.3,SNR=5.8
MAW LR LR 15 12 53.9
comp=Z,214nm,18.1s,baz=232,slow=38
comp=Z,3.1nm,0.9s
RAR Rarotonga 77.80 253 LR LR 15 03 16.6
comp=Z,120nm,18.6s,baz=116,slow=30
VLDQ Val d'Or 77.83 356 IAmb IAmb 14 35 41.6
comp=Z,12nm,1.3s
RSSD Black Hills 79.27 337 P P 14 35 45.6 -0.3
RSSD Black Hills 79.27 337 P P 14 35 45.7 -0.3
RSSD pmax pmax
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 80.12 333 P P 14 35 52.5 +1.8
PDAR Pinedale Array 80.12 333 P P 14 35 52.2 +1.6
comp=Z,1.1nm,0.7s,baz=133,slow=6.3,SNR=10
PDAR LR LR 15 08 40.9
comp=Z,38nm,18.7s,baz=130,slow=34
comp=Z,1.1nm,0.7s
TSUM Tsumeb 80.39 107 LR LR 15 08 11.8
comp=Z,296nm,18.2s,baz=336,slow=33
NVAR Mina Array Bea 80.53 325 P P 14 35 55.1 +2.2
comp=Z,1.3nm,0.8s,baz=164,slow=5.9,SNR=4.9
comp=Z,1.3nm,0.8s
EPLO Experimental L 81.55 346 IAmb IAmb 14 36 18.0
comp=Z,38nm,1.9s
BOSA Boshof 82.02 118 P P 14 36 01.6 +0.4
comp=Z,3.7nm,0.8s,baz=239,slow=7.1,SNR=6.4
BOSA LR LR 15 10 41.0
comp=Z,158nm,18.1s,baz=215,slow=34
comp=Z,3.7nm,0.8s
YHH Holmes Hill 82.33 333 P P 14 36 03.6 +1.2
ULM Lac du Bonnet 82.56 345 P P 14 36 04.4 +1.3
comp=Z,5.8nm,0.5s,baz=171,slow=2.7,SNR=9.4
comp=Z,5.8nm,0.5s
TORD Torodi Ar. Bea 82.88 71 P P 14 36 06.2 +0.5
TORD IAmb IAmb 14 36 07.4
comp=Z,8.7nm,0.9s
TORD Torodi Ar. Bea 82.88 71 P P 14 36 06.0 +0.4
comp=Z,8.7nm,0.9s,baz=271,slow=4.2,SNR=31
comp=Z,8.7nm,0.9s
LBTB Lobatse 84.07 115 LR LR 15 10 45.0
comp=Z,106nm,18.1s,baz=231,slow=34
KDWAN Kaudwane 84.14 113 P P 14 36 10.3 -2.0
SCHQ Schefferville 84.53 3 LR LR 15 14 23.5
comp=Z,31nm,20.6s,baz=134,slow=36
NEW Newport 87.67 332 LR LR 15 12 49.5
comp=Z,97nm,18.2s,baz=146,slow=34
MATP Matopo 88.71 113 LR LR 15 14 32.0
comp=Z,147nm,18.1s,baz=226,slow=34
MDT Midelt 89.30 51 LR LR 15 17 46.4
comp=Z,86nm,18.1s,baz=230,slow=36
LSZ Lusaka 91.12 108 LR LR 15 15 36.1
comp=Z,197nm,18.1s,baz=184,slow=34
FRB Frobisher Bay 93.40 2 LR LR 15 20 52.2
comp=Z,47nm,20.9s,baz=106,slow=37
ESDC Sonseca Array 93.79 46 LR LR 15 19 36.8
comp=Z,215nm,18.0s,baz=244,slow=36
SFJD Kangerlussuaq 97.99 8 LR LR 15 21 40.6
comp=Z,31nm,20.2s,baz=170,slow=36
YKA Yellowknife Ar 98.19 342 P Pdif 14 37 17.7 +0.7
comp=Z,0.4nm,0.9s,baz=138,slow=4.7,SNR=4.3
comp=Z,0.4nm,0.9s
DZM Mont Dzumac 103.58 234 eLR LR 15 11 46.4
comp=Z,117nm,24.4s
MNK Minsk 119.40 41 i PKIKP PKPdf 14 42 28.2 -1.3
MNK i 14 43 48.9
MNK i PPP PPP 14 46 20.4
MNK i 14 49 40.2
MNK i SS SS 15 00 12.3 -1.4
MNK i SSS SSS 15 04 36.9
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=N,6.0nm,0.7s
BR131 Keskin Array S 119.84 59 ⇑i PKIKP PKiKP 14 42 33.1 +2.0
BRTR Keskin Array B 119.84 59 i PKIKP PKiKP 14 42 33.5 +2.4
ASAR Alice Springs 121.15 208 PKP PKPdf 14 42 34.2 +0.2
comp=N,0.1nm,0.3s,baz=143,slow=1.4,SNR=2.0
WRA Warramunga Arr 124.26 210 PKP PKPdf 14 42 39.6 -0.5
comp=N,0.5nm,0.5s,baz=156,slow=1.8,SNR=10.0
WRAB Tennant Creek 124.27 210 ⇑i PKIKP PKiKP 14 42 41.9 +1.6
PMG Port Moresby 125.64 230 i PKIKP PKPdf 14 42 42.9 +0.1
H11S2 WAKE ISLAND Hyd 125.68 272 T T 17 01 36.2
baz=115,slow=75,SNR=58
H11S1 WAKE ISLAND Hyd 125.69 272 T T 17 01 37.6
baz=115,slow=75,SNR=60
H11S3 WAKE ISLAND Hyd 125.70 272 T T 17 01 41.3
baz=115,slow=75,SNR=51
KLMR Klimovskoe 126.11 34 eP KIKP PKiKP 14 42 43.0 +0.4
KLMR pmax pmax
comp=Z,17nm,1.4s
KIV Kislovodsk 127.31 56 i PKIKP PKiKP 14 42 46.2 +0.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 127.43 56 i eP KIKP PKiKP 14 42 46.4 +0.6
KIRV Kirov 131.34 36 i eP KIKP PKPdf 14 42 51.6 -0.6
SEY Seymchan 136.45 332 i eP KIKP PKiKP 14 43 03.5 +0.1
ARTI Arti 136.55 38 i PKIKP PKPdf 14 43 01.3 -0.8
BRVK Borovoye 144.17 39 i eP KIKP PKPbc 14 43 14.5 +0.4
BVAR Borovoye Array 144.24 39 PKP PKPbc 14 43 14.4 0.0
comp=Z,0.9nm,0.6s,baz=297,slow=3.4,SNR=4.9
YAK Yakutsk 144.87 342 eP KIKP PKPdf 14 43 17.4 +0.5
YAK e 14 43 25.8
YAK e 14 46 35.1
YAK eSS SS 15 05 26.1 +3.8
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,135nm,5.0s
YAK pmax pmax
comp=N,85nm,4.6s
YAK pmax pmax
comp=E,128nm,8.2s
KURK Kurchatov 149.83 38 i eP KHKP PKPpre 14 43 27.4
KURBB Kurchatov Arra 149.83 38 PKPbc PKPbc 14 43 29.9 -0.4
comp=E,3.0nm,0.8s,baz=299,slow=3.2,SNR=15
AAK Ala-Archa 150.43 55 i i PKIKP PKiKP 14 43 34.4 +1.4
ZALV Zalesovo Beam 150.74 28 PKPbc PKiKP 14 43 33.8 +0.7
comp=E,17nm,0.5s,baz=300,slow=3.2,SNR=63
ZALV PKPab pPKPab 14 43 41.2 -1.8
comp=E,24nm,0.9s,baz=311,slow=2.8,SNR=14
KSH Kashi 152.19 61 PKPbc PKiKP 14 43 38.0 +1.3
MKAR Makanchi Array 153.96 43 PKPbc PKiKP 14 43 40.9 +0.9
comp=E,1.4nm,0.8s,baz=336,slow=2.7,SNR=7.5
WMQ Urumqi 158.77 44 eP KPKP PKPdf 14 43 39.0 +0.7
WMQ LR LR
comp=Z,290nm,21.7s
SONM Songino Array 162.08 3 PKPab PKPab 14 44 29.3 +1.0
comp=Z,0.3nm,0.3s,baz=328,slow=2.3,SNR=5.1
CMAR Chiang Mai Arr 165.96 142 PKPab PKPab 14 44 46.3 +0.3
comp=Z,0.8nm,0.8s,baz=230,slow=6.0,SNR=4.4
GTA Gaotai 168.44 33 PKP PKPdf 14 43 48.4 +0.9
GTA sPKP 14 43 59.5
GTA PKPab sPKPab 14 45 05.0 +4.1
HHC Hu-ho-hao-te 168.70 346 eP PKPdf 14 43 44.3 -3.3
NJ2 Nanjing 170.37 285 eP PKPdf 14 43 49.4 +0.7
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
LZH Lanzhou 172.97 28 eP KPKP PKPdf 14 43 43.9 -6.2
LZH sPKP 14 43 58.8
PZH PanZhiHua 173.58 121 PKP PKPdf 14 43 49.8 -0.8
CD2 Chengdu 176.29 74 PKP PKPdf 14 43 50.0 -1.1

IDC ***15*** *14:30:34.0±0.9, 24.°69N×127.°75E, h0km, mb3.8/9, mbtmp3.9/11, ML3.4/2, MS3.1/7, Error ellipse: s-maj=35.3km s-min=16.6km az=76.0*

NEIC ***15*** *14:30:35.2±2.0, 24.°65N±0.°10×127.°6E±0.°1, h10km±2km, mb4.4/8, Error ellipse: s-maj=21.4km s-min=12.8km az=127.0*

NIED ***15*** *14:30:35.4, 24.°64N×127.°76E, h61km, MW4.0, Moment Tension Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}-9.46; $M_{\theta\theta}$6.08; $M_{\phi\phi}$3.37; $M_{r\theta}$-1.25; $M_{\theta\phi}$4.64; M_{θ}2.24; Fault plane solution: $M_0$9.84000×10^{14} NP1:ϕ_s67.00000°, δ46.00000°, λ-70.00000°. NP2:ϕ_s219.00000°, δ48.00000°, λ-109.00000°.*

JMA ***15*** *14:30:35.4±0.3, 25.°1N×12.°8E±.°, h61km, MV3.6/26, NEAR OKINAWAJIMA ISLAND*

ISC 15 14:30:36.1±3.6, 24.°67N±0.°05×127.°75E±0.°04, h27km±26km, n56, σ1°960/61, mb4.0/13, MS3.4/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	1.47	1	P	Pn		14 31 00.9	+0.1
JJT3				S	Sn		14 31 18.7	-0.5
JNTH	Nagotoyohara	1.86	8	eP	Pn		14 31 05.5	-0.7
JKE	Kume jima 2	1.86	332	P	Pn		14 31 06.7	+0.4
JAGN	Aguni-jima	1.96	347	P	Pn		14 31 07.8	+0.1
JAGN				eS	Sn		14 31 30.7	-0.7
JOGS	Gusukube	2.13	273	eP	Pn		14 31 09.8	-0.2
JOGS				S	Sn		14 31 33.6	-2.0
JOW	Kunigami	2.20	12	Pn	Pn		14 31 11.7	+0.7
JOW	Kunigami	2.20	12	Pn	Pn		14 31 11.3	+0.4
	17nm,0.3s,baz=147,slow=16,SNR=72							
JOW				Sn	Sn		14 31 35.9	-1.4
	24nm,0.3s,baz=109,slow=25,SNR=9.1							
	30nm,0.3s							
JOW	Kunigami	2.20	12	P	Pn		14 31 10.8	-0.1
JOW				S	Sn		14 31 36.2	-1.2
JMJ2	Miyako jima3	2.21	272	eP	Pn		14 31 10.8	-0.2
JMJ2				eS	Sn		14 31 36.0	-1.4
JIKM	Ikemajima	2.29	277	P	Pn		14 31 11.9	-0.2
JIKM				S	Sn		14 31 39.0	-0.5
JIRB	Irabujima	2.35	274	P	Pn		14 31 12.4	-0.5
JIRB				eS	Sn		14 31 39.4	-1.5
JIH	Iheya	2.36	5	eP	Pn		14 31 13.3	+0.2
JIH				eS	Sn		14 31 40.9	-0.4
JYRO	Yoronjima	2.43	15	P	Pn		14 31 14.0	0.0
JTJ	Tarama	2.77	270	P	Pn		14 31 19.0	+0.2
JOKE	Okinoerabujima	2.78	15	P	Pn		14 31 19.6	+0.7
JISG	Ishigakijimahi	3.13	269	P	Pn		14 31 23.1	-0.6
JTK	Tokunoshima	3.28	19	P	Pn		14 31 25.6	-0.2
JTK				S	Sn		14 32 00.5	-3.4
JIJ	Ishigaki jima	3.30	265	P	Pn		14 31 25.8	-0.3
JIJ				S	Sn		14 32 00.3	-4.1
JMZ	Minamidaito 2	3.35	69	P	Pn		14 31 24.5	-2.1
JMZ				eS	Sn		14 32 00.7	-4.8
JKRS	Kuro-shima	3.44	264	eP	Pn		14 31 27.8	-0.1
JKRS				S	Sn		14 32 05.3	-2.4
JKDJ	Kitadaitoujima	3.45	68	P	Pn		14 31 26.3	-1.8
JKDJ				S	Sn		14 32 05.5	-2.6
IRIF	Iriomote-Funau	3.68	266	eP	Pn		14 31 30.9	-0.3
JAMN	Amaminishikomi	3.78	19	P	Pn		14 31 33.4	+0.8
JAM	Amami Oshima	4.08	24	P	Pn		14 31 36.9	+0.2
JAM				eS	Sn		14 32 20.3	-3.3
NACB	Ninganchiao	5.63	266	Pn	Pn		14 31 56.9	-1.2
YULB	Yu-li	6.04	259		Pn		14 32 01.5	-2.2
SSLB	Suanglung	6.27	263	Pn	Pn		14 32 04.8	-2.1
TWG	Pinlang	6.39	255	Pn	Pn		14 32 05.2	-3.3
JNU	Nakatsue	8.85	17	Pn	Pn		14 32 43.9	+1.5
JNU	Nakatsue	8.85	17	Pn	Pn		14 32 42.9	+0.6
	0.4nm,0.3s,baz=193,slow=14,SNR=2.3							
JNU				LR	LR		14 35 41.4	
	comp=Z,41nm,21.3s,baz=94,slow=35							
	11nm,0.9s							
GUMO	Guam	19.55	121	LR	LR		14 41 09.9	
	comp=Z,14nm,21.1s,baz=318,slow=32							
SONM	Songino Array	28.64	329	P	P		14 36 33.7	+3.1
	0.3nm,0.3s,baz=134,slow=10,SNR=1.8							
SONM				LR	LR		14 49 46.0	
	comp=Z,49nm,18.1s,baz=64,slow=40							
	0.3nm,0.3s							
YAK	Yakutsk	37.37	1	LR	LR		14 53 02.8	
	comp=Z,15nm,21.4s,baz=168,slow=36							
KNRA	Kununurra	40.11	178	P	P		14 38 10.6	+0.9
KNRA				IAmb	IAmb		14 38 12.9	
	comp=Z,6.7nm,0.9s							
MKAR	Makanchi Array	42.27	313	P	P		14 38 28.4	+1.2
MKAR	Makanchi Array	42.27	313	P	P		14 38 28.6	+1.4
	comp=Z,1.0nm,0.5s,baz=102,slow=9.8,SNR=8.8							
	comp=Z,1.0nm,0.5s							
ZALV	Zalesovo Beam	43.24	324	P	P		14 38 34.5	-0.4
ZALV	Zalesovo Beam	43.24	324	P	P		14 38 35.9	+1.0
	comp=Z,1.2nm,0.6s,baz=126,slow=7.5,SNR=5.6							
ZALV				LR	LR		14 58 05.7	
	comp=Z,30nm,18.7s,baz=152,slow=38							
	comp=Z,1.2nm,0.6s							
WB0	Warramunga Arr	44.64	171	P	P		14 38 46.2	-0.3
WB0				IAmb	IAmb		14 38 49.9	
	comp=Z,7.1nm,1.0s							
WRAB	Tennant Creek	44.80	171	P	P		14 38 48.4	+0.6
WRAB				IAmb	IAmb		14 38 50.8	
	comp=Z,4.3nm,0.9s							
WRA	Warramunga Arr	44.81	171	P	P		14 38 48.4	+0.5
WRA	Warramunga Arr	44.81	171	P	P		14 38 49.5	+1.6
	comp=Z,3.5nm,0.8s,baz=352,slow=8.6,SNR=20							
	comp=Z,3.5nm,0.8s							
WR8	Warramunga Arr	44.84	171	P	P		14 38 49.1	+1.0
KURK	Kurchatov	45.66	318	P	P		14 38 56.1	+1.7
KURBB	Kurchatov Arra	45.69	318	P	P		14 38 56.4	+1.8
	comp=Z,0.7nm,0.5s,baz=104,slow=8.8,SNR=6.3							
	comp=Z,0.7nm,0.5s							
AAK	Ala-Archa	47.02	306	LR	LR		15 01 46.1	
	comp=Z,48nm,18.6s,baz=149,slow=40							
ASAR	Alice Springs	48.42	172	P	P		14 39 18.6	+2.4
	comp=Z,1.5nm,0.9s,baz=357,slow=7.3,SNR=15							
	comp=Z,1.5nm,0.9s							
KKAR	Karatay Array	49.97	306	P	P		14 39 28.0	+0.1
BVAR	Borovoye Array	51.16	319	P	P		14 39 38.2	+1.6
	comp=Z,1.0nm,0.6s,baz=75,slow=7.6,SNR=3.8							
	comp=Z,1.0nm,0.6s							
KBL	Kabul	51.37	295	P	P		14 39 38.1	-0.7
AB31	Akbulak array	57.40	314		P		14 40 24.1	+1.9
AB31				IAmb	IAmb		14 40 25.3	

comp=Z,3.4nm,0.8s
ABKAR **Akbulak array** 57.40 314 P 14 40 23.9 +1.7
ARTI **Arti** 58.45 322 LR LR 15 08 13.5
comp=Z,58nm,18.5s,baz=73,slow=39
ILAR **Eielson Array** 66.01 28 P P 14 41 22.0 +2.1
comp=Z,0.2nm,0.7s,baz=273,slow=7.2,SNR=1.9
comp=Z,0.2nm,0.7s
AKASG **Malin Array Be** 76.43 320 P P 14 42 25.5 +2.3
comp=Z,0.7nm,0.6s,baz=60,slow=5.6,SNR=2.2
comp=Z,0.7nm,0.6s
DAVOX **Davos/Dischmat** 89.47 323 LR LR 15 26 17.1
comp=Z,211nm,18.8s,baz=265,slow=37

SJA ***15*** *14:43:35.3±1.1,29.°85S×72.°50W,h29km±8km,ML4.3, MW4.5*
IDC ***15*** *14:43:38.1±0.8,29.°89S×71.°84W,h0km,mb4.2/7, mbtmp4.1/11,ML3.8/4,MS3.5/3,Error ellipse: s-maj=29.5km s-min=19.8km az=103.0*
GUC ***15*** *14:43:40.9±0.8,29.°96S×71.°98W,h29km±10km,ML4.3*
ISC 15 14:43:38.1±1.5,29.°91S±0.°03×72.°08W±0.°04,h5km×9km, n65,σ1s45/89,mb4.3/6,MS3.4/3,1C-6D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO05	**La Serena**	**0.73**	**91**	⇓*i*	P	**Pg**	**14 43 52.9**	**+0.8**
CO05				*e*	S	**Sg**	**14 44 01.6**	**0.0**
CO05				IAML			14 44 06.9	
	comp=E,16μm,0.3s							
CO06	**Fray Jorge**	**0.85**	**153**	⇓*i*	P	**Pg**	**14 43 54.8**	**+0.4**
CO06				*e*	S	**Sg**	**14 44 05.9**	**+0.4**
GO04	**Tololo Observa**	**1.14**	**103**	⇓*i*	P	**Pb**	**14 43 59.6**	**-0.8**
GO04				*e*	S	**Sb**	**14 44 14.1**	**-1.6**
GO04	**Tololo Observa**	**1.14**	**103**	*e*	P	**Pb**	**14 43 59.6**	**-0.8**
GO04				*e*	S	**Sb**	**14 44 15.1**	**-0.6**
GO04				IAML			14 44 18.7	
	comp=Z,12μm,0.6s							
LCO	**Las Campanas**	**1.50**	**53**	⇑*i*	P	**Pn**	**14 44 06.1**	**+0.2**
LCO				*e*	S	**Sn**	**14 44 26.3**	**+0.2**
LCO				IAML			14 44 31.2	
	comp=Z,14μm,0.4s							
LCO	**Las Campanas**	**1.50**	**53**	*e*	P	**Pn**	**14 44 06.1**	**+0.2**
LCO				*e*	S	**Sg**	**14 44 29.8**	**+3.4**
LCO				IAML			14 44 30.8	
	comp=Z,5μm,1.0s							
CO03	**El Pedregal**	**1.51**	**128**	⇓*i*	P	**Pn**	**14 44 05.3**	**-0.7**
CO03				*e*	S	**Sn**	**14 44 23.8**	**-2.3**
CO03				IAML			14 44 27.8	
	comp=N,5μm,0.4s							
CO03	**El Pedregal**	**1.51**	**128**	*e*	P	**Pn**	**14 44 05.5**	**-0.5**
CO03				*e*	S	**Sn**	**14 44 25.8**	**-0.3**
CO03				IAML			14 44 29.7	
	comp=Z,3μm,0.5s							
CO02	**Combarbal**	**1.59**	**144**	⇓*i*	P	**Pn**	**14 44 06.9**	**-0.1**
CO02				*e*	S	**Sn**	**14 44 27.0**	**-1.0**
CO02				IAML			14 44 31.6	
	comp=E,10μm,0.2s							
CO02	**Combarbal**	**1.59**	**144**	*e*	P	**Pn**	**14 44 07.1**	**+0.1**
CO02				*e*	S	**Sg**	**14 44 29.2**	**+0.1**
CO02				IAML			14 44 36.2	
	comp=Z,4μm,0.5s							
CO01	**Juntas del Tor**	**1.72**	**93**	⇓*i*	P	**Pn**	**14 44 09.3**	**+0.3**
CO01				*e*	S	**Sn**	**14 44 30.5**	**-1.1**
CO01				IAML			14 44 32.6	
	comp=N,3μm,0.4s							
CO01	**Juntas del Tor**	**1.72**	**93**	*e*	P	**Pn**	**14 44 09.3**	**+0.3**
AC04	**Llanos de Chal**	**1.92**	**28**	*e*	P	**Pn**	**14 44 10.4**	**-1.1**
AC04				*e*	S	**Sn**	**14 44 36.4**	**+0.4**
AROD	**Rodeo**	**2.27**	**97**	*e*	P	**Pb**	**14 44 19.3**	**-0.6**
ACDV	**Cuesta del Vie**	**2.58**	**96**	*e*	P	**Pb**	**14 44 23.4**	**-1.5**
ACDV				*e*	S	**Sb**	**14 44 59.2**	**+2.2**
ACDV				IAML			14 45 02.3	
	comp=Z,556nm,1.1s							
ACCO	**Cerro Coronel**	**2.69**	**105**	*e*	P	**Pb**	**14 44 25.8**	**-1.2**
ACCO				*e*	S	**Sb**	**14 45 02.2**	**+1.8**
GO03	**Copiapo**	**2.82**	**35**	*e*	P	**Pn**	**14 44 23.8**	**-0.1**
GO03				*e*	S	**Sn**	**14 45 00.3**	**+1.9**
GO03				IAML			14 45 10.8	
	comp=Z,704nm,0.8s							
RTLS	**Leoncito**	**3.04**	**129**	*e*	P	**Pb**	**14 44 30.4**	**-2.5**
RTLS				*e*	S	**Sb**	**14 45 09.8**	**-0.7**
RTLS				IAML			14 45 17.9	
	comp=Z,3μm,1.2s							
VA03	**San Esteban**	**3.13**	**156**	*e*	P	**Pn**	**14 44 29.2**	**+1.0**
VA03				IAML			14 45 23.0	
	comp=N,1μm,0.3s							
VA03	**San Esteban**	**3.13**	**156**	*e*	P	**Pn**	**14 44 28.7**	**+0.5**
VA03				*e*	S	**Sn**	**14 45 08.1**	**+2.1**
VA03				IAML			14 45 32.0	
	comp=Z,702nm,0.7s							
AGUA	**GUANDACOL**	**3.15**	**83**	*e*	P	**Pb**	**14 44 32.5**	**-2.2**
AGUA				*e*	S	**Sb**	**14 45 13.3**	**-0.1**
AGUA				IAML			14 45 30.8	
	comp=Z,541nm,0.8s							
ROC1	**El Roble**	**3.18**	**164**	*e*	P	**Pn**	**14 44 29.2**	**+0.1**
RTLL	**Cerro Villicun**	**3.41**	**115**	*e*	P	**Pn**	**14 44 35.3**	**+3.2**
RTLL				*e*	S	**Sb**	**14 45 17.3**	**-3.6**
RTLL				IAML			14 45 30.4	
	comp=Z,566nm,0.4s							
MT02	**Curacav**	**3.43**	**167**	*e*	P	**Pn**	**14 44 31.9**	**-0.4**
MT02				*e*	S	**Sn**	**14 45 13.8**	**+0.5**
MT02				IAML			14 45 35.8	
	comp=Z,444nm,0.8s							
PEL	**Peldehue**	**3.43**	**160**	*e*	P	**Pn**	**14 44 33.0**	**+0.7**
MT05	**Renca**	**3.65**	**162**	*e*	P	**Pn**	**14 44 35.9**	**+0.5**
MT05				*e*	S	**Sn**	**14 45 19.4**	**+0.6**
MT05				IAML			14 45 45.3	
	comp=Z,696nm,1.4s							
CFA	**Coronel Fontan**	**3.71**	**118**	Pn		**Pn**	**14 44 39.2**	**+3.0**
	comp=Z,6.7nm,0.3s,baz=279,slow=14,SNR=58							
CFA				Sn		**Sn**	**14 45 19.4**	**-0.9**
	comp=Z,13nm,0.3s,baz=85,slow=12,SNR=5.1							
CFA	**Coronel Fontan**	**3.71**	**118**	*e*	P	**Pn**	**14 44 39.1**	**+2.9**
CFA				*e*	S	**Sb**	**14 45 27.8**	**-1.7**
MT04	**Ro Olivares**	**3.85**	**155**	*e*	P	**Pn**	**14 44 40.0**	**+1.7**
MT04				*e*	S	**Sn**	**14 45 27.3**	**+3.2**
MT04				IAML			14 45 45.4	
	comp=Z,343nm,0.8s							
MT08	**Bocatoma Ro**	**3.93**	**154**	*e*	P	**Pn**	**14 44 41.9**	**+2.5**
MT08				*e*	S	**Sn**	**14 45 30.1**	**+4.0**
MT08				IAML			14 45 51.4	
	comp=Z,341nm,1.1s							
AC01	**Pan de Azucar**	**3.97**	**20**	*e*	P	**Pn**	**14 44 38.4**	**-1.3**
AC01				*e*	S	**Sb**	**14 45 38.3**	**+1.3**
AC01				IAML			14 45 51.9	
	comp=Z,306nm,1.0s							
AC02	**Maricunga**	**4.02**	**41**	*e*	P	**Pn**	**14 44 41.3**	**+0.4**
AC02				*e*	S	**Sn**	**14 45 30.8**	**+2.2**
AC02				IAML			14 45 52.0	
	comp=Z,331nm,1.1s							
MT13	**San Alfonso**	**4.11**	**159**	*e*	P	**Pn**	**14 44 42.9**	**+1.1**
MT13				*e*	S	**Sn**	**14 45 30.5**	**+0.2**
MT13				IAML			14 45 56.1	
	comp=Z,310nm,1.1s							
LMEL	**Las Melosas**	**4.23**	**158**	*e*	P	**Pn**	**14 44 45.3**	**+1.9**
LMEL				IAML			14 45 52.5	
	comp=Z,284nm,0.7s							
BO01	**Tunca**	**4.54**	**170**	*e*	P	**Pn**	**14 44 47.5**	**0.0**
BO01				IAML			14 46 10.1	
	comp=Z,118nm,0.6s							
BO02	**Sierra Bellavi**	**4.99**	**168**	*e*	P	**Pn**	**14 44 54.1**	**+0.3**
BO02				IAML			14 46 17.7	
	comp=Z,168nm,1.6s							
GO02	**Mina Guanaco**	**5.22**	**26**	*e*	P	**Pn**	**14 44 56.6**	**-0.6**
H03N1	**Juan Fernandez**	**6.80**	**237**	Pn		**Pn**	**14 45 17.5**	**-0.9**
	baz=115,slow=18							
H03N1				T		T	14 52 34.9	
	baz=69,slow=71,SNR=483							
H03N2	**Juan Fernandez**	**6.82**	**237**	Pn		**Pn**	**14 45 18.5**	**0.0**
	baz=115,slow=18							
H03N2				T		T	14 52 33.5	
	baz=69,slow=71,SNR=586							
H03N3	**Juan Fernandez**	**6.82**	**237**	Pn		**Pn**	**14 45 18.2**	**-0.4**
	baz=115,slow=18							
H03N3				T		T	14 52 29.0	
	baz=69,slow=71,SNR=589							
H03S3	**Juan Fernandez**	**7.00**	**234**	Pn		**Pn**	**14 45 19.9**	**-1.1**
	baz=20,slow=20							
H03S1	**Juan Fernandez**	**7.00**	**234**	Pn		**Pn**	**14 45 20.1**	**-1.0**
	baz=20,slow=20							
H03S2	**Juan Fernandez**	**7.01**	**234**	Pn		**Pn**	**14 45 19.8**	**-1.4**
	baz=20,slow=20							
PLCA	**Paso Flores**	**10.87**	**174**	Pn		**Pn**	**14 46 14.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=343,slow=12,SNR=4.8							
	comp=Z,1.1nm,0.6s							
CPUP	**Villa Florida**	**13.50**	**78**	Pn		**Pn**	**14 46 48.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=247,slow=12,SNR=3.1							
CPUP				Sn		**Sn**	**14 49 19.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=96,slow=16,SNR=3.1							
	comp=Z,0.2nm,0.3s							
LPAZ	**La Paz**	**14.04**	**16**	Pn		**Pn**	**14 46 58.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=189,slow=9.7,SNR=11							
	comp=Z,2.8nm,0.6s							
SIV	**San Ignacio**	**17.15**	**39**	Pn		**Pn**	**14 47 38.2**	**-0.5**
	baz=223,slow=12,SNR=25							
	comp=Z,6.1nm,0.8s							
BDFB	**Brasilia**	**26.27**	**63**	P		**P**	**14 49 13.6**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=252,slow=6.4,SNR=3.2							
	comp=Z,2.1nm,0.4s							
RPN	**Rapa Nui**	**32.76**	**266**	LR		LR	15 00 43.3	
	comp=Z,60nm,19.0s,baz=188,slow=31							
PMSA	**Palmer Station**	**35.24**	**174**	LR		LR	15 04 30.8	
	comp=Z,61nm,18.1s,baz=302,slow=36							
CMIG	**Matias Romero**	**51.65**	**332**	LR		LR	15 10 13.5	
	comp=Z,51nm,18.9s,baz=151,slow=31							
SNAA	**Sanae**	**55.38**	**159**	P		**P**	**14 53 13.3**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=270,slow=7.8,SNR=16							
	comp=Z,2.4nm,0.7s							
QSPA	**South Pole Qui**	**60.31**	**180**	P		**P**	**14 53 49.3**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=163,slow=1.6,SNR=6.5							
	comp=Z,0.8nm,0.7s							
DBIC	**Dimbokro**	**73.94**	**72**	P		**P**	**14 55 14.1**	**-0.8**
	comp=Z,11nm,1.1s,baz=207,slow=6.1,SNR=3.0							
	comp=Z,11nm,1.1s							
PDAR	**Pinedale Array**	**80.12**	**333**	P		**P**	**14 55 50.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=148,slow=4.6,SNR=1.8							
	comp=Z,0.3nm,0.5s							
ULM	**Lac du Bonnet**	**82.56**	**345**	P		**P**	**14 56 02.6**	**+0.9**
	comp=Z,2.1nm,0.5s,baz=143,slow=5.1,SNR=3.8							
	comp=Z,2.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**82.87**	**70**	P		**P**	**14 56 04.0**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=264,slow=4.3,SNR=9.6							
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**124.28**	**210**	PKP		**PKiKP**	**15 02 39.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=169,slow=1.8,SNR=4.8							
H11S2	**WAKE ISLAND Hyd**	**125.69**	**272**	T		T	17 21 38.8	
	baz=115,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hyd**	**125.70**	**272**	T		T	17 21 34.6	
	baz=115,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hyd**	**125.71**	**272**	T		T	17 21 40.1	
	baz=115,slow=75,SNR=8.4							
BVAR	**Borovoye Array**	**144.22**	**39**	PKP		**PKPdf**	**15 03 14.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=242,slow=3.1,SNR=2.2							
KURBB	**Kurchatov Arra**	**149.81**	**38**	PKPbc		**PKPbc**	**15 03 26.9**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=305,slow=3.3,SNR=1.7							
ZALV	**Zalesovo Beam**	**150.72**	**28**	PKP		**PKPdf**	**15 03 25.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=11,slow=1.5,SNR=1.6							
ZALV				PKPbc		**PKiKP**	**15 03 32.0**	**+0.4**
	comp=Z,6.1nm,0.6s,baz=300,slow=3.3,SNR=31							
MKAR	**Makanchi Array**	**153.94**	**43**	PKPbc		**PKiKP**	**15 03 39.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=321,slow=2.0,SNR=3.3							

JMA 15 14:45:20.4±0.2,24.°6N±0.°5×123.°8E±0.°5,h0km,MV1.0/6, NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.28**	**196**	P		Pg	14 45 26.2	+0.5
IRIF				*e*S		Sg	14 45 30.5	+1.1
JIJ	**Ishigaki jima**	**0.39**	**129**	P		Pg	14 45 28.1	+0.4
JIJ				*e*S		Sg	14 45 33.5	+0.7
JKRS	**Kuro-shima**	**0.41**	**154**	P		Pg	14 45 28.8	+0.6
JKRS				*e*S		Sg	14 45 34.7	+1.2
JISG	**Ishigakijimahi**	**0.45**	**92**	*e*P		Pg	14 45 29.7	+0.7
JISG				*e*S		Sg	14 45 36.3	+1.4
HATJ	**Hateruma jima**	**0.55**	**181**	*e*S		Sg	14 45 39.4	+1.5
JTJ	**Tarama**	**0.81**	**87**	*e*S		Sb	14 45 48.1	-0.6

TAP 15 14:45:32.6,24.°66N×121.°82E,h67km±1km,ML2.1,1C,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWC	**Suao**	**0.05**	**153**	⇑*i*	P	Pn	14 45 42.6	+0.3
TWC				*i*	S	Sn	14 45 49.8	+0.5
ESAO	**Su ao**	**0.08**	**167**	P		Pn	14 45 42.5	+0.2
ESAO				S		Sn	14 45 50.1	+0.6
TWE	**Neicheng**	**0.16**	**295**	*i*	P	Pn	14 45 43.1	+0.5
TWE				*i*	S	Sn	14 45 50.9	+1.0
EGS		**0.21**	**28**	P		Pn	14 45 42.4	-0.4
EGS				S		Sn	14 45 50.9	+0.6
EWUT	**Wuta**	**0.21**	**191**	P		Pn	14 45 43.0	+0.2
EWUT				S		Sn	14 45 50.7	+0.4
ENTT	**Nioudou**	**0.23**	**266**	*i*	P	Pn	14 45 43.5	+0.5
ENTT				*i*	S	Sn	14 45 51.2	+0.6
FUSB	**Fushanzhiwuyua**	**0.24**	**296**	P		Pn	14 45 43.6	+0.6
FUSB				S		Sn	14 45 51.6	+0.8
ENA	**Nanau**	**0.24**	**198**	*i*	P	Pn	14 45 43.1	+0.1
ENA				*i*	S	Sn	14 45 51.0	+0.4
LATG	**Datong**	**0.30**	**246**	P		Pn	14 45 43.9	+0.4
LATG				S		Sn	14 45 51.7	+0.3
NWLT	**Wulai**	**0.32**	**293**	P		Pn	14 45 43.8	+0.3
NWLT				S		Sn	14 45 51.9	+0.3
TIPB	**Shuangxi**	**0.32**	**0**	P		Pn	14 45 44.1	+0.5
TIPB				S		Sn	14 45 52.0	+0.5
EAHA	**Aohua**	**0.33**	**193**	S		Sn	14 45 53.3	+1.6
TWB1	**Santiao Chiao**	**0.38**	**23**	*i*	P	Pn	14 45 44.1	+0.1
TWB1				*i*	S	Sn	14 45 52.2	-0.2
TWA	**Mucha**	**0.39**	**326**	*e*	P	Pn	14 45 44.3	+0.2
TWA				*e*	S	Sn	14 45 53.3	+0.8
YHNB	**Yeheng**	**0.41**	**272**	P		Pn	14 45 44.4	+0.1
YHNB				S		Sn	14 45 53.1	+0.2
EOS2	**EOS2**	**0.44**	**122**	P		Pn	14 45 45.4	+1.1
NNSB	**Datong**	**0.46**	**241**	P		Pn	14 45 45.1	+0.2
NNSB				S		Sn	14 45 54.0	+0.2
NACB	**Ninganchiao**	**0.52**	**203**	*e*	P	Pn	14 45 44.8	-0.6
NACB				*e*	S	Sn	14 45 53.5	-1.1
YM01	**YM01**	**0.54**	**335**	*e*	P	Pn	14 45 46.3	+0.8
YM01				*e*	S	Sn	14 45 55.3	+0.3
ETLH	**Xiulin Townshi**	**0.55**	**215**	*e*	P	Pn	14 45 45.4	-0.2
ETLH				*e*	S	Sn	14 45 54.3	-0.9
ZUZH	**Zhuzihu**	**0.56**	**333**	*e*	P	Pn	14 45 46.2	+0.4
ZUZH				*e*	S	Sn	14 45 56.3	+0.9
YM08	**YM08**	**0.57**	**338**	*e*	P	Pn	14 45 47.1	+1.2
YM08				*e*	S	Sn	14 45 55.8	+0.3
EOS3	**EOS3**	**0.58**	**129**	*e*	P	Pn	14 45 47.2	+1.4
KSHI	**Guanxi Townshi**	**0.60**	**282**	*e*	P	Pn	14 45 47.1	+1.0
KSHI				*e*	S	Sn	14 45 57.2	+1.2
TWD	**Chiawan**	**0.61**	**200**	*e*	P	Pn	14 45 47.0	+0.8
WHF	**Hehuan Shan**	**0.72**	**225**	*e*	P	Pn	14 45 49.3	+1.4
LIOB	**Emei**	**0.73**	**269**	*e*	P	Pn	14 45 48.1	+0.4
LIOB				*i*	S	Sn	14 45 59.5	+0.7
OWD	**Renai**	**0.92**	**220**	*e*	P	Pn	14 45 50.0	0.0
WUSB	**Renai**	**0.92**	**224**	*e*	P	Pn	14 45 50.8	+0.8
WUSB				*e*	S	Sn	14 46 03.3	+0.3
WTK	**Tuku**	**1.63**	**234**	*e*	P	Pn	14 45 59.9	+0.7
WTK				*e*	S	Sn	14 46 21.2	+2.0

IDC ***15*** *14:54:29.6±2.2,8.°38S×119.°70E,h182km±20km,mb2.7/2, mbtmp3.3/6,Error ellipse: s-maj=48.7km s-min=13.2km az=52.0*
ISC 15 14:54:28.6±1.3,8.°4S±0.°1×119.°6E±0.°2,h170km,n6, σ1s54/9,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**3.40**	**3**	P		**Pn**	**14 55 22.1**	**+0.3**
	7.3nm,0.4s,baz=196,slow=15,SNR=5.3							
BATI	**Baumata**	**4.38**	**114**	P		**Pn**	**14 55 35.5**	**+1.2**
	6.1nm,0.3s,baz=0.0,slow=0.0,SNR=1.6							
BATI				S		**Sn**	**14 56 25.7**	**-0.1**
	11nm,0.5s,baz=280,slow=20,SNR=1.2							
FITZ	**Fitzroy Crossi**	**11.26**	**149**	P		**Pn**	**14 57 06.2**	**+1.5**
	1.4nm,1.0s,baz=315,slow=14,SNR=6.6							
FITZ				S		**Sn**	**14 59 07.8**	**-1.9**
	1.8nm,0.7s,baz=187,slow=21,SNR=8.4							
WRA	**Warramunga Arr**	**18.29**	**130**	P		**Pn**	**14 58 31.1**	**-0.7**
	0.1nm,0.4s,baz=304,slow=12,SNR=5.1							
WRA				S		**S**	**15 01 48.5**	**-1.5**
	0.3nm,0.8s,baz=305,slow=25,SNR=2.8							
ASAR	**Alice Springs**	**20.42**	**140**	P		**P**	**14 58 54.6**	**+1.8**
	0.1nm,0.3s,baz=312,slow=12,SNR=1.7							
	0.1nm,0.3s							
MKAR	**Makanchi Array**	**64.23**	**332**	P		**P**	**15 04 44.4**	**-1.0**
	0.5nm,0.9s,baz=130,slow=7.8,SNR=1.9							
	0.5nm,0.9s							

SJA ***15*** *15:03:11.0±0.7,29.°85S×72.°37W,h7km,ML3.5,MW3.4*
GUC ***15*** *15:03:16.0±0.7,29.°95S×71.°96W,h12km±2km,ML3.2*
ISC 15 15:03:14.3±1.7,29.°94S±0.°03×72.°04W±0.°06,h16km±9km, n32,σ2s54/62,1C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO05	**La Serena**	**0.69**	**89**	⇓*e*	P	**Pb**	**15 03 28.5**	**+0.6**
CO05				*e*S		**Sg**	**15 03 37.1**	**+0.1**
CO05				IAML			15 03 40.8	
	comp=N,3μm,0.3s							
CO06	**Fray Jorge**	**0.81**	**155**	⇓*e*	P	**Pb**	**15 03 30.4**	**+0.3**
CO06				*e*S		**Sb**	**15 03 41.9**	**+1.1**
CO06				IAML			15 03 45.8	
	comp=N,1μm,0.2s							
GO04	**Tololo Observa**	**1.10**	**103**	*e*P		**Pg**	**15 03 35.1**	**-0.5**
GO04	**Tololo Observa**	**1.10**	**103**	*e*P		**Sb**	**15 03 51.3**	**+2.1**
CO03	**El Pedregal**	**1.47**	**128**	⇓*e*	P	**Pn**	**15 03 41.0**	**+0.7**
CO03				*e*S		**Sn**	**15 04 00.7**	**+1.5**
CO03				IAML			15 04 04.8	
	comp=E,946nm,0.6s							
CO03	**El Pedregal**	**1.47**	**128**	*e*P		**Pg**	**15 03 44.2**	**+1.6**
CO03				*e*P		**Sn**	**15 03 54.5**	**-4.7**
CO03				*e*S		**Sb**	**15 03 57.5**	**-2.4**
CO03				IAML			15 04 05.3	
	comp=Z,580nm,0.5s							
LCO	**Las Campanas**	**1.48**	**52**	*e*P		**Pn**	**15 03 41.6**	**+1.0**
LCO				*e*S		**Sn**	**15 04 01.2**	**+1.5**
CO02	**Combarbal**	**1.55**	**145**	⇓*e*	P	**Pn**	**15 03 42.6**	**+1.2**
CO02				*e*S		**Sn**	**15 04 03.0**	**+1.8**
CO02	**Combarbal**	**1.55**	**145**	*e*P		**Pg**	**15 03 44.2**	**+0.1**
CO02				*e*S		**Sn**	**15 04 00.5**	**-0.7**
CO02				*e*S		**Sg**	**15 04 04.8**	**+0.5**
CO02				IAML			15 04 07.3	
	comp=Z,726nm,0.5s							
CO01	**Juntas del Tor**	**1.69**	**92**	*e*P		**Pn**	**15 03 45.0**	**+1.6**
CO01				*e*S		**Sn**	**15 04 06.3**	**+1.6**
CO01				IAML			15 04 09.4	
	comp=N,377nm,0.5s							
AC04	**Llanos de Chal**	**1.92**	**26**	⇑*e*	P	**Pn**	**15 03 46.7**	**+0.4**
AROD	**Rodeo**	**2.23**	**97**	*e*P		**Pb**	**15 03 55.1**	**+0.6**
ACDV	**Cuesta del Vie**	**2.54**	**96**	*e*P		**Pb**	**15 03 59.6**	**0.0**
ACDV				*e*S		**Sg**	**15 04 35.6**	**-0.3**
ACDV				IAML			15 04 38.0	
	comp=Z,112nm,0.4s							
ACCO	**Cerro Coronel**	**2.65**	**105**	*e*P		**Pb**	**15 04 01.7**	**+0.1**
ACCO				*e*S		**Sg**	**15 04 39.2**	**-0.4**
GO03	**Copiapo**	**2.82**	**35**	*e*P		**Pn**	**15 04 00.5**	**+1.8**
GO03				*e*S		**Sb**	**15 04 38.0**	**-0.6**
GO03				IAML			15 04 46.5	
	comp=Z,109nm,0.6s							
RTLS	**Leoncito**	**3.00**	**129**	*e*P		**Pb**	**15 04 06.3**	**-1.2**
RTLS				*e*S		**Sb**	**15 04 46.5**	**+2.5**
RTLS				IAML			15 04 54.2	
	comp=Z,381nm,0.5s							
VA03	**San Esteban**	**3.09**	**156**	*e*P		**Pn**	**15 04 05.9**	**+3.3**
VA03	**San Esteban**	**3.09**	**156**	*e*P		**Pn**	**15 04 04.5**	**+1.9**
VA03				*e*S		**Sb**	**15 04 50.0**	**+3.5**
VA03				IAML			15 05 05.3	
	comp=Z,130nm,0.9s							
AGUA	**GUANDACOL**	**3.12**	**83**	*e*P		**Pb**	**15 04 08.8**	**-0.6**
AGUA				IAML			15 05 00.6	
	comp=Z,80nm,0.4s							
AGUA				*e*S		**Sg**	**15 05 00.6**	**+6.2**
ROC1	**El Roble**	**3.15**	**164**	*e*P		**Pn**	**15 04 05.1**	**+1.6**
ROC1				*e*S		**Sb**	**15 04 48.0**	**-0.5**
ROC1				*e*S		**Sg**	**15 04 50.5**	**-5.2**
AUSP	**Uspallata**	**3.22**	**136**	*e*P		**Pb**	**15 04 09.5**	**-1.8**
AUSP				*e*S		**Sb**	**15 04 50.5**	**+0.1**
ZON	**Zonda**	**3.31**	**120**	*e*P		**Pn**	**15 04 09.0**	**+3.6**
ZON				*e*P		**Pg**	**15 04 16.0**	**-1.7**
ZON				*e*S		**Sb**	**15 04 54.5**	**+1.9**
ZON				IAML			15 05 04.1	
	comp=Z,50nm,0.6s							
RTLL	**Cerro Villicun**	**3.37**	**115**	*e*P		**Pn**	**15 04 09.5**	**+3.2**
RTLL				*e*S		**Sb**	**15 04 55.5**	**+1.1**
RTLL				IAML			15 05 07.0	
	comp=Z,72nm,0.5s							
PEL	**Peldehue**	**3.40**	**161**	*e*P		**Pn**	**15 04 10.5**	**+3.8**
PEL				*e*S

CRIN	**San Cristobal**	**1.30**	**90**	S	Sn	15 08 50.2 +1.4
PIC2	**El Picacho**	**1.34**	**320**	*e*P	Pn	15 08 33.5 +0.1
BOQS	**Boqueron**	**1.35**	**319**	*e*P	Pn	15 08 33.5 0.0
BOQS				*e*S	Sn	15 08 50.2 -0.1
PMON	**Piamonte**	**1.35**	**318**	*e*P	Pn	15 08 33.6 +0.1
PMON				*e*S	Sn	15 08 50.0 -0.3
PMON	**Piamonte**	**1.35**	**318**	S	Sn	15 08 51.4 +1.2
PMON	**Piamonte**	**1.35**	**318**	P	Pn	15 08 33.7 +0.2
JAYA	**Jayaque - finc**	**1.40**	**312**	*e*P	Pn	15 08 34.0 -0.2
JAYA				*e*S	Sn	15 08 50.8 -0.8
JAYA	**Jayaque - finc**	**1.40**	**312**	S	Sn	15 08 51.2 -0.4
JAYA	**Jayaque - finc**	**1.40**	**312**	P	Pn	15 08 34.2 0.0
CHOHN	**Orocuina**	**1.42**	**57**	P	Pn	15 08 34.0 -0.3
CHOHN	**Orocuina**	**1.42**	**57**	S	Sn	15 08 51.9 +0.1
MARCA	**Marcala la Paz**	**1.48**	**13**	P	Pn	15 08 35.2 0.0
MARCA	**Marcala la Paz**	**1.48**	**13**	S	Sn	15 08 53.7 +0.3
POLN	**Al Sur del Vol**	**1.53**	**92**	P	Pn	15 08 35.7 0.0
POLN				S	Sn	15 08 54.9 +0.4
SBLS	**San Blas**	**1.65**	**313**	*e*P	Pn	15 08 38.6 +0.9
TGUH	**Tegucigalpa,Un**	**1.72**	**39**	S	Sn	15 08 59.2 -0.1
NUBE	**Las Nubes**	**1.81**	**311**	*e*P	Pn	15 08 40.1 +0.4
NUBE				*e*S	Sn	15 09 00.4 -1.1
NUBE	**Las Nubes**	**1.81**	**311**	S	Sn	15 09 01.3 -0.2
NUBE	**Las Nubes**	**1.81**	**311**	P	Pn	15 08 40.3 +0.6
COPN	**Copaltepe**	**1.82**	**107**	P	Pn	15 08 39.8 0.0
YUSH	**Yuscaran**	**1.94**	**50**	P	Pn	15 08 41.4 -0.1
YUSH	**Yuscaran**	**1.94**	**50**	S	Sn	15 09 05.4 +0.6
FAME	**Alcaldia de Sa**	**1.95**	**305**	P	Pn	15 08 41.8 +0.2

NEIC ***15*** *15:31:30.4±2.1, 31°17′S±0°10′×177°4′W±0°2′, h10km±1km, mb4.5/15, Error ellipse: s-maj=29.4km s-min=16.4km az=81.0*

IDC ***15*** *15:31:34.5±0.7, 28°10′S×178°70′W, h0km, mb4.0/5, mbtmp4.0/5, MS3.4/3, Error ellipse: s-maj=25.3km s-min=19.4km az=33.0*

ISC 15 15:31:28.9±0.6, 31°10′S±0°04′×177°45′W±0°10, h10km, n67, σ2ᵉ71/62, mb4.5/13, MS3.5/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.88**	**347**	P	**Pb**	**15 32 02.9**	**-0.4**
GLKZ				S	**Sg**	**15 32 28.6**	**-0.8**
RAO	**Raoul Island**	**1.89**	**347**		**Pg**	**15 32 03.8**	**-1.3**
RAO	**Raoul Island**	**1.89**	**347**	Pn	**Pn**	**15 32 01.4**	**+0.2**
RAO	121nm,0.3s,baz=298,slow=22,SNR=7.3			Sn	**Sn**	**15 32 18.2**	**-6.9**
RIZ	228nm,0.3s,baz=106,slow=20,SNR=7.0 **Raoul Island**	**1.90**	**347**	P	**Pb**	**15 32 03.4**	**-0.2**
MXZ	**Matakaoa Point**	**7.34**	**207**	Pn	**Pn**	**15 33 12.8**	**-3.3**
WMGZ	**Waiomatatini S**	**7.52**	**206**	P	Pn	15 33 13.6	-5.0
PKGZ	**Pakihiroa**	**7.69**	**207**	P	**Pn**	**15 33 17.8**	**-3.1**
PKGZ				S	**Sn**	**15 34 44.8**	**-3.3**
HAZ	**Te Kaha**	**7.72**	**209**	P	**Pn**	**15 33 19.4**	**-1.9**
HAZ				S	**Sn**	**15 34 46.8**	**-1.9**
PUZ	**Puketiti**	**7.80**	**206**	P	**Pn**	**15 33 19.0**	**-3.4**
PUZ				S	**Sn**	**15 34 47.4**	**-3.5**
RUGZ	**Raukumara Rang**	**7.94**	**209**	P	**Pn**	**15 33 21.6**	**-2.9**
KUZ	**Kuaotunu**	**7.99**	**223**	P	**Pn**	**15 33 27.8**	**+2.7**
TWGZ	**Tauwhareparae**	**8.00**	**207**	P	**Pn**	**15 33 22.2**	**-3.0**
TWGZ				S	**Sn**	**15 34 50.8**	**-4.9**
CNGZ	**Carnagh Statio**	**8.18**	**205**	P	Pn	15 33 23.8	-3.8
CNGZ				S	**Sn**	**15 34 57.3**	**-2.9**
TKGZ	**Te Karaka**	**8.28**	**207**	P	Pn	15 33 25.4	-3.5
TKGZ				S	**Sn**	**15 34 59.1**	**-3.4**
MWZ	**Matawai**	**8.31**	**208**	P	Pn	15 33 24.7	-4.9
MWZ				S	**Sn**	**15 34 58.8**	**-4.7**
URZ	**Urewera**	**8.43**	**211**	P	**Pn**	**15 33 28.4**	**-2.6**
URZ				S	**Sn**	**15 35 00.3**	**-5.9**
RIGZ	**Rimuhau**	**8.54**	**206**	P	Pn	15 33 28.1	-4.6
RIGZ				S	**Sn**	**15 35 03.0**	**-6.1**
OUZ	**Omahuta**	**8.55**	**239**	P	Pn	15 33 40.5	+7.7
MKAZ	**Moumakai**	**8.56**	**224**	P	**Pn**	**15 33 34.5**	**+1.6**
EPAZ	**Eden Park BICE**	**8.67**	**226**	P	Pn	15 33 28.8	-5.6
MUGZ	**Murupara**	**8.76**	**211**	S	**Sn**	**15 35 11.6**	**-2.7**
SNGZ	**Shannon Statio**	**8.77**	**208**	P	Pn	15 33 31.6	-4.2
SNGZ				S	**Sn**	**15 35 11.0**	**-3.7**
RTZ	**Ruatahuna**	**8.78**	**210**	Pn	Pn	15 33 31.0	-4.9
TOZ	**Tahuroa Road**	**8.81**	**219**	Pn	Pn	15 33 31.5	-4.8
MTHZ	**Maungataniwha**	**9.04**	**210**	P	Pn	15 33 35.9	-3.6
BKZ	**Black Stump Fm**	**9.45**	**210**	P	**Pn**	**15 33 42.2**	**-2.9**
BFZ	**Birch Farm**	**10.84**	**206**	Pn	Pn	15 33 58.7	-5.4
TUWZ	**Tuamarina**	**12.42**	**212**	Pn	Pn	15 34 20.0	-5.7
NIUE	**Niue**	**13.77**	**31**		**Pn**	**15 34 40.4**	**-3.8**
GVZ	**Greta Valley S**	**14.06**	**210**	Pn	Pn	15 34 41.0	-7.0
RPZ	**Rata Peaks**	**15.53**	**213**	Pn	**Pn**	**15 35 02.9**	**-5.1**
WHZ	**Wether Hill Ro**	**18.63**	**213**	P	P	15 35 40.0	-6.5
WHZ	comp=Z,37nm,1.3s			IAmb	IAmb	15 36 12.0	
ARMA	**Armidale**	**26.54**	**263**	P	**P**	**15 37 09.4**	**+2.4**
ARMA	comp=Z,14nm,1.4s			IAmb	IAmb	15 37 16.1	
PPT	**Papeete**	**28.65**	**68**	LR	LR	15 46 50.0	
TOO	comp=Z,62nm,18.6s,baz=274,slow=32 **Toolangi**	**31.13**	**248**	P	**P**	**15 37 49.3**	**+1.5**
CTAO	comp=Z,10nm,1.4s **Charters Tower**	**34.38**	**280**	IAmb P	IAmb **P**	15 37 52.2 **15 38 18.3**	**+2.0**
STKA	**Stephens Creek**	**34.79**	**258**	P	**P**	**15 38 22.1**	**+2.3**
STKA	**Stephens Creek**	**34.79**	**258**	P	**P**	**15 38 22.6**	**+2.8**
BBOO	comp=Z,2.8nm,0.7s,baz=87,slow=11,SNR=4.5 comp=Z,2.8nm,0.7s **Buckleboo**	**39.24**	**255**	P	**P**	**15 38 58.2**	**+0.6**
BBOO	comp=Z,33nm,1.4s			IAmb	IAmb	15 39 21.4	
AS31	**Alice Springs**	**43.55**	**267**	P	**P**	**15 39 33.1**	**0.0**
ASAR	**Alice Springs**	**43.55**	**267**	P	**P**	**15 39 32.7**	**-0.5**
ASAR	**Alice Springs**	**43.55**	**267**	P	**P**	**15 39 33.1**	**0.0**
WR8	comp=Z,2.6nm,0.7s,baz=105,slow=7.4,SNR=44 comp=Z,2.6nm,0.7s **Warramunga Arr**	**44.46**	**273**	P	**P**	**15 39 41.3**	**+0.9**
WR8	comp=Z,4.4nm,0.8s			IAmb	IAmb	15 39 55.4	
WRA	**Warramunga Arr**	**44.60**	**273**	P	**P**	**15 39 40.9**	**-0.7**
WRA	comp=Z,2.2nm,0.6s,baz=112,slow=7.9,SNR=46			LR	LR	15 57 17.4	
WB0	comp=Z,63nm,19.3s,baz=41,slow=36 comp=Z,2.2nm,0.6s **Warramunga Arr**	**44.63**	**273**	P	**P**	**15 39 42.7**	**+0.9**
MTN	**Manton Dam**	**50.56**	**279**	P	**P**	**15 40 28.2**	**+0.3**
MTN	comp=Z,13nm,1.1s			IAmb	IAmb	15 41 05.5	
KNRA	**Kununurra**	**51.23**	**275**	P	**P**	**15 40 33.1**	**+0.1**
KNRA	comp=Z,4.5nm,0.8s			IAmb	IAmb	15 40 51.5	
FITZ	**Fitzroy Crossi**	**52.83**	**270**	P	**P**	**15 40 44.6**	**-0.3**
CASY	**Casey**	**54.74**	**208**	P	**P**	**15 40 58.8**	**+0.6**
CASY	comp=Z,8.1nm,0.9s			IAmb	IAmb	15 41 13.3	
QSPA	**South Pole Qui**	**59.01**	**180**	P	**P**	**15 41 30.9**	**+2.2**
SNAA	**Sanae**	**77.44**	**178**	P	**P**	**15 43 25.3**	**+1.3**
SNAA	comp=Z,4.3nm,1.1s			IAmb	IAmb	15 43 26.3	
NVAR	**Mina Array Bea**	**88.43**	**42**	P	**P**	**15 44 23.4**	**+1.9**
TXAR	comp=Z,1.1nm,0.8s,baz=250,slow=3.6,SNR=5.1 comp=Z,1.1nm,0.8s **Lajitas Arra**	**92.37**	**57**	P	**P**	**15 44 42.7**	**+2.8**
JTS	comp=Z,0.1nm,0.4s,baz=210,slow=2.5,SNR=2.2 comp=Z,0.1nm,0.4s **Las Juntas de**	**97.35**	**82**	LR	LR	16 20 36.4	
MKAR	comp=Z,15nm,18.8s,baz=234,slow=30 **Makanchi Array**	**118.59**	**310**	PKP	**PKiKP**	**15 50 19.7**	**+2.9**
KURBB	comp=Z,0.1nm,0.5s,baz=52,slow=2.2,SNR=1.4 **Kurchatov Arra**	**121.91**	**313**	PKP	**PKPdf**	**15 50 23.2**	**+0.2**
BVAR	comp=Z,0.2nm,0.3s,baz=110,slow=2.4,SNR=4.2 **Borovoye Array**	**127.24**	**315**	PKP	**PKPdf**	**15 50 34.1**	**+1.0**
ARCES	comp=Z,0.3nm,0.5s,baz=242,slow=3.1,SNR=2.6 **ARCESS Array B**	**139.38**	**348**	PKP	**PKiKP**	**15 50 57.9**	**+0.1**
KBZ	comp=Z,1.6nm,1.1s,baz=310,slow=4.6,SNR=1.1 **Khabaz**	**145.89**	**303**	PKP	**PKPab**	**15 51 10.4**	**+1.6**
FINES	comp=Z,1.0nm,0.5s,baz=30,slow=2.2,SNR=4.4 **FINESS Array B**	**145.97**	**340**	PKP	**PKPab**	**15 51 09.6**	**+1.0**
NB2	comp=Z,1.9nm,0.5s,baz=90,slow=4.2,SNR=18 **NORSAR Subarra**	**149.51**	**352**	PKP	**PKiKP**	**15 51 19.3**	**+0.4**
NOA	comp=Z,1.0nm,0.7s,baz=14,slow=4.3 **NORSAR Array B**	**149.51**	**352**	PKPbc	**PKPdf**	**15 51 14.3**	**+1.0**
HFS	comp=Z,1.7nm,1.1s,baz=14,slow=2.5,SNR=2.0 **Hagfors**	**150.02**	**349**	PKPbc	**PKPbc**	**15 51 18.9**	**-0.1**
AKASG	comp=Z,2.4nm,0.9s,baz=343,slow=3.0,SNR=2.1 **Malin Array Be**	**152.15**	**322**	PKPbc	**PKPbc**	**15 51 24.4**	**+0.2**
MMAI	comp=Z,0.6nm,0.6s,baz=59,slow=2.2,SNR=4.8 **Mount Meron Ar**	**152.15**	**283**	PKPbc	**PKiKP**	**15 51 26.9**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=271,slow=8.5,SNR=6.3						
BRTR	**Keskin Array B**	**153.35**	**297**	PKPbc	**PKPbc**	**15 51 27.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=113,slow=3.7,SNR=2.4						
ESDC	**Sonseca Array**	**169.93**	**30**	PKPab	**PKPab**	**15 52 47.7**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=255,slow=3.9,SNR=2.3						

IDC ***15*** *15:41:30.7±2.8, 29°65′N×141°53′E, h61km±27km, mb3.3/4, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=51.9km s-min=19.6km az=88.0*

ISC 15 15:41:29.4±1.0, 29°7′N±0°1′×141°6′E±0°3, h46km, n6, σ1ᵉ39/7, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.59**	**169**	P	**Pn**	**15 42 10.8**	**+1.9**
JCJ	8.2nm,0.3s,baz=329,slow=18,SNR=1.3			S	**Sn**	**15 42 37.5**	**-1.5**
MJAR	136nm,0.3s,baz=277,slow=20,SNR=4.1 55nm,0.6s **Matsushiro Arr**	**7.45**	**338**	P	**Pn**	**15 43 15.7**	**+0.2**
WRA	0.1nm,0.3s,baz=161,slow=12,SNR=5.5 1.6nm,0.6s **Warramunga Arr**	**49.80**	**189**	P	**P**	**15 50 16.6**	**-1.1**
ASAR	0.3nm,0.3s,baz=5.7,slow=7.7,SNR=16 0.3nm,0.3s **Alice Springs**	**53.52**	**189**	P	**P**	**15 50 45.4**	**-0.1**
ILAR	0.1nm,0.4s,baz=2.6,slow=4.9,SNR=6.4 0.1nm,0.4s **Eielson Array**	**55.73**	**29**	P	**P**	**15 51 00.6**	**-0.4**
BRTR	0.9nm,1.1s,baz=270,slow=7.5,SNR=4.5 0.9nm,1.1s **Keskin Array B**	**83.92**	**312**	P	**P**	**15 53 54.6**	**-0.1**
	0.9nm,0.7s,baz=71,slow=3.6,SNR=5.2 0.9nm,0.7s						

NEIC ***15*** *15:42:44.0±1.0, 18°6S±0°2′×169°9E±0°1, h257km±15km, mb4.5/11, Error ellipse: s-maj=27.6km s-min=5.2km az=147.0*

IDC ***15*** *15:42:48.9±3.5, 18°93S×169°54E, h282km±37km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=83.3km s-min=28.3km az=153.0*

NOU ***15*** *15:42:50.0, 19°02S×169°45E, h266km, MLv4.1/20, Vanuatu Islands*

ISC 15 15:42:45.0±0.7, 18°8S±0°1′×169°87E±0°09, h250km, n41, σ1ᵉ83/36, mb3.9/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.92**	**218**	P	Pn	15 43 24.6	+5.1
DVP	**Devils Point**	**1.94**	**304**	P	Pn	15 43 31.9	+5.0
DVP	**Devils Point**	**1.94**	**304**	S	**S**	**15 44 05.3**	**+5.4**
VLAKA	**Lakatoro**	**3.57**	**319**	P	Pn	15 43 48.8	+5.0
YATNC	**Mamie plateau,**	**4.27**	**220**	P	**Pn**	**15 43 52.9**	**+1.0**
PINNC	**Pines Island,**	**4.41**	**211**	P	**Pn**	**15 43 54.9**	**+1.4**
DZM	**Mont Dzumac**	**4.56**	**224**		**Pn**	**15 43 56.8**	**+1.3**
DZM	**Mont Dzumac**	**4.56**	**224**	P	**Pn**	**15 43 57.3**	**+1.8**
DZM	13nm,0.6s,baz=50,slow=18,SNR=7.1 11nm,0.4s,baz=108,slow=20,SNR=2.0			S	S	15 44 44.9	-6.8
DZM	**Mont Dzumac**	**4.56**	**224**	P	**Pn**	**15 43 57.0**	**+1.5**
OUENC	**Ouen Island, N**	**4.57**	**218**	P	**Pn**	**15 43 57.2**	**+1.7**
ONTNC	**Ouen Toro**	**4.72**	**222**	Pn	**Pn**	**15 43 58.0**	**+0.7**
ONTNC	**Ouen Toro**	**4.72**	**222**	P	**Pn**	**15 43 58.7**	**+1.3**
MSVF	**Nonsavu**	**7.84**	**83**	Pn	**Pn**	**15 44 35.5**	**-1.0**
MSVF	**Nonsavu**	**7.84**	**83**	P	Pn	15 44 46.5	+10
TAVE	**Taveuni**	**9.96**	**79**	P	P	15 45 14.3	+5.3
OUZ	**Omahuta**	**16.67**	**169**	P	**Pn**	**15 46 25.9**	**+1.1**
ARMA	**Armidale**	**20.18**	**232**	P	**P**	**15 46 59.6**	**-1.5**
ARMA	comp=Z,14nm,1.4s			IAmb	IAmb	15 47 24.1	
URZ	**Urewera**	**20.37**	**163**	P	**P**	**15 47 07.0**	**+4.1**
RTZ	**Ruatahuna**	**20.67**	**164**	P	**P**	**15 47 06.7**	**+0.6**
RTZ	comp=Z,27nm,1.3s			IAmb	IAmb	15 47 28.6	
BKZ	**Black Stump Fm**	**21.07**	**166**	P	**P**	**15 47 10.4**	**+0.2**
BKZ	comp=Z,26nm,1.5s			IAmb	IAmb	15 47 26.3	
BKZ	**Black Stump Fm**	**21.07**	**166**	P	**P**	**15 47 11.6**	**+1.4**
TUWZ	**Tuamarina**	**22.80**	**172**	P	**P**	**15 47 26.7**	**+0.5**
THZ	**Tophouse**	**23.02**	**174**	P	**P**	**15 47 29.3**	**+1.2**
THZ	comp=Z,26nm,1.3s			IAmb	IAmb	15 47 56.5	
LTZ	**Lake Taylor**	**23.98**	**176**	P	**P**	**15 47 36.7**	**-0.1**
LTZ	comp=Z,20nm,1.2s			IAmb	IAmb	15 47 39.4	
CNB	**Canberra Magne**	**24.49**	**224**	P	**P**	**15 47 41.1**	**-0.5**
CMSA	**Cobar Meteorol**	**25.22**	**235**	P	**P**	**15 47 47.4**	**-0.8**
LBZ	**Lake Benmore**	**25.49**	**179**	P	**P**	**15 47 50.5**	**-0.1**
STKA	**Stephens Creek**	**28.57**	**237**	P	**P**	**15 48 16.1**	**-2.0**
STKA	**Stephens Creek**	**28.57**	**237**	P	**P**	**15 48 15.9**	**-2.2**
	comp=Z,1.4nm,0.6s,baz=83,slow=8.1,SNR=2.9 comp=Z,1.4nm,0.6s						
GLAD	**Gladstone**	**28.95**	**216**	P	**P**	**15 48 21.5**	**+0.2**
BBOO	**Buckleboo**	**33.32**	**239**	P	**P**	**15 48 57.8**	**-1.8**
BBOO	comp=Z,36nm,1.4s			IAmb	IAmb	15 49 28.0	
WRA	**Warramunga Arr**	**33.50**	**262**	P	**P**	**15 48 58.7**	**-2.6**
WRA	**Warramunga Arr**	**33.50**	**262**	P	**P**	**15 48 59.3**	**-2.0**
	comp=Z,0.1nm,0.4s,baz=82,slow=5.9,SNR=9.8 comp=Z,0.1nm,0.4s						
AS31	**Alice Springs**	**33.81**	**255**	P	**P**	**15 49 02.4**	**-1.6**
ASAR	**Alice Springs**	**33.81**	**255**	P	**P**	**15 49 02.0**	**-2.0**
ASAR	**Alice Springs**	**33.81**	**255**	P	**P**	**15 49 02.4**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=80,slow=9.1,SNR=49 comp=Z,0.8nm,0.4s						
KNRA	**Kununurra**	**39.33**	**268**	P	**P**	**15 49 47.8**	**-2.7**
KNRA	comp=Z,8.4nm,1.3s			IAmb	IAmb	15 50 17.6	
SONM	**Songino Array**	**87.25**	**323**	P	**P**	**15 55 03.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=166,slow=3.0,SNR=2.9 comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**89.66**	**17**	P	**P**	**15 55 14.7**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=228,slow=4.6,SNR=4.4 comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**124.81**	**346**	PKP	**PKiKP**	**16 01 14.8**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=55,slow=2.4,SNR=6.3						
GERES	**GERESS Array B**	**144.40**	**333**	PKP	**PKPdf**	**16 01 50.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=32,slow=3.9,SNR=6.3						

NEIC ***15*** *15:51:04.9±2.3, 8°47N±0°07′×122°75E±0°08, h45km±9km, mb4.3/9, Error ellipse: s-maj=11.3km s-min=10.5km az=104.0*

IDC ***15*** *15:51:15.8±2.8, 8°28N×122°53E, h146km±31km, mb3.4/8, mbtmp3.9/9, MS3.3/5, Error ellipse: s-maj=42.8km s-min=14.8km az=63.0*

ISC 15 15:51:02.7±0.7, 8°51N±0°07′×122°81E±0°08, h27km, n31, σ1ᵉ16/33, mb4.2/13, MS3.3/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.10**	**117**	Pn	**Pn**	**15 51 49.4**	**-0.5**
DAV	**Davao City (W)**	**3.10**	**117**	P	Pb	15 52 05.3	+8.2
DAV	189nm,0.4s,baz=288,slow=3.6,SNR=2.1 137nm,0.5s,baz=75,slow=13,SNR=1.2			S	Sb	15 52 46.4	+12
DAV	comp=Z,697nm,18.6s,baz=340,slow=41			LR	LR	15 53 27.7	
MYLDM	**Lahad Datu**	**5.41**	**233**	Pn	**Pn**	**15 52 21.6**	**0.0**
MYLDM				Sn	**Sn**	**15 53 23.1**	**0.0**
TGY	**Tagaytay City**	**5.85**	**342**	LR	LR	15 55 10.1	
KKM	comp=Z,189nm,19.4s,baz=109,slow=39 **Kota Kinabalu**	**6.98**	**250**	Pn	**Pn**	**15 52 42.9**	**-0.4**
KKM				Sn	**Sn**	**15 53 59.8**	**-2.3**
TOLI2	**Tolitoli**	**7.62**	**195**	Pn	**Pn**	**15 52 52.8**	**+0.7**
LUWI	**Luwuk**	**9.49**	**180**	Pn	**Pn**	**15 53 20.4**	**+2.7**
YULB	**Yu-li**	**14.87**	**355**	Pn	**Pn**	**15 54 33.3**	**+2.2**
KNRA	**Kununurra**	**24.75**	**166**	P	**P**	**15 56 22.9**	**+0.7**
KNRA	comp=Z,4.7nm,0.8s			IAmb	IAmb	15 56 27.5	
CMAR	**Chiang Mai Arr**	**25.19**	**296**	P	**P**	**15 56 26.9**	**+0.7**
CMAR	comp=Z,1.7nm,0.7s,baz=117,slow=8.9,SNR=11 comp=Z,32nm,18.9s,baz=95,slow=36 comp=Z,1.7nm,0.7s			LR	LR	16 06 29.8	
WB0	**Warramunga Arr**	**30.33**	**158**	P	**P**	**15 57 10.7**	**-1.5**
WB0	comp=Z,7.2nm,1.3s			IAmb	IAmb	15 57 44.7	
WRA	**Warramunga Arr**	**30.47**	**158**	P	**P**	**15 57 12.8**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=332,slow=10,SNR=5.5 comp=Z,0.2nm,0.6s						
WR8	**Warramunga Arr**	**30.54**	**158**	P	**P**	**15 57 11.9**	**-2.2**
WR8				IAmb	IAmb	15 57 14.9	
AS31	**Alice Springs**	**33.77**	**161**	P	**P**	**15 57 42.4**	**0.0**
ASAR	**Alice Springs**	**33.77**	**161**	P	**P**	**15 57 42.7**	**+0.2**
ASAR	**Alice Springs**	**33.77**	**161**	P	**P**	**15 57 42.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=340,slow=7.4,SNR=20 comp=Z,0.5nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.44**	**11**	LR	LR	16 15 30.5	
EVN	comp=Z,47nm,18.0s,baz=312,slow=40 **Everest**	**39.05**	**304**	P	**P**	**15 58 27.2**	**-1.0**
SONM	**Songino Array**	**41.59**	**343**	P	**P**	**15 58 49.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=163,slow=5.6,SNR=2.4 comp=Z,0.6nm,0.5s						
BBOO	**Buckleboo**	**42.99**	**164**	P	**P**	**15 58 58.5**	**-1.2**
MKAR	**Makanchi Array**	**51.43**	**325**	P	**P**	**16 00 05.9**	**+0.4**
MKAR				PcP	**PcP**	**16 01 17.3**	**-2.4**
MKAR	**Makanchi Array**	**51.43**	**325**	P	**P**	**16 00 06.5**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=129,slow=8.2,SNR=16						
MKAR				PcP	**PcP**	**16 01 20.1**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=111,slow=5.6,SNR=4.6						
MKAR				LR	LR	16 23 24.2	
	comp=Z,43nm,18.2s,baz=122,slow=38 comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**54.59**	**333**	P	**P**	**16 00 27.9**	**-0.7**
ZALV	**Zalesovo Beam**	**54.59**	**333**	P	**P**	**16 00 28.5**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=131,slow=4.5,SNR=5.5 comp=Z,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**55.63**	**327**	P	**P**	**16 00 36.7**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=118,slow=9.1,SNR=17 comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**55.64**	**328**	P	**P**	**16 00 36.1**	**-0.1**
KURK	comp=Z,12nm,1.2s			IAmb	IAmb	16 00 37.9	
KURK				PcP	**PcP**	**16 01 34.6**	**-1.0**
KK31	**Karatay Array**	**57.10**	**316**	P	**P**	**16 00 46.4**	**-0.5**
KK31	comp=Z,5.2nm,1.4s			IAmb	IAmb	16 00 48.6	
KKAR	**Karatay Array**	**57.10**	**316**	P	**P**	**16 00 47.0**	**+0.2**
BVAR	**Borovoye Array**	**61.21**	**327**	P	**P**	**16 01 15.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=123,slow=5.3,SNR=5.9 comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**66.00**	**320**	P	**P**	**16 01 46.2**	**-0.6**
ABKAR	**Akbulak array**	**66.00**	**320**	P	**P**	**16 01 46.2**	**-0.6**

IDC 15 16:00:02.1±4.3, 47°50N×93°11W, h0km, mbtmp2.3/1, ML1.0/1, Error ellipse: s-maj=67.8km s-min=30.6km az=58.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.30**	**327**	Pn	Pn	16 00 53.5	-1.6
ULM	0.2nm,0.3s,baz=149,slow=12,SNR=1.7 0.8nm,0.3s,baz=142,slow=15,SNR=5.8			Pg	Pb	16 01 01.1	-0.4
ULM	baz=46,slow=8.2			Sn	Sn	16 01 29.8	-5.3
ULM	2.5nm,0.3s,baz=234,slow=21,SNR=6.8			Lg	Lg	16 01 44.2	
ULM	4.8nm,0.4s,baz=74,slow=18,SNR=9.7 0.7nm,0.4s			Rg	Rg	16 02 00.3	
I10CA	**LAC DU BONNET**	**3.32**	**326**	I	I	16 16 53.8	
I56US	0.1nm,0.8s,baz=142,slow=319,SNR=5.6 **NEWPORT INFRAS**	**6.12**	**282**	I	I	17 31 30.0	
	baz=90,slow=318,SNR=0.8						

MOS ***15*** *16:06:49.7±1.1, 8°18S×74°99W, h126km, mb4.9/10, Error ellipse: s-maj=13.5km s-min=6.5km az=111.6*

IDC ***15*** *16:06:49.7±1.2, 8°26S×75°04W, h114km±11km, mb4.2/24, mbtmp4.6/30, MS3.7/3, Error ellipse: s-maj=12.0km s-min=7.4km az=62.0*

NEIC ***15*** *16:06:50.9±1.4, 8°28S±0°05′×75°05W±0°04, h124km±6km, mb4.8/278, Error ellipse: s-maj=8.8km s-min=1.7km az=139.0*

OSUNB ***15*** *16:06:54.5±0.8, 8°24S×74°78W, h138km±4km, mb5.0/33, Error ellipse: s-maj=4.2km s-min=5.7km az=0.0*

VAO ***15*** *16:06:55.4±0.4, 8°35S×74°61W, h133km±1km, mb4.9*

ISC 15 16:06:50.6±0.4, 8°28S±0°04′×75°08W±0°04, h125km±3km, h126km:pP-P, n611, σ1ᵉ00/562, mb4.8/163, 9C-8D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.41**	**77**		**Pn**	**16 07 31.5**	**+2.1**
CZSB	**Cruzeiro do Su**	**2.41**	**77**	P	**Pn**	**16 07 31.5**	**+2.1**
CZSB				S	**Sn**	**16 08 02.7**	**+3.4**
CZSB	**Cruzeiro do Su**	**2.41**	**77**	*e*P	**Pn**	**16 07 31.5**	**+2.1**
CZSB	**Cruzeiro do Su**	**2.41**	**77**	P	**Pn**	**16 07 31.7**	**+2.3**
ATAH	**Atahualpa**	**3.48**	**289**	P	**Pn**	**16 07 44.6**	**+0.9**
ATAH	363nm,0.3s,baz=97,slow=4.6,SNR=582			S	**Sn**	**16 08 25.4**	**+0.7**
NNA	378nm,0.4s,baz=29,slow=16,SNR=6.9 **Nana**	**4.08**	**205**		**Pn**	**16 07 51.3**	**0.0**
**NN

BOAV Boa Vista 17.97 54 *eP* **Pn** **16 10 52.1 -0.6**
BOAV Boa Vista 17.97 54 P **Pn** **16 10 53.6 +0.9**
1µm116nm,1.2s
SJCC San Jacinto, C 18.06 360 P Pn 16 11 02.4 +8.7
PDRB Porto dos Gac 18.37 102 P **P** **16 10 55.7 -0.2**
PDRB Porto dos Gac 18.37 102 *eP* **P** **16 10 55.6 -0.3**
BAUV El Baul 18.49 22 P **P** **16 10 57.2 +0.1**
CLDB Colider 19.18 99 P **P** **16 11 04.0 -0.7**
CLDB Colider 19.18 99 *eP* **P** **16 11 02.7 -2.0**
AC02 Maricunga 19.30 164 P **P** **16 11 06.8 +0.4**
SMRC Santa Marta, M 19.33 3 P **P** **16 11 06.1 -0.1**
NPGB Novo Progresso 19.58 88 P **P** **16 11 08.0 -1.0**
NPGB Novo Progresso 19.58 88 *eP* **P** **16 11 08.2 -0.8**
ITTB Itaituba 19.61 80 P **P** **16 11 09.1 -0.2**
ITTB Itaituba 19.61 80 *eP* **P** **16 11 09.1 -0.2**
ITTB *epP* **pP** **16 11 32.4 +0.4**
MAS01 UHE Manso 19.97 111 P **P** **16 11 12.8 -0.4**
LCR2 La Lucha 2 19.99 333 P **P** **16 11 13.1 -0.5**
AC04 Llanos de Chal 20.18 170 P **P** **16 11 16.0 +0.7**
SALV Santo Antonio 20.40 114 P **P** **16 11 18.4 +0.6**
SALV Santo Antonio 20.40 114 *eP* **P** **16 11 16.6 -1.2**
SALV *epP* **pP** **16 11 40.6 -0.1**
JTS Las Juntas de 20.90 332 P **P** **16 11 23.5 +0.2**
6.1nm,0.9s,baz=202,slow=5.4,SNR=4.9
6.1nm,0.9s
PCRV Puerto La Cruz 21.07 30 P **P** **16 11 25.5 +0.4**
21nm,0.6s,baz=275,slow=2.7,SNR=16
21nm,0.6s
BDQN Bodoquena, MS 21.45 126 *eP* **P** **16 11 28.9 -0.2**
MURT Porto Murtinho 21.45 130 *eP* **P** **16 11 27.4 -1.6**
MURT *epP* **pP** **16 11 53.7 +1.5**
MAL2 Monte Alegre, 21.71 74 P **P** **16 11 31.2 -0.7**
MAL2 Monte Alegre, 21.71 74 P **P** **16 11 32.3 +0.4**
AQDB Aquidauana 22.31 125 P **P** **16 11 37.4 -0.6**
AQDB Aquidauana 22.31 125 P **P** **16 11 37.9 -0.2**
AQDB Aquidauana 22.31 125 *eP* **P** **16 11 37.8 -0.2**
CO06 Fray Jorge 22.51 172 P **P** **16 11 39.5 -0.4**
CO03 El Pedregal 22.82 170 P **P** **16 11 42.8 -0.2**
CO02 Combarbal 23.12 171 P **P** **16 11 45.5 -0.4**
ATM1 UHE Belo Monte 23.26 79 P **P** **16 11 46.3 -1.0**
BMO2 UHE Belo Monte 23.48 79 P **P** **16 11 48.1 -1.1**
SNDB Serra Nova Dou 23.69 101 P **P** **16 11 50.6 -0.5**
SNDB Serra Nova Dou 23.69 101 *eP* **P** **16 11 50.4 -0.7**
BMO1 UHE Belo Monte 23.75 79 P **P** **16 11 49.1 -2.5**
ARAG Araguaiana, MT 23.91 110 *eP* **P** **16 11 52.7 -0.3**
ARAG *epP* **pP** **16 12 19.3 +0.6**
RPRD Ribas do Rio P 23.96 123 *eP* **P** **16 11 54.0 +0.5**
RPRD *epP* **pP** **16 12 19.1 -0.1**
C2SB Chapadao do Su 23.97 118 *eP* **P** **16 11 54.3 +0.6**
AMBA Amambai (Brazi 24.16 129 *eP* **P** **16 11 54.5 -0.9**
AMBA *epP* **pP** **16 12 22.4 +1.0**
SJPY San Joaquin 24.58 135 *eP* **P** **16 11 58.9 -0.1**
SJPY *epP* **pP** **16 12 26.6 +1.0**
CPUP Villa Florida 24.63 139 P **P** **16 12 00.4 +0.9**
0.6nm,0.4s,baz=180,slow=7.2,SNR=3.4
0.6nm,0.4s
CPUP Villa Florida 24.63 139 *eP* **P** **16 12 01.1 +1.6**
CPUP *epP* **pP** **16 12 26.7 +0.7**
VA03 San Esteban 24.72 171 P **P** **16 12 01.0 +0.6**
PEL Peldehue 25.08 171 P **P** **16 12 04.5 +1.0**
PEL pmax pmax
comp=Z,22nm,1.3s
PRPB Parauapebas 25.14 87 P **P** **16 12 04.3 0.0**
PRPB Parauapebas 25.14 87 *eP* **P** **16 12 05.2 +0.9**
CN01 Coaracy Nunes 25.45 70 P **P** **16 12 06.4 -0.7**
MT08 Bocatoma Ro 25.48 170 P **P** **16 12 07.9 +0.5**
MT09 Talagante 25.65 172 P **P** **16 12 09.3 +0.4**
TUC4 UHE Tucurui 25.69 83 P **P** **16 12 10.8 +1.5**
TRCB Terra Rica 25.94 126 *eP* **P** **16 12 11.2 -0.3**
LAJE UHE Lajeado 26.47 96 P **P** **16 12 18.6 +2.3**
ITRB Iturama 26.49 118 P **P** **16 12 19.4 +2.9**
ITRB Iturama 26.49 118 *eP* **P** **16 12 17.1 +0.6**
ITRB *epP* **pP** **16 12 45.3 +2.0**
MTO3 Montecristo 26.62 328 P **P** **16 12 18.6 +0.8**
SMTB Santa Maria do 27.18 93 P **P** **16 12 24.7 +1.9**
SMTB Santa Maria do 27.18 93 *eP* **P** **16 12 23.7 +0.9**
SMTB *epP* **pP** **16 12 50.5 +0.8**
PAL01 Palmeiras do T 27.33 88 P **P** **16 12 26.2 +2.1**
PTGB Pitanga 27.38 129 P **P** **16 12 24.0 -0.5**
PTGB Pitanga 27.38 129 *eP* **P** **16 12 24.1 -0.4**
PTGB *epP* **pP** **16 12 53.6 +2.1**
BDFB Brasilia 27.44 108 P **P** **16 12 25.7 +0.6**
BDFB IAmb IAmb 16 12 28.9
comp=Z,22nm,0.7s
BDFB Brasilia 27.44 108 P **P** **16 12 24.6 -0.5**
comp=Z,15nm,0.5s,baz=269,slow=12,SNR=19
comp=Z,15nm,0.5s
BDFB Brasilia 27.44 108 P **P** **16 12 25.7 +0.6**
BDFB pmax pmax
comp=Z,22nm,0.7s
LDASE Londrina, Braz 27.45 126 *eP* **P** **16 12 24.4 -0.5**
LDASE *epP* **pP** **16 12 52.8 +0.8**
TMAB Tom-Au,PA,Br 27.48 79 *eP* **P** **16 12 25.8 +0.4**
PAL2 UHE Estreito - 27.55 89 P **P** **16 12 26.8 +0.8**
IPMB Ipameri, GO 27.85 113 P **P** **16 12 27.6 -1.0**
IPMB Ipameri, GO 27.85 113 *eP* **P** **16 12 27.7 -1.0**
IPMB *epP* **pP** **16 12 57.1 +1.4**
BAT2 UHE Batalha 28.35 111 P **P** **16 12 35.5 +2.4**
BB19B Bebedouro 28.60 119 P **P** **16 12 37.7 +2.4**
BB19B Bebedouro 28.60 119 *eP* **P** **16 12 35.8 +0.6**
BB19B *epP* **pP** **16 13 04.0 +1.7**
FRTB Fartura 28.68 124 *eP* **P** **16 12 36.5 +0.6**
ITAB Concordia 28.76 134 *eP* **P** **16 12 37.5 +0.9**
ITAB *epP* **pP** **16 13 04.3 +0.6**
PMNB Patos De Minas 29.62 113 *eP* **P** **16 12 44.1 -0.3**
SDBA SAO DESIDERIO 29.95 100 P **P** **16 12 47.4 +0.1**
SDBA SAO DESIDERIO 29.95 100 *eP* **P** **16 12 47.4 +0.1**
PLTB Pedras Altas 30.74 142 *eP* **P** **16 12 54.5 +0.5**
PLTB *epP* **pP** **16 13 21.8 +0.5**
JANB Januaria 30.85 105 P **P** **16 12 55.7 +0.5**
JANB Januaria 30.85 105 *eP* **P** **16 12 54.0 -1.3**
JANB *epP* **pP** **16 13 23.6 +1.1**
JQT1 Jequitai-MG 31.21 110 P **P** **16 12 58.2 -0.2**
TRQA Tornquist 31.92 160 *eP* **P** **16 13 07.2 +2.9**
DIAM Diamantina, MG 32.09 111 P **P** **16 13 06.4 +0.2**
DIAM Diamantina, MG 32.09 111 *eP* **P** **16 13 05.5 -0.8**
PLCA Paso Flores 32.57 174 P **P** **16 13 10.2 +0.1**
comp=Z,1.6nm,0.4s,baz=352,slow=10,SNR=16
PLCA PcP **PcP** **16 15 54.2 +0.6**
comp=Z,1.9nm,0.6s,baz=359,slow=5.4,SNR=6.1
comp=Z,1.6nm,0.4s
NBPS Pedro II - PI 33.64 86 P **P** **16 13 19.5 -0.2**
SJMB Sao Joao De Ma 34.48 111 *eP* **P** **16 13 28.7 +1.9**
NBPB Pedra_Branca-C 35.33 88 *eP* **P** **16 13 33.4 -0.8**
RIB01 Linhares ES 35.35 112 P **P** **16 13 36.9 +2.6**
RIB01 Linhares ES 35.35 112 *eP* **P** **16 13 36.3 +2.1**
GUA01 Guaratinga, BA 35.37 107 *eP* **P** **16 13 34.6 +0.1**
CMO1 Camacan, BA 35.47 105 *eP* **P** **16 13 35.1 -0.2**
NBMA Muriti-CE 35.98 91 P **P** **16 13 42.1 +2.4**
NBCL Cascavel-CE 36.77 86 *eP* **P** **16 13 45.9 -0.6**
RPN Rapa Nui 37.45 236 LR LR 16 25 45.6
comp=Z,65nm,19.0s,baz=110,slow=30
NBAN Anadia - AL 38.34 95 P **P** **16 13 59.1 -0.6**
NBAN Anadia - AL 38.34 95 *eP* **P** **16 14 01.7 +2.0**
RCBR Riachuelo 38.94 89 *eP* **P** **16 14 04.9 +0.2**
152A Waverly Hall 41.74 348 P **P** **16 14 27.2 -0.2**
152A IAmb IAmb 16 14 28.3
comp=Z,13nm,0.8s
HBVL Hebbronville 41.92 328 P **P** **16 14 29.2 +0.2**
HBVL IAmb IAmb 16 14 31.9
comp=Z,15nm,0.7s
GOGA Godfrey 42.22 350 P **P** **16 14 30.7 -0.6**
GOGA Godfrey 42.22 350 P **P** **16 14 30.7 -0.6**
GOGA pmax pmax
comp=Z,12nm,1.0s
HKT Hockley 42.93 333⇑ *eP* **P** **16 14 38.9 +1.9**
HKT pmax pmax
comp=Z,18nm,1.5s
W57A Gilead 43.45 354 P **P** **16 14 41.0 -0.2**
W57A IAmb IAmb 16 15 13.6
comp=Z,14nm,0.8s
HNDO Hondo 44.23 329 P **P** **16 14 48.2 +0.7**
W50A Signal Mountai 44.31 348 P **P** **16 14 47.5 -0.6**
DRIO Del Rio 44.83 328 P **P** **16 14 52.3 0.0**
DRIO IAmb IAmb 16 14 54.1
comp=Z,21nm,1.0s
T59A Double "B" Far 45.07 357 P **P** **16 14 53.8 -0.2**
T59A IAmb IAmb 16 14 55.8
comp=Z,30nm,1.2s
V48A Smith Brothers 45.16 346 P **P** **16 14 54.2 -0.6**
T57A Hurt 45.21 355 P **P** **16 14 55.6 +0.4**
T57A pP **pP** **16 15 22.8 -1.0**

WHTX Lake Whitney, 45.39 333 P **P** **16 14 56.6 -0.1**
WHTX IAmb IAmb 16 14 58.9
comp=Z,15nm,0.7s
BRDY Brady 45.52 331 P **P** **16 14 57.7 -0.1**
UALR University of 45.83 340 P **P** **16 14 59.6 -0.4**
UALR IAmb IAmb 16 15 00.7
comp=Z,23nm,0.9s
S57A Dark Hollow, R 45.94 356 P **P** **16 15 01.0 +0.1**
S57A pP **pP** **16 15 28.6 -1.1**
S57A IAmb IAmb 16 15 34.0
comp=Z,19nm,0.8s
MIAR Mount Ida 46.05 339 P **P** **16 15 01.2 -0.6**
MIAR Mount Ida 46.05 339 P **P** **16 15 01.3 -0.6**
SAND Sanderson 46.06 327 P **P** **16 15 02.3 +0.3**
WHAR Wooly Hollow 46.28 340 P **P** **16 15 03.2 -0.4**
WHAR IAmb IAmb 16 15 04.2
comp=Z,18nm,0.9s
TXAR Lajitas Array 46.44 325 P **P** **16 15 05.4 +0.3**
TXAR PcP **PcP** **16 16 37.7 -0.2**
TXAR Lajitas Array 46.44 325 P **P** **16 15 06.0 +0.9**
comp=Z,4.8nm,0.6s,baz=152,slow=8.7,SNR=57
TXAR PcP **PcP** **16 16 38.2 +0.4**
comp=Z,1.4nm,0.6s,baz=144,slow=5.3,SNR=6.5
comp=Z,4.8nm,0.6s
TXAR Lajitas Array 46.44 325 P **P** **16 15 06.0 +0.9**
Z35A Perchaven, San 46.44 334 P **P** **16 15 05.6 +0.6**
PLPT Palo Pinto 46.48 333 P **P** **16 15 05.3 +0.1**
PLPT IAmb IAmb 16 15 07.2
comp=Z,15nm,0.6s
LCAR Lake Charles 46.64 342 P **P** **16 15 05.3 -1.1**
FCAR Ozark Folk Cen 46.77 341 P **P** **16 15 06.2 -1.2**
FCAR IAmb IAmb 16 15 07.5
comp=Z,11nm,0.7s
FCAR PcP **PcP** **16 16 37.9 -0.9**
ABTX Abilene, Hawle 46.93 331 P **P** **16 15 08.8 0.0**
ABTX IAmb IAmb 16 15 10.7
comp=Z,29nm,1.0s
PBMO Poplar Bluff 47.08 343 IAmb IAmb 16 15 09.7
comp=Z,10nm,0.7s
SGCY Sterling City 47.08 329 P **P** **16 15 10.0 0.0**
SGCY IAmb IAmb 16 15 11.6
comp=Z,14nm,0.8s
SGCY PcP **PcP** **16 16 39.2 -0.9**
ALPN Alpine 47.21 326 P **P** **16 15 11.6 +0.4**
Q56A Snyder Ridge, 47.23 356 **P** **16 15 10.7 -0.3**
Q56A **pP** **16 15 42.5 +2.7**
Q56A IAmb IAmb 16 15 44.7
comp=Z,14nm,0.8s
WTFS Witchita Falls 47.34 333 P **P** **16 15 12.2 +0.3**
WTFS **pP** **16 15 39.7 -1.1**
APMT Aspermont 47.74 331 P **P** **16 15 15.2 +0.2**
APMT IAmb IAmb 16 15 17.0
comp=Z,26nm,1.0s
HHAR Hobbs 47.74 339 IAmb IAmb 16 15 15.7
comp=Z,18nm,0.9s
SN07 Snyder 07 47.92 330 P **P** **16 15 16.0 -0.5**
SN07 IAmb IAmb 16 15 52.9
comp=Z,8.2nm,0.6s
MGMO Mountain Grove 47.98 341 IAmb IAmb 16 15 17.2
comp=Z,22nm,0.9s
U38A Gravette 48.04 339 P **P** **16 15 16.3 -0.9**
U38A IAmb IAmb 16 15 17.8
comp=Z,11nm,0.9s
MVL Millersville 48.05 359 IAmb IAmb 16 15 19.4
comp=Z,23nm,0.8s
FNO Franklin 48.16 335 IAmb IAmb 16 15 19.5
comp=Z,17nm,0.7s
POST Post 48.20 330 IAmb IAmb 16 15 20.2
comp=Z,21nm,0.8s
FVM French Village 48.20 344 IAmb IAmb 16 15 18.6
comp=Z,13nm,1.0s
DEOK Depew 48.30 337 **P** **16 15 19.2 -0.1**
WMOK Wichita Mounta 48.30 334 P **P** **16 15 19.7 +0.3**
WMOK pmax pmax
comp=Z,6.0nm,0.6s
DKNS Dickens 48.40 331 P **P** **16 15 20.4 +0.3**
DKNS IAmb IAmb 16 15 22.0
comp=Z,14nm,0.7s
DKNS **pP** **16 15 47.0 -2.2**
CCM Cathedral Cave 48.50 343 P **P** **16 15 19.7 -1.1**
CCM **PcP** **16 16 44.3 -0.6**
CCM IAmb IAmb 16 16 45.2
comp=Z,7.6nm,0.7s
CCM Cathedral Cave 48.50 343 P **P** **16 15 19.7 -1.1**
CCM pmax pmax
comp=Z,8.0nm,0.7s
CCM Cathedral Cave 48.50 343 P **P** **16 15 19.9 -0.8**
CCM PcP **PcP** **16 16 44.7 -0.2**
OK029 Liberty Lake 48.65 336 P **P** **16 15 21.4 -0.5**
O48B Farmland 49.18 350 IAmb IAmb 16 15 25.9
comp=Z,22nm,0.9s
PAMR Moraine State 49.19 355 P **P** **16 15 26.2 +0.2**
PAMR **pP** **16 15 56.7 +1.6**
T35A Sooner Cattle 49.25 337 IAmb IAmb 16 15 27.9
comp=Z,19nm,1.1s
P40A Paris 50.10 343 IAmb IAmb 16 15 32.8
comp=Z,8.7nm,0.9s
L59A Walton 50.22 0 P **P** **16 15 34.6 +0.8**
L59A IAmb IAmb 16 15 36.2
comp=Z,21nm,0.9s
P38A Dawn 50.64 342 IAmb IAmb 16 15 37.0
comp=Z,13nm,0.8s
J57A Williamstown 51.45 359 IAmb IAmb 16 16 16.7
comp=Z,14nm,0.9s
J59A Piesco 51.50 1 P **P** **16 15 43.9 +0.6**
NCB Newcomb 52.01 1 IAmb IAmb 16 15 48.7
comp=Z,15nm,0.8s
ANMO Albuquerque 52.23 327 P **P** **16 15 48.9 -0.2**
ANMO Albuquerque 52.23 327 P **P** **16 15 49.0 -0.1**
comp=Z,4.1nm,0.8s,baz=250,slow=9.5,SNR=8.7
comp=Z,4.1nm,0.8s
ANMO Albuquerque 52.23 327⇑ *iP* **P** **16 15 50.1 +1.0**
LONY Lake Ozonia 52.65 0 P **P** **16 15 51.6 -0.2**
LONY **pP** **16 16 21.9 +0.6**
LONY IAmb IAmb 16 16 27.3
comp=Z,21nm,1.3s
TUC Tucson 52.81 322 P **P** **16 15 53.0 -0.4**
TUC IAmb IAmb 16 15 55.0
comp=Z,23nm,1.9s
TUC Tucson 52.81 322 P **P** **16 15 53.0 -0.4**
TUC pmax pmax
comp=Z,23nm,1.9s
T25A Trinidad 52.88 331 IAmb IAmb 16 15 55.9
comp=Z,18nm,1.0s
FRNY Flat Rock 52.88 1 P **P** **16 15 53.8 +0.3**
FRNY **pP** **16 16 22.5 -0.5**
SADO Sadowa 52.93 356 P **P** **16 15 53.1 -0.7**
comp=Z,4.7nm,0.6s,baz=173,slow=6.1,SNR=4.3
comp=Z,4.7nm,0.6s
WBO Williamsburg 53.03 360 P **P** **16 15 54.9 +0.3**
WBO **pP** **16 16 23.0 -1.1**
214A Organ Pipe Nat 53.84 320 IAmb IAmb 16 16 03.0
comp=Z,10nm,0.9s
SDCO Great Sand Dun 53.89 330 IAmb IAmb 16 16 03.2
comp=Z,14nm,0.8s
W18A Petrified Fore 54.16 325 IAmb IAmb 16 16 05.4
comp=Z,15nm,1.2s
TRQ Mont Tremblant 54.26 0 P **P** **16 16 03.6 +0.1**
TRQ IAmb IAmb 16 16 36.8
comp=Z,8.3nm,0.7s
S22A 4UR Ranch, Cre 54.55 329 IAmb IAmb 16 16 08.1
comp=Z,14nm,1.7s
ECSD EROS Data Cent 55.33 341 IAmb IAmb 16 16 11.6
comp=Z,16nm,1.4s
D62A Allapoint, All 55.37 5 IAmb IAmb 16 16 13.4
comp=Z,8.6nm,0.9s
K30B Basset 55.43 338 P **P** **16 16 11.5 -0.6**
COWI Conover 55.58 348 IAmb IAmb 16 16 13.2
comp=Z,9.8nm,0.9s
PV01 Paradox Valley 55.74 328 IAmb IAmb 16 16 16.6
comp=Z,10nm,0.9s
PV15 Paradox Valley 55.85 328 IAmb IAmb 16 16 17.5
comp=Z,17nm,1.0s
PV13 Radium Mtn., P 55.89 328 P **P** **16 16 15.7 0.0**
PV13 IAmb IAmb 16 16 17.4
comp=Z,16nm,0.9s
PV03 Paradox Valley 55.98 328 IAmb IAmb 16 16 17.8
comp=Z,12nm,1.2s
PV05 Paradox Valley 55.98 328 IAmb IAmb 16 16 17.7
comp=Z,11nm,0.9s
PV18 Skein Mesa, Pa 56.00 328 IAmb IAmb 16 16 18.0
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 56.06 328 IAmb IAmb 16 16 18.6
comp=Z,18nm,1.5s
PV10 Paradox Valley 56.17 328 P **P** **16 16 16.7 -1.0**

PV10 IAmb IAmb 16 16 18.7
comp=Z,9.5nm,0.9s
E38A The Farm, Brul 56.58 346 IAmb IAmb 16 16 20.2
comp=Z,14nm,0.9s
BC3 Big Chuckawall 56.63 320 P **P** **16 16 21.5 +0.5**
BC3 IAmb IAmb 16 16 23.1
comp=Z,14nm,1.3s
HMU Henry Mountain 56.76 327 IAmb IAmb 16 16 25.0
comp=Z,7.8nm,0.9s
IRM Iron Mountain 56.76 320 IAmb IAmb 16 16 24.0
comp=Z,22nm,1.2s
PMSA Palmer Station 56.94 174 P **P** **16 16 23.7 +1.4**
PMSA IAmb IAmb 16 17 57.7
comp=Z,16nm,1.2s
BELC Belle Mtn. Jos 57.20 320 P **P** **16 16 25.4 +0.4**
BELC IAmb IAmb 16 16 27.2
comp=Z,16nm,1.3s
PFO Pinyon Flats O 57.26 319 P **P** **16 16 25.6 +0.2**
PFO Pinyon Flats O 57.26 319⇓ *iP* **P** **16 16 26.3 +1.0**
PFO pmax pmax
comp=Z,13nm,1.2s
KNB Kanab 57.27 324 IAmb IAmb 16 16 27.9
comp=Z,12nm,1.0s
TBO Thunder Bay 58.07 349 P **P** **16 16 29.5 -1.1**
TBO **pP** **16 17 00.4 -0.2**
K22A Casper 58.24 333 IAmb IAmb 16 16 33.5
comp=Z,13nm,1.0s
RSSD Black Hills 58.37 336 P **P** **16 16 33.2 +0.2**
RSSD IAmb IAmb 16 16 34.9
comp=Z,9.0nm,1.0s
RSSD Black Hills 58.37 336 P **P** **16 16 33.2 +0.2**
RSSD pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 58.54 320 IAmb IAmb 16 16 36.6
comp=Z,14nm,1.5s
BSUT Blindstream Ca 58.66 329 IAmb IAmb 16 16 37.1
comp=Z,9.1nm,1.1s
PSUT Pine Spring 58.91 325 IAmb IAmb 16 16 38.9
comp=Z,6.9nm,0.9s
GWY Greenwater Val 59.02 321 P **P** **16 16 38.0 +0.4**
E28A Huff 59.20 340 P **P** **16 16 38.6 +0.2**
AGMN Agassiz Nation 59.24 344 P **P** **16 16 38.0 -0.6**
AGMN **pP** **16 17 10.0 +1.2**
AGMN IAmb IAmb 16 17 12.4
comp=Z,11nm,0.8s
TPNV Topopah Spring 59.26 322 IAmb IAmb 16 16 41.6
comp=Z,7.2nm,0.9s
FURC Furnace Creek, 59.32 321 IAmb IAmb 16 16 41.1
comp=Z,7.7nm,0.7s
WCT Wildcat Mounta 59.38 322 IAmb IAmb 16 16 42.4
comp=Z,12nm,1.4s
DUG Dugway, Tooele 59.50 327 P **P** **16 16 41.4 +0.6**
DUG IAmb IAmb 16 16 42.8
comp=Z,9.8nm,0.9s
DUG Dugway, Tooele 59.50 327 P **P** **16 16 41.4 +0.6**
DUG pmax pmax
comp=Z,10.0nm,0.9s
PDAR Pinedale Array 59.73 331 P **P** **16 16 42.1 -0.4**
PDAR Pinedale Array 59.73 331 P **P** **16 16 41.6 -0.9**
comp=Z,1.6nm,0.7s,baz=142,slow=7.5,SNR=13
comp=Z,1.6nm,0.7s
MZP Montezuma Peak 60.43 322 P **P** **16 16 47.6 +0.2**
AHID Auburn Hatcher 60.48 330 P **P** **16 16 47.3 -0.2**
AHID IAmb IAmb 16 16 48.5
comp=Z,6.9nm,0.6s
ULM Lac du Bonnet 61.03 345 P **P** **16 16 50.0 -0.8**
comp=Z,9.6nm,0.6s,baz=144,slow=6.6,SNR=16
ULM PcP **PcP** **16 17 32.2 -0.6**
comp=Z,4.6nm,0.5s,baz=159,slow=6.8,SNR=4.7
ULM LR LR 16 47 22.5
comp=Z,251nm,19.2s,baz=236,slow=40
comp=Z,9.6nm,0.6s
ELK Elko 61.21 326 P **P** **16 16 52.6 +0.1**
comp=Z,1.4nm,0.5s,baz=108,slow=6.4,SNR=5.9
comp=Z,1.4nm,0.5s
NVAR Mina Array Bea 61.45 322 P **P** **16 16 55.4 +1.2**
comp=Z,2.2nm,0.8s,baz=144,slow=6.7,SNR=9.4
comp=Z,2.2nm,0.8s
LHV Little Huntoon 61.46 322 P **P** **16 16 53.9 -0.1**
YHB Horse Butte 62.01 332 IAmb IAmb 16 17 00.0
comp=Z,14nm,0.7s
YHL Hebgen Lake 62.08 332 P **P** **16 16 59.3 +0.9**
BOZ Bozeman (W) 62.85 332 IAmb IAmb 16 17 04.8
comp=Z,21nm,1.6s
PAHR Pah Rah Range 62.91 323 IAmb IAmb 16 17 06.0
comp=Z,9.3nm,1.0s
SCHQ Schefferville 63.25 5 P **P** **16 17 05.3 -0.2**
comp=Z,5.4nm,0.8s,baz=190,slow=4.8,SNR=7.1
comp=Z,5.4nm,0.8s
MFID Camas Ranch 63.36 328 IAmb IAmb 16 17 08.6
comp=Z,20nm,1.0s
EGMT Eagleton 63.87 335 IAmb IAmb 16 17 11.3
comp=Z,19nm,1.4s
ORV Oroville 64.11 321 P **P** **16 17 12.1 +0.6**
ORV IAmb IAmb 16 17 13.9
comp=Z,22nm,1.3s
ORV Oroville 64.11 321 P **P** **16 17 12.1 +0.6**
ORV pmax pmax
comp=Z,22nm,1.3s
MSO Missoula 64.84 332 IAmb IAmb 16 17 18.2
comp=Z,17nm,1.2s
K05A Summer Lake 65.70 325 IAmb IAmb 16 17 24.4
comp=Z,13nm,1.0s
F10A Beach Ranch, E 65.84 329 IAmb IAmb 16 17 24.7
comp=Z,7.8nm,0.6s
YBH Yreka Blue Hor 66.15 323 P **P** **16 17 24.3 -0.5**
comp=Z,0.2nm,0.7s,baz=354,slow=9.8,SNR=4.1
G08A Pilot Rock 66.28 328 P **P** **16 17 25.5 -0.1**
PINE Pine Mountain 66.39 325 IAmb IAmb 16 17 29.5
comp=Z,6.8nm,0.7s
FFC Flin Flon 66.70 343 P **P** **16 17 27.6 -0.3**
FFC Flin Flon 66.70 343 P **P** **16 17 27.6 -0.3**
FFC pmax pmax
comp=Z,6.0nm,0.9s
FFC Flin Flon 66.70 343 P **P** **16 17 28.1 +0.2**
J04A Umpqua Nationa 66.72 324 IAmb IAmb 16 17 30.0
comp=Z,12nm,0.8s
K02D Willamette Mer 67.30 323 IAmb IAmb 16 17 34.7
comp=Z,20nm,1.3s
DBIC Dimbokro 71.57 80 P **P** **16 17 58.7 -0.1**
comp=Z,9.2nm,0.5s,baz=280,slow=2.9,SNR=16
comp=Z,9.2nm,0.5s
FRB Frobisher Bay 71.99 3 P **P** **16 18 00.2 0.0**
comp=Z,9.1nm,0.6s,baz=185,slow=6.9,SNR=7.8
comp=Z,9.1nm,0.6s
BLKN Baker Lake 74.09 351 P **P** **16 18 11.9 -0.7**
BBB Bella Bella 75.30 329 P **P** **16 18 20.9 +1.1**
comp=Z,5.2nm,0.7s,baz=230,slow=2.1,SNR=6.3
comp=Z,5.2nm,0.7s
SNAA Sanae 76.63 162 ⇑P **P** **16 18 27.2 0.0**
comp=Z,118nm,0.6s
SNAA Sanae 76.63 162 P **P** **16 18 27.8 +0.5**
comp=Z,4.8nm,0.6s,baz=276,slow=7.1,SNR=49
comp=Z,4.8nm,0.6s
SNAA Sanae 76.63 162 *de*P **P** **16 18 27.6 +0.4**
SNAA pmax pmax
comp=Z,9.0nm,1.0s
YKAW1 Yellowknife Wh 76.79 342 IAmb IAmb 16 18 28.9
comp=Z,9.4nm,0.7s
YKA Yellowknife Ar 76.84 342 P **P** **16 18 27.8 -0.5**
YKA Yellowknife Ar 76.84 342 P **P** **16 18 28.2 -0.1**
comp=Z,7.1nm,0.9s,baz=136,slow=5.9,SNR=43
comp=Z,7.1nm,0.9s
TOAD Toad River Com 78.03 336 P **P** **16 18 35.6 +0.5**
baz=129
TROLL Troll, Antarti 78.35 162 ⇑P **P** **16 18 35.4 -1.4**
comp=Z,450nm,0.7s
KOTAN Kotaneelee Air 78.39 337 P **P** **16 18 37.7 +0.8**
baz=130
V35K Ketchikan 78.79 331 P **P** **16 18 40.4 +1.2**
baz=123
T35M Bob Quinn 79.06 333 P **P** **16 18 41.8 +1.0**
baz=124
TORD Torodi Ar. Bea 79.15 75 P **P** **16 18 41.3 -0.8**
TORD **pP** **16 19 12.3 -1.5**
TORD Torodi Ar. Bea 79.15 75 P **P** **16 18 41.8 -0.3**
comp=Z,0.8nm,0.3s,baz=266,slow=5.0,SNR=18
comp=Z,0.8nm,0.3s
CRAG Craig 79.59 331 P **P** **16 18 44.7 +1.1**
baz=122
WRAK Wrangell Islan 79.72 332 P **P** **16 18 45.3 +1.0**
baz=122
DLBC Dease Lake 79.79 334 P **P** **16 18 45.4 +0.6**
baz=125
U33K Whale Pass 79.93 331 P **P** **16 18 46.1 +0.7**
baz=122
S34M Telegraph Cree 79.98 333 P **P** **16 18 46.7 +1.0**

baz=124
WRGLY **Wrigley** 80.20 340 P P 16 18 47.4 +0.7
baz=131
R33M **Jennings River** 80.73 335 P P 16 18 50.6 +0.8
baz=124
TGTN **Hyland Airport** 80.88 337 P P 16 18 51.5 +1.0
baz=127
ESDC **Sonseca Array** 81.01 48 P P 16 18 52.2 +0.5
comp=Z,1.2nm,0.9s,baz=258,slow=6.8,SNR=9.0
comp=Z,1.2nm,0.9s
Q32M **Nakina River** 81.05 334 P P 16 18 52.4 +0.7
baz=123
S32K **Killisnoo** 81.31 332 IAmb IAmb 16 19 30.9
comp=Z,17nm,1.4s
S32K **Killisnoo** 81.31 332 P P 16 18 53.7 +0.9
baz=120,SNR=5.1
SIT **Sitka** 81.46 331 P P 16 18 54.4 +0.9
baz=120
R32K **Eaglecrest** 81.69 333 P P 16 18 55.8 +1.0
baz=121
QSPA **South Pole Qui** 81.83 180 P P 16 18 56.8 +1.1
QSPA IAmb IAmb 16 18 58.5
comp=Z,28nm,1.4s
QSPA pP 16 19 28.0 +0.5
QSPA **South Pole Qui** 81.83 180 P P 16 18 57.6 +1.9
comp=Z,6.1nm,0.5s,baz=314,slow=0.4,SNR=76
comp=Z,6.1nm,0.5s
P33M **Teslin, Yukon** 81.96 335 P P 16 18 56.9 +0.6
baz=122
P32M **Atlin** 82.02 334 P P 16 18 57.2 +0.7
baz=122
MMPY **Sheldon Lake,** 82.66 337 P P 16 19 00.5 +0.7
baz=124
SKAG **Skagway** 82.66 333 P P 16 19 00.5 +0.7
baz=120
WHY **Whitehorse** 83.07 335 P P 16 19 02.5 +0.5
baz=121
PLBC **Pleasant Camp** 83.12 333 P P 16 19 02.9 +0.7
baz=119
M31M **Drury Creek, Y** 83.66 336 P P 16 19 05.6 +0.6
baz=121
P30M **Million Dollar** 83.70 334 P P 16 19 05.5 +0.2
baz=119
P29M **Windy Craggy** 83.81 333 P P 16 19 06.6 +0.8
baz=118
N31M **Braeburn, Yuko** 83.86 335 P P 16 19 06.7 +0.7
baz=120
SUMG **Summit** 84.09 10 P P 16 19 07.1 -0.3
SUMG pP pP 16 19 39.3 -0.1
SUMG **Summit** 84.09 10 P P 16 19 07.1 -0.3
SUMG *PP pP 16 19 39.3 -0.1
SUMG pmax pmax
comp=Z,22nm,0.9s
HYT **Haines Junctio** 84.27 334 P P 16 19 09.3 +1.1
baz=118
N30M **Aishikik Lake** 84.40 335 IAmb IAmb 16 19 11.0
comp=Z,13nm,1.1s
N30M **Aishikik Lake** 84.40 335 P P 16 19 10.0 +1.3
baz=119
O29M **Mount Kennedy** 84.50 333 P P 16 19 09.8 +0.4
baz=117
PNL **Peninsula** 84.58 333 P P 16 19 10.4 +0.7
baz=116
YUK6 **Outpost Mounta** 84.70 334 P P 16 19 11.3 +0.8
baz=118
M30M **Minto, Yukon** 84.82 336 P P 16 19 11.1 +0.3
baz=119
YUK4 **Talbot Arm** 85.01 334 P P 16 19 13.0 +1.0
baz=117,SNR=6.3
PINM **Pinnacle** 85.16 333 P P 16 19 13.5 +0.9
baz=116
O28M **Mount Upton** 85.42 333 P P 16 19 15.1 +1.0
baz=116
M29M **Somme Creek** 85.44 335 IAmb IAmb 16 19 15.8
comp=Z,8.9nm,0.9s
M29M **Somme Creek** 85.44 335 P P 16 19 14.9 +0.9
baz=118
YUK8 **Steele Glacier** 85.46 334 P P 16 19 15.1 +0.7
baz=116,SNR=5.2
H31M **Peel River** 85.52 339 P P 16 19 14.5 +0.3
baz=122
L29M **L29M** 85.61 336 IAmb IAmb 16 19 16.4
comp=Z,14nm,1.0s
L29M **L29M** 85.61 336 P P 16 19 15.1 +0.3
baz=118
J30M **Hart River** 85.62 338 P P 16 19 15.2 +0.3
baz=120
K29M **Barlow Dome** 85.72 337 P P 16 19 15.6 +0.2
baz=118
I30M **Mount Dempster** 85.95 338 P P 16 19 16.5 0.0
I30M **Mount Dempster** 85.95 338 P P 16 19 16.9 +0.4
baz=120
MESA **MESA** 85.96 333 P P 16 19 17.2 +0.4
baz=114
YUK3 **Moose Creek** 85.98 334 P P 16 19 17.5 +0.7
baz=116,SNR=6.9
CTGM **Chitina Glacie** 86.01 333 IAmb IAmb 16 19 18.9
comp=Z,9.0nm,1.0s
CTG **Chitna Glacier** 86.02 333 P P 16 19 17.7 +0.8
baz=115
G31M **Satah River** 86.08 340 P P 16 19 17.1 +0.2
baz=122
GRNC **Granite Creek** 86.10 333 IAmb IAmb 16 19 19.2
comp=Z,11nm,1.1s
F31M **Tsiigehtchic** 86.18 341 P P 16 19 17.7 +0.4
baz=122
BARN **Barnard Glacie** 86.20 333 IAmb IAmb 16 19 21.2
comp=Z,14nm,1.2s
BVCY **Beaver Creek** 86.42 335 P P 16 19 19.6 +0.8
baz=115,SNR=6.6
A36M **Sachs Harbour** 86.49 346 P P 16 19 18.4 -0.4
baz=130
DAWY **Dawson** 86.55 337 P P 16 19 19.3 0.0
baz=117
INK **Inuvik** 86.57 341 IAmb IAmb 16 19 20.4
comp=Z,12nm,0.9s
INK **Inuvik** 86.57 341 P P 16 19 19.8 +0.5
comp=Z,8.7nm,0.8s,baz=106,slow=6.4,SNR=6.2
comp=Z,8.7nm,0.8s
INK **Inuvik** 86.57 341 P P 16 19 19.3 0.0
baz=122
TGL **Tana Glacier** 86.60 333 IAmb IAmb 16 19 22.1
comp=Z,15nm,1.1s
EPYK **Eagle Plains** 86.64 339 P P 16 19 19.8 +0.1
baz=119
CRQE **Cirque** 86.71 333 P P 16 19 20.6 +0.3
baz=113,SNR=5.8
I29M **Ogilvie Camp,** 86.73 338 IAmb IAmb 16 19 21.4
comp=Z,15nm,1.2s
I29M **Ogilvie Camp,** 86.73 338 P P 16 19 20.4 +0.2
baz=118
CRQM **Cirque** 86.74 333 P P 16 19 19.7 -0.8
CRQM IAmb IAmb 16 19 22.6
comp=Z,19nm,1.1s
M27K **Edge Creek, AK** 86.83 335 IAmb IAmb 16 19 22.6
comp=Z,17nm,0.9s
M27K **Edge Creek, AK** 86.83 335 P P 16 19 21.4 +0.5
baz=114,SNR=12
MCARA **McCarthy VSAT** 86.93 333 P P 16 19 22.1 +0.9
baz=113,SNR=5.8
F30M **Barrier River** 86.94 340 P P 16 19 21.3 +0.2
baz=120
KAIM **Kayak Island** 87.00 332 P P 16 19 22.5 +1.0
baz=112
BCAR **Beaver Creek A** 87.08 335 P P 16 19 21.6 -0.3
L27K **Beaver Creek,** 87.10 335 IAmb IAmb 16 19 23.7
comp=Z,16nm,0.9s
L27K **Beaver Creek,** 87.10 335 P P 16 19 22.7 +0.7
baz=114,SNR=28
H29M **Whitestone** 87.16 339 IAmb IAmb 16 19 23.4
comp=Z,14nm,0.9s
H29M **Whitestone** 87.16 339 P P 16 19 22.3 +0.1
baz=118
M26K **Nabesna, AK** 87.32 334 P P 16 19 23.2 +0.1
baz=113
G29M **Pine Creek** 87.36 339 IAmb IAmb 16 19 24.2
comp=Z,16nm,0.9s
G29M **Pine Creek** 87.36 339 P P 16 19 23.2 0.0
baz=118
I28M **Miner Creek** 87.38 338 P P 16 19 22.8 -0.6
I28M IAmb IAmb 16 19 28.3
comp=Z,8.7nm,1.1s
I28M **Miner Creek** 87.38 338 P P 16 19 23.4 +0.1
baz=116
BMRM **Bremner River** 87.48 333 IAmb IAmb 16 19 25.4
comp=Z,15nm,1.2s
BMRM **Bremner River** 87.48 333 P P 16 19 24.0 +0.1
baz=112
K27K **Chicken** 87.60 336 P P 16 19 25.2 +0.8
baz=114
N25K **Chitina, Valde** 87.72 333 P P 16 19 25.3 +0.2
baz=112
L26K **Log Cabin Wild** 87.72 335 P P 16 19 25.1 +0.1
baz=113,SNR=5.4
Q23K **Middleton Isla** 87.74 331 P P 16 19 25.3 +0.2
baz=110
EYAK **Cordova Ski Ar** 87.85 332 P P 16 19 25.8 +0.2
baz=111
E29M **Blow River** 88.02 341 IAmb IAmb 16 19 27.2
comp=Z,14nm,0.8s
E29M **Blow River** 88.02 341 P P 16 19 26.2 0.0
baz=118
DIV **Divide** 88.07 333 IAmb IAmb 16 19 27.7
comp=Z,10nm,0.9s
I27K **Kandik River** 88.08 338 P P 16 19 26.4 -0.2
baz=115,SNR=6.1
HARP **HAARP** 88.25 334 P P 16 19 27.4 -0.2
baz=112
KLU **Klutina** 88.27 333 P P 16 19 27.6 0.0
KLU pP 16 19 59.4 -0.6
KLU **Klutina** 88.27 333 P P 16 19 27.9 +0.2
baz=111
H27K **Steamboat Moun** 88.31 338 P P 16 19 27.6 -0.1
baz=115
F28M **Old Crow** 88.32 340 IAmb IAmb 16 19 28.6
comp=Z,9.2nm,0.9s
F28M **Old Crow** 88.32 340 P P 16 19 27.6 -0.1
baz=116
SCRK **Sand Creek** 88.35 336 IAmb IAmb 16 19 29.2
comp=Z,11nm,0.8s
SCRK **Sand Creek** 88.35 336 P P 16 19 28.2 +0.1
baz=113,SNR=8.6
J26L **Joseph Creek** 88.39 336 P P 16 19 28.2 +0.1
J26L **Joseph Creek** 88.39 336 P P 16 19 28.4 +0.2
baz=113,SNR=17
P23K **Montague Islan** 88.43 331 P P 16 19 28.2 -0.1
baz=110
I26K **Coal Creek Min** 88.54 337 IAmb IAmb 16 19 29.6
comp=Z,5.8nm,0.8s
I26K **Coal Creek Min** 88.54 337 P P 16 19 28.8 0.0
baz=113
GLI **Glacier Island** 88.59 332 P P 16 19 28.8 -0.3
baz=110
M24K **Tolsona, Glenn** 88.59 334 P P 16 19 29.8 +0.7
baz=111
PAX **Paxson** 88.60 334 P P 16 19 28.6 -0.6
PAX IAmb IAmb 16 19 30.1
comp=Z,11nm,0.9s
PAX **Paxson** 88.60 334 P P 16 19 28.6 -0.6
PAX pmax pmax
comp=Z,11nm,0.9s
PAX **Paxson** 88.60 334 P P 16 19 29.0 -0.2
baz=111
G27K **Doyon Strip** 88.60 339 IAmb IAmb 16 19 29.3
comp=Z,5.3nm,0.8s
G27K **Doyon Strip** 88.60 339 P P 16 19 28.5 -0.5
baz=115
RIDG **Independent Ri** 88.62 335 P P 16 19 29.3 +0.1
baz=112,SNR=6.5
E28M **Babbage River** 88.65 341 P P 16 19 28.8 -0.4
baz=117
D28M **Stokes Point** 88.73 341 P P 16 19 29.6 +0.1
baz=118
VNDA **Vanda** 88.73 191 P P 16 19 30.3 +0.8
comp=Z,2.2nm,0.9s,baz=144,slow=4.7,SNR=12
comp=Z,2.2nm,0.9s
SCM **Sheep Creek Mo** 89.01 333 IAmb IAmb 16 19 32.4
comp=Z,14nm,0.9s
SCM **Sheep Creek Mo** 89.01 333 P P 16 19 30.9 -0.3
baz=110
K24K **Donnelly Dome** 89.03 335 P P 16 19 30.7 -0.4
baz=111
J25K **Salcha River,** 89.15 336 P P 16 19 31.8 +0.1
baz=111,SNR=20
PWL **Port Wells** 89.15 332 P P 16 19 31.4 -0.3
baz=109
E27K **Coleen River** 89.16 340 P P 16 19 31.7 +0.1
baz=115
M23K **Glacier View** 89.18 333 P P 16 19 31.8 0.0
baz=109
KNK **Knik Glacier** 89.39 333 P P 16 19 33.0 +0.2
baz=108
D27M **Malcolm River** 89.40 341 P P 16 19 33.0 +0.1
baz=116
G26K **Porcupine Rive** 89.42 338 P P 16 19 32.9 0.0
baz=113
SEW **Seward** 89.44 331 P P 16 19 32.9 -0.2
baz=108
PRP **Porcupine Dome** 89.54 337 IAmb IAmb 16 19 34.5
comp=Z,5.5nm,0.8s
PRP **Porcupine Dome** 89.54 337 P P 16 19 33.7 +0.1
baz=111,SNR=7.3
GHO **Glory Hole Cre** 89.71 333 IAmb IAmb 16 19 35.4
comp=Z,9.1nm,0.8s
HDA **Harding Lake** 89.72 336 P P 16 19 33.9 -0.4
HDA IAmb IAmb 16 19 35.1
comp=Z,8.5nm,0.9s
HDA **Harding Lake** 89.72 336 P P 16 19 34.2 -0.1
baz=110,SNR=5.3
ILAR **Eielson Array** 89.82 336 P P 16 19 33.8 -1.0
ILAR pP 16 20 05.5 -1.6
ILAR **Eielson Array** 89.82 336 P P 16 19 34.5 -0.3
comp=Z,3.7nm,1.0s,baz=130,slow=3.4,SNR=19
ILAR PP PP 16 23 08.6 -0.4
comp=Z,1.3nm,1.0s,baz=111,slow=7.0,SNR=6.8
comp=Z,3.7nm,1.0s
F26K **Sheenjek River** 89.84 339 P P 16 19 35.5 +0.6
baz=112
RC01 **Rabbit Creek A** 89.87 332 P P 16 19 35.3 +0.2
baz=107
H25L **Birch Creek** 89.92 338 P P 16 19 35.2 0.0
baz=111
CCB **Clear Creek Bu** 90.15 336 IAmb IAmb 16 19 37.8
comp=Z,9.0nm,1.1s
POKR **Poker Plat Res** 90.15 336 IAmb IAmb 16 19 37.8
comp=Z,11nm,1.0s
POKR **Poker Plat Res** 90.15 336 P P 16 19 36.5 +0.1
baz=110
RND **Reindeer** 90.19 334 IAmb IAmb 16 19 38.2
comp=Z,9.5nm,0.8s
G25K **Bearman Lake** 90.21 338 P P 16 19 37.7 +1.2
baz=111
WRH **Wood River Hil** 90.21 336 IAmb IAmb 16 19 37.7
comp=Z,7.2nm,0.9s
COLA **College** 90.24 336 *de*P P 16 19 36.8 +0.2
COLA pmax pmax
comp=Z,14nm,0.8s
COLA **College** 90.24 336 P P 16 19 36.9 +0.2
baz=109
COLA **College** 90.24 336 P P 16 19 37.2 +0.5
M22K **Willow** 90.25 333 P P 16 19 36.9 +0.1
baz=107
MCK **McKinley** 90.33 335 P P 16 19 37.3 +0.1
baz=108
F25K **Christian Rive** 90.34 339 P P 16 19 38.1 +0.9
baz=111
KDAK **Kodiak Island** 90.35 328 P P 16 19 37.6 +0.2
baz=105
HOM **Homer** 90.37 330 P P 16 19 38.1 +0.6
baz=106
C27K **Jago River** 90.44 341 P P 16 19 37.2 -0.4
baz=113
SUA **Susitna One** 90.45 332 P P 16 19 38.1 +0.1
baz=106
Q20K **Shuyak Island** 90.47 329 P P 16 19 38.0 +0.2
baz=105
H24K **Noodor Dome** 90.57 337 P P 16 19 37.7 -0.6
H24K IAmb IAmb 16 19 39.7
comp=Z,10nm,1.0s
H24K **Noodor Dome** 90.57 337 P P 16 19 38.6 +0.3
baz=109,SNR=6.8
OHAK **Old Harbor** 90.58 328 P P 16 19 38.8 +0.4
baz=104
NEA2 **Nenana** 90.65 335 P P 16 19 38.5 -0.2
baz=108,SNR=12
G24K **Hadweenzic Riv** 90.70 338 IAmb IAmb 16 19 40.7
comp=Z,9.6nm,1.1s
G24K **Hadweenzic Riv** 90.70 338 P P 16 19 39.5 +0.7
baz=109,SNR=5.2
TRF **Thorofare Moun** 90.82 334 IAmb IAmb 16 19 40.4
comp=Z,5.0nm,0.7s
TRF **Thorofare Moun** 90.82 334 P P 16 19 39.4 -0.2
baz=107
SYO **Syowa Base** 90.88 161⇑ *e*PcP P 16 19 40.2 +0.5
I23K **Minto, Yukon-K** 90.94 336 IAmb IAmb 16 19 40.9
comp=Z,5.7nm,0.8s
I23K **Minto, Yukon-K** 90.94 336 P P 16 19 40.1 +0.2
baz=108
C26K **Camden Bay** 90.94 341 P P 16 19 39.7 -0.1
baz=112
SKT **Skwentna** 90.95 333 P P 16 19 40.2 +0.1
baz=106
KTH **Kantishna Hill** 91.12 334 IAmb IAmb 16 19 41.8
comp=Z,5.3nm,0.9s
F24K **Squaw Lake** 91.12 338 P P 16 19 41.4 +0.6
baz=109
D25K **Kavik River** 91.20 340 P P 16 19 41.4 +0.2
D25K **Kavik River** 91.20 340 P P 16 19 41.6 +0.4
baz=110
H23K **Yukon River** 91.22 337 P P 16 19 41.3 0.0
baz=108
R18K **Karluk** 91.27 328 P P 16 19 40.8 -0.8
baz=103
BPAW **Bear Paw Mtn.** 91.30 335 IAmb IAmb 16 19 42.5
comp=Z,10nm,0.9s
BPAW **Bear Paw Mtn.** 91.30 335 P P 16 19 41.3 -0.4
baz=106
MLY **Manley** 91.46 336 IAmb IAmb 16 19 43.1
comp=Z,6.1nm,1.0s
MLY **Manley** 91.46 336 P P 16 19 42.1 -0.3
baz=106
PPLA **Purkeypile** 91.49 333 P P 16 19 42.6 -0.2
baz=105
E24K **Your Creek** 91.52 339 P P 16 19 42.7 +0.1
baz=108
CAST **Castle Rocks** 91.58 334 IAmb IAmb 16 19 43.6
comp=Z,11nm,1.0s
CAST **Castle Rocks** 91.58 334 P P 16 19 42.5 -0.5
baz=105
M20K **Styx River** 91.66 332 P P 16 19 43.0 -0.5
baz=104
G23K **Bananza Creek** 91.67 337 IAmb IAmb 16 19 45.1
comp=Z,5.9nm,0.9s
G23K **Bananza Creek** 91.67 337 P P 16 19 43.7 +0.4
baz=107
Q18K **Katmai Hardscr** 91.80 329 P P 16 19 43.8 -0.5
baz=103
CHUM **Lake Minchumin** 91.81 334 P P 16 19 43.6 -0.4
baz=105
COLD **Coldfoot** 91.88 338 P P 16 19 44.2 -0.1
baz=107
E23K **Chandalar** 91.91 339 P P 16 19 44.1 -0.5
baz=107
H22K **Ishtalitna Cre** 91.96 336 P P 16 19 44.3 -0.4
baz=106
D24K **Happy Valley** 91.97 340 P P 16 19 44.6 -0.1
baz=108
N19K **Bonanza Creek** 92.03 331 P P 16 19 44.8 -0.5
baz=103
TOLK **Toolik Lake Re** 92.07 339 P P 16 19 44.8 -0.4
baz=108
P18K **Big Mountain,** 92.08 330 P P 16 19 44.8 -0.6
baz=103
C24K **Franklin Bluff** 92.11 340 P P 16 19 44.9 -0.3
baz=108
L20K **Farewell, AK** 92.14 333 P P 16 19 44.9 -0.7
baz=104
M19K **Big River Lodg** 92.24 332 P P 16 19 45.8 -0.3
baz=103
R17L **Mt. Peulik Vol** 92.29 328 P P 16 19 45.8 -0.6
baz=102
K20K **Telida** 92.44 334 P P 16 19 46.5 -0.5
baz=104
H21K **Melozitna River** 92.46 336 P P 16 19 47.3 +0.3
baz=105
L19K **White Mountain** 92.52 332 P P 16 19 47.4 0.0
baz=103
DAVA **Damuels** 92.61 43 *e*pP pP 16 20 22.4 +1.7
comp=Z,1.0nm,0.3s
P17K **Kvichak River** 92.64 329 P P 16 19 48.2 +0.3
baz=102
Q16K **King Salmon** 92.65 329 P P 16 19 48.6 +0.6
baz=102
J20K **Nowinta River** 92.66 335 P P 16 19 47.5 -0.5
baz=104
N18K **Kilae Creek** 92.68 331 P P 16 19 47.6 -0.5
baz=102
F22K **John River** 92.70 338 P P 16 19 48.4 +0.3
baz=105
E22K **Anaktuvuk Pass** 92.73 339 P P 16 19 48.1 -0.1
baz=105
C23K **Itkillik River** 92.78 340 P P 16 19 48.7 +0.3
baz=106
M18K **Stony River** 92.82 332 P P 16 19 48.8 +0.1
baz=102
G21K **Allakaket** 92.95 337 P P 16 19 49.4 +0.1
baz=104
O17K **Koliganek Bris** 93.09 330 P P 16 19 49.9 0.0
baz=101
F21K **Alatna River** 93.11 338 P P 16 19 50.1 +0.1
baz=104
CHGN **Chignik** 93.14 326 P P 16 19 50.3 0.0
baz=100
J19K **Poorman** 93.25 334 P P 16 19 50.7 0.0
baz=102
H20K **Anotleneega Mo** 93.26 336 P P 16 19 50.6 -0.1
baz=103
N17K **Nushagak Hills** 93.28 331 P P 16 19 50.6 -0.2
baz=101
L18K **Granite Mounta** 93.37 332 P P 16 19 51.3 +0.1
baz=101
P16K **Nushagak River** 93.40 329 P P 16 19 51.9 +0.4
baz=100
MOTA **Moosalm** 93.44 43 *e*pP pP 16 20 25.4 +0.9
comp=Z,3.0nm,0.7s
SQTA **Sankt Quirin** 93.49 43 *e*pP pP 16 20 25.9 +1.2
comp=Z,3.2nm,0.4s
CHNA **Chernabura Isl** 93.55 325 P P 16 19 52.2 0.0
baz=99
O16K **Kokwok River B** 93.55 330 P P 16 19 51.9 -0.2
baz=100
M17K **Holitna River** 93.56 331 P P 16 19 52.2 +0.1
baz=101
E21K **Killik River** 93.58 339 P P 16 19 52.0 -0.1
baz=103
J18K **Innoko River** 93.62 334 P P 16 19 52.3 -0.1
baz=101
WATA **Walderalm** 93.76 43 *e*pP pP 16 20 27.4 +1.5
comp=Z,1.0nm,0.3s
WTTA **Wattenberg** 93.79 43 *e*pP pP 16 20 27.5 +1.3
comp=Z,2.1nm,0.6s
B22K **Teshekpuk Lake** 93.84 341 P P 16 19 53.5 +0.3
baz=104
H19K **Roundabout Mou** 93.91 336 P P 16 19 53.6 0.0
baz=101
C21K **Knifeblade Rid** 94.03 339 P P 16 19 54.5 +0.4
baz=103
B21K **Ikpikpuk River** 94.07 340 P P 16 19 54.2 -0.1
baz=103
L17K **Donlin** 94.09 332 P P 16 19 54.8 +0.2
baz=100
K17K **Iditarod** 94.19 333 P P 16 19 55.5 +0.4
baz=100
M16K **Timber Creek** 94.22 331 P P 16 19 55.8 +0.6
baz=99
G19K **Purcell Mounta** 94.29 336 P P 16 19 55.3 -0.1
baz=101
ABTA **Abfaltersbach** 94.31 44 *e*pP pP 16 20 30.2 +1.7
comp=Z,2.0nm,0.6s
E20K **Nigu River** 94.34 338 P P 16 19 55.8 +0.1
baz=101
L16K **Owhat River** 94.57 332 P P 16 19 57.3 +0.6
baz=99
E19K **Redstone River** 94.58 337 P P 16 19 56.9 +0.2
baz=100
D20K **Etivluk River** 94.59 339 P P 16 19 57.4 +0.7
baz=101
H18K **Honhosa River** 94.63 335 P P 16 19 57.6 +0.5
baz=100
N15K **Kwethluk River** 94.64 330 P P 16 19 57.6 +0.5
baz=98
J17K **VABM Dome** 94.66 333 P P 16 19 57.4 +0.2
baz=99
F19K **Shaleruckik Mo** 94.68 337 P P 16 19 57.3 +0.1
baz=100
G18K **Tagagawik** 94.87 336 P P 16 19 58.5 +0.4
baz=99
KBA **Koelnbreinsper** 94.92 43 *e*pP pP 16 20 32.2 +0.9
M15K **Kasigluk River** 95.01 331 P P 16 19 58.9 +0.2
baz=98
D19K **Kuna River** 95.09 338 P P 16 19 59.8 +0.7
baz=100
J16K **Anvik River** 95.32 333 P P 16 20 00.3 +0.1
baz=98

F18K	**Selawik**	**95.38**	**336**	P		**P**	**16 20 00.5**	**+0.2**
	baz=98								
N14K	**Kuskokwak Cree**	**95.40**	**330**	P		**P**	**16 20 00.3**	**-0.2**
	baz=97								
I17K	**Unalakleet**	**95.44**	**334**	P		**P**	**16 20 01.1**	**+0.4**
	baz=98								
L15K	**Ungalak Mounta**	**95.52**	**331**	P		**P**	**16 20 02.1**	**+1.0**
	baz=97								
K15K	**Wolf Creek Mou**	**95.61**	**332**	P		**P**	**16 20 02.0**	**+0.5**
	baz=97								
OBKA	**Obir**	**95.68**	**44**	*e*pP		pP	16 20 35.8	+1.1
	comp=Z,2.6nm,0.8s								
C19K	**Lookout Ridge**	**95.71**	**339**	P		**P**	**16 20 02.2**	**+0.3**
	baz=98								
E18K	**Tukpahlearik C**	**95.86**	**337**	P		**P**	**16 20 02.8**	**+0.2**
	baz=97								
SOKA	**Soboth**	**96.03**	**44**	*e*pP		pP	16 20 36.9	+0.6
	comp=Z,0.3nm,0.2s								
E17K	**Hotham Inlet**	**96.30**	**337**	P		**P**	**16 20 04.8**	**+0.3**
	baz=96								
G16K	**Koyuk River**	**96.33**	**335**	P		**P**	**16 20 04.7**	**0.0**
	baz=96								
ARSA	**Arzberg**	**96.42**	**43**	*e*pP		pP	16 20 39.4	+1.4
	comp=Z,0.6nm,0.3s								
B18K	**Kokolik River**	**96.53**	**339**	P		**P**	**16 20 04.9**	**-0.6**
	baz=96								
J14K	**Nanvaranak Lak**	**96.60**	**332**	P		**P**	**16 20 06.1**	**+0.2**
	baz=95								
D17K	**Noatak River**	**96.84**	**337**	P		**P**	**16 20 06.8**	**-0.1**
	baz=95								
C17K	**DeLong Mountai**	**96.94**	**338**	P		**P**	**16 20 07.6**	**+0.2**
	baz=95								
K13K	**Kusilvak Mount**	**97.04**	**332**	P		Pdif	16 20 08.4	+0.3
	baz=94								
ANM	**Nome**	**97.54**	**334**	P		**P**	**16 20 09.1**	**-1.1**
ANM	**Nome**	**97.54**	**334**	P		**P**	**16 20 09.1**	**-1.1**
ANM				pmax		pmax			
	comp=Z,57nm,1.2s								
ANM	**Nome**	**97.54**	**334**	P		**P**	**16 20 10.4**	**+0.1**
	baz=93								
M11K	**Mekoryuk**	**97.69**	**330**	P		**P**	**16 20 11.1**	**+0.2**
	baz=93								
F14K	**Arctic Creek**	**97.99**	**335**	P		**P**	**16 20 12.3**	**+0.1**
	baz=92								
VYHS	**Vyhne**	**98.73**	**42**	*e*P		**P**	**16 20 14.2**	**-1.7**
VYHS	**Vyhne**	**98.73**	**42**	*e*PDIFF		**P**	**16 20 14.2**	**-1.7**
NIKH	**Nikolski High**	**98.82**	**322**	P		**P**	**16 20 15.9**	**-0.3**
	baz=92								
GAMB	**Gambell**	**100.31**	**333**	P		**Pdif**	**16 20 21.9**	**-0.6**
	baz=88								
MNK	**Minsk**	**104.22**	**36**	*i* P		**Pdif**	**16 20 38.0**	**-2.2**
MNK				*i*			16 24 57.7		
MNK				*i* PPP		PPP	16 27 10.4		
MNK				*i*			16 31 54.3		
MNK				*i* SS		SS	16 39 38.9	-0.4	
MNK				*i* SSS		SSS	16 43 36.5		
MNK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
MNK				pmax		pmax			
	comp=E,27nm,0.8s								
MNK				pmax		pmax			
	comp=N,5.0nm,0.6s								
MNK				MLR		MLR			
	comp=N,22nm,16.0s								
MNK				MLR		MLR			
	comp=E,26nm,16.0s								
SHA1	**Shidzhatmaz**	**115.62**	**45**	‖ *i*PKIKP		**PKiKP**	**16 25 16.7**	**-1.8**
SEY	**Seymchan**	**115.68**	**338**	‖ *i*PKIKP		**PKiKP**	**16 25 19.0**	**+1.3**
KBZ	**Khabaz**	**115.79**	**45**	*c i*PKIKP		**PKiKP**	**16 25 18.9**	**+0.4**
ARTI	**Arti**	**119.83**	**28**	‖ *e*PKIKP		**PKiKP**	**16 25 26.4**	**+0.4**
STKA	**Stephens Creek**	**126.88**	**219**	PKP		**PKPdf**	**16 25 40.7**	**+0.4**
	comp=E,2.5nm,0.5s,baz=55,slow=1.2,SNR=7.2								
BRVK	**Borovoye**	**127.27**	**26**	‖ *e*PKIKP		**PKPdf**	**16 25 38.3**	**-2.0**
BVAR	**Borovoye Array**	**127.33**	**26**	PKiKP		**PKPdf**	**16 25 41.1**	**+0.2**
	comp=E,1.9nm,0.7s,baz=318,slow=2.0,SNR=11								
ZALV	**Zalesovo Beam**	**131.66**	**16**	PKP		**PKPdf**	**16 25 49.2**	**+0.6**
	comp=E,3.6nm,0.8s,baz=277,slow=2.4,SNR=17								
KURK	**Kurchatov**	**132.41**	**22**	‖ *e*PKIKP		**PKiKP**	**16 25 51.0**	**-0.2**
KURBB	**Kurchatov Arra**	**132.45**	**23**	PKP		**PKPdf**	**16 25 50.7**	**+0.5**
	comp=E,2.1nm,0.2s,baz=317,slow=2.8,SNR=8.0								
AAK	**Ala-Archa**	**136.57**	**33**	‖ *e*PKIKP		**PKPdf**	**16 25 58.8**	**+0.4**
MK31	**Makanchi Array**	**137.02**	**23**	*ce*PKIKP		**PKPdf**	**16 25 59.0**	**+0.1**
MKAR	**Makanchi Array**	**137.02**	**23**	PKP		**PKPdf**	**16 25 58.9**	**0.0**
	comp=E,2.1nm,0.9s,baz=336,slow=2.5,SNR=11								
ASAR	**Alice Springs**	**137.46**	**221**	PKP		**PKPdf**	**16 25 59.4**	**-1.1**
	comp=E,1.6nm,0.4s,baz=125,slow=1.7,SNR=14								
MJAR	**Matsushiro Arr**	**138.69**	**318**	PKP		**PKPdf**	**16 26 00.7**	**-1.6**
	comp=E,1.0nm,0.5s,baz=78,slow=2.2,SNR=2.0								
WRAB	**Tennant Creek**	**139.69**	**226**	‖ *e*PKIKP		**PKPdf**	**16 26 03.9**	**-0.7**
WRA	**Warramunga Arr**	**139.69**	**226**	PKiKP		PKPpre	16 25 56.1		
	comp=E,0.9nm,0.5s,baz=131,slow=2.5,SNR=24								
WRA				PKP		**PKPdf**	**16 26 04.1**	**-0.5**	
	comp=E,1.3nm,0.9s,baz=128,slow=1.7,SNR=5.4								
SONM	**Songino Array**	**140.56**	**358**	PKhKP		PKPpre	16 25 59.6		
	comp=E,0.3nm,0.4s,baz=90,slow=1.4,SNR=3.8								
SONM				PKP		**PKPdf**	**16 26 05.8**	**+0.3**	
	comp=E,0.7nm,0.5s,baz=346,slow=0.6,SNR=3.7								
KSRS	**Korea Array**	**144.26**	**328**	PKP		**PKPab**	**16 26 10.4**	**+0.1**
	comp=E,3.1nm,0.8s,baz=39,slow=3.7,SNR=9.2								
HHC	**Hu-ho-hao-te**	**147.03**	**351**	*e*P		**PKPbc**	**16 26 19.5**	**+0.3**
MBWA	**Marble Bar**	**147.33**	**206**	PKP		**PKPbc**	**16 26 20.4**	**0.0**
GTA	**Gaotai**	**148.66**	**8**	PKPbc		**PKPdf**	**16 26 20.1**	**+0.3**
GTA				sPKP			16 26 57.3		
NJ2	**Nanjing**	**153.03**	**333**	*e*P		**PKPdf**	**16 26 26.5**	**0.0**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.8s								
PZH	**PanZhiHua**	**161.62**	**9**	PKP		**PKPdf**	**16 26 36.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**168.33**	**29**	PKP		**PKPdf**	**16 26 43.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=265,slow=1.6,SNR=6.3								
CMAR				PKPab		**PKPab**	**16 27 52.6**	**+0.1**	
	comp=Z,2.2nm,0.7s,baz=318,slow=6.2,SNR=12								

*JMA **15** 16:33:21.3±0.1,34°.2N×137°.0E±0°.9,h366km,MV2.9/20, SE OFF KII PENINSULA*
*IDC **15** 16:33:22.5±1.1,34°.03N×136°.90E,h338km±15km,mb2.7/4, mbtmp3.4/6,Error ellipse: s-maj=27.6km s-min=22.3km az=82.0*
ISC 15 16:33:22.9±1.1,34°.1N±0°.1×137°.1E±0°.1,h350km,n10, σ0s93/12,mb2.8/4,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**1.79**	**311**	P	**Pn**	**16 34 12.3**	**-0.4**
JKG	**Kaga**	**2.23**	**345**	*e*P	**Pn**	**16 34 14.9**	**-0.9**
JRY	**Ryogami san**	**2.42**	**38**	*e*P	**Pn**	**16 34 16.9**	**-0.4**
JRY				*e*S	**S**	**16 35 00.0**	**-1.0**
JNG	**Nsakai**	**2.43**	**20**	*e*P	**Pn**	**16 34 16.6**	**-0.9**
MJAR	**Matsushiro Arr**	**2.59**	**21**	P	**Pn**	**16 34 17.8**	**-0.8**
	8.4nm,0.5s,baz=202,slow=8.4,SNR=27						
MJAR				S	**S**	**16 35 03.9**	**+0.4**
	1.9nm,0.7s,baz=149,slow=40,SNR=4.3						
KSRS	**Korea Array**	**8.13**	**297**	P	**Pn**	**16 35 18.2**	**-0.3**
	3.9nm,0.7s,baz=107,slow=13,SNR=14						
SONM	**Songino Array**	**26.69**	**310**	P	**P**	**16 38 30.8**	**-0.5**
	0.4nm,0.3s,baz=98,slow=10,SNR=2.7						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**53.83**	**31**	P	**P**	**16 42 12.2**	**+1.9**
	0.2nm,0.6s,baz=270,slow=6.1,SNR=1.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**53.83**	**183**	P	**P**	**16 42 10.6**	**-0.3**
	0.2nm,0.3s,baz=0.7,slow=7.7,SNR=6.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**57.55**	**183**	P	**P**	**16 42 37.0**	**-0.1**
	0.2nm,0.7s,baz=6.6,slow=15,SNR=5.2						
	0.2nm,0.7s						

IDC 15 16:33:48.4±1.3,22°.78N×94°.22E,h0km,mb3.5/3, mbtmp3.4/5,ML3.3/1,Error ellipse: s-maj=35.3km s-min=21.1km az=41.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.38**	**268**	Pn	Pn	16 34 28.4	-0.3
	6.9nm,0.3s,baz=272,slow=20,SNR=1.3						
BRDH				Sn	Sb	16 35 00.4	-1.7
	30nm,0.3s,baz=243,slow=21,SNR=9.8						
	50nm,0.3s						
CMAR	**Chiang Mai Arr**	**6.17**	**133**	Pn	Pn	16 35 21.4	+0.6
	0.2nm,0.3s,baz=78,slow=23,SNR=1.4						
MKAR	**Makanchi Array**	**25.82**	**341**	P	P	16 39 20.0	-1.3
	0.4nm,0.6s,baz=156,slow=9.1,SNR=5.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**30.37**	**340**	P	P	16 40 03.0	+1.2
	0.2nm,0.3s,baz=144,slow=9.2,SNR=8.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**60.16**	**138**	P	P	16 43 58.0	-0.2
	0.6nm,1.1s,baz=314,slow=6.7,SNR=7.1						
	0.6nm,1.1s						

*IDC **15** 16:40:46.0±0.8,12°.38N×144°.37E,h0km,mb3.9/8, mbtmp3.9/8,Error ellipse: s-maj=32.7km s-min=15.1km az=102.0*
*NEIC **15** 16:40:47.7±0.8,12°.38N±0°.10×144°.4E±0°.2,h10km±1km, mb4.5/14,Error ellipse: s-maj=33.0km s-min=11.6km az=113.0*
ISC 15 16:40:49.8±0.7,12°.36N±0°.09×144°.4E±0°.2,h30km,n34, σ0s81/32,mb4.3/15,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.31**	**21**		**Pn**	**16 41 12.1**	**+0.1**
GUMO				Sn	**Sb**	**16 41 29.3**	**-1.0**
GUMO	**Guam**	**1.31**	**21**	Pn	**Pn**	**16 41 12.5**	**+0.5**
	119nm,0.3s,baz=170,slow=7.5,SNR=54						
GUMO				Sn	**Sb**	**16 41 30.3**	**+0.1**
	153nm,0.3s,baz=159,slow=23,SNR=17						
TNTI	**Ternate**	**20.43**	**237**	P	**P**	**16 45 24.3**	**-0.6**
TNTI				IAmb	IAmb	16 46 05.4	
	comp=Z,13nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**22.33**	**71**	T	T	17 09 00.8	
	baz=258,slow=75,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**22.35**	**71**	T	T	17 09 01.5	
	baz=258,slow=75,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**22.35**	**71**	T	T	17 08 54.9	
	baz=258,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**22.81**	**68**	T	T	17 09 28.7	
	baz=255,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**22.82**	**68**	T	T	17 09 26.6	
	baz=255,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**22.83**	**68**	T	T	17 09 28.6	
	baz=255,slow=75,SNR=13						
MTN	**Manton Dam**	**28.28**	**208**	P	**P**	**16 46 39.8**	**-1.0**
MTN				IAmb	IAmb	16 47 22.7	
	comp=Z,15nm,1.4s						
KNRA	**Kununurra**	**31.86**	**209**	P	**P**	**16 47 12.4**	**+0.1**
KNRA				IAmb	IAmb	16 47 53.9	
	comp=Z,8.0nm,1.2s						
WB0	**Warramunga Arr**	**33.41**	**197**	P	**P**	**16 47 26.0**	**+0.1**
WB0				IAmb	IAmb	16 47 52.2	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**33.59**	**197**	P	**P**	**16 47 25.9**	**-1.6**
WRA	**Warramunga Arr**	**33.59**	**197**	P	**P**	**16 47 28.2**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=22,slow=9.7,SNR=28						
WRA				PcP	**PcP**	**16 50 09.2**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=23,slow=3.8,SNR=1.5						
	comp=Z,2.7nm,0.7s						
AS31	**Alice Springs**	**37.24**	**196**	P	**P**	**16 47 59.3**	**+0.4**
ASAR	**Alice Springs**	**37.24**	**196**	P	**P**	**16 47 58.8**	**-0.1**
ASAR	**Alice Springs**	**37.24**	**196**	P	**P**	**16 47 59.8**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=20,slow=10,SNR=48						
ASAR				PcP	**PcP**	**16 50 19.8**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=37,slow=1.8,SNR=4.8						
	comp=Z,2.0nm,0.6s						
INKA	**Innaminka**	**40.02**	**185**	P	**P**	**16 48 21.8**	**-0.3**
BBOO	**Buckleboo**	**45.61**	**190**	P	**P**	**16 49 07.0**	**-0.5**
SONM	**Songino Array**	**47.47**	**326**	P	**P**	**16 49 21.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=165,slow=6.0,SNR=2.5						
	comp=Z,0.6nm,0.6s						
M14K	**Bethel**	**61.99**	**27**	P	**P**	**16 51 06.9**	**+0.1**
MKAR	**Makanchi Array**	**62.05**	**317**	P	**P**	**16 51 07.3**	**-0.4**
MKAR	**Makanchi Array**	**62.05**	**317**	P	**P**	**16 51 08.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=90,slow=8.5,SNR=14						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**65.22**	**320**	P	**P**	**16 51 28.6**	**+0.2**
KURK				IAmb	IAmb	16 52 05.3	
	comp=Z,4.5nm,1.4s						
KURBB	**Kurchatov Arra**	**65.26**	**320**	P	**P**	**16 51 29.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=106,slow=6.8,SNR=9.8						
	comp=Z,0.8nm,0.5s						
BOOM	**Boomskoye usch**	**65.89**	**311**	P	**P**	**16 51 31.4**	**-1.7**
BOOM				IAmb	IAmb	16 51 32.2	
	comp=Z,4.0nm,0.6s						
D20K	**Etivluk River**	**67.56**	**20**	P	**P**	**16 51 42.1**	**-1.0**
ARSB	**Arslanbob**	**68.00**	**310**	P	**P**	**16 51 47.3**	**+0.7**
ARSB				IAmb	IAmb	16 51 49.3	
	comp=Z,5.2nm,1.4s						
ILAR	**Eielson Array**	**69.88**	**25**	P	**P**	**16 51 58.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=226,slow=4.9,SNR=2.6						
	comp=Z,0.2nm,0.4s						
KK31	**Karatay Array**	**69.91**	**311**	P	**P**	**16 51 58.4**	**+0.2**
KK31				IAmb	IAmb	16 52 11.0	
	comp=Z,3.8nm,1.4s						
KKAR	**Karatay Array**	**69.91**	**311**	P	**P**	**16 51 58.3**	**+0.1**
BVAR	**Borovoye Array**	**70.60**	**322**	P	**P**	**16 52 03.0**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=99,slow=8.4,SNR=5.6						
	comp=Z,1.0nm,0.4s						
ABKAR	**Akbulak array**	**77.14**	**318**	P	**P**	**16 52 40.7**	**+0.1**
NVAR	**Mina Array Bea**	**88.05**	**51**	P	**P**	**16 53 37.3**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=286,slow=5.6,SNR=2.7						
	comp=Z,0.4nm,0.5s						

*REN **15** 16:49:33.9±3.7,36°.96N±0°.01×113°.32W±0°.01,h0km,Error ellipse: s-maj=2.0km s-min=1.6km az=173.0*
*NEIC **15** 16:49:36.7±2.8,36°.970N±0°.009×113°.51W±0°.01, h4km±2km,Error ellipse: s-maj=1.9km s-min=0.6km az=49.0*
UUSS 15 16:49:37.1±2.0,36°.96N±0°.01×113°.52W±0°.02,h8km±7km, ML2.8/11,ML2.9/192(NEIC),ML2.9/24(REN),Error ellipse: s-maj=1.9km s-min=1.8km az=205.0,Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSU	**St. George Fir**	**0.11**	**320**		Pg	16 49 40.1	+0.3
SGSU					Sg	16 49 41.9	+0.2
REUT	**Washington Fie**	**0.13**	**359**		Pg	16 49 40.2	0.0
REUT					Sg	16 49 42.7	+0.4
WDO	**Saint George**	**0.15**	**339**		Pg	16 49 40.8	+0.3
WDO					Sg	16 49 43.3	+0.5
WCO	**Washington Cit**	**0.17**	**2**		Pg	16 49 41.0	+0.2
WCO					Sg	16 49 43.8	+0.4
LCMT	**Little Creek M**	**0.22**	**77**		Pg	16 49 41.5	-0.2
LCMT				Sg	Sg	16 49 44.1	-0.8
LCMT				IAML		16 49 45.1	
	comp=N,1μm,0.1s						
LCMT				IAML		16 49 45.9	
	comp=E,2μm,0.2s						
HHS	**Hurricane**	**0.28**	**40**		Pg	16 49 42.9	+0.2
ICU	**Indian Springs**	**0.38**	**300**		Pg	16 49 44.7	+0.1
ZNPU	**Zion National**	**0.50**	**38**		Pg	16 49 46.8	-0.1
ZNPU					Sg	16 49 54.2	+0.6
KNB	**Kanab**	**0.56**	**84**		Pg	16 49 47.5	-0.6
KNB					Sg	16 49 54.7	-0.7
KNB				IAML		16 49 56.3	
	comp=E,440nm,0.3s						
KNB				IAML		16 49 59.0	
	comp=N,348nm,0.2s						
CCUT	**Cedar City**	**0.60**	**12**		Pg	16 49 48.7	-0.1
CCUT				Sg	Sg	16 49 56.4	-0.3
SZCU	**Shurtz Canyon**	**0.72**	**28**		Pg	16 49 51.0	-0.1
SZCU	**Shurtz Canyon**	**0.72**	**28**	Sg	Sg	16 49 59.7	-0.8
SZCU				IAML		16 50 01.1	
	comp=E,840nm,0.2s						
SZCU				IAML		16 50 03.2	
	comp=N,770nm,0.2s						
EKU	**East Kanab**	**0.82**	**82**		Pg	16 49 52.4	-0.7
ARUT	**Antelope Range**	**0.83**	**4**		Pg	16 49 53.2	+0.1
PKCU	**Pink Cliffs**	**1.08**	**63**		Pg	16 49 57.6	-0.3
PKCU	**Pink Cliffs**	**1.08**	**63**	Sg	Sg	16 50 11.1	-0.7
PKCU				IAML		16 50 13.0	
	comp=N,369nm,0.3s						
PKCU				IAML		16 50 21.4	
	comp=E,636nm,0.4s						
U15A	**North Rim**	**1.12**	**118**		Pg	16 49 57.8	-0.9
U15A	**North Rim**	**1.12**	**118**	Sg	Sg	16 50 11.8	-1.5
U15A				IAML		16 50 12.9	
	comp=E,158nm,0.2s						
U15A				IAML		16 50 15.5	
	comp=N,175nm,0.3s						
DWU	**Dry Willow Pea**	**1.21**	**20**		Pg	16 50 00.2	-0.2
PRN	**Pahroc Range**	**1.30**	**290**		Pn	16 50 01.6	-0.1
PRN					Sn	16 50 20.9	+1.5
PRN	**Pahroc Range**	**1.30**	**290**	IAML		16 50 28.6	
	comp=E,301nm,0.8s						
PRN				IAML		16 50 30.4	
	comp=N,241nm,0.7s						
SHPR	**Sheep Range**	**1.40**	**251**		Pn	16 50 02.5	-0.5
SHPR					Sb	16 50 20.1	-1.5
MTPU	**Mount Pierson**	**1.51**	**44**		Pn	16 50 05.0	+0.2
MTPU					Sn	16 50 24.1	-0.7
MTPU				IAML		16 50 25.1	
	comp=N,202nm,0.5s						
MTPU				IAML		16 50 26.3	
	comp=E,168nm,0.3s						
BTU	**Barney Top**	**1.53**	**58**		Pb	16 50 05.5	-0.4
BTU					Pn	16 50 05.6	+0.6
PSUT	**Pine Spring**	**1.59**	**350**		Pn	16 50 06.0	+0.2
NMUT	**North Mineral**	**1.64**	**19**		Pn	16 50 06.6	+0.2
V12A	**Nelson**	**1.64**	**222**		Pn	16 50 05.8	-0.5
V12A				IAML		16 50 30.2	
	comp=N,89nm,0.7s						
V12A				IAML		16 50 32.2	
	comp=E,76nm,0.6s						
V12A	**Nelson**	**1.64**	**222**		Sn	16 50 27.6	0.0
IMU	**Iron Mountain**	**1.69**	**10**		Pn	16 50 07.5	+0.4
TCRU	**Three Creeks R**	**1.85**	**27**	Pn	Pb	16 50 10.4	-0.9
TCRU				IAML		16 50 38.6	
	comp=E,71nm,0.4s						
TCRU				IAML		16 50 39.4	
	comp=N,59nm,0.6s						
MSU	**Marysvale**	**1.88**	**34**		Pn	16 50 10.6	+0.9
W13A	**Hualapai Mount**	**1.88**	**189**		Pn	16 50 10.2	+0.4
S11A	**Rachel**	**1.90**	**292**		Pn	16 50 10.1	+0.1
S11A				IAML		16 50 42.7	
	comp=N,100nm,0.5s						
S11A				IAML		16 50 43.2	
	comp=E,105nm,0.5s						
S11A	**Rachel**	**1.90**	**292**		Sg	16 50 37.8	-0.6
MCY	**Mercury**	**1.98**	**262**		Pn	16 50 11.5	+0.4
MCY					Sb	16 50 39.7	+1.2
CPY	**CP-1**	**2.03**	**270**		Pn	16 50 11.9	+0.1
CPY					Sg	16 50 42.5	-0.1
SPR3	**Spring Creek 3**	**2.13**	**343**		Pn	16 50 13.3	0.0
SPR3	**Spring Creek 3**	**2.13**	**343**		Sb	16 50 42.8	-0.1
R11B	**Troy Canyon, C**	**2.15**	**311**		Pn	16 50 13.2	-0.2
MMU	**Miners Mountai**	**2.15**	**54**		Pb	16 50 16.2	-0.3
NSP	**Numbskull Pass**	**2.17**	**265**		Pn	16 50 12.8	-0.9
NSP					Sg	16 50 46.1	-1.0
TPNV	**Topopah Spring**	**2.19**	**270**		Pn	16 50 13.7	-0.3
TPNV				IAML		16 50 47.9	
	comp=E,53nm,0.6s						
TPNV				IAML		16 50 47.9	
	comp=E,68nm,0.3s						
MTPC	**Mountain Pass**	**2.21**	**229**		Pn	16 50 11.3	-3.0
WUAZ	**Wupatki**	**2.25**	**129**		Pn	16 50 16.4	+1.6
AMDNV	**Amargosa**	**2.28**	**258**		Pn	16 50 15.8	+0.8
AMDNV					Sb	16 50 47.4	+0.6
SDH	**Striped Hills**	**2.29**	**263**		Pn	16 50 15.6	+0.4
SDH					Sb	16 50 48.7	+1.6
Q12A	**Willow Creek R**	**2.32**	**334**		Pb	16 50 19.4	+0.1
Q12A					Sg	16 50 50.0	-1.7
NEE2	**Needles Airpor**	**2.37**	**203**		Sg	16 50 51.5	-1.7
HMU	**Henry Mountain**	**2.41**	**65**		Pn	16 50 18.8	+1.7
SHOC	**Shoshone, Teco**	**2.46**	**245**		Pn	16 50 17.6	0.0
SHOC				IAML		16 50 59.4	
	comp=N,46nm,0.6s						
SHOC				IAML		16 51 01.5	
	comp=E,60nm,0.8s						
SHOC	**Shoshone, Teco**	**2.46**	**245**		Sb	16 50 53.6	+1.4
TUQ	**Turquoise Moun**	**2.47**	**233**		Sg	16 50 54.7	-1.9
WCT	**Wildcat Mounta**	**2.50**	**267**		Pn	16 50 18.3	+0.2
GWY	**Greenwater Val**	**2.65**	**254**		Pn	16 50 20.6	+0.3
GWY				IAML		16 51 04.2	
	comp=N,24nm,0.3s						
GWY				IAML		16 51 10.8	
	comp=E,24nm,0.8s						
GWY	**Greenwater Val**	**2.65**	**254**		Sb	16 50 58.4	+0.6
Q16A	**Castle Valley**	**2.69**	**43**		Pn	16 50 20.0	-0.9
Q16A				IAML		16 51 00.9	
	comp=E,28nm,0.4s						
Q16A				IAML		16 51 01.9	
	comp=N,23nm,0.4s						
FURC	**Furnace Creek,**	**2.73**	**261**		Pn	16 50 21.7	+0.4
FURC				IAML		16 51 08.6	
	comp=N,47nm,0.6s						
FURC				IAML		16 51 11.8	
	comp=E,43nm,0.6s						
DANC	**Danby, Needles**	**2.77**	**214**		Pn	16 50 23.3	+1.5
DANC				IAML		16 51 16.0	
	comp=N,43nm,0.6s						
DANC				IAML		16 51 18.1	
	comp=E,47nm,0.7s						
SGV	**South Grapevin**	**2.82**	**271**		Pn	16 50 22.9	+0.3
SGV					Sg	16 51 08.9	+1.3
QSM	**Queen of Sheba**	**2.88**	**251**		Pn	16 50 23.7	+0.4
QSM	**Queen of Sheba**	**2.88**	**251**		Sb	16 51 05.6	+1.5
TMUT	**Trail Mountain**	**2.96**	**37**		Pn	16 50 23.1	-1.6
TMUT				IAML		16 51 11.8	
	comp=N,32nm,0.3s						
TMUT				IAML		16 51 13.2	
	comp=E,40nm,0.5s						
GMN	**Gold Mountain**	**3.01**	**278**		Pn	16 50 25.0	-0.3
GMN				IAML		16 51 17.3	
	comp=N,16nm,0.7s						
X16A	**Lo Mia Camp, P

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=N,33nm,0.5s						
PV10	Paradox Valley	3.82	67		Pn	16 50 35.4	-1.1
PV14	Lion Creek, Pa	3.83	67		Pn	16 50 36.6	-0.1
PV19	Morning Glory	3.84	68		Pn	16 50 37.6	+0.9
PV17	East Wray Mesa	3.85	69		Pn	16 50 37.5	+0.7
PV17				IAML		16 51 42.3	
	comp=E,48nm,0.4s						
PV20	West Nyswonger	3.86	68		Pn	16 50 38.1	+1.1
PV23	Carpenter Ridg	3.87	66		Pn	16 50 39.9	+2.7
PV18	Skein Mesa, Pa	3.88	69		Pn	16 50 39.8	+2.6
PV16	Nyswonger Mesa	3.89	68		Pn	16 50 39.9	+2.5
PV13	Radium Mtn., P	3.92	71		Pn	16 50 39.2	+1.4
PV11	David Mesa, Pa	3.92	69		Pn	16 50 39.2	+1.5
PV03	Paradox Valley	3.92	69		Pn	16 50 39.7	+1.8
PV04	Paradox Valley	3.93	67		Pn	16 50 39.8	+2.0
PV21	Cone Mtn., Par	3.94	65		Pn	16 50 39.8	+1.8
PV12	Saucer Basin,	3.98	69		Pn	16 50 39.0	+0.4
PV02	Paradox Valley	4.00	70		Pn	16 50 40.0	+1.2
ELK	Elko	4.01	341		Pn	16 50 39.6	+0.6
MVCO	Mesa Verde	4.02	85		Pn	16 50 40.4	+1.3
GLA	Glamis	4.05	196	Pn	Pn	16 50 39.6	+0.2
GLA				IAML		16 51 57.9	
	comp=N,9.1nm,0.8s						
GLA				IAML		16 52 08.7	
	comp=E,19nm,0.8s						
PV22	Blue Mesa, Par	4.06	66		Pn	16 50 41.6	+1.8
PV22				IAML		16 51 47.9	
	comp=N,38nm,0.7s						
PV22				IAML		16 51 50.7	
	comp=E,32nm,0.6s						
NVAR	Mina Array Bea	4.07	293	Pn	Pn	16 50 40.0	+0.1
NV08	Mina Array Sit	4.07	292		Pn	16 50 40.3	+0.5
PV01	Paradox Valley	4.10	72		Pn	16 50 40.2	-0.1
PFO	Pinyon Flats O	4.12	217	Pn	Pn	16 50 39.6	-0.9
PV07	Paradox Valley	4.13	68		Pn	16 50 39.8	-0.9
LHV	Little Huntoon	4.16	289		Pn	16 50 41.2	+0.3
LHV				IAML		16 51 55.2	
	comp=E,9.3nm,0.8s						
LHV				IAML		16 52 02.1	
	comp=N,9.6nm,1.0s						
BSUT	Blindstream Ca	4.17	30	Pn	Pn	16 50 41.2	-0.1
PV15	Paradox Valley	4.23	69		Pn	16 50 40.6	-1.4
PV15				IAML		16 51 59.7	
	comp=N,40nm,0.8s						
RYN	Ryan	4.30	294		Pn	16 50 43.1	+0.2
RYN				IAML		16 51 57.3	
	comp=E,9.3nm,0.9s						
RYN				IAML		16 51 57.6	
	comp=N,8.0nm,0.7s						
BORC	Borrego Spring	4.39	214	Pn	Pn	16 50 44.0	0.0
O20A	White River Ci	5.21	51	Pn	Pn	16 50 55.1	-0.4
O20A				IAML		16 52 21.6	
	comp=N,19nm,1.0s						
O20A				IAML		16 52 24.6	
	comp=N,15nm,0.8s						
CBX	Cerro Bola	5.31	210	Pn	Pn	16 50 58.1	+1.2
CBX				IAML		16 51 42.5	
	comp=N,17nm,2.1s						
ESJX	Sierra Juarez	5.34	203	Pn	Pn	16 50 58.4	+1.2
S22A	4UR Ranch, Cre	5.38	80	Pn	Pn	16 50 58.2	+0.3
S22A				IAML		16 53 00.3	
	comp=E,17nm,0.1s						
S22A				IAML		16 53 00.5	
	comp=N,16nm,0.1s						
ANMO	Albuquerque	6.07	107	Pn	Pn	16 51 07.5	+0.2
ANMO	Albuquerque	6.07	107	Pn	Pn	16 51 07.2	-0.1

IDC 15 16:50:19.9±2.3**, 5°.83S**×**130°.58E, h0km, mb3.8**/1**, mbtmp3.5**/4**, ML3.4**/3**, Error ellipse: s-maj=94.7km s-min=29.0km az=78.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.12	201	Pn	Pn	16 53 27.4	-0.2
	0.5nm,0.3s,baz=20,slow=11,SNR=29						
FITZ				Sn	Sn	16 55 43.8	-11
	0.6nm,0.3s,baz=341,slow=16,SNR=7.4						
	1.3nm,0.4s						
WRA	Warramunga Arr	14.50	166	Pn	Pn	16 53 45.8	-0.8
	0.1nm,0.3s,baz=349,slow=14,SNR=10						
WRA				Sn	Sn	16 56 16.4	-12
	0.4nm,0.3s,baz=334,slow=22,SNR=8.3						
	0.2nm,0.4s						
ASAR	Alice Springs	18.03	170	Pn	P	16 54 32.8	+0.2
	0.1nm,0.3s,baz=349,slow=9.4,SNR=7.2						
ASAR				Sn	Sn	16 57 41.9	-12
	0.1nm,0.3s,baz=346,slow=26,SNR=6.7						
	0.6nm,1.0s						
MKAR	Makanchi Array	67.57	326	P	P	17 01 18.3	0.0
	0.4nm,0.4s,baz=116,slow=7.6,SNR=8.5						
	0.4nm,0.4s						

*UPP **15** 17:00:42.7±0.1, 67°.05N×20°.94E, h0km, ML2.1, Unknown Suspected explosion*
*HEL **15** 17:00:44.4±0.5, 67°.05N×21°.03E, h0km, ML2.0, Explosion*
*IDC **15** 17:00:44.8±0.9, 67°.07N×21°.21E, h0km, mbtmp2.7/4, ML1.9/4, Error ellipse: s-maj=17.2km s-min=8.3km az=115.0*
*BER **15** 17:00:45.0±4.3, 67°.01N×20°.97E, h0km, ML2.0, ML2.1(UPP), Suspected explosion*
ISC 15 17:00:43.4±0.7**, 67°.06N**±0°.02×**20°.98E**±0°.02**, h0km, n56,** σ**1s.24**/71**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.17	291	P	Pg	17 00 46.0	-0.6
DUNU	Dundret	0.17	291	P	Pg	17 00 46.0	-0.6
ERTU	Ertsjaerv	0.70	136	P	Pg	17 00 56.0	-0.8
ERTU	Ertsjaerv	0.70	136	P	Pg	17 00 56.0	-0.8
ERTU	Ertsjaerv	0.70	136	eP	Pg	17 00 56.1	-0.7
PAJU	Pajala	0.84	92	P	Pg	17 00 58.6	-0.8
PAJU	Pajala	0.84	92	P	Pg	17 00 58.6	-0.8
PAJU	Pajala	0.84	92	eP	Pg	17 00 58.6	-0.8
HARU	Harads	0.90	180	P	Pg	17 00 59.4	-1.2
HARU	Harads	0.90	180	P	Pg	17 00 59.4	-1.2
KUA	Kurravaara	0.93	345	P	Pg	17 01 00.1	-1.0
KUA	Kurravaara	0.93	345	P	Pg	17 01 00.1	-1.0
RATU	Laukkuluspa	0.93	326	P	Pg	17 01 00.1	-1.1
RATU	Laukkuluspa	0.93	326	P	Pg	17 01 00.1	-1.1
SALU	Saltoluokta	1.01	289	P	Pg	17 01 01.4	-1.3
SALU	Saltoluokta	1.01	289	P	Pg	17 01 01.4	-1.3
SALU				eP	Pb	17 01 03.5	-0.3
LANU	Lannavaara	1.06	21	P	Pg	17 01 03.0	-0.7
LANU	Lannavaara	1.06	21	P	Pg	17 01 03.0	-0.7
LANU	Lannavaara	1.06	21	eP	Pg	17 01 03.0	-0.7
NIKU	Nikkaluokta	1.10	318	P	Pg	17 01 03.0	-1.5
NIKU	Nikkaluokta	1.10	318	P	Pg	17 01 03.0	-1.5
KLF	Kolari	1.18	80	eP	Pg	17 01 05.1	-0.9
KLF				MSG		17 01 22.2	
	comp=Z,16nm,0.2s						
KLF				eSN	Sn	17 01 24.1	+0.2
KOVU	Salmi	1.21	345	P	Pg	17 01 05.5	-1.0
KOVU	Salmi	1.21	345	P	Pg	17 01 05.5	-1.0
KALU	Kalix	1.54	141	P	Pn	17 01 10.9	-1.1
KALU	Kalix	1.54	141	P	Pn	17 01 10.9	-1.1
KALU	Kalix	1.54	141	eP	Pn	17 01 11.3	-0.7
KALU				eSN	Sg	17 01 36.2	+3.4
SJUU	Sjulsmark	1.58	170	P	Pn	17 01 11.8	-0.8
SJUU	Sjulsmark	1.58	170	eP	Pb	17 01 13.3	-0.1
SJUU	Sjulsmark	1.58	170	P	Pn	17 01 11.8	-0.8
TOF	Tornio	1.66	125	eP	Pn	17 01 13.5	-0.2
TOF				MSG		17 01 37.2	
	comp=Z,10nm,0.2s						
TOF				eSN	Sg	17 01 39.0	+2.3
HEF	Hetta	1.69	36	eP	Pn	17 01 13.7	-0.5
HEF				eS	Sg	17 01 38.2	+0.5
HEF	Hetta	1.69	36	eP	Pn	17 01 14.4	+0.2
HEF				eS	Sg	17 01 37.9	+0.2
KIF	Kilpisjarvi	1.95	358	eP	Pb	17 01 19.8	+0.1
KIF				eS	Sg	17 01 47.1	+1.1
KIF	Kilpisjarvi	1.95	358	eP	Pb	17 01 19.9	+0.1
KIF				eS	Sg	17 01 47.3	+1.3
KTK1	Kautokeino	2.13	22	eP	Pb	17 01 22.1	-0.7
KTK1				eSg	Sb	17 01 50.2	+0.4
KTK1				IAML		17 01 52.9	
	comp=Z,7.6nm,0.4s						
I37NO	I37NO	2.21	337	I	I	17 14 35.5	
	baz=156,slow=329,SNR=4.1						
FAUS	Fauske	2.24	281	eP	Pn	17 01 22.8	+1.2
FAUS				eSg	Sg	17 01 54.8	-0.3
FAUS				IAML		17 01 56.5	
	comp=Z,17nm,0.2s						
STEI	Steigen	2.37	294	eP	Pb	17 01 25.1	-1.8
JETT	Jettan, Norway	2.51	355	eP	Pb	17 01 28.9	-0.5
JETT				eSg	Sg	17 02 03.0	-1.1
JETT				IAML		17 02 07.1	
	comp=Z,33nm,0.2s						
RANF	Ranua	2.55	112	ePB	Pn	17 01 27.6	+1.7
RANF				eSG	Sg	17 02 04.2	-1.1
MOR8	Moi Rana	2.76	254	ePg	Pn	17 01 30.6	+1.8
OBF4	Vikkela, Lumij	2.82	141	ePB	Pb	17 01 32.4	-2.2
OBF4				MSG		17 02 09.6	
	comp=Z,4.1nm,0.2s						
ARA0	ARCESS Array S	3.00	32	eP	Pn	17 01 32.3	+0.2
ARA0	ARCESS Array S	3.00	32	eP	Pn	17 01 32.9	+0.8
ARA0				eSB	Sb	17 02 12.6	-2.2
ARCES	ARCESS Array B	3.00	32	Pn	Pn	17 01 32.3	+0.2
	comp=Z,0.3nm,0.3s,baz=216,slow=13,SNR=44						
ARCES				Sn	Sn	17 02 10.7	+1.9
	comp=Z,0.7nm,0.3s,baz=217,slow=22,SNR=11						
	comp=Z,1.0nm,0.2s						
LOF	Lofoten	3.04	294	eP	Pn	17 01 33.6	+0.9
STOK	Stokkvaagen	3.25	261	eP	Pn	17 01 36.8	+1.4
LEIR	Leirfjorden	3.28	257	eP	Pn	17 01 38.0	+2.1
KEF	Keuruu	5.19	159	eP	Pn	17 02 03.8	+1.6
JOF	Joensuu	6.04	129	eP	Pn	17 02 16.0	+2.2
FINES	FINESS Array B	6.06	156	Pn	Pn	17 02 15.3	+1.2
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=12						
FINES				Sn	Sn	17 03 24.4	+0.3
	comp=Z,0.2nm,0.3s,baz=339,slow=23,SNR=5.9						
	comp=Z,0.3nm,0.3s						
RAF	Rauma	6.08	176	eP	Pn	17 02 17.1	+2.9
MEF	Metsahovi	7.04	166	eP	Pn	17 02 28.5	+1.0
NOA	NORSAR Array B	7.40	220	Pn	Pn	17 02 33.8	+1.3
	baz=47,slow=9.0,SNR=4.4						
NOA				Sn	Sn	17 03 56.5	-0.5
	baz=250,slow=17,SNR=1.2						
	comp=Z,0.1nm,0.5s						
HFS	Hagfors	7.67	208	Pn	Pn	17 02 36.4	+0.3
	comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=5.3						
	comp=Z,1.1nm,0.8s						

*IDC **15** 17:06:40.7±24.0, 29°.02N×139°.77E, h333km±241km, mb3.0/8, mbtmp3.7/8, Error ellipse: s-maj=143.4km s-min=14.6km az=73.0*
ISC 15 17:06:49.6±2.2**, 28°.9N**±0°.2×**139°.3E**±0°.6**, h423km, n8,** σ**0s.75**/8**, mb3.0**/8**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	31.67	316	P	P	17 12 35.7	-0.5
	0.2nm,0.4s,baz=119,slow=8.4,SNR=3.7						
	0.2nm,0.4s						
MKAR	Makanchi Array	47.38	308	P	P	17 14 44.3	+0.7
	0.3nm,0.5s,baz=85,slow=8.8,SNR=4.6						
	0.3nm,0.5s						
WRA	Warramunga Arr	48.79	186	P	P	17 14 53.4	-1.0
	0.4nm,0.6s,baz=2.3,slow=7.8,SNR=12						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	49.97	313	P	P	17 15 03.0	+0.1
	0.5nm,0.6s,baz=91,slow=8.6,SNR=6.3						
	0.5nm,0.6s						
ASAR	Alice Springs	52.52	186	P	P	17 15 22.8	+1.0
	0.3nm,0.7s,baz=18,slow=10,SNR=7.4						
	0.3nm,0.7s						
BVAR	Borovoye Array	55.01	317	P	P	17 15 39.0	-0.2
	0.6nm,0.6s,baz=99,slow=9.2,SNR=3.9						
	0.6nm,0.6s						
ARCES	ARCESS Array B	71.01	340	P	P	17 17 22.8	+0.1
	2.6nm,1.1s,baz=47,slow=5.5,SNR=4.7						
	2.6nm,1.1s						
FINES	FINESS Array B	75.21	333	P	P	17 17 47.1	0.0
	2.2nm,1.0s,baz=57,slow=5.1,SNR=4.2						
	2.2nm,1.0s						

*FUNV **15** 17:12:32.0, 11°.22N×61°.98W, h12km, MW3.4*
*TRN **15** 17:12:33.2, 11°.20N×61°.89W, h50km, MD3.0, North of the Paria peninsula.*
ISC 15 17:12:29.5±2.0**, 11°.20N**±0°.05×**62°.14W**±0°.08**, h8km**±17km**, n7,** σ**1s.03**/12**, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.91	127	eP	Pb	17 12 48.5	+0.9
TRN				eS	Sg	17 12 57.5	-1.4
GRFF	Grenada Fort F	0.93	25	eP	Pb	17 12 48.8	+0.8
GRFF				eS	Sb	17 13 01.0	+0.4
GRGR	Grenville	1.04	27	eP	Pg	17 12 49.8	+0.2
GRGR				eS	Sb	17 13 03.2	-0.5
GRW	Mount Saint Ca	1.06	26	eP	Pn	17 12 51.5	+0.6
GRW				eS	Sb	17 13 04.3	-0.1
GRSS	Sisters	1.21	25	eP	Pb	17 12 52.5	-0.2
GRSS				eS	Sb	17 13 07.3	-1.2
CACV	CAICARA DEL OR	5.64	231	eP	Pn	17 13 50.7	-3.1
CACV				eS	Sn	17 14 49.7	-9.2
BAUV	El Baul	6.23	249	eP	Pn	17 14 02.6	+0.8
BAUV				eS	Sn	17 15 11.8	-1.4

*PDG **15** 17:45:11.9±0.7, 39°.72N×16°.99E, h2km±1km, ML3.6/11, Error ellipse: s-maj=0.6km s-min=1.8km az=0.0*
*ROM **15** 17:45:12.8±0.1, 39°.640N±0°.004×16°.81E±0°.01, h14km±1km, ML3.6/102, Mw3.6, Error ellipse: s-maj=0.9km s-min=0.2km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.73; $M_{\theta\theta}$3.19; $M_{\phi\phi}$-0.46; $M_{r\theta}$0.19; $M_{\theta\phi}$0.81; $M_{\phi r}$1.38; Fault plane solution: $M_0$3.39010×10^{14} NP1:ϕ_s235.00000°, δ55.00000°, λ-121.00000°. NP2:ϕ_s101.00000°, δ46.00000°, λ-54.00000°.*
*IDC **15** 17:45:12.0±1.6, 39°.84N×16°.90E, h0km, mb3.6/6, mbtmp3.7/14, ML3.2/8, MS2.8/4 Error ellipse: s-maj=22.7km s-min=13.2km az=35.0*
*BEO **15** 17:45:15.1±0.6, 39°.67N×16°.83E, h29km±3km, ML3.9/11*
ISC 15 17:45:12.9±0.8**, 39°.66N**±0°.02×**16°.82E**±0°.03**, h17km**±6km**, n163,** σ**1s.37**/212**, mb3.5**/4**, 29C-15D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PIPA	Pietrapaola	0.17	180	⇑P	Pg	17 45 17.4	0.0
PIPA				S	Sg	17 45 20.8	+0.4
PIPA				AML	AML		
PIPA				AML	AML		
	comp=N,70500µm,0.2s						
PIPA				AML	AML		
PIPA				AML	AML		
	comp=N,74700µm,0.2s						
CELI	Celico	0.35	223	⇓P	Pg	17 45 19.9	-0.4
CELI				S	Sg	17 45 25.1	-0.1
CELI				AML	AML		
	comp=E,54650µm,0.4s						
CELI				AML	AML		
	comp=N,11850µm,0.5s						
CELI				AML	AML		
	comp=N,30350µm,0.5s						
CELI				AML	AML		
	comp=E,21750µm,0.4s						
SALB	San Lorenzo Be	0.42	301	⇑P	Pg	17 45 21.6	0.0
SALB				AML	AML		
	comp=N,6510µm,1.1s						
SALB				AML	AML		
	comp=E,10635µm,0.3s						
SALB				AML	AML		
	comp=N,6510µm,0.9s						
TIP	Timpagrande	0.48	185	⇑P	Pg	17 45 21.8	-0.8
TIP				⇓S	Sg	17 45 29.7	+0.6
TIP	Timpagrande	0.48	185	⇑P	Pg	17 45 21.9	-0.7
TIP				S	Sg	17 45 29.2	0.0
TIP				AML	AML		
	comp=E,3470µm,0.6s						
TIP				AML	AML		
	comp=E,3445µm,0.6s						
TIP				AML	AML		
	comp=N,4450µm,0.8s						
TIP				AML	AML		
	comp=N,4435µm,0.8s						
ORI	Oriolo Calabro	0.49	325	⇑P	Pb	17 45 23.0	-0.2
ORI				AML	AML		
	comp=E,17800µm,1.0s						
ORI				AML	AML		
	comp=N,22450µm,0.4s						
ORI				AML	AML		
	comp=E,17800µm,1.0s						
SPS2	Spezzano della	0.52	225	⇓P	Pg	17 45 22.4	-0.9
SPS2				S	Sg	17 45 29.9	-0.4
SPS2				AML	AML		
	comp=E,4475µm,0.3s						
SPS2				AML	AML		
	comp=N,8310µm,0.4s						
CAR1	CAROLEI	0.62	229	⇓P	Pg	17 45 23.8	-1.3
CAR1				S	Sg	17 45 32.3	-1.1
CAR1				AML	AML		
	comp=E,8030µm,0.3s						
CAR1				AML	AML		
	comp=N,8185µm,0.5s						
CAR1				AML	AML		
	comp=N,6880µm,0.3s						
CAR1				AML	AML		
	comp=E,8850µm,0.3s						
CAR1				AML	AML		
	comp=N,6880µm,1.7s						
CAR1				AML	AML		
	comp=E,8035µm,0.3s						
CAR1				AML	AML		
	comp=N,8175µm,0.5s						
MMN	Mormanno	0.68	290	P	Pg	17 45 26.2	0.0
CET2	Cetraro	0.68	259	⇓P	Pg	17 45 25.0	-1.2
CET2				AML	AML		
	comp=E,7185µm,0.7s						
CET2				AML	AML		
	comp=N,8585µm,0.9s						
CET2				AML	AML		
	comp=N,8585µm,1.1s						
GRIS	Grisolia	0.75	277	P	Pg	17 45 27.0	-0.5
CRAC	Craco	0.76	338	P	Pg	17 45 27.6	-0.2
CRAC				AML	AML		
	comp=E,7090µm,0.4s						
CRAC				AML	AML		
	comp=N,6065µm,0.5s						
CRAC				AML	AML		
	comp=N,6065µm,1.5s						
CUC	Castrocucco	0.84	294	P	Pg	17 45 28.7	-0.6
CUC				AML	AML		
	comp=E,3090µm,0.7s						
CUC				AML	AML		
	comp=N,2925µm,0.6s						
CUC				AML	AML		
	comp=E,3020µm,0.7s						
CUC				AML	AML		
	comp=N,2925µm,0.6s						
GRI	Girifalco	0.89	200	P	Pb	17 45 29.6	-0.4
GRI				AML	AML		
	comp=E,3280µm,0.9s						
GRI				AML	AML		
	comp=N,2305µm,0.4s						
GRI				AML	AML		
	comp=E,3280µm,1.1s						
SIRI	Monte Sirino -	0.90	306	P	Pb	17 45 28.9	-1.2
SIRI				AML	AML		
	comp=E,2950µm,0.5s						
SIRI				AML	AML		
	comp=N,2480µm,0.5s						
SIRI				AML	AML		
	comp=E,3060µm,0.5s						
SIRI				AML	AML		
	comp=N,2570µm,0.5s						
SIRI				AML	AML		
	comp=N,2570µm,1.5s						
SIRI				AML	AML		
	comp=N,2480µm,1.5s						
TAR1	Taranto	0.94	22	P	Pb	17 45 29.5	-1.2
TAR1				S	Sg	17 45 43.4	-0.1
TAR1				AML	AML		
	comp=E,7865µm,0.3s						
TAR1				AML	AML		
	comp=N,7540µm,0.5s						
LTRZ	Laterza	0.94	0	P	Pb	17 45 29.6	-1.2
LTRZ				S	Sn	17 45 44.6	0.0
LTRZ				AML	AML		
	comp=E,6765µm,0.4s						
LTRZ				AML	AML		
	comp=N,8400µm,0.5s						
MIGL	Miglionico	0.99	343	P	Pb	17 45 30.5	-1.1
MIGL				AML	AML		
	comp=N,7925µm,0.5s						
MIGL				AML	AML		
	comp=E,8535µm,0.4s						
MCEL	Monticello	1.02	311	⇑P	Pb	17 45 31.0	-1.2
MCEL				AML	AML		
	comp=E,2370µm,0.8s						
MCEL				AML	AML		
	comp=N,2805µm,1.0s						
MCEL				AML	AML		
	comp=N,2910µm,1.0s						
MCEL				AML	AML		
	comp=E,2375µm,0.8s						
MCEL				AML	AML		
	comp=E,2430µm,0.8s						
MCEL				AML	AML		
	comp=N,2810µm,1.0s						
PTRP	Pietrapertosa	1.04	326	P	Pb	17 45 32.5	0.0
PTRP				AML	AML		
	comp=N,3290µm,1.2s						
PTRP				AML	AML		
	comp=E,3670µm,0.8s						
MGR	Morigerati	1.08	297	P	Pb	17 45 32.3	-0.9
MGR				AML	AML		
	comp=N,1263µm,0.8s						
MGR				AML	AML		
	comp=N,1226µm,0.6s						
MGR				AML	AML		
	comp=N,1266µm,0.8s						
MGR				AML	AML		
	comp=N,1226µm,1.4s						
MGR				AML	AML		
	comp=N,1266µm,1.2s						
MGR				AML	AML		
	comp=E,1350µm,0.8s						
MGR				AML	AML		
	comp=E,1460µm,0.8s						
NOCI	Noci	1.14	10	P	Pb	17 45 33.0	-1.3
NOCI				S	Sn	17 45 49.7	+0.2
NOCI				AML	AML		
	comp=E,4235µm,1.1s						
NOCI				AML	AML		
	comp=N,3735µm,0.4s						
SLCN	Sala Consilina	1.17	309	P	Pn	17 45 34.2	-0.4
SLCN				AML	AML		
	comp=E,3185µm,1.6s						
SLCN				AML	AML		
	comp=N,2715µm,0.6s						
SLCN				AML	AML		
	comp=N,2855µm,0.5s						
SLCN				AML	AML		
	comp=E,3480µm,0.4s						
SLCN				AML	AML		
	comp=N,2855µm,1.5s						
BULG	Bulgheria - Ca	1.18	291	⇓P	Pb	17 45 35.5	+0.5
BULG				AML	AML		
	comp=E,1092µm,1.2s						
BULG				AML	AML		
	comp=E,1124µm,1.1s						
BULG				AML	AML		
	comp=E,1092µm,1.2s						
BULG				AML	AML		
	comp=N,2040µm,0.6s						
BULG				AML	AML		
	comp=E,1092µm,0.8s						
BULG				AML	AML		
	comp=N,2130µm,0.6s						
BULG				AML	AML		
	comp=E,1124µm,0.9s						
MESG	Mesagne	1.22	40	P	Pb	17 45 35.6	+0.1
PLAC	Placanica	1.24	194	P	Pn	17 45 34.6	-0.9
PLAC				AML	AML		
	comp=E,2105µm,1.0s						
PLAC				AML	AML		
	comp=N,1920µm,0.8s						
PLAC				AML	AML		
	comp=N,2130µm,1.0s						
PLAC				AML	AML		
	comp=N,1915µm,0.8s						
PLAC				AML	AML		
	comp=E,2070µm,0.8s						
PLAC				AML	AML		
	comp=E,2070µm,1.2s						
PLAC				AML	AML		
	comp=N,1915µm,1.2s						
PLAC				AML	AML		
	comp=N,2130µm,1.0s						
STN3	Satriano di Lu	1.25	315	AML	AML		

STN3 AML AML
STN3 AML AML
PZUN Potenza 1.25 322 P **Pn** 17 45 36.0 +0.4
PZUN AML AML
comp=E,2015µm,1.2s
PZUN AML AML
comp=N,1730µm,0.9s
PZUN AML AML
comp=E,1890µm,0.6s
PZUN AML AML
comp=N,1960µm,0.9s
PZUN AML AML
comp=N,1730µm,1.1s
PZUN AML AML
comp=E,2015µm,0.8s
PZUN AML AML
comp=E,1890µm,1.4s
PZUN AML AML
comp=N,1960µm,1.1s
AMUR Altamura 1.26 353 ⇑P **Pb** 17 45 36.3 +0.1
AMUR S **Sg** 17 45 53.5 -0.1
AMUR AML AML
comp=E,2250µm,0.5s
AMUR AML AML
comp=N,2315µm,0.5s
ACER Acerenza 1.31 330 P **Pn** 17 45 36.6 +0.1
ACER AML AML
comp=E,3640µm,0.4s
ACER AML AML
comp=E,3830µm,0.5s
ACER AML AML
comp=N,2720µm,1.2s
ACER AML AML
comp=N,2605µm,1.2s
ACER AML AML
comp=N,2720µm,0.8s
ACER AML AML
comp=E,3635µm,0.4s
ACER AML AML
comp=N,2605µm,0.8s
CMPR Campora 1.33 300 P **Pb** 17 45 37.7 +0.1
CMPR AML AML
comp=E,765µm,0.6s
CMPR AML AML
comp=N,973µm,0.8s
CMPR AML AML
comp=E,765µm,1.4s
CMPR AML AML
comp=N,973µm,1.2s
CDRU Civita di Ruta 1.43 306 P **Pb** 17 45 39.6 +0.5
CDRU AML AML
comp=E,684µm,1.5s
CDRU AML AML
comp=N,582µm,0.7s
CDRU AML AML
comp=E,684µm,0.5s
PALZ Palazzo San Ge 1.44 333 P **Pb** 17 45 39.1 -0.2
PALZ AML AML
comp=E,2520µm,1.0s
PALZ AML AML
comp=N,2645µm,1.2s
PALZ AML AML
comp=N,2645µm,0.8s
MRVN Minervino Murg 1.48 342 ⇑P **Pn** 17 45 39.3 +0.5
MRVN AML AML
comp=E,874µm,0.9s
MRVN AML AML
comp=N,913µm,0.5s
MRLC Muro Lucano 1.49 318 P **Pb** 17 45 40.6 +0.4
MRLC AML AML
comp=E,376µm,0.8s
MRLC AML AML
comp=N,471µm,0.6s
MRLC AML AML
comp=N,1006µm,0.6s
MRLC AML AML
comp=E,812µm,0.6s
MRLC AML AML
comp=N,1006µm,0.6s
MRLC AML AML
comp=N,471µm,1.4s
MRLC AML AML
comp=N,1006µm,1.4s
CEL Celeste 1.57 207 P **Pn** 17 45 40.9 +0.8
VULT Monte Vulture 1.59 325 P **Pb** 17 45 41.4 -0.5
CAPA Cerignola FG 1.68 333 P **Pb** 17 45 42.9 -0.5
SOI Samo 1.69 201 P **Pb** 17 45 43.6 +0.1
MSRU Castanea 1.73 217 P **Pn** 17 45 42.3 +0.1
SNAL S. Angelo Dei 1.76 316 P **Pb** 17 45 44.6 -0.2
SNAL AML AML
comp=E,1225µm,0.7s
SNAL AML AML
comp=N,1020µm,1.6s
SNAL AML AML
comp=E,1390µm,0.7s
SNAL AML AML
comp=N,1028µm,1.6s
SNAL AML AML
comp=N,1020µm,0.4s
SNAL AML AML
comp=E,1390µm,1.3s
SNAL AML AML
comp=E,1225µm,1.3s
SGTA Sant Agata di 1.84 324 P **Pb** 17 45 45.9 -0.4
MTMR Montemarano 1.87 313 P **Pb** 17 45 46.8 +0.1
MTMR AML AML
comp=N,514µm,1.0s
MTMR AML AML
comp=E,537µm,0.7s
MTMR AML AML
comp=N,514µm,1.0s
MPNC Port Mandanici 1.89 218 P **Pn** 17 45 44.5 0.0
BIOG Biogem 2.00 321 P **Pn** 17 45 46.2 +0.2
MRB1 Monte Rocchett 2.03 317 P **Pb** 17 45 49.4 -0.1
AIO Antillo 2.09 217 P **Pn** 17 45 47.7 +0.4
MOCO Biccari - m.te 2.12 324 P **Pb** 17 45 49.6 -1.4
VTIR Vesuvio Tirone 2.16 303 P **Pn** 17 45 49.5 +1.3
VLO Vlora 2.21 68 AML AML
comp=N,2635µm,0.3s
VLO AML AML
comp=E,1790µm,1.0s
ULC Ulcinj 2.95 38 *e*Pn **Pn** 17 45 59.1 +0.1
ULC *i* Sn **Sn** 17 46 35.8 +1.7
HCY Herceg Novi 3.06 24 ⇓*i*Pn **Pn** 17 46 01.0 +0.5
HCY *e*Sn **Sn** 17 46 37.0 +0.2
BUM Brajici-Budva 3.07 30 *e*Pn **Pn** 17 46 01.2 +0.4
BUM *i* Sn **Sn** 17 46 39.1 +1.9
DRME Dracevica, Mon 3.10 35 *e*Pn **Pn** 17 46 01.4 +0.4
DRME Dracevica, Mon 3.10 35 *e*Pn **Pn** 17 46 01.2 +0.2
DRME *i* Sn **Sn** 17 46 39.3 +1.6
TREB Trebinje 3.27 20 *e*Pn **Pn** 17 46 02.9 -0.5
STON Ston 3.28 11 *e*Pn **Pn** 17 46 02.8 -0.7
STON Ston 3.28 11 *e*Pn **Pn** 17 46 03.2 -0.3
STON *e*Sn **Sn** 17 46 40.9 -1.2
STON Ston 3.28 11 AML AML
comp=N,420µm,0.3s
STON AML AML
comp=E,230µm,0.6s
CEME Cevo 3.29 28 ⇓*i*Pn **Pn** 17 46 03.7 -0.1
CEME *i* Sn **Sn** 17 46 43.1 +0.5
PDG Podgorica 3.33 33 ⇑P **Pn** 17 46 04.2 0.0
PDG Podgorica 3.33 33 *e*Pn **Pn** 17 46 04.4 +0.3
PDG *e*Sn **Sn** 17 46 42.8 -0.5
PDG Podgorica 3.33 33 ⇓*i*Pn **Pn** 17 46 04.5 +0.3
PDG *i* Sn **Sn** 17 46 45.7 +2.4
OHR Ohrid 3.37 63 *e*Pn **Pn** 17 46 07.4 +2.6
BRY Bratogost 3.49 21 ⇓*i*Pn **Pn** 17 46 06.5 -0.1
BRY *e*Sn **Sn** 17 46 46.9 -0.7
NKME Niksic 3.50 27 ⇓*i*Pn **Pn** 17 46 06.7 +0.1
NKME *e*Sn **Sn** 17 46 47.2 -0.4
VCEL Villa Celiera 3.54 321 AML AML
comp=E,252µm,0.1s
VCEL AML AML
comp=N,202µm,0.8s
FNA Florina 3.67 71 *e*Pn **Pn** 17 46 09.7 +0.8
FNA *e*Sn **Sn** 17 46 52.6 +0.8
KLINJ Klinje 3.75 20 *e*Pn **Pn** 17 46 09.0 -1.1
KOME Kolasin 3.78 32 *e*Pn **Pn** 17 46 11.8 +1.3
KOME Kolasin 3.78 32 ⇓*i*Pn **Pn** 17 46 11.1 +0.6
KOME *i* Sn **Sn** 17 46 57.2 +2.5
UPM Unac-Piva 3.87 23 *e*Pn **Pn** 17 46 12.3 +0.4
UPM *i* Sn **Sn** 17 46 58.8 +1.7
IVA Berane 3.96 35 *e*Pn **Pn** 17 46 13.6 +0.6
IVA *i* Sn **Sn** 17 47 00.4 +1.3
ARRO Arrone 4.23 315 AML AML
comp=E,50µm,1.2s
ARRO AML AML
comp=N,40µm,0.8s
SJES Sjenica 4.31 32 *e*Pn **Pn** 17 46 19.4 +1.6
SJES *e*Sn **Sn** 17 47 08.3 +0.6
KIJV Kijevo 4.35 356 ⇑*i*Pn **Pn** 17 46 18.9 +0.6
RUDO Rudo 4.39 25 *e*Pn **Pn** 17 46 19.1 +0.2
BBLS Lazi&#263i 4.63 24 *e*Pn **Pn** 17 46 22.9 +0.8
BBLS *e*Sn **Sn** 17 47 15.3 -0.2
IVAS Ivanjica 4.64 32 *e*Pn **Pn** 17 46 22.6 +0.2
IVAS *e*Sn **Sn** 17 47 14.8 -1.1
VAY Valandovo 4.69 67 *e*Pn **Pn** 17 46 23.1 +0.2
SELS Selova 4.81 41 *e*Pn **Pn** 17 46 24.9 +0.3
SELS *e*Sn **Sn** 17 47 17.9 -2.0
A050A Klekovaca 4.82 358 ⇑*i*Pn **Pn** 17 46 26.3 +1.5
BARS Barje 4.92 48 *e*Pn **Pn** 17 46 28.2 +2.2
GOCS Kraljevo Serbi 4.95 37 *e*Pn **Pn** 17 46 27.4 +0.9
GOCS *e*Sn **Sn** 17 47 21.8 -1.6
DIVS Divibare 5.03 27 *e*Pn **Pn** 17 46 27.7 0.0
DIVS *e*Sn **Sn** 17 47 23.5 -1.9
BLY Banja Luka 5.09 3 ⇑*i*Pn **Pn** 17 46 29.6 +1.2
BLY Banja Luka 5.09 3 ⇑P **Pn** 17 46 29.4 +0.9
BLY Banja Luka 5.09 3 *e*Pn **Pn** 17 46 29.7 +1.3
BLY *e*Sn **Sn** 17 47 24.7 -2.2
GRUS Gruza 5.13 33 *e*Pn **Pn** 17 46 30.3 +1.3
GRUS *e*Sn **Sn** 17 47 26.9 -1.0
TEKS Tekeris 5.29 22 *e*Pn **Pn** 17 46 30.6 -0.5
TEKS *e*Sn **Sn** 17 47 28.2 -3.5
TRUS Trudelj 5.29 29 *e*Pn **Pn** 17 46 31.0 -0.1
TRUS *e*Sn **Sn** 17 47 29.9 -1.8
A051A Mrakovica 5.35 1 ⇑*i*Pn **Pn** 17 46 32.9 +0.9
SRS Serrai 5.38 72 *e*Pn **Pn** 17 46 33.8 +1.4
SRS *e*Sn **Sn** 17 47 29.8 -4.1
SRS *e*Sn **Sn** 17 47 29.9 -4.0
BOVS Bovan 5.40 41 ⇑P **Pn** 17 46 33.9 +1.2
ZAPS Zavoj 5.67 49 *e*Pn **Pn** 17 46 37.9 +1.5
ZAPS *e*Sn **Sn** 17 47 38.7 -2.4
VTS Vitosha 5.68 57 *e*Pn **Pn** 17 46 37.0 +0.4
VTS *e*Sn **Sn** 17 47 39.5 -2.0
BRJN Brijuni 5.71 338 *e*Pn **Pn** 17 46 36.4 -0.5
ZAGS Zajecar 5.80 43 *e*Pn **Pn** 17 46 39.3 +1.2
ZAGS *e*Sn **Sn** 17 47 41.2 -3.1
FRGS Fruska Gora 5.92 21 *e*Pn **Pn** 17 46 39.1 -0.8
FRGS *e*Sn **Sn** 17 47 44.5 -2.9
MOSL Moslavina 5.95 360 ⇑*i*Pn **Pn** 17 46 40.1 -0.1
BOJS Bojanci 5.95 349 *e*Pn **Pn** 17 46 41.7 +1.4
BOJS *e*Sn **Sn** 17 47 45.9 -2.1
OZLJ Ozalj 6.04 351 ⇑*i*Pn **Pn** 17 46 42.4 +1.1
SKDS Skadanscina 6.24 342 *e*Pn **Pn** 17 46 44.4 +0.2
MDVR Moldovita 6.28 34 ⇑P **Pn** 17 46 45.8 +1.1
CEY Cerknica 6.33 345 *e*Pn **Pn** 17 46 46.4 +1.0
VRSS Vrsac 6.40 30 *e*Pn **Pn** 17 46 45.6 -0.8
LJU Ljubljana 6.60 346 *e*Pn **Pn** 17 46 50.2 +1.1
HERR Herculane 6.67 37 ⇑P **Pn** 17 46 50.7 +0.6
CRNS Crni Vrh 6.69 345 *i* Pn **Pn** 17 46 50.8 +0.5
CRNS *i* Sn **Sn** 17 48 02.8 -3.4
MORH Mrgy, Hungar 6.69 11 *e*Pn **Pn** 17 46 49.4 -0.9
MORH Mrgy, Hungar 6.69 11 ⇑P **Pn** 17 46 50.3 0.0
MORH Mrgy, Hungar 6.69 11 *e*Pn **Pn** 17 46 49.6 -0.7
BZS Buzias 6.93 29 ⇑P **Pn** 17 46 54.2 +0.6
PLVB Pleven 6.94 55 ⇓P **Pn** 17 46 55.1 +1.3
OBKA Obir 7.04 347 *i* Pn **Pn** 17 46 56.3 +1.0
comp=N,6.5nm,0.2s,SNR=18
OBKA *e*Sn **Sn** 17 48 13.7 -1.3
comp=N,16nm,0.7s
SOKA Soboth 7.13 350 *i* Pn **Pn** 17 46 57.3 +0.8
comp=N,3.7nm,0.3s
GZR Gura Zlata 7.22 36 ⇑P **Pn** 17 46 58.6 +0.8
SURR Surduc 7.24 31 ⇓P **Pn** 17 46 58.9 +1.1
MYKA Terra Mystica 7.34 343 *e*Pn **Pn** 17 47 00.7 +1.3
comp=N,2.0nm,0.3s
MYKA *e*Sn **Sn** 17 48 21.1 -1.2
comp=N,1.8nm,0.4s
SIRR Siria 7.50 27 ⇑P **Pn** 17 47 02.3 +0.8
ELND Elena 7.56 61 ⇑P **Pn** 17 47 03.6 +1.2
ARSA Arzberg 7.65 353 *i* Pn **Pn** 17 47 04.0 +0.5
comp=N,2.3nm,0.4s,SNR=6.7
ARSA Arzberg 7.65 353 *e*Pn **Pn** 17 47 04.0 +0.5
LOT Lotru 7.73 39 ⇑P **Pn** 17 47 06.0 +1.2
ABTA Abfaltersbach 7.75 338 *i* Pn **Pn** 17 47 05.6 +0.6
comp=N,3.7nm,0.5s,SNR=4.7
ABTA *e*Sn **Sn** 17 48 34.7 +2.3
comp=N,4.6nm,0.6s
IDI Anoyia 7.76 122 Pn **Pn** 17 47 05.2 0.0
comp=N,1.8nm,0.3s,baz=306,slow=15,SNR=15
IDI Sn **Sn** 17 48 30.2 -2.5
comp=N,0.8nm,0.3s,baz=350,slow=15,SNR=5.1
comp=N,3.7nm,0.3s
KBA Koelnbreinsper 7.83 342 *i* Pn **Pn** 17 47 06.9 +0.6
comp=N,2.0nm,0.3s
RONA Rosalia, Austr 8.05 357 *i* Pn **Pn** 17 47 09.3 +0.3
comp=N,3.4nm,0.4s,SNR=5.8
LOZB Loznitsa 8.22 60 ⇑P **Pn** 17 47 12.8 +1.4
CONA Conrad Observa 8.29 356 *i* Pn **Pn** 17 47 12.8 +0.3
comp=N,2.1nm,0.4s
CONA *e*Sn **Sn** 17 48 47.9 +2.1
comp=N,1.6nm,0.4s
LESA Schwarzleotal 8.32 340 *i* Pn **Pn** 17 47 14.7 +1.9
comp=N,2.3nm,0.3s
LESA *e*Sn **Sn** 17 48 47.0 +0.6
comp=N,1.2nm,0.4s
DRGR 8.32 29 ⇑P **Pn** 17 47 14.0 +1.2
BIOA Bad Ischl, Aus 8.35 345 *i* Pn **Pn** 17 47 14.7 +1.5
comp=N,14nm,0.6s,SNR=13
BIOA *i* Sn **Sn** 17 48 45.6 -1.5
comp=N,4.2nm,0.4s
VOIR 8.38 44 ⇑P **Pn** 17 47 15.5 +1.8
MOA Molln 8.39 348 *i* Pn **Pn** 17 47 14.9 +1.1
comp=N,14nm,0.4s,SNR=43
MOA *e*Sn **Sn** 17 48 46.3 -1.8
comp=N,3.1nm,0.5s
MOA Molln 8.39 348 *e*Pn **Pn** 17 47 14.9 +1.1
WTTA Wattenberg 8.48 335 *i* Pn **Pn** 17 47 17.4 +2.3
comp=N,2.4nm,0.5s
WTTA *e*Sn **Sn** 17 48 53.1 +2.6
comp=N,3.6nm,0.5s
PSZ Piszkesteto 8.55 14 ⇓P **Pn** 17 47 15.7 -0.3
WATA Walderalm 8.56 335 *i* Pn **Pn** 17 47 18.2 +2.0
comp=N,3.6nm,0.4s,SNR=4.1
SQTA Sankt Quirin 8.59 334 *e*Pn **Pn** 17 47 18.3 +1.8
comp=N,1.4nm,0.3s
SQTA *i* Sn **Sn** 17 48 55.4 +2.4
comp=N,1.9nm,0.4s
FETA Feichten 8.59 331 *e*Pn **Pn** 17 47 18.2 +1.6
comp=N,0.4nm,0.2s
MOTA Moosalm 8.73 334 *i* Pn **Pn** 17 47 21.5 +3.0
comp=N,2.9nm,0.6s
MOTA *e*Sn **Sn** 17 48 59.5 +3.0
comp=N,2.2nm,0.6s
DAVOX Davos/Dischmat 8.73 327 Pn **Pn** 17 47 19.3 +0.8
comp=N,0.4nm,0.3s,baz=150,slow=17,SNR=12
DAVOX Sn **Sn** 17 48 58.5 +1.9
comp=N,0.1nm,0.3s,baz=142,slow=23,SNR=1.0
DAVOX LR LR 17 51 59.9
comp=N,119nm,20.3s,baz=86,slow=47
comp=N,3.9nm,0.7s
MLR Muntele Rosu 8.90 46 Pn **Pn** 17 47 19.4 -1.4
comp=N,0.1nm,0.3s,baz=155,slow=20,SNR=1.7
MLR Sn **Sn** 17 48 59.3 -1.5
comp=N,0.2nm,0.3s,baz=148,slow=21,SNR=1.5
comp=N,1.5nm,0.8s
MLR Muntele Rosu 8.90 46 ⇑P **Pn** 17 47 22.6 +1.7
VYHS Vyhne 8.95 9 *e*PN **Pn** 17 47 23.7 +2.3
DAVA Damuels 9.14 329 *e*Pn **Pn** 17 47 28.2 +4.1
comp=N,2.3nm,0.4s
GERES GERESS Array B 9.45 347 Pn **Pn** 17 47 28.6 +0.2
comp=N,0.1nm,0.3s,baz=165,slow=12,SNR=31
GERES Sn **Sn** 17 49 10.0 -4.2
comp=N,0.1nm,0.3s,baz=164,slow=24,SNR=4.4
comp=N,3.1nm,0.6s
VRAC Vranov 9.65 359 LR LR 17 51 54.2
comp=N,33nm,18.6s,baz=188,slow=42
KHC Kasperske Hory 9.75 347 *e*PN **Pn** 17 47 31.8 -0.5
KHC *e*SN **Sn** 17 49 17.1 -4.3
CLL Collm 11.95 348 *i* P **Pn** 17 48 00.4 -2.0
BRTR Keskin Array B 12.96 84 Pn **Pn** 17 48 17.2 +0.8
baz=277,slow=11,SNR=3.3
comp=N,0.6nm,0.8s
AKASG Malin Array Be 14.07 34 LR LR 17 53 39.9
comp=N,14nm,21.6s,baz=240,slow=37
ESDC Sonseca Array 16.00 277 Pn **P** 17 48 59.5 -1.2
baz=72,slow=11,SNR=4.1
comp=N,0.6nm,0.9s
MMAI Mount Meron Ar 16.37 108 Pn **Pn** 17 49 03.3 +1.4
comp=N,0.5nm,0.3s,baz=297,slow=13,SNR=4.5
comp=N,1.5nm,0.5s
KBZ Khabaz 19.87 70 P **P** 17 49 43.3 +0.2
comp=N,0.2nm,0.3s,baz=298,slow=8.1,SNR=3.6
comp=N,1.2nm,0.4s
EKA Eskdalemuir Ar 20.57 326 P **P** 17 49 50.5 -0.2
comp=N,3.3nm,0.9s,baz=122,slow=11,SNR=4.0
comp=N,3.3nm,0.9s
HFS Hagfors 20.59 356 P **P** 17 49 50.9 +0.1
comp=N,3.0nm,0.7s,baz=181,slow=12,SNR=4.3
comp=N,3.0nm,0.7s
NOA NORSAR Array B 21.69 353 P **P** 17 50 02.2 -0.4
comp=N,1.9nm,0.9s,baz=167,slow=10,SNR=3.4
comp=N,1.9nm,0.9s
FINES FINESS Array B 22.55 12 P **P** 17 50 11.6 -0.2
comp=N,3.7nm,0.8s,baz=180,slow=11,SNR=6.5
comp=N,3.7nm,0.8s
BVAR Borovoye Array 38.42 51 P **P** 17 52 35.4 +2.1
comp=N,0.3nm,0.4s,baz=260,slow=7.4,SNR=3.6
comp=N,0.3nm,0.4s
MKAR Makanchi Array 47.00 59 P **P** 17 53 43.2 +0.2
comp=N,0.2nm,0.5s,baz=289,slow=6.6,SNR=4.9
comp=N,0.2nm,0.5s
ASAJ Asahikawa 83.35 36 LR LR 18 37 58.8
comp=N,18nm,20.7s,baz=200,slow=38

AEIC ***15*** *17:52:54.2±1.2,51°27′N±0′.09×178°07′W±0′.06,h29km±7km, Error ellipse: s-maj=13.7km s-min=5.2km az=172.0*
NEIC ***15*** *17:52:54.5±1.3,51°28′N±0′.07×178°07′W±0′.05,h35km±2km, mb3.9/59,ML3.7(AEIC),Error ellipse: s-maj=12.2km s-min=5.8km az=175.0*
IDC ***15*** *17:52:55.5±2.6,51°.53N×178°.26W,h48km±23km,mb3.6/24, mbtmp3.9/26,ML3.6/2,MS3.1/12,Error ellipse: s-maj=19.5km s-min=10.9km az=170.0*

ISC 15 17:52:54.6±1.2,51°.34N±0°.09×178°.13W±0°.03,h47km±9km, n131,σ0°.84/111,mb3.9/31,MS3.1/10,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFL	**Tanaga Flats**	**0.44**	**19**		**Pn**	**17 53 04.9**	**-0.1**
GAKI	**Gareloi-Kavalg**	**0.48**	**297**		**Pn**	**17 53 05.2**	**-0.2**
GAKI					**Sn**	**17 53 13.3**	**+0.2**
TASE	**Tanaga Southea**	**0.50**	**6**		**Pn**	**17 53 06.2**	**+0.4**
TAPA	**Tanaga Point A**	**0.52**	**22**		**Pn**	**17 53 06.0**	**+0.1**
TAPA					**Sn**	**17 53 14.5**	**+0.5**
TANO	**Tanaga North**	**0.58**	**0**		**Pn**	**17 53 07.1**	**+0.4**
TANO					**Sn**	**17 53 16.6**	**+1.3**
GALAA	**Gareloi Lava P**	**0.58**	**317**		**Pn**	**17 53 07.4**	**+0.7**
GAEA	**Gareloi East**	**0.59**	**319**		**Pn**	**17 53 07.5**	**+0.6**
GANE	**Gareloi Northe**	**0.63**	**320**		**Pn**	**17 53 07.9**	**+0.5**
GASW	**Gareloi Southw**	**0.63**	**314**		**Pn**	**17 53 07.8**	**+0.5**
GANO	**Gareloi North**	**0.64**	**319**		**Pn**	**17 53 07.8**	**+0.3**
KIMD	**Kanaga Island**	**0.70**	**52**		**Pn**	**17 53 08.0**	**-0.3**
KIMD					**Sn**	**17 53 18.0**	**-0.1**
KIWB	**Kanaga Island**	**0.80**	**49**		**Pn**	**17 53 09.2**	**-0.4**
KIWB				Sn	**Sn**	**17 53 20.4**	**0.0**
KIKV	**Kanaga Island**	**0.81**	**47**		**Pn**	**17 53 09.7**	**0.0**
KICM	**Kanaga Island**	**0.82**	**45**		**Pn**	**17 53 10.2**	**+0.3**
KIRH	**Kanaga Island**	**0.85**	**49**		**Pn**	**17 53 10.5**	**+0.2**
KINC	**Kanaga Island**	**0.86**	**46**		**Pn**	**17 53 10.6**	**+0.2**
ADK	**Adak**	**1.05**	**58**		**Pn**	**17 53 12.8**	**-0.2**
ADK				Sn	**Sn**	**17 53 26.3**	**-0.2**
ADAG	**Mount Adagdak**	**1.15**	**55**		**Pn**	**17 53 14.6**	**+0.4**
GSTR	**Great Sitkin T**	**1.49**	**59**		**Pn**	**17 53 19.8**	**+0.8**
GSIG	**Igitkin Island**	**1.52**	**64**		**Pn**	**17 53 19.6**	**+0.3**
CEPE	**Semis' Perret**	**1.52**	**295**		**Pn**	**17 53 20.6**	**+1.3**
CEAP	**Semis' Anvil P**	**1.58**	**296**		**Pn**	**17 53 21.3**	**+1.2**
AMKA	**Amchitka**	**1.61**	**272**		**Pn**	**17 53 21.3**	**+0.7**
LSPA	**Little Sitkin**	**2.15**	**288**		**Pn**	**17 53 29.4**	**+1.5**
LSNW	**Little Sitkin**	**2.18**	**288**		**Pn**	**17 53 30.0**	**+1.5**
ATKA	**Atka Island**	**2.59**	**69**		**Pn**	**17 53 34.1**	**+0.1**
SHEM	**Shemya Is, Ala**	**5.00**	**289**	P	**Pn**	**17 54 06.2**	**-0.8**
	3.6nm,0.3s,baz=176,slow=14,SNR=1.3						
SHEM				S	**Sn**	**17 55 00.8**	**-2.6**
	27nm,0.6s,baz=108,slow=19,SNR=1.0						
	78nm,0.9s						
SMY	**Shemya**	**5.00**	**289**	Pn	**Pn**	**17 54 06.0**	**-1.0**
NIKH	**Nikolski High**	**5.94**	**70**	Pn	**Pn**	**17 54 20.9**	**+1.0**
SPIA	**Saint Paul Isl**	**7.45**	**35**	Pn	**Pn**	**17 54 41.1**	**+0.6**
LVA	**Lava Point**	**7.86**	**64**	Pn	**Pn**	**17 54 48.9**	**+2.6**
S12K	**Black Hills**	**10.51**	**59**	Pn	**Pn**	**17 55 23.0**	**+0.5**
CNBA	**Chernabura Isl**	**11.68**	**65**	Pn	**Pn**	**17 55 37.6**	**-0.8**
O15K	**Ungalikthiuk R**	**13.03**	**46**	Pn	**Pn**	**17 55 58.4**	**+1.7**
O16K	**Kokwok River B**	**14.00**	**46**	Pn	**Pn**	**17 56 10.9**	**+0.9**
M16K	**Timber Creek**	**14.36**	**40**	P	**P**	**17 56 21.2**	**+0.4**
L16K	**Owhat River**	**14.56**	**37**	P	**P**	**17 56 22.1**	**-0.9**
N17K	**Nushagak Hills**	**14.85**	**44**	P	**P**	**17 56 26.5**	**+0.3**
PETK	**Petropavlovsk-**	**14.90**	**286**	LR	LR	18 01 52.7	
	comp=Z,66nm,21.5s,baz=84,slow=36						
M17K	**Holitna River**	**15.19**	**40**	P	**P**	**17 56 30.5**	**+0.5**
M17K				IAmb	IAmb	17 56 43.7	
	comp=Z,9.3nm,0.9s						
O18K	**Koktuh Hills**	**15.44**	**48**	Pn	**Pn**	**17 56 29.2**	**+0.2**
N18K	**Kilae Creek**	**15.48**	**44**	P	**P**	**17 56 34.1**	**+0.8**
N18K				IAmb	IAmb	17 56 38.3	
	comp=Z,8.0nm,1.1s						
J17K	**VABM Dome**	**15.77**	**33**	IAmb	IAmb	17 56 54.8	
	comp=Z,10nm,0.9s						
L18K	**Granite Mounta**	**15.93**	**39**	P	**P**	**17 56 38.5**	**+0.3**
KDAK	**Kodiak Island**	**16.09**	**56**	Pn	**Pn**	**17 56 35.9**	**-1.5**
KDAK	**Kodiak Island**	**16.09**	**56**	P	**Pn**	**17 56 35.1**	**-2.3**
	comp=Z,3.5nm,0.4s,baz=254,slow=1.5,SNR=17						
KDAK				S	**Sn**	**17 59 32.1**	**-2.5**
	comp=Z,2.3nm,0.6s,baz=198,slow=19,SNR=1.6						
L19K	**White Mountain**	**16.64**	**40**	IAmb	IAmb	17 56 51.0	
	comp=Z,8.1nm,1.0s						
J19K	**Poorman**	**17.35**	**34**	Pn	**Pn**	**17 56 53.3**	**+0.2**
G18K	**Tagagawik**	**17.64**	**27**	Pn	**Pn**	**17 56 56.6**	**0.0**
SKT	**Skwentna**	**17.94**	**43**	P	**P**	**17 57 01.6**	**+1.1**
SLKM	**Skilak Lake**	**18.00**	**49**	IAmb	IAmb	17 57 03.6	
	comp=Z,6.4nm,0.5s						
SEW	**Seward**	**18.25**	**50**	P	**P**	**17 57 03.2**	**-0.5**
SEW				IAmb	IAmb	17 57 04.3	
	comp=Z,16nm,1.3s						
G19K	**Purcell Mounta**	**18.27**	**28**	P	**Pn**	**17 57 04.6**	**+0.3**
CAST	**Castle Rocks**	**18.36**	**39**	P	**Pn**	**17 57 05.7**	**+0.3**
F19K	**Shaleruckik Mo**	**18.57**	**26**		**Pn**	**17 57 08.6**	**+0.7**
KTH	**Kantishna Hill**	**18.89**	**39**	P	**Pn**	**17 57 12.1**	**+0.2**
KTH				IAmb	IAmb	17 57 15.4	
	comp=Z,7.7nm,0.7s						
PWL	**Port Wells**	**18.99**	**48**	P	**P**	**17 57 12.5**	**+0.5**
TRF	**Thorofare Moun**	**19.09**	**40**	IAmb	IAmb	17 57 18.5	
	comp=Z,5.7nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.12**	**38**	P	**P**	**17 57 13.9**	**+0.6**
BPAW				IAmb	IAmb	17 57 15.5	
	comp=Z,12nm,1.4s						
E19K	**Redstone River**	**19.17**	**25**	P	**Pn**	**17 57 15.6**	**+0.5**
C18K	**Utukok River**	**19.19**	**19**	P	**Pn**	**17 57 16.1**	**+0.8**
C18K				IAmb	IAmb	17 57 44.0	
	comp=Z,14nm,1.4s						
IMAR	**Indian Mountai**	**19.19**	**31**	P	**Pn**	**17 57 15.9**	**+0.6**
F20K	**Avaraart Lake**	**19.29**	**27**	P	**P**	**17 57 15.6**	**+0.5**
F20K				IAmb	IAmb	17 57 20.4	
	comp=Z,9.9nm,1.4s						
H21K	**Melozitna Rive**	**19.31**	**32**	IAmb	IAmb	17 57 20.3	
	comp=Z,8.9nm,1.3s						
MA2	**Magadan**	**19.31**	**307**	LR	LR	18 04 02.8	
	comp=Z,55nm,19.9s,baz=82,slow=35						
I21K	**Tanana**	**19.32**	**34**	IAmb	IAmb	17 57 22.5	
	comp=Z,7.7nm,1.2s						
SEY	**Seymchan**	**19.56**	**318**	P	**P**	**17 57 17.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=109,slow=12,SNR=3.9						
	comp=Z,0.9nm,0.6s						
G21K	**Allakaket**	**19.60**	**30**	P	**Pn**	**17 57 19.9**	**-0.4**
RND	**Reindeer**	**19.66**	**41**	P	**P**	**17 57 19.6**	**+0.3**
RND				IAmb	IAmb	17 57 36.6	
	comp=Z,4.0nm,0.6s						
MLY	**Manley**	**19.68**	**35**	IAmb	IAmb	17 57 31.1	
	comp=Z,6.7nm,1.0s						
D19K	**Kuna River**	**19.74**	**22**	P	**Pn**	**17 57 21.3**	**-0.5**
SCM	**Sheep Creek Mo**	**19.75**	**46**	IAmb	IAmb	17 57 31.5	
	comp=Z,5.8nm,0.8s						
FID	**Port Fidalgo**	**19.84**	**49**	P	**P**	**17 57 21.9**	**+0.7**
FID				IAmb	IAmb	17 57 22.8	
	comp=Z,8.0nm,1.1s						
F21K	**Alatna River**	**20.06**	**28**	P	Pn	17 57 24.9	-0.8
F21K				IAmb	IAmb	17 57 27.8	
	comp=Z,4.9nm,0.8s						
NEA2	**Nenana**	**20.09**	**38**	IAmb	IAmb	17 57 24.8	
	comp=Z,7.9nm,1.2s						
I23K	**Minto, Yukon-K**	**20.25**	**36**		**P**	**17 57 26.2**	**+0.7**
I23K				IAmb	IAmb	17 57 46.1	
	comp=Z,3.5nm,0.7s						
D20K	**Etivluk River**	**20.26**	**23**	P	**P**	**17 57 27.0**	**+1.3**

E21K	**Killik River**	**20.74**	**25**	P	**P**	**17 57 31.5**	**+0.6**
E21K				IAmb	IAmb	17 57 47.2	
	comp=Z,5.4nm,1.0s						
G23K	**Bananza Creek**	**20.84**	**32**	P	**P**	**17 57 32.6**	**+0.6**
G23K				IAmb	IAmb	17 57 43.7	
	comp=Z,7.1nm,1.2s						
PAX	**Paxson**	**20.93**	**44**	P	**P**	**17 57 33.1**	**+0.1**
PAX				IAmb	IAmb	17 57 55.1	
	comp=Z,8.0nm,1.4s						
ILAR	**Eielson Array**	**21.01**	**38**	P	**P**	**17 57 33.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=262,slow=10,SNR=7.5						
ILAR				PcP	**PcP**	**18 01 38.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=282,slow=2.2,SNR=4.1						
ILAR				LR	LR	18 06 41.3	
	comp=Z,46nm,18.0s,baz=18,slow=40						
	comp=Z,0.5nm,0.4s						
H24K	**Noodor Dome**	**21.12**	**35**	IAmb	IAmb	17 57 55.4	
	comp=Z,5.0nm,0.9s						
E22K	**Anaktuvuk Pass**	**21.14**	**27**	P	**P**	**17 57 36.2**	**+1.0**
E22K				IAmb	IAmb	17 57 55.4	
	comp=Z,6.1nm,1.1s						
GLB	**Gilahina Butte**	**21.26**	**48**	P	**P**	**17 57 36.8**	**+0.2**
D22K	**Ayikyak River**	**21.39**	**25**	P	**P**	**17 57 38.9**	**+1.1**
G24K	**Hadweenzic Riv**	**21.69**	**33**	P	**P**	**17 57 41.8**	**+0.6**
G24K				IAmb	IAmb	17 58 03.7	
	comp=Z,4.7nm,0.9s						
TOLK	**Toolik Lake Re**	**22.10**	**28**	P	**P**	**17 57 45.5**	**0.0**
M27K	**Edge Creek, AK**	**22.36**	**46**	P	**P**	**17 57 48.8**	**+0.3**
M27K				IAmb	IAmb	17 57 50.5	
	comp=Z,4.0nm,0.9s						
BMAR	**Burnt Mountain**	**23.04**	**33**	P	**P**	**17 57 54.8**	**-0.7**
DAWY	**Dawson**	**23.85**	**43**	IAmb	IAmb	17 58 03.9	
	comp=Z,3.5nm,0.9s						
M29M	**Somme Creek**	**23.93**	**47**	IAmb	IAmb	17 58 05.4	
	comp=Z,6.7nm,1.4s						
I29M	**Ogilvie Camp,**	**24.63**	**40**	IAmb	IAmb	17 58 28.4	
	comp=Z,4.2nm,1.1s						
ASAJ	**Asahikawa**	**27.13**	**270**	LR	LR	18 12 52.3	
	comp=Z,14nm,18.1s,baz=224,slow=44						
INK	**Inuvik**	**27.25**	**35**	LR	LR	18 10 40.1	
	comp=Z,30nm,18.1s,baz=172,slow=39						
TIXI	**Tiksi**	**30.88**	**330**	LR	LR	18 11 35.4	
	comp=Z,46nm,18.4s,baz=170,slow=36						
H11N2	**WAKE ISLAND Hy**	**33.68**	**206**	T	T	18 35 26.2	
	baz=17,slow=76,SNR=547						
H11N3	**WAKE ISLAND Hy**	**33.68**	**206**	T	T	18 35 22.9	
	baz=17,slow=76,SNR=582						
H11N1	**WAKE ISLAND Hy**	**33.69**	**206**	T	T	18 35 23.9	
	baz=17,slow=76,SNR=543						
USRK	**Ussuriysk Ar.**	**33.72**	**278**	P	**P**	**17 59 31.5**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=58,slow=12,SNR=6.3						
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**34.20**	**262**	P	**P**	**17 59 35.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=55,slow=12,SNR=4.7						
	comp=Z,0.9nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**34.89**	**206**	T	T	18 36 55.5	
	baz=17,slow=76,SNR=828						
H11S2	**WAKE ISLAND Hy**	**34.91**	**206**	T	T	18 36 56.8	
	baz=17,slow=76,SNR=462						
H11S3	**WAKE ISLAND Hy**	**34.91**	**206**	T	T	18 36 56.6	
	baz=17,slow=76,SNR=570						
YKA	**Yellowknife Ar**	**34.95**	**47**	P	**P**	**17 59 41.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=288,slow=8.8,SNR=4.4						
	comp=Z,0.6nm,0.8s						
NEW	**Newport**	**38.50**	**70**	P	**P**	**18 00 13.1**	**+1.1**
	comp=Z,5.2nm,0.6s,baz=320,slow=8.3,SNR=8.4						
	comp=Z,5.2nm,0.6s						
RES	**Resolute Bay**	**39.60**	**24**	LR	LR	18 19 04.3	
	comp=Z,20nm,18.8s,baz=17,slow=40						
KSRS	**Korea Array**	**40.06**	**271**	P	**P**	**18 00 25.0**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=52,slow=8.8,SNR=2.8						
	comp=Z,1.3nm,0.7s						
ELK	**Elko**	**43.65**	**78**	P	**P**	**18 00 56.1**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=289,slow=11,SNR=4.8						
	comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**45.92**	**73**	P	**P**	**18 01 14.0**	**+1.3**
	comp=Z,2.5nm,0.5s,baz=326,slow=3.9,SNR=18						
	comp=Z,2.5nm,0.5s						
SONM	**Songino Array**	**47.04**	**297**	P	**P**	**18 01 21.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=48,slow=6.4,SNR=2.2						
SONM				LR	LR	18 21 19.8	
	comp=Z,34nm,20.2s,baz=66,slow=36						
	comp=Z,0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**50.44**	**356**	P	**P**	**18 01 46.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=67,slow=4.6,SNR=6.0						
	comp=Z,0.8nm,0.4s						
ANMO	**Albuquerque**	**52.69**	**79**	LR	LR	18 23 55.8	
	comp=Z,40nm,18.5s,baz=34,slow=35						
ZALV	**Zalesovo Beam**	**54.36**	**314**	PcP	**PcP**	**18 03 20.0**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=36,slow=2.7,SNR=6.5						
ARCES	**ARCESS Array B**	**58.20**	**350**	P	**P**	**18 02 41.9**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=17,slow=8.9,SNR=11						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**58.24**	**82**	P	**P**	**18 02 44.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=308,slow=5.0,SNR=8.0						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**59.46**	**314**	P	**P**	**18 02 51.3**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=44,slow=6.7,SNR=3.2						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.39**	**309**	P	**P**	**18 02 57.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=47,slow=6.5,SNR=4.4						
	comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**61.19**	**320**	P	**P**	**18 03 03.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=51,slow=6.4,SNR=9.3						
BVAR				LR	LR	18 31 55.2	
	comp=Z,20nm,18.3s,baz=59,slow=38						
	comp=Z,1.0nm,0.5s						
TKL	**Tuckaleechee C**	**65.59**	**63**	P	**P**	**18 03 33.5**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=7.1,slow=8.1,SNR=4.9						
	comp=Z,4.2nm,0.9s						
FINES	**FINESS Array B**	**65.92**	**348**	P	**P**	**18 03 34.1**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=20,slow=6.6,SNR=7.3						
	comp=Z,1.1nm,0.6s						
NOA	**NORSAR Array B**	**67.72**	**355**	LR	LR	18 34 37.5	
	comp=Z,9.8nm,19.1s,baz=190,slow=37						
HFS	**Hagfors**	**68.47**	**354**	P	**P**	**18 03 50.3**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=36,slow=5.4,SNR=1.6						
	comp=Z,1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**71.44**	**276**	P	**P**	**18 04 10.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=42,slow=6.9,SNR=4.7						
	comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**75.72**	**342**	P	**P**	**18 04 34.5**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=21,slow=5.2,SNR=4.3						
	comp=Z,0.4nm,0.4s						
GNI	**Garni**	**81.50**	**328**	LR	LR	18 44 57.3	
	comp=Z,18nm,18.5s,baz=24,slow=38						
WRA	**Warramunga Arr**	**82.28**	**224**	P	**P**	**18 05 11.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=32,slow=5.8,SNR=5.1						
	comp=Z,0.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**84.77**	**233**	P	**P**	**18 05 24.6**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=34,slow=2.5,SNR=5.6						
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**85.16**	**336**	P	**P**	**18 05 25.6**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=169,slow=1.7,SNR=5.5						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**85.74**	**223**	P	**P**	**18 05 29.5**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=24,slow=5.7,SNR=12						
	comp=Z,0.8nm,0.8s						
MAW	**Mawson**	**146.71**	**218**	PKPbc	**PKPab**	**18 12 31.0**	**0.0**
	comp=Z,2.4nm,0.6s,baz=79,slow=4.4,SNR=8.8						
BOSA	**Boshof**	**151.31**	**313**	PKPbc	**PKiKP**	**18 12 43.4**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=26,slow=2.9,SNR=11						

IDC 15 18:02:18.3±1.7, 2°.25N×126°.54E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=110.3km s-min=26.1km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.23**	**182**	P	Pn	18 06 57.0	0.0
	2.3nm,0.9s,baz=17,slow=12,SNR=2.3						
	2.3nm,0.9s						
WRA	**Warramunga Arr**	**23.34**	**161**	P	P	18 07 28.0	-0.4
	1.1nm,0.5s,baz=338,slow=10,SNR=24						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**26.73**	**165**	P	P	18 07 59.2	-0.6
	0.3nm,0.3s,baz=344,slow=7.5,SNR=26						
ASAR				PcP	PcP	18 11 22.9	-0.5
	0.3nm,0.9s,baz=332,slow=2.2,SNR=5.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**58.66**	**326**	P	P	18 12 17.8	+0.2
	0.1nm,0.6s,baz=128,slow=8.9,SNR=1.6						
	0.1nm,0.6s						

IDC 15 18:16:31.7±3.2, 20°.99N×122°.69E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=277.8km s-min=22.6km az=63.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**41.37**	**84**	T	T	19 09 22.2	
	baz=278,slow=75,SNR=23						
H11N2	**WAKE ISLAND Hy**	**41.38**	**84**	T	T	19 09 25.7	
	baz=278,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**41.38**	**84**	T	T	19 09 23.9	
	baz=278,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**41.39**	**86**	T	T	19 09 21.7	
	baz=281,slow=74,SNR=194						
H11S1	**WAKE ISLAND Hy**	**41.40**	**86**	T	T	19 09 21.5	
	baz=281,slow=74,SNR=162						
H11S2	**WAKE ISLAND Hy**	**41.41**	**86**	T	T	19 09 22.0	
	baz=281,slow=74,SNR=184						
MKAR	**Makanchi Array**	**41.61**	**318**	P	P	18 24 21.6	+0.1
	0.2nm,0.4s,baz=98,slow=8.9,SNR=4.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.25**	**164**	P	P	18 24 27.0	+0.1
	0.3nm,0.9s,baz=344,slow=8.2,SNR=1.9						
	0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**43.68**	**328**	P	P	18 24 38.1	-0.1
	0.5nm,0.4s,baz=122,slow=9.1,SNR=2.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.45**	**321**	P	P	18 24 52.1	-0.3
	0.3nm,0.4s,baz=113,slow=8.1,SNR=2.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**45.71**	**166**	P	P	18 24 54.4	-0.4
	0.3nm,0.9s,baz=345,slow=9.0,SNR=4.2						
	0.3nm,0.9s						

*KRSC **15** 18:17:47.8±1.6, 52°.73N×161°.11E, h42km±22km, Ml3.7*
*IDC **15** 18:17:47.9±7.8, 52°.00N×160°.92E, h54km±51km, mb3.4/4, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=79.2km s-min=50.9km az=11.0*

ISC 15 18:17:50.3±2.3, 52°.71N±0°.09×161°.1E±0°.1, h41km±18km, n30, σ1°15/35, mb3.8/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**1.14**	**295**	*eP*	**Pn**	**18 18 08.1**	**-1.7**
NLC				*eS*	**Sn**	**18 18 23.2**	**-1.0**
SDLR	**Sedlovina**	**1.44**	**294**	*eP*	**Pn**	**18 18 12.8**	**-1.1**
DALK	**Dalny**	**1.44**	**284**	*eP*	**Pn**	**18 18 12.6**	**-1.3**
UGLR	**Uglovaya**	**1.45**	**291**	*eP*	**Pn**	**18 18 13.6**	**-0.5**
SMAR	**Somma**	**1.48**	**293**	*eP*	**Pn**	**18 18 14.3**	**-0.4**
PET	**Petropavlovsk**	**1.50**	**283**	*eP*	**Pn**	**18 18 13.4**	**-1.2**
PET				*eS*	**Sn**	**18 18 32.8**	**-0.1**
AVH	**Avacha**	**1.52**	**293**	*eP*	**Pn**	**18 18 14.7**	**-0.3**
KRER	**Koryakskii**	**1.52**	**294**	*eP*	**Pn**	**18 18 14.4**	**-0.8**
KOK	**Koryaka**	**1.58**	**293**	*eP*	**Pn**	**18 18 14.9**	**-1.0**
RUS	**Russkaya**	**1.58**	**261**	*eP*	**Pn**	**18 18 15.2**	**-0.6**
RUS				*eS*	**Sn**	**18 18 35.3**	**+0.3**
KRX	**Arik**	**1.60**	**295**	*eP*	**Pn**	**18 18 14.9**	**-1.3**
KII	**Karymskiy**	**1.65**	**325**	*eP*	**Pn**	**18 18 16.0**	**-0.8**
MTVR	**Mutnovka**	**1.77**	**264**	*eP*	**Pn**	**18 18 18.2**	**-0.4**
MTVR				*eS*	**Sn**	**18 18 40.9**	**+0.9**
KRMR	**Karymshinskiy**	**1.79**	**275**	*eP*	**Pn**	**18 18 17.8**	**-0.8**
GRL	**Gorelyy**	**1.83**	**266**	*eP*	**Pn**	**18 18 19.5**	**+0.1**
MKZ	**Mys Kozlova**	**1.90**	**12**	*eP*	**Pn**	**18 18 18.2**	**-1.9**
ASAK	**Asacha**	**1.96**	**262**	*eP*	**Pn**	**18 18 21.6**	**+0.6**
PETK	**Petropavlovsk-**	**2.08**	**283**	P	**Pn**	**18 18 22.9**	**+0.2**
	17nm,0.3s,baz=94,slow=22,SNR=84						
PETK				S	**Sn**	**18 18 50.1**	**+2.8**
	14nm,0.3s,baz=10,slow=33,SNR=4.0						
	72nm,0.5s						
GNL	**Ganaly**	**2.13**	**299**	*eP*	**Pn**	**18 18 23.6**	**+0.2**
APC	**Apacha**	**2.38**	**277**	*eP*	**Pn**	**18 18 28.5**	**+1.7**
TUMD	**Tumrok D**	**2.54**	**351**	*eP*	**Pn**	**18 18 29.2**	**+0.3**
TUMD				*eS*	**Sn**	**18 18 59.7**	**+1.1**
PAU	**Pauzhetka**	**2.90**	**246**	*eP*	Pn	18 18 37.9	+4.0
KMNR	**Kamenistaya**	**3.10**	**351**	*eP*	**Pn**	**18 18 37.7**	**+1.0**
KIRR	**Kirishev**	**3.28**	**353**	*eP*	**Pn**	**18 18 40.5**	**+1.2**
ESO	**Esso**	**3.51**	**338**	*eP*	**Pn**	**18 18 42.9**	**+0.5**
SKR	**Severo-Kuril's**	**3.69**	**239**	*eP*	**Pn**	**18 18 44.9**	**+0.3**
SPITS	**Spitsbergen Ar**	**47.62**	**351**	P	**P**	**18 26 22.5**	**+1.0**
	1.1nm,0.5s,baz=64,slow=9.8,SNR=5.8						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**48.86**	**297**	P	**P**	**18 26 29.1**	**-2.3**
	0.2nm,0.4s,baz=53,slow=7.7,SNR=4.0						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**60.71**	**337**	P	**P**	**18 27 57.4**	**+0.5**
	0.5nm,0.5s,baz=47,slow=8.4,SNR=6.2						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**69.25**	**330**	P	**P**	**18 28 52.5**	**0.0**
	0.3nm,0.4s,baz=36,slow=6.8,SNR=2.0						
	0.3nm,0.4s						

*ATH **15** 18:29:29.4, 37°.55N×20°.32E, h2km, ML3.4/19, Manual Solution by S.Koutrakis First location: 2019/08/15 18:30:33, This location: 2019/08/15 20:41:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **15** 18:29:30.9, 38°.N±1°.×2°.0E±°, h11km±2km, M3.5/11, MLh3.5/11*
*IDC **15** 18:29:30.4±1.1, 37°.92N×20°.97E, h0km, mb3.6/7, mbtmp3.5/11, ML3.4/3, MS2.5/1, Error ellipse: s-maj=21.0km s-min=19.1km az=77.0*

ISC 15 18:29:30.1±1.4, 37°.56N±0°.04×20°.35E±0°.05, h12km±8km, n50, σ1°27/72, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.38**	**74**	P	**Pg**	**18 29 37.8**	**+0.1**
KRI1				S	**Sg**	**18 29 43.1**	**+0.3**
ORTH	**Orthonies,Zaky**	**0.40**	**43**	P	**Pg**	**18 29 37.7**	**-0.3**
ORTH				S	**Sg**	**18 29 43.3**	**-0.1**
ORTH	**Orthonies,Zaky**	**0.40**	**43**	P	**Pg**	**18 29 37.7**	**-0.3**
ORTH				S	**Sg**	**18 29 42.9**	**-0.4**
LTHK	**Lithakia**	**0.41**	**68**	P	**Pg**	**18 29 38.1**	**-0.1**
LTHK				S	**Sg**	**18 29 43.6**	**-0.1**
LTHK	**Lithakia**	**0.41**	**68**	P	**Pg**	**18 29 38.0**	**-0.3**
LTHK				S	**Sg**	**18 29 43.5**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.58**	**18**	P	**Pg**	**18 29 41.2**	**-0.3**
PSDA				S	**Sb**	**18 29 49.7**	**-0.8**
VLS	**Valsamata**	**0.65**	**17**	P	**Pg**	**18 29 42.1**	**-0.6**
VLS				S	**Sb**	**18 29 51.5**	**-0.8**
VLS	**Valsamata**	**0.65**	**17**	P	**Pg**	**18 29 42.0**	**-0.6**
VLS				S	**Sb**	**18 29 51.2**	**-1.1**
FSK	**Fiskardo**	**0.92**	**10**	P	**Pg**	**18 29 47.4**	**-0.3**
FSK				S	**Sb**	**18 30 00.1**	**+0.2**
RLS	**Riolos of Patr**	**1.01**	**60**	P	**Pg**	**18 29 48.7**	**-0.8**
RLS				S	**Sb**	**18 30 03.1**	**+0.3**
RLS	**Riolos of Patr**	**1.01**	**60**	P	**Pg**	**18 29 48.6**	**-1.0**
RLS				S	**Sb**	**18 30 03.6**	**+0.8**
AXS	**Araxos**	**1.03**	**51**	P	**Pg**	**18 29 49.1**	**-0.8**
AXS				S	**Sb**	**18 30 04.3**	**+1.0**
EVGI	**Lefkada island**	**1.09**	**13**	P	**Pg**	**18 29 50.1**	**-0.9**
EVGI				S	**Sb**	**18 30 05.1**	**+0.2**
DRO	**Drossia**	**1.15**	**69**	P	**Pg**	**18 29 51.5**	**-0.6**
DRO				S	**Sb**	**18 30 07.2**	**+0.6**
DRO	**Drossia**	**1.15**	**69**	P	**Pb**	**18 29 52.2**	**+0.4**
DRO				S	**Sb**	**18 30 07.8**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.19**	**13**	P	**Pg**	**18 29 51.8**	**-1.0**
NYDR				S	**Sb**	**18 30 08.0**	**+0.3**
PYL	**PYLOS**	**1.29**	**120**	P	**Pg**	**18 29 54.0**	**-0.9**
PYL				S	**Sb**	**18 30 12.4**	**+1.6**
ITM	**Ithomi**	**1.31**	**106**	P	**Pg**	**18 29 54.7**	**-0.5**
ITM				S	**Sg**	**18 30 12.0**	**-0.3**
ITM	**Ithomi**	**1.31**	**106**	P	**Pg**	**18 29 54.7**	**-0.5**
ITM				S	**Sb**	**18 30 12.6**	**+1.3**
PVO	**Paravola**	**1.40**	**41**	P	**Pb**	**18 29 56.4**	**+0.2**
PVO				S	**Sn**	**18 30 15.0**	**+1.1**
EFP	**Efpalio**	**1.50**	**54**	P	**Pg**	**18 29 58.4**	**-0.5**
EFP				S	**Sn**	**18 30 18.8**	**+2.5**
KLV	**Kalavryta, Ach**	**1.50**	**71**	P	**Pn**	**18 29 57.0**	**+0.1**
KLV	**Kalavryta, Ach**	**1.50**	**71**	P	**Pn**	**18 29 57.5**	**+0.7**
KLV				S	**Sn**	**18 30 18.0**	**+1.5**
ANX	**Ano Chora**	**1.61**	**50**	P	**Pg**	**18 30 00.4**	**-0.6**
ANX				S	**Sg**	**18 30 21.5**	**-0.4**
KALE	**Kalithea**	**1.64**	**59**	P	**Pn**	**18 29 59.4**	**+0.6**
KALE				S	**Sg**	**18 30 22.6**	**-0.1**
EVR	**Evrytania**	**1.77**	**40**	P	**Pb**	**18 30 02.3**	**-0.3**
TETR	**Tetrakomo, Epi**	**1.93**	**22**	P	**Pn**	**18 30 04.1**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.02**	**43**	P	**Pb**	**18 30 06.2**	**-0.5**
LOUT	**Loutraki**	**2.12**	**78**	P	**Pn**	**18 30 06.2**	**+0.8**
AXAR	**Agios Charalam**	**2.18**	**56**	P	**Pn**	**18 30 07.8**	**+1.6**
VLI	**Veliai**	**2.23**	**111**	P	**Pn**	**18 30 08.4**	**+1.6**
LKR	**Lokris**	**2.35**	**62**	P	**Pn**	**18 30 09.9**	**+1.4**
MET5	**Makryloggos,Me**	**2.39**	**88**	P	**Pn**	**18 30 10.0**	**+1.0**
ATAL	**Atalanti**	**2.39**	**61**	P	**Pn**	**18 30 10.0**	**+1.0**
THL	**Klokotos Trika**	**2.39**	**33**	P	**Pn**	**18 30 10.6**	**+1.6**
VIL2	**Platees**	**2.40**	**73**	P	**Pn**	**18 30 10.2**	**+1.0**
STFN	**Stefani**	**2.60**	**75**	P	**Pn**	**18 30 13.5**	**+1.6**
ATHU	**Athens Univers**	**2.75**	**80**	P	**Pn**	**18 30 14.6**	**+0.6**
IDI	**Anoyia**	**4.30**	**120**	Pn	**Pn**	**18 30 34.5**	**-0.8**
	0.8nm,0.3s,baz=286,slow=13,SNR=11						
IDI				Sn	**Sn**	**18 31 22.9**	**-2.6**
	1.6nm,0.3s,baz=121,slow=23,SNR=7.9						
MLR	**Muntele Rosu**	**8.96**	**26**	Pn	Pn	18 31 35.1	-4.3
	0.5nm,0.3s,baz=157,slow=13,SNR=3.7						
	1.0nm,0.4s						
GERES	**GERESS Array B**	**12.27**	**339**	Pn	**Pn**	**18 32 24.8**	**+0.1**
	baz=167,slow=14,SNR=2.6						
	0.2nm,0.4s						
ESDC	**Sonseca Array**	**19.11**	**284**	P	**Pn**	**18 33 58.9**	**+5.3**
	baz=91,slow=10,SNR=4.8						
	0.4nm,0.7s						
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**18 34 34.8**	**+0.4**
	1.3nm,0.7s,baz=156,slow=11,SNR=7.9						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**18 34 44.4**	**-1.6**
	2.7nm,0.9s,baz=169,slow=11,SNR=9.9						
	2.7nm,0.9s						
NOA	**NORSAR Array B**	**24.20**	**349**	LR	LR	18 46 06.1	
	comp=Z,9.6nm,18.0s,baz=35,slow=42						
TORD	**Torodi Ar. Bea**	**29.47**	**219**	P	P	18 35 41.4	+7.5
	0.7nm,0.6s,baz=30,slow=9.6,SNR=5.4						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**32.16**	**3**	P	**P**	**18 35 56.0**	**-1.2**
	0.7nm,0.8s,baz=185,slow=9.5,SNR=4.6						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**42.71**	**53**	P	**P**	**18 37 24.0**	**-2.6**
	0.3nm,0.6s,baz=278,slow=8.7,SNR=3.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**18 37 48.3**	**-2.8**
	0.4nm,0.5s,baz=281,slow=8.5,SNR=10.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.20**	**48**	P	**P**	**18 37 51.9**	**-2.7**
	1.1nm,0.5s,baz=265,slow=8.9,SNR=6.1						
	1.1nm,0.5s						

*MEX **15** 19:03:41.0±0.8, 14°.76N×92°.12W, h89km±7km, MD3.9*
*GCG **15** 19:03:41.1±0.9, 14°.62N×92°.21W, h69km±5km, MD3.6, ML3.4*

ISC 15 19:03:37.9±1.8, 14°.55N±0°.10×92°.21W±0°.08, h89km±9km, n16, σ1°55/26, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.33**	**23**	*i* P	**Pn**	**19 03 51.7**	**+0.2**
SMCA				*i* S	**Sn**	**19 04 00.2**	**-1.3**
SMCA				IAML		19 04 00.9	
	comp=N,3μm,0.2s						
THIG		**0.36**	**352**	*eP*	**Pn**	**19 03 52.1**	**+0.6**
THIG				*eS*	**Sn**	**19 04 01.6**	**-0.1**
THIG		**0.36**	**352**	*i* P	**Pn**	**19 03 51.9**	**+0.3**
THIG				*i* S	**Sn**	**19 04 01.3**	**-0.4**
THIG				IAML		19 04 01.9	
	comp=E,4μm,0.3s						
RTAL	**Retalhuleu**	**0.50**	**93**	*eP*	**Pn**	**19 03 54.2**	**+1.6**
RTAL				*eS*	**Sn**	**19 04 05.2**	**+1.8**
PATR	**El Naranjo**	**0.56**	**358**	*eP*	**Pn**	**19 03 53.0**	**-0.4**
PATR				*eS*	**Sn**	**19 04 03.1**	**-1.7**
PAVE	**Pavencul**	**0.64**	**3**	*eP*	**Pn**	**19 03 54.1**	**+0.1**
PAVE				*eS*	**Sn**	**19 04 04.8**	**-1.3**
		1.51	**320**	*eP*	**Pn**	**19 04 23.0**	**+0.9**
PCIG				*eS*	**Sn**	**19 04 23.0**	**-0.2**
FG16	**Alotenango, Sa**	**1.67**	**99**	*i* P	**Pn**	**19 04 04.7**	**-1.3**
CCIG	**Comitan**	**1.73**	**2**	*eP*	**Pn**	**19 04 09.0**	**+2.3**
CCIG				*eS*	**Sn**	**19 04 26.2**	**-2.3**
CCIG	**Comitan**	**1.73**	**2**	*i* P	**Pn**	**19 04 09.0**	**+2.3**
CCIG				IAML		19 04 37.6	
	comp=N,55nm,0.3s						
**TGI

TWM1				eS	Sn	19 10 29.4	+1.2	TWE				eS	Sn	19 10 54.0	-0.3				
HEN	**Hengchun**	**0.85**	**220**	eP	Pn	19 10 15.6	+1.4	**FUSB**	**Fushanzhiwuyua**	**2.10**	**6**	eP	Pn	19 10 30.4	+1.2				
HEN				eS	Sn	19 10 29.1	+1.0	FUSB				eS	Sn	19 10 55.1	0.0				
TSEB	**Hengchuen, Pin**	**0.86**	**208**	eS	Sn	19 10 29.7	+1.5	**KSHI**	**Guanxi Townshi**	**2.11**	**356**	eP	Pn	19 10 32.3	+3.0				
TWKBT	**Hengchun**	**0.86**	**214**	eP	Pn	19 10 15.5	+1.3	KSHI				eS	Sn	19 10 55.6	+0.4				
TWKBT				eS	Sn	19 10 29.1	+0.7	**NWLT**	**Wulai**	**2.11**	**4**	eP	Pn	19 10 30.9	+1.6				
TWK1	**Hengchun**	**0.87**	**214**	eP	Pn	19 10 15.5	+1.3	NWLT				eS	Sn	19 10 55.6	+0.3				
TWK1				eS	Sn	19 10 28.8	+0.5	**EGS**		**2.24**	**14**	eP	Pn	19 10 32.9	+1.9				
WTP	**Ta-pu**	**0.88**	**311**	eP	Pn	19 10 15.1	+0.7	**TATO**	**Taipei**	**2.31**	**4**	P	Pn	19 10 34.1	+2.2				
WTP				eS	Sn	19 10 28.3	-0.4	**TWA**	**Mucha**	**2.32**	**6**	eP	Pn	19 10 33.8	+1.7				
CHN1	**Nanshi**	**0.90**	**305**	eP	Pn	19 10 15.4	+0.7	TWA				eS	Sn	19 11 00.3	+0.2				
CHN1				eS	Sn	19 10 28.9	-0.2	**TIPB**	**Shuangxi**	**2.34**	**11**	eP	Pn	19 10 34.3	+1.9				
TPUB	**Ta-pu**	**0.90**	**315**	P	Pn	19 10 15.4	+0.7	TIPB				eS	Sn	19 11 02.2	+1.5				
TPUB	**Ta-pu**	**0.90**	**315**	eP	Pn	19 10 15.6	+0.9	**YOJ**	**Yonaguni jima**	**2.36**	**40**	P	Pn	19 10 33.5	+0.9				
TPUB				eS	Sn	19 10 29.0	-0.1	**YOJ**	**Yonaguni jima**	**2.36**	**40**	eP	Pn	19 10 33.7	+1.1				
WLCH	**Liuqiu**	**0.93**	**251**	eS	Sn	19 10 33.5	+3.9	**YOJ**	**Yonaguni jima**	**2.36**	**40**	eP	Pn	19 10 33.6	+1.0				
SNST	**Tainan City**	**0.94**	**306**	eP	Pn	19 10 16.5	+1.5	**SXI1**	**Grass Mountain**	**2.47**	**12**	eP	Pn	19 10 36.1	+2.0				
SNST				eS	Sn	19 10 29.6	-0.2	SXI1				eS	Sn	19 11 04.9	+1.0				
TWP	**Hsiaoliuchiu**	**0.95**	**251**	eS	Sn	19 10 32.9	+3.0	**YM01**	**YM01**	**2.48**	**5**	eP	Pn	19 10 35.4	+1.2				
CHN4	**Tsaushan**	**0.96**	**315**	eP	Pn	19 10 16.1	+0.8	YM01				eS	Sn	19 11 03.6	-0.4				
CHN4				eS	Sn	19 10 30.2	0.0	**ZUZH**	**Zhuzihu**	**2.49**	**4**	eP	Pn	19 10 35.8	+1.4				
ALS	**Alishan**	**0.97**	**330**	eP	Pn	19 10 16.4	+0.8	ZUZH				eS	Sn	19 11 04.4	+0.1				
ALS				eS	Sn	19 10 31.4	+0.5	**YM08**	**YM08**	**2.52**	**5**	eS	Sn	19 11 03.8	-1.2				
CHN3	**Shinhua**	**0.98**	**295**	eP	Pn	19 10 17.2	+1.7	**HATJ**	**Hateruma jima**	**2.66**	**58**	eP	Pn	19 10 37.2	+0.6				
CHN3				eS	Sn	19 10 32.6	+2.1	**IRIF**	**Iriomote-Funau**	**2.76**	**52**	eP	Pn	19 10 38.6	+0.7				
TWK	**Hsinying**	**0.98**	**308**	eP	Pn	19 10 16.2	+0.7	**VWUC**	**VWUC**	**2.89**	**324**	⇑P	Pn	19 10 39.4	-0.1				
TWK				eS	Sn	19 10 30.5	-0.1	VWUC				eS	Sn	19 11 11.3	-2.3				
EGFH	**Guangfu**	**1.00**	**5**	eP	Pn	19 10 15.8	0.0	**JKRS**	**Kuro-shima**	**2.92**	**57**	eP	Pn	19 10 40.7	+0.7				
EGFH				eS	Sn	19 10 29.6	-1.4	**JIJ**	**Ishigaki jima**	**3.09**	**56**	eP	Pn	19 10 42.5	+0.2				
WCKO	**Fanlu**	**1.02**	**319**	eP	Pn	19 10 16.3	+0.4	**PTMZ**	**Houxiangcun**	**3.11**	**320**	eP	Pn	19 10 42.9	+0.3				
WCKO				eS	Sn	19 10 31.0	-0.4	PTMZ				eS	Sn	19 11 16.8	-2.1				
WARBT	**Fenglin Townsh**	**1.05**	**3**	⇓↑P	Pn	19 10 16.0	-0.3	**KNM**	**Kinmen**	**3.18**	**304**	eP	Pn	19 10 47.4	+1.7				
WARBT				eS	Sn	19 10 29.8	-2.1	KNM				eS	Sn	19 11 21.7	+1.1				
TEGC	**Jichi Village**	**1.06**	**11**	P	Pn	19 10 17.3	+1.0	**KNMB**	**Chin-men Tao**	**3.24**	**304**	eP	Pn	19 10 44.4	+0.1				
TEGC				S	Sn	19 10 33.4	+1.3	KNMB				eS	Sn	19 11 19.5	-2.5				
SSHA	**Shanhua**	**1.07**	**296**	eP	Pn	19 10 18.8	+2.4	**JISG**	**Ishigakijimahi**	**3.34**	**54**	eP	Pn	19 10 45.4	-0.2				
SSHA				eS	Sn	19 10 33.7	+1.4	JISG				eS	Sn	19 11 23.4	-1.0				
VWDT	**VWDT**	**1.10**	**351**	⇓P	Pn	19 10 18.3	+1.5	**ZPLA**	**Ao Xicun**	**3.52**	**292**	eP	Pn	19 10 48.6	+0.5				
VWDT				S	Sn	19 10 33.5	+0.6	ZPLA				eS	Sn	19 11 27.2	-1.7				
CHN5	**Tsauling**	**1.10**	**327**	eP	Pn	19 10 17.6	+0.7	**MATB**	**Ma-tsu**	**3.69**	**340**	⇓P	Pn	19 10 50.1	-0.3				
CHN5				eS	Sn	19 10 33.3	+0.1	MATB				eS	Sn	19 11 29.8	-3.2				
WHYT	**Xinyi Township**	**1.12**	**337**	eP	Pn	19 10 17.7	+0.6	**DSXP**	**Dongshan**	**3.74**	**287**	eP	Pn	19 10 51.7	+0.7				
WHYT				eS	Sn	19 10 33.4	+0.1	DSXP				eS	Sn	19 11 31.6	-2.5				
SHUL	**Shoufeng**	**1.14**	**11**	eP	Pn	19 10 18.1	+0.9	**AXDP**	**Jialang**	**3.80**	**307**	eP	Pn	19 10 51.8	0.0				
SHUL				eS	Sn	19 10 34.3	+0.7	**MHZQ**	**Yeshan**	**4.01**	**329**	eP	Pn	19 10 54.8	+0.1				
ESL	**Shilin**	**1.15**	**5**	eP	Pn	19 10 17.1	-0.3	MHZQ				eS	Sn	19 11 38.6	-2.1				
ESL				eS	Sn	19 10 31.6	-2.3	**XPSS**	**Dashiqiu**	**4.37**	**347**	eP	Pn	19 10 59.4	-0.2				
SCLT	**Jiali**	**1.16**	**296**	eP	Pn	19 10 18.4	+0.9	XPSS				eS	Sn	19 11 46.0	-3.3				
SCLT				eS	Sn	19 10 34.7	+0.6	**SXFK**	**Yanhouchang**	**5.01**	**319**	eP	Pn	19 11 08.1	-0.1				
SSLB	**Suanglung**	**1.17**	**343**	P	Pn	19 10 19.3	+1.7	SXFK				eS	Sn	19 12 02.3	-2.6				
SSLB	**Suanglung**	**1.17**	**343**	eP	Pn	19 10 18.2	+0.5												
SSLB				eS	Sn	19 10 34.1	-0.3												
CHY	**Chiayi**	**1.18**	**315**	eP	Pn	19 10 18.2	+0.5												
CHY				eS	Sn	19 10 34.2	-0.3												
ICHU	**Yijhu**	**1.19**	**306**	eP	Pn	19 10 18.6	+0.8												
ICHU				eS	Sn	19 10 35.4	+0.7												
TEYL	**Yanliau Villag**	**1.22**	**12**	eP	Pn	19 10 19.6	+1.4												
TEYL				eS	Sn	19 10 37.2	+1.8												
CHN8	**Yiju**	**1.23**	**304**	eP	Pn	19 10 18.9	+0.6												
CHN8				eS	Sn	19 10 35.2	-0.4												
WGK	**Gukeng**	**1.24**	**325**	eP	Pn	19 10 19.1	+0.7												
WGK				eS	Sn	19 10 36.2	+0.5												
TSCK	**Chigu Township**	**1.24**	**293**	⇑P	Pn	19 10 19.8	+1.4												
TSCK				eS	Sn	19 10 36.3	+0.5												
WDLH	**Douliu**	**1.25**	**325**	eP	Pn	19 10 19.2	+0.6												
WDLH				eS	Sn	19 10 36.1	+0.1												
WDL	**Douliou City**	**1.27**	**325**	P	Pn	19 10 19.4	+0.7												
WDL				eS	Sn	19 10 36.7	+0.3												
SMLT	**Sun Moon Lake**	**1.28**	**342**	eP	Pn	19 10 19.8	+0.8												
SMLT				eS	Sn	19 10 37.2	+0.5												
WJS	**Zhushan**	**1.28**	**334**	eP	Pn	19 10 20.2	+1.3												
WJS				eS	Sn	19 10 37.1	+0.5												
OWD	**Renai**	**1.29**	**354**	eP	Pn	19 10 20.3	+1.1												
OWD				eS	Sn	19 10 37.0	-0.1												
ETM	**Tongmen**	**1.30**	**7**	eP	Pn	19 10 19.1	-0.1												
ETM				eS	Sn	19 10 34.7	-2.4												
WSL	**Shuilin Townsh**	**1.33**	**310**	⇑P	Pn	19 10 20.0	+0.6												
WSL				eS	Sn	19 10 37.8	+0.2												
HWA	**Hwalien**	**1.33**	**11**	eP	Pn	19 10 20.6	+1.1												
HWA				eS	Sn	19 10 38.3	+0.6												
WUSB	**Renai**	**1.34**	**352**	eP	Pn	19 10 20.7	+1.0												
WUSB				eS	Sn	19 10 38.3	+0.3												
WTK	**Tuku**	**1.34**	**320**	eP	Pn	19 10 20.1	+0.5												
WTK				eS	Sn	19 10 38.1	+0.3												
WNT	**Mingjian**	**1.35**	**334**	eP	Pn	19 10 20.6	+1.0												
WNT				eS	Sn	19 10 38.2	+0.2												
WSF	**Szhu**	**1.41**	**314**	⇑P	Pn	19 10 20.7	+0.3												
WSF				eS	Sn	19 10 39.0	-0.3												
TWD	**Chiawan**	**1.43**	**10**	eP	Pn	19 10 20.9	+0.2												
TWD				eS	Sn	19 10 38.8	-1.1												
WCS	**Beigang Elemen**	**1.44**	**345**	eP	Pn	19 10 22.7	+1.9												
WCS				eS	Sn	19 10 40.5	+0.4												
WHF	**Hehuan Shan**	**1.48**	**358**	eP	Pn	19 10 22.9	+1.2												
WHF				eS	Sn	19 10 42.0	+0.5												
ETL	**Fush Village**	**1.51**	**10**	eP	Pn	19 10 22.4	+0.7												
ETL				eS	Sn	19 10 41.8	+0.1												
NACB	**Ninganchiao**	**1.52**	**9**	P	Pn	19 10 22.1	+0.3												
NACB	**Ninganchiao**	**1.52**	**9**	eP	Pn	19 10 21.7	-0.1												
NACB				eS	Sn	19 10 40.8	-1.1												
WTCT	**Ta-ch'eng**	**1.54**	**321**	eP	Pn	19 10 21.2	-0.7												
WTCT				eS	Sn	19 10 42.1	0.0												
ETLH	**Xiulin Townshi**	**1.54**	**5**	eP	Pn	19 10 22.5	+0.3												
ETLH				eS	Sn	19 10 41.2	-1.2												
WCH1	**Changhua City**	**1.57**	**333**	eP	Pn	19 10 23.4	+0.9												
WCH1				eS	Sn	19 10 44.0	+1.0												
WCHH	**Zhanghua**	**1.58**	**333**	eP	Pn	19 10 23.3	+0.8												
WCHH				eS	Sn	19 10 44.0	+1.0												
FUSS	**Fushou**	**1.58**	**357**	eP	Pn	19 10 24.6	+1.8												
FUSS				eS	Sn	19 10 44.4	+0.9												
TWT	**Tachien**	**1.59**	**355**	eP	Pn	19 10 24.8	+1.9												
TWT				eS	Sn	19 10 45.2	+1.6												
TDCB	**Techi**	**1.59**	**354**	eP	Pn	19 10 25.2	+2.3												
TDCB				eS	Sn	19 10 44.5	+0.9												
TCU	**Taichung**	**1.59**	**338**	eP	Pn	19 10 23.9	+1.2												
TCU				eS	Sn	19 10 43.2	-0.2												
WHP	**Taichung City**	**1.64**	**348**	eP	Pn	19 10 24.5	+1.1												
WHP				eS	Sn	19 10 45.8	+1.1												
WDGT	**Dungji**	**1.65**	**291**	eP	Pn	19 10 23.6	+0.2												
WDGT				eS	Sn	19 10 42.8	-1.9												
EAHA	**Aohua**	**1.70**	**13**	eP	Pn	19 10 24.6	+0.6												
EAHA				eS	Sn	19 10 45.2	-0.6												
EOS4	**EOS4**	**1.71**	**32**	⇓P	Pn	19 10 24.8	+0.9												
EOS4				eS	Sn	19 10 45.7	+0.2												
TWQ1	**Liyutan**	**1.75**	**343**	eS	Sn	19 10 47.5	+0.5												
NNSB	**Datong**	**1.76**	**2**	eP	Pn	19 10 26.4	+1.5												
NNSB				eS	Sn	19 10 47.8	+0.5												
WDJ	**Dajia District**	**1.79**	**339**	eS	Sn	19 10 48.7	+0.8												
EWUT	**Wuta**	**1.82**	**13**	eS	Sn	19 10 48.5	0.0												
NSY	**Sanyi**	**1.82**	**343**	eP	Pn	19 10 27.2	+1.6												
NSY				eS	Sn	19 10 48.7	+0.1												
PHUB	**P'eng-hu**	**1.83**	**298**	P	Pn	19 10 25.6	0.0												
PHUB				S	Sn	19 10 46.5	-2.1												
VCHM	**Qimei**	**1.83**	**288**	eP	Pn	19 10 26.0	+0.3												
VCHM				eS	Sn	19 10 47.0	-1.8												
EOS3	**EOS3**	**1.85**	**29**	⇓P	Pn	19 10 27.1	+1.2												
EOS3				S	Sn	19 10 50.0	+1.0												
PNG	**Penghu**	**1.86**	**299**	⇓P	Pn	19 10 26.4	+0.3												
PNG				eS	Sn	19 10 47.9	-1.7												
LATG	**Datong**	**1.87**	**6**	P	Pn	19 10 27.1	+0.7												
LATG				eS	Sn	19 10 50.6	+0.7												
NMLH	**Miaoli**	**1.93**	**345**	eS	Sn	19 10 50.5	-0.5												
EOS2	**EOS2**	**1.93**	**25**	eP	Pn	19 10 28.4	+1.5												
EOS2				eS	Sn	19 10 52.2	+1.3												
ESAO	**Su ao**	**1.96**	**14**	eP	Pn	19 10 28.4	+1.1												
ESAO				eS	Sn	19 10 52.4	+0.7												
NFF	**Wufeng Townshi**	**1.97**	**354**	eP	Pn	19 10 31.0	+3.5												
NFF				eS	Sn	19 10 52.5	+0.4												
ENTT	**Nioudou**	**1.98**	**6**	eP	Pn	19 10 28.7	+1.1												
ENTT				eS	Sn	19 10 52.6	+0.4												
NSTT	**Nanjuang**	**1.98**	**351**	eP	Pn	19 10 29.5	+1.9												
NSTT				eS	Sn	19 10 52.2	0.0												
LIOB	**Emei**	**1.99**	**352**	eP	Pn	19 10 28.9	+1.1												
LIOB				eS	Sn	19 10 52.5	-0.1												
TWC	**Suao**	**1.99**	**14**	⇑↑P	Pn	19 10 29.2	+1.4												
TWC				eS	Sn	19 10 53.4	+0.9												
YHNB	**Yeheng**	**2.00**	**1**	P	Pn	19 10 29.4	+1.5												
YHNB	**Yeheng**	**2.00**	**1**	⇓P	Pn	19 10 29.6	+1.7												
YHNB				eS	Sn	19 10 53.5	+0.8												
TWE	**Neicheng**	**2.07**	**9**	eP	Pn	19 10 30.0	+1.2												

*NOU **15** 19:31:18.1, 37˚.52S×178˚.83E, h16km, MLv3.5/10, Off E. Coast of N. Island, N.Z.*
*WEL **15** 19:31:19.1±1.1, 37˚.5S±6˚×17˚.9E±˚, h12km, M3.0/13, ML3.4/12, MLv3.0/13, Error ellipse: s-maj=8.9km s-min=8.0km az=109.6, confirmed*

ISC 15 19:31:18.6±2.8, 37˚.46S±0˚.07×178˚.8E±0˚.1, h24km±13km, n26, σ0°56/33, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.44**	**256**	P	**Pb**	**19 31 27.6**	**-0.1**
MXZ	**Matakaoa Point**	**0.44**	**256**	S	**Sb**	**19 31 34.3**	**+0.4**
MXZ	**Matakaoa Point**	**0.44**	**256**	P	**Pb**	**19 31 27.8**	**0.0**
MXZ				S	**Sb**	**19 31 33.9**	**0.0**
WMGZ	**Waiomatatini S**	**0.49**	**223**	P	**Pn**	**19 31 30.5**	**+0.4**
PKGZ	**Pakihiroa**	**0.73**	**236**	P	**Pn**	**19 31 33.5**	**+0.1**
PUZ	**Puketiti**	**0.77**	**217**	P	**Pn**	**19 31 34.6**	**+0.6**
PUZ				S	**Sn**	**19 31 45.5**	**+0.7**
HAZ	**Te Kaha**	**0.89**	**250**	P	**Pb**	**19 31 35.0**	**-0.4**
HAZ				S	**Sb**	**19 31 47.1**	**+0.2**
TWGZ	**Tauwhareparae**	**0.99**	**223**	P	**Pn**	**19 31 37.9**	**+0.8**
RUGZ	**Raukumara Rang**	**1.05**	**241**	P	**Pb**	**19 31 38.3**	**0.0**
CNGZ	**Carnagh Statio**	**1.14**	**206**	P	**Pb**	**19 31 40.2**	**+0.6**
TKGZ	**Te Karaka**	**1.25**	**218**	P	**Pb**	**19 31 41.2**	**-0.3**
MWZ	**Matawai**	**1.36**	**230**	P	**Pn**	**19 31 42.5**	**+0.3**
MWZ				S	**Sn**	**19 31 59.4**	**0.0**
RIGZ	**Rimuhau**	**1.51**	**214**	P	**Pn**	**19 31 44.5**	**+0.3**
RIGZ				S	**Sn**	**19 32 03.5**	**+0.3**
RAGZ	**Rawiri**	**1.53**	**227**	P	**Pn**	**19 31 44.8**	**+0.2**
WHRZ	**Whale Island**	**1.53**	**255**	P	**Pn**	**19 31 44.8**	**+0.2**
URZ	**Urewera**	**1.58**	**239**	P	**Pn**	**19 31 45.4**	**+0.2**
URZ	**Urewera**	**1.58**	**239**	S	**Sn**	**19 32 05.0**	**0.0**
URZ	**Urewera**	**1.58**	**239**	P	**Pn**	**19 31 45.5**	**+0.3**
URZ				S	**Sn**	**19 32 04.8**	**-0.2**
RTZ	**Ruatahuna**	**1.87**	**231**	P	**Pn**	**19 31 49.7**	**+0.5**
RTZ				S	**Sb**	**19 32 14.0**	**-1.1**
BKZ	**Black Stump Fm**	**2.51**	**227**	P	**Pn**	**19 31 57.8**	**-0.2**
BKZ	**Black Stump Fm**	**2.51**	**227**	S	**Sn**	**19 32 27.5**	**-0.5**
KUZ	**Kuaotunu**	**2.59**	**285**	P	**Pn**	**19 31 58.5**	**-0.6**
HIZ	**Hauiti**	**3.32**	**250**	P	**Pn**	**19 32 10.1**	**+1.0**
BFZ	**Birch Farm**	**3.80**	**211**	P	**Pn**	**19 32 14.0**	**-1.7**
OUZ	**Omahuta**	**4.79**	**296**	P	**Pn**	**19 32 29.7**	**+0.4**
OUZ	**Omahuta**	**4.79**	**296**	P	**Pn**	**19 32 29.4**	**+0.1**

IDC 15 19:34:53.1±10.0, 13˚.24N×123˚.29E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=186.6km s-min=60.0km az=145.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.97**	**286**	P	P	19 40 09.5	0.0
	1.3nm,0.8s,baz=87,slow=7.7,SNR=10 1.3nm,0.8s						
SONM	**Songino Array**	**37.26**	**341**	P	P	19 42 07.1	+0.4
	0.4nm,0.8s,baz=169,slow=10,SNR=2.3 0.4nm,0.8s						
MKAR	**Makanchi Array**	**47.91**	**323**	P	P	19 43 32.0	-1.2
	0.4nm,0.8s,baz=116,slow=8.2,SNR=4.0 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**51.98**	**325**	P	P	19 44 04.5	+0.5
	0.4nm,0.3s,baz=121,slow=8.4,SNR=4.5 0.4nm,0.3s						

*IDC **15** 19:46:10.9±9.4, 4˚.97S×105˚.92E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=521.5km s-min=177.9km az=73.0*
*DJA **15** 19:46:21.3±0.4, 5˚.3S±3˚×10˚.3E±˚, h40km±10km, M3.9/14, mb4.1/2, MLv3.7/14*

ISC 15 19:46:20.3±1.4, 5˚.38S±0˚.08×102˚.71E±0˚.08, h35km, n15, σ0°94/17, mb3.8/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.04**	**13**	P	**Pn**	**19 46 38.7**	**+0.3**
LWLI	**Liwa**	**1.39**	**75**	P	**Pn**	**19 46 43.3**	**0.0**
MDSI	**Maura Dua**	**1.71**	**59**	P	**Pn**	**19 46 47.7**	**+0.1**
KSI	**Kapahiang**	**1.72**	**356**	P	**Pn**	**19 46 49.0**	**+1.1**
KSI				S	**Sn**	**19 47 09.6**	**+0.9**
LHSI	**Lahat**	**1.74**	**28**	P	**Pn**	**19 46 48.8**	**+0.7**
LHSI				S	**Sn**	**19 47 09.9**	**+0.8**
KASI	**Kota Agung**	**1.78**	**95**	P	**Pn**	**19 46 49.6**	**+1.0**
KLI	**Kotabumi**	**2.20**	**77**	P	**Pn**	**19 46 55.1**	**+0.8**
MASI	**Maura Aman, Be**	**2.28**	**348**	P	**Pn**	**19 46 56.7**	**+1.3**
CGJI	**Cibinong**	**3.21**	**113**	P	**Pn**	**19 47 09.3**	**+1.1**
KRJI	**Kerinci**	**3.50**	**339**	P	**Pn**	**19 47 12.4**	**+0.1**
PPSI	**Pulau Pagai**	**3.75**	**314**	P	**Pn**	**19 47 16.6**	**+1.0**
CNJI	**Cibinong**	**4.79**	**114**	P	**Pn**	**19 47 30.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**23.98**	**351**	P	**P**	**19 51 30.4**	**-1.3**
	0.5nm,0.4s,baz=169,slow=8.7,SNR=6.2 0.5nm,0.4s						
MKAR	**Makanchi Array**	**55.01**	**343**	P	**P**	**19 55 47.5**	**-0.7**
	0.6nm,0.7s,baz=158,slow=8.5,SNR=6.6 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**60.99**	**348**	P	**P**	**19 56 29.1**	**-0.9**
	0.6nm,0.4s,baz=168,slow=7.4,SNR=3.7 0.6nm,0.4s						

*UUSS **15** 19:46:39.6±0.6, 44˚.128N±0˚.010×110˚.38W±0˚.01, h7km±3km, ML3.5/20, ML3.3/46(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=91.0*
*NEIC **15** 19:46:40.9±0.8, 44˚.121N±0˚.010×110˚.39W±0˚.02, h10km±9km, Error ellipse: s-maj=2.1km s-min=1.4km az=73.0*
*IDC **15** 19:46:40.8±1.0, 44˚.19N×110˚.28W, h0km, mb3.7/1, mbtmp3.5/5, ML2.8/3, MS2.7/7, Error ellipse: s-maj=13.6km s-min=5.8km az=57.0*

ISC 15 19:46:41.3±1.0, 44˚.13N±0˚.02×110˚.37W±0˚.03, h8km±8km, n57, σ1°00/51, MS2.9/3, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YHR	**Hawk`s Rest**	**0.21**	**97**		**Pg**	**19 46 45.9**	**+0.2**
YHR					**Sg**	**19 46 49.6**	**+1.0**
YTP	**The Promontory**	**0.27**	**13**		**Pg**	**19 46 46.6**	**-0.1**
YTP					**Sg**	**19 46 50.9**	**+0.5**
YLT	**Little Thumb C**	**0.34**	**333**		**Pg**	**19 46 48.2**	**+0.1**
YPLA	**Lake Butte**	**0.39**	**11**		**Pg**	**19 46 48.9**	**-0.1**
LKWY	**Lake**	**0.43**	**357**		**Pg**	**19 46 49.1**	**-0.7**
LKWY				IAML		19 47 02.2	
	2µm,0.9s						
YFT	**Old Faithful**	**0.46**	**314**		**Pg**	**19 46 50.3**	**-0.1**
YFT				IAML		19 47 01.7	
	comp=N,1µm,1.0s						
YFT				IAML		19 47 02.6	
	comp=E,1µm,1.1s						
YML	**Mary Lake**	**0.51**	**338**		**Pb**	**19 46 51.6**	**-1.1**
YPPC	**Pelican Cone**	**0.53**	**14**		**Pg**	**19 46 52.0**	**+0.3**
LOHW	**Long Hollow**	**0.55**	**198**		**Pg**	**19 46 51.2**	**-0.7**
MCID	**Moose Creek**	**0.59**	**276**		**Pg**	**19 46 52.5**	**-0.2**
YUF	**Upper Falls**	**0.59**	**350**		**Pb**	**19 46 54.1**	**0.0**
YNR	**Norris Junctio**	**0.62**	**339**		**Pb**	**19 46 53.8**	**-0.8**
YMP	**Mirror Lake Pl**	**0.63**	**14**		**Pg**	**19 46 52.6**	**-0.9**
YPM	**Purple Mountai**	**0.64**	**326**		**Pb**	**19 46 54.2**	**-0.6**
YNM	**Yellowstone No**	**0.64**	**338**		**Pg**	**19 46 52.6**	**-1.1**
FXWY	**Fox Creek**	**0.68**	**224**		**Pg**	**19 46 53.5**	**-0.9**
FXWY				IAML		19 47 03.4	
	comp=E,1µm,0.3s						
FXWY				IAML		19 47 08.6	
	comp=E,1µm,0.5s						
YPWB	**West Boundary**	**0.71**	**313**		**Pb**	**19 46 55.2**	**-0.8**
SNOW	**Snow King Moun**	**0.72**	**203**		**Pg**	**19 46 54.8**	**-0.4**
SNOW				IAML		19 47 06.7	
	comp=E,3µm,0.4s					

ASAR	**Alice Springs**	**43.34**	**267**	P		**P**	**20 18 03.5**	**-0.2**
	0.5nm,0.4s,baz=104,slow=7.3,SNR=14							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**44.34**	**272**	P		**P**	**20 18 11.2**	**-0.5**
	1.2nm,0.4s,baz=111,slow=7.9,SNR=16							
	1.2nm,0.4s							
H03S2	**Juan Fernandez**	**80.19**	**123**	T		T	21 51 18.6	
	baz=238,slow=74							
H03S1	**Juan Fernandez**	**80.20**	**123**	T		T	21 51 25.4	
	baz=238,slow=74							
H03S3	**Juan Fernandez**	**80.21**	**123**	T		T	21 51 25.4	
	baz=238,slow=74							
H10N3	**ASCENSION HYDR**	**138.58**	**154**	T		T	23 05 11.1	
	baz=204,slow=75							
H10N1	**ASCENSION HYDR**	**138.58**	**154**	T		T	23 05 16.1	
	baz=204,slow=75							
H10N2	**ASCENSION HYDR**	**138.60**	**154**	T		T	23 05 09.9	
	baz=204,slow=75							
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc		**PKPbc**	**20 29 38.3**	**+0.2**
	0.6nm,0.3s,baz=41,slow=4.4,SNR=12							
NOA	**NORSAR Array B**	**148.93**	**352**	PKPbc		**PKPbc**	**20 29 48.8**	**+0.6**
	0.2nm,0.5s,baz=16,slow=2.5,SNR=1.6							
HFS	**Hagfors**	**149.43**	**349**	PKPbc		**PKPbc**	**20 29 50.0**	**+0.6**
	2.1nm,0.9s,baz=36,slow=2.7,SNR=1.9							
MMAI	**Mount Meron Ar**	**151.79**	**284**	PKPbc		**PKiKP**	**20 29 57.8**	**+1.3**
	0.3nm,0.3s,baz=72,slow=6.7,SNR=1.7							
BRTR	**Keskin Array B**	**152.88**	**298**	PKPbc		**PKPbc**	**20 29 57.6**	**-0.8**
	0.4nm,0.7s,baz=64,slow=3.4,SNR=2.5							

*NNC **15** 20:22:15.6±0.9, 41°.57N×73°.30E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=8.0km s-min=3.7km az=169.0*
*SOME **15** 20:22:15.4, 41°.55N×73°.33E, h15km*
*KRNET **15** 20:22:16.1±0.1, 41°.56N×73°.37E, h26km, mb3.4*
*KNET **15** 20:22:18.4±0.7, 41°.69N×73°.39E, h16km±6km, ml2.9, Error ellipse: s-maj=6.7km s-min=4.1km az=80.0*

ISC 15 20:22:16.7±1.0, 41°.58N±0°.02×73°.34E±0°.02, h13km±9km, n60, σ1°.53/98, 29C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.37**	**227**	⇑*i*P	**Pg**	**20 22 24.0**	**-0.1**
ARSB				⇑*i*S	**Sg**	**20 22 29.9**	**+0.8**
SALK	**Salom-Alik**	**0.78**	**152**	⇑*i*P	**Pb**	**20 22 30.7**	**-1.5**
SALK				⇑*i*S	**Sg**	**20 22 40.8**	**-1.3**
UCH	**Uchtor**	**1.09**	**53**	⇑P	**Pb**	**20 22 37.1**	**-0.6**
	SNR=117						
UCH				⇓S	**Sg**	**20 22 52.1**	**0.0**
	62nm,0.2s						
UCH	**Uchtor**	**1.09**	**53**	⇑*i*P	**Pb**	**20 22 36.5**	**-1.2**
UCH				⇑*i*S	**Sb**	**20 22 51.1**	**-1.0**
OHH	**Osh**	**1.13**	**202**	⇓*i*P	**Pn**	**20 22 37.1**	**-1.2**
OHH				⇓*i*S	**Sb**	**20 22 52.1**	**-0.7**
EKS2	**Erkin-Say**	**1.13**	**17**	⇑P	**Pb**	**20 22 37.7**	**-0.6**
	32nm,0.2s,SNR=71						
EKS2				⇓S	**Sb**	**20 22 52.0**	**-0.9**
	34nm,0.1s						
EKS2	**Erkin-Say**	**1.13**	**17**	⇓*i*P	**Pb**	**20 22 37.2**	**-1.0**
EKS2				⇓*i*S	**Sb**	**20 22 52.6**	**-0.3**
MRKS	**Merke**	**1.17**	**356**	P	**Pn**	**20 22 38.4**	**-0.5**
	33nm,0.2s						
MRKS				S	**Sg**	**20 22 55.6**	**+1.1**
	127nm,0.4s						
MRKS	**Merke**	**1.17**	**356**	*e*P	**Pn**	**20 22 38.4**	**-0.5**
	33nm,0.2s						
MRKS				*e*S	**Sg**	**20 22 55.5**	**+1.1**
	127nm,0.4s						
AAK	**Ala-Archa**	**1.37**	**39**	⇓P	**Pb**	**20 22 42.2**	**0.0**
	34nm,0.3s,SNR=13						
AAK				⇓S	**Sb**	**20 22 59.8**	**+0.2**
	65nm,0.2s						
AAK	**Ala-Archa**	**1.37**	**39**	⇓P	**Pb**	**20 22 42.1**	**-0.1**
	2.2nm,0.3s						
AAK				⇑S	**Sg**	**20 23 00.2**	**-0.5**
	23nm,0.5s						
AAK	**Ala-Archa**	**1.37**	**39**	⇑*i*P	**Pn**	**20 22 41.1**	**-0.5**
AAK				⇑*i*S	**Sn**	**20 22 59.0**	**-0.7**
FRU1	**Bishkek**	**1.56**	**37**	⇑*i*P	**Pb**	**20 22 44.7**	**-0.8**
FRU1				⇑*i*S	**Sb**	**20 23 05.4**	**+0.2**
KBK	**Karagaybulak**	**1.61**	**47**	⇑P	**Pb**	**20 22 46.8**	**+0.4**
	19nm,0.1s,SNR=16						
KBK				⇑S	**Sg**	**20 23 08.3**	**-0.3**
	99nm,0.2s						
KBK	**Karagaybulak**	**1.61**	**47**	⇓*i*P	**Pn**	**20 22 45.1**	**+0.1**
KBK				⇓*i*S	**Sb**	**20 23 06.2**	**-0.6**
TRKS	**Terek-Say**	**1.65**	**269**	⇑*i*P	**Pn**	**20 22 46.0**	**+0.5**
TRKS				⇑*i*S	**Sb**	**20 23 07.7**	**-0.1**
CHMS	**Chumysh**	**1.77**	**36**	⇓P	**Pb**	**20 22 49.4**	**+0.4**
	32nm,0.2s,SNR=73						
CHMS				⇑S	**Sg**	**20 23 12.6**	**-0.9**
	160nm,0.3s						
CHMS	**Chumysh**	**1.77**	**36**	⇓*i*P	**Pn**	**20 22 47.5**	**+0.5**
CHMS				⇓*i*S	**Sb**	**20 23 10.2**	**-0.9**
USP	**Ospenovka**	**1.90**	**27**	⇑P	**Pb**	**20 22 51.4**	**+0.2**
	44nm,0.2s,SNR=63						
USP				⇓S	**Sg**	**20 23 16.4**	**-1.2**
	158nm,0.3s						
USP	**Ospenovka**	**1.90**	**27**	⇑*i*P	**Pn**	**20 22 49.3**	**+0.5**
USP				⇑*i*S	**Sb**	**20 23 13.5**	**-1.3**
DZA	**Taraz**	**1.99**	**312**	Pg	**Pb**	**20 22 52.8**	**+0.1**
	29nm,0.3s						
DZA				Lg	Lg	20 23 19.6	
	124nm,0.3s						
DZA	**Taraz**	**1.99**	**312**	*e*P	**Pb**	**20 22 52.9**	**+0.1**
	29nm,0.3s						
DZA				*e*S	**Sg**	**20 23 19.6**	**-1.0**
	124nm,0.3s						
SGDS	**Sogindy**	**2.10**	**27**	Pg	**Pb**	**20 22 54.5**	**-0.3**
	9.5nm,0.2s						
SGDS				Lg	Lg	20 23 23.1	
	70nm,0.4s						
TKM2	**Tokmak 2**	**2.15**	**51**	⇑P	**Pb**	**20 22 55.2**	**-0.4**
	21nm,0.2s,SNR=46						
TKM2				⇑S	**Sb**	**20 23 23.7**	**+1.5**
	53nm,0.3s						
TKM2	**Tokmak 2**	**2.15**	**51**	⇑*i*P	**Pn**	**20 22 53.0**	**+0.6**
TKM2				⇑*i*S	**Sn**	**20 23 19.6**	**+0.5**
ULHL	**Ulahol**	**2.27**	**72**	⇓P	**Pb**	**20 22 57.5**	**-0.1**
	6.3nm,0.1s,SNR=5.5						
ULHL				⇑S	**Sg**	**20 23 27.9**	**-1.6**
	23nm,0.2s						
ULHL	**Ulahol**	**2.27**	**72**	⇓*e*P	**Pn**	**20 22 54.4**	**+0.3**
ULHL				⇓*i*S	**Sn**	**20 23 22.3**	**+0.3**
KST	**Kastek**	**2.44**	**52**	Pg	**Pb**	**20 23 00.0**	**-0.4**
	8.6nm,0.3s						
KST				Lg	Lg	20 23 32.3	
	121nm,0.5s						
KST	**Kastek**	**2.44**	**52**	*e*P	**Pb**	**20 23 00.0**	**-0.4**
	8.6nm,0.3s						
KST				*e*S	**Sb**	**20 23 32.3**	**+1.9**
	121nm,0.5s						
DGS	**Degeres**	**2.45**	**46**	Pg	**Pb**	**20 23 00.3**	**-0.4**
	10nm,0.3s						
DGS				Lg	Lg	20 23 33.0	
	60nm,0.5s						
IUG	**Iuzhnay**	**2.54**	**284**	Pg	**Pb**	**20 23 03.1**	**+1.0**
	18nm,0.3s						
IUG				Lg	Lg	20 23 37.8	
	106nm,0.3s						
KK31	**Karatay Array**	**2.59**	**307**	Pg	**Pb**	**20 23 02.7**	**-0.3**
	1.9nm,0.3s,baz=125,slow=16,SNR=52						
KK31				⇓Lg	Lg	20 23 36.9	
	9.5nm,0.3s,baz=127,slow=29,SNR=19						
KRBS	**Karabastau**	**2.73**	**38**	Pg	**Pb**	**20 23 06.6**	**+1.1**
	9.4nm,0.6s						
KRBS				Lg	Lg	20 23 41.9	
	7.0nm,0.4s						
MTBS	**Maitube**	**2.77**	**55**	Pg	**Pb**	**20 23 06.6**	**+0.5**
	3.8nm,0.3s						
MTBS				Lg	Lg	20 23 43.3	
	60nm,0.4s						
MTBS	**Maitube**	**2.77**	**55**	*e*P	**Pb**	**20 23 06.6**	**+0.5**
	3.8nm,0.3s						
MTBS				*e*S	**Sg**	**20 23 43.3**	**-2.3**
	60nm,0.4s						
IZV	**Izvestkoviy**	**2.83**	**58**	Pg	**Pb**	**20 23 07.8**	**+0.5**
	8.7nm,0.4s						
IZV				Lg	Lg	20 23 45.8	
	40nm,0.6s						
IZV	**Izvestkoviy**	**2.83**	**58**	*e*P	**Pb**	**20 23 07.8**	**+0.5**
	8.7nm,0.4s						
IZV				*e*S	**Sg**	**20 23 45.8**	**-1.9**
	40nm,0.6s						
KDJ	**Kajisay**	**2.92**	**78**	⇓*i*P	**Pn**	**20 23 03.5**	**+0.5**
KDJ				⇓*i*S	**Sn**	**20 23 38.2**	**+0.1**
BRLS	**Borolday**	**2.98**	**300**	Pg	**Pb**	**20 23 10.2**	**+0.7**
	1.9nm,0.3s						
BRLS				Lg	Lg	20 23 50.6	
	23nm,0.4s						
BRLS	**Borolday**	**2.98**	**300**	*e*P	**Pb**	**20 23 10.2**	**+0.7**
	1.9nm,0.3s						
BRLS				*e*S	**Sg**	**20 23 50.6**	**-1.7**
	23nm,0.4s						
TNSS	**Tian-Shan**	**3.05**	**60**	Pg	**Pb**	**20 23 11.8**	**+0.7**
	1.7nm,0.4s						
TNSS				Lg	Lg	20 23 52.1	
	5.8nm,0.8s						
TNSS	**Tian-Shan**	**3.05**	**60**	*e*P	**Pb**	**20 23 11.8**	**+0.7**
	1.7nm,0.4s						
TNSS				*e*S	**Sg**	**20 23 52.1**	**-2.5**
	5.8nm,0.8s						
KNDC	**Almaty**	**3.15**	**57**	⇓Pg	**Pg**	**20 23 15.8**	**-1.2**
	10nm,0.5s						
KNDC				⇑Lg	Lg	20 23 56.1	
	81nm,0.9s						
KUU	**Kurty**	**3.20**	**43**	Pg	**Pb**	**20 23 13.9**	**+0.5**
	5.6nm,0.2s						
KUU				Lg	Lg	20 23 55.9	
	56nm,0.4s						
KUU	**Kurty**	**3.20**	**43**	*e*P	**Pb**	**20 23 13.9**	**+0.5**
	5.6nm,0.2s						
KUU				*e*S	**Sg**	**20 23 55.9**	**-3.6**
	56nm,0.4s						
KOTS	**Kotyrbulak**	**3.25**	**58**	Pg	**Pb**	**20 23 15.4**	**+1.1**
	3.7nm,0.5s						
KOTS				Lg	Lg	20 23 58.8	
	30nm,0.5s						
KOTS	**Kotyrbulak**	**3.25**	**58**	*e*P	**Pb**	**20 23 15.4**	**+1.1**
	3.7nm,0.5s						
KOTS				*e*S	**Sg**	**20 23 58.8**	**-2.2**
	30nm,0.5s						
KTBS	**Karatobe**	**3.26**	**48**	Pg	**Pb**	**20 23 15.0**	**+0.6**
	3.1nm,0.4s						
KTBS				Lg	Lg	20 23 58.0	
	54nm,0.6s						
GAR	**Garm**	**3.46**	**223**	⇑*i*P	**Pn**	**20 23 11.2**	**+0.8**
GAR				⇑*i*S	**Sn**	**20 23 51.2**	**-0.1**
CHKK	**Chushkaly**	**3.52**	**49**	Pg	**Pb**	**20 23 20.3**	**+1.4**
	2.9nm,0.2s						
CHKK				Lg	Lg	20 24 06.7	
	28nm,0.3s						
CHKK	**Chushkaly**	**3.52**	**49**	*e*P	**Pb**	**20 23 20.3**	**+1.4**
	2.9nm,0.2s						
CHKK				*e*S	**Sg**	**20 24 06.7**	**-3.1**
	28nm,0.3s						
SATY	**Saty**	**4.04**	**67**	Pg	**Pb**	**20 23 29.9**	**+2.1**
	3.6nm,0.7s						
SATY				Lg	Lg	20 24 23.2	
	9.8nm,0.4s						
ARXS	**Arharly**	**4.22**	**50**	Pg	**Pb**	**20 23 33.1**	**+2.3**
	6.7nm,0.4s						
ARXS				Lg	Lg	20 24 28.6	
	19nm,0.5s						
ARXS	**Arharly**	**4.22**	**50**	*e*P	**Pb**	**20 23 33.1**	**+2.3**
ARXS				*e*S	**Sg**	**20 24 28.6**	**-3.6**
KPKS	**Kokpek**	**4.38**	**63**	Pg	**Pb**	**20 23 36.8**	**+3.3**
	0.5nm,0.4s						
KPKS				Lg	Lg	20 24 35.4	
	26nm,0.6s						
UZB	**Uzynbulak**	**4.50**	**68**	Pg	**Pb**	**20 23 37.5**	**+2.0**
	3.0nm,0.4s						
UZB				Lg	Lg	20 24 36.3	
	4.1nm,0.5s						
UZB	**Uzynbulak**	**4.50**	**68**	*e*P	**Pb**	**20 23 37.5**	**+2.0**
	3.0nm,0.4s						
UZB				*e*S	**Sg**	**20 24 36.3**	**-4.7**
	4.1nm,0.5s						
SHLS	**Shalkode**	**4.80**	**69**	Pg	**Pg**	**20 23 50.0**	**+1.4**
	1.9nm,0.4s						
SHLS				Lg	Lg	20 24 57.7	
	9.6nm,0.7s						
SHLS	**Shalkode**	**4.80**	**69**	*e*P	**Pg**	**20 23 50.0**	**+1.4**
	1.9nm,0.4s						
SHLS				*e*S	**Sg**	**20 24 57.7**	**+6.8**
	9.6nm,0.7s						
PDGK	**Podgornoye**	**4.88**	**67**	⇓Pg	**Pb**	**20 23 44.5**	**+2.5**
	1.1nm,0.5s						
PDGK				⇓Lg	Lg	20 24 53.1	
	8.6nm,0.9s						

*NOU **15** 20:27:43.7, 35°.75S×179°.55E, h290km, MLv3.9/6, Off E. Coast of N. Island, N.Z.*

WEL 15 20:27:56.8±1.0, 36°.S±14°×177°.8E±1°.6, h149km±24km, M3.2/11, ML3.5/12, MLv3.2/11, Error ellipse: s-maj=25.1km s-min=11.6km az=129.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.94**	**183**	P	Pn	20 28 30.1	-0.9
MXZ	**Matakaoa Point**	**1.94**	**183**	P	Pn	20 28 30.1	-1.0
MXZ				S	Sn	20 28 58.4	+0.9
HAZ	**Te Kaha**	**2.19**	**194**	P	Pn	20 28 32.5	-1.6
HAZ				S	Sn	20 29 04.1	+1.3
WMGZ	**Waiomatatini S**	**2.19**	**180**	P	Pn	20 28 33.3	-0.7
WMGZ				S	Sn	20 29 05.2	+2.4
PKGZ	**Pakihiroa**	**2.26**	**187**	P	Pn	20 28 33.8	-1.1
PKGZ				S	Sn	20 29 06.8	+2.6
RUGZ	**Raukumara Rang**	**2.42**	**194**	P	Pn	20 28 34.8	-2.1
RUGZ				S	Sn	20 29 08.5	+0.7
PUZ	**Puketiti**	**2.45**	**183**	P	Pn	20 28 35.4	-1.7
PUZ				S	Sn	20 29 08.8	+0.4
TWGZ	**Tauwhareparae**	**2.58**	**188**	P	Pn	20 28 37.2	-1.6
TWGZ				S	Sn	20 29 13.6	+2.4
MWZ	**Matawai**	**2.80**	**195**	P	Pn	20 28 39.8	-1.8
MWZ				S	Sn	20 29 16.6	+0.3
URZ	**Urewera**	**2.84**	**202**	P	Pn	20 28 39.8	-2.1
URZ	**Urewera**	**2.84**	**202**	P	Pn	20 28 39.6	-2.4
URZ				S	Sn	20 29 16.8	-0.2
TKGZ	**Te Karaka**	**2.85**	**189**	P	Pn	20 28 39.9	-2.2
TKGZ				S	Sn	20 29 16.9	-0.4
CNGZ	**Carnagh Statio**	**2.86**	**184**	P	Pn	20 28 40.5	-1.7
RAGZ	**Rawiri**	**2.98**	**196**	P	Pn	20 28 41.8	-2.1
RIGZ	**Rimuhau**	**3.12**	**190**	P	Pn	20 28 42.7	-2.9
RIGZ				S	Sn	20 29 23.4	-0.2
SNGZ	**Shannon Statio**	**3.27**	**195**	P	Pn	20 28 45.1	-2.4
SNGZ				S	Sn	20 29 25.8	-1.1
PRGZ	**Paritu Road**	**3.32**	**187**	P	Pn	20 28 45.0	-3.1
RAHZ	**Arahi**	**3.46**	**198**	P	Sn	20 29 29.9	-1.3
RAHZ				S	Sn	20 29 30.1	-1.1
MTHZ	**Maungataniwha**	**3.47**	**201**	P	Pn	20 28 47.1	-3.0
MTHZ				S	Sn	20 29 30.0	-1.4
MHGZ	**Mahia Peninsul**	**3.55**	**187**	P	Pn	20 28 47.4	-3.7
TLZ	**Tolley Road**	**3.56**	**220**	P	Pn	20 28 49.9	-1.4
BKZ	**Black Stump Fm**	**3.86**	**203**	P	Pn	20 28 51.2	-3.9
BKZ	**Black Stump Fm**	**3.86**	**203**	P	Pn	20 28 51.3	-3.9
BKZ				S	Sn	20 29 38.6	-2.0
HIZ	**Hauiti**	**4.06**	**224**	P	Pn	20 28 57.1	-0.6
BFZ	**Birch Farm**	**5.34**	**198**	P	Pn	20 29 08.2	-6.3
KHZ	**Kahutara**	**7.78**	**208**	P	Pn	20 29 38.1	-9.0

*NEIC **15** 20:44:59.4±1.0, 35°.57N×0°.008×117°.37W±0°.02, h6km±3km, Error ellipse: s-maj=2.1km s-min=1.1km az=100.0*

PAS 15 20:44:59.9±0.7, 35°.57N±0°.02×117°.39W±0°.02, h2km±3km, ML3.0/23, ML2.6/122(NEIC), Error ellipse: s-maj=2.3km s-min=1.8km az=158.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.05**	**153**	Pg	Pg	20 45 01.7	+0.8
CCCA				IAML		20 45 01.9	
	comp=E,10μm,0.1s						
CCCA				IAML		20 45 02.0	
	comp=N,9μm,0.3s						
WSHM	**Spangler Hills**	**0.09**	**291**		Pg	20 45 01.8	+0.2
LRMC	**Laurel Mtn Rad**	**0.25**	**250**		Pg	20 45 04.7	0.0
CLC	**China Lake**	**0.30**	**326**		Pg	20 45 05.6	0.0
CLC				IAML		20 45 10.2	
	comp=N,1μm,0.3s						
CLC				IAML		20 45 10.3	
	comp=E,1μm,0.3s						
SRTC	**Snort**	**0.32**	**293**		Pg	20 45 06.5	+0.5
SRTC					Sg	20 45 11.8	+1.7
TOW	**Tower One**	**0.39**	**309**		Pg	20 45 07.8	+0.5
MPMC	**Manual Prospec**	**0.50**	**351**	IAML		20 45 16.6	
	comp=E,422nm,0.5s						
MPMC				IAML		20 45 17.6	
	comp=N,344nm,0.6s						
GSC	**Goldstone, Bar**	**0.55**	**119**	IAML		20 45 19.6	
	comp=E,777nm,0.4s						
QSM	**Queen of Sheba**	**0.58**	**47**		Pg	20 45 11.1	0.0
QSM				IAML		20 45 19.7	
	comp=E,316nm,0.3s						
QSM				IAML		20 45 23.4	
	comp=N,305nm,0.5s						
GWY	**Greenwater Val**	**0.85**	**43**		Pg	20 45 15.9	-0.3
GWY				IAML		20 45 30.2	
	comp=N,261nm,0.3s						
GWY				IAML		20 45 32.2	
	comp=E,361nm,0.4s						
ISA	**Isabella, Lake**	**0.89**	**276**		Pg	20 45 16.3	-0.6
ISA				IAML		20 45 28.8	
	comp=N,335nm,0.2s						
SHOC	**Shoshone, Teco**	**0.97**	**70**		Pg	20 45 18.1	-0.3
TPO	**Tropico Hills**	**0.97**	**225**		Pg	20 45 18.2	-0.2
FURC	**Furnace Creek,**	**0.99**	**25**		Pg	20 45 18.8	-0.1
FURC				IAML		20 45 41.6	
	comp=N,127nm,0.5s						
FURC				IAML		20 45 43.1	
	comp=E,143nm,0.8s						
CWC	**Cottonwood Cre**	**1.03**	**327**	IAML		20 45 35.4	
	comp=E,147nm,0.1s						
CWC				IAML		20 45 38.8	
	comp=N,140nm,0.2s						
BFSC	**Mount Baldy Ra**	**1.34**	**189**		Pg	20 45 25.3	-0.3
BFSC				IAML		20 45 44.0	
	comp=E,155nm,0.5s						
BFSC				IAML		20 45 44.0	
	comp=N,130nm,0.3s						
WCT	**Wildcat Mounta**	**1.37**	**27**		Pn	20 45 24.7	-1.4
MWC	**Mount Wilson**	**1.45**	**202**		Pn	20 45 26.6	-0.6
MWC				IAML		20 45 48.1	
	comp=E,157nm,0.3s						
OSI	**Osito Audit: C**	**1.45**	**229**		Pn	20 45 26.1	-1.0
OSI				IAML		20 45 48.2	
	comp=E,128nm,0.7s						
OSI				IAML		20 45 49.3	
	comp=N,113nm,0.9s						
MTPC	**Mountain Pass**	**1.50**	**93**		Pn	20 45 26.0	-2.0
MTPC				IAML		20 45 48.8	
	comp=N,100nm,0.5s						
MTPC				IAML		20 45 49.2	
	comp=E,81nm,0.3s						
TPNV	**Topopah Spring**	**1.66**	**33**		Pn	20 45 29.0	-1.2
TPNV				IAML		20 45 59.4	
	comp=E,38nm,0.6s						
TPNV				IAML		20 46 05.8	
	comp=E,51nm,0.6s						
DSP	**Deep Springs**	**1.86**	**346**		Pn	20 45 31.9	-0.7
DANC	**Danby, Needles**	**1.89**	**119**		Pn	20 45 30.6	-2.6
DANC				IAML		20 46 01.9	
	comp=N,87nm,0.4s						
ELS	**Elsinore Mount**	**1.92**	**181**	IAML		20 46 01.4	
	comp=E,65nm,0.3s						
ELS				IAML		20 46 02.5	
	comp=N,31nm,0.5s						
BELC	**Belle Mtn. Jos**	**1.94**	**143**		Pn	20 45 32.2	-1.7
BELC				IAML		20 46 05.0	
	comp=N,31nm,0.4s						
BELC				IAML		20 46 08.4	
	comp=E,38nm,0.3s						
SHPR	**Sheep Range**	**2.04**	**62**		Pn	20 45 34.3	-1.0
V12A	**Nelson**	**2.08**	**85**		Pn	20 45 34.0	-1.8
V12A				IAML		20 46 06.3	
	comp=N,34nm,0.9s						
PMD	**Palm Desert**	**2.09**	**156**		Pn	20 45 34.1	-1.8
PFO	**Pinyon Flats O**	**2.10**	**158**		Pn	20 45 34.7	-1.4
MZP	**Montezuma Peak**	**2.13**	**0**		Pn	20 45 36.0	-0.7
IRM	**Iron Mountain**	**2.32**	**127**		Pn	20 45 36.7	-2.4
IRM				IAML		20 46 16.4	
	comp=E,24nm,0.3s						
IRM				IAML		20 46 21.0	
	comp=N,22nm,0.6s						
NEE2	**Needles Airpor**	**2.41**	**109**		Pn	20 45 38.1	-2.2
BORC	**Borrego Spring**	**2.43**	**160**		Pb	20 45 44.7	+0.4
BORC				IAML		20 46 23.8	
	comp=N,21nm,0.7s						
BORC				IAML		20 46 23.8	
	comp=E,35nm,0.7s						
BC3	**Big Chuckawall**	**2.49**	**140**		Pn	20 45 39.4	-2.1
BC3				IAML		20 46 22.1	
	comp=N,23nm,0.4s						
BC3				IAML		20 46 24.5	
	comp=E,18nm,0.9s						
TPH	**Tonopah**	**2.51**	**3**		Pb	20 45 45.5	-0.3
PRN	**Pahroc Range**	**2.63**	**45**		Pn	20 45 41.9	-1.6
PRN				IAML		20 46 29.9	
	comp=E,30nm,0.7s						
PRN				IAML		20 46 31.7	
	comp=N,31nm,0.4s						
LHV	**Little Huntoon**	**2.82**	**342**		Pn	20 45 46.1	+0.1
LHV				IAML		20 46 35.3	
	comp=E,14nm,0.6s						
W13A	**Hualapai Mount**	**2.90**	**98**		Pn	20 45 45.1	-2.2
W13A				IAML		20 46 38.0	
	comp=N,13nm,0.6s						
W13A				IAML		20 46 43.2	
	comp=E,12nm,0.7s						
NVAR	**Mina Array Bea**	**2.95**	**346**		Pb	20 45 53.3	+0.1
R11B	**Troy Canyon, C**	**3.13**	**27**		Pg	20 45 58.4	-1.5
WAKR	**Walker**	**3.36**	**331**		Pb	20 46 00.3	+0.1
WAKR				IAML		20 47 00.4	
	comp=N,8.5nm,2.2s						
CMB	**Columbia Colle**	**3.44**	**317**		Pb	20 46 01.0	-0.5
CMB				IAML		20 46 51.7	
	comp=E,11nm,0.9s						
CMB				IAML		20 46 56.8	
	comp=N,11nm,0.7s						
KNB	**Kanab**	**3.96**	**67**	IAML		20 46 59.4	
	comp=E,4.6nm,4.6s						
KNB				IAML		20 47 20.8	
	comp=N,7.1nm,4.2s						
PSUT	**Pine Spring**	**4.09**	**43**	IAML		20 47 19.9	
	comp=E,5.2nm,1.1s						
113A	**Mohawk Valley,**	**4.10**	**132**	IAML		20 47 23.2	
	comp=N,4.1nm,0.7s						
U15A	**North Rim**	**4.22**	**77**	IAML		20 47 14.5	
	comp=N,4.8nm,0.9s						
U15A				IAML		20 47 23.0	
	comp=E,6.0nm,1.1s						

NOU 15 20:51:26.6, 15°.14S×167°.37E, h109km, MLv4.5/17, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.34**	**208**	P	Pn	20 51 44.0	+1.5
VLAKA	**Lakatoro**	**0.96**	**177**	P	Pn	20 51 47.6	+0

*MEX **15** 21:04:29.0±0.8, 14°.45N×92°.16W, h83km±14km, MD3.9*
*GCG **15** 21:04:29.2±1.4, 14°.50N×92°.11W, h71km±14km, MD3.8, ML3.5*

ISC 15 21:04:28.5±1.6, **14°.3N**±0°.1×**92°.23W**±0°.07, **h60**km±14km, **n18**, σ1°**86**/29, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.56**	**68**	*eP*	**Pn**	**21 04 41.1**	**-0.1**
RTAL				*eS*	**Sn**	**21 04 51.3**	**+1.1**
SMCA	**Catarina**	**0.56**	**15**	*i* P	**Pn**	**21 04 40.5**	**-0.7**
SMCA				*i* S	**Sn**	**21 04 49.3**	**-1.1**
SMCA				IAML		21 04 50.2	
	comp=E,823nm,0.3s						
THIG		**0.59**	**357**	*eP*	**Pn**	**21 04 42.5**	**+1.0**
THIG				*eS*	**Sn**	**21 04 51.2**	**+0.3**
THIG		**0.59**	**357**	*i* S	**Sn**	**21 04 51.2**	**+0.3**
THIG				IAML		21 04 51.6	
	comp=E,715nm,0.4s						
PATR	**El Naranjo**	**0.80**	**360**	*eP*	**Pn**	**21 04 43.1**	**-1.1**
PATR				*eS*	**Sn**	**21 04 54.4**	**-1.4**
PAVE	**Pavencul**	**0.88**	**3**	*eP*	**Pn**	**21 04 44.3**	**-0.9**
PAVE				*eS*	**Sn**	**21 04 56.7**	**-0.8**
SOKI	**Kika Raxquin**	**0.95**	**58**	*i* S	**Sn**	**21 05 00.5**	**+1.2**
SOKI				IAML		21 05 09.0	
	comp=N,534nm,0.4s						
HUEH	**Huehuetenango**	**1.22**	**35**	*eS*	**Sn**	**21 05 07.3**	**+1.8**
ESSG	**Sabana Grande**	**1.36**	**87**	*i* S	**Sn**	**21 05 08.3**	**-0.2**
QUIS	**Sacapulas**	**1.47**	**48**	*i* S	**Sn**	**21 05 15.5**	**+4.2**
QUIS				IAML		21 05 17.2	
	comp=E,492nm,0.3s						
FG16	**Alotenango, Sa**	**1.67**	**91**	*i* P	**Pn**	**21 04 51.5**	**-4.2**
FG16				*i* S	Sn	21 05 07.5	-8.7
FG16				IAML		21 05 11.9	
	comp=E,4μm,0.2s						
PCIG		**1.68**	**325**	*eP*	**Pn**	**21 04 54.9**	**-0.8**
PCIG				*eS*	**Sn**	**21 05 14.4**	**-1.8**
NUBE	**Las Nubes**	**2.41**	**99**	*i* P	**Pn**	**21 05 06.8**	**+1.1**
NUBE				*i* S	**Sn**	**21 05 33.5**	**-0.7**
TGIG		**2.60**	**341**	*eP*	**Pn**	**21 05 06.9**	**-1.3**
TGIG				*eS*	**Sn**	**21 05 37.4**	**-1.3**
JAYA	**Jayaque - finc**	**2.78**	**103**	*i* S	**Sn**	**21 05 43.4**	**+0.2**
UXUV	**UXUV**	**3.51**	**329**	*eP*	**Pn**	**21 05 21.9**	**+1.2**
UXUV				*eS*	**Sn**	**21 05 58.2**	**-2.8**
CMIG	**Matias Romero**	**3.77**	**318**	*eP*	**Pn**	**21 05 25.0**	**+0.9**
CMIG				*eS*	**Sn**	**21 06 07.0**	**-0.3**
NEUV	**Arroyo Zacate**	**4.82**	**315**	*eP*	**Pn**	**21 05 42.8**	**+4.2**
NEUV				*eS*	**Sn**	**21 06 32.4**	**-0.7**

*IDC **15** 21:25:17.4±1.2, 12°.12N×143°.80E, h0km, mb3.8/9, mbtmp3.8/9, MS3.9/1, Error ellipse: s-maj=34.0km s-min=22.2km az=127.0*

ISC 15 21:25:21.4±1.0, **12°.1N**±0°.2×**143°.8E**±0°.2, **h26**km, **n14**, σ0**972**/11, **mb4.0/9**, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.81**	**36**	Pn	**Pn**	**21 25 50.9**	**-0.1**
	73nm,0.3s,baz=320,slow=5.6,SNR=8.6						
GUMO				LR	LR	21 26 01.4	
	comp=Z,18nm,19.2s,baz=198,slow=24						
GUMO				Sn	**Sn**	**21 26 13.3**	**+0.1**
	170nm,0.3s,baz=333,slow=21,SNR=26						
H11N1	**WAKE ISLAND Hy**	**23.45**	**68**	T	T	21 55 07.7	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**23.46**	**68**	T	T	21 55 09.0	
	baz=255,slow=75						
H11N3	**WAKE ISLAND Hy**	**23.47**	**68**	T	T	21 55 07.6	
	baz=255,slow=75						
WRA	**Warramunga Arr**	**33.18**	**196**	P	**P**	**21 31 56.0**	**-0.1**
	0.3nm,0.8s,baz=16,slow=8.6,SNR=4.6						
	0.3nm,0.8s						
SONM	**Songino Array**	**47.35**	**326**	P	**P**	**21 33 53.4**	**+0.1**
	0.2nm,0.4s,baz=146,slow=8.3,SNR=2.6						
	0.2nm,0.4s						
RAO	**Raoul Island**	**55.29**	**139**	LR	LR	21 55 04.6	
	comp=Z,97nm,19.5s,baz=64,slow=32						
MKAR	**Makanchi Array**	**61.83**	**317**	P	**P**	**21 35 39.1**	**+0.7**
	0.2nm,0.5s,baz=95,slow=7.5,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**65.08**	**320**	P	**P**	**21 35 59.9**	**+0.2**
	0.7nm,0.5s,baz=105,slow=6.4,SNR=7.5						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**70.35**	**25**	P	**P**	**21 36 31.6**	**-1.2**
	0.5nm,0.5s,baz=246,slow=6.6,SNR=7.2						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**70.43**	**322**	P	**P**	**21 36 33.3**	**-0.2**
	1.1nm,0.5s,baz=100,slow=6.5,SNR=5.6						
	1.1nm,0.5s						
ARCES	**ARCESS Array B**	**88.16**	**342**	P	**P**	**21 38 10.1**	**+0.3**
	0.5nm,0.4s,baz=69,slow=8.4,SNR=15						
	0.5nm,0.4s						
NVAR	**Mina Array Bea**	**88.67**	**51**	P	**P**	**21 38 14.2**	**+1.1**
	0.5nm,0.6s,baz=264,slow=4.8,SNR=4.0						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**92.05**	**335**	P	**P**	**21 38 27.1**	**-1.0**
	1.3nm,0.5s,baz=57,slow=7.0,SNR=13						
	1.3nm,0.5s						

*SOME **15** 21:26:57.0, 41°.27N×83°.95E, h20km*
*NNC **15** 21:27:07.5±3.6, 41°.58N×83°.60E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=26.9km s-min=18.8km az=135.0*

ISC 15 21:27:10.0±3.4, **41°.6N**±0°.2×**83°.7E**±0°.1, **h10**km, **n6**, σ1°**73**/13, **7C-3D**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.52**	**297**	*eP*	**Pn**	**21 28 01.4**	**-3.3**
	3.6nm,0.2s						
SHLS				*eS*	**Sn**	**21 28 48.0**	**+1.6**
	36nm,0.4s						
PDGK	**Podgornoye**	**3.57**	**300**	⇓Pg	**Pb**	**21 28 13.0**	**-0.3**
	1.7nm,0.3s						
PDGK				⇑Lg	Lg	21 28 56.2	
	9.3nm,0.5s						
UZB	**Uzynbulak**	**3.81**	**295**	*eP*	**Pn**	**21 28 10.9**	**+2.1**
	1.7nm,0.3s						
UZB				*eS*	**Sb**	**21 29 03.7**	**+0.1**
	9.4nm,0.5s						
MK31	**Makanchi Array**	**5.27**	**349**	⇑Pn	**Pn**	**21 28 28.2**	**-0.5**
	0.4nm,0.6s,baz=318,slow=28,SNR=4.2						
MK31				⇑Pg	**Pb**	**21 28 42.7**	**+0.6**
	0.2nm,0.3s,baz=170,slow=16,SNR=3.1						
MK31				⇓Sn	**Sn**	**21 29 31.1**	**+1.6**
	0.4nm,0.3s,baz=182,slow=27,SNR=4.2						
MK31				⇑Lg	Lg	21 29 57.4	
	2.1nm,0.6s,baz=171,slow=27,SNR=4.0						
MAKZ	**Makanchi**	**5.33**	**347**	⇓Pn	**Pn**	**21 28 28.4**	**-1.2**
	2.0nm,1.1s						
MAKZ				⇑Pg	**Pb**	**21 28 42.9**	**-0.3**
	3.3nm,1.2s						
MAKZ				⇑Sn	**Sn**	**21 29 32.6**	**+1.6**
	1.4nm,0.6s						
MAKZ				⇑Lg	Lg	21 30 01.0	
	3.3nm,0.7s						
ZSN	**Zaisan**	**5.87**	**7**	*eP*	**Pb**	**21 28 53.5**	**+1.1**
	1.1nm,0.2s						
ZSN				*eS*	**Sg**	**21 30 16.6**	**-1.9**
	3.0nm,0.4s						

*IDC **15** 21:41:37.3±0.8, 23°.42N×120°.85E, h0km, mb3.7/8, mbtmp3.8/10, ML3.6/2, MS3.3/9, Error ellipse: s-maj=30.8km s-min=16.3km az=66.0*
*BJI **15** 21:41:38.5, 23°.53N×120°.86E, h18km, mB4.7/2, mb4.2/7, ML4.4/5, Ms4.0/5, Ms7 3.7/5*
*ASIES **15** 21:41:40.4, 23°.57N×120°.71E, h18km, Mw4.0, Fault plane solution: NP1:φs=274.00000°, δ67.00000°, λ-159.00000°. NP2:φs=176.00000°, δ71.00000°, λ-24.00000°.*
*JMA **15** 21:41:40.7±0.1, 23°.6N±0°.3×120°.7E±0°.5, h18km±1km, MV4.4/17, TAIWAN REGION*
*TAP **15** 21:41:40.4, 23°.57N×120°.72E, h18km, ML4.7, B*

ISC 15 21:41:40.9±0.6, **23°.57N**±0°.01×**120°.69E**±0°.01, **h18**km±1km, **n221**, σ0**980**/327, **mb3.8**/10, **MS3.3**/8, **64C-34D**, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHN5	**Tsauling**	**0.03**	**331**	⇓*i*P	**Pg**	**21 41 44.0**	**-0.3**
CHN5				*i* S	**Sg**	**21 41 46.6**	**+0.1**
ALS	**Alishan**	**0.12**	**120**	⇓*i*P	**Pg**	**21 41 45.1**	**-0.1**
ALS				*i* S	**Sg**	**21 41 48.5**	**+0.5**
WCKO	**Fanlu**	**0.15**	**212**	⇑*i*P	**Pg**	**21 41 45.2**	**0.0**
WCKO				S	**Sg**	**21 41 48.8**	**+0.5**
WGK	**Gukeng**	**0.17**	**314**	⇓*i*P	**Pg**	**21 41 45.6**	**+0.2**
WGK				*i* S	**Sg**	**21 41 49.8**	**+1.3**
WDLH	**Douliu**	**0.18**	**310**	⇓*i*P	**Pg**	**21 41 46.0**	**+0.4**
WDLH				S	**Sg**	**21 41 50.5**	**+1.6**
WHYT	**Xinyi Township**	**0.19**	**49**	⇑*i*P	**Pb**	**21 41 45.6**	**+0.2**
WHYT				*i* S	**Sg**	**21 41 49.1**	**-0.1**
WDL	**Douliou City**	**0.20**	**315**	⇓*i*P	**Pg**	**21 41 46.3**	**+0.4**
WDL				*i* S	**Sg**	**21 41 51.0**	**+1.6**
CHN2	**Minshiung**	**0.20**	**259**	⇓P	**Pg**	**21 41 46.5**	**+0.5**
CHN2				*i* S	**Sg**	**21 41 51.1**	**+1.7**
CHN4	**Tsaushan**	**0.24**	**203**	⇑*i*P	**Pb**	**21 41 46.6**	**+0.1**
WJS	**Zhushan**	**0.25**	**7**	P	**Pb**	**21 41 46.8**	**0.0**
WJS				*i* S	**Sg**	**21 41 51.5**	**+0.8**
CHY	**Chiayi**	**0.26**	**254**	⇑P	**Pg**	**21 41 47.3**	**+0.5**
CHY				*i* S	**Sg**	**21 41 52.5**	**+1.7**
TPUB	**Ta-pu**	**0.28**	**192**	P	**Pg**	**21 41 47.0**	**-0.1**
TPUB	**Ta-pu**	**0.28**	**192**	S	**Sg**	**21 41 51.8**	**+0.5**
TPUB	**Ta-pu**	**0.28**	**192**	⇑*i*P	**Pg**	**21 41 46.9**	**-0.1**
TPUB				*i* S	**Sb**	**21 41 51.4**	**-0.1**
WTK	**Tuku**	**0.30**	**293**	⇓P	**Pg**	**21 41 47.9**	**+0.3**
WTK				S	**Sb**	**21 41 53.8**	**+1.4**
WNT	**Mingjian**	**0.31**	**358**	P	**Pg**	**21 41 47.9**	**+0.3**
WNT				S	**Sb**	**21 41 53.3**	**+0.8**
SSLB	**Suanglung**	**0.32**	**48**	P	**Pg**	**21 41 47.2**	**-0.7**
SSLB	**Suanglung**	**0.32**	**48**	S	**Sg**	**21 41 53.1**	**+0.5**
SSLB	**Suanglung**	**0.32**	**48**	⇑*i*P	**Pg**	**21 41 47.5**	**-0.4**
SSLB				S	**Sg**	**21 41 52.6**	**-0.1**
WTP	**Ta-pu**	**0.33**	**193**	⇑*i*P	**Pg**	**21 41 47.9**	**-0.1**
WTP				S	**Sg**	**21 41 53.2**	**+0.3**
WNT1	**Nantou City**	**0.34**	**358**	P	**Pg**	**21 41 48.4**	**+0.3**
WNT1				S	**Sb**	**21 41 53.8**	**+0.3**
TWK	**Hsinying**	**0.36**	**212**	⇑*i*P	**Pg**	**21 41 48.6**	**+0.1**
TWK				*i* S	**Sb**	**21 41 54.5**	**+0.4**
SMLT	**Sun Moon Lake**	**0.36**	**31**	⇑*i*P	**Pg**	**21 41 48.6**	**0.0**
SMLT				*i* S	**Sb**	**21 41 54.8**	**+0.4**
TYC	**Yuchr**	**0.36**	**24**	⇑*i*P	**Pg**	**21 41 48.6**	**0.0**
TYC				*i* S	**Sb**	**21 41 54.7**	**+0.4**
SNST	**Tainan City**	**0.39**	**207**	⇑P	**Pb**	**21 41 50.1**	**+0.7**
WYL	**Yuanlin Townsh**	**0.40**	**345**	P	**Pg**	**21 41 49.5**	**+0.2**
WYL				*i* S	**Sb**	**21 41 56.5**	**+1.1**
STYH	**Taoyuan**	**0.41**	**169**	⇓*i*P	**Pg**	**21 41 49.0**	**-0.3**
STYH				*i* S	**Sg**	**21 41 54.8**	**-0.2**
STYT	**Tauyuan**	**0.41**	**172**	⇓P	**Pg**	**21 41 49.3**	**-0.1**
STYT				S	**Sg**	**21 41 55.4**	**+0.2**
CHN1	**Nanshi**	**0.41**	**202**	⇑*i*P	**Pg**	**21 41 49.4**	**-0.1**
CHN1				*i* S	**Sb**	**21 41 56.2**	**+0.5**
WSL	**Shuilin Townsh**	**0.43**	**264**	P	**Pg**	**21 41 49.9**	**+0.2**
WSL				S	**Sb**	**21 41 57.7**	**+1.5**
ICHU	**Yijhu**	**0.43**	**241**	⇑*i*P	**Pb**	**21 41 50.2**	**+0.1**
ICHU				*i* S	**Sb**	**21 41 58.0**	**+1.7**
WSF	**Szhu**	**0.44**	**279**	P	**Pg**	**21 41 49.8**	**-0.1**
WSF				*i* S	**Sb**	**21 41 57.2**	**+0.8**
WRL	**Guolierlin Hig**	**0.44**	**319**	⇓P	**Pg**	**21 41 50.0**	**+0.1**
WRL				*i* S	**Sb**	**21 41 57.6**	**+1.2**
RLNB	**Erlin**	**0.44**	**316**	⇓P	**Pg**	**21 41 50.0**	**0.0**
RLNB				*i* S	**Sb**	**21 41 57.2**	**+0.7**
VWDT	**VWDT**	**0.45**	**66**	⇑*i*P	**Pg**	**21 41 50.2**	**+0.1**
VWDT				*i* S	**Sg**	**21 41 56.4**	**+0.1**
WWF	**Wufeng**	**0.47**	**0**	P	**Pb**	**21 41 50.7**	**+0.2**
WWF				*i* S	**Sb**	**21 41 58.4**	**+1.1**
WTCT	**Ta-ch'eng**	**0.48**	**308**	*i* P	**Pg**	**21 41 50.4**	**-0.2**
WTCT				*i* S	**Sb**	**21 41 58.4**	**+0.9**
ELDTW	**Lidau**	**0.48**	**142**	⇓*i*P	**Pg**	**21 41 50.4**	**-0.3**
ELDTW				*i* S	**Sb**	**21 41 57.1**	**-0.2**
CHN8	**Yiju**	**0.50**	**243**	⇑*i*P	**Pg**	**21 41 51.1**	**+0.1**
CHN8				*i* S	**Sb**	**21 41 59.5**	**+1.5**
WPL	**Puli Township**	**0.50**	**29**	⇑P	**Pg**	**21 41 50.5**	**-0.6**
WPL				S	**Sg**	**21 41 57.6**	**-0.2**
DPDB	**Guoxing**	**0.51**	**25**	P	**Pg**	**21 41 50.8**	**-0.4**
DPDB				S	**Sg**	**21 41 58.5**	**+0.4**
WCH1	**Changhua City**	**0.52**	**345**	⇓*i*P	**Pb**	**21 41 51.5**	**+0.1**
WCH1				*i* S	**Sb**	**21 41 59.8**	**+1.2**
WCHH	**Zhanghua**	**0.52**	**346**	⇓P	**Pb**	**21 41 51.5**	**0.0**
WCHH				*i* S	**Sb**	**21 41 59.8**	**+1.1**
WCS	**Beigang Elemen**	**0.52**	**22**	⇑P	**Pb**	**21 41 51.2**	**-0.4**
WCS				*i* S	**Sg**	**21 41 58.8**	**+0.3**
SSHA	**Shanhua**	**0.57**	**221**	⇑*eP*	**Pn**	**21 41 53.8**	**-0.3**
WUSB	**Renai**	**0.57**	**43**	⇑*i*P	**Pb**	**21 41 51.7**	**-0.7**
WUSB				*i* S	**Sb**	**21 41 59.6**	**-0.6**
TCU	**Taichung**	**0.57**	**358**	⇑*i*P	**Pb**	**21 41 52.5**	**+0.1**
TCU				S	**Sg**	**21 42 01.1**	**+1.0**
CHN3	**Shinhua**	**0.58**	**212**	⇑*i*P	**Pg**	**21 41 53.2**	**+0.7**
CHN3				*i* S	**Sn**	**21 42 02.6**	**-0.2**
EHY	**Hungye**	**0.58**	**96**	P	**Pb**	**21 41 52.4**	**-0.1**
EHY				*i* S	**Sb**	**21 42 00.2**	**-0.1**
YULB	**Yu-li**	**0.58**	**108**	P	**Pb**	**21 41 52.1**	**-0.4**
YULB	**Yu-li**	**0.58**	**108**	S	**Sb**	**21 42 00.7**	**+0.3**
YULB	**Yu-li**	**0.58**	**108**	⇓*i*P	**Pb**	**21 41 52.1**	**-0.4**
YULB				*i* S	**Sb**	**21 42 00.1**	**-0.2**
OWD	**Renai**	**0.58**	**49**	⇑P	**Pb**	**21 41 52.3**	**-0.3**
OWD				S	**Sb**	**21 41 59.9**	**-0.6**
TWF1	**Yuli**	**0.59**	**111**	⇓*i*P	**Pb**	**21 41 52.5**	**-0.2**
TWF1				*i* S	**Sb**	**21 42 00.6**	**-0.1**
EHYH	**Wanrong**	**0.60**	**97**	P	**Pb**	**21 41 52.7**	**-0.1**
EHYH				*i* S	**Sb**	**21 42 00.7**	**-0.3**
SCLT	**Jiali**	**0.60**	**229**	⇑*i*P	**Pb**	**21 41 53.1**	**+0.2**
SCLT				*i* S	**Sn**	**21 42 03.3**	**-0.6**
EYUL	**Yuli**	**0.62**	**111**	P	**Pb**	**21 41 52.9**	**-0.2**
EYUL				*eS*	**Sb**	**21 42 01.1**	**-0.2**
EHD	**Haiduan**	**0.63**	**132**	⇓*i*P	**Pb**	**21 41 53.0**	**-0.3**
EHD				*i* S	**Sb**	**21 42 01.6**	**-0.2**
SHHT	**Tainan City**	**0.63**	**210**	*eP*	**Pg**	**21 41 54.2**	**+0.8**
WARBT	**Fenglin Townsh**	**0.65**	**77**	⇑*i*P	**Pb**	**21 41 53.3**	**-0.4**
WARBT				*i* S	**Sb**	**21 42 01.8**	**-0.7**
FULB	**Fuli**	**0.66**	**124**	⇓*eP*	**Pb**	**21 41 54.3**	**+0.4**
HGSD	**Ruisui**	**0.68**	**97**	⇓*i*P	**Pb**	**21 41 54.4**	**+0.3**
HGSD				S	**Sb**	**21 42 02.9**	**-0.1**
ECS	**Chishang**	**0.68**	**134**	⇓*i*P	**Pb**	**21 41 54.2**	**+0.1**
ECS				S	**Sg**	**21 42 04.3**	**+1.0**
EGFH	**Guangfu**	**0.68**	**82**	*eP*	**Pb**	**21 41 53.8**	**-0.3**
TAI1	**Yung-k'ang**	**0.68**	**219**	⇑P	**Pg**	**21 41 54.7**	**+0.4**
TAI1				*eS*	**Sn**	**21 42 05.7**	**+0.1**
TSCK	**Chigu Township**	**0.70**	**233**	*eP*	**Pb**	**21 41 54.8**	**+0.2**
TSCK				*eS*	**Sn**	**21 42 05.7**	**-0.5**
SCST	**Cishan**	**0.71**	**195**	⇑P	**Pg**	**21 41 55.0**	**+0.2**
SCST				*eS*	**Sn**	**21 42 05.8**	**-0.5**
ESL	**Shilin**	**0.72**	**70**	⇑*i*P	**Pb**	**21 41 54.6**	**-0.3**
ESL				S	**Sb**	**21 42 03.8**	**-0.6**
TAI	**Tainan**	**0.73**	**219**	*eP*	**Pb**	**21 41 55.1**	**-0.4**
ECBN	**Changbin**	**0.74**	**110**	⇓*i*P	**Pg**	**21 41 56.1**	**+0.6**
ECBN				*eS*	**Sn**	**21 42 06.9**	**-0.3**
WHP	**Taichung City**	**0.74**	**18**	⇑*i*P	**Pb**	**21 41 55.1**	**-0.2**
WHP				*eS*	**Sb**	**21 42 05.2**	**+0.1**
CHKH	**Chenggong**	**0.75**	**120**	⇓*i*P	**Pb**	**21 41 55.6**	**+0.2**
CHKH				S	**Sg**	**21 42 06.3**	**+0.8**
LONT	**Longtian**	**0.77**	**149**	⇓P	**Pb**	**21 41 55.6**	**-0.2**
LONT				*eS*	**Sb**	**21 42 05.7**	**-0.2**
CHKT	**Chengkung**	**0.78**	**127**	⇓*i*P	**Pg**	**21 41 56.4**	**+0.3**
CHKT				*i* S	**Sn**	**21 42 08.1**	**0.0**
WDJ	**Dajia District**	**0.78**	**356**	P	**Pb**	**21 41 56.1**	**+0.3**
WDJ				S	**Sn**	**21 42 07.6**	**-0.5**
WHF	**Hehuan Shan**	**0.78**	**42**	⇑*i*P	**Pb**	**21 41 55.6**	**-0.5**
WHF				*i* S	**Sb**	**21 42 05.9**	**-0.5**
TWQ1	**Liyutan**	**0.78**	**5**	⇑P	**Pb**	**21 41 55.9**	**0.0**
TWQ1				*eS*	**Sg**	**21 42 07.0**	**+0.5**
TWM1	**Shoushan**	**0.79**	**199**	⇑*eP*	**Pg**	**21 41 56.8**	**+0.5**
TEGC	**Jichi Village**	**0.79**	**80**	P	**Pg**	**21 41 56.5**	**+0.2**
TEGC				S	**Sg**	**21 42 07.5**	**+0.7**
TDCB	**Techi**	**0.80**	**32**	⇑*i*P	**Pb**	**21 41 55.6**	**-0.8**
TDCB				S	**Sb**	**21 42 05.6**	**-1.3**
TWT	**Tachien**	**0.81**	**33**	⇑*i*P	**Pb**	**21 41 55.6**	**-1.0**
TWT				S	**Sb**	**21 42 06.8**	**-0.4**
EDH	**Donghe**	**0.82**	**137**	⇓P	**Pb**	**21 41 56.7**	**+0.1**
EDH				*eS*	**Sn**	**21 42 08.9**	**-0.2**
SSD	**Sandimen**	**0.82**	**184**	⇑*i*P	**Pb**	**21 41 56.5**	**-0.2**
SSD				*i* S	**Sb**	**21 42 07.8**	**+0.4**
TWG	**Pinlang**	**0.82**	**155**	⇓*i*P	**Pb**	**21 41 56.5**	**-0.2**
TWG				*eS*	**Sb**	**21 42 07.8**	**+0.3**
SHUL	**Shoufeng**	**0.82**	**75**	⇑*i*P	**Pb**	**21 41 56.7**	**0.0**
SHUL				S	**Sb**	**21 42 07.7**	**+0.2**
TWGBT	**Beinan**	**0.83**	**155**	P	**Pb**	**21 41 56.5**	**-0.3**
TWGBT	**Beinan**	**0.83**	**155**	S	**Sg**	**21 42 08.4**	**+0.3**
TWGBT	**Beinan**	**0.83**	**155**	⇓*i*P	**Pb**	**21 41 56.5**	**-0.3**
TWGBT				*eS*	**Sb**	**21 42 07.7**	**+0.1**
ETM	**Tongmen**	**0.83**	**62**	⇑*i*P	**Pb**	**21 41 56.2**	**-0.6**
ETM				*i* S	**Sb**	**21 42 06.9**	**-0.7**
FUSS	**Fushou**	**0.84**	**37**	⇑*i*P	**Pb**	**21 41 56.2**	**-0.9**
SNJT	**Kaohsiung City**	**0.88**	**202**	*eP*	**Pb**	**21 41 57.9**	**+0.3**
TEYL	**Yanliau Villag**	**0.88**	**70**	⇑P	**Pb**	**21 41 57.7**	**+0.1**
TEYL				S	**Sg**	**21 42 09.9**	**+0.2**
TSPT	**Pingtung City**	**0.91**	**192**	*eP*	**Pg**	**21 41 58.8**	**+0.2**
TTN	**Taitung**	**0.91**	**153**	⇓P	**Pn**	**21 41 59.0**	**+0.1**
TTN				*eS*	**Sn**	**21 42 12.7**	**+1.3**
HWA	**Hwalien**	**0.93**	**64**	⇑*i*P	**Pb**	**21 41 58.5**	**0.0**
HWA				S	**Sg**	**21 42 11.2**	**0.0**
MASBT	**Mashibuluo**	**0.96**	**183**	⇑P	**Pb**	**21 41 58.6**	**-0.3**
MASBT				*eS*	**Sb**	**21 42 11.4**	**+0.2**
ETLH	**Xiulin Townshi**	**0.96**	**49**	⇑*i*P	**Pb**	**21 41 58.4**	**-0.7**
ETLH				*eS*	**Sb**	**21 42 11.9**	**+0.4**
NMLH	**Miaoli**	**0.97**	**5**	⇑P	**Pb**	**21 41 59.2**	**+0.1**
NMLH				*eS*	**Sg**	**21 42 12.8**	**+0.4**
TWD	**Chiawan**	**0.97**	**58**	⇑*i*P	**Pb**	**21 41 58.6**	**-0.5**
TWD				S	**Sb**	**21 42 11.5**	**-0.1**
ECL	**Taimali**	**1.00**	**166**	⇓*i*P	**Pb**	**21 41 59.4**	**-0.2**
ECL				*eS*	**Sb**	**21 42 13.2**	**+0.7**
WDGT	**Dungji**	**1.00**	**252**	⇑*i*P	**Pb**	**21 41 58.5**	**-1.2**
WDGT				*eS*	**Sb**	**21 42 11.6**	**-0.8**
NACB	**Ninganchiao**	**1.02**	**54**	P	**Pb**	**21 41 59.3**	**-0.7**
NACB	**Ninganchiao**	**1.02**	**54**	S	**Sb**	**21 42 13.5**	**+0.4**
NACB	**Ninganchiao**	**1.02**	**54**	⇑*i*P	**Pb**	**21 41 59.0**	**-1.0**
NACB				*i* S	**Sb**	**21 42 12.6**	**-0.5**
PHUB	**P'eng-hu**	**1.03**	**267**	⇑P	**Pb**	**21 41 58.9**	**-1.3**
PHUB				*eS*	**Sb**	**21 42 12.3**	**-1.1**
ETL	**Fush Village**	**1.03**	**55**	*eP*	**Pb**	**21 41 59.6**	**-0.7**
ETL				*eS*	**Sb**	**21 42 13.1**	**-0.4**
PNG	**Penghu**	**1.04**	**270**	P	**Pb**	**21 41 59.2**	**-1.2**
PNG				*eS*	**Sb**	**21 42 12.8**	**-1.0**
KAU	**Kaohsiung**	**1.06**	**200**	*eP*	**Pb**	**21 42 00.7**	**0.0**
NNSB	**Datong**	**1.06**	**36**	⇑P	**Pb**	**21 41 59.9**	**-0.9**
NNSB				*eS*	**Sb**	**21 42 15.0**	**+0.6**
NSTT	**Nanjuang**	**1.09**	**15**	⇑P	**Pn**	**21 42 00.8**	**-0.5**
NSTT				S	**Sb**	**21 42 15.3**	**+0.1**
LIOB	**Emei**	**1.11**	**15**	⇑*i*P	**Pn**	**21 42 01.1**	**-0.4**
LIOB				S	**Sn**	**21 42 16.5**	**+0.1**
NFF	**Wufeng Townshi**	**1.12**	**20**	⇑*i*P	**Pn**	**21 42 01.6**	**-0.2**
NFF				*eS*	**Sb**	**21 42 15.9**	**-0.3**
LDUT	**Ludao**	**1.14**	**141**	⇓*eP*	**Pn**	**21 42 01.3**	**-0.7**
LDUT				*eS*	**Sg**	**21 42 18.1**	**0.0**
SCZT	**Fangliau**	**1.20**	**183**	*eP*	**Pn**	**21 42 02.5**	**-0.2**
SCZT				S	**Sg**	**21 42 19.8**	**+0.1**
NJD	**Zhudong**	**1.22**	**17**	*eP*	**Pb**	**21 42 03.5**	**+0.1**
NJD				*eS*	**Sb**	**21 42 18.9**	**+0.2**
VCHM	**Qimei**	**1.22**	**253**	⇑*eP*	**Pn**	**21 42 01.5**	**-1.5**
EAHA	**Aohua**	**1.22**	**51**	⇑*eP*	**Pn**	**21 42 02.5**	**-0.5**
TAW	**Tawu**	**1.22**	**171**	*eP*	**Pn**	**21 42 03.2**	**+0.2**
TAW				*eS*	**Sn**	**21 42 19.8**	**+0.7**
LAZG	**Datong**	**1.23**	**38**	⇑*i*P	**Pn**	**21 42 02.6**	**-0.6**
LATG				*eS*	**Sb**	**21 42 19.3**	**+0.2**
HSN1	**Hsinchu**	**1.24**	**14**	*eP*	**Pn**	**

	comp=E,400nm,13.7s								
XAN					LR	LR			
	comp=Z,380nm,14.4s								
KSRS	**Korea Array**	**15.17**	**23**		Pn	**Pn**	**21 45 15.0**	**+0.9**	
	0.2nm,0.3s,baz=207,slow=13,SNR=4.7								
	3.2nm,0.9s								
BTO	**Baotou**	**19.21**	**335**	*e*	P	**P**	**21 46 04.3**	**+0.3**	
BTO					pP	**pP**	**21 46 10.0**	**+0.8**	
BTO					sP	**sP**	**21 46 13.0**	**+1.0**	
BTO					PP	**PnPn**	**21 46 22.1**	**+4.1**	
BTO					pmax	pmax			
	comp=Z,20nm,0.4s								
BTO					pmax	pmax			
	comp=Z,250nm,4.9s								
MJAR	**Matsushiro Arr**	**19.88**	**45**		LR	LR	21 54 24.8		
	comp=Z,93nm,19.7s,baz=221,slow=39								
CMAR	**Chiang Mai Arr**	**20.92**	**260**		LR	LR	21 55 40.4		
	comp=Z,59nm,18.1s,baz=80,slow=40								
GOMU	**GeErMu**	**25.64**	**305**		P	P	21 47 17.9	+8.0	
GOMU					pmax	pmax			
	comp=Z,3.0nm,0.9s								
SONM	**Songino Array**	**26.76**	**338**		P	**P**	**21 47 20.7**	**+1.0**	
	comp=Z,0.7nm,0.9s,baz=164,slow=7.3,SNR=3.8								
SONM					LR	LR	21 57 59.1		
	comp=Z,44nm,21.3s,baz=148,slow=36								
	comp=Z,0.7nm,0.9s								
MKAR	**Makanchi Array**	**38.47**	**317**		P	**P**	**21 49 03.6**	**+1.9**	
	comp=Z,0.5nm,0.6s,baz=111,slow=8.6,SNR=8.9								
	comp=Z,0.5nm,0.6s								
ZALV	**Zalesovo Beam**	**40.52**	**328**		P	**P**	**21 49 18.1**	**-0.6**	
	comp=Z,0.9nm,0.6s,baz=107,slow=9.2,SNR=5.2								
ZALV					LR	LR	22 08 13.1		
	comp=Z,18nm,18.3s,baz=89,slow=39								
	comp=Z,0.9nm,0.6s								
H11N1	**WAKE ISLAND Hy**	**42.97**	**86**		T	T	22 34 52.6		
	baz=283,slow=74								
H11N2	**WAKE ISLAND Hy**	**42.98**	**86**		T	T	22 34 56.9		
	baz=283,slow=74								
H11N3	**WAKE ISLAND Hy**	**42.99**	**86**		T	T	22 34 53.3		
	baz=283,slow=74								
H11S3	**WAKE ISLAND Hy**	**43.09**	**88**		T	T	22 34 57.3		
	baz=284,slow=75								
H11S1	**WAKE ISLAND Hy**	**43.10**	**88**		T	T	22 34 59.5		
	baz=284,slow=75								
H11S2	**WAKE ISLAND Hy**	**43.10**	**88**		T	T	22 35 03.3		
	baz=284,slow=75								
WRA	**Warramunga Arr**	**45.25**	**162**		P	**P**	**21 49 54.0**	**-3.4**	
	comp=Z,0.9nm,0.6s,baz=344,slow=8.6,SNR=9.0								
	comp=Z,0.9nm,0.6s								
BVAR	**Borovoye Array**	**47.87**	**321**		P	**P**	**21 50 17.9**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=106,slow=11,SNR=2.5								
	comp=Z,0.4nm,0.6s								
ASAR	**Alice Springs**	**48.68**	**164**		P	**P**	**21 50 21.8**	**-2.4**	
	comp=Z,0.4nm,0.4s,baz=344,slow=8.4,SNR=8.2								
ASAR					PcP	**PcP**	**21 51 48.2**	**-1.1**	
	comp=Z,0.2nm,0.4s,baz=341,slow=3.4,SNR=4.4								
	comp=Z,0.4nm,0.4s								
STKA	**Stephens Creek**	**58.65**	**159**		P	**P**	**21 51 36.4**	**-0.7**	
	comp=Z,1.0nm,0.4s,baz=354,slow=10,SNR=3.6								
	comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**69.94**	**338**		P	**P**	**21 52 51.4**	**+0.7**	
	comp=Z,1.3nm,1.0s,baz=61,slow=6.4,SNR=1.5								
	comp=Z,1.3nm,1.0s								
INK	**Inuvik**	**73.96**	**22**		LR	LR	22 30 52.9		
	comp=Z,32nm,19.2s,baz=262,slow=40								
NB2	**NORSAR Subarra**	**78.55**	**332**		P	P	21 53 48.9	+7.8	
	comp=Z,3.7nm,1.1s,baz=60,slow=5.6								
NOA	**NORSAR Array B**	**78.55**	**332**		LR	LR	22 32 45.0		
	comp=Z,13nm,18.8s,baz=330,slow=39								
BBB	**Bella Bella**	**83.74**	**35**		LR	LR	22 31 53.4		
	comp=Z,18nm,18.1s,baz=118,slow=36								
NEW	**Newport**	**91.76**	**34**		LR	LR	22 42 36.0		
	comp=Z,16nm,18.0s,baz=58,slow=40								
ELK	**Elko**	**97.58**	**39**		LR	LR	22 42 54.2		
	comp=Z,9.4nm,18.0s,baz=21,slow=38								

DJA 15 21:53:33.0±0.2, 1°N±2°×12°5E±°, h10km, M3.7/13, mB5.2/1, mb3.9/3, MLv3.6/13, Mw(mB)4.6/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.00**	**255**	P		Pg	21 53 50.0	-2.4
TNTI	**Ternate**	**2.42**	**92**	P		Pn	21 54 12.2	-0.4
LUWI	**Luwuk**	**2.87**	**229**	P		Pn	21 54 19.3	+0.4
LUWI				S		Sn	21 54 55.3	+1.8
LBMI	**Labuha**	**2.94**	**120**	P		Pn	21 54 20.2	+0.3
MRSI	**Marisa**	**3.03**	**263**	P		Pn	21 54 20.8	-0.3
MRSI				S		Sn	21 54 58.4	+1.0
SANI	**Sanana**	**3.05**	**160**	P		Pn	21 54 19.9	-1.5
APSI	**Ampana**	**3.73**	**242**	P		Pn	21 54 30.8	+0.1
PCI	**Palu**	**5.40**	**251**	P		Pn	21 54 54.0	+0.3
AAI	**Ambon**	**5.54**	**144**	P		Pn	21 54 55.7	0.0
	0.2nm33nm,0.9s							
TTSI	**Tana Toraja**	**6.42**	**233**	P		Pn	21 55 08.0	+0.3

*PRE **15** 23:42:14.0±0.9, 29°09S×25°05E, h5km, ML3.0*
ISC 15 23:42:10.8±0.9, 28°98S±0°06×25°17E±0°07, h10km, n14, σ2s99/27, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**0.37**	**12**	*e*P		**Pn**	**23 42 24.5**	**+2.1**
BOSA				*e*S		**Sb**	**23 42 30.3**	**+4.8**
BOSA				IAML			23 42 30.8	
	comp=Z,3μm,0.2s							
BOSA	**Boshof**	**0.37**	**12**	*i* P		**Pn**	**23 42 24.3**	**+1.9**
BOSA				*i* S		**Sb**	**23 42 30.7**	**+5.2**
ALKP	**Alkanpan, Nort**	**2.72**	**249**	*e*P		**Pn**	**23 42 57.6**	**-2.2**
ALKP				*e*S		**Sn**	**23 43 28.8**	**+0.9**
ALKP				IAML			23 43 32.1	
	comp=Z,107nm,0.2s							
LBTB	**Lobatse**	**3.97**	**6**	*i* P		**Pn**	**23 43 13.3**	**+1.5**
LBTB				*i* S		**Sn**	**23 43 54.4**	**-4.1**
GRAN	**Grantham**	**4.20**	**217**	*e*P		**Pn**	**23 43 17.4**	**+2.3**
GRAN				*e*S		**Sn**	**23 44 03.3**	**-0.9**
GRAN				IAML			23 44 30.8	
	comp=Z,40nm,0.4s							
FRAZ	**Fraserburg**	**4.38**	**227**	*e*P		**Pn**	**23 43 20.3**	**+2.7**
FRAZ				*e*S		**Sn**	**23 44 07.9**	**-0.9**
FRAZ				IAML			23 44 16.6	
	comp=Z,24nm,0.3s							
GRHM	**Grahamstown, E**	**4.41**	**167**	*e*P		**Pn**	**23 43 21.0**	**+3.2**
GRHM				*e*S		**Sn**	**23 44 10.5**	**+1.2**
GRHM				IAML			23 44 29.7	
	comp=Z,25nm,0.4s							
MERW	**Merweville**	**4.84**	**220**	*e*P		**Pn**	**23 43 26.3**	**+2.5**
MERW				*e*S		**Sn**	**23 44 19.6**	**-0.4**
MERW				IAML			23 44 41.2	
	comp=Z,47nm,0.7s							
SUR	**Sutherland**	**5.06**	**227**	*e*P		**Pn**	**23 43 29.2**	**+2.2**
SUR				*e*S		**Sn**	**23 44 24.9**	**-0.7**
SUR				IAML			23 44 47.1	
	comp=Z,35nm,0.3s							
MATJ	**Matjiesfontein**	**5.81**	**221**	*e*P		**Pn**	**23 43 40.1**	**+3.0**
MATJ				*e*S		**Sn**	**23 44 42.4**	**-1.5**
MATJ				IAML			23 45 18.3	
	comp=Z,29nm,0.5s							
PRTV	**Porterville,We**	**6.62**	**230**	*e*P		**Pn**	**23 43 51.4**	**+3.1**
PRTV				*e*S		**Sn**	**23 45 00.9**	**-3.0**
PRTV				IAML			23 45 50.8	
	comp=Z,18nm,0.5s							
MOPA	**Mopani**	**7.80**	**47**	*i* P		**Pn**	**23 44 04.3**	**-0.1**
MOPA				*i* S		**Sn**	**23 45 27.6**	**-5.2**
MUSN	**Musina, Limpop**	**7.89**	**33**	*i* P		**Pn**	**23 44 07.1**	**+1.4**
MUSN				*i* S		**Sn**	**23 45 29.2**	**-6.0**
BLWY	**Bulawayo**	**9.34**	**20**	*i* P		**Pn**	**23 44 25.1**	**-0.6**
BLWY				*i* S		Sn	23 45 59.1	-12

*NEIC **16** 00:01:25.4±0.8, 45°86N±0°01×111°38W±0°01, h5km±1km, ML3.4/46, ML3.0/9(BUT), Error ellipse: s-maj=2.7km s-min=2.1km az=343.0*
BUT 16 00:01:25.6±1.1, 45°86N±0°01×111°37W±0°02, h9km±4km, Error ellipse: s-maj=2.5km s-min=1.1km az=58.0, Montana

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin River**	**0.05**	**29**			Pg	00 01 27.2	-0.5
NQMA						Sg	00 01 28.5	-0.7
SXM	**Sixmile**	**0.31**	**21**			Pg	00 01 31.8	-0.1
BOZ	**Bozeman (W)**	**0.32**	**215**			Pg	00 01 32.0	-0.1
BOZ					Sg	Sg	00 01 36.2	-0.2
BOZ						IAML	00 01 36.7	
	3μm,0.2s							
BZMT	**Bozeman Pass**	**0.45**	**118**			Pg	00 01 34.7	+0.2
MSMT	**Mission Creek**	**0.75**	**108**			Pg	00 01 40.0	0.0
LRM	**Limekiln Ridge**	**0.76**	**267**	Pg		Pg	00 01 39.8	-0.5
BGMT	**Barton Gulch**	**0.79**	**217**			Pg	00 01 40.6	-0.2
BUT	**Butte**	**0.85**	**281**			Pg	00 01 41.8	-0.2
HBMT	**Mount Humbug**	**0.87**	**266**			Pg	00 01 42.0	-0.4
HRY	**Holter Researc**	**0.91**	**339**			Pg	00 01 43.1	-0.1
CRMT	**Chrome Mountai**	**0.95**	**115**			Pg	00 01 43.1	-0.8
DLMT	**Dillon**	**1.00**	**240**			Pg	00 01 44.1	-0.7
DLMT					Sg	Sg	00 01 57.1	-0.7
DLMT						IAML	00 02 01.7	
	360nm,0.5s							
DLMT						IAML	00 02 01.8	
	267nm,0.3s							
YHL	**Hebgen Lake**	**1.02**	**173**	Pg		Pg	00 01 44.6	-0.6
YHL						Sg	00 01 58.1	-0.4
YHL						IAML	00 02 00.8	
	comp=E,230nm,0.5s							
YHL						IAML	00 02 03.0	
	comp=N,219nm,0.6s							
QLMT	**Earthquake Lak**	**1.03**	**183**			Pg	00 01 44.8	-0.7
YHB	**Horse Butte**	**1.12**	**174**	Pg		Pg	00 01 46.7	-0.4
YHB				Sg		Sg	00 02 01.1	-0.5
YMC	**Maple Creek**	**1.13**	**167**			Pg	00 01 46.7	-0.7
YHH	**Holmes Hill**	**1.13**	**161**	Pg		Pg	00 01 46.5	-0.9
TPMT	**Tepee Creek**	**1.15**	**191**			Pb	00 01 47.8	0.0
YNM	**Yellowstone No**	**1.23**	**157**	Pg		Pg	00 01 49.6	+0.4
YNR	**Norris Junctio**	**1.25**	**157**	Pg		Pn	00 01 49.0	-0.4
LYMT	**Lyon Mountain**	**1.28**	**330**	Pg		Pn	00 01 49.8	-0.2
YNE	**Yellowstone No**	**1.28**	**131**	Pg		Pn	00 01 49.7	-0.3
YNE						IAML	00 02 08.4	
	comp=N,242nm,0.3s							
YNE						IAML	00 02 09.7	
	comp=E,307nm,0.6s							
YMP	**Mirror Lake Pl**	**1.41**	**142**			Pg	00 01 52.6	-0.1
YMP						IAML	00 02 13.2	
	comp=N,192nm,0.2s							
YMP						IAML	00 02 13.6	
	comp=E,195nm,0.5s							
YFT	**Old Faithful**	**1.46**	**165**			Pg	00 01 53.5	-0.2
LKWY	**Lake**	**1.47**	**152**			Pg	00 01 53.9	+0.1
MCMT	**McKenzie Canyo**	**1.47**	**226**			Pb	00 01 53.1	-0.2
BPMT	**Black Pine Rid**	**1.56**	**292**			Pb	00 01 54.9	+0.1
OVMT	**Ovando**	**1.65**	**317**			Pn	00 01 54.8	-0.1
RLMT	**Red Lodge**	**1.65**	**116**			Pb	00 01 56.6	+0.2
RLMT						IAML	00 02 20.4	
	comp=E,213nm,0.2s							
RLMT						IAML	00 02 23.3	
	comp=E,223nm,0.3s							
MSO	**Missoula**	**2.03**	**299**	Pn		Pn	00 01 59.9	-0.2
MSO						IAML	00 03 16.7	
	comp=E,231nm,0.2s							
MSO						IAML	00 03 17.1	
	comp=E,218nm,0.6s							
FXWY	**Fox Creek**	**2.24**	**174**	Pn		Pb	00 02 05.0	-1.4
FXWY						IAML	00 03 18.6	
	comp=E,374nm,0.5s							
FXWY						IAML	00 03 24.9	
	comp=E,211nm,1.0s							
LOHW	**Long Hollow**	**2.31**	**166**	Pn		Pb	00 02 07.0	-0.7
LOHW						IAML	00 03 20.4	
	comp=E,371nm,0.9s							
LOHW						IAML	00 03 27.8	
	comp=E,273nm,0.5s							
TPAW	**Teton Pass**	**2.39**	**173**	Pn		Pn	00 02 06.0	+0.8
TPAW						IAML	00 03 26.2	
	comp=E,662nm,0.4s							
TPAW						IAML	00 03 26.7	
	comp=E,452nm,0.9s							
EGMT	**Eagleton**	**2.43**	**26**	Pn		Pn	00 02 06.3	+0.7
EGMT						IAML	00 03 24.5	
	comp=E,1μm,0.3s							
EGMT						IAML	00 03 34.7	
	comp=E,685nm,0.7s							
JTMT	**Jette**	**2.75**	**314**	Pn		Pn	00 02 10.7	+0.7
HLID	**Hailey**	**3.16**	**224**	Pn		Pn	00 02 16.9	+1.2
PLID	**Pearl Lake**	**3.35**	**258**	Pn		Pn	00 02 18.6	+0.2
LAO	**LASA Array**	**3.66**	**75**	Pn		Pn	00 02 22.9	+0.4
MFID	**Camas Ranch**	**4.01**	**234**	Pn		Pn	00 02 28.9	+1.5
BMO	**Blue Mountains**	**4.31**	**259**	Pn		Pn	00 02 31.9	+0.5
RSSD	**Black Hills**	**5.48**	**106**	Pn		Pn	00 02 48.9	+1.2
J08A	**Circle Bar Ran**	**5.66**	**246**	Pn		Pn	00 02 50.5	+0.6
LON	**Longmire**	**7.29**	**281**	Pn		Pn	00 03 13.2	+0.9

*NEIC **16** 00:02:36.7±1.1, 45°89N±0°01×111°37W±0°02, h2km±4km, mb4.1/15, ML4.5/68, Mwr4.2/36, ML4.7/26(BUT), Error ellipse: s-maj=2.8km s-min=1.1km az=63.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.08; $M_{\theta\theta}$-1.54; $M_{\phi\phi}$1.62; $M_{r\theta}$-0.35; $M_{\theta\phi}$-1.18; $M_{\phi r}$-0.97; Fault plane solution: $M_0$2.23000×10^{15} NP1: ϕ_s116.05000°, δ62.66000°, λ179.12000°. NP2: ϕ_s206.45000°, δ89.22000°, λ27.34000°. Principal axes: T 2.3078, Plg20.0000°, Azm75.0000°; N -0.1584, Plg63.0000°, Azm208.0000°; P -2.1495, Plg18.0000°, Azm338.0000°;*
*NEIC **16** 00:02:37.1, 45°88N×111°38W, h8km*
*BUT **16** 00:02:37.6±1.4, 45°86N±0°02×111°36W±0°03, h9km±5km, Error ellipse: s-maj=3.2km s-min=2.6km az=186.0*
*IDC **16** 00:02:37.4±0.5, 45°92N×111°48W, h0km, mb4.1/9, mbtmp4.0/18, ML3.6/8, MS3.4/35, Error ellipse: s-maj=8.5km s-min=6.7km az=76.0*
ISC 16 00:02:37.3±0.8, 45°88N±0°02×111°34W±0°02, h8km±5km, n131, σ1s42/102, mb4.1/14, MS3.4/28, Montana

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NQMA	**Gallatin River**	**0.03**	**15**			**Pg**	**00 02 39.1**	**+0.1**
NQMA						**Sg**	**00 02 40.3**	**+0.2**
SXM	**Sixmile**	**0.29**	**19**			**Pg**	**00 02 43.6**	**+0.6**
BOZ	**Bozeman (W)**	**0.35**	**216**	Pg		**Pg**	**00 02 43.8**	**-0.3**
BOZ				Sg		**Sg**	**00 02 48.4**	**-0.4**
BOZ				IAML			00 02 48.7	
	32μm,0.4s							
BOZ				IAML			00 02 48.7	
	66μm,0.6s							
BZMT	**Bozeman Pass**	**0.45**	**121**			**Pg**	**00 02 46.5**	**+0.5**
MSMT	**Mission Creek**	**0.73**	**109**			**Pg**	**00 02 51.8**	**+0.3**
LRM	**Limekiln Ridge**	**0.78**	**266**	Pg		**Pg**	**00 02 51.8**	**-0.4**
BGMT	**Barton Gulch**	**0.81**	**217**			**Pg**	**00 02 52.5**	**-0.4**
BUT	**Butte**	**0.86**	**279**			**Pg**	**00 02 53.6**	**-0.3**
HBMT	**Mount Humbug**	**0.89**	**265**			**Pg**	**00 02 53.9**	**-0.5**
HRY	**Holter Researc**	**0.90**	**338**	Pg		**Pg**	**00 02 53.7**	**-0.9**
CRMT	**Chrome Mountai**	**0.94**	**116**			**Pg**	**00 02 55.0**	**-0.4**
YMV	**Mammoth Vault**	**1.02**	**153**			**Pg**	**00 02 56.6**	**-0.2**
DLMT	**Dillon**	**1.02**	**240**			**Pg**	**00 02 56.3**	**-0.6**
DLMT					Sg	**Sb**	**00 03 10.9**	**-0.1**
DLMT					IAML		00 03 13.6	
	9μm,0.5s							
DLMT					IAML		00 03 13.7	
	12μm,0.4s							
YHL	**Hebgen Lake**	**1.03**	**174**	Pg		**Pg**	**00 02 56.5**	**-0.7**
YHL					IAML		00 03 14.0	
	comp=E,15μm,0.7s							
YHL					IAML		00 03 14.9	
	comp=N,18μm,0.5s							
QLMT	**Earthquake Lak**	**1.05**	**183**			**Pg**	**00 02 56.3**	**-1.2**
GCR	**Grayling Creek**	**1.10**	**171**			**Pg**	**00 02 57.9**	**-0.5**
BEMT	**Mount Belmont**	**1.11**	**322**			**Pg**	**00 02 58.4**	**-0.1**
YHB	**Horse Butte**	**1.13**	**175**	Pg		**Pg**	**00 02 58.5**	**-0.6**
YHH	**Holmes Hill**	**1.15**	**162**	Pg		**Pg**	**00 02 58.6**	**-0.7**
YMC	**Maple Creek**	**1.15**	**168**			**Pg**	**00 02 58.5**	**-0.7**
TPMT	**Tepee Creek**	**1.17**	**191**			**Pg**	**00 02 59.5**	**-0.3**
YNM	**Yellowstone No**	**1.24**	**158**	Pg		**Pg**	**00 03 00.5**	**-0.5**
YNM					IAML		00 03 21.1	
	comp=E,5μm,0.5s							
YNR	**Norris Junctio**	**1.25**	**158**	Pg		**Pg**	**00 03 00.3**	**-1.1**
LYMT	**Lyon Mountain**	**1.27**	**329**	Pg		**Pg**	**00 03 01.1**	**-0.7**
YNE	**Yellowstone No**	**1.28**	**132**	Pg		**Pg**	**00 03 01.5**	**-0.4**
YNE					IAML		00 03 21.9	
	comp=E,10μm,0.6s							
YMP	**Mirror Lake Pl**	**1.41**	**143**	Pg		**Pn**	**00 03 04.1**	**+0.5**
YMP					IAML		00 03 25.8	
	comp=E,10μm,0.5s							
YMP					IAML		00 03 26.2	
	comp=N,11μm,0.4s							
YFT	**Old Faithful**	**1.47**	**166**			**Pn**	**00 03 04.8**	**+0.5**
LKWY	**Lake**	**1.47**	**153**	Pg		**Pn**	**00 03 05.2**	**+0.8**
MCMT	**McKenzie Canyo**	**1.50**	**226**			**Pn**	**00 03 04.8**	**+0.1**
BPMT	**Black Pine Rid**	**1.57**	**292**			**Pn**	**00 03 05.4**	**-0.3**
RLMT	**Red Lodge**	**1.64**	**117**			**Pn**	**00 03 07.5**	**+0.7**
RLMT					IAML		00 03 31.9	
	comp=N,5μm,0.5s							
RLMT					IAML		00 03 34.0	
	comp=N,6μm,0.5s							
OVMT	**Ovando**	**1.65**	**317**			**Pn**	**00 03 06.7**	**0.0**
CHMT	**Chamberlain Mo**	**1.68**	**309**			**Pn**	**00 03 07.3**	**+0.1**
SLMT	**Seeley Lake**	**2.02**	**313**			**Pn**	**00 03 11.7**	**-0.1**
MSO	**Missoula**	**2.04**	**299**	Pn		**Pn**	**00 03 11.9**	**-0.1**
MSO					IAML		00 03 45.3	
	comp=N,6μm,0.5s							
FXWY	**Fox Creek**	**2.25**	**174**	Pn		**Pn**	**00 03 16.2**	**+1.1**
LOHW	**Long Hollow**	**2.33**	**167**	Pn		**Pn**	**00 03 18.0**	**+1.9**
TPAW	**Teton Pass**	**2.41**	**173**	Pn		**Pn**	**00 03 18.5**	**+1.3**
TPAW					IAML		00 03 54.5	
	comp=N,2μm,0.7s							
TPAW					IAML		00 04 05.2	
	comp=N,2μm,1.0s							
EGMT	**Eagleton**	**2.41**	**26**	Pn		**Pn**	**00 03 18.0**	**+0.9**
SNOW	**Snow King Moun**	**2.45**	**170**	Pn		**Pn**	**00 03 18.2**	**+0.3**
JTMT	**Jette**	**2.75**	**314**	Pn		**Pn**	**00 03 22.4**	**+0.5**
AHID	**Auburn Hatcher**	**3.12**	**177**			**Pn**	**00 03 30.6**	**+3.6**
AHID					IAML		00 04 17.9	
	comp=N,783nm,0.9s							
AHID					IAML		00 04 20.9	
	comp=N,757nm,0.9s							
HLID	**Hailey**	**3.19**	**224**	Pn		**Pn**	**00 03 28.5**	**+0.6**
HLID				Pg		**Pb**	**00 03 36.2**	**+1.9**
HLID				IAML			00 04 16.5	
	comp=N,2μm,0.4s							
HLID				IAML			00 04 19.5	
	comp=N,2μm,0.8s							
PDAR	**Pinedale Array**	**3.37**	**157**	Pn		**Pn**	**00 03 31.6**	**+1.2**
PDAR	**Pinedale Array**	**3.37**	**157**	Pn		**Pb**	**00 03 35.5**	**-1.8**
	comp=N,39nm,0.5s,baz=354,slow=13,SNR=96							
PDAR				Lg	Lg		00 04 22.1	
	comp=N,19nm,0.3s,baz=358,slow=33,SNR=14							
PDAR				LR	LR		00 05 09.5	
	comp=N,274nm,21.1s,baz=318,slow=44							
PLID	**Pearl Lake**	**3.37**	**258**	Pn		**Pn**	**00 03 30.0**	**-0.5**
PLID				Pg		**Pb**	**00 03 39.2**	**+1.8**
PLID				IAML			00 04 25.5	
	comp=N,713nm,0.7s							
PLID				IAML			00 04 27.9	
	comp=N,763nm,0.6s							
LAO	**LASA Array**	**3.64**	**75**	Pn		**Pn**	**00 03 35.2**	**+1.2**
LAO				Pg		**Pg**	**00 03 46.5**	**-0.5**
MFID	**Camas Ranch**	**4.04**	**234**	Pn		**Pn**	**00 03 40.5**	**+0.9**
HVU	**Hansel Valley**	**4.23**	**195**	IAML			00 04 49.3	
	comp=N,580nm,0.9s							
HVU					IAML		00 04 49.6	
	comp=E,641nm,1.0s							
BMO	**Blue Mountains**	**4.33**	**258**	IAML			00 04 57.9	
	comp=E,372nm,1.3s							
BMO					IAML		00 04 58.8	
	comp=E,321nm,0.7s							
NEW	**Newport**	**4.61**	**303**	IAML			00 05 11.5	
	comp=E,960nm,0.9s							
NEW					IAML		00 05 11.6	
	comp=E,881nm,1.0s							
NEW	**Newport**	**4.61**	**303**	Pn		**Pn**	**00 03 47.3**	**-0.1**
	comp=E,4.9nm,0.3s,baz=120,slow=7.5,SNR=19							
NEW				Lg	Lg		00 04 58.4	
	comp=E,95nm,0.3s,baz=46,slow=23,SNR=12							
	comp=E,14nm,0.3s							
K22A	**Casper**	**4.73**	**131**	IAML			00 05 11.4	
	comp=E,453nm,1.0s							
TCUT	**Toone Canyon**	**4.76**	**181**	IAML			00 05 19.9	
	comp=N,337nm,1.4s							
TCUT					IAML		00 05 21.5	
	comp=E,394nm,0.9s							
LNOR	**Lincton Mounta**	**4.85**	**272**	IAML			00 05 26.9	
	comp=E,380nm,1.3s							
YPT	**Yellepit**	**5.32**	**275**	IAML			00 05 34.2	
	comp=N,376nm,1.7s							
YPT					IAML		00 05 35.5	
	comp=E,291nm,0.7s							
D08A	**Wollman Farm,**	**5.37**	**285**	IAML			00 05 32.5	
	comp=E,372nm,1.3s							
G08A	**Pilot Rock**	**5.38**	**266**	IAML			00 05 34.2	
	comp=N,140nm,0.9s							
G08A					IAML		00 05 39.3	
	comp=E,137nm,0.9s							
ELK	**Elko**	**5.87**	**210**	Pn		**Pn**	**00 04 08.6**	**+3.8**
	comp=E,0.6nm,0.3s,baz=6.6,slow=9.8,SNR=13							
ELK					Pg	**Pb**	**00 04 19.2**	**-0.8**
	comp=E,2.9nm,0.3s,baz=21,slow=16,SNR=27							
ELK					Lg	Lg	00 05 35.0	
	comp=E,8.1nm,0.3s,baz=250,slow=14,SNR=6.3							
ELK					LR	LR	00 06 41.7	
	comp=E,246nm,19.2s,baz=32,slow=42							
	comp=E,4.9nm,0.6s							
PV10	**Paradox Valley**	**7.69**	**166**	Pn		**Pn**	**00 04 31.1**	**+1.3**
PV19	**Morning Glory**	**7.76**	**166**	Pn		**Pn**	**00 04 31.1**	**+0.3**
PV16	**Nyswonger Mesa**	**7.77**	**166**	Pn		**Pn**	**00 04 30.0**	**-1.0**
PV12	**Saucer Basin,**	**7.79**	**165**	Pn		**Pn**	**00 04 30.6**	**-0.5**
PV11	**David Mesa, Pa**	**7.79**	**166**	Pn		**Pn**	**00 04 30.7**	**-0.5**
PV17	**East Wray Mesa**	**7.80**	**166**	Pn		**Pn**	**00 04 30.7**	**

M50A Fremont 20.91 92 P P 00 07 17.8 -2.3
M31M Drury Creek, Y 21.03 329 P P 00 07 22.0 +0.7
N31M Braeburn, Yuko 21.10 327 P P 00 07 21.9 -0.2
N31M IAmb IAmb 00 07 27.9
comp=Z,9.6nm,1.0s
U49A Red Boiling Sp 21.31 107 IAmb IAmb 00 07 29.9
comp=Z,11nm,1.1s
N30M Aishikik Lake 21.59 325 IAmb IAmb 00 07 30.4
comp=Z,6.0nm,1.0s
LPIG La Paz 21.74 177 LR LR 00 14 56.9
comp=Z,96nm,22.0s,baz=358,slow=34
SADO Sadowa 22.59 81 P P 00 07 39.5 +1.4
comp=Z,7.6nm,1.1s,baz=299,slow=10.0,SNR=3.4
comp=Z,7.6nm,1.1s
M29M Somme Creek 22.69 327 P P 00 07 41.4 +2.2
M29M IAmb IAmb 00 08 00.3
comp=Z,4.3nm,0.8s
L29M L29M 22.95 328 P 00 07 44.0 +2.2
TKL Tuxkaleechee C 23.14 106 LR LR 00 17 32.9
comp=Z,54nm,18.7s,baz=306,slow=38
INK Inuvik 25.21 341 LR LR 00 19 18.5
comp=Z,67nm,20.4s,baz=198,slow=40
ILAR Eielson Array 27.11 327 P P 00 08 22.1 +1.7
comp=Z,1.1nm,1.0s,baz=121,slow=8.4,SNR=7.6
ILAR LR LR 00 19 52.1
comp=Z,130nm,18.8s,baz=116,slow=38
comp=Z,1.1nm,1.0s
KDAK Kodiak Island 27.68 311 LR LR 00 17 39.0
comp=Z,60nm,18.2s,baz=100,slow=33
SCHQ Schefferville 29.33 56 LR LR 00 20 19.0
comp=Z,110nm,20.6s,baz=273,slow=36
FRB Frobisher Bay 29.68 38 LR LR 00 20 04.0
comp=Z,79nm,19.9s,baz=304,slow=35
RES Resolute Bay 29.79 9 LR LR 00 20 11.5
comp=Z,92nm,18.5s,baz=68,slow=35
SJG San Juan 46.42 111 LR LR 00 30 18.3
comp=Z,36nm,21.4s,baz=268,slow=36
BORG Borgarnes 49.74 34 LR LR 00 30 16.8
comp=Z,62nm,18.7s,baz=299,slow=33
JMIC Jan Mayen 51.31 24 LR LR 00 33 06.1
comp=Z,51nm,19.5s,baz=282,slow=36
TIXI Tiksi 55.34 340 LR LR 00 40 35.7
comp=Z,17nm,18.5s,baz=26,slow=41
MA2 Magadan 55.45 322 LR LR 00 35 15.1
comp=Z,22nm,20.3s,baz=72,slow=35
ARCES ARCESS Array B 60.62 16 LR LR 00 39 07.1
comp=Z,26nm,18.2s,baz=338,slow=36
MDP Montagnes des 64.87 110 LR LR 00 46 47.8
comp=Z,18nm,18.2s,baz=292,slow=41
ASAJ Asahikawa 69.07 312 LR LR 00 44 58.6
comp=Z,19nm,19.6s,baz=134,slow=37
ESDC Sonseca Array 72.91 50 P P 00 14 09.1 +2.2
comp=Z,0.3nm,0.7s,baz=307,slow=5.5,SNR=1.8
comp=Z,0.3nm,0.7s
DAVOX Davos/Dischmat 74.28 38 LR LR 00 46 37.6
comp=Z,39nm,18.6s,baz=85,slow=36
KIRV Kirov 74.69 10 LR LR 00 49 54.7
comp=Z,17nm,18.5s,baz=354,slow=38
VRAC Vranov 74.94 32 LR LR 00 47 56.3
comp=Z,20nm,18.1s,baz=328,slow=36
ARTI Arti 77.74 6 LR LR 00 51 57.5
comp=Z,23nm,18.7s,baz=344,slow=38
ZALV Zalesovo Beam 79.60 350 P P 00 14 45.0 +0.3
comp=Z,2.7nm,0.8s,baz=10,slow=4.5,SNR=11
ZALV LR LR 00 52 17.9
comp=Z,11nm,21.0s,baz=56,slow=38
comp=Z,2.7nm,0.8s
SONM Songino Array 80.99 335 P P 00 14 53.8 +1.3
comp=Z,0.3nm,0.4s,baz=18,slow=2.9,SNR=4.1
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 81.46 359 P P 00 14 55.5 +0.9
comp=Z,2.6nm,0.7s,baz=348,slow=5.0,SNR=13
BVAR LR LR 00 54 11.3
comp=Z,19nm,19.3s,baz=24,slow=38
comp=Z,2.6nm,0.7s
KURBB Kurchatov Arra 83.50 354 P P 00 15 05.2 -0.1
comp=Z,1.3nm,0.5s,baz=7.9,slow=4.7,SNR=16
KURBB LR LR 00 54 06.6
comp=Z,27nm,21.0s,baz=166,slow=37
comp=Z,1.3nm,0.5s
AKTO Aktyubinsk 83.62 7 LR LR 00 54 36.5
comp=Z,40nm,19.4s,baz=326,slow=37
HHC Hu-ho-hao-te 85.52 329 *eP* P **00 15 14.0 -1.9**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,69nm,3.9s
MKAR Makanchi Array 86.94 351 P P 00 15 22.9 +0.3
comp=Z,0.7nm,0.6s,baz=0.0,slow=4.9,SNR=6.4
MKAR LR LR 00 58 45.1
comp=Z,14nm,18.8s,baz=5.0,slow=39
comp=Z,0.7nm,0.6s
KBZ Khabaz 87.89 18 P P 00 15 28.4 +1.1
comp=Z,2.4nm,0.8s,baz=314,slow=7.7,SNR=4.2
comp=Z,2.4nm,0.8s
WMQ Urumqi 89.10 346 *eP* P **00 15 34.3 +1.2**
WMQ LR LR
comp=Z,340nm,22.7s
AAK Ala-Archa 91.71 356 LR LR 01 01 18.4
comp=Z,17nm,18.2s,baz=2.0,slow=38
GNI Garni 91.72 18 LR LR 00 58 52.2
comp=Z,19nm,18.9s,baz=336,slow=37
KSH Kashi 94.73 354 P P 00 15 54.9 -4.4
KSH pmax pmax
comp=Z,4.0nm,3.2s
PZH PanZhiHua 101.94 330 P **Pdif 00 16 31.8 -0.2**

NEIC ***16*** *00:03:18.1±2.0,22.°90S±0.°07×174.°37W±0.°10,h10km±1km, mb4.5/8,Error ellipse: s-maj=16.5km s-min=9.1km az=118.0*
IDC ***16*** *00:03:22.1±1.1,22.°68S×175.°35W,h0km,mb4.1/6, mbtmp4.1/6,MS3.4/3,Error ellipse: s-maj=38.8km s-min=31.8km az=147.0*
ISC 16 00:03:22.9±0.8,22.°6S±0.°1×174.°6W±0.°1,h22km,n22, σ2s79/18,mb4.4/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.56**	**52**	Pn	**Pn**	**00 04 44.5**	**+0.2**
NIUE				Sn	**Sn**	**00 05 46.1**	**-1.5**
MSVF	**Nonsavu**	**8.42**	**303**	Pn	**Pn**	**00 05 26.7**	**+2.9**
RAR	**Rarotonga**	**13.81**	**87**	Pn	Pn	00 06 32.1	-5.3
RAR	**Rarotonga**	**13.81**	**87**	LR	LR	00 11 21.4	
	comp=Z,101nm,20.0s,baz=276,slow=33						
PPT	**Papeete**	**23.99**	**83**	LR	LR	00 16 31.8	
	comp=Z,70nm,19.0s,baz=302,slow=32						
ASAR	**Alice Springs**	**47.18**	**258**	P	**P**	**00 11 51.0**	**-3.2**
	4.3nm,0.9s,baz=94,slow=8.0,SNR=26						
ASAR				LR	LR	00 31 32.8	
	comp=Z,54nm,18.1s,baz=106,slow=36						
	4.3nm,0.9s						
WR8	**Warramunga Arr**	**47.35**	**263**	P	**P**	**00 11 51.9**	**-3.6**
WR8				IAmb	IAmb	00 12 07.8	
	comp=Z,2.9nm,0.9s						
WB0	**Warramunga Arr**	**47.49**	**263**	P	**P**	**00 11 53.2**	**-3.4**
WB0				IAmb	IAmb	00 11 55.5	
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**47.49**	**263**	P	**P**	**00 11 53.1**	**-3.5**
WRAB	**Tennant Creek**	**47.49**	**263**	P	**P**	**00 11 52.5**	**-4.1**
WRAB				IAmb	IAmb	00 12 07.6	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**47.50**	**263**	P	**P**	**00 11 53.3**	**-3.4**
WRA	**Warramunga Arr**	**47.50**	**263**	P	**P**	**00 11 53.1**	**-3.6**
	comp=Z,2.6nm,0.8s,baz=101,slow=8.0,SNR=16						
	comp=Z,2.6nm,0.8s						
KNRA	**Kununurra**	**53.71**	**267**	P	**P**	**00 12 41.6**	**-2.0**
KNRA				IAmb	IAmb	00 12 47.5	
	comp=Z,4.4nm,0.9s						
TOLI2	**Tolitoli**	**67.14**	**281**	P	**P**	**00 14 13.3**	**-2.2**
QSPA	**South Pole Qui**	**67.52**	**180**	P	P	00 14 12.6	-4.6
QSPA	**South Pole Qui**	**67.52**	**180**	P	**P**	**00 14 19.4**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=119,slow=2.2,SNR=2.5						
	comp=Z,0.9nm,0.8s						
NVAR	**Mina Array Bea**	**80.38**	**41**	P	P	00 15 38.6	+5.7
	comp=Z,0.4nm,0.6s,baz=241,slow=7.2,SNR=2.4						
	comp=Z,0.4nm,0.6s						
MAW	**Mawson**	**80.70**	**199**	P	**P**	**00 15 34.8**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=145,slow=12,SNR=5.0						
	comp=Z,1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.79**	**288**	P	**P**	**00 16 40.1**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=114,slow=3.6,SNR=4.1						
	comp=Z,0.6nm,0.3s						
AKASG	**Malin Array Be**	**146.32**	**332**	PKPbc	**PKPab**	**00 23 02.7**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=42,slow=4.1,SNR=6.0						
BRTR	**Keskin Array B**	**150.57**	**312**	PKPbc	**PKiKP**	**00 23 14.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=111,slow=3.7,SNR=4.7						
MMAI	**Mount Meron Ar**	**151.59**	**298**	PKPbc	**PKiKP**	**00 23 17.9**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=66,slow=3.6,SNR=3.6						

IDC ***16*** *00:35:33.2±4.9,17.°93S×178.°40W,h530km±54km, mb3.2/9, mbtmp4.1/10,Error ellipse: s-maj=43.9km s-min=23.1km az=147.0*
NEIC ***16*** *00:35:35.0±1.1,18.°08S±0.°09×178.°2W±0.°2,h570km±11km, mb4.2/24,Error ellipse: s-maj=23.0km s-min=13.7km az=92.0*
ISC 16 00:35:36.1±0.6,18.°1S±0.°1×178.°4W±0.°1,h579km,n55, σ1s18/56,mb4.1/21,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.41**	**276**	P	**P**	**00 36 54.8**	**-1.3**
PINNC	**Pines Island,**	**14.01**	**249**	P	**P**	**00 38 34.7**	**-0.6**
SANVU	**Saraoutou**	**14.04**	**279**	P	**P**	**00 38 37.7**	**+2.0**
DZM	**Mont Dzumac**	**14.78**	**252**	P	**P**	**00 38 44.0**	**+1.1**
DZM	**Mont Dzumac**	**14.78**	**252**	P	**P**	**00 38 41.8**	**-1.0**
	5.2nm,0.6s,baz=94,slow=16,SNR=5.9						
MRZ	**Mangatainoka R**	**23.06**	**192**	P	**P**	**00 39 54.5**	**-3.5**
LHI	**Lord Howe Isla**	**24.37**	**233**	P	**P**	**00 40 10.6**	**+0.9**
EIDS	**Eidsvold**	**29.21**	**250**	P	**P**	**00 40 52.6**	**+0.4**
EIDS				IAmb	IAmb	00 41 24.6	
	comp=Z,10nm,1.4s						
MLZ	**Mavora Lakes**	**29.41**	**200**	P	**P**	**00 40 53.2**	**-0.5**
ARMA	**Armidale**	**29.85**	**240**	P	**P**	**00 40 58.9**	**+1.1**
ARMA				IAmb	IAmb	00 41 11.4	
	comp=Z,7.0nm,1.1s						
CTAO	**Charters Tower**	**33.43**	**261**	P	**P**	**00 41 28.6**	**+0.4**
CTAO				IAmb	IAmb	00 41 41.5	
	comp=Z,19nm,1.4s						
TOO	**Toolangi**	**37.05**	**231**	P	**P**	**00 41 58.6**	**+0.6**
TOO				IAmb	IAmb	00 42 40.2	
	comp=Z,7.9nm,1.3s						
COEN	**Coen**	**37.12**	**271**	P	**P**	**00 41 55.8**	**-3.1**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**00 42 11.1**	**+0.9**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**00 42 10.8**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=72,slow=11,SNR=6.4						
	comp=Z,3.1nm,0.5s						
INKA	**Innaminka**	**38.68**	**248**		**P**	**00 42 12.2**	**+0.8**
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**00 42 48.3**	**+0.3**
BBOO				IAmb	IAmb	00 43 11.5	
	comp=Z,24nm,1.2s						
WR8	**Warramunga Arr**	**44.46**	**260**	P	**P**	**00 42 57.0**	**0.0**
WR8				IAmb	IAmb	00 43 36.0	
	comp=Z,8.0nm,1.4s						
WB0	**Warramunga Arr**	**44.58**	**260**	P	**P**	**00 42 58.2**	**+0.3**
WB2	**Warramunga Arr**	**44.60**	**260**	P	**P**	**00 42 58.3**	**+0.2**
WB2				IAmb	IAmb	00 43 38.4	
	comp=Z,9.2nm,1.4s						
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	**00 42 58.1**	**0.0**
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	**00 42 58.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=95,slow=7.1,SNR=12						
	comp=Z,0.6nm,0.5s						
AS31	**Alice Springs**	**44.75**	**254**	P	**P**	**00 42 59.9**	**+0.7**
AS31				IAmb	IAmb	00 43 00.7	
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**00 42 59.7**	**+0.5**
ASAR	**Alice Springs**	**44.75**	**254**	P	**P**	**00 42 59.9**	**+0.7**
	comp=Z,7.8nm,0.6s,baz=89,slow=8.7,SNR=90						
ASAR				S	**S**	**00 48 56.2**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=92,slow=14,SNR=6.9						
	comp=Z,7.8nm,0.6s						
MJAR	**Matsushiro Arr**	**68.08**	**323**	P	**P**	**00 45 39.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=152,slow=5.8,SNR=4.9						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**00 46 03.3**	**+1.8**
PETK	**Petropavlovsk-**	**73.88**	**345**	P	**P**	**00 46 13.3**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=157,slow=5.0,SNR=2.1						
	comp=Z,1.3nm,0.6s						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**00 46 44.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=218,slow=9.4,SNR=3.6						
	comp=Z,0.4nm,0.6s						
YAH	**Yahtse**	**83.62**	**17**	P	**P**	**00 47 02.0**	**-2.2**
RND	**Reindeer**	**84.47**	**13**	P	**P**	**00 47 08.5**	**+0.4**
RND				IAmb	IAmb	00 47 08.9	
	comp=Z,4.1nm,0.8s						
F17K	**Baldwin Pennin**	**85.28**	**7**	P	**P**	**00 47 09.3**	**-2.5**
F17K				IAmb	IAmb	00 47 20.9	
	comp=Z,17nm,1.4s						
G19K	**Purcell Mounta**	**85.52**	**9**	P	**P**	**00 47 13.0**	**-0.1**
G19K				IAmb	IAmb	00 47 24.3	
	comp=Z,5.8nm,1.3s						
WRH	**Wood River Hil**	**85.56**	**13**	P	**P**	**00 47 13.1**	**-0.2**
WRH				IAmb	IAmb	00 47 48.5	
	comp=Z,4.5nm,1.4s						
Q32M	**Nakina River**	**85.57**	**22**	P	**P**	**00 47 14.4**	**+0.7**
CCB	**Clear Creek Bu**	**85.78**	**13**	P	**P**	**00 47 13.7**	**-0.6**
ILAR	**Eielson Array**	**86.08**	**13**	P	**P**	**00 47 15.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=222,slow=5.5,SNR=5.3						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**00 47 18.6**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=216,slow=6.0,SNR=6.5						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**87.49**	**43**	P	**P**	**00 47 23.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=183,slow=3.0,SNR=4.2						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**126.52**	**350**	PKP	**PKiKP**	**00 53 33.9**	**0.0**
	comp=Z,1.6nm,1.0s,baz=50,slow=1.9,SNR=6.7						
BRTR	**Keskin Array B**	**144.93**	**315**	PKP	**PKPab**	**00 54 10.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=72,slow=1.9,SNR=6.5						
CLL	**Collm**	**145.66**	**347**	*i* PKPbc	**PKPbc**	**00 54 11.3**	**+0.7**
	comp=Z,5.0nm,0.7s						
MMAI	**Mount Meron Ar**	**146.26**	**303**	PKPbc	**PKiKP**	**00 54 14.5**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=81,slow=5.2,SNR=7.4						
GERES	**GERESS Array B**	**147.81**	**345**	PKPbc	**PKiKP**	**00 54 17.4**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=13,slow=3.1,SNR=10						
MOA	**Molln**	**148.58**	**344**	*e*PKP	**PKiKP**	**00 54 20.0**	**+0.4**
	comp=Z,5.0nm,1.3s						
LESA	**Schwarzleotal**	**149.39**	**345**	*e*PKP	**PKiKP**	**00 54 21.6**	**+0.4**
	comp=Z,1.0nm,0.5s						
KBA	**Koelnbreinsper**	**149.54**	**344**	*i* PKP	**PKiKP**	**00 54 21.7**	**0.0**
	comp=Z,2.2nm,0.4s						
WATA	**Walderalm**	**149.72**	**346**	*e*PKP	**PKiKP**	**00 54 22.9**	**+0.9**
	comp=Z,0.8nm,0.4s						
RETA	**Reutte**	**149.75**	**348**	*e*PKP	**PKPdf**	**00 54 15.3**	**-0.6**
	comp=Z,3.6nm,1.4s						
WTTA	**Wattenberg**	**149.78**	**346**	*i* PKP	**PKiKP**	**00 54 22.5**	**+0.2**
	comp=Z,2.9nm,0.5s						
MOTA	**Moosalm**	**149.82**	**347**	*e*PKP	**PKPbc**	**00 54 21.2**	**-0.4**
	comp=Z,2.6nm,1.3s						
SQTA	**Sankt Quirin**	**149.91**	**347**	*e*PKP	**PKiKP**	**00 54 22.3**	**-0.1**
	comp=Z,1.8nm,0.5s						
ABTA	**Abfaltersbach**	**150.06**	**345**	*e*PKP	**PKiKP**	**00 54 22.5**	**-0.2**
	comp=Z,2.5nm,0.6s						
DAVA	**Damuels**	**150.12**	**349**	*e*PKiKP	**PKPab**	**00 54 27.3**	**-3.6**
	comp=Z,4.6nm,1.1s						
FETA	**Feichten**	**150.21**	**347**	*e*PKP	**PKiKP**	**00 54 23.2**	**+0.1**
	comp=Z,3.5nm,0.9s						

IDC 16 00:39:27.8±7.0,5.°87S×147.°39E,h221km±38km,mb3.1/3, mbtmp3.7/5,Error ellipse: s-maj=75.9km s-min=43.8km az=175.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.52**	**184**	P	Pn	00 40 24.4	-0.2
	22nm,0.5s,baz=8.1,slow=7.1,SNR=11						
PMG				S	S	00 41 10.2	+1.0
	31nm,0.7s,baz=186,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**18.88**	**221**	P	P	00 43 31.3	-0.6
	1.0nm,0.4s,baz=48,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.94**	**215**	P	P	00 44 04.1	+0.3
	2.1nm,0.8s,baz=47,slow=8.3,SNR=12						
	2.1nm,0.8s						
VNDA	**Vanda**	**72.02**	**177**	P	P	00 50 27.1	+0.1
	0.3nm,0.7s,baz=341,slow=6.8,SNR=1.8						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**84.09**	**180**	P	P	00 51 33.8	+0.1
	1.0nm,0.9s,baz=0.0,slow=2.0,SNR=3.3						
	1.0nm,0.9s						

NEIC ***16*** *00:56:13.5±0.8,35.°64N±0.°01×117.°43W±0.°01,h10km±1km, Error ellipse: s-maj=2.7km s-min=2.5km az=187.0*
PAS 16 00:56:14.1±0.8,35.°64N±0.°01×117.°43W±0.°01,h8km±4km, ML3.3/111,ML2.9/168(NEIC),Error ellipse: s-maj=1.7km s-min=1.5km az=184.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.06**	**235**		Pg	00 56 16.0	0.0
WSHM				Sg	Sg	00 56 17.5	+0.1
WSHM					IAML	00 56 18.7	
	11μm,0.1s						
CCCA	**Chr Cany lake**	**0.12**	**154**		Pg	00 56 17.2	+0.4
CCCA				Sg	Sg	00 56 19.1	+0.4
CLC	**China Lake**	**0.23**	**323**		Pg	00 56 18.5	-0.1
CLC					IAML	00 56 22.4	
	comp=N,1μm,0.1s						
LRMC	**Laurel Mtn Rad**	**0.26**	**233**		Pg	00 56 19.1	-0.1
SRTC	**Snort**	**0.27**	**282**		Pg	00 56 19.6	+0.3
SRTC					Sg	00 56 24.3	+1.4
TOW	**Tower One**	**0.32**	**303**		Pg	00 56 20.7	+0.2
TOW					Sb	00 56 26.4	-1.1
MPMC	**Manual Prospec**	**0.42**	**354**		Sg	00 56 28.1	+0.1
MPMC	**Manual Prospec**	**0.42**	**354**		Pg	00 56 22.0	-0.4
MPMC					IAML	00 56 29.4	
	comp=E,704nm,0.2s						
MPMC					IAML	00 56 30.3	
	comp=N,726nm,0.4s						
WVPM	**Volcano Peak E**	**0.44**	**315**		Pg	00 56 22.5	-0.2
WVPM					Sg	00 56 28.9	+0.3
JRC2	**Joshua Ridge**	**0.46**	**318**		Pg	00 56 22.9	-0.2
JRC2					Sg	00 56 29.7	+0.5
WCSM	**Coso Springs S**	**0.48**	**325**		Pg	00 56 22.9	-0.4
WCSM					Sg	00 56 29.8	+0.2
DTP	**Desert Tortois**	**0.50**	**223**		Pg	00 56 23.3	-0.5
DTP					Sg	00 56 30.1	-0.1
WRVM	**Rose V. Centra**	**0.53**	**315**		Pg	00 56 24.0	-0.3
WRVM					Sg	00 56 31.6	+0.3
QSM	**Queen of Sheba**	**0.56**	**54**		Pg	00 56 24.7	-0.2
QSM					IAML	00 56 32.5	
	comp=E,957nm,0.3s						
QSM					IAML	00 56 36.2	
	comp=N,1μm,0.3s						
QSM	**Queen of Sheba**	**0.56**	**54**		Sg	00 56 32.2	-0.2
MFS	**McCloud Flat S**	**0.59**	**324**		Pg	00 56 25.1	-0.4
MFS					Sg	00 56 33.3	0.0
GSC	**Goldstone, Bar**	**0.61**	**123**		Pg	00 56 25.5	-0.3
GSC	**Goldstone, Bar**	**0.61**	**123**		Sg	00 56 33.7	-0.1
WORM	**Onyx Ranch**	**0.66**	**275**		Pg	00 56 26.3	-0.5
WORM					Sg	00 56 35.0	-0.5
CCAC	**Calif City Air**	**0.68**	**225**		Pg	00 56 26.7	-0.4
CCAC					Sg	00 56 36.1	+0.1
WHFM	**Hanning Flat**	**0.75**	**275**		Pg	00 56 27.9	-0.6
WHFM					Sg	00 56 37.8	-0.5
HYS	**Haystack Butte**	**0.78**	**188**		Pg	00 56 28.3	-0.7
HYS					Sg	00 56 38.8	-0.4
GWY	**Greenwater Val**	**0.83**	**48**		Pg	00 56 29.5	-0.5
GWY					Sg	00 56 40.5	-0.3
GWY					IAML	00 56 42.9	
	comp=N,430nm,0.3s						
GWY					IAML	00 56 49.2	
	comp=E,524nm,0.4s						
ISA	**Isabella, Lake**	**0.85**	**272**		Pg	00 56 29.7	-0.7
ISA	**Isabella, Lake**	**0.85**	**272**		Pn	00 56 41.2	+8.8
ISA	**Isabella, Lake**	**0.85**	**272**	IAML		00 56 41.9	
	comp=E,620nm,0.3s						
ISA					IAML	00 56 42.1	
	comp=N,277nm,0.2s						
EDW2	**Edwards Air Fo**	**0.88**	**212**		Pg	00 56 30.2	-0.8
EDW2					Sg	00 56 41.7	-0.8
WASM	**Alta Sierra Ca**	**0.92**	**277**		Pg	00 56 31.1	-0.7
WASM					Sg	00 56 43.3	-0.5
FURC	**Furnace Creek,**	**0.95**	**29**		Pg	00 56 32.0	-0.3
FURC					IAML	00 56 47.4	
	comp=N,554nm,0.5s						
FURC					IAML	00 56 51.4	
	comp=E,625nm,0.4s						
FURC	**Furnace Creek,**	**0.95**	**29**		Sg	00 56 44.7	+0.1
CWC	**Cottonwood Cre**	**0.96**	**327**		Pg	00 56 31.8	-0.7
CWC					IAML	00 56 47.9	
	comp=N,260nm,0.2s						
CWC					IAML	00 56 48.2	
	comp=E,221nm,0.2s						
CGO	**Cerro Gordo**	**0.96**	**342**		Pg	00 56 31.6	-1.0
CGO					Sg	00 56 45.6	+0.5
SHOC	**Shoshone, Teco**	**0.98**	**74**		Pg	00 56 32.4	-0.4
SHOC					Sg	00 56 45.5	0.0
TPO	**Tropico Hills**	**1.00**	**221**		Pg	00 56 32.7	-0.6
TPO					Sg	00 56 46.3	+0.1
SBB	**Saddle Back Bu**	**1.00**	**199**		Pg	00 56 32.3	-0.9
VTV	**Victorville**	**1.08**	**176**		Pn	00 56 49.0	+14
TEJ	**El Tejon**	**1.10**	**249**		Pg	00 56 33.9	-1.4
TEJ					Sg	00 56 48.3	-1.3
TUQ	**Turquoise Moun**	**1.25**	**99**		Pb	00 56 36.3	-1.5
WCT	**Wildcat Mounta**	**1.32**	**29**		Pn	00 56 38.0	-1.0
WCT					IAML	00 56 58.2	
	comp=N,134nm,0.4s						
WCT					IAML	00 56 58.6	
	comp=E,146nm,0.3s						
VES	**Vestal, Richgr**	**1.36**	**279**		Pn	00 56 38.4	-0.9
VES					IAML	00 56 59.2	
	comp=N,350nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.41**	**188**		Pn	00 56 39.6	-0.5
BFSC					IAML	00 56 59.2	
	comp=E,346nm,0.6s						
BFSC					IAML	00 56 59.7	
	comp=N,281nm,0.6s						
OSI	**Osito Audit: C**	**1.47**	**226**		Pn	00 56 41.3	+0.4
OSI					IAML	00 57 03.5	
	comp=E,313nm,0.6s						
OSI					IAML	00 57 04.4	
	comp=N,198nm,0.4s						
MWC	**Mount Wilson**	**1.50**	**200**		Pn	00 56 41.2	-0.2
MWC					IAML	00 57 03.0	
	comp=E,230nm,0.5s						
MTPC	**Mountain Pass**	**1.54**	**95**		Pn	00 56 41.0	-0.9
MTPC					IAML	00 57 03.4	
	comp=E,280nm,0.2s						
MTPC					Sb	00 57 03.0	+0.4
TIN	**Tinemaha, Big**	**1.56**	**336**		Pn	00 56 42.6	+0.4
TIN					IAML	00 57 11.5	
	comp=N,194nm,0.8s						
TIN					IAML	00 57 22.0	
	comp=E,184nm,0.8s						
PASC	**Pasadena Art C**	**1.59**	**203**		Pb	00 56 43.6	-0.1
PASC					IAML	00 57 08.1	
	comp=E,135nm,0.4s						
PASC					IAML	00 57 12.0	
	comp=N,145nm,0.6s						
TPNV	**Topopah Spring**	**1.62**	**36**		Pn	00 56 42.3	-0.8
TPNV					IAML	00 57 07.9	
	comp=N,130nm,0.5s						
TPNV					IAML	00 57 10.9	
	comp=N,128nm,0.6s						
GMN	**Gold Mountain**	**1.67**	**5**		Pn	00 56 43.1	-0.7
DSP	**Deep Springs

	comp=N,54nm,0.5s								
BC3					IAML			00 57 40.5	
	comp=E,40nm,0.6s								
PRN	**Pahroc Range**	**2.61**	**47**			Pn		00 56 57.3	+0.7
PRN					IAML			00 57 46.4	
	comp=N,49nm,0.9s								
PRN					IAML			00 57 46.8	
	comp=E,57nm,0.9s								
DPP	**Dos Picos Cty**	**2.66**	**171**			Pb		00 57 01.5	-0.5
DPP					IAML			00 57 37.5	
	comp=E,38nm,0.5s								
LHV	**Little Huntoon**	**2.75**	**342**			Pn		00 56 58.9	+0.4
LHV					IAML			00 57 53.2	
	comp=N,26nm,1.4s								
PMPB	**Monarch Peak**	**2.80**	**283**			Pn		00 56 59.1	-0.1
PMPB					IAML			00 57 45.5	
	comp=E,82nm,0.6s								
PMPB					IAML			00 57 48.8	
	comp=N,64nm,0.8s								
NVAR	**Mina Array Bea**	**2.88**	**346**			Pb		00 57 07.4	+1.7
W13A	**Hualapai Mount**	**2.95**	**99**			Pn		00 57 00.4	-0.9
W13A					IAML			00 57 49.3	
	comp=N,33nm,0.9s								
GLA	**Glamis**	**3.36**	**139**		IAML			00 58 03.9	
	comp=N,33nm,0.6s								
GLA					IAML			00 58 10.9	
	comp=E,50nm,0.7s								
CMB	**Columbia Colle**	**3.37**	**316**		IAML			00 58 05.2	
	comp=E,19nm,0.8s								
CMB					IAML			00 58 05.7	
	comp=N,22nm,0.6s								
ESJX	**Sierra Juarez**	**3.83**	**161**		IAML			00 59 18.5	
	comp=E,32nm,0.1s								
Y14A	**Wickenburg**	**4.02**	**114**		IAML			00 58 25.1	
	comp=E,25nm,0.6s								
PSUT	**Pine Spring**	**4.07**	**44**		IAML			00 58 29.9	
	comp=E,9.4nm,1.1s								
PSUT					IAML			00 58 33.5	
	comp=N,12nm,0.9s								
SPR3	**Spring Creek 3**	**4.17**	**35**		IAML			00 58 26.8	
	comp=E,8.1nm,1.4s								
113A	**Mohawk Valley,**	**4.17**	**132**		IAML			00 58 31.3	
	comp=E,7.7nm,1.4s								
U15A	**North Rim**	**4.24**	**78**		IAML			00 58 29.8	
	comp=E,9.0nm,0.6s								
U15A					IAML			00 58 34.7	
	comp=N,7.6nm,0.9s								
AFDM	**Forest Hills D**	**4.35**	**321**		IAML			00 58 34.6	
	comp=N,9.6nm,1.1s								
AFDM					IAML			00 58 35.1	
	comp=E,18nm,0.6s								
PAHR	**Pah Rah Range**	**4.35**	**340**		IAML			00 59 09.9	
	comp=E,7.0nm,4.4s								
PKCU	**Pink Cliffs**	**4.50**	**65**		IAML			00 58 38.8	
	comp=N,12nm,1.1s								
PKCU					IAML			00 58 46.6	
	comp=E,13nm,1.3s								
MTPU	**Mount Pierson**	**4.84**	**59**		IAML			00 59 45.5	
	comp=E,6.2nm,4.3s								
WUAZ	**Wupatki**	**4.94**	**90**		IAML			00 58 52.4	
	comp=E,9.5nm,0.6s								
WUAZ					IAML			00 58 58.3	
	comp=E,9.0nm,0.9s								
ELK	**Elko**	**5.38**	**18**		IAML			00 59 06.1	
	comp=E,3.4nm,0.7s								

*IDC **16** 01:22:46.0±1.4,39°.38N×143°.54E,h0km,mb3.8/10, mbtmp3.8/13,ML3.2/3,MS2.8/1,Error ellipse: s-maj=30.8km s-min=25.3km az=105.0*

*NIED **16** 01:22:47.9,39°.40N×143°.45E,h22km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr3.52; Mθθ0.14; Mθθ-3.65; Mrθ2.73; Mθφ-1.35; Mφφ2.00; Fault plane solution: M₀5.11000×10¹⁴ NP1: φs176.00000°,δ31.00000°,λ50.00000°. NP2:φs40.00000°, δ67.00000°,λ111.00000°.*

*JMA **16** 01:22:47.9±0.3,39°.4N±0°.5×14°.3E±°,h22km±4km, MV3.8/31,FAR E OFF SANRIKU*

*NEIC **16** 01:22:52.4±1.9,39°.40N±0°.05×143°.3E±0°.1,h35km±2km, mb4.4/6,Error ellipse: s-maj=18.9km s-min=5.1km az=112.0*

ISC 16 01:22:48.5±0.9,39°.41N±0°.07×143°.36E±0°.07,h11km,n46, σ1s00/42,mb4.0/14,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.20**	**278**	*i* P		**Pn**	**01 23 10.3**	**-0.8**
MIYJ				*e*S		**Sb**	**01 23 27.1**	**+0.3**
JTH	**Tanohata**	**1.27**	**295**	P		**Pb**	**01 23 11.8**	**-0.6**
JTH				*e*S		**Sn**	**01 23 29.2**	**+0.1**
OFUJ	**Ofunato**	**1.35**	**256**	*i* P		**Pn**	**01 23 12.8**	**-0.4**
JOM	**Ohasama**	**1.60**	**273**	*i* P		**Pb**	**01 23 16.8**	**-1.2**
JANG	**Nango**	**1.71**	**305**	*e*P		**Pn**	**01 23 18.0**	**-0.3**
JMK	**Ichinoseki**	**1.72**	**255**	P		**Pn**	**01 23 18.4**	**0.0**
JIO	**Ouri**	**1.84**	**239**	P		**Pn**	**01 23 19.5**	**-0.4**
JRG	**Rokugo**	**2.11**	**270**	*e*P		**Pn**	**01 23 24.2**	**+0.5**
JTM	**Tenmabayashi**	**2.23**	**309**			**Pn**	**01 23 25.3**	**0.0**
JTM	**Tenmabayashi**	**2.23**	**309**	P		**Pn**	**01 23 25.5**	**+0.2**
JYK	**Kaneyama**	**2.38**	**259**	P		**Pn**	**01 23 28.0**	**+0.6**
JMM	**Marunori**	**2.53**	**233**			**Pn**	**01 23 29.0**	**-0.5**
ERM	**Erimo**	**2.60**	**357**	Pn		**Pn**	**01 23 29.8**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.90**	**351**	*e*P		**Pn**	**01 23 35.1**	**+0.6**
JCH	**Churui**	**3.20**	**0**	*e*P		**Pn**	**01 23 38.5**	**-0.2**
JKA	**Kamikawa-asahi**	**4.74**	**353**	Pn		**Pn**	**01 24 00.6**	**+0.9**
ASAJ	**Asahikawa**	**4.74**	**353**	Pn		**Pn**	**01 24 00.3**	**+0.5**
	1.7nm,0.3s,baz=208,slow=7.3,SNR=12							
	6.3nm,0.4s							
MJAR	**Matsushiro Arr**	**4.97**	**236**			**Pn**	**01 24 05.0**	**+1.9**
MJAR	**Matsushiro Arr**	**4.97**	**236**	Pn		**Pn**	**01 24 04.8**	**+1.7**
	0.4nm,0.3s,baz=36,slow=13,SNR=36							
MJAR					LR	LR	01 26 13.5	
	comp=Z,95nm,18.1s,baz=158,slow=41							
	8.3nm,0.7s							
MAJO	**Matsushiro**	**4.98**	**236**			**Pn**	**01 24 05.1**	**+2.0**
MJB9	**Matsu-Tunnel**	**4.98**	**237**			**Pn**	**01 24 06.0**	**+2.9**
USRK	**Ussuriysk Ar.**	**9.74**	**303**	Pn		**Pn**	**01 25 10.6**	**+2.1**
	0.2nm,0.3s,baz=95,slow=13,SNR=5.2							
	2.1nm,0.6s							
SONM	**Songino Array**	**27.83**	**300**	P		**P**	**01 28 38.3**	**+0.4**
	0.7nm,0.6s,baz=84,slow=8.6,SNR=4.7							
	0.7nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.21**	**127**	T		T	01 58 15.9	
	baz=316,SNR=26							
H11N1	**WAKE ISLAND Hy**	**28.22**	**127**	T		T	01 58 13.5	
	baz=316,slow=74,SNR=19							
H11N3	**WAKE ISLAND Hy**	**28.22**	**127**	T		T	01 58 16.2	
	baz=316,slow=74,SNR=22							
H11S1	**WAKE ISLAND Hy**	**29.02**	**129**	T		T	01 59 22.2	
	baz=328,SNR=3.9							
H11S3	**WAKE ISLAND Hy**	**29.02**	**129**	T		T	01 59 20.7	
	baz=328							
H11S2	**WAKE ISLAND Hy**	**29.03**	**129**	T		T	01 59 14.4	
	baz=328							
ZALV	**Zalesovo Beam**	**41.49**	**310**	P		**P**	**01 30 35.2**	**-0.1**
	1.2nm,0.5s,baz=87,slow=11,SNR=4.5							
	1.2nm,0.5s							
MKAR	**Makanchi Array**	**44.20**	**300**	P		**P**	**01 30 57.0**	**-0.3**
MKAR	**Makanchi Array**	**44.20**	**300**	P		**P**	**01 30 57.3**	**-0.1**
	1.0nm,0.8s,baz=81,slow=10,SNR=6.7							
	1.0nm,0.8s							
D22K	**Ayikyak River**	**44.55**	**28**	P		**P**	**01 31 01.9**	**+2.0**
D22K					IAmb	IAmb	01 31 24.3	
	comp=Z,12nm,1.4s							
KURK	**Kurchatov**	**45.71**	**307**	P		**P**	**01 31 08.7**	**-0.6**
KURK					IAmb	IAmb	01 31 09.7	
	comp=Z,2.3nm,0.8s							
KURBB	**Kurchatov Arra**	**45.78**	**306**	P		**P**	**01 31 09.6**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=80,slow=8.4,SNR=21							
	comp=Z,2.5nm,0.7s							
ILAR	**Eielson Array**	**46.67**	**34**	P		**P**	**01 31 16.2**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=270,slow=7.3,SNR=2.3							
	comp=Z,0.3nm,0.8s							
BVAR	**Borovoye Array**	**50.13**	**311**	P		**P**	**01 31 43.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=64,slow=10,SNR=4.6							
	comp=Z,0.8nm,0.5s							
I30M	**Mount Dempster**	**51.05**	**32**	P		**P**	**01 31 51.6**	**+1.2**
I30M					IAmb	IAmb	01 32 28.0	
	comp=Z,5.0nm,1.4s							
H31M	**Peel River**	**51.76**	**31**	P		**P**	**01 31 56.5**	**+0.9**
H31M					IAmb	IAmb	01 32 06.5	
	comp=Z,6.8nm,1.4s							
AB31	**Akbulak array**	**57.59**	**310**	P		**P**	**01 32 38.0**	**-0.1**
ABKAR	**Akbulak array**	**57.59**	**310**	P		**P**	**01 32 38.0**	**-0.1**
WR8	**Warramunga Arr**	**59.63**	**190**	P		**P**	**01 32 51.4**	**-1.2**
WRA	**Warramunga Arr**	**59.64**	**190**	P		**P**	**01 32 51.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=9.4,slow=7.0,SNR=1.9							
	comp=Z,0.2nm,0.5s							
FINES	**FINESS Array B**	**67.42**	**332**	P		**P**	**01 33 43.7**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=11,slow=7.0,SNR=2.4							
	comp=Z,2.3nm,1.0s							
HFS	**Hagfors**	**72.55**	**336**	P		**P**	**01 34 14.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=47,slow=6.5,SNR=4.5							
	comp=Z,1.2nm,0.7s							
NOA	**NORSAR Array B**	**72.58**	**338**	P		**P**	**01 34 14.8**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=44,slow=9.8,SNR=3.2							
	comp=Z,0.9nm,0.9s							

*NIED **16** 01:28:17.2,39°.39N×143°.41E,h23km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.49; Mθθ0.92; Mφφ-2.41; Mrθ2.33; Mθφ0.04; Mφr1.43; Fault plane solution: M₀3.40000×10¹⁴ NP1: φs151.00000°,δ35.00000°,λ26.00000°. NP2:φs38.00000°, δ75.00000°,λ122.00000°.*

*JMA **16** 01:28:17.2±0.2,39°.4N±0°.5×143°.4E±0°.9,h23km±3km, MV3.6/30,FAR E OFF SANRIKU*

*IDC **16** 01:28:23.8±6.3,39°.89N×142°.12E,h0km,mb3.6/3, mbtmp3.5/5,ML2.9/2,Error ellipse: s-maj=124.1km s-min=33.9km az=112.0*

ISC 16 01:28:17.6±1.9,39°.42N±0°.08×143°.3E±0°.1,h11km,n17, σ0s64/18,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.15**	**278**	P		**Pb**	**01 28 39.4**	**-0.2**
MIYJ				*e*S		**Sn**	**01 28 55.9**	**+0.4**
JTH	**Tanohata**	**1.22**	**295**	P		**Pg**	**01 28 40.6**	**-0.5**
OFUJ	**Ofunato**	**1.31**	**255**	P		**Pn**	**01 28 41.5**	**-0.4**
JOM	**Ohasama**	**1.55**	**272**	P		**Pn**	**01 28 45.6**	**+0.4**
JMK	**Ichinoseki**	**1.68**	**254**	*i* P		**Pn**	**01 28 47.3**	**+0.3**
JIO	**Ouri**	**1.80**	**238**	P		**Pn**	**01 28 48.2**	**-0.4**
JRG	**Rokugo**	**2.06**	**270**	*e*P		**Pn**	**01 28 52.8**	**+0.5**
JTM	**Tenmabayashi**	**2.19**	**309**	*e*P		**Pn**	**01 28 54.3**	**+0.4**
JAH	**Hinai**	**2.19**	**291**	*e*P		**Pn**	**01 28 54.6**	**+0.7**
JYK	**Kaneyama**	**2.34**	**258**	P		**Pn**	**01 28 56.9**	**+0.9**
JOT	**Ohata**	**2.60**	**319**	*e*P		**Pn**	**01 29 00.2**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.88**	**352**	P		**Pn**	**01 29 04.0**	**+0.5**
ASAJ	**Asahikawa**	**4.72**	**354**	Pn		**Pn**	**01 29 29.1**	**+0.4**
	1.0nm,0.3s,baz=205,slow=10,SNR=7.9							
	6.4nm,0.7s							
MJAR	**Matsushiro Arr**	**4.94**	**236**	Pn		**Pn**	**01 29 33.2**	**+1.3**
	0.1nm,0.3s,baz=35,slow=13,SNR=14							
	4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**41.45**	**310**	P		**P**	**01 36 03.2**	**-0.8**
	0.6nm,0.6s,baz=79,slow=9.0,SNR=1.5							
	0.6nm,0.6s							
MKAR	**Makanchi Array**	**44.15**	**300**	P		**P**	**01 36 26.5**	**+0.3**
	0.2nm,0.5s,baz=73,slow=11,SNR=2.0							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**45.74**	**306**	P		**P**	**01 36 38.4**	**-0.3**
	1.1nm,0.7s,baz=80,slow=8.3,SNR=9.0							
	1.1nm,0.7s							

*AEIC **16** 01:42:22.5±1.2,53°.56N±0°.03×163°.53W±0°.08, h38km±10km,Error ellipse: s-maj=7.0km s-min=3.5km az=63.0*

NEIC 16 01:42:22.5±1.1,53°.51N±0°.06×163°.45W±0°.04,h35km±2km, ML3.1/14,ML3.0(ÅEIC),Error ellipse: s-maj=11.7km s-min=3.1km az=159.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WESE	**West Dahl East**	**1.18**	**326**			Pn	01 42 41.9	-0.6
ISLZ	**Isanotski Laza**	**1.23**	**353**			Pn	01 42 42.8	-0.4
ISLZ						Sn	01 42 57.9	-0.7
SSLS	**Shishaldin Sou**	**1.25**	**345**			Pn	01 42 43.1	-0.4
SSLS						Sn	01 42 58.9	-0.2
SSBA	**Shishaldin**	**1.33**	**343**			Pn	01 42 44.3	-0.3
SSBA						Sn	01 43 00.9	-0.1
WEBT	**Westdahl Beart**	**1.33**	**325**			Pn	01 42 44.2	-0.3
WEBT						Sn	01 43 01.7	+0.7
ISNN	**Isanotski Nort**	**1.34**	**352**			Pn	01 42 44.9	+0.2
ISNN						Sn	01 43 02.2	+0.9
FALS	**False Pass**	**1.35**	**1**			Pn	01 42 44.6	-0.2
FALS	**False Pass**	**1.35**	**1**			Sn	01 43 02.6	+1.0
AKUT	**Akutan**	**1.51**	**296**			Pn	01 42 46.9	-0.1
AKUT					IAML		01 43 07.5	
	comp=E,304nm,0.4s							
AKUT					IAML		01 43 12.6	
	comp=N,186nm,0.7s							
AKUT	**Akutan**	**1.51**	**296**			Sn	01 43 05.8	+0.4
AHB	**Akutan Harbor**	**1.53**	**295**			Pn	01 42 47.2	0.0
AHB						Sn	01 43 06.2	+0.3
AKBBA	**Akutan Broad B**	**1.58**	**293**			Pn	01 42 48.0	0.0
AKBBA						Sn	01 43 07.7	+0.4
ZRO	**Akutan Zero**	**1.61**	**292**			Pn	01 42 48.0	-0.4
ZRO						Sn	01 43 08.2	+0.4
AKV	**Akutan Volcano**	**1.61**	**294**			Pn	01 42 48.4	-0.1
AKV						Sn	01 43 08.3	+0.3
AKMO	**Akutan Morgan**	**1.63**	**292**			Sn	01 43 08.4	+0.1
AKGG	**Akutan Green G**	**1.66**	**296**			Sn	01 43 08.7	-0.3
LVA	**Lava Point**	**1.66**	**294**			Pn	01 42 49.1	0.0
LVA					IAML		01 43 30.8	
	comp=E,192nm,0.8s							
LVA	**Lava Point**	**1.66**	**294**			Sn	01 43 09.8	+0.6
DT1	**Dutton Round H**	**1.75**	**23**			Pn	01 42 50.0	-0.2
UNV	**Unalaska Valle**	**1.85**	**282**			Pn	01 42 50.9	-0.7
UNV					IAML		01 43 20.7	
	comp=N,99nm,0.5s							
DOL	**Dolgoi Island**	**1.89**	**29**			Pn	01 42 52.1	-0.1
MTBL	**Makushin Table**	**1.97**	**285**			Pn	01 42 54.2	+0.8
MREP	**Makushin Rep't**	**1.98**	**280**			Pn	01 42 53.6	+0.1
MGOD	**Makushin Gods**	**2.06**	**279**			Pn	01 42 54.7	+0.1
PS4A	**Pavlof South-4**	**2.07**	**26**			Pn	01 42 55.2	+0.6
PS4A						Sn	01 43 20.6	+1.4
MAPS	**Pakushin South**	**2.10**	**280**			Pn	01 42 55.2	+0.1
MAPS						Sn	01 43 20.4	+0.5
PS1A	**Pavlof South-1**	**2.16**	**27**			Pn	01 42 56.9	+0.9
S12K	**Black Hills**	**2.35**	**20**			Pn	01 42 58.9	+0.4
S12K	**Black Hills**	**2.35**	**20**		IAML		01 43 38.9	
	comp=N,93nm,0.3s							
S12K					IAML		01 43 45.7	
	comp=E,98nm,0.7s							
SDPT	**Sand Point**	**2.54**	**42**			Pn	01 43 01.4	+0.3
SDPT	**Sand Point**	**2.54**	**42**		IAML		01 43 38.8	
	comp=N,105nm,0.6s							
SDPT					IAML		01 43 53.1	
	comp=E,84nm,1.1s							
CNBA	**Chernabura Isl**	**2.63**	**58**	Pn		Pn	01 43 01.6	-0.7

*UCR **16** 01:42:33.9±1.3,8°.34N×82°.78W,h32km±2km,MW3.7*
*UPA **16** 01:42:34.8±1.3,8°.40N×82°.79W,h21km±5km,ML3.5, MW3.7*

ISC 16 01:42:34.6±0.9,8°.39N±0°.03×82°.79W±0°.02,h31km±6km, n44,σ0s94/71,1C-8D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.02**	**10**	*i* P		**Pb**	**01 42 39.2**	**-0.5**
LESP3					AMP		01 42 39.3	
	comp=Z,12μm,0.1s							
PTPA	**Petro Terminal**	**0.20**	**202**	*e*P		**Pb**	**01 42 40.3**	**-0.7**
PTPA				*e*S		**Sb**	**01 42 46.2**	**+0.9**
PTPM	**Petroterminale**	**0.20**	**205**	*i* P		**Pb**	**01 42 40.3**	**-0.7**
PTPM					AMP		01 42 40.7	
	comp=Z,16μm,0.2s							
PTPM				*e*S		**Sb**	**01 42 45.9**	**+0.7**
DMCAL	**E. de Neily**	**0.28**	**0**	*e*P		**Pb**	**01 42 41.8**	**-0.2**
NELY	**Ciudad Neily**	**0.30**	**330**	*e*P		**Pb**	**01 42 41.7**	**-0.5**
NELY				*e*S		**Sb**	**01 42 47.9**	**+0.6**
DVD	**David**	**0.34**	**82**	*i* P		**Pb**	**01 42 42.2**	**-0.6**
DVD					AMP		01 42 42.3	
	comp=Z,27μm,0.1s							
DVD				*e*S		**Sb**	**01 42 47.5**	**-0.8**
PEDE3	**Pedregal, Chir**	**0.37**	**91**	*e*P		**Pb**	**01 42 42.3**	**-0.8**
JEFFS	**S de V. Baru**	**0.38**	**43**	*e*P		**Pb**	**01 42 43.2**	**-0.1**
CLLRA	**Cordillera,**	**0.40**	**27**	*e*P		**Pb**	**01 42 43.3**	**-0.3**
LOMA3	**Las Lomas, Chi**	**0.40**	**84**	*i* P		**Pb**	**01 42 42.8**	**-0.8**
LOMA3					AMP		01 42 43.0	
	comp=Z,2μm,0.2s							
BRU2	**Volcan**	**0.42**	**14**	*e*P		**Pb**	**01 42 43.5**	**-0.4**
BRU2					AMP		01 42 43.8	
	comp=Z,1μm,0.2s							
BRU2				*e*S		**Sn**	**01 42 51.2**	**-0.3**
BRU2	**Volcan**	**0.42**	**14**	*e*P		**Pb**	**01 42 43.5**	**-0.4**
BRU2				*e*S		**Sn**	**01 42 51.2**	**-0.3**
BANCO	**falda S V. Bar**	**0.42**	**39**	*e*P		**Pb**	**01 42 43.6**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.42**	**44**	*i* P		**Pb**	**01 42 43.7**	**-0.3**
PTAR3					AMP		01 42 44.0	
	comp=Z,4μm,0.1s							
PTAR3				*e*S		**Sn**	**01 42 51.2**	**-0.4**
FITO	**Golfito**	**0.43**	**303**	*e*P		**Pb**	**01 42 42.4**	**-1.6**
FITO				*e*S		**Sb**	**01 42 49.8**	**-0.6**
CGUAY	**Guayabal, Coch**	**0.44**	**81**	*e*P		**Pb**	**01 42 43.4**	**-0.8**
EDAD	**Golfito**	**0.45**	**306**	*e*P		**Pb**	**01 42 42.9**	**-1.5**
EDAD				*e*S		**Sb**	**01 42 50.4**	**-0.7**
CHIR3	**Chiriqui UPA,**	**0.46**	**89**	*i* P		**Pb**	**01 42 43.5**	**-0.9**
CHIR3				*e*S		**Sb**	**01 42 51.2**	**0.0**
BC3P	**Paso Ancho**	**0.46**	**23**	*e*P		**Pb**	**01 42 44.1**	**-0.6**
BC3P					AMP		01 42 44.3	
	comp=Z,2μm,0.1s							
BC3P				*e*S		**Sn**	**01 42 52.6**	**-0.1**
VITO	**San Vito**	**0.46**	**338**	*e*P		**Pb**	**01 42 44.5**	**-0.1**
VITO				*e*S		**Sn**	**01 42 53.2**	**+0.6**
BQTLY	**Boquete Panama**	**0.49**	**42**	*e*P		**Pb**	**01 42 44.5**	**-0.6**
BQSF3	**Alto Boquete,**	**0.50**	**45**	*i* P		**Pb**	**01 42 44.5**	**-0.7**
BQSF3					AMP		01 42 44.6	
	comp=Z,3μm,0.1s							
BQSF3				*e*S		**Sb**	**01 42 52.5**	**0.0**
WILLF	**Boquete**	**0.51**	**44**	*e*P		**Pb**	**01 42 44.5**	**-0.8**
PTJ1	**Puerto Jimnez**	**0.52**	**286**	*e*P		**Pb**	**01 42 44.6**	**-0.9**
PTJ1				*e*S		**Sb**	**01 42 52.8**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.52**	**286**	*e*P		**Pb**	**01 42 44.7**	**-0.8**
PTJ1				*e*S		**Sn**	**01 42 54.0**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.53**	**41**	*i* P		**Pb**	**01 42 44.8**	**-0.9**
LNBQ3					AMP		01 42 46.0	
	comp=Z,3μm,0.0s							
LNBQ3				*e*S		**Sb**	**01 42 53.5**	**+0.2**
ALCO	**Alturas Coton,**	**0.56**	**356**	*e*P		**Pb**	**01 42 45.2**	**-1.0**
ALCO				*e*S		**Sb**	**01 42 54.8**	**+0.6**
PBNVO	**Pueblo Nuevo,**	**0.78**	**50**	*e*P		**Pb**	**01 42 48.3**	**-1.4**
RBALA	**Bur**	**0.80**	**52**	*e*P		**Pb**	**01 42 48.9**	**-1.2**
FIMO	**Fila Mora**	**0.81**	**317**	*e*P		**Pb**	**01 42 49.2**	**-1.3**
FIMO				*e*S		**Sn**	**01 43 01.6**	**+0.3**
CHGR2	**Aguacate**	**0.84**	**50**	*e*P		**Pb**	**01 42 49.3**	**-1.5**
CHGR2				*e*S		**Sb**	**01 43 01.1**	**-0.8**
PANP	**Palmar Norte**	**0.87**	**311**	*e*P		**Pn**	**01 42 49.8**	**-1.0**
PANP				*e*S		**Sb**	**01 43 02.9**	**+0.3**
DRK0	**Durika**	**0.98**	**333**	*e*P		**Pn**	**01 42 51.7**	**-0.8**
DRK0				*e*S		**Sb**	**01 43 05.5**	**-0.3**
DRK0	**Durika**	**0.98**	**333**	*e*P		**Pn**	**01 42 51.7**	**-0.8**
DRK0				*e*S		**Sb**	**01 43 05.6**	**-0.3**
KKNTU	**Kakint[e]**	**1.07**	**65**	*e*P		**Pn**	**01 42 52.5**	**-1.1**
EDPE	**Pejibaye, P**	**1.08**	**315**	*e*P		**Pn**	**01 42 53.3**	**-0.5**
CEUA	**Cerro Uatsi, L**	**1.23**	**353**	*e*P		**Pb**	**01 42 57.7**	**+0.2**
CEUA				*e*S		**Sb**	**01 43 17.2**	**+4.2**
VERH	**Veragua Rainfo**	**1.58**	**346**	*e*P		**Pn**	**01 43 01.3**	**+0.6**
GMAL	**Guarumal, Vera**	**1.67**	**112**	*e*P		**Pn**	**01 43 01.5**	**-0.3**
GMAL				*e*S		**Sn**	**01 43 22.8**	**+0.7**
LLNJ	**Naranjito**	**1.68**	**310**	*e*P		**Pn**	**01 43 02.9**	**+0.9**
VTCV	**VTCV, Calle Va**	**1.83**	**330**	*e*P		**Pn**	**01 43 05.3**	**+1.0**
CACAO	**El Cacao, Vera**	**2.18**	**118**	*e*P		**Pn**	**01 43 08.7**	**-0.1**
CACAO				*e*S		**Sn**	**01 43 35.9**	**+1.2**
AZU	**Azuero**	**2.56**	**103**	*e*P		**Pn**	**01 43 15.3**	**+1.1**
AZU				*e*S		**Sn**	**01 43 45.8**	**+1.5**
JTS	**Las Juntas de**	**2.85**	**312**	*e*P		**Pn**	**01 43 18.4**	**+0.3**
JTS				*e*S		**Sn**	**01 43 52.7**	**+1.3**

*DNK **16** 01:51:04.6±1.2,61°.28N×42°.37W,h4km±7km,ML3.0*

*IDC **16** 01:51:08.6±5.4,61°.50N×43°.48W,h0km,mb3.3/3, mbtmp3.4/4,ML3.3/1,MS3.5/3,Error ellipse: s-maj=113.3km s-min=31.1km az=83.0*

ISC 16 01:51:06.6±1.5,61°.46N±0°.09×42°.57W±0°.08,h10km,n13, σ0s89/17,mb3.3/3,MS3.7/3,Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NRS	**Narsarsuaq**	**1.41**	**259**	*i* P		**Pn**	**01 51 30.6**	**-1.6**
NRS				*i* S		**Sn**	**01 51 51.1**	**+0.3**
NRS					IAML		01 51 54.8	
	comp=Z,2μm,0.3s							
IVI	**Ivigtut**	**2.71**	**267**	*i* P		**Pn**	**01 51 49.9**	**-0.2**
IVI				*i* S		**Sn**	**01 52 23.2**	**+0.3**
IVI

ellipse: s-maj=4.3km s-min=3.1km az=102.3

BJI ***16*** *02:09:19.4,36˚.55N×70˚.77E, h210km, mB5.1/28, mb5.1/77*

NEIC ***16*** *02:09:20.4±1.6, 36˚.44N±0˚.06×70˚.69E±0˚.08, h208km±4km, mb5.2/378, Mww5.1/15, Error ellipse: s-maj=9.2km s-min=8.7km az=103.0*

NEIC ***16*** *02:09:20.7, 36˚.46N×70˚.72E, h190km*

NEIC ***16*** *02:09:20.7, 36˚.86N×70˚.22E, h190km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr3.92; Mθθ-2.17; Mφφ-1.75; Mrθ3.02; Mθφ2.19; Mφr-1.44; Fault plane solution: M₀5.25000×10¹⁶ NP1: φs121.52000°, δ65.01000°, λ80.34000°. NP2: φs323.46000°, δ26.68000°, λ109.79000°. Principal axes: T 5.2014, Plg69.0000°, Azm13.0000°; N 0.0865, Plg9.0000°, Azm126.0000°; P -5.2879, Plg19.0000°, Azm219.0000°;*

IDC ***16*** *02:09:20.2±0.4, 36˚.38N×70˚.78E, h215km±3km, mb4.6/32, mbtmp5.2/37 Error ellipse: s-maj=7.7km s-min=6.4km az=162.0*

GCMT ***16*** *02:09:21.4±0.2, 36˚.42N±0˚.01×70˚.64E±0˚.02, h213km±1km, MW5.2/124, Moment Tensor Solution. s57,c75; s124,c204; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.06±.12; Mθθ-4.68±.13; Mφφ-0.38±.13; Mrθ4.24±.11; Mθφ0.97±.12; Mφr-1.61±.11; Best double couple: M₀6.73100×10¹⁶ NP1:φs277.00000°, δ24.00000°, λ80.00000°. NP2:φs108.00000°, δ66.00000°, λ94.00000°. Principal axes: T 6.8400, Plg68.0000°, Azm26.0000°; N -0.2200, Plg4.0000°, Azm286.0000°; P -6.6210, Plg21.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 02:09:20.2±0.2, 36˚.43N±0˚.03×70˚.69E±0˚.02, h210km±1km, h210km:pP-P, n1240, σ1s28/1258, mb5.1/362, 74C-46D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.32**	**216**	Pn		**Pn**	**02 10 02.4**	**-0.5**
KBL	**Kabul**	**2.32**	**216**	P		**Pn**	**02 10 02.5**	**-0.5**
	SNR=1002							
KBL				S		**S**	**02 10 35.0**	**-0.9**
KBL	**Kabul**	**2.32**	**216**	PN		**Pn**	**02 10 02.4**	**-0.5**
GAR	**Garm**	**2.58**	**354**			**Pn**	**02 10 05.5**	**-0.2**
SIMJ	**Simiganj**	**2.59**	**330**			**Pn**	**02 10 05.4**	**-0.4**
NIL	**Nilore**	**3.48**	**142**			**Pn**	**02 10 15.9**	**-0.2**
NIL	**Nilore**	**3.48**	**142**	P		**Pn**	**02 10 16.1**	**0.0**
NIL	**Nilore**	**3.48**	**142**	PN		**Pn**	**02 10 15.9**	**-0.2**
TRKS	**Terek-Say**	**5.10**	**4**	PN		**Pn**	**02 10 35.2**	**-1.0**
TRKS				pmax		pmax		
	comp=Z,2μm,0.9s							
KSH	**Kashi**	**5.19**	**52**	P		Pn	02 10 32.1	-5.1
KSH				S		S	02 11 25.0	-13
KSH				smax		smax		
	comp=Z,7μm,0.6s							
KSH				smax		smax		
	comp=Z,5μm,1.0s							
ARSB	**Arslanbob**	**5.20**	**19**			**Pn**	**02 10 36.4**	**-1.0**
ARSB	**Arslanbob**	**5.20**	**19**	PN		**Pn**	**02 10 36.4**	**-1.0**
IUG	**Iuzhnay**	**5.73**	**355**	*d* PN		**Pn**	**02 10 44.1**	**0.0**
IUG	**Iuzhnay**	**5.73**	**355**	⇓P		**Pn**	**02 10 44.2**	**0.0**
CHM	**Chimkent**	**5.94**	**352**	*e*PN		**Pn**	**02 10 46.8**	**+0.1**
CHM	**Chimkent**	**5.94**	**352**	*e*P		**Pn**	**02 10 46.8**	**+0.1**
DZA	**Taraz**	**6.47**	**4**	*e*PN		**Pn**	**02 10 53.1**	**-0.4**
DZA	**Taraz**	**6.47**	**4**	*e*P		**Pn**	**02 10 53.1**	**-0.4**
UCH	**Uchtor**	**6.50**	**26**	P		**Pn**	**02 10 53.1**	**-1.2**
	SNR=5524							
BRLS	**Borolday**	**6.62**	**355**	*d* PN		**Pn**	**02 10 51.5**	**-4.0**
BRLS	**Borolday**	**6.62**	**355**	⇓P		**Pn**	**02 10 51.5**	**-4.0**
EKS2	**Erkin-Say**	**6.66**	**20**	P		**Pn**	**02 10 55.6**	**-0.5**
	SNR=839							
KK31	**Karatay Array**	**6.66**	**359**			**Pn**	**02 10 55.4**	**-0.6**
KK31	**Karatay Array**	**6.66**	**359**	P		Pn	02 10 46.8	-9.2
	comp=Z,552nm,0.4s,baz=191,slow=17,SNR=6735							
KK31				⇑S		**S**	**02 12 07.5**	**-4.7**
	comp=Z,2μm,0.5s,baz=189,slow=21,SNR=11							
KK31	**Karatay Array**	**6.66**	**359**	PN		**Pn**	**02 10 55.4**	**-0.6**
KKAR	**Karatay Array**	**6.66**	**359**			**Pn**	**02 10 55.3**	**-0.7**
KKAR	**Karatay Array**	**6.66**	**359**	PN		**Pn**	**02 10 55.3**	**-0.7**
AAK	**Ala-Archa**	**6.86**	**24**	P		**Pn**	**02 10 58.3**	**-0.4**
	comp=Z,756nm,0.3s,baz=58,slow=22,SNR=732							
AAK				S		**S**	**02 12 14.3**	**-2.6**
	comp=Z,997nm,0.7s,baz=168,slow=22,SNR=15							
AAK	**Ala-Archa**	**6.86**	**24**	P		**Pn**	**02 10 58.3**	**-0.4**
AAK	**Ala-Archa**	**6.86**	**24**	P		**Pn**	**02 10 58.3**	**-0.4**
	SNR=185							
AAK	**Ala-Archa**	**6.86**	**24**	⇑P		Pn	02 10 53.9	-4.8
	comp=Z,613nm,0.6s							
AAK				⇑S		**S**	**02 12 13.9**	**-3.0**
	comp=Z,743nm,0.6s							
AAK	**Ala-Archa**	**6.86**	**24**	*i* P		**Pn**	**02 10 58.3**	**-0.4**
	SNR=674							
BHK	**Bhakra**	**6.91**	**135**	⇓*e*P		**Pn**	**02 11 02.9**	**+3.6**
BHK				*e*S		S	02 12 28.6	+11
BHK				IAML			02 12 29.5	
	comp=E,498nm,0.3s							
BHK				IAML			02 12 29.5	
	comp=N,657nm,0.6s							
KBK	**Karagaybulak**	**7.03**	**27**	P		**Pn**	**02 11 00.8**	**-0.1**
	SNR=59							
FRU1	**Bishkek**	**7.06**	**24**			**Pn**	**02 11 01.0**	**-0.2**
FRU1	**Bishkek**	**7.06**	**24**	PN		**Pn**	**02 11 01.0**	**-0.2**
ULHL	**Ulahol**	**7.22**	**35**	P		**Pn**	**02 11 03.0**	**-0.5**
	SNR=24							
CHMS	**Chumysh**	**7.26**	**24**	P		**Pn**	**02 11 02.8**	**-1.0**
	SNR=624							
BOOM	**Boomskoye usch**	**7.29**	**32**			Pn	02 10 52.8	-11
USP	**Ospenovka**	**7.43**	**22**	P		**Pn**	**02 11 04.5**	**-1.4**
	SNR=653							
TKM2	**Tokmak 2**	**7.50**	**29**	P		**Pn**	**02 11 06.4**	**-0.7**
	SNR=6003							
SMLA	**Simla**	**7.55**	**133**	*e*P		**Pn**	**02 11 08.1**	**+0.4**
SMLA				*e*S		S	02 12 43.0	+10
SMLA				IAML			02 12 46.5	
	comp=N,767nm,0.2s							
SMLA				IAML			02 12 46.8	
	comp=E,816nm,0.3s							
KDJ	**Kajisay**	**7.59**	**40**			**Pn**	**02 11 06.7**	**-1.6**
KDJ	**Kajisay**	**7.59**	**40**	PN		**Pn**	**02 11 06.7**	**-1.6**
SGDS	**Sogindy**	**7.63**	**22**	⇓*i* P		**Pn**	**02 11 07.2**	**-1.4**
TARG	**Taragay, Kyrgy**	**7.65**	**44**			**Pn**	**02 11 07.7**	**-1.5**
TARG	**Taragay, Kyrgy**	**7.65**	**44**	PN		**Pn**	**02 11 07.7**	**-1.5**
KLP	**Kalpa**	**7.96**	**126**	*e*P		**Pn**	**02 11 12.1**	**-1.1**
KLP				*e*S		**S**	**02 12 44.4**	**+1.1**
KLP				IAML			02 12 46.1	
	comp=E,557nm,0.6s							
KLP				IAML			02 12 46.1	
	comp=N,982nm,0.6s							
TNSS	**Tian-Shan**	**8.17**	**34**	*e*PN		**Pn**	**02 11 14.7**	**-1.1**
TNSS	**Tian-Shan**	**8.17**	**34**	*e*P		**Pn**	**02 11 14.8**	**-1.1**
KKR	**Kurukshetra**	**8.25**	**140**	*e*P		**Pn**	**02 11 18.0**	**+1.3**
KKR				*e*S		**S**	**02 12 50.2**	**+0.4**
KKR				IAML			02 12 52.7	
	comp=E,629nm,0.2s							
KKR				IAML			02 12 52.9	
	comp=N,418nm,0.3s							
AAA	**Alma-Ata**	**8.29**	**33**	*e*PN		**Pn**	**02 11 17.0**	**-0.1**
AAA	**Alma-Ata**	**8.29**	**33**	*e*P		**Pn**	**02 11 17.1**	**-0.1**
KNDC	**Almaty**	**8.32**	**34**	⇓P		**Pn**	**02 11 14.4**	**-3.1**
	comp=N,4μm,0.8s							
KNDC				⇑S		**S**	**02 12 52.8**	**+1.5**
	comp=N,938nm,1.0s							
KNDC	**Almaty**	**8.32**	**34**	PN		**Pn**	**02 11 14.4**	**-3.1**
KNDC				S		**S**	**02 12 52.8**	**+1.5**
PRZ	**Przheval'sk**	**8.49**	**42**			**Pn**	**02 11 19.1**	**-0.7**
PRZ	**Przheval'sk**	**8.49**	**42**	PN		**Pn**	**02 11 19.1**	**-0.7**
KUU	**Kurty**	**8.61**	**28**	*e*PN		**Pn**	**02 11 19.6**	**-1.6**
KUU	**Kurty**	**8.61**	**28**	*e*P		**Pn**	**02 11 19.6**	**-1.6**
DDI	**Dehra Dun**	**8.66**	**133**	*e*P		**Pn**	**02 11 21.4**	**-0.7**
DDI				*e*S		**S**	**02 12 59.2**	**-0.5**
DDI				IAML			02 13 01.1	
	comp=N,241nm,0.3s							
DDI				IAML			02 13 01.2	
	comp=E,441nm,0.3s							
CHKK	**Chushkaly**	**8.84**	**31**	*e*PN		**Pn**	**02 11 22.5**	**-1.7**
CHKK	**Chushkaly**	**8.84**	**31**	*e*P		**Pn**	**02 11 22.6**	**-1.7**
SATY	**Saty**	**8.89**	**40**	*d* PN		**Pn**	**02 11 23.5**	**-1.5**
SATY	**Saty**	**8.89**	**40**	⇓*i* P		**Pn**	**02 11 23.5**	**-1.5**
UZB	**Uzynbulak**	**9.28**	**41**	*e*P		Pn	02 11 23.4	-6.6
KPKS	**Kokpek**	**9.32**	**39**	*e*P		**Pn**	**02 11 29.2**	**-1.3**
KPKS	**Kokpek**	**9.32**	**39**	*e*P		**Pn**	**02 11 29.3**	**-1.3**
NRLA	**Narela**	**9.35**	**143**	*e*P		**Pn**	**02 11 30.8**	**-0.1**
NRLA				*e*S		**S**	**02 13 14.5**	**-1.4**
NRLA				IAML			02 13 15.2	
	comp=N,859nm,0.5s							
NRLA				IAML			02 13 15.4	
	comp=E,980nm,0.3s							
UJWA	**Ujwa (Najafgar**	**9.43**	**144**	*e*P		**Pn**	**02 11 31.8**	**-0.2**
UJWA				*e*S		**S**	**02 13 19.4**	**+1.5**
UJWA				IAML			02 13 22.1	
	comp=N,368nm,0.3s							
UJWA				IAML			02 13 22.4	
	comp=E,486nm,0.4s							
ARXS	**Arharly**	**9.49**	**33**	*e*P		**Pn**	**02 11 30.5**	**-2.1**
NPLP	**NPLP New Delhi**	**9.50**	**143**	*e*P		**Pn**	**02 11 33.0**	**+0.1**
NPLP				*e*S		**S**	**02 13 20.9**	**+1.3**
NPLP				IAML			02 13 21.7	
	comp=E,734nm,0.3s							
NPLP				IAML			02 13 21.9	
	comp=N,528nm,0.5s							
SHLS	**Shalkode**	**9.52**	**42**	*e*P		**Pn**	**02 11 34.4**	**+1.4**
SHLS	**Shalkode**	**9.52**	**42**	*e*P		**Pn**	**02 11 34.5**	**+1.4**
PDGK	**Podgornoye**	**9.65**	**42**	⇑P		**Pn**	**02 11 32.6**	**-2.2**
	comp=N,499nm,1.2s							
PDGK				⇑S		**S**	**02 13 21.9**	**-1.1**
	comp=N,712nm,1.2s							
PDGK	**Podgornoye**	**9.65**	**42**	P		**Pn**	**02 11 32.6**	**-2.2**
PDGK				S		**S**	**02 13 21.9**	**-1.1**
SONA	**Sohna**	**9.79**	**145**	*e*P		**Pn**	**02 11 37.1**	**+0.6**
SONA				*e*S		**S**	**02 13 25.3**	**-1.0**
SONA				IAML			02 13 28.1	
	comp=N,970nm,0.3s							
SONA				IAML			02 13 28.3	
	comp=E,907nm,0.3s							
TDK	**Taldyqorghan**	**10.37**	**32**	*e*P		**Pn**	**02 11 42.0**	**-1.8**
TDK	**Taldyqorghan**	**10.37**	**32**	*e*P		**Pn**	**02 11 42.1**	**-1.8**
UDPR	**Udaipur**	**12.10**	**167**	*e*P		**Pn**	**02 12 06.7**	**+0.6**
UDPR				*e*S		**S**	**02 14 16.5**	**-3.8**
UDPR				IAML			02 14 19.7	
	comp=E,852nm,0.3s							
UDPR				IAML			02 14 20.0	
	comp=N,918nm,0.4s							
MK31	**Makanchi Array**	**13.49**	**36**	P		**Pn**	**02 12 21.7**	**-1.7**
	comp=N,152nm,0.7s,baz=207,slow=11,SNR=700							
MK31	**Makanchi Array**	**13.49**	**36**	*i* P		**Pn**	**02 12 21.6**	**-1.7**
MKAR	**Makanchi Array**	**13.49**	**36**	P		**Pn**	**02 12 21.8**	**-1.6**
	comp=N,152nm,0.9s,baz=214,slow=9.9,SNR=132							
MKAR				sP		**sPn**	**02 13 16.1**	**+1.4**
	comp=N,192nm,1.1s,baz=224,slow=12,SNR=4.8							
BRZS	**Berezniki**	**13.62**	**5**	*e*P		**Pn**	**02 12 23.5**	**-1.3**
BRZS	**Berezniki**	**13.62**	**5**	*e*P		**Pn**	**02 12 23.6**	**-1.3**
NGCH	**Negor - Chabah**	**13.74**	**219**	P		**Pn**	**02 12 27.3**	**+0.8**
	SNR=8.3							
NGCH				S		**S**	**02 15 00.2**	**+1.3**
BHPL	**Bhopal**	**14.38**	**154**	*e*P		**P**	**02 12 35.2**	**-0.5**
BHPL				*e*S		**S**	**02 15 16.7**	**+2.7**
BHPL				IAML			02 15 17.0	
	comp=N,790nm,0.2s							
BHPL				IAML			02 15 17.1	
	comp=E,3μm,0.4s							
WMQ	**Urumqi**	**14.94**	**55**	*e*P		**P**	**02 12 41.8**	**+0.1**
WMQ				S		**S**	**02 15 20.3**	**-6.3**
WMQ				pmax		pmax		
	comp=E,88nm,1.1s							
WMQ				pmax		pmax		
	comp=E,550nm,3.7s							
AB31	**Akbulak array**	**15.02**	**332**			**Pn**	**02 12 41.0**	**-1.0**
AB31	**Akbulak array**	**15.02**	**332**	⇑P		**Pn**	**02 12 40.9**	**-1.2**
	comp=E,63nm,0.5s,baz=143,slow=13,SNR=1469							
AB31				⇓S		**S**	**02 15 28.7**	**+0.4**
	comp=E,72nm,0.6s,baz=157,slow=23,SNR=3.9							
AB31	**Akbulak array**	**15.02**	**332**	P		**Pn**	**02 12 41.2**	**-0.8**
ABKAR	**Akbulak array**	**15.02**	**332**			**Pn**	**02 12 40.9**	**-1.1**
ZSN	**Zaisan**	**15.22**	**39**	*e*P		**Pn**	**02 12 43.0**	**-1.5**
ZSN	**Zaisan**	**15.22**	**39**	*e*P		**Pn**	**02 12 42.1**	**-2.4**
KURBB	**Kurchatov Arra**	**15.27**	**19**	P		**Pn**	**02 12 43.1**	**-1.9**
	comp=E,30nm,0.5s,baz=207,slow=12,SNR=157							
KURBB				S		**S**	**02 15 31.7**	**-2.2**
	comp=E,19nm,1.0s,baz=209,slow=15,SNR=5.9							
KURBB				PKiKP		**PKiKP**	**02 25 28.1**	**-1.8**
	comp=E,0.8nm,0.4s,baz=244,slow=0.4,SNR=9.8							
KURBB	**Kurchatov Arra**	**15.27**	**19**	⇓P		**P**	**02 12 45.9**	**+0.7**
	comp=E,45nm,0.5s							
KURBB	**Kurchatov Arra**	**15.27**	**19**	P		**P**	**02 12 45.9**	**+0.7**
KURK	**Kurchatov**	**15.38**	**19**			**Pn**	**02 12 44.5**	**-1.8**
KURK	**Kurchatov**	**15.38**	**19**	P		**Pn**	**02 12 44.5**	**-1.8**
KURK				S		**S**	**02 15 35.7**	**-0.7**
KURK	**Kurchatov**	**15.38**	**19**	⇓P		**P**	**02 12 46.8**	**+0.5**
	comp=E,83nm,1.0s							
KURK	**Kurchatov**	**15.38**	**19**	P		**Pn**	**02 12 44.5**	**-1.8**
EVN	**Everest**	**16.04**	**117**			**P**	**02 12 54.1**	**-0.5**
SHME	**Shamm**	**16.16**	**234**	P		**P**	**02 12 55.3**	**0.0**
	SNR=51							
SHME	**Shamm**	**16.16**	**234**	*i* P		**P**	**02 12 55.4**	**0.0**
	SNR=51							
MDH	**Madha**	**16.59**	**232**	P		**P**	**02 12 59.2**	**-0.7**
	SNR=31							
MDH				S		**S**	**02 16 04.3**	**+1.6**
MDH	**Madha**	**16.59**	**232**	*i* P		**P**	**02 12 58.9**	**-1.0**
	SNR=32							
BVA0	**Borovoye Array**	**16.59**	**359**	⇓P		**P**	**02 12 59.9**	**+0.1**
	comp=E,112nm,0.9s,baz=162,slow=14,SNR=720							
BVA0				⇑S		**S**	**02 16 04.8**	**+2.4**
	comp=E,261nm,1.4s,baz=172,slow=18,SNR=8.7							
BVA0	**Borovoye Array**	**16.59**	**359**	*i* P		**P**	**02 12 59.8**	**+0.1**
BVAR	**Borovoye Array**	**16.59**	**359**	P		**P**	**02 12 59.7**	**-0.1**
	comp=E,48nm,0.5s,baz=153,slow=10.0,SNR=212							
BVAR				S		**S**	**02 16 00.7**	**-1.7**
	comp=E,53nm,0.9s,baz=175,slow=19,SNR=6.3							
MASF	**Masafi**	**16.62**	**232**	P		**P**	**02 13 00.6**	**+0.2**
	SNR=64							
MASF				S		**S**	**02 16 02.5**	**-1.1**
BRVK	**Borovoye**	**16.62**	**359**			**Pn**	**02 13 01.0**	**-0.3**
BRVK	**Borovoye**	**16.62**	**359**	P		**Pn**	**02 13 01.2**	**-0.1**
BRVK				S		**S**	**02 15 57.7**	**-5.4**
BRVK	**Borovoye**	**16.62**	**359**	⇑S		**S**	**02 16 07.1**	**+4.1**
	comp=E,360nm,1.3s							
BRVK	**Borovoye**	**16.62**	**359**	*d* P		**Pn**	**02 13 00.8**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,197nm,1.3s							
MSFE	**Esma-Masafi**	**16.63**	**232**	*i* P		**P**	**02 13 00.4**	**-0.1**
	SNR=65							
AKTO	**Aktyubinsk**	**16.71**	**331**	P		**Pn**	**02 13 02.4**	**+0.1**
	comp=Z,308nm,0.5s,baz=143,slow=8.3,SNR=843							
AKTO				S		**S**	**02 16 03.1**	**-1.8**
	comp=Z,60nm,0.7s,baz=234,slow=16,SNR=4.2							
AKTO	**Aktyubinsk**	**16.71**	**331**	⇑P		**Pn**	**02 13 01.9**	**-0.5**
	comp=Z,394nm,1.1s							
AKTO				⇓S		**S**	**02 16 07.1**	**+2.3**
	comp=Z,132nm,1.2s							
WSAR	**Wadi Sarin**	**16.78**	**222**	P		**P**	**02 13 01.8**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=64,slow=24,SNR=68							
WSAR	**Wadi Sarin**	**16.78**	**222**	P		**Pn**	**02 13 03.4**	**-0.1**
	SNR=20							
BIDO	**Bidbid**	**16.83**	**224**	P		**Pn**	**02 13 03.5**	**-0.5**
	SNR=9.9							
BIDO				S		**S**	**02 16 06.3**	**-1.4**
UMQ	**Umm Al-Quwin**	**16.84**	**234**	P		**Pn**	**02 13 04.5**	**+0.4**
	SNR=18							
UMQ				S		**S**	**02 16 07.2**	**-0.4**
UMQ	**Umm Al-Quwin**	**16.84**	**234**	*i* P		**Pn**	**02 13 04.2**	**+0.2**
	SNR=18							
UOSS	**Minazif**	**16.90**	**231**			**P**	**02 13 02.4**	**-1.0**
UOSS	**Minazif**	**16.90**	**231**	P		**P**	**02 13 02.0**	**-1.3**
UOSS				S		**S**	**02 16 07.6**	**-1.3**
UOSS	**Minazif**	**16.90**	**231**	*i* P		**P**	**02 13 02.1**	**-1.3**
	SNR=16							
HATD	**Hatta, Dubai**	**17.03**	**231**	P		**Pn**	**02 13 05.8**	**-0.5**
	SNR=39							
HATD	**Hatta, Dubai**	**17.03**	**231**	*i* P		**Pn**	**02 13 05.6**	**-0.7**
	SNR=39							
ASHO	**Ashiyiah**	**17.18**	**231**	P		**Pn**	**02 13 07.3**	**-0.9**
	SNR=166							
ASHO				S		**S**	**02 16 16.0**	**+1.5**
ASHO	**Ashiyiah**	**17.18**	**231**	*i* P		**Pn**	**02 13 07.2**	**-0.9**
	SNR=168							
NAZ	**Nazwa, Dubai**	**17.21**	**233**	P		**P**	**02 13 07.3**	**+0.5**
	SNR=62							
NAZ				S		**S**	**02 16 13.7**	**-1.4**
NAZ	**Nazwa, Dubai**	**17.21**	**233**	*i* P		**P**	**02 13 07.2**	**+0.4**
	SNR=122							
SMDO	**Samad**	**17.24**	**223**	P		**Pn**	**02 13 08.6**	**-0.4**
	SNR=36							
SMDO				S		**S**	**02 16 17.3**	**+1.3**
HOQ	**Hoqain**	**17.25**	**226**	P		**P**	**02 13 07.3**	**+0.1**
	SNR=9.5							
HOQ				S		**S**	**02 16 17.3**	**+1.4**
JLN	**Jalan Bani Buh**	**17.28**	**218**	P		**Pn**	**02 13 09.0**	**-0.3**
	SNR=29							
JLN				S		**S**	**02 16 18.8**	**+2.3**
SOHO	**SOHO**	**17.29**	**229**	P		**P**	**02 13 08.4**	**+0.8**
SOHO				S		**S**	**02 16 15.6**	**-1.0**
SOHO	**SOHO**	**17.29**	**229**	*i* P		**P**	**02 13 08.1**	**+0.4**
	SNR=17							
FAQ	**Al Faqa, Dubai**	**17.43**	**232**	P		**P**	**02 13 09.7**	**+0.5**
	SNR=23							
FAQ				S		**S**	**02 16 19.2**	**-0.3**
FAQ	**Al Faqa, Dubai**	**17.43**	**232**	*i* P		**P**	**02 13 09.6**	**+0.5**
	SNR=23							
ASUD	**Al Ashush, Dub**	**17.68**	**233**	P		**P**	**02 13 12.9**	**+1.0**
	SNR=10							
ASUD				S		**S**	**02 16 23.0**	**-1.5**
ASUD	**Al Ashush, Dub**	**17.68**	**233**	*i* P		**P**	**02 13 12.8**	**+0.9**
	SNR=53							
GTK	**Tadong**	**17.70**	**116**	*e*P		**Pn**	**02 13 13.4**	**-0.9**
GTK				*e*S		**S**	**02 16 26.0**	**+0.8**
JMDO	**Jabal Madar**	**17.77**	**221**	P		**Pn**	**02 13 14.3**	**-0.7**
	SNR=16							
JMDO				S		**S**	**02 16 27.5**	**+1.2**
ALNE	**Al Ain**	**17.82**	**230**	P		**P**	**02 13 14.2**	**+0.7**
	SNR=18							
ALNE				S		**S**	**02 16 25.0**	**-2.4**
ALNE	**Al Ain**	**17.82**	**230**	*i* P		**P**	**02 13 14.1**	**+0.6**
	SNR=77							
ARQ	**Araqi**	**17.89**	**227**	P		**Pn**	**02 13 15.5**	**-1.0**
	SNR=24							
ARQ				S		**S**	**02 16 31.5**	**+2.6**
AJN	**Ajban**	**17.95**	**233**	P		**P**	**02 13 15.2**	**+0.4**
	SNR=38							
AJN				S		**S**	**02 16 26.0**	**-3.8**
AJN	**Ajban**	**17.95**	**233**	*i* P		**P**	**02 13 15.2**	**+0.4**
	SNR=34							
POO	**Poona**	**18.05**	**170**	*e*P		**P**	**02 13 15.3**	**-0.7**
POO				*e*S		**S**	**02 16 31.5**	**-0.6**
BOK	**Bokaro**	**18.18**	**130**	*e*P		**Pn**	**02 13 18.7**	**-1.2**
BOK				*e*S		**S**	**02 16 34.7**	**+0.2**
LSA	**Lhasa**	**18.40**	**106**	P		**Pn**	**02 13 22.4**	**-0.5**
LSA	**Lhasa**	**18.40**	**106**	P		**P**	**02 13 21.3**	**+1.1**
LSA				S		S	02 16 25.0	-15
LSA				pmax		pmax		
	comp=Z,170nm,0.9s							
LSA				LR		LR		
	comp=Z,220nm,2.5s							
LSA				LR		LR		
	comp=Z,430nm,12.4s							
LSA	**Lhasa**	**18.40**	**106**	P		**Pn**	**02 13 22.4**	**-0.5**
JHSG	**JHARSUGUGA**	**18.53**	**139**	*e*P		**P**	**02 13 21.4**	**+0.2**
JHSG				*e*S		**S**	**02 16 41.9**	**+0.4**
AKT	**Akhty**	**18.53**	**293**	⇑*i* P		**P**	**02 13 21.8**	**+0.7**
AKT				*e*S		**S**	**02 16 45.2**	**+3.8**
AKT				pmax		pmax		
	comp=Z,54nm,0.5s							
AKT				smax		smax		
	comp=E,35nm,0.5s							
AKT				smax		smax		
	comp=N,46nm,0.5s							
MAK	**Makhachkala**	**18.96**	**297**	*d* P		**P**	**02 13 26.3**	**+0.7**
MAK				*e*S		**S**	**02 16 52.4**	**+2.8**
MAK				pmax		pmax		
	comp=Z,359nm,1.8s							
MAK				MLR		MLR		
	comp=Z,236nm,15.0s							
MHTO	**MHTO**	**18.98**	**219**	P		**P**	**02 13 27.5**	**+1.5**
	SNR=22							
MHTO				S		**S**	**02 16 53.0**	**+2.7**
JRN	**Qarnain Island**	**19.11**	**238**	P		**P**	**02 13 26.6**	**-0.8**
	SNR=14							
JRN				S		**S**	**02 16 47.2**	**-5.6**
UMZA	**Um Al Zommool**	**19.18**	**229**	P		**P**	**02 13 28.4**	**+0.3**
UMZA				S		**S**	**02 16 50.2**	**-4.1**
MZWR	**Madinat Zayed**	**19.22**	**234**	S		**S**	**02 16 49.0**	**-6.1**
GOMU	**GeErMu**	**19.44**	**83**	P		**P**	**02 13 31.8**	**+0.6**
GOMU				pP		Pn	02 13 35.4	+0.4
GOMU				S		**S**	**02 17 01.3**	**+1.6**
GOMU				SS			02 17 51.3	
GOMU				pmax		pmax		
	comp=Z,97nm,1.2s							
GOMU				LR		LR		
	comp=Z,140nm,8.2s							
GOMU				LR		LR		
	comp=Z,160nm,8.2s							
GOMU				LR		LR		
	comp=Z,130nm,8.3s							
GHWR	**Ruwais**	**19.75**	**236**	P		**P**	**02 13 33.1**	**-1.1**
GHWR				S		**S**	**02 16 59.3**	**-6.0**
MZR	**Muzera**	**20.02**	**233**	P		**P**	**02 13 36.3**	**-0.9**
	SNR=26							
MZR				S		**S**	**02 17 05.0**	**-5.7**
MZR	**Muzera**	**20.02**	**233**

KIV				*e*S	**S**	**02 17 55.3**	**+0.7**		
KIV				pmax	pmax				
	comp=Z,22nm,1.1s								
KIV				MLR	MLR				
	comp=Z,43nm,14.0s								
KIV	**Kislovodsk**	**22.60**	**298**	*i* P	**P**	**02 14 03.6**	**+0.6**		
	SNR=6.8								
KOHI	**KOHIMA**	**22.67**	**112**	*e*P	**P**	**02 14 05.3**	**+1.4**		
KOHI				*e*S	**S**	**02 17 58.4**	**+2.2**		
BELG	**Belogornoye**	**22.78**	**322***c*	*i*P	**P**	**02 14 05.1**	**+0.7**		
BELG				pmax	pmax				
	comp=Z,65nm,0.8s								
AZL	**Aizawl**	**22.80**	**118**	*e*P	**P**	**02 14 06.5**	**+1.5**		
AZL				*e*S	**S**	**02 17 59.2**	**+1.1**		
DOK	**Doka**	**22.97**	**224**	P	**P**	**02 14 06.9**	**+0.4**		
IMP	**Imphal**	**23.05**	**114**	*e*P	**P**	**02 14 08.9**	**+1.7**		
IMP				*e*S	**S**	**02 18 03.4**	**+1.1**		
GTA	**Gaotai**	**23.12**	**74**	P	**P**	**02 14 08.4**	**+0.5**		
GTA				pP	pP	02 14 49.0	+2.1		
GTA				sP	sP	02 15 09.5	-4.2		
GTA				S	**S**	**02 18 04.8**	**+1.5**		
GTA				SS	SS	02 19 11.0	-37		
GTA				pmax	pmax				
	comp=Z,150nm,1.4s								
GTA				pmax	pmax				
	comp=Z,720nm,6.0s								
GTA				LR	LR				
	comp=Z,170nm,10.9s								
GTA				LR	LR				
	comp=Z,260nm,11.6s								
GTA				LR	LR				
	comp=Z,280nm,12.0s								
DMTO	**DMTO**	**23.26**	**221**	P	**P**	**02 14 09.2**	**+0.1**		
WHFO	**Wadi Hawf**	**23.74**	**223**	P	**P**	**02 14 13.5**	**0.0**		
RBK	**Rabkut**	**23.84**	**222**	P	**P**	**02 14 14.6**	**+0.2**		
MARD	**Mardin**	**23.90**	**281**		**P**	**02 14 16.5**	**+1.5**		
ABTO	**Aybut**	**24.46**	**224**	P	**P**	**02 14 20.8**	**+0.8**		
ERBR	**Yeremizino-Bor**	**24.46**	**302**	*e*P	**P**	**02 14 19.9**	**+0.1**		
ERBR				*e**PP	**pP**	**02 15 00.9**	**+0.8**		
ERBR				*e*S	**S**	**02 18 26.6**	**+2.4**		
ERBR				pmax	pmax				
	comp=Z,44nm,1.0s								
SOC	**Sochi**	**24.67**	**296**	*e*P	**P**	**02 14 20.4**	**-1.3**		
SOC				*e**PP	**pP**	**02 15 00.6**	**-1.8**		
SOC				*e**SP	**sP**	**02 15 25.8**	**-2.1**		
SOC				*e*S	**S**	**02 18 27.1**	**-0.5**		
SOC				*e*S	S	02 18 30.5	+2.9		
SOC				*e**SS	**sS**	**02 19 35.4**	**-7.6**		
MDRS	**Chennai**	**24.80**	**157**	*e*P	**P**	**02 14 22.9**	**-0.2**		
MDRS				*e*S	**S**	**02 18 32.6**	**+2.7**		
RAYN	**Ar Rayn**	**25.24**	**246**	P	**P**	**02 14 27.4**	**+0.3**		
RAYN				IAmb	IAmb	02 14 29.0			
	comp=Z,100nm,1.1s								
RAYN	**Ar Rayn**	**25.24**	**246**	P	**P**	**02 14 27.5**	**+0.3**		
RAYN	**Ar Rayn**	**25.24**	**246**	P	**P**	**02 14 27.4**	**+0.3**		
RAYN				pmax	pmax				
	comp=Z,100nm,1.1s								
RAYN	**Ar Rayn**	**25.24**	**246**	*i* P	**P**	**02 14 27.4**	**+0.3**		
	SNR=9.1								
VRH	**Novokhopyorsk**	**25.38**	**315**	*e*P	**P**	**02 14 26.4**	**-1.5**		
VRH				pmax	pmax				
	comp=Z,30nm,1.1s								
KIRV	**Kirov**	**26.19**	**334***c*	*i*P	**P**	**02 14 36.1**	**+1.0**		
MOY	**Mondy**	**26.33**	**45**	*e*P	**P**	**02 14 38.1**	**+1.4**		
MOY				*e*		02 15 22.7			
MOY				pmax	pmax				
	comp=Z,61nm,1.9s								
TNCH	**TengChong**	**26.39**	**108**	⇑P	**P**	**02 14 38.1**	**+0.5**		
TNCH				pP	pP	02 15 20.8	-0.2		
TNCH				sP	sP	02 15 45.0	-0.7		
TNCH				S	**S**	**02 18 49.0**	**-6.4**		
TNCH				sS	sS	02 20 04.6	-7.6		
TNCH				pmax	pmax				
	comp=Z,62nm,0.9s								
TNCH				pmax	pmax				
	comp=Z,200nm,3.3s								
ANN	**Anapa**	**26.45**	**299**	*e*P	**P**	**02 14 37.6**	**0.0**		
ANN				*e**PP	**pP**	**02 15 18.3**	**-1.4**		
ANN				*e*		02 15 29.7			
ANN				*e*S	**S**	**02 18 55.8**	**+0.4**		
ANN				pmax	pmax				
	comp=Z,27nm,0.7s								
LZH	**Lanzhou**	**26.67**	**81**	⇑P	**P**	**02 14 41.1**	**+1.2**		
LZH				pP	pP	02 15 16.8	-6.3		
LZH				sP	PP	02 15 45.6	+1.1		
LZH				PcP	**PcP**	**02 17 58.3**	**+0.4**		
LZH				SS	SS	02 20 34.5	-26		
LZH				pmax	pmax				
	comp=Z,44nm,1.0s								
LZH				pmax	pmax				
	comp=Z,260nm,5.8s								
VORD	**Divnogorie**	**26.70**	**313**	*e*P	**P**	**02 14 39.3**	**-0.5**		
VORD				pmax	pmax				
	comp=Z,20nm,1.1s								
VSR	**Storozhevoye**	**26.86**	**313**	*e*P	**P**	**02 14 39.3**	**-2.0**		
VSR				pmax	pmax				
	comp=Z,20nm,1.0s								
VORR	**Voronezh**	**27.01**	**314**	*e*P	**P**	**02 14 41.4**	**-1.1**		
VORR				pmax	pmax				
	comp=Z,40nm,1.0s								
ZAK	**Zakamensk**	**27.22**	**49**	*e*P	**P**	**02 14 44.7**	**+0.1**		
ZAK				pmax	pmax				
	comp=Z,26nm,1.5s								
LPSR	**Galich'ya Gora**	**27.52**	**316**	*e*P	**P**	**02 14 45.0**	**-2.1**		
LPSR				pmax	pmax				
	comp=Z,60nm,1.1s								
CD2	**Chengdu**	**27.98**	**92**	P	**P**	**02 14 52.5**	**+1.0**		
CD2				PP	**PP**	**02 15 56.3**	**-2.7**		
CD2				S	**S**	**02 19 19.1**	**-1.0**		
CD2				pmax	pmax				
	comp=Z,190nm,1.0s								
PZH	**PanZhiHua**	**28.17**	**102**	P	**P**	**02 14 53.6**	**+0.3**		
PZH				S	**S**	**02 19 23.3**	**0.0**		
PZH				SS	ScP	02 21 03.6	-19		
PZH				pmax	pmax				
	comp=Z,30nm,1.3s								
PZH				pmax	pmax				
	comp=Z,160nm,6.8s								
SONM	**Songino Array**	**28.58**	**55**	P	**P**	**02 14 57.5**	**+0.8**		
SONM				IAmb	IAmb	02 14 58.9			
	comp=Z,45nm,1.2s								
SONM	**Songino Array**	**28.58**	**55**	P	**P**	**02 14 57.0**	**+0.3**		
	comp=Z,14nm,0.7s,baz=259,slow=9.7,SNR=96								
SONM				pP	**pP**	**02 15 40.6**	**+0.5**		
	comp=Z,12nm,0.9s,baz=263,slow=10,SNR=4.3								
	comp=Z,14nm,0.7s								
SONM	**Songino Array**	**28.58**	**55**	P	**P**	**02 14 57.5**	**+0.8**		
SONM				pmax	pmax				
	comp=Z,45nm,1.2s								
SIM	**Simferopol'**	**28.81**	**299**	*e*P	P	02 15 10.1	+12		
SIM				*e*		02 16 14.0			
SIM				pmax	pmax				
	comp=Z,47nm,1.5s								
ULN	**Ulaanbaatar**	**29.02**	**55**		**P**	**02 15 01.4**	**+0.7**		
ULN	**Ulaanbaatar**	**29.02**	**55***c*	*i*P	**P**	**02 15 01.4**	**+0.7**		
ULN				pmax	pmax				
	comp=Z,36nm,1.3s								
KIRS	**Kirsehir-Merke**	**29.06**	**287**	⇑P	**P**	**02 15 01.5**	**+0.5**		
MMAI	**Mount Meron Ar**	**29.10**	**274**	P	**P**	**02 15 03.4**	**+1.9**		
	comp=Z,0.9nm,0.3s,baz=55,slow=7.2,SNR=7.2								
MMAI				PcP	**PcP**	**02 18 04.3**	**+0.5**		
	comp=Z,3.4nm,0.6s,baz=77,slow=5.6,SNR=5.7								
MMAI				ScP	**ScP**	**02 21 24.9**	**-0.5**		
	comp=Z,9.2nm,0.9s,baz=20,slow=2.7,SNR=10								
BR131	**Keskin Array S**	**29.21**	**288**	P	**P**	**02 15 03.5**	**+1.1**		
	SNR=8.6								
BR131	**Keskin Array S**	**29.21**	**288***c*	*i*P	**P**	**02 15 03.1**	**+0.7**		
BRTR	**Keskin Array B**	**29.21**	**288**	P	**P**	**02 15 03.1**	**+0.7**		
BRTR	**Keskin Array B**	**29.21**	**288**	P	**P**	**02 15 03.2**	**+0.8**		
	comp=Z,5.0nm,0.7s,baz=102,slow=9.4,SNR=40								
BRTR				ScP	**ScP**	**02 21 23.6**	**-2.1**		
	comp=Z,1.8nm,0.8s,baz=123,slow=5.7,SNR=5.4								
	comp=Z,5.0nm,0.7s								
MOS	**Moscow**	**29.55**	**321**	*e*P	**P**	**02 15 04.7**	**-0.3**		
MOS				*e**PP	**pP**	**02 15 46.9**	**-0.7**		
MOS				*e*		02 16 11.1			
MOS				*e*		02 18 02.9			
MOS				*e*S	**S**	**02 19 43.1**	**-0.9**		
MOS				*e*		02 20 59.4			
MOS				*e*		02 25 19.7			
MOS				pmax	pmax				
	comp=Z,300nm,1.2s								
MOS				pmax	pmax				
	comp=Z,208nm,1.2s								
KMI	**Kunming**	**29.63**	**103**	⇑P	**P**	**02 15 06.8**	**+0.5**		
KMI				S	**S**	**02 19 45.8**	**-0.5**		
KMI				pmax	pmax				
	comp=Z,20nm,1.1s								
OBN	**Obninsk**	**29.82**	**320**	P	**P**	**02 15 07.8**	**+0.4**		
OBN	**Obninsk**	**29.82**	**320***c*	*i*P	**P**	**02 15 08.0**	**+0.6**		
OBN				*e**PP	**pP**	**02 15 51.5**	**+1.5**		
OBN				*i*		02 16 16.0			
OBN				*i*		02 18 04.7			
OBN				*e*S	**S**	**02 19 49.6**	**+1.4**		
OBN				pmax	pmax				
	comp=Z,120nm,0.6s								
ANTO	**Ankara**	**29.85**	**288**	P	**P**	**02 15 09.3**	**+1.3**		
ANTO				IAmb	IAmb	02 15 10.5			
	comp=Z,74nm,2.0s								
ANTO	**Ankara**	**29.85**	**288**	P	**P**	**02 15 09.3**	**+1.3**		
ANTO				pmax	pmax				
	comp=Z,74nm,2.0s								
CHTO	**Chiang Mai**	**30.41**	**118**	P	**P**	**02 15 12.5**	**-0.5**		
CHTO	**Chiang Mai**	**30.41**	**118**	P	**P**	**02 15 14.2**	**+1.2**		
CHTO	**Chiang Mai**	**30.41**	**118**	P	**P**	**02 15 14.3**	**+1.2**		
CHTO	**Chiang Mai**	**30.41**	**118**	P	**P**	**02 15 12.5**	**-0.5**		
CHTO				pmax	pmax				
	comp=Z,26nm,1.2s								
PALK	**Pallekele**	**30.43**	**160**	P	**P**	**02 15 13.8**	**+0.5**		
PALK	**Pallekele**	**30.43**	**160**	P	**P**	**02 15 14.0**	**+0.7**		
BTO	**Baotou**	**30.88**	**70**	*e*P	**P**	**02 15 16.9**	**-0.1**		
BTO				PP	**sP**	**02 16 25.8**	**+0.4**		
BTO				S	**S**	**02 20 06.8**	**+1.5**		
BTO				pmax	pmax				
	comp=Z,120nm,0.9s								
BTO				pmax	pmax				
	comp=Z,510nm,9.2s								
BTO				LR	LR				
	comp=Z,410nm,4.7s								
BTO				LR	LR				
	comp=Z,310nm,5.4s								
BTO				LR	LR				
	comp=Z,280nm,8.6s								
XAN	**Xi'an**	**31.19**	**83**	⇑P	**P**	**02 15 20.0**	**+0.3**		
XAN				sP	sP	02 16 28.5	+0.3		
XAN				pmax	pmax				
	comp=Z,98nm,1.1s								
XAN				LR	LR				
	comp=Z,240nm,14.4s								
XAN				LR	LR				
	comp=Z,210nm,12.4s								
KLMR	**Klimovskoe**	**31.42**	**331**	*e*P	**P**	**02 15 20.1**	**-1.2**		
KLMR				*e**PP	**pP**	**02 16 01.9**	**-2.2**		
KLMR				pmax	pmax				
	comp=Z,228nm,1.1s								
HHC	**Hu-ho-hao-te**	**32.02**	**69**	*e*P	**P**	**02 15 27.3**	**+0.3**		
HHC				pP	pP	02 16 08.8	-2.2		
HHC				S	**S**	**02 20 20.5**	**-2.6**		
HHC				SS	SS	02 22 32.8	-16		
HHC				pmax	pmax				
	comp=Z,15nm,0.6s								
HHC				pmax	pmax				
	comp=Z,160nm,4.4s								
GYA	**Guiyang**	**32.10**	**98**	⇑P	**P**	**02 15 28.3**	**+0.4**		
GYA				pmax	pmax				
	comp=Z,110nm,1.0s								
SLVN	**Son La**	**32.56**	**108**	P	**P**	**02 15 32.9**	**+1.1**		
MILM	**Milestii Mici**	**32.63**	**302**	*i* P	**P**	**02 15 31.5**	**-0.6**		
MILM	**Milestii Mici**	**32.63**	**302**	PM1		02 15 32.0			
	comp=Z,100nm,1.2s								
MILM	**Milestii Mici**	**32.63**	**302**	PM2		02 15 33.0			
	comp=Z,210nm,4.9s								
MILM	**Milestii Mici**	**32.63**	**302**	⇓P	**P**	**02 15 32.4**	**+0.3**		
MILM	**Milestii Mici**	**32.63**	**302***c*	*i*P	**P**	**02 15 31.5**	**-0.6**		
MILM				pmax	pmax				
	comp=Z,100nm,1.2s								
KIS	**Kishinev**	**32.63**	**302**	⇑*i*P	**P**	**02 15 32.0**	**-0.1**		
KIS	**Kishinev**	**32.63**	**302**	PM1		02 15 33.0			
	comp=Z,45nm,0.9s								
KIS	**Kishinev**	**32.63**	**302**	PM2		02 15 34.0			
	comp=Z,90nm,4.6s								
KIS	**Kishinev**	**32.63**	**302***c*	*i*P	**P**	**02 15 32.0**	**-0.1**		
KIS				pmax	pmax				
	comp=Z,45nm,0.9s								
AKASG	**Malin Array Be**	**32.79**	**309**	P	**P**	**02 15 33.4**	**0.0**		
AKASG				IAmb	IAmb	02 15 34.6			
	comp=Z,60nm,0.9s								
AKASG	**Malin Array Be**	**32.79**	**309**	P	**P**	**02 15 33.5**	**0.0**		
	comp=Z,5.7nm,0.4s,baz=83,slow=7.0,SNR=127								
AKASG				pP	**pP**	**02 16 17.7**	**+1.4**		
	comp=Z,33nm,0.9s,baz=88,slow=7.4,SNR=5.4								
AKASG				PP	**PP**	**02 16 54.9**	**+3.0**		
	comp=Z,17nm,0.8s,baz=98,slow=10.0,SNR=7.9								
AKASG				ScP	**ScP**	**02 21 35.3**	**-1.9**		
	comp=Z,7.9nm,0.9s,baz=81,slow=3.4,SNR=10.0								
	comp=Z,5.7nm,0.4s								
AKBB	**Malin Array Si**	**32.79**	**309**	IAmb	IAmb	02 15 34.1			
	comp=Z,33nm,0.7s								
AKBB	**Malin Array Si**	**32.79**	**309***c*	*i*P	**P**	**02 15 33.3**	**-0.1**		
AKBB				pmax	pmax				
	comp=Z,34nm,0.7s								
KIEV	**Kiev**	**32.80**	**309**	P	**P**	**02 15 33.4**	**-0.1**		
KIEV				IAmb	IAmb	02 15 34.1			
	comp=Z,29nm,0.7s								
KIEV	**Kiev**	**32.80**	**309**	⇑P	**P**	**02 15 33.6**	**+0.1**		
KIEV	**Kiev**	**32.80**	**309**	P	**P**	**02 15 33.6**	**+0.1**		
KIEV	**Kiev**	**32.80**	**309**	*i* P	**P**	**02 15 33.3**	**-0.1**		
	SNR=26								
KIEV	**Kiev**	**32.80**	**309**	P	**P**	**02 15 33.6**	**+0.1**		
KIEV				pP	**pP**	**02 16 18.7**	**+2.2**		
TPGR	**Topolog**	**32.85**	**298**	⇑P	**P**	**02 15 34.6**	**+0.5**		
SORM	**Soroca**	**33.03**	**304**	⇓P	**P**	**02 15 35.8**	**+0.2**		
SORM	**Soroca**	**33.03**	**304**	P	**P**	**02 15 35.7**	**+0.2**		
CFR	**Carcaliu**	**33.05**	**299**	⇓P	**P**	**02 15 36.0**	**+0.3**		
CFR	**Carcaliu**	**33.05**	**299**	P	**P**	**02 15 36.0**	**+0.3**		
TIY	**Taiyuan**	**33.14**	**75**	*e*P	**P**	**02 15 37.8**	**+1.1**		
TIY				S	**S**	**02 20 43.5**	**+3.2**		
TIY				sS	**sS**	**02 21 59.8**	**+1.8**		
TIY				pmax	pmax				
	comp=Z,33nm,0.7s								
LYN	**LuoYang**	**33.88**	**81**	⇑P	**P**	**02 15 44.3**	**+1.2**		
LYN				sP	sP	02 16 46.6	-5.7		
LYN				S	**S**	**02 20 53.6**	**+1.9**		
LYN				pmax	pmax				
	comp=Z,100nm,1.2s								
VRI	**Vrincioaia**	**34.04**	**300**	⇓P	**P**	**02 15 45.0**	**+0.7**		
VRI	**Vrincioaia**	**34.04**	**300**	P	**P**	**02 15 45.0**	**+0.7**		
ARG	**Arkhangelos**	**34.09**	**283**	IAmb	IAmb	02 15 46.1			
	comp=Z,52nm,0.8s								
ARG	**Arkhangelos**	**34.09**	**283**	P	**P**	**02 15 45.1**	**+0.3**		
PLOR	**Plostina**	**34.10**	**300**	⇑P	**P**	**02 15 46.2**	**+1.4**		
PLOR	**Plostina**	**34.10**	**300**	P	**P**	**02 15 46.2**	**+1.4**		
TESR	**Tescani**	**34.10**	**301**	⇓P	**P**	**02 15 45.0**	**+0.2**		
MNK	**Minsk**	**34.37**	**315**	*i* P	**P**	**02 15 47.6**	**+0.6**		
	comp=E,6.0nm,0.9s								
MNK				*i* P	**P**	**02 15 47.6**	**+0.6**		
	comp=N,26nm,0.8s								
MNK				*i* P	**P**	**02 15 47.6**	**+0.6**		
	comp=Z,25nm,0.7s,baz=103								
MNK				*i* pP	**pP**	**02 16 30.7**	**+0.4**		
MNK				*i* PP	**PnPn**	**02 17 10.0**	**+0.2**		
MNK				*i* S	**S**	**02 21 01.5**	**+2.8**		
MNK				*i* sS	**sS**	**02 22 21.0**	**+4.4**		
MNK				*i* SS	SS	02 24 17.4	+42		
MNK				*i* LR	LR	02 29 55.4			
MNK				*i* LRM	MLR	02 31 31.5			
	comp=E,97nm,14.6s								
MNK				*i* LRM	MLR	02 32 43.2			
	comp=N,64nm,15.8s								
MNK				*i* LRM	MLR	02 32 47.8			
	comp=Z,85nm,15.8s								
MNK	**Minsk**	**34.37**	**315**	*i* P	**P**	**02 15 47.5**	**+0.6**		
MNK				*i* *PP	**pP**	**02 16 30.7**	**+0.4**		
MNK				*i*		02 17 10.0			
MNK				*i*		02 18 17.5			
MNK				*i* S	**S**	**02 21 01.5**	**+2.8**		
MNK				*i* *SS	**sS**	**02 22 21.0**	**+4.4**		
MNK				pmax	pmax				
	comp=E,6.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,26nm,0.8s								
MNK				pmax	pmax				
	comp=Z,25nm,0.7s								
MNK				MLR	MLR				
	comp=E,97nm,15.0s								
MNK				MLR	MLR				
	comp=N,64nm,16.0s								
MNK				MLR	MLR				
	comp=Z,85nm,16.0s								
HORU	**Horodok**	**34.40**	**306**	P	**P**	**02 15 47.7**	**+0.4**		
COVR	**Voineasa-Covas**	**34.41**	**300**	⇓P	**P**	**02 15 48.7**	**+1.2**		
MLR	**Muntele Rosu**	**34.59**	**299**	IAmb	IAmb	02 15 52.4			
	comp=Z,78nm,0.9s								
MLR	**Muntele Rosu**	**34.59**	**299**	⇑P	**P**	**02 15 50.8**	**+1.6**		
MLR	**Muntele Rosu**	**34.59**	**299**	P	**P**	**02 15 50.8**	**+1.6**		
ELND	**Elena**	**34.77**	**295**	⇓P	**P**	**02 15 51.3**	**+0.8**		
EZN	**Ezine**	**34.79**	**289**	⇓P	**P**	**02 15 51.8**	**+1.0**		
EZN	**Ezine**	**34.79**	**289**	P	**P**	**02 15 51.8**	**+1.0**		
PUL	**Pulkovo**	**34.82**	**325***d*	*i*P	**P**	**02 15 52.3**	**+1.5**		
PUL				pmax	pmax				
	comp=Z,177nm,1.1s								
HNS	**HongShan**	**34.97**	**75**	⇓P	**P**	**02 15 53.6**	**+1.3**		
HNS				pmax	pmax				
	comp=Z,27nm,1.4s								
DOPR	**Dopca**	**34.98**	**300**	⇑P	**P**	**02 15 53.5**	**+1.2**		
KARP	**Karpathos**	**35.01**	**282**	*e*P	**P**	**02 15 53.5**	**+0.8**		
NACGM	**Naroch**	**35.09**	**316**	*e*P	**P**	**02 15 53.7**	**+0.6**		
	comp=E,37nm,1.2s								
BURAR	**Bucovina Array**	**35.11**	**303**		**P**	**02 15 54.2**	**+0.7**		
BURAR	**Bucovina Array**	**35.11**	**303**	⇓P	**P**	**02 15 54.3**	**+0.7**		
BURAR	**Bucovina Array**	**35.11**	**303**	P	**P**	**02 15 54.2**	**+0.7**		
XLT	**XiLinHaoTe**	**35.12**	**63**	*e*P	**P**	**02 15 54.8**	**+1.1**		
XLT				PP	**PnPn**	**02 17 22.6**	**+3.4**		
XLT				pmax	pmax				
	comp=E,12nm,1.0s								
MTUR	**Matau**	**35.22**	**299**	⇑P	**P**	**02 15 55.3**	**+0.7**		
MTUR	**Matau**	**35.22**	**299**	P	**P**	**02 15 55.2**	**+0.7**		
VOIR		**35.22**	**299**	⇓P	**P**	**02 15 55.7**	**+1.2**		
VOIR		**35.22**	**299**	P	**P**	**02 15 55.7**	**+1.2**		
KSV	**Kosov**	**35.23**	**304**	P	**P**	**02 15 55.2**	**+0.7**		
ARR	**Arges**	**35.52**	**299**	⇓P	**P**	**02 15 58.2**	**+1.1**		
BOD	**Bodaibo**	**35.56**	**39**	*e*P	**P**	**02 15 56.9**	**-0.2**		
BOD				pmax	pmax				
	comp=Z,80nm,1.2s								
ISAL	**Salakas**	**35.61**	**317**	*e*P	**P**	**02 15 59.3**	**+1.8**		
BJT	**Baijiatuau**	**35.61**	**70**	P	**P**	**02 15 59.6**	**+1.8**		
BJT	**Baijiatuau**	**35.61**	**70**	P	**P**	**02 15 59.6**	**+1.8**		
BJT				pmax	pmax				
	comp=Z,18nm,1.2s								
BJI	**Beijing**	**35.62**	**70**	P	**P**	**02 15 58.5**	**+0.7**		
BJI				sP	**sP**	**02 17 05.9**	**-0.7**		
BJI				PcP	**PcP**	**02 18 21.8**	**+0.2**		
BJI				S	**S**	**02 21 19.3**	**+1.2**		
BJI				sS	**sS**	**02 22 33.3**	**-3.0**		
BJI				pmax	pmax				
	comp=Z,6.0nm,0.9s								
ARCR	**ARCALIA**	**35.69**	**302**	⇑P	**P**	**02 16 00.1**	**+1.8**		
JOF	**Joensuu**	**35.80**	**330**	*e*P	**P**	**02 16 00.2**	**+1.1**		
KAAM	**Kaadhehdhoo**	**35.83**	**176**	P	**P**	**02 16 00.8**	**+1.0**		
LVV	**L'vov**	**36.00**	**307**	P	**P**	**02 16 01.5**	**+0.5**		
MORS	**Morshin**	**36.05**	**306**	P	**P**	**02 16 02.6**	**+1.2**		
VSU	**Vasula**	**36.08**	**322***c*	*i*P	**P**	**02 16 00.6**	**-0.9**		
VSU				pmax	pmax				
	comp=Z,107nm,0.9s								
VSU	**Vasula**	**36.08**	**322**	*e*P	**P**	**02 16 01.2**	**-0.3**		
LOT	**Lotru**	**36.12**	**299**	⇑P	**P**	**02 16 02.8**	**+0.5**		
CJR	**Cluj-Napoca**	**36.21**	**301**	⇑P	**P**	**02 16 04.0**	**+1.1**		
CJR	**Cluj-Napoca**	**36.21**	**301**	P	**P**	**02 16 03.9**	**+1.1**		
CBBR	**Cluj-Babes-Bol**	**36.24**	**302**	⇓P	**P**	**02 16 04.5**	**+1.4**		
BMR	**Baia Mare**	**36.27**	**303**	⇑P	**P**	**02 16 04.7**	**+1.4**		
BMR	**Baia Mare**	**36.27**	**303**	P	**P**	**02 16 04.7**	**+1.4**		
MARR	**Marisel-Cluj**	**36.54**	**301**	⇓P	**P**	**02 16 07.4**	**+1.7**		
TRSU	**Trosnyk**	**36.64**	**304**	P	**P**	**02 16 08.1**	**+1.7**		
WHN	**Wuhan**	**36.65**	**86**	⇑P	**P**	**02 16 07.5**	**+0.8**		
WHN				pmax	pmax				
	comp=Z,340nm,1.3s								
DEV	**Deva**	**36.71**	**300**	⇓P	**P**	**02 16 08.8**	**+1.8**		
DEV	**Deva**	**36.71**	**300**	P	**P**	**02 16 08.8**	**+1.8**		
ARBE	**Arbavere**	**36.76**	**323**	*e*P	**P**	**02 16 08.2**	**+1.1**		
PABE	**Paberze**	**36.79**	**316**	*e*P	**P**	**02 16 08.5**	**+1.0**		
DRGR		**36.82**	**302**	⇓P	**P**	**02 16 09.6**	**+1.5**		
DRGR		**36.82**	**302**	P	**P**	**02 16 09.5**	**+1.5**		
GZR	**Gura Zlata**	**36.83**	**299**	⇑P	**P**	**02 16 08.4**	**+0.2**		
GZR	**Gura Zlata**	**36.83**	**299**	P	**P**	**02 16 08.3**	**+0.2**		
KWP	**Kalwaria Pacla**	**36.85**	**306**	*e*P	**P**	**02 16 08.9**	**+0.8**		
KWP	**Kalwaria Pacla**	**36.85**	**306**	P	**P**	**02 16 09.1**	**+1.0**		
VSVD	**Vaisvydziai**	**36.91**	**317**	*e*P	**P**	**02 16 09.6**	**+1.1**		
SUW	**Suwalki**	**36.98**	**314**	*e*P	**P**	**02 16 09.2**	**0.0**		
SUW	**Suwalki**	**36.98**	**314**	*e*P	**P**	**02 16 09.9**	**+0.8**		
KOLS	**Kolonicke sedl**	**37.11**	**305**	P	**P**	**02 16 11.5**	**+1.1**		
KOLS	**Kolonicke sedl**	**37.11**	**305**	*e*P	**P**	**02 16 11.5**	**+1.1**		
KOLS				*e*		02 21 53.4			
HERR	**Herculane**	**37.11**	**298**	⇑P	**P**	**02 16 11.0**	**+0.6**		
TIA	**Tai'an**	**37.13**	**76**	P	**P**	**02 16 11.5**	**+0.8**		
TIA				pmax	pmax				
	comp=Z,26nm,0.7s								
SURR	**Surduc**	**37.26**	**300**	⇑P	**P**	**02 16 13.2**	**+1.6**		
FINES	**FINESS Array B**	**37.40**	**326**

SJUU Sjulsmark 40.74 331 *e*P **P** **02 16 41.2 +1.0**
KEV Kevo 40.77 338 **P** **02 16 41.0 +0.7**
KEV IAmb IAmb 02 16 42.2
comp=Z,103nm,0.9s
KEV Kevo 40.77 338 P **P** **02 16 41.0 +0.7**
KEV pmax pmax
comp=Z,103nm,0.9s
KEV Kevo 40.77 338 P **P** **02 16 41.0 +0.7**
BLY Banja Luka 40.83 299 ⇑P **P** **02 16 42.1 +0.9**
VRAC Vranov 40.83 306 *e*P **P** **02 16 41.9 +0.7**
VRAC *e* 02 17 27.9
SOP Sopron 40.96 303 P **P** **02 16 42.9 +0.7**
UPP Uppsala 40.97 322 *e*P **P** **02 16 42.5 +0.4**
DPC Dobruska-Polom 40.97 307 *e*P **P** **02 16 43.7 +1.3**
DPC Dobruska-Polom 40.97 307 *e*P **P** **02 16 43.7 +1.3**
KRUC Moravsky 40.98 305 *e*P **P** **02 16 42.8 +0.4**
KRUC *e* 02 17 29.0
KSP Ksiaz 40.98 308 *e*P **P** **02 16 43.0 +0.6**
KSP Ksiaz 40.98 308 P **P** **02 16 42.9 +0.6**
OSTC Ostas 41.03 308 *e*P **P** **02 16 43.8 +1.0**
OSTC Ostas 41.03 308 *e*P **P** **02 16 43.8 +1.0**
ARA0 ARCESS Array S 41.11 338⇑*i*P **P** **02 16 44.1 +0.9**
ARCES ARCESS Array B 41.11 338 **P** **02 16 44.0 +0.9**
ARCES ARCESS Array B 41.11 338 P **P** **02 16 44.1 +0.9**
comp=Z,116nm,0.8s,baz=111,slow=7.4,SNR=417
ARCES pP **pP** **02 17 28.9 +0.8**
comp=Z,23nm,0.8s,baz=115,slow=8.7,SNR=2.7
ARCES PP **PP** **02 18 25.7 +3.3**
comp=Z,22nm,0.9s,baz=108,slow=7.8,SNR=4.0
comp=Z,116nm,0.8s
RONA Rosalia, Austr 41.13 303 *i* P **P** **02 16 44.3 +0.6**
comp=Z,17nm,0.8s,SNR=7.6
CHVC Chvalec 41.14 308 *e*P **P** **02 16 44.8 +1.1**
CHVC Chvalec 41.14 308 *e*P **P** **02 16 44.8 +1.1**
UPC Upice 41.16 308 *e*P **P** **02 16 45.0 +1.1**
UPC Upice 41.16 308 *e*P **P** **02 16 45.0 +1.1**
KCSI Kotacane, Aceh 41.17 136 P **P** **02 16 42.8 -1.5**
comp=Z,22nm,0.7s
KOGS Kog 41.28 302 *i* P **P** **02 16 45.4 +0.5**
CONA Conrad Observa 41.41 304 *i* P **P** **02 16 46.7 +0.7**
comp=Z,39nm,0.9s,SNR=20
KULM Kulim 41.42 131 **P** **02 16 46.5 +0.1**
KULM Kulim 41.42 131 P **P** **02 16 47.0 +0.7**
BLEU Blekinge 41.45 316 *i* P **P** **02 16 46.1 +0.1**
BLEU IAmb IAmb 02 16 47.8
comp=Z,8.3nm,0.4s
PTJ Puntijarka 41.54 301 P **P** **02 16 47.7 +0.6**
TREC Trest 41.56 306 *e*P **P** **02 16 48.1 +1.0**
TREC Trest 41.56 306 *e*P **P** **02 16 48.1 +1.0**
KTK1 Kautokeino 41.58 336 *e*P **P** **02 16 47.5 +0.6**
ARSA Arzberg 41.70 303 *e*P **P** **02 16 48.8 +0.5**
comp=Z,20nm,1.4s
DOBS Dobrina 41.85 301 *i* P **P** **02 16 50.1 +0.6**
PVCC Panska Ves 42.09 308 *e*P **P** **02 16 52.2 +0.9**
PVCC Panska Ves 42.09 308 *e*P **P** **02 16 52.2 +0.9**
SOKA Soboth 42.09 302 *i* P **P** **02 16 52.5 +0.9**
comp=Z,47nm,1.0s,SNR=13
PRU Pruhonice 42.13 307 *e*P **P** **02 16 52.7 +1.0**
PRU *e* 02 22 52.6
PRU Pruhonice 42.13 307 *e*P **P** **02 16 52.7 +1.0**
PRU *ex* x 02 19 38.6
PRU *eS* **S** **02 22 52.6 -2.6**
HAMF Hammerfest 42.20 339 *e*P **P** **02 16 53.2 +1.3**
IPM Ipoh 42.29 132 IAmb IAmb 02 16 54.2
comp=Z,89nm,0.9s
IPM Ipoh 42.29 132 P **P** **02 16 52.9 -0.5**
ZEA Zeya 42.30 47 *e*P **P** **02 16 54.3 +1.3**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=Z,40nm,1.0s
CKRC Cesky Krumlov 42.36 305 *e*P **P** **02 16 54.0 +0.4**
CKRC *e* 02 22 58.8
CKRC Cesky Krumlov 42.36 305 *e*P **P** **02 16 54.0 +0.4**
CKRC *ex* x 02 22 58.8
RICC Richard 42.38 308 *e*P **P** **02 16 55.0 +1.3**
ZVC Zvikov 42.39 306 *e*P **P** **02 16 55.0 +1.2**
PSI Prapat 42.41 136 P **P** **02 16 53.6 -0.9**
PSI Prapat 42.41 136 P **P** **02 16 53.3 -1.2**
PSI pmax pmax
comp=Z,37nm,0.8s
OBKA Obir 42.44 302 *i* P **P** **02 16 55.1 +0.8**
comp=Z,59nm,2.0s,SNR=6.6
BRG Berggiesshubel 42.47 308 *e*P **P** **02 16 56.0 +1.6**
comp=Z,20nm,0.7s,baz=84,slow=7.9
BRG Berggiesshubel 42.47 308⇑*i*P **P** **02 16 56.1 +1.7**
BRG Amp 02 16 56.7
comp=Z,20nm,0.7s
BRG Berggiesshubel 42.47 308 S **S** **02 23 05.0 +4.9**
BRG Berggiesshubel 42.47 308 sS sS 02 24 23.0 +2.9
BRG Berggiesshubel 42.47 308 SS SS 02 26 22.0 +4.1
MOA Molln 42.48 304 *i* P **P** **02 16 54.9 +0.3**
comp=Z,26nm,0.9s,SNR=16
HEH HeiHe 42.49 53 *e*P **P** **02 16 54.6 0.0**
HEH pmax pmax
comp=Z,120nm,0.9s
RPSI Rantau Prapat 42.50 136 **P** **02 16 53.3 -1.7**
RUE Ruedersdorf 42.51 311 *e*P **P** **02 16 55.2 +0.6**
DEL Delary 42.54 317 *i* P **P** **02 16 55.2 +0.3**
DEL IAmb IAmb 02 16 56.0
comp=Z,9.1nm,0.5s
CUC Castrocucco 42.69 292 **P** **02 16 57.3 +0.9**
CUC IAmb IAmb 02 16 59.2
comp=Z,53nm,0.8s
JETT Jettan, Norway 42.72 337 *e*P **P** **02 16 57.0 +0.8**
LUNU Lund 42.73 315 *i* P **P** **02 16 57.1 +0.6**
GEC2 GERESS Array S 42.76 305 *e*P **P** **02 16 57.4 +0.5**
comp=Z,6.3nm,0.9s,baz=84,slow=7.9
GERES GERESS Array B 42.76 305 P **P** **02 16 57.0 +0.1**
GERES GERESS Array B 42.76 305 P **P** **02 16 57.3 +0.4**
comp=Z,3.4nm,0.7s,baz=95,slow=7.1,SNR=20
GERES PcP **PP** **02 18 42.4 +1.9**
comp=Z,6.8nm,0.9s,baz=90,slow=4.3,SNR=5.0
comp=Z,3.4nm,0.7s
KHC Kasperske Hory 42.82 306*c* *i*P **P** **02 16 57.1 -0.2**
KHC pmax pmax
comp=Z,8.0nm,1.1s
KHC Kasperske Hory 42.82 306 *e*P **P** **02 16 57.3 0.0**
KHC *ex* x 02 19 46.3
KHC *eS* **S** **02 23 04.9 -0.5**
GSI Gunungsitoli 42.91 138 **P** **02 16 59.3 +1.0**
GSI Gunungsitoli 42.91 138 P **P** **02 16 59.5 +1.2**
GSI Gunungsitoli 42.91 138 P **P** **02 16 59.1 +0.8**
comp=Z,173nm,0.7s
BIOA Bad Ischl, Aus 42.92 304 *i* P **P** **02 16 58.3 +0.2**
comp=Z,17nm,0.8s,SNR=9.6
BNX BinXian 42.94 59⇑P **P** **02 16 58.1 -0.2**
BNX pmax pmax
comp=Z,11nm,1.1s
HFS Hagfors 42.96 322 P **P** **02 16 58.4 +0.1**
comp=Z,48nm,0.7s,baz=104,slow=9.6,SNR=234
HFS pP **pP** **02 17 45.0 +1.9**
comp=Z,34nm,0.7s,baz=95,slow=11,SNR=5.6
comp=Z,48nm,0.7s
BJUU Bjuv 42.99 316 *i* P **P** **02 16 58.5 0.0**
CADS Cadrg 43.04 302 *i* P **P** **02 16 59.4 +0.3**
CLL Collm 43.04 309⇑*i*P **P** **02 16 58.8 -0.1**
CLL *i* *PP **pP** **02 17 45.5 +1.6**
CLL *eS* **S** **02 23 04.0 -4.4**
CLL *e**SS **sS** **02 24 25.0 -3.5**
CLL pmax pmax
comp=Z,18nm,0.9s
CLL Collm 43.04 309 *e*P **P** **02 16 59.2 +0.3**
comp=Z,14nm,0.9s,baz=84,slow=7.9
CLL Collm 43.04 309⇑*i*P **P** **02 16 58.8 -0.1**
comp=Z,18nm,0.9s
CLL *i* pP **pP** **02 17 45.5 +1.6**
comp=Z,11nm,1.0s
CLL *eS*P **sP** **02 18 10.0 +2.5**
comp=Z,15nm,1.1s
CLL *e*PP **PcP** **02 18 46.0 +1.0**
CLL *e*pPP 02 19 18.0
CLL *es*PP 02 19 48.0
CLL *eS* **S** **02 23 08.0 -0.4**
CLL *es*S **sS** **02 24 25.0 -3.5**
CLL *e*SS **ScS** **02 26 37.0 +0.8**
CLL *e*SSS SSS 02 28 06.0
MYKA Terra Mystica 43.05 302 *i* P **P** **02 16 59.6 +0.4**
comp=Z,6.1nm,0.5s
SABO M.te Sabotino 43.16 301 **P** **02 17 00.6 +0.5**
FABU Falkenberg 43.20 317 *i* P **P** **02 17 00.2 +0.1**
BORU Boraas 43.21 318 *i* P **P** **02 17 00.3 +0.1**

TRO Tromso 43.23 336 *e*P **P** **02 17 00.8 +0.6**
TANN Tannenbergstha 43.44 308 *e*P **P** **02 17 02.9 +0.7**
comp=Z,8.9nm,0.9s,baz=84,slow=7.9
RJOB Jochberg 43.48 304 *e*P **P** **02 17 02.9 +0.3**
comp=Z,11nm,0.8s,baz=84,slow=7.9
LESA Schwarzleotal 43.60 303 *i* P **P** **02 17 03.8 +0.2**
comp=Z,20nm,0.4s,SNR=27
PLN Plauen 43.62 308 *e*P **P** **02 17 04.4 +0.8**
comp=Z,3.4nm,0.8s,baz=84,slow=7.9
ROTZ Rotzenmuhle 43.65 307 *e*P **P** **02 17 05.2 +1.3**
comp=Z,4.5nm,1.2s,baz=84,slow=7.9
ONAU Onsala 43.65 318 *i* P **P** **02 17 04.2 +0.5**
MANZ Manzenberg 43.70 307 *e*P **P** **02 17 05.5 +1.2**
comp=Z,2.7nm,0.9s,baz=84,slow=7.9
FAUS Fauske 43.75 333 *e*P **P** **02 17 04.8 +0.4**
MOR8 Moi Rana 43.75 331 *e*P **P** **02 17 04.3 -0.1**
ABTA Abfaltersbach 43.80 302 *e*P **P** **02 17 04.7 -0.5**
comp=Z,38nm,1.8s
NEUB Neuenburg 43.81 309 *e*P **P** **02 17 05.9 +0.7**
comp=Z,28nm,0.9s,baz=84,slow=7.9
STEI Steigen 43.92 333 *e*P **P** **02 17 06.2 +0.5**
MOX Moxa 43.96 308 *e*P **P** **02 17 07.2 +0.8**
comp=Z,12nm,0.8s,baz=84,slow=7.9
MOX *e*L L 02 41 23.6
comp=Z,30nm,19.7s
GORT1 Trebel 44.00 312 *e*P **P** **02 17 07.4 +0.9**
comp=Z,397nm,2.9s,baz=84,slow=7.9
NC405 NORSAR Array S 44.05 323 IAmb IAmb 02 17 08.9
comp=Z,114nm,1.1s
FLTG Flechtingen 44.08 311 *e*P **P** **02 17 07.4 +0.2**
comp=Z,50nm,1.0s,baz=84,slow=7.9
FLTG *e*L L 02 38 14.6
comp=Z,94nm,18.6s
NC602 NORSAR Array S 44.09 323 IAmb IAmb 02 17 08.2
comp=Z,128nm,1.5s
NC602 NORSAR Array S 44.09 323 *e*P **P** **02 17 06.9 -0.3**
NORES NORESS Array B 44.09 323 P **P** **02 17 06.6 -0.6**
NORES pmax pmax
comp=Z,1.0nm,0.3s
YAK Yakutsk 44.17 35 **P** **02 17 07.4 -0.3**
YAK Yakutsk 44.17 35 *e*P **P** **02 17 07.3 -0.5**
YAK *e**PP **pP** **02 17 50.6 -3.1**
YAK *e* 02 18 56.7
YAK *eS* **S** **02 23 24.3 -0.1**
YAK *e**SS **sS** **02 24 40.0 -4.9**
YAK *e* 02 26 41.0
YAK pmax pmax
comp=Z,103nm,0.9s
YAK pmax pmax
comp=E,41nm,1.4s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=Z,19nm,0.5s
YAK smax smax
comp=E,132nm,2.0s
YAK smax smax
comp=N,30nm,1.3s
YAK Yakutsk 44.17 35 P **P** **02 17 07.7 -0.1**
NB201 NORSAR Array S 44.24 323 IAmb IAmb 02 17 10.3
comp=Z,86nm,1.1s
LEIR Leirfjorden 44.26 330 *e*P **P** **02 17 08.9 +0.4**
NB2 NORSAR Subarra 44.28 323 P **P** **02 17 08.4 -0.4**
comp=Z,40nm,0.7s,baz=98,slow=7.9
NB2 pP **pP** **02 17 55.1 +1.3**
comp=Z,13nm,0.7s,baz=95,slow=8.6
NB2 PP **PcP** **02 18 52.6 +3.5**
comp=Z,61nm,1.2s,baz=94,slow=10
NB2 NORSAR Subarra 44.28 323 P **P** **02 17 08.4 -0.4**
baz=98,slow=7.9
NOA NORSAR Array B 44.28 323 P **P** **02 17 08.4 -0.4**
comp=Z,19nm,0.6s,baz=98,slow=7.7,SNR=125
NOA pP **pP** **02 17 55.1 +1.3**
comp=Z,20nm,0.7s,baz=97,slow=8.1,SNR=4.5
NOA PP **PcP** **02 18 51.6 +2.4**
comp=Z,14nm,0.9s,baz=94,slow=10,SNR=4.4
comp=Z,19nm,0.6s
GRF Grafenberg Arr 44.30 307 *e*P **P** **02 17 10.4 +1.4**
comp=Z,12nm,0.8s,baz=84,slow=7.9
GRFO Grafenberg 44.30 307 P **P** **02 17 10.0 +0.9**
GRFO Grafenberg 44.30 307 P **P** **02 17 10.0 +0.9**
GRFO pmax pmax
comp=Z,15nm,0.8s
WTTA Wattenberg 44.32 303 *i* P **P** **02 17 09.1 -0.4**
comp=Z,5.1nm,0.4s,SNR=9.2
WTTA *e*ScP **ScP** **02 22 19.9 -1.6**
comp=Z,13nm,1.3s
VAGH Vaagaholmen 44.34 331 *e*P **P** **02 17 09.8 +0.7**
KONS Konsvik 44.35 331 *e*P **P** **02 17 09.6 +0.5**
STOK Stokkvaagen 44.35 331 *e*P **P** **02 17 09.4 +0.2**
WATA Walderalm 44.35 303 *i* P **P** **02 17 09.0 -0.6**
comp=Z,20nm,1.1s,SNR=10
WATA *e*ScP **ScP** **02 22 20.2 -1.5**
comp=Z,7.0nm,1.0s
NSS Namsos 44.42 328 *e*P **P** **02 17 10.2 +0.5**
NAO01 NORSAR Array S 44.42 323 IAmb IAmb 02 17 11.3
comp=Z,64nm,1.1s
MNSI Mandailing Nat 44.43 136 P **P** **02 17 10.5 +0.1**
comp=Z,92nm,0.6s
OSL Oslo 44.43 321 *e*P **P** **02 17 09.8 -0.1**
FUR Furstenfeldbru 44.44 305 *e*P **P** **02 17 11.0 +0.7**
comp=Z,18nm,0.7s,baz=84,slow=7.9
NBO00 NORSAR Array S 44.49 323 IAmb IAmb 02 17 12.0
comp=Z,74nm,1.0s
CTI Castel Tesino 44.50 302 **P** **02 17 11.0 +0.2**
CTI Castel Tesino 44.50 302 P **P** **02 17 11.0 +0.2**
CTI pmax pmax
comp=Z,18nm,0.6s
RAFF Raffo Rosso 44.51 289 IAmb IAmb 02 17 13.2
comp=Z,111nm,0.9s
NC204 NORSAR Array S 44.52 323 IAmb IAmb 02 17 12.3
comp=Z,96nm,1.1s
OVD Ostervraa, Den 44.58 318 *i* P **P** **02 17 11.3 +0.2**
LOF Lofoten 44.59 333 *e*P **P** **02 17 10.8 -0.2**
SQTA Sankt Quirin 44.62 303 *i* P **P** **02 17 11.2 -0.6**
comp=Z,11nm,0.5s,SNR=9.8
CLZ Clausthal 44.64 310 *e*P **P** **02 17 12.4 +0.6**
comp=Z,14nm,0.9s,baz=84,slow=7.9
MOTA Moosalm 44.67 303 *i* P **P** **02 17 11.5 -0.7**
comp=Z,23nm,0.8s,SNR=9.0
MOTA *e*ScP **ScP** **02 22 21.5 -1.5**
comp=Z,11nm,1.1s
YHNB Yeheng 44.74 90 IAmb IAmb 02 17 15.1
comp=Z,84nm,1.0s
YHNB Yeheng 44.74 90 P **P** **02 17 14.5 +1.5**
NRDL Niedersach Rie 44.76 311 *e*P **P** **02 17 13.5 +1.0**
comp=Z,22nm,0.9s,baz=84,slow=7.9
SSLB Suanglung 44.82 92 **P** **02 17 14.7 +1.2**
SSLB Suanglung 44.82 92 P **P** **02 17 15.0 +1.5**
RETA Reutte 44.88 304 *i* P **P** **02 17 13.3 -0.5**
comp=Z,6.2nm,0.5s
RETA *e*ScP **ScP** **02 22 22.3 -1.5**
comp=Z,7.4nm,1.5s
GTTG Gottingen 44.92 310 *e*P **P** **02 17 14.8 +0.9**
comp=Z,25nm,0.8s,baz=84,slow=7.9
UBBA Unterbreizbach 44.96 308 *e*P **P** **02 17 14.8 +0.7**
comp=Z,6.8nm,0.7s,baz=84,slow=7.9
FETA Feichten 44.97 303 *i* P **P** **02 17 14.0 -0.6**
comp=Z,16nm,0.8s,SNR=9.2
FETA *e*ScP **ScP** **02 22 23.2 -1.1**
comp=Z,7.8nm,1.1s
KONO Kongsberg 44.98 321 **P** **02 17 14.2 0.0**
KONO Kongsberg 44.98 321 P **P** **02 17 14.2 0.0**
KONO pmax pmax
comp=Z,56nm,1.3s
KONO Kongsberg 44.98 321 *e*P **P** **02 17 14.2 0.0**
KONO Kongsberg 44.98 321 P **P** **02 17 14.3 +0.1**
KONO sP **sP** **02 18 23.8 +0.7**
HOPEN Hopen 45.00 346 *e*P **P** **02 17 16.1 +1.9**
KSAR Wonju Array Be 45.11 71 P **P** **02 17 15.5 -0.1**
KSAR Wonju Array Be 45.11 71 P **P** **02 17 15.5 -0.1**
KSRS Korea Array 45.14 71 P **P** **02 17 15.7 -0.1**
comp=Z,4.1nm,0.4s,baz=274,slow=7.1,SNR=16
KSRS PcP **PcP** **02 18 51.6 -0.8**
comp=Z,9.9nm,0.9s,baz=292,slow=3.2,SNR=7.7
comp=Z,4.1nm,0.4s
NACB Ninganchiao 45.15 91 P **P** **02 17 17.8 +1.7**
BJO1 Bjornoya 45.25 343 *e*P **P** **02 17 17.0 +0.8**
YULB Yu-li 45.28 92 IAmb IAmb 02 17 19.8
comp=Z,71nm,0.7s
YULB Yu-li 45.28 92 P **P** **02 17 18.9 +1.8**
TWG Pinlang 45.37 93 P **P** **02 17 20.1 +2.3**
DAVA Damuels 45.50 304 *i* P **P** **02 17 18.5 -0.2**
comp=Z,44nm,0.5s,SNR=21
DAVA *e*ScP **ScP** **02 22 25.1 -1.3**
comp=Z,8.5nm,0.9s

HOMB Hombersund 45.50 319 *i* P **P** **02 17 18.0 -0.3**
HOMB IAmb IAmb 02 17 19.3
comp=Z,16nm,0.7s
SKAR Skarslia 45.67 322 *e*P **P** **02 17 20.5 +0.8**
PPI Padang Panjang 45.91 136 P **P** **02 17 21.8 -0.3**
comp=Z,83nm,0.8s
TIXI Tiksi 45.93 22 **P** **02 17 22.0 +0.5**
TIXI Tiksi 45.93 22 P **P** **02 17 21.9 +0.4**
comp=Z,63nm,0.3s,baz=278,slow=3.6,SNR=64
comp=Z,63nm,0.3s
TIXI Tiksi 45.93 22*c* *i*P **P** **02 17 21.8 +0.4**
TIXI pmax pmax
comp=Z,201nm,0.9s
TIXI Tiksi 45.93 22 P **P** **02 17 21.8 +0.3**
TIXI pP **pP** **02 18 09.2 +1.2**
TNS Taunus Mts 46.02 308 *e*P **P** **02 17 23.1 +0.6**
comp=Z,12nm,1.1s,baz=84,slow=7.9
MOL Molde 46.15 325 *e*P **P** **02 17 23.6 +0.3**
IBBN Ibbenburen 46.21 311 *e*P **P** **02 17 24.7 +0.8**
comp=Z,28nm,0.8s,baz=84,slow=7.9
LODK Lodwar 46.22 233 **P** **02 17 26.3 +1.7**
LODK Lodwar 46.22 233 P **P** **02 17 26.4 +1.7**
PDSI Padang 46.33 137 P **P** **02 17 24.9 -0.4**
comp=Z,65nm,0.6s
BFO Black Forest 46.37 305 P **P** **02 17 24.5 -0.8**
BFO Black Forest 46.37 305 P **P** **02 17 24.5 -0.8**
BFO pmax pmax
comp=Z,9.0nm,0.8s
BTDF Bukit Timah Da 46.41 131 P **P** **02 17 26.6 +0.6**
USRK Ussuriysk Ar. 46.42 61 P **P** **02 17 25.4 -0.3**
comp=Z,6.7nm,0.8s,baz=272,slow=8.8,SNR=10
comp=Z,6.7nm,0.8s
BLS5 Blasjo 46.57 321 *e*P **P** **02 17 27.8 +1.1**
HSPB Hornsund (broa 47.14 345 *e*P **P** **02 17 32.4 +1.6**
BER Bergen 47.14 322 *e*P **P** **02 17 31.6 +0.6**
ECH Echery 47.16 305 P **P** **02 17 30.8 -0.6**
BTNL Ternell 47.43 309 *d*P **P** **02 17 33.6 0.0**
comp=Z,10nm,0.9s
SPB2 Spitsbergen Ar 47.49 347 IAmb IAmb 02 17 36.2
comp=Z,77nm,0.9s
SPA0 Spitsbergen Ar 47.50 347 *e*P **P** **02 17 34.1 +0.5**
SPITS Spitsbergen Ar 47.50 347 P **P** **02 17 35.0 +1.4**
comp=Z,48nm,0.8s,baz=124,slow=10,SNR=39
comp=Z,48nm,0.8s
SPITS Spitsbergen Ar 47.50 347 P **P** **02 17 35.1 +1.4**
SPITS pmax pmax
comp=Z,97nm,1.0s
MEM Membach 47.51 309 *d*P **P** **02 17 34.5 +0.5**
comp=Z,14nm,0.0s
WLF Walferdange 47.56 307 P **P** **02 17 35.8 +1.3**
WLF pmax pmax
comp=Z,32nm,1.3s
WLF Walferdange 47.56 307 *d*P **P** **02 17 35.4 +0.9**
comp=Z,18nm,1.0s
WLF Walferdange 47.56 307 *e*P **P** **02 17 35.6 +1.1**
comp=Z,25nm,0.9s,baz=84,slow=7.9
BNI Bardonecchia 48.12 301 P **P** **02 17 39.4 +0.4**
BNI pmax pmax
comp=Z,60nm,1.3s
DSRI Dabo 48.36 132 P **P** **02 17 41.6 +0.6**
comp=Z,106nm,1.0s
DOU Dourbes 48.48 308 *d*P **P** **02 17 42.0 +0.5**
comp=Z,7.3nm,1.2s
KMBO Kilima Mbogo 48.60 227 P **P** **02 17 43.5 +0.4**
comp=Z,5.9nm,0.7s,baz=42,slow=12,SNR=9.4
comp=Z,5.9nm,0.7s
KMBO Kilima Mbogo 48.60 227 *i* P **P** **02 17 44.5 +1.4**
KMBO pmax pmax
comp=Z,6.0nm,0.7s
KBS Kingsbay 48.62 347 P **P** **02 17 43.4 +1.3**
KBS IAmb IAmb 02 17 44.6
comp=Z,145nm,1.0s
KBS Kingsbay 48.62 347*c* *i*P **P** **02 17 43.3 +1.2**
KBS pmax pmax
comp=Z,161nm,1.0s
KBS Kingsbay 48.62 347 *e*P **P** **02 17 43.5 +1.3**
KBS Kingsbay 48.62 347 *i* P **P** **02 17 43.6 +1.4**
KBS Kingsbay 48.62 347 P **P** **02 17 43.4 +1.3**
KBS pP **pP** **02 18 30.0 +1.6**
KEST Kesra 48.82 288 IAmb IAmb 02 17 46.4
comp=Z,135nm,1.5s
KEST Kesra 48.82 288 P **P** **02 17 45.4 +1.0**
comp=Z,24nm,0.5s,baz=78,slow=1.5,SNR=45
comp=Z,24nm,0.5s
KIBK Kibwezi 49.12 225 P **P** **02 17 47.7 +0.9**
KIBK Kibwezi 49.12 225 P **P** **02 17 48.3 +1.5**
MASI Maura Aman, Be 49.16 136 P **P** **02 17 46.4 -0.7**
comp=Z,218nm,1.0s
SSB Saint Sauveur 49.53 302 P **P** **02 17 50.0 +0.4**
SSB Saint Sauveur 49.53 302 P **P** **02 17 49.8 +0.2**
KSI Kapahiang 49.77 136 P **P** **02 17 50.6 -1.1**
comp=Z,102nm,0.8s
KSM Kuching 50.50 124 P **P** **02 17 57.9 +0.7**
SBUM Sibu 51.08 122 P **P** **02 18 02.0 +0.5**
KKM Kota Kinabalu 51.41 115 IAmb IAmb 02 18 53.4
comp=Z,106nm,1.3s
KKM Kota Kinabalu 51.41 115 P **P** **02 18 05.1 +1.0**
TYV Tymovskoe 52.00 50 *e*P **P** **02 18 08.4 +0.5**
TYV pmax pmax
comp=Z,16nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.7s
EKA Eskdalemuir Ar 52.16 316 P **P** **02 18 08.5 -0.4**
comp=Z,2.6nm,0.3s,baz=77,slow=7.0,SNR=25
EKA pP **pP** **02 18 55.8 +0.2**
comp=Z,15nm,0.8s,baz=90,slow=7.7,SNR=7.0
EKA sP **sP** **02 19 19.5 +0.6**
comp=Z,8.8nm,0.8s,baz=87,slow=7.8,SNR=2.8
comp=Z,2.6nm,0.3s
ESK Eskdalemuir 52.19 316 P **P** **02 18 08.8 -0.4**
ESK IAmb IAmb 02 19 08.0
comp=Z,165nm,1.8s
ESK Eskdalemuir 52.19 316 P **P** **02 18 08.8 -0.4**
ESK pmax pmax
comp=Z,165nm,1.8s
MBAR Mbarara 52.26 234 P **P** **02 18 11.3 +0.9**
MBAR IAmb IAmb 02 18 11.8
comp=Z,38nm,0.7s
MBAR Mbarara 52.26 234*c* *i*P **P** **02 18 10.9 +0.5**
MBAR pmax pmax
comp=Z,36nm,0.6s
YSS Yuzhno-Sakhali 53.07 55 P **P** **02 18 15.9 +0.2**
YSS IAmb IAmb 02 18 17.5
comp=Z,88nm,1.2s
YSS Yuzhno-Sakhali 53.07 55 P **P** **02 18 16.8 +1.1**
YSS Yuzhno-Sakhali 53.07 55 *e*P **P** **02 18 16.1 +0.4**
YSS *e**SP **pP** **02 19 06.0 +2.6**
YSS *eS* **S** **02 25 26.6 -2.6**
YSS pmax pmax
comp=Z,300nm,3.4s
YSS pmax pmax
comp=Z,60nm,1.2s
YSS MLR MLR
comp=Z,200nm,15.0s
MAJO Matsushiro 53.21 68 P **P** **02 18 15.6 -1.4**
MAJO Matsushiro 53.21 68 P **P** **02 18 16.5 -0.5**
MAJO Matsushiro 53.21 68 P **P** **02 18 15.6 -1.4**
MAJO pmax pmax
comp=Z,24nm,1.1s
MAJO Matsushiro 53.21 68 P **P** **02 18 16.6 -0.4**
MAJO pP **pP** **02 19 06.6 +2.0**
MAJO PcP **PcP** **02 19 18.1 -3.9**
MJAR Matsushiro Arr 53.21 68 P **P** **02 18 16.9 -0.1**
MJAR Matsushiro Arr 53.21 68 P **P** **02 18 16.7 -0.3**
comp=Z,20nm,1.1s,baz=294,slow=8.9,SNR=18
MJAR pP **pP** **02 19 05.1 +0.5**
comp=Z,12nm,1.0s,baz=292,slow=9.6,SNR=5.4
comp=Z,20nm,1.1s
MJAR Matsushiro Arr 53.21 68 P **P** **02 18 16.9 -0.1**
MJAR pmax pmax
comp=Z,9.0nm,1.0s
ILTH Belurgan, Co L 54.25 315 P **P** **02 18 23.6 -0.5**
COCO West Island 54.29 148 P **P** **02 18 28.5 +3.7**
DSB Dublin 54.47 314 P **P** **02 18 26.1 +0.3**
MA2 Magadan 54.57 38 P **P** **02 18 26.5 +0.1**
MA2 IAmb IAmb 02 18 27.9
comp=Z,48nm,1.1s
MA2 Magadan 54.57 38 P **P** **02 18 27.1 +0.7**
SEY Seymchan 54.61 34*c* *i*P **P** **02 18 27.1 +0.5**
SEY pmax pmax
comp=Z,70nm,1.0s
JMM Marumori 54.65 66 IAmb IAmb 02 18 27.8
comp=Z,42nm,0.8s
JMM Marumori 54.65 66 P **P** **02 18 27.7 +0.4**
IDGL Inch Island, C 54.65 316 P **P** **02 18 27.2 +0.2**

DAG Danmarks Havn 54.72 344 P P 02 18 27.8 +0.6
DAG pmax pmax
comp=Z,119nm,1.1s
DAG Danmarks Havn 54.72 344 *i* P **P 02 18 27.0 -0.2**
DAG IAmb IAmb 02 18 29.1
comp=Z,60nm,0.9s
CART Cartagena 55.91 294 IAmb IAmb 02 18 37.0
comp=Z,35nm,0.8s
ESDC Sonseca Array 57.27 298 P **P 02 18 45.6 -0.3**
ESDC Sonseca Array 57.27 298 P **P 02 18 45.6 -0.3**
comp=Z,18nm,0.8s,baz=55,slow=7.6,SNR=126
ESDC pP **pP 02 19 34.2 +0.8**
comp=Z,9.8nm,1.0s,baz=57,slow=7.0,SNR=5.0
comp=Z,18nm,0.8s
TAM Tamanrasset 57.29 276 P **P 02 18 46.1 -0.3**
TAM Tamanrasset 57.29 276 P **P 02 18 46.1 -0.3**
TAM pmax pmax
comp=Z,18nm,0.7s
TAM Tamanrasset 57.29 276 P **P 02 18 46.4 0.0**
TAM pP **pP 02 19 33.9 -0.2**
PAB San Pablo 57.59 298 P **P 02 18 47.9 -0.3**
PAB IAmb IAmb 02 18 49.2
comp=Z,47nm,1.4s
PAB San Pablo 57.59 298 P **P 02 18 47.9 -0.3**
PAB pmax pmax
comp=Z,47nm,1.4s
PAB San Pablo 57.59 298 P **P 02 18 48.3 +0.1**
PAB pP **pP 02 19 37.2 +1.5**
TOLI2 Tolitoli 58.09 115 P **P 02 18 51.9 +0.1**
PBRG Braganca 58.40 301 *eP* **P 02 18 53.7 -0.1**
PBRG *ep*P **PcP 02 19 43.6 +1.4**
PBRG *i* IAmb IAmb 02 19 44.8
comp=Z,31nm,1.7s
BILL Bilibino 58.78 26 P **P 02 18 56.7 +0.9**
BILL IAmb IAmb 02 18 57.9
comp=Z,79nm,1.0s
BILL Bilibino 58.78 26*c i* P **P 02 18 56.6 +0.8**
BILL pmax pmax
comp=Z,90nm,1.0s
BILL Bilibino 58.78 26 P **P 02 18 56.9 +1.1**
MVO Moncorvo 58.85 300 *eP* **P 02 18 57.2 +0.3**
MVO *ep*P **pP 02 19 45.3 +0.6**
MVO *i* IAmb IAmb 02 19 46.6
comp=Z,31nm,1.6s
ALE Alert 59.08 354 P **P 02 18 58.8 +1.1**
ALE pP **pP 02 19 47.8 +1.8**
PVRL Vila Real 59.28 301 *eP* **P 02 19 00.4 +0.5**
PVRL *i* IAmb IAmb 02 19 51.7
comp=Z,31nm,1.6s
POLO Lamas de Olo 59.30 301 *eP* **P 02 19 00.5 +0.5**
POLO *i* IAmb IAmb 02 19 01.7
comp=Z,15nm,1.8s
PCAB Cabril 59.33 301 *eP* **P 02 19 00.5 +0.4**
PCAB *i* IAmb IAmb 02 19 02.2
comp=Z,51nm,1.8s
PCAB *ep*P **pP 02 19 50.2 +2.4**
MRSI Marisa 59.36 115 P **P 02 19 00.9 +0.3**
comp=Z,2µmcomp=Z,162nm,1.1s
PGAV Gavieira, Arco 59.39 302 *eP* **P 02 19 01.0 +0.4**
PGAV *ep*P **pP 02 19 49.9 +1.5**
PGAV *i* IAmb IAmb 02 19 53.2
comp=Z,55nm,1.6s
MTE Manteigas 59.51 300 IAmb IAmb 02 19 03.0
comp=Z,32nm,0.9s
MTE Manteigas 59.51 300 *eP* **P 02 19 02.2 +0.8**
MTE *ep*P **pP 02 19 51.1 +1.8**
MTE *i* IAmb IAmb 02 19 53.1
comp=Z,46nm,1.5s
PVIS Viseu 59.63 300 *eP* **P 02 19 02.6 +0.4**
PVIS *ep*P **pP 02 19 51.9 +1.8**
PCBR Castelo Branco 59.69 299 *eP* **P 02 19 03.3 +0.7**
PCBR *ep*P **pP 02 19 52.3 +1.9**
PMRV Marv??o 59.80 299 *eP* **P 02 19 03.8 +0.5**
PMRV *i* IAmb IAmb 02 20 19.2
comp=Z,29nm,1.5s
PBAR Barrancos 60.06 297 *eP* **P 02 19 05.1 0.0**
PBAR *i* IAmb IAmb 02 19 06.4
comp=Z,44nm,1.2s
PBAR *ep*P **pP 02 19 54.5 +1.5**
APSI Ampana 60.10 116 P **P 02 19 07.3 +1.7**
comp=Z,2µmcomp=Z,120nm,1.3s
PESTR Estremoz 60.17 298 *eP* **P 02 19 06.2 +0.4**
PESTR *i* IAmb IAmb 02 19 56.2
comp=Z,29nm,1.6s
PEA0B Petropavlovsk- 60.19 44 *eP* **P 02 19 04.5 -1.2**
PETK Petropavlovsk- 60.19 44 P **P 02 19 04.9 -0.9**
comp=Z,8.1nm,1.0s,baz=228,slow=5.8,SNR=5.5
comp=Z,8.1nm,1.0s
COI Coimbra 60.20 300 IAmb IAmb 02 19 07.0
comp=Z,36nm,0.9s
COI Coimbra 60.20 300 *eP* **P 02 19 06.2 +0.2**
COI *i* IAmb IAmb 02 20 24.8
comp=Z,55nm,1.6s
PSARD Sardoal 60.27 299 *eP* **P 02 19 07.1 +0.5**
PSARD *i* IAmb IAmb 02 20 04.1
comp=Z,35nm,1.5s
TTSI Tana Toraja 60.28 120 P **P 02 19 08.0 +1.2**
comp=Z,2µmcomp=Z,32nm,0.8s
PCAS Casmilo, Conde 60.32 300 *eP* **P 02 19 07.8 +0.9**
EVO Evora 60.61 298 *eP* **P 02 19 09.3 +0.5**
EVO *i* IAmb IAmb 02 19 10.2
comp=Z,28nm,1.1s
MD31 MD31 60.66 291 P **P 02 19 08.9 -0.5**
PBEJ Beja 60.72 297 *eP* **P 02 19 10.0 +0.5**
PBEJ *i* IAmb IAmb 02 19 10.9
comp=Z,34nm,1.4s
PBEJ *ep*P **pP 02 19 59.0 +1.5**
PVAQ Vaqueiros 60.87 297 *eP* **P 02 19 10.7 +0.1**
PVAQ *i* IAmb IAmb 02 19 11.7
comp=Z,37nm,1.4s
PCVE Castro Verde 61.01 297 *eP* **P 02 19 13.3 +1.8**
NEEM North Greenlan 61.04 348 *i* P **P 02 19 12.1 +0.6**
NEEM IAmb IAmb 02 19 13.3
comp=Z,52nm,0.9s
MESJ Messejana 61.05 297 *eP* **P 02 19 11.8 0.0**
MESJ IAmb IAmb 02 19 13.3
comp=Z,29nm,1.0s
MESJ Messejana 61.05 297 *eP* **P 02 19 12.3 +0.5**
MESJ *i* IAmb IAmb 02 19 13.6
comp=Z,42nm,1.6s
MESJ Messejana 61.05 297 *eP* **P 02 19 11.8 0.0**
PBDV Barranco-do-Ve 61.10 297 *eP* **P 02 19 12.6 +0.5**
PARRA Arraiolos 61.22 299 *eP* **P 02 19 08.6 -4.3**
PARRA *i* IAmb IAmb 02 19 09.9
comp=Z,26nm,2.0s
PMAFR Mafra 61.33 299 *eP* **P 02 19 14.6 +0.9**
PTEO Sao Teotonio 61.54 297 *eP* **P 02 19 15.6 +0.6**
PFVI Vila Bisbo 61.79 297 *eP* **P 02 19 17.3 +0.6**
PFVI *i* IAmb IAmb 02 19 19.8
comp=Z,97nm,1.6s
VOI Vohitsoka 62.27 205 P **P 02 19 20.7 +0.7**
VOI Vohitsoka 62.27 205 P **P 02 19 20.9 +0.9**
AVE Averroes 62.46 292 IAmb IAmb 02 19 21.6
comp=Z,28nm,0.5s
TNTI Ternate 63.20 111 P **P 02 19 25.8 -0.6**
TNTI Ternate 63.20 111 P **P 02 19 26.9 +0.6**
TNTI Ternate 63.20 111 P **P 02 19 26.9 +0.6**
comp=Z,2µmcomp=Z,136nm,1.2s
SANI Sanana 64.04 114 P **P 02 19 31.1 -0.7**
SANI Sanana 64.04 114 P **P 02 19 31.1 -0.7**
comp=Z,1µmcomp=Z,97nm,1.0s
EDA Edea 64.24 255 P **P 02 19 32.2 -0.9**
EDA Edea 64.24 255 P **P 02 19 32.6 -0.6**
ANGG Ammassalik, Gr 64.36 334 *i* P **P 02 19 33.2 +0.1**
TULEG Thule 64.46 350 IAmb IAmb 02 19 35.0
comp=Z,59nm,1.0s
TULEG Thule 64.46 350 *i* P **P 02 19 32.2 -1.4**
UPNV Upernavik 65.13 345 *i* P **P 02 19 38.2 +0.2**
LSZ Lusaka 65.23 226 P **P 02 19 39.6 +0.1**
LSZ Lusaka 65.23 226 P **P 02 19 40.1 +0.5**
LSZ Lusaka 65.23 226 P **P 02 19 39.6 +0.1**
LSZ pmax pmax
comp=Z,16nm,0.7s
LSZ Lusaka 65.23 226 P **P 02 19 40.0 +0.5**
LSZ pP **pP 02 20 30.2 +0.9**
TORD Torodi Ar. Bea 65.46 268 P **P 02 19 39.9 -1.2**
comp=Z,45nm,0.7s,baz=39,slow=6.2,SNR=7.6
comp=Z,45nm,0.7s
EDFI Ende, Flores 65.65 123 P **P 02 19 40.7 -1.6**
NLAI Namlea 65.65 114 P **P 02 19 41.9 -0.3**
comp=Z,103nm,0.9s
ILULI Ilulissat 66.38 341 P **P 02 19 46.3 +0.3**
ILULI Ilulissat 66.38 341 P **P 02 19 46.3 +0.3**
ILULI pmax pmax
comp=Z,86nm,1.0s
ILULI Ilulissat 66.38 341 *i* P **P 02 19 45.2 -0.8**
GDH Godhavn 66.99 341 *i* P **P 02 19 47.1 -2.7**
GDH IAmb IAmb 02 19 51.3
comp=Z,20nm,1.0s
SWI Sorong 67.21 109 P **P 02 19 51.4 -0.7**
comp=Z,2µmcomp=Z,170nm,1.1s
A19K Wainwright 67.30 17 P **P 02 19 52.5 +0.7**
baz=317
A21K Barrow 67.44 15 P **P 02 19 52.4 -0.2**
baz=320
C16K Lisburne Hills 67.60 20 P **P 02 19 53.8 +0.1**
baz=314,SNR=12
B18K Kokolik River 67.74 18 P **P 02 19 55.8 +1.2**
baz=316,SNR=11
A22K Sinclair Lake 68.03 15 P **P 02 19 56.7 +0.4**
baz=322
C17K DeLong Mountai 68.03 19 P **P 02 19 56.9 +0.4**
baz=315,SNR=15
BATI Baumata 68.04 122 P **P 02 19 56.5 -0.8**
comp=Z,101nm,0.7s
SOEI Soe 68.14 121 P **P 02 19 56.4 -1.6**
SOEI Soe 68.14 121 P **P 02 19 57.7 -0.3**
comp=Z,100nm,0.8s
B20K Meade River 68.34 16 P **P 02 19 58.9 +0.6**
baz=320
RDOG Red Dog Mine 68.41 19 IAmb IAmb 02 20 00.1
comp=Z,94nm,1.4s
RDOG Red Dog Mine 68.41 19 P **P 02 19 58.5 -0.3**
baz=316
C18K Utukok River 68.41 18 P **P 02 19 59.2 +0.3**
baz=317,SNR=15
C19K Lookout Ridge 68.47 17 P **P 02 19 59.9 +0.7**
baz=318,SNR=11
D17K Noatak River 68.61 19 P **P 02 20 00.2 +0.2**
baz=316,SNR=26
GAMB Gamboell 68.67 25 P **P 02 20 00.5 +0.1**
baz=310
TNA Tin City 68.72 22 P **P 02 20 00.8 +0.2**
baz=312
RES Resolute Bay 68.75 356 P **P 02 20 01.3 +0.6**
RES Resolute Bay 68.75 356 P **P 02 20 01.3 +0.6**
RES pmax pmax
comp=Z,13nm,1.0s
B22K Teshekpuk Lake 68.87 15 P **P 02 20 02.3 +0.8**
baz=323,SNR=15
POIN Pond Inlet 69.01 350 P **P 02 20 03.1 +0.7**
POIN IAmb IAmb 02 20 04.2
comp=Z,37nm,1.1s
B21K Ikpikpuk River 69.20 15 P **P 02 20 04.4 +0.9**
baz=322
F14K Arctic Creek 69.26 22 P **P 02 20 04.8 +0.8**
baz=314,SNR=7.1
D19K Kuna River 69.28 17 P **P 02 20 04.7 +0.5**
D19K Kuna River 69.28 17 P **P 02 20 04.5 +0.3**
baz=320,SNR=46
FAKI Fak Fak 69.29 110 P **P 02 20 04.7 -0.3**
FAKI Fak Fak 69.29 110 P **P 02 20 04.7 -0.3**
FAKI Fak Fak 69.29 110 P **P 02 20 04.8 -0.2**
comp=Z,1µmcomp=Z,145nm,1.1s
E17K Hotham Inlet 69.40 19 P **P 02 20 05.2 +0.3**
baz=317,SNR=14
D20K Etivluk River 69.47 17 P **P 02 20 05.6 +0.3**
baz=321,SNR=40
E18K Tukpahlearik C 69.47 19 P **P 02 20 05.7 +0.4**
baz=318,SNR=38
C21K Knifeblade Rid 69.53 16 P **P 02 20 06.4 +0.8**
baz=322,SNR=23
F15K North Star Dit 69.60 21 P **P 02 20 06.9 +0.8**
baz=315,SNR=23
PMAR Madeira 69.72 296 *eP* **P 02 20 08.2 +0.5**
NRS Narsarsuaq 69.81 332 IAmb IAmb 02 20 08.8
comp=Z,56nm,1.1s
C23K Itkillik River 69.85 14 P **P 02 20 08.5 +0.9**
baz=326,SNR=25
E20K Nigu River 69.92 17 P **P 02 20 08.3 +0.2**
baz=321,SNR=47
F17K Baldwin Pennin 70.03 20 P **P 02 20 09.3 +0.6**
baz=318,SNR=14
ANM Nome 70.19 22 P **P 02 20 10.8 +1.1**
baz=315
D22K Ayikyak River 70.21 15 IAmb IAmb 02 20 11.7
comp=Z,87nm,1.1s
D22K Ayikyak River 70.21 15 P **P 02 20 10.2 +0.4**
baz=324,SNR=20
E21K Kilik River 70.28 16 P **P 02 20 10.3 +0.1**
baz=323
G15K Niukluk 70.29 22 P **P 02 20 10.8 +0.5**
baz=316,SNR=8.2
E19K Redstone River 70.29 18 IAmb IAmb 02 20 11.7
comp=Z,59nm,1.1s
E19K Redstone River 70.29 18 P **P 02 20 10.5 +0.2**
baz=320,SNR=27
C24K Franklin Bluff 70.31 14 P **P 02 20 11.4 +1.1**
baz=327,SNR=14
F18K Selawik 70.33 19 P **P 02 20 10.7 +0.2**
baz=319,SNR=40
G16K Koyuk River 70.49 21 P **P 02 20 12.2 +0.7**
G16K IAmb IAmb 02 20 13.5
comp=Z,61nm,1.1s
G16K Koyuk River 70.49 21 P **P 02 20 12.3 +0.7**
baz=317,SNR=11
D23K Nanushuk River 70.55 15 P **P 02 20 12.6 +0.7**
D23K IAmb IAmb 02 20 13.8
comp=Z,87nm,1.1s
D23K Nanushuk River 70.55 15 P **P 02 20 12.6 +0.7**
baz=326,SNR=25
F19K Shaleruckik Mo 70.64 18 IAmb IAmb 02 20 13.3
comp=Z,59nm,1.4s
F19K Shaleruckik Mo 70.64 18 P **P 02 20 11.9 -0.5**
baz=320,SNR=17
D24K Happy Valley 70.77 14 IAmb IAmb 02 20 14.9
comp=Z,46nm,1.1s
D24K Happy Valley 70.77 14 P **P 02 20 13.7 +0.5**
baz=327,SNR=7.6
C26K Camden Bay 70.83 12 P **P 02 20 13.6 +0.2**
baz=330
G17K Kiwalik Mounta 70.89 20 P **P 02 20 14.3 +0.3**
baz=318,SNR=23
F20K Avaraart Lake 70.98 17 IAmb IAmb 02 20 15.5
comp=Z,40nm,1.1s
F20K Avaraart Lake 70.98 17 P **P 02 20 14.3 -0.2**
baz=322
E22K Anaktuvuk Pass 71.00 16 P **P 02 20 14.9 +0.3**
baz=325,SNR=46
TOLK Toolik Lake Re 71.05 14 P **P 02 20 15.5 +0.6**
baz=327,SNR=34
H16K Elim 71.08 21 P **P 02 20 15.7 +0.7**
baz=317,SNR=7.1
D25K Kavik River 71.08 13 P **P 02 20 15.9 +0.8**
baz=329
G18K Tagagawik 71.14 19 IAmb IAmb 02 20 16.6
comp=Z,54nm,1.4s
G18K Tagagawik 71.14 19 P **P 02 20 15.2 -0.2**
baz=320,SNR=15
BAKI Biak 71.14 106 P **P 02 20 17.0 +0.7**
comp=Z,85nm,1.1s
C27K Jago River 71.29 12 IAmb IAmb 02 20 18.7
comp=Z,81nm,1.1s
C27K Jago River 71.29 12 P **P 02 20 17.6 +1.3**
baz=331,SNR=12
A36M Sachs Harbour 71.29 5 P **P 02 20 16.9 +0.6**
baz=346,SNR=11
ACRG Accra 71.31 263 IAmb IAmb 02 20 17.2
comp=Z,50nm,0.9s
G19K Purcell Mounta 71.35 19 P **P 02 20 16.9 +0.2**
baz=321,SNR=47
F21K Alatna River 71.37 17 IAmb IAmb 02 20 20.0
comp=Z,56nm,1.1s
F21K Alatna River 71.37 17 P **P 02 20 17.2 +0.3**
baz=324,SNR=36
F22K John River 71.44 16 P **P 02 20 17.7 +0.5**
baz=325
MREMI Moremi 71.50 222 IAmb IAmb 02 20 19.3
comp=Z,79nm,1.8s
E23K Chandalar 71.53 15 IAmb IAmb 02 20 19.6
comp=Z,69nm,1.1s
E23K Chandalar 71.53 15 P **P 02 20 18.4 +0.6**
baz=327,SNR=32
E24K Your Creek 71.75 14 IAmb IAmb 02 20 20.9
comp=Z,66nm,1.1s
E24K Your Creek 71.75 14 P **P 02 20 19.6 +0.5**
baz=328
H18K Honhosa River 71.78 20 IAmb IAmb 02 20 20.7
comp=Z,32nm,1.0s
H18K Honhosa River 71.78 20 P **P 02 20 19.6 +0.3**
baz=320,SNR=12
SAUI Saumlaki 71.92 115 P **P 02 20 22.0 +1.2**
SAUI Saumlaki 71.92 115 P **P 02 20 22.7 +1.9**
G21K Allakaket 71.94 17 IAmb IAmb 02 20 21.1
comp=Z,54nm,1.1s
G21K Allakaket 71.94 17 P **P 02 20 20.0 -0.2**
baz=324,SNR=33
H19K Roundabout Mou 72.00 19 IAmb IAmb 02 20 22.1
comp=Z,65nm,1.0s
H19K Roundabout Mou 72.00 19 P **P 02 20 20.9 +0.3**
baz=322,SNR=39
J14K Nanvaranak Lak 72.06 23 IAmb IAmb 02 20 23.0
comp=Z,60nm,0.9s
J14K Nanvaranak Lak 72.06 23 P **P 02 20 21.7 +0.8**
baz=317,SNR=11
G22K Bettles 72.07 16 P **P 02 20 21.2 +0.2**
baz=325
D27M Malcolm River 72.08 11 IAmb IAmb 02 20 23.4
comp=Z,44nm,1.1s
D27M Malcolm River 72.08 11 P **P 02 20 22.2 +1.1**
baz=334
I17K Unalakleet 72.09 21 IAmb IAmb 02 20 23.3
comp=Z,75nm,1.1s
I17K Unalakleet 72.09 21 P **P 02 20 22.0 +0.9**
baz=319,SNR=6.9
COLD Coldfoot 72.10 16 P **P 02 20 21.7 +0.5**
baz=326,SNR=14
E25K Arctic Village 72.27 13 P **P 02 20 22.6 +0.4**
baz=330,SNR=6.3
K13K Kusilvak Mount 72.30 24 IAmb IAmb 02 20 24.2
comp=Z,62nm,1.1s
K13K Kusilvak Mount 72.30 24 P **P 02 20 22.9 +0.5**
baz=316,SNR=9.4
IMAR Indian Mountai 72.31 18 P **P 02 20 22.3 -0.1**
F24K Squaw Lake 72.34 15 P **P 02 20 23.2 +0.5**
baz=328,SNR=13
H20K Anotleneega Mo 72.43 18 P **P 02 20 23.2 +0.1**
baz=323,SNR=71
GCSA Galena City Sc 72.50 19 P **P 02 20 24.0 +0.5**
baz=321
J16K Anvik River 72.57 22 P **P 02 20 24.8 +0.8**
baz=319,SNR=27
G23K Bananza Creek 72.57 16 IAmb IAmb 02 20 25.7
comp=Z,50nm,1.0s
G23K Bananza Creek 72.57 16 P **P 02 20 24.3 +0.3**
baz=327,SNR=38
ILON Igloolik, Nuna 72.58 350 IAmb IAmb 02 20 24.8
comp=Z,39nm,1.1s
F25K Christian Rive 72.72 14 IAmb IAmb 02 20 27.2
comp=Z,67nm,1.1s
F25K Christian Rive 72.72 14 P **P 02 20 26.0 +1.1**
baz=330,SNR=53
H21K Melozitna Rive 72.81 17 P **P 02 20 25.6 +0.3**
baz=324,SNR=70
M11K Mekoryuk 72.88 26 P **P 02 20 26.8 +1.0**
baz=315
E28M Babbage River 72.88 11 IAmb IAmb 02 20 28.0
comp=Z,84nm,1.2s
E28M Babbage River 72.88 11 P **P 02 20 26.8 +1.0**
baz=335,SNR=17
F26K Sheenjek River 72.91 13 IAmb IAmb 02 20 28.9
comp=Z,35nm,1.0s
F26K Sheenjek River 72.91 13 P **P 02 20 26.7 +0.7**
baz=331,SNR=25
E27K Coleen River 72.92 12 P **P 02 20 27.0 +0.9**
baz=333,SNR=28
J17K VABM Dome 72.93 21 IAmb IAmb 02 20 27.8
comp=Z,36nm,0.9s
J17K VABM Dome 72.93 21 P **P 02 20 26.5 +0.4**
baz=320,SNR=12
H22K Ishtalitna Cre 72.95 17 P **P 02 20 26.8 +0.6**
baz=326,SNR=30
K15K Wolf Creek Mou 73.03 23 IAmb IAmb 02 20 29.1
comp=Z,44nm,1.1s
K15K Wolf Creek Mou 73.03 23 P **P 02 20 27.5 +0.8**
baz=318,SNR=8.0
I20K Naaghedeneel 73.09 19 P **P 02 20 27.8 +0.8**
baz=323,SNR=25
G24K Hadweenzic Riv 73.12 15 IAmb IAmb 02 20 29.3
comp=Z,72nm,1.1s
G24K Hadweenzic Riv 73.12 15 P **P 02 20 28.0 +0.8**
baz=329,SNR=33
POGA Pongola 73.30 216 IAmb IAmb 02 20 33.4
comp=Z,53nm,1.0s
E29M Blow River 73.33 11 P **P 02 20 29.4 +1.1**
baz=336,SNR=31
G25K Bearman Lake 73.35 14 P **P 02 20 29.9 +1.4**
baz=330,SNR=24
L14K Kuka Creek 73.38 24 P **P 02 20 29.8 +1.1**
baz=318,SNR=20
I21K Tanana 73.39 17 IAmb IAmb 02 20 30.5
comp=Z,58nm,1.1s
I21K Tanana 73.39 17 P **P 02 20 29.1 +0.3**
baz=325,SNR=31
H23K Yukon River 73.42 16 P **P 02 20 30.0 +1.0**
baz=327,SNR=50
J19K Poorman 73.43 19 P **P 02 20 29.7 +0.7**
baz=323,SNR=89
L15K Ungalak Mounta 73.51 23 P **P 02 20 30.2 +0.8**
baz=318,SNR=10
J18K Innoko River 73.55 20 IAmb IAmb 02 20 31.4
comp=Z,68nm,0.9s
J18K Innoko River 73.55 20 P **P 02 20 30.2 +0.5**
baz=322,SNR=44
G26K Porcupine Rive 73.64 13 P **P 02 20 31.1 +0.9**
baz=332,SNR=15
SMPI Sarmi 73.67 105 P **P 02 20 31.4 +0.2**
comp=Z,130nm,1.3s
J20K Nowinta River 73.67 19 P **P 02 20 31.1 +0.7**
baz=324,SNR=63
K17K Iditarod 73.69 21 P **P 02 20 31.4 +0.9**
baz=321,SNR=48
F28M Old Crow 73.73 12 IAmb IAmb 02 20 32.8
comp=Z,62nm,1.1s
F28M Old Crow 73.73 12 P **P 02 20 31.6 +0.9**
baz=335,SNR=22
H24K Noodor Dome 73.78 16 IAmb IAmb 02 20 33.1
comp=Z,55nm,1.1s
H24K Noodor Dome 73.78 16 P **P 02 20 32.0 +0.9**
baz=328,SNR=34
MLY Manley 73.81 17 IAmb IAmb 02 20 32.9
comp=Z,57nm,1.0s
MLY Manley 73.81 17 P **P 02 20 31.7 +0.4**
baz=326,SNR=36
H25L Birch Creek 73.84 15 P **P 02 20 32.6 +1.3**
baz=330,SNR=21
M13K Dall Lake 73.84 25 P **P 02 20 33.0 +1.6**
baz=317,SNR=6.7
C36M Paulatuk 73.97 5 P **P 02 20 32.0 0.0**
baz=348,SNR=12
INK Inuvik 74.01 9 P **P 02 20 33.0 +0.7**
baz=340,SNR=34
I23K Minto, Yukon-K 74.04 16 P **P 02 20 33.2 +0.7**
baz=327,SNR=53
M14K Bethel 74.05 24 P **P 02 20 33.7 +1.1**
baz=318,SNR=16
PSA00 Pilbara Seismi 74.05 133 P **P 02 20 32.5 -0.7**
L16K Owhat River 74.11 22 P **P 02 20 34.2 +1.2**
baz=320,SNR=38
L17K Donlin 74.14 22 P **P 02 20 34.2 +1.1**
baz=321,SNR=32
G27K Doyon Strip 74.15 13 IAmb IAmb 02 20 35.4
comp=Z,66nm,1.0s
G27K Doyon Strip 74.15 13 P **P 02 20 34.2 +1.1**
baz=333,SNR=66
P08K Saint George I 74.26 30 P **P 02 20 35.2 +1.3**
baz=313
F30M Barrier River 74.36 10 P **P 02 20 35.2 +0.9**
baz=338,SNR=30
K20K Telida 74.36 19 P **P 02 20 35.0 +0.6**
baz=324,SNR=84
CHUM Lake Minchumin 74.38 18 P **P 02 20 35.0 +0.5**
baz=325,SNR=5.3
DBIC Dimbokro 74.44 267 P **P 02 20 34.4 -1.3**
comp=Z,14nm,0.8s,baz=84,slow=6.8,SNR=14
comp=Z,14nm,0.8s
POKR Poker Plat Res 74.49 16 P **P 02 20 36.0 +0.8**
baz=329,SNR=18
M15K Kasigluk River 74.50 24 P **P 02 20 36.3 +1.0**
baz=319,SNR=20
BPAW Bear Paw Mtn. 74.53 18 IAmb IAmb 02 20 36.5
comp=Z,50nm,1.0s
BPAW Bear Paw Mtn. 74.53 18 P **P 02 20 35.3 -0.2**
baz=326,SNR=24
L18K Granite Mounta 74.54 21 IAmb IAmb 02 20 37.2
comp=Z,41nm,1.0s
L18K Granite Mounta 74.54 21 P **P 02 20 36.0 +0.5**
baz=322,SNR=22
PRP Porcupine Dome 74.55 15 IAmb IAmb 02 20 37.7
comp=Z,45nm,1.3s

PRP **Porcupine Dome** 74.55 15 P P 02 20 36.4 +0.7
baz=330,SNR=26
NEA2 **Nenana** 74.57 17 P P 02 20 35.8 +0.2
baz=328,SNR=54
COLA **College** 74.61 16 P P 02 20 36.0 +0.3
COLA **College** 74.61 16 P P 02 20 35.9 +0.1
COLA **College** 74.61 16 *c i* P P 02 20 35.8 0.0
COLA pmax pmax
comp=Z,139nm,0.9s
COLA **College** 74.61 16 P P 02 20 36.1 +0.3
baz=329
DRS **Darwin Rock St** 74.64 118 P P 02 20 35.8 -0.9
G29M **Pine Creek** 74.67 11 IAmb IAmb 02 20 38.0
comp=Z,68nm,1.1s
G29M **Pine Creek** 74.67 11 P P 02 20 36.9 +0.8
baz=336,SNR=20
TSUM **Tsumeb** 74.68 232 P P 02 20 37.2 +0.2
H27K **Steamboat Moun** 74.69 13 P P 02 20 37.2 +0.9
baz=334,SNR=68
N14K **Kuskokwak Cree** 74.76 24 P P 02 20 37.6 +0.9
baz=319,SNR=6.8
F31M **Tsiigehtchic** 74.80 10 P P 02 20 37.3 +0.5
baz=340,SNR=12
M16K **Timber Creek** 74.80 23 IAmb IAmb 02 20 39.4
comp=Z,52nm,0.9s
M16K **Timber Creek** 74.80 23 P P 02 20 38.4 +1.4
baz=320,SNR=17
CCB **Clear Creek Bu** 74.81 16 IAmb IAmb 02 20 37.9
comp=Z,133nm,2.0s
CAST **Castle Rocks** 74.82 18 P P 02 20 37.4 +0.3
baz=325,SNR=127
G30M **tAoh Zraii Nji** 74.88 11 P P 02 20 37.7 +0.3
baz=338,SNR=63
WRH **Wood River Hil** 74.90 16 IAmb IAmb 02 20 38.1
comp=Z,30nm,0.9s
ILAR **Eielson Array** 74.91 16 P P 02 20 37.0 -0.5
comp=Z,32nm,0.9s,baz=318,slow=4.4,SNR=157
ILAR pP pP 02 21 27.6 -0.6
comp=Z,5.7nm,0.9s,baz=315,slow=6.1,SNR=3.2
ILAR PP PP 02 23 27.9 +0.5
comp=Z,6.9nm,1.0s,baz=319,slow=6.9,SNR=4.7
comp=Z,32nm,0.9s
M17K **Holitna River** 74.97 22 P P 02 20 39.2 +1.3
baz=322,SNR=36
MTN **Manton Dam** 75.09 119 P P 02 20 38.1 -1.2
L19K **White Mountain** 75.09 20 IAmb IAmb 02 20 40.5
comp=Z,57nm,1.1s
L19K **White Mountain** 75.09 20 P P 02 20 39.2 +0.5
baz=324,SNR=26
N15K **Kwethluk River** 75.10 24 IAmb IAmb 02 20 41.3
comp=Z,65nm,0.9s
N15K **Kwethluk River** 75.10 24 P P 02 20 40.1 +1.4
baz=320,SNR=20
L20K **Farewell, AK** 75.12 20 P P 02 20 39.3 +0.5
baz=324,SNR=35
GENI **Genyem** 75.18 105 P P 02 20 39.9 0.0
GENI **Genyem** 75.18 105 P P 02 20 39.7 -0.2
comp=Z,3µmcomp=Z,188nm,1.0s
HDA **Harding Lake** 75.21 16 IAmb IAmb 02 20 39.5
comp=Z,36nm,1.0s
HDA **Harding Lake** 75.21 16 P P 02 20 38.4 -0.9
baz=329,SNR=25
I26K **Coal Creek Min** 75.21 14 IAmb IAmb 02 20 41.0
comp=Z,61nm,1.0s
I26K **Coal Creek Min** 75.21 14 P P 02 20 39.8 +0.6
baz=332
G31M **Satah River** 75.21 10 P P 02 20 39.6 +0.5
baz=339,SNR=37
PPLA **Purkeypile** 75.23 19 P P 02 20 39.6 0.0
baz=325,SNR=11
I27K **Kandik River** 75.24 13 P P 02 20 40.2 +0.7
baz=334,SNR=37
H29M **Whitestone** 75.25 12 P P 02 20 40.2 +0.7
baz=336,SNR=58
TRF **Thorofare Moun** 75.25 18 P P 02 20 39.2 -0.6
baz=327,SNR=13
N16K **Nishlik Lake** 75.28 23 P P 02 20 41.2 +1.5
baz=321,SNR=30
MCK **McKinley** 75.34 17 IAmb IAmb 02 20 41.1
comp=Z,42nm,1.0s
MCK **McKinley** 75.34 17 P P 02 20 39.4 -0.6
baz=328,SNR=13
EPYK **Eagle Plains** 75.37 11 IAmb IAmb 02 20 41.4
comp=Z,57nm,1.1s
EPYK **Eagle Plains** 75.37 11 P P 02 20 40.4 +0.2
baz=337,SNR=25
M18K **Stony River** 75.37 21 P P 02 20 40.6 +0.4
baz=323,SNR=18
J25K **Salcha River,** 75.38 15 IAmb IAmb 02 20 41.1
comp=Z,39nm,0.9s
J25K **Salcha River,** 75.38 15 P P 02 20 40.0 -0.3
baz=331,SNR=58
O14K **Tigyukauivet M** 75.41 25 P P 02 20 41.4 +1.0
baz=319,SNR=15.5
M19K **Big River Lodg** 75.45 20 P P 02 20 41.3 +0.6
baz=324,SNR=11
JAY **Jayapura** 75.55 104 P P 02 20 41.3 -0.7
comp=Z,33nm,1.2s
RND **Reindeer** 75.63 17 IAmb IAmb 02 20 42.2
comp=Z,70nm,1.1s
I28M **Miner Creek** 75.69 13 IAmb IAmb 02 20 43.3
comp=Z,54nm,0.9s
I28M **Miner Creek** 75.69 13 P P 02 20 42.3 +0.2
baz=335,SNR=51
N17K **Nushagak Hills** 75.73 22 IAmb IAmb 02 20 44.8
comp=Z,44nm,1.1s
N17K **Nushagak Hills** 75.73 22 P P 02 20 43.6 +1.4
baz=322,SNR=18
M20K **Styx River** 75.81 20 P P 02 20 42.5 -0.4
baz=325
J26L **Joseph Creek** 75.85 15 P P 02 20 43.2 +0.2
baz=332,SNR=68
KOOLE **Kule** 75.93 227 IAmb IAmb 02 20 45.6
comp=Z,26nm,0.8s
KDU **Kakadu** 75.93 118 P P 02 20 43.0 -1.1
O15K **Ungalikthiuk R** 75.95 24 IAmb IAmb 02 20 45.5
comp=Z,45nm,0.9s
O15K **Ungalikthiuk R** 75.95 24 P P 02 20 44.5 +1.0
baz=320,SNR=12
K24K **Donnelly Dome** 75.99 16 P P 02 20 43.4 -0.3
baz=330,SNR=71
N18K **Kilae Creek** 76.00 22 IAmb IAmb 02 20 46.0
comp=Z,61nm,1.5s
N18K **Kilae Creek** 76.00 22 P P 02 20 44.6 +0.8
baz=323,SNR=11
I29M **Ogilvie Camp,** 76.05 12 IAmb IAmb 02 20 45.1
comp=Z,74nm,1.1s
I29M **Ogilvie Camp,** 76.05 12 P P 02 20 44.0 0.0
baz=336,SNR=69
CUT **Chulitna** 76.13 18 IAmb IAmb 02 20 46.1
comp=Z,73nm,1.1s
CUT **Chulitna** 76.13 18 P P 02 20 43.7 -0.8
baz=327
SKT **Skwentna** 76.16 19 P P 02 20 44.2 -0.5
baz=326,SNR=67
O16K **Kokwok River B** 76.18 23 P P 02 20 46.0 +1.2
baz=321,SNR=44
SCRK **Sand Creek** 76.22 15 IAmb IAmb 02 20 46.6
comp=Z,65nm,1.0s
SCRK **Sand Creek** 76.22 15 P P 02 20 45.5 +0.3
baz=332,SNR=61
RIDG **Independent Ri** 76.25 15 IAmb IAmb 02 20 46.0
comp=Z,87nm,1.2s
RIDG **Independent Ri** 76.25 15 P P 02 20 45.0 -0.3
baz=331,SNR=38
H31M **Peel River** 76.25 10 P P 02 20 45.4 +0.2
baz=339,SNR=37
N19K **Bonanza Creek** 76.31 21 IAmb IAmb 02 20 47.5
comp=Z,47nm,1.2s
N19K **Bonanza Creek** 76.31 21 P P 02 20 46.0 +0.3
baz=324,SNR=16
O17K **Koliganek Bris** 76.36 23 P P 02 20 46.5 +0.8
baz=322,SNR=12
I30M **Mount Dempster** 76.49 11 P P 02 20 46.9 +0.2
baz=338,SNR=91
K27K **Chicken** 76.57 14 P P 02 20 47.7 +0.7
baz=333
N20K **Mount Spurr** 76.63 20 P P 02 20 47.0 -0.5
baz=326
SPCR **Spurr Chakacha** 76.63 20 P P 02 20 47.0 -0.5
baz=326
P16K **Nushagak River** 76.66 24 P P 02 20 47.9 +0.4
baz=322
M22K **Willow** 76.72 19 P P 02 20 47.1 -0.6
baz=327,SNR=12
PAX **Paxson** 76.79 16 IAmb IAmb 02 20 49.3
comp=Z,66nm,1.0s
PAX **Paxson** 76.79 16 P P 02 20 48.2 -0.1
baz=331,SNR=60
SUA **Susitna One** 76.80 19 IAmb IAmb 02 20 49.1
comp=Z,48nm,1.0s
SUA **Susitna One** 76.80 19 P P 02 20 48.0 -0.4
baz=327,SNR=32
O19K **Port Alsworth** 76.86 21 IAmb IAmb 02 20 50.2
comp=Z,59nm,1.1s
O19K **Port Alsworth** 76.86 21 P P 02 20 48.9 +0.3
baz=324
O18K **Koktuh Hills** 76.87 22 P P 02 20 49.4 +0.7
baz=324,SNR=17
J29N **Klondike Camp** 76.90 12 IAmb IAmb 02 20 50.7
comp=Z,57nm,1.0s
J29N **Klondike Camp** 76.90 12 P P 02 20 49.6 +0.7
baz=336,SNR=8.3
GHO **Glory Hole Cre** 77.01 18 IAmb IAmb 02 20 50.7
comp=Z,56nm,0.9s
P17K **Kvichak River** 77.02 23 P P 02 20 50.5 +1.0
baz=323,SNR=13
DAWY **Dawson** 77.04 13 IAmb IAmb 02 20 51.0
comp=Z,60nm,0.9s
DAWY **Dawson** 77.04 13 P P 02 20 49.8 +0.1
baz=336,SNR=75
J30M **Hart River** 77.10 12 IAmb IAmb 02 20 51.7
comp=Z,55nm,1.0s
J30M **Hart River** 77.10 12 P P 02 20 50.4 +0.3
baz=338,SNR=66
PMR **Palmer** 77.11 18 IAmb IAmb 02 20 50.8
comp=Z,41nm,0.9s
PMR **Palmer** 77.11 18 P P 02 20 49.5 -0.5
PMR **Palmer** 77.11 18 P P 02 20 49.7 -0.3
baz=328,SNR=10
MENT **Mentasta** 77.20 15 P P 02 20 51.2 +0.7
L26K **Log Cabin Wild** 77.20 15 IAmb IAmb 02 20 52.2
comp=Z,38nm,1.0s
L26K **Log Cabin Wild** 77.20 15 P P 02 20 51.0 +0.5
baz=332,SNR=33
P18K **Big Mountain,** 77.23 22 IAmb IAmb 02 20 52.3
comp=Z,60nm,0.8s
P18K **Big Mountain,** 77.23 22 P P 02 20 50.9 +0.1
baz=324,SNR=12
M23K **Glacier View** 77.29 18 P P 02 20 50.4 -0.6
baz=329,SNR=48
MEEK **Meekatharra** 77.29 137 P P 02 20 50.9 -0.6
SCM **Sheep Creek Mo** 77.35 17 P P 02 20 51.3 -0.1
baz=329,SNR=35
HARP **HAARP** 77.36 16 P P 02 20 52.3 +0.9
baz=331,SNR=38
Q16K **King Salmon** 77.36 23 P P 02 20 52.2 +0.8
baz=323,SNR=11
RC01 **Rabbit Creek A** 77.38 19 IAmb IAmb 02 20 52.2
comp=Z,53nm,1.0s
RC01 **Rabbit Creek A** 77.38 19 P P 02 20 51.0 -0.6
baz=328,SNR=23
M24K **Tolsona, Glenn** 77.39 17 P P 02 20 52.3 +0.7
baz=330,SNR=56
KNK **Knik Glacier** 77.43 18 P P 02 20 51.9 0.0
baz=329,SNR=22
O20K **Slope Mountain** 77.44 21 P P 02 20 51.5 -0.5
baz=326
UNV **Unalaska Valle** 77.44 31 P P 02 20 53.2 +1.2
baz=316
L27K **Beaver Creek,** 77.48 15 IAmb IAmb 02 20 54.0
comp=Z,46nm,0.9s
L27K **Beaver Creek,** 77.48 15 P P 02 20 52.9 +0.8
baz=334,SNR=60
BCAR **Beaver Creek A** 77.49 15 P P 02 20 52.8 +0.6
BOSA **Boshof** 77.53 220 P P 02 20 52.8 -0.1
comp=Z,29nm,0.8s,baz=31,slow=5.8,SNR=38
BOSA pP pP 02 21 43.3 -1.2
comp=Z,18nm,1.0s,baz=18,slow=7.4,SNR=3.4
comp=Z,29nm,0.8s
K29M **Barlow Dome** 77.58 12 IAmb IAmb 02 20 54.5
comp=Z,56nm,0.9s
K29M **Barlow Dome** 77.58 12 P P 02 20 53.5 +0.8
baz=337,SNR=69
P19K **Oil Pt** 77.62 21 P P 02 20 52.1 -0.8
baz=325
SLKM **Skilak Lake** 77.74 19 IAmb IAmb 02 20 54.0
comp=Z,44nm,1.0s
S12K **Black Hills** 77.81 27 P P 02 20 52.9 -1.1
baz=319
M26K **Nabesna, AK** 77.83 15 P P 02 20 54.4 +0.3
baz=333,SNR=24
O22K **Cooper Landing** 77.90 19 P P 02 20 54.1 -0.3
baz=328
Q18K **Katmai Hardscr** 77.90 22 P P 02 20 53.7 -0.8
baz=324,SNR=6.5
FALS **False Pass** 77.93 29 P P 02 20 54.8 +0.2
baz=318
PWL **Port Wells** 77.94 18 IAmb IAmb 02 20 55.5
comp=Z,47nm,0.8s
PWL **Port Wells** 77.94 18 P P 02 20 54.6 -0.1
baz=329,SNR=23
KLU **Klutina** 77.98 17 IAmb IAmb 02 20 57.0
comp=Z,66nm,0.9s
KLU **Klutina** 77.98 17 P P 02 20 55.5 +0.6
baz=331,SNR=51
MAYO **Mayo, Yukon** 78.08 12 P P 02 20 56.0 +0.6
baz=338
Q19K **Cape Douglas,** 78.09 22 P P 02 20 54.1 -1.4
baz=325
M27K **Edge Creek, AK** 78.11 15 P P 02 20 56.5 +0.8
baz=334,SNR=118
L29M **L29M** 78.15 13 IAmb IAmb 02 20 57.7
comp=Z,82nm,1.1s
L29M **L29M** 78.15 13 P P 02 20 56.5 +0.8
baz=337,SNR=56
N25K **Chitina, Valde** 78.19 16 IAmb IAmb 02 20 57.8
comp=Z,101nm,1.6s
N25K **Chitina, Valde** 78.19 16 P P 02 20 56.5 +0.5
baz=332,SNR=21
GLI **Glacier Island** 78.23 18 P P 02 20 56.1 -0.1
baz=330,SNR=33
BVCY **Beaver Creek** 78.26 14 P P 02 20 57.3 +0.9
baz=334,SNR=46
S14K **Fog Glacier** 78.28 26 P P 02 20 55.8 -0.8
baz=321
SEW **Seward** 78.29 19 IAmb IAmb 02 20 57.4
comp=Z,50nm,1.2s
SEW **Seward** 78.29 19 P P 02 20 56.0 -0.5
baz=328,SNR=6.2
PLK4 **Peulik 4** 78.30 24 IAmb IAmb 02 21 50.0
comp=Z,93nm,1.6s
R17L **Mt. Peulik Vol** 78.30 24 P P 02 20 55.9 -0.7
baz=323
DIV **Divide** 78.33 17 IAmb IAmb 02 20 58.2
comp=Z,61nm,0.9s
FID **Port Fidalgo** 78.49 18 IAmb IAmb 02 20 59.0
comp=Z,45nm,0.9s
CHGN **Chignik** 78.66 25 P P 02 20 57.7 -0.9
baz=322
SDPT **Sand Point** 78.67 27 P P 02 20 58.6 0.0
baz=320
M29M **Somme Creek** 78.70 13 IAmb IAmb 02 21 00.9
comp=Z,38nm,0.9s
M29M **Somme Creek** 78.70 13 P P 02 20 59.8 +0.9
baz=336,SNR=59
Q20K **Shuyak Island** 78.72 21 P P 02 20 58.2 -0.7
baz=326
MCARA **McCarthy VSAT** 78.74 16 IAmb IAmb 02 21 00.6
comp=Z,30nm,0.9s
MCARA **McCarthy VSAT** 78.74 16 P P 02 20 59.3 +0.4
baz=333,SNR=9.2
BMRM **Bremner River** 78.75 17 P P 02 20 59.6 +0.5
baz=332,SNR=34
VRDI **Verde Repeater** 78.78 16 IAmb IAmb 02 21 00.8
comp=Z,57nm,1.0s
HIN **Hinchinbrook I** 78.80 18 IAmb IAmb 02 21 00.8
comp=Z,45nm,1.0s
EYAK **Cordova Ski Ar** 78.85 17 P P 02 21 00.0 +0.5
EYAK **Cordova Ski Ar** 78.85 17 P P 02 21 00.1 +0.6
baz=331,SNR=26
M30M **Minto, Yukon** 78.88 13 P P 02 20 59.9 +0.1
baz=338,SNR=24
P23K **Montague Islan** 78.92 18 P P 02 21 00.3 +0.3
baz=330
YUK3 **Moose Creek** 78.92 15 P P 02 21 00.8 +0.6
baz=335,SNR=59
R18K **Karluk** 78.96 23 P P 02 20 59.2 -1.0
baz=324
BLKN **Baker Lake** 79.03 354 IAmb IAmb 02 21 01.6
comp=Z,58nm,0.9s
RAGM **Ragged Mountai** 79.25 17 IAmb IAmb 02 21 03.7
comp=Z,43nm,0.8s
CRQM **Cirque** 79.27 16 IAmb IAmb 02 21 03.6
comp=Z,55nm,1.0s
CRQE **Cirque** 79.28 16 P P 02 21 02.5 +0.4
baz=333,SNR=17
BARN **Barnard Glacie** 79.32 15 IAmb IAmb 02 21 04.2
comp=Z,70nm,1.2s
TGL **Tana Glacier** 79.34 16 IAmb IAmb 02 21 03.9
comp=Z,52nm,1.0s
KDAK **Kodiak Island** 79.35 22 P P 02 21 02.5 +0.2
KDAK **Kodiak Island** 79.35 22 *c i* P P 02 21 02.1 -0.2
KDAK pmax pmax
comp=Z,140nm,0.9s
KDAK **Kodiak Island** 79.35 22 P P 02 21 02.4 +0.1
baz=326
HMT **Hamilton** 79.39 17 IAmb IAmb 02 21 04.2
comp=Z,26nm,0.8s
CHNA **Chernabura Isl** 79.39 27 P P 02 21 02.5 -0.1
CHNA **Chernabura Isl** 79.39 27 P P 02 21 01.7 -0.9
baz=321,SNR=6.3
CNBA **Chernabura Isl** 79.40 27 IAmb IAmb 02 21 03.0
comp=Z,60nm,0.9s
CTG **Chitna Glacier** 79.48 15 P P 02 21 03.9 +0.8
baz=334,SNR=21
CTGM **Chitina Glacie** 79.48 15 IAmb IAmb 02 21 05.0
comp=Z,52nm,0.9s
YUK8 **Steele Glacier** 79.51 14 P P 02 21 03.8 +0.3
baz=336,SNR=9.2
ISLE **Juniper Island** 79.59 16 IAmb IAmb 02 21 05.1
comp=Z,39nm,1.0s
GRNC **Granite Creek** 79.60 16 IAmb IAmb 02 21 05.5
comp=Z,42nm,0.9s
OHAK **Old Harbor** 79.60 23 IAmb IAmb 02 21 05.0
comp=Z,62nm,1.0s
OHAK **Old Harbor** 79.60 23 P P 02 21 03.9 +0.2
OHAK **Old Harbor** 79.60 23 P P 02 21 03.9 +0.2
baz=325,SNR=18
WAX **Waxell Ridge** 79.61 16 IAmb IAmb 02 21 05.7
comp=Z,39nm,1.1s
M31M **Drury Creek, Y** 79.64 12 IAmb IAmb 02 21 05.3
comp=Z,50nm,0.9s
M31M **Drury Creek, Y** 79.64 12 P P 02 21 04.2 +0.4
baz=340,SNR=45
LOGN **Logan Glacier** 79.67 15 IAmb IAmb 02 21 05.9
comp=Z,53nm,0.9s
YUK4 **Talbot Arm** 79.68 14 P P 02 21 04.6 +0.3
baz=336,SNR=14
KAIM **Kayak Island** 79.71 17 IAmb IAmb 02 21 06.4
comp=Z,68nm,1.0s
KAIM **Kayak Island** 79.71 17 P P 02 21 05.1 +0.8
baz=332,SNR=7.4
MMPY **Sheldon Lake,** 79.72 10 P P 02 21 05.1 +0.8
baz=342,SNR=13
SUCK **Suckling Hills** 79.73 17 IAmb IAmb 02 21 06.8
comp=Z,87nm,1.2s
KUQ **Kuujjuuaa** 79.77 339 IAmb IAmb 02 21 05.5
comp=Z,46nm,1.0s
BGLC **Bering Glacier** 79.81 17 P P 02 21 06.1 +1.4
baz=333
SNH **Sunshine Point** 79.85 16 IAmb IAmb 02 21 07.5
comp=Z,74nm,1.0s
SII **Sitkinak Islan** 79.86 23 P P 02 21 05.3 +0.1
baz=325
N30M **Aishikik Lake** 79.86 13 IAmb IAmb 02 21 07.1
comp=Z,41nm,1.0s
N30M **Aishikik Lake** 79.86 13 P P 02 21 05.9 +0.8
baz=338,SNR=24
O28M **Mount Upton** 79.89 15 P P 02 21 06.0 +0.4
baz=335,SNR=14
YAH **Yahtse** 79.93 16 IAmb IAmb 02 21 07.4
comp=Z,42nm,0.9s
WRGLY **Wrigley** 80.03 6 P P 02 21 06.8 +0.9
baz=348
MESA **MESA** 80.05 16 IAmb IAmb 02 21 08.3
comp=Z,47nm,1.0s
MESA **MESA** 80.05 16 P P 02 21 07.1 +0.8
baz=334
N31M **Braeburn, Yuko** 80.07 13 IAmb IAmb 02 21 07.7
comp=Z,73nm,0.9s
N31M **Braeburn, Yuko** 80.07 13 P P 02 21 06.5 +0.3
baz=339,SNR=16
YUK6 **Outpost Mounta** 80.10 14 P P 02 21 07.1 +0.5
baz=337,SNR=12
HYT **Haines Junctio** 80.38 14 IAmb IAmb 02 21 09.9
comp=Z,57nm,0.9s
HYT **Haines Junctio** 80.38 14 P P 02 21 08.5 +0.6
baz=327,SNR=61
PINM **Pinnacle** 80.50 15 P P 02 21 09.2 +0.7
baz=335,SNR=23
MANU **Manus Island** 80.52 100 P P 02 21 08.7 -0.6
MANU IAmb IAmb 02 22 58.9
comp=Z,101nm,1.9s
O29M **Mount Kennedy** 80.65 14 P P 02 21 09.6 +0.1
baz=336,SNR=7.0
BCPM **Bancas Point** 80.75 15 IAmb IAmb 02 21 11.7
comp=Z,41nm,1.0s
N32M **Quiet Lake** 80.84 11 P P 02 21 09.8 -0.5
baz=341
WHY **Whitehorse** 81.00 12 IAmb IAmb 02 21 12.0
comp=Z,68nm,1.0s
WHY **Whitehorse** 81.00 12 P P 02 21 11.0 -0.2
baz=339,SNR=32
PNL **Peninsula** 81.06 15 P P 02 21 12.0 +0.5
PNL **Peninsula** 81.06 15 P P 02 21 12.1 +0.6
baz=336,SNR=18
P30M **Million Dollar** 81.13 14 P P 02 21 12.5 +0.6
baz=338,SNR=19
TGTN **Hyland Airport** 81.17 9 P P 02 21 13.3 +1.2
baz=345,SNR=15
YKAW3 **Yellowknife Wh** 81.25 2 IAmb IAmb 02 21 13.7
comp=Z,64nm,1.1s
YKA **Yellowknife Ar** 81.32 2 P P 02 21 12.6 -0.2
YKA **Yellowknife Ar** 81.32 2 P P 02 21 12.8 +0.1
comp=Z,26nm,0.8s,baz=349,slow=5.6,SNR=68
YKA pP pP 02 22 04.1 +0.1
comp=Z,6.4nm,0.7s,baz=354,slow=6.2,SNR=4.9
YKA PP PP 02 24 20.8 +0.2
comp=Z,6.4nm,0.9s,baz=356,slow=8.5,SNR=6.8
comp=Z,26nm,0.8s
YKA **Yellowknife Ar** 81.32 2 *i* P P 02 21 12.8 +0.1
YKA pmax pmax
comp=Z,27nm,0.8s
YKAW1 **Yellowknife Wh** 81.34 2 IAmb IAmb 02 21 14.1
comp=Z,78nm,1.1s
P29M **Windy Craggy** 81.44 14 P P 02 21 13.6 +0.1
baz=337,SNR=15
P33M **Teslin, Yukon** 81.78 12 P P 02 21 15.4 +0.1
baz=341,SNR=66
PLBC **Pleasant Camp** 81.86 14 P P 02 21 16.3 +0.7
baz=338,SNR=54
SKAG **Skagway** 82.05 13 IAmb IAmb 02 21 18.6
comp=Z,63nm,1.0s
SKAG **Skagway** 82.05 13 P P 02 21 17.5 +0.9
SKAG **Skagway** 82.05 13 P P 02 21 17.5 +0.9
baz=339,SNR=12
SCHQ **Schefferville** 82.06 337 P P 02 21 16.5 -0.3
comp=Z,9.0nm,0.8s,baz=35,slow=5.1,SNR=10
comp=Z,9.0nm,0.8s
WRA **Warramunga Arr** 82.17 122 P P 02 21 16.3 -1.6
WRA **Warramunga Arr** 82.17 122 P P 02 21 16.1 -1.6
comp=Z,35nm,0.8s,baz=323,slow=5.1,SNR=225
WRA pP pP 02 22 08.1 -1.7
comp=Z,3.9nm,0.6s,baz=322,slow=5.0,SNR=2.5
comp=Z,35nm,0.8s
WRA **Warramunga Arr** 82.17 122 *i* P P 02 21 16.2 -1.6
WRA pmax pmax
comp=Z,36nm,0.8s
WRAB **Tennant Creek** 82.17 122 P P 02 21 16.3 -1.5
WRAB IAmb IAmb 02 21 17.3
comp=Z,50nm,0.9s
WRAB **Tennant Creek** 82.17 122 *c i* P P 02 21 16.0 -1.8
WRAB pmax pmax
comp=Z,60nm,0.9s
P32M **Atlin** 82.21 12 IAmb IAmb 02 21 18.9
comp=Z,49nm,1.1s
P32M **Atlin** 82.21 12 P P 02 21 17.8 +0.2
baz=340,SNR=16
WTLY **Watson Lake, Y** 82.47 10 IAmb IAmb 02 21 20.1
comp=Z,53nm,1.0s
WTLY **Watson Lake, Y** 82.47 10 P P 02 21 19.1 +0.3
baz=344,SNR=8.9
SUR **Sutherland** 82.84 221 P P 02 21 21.7 +0.5
SUR **Sutherland** 82.84 221 P P 02 21 21.5 +0.3
R33M **Jennings River** 82.85 11 IAmb IAmb 02 21 22.4
comp=Z,46nm,0.9s
R33M **Jennings River** 82.85 11 P P 02 21 21.3 +0.3
baz=343,SNR=52
BESE **Bessie Mountai** 82.96 13 IAmb IAmb 02 21 23.4
comp=Z,38nm,0.9s
KOTAN **Kotaneelee Air** 83.02 7 P P 02 21 22.1 +0.5
baz=348
Q32M **Nakina River** 83.05 12 IAmb IAmb 02 21 23.6

	comp=Z,44nm,1.1s								
Q32M	**Nakina River**	**83.05**	**12**	P		**P**	**02 21 22.4**	**+0.3**	
	baz=342,SNR=31								
S31K	**Pelican**	**83.28**	**14**	P		**P**	**02 21 23.8**	**+0.8**	
	baz=338								
R32K	**Eaglecrest**	**83.31**	**13**	IAmb		IAmb	02 21 25.3		
	comp=Z,37nm,1.1s								
R32K	**Eaglecrest**	**83.31**	**13**	P		**P**	**02 21 24.2**	**+1.0**	
	baz=340,SNR=25								
JIS	**Juneau Island**	**83.33**	**13**	P		**P**	**02 21 24.0**	**+0.8**	
LIRD	**Liard River Hi**	**83.50**	**9**	P		**P**	**02 21 24.8**	**+0.8**	
	baz=346								
DLBC	**Dease Lake**	**83.91**	**11**	P		**P**	**02 21 26.8**	**+0.5**	
	baz=343,SNR=31								
S32K	**Killisnoo**	**84.06**	**13**	P		**P**	**02 21 27.4**	**+0.6**	
	baz=340								
TOAD	**Toad River Com**	**84.14**	**8**	P		**P**	**02 21 27.7**	**+0.3**	
	baz=347,SNR=46								
S34M	**Telegraph Cree**	**84.24**	**12**	P		**P**	**02 21 28.9**	**+1.1**	
	baz=342,SNR=59								
SIT	**Sitka**	**84.30**	**14**	IAmb		IAmb	02 21 30.1		
	comp=Z,28nm,0.9s								
SIT	**Sitka**	**84.30**	**14**	P		**P**	**02 21 29.6**	**+1.5**	
SIT	**Sitka**	**84.30**	**14**	P		**P**	**02 21 29.1**	**+1.0**	
	baz=339								
ASAR	**Alice Springs**	**84.42**	**125**	P		**P**	**02 21 28.1**	**-1.1**	
ASAR	**Alice Springs**	**84.42**	**125**	P		**P**	**02 21 27.7**	**-1.6**	
	comp=Z,30nm,0.9s,baz=320,slow=5.3,SNR=159								
ASAR				pP		**pP**	**02 22 19.3**	**-2.4**	
	comp=Z,6.1nm,0.7s,baz=310,slow=5.3,SNR=4.4								
ASAR				S		**SKSac**	**02 31 26.2**	**-6.8**	
	comp=Z,0.2nm,0.4s,baz=316,slow=10,SNR=4.1								
	comp=Z,30nm,0.9s								
ASAR	**Alice Springs**	**84.42**	**125**	P		**P**	**02 21 28.1**	**-1.1**	
AS01	**Alice Springs**	**84.45**	**125**	P		**P**	**02 21 27.9**	**-1.5**	
COEN	**Coen**	**84.61**	**112**	IAmb		IAmb	02 21 30.0		
	comp=Z,32nm,0.8s								
COEN	**Coen**	**84.61**	**112**	P		**P**	**02 21 29.4**	**-0.9**	
PMG	**Port Moresby**	**84.83**	**106**	*ceP*		**P**	**02 21 29.8**	**-1.6**	
PMG				pmax		pmax			
	comp=Z,63nm,1.2s								
T33K	**Petersburg**	**84.97**	**13**	P		**P**	**02 21 32.5**	**+1.0**	
	baz=341								
T35M	**Bob Quinn**	**85.27**	**11**	IAmb		IAmb	02 21 35.1		
	comp=Z,29nm,0.9s								
T35M	**Bob Quinn**	**85.27**	**11**	P		**P**	**02 21 34.2**	**+1.1**	
	baz=343,SNR=11								
WRAK	**Wrangell Islan**	**85.46**	**13**	IAmb		IAmb	02 21 35.7		
	comp=Z,29nm,0.8s								
WRAK	**Wrangell Islan**	**85.46**	**13**	P		**P**	**02 21 34.5**	**+0.7**	
	baz=342,SNR=9.0								
U33K	**Whale Pass**	**85.61**	**13**	P		**P**	**02 21 35.3**	**+0.7**	
	baz=341								
CRAG	**Craig**	**86.22**	**13**	P		**P**	**02 21 38.2**	**+0.5**	
	baz=341								
QIS	**Mount Isa**	**86.25**	**119**	P		**P**	**02 21 36.4**	**-1.9**	
MTSU	**Mount Surprise**	**88.10**	**114**	P		**P**	**02 21 46.8**	**-0.4**	
FFC	**Flin Flon**	**88.99**	**356**	P		**P**	**02 21 50.5**	**-0.4**	
FFC				IAmb		IAmb	02 21 52.1		
	comp=Z,30nm,1.1s								
FFC	**Flin Flon**	**88.99**	**356**	P		**P**	**02 21 50.5**	**-0.4**	
FFC				pmax		pmax			
	comp=Z,30nm,1.1s								
CTA	**Charters Tower**	**90.74**	**114**	P		**P**	**02 21 58.0**	**-1.5**	
CTAO	**Charters Tower**	**90.74**	**114**	P		**P**	**02 21 58.4**	**-1.1**	
CTAO				IAmb		IAmb	02 21 59.2		
	comp=Z,25nm,0.8s								
CTAO	**Charters Tower**	**90.74**	**114**	P		**P**	**02 21 58.1**	**-1.5**	
CTAO	**Charters Tower**	**90.74**	**114**	P		**P**	**02 21 58.4**	**-1.1**	
CTAO				pmax		pmax			
	comp=Z,25nm,0.8s								
LLLB	**Lillooet**	**92.62**	**8**	IAmb		IAmb	02 22 09.7		
	comp=Z,25nm,1.1s								
ULM	**Lac du Bonnet**	**92.88**	**351**	P		**P**	**02 22 07.5**	**-1.4**	
	comp=Z,10.0nm,1.0s,baz=357,slow=2.7,SNR=10								
	comp=Z,10.0nm,1.0s								
QLP	**Quilpie**	**93.36**	**121**	P		**P**	**02 22 10.2**	**-1.3**	
EYMN	**Ely**	**94.50**	**348**	IAmb		IAmb	02 23 31.8		
	comp=Z,21nm,1.1s								
AGMN	**Agassiz Nation**	**94.79**	**351**	IAmb		IAmb	02 22 19.2		
	comp=Z,17nm,1.2s								
STKA	**Stephens Creek**	**94.95**	**126**	P		**P**	**02 22 16.7**	**-1.9**	
	comp=Z,2.1nm,0.6s,baz=359,slow=6.1,SNR=4.0								
	comp=Z,2.1nm,0.6s								
DGMT	**Dagmar**	**95.35**	**357**	IAmb		IAmb	02 22 22.2		
	comp=Z,22nm,1.1s								
NEW	**Newport**	**95.39**	**5**	IAmb		IAmb	02 22 21.9		
	comp=Z,11nm,1.0s								
GNW	**Green Mountain**	**95.51**	**9**	IAmb		IAmb	02 22 23.0		
	comp=Z,13nm,1.1s								
NLWA	**Neilton Lookou**	**95.54**	**10**	IAmb		IAmb	02 22 23.7		
	comp=Z,11nm,0.9s								
E38A	**The Farm, Brul**	**95.81**	**348**	IAmb		IAmb	02 22 23.4		
	comp=Z,12nm,1.1s								
EGMT	**Eagleton**	**95.92**	**0**	IAmb		IAmb	02 22 24.2		
	comp=Z,18nm,1.1s								
MXC	**Moxie City**	**96.78**	**8**	IAmb		IAmb	02 22 28.2		
	comp=Z,14nm,1.0s								
G40A	**Rib Lake**	**96.86**	**347**	IAmb		IAmb	02 23 42.0		
	comp=Z,14nm,1.2s								
E28A	**Huff**	**97.00**	**354**	IAmb		IAmb	02 23 43.2		
	comp=Z,15nm,0.9s								
E09A	**Wood Farm, Sta**	**97.05**	**6**	IAmb		IAmb	02 22 29.3		
	comp=Z,9.5nm,1.1s								
DLMT	**Dillon**	**98.53**	**2**	IAmb		IAmb	02 26 36.0		
	comp=Z,6.1nm,0.8s								
RLMT	**Red Lodge**	**98.82**	**360**	IAmb		IAmb	02 23 30.7		
	comp=Z,8.4nm,1.3s								
YNE	**Yellowstone No**	**98.93**	**0**	IAmb		IAmb	02 22 39.3		
	comp=Z,7.7nm,1.1s								
PDAR	**Pinedale Array**	**101.17**	**0**	PP		**PP**	**02 26 53.2**	**-3.8**	
	comp=Z,1.0nm,0.9s,baz=345,slow=7.6,SNR=5.5								
NVAR	**Mina Array Bea**	**105.05**	**7**	Pdiff		**Pdif**	**02 23 04.7**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=344,slow=3.2,SNR=5.7								
SYO	**Syowa Base**	**107.62**	**191**	*e*Pdiff		**Pdif**	**02 23 19.2**	**+4.9**	
TXAR	**Lajitas Array**	**114.36**	**355**	PKP		**PKiKP**	**02 27 35.0**	**-0.3**	
	comp=Z,0.3nm,0.7s,baz=60,slow=3.7,SNR=4.3								
TXAR				PKKPbc		**PKKPbc**	**02 38 14.4**	**-0.4**	
	comp=Z,1.0nm,1.0s,baz=232,slow=6.1,SNR=4.1								
TROLL	**Troll, Antarti**	**117.96**	**199**	⇑P		**PKPdf**	**02 27 40.1**	**-0.6**	
	comp=Z,465nm,0.8s								
SNAA	**Sanae**	**119.25**	**200**	⇑P		**PKPdf**	**02 27 42.4**	**-0.8**	
	comp=Z,74nm,0.7s								
SNAA	**Sanae**	**119.25**	**200**			**PKPdf**	**02 27 41.9**	**-1.3**	
SNAA	**Sanae**	**119.25**	**200**	PKP		**PKPdf**	**02 27 41.3**	**-1.8**	
	comp=Z,4.1nm,0.9s,baz=136,slow=0.9,SNR=14								
SNAA	**Sanae**	**119.25**	**200**	PKIKP		**PKPdf**	**02 27 41.9**	**-1.3**	
DIAM	**Diamantina, MG**	**120.03**	**269**	*eP*		**PKiKP**	**02 27 47.1**	**+0.7**	
VNA1	**Neumayer--Stat**	**120.40**	**202**	⇑P		**PKPdf**	**02 27 44.5**	**-0.8**	
	comp=Z,10nm,0.9s								
VNA3	**Neumayer Olymp**	**121.05**	**202**	⇑P		**PKPdf**	**02 27 45.4**	**-1.2**	
	comp=Z,7.3nm,0.6s								
ITTB	**Itaituba**	**121.48**	**290**	*eP*		**PKiKP**	**02 27 49.4**	**+0.1**	
PMNB	**Patos De Minas**	**122.39**	**270**	*eP*		**PKPdf**	**02 27 48.2**	**-2.7**	
VNDA	**Vanda**	**125.50**	**165**	PKP		**PKPdf**	**02 27 53.6**	**-1.3**	
	comp=Z,1.7nm,0.8s,baz=285,slow=3.0,SNR=14								
PET01	**Itanhaem-SP**	**125.94**	**265**	*eP*		**PKiKP**	**02 27 57.8**	**+0.1**	
QSPA	**South Pole Qui**	**126.23**	**180**			**PKPdf**	**02 27 56.5**	**-0.2**	
QSPA	**South Pole Qui**	**126.23**	**180**	PKP		**PKPdf**	**02 27 55.5**	**-1.2**	
	comp=Z,12nm,0.9s,baz=273,slow=1.5,SNR=32								
QSPA				pPKP		**pPKPdf**	**02 28 50.5**	**-1.6**	
	comp=Z,11nm,1.0s,baz=269,slow=2.6,SNR=5.0								
PDRB	**Porto dos Gac**	**126.75**	**284**	*eP*		**PKPdf**	**02 27 58.2**	**-1.1**	
TEFE	**Tefe**	**127.47**	**298**	*eP*		**PKPdf**	**02 27 60.0**	**-0.6**	
ROSC	**El Rosal**	**127.50**	**314**			**PKPdf**	**02 28 01.2**	**0.0**	
ROSC	**El Rosal**	**127.50**	**314**	PKP		**PKPdf**	**02 28 00.3**	**-0.9**	
	comp=Z,28nm,1.1s,baz=120,slow=0.2,SNR=7.6								
ROSC	**El Rosal**	**127.50**	**314**	PKIKP		**PKPdf**	**02 28 01.2**	**0.0**	
SALV	**Santo Antonio**	**128.41**	**279**	*eP*		**PKiKP**	**02 28 03.2**	**+0.2**	
TBTG	**Tabatinga, AM**	**131.63**	**302**	*eP*		**PKPdf**	**02 28 08.4**	**-0.1**	
BBSD	**Serra de San D**	**133.03**	**281**	*eP*		**PKPdf**	**02 28 11.2**	**+0.2**	
CPSB	**Cacapava Do Su**	**133.52**	**261**	*eP*		**PKPdf**	**02 28 11.8**	**+0.2**	
OTAV	**Otavalo**	**133.62**	**315**	*eP*		**PKPdf**	**02 28 13.0**	**+0.1**	
CPUP	**Villa Florida**	**134.96**	**268**	PKP		**PKPdf**	**02 28 12.7**	**-1.7**	
	comp=Z,1.2nm,0.7s,baz=251,slow=3.6,SNR=9.7								
CPUP				SKPbc		**SKPbc**	**02 31 22.4**	**-2.6**	
	comp=Z,1.1nm,0.9s,baz=308,slow=2.4,SNR=5.0								
CPUP	**Villa Florida**	**134.96**	**268**	*eP*		**PKPdf**	**02 28 15.1**	**+0.7**	
LPAZ	**La Paz**	**138.39**	**288**	PKP		**PKPdf**	**02 28 19.7**	**-2.1**	
	comp=Z,1.4nm,0.8s,baz=52,slow=6.4,SNR=5.8								
LPAZ				PP		**PP**	**02 31 11.5**	**-2.4**	
	comp=Z,2.1nm,1.0s,baz=49,slow=4.5,SNR=3.6								
LPAZ				SKPbc		**SKPbc**	**02 31 34.0**	**-2.3**	
	comp=Z,2.1nm,0.8s,baz=35,slow=4.8,SNR=5.0								
LPAZ	**La Paz**	**138.39**	**288**	*eP*		**PKPdf**	**02 28 21.0**	**-0.8**	
ACLC	**CERRO LA CRUZ**	**143.99**	**269**	*eP*		PKPab	02 28 27.6	-1.3	
PB10	**IPOC Station P**	**144.28**	**280**			**PKPab**	**02 28 28.9**	**-1.1**	
ACHE	**Chepes**	**144.38**	**266**	*eP*		**PKPab**	**02 28 28.6**	**-1.8**	
AC02	**Maricunga**	**144.69**	**274**	*eP*		**PKPab**	**02 28 31.8**	**-0.2**	
VCA	**Vinchina**	**144.73**	**271**	⇑*eP*		PKPbc	02 28 31.5	-0.2	
VCA				*eP*		**PKPab**	**02 28 31.8**	**+0.1**	
AVFE	**Valle Fertil**	**144.85**	**267**	*eP*		PKPbc	02 28 31.1	-0.8	
AGUA	**GUANDACOL**	**145.25**	**270**	*eP*		**PKPdf**	**02 28 31.8**	**-1.2**	
ACDV	**Cuesta del Vie**	**146.01**	**269**	*eP*		**PKPdf**	**02 28 33.7**	**-0.7**	
ACCO	**Cerro Coronel**	**146.12**	**268**	*eP*		**PKPdf**	**02 28 34.0**	**-0.7**	
AROD	**Rodeo**	**146.30**	**269**	⇑*eP*		**PKPab**	**02 28 37.9**	**0.0**	
ASAL	**Salagasta**	**146.60**	**265**	*eP*		**PKPdf**	**02 28 35.3**	**+0.1**	
RTLS	**Leoncito**	**146.72**	**266**	⇓*eP*		**PKPdf**	**02 28 36.6**	**+0.9**	
AAGR	**Agrelo**	**146.74**	**264**	*eP*		**PKPdf**	**02 28 36.0**	**+0.5**	
ARCO	**CERRO ARCO**	**146.75**	**264**	*eP*		**PKPbc**	**02 28 36.9**	**-0.7**	
LCO	**Las Campanas**	**146.85**	**272**			**PKPdf**	**02 28 36.0**	**0.0**	
LCO	**Las Campanas**	**146.85**	**272**	PKIKP		**PKPdf**	**02 28 36.0**	**0.0**	
PLCA	**Paso Flores**	**149.57**	**250**	PKPbc		**PKPbc**	**02 28 43.9**	**-0.7**	
	comp=Z,14nm,0.8s,baz=155,slow=3.6,SNR=20								
PLCA	**Paso Flores**	**149.57**	**250**	*eP*		**PKPdf**	**02 28 39.7**	**-0.1**	
GO09	**Cerro Castillo**	**149.86**	**229**	PKPbc		**PKPbc**	**02 28 44.5**	**-0.3**	
COYC	**Coyhaique**	**150.68**	**240**			**PKPbc**	**02 28 45.8**	**-1.1**	

*IDC **16** 02:30:46.8±0.8,50°.61N×101°.83W,h0km,mb3.4/2, mbtmp3.8/10,ML3.7/6,MS2.9/2,Error ellipse: s-maj=12.4km s-min=7.5km az=172.0*
*PGC **16** 02:30:46.5,50°.60N×101°.74W,h1km,ML4.1/3, mb4.1(NEIC),25km east of Esterhazy, Sk Manitoba, Canada*
*NEIC **16** 02:30:46.3±2.2,50°.68N±0°.02×101°.8W±0°.1,h5km±2km, mb4.0/43,Error ellipse: s-maj=11.9km s-min=3.3km az=271.0*

ISC 16 02:30:45.5±0.5,50°.75N±0°.04×101°.68W±0°.04,h10km, n115,σ2§73/112,mb3.9/4,Manitoba

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
DGMT	**Dagmar**	**2.81**	**217**			**Pn**		**02 31 31.0**	**+0.5**
MDND	**Maddock**	**3.21**	**154**			**Pn**		**02 31 39.1**	**+3.1**
ULM	**Lac du Bonnet**	**3.74**	**95**	Pn		**Pn**		**02 31 46.7**	**+3.5**
	5.4nm,0.3s,baz=279,slow=11,SNR=24								
ULM				Lg		Lg		02 32 44.7	
	21nm,0.3s,baz=359,slow=20,SNR=9.6								
ULM	**Lac du Bonnet**	**3.74**	**95**	Pn		**Pn**		**02 31 45.8**	**+2.6**
ULM				Sg		**Sb**		**02 32 43.9**	**+7.0**
FFC	**Flin Flon**	**3.98**	**357**			**Pn**		**02 31 50.3**	**+3.7**
FFC	**Flin Flon**	**3.98**	**357**	Pn		**Pn**		**02 31 50.0**	**+3.4**
FFC				Pg		**Pb**		**02 31 59.8**	**+4.0**
FFC				Sg		**Sg**		**02 32 53.8**	**+0.4**
E28A	**Huff**	**4.23**	**171**			**Pn**		**02 31 52.3**	**+2.3**
AGMN	**Agassiz Nation**	**4.51**	**121**			**Pn**		**02 31 57.0**	**+3.1**
AGMN	**Agassiz Nation**	**4.51**	**121**	Pn		**Pn**		**02 31 55.3**	**+1.4**
AGMN				Pg		**Pb**		**02 32 06.4**	**+1.6**
AGMN				Sg		**Sb**		**02 33 05.5**	**+6.3**
LAO	**LASA Array**	**5.06**	**218**			**Pn**		**02 32 01.8**	**+0.4**
EPLO	**Experimental L**	**5.22**	**99**			**Pn**		**02 32 06.7**	**+3.1**
EPLO	**Experimental L**	**5.22**	**99**	Pn		**Pn**		**02 32 05.8**	**+2.3**
EPLO				Sn		**Sn**		**02 33 03.4**	**-0.4**
EGMT	**Eagleton**	**5.94**	**246**			**Pn**		**02 32 13.9**	**+0.4**
F33A	**5 Mile Ranch,**	**6.09**	**142**			**Pn**		**02 32 17.7**	**+2.2**
SOLO	**Sioux Lookout**	**6.18**	**93**	Pn		**Pn**		**02 32 18.4**	**+1.6**
SOLO				Sn		**Sn**		**02 33 26.0**	**-1.5**
SUSD	**Miller**	**6.57**	**163**			**Pn**		**02 32 23.8**	**+1.6**
MKRVA	**Milk River, Al**	**6.71**	**260**	Pn		**Pn**		**02 32 24.0**	**-0.2**
MKRVA				Sn		**Sn**		**02 33 35.6**	**-5.1**
MKRVA				Sg		**Sb**		**02 34 09.9**	**+7.4**
ATKO	**Atikokan Iron**	**6.80**	**103**	Pn		**Pn**		**02 32 27.2**	**+1.8**
ATKO				Sn		**Sn**		**02 33 42.1**	**-0.7**
ATKO				Sg		**Sg**		**02 34 18.9**	**-4.9**
RSSD	**Black Hills**	**6.82**	**194**			**Pn**		**02 32 26.4**	**+0.6**
PKLO	**Pickle Lake**	**7.17**	**80**	Pn		**Pn**		**02 32 31.3**	**+1.0**
PKLO				Sn		**Sn**		**02 33 51.1**	**-0.7**
EYMN	**Ely**	**7.22**	**109**			**Pn**		**02 32 32.9**	**+1.9**
EYMN	**Ely**	**7.22**	**109**	Pn		**Pn**		**02 32 32.0**	**+0.9**
EYMN				Sn		**Sn**		**02 33 49.6**	**-3.4**
RLMT	**Red Lodge**	**7.59**	**225**			**Pn**		**02 32 36.9**	**+0.5**
ECSD	**EROS Data Cent**	**7.82**	**152**			**Pn**		**02 32 40.3**	**+1.0**
HSPGA	**Hill Springs,**	**7.83**	**264**	Pn		**Pn**		**02 32 37.9**	**-1.7**
E38A	**The Farm, Brul**	**7.88**	**118**			**Pn**		**02 32 42.1**	**+2.0**
LYMT	**Lyon Mountain**	**7.95**	**246**			**Pn**		**02 32 41.0**	**-0.4**
LYMT	**Lyon Mountain**	**7.95**	**246**	Pn		**Pn**		**02 32 39.8**	**-1.6**
YNE	**Yellowstone No**	**8.02**	**227**			**Pn**		**02 32 41.7**	**-0.6**
SPMN	**Marine on St.**	**8.12**	**129**			**Pn**		**02 32 45.1**	**+1.7**
TBO	**Thunder Bay**	**8.23**	**100**	Pn		**Pn**		**02 32 46.1**	**+1.2**
TBO				Sn		**Sn**		**02 34 15.3**	**-2.6**
OVMT	**Ovando**	**8.32**	**248**	Pn		**Pn**		**02 32 44.9**	**-1.4**
YBMT	**Yellow Bay**	**8.56**	**255**	Pn		**Pn**		**02 32 48.2**	**-1.3**
JTMT	**Jette**	**8.78**	**255**			**Pn**		**02 32 51.9**	**-0.6**
JTMT	**Jette**	**8.78**	**255**	Pn		**Pn**		**02 32 51.3**	**-1.2**
BSMT	**Bassoo Peak**	**9.04**	**256**	Pn		**Pn**		**02 32 55.1**	**-1.2**
FCC	**Fort Churchill**	**9.14**	**26**	Pn		**Pn**		**02 33 00.2**	**+2.9**
GTOO	**Geraldton**	**9.48**	**90**	Pn		**Pn**		**02 33 02.9**	**+0.8**
GTOO				Sn		**Sn**		**02 34 44.5**	**-4.2**
COWI	**Conover**	**9.54**	**114**	Pn		**Pn**		**02 33 04.2**	**+1.2**
PDAR	**Pinedale Array**	**9.64**	**217**			**Pn**		**02 33 00.4**	**-4.0**
PDAR	**Pinedale Array**	**9.64**	**217**	Pn		**Pn**		**02 33 03.8**	**-0.7**
	2.1nm,0.5s,baz=46,slow=13,SNR=16								
PDAR				Lg		Lg		02 35 37.0	
	1.7nm,0.3s,baz=16,slow=34,SNR=3.7								
PDAR				LR		LR		02 37 31.7	
	comp=Z,35nm,20.0s,baz=258,slow=43								
PNPO	**Pukaskwa Natio**	**10.21**	**96**	Pn		**Pn**		**02 33 13.5**	**+1.5**
PNPO				Sn		**Sn**		**02 35 02.5**	**-4.0**
NEW	**Newport**	**10.35**	**262**			**Pn**		**02 33 12.2**	**-1.8**
NEW	**Newport**	**10.35**	**262**	Pn		**Pn**		**02 33 12.0**	**-1.9**
	0.4nm,0.3s,baz=34,slow=12,SNR=5.3								
NEW				Lg		Lg		02 36 03.0	
	1.6nm,0.3s,baz=157,slow=23,SNR=5.8								
	1.5nm,0.5s								
PLID	**Pearl Lake**	**11.15**	**245**			**Pn**		**02 33 24.2**	**-0.9**
H43A	**Windswept, Lux**	**11.29**	**118**			**Pn**		**02 33 26.6**	**-0.2**
ISCO	**Idaho Springs**	**11.29**	**196**			**Pn**		**02 33 26.4**	**-0.7**
WTMTA	**White Mountain**	**11.62**	**302**	Pn		**Pn**		**02 33 29.5**	**-1.9**
WTMTA				Sn		**Sn**		**02 35 34.2**	**-6.8**
B08A	**Colville Reser**	**11.71**	**265**	Pn		**Pn**		**02 33 29.4**	**-3.3**
KAPO	**Kapuskasing**	**12.38**	**89**	Pn		**Pn**		**02 33 40.6**	**-1.0**
KAPO				Sn		Sn		02 35 53.2	-6.3
G08A	**Pilot Rock**	**12.78**	**251**			**Pn**		**02 33 45.9**	**-1.4**
P40A	**Paris**	**13.10**	**145**			**Pn**		**02 33 50.5**	**-1.1**
PV22	**Blue Mesa, Par**	**13.21**	**205**			**Pn**		**02 33 53.2**	**-0.1**
PV18	**Skein Mesa, Pa**	**13.52**	**205**			**Pn**		**02 33 55.8**	**-1.7**
YKAW1	**Yellowknife Wh**	**13.67**	**334**			**Pn**		**02 33 58.4**	**-0.8**
YKAW1	**Yellowknife Wh**	**13.67**	**334**	Pn		**Pn**		**02 33 58.3**	**-0.8**
YKAW1				Sn		Sn		02 36 22.2	-8.8
YKA	**Yellowknife Ar**	**13.71**	**334**			**Pn**		**02 33 59.1**	**-0.6**
YKA	**Yellowknife Ar**	**13.71**	**334**	Pn		**Pn**		**02 33 59.3**	**-0.5**
	0.7nm,0.3s,baz=144,slow=12,SNR=12								
YKA				Sn		**Sn**		**02 36 23.9**	**-8.0**
	0.5nm,0.3s,baz=136,slow=21,SNR=4.6								
YKA				Lg		Lg		02 37 49.7	
	baz=144,slow=28								
	6.5nm,0.9s								
ELK	**Elko**	**13.75**	**229**	Pn		**Pn**		**02 33 59.8**	**-0.9**
	0.1nm,0.3s,baz=8.3,slow=4.6,SNR=3.2								
	0.3nm,0.3s								
YKAW3	**Yellowknife Wh**	**13.77**	**334**			**Pn**		**02 33 59.4**	**-1.1**
YKAW3	**Yellowknife Wh**	**13.77**	**334**	Pn		**Pn**		**02 33 59.6**	**-0.9**
YKAW3				Sn		Sn		02 36 25.1	-8.2
SUBO	**Sudbury**	**14.18**	**99**	Pn		**Pn**		**02 34 04.0**	**-2.3**
T35A	**Sooner Cattle**	**14.32**	**163**			**Pn**		**02 34 06.2**	**-2.1**
MSU	**Marysvale**	**14.32**	**215**			**Pn**		**02 34 07.4**	**-1.0**
KILO	**Kirkland Lake**	**14.40**	**90**	Pn		**Pn**		**02 34 07.3**	**-2.0**
KILO				Sn		Sn		02 36 38.7	-10
I49A	**Point Hope**	**14.46**	**111**	Pn		**Pn**		**02 34 07.5**	**-2.7**
SAKN	**Sanikiluaq**	**14.48**	**58**	Sn		**Sn**		**02 36 44.7**	**-6.0**
FNSB	**Fort Nelson**	**14.53**	**312**	Sn		Sn		02 36 42.8	-9.1
TOBO	**Tobermory, Bru**	**14.57**	**104**	Pn		**Pn**		**02 34 09.1**	**-2.4**
CCM	**Cathedral Cave**	**14.70**	**146**			**Pn**		**02 34 11.2**	**-2.2**
BMRO	**Meriville Lake**	**15.07**	**106**	Pn		**Pn**		**02 34 16.0**	**-2.4**
MGMO	**Mountain Grove**	**15.17**	**150**			**Pn**		**02 34 16.6**	**-3.2**
U38A	**Gravette**	**15.24**	**157**			**Pn**		**02 34 17.0**	**-3.6**
KLBO	**Killbear Provi**	**15.31**	**102**	Pn		**Pn**		**02 34 18.5**	**-3.1**
RLO	**Rose Lookout**	**15.35**	**159**			**Pn**		**02 34 19.5**	**-2.6**
BWLO	**Walkerton**	**15.37**	**108**	Pn		**Pn**		**02 34 18.5**	**-3.9**
K05A	**Summer Lake**	**15.39**	**246**	IAmb		IAmb		02 34 31.0	
	comp=Z,9.3nm,1.0s								
KIPQ	**Kipawa,Quebec**	**15.41**	**96**	Pn		**Pn**		**02 34 19.8**	**-3.1**
TUL3	**Leonard**	**15.43**	**162**			**Pn**		**02 34 20.4**	**-2.8**
HHAR	**Hobbs**	**15.50**	**156**	IAmb		IAmb		02 34 51.0	
	comp=Z,6.8nm,0.6s								
O48B	**Farmland**	**15.59**	**126**	IAmb		IAmb		02 34 34.8	
	comp=Z,16nm,0.8s								
CLWO	**Collingwood**	**15.71**	**105**	Pn		**Pn**		**02 34 23.5**	**-3.3**
SIUC	**Southern Illin**	**15.77**	**141**	IAmb		IAmb		02 34 37.8	
	comp=Z,14nm,0.7s								
S44A	**Carbondale**	**15.77**	**141**	IAmb		IAmb		02 34 37.5	
	comp=Z,16nm,0.8s								
BUKO	**Buck Lake**	**15.78**	**101**	IAmb		IAmb		02 34 27.9	
	comp=Z,5.5nm,0.8s								
BUKO	**Buck Lake**	**15.78**	**101**	Pn		**Pn**		**02 34 24.4**	**-3.2**
CGM3	**Cape Girardeau**	**15.96**	**143**	IAmb		IAmb		02 34 41.9	
	comp=Z,5.6nm,0.7s								
VLDQ	**Val d'Or**	**15.96**	**90**	IAmb		IAmb		02 34 29.0	
	comp=Z,6.3nm,0.9s								
VLDQ	**Val d'Or**	**15.96**	**90**	Pn		Pn		02 34 24.7	-5.2
O49A	**Covington**	**16.07**	**124**	IAmb		IAmb		02 34 42.1	
	comp=Z,14nm,0.5s								
PBMO	**Poplar Bluff**	**16.13**	**146**	IAmb		IAmb		02 34 53.0	
	comp=Z,9.0nm,1.0s								
SADO	**Sadowa**	**16.26**	**103**	Pn		**Pn**		**02 34 30.8**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=311,slow=10,SNR=5.8								
SADO				Sn		Sn		02 37 23.5	-11
	comp=Z,0.6nm,0.3s,baz=42,slow=16,SNR=4.0								
	comp=Z,3.6nm,0.7s								
SADO	**Sadowa**	**16.26**	**103**	Pn		**Pn**		**02

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**4.48**	**285**		**Pn**	**03 20 09.4**	**+0.9**
FUTU	**Fugatoga**	**4.48**	**285**	P	**Pn**	**03 20 10.1**	**+1.6**
NIUE	**Niue**	**5.00**	**135**		**Pn**	**03 20 15.3**	**-0.2**
NIUE	**Niue**	**5.00**	**135**	P	**Pn**	**03 20 15.2**	**-0.2**
NIUE				S	**Sn**	**03 21 09.1**	**-3.1**
LKBA	**Tubou, Lakemba**	**5.60**	**241**	P	Pn	03 20 28.0	+4.3
TAVE	**Taveuni**	**6.11**	**258**	P	Pn	03 20 34.6	+4.1
DGTI	**Dogotuki**	**6.39**	**262**	P	**Pn**	**03 20 37.6**	**+3.2**
MSVF	**Nonsavu**	**8.23**	**254**		Pn	03 21 04.3	+4.8
MSVF	**Nonsavu**	**8.23**	**254**	P	Pn	03 21 04.2	+4.7
RAR	**Rarotonga**	**14.33**	**115**		**Pn**	**03 22 20.9**	**-0.1**
RAR	**Rarotonga**	**14.33**	**115**	Pn	**Pn**	**03 22 19.7**	**-1.3**
	1.9nm,0.3s,baz=325,slow=20,SNR=2.9						
RAR				LR	LR	03 26 42.0	
	comp=Z,78nm,21.7s,baz=302,slow=32						
	16nm,0.6s						
RAR	**Rarotonga**	**14.33**	**115**	P	**P**	**03 22 24.5**	**-0.6**
VLAKA	**Lakatoro**	**18.21**	**266**	P	**Pn**	**03 23 09.5**	**+0.4**
SANVU	**Saraoutou**	**18.44**	**268**	P	**Pn**	**03 23 11.3**	**-0.5**
SANVU	**Saraoutou**	**18.44**	**268**	P	**Pn**	**03 23 12.8**	**+1.0**
PINNC	**Pines Island,**	**19.17**	**246**		**P**	**03 23 18.3**	**-0.2**
PINNC	**Pines Island,**	**19.17**	**246**	P	**Pn**	**03 23 19.9**	**-0.6**
OUENC	**Ouen Island, N**	**19.65**	**247**	P	**Pn**	**03 23 24.9**	**-1.1**
DZM	**Mont Dzumac**	**19.90**	**248**		**P**	**03 23 26.2**	**-0.4**
DZM	**Mont Dzumac**	**19.90**	**248**	*eP*	**P**	**03 23 24.9**	**-1.7**
	249nm,1.2s						
DZM				*eS*	**S**	**03 26 58.8**	**-6.6**
	158nm,26.8s						
DZM				*eLR*	LR	03 28 16.1	
	867nm,31.2s						
DZM	**Mont Dzumac**	**19.90**	**248**	P	**P**	**03 23 25.2**	**-1.4**
	0.9nm,0.3s,baz=70,slow=20,SNR=16						
DZM				LR	LR	03 29 25.8	
	comp=Z,346nm,21.0s,baz=26,slow=32						
	22nm,0.9s						
DZM	**Mont Dzumac**	**19.90**	**248**	P	**Pn**	**03 23 27.8**	**-1.3**
ONTNC	**Ouen Toro**	**19.96**	**247**		**P**	**03 23 25.5**	**-1.6**
ONTNC	**Ouen Toro**	**19.96**	**247**	P	**Pn**	**03 23 29.7**	**0.0**
KUZ	**Kuaotunu**	**23.12**	**202**	P	**P**	**03 24 02.2**	**+2.0**
PPT	**Papeete**	**23.17**	**98**	LR	LR	03 31 20.9	
	comp=Z,36nm,18.6s,baz=297,slow=32						
PPT2	**Papeete2**	**23.17**	**98**	*eP*	**P**	**03 24 00.5**	**-0.5**
	93nm,31.2s						
PPT2				*eLR*	LR	03 29 34.2	
	311nm,42.2s						
PPT2				*eLR*	LR	03 29 46.1	
	1µm,44.5s						
XMAS	**Kiritimati**	**23.73**	**44**	P	**P**	**03 24 05.5**	**-0.5**
XMAS	**Kiritimati**	**23.73**	**44**	P	**P**	**03 24 06.7**	**+0.8**
URZ	**Urewera**	**24.04**	**198**	LR	LR	03 32 50.2	
	comp=Z,77nm,19.4s,baz=16,slow=35						
TBI	**Tubuai**	**24.08**	**113**	*eP*	**P**	**03 24 06.5**	**-2.5**
	504nm,36.2s						
TBI				*eS*	**S**	**03 28 17.6**	**-1.9**
	278nm,20.5s						
TBI				*eLR*	LR	03 29 51.0	
	805nm,29.5s						
TBI				*eLR*	LR	03 30 03.3	
	2µm,32.0s						
TOZ	**Tahuroa Road**	**24.08**	**201**		**P**	**03 24 11.2**	**+2.4**
TOZ				IAmb	IAmb	03 24 12.2	
	comp=Z,45nm,1.2s						
HNR	**Honiara**	**26.46**	**280**	LR	LR	03 33 31.1	
	comp=Z,78nm,19.6s,baz=130,slow=34						
BFZ	**Birch Farm**	**26.53**	**197**	P	**P**	**03 24 33.1**	**+2.1**
QRZ	**Quartz Range**	**27.89**	**203**	P	**P**	**03 24 43.9**	**+0.7**
THZ	**Tophouse**	**28.58**	**201**	P	**P**	**03 24 49.6**	**+0.3**
THZ				IAmb	IAmb	03 25 18.2	
	comp=Z,25nm,1.1s						
INZ	**Inchbonnie**	**29.94**	**202**		**P**	**03 25 01.0**	**-0.4**
TAOE	**Nuku Hiva Isla**	**33.40**	**82**	*eP*	P	03 25 26.4	-5.7
	comp=Z,39nm,26.6s						
TAOE				*eLR*	LR	03 34 24.6	
	comp=Z,333nm,27.5s						
ARMA	**Armidale**	**35.04**	**239**		**P**	**03 25 45.3**	**-0.9**
ARMA	**Armidale**	**35.04**	**239**	P	**P**	**03 25 45.1**	**-1.2**
	comp=Z,23nm,0.8s						
ARMA	**Armidale**	**35.04**	**239**	P	**P**	**03 25 46.4**	**+0.2**
CTAO	**Charters Tower**	**38.36**	**257**	P	**P**	**03 26 13.3**	**-1.1**
CNB	**Canberra Magne**	**38.45**	**232**	P	**P**	**03 26 14.2**	**-0.9**
	comp=Z,45nm,1.1s						
CNB	**Canberra Magne**	**38.45**	**232**	P	**P**	**03 26 15.2**	**+0.1**
PMG	**Port Moresby**	**38.69**	**274**	LR	LR	03 41 38.5	
	comp=Z,30nm,18.1s,baz=122,slow=36						
CAN	**Canberra**	**38.73**	**232**		**P**	**03 26 16.2**	**-1.2**
CAN	**Canberra**	**38.73**	**232**	P	**P**	**03 26 14.1**	**-3.3**
CAN	**Canberra**	**38.73**	**232**	P	**P**	**03 26 17.8**	**+0.4**
H11S2	**WAKE ISLAND Hy**	**38.96**	**330**	T	T	04 06 50.0	
	baz=146,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**38.98**	**330**	T	T	04 06 53.8	
	baz=146,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**38.98**	**330**	T	T	04 06 49.4	
	baz=146,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**39.92**	**331**	T	T	04 07 59.9	
	baz=148,slow=76,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**39.92**	**331**	T	T	04 08 01.0	
	baz=148,slow=76,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**39.94**	**331**	T	T	04 08 02.6	
	baz=148,slow=76,SNR=9.8						
MTSU	**Mount Surprise**	**40.24**	**260**	P	**P**	**03 26 29.2**	**-0.9**
	comp=Z,63nm,0.8s						
MTSU	**Mount Surprise**	**40.24**	**260**	P	**P**	**03 26 30.1**	**0.0**
CMSA	**Cobar Meteorol**	**40.26**	**239**	P	**P**	**03 26 29.3**	**-0.7**
	comp=Z,31nm,1.0s						
CMSA	**Cobar Meteorol**	**40.26**	**239**	P	**P**	**03 26 30.3**	**+0.3**
QLP	**Quilpie**	**40.62**	**247**	P	**P**	**03 26 30.9**	**-2.2**
	comp=Z,17nm,0.9s						
QLP	**Quilpie**	**40.62**	**247**	P	**P**	**03 26 32.7**	**-0.4**
COEN	**Coen**	**41.72**	**266**	P	**P**	**03 26 41.9**	**-0.3**
COEN	**Coen**	**41.72**	**266**	P	**P**	**03 26 41.8**	**-0.3**
	comp=Z,52nm,1.0s						
COEN	**Coen**	**41.72**	**266**	P	**P**	**03 26 42.4**	**+0.2**
TOO	**Toolangi**	**42.17**	**231**		**P**	**03 26 45.2**	**-0.5**
TOO	**Toolangi**	**42.17**	**231**	P	**P**	**03 26 45.2**	**-0.5**
BRAT	**Ballarat**	**43.33**	**231**	P	**P**	**03 26 55.3**	**+0.3**
STKA	**Stephens Creek**	**43.74**	**240**		**P**	**03 26 58.0**	**-0.4**
STKA	**Stephens Creek**	**43.74**	**240**	P	**P**	**03 26 57.5**	**-0.8**
	comp=Z,97nm,1.4s						
STKA	**Stephens Creek**	**43.74**	**240**	P	**P**	**03 26 57.0**	**-1.3**
	comp=Z,16nm,1.1s,baz=86,slow=11,SNR=11						
STKA				LR	LR	03 42 41.6	
	comp=Z,39nm,21.5s,baz=28,slow=33						
	comp=Z,16nm,1.1s						
STKA	**Stephens Creek**	**43.74**	**240**	P	**P**	**03 26 58.5**	**+0.1**
QIS	**Mount Isa**	**44.59**	**256**	P	**P**	**03 27 03.8**	**-1.5**
	comp=Z,9.4nm,0.9s						
QIS	**Mount Isa**	**44.59**	**256**	P	**P**	**03 27 04.1**	**-1.2**
ARPS	**Mount Arapiles**	**44.70**	**233**	P	**P**	**03 27 05.0**	**-0.9**
	comp=Z,14nm,1.1s						
HTT	**Hallett**	**46.25**	**238**	P	**P**	**03 27 17.5**	**-0.8**
	comp=Z,6.6nm,1.0s						
HTT	**Hallett**	**46.25**	**238**	P	**P**	**03 27 18.8**	**+0.5**
JAY	**Jayapura**	**46.77**	**281**	P	**P**	**03 27 22.3**	**-0.3**
	comp=Z,17nm,1.1s						
WHYH	**Whyalla**	**47.29**	**239**	P	**P**	**03 27 26.5**	**+0.2**
WRAB	**Tennant Creek**	**49.55**	**257**	P	**P**	**03 27 42.2**	**-1.7**
WRA	**Warramunga Arr**	**49.56**	**257**	P	**P**	**03 27 41.8**	**-2.1**
WRA	**Warramunga Arr**	**49.56**	**257**	P	**P**	**03 27 42.0**	**-2.0**
	comp=Z,27nm,0.9s,baz=91,slow=7.7,SNR=168						
WRA				PcP	**PcP**	**03 29 04.0**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=94,slow=3.5,SNR=5.7						
WRA				LR	LR	03 46 48.4	
	comp=Z,120nm,18.8s,baz=58,slow=34						
	comp=Z,27nm,0.9s						
AS01	**Alice Springs**	**49.78**	**252**	P	**P**	**03 27 44.8**	**-0.8**
AS31	**Alice Springs**	**49.82**	**252**	P	**P**	**03 27 44.9**	**-1.0**
AS31	**Alice Springs**	**49.82**	**252**	P	**P**	**03 27 44.5**	**-1.4**
	comp=Z,30nm,0.9s						
ASAR	**Alice Springs**	**49.82**	**252**		**P**	**03 27 44.5**	**-1.5**
ASAR	**Alice Springs**	**49.82**	**252**	P	**P**	**03 27 44.6**	**-1.3**
	comp=Z,60nm,0.5s,baz=88,slow=7.8,SNR=758						
ASAR				PcP	**PcP**	**03 29 05.2**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=97,slow=4.6,SNR=4.8						
ASAR				LR	LR	03 46 57.6	
	comp=Z,129nm,21.4s,baz=103,slow=34						
GUMO	**Guam**	**50.20**	**303**	LR	LR	03 43 25.4	
	comp=Z,22nm,21.0s,baz=94,slow=30						
KDU	**Kakadu**	**52.20**	**266**	P	**P**	**03 28 02.6**	**-1.2**
	comp=Z,30nm,0.8s						
KDU	**Kakadu**	**52.20**	**266**	P	**P**	**03 28 03.2**	**-0.6**
MTN	**Manton Dam**	**53.47**	**265**	P	**P**	**03 28 11.7**	**-1.5**
MTN	**Manton Dam**	**53.47**	**265**	P	**P**	**03 28 11.6**	**-1.5**
	comp=Z,37nm,0.9s						
MTN	**Manton Dam**	**53.47**	**265**	P	**P**	**03 28 12.0**	**-1.1**
KNRA	**Kununurra**	**55.29**	**262**	P	**P**	**03 28 24.9**	**-1.4**
KNRA	**Kununurra**	**55.29**	**262**	P	**P**	**03 28 24.9**	**-1.4**
	comp=Z,18nm,0.8s						
SWI	**Sorong**	**56.24**	**280**	P	**P**	**03 28 32.7**	**-0.4**
	comp=Z,53nm,1.2s						
FITZ	**Fitzroy Crossi**	**57.93**	**258**	P	**P**	**03 28 43.4**	**-1.6**
	comp=Z,2.3nm,1.7s						
FITZ	**Fitzroy Crossi**	**57.93**	**258**	LR	LR	03 50 59.1	
	comp=Z,147nm,21.7s,baz=102,slow=33						
FITZ	**Fitzroy Crossi**	**57.93**	**258**	P	**P**	**03 28 44.2**	**-0.8**
RPN	**Rapa Nui**	**60.47**	**113**	LR	LR	03 50 21.9	
	comp=Z,21nm,20.1s,baz=347,slow=31						
SOEI	**Soe**	**60.67**	**267**	P	**P**	**03 29 04.5**	**+0.4**
SOEI	**Soe**	**60.67**	**267**	P	**P**	**03 29 05.1**	**+1.0**
SOEI	**Soe**	**60.67**	**267**	P	**P**	**03 29 04.6**	**+0.5**
	comp=Z,84nm,0.9s						
BATI	**Baumata**	**61.15**	**267**	LR	LR	03 53 34.5	
	comp=Z,92nm,18.4s,baz=142,slow=34						
PSA00	**Pilbara Seismi**	**62.92**	**253**	P	**P**	**03 29 17.6**	**-1.3**
PSA00	**Pilbara Seismi**	**62.92**	**253**	P	**P**	**03 29 17.6**	**-1.3**
	comp=Z,30nm,0.9s						
VNDA	**Vanda**	**63.20**	**186**	P	**P**	**03 29 22.9**	**+3.0**
	comp=Z,5.5nm,1.0s,baz=3.7,slow=6.6,SNR=22						
	comp=Z,5.5nm,1.0s						
EDFI	**Ende, Flores**	**63.37**	**268**	P	**P**	**03 29 20.6**	**-1.6**
	comp=Z,53nm,0.9s						
KAPI	**Kappang**	**66.12**	**271**	LR	LR	03 55 41.7	
	comp=Z,36nm,21.4s,baz=88,slow=34						
NIKH	**Nikolski High**	**68.37**	**3**	P	**P**	**03 29 53.6**	**+0.4**
	baz=185						
MJAR	**Matsushiro Arr**	**68.89**	**320**	P	**P**	**03 29 55.0**	**-1.9**
	comp=Z,2.1nm,0.6s,baz=157,slow=6.6,SNR=4.3						
MJAR				LR	LR	03 57 57.4	
	comp=Z,6.6nm,18.3s,baz=127,slow=34						
	comp=Z,2.1nm,0.6s						
UNV	**Unalaska Valle**	**69.39**	**5**	P	**P**	**03 29 59.7**	**+0.1**
	baz=187						
CHNA	**Chernabura Isl**	**71.12**	**9**	P	**P**	**03 30 09.7**	**-0.4**
	baz=194						
SDPT	**Sand Point**	**71.50**	**8**	P	**P**	**03 30 11.5**	**-0.8**
	baz=193						
ASAJ	**Asahikawa**	**71.53**	**328**	P	**P**	**03 30 12.5**	**-0.3**
	comp=Z,12nm,1.1s,baz=243,slow=28,SNR=4.6						
	comp=Z,12nm,1.1s						
SAO	**San Andreas Ge**	**71.62**	**42**	IAmb	IAmb	03 30 16.0	
	comp=Z,16nm,1.0s						
S12K	**Black Hills**	**71.65**	**7**	P	**P**	**03 30 12.5**	**-0.8**
	baz=192						
P08K	**Saint George I**	**71.96**	**2**	P	**P**	**03 30 14.3**	**-0.8**
	baz=184						
SPIA	**Saint Paul Isl**	**72.51**	**2**	P	**P**	**03 30 18.0**	**-0.4**
	baz=184						
S14K	**Fog Glacier**	**72.54**	**8**	P	**P**	**03 30 18.3**	**-0.3**
	baz=194						
TPO	**Tropico Hills**	**72.67**	**45**	IAmb	IAmb	03 30 21.7	
	comp=Z,11nm,0.9s						
PETK	**Petropavlovsk-**	**72.70**	**342**	P	**P**	**03 30 19.4**	**-0.2**
	comp=Z,6.5nm,0.8s,baz=129,slow=8.5,SNR=6.2						
	comp=Z,6.5nm,0.8s						
CHGN	**Chignik**	**72.72**	**9**	P	**P**	**03 30 19.4**	**-0.2**
	baz=195						
O02D	**Mt. Diablo Mer**	**72.86**	**38**	IAmb	IAmb	03 30 23.4	
	comp=Z,9.5nm,0.9s						
ISA	**Isabella, Lake**	**72.94**	**44**	IAmb	IAmb	03 30 23.9	
	comp=Z,8.4nm,1.0s						
CMB	**Columbia Colle**	**73.05**	**41**	IAmb	IAmb	03 30 24.1	
	comp=Z,11nm,0.8s						
PFO	**Pinyon Flats O**	**73.21**	**47**	LR	LR	03 54 57.3	
	comp=Z,73nm,20.8s,baz=214,slow=30						
AFDM	**Forest Hills D**	**73.22**	**40**	IAmb	IAmb	03 30 25.5	
	comp=Z,9.7nm,1.0s						
LPIG	**La Paz**	**73.34**	**58**	LR	LR	03 53 43.5	
	comp=Z,44nm,20.3s,baz=220,slow=28						
LRMC	**Laurel Mtn Rad**	**73.38**	**45**	IAmb	IAmb	03 30 26.3	
	comp=Z,5.7nm,0.7s						
SII	**Sitkinak Islan**	**73.67**	**11**	P	**P**	**03 30 25.4**	**+0.2**
	baz=200						
BELC	**Belle Mtn. Jos**	**73.74**	**47**	IAmb	IAmb	03 30 28.5	
	comp=Z,13nm,1.4s						
MPMC	**Manual Prospec**	**73.83**	**44**	IAmb	IAmb	03 30 29.2	
	comp=Z,8.7nm,0.8s						
YBH	**Yreka Blue Hor**	**73.88**	**37**	IAmb	IAmb	03 30 29.5	
	comp=Z,12nm,0.8s						
GSC	**Goldstone, Bar**	**73.88**	**45**	IAmb	IAmb	03 30 29.1	
	comp=Z,6.7nm,0.9s						
WAKR	**Walker**	**73.93**	**41**	IAmb	IAmb	03 30 29.8	
	comp=Z,11nm,0.7s						
BC3	**Big Chuckawall**	**73.95**	**48**	IAmb	IAmb	03 30 29.9	
	comp=Z,12nm,1.5s						
DSP	**Deep Springs**	**74.23**	**43**	IAmb	IAmb	03 30 31.6	
	comp=Z,5.5nm,1.1s						
R17L	**Mt. Peulik Vol**	**74.31**	**10**	P	**P**	**03 30 29.0**	**0.0**
	baz=197						
PIX	**Pinacate**	**74.33**	**50**	IAmb	IAmb	03 30 33.0	
	comp=Z,11nm,1.1s						
LHV	**Little Huntoon**	**74.38**	**42**	IAmb	IAmb	03 30 32.4	
	comp=Z,13nm,0.9s						
IRM	**Iron Mountain**	**74.43**	**47**	IAmb	IAmb	03 30 32.8	
	comp=Z,13nm,1.3s						
GWY	**Grenwater Val**	**74.45**	**45**	IAmb	IAmb	03 30 32.2	
	comp=Z,5.8nm,0.7s						
OHAK	**Old Harbor**	**74.46**	**11**	P	**P**	**03 30 29.5**	**-0.2**
	baz=200						
FURC	**Furnace Creek,**	**74.47**	**44**	IAmb	IAmb	03 30 32.5	
	comp=Z,8.9nm,0.7s						
QSPA	**South Pole Qui**	**74.49**	**180**	P	**P**	**03 30 33.4**	**+3.2**
QSPA				IAmb	IAmb	03 30 34.8	
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**74.49**	**180**	P	**P**	**03 30 33.6**	**+3.5**
	comp=Z,14nm,1.0s,baz=39,slow=1.6,SNR=29						
	comp=Z,14nm,1.0s						
SHOC	**Shoshone, Teco**	**74.56**	**45**	IAmb	IAmb	03 30 32.9	
	comp=Z,10nm,0.8s						
R18K	**Karluk**	**74.57**	**11**	P	**P**	**03 30 30.3**	**-0.1**
	baz=199						
RYN	**Ryan**	**74.58**	**42**	IAmb	IAmb	03 30 33.3	
	comp=Z,11nm,0.9s						
NVAR	**Mina Array Bea**	**74.61**	**42**	P	**P**	**03 30 32.7**	**+1.3**
NVAR	**Mina Array Bea**	**74.61**	**42**	P	**P**	**03 30 32.6**	**+1.2**
	comp=Z,12nm,0.8s,baz=227,slow=10,SNR=101						
	comp=Z,12nm,0.8s						
PAHR	**Pah Rah Range**	**74.66**	**40**	IAmb	IAmb	03 30 33.8	
	comp=Z,7.9nm,0.9s						
GMN	**Gold Mountain**	**74.66**	**44**	IAmb	IAmb	03 30 33.9	
	comp=Z,13nm,0.8s						
214A	**Organ Pipe Nat**	**75.01**	**50**	IAmb	IAmb	03 30 36.2	
	comp=Z,17nm,1.5s						
KDAK	**Kodiak Island**	**75.12**	**12**	P	**P**	**03 30 33.4**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=200,slow=5.6,SNR=7.5						
KDAK				LR	LR	03 55 42.0	
	comp=Z,37nm,21.8s,baz=194,slow=30						
	comp=Z,8.0nm,0.8s						
KDAK	**Kodiak Island**	**75.12**	**12**	P	**P**	**03 30 33.4**	**-0.2**
	baz=201						
TPNV	**Topopah Spring**	**75.15**	**44**	IAmb	IAmb	03 30 36.3	
	comp=Z,6.7nm,0.9s						
O14K	**Tigvukauivet M**	**75.22**	**7**	P	**P**	**03 30 34.2**	**+0.1**
	baz=192						
Q16K	**King Salmon**	**75.27**	**9**	P	**P**	**03 30 33.7**	**-0.7**
	baz=197						
O15K	**Ungalikthiuk R**	**75.32**	**7**	P	**P**	**03 30 34.3**	**-0.4**
	baz=194						
P16K	**Nushagak River**	**75.42**	**8**	P	**P**	**03 30 35.0**	**-0.2**
	baz=196						
Q18K	**Katmai Hardscr**	**75.50**	**10**	P	**P**	**03 30 35.7**	**-0.2**
	baz=198						
J05D	**Fort Rock, OR**	**75.69**	**37**	IAmb	IAmb	03 30 39.9	
	comp=Z,11nm,1.0s						
P17K	**Kvichak River**	**75.80**	**9**	P	**P**	**03 30 37.6**	**+0.2**
	baz=197						
N14K	**Kuskokwak Cree**	**75.84**	**6**	P	**P**	**03 30 37.6**	**0.0**
	baz=192						
S11A	**Rachel**	**75.86**	**44**	IAmb	IAmb	03 30 40.6	
	comp=Z,9.3nm,0.9s						
M11K	**Mekoryuk**	**75.91**	**4**	P	**P**	**03 30 38.5**	**+0.5**
	baz=187						
Q20K	**Shuyak Island**	**75.93**	**11**	P	**P**	**03 30 38.1**	**-0.1**
	baz=201						
O16K	**Kokwok River B**	**75.95**	**8**	P	**P**	**03 30 37.8**	**-0.5**
	baz=195						
Q19K	**Cape Douglas,**	**76.00**	**11**	P	**P**	**03 30 38.5**	**-0.1**
	baz=200						
KSRS	**Korea Array**	**76.09**	**316**	P	**P**	**03 30 38.8**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=123,slow=5.6,SNR=7.5						
KSRS				LR	LR	03 57 40.1	
	comp=Z,6µm,21.8s,baz=45,slow=31						
	comp=Z,2.6nm,0.7s						
M13K	**Dall Lake**	**76.16**	**5**	P	**P**	**03 30 39.3**	**-0.1**
	baz=190						
P18K	**Big Mountain,**	**76.18**	**10**	P	**P**	**03 30 39.4**	**-0.2**
	baz=198						
PRN	**Pahroc Range**	**76.20**	**44**	IAmb	IAmb	03 30 43.1	
	comp=Z,9.0nm,1.0s						
N15K	**Kwethluk River**	**76.25**	**7**	P	**P**	**03 30 39.9**	**-0.1**
	baz=193						
O17K	**Koliganek Bris**	**76.26**	**9**	P	**P**	**03 30 40.1**	**+0.1**
	baz=196						
O18K	**Koktuh Hills**	**76.62**	**9**	P	**P**	**03 30 42.0**	**-0.1**
	baz=198						
M14K	**Bethel**	**76.62**	**6**	P	**P**	**03 30 42.4**	**+0.3**
	baz=192						
TUC	**Tucson**	**76.69**	**51**	P	**P**	**03 30 44.6**	**+1.4**
M15K	**Kasigluk River**	**76.70**	**7**	P	**P**	**03 30 42.3**	**-0.2**
	baz=193,SNR=7.4						
N16K	**Nishlik Lake**	**76.71**	**8**	P	**P**	**03 30 42.7**	**+0.1**
	baz=195						
WVOR	**Wild Horse Val**	**76.71**	**39**	IAmb	IAmb	03 30 45.3	
	comp=Z,11nm,1.1s						
P19K	**Oil Pt**	**76.76**	**10**	P	**P**	**03 30 42.5**	**-0.4**
	baz=200						
N17K	**Nushagak Hills**	**76.97**	**8**	P	**P**	**03 30 44.4**	**+0.4**
	baz=196						
O19K	**Port Alsworth**	**77.09**	**10**	P	**P**	**03 30 44.7**	**0.0**
	baz=199						
L14K	**Kuka Creek**	**77.14**	**5**	P	**P**	**03 30 45.2**	**+0.3**
	baz=191						
M16K	**Timber Creek**	**77.22**	**7**	IAmb	IAmb	03 30 47.8	
	comp=Z,11nm,0.8s						
M16K	**Timber Creek**	**77.22**	**7**	P	**P**	**03 30 45.4**	**0.0**
	baz=194,SNR=5.6						
O20K	**Slope Mountain**	**77.27**	**11**	P	**P**	**03 30 46.2**	**+0.4**
	baz=201						
N18K	**Kilae Creek**	**77.30**	**9**	P	**P**	**03 30 46.0**	**+0.1**
	baz=198						
J08A	**Circle Bar Ran**	**77.35**	**38**	IAmb	IAmb	03 30 48.8	
	comp=Z,9.2nm,1.1s						
319A	**Douglas**	**77.39**	**52**	IAmb	IAmb	03 30 50.0	
	comp=Z,10.0nm,1.0s						
CCUT	**Cedar City**	**77.42**	**45**	IAmb	IAmb	03 30 50.1	
	comp=Z,6.7nm,1.0s						
KNB	**Kanab**	**77.52**	**46**	IAmb	IAmb	03 30 50.1	
	comp=Z,7.6nm,1.0s						
RED	**Redoubt Volcan**	**77.56**	**10**	IAmb	IAmb	03 30 50.0	
	comp=Z,12nm,0.8s						
L15K	**Ungalak Mounta**	**77.58**	**6**	P	**P**	**03 30 47.4**	**+0.1**
	baz=192						
U15A	**North Rim**	**77.59**	**46**	IAmb	IAmb	03 30 51.3	
	comp=Z,7.7nm,1.0s						
PSUT	**Pine Spring**	**77.60**	**44**	IAmb	IAmb	03 30 50.4	
	comp=Z,7.4nm,0.7s						
SZCU	**Shurtz Canyon**	**77.63**	**45**	IAmb	IAmb	03 30 51.1	
	comp=Z,7.2nm,0.9s						
N19K	**Bonanza Creek**	**77.65**	**9**	IAmb	IAmb	03 30 48.4	
	comp=Z,9.6nm,0.8s						
N19K	**Bonanza Creek**	**77.65**	**9**	P	**P**	**03 30 47.8**	**-0.1**
	baz=199						
M17K	**Holitna River**	**77.78**	**8**	IAmb	IAmb	03 30 50.5	
	comp=Z,11nm,0.8s						
M17K	**Holitna River**	**77.78**	**8**	P	**P**	**03 30 48.8**	**+0.2**
	baz=196,SNR=5.9						
L16K	**Owhat River**	**77.83**	**7**	IAmb	IAmb	03 30 50.8	
	comp=Z,7.1nm,0.9s						
L16K	**Owhat River**	**77.83**	**7**	P	**P**	**03 30 49.1**	**+0.4**
	baz=194						
ELK	**Elko**	**77.87**	**41**	IAmb	IAmb	03 30 51.7	
	comp=Z,7.2nm,0.9s						
SEW	**Seward**	**77.89**	**12**	P	**P**	**03 30 49.4**	**+0.2**
	baz=204						
Q23K	**Middleton Isla**	**77.95**	**14**	P	**P**	**03 30 49.5**	**0.0**
	baz=207						
PKCU	**Pink Cliffs**	**78.09**	**46**	IAmb	IAmb	03 30 54.1	
	comp=Z,12nm,0.9s						
M18K	**Stony River**	**78.09**	**9**	P	**P**	**03 30 50.3**	**+0.1**
	baz=198						
BBB	**Bella Bella**	**78.14**	**27**	LR	LR	03 58 48.2	
	comp=Z,43nm,18.2s,baz=222,slow=31						
K15K	**Wolf Creek Mou**	**78.18**	**6**	IAmb	IAmb	03 30 53.0	
	comp=Z,13nm,0.9s						
K15K	**Wolf Creek Mou**	**78.18**	**6**	P	**P**	**03 30 51.1**	**+0.4**
	baz=192						
G08A	**Pilot Rock**	**78.21**	**36**	P	**P**	**03 30 52.1**	**+0.7**
P23K	**Montague Islan**	**78.23**	**13**	P	**P**	**03 30 51.4**	**+0.4**
	baz=206						
L17K	**Donlin**	**78.38**

	comp=Z,9.7nm,1.0s						
J18K	**Innoko River**	79.86	8	IAmb	IAmb	03 31 02.1	
	comp=Z,8.6nm,0.9s						
J18K	**Innoko River**	79.86	8	P	P	**03 31 00.1**	**+0.1**
	baz=197,SNR=8.2						
CRQM	**Cirque**	79.89	15	IAmb	IAmb	03 31 01.4	
	comp=Z,16nm,1.0s						
KLU	**Klutina**	79.89	13	P	P	**03 30 59.7**	**-0.5**
	baz=207						
CRQE	**Cirque**	79.90	15	P	P	**03 30 59.9**	**-0.4**
	baz=210						
YAH	**Yahtse**	79.90	15	IAmb	IAmb	03 31 01.9	
	comp=Z,7.9nm,0.7s						
SCM	**Sheep Creek Mo**	79.90	12	P	P	**03 30 59.8**	**-0.5**
	baz=206,SNR=6.5						
HLID	**Hailey**	79.91	39	IAmb	IAmb	03 31 03.1	
	comp=Z,9.4nm,0.9s						
PNL	**Peninsula**	79.94	17	P	P	**03 31 00.2**	**-0.3**
	baz=213						
ISLE	**Juniper Island**	79.95	15	IAmb	IAmb	03 31 01.7	
	comp=Z,12nm,1.0s						
PPLA	**Purkeypile**	79.98	10	P	P	**03 31 00.1**	**-0.6**
	baz=201						
HVU	**Hansel Valley**	79.99	42	IAmb	IAmb	03 31 03.1	
	comp=Z,9.0nm,0.8s						
NJ2	**Nanjing**	80.05	307	*e*P	P	**03 31 03.9**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PINM	**Pinnacle**	80.06	16	P	P	**03 31 00.9**	**-0.3**
	baz=213						
ANM	**Nome**	80.12	4	P	P	**03 31 00.9**	**-0.4**
	baz=188						
K20K	**Telida**	80.12	9	P	P	**03 31 00.8**	**-0.6**
	baz=199						
GRNC	**Granite Creek**	80.21	15	IAmb	IAmb	03 31 03.3	
	comp=Z,7.6nm,1.0s						
R32K	**Eaglecrest**	80.28	20	P	P	**03 31 01.9**	**-0.4**
	baz=218						
N25K	**Chitina, Valde**	80.29	14	P	P	**03 31 02.2**	**-0.2**
	baz=208						
GLB	**Gilahina Butte**	80.33	14	IAmb	IAmb	03 31 03.1	
	comp=Z,7.4nm,0.7s						
Y22D	**IRIS PASSCAL I**	80.37	51	P	P	**03 31 01.5**	**-2.0**
	baz=244						
P29M	**Windy Craggy**	80.38	18	IAmb	IAmb	03 31 04.5	
	comp=Z,7.4nm,0.8s						
P29M	**Windy Craggy**	80.38	18	P	P	**03 31 02.4**	**-0.4**
	baz=215						
M24K	**Tolsona, Glenn**	80.39	13	P	P	**03 31 02.5**	**-0.4**
	baz=207						
H16K	**Elim**	80.42	5	P	P	**03 31 02.6**	**-0.3**
	baz=191						
VHRN	**Van Horn**	80.45	54	IAmb	IAmb	03 31 06.1	
	comp=Z,6.0nm,0.7s						
MCARA	**McCarthy VSAT**	80.46	14	P	P	**03 31 02.8**	**-0.4**
	baz=210						
LOGN	**Logan Glacier**	80.49	16	IAmb	IAmb	03 31 04.7	
	comp=Z,6.4nm,1.0s						
CAST	**Castle Rocks**	80.49	10	P	P	**03 31 02.7**	**-0.6**
	baz=201,SNR=5.5						
J19K	**Poorman**	80.51	8	P	P	**03 31 03.1**	**-0.3**
	baz=198						
CTG	**Chitna Glacier**	80.52	15	P	P	**03 31 03.0**	**-0.6**
	baz=211						
PV05	**Paradox Valley**	80.62	46	IAmb	IAmb	03 31 07.6	
	comp=Z,6.8nm,0.7s						
G15K	**Niukluk**	80.64	4	P	P	**03 31 03.9**	**-0.1**
	baz=189						
PLBC	**Pleasant Camp**	80.65	18	P	P	**03 31 03.9**	**-0.3**
	baz=216						
O28M	**Mount Upton**	80.65	16	P	P	**03 31 04.0**	**-0.6**
	baz=213						
O29M	**Mount Kennedy**	80.70	17	IAmb	IAmb	03 31 06.2	
	comp=Z,7.4nm,0.9s						
O29M	**Mount Kennedy**	80.70	17	P	P	**03 31 04.2**	**-0.4**
	baz=214						
T35M	**Bob Quinn**	80.77	22	P	P	**03 31 04.4**	**-0.5**
	baz=222						
PV19	**Morning Glory**	80.81	46	IAmb	IAmb	03 31 07.9	
	comp=Z,9.0nm,0.8s						
TRF	**Thorofare Moun**	80.82	10	IAmb	IAmb	03 31 05.7	
	comp=Z,9.3nm,0.8s						
TRF	**Thorofare Moun**	80.82	10	P	P	**03 31 04.7**	**-0.6**
	baz=203,SNR=9.0						
PV18	**Skein Mesa, Pa**	80.83	46	IAmb	IAmb	03 31 07.5	
	comp=Z,6.9nm,0.7s						
PV20	**West Nyswonger**	80.83	46	IAmb	IAmb	03 31 08.1	
	comp=Z,12nm,0.9s						
HARP	**HAARP**	80.87	13	P	P	**03 31 05.3**	**-0.1**
	baz=208						
J20K	**Nowinta River**	80.89	9	IAmb	IAmb	03 31 06.9	
	comp=Z,8.9nm,0.8s						
J20K	**Nowinta River**	80.89	9	P	P	**03 31 05.6**	**+0.2**
	baz=199,SNR=5.6						
PV04	**Paradox Valley**	80.90	46	IAmb	IAmb	03 31 08.5	
	comp=Z,6.3nm,0.7s						
TXAR	**Lajitas Array**	80.91	56	P	P	**03 31 07.9**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=221,slow=7.5,SNR=21						
TXAR				LR	LR	03 58 54.4	
	comp=Z,20nm,19.1s,baz=240,slow=30						
	comp=Z,1.5nm,0.7s						
PV02	**Paradox Valley**	80.93	46	IAmb	IAmb	03 31 08.7	
	comp=Z,11nm,1.1s						
PV21	**Cone Mtn., Par**	80.93	46	IAmb	IAmb	03 31 08.7	
	comp=Z,6.4nm,0.6s						
PV12	**Saucer Basin,**	80.94	46	IAmb	IAmb	03 31 08.8	
	comp=Z,8.7nm,0.8s						
SKAG	**Skagway**	80.97	19	P	P	**03 31 06.2**	**+0.3**
	baz=217						
F14K	**Arctic Creek**	80.97	3	P	P	**03 31 06.0**	**+0.2**
	baz=187						
NEW	**Newport**	80.98	34	LR	LR	03 58 57.4	
	comp=Z,33nm,20.0s,baz=224,slow=30						
TNA	**Tin City**	80.99	2	P	P	**03 31 05.9**	**+0.1**
	baz=186						
P30M	**Million Dollar**	81.01	18	P	P	**03 31 05.7**	**-0.5**
	baz=216						
RND	**Reindeer**	81.04	11	IAmb	IAmb	03 31 07.4	
	comp=Z,8.1nm,0.7s						
CN2	**Changchun**	81.04	320	*e*P	P	**03 31 08.9**	**+2.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ANMO	**Albuquerque**	81.10	50	P	P	**03 31 08.9**	**+1.5**
ANMO	**Albuquerque**	81.10	50	LR	LR	03 58 44.0	
	comp=Z,70nm,20.8s,baz=333,slow=30						
S34M	**Telegraph Cree**	81.16	21	P	P	**03 31 07.1**	**+0.2**
	baz=221						
G16K	**Koyuk River**	81.16	5	P	P	**03 31 06.9**	**+0.2**
	baz=191						
LWLI	**Liwa**	81.25	267	P	P	**03 31 08.2**	**-0.4**
H18K	**Honhosa River**	81.30	6	P	P	**03 31 07.3**	**-0.2**
	baz=195						
BPAW	**Bear Paw Mtn.**	81.31	10	P	P	**03 31 07.3**	**-0.3**
	baz=202						
PAX	**Paxson**	81.31	13	P	P	**03 31 07.8**	**0.0**
	baz=207						
MCK	**McKinley**	81.32	11	P	P	**03 31 07.4**	**-0.3**
	baz=204,SNR=8.1						
M26K	**Nabesna, AK**	81.36	14	IAmb	IAmb	03 31 09.3	
	comp=Z,11nm,0.8s						
M26K	**Nabesna, AK**	81.36	14	P	P	**03 31 07.8**	**-0.2**
	baz=210,SNR=9.2						
G17K	**Kiwalik Mounta**	81.41	5	P	P	**03 31 08.9**	**+0.8**
	baz=193						
HYT	**Haines Junctio**	81.43	17	P	P	**03 31 09.0**	**+0.5**
	baz=215						
I20K	**Naaghedeneel**	81.43	8	P	P	**03 31 08.8**	**+0.6**
	baz=199						
YUK3	**Moose Creek**	81.43	15	P	P	**03 31 08.7**	**0.0**
	baz=212						
YUK4	**Talbot Arm**	81.55	16	P	P	**03 31 09.5**	**+0.3**
	baz=214						
Q32M	**Nakina River**	81.56	20	P	P	**03 31 09.3**	**0.0**
	baz=220						
M27K	**Edge Creek, AK**	81.58	14	IAmb	IAmb	03 31 11.0	
	comp=Z,9.9nm,0.9s						
M27K	**Edge Creek, AK**	81.58	14	P	P	**03 31 09.4**	**+0.2**
	baz=211,SNR=8.6						
L26K	**Log Cabin Wild**	81.82	13	IAmb	IAmb	03 31 11.8	
	comp=Z,6.1nm,0.7s						
L26K	**Log Cabin Wild**	81.82	13	P	P	**03 31 10.6**	**+0.2**
	baz=209						
BVCY	**Beaver Creek**	81.88	15	P	P	**03 31 10.7**	**0.0**
	baz=212						
H19K	**Roundabout Mou**	81.88	7	P	P	**03 31 10.8**	**+0.2**
	baz=197						
DLBC	**Dease Lake**	81.94	22	LR	LR	04 04 56.6	
	comp=Z,29nm,18.2s,baz=192,slow=34						
DLBC	**Dease Lake**	81.94	22	P	P	**03 31 11.0**	**-0.2**
	baz=222						
G18K	**Tagagawik**	81.99	6	P	P	**03 31 11.5**	**+0.3**
	baz=195						
K24K	**Donnelly Dome**	81.99	12	IAmb	IAmb	03 31 12.6	
	comp=Z,12nm,0.8s						
K24K	**Donnelly Dome**	81.99	12	P	P	**03 31 11.2**	**0.0**
	baz=207,SNR=5.5						
TPAW	**Teton Pass**	82.02	41	IAmb	IAmb	03 31 14.2	
	comp=Z,16nm,1.4s						
H20K	**Anotleneega Mo**	82.04	8	P	P	**03 31 11.1**	**-0.4**
	baz=198						
S22A	**4UR Ranch, Cre**	82.06	47	IAmb	IAmb	03 31 15.3	
	comp=Z,8.5nm,0.9s						
WHY	**Whitehorse**	82.06	18	P	P	**03 31 11.3**	**-0.5**
	baz=218						
N30M	**Aishikik Lake**	82.07	17	P	P	**03 31 11.4**	**-0.4**
	baz=215						
NEA2	**Nenana**	82.09	10	IAmb	IAmb	03 31 13.4	
	comp=Z,5.6nm,0.7s						
NEA2	**Nenana**	82.09	10	P	P	**03 31 11.3**	**-0.4**
	baz=204,SNR=9.1						
RIDG	**Independent Ri**	82.13	13	IAmb	IAmb	03 31 13.0	
	comp=Z,7.5nm,0.9s						
RIDG	**Independent Ri**	82.13	13	P	P	**03 31 11.8**	**-0.2**
	baz=208						
SNOW	**Snow King Moun**	82.13	41	IAmb	IAmb	03 31 14.9	
	comp=Z,6.8nm,0.8s						
I21K	**Tanana**	82.16	9	P	P	**03 31 11.9**	**-0.1**
	baz=201						
L27K	**Beaver Creek,**	82.20	14	P	P	**03 31 12.0**	**-0.4**
	baz=211						
DOT	**Dot Lake**	82.21	13	IAmb	IAmb	03 31 13.5	
	comp=Z,11nm,0.8s						
MLY	**Manley**	82.21	10	IAmb	IAmb	03 31 13.2	
	comp=Z,5.7nm,0.8s						
MLY	**Manley**	82.21	10	P	P	**03 31 11.7**	**-0.7**
	baz=202,SNR=5.5						
F17K	**Baldwin Pennin**	82.28	5	P	P	**03 31 12.7**	**+0.1**
	baz=192						
HDA	**Harding Lake**	82.31	11	IAmb	IAmb	03 31 14.1	
	comp=Z,11nm,0.7s						
HDA	**Harding Lake**	82.31	11	P	P	**03 31 12.7**	**-0.1**
	baz=206,SNR=12						
R33M	**Jennings River**	82.33	20	P	P	**03 31 12.8**	**-0.4**
	baz=221						
P33M	**Teslin, Yukon**	82.35	19	P	P	**03 31 13.0**	**-0.2**
	baz=219						
G19K	**Purcell Mounta**	82.40	7	P	P	**03 31 13.4**	**+0.1**
	baz=196						
N31M	**Braeburn, Yuko**	82.46	17	P	P	**03 31 14.0**	**+0.3**
	baz=217						
H21K	**Melozitna Rive**	82.48	9	P	P	**03 31 13.8**	**0.0**
	baz=200						
M29M	**Sonome Creek**	82.51	16	P	P	**03 31 13.6**	**-0.4**
	baz=214,SNR=5.7						
SCRK	**Sand Creek**	82.52	13	IAmb	IAmb	03 31 15.7	
	comp=Z,8.2nm,0.9s						
SCRK	**Sand Creek**	82.52	13	P	P	**03 31 14.2**	**0.0**
	baz=209,SNR=11						
I23K	**Minto, Yukon-K**	82.55	10	IAmb	IAmb	03 31 14.9	
	comp=Z,5.6nm,0.8s						
I23K	**Minto, Yukon-K**	82.55	10	P	P	**03 31 14.0**	**0.0**
	baz=204,SNR=5.1						
PDAR	**Pinedale Array**	82.55	42	P	P	**03 31 15.2**	**+0.3**
PDAR	**Pinedale Array**	82.55	42	P	P	**03 31 14.4**	**-0.5**
	comp=Z,4.6nm,0.8s,baz=219,slow=3.0,SNR=44						
PDAR				LR	LR	04 03 36.5	
	comp=Z,24nm,18.7s,baz=214,slow=33						
	comp=Z,4.6nm,0.8s						
COLA	**College**	82.56	11	P	P	**03 31 14.1**	**0.0**
COLA	**College**	82.56	11	P	P	**03 31 14.1**	**0.0**
COLA	**College**	82.56	11	P	P	**03 31 14.2**	**+0.1**
	baz=205						
F18K	**Selawik**	82.58	6	P	P	**03 31 14.4**	**+0.2**
	baz=194						
SEY	**Seymchan**	82.60	345	P	P	**03 31 13.0**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=121,slow=9.0,SNR=4.6						
	comp=Z,1.1nm,0.3s						
ILAR	**Eielson Array**	82.64	11	P	P	**03 31 14.2**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=232,slow=6.2,SNR=64						
ILAR				LR	LR	04 01 47.9	
	comp=Z,20nm,19.0s,baz=173,slow=31						
	comp=Z,3.2nm,0.7s						
BOZ	**Bozeman (W)**	82.67	39	IAmb	IAmb	03 31 17.4	
	comp=Z,10nm,1.4s						
J25K	**Salcha River,**	82.80	12	IAmb	IAmb	03 31 16.5	
	comp=Z,8.3nm,0.8s						
J25K	**Salcha River,**	82.80	12	P	P	**03 31 15.0**	**-0.4**
	baz=207,SNR=11						
POKR	**Polat Pt Res**	82.86	11	P	P	**03 31 15.6**	**-0.1**
	baz=205,SNR=6.5						
E17K	**Hotham Inlet**	82.86	5	P	P	**03 31 15.5**	**-0.1**
	baz=192						
H22K	**Ishtalitna Cre**	82.92	9	P	P	**03 31 16.0**	**0.0**
	baz=202						
K27K	**Chicken**	82.98	13	P	P	**03 31 16.4**	**+0.1**
	baz=210						
F19K	**Shaleruckik Mo**	82.99	6	IAmb	IAmb	03 31 19.7	
	comp=Z,6.5nm,1.1s						
F19K	**Shaleruckik Mo**	82.99	6	P	P	**03 31 16.0**	**-0.3**
	baz=195						
M30M	**Minto, Yukon**	83.06	16	P	P	**03 31 17.1**	**+0.2**
	baz=216,SNR=5.4						
J26L	**Joseph Creek**	83.07	13	IAmb	IAmb	03 31 18.7	
	comp=Z,6.9nm,0.8s						
J26L	**Joseph Creek**	83.07	13	P	P	**03 31 17.3**	**+0.4**
	baz=209,SNR=10						
H23K	**Yukon River**	83.14	10	P	P	**03 31 17.3**	**+0.1**
	baz=203						
L29M	**L29M**	83.15	15	IAmb	IAmb	03 31 19.1	
	comp=Z,11nm,0.9s						
L29M	**L29M**	83.15	15	P	P	**03 31 17.5**	**+0.2**
	baz=214,SNR=12						
G21K	**Allakaket**	83.20	8	P	P	**03 31 17.9**	**+0.5**
	baz=200						
E18K	**Tukpahlearik C**	83.30	5	P	P	**03 31 18.6**	**+0.7**
	baz=193						
YNE	**Yellowstone No**	83.36	40	IAmb	IAmb	03 31 21.4	
	comp=Z,5.5nm,0.8s						
D17K	**Noatak River**	83.38	4	P	P	**03 31 19.0**	**+0.8**
	baz=190						
DRIO	**Del Rio**	83.40	57	IAmb	IAmb	03 31 20.9	
	comp=Z,6.0nm,0.8s						
F20K	**Avaraart Lake**	83.43	7	P	P	**03 31 19.6**	**+1.1**
	baz=197						
M31M	**Drury Creek, Y**	83.43	17	P	P	**03 31 19.1**	**+0.4**
	baz=208						
H24K	**Noodor Dome**	83.43	10	P	P	**03 31 19.1**	**+0.4**
	baz=205						
PRP	**Porcupine Dome**	83.57	11	IAmb	IAmb	03 31 20.8	
	comp=Z,9.0nm,0.8s						
PRP	**Porcupine Dome**	83.57	11	P	P	**03 31 19.8**	**+0.2**
	baz=207,SNR=13						
WTLY	**Watson Lake, Y**	83.60	21	P	P	**03 31 20.1**	**+0.4**
	baz=223						
DAWY	**Dawson**	83.63	14	IAmb	IAmb	03 31 21.2	
	comp=Z,6.8nm,0.8s						
DAWY	**Dawson**	83.63	14	P	P	**03 31 20.4**	**+0.6**
	baz=213,SNR=7.5						
E19K	**Redstone River**	83.65	6	IAmb	IAmb	03 31 22.9	
	comp=Z,7.5nm,0.9s						
E19K	**Redstone River**	83.65	6	P	P	**03 31 20.4**	**+0.7**
	baz=196						
C16K	**Lisburne Hills**	83.81	3	P	P	**03 31 21.2**	**+0.8**
	baz=188						
G22K	**Bettles**	83.86	9	P	P	**03 31 21.3**	**+0.6**
	baz=201						
I26K	**Coal Creek Min**	83.86	12	IAmb	IAmb	03 31 22.4	
	comp=Z,5.4nm,0.9s						
I26K	**Coal Creek Min**	83.86	12	P	P	**03 31 21.5**	**+0.7**
	baz=209						
F21K	**Alatna River**	83.87	8	P	P	**03 31 21.5**	**+0.6**
	baz=200						
RLMT	**Red Lodge**	83.88	40	IAmb	IAmb	03 31 23.8	
	comp=Z,5.4nm,0.8s						
G23K	**Bananza Creek**	83.88	9	P	P	**03 31 21.5**	**+0.5**
	baz=203						
K29M	**Barlow Dome**	83.91	15	IAmb	IAmb	03 31 23.0	
	comp=Z,4.8nm,0.8s						
K29M	**Barlow Dome**	83.91	15	P	P	**03 31 21.2**	**0.0**
	baz=215,SNR=6.0						
TOAD	**Toad River Com**	83.98	23	P	P	**03 31 21.8**	**+0.1**
	baz=226,SNR=16						
LIRD	**Liard River Hi**	84.05	22	P	P	**03 31 22.2**	**+0.3**
	baz=226						
POST	**Post**	84.08	53	IAmb	IAmb	03 31 24.3	
	comp=Z,8.9nm,0.8s						
C17K	**DeLong Mountai**	84.14	4	P	P	**03 31 22.7**	**+0.4**
	baz=190						
CMIG	**Matias Romero**	84.17	71	LR	LR	04 00 14.3	
	comp=Z,26nm,19.6s,baz=189,slow=30						
G24K	**Hadweenzic Riv**	84.29	10	P	P	**03 31 23.3**	**+0.3**
	baz=205						
F22K	**John River**	84.31	8	P	P	**03 31 23.4**	**+0.3**
	baz=201						
COLD	**Coldfoot**	84.33	9	IAmb	IAmb	03 31 29.6	
	comp=Z,4.5nm,0.8s						
COLD	**Coldfoot**	84.33	9	P	P	**03 31 23.7**	**+0.5**
	baz=203						
I27K	**Kandik River**	84.44	13	P	P	**03 31 24.1**	**+0.3**
	baz=211						
C18K	**Utukok River**	84.45	5	P	P	**03 31 24.2**	**+0.4**
	baz=192						
E20K	**Nigu River**	84.53	6	P	P	**03 31 24.3**	**0.0**
	baz=197						
SN07	**Snyder 07**	84.56	54	IAmb	IAmb	03 31 26.4	
	comp=Z,7.3nm,0.7s						
D19K	**Kuna River**	84.57	6	P	P	**03 31 24.8**	**+0.4**
	baz=195						
G25K	**Bearman Lake**	84.58	11	P	P	**03 31 25.2**	**+0.8**
	baz=207						
I28M	**Miner Creek**	84.67	13	P	P	**03 31 25.6**	**+0.5**
	baz=212						
MMPY	**Sheldon Lake,**	84.68	18	IAmb	IAmb	03 31 26.8	
	comp=Z,8.3nm,1.1s						
MMPY	**Sheldon Lake,**	84.68	18	P	P	**03 31 25.5**	**+0.4**
	baz=221,SNR=5.7						
TGTN	**Hyland Airport**	84.81	20	P	P	**03 31 26.0**	**+0.2**
	baz=224						
J30M	**Hart River**	84.81	15	P	P	**03 31 25.9**	**+0.1**
	baz=216						
D20K	**Etivluk River**	84.93	6	IAmb	IAmb	03 31 33.9	
	comp=Z,10.0nm,1.2s						
D20K	**Etivluk River**	84.93	6	P	P	**03 31 26.1**	**-0.1**
	baz=196						
E22K	**Anaktuvuk Pass**	84.95	8	IAmb	IAmb	03 31 28.7	
	comp=Z,6.1nm,0.8s						
E22K	**Anaktuvuk Pass**	84.95	8	P	P	**03 31 26.6**	**+0.2**
	baz=201						
F24K	**Squaw Lake**	84.96	10	P	P	**03 31 26.3**	**-0.1**
	baz=205						
E21K	**Killik River**	84.96	7	IAmb	IAmb	03 31 30.5	
	comp=Z,5.6nm,0.8s						
E21K	**Killik River**	84.96	7	P	P	**03 31 26.5**	**+0.1**
	baz=199						
I29M	**Ogilvie Camp,**	84.97	14	IAmb	IAmb	03 31 27.6	
	comp=Z,7.1nm,1.1s						
I29M	**Ogilvie Camp,**	84.97	14	P	P	**03 31 26.9**	**+0.4**
	baz=214						
H27K	**Steamboat Moun**	85.00	12	P	P	**03 31 26.8**	**+0.2**
	baz=211						
C19K	**Lookout Ridge**	85.03	5	P	P	**03 31 26.4**	**-0.3**
	baz=194						
B18K	**Kokolik River**	85.11	4	P	P	**03 31 27.7**	**+0.7**
	baz=192						
G26K	**Porcupine Rive**	85.17	11	P	P	**03 31 28.0**	**+0.6**
	baz=209,SNR=7.6						
E23K	**Chandalar**	85.19	9	P	P	**03 31 28.3**	**+0.7**
	baz=203						
KOTAN	**Kotaneelee Air**	85.30	22	P	P	**03 31 28.5**	**+0.4**
	baz=201						
I30M	**Mount Dempster**	85.33	15	IAmb	IAmb	03 31 29.7	
	comp=Z,7.9nm,1.1s						
I30M	**Mount Dempster**	85.33	15	P	P	**03 31 28.9**	**+0.5**
	baz=216,SNR=6.1						
E24K	**Your Creek**	85.38	9	P	P	**03 31 29.0**	**+0.5**
	baz=204						
BRDY	**Brady**	85.38	56	IAmb	IAmb	03 31 31.0	
	comp=Z,6.9nm,1.1s						
F25K	**Christian Rive**	85.41	10	P	P	**03 31 29.5**	**+0.8**
	baz=207						
BMAR	**Burnt Mountain**	85.45	11	P	P	**03 31 29.7**	**+0.8**
G27K	**Doyon Strip**	85.47	12	P	P	**03 31 29.1**	**+0.2**
	baz=211						
D22K	**Ayikyak River**	85.54	7	IAmb	IAmb	03 31 31.9	
	comp=Z,9.2nm,0.9s						
D22K	**Ayikyak River**	85.54	7	P	P	**03 31 29.5**	**+0.2**
	baz=200						
C21K	**Knifeblade Rid**	85.55	7	P	P	**03 31 29.5**	**+0.3**
	baz=198						
H29M	**Whitestone**	85.67	14	IAmb	IAmb	03 31 31.4	
	comp=Z,8.3nm,0.9s						
H29M	**Whitestone**	85.67	14	P	P	**03 31 30.8**	**+0.9**
	baz=214,SNR=5.1						
TOLK	**Toolik Lake Re**	85.73	9	P	P	**03 31 30.4**	**+0.2**
	baz=203						
D23K	**Nanushuk River**	85.88	8	P	P	**03 31 31.7**	**+0.8**
	baz=208						
E25K	**Arctic Village**	85.89	10	P	P	**03 31 30.6**	**-0.4**
	baz=207						
LYN	**LuoYang**	85.95	307	P	P	**03 31 34.1**	**+2.1**
LYN				pmax	pmax		
	comp=Z,21nm,0.9s						
A19K	**Wainwright**	85.99	4	P	P	**03 31 32.0**	**+0.7**
	baz=192						
B21K	**Ikpikpuk River**	86.01	7	P	P	**03 31 31.6**	**+0.1**
	baz=198						
B20K	**Meade River**	86.12	6	P	P	**03 31 32.8**	**+0.8**
	baz=196						
EPYK	**Eagle Plains**	86.18	14	P	P	**03 31 32.3**	**-0.1**
	baz=216						
H31M	**Peel River**	86.30	15	P	P	**03 31 33.0**	**0.0**
	baz=218						
D24K	**Happy Valley**	86.31	9	P	P	**03 31 33.5**	**+0.5**
	baz=204						
G29M	**Pine Creek**	86.33	13	P	P	**03 31 33.4**	**+0.2**
	baz=214						
F28M	**Old Crow**	86.52	12	P	P	**03 31 34.1**	**0.0**
	baz=212						
E27K	**Coleen River**	86.67	11	P	P	**03 31 35.3**	**+0.5**
	baz=211						
C23K	**Itkillik River**	86.70	8	P	P	**03 31 35.3**	**+0.5**
	baz=202						
G30M	**tAoh Zraii Nji**	86.79	14	P	P	**03 31 35.5**	**+0.1**
	baz=216						
B22K	**Teshekpuk Lake**	86.83	7	P	P	**03 31 35.3**	**-0.2**
	baz=200						
D25K	**Kavik River**	86.84	9	P	P	**03 31 35.5**	**-0.1**
	baz=206						
C24K	**Franklin Bluff**	86.85	8	P	P	**03 31 36.2**	**+0.6**
	baz=204						
G31M	**Satah River**	87.21	15	P	P	**03 31 37.6**	**+0.3**
	baz=218						
A22K	**Sinclair Lake**	87.29	6	P	P	**03 31 37.4**	**-0.3**
	baz=198						
F30M	**Barrier River**	87.40	14	P	P	**03 31 38.6**	**+0.3**
	baz=216						
E28M	**Babbage River**	87.43	12	P	P	**03 31 38.8**	**+0.3**
	baz=213						
C27K	**Jago River**	87.54	10	P	P	**03 31 38.3**	**-0.7**
	baz=209						
MAW	**Mawson**	87.57	199	P	P	**03 31 40.8**	**+1.5**
	comp=Z,11nm,0.8s,baz=138,slow=6.2,SNR=29						
MAW				LR	LR	04 07 43.7	
	comp=Z,33nm,20.9s,baz=108,slow=33						
	comp=Z,11nm,0.8s						
E29M	**Blow River**	87.58	13	P	P	**03 31 38.8**	**-0.3**
	baz=214						
C26K	**Camden Bay**	87.60	10	P	P	**03 31 39.8**	**+0.6**
	baz=208

PZH	**PanZhiHua**	**92.11**	**297**	P	**P**	**03 32 02.6**	**+1.1**
SYO	**Syowa Base**	**92.40**	**191**	*e*P	**P**	**03 32 01.2**	**-0.6**
SYO	**Syowa Base**	**92.40**	**191**	*e*PcP	**PcP**	**03 32 02.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.42**	**288**	P	**P**	**03 32 03.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**92.42**	**288**	P	**P**	**03 32 04.5**	**+1.6**
	comp=Z,3.5nm,0.6s,baz=86,slow=2.9,SNR=19						
CMAR				LR	LR	04 08 56.8	
	comp=Z,12nm,21.9s,baz=235,slow=33						
	comp=Z,3.5nm,0.6s						
CHTO	**Chiang Mai**	**92.51**	**289**	P	**P**	**03 32 02.8**	**-0.5**
MGMO	**Mountain Grove**	**92.58**	**52**	IAmb	IAmb	03 32 05.3	
	comp=Z,3.8nm,0.8s						
TROLL	**Troll, Antarti**	**92.61**	**179**	⇑P	**P**	**03 32 04.8**	**+1.8**
	comp=Z,110nm,0.6s						
SNAA	**Sanae**	**92.77**	**177**	P	**P**	**03 32 06.1**	**+2.5**
	comp=Z,2.0nm,0.8s,baz=190,slow=1.8,SNR=4.2						
	comp=Z,2.0nm,0.8s						
A36M	**Sachs Harbour**	**93.11**	**13**	P	**P**	**03 32 04.8**	**0.0**
	baz=226						
ATAH	**Atahualpa**	**93.15**	**98**	LR	LR	04 03 43.4	
	comp=Z,21nm,18.6s,baz=260,slow=29						
ULM	**Lac du Bonnet**	**94.21**	**39**	P	**P**	**03 32 09.3**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=151,slow=4.5,SNR=3.7						
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**94.79**	**318**	P	**P**	**03 32 11.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=129,slow=5.5,SNR=3.9						
	comp=Z,0.3nm,0.4s						
TKL	**Tuckaleechee C**	**98.81**	**55**	LR	LR	04 12 53.2	
	comp=Z,24nm,18.8s,baz=260,slow=33						
MKAR	**Makanchi Array**	**110.75**	**315**	PKiKP	**PKiKP**	**03 37 24.9**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=81,slow=1.7,SNR=3.9						
BVAR	**Borovoye Array**	**117.85**	**322**	PKP	**PKPdf**	**03 37 35.8**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=64,slow=3.4,SNR=4.5						
ARCES	**ARCESS Array B**	**124.72**	**352**	PKP	**PKiKP**	**03 37 49.9**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=15,slow=1.5,SNR=16						
FINES	**FINESS Array B**	**132.04**	**347**	PKP	**PKPdf**	**03 38 04.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=64,slow=4.4,SNR=7.0						
HFS	**Hagfors**	**135.16**	**355**	PKP	**PKiKP**	**03 38 10.8**	**-0.9**
	comp=Z,3.0nm,1.0s,baz=73,slow=2.0,SNR=4.2						
CLL	**Collm**	**143.94**	**353**	*i* PKPdf	**PKPdf**	**03 38 25.4**	**-1.0**
	comp=Z,6.0nm,1.0s						
CLL				*i* PKiKP	**PKiKP**	**03 38 28.9**	**-1.0**
	comp=Z,5.0nm,1.2s						
CLL				*i* pPKiKP	**pPKiKP**	**03 38 55.3**	**-1.7**
STHS	**Stebnicka Huta**	**144.10**	**343**	*e*PKP	**PKiKP**	**03 38 28.6**	**-1.7**
OSTC	**Ostas**	**144.18**	**349**	*e*PKP	**PKPdf**	**03 38 27.9**	**+1.0**
DPC	**Dobruska-Polom**	**144.36**	**349**	*e*PKP	**PKPdf**	**03 38 27.8**	**+0.6**
STEB	**Steborice**	**144.47**	**347**	*e*PKP	PKPbc	03 38 25.9	-0.2
MORC	**Moravsky Berou**	**144.67**	**347**	*e*PKP	**PKPdf**	**03 38 27.0**	**-0.8**
MOX	**Moxa**	**144.74**	**354**	*e*L	L	04 41 22.0	
	comp=Z,22nm,20.1s						
MAUC	**Maruska**	**145.00**	**347**	*e*PKP	**PKPdf**	**03 38 28.1**	**-0.2**
MAUC				*ex*	x	03 38 32.2	
KMBO	**Kilima Mbogo**	**145.24**	**244**	PKPbc	**PKPdf**	**03 38 30.4**	**+0.4**
	comp=Z,6.4nm,0.9s,baz=248,slow=10,SNR=8.4						
VRI	**Vrincioaia**	**145.28**	**335**	⇓P	**PKiKP**	**03 38 32.1**	**-0.7**
VRAC	**Vranov**	**145.31**	**348**	*e*PKP	**PKPab**	**03 38 29.4**	**+0.4**
TPGR	**Topolog**	**145.34**	**332**	⇓P	**PKPab**	**03 38 29.2**	**-0.1**
TURR	**Turia**	**145.41**	**336**	⇓P	**PKiKP**	**03 38 32.7**	**-0.4**
JAVC	**Velka Javorina**	**145.51**	**347**	*e*PKP	**PKiKP**	**03 38 31.1**	**-2.2**
ROTZ	**Rotzenmuhle**	**145.54**	**353**	*e*PKPbc	**PKPab**	**03 38 30.3**	**+0.5**
	baz=8.4,slow=2.8						
VYHS	**Vyhne**	**145.58**	**345**	*e*PKP	**PKPab**	**03 38 30.4**	**+0.4**
KRUC	**Moravsky**	**145.58**	**348**	*e*PKP	**PKPab**	**03 38 29.8**	**-0.2**
ZVC	**Zvikov**	**145.60**	**351**	*e*PKP	**PKPab**	**03 38 30.5**	**+0.4**
GRF	**Grafenberg Arr**	**145.72**	**354**	*e*PKPbc	**PKPab**	**03 38 31.4**	**+0.9**
	baz=8.4,slow=2.8						
GRF				*e*L	L	04 49 18.8	
	comp=Z,30nm,18.7s						
DOPR	**Dopca**	**145.73**	**336**	⇓P	**PKPab**	**03 38 31.5**	**+0.8**
MLR	**Muntele Rosu**	**145.90**	**335**	⇑P	**PKPab**	**03 38 30.9**	**-0.6**
ISR	**Istrita**	**145.95**	**334**	⇓P	**PKiKP**	**03 38 33.8**	**-0.5**
MARR	**Marisel-Cluj**	**145.96**	**339**	⇓P	**PKPbc**	**03 38 30.0**	**-1.0**
WLF	**Walferdange**	**145.98**	**0**	*e*PKPbc	**PKPab**	**03 38 32.2**	**+0.8**
	baz=8.4,slow=2.8						
KHC	**Kasperske Hory**	**145.99**	**351**	*e*PKP	**PKPab**	**03 38 31.9**	**+0.3**
KHC				*ex*	x	03 38 35.5	
DRGR		**146.00**	**340**	⇑P	**PKPab**	**03 38 31.3**	**-0.4**
MODS	**Modra-Piesok**	**146.05**	**347**	*e*PKP	**PKPdf**	**03 38 28.8**	**-1.4**
WET	**Wettzell**	**146.07**	**352**	*e*PKPbc	**PKPab**	**03 38 32.3**	**+0.4**
	baz=8.4,slow=2.8						
BRTR	**Keskin Array B**	**146.11**	**321**	PKPbc	**PKPab**	**03 38 31.9**	**-0.7**
	comp=Z,6.8nm,0.7s,baz=102,slow=2.6,SNR=46						
CKRC	**Cesky Krumlov**	**146.19**	**351**	*e*PKP	**PKPab**	**03 38 32.2**	**-0.1**
CKRC				*ex*	x	03 38 35.7	
GEC2	**GERESS Array S**	**146.25**	**351**	*e*PKPbc	**PKPbc**	**03 38 31.6**	**-0.2**
	baz=8.4,slow=2.8						
GERES	**GERESS Array B**	**146.25**	**351**	PKPbc	**PKPab**	**03 38 31.9**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=29,slow=3.0,SNR=14						
KIRS	**Kirsehir-Merke**	**146.30**	**320**	⇓P	**PKPbc**	**03 38 31.5**	**-0.8**
VOIR		**146.30**	**336**	⇓P	**PKiKP**	**03 38 35.8**	**+0.8**
ARR	**Arges**	**146.52**	**336**	⇓P	**PKiKP**	**03 38 34.2**	**-1.3**
CONA	**Conrad Observa**	**146.77**	**348**	*e*PKP	**PKPab**	**03 38 34.3**	**-0.4**
	comp=Z,7.9nm,0.9s						
LOT	**Lotru**	**146.78**	**337**	⇑P	**PKPbc**	**03 38 32.8**	**-0.7**
SIRR	**Siria**	**146.80**	**340**	⇑P	**PKPab**	**03 38 33.8**	**-1.0**
RONA	**Rosalia, Austr**	**146.90**	**348**	*e*PKP	**PKPab**	**03 38 34.7**	**-0.5**
	comp=Z,11nm,1.0s						
SURR	**Surduc**	**147.10**	**339**	⇑P	**PKPbc**	**03 38 34.3**	**+0.1**
MOA	**Molln**	**147.13**	**350**	*e*PKP	**PKPbc**	**03 38 34.6**	**+0.3**
	comp=Z,7.0nm,1.2s						
GZR	**Gura Zlata**	**147.19**	**338**	⇑P	**PKPbc**	**03 38 34.2**	**-0.3**
BFO	**Black Forest**	**147.27**	**358**	*e*PKPbc	**PKPab**	**03 38 35.3**	**-1.3**
	baz=8.4,slow=2.8						
BIOA	**Bad Ischl, Aus**	**147.39**	**351**	*e*PKP	**PKPbc**	**03 38 35.4**	**+0.4**
	comp=Z,3.1nm,0.6s						
BZS	**Buzias**	**147.39**	**340**	⇑P	**PKPbc**	**03 38 34.9**	**-0.2**
RJOB	**Jochberg**	**147.47**	**352**	*e*PKPbc	**PKiKP**	**03 38 35.9**	**-1.5**
	baz=8.4,slow=2.8						
ARSA	**Arzberg**	**147.49**	**348**	*e*PKP	**PKiKP**	**03 38 35.9**	**-1.4**
	comp=Z,4.7nm,1.0s						
HERR	**Herculane**	**147.76**	**338**	⇑P	**PKPbc**	**03 38 35.9**	**-0.1**
LESA	**Schwarzleotal**	**147.79**	**352**	*e*PKP	**PKiKP**	**03 38 36.7**	**-1.4**
	comp=Z,4.3nm,1.1s						
RETA	**Reutte**	**147.95**	**354**	*e*PKP	**PKiKP**	**03 38 37.2**	**-1.2**
	comp=Z,5.7nm,0.9s						
WATA	**Walderalm**	**148.01**	**353**	*e*PKiKP	**PKiKP**	**03 38 37.5**	**-1.1**
	comp=Z,3.1nm,0.7s						
MOTA	**Moosalm**	**148.06**	**354**	*e*PKP	**PKiKP**	**03 38 37.3**	**-1.4**
	comp=Z,7.1nm,0.9s						
WTTA	**Wattenberg**	**148.08**	**353**	*e*PKiKP	**PKiKP**	**03 38 37.6**	**-1.2**
	comp=Z,11nm,0.6s						
SOKA	**Soboth**	**148.13**	**349**	*e*PKP	**PKiKP**	**03 38 37.4**	**-1.4**
	comp=Z,12nm,1.1s						
SQTA	**Sankt Quirin**	**148.17**	**354**	*e*PKiKP	**PKiKP**	**03 38 37.9**	**-0.9**
	comp=Z,4.6nm,0.8s						
DAVA	**Damuels**	**148.22**	**355**	*e*PKiKP	**PKiKP**	**03 38 38.3**	**-0.8**
	comp=Z,6.5nm,0.8s						
OBKA	**Obir**	**148.38**	**349**	*e*PKiKP	**PKiKP**	**03 38 38.8**	**-0.6**
	comp=Z,6.3nm,1.2s						
MYKA	**Terra Mystica**	**148.42**	**350**	*e*PKP	**PKPbc**	**03 38 37.8**	**0.0**
	comp=Z,3.7nm,0.6s						
MMAI	**Mount Meron Ar**	**148.46**	**309**	PKPbc	**PKiKP**	**03 38 39.0**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=25,slow=4.6,SNR=9.8						
ABTA	**Abfaltersbach**	**148.47**	**352**	*e*PKP	**PKPbc**	**03 38 38.0**	**+0.1**
	comp=Z,7.6nm,0.7s						
EZN	**Ezine**	**150.17**	**328**	⇓P	**PKPbc**	**03 38 41.6**	**-0.7**
ESDC	**Sonseca Array**	**154.34**	**19**	PKPbc	**PKiKP**	**03 38 52.8**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=326,slow=2.4,SNR=5.5						
ESDC				PKPab	**PKPab**	**03 39 06.6**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=333,slow=3.3,SNR=9.4						

*NEIC **16** 03:44:53.4±0.4, 19°.32N±0°.02×155°.10W±0°.01, h5km±1km, Error ellipse: s-maj=3.6km s-min=2.6km az=333.0*

HVO 16 03:44:52.7±0.7, 19°.32N±0°.02×155°.12W±0°.02, h0km±8km, ML2.9/43, ML2.8/42(NEIC), Error ellipse: s-maj=3.4km s-min=1.1km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.06**	**14**		Pg	03 44 55.2	+1.2
JCUZ					Sg	03 44 56.7	+1.9
STCH	**Steam Cracks**	**0.06**	**354**		Pg	03 44 55.2	+1.3
NPOC	**North of Pu'u**	**0.07**	**7**		Pg	03 44 55.3	+1.2
NPOC					Sg	03 44 56.9	+1.8
KNHH	**Kane Nui o Ham**	**0.07**	**320**		Pg	03 44 55.5	+1.3
PUH	**Pauahi**	**0.11**	**299**		Pg	03 44 56.0	+1.2
JOKA	**Jonika Flow**	**0.15**	**44**		Pg	03 44 56.4	+0.8
JOKA				IAML		03 44 59.8	
	comp=N,1μm,0.9s						
KKO	**Keanakako'i**	**0.16**	**298**		Pg	03 44 56.8	+1.1
KKO					Sg	03 44 60.0	+2.1
BYL	**Byron's Ledge**	**0.16**	**304**		Pg	03 44 56.8	+1.0
BYL				IAML		03 45 00.0	
	comp=N,2μm,0.6s						
BYL				IAML		03 45 00.1	
	comp=E,2μm,0.5s						
RIM	**Rim**	**0.16**	**296**		Pg	03 44 56.9	+1.0
RIM					Sg	03 44 59.9	+1.9
HATHI	**Halema'uma'u T**	**0.17**	**307**		Pg	03 44 56.9	+0.9
HATHI				IAML		03 45 01.0	
	comp=E,1μm,0.4s						
SBLHI	**Steaming Bluff**	**0.18**	**306**		Pg	03 44 56.9	+0.8
SBLHI					Sg	03 45 00.7	+2.3
SDHHI	**Sand Hill**	**0.18**	**292**		Pg	03 44 57.1	+1.0
HLP	**Hilina Pali**	**0.18**	**262**		Pg	03 44 57.6	+1.4
HLP					Sg	03 45 01.0	+2.4
HLP	**Hilina Pali**	**0.18**	**262**	IAML		03 45 01.2	
	comp=N,3μm,0.2s						
HLP				IAML		03 45 02.0	
	comp=E,3μm,0.2s						
UWB	**Uwekahuna Bluf**	**0.18**	**304**		Pg	03 44 57.1	+0.8
OBL	**Observatory Le**	**0.18**	**301**		Pg	03 44 57.2	+1.0
OBL					Sg	03 45 00.9	+2.3
WRMHI	**West Rim**	**0.19**	**296**		Pg	03 44 57.3	+0.9
WRMHI					Sg	03 45 01.0	+2.1
UWE	**Uwekahuna**	**0.19**	**301**		Pg	03 44 57.4	+0.9
UWE	**Uwekahuna**	**0.19**	**301**	IAML		03 45 01.9	
	comp=E,919nm,0.6s						
UWE				IAML		03 45 02.8	
	comp=N,790nm,0.3s						
RSD	**Rainshed**	**0.21**	**313**		Pg	03 44 57.5	+0.9
RSD					Sg	03 45 01.4	+2.0
HTC	**Hot Caves**	**0.28**	**252**		Pg	03 44 59.1	+1.1
MLH	**Mauna Loa**	**0.30**	**304**		Pg	03 44 59.3	+0.8
MLH					Sg	03 45 04.5	+2.0
MLH	**Mauna Loa**	**0.30**	**304**	IAML		03 45 07.4	
	comp=E,978nm,0.2s						
MLH				IAML		03 45 07.8	
	comp=N,1μm,0.1s						
AIN	**Ainahou**	**0.33**	**279**		Pg	03 44 59.8	+0.9
AIN	**Ainahou**	**0.33**	**279**	IAML		03 45 06.8	
	comp=N,12μm,0.3s						
AIN				IAML		03 45 06.9	
	comp=E,12μm,0.2s						
HMH	**Humu'ula Sheep**	**0.44**	**309**		Pg	03 45 01.7	+0.4
HMH					Sb	03 45 09.0	-1.9
HMH	**Humu'ula Sheep**	**0.44**	**309**	IAML		03 45 09.4	
	comp=N,4μm,0.4s						
HMH				IAML		03 45 09.5	
	comp=E,3μm,0.4s						
KHU	**Kahuku**	**0.47**	**261**		Pg	03 45 02.2	+0.4
KHU					Sb	03 45 10.0	-1.7
MWH	**Mokuaweoweo**	**0.48**	**290**		Pg	03 45 02.3	+0.3
MWH					Sg	03 45 10.0	+1.8
MWH	**Mokuaweoweo**	**0.48**	**290**	IAML		03 45 16.9	
	comp=N,1μm,0.7s						
ALEP	**Alea Permanent**	**0.54**	**294**		Pg	03 45 03.2	+0.1
ALEP					Sg	03 45 11.7	+1.6
POHA	**Pohakuloa**	**0.58**	**318**		Pg	03 45 03.8	-0.1
POHA				IAML		03 45 16.4	
	comp=N,764nm,0.5s						
POHA				IAML		03 45 16.4	
	comp=N,595nm,0.4s						
POHA	**Pohakuloa**	**0.58**	**318**		Sg	03 45 12.2	+0.7
HUH	**Hualalai**	**0.77**	**298**		Pg	03 45 06.7	-0.7
CPH	**Captain Cook**	**0.77**	**282**		Pg	03 45 07.1	-0.4
HPAH	**Hawaii Prepara**	**0.89**	**322**	IAML		03 45 22.7	
	comp=E,383nm,0.3s						
HPAH				IAML		03 45 26.6	
	comp=N,253nm,0.5s						

*IDC **16** 03:50:35.5±0.5, 27°.51N×140°.31E, h460km±8km, mb3.1/9, mbtmp4.0/12, Error ellipse: s-maj=24.3km s-min=11.1km az=79.0*

*JMA **16** 03:50:38.9±0.2, 28°.N±2°×14°.1E±°, h457km, MV3.9/30, W OFF OGASAWARA*

ISC 16 03:50:35.6±0.7, 27°.58N±0°.07×140°.2E±0°.1, h450km, n23, σ2S19/31, mb3.5/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.85**	**105**	*e*P	**P**	**03 51 37.8**	**+2.4**
CBIJ				*e*S	**S**	**03 52 24.2**	**+0.5**
JCJ	**Chichijima**	**1.85**	**105**	P	**P**	**03 51 37.2**	**+1.9**
	64nm,0.3s,baz=275,slow=22,SNR=5.5						
JCJ				S	**S**	**03 52 24.1**	**+0.4**
	365nm,0.4s,baz=296,slow=22,SNR=12						
JHH2	**Haha-jima-NKT2**	**2.01**	**117**	*e*P	**P**	**03 51 39.5**	**+3.2**
JHH2				*e*S	**S**	**03 52 28.0**	**+2.6**
BSO1	**Boso 1**	**7.09**	**5**	*e*P	**P**	**03 52 23.3**	**+2.8**
BSO3	**Boso 3**	**7.21**	**2**	*e*P	**P**	**03 52 24.5**	**+2.4**
BSO3				*e*S	**S**	**03 53 49.4**	**-0.1**
BSO4	**Boso 4**	**7.39**	**1**	*e*S	**S**	**03 53 53.6**	**+0.2**
JIE	**Ise**	**7.42**	**337**	*e*P	**P**	**03 52 29.3**	**+4.7**
JKN2	**Miekihoku**	**7.44**	**334**	*e*P	**P**	**03 52 29.3**	**+4.4**
JRY	**Ryogami san**	**8.48**	**353**	*e*P	**P**	**03 52 38.5**	**+2.3**
JRY				*e*S	**S**	**03 54 14.1**	**-1.1**
JAG	**Ashikaga**	**8.84**	**356**	*e*P	**P**	**03 52 40.4**	**+0.4**
JAG				*e*S	**S**	**03 54 18.1**	**-4.3**
JHO	**Hitachi**	**9.01**	**2**	*e*P	**P**	**03 52 43.6**	**+1.7**
JHO				*e*S	**S**	**03 54 23.4**	**-2.3**
MJAR	**Matsushiro Arr**	**9.09**	**350**	P	**P**	**03 52 43.0**	**+0.3**
	2.1nm,0.4s,baz=178,slow=12,SNR=7.6						
JOW	**Kunigami**	**10.63**	**269**	P	**P**	**03 53 01.2**	**+1.6**
	8.1nm,0.3s,baz=101,slow=14,SNR=11						
USRK	**Ussuriysk Ar.**	**17.85**	**340**	P	**P**	**03 54 17.6**	**+1.0**
	3.1nm,0.5s,baz=162,slow=11,SNR=11						
WRA	**Warramunga Arr**	**47.58**	**187**	P	**P**	**03 58 27.7**	**-1.6**
	2.1nm,0.4s,baz=3.0,slow=7.6,SNR=41						
	2.1nm,0.4s						
MKAR	**Makanchi Array**	**48.79**	**309**	P	**P**	**03 58 38.0**	**-0.2**
	0.2nm,0.5s,baz=62,slow=7.2,SNR=1.7						
MKAR				ScP	**ScP**	**04 03 03.4**	**-2.9**
	0.5nm,0.7s,baz=90,slow=2.9,SNR=4.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**51.30**	**187**	P	**P**	**03 58 55.9**	**-1.1**
	0.7nm,0.5s,baz=352,slow=4.3,SNR=16						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**51.43**	**314**	P	**P**	**03 58 57.3**	**-0.2**
	0.8nm,0.3s,baz=90,slow=7.4,SNR=7.9						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**56.48**	**317**	P	**P**	**03 59 33.2**	**-0.2**
	2.0nm,0.4s,baz=91,slow=7.0,SNR=8.3						
	2.0nm,0.4s						
ILAR	**Eielson Array**	**58.15**	**29**	P	**P**	**03 59 44.1**	**-0.5**
	0.2nm,0.4s,baz=253,slow=5.6,SNR=5.0						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**59.14**	**179**	P	**P**	**03 59 50.1**	**-1.6**
	1.9nm,0.7s,baz=350,slow=6.2,SNR=3.8						
	1.9nm,0.7s						
ARCES	**ARCESS Array B**	**72.50**	**340**	P	**P**	**04 01 14.6**	**-0.5**
	0.6nm,0.7s,baz=73,slow=5.3,SNR=6.3						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**76.72**	**333**	P	**P**	**04 01 38.3**	**-0.8**
	0.8nm,0.3s,baz=68,slow=5.5,SNR=12						
	0.8nm,0.3s						

*NEIC **16** 04:01:27.2±0.8, 36°.093N±0°.009×117°.86W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.6km az=115.0*

PAS 16 04:01:27.7±0.7, 36°.084N±0°.008×117°.86W±0°.01, h2km±5km, ML3.2/87, ML2.9/154(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=85.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.03**	**11**		Pg	04 01 28.8	+0.2
MFS					Sg	04 01 29.6	+0.4
WRVM	**Rose V. Centra**	**0.08**	**196**		Pg	04 01 29.5	+0.1
WRVM					Sg	04 01 30.8	+0.4
WCSM	**Coso Springs S**	**0.10**	**126**		Pg	04 01 29.9	+0.2
WCSM					Sg	04 01 31.4	+0.5
WVPM	**Volcano Peak E**	**0.14**	**164**		Pg	04 01 30.6	+0.2
WVPM					Sg	04 01 32.9	+0.6
WNMM	**Nine Mile Cany**	**0.24**	**188**		Pg	04 01 32.5	+0.1
WNMM					Sg	04 01 36.2	+0.6
TOW	**Tower One**	**0.29**	**164**		Pg	04 01 33.8	+0.6
TOW					Sg	04 01 38.5	+1.6
MPMC	**Manual Prospec**	**0.30**	**95**		Pg	04 01 33.7	+0.1
MPMC				IAML		04 01 39.7	
	comp=E,2μm,0.6s						
MPMC				IAML		04 01 43.3	
	comp=N,1μm,0.6s						
CLC	**China Lake**	**0.34**	**141**		Pg	04 01 34.4	+0.1
CLC	**China Lake**	**0.34**	**141**		Sg	04 01 39.4	+0.6
CWC	**Cottonwood Cre**	**0.40**	**334**		Pg	04 01 35.3	-0.1
CWC				IAML		04 01 41.4	
	comp=N,873nm,0.2s						
CWC				IAML		04 01 44.9	
	comp=E,1μm,0.2s						
CWC	**Cottonwood Cre**	**0.40**	**334**		Sg	04 01 40.5	0.0
SRTC	**Snort**	**0.40**	**167**		Pg	04 01 36.0	+0.5
SRTC					Sg	04 01 42.2	+1.6
CGO	**Cerro Gordo**	**0.47**	**6**		Pg	04 01 36.7	-0.1
CGO					Sg	04 01 43.3	+0.4
WORM	**Onyx Ranch**	**0.49**	**219**		Pg	04 01 37.1	-0.1
WORM					Sg	04 01 43.8	+0.2
WHFM	**Hanning Flat**	**0.55**	**226**		Pg	04 01 38.2	-0.1
WHFM					Sg	04 01 45.8	+0.3
WSHM	**Spangler Hills**	**0.57**	**148**		Pg	04 01 38.5	-0.1
WSHM				IAML		04 01 46.9	
	comp=E,778nm,0.4s						
WSHM				IAML		04 01 46.9	
	comp=E,854nm,0.3s						
WSHM	**Spangler Hills**	**0.57**	**148**		Sg	04 01 46.7	+0.7
WBSM	**Bird Springs**	**0.59**	**202**		Pg	04 01 39.0	-0.1
LRMC	**Laurel Mtn Rad**	**0.62**	**166**		Pg	04 01 39.5	-0.1
LRMC				IAML		04 01 48.8	
	comp=E,966nm,0.6s						
LRMC				IAML		04 01 50.1	
	comp=N,726nm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.62**	**166**		Sg	04 01 48.2	+0.6
ISA	**Isabella, Lake**	**0.65**	**230**		Pg	04 01 40.0	-0.1
ISA				IAML		04 01 49.3	
	comp=N,688nm,0.5s						
ISA	**Isabella, Lake**	**0.65**	**230**		Sg	04 01 48.5	-0.1
WASM	**Alta Sierra Ca**	**0.66**	**239**		Pg	04 01 40.4	0.0
WASM					Sg	04 01 49.4	+0.4
CCCA	**Chr Cany lake**	**0.69**	**144**		Pg	04 01 41.2	+0.3
CCCA					Sb	04 01 51.3	-1.2
SPG2	**Springville 2**	**0.74**	**279**		Pg	04 01 41.7	-0.2
DTP	**Desert Tortois**	**0.81**	**179**		Pg	04 01 43.0	-0.4
DTP					Sg	04 01 54.0	+0.1
QSM	**Queen of Sheba**	**0.81**	**98**		Pg	04 01 43.1	-0.3
QSM				IAML		04 01 58.1	
	comp=N,669nm,0.7s						
QSM	**Queen of Sheba**	**0.81**	**98**		Sg	04 01 54.0	+0.1
FURC	**Furnace Creek,**	**0.89**	**64**		Pg	04 01 45.0	+0.1
FURC	**Furnace Creek,**	**0.89**	**64**		Sg	04 01 57.1	+0.6
CCAC	**Calif City Air**	**0.94**	**188**		Pg	04 01 45.3	-0.4
CCAC					Sg	04 01 58.1	+0.2
GWY	**Greenwater Val**	**0.97**	**84**		Pg	04 01 46.1	-0.2
GWY	**Greenwater Val**	**0.97**	**84**		Sg	04 01 59.2	+0.3
TIN	**Tinemaha, Big**	**1.01**	**343**		Pg	04 01 47.0	-0.1
TIN	**Tinemaha, Big**	**1.01**	**343**		Sg	04 02 01.1	+0.8
VES	**Vestal, Richgr**	**1.02**	**257**		Pg	04 01 47.1	-0.2
VES	**Vestal, Richgr**	**1.02**	**257**		Sg	04 02 01.1	+0.6
TEJ	**El Tejon**	**1.09**	**219**		Pg	04 01 47.8	-0.8
TEJ					Sg	04 02 02.0	-0.6
SGV	**South Grapevin**	**1.12**	**37**		Pg	04 01 49.0	-0.2
SGV					Sg	04 02 04.2	+0.6
GSC	**Goldstone, Bar**	**1.16**	**132**		Pg	04 01 49.3	-0.7
GSC				IAML		04 01 56.3	
	comp=N,198nm,0.6s						
GSC				IAML		04 02 09.9	
	comp=E,298nm,1.0s						
WCT	**Wildcat Mounta**	**1.22**	**54**		Pg	04 01 50.6	-0.5
WCT				IAML		04 02 10.6	
	comp=N,210nm,0.5s						
WCT				IAML		04 02 14.3	
	comp=E,264nm,0.6s						
TPO	**Tropico Hills**	**1.24**	**194**		Pg	04 01 50.8	-0.7
TPO				IAML		04 02 10.8	
	comp=E,421nm,0.7s						
TPO				IAML		04 02 14.3	
	comp=N,268nm,0.8s						
**V

comp=E,11nm,1.9s
ESJX Sierra Juarez 4.37 158 IAML 04 03 48.4
comp=N,8.8nm,0.9s
ESJX IAML 04 03 53.1
comp=E,10.0nm,1.4s
U15A North Rim 4.52 84 IAML 04 03 57.7
comp=E,14nm,1.0s
U15A IAML 04 04 03.2
comp=N,11nm,1.1s
Y14A Wickenburg 4.53 117 IAML 04 04 00.1
comp=N,12nm,0.9s
Y14A IAML 04 04 10.0
comp=E,8.1nm,2.2s
MTPU Mount Pierson 4.94 65 IAML 04 04 20.7
comp=E,6.2nm,2.2s
MTPU IAML 04 04 25.7
comp=N,6.8nm,2.9s
TCRU Three Creeks R 5.00 58 IAML 04 03 30.3
comp=N,15nm,0.4s
WUAZ Wupatki 5.30 94 IAML 04 04 18.4
comp=N,11nm,1.7s

NIED ***16*** *04:07:56.6, 37.52N×141.85E, h33km, MW3.5, Moment Tensor Solution. s3 Moment tenso: Scale 10¹⁴Nm; Mrr-0.85; Mθθ 0.80; Mφφ 0.05; Mrθ-1.37; Mθφ 0.33; Mφr 0.73; Fault plane solution: M₀ 1.76000×10¹⁴ NP1: φs232.00000°, δ22.00000°, λ-143.00000°. NP2: φs108.00000°, δ77.00000°, λ-72.00000°.*

JMA 16 04:07:56.6±0.2, 37.5N±0.4×141.9E±0.8, h33km±2km, MV3.8/37, 6D, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.79**	**260**	P		Pn	04 08 11.4	-0.2
JFK				S		Sn	04 08 21.6	-0.7
JMST	**Minamisoumatoc**	**0.79**	**286**	⇓*i*P		Pn	04 08 11.5	0.0
JMST				⇓S		Sn	04 08 21.7	-0.5
JIKH	**Ishinomakikobu**	**0.85**	**339**	P		Pn	04 08 12.2	-0.1
JIKH				S		Sn	04 08 22.8	-0.9
JMM	**Marumori**	**0.91**	**293**	⇓P		Pn	04 08 13.4	+0.3
JMM				⇓S		Sn	04 08 25.2	+0.1
ONAJ	**Iwakimizuishiy**	**0.94**	**244**	⇓*i*P		Pn	04 08 13.2	-0.3
ONAJ				⇓S		Sn	04 08 24.6	-1.2
JIO	**Ouri**	**1.02**	**337**	P		Pn	04 08 14.8	+0.2
JIO				S		Sn	04 08 27.2	-0.6
JOTO	**OTAMA OYAMA**	**1.21**	**273**	P		Pb	04 08 18.4	-0.5
JOTO				S		Sb	04 08 33.7	-0.6
JOU	**Okura**	**1.27**	**312**	P		Pb	04 08 19.4	-0.6
JOU				S		Sb	04 08 35.5	-0.5
JMK	**Ichinoseki**	**1.52**	**341**	P		Pn	04 08 22.8	+1.3
JMK				S		Sn	04 08 40.6	+0.5
JYK	**Kaneyama**	**1.83**	**320**	*e*P		Pn	04 08 27.0	+1.2

TRN 16 04:12:05.7, 16.93N×61.18W, h23km, MD3.5, South-east of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSDZ	**La Diserade, G**	**0.62**	**170**	*e*P		Pn	04 12 19.0	-0.1
DSDZ				*e*S		Sn	04 12 29.7	+1.4
DHSZ	**Broadband at M**	**0.86**	**221**	*e*P		Pn	04 12 23.7	+1.3
DHSZ				*e*S		Sn	04 12 36.3	+2.2
ANWB	**Willy Bob**	**0.94**	**322**	*e*P		Pn	04 12 24.5	+1.0
ANWB				*e*S		Sn	04 12 37.4	+1.3
ATGZ	**Broadband at L**	**0.98**	**212**	*e*P		Pn	04 12 25.7	+1.7
ATGZ				*e*S		Sn	04 12 38.9	+1.8
MBWH		**0.98**	**259**	*e*P		Pn	04 12 26.4	+2.3
MBWH				*e*S		Sn	04 12 40.5	+3.1
MMLZ	**Guadeloupe Bro**	**0.99**	**208**	*e*P		Pb	04 12 25.7	+1.5
MMLZ				*e*S		Sn	04 12 40.4	+2.9
TBG	**Guadaloupe-3**	**1.16**	**203**	*e*P		Pb	04 12 28.4	+1.3
TBG				*e*S		Sb	04 12 43.3	+1.7
DWS	**Wesley**	**1.36**	**185**	*e*P		Pb	04 12 31.7	+1.3
DWS				*e*S		Sb	04 12 50.0	+2.7
DSLB	**Salisbury**	**1.50**	**189**	*e*P		Pb	04 12 33.4	+0.5
DSLB				*e*S		Sb	04 12 54.1	+2.6
SKI	**Saint Kitts**	**1.54**	**285**	*e*P		Pb	04 12 35.5	+1.9
SKI				*e*S		Sb	04 12 54.0	+1.2

SDD ***16*** *04:14:22.0±1.5, 18.75N×69.38W, h108km±12km, MD3.1, ML2.6, MW2.9*
OSPL ***16*** *04:14:25.3±1.9, 18.53N×69.39W, h93km±14km, ML2.8*

ISC 16 04:14:24.2±1.6, 18.62N±0.07×69.41W±0.04, h81km±11km, n13, σ1ʃ26/21, 9C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATOM	**Hato Mayor del**	**0.17**	**8**	⇓*e*Pg		**Pn**	**04 14 35.5**	**-0.5**
HATOM				⇑*e*Sg		**Sn**	**04 14 46.2**	**+1.4**
HATOM				IAML			04 14 46.9	
comp=N,73nm,0.2s								
MIDR	**Miches**	**0.50**	**43**	⇑*e*Pg		**Pn**	**04 14 37.2**	**-0.8**
MIDR				⇑*e*Sg		**Sn**	**04 14 48.2**	**0.0**
MIDR				IAML			04 14 50.6	
comp=N,40nm,0.9s								
SDD	**Santo Domingo**	**0.51**	**252**	*e*S		**Sn**	**04 14 50.2**	**+1.8**
HIDR	**Higuey Centro**	**0.65**	**92**	⇑*e*Pg		**Pn**	**04 14 38.8**	**-0.6**
HIDR				⇑*e*Sg		**Sn**	**04 14 51.9**	**+1.1**
HIDR				IAML			04 14 53.8	
comp=N,289nm,0.2s								
NADR	**Nagua**	**0.85**	**330**	⇑*e*Pg		**Pn**	**04 14 38.8**	**-2.8**
NADR				⇑*e*Sg		**Sn**	**04 14 53.6**	**-0.8**
NADR				IAML			04 14 59.8	
comp=N,235nm,0.8s								
BANI	**BANI**	**0.93**	**256**	⇑*e*Pg		**Pn**	**04 14 42.9**	**+0.3**
BANI				⇑*e*Sg		**Sn**	**04 14 56.7**	**+0.3**
BANI				IAML			04 15 01.9	
comp=N,107nm,0.6s								
SC01	**Santiago de lo**	**1.49**	**303**	*i* P		**Pn**	**04 14 50.1**	**+0.7**
SC01				*e*S		**Sn**	**04 15 09.6**	**+1.1**
SC01				IAML			04 15 11.8	
comp=Z,27nm,0.8s								
LODU1	**El Espartillar**	**1.98**	**263**	*i* P		**Pn**	**04 14 55.6**	**-0.2**
LOVI	**El Cajuil, Ovi**	**2.04**	**247**	*i* P		**Pn**	**04 14 55.4**	**-1.2**
LOVI				IAML			04 15 18.1	
comp=Z,65nm,1.4s								
LOVI				*e*S		**Sn**	**04 15 19.7**	**-1.6**
LOPP1	**Punta Rusia, P**	**2.09**	**306**	*i* P		**Pn**	**04 14 59.2**	**+1.8**
AGPR	**Aguadilla, PR**	**2.18**	**94**	*i* P		**Pn**	**04 14 59.3**	**+0.7**
LOBH	**Bahia de las A**	**2.25**	**251**	*i* P		**Pn**	**04 14 59.4**	**-0.1**
LOBH				*e*S		**Sn**	**04 15 26.1**	**-0.4**
LOBH				IAML			04 15 28.8	
comp=Z,62nm,3.1s								
CRPR	**Cabo Rojo, PR**	**2.26**	**105**	*i* P		**Pn**	**04 14 58.9**	**-0.8**

IDC 16 04:24:08.7±2.9, 28.77N×142.74E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=116.6km s-min=33.6km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.10**	**190**	P		P	04 32 57.9	-0.2
0.2nm,0.2s,baz=6.3,slow=7.4,SNR=2.7								
0.2nm,0.2s								
MKAR	**Makanchi Array**	**49.81**	**309**	P		P	04 33 03.3	0.0
0.2nm,0.4s,baz=79,slow=9.1,SNR=2.2								
0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**52.24**	**313**	P		P	04 33 21.4	-0.2
0.7nm,0.4s,baz=95,slow=7.3,SNR=7.6								
0.7nm,0.4s								
BVAR	**Borovoye Array**	**57.16**	**317**	P		P	04 33 57.3	+0.1
1.3nm,0.4s,baz=92,slow=6.7,SNR=4.0								
1.3nm,0.4s								
ARCES	**ARCESS Array B**	**72.13**	**341**	P		P	04 35 34.6	-0.1
1.6nm,1.0s,baz=70,slow=11,SNR=1.3								
1.6nm,1.0s								

MOS ***16*** *04:31:51.0±1.1, 46.37N×152.65E, h58km, mb5.0/24, MS4.0/4, Error ellipse: s-maj=7.5km s-min=5.4km az=81.4*
JMA ***16*** *04:31:54.4±0.9, 47.6°×15.2°E±., h30km, MV5.2/16, KURILE ISLANDS REGION*
SKHL ***16*** *04:31:54.0±0.5, 46.30N×152.80E, h51km±3km, mb5.6/8*
BJI ***16*** *04:31:54.1, 46.29N×152.81E, h45km, mB4.9/8, mb4.4/23, Ms4.2/9, Ms7 3.9/9*
NIED ***16*** *04:31:54.4, 46.65N×152.36E, h30km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.50; Mθθ 9.63; Mφφ-8.13; Mrθ 1.61; Mθφ-2.33; Mφr 0.76; Fault plane solution: M₀ 9.34000×10¹⁵ NP1: φs142.00000°, δ79.00000°, λ0.00000°. NP2: φs233.00000°, δ90.00000°, λ-169.00000°.*
IDC ***16*** *04:31:57.9±2.2, 46.50N×152.46E, h58km±19km, mb4.0/30, mbtmp4.3/36, ML4.1/5, MS3.6/25 Error ellipse: s-maj=15.1km s-min=10.7km az=152.0*
NEIC ***16*** *04:31:58.8±1.9, 46.4N±0.1×152.5E±0.1, h62km±9km, mb4.9/214, Error ellipse: s-maj=20.6km s-min=12.0km az=149.0*

ISC 16 04:31:55.0±0.4, 46.23N±0.05×152.66E±0.04, h41km, n640, σ1ʃ28/548, mb4.8/167, MS3.9/29, 30C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.50**	**255**	*e*PN		**Pn**	**04 32 46.3**	**-0.5**
KUR				pmax	pmax			
comp=Z,1μm,1.5s								
KUR				pmax	pmax			
comp=Z,580nm,0.5s								
KUR				pmax	pmax			
comp=N,139nm,0.4s								
KUR				pmax	pmax			
comp=E,145nm,0.2s								
KUR	**Kuril'sk**	**3.50**	**255**	*e*P		**Pn**	**04 32 47.2**	**+0.4**
KUR				AMB	AMB		04 32 47.9	
comp=E,360nm,0.5s								
KUR				*e*S		**Sn**	**04 33 26.7**	**-0.2**
KUR				A	A		04 33 31.2	
comp=E,3μm,0.6s								
KUR				A	A		04 33 31.2	
comp=E,2μm,0.6s								
SHO	**Shikotan**	**4.75**	**242**	*c i*PN		**Pn**	**04 33 06.6**	**+2.5**
SHO				pmax	pmax			
comp=N,139nm,0.4s								
SHO				pmax	pmax			
comp=Z,350nm,0.4s								
SHO				pmax	pmax			
comp=E,138nm,0.3s								
SHO	**Shikotan**	**4.75**	**242**	*e*P		**Pn**	**04 33 06.0**	**+1.9**
SHO				AMB	AMB		04 33 07.2	
comp=E,350nm,0.4s								
SHO				*i* S		**Sn**	**04 33 57.3**	**-0.6**
SHO				A	A		04 34 03.7	
comp=E,800nm,0.5s								
SHO				A	A		04 34 03.7	
comp=E,310nm,0.5s								
SKR	**Severo-Kuril's**	**5.02**	**26**	⇓*e*PN		**Pn**	**04 33 07.2**	**-0.5**
SKR	**Severo-Kuril's**	**5.02**	**26**	*e*P		**Pn**	**04 33 07.2**	**-0.5**
SKR				AMB	AMB		04 33 13.5	
comp=E,400nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.28**	**248**	*c i*PN		**Pn**	**04 33 12.7**	**+1.4**
YUK				pmax	pmax			
comp=Z,501nm,0.3s								
YUK				pmax	pmax			
comp=N,103nm,0.1s								
YUK				pmax	pmax			
comp=E,144nm,0.1s								
YUK	**Yuzh-Kuril'sk**	**5.28**	**248**	*i* P		**Pn**	**04 33 12.7**	**+1.4**
YUK				AMB	AMB		04 33 13.3	
comp=E,140nm,0.3s								
YUK				AMB	AMB		04 33 13.3	
comp=E,500nm,0.3s								
YUK				*e*S		**Sn**	**04 34 10.4**	**-0.5**
YUK				A	A		04 34 16.0	
comp=E,2μm,0.6s								
YUK				A	A		04 34 16.0	
comp=E,2μm,0.6s								
GLVR	**Golovnino**	**5.64**	**246**	*e*PN		**Pn**	**04 33 16.9**	**+0.7**
GLVR				pmax	pmax			
comp=Z,711nm,0.3s								
GLVR	**Golovnino**	**5.64**	**246**	*e*P		**Pn**	**04 33 16.9**	**+0.7**
GLVR				AMB	AMB		04 33 19.0	
comp=Z,710nm,0.5s								
GLVR				*e*S		**Sn**	**04 34 19.2**	**-0.5**
GLVR				A	A		04 34 24.5	
comp=Z,1μm,0.7s								
GLVR				A	A		04 34 24.5	
comp=Z,1μm,0.7s								
RUSJ	**Misakicho**	**5.65**	**251**	*e*PN		**Pn**	**04 33 19.3**	**+2.9**
NEM2	**Nemuro 2**	**5.69**	**242**	*e*P		**Pn**	**04 33 16.4**	**-0.5**
NEM2				*e*S		**Sn**	**04 34 17.1**	**-3.8**
NMR	**Nemuro--Hokkai**	**5.70**	**242**	⇓*i*PN		**Pn**	**04 33 16.3**	**-0.7**
NMR	**Nemuro--Hokkai**	**5.70**	**242**	*i* P		**Pn**	**04 33 16.4**	**-0.6**
JRA	**Rausu**	**5.80**	**249**	*e*P		**Pn**	**04 33 20.0**	**+1.5**
JRA				*e*S		**Sn**	**04 34 24.8**	**+1.1**
PAU	**Pauzhetka**	**5.92**	**26**	*e*P		**Pn**	**04 33 19.4**	**-0.6**
PAU				AMB	AMB		04 33 20.5	
comp=Z,520nm,0.3s								
PAU				*e*S		**Sn**	**04 34 23.7**	**-2.8**
PAU				A	A		04 34 31.0	
comp=Z,190nm,0.3s								
PAU				A	A		04 34 31.0	
comp=Z,160nm,0.3s								
JNK	**Nakash**	**6.22**	**248**	*e*P		**Pn**	**04 33 25.1**	**+0.8**
JNK				*e*S		**Sn**	**04 34 33.6**	**-0.5**
JAK	**Akkeshi**	**6.54**	**243**	*e*P		**Pn**	**04 33 28.0**	**-0.5**
JAK				*e*S		**Sn**	**04 34 37.8**	**-3.9**
JTKR	**Abashiri--Toko**	**6.59**	**253**	*e*P		**Pn**	**04 33 31.3**	**+2.1**
YSS	**Yuzhno-Sakhali**	**6.86**	**280**	*e*PN		**Pn**	**04 33 34.7**	**+1.7**
YSS				pmax	pmax			
comp=Z,60nm,1.0s								
YSS				pmax	pmax			
comp=Z,300nm,5.0s								
YSS				MLR	MLR			
comp=Z,400nm,13.0s								
YSS	**Yuzhno-Sakhali**	**6.86**	**280**	*e*P		**Pn**	**04 33 34.2**	**+1.2**
YSS				*e*S		**Sn**	**04 34 48.3**	**-1.5**
JAR	**Ashorobuto**	**6.97**	**248**	*e*P		**Pn**	**04 33 35.8**	**+1.3**
JAR				*e*S		**Sn**	**04 34 52.5**	**+0.1**
JOB	**Onbets**	**7.12**	**245**	P		**Pn**	**04 33 36.8**	**+0.2**
JOB				*e*S		**Sn**	**04 34 53.2**	**-2.9**
JKK2	**Kamakawa 2**	**7.40**	**255**	*e*P		**Pn**	**04 33 42.8**	**+2.4**
JKA	**Kamikawa-asahi**	**7.42**	**257**			**Pn**	**04 33 43.7**	**+3.1**
ASAJ	**Asahikawa**	**7.42**	**257**	P		**Pn**	**04 33 43.9**	**+3.2**
comp=Z,7.3nm,0.3s,baz=64,slow=15,SNR=49								
comp=Z,32nm,0.6s								
JCH	**Churui**	**7.57**	**245**	*e*P		**Pn**	**04 33 42.4**	**-0.3**
JCH				*e*S		**Sn**	**04 35 04.0**	**-3.2**
PEA0B	**Petropavlovsk-**	**7.62**	**24**			**Pn**	**04 33 42.7**	**-0.7**
PEA0B	**Petropavlovsk-**	**7.62**	**24**	PN		**Pn**	**04 33 42.7**	**-0.7**
PETK	**Petropavlovsk-**	**7.62**	**24**	P		**Pn**	**04 33 42.4**	**-1.0**
comp=Z,4.9nm,0.3s,baz=190,slow=13,SNR=66								
PETK				LR	LR		04 36 44.5	
comp=Z,392nm,18.7s,baz=201,slow=39								
comp=Z,115nm,0.9s								
UGL	**Uglegorsk**	**7.70**	**296**	⇓*e*PN		**Pn**	**04 33 46.1**	**+1.6**
UGL				pmax	pmax			
comp=Z,188nm,0.6s								
UGL	**Uglegorsk**	**7.70**	**296**	*e*P		**Pn**	**04 33 46.0**	**+1.6**
UGL				AMB	AMB		04 33 47.0	
comp=Z,190nm,0.5s								
UGL				*e*S		**Sn**	**04 35 09.3**	**-1.0**
PET	**Petropavlovsk**	**7.84**	**28**	⇑*e*PN		**Pn**	**04 33 46.0**	**-0.3**
PET	**Petropavlovsk**	**7.84**	**28**	*e*P		**Pn**	**04 33 46.0**	**-0.3**
PET				*e*S		**Sn**	**04 35 08.3**	**-5.3**
JAB	**Ashibetsu**	**7.90**	**254**	*e*P		**Pn**	**04 33 49.6**	**+2.4**
ERM	**Erimo**	**8.03**	**242**			**Pn**	**04 33 49.9**	**+0.9**
ERM	**Erimo**	**8.03**	**242**	*d i*PN		**Pn**	**04 33 50.0**	**+1.1**
ERM				pmax	pmax			
comp=Z,59nm,0.7s								
TYV	**Tymovskoe**	**8.10**	**309**	*e*PN		**Pn**	**04 33 50.5**	**+0.6**
TYV				pmax	pmax			
comp=Z,46nm,0.6s								
TYV				pmax	pmax			
comp=Z,200nm,3.5s								
TYV	**Tymovskoe**	**8.10**	**309**	*e*P		**Pn**	**04 33 50.5**	**+0.6**
TYV				*e*S		**Sn**	**04 35 17.7**	**-2.3**
JNBK	**Urakawa-nobuka**	**8.13**	**245**	*e*P		**Pn**	**04 33 49.7**	**-0.7**
OKH	**Okha**	**9.64**	**323**	*e*P		**Pn**	**04 34 12.7**	**+1.7**
JANG	**Nango**	**10.00**	**238**	*e*P		**Pn**	**04 34 13.1**	**-2.9**
JANG				*e*S		Sn	04 35 57.5	-9.4
JTM	**Tenmabayashi**	**10.02**	**241**	Pn		**Pn**	**04 34 14.5**	**-1.7**
JTH	**Tanohata**	**10.09**	**235**	*e*S		Sn	04 35 58.8	-10
TEY	**Ternei**	**11.31**	**270**	*e*P		**Pn**	**04 34 34.1**	**+0.3**
JMM	**Marumori**	**12.14**	**231**	Pn		**Pn**	**04 34 42.4**	**-2.8**
MA2	**Magadan**	**13.42**	**356**			**Pn**	**04 35 01.8**	**-0.8**
MA2	**Magadan**	**13.42**	**356**	P		**Pn**	**04 35 01.1**	**-1.6**
comp=Z,15nm,0.5s,baz=169,slow=9.7,SNR=7.6								
MA2				LR	LR		04 39 58.3	
comp=Z,315nm,20.3s,baz=197,slow=37								
MA2	**Magadan**	**13.42**	**356**	*c i*PN		**Pn**	**04 35 01.3**	**-1.3**
MA2				pmax	pmax			
comp=Z,15nm,0.8s								

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAJO	**Matsushiro**	**14.51**	**233**			**Pn**	**04 35 15.4**	**-2.1**
MAJO	**Matsushiro**	**14.51**	**233**	*de*P		**Pn**	**04 35 15.2**	**-2.4**
MJAR	**Matsushiro Arr**	**14.51**	**233**			**Pn**	**04 35 14.9**	**-2.7**
MJAR	**Matsushiro Arr**	**14.51**	**233**	P		**P**	**04 35 22.6**	**-0.8**
comp=Z,0.6nm,0.3s,baz=34,slow=9.2,SNR=24								
comp=Z,12nm,0.5s								
MJB9	**Matsu-Tunnel**	**14.51**	**233**			**Pn**	**04 35 16.0**	**-1.6**
USRK	**Ussuriysk Ar.**	**14.71**	**270**	P		**Pn**	**04 35 21.0**	**+0.9**
comp=Z,0.6nm,0.3s,baz=69,slow=11,SNR=7.0								
comp=Z,1.2nm,0.3s								
USRK	**Ussuriysk Ar.**	**14.71**	**270**	P		**Pn**	**04 35 21.0**	**+0.9**
SHEM	**Shemya Is, Ala**	**15.35**	**57**	LR		LR	04 39 50.4	
comp=Z,82nm,20.1s,baz=347,slow=31								
SMY	**Shemya**	**15.35**	**57**	Pn		**Pn**	**04 35 28.5**	**0.0**
SMY	**Shemya**	**15.35**	**57**	P		**Pn**	**04 35 28.5**	**0.0**
PSTR	**Posyet**	**16.00**	**265**	⇑*e*P		**P**	**04 35 41.2**	**+1.3**
SEY	**Seymchan**	**16.74**	**360**	P		**Pn**	**04 35 45.0**	**-1.2**
comp=Z,0.8nm,0.3s,baz=197,slow=11,SNR=5.9								
comp=Z,2.1nm,0.3s								
SEY	**Seymchan**	**16.74**	**360**	⇑*i*P		**Pn**	**04 35 46.3**	**+0.1**
HEH	**HeiHe**	**17.26**	**293**	*e*P		**P**	**04 35 55.0**	**+1.2**
HEH				pmax	pmax			
comp=Z,12nm,0.8s								
ZEA	**Zeya**	**17.92**	**304**	*e*P		P	04 36 10.6	+10
ZEA				pmax	pmax			
comp=Z,10.0nm,1.3s								
ZEA	**Zeya**	**17.92**	**304**	*e*P		**Pn**	**04 35 58.6**	**-2.2**
CN2	**Changchun**	**19.36**	**273**	*e*P		**Pn**	**04 36 18.6**	**+0.3**
CN2				*e*S		**Sn**	**04 39 56.5**	**+2.2**
CN2				pmax	pmax			
comp=Z,10.0nm,0.6s								
CN2				pmax	pmax			
comp=Z,100nm,3.0s								
CN2				LR	LR			
comp=Z,100nm,10.0s								
CN2				LR	LR			
comp=Z,200nm,10.0s								
CN2				LR	LR			
comp=Z,200nm,11.0s								
KSRS	**Korea Array**	**20.34**	**253**	P		Pn	04 36 30.2	+0.3
comp=Z,4.8nm,0.7s,baz=62,slow=11,SNR=14								
comp=Z,4.8nm,0.7s								
YAK	**Yakutsk**	**20.60**	**328**	P		**P**	**04 36 29.3**	**-0.9**
YAK				IAmb	IAmb		04 36 43.2	
comp=Z,53nm,1.1s								
YAK	**Yakutsk**	**20.60**	**328**	P		**P**	**04 36 28.9**	**-1.3**
comp=Z,25nm,0.4s,baz=138,slow=1.1,SNR=5.8								
YAK				LR	LR		04 44 06.9	
comp=Z,138nm,20.0s,baz=126,slow=36								
comp=Z,25nm,0.4s								
YAK	**Yakutsk**	**20.60**	**328**	*e*P		**P**	**04 36 30.1**	**-0.1**
YAK				*e**PP		Pn	04 36 35.7	+3.0
YAK				*e*			04 36 46.6	
YAK				*e*S		**S**	**04 40 16.0**	**-1.9**
YAK				*e*SS		**SnSn**	**04 40 50.8**	**+12**
YAK				*e*SSS		SSS	04 41 01.6	
YAK				pmax	pmax			
comp=Z,21nm,0.8s								
YAK				pmax	pmax			
comp=Z,28nm,0.8s								
YAK				pmax	pmax			
comp=E,27nm,1.1s								
YAK				pmax	pmax			
comp=N,17nm,1.0s								
YAK				smax	smax			
comp=N,39nm,12.2s								
YAK				smax	smax			
comp=E,45nm,13.4s								
YAK				MLR	MLR			
comp=Z,185nm,12.0s								
YAK				MLR	MLR			
comp=E,97nm,13.0s								
YAK				MLR	MLR			
comp=N,110nm,13.0s								
YAK	**Yakutsk**	**20.60**	**328**	*e*P		**P**	**04 36 30.1**	**-0.1**
JNU	**Nakatsue**	**21.18**	**240**	LR		LR	04 44 54.4	
comp=N,104nm,20.6s,baz=33,slow=37								
BILL	**Bilibino**	**22.97**	**13**	⇑*e*P		**P**	**04 36 56.5**	**+0.9**
BILL				pmax	pmax			
comp=Z,15nm,1.0s								
SPIA	**Saint Paul Isl**	**25.15**	**51**	P		**P**	**04 37 16.1**	**+0.2**
baz=261								
P08K	**Saint George I**	**25.44**	**52**	P		**P**	**04 37 18.8**	**+0.3**
baz=262								
NIKH	**Nikolski High**	**25.60**	**61**	P		**P**	**04 37 20.5**	**+0.5**
baz=271								
GAMB	**Gambell**	**26.43**	**36**	P		**P**	**04 37 27.1**	**-0.3**
baz=246								
UNV	**Unalaska Valle**	**27.00**	**59**	P		**P**	**04 37 32.9**	**+0.2**
baz=271								
M11K	**Mekoryuk**	**27.83**	**44**	P		**P**	**04 37 39.5**	**-0.5**
baz=258								
TIXI	**Tiksi**	**27.88**	**344**	LR		LR	04 48 56.6	
comp=Z,227nm,18.8s,baz=165,slow=37								
TNA	**Tin City**	**28.64**	**33**	P		**P**	**04 37 46.8**	**-0.4**
baz=247								
K13K	**Kusilvak Mount**	**28.89**	**42**	P		**P**	**04 37 49.1**	**-0.4**
baz=257								
H11N2	**WAKE ISLAND Hy**	**28.90**	**151**	T		T	05 09 19.7	
baz=340,slow=76,SNR=4562								
H11N1	**WAKE ISLAND Hy**	**28.92**	**151**	T		T	05 09 30.9	
baz=340,slow=76,SNR=2409								
H11N3	**WAKE ISLAND Hy**	**28.92**	**151**	T		T	05 09 20.8	
baz=340,slow=76,SNR=2750								
M13K	**Dall Lake**	**29.22**	**45**	P		**P**	**04 37 52.7**	**+0.3**
baz=261								
F14K	**Arctic Creek**	**29.23**	**34**	P		**P**	**04 37 52.1**	**-0.4**
baz=249								
ANM	**Nome**	**29.30**	**36**	P		**P**	**04 37 52.9**	**-0.2**
baz=252								
NJ2	**Nanjing**	**29.54**	**253**	*e*P		**P**	**04 37 55.6**	**0.0**
NJ2				pmax	pmax			
comp=Z,11nm,0.5s								
S12K	**Black Hills**	**29.56**	**55**	P		**P**	**04 37 55.6**	**+0.1**
baz=271								
J14K	**Nanvaranak Lak**	**29.58**	**40**	P		**P**	**04 37 55.6**	**0.0**
baz=257								
L14K	**Kuka Creek**	**29.70**	**43**			**P**	**04 37 58.1**	**+1.5**
L14K	**Kuka Creek**	**29.70**	**43**	P		**P**	**04 37 56.9**	**+0.3**
baz=260								
M14K	**Bethel**	**29.95**	**44**			**P**	**04 38 00.2**	**+1.3**
M14K				IAmb	IAmb		04 38 01.0	
comp=Z,14nm,0.8s								
M14K	**B

ULN	Ulaanbaatar	30.78	290	*e*P		P	04 38 07.2	+0.6
N15K	Kwethluk River	30.80	46			P	04 38 07.7	+1.2
N15K				IAmb		IAmb	04 38 08.2	
	comp=Z,54nm,1.6s							
N15K	Kwethluk River	30.80	46	P		P	04 38 06.5	0.0
	baz=265							
O15K	Ungalikthiuk R	30.86	48			P	04 38 07.9	+1.0
O15K				IAmb		IAmb	04 38 09.0	
	comp=Z,15nm,0.8s							
O15K	Ungalikthiuk R	30.86	48	P		P	04 38 07.7	+0.7
	baz=267							
CHNA	Chernabura Isl	31.01	56	P		P	04 38 09.0	+0.8
	baz=274							
J16K	Anvik River	31.01	40	P		P	04 38 08.9	+0.6
	baz=259							
I17K	Unalakleet	31.09	39	P		P	04 38 09.5	+0.6
	baz=258							
BTO	Baotou	31.19	275	*e*P		P	04 38 09.4	-0.8
BTO				S		S	04 43 13.0	-0.4
BTO				pmax		pmax		
	comp=Z,13nm,0.8s							
BTO				pmax		pmax		
	comp=Z,190nm,6.0s							
BTO				LR		LR		
	comp=Z,310nm,5.0s							
BTO				LR		LR		
	comp=Z,230nm,6.1s							
BTO				LR		LR		
	comp=Z,300nm,12.6s							
SONM	Songino Array	31.21	290	P		P	04 38 10.4	0.0
	comp=Z,0.3nm,0.4s,baz=79,slow=9.0,SNR=2.8							
	comp=Z,0.3nm,0.4s							
D17K	Noatak River	31.24	31	P		P	04 38 10.4	+0.2
	baz=249							
L16K	Owhat River	31.27	43	P		P	04 38 11.3	+0.8
L16K	Owhat River	31.27	43	P		P	04 38 11.1	+0.5
	baz=263							
RDOG	Red Dog Mine	31.43	30	P		P	04 38 12.1	+0.2
	baz=249							
M16K	Timber Creek	31.44	44			P	04 38 13.1	+1.0
M16K				IAmb		IAmb	04 38 14.1	
	comp=Z,17nm,0.9s							
M16K	Timber Creek	31.44	44	P		P	04 38 12.5	+0.4
	baz=265,SNR=7.8							
N16K	Nishlik Lake	31.48	45	P		P	04 38 12.5	0.0
	baz=266,SNR=8.9							
E17K	Hotham Inlet	31.49	32	P		P	04 38 12.6	+0.2
	baz=252,SNR=6.5							
G17K	Kiwalik Mounta	31.49	36	P		P	04 38 12.7	+0.2
	baz=256,SNR=5.5							
C17K	DeLong Mountai	31.49	29	P		P	04 38 12.5	+0.1
	baz=248							
F17K	Baldwin Pennin	31.51	34	P		P	04 38 12.7	+0.1
	baz=254							
J17K	VABM Dome	31.71	40			P	04 38 15.2	+0.9
J17K				IAmb		IAmb	04 38 16.5	
	comp=Z,12nm,0.8s							
J17K	VABM Dome	31.71	40	P		P	04 38 14.7	+0.3
	baz=261,SNR=5.4							
O16K	Kokwok River B	31.77	47	P		P	04 38 15.4	+0.5
	baz=268							
L17K	Donlin	31.88	42	P		P	04 38 16.3	+0.4
	baz=263,SNR=5.2							
K17K	Iditarod	31.95	41	IAmb		IAmb	04 38 18.8	
	comp=Z,15nm,0.9s							
K17K	Iditarod	31.95	41	P		P	04 38 16.9	+0.3
	baz=262,SNR=5.2							
E18K	Tukpahlearik C	32.04	32	P		P	04 38 17.6	+0.4
	baz=253							
F18K	Selawik	32.17	34	P		P	04 38 18.6	+0.3
	baz=255							
M17K	Holitna River	32.21	44			P	04 38 20.1	+1.3
M17K				IAmb		IAmb	04 38 21.2	
	comp=Z,25nm,0.9s							
M17K	Holitna River	32.21	44	P		P	04 38 19.7	+0.9
	baz=265,SNR=9.5							
C18K	Utukok River	32.23	30	IAmb		IAmb	04 38 21.7	
	comp=Z,16nm,0.9s							
C18K	Utukok River	32.23	30	P		P	04 38 18.8	-0.2
	baz=250							
N17K	Nushagak Hills	32.27	45	P		P	04 38 20.6	+1.2
N17K	Nushagak Hills	32.27	45	P		P	04 38 20.5	+1.2
	baz=267,SNR=5.0							
O17K	Koliganek Bris	32.28	47	P		P	04 38 20.3	+0.9
	baz=268,SNR=8.4							
B18K	Kokolik River	32.29	28	P		P	04 38 19.1	-0.3
	baz=248							
H18K	Honhosa River	32.34	37	P		P	04 38 20.4	+0.4
	baz=259							
G18K	Tagagawik	32.38	35	IAmb		IAmb	04 38 21.9	
	comp=Z,11nm,0.7s							
G18K	Tagagawik	32.38	35	P		P	04 38 20.6	+0.3
	baz=257,SNR=8.0							
Q16K	King Salmon	32.49	49	P		P	04 38 21.8	+0.5
	baz=270							
P17K	Kvichak River	32.60	48	P		P	04 38 22.5	+0.3
	baz=270							
L18K	Granite Mounta	32.64	42	P		P	04 38 23.1	+0.6
	baz=265,SNR=6.2							
R17L	Mt. Peulik Vol	32.66	51	P		P	04 38 23.1	+0.3
	baz=272							
J18K	Innoko River	32.77	40	P		P	04 38 23.8	+0.1
	baz=263,SNR=7.5							
A19K	Wainwright	32.84	27	P		P	04 38 23.8	-0.4
	baz=248							
GCSA	Galena City Sc	32.89	38	P		P	04 38 24.6	0.0
	baz=261							
N18K	Kilae Creek	32.92	45	IAmb		IAmb	04 38 27.6	
	comp=Z,21nm,1.1s							
N18K	Kilae Creek	32.92	45	P		P	04 38 24.9	-0.1
	baz=268,SNR=8.9							
C19K	Lookout Ridge	32.94	29	P		P	04 38 25.1	0.0
	baz=251							
F19K	Shaleruckik Mo	32.95	34	P		P	04 38 25.2	0.0
	baz=257,SNR=5.4							
M18K	Stony River	32.99	44	P		P	04 38 25.9	+0.3
	baz=267							
G19K	Purcell Mounta	33.06	35	P		P	04 38 26.0	-0.2
	baz=258,SNR=5.1							
CHIR	Chirikof Islan	33.19	54	P		P	04 38 27.6	+0.3
	baz=276							
GUMO	Guam	33.19	194	LR		LR	04 51 31.7	
	comp=Z,51nm,18.9s,baz=354,slow=35							
H19K	Roundabout Mou	33.20	36	P		P	04 38 28.3	+0.9
H19K	Roundabout Mou	33.20	36	P		P	04 38 27.8	+0.4
	baz=260,SNR=23							
P18K	Big Mountain,	33.22	47	P		P	04 38 28.0	+0.3
	baz=271							
O18K	Koktuh Hills	33.24	47	P		P	04 38 28.1	+0.2
	baz=270							
D19K	Kuna River	33.26	31	IAmb		IAmb	04 38 30.2	
	comp=Z,20nm,0.9s							
D19K	Kuna River	33.26	31	P		P	04 38 27.5	-0.4
	baz=254,SNR=8.3							
E19K	Redstone River	33.30	33	IAmb		IAmb	04 38 29.9	
	comp=Z,16nm,1.0s							
E19K	Redstone River	33.30	33	P		P	04 38 28.4	+0.1
	baz=256,SNR=13							
J19K	Poorman	33.32	39	IAmb		IAmb	04 38 29.9	
	comp=Z,14nm,0.8s							
J19K	Poorman	33.32	39	P		P	04 38 28.8	+0.3
	baz=263,SNR=11							
Q18K	Katmai Hardscr	33.35	49	P		P	04 38 29.1	+0.2
	baz=272							
L19K	White Mountain	33.49	42	IAmb		IAmb	04 38 32.2	
	comp=Z,16nm,1.4s							
L19K	White Mountain	33.49	42	P		P	04 38 30.5	+0.5
	baz=267,SNR=5.7							
N19K	Bonanza Creek	33.61	45	P		P	04 38 31.3	+0.1
	baz=269							
R18K	Karluk	33.69	51	P		P	04 38 32.1	+0.4
	baz=274							
M19K	Big River Lodg	33.70	43	IAmb		IAmb	04 38 34.9	
	comp=Z,34nm,2.0s							
M19K	Big River Lodg	33.70	43	P		P	04 38 32.3	+0.5
	baz=268							
F20K	Avaraart Lake	33.78	34	P		P	04 38 32.3	-0.1
	baz=258							
H20K	Anotleneega Mo	33.84	36	P		P	04 38 33.5	+0.5
	baz=262,SNR=8.7							
D20K	Etivluk River	33.85	30	P		P	04 38 33.1	+0.1
	baz=255,SNR=14							
E20K	Nigu River	33.88	31	P		P	04 38 33.7	+0.3
	baz=256,SNR=11							
I20K	Naaghedeneel	33.91	38	P		P	04 38 34.3	+0.8
	baz=263							
SII	Sitkinak Islan	33.92	53	P		P	04 38 34.4	+0.6
	baz=276							
K20K	Telida	33.94	40	P		P	04 38 34.9	+1.0
	baz=266							
L20K	Farewell, AK	33.97	42	P		P	04 38 34.6	+0.4
	baz=267,SNR=5.9							
J20K	Nowinta River	33.98	39	IAmb		IAmb	04 38 36.1	
	comp=Z,11nm,0.9s							
J20K	Nowinta River	33.98	39	P		P	04 38 34.5	+0.3
	baz=264,SNR=11							
B20K	Meade River	34.03	28	P		P	04 38 34.9	+0.3
	baz=253							
Q19K	Cape Douglas,	34.05	48	P		P	04 38 35.1	+0.2
	baz=273							
P19K	Oil Pt	34.24	47	P		P	04 38 36.7	+0.2
	baz=272							
M20K	Styx River	34.29	43	P		P	04 38 36.8	-0.2
	baz=269							
OHAK	Old Harbor	34.35	51	IAmb		IAmb	04 38 39.0	
	comp=Z,18nm,1.0s							
OHAK	Old Harbor	34.35	51	P		P	04 38 37.7	+0.3
	baz=275							
IMAR	Indian Mountai	34.38	36	P		P	04 38 38.1	+0.5
O20K	Slope Mountain	34.53	46	P		P	04 38 39.4	+0.2
	baz=272							
G21K	Allakaket	34.55	35	IAmb		IAmb	04 38 40.9	
	comp=Z,13nm,0.8s							
G21K	Allakaket	34.55	35	P		P	04 38 39.4	+0.3
	baz=262,SNR=9.0							
C21K	Knifeblade Rid	34.60	30	P		P	04 38 39.7	+0.2
	baz=256,SNR=6.1							
A21K	Barrow	34.62	26	P		P	04 38 39.9	+0.3
	baz=251							
F21K	Alatna River	34.68	34			P	04 38 40.8	+0.5
F21K	Alatna River	34.68	34	P		P	04 38 40.0	-0.2
	baz=260							
KDAK	Kodiak Island	34.68	50	P		P	04 38 40.4	+0.1
KDAK	Kodiak Island	34.68	50	P		P	04 38 40.1	-0.2
	comp=Z,15nm,0.7s,baz=39,slow=0.9,SNR=18							
KDAK				LR		LR	04 53 52.4	
	comp=Z,40nm,19.8s,baz=220,slow=38							
	comp=Z,15nm,0.7s							
KDAK	Kodiak Island	34.68	50	*c* iP		P	04 38 40.0	-0.2
KDAK						pmax	pmax	
	comp=Z,54nm,1.6s							
KDAK	Kodiak Island	34.68	50	P		P	04 38 40.4	+0.1
	baz=275							
KDAK	Kodiak Island	34.68	50	P		P	04 38 40.1	-0.2
KDAK				pP		sP	04 38 56.3	+1.1
Q20K	Shuyak Island	34.72	49	P		P	04 38 40.9	+0.3
	baz=274							
H21K	Melozitna River	34.72	36	IAmb		IAmb	04 38 42.4	
	comp=Z,18nm,0.9s							
H21K	Melozitna River	34.72	36	P		P	04 38 41.1	+0.5
	baz=263,SNR=16							
N20K	Mount Spurr	34.72	44	P		P	04 38 40.7	-0.1
	baz=270							
SPCR	Spurr Chakacha	34.72	44	P		P	04 38 40.7	-0.1
	baz=270							
E21K	Killik River	34.73	31	P		P	04 38 40.7	+0.1
	baz=258							
CHUM	Lake Minchumin	34.76	40	P		P	04 38 41.6	+0.6
	baz=266							
PPLA	Purkeypile	34.77	41	P		P	04 38 42.3	+1.1
	baz=268,SNR=6.7							
B21K	Ikpikpuk River	34.77	29	P		P	04 38 41.3	+0.3
	baz=256							
SPU	Mount Spurr	34.80	44	IAmb		IAmb	04 38 43.7	
	comp=Z,11nm,1.1s							
CAST	Castle Rocks	34.84	40	IAmb		IAmb	04 38 43.9	
	comp=Z,12nm,1.1s							
CAST	Castle Rocks	34.84	40	P		P	04 38 42.7	+1.1
	baz=267,SNR=8.1							
STLK	Strandline Lak	34.90	44	IAmb		IAmb	04 38 44.6	
	comp=Z,14nm,0.9s							
I21K	Tanana	35.01	37	IAmb		IAmb	04 38 44.7	
	comp=Z,11nm,0.8s							
I21K	Tanana	35.01	37	P		P	04 38 43.9	+0.8
	baz=265							
A22K	Sinclair Lake	35.03	27	P		P	04 38 43.5	+0.4
	baz=254							
HOM	Homer	35.04	47	P		P	04 38 43.9	+0.5
	baz=273							
SKT	Skwentna	35.05	43	IAmb		IAmb	04 38 46.1	
	comp=Z,11nm,0.9s							
SKT	Skwentna	35.05	43	P		P	04 38 44.4	+0.9
	baz=270,SNR=7.5							
XAN	Xi'an	35.16	266	P		P	04 38 51.5	+6.7
XAN				pmax		pmax		
	comp=Z,10.0nm,0.7s							
F22K	John River	35.22	33	P		P	04 38 45.1	+0.2
	baz=261							
CAPN	Captain Cook N	35.24	45	P		P	04 38 46.3	+1.2
	baz=272							
D22K	Ayikyak River	35.28	31	P		P	04 38 45.8	+0.4
	baz=259							
H22K	Ishtalitna Cre	35.33	36	P		P	04 38 47.0	+1.1
	baz=264,SNR=10							
B22K	Teshekpuk Lake	35.35	28	P		P	04 38 46.2	+0.3
	baz=256							
BPAW	Bear Paw Mtn.	35.36	39	P		P	04 38 46.8	+0.6
	baz=267,SNR=6.4							
G22K	Bettles	35.40	34	P		P	04 38 46.3	-0.1
	baz=263							
BRLK	Bradley Lake	35.42	47	IAmb		IAmb	04 38 47.5	
	comp=Z,10.0nm,0.7s							
SUA	Susitna One	35.43	44	P		P	04 38 47.0	+0.2
	baz=271,SNR=7.1							
E22K	Anaktuvuk Pass	35.46	32	P		P	04 38 47.8	+0.8
	baz=261,SNR=15							
MLY	Manley	35.52	38	IAmb		IAmb	04 38 49.6	
	comp=Z,11nm,0.8s							
MLY	Manley	35.52	38	P		P	04 38 48.6	+1.0
	baz=266,SNR=16							
CUT	Chulitna	35.64	42	P		P	04 38 48.6	+0.1
	baz=270							
TRF	Thorofare Moun	35.64	40	IAmb		IAmb	04 38 51.5	
	comp=Z,10nm,0.8s							
TRF	Thorofare Moun	35.64	40	P		P	04 38 49.3	+0.5
	baz=269,SNR=11							
M22K	Willow	35.72	43	P		P	04 38 49.3	+0.1
	baz=272							
RC01	Rabbit Creek A	35.92	44	IAmb		IAmb	04 38 52.2	
	comp=Z,13nm,0.9s							
RC01	Rabbit Creek A	35.92	44	P		P	04 38 51.4	+0.4
	baz=273,SNR=5.7							
COLD	Coldfoot	35.94	34	P		P	04 38 51.6	+0.5
	baz=264,SNR=5.6							
G23K	Bananza Creek	35.96	35	P		P	04 38 51.9	+0.6
	baz=265,SNR=8.8							
D23K	Nanushuk River	36.01	31	P		P	04 38 52.2	+0.6
	baz=261							
H23K	Yukon River	36.08	36	IAmb		IAmb	04 38 54.5	
	comp=Z,15nm,0.8s							
H23K	Yukon River	36.08	36	P		P	04 38 53.4	+1.1
	baz=266,SNR=18							
I23K	Minto, Yukon-K	36.11	37	P		P	04 38 53.4	+0.9
	baz=268,SNR=12							
SEW	Seward	36.12	46	P		P	04 38 53.0	+0.3
	baz=274							
C23K	Itkillik River	36.18	29	P		P	04 38 53.7	+0.6
	baz=260,SNR=5.6							
PMR	Palmer	36.20	43	IAmb		IAmb	04 38 55.0	
	comp=Z,9.7nm,0.8s							
PMR	Palmer	36.20	43	P		P	04 38 53.7	+0.4
	baz=273,SNR=9.4							
NEA2	Nenana	36.21	38	IAmb		IAmb	04 38 55.1	
	comp=Z,16nm,0.8s							
NEA2	Nenana	36.21	38	P		P	04 38 54.2	+0.8
	baz=268,SNR=27							
MCK	McKinley	36.26	40	IAmb		IAmb	04 38 55.3	
	comp=Z,14nm,0.9s							
MCK	McKinley	36.26	40	P		P	04 38 54.3	+0.4
	baz=270,SNR=8.7							
E23K	Chandalar	36.26	32	IAmb		IAmb	04 38 57.6	
	comp=Z,12nm,1.1s							
E23K	Chandalar	36.26	32	P		P	04 38 54.7	+0.8
	baz=263,SNR=6.9							
RND	Reindeer	36.29	40	IAmb		IAmb	04 38 55.3	
	comp=Z,16nm,0.9s							
TOLK	Toolik Lake Re	36.36	32	IAmb		IAmb	04 38 58.3	
	comp=Z,11nm,0.9s							
TOLK	Toolik Lake Re	36.36	32	P		P	04 38 55.1	+0.4
	baz=262,SNR=6.9							
KNK	Knik Glacier	36.53	44	P		P	04 38 56.4	+0.2
	baz=273,SNR=7.4							
PWL	Port Wells	36.62	45	IAmb		IAmb	04 38 57.9	
	comp=Z,12nm,0.7s							
PWL	Port Wells	36.62	45	P		P	04 38 57.1	+0.1
	baz=274,SNR=6.8							
WRH	Wood River Hil	36.63	39	IAmb		IAmb	04 38 59.8	
	comp=Z,14nm,0.9s							
E24K	Your Creek	36.69	33	IAmb		IAmb	04 39 02.3	
	comp=Z,12nm,0.8s							
E24K	Your Creek	36.69	33	P		P	04 38 58.4	+0.9
	baz=264							
D24K	Happy Valley	36.70	31	P		P	04 38 57.9	+0.5
	baz=262,SNR=6.7							
COLA	College	36.74	38	P		P	04 38 58.7	+0.8
COLA	College	36.74	38	P		P	04 38 58.7	+0.8
COLA				pmax		pmax		
	comp=Z,36nm,0.8s							
COLA	College	36.74	38	P		P	04 38 58.5	+0.6
	baz=269							
COLA	College	36.74	38	P		P	04 38 58.7	+0.8
CCB	Clear Creek Bu	36.76	38	IAmb		IAmb	04 38 59.5	
	comp=Z,26nm,1.6s							
H24K	Noodor Dome	36.76	36	IAmb		IAmb	04 39 00.3	
	comp=Z,21nm,1.3s							
H24K	Noodor Dome	36.76	36	P		P	04 38 59.3	+1.1
	baz=268,SNR=11							
C24K	Franklin Bluff	36.82	30	P		P	04 38 58.8	+0.4
	baz=262							
M23K	Glacier View	36.85	43	P		P	04 38 59.6	+0.7
	baz=274,SNR=6.9							
F24K	Squaw Lake	36.86	34	P		P	04 38 59.6	+0.7
	baz=266							
POKR	Poker Flat Res	36.92	38	P		P	04 39 00.8	+1.3
	baz=269,SNR=6.3							
G24K	Hadweenzic Riv	36.97	35	P		P	04 39 01.1	+1.3
	baz=267,SNR=18							
SCM	Sheep Creek Mo	37.04	43	IAmb		IAmb	04 39 02.2	
	comp=Z,15nm,0.7s							
SCM	Sheep Creek Mo	37.04	43	P		P	04 39 01.2	+0.6
	baz=274,SNR=7.8							
HDA	Harding Lake	37.13	39	P		P	04 39 01.3	+0.1
	baz=271,SNR=18							
P23K	Montague Islan	37.15	46	P		P	04 39 02.0	+0.5
	baz=276							
ILAR	Eielson Array	37.16	38	P		P	04 39 01.8	+0.3
ILAR	Eielson Array	37.16	38	P		P	04 39 01.6	+0.1
	comp=Z,5.4nm,0.8s,baz=258,slow=7.2,SNR=72							
ILAR				LR		LR	04 56 13.6	
	comp=Z,73nm,19.3s,baz=247,slow=39							
	comp=Z,5.4nm,0.8s							
ILAR	Eielson Array	37.16	38	P		P	04 39 01.8	+0.3
GLI	Glacier Island	37.22	45	P		P	04 39 02.3	+0.3
	baz=275,SNR=11							
G25K	Bearman Lake	37.52	35	P		P	04 39 05.6	+1.2
	baz=268,SNR=5.3							
FID	Port Fidalgo	37.54	45	IAmb		IAmb	04 39 05.8	
	comp=Z,13nm,1.0s							
M24K	Tolsona, Glenn	37.57	43	P		P	04 39 06.2	+1.2
	baz=274,SNR=6.0							
D25K	Kavik River	37.58	31	P		P	04 39 05.7	+0.7
	baz=265							
LZH	Lanzhou	37.59	272	*e*P		P	04 39 11.5	+5.8
LZH				sP		pwP	04 39 30.0	+10
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
LZH				LR		LR		
	comp=Z,200nm,19.5s							
LZH				LR		LR		
	comp=Z,170nm,18.5s							
LZH				LR		LR		
	comp=Z,190nm,17.5s							
H25L	Birch Creek	37.62	36	P		P	04 39 06.6	+1.3
	baz=269,SNR=6.1							
K24K	Donnelly Dome	37.66	40	P		P	04 39 06.2	+0.5
	baz=272,SNR=9.0							
F25K	Christian Rive	37.73	33	IAmb		IAmb	04 39 09.0	
	comp=Z,28nm,1.8s							
F25K	Christian Rive	37.73	33	P		P	04 39 07.3	+1.0
	baz=268							
PRP	Porcupine Dome	37.73	37	IAmb		IAmb	04 39 08.3	
	comp=Z,12nm,0.8s							
PRP	Porcupine Dome	37.73	37	P		P	04 39 07.1	+0.7
	baz=270,SNR=14							
KLU	Klutina	37.74	44	IAmb		IAmb	04 39 08.3	
	comp=Z,24nm,1.1s							
KLU	Klutina	37.74	44	P		P	04 39 07.3	+0.8
	baz=275,SNR=12							
Q23K	Middleton Isla	37.75	47	P		P	04 39 07.3	+0.8
	baz=278							
E25K	Arctic Village	37.78	33	P		P	04 39 07.5	+0.7
	baz=267							
J25K	Salcha River,	37.81	38	IAmb		IAmb	04 39 08.2	
	comp=Z,11nm,0.7s							
J25K	Salcha River,	37.81	38	P		P	04 39 06.3	-0.8
	baz=272,SNR=17							
PAX	Paxson	37.84	41	P		P	04 39 08.2	+0.9
	baz=274							
EYAK	Cordova Ski Ar	37.91	45	P		P	04 39 08.9	+1.1
	baz=277							
HARP	HAARP	38.02	42	P		P	04 39 09.8	+1.0
	baz=275							
RIDG	Independent Ri	38.07	40	IAmb		IAmb	04 39 10.2	
	comp=Z,14nm,0.8s							
RIDG	Independent Ri	38.07	40	P		P	04 39 09.4	+0.2
	baz=273,SNR=7.7							
BMAR	Burnt Mountain	38.13	34	P		P	04 39 11.1	+1.4
F26K	Sheenjek River	38.30	33	P		P	04 39 11.7	+0.5
	baz=269							
N25K	Chitina, Valde	38.36	43	IAmb		IAmb	04 39 13.8	
	comp=Z,7.1nm,0.7s							
N25K	Chitina, Valde	38.36	43	P		P	04 39 13.0	+1.3
	baz=276,SNR=6.9							
BMRM	Bremner River	38.42	44	P		P	04 39 13.2	+1.0
	baz=277,SNR=9.6							
DOT	Dot Lake	38.43	40	IAmb		IAmb	04 39 12.8	
	comp=Z,9.6nm,0.7s							
G26K	Porcupine Rive	38.43	35	IAmb		IAmb	04 39 14.7	
	comp=Z,14nm,0.8s							
G26K	Porcupine Rive	38.43	35	P		P	04 39 13.7	+1.5
	baz=270,SNR=12							
SCRK	Sand Creek	38.44	39	IAmb		IAmb	04 39 13.2	
	comp=Z,7.7nm,0.6s							
SCRK	Sand Creek	38.44	39	P		P	04 39 12.5	0.0
	baz=274,SNR=9.7							
C27K	Jago River	38.54	30	IAmb		IAmb	04 39 24.6	
	comp=Z,27nm,1.4s							
C27K	Jago River	38.54	30	P		P	04 39 13.7	+0.6
	baz=267							
J26L	Joseph Creek	38.59	38	P		P	04 39 14.0	+0.3
	baz=274,SNR=14							
MENT	Mentasta	38.64	41	IAmb		IAmb	04 39 16.0	
	comp=Z,9.3nm,0.6s							
KAIM	Kayak Island	38.65	46	P		P	04 39 15.2	+1.1
	baz=279							
HMT	Hamilton	38.67	45	IAmb		IAmb	04 39 16.2	
	comp=Z,15nm,0.8s							
I26K	Coal Creek Min	38.73	37	IAmb		IAmb	04 39 20.0	
	comp=Z,25nm,1.9s							
I26K	Coal Creek Min	38.73	37	P		P	04 39 15.1	+0.4
	baz=273							
GTA	Gaotai	38.74	279	*e*P		P	04 39 17.9	+2.6
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
GTA				LR		LR		
	comp=Z,140nm,12.4s							
GTA				LR		LR		
	comp=Z,120nm,12.0s							
GTA				LR		LR		
	comp=Z,120nm,13.5s							
GLB	Gilahina Butte	38.75	43	IAmb		IAmb	04 39 18.0	
	comp=Z,20nm,1.4s							
L26K	Log Cabin Wild	38.80	41	P		P	04 39 16.8	+1.4
	baz=276,SNR=22							
VRDI	Verde Repeater	38.95	44	IAmb		IAmb	04 39 18.8	
	comp=

I27K **Kandik River** 39.35 37 P P 04 39 20.9 +1.0
baz=274
H27K **Steamboat Moun** 39.35 36 IAmb IAmb 04 39 22.5
comp=Z,14nm,0.8s
H27K **Steamboat Moun** 39.35 36 P P 04 39 21.5 +1.5
baz=273,SNR=20
L27K **Beaver Creek,** 39.48 41 P P 04 39 22.9 +1.8
baz=277,SNR=44
D27M **Malcolm River** 39.50 31 P P 04 39 22.1 +0.9
baz=270
BCAR **Beaver Creek A** 39.50 41 P P 04 39 23.1 +1.9
M27K **Edge Creek, AK** 39.55 42 IAmb IAmb 04 39 24.4
comp=Z,14nm,0.8s
M27K **Edge Creek, AK** 39.55 42 P P 04 39 23.3 +1.6
baz=278,SNR=18
ISLE **Juniper Island** 39.58 45 IAmb IAmb 04 39 24.2
comp=Z,27nm,1.1s
MESA **MESA** 39.84 45 IAmb IAmb 04 39 26.8
comp=Z,15nm,0.6s
MESA **MESA** 39.84 45 P P 04 39 25.9 +1.7
baz=280
F28M **Old Crow** 39.94 33 P P 04 39 26.2 +1.4
baz=273,SNR=6.3
CTG **Chitna Glacier** 40.00 44 P P 04 39 27.0 +1.5
baz=280,SNR=18
BVCY **Beaver Creek** 40.01 42 P P 04 39 27.1 +1.7
baz=278,SNR=18
E28M **Babbage River** 40.02 32 P P 04 39 26.6 +1.1
baz=272
I28M **Miner Creek** 40.06 37 P 04 39 27.0 +1.0
I28M IAmb IAmb 04 39 27.8
comp=Z,18nm,0.8s
I28M **Miner Creek** 40.06 37 P P 04 39 26.7 +0.8
baz=276,SNR=25
TABL **Table Mountain** 40.19 45 IAmb IAmb 04 39 29.3
comp=Z,19nm,0.7s
YUK3 **Moose Creek** 40.29 43 P P 04 39 29.0 +1.1
baz=279,SNR=18
DAWY **Dawson** 40.45 39 P P 04 39 29.9 +0.9
baz=278,SNR=7.9
O28M **Mount Upton** 40.59 44 IAmb IAmb 04 39 32.7
comp=Z,14nm,0.8s
O28M **Mount Upton** 40.59 44 P P 04 39 31.9 +1.3
baz=281,SNR=8.1
H29M **Whitestone** 40.63 36 IAmb IAmb 04 39 32.9
comp=Z,14nm,0.8s
H29M **Whitestone** 40.63 36 P P 04 39 31.9 +1.4
baz=276,SNR=7.8
E29M **Blow River** 40.64 32 P P 04 39 32.1 +1.5
baz=274
PCA **Pinnacle** 40.68 45 IAmb IAmb 04 39 33.1
comp=Z,17nm,0.7s
PINM **Pinnacle** 40.69 45 P P 04 39 32.2 +1.1
baz=282
YUK8 **Steele Glacier** 40.70 43 P P 04 39 32.4 +1.0
baz=280
G29M **Pine Creek** 40.70 34 P P 04 39 33.0 +1.9
G29M IAmb IAmb 04 39 33.8
comp=Z,20nm,0.8s
G29M **Pine Creek** 40.70 34 P P 04 39 32.6 +1.6
baz=275,SNR=8.9
I29M **Ogilvie Camp,** 40.75 37 IAmb IAmb 04 39 33.4
comp=Z,14nm,0.8s
I29M **Ogilvie Camp,** 40.75 37 P P 04 39 32.7 +1.2
baz=277,SNR=20
M29M **Somme Creek** 41.10 41 IAmb IAmb 04 39 37.1
comp=Z,14nm,0.7s
M29M **Somme Creek** 41.10 41 P P 04 39 36.2 +1.7
baz=280,SNR=26
L29M **L29M** 41.14 40 P 04 39 36.8 +2.0
L29M **L29M** 41.14 40 P P 04 39 36.7 +1.9
baz=280,SNR=32
PNL **Peninsula** 41.20 46 P P 04 39 36.3 +1.1
baz=283
YUK4 **Talbot Arm** 41.22 43 P P 04 39 37.0 +1.4
baz=281
EPYK **Eagle Plains** 41.28 35 IAmb IAmb 04 39 38.0
comp=Z,20nm,0.9s
EPYK **Eagle Plains** 41.28 35 P P 04 39 37.2 +1.4
baz=277,SNR=9.8
K29M **Barlow Dome** 41.30 39 P P 04 39 37.4 +1.3
baz=279,SNR=19
G30M **tAoh Zrai Nji** 41.40 34 P P 04 39 38.0 +1.1
baz=277,SNR=7.7
YUK6 **Outpost Mounta** 41.43 44 P P 04 39 38.7 +1.2
baz=282
O29M **Mount Kennedy** 41.46 45 P P 04 39 39.0 +1.4
baz=283
F30M **Barrier River** 41.50 33 P 04 39 39.4 +1.8
F30M IAmb IAmb 04 39 40.4
comp=Z,17nm,1.0s
F30M **Barrier River** 41.50 33 P P 04 39 39.4 +1.8
baz=277
I30M **Mount Dempster** 41.57 37 P P 04 39 39.4 +1.0
baz=279,SNR=40
J30M **Hart River** 41.69 38 P P 04 39 40.5 +1.2
baz=280,SNR=7.1
M30M **Minto, Yukon** 41.84 41 P P 04 39 42.3 +1.8
baz=281,SNR=14
HYT **Haines Junctio** 41.87 44 IAmb IAmb 04 39 44.8
comp=Z,14nm,0.9s
HYT **Haines Junctio** 41.87 44 P P 04 39 42.9 +2.1
baz=283,SNR=17
N30M **Aishikik Lake** 41.93 43 P P 04 39 42.6 +1.3
baz=282
P29M **Windy Craggy** 42.03 45 P P 04 39 44.0 +2.0
baz=284,SNR=8.7
MAYO **Mayo, Yukon** 42.05 39 P P 04 39 43.7 +1.5
baz=281
G31M **Satah River** 42.17 34 P 04 39 44.0 +1.0
G31M **Satah River** 42.17 34 P P 04 39 43.8 +0.7
baz=279
INK **Inuvik** 42.26 32 IAmb IAmb 04 39 45.7
comp=Z,11nm,0.8s
INK **Inuvik** 42.26 32 P P 04 39 44.5 +0.7
INK pmax pmax
comp=Z,17nm,0.9s
INK **Inuvik** 42.26 32 P P 04 39 44.7 +0.9
baz=278,SNR=6.4
P30M **Million Dollar** 42.29 44 P P 04 39 46.6 +2.3
baz=284
F31M **Tsiigehtchic** 42.30 33 P P 04 39 44.9 +0.8
baz=279
H31M **Peel River** 42.32 36 IAmb IAmb 04 39 46.4
comp=Z,15nm,0.8s
H31M **Peel River** 42.32 36 P P 04 39 45.5 +1.1
baz=280,SNR=9.2
N31M **Braeburn, Yuko** 42.54 42 IAmb IAmb 04 39 49.5
comp=Z,22nm,0.8s
N31M **Braeburn, Yuko** 42.54 42 P P 04 39 48.3 +2.1
baz=283,SNR=13
ZALV **Zalesovo Beam** 42.66 306 PcP PcP 04 41 38.0 -0.5
comp=Z,0.5nm,0.3s,baz=48,slow=2.2,SNR=3.7
ZALV LR LR 04 58 34.9
comp=Z,137nm,19.1s,baz=61,slow=38
PLBC **Pleasant Camp** 42.75 45 P P 04 39 50.0 +2.2
baz=285,SNR=12
M31M **Drury Creek, Y** 43.02 41 P P 04 39 51.6 +1.6
baz=284,SNR=14
WHY **Whitehorse** 43.16 43 IAmb IAmb 04 39 54.4
comp=Z,18nm,0.9s
WHY **Whitehorse** 43.16 43 P P 04 39 53.1 +1.8
baz=285,SNR=8.1
S31K **Pelican** 43.22 47 P P 04 39 53.4 +1.7
baz=287
N32M **Quiet Lake** 43.88 42 P P 04 39 58.5 +1.4
baz=286
SIT **Sitka** 43.95 48 P P 04 39 59.8 +2.2
baz=288
R32K **Eaglecrest** 44.00 47 P P 04 40 00.2 +2.2
baz=288,SNR=5.9
P32M **Atlin** 44.01 45 P P 04 39 59.5 +1.4
baz=287
S32K **Killisnoo** 44.21 48 P P 04 40 01.9 +2.3
baz=288
P33M **Teslin, Yukon** 44.27 44 P 04 40 02.3 +2.1
P33M IAmb IAmb 04 40 03.2
comp=Z,18nm,1.1s
P33M **Teslin, Yukon** 44.27 44 P P 04 40 02.1 +1.9
baz=287,SNR=9.9
MMPY **Sheldon Lake,** 44.32 40 P P 04 40 02.6 +2.0
baz=286,SNR=10
A36M **Sachs Harbour** 44.46 26 P P 04 40 03.1 +1.6
baz=281
WMQ **Urumqi** 44.82 292 eP P 04 40 06.1 +1.3
Q32M **Nakina River** 44.91 45 IAmb IAmb 04 40 10.1
comp=Z,45nm,2.0s
Q32M **Nakina River** 44.91 45 P P 04 40 07.3 +1.8
baz=288
R33M **Jennings River** 45.41 44 P 04 40 11.9 +2.6
R33M IAmb IAmb 04 40 12.8
comp=Z,13nm,0.8s
R33M **Jennings River** 45.41 44 P P 04 40 11.4 +2.0
baz=289,SNR=17
U33K **Whale Pass** 45.41 49 P P 04 40 11.3 +2.1
baz=291
C36M **Paulatuk** 45.43 30 P P 04 40 09.7 +0.5
baz=285
CRAG **Craig** 45.64 50 P P 04 40 12.9 +1.9
baz=291
WRAK **Wrangell Islan** 45.71 49 P P 04 40 13.8 +2.2
baz=291
S34M **Telegraph Cree** 45.82 46 P P 04 40 14.6 +2.2
baz=290
TGTN **Hyland Airport** 45.99 41 P P 04 40 15.6 +1.8
baz=289,SNR=5.7
DLBC **Dease Lake** 46.19 45 P P 04 40 16.1 +0.7
comp=Z,5.0nm,0.8s,baz=267,slow=11,SNR=16
comp=Z,5.0nm,0.8s
DLBC **Dease Lake** 46.19 45 P P 04 40 17.7 +2.3
baz=290,SNR=7.7
WTLY **Watson Lake, Y** 46.21 43 IAmb IAmb 04 40 18.2
comp=Z,9.7nm,0.9s
WTLY **Watson Lake, Y** 46.21 43 P P 04 40 17.4 +1.8
baz=290,SNR=5.1
T35M **Bob Quinn** 46.59 47 IAmb IAmb 04 40 22.8
comp=Z,9.1nm,0.9s
T35M **Bob Quinn** 46.59 47 P P 04 40 21.1 +2.5
baz=292
MK31 **Makanchi Array** 46.90 298 *c iP P 04 40 21.9 +0.8
MKAR **Makanchi Array** 46.90 298 P 04 40 19.8 -1.3
MKAR **Makanchi Array** 46.90 298 P P 04 40 19.4 -1.8
comp=Z,1.6nm,0.7s,baz=64,slow=7.0,SNR=11
MKAR PcP PcP 04 41 53.4 +0.1
comp=Z,0.6nm,0.5s,baz=85,slow=3.2,SNR=2.2
comp=Z,1.6nm,0.7s
MKAR **Makanchi Array** 46.90 298 *i* P P 04 40 21.0 -0.1
MKAR pmax pmax
comp=Z,2.0nm,0.7s
KURK **Kurchatov** 47.39 304⇑ *e*P P 04 40 23.5 -1.3
KURK pmax pmax
comp=Z,7.0nm,2.1s
KURBB **Kurchatov Arra** 47.48 304 P P 04 40 23.4 -2.2
comp=Z,1.0nm,0.6s,baz=72,slow=8.5,SNR=4.2
comp=Z,1.0nm,0.6s
TOAD **Toad River Com** 48.36 44 P P 04 40 34.2 +1.9
baz=293,SNR=18
KOTAN **Kotaneelee Air** 48.42 42 P P 04 40 34.4 +1.8
baz=293
BVAR **Borovoye Array** 50.95 310 P P 04 40 50.7 -1.3
comp=Z,1.0nm,0.5s,baz=52,slow=12,SNR=2.7
BVAR PcP PcP 04 42 08.4 +0.6
comp=Z,2.2nm,0.7s,baz=76,slow=4.8,SNR=4.8
comp=Z,1.0nm,0.5s
YKA **Yellowknife Ar** 51.53 36 P P 04 40 56.5 +0.3
comp=Z,2.2nm,0.6s,baz=304,slow=8.3,SNR=4.8
comp=Z,2.2nm,0.6s
YKA **Yellowknife Ar** 51.53 36 *ce*P P 04 40 57.2 +1.0
YKA pmax pmax
comp=Z,2.0nm,0.7s
CMAR **Chiang Mai Arr** 51.94 256 P P 04 41 01.4 +1.6
comp=Z,1.4nm,0.3s,baz=34,slow=7.4,SNR=6.8
CMAR LR LR 05 04 34.3
comp=Z,55nm,18.3s,baz=35,slow=38
comp=Z,1.4nm,0.3s
CMAR **Chiang Mai Arr** 51.94 256 *ce*P P 04 41 02.7 +2.9
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SPITS **Spitsbergen Ar** 53.07 350 P P 04 41 05.7 -1.8
comp=Z,1.5nm,0.4s,baz=52,slow=6.8,SNR=12
comp=Z,1.5nm,0.4s
AAK **Ala-Archa** 53.78 296 LR LR 05 05 09.8
comp=Z,77nm,19.1s,baz=38,slow=37
ARTI **Arti** 55.29 318 LR LR 05 07 19.5
comp=Z,70nm,18.9s,baz=47,slow=39
ARTI **Arti** 55.29 318 *d i*P P 04 41 21.8 -2.1
ARTI S S 04 49 03.6 -0.9
ARTI SS SS 04 52 46.4 -2.1
ARTI pmax pmax
comp=Z,8.0nm,1.8s
PMG **Port Moresby** 55.60 187 LR LR 05 02 38.3
comp=Z,24nm,20.7s,baz=153,slow=33
HNR **Honiara** 55.79 171 LR LR 05 02 49.9
comp=Z,41nm,21.2s,baz=337,slow=33
DAG **Danmarks Havn** 57.16 358 *i* P P 04 41 34.0 -2.9
BLKN **Baker Lake** 57.47 29 IAmb IAmb 04 41 40.1
comp=Z,11nm,1.0s
ARA0 **ARCESS Array S** 58.24 341 *e*P P 04 41 44.3 -0.3
ARCES **ARCESS Array B** 58.24 341 P P 04 41 43.6 -1.0
comp=Z,1.9nm,0.7s,baz=18,slow=5.1,SNR=15
comp=Z,1.9nm,0.7s
AB31 **Akbulak array** 58.52 310 P P 04 41 46.0 -0.9
ABKAR **Akbulak array** 58.52 310 P P 04 41 45.5 -1.4
KAPI **Kappang** 58.79 219 LR LR 05 08 45.6
comp=Z,13nm,19.8s,baz=66,slow=38
AKTO **Aktyubinsk** 58.84 312 LR LR 05 09 23.7
comp=Z,196nm,18.3s,baz=310,slow=38
KTK1 **Kautokeino** 59.16 341 *e*P P 04 41 50.6 -0.5
JETT **Jettan, Norway** 59.35 342 *e*P P 04 41 51.7 -0.6
TRO **Tromso** 59.59 343 *e*P P 04 41 53.8 -0.1
PLID **Pearl Lake** 60.23 55 P P 04 42 00.5 +1.4
MSO **Missoula** 60.33 52 P P 04 42 00.6 +1.1
MSO IAmb IAmb 04 42 02.1
comp=Z,24nm,1.9s
OVMT **Ovando** 60.70 51 P P 04 42 02.8 +0.6
BPMT **Black Pine Rid** 60.84 52 P P 04 42 04.6 +1.4
FFC **Flin Flon** 61.34 40 P P 04 42 07.0 +0.9
FFC IAmb IAmb 04 42 08.1
comp=Z,14nm,1.2s
FFC **Flin Flon** 61.34 40 P P 04 42 07.0 +0.9
FFC pmax pmax
comp=Z,14nm,1.2s
FFC **Flin Flon** 61.34 40 P P 04 42 07.2 +1.1
FFC pP sP 04 42 23.4 +1.8
FFC sP swP 04 42 30.1 +9.3
STEI **Steigen** 61.76 343 *e*P P 04 42 07.3 -1.4
LOF **Lofoten** 61.92 344 *e*P P 04 42 08.3 -1.4
FAUS **Fauske** 62.22 343 *e*P P 04 42 10.9 -0.9
BOZ **Bozeman (W)** 62.35 52 P P 04 42 15.2 +1.9
BOZ **Bozeman (W)** 62.35 52 P P 04 42 15.2 +1.9
BOZ pmax pmax
comp=Z,5.0nm,1.3s
NVAR **Mina Array Bea** 62.96 62 P P 04 42 19.3 +1.8
comp=Z,0.3nm,0.4s,baz=309,slow=7.1,SNR=5.1
comp=Z,0.3nm,0.4s
VAGH **Vaagaholmen** 63.19 343 *e*P P 04 42 17.3 -0.9
FINES **FINESS Array B** 64.38 335 P P 04 42 24.9 -1.3
comp=Z,3.3nm,0.4s,baz=36,slow=6.6,SNR=39
comp=Z,3.3nm,0.4s
FINES **FINESS Array B** 64.38 335 *i* P P 04 42 25.2 -1.0
FINES pmax pmax
comp=Z,3.0nm,0.4s
DGMT **Dagmar** 64.40 46 IAmb IAmb 04 42 29.4
comp=Z,12nm,1.1s
PDAR **Pinedale Array** 65.31 53 P P 04 42 34.2 +1.4
comp=Z,0.4nm,0.6s,baz=221,slow=0.9,SNR=6.2
comp=Z,0.4nm,0.6s
ULM **Lac du Bonnet** 67.12 40 P P 04 42 43.7 -0.4
comp=Z,3.2nm,0.8s,baz=334,slow=4.9,SNR=5.2
comp=Z,3.2nm,0.8s
WRA **Warramunga Arr** 67.92 199 P P 04 42 49.8 +0.5
comp=Z,1.0nm,0.7s,baz=22,slow=6.8,SNR=6.6
WRA LR LR 05 13 15.5
comp=Z,28nm,19.4s,baz=314,slow=36
comp=Z,1.0nm,0.7s
NC405 **NORSAR Array S** 68.44 341 IAmb IAmb 04 43 58.5
comp=Z,28nm,1.4s
NC204 **NORSAR Array S** 68.51 341 IAmb IAmb 04 43 42.2
comp=Z,24nm,1.2s
NB2 **NORSAR Subarra** 68.62 341 P P 04 42 52.5 -0.9
comp=Z,3.5nm,0.6s,baz=28,slow=6.5
NB2 **NORSAR Subarra** 68.62 341 P P 04 42 50.0 -3.4
NB2 pmax pmax
comp=Z,32nm,2.0s
NB2 **NORSAR Subarra** 68.62 341 P P 04 42 52.5 -0.9
baz=28,slow=6.5
NOA **NORSAR Array B** 68.62 341 P P 04 42 52.6 -0.7
comp=Z,4.4nm,0.6s,baz=29,slow=6.6,SNR=25
comp=Z,4.4nm,0.6s
PV18 **Skein Mesa, Pa** 68.68 57 IAmb IAmb 04 43 09.4
comp=Z,12nm,1.1s
NORES **NORESS Array B** 68.82 341 P P 04 42 54.0 -0.5
HFS **Hagfors** 68.84 339 P P 04 42 53.8 -0.8
comp=Z,13nm,0.6s,baz=52,slow=5.8,SNR=57
comp=Z,13nm,0.6s
DZM **Mont Dzumac** 69.11 166 *e*LR LR 05 04 04.5
comp=Z,86nm,24.1s
MNK **Minsk** 69.29 329 *i* P P 04 42 56.6 -0.9
MNK *i* 04 43 19.8
MNK *i* S S 04 51 59.7 -0.9
MNK *i* *SS sS 04 52 24.0 +4.6
MNK *i* 04 53 00.1
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=N,14nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK MLR MLR
comp=E,48nm,15.0s
MNK MLR MLR
comp=N,48nm,17.0s
MNK MLR MLR
comp=Z,47nm,17.0s
AKT **Akhty** 70.09 309 *e*P P 04 43 03.0 +0.1
AKT pmax pmax
comp=Z,11nm,0.8s
AKT MLR MLR
comp=Z,143nm,20.0s
KIV **Kislovodsk** 70.94 314 *e*P P 04 43 06.5 -1.5
KIV pmax pmax
comp=Z,9.0nm,1.1s
KBZ **Khabaz** 71.00 314 P P 04 43 07.0 -1.1
comp=Z,4.4nm,0.8s,baz=42,slow=2.9,SNR=8.2
KBZ LR LR 05 19 05.2
comp=Z,83nm,18.1s,baz=42,slow=40
comp=Z,4.4nm,0.8s
KBZ **Khabaz** 71.00 314 *de*P P 04 43 08.8 +0.7
KBZ pmax pmax
comp=Z,4.0nm,0.7s
KBZ **Khabaz** 71.00 314 *e*P P 04 43 08.8 +0.7
ASAR **Alice Springs** 71.61 198 P P 04 43 13.5 +1.5
comp=Z,0.7nm,0.6s,baz=13,slow=6.4,SNR=8.9
ASAR LR LR 05 12 14.1
comp=Z,25nm,21.7s,baz=82,slow=34
comp=Z,0.7nm,0.6s
E38A **The Farm, Brul** 71.75 41 IAmb IAmb 04 43 13.4
comp=Z,11nm,0.7s
AKASG **Malin Array Be** 71.81 326 P P 04 43 11.5 -1.4
comp=Z,3.1nm,0.4s,baz=37,slow=6.2,SNR=19
comp=Z,3.1nm,0.4s
AKASG **Malin Array Be** 71.81 326 *i* P P 04 43 12.1 -0.8
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB **Malin Array Si** 71.81 326 *d i*P P 04 43 12.1 -0.8
AKBB pmax pmax
comp=Z,5.0nm,0.6s
KIEV **Kiev** 71.82 326 P P 04 43 11.9 -1.1
KIEV **Kiev** 71.82 326 ⇑P P 04 43 11.8 -1.1
KIEV **Kiev** 71.82 326 P P 04 43 11.9 -1.1
KIEV pmax pmax
comp=Z,5.0nm,0.7s
GNI **Garni** 72.63 310 LR LR 05 18 49.2
comp=Z,62nm,18.8s,baz=46,slow=39
SCHQ **Schefferville** 73.91 23 P P 04 43 25.2 -0.1
comp=Z,3.2nm,0.8s,baz=360,slow=7.7,SNR=4.2
comp=Z,3.2nm,0.8s
SORM **Soroca** 74.20 325 ⇓P P 04 43 26.5 -0.7
SORM **Soroca** 74.20 325 P P 04 43 26.4 -0.7
STHS **Stebnicka Huta** 75.81 330 *e*P P 04 43 36.4 0.0
BURAR **Bucovina Array** 75.85 326 P P 04 43 36.8 0.0
BURAR IAmb IAmb 04 43 37.6
comp=Z,11nm,0.7s
BURAR **Bucovina Array** 75.85 326 ⇓P P 04 43 36.8 0.0
BURAR **Bucovina Array** 75.85 326 P P 04 43 36.8 0.0
KOLS **Kolonicke sedl** 75.85 329 *e*P P 04 43 37.5 +0.8
TESR **Tescani** 76.19 325 ⇑P P 04 43 38.5 -0.2
VLDQ **Val d'Or** 76.36 32 P P 04 43 38.2 -1.3
VLDQ IAmb IAmb 04 43 39.0
comp=Z,28nm,1.4s
OSTC **Ostas** 76.50 333 *e*P P 04 43 42.5 +2.1
OSTC **Ostas** 76.50 333 *e*P P 04 43 42.5 +2.1
STEB **Steborice** 76.54 332 *e*P P 04 43 40.7 +0.1
UPC **Upice** 76.61 333 AMS AMS 05 21 50.0
comp=Z,100nm,16.7s
DPC **Dobruska-Polom** 76.65 333 *e*P P 04 43 41.4 +0.2
DPC MLR MLR
comp=Z,100nm,21.8s
DPC **Dobruska-Polom** 76.65 333 *e*P P 04 43 41.4 +0.2
DPC AMS AMS 05 21 10.0
comp=Z,100nm,21.8s
LANS **Liptovska Anna** 76.65 331 *e*P P 04 43 42.5 +1.2
CFR **Carcaliu** 76.67 323 ⇑P P 04 43 41.3 0.0
CFR **Carcaliu** 76.67 323 P P 04 43 41.3 0.0
VRI **Vrincioaia** 76.69 324 ⇑P P 04 43 41.1 -0.5
VRI **Vrincioaia** 76.69 324 P P 04 43 41.0 -0.5
KRLC **Kraliky** 76.74 333 *e*P P 04 43 41.7 -0.1
KRLC **Kraliky** 76.74 333 *e*P P 04 43 41.7 -0.1
MORC **Moravsky Berou** 76.75 332 *e*P P 04 43 41.5 -0.3
EKA **Eskdalemuir Ar** 76.77 346 P P 04 43 41.6 -0.2
comp=Z,1.5nm,0.4s,baz=22,slow=4.7,SNR=11
comp=Z,1.5nm,0.4s
CLL **Collm** 76.81 335 IAmb IAmb 04 43 42.2
comp=Z,9.9nm,0.8s
CLL **Collm** 76.81 335 ⇓ *i*P P 04 43 41.6 -0.4
CLL pmax pmax
comp=Z,12nm,0.9s
CLL **Collm** 76.81 335 ⇓ *i*P P 04 43 41.6 -0.4
comp=Z,12nm,0.9s
OZUR 76.88 325 ⇑P P 04 43 42.8 +0.2
DOPR **Dopca** 77.14 325 ⇑P P 04 43 44.2 +0.2
MLR **Muntele Rosu** 77.31 325 IAmb IAmb 04 43 47.9
comp=Z,6.8nm,0.7s
MLR **Muntele Rosu** 77.31 325 ⇑P P 04 43 45.8 +0.6
MLR **Muntele Rosu** 77.31 325 P P 04 43 45.7 +0.6
ISR **Istrita** 77.38 324 ⇑P P 04 43 45.5 0.0
ISR **Istrita** 77.38 324 P P 04 43 45.4 0.0
VYHS **Vyhne** 77.43 331 *e*P P 04 43 46.2 +0.6
MARR **Marisel-Cluj** 77.43 327 ⇑P P 04 43 45.6 -0.1
VRAC **Vranov** 77.47 332 *e*P P 04 43 45.9 +0.1
DRGR 77.49 327 ⇑P P 04 43 45.7 -0.4
DRGR 77.49 327 P P 04 43 45.6 -0.4
JAVC **Velka Javorina** 77.51 331 *e*P P 04 43 46.8 +0.7
PRU **Pruhonice** 77.52 334 *e*P P 04 43 46.6 +0.6
PRU **Pruhonice** 77.52 334 *e*P P 04 43 46.6 +0.6
PSZ **Piszkesteto** 77.56 330 ⇑P P 04 43 46.8 +0.3
PSZ **Piszkesteto** 77.56 330 P P 04 43 46.7 +0.3
VOIR 77.71 325 ⇑P P 04 43 47.1 -0.2
VOIR 77.71 325 P P 04 43 47.1 -0.2
KRUC **Moravsky** 77.75 332 *e*P P 04 43 47.2 -0.1
ARR **Arges** 77.94 325 ⇑P P 04 43 48.8 +0.3
TXAR **Lajitas Array** 78.03 60 P P 04 43 50.5 +1.2
TXAR **Lajitas Array** 78.03 60 P P 04 43 50.2 +0.9
comp=Z,1.5nm,0.5s,baz=301,slow=4.7,SNR=36
comp=Z,1.5nm,0.5s
TXAR **Lajitas Array** 78.03 60 P P 04 43 50.5 +1.2
MODS **Modra-Piesok** 78.06 331 *e*P P 04 43 46.8 -2.3
ZVC **Zvikov** 78.11 334 *e*P P 04 43 49.6 +0.2
SIRR **Siria** 78.32 328 ⇑P P 04 43 50.7 +0.1
BR131 **Keskin Array S** 78.55 317 P P 04 43 52.4 +0.3
BR131 IAmb IAmb 04 44 27.3
comp=Z,6.4nm,0.6s
BR131 **Keskin Array S** 78.55 317 P P 04 43 52.4 +0.3
BR131 pmax pmax
comp=Z,6.0nm,0.6s
BRTR **Keskin Array B** 78.56 317 P P 04 43 52.4 +0.2
BRTR **Keskin Array B** 78.56 317 P P 04 43 52.6 +0.4
comp=Z,2.1nm,0.4s,baz=116,slow=18,SNR=34
comp=Z,2.1nm,0.4s
KHC **Kasperske Hory** 78.57 334 *c iP* P 04 43 51.8 -0.2
KHC pmax pmax
comp=Z,9.0nm,0.9s
KHC **Kasperske Hory** 78.57 334 *e*P P 04 43 52.3 +0.3
KHC AMS AMS 05 22 30.0
comp=Z,100nm,14.7s
SURR **Surduc** 78.58 327 ⇑P P 04 43 51.8 -0.2
CKRC **Cesky Krumlov** 78.62 333 *e*P P 04 43 52.4 +0.2
CKRC **Cesky Krumlov** 78.62 333 *e*P P 04 43 52.4 +0.2
GRA1 **Grafenberg Arr** 78.77 336 IAmb IAmb 04 43 54.2
comp=Z,13nm,0.8s
GRFO **Grafenberg** 78.77 336 P P 04 43 53.1 +0.1
GRFO IAmb IAmb 04 43 54.1
comp=Z,13nm,0.9s
GRFO **Grafenberg** 78.77 336 P P 04 43 53.1 +0.1
GRFO pmax pmax
comp=Z,13nm,0.9s
WET **Wettzell** 78.77 334 P P 04 43 53.6 +0.5
WET pmax pmax
comp=Z,7.0nm,0.8s
GERES **GERESS Array B** 78.79 334 P P 04 43 52.5 -0.7

GERES	**GERESS Array B**	78.79	334	P		P	04 43 52.8	-0.4
	comp=Z,2.5nm,0.6s,baz=31,slow=5.4,SNR=12							
	comp=Z,2.5nm,0.6s							
ANTO	**Ankara**	78.84	317	P		P	04 43 54.0	+0.3
ANTO				IAmb		IAmb	04 43 55.1	
	comp=Z,9.3nm,0.6s							
ANTO	**Ankara**	78.84	317	P		P	04 43 54.0	+0.3
ANTO				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BZS	**Buzias**	78.89	327	⇑P		P	04 43 53.5	-0.2
BZS	**Buzias**	78.89	327	P		P	04 43 53.5	-0.2
CONA	**Conrad Observa**	78.91	332	*e*P		P	04 43 54.3	+0.4
	comp=Z,4.6nm,0.7s,SNR=7.7							
RONA	**Rosalia, Austr**	78.97	332	*e*P		P	04 43 54.6	+0.4
	comp=Z,9.5nm,0.9s							
TRQ	**Mont Tremblant**	79.01	31	P		P	04 43 53.8	-0.7
MEM	**Membach**	79.33	339	*d*P		P	04 43 56.2	+0.2
	comp=Z,7.9nm,1.0s							
BSTI	**Sart Tilman**	79.46	339	*d*P		P	04 43 57.5	+0.8
MOA	**Molln**	79.49	333	*e*P		P	04 43 57.1	+0.1
	comp=Z,6.3nm,0.9s							
PLVB	**Pleven**	79.58	324	⇓P		P	04 43 57.6	0.0
ARSA	**Arzberg**	79.62	332	*e*P		P	04 43 58.0	+0.3
	comp=Z,6.7nm,1.2s							
FCAR	**Ozark Folk Cen**	79.64	48	IAmb		IAmb	04 43 59.0	
	comp=Z,25nm,1.9s							
BCLA	**Clavier**	79.67	339	*d*P		P	04 43 57.6	-0.3
PBMO	**Poplar Bluff**	79.82	47	IAmb		IAmb	04 44 00.7	
	comp=Z,15nm,1.4s							
BMRD	**Maredsous**	79.91	340	*d*P		P	04 43 59.4	+0.3
WHAR	**Wooly Hollow**	80.01	49	IAmb		IAmb	04 44 03.1	
	comp=Z,20nm,1.4s							
WLF	**Walferdange**	80.16	339	*d*P		P	04 43 59.5	-1.1
SOKA	**Soboth**	80.28	332	*e*P		P	04 44 01.4	0.0
	comp=Z,5.3nm,0.8s,SNR=5.8							
LESA	**Schwarzleotal**	80.37	334	*e*P		P	04 44 00.0	-1.8
	comp=Z,14nm,0.9s							
BOVS	**Bovan**	80.53	326	⇑P		P	04 44 02.0	-0.6
WATA	**Walderalm**	80.78	334	*i* P		P	04 44 04.4	+0.2
	comp=Z,18nm,0.8s,SNR=4.9							
WTTA	**Wattenberg**	80.83	334	P		P	04 44 04.9	+0.5
WTTA				pmax		pmax		
	comp=Z,16nm,0.8s							
WTTA	**Wattenberg**	80.83	334	*e*P		P	04 44 04.8	+0.5
	comp=Z,21nm,0.9s,SNR=6.6							
RETA	**Reutte**	80.89	335	*e*P		P	04 44 04.7	+0.1
	comp=Z,81nm,2.4s							
MOTA	**Moosalm**	80.91	335	*i* P		P	04 44 04.9	0.0
	comp=Z,13nm,0.8s							
SQTA	**Sankt Quirin**	80.99	335	*i* P		P	04 44 05.6	+0.3
	comp=Z,16nm,1.1s							
TAOE	**Nuku Hiva Isla**	81.03	113	*e*LR		LR	05 09 26.0	
	comp=Z,56nm,26.6s							
RDO	**Rodhopi**	81.06	322	IAmb		IAmb	04 44 06.7	
	comp=Z,13nm,0.7s							
ECH	**Echery**	81.23	337	P		P	04 44 04.9	-1.5
ECH				pmax		pmax		
	comp=Z,9.0nm,1.6s							
FETA	**Feichten**	81.31	335	*i* P		P	04 44 06.9	-0.1
	comp=Z,19nm,1.7s							
DAVA	**Damuels**	81.32	335	*e*P		P	04 44 07.0	0.0
	comp=Z,8.1nm,1.0s							
FUORN	**Ofenpass-Fuorn**	81.81	335	IAmb		IAmb	04 44 18.6	
	comp=Z,22nm,1.6s							
PPT2	**Papeete2**	82.12	125	*e*LR		LR	05 09 58.4	
	comp=Z,66nm,26.5s							
ASF	**Jabal al Asfar**	82.79	310	LR		LR	05 24 22.7	
	comp=Z,63nm,18.6s,baz=153,slow=38							
MMAI	**Mount Meron Ar**	82.92	311	P		P	04 44 15.2	-0.3
	comp=Z,1.1nm,0.4s,baz=42,slow=6.7,SNR=5.4							
MMAI				LR		LR	05 25 55.7	
	comp=Z,92nm,18.4s,baz=46,slow=39							
	comp=Z,1.1nm,0.4s							
FDMO	**Fiordimonte**	84.15	331	IAmb		IAmb	04 44 22.6	
	comp=Z,7.3nm,0.8s							
NRCA	**Norcia**	84.32	331	IAmb		IAmb	04 44 23.8	
	comp=Z,12nm,0.9s							
RAYN	**Ar Rayn**	84.39	298	P		P	04 44 22.2	-1.0
EIL	**Elat**	85.78	309	LR		LR	05 25 50.4	
	comp=Z,50nm,18.7s,baz=358,slow=38							
TBI	**Tubuai**	86.81	129	*e*LR		LR	05 12 06.6	
	comp=Z,365nm,30.8s							
ESDC	**Sonseca Array**	91.96	342	P		P	04 44 57.3	-1.8
	comp=Z,0.6nm,0.8s,baz=3.0,slow=3.8,SNR=7.7							
ESDC				LR		LR	05 32 58.1	
	comp=Z,36nm,18.9s,baz=13,slow=40							
	comp=Z,0.6nm,0.8s							
LPAZ	**La Paz**	134.86	62	PKP		PKiKP	04 51 11.9	+0.2
	comp=Z,0.3nm,0.5s,baz=62,slow=0.7,SNR=5.0							
QSPA	**South Pole Qui**	135.96	180	PKP		PKiKP	04 51 12.3	+0.5
	comp=Z,0.5nm,0.5s,baz=337,slow=2.4,SNR=3.1							
H03N2	**Juan Fernandez**	139.06	91	T		T	07 26 38.3	
	baz=308,slow=77,SNR=113							
H03N1	**Juan Fernandez**	139.08	91	T		T	07 26 44.0	
	baz=308,slow=77,SNR=114							
H03N3	**Juan Fernandez**	139.08	91	T		T	07 26 42.1	
	baz=308,slow=77,SNR=104							
PLCA	**Paso Flores**	148.47	96	PKPbc		PKiKP	04 51 37.8	-0.5
	comp=Z,2.4nm,0.9s,baz=330,slow=4.6,SNR=5.3							
CPUP	**Villa Florida**	149.00	61	PKPbc		PKiKP	04 51 39.5	-0.2
	comp=Z,0.7nm,0.6s,baz=164,slow=1.9,SNR=7.7							

*IDC **16** 04:33:11.8±5.3,21.°07S×178.°03W,h370km±51km,mb3.5/9, mbtmp4.3/11,Error ellipse: s-maj=27.8km s-min=19.0km az=63.0*

*NEIC **16** 04:33:17.1±2.4,21.°3S±0.°2×177.°91W±0.°03,h426km±8km, mb4.3/21,Error ellipse: s-maj=23.2km s-min=3.7km az=178.0*

ISC 16 04:33:19.2±0.6,21.°16S±0.°09×178.°1W±0.°1,h450km,n48, σ1°55/48,mb4.2/19,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	4.96	313	P		P	04 34 41.6	-1.7
PINNC	**Pines Island,**	13.47	261	P		P	04 36 15.7	+1.8
DZM	**Mont Dzumac**	14.38	264	P		P	04 36 21.7	-2.1
	7.6nm,0.9s,baz=88,slow=17,SNR=3.5							
URZ	**Urewera**	17.53	193	P		P	04 36 52.9	-4.0
	3.6nm,0.3s,baz=262,slow=3.5,SNR=11							
URZ				S		S	04 40 01.0	+4.8
	4.6nm,0.5s,baz=242,slow=24,SNR=12							
STKA	**Stephens Creek**	37.40	245	P		P	04 39 52.4	+0.1
	1.1nm,0.5s,baz=86,slow=16,SNR=2.9							
	1.1nm,0.5s							
WR8	**Warramunga Arr**	44.24	263	P		P	04 40 46.8	-0.6
ASAR	**Alice Springs**	44.25	257	P		P	04 40 46.5	-1.0
	1.0nm,0.7s,baz=88,slow=8.3,SNR=12							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	44.39	263	P		P	04 40 47.8	-0.8
WRA	**Warramunga Arr**	44.39	263	P		P	04 40 47.7	-0.8
	1.4nm,0.7s,baz=95,slow=5.5,SNR=16							
	1.4nm,0.7s							
MTN	**Manton Dam**	49.05	271	P		P	04 41 24.2	+0.1
KNRA	**Kununurra**	50.49	267	P		P	04 41 34.6	-0.1
KNRA				IAmb		IAmb	04 42 06.6	
	comp=Z,7.6nm,1.2s							
FITZ	**Fitzroy Crossi**	52.82	263	P		P	04 41 52.7	+1.1
VNDA	**Vanda**	57.25	185	P		P	04 42 22.4	+0.6
	comp=Z,0.5nm,0.7s,baz=56,slow=3.6,SNR=2.0							
	comp=Z,0.5nm,0.7s							
MBWA	**Marble Bar**	57.59	258	P		P	04 42 25.4	+0.3
MBWA				IAmb		IAmb	04 42 25.8	
	comp=Z,10.0nm,0.8s							
QSPA	**South Pole Qui**	68.91	180	P		P	04 43 38.6	+1.0
QSPA				IAmb		IAmb	04 43 39.5	
	comp=Z,3.6nm,0.9s							
QSPA	**South Pole Qui**	68.91	180	P		P	04 43 38.7	+1.0
	comp=Z,3.0nm,0.9s,baz=8.9,slow=0.8,SNR=14							
	comp=Z,3.0nm,0.9s							
JKA	**Kamikawa-asahi**	74.24	332	P		P	04 44 12.0	+3.1
PETK	**Petropavlovsk-**	76.87	345	P		P	04 44 24.0	+0.6
PETK	**Petropavlovsk-**	76.87	345	P		P	04 44 24.2	+0.8
	comp=Z,5.4nm,0.7s,baz=143,slow=5.2,SNR=6.1							
	comp=Z,5.4nm,0.7s							
N14K	**Kuskokwak Cree**	81.90	8	P		P	04 44 51.7	+1.8
O16K	**Kokwok River B**	82.12	10	P		P	04 44 51.4	+0.3
O16K				IAmb		IAmb	04 45 12.5	
	comp=Z,17nm,1.4s							
GHO	**Glory Hole Cre**	85.89	13	P		P	04 45 11.0	+1.1
GHO				IAmb		IAmb	04 45 11.9	
	comp=Z,6.4nm,0.7s							
CRQM	**Cirque**	86.40	16	P		P	04 45 13.4	+0.9
CAST	**Castle Rocks**	86.75	11	P		P	04 45 13.5	-0.4
CAST				IAmb		IAmb	04 45 14.2	
	comp=Z,5.5nm,1.1s							

SEY	**Seymchan**	86.98	347	P		P	04 45 15.5	+0.5
	comp=Z,3.1nm,0.4s,baz=138,slow=9.7,SNR=7.0							
	comp=Z,3.1nm,0.4s							
TRF	**Thorofare Moun**	87.11	12	P		P	04 45 16.8	+1.0
TRF				IAmb		IAmb	04 45 16.9	
	comp=Z,7.9nm,1.0s							
SNAA	**Sanae**	87.36	179	P		P	04 45 15.3	-1.6
RND	**Reindeer**	87.36	13	P		P	04 45 18.1	+1.2
HDA	**Harding Lake**	88.65	13	P		P	04 45 23.3	+0.6
HDA				IAmb		IAmb	04 45 24.4	
	comp=Z,5.5nm,0.6s							
CCB	**Clear Creek Bu**	88.68	13	P		P	04 45 22.6	-0.3
IMAR	**Indian Mountai**	88.82	10	P		P	04 45 23.7	+0.2
ILAR	**Eielson Array**	88.98	13	P		P	04 45 23.9	-0.4
	comp=Z,1.1nm,0.6s,baz=215,slow=5.4,SNR=23							
	comp=Z,1.1nm,0.6s							
M29M	**Somme Creek**	89.06	17	P		P	04 45 25.6	+0.8
M29M				IAmb		IAmb	04 45 27.3	
	comp=Z,2.3nm,0.7s							
J26L	**Joseph Creek**	89.47	14	P		P	04 45 27.8	+1.1
J26L				IAmb		IAmb	04 45 29.2	
	comp=Z,2.9nm,0.8s							
M30M	**Minto, Yukon**	89.63	18	P		P	04 45 28.4	+1.0
M30M				IAmb		IAmb	04 45 29.6	
	comp=Z,2.8nm,0.7s							
CMAR	**Chiang Mai Arr**	90.22	290	P		P	04 45 33.5	+2.3
	comp=Z,1.3nm,0.3s,baz=118,slow=2.8,SNR=7.7							
	comp=Z,1.3nm,0.3s							
ARCES	**ARCESS Array B**	129.54	349	PKP		PKiKP	04 51 35.2	-0.8
	comp=Z,0.8nm,0.6s,baz=34,slow=1.0,SNR=9.3							
FINES	**FINESS Array B**	136.37	343	PKP		PKiKP	04 51 49.5	-0.6
	comp=Z,1.4nm,0.8s,baz=98,slow=5.8,SNR=3.9							
HFS	**Hagfors**	140.17	351	PKhKP		PKPpre	04 51 49.0	
	comp=Z,0.7nm,0.4s,baz=79,slow=3.2,SNR=6.9							
AKASG	**Malin Array Be**	143.53	331	PKP		PKPdf	04 51 59.7	-1.7
	comp=Z,4.5nm,0.5s,baz=43,slow=4.4,SNR=36							
AKBB	**Malin Array Si**	143.53	331			PKPdf	04 51 59.7	-1.8
KIEV	**Kiev**	143.54	331			PKPdf	04 51 59.8	-1.7
EKA	**Eskdalemuir Ar**	145.67	5	PKPbc		PKPab	04 52 06.6	-1.0
	comp=Z,3.4nm,0.8s,baz=339,slow=2.1,SNR=5.1							
BR131	**Keskin Array S**	147.18	311			PKiKP	04 52 12.1	-1.0
BRTR	**Keskin Array B**	147.18	311	PKPbc		PKiKP	04 52 10.8	-2.3
BRTR	**Keskin Array B**	147.18	311	PKPbc		PKiKP	04 52 11.4	-1.7
	comp=Z,1.6nm,0.7s,baz=143,slow=5.1,SNR=9.7							
MMAI	**Mount Meron Ar**	148.03	299	PKPbc		PKiKP	04 52 14.8	-0.2
	comp=Z,2.8nm,0.4s,baz=62,slow=2.0,SNR=8.8							
GERES	**GERESS Array B**	150.80	344	PKPbc		PKiKP	04 52 19.3	-1.0
	comp=Z,0.6nm,0.5s,baz=25,slow=4.4,SNR=4.9							

*ISK **16** 04:37:14.9,36.°01N×36.°27E,h3km,ML2.8/15*

*GRAL **16** 04:37:16.6±0.4,36.°08N×36.°15E,h0km±7km,MD3.4*

*AFAD **16** 04:37:16.0,36.°09N×36.°10E,h19km±2km,ML2.4*

ISC 16 04:37:16.0±1.2,36.°07N±0.°03×36.°18E±0.°02,h7km±10km, n39,σ1°12/61,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAHT	**Tahtakopru-Hat**	0.31	1	Pg		Pb	04 37 22.9	-1.0
TAHT				Sg		Sb	04 37 28.8	-0.3
ASUZ	**Hatay-Arsuz**	0.39	305	P		Pg	04 37 23.3	-0.3
ASUZ				S		Sg	04 37 28.4	-0.3
ASUZ				*i* IAML			04 37 34.0	
	comp=N,375nm,0.7s							
RHAN	**Hatay/Reyhanl**	0.39	61	P		Pb	04 37 24.9	-0.4
RHAN				S		Sg	04 37 29.6	+0.8
RHAN				*i* IAML			04 37 37.0	
	comp=N,289nm,0.2s							
RHAN				*i* IAML			04 37 37.0	
	comp=E,222nm,0.2s							
HASA	**Hatay-Hassa-Ha**	0.72	20	P		Pn	04 37 32.4	-0.3
HASA				S		Sb	04 37 41.3	+0.2
YURE	**YUREGIR**	0.87	330	P		Pn	04 37 35.2	+0.4
YURE				S		Sn	04 37 47.0	-0.7
KUZU	**Kuzuini**	1.01	46	P		Pn	04 37 37.3	+0.6
KUZU				S		Sb	04 37 50.0	+0.6
KAMA	**Osmaniye**	1.18	19	P		Pn	04 37 39.8	+0.7
KAMA				S		Sg	04 37 54.0	0.0
GAZ	**Gaziantep**	1.38	37	Pn		Pn	04 37 42.1	+0.3
GAZ				Sn		Sn	04 38 01.3	+1.0
DED	**Mersin**	1.42	309	P		Pn	04 37 41.7	-0.6
DED				S		Sg	04 37 59.3	-2.5
DED				*i* IAML			04 38 04.0	
	comp=E,45nm,0.4s							
KARA	**Karaisali**	1.49	323	Pn		Pg	04 37 44.7	0.0
KARA				Sn		Sg	04 38 06.3	+2.2
ANDN	**Andirin**	1.51	5	P		Pg	04 37 44.9	-0.2
BEIL	**Beino**	1.52	180	*e*P		Pn	04 37 43.5	-0.2
BEIL				*e*S		Sn	04 38 03.7	-0.1
NZIP	**Nizip/Gaziante**	1.55	51	P		Pg	04 37 45.7	0.0
NZIP				S		Sn	04 38 03.0	-1.5
NZIP				*i* IAML			04 38 10.0	
	comp=N,68nm,0.6s							
NZIP				*i* IAML			04 38 16.0	
	comp=E,64nm,0.4s							
MERS	**Mersin**	1.55	301	Pn		Pg	04 37 45.6	-0.3
MERS				Sn		Sg	04 38 08.2	+2.2
GULE	**Gulek**	1.66	317	P		Pg	04 37 47.3	-0.5
GULE				S		Sn	04 38 05.5	-1.8
GULE				*i* IAML			04 38 12.0	
	comp=N,49nm,0.5s							
GULE				*i* IAML			04 38 16.0	
	comp=E,54nm,0.7s							
KIZK	**Mersin**	1.69	285	P		Pb	04 37 47.3	-0.2
KIZK				S		Sn	04 38 06.8	-1.1
KIZK				*i* IAML			04 38 12.0	
	comp=N,58nm,0.3s							
KIZK				*i* IAML			04 38 12.0	
	comp=E,54nm,0.4s							
GZT	**Gaziantep**	1.70	41	P		Pg	04 37 48.8	+0.2
GZT				S		Sn	04 38 07.5	-0.9
GZT				*i* IAML			04 38 23.0	
	comp=E,40nm,0.6s							
GZT				*i* IAML			04 38 25.0	
	comp=N,39nm,0.6s							
HWQ	**Hawqa**	1.80	186	*e*P		Pn	04 37 47.5	0.0
HWQ				*e*S		Sn	04 38 10.7	0.0
FKH	**Fakeheh**	1.83	174	*e*P		Pn	04 37 48.2	+0.2
SLFK	**Silifke-Mersin**	1.83	281	Pn		Pb	04 37 49.3	-0.6
SILI	**Silifke-Mersin**	1.85	280	Pn		Pb	04 37 49.5	-0.6
CMRD	**Camardi-Nigde**	1.85	329	Pn		Pb	04 37 49.8	-0.5
KEBE	**Keben-Mersin**	2.03	281	Pn		Pn	04 37 51.9	+1.2
AKCA	**Adyaman/G¶l**	2.10	35	P		Pn	04 37 52.9	+1.1
AKCA				S		Sg	04 38 23.1	-0.5
AKCA				*i* IAML			04 38 34.0	
	comp=N,25nm,0.3s							
AKCA				*i* IAML			04 38 34.0	
	comp=E,34nm,0.5s							
BECE	**Buyukeceli-Mer**	2.12	273	Pn		Pn	04 37 52.8	+0.9
SURC	**SANLIURFA_SURC**	2.12	67	P		Pn	04 37 53.1	+1.1
SURC				S		Sn	04 38 19.1	+0.5
SURC				*i* IAML			04 38 24.0	
	comp=N,68nm,0.2s							
SURC				*i* IAML			04 38 24.0	
	comp=E,82nm,0.6s							
KERG	**Konya-Eregli**	2.13	310	P		Pn	04 37 51.2	-0.9
KERG				S		Sn	04 38 19.8	+1.0
KERG				*i* IAML			04 38 27.0	
	comp=N,23nm,0.4s							
TEVE	**Tevekalti-Mers**	2.24	280	Pn		Pn	04 37 55.2	+1.6
AZEY	**Adyaman-Merk**	2.40	43	P		Pb	04 37 58.6	-1.0
BERE	**Bereket-Mersin**	2.41	277	Pn		Pn	04 37 57.7	+1.7
TEKE	**Tekeli-Mersin**	2.48	273	Pn		Pn	04 37 58.1	+1.2
QRWL	**Qaraoun**	2.55	189	*e*P		Pn	04 37 58.0	+0.1
RCY	**Rachaya**	2.58	186	*e*P		Pn	04 37 58.6	+0.3
KRMN	**Karaman**	2.59	296	Pn		Pn	04 38 00.4	+1.9
YESY	**Yesilyurt**	2.59	312	Pn		Pn	04 38 00.4	+1.9
AKCD	**Akcadag**	2.62	32	P		Pn	04 38 00.2	+1.3
AKCD				S		Sn	04 38 28.0	-3.1
AKCD				*i* IAML			04 38 46.0	
	comp=E,15nm,0.3s							
AKCD				*i* IAML			04 38 49.0	
	comp=N,18nm,0.4s							
HANM	**anlurfa/Hi**	2.64	54	P		Pn	04 37 59.6	+0.5
HANM				S		Sn	04 38 33.2	+1.8
HANM				*i* IAML			04 38 48.0	
	comp=E,13nm,0.7s							
HANM				*i* IAML			04 38 50.0	
	comp=N,30nm,0.6s							
SHBL	**Chebaa**	2.74	188	*e*P		Pn	04 38 00.9	+0.4
GULA	**Gulagac**	2.75	326	Pn		Pn	04 38 02.6	+2.0

*IDC **16** 04:37:47.3±1.3,41.°37N×141.°02E,h115km±13km,mb3.7/8, mbtmp4.1/12,Error ellipse: s-maj=21.1km s-min=11.6km az=104.0*

*MOS **16** 04:37:48.4±1.9,41.°40N×141.°05E,h134km,mb4.3/4,Error ellipse: s-maj=12.6km s-min=7.1km az=65.1*

*NEIC **16** 04:37:49.2±0.7,41.°41N±0.°08×140.°9E±0.°2,h131km±7km, mb4.3/4,Error ellipse: s-maj=18.0km s-min=9.5km az=118.0*

*JMA **16** 04:37:49.2±0.1,41.°5N±0.°3×140.°9E±0.°6,h126km, MV3.5/37,SHIMOKITA PENINSULA REG*

ISC 16 04:37:48.9±0.7,41.°44N±0.°04×140.°96E±0.°04,h127km±5km, n65,σ1°74/84,mb4.2/12,2C-6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOT	**Ohata**	0.09	130	*i* P		Pn	04 38 06.5	+0.3
JSR	**Shiriuchi**	0.42	283	*i* P		Pn	04 38 07.1	-0.1
JSR				S		Sn	04 38 20.2	-0.8
JKB	**Kayabe**	0.45	7	*i* P		Pn	04 38 07.6	+0.2
JTM	**Tenmabayashi**	0.66	173			Pn	04 38 09.3	+0.6
JTM				Sn		Sn	04 38 24.1	+0.5
JTM	**Tenmabayashi**	0.66	173	*i* P		Pn	04 38 09.3	+0.6
JTM				S		Sn	04 38 24.1	+0.5
JOMM	**Oshimamatsumae**	0.72	277	*i* P		Pn	04 38 09.0	-0.1
JOMM				*e*S		Sn	04 38 24.1	-0.3
JYM2	**Yakumo 2**	0.81	327	*i* P		Pn	04 38 09.8	-0.1
JYM2				*e*S		Sn	04 38 25.3	-0.5
JNB	**Noboribetsu**	1.03	3	*i* P		Pn	04 38 11.6	-0.2
JNB				S		Sn	04 38 28.5	-0.8
JIW	**Iwasaki**	1.11	221	*i* P		Pn	04 38 13.2	+0.5
JIW				*e*S		Sn	04 38 30.9	+0.3
JANG	**Nango**	1.14	158	*i* P		Pn	04 38 13.3	+0.3
JANG				S		Sn	04 38 31.5	+0.3
JAH	**Hinai**	1.27	191	*i* P		Pn	04 38 15.2	+0.8
JHST	**Hiyamasetana**	1.27	321	P		Pn	04 38 13.8	-0.5
JOSM	**Okushiri--Mats**	1.28	301	*i* P		Pn	04 38 13.6	-0.8
JSH	**Shimam**	1.38	331	*i* P		Pn	04 38 16.5	-0.3
JSH				*e*S		Sn	04 38 34.5	-1.2
JEW	**Eniwo**	1.45	14	*e*P		Pn	04 38 16.5	+0.3
JEW				S		Sn	04 38 37.3	+0.2
JNBK	**Urakawa-nobuka**	1.58	57	*e*P		Pn	04 38 18.6	+0.9
ERM	**Erimo**	1.74	70			Pn	04 38 20.6	+1.0
ERM	**Erimo**	1.74	70	*d* iP		Pn	04 38 20.4	+0.8
ASAJ	**Asahikawa**	2.94	24	P		Pn	04 38 34.4	-0.2
	44nm,0.3s,baz=220,slow=14,SNR=101							
ASAJ				S		Sn	04 39 08.2	-1.6
	33nm,0.5s,baz=22,slow=28,SNR=5.1							
ASAJ	**Asahikawa**	2.94	24	P		Pn	04 38 34.5	-0.1
JKA	**Kamikawa-asahi**	2.94	24			Pn	04 38 34.5	-0.1
JMM	**Marumori**	3.57	182			Pn	04 38 42.6	-0.3
NMR	**Nemuro--Hokkai**	4.02	60	*e*P		Pn	04 38 46.9	-2.0
NMR				*e*S		Sn	04 39 30.9	-5.3
GLVR	**Golovnino**	4.08	54	*e*P		Pn	04 38 48.7	-0.8
GLVR				*e*S		Sn	04 39 34.9	-1.7
GLVR				smax		smax		
	comp=N,1μm,0.3s							
GLVR				smax		smax		
	comp=E,796nm,0.3s							
RUSJ	**Misakicho**	4.13	48	*e*P		Pn	04 38 50.1	-0.2
RUSJ				*e*S		Sn	04 39 39.5	+1.6
YUK	**Yuzh-Kuril'sk**	4.45	53	*d* iP		Pn	04 38 54.3	-0.2
YUK				*i* S		Sn	04 39 43.2	-2.2
YUK				pmax		pmax		
	comp=Z,437nm,0.2s							
YUK				pmax		pmax		
	comp=N,109nm,0.1s							
YUK				smax		smax		
	comp=E,1μm,0.6s							
YUK				smax		smax		
	comp=N,900nm,0.5s							
SHO	**Shikotan**	4.96	59	*d* iP		Pn	04 39 03.0	+1.6
SHO				*i* S		Sn	04 39 54.4	-3.4
SHO				pmax		pmax		
	comp=N,30nm,0.3s							
SHO				pmax		pmax		
	comp=Z,135nm,0.3s							
SHO				pmax		pmax		
	comp=E,70nm,0.2s							
SHO				smax		smax		
	comp=N,524nm,0.2s							
SHO				smax		smax		
	comp=E,174nm,0.2s							
MJB9	**Matsu-Tunnel**	5.34	205			Pn	04 39 08.2	+1.7
MAJO	**Matsushiro**	5.34	205			Pn	04 39 07.2	+0.7
MAJO	**Matsushiro**	5.34	205	⇓ *i*P		Pn	04 39 07.6	+1.1
MJAR	**Matsushiro Arr**	5.34	205			Pn	04 39 07.2	+0.6
MJAR	**Matsushiro Arr**	5.34	205	P		Pn	04 39 05.0	-1.6
	comp=E,5.4nm,0.5s,baz=25,slow=12,SNR=14							
MJAR	**Matsushiro Arr**	5.34	205	P		Pn	04 39

KKAR	Karatay Array	50.71	297	P	P	04 46 34.8	-0.7
ARCES	ARCESS Array B	59.77	338	P	P	04 47 41.1	+1.2
	comp=Z,2.4nm,1.0s,baz=16,slow=9.2,SNR=3.7						
	comp=Z,2.4nm,1.0s						
WR8	Warramunga Arr	61.37	187	P	P	04 47 50.3	-1.1
WR8				IAmb	IAmb	04 48 13.5	
	comp=Z,5.2nm,1.2s						
WRA	Warramunga Arr	61.38	187	P	P	04 47 49.8	-1.6
WRA	Warramunga Arr	61.38	187	P	P	04 47 50.3	-1.0
	comp=Z,1.5nm,0.6s,baz=5.8,slow=6.8,SNR=13						
	comp=Z,1.5nm,0.6s						
WISH	Wishkah	64.25	49	P	P	04 48 10.3	+0.2
FINES	FINESS Array B	64.77	331	P	P	04 48 13.2	-0.2
	comp=Z,1.9nm,1.0s,baz=82,slow=2.9,SNR=3.6						
	comp=Z,1.9nm,1.0s						
ASAR	Alice Springs	65.10	187	P	P	04 48 15.2	-0.7
	comp=Z,0.3nm,0.5s,baz=6.8,slow=13,SNR=4.1						
	comp=Z,0.3nm,0.5s						

IDC ***16*** *04:44:49.1±1.4,25°.51N×109°.74W,h0km,mb3.3/1, mbtmp3.5/6,ML3.5/5,MS3.5/20,Error ellipse: s-maj=25.1km s-min=14.8km az=120.0*

MEX ***16*** *04:44:52.7±0.7,25°.67N×110°.03W,h3km±14km,MD4.5*

ISC 16 04:44:48.6±0.7,25°.65N±0°.03×109°.96W±0°.03,h10km,n41, σ2s45/37,MS3.4/16,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	Topolobambo	0.83	93	eP	Pn	04 45 07.3	+0.9
TSIG				eS	Sn	04 45 20.2	+1.5
LPIG	La Paz	1.57	192	Pn	Pg	04 45 17.4	-1.3
	17nm,0.3s,baz=326,slow=2.4,SNR=8.7						
LPIG				Sn	Sg	04 45 38.9	-0.2
	33nm,0.3s,baz=187,slow=18,SNR=7.6						
LPIG	La Paz	1.57	192	eP	Pg	04 45 18.1	-0.7
LPIG				eS	Sg	04 45 37.5	-1.6
CSIG	Choix	1.85	50	eP	Pg	04 45 22.8	-1.3
CSIG				eS	Sn	04 45 44.2	+0.3
SLBS	Sierra La Lagu	1.95	180	eP	Pb	04 45 23.9	-0.4
SLBS				eS	Sb	04 45 47.4	-1.3
GUYB	Guaymas	2.39	340	eP	Pn	04 45 24.5	-3.2
GUYB				i S	Sn	04 45 55.1	-2.0
SRIG	Santa Rosalia	2.64	310	eP	Pn	04 45 31.8	+0.6
SRIG				i S	Sn	04 46 03.1	-0.2
SSIG	Sanalona	2.68	107	eP	Pg	04 45 38.3	-1.7
SSIG				i S	Sb	04 46 07.2	-2.5
HSIG		3.47	346	eP	Pb	04 45 50.4	+0.2
HSIG				eS	Sn	04 46 25.2	+1.3
HPIG		4.06	71	eP	Pn	04 45 53.5	+2.4
HPIG				i S	Sn	04 46 42.8	+4.0
PDIG	Papasquiaro	4.17	97	eP	Pn	04 45 55.1	+2.6
PDIG				eS	Sb	04 46 46.4	-6.4
BCIG	La Boquilla	4.49	64	eP	Pn	04 45 57.4	+0.6
BCIG				eS	Sn	04 46 50.6	+1.4
NZIG	Nacozari, Sono	4.72	4	eP	Pb	04 46 07.0	-4.6
NZIG				eS	Sn	04 47 00.5	+5.5
CGIG		5.02	20	eP	Pn	04 46 04.8	+0.7
CGIG				eS	Sn	04 47 04.0	+1.8
TUC	Tucson	6.68	354	eP	Pn	04 46 26.8	-0.1
TUC				eS	Sn	04 47 45.7	+2.6
TXAR	Lajitas Array	6.69	55	Pn	Pn	04 46 27.6	+0.6
	0.5nm,0.3s,baz=230,slow=14,SNR=33						
TXAR				Sn	Sn	04 47 41.9	-1.4
	1.5nm,0.3s,baz=242,slow=21,SNR=5.4						
TXAR				Lg	Lg	04 48 18.9	
	2.8nm,0.3s,baz=242,slow=30,SNR=6.3						
	0.5nm,0.2s						
ANMO	Albuquerque	9.75	17	Pn	Pn	04 47 11.9	+2.9
	0.1nm,0.3s,baz=275,slow=9.3,SNR=3.3						
ANMO				Lg	Lg	04 49 53.3	
	0.1nm,0.3s,baz=143,slow=14,SNR=4.4						
ANMO				LR	LR	04 51 27.8	
	comp=Z,242nm,21.2s,baz=286,slow=41						
	1.0nm,0.8s						
NVAR	Mina Array Bea	14.57	333	Pn	P	04 48 23.4	+1.8
	baz=157,slow=12,SNR=12						
	2.1nm,0.9s						
ELK	Elko	15.69	345	Pn	P	04 48 37.3	+3.2
	0.1nm,0.3s,baz=174,slow=9.7,SNR=7.2						
ELK				LR	LR	04 54 44.6	
	comp=Z,357nm,18.1s,baz=172,slow=38						
	2.6nm,0.9s						
CMIG	Matias Romero	16.41	118	LR	LR	04 54 38.0	
	comp=Z,227nm,18.8s,baz=276,slow=36						
PDAR	Pinedale Array	17.08	1	P	P	04 48 49.8	+0.3
	0.1nm,0.3s,baz=159,slow=10,SNR=5.7						
PDAR				LR	LR	04 55 40.4	
	comp=Z,274nm,18.0s,baz=168,slow=38						
	1.1nm,1.1s						
YBH	Yreka Blue Hor	19.20	330	LR	LR	04 56 02.5	
	comp=Z,4.8nm,19.7s,baz=176,slow=35						
NEW	Newport	23.27	348	LR	LR	04 59 16.2	
	comp=Z,122nm,18.1s,baz=177,slow=37						
TKL	Tuckaleechee C	24.57	60	LR	LR	05 00 39.2	
	comp=Z,151nm,19.8s,baz=250,slow=39						
JTS	Las Juntas de	28.13	118	LR	LR	05 00 38.0	
	comp=Z,69nm,21.4s,baz=298,slow=34						
BBB	Bella Bella	29.86	337	LR	LR	05 02 02.8	
	comp=Z,73nm,19.4s,baz=189,slow=34						
SADO	Sadowa	31.32	45	LR	LR	05 04 34.9	
	comp=Z,72nm,22.0s,baz=258,slow=38						
DLBC	Dease Lake	35.70	342	LR	LR	05 05 54.7	
	comp=Z,91nm,19.1s,baz=138,slow=35						
YKA	Yellowknife Ar	36.97	356	LR	LR	05 07 43.2	
	comp=Z,179nm,20.7s,baz=125,slow=37						
ROSC	El Rosal	39.91	115	LR	LR	05 11 10.8	
	comp=Z,65nm,21.1s,baz=19,slow=40						
SDV	Santo Domingo	40.89	107	LR	LR	05 10 46.1	
	comp=Z,51nm,20.6s,baz=206,slow=38						
SJG	San Juan	41.19	91	LR	LR	05 11 04.8	
	comp=Z,44nm,19.1s,baz=324,slow=38						
INK	Inuvik	44.99	348	LR	LR	05 14 13.2	
	comp=Z,57nm,21.0s,baz=82,slow=39						
PCRV	Puerto La Cruz	45.55	101	LR	LR	05 13 54.8	
	comp=Z,37nm,19.8s,slow=38						
ILAR	Eielson Array	45.72	339	P	P	04 53 12.3	+2.7
	0.4nm,0.8s,baz=149,slow=6.3,SNR=5.1						
ILAR				LR	LR	05 13 10.4	
	comp=Z,36nm,18.3s,baz=194,slow=37						
	0.4nm,0.8s						
RPN	Rapa Nui	52.47	179	LR	LR	05 10 58.9	
	comp=Z,56nm,21.2s,baz=316,slow=30						
MDP	Montagnes des	58.43	110	LR	LR	05 20 54.5	
	comp=Z,25nm,20.7s,baz=296,slow=37						
SIV	San Ignacio	63.06	126	LR	LR	05 20 49.3	
	comp=Z,39nm,20.7s,baz=113,slow=34						
H03N2	Juan Fernandez	65.75	152	T	T	06 07 22.5	
	baz=331,slow=77,SNR=31						
H03N1	Juan Fernandez	65.76	152	T	T	06 07 20.0	
	baz=331,slow=77,SNR=64						
H03N3	Juan Fernandez	65.77	152	T	T	06 07 17.0	
	baz=331,slow=77,SNR=61						

PRU 16 04:57:45.5,51°.45N×16°.29E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.88	190	eSG	Sg	04 58 13.5	-0.1
UPC	Upice	0.96	191	eSG	Sg	04 58 16.2	-0.1
	3.2nm,0.3s						
DPC	Dobruska-Polom	1.10	179	eSG	Sg	04 58 20.5	-0.3
KRLC	Kraliky	1.41	167	eSG	Sg	04 58 30.1	-0.7
PVCC	Panska Ves	1.43	230	eSG	Sg	04 58 30.5	-0.8
	6.8nm,0.2s						

NIED ***16*** *05:19:23.0,25°.93N×125°.88E,h84km,MW4.1,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=1.07; Mθθ1.03; Mφφ0.03; Mrθ-0.49; Mθφ-1.28; Mφr0.80; Fault plane solution: M₀1.82000×10¹⁵ NP1: φs273.00000°,δ38.00000°,λ-138.00000°. NP2: φs148.00000°,δ66.00000°,λ-59.00000°.*

NEIC ***16*** *05:19:23.0±2.1,25°.80N±0°.09×125°.96E±0°.09,h77km±8km, mb4.2/11 Error ellipse: s-maj=14.3km s-min=9.0km az=139.0*

JMA ***16*** *05:19:23.0±0.1,26°.N±1°×12°.6E±°,h84km±2km,MV3.9/23, NW OFF MIYAKOJIMA ISLAND*

IDC ***16*** *05:19:24.3±0.9,25°.94N×126°.05E,h93km±8km,mb3.5/10, mbtmp3.9/13,MS2.6/3,Error ellipse: s-maj=14.8km s-min=10.6km az=1.0*

ISC 16 05:19:23.5±0.7,25°.88N±0°.06×125°.92E±0°.05,h85km±6km, n57,σ0s84/75,mb3.9/17,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.90	60	i P	Pn	05 19 41.4	-0.3
JKE				S	Sn	05 19 54.8	-0.4
JIKM	Ikemajima	1.13	213	P	Pn	05 19 44.5	+0.1
JIKM				S	Sn	05 19 59.8	-0.3
JOGS	Gusukube	1.21	203	P	Pn	05 19 45.6	+0.3
JOGS				S	Sn	05 20 02.0	+0.2
JIRB	Irabujima	1.25	213	i P	Pn	05 19 45.7	-0.1
JIRB				S	Sn	05 20 01.6	-1.0
JMJ2	Miyako jima3	1.26	205	P	Pn	05 19 46.2	+0.2
JMJ2				S	Sn	05 20 03.0	+0.2
JAGN	Aguni-jima	1.38	59	i P	Pn	05 19 47.7	+0.2
JAGN				S	Sn	05 20 25.5	-0.1
JTJ	Tarama	1.66	222	P	Pn	05 19 51.0	0.0
JTJ				S	Sn	05 20 11.4	-0.5
JJT3	Tamagusuku3	1.70	81	P	Pn	05 19 52.0	+0.4
JJT3				eS	Sn	05 20 13.2	+0.4
JISG	Ishigakijimahi	1.95	229	i P	Pn	05 19 54.8	0.0
JISG				eS	Sn	05 20 17.9	-0.8
JNTH	Nagotoyohara	1.99	71	P	Pn	05 19 55.2	-0.3
JIH	Iheya	2.17	58	P	Pn	05 19 57.9	+0.2
JIH				S	Sn	05 20 22.8	-1.0
JIJ	Ishigaki jima	2.21	227	P	Pn	05 19 57.8	-0.6
JIJ				S	Sn	05 20 22.7	-2.2
JOW	Kunigami	2.31	65		Pn	05 19 58.8	-1.0
JOW	Kunigami	2.31	65	P	Pn	05 19 59.5	-0.2
	93nm,0.2s,baz=123,slow=25,SNR=36						
JOW				S	Sn	05 20 25.9	-1.6
	177nm,0.3s,baz=247,slow=6.5,SNR=6.1						
JOW	Kunigami	2.31	65	P	Pn	05 19 59.5	-0.2
JOW				eS	Sn	05 20 26.3	-1.2
JKRS	Kuro-shima	2.38	227	P	Pn	05 20 00.4	-0.3
JKRS				eS	Sn	05 20 28.8	-0.3
IRIF	Iriomote-Funau	2.51	233	P	Pn	05 20 02.1	-0.3
IRIF				eS	Sn	05 20 31.0	-1.2
JYRO	Yoronjima	2.54	63	P	Pn	05 20 02.1	-0.6
JYRO				eS	Sn	05 20 30.6	-2.1
HATJ	Hateruma jima	2.64	227	P	Pn	05 20 04.4	+0.2
JOKE	Okinoerabujima	2.79	58	P	Pn	05 20 06.1	-0.1
YOJ	Yonaguni jima	2.99	242		Pn	05 20 08.0	-0.8
YOJ	Yonaguni jima	2.99	242	P	Pn	05 20 09.2	+0.4
JYNG	Yonagunijimaku	3.05	243	P	Pn	05 20 10.2	+0.6
JTK	Tokunoshima	3.31	54	i P	Pn	05 20 13.1	0.0
JTK				S	Sn	05 20 49.6	-1.7
NACB	Ninganchiao	4.28	247		Pn	05 20 25.5	-0.8
YHNB	Yeheng	4.29	255		Pn	05 20 27.1	+0.6
YULB	Yu-li	4.88	240		Pn	05 20 32.4	-2.1
SSLB	Suanglung	4.97	246		Pn	05 20 34.8	-1.0
JNU	Nakatsue	8.41	30	Pn	Pn	05 21 23.2	+0.6
JNU	Nakatsue	8.41	30	P	Pn	05 21 23.0	+0.4
	5.9nm,0.7s,baz=261,slow=6.3,SNR=5.0						
KSRS	Korea Array	11.66	8	P	Pn	05 22 07.8	+1.0
	2.2nm,0.6s,baz=196,slow=14,SNR=6.2						
USRK	Ussuriysk Ar.	18.93	14	LR	LR	05 30 07.2	
	comp=Z,30nm,21.5s,baz=232,slow=34						
ASAJ	Asahikawa	22.67	32	LR	LR	05 32 08.6	
	comp=Z,33nm,19.2s,baz=257,slow=34						
CMAR	Chiang Mai Arr	26.02	259	LR	LR	05 36 11.1	
	comp=Z,3.5nm,21.5s,baz=225,slow=38						
SONM	Songino Array	26.77	330	P	P	05 24 56.9	+1.5
SONM	Songino Array	26.77	330	P	P	05 24 57.1	+1.7
	2.0nm,0.5s,baz=146,slow=11,SNR=9.0						
	2.0nm,0.5s						
MKAR	Makanchi Array	40.23	313	P	P	05 26 51.3	-0.6
MKAR	Makanchi Array	40.23	313	P	P	05 26 51.6	-0.3
	0.6nm,0.4s,baz=96,slow=10,SNR=11						
MKAR				pP	pwP	05 27 13.9	-0.1
	0.9nm,0.8s,baz=96,slow=9.9,SNR=3.9						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	41.28	324	P	P	05 26 59.8	-0.6
	0.7nm,0.4s,baz=118,slow=7.2,SNR=2.8						
ZALV				pP	pwP	05 27 22.2	-0.3
	1.2nm,0.9s,baz=140,slow=9.2,SNR=2.1						
	0.7nm,0.4s						
KURK	Kurchatov	43.66	317	P	P	05 27 18.5	-1.1
KURK				IAmb	IAmb	05 27 43.4	
	comp=Z,1.7nm,0.8s						
KURBB	Kurchatov Arra	43.69	317	P	P	05 27 19.9	0.0
	comp=Z,0.3nm,0.4s,baz=108,slow=9.1,SNR=5.3						
KURBB				pP	pwP	05 27 41.8	-0.5
	comp=Z,1.1nm,0.9s,baz=111,slow=8.0,SNR=5.3						
	comp=Z,0.3nm,0.4s						
FITZ	Fitzroy Crossi	43.72	180	P	P	05 27 19.7	-0.7
FITZ				IAmb	IAmb	05 27 21.8	
	comp=Z,1.1nm,1.1s						
SMY	Shemya	44.77	40	P	P	05 27 30.3	+1.8
WB0	Warramunga Arr	46.12	169	P	P	05 27 38.5	-1.0
WB0				IAmb	IAmb	05 27 39.8	
	comp=Z,3.2nm,0.9s						
WRA	Warramunga Arr	46.28	169	P	P	05 27 39.4	-1.3
WRA	Warramunga Arr	46.28	169	P	P	05 27 40.4	-0.3
	comp=Z,1.7nm,0.6s,baz=351,slow=8.5,SNR=17						
	comp=Z,1.7nm,0.6s						
WR8	Warramunga Arr	46.32	169	P	P	05 27 40.7	-0.4
WR8				IAmb	IAmb	05 27 42.1	
	comp=Z,2.8nm,0.7s						
ASAR	Alice Springs	49.86	170	P	P	05 28 08.9	+0.6
	comp=Z,0.9nm,0.7s,baz=353,slow=11,SNR=9.8						
ASAR				PcP	PcP	05 29 28.4	+0.6
	comp=Z,0.6nm,0.9s,baz=1.2,slow=3.4,SNR=4.8						
	comp=Z,0.9nm,0.7s						
ABKAR	Akbulak array	55.37	313	P	P	05 28 49.4	+0.6
C18K	Utukok River	59.93	24	P	P	05 29 20.1	-0.3
C18K				IAmb	IAmb	05 29 21.6	
	comp=Z,1.4nm,0.8s						
G18K	Tagagawik	60.73	27	P	P	05 29 25.8	-0.1
G18K				IAmb	IAmb	05 29 40.8	
	comp=Z,2.4nm,0.9s						
D19K	Kuna River	61.05	24	P	P	05 29 28.3	+0.2
E19K	Redstone River	61.34	25	P	P	05 29 30.1	+0.1
E19K				IAmb	IAmb	05 29 33.7	
	comp=Z,2.4nm,0.8s						
ILAR	Eielson Array	65.72	28	P	P	05 29 58.8	-0.1
	comp=Z,0.4nm,0.7s,baz=250,slow=5.3,SNR=5.0						
	comp=Z,0.4nm,0.7s						
FINES	FINESS Array B	72.14	330	P	P	05 30 38.0	-0.7
	comp=Z,0.9nm,0.5s,baz=78,slow=4.5,SNR=6.9						
	comp=Z,0.9nm,0.5s						
HFS	Hagfors	78.15	332	P	P	05 31 12.4	-0.9
	comp=Z,2.0nm,1.0s,baz=65,slow=8.3,SNR=1.3						
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	78.70	333	P	P	05 31 15.5	-0.8
	comp=Z,0.4nm,0.6s,baz=56,slow=5.8,SNR=1.9						
	comp=Z,0.4nm,0.6s						

CATAC ***16*** *05:21:05.7±0.8,14°.N±5°×9°.1W±°,h35km±13km,M3.2/6, MLv3.2/6,Error ellipse: s-maj=12.8km s-min=5.1km az=39.6,confirmed*

GCG ***16*** *05:21:06.6±1.0,13°.95N×91°.40W,h66km±22km,MD3.3, ML3.5*

ISC 16 05:21:07.2±2.0,14°.0N±0°.1×91°.36W±0°.09,h61km,n11, σ1s05/15,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.64	330	P	Pn	05 21 20.2	-0.7
RTAL				S	Sn	05 21 31.4	+0.5
ESSG	Sabana Grande	0.67	51	i P	Pn	05 21 22.0	+0.7
ESSG				i S	Sn	05 21 33.0	+1.5
FG16	Alotenango, Sa	0.88	70	i P	Pn	05 21 22.1	-1.9
FG16				i S	Sn	05 21 35.0	-1.4
FG16				IAML		05 21 36.8	
	comp=N,5μm,0.2s						
SMCA	Catarina	1.12	322	i P	Pn	05 21 26.8	-0.1
NUBE	Las Nubes	1.54	92	i P	Pn	05 21 32.6	0.0
NUBE				i S	Sn	05 21 52.1	+0.3
JAYA	Jayaque - finc	1.89	99	i S	Sn	05 22 01.2	+1.0
JAYA	Jayaque - finc	1.89	99	P	Pn	05 21 37.3	0.0
JAYA	Jayaque - finc	1.89	99	S	Sn	05 22 00.5	+0.3
PMON	Piamonte	2.01	97	P	Pn	05 21 38.1	-0.8
PMON	Piamonte	2.01	97	S	Sn	05 22 04.5	+1.4
UDBS	Universidad Do	2.16	96	P	Sn	05 22 06.9	+0.2

SDD ***16*** *05:28:29.8±1.4,18°.67N×71°.74W,h34km±11km,MD2.9, ML2.3,MW2.8*

OSPL ***16*** *05:28:31.1±1.7,18°.69N×71°.70W,h10km±8km,ML1.9*

ISC 16 05:28:29.4±1.0,18°.70N±0°.04×71°.68W±0°.04,h27km±9km, n12,σ0s73/22,8C-2D,Dominican Republic region

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

JIDR	Jimani	0.27	219	⇓ePg	Pb	05 28 35.6	-0.5
JIDR				⇓eSg	Sb	05 28 40.6	-0.1
JIDR				IAML		05 28 40.8	
	comp=N,504nm,0.3s						
NEDR	Neiba UASD	0.32	131	⇑ePg	Pb	05 28 36.9	0.0
NEDR				⇑eSg	Sb	05 28 42.5	+0.5
NEDR				IAML		05 28 43.4	
	comp=N,396nm,0.6s						
LODU1	El Espartillar	0.39	151	i P	Pb	05 28 37.8	-0.2
LODU1				eS	Sb	05 28 44.1	+0.2
LODU1				IAML		05 28 44.5	
	comp=Z,276nm,0.6s						
SDDR	Presa de Saban	0.46	52	eS	Sn	05 28 47.1	-0.5
SDDR				IAML		05 28 47.4	
	comp=Z,49nm,0.1s						
SDDR	Presa de Saban	0.46	52	⇑ePg	Pn	05 28 40.5	+0.2
SDDR				⇑eSg	Sn	05 28 47.0	-0.7
SDDR				IAML		05 28 47.2	
	comp=N,81nm,0.5s						
PAPH	Port-au-Prince	0.62	254	i P	Pb	05 28 41.3	-0.4
PAPH				eS	Sb	05 28 50.7	+0.7
PAPH				IAML		05 28 51.5	
	comp=Z,81nm,0.1s						
PODR	Polo	0.65	145	i P	Pb	05 28 42.0	-0.3
PODR				eS	Sb	05 28 51.7	+0.6
PODR	Polo	0.65	145	⇑ePg	Pb	05 28 40.8	-1.5
PODR				⇑eSg	Sb	05 28 51.5	+0.4
PODR				IAML		05 28 53.7	
	comp=N,91nm,0.5s						
LOBH	Bahia de las A	0.83	178	i P	Pb	05 28 44.9	-0.3
LOBH				eS	Sb	05 28 57.1	+1.1
LOBH				IAML		05 29 04.1	
	comp=Z,36nm,1.1s						
LOVI	El Cajuil, Ovi	0.94	162	i P	Pb	05 28 46.9	-0.2
LOVI				eS	Sn	05 29 00.3	+1.0
LOPP1	Punta Rusia, P	1.23	21	i P	Pb	05 28 52.8	+0.7
LUDR	Luperon	1.37	30	⇑ePg	Pn	05 28 52.8	0.0
LUDR				⇑eSg	Sn	05 29 08.6	-1.4

ASRS ***16*** *05:30:06.0±0.8,55°.61N×86°.23E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 16 05:30:12.6±3.5,55°.58N×86°.03E,h0km,mbtmp2.6/2, ML2.5/2,Error ellipse: s-maj=28.9km s-min=28.1km az=180.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.78	204	I	I	05 42 00.0	
	baz=22,slow=320,SNR=11						
ZALV	Zalesovo Beam	1.78	204	Pn	Pn	05 30 42.8	-1.7
	3.8nm,0.3s,baz=25,slow=14,SNR=13						
ZALV				Lg	Lg	05 31 08.4	
	2.3nm,0.3s,baz=22,slow=24,SNR=5.7						
KURBB	Kurchatov Arra	6.71	225	Pn	Pn	05 31 52.1	-0.2
	0.1nm,0.3s,baz=44,slow=14,SNR=3.1						
KURBB				Lg	Lg	05 33 47.8	
	0.1nm,0.3s,baz=49,slow=30,SNR=6.2						
	0.2nm,0.3s						
MKAR	Makanchi Array	9.10	196	Pn	Pn	05 32 26.1	+0.9
	0.1nm,0.3s,baz=20,slow=15,SNR=1.8						
	0.1nm,0.4s						

IDC ***16*** *05:41:12.1±4.2,7°.31S×128°.65E,h130km±37km,mb3.6/8, mbtmp4.1/12,Error ellipse: s-maj=37.5km s-min=14.0km az=61.0*

NEIC ***16*** *05:41:15.3±1.2,7°.5S±0°.1×128°.62E±0°.08,h163km±9km, mb4.2/10,Error ellipse: s-maj=14.7km s-min=11.2km az=177.0*

DJA ***16*** *05:41:16.9±0.5,7°.S±4°×12°.9E±°,h104km±31km,M4.5/11, mB5.1/1,mb4.6/5,MLv4.5/11,Mw(mB)4.5/1*

ISC 16 05:41:14.4±0.5,7°.58S±0°.06×128°.59E±0°.06,h151km,n48, σ1s91/52,mb3.9/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.71	99	Pn	Pn	05 41 59.7	+1.5
SAUI	Saumlaki	2.71	99	P	Pn	05 41 59.9	+1.7
AAI	Ambon	3.89	354	P	Pn	05 42 13.3	0.0
SOEI	Soe	4.79	243		Pn	05 42 27.5	+2.2
SOEI	Soe	4.79	243	P	Pn	05 42 28.0	+2.7
SOEI	Soe	4.79	243	P	Pn	05 42 27.8	+2.5
DRS	Darwin Rock St	5.33	155	P	Pn	05 42 34.9	+2.6
BATI	Baumata	5.53	241	P	Pn	05 42 36.0	+1.1
	64nm,0.4s,baz=250,slow=1.7,SNR=6.3						
BATI				S	Sn	05 43 40.0	+2.2
	144nm,0.4s,baz=259,slow=23,SNR=13						
BATI	Baumata	5.53	241	P	Pn	05 42 37.3	+2.4
	0.8nm80nm,0.5s						
MTN	Manton Dam	5.80	155		Pn	05 42 40.4	+1.9
MTN	Manton Dam	5.80	155	P	Pn	05 42 40.6	+2.1
FAKI	Fak Fak	5.89	38	P	Pn	05 42 39.5	-0.3
SANI	Sanana	6.08	335	P	Pn	05 42 42.6	+0.4
	0.1nm24nm,0.8s						
BBSI	Bau Bau	6.33	289	P	Pn	05 42 47.2	+1.5
	0.4nm120nm,1.0s						
KDU	Kakadu	6.35	143	P	Pn	05 42 47.5	+1.6
KMPI	Kaimana, Papua	6.41	53	P	Pn	05 42 48.7	+2.1
EDFI	Ende, Flores	6.93	260	P	Pn	05 42 55.5	+1.8
KNRA	Kununurra	8.05	179		Pn	05 43 09.5	+1.0
PLAI	Plampang	10.78	263	P	Pn	05 43 45.1	+0.3
FITZ	Fitzroy Crossi	10.84	195	Pn	Pn	05 43 45.6	0.0
FITZ	Fitzroy Crossi	10.84	195	P	Pn	05 43 46.1	+0.5
	1.8nm,0.3s,baz=28,slow=10,SNR=28						
FITZ				S	Sn	05 45 40.3	-5.3
	6.5nm,0.4s,baz=211,slow=18,SNR=5.7						
FITZ	Fitzroy Crossi	10.84	195	P	Pn	05 43 45.8	+0.2
WRA	Warramunga Arr	13.49	156		Pn	05 44 18.9	-1.1
WRA	Warramunga Arr	13.49	156	P	Pn	05 44 19.3	-0.7
	1.8nm,0.4s,baz=343,slow=13,SNR=31						
WRA				S	Sn	05 46 42.6	-6.8
	6.6nm,0.7s,baz=333,slow=22,SNR=12						
COEN	Coen	15.66	115		Pn	05 44

QSPA	**South Pole Qui**	**82.40**	**180**	P		**P**		**05 53 20.5**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=326,slow=0.7,SNR=7.9								
	comp=Z,1.3nm,0.7s								
TXAR	**Lajitas Array**	**126.42**	**59**	PKP		**PKPdf**		**05 59 59.6**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=182,slow=2.0,SNR=3.6								
LPAZ	**La Paz**	**151.08**	**145**	PKPbc		**PKPbc**		**06 00 52.1**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=317,slow=6.0,SNR=7.6								
LPAZ				PKPab		**PKPab**		**06 01 01.3**	**+1.9**
	comp=Z,1.7nm,0.6s,baz=316,slow=1.0,SNR=10								

*IDC **16** 06:19:06.7±9.3, 18°.08S×178°.26W, h516km±102km, mb3.4/8, mbtmp4.3/8, Error ellipse: s-maj=47.9km s-min=37.7km az=142.0*

ISC 16 06:19:11.6±1.4, 18°.1S±0°.3×178°.3W±0°.2, h579km, n10, σ0s57/11, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**06 25 45.9**	**-0.2**
	2.5nm,0.5s,baz=77,slow=9.1,SNR=6.2						
	2.5nm,0.5s						
JAY	**Jayapura**	**43.04**	**286**	P	**P**	**06 26 21.9**	**+0.3**
	8.6nm,0.7s,baz=146,slow=6.0,SNR=4.3						
	8.6nm,0.7s						
WRA	**Warramunga Arr**	**44.66**	**260**	P	**P**	**06 26 33.5**	**-0.6**
	2.7nm,0.5s,baz=96,slow=6.8,SNR=43						
	2.7nm,0.5s						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**06 26 35.0**	**-0.2**
	20nm,0.6s,baz=90,slow=8.2,SNR=10						
ASAR				S	**S**	**06 32 31.9**	**+0.8**
	0.7nm,0.9s,baz=84,slow=16,SNR=5.5						
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.06**	**261**	P	**P**	**06 27 36.4**	**+0.3**
	1.7nm,0.5s,baz=147,slow=4.9,SNR=6.8						
	1.7nm,0.5s						
MJAR	**Matsushiro Arr**	**68.13**	**323**	P	**P**	**06 29 15.0**	**+0.2**
	1.5nm,0.6s,baz=155,slow=5.4,SNR=2.4						
	1.5nm,0.6s						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**06 30 53.0**	**+0.8**
	0.4nm,0.8s,baz=220,slow=6.0,SNR=5.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**86.09**	**13**	P	**P**	**06 30 50.9**	**-0.5**
	0.5nm,0.8s,baz=217,slow=5.1,SNR=5.5						
	0.5nm,0.8s						
BRTR	**Keskin Array B**	**144.99**	**315**	PKPbc	**PKPab**	**06 37 45.5**	**-0.4**
	0.8nm,0.7s,baz=101,slow=4.3,SNR=4.5						
GERES	**GERESS Array B**	**147.85**	**345**	PKPbc	**PKiKP**	**06 37 53.1**	**-0.6**
	0.9nm,0.5s,baz=42,slow=2.2,SNR=6.6						

*IDC **16** 06:21:37.2±3.4, 54°.22N×87°.51E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=27.7km s-min=19.3km az=46.0*

ASRS 16 06:21:37.0±1.0, 54°.17N×87°.13E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**262**	I	I	06 30 15.0	
	baz=80,slow=312,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.38**	**262**	Pg	Pb	06 22 05.5	+1.8
	1.6nm,0.3s,baz=80,slow=16,SNR=13						
ZALV				Lg	Lg	06 22 28.8	
	1.0nm,0.3s,baz=82,slow=27,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.35**	**239**	Pn	Pn	06 23 15.2	+3.4
	0.1nm,0.3s,baz=53,slow=13,SNR=4.9						
KURBB				Lg	Lg	06 25 06.2	
	baz=57,slow=29,SNR=4.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	06 23 38.4	+3.9
	baz=23,slow=12,SNR=1.4						
MKAR				Lg	Lg	06 25 58.1	
	0.1nm,0.3s,baz=28,slow=31,SNR=3.8						
	0.2nm,0.6s						

*ASRS **16** 06:30:10.0±1.0, 54°.10N×86°.43E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 16 06:30:12.6±2.8, 54°.18N×86°.58E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.8km s-min=14.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.06**	**258**	I	I	06 36 40.0	
	baz=79,slow=309,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.06**	**258**	Pg	Pg	06 30 31.7	-1.2
	0.8nm,0.3s,baz=78,slow=17,SNR=8.3						
ZALV				Lg	Lg	06 30 48.2	
	2.0nm,0.3s,baz=75,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**6.08**	**237**	Pn	Pn	06 31 44.2	+0.6
	0.1nm,0.3s,baz=54,slow=13,SNR=6.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.88**	**202**	Pn	Pn	06 32 09.6	+1.2
	0.2nm,0.3s,baz=24,slow=12,SNR=8.7						
	0.3nm,0.3s						

*ASRS **16** 06:31:10.0±1.3, 53°.41N×91°.17E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*IDC **16** 06:31:18.0±3.4, 53°.52N×90°.69E, h0km, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=27.9km s-min=22.2km az=55.0.*

ISC 16 06:31:25.6±5.5, 53°.3N±0°.2×90°.2E±0°.3, h0km, n4, σ0s35/4, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.29**	**284**	I	I	06 53 40.4	
	baz=95,slow=313,SNR=8.7						
ZALV	**Zalesovo Beam**	**3.29**	**284**	Pn	Pn	06 32 13.4	-4.8
	0.7nm,0.3s,baz=96,slow=16,SNR=4.3						
ZALV				Sn	**Sn**	**06 32 58.2**	**+0.2**
	0.8nm,0.3s,baz=98,slow=20,SNR=5.8						
ZALV				Lg	Lg	06 33 10.9	
	1.1nm,0.3s,baz=95,slow=26,SNR=6.9						
	1.6nm,0.4s						
KURBB	**Kurchatov Arra**	**7.68**	**255**	Pn	Pn	06 33 13.9	-4.7
	baz=67,slow=13,SNR=3.7						
KURBB				Sn	**Sn**	**06 34 46.0**	**-0.2**
	baz=68,slow=26,SNR=5.4						
KURBB				Lg	Lg	06 35 33.2	
	baz=67,slow=33,SNR=5.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**8.23**	**221**	Pn	**Pn**	**06 33 26.0**	**-0.1**
	0.2nm,0.3s,baz=37,slow=13,SNR=6.4						
MKAR				Sn	**Sn**	**06 34 59.9**	**+0.2**
	baz=39,slow=23,SNR=2.9						
MKAR				Lg	Lg	06 35 52.7	
	baz=37,slow=34,SNR=2.8						
	0.2nm,0.5s						

*JMA **16** 06:49:23.9±0.1, 24°.1N±0°.2×121°.6E±0°.6, h22km, MV3.0/12, TAIWAN REGION*

*TAP **16** 06:49:23.8, 24°.06N×121°.50E, h22km, ML4.0, B*

*IDC **16** 06:49:28.0±5.0, 24°.00N×121°.85E, h68km±50km, mb3.4/7, mbtmp3.7/9, ML3.5/2, MS3.1/4, Error ellipse: s-maj=40.7km s-min=18.3km az=63.0*

ISC 16 06:49:24.1±0.7, 24°.05N±0°.01×121°.54E±0°.02, h23km±3km, n148, σ0s81/239, mb3.6/7, MS3.2/4, 6C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.06**	**57**	‖ *i* P	**Pb**	**06 49 28.1**	**-0.1**
TWD				*i* S	**Sb**	**06 49 31.1**	**+0.2**
HWA	**Hwalien**	**0.09**	**140**	P	**Pb**	**06 49 28.7**	**+0.3**
HWA				*e*S	**Sb**	**06 49 32.3**	**+1.1**
ETM	**Tongmen**	**0.09**	**208**	↑ *i* P	**Pb**	**06 49 28.1**	**-0.3**
ETM				S	**Sb**	**06 49 31.0**	**-0.3**
ETL	**Fush Village**	**0.13**	**34**	P	**Pb**	**06 49 28.5**	**-0.3**
ETL				*e*S	**Sb**	**06 49 31.9**	**-0.1**
NACB	**Ninganchiao**	**0.14**	**21**	P	**Pb**	**06 49 28.6**	**-0.2**
NACB	**Ninganchiao**	**0.14**	**21**	S	**Sb**	**06 49 32.1**	**+0.2**
NACB	**Ninganchiao**	**0.14**	**21**	‖ *i* P	**Pb**	**06 49 28.3**	**-0.4**
NACB				S	**Sb**	**06 49 31.6**	**-0.3**
ETLH	**Xiulin Townshi**	**0.17**	**341**	↑ *i* P	**Pb**	**06 49 28.7**	**-0.5**
ETLH				S	**Sb**	**06 49 31.9**	**-0.8**
TEYL	**Yanliau Villag**	**0.19**	**164**	P	**Pb**	**06 49 29.2**	**-0.1**
ESL	**Shilin**	**0.25**	**203**	‖ P	**Pb**	**06 49 29.6**	**-0.6**
ESL				*e*S	**Sb**	**06 49 34.6**	**+0.2**
SHUL	**Shoufeng**	**0.26**	**176**	P	**Pb**	**06 49 30.5**	**+0.2**
SHUL				S	**Sb**	**06 49 35.9**	**+1.3**
WHF	**Hehuan Shan**	**0.27**	**291**	↑ *i* P	**Pb**	**06 49 30.1**	**-0.8**
WHF				S	**Sb**	**06 49 34.5**	**-1.0**
EHP	**Heping Village**	**0.32**	**35**	*e*P	**Pb**	**06 49 31.2**	**-0.1**
EHP				*e*S	**Sb**	**06 49 36.3**	**+0.2**
EAHA	**Aohua**	**0.33**	**33**	*e*P	**Pb**	**06 49 31.3**	**-0.2**
EAHA				*e*S	**Sb**	**06 49 36.8**	**+0.3**
FUSS	**Fushou**	**0.34**	**306**	‖ *i* P	**Pb**	**06 49 31.3**	**-0.4**
FUSS				S	**Sb**	**06 49 36.5**	**-0.4**
TEGC	**Jichi Village**	**0.34**	**180**	*e*P	**Pb**	**06 49 31.9**	**+0.4**
OWD	**Renai**	**0.35**	**255**	↑ *i* P	**Pb**	**06 49 31.2**	**-0.5**
OWD				S	**Sb**	**06 49 35.8**	**-1.2**
WARBT	**Fenglin Townsh**	**0.36**	**203**	*e*P	**Pb**	**06 49 30.8**	**-1.0**
WARBT				*e*S	**Sb**	**06 49 36.5**	**-0.6**
EGFH	**Guangfu**	**0.39**	**195**	*e*P	**Pb**	**06 49 31.7**	**-0.7**
EGFH				*e*S	**Sb**	**06 49 37.5**	**-0.6**
TWT	**Tachien**	**0.39**	**302**	‖ *i* P	**Pb**	**06 49 32.3**	**-0.2**
TWT				*i* S	**Sb**	**06 49 37.8**	**-0.5**
WUSB	**Renai**	**0.39**	**262**	↑ *i* P	**Pb**	**06 49 32.0**	**-0.5**
WUSB				*e*S	**Sb**	**06 49 37.6**	**-0.6**
TDCB	**Techi**	**0.41**	**300**	*i* P	**Pb**	**06 49 32.3**	**-0.4**
TDCB				S	**Sb**	**06 49 37.7**	**-0.9**
NNSB	**Datong**	**0.41**	**339**	‖ *i* P	**Pb**	**06 49 32.2**	**-0.5**
NNSB				S	**Sb**	**06 49 37.7**	**-0.9**
ENA	**Nanau**	**0.42**	**26**	P	**Pb**	**06 49 32.5**	**-0.4**
ENA				S	**Sb**	**06 49 38.9**	**0.0**
EWUT	**Wuta**	**0.45**	**29**	*e*P	**Pb**	**06 49 33.0**	**-0.4**
EWUT				*e*S	**Sb**	**06 49 39.6**	**-0.2**
VWDT	**VWDT**	**0.47**	**231**	↑↑ P	**Pb**	**06 49 33.3**	**-0.4**
VWDT				*e*S	**Sb**	**06 49 39.8**	**-0.4**
LATG	**Datong**	**0.49**	**358**	P	**Pb**	**06 49 40.5**	**-0.3**
LATG				S	**Sb**	**06 49 40.5**	**-0.3**
HGSD	**Ruisui**	**0.56**	**191**	*e*P	**Pb**	**06 49 35.1**	**-0.2**
EHY	**Hungye**	**0.57**	**200**	*e*P	**Pb**	**06 49 33.9**	**-1.6**
WCS	**Beigang Elemen**	**0.58**	**271**	*e*P	**Pb**	**06 49 35.0**	**-0.5**
WCS				*e*S	**Sb**	**06 49 41.6**	**-1.7**
EHYH	**Wanrong**	**0.58**	**198**	*e*P	**Pb**	**06 49 35.1**	**-0.5**
EHYH				*e*S	**Sb**	**06 49 44.1**	**+0.7**
ENTT	**Nioudou**	**0.59**	**2**	*e*P	**Pb**	**06 49 35.4**	**-0.4**
ENTT				*e*S	**Sb**	**06 49 43.6**	**-0.1**
WHP	**Taichung City**	**0.59**	**293**	P	**Pb**	**06 49 35.3**	**-0.5**
WHP				*e*S	**Sb**	**06 49 43.3**	**-0.5**
ESAO	**Su ao**	**0.59**	**28**	P	**Pb**	**06 49 35.6**	**-0.2**
ESAO				*e*S	**Sb**	**06 49 43.5**	**-0.4**
SSLB	**Suanglung**	**0.60**	**244**	P	**Pb**	**06 49 35.5**	**-0.4**
SSLB	**Suanglung**	**0.60**	**244**	S	**Sb**	**06 49 42.9**	**-1.0**
SSLB	**Suanglung**	**0.60**	**244**	P	**Pb**	**06 49 35.2**	**-0.7**
SSLB				S	**Sb**	**06 49 42.5**	**-1.4**
SMLT	**Sun Moon Lake**	**0.61**	**255**	*i* P	**Pb**	**06 49 35.6**	**-0.6**
SMLT				S	**Sb**	**06 49 43.4**	**-0.9**
TWC	**Suao**	**0.63**	**27**	P	**Pb**	**06 49 35.9**	**-0.5**
TWC				*e*S	**Sb**	**06 49 44.7**	**0.0**
YHNB	**Yeheng**	**0.64**	**346**	P	**Pb**	**06 49 36.4**	**-0.2**
YHNB	**Yeheng**	**0.64**	**346**	P	**Pb**	**06 49 36.1**	**-0.5**
YHNB				*e*S	**Sb**	**06 49 44.4**	**-0.7**
YULB	**Yu-li**	**0.69**	**199**	P	**Pb**	**06 49 35.7**	**-1.7**
YULB	**Yu-li**	**0.69**	**199**	S	**Sb**	**06 49 45.8**	**-0.8**
YULB	**Yu-li**	**0.69**	**199**	*e*P	**Pb**	**06 49 36.7**	**-0.8**
YULB				*e*S	**Sb**	**06 49 46.4**	**-0.2**
NFF	**Wufeng Townshi**	**0.70**	**327**	P	**Pb**	**06 49 37.1**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.71**	**3**	P	**Pb**	**06 49 37.4**	**-0.5**
FUSB				*e*S	**Sb**	**06 49 46.9**	**-0.3**
EOS4	**EOS4**	**0.71**	**84**	*e*P	**Pn**	**06 49 38.0**	**-0.4**
EOS4				*e*S	**Sn**	**06 49 49.0**	**+0.5**
WHYT	**Xinyi Township**	**0.72**	**241**	*e*P	**Pb**	**06 49 37.7**	**-0.2**
WHYT				*e*S	**Sb**	**06 49 47.8**	**+0.3**
NWLT	**Wulai**	**0.73**	**357**	*e*P	**Pb**	**06 49 37.2**	**-0.4**
NWLT				*e*S	**Sb**	**06 49 46.5**	**-1.2**
TWF1	**Yuli**	**0.73**	**198**	*e*P	**Pb**	**06 49 37.1**	**-1.0**
TWF1				*e*S	**Sb**	**06 49 48.2**	**+0.6**
EOS2	**EOS2**	**0.73**	**59**	P	**Pn**	**06 49 39.4**	**+0.5**
EOS2				*e*S	**Sb**	**06 49 48.3**	**+0.7**
ECBN	**Changbin**	**0.73**	**186**	*e*P	**Pb**	**06 49 37.5**	**-0.6**
EOS3	**EOS3**	**0.75**	**71**	P	**Pn**	**06 49 39.4**	**+0.3**
NSTT	**Nanjuang**	**0.76**	**320**	P	**Pb**	**06 49 38.5**	**-0.1**
NSTT				*e*S	**Sb**	**06 49 48.3**	**-0.4**
TWQ1	**Liyutan**	**0.76**	**293**	P	**Pb**	**06 49 39.0**	**+0.4**
TWQ1				*e*S	**Sb**	**06 49 49.4**	**+0.7**
LIOB	**Emei**	**0.76**	**321**	P	**Pb**	**06 49 38.7**	**0.0**
WJS	**Zhushan**	**0.78**	**253**	*e*P	**Pb**	**06 49 39.3**	**+0.3**
WJS				*e*S	**Sn**	**06 49 50.5**	**-0.2**
KSHI	**Guanxi Townshi**	**0.80**	**335**	P	**Pn**	**06 49 40.0**	**0.0**
KSHI				*e*S	**Sn**	**06 49 50.7**	**-0.5**
NSY	**Sanyi**	**0.80**	**297**	P	**Pn**	**06 49 39.7**	**+0.4**
NSY				*e*S	**Sb**	**06 49 50.6**	**+0.8**
WNT	**Mingjian**	**0.80**	**258**	*e*P	**Pn**	**06 49 39.9**	**-0.1**
WNT				S	**Sn**	**06 49 51.1**	**-0.1**
NMLH	**Miaoli**	**0.84**	**306**	P	**Pn**	**06 49 40.8**	**+0.3**
NMLH				*e*S	**Sb**	**06 49 51.6**	**+0.7**
ALS	**Alishan**	**0.86**	**232**	*i* P	**Pb**	**06 49 40.5**	**0.0**
ALS				*i* S	**Sb**	**06 49 51.9**	**+0.2**
CHKH	**Chenggong**	**0.86**	**189**	P	**Pb**	**06 49 39.0**	**-1.4**
CHKH				S	**Sb**	**06 49 50.7**	**-0.8**
FULB	**Fuli**	**0.88**	**195**	*e*P	**Pb**	**06 49 39.9**	**-0.7**
WDJ	**Dajia District**	**0.88**	**290**	*e*P	**Pn**	**06 49 41.2**	**+0.3**
SBCB	**Hsinchu**	**0.90**	**326**	P	**Pn**	**06 49 41.8**	**+0.4**
SBCB				*e*S	**Sn**	**06 49 54.8**	**+1.2**
WCHH	**Zhanghua**	**0.90**	**272**	*e*P	**Pn**	**06 49 41.5**	**+0.2**
CHN5	**Tsauling**	**0.91**	**241**	*e*P	**Pn**	**06 49 41.7**	**+0.2**
CHN5				*e*S	**Sn**	**06 49 54.3**	**+0.3**
NHDH	**Xindian Distri**	**0.91**	**359**	*e*P	**Pn**	**06 49 41.4**	**+0.2**
NHDH				*e*S	**Sn**	**06 49 53.9**	**0.0**
HSN	**Hsinchu**	**0.91**	**325**	P	**Pn**	**06 49 42.1**	**+0.5**
HSN				*e*S	**Sn**	**06 49 54.8**	**+0.8**
TATO	**Taipei**	**0.93**	**357**	P	**Pn**	**06 49 42.2**	**+0.5**
TATO	**Taipei**	**0.93**	**357**	S	**Sn**	**06 49 54.5**	**+0.2**
TWA	**Mucha**	**0.93**	**2**	*e*P	**Pb**	**06 49 41.4**	**-0.1**
TWA				*e*S	**Sb**	**06 49 54.0**	**+0.5**
EHD	**Haiduan**	**0.95**	**199**	*e*P	**Pb**	**06 49 41.1**	**-0.7**
EHD				*e*S	**Sb**	**06 49 54.0**	**+0.1**
TIPB	**Shuangxi**	**0.96**	**16**	*e*P	**Pb**	**06 49 41.5**	**-0.5**
TIPB				*e*S	**Sn**	**06 49 55.2**	**+0.1**
WGK	**Gukeng**	**0.97**	**248**	*e*P	**Pn**	**06 49 43.2**	**+1.0**
WGK				*e*S	**Sn**	**06 49 56.1**	**+0.8**
NCUH	**Zhongli**	**0.97**	**341**	P	**Pn**	**06 49 42.9**	**+0.6**
NCUH				S	**Sn**	**06 49 56.7**	**+1.3**
ELDTW	**Lidau**	**0.98**	**209**	*e*P	**Pb**	**06 49 41.7**	**-0.8**
ELDTW				*e*S	**Sb**	**06 49 54.7**	**-0.3**
WDLH	**Douliu**	**0.98**	**249**	*e*P	**Pn**	**06 49 43.0**	**+0.2**
WDLH				*e*S	**Sn**	**06 49 56.3**	**+0.9**
TWB1	**Santiao Chiao**	**1.04**	**23**	*e*P	**Pb**	**06 49 43.5**	**+0.1**
TWB1				*e*S	**Sn**	**06 49 57.2**	**+0.2**
NWF	**Wu-fen Shan**	**1.04**	**12**	*e*P	**Pb**	**06 49 44.0**	**+0.5**
NWF				*e*S	**Sn**	**06 49 57.6**	**+0.3**
WFSB	**Wu-fen Shan**	**1.04**	**12**	*e*P	**Pn**	**06 49 43.2**	**-0.1**
WFSB				*e*S	**Sn**	**06 49 57.9**	**+0.7**
WCKO	**Fanlu**	**1.05**	**235**	*e*P	**Pn**	**06 49 43.4**	**-0.1**
WCKO				*e*S	**Sn**	**06 49 58.7**	**+1.3**
TWS1	**Kuangyinshan**	**1.05**	**354**	P	**Pb**	**06 49 44.0**	**+0.4**
TWS1				*e*S	**Sn**	**06 49 59.9**	**+2.5**
SXI1	**Grass Mountain**	**1.09**	**16**	*e*P	**Pn**	**06 49 43.7**	**-0.2**
SXI1				*e*S	**Sn**	**06 49 59.9**	**+1.6**
EDH	**Donghe**	**1.09**	**192**	*e*P	**Pn**	**06 49 43.0**	**-1.0**
EDH				*e*S	**Sb**	**06 49 57.6**	**-0.5**
YM01	**YM01**	**1.09**	**1**	*e*P	**Pb**	**06 49 44.4**	**0.0**
YM01				*e*S	**Sn**	**06 49 59.5**	**+1.0**
ZUZH	**Zhuzihu**	**1.11**	**0**	*e*P	**Pn**	**06 49 43.7**	**-0.6**
ZUZH				*e*S	**Sn**	**06 49 59.5**	**+0.6**
CHN4	**Tsaushan**	**1.11**	**232**	*e*P	**Pb**	**06 49 45.1**	**+0.4**
WTK	**Tuku**	**1.11**	**251**	*e*P	**Pb**	**06 49 45.0**	**+0.3**
WTK				*e*S	**Sn**	**06 50 00.4**	**+1.5**
NTST	**Danshui**	**1.11**	**356**	*e*P	**Pn**	**06 49 44.5**	**+0.2**
NTST				*e*S	**Sn**	**06 50 00.5**	**+1.5**
TNOU	**National Taiwa**	**1.12**	**11**	*e*P	**Pn**	**06 49 44.6**	**+0.3**
TNOU				*e*S	**Sn**	**06 49 59.2**	**+0.1**
TPUB	**Ta-pu**	**1.12**	**229**	P	**Pb**	**06 49 45.2**	**+0.4**
TPUB	**Ta-pu**	**1.12**	**229**	S	**Sn**	**06 50 00.5**	**+1.4**
TPUB	**Ta-pu**	**1.12**	**229**	*e*P	**Pb**	**06 49 44.9**	**+0.1**
TPUB				*e*S	**Sn**	**06 49 59.8**	**+0.8**
STYH	**Taoyuan**	**1.12**	**219**	*e*P	**Pn**	**06 49 44.5**	**+0.2**
STYH				*e*S	**Sn**	**06 49 59.1**	**+0.1**
YM08	**YM08**	**1.14**	**2**	*e*P	**Pn**	**06 49 44.7**	**+0.1**
YM08				*e*S	**Sb**	**06 49 58.9**	**-0.5**
CHY	**Chiayi**	**1.16**	**242**	*e*P	**Pb**	**06 49 45.9**	**+0.4**
CHY				*e*S	**Sn**	**06 50 01.5**	**+1.5**
WTP	**Ta-pu**	**1.17**	**227**	*e*P	**Pb**	**06 49 45.6**	**0.0**
WTP				*e*S	**Sn**	**06 50 01.6**	**+1.4**
WTCT	**Ta-ch'eng**	**1.17**	**261**	*e*S	**Sb**	**06 50 01.3**	**+1.0**
LONT	**Longtian**	**1.20**	**198**	*e*P	**Pn**	**06 49 44.6**	**-0.8**
TWY	**Chenhua**	**1.22**	**2**	*e*P	**Pb**	**06 49 46.8**	**+0.3**
TWY				*e*S	**Sb**	**06 50 02.8**	**+0.9**
TWK	**Hsinying**	**1.24**	**231**	*e*P	**Pb**	**06 49 47.4**	**+0.6**
TWK				*e*S	**Sb**	**06 50 04.2**	**+1.8**
CHN1	**Nanshi**	**1.27**	**227**	*e*P	**Pb**	**06 49 47.7**	**+0.5**
CHN1				*e*S	**Sb**	**06 50 05.5**	**+2.4**
WSF	**Szhu**	**1.27**	**252**	*e*S	**Sb**	**06 50 04.7**	**+1.4**
TWG	**Pinlang**	**1.29**	**200**	*e*P	**Pn**	**06 49 46.6**	**-0.2**
TWGBT	**Beinan**	**1.30**	**199**	*e*P	**Pn**	**06 49 47.0**	**+0.2**
WSL	**Shuilin Townsh**	**1.31**	**247**	*e*P	**Pb**	**06 49 48.0**	**0.0**
WSL				*e*S	**Sb**	**06 50 06.1**	**+1.7**
JYNG	**Yonagunijimaku**	**1.34**	**72**	*e*P	**Pn**	**06 49 47.6**	**+0.2**
JYNG				*e*S	**Sn**	**06 50 04.7**	**+0.1**
ICHU	**Yijhu**	**1.34**	**240**	*e*P	**Pb**	**06 49 49.1**	**+0.6**
ICHU				*e*S	**Sb**	**06 50 08.2**	**+2.9**
YOJ	**Yonaguni jima**	**1.40**	**73**	P	**Pn**	**06 49 48.1**	**-0.1**
YOJ	**Yonaguni jima**	**1.40**	**73**	S	**Sb**	**06 50 07.8**	**+0.7**
YOJ	**Yonaguni jima**	**1.40**	**73**	P	**Pn**	**06 49 47.9**	**-0.4**
YOJ				S	**Sb**	**06 50 07.1**	**0.0**
YOJ	**Yonaguni jima**	**1.40**	**73**	*e*P	**Pn**	**06 49 48.2**	**-0.1**
YOJ				*e*S	**Sn**	**06 50 06.1**	**+0.1**
CHN8	**Yiju**	**1.41**	**240**	*e*S	**Sb**	**06 50 08.6**	**+1.5**
SCST	**Cishan**	**1.50**	**220**	*e*P	**Pb**	**06 49 51.8**	**+0.5**
SSD	**Sandimen**	**1.54**	**213**	*e*P	**Pb**	**06 49 51.2**	**-0.7**
TSCK	**Chigu Township**	**1.61**	**236**	*e*P	**Pn**	**06 49 52.1**	**+1.0**
TSCK				*e*S	**Sb**	**06 50 13.1**	**+0.2**
PCYT	**Pengchaiyu**	**1.65**	**17**	*e*P	**Pn**	**06 49 51.7**	**+0.1**
MASBT	**Mashibuluo**	**1.66**	**210**	*e*P	**Pn**	**06 49 52.5**	**+0.8**
MASBT				*e*S	**Sb**	**06 50 15.1**	**+0.8**
SCZT	**Fangliau**	**1.87**	**207**	*e*P	**Pb**	**06 49 56.2**	**-1.3**
PHUB	**P'eng-hu**	**1.88**	**254**	*e*P	**Pn**	**06 49 54.1**	**-0.7**
PHUB				*e*S	**Sn**	**06 50 18.5**	**+0.7**
PNG	**Penghu**	**1.88**	**256**	*e*P	**Pn**	**06 49 54.4**	**-0.4**
PNG				*e*S	**Sn**	**06 50 18.1**	**+0.2**
WDGT	**Dungji**	**1.90**	**246**	*e*P	**Pn**	**06 49 55.5**	**+0.5**
WDGT				*e*S	**Sn**	**06 50 19.6**	**+1.4**
IRIF	**Iriomote-Funau**	**2.02**	**81**	*e*P	**Pn**	**06 49 56.8**	**+0.1**
HATJ	**Hateruma jima**	**2.07**	**89**	*e*S	**Sn**	**06 50 23.1**	**+0.6**
VCHM	**Qimei**	**2.11**	**247**	*e*P	**Pn**	**06 49 58.1**	**+0.2**
VCHM				*e*S	**Sn**	**06 50 23.6**	**+0.2**
VWUC	**VWUC**	**2.12**	**297**	P	**Pn**	**06 49 57.2**	**-1.0**
VWUC				S	**Sn**	**06 50 21.5**	**-2.3**
JKRS	**Kuro-shima**	**2.26**	**85**	*e*P	**Pn**	**06 50 00.6**	**+0.6**
JKRS				*e*S	**Sn**	**06 50 29.4**	**+2.1**
JIJ	**Ishigaki jima**	**2.40**	**82**	*e*P	**Pn**	**06 50 01.7**	**-0.2**
JIJ				*e*S	**Sn**	**06 50 30.4**	**-0.2**
PTMZ	**Houxiangcun**	**2.42**	**295**	*e*P	**Pn**	**06 50 01.4**	**-0.8**
MATB	**Ma-tsu**	**2.55**	**326**	*e*P	**Pn**	**06 50 03.2**	**-0.8**
JISG	**Ishigakijimahi**	**2.58**	**77**	*e*P	**Pn**	**06 50 04.7**	**-0.3**
JISG				*e*S	**Sn**	**06 50 34.7**	**-0.5**
MHZQ	**Yeshan**	**3.06**	**312**	*e*P	**Pn**	**06 50 10.0**	**-1.0**
AXDP	**Jialang**	**3.36**	**285**	P	**Pn**	**06 50 14.4**	**-0.8**
ZPLA	**Ao Xicun**	**3.47**	**269**	*e*P	**Pn**	**06 50 16.2**	**-0.4**
JOW	**Kunigami**	**6.69**	**64**	P	**Pn**	**06 50 59.7**	**-1.3**
	1.6nm,0.3s,baz=166,slow=14,SNR=7.7		

I46RU	**ZALESOVO INFRA**	**1.21**	**248**	I	I	07 05 49.5	
	baz=67,slow=319,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.21**	**247**	Pg	Pg	06 58 26.1	-1.6
	0.7nm,0.3s,baz=66,slow=19,SNR=9.4						
ZALV				Lg	Lg	06 58 44.8	
	1.2nm,0.3s,baz=68,slow=27,SNR=6.5						
KURBB	**Kurchatov Arra**	**6.28**	**236**	Pn	Pn	06 59 38.5	+0.2
	0.2nm,0.3s,baz=53,slow=14,SNR=4.4						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**8.14**	**202**	Pn	Pn	07 00 06.0	+2.1
	0.1nm,0.3s,baz=22,slow=14,SNR=2.6						
	0.2nm,0.4s						

ASRS ***16*** *07:13:14.0±0.8,54.76N×83.74E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 16 07:13:18.6±1.7,54.65N×83.87E,h0km,mbtmp3.1/3, ML2.5/3,Error ellipse: s-maj=14.9km s-min=9.9km az=10.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**141**	I		I	07 19 09.4	
	baz=318,slow=311,SNR=3.9							
ZALV	**Zalesovo Beam**	**0.89**	**141**	Pg		Pg	07 13 34.3	-1.3
	3.0nm,0.3s,baz=322,slow=15,SNR=19							
ZALV				Lg		Lg	07 13 48.5	
	9.1nm,0.3s,baz=322,slow=29,SNR=21							
KURBB	**Kurchatov Arra**	**5.18**	**221**	Pn		Pn	07 14 37.9	+0.7
	0.2nm,0.3s,baz=46,slow=15,SNR=1.6							
KURBB				Lg		Lg	07 16 04.1	
	0.1nm,0.3s,baz=42,slow=30,SNR=6.1							
	0.8nm,0.2s							
MKAR	**Makanchi Array**	**7.93**	**188**	Pn		Pn	07 15 16.2	+1.3
	0.1nm,0.3s,baz=2.1,slow=12,SNR=3.6							
MKAR				Lg		Lg	07 17 32.1	
	0.1nm,0.3s,baz=21,slow=29,SNR=3.7							
	0.4nm,0.5s							
BVAR	**Borovoye Array**	**8.14**	**264**	Pn		Pn	07 15 16.2	-1.7
	baz=67,slow=14,SNR=3.9							
	0.6nm,0.3s							

NEIC ***16*** *07:15:21.4±2.1,18.18N±0.02×67.29W±0.02,h10km±1km, ML3.5/28,Md3.1/18(RSPR),Error ellipse: s-maj=4.1km s-min=2.8km az=107.0*

RSPR ***16*** *07:15:21.5,18.14N×67.35W,h14km,MD3.0/18*

ISC 16 07:15:20.8±0.9,18.14N±0.04×67.31W±0.03,h20km±1km, n81,σ1s04/81,11C-9D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.18**	**65**			**Pb**	**07 15 26.3**	**-0.2**
PRSN						**Sb**	**07 15 29.8**	**-0.7**
PRSN	**Puerto Rico Se**	**0.18**	**65**	IAML			07 15 30.4	
	comp=N,11μm,0.1s							
PRSN				IAML			07 15 30.6	
	comp=E,21μm,0.2s							
PRSN	**Puerto Rico Se**	**0.18**	**65**	*eP*		**Pb**	**07 15 26.3**	**-0.2**
PRSN	**Puerto Rico Se**	**0.18**	**65**	*eS*		**Sb**	**07 15 29.8**	**-0.7**
LSP	**Las Mesas**	**0.22**	**81**			**Pb**	**07 15 27.0**	**+0.2**
LSP	**Las Mesas**	**0.22**	**81**	*eP*		**Pb**	**07 15 27.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.24**	**125**			**Pb**	**07 15 27.1**	**+0.3**
CRPR						**Sb**	**07 15 31.2**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.24**	**125**	IAML			07 15 34.0	
	comp=E,4μm,0.3s							
CRPR				IAML			07 15 35.4	
	comp=N,5μm,0.3s							
CRPR	**Cabo Rojo, PR**	**0.24**	**125**	*eP*		**Pb**	**07 15 27.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.24**	**125**	*eS*		**Sb**	**07 15 31.2**	**+0.4**
IDE	**Isla Desecheo**	**0.29**	**328**			**Pb**	**07 15 27.2**	**-0.2**
IDE	**Isla Desecheo**	**0.29**	**328**	*eP*		**Pb**	**07 15 27.2**	**-0.2**
MLPR	**Magueyes Islan**	**0.31**	**124**	*eP*		**Pb**	**07 15 28.1**	**+0.4**
MLPR	**Magueyes Islan**	**0.31**	**124**	*eS*		**Sb**	**07 15 33.2**	**+0.9**
AGPR	**Aguadilla, PR**	**0.38**	**31**			**Pb**	**07 15 29.0**	**+0.3**
AGPR						**Sb**	**07 15 34.7**	**+0.7**
AGPR	**Aguadilla, PR**	**0.38**	**31**	IAML			07 15 34.9	
	comp=N,3μm,0.2s							
AGPR				IAML			07 15 34.9	
	comp=E,6μm,0.2s							
AGPR	**Aguadilla, PR**	**0.38**	**31**	*eP*		**Pb**	**07 15 29.0**	**+0.3**
AGPR	**Aguadilla, PR**	**0.38**	**31**	*eS*		**Sb**	**07 15 34.7**	**+0.7**
GBPR	**Guanica, Bosqu**	**0.45**	**112**			**Pb**	**07 15 30.7**	**+0.8**
GBPR	**Guanica, Bosqu**	**0.45**	**112**	*eP*		**Pb**	**07 15 30.7**	**+0.8**
AOPR	**Arecibo Observ**	**0.57**	**69**			**Pb**	**07 15 31.9**	**-0.3**
AOPR						**Sb**	**07 15 39.5**	**-0.4**
AOPR	**Arecibo Observ**	**0.57**	**69**	IAML			07 15 40.8	
	comp=N,5μm,0.2s							
AOPR				IAML			07 15 43.6	
	comp=E,9μm,0.2s							
AOPR	**Arecibo Observ**	**0.57**	**69**	*eP*		**Pb**	**07 15 31.9**	**-0.3**
AOPR	**Arecibo Observ**	**0.57**	**69**	*eS*		**Sb**	**07 15 39.5**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.57**	**79**			**Pb**	**07 15 32.0**	**-0.3**
UUPR						**Sb**	**07 15 39.7**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.57**	**79**	IAML			07 15 41.1	
	comp=N,15μm,0.4s							
UUPR				IAML			07 15 41.8	
	comp=E,18μm,0.3s							
UUPR	**Utuado, UPR, P**	**0.57**	**79**	*eP*		**Pb**	**07 15 32.0**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.57**	**79**	*eS*		**Sb**	**07 15 39.7**	**-0.4**
OBIP	**Obispado Ponce**	**0.68**	**98**			**Pb**	**07 15 34.0**	**0.0**
OBIP						**Sb**	**07 15 43.5**	**+0.5**
OBIP	**Obispado Ponce**	**0.68**	**98**	IAML			07 15 44.6	
	comp=N,2μm,0.2s							
OBIP				IAML			07 15 45.6	
	comp=E,2μm,0.1s							
OBIP	**Obispado Ponce**	**0.68**	**98**	*eP*		**Pb**	**07 15 34.0**	**0.0**
OBIP	**Obispado Ponce**	**0.68**	**98**	*eS*		**Sb**	**07 15 43.5**	**+0.5**
CELP	**Cerrillos**	**0.70**	**95**			**Pb**	**07 15 34.1**	**-0.2**
CELP						**Sb**	**07 15 43.8**	**+0.2**
CELP	**Cerrillos**	**0.70**	**95**	IAML			07 15 45.8	
	comp=N,2μm,0.2s							
CELP	**Cerrillos**	**0.70**	**95**	*eP*		**Pb**	**07 15 34.1**	**-0.2**
CELP	**Cerrillos**	**0.70**	**95**	*eS*		**Sb**	**07 15 43.8**	**+0.2**
EMPR	**Esperanza - Ma**	**0.81**	**66**			**Pb**	**07 15 36.3**	**0.0**
EMPR						**Sn**	**07 15 47.8**	**-0.8**
EMPR	**Esperanza - Ma**	**0.81**	**66**	*eP*		**Pb**	**07 15 36.3**	**0.0**
EMPR	**Esperanza - Ma**	**0.81**	**66**	*eS*		**Sn**	**07 15 47.8**	**-0.8**
ECPR	**Experimental S**	**0.92**	**79**	*eP*		**Pb**	**07 15 37.6**	**-0.5**
ECPR	**Experimental S**	**0.92**	**79**	*eS*		**Sb**	**07 15 50.1**	**+0.2**
SJG	**San Juan**	**1.11**	**91**			**Pn**	**07 15 41.1**	**0.0**
SJG	**San Juan**	**1.11**	**91**	IAML			07 15 59.8	
	comp=N,2μm,0.2s							
SJG				IAML			07 16 00.5	
	comp=N,2μm,0.2s							
SJG	**San Juan**	**1.11**	**91**	*eP*		**Pn**	**07 15 41.1**	**0.0**
SJG	**San Juan**	**1.11**	**91**	*eS*		**Sn**	**07 15 56.0**	**+0.2**
IGPR	**InterUniversit**	**1.16**	**99**			**Pb**	**07 15 42.1**	**-0.1**
IGPR						**Sn**	**07 15 57.3**	**+0.1**
IGPR	**InterUniversit**	**1.16**	**99**	*eP*		**Pb**	**07 15 42.1**	**-0.1**
IGPR	**InterUniversit**	**1.16**	**99**	*eS*		**Sn**	**07 15 57.3**	**+0.1**
GCPR	**Guaynabo City**	**1.18**	**82**			**Pn**	**07 15 42.2**	**0.0**
GCPR				IAML			07 16 00.9	
	comp=E,772nm,0.2s							
GCPR	**Guaynabo City**	**1.18**	**82**	*eP*		**Pn**	**07 15 42.0**	**-0.2**
GCPR	**Guaynabo City**	**1.18**	**82**	*eS*		**Sn**	**07 15 58.0**	**+0.4**
PDPR	**Patillas Dam,**	**1.23**	**96**			**Pn**	**07 15 43.0**	**+0.1**
PDPR				IAML			07 16 03.6	
	comp=E,756nm,0.5s							
PDPR				IAML			07 16 04.2	
	comp=N,938nm,0.1s							
PDPR	**Patillas Dam,**	**1.23**	**96**	*eP*		**Pb**	**07 15 43.2**	**-0.2**
PDPR	**Patillas Dam,**	**1.23**	**96**	*eS*		**Sn**	**07 15 59.9**	**+0.9**
HUMP	**Col San Antoni**	**1.39**	**90**			**Pn**	**07 15 45.4**	**+0.4**
HUMP	**Col San Antoni**	**1.39**	**90**	*eP*		**Pn**	**07 15 45.4**	**+0.4**
HUMP	**Col San Antoni**	**1.39**	**90**	*eS*		**Sb**	**07 16 03.2**	**-0.2**
HIDR	**Higuey Centro**	**1.41**	**289**	*eP*		**Pn**	**07 15 45.1**	**-0.2**
HIDR	**Higuey Centro**	**1.41**	**289**	*eS*		**Sn**	**07 16 02.6**	**-0.7**
DR12	**Loma Pena Alta**	**2.06**	**288**	Pn		**Pn**	**07 15 55.4**	**+1.0**
SMDR	**Samana, DR**	**2.11**	**303**	*eP*		**Pb**	**07 15 57.7**	**-0.7**
SMDR	**Samana, DR**	**2.11**	**303**	*eS*		**Sb**	**07 16 23.9**	**-0.3**
SDD	**Santo Domingo**	**2.49**	**278**	Pn		**Pn**	**07 16 02.2**	**+2.0**
BANI	**BANI**	**2.91**	**275**	Pn		**Pn**	**07 16 07.3**	**+1.3**
SC01	**Santiago de lo**	**3.48**	**292**	Pn		**Pn**	**07 16 15.0**	**+1.2**
SC01				IAML			07 17 22.3	
	comp=E,175nm,0.8s							
SC01				IAML			07 17 24.8	
	comp=N,151nm,1.4s							
SDDR	**Presa de Saban**	**3.86**	**283**	Pn		**Pn**	**07 16 20.9**	**+1.8**
SABA	**Saba**	**3.91**	**97**	Pn		**Pn**	**07 16 20.6**	**+0.9**
ATGZ	**Broadband at L**	**5.72**	**110**	*eP*		**Pn**	**07 16 45.9**	**+1.3**
CBE	**Ff, Capester**	**5.83**	**110**	Pn		**Pn**	**07 16 46.7**	**+0.5**
DSLB	**Salisbury**	**6.25**	**115**	*eP*		Pn	07 16 40.1	-12
DSLB	**Salisbury**	**6.25**	**115**	*eP*		**Pn**	**07 16 52.3**	**+0.3**
DSLB				*eS*		**Pn**	**07 16 53.3**	**+1.3**
DSLB	**Salisbury**	**6.25**	**115**	*eS*		**Sn**	**07 18 01.2**	**-1.6**
MDN	**Morne-Daniel**	**6.33**	**115**	*eP*		Pn	07 16 41.3	-12
MDN	**Morne-Daniel**	**6.33**	**115**	*e*		**Pn**	**07 16 52.5**	**-0.5**
MDN	**Morne-Daniel**	**6.33**	**115**	*eP*		**Pn**	**07 16 52.8**	**-0.2**
BIM	**Bigot**	**6.99**	**120**	*eP*		**Pn**	**07 17 02.6**	**+0.5**
BIM	**Bigot**	**6.99**	**120**	*eS*		**Sn**	**07 18 18.9**	**-2.3**
SLBI	**Saint Lucia, B**	**7.34**	**123**	*eP*		**Pn**	**07 17 02.2**	**-4.7**
SLBI	**Saint Lucia, B**	**7.34**	**123**	*eP*		**Pn**	**07 17 06.3**	**-0.6**
SLBI	**Saint Lucia, B**	**7.34**	**123**	*eS*		**Sn**	**07 18 24.6**	**-5.0**
BAUV	**El Baul**	**9.17**	**185**	Pn		**Pn**	**07 17 32.4**	**+0.3**

KRNET ***16*** *07:15:42.0±0.1,42.44N×72.60E,h35km,mb2.4*

ISU 16 07:15:43,40.25N×71.98E,h0km,8C,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.19**	**309**	P		Pg	07 15 47.5	+0.8
FRG				S		Sg	07 15 51.2	+2.0
CHMI	**Chimion**	**0.35**	**273**	P		Pg	07 15 50.9	+1.2
CHMI				S		Sb	07 15 56.7	-1.5
OHH	**Osh**	**0.67**	**66**	↑*eP*		Pn	07 16 14.2	+14
OHH				↑*eS*		Sn	07 16 37.8	+27
ARSB	**Arslanbob**	**1.31**	**35**	↑*eP*		Pg	07 16 03.1	-5.1
ARSB				↑*eS*		Sg	07 16 18.5	-6.7
TRKS	**Terek-Say**	**1.43**	**334**	↑*eP*		Pn	07 16 07.7	-2.6
TRKS				↑*eS*		Sg	07 16 26.6	-2.2
SALK	**Salom-Alik**	**1.54**	**65**	↑*iP*		Pb	07 16 12.9	+0.4
SALK				↑*eS*		Sn	07 16 35.3	+2.6

CATAC 16 07:24:42.1±0.5,11.7N×87.7W±*,h25km,M2.6/15, MLv2.6/15,Error ellipse: s-maj=8.0km s-min=4.0km az=54.5,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.91**	**17**	P		Pn	07 24 59.5	+0.1
NANN	**Nandasmo**	**0.94**	**28**	P		Pb	07 25 00.5	+0.8
NANN	**Nandasmo**	**0.94**	**28**	S		Sn	07 25 14.1	+1.8
JAPN	**AI SSO del Vol**	**0.97**	**64**	P		Pb	07 25 00.3	+0.2
MORN	**AI O del Volca**	**1.00**	**64**	P		Pn	07 25 00.4	-0.2
OMEN	**AI SSO del Vol**	**1.00**	**66**	P		Pn	07 25 00.4	-0.2
UNAN	**Cigeo UNAN**	**1.04**	**16**	P		Pn	07 25 00.6	-0.5
UNAN				S		Sn	07 25 16.1	+1.2
COPN	**Copaltepe**	**1.07**	**359**	P		Pn	07 25 01.2	-0.3
TISN	**Laguna Tiscapa**	**1.07**	**16**	P		Pn	07 25 01.5	-0.1
ALLN	**Telcor Managua**	**1.08**	**15**	S		Sb	07 25 17.4	+1.5
ALLN	**Telcor Managua**	**1.08**	**15**	P		Pn	07 25 01.7	0.0
R4DEC	**Barrio San Lui**	**1.08**	**17**	S		Sb	07 25 17.0	+1.1
R4DEC	**Barrio San Lui**	**1.08**	**17**	P		Pn	07 25 01.7	0.0
ELI1	**Hacienda Flor**	**1.09**	**115**	S		Sb	07 25 18.5	+2.3
ELI1	**Hacienda Flor**	**1.09**	**115**	P		Pn	07 25 01.7	-0.1
WILN	**Americas 2**	**1.11**	**19**	S		Sb	07 25 17.5	+0.7
APQ3	**Volcan Apoyequ**	**1.18**	**9**	S		Sb	07 25 18.9	+0.3
MOM2	**El Cardon**	**1.33**	**3**	P		Pn	07 25 05.1	+0.1
MOM2				S		Sn	07 25 21.6	-0.3
CNGA	**AI SSO del Vol**	**1.39**	**354**	P		Pn	07 25 05.8	-0.1
CNGA				S		Sn	07 25 23.9	+0.3
CNGN	**Cerro Negro**	**1.39**	**355**	S		Sn	07 25 24.2	+0.6
CNGN	**Cerro Negro**	**1.39**	**355**	P		Pn	07 25 05.9	-0.1
POLN	**AI Sur del Vol**	**1.56**	**351**	P		Pn	07 25 07.8	-0.5
POLN				S		Sn	07 25 25.5	-2.1
BOAB	**BOACO BROADBAN**	**1.60**	**33**	P		Pn	07 25 08.1	-0.7
BOAB	**BOACO BROADBAN**	**1.60**	**33**	S		Sn	07 25 27.9	-0.8
ACON	**Acoyapa**	**1.61**	**58**	P		Pn	07 25 07.8	-1.2
ACON	**Acoyapa**	**1.61**	**58**	S		Sn	07 25 28.0	-0.9

NOU ***16*** *07:25:07.5,31.01S×178.64W,h416km,mb4.5/38, Kermadec Islands Region*

NEIC ***16*** *07:25:08.6±1.1,30.75S±0.1×179.7W±0.2,h351km±7km, mb4.5/27,Error ellipse: s-maj=19.8km s-min=14.5km az=94.0*

IDC ***16*** *07:25:09.7±1.2,30.62S×179.76W,h361km±11km, mb4.0/17,mbtmp4.7/21,Error ellipse: s-maj=14.4km s-min=10.5km az=85.0*

WEL ***16*** *07:25:12.5±0.8,31.5S±5.1×17.9W±1.3,h330km±10km, mB5.3/27,ML5.9/12,MLv5.5/30,Mw(mB)4.8/27, Error ellipse: s-maj=17.3km s-min=5.0km az=105.6,confirmed*

ISC 16 07:25:08.3±0.4,30.74S±0.05×179.66W±0.07,h350km, n254,σ1s42/262,mb4.6/37,5C-6D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.11**	**46**	P		**Pn**	**07 26 03.5**	**+3.1**
GLKZ				S		**S**	**07 26 41.5**	**-0.8**
RIZ	**Raoul Island**	**2.12**	**46**	P		**Pn**	**07 26 03.6**	**+3.1**
RAO	**Raoul Island**	**2.12**	**46**			**Pn**	**07 26 00.9**	**+0.3**
RAO	**Raoul Island**	**2.12**	**46**	P		**Pn**	**07 26 02.6**	**+2.1**
	732nm,0.3s,baz=46,slow=20,SNR=6.7							
RAO				S		**S**	**07 26 42.1**	**-0.3**
	2μm,0.3s,baz=279,slow=23,SNR=5.9							
RAO	**Raoul Island**	**2.12**	**46**	P		**Pn**	**07 26 03.5**	**+3.0**
GRZ	**Great Barrier**	**6.84**	**215**	P		Pn	07 26 54.4	+5.7
MXZ	**Matakaoa Point**	**7.01**	**193**	P		**Pn**	**07 26 52.4**	**+1.7**
MXZ	**Matakaoa Point**	**7.01**	**193**	P		**Pn**	**07 26 55.0**	**+4.3**
MXZ				S		**S**	**07 28 13.4**	**-0.5**
KUZ	**Kuaotunu**	**7.12**	**211**	P		Pn	07 26 57.5	+5.5
KUZ	**Kuaotunu**	**7.12**	**211**	P		Pn	07 26 57.7	+5.7
WCZ	**Waipu Caves**	**7.21**	**222**	P		Pn	07 26 58.8	+5.7
OUZ	**Omahuta**	**7.21**	**230**	P		Pn	07 26 58.5	+5.4
OUZ	**Omahuta**	**7.21**	**230**	P		Pn	07 26 58.6	+5.5
WMGZ	**Waiomatatini S**	**7.24**	**192**	P		**Pn**	**07 26 55.3**	**+1.9**
WMGZ				S		**S**	**07 28 18.4**	**-0.4**
WIZ	**White Island**	**7.25**	**200**	P		**Pn**	**07 26 58.1**	**+4.5**
HAZ	**Te Kaha**	**7.31**	**196**	P		**Pn**	**07 26 56.2**	**+2.0**
HAZ				S		**S**	**07 28 19.7**	**-0.6**
PKGZ	**Pakihiroa**	**7.35**	**194**	P		**Pn**	**07 26 58.6**	**+3.9**
PKGZ				S		**S**	**07 28 19.8**	**-1.5**
ABAZ	**Army Bay**	**7.43**	**217**	P		Pn	07 27 02.5	+6.8
WIAZ	**Waiheke Island**	**7.43**	**214**	P		Pn	07 27 02.1	+6.5
PUZ	**Puketiti**	**7.51**	**193**	P		**Pn**	**07 26 58.5**	**+1.8**
PUZ				S		**S**	**07 28 23.1**	**-1.8**
MBAZ	**Motutapu North**	**7.53**	**216**	P		Pn	07 27 03.2	+6.5
RUGZ	**Raukumara Rang**	**7.54**	**196**	P		**Pn**	**07 26 58.0**	**+1.1**
WHRZ	**Whale Island**	**7.62**	**201**	P		**Pn**	**07 27 02.1**	**+4.2**
ETAZ	**East Tamaki Re**	**7.66**	**215**	P		Pn	07 27 04.8	+6.4
MKAZ	**Moumakai**	**7.67**	**213**	P		Pn	07 27 04.5	+6.0
TWGZ	**Tauwhareparae**	**7.67**	**194**	P		**Pn**	**07 27 00.1**	**+1.6**
TWGZ				S		**S**	**07 28 28.4**	**+0.1**
EPAZ	**Eden Park BICE**	**7.69**	**216**	P		Pn	07 27 07.0	+8.4
RVAZ	**Riverhead Bore**	**7.69**	**217**	P		Pn	07 27 04.9	+6.2
TGRZ	**Tauranga**	**7.75**	**205**	P		**Pn**	**07 27 04.0**	**+4.7**
OPRZ	**Ohinepanea**	**7.75**	**203**	P		**Pn**	**07 27 01.2**	**+1.9**
WTAZ	**Waiatarua**	**7.82**	**216**	P		Pn	07 27 06.7	+6.5
MARZ	**Manawahe**	**7.83**	**202**	P		**Pn**	**07 27 02.9**	**+2.4**
AWAZ	**Awhitu Peninsu**	**7.89**	**215**	P		Pn	07 27 07.4	+6.4
CNGZ	**Carnagh Statio**	**7.92**	**192**	P		**Pn**	**07 27 02.1**	**+0.6**
MWZ	**Matawai**	**7.92**	**196**	P		**Pn**	**07 27 01.2**	**-0.2**
EDRZ	**Edgecumbe**	**7.93**	**201**	P		**Pn**	**07 27 04.6**	**+3.0**
LIRZ	**Lichensteins R**	**7.95**	**203**	P		Pn	07 27 07.4	+5.6
TKGZ	**Te Karaka**	**7.95**	**194**	P		**Pn**	**07 27 01.2**	**-0.5**
URZ	**Urewera**	**7.96**	**199**	P		**Pn**	**07 27 02.9**	**+1.0**
	186nm,0.3s,baz=258,slow=3.6,SNR=57							
URZ				S		**S**	**07 28 33.1**	**-1.3**
	182nm,0.4s,baz=79,slow=20,SNR=13							
URZ	**Urewera**	**7.96**	**199**	P		**Pn**	**07 27 01.9**	**0.0**
URZ	**Urewera**	**7.96**	**199**	P		**Pn**	**07 27 03.7**	**+1.9**
KMRZ	**Kaimai**	**7.97**	**206**	P		Pn	07 27 07.3	+5.3
KAHZ	**Kaharoa**	**8.01**	**204**	P		**P**	**07 27 04.7**	**+0.7**
TOZ	**Tahuroa Road**	**8.04**	**209**	P		**P**	**07 27 06.8**	**+1.0**
OMRZ	**Omania**	**8.04**	**203**	P		**P**	**07 27 07.4**	**+1.5**
RAGZ	**Rawiri**	**8.10**	**197**	P		**Pn**	**07 27 02.9**	**-0.7**
NGRZ	**Ngongotaha**	**8.10**	**204**	P		**P**	**07 27 07.8**	**+1.2**
TARZ	**Mount Tarawera**	**8.12**	**202**	P		**P**	**07 27 08.9**	**+2.1**
UTU	**Utuhina**	**8.17**	**204**	P		**P**	**07 27 09.0**	**+1.7**
HLRZ	**Highlands Stat**	**8.18**	**203**	P		**P**	**07 27 07.8**	**+0.3**
RRRZ	**Republican Roa**	**8.21**	**202**	P		**P**	**07 27 07.3**	**-0.5**
RIGZ	**Rimuhau**	**8.22**	**194**	P		**Pn**	**07 27 04.2**	**-0.8**
MUGZ	**Murupara**	**8.26**	**200**	P		**Pn**	**07 27 07.0**	**+1.6**
MUGZ				S		**S**	**07 28 40.8**	**-0.2**
HSRZ	**Hossack Road**	**8.27**	**203**	P		**P**	**07 27 10.1**	**+1.7**
RTZ	**Ruatahuna**	**8.33**	**198**			**Pn**	**07 27 05.1**	**-1.2**
RTZ	**Ruatahuna**	**8.33**	**198**	P		**Pn**	**07 27 07.6**	**+1.3**
RTZ				S		**S**	**07 28 40.9**	**-1.7**
HRRZ	**Handcock Road**	**8.33**	**203**	P		**P**	**07 27 09.0**	**-0.1**
GRRZ	**Galatos Road**	**8.35**	**204**	P		**P**	**07 27 10.1**	**+0.7**
SNGZ	**Shannon Statio**	**8.39**	**196**	P		**Pn**	**07 27 06.4**	**-0.6**
SNGZ				S		**S**	**07 28 43.3**	**-0.7**
PRRZ	**Plateau Road**	**8.39**	**202**	P		**Pn**	**07 27 08.1**	**+1.1**
PRGZ	**Paritu Road**	**8.41**	**193**	P		**Pn**	**07 27 06.5**	**-0.8**
PRGZ				S		**S**	**07 28 43.0**	**-1.3**
ALRZ	**Allen Road**	**8.47**	**202**	P		**Pn**	**07 27 09.0**	**+1.1**
WPRZ	**Whakapapatarin**	**8.49**	**203**	P		**P**	**07 27 10.9**	**0.0**
TLZ	**Tolley Road**	**8.54**	**206**	P		**P**	**07 27 11.2**	**-0.3**
KUTZ	**Kaahu Road**	**8.58**	**204**	P		**Pn**	**07 27 10.7**	**+1.4**
RAHZ	**Arahi**	**8.58**	**197**	P		**Pn**	**07 27 08.4**	**-0.9**
RAHZ				S		**S**	**07 28 47.5**	**-0.6**
MTHZ	**Maungataniwha**	**8.59**	**199**	P		**Pn**	**07 27 08.9**	**-0.5**
MTHZ				S		**S**	**07 28 47.1**	**-1.1**
MHGZ	**Mahia Peninsul**	**8.63**	**193**	P		**Pn**	**07 27 10.6**	**+0.8**
MRHZ	**Matea Rd**	**8.69**	**201**	P		**Pn**	**07 27 11.4**	**+0.8**
WHHZ	**Waihua**	**8.70**	**196**	P		**Pn**	**07 27 09.8**	**-0.8**
NMHZ	**Naumai**	**8.83**	**198**	P		**Pn**	**07 27 11.9**	**-0.4**
ARHZ	**Aropaoanui**	**8.93**	**197**	P		**Pn**	**07 27 14.0**	**+0.5**
HIZ	**Hauiti**	**8.97**	**209**	P		**P**	**07 27 17.1**	**+0.8**
HIZ	**Hauiti**	**8.97**	**209**	P		**P**	**07 27 17.0**	**+0.8**
BKZ	**Black Stump Fm**	**8.98**	**200**	P		**Pn**	**07 27 13.3**	**-0.7**
BKZ	**Black Stump Fm**	**8.98**	**200**	P		**Pn**	**07 27 12.9**	**-1.1**
NGZ	**Ngauruhoe**	**9.27**	**204**	P		**Pn**	**07 27 17.5**	**-0.1**
VRZ	**Vera Road**	**9.53**	**207**	P		**Pn**	**07 27 21.0**	**+0.5**
PWZ	**Pawanui**	**9.69**	**196**	P		**Pn**	**07 27 21.9**	**-0.5**
PXZ	**Pawanui**	**9.69**	**196**	P		**Pn**	**07 27 20.3**	**-2.1**
NEZ	**North Egmont**	**9.93**	**209**	P		**P**	**07 27 28.6**	**+1.6**
TSZ	**Takapari Road**	**9.96**	**200**	P		**Pn**	**07 27 22.9**	**-2.8**
KHEZ	**Kahui Hut**	**9.98**	**210**	P		**P**	**07 27 27.3**	**-0.2**
KHEZ	**Kahui Hut**	**9.98**	**210**	S		**S**	**07 29 23.8**	**+4.8**
WAZ	**Wanganui**	**10.00**	**204**	P		**Pn**	**07 27 25.6**	**-0.6**
BFZ	**Birch Farm**	**10.46**	**197**	P		**Pn**	**07 27 30.4**	**-1.2**
BFZ	**Birch Farm**	**10.46**	**197**	S		**S**	**07 29 27.6**	**-1.7**
BFZ	**Birch Farm**	**10.46**	**197**	P		**Pn**	**07 27 30.5**	**-1.2**
MRZ	**Mangatainoka R**	**10.63**	**200**	P		**Pn**	**07 27 30.0**	**-3.6**
SNZO	**South Karori**	**11.49**	**202**	P		**Pn**	**07 27 42.0**	**-1.8**
SNZO	**South Karori**	**11.49**	**202**	S		**S**	**07 29 50.5**	**-1.5**
NNZ	**Nelson**	**11.87**	**206**	P		**P**	**07 27 44.7**	**-3.7**
QRZ	**Quartz Range**	**11.89**	**210**	P		**P**	**07 27 48.2**	**-0.4**
QRZ	**Quartz Range**	**11.89**	**210**	S		**S**	**07 29 59.8**	**-1.1**
**

TROLL	Troll, Antarti	77.52	181	⇑P		P	07 36 27.0	+1.2	
	comp=Z,649nm,0.6s								
MJAR	Matsushiro Arr	77.72	326	P		P	07 36 25.7	-1.4	
MJAR				IAmb		IAmb	07 36 27.3		
	comp=Z,12nm,1.3s								
MJAR	Matsushiro Arr	77.72	326	P		P	07 36 25.7	-1.4	
	comp=Z,6.2nm,1.0s,baz=158,slow=5.8,SNR=6.5								
	comp=Z,6.2nm,1.0s								
SNAA	Sanae	77.85	179	⇑P		P	07 36 28.4	+0.8	
	comp=Z,82nm,0.5s								
SNAA	Sanae	77.85	179			P	07 36 27.5	0.0	
SNAA				IAmb		IAmb	07 36 29.2		
	comp=Z,12nm,1.1s								
SNAA	Sanae	77.85	179	P		P	07 36 28.3	+0.8	
	comp=Z,3.6nm,0.6s,baz=214,slow=6.2,SNR=27								
	comp=Z,3.6nm,0.6s								
VNA3	Neumayer Olymp	78.05	177	⇑P		P	07 36 29.5	+0.9	
	comp=Z,25nm,0.7s								
SSLB	Suanglung	78.60	306	P		P	07 36 29.9	-2.4	
VNA1	Neumayer--Stat	78.71	177	⇑P		P	07 36 33.3	+1.2	
	comp=Z,23nm,1.0s								
JTM	Tenmabayashi	79.92	331	P		P	07 36 38.7	-0.2	
JKA	Kamikawa-asahi	82.09	334	P		P	07 36 50.5	+0.3	
ASAJ	Asahikawa	82.10	334	P		P	07 36 50.1	0.0	
	comp=Z,7.2nm,0.8s,baz=37,slow=20,SNR=1.9								
	comp=Z,7.2nm,0.8s								
PLCA	Paso Flores	83.31	134	P		P	07 36 58.3	+1.4	
	comp=Z,3.5nm,1.0s,baz=256,slow=3.5,SNR=6.0								
	comp=Z,3.5nm,1.0s								
KSRS	Korea Array	83.69	321	P		P	07 36 58.8	+0.4	
	comp=Z,3.9nm,0.8s,baz=136,slow=6.1,SNR=9.3								
	comp=Z,3.9nm,0.8s								
GSI	Gunungsitoli	84.44	275			P	07 37 01.8	-1.1	
NJ2	Nanjing	85.39	312	eP		P	07 37 08.9	+1.9	
NJ2				pmax		pmax			
	comp=Z,14nm,0.6s								
PETK	Petropavlovsk-	85.80	347			P	07 37 08.3	-0.2	
PETK	Petropavlovsk-	85.80	347	P		P	07 37 08.6	+0.1	
	comp=Z,12nm,0.8s,baz=112,slow=6.6,SNR=8.2								
	comp=Z,12nm,0.8s								
USA0B	Ussuriysk Arra	86.67	327	P		P	07 37 12.8	-0.1	
USRK	Ussuriysk Ar.	86.67	327	P		P	07 37 13.3	+0.5	
	comp=Z,9.6nm,0.9s,baz=135,slow=5.7,SNR=10								
	comp=Z,9.6nm,0.9s								
S12K	Black Hills	87.41	10	P		P	07 37 16.1	0.0	
TIA	Tai'an	89.17	314	P		P	07 37 25.5	+0.6	
TIA				pmax		pmax			
	comp=Z,17nm,0.9s								
NVAR	Mina Array Bea	89.47	44	P		P	07 37 26.9	+0.4	
	comp=Z,1.0nm,0.9s,baz=225,slow=8.3,SNR=5.7								
	comp=Z,1.0nm,0.9s								
BNX	BinXian	89.98	326	⇓P		P	07 37 28.3	-0.1	
BNX				pmax		pmax			
	comp=Z,16nm,0.8s								
KLR	Kul'dur	90.62	331	P		P	07 37 32.5	+1.2	
LYN	LuoYang	91.12	310	⇓P		P	07 37 34.0	0.0	
LYN				pmax		pmax			
	comp=Z,21nm,0.9s								
CMAR	Chiang Mai Arr	92.17	290	P		P	07 37 40.0	+0.7	
	comp=Z,1.8nm,0.6s,baz=154,slow=3.7,SNR=9.9								
	comp=Z,1.8nm,0.6s								
XAN	Xi'an	93.19	308	eP		P	07 37 45.0	+1.4	
XAN				pmax		pmax			
	comp=Z,8.0nm,1.3s								
PZH	PanZhiHua	94.20	298	P		P	07 37 49.1	+0.6	
HHC	Hu-ho-hao-te	95.45	315	eP		P	07 37 54.3	+0.5	
HHC				pmax		pmax			
	comp=Z,17nm,0.6s								
HHC				pmax		pmax			
	comp=Z,75nm,4.2s								
SEY	Seymchan	95.99	348	P		P	07 37 55.2	-0.3	
	comp=Z,3.9nm,1.0s,baz=177,slow=9.8,SNR=3.9								
	comp=Z,3.9nm,1.0s								
ILAR	Eielson Array	98.58	14	P		Pdif	07 38 06.5	-0.7	
	comp=Z,0.4nm,0.8s,baz=209,slow=5.5,SNR=5.4								
	comp=Z,0.4nm,0.8s								
MKAR	Makanchi Array	116.90	310	PKP		PKPdf	07 43 09.2	-2.3	
	comp=Z,1.7nm,0.8s,baz=49,slow=2.2,SNR=12								
KURBB	Kurchatov Arra	120.29	314	PKP		PKPdf	07 43 16.2	-1.6	
	comp=Z,3.8nm,0.8s,baz=108,slow=2.1,SNR=40								
BVAR	Borovoye Array	125.65	316	PKP		PKPdf	07 43 27.1	-0.9	
	comp=Z,5.7nm,0.8s,baz=98,slow=2.1,SNR=23								
SPITS	Spitsbergen Ar	131.94	356	PKP		PKPdf	07 43 38.6	-0.7	
	comp=Z,4.7nm,0.9s,baz=90,slow=2.2,SNR=4.1								
ARCES	ARCESS Array B	138.61	347	PKhKP		PKPpre	07 43 43.2		
	comp=Z,2.3nm,0.8s,baz=352,slow=2.5,SNR=5.0								
ARCES				PKP		PKPdf	07 43 52.6	+0.6	
	comp=Z,2.6nm,0.6s,baz=37,slow=0.8,SNR=9.6								
KBZ	Khabaz	144.11	303	PKP		PKPab	07 44 00.9	-0.3	
	comp=Z,19nm,1.0s,baz=109,slow=2.2,SNR=20								
GEVA	Gevas	144.26	294			PKPab	07 44 02.0	-0.3	
FIA1	FINESS Array S	144.96	339			PKPdf	07 44 02.5	-0.9	
FINES	FINESS Array B	144.96	339			PKPdf	07 44 02.6	-0.8	
FINES	FINESS Array B	144.96	339	PKP		PKPdf	07 44 02.4	-1.0	
	comp=Z,56nm,0.7s,baz=66,slow=4.6,SNR=159								
NB2	NORSAR Subarra	148.85	350	PKP		PKPbc	07 44 13.1	-1.3	
	comp=Z,12nm,0.8s,baz=17,slow=4.1								
NOA	NORSAR Array B	148.85	350	PKPbc		PKPbc	07 44 13.3	-1.0	
	comp=Z,8.6nm,0.8s,baz=15,slow=4.2,SNR=25								
ASF	Jabal al Asfar	148.88	282	PKPbc		PKPbc	07 44 14.8	-0.6	
	comp=Z,12nm,0.8s,baz=125,slow=1.0,SNR=20								
ASF				PKPab		PKPab	07 44 20.5	-0.2	
	comp=Z,14nm,0.9s,baz=131,slow=1.0,SNR=13								
HFS	Hagfors	149.27	347	PKPbc		PKPbc	07 44 14.2	-1.2	
	comp=Z,12nm,0.8s,baz=225,slow=1.5,SNR=15								
HFS				PKPab		PKPab	07 44 20.1	-1.1	
	comp=Z,6.3nm,0.7s,baz=62,slow=3.5,SNR=7.1								
EIL	Elat	150.14	277	PKPbc		PKPbc	07 44 18.1	-0.3	
	comp=Z,21nm,0.8s,baz=352,slow=2.6,SNR=31								
MMAI	Mount Meron Ar	150.22	284	PKPbc		PKPbc	07 44 18.9	+0.3	
	comp=Z,29nm,0.8s,baz=75,slow=3.5,SNR=35								
MMAI				PKPab		PKPab	07 44 26.2	0.0	
	comp=Z,5.6nm,0.7s,baz=96,slow=5.1,SNR=5.2								
AKASG	Malin Array Be	150.69	321	PKPbc		PKPbc	07 44 18.1	-0.9	
	comp=Z,12nm,0.8s,baz=56,slow=2.6,SNR=30								
AKASG				PKPab		PKPab	07 44 26.3	-1.1	
	comp=Z,3.7nm,0.6s,baz=50,slow=4.4,SNR=11								
AKBB	Malin Array Si	150.69	321	PKP		PKPbc	07 44 18.2	-0.8	
BRTR	Keskin Array B	151.50	297	PKPbc		PKPbc	07 44 20.3	-1.1	
	comp=Z,10.0nm,0.9s,baz=131,slow=3.4,SNR=35								
BRTR				PKPab		PKPab	07 44 30.4	-1.0	
	comp=Z,4.5nm,0.7s,baz=100,slow=4.1,SNR=9.3								
DBIC	Dimbokro	155.56	167	PKPab		PKPab	07 44 49.5	+0.6	
	comp=Z,4.8nm,0.9s,baz=353,slow=1.4,SNR=3.6								
FLTG	Flechtingen	156.99	343	ePKPab		PKPab	07 44 52.9	-1.3	
	baz=28,slow=3.8								
MORC	Moravsky Berou	157.00	331	ePKP		PKPab	07 44 53.5	-0.9	
CLL	Collm	157.41	339	ePKPab		PKPab	07 44 55.3	-0.7	
	baz=28,slow=3.8								
CLL	Collm	157.41	339	⇑iPKPab		PKPab	07 44 55.3	-0.7	
	comp=Z,11nm,0.9s								
BRG	Berggiesshubel	157.48	337	ePKPab		PKPab	07 44 56.5	+0.2	
	baz=28,slow=3.8								
BRG	Berggiesshubel	157.48	337	ePKP		PKPab	07 44 56.8	+0.5	
BRG				Amp			07 44 58.0		
	comp=Z,8.8nm,1.0s								
JAVC	Velka Javorina	157.63	329	ePKP		PKPab	07 44 57.5	+0.3	
CLZ	Clausthal	157.65	343	ePKPab		PKPab	07 44 56.0	-1.2	
	baz=28,slow=3.8								
VRAC	Vranov	157.75	331	ePKP		PKPab	07 44 57.2	-0.4	
IBBN	Ibbenburen	157.77	348	ePKPab		PKPab	07 44 56.9	-0.6	
	baz=28,slow=3.8								
KRUC	Moravsky	158.03	331	ePKP		PKPab	07 44 58.1	-0.7	
TANN	Tannenbergstha	158.35	339	ePKPab		PKPab	07 44 59.9	-0.4	
	baz=28,slow=3.8								
PLN	Plauen	158.38	339	ePKPab		PKPab	07 44 59.9	-0.4	
	baz=28,slow=3.8								
MOX	Moxa	158.41	340	ePKPab		PKPab	07 44 59.8	-0.6	
	baz=28,slow=3.8								
IDI	Anoyia	158.94	289	PKPab		PKPab	07 45 02.5	-0.9	
	comp=Z,5.9nm,0.8s,baz=86,slow=9.1,SNR=4.7								
ROTZ	Rotzenmuhle	159.00	338	ePKPab		PKPab	07 45 02.4	-0.6	
	baz=28,slow=3.8								
RONA	Rosalia, Austr	159.10	329	ePKP		PKPab	07 45 03.6	0.0	
	comp=Z,8.4nm,0.6s								
CONA	Conrad Observa	159.12	330	iPKP		PKPab	07 45 03.6	-0.1	
	comp=Z,62nm,2.2s								
GEC2	GERESS Array S	159.26	334	ePKPab		PKPab	07 45 03.5	-0.8	
	baz=28,slow=3.8								
GERES	GERESS Array B	159.26	334	PKPab		PKPab	07 45 04.0	-0.4	
	comp=Z,7nm,0.8s,baz=35,slow=4.9,SNR=14								
TNS	Taunus Mts	159.61	345	ePKPab		PKPab	07 45 04.8	-0.9	
	baz=28,slow=3.8								
GRC4	Grafenberg Arr	159.81	338	ePKPab		PKPab	07 45 06.4	-0.2	
	baz=28,slow=3.8								
MOA	Molln	159.86	332	ePKP		PKPab	07 45 06.7	-0.2	
	comp=Z,4.6nm,1.1s								
BMRD	Maredsous	160.18	352	dPKP		PKPab	07 45 07.5	-0.6	
RJOB	Jochberg	160.52	334	ePKPab		PKPab	07 45 09.6	-0.2	
	baz=28,slow=3.8								
WLF	Walferdange	160.60	349	dPKPdf		PKPdf	07 44 26.9	+0.6	
WLF				dPKP		PKPab	07 45 09.5	-0.4	
WLF	Walferdange	160.60	349	ePKPab		PKPab	07 45 09.6	-0.4	
	baz=28,slow=3.8								
LESA	Schwarzleotal	160.83	334	ePKP		PKPab	07 45 10.7	-0.5	
	comp=Z,3.1nm,0.7s								
WATA	Walderalm	161.31	336	ePKP		PKPab	07 45 12.9	-0.5	
	comp=Z,3.2nm,0.7s								
WTTA	Wattenberg	161.35	335	iPKP		PKPab	07 45 13.1	-0.5	
	comp=Z,6.9nm,1.0s								
ABTA	Abfaltersbach	161.45	333	iPKP		PKPab	07 45 12.5	-1.4	
	comp=Z,4.8nm,0.8s								
RETA	Reutte	161.46	337	iPKP		PKPab	07 45 13.8	-0.1	
	comp=Z,6.0nm,0.7s								
MOTA	Moosalm	161.46	336	iPKP		PKPab	07 45 13.5	-0.5	
	comp=Z,7.9nm,1.0s								
SQTA	Sankt Quirin	161.53	336	ePKP		PKPab	07 45 14.1	-0.2	
	comp=Z,5.5nm,0.7s								
FETA	Feichten	161.87	337	iPKP		PKPab	07 45 15.4	-0.4	
	comp=Z,12nm,1.1s								
DAVA	Damuels	161.92	339	iPKP		PKPab	07 45 15.7	-0.3	
	comp=Z,11nm,1.1s								
ESDC	Sonseca Array	170.42	20	PKP		PKPdf	07 44 34.5	-0.2	
	comp=Z,0.8nm,0.8s,baz=4.6,slow=3.5,SNR=7.1								
ESDC				PKPab		PKPab	07 45 53.0	-0.6	
	comp=Z,1.2nm,0.9s,baz=319,slow=4.0,SNR=5.8								

IDC ***16*** *07:26:59.3±1.7,43°.38N×126°.53W,h0km,mb3.3/5, mbtmp3.4/9,ML3.4/4,MS3.1/10,Error ellipse: s-maj=29.7km s-min=13.2km az=50.0*
NEIC ***16*** *07:27:00.1±1.5,43°.13N±0°.07×126°.6W±0°.1,h10km±2km, mb3.8/17,ML3.0/72,Error ellipse: s-maj=16.8km s-min=11.1km az=255.0*
PGC ***16*** *07:27:01.4±0.0,43°.38N×126°.89W,h10km,MLSn3.3/2, Mw3.9/2,mb3.8(NEIC),315km west of Eugene, Oregon, Usa Off Coast Of Oregon*

ISC 16 07:26:59.9±1.0,43°.25N±0°.05×126°.74W±0°.08,h10km, n109,σ1§44/119,mb3.8/11,MS3.1/5,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEBM	Edson Butte	1.80	101			Pn	07 27 29.1	-1.9
KEBM				IAML			07 27 55.0	
	comp=N,168nm,0.8s							
KEBM				IAML			07 27 55.8	
	comp=E,205nm,0.8s							
J01E	Myrtle Point	2.05	91			Pn	07 27 32.8	-1.6
J01E				IAML			07 28 04.4	
	comp=E,190nm,0.3s							
J01E				IAML			07 28 04.6	
	comp=N,135nm,0.4s							
KBO	Bosley Butte	2.12	118	Pn		Pn	07 27 33.2	-2.3
KBO				IAML			07 27 58.7	
	comp=N,88nm,3.0s							
I02E	Swisshome, OR	2.27	67			Pn	07 27 36.5	-0.9
K02D	Willamette Mer	2.32	103			Pn	07 27 36.5	-1.7
I03D	Drain, OR	2.51	78			Pn	07 27 40.1	-0.6
I03D				IAML			07 28 15.1	
	comp=N,55nm,0.4s							
KSXB	Camp Six Broad	2.54	123	Pn		Pn	07 27 39.5	-1.8
L02F	Cave Junction	2.59	115			Pn	07 27 40.4	-1.5
KRMB	Red Mountain	2.71	128	Pn		Pn	07 27 41.3	-2.3
COR	Corvallis	2.82	60			Pn	07 27 44.7	-0.3
COR				IAML			07 28 21.9	
	comp=N,94nm,0.7s							
COR				IAML			07 28 23.3	
	comp=N,79nm,1.2s							
BUCK	Buck Mountain	2.88	69			Pn	07 27 45.8	-0.2
BUCK				IAML			07 28 27.9	
	comp=N,45nm,1.0s							
BUCK				IAML			07 28 29.0	
	comp=E,58nm,0.6s							
BBOR	Butler Butte	2.99	96			Pn	07 27 47.0	-0.6
BBOR				IAML			07 28 31.2	
	comp=E,43nm,0.6s							
BBOR				IAML			07 28 32.5	
	comp=N,39nm,0.7s							
H04D	Lebanon	3.16	65			Pn	07 27 49.9	+0.2
H04D				IAML			07 28 33.0	
	comp=E,77nm,0.6s							
H04D				IAML			07 28 36.0	
	comp=N,46nm,0.8s							
G03D	McMinnville, O	3.17	51			Pn	07 27 49.8	-0.1
YBH	Yreka Blue Hor	3.34	116			Pn	07 27 49.3	-2.9
YBH	Yreka Blue Hor	3.34	116	Pn		Pn	07 27 52.3	0.0
	comp=N,0.1nm,0.3s,baz=333,slow=8.1,SNR=7.0							
YBH				Sn		Sn	07 28 33.7	+1.6
	comp=N,0.1nm,0.3s,baz=158,slow=18,SNR=5.7							
YBH				LR		LR	07 28 58.2	
	comp=N,8.5nm,19.4s,baz=344,slow=36							
J04A	Umpqua Nationa	3.38	89			Pn	07 27 52.5	-0.4
L04D	Klamath Falls	3.42	106			Pn	07 27 53.7	+0.2
L04D				IAML			07 28 39.7	
	comp=E,38nm,0.6s							
F03A	Seaside	3.51	39			Pn	07 27 54.3	-0.2
H04A	Detroit Lake	3.58	65			Pn	07 27 55.7	+0.2
H04A				IAML			07 28 43.7	
	comp=E,52nm,0.6s							
H04A				IAML			07 28 45.4	
	comp=N,55nm,0.4s							
G04A	Mulino	3.63	56			Pn	07 27 56.7	+0.5
K04D	Chiloquin, OR	3.71	98			Pn	07 27 57.2	-0.1
E03A	Lebam	4.00	33	Pn		Pn	07 28 01.4	+0.3
E03A				IAML			07 28 51.2	
	comp=N,26nm,0.9s							
E03A				IAML			07 28 54.5	
	comp=E,24nm,0.5s							
E03A	Lebam	4.00	33	Pn		Pn	07 28 01.2	+0.1
E03A				Sn		Sn	07 28 46.0	-2.0
J05D	Fort Rock, OR	4.02	88			Pn	07 28 00.1	-1.6
I05D	Terrebonne, OR	4.06	73			Pn	07 28 02.2	+0.2
I05D				IAML			07 29 03.4	
	comp=N,18nm,2.6s							
I05D				IAML			07 29 10.1	
	comp=E,20nm,1.7s							
K05A	Summer Lake	4.32	95			Pn	07 28 05.5	-0.3
K05A				IAML			07 29 10.3	
	comp=N,13nm,3.0s							
K05A				IAML			07 30 31.2	
	comp=E,15nm,3.9s							
WISH	Wishkah	4.40	27	Pn		Pn	07 28 06.9	+0.2
WISH				Sn		Sn	07 28 57.0	-1.0
NLWA	Neilton Lookou	4.61	25			Pn	07 28 09.9	+0.3
NLWA				IAML			07 29 06.1	
	comp=E,14nm,0.6s							
NLWA				IAML			07 29 06.8	
	comp=E,17nm,0.9s							
G06A	Carlson Farm,	4.81	64			Pn	07 28 13.1	+0.6
G06A				IAML			07 29 29.9	
	comp=N,9.4nm,2.8s							
LON	Longmire	4.95	43			Pn	07 28 15.2	+0.9
LON				IAML			07 29 19.2	
	comp=E,13nm,1.6s							
LON	Longmire	4.95	43	Pn		Pn	07 28 15.6	+1.3
LON				Sn		Sn	07 29 11.5	-0.1
OSD	Olympics--Snow	5.05	24	Pn		Pn	07 28 15.6	-0.3
GNW	Green Mountain	5.12	31			Pn	07 28 17.1	+0.5
GNW				IAML			07 29 20.8	
	comp=E,7.8nm,0.5s							
GNW				IAML			07 31 37.9	
	comp=N,6.5nm,3.5s							
GNW	Green Mountain	5.12	31	Pn		Pn	07 28 16.7	+0.1
GNW				Sn		Sn	07 29 13.8	-1.9
FMW	Mount Fremont	5.14	42	Pn		Pn	07 28 18.2	+1.1
D05A	Enumclaw	5.17	39			Pn	07 28 18.7	+1.3
D05A	Enumclaw	5.17	39	Pn		Pn	07 28 18.4	+1.1
D05A				Sn		Sn	07 29 15.6	-1.5
STW	Striped Peak	5.35	23	Pn		Pn	07 28 20.5	+0.7
F07A	Phinny Hill Vi	5.54	59			Pn	07 28 22.9	+0.6
PTRF	Port Renfrew	5.54	16	Pn		Pn	07 28 21.9	-0.4
PTRF				Sn		Sn	07 29 22.1	-3.9
MXC	Moxie City	5.66	52			Pn	07 28 24.1	+0.1
VGZ	Gonzales	5.69	24	Sn		Sn	07 29 27.4	-2.3
SYMB	Survey Mountai	5.69	20	Pn		Pn	07 28 24.4	-0.2
SYMB				Sn		Sn	07 29 27.4	-2.6
B928	Bamfield	5.70	11	Pn		Pn	07 28 24.1	-0.4
B928				Sn		Sn	07 29 26.9	-3.0
BFSB	Bamfield	5.70	11	Pn		Pn	07 28 24.5	0.0
BFSB				Sn		Sn	07 29 26.8	-3.1
CLRS	Cowichan Lake	5.86	17	Pn		Pn	07 28 26.6	-0.1
CLRS				Sn		Sn	07 29 30.7	-3.2
LTY	Liberty	5.87	45			Pn	07 28 27.2	+0.3
LTY	Liberty	5.87	45	Pn		Pn	07 28 28.6	+1.6
B009	North Saanich	5.87	22	Pn		Pn	07 28 27.1	+0.2
B009				Sn		Sn	07 29 31.1	-3.0
B010	North Saanich	5.87	22	Pn		Pn	07 28 26.8	0.0
B010				Sn		Sn	07 29 30.6	-3.6
B011	North Saanich	5.87	22	Pn		Pn	07 28 26.9	+0.1
B011				Sn		Sn	07 29 30.5	-3.6
PGC	Sidney	5.87	22	Pn		Pn	07 28 27.0	+0.1
PGC				Sn		Sn	07 29 30.9	-3.2
MGRB	Mount Grey	5.93	13	Pn		Pn	07 28 27.6	-0.2
MGRB				Sn		Sn	07 29 32.7	-3.1
G08A	Pilot Rock	5.95	67			Pn	07 28 28.6	+0.5
WVOR	Wild Horse Val	6.01	95			Pn	07 28 28.1	-0.9
HAWA	Hanford	6.01	56			Pn	07 28 29.1	+0.2
J08A	Circle Bar Ran	6.03	86			Pn	07 28 29.1	-0.1
SNB	Saturna Island	6.06	23	Pn		Pn	07 28 30.3	+0.8
SNB				Sn		Sn	07 29 37.1	-1.8
SHPB	Sharp Point	6.11	3	Pn		Pn	07 28 31.4	+1.2
E08A	Dider Farm, El	6.34	57			Pn	07 28 32.9	-0.6
TXB	Texada	6.64	13	Pn		Pn	07 28 38.9	+1.3
WPB	Watts Point	6.86	20	Pn		Pn	07 28 41.0	+0.6
WPB				Sn		Sn	07 29 56.0	-2.5
BPEB	Brooks Peninsu	6.95	354	Pn		Pn	07 28 42.5	+0.7
MAYB	Maynard	7.17	358	Pn		Pn	07 28 45.7	+0.9
NCSB	Newcastle Ridg	7.17	3	Pn		Pn	07 28 46.0	+1.1
B08A	Colville Reser	7.27	43	Pn		Pn	07 28 45.9	-0.3
B08A	Colville Reser	7.27	43	Pn		Pn	07 28 46.7	+0.5
F10A	Beach Ranch, E	7.31	65			Pn	07 28 45.9	-0.9
PLID	Pearl Lake	7.94	73			Pn	07 28 56.5	+1.0
NVAR	Mina Array Bea	8.00	124	Pn		Pn	07 28 57.5	+1.1
	comp=N,0.1nm,0.3s,baz=294,slow=14,SNR=4.9							
	comp=N,0.5nm,0.6s							
LLLB	Lillooet	8.08	23	Pn		Pn	07 28 58.7	+1.4
LLLB				Sn		Sn	07 30 28.0	-0.6
NEW	Newport	8.38	50	Pn		Pn	07 29 01.9	+0.4
NEW	Newport	8.38	50	Pn		Pn	07 29 01.2	-0.3
	comp=N,0.2nm,0.3s,baz=205,slow=12,SNR=3.8							
NEW				LR		LR	07 32 21.9	
	comp=N,46nm,21.9s,baz=250,slow=39							
	comp=N,1.5nm,0.7s							
ELK	Elko	8.92	102	LR		LR	07 32 54.1	
	comp=N,85nm,19.1s,baz=305,slow=40							
BUTB	Butedale	9.89	354	Pn		Pn	07 29 23.4	+1.3
PFO	Pinyon Flats O	12.54	137	LR		LR	07 34 22.2	
	comp=N,48nm,21.7s,baz=4.0,slow=35							
PDAR	Pinedale Array	12.59	86	Pn		Pn	07 30 00.5	+1.3
	comp=N,0.1nm,0.3s,baz=286,slow=12,SNR=6.4							
PDAR				LR		LR	07 35 15.7	
	comp=N,49nm,18.0s,baz=256,slow=40							
	comp=N,0.8nm,0.8s							
X18A	Snowflake	15.68	118	Pn		Pn	07 30 39.1	-2.0
X18A				IAmb		IAmb	07 30 49.8	
	comp=Z,5.7nm,1.5s							
SDCO	Great Sand Dun	17.05	102	P		Pn	07 30 58.7	+0.1
P33M	Teslin, Yukon	17.39	350	P		Pn	07 31 03.1	+0.6
ANMO	Albuquerque	17.76	111	P		Pn	07 31 08.0	+0.7
	comp=Z,0.1nm,0.3s,baz=35,slow=13,SNR=4.1							
ANMO				LR		LR	07 38 43.1	
	comp=Z,95nm,19.6s,baz=65,slow=40							
	comp=Z,0.6nm,0.4s							
MMPY	Sheldon Lake,	19.59	354	P		P	07 31 28.6	+0.6
MMPY				IAmb		IAmb	07 31 47.6	
	comp=Z,4.4nm,1.2s							
YKA	Yellowknife Ar	20.55	16	P		P	07 31 38.9	+0.5
	comp=Z,1.3nm,0.7s,baz=203,slow=9.4,SNR=3.5							
	comp=Z,1.3nm,0.7s							
MAYO	Mayo, Yukon	21.06	349	P		P	07 31 45.0	+1.1
FID	Port Fidalgo	21.18	333	P		P	07 31 45.6	+0.4
N25K	Chitina, Valde	21.24	336	P		P	07 31 47.8	+1.9
K29M	Barlow Dome	21.55	347	P		P	07 31 50.6	+1.4
KLU	Klutina	21.55	335	P		P	07 31 51.0	+1.8
BCAR	Beaver Creek A	21.70	341	P		P	07 31 52.2	+1.4
L27K	Beaver Creek,	21.70	341	P		P	07 31 52.1	+1.3
L27K				IAmb

KBTR eS **Sb** **07 50 00.4 -1.0**
KBG Krutoberegovo 1.62 288 PN **Pn** **07 49 40.5 -1.1**
KBG S **Sb** **07 50 02.3 -1.1**
KBG Krutoberegovo 1.62 288 *e*P **Pn** **07 49 40.6 -1.1**
KBG eS **Sb** **07 50 02.4 -1.1**
SMKR Semkarok 2.37 291 PN **Pb** **07 49 53.3 -2.6**
SMKR S **Sn** **07 50 20.3 -0.9**
SMKR Semkarok 2.37 291 *e*P **Pb** **07 49 53.3 -2.6**
SMKR eS **Sn** **07 50 20.4 -0.9**
MKZ Mys Kozlova 2.48 241 PN **Pn** **07 49 52.9 -0.6**
MKZ S **Sn** **07 50 23.0 -0.8**
MKZ Mys Kozlova 2.48 241 *e*P **Pn** **07 49 52.9 -0.6**
MKZ eS **Sn** **07 50 23.0 -0.8**
ZLN Zelenaya 2.63 277 PN **Pn** **07 49 57.2 +1.4**
ZLN Zelenaya 2.63 277 *e*P **Pn** **07 49 57.2 +1.4**
CIRR Tsirk 2.67 279 PN **Pn** **07 49 57.6 +1.3**
CIRR Tsirk 2.67 279 *e*P **Pn** **07 49 57.7 +1.3**
BZGR Bezymyannyi-Gr 2.69 275 PN **Pn** **07 49 57.7 +1.1**
BZGR Bezymyannyi-Gr 2.69 275 *e*P **Pn** **07 49 57.8 +1.1**
KLY Klyuchi 2.75 283 PN **Pn** **07 49 56.6 -0.6**
KLY S **Sn** **07 50 29.2 -1.2**
KLY Klyuchi 2.75 283 *e*P **Pn** **07 49 56.6 -0.6**
KLY eS **Sn** **07 50 29.3 -1.2**
BZWR Bezymyannyi-We 2.81 275 PN **Pn** **07 49 59.4 +1.2**
BZWR S **Sn** **07 50 32.8 +0.7**
BZWR Bezymyannyi-We 2.81 275 *e*P **Pn** **07 49 59.4 +1.2**
BZWR eS **Sn** **07 50 32.9 +0.7**
BZMR Bezymyannaya 2.81 275 PN **Pn** **07 49 59.4 +1.2**
BZMR S **Sn** **07 50 33.7 +1.6**
BZMR Bezymyannaya 2.81 275 *e*P **Pn** **07 49 59.4 +1.2**
BZMR eS **Sn** **07 50 33.8 +1.6**
KIRR Kirishev 2.89 275 PN **Pn** **07 50 00.5 +1.1**
KIRR S **Sn** **07 50 35.9 +1.7**
KIRR Kirishev 2.89 275 *e*P **Pn** **07 50 00.5 +1.1**
KIRR eS **Sn** **07 50 36.0 +1.7**
TUMD Tumrok D 2.94 260 PN **Pn** **07 50 01.0 +1.1**
TUMD S **Sn** **07 50 38.2 +2.9**
TUMD Tumrok D 2.94 260 *e*P **Pn** **07 50 01.1 +1.1**
TUMD eS **Sn** **07 50 38.3 +2.9**
KMNR Kamenistaya 2.95 271 PN **Pn** **07 50 02.2 +2.0**
KMNR S **Sn** **07 50 36.8 +1.1**
KMNR Kamenistaya 2.95 271 *e*P **Pn** **07 50 02.2 +2.0**
KMNR eS **Sn** **07 50 36.9 +1.1**
KPT Kopyto 2.96 275 PN **Pn** **07 50 01.8 +1.6**
KPT S **Sn** **07 50 35.3 -0.5**
KPT Kopyto 2.96 275 *e*P **Pn** **07 50 01.8 +1.6**
KPT eS **Sn** **07 50 35.3 -0.5**
KOZ Kozyrevsk 3.16 277 PN **Pn** **07 50 04.8 +1.9**
KOZ S **Sn** **07 50 42.8 +2.2**
KOZ Kozyrevsk 3.16 277 *e*P **Pn** **07 50 04.9 +1.9**
KOZ eS **Sn** **07 50 42.8 +2.2**
SRDR Sredinnyy 3.27 282 PN **Pn** **07 50 06.1 +1.7**
SRDR S **Sn** **07 50 44.7 +1.4**
SRDR Sredinnyy 3.27 282 *e*P **Pn** **07 50 06.2 +1.7**
SRDR eS **Sn** **07 50 44.8 +1.4**
ESO Esso 3.81 275 PN **Pn** **07 50 12.8 +0.9**
ESO Esso 3.81 275 *e*P **Pn** **07 50 12.8 +0.9**
KII Karymskiy 3.90 246 PN **Pn** **07 50 14.8 +1.7**
KII S **Sn** **07 51 00.6 +1.7**
KII Karymskiy 3.90 246 *e*P **Pn** **07 50 14.9 +1.7**
KII eS **Sn** **07 51 00.6 +1.7**
SPN Mys Shipunski 4.17 232 PN **Pn** **07 50 16.5 -0.3**
SPN Mys Shipunski 4.17 232 *e*P **Pn** **07 50 16.5 -0.3**
SPN eS **Sn** **07 51 01.9 -3.7**
PALN Palana 4.44 320 PN Pb 07 50 24.9 -6.2
PALN Palana 4.44 320 *e*P Pb 07 50 24.9 -6.2
SDLR Sedlovina 4.59 239 PN **Pn** **07 50 23.9 +1.2**
SDLR Sedlovina 4.59 239 *e*P **Pn** **07 50 24.0 +1.2**
SDLR eS **Sn** **07 51 17.1 +1.0**
SMAR Somma 4.64 240 PN **Pn** **07 50 24.3 +0.9**
SMAR Somma 4.64 240 *e*P **Pn** **07 50 24.4 +0.9**
SMAR eS **Sn** **07 51 17.4 0.0**
KRER Koryakskii 4.64 240 PN **Pn** **07 50 24.5 +1.1**
KRER Koryakskii 4.64 240 *e*P **Pn** **07 50 24.6 +1.1**
KRER eS **Sn** **07 51 17.3 -0.1**
KRX Arik 4.66 241 PN **Pn** **07 50 24.6 +1.0**
KRX Arik 4.66 241 *e*P **Pn** **07 50 24.7 +1.0**
KRX eS **Sn** **07 51 17.4 -0.4**
UGLR Uglovaya 4.66 239 PN **Pn** **07 50 24.5 +0.9**
UGLR Uglovaya 4.66 239 *e*P **Pn** **07 50 24.6 +0.9**
UGLR eS **Sn** **07 51 15.8 -1.9**
AVH Avacha 4.67 240 PN **Pn** **07 50 24.7 +1.0**
AVH Avacha 4.67 240 *e*P **Pn** **07 50 24.8 +1.0**
AVH eS **Sn** **07 51 17.9 -0.1**
KOK Koryaka 4.70 241 PN **Pn** **07 50 25.3 +1.1**
KOK Koryaka 4.70 241 *e*P **Pn** **07 50 25.3 +1.1**
KOK eS **Sn** **07 51 19.9 +1.1**
DALK Dalny 4.80 237 PN **Pn** **07 50 25.6 +0.2**
DALK Dalny 4.80 237 *e*P **Pn** **07 50 25.7 +0.2**
DALK eS **Sn** **07 51 19.5 -1.6**
GNL Ganaly 4.84 247 PN **Pn** **07 50 27.6 +1.5**
GNL Ganaly 4.84 247 *e*P **Pn** **07 50 27.6 +1.5**
PET Petropavlovsk 4.86 238 Pn **Pn** **07 50 25.6 -0.6**
PET Petropavlovsk 4.86 238⇑ *e*PN **Pn** **07 50 25.6 -0.6**
PET Petropavlovsk 4.86 238 *e*P **Pn** **07 50 25.7 -0.4**
PET eS **Sn** **07 51 23.1 +0.7**
KRMR Karymshinskiy 5.22 238 PN **Pn** **07 50 31.9 +0.7**
KRMR Karymshinskiy 5.22 238 *e*P **Pn** **07 50 31.9 +0.7**
KRMR eS **Sn** **07 51 31.1 -0.4**
PEA0B Petropavlovsk- 5.27 242 Pn **Pn** **07 50 31.6 -0.3**
PEA0B Petropavlovsk- 5.27 242⇑ *e*PN **Pn** **07 50 32.2 +0.3**
PETK Petropavlovsk- 5.27 242 Pn **Pn** **07 50 31.2 -0.7**
PETK Petropavlovsk- 5.27 242 Pn **Pn** **07 50 32.5 +0.6**
2.2nm,0.3s,baz=78,slow=20,SNR=15
PETK Sn **Sn** **07 51 35.5 +2.7**
2.3nm,0.3s,baz=91,slow=27,SNR=3.5
5.1nm,0.6s
MTVR Mutnovka 5.42 235 PN **Pn** **07 50 34.5 +0.5**
MTVR Mutnovka 5.42 235 *e*P **Pn** **07 50 34.6 +0.5**
MTVR eS **Sn** **07 51 35.6 -0.9**
GRL Gorelyy 5.42 236 PN **Pn** **07 50 36.2 +2.1**
GRL Gorelyy 5.42 236 *e*P **Pn** **07 50 36.2 +2.1**
GRL eS **Sn** **07 51 37.1 +0.4**
ASAK Asacha 5.62 236 PN **Pn** **07 50 37.8 +1.1**
ASAK Asacha 5.62 236 *e*P **Pn** **07 50 37.9 +1.1**
ASAK eS **Sn** **07 51 39.8 -1.5**
APC Apacha 5.65 243 PN **Pn** **07 50 40.3 +3.3**
APC Apacha 5.65 243 *e*P **Pn** **07 50 40.4 +3.3**
MIPR Malaya Ipel'ka 6.23 239 PN **Pn** **07 50 44.7 -0.3**
MIPR Malaya Ipel'ka 6.23 239 *e*P **Pn** **07 50 44.7 -0.3**
SKR Severo-Kuril's 7.59 231⇑ *e*PN **Pn** **07 51 06.2 +2.4**
MA2 Magadan 8.73 302⇓ *e*PN **Pn** **07 51 15.0 -4.3**
SEY Seymchan 9.77 322⇑ *e*PN Pn 07 51 27.2 -6.3
SEY pmax pmax
comp=Z,3.0nm,1.3s
BILL Bilibino 12.29 1 **Pn** **07 52 04.4 -3.6**
BILL Bilibino 12.29 1⇓ *e*PN **Pn** **07 52 07.1 -0.9**
BILL pmax pmax
comp=Z,9.0nm,1.3s
UNV Unalaska Valle 16.23 85 Pn **P** **07 53 07.8 +3.8**
UNV lAmb lAmb 07 53 12.8
comp=Z,36nm,1.0s
K13K Kusilvak Mount 16.52 56 Pn **P** **07 53 08.5 +1.3**
L14K Kuka Creek 17.39 58 **P** **07 53 19.9 +3.1**
N15K Kwethluk River 18.63 62 P **Pn** **07 53 32.1 +1.3**
N15K lAmb lAmb 07 53 49.7
comp=Z,21nm,1.1s
JKA Kamikawa-asahi 18.69 241 P **Pn** **07 53 31.3 -0.4**
ASAJ Asahikawa 18.69 241 P **Pn** **07 53 32.0 +0.3**
comp=Z,0.5nm,0.3s,baz=77,slow=9.8,SNR=4.8
comp=Z,18nm,0.9s
ASAJ Asahikawa 18.69 241 P **Pn** **07 53 31.3 -0.4**
ASAJ pmax pmax
comp=Z,118nm,1.5s
L16K Owhat River 18.94 57 P **Pn** **07 53 36.9 +2.3**
M16K Timber Creek 19.18 60 P **Pn** **07 53 38.4 +1.0**
M16K lAmb lAmb 07 53 48.9
comp=Z,30nm,1.4s
YAK Yakutsk 19.30 303⇑ *e*P **P** **07 53 32.9 -5.0**
YAK pmax pmax
comp=Z,24nm,0.4s
M17K Holitna River 19.91 58 **Pn** **07 53 47.4 +1.2**
M17K lAmb lAmb 07 54 05.2
comp=Z,34nm,1.1s
ERM Erimo 20.01 236⇓ *e*P **P** **07 53 45.6 -0.1**
ERM pmax pmax
comp=Z,28nm,1.2s
J18K Innoko River 20.32 52 Pn **P** 07 53 51.1 0.0
J18K lAmb lAmb 07 54 10.6
comp=Z,36nm,1.4s
F19K Shaleruckik Mo 20.45 43 Pn **P** 07 53 51.4 -1.1

C19K Lookout Ridge 20.54 36 P Pn 07 53 52.0 -1.7
H19K Roundabout Mou 20.70 47 P Pn 07 53 56.7 +1.3
H19K lAmb lAmb 07 54 13.1
comp=Z,16nm,1.1s
E19K Redstone River 20.82 41 P Pn 07 53 57.8 +0.9
E19K lAmb lAmb 07 54 24.0
comp=Z,16nm,1.1s
J19K Poorman 20.85 51 Pn 07 53 57.1 -0.2
J19K lAmb lAmb 07 54 14.8
comp=Z,31nm,1.4s
L19K White Mountain 21.13 56 P **P** **07 54 01.1 +3.2**
L19K lAmb lAmb 07 54 08.3
comp=Z,18nm,1.0s
M19K Big River Lodg 21.36 57 **P** **07 54 04.4 +4.2**
K20K Telida 21.51 53 P **P** **07 54 04.6 +2.8**
K20K lAmb lAmb 07 54 29.3
comp=Z,30nm,1.5s
J20K Nowinta River 21.51 51 **P** **07 54 04.2 +2.3**
IMAR Indian Mountai 21.87 46 P **P** **07 54 06.7 +1.0**
JTM Tenmabayashi 21.95 237 P **P** **07 54 07.3 +0.6**
G21K Allakaket 22.05 44 **P** **07 54 09.3 +1.7**
TIXI Tiksi 22.12 330 LR LR 08 03 42.8
comp=Z,78nm,18.9s,baz=174,slow=40
F21K Alatna River 22.18 43 P **P** **07 54 09.3 +0.3**
CAST Castle Rocks 22.40 53 **P** **07 54 12.6 +1.2**
STLK Strandline Lak 22.60 58 P **P** **07 54 14.6 +1.0**
STLK lAmb lAmb 07 54 25.3
comp=Z,12nm,1.2s
KDAK Kodiak Island 22.80 68 LR LR 08 02 35.3
comp=Z,85nm,19.1s,baz=253,slow=35
TRF Thorofare Moun 23.21 53 **P** **07 54 23.9 +3.8**
TRF lAmb lAmb 07 54 32.2
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 23.62 48 P **P** **07 54 26.6 +2.7**
I23K lAmb lAmb 07 54 55.8
comp=Z,14nm,1.2s
NEA2 Nenana 23.73 50 P **P** **07 54 27.0 +2.0**
RND Reindeer 23.86 53 P **P** **07 54 29.9 +3.6**
RND lAmb lAmb 07 54 56.6
comp=Z,19nm,1.4s
RND Reindeer 23.86 53 P **P** **07 54 29.9 +3.6**
RND pmax pmax
comp=Z,19nm,1.4s
USRK Ussuriysk Ar. 24.20 255 P **P** **07 54 28.9 -0.7**
comp=Z,1.0nm,0.7s,baz=45,slow=16,SNR=1.6
USRK LR LR 08 05 04.8
comp=Z,116nm,18.6s,baz=41,slow=39
comp=Z,1.0nm,0.7s
COLA College 24.26 49 *de*P **P** **07 54 32.5 +2.6**
COLA pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 24.67 49 P **P** **07 54 32.5 -1.2**
comp=Z,1.9nm,1.1s,baz=262,slow=8.4,SNR=11
ILAR LR LR 08 04 05.8
comp=Z,81nm,20.0s,baz=259,slow=36
comp=Z,1.9nm,1.1s
M24K Tolsona, Glenn 25.20 56 P **P** **07 54 42.7 +4.1**
MSHR Mys Shultsa 25.73 254⇑ *e*P **P** **07 54 43.3 -0.1**
MSHR pmax pmax
comp=Z,26nm,1.1s
PSTR Posyet 25.87 254 *de*P **P** **07 54 45.2 +0.5**
MJB9 Matsu-Tunnel 26.68 235 P **P** **07 54 54.1 +1.9**
MJAR Matsushiro Arr 26.68 235 P **P** **07 54 53.3 +1.1**
comp=Z,4.9nm,1.1s,baz=25,slow=9.1,SNR=4.7
MJAR LR LR 08 06 36.7
comp=Z,38nm,18.1s,baz=48,slow=39
comp=Z,4.9nm,1.1s
MAJO Matsushiro 26.68 235 **P** **07 54 53.3 +1.1**
MAJO Matsushiro 26.68 235⇑ *e*P **P** **07 54 52.3 +0.1**
MAJO pmax pmax
comp=Z,41nm,3.2s
KSRS Korea Array 31.12 250 P **P** **07 55 32.8 +1.2**
comp=Z,2.5nm,0.9s,baz=23,slow=10,SNR=4.5
comp=Z,2.5nm,0.9s
JNU Nakatsue 32.97 241 LR LR 08 08 58.4
comp=Z,31nm,20.6s,baz=38,slow=36
DLBC Dease Lake 33.93 58 LR LR 08 09 01.0
comp=Z,68nm,20.9s,baz=280,slow=35
T35M Bob Quinn 34.43 61 P 07 56 04.4 +3.9
T35M lAmb lAmb 07 56 10.8
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 35.97 282⇑ *e*P **P** **07 56 11.5 -2.4**
ULN pmax pmax
comp=Z,7.0nm,1.5s
SONM Songino Array 36.35 283 P **P** **07 56 17.9 +0.7**
comp=Z,2.3nm,0.8s,baz=58,slow=9.7,SNR=9.3
SONM LR LR 08 12 26.4
comp=Z,76nm,20.0s,baz=64,slow=38
comp=Z,2.3nm,0.8s
HHC Hu-ho-hao-te 37.80 270 *e*P **P** **07 56 26.1 -3.4**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,66nm,4.8s
HHC LR LR
comp=N,230nm,10.7s
HHC LR LR
comp=E,190nm,10.6s
HHC LR LR
comp=Z,88nm,12.6s
BBB Bella Bella 37.87 67 LR LR 08 10 51.7
comp=Z,68nm,18.3s,baz=232,slow=34
NJ2 Nanjing 40.07 253 *e*P **P** **07 56 47.8 -0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
GTA Gaotai 45.40 278 *e*P **P** **07 57 32.9 +1.1**
GTA pP pwP 07 57 36.9 -1.0
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=N,120nm,14.9s
GTA LR LR
comp=E,140nm,15.3s
GTA LR LR
comp=Z,140nm,14.9s
LZH Lanzhou 45.46 271 *e*P **P** **07 57 32.8 +0.4**
LZH sP pwP 07 57 40.4 +1.9
LZH pmax pmax
comp=Z,17nm,1.3s
LZH LR LR
comp=N,210nm,15.8s
LZH LR LR
comp=E,250nm,19.2s
LZH LR LR
comp=Z,210nm,17.9s
NEW Newport 45.87 65 LR LR 08 16 32.4
comp=Z,31nm,18.1s,baz=293,slow=36
MSO Missoula 48.44 65 P 07 57 59.1 +3.7
MSO lAmb lAmb 07 58 05.3
comp=Z,3.7nm,1.1s
KURK Kurchatov 48.94 303 **P** **07 57 57.9 -1.2**
KURK Kurchatov 48.94 303 *d iP* **P** **07 57 59.5 +0.4**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 49.05 303 P **P** **07 58 00.1 +0.3**
comp=Z,4.9nm,0.8s,baz=52,slow=7.6,SNR=44
comp=Z,4.9nm,0.8s
LYMT Lyon Mountain 49.19 64 P **P** 07 58 05.6 +4.3
MK31 Makanchi Array 49.78 297 P **P** **07 58 04.3 -1.3**
MK31 Makanchi Array 49.78 297 *ce*P **P** **07 58 05.7 +0.1**
MKAR Makanchi Array 49.78 297 **P** **07 58 04.8 -0.8**
MKAR Makanchi Array 49.78 297 P **P** **07 58 05.6 0.0**
comp=Z,2.0nm,0.7s,baz=60,slow=7.2,SNR=17
MKAR LR LR 08 18 26.1
comp=Z,25nm,21.9s,baz=24,slow=35
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 49.78 297 *ce*P **P** **07 58 05.5 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
DLMT Dillon 50.12 65 P 07 58 12.0 +3.6
DLMT lAmb lAmb 07 58 19.3
comp=Z,6.2nm,1.1s
BVAR Borovoye Array 51.13 309 P **P** **07 58 15.4 -0.2**
comp=Z,0.8nm,0.7s,baz=46,slow=8.5,SNR=8.6
BVAR LR LR 08 21 58.8
comp=Z,32nm,18.8s,baz=47,slow=38
comp=Z,0.8nm,0.7s
BRVK Borovoye 51.15 309 P **P** **07 58 14.4 -1.5**
BRVK lAmb lAmb 07 58 42.0
comp=Z,7.7nm,0.8s
BRVK Borovoye 51.15 309⇑ *e*P **P** **07 58 13.2 -2.6**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 51.64 343 P **P** **07 58 18.3 -1.0**
ARCES lAmb lAmb 07 58 33.3
comp=Z,6.0nm,1.1s

ARCES ARCESS Array B 51.64 343 P **P** **07 58 18.9 -0.4**
comp=Z,1.0nm,0.9s,baz=21,slow=5.8,SNR=1.4
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 51.64 343 P **P** **07 58 18.3 -1.0**
ARCES pmax pmax
comp=Z,6.0nm,1.2s
YNE Yellowstone No 51.69 64 P P 07 58 24.2 +3.9
YNE lAmb lAmb 07 58 29.1
comp=Z,5.2nm,0.9s
NVAR Mina Array Bea 51.94 76 P **P** **07 58 22.9 +0.6**
comp=Z,0.8nm,0.7s,baz=300,slow=7.0,SNR=4.2
comp=Z,0.8nm,0.7s
ELK Elko 51.95 71 LR LR 08 19 49.4
comp=Z,29nm,18.4s,baz=336,slow=35
LOHW Long Hollow 52.36 66 P P 07 58 29.6 +4.3
PDAR Pinedale Array 53.50 66 P **P** **07 58 33.9 +0.2**
comp=Z,0.6nm,0.7s,baz=319,slow=4.3,SNR=6.1
comp=Z,0.6nm,0.7s
ARTI Arti 53.58 319 LR LR 08 23 50.1
comp=Z,36nm,18.4s,baz=66,slow=39
ARTI Arti 53.58 319 *c iP* **P** **07 58 31.3 -2.5**
ARTI 07 59 39.5
ARTI S **S** **08 06 03.3 -3.3**
ARTI SS **SS** **08 09 42.3 -3.9**
ARTI pmax pmax
comp=Z,7.0nm,3.2s
PZH PanZhiHua 53.82 265 P **P** **07 58 36.3 +0.2**
BSUT Blindstream Ca 54.48 69 P P 07 58 46.6 +5.6
BSUT lAmb lAmb 07 58 52.7
comp=Z,5.0nm,1.1s
ULM Lac du Bonnet 54.67 51 P **P** **07 58 41.5 -0.3**
comp=Z,2.8nm,0.9s,baz=292,slow=5.5,SNR=3.0
comp=Z,2.8nm,0.9s
TCRU Three Creeks R 54.98 71 P P 07 58 49.1 +4.5
TCRU lAmb lAmb 07 59 07.4
comp=Z,7.0nm,1.1s
KIRV Kirov 55.03 325 LR LR 08 23 38.8
comp=Z,35nm,21.6s,baz=42,slow=38
KLMR Klimovskoe 56.12 331 *e*P **P** **07 58 48.4 -3.7**
KLMR pmax pmax
comp=Z,12nm,1.8s
AAK Ala-Archa 56.64 298 P **P** **07 58 55.9 -0.4**
AAK lAmb lAmb 07 59 10.5
comp=Z,5.3nm,0.7s
AAK Ala-Archa 56.64 298 P **P** **07 58 56.7 +0.4**
comp=Z,1.8nm,0.4s,baz=48,slow=1.3,SNR=4.0
comp=Z,1.8nm,0.4s
AAK Ala-Archa 56.64 298⇑ *e*P **P** **07 58 54.5 -1.8**
AAK pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 58.25 301 P **P** **07 59 06.3 -1.2**
KK31 lAmb lAmb 07 59 20.5
comp=Z,4.7nm,0.9s
KK31 Karatay Array 58.25 301 P **P** **07 59 06.3 -1.2**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 58.25 301 **P** **07 59 06.5 -1.0**
KKAR Karatay Array 58.25 301 P **P** **07 59 06.5 -1.0**
AB31 Akbulak array 58.37 312 P **P** **07 59 07.8 -0.4**
AB31 lAmb lAmb 07 59 34.4
comp=Z,6.4nm,1.4s
ABKAR Akbulak array 58.37 312 P **P** **07 59 07.8 -0.4**
S22A 4UR Ranch, Cre 58.60 68 P P 07 59 14.5 +4.2
S22A lAmb lAmb 07 59 21.5
comp=Z,3.9nm,1.0s
FINES FINESS Array B 58.81 339 P **P** **07 59 10.8 -0.2**
comp=Z,2.8nm,1.0s,baz=60,slow=9.2,SNR=7.3
FINES LR LR 08 28 43.0
comp=Z,12nm,18.7s,baz=58,slow=40
comp=Z,2.8nm,1.0s
ANMO Albuquerque 60.91 70 LR LR 08 26 21.3
comp=Z,21nm,18.1s,baz=63,slow=37
ANMO Albuquerque 60.91 70⇓ *e*P **P** **07 59 27.5 +1.3**
ANMO pmax pmax
comp=Z,2.0nm,1.5s
GAR Garm 61.46 298 P **P** **07 59 28.5 -1.3**
NB2 NORSAR Subarra 61.74 346 P P 07 59 38.9 +7.7
comp=Z,3.1nm,0.8s,baz=16,slow=6.5
NOA NORSAR Array B 61.74 346 P **P** **07 59 32.1 +1.0**
comp=Z,0.4nm,0.7s,baz=18,slow=6.7,SNR=4.2
NOA LR LR 08 27 24.7
comp=Z,7.5nm,18.9s,baz=140,slow=37
comp=Z,0.4nm,0.7s
CMAR Chiang Mai Arr 61.76 261 P **P** **07 59 32.9 +1.1**
comp=Z,0.9nm,0.3s,baz=21,slow=6.6,SNR=4.4
CMAR LR LR 08 29 31.0
comp=Z,61nm,18.0s,baz=65,slow=39
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 61.76 261 *ce*P **P** **07 59 31.8 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HNR Honiara 65.15 186 LR LR 08 24 37.3
comp=Z,18nm,19.4s,baz=60,slow=33
KBL Kabul 65.56 296 P **P** **07 59 55.7 -1.3**
KBL Kabul 65.56 296 P **P** **07 59 55.7 -1.3**
KBL pmax pmax
comp=Z,8.0nm,1.2s
TXAR Lajitas Array 66.75 72 P **P** **08 00 04.5 0.0**
comp=Z,0.6nm,0.7s,baz=299,slow=5.1,SNR=8.8
comp=Z,0.6nm,0.7s
PBMO Poplar Bluff 67.57 57 P P 08 00 13.9 +4.4
AKASG Malin Array Be 67.81 332 LR LR 08 33 46.1
comp=Z,36nm,18.5s,baz=52,slow=40
KIV Kislovodsk 69.51 320 *e*P **P** **08 00 20.6 -1.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,18nm,17.0s
TKL Tuckaleechee C 71.58 53 LR LR 08 33 51.5
comp=Z,42nm,18.6s,baz=336,slow=38
GNI Garni 72.00 316 LR LR 08 35 52.2
comp=Z,18nm,18.3s,baz=236,slow=39
VRAC Vranov 72.08 339 LR LR 08 39 42.6
comp=Z,8.5nm,18.8s,baz=22,slow=42
GERES GERESS Array B 73.08 341 P **P** **08 00 44.0 +0.8**
comp=Z,0.2nm,0.3s,baz=5.2,slow=4.4,SNR=5.4
comp=Z,0.2nm,0.3s
MLR Muntele Rosu 73.47 332 LR LR 08 35 34.6
comp=Z,33nm,19.6s,baz=34,slow=38
451A Vernon 74.84 58 P **P** **08 00 56.8 +3.2**
DAVOX Davos/Dischmat 75.75 343 LR LR 08 36 49.4
comp=Z,26nm,19.2s,baz=86,slow=38
BRTR Keskin Array B 76.41 324 P **P** **08 01 02.9 +0.2**
comp=Z,0.4nm,0.5s,baz=339,slow=3.6,SNR=1.7
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 79.93 210 P **P** **08 01 23.0 +0.9**
comp=Z,0.5nm,0.9s,baz=16,slow=5.6,SNR=3.0
comp=Z,0.5nm,0.9s
WRA Warramunga Arr 79.93 210 P **P** **08 01 23.0 +0.9**
PALK Pallekele 81.09 270 LR LR 08 41 54.7
comp=Z,19nm,20.4s,baz=182,slow=39
PPT Papeete 82.32 137 LR LR 08 28 24.4
comp=Z,42nm,21.1s,baz=304,slow=29
PPT2 Papeete2 82.34 137 *e*LR LR 08 27 42.4
comp=Z,73nm,24.5s
ASAR Alice Springs 83.59 209 P **P** **08 01 42.8 +1.5**
comp=Z,0.6nm,0.7s,baz=11,slow=4.3,SNR=9.8
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 84.47 352 P **P** **08 01 47.0 +1.1**
comp=Z,0.2nm,0.4s,baz=4.9,slow=4.9,SNR=7.0
comp=Z,0.2nm,0.4s
RAO Raoul Island 85.89 165 LR LR 08 39 17.2
comp=Z,92nm,18.9s,baz=98,slow=35
TBI Tubuai 87.64 139 *e*LR LR 08 29 54.0
comp=Z,155nm,27.8s
STKA Stephens Creek 89.68 200 P **P** **08 02 12.7 +1.8**
comp=Z,2.8nm,0.9s,baz=26,slow=8.0,SNR=3.8
comp=Z,2.8nm,0.9s
JTS Las Juntas de 92.28 68 LR LR 08 46 12.8
comp=Z,14nm,20.1s,baz=338,slow=37
SJG San Juan 94.50 48 LR LR 08 47 25.9
comp=Z,15nm,19.6s,baz=18,slow=37
PLCA Paso Flores 140.92 91 PKP **PKPdf** **08 08 42.7 0.0**
comp=Z,1.0nm,0.8s,baz=262,slow=7.5,SNR=3.1
QSPA South Pole Qui 145.55 180 PKPbc **PKPab** **08 08 50.1 -0.4**
comp=Z,3.1nm,1.0s,baz=328,slow=3.6,SNR=5.8

*IDC **16** 07:53:36.9s 2.3,24°.88S×68°.78W, h84km±20km, mb3.9/11, mbtmp4.1/15, MS3.0/1, Error ellipse: s-maj=22.4km s-min=13.8km az=85.0*
*NEIC **16** 07:53:37.9,24°.93S×68°.89W, h99km*
*NEIC **16** 07:53:37.9±1.7,24°.93S±0°.05×68°.89W±0°.09, h98km±4km, mb4.6/20, Mwr4.3/45, Mwr4.3(GUC), Error ellipse: s-maj=11.9km s-min=7.4km az=95.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.23;*

$M_{\theta\theta}$0.80; $M_{\theta\theta}$2.42; $M_{\theta\theta}$-0.34; $M_{\theta\theta}$-1.33; $M_{\theta\theta}$-0.07; Fault plane solution: $M_0$3.22000×10^{15} NP1:ϕ_s336.31000°, δ44.32000°, λ-81.83000°. NP2:ϕ_s144.96000°, δ46.25000°, λ-97.91000°. Principal axes: T 3.1755, Plg1.0000°, Azm241.0000°; N 0.0847, Plg6.0000°, Azm150.0000°; P -3.2601, Plg84.0000°, Azm340.0000°;

*GUC **16** 07:53:38.0±0.7,24°.91S×68°.98W, h100km±4km, ML4.3*
*VAO **16** 07:53:42.9±0.7,24°.65S×68°.66W, h125km±6km, mb4.4*

ISC 16 07:53:37.9±0.4,**24°.91S**±0°.04×**68°.90W**±0°.05,**h101**km, **n124,**σ1°**34**/127, **mb4.3**/18, **8C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.68**	**248**		**Pn**	**07 53 55.8**	**+0.3**
GO02	**Mina Guanaco**	**0.68**	**248**	*eP*	**Pn**	**07 53 55.9**	**+0.3**
GO02				*i* S	**Sn**	**07 54 09.4**	**+0.6**
GO02				IAML		07 54 10.9	
	comp=E,6µm,0.5s						
PB14	**IPOC Station P**	**1.40**	**281**		**Pn**	**07 54 03.0**	**-0.3**
PB14	**IPOC Station P**	**1.40**	**281**	⇑*i*P	**Pn**	**07 54 03.3**	**+0.1**
PB14				*i* S	**Sn**	**07 54 22.0**	**-0.4**
AC02	**Maricunga**	**1.93**	**186**		**Pn**	**07 54 11.2**	**+1.2**
AC02	**Maricunga**	**1.93**	**186**	⇑*i*P	**Pn**	**07 54 11.6**	**+1.6**
AC02				*i* S	**Sn**	**07 54 36.3**	**+1.8**
AC01	**Pan de Azucar**	**1.97**	**231**		**Pn**	**07 54 09.7**	**-0.4**
AC01	**Pan de Azucar**	**1.97**	**231**	⇑*i*P	**Pn**	**07 54 09.9**	**-0.2**
PB10	**IPOC Station P**	**2.06**	**312**		**Pn**	**07 54 11.0**	**-0.2**
PB10	**IPOC Station P**	**2.06**	**312**	⇑*e*P	**Pn**	**07 54 11.4**	**+0.2**
AF01	**San Pedro de A**	**2.06**	**19**		**Pn**	**07 54 12.4**	**+0.9**
AF01	**San Pedro de A**	**2.06**	**19**	*e*P	**Pn**	**07 54 12.4**	**+0.9**
AF01				*e*S	**Sn**	**07 54 39.2**	**+2.0**
PB06	**IPOC Station P**	**2.28**	**344**		**Pn**	**07 54 14.6**	**+0.3**
PB06	**IPOC Station P**	**2.28**	**344**	⇑*i*P	**Pn**	**07 54 14.7**	**+0.3**
PB06				IAML		07 54 43.7	
	comp=N,3µm,0.3s						
PB05	**IPOC Station P**	**2.37**	**330**		**Pn**	**07 54 15.5**	**0.0**
PB05	**IPOC Station P**	**2.37**	**330**	⇓*i*P	**Pn**	**07 54 15.5**	**0.0**
PB05				IAML		07 54 50.1	
	comp=N,1µm,0.6s						
AC06	**Mina Casimiro**	**2.77**	**208**		**Pn**	**07 54 19.7**	**-0.8**
AC06	**Mina Casimiro**	**2.77**	**208**	⇑*i*P	**Pn**	**07 54 19.9**	**-0.7**
GO03	**Copiapo**	**2.93**	**204**		**Pn**	**07 54 22.2**	**-0.5**
GO03	**Copiapo**	**2.93**	**204**	⇑*i*P	**Pn**	**07 54 22.6**	**-0.2**
PB03	**IPOC Station P**	**2.96**	**344**		**Pn**	**07 54 22.7**	**-0.5**
PB03	**IPOC Station P**	**2.96**	**344**	⇓*i*P	**Pn**	**07 54 23.1**	**-0.1**
PB03				IAML		07 55 03.1	
	comp=N,1µm,0.6s						
PB09	**IPOC Station P**	**3.12**	**354**		**Pn**	**07 54 26.0**	**+0.6**
PB09	**IPOC Station P**	**3.12**	**354**	⇑*i*P	**Pn**	**07 54 26.1**	**+0.7**
PB02	**IPOC Station P**	**3.69**	**345**	Pn	**Pn**	**07 54 32.7**	**-0.4**
PB02	**IPOC Station P**	**3.69**	**345**	*e*P	**Pn**	**07 54 32.2**	**-0.8**
AC04	**Llanos de Chal**	**3.81**	**210**		**Pn**	**07 54 32.7**	**-1.9**
PATCX	**Punta Patache**	**4.23**	**344**		**Pn**	**07 54 40.4**	**+0.1**
LCO	**Las Campanas**	**4.39**	**201**		**Pn**	**07 54 41.0**	**-1.6**
TA01	**Diego Aracena**	**4.49**	**344**		**Pn**	**07 54 43.5**	**-0.1**
PB08	**IPOC Station P**	**4.75**	**357**		**Pn**	**07 54 46.5**	**-1.1**
CO01	**Juntas del Tor**	**5.16**	**192**		**Pn**	**07 54 52.5**	**-0.4**
CO05	**La Serena**	**5.40**	**202**		**Pn**	**07 54 53.7**	**-2.4**
GO04	**Tololo Observa**	**5.51**	**197**		**Pn**	**07 54 55.8**	**-1.9**
CO03	**El Pedregal**	**6.11**	**195**		**Pn**	**07 55 03.4**	**-2.4**
CO02	**Combarbal**	**6.54**	**196**		**Pn**	**07 55 07.9**	**-3.7**
ZON	**Zonda**	**6.61**	**178**		**Pn**	**07 55 11.1**	**-1.4**
CFA	**Coronel Fontan**	**6.69**	**175**	P	**Pn**	**07 55 13.0**	**-0.6**
	comp=N,5.5nm,0.3s,baz=14,slow=16,SNR=60						
CFA				S	**Sn**	**07 56 26.4**	**-2.0**
	comp=N,3.1nm,0.3s,baz=105,slow=20,SNR=6.1						
VA06	**Catapilco**	**7.91**	**195**		Pn	07 55 26.2	-3.8
VA03	**San Esteban**	**7.96**	**190**		**Pn**	**07 55 28.4**	**-2.5**
MT02	**Curacav**	**8.54**	**193**	Pn	**Pn**	**07 55 36.0**	**-2.7**
MT08	**Bocatoma Ro**	**8.56**	**186**		**Pn**	**07 55 37.0**	**-2.2**
LPAZ	**La Paz**	**8.61**	**5**	P	**Pn**	**07 55 39.4**	**-0.9**
	comp=N,4.3nm,0.4s,baz=195,slow=3.7,SNR=38						
LPAZ	**La Paz**	**8.61**	**5**	*e*P	**Pn**	**07 55 39.8**	**-0.5**
MT03	**Universidad Ad**	**8.67**	**189**		**Pn**	**07 55 38.8**	**-1.7**
MT13	**San Alfonso**	**8.88**	**188**		**Pn**	**07 55 41.5**	**-2.0**
CPUP	**Villa Florida**	**10.54**	**100**	P	**Pn**	**07 56 03.5**	**-2.3**
	comp=N,0.4nm,0.6s,baz=149,slow=11,SNR=4.6						
CPUP	**Villa Florida**	**10.54**	**100**	*e*P	**Pn**	**07 56 07.7**	**+1.9**
MURT	**Porto Murtinho**	**10.87**	**75**	*e*P	**Pn**	**07 56 08.5**	**-1.9**
SIV	**San Ignacio**	**11.51**	**41**	P	Pn	07 56 14.1	-5.0
	comp=N,17nm,0.6s,baz=230,slow=10,SNR=80						
SJPY	**San Joaquin**	**11.61**	**93**	*e*P	**Pn**	**07 56 20.7**	**+0.3**
BDQN	**Bodoquena, MS**	**12.06**	**71**	*e*P	**Pn**	**07 56 23.6**	**-2.7**
AQDB	**Aquidauana**	**12.96**	**73**	*e*P	**Pn**	**07 56 38.3**	**+0.1**
PTLB	**Pontes e Lacer**	**13.13**	**46**		**Pn**	**07 56 37.4**	**-3.1**
PTLB	**Pontes e Lacer**	**13.13**	**46**	*e*P	**Pn**	**07 56 37.9**	**-2.6**
VILB	**Vilhena**	**14.46**	**36**		**Pn**	**07 56 54.2**	**-3.6**
VILB	**Vilhena**	**14.46**	**36**	*e*P	**Pn**	**07 56 54.9**	**-2.8**
RPRD	**Ribas do Rio P**	**14.70**	**76**	*e*P	**P**	**07 57 06.8**	**0.0**
TRCB	**Terra Rica**	**15.03**	**85**	*e*P	**P**	**07 57 06.3**	**-1.6**
PLTB	**Pedras Altas**	**15.09**	**120**	*e*P	**P**	**07 57 10.3**	**+1.8**
ITAB	**Concordia**	**15.24**	**102**	P	**P**	**07 57 08.8**	**-1.5**
SALV	**Santo Antonio**	**15.27**	**57**	*e*P	**Pn**	**07 57 05.7**	**-2.4**
PTGB	**Pitanga**	**15.29**	**93**	*e*P	**P**	**07 57 10.3**	**-0.5**
PLCA	**Paso Flores**	**15.84**	**185**	P	**Pn**	**07 57 15.9**	**+0.9**
	comp=N,1.4nm,0.8s,baz=16,slow=16,SNR=5.5						
LDASE	**Londrina, Braz**	**16.30**	**88**	*e*P	**P**	**07 57 21.6**	**-0.4**
CNLB	**Canela**	**16.65**	**109**	*e*P	**P**	**07 57 26.2**	**+0.3**
CZSB	**Cruzeiro do Su**	**17.47**	**347**	*e*P	**Pn**	**07 57 35.8**	**+0.6**
PDRB	**Porto dos Gac**	**17.55**	**43**	*e*P	**P**	**07 57 32.5**	**-3.3**
FRTB	**Fartura**	**17.72**	**89**	*e*P	**Pn**	**07 57 37.0**	**-1.2**
ITRB	**Iturama**	**17.91**	**77**	*e*P	**Pn**	**07 57 39.3**	**-1.3**
ARAG	**Araguaiana, MT**	**18.44**	**63**	*e*P	**P**	**07 57 44.9**	**-0.7**
CLDB	**Colider**	**18.70**	**44**	*e*P	**P**	**07 57 46.9**	**-1.5**
BB19B	**Bebedouro**	**19.14**	**83**	*e*P	**Pn**	**07 57 53.2**	**-1.9**
RCLB	**Rio Claro- Sao**	**19.73**	**87**	*e*P	**P**	**07 57 58.7**	**-0.9**
VAO	**Valinhos**	**20.13**	**89**		**P**	**07 58 02.8**	**-1.3**
VAO	**Valinhos**	**20.13**	**89**	*e*P	**P**	**07 58 03.5**	**-0.5**
IPMB	**Ipameri, GO**	**20.44**	**74**	*e*P	**P**	**07 58 06.5**	**-0.9**
TBTG	**Tabatinga, AM**	**20.63**	**357**	P	**P**	**07 58 10.0**	**+0.6**
TBTG				IAmb	IAmb	07 58 36.5	
	comp=Z,47nm,1.2s						
TBTG	**Tabatinga, AM**	**20.63**	**357**	*e*P	**P**	**07 58 10.4**	**+1.0**
SNDB	**Serra Nova Dou**	**21.05**	**55**	*e*P	**P**	**07 58 12.8**	**-1.1**
BDFB	**Brasilia**	**21.63**	**69**	P	**P**	**07 58 18.8**	**-1.4**
BDFB	**Brasilia**	**21.63**	**69**	P	**P**	**07 58 18.2**	**-2.0**
	comp=Z,6.7nm,0.7s,baz=240,slow=12,SNR=10						
BDFB				LR	LR	08 07 30.4	
	comp=Z,40nm,21.1s,baz=165,slow=39						
	comp=Z,6.7nm,0.7s						
TEFE	**Tefe**	**21.67**	**12**	*e*P	**P**	**07 58 20.9**	**+0.5**
PMNB	**Patos De Minas**	**21.79**	**78**	*e*P	**P**	**07 58 20.5**	**-1.4**
NPGB	**Novo Progresso**	**21.99**	**38**	*e*P	**P**	**07 58 21.6**	**-2.2**
ITTB	**Itaituba**	**24.03**	**34**	*e*P	**P**	**07 58 42.6**	**-1.0**
DIAM	**Diamantina, MG**	**24.34**	**79**	*e*P	**P**	**07 58 47.1**	**+0.5**
JANB	**Januaria**	**25.06**	**72**	*e*P	**P**	**07 58 52.9**	**-0.1**
SMTB	**Santa Maria do**	**25.83**	**56**	*e*P	**P**	**07 58 59.6**	**-0.3**
SDBA	**SAO DESIDERIO**	**25.86**	**66**	*e*P	**P**	**07 59 00.1**	**-0.2**
OTAV	**Otavalo**	**26.66**	**338**	P	**P**	**07 59 08.2**	**+0.3**
OTAV	**Otavalo**	**26.66**	**338**	*e*P	**P**	**07 59 08.2**	**+0.3**
MAL2	**Monte Alegre,**	**26.83**	**34**	P	**P**	**07 59 07.6**	**-1.3**
FLOC	**Florencia**	**27.14**	**345**	P	**P**	**07 59 12.4**	**+0.7**
BOAV	**Boa Vista**	**28.34**	**18**	*e*P	**P**	**07 59 22.2**	**-0.2**
RUSC	**La Rusia**	**30.89**	**352**		**P**	**07 59 45.3**	**-0.2**
RUSC				IAmb	IAmb	07 59 48.4	
	comp=Z,7.2nm,1.0s						
SNAA	**Sanae**	**59.07**	**160**	P	**P**	**08 03 27.3**	**+0.2**
SNAA				IAmb	IAmb	08 03 29.7	
	comp=Z,7.6nm,1.5s						
SNAA	**Sanae**	**59.07**	**160**	P	**P**	**08 03 27.3**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=272,slow=8.2,SNR=11						
	comp=Z,2.4nm,0.9s						
X58A	**Rowland**	**59.97**	**350**	P	**P**	**08 03 33.0**	**-0.5**
HNDO	**Hondo**	**61.49**	**330**	P	**P**	**08 03 44.1**	**0.0**
HNDO				IAmb	IAmb	08 03 45.8	
	comp=Z,3.6nm,0.7s						
JCT	**Junction City**	**62.54**	**330**	P	**P**	**08 03 51.7**	**+0.6**
JCT				IAmb	IAmb	08 03 52.6	
	comp=Z,6.0nm,0.8s						
SAND	**Sanderson**	**63.19**	**328**	P	**P**	**08 03 55.8**	**+0.4**
SAND				IAmb	IAmb	08 03 57.5	
	comp=Z,4.0nm,0.9s						
TXAR	**Lajitas Array**	**63.44**	**326**	P	**P**	**08 03 58.1**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=154,slow=8.6,SNR=5.7						
	comp=Z,0.4nm,0.6s						
PBMO	**Poplar Bluff**	**64.63**	**341**	P	**P**	**08 04 04.0**	**-0.6**
PBMO				IAmb	IAmb	08 04 37.9	
	comp=Z,6.1nm,0.6s						
QSPA	**South Pole Qui**	**65.30**	**180**	P	**P**	**08 04 10.6**	**+1.7**
QSPA	**South Pole Qui**	**65.30**	**180**	P	**P**	**08 04 10.3**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=169,slow=1.0,SNR=14						
	comp=Z,2.4nm,0.6s						
CCM	**Cathedral Cave**	**66.06**	**341**	P	**P**	**08 04 13.3**	**-0.5**
CCM				IAmb	IAmb	08 04 14.6	
	comp=Z,6.4nm,0.8s						
R40A	**Maddies Statio**	**66.58**	**340**	P	**P**	**08 04 17.2**	**+0.1**
R40A				IAmb	IAmb	08 04 18.1	
	comp=Z,7.1nm,0.8s						
DBIC	**Dimbokro**	**69.73**	**72**	P	**P**	**08 04 36.6**	**-0.8**
DBIC	**Dimbokro**	**69.73**	**72**	P	**P**	**08 04 38.4**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=317,slow=8.6,SNR=4.4						
	comp=Z,3.3nm,0.8s						
VNDA	**Vanda**	**73.51**	**190**	P	**P**	**08 05 01.4**	**+2.4**
	comp=Z,0.9nm,0.9s,baz=145,slow=2.8,SNR=3.7						
	comp=Z,0.9nm,0.9s						
PDAR	**Pinedale Array**	**77.07**	**331**	P	**P**	**08 05 20.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=119,slow=7.7,SNR=4.5						
	comp=Z,0.3nm,0.6s						
NVAR	**Mina Array Bea**	**78.19**	**322**	P	**P**	**08 05 28.1**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=143,slow=6.8,SNR=4.4						
	comp=Z,0.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**78.51**	**70**	P	**P**	**08 05 28.1**	**-0.4**
TORD				IAmb	IAmb	08 05 29.5	
	comp=Z,4.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.51**	**70**	P	**P**	**08 05 28.9**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=261,slow=4.8,SNR=1.6						
	comp=Z,6.2nm,0.6s						
ULM	**Lac du Bonnet**	**78.56**	**343**	P	**P**	**08 05 28.3**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=136,slow=6.2,SNR=9.5						
	comp=Z,4.4nm,0.6s						
MAW	**Mawson**	**81.08**	**163**	P	**P**	**08 05 42.1**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=218,slow=5.4,SNR=14						
	comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**126.89**	**206**	PKP	**PKPdf**	**08 12 30.6**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=140,slow=1.9,SNR=18						
WRA	**Warramunga Arr**	**130.01**	**209**	PKP	**PKPdf**	**08 12 36.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=153,slow=1.6,SNR=9.8						
BVAR	**Borovoye Array**	**138.56**	**37**	PKP	**PKiKP**	**08 12 52.7**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=267,slow=3.0,SNR=3.5						
KURBB	**Kurchatov Arra**	**144.13**	**36**	PKP	**PKPdf**	**08 13 00.8**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=302,slow=3.6,SNR=26						
ZALV	**Zalesovo Beam**	**145.00**	**27**	PKP	**PKPdf**	**08 13 03.4**	**+0.5**
	comp=Z,17nm,0.7s,baz=306,slow=4.1,SNR=48						
AAK	**Ala-Archa**	**145.14**	**50**	PKPbc	**PKPdf**	**08 13 04.8**	**+1.1**
	comp=Z,3.7nm,0.5s,baz=223,slow=6.2,SNR=7.2						
MKAR	**Makanchi Array**	**148.32**	**39**	PKPbc	**PKPbc**	**08 13 13.1**	**+0.8**
	comp=Z,6.5nm,0.6s,baz=310,slow=2.9,SNR=58						

*NEIC **16** 07:54:36.7±2.0, 18°.2N±0°.2×68°.74W±0°.04, h76km±25km, ML2.3/10, Md2.3/3(RSPR), Error ellipse: s-maj=30.8km s-min=4.1km az=187.0*
*SDD **16** 07:54:36.8±1.1, 18°.17N×68°.57W, h55km±8km, MD2.7, ML2.0, MW2.5*
*RSPR **16** 07:54:37.5, 18°.55N×68°.50W, h72km, MD2.3/3*

ISC 16 07:54:37.3±1.5,**18°.16N**±0°.08×**68°.73W**±0°.04,**h50**km±9km, **n20,**σ0°**71**/25, **8C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SADR	**Isla Saona**	**0.06**	**306**	⇑*e*Pg	**Pn**	**07 54 44.4**	**-0.6**
SADR				⇑*e*Sg	**Sn**	**07 54 51.5**	**+0.9**
SADR				IAML		07 54 54.5	
	comp=N,182nm,1.2s						
HIDR	**Higuey Centro**	**0.43**	**2**	⇓*e*P	**Pn**	**07 54 47.9**	**0.0**
HIDR	**Higuey Centro**	**0.43**	**2**	*e*S	**Sn**	**07 54 56.0**	**+0.7**
HIDR	**Higuey Centro**	**0.43**	**2**	⇓*e*Pg	**Pn**	**07 54 47.9**	**0.0**
HIDR				⇑*e*Sg	**Sn**	**07 54 54.6**	**-0.8**
HIDR				IAML		07 54 57.6	
	comp=N,38nm,0.1s						
MIDR	**Miches**	**0.88**	**340**	⇑*e*Pg	**Pn**	**07 54 52.9**	**-0.5**
MIDR				⇑*e*Sg	**Sn**	**07 55 04.5**	**-0.7**
MIDR				IAML		07 55 35.4	
	comp=N,41nm,2.3s						
DR12	**Loma Pena Alta**	**0.88**	**315**	Pn	**Pn**	**07 54 53.7**	**+0.1**
HATOM	**Hato Mayor del**	**0.88**	**315**	⇑*e*Pg	**Pn**	**07 54 53.6**	**+0.1**
HATOM				⇑*e*Sg	**Sn**	**07 55 06.5**	**+1.1**
HATOM				IAML		07 55 07.0	
	comp=N,36nm,0.8s						
SDD	**Santo Domingo**	**1.16**	**285**	Pn	**Pn**	**07 54 56.5**	**-0.7**
SDD				IAML		07 55 28.5	
	comp=N,63nm,0.7s						
SDD				IAML		07 55 48.4	
	comp=E,47nm,1.4s						
IDE	**Isla Desecheo**	**1.21**	**79**		**Pn**	**07 54 58.4**	**+0.4**
IDE					**Sn**	**07 55 12.9**	**-0.5**
IDE	**Isla Desecheo**	**1.21**	**79**	⇑*e*P	**Pn**	**07 54 58.4**	**+0.4**
IDE	**Isla Desecheo**	**1.21**	**79**	*e*S	**Sn**	**07 55 12.9**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.55**	**95**		**Sn**	**07 55 21.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.55**	**95**		**Pn**	**07 55 02.3**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.55**	**95**	⇓*e*P	**Pn**	**07 55 03.2**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.55**	**95**	*e*S	**Sn**	**07 55 21.0**	**-0.4**
LSP	**Las Mesas**	**1.56**	**89**		**Sn**	**07 55 22.9**	**+1.0**
BANI	**BANI**	**1.56**	**279**	Pn	**Pn**	**07 55 03.2**	**+0.4**
AOPR	**Arecibo Observ**	**1.89**	**84**	Pn	**Pn**	**07 55 08.1**	**+1.0**
AOPR				IAML		07 55 40.4	
	comp=N,26nm,1.4s						
AOPR				IAML		07 55 40.8	
	comp=E,33nm,0.7s						
UUPR	**Utuado, UPR, P**	**1.91**	**87**	Pn	**Pn**	**07 55 07.7**	**+0.2**
PDPR	**Patillas Dam,**	**2.58**	**93**	Pn	**Pn**	**07 55 15.3**	**-1.3**
PDPR				IAML		07 55 56.9	
	comp=E,8.4nm,1.2s						
PDPR				IAML		07 56 04.7	
	comp=N,8.9nm,1.5s						

*IDC **16** 08:34:40.1±3.2,54°.30N×87°.04E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=29.9km s-min=18.2km az=56.0*

ASRS 16 08:34:39.0±0.5,**54°.28N**×**86°.92E, h0**km, **M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**256**	I	I	08 42 20.0	
	baz=74,slow=319,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.28**	**256**	Pg	Pb	08 35 04.0	0.0
	3.4nm,0.3s,baz=75,slow=17,SNR=22						
ZALV				Lg	Lg	08 35 23.8	
	2.4nm,0.3s,baz=78,slow=36,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.30**	**238**	Pn	Pn	08 36 15.7	+2.6
	0.1nm,0.3s,baz=54,slow=14,SNR=4.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.05**	**203**	Pn	Pn	08 36 40.5	+3.3
	0.1nm,0.3s,baz=24,slow=12,SNR=5.1						
	0.1nm,0.3s						

TEH 16 08:39:52.2,38°.37N×57°.16E, h9km, **Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**1.10**	**230**	Pg	Pb	08 40 13.5	0.0
MRVT				Sg	Sn	08 40 29.7	+0.4
ISFR	**Sfrayin**	**1.48**	**153**	Pg	Pg	08 40 20.4	-0.2
IMND	**Minoodasht**	**1.78**	**232**	Pg	Pb	08 40 25.3	+0.3
SBZV	**Sabzevar**	**2.02**	**170**	Pn	Pb	08 40 29.3	+0.2
IAKL	**Akhelmad**	**2.18**	**144**	Pn	Pb	08 40 31.1	-0.9
IPAY	**Payeh**	**2.42**	**142**	Pn	Pb	08 40 34.3	-1.7
IKRD	**Kardeh**	**2.46**	**130**	Pn	Pn	08 40 34.6	+1.9
IMYA	**Miami**	**3.10**	**130**	Pn	Pn	08 40 43.5	+2.0
TAPT	**Tabas- Tapeh t**	**3.48**	**180**	Pn	Pn	08 40 48.4	+1.8

*UCR **16** 08:42:28.9±1.1, 11°.00N×86°.84W, h0km±5km, MW3.9*
*CATAC **16** 08:42:29.3±0.8, 11°.N±3°.×8°.7W±°, h26km±8km, M3.2/16, MLv3.2/16, Error ellipse: s-maj=10.9km s-min=4.6km az=54.1, confirmed*

ISC 16 08:42:30.5±2.0,**11°.03N**±0°.05×**86°.88W**±0°.08,**h29**km±15km, **n29,**σ0°**74**/39, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NADN	**Granada**	**1.10**	**49**	*e*P	**Pn**	**08 42 49.6**	**-0.3**
NADN				*e*S	**Sb**	**08 43 06.6**	**+1.8**
CRUN	**El Crucero**	**1.11**	**31**	P	**Pn**	**08 42 50.1**	**0.0**
NANN	**Nandasmo**	**1.17**	**39**	P	**Pb**	**08 42 52.5**	**+0.4**
COPN	**Copaltepe**	**1.18**	**14**	*e*P	**Pn**	**08 42 51.2**	**+0.1**
COPN	**Copaltepe**	**1.18**	**14**	P	**Pn**	**08 42 51.3**	**+0.3**
LCRUZ	**La Cruz**	**1.23**	**88**	*e*P	**Pb**	**08 42 52.5**	**-0.6**
UNAN	**Cigeo UNAN**	**1.23**	**29**	P	**Pn**	**08 42 51.9**	**+0.1**
TISN	**Laguna Tiscapa**	**1.26**	**28**	P	**Pn**	**08 42 52.1**	**-0.1**
JAPN	**Al SSO del Vol**	**1.28**	**67**	P	**Pb**	**08 42 53.7**	**-0.2**
MORN	**Al O del Volca**	**1.31**	**67**	P	**Pb**	**08 42 54.0**	**-0.5**
WILN	**Americas 2**	**1.31**	**31**	P	**Pn**	**08 42 53.1**	**+0.2**
WILN				S	**Sb**	**08 43 10.3**	**-0.7**
ALIBA	**Liberia Airpor**	**1.38**	**108**	*e*S	**Sb**	**08 43 13.9**	**+1.0**
LAPC	**Finca la Perla**	**1.44**	**100**	*e*P	**Pb**	**08 42 55.9**	**-0.9**
MOM2	**El Cardon**	**1.45**	**15**	P	**Pn**	**08 42 54.9**	**0.0**
MOM2				S	**Sn**	**08 43 13.3**	**+0.4**
CNGA	**Al SSO del Vol**	**1.47**	**7**	P	**Pn**	**08 42 55.1**	**0.0**
CNGA				S	**Sn**	**08 43 13.5**	**+0.2**
CNGN	**Cerro Negro**	**1.47**	**7**	*e*P	**Pn**	**08 42 55.1**	**-0.1**
CNGN				*e*S	**Sb**	**08 43 16.9**	**+1.3**
CNGN	**Cerro Negro**	**1.47**	**7**	P	**Pn**	**08 42 54.6**	**-0.6**
VRLE	**La Escondida,**	**1.51**	**99**	*e*P	**Pn**	**08 42 56.7**	**+1.1**
JUD3	**Juan Diaz 3**	**1.57**	**123**	*e*P	**Pn**	**08 42 57.4**	**+0.9**
JUD3				*e*S	**Sb**	**08 43 17.3**	**-1.2**
POLN	**Al Sur del Vol**	**1.61**	**2**	P	**Pn**	**08 42 55.8**	**-1.2**
POLN				S	**Sn**	**08 43 17.2**	**+0.3**
CMARA	**Lajas Hojancha**	**1.75**	**125**	P	**Pn**	**08 42 59.7**	**+0.8**
CMARA	**Lajas Hojancha**	**1.75**	**125**	S	**Sn**	**08 43 20.5**	**+0.2**
VMAR	**Armenia, Volca**	**1.75**	**97**	*e*P	**Pb**	**08 43 00.6**	**-1.3**
VMAR				*e*S	**Sb**	**08 43 23.6**	**+0.2**
BOAB	**BOACO BROADBAN**	**1.84**	**40**	P	**Pn**	**08 42 59.9**	**-0.3**
TENO	**El Achiote**	**1.90**	**100**	*e*P	**Pn**	**08 43 01.3**	**+0.3**
ACON	**Acoyapa**	**1.91**	**61**	*e*P	**Pn**	**08 43 00.6**	**-0.6**
ACON				*e*S	**Sb**	**08 43 28.6**	**+0.3**
ACON	**Acoyapa**	**1.91**	**61**	P	**Pn**	**08 43 00.2**	**-1.0**
CSGN	**Cosiguina Volc**	**2.05**	**341**	P	**Pn**	**08 43 03.2**	**+0.2**
CSGN				S	**Sn**	**08 43 27.8**	**0.0**
MATN	**Matagalpa**	**2.11**	**26**	P	**Pn**	**08 43 02.8**	**-1.2**

*ASRS **16** 08:54:34.0±1.4, 53°.82N×91°.11E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 16 08:54:34.3±4.0,**53°.70N**×**91°.16E, h0**km, **mbtmp2.7**/2, **ML2.2**/2, **Error ellipse: s-maj=36.8km s-min=26.7km az=26.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.76**	**276**	I	I	09 16 40.0	
	0.1nm,1.1s,baz=91,slow=315,SNR=9.8						
ZALV	**Zalesovo Beam**	**3.76**	**276**	Pg	Pb	08 55 43.0	+1.4
	0.6nm,0.3s,baz=92,slow=14,SNR=7.3						
ZALV				Lg	Lg	08 56 32.9	
	0.6nm,0.3s,baz=93,slow=26,SNR=7.9						
KURBB	**Kurchatov Arra**	**8.35**	**253**	Pn	Pn	08 56 35.6	-0.9

IDC 16 09:01:28.9±1.9, 38°90S×78°71E, h0km, mb3.8/4, mbtmp3.8/4, MS3.8/6, Error ellipse: s-maj=51.1km s-min=38.9km az=119.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**21.05**	**241**	T	T	09 27 39.6	
	baz=79,slow=74,SNR=48						
H04N1	**CROZET ISLANDS**	**21.06**	**241**	T	T	09 27 41.8	
	baz=79,slow=74,SNR=49						
H04N3	**CROZET ISLANDS**	**21.06**	**241**	T	T	09 27 40.3	
	baz=79,slow=74,SNR=62						
H01W2	**Cape Leeuwin H**	**28.50**	**93**	T	T	09 37 24.5	
	baz=251,slow=74,SNR=140						
H01W3	**Cape Leeuwin H**	**28.51**	**93**	T	T	09 37 26.5	
	baz=251,slow=74,SNR=136						
H01W1	**Cape Leeuwin H**	**28.52**	**93**	T	T	09 37 27.3	
	baz=251,slow=74,SNR=858						
H08S2	**Diego Garcia H**	**31.62**	**348**	T	T	09 40 49.3	
	baz=171,slow=76,SNR=27						
H08S1	**Diego Carcia H**	**31.62**	**348**	T	T	09 40 46.5	
	baz=171,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**31.64**	**348**	T	T	09 40 48.8	
	baz=171,slow=76,SNR=109						
ASAR	**Alice Springs**	**48.86**	**89**	P	P	09 10 16.1	-0.2
	0.6nm,0.8s,baz=242,slow=6.5,SNR=7.2						
	0.6nm,0.8s						
SNAA	**Sanae**	**50.98**	**204**	LR	LR	09 28 15.1	
	comp=Z,86nm,20.5s,baz=127,slow=32						
WRA	**Warramunga Arr**	**51.21**	**85**	P	P	09 10 34.4	+0.1
	1.8nm,0.8s,baz=235,slow=7.7,SNR=10						
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**51.26**	**180**	P	P	09 10 34.1	-0.1
	1.3nm,1.0s,baz=304,slow=3.7,SNR=4.1						
	1.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**60.13**	**22**	LR	LR	09 33 52.4	
	comp=Z,26nm,18.6s,baz=225,slow=32						
JAY	**Jayapura**	**66.84**	**74**	LR	LR	09 39 46.1	
	comp=Z,51nm,18.8s,baz=299,slow=34						
MKAR	**Makanchi Array**	**85.38**	**2**	P	P	09 14 07.5	-0.1
	0.5nm,0.8s,baz=181,slow=6.9,SNR=3.3						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**88.31**	**288**	LR	LR	09 51 01.3	
	comp=Z,101nm,19.9s,baz=70,slow=34						
KURBB	**Kurchatov Arra**	**89.15**	**360**	LR	LR	09 50 28.1	
	comp=Z,75nm,19.9s,baz=172,slow=33						
AKTO	**Aktyubinsk**	**90.80**	**347**	LR	LR	09 54 02.8	
	comp=Z,27nm,19.1s,baz=56,slow=35						

*IDC **16** 09:04:54.5±3.0, 54°36N×87°06E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=26.4km s-min=19.0km az=50.0*

ASRS 16 09:04:53.0±0.7, 54°34N×86°91E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**253**	I	I	09 12 50.0	
	baz=73,slow=319,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.29**	**253**	Pg	Pn	09 05 18.6	+0.4
	1.3nm,0.3s,baz=74,slow=16,SNR=12						
ZALV				Lg	Lg	09 05 38.8	
	3.1nm,0.3s,baz=75,slow=29,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.33**	**237**	Pn	Pn	09 06 30.3	+2.8
	0.1nm,0.3s,baz=54,slow=14,SNR=4.5						
KURBB				Lg	Lg	09 08 19.0	
	0.1nm,0.3s,baz=56,slow=33,SNR=4.4						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**8.11**	**203**	Pn	Pn	09 06 55.9	+4.0
	0.1nm,0.3s,baz=25,slow=14,SNR=6.1						
MKAR				Lg	Lg	09 09 14.4	
	0.1nm,0.3s,baz=24,slow=29,SNR=2.3						
	0.2nm,0.3s						

*NEIC **16** 09:28:55.4±2.4, 17°9N±0°1×68°30W±0°08, h140km±13km, ML2.5/10, Md3.2/3(RSPR), Error ellipse: s-maj=20.5km s-min=10.6km az=190.0*
*SDD **16** 09:28:55.4±0.8, 18°76N×67°90W, h122km±13km, MD2.9, ML2.3, MW2.3*
*RSPR **16** 09:28:57.5, 17°88N×68°15W, h147km±3km, MD3.2/3*

ISC 16 09:28:52.3±3.6, 18°1N±0°2×68°33W±0°08, h169km±24km, n25, σ2ˢ26/31, 7C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.43**	**281**	⇑*e*Sg	**Sn**	**09 29 34.9**	**+1.6**
SADR				IAML		09 29 57.0	
	comp=N,155nm,3.1s						
MIDR	**Miches**	**1.10**	**322**	*i* P	**Pn**	**09 29 19.7**	**0.0**
MIDR				*e*Sg	**Sn**	**09 29 36.4**	**-4.6**
MIDR				IAML		09 29 37.4	
	comp=N,13nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.17**	**95**		**Pn**	**09 29 20.5**	**+0.2**
CRPR					**Sn**	**09 29 39.4**	**-2.4**
CRPR				IAML		09 29 56.6	
	comp=N,37nm,1.9s						
CRPR				IAML		09 30 20.2	
	comp=E,35nm,2.2s						
CRPR	**Cabo Rojo, PR**	**1.17**	**95**	⇑*e*P	**Pn**	**09 29 21.8**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.17**	**95**	*e*S	**Sn**	**09 29 40.2**	**-1.6**
LSP	**Las Mesas**	**1.19**	**87**		**Pn**	**09 29 22.3**	**+1.8**
LSP	**Las Mesas**	**1.19**	**87**	⇓*e*P	**Pn**	**09 29 22.3**	**+1.8**
DR12	**Loma Pena Alta**	**1.20**	**304**	Pn	**Pn**	**09 29 22.1**	**+1.5**
HATOM	**Hato Mayor del**	**1.20**	**304**	*i* P	**Pn**	**09 29 22.0**	**+1.4**
HATOM				IAML		09 30 21.2	
	comp=N,36nm,3.0s						
AGPR	**Aguadilla, PR**	**1.21**	**73**	Pn	**Pn**	**09 29 23.0**	**+2.4**
AGPR				IAML		09 29 37.1	
	comp=N,76nm,3.1s						
AGPR					**Sn**	**09 29 42.4**	**-0.1**
AGPR				IAML		09 30 31.8	
	comp=E,77nm,2.4s						
AGPR	**Aguadilla, PR**	**1.21**	**73**	⇑*e*P	**Pn**	**09 29 22.2**	**+1.5**
AGPR	**Aguadilla, PR**	**1.21**	**73**	*e*S	**Sn**	**09 29 43.0**	**+0.5**
MLPR	**Magueyes Islan**	**1.23**	**96**	⇓*e*P	**Pn**	**09 29 22.5**	**+1.6**
MLPR	**Magueyes Islan**	**1.23**	**96**	*e*S	**Sn**	**09 29 41.2**	**-1.6**
AOPR	**Arecibo Observ**	**1.52**	**81**		**Pn**	**09 29 23.4**	**-0.2**
AOPR					**Sn**	**09 29 47.6**	**-0.1**
AOPR				IAML		09 29 51.1	
	comp=E,39nm,0.3s						
AOPR				IAML		09 30 14.2	
	comp=N,34nm,2.6s						
AOPR	**Arecibo Observ**	**1.52**	**81**	⇑*e*P	**Pn**	**09 29 25.7**	**+2.1**
AOPR	**Arecibo Observ**	**1.52**	**81**	*e*S	**Sn**	**09 29 47.6**	**-0.1**
UUPR	**Utuado, UPR, P**	**1.54**	**84**		**Pn**	**09 29 23.3**	**-0.4**
UUPR					**Sn**	**09 29 48.9**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.54**	**84**	⇓*e*P	**Pn**	**09 29 25.9**	**+2.2**
UUPR	**Utuado, UPR, P**	**1.54**	**84**	*e*S	**Sn**	**09 29 48.4**	**+0.4**
CELP	**Cerrillos**	**1.67**	**91**		**Pn**	**09 29 25.4**	**+0.3**
CELP	**Cerrillos**	**1.67**	**91**	⇑*e*P	**Pn**	**09 29 26.1**	**+1.1**
CELP	**Cerrillos**	**1.67**	**91**	*i* P	**Pn**	**09 29 22.5**	**-2.5**
CELP				⇑*e*Sg	**Sn**	**09 29 42.9**	**-7.4**
CELP				IAML		09 30 00.0	
	comp=N,13nm,1.6s						
ECPR	**Experimental S**	**1.88**	**83**	⇑*e*P	**Pn**	**09 29 29.8**	**+2.4**
ECPR	**Experimental S**	**1.88**	**83**	*e*S	**Sn**	**09 29 53.8**	**-0.6**

*CATAC **16** 09:35:17.4±0.3, 13°N±2°×8°3W±°, h2km±2km, M3.4/13, MLv3.4/13, Error ellipse: s-maj=4.2km s-min=3.4km az=143.4, confirmed*
*RSNC **16** 09:35:19.0±1.3, 13°N±5°×8°3W±°, h25km±12km, M2.4, ML2.4*

ISC 16 09:35:17.0±3.6, 12°79N±0°04×82°75W±0°03, h7km±26km, n24, σ1ˢ62/33, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIC	**Isla e San And**	**1.04**	**104**	P	**Pb**	**09 35 37.7**	**+0.4**
SAIC				S	**Sn**	**09 35 53.5**	**+0.7**
BILN	**Bilwi Airport**	**1.40**	**334**	P	**Pn**	**09 35 42.3**	**-0.6**
BILN				S	**Sn**	**09 36 00.9**	**-0.8**
PRVC	**Isla de Provid**	**1.47**	**66**	P	**Pn**	**09 35 44.1**	**+0.2**
PRVC				S	**Sn**	**09 36 04.0**	**+0.6**
PRVC	**Isla de Provid**	**1.47**	**66**	P	**Pn**	**09 35 43.7**	**-0.2**
PRVC				S	**Sb**	**09 36 03.8**	**+0.3**
ESPN	**Las Esperanzas**	**1.63**	**249**	P	**Pn**	**09 35 44.8**	**-1.4**
ESPN	**Las Esperanzas**	**1.63**	**249**	P	**Pn**	**09 35 44.7**	**-1.4**
ESPN				S	**Sn**	**09 36 05.1**	**-2.3**
SIUN	**Universidad Ur**	**2.18**	**295**	P	**Pn**	**09 35 53.7**	**-0.1**
SIUN				S	**Sn**	**09 36 21.0**	**0.0**
ACON	**Acoyapa**	**2.51**	**251**	P	**Pn**	**09 35 58.5**	**+0.2**
ACON	**Acoyapa**	**2.51**	**251**	P	**Pn**	**09 35 58.1**	**-0.2**
ACON				S	**Sn**	**09 36 29.6**	**+0.5**
COVE	**Coope Vega, Sa**	**2.62**	**218**	P	**Pn**	**09 36 01.3**	**+1.6**
COVE	**Coope Vega, Sa**	**2.62**	**218**	S	**Sb**	**09 36 34.8**	**-1.9**
BOAB	**BOACO BROADBAN**	**2.87**	**264**	P	**Pn**	**09 36 03.0**	**-0.3**
BOAB	**BOACO BROADBAN**	**2.87**	**264**	S	**Sn**	**09 36 40.3**	**+2.2**
SOCE	**Pocosol**	**3.01**	**218**	S	**Sb**	**09 36 46.8**	**-1.3**
OMEN	**Al SSO del Vol**	**3.09**	**246**	S	**Sn**	**09 36 42.7**	**-0.8**
MATN	**Matagalpa**	**3.10**	**273**	P	**Pn**	**09 36 07.8**	**+1.2**
MATN	**Matagalpa**	**3.10**	**273**	S	**Sn**	**09 36 46.4**	**+2.4**
LCR2	**La Lucha 2**	**3.27**	**202**	P	**Pn**	**09 36 09.2**	**+0.3**
LCR2	**La Lucha 2**	**3.27**	**202**	S	**Sn**	**09 36 50.7**	**+2.5**
JTS	**Las Juntas de**	**3.29**	**221**	P	**Pn**	**09 36 11.4**	**+2.4**
JTS				S	**Sn**	**09 36 49.9**	**+1.4**
RCVN	**Varillal2**	**3.45**	**284**	P	**Pn**	**09 36 12.4**	**+1.1**
RCVN	**Varillal2**	**3.45**	**284**	S	**Sb**	**09 36 57.8**	**-3.0**
YUSH	**Yuscaran**	**4.15**	**287**	P	**Pn**	**09 36 24.7**	**+3.7**
BCIP	**Isla Barro Col**	**4.59**	**141**	P	**Pn**	**09 36 26.6**	**-0.3**
BCIP				S	**Sn**	**09 37 18.1**	**-2.5**

*TXNET **16** 09:35:19.0, 31°7N±0°8×104°3W±1°0, h8km±1km, ML3.0/18, Error ellipse: s-maj=1.6km s-min=0.9km az=59.5, final*

NEIC 16 09:35:19.6±1.3, 31°66N±0°01×104°30W±0°02, h5km±1km, mb_Lg2.8/75, ML2.8/48, 4C, Error ellipse: s-maj=2.9km s-min=2.4km az=282.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.11**	**359**	⇑P	Pg	09 35 22.4	+0.4
TPB09				S	Sg	09 35 24.4	+0.7
TPB11	**China Draw**	**0.35**	**39**	⇑P	Pg	09 35 26.6	+0.1
TPB11				S	Sg	09 35 31.4	+0.3
TPB13	**Reeves - Culbe**	**0.40**	**105**	P	Pg	09 35 27.8	+0.5
TPB13				S	Sg	09 35 33.6	+1.0
PECS	**Pecos**	**0.47**	**128**		Pg	09 35 28.7	+0.1
PECS				Sg	Sg	09 35 34.9	+0.2
PECS				IAML		09 35 35.4	
	780nm,0.5s						
PECS				IAML		09 35 40.9	
	687nm,0.6s						
PECS	**Pecos**	**0.47**	**128**	P	Pg	09 35 28.7	+0.1
PECS				S	Sg	09 35 34.9	+0.2
TPB12	**Southwest of T**	**0.53**	**147**	⇑P	Pg	09 35 29.7	-0.1
TPB12				S	Sg	09 35 36.6	-0.1
TPB07	**Mentone**	**0.54**	**98**	P	Pg	09 35 30.6	+0.5
TPB07				S	Sb	09 35 38.5	-1.3
TPB10	**Southeast of T**	**0.60**	**129**	P	Pg	09 35 31.1	0.0
TPB10				S	Sg	09 35 38.9	+0.1
CLNB	**Carlsbad**	**0.70**	**31**		Pg	09 35 33.0	-0.1
CLNB	**Carlsbad**	**0.70**	**31**	P	Pg	09 35 32.9	-0.1
CLNB				S	Sg	09 35 42.8	+0.7
LWM1	**Layne Water Mi**	**0.71**	**127**	P	Pg	09 35 33.5	+0.2
LWM1				S	Sg	09 35 43.3	+0.7
PCOS	**Crockett Middl**	**0.72**	**110**		Pb	09 35 34.0	-0.6
PCOS					Sg	09 35 43.6	+0.9
PCOS	**Crockett Middl**	**0.72**	**110**		Pb	09 35 34.1	-0.5
PCOS					Sg	09 35 43.5	+0.8
PCOS	**Crockett Middl**	**0.72**	**110**	P	Pb	09 35 34.1	-0.5
PCOS				S	Sg	09 35 43.5	+0.8
PCOS	**Crockett Middl**	**0.72**	**110**	P	Pb	09 35 34.0	-0.6
PCOS				S	Sg	09 35 43.6	+0.9
LWM2	**Layne Water Mi**	**0.72**	**122**	P	Pg	09 35 33.7	+0.2
LWM2				S	Sg	09 35 43.7	+0.8
CBET	**Carlsbad E Tow**	**0.80**	**19**		Pb	09 35 36.1	0.0
CBET	**Carlsbad E Tow**	**0.80**	**19**	P	Pb	09 35 36.1	0.0
TPB01	**Permian Basin**	**0.84**	**148**	⇑P	Pg	09 35 34.8	-0.9
TPB01				S	Sg	09 35 45.7	-1.0
CLN7	**Carlsbad 7**	**0.86**	**29**		Pg	09 35 35.8	-0.3
CLN7	**Carlsbad 7**	**0.86**	**29**	P	Pg	09 35 35.7	-0.4
TPB03	**Saragosa**	**0.88**	**130**	P	Pg	09 35 36.3	-0.3
TPB03				S	Sg	09 35 48.0	0.0
TPB06	**Permian Basin**	**0.92**	**91**	P	Pb	09 35 37.9	-0.2
TPB06				S	Sb	09 35 50.3	-0.4
MNTX	**Cornudas Mount**	**0.93**	**273**		Pg	09 35 36.8	-0.5
MNTX					Sg	09 35 48.9	-0.4
MNTX	**Cornudas Mount**	**0.93**	**273**	P	Pg	09 35 36.8	-0.5
MNTX				S	Sg	09 35 48.9	-0.4
HTMS	**Hat Mesa**	**0.99**	**35**		Pg	09 35 38.4	-0.1
HTMS	**Hat Mesa**	**0.99**	**35**	P	Pg	09 35 38.0	-0.5
HTMS				S	Sg	09 35 51.9	+0.6
HTMS	**Hat Mesa**	**0.99**	**35**	P	Pg	09 35 38.0	-0.5
TPB04	**Verhalen**	**1.00**	**118**	P	Pg	09 35 38.4	-0.3
TPB04				S	Sb	09 35 52.5	-0.4
TPB27	**North of Pyote**	**1.00**	**95**	P	Pg	09 35 38.5	-0.2
TPB27				S	Sg	09 35 51.9	+0.2
NM01	**Eunice**	**1.03**	**48**	P	Pg	09 35 38.8	-0.5
NM01				S	Sg	09 35 52.8	0.0
TPB16	**Coyonosa**	**1.04**	**121**	P	Pg	09 35 39.3	-0.3
TPB16				S	Sg	09 35 53.3	+0.2
VHRN	**Van Horn**	**1.05**	**214**		Pg	09 35 39.0	-0.8
VHRN					Sg	09 35 53.0	-0.3
VHRN				IAML		09 35 59.1	
	203nm,0.5s						
VHRN				IAML		09 36 01.6	
	193nm,0.4s						
VHRN	**Van Horn**	**1.05**	**214**	P	Pg	09 35 38.8	-1.0
VHRN				S	Sg	09 35 53.0	-0.3
TPB19	**West of Imperi**	**1.08**	**109**	P	Pg	09 35 40.0	-0.4
TPB19				S	Sg	09 35 54.8	+0.3
TPB05	**Hovey Rd**	**1.11**	**131**	P	Pg	09 35 40.2	-0.8
TPB05				S	Sg	09 35 55.0	-0.4
TPB15	**Southwest of C**	**1.13**	**113**	P	Pg	09 35 40.8	-0.5
TPB15				S	Sb	09 35 56.8	+0.1
MNHN	**Monahans**	**1.35**	**103**		Pn	09 35 44.3	-0.9
MNHN					Sg	09 36 02.9	-0.1
MNHN	**Monahans**	**1.35**	**103**	P	Pn	09 35 44.1	-1.0
MNHN				S	Sg	09 36 02.9	-0.1
ALPN	**Alpine**	**1.40**	**156**		Pn	09 35 44.5	-1.4
ALPN					Sb	09 36 02.5	-2.0
ALPN	**Alpine**	**1.40**	**156**	P	Pn	09 35 44.5	-1.4
ALPN				S	Sb	09 36 02.5	-2.0
CPRX	**Cap Rock**	**1.41**	**15**		Pn	09 35 45.8	-0.3
CPRX	**Cap Rock**	**1.41**	**15**	P	Pn	09 35 45.8	-0.4
TPB08	**Permian Basin**	**1.42**	**122**	P	Pn	09 35 45.7	-0.4
TPB08				S	Sn	09 36 05.3	+0.2
ODSA	**Odessa**	**1.56**	**72**		Pn	09 35 48.0	0.0
ODSA					Sn	09 36 08.3	-0.3
ODSA	**Odessa**	**1.56**	**72**	P	Pn	09 35 48.0	-0.1
ODSA				S	Sn	09 36 08.3	-0.3
TMB04	**Seminole**	**1.81**	**57**	P	Pn	09 35 52.1	+0.6
TMB04				S	Sb	09 36 16.7	+0.4
EPT	**El Paso**	**1.89**	**274**		Pb	09 35 53.8	-0.7
EPT					Sg	09 36 19.8	-0.4
EPT				IAML		09 36 21.3	
	comp=E,105nm,0.5s						
EPT	**El Paso**	**1.89**	**274**	S	Sg	09 36 19.8	-0.4
EPT	**El Paso**	**1.89**	**274**	P	Pn	09 35 53.5	+0.9
TMB01	**Midkiff**	**1.89**	**89**	P	Pn	09 35 53.5	+0.9
TMB01				S	Sb	09 36 18.9	+0.4
TMB02	**Rankin**	**1.99**	**103**	P	Pn	09 35 54.7	+0.8
TMB02				S	Sb	09 36 22.0	+0.7
TMB06	**Greenwood**	**2.15**	**81**	P	Pn	09 35 57.2	+1.0
TMB06				S	Sb	09 36 25.4	-0.7
TMB05	**Klondike**	**2.28**	**64**	Pg	Pb	09 36 00.4	-1.0
TMB05				Sg	Sb	09 36 31.0	+1.1
TX31	**Lajitas Ar. Si**	**2.38**	**167**		Pn	09 36 00.1	+0.7
TX31				Pg	Pb	09 36 01.9	-1.2
TX31				Sg	Sg	09 36 34.7	-1.4
TX31	**Lajitas Ar. Si**	**2.38**	**167**	P	Pn	09 36 00.1	+0.7
TX31				Pg	Pb	09 36 01.9	-1.2
TXAR	**Lajitas Array**	**2.38**	**167**		Pn	09 36 00.2	+0.8
SAND	**Sanderson**	**2.53**	**132**		Pb	09 36 04.7	-0.8
SAND				Sg	Sb	09 36 37.9	+0.9
SAND				IAmb_Lg		09 36 42.9	
	comp=Z,49nm,0.7s						
SAND	**Sanderson**	**2.53**	**132**	Pg	Pb	09 36 04.7	-0.8
SAND				Sg	Sb	09 36 37.8	+0.9
MSTX	**Muleshoe**	**2.64**	**29**		Pn	09 36 04.4	+1.5
SGCY	**Sterling City**	**2.71**	**84**		Pn	09 36 05.0	+1.1
SGCY				Sg	Sb	09 36 43.2	+1.0
SGCY				IAmb_Lg		09 36 48.9	
	comp=Z,30nm,0.7s						
SGCY	**Sterling City**	**2.71**	**84**	Pg	Pn	09 36 05.6	+1.7
SGCY				Sg	Sb	09 36 43.2	+0.9
POST	**Post**	**2.75**	**59**		Pn	09 36 05.6	+1.1
POST				IAmb_Lg		09 36 54.2	
	comp=Z,32nm,0.7s						
CRNM	**Carthage**	**3.07**	**319**		Pn	09 36 10.9	+1.9
121A	**Cookes Peak, D**	**3.08**	**287**		Pn	09 36 10.5	+1.3
121A				IAML		09 36 59.9	
	comp=N,35nm,0.6s						
121A				IAML		09 37 09.1	
	comp=E,33nm,0.7s						
Y22A	**Socorro**	**3.19**	**316**		Pn	09 36 12.5	+1.9
SN07	**Snyder 07**	**3.22**	**63**	IAmb_Lg		09 36 59.1	
	comp=Z,29nm,0.9s						
DKNS	**Dickens**	**3.48**	**54**	Pn	Pn	09 36 16.0	+1.6
DKNS				IAmb_Lg		09 37 08.8	
	comp=Z,27nm,0.7s						
ANMO	**Albuquerque**	**3.74**	**332**	IAmb_Lg		09 37 18.1	
	comp=Z,26nm,1.0s						
ANMO	**Albuquerque**	**3.74**	**332**	IAmb_Lg		09 37 18.1	
	comp=Z,29nm,1.0s						
DRIO	**Del Rio**	**3.88**	**124**	Pn	Pn	09 36 20.2	+0.3
DRIO				IAmb_Lg		09 37 31.4	
	comp=Z,19nm,0.7s						
APMT	**Aspermont**	**3.90**	**64**		Pn	09 36 20.9	+0.7
APMT				IAmb_Lg		09 37 26.1	
	comp=Z,32nm,0.7s						
BRDY	**Brady**	**4.54**	**93**		Pn	09 36 29.5	+0.4
BRDY				IAmb_Lg		09 37 47.8	
	comp=Z,25nm,0.8s						
SMWD	**Samnorwood**	**4.83**	**44**		Pn	09 36 32.5	-0.5
HPIG		**4.86**	**195**	Pn	Pn	09 36 32.6	-1.0
RTBA	**Rita Blanca**	**4.94**	**15**	Pn	Pn	09 36 34.9	+0.4
RTBA				IAmb_Lg		09 38 01.9	
	comp=Z,15nm,0.8s						
PLPT	**Palo Pinto**	**5.20**	**76**	IAmb_Lg		09 38 11.1	
	comp=Z,14nm,0.8s						
TUC	**Tucson**	**5.55**	**278**	IAmb_Lg		09 38 28.6	
	comp=Z,2.3nm,0.9s						
WMOK	**Wichita Mounta**	**5.55**	**55**		Pn	09 36 43.4	+0.5
WMOK				IAmb_Lg		09 38 23.3	
	comp=Z,14nm,0.8s						
435B	**Jarrell**	**5.82**	**97**	IAmb_Lg		09 38 38.8	
	comp=Z,17nm,0.7s						
WHTX	**Lake Whitney,**	**5.83**	**85**	IAmb_Lg		09 38 31.5	
	comp=Z,14nm,0.7s						
ELIS	**Ellis County**	**5.98**	**41**	IAmb_Lg		09 38 41.9	
	comp=Z,14nm,0.7s						
Z35A	**Perchaven, San**	**6.18**	**73**	IAmb_Lg		09 38 52.0	
	comp=Z,15nm,0.9s						
X16A	**Lo Mia Camp, P**	**6.60**	**297**	Pn	Pn	09 36 57.6	+0.2
OK038	**West end E0370**	**6.66**	**42**	IAmb_Lg		09 39 06.7	
	comp=Z,13nm,0.7s						
237A	**Washetta, Mont**	**7.23**	**85**	IAmb_Lg		09 39 27.3	
	comp=Z,15nm,0.8s						
KSCO	**Kaye Shedlock'**	**7.46**	**10**	IAmb_Lg		09 39 24.1	
	comp=Z,11nm,0.9s						
R32A	**Long Quarter,**	**8.15**	**33**	IAmb_Lg		09 39 55.7	
	comp=Z,9.7nm,0.9s						
TUL3	**Leonard**	**8.25**	**57**	IAmb_Lg		09 39 43.2	
	comp=Z,12nm,1.1s						

*IDC **16** 10:04:12.0±3.7, 6°20S×149°80E, h36km±27km, mb3.9/13, mbtmp4.1/14, ML3.5/2, MS3.4/20, Error ellipse: s-maj=33.1km s-min=13.8km az=92.0*
*NEIC **16** 10:04:16.6±2.1, 6°38S±0°05×149°58E±0°09, h70km±6km, mb4.4/17, Error ellipse: s-maj=12.6km s-min=8.0km az=88.0*

ISC 16 10:04:14.4±0.5, 6°26S±0°06×149°53E±0°08, h49km, n67, σ1ˢ41/58, mb4.2/18, MS3.5/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.33**	**52**		**Pn**	**10 05 06.0**	**+2.0**
PMG	**Port Moresby**	**3.91**	**217**		**Pn**	**10 05 13.1**	**+1.0**
PMG	**Port Moresby**	**3.91**	**217**	Pn	**Pn**	**10 05 13.4**	**+1.4**
	78nm,0.3s,baz=50,slow=5.5,SNR=108						
PMG				Sn	**Sn**	**10 05 57.5**	**+0.7**
	140nm,0.3s,baz=94,slow=16,SNR=14						
PMG	**Port Moresby**	**3.91**	**217**	S	**Sn**	**10 06 00.4**	**+3.7**
PMG	**Port Moresby**	**3.91**	**217**	P	**Pn**	**10 05 13.7**	**+1.7**
PMG	**Port Moresby**	**3.91**	**217**	S	**Sn**	**10 06 00.5**	**+3.7**
MANU	**Manus Island**	**4.71**	**333**		Pn	10 05 27.8	+4.8
JAY	**Jayapura**	**9.55**	**293**	Pn	**Pn**	**10 06 31.3**	**+1.9**
	1.7nm,0.3s,baz=116,slow=8.2,SNR=9.1						
JAY				LR	LR	10 10 40.4	
	comp=Z,121nm,20.1s,baz=230,slow=40						
	6.7nm,0.6s						
COEN	**Coen**	**9.88**	**219**	Pn	**Pn**	**10 06 33.5**	**-0.4**
COEN	**Coen**	**9.88**	**219**	P	**Pn**	**10 06 34.0**	**+0.1**
CTAO	**Charters Tower**	**14.11**	**193**	Pn	**Pn**	**10 07 33.0**	**+1.3**
SAUI	**Saumlaki**	**18.17**	**264**	P	**P**	**10 08 21.8**	**-1.3**
EIDS	**Eidsvold**	**19.06**	**176**	P	**Pn**	**10 08 33.9**	**0.0**
EIDS				IAmb	IAmb	10 08 35.4	
	comp=Z,12nm,0.6s						
EIDS	**Eidsvold**	**19.06**	**176**	P	**Pn**	**10 08 34.7**	**+0.7**
WB0	**Warramunga Arr**	**19.92**	**226**	P	**P**	**10 08 42.2**	**-0.1**
WB0				IAmb	IAmb	10 08 54.1	
	comp=Z,17nm,0.8s						
WRA	**Warramunga Arr**	**20.07**	**226**		**P**	**10 08 42.7**	**-1.2**
WRA	**Warramunga Arr**	**20.07**	**226**	P

MA2	**Magadan**	**65.63**	**1**	LR	LR	10 43 23.1		
	comp=Z,16nm,19.4s,baz=170,slow=36							
SONM	**Songino Array**	**65.87**	**330**	P	**P**	**10 14 55.0**	**-0.2**	
SONM	**Songino Array**	**65.87**	**330**	P	**P**	**10 14 54.9**	**-0.3**	
SONM	comp=Z,0.7nm,0.4s,baz=124,slow=4.3,SNR=3.6			LR	LR	10 41 54.1		
	comp=Z,33nm,21.9s,baz=130,slow=34							
VNDA	comp=Z,0.7nm,0.4s **Vanda**	**71.52**	**177**	P	**P**	**10 15 28.1**	**-1.6**	
VNDA	**Vanda**	**71.52**	**177**	P	**P**	**10 15 28.3**	**-1.4**	
	comp=Z,0.7nm,0.6s,baz=53,slow=5.1,SNR=9.4							
MKAR	comp=Z,0.7nm,0.6s **Makanchi Array**	**79.31**	**320**	P	**P**	**10 16 14.2**	**-0.7**	
MKAR	**Makanchi Array**	**79.31**	**320**	P	**P**	**10 16 15.1**	**+0.2**	
	comp=Z,0.3nm,0.4s,baz=112,slow=8.4,SNR=2.9							
J17K	comp=Z,0.3nm,0.4s **VABM Dome**	**79.48**	**21**	P	**P**	**10 16 16.3**	**+0.9**	
J17K				IAmb	IAmb	10 16 41.3		
	comp=Z,7.5nm,1.1s							
L18K	**Granite Mounta**	**79.66**	**23**	P	**P**	**10 16 16.8**	**+0.4**	
CNPM	**China Poot**	**80.44**	**26**	P	**P**	**10 16 21.5**	**+0.7**	
CNPM	comp=Z,7.7nm,1.0s			IAmb	IAmb	10 16 26.6		
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**10 16 22.2**	**+0.6**	
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**10 16 20.0**	**-1.6**	
	comp=Z,1.3nm,0.6s,baz=116,slow=6.8,SNR=4.8							
ZALV				LR	LR	10 52 17.5		
	comp=Z,20nm,19.3s,baz=104,slow=36							
MAW	comp=Z,1.3nm,0.6s **Mawson**	**82.98**	**203**	P	**P**	**10 16 33.7**	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=102,slow=14,SNR=3.9							
QSPA	comp=Z,1.0nm,0.8s **South Pole Qui**	**83.71**	**180**	P	**P**	**10 16 38.5**	**+0.6**	
QSPA				IAmb	IAmb	10 16 59.1		
	comp=Z,3.1nm,0.8s							
QSPA	**South Pole Qui**	**83.71**	**180**	P	**P**	**10 16 37.3**	**-0.7**	
	comp=Z,3.5nm,0.7s,baz=320,slow=0.9,SNR=34							
ILAR	comp=Z,3.5nm,0.7s **Eielson Array**	**84.74**	**23**	P	**P**	**10 16 39.9**	**-3.1**	
	comp=Z,1.1nm,0.8s,baz=250,slow=5.6,SNR=12							
ILAR				LR	LR	10 51 24.6		
	comp=Z,17nm,18.7s,baz=275,slow=34							
DLBC	comp=Z,1.1nm,0.8s **Dease Lake**	**90.30**	**31**	LR	LR	10 49 01.9		
	comp=Z,18nm,20.7s,baz=234,slow=30							
ARTI	**Arti**	**95.80**	**326**	LR	LR	11 00 41.9		
	comp=Z,23nm,21.6s,baz=70,slow=35							
BELA	**Belgrano 2**	**95.96**	**179**	P	**P**	**10 17 34.4**	**-1.3**	
PFO	**Pinyon Flats O**	**96.76**	**57**	LR	LR	10 52 28.3		
	comp=Z,42nm,21.3s,baz=257,slow=30							
PLCA	**Paso Flores**	**120.51**	**145**	PKP	**PKiKP**	**10 23 01.3**	**+0.1**	
	comp=Z,1.1nm,0.8s,baz=48,slow=0.2,SNR=4.5							
GERES	**GERESS Array B**	**123.53**	**326**	PKP	**PKPdf**	**10 23 05.8**	**-0.8**	
	comp=Z,0.2nm,0.5s,baz=59,slow=5.1,SNR=3.9							
LPAZ	**La Paz**	**136.52**	**121**	PKP	**PKPdf**	**10 23 32.8**	**0.0**	
	comp=Z,1.8nm,0.7s,baz=270,slow=0.2,SNR=8.1							
TORD	**Torodi Ar. Bea**	**147.59**	**285**	PKPbc	**PKPbc**	**10 23 53.5**	**-0.9**	
	comp=Z,9.3nm,0.3s,baz=46,slow=3.6,SNR=2.2							
BDFB	**Brasilia**	**152.15**	**142**	PKPbc	**PKPbc**	**10 24 05.5**	**-0.2**	
	comp=Z,6.2nm,0.6s,baz=118,slow=1.7,SNR=7.6							

*IDC **16** 10:05:34.8±3.3, 53.55N×87.90E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=30.5km s-min=19.0km az=51.0*

ASRS 16 10:05:34.0±1.4, 53.56N×87.63E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**284**	I	I	10 16 40.0	
	0.1nm,0.9s,baz=101,slow=318,SNR=10.0						
ZALV	**Zalesovo Beam**	**1.71**	**284**	Pn	Pg	10 06 07.3	+0.5
	0.7nm,0.3s,baz=100,slow=16,SNR=5.3						
ZALV				Lg	Lg	10 06 33.5	
	1.6nm,0.3s,baz=104,slow=24,SNR=10						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	10 07 12.4	+3.9
	baz=61,slow=14,SNR=3.0						
KURBB				Lg	Lg	10 09 02.3	
	baz=64,slow=31,SNR=4.4						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.59**	**209**	Pn	Pn	10 07 28.4	+2.6
	0.1nm,0.3s,baz=29,slow=9.6,SNR=3.0						
	0.3nm,0.4s						

*FUNV **16** 10:43:52.7, 11.26N×60.38W, h89km, MW3.8*

ISC 16 10:43:59.2±3.9, 9.9N±0.1×60.8W±0.2, h50km, n5, σ1.966**/7, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBH	**Brigand Hill**	**0.64**	**338**	*e*P	**Pn**	**10 44 12.9**	**+0.6**
TBH				*e*S	Sn	10 44 30.1	+8.4
TRN	**Trinidad (W)**	**0.95**	**323**	*e*P	**Pn**	**10 44 13.7**	**-2.6**
TRN				*e*S	**Sn**	**10 44 30.5**	**+1.7**
GRGR	**Grenville**	**2.38**	**340**	*e*P	Pn	10 44 20.9	-15
CACV	**CAICARA DEL OR**	**6.11**	**248**	*e*P	**Pn**	**10 45 27.1**	**+0.2**
CACV				*e*S	**Sn**	**10 46 34.7**	**-0.8**
BAUV	**El Baul**	**7.19**	**263**	*e*P	**Pn**	**10 45 41.9**	**+0.1**
BAUV				*e*S	**Sn**	**10 47 02.9**	**+0.8**

*ISN **16** 10:55:04.7±0.4, 38.10N×46.45E, h9km±5.5km, ML4.1*
*THR **16** 10:55:05.6±0.0, 37.96N×46.59E, h10km±4km, ML4.5*
*IDC **16** 10:55:05.5±1.0, 37.89N×46.58E, h0km, mb3.8/12, mbtmp3.8/19, ML3.7/7, MS3.0/15, Error ellipse: s-maj=16.1km s-min=11.1km az=9.0*
*TEH **16** 10:55:05.6, 37.98N×46.60E, h9km±22km*
*MOS **16** 10:55:05.7±1.1, 37.86N×46.61E, h17km, mb4.3/7, Error ellipse: s-maj=7.4km s-min=4.7km az=92.7*
*NEIC **16** 10:55:07.1±1.8, 37.92N±0.06×46.71E±0.09, h10km±1km, mb4.3/33, Error ellipse: s-maj=12.2km s-min=10.1km az=85.0*
*NNC **16** 10:55:12.0±2.2, 38.41N×47.20E, h0km, mb4.0, Error ellipse: s-maj=45.8km s-min=21.1km az=107.0*

ISC 16 10:55:07.3±0.4, 38.01N±0.03×46.65E±0.03, h11km, n199, σ1.968**/206, mb4.0/28, MS2.9/6, 7C-11D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.43**	**45**	Pg	**Pg**	**10 55 15.5**	**-0.4**
IHRS				Sg	**Sb**	**10 55 23.1**	**-0.7**
ITBZ	**Tabriz**	**0.45**	**299**	Pg	**Pg**	**10 55 14.0**	**-2.3**
IAZR	**Azarshahr**	**0.63**	**238**	Pg	**Pg**	**10 55 17.2**	**-2.3**
IAZR				Sg	**Sg**	**10 55 25.4**	**-2.4**
ISRB	**Sarab**	**0.83**	**103**	Pg	**Pg**	**10 55 21.9**	**-1.4**
ISHB	**Shabestar**	**0.86**	**289**	Pg	**Pg**	**10 55 20.8**	**-3.0**
IHSH	**Hashtrud**	**0.86**	**145**	Pg	**Pg**	**10 55 21.2**	**-2.7**
GRMI	**Germi**	**1.26**	**51**	Pg	**Pg**	**10 55 30.2**	**-0.7**
GRMI	**Germi**	**1.26**	**51**	*e*Pg	**Pn**	**10 55 30.3**	**-0.7**
GRMI				*e*Sg	**Sn**	**10 55 48.6**	**+0.6**
GRMI				IAML		10 55 49.3	
	comp=Z,8.4nm,1.0s						
MAHB	**Mahabad**	**1.45**	**211**	Pg	**Pn**	**10 55 31.8**	**-1.9**
NAX	**Nakhchivan**	**1.47**	**322**	P	**Pn**	**10 55 33.2**	**-0.6**
GAS1	**Astara - Iran**	**1.77**	**77**	Pn	**Pn**	**10 55 38.6**	**+0.8**
LKRN	**Lenkeran, Azer**	**1.81**	**67**	P	**Pb**	**10 55 40.1**	**-0.4**
CSN1	**Caspian**	**1.99**	**102**	Pn	**Pn**	**10 55 41.6**	**+0.8**
MAKU	**Maku**	**2.04**	**312**	Pn	**Pn**	**10 55 42.1**	**+0.4**
SRSL	**SARDASHT**	**2.04**	**209**	*e*PnA		10 55 41.2	
SRSL				IAML		10 56 12.5	
	comp=Z,10.0nm,1.0s						
ZNJK	**Zanjan**	**2.10**	**129**	*e*PnA		10 55 42.4	
ZNJK				IAML		10 56 01.4	
	comp=Z,2.2nm,1.0s						
CUKT	**Cukurca**	**2.53**	**253**	P	Pn	10 55 43.9	-4.5
GNI	**Garni**	**2.60**	**326**	*e*P	**Pb**	**10 55 53.8**	**-0.2**
GNI	**Garni**	**2.60**	**326**		**Pn**	**10 55 50.5**	**+1.1**
GNI	**Garni**	**2.60**	**326**	Pn	**Pn**	**10 55 50.1**	**+0.7**
GNI	**Garni**	**2.60**	**326**	Pn	**Pb**	**10 55 52.7**	**-1.3**
	comp=Z,25nm,0.3s,baz=142,slow=1.3,SNR=52						
GNI				LR	LR	10 56 19.4	
	comp=Z,67nm,19.9s,baz=118,slow=28						
GNI				Lg	Lg	10 56 30.8	
	comp=Z,88nm,0.3s,baz=260,slow=21,SNR=15						
	comp=Z,421nm,0.8s						
GNI	**Garni**	**2.60**	**326**	*d* i P	**Pn**	**10 55 51.4**	**+2.0**
GANJ	**Ganja**	**2.64**	**355**	P	**Pn**	**10 55 50.6**	**+0.7**
TASB	**TASBURUN-IGDIR**	**2.72**	**317**	*e*P	**Pb**	**10 55 54.8**	**-1.2**
MNGR	**Mingechevir, A**	**2.78**	**7**	P	**Pn**	**10 55 52.7**	**+1.0**
GIDE	**GILAN DEYLAMAN**	**2.81**	**112**	*e*Pn	**Pn**	**10 55 51.6**	**-0.8**
GIDE				IAML		10 56 45.5	
	comp=Z,12nm,1.0s						
GEVA	**Gevas**	**2.84**	**277**		**Pn**	**10 55 52.7**	**-0.1**
AKDM	**Akdamar-Van**	**2.91**	**277**	*e*P	**Pn**	**10 55 56.4**	**+2.7**
HGHA	**Hamedan- Ghaye**	**3.08**	**144**	Pn	**Pn**	**10 55 56.5**	**+0.4**
IKRK	**Kirkuk**	**3.20**	**216**	*e*Pn	**Pn**	**10 55 57.7**	**+0.2**
IKRK				*e*Sn	**Sn**	**10 56 36.8**	**+1.1**
IKRK				AML	AML	10 56 51.8	
	comp=E,881nm,0.6s						
IKRK				AML	AML	10 56 56.4	
	comp=N,954nm,0.5s						
VSHL	**Vashlovani**	**3.22**	**357**	P	**Pb**	**10 56 05.1**	**+0.6**
VSHL				S	**Sg**	**10 56 49.3**	**-1.3**
SEKA	**Sheki**	**3.22**	**7**	P	**Pn**	**10 55 58.5**	**+0.7**
SNQR	**Sonqor, Kerman**	**3.25**	**166**	Pn	**Pn**	**10 55 59.8**	**+1.4**
AGRB	**Hanur-Agry**	**3.25**	**300**	*e*P	**Pb**	**10 56 03.8**	**-1.4**
IGZV	**Ghazvin**	**3.28**	**119**	Pn	**Pn**	**10 55 59.5**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.29**	**133**	Pn	**Pn**	**10 55 59.3**	**+0.3**
IDHR	**Dehrash**	**3.31**	**184**	Pn	**Pn**	**10 55 59.8**	**+0.5**
AKT	**Akhty**	**3.56**	**13**	*e*P	**Pn**	**10 56 05.9**	**+3.3**
AKT				*e*S	**Sb**	**10 56 49.8**	**-3.8**
AKT				pmax	pmax		
	comp=Z,306nm,0.6s						
AKT				smax	smax		
	comp=E,264nm,0.6s						
AKT				smax	smax		
	comp=E,254nm,0.5s						
AKT				smax	smax		
	comp=N,142nm,0.5s						
AKT				MLR	MLR		
	comp=Z,308nm,2.0s						
DGRG	**David-gareji**	**3.57**	**344**	P	**Pb**	**10 56 11.8**	**+1.3**
DGRG				S	**Sg**	**10 57 04.2**	**+2.2**
DGRG	**David-gareji**	**3.57**	**344**	*e*P	**Pb**	**10 56 11.8**	**+1.3**
IBZA	**Bozab**	**3.67**	**164**	Pn	**Pn**	**10 56 05.2**	**+1.0**
GURO	**Guroymak-BITLI**	**3.67**	**280**		**Pn**	**10 56 05.1**	**+0.9**
IGHG	**Ghaleghazi**	**3.68**	**181**	Pn	**Pn**	**10 56 05.3**	**+1.0**
KCHF	**Cheshme Sefid,**	**3.74**	**175**	Pn	**Pn**	**10 56 05.4**	**+0.2**
HAGD	**Aghdareh**	**3.77**	**147**	Pn	**Pn**	**10 56 05.4**	**-0.1**
KZRT	**Kazreti**	**3.79**	**333**	P	**Pb**	**10 56 14.2**	**0.0**
KZRT	**Kazreti**	**3.79**	**333**	*e*P	**Pb**	**10 56 14.2**	**0.0**
GLG1	**Gilan-e-Gharb**	**3.94**	**189**	Pn	**Pn**	**10 56 08.1**	**+0.3**
TRLG	**Trialeti**	**4.03**	**332**	P	**Pb**	**10 56 19.9**	**+1.5**
TRLG				S	**Sg**	**10 57 15.6**	**-1.1**
TRLG	**Trialeti**	**4.03**	**332**	*e*P	**Pb**	**10 56 19.9**	**+1.5**
CHTH	**Charan**	**4.16**	**119**	*e*Pn	**Pn**	**10 56 11.9**	**+1.0**
CHTH				IAML		10 56 45.4	
	comp=Z,0.6nm,1.0s						
AKH	**Akhalkalaki**	**4.17**	**325**	*e*P	**Pb**	**10 56 17.4**	**-3.4**
SENK	**Senkaya-Erzuru**	**4.19**	**309**	*e*P	**Pb**	**10 56 23.1**	**+1.9**
KOPR	**Koprukoy-ERZUR**	**4.22**	**299**	*e*P	**Pb**	**10 56 23.6**	**+1.9**
SVAN	**Silvan-Diyarba**	**4.30**	**274**	*e*P	**Pb**	**10 56 23.4**	**+0.5**
ILBA	**Ilam Banvizeh**	**4.39**	**185**	Pn	**Pn**	**10 56 14.2**	**+0.2**
ASAO	**Ashtian**	**4.40**	**141**	*e*Pn	**Pn**	**10 56 14.9**	**+0.6**
ASAO				IAML		10 57 46.2	
	comp=Z,0.3nm,1.0s						
BDRS	**Dareh Seyedi**	**4.44**	**155**	Pn	**Pn**	**10 56 16.3**	**+1.5**
ALIG	**Mtskhetisjvari**	**4.69**	**332**	P	**Pb**	**10 56 32.3**	**+2.8**
ALIG	**Mtskhetisjvari**	**4.69**	**332**	*e*P	**Pb**	**10 56 32.3**	**+2.8**
MARD	**Mardin**	**4.71**	**263**		**Pn**	**10 56 18.5**	**+0.2**
SHTL	**Shatili**	**4.78**	**347**	P	**Pb**	**10 56 28.2**	**-2.9**
SHTL				S	**Sg**	**10 57 37.3**	**-3.4**
SHTL	**Shatili**	**4.78**	**347**	*e*P	**Pb**	**10 56 28.1**	**-2.9**
IPRN	**Peran**	**4.88**	**110**	Pn	**Pn**	**10 56 21.7**	**+1.0**
IBDR	**Badra**	**4.93**	**187**	*e*Pn	**Pn**	**10 56 23.0**	**+1.8**
IBDR				*e*Sn	**Sn**	**10 57 20.0**	**+1.8**
IDMV	**Damavand**	**4.96**	**118**	Pn	**Pn**	**10 56 22.7**	**+0.7**
MAK	**Makhachkala**	**4.99**	**7**	*e*P	**Pn**	**10 56 20.3**	**-1.7**
MAK				*e*S	**Sn**	**10 57 17.9**	**-1.7**
MAK				pmax	pmax		
	comp=Z,220nm,1.2s						
MAK				MLR	MLR		
	comp=Z,225nm,15.0s						
KHMZ	**Khomeyn**	**5.04**	**147**	*e*Pn	**Pn**	**10 56 24.4**	**+1.4**
KHMZ				IAML		10 58 13.1	
	comp=Z,0.1nm,1.0s						
BHD	**Baghdad**	**5.08**	**202**	*e*Pn	**Pn**	**10 56 24.5**	**+1.2**
BHD				*e*Sn	**Sn**	**10 57 22.4**	**+0.4**
BHD				AML	AML	10 58 06.4	
	comp=E,198nm,0.7s						
IVRN	**Varamin**	**5.08**	**125**	Pn	**Pn**	**10 56 24.2**	**+0.8**
GHVR	**GHOM**	**5.15**	**132**	*e*Pn	**Pn**	**10 56 22.6**	**-1.8**
GHVR				IAML		10 58 21.5	
	comp=Z,0.9nm,1.0s						
GARIG	**Gari**	**5.19**	**333**	P	**Pb**	**10 56 39.4**	**+1.4**
GARIG				S	**Sg**	**10 57 52.4**	**-1.4**
KOPT	**Kop Dagi**	**5.19**	**295**	Pn	**Pn**	**10 56 25.3**	**+0.1**
IALA	**Alasht**	**5.29**	**109**	Pn	**Pn**	**10 56 27.9**	**+1.3**
IFIR	**Firoozkooh**	**5.44**	**114**	Pn	**Pn**	**10 56 29.8**	**+1.3**
QAMS	**Qamsar**	**5.75**	**136**	Pn	**Pn**	**10 56 33.9**	**+1.1**
ISFB	**Sefidab**	**5.81**	**127**	Pn	**Pn**	**10 56 33.6**	**+0.1**
GTMR	**Gotvand**	**5.89**	**159**	*e*Pn	**Pn**	**10 56 35.2**	**+0.7**
GTMR				IAML		10 58 44.7	
	comp=Z,0.1nm,1.0s						
IKIA	**Kiasar**	**5.90**	**106**	Pn	**Pn**	**10 56 35.4**	**+0.5**
IGLO	**Ghaloghah**	**5.92**	**103**	Pn	**Pn**	**10 56 36.1**	**+1.0**
NCK	**Nalchik**	**5.95**	**338**	*e*P	**Pn**	**10 56 37.2**	**+1.9**
KRSH	**Karshahi**	**6.00**	**131**	Pn	**Pn**	**10 56 36.8**	**+0.6**
IKLH	**Kolahrood**	**6.17**	**138**	Pn	**Pn**	**10 56 39.9**	**+1.4**
RAFI	**Al-Rafai**	**6.29**	**184**	*e*Pn	**Pn**	**10 56 42.0**	**+2.0**
RAFI				*e*Sn	**Sn**	**10 57 53.2**	**+1.4**
RAFI				AML	AML	10 58 44.1	
	comp=N,128nm,0.5s						
RAFI				AML	AML	10 58 45.0	
	comp=E,114nm,0.7s						
KBZ	**Khabaz**	**6.38**	**335**	Pn	**Pn**	**10 56 45.4**	**+4.2**
	comp=E,0.3nm,0.3s,baz=156,slow=10,SNR=4.7						
KBZ				LR	LR	10 58 58.7	
	comp=E,65nm,19.1s,baz=154,slow=36						
	comp=E,3.2nm,0.8s						
KBZ	**Khabaz**	**6.38**	**335**	*e*P	**Pn**	**10 56 44.6**	**+3.5**
SHA1	**Shidzhatmaz**	**6.47**	**333**	*i* P	**Pn**	**10 56 43.2**	**+0.6**
ARPR	**Arapgir-MALATY**	**6.60**	**282**	Pn	**Pn**	**10 56 45.4**	**+1.0**
KVAR	**Kislovodsk Arr**	**6.65**	**335**	LR	LR	10 58 51.4	
	comp=E,65nm,21.9s,baz=110,slow=34						
KIV	**Kislovodsk**	**6.65**	**334**	Pn	**Pn**	**10 56 46.0**	**+1.0**
KIV	**Kislovodsk**	**6.65**	**334**	*e*P	**Pn**	**10 56 49.4**	**+4.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,40nm,11.0s						
MRVT	**Maraveh tapeh**	**7.48**	**90**	Pn	**Pn**	**10 56 56.1**	**-0.3**
MRVT	**Maraveh tapeh**	**7.48**	**90**	*e*PnA		10 56 56.1	
MRVT				IAML		10 57 43.6	
	comp=Z,0.1nm,1.0s						
ANAR	**Anarak**	**7.51**	**128**	Pn	**Pn**	**10 56 57.9**	**+1.0**
GAZ	**Gaziantep**	**7.54**	**266**	Pn	**Pn**	**10 56 57.5**	**+0.3**
SOC	**Sochi**	**7.65**	**319**	*e*P	**Pn**	**10 56 58.5**	**-0.1**
SOC				*e*		10 58 27.1	
SOC				MLR	MLR		
	comp=Z,166nm,14.0s						
SHRO	**Shahrood**	**7.76**	**102**	*e*Pn	**Pn**	**10 57 01.4**	**+1.1**
SHRO				IAML		10 58 30.8	
	comp=Z,0.0nm,1.0s						
BJRD	**Bojnurd**	**8.52**	**89**	*e*PnA		10 57 10.8	
BJRD				IAML		10 57 20.7	
	comp=Z,16nm,1.0s						
SBZV	**Sabzevar**	**8.90**	**97**	Pn	**Pn**	**10 57 17.1**	**+1.1**
SBZV	**Sabzevar**	**8.90**	**97**	*e*PnA		10 57 17.0	
SBZV				IAML		10 57 18.1	
	comp=Z,76nm,1.0s						
ISFR	**Sfrayin**	**9.07**	**93**	Pn	**Pn**	**10 57 19.2**	**+0.9**
IEMG	**Emamgholi**	**9.53**	**90**	Pn	**Pn**	**10 57 24.5**	**-0.3**
IAKL	**Akhelmad**	**9.75**	**95**	Pn	**Pn**	**10 57 29.1**	**+1.4**
ASF	**Jabal al Asfar**	**9.88**	**237**	Pn	**Pn**	**10 57 29.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=86,slow=16,SNR=4.3						
ASF				Lg	Lg	11 00 15.9	
	comp=Z,0.1nm,0.3s,baz=274,slow=22,SNR=4.1						
ASF				LR	LR	11 01 24.8	
	comp=Z,86nm,19.2s,baz=152,slow=39						
	comp=Z,0.7nm,0.3s						
IPAY	**Payeh**	**9.97**	**95**	Pn	**Pn**	**10 57 31.4**	**+0.7**
BR131	**Keskin Array S**	**10.29**	**284**	*e*P	**Pn**	**10 57 34.9**	**0.0**
BRTR	**Keskin Array B**	**10.29**	**284**	Pn	**Pn**	**10 57 35.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=101,slow=13,SNR=5.2						
BRTR				LR	LR	11 02 08.4	
	comp=Z,241nm,19.2s,baz=125,slow=41						
	comp=Z,0.2nm,0.3s						
IKRD	**Kardeh**	**10.31**	**93**	Pn	**Pn**	**10 57 35.9**	**+0.5**
MMAI	**Mount Meron Ar**	**10.43**	**245**	Pn	**Pn**	**10 57 36.8**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=81,slow=16,SNR=6.1						
MMAI				LR	LR	11 01 57.9	
	comp=Z,56nm,20.6s,baz=94,slow=40						
	comp=Z,0.3nm,0.3s						
EIL	**Elat**	**12.79**	**233**	LR	LR	11 03 07.0	
	comp=Z,44nm,18.7s,baz=1.0,slow=38						
BELG	**Belogornoye**	**14.40**	**2**	*i* P	**Pn**	**10 58 33.0**	**+2.1**
RAYN	**Ar Rayn**	**14.48**	**184**	Pn	**Pn**	**10 58 28.6**	**-3.6**
RAYN	**Ar Rayn**	**14.48**	**184**	P	**Pn**	**10 58 28.6**	**-3.6**
AB31	**Akbulak array**	**14.77**	**36**	Pn	**Pn**	**10 58 35.4**	**-0.6**
AB31	**Akbulak array**	**14.77**	**36**	⇑P	**Pn**	**10 58 34.8**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=219,slow=13,SNR=34						
AB31				⇓S	**Sn**	**11 01 13.7**	**-5.8**
	comp=Z,2.8nm,0.8s,baz=229,slow=26,SNR=5.9						
AB31	**Akbulak array**	**14.77**	**36**	P	**Pn**	**10 58 34.8**	**-1.2**
AB31				S	**Sn**	**11 01 13.7**	**-5.8**
ABKAR	**Akbulak array**	**14.77**	**36**	Pn	**Pn**	**10 58 34.5**	**-1.5**
AKTO	**Aktyubinsk**	**14.83**	**30**	Pn	**Pn**	**10 58 36.8**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=215,slow=11,SNR=9.1						
	comp=Z,3.2nm,0.3s						
AKTO	**Aktyubinsk**	**14.83**	**30**	⇑P	**Pn**	**10 58 36.3**	**-0.5**
	comp=Z,3.9nm,0.8s						
AKTO				⇑S	**Sn**	**11 01 14.5**	**-6.6**
	comp=Z,2.6nm,0.9s						
KARP	**Karpathos**	**15.81**	**267**	Pn	**Pn**	**10 58 47.5**	**-2.3**
RDO	**Rodhopi**	**16.57**	**287**	Pn	**Pn**	**10 58 59.6**	**+0.1**
SIMJ	**Simiganj**	**17.55**	**81**	Pn	**Pn**	**10 59 10.9**	**-1.2**
AKASG	**Malin Array Be**	**17.72**	**321**	P	**Pn**	**10 59 13.4**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=128,slow=12,SNR=5.8						
AKASG				LR	LR	11 07 26.8	
	comp=Z,25nm,20.3s,baz=63,slow=42						
	comp=Z,0.2nm,0.3s						
AKBB	**Malin Array Si**	**17.72**	**321**	P	**Pn**	**10 59 14.7**	**+0.8**
AKBB	**Malin Array Si**	**17.72**	**321**	P	**Pn**	**10 59 14.7**	**+0.8**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIEV	**Kiev**	**17.73**	**321**	P	**Pn**	**10 59 14.7**	**+0.8**
KIEV	**Kiev**	**17.73**	**321**	P	**Pn**	**10 59 14.7**	**+0.8**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BURAR	**Bucovina Array**	**18.37**	**308**	P	**Pn**	**10 59 22.2**	**+0.2**
BURAR	**Bucovina Array**	**18.37**	**308**	P	**P**	**10 59 22.7**	**+0.7**
BURAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BUR08	**Bucovina Ar. S**	**18.39**	**308**	P	**Pn**	**10 59 22.0**	**-0.3**
OBN	**Obninsk**	**18.42**	**341**	⇑*e*P	**P**	**10 59 22.5**	**+0.1**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,51nm,15.0s						
GAR	**Garm**	**18.54**	**80**		**P**	**10 59 23.1**	**-0.9**
GAR				IAmb	IAmb	10 59 40.8	
	comp=Z,32nm,1.5s						
KK31	**Karatay Array**	**18.81**	**67**	P	**P**	**10 59 26.8**	**0.0**
KK31	**Karatay Array**	**18.81**	**67**	⇓P	**P**	**10 59 26.5**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=284,slow=10,SNR=11						
KK31	**Karatay Array**	**18.81**	**67**	P	**P**	**10 59 26.8**	**0.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**18.81**	**67**	P	**P**	**10 59 26.9**	**+0.1**
KKAR	**Karatay Array**	**18.81**	**67**	P	**P**	**10 59 26.9**	**+0.1**
ARTI	**Arti**	**19.98**	**19**	P	**Pn**	**10 59 40.6**	**-0.6**
ARTI				IAmb	IAmb	10 59 54.6	
	comp=Z,13nm,0.4s						
ARTI	**Arti**	**19.98**	**19**	P	**P**	**10 59 40.0**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=212,slow=6.3,SNR=4.9						
ARTI				LR	LR	11 10 01.6	
	comp=Z,64nm,18.1s,baz=202,slow=44						
	comp=Z,1.7nm,0.4s						
ARTI	**Arti**	**19.98**	**19**	*c i* P	**P**	**10 59 40.2**	**+0.7**
ARTI						10 59 55.8	
ARTI				S	**Sn**	**11 03 27

comp=Z,55nm,19.6s,baz=117,slow=38
ZALV Zalesovo Beam 30.49 46 P **P** **11 01 20.6 +0.6**
comp=Z,0.4nm,0.5s,baz=277,slow=12,SNR=1.6
ZALV LR LR 11 15 57.0
comp=Z,31nm,18.6s,baz=263,slow=41
comp=Z,0.4nm,0.5s
WMQ Urumqi 31.31 66 *e*P **P** **11 01 31.5 +4.0**
NB201 NORSAR Array S 31.87 328 P **P** **11 01 34.2 +2.0**
NOA NORSAR Array B 31.90 328 LR LR 11 16 09.1
comp=Z,16nm,18.3s,baz=45,slow=40
SSB Saint Sauveur 32.00 297 P **P** **11 01 34.1 +0.6**
SSB IAmb IAmb 11 02 17.5
comp=Z,6.9nm,1.1s
SSB Saint Sauveur 32.00 297 P **P** **11 01 34.1 +0.6**
SSB pmax pmax
comp=Z,7.0nm,1.1s
KEV Kevo 33.50 348 P **P** **11 01 47.7 +1.4**
KEV Kevo 33.50 348 P **P** **11 01 47.7 +1.4**
KEV pmax pmax
comp=Z,11nm,1.2s
ESDC Sonseca Array 39.03 289 P **P** **11 02 34.9 +0.9**
comp=Z,0.4nm,0.6s,baz=66,slow=8.7,SNR=4.6
comp=Z,0.4nm,0.6s
SONM Songino Array 43.84 57 LR LR 11 24 52.1
comp=Z,32nm,19.1s,baz=282,slow=41
ULN Ulaanbaatar 44.27 57⇓*e*P **P** **11 03 18.3 +1.4**
ULN pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 49.19 65 *e*P **P** **11 03 54.4 -1.1**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.4s
CMAR Chiang Mai Arr 49.34 98 P **P** **11 03 57.0 +0.2**
comp=Z,0.4nm,0.4s,baz=305,slow=9.2,SNR=4.8
comp=Z,0.4nm,0.4s
KSRS Korea Array 62.18 63 P **P** **11 05 28.6 -0.1**
comp=Z,1.1nm,0.8s,baz=300,slow=7.9,SNR=4.4
comp=Z,1.1nm,0.8s
PEA0B Petropavlovsk- 71.44 36 P **P** **11 06 27.5 0.0**
PEA0B Petropavlovsk- 71.44 36 P **P** **11 06 27.5 0.0**
PEA0B pmax pmax
comp=Z,52nm,1.4s
PETK Petropavlovsk- 71.44 36 P **P** **11 06 27.4 -0.1**
PETK Petropavlovsk- 71.44 36 P **P** **11 06 27.4 -0.1**
D20K Etivluk River 72.19 9 P **P** **11 06 32.8 +1.1**
PPLA Purkeypile 78.30 9 P **P** **11 07 08.7 +1.6**
M14K Bethel 78.83 14 P **P** **11 07 11.3 +1.5**
M17K Holitna River 79.01 12 P **P** **11 07 11.9 +1.0**
NVL N'lazarevskaya 111.33 192 *e*PKIKP **PKiKP** **11 13 47.0 +6.9**
NVL pmax pmax
comp=Z,9.0nm,0.7s

*IDC **16** 11:03:22.3±5.9, 4.°52S×152.°15E, h0km, mb4.2/4, mbtmp4.2/4, MS3.5/5, Error ellipse: s-maj=150.4km s-min=44.4km az=169.0*
*NEIC **16** 11:03:23.3±1.9, 4.°46S±0.°08×152.°44E±0.°09, h10km±1km, mb4.5/13, Error ellipse: s-maj=19.7km s-min=4.1km az=45.0*
ISC 16 11:03:22.5±0.9, **4.°46S**±0.°09×**152.°4E**±0.°1, **h10**km, **n24**, σ1**§25**/21, **mb4.2**/8, **MS3.5**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**0.37**	**316**			**Pg**	**11 03 30.7**	**+0.8**
MANU	**Manus Island**	**5.58**	**295**			**Pn**	**11 04 46.4**	**+0.7**
PMG	**Port Moresby**	**7.17**	**226**	Pn		**Pn**	**11 05 09.2**	**+1.6**
JAY	**Jayapura**	**11.85**	**279**	LR		LR	11 10 15.2	
	comp=Z,145nm,18.1s,baz=22,slow=36							
FAKI	**Fak Fak**	**20.19**	**274**	P		**P**	**11 07 57.3**	**-0.2**
FAKI				IAmb		IAmb	11 08 04.6	
	comp=Z,21nm,0.8s							
WB0	**Warramunga Arr**	**23.24**	**228**	P		**P**	**11 08 29.7**	**-0.6**
WB0				IAmb		IAmb	11 08 30.4	
	comp=Z,5.6nm,0.8s							
WRA	**Warramunga Arr**	**23.39**	**227**	P		**P**	**11 08 30.6**	**-1.2**
WRA	**Warramunga Arr**	**23.39**	**227**	P		**P**	**11 08 30.9**	**-0.8**
	comp=Z,3.9nm,0.5s,baz=51,slow=9.7,SNR=59							
WRA				LR		LR	11 18 42.4	
	comp=Z,62nm,18.5s,baz=352,slow=40							
	comp=Z,3.9nm,0.5s							
TNTI	**Ternate**	**25.56**	**281**	P		**P**	**11 08 52.7**	**+0.8**
INKA	**Innaminka**	**25.69**	**204**	P		**P**	**11 08 53.1**	**+0.2**
KNRA	**Kununurra**	**25.79**	**243**	P		**P**	**11 08 54.3**	**+0.4**
KNRA				IAmb		IAmb	11 08 56.0	
	comp=Z,14nm,0.9s							
AS31	**Alice Springs**	**26.15**	**221**	P		**P**	**11 08 56.2**	**-1.0**
ASAR	**Alice Springs**	**26.15**	**221**	P		**P**	**11 08 56.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=54,slow=9.2,SNR=21							
ASAR				LR		LR	11 20 39.1	
	comp=Z,91nm,18.2s,baz=95,slow=40							
	comp=Z,0.9nm,0.6s							
MBWA	**Marble Bar**	**35.81**	**239**	P		**P**	**11 10 20.4**	**-2.0**
JOW	**Kunigami**	**38.90**	**324**	P		**P**	**11 10 46.2**	**-2.3**
JOW				IAmb		IAmb	11 10 53.9	
	comp=Z,20nm,1.1s							
JHJ	**Hachijo jima 2**	**39.24**	**343**	LR		LR	11 25 22.6	
	comp=Z,159nm,21.9s,baz=85,slow=34							
TCW	**Tory Channel**	**41.51**	**155**	P		**P**	**11 11 08.4**	**-1.6**
VNDA	**Vanda**	**73.19**	**178**	P		**P**	**11 14 53.8**	**+0.6**
VNDA				IAmb		IAmb	11 14 55.3	
	comp=Z,1.6nm,0.7s							
VNDA	**Vanda**	**73.19**	**178**	P		**P**	**11 14 54.0**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=333,slow=6.8,SNR=19							
	comp=Z,1.5nm,0.6s							
SBA	**Scott Base**	**73.74**	**177**	P		**P**	**11 14 57.4**	**+1.0**
SBA				IAmb		IAmb	11 15 09.3	
	comp=Z,3.0nm,1.4s							
TNA	**Tin City**	**75.57**	**16**	P		**P**	**11 15 08.5**	**+1.4**
KURBB	**Kurchatov Arra**	**83.30**	**322**	LR		LR	11 50 49.3	
	comp=Z,27nm,21.6s,baz=176,slow=34							
QSPA	**South Pole Qui**	**85.50**	**180**	P		**P**	**11 16 01.5**	**+0.9**
QSPA				IAmb		IAmb	11 16 03.0	
	comp=Z,5.6nm,0.8s							
QSPA	**South Pole Qui**	**85.50**	**180**	P		**P**	**11 16 02.1**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=318,slow=1.1,SNR=25							
	comp=Z,3.8nm,0.8s							

*IDC **16** 11:31:24.8±0.9, 33.°80N×46.°91E, h0km, mb3.9/11, mbtmp3.9/12, ML2.9/2, MS3.3/27, Error ellipse: s-maj=21.8km s-min=18.5km az=1.0*
*TEH **16** 11:31:25.9, 33.°84N×47.°00E, h5km*
*NEIC **16** 11:31:26.3±1.1, 33.°67N±0.°09×46.°9E±0.°1, h10km±1km, mb4.0/13, Error ellipse: s-maj=19.9km s-min=11.7km az=238.0*
*ISN **16** 11:31:26.7±0.5, 33.°91N×46.°99E, h9km±2km, ML3.8*
*THR **16** 11:31:27.7±0.0, 33.°79N×46.°93E, h8km±7km, ML4.0*
*OMAN **16** 11:31:35.5±0.5, 33.°46N×47.°76E, h10km, mb4.0/19, Error ellipse: s-maj=10.6km s-min=7.5km az=237.0*
ISC 16 11:31:26.5±0.9, **33.°78N**±0.°03×**47.°03E**±0.°02, **h13**km±6km, **n143**, σ2**§62**/141, **mb3.9**/15, **MS3.3**/21, **6C-2D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCHF	**Cheshme Sefid,**	**0.49**	**1**	Pg		**Pg**	**11 31 34.8**	**-1.4**
IGHG	**Ghaleghazi**	**0.66**	**325**	Pg		**Pg**	**11 31 38.7**	**-0.8**
IGHG				Sg		**Sb**	**11 31 48.3**	**-1.1**
ILBA	**Ilam Banvizeh**	**0.70**	**257**	Pg		**Pb**	**11 31 40.5**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.70**	**257**	*e*PgA			11 31 40.0	
ILBA				IAML			11 32 08.5	
	comp=Z,2.0nm,1.0s							
IDOB	**Doab**	**0.96**	**89**	Pg		**Pg**	**11 31 45.9**	**+0.9**
IBZA	**Bozab**	**0.97**	**45**	Pg		**Pg**	**11 31 45.2**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.98**	**290**	Pg		**Pb**	**11 31 45.2**	**-0.3**
GLG1				Sg		**Sn**	**11 31 59.5**	**-0.5**
IDHR	**Dehrash**	**1.06**	**330**	Pg		**Pg**	**11 31 45.6**	**-1.3**
IBDR	**Badra**	**1.14**	**234**	*e*Pg		**Pn**	**11 31 49.5**	**+1.4**
IBDR				*e*Sg		**Sn**	**11 32 06.0**	**+2.4**
IBDR				AML		AML	11 32 12.9	
	comp=N,2μm,0.2s							
IBDR				AML		AML	11 32 13.6	
	comp=E,2μm,0.4s							
SNQR	**Sonqor, Kerman**	**1.18**	**25**	Pg		**Pg**	**11 31 47.9**	**-1.4**
KGS1	**Ghasr-e-Shirin**	**1.39**	**302**	Pg		**Pg**	**11 31 54.2**	**+0.9**
BDRS	**Dareh Seyedi**	**1.55**	**83**	Pg		**Pb**	**11 31 56.3**	**+1.0**
HAGD	**Aghdareh**	**2.03**	**59**	Pn		**Pb**	**11 32 03.1**	**-0.4**
GTMR	**Gotvand**	**2.19**	**126**	*e*PnA			11 32 06.4	
GTMR				*e*Sg		**Sg**	**11 32 36.9**	**+0.1**
GTMR				IAML			11 32 45.0	
	comp=Z,2.4nm,1.0s							
RAFI	**Al-Rafai**	**2.19**	**201**	*e*Pn		**Pb**	**11 32 06.5**	**+0.5**
RAFI				*e*Sn		**Sg**	**11 32 36.0**	**-1.0**
RAFI				AML		AML	11 32 51.5	
	comp=N,843nm,0.4s							
RAFI				AML		AML	11 32 56.5	
	comp=E,583nm,0.4s							
BHD	**Baghdad**	**2.27**	**258**	*e*Pn		**Pb**	**11 32 06.5**	**-0.8**
BHD				*e*Sn		**Sb**	**11 32 35.0**	**-0.3**
BHD				AML		AML	11 32 46.5	
	comp=E,1μm,0.8s							
HGHA	**Hamedan- Ghaye**	**2.27**	**41**	Pn		**Pb**	**11 32 06.9**	**-0.6**
KHMZ	**Khomeyn**	**2.44**	**90**	*e*PnA			11 32 10.1	
KHMZ				IAML			11 33 03.3	
	comp=Z,1.1nm,1.0s							
ASAO	**Ashtian**	**2.60**	**72**	*e*PnA			11 32 13.3	
ASAO				IAML			11 33 04.4	
	comp=Z,1.2nm,1.0s							
IKRK	**Kirkuk**	**2.74**	**307**	*e*Pn		**Pn**	**11 32 11.5**	**+1.3**
IKRK				*e*Sn		**Sn**	**11 32 44.0**	**+0.8**
IKRK				AML		AML	11 32 55.4	
	comp=E,409nm,0.6s							
IKRK				AML		AML	11 33 07.2	
	comp=N,540nm,0.5s							
SRSL	**SARDASHT**	**2.75**	**332**	*e*Pn		**Pb**	**11 32 13.7**	**-2.0**
SRSL				IAML			11 33 02.0	
	comp=Z,1.5nm,1.0s							
AHWZ	**Ahwaz**	**2.80**	**150**	Pn		**Pb**	**11 32 14.9**	**-1.5**
QABG	**Abgarm-Qazvin**	**2.85**	**47**	Pn		**Pn**	**11 32 14.3**	**+2.4**
MAHB	**Mahabad**	**3.17**	**340**	Pn		**Pn**	**11 32 18.5**	**+2.3**
ZNJK	**Zanjan**	**3.18**	**25**	*e*Pn		**Pb**	**11 32 21.2**	**-1.9**
ZNJK				IAML			11 32 57.7	
	comp=Z,0.1nm,1.0s							
IPIR	**Pirpir**	**3.42**	**108**	Pn		**Pn**	**11 32 23.0**	**+3.2**
JHBN	**Jahan bin**	**3.43**	**116**	Pn		**Pn**	**11 32 23.7**	**+3.8**
IQOM	**Qom**	**3.51**	**71**	Pn		**Pn**	**11 32 24.0**	**+3.0**
IHSH	**Hashtrud**	**3.52**	**3**	Pn		**Pn**	**11 32 23.5**	**+2.3**
GHVR	**GHOM**	**3.61**	**78**	*e*Pn		**Pb**	**11 32 28.1**	**-2.1**
GHVR				IAML			11 33 06.0	
	comp=Z,1.5nm,1.0s							
ZNGN	**Zangian**	**3.62**	**116**	Pn		**Pn**	**11 32 26.0**	**+3.3**
QAMS	**Qamsar**	**3.64**	**90**	Pn		**Pn**	**11 32 26.4**	**+3.6**
IGZV	**Ghazvin**	**3.69**	**44**	Pn		**Pn**	**11 32 26.2**	**+2.7**
JIR1	**Jirandeh**	**3.70**	**37**	Pn		**Pn**	**11 32 26.5**	**+3.0**
CHTH	**Charan**	**3.98**	**57**	*e*PnA			11 32 31.4	
CHTH				IAML			11 34 10.2	
	comp=Z,0.2nm,1.0s							
IVRN	**Varamin**	**4.07**	**71**	Pn		**Pn**	**11 32 31.6**	**+3.0**
KRSH	**Karshahi**	**4.25**	**86**	Pn		**Pn**	**11 32 34.7**	**+3.5**
ISFB	**Sefidab**	**4.37**	**81**	Pn		**Pn**	**11 32 35.9**	**+3.3**
IGAR	**Gharneh**	**4.43**	**107**	Pn		**Pn**	**11 32 36.8**	**+3.1**
DAMV	**Damavand**	**4.47**	**64**	*e*Pn		Pn	11 32 39.6	+5.4
DAMV				IAML			11 33 50.7	
	comp=Z,0.0nm,1.0s							
IDMV	**Damavand**	**4.50**	**65**	Pn		**Pn**	**11 32 37.6**	**+3.0**
IZEF	**Zefreh**	**4.53**	**100**	Pn		**Pn**	**11 32 38.1**	**+3.1**
KBD	**Kabd**	**4.63**	**173**	P		**Pn**	**11 32 40.5**	**+4.3**
KBD				S		**Sn**	**11 33 32.3**	**+2.5**
KLNJ	**Kolanjah**	**4.75**	**124**	Pn		**Pn**	**11 32 41.4**	**+3.2**
KLNJ	**Kolanjah**	**4.75**	**124**	*e*Pn		Pn	11 32 43.0	+4.8
KLNJ				IAML			11 34 32.9	
	comp=Z,0.4nm,1.0s							
IRAM	**Rameshed**	**4.92**	**112**	Pn		**Pn**	**11 32 43.9**	**+3.5**
GRMI	**Germi**	**5.06**	**8**	Pn		**Pn**	**11 32 44.7**	**+2.5**
GRMI	**Germi**	**5.06**	**8**	*e*Pn		**Pn**	**11 32 45.9**	**+3.6**
GRMI				IAML			11 34 20.8	
	comp=Z,0.1nm,1.0s							
IFIR	**Firoozkooh**	**5.07**	**67**	Pn		**Pn**	**11 32 45.7**	**+3.2**
ILAS	**Lasjerd**	**5.15**	**70**	Pn		**Pn**	**11 32 46.7**	**+3.2**
GEVA	**Gevas**	**5.54**	**326**	Pn		**Pn**	**11 32 49.8**	**+0.9**
ANAR	**Anarak**	**5.63**	**94**	Pn		**Pn**	**11 32 53.4**	**+3.4**
MARD	**Mardin**	**6.19**	**306**			**Pn**	**11 32 58.0**	**+0.2**
GNI	**Garni**	**6.61**	**345**	Lg		Lg	11 34 58.8	
	comp=Z,0.4nm,0.3s,baz=21,slow=15,SNR=4.5							
GNI				LR		LR	11 35 51.1	
	comp=Z,149nm,18.1s,baz=174,slow=40							
ASF	**Jabal al Asfar**	**8.66**	**262**	Lg		Lg	11 36 05.8	
	comp=Z,0.9nm,0.3s,baz=98,slow=21,SNR=3.5							
ASF				LR		LR	11 37 46.9	
	comp=Z,144nm,21.2s,baz=151,slow=45							
SMRA	**Abu-Samra**	**9.60**	**159**	P		**Pn**	**11 33 46.0**	**+1.7**
SMRA				S		**Sn**	**11 35 31.1**	**-1.0**
TRNA	**Turayna**	**9.73**	**157**	P		**Pn**	**11 33 49.0**	**+2.9**
	SNR=8.7							
TRNA				S		**Sn**	**11 35 35.6**	**+0.3**
MMAI	**Mount Meron Ar**	**9.75**	**269**	LR		LR	11 38 40.1	
	comp=Z,133nm,19.2s,baz=72,slow=45							
RAYN	**Ar Rayn**	**10.31**	**188**			**Pn**	**11 33 52.7**	**-1.5**
BNN	**Bunyan**	**10.34**	**302**	Pn		**Pn**	**11 33 54.3**	**-0.4**
KBZ	**Khabaz**	**10.44**	**343**	LR		LR	11 38 28.1	
	comp=Z,107nm,19.4s,baz=144,slow=41							
SHME	**Shamm**	**11.04**	**132**	P		**Pn**	**11 34 04.3**	**+0.2**
SHME				S		**Sn**	**11 36 02.0**	**-5.5**
GHWR	**Ruwais**	**11.04**	**151**	P		**Pn**	**11 34 05.2**	**+1.0**
GHWR				S		**Sn**	**11 36 02.7**	**-4.9**
EIL	**Elat**	**11.07**	**252**	LR		LR	11 39 24.0	
	comp=Z,188nm,19.3s,baz=8.5,slow=44							
BANOM	**Banah**	**11.23**	**132**	P		**Pn**	**11 34 07.9**	**+1.2**
BANOM				S		Sn	11 36 03.3	-8.8
MASF	**Masafi**	**11.55**	**134**	P		**Pn**	**11 34 12.4**	**+1.2**
MASF				S		**Sn**	**11 36 15.2**	**-4.8**
NAZ	**Nazwa, Dubai**	**11.55**	**137**	P		**Pn**	**11 34 13.1**	**+1.9**
	SNR=12							
NAZ				S		**Sn**	**11 36 16.2**	**-3.8**
ASUD	**Al Ashush, Dub**	**11.65**	**139**	P		**Pn**	**11 34 14.9**	**+2.4**
	SNR=15							
ASUD				S		**Sn**	**11 36 19.3**	**-3.2**
MZWR	**Madinat Zayed**	**11.65**	**147**	P		**Pn**	**11 34 14.6**	**+2.1**
MZWR				S		**Sn**	**11 36 18.9**	**-3.6**
MDH	**Madha**	**11.68**	**134**	P		**Pn**	**11 34 13.4**	**+0.5**
MDH				S		**Sn**	**11 36 18.2**	**-5.1**
FAQ	**Al Faqa, Dubai**	**11.70**	**138**	P		**Pn**	**11 34 15.4**	**+2.2**
	SNR=10							
FAQ				S		**Sn**	**11 36 21.1**	**-2.6**
UOSS	**Minazif**	**11.89**	**135**	P		**Pn**	**11 34 15.7**	**-0.2**
UOSS	**Minazif**	**11.89**	**135**	P		**Pn**	**11 34 16.4**	**+0.6**
UOSS				S		**Sn**	**11 36 21.4**	**-7.0**
HATD	**Hatta, Dubai**	**11.94**	**136**	P		**Pn**	**11 34 18.4**	**+1.9**
HATD				S		**Sn**	**11 36 24.1**	**-5.7**
ASHO	**Ashiyiah**	**12.01**	**137**	P		**Pn**	**11 34 18.8**	**+1.3**
	SNR=23							
ASHO				S		**Sn**	**11 36 26.9**	**-4.5**
MZR	**Muzera**	**12.15**	**151**	P		**Pn**	**11 34 21.2**	**+1.9**
	SNR=7.3							
MZR				S		**Sn**	**11 36 31.9**	**-2.7**
ALNE	**Al Ain**	**12.34**	**140**	P		**Pn**	**11 34 23.6**	**+1.7**
	SNR=18							
ALNE				S		**Sn**	**11 36 35.7**	**-3.6**
SOHO	**SOHO**	**12.71**	**137**	P		**Pn**	**11 34 27.4**	**+0.4**
SOHO				S		**Sn**	**11 36 42.1**	**-6.3**
UMZA	**Um Al Zommool**	**13.15**	**145**	P		**Pn**	**11 34 33.1**	**+0.2**
UMZA				S		**Sn**	**11 36 52.7**	**-6.4**
ARQ	**Araqi**	**13.33**	**139**	P		**Pn**	**11 34 36.0**	**+0.5**
	SNR=14							
ARQ				S		**Sn**	**11 36 58.2**	**-5.4**
BSY	**Bisya**	**14.18**	**138**	P		**Pn**	**11 34 47.4**	**+0.3**
BSY				S		**Sn**	**11 37 18.7**	**-5.6**
SMDO	**Samad**	**14.42**	**135**	P		**Pn**	**11 34 51.0**	**+0.5**
SMDO				S		**Sn**	**11 37 23.4**	**-6.9**
WSAR	**Wadi Sarin**	**14.63**	**133**	Pn		**Pn**	**11 34 52.3**	**-1.0**
	baz=14,slow=24,SNR=13							
WSAR	**Wadi Sarin**	**14.63**	**133**	P		**Pn**	**11 34 52.2**	**-1.0**
WSAR				S		Sn	11 37 26.0	-9.3
JMDO	**Jabal Madar**	**14.98**	**137**	P		**Pn**	**11 34 56.9**	**-1.2**
JMDO				S		**Sn**	**11 37 39.1**	**-4.8**
WBK	**Wadi Bani Khal**	**15.31**	**134**	P		**Pn**	**11 35 00.3**	**-2.1**
WBK				S		**Sn**	**11 37 45.8**	**-6.1**
MANT	**Manisa**	**15.64**	**293**	Pn		**Pn**	**11 35 05.1**	**-1.7**
MANT				IAmb		IAmb	11 35 19.6	
	comp=Z,12nm,1.0s							
JLN	**Jalan Bani Buh**	**15.92**	**134**	P		**Pn**	**11 35 10.7**	**+0.4**
MHTO	**MHTO**	**16.01**	**140**	P		**Pn**	**11 35 10.0**	**-1.5**
DOK	**Doka**	**16.38**	**155**	P		**Pn**	**11 35 17.0**	**+0.7**
DQM	**DQM**	**16.67**	**143**	P		**Pn**	**11 35 18.7**	**-1.1**
WHFO	**Wadi Hawf**	**16.91**	**157**	P		**Pn**	**11 35 22.8**	**-0.3**
	SNR=13							
AB31	**Akbulak array**	**18.19**	**28**	P		**P**	**11 35 40.1**	**+1.2**
KBL	**Kabul**	**18.24**	**81**	P		**Pn**	**11 35 39.0**	**-0.5**
AKTO	**Aktyubinsk**	**18.50**	**23**	P		**Pn**	**11 35 43.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=187,slow=9.1,SNR=4.4							
AKTO				LR		LR	11 44 54.9	
	comp=Z,129nm,19.6s,baz=296,slow=44							
	comp=Z,1.7nm,0.5s							
PLOR	**Plostina**	**19.69**	**314**	⇓P		**Pn**	**11 36 02.8**	**+6.0**
SORM	**Soroca**	**20.04**	**321**	⇑P		**P**	**11 35 59.1**	**0.0**
OZUR		**20.33**	**313**	⇓P		Pn	11 36 04.1	-0.4
BOSR	**Bodos**	**20.40**	**313**	⇑P		Pn	11 36 04.7	-0.5
VOIR		**20.48**	**311**	⇑P		Pn	11 36 06.0	-0.2
DOPR	**Dopca**	**20.51**	**313**	⇑P		Pn	11 36 06.5	0.0
KK31	**Karatay Array**	**20.56**	**56**	P		**P**	**11 36 04.2**	**-0.7**
KKAR	**Karatay Array**	**20.56**	**56**	P		**P**	**11 36 06.1**	**+1.2**
AKASG	**Malin Array Be**	**21.34**	**328**	P		**P**	**11 36 12.0**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=139,slow=10,SNR=5.6							
	comp=Z,1.7nm,0.4s							
AKBB	**Malin Array Si**	**21.34**	**328**	P		**P**	**11 36 13.9**	**+0.7**
AKBB				IAmb		IAmb	11 36 29.1	
	comp=Z,12nm,1.1s							
BURAR	**Bucovina Array**	**21.45**	**317**	P		**P**	**11 36 14.7**	**+0.2**
BURAR				IAmb		IAmb	11 36 30.8	
	comp=Z,3.0nm,0.7s							
BURAR	**Bucovina Array**	**21.45**	**317**	⇑P		**P**	**11 36 15.9**	**+1.3**
BUR08	**Bucovina Ar. S**	**21.48**	**317**	P		**P**	**11 36 14.3**	**-0.5**
BUR08				IAmb		IAmb	11 36 32.6	
	comp=Z,5.1nm,1.1s							
FNA	**Florina**	**21.53**	**296**	P		**P**	**11 36 14.6**	**-0.8**
FNA				IAmb		IAmb	11 36 20.1	
	comp=Z,5.1nm,0.5s							
NIL	**Nilore**	**21.80**	**83**	P		**P**	**11 36 17.3**	**-1.0**
NIL				IAmb		IAmb	11 36 39.0	
	comp=Z,10nm,1.1s							
DRGR		**22.54**	**312**	⇑P		**P**	**11 36 28.9**	**+2.7**
OBN	**Obninsk**	**22.55**	**344**	LR		LR	11 46 24.0	
	comp=Z,78nm,21.2s,baz=60,slow=40							
AAK	**Ala-Archa**	**23.24**	**60**	LR		LR	11 47 02.0	
	comp=Z,106nm,21.7s,baz=270,slow=40							
KIRV	**Kirov**	**24.86**	**3**	LR		LR	11 48 27.0	
	comp=Z,95nm,20.7s,baz=191,slow=41							
BVAR	**Borovoye Array**	**25.45**	**34**	P		**P**	**11 36 55.5**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=236,slow=11,SNR=6.7							
BVAR				LR		LR	11 47 13.1	
	comp=Z,47nm,19.6s,baz=234,slow=37							
	comp=Z,1.5nm,0.7s							
MKAR	**Makanchi Array**	**29.61**	**53**	P		**P**	**11 37 32.5**	**+1.1**
MKAR	**Makanchi Array**	**29.61**	**53**	P		**P**	**11 37 31.7**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=248,slow=6.4,SNR=6.3							
MKAR				LR		LR	11 51 21.2	
	comp=Z,82nm,19.2s,baz=216,slow=40							
	comp=Z,0.7nm,0.7s							
FINES	**FINESS Array B**	**30.78**	**340**	P		**P**	**11 37 43.8**	**+2.4**
FINES	**FINESS Array B**	**30.78**	**340**	LR		LR	11 51 34.0	
	comp=Z,42nm,18.9s,baz=76,slow=39							
BNI	**Bardonecchia**	**32.82**	**302**	P		**P**	**11 37 58.9**	**-0.9**
ZALV	**Zalesovo Beam**	**33.34**	**41**	P		**P**	**11 38 05.0**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=238,slow=10,SNR=4.1							
ZALV				LR		LR	11 53 13.9	
	comp=Z,28nm,18.3s,baz=212,slow=39							
	comp=Z,0.8nm,0.5s							
HFS	**Hagfors**	**34.16**	**331**	P		**P**	**11 38 10.5**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=134,slow=11,SNR=12							
	comp=Z,2.7nm,0.5s							
NOA	**NORSAR Array B**	**35.69**	**331**	LR		LR	11 53 50.4	
	comp=Z,11nm,20.7s,baz=195,slow=38							
ARCES	**ARCESS Array B**	**37.76**	**348**	LR		LR	11 55 21.9	
	comp=Z,33nm,19.6s,baz=106,slow=38							
EKA	**Eskdalemuir Ar**	**40.63**	**318**	P		**P**	**11 39 05.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=108,slow=8.3,SNR=4.7							
	comp=Z,1.2nm,0.6s							
ESDC	**Sonseca Array**	**40.84**	**293**	P		**P**	**11 39 06.7**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=66,slow=9.4,SNR=7.0							
ESDC				LR		LR	11 56 57.4	
	comp=Z,31nm,19.9s,baz=16,slow=38							
	comp=Z,0.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**45.94**	**255**	P		**P**	**11 39 48.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=61,slow=7.9,SNR=1.5							
	comp=Z,0.4nm,0.5s							
SONM	**Songino Array**	**45.98**	**54**	LR		LR	12 02 35.5	
	comp=Z,24nm,21.7s,baz=258,slow=41							
CMAR	**Chiang Mai Arr**	**48.56**	**95**	P		**P**	**11 40 10.7**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=292,slow=8.2,SNR=5.1							
CMAR				LR		LR	12 03 25.9	
	comp=Z,26nm,18.2s,baz=185,slow=40							
	comp=Z,0.8nm,0.6s							
LSZ	**Lusaka**	**51.99**	**203**	LR		LR	12 05 21.5	
	comp=Z,49nm,18.4s,baz=190,slow=39							
TIXI	**Tiksi**	**55.78**	**22**	LR		LR	12 08 44.7	
	comp=Z,18nm,18.8s,baz=201,slow=40							
YAK	**Yakutsk**	**

	comp=N,146nm,0.2s							
KOHI	**KOHIMA**	**2.32**	**160**	*eP*	Pn	12 17 32.0	-2.2
KOHI				*eS*	Sn	12 17 59.0	-2.7
KOHI				IAML		12 18 00.0	
	comp=N,554nm,0.3s						
SHL	**Shillong**	**2.62**	**207**	*eP*	Pn	12 17 38.2	-0.1
SHL				*eS*	Sn	12 18 08.2	-1.0
SHL				IAML		12 18 13.5	
	comp=N,659nm,0.2s						
SHL				IAML		12 18 13.6	
	comp=E,800nm,0.2s						
KNTI	**KHUNTI**	**8.64**	**238**	*eP*	Pn	12 18 54.7	-6.2
KNTI				*eS*	Sn	12 20 21.5	-16
KNTI				IAML		12 20 22.1	
	comp=E,295nm,0.2s						
KNTI				IAML		12 20 22.1	
	comp=N,223nm,0.2s						

IDC 16 12:17:21.2±4.0, 32°.89N×140°.53E, *h0*km, mb3.3/3, mbtmp3.2/4, ML1.8/1, Error ellipse: s-maj=169.3km s-min=27.3km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**4.11**	**333**	Pn	Pn	12 18 24.9	-0.5
	0.1nm,0.3s,baz=151,slow=12,SNR=5.5 1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**48.06**	**311**	P	P	12 26 02.2	-0.1
	0.2nm,0.4s,baz=84,slow=7.8,SNR=2.2 0.2nm,0.4s						
WRA	**Warramunga Arr**	**52.87**	**187**	P	P	12 26 38.6	-0.3
	0.3nm,0.7s,baz=5.8,slow=7.8,SNR=5.5 0.3nm,0.7s						
ASAR	**Alice Springs**	**56.60**	**187**	P	P	12 27 06.0	+0.1
	0.2nm,0.9s,baz=3.2,slow=6.5,SNR=1.9 0.2nm,0.9s						

*NAO **16** 12:25:22.0±0.5, 66°.46N×7°.85E, h1km±7km, ML2.6*
*BER **16** 12:25:23.2±2.2, 66°.46N×7°.53E, h15km, Mw3.6, ML2.6(NAO), Confirmed Earthquake*
*UPP **16** 12:25:24.8±2.8, 66°.35N×8°.44E, h0km, ML2.0, Presumed earthquake*

ISC 16 12:25:20.8±3.4, 66°.50N±0°.05×7°.9E±0°.1, h13km±22km, n38, σ1§70/68, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**2.08**	**92**	Pn	**Pb**	**12 25 57.6**	**-0.7**
STOK				Sn	**Sb**	**12 26 23.6**	**-0.4**
STOK	**Stokkvaagen**	**2.08**	**92**	*eP*	**Pb**	**12 25 57.3**	**-1.0**
STOK				*eS*	**Sb**	**12 26 22.7**	**-1.3**
STOK				IAML		12 26 26.1	
	comp=Z,21nm,0.2s						
KONS	**Konsvik**	**2.10**	**87**	Pn	**Pb**	**12 25 58.2**	**-0.5**
KONS				Sn	**Sb**	**12 26 24.4**	**-0.3**
KONS	**Konsvik**	**2.10**	**87**	*eP*	**Pb**	**12 25 57.4**	**-1.3**
KONS				*i*		12 25 58.1	
KONS				*eS*	**Sb**	**12 26 23.9**	**-0.8**
KONS				IAML		12 26 26.4	
	comp=Z,29nm,0.2s						
LEIR	**Leirfjorden**	**2.15**	**98**	Pn	**Pb**	**12 25 58.7**	**-0.9**
LEIR				Sn	**Sb**	**12 26 25.3**	**-0.8**
LEIR	**Leirfjorden**	**2.15**	**98**	*eP*	**Pb**	**12 25 58.5**	**-1.1**
LEIR				*eS*	**Sb**	**12 26 24.9**	**-1.2**
LEIR				IAML		12 26 28.0	
	comp=Z,18nm,0.1s						
VAGH	**Vaagaholmen**	**2.17**	**81**	Pn	**Pb**	**12 25 59.0**	**-0.9**
VAGH				Sn	**Sb**	**12 26 25.2**	**-1.4**
VAGH	**Vaagaholmen**	**2.17**	**81**	*eP*	**Pb**	**12 25 58.4**	**-1.4**
VAGH				*eS*	**Sn**	**12 26 24.2**	**+1.0**
VAGH				IAML		12 26 27.8	
	comp=Z,18nm,0.2s						
NSS	**Namsos**	**2.61**	**137**	*eP*	**Pn**	**12 26 04.2**	**+1.6**
NSS				*eS*	**Sn**	**12 26 34.6**	**+0.5**
NSS				IAML		12 26 36.2	
	comp=Z,9.7nm,0.2s						
MOR8	**Moi Rana**	**2.67**	**94**	Pn	**Pb**	**12 26 08.0**	**-0.4**
MOR8	**Moi Rana**	**2.67**	**94**	*eP*	**Pb**	**12 26 07.4**	**-1.1**
MOR8				*eS*	**Sb**	**12 26 41.4**	**+0.3**
MOR8				IAML		12 26 44.5	
	comp=Z,24nm,0.3s						
LOF	**Lofoten**	**2.74**	**51**	Pn	**Pn**	**12 26 04.1**	**-0.4**
LOF	**Lofoten**	**2.74**	**51**	*eP*	**Pn**	**12 26 04.0**	**-0.4**
LOF				*eS*	**Sn**	**12 26 35.1**	**-2.4**
LOF				IAML		12 26 39.2	
	comp=Z,7.9nm,0.3s						
FAUS	**Fauske**	**3.05**	**70**	Pn	**Pn**	**12 26 10.3**	**+1.6**
FAUS				Sn	**Sn**	**12 26 45.5**	**+0.5**
FAUS	**Fauske**	**3.05**	**70**	*eP*	**Pn**	**12 26 10.4**	**+1.7**
FAUS				*eS*	**Sn**	**12 26 46.7**	**+1.6**
STEI	**Steigen**	**3.21**	**60**	Pn	**Pn**	**12 26 13.2**	**+2.3**
STEI				Sn	**Sn**	**12 26 48.9**	**-0.1**
STEI	**Steigen**	**3.21**	**60**	*eP*	**Pn**	**12 26 12.2**	**+1.3**
STEI				*eS*	**Sn**	**12 26 49.0**	**+0.1**
STEI				IAML		12 26 51.6	
	comp=Z,8.1nm,0.3s						
NOD	**Norderasen**	**4.26**	**133**	P	**Pn**	**12 26 26.9**	**+1.5**
SALU	**Saltoluokta**	**4.28**	**73**	P	**Pn**	**12 26 27.7**	**+2.1**
SALU				S	**Sn**	**12 27 17.0**	**+1.7**
SALU	**Saltoluokta**	**4.28**	**73**	*eP*	**Pn**	**12 26 28.5**	**+2.9**
SALU				*eS*	**Sn**	**12 27 16.2**	**+0.9**
NIKU	**Nikkaluokta**	**4.56**	**67**	P	**Pn**	**12 26 32.7**	**+3.3**
RATU	**Laukkuluspa**	**4.76**	**68**	P	**Pn**	**12 26 35.3**	**+3.1**
KOVU	**Salmi**	**5.05**	**64**	P	**Pn**	**12 26 38.9**	**+2.7**
KUA	**Kurravaara**	**5.06**	**68**	P	**Pn**	**12 26 38.7**	**+2.3**
NC2	**NORSAR Subarra**	**5.40**	**165**	Pn	**Pn**	**12 26 41.2**	**+0.3**
NC2				Pn	**Pn**	**12 26 41.3**	**+0.3**
NC2				Pn	**Pn**	**12 26 41.9**	**+0.9**
NC3	**NORSAR Subarra**	**5.48**	**162**	Pn	**Pn**	**12 26 41.7**	**-0.4**
NC3				Pn	**Pn**	**12 26 42.7**	**+0.6**
NC3				Pn	**Pn**	**12 26 43.3**	**+1.2**
KIF	**Kilpisjarvi**	**5.52**	**57**	Pn	**Pn**	**12 26 44.9**	**+2.4**
KIF				Sn	**Sn**	**12 27 45.0**	**-0.8**
KIF	**Kilpisjarvi**	**5.52**	**57**	*eP*	**Pn**	**12 26 44.9**	**+2.4**
KIF				*eS*	**Sn**	**12 27 45.2**	**-0.5**
JETT	**Jettan, Norway**	**5.62**	**51**	Pn	**Pn**	**12 26 46.6**	**+2.7**
JETT				Sn	**Sn**	**12 27 47.7**	**-0.6**
JETT	**Jettan, Norway**	**5.62**	**51**	*eP*	**Pn**	**12 26 46.8**	**+2.9**
JETT				*eS*	**Sn**	**12 27 48.6**	**+0.3**
MASU	**Masugnsbyn**	**5.63**	**74**	P	**Pn**	**12 26 46.5**	**+2.4**
LANU	**Lannavaara**	**5.69**	**68**	P	**Pn**	**12 26 47.5**	**+2.5**
NRA0	**NORESS Array S** baz=348,slow=14	**6.01**	**163**	Pn	**Pn**	**12 26 50.5**	**+1.2**
NRA0				Sn	**Sn**	**12 27 55.5**	**-2.4**
	baz=355,slow=28						
KTK1	**Kautokeino**	**6.35**	**60**	*eP*	**Pn**	**12 26 55.9**	**+1.9**
KTK1				*eS*	**Sn**	**12 28 05.1**	**-1.2**
KTK1				IAML		12 28 10.5	
	comp=Z,1.8nm,0.3s						
HEF	**Hetta**	**6.36**	**65**	*eP*	**Pn**	**12 26 57.4**	**+3.2**
HEF				*eS*	**Sn**	**12 28 05.3**	**-1.3**
HFS	**Hagfors** baz=350,slow=16	**6.90**	**155**	Pn	**Pn**	**12 27 02.5**	**+0.9**
HFS				Sn	**Sn**	**12 28 16.7**	**-3.2**
	baz=348,slow=28						
ARA0	**ARCESS Array S** baz=244,slow=12	**7.27**	**57**	Pn	**Pn**	**12 27 08.2**	**+1.5**
ARA0				Sn	**Sn**	**12 28 25.9**	**-3.1**
	baz=245,slow=22						
FIA0	**FINESS Array S** baz=310,slow=14	**9.45**	**114**	Pn	**Pn**	**12 27 38.0**	**+1.6**

*NEIC **16** 12:25:43.5±0.8, 18°.3S±0°.1×120°.34E±0°.06, h10km±2km, mb4.1/7, Error ellipse: s-maj=19.2km s-min=6.2km az=332.0*
*AUST **16** 12:25:43.3±0.6, 18°.S±8°×12°.0E±°, h10km, mb4.7/6, ML3.8/3, ML4.6/4, Error ellipse: s-maj=20.6km s-min=6.4km az=140.7*
*IDC **16** 12:25:45.7±1.9, 18°.80S×120°.65E, h0km, mb3.4/2, mbtmp4.0/6, ML3.9/4, Error ellipse: s-maj=39.2km s-min=25.9km az=25.0*

ISC 16 12:25:42.2±0.7, 18°.30S±0°.07×120°.32E±0°.05, h10km, n37, σ1§72/40, mb4.0/5, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.85**	**80**	P	**Pb**	**12 26 17.5**	**+1.4**
AUBRM				S	**Sg**	**12 26 43.8**	**+2.1**
MBWA	**Marble Bar**	**2.90**	**191**		**Pn**	**12 26 30.3**	**+1.8**
MBWA	**Marble Bar**	**2.90**	**191**	P	**Pn**	**12 26 30.9**	**+2.4**
PSA00	**Pilbara Seismi**	**3.29**	**188**	Pn	**Pn**	**12 26 35.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**5.06**	**89**		**Pn**	**12 26 58.8**	**+0.6**
FITZ	**Fitzroy Crossi** comp=Z,0.1nmcomp=Z,66µmcomp=Z,8.5nm,0.6s	**5.06**	**89**	P	**Pn**	**12 26 59.6**	**+1.4**
FITZ	**Fitzroy Crossi** comp=Z,5.4nm,0.3s,baz=267,slow=13,SNR=252	**5.06**	**89**	Pn	**Pn**	**12 26 58.5**	**+0.4**
FITZ				Sn	**Sn**	**12 27 55.9**	**-0.8**
	comp=Z,18nm,0.3s,baz=3.4,slow=23,SNR=6.2 comp=Z,16nm,0.3s						
GIRL	**Giralia**	**7.16**	**232**	Pn	**Pn**	**12 27 28.4**	**+1.4**
GIRL	**Giralia** comp=Z,406µmcomp=Z,45nm,1.1s,comp=Z,0.2nm	**7.16**	**232**	P	**Pn**	**12 27 28.4**	**+1.4**
GIRL				S	**Sn**	**12 28 45.4**	**-3.1**
CVQOZ	**Cooralya Stati** comp=Z,179nm,0.6s,comp=Z,1.0nm	**8.44**	**222**	P	**Pn**	**12 27 45.8**	**+1.2**
MEEK	**Meekatharra**	**8.45**	**190**	P	**Pn**	**12 27 46.1**	**+1.3**
KNRA	**Kununurra**	**8.49**	**73**		**Pn**	**12 27 45.8**	**+0.5**
KNRA	**Kununurra** comp=Z,0.1nmcomp=Z,26nm,0.5s	**8.49**	**73**	P	**Pn**	**12 27 46.5**	**+1.2**
KNRA				S	**Sn**	**12 29 18.9**	**-2.3**
MORW	**Morawa**	**11.42**	**199**	Pn	**Pn**	**12 28 23.9**	**-1.4**
JAGI	**Jajag, Banyuwa**	**11.46**	**328**	Pn	**Pn**	**12 28 24.1**	**-1.9**
MTN	**Manton Dam**	**11.74**	**64**		**Pn**	**12 28 29.1**	**-0.8**
MTN	**Manton Dam**	**11.74**	**64**	P	**Pn**	**12 28 28.5**	**-1.4**
DRS	**Darwin Rock St**	**11.75**	**62**	P	**Pn**	**12 28 30.7**	**+0.7**
KDU	**Kakadu** comp=Z,12nm,0.7s	**12.97**	**66**	P	**Pn**	**12 28 46.9**	**+0.3**
WRA	**Warramunga Arr**	**13.35**	**99**		**Pn**	**12 28 50.8**	**-1.1**
WRA	**Warramunga Arr** comp=Z,1.3nm,0.3s,baz=275,slow=14,SNR=66	**13.35**	**99**	Pn	**Pn**	**12 28 51.0**	**-0.9**
WRA				Sn	Sn	12 31 11.2	-9.3
	comp=Z,2.4nm,0.3s,baz=281,slow=25,SNR=6.6 comp=Z,2.0nm,0.3s						
KLBR	**Kellerberrin**	**13.44**	**189**	P	**Pn**	**12 28 52.2**	**-0.9**
AS31	**Alice Springs**	**13.76**	**115**	Pn	**Pn**	**12 28 56.1**	**-1.4**
ASAR	**Alice Springs**	**13.76**	**115**	Pn	**Pn**	**12 28 56.9**	**-0.6**
ASAR	**Alice Springs** comp=Z,0.4nm,0.3s,baz=296,slow=12,SNR=25	**13.76**	**115**	Pn	**Pn**	**12 28 56.5**	**-1.1**
ASAR				Sn	**Sn**	**12 31 24.6**	**-6.0**
	comp=Z,1.6nm,0.3s,baz=305,slow=25,SNR=9.6 comp=Z,0.9nm,0.3s						
MUN	**Mundaring**	**14.12**	**194**	P	**Pn**	**12 29 01.3**	**-1.1**
DNDOZ	**Balladonia** comp=Z,124nm,0.4s	**14.46**	**168**	P	**Pn**	**12 29 07.5**	**+0.5**
NWAO	**Narrogin (SRO)**	**14.83**	**190**	Pn	**Pn**	12 29 09.0	-3.1
	comp=Z,7.4nm,0.3s,baz=13,slow=14,SNR=75						
NWAO				Sn	Sn	12 31 44.2	-12
	comp=Z,5.0nm,0.3s,baz=128,slow=8.2,SNR=3.1 comp=Z,17nm,0.3s						
BBOO	**Buckleboo**	**20.22**	**139**	P	**P**	**12 30 18.3**	**+0.8**
BBOO				IAmb	IAmb	12 30 20.1	
	comp=Z,9.9nm,0.6s						
INKA	**Innaminka**	**20.99**	**120**	P	**P**	**12 30 25.8**	**-0.1**
INKA				IAmb	IAmb	12 30 43.2	
	comp=Z,2.0nm,0.7s						
SBUM	**Sibu**	**22.10**	**338**	P	**P**	**12 30 38.0**	**+0.1**
COEN	**Coen**	**22.37**	**82**	P	**P**	**12 30 41.6**	**+0.9**
COEN				IAmb	IAmb	12 30 54.8	
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**23.48**	**129**	P	**P**	**12 30 53.4**	**+1.2**
STKA	**Stephens Creek** comp=Z,1.1nm,0.8s,baz=297,slow=12,SNR=5.6 comp=Z,1.1nm,0.8s	**23.48**	**129**	P	**P**	**12 30 52.0**	**-0.1**
VNDA	**Vanda**	**62.66**	**171**	P	**P**	**12 36 08.8**	**+2.3**
VNDA				IAmb	IAmb	12 36 10.2	
	comp=Z,1.2nm,1.1s						
QSPA	**South Pole Qui**	**71.75**	**180**	P	**P**	**12 37 06.6**	**+2.0**
QSPA				IAmb	IAmb	12 37 10.0	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=137,slow=9.4,SNR=2.8 comp=Z,0.3nm,0.6s	**73.29**	**334**	P	P	12 37 22.5	+8.7

*HEL **16** 12:44:22.9±0.1, 65°.10N×25°.64E, h0km, ML1.3, Suspected explosion*
*IDC **16** 12:44:24.9±1.2, 65°.23N×25°.70E, h0km, mbtmp2.6/2, ML1.7/2, Error ellipse: s-maj=51.7km s-min=9.0km az=88.0*

ISC 16 12:44:22.5±0.7, 65°.13N±0°.02×25°.64E±0°.02, h10km, n29, σ1§43/46, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**0.12**	**111**	PG	**Pg**	**12 44 24.3**	**-1.0**
OBF4	**Vikkela, Lumij** baz=36	**0.39**	**216**	PG	**Pg**	**12 44 29.6**	**-0.5**
OBF4				SG	**Sg**	**12 44 33.0**	**-2.3**
OUF	**Merijarvi** baz=28	**0.86**	**207**	PG	**Pg**	**12 44 38.0**	**-0.9**
OUF				MSG		12 44 48.8	
	comp=Z,3.9nm,0.2s						
OUF				SB	**Sg**	**12 44 49.5**	**-0.6**
OBF0	**Syolatti, Pyha**	**0.87**	**224**	PG	**Pg**	**12 44 38.5**	**-0.7**
OBF0				MSG		12 44 49.4	
	comp=Z,2.1nm,0.2s						
OBF0				SB	**Sg**	**12 44 50.7**	**+0.1**
RANF	**Ranua**	**1.01**	**28**	PG	**Pg**	**12 44 41.9**	**0.0**
RANF				SB	**Sn**	**12 44 57.3**	**+0.3**
TOF	**Tornio**	**1.10**	**331**	PG	**Pg**	**12 44 43.0**	**-0.6**
TOF				SG	**Sg**	**12 44 56.3**	**-1.6**
TOF				MSG		12 44 56.9	
	comp=Z,1.1nm,0.2s						
KALU	**Kalix**	**1.20**	**309**	PG	**Pb**	**12 44 45.3**	**0.0**
KALU				SB	**Sb**	**12 45 00.7**	**-0.2**
KU2	**Taivalkoski** baz=244	**1.23**	**61**	PG	**Pb**	**12 44 45.9**	**+0.1**
MSF	**Maaselka**	**1.62**	**59**	SG	**Sg**	**12 45 13.7**	**-0.9**
KU1	**Kurvinen**	**1.70**	**73**	PG	**Pb**	**12 44 53.7**	**-0.2**
KU1				SG	**Sg**	**12 45 16.1**	**-1.1**
OLKF	**Oulanka, Finla**	**1.96**	**51**	PG	**Pb**	**12 44 58.5**	**+0.2**
OLKF				MSG		12 45 21.7	
	comp=Z,1.3nm,0.2s						
OLKF				SG	**Sg**	**12 45 23.8**	**-1.7**
KU6	**Riekki**	**1.98**	**61**	PG	**Pb**	**12 44 58.1**	**-0.5**
KU6				MSG		12 45 22.2	
	comp=Z,1.4nm,0.2s						
KU6				SG	**Sb**	**12 45 23.9**	**+0.5**
NIF	**Nilsia** baz=332	**1.99**	**150**	PG	**Pn**	**12 44 57.8**	**+1.7**
NIF				MSG		12 45 21.2	
	comp=Z,1.2nm,0.2s						
NIF				SG	**Sb**	**12 45 23.4**	**0.0**
ERTU	**Ertsjaerv**	**2.02**	**317**	PG	**Pb**	**12 44 59.1**	**-0.1**
ERTU				SG	**Sb**	**12 45 25.7**	**+1.4**
RMF	**Romuvaara** baz=298	**2.06**	**114**	PG	**Pb**	**12 44 59.3**	**-0.6**
RMF				MSG		12 45 23.8	
	comp=Z,3.1nm,0.2s						
RMF				SG	**Sb**	**12 45 25.9**	**+0.4**
PAJU	**Pajala**	**2.16**	**333**	PG	**Pb**	**12 45 01.6**	**-0.1**
PAJU				SG	**Sb**	**12 45 28.9**	**+0.3**
KLF	**Kolari**	**2.22**	**343**	PB	**Pb**	**12 45 01.4**	**-1.3**
KLF				MSG		12 45 29.5	
	comp=Z,0.9nm,0.2s						
KLF				SB	**Sb**	**12 45 29.6**	**-0.6**
SUF	**Sumiainen**	**2.43**	**174**	PG	**Pb**	**12 45 05.5**	**-0.7**
SUF				MSG		12 45 33.9	
	comp=Z,0.6nm,0.2s						
SUF				SG	**Sb**	**12 45 37.5**	**+1.3**
UMAU	**Umeaa**	**2.48**	**242**	PG	**Pb**	**12 45 06.6**	**-0.5**
UMAU				SG	**Sb**	**12 45 38.5**	**+0.8**
KEF	**Keuruu**	**2.99**	**187**	MSG		12 45 50.2	
	comp=Z,0.6nm,0.2s						
KEF				SG	**Sb**	**12 45 55.5**	**+3.2**
JOF	**Joensuu**	**3.34**	**129**	SB	**Sb**	**12 46 01.9**	**-0.5**
HEF	**Hetta**	**3.39**	**348**	SB	**Sb**	**12 46 04.3**	**+0.6**
FIA0	**FINESS Array S**	**3.70**	**177**	SG	**Sb**	**12 46 17.8**	**+5.0**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=0.5,slow=16,SNR=4.5	**3.70**	**177**	Pn	**Pb**	**12 45 24.8**	**-3.1**
FINES				Sn	**Sb**	**12 46 11.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=354,slow=21,SNR=12 comp=Z,0.5nm,0.4s						
HEMU	**Hemsoen**	**4.16**	**237**	PN	**Pn**	**12 45 27.2**	**+1.3**
KIF	**Kilpisjarvi**	**4.33**	**336**	SG	**Sg**	**12 46 39.0**	**-2.2**
ARCES	**ARCESS Array B** baz=175,slow=14,SNR=5.0	**4.43**	**359**	Pn	**Pn**	**12 45 31.1**	**+1.5**
ARCES				Sn	**Sn**	**12 46 20.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=176,slow=24,SNR=3.0						
ARCES				Lg	Lg	12 46 40.1	
	comp=Z,0.1nm,0.3s,baz=184,slow=24,SNR=5.2 comp=Z,2.1nm,0.9s						
KEV	**Kevo**	**4.68**	**6**	SN	**Sn**	**12 46 29.3**	**+2.0**
I37NO	**I37NO**	**4.82**	**328**	I	I	13 14 20.0	
	baz=140,slow=330,SNR=1.7						

*IDC **16** 12:59:09.3±0.6, 38°.09N×98°.08W, h0km, mb4.0/6, mbtmp4.1/13, ML4.1/6, MS3.5/45, Error ellipse: s-maj=9.6km s-min=8.4km az=128.0*
*NEIC **16** 12:59:10.2, 38°.03N×97°.98W, h5km*
*NEIC **16** 12:59:10.2±0.5, 38°.03N±0°.03×97°.98W±0°.04, h5km±2km, mb4.2/28, mb_Lg4.5/174, ML4.2/6, Mwr4.2/80, Error ellipse: s-maj=6.6km s-min=3.0km az=47.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.29; $M_{\theta\theta}$2.79; $M_{\phi\phi}$-2.50; $M_{r\theta}$0.17; $M_{\theta\phi}$0.98; $M_{r\gamma}$0.19; Fault plane solution: $M_0$2.85000×10^{15} NP1:ϕ_s214.90000°, δ89.72000°, λ-174.79000°. NP2:ϕ_s124.88000°, δ84.79000°, λ-0.28000°. Principal axes: T 2.9799, Plg3.0000°, Azm350.0000°; N -0.2900, Plg85.0000°, Azm218.0000°; P -2.6899, Plg4.0000°, Azm80.0000°;*

ISC 16 12:59:09.3±0.5, 38°.01N±0°.03×98°.01W±0°.05, h10km, n267, σ1§40/218, mb4.1/7, MS3.7/39, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.69**	**307**		**Pg**	**12 59 22.9**	**+0.3**
R32A				Sg	**Sg**	**12 59 32.7**	**+1.1**
R32A				IAML		12 59 37.3	
	30µm,0.8s						
KAN08	**Anthony NE Sta**	**0.78**	**177**		**Pg**	**12 59 24.6**	**+0.2**
KAN08				Sg	**Sg**	**12 59 35.0**	**+0.4**
KAN08				IAML		12 59 38.7	
	comp=N,11µm,0.9s						
KAN01	**Argonia South**	**0.88**	**167**		**Pg**	**12 59 26.2**	**0.0**
KAN01				Sg	**Sg**	**12 59 38.2**	**+0.5**
KAN01				IAmb_Lg		12 59 38.8	
	comp=Z,3µm,1.1s						
KAN01				IAML		12 59 43.2	
	comp=N,6µm,0.7s						
KAN01				IAML		12 59 46.6	
	comp=E,6µm,0.7s						
KAN14	**Manchester OK**	**1.05**	**178**		**Pg**	**12 59 29.6**	**0.0**
GC02	**Grant County #**	**1.16**	**174**		**Pb**	**12 59 31.4**	**-0.1**
BLOK	**Blackwell**	**1.40**	**153**		**Pn**	**12 59 35.5**	**+0.5**
CROK	**Carrier**	**1.50**	**179**		**Pn**	**12 59 37.1**	**+0.7**
NOKA	**Waynoka**	**1.56**	**208**		**Pn**	**12 59 38.8**	**+1.6**
CBKS	**Cedar Bluff**	**1.57**	**301**		**Pn**	**12 59 38.8**	**+1.4**
CBKS				IAmb_Lg		13 00 03.3	
	comp=Z,2µm,0.7s						
T35A	**Sooner Cattle**	**1.62**	**132**		**Pn**	**12 59 38.7**	**+0.7**
T35A				IAmb_Lg		13 00 02.1	
	comp=Z,4µm,1.0s						
OK038	**West end E0370**	**1.64**	**201**		**Pn**	**12 59 40.0**	**+1.8**
QUOK	**Quay**	**2.11**	**150**		**Pn**	**12 59 45.8**	**+1.1**
OK052	**Battle Ridge R**	**2.23**	**154**		**Pn**	**12 59 47.4**	**+1.0**
OK052				IAmb_Lg		13 00 26.2	
	comp=Z,1µm,1.0s						
ELIS	**Ellis County**	**2.24**	**210**		**Pn**	**12 59 49.7**	**+3.1**
OK029	**Liberty Lake**	**2.25**	**168**		**Pn**	**12 59 48.0**	**+1.2**
OK029				IAmb_Lg		13 00 24.1	
	comp=Z,1µm,1.1s						
ADOK	**Arcadia Dam**	**2.41**	**167**		**Pn**	**12 59 49.7**	**+0.9**
CSTR	**Hydro, Custer**	**2.42**	**193**		**Pn**	**12 59 51.2**	**+2.2**
DEOK	**Depew**	**2.48**	**150**		**Pn**	**12 59 50.8**	**+1.0**
DEOK				IAmb_Lg		13 00 33.9	
	comp=Z,994nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**2.64**	**170**		**Pn**	**12 59 53.5**	**+1.4**
TUL3	**Leonard**	**2.75**	**139**		**Pn**	**12 59 54.9**	**+1.4**
TUL3				IAmb_Lg		13 00 43.9	
	comp=Z,2µm,0.7s						
FNO	**Franklin**	**2.79**	**170**		**Pn**	**12 59 55.4**	**+1.3**
RLO	**Rose Lookout**	**3.02**	**127**		**Pn**	**12 59 59.0**	**+1.8**
U38A	**Gravette**	**3.29**	**117**		**Pn**	**13 00 03.0**	**+2.0**
U38A				IAmb_Lg		13 00 57.3	
	comp=Z,2µm,0.9s						
WMOK	**Wichita Mounta**	**3.33**	**191**		**Pn**	**13 00 03.5**	**+2.1**
N35A	**Tabor**	**3.39**	**32**		**Pn**	**13 00 04.6**	**+2.3**
BGNE	**Belgrade**	**3.40**	**358**		**Pn**	**13 00 03.5**	**+1.1**
BGNE				IAmb_Lg		13 01 03.8	
	comp=Z,1µm,0.7s						
SMWD	**Samnorwood**	**3.41**	**212**		**Pn**	**13 00 04.9**	**+2.3**
SMWD				IAmb_Lg		13 01 03.6	
	comp=Z,892nm,0.8s						
HHAR	**Hobbs**	**3.68**	**117**		**Pn**	**13 00 08.0**	**+1.6**
HHAR				IAmb_Lg		13 01 09.5	
	comp=Z,1µm,0.8s						
S39A	**Bolivar**	**3.73**	**93**		**Pn**	**13 00 08.5**	**+1.5**
KSCO	**Kaye Shedlock'**	**3.75**	**287**		**Pn**	**13 00 09.0**	**+1.6**
KSCO				IAmb_Lg		13 01 10.6	
	comp=Z,1µm,0.7s						
P38A	**Dawn**	**3.85**	**64**		**Pn**	**13 00 10.0**	**+1.3**
P38A				IAmb_Lg		13 01 11.7	
	comp=Z,1µm,0.8s						
LOOK	**Love County**	**4.07**	**170**		**Pn**	**13 00 13.3**	**+1.7**
L34A	**Svendsen Farm,**	**4.15**	**17**		**Pn**	**13 00 13.0**	**+0.3**
WTFS	**Witchita Falls**	**4.25**	**185**		**Pn**	**13 00 15.9**	**+1.8**
OGNE	**Ogallala**	**4.27**	**315**		**Pn**	**13 00 17.1**	**+2.5**
R40A	**Maddies Statio**	**4.54**	**85**		**Pn**	**13 00 19.6**	**+1.5**
R40A				IAmb_Lg		13 01 33.6	
	comp=Z,673nm,0.7s						
N38A	**Joes South For**	**4.63**	**52**		**Pn**	**13 00 20.8**	**+1.5**
MGMO	**Mountain Grove**	**4.64**	**99**		**Pn**	**13 00 21.3**	**+1.8**
Z35A	**Perchaven, San**	**4.71**	**172**		**Pn**	**13 00 21.4**	**+0.9**
Z35A				IAmb_Lg		13 01 49.6	
	comp=Z,737nm,1.1s						
K30B	**Basset**	**4.81**	**346**		**Pn**	**13 00 24.0**	**+2.1**
K30B				IAmb_Lg		13 01 50.5	
	comp=Z,946nm,

N41A	**Harden Midland**	**6.17**	**62**			**Pn**		**13 00 41.2**	**+0.8**
ISCO	**Idaho Springs**	**6.19**	**289**			**Pn**		**13 00 43.0**	**+1.9**
ISCO				IAmb_Lg				13 02 39.6	
	comp=Z,693nm,0.9s								
237A	**Washetta, Mont**	**6.26**	**163**			**Pn**		**13 00 42.2**	**+0.4**
237A				IAmb_Lg				13 02 44.5	
	comp=Z,473nm,1.0s								
Z41A	**Richland Creek**	**6.36**	**137**	Pn		**Pn**		**13 00 44.5**	**+1.4**
Z41A				IAmb_Lg				13 02 37.2	
	comp=Z,877nm,0.9s								
SUSD	**Miller**	**6.46**	**354**			**Pn**		**13 00 45.3**	**+0.7**
SUSD				IAmb_Lg				13 02 47.1	
	comp=Z,607nm,0.8s								
L40A	**Anamosa**	**6.60**	**50**			**Pn**		**13 00 46.9**	**+0.5**
L40A				IAmb_Lg				13 02 39.8	
	comp=Z,910nm,0.8s								
SGCY	**Sterling City**	**6.60**	**204**			**Pn**		**13 00 47.3**	**+0.9**
SGCY				IAmb_Lg				13 02 52.7	
	comp=Z,939nm,0.9s								
CGM3	**Cape Girardeau**	**6.67**	**94**	IAmb_Lg				13 02 39.8	
	comp=Z,884nm,1.0s								
BRDY	**Brady**	**6.76**	**187**			**Pn**		**13 00 48.8**	**+0.2**
NATX	**Nacogdoches**	**6.82**	**155**			**Pn**		**13 00 49.5**	**+0.1**
NATX				IAmb_Lg				13 02 57.9	
	comp=Z,534nm,1.0s								
P43A	**Skaggs, Pawnee**	**6.83**	**74**			**Pn**		**13 00 51.0**	**+1.5**
CPRX	**Cap Rock**	**6.89**	**226**			**Pn**		**13 00 52.1**	**+1.5**
I37A	**Lemond, Waseca**	**6.94**	**29**	IAmb_Lg				13 03 00.5	
	comp=Z,720nm,0.8s								
S44A	**Carbondale**	**6.94**	**90**			**Pn**		**13 00 51.9**	**+0.8**
S44A				IAmb_Lg				13 02 53.3	
	comp=Z,627nm,0.7s								
ODSA	**Odessa**	**6.95**	**214**			**Pn**		**13 00 52.9**	**+1.6**
SIUC	**Southern Illin**	**6.97**	**90**			**Pn**		**13 00 51.7**	**+0.3**
SIUC				IAmb_Lg				13 02 51.2	
	comp=Z,770nm,0.8s								
S22A	**4UR Ranch, Cre**	**6.98**	**271**			**Pn**		**13 00 53.8**	**+1.9**
S22A				IAmb_Lg				13 03 00.6	
	comp=Z,367nm,1.1s								
Q44A	**Meyer Farm, Va**	**7.12**	**80**			**Pn**		**13 00 55.1**	**+1.6**
Q44A				IAmb_Lg				13 03 07.4	
	comp=Z,657nm,0.9s								
435B	**Jarrell**	**7.22**	**177**	IAmb_Lg				13 03 14.5	
	comp=Z,641nm,1.0s								
HDIL	**Hopedale**	**7.22**	**67**			**Pn**		**13 00 55.9**	**+0.9**
CLN7	**Carlsbad 7**	**7.33**	**222**			**Pn**		**13 00 57.9**	**+1.4**
ANMO	**Albuquerque**	**7.46**	**248**	Pn		**Pn**		**13 00 59.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=150,slow=13,SNR=7.9								
ANMO				Lg		Lg		13 03 01.2	
	comp=Z,19nm,0.3s,baz=62,slow=22,SNR=7.7								
ANMO				LR		LR		13 04 12.1	
	comp=Z,376nm,21.9s,baz=151,slow=41								
	comp=Z,2.8nm,0.6s								
OZNA	**Ozona**	**7.52**	**201**			**Pn**		**13 00 59.8**	**+0.6**
OZNA				IAmb_Lg				13 03 24.0	
	comp=Z,486nm,1.0s								
L42A	**Oliver, Polo**	**7.54**	**55**			**Pn**		**13 01 00.0**	**+0.7**
HAYD	**Hayden**	**7.60**	**292**	IAmb_Lg				13 03 28.3	
	comp=Z,360nm,0.7s								
RSSD	**Black Hills**	**7.61**	**325**			**Pn**		**13 01 02.6**	**+2.1**
RSSD				IAmb_Lg				13 03 23.1	
	comp=Z,571nm,0.9s								
JCT	**Junction City**	**7.66**	**192**			**Pn**		**13 01 01.5**	**+0.6**
JCT				IAmb_Lg				13 03 32.8	
	comp=Z,754nm,1.0s								
JFWS	**Jewell Farm**	**7.68**	**48**			**Pn**		**13 01 01.8**	**+0.5**
JFWS				IAmb_Lg				13 03 17.7	
	comp=Z,726nm,0.7s								
MNHN	**Monahans**	**7.72**	**212**			**Pn**		**13 01 02.9**	**+1.0**
MNHN				IAmb_Lg				13 03 23.3	
	comp=Z,374nm,0.8s								
OXF	**Oxford**	**7.78**	**114**			**Pn**		**13 01 03.1**	**+0.5**
OLIL	**Olney**	**7.82**	**82**			**Pn**		**13 01 04.1**	**+1.0**
F33A	**5 Mile Ranch,**	**7.93**	**9**			**Pn**		**13 01 03.5**	**-1.1**
F33A				IAmb_Lg				13 03 23.0	
	comp=Z,418nm,0.9s								
I40A	**Norwalk**	**8.11**	**41**	IAmb_Lg				13 03 47.0	
	comp=Z,302nm,0.8s								
PECS	**Pecos**	**8.19**	**218**			**Pn**		**13 01 09.9**	**+1.6**
PECS				IAmb_Lg				13 03 44.3	
	comp=Z,321nm,1.0s								
SPMN	**Marine on St.**	**8.19**	**27**	Pn		**Pn**		**13 01 09.1**	**+0.9**
SPMN				IAmb_Lg				13 03 32.2	
	comp=Z,462nm,0.9s								
Y22D	**IRIS PASSCAL I**	**8.21**	**244**	IAmb_Lg				13 03 54.4	
	comp=Z,448nm,0.8s								
441A	**DeRidder**	**8.27**	**150**	IAmb_Lg				13 03 54.6	
	comp=Z,295nm,1.1s								
M44A	**Midewin, Midew**	**8.39**	**63**			**Pn**		**13 01 11.9**	**+0.9**
M44A				IAmb_Lg				13 03 45.1	
	comp=Z,599nm,0.9s								
VBMS	**Vicksburg**	**8.43**	**131**	IAmb_Lg				13 03 56.8	
	comp=Z,468nm,0.9s								
PV13	**Radium Mtn., P**	**8.52**	**274**	Pn		**Pn**		**13 01 15.5**	**+2.5**
HNDO	**Hondo**	**8.53**	**187**			**Pn**		**13 01 13.2**	**+0.3**
HNDO				IAmb_Lg				13 03 49.5	
	comp=Z,389nm,1.0s								
PV03	**Paradox Valley**	**8.54**	**275**	Pn		**Pn**		**13 01 15.6**	**+2.4**
PLAL	**Pickwick Lake**	**8.55**	**108**	IAmb_Lg				13 03 36.9	
	comp=Z,371nm,1.0s								
PV04	**Paradox Valley**	**8.58**	**276**			**Pn**		**13 01 16.4**	**+2.6**
PV18	**Skein Mesa, Pa**	**8.59**	**275**			**Pn**		**13 01 16.4**	**+2.5**
PV19	**Morning Glory**	**8.65**	**275**			**Pn**		**13 01 17.2**	**+2.5**
SAND	**Sanderson**	**8.73**	**204**			**Pn**		**13 01 15.9**	**+0.2**
SAND				IAmb_Lg				13 03 54.6	
	comp=Z,357nm,0.9s								
T47A	**Sharon Grove**	**8.73**	**93**			**Pn**		**13 01 16.1**	**+0.4**
MNTX	**Cornudas Mount**	**8.73**	**226**	Pn		**Pn**		**13 01 16.7**	**+1.0**
MNTX				IAmb_Lg				13 04 05.4	
	comp=Z,294nm,1.2s								
K43A	**Burlington**	**8.75**	**55**	Pn		**Pn**		**13 01 16.4**	**+0.5**
EF04	**Eagle Ford 04**	**8.78**	**179**	IAmb_Lg				13 04 06.9	
	comp=Z,315nm,0.9s								
E28A	**Huff**	**8.79**	**348**			**Pn**		**13 01 16.5**	**+0.1**
E28A				IAmb_Lg				13 04 03.1	
	comp=Z,264nm,0.9s								
DRIO	**Del Rio**	**8.84**	**195**			**Pn**		**13 01 17.4**	**+0.3**
DRIO				IAmb_Lg				13 04 03.6	
	comp=Z,514nm,1.1s								
ALPN	**Alpine**	**8.93**	**213**			**Pn**		**13 01 19.3**	**+0.8**
ALPN				IAmb_Lg				13 04 13.8	
	comp=Z,533nm,1.2s								
I42A	**Draeger Farm,**	**9.05**	**47**			**Pn**		**13 01 20.1**	**+0.1**
I42A				IAmb_Lg				13 03 56.1	
	comp=Z,480nm,0.9s								
735A	**Kenedy**	**9.13**	**179**	IAmb_Lg				13 04 21.8	
	comp=Z,250nm,1.1s								
VHRN	**Van Horn**	**9.22**	**221**	Pn		**Pn**		**13 01 24.2**	**+1.7**
VHRN				IAmb_Lg				13 04 28.4	
	comp=Z,483nm,1.1s								
G40A	**Rib Lake**	**9.31**	**36**	IAmb_Lg				13 04 02.7	
	comp=Z,366nm,1.0s								
EPT	**El Paso**	**9.35**	**231**	IAmb_Lg				13 04 27.1	
	comp=Z,298nm,1.3s								
121A	**Cookes Peak, D**	**9.68**	**239**	IAmb_Lg				13 04 37.0	
	comp=Z,310nm,1.3s								
833A	**Chaparral WMA,**	**9.73**	**187**	IAmb_Lg				13 04 28.5	
	comp=Z,262nm,1.0s								
E38A	**The Farm, Brul**	**9.83**	**27**			**Pn**		**13 01 29.9**	**-0.7**
E38A				IAmb_Lg				13 04 26.7	
	comp=Z,470nm,1.1s								
L46A	**Eue Claire**	**9.84**	**62**			**Pn**		**13 01 31.3**	**+0.5**
TX31	**Lajitas Ar. Si**	**9.85**	**210**	Pn		**Pn**		**13 01 31.7**	**+0.6**
TXAR	**Lajitas Array**	**9.85**	**210**	Pn		**Pn**		**13 01 31.4**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=31,slow=10,SNR=51								
TXAR				Sn		**Sn**		**13 03 18.4**	**-3.4**
	comp=Z,2.8nm,0.3s,baz=21,slow=17,SNR=3.8								
TXAR				Lg		Lg		13 04 16.0	
	comp=Z,5.8nm,0.3s,baz=26,slow=26,SNR=9.0								
TXAR				LR		LR		13 05 43.4	
	comp=Z,102nm,20.3s,baz=216,slow=40								
	comp=Z,4.1nm,0.5s								
MDND	**Maddock**	**9.90**	**354**	IAmb_Lg				13 04 46.8	
	comp=Z,238nm,0.8s								
N47A	**Urbana**	**9.95**	**69**			**Pn**		**13 01 31.8**	**-0.6**
BW06	**Boulder Array**	**10.00**	**302**	Pn		**Pn**		**13 01 34.4**	**+1.1**
PD31	**Pinedale Array**	**10.00**	**302**	Pn		**Pn**		**13 01 34.4**	**+1.1**
PDAR	**Pinedale Array**	**10.00**	**302**			**Pn**		**13 01 33.8**	**+0.5**
PDAR	**Pinedale Array**	**10.00**	**302**	Pn		**Pn**		**13 01 33.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=113,slow=14,SNR=33								
PDAR				Sn		**Sn**		**13 03 19.2**	**-6.4**
	comp=Z,3.0nm,0.3s,baz=100,slow=26,SNR=4.4								
PDAR				Lg		Lg		13 04 19.5	
	comp=Z,6.3nm,0.3s,baz=113,slow=26,SNR=8.1								
PDAR				LR		LR		13 05 47.4	
	comp=Z,61nm,19.7s,baz=90,slow=40								
	comp=Z,2.6nm,0.5s								
H43A	**Windswept, Lux**	**10.05**	**47**			**Pn**		**13 01 33.2**	**-0.5**
AGMN	**Agassiz Nation**	**10.40**	**8**			**Pn**		**13 01 37.2**	**-1.3**
COWI	**Conover**	**10.43**	**36**			**Pn**		**13 01 39.3**	**+0.4**
LAO	**LASA Array**	**10.58**	**328**			**Pn**		**13 01 41.0**	**-0.1**
F42A	**Maple Grove Fa**	**10.68**	**40**			**Pn**		**13 01 42.7**	**+0.4**
R50A	**Paris**	**10.79**	**84**			**Pn**		**13 01 44.2**	**+0.4**
O49A	**Covington**	**10.85**	**74**			**Pn**		**13 01 44.7**	**0.0**
EYMN	**Ely**	**11.01**	**24**			**Pn**		**13 01 45.5**	**-1.4**
RLMT	**Red Lodge**	**11.02**	**314**			**Pn**		**13 01 48.1**	**+1.0**
LOHW	**Long Hollow**	**11.06**	**304**			**Pn**		**13 01 48.7**	**+1.0**
N49A	**Columbus Grove**	**11.08**	**70**			**Pn**		**13 01 46.9**	**-1.0**
CPCT	**Cooper Cave**	**11.13**	**99**			**Pn**		**13 01 48.9**	**+0.4**
J47A	**Sumner**	**11.30**	**58**			**Pn**		**13 01 50.8**	**0.0**
250A	**Grady**	**11.35**	**119**	Pn		**Pn**		**13 01 52.7**	**+1.1**
DGMT	**Dagmar**	**11.38**	**339**			**Pn**		**13 01 51.1**	**-0.8**
YNE	**Yellowstone No**	**11.38**	**312**			**Pn**		**13 01 52.6**	**+0.4**
S51A	**Beattyville**	**11.41**	**87**			**Pn**		**13 01 51.9**	**-0.5**
Q51A	**Peebles**	**11.54**	**80**			**Pn**		**13 01 53.0**	**-1.1**
TZTN	**Tazewell**	**11.62**	**93**	Pn		**Pn**		**13 01 56.2**	**+0.9**
TKL	**Tuckaleechee C**	**11.65**	**97**	Pn		**Pn**		**13 01 56.1**	**+0.4**
TKL	**Tuckaleechee C**	**11.65**	**97**	Pn		**Pn**		**13 01 55.6**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=257,slow=6.4,SNR=16								
TKL				Lg		Lg		13 05 09.8	
	comp=Z,6.4nm,0.3s,baz=32,slow=9.5,SNR=9.5								
TKL				LR		LR		13 06 23.2	
	comp=Z,387nm,19.0s,baz=286,slow=37								
	comp=Z,16nm,0.7s								
P51A	**Williamsport**	**11.77**	**78**			**Pn**		**13 01 56.3**	**-1.0**
YHH	**Holmes Hill**	**11.77**	**309**	Pn		**Pn**		**13 01 58.5**	**+0.9**
AAM	**Ann Arbor**	**11.79**	**64**	Pn		**Pn**		**13 01 57.9**	**+0.4**
M50A	**Fremont**	**12.02**	**69**			**Pn**		**13 02 00.6**	**0.0**
EPLO	**Experimental L**	**12.06**	**13**			**Pn**		**13 01 58.2**	**-3.0**
TBO	**Thunder Bay**	**12.33**	**28**	Pn		**Pn**		**13 02 02.4**	**-2.5**
ULM	**Lac du Bonnet**	**12.33**	**6**	Pn		**Pn**		13 02 00.9	**-3.9**
	comp=Z,2.6nm,0.3s,baz=182,slow=12,SNR=21								
ULM				Sn		Sn		13 04 11.7	-11
	comp=Z,3.9nm,0.3s,baz=268,slow=17,SNR=3.3								
ULM				Lg		Lg		13 05 28.8	
	comp=Z,8.3nm,0.3s,baz=268,slow=14,SNR=5.1								
ULM				LR		LR		13 07 09.5	
	comp=Z,252nm,18.9s,baz=190,slow=39								
	comp=Z,8.1nm,0.4s								
Q52A	**Bidwell**	**12.38**	**81**			**Pn**		**13 02 05.3**	**-0.3**
V53A	**Saluda**	**12.40**	**96**			**Pn**		**13 02 06.2**	**+0.2**
N51A	**Ashland**	**12.43**	**72**			**Pn**		**13 02 05.6**	**-0.7**
P52A	**Corning**	**12.49**	**78**			**Pn**		**13 02 07.0**	**-0.2**
BG3	**Lake Jocassee**	**12.51**	**99**	Pn		**Pn**		**13 02 07.5**	**+0.2**
I49A	**Point Hope**	**12.91**	**58**	Pn		**Pn**		**13 02 11.7**	**-1.1**
U54A	**Nelsons Funny**	**12.99**	**92**			**Pn**		**13 02 14.1**	**+0.1**
MCMT	**McKenzie Canyo**	**13.04**	**306**	Pn		**Pn**		**13 02 15.3**	**+0.4**
P53A	**Whipple**	**13.06**	**78**			**Pn**		**13 02 14.1**	**-0.8**
E46A	**Sault Ste Mari**	**13.14**	**46**			**Pn**		**13 02 12.7**	**-3.2**
EGMT	**Eagleton**	**13.17**	**323**			**Pn**		**13 02 16.8**	**+0.4**
O53A	**New Philadelph**	**13.24**	**75**	Pn		**Pn**		**13 02 17.3**	**0.0**
LRM	**Limekiln Ridge**	**13.27**	**311**	Pn		**Pn**		**13 02 18.7**	**+0.7**
HODGE	**Hodges**	**13.28**	**102**	Pn		**Pn**		**13 02 19.1**	**+1.1**
M52A	**Chesterland**	**13.29**	**69**			**Pn**		**13 02 16.9**	**-1.1**
PAULI	**Pauline**	**13.43**	**99**			**Pn**		**13 02 19.3**	**-0.6**
Q54A	**Coxs Mills**	**13.50**	**81**			**Pn**		**13 02 20.4**	**-0.4**
N53A	**Lisbon**	**13.57**	**73**			**Pn**		**13 02 19.7**	**-2.2**
ELK	**Elko**	**13.60**	**287**	Pn		**Pn**		**13 02 21.6**	**-0.9**
	baz=124,slow=7.3,SNR=1.3								
ELK				Lg		Lg		13 06 12.8	
	baz=184,slow=9.6								
LYMT	**Lyon Mountain**	**13.81**	**315**			**Pn**		**13 02 24.7**	**-0.5**
O54A	**Avella**	**13.87**	**76**			**Pn**		**13 02 25.3**	**-0.7**
R55A	**Marlinton**	**14.09**	**83**			**Pn**		**13 02 28.9**	**-0.2**
OVMT	**Ovando**	**14.26**	**314**	Pn		**Pn**		**13 02 31.5**	**+0.2**
ERPA	**Erie**	**14.40**	**68**	Pn		**Pn**		**13 02 32.4**	**-0.8**
MSO	**Missoula**	**14.68**	**312**	Pn		**Pn**		**13 02 37.8**	**+0.7**
Q56A	**Snyder Ridge,**	**14.78**	**80**	Pn		**Pn**		**13 02 38.1**	**-0.3**
T57A	**Hurt**	**14.93**	**88**			**Pn**		**13 02 40.1**	**-0.3**
S57A	**Dark Hollow, R**	**15.06**	**85**			**Pn**		**13 02 43.0**	**+0.9**
456A	**Hilliard**	**15.06**	**114**	Pn		**Pn**		**13 02 42.9**	**+0.7**
PLID	**Pearl Lake**	**15.19**	**303**	Pn		**Pn**		**13 02 44.9**	**+0.8**
V58A	**Windy Hill, Pi**	**15.28**	**93**	Pn		**Pn**		**13 02 43.9**	**-1.2**
JTMT	**Jette**	**15.36**	**314**	Pn		**Pn**		**13 02 47.4**	**+1.2**
SADO	**Sadowa**	**15.67**	**59**	Pn		**Pn**		**13 02 51.1**	**+1.0**
SADO				IAmb		IAmb		13 03 19.6	
	comp=Z,8.7nm,0.6s								
SADO	**Sadowa**	**15.67**	**59**	Pn		**Pn**		**13 02 49.1**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=268,slow=9.1,SNR=4.5								
SADO				LR		LR		13 08 56.2	
	comp=Z,266nm,20.4s,baz=270,slow=37								
	comp=Z,6.8nm,0.8s								
BUKO	**Buck Lake**	**15.74**	**56**			**Pn**		**13 02 50.0**	**-1.0**
BUKO				IAmb		IAmb		13 03 07.1	
	comp=Z,13nm,1.1s								
NVAR	**Mina Array Bea**	**15.96**	**278**	Pn		**Pn**		**13 02 56.3**	**+2.2**
	comp=Z,2.0nm,0.8s,baz=82,slow=10,SNR=19								
RYN	**Ryan**	**16.11**	**279**			**Pn**		**13 02 57.5**	**+1.5**
LHV	**Little Huntoon**	**16.13**	**277**			**Pn**		**13 02 56.8**	**+0.7**
L56A	**Greenwood**	**16.18**	**69**			**Pn**		**13 02 56.4**	**-0.4**
T59A	**Double "B" Far**	**16.27**	**87**	Pn		**Pn**		**13 02 57.9**	**-0.1**
T59A				IAmb		IAmb		13 03 41.8	
	comp=Z,25nm,1.5s								
M57A	**Sunshine Farm,**	**16.42**	**72**			**Pn**		**13 02 58.3**	**-1.4**
N58A	**Sunbury**	**16.69**	**74**	Pn		**Pn**		**13 03 01.4**	**-1.9**
N58A				IAmb		IAmb		13 03 37.9	
	comp=Z,21nm,1.1s								
FFC	**Flin Flon**	**16.94**	**352**			**Pn**		**13 03 03.2**	**-3.1**
K57A	**Scipio Center**	**17.04**	**67**	P		**Pn**		**13 03 06.5**	**-1.1**
K57A				IAmb		IAmb		13 03 24.6	
	comp=Z,12nm,0.7s								
NEW	**Newport**	**17.26**	**313**	LR		LR		13 10 30.5	
	comp=Z,44nm,20.0s,baz=114,slow=40								
BINY	**Binghamton**	**17.35**	**69**	P		**Pn**		**13 03 08.4**	**-3.2**
BINY				IAmb		IAmb		13 03 39.8	
	comp=Z,24nm,1.1s								
KSPA	**Keystone Colle**	**17.45**	**71**	P		**Pn**		**13 03 10.6**	**-2.2**
J57A	**Williamstown**	**17.52**	**65**			**Pn**		**13 03 12.1**	**-1.6**
J57A				IAmb		IAmb		13 03 29.5	
	comp=Z,9.1nm,0.6s								
WUPA	**West Chester U**	**17.53**	**77**	P		**Pn**		**13 03 14.2**	**+0.5**
CMB	**Columbia Colle**	**17.63**	**277**	P		**Pn**		**13 03 15.9**	**+0.9**
L59A	**Walton**	**18.05**	**69**	P		**Pn**		**13 03 17.9**	**-2.3**
L59A				IAmb		IAmb		13 03 58.2	
	comp=Z,13nm,0.9s								
J59A	**Piesco**	**18.61**	**66**	P		**P**		**13 03 24.6**	**-2.1**
NCB	**Newcomb**	**18.89**	**64**	P		**P**		**13 03 29.0**	**-0.9**
NCB				IAmb		IAmb		13 03 32.9	
	comp=Z,12nm,0.7s								
TRQ	**Mont Tremblant**	**19.19**	**57**	P		**P**		**13 03 31.1**	**-2.1**
TRQ				IAmb		IAmb		13 03 34.3	
	comp=Z,19nm,1.4s								
ACCN	**Adirondack Com**	**19.20**	**66**	P		**P**		**13 03 32.4**	**-0.9**
ACCN				IAmb		IAmb		13 03 53.5	
	comp=Z,22nm,1.4s								
YBH	**Yreka Blue Hor**	**19.30**	**289**	LR		LR		13 10 48.4	
	comp=Z,5.5nm,18.1s,baz=93,slow=36								
BBOR	**Butler Butte**	**19.37**	**292**			**P**		**13 03 34.2**	**-1.1**
BBOR				IAmb		IAmb		13 03 51.2	
	comp=Z,17nm,1.5s								
FRNY	**Flat Rock**	**19.50**	**62**	P		**P**		**13 03 35.8**	**-0.7**
FRNY				IAmb		IAmb		13 03 37.3	
	comp=Z,15nm,1.1s								
MNTQ	**Montreal, Queb**	**19.63**	**60**	P		**P**		**13 03 37.7**	**-0.1**
MNTQ				IAmb		IAmb		13 03 40.6	
	comp=Z,12nm,0.8s								
CMIG	**Matias Romero**	**21.02**	**172**	P		**P**		**13 03 54.5**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=353,slow=12,SNR=3.7								
CMIG				LR		LR		13 13 43.3	
	comp=Z,57nm,21.3s,baz=20,slow=41								
	comp=Z,2.9nm,0.7s								
BBB	**Bella Bella**	**25.31**	**314**	LR		LR		13 15 16.6	
	comp=Z,132nm,20.8s,baz=122,slow=38								
YKA	**Yellowknife Ar**	**26.54**	**343**	P		**P**		**13 04 49.6**	**+2.6**
	comp=Z,4.2nm,0.8s,baz=156,slow=14,SNR=4.7								
YKA				LR		LR		13 16 38.2	
	comp=Z,23nm,19.0s,baz=128,slow=40								
	comp=Z,4.2nm,0.8s								
SCHQ	**Schefferville**	**26.98**	**41**	P		**P**		**13 04 52.6**	**+1.6**
	comp=Z,3.3nm,0.7s,baz=238,slow=8.2,SNR=4.3								
SCHQ				LR		LR		13 16 01.7	
	comp=Z,46nm,20.8s,baz=271,slow=38								
	comp=Z,3.3nm,0.7s								
DLBC	**Dease Lake**	**29.09**	**325**	LR		LR		13 17 33.4	
	comp=Z,132nm,21.3s,baz=100,slow=38								
JTS	**Las Juntas de**	**29.99**	**154**	LR		LR		13 19 00.3	
	comp=Z,36nm,21.1s,baz=354,slow=40								
FRB	**Frobisher Bay**	**31.23**	**25**	LR		LR		13 18 11.1	
	comp=Z,104nm,19.8s,baz=240,slow=37								
SJG	**San Juan**	**34.16**	**117**	LR		LR		13 20 48.2	
	comp=Z,62nm,19.6s,baz=22,slow=38								
INK	**Inuvik**	**36.07**	**338**	LR		LR		13 21 41.3	
	comp=Z,157nm,20.4s,baz=128,slow=38								
RES	**Resolute Bay**	**36.79**	**1**	LR		LR		13 21 42.1	
	comp=Z,169nm,18.1s,baz=246,slow=37								
ILAR	**Eielson Array**	**39.04**	**329**	P		**P**		**13 06 36.9**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=110,slow=7.2,SNR=9.9								
ILAR				LR		LR		13 24 11.2	
	comp=Z,72nm,18.7s,baz=86,slow=39								
	comp=Z,1.4nm,0.6s								
KDAK	**Kodiak Island**	**40.26**	**318**	LR		LR		13 22 21.7	
	comp=Z,110nm,18.3s,baz=92,slow=35								
PCRV	**Puerto La Cruz**	**40.80**	**124**	LR		LR		13 24 34.7	
	comp=Z,49nm,19.4s,slow=37								
JMIC	**Jan Mayen**	**54.44**	**24**	LR		LR		13 31 50.9	
	comp=Z,63nm,19.5s,baz=342,slow=36								
SPITS	**Spitsbergen Ar**	**57.80**	**13**	LR		LR		13 34 12.4	
	comp=Z,64nm,18.9s,baz=302,slow=36								
SEY	**Seymchan**	**64.91**	**332**	LR		LR		13 39 50.7	
	comp=Z,88nm,19.0s,baz=20,slow=38								
ARCES	**ARCESS Array B**	**65.12**	**19**	P		**P**		**13 09 50.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=312,slow=6.4,SNR=5.1								
ARCES				LR		LR		13 37 30.3	
	comp=Z,48nm,19.4s,baz=279,slow=35								
	comp=Z,0.4nm,0.5s								
RPN	**Rapa Nui**	**65.66**	**191**	LR		LR		13 34 24.5	
	comp=Z,37nm,19.8s,baz=340,slow=32								
TIXI	**Tiksi**	**65.75**	**345**	LR		LR		13 40 37.0	
	comp=Z,72nm,19.6s,baz=20,slow=38								
NOA	**NORSAR Array B**	**65.85**	**30**	LR		LR		13 36 10.3	
	comp=Z,21nm,21.5s,baz=285,slow=34								
HFS	**Hagfors**	**67.38**	**30**	LR		LR		13 38 31.3	
	comp=Z,28nm,18.1s,baz=303,slow=35								
MA2	**Magadan**	**67.52**	**329**	LR		LR		13 42 13.8	
	comp=Z,77nm,18.9s,baz=70,slow=38								
PETK	**Petropavlovsk-**	**68.18**	**321**	LR		LR		13 41 22.9	
	comp=Z,33nm,18.2s,baz=74,slow=37								
FINES	**FINESS Array B**	**71.03**	**25**	LR		LR		13 38 49.9	
	comp=Z,52nm,19.9s,baz=316,slow=34								
MDT	**Midelt**	**73.07**	**61**	LR		LR		13 40 57.9	
	comp=Z,41nm,18.9s,baz=54,slow=34								
YAK	**Yakutsk**	**73.13**	**339**	LR		LR		13 48 32.8	
	comp=Z,24nm,18.2s,baz=29,slow=41								
DAVOX	**Davo/Dischmat**	**73.82**	**43**	LR		LR		13 43 20.7	
	comp=Z,31nm,18.3s,baz=

	comp=Z,45nm,0.8s							
SN07	**Snyder 07**	**5.40**	**206**	IAmb_Lg			13 13 48.9	
	comp=Z,44nm,0.8s							
CCM	**Cathedral Cave**	**5.41**	**87**			Pb	13 12 26.9	+2.0
CCM				IAmb_Lg			13 13 41.7	
	comp=Z,29nm,0.8s							
TREL	**Terrell**	**5.50**	**162**	IAmb_Lg			13 13 51.9	
	comp=Z,34nm,0.8s							
X40A	**Basin Creek Fa**	**5.51**	**128**	IAmb_Lg			13 13 45.3	
	comp=Z,48nm,0.7s							
MSTX	**Muleshoe**	**5.52**	**225**	IAmb_Lg			13 13 59.4	
	comp=Z,23nm,1.0s							
Q24A	**Divide**	**5.62**	**282**	IAmb_Lg			13 13 51.3	
	comp=Z,39nm,0.8s							
POST	**Post**	**5.65**	**210**	IAmb_Lg			13 14 00.6	
	comp=Z,32nm,0.8s							
SDCO	**Great Sand Dun**	**5.87**	**270**	IAmb_Lg			13 14 06.8	
	comp=Z,34nm,1.1s							
FVM	**French Village**	**6.06**	**88**	IAmb_Lg			13 14 03.8	
	comp=Z,31nm,1.1s							
ISCO	**Idaho Springs**	**6.14**	**289**	IAmb_Lg			13 14 19.4	
	comp=Z,36nm,1.1s							
SUSD	**Miller**	**6.47**	**355**	IAmb_Lg			13 14 28.7	
	comp=Z,35nm,1.0s							
L40A	**Anamosa**	**6.66**	**50**	IAmb_Lg			13 14 23.0	
	comp=Z,37nm,0.8s							
CGM3	**Cape Girardeau**	**6.73**	**93**	IAmb_Lg			13 14 23.8	
	comp=Z,22nm,0.8s							
P43A	**Skaggs, Pawnee**	**6.89**	**74**	IAmb_Lg			13 14 28.7	
	comp=Z,28nm,0.8s							
SIUC	**Southern Illin**	**7.03**	**90**	IAmb_Lg			13 14 51.7	
	comp=Z,30nm,0.8s							
Q44A	**Meyer Farm, Va**	**7.18**	**80**	IAmb_Lg			13 14 47.9	
	comp=Z,28nm,1.0s							
435B	**Jarrell**	**7.21**	**177**	IAmb_Lg			13 14 49.5	
	comp=Z,26nm,0.7s							
HDIL	**Hopedale**	**7.29**	**67**	IAmb_Lg			13 14 51.5	
	comp=Z,29nm,0.7s							
HAYD	**Hayden**	**7.54**	**292**	IAmb_Lg			13 15 07.7	
	comp=Z,15nm,0.8s							
RSSD	**Black Hills**	**7.59**	**326**	IAmb_Lg			13 15 09.0	
	comp=Z,14nm,0.9s							
L42A	**Oliver, Polo**	**7.61**	**56**	IAmb_Lg			13 14 49.9	
	comp=Z,25nm,0.9s							
JFWS	**Jewell Farm**	**7.74**	**48**	IAmb_Lg			13 14 58.6	
	comp=Z,22nm,0.8s							
F33A	**5 Mile Ranch,**	**7.95**	**9**	IAmb_Lg			13 15 03.7	
	comp=Z,17nm,1.1s							
HNDO	**Hondo**	**8.50**	**187**	IAmb_Lg			13 15 42.1	
	comp=Z,18nm,0.8s							
MNTX	**Cornudas Mount**	**8.68**	**226**	IAmb_Lg			13 15 42.4	
	comp=Z,12nm,0.8s							
DRIO	**Del Rio**	**8.80**	**195**	IAmb_Lg			13 15 48.9	
	comp=Z,20nm,0.9s							

NEIC ***16*** *13:28:23.4±1.4,34.84N±0.01×97.63W±0.01,h12km±4km, Error ellipse: s-maj=1.7km s-min=1.5km az=56.0*

NEIC 16 13:28:22.9±1.5,34.823N±0.010×97.625W±0.010, h10km±1km,mb_Lg2.6/32,ML2.1/36,ML2.1/11,Error ellipse: s-maj=2.9km s-min=1.9km az=30.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.47**	**23**		Pg	13 28 32.0	-0.1
FNO					Sg	13 28 38.5	+0.2
OKCFA	**Oklahoma City**	**0.61**	**14**		Pb	13 28 35.2	-0.4
OKCFA					Sg	13 28 42.4	-0.3
LOOK	**Love County**	**0.91**	**156**		Pb	13 28 40.6	-0.1
LOOK				IAML		13 29 04.6	
	comp=N,77nm,0.3s						
LOOK				IAML		13 29 07.5	
	comp=E,51nm,0.8s						
WMOK	**Wichita Mounta**	**0.95**	**265**	Pg	Pg	13 28 40.9	-0.4
WMOK	**Wichita Mounta**	**0.95**	**265**		Sg	13 28 53.5	-0.1
OK029	**Liberty Lake**	**0.98**	**8**		Pg	13 28 41.2	-0.5
OK029					Sg	13 28 54.6	+0.1
OK029				IAML		13 28 58.3	
	comp=E,82nm,0.6s						
OK029				IAML		13 29 04.7	
	comp=E,55nm,0.2s						
CSTR	**Hydro, Custer**	**1.20**	**314**		Pn	13 28 45.7	0.0
WTFS	**Witchita Falls**	**1.26**	**214**		Pn	13 28 46.2	-0.4
WTFS				IAML		13 29 11.5	
	comp=E,22nm,0.2s						
OK052	**Battle Ridge R**	**1.35**	**30**		Pn	13 28 47.7	0.0
DEOK	**Depew**	**1.37**	**42**		Pn	13 28 47.5	-0.6
QUOK	**Quay**	**1.54**	**29**		Pn	13 28 49.9	-0.5
CROK	**Carrier**	**1.70**	**350**		Pn	13 28 52.4	-0.2
FW06	**Azle**	**1.85**	**178**	Pn	Pn	13 28 55.4	+0.8
TUL3	**Leonard**	**1.85**	**54**	Pn	Pn	13 28 54.2	-0.4
OK038	**West end E0370**	**1.89**	**331**	Pn	Pn	13 28 54.2	-0.9
BLOK	**Blackwell**	**1.96**	**10**	IAmb_Lg		13 29 25.8	
	comp=Z,38nm,0.9s						
PLPT	**Palo Pinto**	**2.09**	**196**	Pn	Pn	13 28 59.1	+1.2
KAN14	**Manchester OK**	**2.15**	**353**	IAmb_Lg		13 29 35.7	
	comp=Z,36nm,1.1s						
T35A	**Sooner Cattle**	**2.28**	**23**		Pn	13 28 59.2	-1.4
KAN01	**Argonia South**	**2.33**	**357**	IAmb_Lg		13 29 35.7	
	comp=Z,43nm,0.7s						
KAN08	**Anthony NE Sta**	**2.42**	**353**	IAmb_Lg		13 29 42.4	
	comp=Z,26nm,0.7s						
RLO	**Rose Lookout**	**2.51**	**57**		Pn	13 29 03.9	+0.2
HHAR	**Hobbs**	**3.34**	**63**	IAmb_Lg		13 30 16.7	
	comp=Z,11nm,1.1s						
BRDY	**Brady**	**3.71**	**198**	IAmb_Lg		13 30 22.5	
	comp=Z,8.4nm,1.0s						
JCT	**Junction City**	**4.70**	**204**	IAmb_Lg		13 31 01.2	
	comp=Z,6.5nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.79**	**318**	IAmb_Lg		13 31 38.1	
	comp=Z,15nm,0.8s						
T25A	**Trinidad**	**5.97**	**295**	IAmb_Lg		13 31 43.0	
	comp=Z,14nm,1.1s						
PBMO	**Poplar Bluff**	**6.16**	**69**	IAmb_Lg		13 31 47.8	
	comp=Z,6.5nm,0.7s						
CGM3	**Cape Girardeau**	**6.91**	**67**	IAmb_Lg		13 32 15.5	
	comp=Z,8.8nm,0.8s						
SDCO	**Great Sand Dun**	**7.00**	**297**	IAmb_Lg		13 32 13.3	
	comp=Z,7.4nm,1.1s						
OGNE	**Ogallala**	**7.04**	**332**	IAmb_Lg		13 32 20.3	
	comp=Z,9.2nm,0.9s						
N41A	**Harden Midland**	**7.95**	**40**	IAmb_Lg		13 32 30.8	
	comp=Z,12nm,0.8s						
ISCO	**Idaho Springs**	**8.07**	**310**	IAmb_Lg		13 32 42.1	
	comp=Z,7.2nm,1.2s						

NEIC 16 13:30:55.6±1.1,38.08N±0.02×97.98W±0.02,h5km±2km, mb_Lg2.6/33,ML2.6/6,Error ellipse: s-maj=3.5km s-min=2.9km az=50.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.67**	**301**		Pg	13 31 08.8	+0.3
R32A				Sg	Sg	13 31 17.2	+0.1
R32A				IAML		13 31 29.0	
	457nm,0.8s						
KAN08	**Anthony NE Sta**	**0.86**	**179**	Pg	Pg	13 31 11.1	-0.9
KAN08				IAmb_Lg		13 31 23.4	
	comp=Z,51nm,1.1s						
KAN08				IAML		13 31 26.7	
	comp=N,213nm,0.8s						
KAN01	**Argonia South**	**0.94**	**169**		Pg	13 31 13.0	-0.8
KAN01				Sg	Sg	13 31 24.9	-1.1
KAN01				IAmb_Lg		13 31 26.6	
	comp=Z,52nm,0.8s						
KAN01				IAML		13 31 29.6	
	comp=N,195nm,0.7s						
KAN01				IAML		13 31 32.5	
	comp=E,144nm,0.2s						
KAN14	**Manchester OK**	**1.12**	**179**		Pg	13 31 16.0	-1.2
KAN14				Sg	Sg	13 31 30.9	-0.9
GC02	**Grant County #**	**1.23**	**175**		Pg	13 31 18.2	-1.1
BLOK	**Blackwell**	**1.46**	**155**		Pn	13 31 22.3	-0.3
CBKS	**Cedar Bluff**	**1.56**	**298**		Pn	13 31 23.1	-0.9
CROK	**Carrier**	**1.58**	**180**		Pn	13 31 23.9	-0.3
NOKA	**Waynoka**	**1.63**	**208**		Pn	13 31 24.0	-1.0
T35A	**Sooner Cattle**	**1.65**	**134**		Pn	13 31 25.0	-0.3
T35A				IAmb_Lg		13 31 49.3	
	comp=Z,32nm,0.7s						
OK038	**West end E0370**	**1.71**	**201**		Pn	13 31 25.5	-0.7
OK052	**Battle Ridge R**	**2.29**	**155**	Pn	Pn	13 31 33.3	-0.8
OK029	**Liberty Lake**	**2.32**	**169**	Pn	Pn	13 31 33.8	-0.7
DEOK	**Depew**	**2.53**	**152**	Pn	Pn	13 31 36.3	-1.1
TUL3	**Leonard**	**2.79**	**140**	Pn	Pn	13 31 39.5	-1.5
TUL3				IAmb_Lg		13 32 30.8	
	comp=Z,22nm,0.8s						
FNO	**Franklin**	**2.86**	**170**	Pn	Pn	13 31 41.9	0.0
SMWD	**Samnorwood**	**3.49**	**212**	IAmb_Lg		13 32 50.3	
	comp=Z,19nm,0.8s						
HHAR	**Hobbs**	**3.69**	**118**	IAmb_Lg		13 33 03.2	
	comp=Z,13nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.76**	**286**	IAmb_Lg		13 32 52.2	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**3.80**	**65**	IAmb_Lg		13 32 58.5	
	comp=Z,15nm,0.8s						
AMTX	**Amarillo**	**4.37**	**224**	IAmb_Lg		13 33 18.4	
	comp=Z,17nm,0.8s						
MGMO	**Mountain Grove**	**4.63**	**100**	IAmb_Lg		13 33 35.1	
	comp=Z,9.2nm,0.8s						
DKNS	**Dickens**	**5.01**	**209**	IAmb_Lg		13 33 37.6	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.17**	**113**	IAmb_Lg		13 33 40.8	
	comp=Z,11nm,0.7s						
SN07	**Snyder 07**	**5.52**	**206**	IAmb_Lg		13 33 57.1	
	comp=Z,10nm,0.8s						
Q24A	**Divide**	**5.69**	**281**	IAmb_Lg		13 34 09.3	
	comp=Z,8.4nm,0.8s						
LCAR	**Lake Charles**	**5.82**	**108**	IAmb_Lg		13 34 03.6	
	comp=Z,13nm,0.9s						
JFWS	**Jewell Farm**	**7.61**	**48**	IAmb_Lg		13 35 12.4	
	comp=Z,7.5nm,0.8s						
JCT	**Junction City**	**7.73**	**192**	IAmb_Lg		13 35 07.4	
	comp=Z,7.6nm,0.7s						

IDC 16 13:41:52.9±44.0,13.44S×168.17E,h0km,mb3.9/3, mbtmp3.9/4,ML3.9/1,Error ellipse: s-maj=742.6km s-min=55.5km az=62.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.74**	**191**	Pn	Pn	13 43 59.4	-1.4
	1.4nm,0.3s,baz=15,slow=20,SNR=13						
DZM				Sn	Sn	13 45 26.8	-13
	0.2nm,0.3s,baz=139,slow=19,SNR=1.2 3.0nm,0.3s						
STKA	**Stephens Creek**	**30.49**	**229**	P	P	13 48 08.6	+0.8
	4.2nm,0.5s,baz=52,slow=9.2,SNR=11 4.2nm,0.5s						
WRA	**Warramunga Arr**	**33.00**	**254**	P	P	13 48 30.0	0.0
	0.4nm,0.8s,baz=84,slow=9.2,SNR=3.1 0.4nm,0.8s						
ASAR	**Alice Springs**	**33.95**	**248**	P	P	13 48 37.9	-0.5
	0.5nm,0.5s,baz=74,slow=9.4,SNR=14 0.5nm,0.5s						

NEIC 16 13:43:06.6±1.1,38.03N±0.03×97.96W±0.04,h5km±1km, mb_Lg2.7/78,ML2.8/6,Error ellipse: s-maj=6.4km s-min=3.1km az=53.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.71**	**303**		Pg	13 43 19.8	-0.4
R32A				Sg	Sg	13 43 29.1	-0.4
R32A				IAML		13 43 36.7	
	604nm,0.9s						
KAN08	**Anthony NE Sta**	**0.81**	**181**		Pg	13 43 21.4	-0.7
KAN08				Sg	Sg	13 43 31.6	-0.9
KAN08				IAML		13 43 37.3	
	comp=N,335nm,0.6s						
KAN01	**Argonia South**	**0.89**	**170**		Pg	13 43 23.2	-0.4
KAN01				Sg	Sg	13 43 34.4	-0.8
KAN01				IAML		13 43 35.3	
	comp=E,238nm,0.2s						
KAN01				IAmb_Lg		13 43 35.8	
	comp=Z,60nm,0.9s						
KAN01				IAML		13 43 39.8	
	comp=N,271nm,0.6s						
KAN14	**Manchester OK**	**1.07**	**180**		Pg	13 43 26.5	-0.7
GC02	**Grant County #**	**1.18**	**176**		Pg	13 43 28.4	-0.8
BLOK	**Blackwell**	**1.40**	**155**		Pn	13 43 32.4	-0.3
CROK	**Carrier**	**1.53**	**181**		Pn	13 43 34.2	-0.3
NOKA	**Waynoka**	**1.60**	**209**		Pn	13 43 35.5	0.0
T35A	**Sooner Cattle**	**1.60**	**134**		Pn	13 43 35.5	0.0
T35A				IAmb_Lg		13 43 59.6	
	comp=Z,48nm,0.7s						
CBKS	**Cedar Bluff**	**1.60**	**300**		Pn	13 43 35.0	-0.6
OK038	**West end E0370**	**1.68**	**202**		Pn	13 43 36.9	+0.3
QUOK	**Quay**	**2.11**	**151**		Pn	13 43 41.8	-0.8
OK052	**Battle Ridge R**	**2.23**	**155**		Pn	13 43 43.7	-0.6
OK029	**Liberty Lake**	**2.27**	**170**		Pn	13 43 42.0	-2.7
DEOK	**Depew**	**2.48**	**151**		Pn	13 43 47.4	-0.2
TUL3	**Leonard**	**2.74**	**140**		Pn	13 43 51.6	+0.4
TUL3				IAmb_Lg		13 44 39.9	
	comp=Z,30nm,0.8s						
FNO	**Franklin**	**2.81**	**171**	Pn	Pn	13 43 51.5	-0.6
RLO	**Rose Lookout**	**3.00**	**128**		Pn	13 43 54.6	-0.1
WMOK	**Wichita Mounta**	**3.36**	**192**		Pn	13 44 00.6	+0.9
BGNE	**Belgrade**	**3.37**	**358**	IAmb_Lg		13 45 01.0	
	comp=Z,26nm,0.7s						
SMWD	**Samnorwood**	**3.45**	**213**		Pn	13 44 01.0	0.0
SMWD				IAmb_Lg		13 44 60.0	
	comp=Z,19nm,0.8s						
S39A	**Bolivar**	**3.68**	**94**		Pn	13 44 04.7	+0.6
KSCO	**Kaye Shedlock'**	**3.79**	**286**		Pn	13 44 06.0	+0.2
P38A	**Dawn**	**3.80**	**64**		Pn	13 44 06.5	+0.7
P38A				IAmb_Lg		13 45 11.5	
	comp=Z,19nm,0.8s						
OGNE	**Ogallala**	**4.29**	**314**	IAmb_Lg		13 45 22.6	
	comp=Z,24nm,0.8s						
AMTX	**Amarillo**	**4.35**	**225**	IAmb_Lg		13 45 30.3	
	comp=Z,18nm,0.8s						
R40A	**Maddies Statio**	**4.49**	**85**	Pn	Pn	13 44 16.2	+1.0
MGMO	**Mountain Grove**	**4.60**	**99**		Pn	13 44 16.6	-0.2
MGMO				IAmb_Lg		13 45 34.7	
	comp=Z,20nm,0.7s						
K30B	**Basset**	**4.80**	**345**	IAmb_Lg		13 45 50.8	
	comp=Z,15nm,0.8s						
P40A	**Paris**	**4.85**	**70**	IAmb_Lg		13 45 50.8	
	comp=Z,12nm,0.7s						
DKNS	**Dickens**	**4.98**	**210**	IAmb_Lg		13 45 56.7	
	comp=Z,16nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.14**	**113**	IAmb_Lg		13 45 58.5	
	comp=Z,14nm,0.8s						
CCM	**Cadral Cave**	**5.30**	**88**	IAmb_Lg		13 46 03.8	
	comp=Z,14nm,0.8s						
SN07	**Snyder 07**	**5.48**	**207**	IAmb_Lg		13 46 07.2	
	comp=Z,17nm,0.9s						
ABTX	**Abilene, Hawle**	**5.57**	**195**	IAmb_Lg		13 46 17.3	
	comp=Z,8.3nm,0.7s						
UALR	**University of**	**5.57**	**124**	IAmb_Lg		13 46 08.7	
	comp=Z,17nm,0.8s						
Q24A	**Divide**	**5.72**	**282**	IAmb_Lg		13 46 16.7	
	comp=Z,14nm,0.7s						
POST	**Post**	**5.74**	**211**	IAmb_Lg		13 46 18.6	
	comp=Z,9.5nm,0.7s						
ECSD	**EROS Data Cent**	**5.79**	**10**	Pn	Pn	13 44 29.1	-3.9
ECSD				IAmb_Lg		13 46 16.0	
	comp=Z,8.3nm,0.9s						
SDCO	**Great Sand Dun**	**5.98**	**270**	IAmb_Lg		13 46 13.9	
	comp=Z,7.8nm,0.8s						
ISCO	**Idaho Springs**	**6.23**	**289**	Pn	Pn	13 44 37.7	-1.7
ISCO				IAmb_Lg		13 46 24.4	
	comp=Z,9.2nm,0.9s						
CGM3	**Cape Girardeau**	**6.62**	**94**	IAmb_Lg		13 46 39.2	
	comp=Z,14nm,0.9s						
SGCY	**Sterling City**	**6.64**	**204**	IAmb_Lg		13 46 55.7	
	comp=Z,12nm,0.9s						
I37A	**Lemond, Waseca**	**6.89**	**29**	IAmb_Lg		13 46 57.8	
	comp=Z,9.4nm,0.8s						
SIUC	**Southern Illin**	**6.92**	**90**	IAmb_Lg		13 46 53.9	
	comp=Z,13nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.07**	**80**	IAmb_Lg		13 47 04.3	
	comp=Z,11nm,0.8s						
OZNA	**Ozona**	**7.56**	**201**	IAmb_Lg		13 47 19.8	
	comp=Z,11nm,1.0s						
JFWS	**Jewell Farm**	**7.63**	**48**	IAmb_Lg		13 47 25.1	
	comp=Z,10nm,0.8s						
HAYD	**Hayden**	**7.63**	**292**	IAmb_Lg		13 47 18.8	
	comp=Z,5.6nm,0.7s						
JCT	**Junction City**	**7.69**	**192**	IAmb_Lg		13 47 27.8	
	comp=Z,10nm,0.8s						
MNHN	**Monahans**	**7.76**	**212**	IAmb_Lg		13 47 26.1	
	comp=Z,6.1nm,0.7s						
PLAL	**Pickwick Lake**	**8.52**	**108**	IAmb_Lg		13 47 49.0	
	comp=Z,6.6nm,0.8s						
SAND	**Sanderson**	**8.77**	**204**	IAmb_Lg		13 48 07.7	
	comp=Z,7.4nm,1.1s						
DRIO	**Del Rio**	**8.87**	**195**	IAmb_Lg		13 47 48.3	
	comp=Z,6.8nm,0.9s						

IDC ***16*** *13:51:00.3±5.2,18.91S×177.86W,h509km±53km,mb3.5/7, mbtmp4.5/9,Error ellipse: s-maj=33.7km s-min=20.2km az=45.0*

NOU ***16*** *13:51:02.1,18.92S×177.70W,h547km,mb4.2/20,Fiji Islands Region*

NEIC ***16*** *13:51:03.3±1.3,18.8S±0.1×177.9W±0.1,h541km±11km, mb4.6/30,Error ellipse: s-maj=19.9km s-min=17.5km az=194.0*

ISC 16 13:51:02.5±0.6,18.91S±0.10×177.90W±0.09,h532km, n70,σ0.93/70,mb4.6/27,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.10**	**308**	P	**P**	**13 52 09.3**	**+2.0**
DGTI	**Dogotuki**	**3.44**	**319**	P	**P**	**13 52 20.0**	**+0.9**
MSVF	**Nonsavu**	**4.02**	**286**	P	**P**	**13 52 25.7**	**+2.3**
MSVF	**Nonsavu**	**4.02**	**286**	P	**P**	**13 52 25.5**	**+2.1**
FUTU	**Fugatoga**	**4.58**	**357**	P	**P**	**13 52 29.4**	**+1.4**
FUTU	**Fugatoga**	**4.58**	**357**	P	**P**	**13 52 29.0**	**+1.1**
NIUE	**Niue**	**7.55**	**93**	P	**P**	**13 52 55.3**	**+0.1**
PINNC	**Pines Island,**	**14.19**	**252**	P	**P**	**13 54 03.4**	**-0.4**
PINNC	**Pines Island,** 37nm,1.8s	**14.19**	**252**	P	**P**	**13 54 03.7**	**-0.1**
SANVU	**Saraoutou**	**14.64**	**281**	P	**P**	**13 54 08.7**	**+0.1**
SANVU	**Saraoutou** 75nm,1.1s	**14.64**	**281**	P	**P**	**13 54 09.9**	**+1.3**
DZM	**Mont Dzumac**	**15.00**	**255**	P	**P**	**13 54 14.4**	**+1.9**
DZM	comp=Z,14nm,0.5s			IAmb	IAmb	13 54 16.3	
DZM	**Mont Dzumac**	**15.00**	**255**	P	**P**	**13 54 12.6**	**+0.2**
	comp=Z,17nm,0.6s,baz=85,slow=19,SNR=20						
DZM	**Mont Dzumac**	**15.00**	**255**	P	**P**	**13 54 14.3**	**+1.9**
	comp=Z,18nm,1.8s						
ONTNC	**Ouen Toro**	**15.03**	**254**	P	**P**	**13 54 14.2**	**+1.6**
ONTNC	comp=Z,46nm,1.2s			IAmb	IAmb	13 54 29.7	
TOZ	**Tahuroa Road**	**19.62**	**196**	P	**P**	**13 54 56.6**	**+0.8**
TOZ	comp=Z,16nm,1.3s			IAmb	IAmb	13 54 57.5	
URZ	**Urewera**	**19.76**	**192**	P	**P**	**13 54 55.2**	**-1.9**
	comp=Z,4.6nm,0.3s,baz=272,slow=2.6,SNR=20						
URZ	**Urewera**	**19.76**	**192**	P	**P**	**13 54 55.3**	**-1.8**
	comp=Z,20nm,2.1s						
TCW	**Tory Channel**	**23.21**	**195**	P	**P**	**13 55 28.2**	**0.0**
WHZ	**Wether Hill Ro**	**29.34**	**200**	P	**P**	**13 56 21.8**	**-0.2**
WHZ	comp=Z,29nm,1.2s			IAmb	IAmb	13 56 28.4	
EIDS	**Eidsvold**	**29.39**	**252**	P	**P**	**13 56 22.6**	**-0.2**
EIDS	comp=Z,6.8nm,0.8s			IAmb	IAmb	13 56 23.4	
ARMA	**Armidale**	**29.87**	**242**	P	**P**	**13 56 27.9**	**+0.9**
ARMA	comp=Z,6.3nm,0.7s			IAmb	IAmb	13 56 28.1	
ARMA	**Armidale**	**29.87**	**242**	P	**P**	**13 56 27.6**	**+0.6**
	comp=Z,12nm,1.7s						
CNB	**Canberra Magne**	**33.21**	**234**	P	**P**	**13 56 55.9**	**+0.4**
	comp=Z,24nm,0.5s						
CAN	**Canberra**	**33.49**	**234**	P	**P**	**13 56 58.3**	**+0.4**
CAN	comp=Z,39nm,1.5s			IAmb	IAmb	13 57 00.2	
CAN	**Canberra**	**33.49**	**234**	P	**P**	**13 56 58.2**	**+0.4**
	comp=Z,30nm,1.9s						
CTA	**Charters Tower**	**33.77**	**262**	P	**P**	**13 57 00.0**	**-0.3**
	comp=Z,1.1nm,0.8s						
CTAO	**Charters Tower**	**33.77**	**262**	P	**P**	**13 57 00.4**	**+0.1**
CTAO	**Charters Tower**	**33.77**	**262**	P	**P**	**13 57 00.0**	**-0.3**
	comp=Z,14nm,0.8s						
CMSA	**Cobar Meteorol**	**35.09**	**242**	P	**P**	**13 57 11.1**	**-0.1**
	comp=Z,18nm,0.7s						
PMG	**Port Moresby**	**35.11**	**281**	P	**P**	**13 57 11.4**	**-0.2**
QLP	**Quilpie**	**35.64**	**251**	P	**P**	**13 57 15.6**	**-0.3**
	comp=Z,42nm,0.7s						
MTSU	**Mount Surprise**	**35.79**	**265**	P	**P**	**13 57 16.9**	**-0.3**
	comp=Z,11nm,0.7s						
TOO	**Toolangi**	**36.92**	**232**	P	**P**	**13 57 26.6**	**+0.3**
TOO	comp=Z,9.9nm,1.2s			IAmb	IAmb	13 57 28.5	
COEN	**Coen**	**37.60**	**272**	P	**P**	**13 57 31.9**	**-0.2**
COEN	comp=Z,15nm,0.8s			IAmb	IAmb	13 57 33.0	
COEN	**Coen**	**37.60**	**272**	P	**P**	**13 57 32.1**	**0.0**
	comp=Z,26nm,0.8s						
STKA	**Stephens Creek**	**38.58**	**242**	P	**P**	**13 57 40.5**	**+0.6**
STKA	**Stephens Creek**	**38.58**	**242**	P	**P**	**13 57 39.6**	**-0.2**
	comp=Z,11nm,0.9s,baz=88,slow=10,SNR=17 comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**38.58**	**242**	P	**P**	**13 57 40.3**	**+0.4**
	comp=Z,4.2nm,0.9s						
INKA	**Innaminka**	**38.83**	**249**	P	**P**	**13 57 42.5**	**+0.5**
INKA	comp=Z,14nm,1.4s			IAmb	IAmb	13 57 43.6	
QIS	**Mount Isa**	**39.95**	**260**	P	**P**	**13 57 50.5**	**-0.6**
	comp=Z,4.0nm,1.0s						
HTT	**Hallett**	**41.06**	**241**	P	**P**	**13 58 00.0**	**+0.1**
	comp=Z,18nm,0.9s						
BBOO	**Buckleboo**	**43.35**	**242**	P	**P**	**13 58 17.8**	**0.0**
BBOO	comp=Z,16nm,0.7s			IAmb	IAmb	13 58 18.3	
WRAB	**Tennant Creek**	**44.92**	**260**	P	**P**	**13 58 29.1**	**-1.1**
WRAB	comp=Z,16nm,0.5s			IAmb	IAmb	13 58 29.9	
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**13 58 29.0**	**-1.3**
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**13 58 29.4**	**-0.8**
	comp=Z,14nm,0.4s,baz=98,slow=6.2,SNR=353 comp=Z,14nm,0.4s						
AS31	**Alice Springs**	**44.99**	**255**	P	**P**	**13 58 30.3**	**-0.4**
AS31	comp=Z,10nm,0.6s			IAmb	IAmb	13 58 31.4	
ASAR	**Alice Springs**	**44.99**	**255**	P	**P**	**13 58 30.3**	**-0.4**
	comp=Z,29nm,0.7s,baz=89,slow=8.5,SNR=427 comp=Z,29nm,0.7s						
KNRA	**Kununurra**	**50.87**	**265**	P	**P**	**13 59 13.8**	**-0.9**
KNRA	comp=Z,17nm,0.7s			IAmb	IAmb	13 59 14.

ISC 16 13:52:28.4±1.4, 35°37'N±0'03×30°39'E±0'03, h32km±12km, n115, σ1°04/146, mb3.5/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.95**	**358**	P	**Pb**	**13 52 45.2**	**-1.2**
AKUM				S	**Sn**	**13 52 58.6**	**+0.7**
AKUM				*i* IAML		13 53 03.0	
	comp=E,257nm,0.3s						
AKUM				*i* IAML		13 53 04.0	
	comp=N,206nm,0.3s						
KSL	**Kastellorizon**	**1.02**	**320**	P	**Pb**	**13 52 49.8**	**+2.3**
KSL				AML	AML	13 53 09.4	
	0.4nm,0.5s						
KSL				AML	AML	13 53 11.7	
	0.7nm,0.4s						
IZZE	**Mula-Seydike**	**1.42**	**319**	P	**Pb**	**13 52 57.0**	**+2.7**
IZZE				S	**Sn**	**13 53 08.8**	**-0.9**
KNIK	**Mula-Seydike**	**1.61**	**336**	P	**Pb**	**13 52 56.1**	**-1.5**
KNIK				S	**Sn**	**13 53 14.9**	**+0.4**
KNIK				*i* IAML		13 53 16.0	
	comp=N,42nm,0.5s						
KNIK				*i* IAML		13 53 17.0	
	comp=E,46nm,0.3s						
AKMS	**Akamas**	**1.63**	**102**	P	**Pn**	**13 52 55.7**	**+0.9**
AKMS				S	**Sn**	**13 53 15.4**	**+0.7**
AKMS				AML	AML	13 53 16.9	
	0.6nm,0.4s						
AKMS				AML	AML	13 53 19.5	
	0.5nm,0.5s						
ALAN	**Alanya-ANTALYA**	**1.78**	**48**	Pn	**Pn**	**13 52 56.9**	**0.0**
ALAN				Sn	**Sn**	**13 53 18.4**	**0.0**
GAZI	**Gazipasa**	**1.78**	**61**	P	**Pn**	**13 52 57.3**	**+0.3**
GAZI				S	**Sn**	**13 53 17.5**	**-1.1**
GAZI				*i* IAML		13 53 22.0	
	comp=E,72nm,0.2s						
GAZI				*i* IAML		13 53 24.0	
	comp=N,120nm,0.5s						
CAME	**Cameli-Denizli**	**1.80**	**331**	Pn	**Pn**	**13 52 57.3**	**0.0**
ALFC	**Alefka**	**1.82**	**96**	P	**Pn**	**13 52 58.1**	**+0.7**
ALFC				S	**Sn**	**13 53 19.7**	**+0.2**
ALFC				AML	AML	13 53 21.6	
	0.6nm,0.2s						
ALFC				AML	AML	13 53 22.9	
	0.3nm,0.2s						
SABU	**Mula-Dalaman**	**1.85**	**322**	S	**Sn**	**13 53 19.4**	**-0.9**
NATA	**Nata**	**1.88**	**108**	P	**Pn**	**13 52 59.5**	**+1.2**
NATA				S	**Sn**	**13 53 21.5**	**+0.5**
NATA				AML	AML	13 53 34.9	
	0.6nm,0.4s						
NATA				AML	AML	13 53 36.3	
	0.5nm,0.4s						
CAEL	**Denizli, Camel**	**1.95**	**334**	S	**Sn**	**13 53 20.9**	**-1.9**
BUCA	**Burdur, Bucak-**	**1.96**	**4**	P	Pn	13 52 52.7	-6.7
BUCA				S	**Sn**	**13 53 24.0**	**+1.2**
GOLH	**Golhisar**	**1.98**	**340**	P	**Pn**	**13 53 01.2**	**+1.4**
GOLH				S	**Sn**	**13 53 22.7**	**-0.8**
GOLH				*i* IAML		13 53 29.0	
	comp=E,54nm,0.3s						
GOLH				*i* IAML		13 53 39.0	
	comp=N,35nm,0.4s						
ARG	**Arkhangelos**	**2.03**	**295**	Pn	**Pn**	**13 53 00.9**	**+0.6**
ARG				Sn	**Sn**	**13 53 24.3**	**-0.2**
TROD	**Troodos**	**2.07**	**101**	P	**Pn**	**13 53 01.4**	**+0.3**
TROD				S	**Sn**	**13 53 26.1**	**+0.2**
TROD				AML	AML	13 53 34.3	
	0.2nm,0.4s						
TROD				AML	AML	13 53 36.6	
	0.2nm,0.5s						
APOL	**The Sanctuary**	**2.15**	**108**	P	**Pn**	**13 53 02.9**	**+1.0**
APOL				S	**Sn**	**13 53 27.5**	**+0.1**
APOL				AML	AML	13 53 30.8	
	0.1nm,0.3s						
APOL				AML	AML	13 53 33.5	
	0.1nm,0.3s						
DNZT	**Denizli-Tavas-**	**2.20**	**330**	P	**Pn**	**13 53 04.3**	**+1.6**
DNZT				S	**Sn**	**13 53 28.0**	**-0.9**
XYLS	**Xyliatos**	**2.21**	**99**	P	**Pn**	**13 53 04.1**	**+1.3**
XYLS				S	**Sn**	**13 53 29.5**	**+0.5**
XYLS				AML	AML	13 53 32.1	
	0.2nm,0.2s						
XYLS				AML	AML	13 53 32.6	
	0.2nm,0.2s						
TURN	**Turunc**	**2.23**	**309**	P	**Pn**	**13 53 05.4**	**+2.2**
TURN				S	**Sn**	**13 53 29.8**	**+0.2**
TURN				*i* IAML		13 53 32.0	
	comp=N,25nm,0.3s						
TURN				*i* IAML		13 53 39.0	
	comp=E,29nm,0.8s						
APMY	**Acipayam-Deniz**	**2.27**	**338**	Pn	**Pn**	**13 53 03.7**	**-0.1**
APMY				Sn	**Sn**	**13 53 30.8**	**+0.1**
HDMB	**Hadim**	**2.32**	**46**	Pn	**Pn**	**13 53 04.5**	**-0.1**
BRDR	**BURDUR-Merkez**	**2.33**	**354**	P	**Pn**	**13 53 06.6**	**+2.0**
BRDR				S	**Sn**	**13 53 33.5**	**+1.3**
BRDR				*i* IAML		13 53 37.0	
	comp=N,30nm,0.4s						
BRDR				*i* IAML		13 53 38.0	
	comp=E,38nm,0.6s						
SEYD	**Seydisehir-KON**	**2.34**	**29**	Pn	**Pn**	**13 53 04.6**	**-0.1**
TEKE	**Tekeli-Mersin**	**2.34**	**70**	Pn	**Pn**	**13 53 04.9**	**+0.3**
SEDI	**Konya, Seydise**	**2.35**	**28**	P	**Pn**	**13 53 05.7**	**+0.9**
SEDI				S	**Sn**	**13 53 33.6**	**+1.0**
SEDI				*i* IAML		13 53 38.0	
	comp=N,58nm,0.4s						
SEDI				*i* IAML		13 53 39.0	
	comp=E,45nm,0.5s						
ERMK	**Ermenek**	**2.40**	**57**	P	**Pn**	**13 53 07.3**	**+1.7**
ERMK				*i* IAML		13 53 45.0	
	comp=N,69nm,0.4s						
ERMK				*i* IAML		13 53 45.0	
	comp=E,36nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.41**	**331**	P	**Pn**	**13 53 07.5**	**+1.9**
TAVA				S	**Sn**	**13 53 32.2**	**-1.8**
TAVA				*i* IAML		13 53 35.0	
	comp=N,28nm,0.5s						
TAVA				*i* IAML		13 53 37.0	
	comp=E,27nm,0.3s						
ASGA	**Asgata**	**2.41**	**103**	P	**Pn**	**13 53 07.1**	**+1.5**
ASGA				S	**Sn**	**13 53 34.1**	**+0.1**
ASGA				AML	AML	13 53 37.1	
	0.1nm,0.2s						
ASGA				AML	AML	13 53 42.0	
	0.1nm,0.5s						
INCE	**Denizli-Bozkur**	**2.42**	**344**	S	**Sn**	**13 53 35.4**	**+1.0**
CSS	**Mathiatis**	**2.44**	**99**	Pn	**Pn**	**13 53 06.6**	**+0.6**
CSS	**Mathiatis**	**2.44**	**99**	P	**Pn**	**13 53 07.1**	**+1.1**
CSS				S	**Sn**	**13 53 35.3**	**+0.5**
CSS				AML	AML	13 53 39.5	
	0.1nm,0.2s						
CSS				AML	AML	13 53 39.9	
	0.1nm,0.6s						
CSS	**Mathiatis**	**2.44**	**99**	P	**Pn**	**13 53 07.0**	**+1.1**
CSS	**Mathiatis**	**2.44**	**99**	S	**Sn**	**13 53 35.3**	**+0.5**
ISP	**Isparta**	**2.45**	**2**	Pn	**Pn**	**13 53 06.2**	**0.0**
ISP	**Isparta**	**2.45**	**2**	P	**Pb**	**13 53 09.8**	**-2.0**
ISP	**Isparta**	**2.45**	**2**	S	**Sb**	**13 53 39.8**	**-1.7**
BERE	**Bereket-Mersin**	**2.50**	**66**	Pn	**Pn**	**13 53 07.4**	**+0.5**
YORU	**Yoruktepe-Mers**	**2.57**	**71**	Pn	**Pn**	**13 53 06.9**	**-0.9**
BAGO	**Egridir - ISPA**	**2.63**	**7**	P	**Pn**	**13 53 09.9**	**+1.2**
BAGO				S	**Sn**	**13 53 39.4**	**-0.2**
BAGO				*i* IAML		13 53 50.0	
	comp=E,13nm,0.4s						
KARP	**Karpathos**	**2.64**	**275**	Pn	**Pn**	**13 53 09.7**	**+0.9**
DAT	**Datca**	**2.65**	**301**	Pn	**Pn**	**13 53 09.5**	**+0.5**
AKK1	**Akkuyu-Mersin**	**2.67**	**72**	Pn	**Pn**	**13 53 09.9**	**+0.8**
MVOU	**Mavrovouni**	**2.68**	**97**	P	**Pn**	**13 53 10.2**	**+1.0**
MVOU				S	**Sn**	**13 53 41.1**	**+0.6**
MVOU				AML	AML	13 53 49.7	
	0.1nm,0.5s						
MVOU				AML	AML	13 53 55.7	
	0.1nm,0.6s						
TEVE	**Tevekalti-Mers**	**2.69**	**66**	Pn	**Pn**	**13 53 10.1**	**+0.6**
YAZI	**Mula-Dat§a-**	**2.72**	**300**	P	**Pn**	**13 53 10.8**	**+1.1**
YAZI				S	**Sn**	**13 53 39.0**	**-2.5**
YAZI				*i* IAML		13 53 43.0	
	comp=E,51nm,0.4s						
YAZI				*i* IAML		13 53 44.0	
	comp=N,19nm,0.2s						
TISA	**Tisan-Mersin**	**2.79**	**73**	Pn	**Pn**	**13 53 11.4**	**+0.7**
KEBE	**Keben-Mersin**	**2.90**	**67**	Pn	**Pn**	**13 53 12.9**	**+0.5**
KRMN	**Karaman**	**2.93**	**51**	Pn	**Pn**	**13 53 13.5**	**+0.6**
YVAC	**Isparta, Yalva**	**2.97**	**13**	P	**Pn**	**13 53 14.8**	**+1.5**
YVAC				S	**Sn**	**13 53 47.8**	**-0.1**
YVAC				*i* IAML		13 53 53.0	
	comp=E,12nm,0.4s						
SILI	**Silifke-Mersin**	**3.04**	**70**	Pn	**Pn**	**13 53 14.8**	**+0.7**
PASA	**Karahalli, USA**	**3.06**	**347**	P	**Pn**	**13 53 15.6**	**+1.1**
PASA				*i* IAML		13 53 50.0	
	comp=N,10nm,0.3s						
PASA				*i* IAML		13 53 54.0	
	comp=E,15nm,0.3s						
SDAG	**Sultandagi-AFY**	**3.09**	**8**	Pn	**Pn**	**13 53 15.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**323**	Pn	**Pn**	**13 53 18.1**	**+0.7**
KULA	**Kula-Manisa**	**3.43**	**337**	Pn	**Pn**	**13 53 20.1**	**+0.4**
ODEM	**Odemis-Izmir**	**3.44**	**328**	Pn	**Pn**	**13 53 20.7**	**+0.9**
MERS	**Mersin**	**3.66**	**65**	Pn	**Pn**	**13 53 23.8**	**+1.0**
CMRD	**Camardi-Nigde**	**4.35**	**57**	Pn	**Pn**	**13 53 33.6**	**+1.2**
IDI	**Anoyia**	**4.50**	**271**	Pn	**Pn**	**13 53 35.7**	**+1.4**
	5.2nm,0.3s,baz=243,slow=18,SNR=24						
IDI				Sn	**Sn**	**13 54 26.7**	**+1.1**
	9.0nm,0.3s,baz=326,slow=17,SNR=9.2						
	11nm,0.3s						
HNTI	**Hanita**	**4.57**	**119**	P	**Pn**	**13 53 36.6**	**+1.3**
HNTI	**Hanita**	**4.57**	**119**	S	**Sn**	**13 54 27.4**	**0.0**
OFRI	**`Ofer**	**4.70**	**124**	P	**Pn**	**13 53 37.6**	**+0.5**
OFRI	**`Ofer**	**4.70**	**124**	S	**Sn**	**13 54 30.1**	**-0.4**
MMC7	**Mount Meron ar**	**4.76**	**118**	P	**Pn**	**13 53 38.8**	**+0.9**
MMA0B	**Mount Meron ar**	**4.77**	**118**	P	**Pn**	**13 53 38.6**	**+0.5**
MMA0B	**Mount Meron ar**	**4.77**	**118**	S	**Sn**	**13 54 32.1**	**-0.2**
MMAI	**Mount Meron Ar**	**4.77**	**118**	Pn	**Pn**	**13 53 39.1**	**+1.0**
	3.8nm,0.3s,baz=308,slow=12,SNR=13						
MMAI				Sn	**Sn**	**13 54 31.1**	**-1.2**
	9.8nm,0.3s,baz=310,slow=22,SNR=13						
MMAI				LR	LR	13 56 36.3	
	comp=Z,36nm,20.9s,baz=326,slow=52						
	2.5nm,0.3s						
GEM	**Giv'at Ha'Em**	**4.87**	**115**	P	**Pn**	**13 53 40.1**	**+0.7**
GEM	**Giv'at Ha'Em**	**4.87**	**115**	S	**Sn**	**13 54 34.9**	**+0.3**
NATI	**Neve Ativ**	**4.90**	**114**	P	**Pn**	**13 53 41.1**	**+1.3**
NATI	**Neve Ativ**	**4.90**	**114**	S	**Sn**	**13 54 35.6**	**+0.3**
SLTI	**Sal'it**	**4.97**	**128**	P	**Pn**	**13 53 41.6**	**+0.8**
SLTI	**Sal'it**	**4.97**	**128**	S	**Sn**	**13 54 36.6**	**-0.6**
BRTR	**Keskin Array B**	**5.05**	**30**	Pn	**Pn**	**13 53 42.4**	**+0.4**
	0.2nm,0.3s,baz=219,slow=16,SNR=4.0						
	0.7nm,0.5s						
MMLI	**Mount Malkishu**	**5.10**	**124**	P	**Pn**	**13 53 43.1**	**+0.4**
MMLI	**Mount Malkishu**	**5.10**	**124**	S	**Sn**	**13 54 40.1**	**-0.4**
HMDT	**Nahal Hemdat**	**5.29**	**125**	P	**Pn**	**13 53 45.3**	**+0.2**
HMDT	**Nahal Hemdat**	**5.29**	**125**	S	**Sn**	**13 54 44.9**	**0.0**
KOT	**Kottamia**	**5.56**	**167**	P	**Pn**	**13 53 49.3**	**+0.3**
KZIT	**Kziot**	**5.58**	**142**	P	**Pn**	**13 53 49.6**	**+0.5**
KZIT	**Kziot**	**5.58**	**142**	S	**Sn**	**13 54 51.4**	**-0.7**
HHAG	**Hagoal**	**5.59**	**165**	P	**Pn**	**13 53 50.0**	**+0.6**
YTIR	**Yattir**	**5.62**	**134**	P	**Pn**	**13 53 50.1**	**+0.3**
YTIR	**Yattir**	**5.62**	**134**	S	**Sn**	**13 54 53.6**	**+0.3**
DSI	**Dead Sea**	**5.63**	**131**	P	**Pn**	**13 53 50.1**	**+0.2**
DSI	**Dead Sea**	**5.63**	**131**	S	**Sn**	**13 54 53.1**	**-0.4**
HNAT	**Natroun**	**5.73**	**178**	P	**Pn**	**13 53 51.6**	**+0.4**
HNAT				S	**Sn**	**13 54 53.4**	**-2.4**
MSBI	**Mazada**	**5.80**	**133**	P	**Pn**	**13 53 52.3**	**+0.2**
MSBI	**Mazada**	**5.80**	**133**	S	**Sn**	**13 54 57.6**	**+0.1**
GHAJ	**Ghor Haditha**	**5.93**	**132**	P	**Pn**	**13 53 53.8**	**-0.2**
GHAJ	**Ghor Haditha**	**5.93**	**132**	S	**Sn**	**13 55 00.4**	**-0.4**
RYAN	**Fayoum**	**6.27**	**181**	P	**Pn**	**13 53 59.0**	**+0.3**
ASF	**Jabal al Asfar**	**6.29**	**119**	Sn	**Sn**	**13 55 09.1**	**-0.6**
	0.7nm,0.3s,baz=275,slow=8.0,SNR=4.0						
PRNI	**Paran**	**6.33**	**141**	P	**Pn**	**13 53 59.6**	**+0.1**
ZAF	**Zafarana**	**6.34**	**163**	P	**Pn**	**13 54 00.8**	**+1.1**
ZAF				S	**Sn**	**13 55 08.5**	**-2.5**
KRMI	**Paran Flat**	**6.38**	**144**	P	**Pn**	**13 54 00.6**	**+0.3**
KRMI	**Paran Flat**	**6.38**	**144**	S	**Sn**	**13 55 11.9**	**-0.2**
HRFI	**Mount Harif**	**6.61**	**142**	P	**Pn**	**13 54 03.3**	**+0.1**
HRFI	**Mount Harif**	**6.61**	**142**	S	**Sn**	**13 55 17.2**	**-0.3**
MBRI	**Mt Berech**	**6.74**	**144**	P	**Pn**	**13 54 05.6**	**+0.4**
MBRI	**Mt Berech**	**6.74**	**144**	S	**Sn**	**13 55 20.4**	**-0.6**
EIL	**Elat**	**6.87**	**145**	Pn	**Pn**	**13 54 07.7**	**+0.8**
	1.0nm,0.3s,baz=309,slow=6.5,SNR=13						
EIL				Sn	**Sn**	**13 55 21.3**	**-2.6**
	1.3nm,0.3s,baz=65,slow=11,SNR=6.9						
	2.8nm,0.3s						
EIL	**Elat**	**6.87**	**145**	P	**Pn**	**13 54 07.1**	**+0.3**
EIL	**Elat**	**6.87**	**145**	S	**Sn**	**13 55 22.7**	**-1.2**
SWA2		**7.40**	**216**	P	**Pn**	**13 54 14.6**	**+0.4**
SWA2				S	**Sn**	**13 55 33.2**	**-3.8**
HKAT	**Jabal Katrina**	**7.48**	**155**	P	**Pn**	**13 54 16.1**	**+0.7**
TR2	**Tor 2**	**7.52**	**157**	P	**Pn**	**13 54 16.6**	**+0.8**
TAMRE	**El Minia**	**7.68**	**177**	P	**Pn**	**13 54 18.8**	**+0.8**
HFRF	**Wahat Farafira**	**8.39**	**193**	P	**Pn**	**13 54 28.3**	**+0.6**
HDK1	**Dakhla**	**9.84**	**185**	P	**Pn**	**13 54 48.4**	**+0.8**
AKASG	**Malin Array Be**	**15.35**	**357**	Pn	**Pn**	**13 56 02.1**	**-0.3**
	0.1nm,0.3s,baz=173,slow=9.3,SNR=1.4						
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**25.03**	**44**	P	**P**	**13 57 50.6**	**+1.3**
	0.9nm,0.3s,baz=239,slow=8.5,SNR=3.7						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**26.23**	**355**	P	**P**	**13 57 59.5**	**-0.7**
	0.5nm,0.3s,baz=169,slow=8.9,SNR=5.3						
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**34.32**	**357**	P	**P**	**13 59 11.6**	**0.0**
	0.3nm,0.5s,baz=181,slow=8.9,SNR=4.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**40.07**	**57**	P	**P**	**14 00 00.8**	**+0.2**
	0.2nm,0.6s,baz=263,slow=7.8,SNR=2.3						
	0.2nm,0.6s						

IDC 16 14:01:46.5±2.8, 20°26S×179°83E, h0km, mb4.0/3, mbtmp4.0/3, MS3.5/1, Error ellipse: s-maj=288.9km s-min=35.1km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.59**	**257**	P	P	14 09 43.5	-1.2
	1.6nm,0.6s,baz=95,slow=7.4,SNR=28						
ASAR				LR	LR	14 26 39.9	
	comp=Z,57nm,21.0s,baz=78,slow=35						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**42.62**	**262**	P	P	14 09 45.8	+0.9
	1.6nm,0.3s,baz=94,slow=8.1,SNR=135						
	1.6nm,0.3s						
TXAR	**Lajitas Array**	**88.65**	**58**	P	P	14 14 42.1	0.0
	0.3nm,0.7s,baz=216,slow=6.2,SNR=3.5						
	0.3nm,0.7s						

*IDC **16** 14:02:17.4±1.1, 29°.28N×130°.89E, h0km, mb3.9/16, mbtmp3.9/19, ML3.4/3, MS3.3/12, Error ellipse: s-maj=26.5km s-min=19.3km az=125.0*
*NEIC **16** 14:02:18.2±1.0, 29°.09N±0°.02×131°.06E±0°.10, h10km±1km, mb4.2/10, Error ellipse: s-maj=14.1km s-min=4.1km az=87.0*
*JMA **16** 14:02:20.1±0.1, 29°.2N±0°.4×131°.1E±0°.9, h66km±3km, MV3.7/39, NEAR AMAMI-OSHIMA ISLAND*
*NIED **16** 14:02:20.1, 29°.16N×131°.05E, h66km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.43; Mθθ-0.18; Mφφ0.61; Mrθ-0.50; Mrφ0.64; Mθφ1.92; Fault plane solution: M₀2.16000×10¹⁵ NP1:φ64.00000°, δ21.00000°, λ-16.00000°. NP2:φ169.00000°, δ84.00000°, λ-110.00000°.*

ISC 16 14:02:21.6±0.7, 29°.14N±0°.05×131°.07E±0°.07, h45km, n69, σ1°12/61, mb4.0/22, MS3.4/11, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**1.20**	**336**	P	**Pn**	**14 02 41.0**	**-1.0**
JYAK				S	**Sn**	**14 02 56.2**	**-0.9**
JNN	**Nakanoshima**	**1.26**	**304**	P	**Pn**	**14 02 41.8**	**-1.0**
JMTN	**Minamitane**	**1.27**	**353**	P	**Pn**	**14 02 41.7**	**-1.2**
JMTN				*e*S	**Sn**	**14 02 57.2**	**-1.5**
JZK	**Kikaishima**	**1.27**	**230**	P	**Pn**	**14 02 42.4**	**-0.5**
JAM	**Amami Oshima**	**1.48**	**241**	*i* P	**Pn**	**14 02 44.6**	**-1.1**
JAM				*e*S	**Sn**	**14 03 02.6**	**-1.2**
JTN	**Tanegashima 3**	**1.52**	**357**	*i* P	**Pn**	**14 02 44.9**	**-1.4**
JTN				S	**Sn**	**14 03 03.2**	**-1.7**
JKC	**Kuchinoerabu**	**1.53**	**330**	P	**Pn**	**14 02 45.5**	**-0.9**
JTAJ	**Takarajima**	**1.64**	**271**	P	**Pn**	**14 02 47.0**	**-0.9**
JAMN	**Amaminishikomi**	**1.89**	**242**	*i* P	**Pn**	**14 02 50.7**	**-0.6**
JAMN				S	**Sn**	**14 03 13.5**	**-0.5**
JTK	**Tokunoshima**	**2.30**	**235**	*i* P	**Pn**	**14 02 56.5**	**-0.6**
JTK				*e*S	**Sn**	**14 03 23.5**	**-0.7**
JNAR	**Kushima--Naru**	**2.39**	**4**	*i* P	**Pn**	**14 02 57.7**	**-0.6**
JNAR				*e*S	**Sn**	**14 03 24.8**	**-1.5**
JSU	**Suzuyama**	**2.42**	**347**	P	**Pn**	**14 02 57.8**	**-1.0**
JTZ	**Takazaki**	**2.76**	**0**	P	**Pn**	**14 03 02.7**	**-0.6**
JSJ	**Shimokoshiki**	**2.79**	**336**	P	**Pn**	**14 03 02.2**	**-1.6**
JOKE	**Okinoerabujima**	**2.83**	**232**	P	**Pn**	**14 03 03.6**	**-0.7**
JOKE				S	**Sn**	**14 03 35.2**	**-1.9**
JZO	**Okuchi**	**3.02**	**352**	P	**Pn**	**14 03 06.4**	**-0.6**
JTSN	**Tsuno**	**3.12**	**7**	P	**Pn**	**14 03 07.2**	**-1.1**
JYRO	**Yoronjima**	**3.13**	**228**	P	**Pn**	**14 03 07.3**	**-1.1**
JYRO				S	**Sn**	**14 03 42.5**	**-2.0**
JMZ	**Minamidaito 2**	**3.31**	**178**	Pn	**Pn**	**14 03 08.7**	**-2.1**
JOW	**Kunigami**	**3.37**	**228**		**Pn**	**14 03 10.2**	**-1.6**
JOW	**Kunigami**	**3.37**	**228**	Pn	**Pn**	**14 03 10.4**	**-1.4**
	16nm,0.3s,baz=97,slow=22,SNR=158						
JOW				Sn	**Sn**	**14 03 48.4**	**-2.2**
	36nm,0.3s,baz=83,slow=29,SNR=29						
	37nm,0.2s						
JNU	**Nakatsue**	**3.98**	**358**	Pn	**Pn**	**14 03 19.8**	**-0.3**
JNU	**Nakatsue**	**3.98**	**358**	Pn	**Pn**	**14 03 19.1**	**-1.0**
	2.7nm,0.3s,baz=190,slow=13,SNR=55						
JNU				Sn	**Sn**	**14 04 01.5**	**-4.0**
	4.1nm,0.3s,baz=324,slow=23,SNR=7.5						
	5.7nm,0.3s						
JMN	**Monobe**	**5.17**	**27**	Pn	**Pn**	**14 03 35.6**	**-0.8**
INU	**Inuyama**	**7.98**	**38**	Pn	**Pn**	**14 04 15.0**	**0.0**
JGF	**Kuroka**	**8.35**	**38**	Pn	**Pn**	**14 04 19.8**	**-0.3**
KSAR	**Wonju Array Be**	**8.70**	**343**	Pn	**Pn**	**14 04 24.8**	**0.0**
MAJO	**Matsushiro**	**9.51**	**37**	Pn	**Pn**	**14 04 35.9**	**-0.2**
MJAR	**Matsushiro Arr**	**9.52**	**37**	Pn	**Pn**	**14 04 36.8**	**+0.8**
MJAR	**Matsushiro Arr**	**9.52**	**37**	Pn	**Pn**	**14 04 36.5**	**+0.4**
	0.2nm,0.3s,baz=262,slow=16,SNR=14						
	0.8nm,0.6s						
MJB9	**Matsu-Tunnel**	**9.52**	**37**	Pn	**Pn**	**14 04 35.5**	**-0.5**
ASAJ	**Asahikawa**	**17.55**	**28**	LR	LR	14 14 04.9	
	comp=Z,73nm,18.1s,baz=186,slow=40						
GUMO	**Guam**	**20.08**	**138**	LR	LR	14 12 41.6	
	comp=Z,26nm,21.1s,baz=323,slow=31						
SONM	**Songino Array**	**26.68**	**321**	P	**P**	**14 07 56.4**	**-0.1**
SONM	**Songino Array**	**26.68**	**321**	P	**P**	**14 07 56.0**	**-0.5**
	0.6nm,0.4s,baz=141,slow=9.0,SNR=4.5						
SONM				LR	LR	14 20 20.4	
	comp=Z,94nm,18.1s,baz=133,slow=41						
	0.6nm,0.4s						
PETK	**Petropavlovsk-**	**30.91**	**32**	P	**P**	**14 08 34.7**	**+0.8**
PETK	**Petropavlovsk-**	**30.91**	**32**	P	P	14 08 35.2	+1.3
	7.0nm,0.8s,baz=202,slow=7.7,SNR=6.4						
PETK				LR	LR	14 20 52.9	
	comp=Z,25nm,19.1s,baz=200,slow=36						
	7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.17**	**257**	P	**P**	**14 08 36.7**	**+0.3**
	0.3nm,0.4s,baz=56,slow=9.0,SNR=1.5						
CMAR				LR	LR	14 23 13.3	
	comp=Z,25nm,19.9s,baz=235,slow=40						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**41.56**	**320**	P	**P**	**14 10 05.0**	**+0.4**
	0.5nm,0.4s,baz=102,slow=6.5,SNR=2.3						
ZALV				LR	LR	14 29 13.5	
	comp=Z,54nm,18.2s,baz=116,slow=39						
	0.5nm,0.4s						
MK31	**Makanchi Array**	**41.58**	**309**	P	**P**	**14 10 04.9**	**-0.1**
MKAR	**Makanchi Array**	**41.58**	**309**	P	**P**	**14 10 04.9**	**-0.1**
MKAR	**Makanchi Array**	**41.58**	**309**	P	**P**	**14 10 04.7**	**-0.3**
	0.9nm,0.7s,baz=102,slow=9.3,SNR=4.8						
MKAR				LR	LR	14 28 31.6	
	comp=Z,28nm,18.3s,baz=82,slow=38						
	0.9nm,0.7s						
TIXI	**Tiksi**	**42.58**	**359**	LR	LR	14 29 36.8	
	comp=Z,53nm,18.3s,baz=194,slow=39						
KURK	**Kurchatov**	**44.53**	**314**	P	**P**	**14 10 29.3**	**+0.6**
KURK				IAmb	IAmb	14 10 42.7	
	comp=Z,4.1nm,1.1s						
KURBB	**Kurchatov Arra**	**44.58**	**314**	P	**P**	**14 10 28.4**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=100,slow=8.9,SNR=10.0						
KURBB				LR	LR	14 31 01.6	
	comp=Z,83nm,18.8s,baz=168,slow=39						
	comp=Z,2.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**47.25**	**187**	P	**P**	**14 10 50.8**	**+0.4**
FITZ				IAmb	IAmb	14 11 18.4	
	comp=Z,2.2nm,1.5s						
ARSB	**Arslanbob**	**48.17**	**301**		**P**	**14 10 56.9**	**-0.8**
WRA	**Warramunga Arr**	**48.89**	**176**	P	P	14 11 06.7	+3.6
	comp=Z,0.3nm,0.8s,baz=356,slow=8.0,SNR=1.9						
	comp=Z,0.3nm,0.8s						
BVAR	**Borovoye Array**	**49.85**	**316**	P	**P**	**14 11 09.8**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=98,slow=11,SNR=6.0						

GALT				Sg		Sg	14 03 57.6	-1.9
BJR3	**Bachatsky-3 (S**	**1.77**	**323**	Pg		Pg	14 03 45.1	-0.2
BJR3				Sg		Sg	14 04 08.5	+0.2
POMOR	**Pomortsevo, Ku**	**1.81**	**332**	Pg		Pg	14 03 46.6	+0.6
POMOR				Sg		Sg	14 04 11.0	+1.7
BJR1	**Bachatsky 1, K**	**1.83**	**322**	Pg		Pg	14 03 46.7	+0.3
BJR1				Sg		Sg	14 04 09.8	-0.2
BJR2	**Bachatsky-2, K**	**1.83**	**324**	Pg		Pg	14 03 46.0	-0.4
BJR2				Sg		Sg	14 04 12.0	+1.9
ELDR	**Elanda**	**1.97**	**217**	Pg		Pb	14 03 48.0	-0.1
ELDR				Sg		Sn	14 04 11.8	+0.4
DJO	**Djoy, Khakassi**	**1.98**	**90**	Pg		Pg	14 03 49.2	-0.1
DJO				Sg		Sg	14 04 15.1	+0.2
SALR	**Pechorkino, Sa**	**2.09**	**321**	Pg		Pg	14 03 50.7	-0.7
SALR				Sg		Sg	14 04 18.0	-0.5
CERR	**Cheremushki**	**2.10**	**88**	Pg		Pg	14 03 51.8	+0.3
CERR				Sg		Sg	14 04 18.2	-0.5
ULGR	**Ulagan, Altay**	**2.19**	**180**	Pg		Pg	14 03 53.1	-0.2
ULGR				Sg		Sg	14 04 21.7	-0.1
ZAA0	**Zalesovo Array**	**2.20**	**302**	⇑Pn		Pb	14 03 51.3	-0.5
	1.3nm,0.4s							
ZAA0				⇑Sn		Sg	14 04 20.1	-1.7
	2.3nm,0.4s							
TEL	**Teeli**	**2.27**	**141**	Pg		Pn	14 03 51.4	+1.2
TEL				Sg		Sb	14 04 22.1	+0.2
AKAR	**Aktash**	**2.51**	**185**	Pg		Pb	14 03 56.4	-0.9
AKAR				Sg		Sb	14 04 28.9	+0.1
CHBI	**Chibit, Altay**	**2.52**	**187**	Pg		Pb	14 03 56.8	-0.7
CHBI				Sg		Sb	14 04 29.2	+0.1
CUR	**Chagan-Uzun**	**2.73**	**175**	Pg		Pb	14 04 00.8	-0.3
CUR				Sg		Sb	14 04 36.5	+1.4
KEM	**Kemerovo**	**2.76**	**337**	Sg		Sg	14 04 39.6	-0.3
BRCR	**Berchikul'**	**2.84**	**4**	Pg		Pb	14 04 02.2	-0.6
BRCR				Sg		Sg	14 04 41.2	-1.3
ARDR	**Aradan**	**3.34**	**92**	Pg		Pg	14 04 13.9	-1.3
ARDR				Sg		Sg	14 04 56.6	-1.9
KURK	**Kurchatov**	**6.17**	**254**	⇑Sn		Sn	14 05 53.9	-0.9
	1.6nm,0.4s							
KURK				⇑Lg		Lg	14 06 23.2	
	12nm,0.7s							
KURBB	**Kurchatov Arra**	**6.26**	**253**	⇑Pn		Pn	14 04 46.5	+1.7
	2.2nm,0.4s							
KURBB				⇓Sn		Sn	14 05 55.2	-1.8
	8.9nm,0.6s							
KURBB				⇑Lg		Lg	14 06 26.5	
	19nm,0.7s							
MK31	**Makanchi Array**	**7.05**	**214**	⇓Pn		Pn	14 04 58.5	+2.8
	3.3nm,0.5s,baz=29,slow=12,SNR=58							
MK31				⇑Sn		Sn	14 06 17.8	+1.2
	2.7nm,0.8s,baz=29,slow=23,SNR=5.8							
MK31				⇑Lg		Lg	14 06 52.0	
	2.7nm,0.6s,baz=30,slow=26,SNR=4.3							

*SJA **16** 14:36:12.8±0.8,22°.16S×68°.69W,h109km±10km,ML4.0, MW3.7*
*NEIC **16** 14:36:14.1±0.9,22°.15S±0°.04×68°.77W±0°.06,h117km±6km, mb4.3/10,ML4.0(GUC),Error ellipse: s-maj=7.7km s-min=5.8km az=72.0*
*GUC **16** 14:36:15.4±0.7,22°.13S×68°.75W,h105km±2km,ML4.0*

ISC 16 14:36:13.4±0.7,**22°.19S**±0°.03×**68°.81W**±0°.04,**h116**km±5km, **n70**,σ1°**90**/96,**mb4.4**/3,**8C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.56**	**314**			**Pn**	**14 36 32.3**	**+0.7**
PB09						Sn	14 36 45.5	+0.4
PB09	**IPOC Station P**	**0.56**	**314**	⇑*iP*		Pn	14 36 32.2	+0.7
PB09				*eS*		Sn	14 36 45.5	+0.4
PB09				IAML			14 36 46.9	
	comp=N,4μm,0.2s							
PB09	**IPOC Station P**	**0.56**	**314**	IAML			14 36 46.6	
	comp=Z,5μm,0.3s							
PB06	**IPOC Station P**	**0.88**	**234**			**Pn**	**14 36 35.5**	**+1.3**
PB06						Sn	14 36 51.1	+1.5
PB06	**IPOC Station P**	**0.88**	**234**	⇑*iP*		Pn	14 36 35.4	+1.3
PB06				*eS*		Sn	14 36 51.1	+1.5
PB06				IAML			14 36 52.2	
	comp=N,2μm,0.1s							
PB06	**IPOC Station P**	**0.88**	**234**	*eP*		Pn	14 36 35.4	+1.3
PB06				*eS*		Sn	14 36 51.8	+2.2
PB03	**IPOC Station P**	**0.89**	**279**			Pn	14 36 35.2	+1.0
PB03						Sn	14 36 50.6	+0.8
PB03	**IPOC Station P**	**0.89**	**279**	⇑*iP*		Pn	14 36 35.2	+1.0
PB03				*eS*		Sn	14 36 50.8	+0.9
PB03				IAML			14 36 52.8	
	comp=E,3μm,0.1s							
PB03	**IPOC Station P**	**0.89**	**279**	*eP*		Pn	14 36 34.5	+0.3
PB03				*eS*		Sn	14 36 50.9	+1.1
PB03				IAML			14 36 53.2	
	comp=Z,2μm,0.2s							
AF01	**San Pedro de A**	**0.96**	**143**			**Pn**	**14 36 36.0**	**+1.0**
AF01						Sn	14 36 52.0	+0.6
AF01	**San Pedro de A**	**0.96**	**143**	⇓*iP*		Pn	14 36 36.0	+1.0
AF01				*eS*		Sn	14 36 51.9	+0.6
AF01				IAML			14 36 54.0	
	comp=E,9μm,0.3s							
AF01	**San Pedro de A**	**0.96**	**143**	*eP*		Pn	14 36 31.5	-3.5
AF01				*eS*		Sn	14 36 51.5	+0.3
AF01				IAML			14 36 57.2	
	comp=Z,2μm,0.3s							
PB01	**IPOC Station P**	**1.30**	**331**			**Pn**	**14 36 38.9**	**+0.4**
PB01	**IPOC Station P**	**1.30**	**331**	⇑*iP*		Pn	14 36 38.8	+0.4
PB01				*eS*		Sn	14 36 57.2	-0.2
PB01				IAML			14 36 59.0	
	comp=N,3μm,0.2s							
PB01	**IPOC Station P**	**1.30**	**331**	*eP*		Pn	14 36 38.9	+0.4
PB01				*eS*		Sn	14 36 58.5	+1.1
PB01				IAML			14 36 58.8	
	comp=Z,1μm,0.2s							
PB02	**IPOC Station P**	**1.33**	**310**			**Pn**	**14 36 39.6**	**+0.9**
PB02	**IPOC Station P**	**1.33**	**310**	⇑*iP*		Pn	14 36 39.6	+0.9
PB02				*eS*		Sn	14 36 58.2	+0.2
PB02				IAML			14 36 59.5	
	comp=E,4μm,0.5s							
PB02	**IPOC Station P**	**1.33**	**310**	*eP*		Pn	14 36 39.6	+0.9
PB02				*eS*		Sn	14 36 59.0	+1.1
PB02				IAML			14 36 59.4	
	comp=Z,4μm,0.2s							
PB05	**IPOC Station P**	**1.45**	**243**			**Pn**	**14 36 41.6**	**+1.4**
PB05	**IPOC Station P**	**1.45**	**243**	*eP*		Pn	14 36 41.5	+1.4
PB05				*eS*		Sn	14 37 02.1	+1.8
PB05	**IPOC Station P**	**1.45**	**243**	*eP*		Pn	14 36 41.6	+1.4
PB05				*eS*		Sn	14 36 48.0	-12
PATCX	**Punta Patache**	**1.85**	**317**			**Pn**	**14 36 45.5**	**+0.6**
TA01	**Diego Aracena**	**2.06**	**321**			**Pn**	**14 36 47.5**	**+0.1**
TA01	**Diego Aracena**	**2.06**	**321**	*eP*		Pn	14 36 47.5	+0.1
TA01				IAML			14 37 15.6	
	comp=N,2μm,0.5s							
TA01	**Diego Aracena**	**2.06**	**321**	*eP*		Pn	14 36 47.6	+0.2
TA01				*eS*		Sn	14 37 14.9	+1.5
TA01				IAML			14 37 16.6	
	comp=Z,762nm,0.4s							
PB08	**IPOC Station P**	**2.06**	**351**			**Pn**	**14 36 48.9**	**+1.0**
PB08	**IPOC Station P**	**2.06**	**351**	⇑*iP*		Pn	14 36 48.9	+1.0
PB08				*eS*		Sn	14 37 14.5	+0.3
PB08				IAML			14 37 17.0	
	comp=E,524nm,0.4s							
PB08	**IPOC Station P**	**2.06**	**351**	*eP*		Pn	14 36 48.2	+0.3
PB08				*eS*		Sn	14 37 16.5	+2.4
PB10	**IPOC Station P**	**2.08**	**230**			**Pn**	**14 36 50.0**	**+2.2**
PB10	**IPOC Station P**	**2.08**	**230**	*eP*		Pn	14 36 49.8	+2.1
PB10	**IPOC Station P**	**2.08**	**230**	*eP*		Pn	14 36 49.8	+2.1
PB10				*eS*		Sn	14 37 09.4	-4.6
HMBC	**Humberstone**	**2.15**	**332**			**Pn**	**14 36 48.7**	**0.0**
HMBC	**Humberstone**	**2.15**	**332**	⇑*iP*		Pn	14 36 48.7	0.0
HMBC				IAML			14 37 17.8	
	comp=E,2μm,0.3s							
HMBC	**Humberstone**	**2.15**	**332**	*eP*		Pn	14 36 48.7	0.0
HMBC				*eS*		Sn	14 37 16.2	+0.4
HMBC				IAML			14 37 17.1	
	comp=Z,1μm,0.4s							
TA02	**Huaiquique**	**2.27**	**327**			**Pn**	**14 36 49.9**	**-0.3**
TA02	**Huaiquique**	**2.27**	**327**	*eP*		Pn	14 36 50.8	+0.6
TA02				IAML			14 37 23.1	
	comp=N,2μm,0.2s							
TA02	**Huaiquique**	**2.27**	**327**	*eP*		Pn	14 36 51.1	+1.0
TA02				IAML			14 37 24.5	
	comp=Z,819nm,0.1s							
GO01	**Chusmiza**	**2.53**	**352**			**Pn**	**14 36 54.9**	**+0.9**
GO01	**Chusmiza**	**2.53**	**352**	⇑*iP*		Pn	14 36 54.7	+0.7
GO01				IAML			14 37 31.2	
	comp=N,882nm,0.2s							
GO01	**Chusmiza**	**2.53**	**352**	*eS*		**Sn**	**14 37 26.9**	**+1.9**
GO01				IAML			14 37 31.8	
	comp=Z,229nm,0.2s							
PB11	**IPOC Station P**	**2.54**	**342**			**Pn**	**14 36 53.5**	**-0.2**
PB11	**IPOC Station P**	**2.54**	**342**	*eP*		Pn	14 36 53.7	-0.1
PB11				IAML			14 37 26.4	
	comp=E,1μm,0.2s							
PB11	**IPOC Station P**	**2.54**	**342**	*eP*		**Pn**	**14 36 53.6**	**-0.2**
PB11				*eS*		**Sn**	**14 37 24.7**	**-0.1**
PB11				IAML			14 37 28.9	
	comp=Z,349nm,0.3s							
PB14	**IPOC Station P**	**2.83**	**211**			**Pn**	**14 36 58.7**	**+1.0**
PB14	**IPOC Station P**	**2.83**	**211**	*eP*		Pn	14 36 59.0	+1.3
PB14				*eS*		Sn	14 37 28.8	-3.0
SALTA		**3.04**	**132**	*eP*		**Pn**	**14 36 57.5**	**-3.2**
SALTA				*eP*			14 36 58.1	
SALTA				*eP*			14 36 58.2	
SALTA				*eS*		Sn	14 37 25.2	-12
GO02	**Mina Guanaco**	**3.05**	**193**			**Pn**	**14 37 01.6**	**+1.1**
GO02	**Mina Guanaco**	**3.05**	**193**	*eP*		Pn	14 37 01.8	+1.2
GO02				IAML			14 37 42.4	
	comp=Z,272nm,0.1s							
YJA	**Yavi**	**3.05**	**90**	*eP*		**Pn**	**14 36 59.3**	**-1.4**
PB16	**IPOC Station P**	**3.89**	**350**			**Pn**	**14 37 12.4**	**+0.4**
PB16	**IPOC Station P**	**3.89**	**350**	*eP*		Pn	14 37 13.0	+1.0
AZAP	**Zapla**	**4.00**	**121**	*eP*		**Pn**	**14 37 14.5**	**+1.4**
AZAP				*eS*		Sn	14 38 06.5	+7.3
AP01	**Chacalluta**	**4.06**	**339**	*eP*		**Pn**	**14 37 16.8**	**+3.0**
AP01				*eS*		Sn	14 38 08.2	+7.7
AP01				IAML			14 38 19.7	
	comp=Z,234nm,0.4s							
AC01	**Pan de Azucar**	**4.27**	**202**			**Pn**	**14 37 16.2**	**-0.3**
AC01	**Pan de Azucar**	**4.27**	**202**	*eP*		Pn	14 37 16.4	-0.1
AC01				*eS*		Sn	14 38 04.2	-1.2
AC01				IAML			14 38 25.7	
	comp=Z,58nm,0.4s							
AC02	**Maricunga**	**4.64**	**184**			**Pn**	**14 37 23.1**	**+1.2**
AC02	**Maricunga**	**4.64**	**184**	*eP*		Pn	14 37 23.2	+1.3
AC02				*eS*		Sn	14 38 21.9	+6.9
FSA	**Cafayete**	**4.68**	**147**	*eP*		**Pn**	**14 37 24.8**	**+2.5**
GO03	**Copiapo**	**5.54**	**193**	Pn		Pn	14 37 32.8	-0.8
AC04	**Llanos de Chal**	**6.33**	**198**			**Pn**	**14 37 41.8**	**-2.5**
ITAB	**Concordia**	**15.96**	**112**			**P**	**14 39 52.4**	**-0.3**
ITAB				IAmb		IAmb	14 40 23.3	
	comp=Z,36nm,1.5s							
PLTB	**Pedras Altas**	**16.56**	**128**			**Pn**	**14 39 57.9**	**-0.9**
PLTB				IAmb		IAmb	14 40 24.8	
	comp=Z,12nm,1.4s							
TRQA	**Tornquist**	**16.87**	**161**	P		**P**	**14 40 03.5**	**+0.8**
VAO	**Valinhos**	**20.18**	**96**	P		**P**	**14 40 38.9**	**-0.2**
VAO				IAmb		IAmb	14 40 39.3	
	comp=Z,14nm,1.1s							
COHC	**Cochancay**	**22.08**	**331**	P		**P**	**14 40 56.3**	**-3.0**
HUMP	**Col San Antoni**	**40.19**	**4**	P		**P**	**14 43 37.9**	**-0.7**
PMSA	**Palmer Station**	**42.69**	**177**	P		**P**	**14 43 57.3**	**-1.1**
PMSA				IAmb		IAmb	14 44 38.0	
	comp=Z,15nm,1.2s							
NMDO	**Nuevo Mundo**	**42.91**	**351**	P		**P**	**14 43 60.0**	**-0.8**
NMDO				IAmb		IAmb	14 44 00.2	
	comp=Z,30nm,1.4s							
SNAA	**Sanae**	**61.60**	**161**	P		**P**	**14 46 18.4**	**0.0**
SNAA				IAmb		IAmb	14 46 57.4	
	comp=Z,6.4nm,1.5s							
QSPA	**South Pole Qui**	**68.01**	**180**	P		**P**	**14 47 01.0**	**+0.9**
QSPA				IAmb		IAmb	14 47 05.0	
	comp=Z,4.5nm,1.4s							

*CNRM **16** 14:36:55.6,36°.14N×8°.02W,h140km,ML2.5*
*IGIL **16** 14:36:57.7,36°.07N×7°.91W,h20km,ML2.5*
*SFS **16** 14:36:58.2,36°.09N×7°.93W,h32km,ML2.9/11,ML2.9/16, MLv2.5/16*
*MDD **16** 14:36:58.2±0.9,36°.28N×7°.82W,h4km±4km,mb_Lg2.8/9, Error ellipse: s-maj=7.2km s-min=4.1km az=29.0*
*INMG **16** 14:36:58.1±1.4,36°.01N×7°.92W,h30km,ML2.2,Error ellipse: s-maj=5.1km s-min=3.7km az=34.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*

ISC 16 14:36:56.8±1.4,**36°.11N**±0°.04×**7°.91W**±0°.04,**h85**km±13km, **n64**,σ1°**60**/100,**1C-2D**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.13**	**359**	Pg		**Pn**	**14 37 17.2**	**-0.6**
PBDV				Sg		Sn	14 37 32.9	-0.6
PBDV	**Barranco-do-Ve**	**1.13**	**359**	*eP*		**Pn**	**14 37 17.4**	**-0.4**
PBDV				*eS*		**Sn**	**14 37 33.0**	**-0.5**
PBDV				*i* IAML			14 37 38.8	
PBDV				*i* IAML			14 37 39.5	
PBDV				*i* IAML			14 37 40.2	
PFVI	**Vila Bisbo**	**1.26**	**324**	Pn		**Pn**	**14 37 18.5**	**-0.8**
PFVI				Sn		Sn	14 37 33.6	-2.7
PFVI	**Vila Bisbo**	**1.26**	**324**	*eP*		**Pn**	**14 37 18.7**	**-0.6**
PFVI				*eS*		**Sn**	**14 37 35.7**	**-0.5**
PFVI				*i* IAML			14 37 39.1	
PFVI				*i* IAML			14 37 43.6	
PFVI				*i* IAML			14 37 45.1	
PFVI	**Vila Bisbo**	**1.26**	**324**	P		**Pn**	**14 37 19.5**	**+0.2**
PFVI	**Vila Bisbo**	**1.26**	**324**	S		**Sn**	**14 37 41.7**	**+5.5**
PVAQ	**Vaqueiros**	**1.30**	**7**	Pn		**Pn**	**14 37 19.6**	**-0.2**
PVAQ	**Vaqueiros**	**1.30**	**7**	⇓*eP*		**Pn**	**14 37 19.7**	**-0.2**
PVAQ				*eSn*		**Sn**	**14 37 36.0**	**-1.1**
PVAQ				*i* IAML			14 37 41.0	
PVAQ				*i* IAML			14 37 44.1	
PVAQ				*i* IAML			14 37 44.6	
PVAQ	**Vaqueiros**	**1.30**	**7**	P		**Pn**	**14 37 21.3**	**+1.5**
PVAQ	**Vaqueiros**	**1.30**	**7**	S		**Sn**	**14 37 43.8**	**+6.6**
MORF	**Marmelete**	**1.33**	**334**	*eP*		**Pn**	**14 37 20.0**	**-0.3**
MORF				*eS*		**Sn**	**14 37 36.7**	**-1.2**
MORF				IAML			14 37 40.8	
	comp=N,53nm,0.2s							
MORF	**Marmelete**	**1.33**	**334**	*eP*		**Pn**	**14 37 20.1**	**-0.3**
MORF				*eS*		**Sn**	**14 37 37.7**	**-0.3**
MORF				*i* IAML			14 37 44.0	
MORF				*i* IAML			14 37 45.2	
MORF				*i* IAML			14 37 46.6	
ARNO	**Arenosillo**	**1.37**	**43**	Sn		**Sn**	**14 37 37.6**	**-1.0**
EGRO	**El Granado**	**1.46**	**13**	Pn		**Pn**	**14 37 20.0**	**+0.2**
EGRO	**El Granado**	**1.46**	**13**	Pg		**Pn**	**14 37 22.1**	**+0.2**
EGRO				Sg		**Sn**	**14 37 39.6**	**-1.1**
EGRO				*i* IVmb_Lg			14 37 47.6	
PCVE	**Castro Verde**	**1.52**	**356**	Pn		**Pn**	**14 37 22.9**	**+0.3**
PCVE				Sn		**Sn**	**14 37 40.8**	**-1.4**
PCVE	**Castro Verde**	**1.52**	**356**	*eP*		**Pn**	**14 37 22.9**	**+0.3**
PCVE				*i* IAML			14 37 47.5	
PCVE				*i* IAML			14 37 48.0	
PCVE				*i* IAML			14 37 48.5	
PTEO	**Sao Teotonio**	**1.57**	**336**	*eP*		**Pn**	**14 37 23.6**	**+0.3**
PTEO				*eS*		**Sn**	**14 37 43.1**	**-0.2**
PTEO				*i* IAML			14 37 49.1	
PTEO				*i* IAML			14 37 49.1	
PTEO				*i* IAML			14 37 50.7	
MESJ	**Messejana**	**1.74**	**352**	*eP*		**Pn**	**14 37 25.9**	**+0.4**
MESJ	**Messejana**	**1.74**	**352**	*eP*		**Pn**	**14 37 26.1**	**+0.6**
MESJ				*eS*		**Sn**	**14 37 46.8**	**-0.5**
MESJ				*i* IAML			14 37 57.7	
MESJ				*i* IAML			14 38 00.2	
MESJ				*i* IAML			14 38 00.4	
ESPR	**Espera**	**1.82**	**65**	Pn		**Pn**	**14 37 27.0**	**+0.5**
ESPR				Sn		**Sn**	**14 37 48.1**	**-0.9**
ESPR	**Espera**	**1.82**	**65**	Pn		**Pn**	**14 37 27.0**	**+0.5**
ESPR				Sn		**Sn**	**14 37 48.2**	**-0.8**
ESPR				*i* IVmb_Lg			14 37 49.1	
PBEJ	**Beja**	**1.91**	**1**	*eS*		**Sn**	**14 37 52.0**	**+0.7**
EMIN	**Mina Concepcio**	**1.93**	**31**	Pn		**Pn**	**14 37 28.0**	**+0.1**
PBAR	**Barrancos**	**2.17**	**18**	Pn		**Pn**	**14 37 31.9**	**+0.7**
PBAR				Sn		**Sn**	**14 37 57.6**	**+0.2**
PBAR	**Barrancos**	**2.17**	**18**	*eP*		**Pn**	**14 37 31.9**	**+0.7**
PBAR				*eS*		**Sn**	**14 37 58.1**	**+0.7**
PBAR				*i* IAML			14 38 09.6	
PBAR				*i* IAML			14 38 13.4	
PBAR				*i* IAML			14 38 14.2	
EVO	**Evora**	**2.42**	**358**	Pn		**Pn**	**14 37 35.1**	**+0.6**
EVO				Sn		**Sn**	**14 38 01.0**	**-2.2**
EVO	**Evora**	**2.42**	**358**	*eP*		**Pn**	**14 37 35.2**	**+0.8**
EVO				*eS*		**Sn**	**14 38 03.5**	**+0.3**
EVO				*i* IAML			14 38 14.8	
EVO				*i* IAML			14 38 18.2	
EVO				*i* IAML			14 38 22.6	
PESTR	**Estremoz**	**2.76**	**5**	*eS*		**Sn**	**14 38 11.7**	**+0.1**
PESTR				*i* IAML			14 38 30.7	
PESTR				*i* IAML			14 38 30.7	
PESTR				*i* IAML			14 38 37.3	
PESTR	**Estremoz**	**2.76**	**5**	P		**Pn**	**14 37 40.7**	**+1.6**
PESTR	**Estremoz**	**2.76**	**5**	S		**Sn**	**14 38 12.7**	**+1.2**
ECAB	**El Cabril**	**2.79**	**45**	Pn		**Pn**	**14 37 40.1**	**+0.6**
ECAB				Sn		**Sn**	**14 38 09.7**	**-2.6**
ECAB	**El Cabril**	**2.79**	**45**	Pn		**Pn**	**14 37 40.0**	**+0.6**
ECAB				Sn		**Sn**	**14 38 10.4**	**-1.9**
ECAB				*i* IVmb_Lg			14 38 17.0	
PARRA	**Arraiolos**	**2.85**	**342**	⇑*eP*		**Pn**	**14 37 39.0**	**-1.2**
PARRA				*eS*		**Sn**	**14 38 09.7**	**-3.8**
PARRA				*i* IAML			14 38 24.1	
PARRA				*i* IAML			14 38 28.5	
PARRA				*i* IAML			14 38 29.8	
PMTG	**Montargil**	**2.96**	**355**	*eP*		**Pn**	**14 37 42.5**	**+0.8**
PMTG				*eS*		**Sn**	**14 38 15.9**	**-0.4**
PMTG				*i* IAML			14 38 37.4	
PMTG				*i* IAML			14 38 39.9	
PMTG				*i* IAML			14 38 40.2	
PMAFR	**Mafra**	**3.04**	**339**	Pn		**Pn**	**14 37 44.2**	**+1.4**
PMAFR	**Mafra**	**3.04**	**339**	⇓*eP*		**Pn**	**14 37 44.2**	**+1.4**
PMAFR				*eS*		**Sn**	**14 38 18.6**	**+0.4**
PMAFR				*i* IAML			14 38 19.1	
PMAFR				*i* IAML			14 38 19.2	
PMAFR				*i* IAML			14 38 20.6	
EGOR	**Sierra Gorda,**	**3.21**	**71**	Sn		**Sn**	**14 38 22.1**	**-0.6**
PMRV	**Marv??o**	**3.34**	**7**	*eP*		**Pn**	**14 37 47.8**	**+1.0**
PMRV				*eS*		**Sn**	**14 38 25.1**	**-0.3**
PMRV				*i* IAML			14 38 46.8	
PMRV				*i* IAML			14 38 46.8	
PMRV				*i* IAML			14 38 51.2	
PALE	**Palemas**	**3.35**	**104**	P		**Pn**	**14 37 49.2**	**+2.2**
PALE	**Palemas**	**3.35**	**104**	S		**Sn**	**14 38 29.1**	**+3.3**
EADA	**Adamuz**	**3.36**	**51**	Pn		**Pn**	**14 37 48.5**	**+1.4**
EADA				Sn		**Sn**	**14 38 23.9**	**-2.2**
EADA	**Adamuz**	**3.36**	**51**	Pn		**Pn**	**14 37 48.4**	**+1.2**
EADA				Sn		**Sn**	**14 38 24.1**	**-1.9**
EADA				*i* IVmb_Lg			14 38 27.5	
PSARD	**Sardoal**	**3.49**	**357**	*eP*		**Pn**	**14 37 50.0**	**+1.2**
PSARD				*eS*		**Sn**	**14 38 29.2**	**+0.1**
PSARD				*i* IAML			14 38 49.5	
PSARD				*i* IAML			14 38 50.7	
PSARD				*i* IAML			14 38 54.1	
AKLM	**AKL**	**3.67**	**115**	P		**Pn**	**14 37 50.2**	**-1.2**
PCBR	**Castelo Branco**	**3.74**	**5**	*eP*		**Pn**	**14 37 53.5**	**+1.3**
PCBR				*eS*		**Sn**	**14 38 34.5**	**-0.7**
PCAS	**Casmilo, Conde**	**3.96**	**353**	*eP*		**Pn**	**14 37 57.0**	**+1.7**
PCAS				*eS*		**Sn**	**14 38 40.7**	**+0.1**
MD31	**MD31**	**4.15**	**140**	P		**Pn**	**14 37 58.6**	**+0.7**
EPLA	**Plasencia**	**4.20**	**20**	Pn		**Pn**	**14 37 59.6**	**+1.0**
EPLA				*i* IVmb_Lg			14 38 25.7	
EPLA				Sn		**Sn**	**14 38 45.0**	**-1.5**
EQES	**Quesada**	**4.23**	**65**	Pn		**Pn**	**14 38 00.4**	**+1.5**
EQES				Sn		**Sn**	**14 38 46.6**	**-0.6**
EQES				*i* IVmb_Lg			14 38 49.5	
MDT	**Midelt**	**4.27**	**139**	P		**Pn**	**14 38 00.4**	**+0.8**
PAB	**San Pablo**	**4.44**	**38**	Pn		**Pn**	**14 38 03.3**	**+1.5**
PAB				Sn		**Sn**	**14 38 48.4**	**-3.9**
JBK	**JBK**	**4.72**	**111**	P		**Pn**	**14 38 06.1**	**+0.4**
OUK	**Oukaimeden**	**4.89**	**180**	P		**Pn**	**14 38 08.9**	**+0.6**
MVO	**Moncorvo**	**5.09**	**8**	*eP*		**Pn**	**14 38 11.7**	**+1.0**
MVO				*eS*		**Sn**	**14 39 07.0**	**-1.2**
MVO				*i* IAML			14 39 08.9	
MVO				*i* IAML			14 39 10.3	
MVO				*i* IAML			14 39 10.8	
TIO	**Tiouine**	**5.20**	**174**	Pn		**Pn**	**14 38 12.6**	**+0.3**
TIO				Sn		**Sn**	**14 39 07.4**	**-3.6**
TIO	**Tiouine**	**5.20**	**174**	P		**Pn**	**14 38 13.0**	**+0.7**
POLO	**Lamas de Olo**	**5.26**	**1**	*eP*		**Pn**	**14 38 14.0**	**+1.0**
POLO				*eS*		**Sn**	**14 39 11.9**	**-0.3**
OUZM	**OUZ**	**5.28**	**169**	P		**Pn**	**14 38 14.4**	**+1.1**
TTIG	**Tnine Tigouga,**	**5.57**	**185**	P		**Pn**	**14 38 14.2**	**-3.0**
UCM	**Universidad Co**	**5.57**	**40**	Pn		**Pn**	**14 38 19.3**	**+2.1**
UCM				Sn		**Sn**	**14 39 17.0**	**-2.9**
PCAB	**Cabril**	**5.59**	**359**

CUT	**Chulitna**	**1.48**	**309**			Pn	14 53 49.3	-2.4
CUT						Sn	14 54 08.9	-2.3
P23K	**Montague Islan**	**1.52**	**173**			Pn	14 53 50.9	-1.4
N25K	**Chitina, Valde**	**1.54**	**85**			Pn	14 53 50.0	-2.6
N25K					IAML		14 54 12.4	
	comp=E,838nm,0.4s							
HARP	**HAARP**	**1.54**	**53**			Pn	14 53 50.6	-1.9
HARP						Sn	14 54 11.1	-1.6
SLKM	**Skilak Lake**	**1.54**	**231**			Pn	14 53 50.9	-1.7
SLKM					IAML		14 54 13.0	
	comp=E,883nm,0.5s							
SLKM					IAML		14 54 13.2	
	comp=N,876nm,0.7s							
SEW	**Seward**	**1.62**	**211**			Pn	14 53 52.0	-1.6
SEW					IAML		14 54 16.7	
	comp=N,528nm,0.6s							
SEW	**Seward**	**1.62**	**211**			Sn	14 54 13.3	-1.2
BMRM	**Bremner River**	**1.63**	**108**			Pn	14 53 51.7	-2.2
BMRM					IAML		14 54 15.5	
	comp=N,777nm,0.4s							
BMRM					IAML		14 54 16.3	
	comp=E,806nm,0.4s							
BMRM	**Bremner River**	**1.63**	**108**			Sn	14 54 13.7	-1.3
WACK	**Wrangell Chich**	**1.72**	**72**			Pn	14 53 53.2	-2.1
GOAT	**Goat Mountain**	**1.75**	**120**			Pn	14 53 54.2	-1.3
WASW	**Wrangell South**	**1.78**	**74**			Pn	14 53 54.5	-1.5
CAPN	**Captain Cook N**	**1.79**	**247**			Pn	14 53 55.8	-0.1
WAZA	**Wrangell Mount**	**1.83**	**70**			Pn	14 53 55.3	-1.5
PAX	**Paxson**	**1.84**	**35**			Pn	14 53 54.7	-2.1
PAX					IAML		14 54 21.1	
	comp=E,457nm,0.5s							
PAX					IAML		14 54 21.2	
	comp=N,432nm,0.4s							
SKT	**Skwentna**	**1.84**	**287**			Pn	14 53 55.0	-1.8
RAGM	**Ragged Mountai**	**1.89**	**125**			Pn	14 53 57.0	-0.3
GLB	**Gilahina Butte**	**1.91**	**90**			Pn	14 53 55.9	-1.9
GLB					IAML		14 54 22.6	
	comp=E,398nm,0.4s							
GLB					IAML		14 54 27.3	
	comp=N,612nm,0.5s							
STLK	**Strandline Lak**	**1.94**	**272**			Pn	14 53 56.7	-1.4
STLK					IAML		14 54 22.9	
	comp=N,688nm,0.4s							
STLK					IAML		14 54 23.8	
	comp=E,536nm,0.4s							
RND	**Reindeer**	**1.98**	**346**			Pn	14 53 56.5	-2.2
RND					IAML		14 54 29.7	
	comp=E,370nm,0.7s							
RND					IAML		14 54 31.0	
	comp=N,349nm,0.6s							
SPCG	**Spurr Capps Gl**	**2.04**	**266**			Pn	14 53 58.0	-1.6
SPU	**Mount Spurr**	**2.08**	**263**			Pn	14 53 58.1	-1.8
HMT	**Hamilton**	**2.08**	**122**			Pn	14 53 57.8	-2.3
VRDI	**Verde Repeater**	**2.11**	**95**			Pn	14 53 58.3	-2.2
VRDI					IAML		14 54 33.8	
	comp=N,328nm,0.8s							
Q23K	**Middleton Isla**	**2.19**	**160**			Pn	14 54 00.2	-1.3
Q23K					IAML		14 54 37.6	
	comp=N,268nm,0.6s							
Q23K					IAML		14 54 43.8	
	comp=E,325nm,0.7s							
CKL	**Chakachamna La**	**2.21**	**264**			Pn	14 54 00.1	-1.8
NICHA	**Nichawak Mount**	**2.26**	**122**			Pn	14 54 00.4	-2.1
TRF	**Thorofare Moun**	**2.28**	**331**			Pn	14 54 00.8	-2.0
TRF					IAML		14 54 33.5	
	comp=E,247nm,0.7s							
TRF					IAML		14 54 34.8	
	comp=N,383nm,0.5s							
KAIM	**Kayak Island**	**2.29**	**132**			Pn	14 54 00.7	-2.2
MCARA	**McCarthy VSAT**	**2.30**	**91**			Pn	14 54 01.5	-1.5
SPWE	**Spurr West**	**2.30**	**266**			Pn	14 54 02.1	-1.0
MCK	**McKinley**	**2.30**	**347**			Pn	14 54 01.8	-1.3
MCK					IAML		14 54 31.6	
	comp=E,346nm,0.4s							
MCK					IAML		14 54 32.0	
	comp=N,413nm,0.9s							
BRLK	**Bradley Lake**	**2.31**	**223**	IAML			14 54 41.3	
	comp=E,216nm,0.4s							
MENT	**Mentasta**	**2.40**	**51**	IAML			14 54 48.0	
	comp=E,245nm,0.7s							
MENT					IAML		14 54 51.5	
	comp=N,284nm,0.6s							
SUCK	**Suckling Hills**	**2.44**	**124**			Pn	14 54 03.1	-1.8
SUCK					IAML		14 54 40.6	
	comp=N,366nm,0.5s							
M26K	**Nabesna, AK**	**2.44**	**66**	IAML			14 54 53.4	
	comp=N,183nm,0.6s							
PPLA	**Purkeypile**	**2.49**	**306**			Pn	14 54 03.9	-1.9
PPLA					IAML		14 54 39.1	
	comp=E,386nm,0.5s							
PPLA					IAML		14 54 40.8	
	comp=N,223nm,0.8s							
K24K	**Donnelly Dome**	**2.50**	**21**			Pn	14 54 05.6	-0.1
KTH	**Kantishna Hill**	**2.52**	**326**	IAML			14 54 38.4	
	comp=N,266nm,0.8s							
KTH					IAML		14 54 47.0	
	comp=E,253nm,0.7s							
TGL	**Tana Glacier**	**2.52**	**105**			Pn	14 54 04.5	-1.7
M20K	**Styx River**	**2.57**	**281**			Pn	14 54 05.1	-1.7
M20K					IAML		14 54 39.7	
	comp=E,184nm,0.7s							
M20K					IAML		14 54 43.9	
	comp=N,172nm,0.5s							
L26K	**Log Cabin Wild**	**2.58**	**52**	IAML			14 54 49.2	
	comp=N,174nm,0.6s							
L26K					IAML		14 54 56.1	
	comp=E,177nm,0.5s							
RIDG	**Independent Ri**	**2.63**	**30**	IAML			14 54 41.5	
	comp=N,217nm,1.0s							
RIDG					IAML		14 54 41.8	
	comp=E,211nm,0.7s							
RED	**Redoubt Volcan**	**2.66**	**248**			Pn	14 54 06.2	-1.8
RED					IAML		14 54 44.4	
	comp=N,205nm,0.8s							
RED					IAML		14 54 50.0	
	comp=E,253nm,0.7s							
SNH	**Sunshine Point**	**2.76**	**116**			Pn	14 54 08.4	-1.0
SNH					IAML		14 54 51.5	
	comp=N,149nm,1.2s							
SNH					IAML		14 54 57.0	
	comp=E,209nm,1.0s							
DOT	**Dot Lake**	**2.77**	**37**			Pn	14 54 08.2	-1.2
DOT	**Dot Lake**	**2.77**	**37**	IAML			14 54 54.1	
	comp=N,184nm,0.6s							
DOT					IAML		14 54 54.7	
	comp=E,141nm,1.1s							
CAST	**Castle Rocks**	**2.77**	**316**			Pn	14 54 07.4	-2.1
CAST	**Castle Rocks**	**2.77**	**316**			Sn	14 54 42.0	-1.1
HDA	**Harding Lake**	**2.95**	**7**	IAML			14 54 52.0	
	comp=N,207nm,0.4s							
WRH	**Wood River Hil**	**2.99**	**358**	IAML			14 54 48.0	
	comp=N,116nm,0.4s							
WRH					IAML		14 54 58.2	
	comp=E,128nm,0.7s							
BPAW	**Bear Paw Mtn.**	**3.00**	**332**	IAML			14 54 58.2	
	comp=N,154nm,1.2s							
SCRK	**Sand Creek**	**3.04**	**34**			Pn	14 54 12.4	-0.9
CCB	**Clear Creek Bu**	**3.16**	**360**	IAML			14 54 51.5	
	comp=N,116nm,0.6s							
CCB					IAML		14 54 51.8	
	comp=E,132nm,0.5s							
NEA2	**Nenana**	**3.16**	**350**	IAML			14 54 54.4	
	comp=E,166nm,0.6s							
NEA2					IAML		14 54 55.4	
	comp=N,119nm,0.7s							
YAH	**Yahtse**	**3.17**	**108**	IAML			14 55 00.9	
	comp=E,165nm,0.6s							
M19K	**Big River Lodg**	**3.17**	**280**	IAML			14 55 08.0	
	comp=E,150nm,0.6s							
M19K					IAML		14 55 09.7	
	comp=N,109nm,0.8s							
CTGM	**Chitina Glacie**	**3.17**	**97**			Pn	14 54 13.7	-1.4
CTGM					IAML		14 55 04.2	
	comp=N,179nm,0.4s							
L27K	**Beaver Creek,**	**3.20**	**58**			Pn	14 54 14.2	-1.3
BCAR	**Beaver Creek A**	**3.22**	**58**			Pn	14 54 14.1	-1.5
P19K	**Oil Pt**	**3.26**	**238**	IAML			14 55 07.9	
	comp=N,139nm,0.8s							
ILAR	**Eielson Array**	**3.31**	**7**			Pn	14 54 15.0	-1.9
N19K	**Bonanza Creek**	**3.31**	**261**			Pn	14 54 14.7	-2.3
J25K	**Salcha River,**	**3.32**	**18**			Pn	14 54 15.9	-1.2
J25K	**Salcha River,**	**3.32**	**18**	IAML			14 55 02.2	
	comp=E,102nm,0.7s							
YUK2	**White River**	**3.33**	**82**			Pn	14 54 15.8	-1.5
L19K	**White Mountain**	**3.42**	**285**			Pn	14 54 16.2	-2.2
L19K					IAML		14 54 15.8	
	comp=E,90nm,1.1s							
L19K					IAML		14 54 14.9	
	comp=N,85nm,0.7s							
K20K	**Telida**	**3.46**	**305**			Pn	14 54 16.8	-2.2
YUK3	**Moose Creek**	**3.51**	**82**			Pn	14 54 18.1	-1.7
J26L	**Joseph Creek**	**3.58**	**31**			Pn	14 54 19.7	-0.9
J26L	**Joseph Creek**	**3.58**	**31**	IAML			14 55 21.8	
	comp=E,69nm,0.8s							
POKR	**Poker Plat Res**	**3.64**	**2**	IAML			14 55 04.1	
	comp=N,83nm,0.9s							
POKR					IAML		14 55 06.0	
	comp=E,81nm,0.9s							
K27K	**Chicken**	**3.66**	**43**			Pn	14 54 22.9	+1.3
SYI	**Shuyak Island**	**3.70**	**221**			Pn	14 54 20.9	-1.3
I23K	**Minto, Yukon-K**	**3.73**	**350**	IAML			14 55 20.6	
	comp=E,130nm,0.7s							
I23K					IAML		14 55 22.0	
	comp=N,122nm,0.8s							
O28M	**Mount Upton**	**3.76**	**98**			Pn	14 54 22.1	-1.2
O28M	**Mount Upton**	**3.76**	**98**	IAML			14 55 20.4	
	comp=E,89nm,0.7s							
O28M					IAML		14 55 23.8	
	comp=N,110nm,1.0s							
MLY	**Manley**	**3.79**	**341**			Pn	14 54 21.7	-1.8
MLY					IAML		14 55 07.2	
	comp=N,75nm,0.3s							
M18K	**Stony River**	**3.85**	**273**			Pn	14 54 21.6	-2.7
Q19K	**Cape Douglas,**	**3.89**	**231**			Pn	14 54 23.3	-1.6
PCA	**Pinnacle**	**3.95**	**108**			Sn	14 55 13.0	+0.7
J20K	**Nowinta River**	**3.96**	**315**			Pn	14 54 23.5	-2.3
J20K					IAML		14 55 29.3	
	comp=E,93nm,0.8s							
J20K					IAML		14 55 36.0	
	comp=N,76nm,0.7s							
O18K	**Koktuh Hills**	**4.00**	**249**			Pn	14 54 23.5	-2.8
N18K	**Kilae Creek**	**4.01**	**262**			Pn	14 54 23.7	-2.9
N18K					IAML		14 55 33.1	
	comp=E,58nm,1.1s							
I21K	**Tanana**	**4.15**	**335**	IAML			14 55 37.3	
	comp=E,45nm,1.1s							
PRP	**Porcupine Dome**	**4.16**	**13**			Pn	14 54 28.2	-0.5
PRP	**Porcupine Dome**	**4.16**	**13**	IAML			14 55 17.7	
	comp=E,65nm,0.7s							
L18K	**Granite Mounta**	**4.27**	**284**			Pn	14 54 27.4	-2.7
L18K					IAML		14 55 43.2	
	comp=N,57nm,1.1s							
I26K	**Coal Creek Min**	**4.36**	**27**	IAML			14 55 45.8	
	comp=N,60nm,0.6s							
I26K					IAML		14 55 47.1	
	comp=E,66nm,0.9s							
H24K	**Noodor Dome**	**4.36**	**360**			Pn	14 54 29.8	-1.5
H24K					IAML		14 55 45.7	
	comp=E,42nm,1.1s							
J19K	**Poorman**	**4.38**	**308**			Pn	14 54 29.1	-2.5
J19K					IAML		14 55 54.1	
	comp=E,46nm,0.9s							
J19K					IAML		14 55 54.6	
	comp=N,40nm,0.7s							
KDAK	**Kodiak Island**	**4.45**	**215**			Pn	14 54 29.8	-2.7
J16K	**Innoko River**	**4.58**	**299**			Pn	14 54 32.2	-2.2
O29M	**Mount Kennedy**	**4.66**	**101**			Pn	14 54 34.5	-1.1
O29M	**Mount Kennedy**	**4.66**	**101**	IAML			14 55 43.8	
	comp=N,64nm,0.5s							
O29M					IAML		14 55 44.0	
	comp=E,58nm,0.5s							
N17K	**Nushagak Hills**	**4.67**	**262**			Pn	14 54 33.0	-2.6
N17K					IAML		14 55 56.1	
	comp=N,31nm,0.7s							
H21K	**Melozitna Rive**	**4.74**	**334**	IAML			14 55 49.6	
	comp=E,29nm,0.8s							
L29M	**L29M**	**4.79**	**66**			Pn	14 54 36.4	-0.9
L29M					IAML		14 55 59.5	
	comp=N,30nm,0.6s							
L29M					IAML		14 56 06.8	
	comp=E,30nm,0.7s							
I27K	**Kandik River**	**4.96**	**31**			Pn	14 54 39.2	-0.4
K17K	**Iditarod**	**5.08**	**289**			Pn	14 54 38.5	-2.7
K17K					IAML		14 56 13.8	
	comp=N,44nm,1.1s							
K17K					IAML		14 56 17.9	
	comp=E,37nm,1.0s							
OHAK	**Old Harbor**	**5.12**	**216**			Pn	14 54 38.6	-3.1
FYU	**Fort Yukon**	**5.21**	**11**			Pn	14 54 43.6	+0.7
FYU					IAML		14 56 12.6	
	comp=N,47nm,0.9s							
IMAR	**Indian Mountai**	**5.22**	**332**			Pn	14 54 40.8	-2.3
G24K	**Hadweenzic Riv**	**5.23**	**1**	IAML			14 56 14.5	
	comp=N,36nm,1.0s							
G24K					IAML		14 56 16.1	
	comp=E,22nm,0.8s							
J29N	**Klondike Camp**	**5.28**	**52**			Pn	14 54 45.5	+1.5
I28M	**Miner Creek**	**5.30**	**38**			Pn	14 54 43.3	-1.0
I28M					IAML		14 56 13.2	
	comp=E,30nm,0.8s							
I28M					IAML		14 56 15.3	
	comp=N,29nm,0.7s							
G25K	**Bearman Lake**	**5.34**	**7**			Pn	14 54 43.6	-1.1
H27K	**Steamboat Moun**	**5.50**	**28**			Pn	14 54 46.1	-0.8
J17K	**VABM Dome**	**5.57**	**295**			Pn	14 54 45.0	-2.9
G27K	**Doyon Strip**	**5.97**	**24**			Pn	14 54 52.8	-0.6
H18K	**Honhosa River**	**6.00**	**312**			Pn	14 54 51.7	-2.2
J30M	**Hart River**	**6.06**	**54**			Pn	14 54 54.5	-0.2
J16K	**Anvik River**	**6.22**	**292**	Pn		Pn	14 54 54.0	-2.7
H29M	**Whitestone**	**6.30**	**37**			Pn	14 54 58.6	+0.7
I30M	**Mount Dempster**	**6.35**	**49**	Pn		Pn	14 54 57.9	-0.8
G18K	**Tagagawik**	**6.53**	**317**			Pn	14 54 59.3	-1.8
E23K	**Chandalar**	**6.63**	**354**			Pn	14 55 01.3	-1.3
E25K	**Arctic Village**	**6.72**	**7**			Pn	14 55 03.1	-0.6
E22K	**Anaktuvuk Pass**	**6.88**	**347**			Pn	14 55 05.0	-0.9
E19K	**Redstone River**	**7.23**	**330**			Pn	14 55 08.9	-1.8
G30M	**tAoh Zraii Nji**	**7.45**	**37**	Pn		Pn	14 55 12.7	-1.1
D25K	**Kavik River**	**7.88**	**4**			Pn	14 55 21.0	+1.4
G31M	**Satah River**	**8.01**	**41**	Pn		Pn	14 55 20.2	-1.1
E18K	**Tukpahlearik C**	**8.11**	**323**	Pn		Pn	14 55 21.9	-0.7
D19K	**Kuna River**	**8.26**	**333**	Pn		Pn	14 55 23.9	-0.8
C23K	**Itkillik River**	**8.45**	**353**	Pn		Pn	14 55 26.6	-0.8
ANM	**Nome**	**8.55**	**299**	Pn		Pn	14 55 27.0	-1.7
F15K	**North Star Dit**	**8.60**	**307**	Pn		Pn	14 55 28.0	-1.4
S12K	**Black Hills**	**9.43**	**238**	Pn		Pn	14 55 39.6	-1.2
LVA	**Lava Point**	**12.15**	**241**	Pn		Pn	14 56 15.6	-2.4

IDC 16 14:58:12.6±11.0, 53.93N×159.32E, h0km, Error ellipse: s-maj=104.8km s-min=29.3km az=50.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**1.27**	**230**	I	I	15 05 40.0	
	0.4nm,0.8s,baz=49,slow=311,SNR=5.9						
PETK	**Petropavlovsk-**	**1.27**	**230**	Pg	Pg	14 58 37.0	0.0
	0.2nm,0.3s,baz=59,slow=16,SNR=5.4						
I46RU	**ZALESOVO INFRA**	**41.94**	**302**	I	I	19 14 40.0	
	baz=58,slow=322,SNR=2.8						

NOU 16 15:13:33.9, 23.68S×179.40E, h509km, mb4.1/10, South of Fiji Islands, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.67**	**17**	P	P	15 15 06.6	-1.0
LKBA	**Tubou, Lakemba**	**5.67**	**17**	S	S	15 16 24.8	+0.8
TAVE	**Taveuni**	**6.97**	**5**	P	P	15 15 20.7	+0.5
DGTI	**Dogotuki**	**7.35**	**3**	P	P	15 15 24.4	+0.4
URZ	**Urewera**	**14.66**	**187**	S	S	15 19 14.4	+0.4
URZ	**Urewera**	**14.66**	**187**	P	P	15 16 41.0	+0.7
BKZ	**Black Stump Fm**	**15.63**	**188**	P	P	15 16 49.7	-0.8
QRZ	**Quartz Range**	**18.05**	**197**	P	P	15 17 14.9	+0.9
KHZ	**Kahutara**	**19.31**	**193**	P	P	15 17 24.8	-0.7

*BJI **16** 15:23:16.0, 44.30N×129.40W, h10km, mB5.3/14, mb4.9/49, Ms5.3/38, Ms7 5.0/37*
*IDC **16** 15:23:17.1±0.5, 44.31N×129.35W, h0km, mb4.7/31, mbtmp4.6/40, ML3.9/9, MS4.7/82, Error ellipse: s-maj=15.2km s-min=8.9km az=36.0*
*MOS **16** 15:23:17.5±1.0, 44.38N×129.35W, h9km, mb5.4/58, MS4.7/8, Error ellipse: s-maj=7.3km s-min=4.8km az=105.5*
*NEIC **16** 15:23:18.9±2.4, 44.27N±0.08×129.4W±0.1, h10km±1km, mb5.3/541, ML4.3/62, Mww5.4/103, Error ellipse: s-maj=15.9km s-min=11.5km az=235.0*
*GCMT **16** 15:23:20.9±0.1, 44.16N±0.01×129.51W±0.01, h12km, MW5.4/150, Moment Tensor Solution. s115,c193; s150,c300; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.53±.02; Mθθ=1.08±.02; Mϕϕ 1.60±.02; Mrθ=0.04±.04; Mrϕ=-1.15±.02; Mθϕ=0.15±.04; Best double couple: M0 1.77300×10^17 NP1:ϕs115.00000°,δ84.00000°, λ=178.00000°. NP2:ϕs25.00000°,δ88.00000°,λ=-6.00000°. Principal axes: T 2.0330, Plg3.0000°, Azm70.0000°; N -0.5240, Plg84.0000°, Azm190.0000°; P -1.5140, Plg5.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **16** 15:23:23.9, 44.30N×129.16W, h12km*
*BGR **16** 15:23:23.8, 44.17N×130.33W, h33km, mb5.0, Ms5.0*
*NEIC **16** 15:23:23.9, 44.30N×129.44W, h12km, Moment Tensor Solution. Duration: 2s1.0 Moment tensor: Scale 10^17 Nm; Mrr=0.80; Mθθ=0.81; Mϕϕ 1.61; Mrθ=0.23; Mϕθ=0.98; Mθr=0.15; Fault plane solution: M0 1.73000×10^17 NP1: ϕs298.23000°,δ77.98000°,λ=-160.81000°. NP2: ϕs204.08000°,δ71.24000°,λ=-12.71000°. Principal axes: T 1.9788, Plg5.0000°, Azm70.0000°; N -0.7501, Plg67.0000°, Azm329.0000°; P -1.2287, Plg22.0000°, Azm162.0000°;*

ISC 16 15:23:18.6±0.3, 44.08N±0.04×129.54W±0.05, h13km, n944, σ1s53/684, mb5.2/324, MS4.8/95, 15C-24D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.97**	**106**		**Pn**	**15 24 16.2**	**-3.2**
KEBM				IAML		15 25 09.6	
	comp=N,552nm,1.9s						
I02E	**Swisshome, OR**	**4.10**	**88**		**Pn**	**15 24 18.9**	**-2.1**
J01E	**Myrtle Point**	**4.17**	**101**		**Pn**	**15 24 19.4**	**-2.6**
J01E				IAML		15 25 10.3	
	comp=N,271nm,0.6s						
J01E				IAML		15 25 35.1	
	comp=E,394nm,2.2s						
HEBO	**Mount Hebo**	**4.28**	**73**		**Pn**	**15 24 21.0**	**-2.6**
HEBO				IAML		15 25 18.3	
	comp=N,297nm,1.6s						
HEBO				IAML		15 26 03.8	
	comp=E,385nm,2.0s						
I03D	**Drain, OR**	**4.49**	**93**		**Pn**	**15 24 24.6**	**-1.7**
I03D				IAML		15 25 22.4	
	comp=E,219nm,1.7s						
K02D	**Willamette Mer**	**4.50**	**106**		**Pn**	**15 24 23.9**	**-2.7**
K02D				IAML		15 25 26.7	
	comp=N,215nm,1.8s						
COR	**Corvallis**	**4.50**	**81**		**Pn**	**15 24 25.0**	**-1.5**
COR				IAML		15 25 29.1	
	comp=N,242nm,2.2s						
COR	**Corvallis**	**4.50**	**81**	P	**Pn**	**15 24 25.0**	**-1.5**
G03D	**McMinnville, O**	**4.62**	**74**		**Pn**	**15 24 26.4**	**-1.8**
G03D				IAML		15 25 21.6	
	comp=N,338nm,1.4s						
G03D				IAML		15 25 21.6	
	comp=E,358nm,1.4s						
F03A	**Seaside**	**4.63**	**64**		**Pn**	**15 24 25.9**	**-2.4**
RADR	**Rader Ridge**	**4.68**	**58**		**Pn**	**15 24 26.7**	**-2.4**
RADR				IAML		15 25 32.2	
	comp=E,331nm,2.0s						
BUCK	**Buck Mountain**	**4.72**	**86**		**Pn**	**15 24 27.6**	**-1.9**
BUCK				IAML		15 25 29.9	
	comp=N,252nm,2.2s						
BUCK				IAML		15 25 45.0	
	comp=E,293nm,2.3s						
KSXB	**Camp Six Broad**	**4.72**	**116**		**Pn**	**15 24 27.5**	**-2.2**
L02F	**Cave Junction**	**4.79**	**112**		**Pn**	**15 24 28.6**	**-1.8**
L02F				IAML		15 25 27.3	
	comp=E,169nm,1.7s						
E03A	**Lebam**	**4.88**	**58**		**Pn**	**15 24 27.9**	**-3.9**
E03A				IAML		15 25 29.9	
	comp=N,281nm,1.1s						
E03A				IAML		15 25 50.1	
	comp=E,290nm,1.8s						
H04D	**Lebanon**	**4.90**	**82**		**Pn**	**15 24 29.9**	**-2.1**
H04D				IAML		15 25 46.4	
	comp=N,284nm,2.1s						
H04D				IAML		15 25 47.9	
	comp=E,262nm,1.9s						
F04D	**Rainier, OR**	**5.04**	**64**		**Pn**	**15 24 31.9**	**-1.9**
WISH	**Wishkah**	**5.06**	**51**		**Pn**	**15 24 32.4**	**-1.8**
BBOR	**Butler Butte**	**5.13**	**101**	IAML		15 25 46.5	
	comp=E,168nm,1.1s						
BBOR				IAML		15 26 17.3	
	comp=N,223nm,4.4s						
G04A	**Mulino**	**5.16**	**75**		**Pn**	**15 24 33.7**	**-1.9**
NLWA	**Neilton Lookou**	**5.17**	**48**		**Pn**	**15 24 33.2**	**-2.6**
NLWA				IAML		15 25 36.7	
	comp=N,220nm,1.1s						
NLWA				IAML		15 25 37.1	
	comp=N,269nm,0.9s						
C03A	**Quillayute Air**	**5.20**	**40**		**Pn**	**15 24 34.2**	**-1.7**
H04A	**Detroit Lake**	**5.30**	**81**	IAML		15 25 39.2	
	comp=E,183nm,0.3s						
H04A				IAML		15 25 42.1	
	comp=N,196nm,0.4s						
KHMM	**Horse Mountain**	**5.35**	**125**		**Pn**	**15 24 38.8**	**+0.4**
KHMM				IAML		15 27 06.0	
	comp=E,123nm,4.8s						
KMPM	**Mount Pierce**	**5.43**	**130**		**Pn**	**15 24 41.6**	**+2.2**
YBH	**Yreka Blue Hor**	**5.54**	**113**	Pn	**Pn**	**15 24 40.2**	**-0.6**
	comp=E,0.1nm,0.3s,baz=321,slow=9.1,SNR=14						
YBH				LR	LR	15 26 27.6	
	comp=E,173nm,21.6s,baz=288,slow=35						
OZB	**Mount Ozzard**	**5.63**	**28**		**Pn**	**15 24 40.2**	**-1.8**
B04A	**Port Angeles**	**5.79**	**44**	Pn	**Pn**	**15 24 42.1**	**-2.0**
CLRS	**Cowichan Lake**	**6.04**	**36**		**Pn**	**15 24 45.3**	**-2.3**
A04D	**Lummi Island**	**6.62**	**43**		**Pn**	**15 24 53.3**	**-2.3**
HOPS	**Hopland Field**	**7.02**	**134**		**Pn**	**15 25 03.5**	**+2.4**
MNRC	**McLaughlin Min**	**7.44**	**132**	Pn	**Pn**	**15 25 08.1**	**+1.2**
WVOR	**Wild Horse Val**	**8.13**	**98**	P	**Pn**	**15 25 16.7**	**+0.3**
WVOR				pmax	pmax		
	comp=Z,65nm,1.2s						
BBB	**Bella Bella**	**8.17**	**6**	Pn	**Pn**	**15 25 14.1**	**-2.7**
	comp=Z,1.9nm,0.3s,baz=188,slow=5.6,SNR=28						
BBB				LR	LR	15 27 27.2	
	comp=Z,2μm,18.9s,baz=188,slow=32						
	comp=Z,68nm,1.1s						
LLLB	**Lillooet**	**8.35**	**36**		**Pn**	**15 25 18.6**	**-0.7**
BMO	**Blue Mountains**	**8.79**	**81**	P	**Pn**	**15 25 24.2**	**-1.2**
NEW	**Newport**	**9.58**	**60**	Pn	**Pn**	**15 25 33.1**	**-3.0**
	comp=Z,1.5nm,0.3s,baz=248,slow=12,SNR=15						
NEW				LR	LR	15 29 04.3	
	comp

SIT Sitka 13.50 346 Pn Pn 15 26 26.2 -3.5
SIT Sitka 13.50 346 P Pn 15 26 31.4 +1.8
SIT Sitka 13.50 346 P Pn 15 26 26.2 -3.5
SIT Sitka 13.50 346 P Pn 15 26 30.9 +1.2
baz=161,SNR=12
S32K Killisnoo 13.78 349 P Pn 15 26 35.1 +1.6
baz=164,SNR=26
S34M Telegraph Cree 13.89 356 P Pn 15 26 37.6 +2.6
baz=175,SNR=32
DLBC Dease Lake 14.38 359 Pn Pn 15 26 40.8 -1.1
comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=18
DLBC LR LR 15 31 33.2
comp=Z,11µm,18.4s,baz=160,slow=35
comp=Z,3.9nm,1.1s
DLBC Dease Lake 14.38 359 P Pn 15 26 43.0 +1.2
baz=178,SNR=24
S31K Pelican 14.52 346 P Pn 15 26 44.4 +0.8
baz=160
JIS Juneau Island 14.53 350 P Pn 15 26 45.8 +2.0
R32K Eaglecrest 14.55 349 P Pn 15 26 45.8 +1.8
baz=165,SNR=20
PFO Pinyon Flats O 14.58 131 Pn 15 26 47.4 +2.8
PFO Pinyon Flats O 14.58 131 Pn Pn 15 26 47.0 +2.3
comp=Z,0.1nm,0.3s,baz=319,slow=13,SNR=15
PFO LR LR 15 31 55.1
comp=Z,5µm,18.6s,baz=310,slow=35
comp=Z,6.3nm,1.0s
PFO Pinyon Flats O 14.58 131 *ce* P Pn 15 26 47.7 +3.0
PFO pmax pmax
comp=Z,76nm,1.8s
PDAR Pinedale Array 14.58 88 Pn 15 26 42.5 -2.3
PDAR Pinedale Array 14.58 88 Pn Pn 15 26 46.0 +1.1
comp=Z,0.1nm,0.3s,baz=280,slow=8.6,SNR=27
PDAR LR LR 15 32 26.0
comp=Z,6µm,20.1s,baz=270,slow=38
comp=Z,2.7nm,0.8s
Q32M Nakina River 15.00 355 P Pn 15 26 52.1 +1.7
baz=172,SNR=25
W13A Hualapai Mount 15.01 121 P 15 26 56.6 +0.5
TOAD Toad River Com 15.03 9 P Pn 15 26 51.5 +0.9
baz=192,SNR=7.3
BC3 Big Chuckawall 15.10 129 IAmb IAmb 15 26 58.2
comp=Z,197nm,1.6s
TKX Tecate 15.31 134 IAmb IAmb 15 27 00.3
comp=Z,207nm,1.9s
R33M Jennings River 15.37 357 IAmb IAmb 15 26 59.4
R33M Jennings River 15.37 357 P Pn 15 26 57.1 +2.0
baz=176,SNR=120
HMU Henry Mountain 15.45 107 IAmb IAmb 15 27 02.7
comp=Z,434nm,1.9s
CBX Cerro Bola 15.48 135 IAmb IAmb 15 27 02.8
comp=Z,199nm,1.5s
LIRD Liard River Hi 15.50 7 P Pn 15 26 57.6 +0.9
baz=189
P32M Atlin 15.74 352 P Pn 15 27 01.1 +1.2
baz=168,SNR=44
SKAG Skagway 15.81 349 P Pn 15 27 02.1 +1.4
baz=164
PLBC Pleasant Camp 15.96 347 P Pn 15 27 03.3 +0.6
baz=161,SNR=55
WTLY Watson Lake, Y 16.07 1 P P 15 27 06.2 -1.3
WTLY Watson Lake, Y 16.07 1 P P 15 27 06.5 -1.0
baz=182,SNR=16
ESJX Sierra Juarez 16.09 134 IAmb IAmb 15 27 11.8
comp=Z,375nm,1.7s
O20A White River Ci 16.28 97 IAmb IAmb 15 27 13.5
comp=Z,355nm,1.6s
P33M Teslin, Yukon 16.28 354 P Pn 15 27 08.1 +1.2
baz=171,SNR=53
P29M Windy Craggy 16.36 345 P Pn 15 27 08.5 +0.7
baz=158,SNR=22
KOTAN Kotaneelee Air 16.42 10 P Pn 15 27 08.7 +0.1
baz=194
PV14 Lion Creek, Pa 16.44 103 IAmb IAmb 15 27 14.9
comp=Z,308nm,1.3s
PV05 Paradox Valley 16.52 104 IAmb IAmb 15 27 16.6
comp=Z,350nm,1.5s
PV17 East Wray Mesa 16.52 103 IAmb IAmb 15 27 19.4
comp=Z,355nm,1.3s
PV22 Blue Mesa, Par 16.53 102 IAmb IAmb 15 27 16.0
comp=Z,440nm,1.4s
PV16 Nyswonger Mesa 16.54 103 IAmb IAmb 15 27 15.4
comp=Z,429nm,1.6s
PV18 Skein Mesa, Pa 16.57 103 IAmb IAmb 15 27 16.6
comp=Z,438nm,1.3s
LAO LASA Array 16.58 73 IAmb IAmb 15 27 18.0
comp=Z,475nm,1.8s
PV11 David Mesa, Pa 16.58 103 IAmb IAmb 15 27 19.2
comp=Z,369nm,1.3s
PV03 Paradox Valley 16.61 103 IAmb IAmb 15 27 19.5
comp=Z,372nm,1.4s
PV07 Paradox Valley 16.67 103 IAmb IAmb 15 27 17.8
comp=Z,399nm,1.3s
PV13 Radium Mtn., P 16.68 104 IAmb IAmb 15 27 17.8
comp=Z,229nm,1.3s
P30M Million Dollar 16.69 347 P Pn 15 27 12.4 +0.3
baz=161
PNL Peninsula 16.73 342 P Pn 15 27 13.1 +0.6
PNL Peninsula 16.73 342 P Pn 15 27 12.7 +0.2
baz=154,SNR=38
PV15 Paradox Valley 16.83 103 IAmb IAmb 15 27 19.7
comp=Z,323nm,1.5s
HAYD Hayden 16.85 94 IAmb IAmb 15 27 20.5
comp=Z,322nm,1.4s
PV01 Paradox Valley 16.86 103 IAmb IAmb 15 27 19.4
comp=Z,469nm,1.7s
WHY Whitehorse 16.92 351 IAmb IAmb 15 27 19.8
comp=Z,260nm,1.4s
WHY Whitehorse 16.92 351 P P 15 27 16.2 -0.8
baz=166,SNR=46
O29M Mount Kennedy 17.14 345 P Pn 15 27 17.9 +0.1
baz=157,SNR=14
N32M Quiet Lake 17.23 354 P Pn 15 27 18.7 -0.2
baz=171
PINM Pinnacle 17.30 342 P Pn 15 27 20.3 +0.6
baz=153,SNR=19
PCA Pinnacle 17.30 342 IAmb IAmb 15 27 22.8
comp=Z,232nm,1.6s
HYT Haines Junctio 17.44 347 P P 15 27 22.5 -0.3
baz=160,SNR=66
TGTN Hyland Airport 17.50 2 P P 15 27 23.4 +0.1
baz=183,SNR=20
YUK6 Outpost Mounta 17.70 346 P P 15 27 25.5 -0.2
baz=158,SNR=138
MESA MESA 17.78 339 P P 15 27 26.6 -0.1
baz=149,SNR=20
N31M Braeburn, Yuko 17.83 350 P P 15 27 27.3 +0.3
baz=165,SNR=44
O28M Mount Upton 17.90 343 P P 15 27 27.7 -0.2
baz=154,SNR=16
N30M Aishikik Lake 17.98 348 P P 15 27 28.8 +0.2
baz=162,SNR=66
BGLC Bering Glacier 18.09 337 P P 15 27 30.8 +1.1
baz=146
YUK4 Talbot Arm 18.12 346 P P 15 27 31.6 +1.2
baz=158,SNR=50
KAIM Kayak Island 18.25 336 P P 15 27 33.1 +1.5
baz=143
S22A 4UR Ranch, Cre 18.26 102 IAmb IAmb 15 27 39.7
comp=Z,467nm,1.9s
YUK8 Steele Glacier 18.28 344 P P 15 27 32.8 +0.7
baz=155,SNR=49
ISCO Idaho Springs 18.29 95 IAmb IAmb 15 27 37.9
comp=Z,331nm,1.9s
ISCO Idaho Springs 18.29 95 P Pn 15 27 32.3 0.0
ISCO pmax pmax
comp=Z,84nm,0.9s
RSSD Black Hills 18.30 81 Pn 15 27 31.1 -1.2
RSSD Black Hills 18.30 81 P Pn 15 27 31.1 -1.2
RSSD pmax pmax
comp=Z,219nm,1.8s
CTG Chitna Glacier 18.32 341 P P 15 27 33.4 +0.9
baz=152,SNR=21
M31M Drury Creek, Y 18.38 353 P P 15 27 33.6 +0.6
baz=168,SNR=49
Q23K Middleton Isla 18.48 332 P Pn 15 27 34.6 +0.5
baz=138
CRQE Cirque 18.57 339 P Pn 15 27 36.4 +1.0
baz=147,SNR=35
MMPY Sheldon Lake, 18.61 358 P Pn 15 27 37.2 +1.4
baz=176,SNR=86
TUC Tucson 18.80 122 Pn 15 27 39.4 +1.0
TUC Tucson 18.80 122 P Pn 15 27 39.4 +1.0
TUC pmax pmax
comp=Z,78nm,1.6s
YUK3 Moose Creek 18.86 344 P Pn 15 27 39.2 +0.1
baz=154,SNR=19

M30M Minto, Yukon 19.01 350 P Pn 15 27 41.2 +0.5
baz=163,SNR=36
MCARA McCarthy VSAT 19.09 340 P P 15 27 40.9 +0.1
MCARA McCarthy VSAT 19.09 340 P Pn 15 27 42.0 +0.4
baz=149,SNR=12
M29M Somme Creek 19.12 347 P Pn 15 27 42.5 +0.4
baz=160,SNR=34
EYAK Cordova Ski Ar 19.15 335 P Pn 15 27 44.2 +1.9
EYAK Cordova Ski Ar 19.15 335 P Pn 15 27 42.7 +0.4
baz=142
BMRM Bremner River 19.16 337 P Pn 15 27 42.9 +0.5
baz=145,SNR=9.8
SDCO Great Sand Dun 19.20 101 IAmb IAmb 15 27 48.5
comp=Z,185nm,1.6s
P23K Montague Islan 19.26 332 IAmb IAmb 15 27 48.4
comp=Z,595nm,2.0s
P23K Montague Islan 19.26 332 P Pn 15 27 43.7 +0.1
baz=137
WRGLY Wrigley 19.51 8 P Pn 15 27 46.0 -0.5
baz=193
BVCY Beaver Creek 19.52 344 P Pn 15 27 46.7 -0.1
baz=154,SNR=11
FID Port Fidalgo 19.53 335 P P 15 27 45.9 +0.3
FID IAmb IAmb 15 27 50.9
comp=Z,193nm,1.5s
M27K Edge Creek, AK 19.68 343 P P 15 27 48.1 +0.7
baz=152,SNR=64
N25K Chitina, Valde 19.68 338 P Pn 15 27 48.7 -0.1
baz=146,SNR=29
L29M L29M 19.70 348 P Pn 15 27 48.8 -0.2
baz=161,SNR=32
GLI Glacier Island 19.82 334 P Pn 15 27 50.1 -0.3
baz=140,SNR=23
KDAK Kodiak Island 19.84 322 P 15 27 48.4 -0.6
KDAK Kodiak Island 19.84 322 P Pn 15 27 49.8 -0.7
comp=Z,0.3nm,0.3s,baz=120,slow=9.0,SNR=9.6
KDAK LR LR 15 33 20.8
comp=Z,4µm,21.7s,baz=124,slow=31
comp=Z,18nm,0.8s
KDAK Kodiak Island 19.84 322 *ce* P P 15 27 48.5 -0.5
KDAK pmax pmax
comp=Z,24nm,0.9s
KDAK Kodiak Island 19.84 322 P P 15 27 49.5 +0.5
baz=123
OHAK Old Harbor 19.86 320 P 15 27 49.8 +0.6
OHAK Old Harbor 19.86 320 P Pn 15 27 50.9 +0.1
OHAK Old Harbor 19.86 320 P Pn 15 27 50.4 -0.4
baz=121,SNR=10
MAYO Mayo, Yukon 19.89 352 P Pn 15 27 51.0 -0.1
baz=166
ANMO Albuquerque 19.95 109 P 15 27 50.6 0.0
ANMO Albuquerque 19.95 109 P Pn 15 27 51.8 -0.5
comp=Z,0.1nm,0.3s,baz=38,slow=12,SNR=11
ANMO LR LR 15 35 57.0
comp=Z,4µm,19.3s,baz=32,slow=38
comp=Z,3.6nm,1.0s
ANMO Albuquerque 19.95 109 *ce* P Pn 15 27 52.1 -0.2
ANMO pmax pmax
comp=Z,18nm,2.0s
KLU Klutina 19.96 337 P Pn 15 27 51.8 -0.2
baz=143,SNR=34
SII Sitkinak Islan 19.96 317 P Pn 15 27 52.2 +0.2
SII Sitkinak Islan 19.96 317 P Pn 15 27 52.1 +0.2
baz=118
M26K Nabesna, AK 19.97 341 P Pn 15 27 51.6 -0.5
baz=150,SNR=46
SEW Seward 20.05 330 P Pn 15 27 52.2 -0.8
SEW IAmb IAmb 15 27 56.5
comp=Z,445nm,1.9s
SEW Seward 20.05 330 P Pn 15 27 52.5 -0.4
baz=134,SNR=22
Y22D IRIS PASSCAL I 20.14 112 P Pn 15 27 54.9 +0.4
baz=307
PWL Port Wells 20.21 333 P Pn 15 27 54.0 -0.9
PWL IAmb IAmb 15 27 59.6
comp=Z,254nm,1.3s
PWL Port Wells 20.21 333 P Pn 15 27 54.5 -0.4
baz=137,SNR=44
Q20K Shuyak Island 20.23 324 P P 15 27 54.2 +1.0
baz=125
T25A Trinidad 20.25 101 IAmb IAmb 15 28 01.2
comp=Z,241nm,1.3s
BNM Barren Site 20.30 111 Pn 15 27 56.1 -0.2
L27K Beaver Creek, 20.30 344 P Pn 15 27 55.2 -0.8
baz=153,SNR=45
K29M Barlow Dome 20.32 350 P P 15 27 55.1 +0.8
baz=163,SNR=57
CHIR Chirikof Islan 20.35 314 P Pn 15 27 57.2 +0.6
baz=114
319A Douglas 20.37 122 P 15 27 53.9 -1.1
319A IAmb IAmb 15 28 11.7
comp=Z,130nm,1.2s
YKA Yellowknife Ar 20.40 20 P P 15 27 53.5 -1.5
comp=Z,45nm,1.1s,baz=213,slow=11,SNR=15
YKA LR LR 15 35 12.0
comp=Z,987nm,18.5s,baz=209,slow=36
comp=Z,45nm,1.1s
O22K Cooper Landing 20.41 331 P Pn 15 27 57.3 +0.1
baz=134,SNR=5.6
YKAW1 Yellowknife Wh 20.42 20 P 15 27 53.7 -1.5
YKAW1 IAmb IAmb 15 28 05.4
comp=Z,161nm,1.4s
YKAW3 Yellowknife Wh 20.46 20 P 15 27 53.7 -1.9
YKAW3 IAmb IAmb 15 28 03.8
comp=Z,76nm,1.1s
OGNE Ogallala 20.48 89 P 15 27 56.3 +0.1
OGNE IAmb IAmb 15 28 02.6
comp=Z,183nm,1.3s
HARP HAARP 20.49 339 P Pn 15 27 58.1 -0.1
baz=146,SNR=13
M24K Tolsona, Glenn 20.52 337 P Pn 15 27 58.5 -0.2
baz=144,SNR=30
121A Cookes Peak, D 20.53 117 P P 15 27 55.5 -1.3
121A IAmb IAmb 15 28 07.7
comp=Z,148nm,1.3s
R18K Karluk 20.58 320 P P 15 27 57.6 +0.7
baz=120
L26K Log Cabin Wild 20.59 342 P Pn 15 27 58.6 -0.8
baz=150,SNR=51
MENT Mentasta 20.60 341 IAmb IAmb 15 28 04.9
comp=Z,153nm,1.4s
MENT Mentasta 20.60 341 P Pn 15 28 00.6 +1.1
SCM Sheep Creek Mo 20.64 336 P Pn 15 27 59.2 -0.7
baz=141,SNR=27
KNK Knik Glacier 20.66 334 P Pn 15 27 59.3 -0.9
baz=138,SNR=21
FFC Flin Flon 20.72 49 P 15 27 56.7 -1.9
FFC IAmb IAmb 15 28 02.4
comp=Z,264nm,1.5s
FFC Flin Flon 20.72 49 P P 15 27 56.7 -1.9
FFC pmax pmax
comp=Z,264nm,1.5s
KSCO Kaye Shedlock' 20.72 95 IAmb IAmb 15 28 07.8
comp=Z,205nm,1.0s
M23K Glacier View 20.73 335 P Pn 15 27 60.0 -1.0
baz=140,SNR=29
DAWY Dawson 20.80 348 P Pn 15 28 00.7 -1.1
baz=159,SNR=29
RC01 Rabbit Creek A 20.84 332 IAmb IAmb 15 28 06.2
comp=Z,124nm,1.2s
RC01 Rabbit Creek A 20.84 332 P P 15 28 00.7 +0.8
baz=135,SNR=42
J30M Hart River 20.90 352 IAmb IAmb 15 28 04.4
comp=Z,151nm,1.4s
J30M Hart River 20.90 352 P P 15 28 01.6 +1.1
baz=166,SNR=76
Q19K Cape Douglas, 20.95 324 P P 15 28 01.6 +0.5
baz=124
J29N Klondike Camp 21.00 349 P P 15 28 02.7 +1.1
baz=162,SNR=10
PMR Palmer 21.01 333 P P 15 28 02.3 +0.7
PMR IAmb IAmb 15 28 04.5
comp=Z,111nm,1.2s
PMR Palmer 21.01 333 P P 15 28 03.1 +1.5
PMR Palmer 21.01 333 P P 15 28 02.3 +0.7
PMR pmax pmax
comp=Z,111nm,1.2s
PMR Palmer 21.01 333 P P 15 28 02.2 +0.7
baz=137,SNR=16
PAX Paxson 21.05 340 P P 15 28 02.7 +0.5
baz=146,SNR=20
CAPN Captain Cook N 21.12 330 P P 15 28 03.6 +0.9
baz=132
P19K Oil Pt 21.20 326 IAmb IAmb 15 28 09.6
comp=Z,182nm,1.1s
P19K Oil Pt 21.20 326 P P 15 28 04.6 +0.9
baz=126

O20K Slope Mountain 21.22 327 P P 15 28 04.2 +0.2
baz=128,SNR=8.9
K27K Chicken 21.23 345 P P 15 28 03.5 -0.4
baz=154
DOT Dot Lake 21.30 342 P P 15 28 03.2 -1.5
ILSW Iliamna Southw 21.37 326 P P 15 28 04.1 -1.5
ILSW IAmb IAmb 15 28 11.8
comp=Z,268nm,1.6s
Q18K Katmai Hardscr 21.39 322 P P 15 28 06.7 +0.8
baz=121,SNR=13
M22K Willow 21.45 333 P P 15 28 07.3 +0.9
baz=136,SNR=10.0
SUA Susitna One 21.45 332 IAmb IAmb 15 28 09.2
comp=Z,136nm,1.1s
SUA Susitna One 21.45 332 P P 15 28 07.0 +0.5
baz=134,SNR=56
RED Redoubt Volcan 21.49 328 IAmb IAmb 15 28 09.4
comp=Z,138nm,1.2s
R17L Mt. Peulik Vol 21.51 319 P P 15 28 08.6 +1.6
baz=117
I30M Mount Dempster 21.53 352 IAmb IAmb 15 28 10.5
comp=Z,106nm,1.3s
I30M Mount Dempster 21.53 352 P P 15 28 06.9 -0.5
baz=166,SNR=65
RIDG Independent Ri 21.55 341 IAmb IAmb 15 28 10.3
comp=Z,102nm,1.1s
RIDG Independent Ri 21.55 341 P P 15 28 07.7 +0.2
baz=148,SNR=49
SCRK Sand Creek 21.57 343 P P 15 28 08.5 +0.8
baz=150,SNR=11
SPU Mount Spurr 21.72 330 IAmb IAmb 15 28 12.6
comp=Z,162nm,1.2s
RTBA Rita Blanca 21.77 101 IAmb IAmb 15 28 19.6
comp=Z,188nm,1.4s
N20K Mount Spurr 21.79 330 P P 15 28 10.9 +0.8
baz=131,SNR=28
SPCR Spurr Crakacha 21.79 330 P P 15 28 10.7 +0.6
baz=131,SNR=11
K24K Donnelly Dome 21.83 340 IAmb IAmb 15 28 16.1
comp=Z,165nm,1.5s
K24K Donnelly Dome 21.83 340 P P 15 28 11.5 +1.0
baz=147,SNR=22
EPT El Paso 21.85 116 IAmb IAmb 15 28 18.4
comp=Z,164nm,1.5s
SUSD Miller 21.85 78 P P 15 28 10.6 -0.3
SUSD IAmb IAmb 15 28 18.7
comp=Z,182nm,1.1s
STLK Strandline Lak 21.86 331 P P 15 28 10.9 +0.1
I29M Ogilvie Camp, 21.88 350 IAmb IAmb 15 28 16.1
comp=Z,217nm,1.7s
I29M Ogilvie Camp, 21.88 350 P P 15 28 11.5 +0.6
baz=162,SNR=52
P18K Big Mountain, 21.89 323 P P 15 28 12.0 +0.9
baz=122
H31M Peel River 21.94 355 IAmb IAmb 15 28 16.3
comp=Z,214nm,1.4s
H31M Peel River 21.94 355 P P 15 28 11.9 +0.3
baz=170,SNR=49
J26L Joseph Creek 21.94 344 P P 15 28 12.6 +0.8
baz=152,SNR=49
O19K Port Alsworth 21.97 326 P P 15 28 12.4 +0.5
baz=126,SNR=17
CUT Chulitna 21.98 334 P P 15 28 12.7 +0.7
baz=137,SNR=7.3
CHGN Chignik 21.98 314 P P 15 28 13.3 +1.3
CHGN IAmb IAmb 15 28 20.6
comp=Z,145nm,1.1s
CHGN Chignik 21.98 314 P P 15 28 13.5 +1.4
baz=111,SNR=6.4
SKT Skwentna 22.09 332 IAmb IAmb 15 28 17.4
comp=Z,139nm,1.2s
SKT Skwentna 22.09 332 P P 15 28 13.6 +0.4
baz=134,SNR=60
CNBA Chernabura Isl 22.12 310 IAmb IAmb 15 28 17.8
comp=Z,83nm,1.0s
CHNA Chernabura Isl 22.13 310 P P 15 28 15.3 +1.6
CHNA Chernabura Isl 22.13 310 P P 15 28 14.8 +1.1
baz=106,SNR=12
O18K Koktuh Hills 22.14 325 IAmb IAmb 15 28 16.2
comp=Z,100nm,1.1s
O18K Koktuh Hills 22.14 325 P P 15 28 14.0 +0.2
baz=124,SNR=14
Q16K King Salmon 22.15 321 P P 15 28 14.6 +0.7
baz=119,SNR=6.2
I28M Miner Creek 22.18 348 IAmb IAmb 15 28 18.1
comp=Z,91nm,1.2s
I28M Miner Creek 22.18 348 P P 15 28 14.3 0.0
baz=160,SNR=43
RND Reindeer 22.31 337 IAmb IAmb 15 28 19.7
comp=Z,110nm,1.2s
P17K Kvichak River 22.31 322 P P 15 28 15.9 +0.3
baz=120,SNR=9.1
N19K Bonanza Creek 22.40 327 P P 15 28 17.2 +0.5
baz=127,SNR=80
J25K Salcha River, 22.42 342 IAmb IAmb 15 28 21.4
comp=Z,162nm,1.8s
J25K Salcha River, 22.42 342 P P 15 28 16.4 -0.5
baz=149,SNR=47
S14K Fog Glacier 22.57 313 P P 15 28 19.4 +0.9
baz=110
M20K Styx River 22.57 330 IAmb IAmb 15 28 22.4
comp=Z,163nm,1.2s
M20K Styx River 22.57 330 P P 15 28 18.7 +0.2
baz=131,SNR=62
I26K Coal Creek Min 22.58 345 P P 15 28 18.9 +0.5
baz=153,SNR=144
I27K Kandik River 22.59 347 P P 15 28 18.2 -0.4
baz=156,SNR=49
MCK McKinley 22.59 337 P P 15 28 18.5 0.0
baz=141,SNR=21
HDA Harding Lake 22.62 340 IAmb IAmb 15 28 22.9
comp=Z,164nm,1.5s
HDA Harding Lake 22.62 340 P P 15 28 19.0 +0.2
baz=146,SNR=42
EPYK Eagle Plains 22.69 352 P P 15 28 19.4 -0.2
baz=166,SNR=90
H29M Whitestone 22.71 351 P P 15 28 19.5 -0.3
baz=163,SNR=101
TRF Thorofare Moun 22.76 336 IAmb IAmb 15 28 38.3
comp=Z,70nm,1.0s
TRF Thorofare Moun 22.76 336 P P 15 28 20.1 -0.4
baz=138,SNR=16
SDPT Sand Point 22.77 311 P 15 28 19.4 -1.1
SDPT IAmb IAmb 15 28 22.7
comp=Z,176nm,1.3s
SDPT Sand Point 22.77 311 P P 15 28 21.8 +1.4
SDPT Sand Point 22.77 311 P P 15 28 21.2 +0.8
baz=106
CBKS Cedar Bluff 22.88 93 IAmb IAmb 15 28 31.3
comp=Z,221nm,1.4s
N18K Kilae Creek 22.88 326 P P 15 28 21.9 +0.2
baz=124,SNR=91
O17K Koliganek Bris 22.89 323 P P 15 28 22.1 +0.3
baz=120,SNR=33
ILAR Eielson Array 22.91 341 P P 15 28 21.4 -0.5
ILAR Eielson Array 22.91 341 P P 15 28 21.0 -0.9
comp=Z,58nm,1.1s,baz=153,slow=8.0,SNR=152
ILAR LR LR 15 35 46.9
comp=Z,3µm,21.8s,baz=146,slow=33
comp=Z,58nm,1.1s
ILAR Eielson Array 22.91 341 P P 15 28 21.4 -0.5
P16K Nushagak River 22.93 321 P P 15 28 22.8 +0.7
baz=118,SNR=6.2
PPLA Purkeypile 22.95 333 P P 15 28 22.7 +0.2
baz=134,SNR=62
CCB Clear Creek Bu 23.02 340 IAmb IAmb 15 28 26.5
comp=Z,139nm,1.2s
G31M Satah River 23.04 355 IAmb IAmb 15 28 28.5
comp=Z,91nm,1.4s
G31M Satah River 23.04 355 P P 15 28 22.7 -0.5
baz=171,SNR=13
M19K Big River Lodg 23.04 329 IAmb IAmb 15 28 27.0
comp=Z,152nm,1.1s
M19K Big River Lodg 23.04 329 P P 15 28 23.9 +0.6
baz=129,SNR=75
BGNE Belgrade 23.14 86 IAmb IAmb 15 28 40.6
comp=Z,63nm,0.9s
H27K Steamboat Moun 23.15 348 IAmb IAmb 15 28 27.6
comp=Z,73nm,1.1s
H27K Steamboat Moun 23.15 348 P P 15 28 24.6 +0.2
baz=157,SNR=60
COLA College 23.22 340 P P 15 28 24.6 -0.5
COLA College 23.22 340 P P 15 28 28.5 +3.4
COLA College 23.22 340 P P 15 28 24.6 -0.5
COLA pmax pmax
comp=Z,55nm,1.3s
COLA College 23.22 340 P P 15 28 24.5 -0.5
baz=144

L20K **Farewell, AK** 23.23 331 P P 15 28 25.3 0.0
baz=131,SNR=30
PRP **Porcupine Dome** 23.24 343 IAmb IAmb 15 28 29.3
comp=Z,139nm,1.8s
PRP **Porcupine Dome** 23.24 343 P P 15 28 25.4 0.0
baz=149,SNR=17
G30M **tAoh Zraii Nji** 23.24 353 IAmb IAmb 15 28 28.2
comp=Z,118nm,1.4s
G30M **tAoh Zraii Nji** 23.24 353 P P 15 28 25.4 +0.1
baz=167,SNR=30
O16K **Kokwok River B** 23.24 322 IAmb IAmb 15 28 29.4
comp=Z,144nm,1.1s
O16K **Kokwok River B** 23.24 322 P P 15 28 26.4 +1.1
baz=119,SNR=46
CAST **Castle Rocks** 23.29 334 IAmb IAmb 15 28 29.7
comp=Z,168nm,1.4s
CAST **Castle Rocks** 23.29 334 P P 15 28 25.5 -0.2
baz=135,SNR=55
NEA2 **Nenana** 23.30 339 P P 15 28 25.8 -0.2
baz=142,SNR=90
POKR **Poker Plat Res** 23.32 341 IAmb IAmb 15 28 29.5
comp=Z,108nm,1.3s
POKR **Poker Plat Res** 23.32 341 P P 15 28 25.7 -0.4
baz=146,SNR=20
M18K **Stony River** 23.33 328 P P 15 28 26.8 +0.5
baz=126,SNR=20
N17K **Nushagak Hills** 23.33 325 P P 15 28 27.2 +0.9
baz=122,SNR=52
G29M **Pine Creek** 23.34 352 P P 15 28 26.4 0.0
baz=164,SNR=72
L19K **White Mountain** 23.39 330 P P 15 28 27.6 +0.8
baz=129,SNR=117
BPAW **Bear Paw Mtn.** 23.45 336 P P 15 28 27.3 -0.2
baz=138
VHRN **Van Horn** 23.48 116 IAmb IAmb 15 28 35.5
comp=Z,123nm,1.7s
F33A **5 Mile Ranch,** 23.50 74 IAmb IAmb 15 28 36.0
comp=Z,116nm,0.8s
F31M **Tsiigehtchic** 23.53 356 P P 15 28 27.5 -0.6
baz=172,SNR=23
ULM **Lac du Bonnet** 23.57 63 P P 15 28 28.0 -0.7
comp=Z,35nm,0.8s,baz=278,slow=9.3,SNR=23
ULM LR LR 15 37 41.0
comp=Z,6µm,18.6s,baz=264,slow=37
comp=Z,35nm,0.8s
ULM **Lac du Bonnet** 23.57 63*ce* P P 15 28 27.2 -1.5
AGMN **Agassiz Nation** 23.58 68 IAmb IAmb 15 28 38.3
comp=Z,129nm,1.2s
ECSD **EROS Data Cent** 23.64 79 P 15 28 28.3 -1.2
CHUM **Lake Minchumin** 23.69 335 P P 15 28 29.7 0.0
baz=136
G27K **Doyon Strip** 23.71 348 IAmb IAmb 15 28 33.5
comp=Z,204nm,1.6s
G27K **Doyon Strip** 23.71 348 P P 15 28 30.2 +0.2
baz=158,SNR=56
S12K **Black Hills** 23.73 311 IAmb IAmb 15 28 32.9
comp=Z,124nm,1.1s
S12K **Black Hills** 23.73 311 P P 15 28 30.5 +0.3
baz=105,SNR=19
I23K **Minto, Yukon-K** 23.82 339 P P 15 28 31.6 +0.6
baz=142,SNR=68
F30M **Barrier River** 23.82 354 IAmb IAmb 15 28 34.9
comp=Z,82nm,1.4s
F30M **Barrier River** 23.82 354 P P 15 28 30.3 -0.8
baz=168,SNR=9.7
PECS **Pecos** 23.83 113 IAmb IAmb 15 28 39.1
comp=Z,66nm,1.2s
O15K **Ungalikthiuk R** 23.84 320 P 15 28 31.3 +0.1
O15K IAmb IAmb 15 28 34.6
comp=Z,76nm,1.1s
O15K **Ungalikthiuk R** 23.84 320 P P 15 28 31.7 +0.5
baz=115,SNR=12
K20K **Telida** 23.89 332 P P 15 28 31.4 -0.3
baz=132
M17K **Holitna River** 23.91 326 P P 15 28 32.7 +0.8
baz=123,SNR=24
H25L **Birch Creek** 23.95 344 P P 15 28 32.7 +0.5
baz=150,SNR=36
N16K **Nishlik Lake** 23.97 323 P P 15 28 33.7 +1.1
baz=120,SNR=21
H24K **Noodor Dome** 24.03 341 IAmb IAmb 15 28 36.7
comp=Z,101nm,1.2s
H24K **Noodor Dome** 24.03 341 P P 15 28 33.5 +0.5
baz=146,SNR=43
L18K **Granite Mounta** 24.09 328 P P 15 28 34.6 +1.0
baz=126,SNR=48
MLY **Manley** 24.09 338 IAmb IAmb 15 28 36.7
comp=Z,196nm,1.6s
MLY **Manley** 24.09 338 P P 15 28 33.7 0.0
baz=140,SNR=25
G26K **Porcupine Rive** 24.18 346 IAmb IAmb 15 28 38.2
comp=Z,154nm,1.6s
G26K **Porcupine Rive** 24.18 346 P P 15 28 35.2 +0.9
baz=154,SNR=27
SMWD **Samnorwood** 24.19 102 IAmb IAmb 15 28 44.2
comp=Z,119nm,1.2s
F28M **Old Crow** 24.23 350 IAmb IAmb 15 28 38.0
comp=Z,214nm,1.8s
F28M **Old Crow** 24.23 350 P P 15 28 34.8 0.0
baz=161,SNR=9.9
FALS **False Pass** 24.28 308 P P 15 28 37.0 +1.7
FALS **False Pass** 24.28 308 P P 15 28 35.7 +0.4
baz=102
M16K **Timber Creek** 24.33 325 P P 15 28 37.1 +1.3
baz=120,SNR=36
INK **Inuvik** 24.38 356 P P 15 28 34.4 -1.8
comp=Z,15nm,1.1s,baz=186,slow=8.5,SNR=12
INK LR LR 15 37 44.0
comp=Z,3µm,19.6s,baz=178,slow=36
comp=Z,15nm,1.1s
INK **Inuvik** 24.38 356 P P 15 28 34.8 -1.3
baz=173,SNR=9.4
N15K **Kwethluk River** 24.40 322 IAmb IAmb 15 28 40.9
comp=Z,99nm,1.4s
N15K **Kwethluk River** 24.40 322 P P 15 28 37.0 +0.5
baz=117,SNR=14
POST **Post** 24.41 107 IAmb IAmb 15 28 45.6
comp=Z,60nm,1.2s
H23K **Yukon River** 24.41 340 P P 15 28 36.2 -0.3
baz=143,SNR=34
G25K **Bearman Lake** 24.44 344 P P 15 28 37.5 +0.8
baz=150,SNR=39
DKNS **Dickens** 24.47 105 IAmb IAmb 15 28 46.8
comp=Z,138nm,1.6s
J20K **Nowinta River** 24.47 334 P P 15 28 37.3 +0.3
baz=133,SNR=47
O14K **Tigyukauivet M** 24.54 319 P P 15 28 36.6 -1.0
baz=114,SNR=6.3
I21K **Tanana** 24.55 337 IAmb IAmb 15 28 40.0
comp=Z,86nm,1.2s
I21K **Tanana** 24.55 337 P P 15 28 38.4 +0.7
baz=138,SNR=19
MNHN **Monahans** 24.58 112 IAmb IAmb 15 28 45.2
comp=Z,73nm,1.6s
OK038 **West end E0370** 24.59 97 IAmb IAmb 15 28 46.2
comp=Z,156nm,1.4s
ALPN **Alpine** 24.62 115 IAmb IAmb 15 28 48.1
comp=Z,102nm,1.3s
L17K **Donlin** 24.66 327 P P 15 28 39.5 +0.7
baz=123,SNR=26
G24K **Hadweenzic Riv** 24.67 343 IAmb IAmb 15 28 41.5
comp=Z,89nm,1.1s
G24K **Hadweenzic Riv** 24.67 343 P P 15 28 39.5 +0.7
baz=148,SNR=50
BMAR **Burnt Mountain** 24.75 346 P P 15 28 39.9 +0.3
E29M **Blow River** 24.76 353 IAmb IAmb 15 28 44.6
comp=Z,115nm,1.6s
E29M **Blow River** 24.76 353 P P 15 28 39.2 -0.4
baz=165,SNR=14
J19K **Poorman** 24.83 333 IAmb IAmb 15 28 42.6
comp=Z,77nm,1.1s
J19K **Poorman** 24.83 333 P P 15 28 40.7 +0.4
baz=131,SNR=42
J18K **Innoko River** 24.86 331 IAmb IAmb 15 28 43.6
comp=Z,87nm,1.0s
J18K **Innoko River** 24.86 331 P P 15 28 40.7 +0.1
baz=128,SNR=45
L16K **Owhat River** 24.90 326 P P 15 28 42.1 +1.2
baz=121,SNR=47
M15K **Kasigluk River** 24.91 323 P P 15 28 41.9 +0.9
baz=117,SNR=28
F26K **Sheenjek River** 24.91 347 P P 15 28 41.7 +0.6
baz=154,SNR=30
H22K **Ishtalitna Cre** 24.93 339 P P 15 28 42.0 +0.8
baz=140,SNR=103
EPLO **Experimental L** 24.95 64 IAmb IAmb 15 28 49.8
comp=Z,81nm,0.9s
E27K **Coleen River** 24.99 349 IAmb IAmb 15 28 44.7
comp=Z,99nm,1.1s
E27K **Coleen River** 24.99 349 P P 15 28 42.7 +1.0
baz=159,SNR=32
KAN01 **Argonia South** 24.99 95 IAmb IAmb 15 28 52.0
comp=Z,98nm,1.3s
K17K **Iditarod** 24.99 328 P P 15 28 42.8 +1.0
baz=124,SNR=67
I20K **Naaghedeneel** 25.00 335 P P 15 28 42.4 +0.6
baz=134,SNR=13
N14K **Kuskokwak Cree** 25.01 321 IAmb IAmb 15 28 44.6
comp=Z,121nm,1.2s
N14K **Kuskokwak Cree** 25.01 321 P P 15 28 42.6 +0.7
baz=114,SNR=7.9
F25K **Christian Rive** 25.08 345 IAmb IAmb 15 28 47.0
comp=Z,101nm,1.3s
F25K **Christian Rive** 25.08 345 P P 15 28 43.6 +1.0
baz=152,SNR=47
CROK **Carrier** 25.12 97 IAmb IAmb 15 28 52.4
comp=Z,112nm,1.3s
E28M **Babbage River** 25.14 351 IAmb IAmb 15 28 45.5
comp=Z,86nm,1.2s
E28M **Babbage River** 25.14 351 P P 15 28 43.3 +0.2
baz=162,SNR=29
H21K **Melozitna Rive** 25.14 337 IAmb IAmb 15 28 45.5
comp=Z,84nm,1.1s
H21K **Melozitna Rive** 25.14 337 P P 15 28 43.6 +0.5
baz=138,SNR=40
APMT **Aspermont** 25.22 105 IAmb IAmb 15 28 56.9
comp=Z,93nm,1.6s
G23K **Bananza Creek** 25.24 341 P P 15 28 45.0 +0.9
baz=143,SNR=94
TXAR **Lajitas Array** 25.29 117 P 15 28 45.4 +0.5
TXAR **Lajitas Array** 25.29 117 P P 15 28 45.9 +1.0
comp=Z,5.2nm,0.8s,baz=303,slow=6.9,SNR=37
TXAR LR LR 15 38 30.7
comp=Z,889nm,18.9s,baz=298,slow=36
comp=Z,5.2nm,0.8s
SGCY **Sterling City** 25.34 109 IAmb IAmb 15 28 54.6
comp=Z,104nm,1.4s
LPIG **La Paz** 25.39 135 LR LR 15 37 35.9
comp=Z,2µm,19.8s,baz=320,slow=34
WMOK **Wichita Mounta** 25.41 101 IAmb IAmb 15 28 55.0
comp=Z,100nm,1.2s
WMOK **Wichita Mounta** 25.41 101 P P 15 28 46.8 +1.0
WMOK pmax pmax
comp=Z,91nm,1.1s
F24K **Squaw Lake** 25.45 344 IAmb IAmb 15 28 52.3
comp=Z,68nm,1.4s
F24K **Squaw Lake** 25.45 344 P P 15 28 46.5 +0.6
baz=148,SNR=14
C36M **Paulatuk** 25.49 5 P P 15 28 45.7 -0.5
baz=189
M14K **Bethel** 25.49 322 P P 15 28 46.8 +0.6
baz=116,SNR=16
AKUT **Akutan** 25.50 306 IAmb IAmb 15 28 59.1
comp=Z,63nm,1.0s
AKUT **Akutan** 25.50 306 P P 15 28 47.7 +1.3
E25K **Arctic Village** 25.54 346 IAmb IAmb 15 28 52.2
comp=Z,69nm,1.5s
E25K **Arctic Village** 25.54 346 P P 15 28 47.2 +0.5
baz=152,SNR=7.5
H20K **Anotleneega Mo** 25.61 336 P P 15 28 48.4 +1.0
baz=134,SNR=100
IMAR **Indian Mountai** 25.64 337 P P 15 28 48.0 +0.4
J17K **VABM Dome** 25.67 329 IAmb IAmb 15 28 51.7
comp=Z,110nm,1.3s
J17K **VABM Dome** 25.67 329 P P 15 28 48.9 +1.0
baz=124,SNR=15
COLD **Coldfoot** 25.70 342 IAmb IAmb 15 28 51.9
comp=Z,99nm,1.5s
COLD **Coldfoot** 25.70 342 P P 15 28 49.3 +1.2
baz=144,SNR=26
L15K **Ungalak Mounta** 25.72 324 P P 15 28 48.9 +0.5
baz=118,SNR=18
GCSA **Galena City Sc** 25.73 333 P P 15 28 49.3 +0.9
baz=130
G22K **Bettles** 25.77 340 P P 15 28 49.6 +0.9
baz=141,SNR=70
UNV **Unalaska Valle** 25.89 305 P P 15 28 51.1 +1.1
baz=96,SNR=26
D27M **Malcolm River** 25.91 351 IAmb IAmb 15 28 55.0
comp=Z,173nm,1.8s
D27M **Malcolm River** 25.91 351 P P 15 28 50.4 +0.3
baz=161,SNR=10
SLBS **Sierra La Lagu** 25.92 135 IAmb IAmb 15 28 58.5
comp=Z,125nm,1.9s
OZNA **Ozona** 25.94 111 IAmb IAmb 15 28 57.2
comp=Z,171nm,2.0s
ABTX **Abilene, Hawle** 25.94 106 IAmb IAmb 15 28 59.8
comp=Z,46nm,1.1s
G21K **Allakaket** 25.97 338 P P 15 28 51.5 +0.9
baz=138
M13K **Dall Lake** 25.97 321 P P 15 28 51.6 +1.0
baz=113,SNR=10
SPMN **Marine on St.** 26.02 74 IAmb IAmb 15 29 06.7
comp=Z,108nm,1.6s
K15K **Wolf Creek Mou** 26.04 326 IAmb IAmb 15 28 54.6
comp=Z,75nm,1.2s
K15K **Wolf Creek Mou** 26.04 326 P P 15 28 52.1 +0.9
baz=119,SNR=14
E24K **Your Creek** 26.04 344 IAmb IAmb 15 28 54.2
comp=Z,55nm,1.1s
E24K **Your Creek** 26.04 344 P P 15 28 52.1 +0.8
baz=147,SNR=28
L14K **Kuka Creek** 26.07 323 P P 15 28 52.0 +0.5
baz=116,SNR=35
H19K **Roundabout Mou** 26.11 335 P P 15 28 52.5 +0.6
baz=132,SNR=48
WTFS **Witchita Falls** 26.14 103 IAmb IAmb 15 29 02.2
comp=Z,80nm,1.0s
J16K **Anvik River** 26.18 328 P P 15 28 53.1 +0.5
baz=122,SNR=17
QUOK **Quay** 26.18 96 IAmb IAmb 15 29 00.6
comp=Z,92nm,1.1s
OK052 **Battle Ridge R** 26.20 97 IAmb IAmb 15 29 00.7
comp=Z,94nm,1.0s
E23K **Chandalar** 26.26 343 IAmb IAmb 15 28 56.3
comp=Z,76nm,1.1s
E23K **Chandalar** 26.26 343 P P 15 28 54.1 +0.8
baz=136,SNR=39
F22K **John River** 26.39 341 P P 15 28 55.2 +0.8
baz=141,SNR=15
H18K **Honhosa River** 26.48 333 IAmb IAmb 15 29 00.2
comp=Z,100nm,1.1s
H18K **Honhosa River** 26.48 333 P P 15 28 55.0 -0.3
baz=128
DEOK **Depew** 26.49 97 IAmb IAmb 15 29 03.4
comp=Z,84nm,1.1s
F21K **Alatna River** 26.50 339 IAmb IAmb 15 29 11.1
comp=Z,44nm,1.1s
F21K **Alatna River** 26.50 339 P P 15 28 56.3 +0.9
baz=139,SNR=23
I17K **Unalakleet** 26.55 329 P P 15 28 56.6 +0.9
baz=123,SNR=6.7
C27K **Jago River** 26.62 349 IAmb IAmb 15 29 08.6
comp=Z,61nm,1.2s
C27K **Jago River** 26.62 349 P P 15 28 57.6 +1.2
baz=156,SNR=8.6
E38A **The Farm, Brul** 26.65 71 IAmb IAmb 15 29 28.0
comp=Z,145nm,1.8s
G19K **Purcell Mounta** 26.73 335 P P 15 28 57.6 +0.2
baz=132,SNR=33
TOLK **Toolik Lake Re** 26.74 344 P P 15 28 58.6 +1.1
baz=146,SNR=42
D25K **Kavik River** 26.74 347 P P 15 28 58.5 +0.9
baz=152,SNR=9.2
E22K **Anaktuvuk Pass** 26.80 342 IAmb IAmb 15 29 01.6
comp=Z,90nm,1.4s
E22K **Anaktuvuk Pass** 26.80 342 P P 15 28 59.0 +0.8
baz=142,SNR=27
LOOK **Love County** 26.92 101 IAmb IAmb 15 29 14.9
comp=Z,96nm,1.3s
F20K **Avaraart Lake** 26.96 338 P P 15 28 59.7 +0.2
baz=135,SNR=9.4
TUL3 **Leonard** 26.96 96 IAmb IAmb 15 29 16.9
comp=Z,118nm,1.5s
D24K **Happy Valley** 27.03 345 IAmb IAmb 15 29 03.8
comp=Z,87nm,1.4s
D24K **Happy Valley** 27.03 345 P P 15 28 59.7 -0.4
baz=148,SNR=7.7
G18K **Tagagawik** 27.05 334 IAmb IAmb 15 29 06.3
comp=Z,109nm,1.2s
G18K **Tagagawik** 27.05 334 P P 15 29 00.1 -0.2
baz=129
C26K **Camden Bay** 27.05 348 P P 15 28 59.4 -0.9
baz=155
J14K **Nanvaranak Lak** 27.08 326 IAmb IAmb 15 29 03.9
comp=Z,60nm,1.2s
J14K **Nanvaranak Lak** 27.08 326 P P 15 29 01.1 +0.6
baz=117,SNR=5.2
K13K **Kusilvak Mount** 27.18 323 P P 15 29 01.0 -0.5
baz=114
NIKH **Nikolski High** 27.22 303 P P 15 29 02.7 +0.7
baz=93
D23K **Nanushuk River** 27.23 343 P P 15 29 02.9 +0.9
baz=145,SNR=24
M11K **Mekoryuk** 27.28 320 P P 15 29 03.0 +0.7
baz=110
F19K **Shaleruckik Mo** 27.39 336 IAmb IAmb 15 29 09.8
comp=Z,105nm,1.8s
F19K **Shaleruckik Mo** 27.39 336 P P 15 29 03.3 -0.1
baz=132
RLO **Rose Lookout** 27.40 95 IAmb IAmb 15 29 20.9
comp=Z,47nm,1.2s
G17K **Kiwalik Mounta** 27.46 332 P P 15 29 04.2 +0.2
baz=126,SNR=11
C24K **Franklin Bluff** 27.49 346 IAmb IAmb 15 29 06.9
comp=Z,82nm,1.2s
C24K **Franklin Bluff** 27.49 346 P P 15 29 05.1 +0.8
baz=149,SNR=8.3
H16K **Elim** 27.52 330 P P 15 29 05.0 +0.4
baz=122
E21K **Killik River** 27.55 341 P P 15 29 05.3 +0.5
baz=140,SNR=6.0
D22K **Ayikyak River** 27.59 342 IAmb IAmb 15 29 08.0
comp=Z,68nm,1.5s
D22K **Ayikyak River** 27.59 342 P P 15 29 05.0 -0.2
baz=142,SNR=6.1
BLKN **Baker Lake** 27.66 31 P P 15 29 04.0 -1.8
BLKN IAmb IAmb 15 29 32.2
comp=Z,62nm,1.5s
E19K **Redstone River** 27.67 337 P P 15 29 05.9 +0.1
baz=134
F18K **Selawik** 27.81 335 P P 15 29 07.5 +0.5
baz=129
G40A **Rib Lake** 27.82 74 IAmb IAmb 15 29 31.6
comp=Z,50nm,1.3s
I40A **Norwalk** 27.83 77 IAmb IAmb 15 29 16.5
comp=Z,36nm,0.8s
L40A **Anamosa** 27.90 81 IAmb IAmb 15 29 16.9
comp=Z,97nm,1.4s
C23K **Itkillik River** 27.95 345 P P 15 29 09.3 +1.0
baz=146,SNR=10
E20K **Nigu River** 27.96 339 P P 15 29 08.6 +0.1
baz=136
G16K **Koyuk River** 27.98 331 P P 15 29 08.7 +0.1
baz=123
A36M **Sachs Harbour** 28.07 3 P P 15 29 08.9 -0.5
baz=186
P40A **Paris** 28.15 86 IAmb IAmb 15 29 23.3
comp=Z,101nm,1.6s
F17K **Baldwin Pennin** 28.21 333 IAmb IAmb 15 29 13.7
comp=Z,95nm,1.2s
F17K **Baldwin Pennin** 28.21 333 P P 15 29 10.3 -0.4
baz=126
C21K **Knifeblade Rid** 28.29 341 P P 15 29 11.9 +0.5
baz=139,SNR=11
JFWS **Jewell Farm** 28.35 78 IAmb IAmb 15 29 20.0
comp=Z,57nm,0.9s
G15K **Niukluk** 28.37 330 P P 15 29 12.7 +0.6
baz=120
COWI **Conover** 28.39 72 IAmb IAmb 15 29 21.1
comp=Z,21nm,0.7s
D20K **Etivluk River** 28.40 340 P P 15 29 12.7 +0.3
baz=136
R40A **Maddies Statio** 28.47 89 IAmb IAmb 15 29 20.6
comp=Z,59nm,1.0s
B21K **Ikpikpuk River** 28.60 342 IAmb IAmb 15 29 17.4
comp=Z,69nm,1.4s
B21K **Ikpikpuk River** 28.60 342 P P 15 29 14.6 +0.4
baz=140
E18K **Tukpahlearik C** 28.62 335 P P 15 29 15.2 +0.9
baz=129
D19K **Kuna River** 28.63 338 IAmb IAmb 15 29 18.2
comp=Z,132nm,1.7s
D19K **Kuna River** 28.63 338 P P 15 29 14.1 -0.4
baz=134
E17K **Hotham Inlet** 28.78 334 P P 15 29 16.2 +0.4
baz=126
B22K **Teshekpuk Lake** 28.91 344 P P 15 29 16.9 0.0
baz=143
MGMO **Mountain Grove** 28.94 91 IAmb IAmb 15 29 26.4
comp=Z,52nm,1.2s
F15K **North Star Dit** 28.95 331 IAmb IAmb 15 29 20.4
comp=Z,49nm,1.1s
F15K **North Star Dit** 28.95 331 P P 15 29 17.2 -0.2
baz=121,SNR=5.7
I42A **Draeger Farm,** 29.03 76 IAmb IAmb 15 29 32.5
comp=Z,55nm,1.0s
MIAR **Mount Ida** 29.21 97 P P 15 29 23.0 +3.1
MIAR pmax pmax
comp=Z,57nm,2.2s
CCM **Cathedral Cave** 29.30 88 P P 15 29 20.1 -0.6
CCM IAmb IAmb 15 29 29.6
comp=Z,53nm,1.2s
CCM **Cathedral Cave** 29.30 88 P P 15 29 20.1 -0.6
CCM pmax pmax
comp=Z,53nm,1.2s
C19K **Lookout Ridge** 29.44 339 P P 15 29 21.0 -0.6
baz=132
F14K **Arctic Creek** 29.44 329 P P 15 29 21.4 -0.2
baz=118
B20K **Meade River** 29.48 341 P P 15 29 22.6 +0.7
baz=137
D17K **Noatak River** 29.54 335 P P 15 29 23.7 +1.2
baz=126
C18K **Utukok River** 29.57 337 P P 15 29 23.2 +0.3
baz=130
RDOG **Red Dog Mine** 29.70 335 P P 15 29 23.1 -0.9
baz=126
K43A **Burlington** 29.76 78 IAmb IAmb 15 29 32.3
comp=Z,84nm,1.3s
A22K **Sinclair Lake** 29.76 344 P P 15 29 24.5 +0.1
baz=141
WHAR **Wooly Hollow** 29.77 94 IAmb IAmb 15 29 32.6
comp=Z,43nm,1.0s
FVM **French Village** 29.92 88 IAmb IAmb 15 29 34.0
comp=Z,59nm,1.4s
P43A **Skaggs, Pawnee** 29.92 84 IAmb IAmb 15 29 33.7
comp=Z,79nm,1.1s
C17K **DeLong Mountai** 30.04 336 P P 15 29 27.6 +0.7
baz=127
TNA **Tin City** 30.07 329 P P 15 29 28.1 +0.9
baz=116
HKT **Hockley** 30.15 106 IAmb IAmb 15 29 38.4
comp=Z,108nm,1.7s
HKT **Hockley** 30.15 106*ce* P P 15 29 30.5 +2.3
HKT pmax pmax
comp=Z,52nm,1.5s
B18K **Kokolik River** 30.20 338 P P 15 29 29.0 +0.7
baz=130
LCAR **Lake Charles** 30.22 92 IAmb IAmb 15 29 37.4
comp=Z,84nm,1.4s
M44A **Midewin, Midew** 30.37 80 IAmb IAmb 15 29 37.8
comp=Z,77nm,1.1s
PBMO **Poplar Bluff** 30.43 90 IAmb IAmb 15 29 37.8
comp=Z,64nm,1.3s
A19K **Wainwright** 30.57 339 P P 15 29 31.2 -0.3
baz=132
C16K **Lisburne Hills** 30.57 335 P P 15 29 31.6 0.0
baz=124
GAMB **Gambell** 30.87 324 P P 15 29 34.4 +0.2
baz=109
SFIN **Lafayette** 31.39 82 IAmb IAmb 15 29 52.8
comp=Z,64nm,1.1s
E46A **Sault Ste Mari** 31.62 70 IAmb IAmb 15 29 54.4
comp=Z,24nm,0.9s
N47A **Urbana** 32.21 80 IAmb IAmb 15 29 53.5
comp=Z,71nm,1.4s
BLO **Bloomington** 32.25 84 IAmb IAmb 15 29 54.1
comp=Z,50nm,1.0s
WVT **Waverly** 32.59 90 P P 15 29 48.8 -0.9
WVT IAmb IAmb 15 29 57.0
comp=Z,27nm,1.0s
WVT **Waverly** 32.59 90 P P 15 29 48.8 -0.9
WVT pmax pmax
comp=Z,27nm,1.0s
T47A **Sharon Grove** 32.73 88 P P 15 29 48.5 -2.5
T47A IAmb IAmb 15 29 58.3
comp=Z,66nm,1.4s
P48A **Milroy** 32.92 82 IAmb IAmb 15 29 59.6
comp=Z,72nm,1.2s
Z47A **Carrollton** 33.84 94 IAmb IAmb 15 30 10.0
comp=Z,52nm,1.0s
U49A **Red Boiling Sp** 33.90 88 IAmb IAmb 15 30 04.7
comp=Z,47nm,1.5s

RES Resolute Bay 34.32 16 lAmb lAmb 15 30 06.2
comp=Z,76nm,1.8s
RES Resolute Bay 34.32 16 LR LR 15 42 04.1
comp=Z,531nm,21.8s,baz=237,slow=33
RES Resolute Bay 34.32 16 P **P** **15 30 04.2 -0.2**
RES pmax pmax
comp=Z,17nm,0.8s
T50A Nancy 34.35 86 lAmb lAmb 15 30 12.0
comp=Z,63nm,1.9s
ACSO Alum Creek Sta 34.37 80 lAmb lAmb 15 30 12.6
comp=Z,65nm,1.1s
Q51A Peebles 34.58 82 lAmb lAmb 15 30 15.4
comp=Z,31nm,1.0s
Y49A Blount Mountai 34.70 92 lAmb lAmb 15 30 33.4
comp=Z,24nm,0.8s
FPAL Fort Paine 34.94 91 lAmb lAmb 15 30 17.6
comp=Z,30nm,1.0s
O52A Adamsville 35.23 80 lAmb lAmb 15 30 25.4
comp=Z,43nm,1.1s
Q52A Bidwell 35.38 82 lAmb lAmb 15 30 21.8
comp=Z,48nm,1.0s
TZTN Tazewell 35.49 86 lAmb lAmb 15 30 23.1
comp=Z,78nm,1.4s
SADO Sadowa 35.53 71 lAmb lAmb 15 30 27.9
comp=Z,40nm,1.2s
SADO Sadowa 35.53 71 LR LR 15 44 54.2
comp=Z,6µm,20.2s,baz=306,slow=37
TKL Tuckaleechee C 35.73 88 LR LR 15 45 22.0
comp=Z,9µm,19.0s,baz=297,slow=37
VLDQ Val d'Or 35.78 65 lAmb lAmb 15 30 25.2
comp=Z,41nm,1.5s
P53A Whipple 35.79 80 lAmb lAmb 15 30 25.5
comp=Z,51nm,1.0s
W52A Murphy 35.89 89 lAmb lAmb 15 30 25.8
comp=Z,57nm,1.3s
PAMR Moraine State 36.15 77 lAmb lAmb 15 30 28.0
comp=Z,42nm,1.0s
PAOC Oil Creek Stat 36.23 76 lAmb lAmb 15 30 28.6
comp=Z,52nm,1.0s
O54A Avella 36.23 79 lAmb lAmb 15 30 28.6
comp=Z,63nm,1.2s
Y52A Lilburn 36.39 90 lAmb lAmb 15 30 30.4
comp=Z,70nm,1.3s
V53A Saluda 36.42 87 lAmb lAmb 15 30 30.5
comp=Z,43nm,1.3s
BG3 Lake Jocassee 36.65 88 lAmb lAmb 15 30 32.5
comp=Z,42nm,1.2s
U54A Nelsons Funny 36.74 85 lAmb lAmb 15 30 34.2
comp=Z,113nm,1.5s
J55A Hilton 36.91 73 lAmb lAmb 15 30 40.4
comp=Z,56nm,1.0s
GOGA Godfrey 37.05 91 P **P** **15 30 28.9 +0.7**
GOGA pmax pmax
comp=Z,29nm,1.5s
SHEM Shemya Is, Ala 37.53 304 LR LR 15 43 27.0
comp=Z,579nm,20.0s,baz=102,slow=32
PAULI Pauline 37.54 88 lAmb lAmb 15 30 39.6
comp=Z,56nm,1.2s
SSPA Standing Stone 37.81 77 P **P** **15 30 34.6 -0.1**
SSPA lAmb lAmb 15 30 42.7
comp=Z,99nm,1.6s
U56A King 37.85 84 lAmb lAmb 15 30 42.6
comp=Z,87nm,1.4s
WBO Williamsburg 38.08 69 lAmb lAmb 15 30 39.6
comp=Z,75nm,1.9s
P57A Homestead Farm 38.18 79 lAmb lAmb 15 30 45.7
comp=Z,58nm,1.2s
TRQ Mont Tremblant 38.18 67 lAmb lAmb 15 30 44.7
comp=Z,57nm,1.2s
S57A Dark Hollow, R 38.24 82 lAmb lAmb 15 30 52.0
comp=Z,42nm,1.1s
N58A Sunbury 38.55 76 lAmb lAmb 15 30 48.2
comp=Z,79nm,1.0s
BIRD Birdtown, Kers 38.60 87 lAmb lAmb 15 30 49.0
comp=Z,67nm,1.6s
LONY Lake Ozonia 38.67 69 lAmb lAmb 15 30 49.5
comp=Z,92nm,1.9s
W57A Gilead 38.69 86 lAmb lAmb 15 30 49.1
comp=Z,43nm,1.1s
R58B Mineral 38.92 81 lAmb lAmb 15 30 52.0
comp=Z,104nm,1.8s
V58A Windy Hill, Pi 39.02 84 lAmb lAmb 15 30 52.3
comp=Z,55nm,1.2s
FRB Frobisher Bay 39.08 38 LR LR 15 46 02.4
comp=Z,1µm,20.6s,baz=272,slow=35
FRNY Flat Rock 39.27 69 lAmb lAmb 15 30 54.4
comp=Z,158nm,1.9s
KUQ Kuujjuuaa 39.45 47 lAmb lAmb 15 30 55.1
comp=Z,38nm,0.8s
T59A Double "B" Far 39.59 82 lAmb lAmb 15 30 57.3
comp=Z,45nm,1.0s
CMIG Matias Romero 39.69 122 LR LR 15 47 50.8
comp=Z,344nm,20.0s,baz=308,slow=37
TRY Troy 39.95 72 lAmb lAmb 15 31 00.9
comp=Z,200nm,1.9s
BILL Bilibino 40.51 329 P **P** **15 30 56.1 -0.7**
BILL lAmb lAmb 15 30 59.5
comp=Z,111nm,1.5s
BILL Bilibino 40.51 329 *de*P **P** **15 30 56.6 -0.2**
BILL pmax pmax
comp=Z,88nm,1.5s
SCHQ Schefferville 40.83 52 P **P** **15 30 58.8 -0.9**
SCHQ Schefferville 40.83 52 P **P** **15 30 57.2 -2.5**
comp=Z,13nm,1.2s,baz=281,slow=6.4,SNR=7.0
SCHQ LR LR 15 47 54.4
comp=Z,4µm,18.2s,baz=284,slow=36
comp=Z,13nm,1.2s
H62A Milan 40.98 68 lAmb lAmb 15 31 08.4
comp=Z,50nm,1.2s
E62A Clayton Lake 41.37 65 lAmb lAmb 15 31 11.9
comp=Z,81nm,1.8s
I63A Otisfield 41.56 69 lAmb lAmb 15 31 24.6
comp=Z,102nm,2.0s
PKME Peaks-Kenny Pk 41.98 66 lAmb lAmb 15 31 17.5
comp=Z,112nm,1.9s
F64A Sherman 42.39 65 lAmb lAmb 15 31 15.4
comp=Z,92nm,1.9s
G65A Princeton 43.14 66 P **P** **15 31 17.9 -0.7**
EMMW East Machias 43.40 67 P **P** **15 31 21.4 +0.7**
GGN Saint George 43.65 66 lAmb lAmb 15 31 30.3
comp=Z,51nm,1.3s
SFJD Kangerlussuaq 46.22 32 LR LR 15 51 09.0
comp=Z,2µm,18.9s,baz=282,slow=36
PET Petropavlovsk 46.50 308‖ *e*P **P** **15 31 47.2 +1.9**
PET pmax pmax
comp=Z,32nm,1.0s
SEY Seymchan 46.80 322 LR LR 15 50 57.2
comp=Z,1µm,18.2s,baz=86,slow=36
SEY Seymchan 46.80 322 *e*P **P** **15 31 46.6 -0.9**
SEY pmax pmax
comp=Z,38nm,1.5s
PEA0B Petropavlovsk- 47.01 308⇑ *e*P **P** **15 31 50.4 +1.1**
PETK Petropavlovsk- 47.01 308 P **P** **15 31 49.0 -0.3**
comp=Z,3.5nm,0.6s,baz=74,slow=12,SNR=13
PETK LR LR 15 48 32.5
comp=Z,619nm,21.3s,baz=81,slow=32
comp=Z,3.5nm,0.6s
DRLN Deer Lake 47.98 57 lAmb lAmb 15 32 03.1
comp=Z,38nm,1.2s
MA2 Magadan 48.52 318 LR LR 15 51 18.0
comp=Z,887nm,19.6s,baz=78,slow=35
SKR Severo-Kuril's 48.81 306‖ *e*P **P** **15 32 04.3 +1.1**
JTS Las Juntas de 51.08 117 LR LR 15 56 50.8
comp=Z,433nm,20.1s,baz=309,slow=39
TIXI Tiksi 52.29 337 P **P** **15 32 29.1 -0.2**
TIXI lAmb lAmb 15 32 30.2
comp=Z,32nm,1.2s
TIXI Tiksi 52.29 337‖ *e*P **P** **15 32 29.2 0.0**
TIXI pmax pmax
comp=Z,43nm,1.7s
TAOE Nuku Hiva Isla 53.55 193 *e*S **S** **15 40 09.8 -2.3**
TAOE *e*LQ LQ 15 45 45.2
comp=Z,97nm,25.9s
comp=Z,975nm,23.3s
TAOE *e*LR LR 15 48 08.5
comp=Z,884nm,23.5s
SPITS Spitsbergen Ar 56.27 8 P **P** **15 32 55.6 -2.6**
comp=Z,39nm,1.3s,baz=335,slow=13,SNR=5.4
SPITS LR LR 15 57 15.5
comp=Z,539nm,19.1s,baz=324,slow=36
comp=Z,39nm,1.3s
SPITS Spitsbergen Ar 56.27 8 P **P** **15 32 55.8 -2.4**
SPITS pmax pmax
comp=Z,99nm,1.6s
SPB2 Spitsbergen Ar 56.28 8 P **P** **15 32 56.2 -2.0**
YAK Yakutsk 56.79 326 P **P** **15 33 01.5 -0.5**
YAK lAmb lAmb 15 33 09.4
comp=Z,39nm,0.9s

YAK Yakutsk 56.79 326 LR LR 15 55 47.5
comp=Z,760nm,20.7s,baz=68,slow=34
YAK Yakutsk 56.79 326 *e*P **P** **15 33 01.7 -0.3**
YAK *e**PP **pwP** **15 33 07.8 -1.3**
YAK *e*S **S** **15 40 49.3 -5.0**
YAK *e**SS sS 15 41 08.0 +8.3
YAK *e*SS **SS** **15 44 45.9 +4.3**
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=E,21nm,1.4s
YAK pmax pmax
comp=N,13nm,1.3s
YAK smax smax
comp=E,61nm,12.4s
YAK smax smax
comp=N,126nm,12.6s
YAK MLR MLR
comp=Z,737nm,16.0s
YAK MLR MLR
comp=E,582nm,15.0s
YAK MLR MLR
comp=N,165nm,14.0s
H11N3 WAKE ISLAND Hy 57.66 267 T T 16 35 35.4
baz=49,slow=75
H11N2 WAKE ISLAND Hy 57.66 267 T T 16 35 41.3
baz=49,slow=75
H11N1 WAKE ISLAND Hy 57.68 267 T T 16 35 39.5
baz=49,slow=75
JMIC Jan Mayen 57.78 19 LR LR 15 58 07.2
comp=N,400nm,18.7s,baz=334,slow=36
BORG Borgarnes 58.02 29 LR LR 15 57 56.8
comp=N,1µm,19.1s,baz=312,slow=36
SJG San Juan 58.58 95 LR LR 15 58 43.8
comp=N,599nm,21.2s,baz=328,slow=36
H11S1 WAKE ISLAND Hy 58.59 266 T T 16 36 49.7
baz=49,slow=75,SNR=1433
H11S2 WAKE ISLAND Hy 58.60 266 T T 16 36 50.2
baz=49,slow=75,SNR=1149
H11S3 WAKE ISLAND Hy 58.61 266 T T 16 36 51.0
baz=49,slow=75,SNR=944
ASAJ Asahikawa 59.99 304 P **P** **15 33 26.2 +1.5**
comp=N,30nm,1.2s,baz=27,slow=9.8,SNR=5.3
ASAJ LR LR 15 54 52.2
comp=N,375nm,21.6s,baz=64,slow=32
comp=N,30nm,1.2s
SDV Santo Domingo 61.69 106 LR LR 16 03 58.5
comp=N,238nm,18.0s,baz=326,slow=40
ROSC El Rosal 62.11 112 P **P** **15 33 41.4 +1.5**
comp=N,6.6nm,0.3s,baz=44,slow=5.9,SNR=8.5
ROSC LR LR 16 02 19.8
comp=N,422nm,21.9s,baz=312,slow=38
comp=N,6.6nm,0.3s
RUSC La Rusia 62.17 110 P **P** **15 33 40.5 +0.1**
ZEA Zeya 62.63 319 *e*P **P** **15 33 42.9 +0.5**
OTAV Otavalo 62.90 119 P P 15 33 50.4 +5.2
OTAV pmax pmax
comp=Z,15nm,1.3s
BAUV El Baul 63.46 104 P **P** **15 33 48.3 -0.1**
PPT Papeete 64.03 201 LR LR 15 54 57.3
comp=Z,158nm,21.7s,baz=10,slow=30
PPT2 Papeete2 64.05 201 *e*S **S** **15 42 27.9 -0.4**
comp=Z,60nm,26.0s
PPT2 *e*SS **SS** **15 46 39.9 +2.2**
comp=Z,589nm,32.0s
PPT2 *e*LQ LQ 15 50 01.5
comp=Z,4µm,30.2s
PPT2 *e*LR LR 15 52 54.5
comp=Z,798nm,27.5s
PPT2 *e*LR LR 15 52 56.1
comp=Z,566nm,28.0s
HEH HeiHe 64.72 316 *e*P **P** **15 33 55.1 -1.1**
HEH pmax pmax
comp=Z,19nm,1.4s
PCRV Puerto La Cruz 65.00 100 LR LR 16 03 10.9
comp=Z,1µm,21.7s,slow=37
KEV Kevo 65.19 9 P **P** **15 34 00.2 +1.3**
KEV pmax pmax
comp=Z,25nm,1.4s
ARCES ARCESS Array B 65.22 9 P **P** **15 33 57.7 -1.5**
ARCES lAmb lAmb 15 34 00.6
comp=Z,36nm,1.4s
ARCES ARCESS Array B 65.22 9 P **P** **15 33 57.6 -1.5**
comp=Z,6.8nm,1.0s,baz=357,slow=6.4,SNR=9.3
ARCES LR LR 16 03 42.9
comp=Z,477nm,18.0s,baz=344,slow=37
comp=Z,6.8nm,1.0s
ARCES ARCESS Array B 65.22 9 P **P** **15 33 57.7 -1.5**
ARCES pmax pmax
comp=Z,36nm,1.4s
BOD Bodaibo 65.56 328 *e*P **P** **15 33 58.8 -2.7**
BOD pmax pmax
comp=Z,30nm,1.3s
USRK Ussuriysk Ar. 66.09 309 P **P** **15 34 04.4 -0.8**
comp=Z,10nm,1.2s,baz=37,slow=11,SNR=5.9
USRK LR LR 16 01 34.0
comp=Z,480nm,19.6s,baz=41,slow=35
comp=Z,10nm,1.2s
RKT Rikitea 67.05 185 *e*S **S** **15 43 05.2 +0.5**
comp=Z,3µm,28.8s
RKT *e*SS **SS** **15 47 26.0 +1.8**
comp=Z,9µm,32.8s
RKT *e*LQ LQ 15 51 20.0
comp=Z,620nm,25.8s
RKT *e*LR LR 15 54 15.7
comp=Z,6µm,30.0s
MAJO Matsushiro 67.16 299‖ *e*P **P** **15 34 12.3 +0.1**
MAJO pmax pmax
comp=Z,20nm,1.6s
MJAR Matsushiro Arr 67.16 299 P **P** **15 34 10.4 -1.8**
MJAR Matsushiro Arr 67.16 299 P **P** **15 34 12.1 -0.1**
comp=Z,6.0nm,1.1s,baz=31,slow=6.2,SNR=7.0
MJAR LR LR 15 58 23.2
comp=Z,415nm,21.5s,baz=64,slow=31
comp=Z,6.0nm,1.1s
SGF Sodankyl 67.33 10 P **P** **15 34 12.5 -0.2**
SGF pmax pmax
comp=Z,31nm,1.1s
LVZ Lovozero 67.72 6 P **P** **15 34 14.1 -1.1**
LVZ Lovozero 67.72 6*d* *i*P **P** **15 34 14.5 -0.7**
LVZ pmax pmax
comp=Z,64nm,1.2s
APA Apatity 67.93 7 *e*P **P** **15 34 14.0 -2.5**
APA *e* 15 36 41.5
APA *e*S **S** **15 43 10.9 -3.6**
APA MLR MLR
comp=Z,543nm,17.4s
MSF Maaselka 69.10 9 P **P** **15 34 24.1 +0.2**
OUL Oulu 69.50 11 P **P** **15 34 25.7 -0.6**
OUL pmax pmax
comp=Z,48nm,1.5s
TBI Tubuai 69.54 200 *e*S **S** **15 43 31.1 -3.3**
comp=Z,386nm,29.2s
TBI *e*SS **SS** **15 47 54.6 -8.1**
comp=Z,761nm,32.0s
TBI *e*LQ LQ 15 51 58.3
comp=Z,7µm,29.8s
TBI *e*LR LR 15 55 29.0
comp=Z,2µm,30.0s
NC204 NORSAR Array S 70.18 19 lAmb lAmb 15 34 33.3
comp=Z,46nm,1.4s
NBO00 NORSAR Array S 70.40 19 lAmb lAmb 15 34 34.6
comp=Z,43nm,1.3s
NB2 NORSAR Subarra 70.50 19 P **P** **15 34 31.8 -0.8**
comp=Z,64nm,1.7s,baz=334,slow=5.9
NB2 NORSAR Subarra 70.50 19 P **P** **15 34 32.8 +0.2**
NB2 pmax pmax
comp=Z,69nm,2.0s
NB2 NORSAR Subarra 70.50 19 P **P** **15 34 31.8 -0.8**
baz=334,slow=5.9
NOA NORSAR Array B 70.50 19 P **P** **15 34 31.0 -1.5**
comp=Z,16nm,1.2s,baz=334,slow=5.9,SNR=12
NOA LR LR 16 06 10.4
comp=Z,274nm,18.2s,baz=355,slow=37
comp=Z,16nm,1.2s
JCJ Chichijima 70.53 289 LR LR 15 59 15.3
comp=Z,649nm,21.5s,baz=120,slow=31
RAR Rarotonga 70.63 210 LR LR 16 00 08.0
comp=Z,689nm,20.3s,baz=301,slow=31
EKA Eskdalemuir Ar 71.06 29 P **P** **15 34 36.6 +0.6**
comp=Z,1.6nm,0.8s,baz=322,slow=4.7,SNR=3.7
comp=Z,1.6nm,0.8s
HFS Hagfors 71.87 18 P **P** **15 34 40.2 -0.7**
HFS LR LR 16 07 25.1
comp=Z,681nm,18.2s,baz=328,slow=37
comp=Z,28nm,1.2s

KSRS Korea Array 72.83 306 P **P** **15 34 47.5 +0.5**
comp=Z,2.5nm,1.1s,baz=64,slow=7.1,SNR=4.8
comp=Z,2.5nm,1.1s
KSAR Wonju Array Be 72.86 306 P **P** **15 34 47.1 0.0**
KSAR Wonju Array Be 72.86 306 P **P** **15 34 47.1 0.0**
FINES FINESS Array B 72.99 12 P **P** **15 34 46.0 -1.5**
FINES FINESS Array B 72.99 12 P **P** **15 34 46.9 -0.6**
comp=Z,17nm,1.0s,baz=352,slow=5.8,SNR=24
FINES LR LR 16 06 50.6
comp=Z,285nm,18.5s,baz=346,slow=36
comp=Z,17nm,1.0s
RPN Rapa Nui 73.23 161 LR LR 16 00 19.1
comp=Z,215nm,18.0s,baz=337,slow=30
IRK Irkutsk 73.44 329 *e*P **P** **15 34 50.0 -0.4**
IRK pmax pmax
comp=Z,98nm,1.8s
JNU Nakatsue 73.96 301 LR LR 16 10 49.2
comp=Z,226nm,18.0s,baz=54,slow=39
XLT XiLinHaoTe 74.70 317 *e*P **P** **15 34 57.8 -0.1**
XLT pmax pmax
comp=Z,10.0nm,1.7s
XLT LR LR
comp=Z,800nm,16.1s
XLT LR LR
comp=Z,340nm,17.5s
KLMR Klimovskoe 75.05 6 *e*P **P** **15 34 57.1 -2.4**
KLMR pmax pmax
comp=Z,112nm,1.4s
KLMR MLR MLR
comp=Z,343nm,14.0s
MOY Mondy 75.11 330 *e*P **P** **15 34 59.9 -0.3**
MOY pmax pmax
comp=Z,45nm,1.6s
ZAK Zakamensk 75.31 328 *e*P **P** **15 35 00.0 -1.4**
ZAK pmax pmax
comp=Z,12nm,1.5s
DL2 Dalian 75.40 310 P **P** **15 35 02.0 +0.1**
DL2 S **S** **15 44 44.4 +3.0**
DL2 pmax pmax
comp=Z,79nm,1.4s
DL2 pmax pmax
comp=Z,580nm,3.7s
DL2 LR LR
comp=Z,600nm,16.3s
DL2 LR LR
comp=Z,750nm,23.5s
HLG Helgoland 75.59 24 *e*L L 16 08 37.8
comp=Z,488nm,20.8s
ULN Ulaanbaatar 75.80 325 P **P** **15 35 02.7 -1.6**
ULN lAmb lAmb 15 35 06.7
comp=Z,28nm,1.5s
ULN Ulaanbaatar 75.80 325 *de*P **P** **15 35 04.8 +0.5**
ULN pmax pmax
comp=Z,10.0nm,1.3s
VSU Vasula 75.94 13 *de*P **P** **15 35 03.8 -0.9**
VSU pmax pmax
comp=Z,72nm,1.7s
SONM Songino Array 76.10 325 P **P** **15 35 05.8 -0.2**
SONM lAmb lAmb 15 35 08.6
comp=Z,33nm,1.4s
SONM Songino Array 76.10 325 P **P** **15 35 06.0 0.0**
comp=Z,10nm,1.1s,baz=50,slow=3.6,SNR=32
SONM LR LR 16 09 11.7
comp=Z,545nm,18.9s,baz=42,slow=36
comp=Z,10nm,1.1s
SONM Songino Array 76.10 325 P **P** **15 35 06.0 0.0**
RGN Rugen 76.78 21 *e*L L 16 08 23.1
comp=Z,395nm,21.8s
MDP Montagnes des 77.06 95 LR LR 16 12 16.5
comp=Z,323nm,19.7s,baz=326,slow=38
RETH Rethem/Aller, 77.29 24 *e*P **P** **15 35 13.3 +1.0**
comp=Z,38nm,1.4s,baz=333,slow=5.4
BJI Beijing 77.49 314 P **P** **15 35 14.6 +0.8**
BJI PP **PP** **15 38 10.6 +2.8**
BJI S **S** **15 45 11.1 +6.8**
BJI LR LR
comp=Z,220nm,15.7s
BJI LR LR
comp=Z,180nm,16.4s
BJI LR LR
comp=Z,260nm,19.1s
GUMO Guam 77.54 277 LR LR 16 01 45.3
comp=Z,801nm,21.9s,baz=63,slow=30
KIRV Kirov 77.70 1 LR LR 16 14 19.0
comp=Z,302nm,18.0s,baz=358,slow=40
KIRV Kirov 77.70 1⇑ *e*P **P** **15 35 13.8 -0.8**
NRDL Niedersach Rie 77.72 24 *e*P **P** **15 35 15.9 +1.2**
comp=Z,32nm,1.4s,baz=333,slow=5.4
BMRD Maredsous 77.93 28 *d*P **P** **15 35 17.2 +1.2**
BCLA Clavier 78.01 28 *d*P **P** **15 35 15.7 -0.8**
ZALV Zalesovo Beam 78.03 340 P **P** **15 35 15.1 -1.4**
ZALV Zalesovo Beam 78.03 340 P **P** **15 35 16.4 -0.1**
comp=Z,6.8nm,1.0s,baz=19,slow=6.3,SNR=20
ZALV LR LR 16 12 48.6
comp=Z,438nm,18.6s,baz=36,slow=38
comp=Z,6.8nm,1.0s
DOU Dourbes 78.05 28 *d*P **P** **15 35 16.6 -0.1**
MEM Membach 78.09 27 *d*P **P** **15 35 18.2 +1.3**
FLTG Flechtingen 78.19 23 *e*P **P** **15 35 17.7 +0.3**
comp=Z,34nm,1.3s,baz=333,slow=5.4
ASSE Asse, Remlinge 78.20 24 *e*P **P** **15 35 18.3 +0.8**
comp=Z,65nm,1.7s,baz=333,slow=5.4
RCHB Rochefort 78.21 28 *d*P **P** **15 35 14.3 -3.3**
CLZ Clausthal 78.37 24 *e*P **P** **15 35 19.3 +0.8**
comp=Z,43nm,1.5s,baz=333,slow=5.4
WLF Walferdange 78.94 28 *d*P **P** **15 35 23.3 +1.7**
SVE Sverdlovsk 79.10 354 *e*P **P** **15 35 22.2 -0.2**
SVE pmax pmax
comp=Z,68nm,1.5s
UBBA Unterbreizbach 79.16 25 *e*P **P** **15 35 23.6 +0.9**
comp=Z,32nm,1.7s,baz=333,slow=5.4
HHC Hu-ho-hao-te 79.20 317 *e*P **P** **15 35 21.8 -1.6**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,110nm,6.0s
HHC LR LR
comp=Z,420nm,12.2s
HHC LR LR
comp=Z,370nm,14.7s
TNS Taunus Mts 79.20 26 *e*P **P** **15 35 23.7 +0.6**
comp=Z,28nm,1.6s,baz=333,slow=5.4
TNS *e*L L 16 09 43.4
comp=Z,1µm,20.5s
PGAV Gavieira, Arco 79.47 40 *e*P **P** **15 35 26.6 +1.8**
PGAV *e*PP PP 15 38 33.3 +8.9
PGAV *e*S **SKSac** **15 45 35.8 -5.2**
PGAV *e*LR LR 16 00 43.0
PGAV *i* lAMs_20 lAMs_20 16 08 37.4
comp=Z,746nm,18.0s
CLL Collm 79.60 23 lAmb lAmb 15 35 27.3
comp=Z,34nm,1.4s
CLL Collm 79.60 23 *i* P **P** **15 35 25.1 -0.1**
CLL *e*S **S** **15 45 30.0 +3.4**
CLL pmax pmax
comp=Z,37nm,1.4s
CLL MLR MLR
comp=Z,700nm,20.4s
CLL Collm 79.60 23 *e*P **P** **15 35 25.4 +0.2**
comp=Z,27nm,1.3s,baz=333,slow=5.4
CLL *e*L L 16 12 03.6
comp=Z,688nm,20.0s
CLL Collm 79.60 23 *i* P **P** **15 35 25.1 -0.1**
comp=Z,37nm,1.4s
CLL *e*Plp 15 35 26.0
CLL *e*S **S** **15 45 30.0 +3.4**
comp=N,200nm,13.1s
CLL *e*S **S** **15 45 30.0 +3.4**
comp=E,200nm,10.8s
CLL LmV 16 11 00.0
comp=Z,700nm,20.4s
ARTI Arti 79.68 356 P **P** **15 35 24.3 -1.2**
ARTI Arti 79.68 356 LR LR 16 12 28.0
comp=Z,258nm,20.1s,baz=3.5,slow=37
ARTI Arti 79.68 356*d* *i*P **P** **15 35 24.7 -0.9**
ARTI S **S** **15 45 26.9 -0.4**
ARTI pmax pmax
comp=Z,51nm,1.4s
MOX Moxa 79.80 24 *e*P **P** **15 35 26.4 +0.1**
comp=Z,31nm,1.4s,baz=333,slow=5.4
MOX *e*L L 16 11 57.8
comp=Z,612nm,20.1s
TIA Tai'an 79.82 311 P **P** **15 35 27.3 +0.6**
TIA pmax pmax
comp=Z,11nm,0.9s
JOW Kunigami 79.91 297 LR LR 16 05 20.1

comp=Z,134nm,20.2s,baz=78,slow=32
MNK Minsk 79.93 13 *i* P **P** **15 35 26.1 -0.8**
MNK *i* 15 35 33.7
MNK *i* 15 38 26.5
MNK *i* PPP PPP 15 40 15.3
MNK *i* S **S** **15 45 28.9 -1.0**
MNK *i* SS **SS** **15 50 37.9 0.0**
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=Z,276nm,14.0s
MNK MLR MLR
comp=E,260nm,15.0s
MNK MLR MLR
comp=N,159nm,17.0s
MOS Moscow 79.97 7 *e*P **P** **15 35 26.2 -0.9**
MOS pmax pmax
comp=Z,74nm,1.3s
PLN Plauen 80.10 24 *e*P **P** **15 35 27.9 0.0**
comp=Z,5.0nm,1.3s,baz=333,slow=5.4
BTO Baotou 80.13 318 *e*P **P** **15 35 28.6 +0.2**
BTO PP **PP** **15 38 34.5 +4.5**
BTO S **S** **15 45 32.5 -0.3**
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,350nm,5.2s
BTO LR LR
comp=Z,2µm,14.9s
BTO LR LR
comp=Z,2µm,15.7s
BTO LR LR
comp=Z,350nm,7.6s
POLO Lamas de Olo 80.15 41 *e*P P 15 35 34.0 +5.5
POLO *i* IAmb IAmb 15 35 50.9
comp=Z,13nm,1.5s
HNS HongShan 80.22 313 ⇓P **P** **15 35 29.6 +0.8**
HNS S **S** **15 45 39.8 +6.2**
HNS LR LR
comp=Z,250nm,14.5s
HNS LR LR
comp=Z,490nm,18.6s
HNS LR LR
comp=Z,430nm,21.5s
TANN Tannenbergstha 80.25 24 *e*P **P** **15 35 28.9 +0.1**
comp=Z,19nm,1.6s,baz=333,slow=5.4
BRG Berggiesshubel 80.25 22 *e*P **P** **15 35 29.7 +0.9**
comp=Z,43nm,1.4s,baz=333,slow=5.4
BRG Berggiesshubel 80.25 22 *e*P **P** **15 35 29.7 +0.9**
BRG Amp 15 35 32.7
comp=Z,43nm,1.4s
BRG Berggiesshubel 80.25 22 S **S** **15 45 38.0 +4.5**
PBRG Braganca 80.30 40 *e*P **P** **15 35 31.1 +1.8**
OBN Obninsk 80.48 8 P **P** **15 35 29.6 -0.3**
comp=Z,15nm,0.4s,baz=304,slow=3.9,SNR=16
OBN LR LR 16 12 39.8
comp=Z,310nm,18.2s,baz=259,slow=37
comp=Z,15nm,0.4s
OBN Obninsk 80.48 8*de*P **P** **15 35 29.7 -0.1**
OBN *e**PP **pP** **15 35 31.9 -1.3**
OBN *e**SP **sP** **15 35 33.0 -1.3**
OBN 15 38 39.0
OBN *i* S **S** **15 45 35.6 0.0**
OBN *e*PS **PnS** **15 46 22.3 +1.7**
OBN pmax pmax
comp=Z,137nm,1.7s
OBN MLR MLR
comp=Z,238nm,15.0s
GRF Grafenberg Arr 80.53 25 *e*P **P** **15 35 32.0 +1.8**
comp=Z,82nm,1.8s,baz=333,slow=5.4
GRF *e*L L 16 12 42.3
comp=Z,862nm,18.6s
MANZ Manzenberg 80.53 24 *e*P **P** **15 35 31.6 +1.3**
comp=Z,3.6nm,1.4s,baz=333,slow=5.4
MVO Moncorvo 80.67 40 *e*P **P** **15 35 33.1 +1.8**
MVO *e*S **SKSac** **15 45 45.4 -4.0**
MVO *e*SS **SS** **15 50 55.0 +5.0**
MVO *e*LR LR 16 02 17.1
MVO *i* IAms_20 IAms_20 16 09 17.2
comp=Z,679nm,18.0s
ROTZ Rotzenmuhle 80.75 24 *e*P **P** **15 35 32.1 +0.6**
comp=Z,3.6nm,1.2s,baz=333,slow=5.4
BFO Black Forest 80.82 27 P **P** **15 35 31.6 -0.3**
BFO IAmb IAmb 15 35 34.8
comp=Z,33nm,1.5s
BFO Black Forest 80.82 27 P **P** **15 35 31.6 -0.3**
BFO pmax pmax
comp=Z,33nm,1.5s
BFO Black Forest 80.82 27 *e*P **P** **15 35 32.1 +0.2**
comp=Z,38nm,1.6s,baz=333,slow=5.4
BFO *e*L L 16 10 39.0
comp=Z,750nm,19.7s
PCAS Casmilo, Conde 80.85 42 *e*P **P** **15 35 35.9 +3.8**
MTE Manteigas 81.03 41 *e*PP **PP** **15 38 42.2 +4.8**
MTE *e*S **S** **15 45 40.5 -1.6**
MTE *e*SS **SS** **15 51 03.1 +7.7**
MTE *e*LR LR 16 01 52.6
MTE *i* IAms_20 IAms_20 16 10 08.3
comp=Z,568nm,16.0s
PSARD Sardoal 81.36 42 *e*P **P** **15 35 38.3 +3.4**
PSARD *i* IAmb IAmb 15 35 43.0
comp=Z,23nm,1.9s
DPC Dobruska-Polom 81.37 21 *e*P **P** **15 35 36.4 +1.6**
DPC Dobruska-Polom 81.37 21 *e*P **P** **15 35 36.4 +1.6**
PCBR Castelo Branco 81.50 41 *e*P **P** **15 35 37.3 +1.6**
PCBR *i* IAmb IAmb 15 36 04.1
comp=Z,18nm,1.8s
WET Wettzell 81.50 24 *e*P **P** **15 35 35.9 +0.4**
comp=Z,19nm,1.5s,baz=333,slow=5.4
WET *e*L L 16 13 28.9
comp=Z,915nm,18.1s
PARRA Arraiolos 81.55 43 *e*P **P** **15 35 38.5 +2.6**
PARRA *i* IAmb IAmb 15 35 42.7
comp=Z,20nm,2.1s
ZVC Zvikov 81.62 23 *e*P P 15 35 42.1 +6.0
KHC Kasperske Hory 81.72 23*de*P **P** **15 35 37.5 +0.8**
KHC pmax pmax
comp=Z,25nm,1.7s
KHC Kasperske Hory 81.72 23 *e*P **P** **15 35 35.0 -1.7**
KHC *ex* x 15 35 42.7
BRVK Borovoye 81.75 348 P **P** **15 35 36.1 -0.7**
BRVK IAmb IAmb 15 35 45.0
comp=Z,20nm,0.8s
BRVK Borovoye 81.75 348*d* *i*P **P** **15 35 36.6 -0.1**
BRVK pmax pmax
comp=Z,48nm,1.7s
PMOZ Porto Moniz, M 81.76 52 *e*SS SS 15 51 13.2 +6.4
PMOZ *e*LR LR 16 02 28.1
PMOZ *i* IAMs_20 IAMs_20 16 08 52.7
comp=Z,587nm,20.0s
BVAR Borovoye Array 81.77 348 P **P** **15 35 36.6 -0.2**
comp=Z,11nm,1.0s,baz=33,slow=3.5,SNR=34
BVAR LR LR 16 13 47.3
comp=Z,500nm,21.1s,baz=18,slow=37
comp=Z,11nm,1.0s
PMRV Marv??o 81.87 41 *e*P **P** **15 35 40.9 +3.3**
PMRV *e*S **S** **15 45 53.0 +2.3**
PMRV *e*LR LR 16 02 16.1
PMRV *i* IAMs_20 IAMs_20 16 09 36.8
comp=Z,523nm,18.0s
FUR Furstenfeldbru 81.90 25 *e*L L 16 11 27.7
comp=Z,1µm,20.1s
NJ2 Nanjing 81.91 307 ⇑P **P** **15 35 37.9 0.0**
NJ2 pmax pmax
comp=Z,14nm,1.1s
NJ2 LR LR
comp=Z,530nm,16.1s
NJ2 LR LR
comp=Z,310nm,15.2s
GEC2 GERESS Array S 82.01 24 *e*P **P** **15 35 38.2 -0.1**
comp=Z,21nm,1.4s,baz=333,slow=5.4
GEC2 *e*L L 16 13 04.1
comp=Z,598nm,19.7s
GERES GERESS Array B 82.01 24 P **P** **15 35 37.0 -1.3**
GERES GERESS Array B 82.01 24 P **P** **15 35 37.5 -0.8**
comp=Z,2.6nm,1.0s,baz=45,slow=10.0,SNR=16
GERES LR LR 16 14 05.9
comp=Z,586nm,18.0s,baz=333,slow=37
comp=Z,2.6nm,1.0s
LPAZ La Paz 82.06 122 P **P** **15 35 39.8 +0.2**
comp=Z,10nm,0.6s,baz=331,slow=2.7,SNR=24
comp=Z,10nm,0.6s

CKRC Cesky Krumlov 82.21 23 *e*P **P** **15 35 41.2 +2.0**
CKRC Cesky Krumlov 82.21 23 *e*P **P** **15 35 41.2 +2.0**
MORC Moravsky Berou 82.21 21 *e*P **P** **15 35 38.9 -0.3**
RETA Reutte 82.34 26 *ep*P **P** **15 35 41.0 +1.0**
comp=Z,7.1nm,1.9s
VRAC Vranov 82.39 22 P **P** **15 35 39.0 -1.2**
comp=Z,7.4nm,1.0s,baz=334,slow=4.8,SNR=18
VRAC LR LR 16 15 03.0
comp=Z,516nm,18.1s,baz=331,slow=38
comp=Z,7.4nm,1.0s
VRAC Vranov 82.39 22 *e*P **P** **15 35 40.4 +0.2**
VRAC Vranov 82.39 22 P **P** **15 35 39.0 -1.2**
KURK Kurchatov 82.47 342 P **P** **15 35 39.7 -0.7**
KURK IAmb IAmb 15 35 42.5
comp=Z,58nm,1.4s
KURK Kurchatov 82.47 342*de*P **P** **15 35 39.9 -0.6**
KURK pmax pmax
comp=Z,56nm,1.7s
KRUC Moravsky 82.56 22 *e*P **P** **15 35 40.8 -0.2**
KURBB Kurchatov Arra 82.57 342 P **P** **15 35 39.8 -1.3**
comp=Z,27nm,1.2s,baz=18,slow=4.9,SNR=56
KURBB LR LR 16 13 38.5
comp=Z,474nm,21.9s,baz=164,slow=37
comp=Z,27nm,1.2s
MOTA Moosalm 82.57 26 *ep*P **P** **15 35 42.2 +0.8**
comp=Z,11nm,1.5s
DAVOX Davos/Dischmat 82.68 27 P **P** **15 35 40.7 -1.2**
comp=Z,2.0nm,0.9s,baz=3.0,slow=7.5,SNR=7.7
DAVOX LR LR 16 13 30.6
comp=Z,748nm,18.4s,baz=324,slow=37
comp=Z,2.0nm,0.9s
RNPP5 Staryi Chortor 82.71 15 P **P** **15 35 41.6 -0.1**
SQTA Sankt Quirin 82.72 26 *ep*P **P** **15 35 43.0 +1.0**
comp=Z,20nm,1.6s,SNR=7.7
WATA Walderalm 82.73 25 *ep*P **P** **15 35 43.0 +0.9**
comp=Z,22nm,1.6s,SNR=7.7
FETA Feichten 82.74 26 *ep*P **P** **15 35 43.3 +1.1**
comp=Z,8.8nm,1.5s
TUE Stuetta 82.78 27 IAmb IAmb 15 35 52.6
comp=Z,49nm,1.9s
WTTA Wattenberg 82.81 25 *ep*P **P** **15 35 43.4 +0.8**
comp=Z,17nm,1.3s,SNR=8.3
HNR Honiara 82.86 250 LR LR 16 04 50.0
comp=Z,2µm,22.0s,baz=64,slow=30
FUORN Ofenpass-Fuorn 82.95 27 IAmb IAmb 15 35 46.7
comp=Z,42nm,1.4s
LESA Schwarzleotal 82.99 25 *ep*P **P** **15 35 44.0 +0.7**
comp=Z,8.4nm,1.0s,SNR=7.4
BIOA Bad Ischl, Aus 83.03 24 *ep*P **P** **15 35 44.4 +0.8**
comp=Z,3.8nm,0.7s
MOA Molln 83.07 24 *ep*P **P** **15 35 44.6 +0.9**
comp=Z,17nm,1.2s,SNR=6.3
JAVC Velka Javorina 83.09 21 *e*P **P** **15 35 44.4 +0.6**
LPSR Galich'ya Gora 83.19 7 *e*P **P** **15 35 43.2 -1.0**
LPSR pmax pmax
comp=Z,60nm,1.5s
NIE Niedzica 83.22 19 P **P** **15 35 45.2 +0.7**
comp=Z,10.0nm,1.5s
ESDC Sonseca Array 83.27 39 P **P** **15 35 44.8 -0.1**
ESDC Sonseca Array 83.27 39 P **P** **15 35 43.6 -1.4**
comp=Z,2.3nm,1.1s,baz=311,slow=4.2,SNR=9.6
ESDC LR LR 16 10 45.8
comp=Z,718nm,18.4s,baz=316,slow=34
comp=Z,2.3nm,1.1s
LANS Liptovska Anna 83.27 20 *e*P **P** **15 35 46.5 +1.7**
PVAQ Vaqueiros 83.30 43 *e*PP **PP** **15 38 58.8 +2.7**
PVAQ *e*S **S** **15 46 10.7 +5.3**
PVAQ *e*LR LR 16 02 56.4
PVAQ *i* IAMs_20 IAMs_20 16 12 31.6
comp=Z,539nm,20.0s
MI28 Mi28,Pidlybu 83.32 14 P **P** **15 35 44.8 -0.1**
MODS Modra-Piesok 83.43 22 *e*P **P** **15 35 43.0 -2.6**
STHS Stebnicka Huta 83.45 19 *e*P **P** **15 35 45.2 -0.4**
CONA Conrad Observa 83.45 23 *i* pP **P** **15 35 46.6 +0.8**
comp=Z,19nm,1.5s,SNR=13
KBA Koelnbreinsper 83.50 25 *i* pP **P** **15 35 46.9 +0.8**
comp=Z,23nm,1.7s
ABTA Abfaltersbach 83.54 25 *ep*P **P** **15 35 47.0 +0.7**
comp=Z,17nm,1.5s,SNR=7.3
LVV L'vov 83.68 17 P **P** **15 35 46.2 -0.6**
LVV L'vov 83.68 17 P **P** **15 35 48.0 +1.2**
RONA Rosalia, Austr 83.78 22 *i* pP **P** **15 35 48.5 +1.1**
comp=Z,16nm,1.3s,SNR=9.9
AKASG Malin Array Be 83.81 13 P **P** **15 35 45.3 -2.1**
AKASG IAmb IAmb 15 35 48.6
comp=Z,46nm,1.6s
AKASG Malin Array Be 83.81 13 P **P** **15 35 45.7 -1.7**
comp=Z,16nm,1.1s,baz=341,slow=4.6,SNR=49
AKASG LR LR 16 12 22.7
comp=Z,412nm,19.5s,baz=352,slow=35
comp=Z,16nm,1.1s
AKASG Malin Array Be 83.81 13 *i* P **P** **15 35 46.4 -1.0**
AKASG pmax pmax
comp=Z,19nm,1.2s
AKBB Malin Array Si 83.81 13⇑ *e*P **P** **15 35 46.4 -1.0**
AKBB Malin Array Si 83.81 13 P **P** **15 35 46.6 -0.8**
KIEV Kiev 83.82 13 P **P** **15 35 45.5 -1.9**
KIEV Kiev 83.82 13 P **P** **15 35 45.5 -1.9**
KIEV pmax pmax
comp=Z,76nm,1.5s
PB11 IPOC Station P 83.82 125 P **P** **15 35 48.4 +0.4**
SOP Sopron 83.87 22 P **P** **15 35 48.9 +1.1**
BELG Belogornoye 83.88 2*d* *i*P **P** **15 35 47.4 -0.3**
BELG pmax pmax
comp=Z,9.0nm,1.4s
CTI Castel Tesino 83.90 26 IAmb IAmb 15 35 56.7
comp=Z,50nm,1.8s
ZSN Zaisan 83.94 337 *e*P **P** **15 35 48.2 0.0**
ZSN pmax pmax
comp=Z,18nm,1.5s
ZSN Zaisan 83.94 337 *e*P **P** **15 35 48.2 0.0**
comp=Z,18nm,1.5s
ARSA Arzberg 83.98 23 IAmb IAmb 15 35 51.0
comp=Z,32nm,1.3s
ARSA Arzberg 83.98 23 *i* pP **P** **15 35 49.4 +1.0**
comp=Z,20nm,1.5s,SNR=15
MYKA Terra Mystica 83.99 25 *i* pP **P** **15 35 49.4 +0.8**
comp=Z,13nm,1.2s
GO01 Chusmiza 84.02 125 P **P** **15 35 50.1 +0.7**
GO01 IAmb IAmb 15 35 58.6
comp=Z,54nm,1.9s
HMBC Humberstone 84.08 125 P **P** **15 35 48.8 -0.5**
KOLS Kolonicke sedl 84.14 18 *e*P **P** **15 35 50.3 +1.1**
VORR Voronezh 84.14 7 *e*P **P** **15 35 48.0 -1.1**
VORR pmax pmax
comp=Z,70nm,1.6s
TA01 Diego Aracena 84.14 126 IAmb IAmb 15 35 58.5
comp=Z,34nm,1.4s
SRO Srobarova 84.22 21 *e*P **P** **15 35 52.4 +2.8**
MORS Morshin 84.30 17 P **P** **15 35 51.0 +1.0**
BRZS Berezniki 84.34 346 *e*P **P** **15 35 50.0 -0.2**
BRZS Berezniki 84.34 346 *e*P **P** **15 35 50.0 -0.2**
SOKA Soboth 84.36 24 *ep*P **P** **15 35 51.1 +0.6**
comp=Z,39nm,1.4s,SNR=14
OBKA Obir 84.37 24 *ep*P **P** **15 35 51.1 +0.6**
comp=Z,24nm,1.3s,SNR=8.2
PB08 IPOC Station P 84.41 125 IAmb IAmb 15 36 00.6
comp=Z,26nm,1.1s
HOLU Holmets 84.54 18 P **P** **15 35 51.2 0.0**
VSR Storozhevoye 84.58 7 *e*P **P** **15 35 48.3 -3.0**
VSR pmax pmax
comp=Z,70nm,1.6s
VILB Vilhena 84.63 114 P **P** **15 35 51.9 -0.2**
MUKU Mukachevo 84.68 18 P **P** **15 35 52.3 +0.4**
HORU Horodok 84.74 16 P **P** **15 35 51.2 -1.0**
HORU Horodok 84.74 16 P **P** **15 35 52.2 0.0**
VRH Novokhopyorsk 84.80 6 *e*P **P** **15 35 48.3 -4.1**
VRH pmax pmax
comp=Z,60nm,1.6s
MEZ Mezhgor'ye 84.81 18 P **P** **15 35 53.4 +0.8**
STNU Starunia 84.83 17 P **P** **15 35 52.6 -0.1**
VORD Divnogorie 84.84 7 *e*P **P** **15 35 51.2 -1.4**
VORD pmax pmax
comp=Z,40nm,1.5s
BRIU Brid 84.86 18 P **P** **15 35 53.3 +0.5**
BERU Beregovo 84.88 18 P **P** **15 35 54.4 +1.5**
PB02 IPOC Station P 84.89 126 IAmb IAmb 15 36 02.5
comp=Z,22nm,0.8s
TRSU Trosnyk 85.08 18 P **P** **15 35 55.1 +1.2**
MK31 Makanchi Array 85.24 339*d* *i*P **P** **15 35 54.6 -0.2**
MKAR Makanchi Array 85.24 339 P **P** **15 35 53.6 -1.2**
MKAR Makanchi Array 85.24 339 P **P** **15 35 53.4 -1.5**
comp=Z,5.3nm,1.1s,baz=33,slow=5.1,SNR=26
MKAR LR LR 16 16 01.2
comp=Z,614nm,19.6s,baz=15,slow=37
comp=Z,5.3nm,1.1s

MKAR Makanchi Array 85.24 339 *i* P **P** **15 35 54.2 -0.6**
MKAR pmax pmax
comp=Z,5.0nm,1.1s
RAO Raoul Island 85.33 221 LR LR 16 05 49.6
comp=Z,430nm,21.5s,baz=66,slow=30
NDNU Novodnistrovsk 85.51 15 P **P** **15 35 55.4 -0.7**
PB03 IPOC Station P 85.54 126 IAmb IAmb 15 36 05.2
comp=Z,22nm,0.9s
AKTO Aktyubinsk 85.64 355 LR LR 16 15 10.1
comp=Z,353nm,21.6s,baz=352,slow=36
GTA Gaotai 85.72 324 *e*P **P** **15 35 56.5 -1.0**
GTA S **S** **15 46 27.0 -2.8**
GTA pmax pmax
comp=Z,7.0nm,2.0s
GTA LR LR
comp=Z,620nm,17.5s
GTA LR LR
comp=Z,880nm,18.5s
GTA LR LR
comp=Z,750nm,22.5s
XAN Xi'an 85.81 315 P **P** **15 35 58.8 +0.9**
XAN S **S** **15 46 32.3 +1.7**
XAN pmax pmax
comp=Z,11nm,1.4s
XAN LR LR
comp=Z,280nm,17.2s
XAN LR LR
comp=Z,860nm,16.5s
XAN LR LR
comp=Z,500nm,21.3s
PB05 IPOC Station P 85.91 127 IAmb IAmb 15 36 07.4
comp=Z,20nm,1.0s
OSSC Osservatorio P 86.02 27 IAmb IAmb 15 36 11.9
comp=Z,22nm,1.2s
BURAR Bucovina Array 86.02 17 P **P** **15 35 57.4 -1.4**
SIV San Ignacio 86.29 116 LR LR 16 17 59.3
comp=Z,324nm,19.5s,baz=314,slow=38
WMQ Urumqi 86.39 334 *e*P **P** **15 36 02.3 +1.7**
WMQ LR LR
comp=Z,440nm,20.7s
WMQ LR LR
comp=Z,640nm,20.7s
WMQ LR LR
comp=Z,400nm,24.1s
LZH Lanzhou 86.66 319 *e*P **P** **15 36 03.0 +0.8**
LZH sP pwP 15 36 11.8 +2.2
LZH pmax pmax
comp=Z,24nm,0.9s
LZH LR LR
comp=Z,730nm,18.4s
LZH LR LR
comp=Z,620nm,19.0s
ABKAR Akbulak array 86.68 354 P **P** **15 36 00.7 -1.1**
PB14 IPOC Station P 87.18 129 P **P** **15 36 02.5 -2.4**
MILM Milestii Mici 87.39 15 *e*P **P** **15 36 04.0 -1.3**
comp=Z,70nm,1.0s
MILM *e*L L 16 10 44.0
MILM LRM MLR 16 22 08.0
comp=Z,300nm,16.0s
MILM Milestii Mici 87.39 15 *e*P **P** **15 36 04.0 -1.3**
MILM pmax pmax
comp=Z,70nm,1.0s
TDK Taldyqorghan 87.89 341 *e*P **P** **15 36 07.5 -0.3**
TDK pmax pmax
comp=Z,16nm,1.1s
TDK Taldyqorghan 87.89 341 *e*P **P** **15 36 07.5 -0.3**
comp=Z,16nm,1.1s
VRI Vrincioaia 88.00 16 P **P** **15 36 09.4 +1.1**
GO02 Mina Guanaco 88.05 128 IAmb IAmb 15 36 18.2
comp=Z,12nm,0.8s
DZM Mont Dzumac 88.06 237 *e*P **P** **15 36 05.5 -3.3**
comp=Z,57nm,23.0s
DZM Mont Dzumac 88.06 237 *e*S **SKSac** **15 46 44.6 +7.5**
comp=Z,252nm,28.1s
DZM Mont Dzumac 88.06 237 *e*LQ LQ 16 00 08.4
comp=Z,1µm,36.1s
DZM *e*LR LR 16 04 01.7
comp=Z,1µm,22.4s
DZM Mont Dzumac 88.06 237 LR LR 16 07 22.8
comp=Z,766nm,21.4s,baz=42,slow=30
MLR Muntele Rosu 88.20 17 LR LR 16 13 56.0
comp=Z,538nm,20.6s,baz=341,slow=35
MDT Midelt 88.49 44 LR LR 16 14 44.9
comp=Z,216nm,18.2s,baz=17,slow=35
BTLS Baital 88.82 344 *e*P **P** **15 36 11.8 -0.3**
BTLS pmax pmax
comp=Z,14nm,1.5s
BTLS Baital 88.82 344 *e*P **P** **15 36 11.9 -0.3**
comp=Z,14nm,1.5s
SHLS Shalkode 89.36 339 *e*P **P** **15 36 14.2 -0.7**
SHLS pmax pmax
comp=Z,28nm,1.6s
SHLS Shalkode 89.36 339 *e*P **P** **15 36 14.3 -0.7**
comp=Z,28nm,1.6s
UZB Uzynbulak 89.48 340 *e*P **P** **15 36 15.1 -0.4**
UZB Uzynbulak 89.48 340 *e*P **P** **15 36 15.2 -0.3**
SATY Saty 89.72 340 *e*P **P** **15 36 16.1 -0.5**
SATY pmax pmax
comp=Z,20nm,1.5s
SATY Saty 89.72 340 *e*P **P** **15 36 16.2 -0.5**
comp=Z,20nm,1.5s
AAA Alma-Ata 89.94 341 *e*P **P** **15 36 17.2 -0.3**
AAA pmax pmax
comp=Z,29nm,1.5s
AAA Alma-Ata 89.94 341 *e*P **P** **15 36 17.3 -0.3**
comp=Z,29nm,1.5s
ERBR Yeremizino-Bor 90.16 7 *e*P **P** **15 36 18.4 0.0**
ERBR pmax pmax
comp=Z,21nm,0.8s
SGDS Sogindy 90.22 343 *e*P **P** **15 36 18.7 -0.1**
comp=Z,12nm,1.5s
GOMU GeErMu 90.53 326 P **P** **15 36 18.9 -1.9**
GOMU pP PcP 15 36 22.9 +1.0
GOMU sP sP 15 36 26.4 +1.1
GOMU S **S** **15 47 12.3 -3.8**
GOMU pmax pmax
comp=Z,1.0nm,0.4s
GOMU LR LR
comp=Z,540nm,18.7s
GOMU LR LR
comp=Z,270nm,18.5s
GOMU LR LR
comp=Z,670nm,18.3s
ANN Anapa 90.75 9 *e*P **P** **15 36 20.8 -0.4**
ANN pmax pmax
comp=Z,51nm,1.1s
CD2 Chengdu 90.91 316 P **P** **15 36 22.9 +0.6**
CD2 S **S** **15 47 23.3 +4.2**
CD2 LR LR
comp=Z,640nm,17.6s
CD2 LR LR
comp=Z,1µm,11.6s
CD2 LR LR
comp=Z,700nm,16.8s
AAK Ala-Archa 91.03 343 LR LR 16 20 19.2
comp=Z,661nm,18.1s,baz=32,slow=38
AAK Ala-Archa 91.03 343*de*P **P** **15 36 23.3 +0.6**
AAK pmax pmax
comp=Z,10.0nm,1.3s
TARG Taragay, Kyrgy 91.12 340 IAmb IAmb 15 36 34.2
comp=Z,18nm,1.5s
KK31 Karatay Array 91.37 345 IAmb IAmb 15 36 26.1
comp=Z,16nm,1.4s
KKAR Karatay Array 91.37 345 P **P** **15 36 22.1 -2.1**
KKAR Karatay Array 91.37 345 P **P** **15 36 22.1 -2.1**
DZA Taraz 91.42 345 *e*P **P** **15 36 24.1 -0.3**
DZA Taraz 91.42 345 *e*P **P** **15 36 24.1 -0.3**
JAY Jayapura 91.56 268 LR LR 16 12 24.7
comp=Z,486nm,18.9s,baz=29,slow=32
BRLS Borolday 91.56 346 *e*P **P** **15 36 25.8 +0.8**
BRLS Borolday 91.56 346 *e*P **P** **15 36 25.9 +0.8**
PMG Port Moresby 91.70 259 LR LR 16 09 39.3
comp=Z,691nm,22.0s,baz=92,slow=30
KIV Kislovodsk 92.08 6 *e*P **P** **15 36 28.0 +0.5**
KIV 15 53 35.6
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,202nm,20.0s
KVAR Kislovodsk Arr 92.08 6 LR LR 16 20 56.5
comp=Z,237nm,18.7s,baz=267,slow=38
SOC Sochi 92.20 8 *e*P **P** **15 36 30.0 +2.1**
SOC *e* 15 40 03.6
SOC *e*PPP PPP 15 42 03.7
SOC *e*S **SKSac** **15 47 03.4 +2.6**
SOC *e*SS **SS** **15 53 35.8 -2.2**

SOC					MLR	MLR			
	comp=Z,299nm,17.0s								
KEST	**Kesra**	**92.22**	**32**		LR	LR	16 18 31.8		
	comp=Z,342nm,18.2s,baz=316,slow=36								
CHM	**Chimkent**	**92.29**	**346**	*eP*	**P**		**15 36 28.2**	**-0.2**	
CHM					pmax	pmax			
	comp=Z,17nm,1.3s								
CHM	**Chimkent**	**92.29**	**346**	*eP*	**P**		**15 36 28.2**	**-0.2**	
	comp=Z,16nm,1.3s								
KBZ	**Khabaz**	**92.32**	**5**	P	**P**		**15 36 28.5**	**+0.1**	
	comp=Z,1.1nm,0.4s,baz=134,slow=4.2,SNR=4.1								
KBZ					LR	LR	16 21 18.8		
	comp=Z,202nm,18.7s,baz=352,slow=38								
	comp=Z,1.1nm,0.4s								
KBZ	**Khabaz**	**92.32**	**5**⇑	*eP*	**P**		**15 36 28.6**	**+0.1**	
KBZ					pmax	pmax			
	comp=Z,5.0nm,1.1s								
IUG	**Iuzhnay**	**92.38**	**346**	*eP*	**P**		**15 36 28.7**	**-0.3**	
IUG					pmax	pmax			
	comp=Z,18nm,1.5s								
IUG	**Iuzhnay**	**92.38**	**346**	*eP*	**P**		**15 36 28.7**	**-0.3**	
	comp=Z,18nm,1.5s								
TGY	**Tagaytay City**	**93.78**	**294**	LR	LR	LR	16 11 35.8		
	comp=Z,339nm,21.9s,baz=74,slow=31								
BDFB	**Brasilia**	**94.78**	**107**	LR	LR	LR	16 22 15.1		
	comp=Z,426nm,20.8s,baz=316,slow=37								
AKT	**Akhty**	**94.79**	**2**	*eP*	**P**		**15 36 38.5**	**-1.6**	
AKT				*e*			15 40 26.5		
AKT					pmax	pmax			
	comp=Z,23nm,1.3s								
URZ	**Urewera**	**95.09**	**219**	LR	LR	LR	16 13 00.3		
	comp=Z,426nm,20.1s,baz=36,slow=31								
DAV	**Davao City (W)**	**95.68**	**285**	LR	LR	LR	16 13 47.8		
	comp=Z,607nm,20.5s,baz=56,slow=32								
CPUP	**Villa Florida**	**96.21**	**121**	LR	LR	LR	16 23 38.2		
	comp=Z,33nm,19.1s,baz=204,slow=38								
RCBR	**Riachuelo**	**96.63**	**92**	LR	LR	LR	16 16 32.7		
	comp=Z,234nm,21.9s,baz=2.5,slow=33								
QIZ	**Qiongzhong**	**97.04**	**305**	P	**P**		**15 36 49.1**	**-1.4**	
QIZ				S	**S**		**15 48 11.1**	**-2.2**	
QIZ				LR	LR				
	comp=Z,180nm,13.1s								
QIZ				LR	LR				
	comp=Z,240nm,17.2s								
IDI	**Anoyia**	**97.66**	**21**	LR	LR		16 23 54.3		
	comp=Z,338nm,18.9s,baz=314,slow=37								
PLCA	**Paso Flores**	**99.69**	**139**	LR	LR		16 14 04.6		
	comp=Z,193nm,18.4s,baz=333,slow=30								
WRA	**Warramunga Arr**	**107.90**	**259**	PKiKP	**PKiKP**		**15 41 47.3**	**+1.3**	
	comp=Z,0.5nm,0.9s,baz=44,slow=1.9,SNR=4.8								
ASAR	**Alice Springs**	**110.62**	**257**	PKiKP	**PKiKP**		**15 41 52.6**	**+1.6**	
	comp=Z,0.7nm,0.9s,baz=75,slow=1.5,SNR=5.1								
ASAR				PKKPbc	**PKKPbc**		**15 52 50.5**	**+1.7**	
	comp=Z,0.4nm,0.7s,baz=239,slow=3.1,SNR=4.5								
VNDA	**Vanda**	**128.27**	**195**	PKP	**PKiKP**		**15 42 24.2**	**+0.4**	
	comp=Z,1.0nm,0.7s,baz=330,slow=4.0,SNR=5.7								
QSPA	**South Pole Qui**	**133.88**	**180**	PKP	**PKiKP**		**15 42 35.8**	**+0.3**	
	comp=Z,3.7nm,0.8s,baz=218,slow=0.5,SNR=10								
VNA3	**Neumayer Olymp**	**140.54**	**154**	⇑PKPdf	**PKPdf**		**15 42 47.9**	**-1.1**	
	comp=Z,5.9nm,0.7s								
VNA2	**Neumayer--Watz**	**141.33**	**154**	⇑PKPdf	**PKPdf**		**15 42 48.3**	**+0.5**	
	comp=Z,3.1nm,0.6s,baz=289,slow=4.2								
SNAA	**Sanae**	**142.55**	**155**	⇑PKPdf	**PKPdf**		**15 42 48.7**	**-1.3**	
	comp=Z,59nm,0.7s								
SNAA	**Sanae**	**142.55**	**155**	PKP	**PKPdf**		**15 42 48.6**	**-1.3**	
	comp=Z,2.5nm,0.8s,baz=279,slow=2.6,SNR=4.8								
TROLL	**Troll, Antarti**	**143.99**	**157**	⇑PKPdf	PKPbc		15 42 50.4	-0.2	
	comp=Z,318nm,0.8s								
LSZ	**Lusaka**	**145.61**	**40**		**PKPdf**		**15 42 57.2**	**+0.1**	
LSZ	**Lusaka**	**145.61**	**40**	PKIKP	**PKPdf**		**15 42 57.2**	**+0.1**	
GRTLG	**Ghanzi**	**146.85**	**56**		**PKPbc**		**15 43 00.5**	**-0.4**	
KOOLE	**Kule**	**147.44**	**60**		**PKPbc**		**15 43 02.5**	**-0.1**	
SYO	**Syowa Base**	**154.38**	**171**⇑	*e*PKPdf	**PKPdf**		**15 43 10.8**	**+1.8**	
SYO	**Syowa Base**	**154.38**	**171**⇓	*e*pPKPdf	pPKPdf		15 43 13.6	+1.1	
BOSA	**Boshof**	**154.64**	**61**	PKPab	**PKPab**		**15 43 33.5**	**-0.7**	
	comp=Z,3.7nm,1.0s,baz=196,slow=1.5,SNR=3.2								
MAW	**Mawson**	**155.51**	**191**	PKPab	**PKPab**		**15 43 38.3**	**+1.8**	
	comp=Z,2.6nm,0.8s,baz=85,slow=2.8,SNR=4.2								

*IDC **16** 15:34:46.1±1.3,48.54N×155.77E,h0km,mb3.3/3, mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=64.5km s-min=24.6km az=122.0*
*KRSC **16** 15:34:51.9±1.4,49.06N×156.40E,h16km±22km,Ml4.0*
ISC 16 15:34:47.9±1.1,48.83N±0.10×155.7E±0.2,h10km,n32, σ2s21/35,mb3.3/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.88**	**9**	*eP*	**Pn**	**15 35 19.6**	**-0.4**
SKR				*eS*	**Sn**	**15 35 41.1**	**-2.6**
PAU	**Pauzhetka**	**2.74**	**15**	*eP*	**Pn**	**15 35 32.5**	**+0.6**
PAU				*eS*	**Sn**	**15 36 02.1**	**-2.8**
MIPR	**Malaya Ipel'ka**	**3.52**	**11**	*eP*	**Pn**	**15 35 43.3**	**+0.7**
ASAK	**Asacha**	**3.83**	**21**	*eP*	**Pn**	**15 35 48.7**	**+1.8**
MTVR	**Mutnovka**	**3.99**	**23**	*eP*	**Pn**	**15 35 50.6**	**+1.4**
MTVR				*eS*	**Sn**	**15 36 33.2**	**-2.8**
GRL	**Gorelyy**	**4.02**	**21**	*eP*	**Pn**	**15 35 51.5**	**+1.9**
GRL				*eS*	**Sn**	**15 36 35.1**	**-1.8**
RUS	**Russkaya**	**4.03**	**25**	*eP*	**Pn**	**15 35 49.8**	**+0.2**
RUS				*eS*	**Sn**	**15 36 33.8**	**-3.1**
APC	**Apacha**	**4.20**	**12**	*eP*	**Pn**	**15 35 55.8**	**+3.8**
PETK	**Petropavlovsk-**	**4.47**	**16**	Pn	**Pn**	**15 35 57.1**	**+1.5**
	1.6nm,0.3s,baz=204,slow=13,SNR=73						
PETK				Sn	**Sb**	**15 37 01.2**	**+0.9**
	0.5nm,0.3s,baz=143,slow=18,SNR=1.9						
	10nm,0.5s						
PET	**Petropavlovsk**	**4.60**	**23**	*eP*	**Pn**	**15 35 59.1**	**+1.7**
PET				*eS*	**Sn**	**15 36 48.3**	**-2.5**
DALK	**Dalny**	**4.63**	**24**	*eP*	**Pn**	**15 35 59.6**	**+1.8**
DALK				*eS*	**Sn**	**15 36 50.1**	**-1.5**
UGLR	**Uglovaya**	**4.81**	**23**	*eP*	**Pn**	**15 36 03.0**	**+2.6**
UGLR				*eS*	**Sn**	**15 36 55.8**	**-0.4**
KOK	**Koryaka**	**4.84**	**22**	*eP*	**Pn**	**15 36 03.7**	**+2.9**
KOK				*eS*	**Sn**	**15 36 54.6**	**-2.3**
AVH	**Avacha**	**4.84**	**22**	*eP*	**Pn**	**15 36 03.8**	**+3.0**
AVH				*eS*	**Sn**	**15 36 56.3**	**-0.6**
SMAR	**Somma**	**4.85**	**23**	*eP*	**Pn**	**15 36 03.6**	**+2.5**
KRER	**Koryakskii**	**4.88**	**22**	*eP*	**Pn**	**15 36 04.2**	**+2.7**
KRX	**Arik**	**4.90**	**21**	*eP*	**Pn**	**15 36 04.4**	**+2.6**
GNL	**Ganaly**	**5.07**	**15**	*eP*	**Pn**	**15 36 05.7**	**+1.6**
SPN	**Mys Shipunski**	**5.08**	**31**	*eP*	**Pn**	**15 36 04.9**	**+0.9**
SPN				*eS*	**Sn**	**15 36 59.3**	**-3.3**
ASAJ	**Asahikawa**	**10.18**	**247**	Pn	**Pn**	**15 37 14.5**	**+0.5**
	0.9nm,0.3s,baz=56,slow=15,SNR=7.1						
	8.8nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**30.41**	**159**	T	T	16 13 25.4		
	baz=346,slow=76,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**30.42**	**159**	T	T	16 13 30.5		
	baz=346,slow=76,SNR=6.9						
H11N3	**WAKE ISLAND Hy**	**30.42**	**159**	T	T	16 13 25.3		
	baz=346,slow=76,SNR=3.5						
H11S1	**WAKE ISLAND Hy**	**31.54**	**160**	T	T	16 14 49.8		
	baz=346,slow=76,SNR=88						
H11S3	**WAKE ISLAND Hy**	**31.55**	**160**	T	T	16 14 51.8		
	baz=346,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**31.56**	**160**	T	T	16 14 52.4		
	baz=346,slow=76,SNR=65						
ILAR	**Eielson Array**	**33.84**	**40**	P	**P**	**15 41 32.4**	**+2.4**
	0.1nm,0.5s,baz=281,slow=6.8,SNR=1.4						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**71.06**	**201**	P	**P**	**15 46 03.8**	**-2.2**
	0.2nm,0.7s,baz=16,slow=6.4,SNR=1.6						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**74.75**	**201**	P	**P**	**15 46 26.1**	**-1.7**
	0.3nm,0.8s,baz=13,slow=5.7,SNR=5.3						
	0.3nm,0.8s						
H03N2	**Juan Fernandez**	**137.02**	**90**	T	T	18 26 56.5		
	baz=311,slow=77,SNR=3.6						
H03N1	**Juan Fernandez**	**137.04**	**90**	T	T	18 26 53.2		
	baz=311,slow=77,SNR=4.5						
H03N3	**Juan Fernandez**	**137.04**	**90**	T	T	18 26 56.6		
	baz=311,slow=77,SNR=2.4						

IDC 16 15:38:54.0±4.1,47.73N×92.16W,h0km,mbtmp2.9/1, ML0.9/1,Error ellipse: s-maj=79.3km s-min=27.3km az=47.0,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.52**	**317**	Pn	Pn	15 39 48.7	-1.1
	0.2nm,0.3s,baz=138,slow=14,SNR=6.9						
ULM				Sn	Sn	15 40 30.6	-1.6
	0.6nm,0.3s,baz=135,slow=9.6,SNR=7.5						
ULM				Lg	Lg	15 40 42.1	
	1.3nm,0.3s,baz=45,slow=22,SNR=8.5						
	1.0nm,0.2s						
I10CA	**LAC DU BONNET**	**3.56**	**316**	I	I	16 01 10.0	
	baz=133,slow=314,SNR=6.9						
I56US	**NEWPORT INFRASI**	**6.71**	**281**	I	I	17 23 20.0	
	baz=84,slow=316,SNR=1.4						

IDC 16 15:54:28.1±3.1,4.55S×152.78E,h0km,mb3.7/4, mbtmp3.7/4,MS4.0/2,Error ellipse: s-maj=96.0km s-min=38.0km az=103.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.59**	**228**	P	P	15 59 40.5	-0.3
	0.6nm,0.5s,baz=53,slow=9.8,SNR=11						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.32**	**222**	P	P	16 00 06.0	+0.2
	0.3nm,1.0s,baz=56,slow=9.2,SNR=4.8						
	0.3nm,1.0s						
STKA	**Stephens Creek**	**29.14**	**200**	P	P	16 00 30.9	0.0
	3.3nm,1.1s,baz=20,slow=13,SNR=4.9						
	3.3nm,1.1s						
LEM	**Lembang**	**44.98**	**265**	LR	LR	16 26 25.3	
	comp=Z,84nm,18.3s,baz=50,slow=43						
PALK	**Pallekele**	**72.87**	**279**	LR	LR	16 38 28.6	
	comp=Z,196nm,21.9s,baz=14,slow=36						
BVAR	**Borovoye Array**	**89.03**	**323**	P	P	16 07 25.0	0.0
	0.7nm,0.6s,baz=107,slow=5.1,SNR=3.6						
	0.7nm,0.6s						

IDC 16 15:58:52.5±4.3,47.54N×92.81W,h0km,mbtmp2.3/1, ML1.1/1,Error ellipse: s-maj=80.2km s-min=27.3km az=55.0,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.39**	**324**	Pn	Pn	15 59 45.6	-1.0
	0.3nm,0.3s,baz=140,slow=16,SNR=4.5						
ULM				Sn	Sn	16 00 24.2	-3.2
	0.3nm,0.3s,baz=153,slow=16,SNR=4.0						
ULM				Lg	Lg	16 00 37.5	
	1.6nm,0.3s,baz=230,slow=20,SNR=14						
	0.5nm,0.3s						
I10CA	**LAC DU BONNET**	**3.41**	**323**	I	I	16 19 50.0	
	0.1nm,0.9s,baz=140,slow=315,SNR=6.7						
I56US	**NEWPORT INFRASI**	**6.31**	**282**	I	I	17 38 10.0	
	baz=84,slow=315,SNR=4.3						

*IDC **16** 16:07:20.7±5.6,18.01S×178.18W,h455km±62km, mb3.1/10,mbtmp3.9/10,Error ellipse: s-maj=24.0km s-min=20.6km az=53.0*
ISC 16 16:07:20.3±0.7,18.0S±0.1×178.2W±0.2,h450km,n12, σ1s01/13,mb3.4/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.62**	**190**	P	**P**	**16 11 25.8**	**-1.3**
	3.5nm,0.3s,baz=267,slow=2.5,SNR=16						
	3.5nm,0.3s						
WRA	**Warramunga Arr**	**44.78**	**260**	P	**P**	**16 14 53.6**	**+0.9**
	0.4nm,0.4s,baz=97,slow=6.8,SNR=28						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.93**	**254**	P	**P**	**16 14 54.8**	**+0.9**
	1.7nm,0.6s,baz=81,slow=8.7,SNR=5.2						
ASAR				PcP	**PcP**	**16 16 24.7**	**-1.5**
	0.4nm,1.0s,baz=96,slow=4.0,SNR=5.0						
	1.7nm,0.6s						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**16 16 44.5**	**+0.3**
	0.2nm,0.4s,baz=3.9,slow=7.1,SNR=1.6						
	0.2nm,0.4s						
MJAR	**Matsushiro Arr**	**68.05**	**323**	P	**P**	**16 17 33.9**	**+0.1**
	0.8nm,0.8s,baz=166,slow=5.7,SNR=4.0						
	0.8nm,0.8s						
QSPA	**South Pole Qui**	**72.08**	**180**	P	**P**	**16 17 58.3**	**+0.7**
	0.9nm,0.6s,baz=308,slow=0.7,SNR=8.2						
	0.9nm,0.6s						
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**16 18 39.6**	**+0.9**
	0.5nm,0.6s,baz=234,slow=5.3,SNR=3.7						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**85.90**	**58**	P	**P**	**16 19 12.7**	**+0.7**
	0.6nm,0.6s,baz=202,slow=6.4,SNR=7.7						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**16 19 10.4**	**-0.6**
	0.6nm,0.4s,baz=222,slow=5.3,SNR=13						
	0.6nm,0.4s						
PDAR	**Pinedale Array**	**87.29**	**43**	P	**P**	**16 19 18.1**	**-0.3**
	0.4nm,0.6s,baz=268,slow=6.8,SNR=2.3						
	0.4nm,0.6s						
GERES	**GERESS Array B**	**147.71**	**345**	PKPbc	**PKPbc**	**16 26 12.5**	**-1.0**
	0.6nm,0.6s,baz=270,slow=2.7,SNR=4.4						
DAVOX	**Davos/Dischmat**	**150.50**	**349**	PKPbc	**PKPbc**	**16 26 19.3**	**-1.1**
	2.2nm,0.9s,baz=240,slow=1.6,SNR=4.6						

*IDC **16** 16:10:34.4±0.7,21.26S×174.57W,h0km,mb4.2/12, mbtmp4.1/14,ML3.9/2,MS4.1/12,Error ellipse: s-maj=26.8km s-min=19.1km az=129.0*
ISC 16 16:10:39.0±0.7,21.3S±0.1×174.6W±0.2,h30km,n29, σ0s62/19,mb4.2/12,MS4.2/12,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**17.64**	**264**	P	**P**	**16 14 43.6**	**0.0**
	0.2nm,0.3s,baz=71,slow=18,SNR=4.4						
	2.5nm,0.7s						
URZ	**Urewera**	**18.39**	**201**	P	**Pn**	**16 14 52.2**	**+0.5**
	0.6nm,0.3s,baz=244,slow=6.3,SNR=5.0						
	7.6nm,0.7s						
PPT	**Papeete**	**23.87**	**85**	LR	LR	16 23 14.5	
	comp=Z,337nm,19.0s,baz=252,slow=32						
STKA	**Stephens Creek**	**40.34**	**245**	P	**P**	**16 18 13.8**	**-0.3**
	3.2nm,0.8s,baz=90,slow=12,SNR=7.6						
	3.2nm,0.8s						
ASAR	**Alice Springs**	**47.44**	**257**	P	**P**	**16 19 11.5**	**+0.2**
	6.2nm,0.8s,baz=92,slow=8.2,SNR=59						
	6.2nm,0.8s						
WRA	**Warramunga Arr**	**47.65**	**262**	P	**P**	**16 19 11.7**	**-1.2**
	3.6nm,0.8s,baz=97,slow=7.4,SNR=30						
	3.6nm,0.8s						
VNDA	**Vanda**	**57.46**	**186**	P	**P**	**16 20 25.2**	**+0.5**
	0.7nm,1.0s,baz=11,slow=9.6,SNR=5.1						
	0.7nm,1.0s						
RPN	**Rapa Nui**	**59.24**	**110**	LR	LR	16 40 12.1	
	comp=Z,162nm,19.4s,baz=326,slow=30						
BATI	**Baumata**	**60.12**	**270**	LR	LR	16 45 42.6	
	comp=Z,149nm,19.3s,baz=188,slow=35						
KAPI	**Kappang**	**65.52**	**274**	LR	LR	16 49 31.2	
	comp=Z,67nm,20.9s,baz=71,slow=36						
MJAR	**Matsushiro Arr**	**72.74**	**322**	P	**P**	**16 22 04.7**	**+0.3**
	2.5nm,0.8s,baz=160,slow=6.2,SNR=8.0						
	2.5nm,0.8s						
ASAJ	**Asahikawa**	**75.95**	**330**	LR	LR	16 50 43.2	
	comp=Z,66nm,19.4s,baz=34,slow=32						
PETK	**Petropavlovsk-**	**77.86**	**343**	P	**P**	**16 22 34.3**	**+0.9**
	3.5nm,0.7s,baz=123,slow=11,SNR=6.5						
PETK				LR	LR	16 52 26.9	
	comp=Z,87nm,20.1s,baz=163,slow=32						
	3.5nm,0.7s						
PMSA	**Palmer Station**	**79.31**	**156**	LR	LR	16 50 35.5	
	comp=Z,207nm,20.1s,baz=343,slow=30						
NVAR	**Mina Array Bea**	**79.43**	**42**	P	**P**	**16 22 42.5**	**-0.3**
	0.8nm,0.6s,baz=220,slow=10,SNR=4.6						
	0.8nm,0.6s						
KSRS	**Korea Array**	**79.59**	**317**	P	**P**	**16 22 44.2**	**+1.0**
	1.8nm,0.8s,baz=139,slow=6.0,SNR=6.8						
	1.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**81.41**	**324**	LR	LR	16 55 41.1	
	comp=Z,107nm,19.8s,baz=141,slow=33						
ELK	**Elko**	**82.72**	**41**	LR	LR	16 55 35.0	
	comp=Z,132nm,18.0s,baz=268,slow=33						
TXAR	**Lajitas Array**	**84.81**	**56**	P	**P**	**16 23 10.7**	**-0.4**
	0.4nm,0.9s,baz=236,slow=2.7,SNR=2.4						
TXAR				LR	LR	16 56 17.3	
	comp=Z,71nm,18.3s,baz=278,slow=32						
	0.4nm,0.9s						
MA2	**Magadan**	**85.40**	**343**	LR	LR	16 57 44.1	
	comp=Z,95nm,19.6s,baz=143,slow=33						
CMIG	**Matias Romero**	**86.91**	**70**	LR	LR	16 54 08.6	
	comp=Z,95nm,19.1s,baz=212,slow=30						
SNAA	**Sanae**	**87.14**	**177**	P	**P**	**16 23 21.6**	**-0.2**
	3.3nm,1.2s,baz=129,slow=3.2,SNR=3.5						
	3.3nm,1.2s						
ILAR	**Eielson Array**	**88.39**	**12**	P	**P**	**16 23 27.8**	**+0.3**
	0.5nm,0.9s,baz=229,slow=5.9,SNR=5.6						
	0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.37**	**288**	P	**P**	**16 23 51.9**	**+0.1**
	1.3nm,0.6s,baz=122,slow=3.3,SNR=9.1						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**121.71**	**320**	PKP	**PKPdf**	**16 29 29.4**	**-0.3**
	0.8nm,0.7s,baz=31,slow=3.5,SNR=5.1						
ARCES	**ARCESS Array B**	**130.21**	**351**	PKP	**PKiKP**	**16 29 46.1**	**-0.2**
	0.9nm,0.8s,baz=345,slow=1.4,SNR=7.1						
AKASG	**Malin Array Be**	**145.17**	**333**	PKPbc	**PKPbc**	**16 30 12.7**	**-0.3**
	2.2nm,0.7s,baz=37,slow=3.2,SNR=12						
BRTR	**Keskin Array B**	**149.68**	**314**	PKPbc	**PKPbc**	**16 30 24.9**	**-1.2**
	1.2nm,0.7s,baz=134,slow=3.6,SNR=5.5						
GERES	**GERESS Array B**	**151.69**	**348**	PKP	**PKPdf**	**16 30 24.6**	**+0.4**
	0.5nm,0.7s,baz=72,slow=4.3,SNR=3.9						

*KRSC **16** 16:25:43.1±0.9,53.59N×160.83E,h46km±17km,Ml3.9*
*IDC **16** 16:25:44.2±1.4,54.54N×159.31E,h0km,mb3.8/8, mbtmp3.8/8,MS3.6/3,Error ellipse: s-maj=33.7km s-min=20.9km az=118.0*
ISC 16 16:25:39.6±0.8,53.68N±0.04×160.91E±0.04,h10km,n47, σ1s71/59,mb3.9/8,MS3.5/3,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.79**	**222**	*eP*	**Pn**	**16 25 58.0**	**+1.3**
SPN				*eS*	**Sg**	**16 26 07.3**	**+2.3**
KII	**Karymskiy**	**0.93**	**293**	*eP*	**Pn**	**16 26 01.1**	**+2.3**
KII				*eS*	**Sn**	**16 26 12.5**	**+0.3**
MKZ	**Mys Kozlova**	**1.00**	**29**	*eP*	**Pn**	**16 26 03.9**	**+4.3**
MKZ				*eS*	**Sn**	**16 26 17.6**	**+3.8**
NLC	**Nalytchevo**	**1.06**	**242**	*eP*	**Pn**	**16 26 01.8**	**+1.4**
NLC				*eS*	**Sg**	**16 26 14.4**	**+0.5**
SDLR	**Sedlovina**	**1.27**	**252**	*eP*	**Pg**	**16 26 05.4**	**+1.4**
SDLR				*eS*	**Sb**	**16 26 19.8**	**-0.4**
SMAR	**Somma**	**1.33**	**252**	*eP*	**Pb**	**16 26 06.0**	**+1.4**
UGLR	**Uglovaya**	**1.33**	**250**	*eP*	**Pg**	**16 26 06.3**	**+1.2**
KRER	**Koryakskii**	**1.34**	**255**	*eP*	**Pg**	**16 26 06.9**	**+1.5**
KRER				*eS*	**Sb**	**16 26 22.2**	**-0.1**
AVH	**Avacha**	**1.36**	**253**	*eP*	**Pg**	**16 26 06.8**	**+1.2**
AVH				*eS*	**Sb**	**16 26 22.8**	**+0.1**
KRX	**Arik**	**1.39**	**257**	*eP*	**Pb**	**16 26 07.0**	**+1.3**
KRX				*eS*	**Sb**	**16 26 22.5**	**-0.9**
KOK	**Koryaka**	**1.41**	**255**	*eP*	**Pb**	**16 26 07.3**	**+1.3**
KOK				*eS*	**Sb**	**16 26 23.1**	**-1.0**
DALK	**Dalny**	**1.45**	**244**	*eP*	**Pn**	**16 26 07.3**	**+1.6**
DALK				*eS*	**Sn**	**16 26 23.6**	**-1.2**
PET	**Petropavlovsk**	**1.50**	**245**	*eP*	**Pn**	**16 26 08.2**	**+1.7**
PET				*eS*	**Sn**	**16 26 25.2**	**-1.0**
TUMD	**Tumrok D**	**1.55**	**349**	*eP*	**Pg**	**16 26 11.3**	**+2.0**
TUMD				*eS*	**Sg**	**16 26 30.4**	**+1.0**
GNL	**Ganaly**	**1.76**	**272**	*eP*	**Pb**	**16 26 12.8**	**+0.8**
KRMR	**Karymshinskiy**	**1.87**	**244**	*eP*	**Pn**	**16 26 13.8**	**+2.2**
KRMR				*eS*	**Sn**	**16 26 34.6**	**-0.7**
PETK	**Petropavlovsk-**	**2.00**	**255**	Pn	**Pn**	**16 26 15.7**	**+2.2**
	15nm,0.3s,baz=65,slow=21,SNR=329						
PETK				Sn	**Sn**	**16 26 39.6**	**+1.1**
	19nm,0.3s,baz=29,slow=22,SNR=9.9						
MTVR	**Mutnovka**	**2.03**	**235**	*eP*	**Pn**	**16 26 15.7**	**+1.7**
GRL	**Gorelyy**	**2.05**	**238**	*eP*	**Pn**	**16 26 16.7**	**+2.5**
KMNR	**Kamenistaya**	**2.12**	**350**	*eP*	**Pg**	**16 26 20.6**	**+0.6**
ASAK	**Asacha**	**2.23**	**236**	*eP*	**Pb**	**16 26 20.3**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.27**	**357**	*eP*	**Pg**	**16 26 23.2**	**+0.2**
BZGR				*eS*	**Sg**	**16 26 51.9**	**-0.5**
BZMR	**Bezymyannaya**	**2.27**	**354**	*eP*	**Pg**	**16 26 22.6**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.30**	**354**	*eP*	**Pg**	**16 26 23.7**	**+0.1**
KIRR	**Kirishev**	**2.30**	**352**	*eP*	**Pg**	**16 26 23.3**	**-0.4**
ZLN	**Zelenaya**	**2.34**	**359**	*eP*	**Pg**	**16 26 24.4**	**0.0**
APC	**Apacha**	**2.37**	**253**	*eP*	**Pb**	**16 26 22.9**	**+0.6**
KOZ	**Kozyrevsk**	**2.46**	**346**	*eP*	**Pb**	**16 26 24.6**	**+0.9**
ESO	**Esso**	**2.59**	**331**	*eP*	**Pb**	**16 26 25.6**	**-0.4**
KLY	**Klyuchi**	**2.64**	**357**	*eP*	**Pb**	**16 26 27.6**	**+0.7**
KLY				*eS*	**Sb**	**16 26 59.2**	**-0.2**
SRDR	**Sredinnyy**	**2.73**	**346**	*eP*	**Pb**	**16 26 28.7**	**+0.2**
KBTR	**Krutoberegovo**	**2.76**

CPUP	**Villa Florida**	**38.37**	**310**	P		**P**	**16 47 09.5**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=12,slow=9.7,SNR=6.3							
	comp=Z,1.0nm,0.6s							
MAW	**Mawson**	**38.61**	**142**	P		**P**	**16 47 10.3**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=226,slow=8.2,SNR=3.8							
	comp=Z,0.8nm,0.5s							
MT09	**Talagante**	**38.71**	**287**	P		**P**	**16 47 09.8**	**-2.5**
MT02	**Curacav**	**39.20**	**288**	P		**P**	**16 47 15.7**	**-0.4**
CO03	**El Pedregal**	**40.88**	**290**	P		**P**	**16 47 31.2**	**+1.0**
CO06	**Fray Jorge**	**41.50**	**289**	P		**P**	**16 47 33.4**	**-1.7**
CO06					IAmb	IAmb	16 47 34.1	
	comp=Z,8.2nm,1.1s							
AC04	**Llanos de Chal**	**43.21**	**292**	P		**P**	**16 47 48.1**	**-1.0**
AC04					IAmb	IAmb	16 48 05.6	
	comp=Z,13nm,1.4s							
AC02	**Maricunga**	**43.37**	**295**	P		**P**	**16 47 50.1**	**-0.8**
AC02					IAmb	IAmb	16 48 13.2	
	comp=Z,3.7nm,0.6s							
BDFB	**Brasilia**	**44.87**	**328**	P		**P**	**16 48 04.4**	**+1.8**
	comp=Z,1.9nm,0.5s,baz=153,slow=7.1,SNR=3.3							
	comp=Z,1.9nm,0.5s							
GO02	**Mina Guanaco**	**44.99**	**296**	P		**P**	**16 48 03.2**	**-0.5**
SBA	**Scott Base**	**45.08**	**184**	P		**P**	**16 48 04.7**	**+1.2**
VNDA	**Vanda**	**45.54**	**182**	P		**P**	**16 48 07.8**	**+0.7**
VNDA	**Vanda**	**45.54**	**182**	P		**P**	**16 48 08.2**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=188,slow=6.5,SNR=26							
	comp=Z,1.3nm,0.6s							
PB06	**IPOC Station P**	**47.05**	**298**	P		**P**	**16 48 19.6**	**-0.2**
PB05	**IPOC Station P**	**47.23**	**297**	P		**P**	**16 48 20.5**	**-0.7**
PB05					IAmb	IAmb	16 48 55.6	
	comp=Z,8.9nm,1.4s							
PB09	**IPOC Station P**	**47.67**	**299**	P		**P**	**16 48 23.7**	**-1.0**
PB03	**IPOC Station P**	**47.70**	**298**	P		**P**	**16 48 23.6**	**-1.3**
PB03					IAmb	IAmb	16 48 50.8	
	comp=Z,5.6nm,1.1s							
PB02	**IPOC Station P**	**48.39**	**299**	P		**P**	**16 48 30.0**	**-0.2**
PB02					IAmb	IAmb	16 48 35.0	
	comp=Z,4.5nm,0.7s							
PB01	**IPOC Station P**	**48.43**	**299**	P		**P**	**16 48 29.9**	**-0.6**
PB01					IAmb	IAmb	16 48 31.8	
	comp=Z,4.9nm,0.6s							
PB08	**IPOC Station P**	**49.05**	**300**	P		**P**	**16 48 35.1**	**-0.4**
PB08					IAmb	IAmb	16 48 51.5	
	comp=Z,4.5nm,0.8s							
HMBC	**Humberstone**	**49.27**	**299**	P		**P**	**16 48 37.0**	**0.0**
HMBC					IAmb	IAmb	16 48 37.4	
	comp=Z,4.5nm,0.9s							
GO01	**Chusmiza**	**49.47**	**300**	P		**P**	**16 48 39.2**	**+0.3**
GO01					IAmb	IAmb	16 48 40.5	
	comp=Z,5.1nm,0.8s							
PB11	**IPOC Station P**	**49.61**	**300**	P		**P**	**16 48 39.1**	**-0.5**
PB11					IAmb	IAmb	16 48 41.5	
	comp=Z,6.0nm,0.8s							
PB16	**IPOC Station P**	**50.77**	**301**	P		**P**	**16 48 49.1**	**+0.2**
RCBR	**Riachuelo**	**51.86**	**346**	P		**P**	**16 48 55.6**	**-0.8**
LPAZ	**La Paz**	**51.92**	**304**	P		**P**	**16 48 58.8**	**+1.2**
LPAZ	**La Paz**	**51.92**	**304**	P		**P**	**16 48 58.8**	**+1.2**
	comp=Z,10nm,0.5s,baz=178,slow=6.6,SNR=37							
	comp=Z,10nm,0.5s							
SAML	**Samuel**	**56.37**	**313**	P		**P**	**16 49 30.0**	**+0.7**
SAML					IAmb	IAmb	16 49 31.7	
	comp=Z,5.4nm,0.7s							
BOAV	**Boa Vista**	**65.83**	**321**	P		**P**	**16 50 32.4**	**-1.0**
BOAV					IAmb	IAmb	16 50 51.7	
	comp=Z,7.0nm,1.2s							
COHC	**Cochancay**	**69.19**	**300**			**P**	**16 50 54.8**	**+0.1**
COHC					IAmb	IAmb	16 50 56.6	
	comp=Z,1.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**73.47**	**27**	P		**P**	**16 51 20.5**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=199,slow=6.0,SNR=11							
	comp=Z,2.5nm,0.9s							
ASAR	**Alice Springs**	**97.61**	**161**	P		**P**	**16 53 22.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=186,slow=3.9,SNR=8.4							
	comp=Z,0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**123.64**	**109**	PKP		**PKiKP**	**16 58 46.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=226,slow=3.9,SNR=5.6							
FINES	**FINESS Array B**	**124.82**	**27**	PKP		**PKiKP**	**16 58 47.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=54,slow=3.6,SNR=0.9							
ARCES	**ARCESS Array B**	**131.53**	**21**	PKP		**PKiKP**	**16 59 00.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=270,slow=1.2,SNR=4.1							
SONM	**Songino Array**	**149.66**	**87**	PKPbc		**PKPbc**	**16 59 36.3**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=209,slow=2.9,SNR=10							
ILAR	**Eielson Array**	**151.68**	**310**	PKPbc		**PKiKP**	**16 59 41.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=132,slow=1.3,SNR=4.5							

*NEIC **16** 16:43:25.2±1.7, 17°.45N±0°.04×68°.73W±0°.05, h10km±2km, ML2.5/8, Md3.1/8(RSPR), Error ellipse: s-maj=9.5km s-min=6.6km az=121.0*
*SDD **16** 16:43:27.7±1.3, 17°.97N×68°.64W, h153km±14km, MD3.2, ML2.6, MW3.3*
*RSPR **16** 16:43:28.6, 18°.16N×68°.56W, h144km±1km, MD3.1/8*
ISC 16 16:43:26.6±2.5, 18°.1N±0°.1×68°.59W±0°.07, h152km±16km, n35, σ0°.77/44, 11C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SADR	**Isla Saona**	**0.21**	**301**	*iP*			**Pn**	**16 43 48.2**	**+1.2**
SADR	**Isla Saona**	**0.21**	**301**	*eS*			**Sn**	**16 44 02.8**	**+0.1**
HIDR	**Higuey Centro**	**0.52**	**347**	*ePg*			**Pn**	**16 43 48.4**	**+0.2**
HIDR				*eSg*			**Sn**	**16 44 03.7**	**-1.1**
HIDR				IAML				16 44 29.8	
	comp=N,84nm,0.3s								
MIDR	**Miches**	**0.99**	**334**	*iP*			**Pn**	**16 43 52.2**	**+0.7**
MIDR	**Miches**	**0.99**	**334**	*eS*			**Sn**	**16 44 10.6**	**0.0**
MIDR	**Miches**	**0.99**	**334**	*ePg*			**Pn**	**16 43 52.2**	**+0.7**
MIDR				*eSg*			**Sn**	**16 44 10.2**	**-0.4**
MIDR				IAML				16 44 11.2	
	comp=N,53nm,0.6s								
DR12	**Loma Pena Alta**	**1.03**	**313**	Pn			**Pn**	**16 43 51.8**	**0.0**
HATOM	**Hato Mayor del**	**1.03**	**313**	*ePg*			**Pn**	**16 43 51.9**	**+0.1**
HATOM				*eSg*			**Sn**	**16 44 10.9**	**-0.1**
HATOM				IAML				16 44 16.4	
	comp=N,26nm,0.8s								
IDE	**Isla Desecheo**	**1.10**	**74**				**Pn**	**16 43 52.6**	**+0.2**
IDE							**Sn**	**16 44 12.2**	**+0.1**
IDE	**Isla Desecheo**	**1.10**	**74**	*iP*			**Pn**	**16 43 52.6**	**+0.2**
IDE	**Isla Desecheo**	**1.10**	**74**	*eS*			**Sn**	**16 44 12.2**	**+0.1**
SMDR	**Samana, DR**	**1.33**	**335**	*iP*			**Pn**	**16 43 54.8**	**+0.3**
SMDR	**Samana, DR**	**1.33**	**335**	*eS*			**Sn**	**16 44 15.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.41**	**93**				**Pn**	**16 43 55.5**	**+0.2**
CRPR							**Sn**	**16 44 15.2**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**93**	IAML				16 44 24.0	
	comp=N,36nm,2.2s								
CRPR	**Cabo Rojo, PR**	**1.41**	**93**	*iP*			**Pn**	**16 43 55.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.41**	**93**	*eS*			**Sn**	**16 44 15.2**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.41**	**93**	*ePg*			**Pn**	**16 43 55.6**	**+0.2**
CRPR				*eSg*			**Sn**	**16 44 16.1**	**-1.2**
CRPR				IAML				16 44 37.1	
	comp=N,41nm,2.0s								
MLPR	**Magueyes Islan**	**1.48**	**94**	*iP*			**Pn**	**16 43 56.2**	**+0.2**
MLPR	**Magueyes Islan**	**1.48**	**94**	*eS*			**Sn**	**16 44 17.9**	**-0.6**
MLPR	**Magueyes Islan**	**1.48**	**94**	*ePg*			**Pn**	**16 43 56.5**	**+0.5**
MLPR				*eSg*			**Sn**	**16 44 18.3**	**-0.2**
MLPR				IAML				16 44 49.8	
	comp=N,6.9nm,1.6s								
DR08	**Loma La Naviza**	**1.61**	**303**	*ePg*			**Pn**	**16 43 57.7**	**+0.2**
DR08				*eSg*			**Sn**	**16 44 20.4**	**-1.0**
DR08				IAML				16 44 51.6	
	comp=N,614nm,0.2s								
AOPR	**Arecibo Observ**	**1.77**	**81**				**Pn**	**16 43 59.5**	**+0.3**
AOPR	**Arecibo Observ**	**1.77**	**81**				**Sn**	**16 44 24.2**	**+0.1**
AOPR	**Arecibo Observ**	**1.77**	**81**	*iP*			**Pn**	**16 44 00.3**	**+1.1**
AOPR	**Arecibo Observ**	**1.77**	**81**	*eS*			**Sn**	**16 44 24.2**	**+0.1**
AOPR	**Arecibo Observ**	**1.77**	**81**	*ePg*			**Pn**	**16 43 59.3**	**+0.2**
AOPR				*eSg*			**Sn**	**16 44 23.3**	**-0.8**
AOPR				IAML				16 44 28.2	
	comp=N,50nm,0.2s								
CELP	**Cerrillos**	**1.91**	**90**				**Pn**	**16 44 01.9**	**+1.1**
CELP							**Sn**	**16 44 28.0**	**+0.9**
CELP	**Cerrillos**	**1.91**	**90**	IAML				16 44 32.7	
	comp=N,27nm,2.8s								
CELP	**Cerrillos**	**1.91**	**90**	*iP*			**Pn**	**16 44 01.9**	**+1.1**
CELP	**Cerrillos**	**1.91**	**90**	*eS*			**Sn**	**16 44 28.0**	**+0.9**
CELP	**Cerrillos**	**1.91**	**90**	*ePg*			**Pn**	**16 44 01.1**	**+0.3**
CELP				*eSg*			**Sn**	**16 44 26.7**	**-0.4**
CELP				IAML				16 44 32.0	
	comp=N,27nm,3.0s								
ECPR	**Experimental S**	**2.13**	**83**	*iP*			**Pn**	**16 44 03.5**	**+0.1**
ECPR	**Experimental S**	**2.13**	**83**	*eS*			**Sn**	**16 44 30.8**	**-0.8**
SJG	**San Juan**	**2.32**	**89**	Pn			**Pn**	**16 44 05.4**	**-0.2**
SJG				IAML				16 44 29.6	
	comp=N,31nm,0.3s								
SJG				IAML				16 44 34.1	
	comp=N,32nm,0.2s								

*DJA **16** 17:01:30.2±0.5, 7°.5±4°×12°.8E±°, h296km±11km, M4.2/15, mB4.6/1, mb4.2/7, MLv4.3/15, Mw(mB)3.9/1*
*IDC **16** 17:01:30.6±2.5, 6°.78S×128°.21E, h252km±32km, mb3.0/3, mbtmp4.2/8, Error ellipse: s-maj=27.4km s-min=20.2km az=43.0*
*NEIC **16** 17:01:31.0±2.6, 6°.79S±0°.06×128°.33E±0°.07, h248km±6km, mb4.3/6, Error ellipse: s-maj=10.1km s-min=8.4km az=96.0*
ISC 16 17:01:30.0±0.6, 6°.83S±0°.05×128°.30E±0°.05, h250km, n51, σ1§57/57, mb3.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BNDI	**Bandanaira**	**2.79**	**35**	P			**Pn**	**17 02 23.0**	**+2.7**
AAI	**Ambon**	**3.12**	**358**	P			**Pn**	**17 02 27.0**	**+3.1**
SAUI	**Saumlaki**	**3.19**	**111**	Pn			**Pn**	**17 02 22.9**	**-1.8**
SAUI				Sn			**S**	**17 03 09.3**	**+1.5**
SAUI	**Saumlaki**	**3.19**	**111**	P			**Pn**	**17 02 26.8**	**+2.2**
MSAI	**Masohi**	**3.52**	**10**	P			**Pn**	**17 02 31.2**	**+2.9**
NLAI	**Namlea**	**3.76**	**341**	P			**Pn**	**17 02 33.5**	**+2.5**
SOEI	**Soe**	**4.94**	**234**				**Pn**	**17 02 47.4**	**+2.2**
SOEI					Sn		**S**	**17 03 42.6**	**-2.4**
SOEI	**Soe**	**4.94**	**234**	P			**Pn**	**17 02 47.4**	**+2.2**
	46nm,0.8s								
SOEI	**Soe**	**4.94**	**234**	S			**S**	**17 03 46.2**	**+1.2**
	46nm,0.8s								
SOEI	**Soe**	**4.94**	**234**	P			**Pn**	**17 02 47.3**	**+2.2**
SANI	**Sanana**	**5.27**	**334**	P			**Pn**	**17 02 51.5**	**+2.3**
	36nm,0.7s								
FAKI	**Fak Fak**	**5.53**	**46**	Pn			**Pn**	**17 02 52.8**	**+0.4**
FAKI				Sn			**S**	**17 03 54.0**	**-4.2**
FAKI	**Fak Fak**	**5.53**	**46**	P			**Pn**	**17 02 52.5**	**+0.2**
	39nm,1.4s								
FAKI	**Fak Fak**	**5.53**	**46**	S			**S**	**17 03 56.3**	**-1.9**
	39nm,1.4s								
FAKI	**Fak Fak**	**5.53**	**46**	P			**Pn**	**17 02 52.6**	**+0.2**
	0.2nm40nm,1.4s								
BATI	**Baumata**	**5.68**	**233**	P			**Pn**	**17 02 55.7**	**+1.5**
	79nm,0.4s,baz=76,slow=3.0,SNR=34								
BATI				S			**S**	**17 04 00.9**	**-0.6**
	45nm,0.3s,baz=36,slow=23,SNR=12								
BATI	**Baumata**	**5.68**	**233**	P			**Pn**	**17 02 56.2**	**+2.0**
	0.4nm1μm104nm,0.7s								
DRS	**Darwin Rock St**	**6.13**	**155**	P			**Pn**	**17 03 01.8**	**+2.0**
	47nm,0.6s								
DRS	**Darwin Rock St**	**6.13**	**155**	S			**S**	**17 04 11.8**	**+0.1**
	47nm,0.6s								
KMPI	**Kaimna, Papua**	**6.24**	**60**	P			**Pn**	**17 03 01.5**	**+0.3**
MTN	**Manton Dam**	**6.60**	**155**				**Pn**	**17 03 06.7**	**+1.0**
MTN	**Manton Dam**	**6.60**	**155**	P			**Pn**	**17 03 07.0**	**+1.3**
MTN	**Manton Dam**	**6.60**	**155**	S			**S**	**17 04 22.5**	**+0.1**
EDFI	**Ende, Flores**	**6.82**	**253**	P			**Pn**	**17 03 10.8**	**+2.3**
KDU	**Kakadu**	**7.13**	**145**	P			**Pn**	**17 03 13.4**	**+1.0**
	7.7nm,0.6s								
KDU	**Kakadu**	**7.13**	**145**	S			**S**	**17 04 33.9**	**-0.7**
	7.7nm,0.6s								
BSSI	**Bau Bau, Buton**	**7.79**	**275**	P			**Pn**	**17 03 20.8**	**+0.1**
	58nm,1.9s								
RKPI	**Ransiki, Papua**	**7.89**	**48**	P			**Pn**	**17 03 22.4**	**+0.4**
	19nm,0.6s								
WSI	**Waingapu**	**8.40**	**250**	P			**Pn**	**17 03 28.6**	**+0.1**
KNRA	**Kununurra**	**8.81**	**177**	Pn			**Pn**	**17 03 34.9**	**+1.3**
TOLI2	**Tolitoli**	**10.88**	**316**	Pn			**Pn**	**17 04 00.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.50**	**193**	Pn			**Pn**	**17 04 06.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.50**	**193**	P			**Pn**	**17 04 08.0**	**+0.5**
	3.9nm,0.3s,baz=16,slow=5.9,SNR=38								
FITZ				S			**S**	**17 06 12.3**	**-3.6**
	2.5nm,0.4s,baz=105,slow=12,SNR=4.3								
FITZ	**Fitzroy Crossi**	**11.50**	**193**	P			**P**	**17 04 10.6**	**-0.5**
	16nm,2.2s								
JAY	**Jayapura**	**13.09**	**71**	P			**Pn**	**17 04 27.8**	**+0.6**
	3.8nm,0.6s,baz=258,slow=5.9,SNR=4.2								
WRAB	**Tennant Creek**	**14.29**	**156**	P			**P**	**17 04 42.3**	**+0.2**
WRA	**Warramunga Arr**	**14.30**	**156**				**Pn**	**17 04 40.6**	**-1.3**
WRA	**Warramunga Arr**	**14.30**	**156**	P			**Pn**	**17 04 42.0**	**+0.2**
	4.1nm,0.3s,baz=331,slow=12,SNR=73								
WRA				S			**S**	**17 07 19.2**	**-1.0**
	0.4nm,0.4s,baz=318,slow=28,SNR=4.7								
COEN	**Coen**	**16.25**	**117**	P			**Pn**	**17 05 05.2**	**-0.1**
COEN					IAmb	IAmb		17 05 12.2	
	comp=Z,12nm,1.1s								
COEN	**Coen**	**16.25**	**117**	P			**Pn**	**17 05 05.4**	**+0.1**
	comp=Z,15nm,1.1s								
COEN	**Coen**	**16.25**	**117**	S			**S**	**17 08 01.7**	**+0.4**
	comp=Z,15nm,1.1s								
MBWA	**Marble Bar**	**16.48**	**209**	P			**P**	**17 05 07.1**	**+0.9**
MBWA					IAmb	IAmb		17 05 27.6	
	comp=Z,23nm,1.4s								
PSA00	**Pilbara Seismi**	**16.78**	**208**	P			**P**	**17 05 10.3**	**+0.9**
PSA00					IAmb	IAmb		17 05 44.9	
	comp=Z,14nm,1.3s								
AS31	**Alice Springs**	**17.59**	**163**	P			**Pn**	**17 05 20.3**	**-0.5**
AS31					IAmb	IAmb		17 05 20.8	
	comp=Z,5.4nm,0.5s								
ASAR	**Alice Springs**	**17.59**	**163**	P			**Pn**	**17 05 20.1**	**-0.7**
	comp=Z,14nm,0.5s,baz=342,slow=12,SNR=404								
BBOO	**Buckleboo**	**26.84**	**165**	P			**P**	**17 06 48.7**	**+0.9**
KSRS	**Korea Array**	**44.05**	**360**	P			**P**	**17 09 13.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=178,slow=9.9,SNR=4.4								
	comp=Z,0.6nm,0.6s								
MJAR	**Matsushiro Arr**	**44.13**	**11**	P			**P**	**17 09 14.8**	**+0.8**
MKAR	**Makanchi Array**	**67.16**	**328**	P			**P**	**17 11 56.4**	**-0.8**
MKAR	**Makanchi Array**	**67.16**	**328**	P			**P**	**17 11 57.0**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=134,slow=7.9,SNR=5.4								
	comp=Z,0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**71.49**	**329**	P			**P**	**17 12 23.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=129,slow=5.4,SNR=4.3								
	comp=Z,0.3nm,0.5s								

*SJA **16** 17:09:20.8±0.5, 35°.73S×73°.81W, h29km±9km, ML3.6, MW4.0*
*GUC **16** 17:09:23.6±0.6, 35°.73S×73°.56W, h23km±4km, ML3.5*
ISC 16 17:09:20.6±2.2, 35°.71S±0°.06×73°.8W±0°.1, h11km±16km, n34, σ2§25/56, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BI05	**Punta Hualpn**	**1.15**	**155**	*eP*			**Pg**	**17 09 41.2**	**-1.5**
BI05				*eS*			**Sg**	**17 09 55.4**	**-2.3**
BI05				IAML				17 09 59.5	
	comp=E,2μm,0.4s								
GO05	**Hualane**	**1.68**	**66**	*eP*			**Pn**	**17 09 50.1**	**+0.2**
GO05				*eS*			**Sn**	**17 10 09.7**	**-1.8**
GO05				IAML				17 10 18.7	
	comp=N,761nm,0.1s								
BO03	**Pichilemu**	**1.93**	**52**	*eP*			**Pn**	**17 09 53.4**	**0.0**
BO03				*eS*			**Sn**	**17 10 15.6**	**-2.0**
BO03				IAML				17 10 30.9	
	comp=N,448nm,0.3s								
ML02	**Panimavida**	**1.94**	**92**	*eP*			**Pn**	**17 09 52.1**	**-1.4**
ML02				*eS*			**Sn**	**17 10 14.4**	**-3.4**
ML02				IAML				17 10 20.6	
	comp=E,1μm,0.5s								
BO01	**Tunca**	**2.58**	**60**	*eP*			**Pn**	**17 10 02.6**	**+0.2**
BO01				*eS*			**Sn**	**17 10 32.1**	**-1.7**
BO01				IAML				17 10 48.2	
	comp=N,165nm,0.1s								
BO01	**Tunca**	**2.58**	**60**	*eP*			**Pn**	**17 10 03.2**	**+0.8**
BO01				*eS*			**Sn**	**17 10 35.2**	**+1.4**
BO01				*eS*			**Sb**	**17 10 35.7**	**-3.0**
BO01				IAML				17 10 43.7	
	comp=Z,180nm,0.9s								
BO02	**Sierra Bellavi**	**2.63**	**71**	*eP*			**Pn**	**17 10 03.3**	**+0.1**
BO02				*eS*			**Sn**	**17 10 33.0**	**-2.1**
BO02	**Sierra Bellavi**	**2.63**	**71**	*eP*			**Pn**	**17 10 04.1**	**+1.0**
BO02				*eS*			**Sn**	**17 10 36.2**	**+1.1**
BO02				IAML				17 10 45.6	
	comp=Z,492nm,0.3s								
MT01	**Popeta**	**2.79**	**49**	*eP*			**Pn**	**17 10 05.4**	**+0.2**
MT01				IAML				17 10 56.9	
	comp=E,140nm,0.3s								
MT09	**Talagante**	**3.01**	**51**	*eP*			**Pn**	**17 10 08.8**	**+0.4**
MT09				*eS*			**Sn**	**17 10 43.6**	**-0.9**
MT09				IAML				17 11 04.5	
	comp=E,301nm,0.4s								
CANA	**Caviahue**	**3.09**	**136**	*eP*			**Pn**	**17 10 10.6**	**+1.1**
CANA				*eS*			**Sg**	**17 11 06.4**	**+6.5**
BO04	**La Punta**	**3.13**	**58**	*eP*			**Pn**	**17 10 10.8**	**+0.8**
BO04				*eS*			**Sn**	**17 10 45.8**	**-1.6**
BO04				IAML				17 11 01.7	
	comp=N,167nm,0.6s								
MT02	**Curacav**	**3.28**	**43**	*iP*			**Pn**	**17 10 12.3**	**+0.3**
MT02				IAML				17 11 18.6	
	comp=E,47nm,0.5s								
MT12	**Pirque**	**3.32**	**55**	*eP*			**Pn**	**17 10 13.6**	**+1.0**
MT12				*eS*			**Sn**	**17 10 50.9**	**-1.3**
LMEL	**Las Melosas**	**3.49**	**59**	*eP*			**Pn**	**17 10 15.9**	**+0.9**
LMEL				IAML				17 11 17.5	
	comp=N,209nm,0.7s								
MT13	**San Alfonso**	**3.49**	**57**	*eP*			**Pn**	**17 10 15.9**	**+1.0**
MT13				IAML				17 11 16.9	
	comp=E,133nm,0.3s								
MT03	**Universidad Ad**	**3.49**	**52**	*eP*			**Pn**	**17 10 16.8**	**+1.7**
MT03				*eS*			**Sn**	**17 10 58.2**	**+1.8**
MT03				*eS*			**Sb**	**17 11 00.3**	**-4.8**
MT03				IAML				17 11 25.9	
	comp=Z,113nm,0.5s								
MT14	**Cerro Cal¡n**	**3.54**	**50**	*eP*			**Pn**	**17 10 16.5**	**+0.8**
ROC1	**El Roble**	**3.56**	**41**	*eP*			**Pn**	**17 10 17.6**	**+1.5**
ROC1				*eS*			**Sn**	**17 10 60.0**	**+1.5**
ROCH	**El Roble**	**3.57**	**41**	*eP*			**Pn**	**17 10 17.2**	**+1.0**
ROCH				IAML				17 11 32.1	
	comp=N,167nm,0.3s								
PEL	**Peldehue**	**3.62**	**46**	*eP*			**Pn**	**17 10 18.6**	**+1.8**
PEL				*eS*			**Sn**	**17 11 00.3**	**+0.7**
PEL				IAML				17 11 28.1	
	comp=Z,76nm,1.2s								
VA03	**San Esteban**	**3.98**	**43**	*eP*			**Pn**	**17 10 23.5**	**+1.8**
VA03				*eS*			**Sn**	**17 11 08.7**	**+0.3**
VA03				IAML				17 11 40.2	
	comp=Z,89nm,0.8s								
GO06	**Curarrehue**	**4.29**	**155**	*eP*			**Pn**	**17 10 27.3**	**+1.4**
GO06	**Curarrehue**	**4.29**	**155**	*eP*			**Pn**	**17 10 27.6**	**+1.6**
GO06				*eS*			Sn	17 10 57.1	-19
RFA	**San Rafael**	**4.46**	**79**	*eP*			**Pn**	**17 10 30.4**	**+2.1**
RFA				*eS*			**Sb**	**17 11 35.7**	**+2.8**
RFA				IAML				17 11 41.2	
	comp=Z,58nm,0.6s								
AAGR	**Agrelo**	**4.87**	**59**	*eP*			**Pn**	**17 10 36.9**	**+3.0**
ARCO	**CERRO ARCO**	**4.94**	**56**	*eP*			**Pn**	**17 10 38.1**	**+3.2**
ARCO				IAML				17 12 01.0	
	comp=Z,33nm,0.8s								
AUSP	**Uspallata**	**5.05**	**48**	*eP*			**Pn**	**17 10 39.5**	**+3.0**
ASAL	**Salagasta**	**5.15**	**54**	*eP*			**Pn**	**17 10 36.2**	**-1.6**
ASAL				*eP*			Pb	17 10 41.1	-10
RTLS	**Leoncito**	**5.41**	**45**	*eP*			**Pn**	**17 10 39.2**	**-2.3**
RTLS				*eP*			Pb	17 10 44.4	-11
RTLS				*eS*			**Sn**	**17 11 39.2**	**-4.7**
RTLS				IAML				17 12 24.1	
	comp=Z,78nm,2.0s								
PLCA	**Paso Flores**	**5.63**	**154**	*eP*			**Pn**	**17 10 45.8**	**+1.4**
PLCA				IAML				17 12 40.1	
	comp=Z,19nm,4.7s								
ZON	**Zonda**	**5.95**	**47**	*eP*			**Pn**	**17 10 51.1**	**+2.3**
ZON				IAML				17 12 44.5	
	comp=Z,12nm,0.8s								
RTLL	**Cerro Villicun**	**6.23**	**47**	*eP*			**Pn**	**17 10 54.4**	**+1.8**
RTLL				*eS*			**Sn**	**17 12 07.1**	**+3.3**
ACCO	**Cerro Coronel**	**6.46**	**39**	*eP*			**Pn**	**17 10 58.5**	**+2.5**
ACCO				*eS*			**Sn**	**17 12 14.1**	**+4.1**

*SNET **16** 17:28:56.9±1.1, 13°.07N×89°.31W, h44km, ML3.3*
**CATAC 16 17:28:57.2±0.5, 13°N±3°×8°9W±°, h31km±3km, M3.4/15, MLv3.

HHAR	**Hobbs**	**1.64**	**45**		Pn	17 44 16.0	+0.2
HHAR					Sb	17 44 38.0	0.0
FNO	**Franklin**	**1.66**	**275**		Pn	17 44 15.3	-1.0
FNO					Sg	17 44 39.6	-0.2
ADOK	**Arcadia Dam**	**1.71**	**288**		Pn	17 44 15.6	-1.2
LOOK	**Love County**	**1.88**	**233**	Pn	Pn	17 44 18.9	-0.3
LOOK					Pb	17 44 19.0	-2.1
LOOK					Sg	17 44 46.5	-0.2
Z38A	**Mt. Pleasant**	**1.90**	**170**		Pn	17 44 18.3	-1.1
Z38A					Sb	17 44 46.4	+0.8
T35A	**Sooner Cattle**	**2.00**	**333**		Pn	17 44 19.8	-1.1
T35A					Sb	17 44 48.6	+0.1
X40A	**Basin Creek Fa**	**2.19**	**106**		Pn	17 44 24.1	+0.6
BLOK	**Blackwell**	**2.20**	**318**		Pn	17 44 22.6	-1.1
WLAR	**White Oak Lake**	**2.37**	**127**		Pn	17 44 26.0	+0.2
Z35A	**Perchaven, San**	**2.38**	**221**		Pn	17 44 26.1	0.0
TREL	**Terrell**	**2.47**	**194**	Pn	Pn	17 44 26.9	-0.5
TREL				IAmb_Lg		17 45 10.2	
	comp=Z,27nm,0.8s						
UALR	**University of**	**2.52**	**97**		Pn	17 44 28.5	+0.6
UALR				IAmb_Lg		17 45 06.2	
	comp=Z,42nm,0.9s						
CROK	**Carrier**	**2.52**	**304**		Pn	17 44 27.7	-0.3
WHAR	**Wooly Hollow**	**2.53**	**86**		Pn	17 44 28.7	+0.5
GC02	**Grant County #**	**2.64**	**311**	Pn	Pn	17 44 28.9	-0.8
FCAR	**Ozark Folk Cen**	**2.76**	**73**		Pn	17 44 31.0	-0.3
FW06	**Azle**	**2.82**	**221**	Pn	Pn	17 44 31.9	-0.2
WMOK	**Wichita Mounta**	**2.83**	**263**		Pn	17 44 31.8	-0.5
WMOK	**Wichita Mounta**	**2.83**	**263**		Pn	17 44 32.4	+0.1
WMOK				IAmb_Lg		17 45 18.9	
	comp=Z,8.9nm,0.8s						
Z41A	**Richland Creek**	**2.84**	**131**	Pn	Pn	17 44 32.9	+0.5
WTFS	**Witchita Falls**	**2.90**	**243**	Pn	Pn	17 44 33.5	+0.4
OK038	**West end E0370**	**3.05**	**297**		Pn	17 44 36.0	+0.7
237A	**Washetta, Mont**	**3.15**	**187**	Pn	Pn	17 44 37.5	+0.9
237A				IAmb_Lg		17 45 34.3	
	comp=Z,21nm,0.9s						
MGMO	**Mountain Grove**	**3.22**	**50**		Pn	17 44 38.5	+0.9
MGMO				IAmb_Lg		17 45 33.6	
	comp=Z,17nm,0.7s						
PLPT	**Palo Pinto**	**3.37**	**227**		Pn	17 44 39.9	+0.2
ELIS	**Ellis County**	**3.42**	**287**	Pn	Pn	17 44 41.9	+1.4
LCAR	**Lake Charles**	**3.56**	**74**	Pn	Pn	17 44 43.4	+1.1
LCAR				IAmb_Lg		17 45 42.9	
	comp=Z,16nm,1.1s						
SMWD	**Samnorwood**	**3.99**	**271**	IAmb_Lg		17 46 03.5	
	comp=Z,19nm,0.8s						
R40A	**Maddies Statio**	**4.02**	**38**		Pn	17 44 48.3	-0.3
R40A				IAmb_Lg		17 45 56.5	
	comp=Z,25nm,0.8s						
R32A	**Long Quarter,**	**4.23**	**322**		Pn	17 44 50.4	-1.2
PBMO	**Poplar Bluff**	**4.33**	**66**	Pn	Pn	17 44 53.7	+0.8
PBMO				IAmb_Lg		17 46 09.7	
	comp=Z,16nm,0.8s						
CCM	**Cathedral Cave**	**4.42**	**48**		Pn	17 44 54.4	+0.3
CCM				IAmb_Lg		17 46 09.7	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**4.42**	**48**		Pn	17 44 54.3	+0.2
P38A	**Dawn**	**4.71**	**18**	Pn	Pn	17 44 55.9	-2.3
P38A				IAmb_Lg		17 46 15.2	
	comp=Z,14nm,0.7s						
441A	**DeRidder**	**4.75**	**157**	Pn	Pn	17 44 56.7	-1.9
DKNS	**Dickens**	**4.81**	**254**	Pn	Pn	17 44 57.9	-1.7
FVM	**French Village**	**4.89**	**53**	Pn	Pn	17 44 57.6	-3.1
FVM				IAmb_Lg		17 46 24.7	
	comp=Z,11nm,0.9s						
BRDY	**Brady**	**4.89**	**219**		Pn	17 45 00.0	-0.7
OXF	**Oxford**	**4.95**	**96**	Pn	Pn	17 45 00.1	-1.3
SN07	**Snyder 07**	**5.01**	**248**	Pn	Pn	17 44 59.1	-3.2
CGM3	**Cape Girardeau**	**5.10**	**63**	Pn	Pn	17 44 59.5	-4.0
P40A	**Paris**	**5.12**	**30**	Pn	Pn	17 44 59.7	-4.1
AMTX	**Amarillo**	**5.18**	**269**	Pn	Pn	17 45 02.2	-2.4
S44A	**Carbondale**	**5.56**	**61**	IAmb_Lg		17 46 49.7	
	comp=Z,11nm,0.7s						
SIUC	**Southern Illin**	**5.59**	**61**	Pn	Pn	17 45 08.2	-2.0
SIUC				IAmb_Lg		17 46 48.7	
	comp=Z,13nm,0.9s						
N38A	**Joes South For**	**5.89**	**16**	Pn	Pn	17 45 12.6	-1.8
PLAL	**Pickwick Lake**	**5.99**	**89**	Pn	Pn	17 45 12.5	-3.2
RTBA	**Rita Blanca**	**6.12**	**284**	Pn	Pn	17 45 14.2	-3.4
Q44A	**Meyer Farm, Va**	**6.33**	**52**	IAmb_Lg		17 47 10.7	
	comp=Z,14nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.47**	**44**	IAmb_Lg		17 47 11.3	
	comp=Z,12nm,1.0s						
KSCO	**Kaye Shedlock'**	**6.97**	**306**	IAmb_Lg		17 47 38.3	
	comp=Z,9.6nm,0.7s						
SCIA	**State Center**	**6.97**	**13**	IAmb_Lg		17 47 30.0	
	comp=Z,12nm,0.8s						
HDIL	**Hopedale**	**7.24**	**40**	IAmb_Lg		17 47 42.6	
	comp=Z,15nm,0.7s						
T25A	**Trinidad**	**7.58**	**288**	IAmb_Lg		17 47 57.6	
	comp=Z,11nm,0.7s						
Q24A	**Divide**	**8.70**	**299**	IAmb_Lg		17 48 33.5	
	comp=Z,4.3nm,0.8s						

*IDC **16** 17:43:27.4±5.2, 14°.37S×167°.94E, h0km, mb4.3/6, mbtmp4.2/6, Error ellipse: s-maj=132.1km s-min=33.2km az=17.0*
*NEIC **16** 17:43:46.7±1.6, 15°.2S±0°.1×167°.68E±0°.07, h121km±4km, mb4.4/25, Error ellipse: s-maj=15.3km s-min=8.7km az=162.0*
*NOU **16** 17:43:48.6, 15°.24S×167°.45E, h112km, MLv4.7/32, Vanuatu Islands*
ISC 16 17:43:48.0±0.9, 15°.21S±0°.06×167°.5E±0°.1, h129km, n63, σ1§11/67, mb4.3/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.35**	**227**		**Pn**	**17 44 04.8**	**-1.5**
SANVU				Sn	**Sn**	**17 44 18.4**	**-1.6**
SANVU	**Saraoutou**	**0.35**	**227**	P	**Pn**	**17 44 05.2**	**-1.1**
SANVU	**Saraoutou**	**0.35**	**227**	S	**Sn**	**17 44 18.5**	**-1.6**
VLAKA	**Lakatoro**	**0.90**	**183**	P	**Pn**	**17 44 09.0**	**-0.9**
VLAKA	**Lakatoro**	**0.90**	**183**	P	**Sn**	**17 44 26.5**	**0.0**
DVP	**Devils Point**	**2.60**	**165**	P	**Pn**	**17 44 29.6**	**+0.2**
DVP	**Devils Point**	**2.60**	**165**	S	**Sn**	**17 45 01.8**	**+0.5**
LUES	**Luesalemba Tem**	**4.77**	**341**	P	**Pn**	**17 44 59.6**	**+1.6**
LUES	**Luesalemba Tem**	**4.77**	**341**	S	**Sn**	**17 45 54.6**	**+2.1**
DZM	**Mont Dzumac**	**6.90**	**188**		**Pn**	**17 45 26.6**	**-0.1**
DZM				Sn	**Sn**	**17 46 43.2**	**-0.7**
DZM	**Mont Dzumac**	**6.90**	**188**	P	**Pn**	**17 45 26.6**	**-0.1**
DZM	**Mont Dzumac**	**6.90**	**188**	S	**Sn**	**17 44 44.6**	**+0.7**
ONTNC	**Ouen Toro**	**7.13**	**188**		**Pn**	**17 45 29.6**	**-0.1**
ONTNC				Sn	**Sn**	**17 46 47.4**	**-1.9**
ONTNC	**Ouen Toro**	**7.13**	**188**	P	**Pn**	**17 45 29.9**	**+0.1**
ONTNC	**Ouen Toro**	**7.13**	**188**	S	**Sn**	**17 46 49.2**	**-0.2**
OUENC	**Ouen Island, N**	**7.20**	**185**	P	**Pn**	**17 45 31.4**	**+0.7**
OUENC	**Ouen Island, N**	**7.20**	**185**	S	**Sn**	**17 46 50.1**	**-0.9**
PINNC	**Pines Island,**	**7.37**	**180**	Pn	**Pn**	**17 45 31.2**	**-1.8**
PINNC				Sn	**Sn**	**17 46 53.0**	**-2.1**
PINNC	**Pines Island,**	**7.37**	**180**	P	**Pn**	**17 45 33.1**	**+0.1**
PINNC	**Pines Island,**	**7.37**	**180**	S	**Sn**	**17 46 54.9**	**-0.2**
EIDS	**Eidsvold**	**18.38**	**234**		**Pn**	**17 47 55.5**	**+0.9**
EIDS				IAmb	IAmb	17 47 56.4	
	comp=Z,14nm,0.6s						
EIDS	**Eidsvold**	**18.38**	**234**	P	**Pn**	**17 47 55.2**	**+0.5**
RABL	**Rabaul**	**18.62**	**304**	P	**P**	**17 47 53.9**	**-1.9**
RMQ	**Roma**	**20.75**	**234**	P	**P**	**17 48 20.2**	**+1.5**
CTAO	**Charters Tower**	**20.79**	**253**	P	**P**	**17 48 20.4**	**+1.2**
CTAO				IAmb	IAmb	17 48 35.9	
	comp=Z,17nm,1.2s						
ARMA	**Armidale**	**21.00**	**221**	P	**P**	**17 48 21.8**	**+0.4**
ARMA				IAmb	IAmb	17 48 25.6	
	comp=Z,19nm,1.2s						
ARMA	**Armidale**	**21.00**	**221**	P	**P**	**17 48 22.7**	**+1.3**
MTSU	**Mount Surprise**	**22.37**	**259**	P	**P**	**17 48 37.4**	**+1.6**
COEN	**Coen**	**23.55**	**270**	P	**P**	**17 48 46.5**	**-0.4**
COEN				IAmb	IAmb	17 49 17.8	
	comp=Z,22nm,1.4s						
RTZ	**Ruatahuna**	**24.78**	**162**	P	**P**	**17 48 56.6**	**-1.4**
RTZ				IAmb	IAmb	17 48 58.8	
	comp=Z,29nm,1.3s						
BKZ	**Black Stump Fm**	**25.15**	**163**	P	**P**	**17 48 59.5**	**-1.8**
BKZ				IAmb	IAmb	17 49 21.4	
	comp=Z,20nm,1.3s						
BKZ	**Black Stump Fm**	**25.15**	**163**	P	**P**	**17 49 02.3**	**+1.0**
CMSA	**Cobar Meteorol**	**25.69**	**227**	P	**P**	**17 49 07.5**	**+1.3**
BFZ	**Birch Farm**	**26.51**	**165**	P	**P**	**17 49 11.1**	**-2.3**
QIS	**Mount Isa**	**27.03**	**255**	P	**P**	**17 49 20.4**	**+2.0**
CMWZ	**Cape Campbell**	**27.08**	**169**	P	**P**	**17 49 18.2**	**-0.4**
INKA	**Innaminka**	**27.75**	**239**	P	**P**	**17 49 25.7**	**+1.0**
LTZ	**Lake Taylor**	**27.79**	**172**	P	**P**	**17 49 24.6**	**-0.2**
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**17 49 35.4**	**+1.0**
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**17 49 35.3**	**+1.0**
	comp=Z,2.6nm,0.4s,baz=58,slow=9.8,SNR=12						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**28.84**	**230**	P	**P**	**17 49 35.4**	**+1.0**
GEXS	**Deakin Univers**	**30.71**	**217**	P	**P**	**17 49 52.6**	**+1.8**
WR8	**Warramunga Arr**	**31.75**	**257**	P	**P**	**17 49 59.6**	**-0.6**
WRA	**Warramunga Arr**	**31.90**	**257**	P	**P**	**17 50 00.0**	**-1.5**
WRA	**Warramunga Arr**	**31.90**	**257**	P	**P**	**17 50 00.3**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=83,slow=7.8,SNR=38						
	comp=Z,2.7nm,0.7s						
AS31	**Alice Springs**	**32.69**	**250**	P	**P**	**17 50 08.1**	**-0.2**
AS31				IAmb	IAmb	17 50 09.4	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**17 50 07.8**	**-0.6**
ASAR	**Alice Springs**	**32.69**	**250**	P	**P**	**17 50 08.3**	**0.0**
	comp=Z,6.9nm,0.4s,baz=77,slow=9.0,SNR=406						
	comp=Z,6.9nm,0.4s						
BBOO	**Buckleboo**	**33.45**	**233**	P	**P**	**17 50 15.8**	**+1.0**
BBOO	**Buckleboo**	**33.45**	**233**	P	**P**	**17 50 16.0**	**+1.2**
FAKI	**Fak Fak**	**36.79**	**286**	P	**P**	**17 50 44.3**	**+0.7**
KNRA	**Kununurra**	**37.28**	**264**	P	**P**	**17 50 47.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.12**	**260**	P	**P**	**17 51 11.6**	**+0.1**
PSA00	**Pilbara Seismi**	**45.50**	**255**	P	**P**	**17 51 55.0**	**+0.1**
PSA00				IAmb	IAmb	17 52 03.1	
	comp=Z,5.1nm,1.2s						
PSA00	**Pilbara Seismi**	**45.50**	**255**	P	**P**	**17 51 55.0**	**+0.1**
MBWA	**Marble Bar**	**45.61**	**255**	P	**P**	**17 51 56.3**	**+0.6**
MBWA				IAmb	IAmb	17 52 02.7	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**49.24**	**245**	P	**P**	**17 52 24.2**	**+0.4**
KKM	**Kota Kinabalu**	**55.00**	**289**	P	**P**	**17 53 06.4**	**-0.2**
VNDA	**Vanda**	**62.39**	**181**	P	**P**	**17 53 56.1**	**-0.5**
VNDA				IAmb	IAmb	17 54 23.9	
	comp=Z,4.0nm,1.4s						
VNDA	**Vanda**	**62.39**	**181**	P	**P**	**17 53 56.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=356,slow=7.4,SNR=1.8						
	comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**	**17 55 15.1**	**+0.9**
QSPA				IAmb	IAmb	17 55 53.9	
	comp=Z,8.1nm,1.4s						
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**	**17 55 15.0**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=6.2,slow=1.1,SNR=14						
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**93.08**	**183**	P	**P**	**17 56 46.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=169,slow=16,SNR=6.9						
	comp=Z,0.5nm,0.5s						

*IDC **16** 17:44:49.4±17.0, 36°.43N×71°.22E, h230km±157km, mb3.0/5, mbtmp3.6/7, Error ellipse: s-maj=103.4km s-min=23.2km az=34.0*
ISC 16 17:44:46.8±1.3, 36°.6N±0°.1×71°.4E±0°.2, h200km, n8, σ1§15/8, mb3.2/5, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.52**	**21**	S	**Sn**	**17 47 35.3**	**-0.2**
	4.8nm,0.5s,baz=221,slow=21,SNR=4.2						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**P**	**17 47 49.1**	**+1.1**
	0.6nm,0.7s,baz=212,slow=12,SNR=5.3						
ZALV	**Zalesovo Beam**	**19.73**	**24**	P	**Pn**	**17 49 03.4**	**-1.5**
	0.7nm,0.3s,baz=216,slow=10,SNR=5.4						
ARCES	**ARCESS Array B**	**41.21**	**337**	P	**P**	**17 52 12.1**	**+0.6**
	0.8nm,0.7s,baz=123,slow=8.8,SNR=4.4						
	0.8nm,0.7s						
HFS	**Hagfors**	**43.22**	**322**	P	**P**	**17 52 27.5**	**-0.3**
	1.9nm,0.7s,baz=84,slow=13,SNR=2.3						
	1.9nm,0.7s						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**17 52 37.9**	**-0.3**
	0.4nm,0.6s,baz=96,slow=7.8,SNR=1.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**17 56 42.0**	**-1.2**
	0.6nm,1.1s,baz=324,slow=4.9,SNR=5.3						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**17 56 55.9**	**+0.9**
	0.1nm,0.6s,baz=305,slow=4.8,SNR=4.5						
	0.1nm,0.6s						

*SJA **16** 17:49:50.1±0.9, 29°.48S×71°.62W, h16km±3km, ML3.7, MW3.6*
*GUC **16** 17:49:54.2±0.7, 29°.51S×71°.38W, h55km±2km, ML3.6*
ISC 16 17:49:50.6±1.6, 29°.46S±0°.02×71°.53W±0°.05, h4km±11km, n36, σ1§91/67, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.52**	**151**	*eP*	**Pn**	**17 50 05.1**	**+0.1**
CO05				*eS*	**Sn**	**17 50 12.6**	**-1.7**
CO05				IAML		17 50 13.6	
	comp=N,4μm,0.3s						
LCO	**Las Campanas**	**0.85**	**59**	*eP*	**Pn**	**17 50 09.3**	**-0.5**
LCO				*eS*	**Sb**	**17 50 20.6**	**+0.6**
LCO	**Las Campanas**	**0.85**	**59**	*eP*	**Pn**	**17 50 09.2**	**-0.5**
LCO				*eS*	**Sn**	**17 50 21.4**	**-1.3**
LCO				IAML		17 50 21.7	
	comp=Z,5μm,0.5s						
GO04	**Tololo Observa**	**0.95**	**138**	*eP*	**Pb**	**17 50 10.6**	**+0.7**
GO04				*eS*	**Sg**	**17 50 22.3**	**+0.9**
GO04	**Tololo Observa**	**0.95**	**138**	*eP*	**Pg**	**17 50 10.0**	**+1.1**
GO04				*eS*	**Sb**	**17 50 23.6**	**+0.6**
GO04				IAML		17 50 23.9	
	comp=Z,3μm,0.3s						
CO06	**Fray Jorge**	**1.21**	**184**	*eP*	**Pn**	**17 50 14.8**	**+0.3**
CO06				*eS*	**Sb**	**17 50 30.4**	**+0.1**
AC04	**Llanos de Chal**	**1.31**	**18**	*eP*	**Pb**	**17 50 16.9**	**+1.0**
AC04				*eS*	**Sn**	**17 50 33.6**	**-0.2**
AC04				IAML		17 50 37.9	
	comp=E,2μm,0.2s						
AC04	**Llanos de Chal**	**1.31**	**18**	*eP*	**Pn**	**17 50 16.2**	**+0.4**
AC04				*eS*	**Sn**	**17 50 33.6**	**-0.2**
AC04				IAML		17 50 37.9	
	comp=Z,990nm,0.2s						
CO01	**Juntas del Tor**	**1.35**	**113**	*eP*	**Pb**	**17 50 16.9**	**+0.2**
CO01				*eS*	**Sb**	**17 50 32.9**	**-1.6**
CO01				IAML		17 50 34.3	
	comp=N,2μm,0.3s						
CO01	**Juntas del Tor**	**1.35**	**113**	*eP*	**Pb**	**17 50 17.2**	**+0.5**
CO01				*eS*	**Sb**	**17 50 33.7**	**-0.8**
CO01				IAML		17 50 33.8	
	comp=Z,2μm,0.2s						
CO03	**El Pedregal**	**1.56**	**152**	*eP*	**Pn**	**17 50 19.2**	**0.0**
CO03				*eS*	**Sn**	**17 50 37.5**	**-2.5**
CO03				IAML		17 50 39.1	
	comp=N,1μm,0.2s						
CO03	**El Pedregal**	**1.56**	**152**	*eP*	**Pn**	**17 50 19.4**	**+0.1**
CO03				*eS*	**Sn**	**17 50 39.1**	**-0.8**
CO02	**Combarbal**	**1.80**	**165**	*eP*	**Pn**	**17 50 22.8**	**+0.2**
CO02				*eS*	**Sn**	**17 50 43.6**	**-2.4**
CO02				IAML		17 51 01.3	
	comp=N,1μm,0.2s						
CO02	**Combarbal**	**1.80**	**165**	*eP*	**Pn**	**17 50 22.9**	**+0.2**
CO02				*eS*	Sn	17 50 31.4	-15
CO02				IAML		17 50 56.8	
	comp=Z,363nm,0.3s						
AROD	**Rodeo**	**1.92**	**112**	*eP*	**Pb**	**17 50 26.6**	**+0.1**
AROD				*eS*	**Sb**	**17 50 50.5**	**-0.5**
GO03	**Copiapo**	**2.18**	**32**	*eP*	**Pn**	**17 50 28.9**	**+1.0**
GO03				*eS*	**Sn**	**17 50 54.7**	**-0.6**
GO03				IAML		17 51 06.2	
	comp=N,594nm,0.3s						
GO03	**Copiapo**	**2.18**	**32**	*eP*	**Pn**	**17 50 28.8**	**+1.0**
GO03				*eP*		17 50 29.4	
GO03				*eS*	**Sb**	**17 50 58.1**	**0.0**
GO03				IAML		17 51 05.2	
	comp=Z,369nm,0.6s						
AC06	**Mina Casimiro**	**2.34**	**27**	*eP*	**Pn**	**17 50 30.8**	**+0.8**
AC06				*eS*	**Sn**	**17 50 58.7**	**-0.4**
ACCO	**Cerro Coronel**	**2.42**	**118**	*eP*	**Pb**	**17 50 34.0**	**-0.9**
ACCO				*eS*	**Sg**	**17 51 07.3**	**-1.1**
AGUA	**GUANDACOL**	**2.65**	**91**	*eP*	**Pb**	**17 50 37.7**	**-1.1**
AGUA				*eS*	**Sg**	**17 51 17.3**	**+1.5**
AGUA				IAML		17 51 19.8	
	comp=Z,260nm,0.7s						
VCA	**Vinchina**	**3.00**	**77**	*eP*	**Pb**	**17 50 42.9**	**-1.9**
VCA				*eP*		17 50 43.5	
VCA				*eS*	**Sg**	**17 51 26.4**	**-0.6**
VCA				IAML		17 51 29.9	
	comp=Z,234nm,0.6s						
VA06	**Catapilco**	**3.10**	**176**	*eP*	**Pn**	**17 50 40.5**	**+0.2**
VA06				IAML		17 51 32.6	
	comp=E,298nm,0.7s						
AC02	**Maricunga**	**3.37**	**40**	*eP*	**Pn**	**17 50 46.4**	**+1.9**
AC02				*eP*		17 50 46.9	
AC02				*eS*	**Sb**	**17 51 29.9**	**-2.8**
AC02				IAML		17 51 42.1	
	comp=Z,163nm,0.5s						
AC01	**Pan de Azucar**	**3.40**	**14**	*eP*	**Pn**	**17 50 44.2**	**-0.3**
AC01				*eS*	**Sb**	**17 51 29.4**	**-3.8**
AC01				IAML		17 51 45.0	
	comp=Z,95nm,0.8s						
CFA	**Coronel Fontan**	**3.56**	**128**	*eP*	**Pn**	**17 50 48.5**	**+1.8**
CFA				*eS*	**Sb**	**17 51 35.2**	**-2.6**
AVFE	**Valle Fertil**	**3.73**	**110**	*eP*	**Pn**	**17 50 50.9**	**+1.8**
AVFE				*eS*	**Sg**	**17 51 46.9**	**-3.6**
AVFE				IAML		17 51 53.5	
	comp=Z,117nm,1.4s						
MT02	**Curacav**	**3.80**	**175**	*eP*	**Pn**	**17 50 50.3**	**+0.2**
MT02				*eS*	**Sn**	**17 51 39.4**	**+4.1**
ASAL	**Salagasta**	**3.89**	**144**	*eP*	**Pn**	**17 50 50.9**	**-0.4**
ASAL				*eP*		17 50 55.2	
ASAL				*eS*	**Sb**	**17 51 42.4**	**-4.9**
ACLC	**CERRO LA CRUZ**	**3.99**	**91**	*eP*	**Pn**	**17 50 54.6**	**+1.7**
ACLC				*eS*	**Sn**	**17 51 43.5**	**+3.2**
ACLC				IAML		17 51 50.2	
	comp=Z,49nm,0.6s						
MT04	**Ro Olivares**	**4.11**	**164**	*eP*	**Pn**	**17 50 54.4**	**-0.1**
MT04				*eP*		17 50 58.1	
MT04				*eS*	**Sn**	**17 51 47.0**	**+3.8**
MT04				*eS*		17 51 50.9	
MT04				IAML		17 52 00.6	
	comp=Z,42nm,0.9s						
MT01	**Popeta**	**4.40**	**177**	*eP*	**Pn**	**17 50 58.9**	**+0.6**
APLL	**PUNTA DE LOS L**	**4.44**	**103**	*eP*	**Pn**	**17 51 00.3**	**+1.4**
APLL				*eS*	**Sn**	**17 51 50.3**	**-0.8**
APLL				*eS*		17 51 50.7	
ACHE	**Chepes**	**4.54**	**113**	*eP*	**Pn**	**17 51 02.0**	**+1.7**
ACHE				*eS*	**Sb**	**17 52 02.4**	**-3.7**
ACAN	**Cantantal**	**4.67**	**128**	*eP*	**Pn**	**17 51 03.0**	**+1.0**
ACAN				IAML		17 52 26.8	
	comp=Z,147nm,0.6s						
BO01	**Tunca**	**4.93**	**176**	*eP*	**Pn**	**17 51 07.3**	**+1.7**
CYA	**Choya**	**5.12**	**80**	*eP*	**Pn**	**17 51 11.2**	**+2.9**
CYA				*eS*	**Sn**	**17 52 14.1**	**+6.2**

*TRN **16** 18:04:38.6, 10°.50N×62°.59W, h77km, MD2.9, Gulf of Paria.*
*FUNV **16** 18:04:46.4, 10°.06N×63°.19W, h8km, MW2.7*
ISC 16 18:04:33.9±2.3, 10°.34N±0°.09×62°.56W±0°.08, h123km±23km, n11, σ2§63/19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**1.05**	**70**	*eP*	**Pn**	**18 04 58.1**	**+1.4**
DMDM				*eS*	**Sn**	**18 05 12.6**	**-1.4**
PSMG	**Mucurapo Girls**	**1.06**	**72**	*eS*	**Sn**	**18 05 11.9**	**-2.3**
PSKH	**Kent House, Po**	**1.07**	**72**	*eP*	**Pn**	**18 04 57.5**	**+0.6**
PSKH				*eS*	**Sn**	**18 05 13.2**	**-1.2**
TRN	**Trinidad (W)**	**1.18**	**75**	*eP*	**Pn**	**18 05 00.4**	**+2.4**
TRN				*eS*	**Sn**	**18 05 15.9**	**-0.4**
GRGR	**Grenville**	**1.99**	**26**	*eP*	**Pn**	**18 05 08.4**	**+1.0**
GRGR				*eS*	**Sn**	**18 05 30.7**	**-2.5**
GRW	**Mount Saint Ca**	**2.01**	**26**	*eP*	**Pn**	**18 05 09.7**	**+1.9**
GRW				*eS*	**Sn**	**18 05 32.0**	**-1.8**
PCRV	**Puerto La Cruz**	**2.05**	**266**	*eP*	**Pn**	**18 05 11.1**	**+2.9**
PCRV				*eS*	**Sn**	**18 05 30.8**	**-3.6**
PCRV	**Puerto La Cruz**	**2.05**	**266**	*eS*	**Sn**	**18 05 35.1**	**+0.7**
GRSS	**Sisters**	**2.16**	**25**	*eP*	**Pn**	**18 05 10.9**	**+1.3**
GRSS				*eS*	**Sn**	**18 05 34.8**	**-2.0**
CACV	**CAICARA DEL OR**	**4.80**	**235**	*eP*	**Pn**	**18 05 44.1**	**-0.1**
CACV				*eS*	Sn	18 06 25.5	-14
BAUV	**El Baul**	**5.58**	**256**	*eP*	**Pn**	**18 05 58.8**	**+4.0**
BAUV				*eS*	**Sn**	**18 06 52.3**	**-5.5**

*AEIC **16** 18:23:56.3±1.8, 52°.73N±0°.05×169°.39W±0°.03, h5km±4km, Error ellipse: s-maj=7.9km s-min=2.4km az=166.0*
*NEIC **16** 18:23:57.8±1.1, 52°.81N±0°.09×169°.48W±0°.06, h27km±13km, ML3.4/18, ML3.2(AEIC), Error ellipse: s-maj=14.3km s-min=2.0km az=160.0*
ISC 16 18:23:57.4±1.1, 52°.88N±0°.09×169°.54W±0°.04, h29km±10km, n40, σ1§69/43, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op

SHLS			*e*S	Sn	18 49 17.6	+3.5	
	2.4nm,0.1s						
KDJ	**Kajisay**	**1.32 231**	⇑*i*P	Pn	18 49 11.5	-0.4	
KDJ			⇑*i*S	Sg	18 49 28.5	-0.6	
TARG	**Taragay, Kyrgy**	**1.36 205**	⇑*i*P	Pn	18 49 11.7	-0.9	
TARG			⇑*i*S	Sg	18 49 29.0	-1.3	
TKM2	**Tokmak 2**	**2.18 270**	⇓*i*P	Pn	18 49 24.4	+0.7	
TKM2			⇓*i*S	Sn	18 49 51.2	0.0	

ISK ***16*** *18:48:48.9, 37.87N×29.68E, h11km, ML3.3/18*
AFAD ***16*** *18:48:49.7, 37.84N×29.69E, h5km±3km, ML2.9*
THE ***16*** *18:48:50.8, 38.56°×3.0E±7.8, h2km±51km, M2.9/6, MLh2.9/6*
GII ***16*** *18:48:52.6±0.0, 37.617N±0.002×29.973E±0.001, h3km, Mws3.9, confirmed*

ISC 16 18:48:49.3±1.0, 37.87N±0.03×29.73E±0.02, h14km±7km, n68, σ1§09/87, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.20**	**218**	P	**Pg**	**18 48 53.6**	**-0.3**
INCE				S	**Sg**	**18 48 57.0**	**-0.1**
INCE				*i* IAML		18 48 57.0	
	comp=N,9μm,0.6s						
INCE				*i* IAML		18 48 57.0	
	comp=E,5μm,0.6s						
INCE				*i* IAML		18 48 58.0	
	comp=Z,4μm,0.5s						
BASM	**Basmaki-Afyon**	**0.26**	**79**	Pg	**Pb**	**18 48 55.2**	**-0.6**
BASM				Sg	**Sb**	**18 49 00.2**	**0.0**
BRDR	**BURDUR-Merkez**	**0.31**	**123**	P	**Pb**	**18 48 55.8**	**-0.9**
BRDR				*i* IAML		18 49 01.0	
	comp=E,3μm,0.4s						
BRDR				S	**Sb**	**18 49 01.7**	**-0.1**
BRDR				*i* IAML		18 49 03.0	
	comp=Z,1μm,0.2s						
BRDR				*i* IAML		18 49 06.0	
	comp=N,3μm,0.3s						
KHL	**Karahalli**	**0.48**	**340**	Pg	**Pb**	**18 48 58.6**	**-1.1**
KZIL	**AFYON_Kizioren**	**0.51**	**40**	P	**Pb**	**18 49 00.4**	**+0.3**
KZIL				S	**Sb**	**18 49 09.2**	**+1.8**
KZIL				*i* IAML		18 49 10.0	
	comp=Z,548nm,0.3s						
KZIL				*i* IAML		18 49 13.0	
	comp=E,2μm,0.4s						
KZIL				*i* IAML		18 49 16.0	
	comp=N,1μm,0.3s						
PASA	**Karahalli, USA**	**0.52**	**338**	P	**Pb**	**18 48 59.9**	**-0.4**
PASA				S	**Sb**	**18 49 07.8**	**+0.2**
PASA				*i* IAML		18 49 12.0	
	comp=Z,673nm,0.4s						
PASA				*i* IAML		18 49 14.0	
	comp=N,1μm,0.7s						
PASA				*i* IAML		18 49 16.0	
	comp=E,1μm,0.4s						
APMY	**Acipayam-Deniz**	**0.52**	**221**	Pg	**Pg**	**18 48 58.7**	**-0.9**
APMY				Sg	**Sg**	**18 49 06.7**	**+0.1**
DNIZ	**Denizli-Tavas-**	**0.60**	**246**	P	**Pg**	**18 49 00.5**	**-0.6**
DNIZ				*i* IAML		18 49 12.0	
	comp=Z,447nm,0.3s						
DNIZ				*i* IAML		18 49 12.0	
	comp=N,1μm,0.3s						
DNIZ				*i* IAML		18 49 21.0	
	comp=E,1μm,0.3s						
ISP	**Isparta**	**0.63**	**94**	Pg	**Pb**	**18 49 02.2**	**0.0**
ISP				Sg	**Sb**	**18 49 12.0**	**+1.1**
ISP	**Isparta**	**0.63**	**94**	P	**Pb**	**18 49 02.1**	**0.0**
ISP				S	**Sb**	**18 49 11.3**	**+0.4**
GOLH	**Golhisar**	**0.65**	**192**	P	**Pg**	**18 49 01.3**	**-0.6**
GOLH				S	**Sb**	**18 49 11.9**	**+0.6**
GOLH				*i* IAML		18 49 13.0	
	comp=E,898nm,0.5s						
GOLH				*i* IAML		18 49 17.0	
	comp=N,1μm,0.3s						
GOLH				*i* IAML		18 49 20.0	
	comp=Z,663nm,0.7s						
AFYN	**Afyon-Dinar-K**	**0.73**	**56**	P	**Pn**	**18 49 05.0**	**-0.4**
AFYN				S	**Sn**	**18 49 17.6**	**+1.2**
AFYN				*i* IAML		18 49 19.0	
	comp=Z,849nm,0.5s						
AFYN				*i* IAML		18 49 19.0	
	comp=E,806nm,0.7s						
AFYN				*i* IAML		18 49 27.0	
	comp=N,723nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.76**	**238**	P	**Pb**	**18 49 03.7**	**-0.7**
TAVA				S	**Sb**	**18 49 14.6**	**-0.1**
TAVA				*i* IAML		18 49 18.0	
	comp=N,239nm,0.4s						
TAVA				*i* IAML		18 49 19.0	
	comp=Z,312nm,0.4s						
TAVA				*i* IAML		18 49 22.0	
	comp=E,163nm,0.5s						
CAEL	**Denizli, Camel**	**0.81**	**204**	P	**Pb**	**18 49 05.5**	**+0.2**
CAEL				S	**Sn**	**18 49 19.6**	**+1.1**
CAEL				*i* IAML		18 49 22.0	
	comp=Z,513nm,0.5s						
CAEL				*i* IAML		18 49 22.0	
	comp=N,765nm,0.7s						
CAEL				*i* IAML		18 49 24.0	
	comp=E,678nm,0.6s						
DNZT	**Denizli-Tavas-**	**0.81**	**224**	P	**Pg**	**18 49 04.1**	**-1.0**
DNZT				S	**Sb**	**18 49 16.3**	**+0.1**
DNZT				*i* IAML		18 49 17.0	
	comp=E,168nm,0.4s						
DNZT				*i* IAML		18 49 19.0	
	comp=N,219nm,0.5s						
DNZT				*i* IAML		18 49 21.0	
	comp=Z,200nm,0.5s						
BUCA	**Burdur, Bucak-**	**0.85**	**129**	P	**Pb**	**18 49 06.1**	**+0.1**
BUCA				S	**Sn**	**18 49 20.9**	**+1.5**
BUCA				*i* IAML		18 49 25.0	
	comp=N,210nm,0.3s						
BUCA				*i* IAML		18 49 26.0	
	comp=E,353nm,0.5s						
BUCA				*i* IAML		18 49 28.0	
	comp=Z,226nm,0.6s						
CAME	**Cameli-Denizli**	**0.98**	**200**	Pg	**Pg**	**18 49 07.3**	**-1.1**
KULA	**Kula-Manisa**	**1.06**	**308**	Pg	**Pb**	**18 49 09.3**	**-0.2**
SDAG	**Sultandagi-AFY**	**1.10**	**58**	Pn	**Pn**	**18 49 10.9**	**+0.5**
ESEN	**Aydn-Nazilli**	**1.10**	**267**	P	**Pb**	**18 49 09.6**	**-0.5**
ESEN				S	**Sn**	**18 49 26.6**	**+1.4**
ESEN				*i* IAML		18 49 28.0	
	comp=N,391nm,0.8s						
ESEN				*i* IAML		18 49 28.0	
	comp=E,204nm,0.5s						
ESEN				*i* IAML		18 49 30.0	
	comp=Z,124nm,0.5s						
NAZL	**Nazilli-Aydin**	**1.14**	**275**	Pn	**Pb**	**18 49 10.4**	**-0.5**
GEDZ	**Gediz**	**1.20**	**348**	Pn	**Pn**	**18 49 12.2**	**+0.4**
ANTB	**Antalya**	**1.22**	**142**	Pn	**Pn**	**18 49 12.8**	**+0.9**
SHAP	**Saphane-Kutahy**	**1.22**	**341**	Pn	**Pn**	**18 49 12.2**	**+0.1**
SIMA	**Simav-Kutahya**	**1.35**	**334**	Pn	**Pn**	**18 49 14.0**	**+0.2**
ODEM	**Odemis-Izmir**	**1.37**	**288**	Pn	**Pg**	**18 49 14.0**	**-1.7**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**274**	Pn	**Pn**	**18 49 15.2**	**-0.2**
GORD	**Gordes-Manisa**	**1.60**	**311**	Pn	**Pn**	**18 49 17.4**	**+0.1**
KSL	**Kastellorizon**	**1.72**	**184**	P	**Pg**	**18 49 21.8**	**-0.6**
KSL				S	**Sg**	**18 49 47.3**	**+2.7**
DAT	**Datca**	**2.06**	**237**	Pn	**Pn**	**18 49 23.9**	**+0.3**
DAT	**Datca**	**2.06**	**237**	P	**Pn**	**18 49 24.7**	**+1.1**
DAT				S	**Sb**	**18 49 51.8**	**-0.3**
ARG	**Arkhangelos**	**2.09**	**218**	Pn	**Pn**	**18 49 24.5**	**+0.5**
ARG	**Arkhangelos**	**2.09**	**218**	P	**Pn**	**18 49 25.6**	**+1.6**
ARG				S	**Sb**	**18 49 53.7**	**+0.8**
SMG	**Samos**	**2.30**	**267**	P	**Pn**	**18 49 26.7**	**-0.2**
SMG				S	**Sn**	**18 49 55.2**	**+0.3**
CHOS	**Chios island**	**2.94**	**281**	P	**Pn**	**18 49 37.1**	**+1.3**
KARP	**Karpathos**	**3.10**	**222**	P	**Pn**	**18 49 38.9**	**+1.0**
SIGR	**SIGRI**	**3.32**	**295**	P	**Pn**	**18 49 43.2**	**+2.3**
CSS	**Mathiatis**	**4.10**	**134**	P	**Pn**	**18 49 52.3**	**+0.7**
HNTI	**Hanita**	**6.52**	**135**	P	**Pn**	**18 50 25.9**	**+1.0**
HNTI	**Hanita**	**6.52**	**135**	S	**Sn**	**18 51 37.2**	**-1.9**
MMC7	**Mount Meron ar**	**6.69**	**135**	P	**Pn**	**18 50 27.9**	**+0.6**
MMA0B	**Mount Meron ar**	**6.70**	**135**	P	**Pn**	**18 50 27.9**	**+0.5**
MMA0B	**Mount Meron ar**	**6.70**	**135**	S	**Sn**	**18 51 41.9**	**-1.6**
GEM	**Giv'at Ha'Em**	**6.71**	**132**	P	**Pn**	**18 50 28.1**	**+0.7**
GEM	**Giv'at Ha'Em**	**6.71**	**132**	S	**Sn**	**18 51 41.9**	**-1.7**
NATI	**Neve Ativ**	**6.71**	**131**	P	**Pn**	**18 50 28.4**	**+0.9**
NATI	**Neve Ativ**	**6.71**	**131**	S	**Sn**	**18 51 42.4**	**-1.3**
OFRI	**`Ofer**	**6.77**	**139**	P	**Pn**	**18 50 28.6**	**+0.3**
OFRI	**`Ofer**	**6.77**	**139**	S	**Sn**	**18 51 43.4**	**-1.9**
SLTI	**Sal'it**	**7.10**	**141**	P	**Pn**	**18 50 33.4**	**+0.5**
SLTI	**Sal'it**	**7.10**	**141**	S	**Sn**	**18 51 51.7**	**-1.7**
MMLI	**Mount Malkishu**	**7.15**	**138**	P	**Pn**	**18 50 34.1**	**+0.6**
MMLI	**Mount Malkishu**	**7.15**	**138**	S	**Sn**	**18 51 53.0**	**-1.6**
HMDT	**Nahal Hemdat**	**7.34**	**138**	P	**Pn**	**18 50 36.9**	**+0.7**
HMDT	**Nahal Hemdat**	**7.34**	**138**	S	**Sn**	**18 51 57.7**	**-1.6**
DSI	**Dead Sea**	**7.82**	**142**	P	**Pn**	**18 50 43.4**	**+0.7**
DSI	**Dead Sea**	**7.82**	**142**	S	**Sn**	**18 52 08.5**	**-2.5**
YTIR	**Yattir**	**7.86**	**144**	P	**Pn**	**18 50 43.9**	**+0.5**
YTIR	**Yattir**	**7.86**	**144**	S	**Sn**	**18 52 10.5**	**-1.7**
KZIT	**Kziot**	**7.94**	**150**	P	**Pn**	**18 50 44.9**	**+0.5**
KZIT	**Kziot**	**7.94**	**150**	S	**Sn**	**18 52 12.0**	**-2.1**
MSBI	**Mazada**	**8.02**	**143**	P	**Pn**	**18 50 46.1**	**+0.8**
PRNI	**Paran**	**8.68**	**148**	P	**Pn**	**18 50 55.1**	**+0.7**
PRNI	**Paran**	**8.68**	**148**	S	**Sn**	**18 52 30.5**	**-1.7**
MBRI	**Mt Berech**	**9.13**	**150**	P	**Pn**	**18 51 01.7**	**+0.9**
MBRI	**Mt Berech**	**9.13**	**150**	S	**Sn**	**18 52 41.7**	**-1.7**
EIL	**Elat**	**9.26**	**151**	P	**Pn**	**18 51 02.9**	**+0.5**
EIL	**Elat**	**9.26**	**151**	S	**Sn**	**18 52 44.2**	**-2.2**

ASRS 16 19:04:52.6±0.8, 47°N±3°×9°3E±°, h2km, MLh3.5/5, Error ellipse: s-maj=7.0km s-min=6.3km az=177.4, confirmed, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**4.65**	**318**	Pn	Pn	19 06 02.2	-1.7
CUR				Sg	Sg	19 07 26.7	+5.0
TEL	**Teeli**	**4.70**	**336**	Pn	Pn	19 06 04.8	+0.2
TEL				Sg	Sg	19 07 28.6	+5.1
DGZ	**Jazzator, Alta**	**4.85**	**310**	Pn	Pn	19 06 07.0	+0.4
DGZ				Sg	Sg	19 07 29.8	+1.5
KZLR	**Kyzyl**	**5.02**	**9**	Sg	Sg	19 07 36.0	+2.3
AKAR	**Aktash**	**5.14**	**316**	Pn	Pn	19 06 11.1	+0.5
AKAR				Sg	Sg	19 07 40.3	+2.7
CHBI	**Chibit, Altay**	**5.19**	**315**	Sg	Sg	19 07 44.4	+5.2
ULGR	**Ulagan, Altay**	**5.19**	**320**	Pn	Pn	19 06 12.5	+1.1
ULGR				Sg	Sg	19 07 46.6	+7.3
ARDR	**Aradan**	**5.83**	**1**	Sg	Sg	19 08 03.4	+3.7
YALR	**Yailyu, Altay**	**6.21**	**326**	Sg	Sg	19 08 19.4	+7.7
ARTR	**Artybash**	**6.36**	**325**	Sg	Sg	19 08 24.1	+7.6
ELDR	**Elanda**	**6.46**	**316**	Sg	Sg	19 08 24.3	+4.3
VEH	**Verkhnyaya Baz**	**6.76**	**345**	Sg	Sg	19 08 37.4	+7.8
UKR	**Ust'-Kan**	**6.95**	**310**	Sg	Sg	19 08 38.8	+3.0

NEIC ***16*** *19:06:26.4±1.7, 43.62N±0.06×105.54W±0.08, h0km±1km, ML3.0/20, Error ellipse: s-maj=11.1km s-min=8.1km az=317.0*
IDC ***16*** *19:06:29.7±2.0, 43.86N×105.67W, h0km, mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=53.4km s-min=8.9km az=147.0*

ISC 16 19:06:26.1±1.1, 43.68N±0.06×105.40W±0.07, h0km, n26, σ1§43/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.08**	**65**	Pg	**Pn**	**19 06 49.4**	**+0.7**
K22A	**Casper**	**1.32**	**219**		**Pn**	**19 06 52.7**	**+0.8**
LAO	**LASA Array**	**3.06**	**349**	Pn	**Pn**	**19 07 18.7**	**+2.8**
LAO				IAML		19 08 24.9	
	48nm,0.9s						
RLMT	**Red Lodge**	**3.13**	**299**	Pn	**Pn**	**19 07 17.4**	**+0.6**
RLMT				IAML		19 08 25.5	
	36nm,1.6s						
RLMT				IAML		19 08 29.2	
	28nm,1.9s						
PDAR	**Pinedale Array**	**3.18**	**255**		**Pn**	**19 07 16.4**	**-1.1**
PDAR	**Pinedale Array**	**3.18**	**255**	Pn	**Pb**	**19 07 22.5**	**-1.0**
	2.9nm,0.3s,baz=75,slow=17,SNR=14						
PDAR				Lg	Lg	19 08 04.4	
	1.6nm,0.3s,baz=70,slow=32,SNR=4.1 1.7nm,0.3s						
HAYD	**Hayden**	**3.45**	**204**		**Pn**	**19 07 21.2**	**-0.2**
LOHW	**Long Hollow**	**3.78**	**271**		**Pn**	**19 07 26.3**	**+0.5**
LOHW				IAML		19 08 37.9	
	22nm,1.5s						
LOHW				IAML		19 09 02.2	
	19nm,1.4s						
TPAW	**Teton Pass**	**4.04**	**269**		**Pn**	**19 07 29.2**	**-0.3**
TPAW				IAML		19 08 56.6	
	31nm,1.4s						
TPAW				IAML		19 09 11.1	
	19nm,1.5s						
YHH	**Holmes Hill**	**4.07**	**288**		**Pn**	**19 07 29.5**	**-0.5**
FXWY	**Fox Creek**	**4.09**	**271**		**Pn**	**19 07 30.7**	**+0.6**
FXWY				IAML		19 08 51.0	
	12nm,1.6s						
DGMT	**Dagmar**	**4.86**	**9**		**Pn**	**19 07 41.0**	**+0.5**
BSUT	**Blindstream Ca**	**5.08**	**234**		**Pn**	**19 07 44.3**	**+0.5**
BSUT				IAML		19 09 16.9	
	comp=N,10nm,1.4s						
BSUT				IAML		19 09 34.6	
	comp=E,13nm,2.8s						
P18A	**Preston Nutter**	**5.44**	**224**		**Pn**	**19 07 49.0**	**+0.2**
LRM	**Limekiln Ridge**	**5.46**	**296**		**Pn**	**19 07 51.5**	**+2.6**
MCMT	**McKenzie Canyo**	**5.48**	**285**		**Pn**	**19 07 51.0**	**+1.8**
PV22	**Blue Mesa, Par**	**5.74**	**208**		**Pn**	**19 07 54.5**	**+1.7**
PV21	**Cone Mtn., Par**	**5.79**	**209**		**Pn**	**19 07 55.0**	**+1.6**
P17A	**Butcher Ranch,**	**5.81**	**225**		**Pn**	**19 07 54.9**	**+1.2**
PV15	**Paradox Valley**	**5.82**	**205**		**Pn**	**19 07 54.8**	**+0.9**
PV23	**Carpenter Ridg**	**5.89**	**209**		**Pn**	**19 07 55.7**	**+0.7**
SRU	**San Rafael Swe**	**5.98**	**222**		**Pn**	**19 07 57.2**	**+1.3**
PV16	**Nyswonger Mesa**	**5.99**	**208**		**Pn**	**19 07 57.0**	**+0.9**
T25A	**Trinidad**	**6.58**	**173**		**Pn**	**19 08 05.5**	**+1.2**
ULM	**Lac du Bonnet**	**9.24**	**41**	Pn	**Pn**	**19 08 42.1**	**+1.5**
	comp=E,0.4nm,0.3s,baz=229,slow=13,SNR=2.3						
ULM				Sn	**Sn**	**19 10 22.2**	**-3.0**
	comp=E,0.1nm,0.3s,baz=288,slow=20,SNR=3.1						
ULM				Lg	Lg	19 11 16.0	
	comp=E,0.1nm,0.3s,baz=302,slow=19,SNR=2.1 comp=E,0.9nm,0.4s						
I56US	**NEWPORT INFRAS**	**9.36**	**303**	I	I	20 04 00.0	
	baz=114,slow=313,SNR=1.9						

IDC 16 19:21:26.2±1.9, 21.00N×122.50E, h0km, mb3.5/6, mbtmp3.5/6, MS2.6/1, Error ellipse: s-maj=161.2km s-min=20.0km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**14.19**	**30**	LR	LR	19 29 56.4	
	comp=Z,23nm,20.6s,baz=157,slow=36						
SONM	**Songino Array**	**29.76**	**338**	P	P	19 27 34.4	-0.2
	0.2nm,0.4s,baz=151,slow=9.4,SNR=2.4 0.2nm,0.4s						
MKAR	**Makanchi Array**	**41.48**	**318**	P	P	19 29 14.7	-0.3
	0.4nm,0.5s,baz=106,slow=8.7,SNR=6.5 0.4nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**41.54**	**84**	T	T	20 14 18.9	
	baz=276,slow=74,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**41.55**	**84**	T	T	20 14 17.7	
	baz=276,slow=74,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**41.56**	**84**	T	T	20 14 18.5	
	baz=276,slow=74,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**41.57**	**85**	T	T	20 14 13.5	
	baz=281,slow=75,SNR=99						
H11S1	**WAKE ISLAND Hy**	**41.58**	**85**	T	T	20 14 15.6	
	baz=281,slow=75,SNR=100						
H11S2	**WAKE ISLAND Hy**	**41.59**	**85**	T	T	20 14 14.7	
	baz=281,slow=75,SNR=71						
WRA	**Warramunga Arr**	**42.31**	**163**	P	P	19 29 21.4	-0.5
	0.6nm,1.0s,baz=344,slow=8.4,SNR=1.8 0.6nm,1.0s						
ZALV	**Zalesovo Beam**	**43.57**	**328**	P	P	19 29 31.7	-0.1
	0.6nm,0.6s,baz=120,slow=8.5,SNR=4.6 0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**45.33**	**322**	P	P	19 29 46.1	+0.2
	0.8nm,0.7s,baz=118,slow=7.1,SNR=6.4 0.8nm,0.7s						
ASAR	**Alice Springs**	**45.77**	**165**	P	P	19 29 49.8	+0.1
	0.2nm,0.4s,baz=343,slow=8.2,SNR=7.1 0.2nm,0.4s						

UCR ***16*** *19:28:35.8±0.6, 8.34N×82.80W, h32km±2km, MW3.6*
UPA ***16*** *19:28:36.4±1.2, 8.37N×82.78W, h32km±5km, ML3.4, MW3.8*

ISC 16 19:28:36.0±1.0, 8.36N±0.04×82.79W±0.03, h32km±6km, n33, σ0§54/46, 2C-9D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.04**	**359**	⇑*i*P	**Pb**	**19 28 41.2**	**-0.2**
LESP3				*e*S	**Sb**	**19 28 45.5**	**+0.5**
ARIEL	**Armuelles**	**0.10**	**219**	*e*P	**Pb**	**19 28 41.1**	**-0.5**
PTPA	**Petro Terminal**	**0.18**	**206**	*e*P	**Pb**	**19 28 42.0**	**-0.2**
PTPA				*e*S	**Sn**	**19 28 47.1**	**+0.5**
PTPM	**Petroterminale**	**0.18**	**209**	⇑*i*P	**Pb**	**19 28 42.2**	**0.0**
PTPM				*i* S	**Sn**	**19 28 48.0**	**+1.3**
DMCAL	**E. de Neily**	**0.30**	**359**	*e*P	**Pb**	**19 28 44.0**	**+0.2**
NELY	**Ciudad Neily**	**0.33**	**331**	*e*P	**Pb**	**19 28 43.8**	**-0.2**
DVD	**David**	**0.34**	**78**	⇓*e*P	**Pb**	**19 28 44.4**	**+0.3**
DVD				*i* S	**Sn**	**19 28 50.4**	**-0.2**
PEDE3	**Pedregal, Chir**	**0.36**	**87**	*e*P	**Pb**	**19 28 44.5**	**+0.1**
PEDE3				*e*S	**Sn**	**19 28 51.0**	**-0.1**
LOCO3	**Loma Colorada,**	**0.37**	**83**	*i* P	**Pb**	**19 28 44.8**	**+0.3**
LOCO3				*e*S	**Sb**	**19 28 49.3**	**-1.1**
JEFFS	**S de V. Baru**	**0.40**	**40**	⇓*e*P	**Pn**	**19 28 45.5**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.40**	**80**	⇓*i*P	**Pb**	**19 28 45.1**	**+0.1**
LOMA3				*e*S	**Sb**	**19 28 51.7**	**+0.6**
CLLRA	**Cordillera,**	**0.42**	**25**	*e*P	**Pb**	**19 28 45.6**	**+0.3**
BANCO	**falda S V. Bar**	**0.44**	**36**	⇓*e*P	**Pb**	**19 28 46.0**	**+0.3**
PTAR3	**Potrerillos Ar**	**0.44**	**41**	⇓*i*P	**Pb**	**19 28 46.0**	**+0.4**
BRU2	**Volcan**	**0.44**	**13**	⇓*i*P	**Pb**	**19 28 45.9**	**+0.2**
BRU2				AMP		19 28 46.1	
	comp=Z,3μm,0.2s						
BRU2				*e*S	**Sn**	**19 28 53.5**	**+0.3**
BRU2	**Volcan**	**0.44**	**13**	*e*P	**Pb**	**19 28 45.8**	**+0.1**
CGUAY	**Guayabal, Coch**	**0.44**	**78**	*e*P	**Pb**	**19 28 45.7**	**0.0**
FITO	**Golfito**	**0.45**	**306**	*e*P	**Pb**	**19 28 44.7**	**-0.9**
TBS2		**0.45**	**17**	*e*P	**Pn**	**19 28 46.7**	**+0.3**
EDAD	**Golfito**	**0.47**	**308**	*e*P	**Pb**	**19 28 45.2**	**-0.9**
EDAD				*e*S	**Sb**	**19 28 52.1**	**-0.9**
BC3P	**Paso Ancho**	**0.48**	**21**	⇓*e*P	**Pb**	**19 28 46.5**	**+0.1**
BC3P				*e*S	**Sn**	**19 28 56.0**	**+1.5**
BQTLY	**Boquete Panama**	**0.51**	**40**	*e*P	**Pb**	**19 28 46.8**	**0.0**
GUAL3	**Gualaca, Chiri**	**0.51**	**71**	*e*P	**Pb**	**19 28 45.7**	**-1.0**
GUAL3				*e*S	**Sb**	**19 28 53.4**	**-0.7**
BQSF3	**Alto Boquete,**	**0.52**	**43**	⇓*e*P	**Pb**	**19 28 46.8**	**0.0**
BQSF3				*e*S	**Sn**	**19 28 55.2**	**+0.1**
WILLF	**Boquete**	**0.52**	**42**	*e*P	**Pb**	**19 28 46.9**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.54**	**289**	*e*P	**Pb**	**19 28 47.0**	**0.0**
LNBQ3	**Los Naranjos,**	**0.55**	**39**	⇓*e*P	**Pb**	**19 28 47.2**	**-0.2**
LNBQ3				*e*S	**Sb**	**19 28 55.1**	**-0.1**
DAP26	**falda E V. Bar**	**0.56**	**41**	*e*P	**Pb**	**19 28 47.2**	**-0.3**
ALCO	**Alturas Coton,**	**0.58**	**356**	*e*P	**Pb**	**19 28 47.6**	**-0.4**
PBNVO	**Pueblo Nuevo,**	**0.79**	**48**	*e*P	**Pn**	**19 28 50.5**	**-0.5**
RBALA	**Bur**	**0.81**	**51**	*e*P	**Pn**	**19 28 51.2**	**0.0**
DRK0	**Durika**	**1.00**	**333**	*e*P	**Pn**	**19 28 54.6**	**+0.6**
KKNTU	**Kakint[a]**	**1.08**	**64**	*e*P	**Pn**	**19 28 54.6**	**-0.3**

AEIC ***16*** *19:32:32.5±3.0, 53.95N±0.05×163.45W±0.06, h34km±7km, Error ellipse: s-maj=7.0km s-min=5.4km az=188.0*

NEIC 16 19:32:30.6±1.7, 53.90N±0.05×163.26W±0.08, h25km±12km, ML2.6/20, ML2.5(AEIC), Error ellipse: s-maj=9.2km s-min=2.0km az=135.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.92**	**332**		Pb	19 32 47.7	-0.2
SSLS					Sn	19 33 00.5	+0.1
FALS	**False Pass**	**0.96**	**355**		Pn	19 32 47.4	-1.0
FALS					Sb	19 33 00.4	-0.4
ISNN	**Isanotski Nort**	**0.98**	**342**		Pb	19 32 49.2	+0.3
ISNN					Sn	19 33 02.4	+0.6
SSBA	**Shishaldin**	**1.01**	**330**		Pn	19 32 48.8	-0.4
SSBA					Sn	19 33 02.7	+0.1
WEBT	**Westdahl Beart**	**1.12**	**309**		Pn	19 32 50.5	0.0
WEBT					Sn	19 33 04.7	-0.4
DT1	**Dutton Round H**	**1.34**	**25**		Pn	19 32 53.6	0.0
DT1					Sb	19 33 11.5	-0.2
DOL	**Dolgoi Island**	**1.49**	**33**		Pb	19 32 56.8	-0.8
DOL					Sb	19 33 16.6	+0.4
AKUT	**Akutan**	**1.50**	**280**	Pn	Pn	19 32 48.2	-7.6
AKUT				IAML		19 33 21.8	
	comp=N,73nm,0.5s						
AKUT				IAML		19 33 26.9	
	comp=E,68nm,0.7s						
AHB	**Akutan Harbor**	**1.52**	**279**		Pn	19 32 57.0	+0.8
AHB					Sn	19 33 15.0	-0.2
AKBBA	**Akutan Broad B**	**1.59**	**278**		Pn	19 32 57.2	+0.2
AKV	**Akutan Volcano**	**1.61**	**279**		Pn	19 32 58.0	+0.7
ZRO	**Akutan Zero**	**1.61**	**278**		Pn	19 32 57.4	0.0
HAG	**Hague Volcano**	**1.63**	**29**		Pb	19 32 59.9	0.0
AKMO	**Akutan Morgan**	**1.63**	**278**		Pn	19 32 57.8	+0.1
AKGG	**Akutan Green G**	**1.64**	**282**		Pn	19 32 57.9	+0.2
LVA	**Lava Point**	**1.66**	**280**		Pn	19 32 56.9	-1.1
LVA				IAML		19 33 27.5	
	comp=N,117nm,0.6s						
LVA				IAML		19 33 29.0	
	comp=E,52nm,0.5s						
AKRB	**Akutan Reef Bi**	**1.67**	**279**		Pn	19 32 58.

FAKI	Fak Fak	21.23	274	P		P	19 54 41.5	-0.5
DZM	Mont Dzumac	21.50	145	P		P	19 54 44.5	-0.5
DZM	Mont Dzumac	21.50	145	P		P	19 54 45.1	+0.2
	6.2nm,0.4s,baz=293,slow=11,SNR=15							
	6.2nm,0.4s							
MTN	Manton Dam	23.56	248	P		P	19 55 04.6	-1.3
WB0	Warramunga Arr	23.98	229	P		P	19 55 09.6	0.0
WRAB	Tennant Creek	24.11	229			P	19 55 11.0	+0.2
WRA	Warramunga Arr	24.13	229			P	19 55 09.5	-1.4
WRA	Warramunga Arr	24.13	229	P		P	19 55 11.4	+0.5
	9.9nm,0.4s,baz=52,slow=10.0,SNR=100							
WRA				PcP		PcP	19 58 49.8	-0.3
	2.1nm,0.6s,baz=36,slow=2.1,SNR=4.5							
	9.9nm,0.4s							
ARMA	Armidale	25.82	184	P		P	19 55 26.3	0.0
FUNA	Funafuti	25.86	100	P		P	19 55 27.3	+0.6
FUNA				IAmb		IAmb	19 55 57.1	
	comp=Z,79nm,0.8s							
INKA	Innaminka	26.08	206	P		P	19 55 27.7	-0.8
KNRA	Kununurra	26.69	244	P		P	19 55 33.4	-0.7
KNRA				IAmb		IAmb	19 55 53.0	
	comp=Z,24nm,0.8s							
AS31	Alice Springs	26.80	223			P	19 55 35.0	-0.2
ASAR	Alice Springs	26.81	223	P		P	19 55 34.8	-0.4
ASAR	Alice Springs	26.81	223	P		P	19 55 35.0	-0.2
	comp=Z,0.5nm,0.4s,baz=55,slow=9.1,SNR=9.8							
ASAR				PcP		PcP	19 58 55.7	-0.5
	comp=Z,1.9nm,0.7s,baz=33,slow=3.0,SNR=4.6							
	comp=Z,0.5nm,0.4s							
LHI	Lord Howe Isla	27.37	170	P		P	19 55 39.7	-0.3
STKA	Stephens Creek	29.41	201	P		P	19 55 56.8	-1.4
STKA	Stephens Creek	29.41	201	P		P	19 55 57.8	-0.4
	comp=Z,1.6nm,0.5s,baz=44,slow=16,SNR=6.8							
	comp=Z,1.6nm,0.5s							
FITZ	Fitzroy Crossi	30.38	241			P	19 56 05.8	-1.1
FITZ	Fitzroy Crossi	30.38	241	P		P	19 56 05.8	-1.1
	comp=Z,8.1nm,0.6s,baz=74,slow=7.0,SNR=6.9							
	comp=Z,8.1nm,0.6s							
CAN	Canberra	30.93	187	P		P	19 56 12.3	+0.6
CAN				IAmb		IAmb	19 56 52.5	
	comp=Z,79nm,1.9s							
BBOO	Buckleboo	32.51	208	P		P	19 56 25.0	-0.5
BBOO				IAmb		IAmb	19 56 25.6	
	comp=Z,90nm,1.9s							
TOO	Toolangi	33.70	191	P		P	19 56 36.5	+0.7
TOO				IAmb		IAmb	19 57 14.7	
	comp=Z,25nm,1.8s							
MBWA	Marble Bar	36.69	240	P		P	19 57 00.9	-0.8
MBWA				IAmb		IAmb	19 57 38.9	
	comp=Z,56nm,1.7s							
MBWA	Marble Bar	36.69	240	P		P	19 57 01.4	-0.3
PSA00	Pilbara Seismi	36.75	239	P		P	19 57 00.7	-1.5
TAU	Tasmania Unive	38.62	187	P		P	19 57 18.4	+0.8
URZ	Urewera	39.89	151	P		P	19 57 29.5	+1.2
	comp=Z,4.0nm,0.6s,baz=237,slow=5.4,SNR=6.2							
	comp=Z,4.0nm,0.6s							
QRZ	Quartz Range	40.00	157	P		P	19 57 29.5	+0.3
RTZ	Ruatahuna	40.11	151	P		P	19 57 28.6	-1.7
RTZ				IAmb		IAmb	19 58 16.5	
	comp=Z,68nm,1.8s							
BKZ	Black Stump Fm	40.31	152	P		P	19 57 30.2	-1.7
BKZ				IAmb		IAmb	19 57 43.2	
	comp=Z,60nm,1.7s							
TCW	Tory Channel	41.02	156	P		P	19 57 37.2	-0.4
BSWZ	Blackbirch Sta	41.28	157	P		P	19 57 38.5	-1.3
BHW	Baring Head	41.43	155	P		P	19 57 39.5	-1.4
BHW				IAmb		IAmb	19 57 57.8	
	comp=Z,60nm,1.4s							
MSWZ	Moikau Station	41.59	155	P		P	19 57 41.5	-0.8
PLWZ	Palliser	41.72	155	P		P	19 57 42.2	-1.2
RPZ	Rata Peaks	42.01	161	P		P	19 57 44.1	-1.6
RPZ	Rata Peaks	42.01	161	P		P	19 57 46.0	+0.3
	comp=Z,22nm,0.7s,baz=341,slow=2.8,SNR=11							
	comp=Z,22nm,0.7s							
LBZ	Lake Benmore	42.34	162	P		P	19 57 47.9	-0.5
DCZ	Deep Cove	42.50	166	P		P	19 57 49.2	-0.4
MLZ	Mavora Lakes	42.65	165	P		P	19 57 50.7	-0.2
WHZ	Wether Hill Ro	43.10	165	P		P	19 57 53.9	-0.5
CMAR	Chiang Mai Arr	58.37	295	P		P	19 59 50.6	+0.9
	comp=Z,0.6nm,0.6s,baz=107,slow=6.7,SNR=2.6							
	comp=Z,0.6nm,0.6s							
CASY	Casey	68.48	197	P		P	20 00 54.2	-1.3
CASY				IAmb		IAmb	20 00 59.2	
	comp=Z,80nm,2.0s							
S12K	Black Hills	70.23	25	P		P	20 01 05.9	-0.6
S12K				IAmb		IAmb	20 02 04.8	
	comp=Z,15nm,1.1s							
O14K	Tigyukauivet M	72.94	22	P		P	20 01 23.1	+0.4
O14K				IAmb		IAmb	20 01 34.5	
	comp=Z,19nm,1.1s							
VNDA	Vanda	73.08	178	P		P	20 01 23.5	+0.2
VNDA				IAmb		IAmb	20 01 24.4	
	comp=Z,8.5nm,0.7s							
VNDA	Vanda	73.08	178	P		P	20 01 23.7	+0.4
	comp=Z,11nm,0.8s,baz=330,slow=6.8,SNR=81							
	comp=Z,11nm,0.8s							
SBA	Scott Base	73.62	177	P		P	20 01 26.4	0.0
Q19K	Cape Douglas,	75.81	25	P		P	20 01 39.6	+0.2
CNPM	China Poot	77.18	25	P		P	20 01 46.5	-0.6
CNPM				IAmb		IAmb	20 03 04.0	
	comp=Z,38nm,1.4s							
TIXI	Tiksi	77.71	352	LR		LR	20 36 35.3	
	comp=Z,12nm,18.9s,baz=178,slow=36							
M27K	Edge Creek, AK	82.54	25	P		P	20 02 15.8	-0.3
QSPA	South Pole Qui	85.44	180	P		P	20 02 31.2	+0.4
QSPA				IAmb		IAmb	20 02 32.4	
	comp=Z,14nm,1.1s							
QSPA	South Pole Qui	85.44	180	P		P	20 02 31.3	+0.4
	comp=Z,6.9nm,0.4s,baz=180,slow=1.4,SNR=133							
	comp=Z,6.9nm,0.4s							
MAW	Mawson	86.08	203	P		P	20 02 33.4	-0.4
	comp=Z,2.1nm,0.7s,baz=97,slow=7.6,SNR=7.9							
	comp=Z,2.1nm,0.7s							
BVAR	Borovoye Array	89.42	323	P		P	20 02 48.8	-1.3
	comp=Z,3.2nm,0.8s,baz=102,slow=6.4,SNR=7.7							
	comp=Z,3.2nm,0.8s							
SYO	Syowa Base	94.15	199⇑	*e*pP		pP	20 03 36.8	+3.8
BOSA	Boshof	120.33	233	PKP		PKPdf	20 08 44.2	-0.8
	comp=Z,3.9nm,1.1s,baz=90,slow=5.1,SNR=4.0							
GERES	GERESS Array B	124.16	329	PKP		PKPdf	20 08 50.9	-0.8
	comp=Z,0.6nm,0.7s,baz=46,slow=3.9,SNR=5.0							
TORD	Torodi Ar. Bea	150.85	289	PKPbc		PKPbc	20 09 45.5	-1.0
	comp=Z,3.2nm,0.3s,baz=62,slow=2.2,SNR=51							

DJA 16 19:50:35.5±0.3, 9°S±3°×12°4E±°, h137km±5km, M4.0/10, mB5.1/2, mb4.3/5, MLv3.8/10, Mw(mB)4.4/2, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	0.85	152	P	Pn	19 50 59.0	+1.1
SOEI				S	Sn	19 51 14.2	-0.8
BATI	Baumata	1.21	189	P	Pn	19 51 02.1	+0.9
MMRI	Maumere	1.64	283	P	Pn	19 51 06.3	+0.6
EDFI	Ende, Flores	2.16	276	P	Pn	19 51 12.3	+0.4
BASI	Baing, Sumba	3.46	249	P	Pn	19 51 28.6	+0.3
WSI	Waingapu	3.58	259	P	Pn	19 51 30.1	+0.2
BBSI	Bau Bau	3.72	340	P	Pn	19 51 32.2	+0.5
BSSI	Bau Bau, Buton	4.38	310	P	Pn	19 51 40.6	+0.1
WBSI	Waikabubak, Su	4.46	261	P	Pn	19 51 40.5	-1.0
PLAI	Plampang	6.01	271	P	Pn	19 52 03.0	+0.7
	0.1nm17nm,0.8s						
APSI	Ampana	8.33	345	P	Pn	19 52 33.3	-0.2
SWI	Sorong	10.94	43	P	Pn	19 53 06.8	-1.5

*DJA **16** 19:51:38.5±0.3, 3°N±3°×12°7E±°, h10km, M4.6/19, mB5.1/9, mb4.8/15, MLv4.7/19, Mw(mB)4.5/9*

*NEIC **16** 19:51:40.1±1.7, 2.88N±0.06°×126.66E±0.08, h66km±7km, mb4.9/43, Error ellipse: s-maj=11.7km s-min=7.9km az=62.0*

*IDC **16** 19:51:42.0±2.0, 2.75N×126.75E, h73km±18km, mb4.0/16, mbtmp4.3/18, MS3.3/14, Error ellipse: s-maj=24.4km s-min=8.5km az=83.0*

ISC 16 19:51:40.3±0.4, 2.83N±0.04×126.70E±0.06, h63km, n134, σ2900/130, mb4.7/35, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.45	306	P	Pn	19 52 02.5	-1.9
TNTI	Ternate	2.15	162		Pn	19 52 15.3	+1.3
TNTI				Sn	Sn	19 52 37.5	-2.0
TNTI	Ternate	2.15	162	P	Pn	19 52 15.6	+1.7
TNTI	Ternate	2.15	162	P	Pn	19 52 15.2	+1.3
KMSI	Cibinong	3.52	231	P	Pn	19 52 34.4	+1.7
DAV	Davao City (W)	4.36	345	Pn	Pn	19 52 42.4	-1.7
DAV	Davao City (W)	4.36	345	P	Pn	19 52 47.7	+3.6
	115nm,0.3s,baz=211,slow=7.9,SNR=1.7						
DAV				S	Sn	19 53 37.0	+3.3
	131nm,0.4s,baz=54,slow=21,SNR=1.4						
SANI	Sanana	4.90	188	P	Pn	19 52 53.4	+1.9
SANI	Sanana	4.90	188	P	Pn	19 52 51.3	-0.2
MRSI	Marisa	5.30	244	P	Pn	19 52 59.4	+2.4
LUWI	Luwuk	5.50	226	Pn	Pn	19 53 00.9	+1.2
LUWI	Luwuk	5.50	226	P	Pn	19 53 03.9	+4.2
LUWI	Luwuk	5.50	226	P	Pn	19 53 03.6	+3.9
SWI	Sorong	5.85	129	P	Pn	19 53 06.1	+1.6
	0.2nm703nm52nm,0.8s						
NLAI	Namlea	6.04	176	P	Pn	19 53 08.4	+1.3
	1.2nm1μm48nm,0.9s						
TOLI2	Tolitoli	6.16	254		Pn	19 53 07.7	-1.0
TOLI2				Sn	Sn	19 54 14.0	-3.9
TOLI2	Tolitoli	6.16	254	P	Pn	19 53 09.4	+0.7
APSI	Ampana	6.27	234	P	Pn	19 53 13.4	+3.1
	2μm155nm,0.9s						
AAI	Ambon	6.64	167	P	Pn	19 53 17.7	+2.3
	0.2nm39nm,0.6s						
PCI	Palu	7.80	242	P	Pn	19 53 32.3	+1.0
	0.2nm1μm65nm,0.9s						
KDI	Kendari	7.88	211	P	Pn	19 53 33.4	+1.1
FAKI	Fak Fak	7.96	136	Pn	Pn	19 53 34.6	+1.2
FAKI	Fak Fak	7.96	136	P	Pn	19 53 36.1	+2.6
FAKI	Fak Fak	7.96	136	P	Pn	19 53 36.0	+2.6
	45nm,1.8s						
MYLDM	Lahad Datu	8.51	286		Pn	19 53 40.7	-0.2
MYLDM	Lahad Datu	8.51	286	P	Pn	19 53 43.7	+2.8
TTSI	Tana Toraja	9.02	230	P	Pn	19 53 51.5	+3.5
	1μm65nm,0.9s						
BNSI	Bone	9.75	223	P	Pn	19 53 59.8	+1.9
	24nm,0.9s						
BKSI	Bulukumba	10.43	219	P	Pn	19 54 09.2	+2.0
KAPI	Kappang	10.44	222	Pn	Pn	19 54 03.3	-4.0
KAPI	Kappang	10.44	222	P	Pn	19 54 08.6	+1.3
	5.1nm,0.4s,baz=40,slow=19,SNR=3.6						
KAPI				S	Sn	19 56 05.2	+2.5
	5.9nm,0.3s,baz=280,slow=22,SNR=2.0						
BSSI	Bau Bau, Buton	10.86	215	P	Pn	19 54 15.3	+2.2
KKM	Kota Kinabalu	10.93	287	Pn	Pn	19 54 11.9	-2.3
KKM	Kota Kinabalu	10.93	287	P	Pn	19 54 17.2	+3.0
EDFI	Ende, Flores	12.54	203	P	Pn	19 54 38.4	+2.2
TGY	Tagaytay City	12.56	333	LR	LR	20 00 27.6	
	comp=Z,166nm,18.1s,baz=140,slow=42						
SOEI	Soe	12.74	191	Pn	Pn	19 54 38.0	-0.8
SBUM	Sibu	14.47	269		Pn	19 55 00.5	-1.4
GENI	Genyem	14.50	112	P	Pn	19 55 04.1	+1.8
DRS	Darwin Rock St	15.72	165	P	Pn	19 55 19.1	+1.1
KSM	Kuching	16.44	266		Pn	19 55 23.5	-3.6
KNRA	Kununurra	18.50	174	P	P	19 55 47.7	-3.9
FITZ	Fitzroy Crossi	20.82	183	P	P	19 56 17.6	+0.8
	8.0nm,0.5s,baz=18,slow=11,SNR=3.9						
FITZ				S	S	20 00 02.3	-3.5
	5.1nm,0.9s,baz=197,slow=20,SNR=3.5						
	8.0nm,0.5s						
YULB	Yu-li	21.10	346	P	P	19 56 15.2	-4.6
YULB				IAmb	IAmb	19 56 35.4	
	comp=Z,79nm,2.0s						
YULB	Yu-li	21.10	346	P	P	19 56 23.1	+3.3
SSLB	Suanglung	21.56	346	P	P	19 56 21.2	-3.5
SSLB				IAmb	IAmb	19 56 23.9	
	comp=Z,152nm,2.0s						
BBJI	Bungbulang	21.59	242	P	P	19 56 30.1	+4.9
NACB	Ninganchiao	21.79	347	P	P	19 56 23.3	-3.8
YHNB	Yeheng	22.31	347	P	P	19 56 30.6	-2.3
YHNB				IAmb	IAmb	19 56 53.0	
	comp=Z,44nm,1.5s						
YHNB	Yeheng	22.31	347	P	P	19 56 35.7	+2.8
KNMB	Chin-men Tao	22.96	340	P	P	19 56 39.6	0.0
KNMB				IAmb	IAmb	19 57 02.1	
	comp=Z,140nm,1.5s						
JMZ	Minamidaito 2	23.27	10	P	P	19 56 41.4	-1.2
COEN	Coen	23.35	136	P	P	19 56 42.0	-1.4
COEN	Coen	23.35	136	P	P	19 56 45.1	+1.7
WRAB	Tennant Creek	23.84	162		P	19 56 47.1	-0.8
WRAB				IAmb	IAmb	19 56 56.5	
	comp=Z,35nm,0.9s						
WRA	Warramunga Arr	23.84	162		P	19 56 45.2	-2.7
WRA	Warramunga Arr	23.84	162	P	P	19 56 48.1	+0.2
	comp=Z,19nm,0.9s,baz=340,slow=10,SNR=16						
	comp=Z,19nm,0.9s						
WB1	Warramunga Ar.	23.86	162	P	P	19 56 48.5	+0.4
WR8	Warramunga Arr	23.90	162	P	P	19 56 47.4	-1.1
WR8				IAmb	IAmb	19 56 57.8	
	comp=Z,28nm,1.1s						
JOW	Kunigami	23.91	3	LR	LR	20 07 15.9	
	comp=Z,12nm,18.5s,baz=343,slow=39						
MBWA	Marble Bar	24.80	196	P	P	19 56 55.9	-0.7
MBWA				IAmb	IAmb	19 57 00.0	
	comp=Z,19nm,1.1s						
QIS	Mount Isa	26.46	152	P	P	19 57 12.6	+0.9
QIS	Mount Isa	26.46	152	P	P	19 57 13.7	+2.0
MTSU	Mount Surprise	27.11	141	P	P	19 57 20.3	+2.7
MTSU	Mount Surprise	27.11	141	P	P	19 57 21.4	+3.8
AS31	Alice Springs	27.25	165	P	P	19 57 18.2	-0.6
ASAR	Alice Springs	27.25	165	P	P	19 57 18.2	-0.6
ASAR	Alice Springs	27.25	165	P	P	19 57 19.3	+0.5
	comp=Z,1.9nm,0.4s,baz=347,slow=12,SNR=12						
ASAR				S	S	20 01 53.4	-0.3
	comp=Z,1.3nm,0.9s,baz=351,slow=21,SNR=5.1						
	comp=Z,1.9nm,0.4s						
AS01	Alice Springs	27.27	165	P	P	19 57 19.9	+1.0
AS01	Alice Springs	27.27	165	P	P	19 57 22.6	+3.7
PSI	Prapat	27.75	271	LR	LR	20 10 25.1	
	comp=Z,66nm,18.1s,baz=110,slow=40						
CTAO	Charters Tower	29.78	141	P	P	19 57 40.3	-1.0
CTAO				IAmb	IAmb	19 58 01.3	
	comp=Z,18nm,1.4s						
JNU	Nakatsue	30.39	7	LR	LR	20 11 19.1	
	comp=Z,17nm,21.1s,baz=183,slow=39						
CMAR	Chng Mai Arr	31.31	302	P	P	19 57 56.4	+1.5
	comp=Z,0.4nm,0.5s,baz=109,slow=6.8,SNR=5.5						
CMAR				LR	LR	20 12 16.7	
	comp=Z,29nm,19.0s,baz=105,slow=39						
	comp=Z,0.4nm,0.5s						
INKA	Innaminka	33.27	157	P	P	19 58 11.8	-0.1
MORW	Morawa	33.33	197	P	P	19 58 11.0	-1.3
INU	Inuyama	33.74	15	P	P	19 58 13.2	-2.7
INU				IAmb	IAmb	19 58 23.4	
	comp=Z,28nm,1.3s						
QLP	Quilpie	33.79	151	P	P	19 58 17.1	+0.6
KSRS	Korea Array	34.48	2	P	P	19 58 22.8	+0.6
	comp=Z,1.4nm,0.4s,baz=178,slow=9.8,SNR=13						
	comp=Z,1.4nm,0.4s						
MJAR	Matsushiro Arr	35.19	16	P	P	19 58 28.4	0.0
	comp=Z,2.1nm,0.9s,baz=194,slow=8.9,SNR=4.7						
MJAR				LR	LR	20 09 59.7	
	comp=Z,33nm,21.6s,baz=212,slow=31						
	comp=Z,2.1nm,0.9s						
GD1S	Gladstone Soft	35.64	139	P	P	19 58 37.0	+4.6
BBOO	Buckleboo	36.54	167	P	P	19 58 39.7	-0.3
BBOO				IAmb	IAmb	19 59 30.5	
	comp=Z,52nm,1.5s						
EIDS	Eidsvold	36.67	141		P	19 58 39.9	-1.2
EIDS				IAmb	IAmb	19 58 43.4	
	comp=Z,17nm,1.1s						
NWAO	Narrogin (SRO)	36.68	193	P	P	19 58 40.8	-0.4
STKA	Stephens Creek	37.30	159		P	19 58 46.0	-0.5
STKA	Stephens Creek	37.30	159	P	P	19 58 47.5	+1.1
	comp=Z,4.7nm,0.6s,baz=333,slow=11,SNR=9.9						
STKA				LR	LR	20 17 05.7	
	comp=Z,63nm,19.3s,baz=48,slow=41						
	comp=Z,4.7nm,0.6s						
STKA	Stephens Creek	37.30	159	P	P	19 58 47.6	+1.1
CMSA	Cobar Meteorol	38.66	154	P	P	19 58 59.3	+1.4
JTM	Tenmabayashi	39.95	17	P	P	19 59 07.7	-0.9
SHL	Shillong	40.39	307		P	19 59 10.5	-2.2
SHL				IAmb	IAmb	19 59 15.6	
	comp=Z,8.9nm,0.6s						
ARMA	Armidale	40.74	146		P	19 59 14.6	-0.7
ARMA				IAmb	IAmb	19 59 18.1	
	comp=Z,16nm,0.8s						
ARMA	Armidale	40.74	146	P	P	19 59 17.2	+1.8
USA0B	Ussuriysk Arra	41.46	6	P	P	19 59 18.9	-2.1
USA0B				IAmb	IAmb	19 59 50.9	
	comp=Z,43nm,1.6s						
USRK	Ussuriysk Ar.	41.46	6	P	P	19 59 19.6	-1.4
USRK	Ussuriysk Ar.	41.46	6	P	P	19 59 22.2	+1.3
	comp=Z,9.5nm,0.8s,baz=190,slow=7.0,SNR=20						
	comp=Z,9.5nm,0.8s						
CAN	Canberra	43.33	153	P	P	19 59 35.1	-1.2
CAN				IAmb	IAmb	19 59 39.4	
	comp=Z,14nm,0.8s						
CAN	Canberra	43.33	153	P	P	19 59 38.6	+2.4
ASAJ	Asahikawa	43.45	17	LR	LR	20 20 39.0	
	comp=Z,21nm,18.1s,baz=186,slow=40						
JKA	Kamikawa-asahi	43.45	17	P	P	19 59 36.6	-0.6
GTA	Gaotai	43.85	330	*e*P	P	19 59 42.4	+1.8
GTA				pP	sP	20 00 11.4	+8.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PALK	Pallekele	46.02	277	LR	LR	20 21 13.7	
	comp=Z,60nm,19.2s,baz=145,slow=38						
SONM	Songino Array	48.14	342	P	P	20 00 13.2	-0.9
SONM	Songino Array	48.14	342	P	P	20 00 14.9	+0.7
	comp=Z,1.1nm,0.6s,baz=154,slow=8.8,SNR=9.3						
SONM				LR	LR	20 21 33.1	
	comp=Z,41nm,18.3s,baz=154,slow=37						
	comp=Z,1.1nm,0.6s						
TAU	Tasmania Unive	49.19	160	P	P	20 00 20.6	-1.5
MKAR	Makanchi Array	58.28	326	P	P	20 01 26.6	-2.0
MKAR	Makanchi Array	58.28	326	P	P	20 01 29.5	+1.0
	comp=Z,1.7nm,0.5s,baz=118,slow=9.1,SNR=8.0						
MKAR				LR	LR	20 27 45.5	
	comp=Z,43nm,20.1s,baz=152,slow=37						
	comp=Z,1.7nm,0.5s						
YAK	Yakutsk	59.10	2		P	20 01 32.4	-1.6
YAK				IAmb	IAmb	20 01 36.5	
	comp=Z,9.5nm,0.7s						
MRNZ	Matariki Terra	60.72	142	P	P	20 01 45.6	+0.2
LBZ	Lake Benmore	60.96	146	P	P	20 01 46.2	-0.8
NNZ	Nelson	61.00	141	P	P	20 01 46.9	-0.5
AAK	Ala-Archa	61.00	318	LR	LR	20 30 29.2	
	comp=Z,27nm,21.8s,baz=122,slow=38						
THZ	Tophouse	61.01	142	P	P	20 01 47.5	0.0
LTZ	Lake Taylor	61.21	143	P	P	20 01 49.4	+0.6
TUWZ	Tuamarina	61.47	141	P	P	20 01 50.6	+0.1
KHZ	Kahutara	61.77	142	P	P	20 01 51.4	-1.1
BKZ	Black Stump Fm	61.94	138	P	P	20 01 54.3	+0.5
RTZ	Ruatahuna	61.99	137	P	P	20 01 54.7	+0.5
KURBB	Kurchatov Arra	62.48	328	P	P	20 01 58.3	+1.2
	comp=Z,3.5nm,0.7s,baz=130,slow=6.3,SNR=24						
	comp=Z,3.5nm,0.7s						
KURK	Kurchatov	62.48	328		P	20 01 57.0	-0.1
KURK	Kurchatov	62.48	328	P	P	20 01 57.7	+0.6
BVAR	Borovoye Array	68.06	327	P	P	20 02 34.5	+1.3
	comp=Z,0.7nm,0.4s,baz=130,slow=6.0,SNR=4.8						
	comp=Z,0.7nm,0.4s						
AB31	Akbulak array	72.83	321	P	P	20 03 01.1	-1.2
AB31				IAmb	IAmb	20 05 26.8	
	comp=Z,14nm,2.0s						
ABKAR	Akbulak array	72.83	321	P	P	20 03 02.3	-0.1
AKTO	Aktyubinsk	74.34	322	P	P	20 03 13.2	+2.0
	comp=Z,2.3nm,0.7s,baz=114,slow=9.3,SNR=2.4						
	comp=Z,2.3nm,0.7s						
RAR	Rarotonga	75.72	113	P	P	20 03 17.8	-1.9
ARTI	Arti	75.76	328	LR	LR	20 37 12.7	
	comp=Z,30nm,20.7s,baz=113,slow=36						
D19K	Kuna River	81.97	21	P	P	20 03 51.6	-1.5
D19K				IAmb	IAmb	20 05 56.7	
	comp=Z,30nm,1.5s						
E19K	Redstone River	82.07	22	P	P	20 03 52.5	-1.1
E19K				IAmb	IAmb	20 04 35.4	
	comp=Z,11nm,1.1s						
SUA	Susitna One	83.96	29	P	P	20 04 02.4	-1.2
SUA				IAmb	IAmb	20 04 19.2	
	comp=Z,42nm,1.9s						
BRTR	Keskin Array B	90.57	310	P	P	20 04 38.0	+1.8
	comp=Z,2.1nm,1.0s,baz=102,slow=4.9,SNR=6.4						
	comp=Z,2.1nm,1.0s						
ARCES	ARCESS Array B	91.28	340	P	P	20 04 39.2	+0.7
	comp=Z,0.8nm,0.6s,baz=75,slow=3.4,SNR=5.2						
	comp=Z,0.8nm,0.6s						
SYO	Syowa Base	91.58	201⇓	*e*PcP	PcP	20 04 41.2	+0.4
FINES	FINESS Array B	92.61	332	P	P	20 04 47.5	+2.7
	comp=Z,1.3nm,0.7s,baz=343,slow=6.0,SNR=3.7						
	comp=Z,1.3nm,0.7s						
NOA	NORSAR Array B	99.58	334	LR	LR	20 55 56.7	
	comp=Z,14nm,18.6s,baz=60,slow=39						

NEIC 16 19:55:41.9±1.0, 38.11N±0.03°×97.94W±0.04, h5km±2km, mb_Lg2.5/35, ML2.5/6, Error ellipse: s-maj=6.0km s-min=3.1km az=51.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R32A	Long Quarter,	0.69	298		Pg	19 55 53.9	-1.2
R32A				Sg	Sg	19 56 04.8	+0.7
R32A				IAML		19 56 06.1	
	260nm,0.6s						
R32A				IAML		19 56 15.4	
	220nm,0.7s						
KAN08	Anthony NE Sta	0.88	182	Pg	Pg	19 55 57.9	-0.9
KAN08				IAmb_Lg		19 56 11.1	
	comp=Z,43nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.67**	**264**	T	T	20 34 33.9	
	baz=88,slow=74,SNR=18						
H08S3	**Diego Garcia H**	**30.68**	**264**	T	T	20 34 41.4	
	baz=88,slow=74,SNR=37						
H08S1	**Diego Garcia H**	**30.69**	**264**	T	T	20 34 40.8	
	baz=88,slow=74,SNR=9.4						
H01W3	**Cape Leeuwin H**	**30.95**	**162**	T	T	20 36 21.4	
	baz=338,slow=76,SNR=2.8						
H01W2	**Cape Leeuwin H**	**30.96**	**163**	T	T	20 36 19.6	
	baz=338,slow=76,SNR=4.6						
H01W1	**Cape Leeuwin H**	**30.96**	**162**	T	T	20 36 21.0	
	baz=338,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**33.44**	**118**	P	P	20 04 17.3	+0.4
	0.7nm,0.8s,baz=292,slow=10.0,SNR=3.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**34.59**	**125**	P	P	20 04 26.5	-0.4
	0.2nm,0.4s,baz=302,slow=8.0,SNR=4.2						
	0.2nm,0.4s						
SONM	**Songino Array**	**53.13**	**3**	P	P	20 06 55.7	0.0
	0.3nm,0.4s,baz=171,slow=10,SNR=2.8						
	0.3nm,0.4s						
H04S1	**CROZET ISLANDS**	**60.31**	**218**	T	T	21 12 08.9	
	baz=64						
H04S3	**CROZET ISLANDS**	**60.33**	**218**	T	T	21 11 55.9	
	baz=64,slow=75						
H04S2	**CROZET ISLANDS**	**60.33**	**218**	T	T	21 11 56.1	
	baz=64,slow=75						
TXAR	**Lajitas Array**	**145.17**	**44**	PKPbc	PKPbc	20 17 14.8	-1.1
	0.3nm,0.7s,baz=343,slow=4.6,SNR=3.4						

IDC ***16*** *19:57:59.2±1.3,39.°54N×77.°05E,h0km,mb3.7/6, mbtmp3.6/11,ML2.8/6,MS2.9/6,Error ellipse: s-maj=22.7km s-min=16.6km az=80.0*
KRNET ***16*** *19:58:02.5±0.1,39.°56N×77.°21E,mb4.4*
SOME ***16*** *19:58:03.0,39.°70N×76.°90E,h5km*
NNC ***16*** *19:58:04.5±0.9,39.°72N×76.°97E,h0km,mb4.4,mpv4.0, Error ellipse: s-maj=6.8km s-min=5.5km az=156.0*
ISC 16 19:58:03.5±1.4,39.°75N±0.°05×77.°01E±0.°04,h4km±8km, n66,σ2§71/83,mb3.8/5,MS3.2/3,19C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.83**	**254**		**Pn**	**19 58 24.9**	**+2.8**
KSH				Sg	**Sn**	**19 58 42.6**	**+7.8**
KSH				smax	smax		
	comp=N,2μm,0.7s						
KSH				smax	smax		
	comp=E,960nm,0.6s						
TARG	**Taragay, Kyrgy**	**2.07**	**17**	⇑*eP*	**Pb**	**19 58 42.1**	**+0.2**
TARG				⇑*eS*	**Sg**	**19 59 11.0**	**+0.9**
KDJ	**Kajisay**	**2.39**	**3**	⇓*eP*	**Pb**	**19 58 46.8**	**-0.3**
KDJ				⇓*eS*	**Sb**	**19 59 19.1**	**+2.1**
ULHL	**Ulahol**	**2.56**	**347**	P	**Pb**	**19 58 51.7**	**+1.6**
	SNR=13						
ULHL	**Ulahol**	**2.56**	**347**	⇓*eP*	**Pb**	**19 58 49.8**	**-0.4**
ULHL				⇓*eS*	**Sb**	**19 59 24.5**	**+2.4**
SALK	**Salom-Alik**	**2.69**	**296**	⇑*eP*	**Pb**	**19 58 51.8**	**-0.4**
SALK				⇑*eS*	**Sb**	**19 59 27.7**	**+2.1**
PRZ	**Przheval'sk**	**2.93**	**21**	⇓*eP*	**Pn**	**19 58 53.8**	**+2.8**
PRZ				⇓*eS*	**Sb**	**19 59 31.4**	**-1.2**
UCH	**Uchtor**	**3.12**	**324**	P	**Pn**	**19 58 56.3**	**+2.5**
	SNR=28						
TNSS	**Tian-Shan**	**3.29**	**359**	Pg	**Pg**	**19 59 06.4**	**-0.1**
	comp=E,10nm,0.4s						
TNSS				Lg	Lg	19 59 51.6	
	comp=E,52nm,0.7s						
TNSS	**Tian-Shan**	**3.29**	**359**	*eP*	**Pg**	**19 59 06.4**	**-0.1**
	comp=E,10nm,0.4s						
TNSS				*eS*	**Sg**	**19 59 51.6**	**+2.4**
	comp=E,52nm,0.7s						
KBK	**Karagaybulak**	**3.30**	**333**	P	**Pn**	**19 58 59.6**	**+3.6**
	SNR=15						
IZV	**Izvestkoviy**	**3.30**	**355**	Pg	**Pb**	**19 59 05.0**	**+2.3**
	comp=E,48nm,0.7s						
IZV				Lg	Lg	19 59 49.7	
	comp=E,166nm,0.9s						
IZV	**Izvestkoviy**	**3.30**	**355**	*eP*	**Pb**	**19 59 05.0**	**+2.3**
	comp=E,48nm,0.7s						
IZV				*eS*	**Sg**	**19 59 49.7**	**+0.1**
	comp=E,166nm,0.9s						
OHH	**Osh**	**3.33**	**285**	⇑*eP*	**Pn**	**19 59 00.3**	**+3.9**
OHH				⇑*eS*	**Sb**	**19 59 42.6**	**-1.4**
TKM2	**Tokmak 2**	**3.35**	**342**	P	**Pb**	**19 59 01.3**	**-2.2**
	SNR=10						
KST	**Kastek**	**3.39**	**347**	Pg	**Pg**	**19 59 07.7**	**-0.7**
	comp=E,69nm,0.7s						
KST				Lg	Lg	19 59 54.6	
	comp=E,241nm,1.0s						
KST	**Kastek**	**3.39**	**347**	*eP*	**Pb**	**19 59 06.3**	**+2.2**
	comp=E,36nm,0.6s						
KST				*eS*	**Sg**	**19 59 51.4**	**-0.9**
	comp=E,178nm,0.5s						
MTBS	**Maitube**	**3.41**	**353**	Pg	**Pb**	**19 59 07.0**	**+2.5**
	comp=E,36nm,0.7s						
MTBS				Lg	Lg	19 59 53.3	
	comp=E,178nm,0.8s						
MTBS	**Maitube**	**3.41**	**353**	*eP*	**Pb**	**19 59 07.0**	**+2.5**
	comp=E,36nm,0.7s						
MTBS				*eS*	**Sg**	**19 59 53.3**	**+0.3**
	comp=E,178nm,0.8s						
ARSB	**Arslanbob**	**3.45**	**299**	⇑*eP*	**Pn**	**19 59 02.4**	**+4.3**
ARSB				⇑*eS*	**Sb**	**19 59 46.1**	**-1.4**
AAK	**Ala-Archa**	**3.46**	**328**	Pn	**Pn**	**19 59 01.1**	**+2.9**
	comp=E,3.8nm,0.3s,baz=166,slow=9.7,SNR=12						
AAK				Lg	Lg	19 59 55.1	
	comp=E,46nm,0.3s,baz=335,slow=18,SNR=19						
	comp=E,5.8nm,0.3s						
AAK	**Ala-Archa**	**3.46**	**328**	P	**Pn**	**19 59 01.4**	**+3.2**
	SNR=6.5						
AAK	**Ala-Archa**	**3.46**	**328**	⇑Pg	**Pb**	**19 59 06.5**	**+1.2**
	comp=E,84nm,0.7s						
AAK				⇑Lg	Lg	19 59 54.1	
	comp=E,354nm,1.0s						
AAK	**Ala-Archa**	**3.46**	**328**	⇑*eP*	**Pn**	**19 59 02.6**	**+4.4**
AAK				⇑*eS*	**Sb**	**19 59 46.4**	**-1.3**
AAA	**Alma-Ata**	**3.46**	**359**	Pg	**Pb**	**19 59 08.4**	**+3.0**
	comp=E,48nm,0.8s						
AAA				Lg	Lg	19 59 55.5	
	comp=E,17nm,0.6s						
AAA	**Alma-Ata**	**3.46**	**359**	*eP*	**Pb**	**19 59 08.4**	**+3.0**
	comp=E,48nm,0.8s						
AAA				*eS*	**Sg**	**19 59 55.5**	**+0.8**
	comp=E,17nm,0.6s						
KNDC	**Almaty**	**3.47**	**359**	⇑Pg	**Pb**	**19 59 07.8**	**+2.3**
	comp=E,97nm,0.8s						
KNDC				⇓Lg	Lg	19 59 56.3	
	comp=E,388nm,0.5s						
SATY	**Saty**	**3.48**	**17**	Pg	**Pb**	**19 59 08.6**	**+3.0**
	comp=E,75nm,1.0s						
SATY				Lg	Lg	19 59 55.4	
	comp=E,221nm,0.7s						
KOTS	**Kotyrbulak**	**3.49**	**1**	Pg	**Pg**	**19 59 09.5**	**-0.8**
	comp=E,46nm,0.6s						
KOTS				Lg	Lg	19 59 57.6	
	comp=E,271nm,0.9s						
KOTS	**Kotyrbulak**	**3.49**	**1**	*eP*	**Pg**	**19 59 09.5**	**-0.8**
	comp=E,46nm,0.6s						
KOTS				*eS*	**Sg**	**19 59 57.6**	**+2.1**
	comp=E,271nm,0.9s						
FRU1	**Bishkek**	**3.55**	**330**	⇓*eP*	Pn	19 59 04.0	+4.6
FRU1				⇓*eS*	**Sb**	**19 59 48.9**	**-1.4**
DGS	**Degeres**	**3.62**	**346**	Pg	**Pb**	**19 59 11.6**	**+3.5**
	comp=E,83nm,0.6s						
DGS				Lg	Lg	20 00 00.8	
	comp=E,139nm,0.8s						
CHMS	**Chumysh**	**3.67**	**333**	P	**Pn**	**19 59 04.3**	**+3.3**
	SNR=9.4						
UZB	**Uzynbulak**	**3.72**	**23**	Pg	**Pb**	**19 59 12.6**	**+2.8**
	comp=E,38nm,0.6s						
UZB				Lg	Lg	20 00 02.3	
	comp=E,69nm,1.0s						
UZB	**Uzynbulak**	**3.72**	**23**	*eP*	**Pb**	**19 59 12.6**	**+2.8**
	comp=E,38nm,0.6s						
UZB				*eS*	**Sg**	**20 00 02.3**	**-0.7**
	comp=E,69nm,1.0s						
EKS2	**Erkin-Say**	**3.80**	**321**	P	Pn	**19 59 05.9**	**+3.0**
	SNR=21						
SHLS	**Shalkode**	**3.88**	**28**	*eP*	**Pg**	**19 59 18.9**	**+1.2**
	comp=E,30nm,0.9s						
SHLS				*eS*	**Sg**	**20 00 14.0**	**+6.0**
	comp=E,180nm,0.8s						
KPKS	**Kokpek**	**3.92**	**18**	Pg	**Pb**	**19 59 16.8**	**+3.5**
	comp=E,40nm,0.8s						
KPKS				Lg	Lg	20 00 09.4	
	comp=E,88nm,0.7s						
KTBS	**Karatobe**	**3.97**	**357**	Pg	**Pb**	**19 59 17.8**	**+3.8**
	comp=E,62nm,1.2s						
KTBS				Lg	Lg	20 00 11.5	
	comp=E,125nm,0.5s						
USP	**Ospenovka**	**3.99**	**333**	P	**Pn**	**19 59 09.1**	**+3.6**
	SNR=8.4						
PDGK	**Podgornoye**	**4.04**	**27**	⇑Pn	**Pn**	**19 59 06.8**	**+0.6**
	comp=E,4.4nm,0.7s						
PDGK				⇑Pg	**Pb**	**19 59 17.1**	**+1.9**
	comp=E,33nm,0.7s						
PDGK				⇑Lg	Lg	20 00 12.7	
	comp=E,361nm,1.5s						
CHKK	**Chushkaly**	**4.11**	**360**	Pg	**Pb**	**19 59 19.2**	**+2.9**
	comp=E,24nm,0.5s						
CHKK				Lg	Lg	20 00 14.3	
	comp=E,106nm,0.4s						
CHKK	**Chushkaly**	**4.11**	**360**	*eP*	**Pb**	**19 59 19.2**	**+2.9**
	comp=E,24nm,0.5s						
CHKK				*eS*	**Sg**	**20 00 14.3**	**-1.0**
	comp=E,106nm,0.4s						
SGDS	**Sogindy**	**4.11**	**335**	Pg	**Pb**	**19 59 19.5**	**+3.1**
	comp=E,42nm,0.8s						
SGDS				Lg	Lg	20 00 14.7	
	comp=E,122nm,0.5s						
KUU	**Kurty**	**4.17**	**353**	Pg	**Pb**	**19 59 21.0**	**+3.5**
	comp=E,49nm,1.0s						
KUU				Lg	Lg	20 00 16.6	
	comp=E,101nm,1.0s						
KUU	**Kurty**	**4.17**	**353**	*eP*	**Pb**	**19 59 21.0**	**+3.5**
	comp=E,49nm,1.0s						
KUU				*eS*	**Sg**	**20 00 16.6**	**-0.9**
	comp=E,101nm,1.0s						
ARXS	**Arharly**	**4.51**	**8**	Pg	**Pb**	**19 59 27.2**	**+4.0**
	comp=E,25nm,0.8s						
ARXS				Lg	Lg	20 00 27.3	
	comp=E,65nm,0.8s						
BTLS	**Baital**	**5.73**	**338**	Pg	Pb	19 59 49.0	+5.1
	comp=E,11nm,0.6s						
BTLS				Lg	Lg	20 01 05.1	
	comp=E,34nm,0.5s						
BTLS	**Baital**	**5.73**	**338**	*eP*	Pb	19 59 49.0	+5.1
	comp=E,11nm,0.6s						
BTLS				*eS*	**Sg**	**20 01 05.1**	**-2.3**
	comp=E,34nm,0.5s						
IUG	**Iuzhnay**	**5.80**	**297**	Pg	Pb	19 59 49.7	+4.5
IUG				Lg	Lg	20 01 05.8	
KK31	**Karatay Array**	**5.92**	**307**	Pn	**Pn**	**19 59 34.7**	**+2.7**
	comp=E,0.6nm,0.3s,baz=127,slow=12,SNR=11						
KK31				⇑Pg	**Pb**	**19 59 51.4**	**+4.1**
	comp=E,25nm,0.8s,baz=131,slow=16,SNR=30						
KK31				⇑Lg	Lg	20 01 09.0	
	comp=E,12nm,0.4s,baz=119,slow=28,SNR=8.7						
BRLS	**Borolday**	**6.31**	**304**	Pg	Pb	19 59 59.4	+5.5
	comp=E,6.5nm,0.7s						
BRLS				Lg	Lg	20 01 23.6	
BRLS	**Borolday**	**6.31**	**304**	*eP*	Pb	19 59 59.4	+5.5
	comp=E,6.5nm,0.7s						
BRLS				*eS*	**Sg**	**20 01 23.6**	**-2.6**
MK31	**Makanchi Array**	**8.03**	**27**	Pn	**Pn**	**20 00 04.5**	**+3.6**
	comp=E,1.2nm,0.6s,baz=354,slow=22,SNR=4.0						
MK31				Pg	**Pg**	**20 00 35.4**	**-1.8**
	comp=E,1.4nm,0.6s,baz=253,slow=13,SNR=3.2						
MK31				⇑Lg	Lg	20 02 18.8	
	comp=E,14nm,1.0s,baz=214,slow=27,SNR=4.9						
MKAR	**Makanchi Array**	**8.03**	**27**	Pn	**Pn**	**20 00 02.0**	**+1.2**
	comp=E,0.1nm,0.3s,baz=199,slow=13,SNR=2.5						
MKAR				Lg	Lg	20 02 18.0	
	comp=E,0.4nm,0.3s,baz=211,slow=21,SNR=4.4						
MKAR				LR	LR	20 02 53.5	
	comp=E,28nm,19.8s,baz=274,slow=36						
KURBB	**Kurchatov Arra**	**10.93**	**5**	Pn	**Pn**	**20 00 38.7**	**-1.8**
	baz=196,slow=11,SNR=5.5						
KURBB				Lg	Lg	20 03 49.0	
	comp=E,0.1nm,0.3s,baz=192,slow=28,SNR=5.0						
KURBB				LR	LR	20 05 30.9	
	comp=E,15nm,18.9s,baz=172,slow=41						
	comp=E,0.4nm,0.8s						
BVAR	**Borovoye Array**	**14.04**	**343**	Pn	**Pn**	**20 01 20.7**	**-2.3**
	baz=152,slow=13,SNR=6.6						
BVAR				Lg	Lg	20 05 28.2	
	baz=159,slow=25,SNR=5.1						
BVAR				LR	LR	20 07 07.7	
	comp=E,50nm,18.3s,baz=165,slow=38						
	comp=E,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**15.16**	**18**	Pn	**Pn**	**20 01 35.5**	**-2.8**
	comp=E,0.2nm,0.3s,baz=217,slow=11,SNR=12						
ZALV				Lg	Lg	20 06 06.9	
	comp=E,0.2nm,0.3s,baz=173,slow=24,SNR=1.4						
	comp=E,0.8nm,0.6s						
AKTO	**Aktyubinsk**	**17.10**	**315**	P	**Pn**	**20 02 01.6**	**-1.6**
	comp=E,0.2nm,0.3s,baz=113,slow=15,SNR=1.9						
	comp=E,0.4nm,0.3s						
ARTI	**Arti**	**20.68**	**330**	P	**P**	**20 02 42.9**	**-1.2**
	comp=E,1.8nm,0.6s,baz=140,slow=7.9,SNR=5.9						
ARTI				Lg	Lg	20 08 59.7	
	comp=E,0.2nm,0.3s,baz=86,slow=6.6,SNR=4.1						
	comp=E,1.8nm,0.6s						
AKASG	**Malin Array Be**	**34.82**	**304**	LR	LR	20 21 08.8	
	comp=E,27nm,18.3s,baz=44,slow=40						
FINES	**FINESS Array B**	**37.63**	**322**	P	**P**	**20 05 17.1**	**-2.0**
	comp=E,1.3nm,0.8s,baz=101,slow=12,SNR=6.0						
FINES				LR	LR	20 21 47.2	
	comp=E,40nm,18.5s,baz=64,slow=38						
	comp=E,1.3nm,0.8s						
NOA	**NORSAR Array B**	**44.75**	**321**	P	**P**	**20 06 14.1**	**-3.6**
	comp=E,0.8nm,0.7s,baz=78,slow=8.6,SNR=3.3						
NOA				LR	LR	20 25 50.3	
	comp=E,29nm,19.4s,baz=105,slow=37						
	comp=E,0.8nm,0.7s						
GERES	**GERESS Array B**	**45.02**	**303**	P	**P**	**20 06 17.5**	**-2.6**
	comp=E,0.8nm,0.7s,baz=69,slow=7.3,SNR=6.5						
	comp=E,0.8nm,0.7s						
ESDC	**Sonseca Array**	**60.11**	**298**	P	**P**	**20 08 08.7**	**-3.3**
	comp=E,0.6nm,0.8s,baz=77,slow=6.5,SNR=4.2						
	comp=E,0.6nm,0.8s						
ASAR	**Alice Springs**	**82.42**	**129**	P	P	20 10 22.4	-4.6
	comp=E,0.7nm,0.9s,baz=317,slow=5.1,SNR=4.6						
	comp=E,0.7nm,0.9s						

IDC ***16*** *20:18:29.9±1.1,27.°84N×50.°84E,h0km,mb4.0/11, mbtmp3.9/12,ML2.3/2,MS3.2/1,Error ellipse: s-maj=26.3km s-min=19.0km az=25.0*
NEIC ***16*** *20:18:30.4±1.4,27.°82N±0.°08×50.°88E±0.°10,h10km±1km, mb4.1/11,Error ellipse: s-maj=16.7km s-min=10.7km az=227.0*
TEH ***16*** *20:18:32.2,27.°92N×50.°84E,h12km±38km*
THR ***16*** *20:18:38.8±0.9,28.°22N×50.°96E,h10km,ML4.0*
ISC 16 20:18:31.1±0.8,27.°85N±0.°07×50.°86E±0.°07,h10km,n80, σ1§81/63,mb4.0/13,Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.63**	**35**	Pg	**Pg**	**20 18 43.7**	**+0.4**
GHIR	**Ghir-Karzin**	**1.93**	**76**	*ePn*A		20 19 09.6	
GHIR				IAML		20 19 48.3	
	comp=Z,220nm,1.0s						
LMD1	**Lamerd**	**2.11**	**103**	Pn	**Pn**	**20 19 09.9**	**+3.5**
LMD1	**Lamerd**	**2.11**	**103**	*ePn*A		20 19 16.1	
LMD1				IAML		20 20 17.0	
	comp=Z,740nm,1.0s						
SHI	**Shiraz**	**2.31**	**39**	Pn	**Pn**	**20 19 11.6**	**+2.3**
JHRM	**Jahrom**	**2.49**	**74**	Pn	**Pn**	**20 19 15.1**	**+3.3**
LAR1	**LAR**	**3.12**	**92**	Pn	**Pn**	**20 19 23.6**	**+3.1**
KLNJ	**Kolanjah**	**3.21**	**11**	Pn	**Pn**	**20 19 24.1**	**+2.1**
KLNJ	**Kolanjah**	**3.21**	**11**	*ePn*A		20 19 24.3	
KLNJ				IAML		20 20 39.2	
	comp=Z,210nm,1.0s						
IBRJ	**Brojen**	**4.06**	**5**	Pn	**Pn**	**20 19 35.3**	**+1.7**
IRAM	**Ramesheh**	**4.17**	**18**	Pn	**Pn**	**20 19 37.4**	**+2.4**
ZNGN	**Zangian**	**4.26**	**360**	Pn	**Pn**	**20 19 38.1**	**+1.9**
JHBN	**Jahan bin**	**4.37**	**358**	Pn	**Pn**	**20 19 40.0**	**+2.1**
IGAR	**Gharneh**	**4.66**	**12**	Pn	**Pn**	**20 19 43.9**	**+2.2**
IMEH	**Mehriz**	**4.81**	**42**	Pn	**Pn**	**20 19 46.9**	**+3.0**
IPIR	**Pirpir**	**4.82**	**0**	Pn	**Pn**	**20 19 46.0**	**+1.9**
GTMR	**Gotvand**	**4.85**	**342**	*ePn*A		20 19 45.7	
GTMR				IAML		20 21 32.9	
	comp=Z,87nm,1.0s						
IZEF	**Zefreh**	**5.19**	**14**	Pn	**Pn**	**20 19 51.3**	**+2.3**
ICHK	**Chekchek**	**5.36**	**34**	Pn	**Pn**	**20 19 53.2**	**+1.9**
NGRK	**Negar Kerman**	**5.46**	**69**	Pn	**Pn**	**20 19 54.6**	**+1.8**
IKLH	**Kolahrood**	**5.49**	**6**	Pn	**Pn**	**20 19 55.2**	**+2.1**
IBAF	**Bafgh**	**5.54**	**47**	Pn	**Pn**	**20 19 56.5**	**+2.7**
KRBR	**Kerman**	**5.60**	**66**	Pn	**Pn**	**20 19 57.5**	**+2.8**
KRBR	**Kerman**	**5.60**	**66**	*ePn*A		20 19 58.1	
KRBR				IAML		20 19 59.3	
	comp=Z,61nm,1.0s						
UOSS	**Minazif**	**5.60**	**120**		Pn	20 19 51.9	-2.6
ANAR	**Anarak**	**5.87**	**24**	Pn	**Pn**	**20 20 00.4**	**+2.0**
QAMS	**Qamsar**	**5.89**	**4**	Pn	**Pn**	**20 20 00.9**	**+2.2**
KHMZ	**Khomeyn**	**5.92**	**353**	IAML		20 21 27.5	
	comp=Z,20nm,1.0s						
CHMN	**Cheshme madani**	**6.20**	**70**	Pn	**Pn**	**20 20 05.2**	**+2.2**
KRSH	**Karshahi**	**6.20**	**10**	Pn	**Pn**	**20 20 04.6**	**+1.8**
RAYN	**Ar Rayn**	**6.47**	**229**		Pn	20 20 04.7	-1.8
ISFB	**Sefidab**	**6.59**	**10**	Pn	**Pn**	**20 20 09.3**	**+1.2**
GHVR	**GHOM**	**6.62**	**3**	*ePn*A		20 20 12.2	
GHVR				IAML		20 20 47.0	
	comp=Z,30nm,1.0s						
ASAO	**Ashtian**	**6.72**	**354**	IAML		20 21 30.9	
	comp=Z,17nm,1.0s						
KBAM	**BAM**	**6.81**	**77**	Pn	**Pn**	**20 20 14.1**	**+3.0**
IQOM	**Qom**	**6.98**	**1**	Pn	**Pn**	**20 20 14.5**	**+0.9**
IVRN	**Varamin**	**7.17**	**6**	Pn	**Pn**	**20 20 17.2**	**+1.2**
TPRV	**Parvadeh(Tabas**	**7.21**	**43**	Pn	**Pn**	**20 20 18.8**	**+2.1**
IDMV	**Damavand**	**7.77**	**7**	Pn	**Pn**	**20 20 25.6**	**+1.1**
DAMV	**Damavand**	**7.82**	**7**	*ePn*A		20 20 25.8	
DAMV				IAML		20 20 26.5	
	comp=Z,47nm,1.0s						
TKDS	**Koohdasht(Taba**	**7.88**	**42**	Pn	**Pn**	**20 20 27.9**	**+2.0**
TABS	**Tabas**	**7.90**	**41**	*ePn*A		20 20 28.5	
TABS				IAML		20 20 41.6	
	comp=Z,19nm,1.0s						
IFIR	**Firoozkooh**	**7.94**	**11**	Pn	**Pn**	**20 20 28.8**	**+2.0**
IALA	**Alasht**	**8.38**	**11**	Pn	**Pn**	**20 20 34.9**	**+2.1**
WSAR	**Wadi Sarin**	**8.39**	**121**	Pn	**Pn**	**20 20 31.9**	**-0.9**
	baz=306,slow=24,SNR=4.3						
WSAR				Sn	**Sn**	**20 22 04.7**	**-2.9**
	baz=342,slow=24,SNR=5.8						
IPRN	**Peran**	**8.46**	**8**	Pn	**Pn**	**20 20 36.2**	**+2.3**
ZHSF	**Zahedan**	**8.88**	**76**	*ePn*A		20 20 43.7	
ZHSF				IAML		20 22 22.3	
	comp=Z,8.0nm,1.0s						
SHRO	**Shahrood**	**9.22**	**27**	*ePn*A		20 20 46.3	
SHRO				IAML		20 20 49.0	
	comp=Z,12nm,1.0s						
SRSL	**SARDASHT**	**9.52**	**332**	IAML		20 20 50.0	
	comp=Z,14nm,0.7s						
MRVT	**Maraveh tapeh**	**10.73**	**23**	IAML		20 21 08.1	
	comp=Z,3.7nm,1.2s						
MRVT				*ePn*A		20 21 08.2	
BRTR	**Keskin Array B**	**18.54**	**314**	P	**P**	**20 22 48.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=117,slow=10.0,SNR=2.3						
	comp=Z,0.6nm,0.8s						
GAR	**Garm**	**19.64**	**51**	P	**P**	**20 22 59.8**	**-0.3**
GAR				IAmb	IAmb	20 23 01.8	
	comp=Z,11nm,0.7s						
NIL	**Nilore**	**20.08**	**68**	P	**P**	**20 23 04.6**	**-0.2**
NIL				IAmb	IAmb	20 23 11.7	
	comp=Z,5.6nm,0.8s						
KK31	**Karatay Array**	**22.01**	**41**	P	**P**	**20 23 23.7**	**-1.8**
KKAR	**Karatay Array**	**22.01**	**41**	P	**P**	**20 23 24.4**	**-1.1**
AB31	**Akbulak array**	**22.49**	**16**	P	**P**	**20 23 29.2**	**-1.4**
ABKAR	**Akbulak array**	**22.49**	**16**	P	**P**	**20 23 30.0**	**-0.6**
ARSB	**Arslanbob**	**22.56**	**48**	P	**P**	**20 23 30.7**	**-0.9**
ARSB				IAmb	IAmb	20 23 52.0	
	comp=Z,7.1nm,1.2s						
BVAR	**Borovoye Array**	**29.03**	**25**	P	**P**	**20 24 32.5**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=218,slow=7.4,SNR=15						
	comp=Z,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**30.94**	**35**	P	**P**	**20 24 49.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=234,slow=9.1,SNR=6.6						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**31.05**	**44**	P	**P**	**20 24 48.4**	**-0.8**
MKAR	**Makanchi Array**	**31.05**	**44**	P	**P**	**20 24 50.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=237,slow=9.1,SNR=8.2						
	comp=Z,0.7nm,0.7s						
ZAA0	**Zalesovo Array**	**36.01**	**34**	P	**P**	**20 25 31.1**	**-1.1**
ZAA0				IAmb	IAmb	20 25 33.5	
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**36.01**	**34**	P	**P**	**20 25 30.8**	**-1.3**
ZALV	**Zalesovo Beam**	**36.01**	**34**	P	**P**	**20 25 32.8**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=237,slow=9.6,SNR=11						
	comp=Z,1.7nm,0.5s						
FIA1	**FINESS Array S**	**37.46**	**341**	P	**P**	**20 25 44.0**	**-0.4**
FINES	**FINESS Array B**	**37.46**	**341**	P	**P**	**20 25 43.9**	**-0.5**
FINES	**FINESS Array B**	**37.46**	**341**	P	**P**	**20 25 44.0**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=149,slow=11,SNR=12						
	comp=Z,1.5nm,0.6s						
HFS	**Hagfors**	**40.93**	**333**	P	**P**	**20 26 13.1**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=123,slow=11,SNR=8.3						
	comp=Z,2.1nm,0.6s						
NC405	**NORSAR Array S**	**42.30**	**333**	P	**P**	**20 26 23.6**	**-1.1**
NB201	**NORSAR Array S**	**42.43**	**333**	P	**P**	20 26 24.4	-1.4
NB2	**NORSAR Subarra**	**42.46**	**333**	P	**P**	**20 26 25.1**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**42.46**	**333**	P	**P**	**20 26 25.4**	**-0.7**
	comp=Z,0.9nm,0.7s,ba

NEIC ***16*** *21:14:28.7±1.7,31°.78N±0°.02×115°.50W±0°.02, h22km±11km, Error ellipse: s-maj=3.5km s-min=1.3km az=221.0*
PAS ***16*** *21:14:30.0±1.5,31°.82N±0°.02×115°.52W±0°.01, h17km±6km, ML3.0/27, ML2.7/36(NEIC), Error ellipse: s-maj=2.6km s-min=1.7km az=166.0*
MEX ***16*** *21:14:30.7±1.2,31°.80N×115°.44W, h19km±12km, MD3.7*
ECX 16 21:14:29.8±0.5, 31°.83N×115°.47W, h6km±2km, MD2.8, ML3.0, 6C-8D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAMX	**Rancho Alamar**	**0.27**	**311**	⇓*eP*	Pg	21 14 34.7	-0.4
ALAMX				*eS*	Sg	21 14 38.6	0.0
ALAMX				⇓*e*		21 14 39.0	
RHX	**Rio Hardy**	**0.34**	**27**	⇓*eP*	Pg	21 14 35.7	-0.7
SJX	**San Joaquin**	**0.42**	**261**	*eP*	Pg	21 14 37.8	-0.2
SJX				*eS*	Sg	21 14 44.1	+0.6
SJX				IAML		21 14 44.3	
	comp=N,889nm,0.1s						
SJX				⇑*e*		21 14 44.3	
SJX				⇑*e*		21 14 44.8	
SJX				IAML		21 14 44.8	
	comp=E,2μm,0.1s						
ESJX	**Sierra Juarez**	**0.44**	**293**		Pg	21 14 37.8	-0.6
ESJX				Sg	Sg	21 14 43.8	-0.5
ESJX				IAML		21 14 44.3	
	comp=N,848nm,0.1s						
AGSX	**Ej. Aguas Cali**	**0.51**	**31**	*eP*	Pg	21 14 39.3	-0.3
AGSX				⇓*e*		21 14 48.3	
AGSX				IAML		21 14 48.3	
	comp=E,2μm,0.2s						
AGSX				*e*		21 14 48.4	
AGSX				IAML		21 14 48.4	
	comp=N,1μm,0.2s						
ECBX	**El Chinero**	**0.51**	**135**	⇓*eP*	Pg	21 14 38.8	-0.8
ECBX				*eS*	Sg	21 14 45.6	-0.5
VTX	**Valle De La Tr**	**0.52**	**212**	Pg	Pg	21 14 39.2	-0.5
VTX				Sg	Sg	21 14 45.7	-0.8
VTX				IAML		21 14 46.5	
	comp=E,947nm,0.1s						
VTX				IAML		21 14 46.6	
	comp=N,410nm,0.1s						
VTX	**Valle De La Tr**	**0.52**	**212**	*eP*	Pg	21 14 39.2	-0.6
VTX				*eS*	Sg	21 14 46.3	-0.1
VTX				IAML		21 14 46.6	
	comp=E,987nm,0.1s						
VTX				⇓*e*		21 14 46.6	
GUVIX	**Guadalupe Vict**	**0.58**	**35**		Sb	21 14 50.1	-0.7
CPBX	**Cerro Prieto**	**0.60**	**13**	Pg	Pg	21 14 41.6	+0.2
CPBX				Sg	Sb	21 14 50.8	-0.8
MBIG	**Mexicali**	**0.62**	**22**	*eP*	Pg	21 14 41.7	0.0
MBIG				*eP*	Pb	21 14 42.3	-0.7
MBIG				*eS*	Sg	21 14 50.4	+0.6
MBIG				*eS*	Sb	21 14 51.6	-0.3
PESCX	**Ej. Pescaderos**	**0.74**	**35**		Sb	21 14 54.7	-0.7
SPIG	**San Pedro Mart**	**0.78**	**180**	⇓*eP*	Pg	21 14 43.9	-1.0
SPIG				*eS*	Sg	21 14 54.4	-0.7
SPIG	**San Pedro Mart**	**0.78**	**180**	*eP*	Pg	21 14 43.9	-1.0
SPIG				*eS*	Sg	21 14 54.4	-0.7
UABX	**UABC, Campus M**	**0.80**	**2**		Sb	21 14 57.1	-0.1
SV2X	**San Vicente**	**0.82**	**233**	*eP*	Pg	21 14 44.3	-1.3
SV2X				*eS*	Sg	21 14 55.0	-1.1
SGL	**Mount Signal**	**0.84**	**345**		Pg	21 14 45.2	-0.8
SGL					Sg	21 14 56.7	-0.3
YUH2	**Yuha Desert**	**0.90**	**335**	*eP*	Pg	21 14 45.4	-1.7
YUH	**Yuha Desert**	**0.90**	**335**		Pg	21 14 45.6	-1.5
YUH				Sg	Sg	21 14 57.6	-1.2
YUH				IAML		21 14 58.2	
	comp=E,108nm,0.1s						
YUH				IAML		21 14 58.7	
	comp=N,87nm,0.2s						
RMX	**La Rumorosa**	**0.93**	**326**	*eP*	Pg	21 14 45.2	-2.4
RMX				*eS*	Sg	21 14 56.9	-2.7
RMX				*e*		21 14 58.0	
RMX				IAML		21 14 58.0	
	comp=E,331nm,0.2s						
WESC	**Westside Schoo**	**0.95**	**347**		Pg	21 14 47.5	-0.6
SFX	**San Felipe**	**0.95**	**146**	Pg	Pg	21 14 46.8	-1.3
SFX					Sg	21 14 59.6	-0.8
SFX				IAML		21 15 00.5	
	comp=E,436nm,0.2s						
SFX	**San Felipe**	**0.95**	**146**	*eP*	Pg	21 14 46.6	-1.5
SFX				*eS*	Sg	21 14 59.5	-1.0
SFX				IAML		21 15 00.4	
	comp=N,407nm,0.2s						
SFX				⇑*e*		21 15 00.4	
SFX				IAML		21 15 00.5	
	comp=E,433nm,0.2s						
SFX				⇑*e*		21 15 00.5	
SFX	**San Felipe**	**0.95**	**146**	*eP*	Pg	21 14 46.7	-1.4
SFX				*eS*	Sg	21 14 59.5	-0.9
IKP	**In-Ko-Pah, Jac**	**0.98**	**327**		Pg	21 14 47.3	-1.3
IKP	**In-Ko-Pah, Jac**	**0.98**	**327**	*eP*	Pg	21 14 46.7	-2.0
CCX	**Cicese**	**1.02**	**272**		Pg	21 14 48.3	-1.0
CCX				IAML		21 15 01.9	
	comp=E,273nm,0.3s						
CCX				IAML		21 15 03.6	
	comp=N,235nm,0.5s						
CCX	**Cicese**	**1.02**	**272**	*eP*	Pg	21 14 47.7	-1.7
COK2	**Cook Ranch 2**	**1.04**	**348**		Pg	21 14 49.2	-0.6
COA	**Coachella**	**1.07**	**16**		Pg	21 14 49.7	-0.7
PBX	**Punta Banda**	**1.07**	**266**	⇑*iP*	Pg	21 14 49.1	-1.3
PBX				*eS*	Sg	21 15 03.8	-0.6
CBX	**Cerro Bola**	**1.12**	**296**		Pg	21 14 49.6	-1.7
CBX					Sg	21 15 04.5	-1.4
CBX	**Cerro Bola**	**1.12**	**296**	⇑*eP*	Pg	21 14 49.9	-1.5
CBX				*eS*	Sg	21 15 04.8	-1.1
CBX				⇓*e*		21 15 07.3	
CBX				IAML		21 15 07.3	
	comp=E,379nm,0.3s						
CBX	**Cerro Bola**	**1.12**	**296**	*eP*	Pg	21 14 49.9	-1.5
CBX				*eS*	Sg	21 15 04.7	-1.3
CRR	**Carrizo Plain**	**1.13**	**338**		Pg	21 14 50.2	-1.3
TJIG	**Tijuana**	**1.19**	**301**	*eS*	Sg	21 15 06.1	-1.9
TJIG	**Tijuana**	**1.19**	**301**	*eP*	Pg	21 14 50.8	-1.8
TJIG				*eS*	Sg	21 15 05.7	-2.2
TKX	**Tecate**	**1.21**	**308**	Pn	Pg	21 14 51.7	-1.4
TKX				Sg	Sg	21 15 07.2	-1.6
TKX				IAML		21 15 09.2	
	comp=N,271nm,0.2s						
TKX	**Tecate**	**1.21**	**308**	*eS*	Sg	21 15 07.1	-1.8
SQX	**San Quintin**	**1.30**	**196**	*eP*	Pn	21 14 52.2	-2.3
SQX				*eS*	Sg	21 15 09.5	-2.0
SQX				*e*		21 15 10.2	
SQX				IAML		21 15 10.2	
	comp=N,226nm,0.2s						
SQX				IAML		21 15 10.5	
	comp=E,276nm,0.3s						
BAR	**Barrett**	**1.32**	**310**		Pn	21 14 53.2	-1.7
BAR	**Barrett**	**1.32**	**310**	IAML		21 15 10.6	
	comp=E,266nm,0.1s						
BAR				IAML		21 15 10.9	
	comp=N,270nm,0.1s						
BAR	**Barrett**	**1.32**	**310**	*eP*	Pn	21 14 52.8	-2.1
MONP2	**Monument Peak**	**1.33**	**323**		Pn	21 14 54.3	-0.8
MONP2					Sg	21 15 11.3	-1.3
GLA	**Glamis**	**1.33**	**24**		Pn	21 14 53.5	-1.6
GLA					Sb	21 15 11.2	-1.5
GLA				IAML		21 15 13.4	
	comp=E,119nm,0.4s						
GLA				IAML		21 15 22.7	
	comp=N,60nm,0.4s						
DUZA	**Dulzura**	**1.35**	**305**		Pn	21 14 53.7	-1.5
BORC	**Borrego Spring**	**1.64**	**331**		Pn	21 14 58.7	-0.5
BORC				IAML		21 15 23.2	
	comp=E,30nm,0.3s						
MATG	**Mataguay Scout**	**1.69**	**324**		Pn	21 15 00.6	+0.6
DPP	**Dos Picos Cty**	**1.70**	**313**	Pn	Pn	21 14 58.7	-1.5
DPP				Sg	Sn	21 15 21.6	-0.7
DPP				IAML		21 15 22.2	
	comp=E,121nm,0.2s						
113A	**Mohawk Valley,**	**1.72**	**57**	Pn	Pn	21 14 59.8	-0.5
BC3	**Big Chuckawall**	**1.82**	**0**	Pn	Pn	21 15 00.9	-0.9
BC3				Pg	Pg	21 15 04.3	-0.4
PLM	**Palomar**	**1.92**	**323**		Pn	21 15 04.0	+0.8
PFO	**Pinyon Flats O**	**1.96**	**335**		Pn	21 15 02.1	-1.6
PMD	**Palm Desert**	**1.97**	**337**	Pn	Pn	21 15 00.9	-2.8
IRM	**Iron Mountain**	**2.33**	**7**		Pn	21 15 07.9	-0.9
ELS	**Elsinore Mount**	**2.45**	**318**	Pn	Pn	21 15 09.2	-1.2
ELS				IAML		21 15 50.0	
	comp=N,29nm,0.5s						
ELS				IAML		21 15 50.3	
	comp=E,26nm,0.4s						
SS2	**San Sevaine**	**2.92**	**325**		Pn	21 15 17.6	+0.8
CIAC	**Catalina I. Ai**	**2.94**	**303**		Pn	21 15 15.6	-1.4

WEL ***16*** *21:21:24.7±0.4, 42°.5S±2°×17°.4E±°, h16km±2km, M3.1/10, ML3.3/12, MLv3.1/10, Error ellipse: s-maj=4.1km s-min=2.4km az=123.7, confirmed*
NOU ***16*** *21:21:26.8, 42°.29S×173°.34E, h4km, MLv3.5/7, South Island, New Zealand*
ISC 16 21:21:25.6±0.9, 42°.27S±0°.03×173°.78E±0°.03, h25km±7km, n49, σ0.98/72, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.17**	**204**	P	Pb	21 21 30.9	-0.1
KIKS				S	Sb	21 21 35.1	+0.5
KHZ	**Kahutara**	**0.23**	**230**	P	Pb	21 21 31.1	-0.5
KHZ	**Kahutara**	**0.23**	**230**	P	Pb	21 21 31.2	-0.4
KEKS	**Kekerengu Vall**	**0.35**	**26**	P	Pb	21 21 32.8	-0.5
KEKS				S	Sb	21 21 38.6	0.0
WDFS	**Ward Fire Stat**	**0.52**	**32**	P	Pb	21 21 36.2	+0.1
WDFS				S	Sn	21 21 46.1	+0.8
BSWZ	**Blackbirch Sta**	**0.56**	**8**	P	Pb	21 21 35.8	-1.0
BSWZ				S	Sb	21 21 43.8	-0.6
CMWZ	**Cape Campbell**	**0.61**	**32**	P	Pb	21 21 38.2	+0.6
CMWZ				S	Sn	21 21 49.3	+1.6
THZ	**Tophouse**	**0.82**	**308**	P	Pb	21 21 40.6	-0.7
THZ				S	Sn	21 21 51.5	-1.6
TUWZ	**Tuamarina**	**0.85**	**9**	P	Pb	21 21 41.7	0.0
TUWZ				S	Sb	21 21 53.4	+0.8
GVZ	**Greta Valley S**	**0.89**	**218**	P	Pn	21 21 43.2	+0.7
NNZ	**Nelson**	**1.09**	**344**	P	Pn	21 21 45.1	-0.2
NNZ				S	Sb	21 22 01.1	+1.6
TCW	**Tory Channel**	**1.12**	**20**	P	Pn	21 21 45.3	-0.4
TCW				S	Sn	21 22 00.8	+0.5
MRNZ	**Matariki Terra**	**1.15**	**318**	P	Pb	21 21 46.6	-0.3
MRNZ				S	Sb	21 22 02.8	+1.4
BHW	**Baring Head**	**1.19**	**44**	P	Pn	21 21 46.1	-0.5
BHW				S	Sn	21 22 01.9	0.0
LTZ	**Lake Taylor**	**1.23**	**245**	P	Pb	21 21 47.6	-0.5
AMCZ	**Amberley**	**1.23**	**222**	P	Pb	21 21 47.4	-0.8
WEL	**Wellington**	**1.23**	**37**	P	Pn	21 21 47.2	0.0
WEL				S	Sn	21 22 03.8	+0.7
PLWZ	**Palliser**	**1.30**	**58**	P	Pn	21 21 47.4	-0.9
TKNZ	**Takaka Hill**	**1.38**	**333**	P	Pb	21 21 49.8	-0.8
TKNZ				S	Sb	21 22 08.5	+0.7
MSWZ	**Moikau Station**	**1.39**	**53**	P	Pn	21 21 48.6	-0.9
MSWZ				S	Sn	21 22 06.6	-0.5
DUWZ	**D'Urville Isla**	**1.47**	**4**	P	Pn	21 21 50.7	+0.2
DUWZ				S	Sb	21 22 10.7	+0.2
CAW	**Cannon Point**	**1.51**	**40**	P	Pn	21 21 50.6	-0.5
CAW				S	Sn	21 22 09.9	0.0
PAWZ	**Paruwai Farm**	**1.52**	**55**	P	Pn	21 21 50.1	-1.1
PAWZ				S	Sn	21 22 09.4	-0.8
OKCZ	**Okains Bay**	**1.55**	**200**	P	Pn	21 21 51.7	0.0
OKCZ				S	Sb	21 22 14.4	+1.6
DSZ	**Denniston Nort**	**1.56**	**289**	P	Pb	21 21 53.5	-0.3
DSZ				S	Sb	21 22 13.5	+0.3
KIW	**Kapiti Island**	**1.64**	**32**	P	Pn	21 21 52.6	-0.3
KIW				S	Sn	21 22 12.7	-0.5
MQZ	**McQueen's Vall**	**1.66**	**209**	P	Pn	21 21 52.3	-0.8
MQZ				S	Sn	21 22 13.1	-0.4
OXZ	**Oxford**	**1.66**	**230**	P	Pn	21 21 52.9	-0.3
TRWZ	**Traveller**	**1.67**	**59**	P	Pn	21 21 52.0	-1.3
QRZ	**Quartz Range**	**1.72**	**327**	P	Pb	21 21 55.3	-1.2
QRZ	**Quartz Range**	**1.72**	**327**	P	Pb	21 21 55.3	-1.2
QRZ				S	Sb	21 22 18.1	+0.5
AKCZ	**Akaroa Harbour**	**1.73**	**201**	P	Pn	21 21 52.7	-1.3
OGWZ	**Otaki Gorge**	**1.79**	**36**	P	Pn	21 21 54.7	-0.1
OGWZ				S	Sn	21 22 16.5	-0.3
RACZ	**Rakaia**	**1.89**	**219**	P	Pn	21 21 56.1	-0.2
TMWZ	**Te Maipa**	**1.96**	**54**	P	Pn	21 21 55.9	-1.4
MHCZ	**Mount Hutt**	**2.06**	**231**	P	Pn	21 21 58.2	-0.4
MRZ	**Mangatainoka R**	**2.10**	**41**	P	Pn	21 21 58.7	-0.5
WACZ	**Wakanui South**	**2.19**	**220**	P	Pn	21 22 00.4	-0.1
WVZ	**Waitaha Valley**	**2.38**	**249**	P	Pn	21 22 03.9	+0.8
BFZ	**Birch Farm**	**2.44**	**50**	P	Pb	21 22 11.1	+2.3
RPZ	**Rata Peaks**	**2.47**	**233**	P	Pn	21 22 04.3	+0.1
RPZ	**Rata Peaks**	**2.47**	**233**	P	Pn	21 22 04.1	-0.2
ARCZ	**Arundel**	**2.54**	**228**	P	Pn	21 22 05.1	-0.2
GCSZ	**Gaunt Creek Bo**	**2.75**	**246**	P	Pn	21 22 09.4	+1.3
TMZ	**Timaru**	**2.93**	**223**	P	Pn	21 22 10.6	0.0
ODZ	**Otahua Downs**	**3.59**	**218**	P	Pn	21 22 19.9	+0.3
ODZ	**Otahua Downs**	**3.59**	**218**	P	Pn	21 22 19.2	-0.4
BKZ	**Black Stump Fm**	**3.72**	**35**	P	Pb	21 22 28.4	-2.3
KUZ	**Kuaotunu**	**5.72**	**16**	P	Pn	21 22 53.0	+4.1

NEIC ***16*** *21:30:18.3±1.6, 16°.75N±0°.04×95°.01W±0°.03, h14km±3km, mb3.9/18, Md4.5/111(MEX), Error ellipse: s-maj=5.6km s-min=3.6km az=201.0*
MEX ***16*** *21:30:21.5±1.0, 16°.70N×94°.94W, h29km±17km, MD4.5*
ISC 16 21:30:17.8±1.0, 16°.74N±0°.03×94°.99W±0°.02, h17km±7km, n129, σ2.26/218, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.36**	**16**		Pg	21 30 25.4	0.0
CMIG					Sg	21 30 30.7	+0.1
CMIG	**Matias Romero**	**0.36**	**16**	*eP*	Pg	21 30 25.4	0.0
CMIG				*i* S	Sg	21 30 30.7	+0.1
UXUV	**UXUV**	**0.99**	**54**		Pb	21 30 36.5	0.0
UXUV					Sb	21 30 49.6	+0.3
UXUV	**UXUV**	**0.99**	**54**	*eP*	Pb	21 30 36.5	0.0
UXUV				*eS*	Sb	21 30 49.6	+0.3
NEUV	**Arroyo Zacate**	**1.24**	**321**		Pn	21 30 40.6	+0.3
NEUV					Sn	21 30 57.2	+0.5
NEUV	**Arroyo Zacate**	**1.24**	**321**	*eP*	Pn	21 30 40.6	+0.3
NEUV				*eS*	Sn	21 30 57.2	+0.5
TUIG	**Tuzandepetl**	**1.40**	**23**	*eP*	Pb	21 30 43.8	+0.4
TUIG				*eS*	Sg	21 31 05.0	+2.0
HUIG	**Huatulco**	**1.45**	**228**		Pn	21 30 43.1	-0.1
HUIG					Sn	21 31 01.8	0.0
HUIG	**Huatulco**	**1.45**	**228**	*eP*	Pn	21 30 43.1	-0.1
HUIG				*eS*	Sn	21 31 01.8	0.0
OXLC	**Oaxaca**	**1.67**	**281**		Pn	21 30 47.4	+0.9
OXLC					Sn	21 31 08.2	+0.5
OXLC	**Oaxaca**	**1.67**	**281**	*eP*	Pn	21 30 47.4	+0.9
OXLC				*eS*	Sn	21 31 08.2	+0.5
OXBJ	**Oaxaca**	**1.69**	**281**		Pn	21 30 48.3	+1.5
OXBJ					Sb	21 31 10.0	+0.2
OXBJ	**Oaxaca**	**1.69**	**281**	*eP*	Pn	21 30 48.3	+1.5
OXBJ				*eS*	Sb	21 31 10.0	+0.2
OXIG	**Oaxaca**	**1.70**	**281**		Pb	21 30 48.6	-0.2
OXIG					Sb	21 31 10.5	+0.5
VHO	**Vista Hermosa**	**1.70**	**281**	*eP*	Pb	21 30 48.6	-0.2
VHO				*eS*	Sb	21 31 10.5	+0.5
TGIG		**1.79**	**88**		Pn	21 30 49.8	+1.8
TGIG					Sn	21 31 11.7	+1.3
TGIG		**1.79**	**88**	*eP*	Pn	21 30 49.8	+1.8
TGIG				*eS*	Sn	21 31 11.7	+1.3
PMUV	**Sontecomapan**	**1.80**	**356**		Pb	21 30 52.2	+1.8
PMUV					Sn	21 31 11.2	+0.5
PMUV	**Sontecomapan**	**1.80**	**356**	*eP*	Pb	21 30 52.2	+1.8
PMUV				*eS*	Sn	21 31 11.2	+0.5
PCIG		**1.99**	**121**		Pn	21 30 50.8	+0.2
PCIG					Sb	21 31 18.4	+0.4
PCIG		**1.99**	**121**	*eP*	Pn	21 30 50.8	+0.2
PCIG				*eS*	Sb	21 31 18.4	+0.4
PEIG	**Puerto Escondi**	**2.20**	**251**		Pn	21 30 54.0	+0.4
PEIG					Sn	21 31 22.6	+2.1
PEIG	**Puerto Escondi**	**2.20**	**251**	*eP*	Pn	21 30 54.0	+0.4
PEIG				*eS*	Sn	21 31 22.6	+2.1
TOIG	**Toxpalan**	**2.40**	**305**		Pn	21 30 56.7	+0.3
TOIG					Sn	21 31 24.4	-1.0
TOIG	**Toxpalan**	**2.40**	**305**	*eP*	Pn	21 30 56.7	+0.3
TOIG				*eS*	Sn	21 31 24.4	-1.0
YOIG	**Yosondua**	**2.45**	**273**		Pn	21 30 59.6	+2.3
YOIG					Sb	21 31 30.5	-1.2
YOIG	**Yosondua**	**2.45**	**273**	*eP*	Pn	21 30 59.6	+2.3
YOIG				*eS*	Sb	21 31 30.5	-1.2
TXIG	**Tlaxiaco**	**2.71**	**281**		Pn	21 31 03.6	+2.8
TXIG					Sn	21 31 36.4	+3.1
TXIG	**Tlaxiaco**	**2.71**	**281**	*eP*	Pn	21 31 03.6	+2.8
TXIG				*eS*	Sn	21 31 36.4	+3.1
CCIG	**Comitan**	**2.77**	**99**		Pn	21 31 02.3	+0.7
CCIG				Sg	Sg	21 31 46.3	-0.7
CCIG	**Comitan**	**2.77**	**99**	*eP*	Pb	21 31 07.3	+0.3
CCIG				*eS*	Sb	21 31 39.5	-1.3
TPIG	**Tehuac#an**	**2.81**	**307**		Pn	21 31 05.2	+3.1
TPIG					Sb	21 31 40.7	-1.3
TPIG	**Tehuac#an**	**2.81**	**307**	*eP*	Pn	21 31 05.2	+3.1
TPIG				*eS*	Sb	21 31 40.7	-1.3
THEZ	**Tehuacan**	**2.87**	**307**		Pn	21 31 05.7	+2.8
THEZ					Sb	21 31 44.4	+0.9
THEZ	**Tehuacan**	**2.87**	**307**	*eP*	Pn	21 31 05.7	+2.8
THEZ				*eS*	Sb	21 31 44.4	+0.9
HLIG	**Huajuapan de L**	**2.90**	**292**		Pb	21 31 08.2	-1.0
HLIG					Sn	21 31 36.9	-1.1
HLIG	**Huajuapan de L**	**2.90**	**292**	*eP*	Pb	21 31 08.2	-1.0
HLIG				*eS*	Sn	21 31 36.9	-1.1
PNIG	**Pinotepa**	**3.03**	**264**		Pn	21 31 05.3	+0.3
PNIG					Sn	21 31 40.6	-0.3
PNIG	**Pinotepa**	**3.03**	**264**	*eP*	Pn	21 31 05.3	+0.3
PNIG				*eS*	Sn	21 31 40.6	-0.3
PATR	**El Naranjo**	**3.10**	**121**		Pn	21 31 08.6	+2.4
PATR					Sn	21 31 45.7	+2.7
PATR	**El Naranjo**	**3.10**	**121**	*eP*	Pn	21 31 08.6	+2.4
PATR				*eS*	Sn	21 31 45.7	+2.7
PAVE	**Pavencul**	**3.11**	**119**		Pn	21 31 08.8	+2.5
PAVE					Sn	21 31 45.7	+2.5
PAVE	**Pavencul**	**3.11**	**119**	*eP*	Pn	21 31 08.8	+2.5
PAVE				*eS*	Sn	21 31 45.7	+2.5
JAUV	**Jalcomulco**	**3.13**	**327**		Pn	21 31 05.7	-0.7
JAUV					Sn	21 31 41.7	-1.8
JAUV	**Jalcomulco**	**3.13**	**327**	*eP*	Pn	21 31 05.7	-0.7
JAUV				*eS*	Sn	21 31 41.7	-1.8
POHV	**Veracruz**	**3.18**	**317**		Pn	21 31 09.4	+1.8
POHV	**Veracruz**	**3.18**	**317**	*e*	Pn	21 31 09.4	+1.8
THIG		**3.19**	**124**		Sn	21 31 46.2	+1.3
THIG		**3.19**	**124**	*eS*	Sn	21 31 46.2	+1.3
FTIG	**Fresnillo de T**	**3.22**	**292**		Pn	21 31 10.5	+2.8
FTIG					Sn	21 31 47.2	+1.4
FTIG	**Fresnillo de T**	**3.22**	**292**	*eP*	Pn	21 31 10.5	+2.8
FTIG				*eS*	Sn	21 31 47.2	+1.4
LVIG	**Laguna Verde**	**3.26**	**336**	*eP*	Pn	21 31 06.3	-1.9
LVIG				*eS*	Sn	21 31 42.0	-4.6
TLIG	**Tlapa**	**3.52**	**284**	Pn	Pn	21 31 12.7	+0.8
TLIG				Sg	Sb	21 32 06.5	+4.3
TLIG	**Tlapa**	**3.52**	**284**	*eP*	Pn	21 31 14.0	+2.2
TLIG				*eS*	Sn	21 31 50.5	-2.6
MGIG	**Malinaltepec**	**3.52**	**279**		Pn	21 31 13.7	+1.8
MGIG					Sn	21 31 57.1	+3.7
MGIG	**Malinaltepec**	**3.52**	**279**	*eP*	Pn	21 31 13.7	+1.8
MGIG				*eS*	Sn	21 31 57.1	+3.7
HUEH	**Huehuetenango**	**3.64**	**112**	Pg	Pg	21 31 25.9	-1.6
HUEH	**Huehuetenango**	**3.64**	**112**	*eP*	Pn	21 31 13.1	-0.5
HUEH				*eS*	Sn	21 31 54.3	-2.0
RTAL	**Retalhuleu**	**3.86**	**124**		Pn	21 31 16.2	-0.2
RTAL	**Retalhuleu**	**3.86**	**124**	*eP*	Pn	21 31 20.4	+3.9
RTAL				*eS*	Sn	21 32 01.8	+0.3
CRIG	**Cruz Grande**	**3.97**	**271**		Pn	21 31 18.0	+0.1
CRIG					Sn	21 31 59.5	-4.6
CRIG	**Cruz Grande**	**3.97**	**271**	*eP*	Pn	21 31 18.0	+0.1
CRIG				*eS*	Sn	21 31 59.5	-4.6
PPCL	**Tochimilco**	**4.08**	**303**	*eP*	Pn	21 31 23.1	+3.4
PPCL				*eS*	Sb	21 32 13.4	-5.1
PPSX	**Xalitzintla**	**4.08**	**305**	*eP*	Pn	21 31 13.6	-6.2
PPSX				*eS*	Sn	21 32 03.1	-4.3
PBPN	**Popocatepetl**	**4.15**	**304**	*eP*	Pn	21 31 18.0	-2.9
PBPN				*eS*	Sn	21 32 05.5	-3.9
PPM	**Popocatepetl**	**4.17**	**304**	*eP*	Pb	21 31 27.1	-3.9
PPM				*eS*	Sn	21 32 14.9	+5.2
PPIG	**Popocatepetl**	**4.17**	**304**		Pb	21 31 27.1	-4.0
PPIG					Sn	21 32 14.9	+5.2
CXUV	**Coxquihui**	**4.21**	**325**		Pn	21 31 18.6	-2.7
CXUV					Sn	21 32 10.6	+0.3
CXUV	**Coxquihui**	**4.21**	**325**	*eP*	Pn	21 31 18.6	-2.7
CXUV				*eS*	Sn	21 32 10.6	+0.3
SCIG	**Sabancuy**	**4.25**	**58**	*eP*	Pn	21 31 22.0	+0.3
SCIG				*eS*	Sn	21 32 05.1	-5.8
YAIG	**Yautepec**	**4.42**	**299**		Pn	21 31 25.8	+1.5
YAIG					Sn	21 32 14.6	-0.9
YAIG	**Yautepec**	**4.42**	**299**	*eP*	Pn	21 31 25.8	+1.5
YAIG				*eS*	Sn	21 32 14.6	-0.9
DAIG	**Los Arroyos**	**4.47**	**274**		Pn	21 31 25.4	+0.6
DAIG					Sn	21 32 15.9	-0.6
DAIG	**Los Arroyos**	**4.47**	**274**	*eP*	Pn	21 31 25.4	+0.6
DAIG				*eS*	Sn	21 32 15.9	-0.6
MPVM	**San Francisco**	**4.54**	**303**		Pn	21 31 30.4	+4.3
MPVM					Sn	21 32 14.2	-4.4
MPVM	**San Francisco**	**4.54**	**303**	*eP*	Pn	21 31 30.4	+4.3

ABTX	**Abilene, Hawle**	**16.37 346**	Pn	**Pn**	**21 34 06.6**	**-0.3**
ABTX			IAmb	IAmb	21 34 15.1	
	comp=Z,5.4nm,0.5s					
Z41A	**Richland Creek**	**16.57 6**	Pn	**Pn**	**21 34 09.6**	**+0.3**
PECS	**Pecos**	**16.66 333**		**Pn**	**21 34 08.9**	**-1.7**
VHRN	**Van Horn**	**16.70 329**	Pn	**Pn**	**21 34 12.0**	**+0.9**
SN07	**Snyder 07**	**17.13 343**	Pn	**Pn**	**21 34 16.6**	**+0.1**
APMT	**Aspermont**	**17.15 345**	P	**Pn**	**21 34 17.2**	**+0.5**
APMT			IAmb	IAmb	21 34 22.1	
	comp=Z,4.1nm,0.6s					
WTFS	**Witchita Falls**	**17.24 350**	Pn	**Pn**	**21 34 17.6**	**-0.3**
WTFS			IAmb	IAmb	21 34 36.3	
	comp=Z,11nm,0.9s					
LOOK	**Love County**	**17.29 354**		**Pn**	**21 34 17.5**	**-1.0**
HTMS	**Hat Mesa**	**17.51 335**		**Pn**	**21 34 22.5**	**+1.2**
121A	**Cookes Peak, D**	**19.53 326**	P	**P**	**21 34 44.9**	**+0.2**
121A			IAmb	IAmb	21 34 55.1	
	comp=Z,4.7nm,0.8s					
SBM	**South Baldy**	**20.36 330**	P	**P**	**21 34 53.6**	**-0.4**
Q24A	**Divide**	**23.86 340**	P	**P**	**21 35 29.1**	**-1.6**
Q24A			IAmb	IAmb	21 35 54.5	
	comp=Z,6.4nm,0.8s					

ISK ***16*** *22:04:51.4,38°.38N×39°.13E,h5km,ML2.9/17*
AFAD ***16*** *22:04:52.0,38°.41N×39°.12E,h7km±2km,ML2.8*
ISC 16 22:04:52.3±0.9,38°.39N±0°.03×39°.01E±0°.03,h12km±7km, n26,σ1§35/36,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ELZG	**Elazig**	**0.11**	**348**	P		**Pg**	**22 04 55.9**	**+0.4**
ELZG				S		**Sg**	**22 04 58.7**	**+0.9**
MAYA	**Malatya/Merkez**	**0.47**	**262**	P		**Pb**	**22 05 03.0**	**+0.5**
MAYA				S		**Sb**	**22 05 11.5**	**+2.0**
MAYA				*i* IAML			22 05 12.0	
	comp=N,2μm,0.3s							
MAYA				*i* IAML			22 05 12.0	
	comp=E,1μm,0.3s							
NARI	**Adyaman-Kaht**	**0.55**	**202**	P		**Pb**	**22 05 04.1**	**+0.3**
NARI				S		**Sb**	**22 05 12.5**	**+0.9**
NARI				*i* IAML			22 05 17.0	
	comp=N,293nm,0.6s							
NARI				*i* IAML			22 05 18.0	
	comp=E,349nm,0.8s							
KOVA	**Elazig, Kovanc**	**0.70**	**63**	P		**Pg**	**22 05 04.0**	**-1.9**
KOVA				*i* IAML			22 05 21.0	
	comp=E,305nm,0.7s							
KOVA				*i* IAML			22 05 24.0	
	comp=N,197nm,1.0s							
HANM	**anlurfa/Hi**	**0.82**	**187**	P		**Pb**	**22 05 08.6**	**+0.2**
HANM				*i* IAML			22 05 23.0	
	comp=N,364nm,0.5s							
HANM				*i* IAML			22 05 24.0	
	comp=E,384nm,0.5s							
TNCL	**Tunceli-Merkez**	**0.83**	**30**	P		**Pg**	**22 05 06.6**	**-1.8**
TNCL				S		**Sb**	**22 05 20.8**	**+0.7**
TNCL				*i* IAML			22 05 21.0	
	comp=N,214nm,0.6s							
TNCL				*i* IAML			22 05 24.0	
	comp=E,359nm,0.4s							
AZEY	**Adyaman-Merk**	**0.84**	**226**	P		**Pn**	**22 05 10.2**	**+0.2**
AZEY				S		**Sn**	**22 05 24.3**	**+2.0**
AZEY				*i* IAML			22 05 29.0	
	comp=E,284nm,0.5s							
AZEY				*i* IAML			22 05 31.0	
	comp=N,220nm,0.3s							
AKCD	**Akcadag**	**0.86**	**264**	P		**Pn**	**22 05 10.1**	**-0.3**
AKCD				S		**Sn**	**22 05 24.3**	**+1.2**
AKCD				*i* IAML			22 05 25.0	
	comp=E,1μm,0.4s							
AKCD				*i* IAML			22 05 26.0	
	comp=N,971nm,0.3s							
HEKM	**Malatya_Hekimh**	**0.96**	**301**	P		**Pn**	**22 05 11.7**	**-0.1**
HEKM				S		**Sn**	**22 05 27.4**	**+2.0**
HEKM				*i* IAML			22 05 28.0	
	comp=E,341nm,0.3s							
HEKM				*i* IAML			22 05 31.0	
	comp=N,438nm,0.2s							
ILIC	**ilic-Erzincan**	**1.11**	**342**	Pn		**Pn**	**22 05 13.7**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.59**	**48**	Pn		**Pn**	**22 05 21.2**	**+0.8**
YEDI				Sn		**Sg**	**22 05 42.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.74**	**97**	Pn		**Pn**	**22 05 22.0**	**-0.3**
SVAN				Sn		**Sn**	**22 05 45.3**	**+0.9**
KARO	**Karliova-Bingo**	**1.83**	**59**	Pn		**Pn**	**22 05 24.2**	**+0.4**
GAZ	**Gaziantep**	**1.88**	**230**	Pn		**Pg**	**22 05 26.8**	**-1.5**
GAZ				Sn		**Sg**	**22 05 52.8**	**+0.1**
BAYT	**Aydıntepe-Bayb**	**2.18**	**23**	Pn		**Pn**	**22 05 29.9**	**+1.3**
SVSK	**Karacayir**	**2.19**	**315**	Pn		**Pb**	**22 05 31.6**	**-0.2**
GURO	**Guroymak-BITLI**	**2.37**	**85**	Pn		**Pn**	**22 05 31.8**	**+0.6**
RSDY	**Resadiye-TOKAT**	**2.39**	**327**	Pn		**Pb**	**22 05 34.1**	**-1.2**
BNN	**Bunyan**	**2.52**	**281**	Pn		**Pb**	**22 05 36.7**	**-0.9**
TOKT	**Tokat**	**2.71**	**316**	Pn		**Pb**	**22 05 38.9**	**-2.0**
KOPR	**Koprukoy-ERZUR**	**2.72**	**53**	Pn		**Pn**	**22 05 37.3**	**+1.2**
MLAZ	**Malazgirt-MUS**	**2.86**	**74**	Pn		**Pn**	**22 05 38.8**	**+0.8**
TAHT	**Tahtakopru-Hat**	**3.02**	**229**	Pn		**Pb**	**22 05 43.3**	**-2.7**
AKDM	**Akdamar-Van**	**3.12**	**90**	Pn		**Pn**	**22 05 42.4**	**+0.9**
CMRD	**Camardi-Nigde**	**3.26**	**258**	Pn		**Pb**	**22 05 46.9**	**-3.3**
AGRB	**Hanur-Agry**	**3.32**	**68**	Pn		**Pn**	**22 05 45.3**	**+1.1**

JMA ***16*** *22:17:25.6±0.3,32°.2N×13°.8E±°,h377km,MV3.5/28, FAR S OFF TOKAI DISTRICT*
IDC ***16*** *22:17:25.5±2.5,32°.05N×138°.27E,h373km±31km,mb2.9/4, mbtmp3.6/5,Error ellipse: s-maj=70.1km s-min=25.4km az=70.0*
ISC 16 22:17:25.2±1.2,32°.2N±0°.1×138°.3E±0°.1,h368km,n14, σ1§45/15,mb3.0/4,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**1.60**	**53**	*e*P		**Pn**	**22 18 17.3**	**+1.7**
JIE	**Ise**	**2.60**	**330**	*e*P		**Pn**	**22 18 24.1**	**+1.6**
JKN2	**Miekihoku**	**2.69**	**321**	*e*P		**Pn**	**22 18 24.1**	**+0.9**
JTNC	**Tanabenakahech**	**2.81**	**307**	P		**Pn**	**22 18 24.4**	**+0.2**
JWY	**Kouya**	**3.07**	**313**	P		**Pn**	**22 18 27.6**	**+1.1**
JOD2	**Odawara 2**	**3.18**	**12**	*e*P		**Pn**	**22 18 30.3**	**+2.9**
JYT	**Yasato**	**4.36**	**21**	*e*P		**Pn**	**22 18 39.1**	**+0.3**
JYT				*e*S		**S**	**22 19 36.2**	**-2.3**
JAG	**Ashikaga**	**4.37**	**12**	P		**Pn**	**22 18 39.7**	**+0.8**
MJAR	**Matsushiro Arr**	**4.38**	**359**	P		**Pn**	**22 18 40.6**	**+1.5**
	1.4nm,0.5s,baz=171,slow=11,SNR=5.4							
JHO	**Hitachi**	**4.83**	**22**	*e*P		**Pn**	**22 18 44.0**	**+0.2**
SONM	**Songino Array**	**28.78**	**312**	P		**P**	**22 22 50.5**	**0.0**
	0.4nm,0.6s,baz=98,slow=6.0,SNR=2.2 0.4nm,0.6s							
MKAR	**Makanchi Array**	**44.72**	**306**	P		**P**	**22 25 03.0**	**-0.2**
	0.9nm,0.7s,baz=88,slow=9.8,SNR=9.0 0.9nm,0.7s							
WRA	**Warramunga Arr**	**51.93**	**185**	P		**P**	**22 25 56.8**	**-1.0**
	0.7nm,1.2s,baz=9.7,slow=6.8,SNR=1.5 0.7nm,1.2s							
FINES	**FINESS Array B**	**71.92**	**332**	P		**P**	**22 28 09.5**	**+0.5**
	0.4nm,0.4s,baz=69,slow=6.5,SNR=6.3 0.4nm,0.4s							

TAP ***16*** *22:56:58.0,24°.63N×122°.05E,h61km,ML2.9,B*
JMA ***16*** *22:56:58.1±0.2,24°.6N±0°.7×122°.1E±0°.5,h63km±2km, MV2.5/8,TAIWAN REGION*
ISC 16 22:56:58.5±1.3,24°.62N±0°.03×122°.05E±0°.03,h61km±7km, n58,σ0§54/101,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWC	**Suao**	**0.18**	**267**	*i* P		**Pn**	**22 57 07.8**	**-0.2**
TWC				*i* S		**Sn**	**22 57 14.6**	**-0.3**
ESAO	**Su ao**	**0.19**	**258**	*e*P		**Pn**	**22 57 07.5**	**-0.5**
ESAO				*e*S		**Sn**	**22 57 14.7**	**-0.2**
EGS		**0.25**	**334**	*i* P		**Pn**	**22 57 08.2**	**-0.2**
EGS				*i* S		**Sn**	**22 57 16.5**	**+1.0**
EOS2	**EOS2**	**0.26**	**140**	*i* P		**Pn**	**22 57 08.8**	**+0.6**
EWUT	**Wuta**	**0.30**	**235**	P		**Pn**	**22 57 08.8**	**+0.1**
EWUT				S		**Sn**	**22 57 16.5**	**+0.3**
ILA	**Ilan**	**0.31**	**298**	*e*P		**Pn**	**22 57 08.8**	**-0.1**
ILA				*e*S		**Sn**	**22 57 17.0**	**+0.7**
ENA	**Nanau**	**0.34**	**236**	*i* P		**Pn**	**22 57 09.0**	**-0.1**
ENA				*i* S		**Sn**	**22 57 17.1**	**+0.4**
TWE	**Neicheng**	**0.36**	**287**	*i* P		**Pn**	**22 57 09.4**	**+0.1**
TWE				S		**Sn**	**22 57 17.4**	**+0.3**
TWB1	**Santiao Chiao**	**0.39**	**352**	P		**Pn**	**22 57 08.6**	**-0.9**
TWB1				S		**Sn**	**22 57 16.9**	**-0.6**
EAHA	**Aohua**	**0.40**	**225**	*e*P		**Pn**	**22 57 09.1**	**-0.5**
EAHA				S		**Sn**	**22 57 17.5**	**-0.2**
TIPB	**Shuangxi**	**0.41**	**330**	*i* P		**Pn**	**22 57 09.3**	**-0.4**
TIPB				*i* S		**Sn**	**22 57 17.0**	**-0.9**
EOS3	**EOS3**	**0.41**	**144**	P		**Pn**	**22 57 10.4**	**+0.9**
ENTT	**Nioudou**	**0.44**	**273**	*i* P		**Pn**	**22 57 10.0**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.45**	**289**	P		**Pn**	**22 57 09.9**	**-0.2**
FUSB				S		**Sn**	**22 57 19.0**	**+0.5**
LATG	**Datong**	**0.48**	**260**	P		**Pn**	**22 57 10.6**	**0.0**
LATG				S		**Sn**	**22 57 20.0**	**+0.7**
SXI1	**Grass Mountain**	**0.50**	**341**	*i* P		**Pn**	**22 57 10.4**	**-0.3**
SXI1				*e*S		**Sn**	**22 57 19.2**	**-0.4**
NWF	**Wu-fen Shan**	**0.51**	**332**	P		**Pn**	**22 57 10.5**	**-0.4**
NWF				*i* S		**Sn**	**22 57 19.0**	**-0.8**
WFSB	**Wu-fen Shan**	**0.51**	**332**	*e*P		**Pn**	**22 57 10.5**	**-0.2**
WFSB				*e*S		**Sn**	**22 57 18.9**	**-0.7**
NWLT	**Wulai**	**0.52**	**288**	*i* P		**Pn**	**22 57 11.1**	**+0.3**
NWLT				*i* S		**Sn**	**22 57 20.1**	**+0.2**
EOS4	**EOS4**	**0.55**	**154**	*e*P		**Pn**	**22 57 11.2**	**+0.5**
EOS4				*e*S		**Sn**	**22 57 20.3**	**+0.7**
TWA	**Mucha**	**0.56**	**310**	*e*P		**Pn**	**22 57 10.9**	**-0.3**
TWA				*e*S		**Sn**	**22 57 20.1**	**-0.4**
TNOU	**National Taiwa**	**0.59**	**335**	*e*P		**Pn**	**22 57 12.6**	**+1.1**
TNOU				*e*S		**Sn**	**22 57 20.6**	**-0.5**
ETL	**Fush Village**	**0.60**	**221**	*e*P		**Pn**	**22 57 11.4**	**-0.3**
ETL				*e*S		**Sn**	**22 57 21.2**	**-0.1**
NACB	**Ninganchiao**	**0.61**	**223**	P		**Pn**	**22 57 11.5**	**-0.2**
NACB				S		**Sn**	**22 57 21.8**	**+0.4**
YHNB	**Yeheng**	**0.62**	**275**	P		**Pn**	**22 57 12.0**	**+0.1**
YHNB				S		**Sn**	**22 57 21.8**	**+0.1**
NNSB	**Datong**	**0.64**	**253**	*i* P		**Pn**	**22 57 12.2**	**0.0**
NNSB				*e*S		**Sn**	**22 57 22.4**	**+0.1**
TAP	**Taipei**	**0.65**	**310**	*e*P		**Pn**	**22 57 12.5**	**+0.3**
TAP				*e*S		**Sn**	**22 57 22.6**	**+0.3**
ETLH	**Xiulin Townshi**	**0.66**	**232**	*i* P		**Pn**	**22 57 12.1**	**-0.4**
ETLH				S		**Sn**	**22 57 22.5**	**-0.2**
TWD	**Chiawan**	**0.68**	**218**	P		**Pn**	**22 57 12.5**	**0.0**
TWD				*e*S		**Sn**	**22 57 22.5**	**-0.3**
YM01	**YM01**	**0.68**	**320**	*e*P		**Pn**	**22 57 12.3**	**-0.3**
YM01				*e*S		**Sn**	**22 57 22.3**	**-0.8**
ZUZH	**Zhuzihu**	**0.71**	**320**	*e*P		**Pn**	**22 57 13.4**	**+0.3**
ZUZH				*e*S		**Sn**	**22 57 23.7**	**+0.1**
TWS1	**Kuangyinshan**	**0.75**	**310**	*e*P		**Pn**	**22 57 13.7**	**+0.2**
TWS1				*e*S		**Sn**	**22 57 26.1**	**+1.7**
NTST	**Danshui**	**0.77**	**315**	*e*S		**Sn**	**22 57 25.0**	**+0.1**
TWY	**Chenhua**	**0.77**	**328**	P		**Pn**	**22 57 13.5**	**-0.2**
TWY				S		**Sn**	**22 57 24.6**	**-0.3**
KSHI	**Guanxi Townshi**	**0.81**	**281**	*i* P		**Pn**	**22 57 14.6**	**+0.4**
KSHI				*e*S		**Sn**	**22 57 26.2**	**+0.4**
FUSS	**Fushou**	**0.82**	**244**	*e*P		**Pn**	**22 57 14.8**	**+0.2**
ETM	**Tongmen**	**0.82**	**218**	*e*P		**Pn**	**22 57 13.1**	**-1.2**
ETM				*e*S		**Sn**	**22 57 25.8**	**-0.3**
NFF	**Wufeng Townshi**	**0.85**	**271**	*e*P		**Pn**	**22 57 14.3**	**-0.4**
NFF				*i* S		**Sn**	**22 57 26.7**	**0.0**
TEYL	**Yanliau Villag**	**0.85**	**209**	*e*S		**Sn**	**22 57 25.9**	**-0.8**
WHF	**Hehuan Shan**	**0.86**	**237**	*e*P		**Pn**	**22 57 15.0**	**-0.2**
WHF				*e*S		**Sn**	**22 57 27.8**	**+0.4**
NCUH	**Zhongli**	**0.86**	**294**	*e*S		**Sn**	**22 57 27.4**	**+0.6**
TWT	**Tachien**	**0.88**	**246**	*e*S		**Sn**	**22 57 27.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.89**	**100**	*i* P		**Pn**	**22 57 15.4**	**+0.3**
YOJ				*e*S		**Sn**	**22 57 27.6**	**+0.2**
SHUL	**Shoufeng**	**0.94**	**208**	*e*P		**Pn**	**22 57 15.1**	**-0.7**
SHUL				*e*S		**Sn**	**22 57 28.7**	**+0.1**
LIOB	**Emei**	**0.94**	**272**	*e*P		**Pn**	**22 57 16.0**	**+0.1**
LIOB				S		**Sn**	**22 57 29.2**	**+0.5**
NSTT	**Nanjuang**	**0.96**	**271**	*e*P		**Pn**	**22 57 16.1**	**0.0**
NSTT				S		**Sn**	**22 57 29.4**	**+0.4**
ESL	**Shilin**	**0.98**	**215**	*e*P		**Pn**	**22 57 15.2**	**-1.1**
ESL				*e*S		**Sn**	**22 57 28.9**	**-0.6**
HSN	**Hsinchu**	**1.00**	**281**	*e*S		**Sn**	**22 57 29.2**	**-0.8**
OWD	**Renai**	**1.04**	**231**	P		**Pn**	**22 57 17.4**	**+0.2**
OWD				*i* S		**Sn**	**22 57 30.1**	**-0.9**
WHP	**Taichung City**	**1.06**	**252**	*e*P		**Pn**	**22 57 18.4**	**+1.0**
WHP				S		**Sn**	**22 57 32.4**	**+0.8**
HGSD	**Ruisui**	**1.26**	**207**	*e*P		**Pn**	**22 57 18.8**	**-1.2**
SMLT	**Sun Moon Lake**	**1.28**	**235**	*e*P		**Pn**	**22 57 21.0**	**+0.6**
SSLB	**Suanglung**	**1.30**	**231**	*e*P		**Pn**	**22 57 20.6**	**+0.1**
TWF1	**Yuli**	**1.44**	**209**	*e*P		**Pn**	**22 57 21.6**	**-0.8**
IRIF	**Iriomote-Funau**	**1.56**	**100**	*e*P		**Pn**	**22 57 23.6**	**-0.4**
IRIF				*e*S		**Sn**	**22 57 42.9**	**-0.2**
EHD	**Haiduan**	**1.65**	**208**	*e*P		**Pn**	**22 57 25.3**	**0.0**
EHD				S		**Sn**	**22 57 46.5**	**+0.9**
JKRS	**Kuro-shima**	**1.82**	**102**	*e*P		**Pn**	**22 57 27.9**	**+0.3**
JISG	**Ishigakijimahi**	**2.06**	**90**	*e*P		**Pn**	**22 57 30.8**	**0.0**

PDG ***16*** *23:07:59.5±0.1,43°.13N×17°.94E,h2km,ML2.5/9,Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
RHSSO ***16*** *23:07:59.6±0.2,43°.12N×17°.96E,h4km±2km,ML2.4/11*
BEO ***16*** *23:08:00.1±0.3,43°.13N×17°.86E,h3km±2km,ML2.2/8*
ISC 16 23:07:59.3±1.0,43°.14N±0°.02×17°.95E±0°.02,h5km±9km, n47,σ1§17/91,2C-11D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STON	**Ston**	**0.32**	**215**	*i* Pg		**Pg**	**23 08 05.1**	**-0.4**
STON				*e*Sg		**Sg**	**23 08 10.3**	**+0.6**
STON	**Ston**	**0.32**	**215**	Pg		**Pg**	**23 08 05.2**	**-0.3**
STON				Sg		**Sg**	**23 08 10.3**	**+0.6**
STON	**Ston**	**0.32**	**215**	*e*Pg		**Pg**	**23 08 05.3**	**-0.3**
STON				*e*Sg		**Sg**	**23 08 10.4**	**+0.9**
KLNJ	**Klinje**	**0.47**	**86**	*e*Pg		**Pg**	**23 08 07.6**	**-0.7**
KLINJ				*e*Sg		**Sg**	**23 08 15.0**	**+0.6**
DBRK	**Dubrovnik**	**0.49**	**163**	Pg		**Pg**	**23 08 08.9**	**+0.2**
DBRK				Sg		**Sb**	**23 08 16.6**	**-1.3**
BRY	**Bratogost**	**0.49**	**118**	*i* Pg		**Pg**	**23 08 08.4**	**-0.4**
BRY				*i* Sg		**Sg**	**23 08 16.4**	**+1.2**
TREB	**Trebinje**	**0.51**	**145**	*i* Pg		**Pg**	**23 08 08.6**	**-0.5**
TREB				*e*Sg		**Sg**	**23 08 16.4**	**+0.6**
TREB	**Trebinje**	**0.51**	**145**	*e*Pg		**Pg**	**23 08 08.7**	**-0.4**
TREB				*e*Sg		**Sg**	**23 08 17.1**	**+1.3**
RICI	**Ricice**	**0.70**	**301**	Pg		**Pg**	**23 08 12.1**	**-0.6**
RICI				Sg		**Sg**	**23 08 22.2**	**+0.5**
MAKA	**Makarska**	**0.70**	**283**	Pg		**Pg**	**23 08 12.3**	**-0.4**
MAKA				Sg		**Sb**	**23 08 22.7**	**-1.2**
HCY	**Herceg Novi**	**0.80**	**150**	*i* Pg		**Pg**	**23 08 14.0**	**-0.6**
HCY				*i* Sg		**Sb**	**23 08 26.5**	**-0.3**
NKME	**Niksic**	**0.82**	**116**	*i* Pg		**Pg**	**23 08 14.7**	**-0.4**
NKME				*e*Sg		**Sn**	**23 08 28.4**	**-1.9**
LSTV	**Lastovo**	**0.86**	**245**	Pg		**Pg**	**23 08 15.9**	**+0.1**
LSTV				Sg		**Sb**	**23 08 28.6**	**0.0**
CEME	**Cevo**	**0.92**	**129**	*i* Pg		**Pg**	**23 08 16.1**	**-0.9**
CEME				*e*Sg		**Sn**	**23 08 31.3**	**-1.5**
BUM	**Brajici-Budva**	**1.09**	**140**	*i* Pg		**Pg**	**23 08 19.7**	**-0.4**
BUM				*i* Sg		**Sn**	**23 08 36.7**	**-0.1**
RUDO	**Rudo**	**1.14**	**65**	*e*Pg		**Pb**	**23 08 19.6**	**-2.0**
RUDO				*e*Sg		**Sg**	**23 08 36.1**	**+0.1**
KOME	**Kolasin**	**1.18**	**103**	*i* Pg		**Pb**	**23 08 21.5**	**-0.8**
KOME				*i* Sg		**Sn**	**23 08 40.4**	**+1.2**
PDG	**Podgorica**	**1.19**	**126**	*e*Pg		**Pb**	**23 08 21.6**	**-0.8**
PDG				*e*Sg		**Sn**	**23 08 41.1**	**+1.8**
PDG	**Podgorica**	**1.19**	**126**	*i* Pg		**Pb**	**23 08 21.7**	**-0.7**
PDG				*i* Sg		**Sn**	**23 08 40.2**	**+0.9**
BBLS	**Lazi&#263i**	**1.29**	**55**	*e*Pg		**Pg**	**23 08 23.9**	**-0.1**
BBLS				*e*Sg		**Sn**	**23 08 44.1**	**+2.3**
DRME	**Dracevica, Mon**	**1.31**	**136**	*i* Pg		**Pn**	**23 08 23.6**	**-0.8**
DRME				*i* Sg		**Sg**	**23 08 44.3**	**+2.7**
KIJV	**Kijevo**	**1.42**	**308**	*i* Pg		**Pb**	**23 08 25.6**	**-0.7**
KIJV				*e*Sg		**Sg**	**23 08 45.9**	**+1.0**
KIJV	**Kijevo**	**1.42**	**308**	Pn		**Pg**	**23 08 27.7**	**+1.2**
KIJV				Sn		**Sg**	**23 08 47.8**	**+2.9**
IVA	**Berane**	**1.45**	**100**	*i* Pg		**Pb**	**23 08 26.4**	**-0.5**
IVA				*i* Sg		**Sg**	**23 08 49.5**	**+3.6**
SJES	**Sjenica**	**1.48**	**84**	*e*Pg		**Pg**	**23 08 27.6**	**-0.2**
SJES				*e*Sg		**Sg**	**23 08 49.5**	**+2.5**
IVAS	**Ivanjica**	**1.67**	**74**	*e*Pn		**Pb**	**23 08 30.0**	**-0.5**
IVAS				*e*Sn		**Sg**	**23 08 54.3**	**+1.5**
A050A	**Klekovaca**	**1.69**	**323**	*e*Pn		**Pb**	**23 08 30.3**	**-0.7**
A050A				*e*Sn		**Sb**	**23 08 52.0**	**-0.7**
BLY	**Banja Luka**	**1.71**	**341**	*i* Pn		**Pb**	**23 08 30.1**	**-1.1**
BLY				*e*Sn		**Sg**	**23 08 53.2**	**-0.9**
BLY	**Banja Luka**	**1.71**	**341**	*e*Pn		**Pb**	**23 08 31.2**	**0.0**
BLY				*e*Sn		**Sg**	**23 08 54.2**	**+0.1**
ZIRJ	**Zirje**	**1.76**	**288**	Pn		**Pb**	**23 08 31.6**	**-0.5**
ZIRJ				Sn		**Sg**	**23 08 56.5**	**+0.7**
DIVS	**Divibare**	**1.77**	**56**	*e*Pn		**Pb**	**23 08 31.0**	**-1.3**
DIVS				*e*Sn		**Sg**	**23 08 56.9**	**+0.8**
MORI	**Morici**	**1.79**	**295**	Pn		**Pb**	**23 08 32.1**	**-0.5**
MORI				Sn		**Sg**	**23 08 56.4**	**-0.4**
TEKS	**Tekeris**	**1.82**	**38**	*e*Pn		**Pb**	**23 08 33.1**	**0.0**
TEKS				*e*Sn		**Sg**	**23 08 57.1**	**-0.6**
A051A	**Mrakovica**	**2.02**	**339**	*e*Pn		**Pn**	**23 08 34.4**	**+0.2**
A051A				*e*Sn		**Sb**	**23 09 00.7**	**-1.4**
TRUS	**Trudelj**	**2.09**	**58**	*e*Pn		**Pn**	**23 08 35.2**	**+0.2**
UDBI	**Udbina**	**2.11**	**312**	Pn		**Pb**	**23 08 36.8**	**-1.3**
UDBI				Sn		**Sg**	**23 09 05.6**	**-1.4**
GRUS	**Gruza**	**2.15**	**69**	*e*Pn		**Pn**	**23 08 36.1**	**+0.2**
GRUS				*e*Sn		**Sb**	**23 09 04.4**	**-1.3**
DUGI	**Dugi Otok**	**2.27**	**293**	Pn		**Pb**	**23 08 39.4**	**-1.5**
DUGI				Sn		**Sb**	**23 09 09.5**	**+0.3**
SELS	**Selova**	**2.32**	**87**	*e*Pn		**Pb**	**23 08 39.5**	**-2.2**
SELS				*e*Sn		**Sb**	**23 09 10.6**	**-0.1**
VIRC	**Vir**	**2.40**	**300**	Pn		**Pb**	**23 08 41.1**	**-1.8**
VIRC				Sn		**Sb**	**23 09 12.4**	**-0.4**
PLIT	**Plitvice**	**2.42**	**317**	Pn		**Pb**	**23 08 42.0**	**-1.4**
PLIT				Sn		**Sb**	**23 09 13.3**	**-0.2**
MOSL	**Moslavina**	**2.62**	**341**	*e*Pn		**Pn**	**23 08 43.4**	**+1.0**
MOSL				*e*Sn		**Sn**	**23 09 15.4**	**+0.8**
BARS	**Barje**	**2.85**	**95**	*e*Pn		**Pn**	**23 08 47.4**	**+1.8**
BARS				*e*Sn		**Sb**	**23 09 24.1**	**-1.9**
OZLJ	**Ozalj**	**3.05**	**325**	*e*Pn		**Pn**	**23 08 49.0**	**+0.8**
OZLJ				*e*Sn		**Sn**	**23 09 25.5**	**+0.4**
BOJS	**Bojanci**	**3.06**	**322**	*e*Pn		**Pn**	**23 08 50.7**	**+2.3**
MORH	**Mrgy, Hungar**	**3.12**	**9**	*e*Pn		**Pn**	**23 08 49.7**	**+0.5**
MORH				*e*Sn		**Sn**	**23 09 27.2**	**+0.4**
BRJN	**Brijuni**	**3.51**	**302**	*e*Sn		**Sn**	**23 09 36.7**	**+0.3**

IDC ***16*** *23:26:30.6±4.2,17°.76S×178°.29W,h593km±46km,mb3.3/9, mbtmp4.2/10,Error ellipse: s-maj=38.6km s-min=20.7km az=140.0*
NEIC ***16*** *23:26:30.9±1.4,17°.9S±0°.1×178°.1W±0°.1,h608km±8km, mb4.3/32,Error ellipse: s-maj=20.8km s-min=16.9km az=141.0*
ISC 16 23:26:30.3±0.5,17°.9S±0°.1×178°.14W±0°.09,h600km,n80, σ1§11/80,mb4.2/23,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUTU	**Fugatoga**	**3.52**	**0**	P		**P**	**23 27 56.2**	**+3.5**
MSVF	**Nonsavu**	**3.64**	**271**	P		**P**	**23 27 56.5**	**+3.1**
NIUE	**Niue**	**7.88**	**100**	P		**P**	**23 28 27.9**	**-0.6**
PINNC	**Pines Island,**	**14.34**	**248**	P		**P**	**23 29 32.1**	**-0.2**
DZM	**Mont Dzumac**	**15.09**	**251**	P		**P**	**23 29 39.4**	**0.0**
DZM				IAmb	IAmb		23 29 51.7	
	comp=Z,12nm,1.0s							
DZM	**Mont Dzumac**	**15.09**	**251**	P		**P**	**23 29 37.8**	**-1.6**
	comp=Z,4.0nm,0.7s,baz=326,slow=23,SNR=7.1							
LTZ	**Lake Taylor**	**26.16**	**196**	P		**P**	**23 31 18.1**	**-0.4**
ARMA	**Armidale**	**30.20**	**240**	P		**P**	**23 31 57.3**	**+3.5**
ARMA				IAmb	IAmb		23 32 19.5	
	comp=

CONA	**Conrad Observa**	**147.89**	**342**	*e*PKP	**PKiKP**	**23 45 09.2**	**-1.1**
	comp=Z,2.0nm,0.6s						
RONA	**Rosalia, Austr**	**147.96**	**341**	*e*PKP	**PKiKP**	**23 45 09.4**	**-1.0**
	comp=Z,2.8nm,0.9s						
ARSA	**Arzberg**	**148.60**	**342**	*e*PKP	**PKiKP**	**23 45 11.1**	**-0.6**
	comp=Z,1.4nm,0.7s						
BIOA	**Bad Ischl, Aus**	**148.71**	**345**	*e*PKP	**PKiKP**	**23 45 11.1**	**-0.8**
	comp=Z,5.3nm,1.2s						
LESA	**Schwarzleotal**	**149.19**	**346**	*e*PKP	**PKiKP**	**23 45 12.4**	**-0.6**
	comp=Z,3.1nm,1.2s						
SOKA	**Soboth**	**149.26**	**342**	*e*PKP	**PKiKP**	**23 45 12.4**	**-0.7**
	comp=Z,4.7nm,1.1s						
KBA	**Koelnbreinsper**	**149.35**	**345**	*e*PKP	**PKiKP**	**23 45 12.7**	**-0.8**
	comp=Z,3.9nm,1.1s						
WATA	**Walderalm**	**149.53**	**347**	*e*PKP	**PKiKP**	**23 45 12.8**	**-1.0**
	comp=Z,3.0nm,0.7s						
WTTA	**Wattenberg**	**149.58**	**347**	*e*PKP	**PKiKP**	**23 45 13.7**	**-0.3**
	comp=Z,3.5nm,0.6s						
MOTA	**Moosalm**	**149.62**	**348**	*e*PKP	**PKiKP**	**23 45 13.6**	**-0.4**
	comp=Z,5.8nm,1.1s						
MYKA	**Terra Mystica**	**149.69**	**344**	*e*PKP	**PKiKP**	**23 45 13.8**	**-0.2**
	comp=Z,1.0nm,0.4s						
SQTA	**Sankt Quirin**	**149.72**	**347**	*e*PKP	**PKiKP**	**23 45 13.8**	**-0.4**
	comp=Z,3.8nm,0.8s						
ABTA	**Abfaltersbach**	**149.87**	**345**	*e*PKP	**PKiKP**	**23 45 13.7**	**-0.7**
	comp=Z,6.6nm,0.9s						
DAVA	**Damuels**	**149.91**	**349**	*i* PKP	**PKiKP**	**23 45 14.3**	**-0.3**
	comp=Z,6.6nm,1.0s						
FETA	**Feichten**	**150.00**	**348**	*e*PKP	**PKiKP**	**23 45 14.6**	**-0.2**
	comp=Z,4.0nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**150.48**	**348**		**PKiKP**	**23 45 15.7**	**-0.2**

NEIC ***16*** *23:30:07.5±1.4,26.69S±0.07×175.70W±0.10,h10km±1km, mb5.2/121, Error ellipse: s-maj=16.9km s-min=9.4km az=122.0*

MOS ***16*** *23:30:08.2±1.3,26.69S×176.22W,h10km,mb5.3/32, Error ellipse: s-maj=10.5km s-min=9.0km az=108.7*

IDC ***16*** *23:30:08.5±0.4,26.68S×176.41W,h0km,mb4.9/20, mbtmp4.9/23,ML4.7/3,MS4.4/48, Error ellipse: s-maj=14.0km s-min=12.3km az=127.0*

NOU ***16*** *23:30:10.5,26.99S×175.48W,h57km,mb5.0/28, South of Tonga Islands*

GCMT ***16*** *23:30:14.5±0.2,26.55S±0.02×175.91W±0.01,h20km, MW5.1/98, Moment Tensor Solution. s60,c87; s98,c144; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.88±.17; Mθθ0.27±.12; Mϕϕ-4.15±.11; Mrθ-1.06±.25; Mrϕ-0.07±.08; Mθϕ3.25±.20; Best double couple: M0 5.27900×10^16 NP1:ϕs349.00000°,δ65.00000°,λ79.00000°. Principal axes: T 5.2420, Plg68.0000°, Azm238.0000°; N 0.4741, Plg10.0000°, Azm353.0000°; P -5.3150, Plg20.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 23:30:11.3±0.3, 26.87S±0.05×175.91W±0.05, h31km, n630,σ1s62/594, mb5.2/120, MS4.4/51, 49C-22D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.97**	**216**		**Pn**	**23 30 57.6**	**+1.4**
RAO				Sn	**Sb**	**23 31 34.8**	**-4.5**
RAO	**Raoul Island**	**2.97**	**216**	Pn	**Pn**	**23 30 57.6**	**+1.4**
	394nm,0.3s,baz=151,slow=5.0,SNR=13						
RAO				Sn	**Sn**	**23 31 34.0**	**+3.2**
	443nm,0.3s,baz=135,slow=22,SNR=6.3						
RAO				LR	LR	23 31 37.5	
	comp=Z,3μm,18.5s,baz=125,slow=31 1μm,0.3s						
RAO	**Raoul Island**	**2.97**	**216**	P	**Pn**	**23 30 58.3**	**+2.0**
NIUE	**Niue**	**9.51**	**37**	Pn	Pn	23 32 20.4	-5.8
NIUE					Sn	23 33 57.0	-15
NIUE	**Niue**	**9.51**	**37**	P	**Pn**	**23 32 23.7**	**-2.5**
MSVF	**Nonsavu**	**10.67**	**327**		**Pn**	**23 32 39.6**	**-2.6**
MSVF	**Nonsavu**	**10.67**	**327**	P	**Pn**	**23 32 43.7**	**+1.5**
MSVF	**Nonsavu**	**10.67**	**327**	*ce*Pn	**Pn**	**23 32 41.6**	**-0.6**
OUZ	**Omahuta**	**12.25**	**225**	P	**Pn**	**23 33 03.7**	**0.0**
URZ	**Urewera**	**12.79**	**206**	Pn	Pn	23 33 03.0	-7.9
	1.2nm,0.3s,baz=265,slow=4.5,SNR=7.9						
URZ				Sn	**Sn**	**23 35 25.8**	**-6.4**
	3.7nm,0.3s,baz=57,slow=22,SNR=9.6						
URZ				LR	LR	23 38 02.9	
	comp=Z,2μm,18.9s,baz=14,slow=37						
URZ	**Urewera**	**12.79**	**206**	P	**Pn**	**23 33 09.1**	**-1.8**
BKZ	**Black Stump Fm**	**13.81**	**206**	P	**Pn**	**23 33 24.4**	**-0.6**
BFZ	**Birch Farm**	**15.23**	**203**	P	**Pn**	**23 33 41.9**	**-2.2**
PINNC	**Pines Island,**	**15.70**	**282**		**Pn**	**23 33 50.3**	**0.0**
PINNC				IAmb	IAmb	23 33 58.0	
	comp=Z,404nm,2.0s						
RAR	**Rarotonga**	**15.77**	**73**	LR	LR	23 39 01.6	
	comp=Z,1μm,18.1s,baz=279,slow=33						
OUENC	**Ouen Island, N**	**16.30**	**282**	P	**P**	**23 34 01.3**	**+0.6**
DZM	**Mont Dzumac**	**16.76**	**283**		**P**	**23 34 07.5**	**+1.6**
DZM	**Mont Dzumac**	**16.76**	**283**	*e*P	**P**	**23 34 05.9**	**0.0**
	comp=Z,256nm,1.2s						
DZM				*e*LR	LR	23 37 58.3	
	comp=Z,4μm,23.8s						
DZM	**Mont Dzumac**	**16.76**	**283**	Pn	**Pn**	**23 33 58.4**	**-5.5**
	comp=Z,1.5nm,0.3s,baz=105,slow=15,SNR=21						
DZM				LR	LR	23 39 16.0	
	comp=Z,3μm,19.0s,baz=166,slow=34 comp=Z,6.7nm,1.0s						
DZM	**Mont Dzumac**	**16.76**	**283**	P	**P**	**23 34 08.2**	**+2.3**
KHZ	**Kahutara**	**17.75**	**206**		**Pn**	**23 34 14.8**	**-1.2**
LTZ	**Lake Taylor**	**18.57**	**208**	P	**P**	**23 34 24.4**	**-1.3**
SANVU	**Saraoutou**	**19.40**	**302**		**Pn**	**23 34 35.2**	**-1.0**
SANVU				IAmb	IAmb	23 34 39.2	
	comp=Z,111nm,0.7s						
SANVU	**Saraoutou**	**19.40**	**302**	P	**Pn**	**23 34 35.6**	**-0.6**
RPZ	**Rata Peaks**	**19.85**	**209**	P	**P**	**23 34 39.2**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=28,slow=6.5,SNR=6.0 comp=Z,1.0nm,0.7s						
ODZ	**Otahua Downs**	**21.10**	**207**	P	**P**	**23 34 51.7**	**-1.5**
TBI	**Tubuai**	**24.19**	**87**	*e*P	P	23 35 18.5	-6.6
	comp=Z,788nm,41.8s						
TBI				*e*S	**S**	**23 39 37.1**	**-4.4**
	comp=Z,703nm,24.2s						
TBI				*e*LR	LR	23 41 14.5	
	comp=Z,2μm,25.2s						
TBI				*e*LR	LR	23 41 17.6	
	comp=Z,7μm,28.0s						
PPT2	**Papeete2**	**26.02**	**75**	*e*P	P	23 35 35.2	-6.7
	comp=Z,112nm,23.8s						
PPT2				*e*S	**S**	**23 40 05.5**	**-5.5**
	comp=Z,258nm,29.2s						
PPT2				*e*LQ	LQ	23 40 58.3	
	comp=Z,1μm,23.0s						
PPT2				*e*LR	LR	23 42 01.6	
	comp=Z,1μm,30.0s						
PPT2				*e*LR	LR	23 42 03.8	
	comp=Z,2μm,24.2s						
PPT	**Papeete**	**26.03**	**75**	LR	LR	23 43 35.8	
	comp=Z,685nm,18.9s,baz=256,slow=31						
ARMA	**Armidale**	**28.66**	**255**	P	**P**	**23 36 05.9**	**+0.4**
HNR	**Honiara**	**28.67**	**303**	LR	LR	23 45 35.4	
	comp=Z,1μm,20.6s,baz=140,slow=33						
TATA	**Tatamba Isabel**	**29.45**	**304**	P	**P**	**23 36 14.3**	**+1.8**
EIDS	**Eidsvold**	**29.63**	**265**		**P**	**23 36 13.5**	**-0.6**
EIDS	**Eidsvold**	**29.63**	**265**	P	**P**	**23 36 12.0**	**-2.1**
	comp=Z,27nm,1.0s						
GLAD	**Gladstone**	**32.84**	**235**	P	**P**	**23 36 42.4**	**+0.3**
CMSA	**Cobar Meteorol**	**33.73**	**253**	P	**P**	**23 36 47.2**	**-2.8**
	comp=Z,13nm,1.0s						
TAU	**Tasmania Unive**	**33.84**	**232**	P	**P**	**23 36 51.2**	**+0.4**
TAU				IAmb	IAmb	23 36 53.1	
	comp=Z,21nm,0.8s						
TAU	**Tasmania Unive**	**33.84**	**232**	P	**P**	**23 36 51.0**	**+0.2**
TAU	**Tasmania Unive**	**33.84**	**232**	P	**P**	**23 36 51.2**	**+0.4**
TAU				pmax	pmax		
	comp=Z,21nm,0.8s						
TOO	**Toolangi**	**34.15**	**242**	P	**P**	**23 36 53.5**	**-0.2**
TOO	**Toolangi**	**34.15**	**242**	P	**P**	**23 36 52.0**	**-1.7**
	comp=Z,9.3nm,1.5s						
TOO	**Toolangi**	**34.15**	**242**	P	**P**	**23 36 53.5**	**-0.2**
TOO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CTA	**Charters Tower**	**35.26**	**273**	P	**P**	**23 37 02.8**	**-0.7**
CTA	**Charters Tower**	**35.26**	**273**	P	**P**	**23 37 02.7**	**-0.7**
CTAO	**Charters Tower**	**35.26**	**273**	P	**P**	**23 37 02.2**	**-1.2**
CTAO				IAmb	IAmb	23 37 05.2	
	comp=Z,55nm,1.4s						
CTAO	**Charters Tower**	**35.26**	**273**	P	**P**	**23 37 02.8**	**-0.7**
CTAO	**Charters Tower**	**35.26**	**273**	P	**P**	**23 37 02.2**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,55nm,1.5s						
STKA	**Stephens Creek**	**37.20**	**252**	P	**P**	**23 37 18.9**	**-1.0**
STKA				IAmb	IAmb	23 37 24.6	
	comp=Z,79nm,1.4s						
STKA	**Stephens Creek**	**37.20**	**252**	P	**P**	**23 37 18.3**	**-1.5**
	comp=Z,4.6nm,0.9s,baz=87,slow=11,SNR=6.6						
STKA				LR	LR	23 51 29.4	
	comp=Z,2μm,18.1s,baz=75,slow=35 comp=Z,4.6nm,0.9s						
STKA	**Stephens Creek**	**37.20**	**252**	*de*P	**P**	**23 37 19.2**	**-0.6**
MTSU	**Mount Surprise**	**37.64**	**275**	P	**P**	**23 37 20.0**	**-3.7**
	comp=Z,30nm,0.9s						
TAOE	**Nuku Hiva Isla**	**38.27**	**69**	*e*S	**S**	**23 43 14.0**	**-7.5**
	comp=Z,160nm,24.3s						
TAOE				*e*LQ	LQ	23 46 10.0	
	comp=Z,6μm,31.5s						
TAOE				*e*LR	LR	23 47 39.4	
	comp=Z,758nm,26.9s						
PMG	**Port Moresby**	**38.97**	**289**	LR	LR	23 51 13.7	
	comp=Z,1μm,19.1s,baz=138,slow=33						
PMG	**Port Moresby**	**38.97**	**289**	‖*e*P	**P**	**23 37 34.1**	**-0.8**
PMG				pmax	pmax		
	comp=Z,24nm,1.0s						
HTT	**Hallett**	**39.37**	**249**	P	**P**	**23 37 37.4**	**-0.8**
	comp=Z,3.6nm,0.9s						
HTT	**Hallett**	**39.37**	**249**	P	**P**	**23 37 36.8**	**-1.3**
COEN	**Coen**	**40.27**	**280**	P	**P**	**23 37 45.9**	**+0.2**
COEN				IAmb	IAmb	23 37 46.8	
	comp=Z,34nm,0.8s						
COEN	**Coen**	**40.27**	**280**	P	**P**	**23 37 42.3**	**-3.4**
	comp=Z,59nm,1.1s						
COEN	**Coen**	**40.27**	**280**	P	**P**	**23 37 44.7**	**-1.0**
QIS	**Mount Isa**	**41.05**	**269**	P	**P**	**23 37 50.4**	**-1.9**
	comp=Z,16nm,0.7s						
QIS	**Mount Isa**	**41.05**	**269**	P	**P**	**23 37 50.5**	**-1.8**
BBOO	**Buckleboo**	**41.80**	**250**	P	**P**	**23 37 56.5**	**-1.7**
BBOO				IAmb	IAmb	23 38 10.4	
	comp=Z,99nm,2.0s						
BBOO	**Buckleboo**	**41.80**	**250**	P	**P**	**23 37 57.7**	**-0.5**
AS01	**Alice Springs**	**45.23**	**263**	P	**P**	**23 38 24.0**	**-2.0**
AS31	**Alice Springs**	**45.27**	**263**	P	**P**	**23 38 24.8**	**-1.6**
ASAR	**Alice Springs**	**45.27**	**263**	P	**P**	**23 38 24.4**	**-1.9**
	comp=Z,12nm,1.0s,baz=106,slow=8.1,SNR=35						
ASAR				S	**S**	**23 45 04.3**	**-0.6**
	comp=Z,1.3nm,1.2s,baz=100,slow=16,SNR=4.4						
ASAR				LR	LR	23 56 36.4	
	comp=Z,1μm,18.2s,baz=111,slow=35 comp=Z,12nm,1.0s						
WR8	**Warramunga Arr**	**45.80**	**268**	P	**P**	**23 38 29.0**	**-1.5**
WR8				IAmb	IAmb	23 38 31.1	
	comp=Z,25nm,0.9s						
WRAB	**Tennant Creek**	**45.94**	**268**	P	**P**	**23 38 30.0**	**-1.6**
WRAB				IAmb	IAmb	23 38 32.1	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**45.94**	**268**	‖*e*P	**P**	**23 38 29.6**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**45.95**	**268**	P	**P**	**23 38 29.7**	**-2.0**
WRA	**Warramunga Arr**	**45.95**	**268**	P	**P**	**23 38 29.2**	**-2.4**
	comp=Z,20nm,0.6s,baz=106,slow=7.6,SNR=82						
WRA				S	**S**	**23 45 11.2**	**-3.5**
	comp=Z,1.8nm,1.1s,baz=106,slow=15,SNR=4.5						
WRA				LR	LR	23 55 52.8	
	comp=Z,662nm,21.9s,baz=110,slow=34 comp=Z,20nm,0.6s						
WRA	**Warramunga Arr**	**45.95**	**268**	P	**P**	**23 38 29.7**	**-2.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WB0	**Warramunga Arr**	**45.95**	**268**	P	**P**	**23 38 29.9**	**-1.8**
WB0				IAmb	IAmb	23 38 32.2	
	comp=Z,30nm,0.7s						
JAY	**Jayapura**	**48.08**	**293**	LR	LR	23 57 47.0	
	comp=Z,514nm,20.0s,baz=164,slow=35						
JAY	**Jayapura**	**48.08**	**293**	P	**P**	**23 38 45.5**	**-2.9**
	comp=Z,14nm,1.4s						
GENI	**Genyem**	**48.48**	**292**	P	**P**	**23 38 50.3**	**-1.1**
	comp=Z,4μmcomp=Z,26nm,0.7s						
KIP	**Kipapa**	**51.04**	**22**	‖*e*P	**P**	**23 39 07.7**	**-3.0**
KIP				pmax	pmax		
	comp=Z,31nm,1.1s						
SBA	**Scott Base**	**51.69**	**185**	P	**P**	**23 39 18.2**	**+3.3**
SBA				pmax	pmax		
	comp=Z,41nm,1.1s						
VNDA	**Vanda**	**51.78**	**186**	P	**P**	**23 39 19.7**	**+4.1**
	comp=Z,5.8nm,1.1s,baz=8.5,slow=7.5,SNR=18						
VNDA				LR	LR	23 57 37.1	
	comp=Z,279nm,20.5s,baz=12,slow=32 comp=Z,5.8nm,1.1s						
KNRA	**Kununurra**	**52.40**	**270**	P	**P**	**23 39 19.8**	**-1.2**
KNRA				IAmb	IAmb	23 39 22.5	
	comp=Z,48nm,1.1s						
BAKI	**Biak**	**52.62**	**291**	P	**P**	**23 39 22.6**	**-0.2**
	comp=Z,599nmcomp=Z,41nm,1.1s						
FITZ	**Fitzroy Crossi**	**54.32**	**266**	P	**P**	**23 39 34.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**54.32**	**266**	LR	LR	00 01 10.6	
	comp=Z,506nm,19.1s,baz=100,slow=35						
FITZ	**Fitzroy Crossi**	**54.32**	**266**	P	**P**	**23 39 33.9**	**-1.2**
FAKI	**Fak Fak**	**54.98**	**286**	P	**P**	**23 39 39.2**	**-0.8**
GUMO	**Guam**	**55.40**	**312**	LR	LR	00 00 44.3	
	comp=Z,417nm,21.4s,baz=145,slow=33						
SWI	**Sorong**	**56.88**	**288**	P	**P**	**23 39 50.8**	**-2.8**
KLBR	**Kellerberrin**	**57.30**	**248**	P	**P**	**23 39 54.5**	**-1.9**
NWAO	**Narrogin (SRO)**	**57.42**	**247**	LR	LR	00 03 35.0	
	comp=Z,583nm,18.0s,baz=113,slow=35						
MEEK	**Meekatharra**	**57.84**	**254**	P	**P**	**23 39 57.9**	**-2.4**
BLDU	**Ballidu**	**58.40**	**249**	P	**P**	**23 40 02.3**	**-1.9**
	comp=Z,31nm,2.1s						
MBWA	**Marble Bar**	**58.53**	**261**	P	**P**	**23 40 03.7**	**-1.4**
RPN	**Rapa Nui**	**58.64**	**107**	LR	LR	23 59 60.0	
	comp=Z,238nm,18.5s,baz=276,slow=30						
SOEI	**Soe**	**58.78**	**275**	P	**P**	**23 40 06.3**	**-0.9**
SOEI	**Soe**	**58.78**	**275**	P	**P**	**23 40 06.2**	**-0.9**
	comp=Z,45nm,0.9s						
CASY	**Casey**	**59.11**	**207**	P	**P**	**23 40 09.5**	**+1.0**
BATI	**Baumata**	**59.13**	**274**	LR	LR	00 06 09.5	
	comp=Z,963nm,18.7s,baz=125,slow=37						
MORW	**Morawa**	**59.37**	**251**	P	**P**	**23 40 10.0**	**-0.9**
MORW	**Morawa**	**59.37**	**251**	P	**P**	**23 40 08.8**	**-2.1**
EDFI	**Ende, Flores**	**61.51**	**275**	P	**P**	**23 40 23.7**	**-2.1**
	comp=Z,14nm,1.4s						
QSPA	**South Pole Qui**	**63.23**	**180**	P	**P**	**23 40 37.8**	**+1.2**
QSPA	**South Pole Qui**	**63.23**	**180**	P	**P**	**23 40 40.8**	**+4.3**
	comp=Z,28nm,0.9s,baz=38,slow=1.6,SNR=67 comp=Z,28nm,0.9s						
KAPI	**Kappang**	**64.89**	**277**	P	**P**	**23 40 47.7**	**-0.4**
KAPI				IAmb	IAmb	23 40 50.9	
	comp=Z,17nm,1.1s						
KAPI	**Kappang**	**64.89**	**277**	LR	LR	00 09 35.8	
	comp=Z,225nm,18.2s,baz=121,slow=37						
KAPI	**Kappang**	**64.89**	**277**	‖*e*P	**P**	**23 40 48.1**	**0.0**
KAPI				pmax	pmax		
	comp=Z,21nm,1.1s						
PLAI	**Plampang**	**64.97**	**273**	P	**P**	**23 40 46.8**	**-1.8**
DAV	**Davao City (W)**	**65.92**	**292**	LR	LR	00 09 26.5	
	comp=Z,96nm,18.6s,baz=139,slow=36						
TOLI2	**Tolitoli**	**66.89**	**284**	P	**P**	**23 40 59.9**	**-1.1**
TOLI2				IAmb	IAmb	23 41 04.6	
	comp=Z,11nm,0.9s						
JCJ	**Chichijima**	**67.11**	**320**	LR	LR	00 04 22.0	
	comp=Z,191nm,21.4s,baz=130,slow=31						
UGM	**Wanagama**	**71.83**	**270**	P	**P**	**23 41 31.1**	**-0.5**
BELA	**Belgrano 2**	**73.02**	**172**		**P**	**23 41 38.4**	**+0.7**
BELA				IAmb	IAmb	23 41 42.5	
	comp=Z,35nm,2.0s						
PMSA	**Palmer Station**	**74.71**	**156**	LR	LR	00 06 57.0	
	comp=Z,139nm,20.8s,baz=252,slow=29						
LEM	**Lembang**	**74.90**	**270**	LR	LR	00 15 00.8	
	comp=Z,679nm,19.5s,baz=154,slow=36						
SBUM	**Sibu**	**75.01**	**281**	P	**P**	**23 41 49.4**	**-1.0**
JOW	**Kunigami**	**75.72**	**310**	LR	LR	00 12 37.7	
	comp=Z,168nm,18.2s,baz=135,slow=34						
INU	**Inuyama**	**76.21**	**322**	P	**P**	**23 41 55.3**	**-1.3**
JGF	**Kuroka**	**76.21**	**322**	P	**P**	**23 41 55.9**	**-0.8**
KSM	**Kuching**	**76.24**	**279**	P	**P**	**23 41 56.2**	**-1.1**
KSM				IAmb	IAmb	23 41 57.7	
	comp=Z,28nm,1.0s						
MAW	**Mawson**	**76.24**	**200**	P	**P**	**23 41 59.3**	**+2.9**
	comp=Z,16nm,1.1s,baz=117,slow=5.9,SNR=9.7						
MAW				LR	LR	00 15 45.5	
	comp=Z,459nm,18.3s,baz=115,slow=36 comp=Z,16nm,1.1s						
MJAR	**Matsushiro Arr**	**76.45**	**324**	P	**P**	**23 41 57.0**	**-1.0**
MJAR				IAmb	IAmb	23 41 59.1	
	comp=Z,32nm,1.1s						
MJAR	**Matsushiro Arr**	**76.45**	**324**	P	**P**	**23 41 58.3**	**+0.3**
	comp=Z,28nm,0.9s,baz=158,slow=5.7,SNR=47						
MJAR				LR	LR	00 10 06.5	
	comp=Z,136nm,21.3s,baz=145,slow=32 comp=Z,28nm,0.9s						
MAJO	**Matsushiro**	**76.45**	**324**	P	**P**	**23 41 56.6**	**-1.4**
MAJO	**Matsushiro**	**76.45**	**324**	*ce*P	**P**	**23 41 57.4**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,45nm,1.0s						
MJB9	**Matsu-Tunnel**	**76.46**	**324**	P	**P**	**23 41 56.5**	**-1.5**
JMN	**Monobe**	**76.82**	**319**	P	**P**	**23 41 59.1**	**-1.1**
JNU	**Nakatsue**	**78.20**	**317**	P	**P**	**23 42 07.3**	**-0.7**
JNU	**Nakatsue**	**78.20**	**317**	P	**P**	**23 42 08.4**	**+0.5**
	comp=Z,59nm,0.9s,baz=94,slow=4.2,SNR=24						
JNU				LR	LR	00 12 22.2	
	comp=Z,100nm,20.1s,baz=124,slow=33 comp=Z,59nm,0.9s						
NACB	**Ninganchiao**	**78.83**	**304**	P	**P**	**23 42 10.4**	**-1.1**
MDSI	**Maura Dua**	**79.00**	**271**	P	**P**	**23 42 10.3**	**-2.4**
SSLB	**Suanglung**	**79.08**	**304**	P	**P**	**23 42 11.8**	**-1.1**
SSLB				IAmb	IAmb	23 42 14.2	
	comp=Z,29nm,1.0s						
TATO	**Taipei**	**79.38**	**305**	P	**P**	**23 42 13.2**	**-1.3**
NIKH	**Nikolski High**	**79.74**	**4**	P	**P**	**23 42 17.2**	**+1.5**
	baz=186						
ASAJ	**Asahikawa**	**80.21**	**331**	P	**P**	**23 42 20.2**	**+1.7**
	comp=Z,34nm,0.9s,baz=216,slow=7.3,SNR=10						
ASAJ				LR	LR	00 16 38.9	
	comp=Z,168nm,18.3s,baz=184,slow=35 comp=Z,34nm,0.9s						
UNV	**Unalaska Valle**	**80.79**	**6**	P	**P**	**23 42 22.3**	**+0.9**
	baz=188						
H03S2	**Juan Fernandez**	**80.86**	**123**	T	T	01 11 46.1	
	baz=243						
H03S1	**Juan Fernandez**	**80.88**	**123**	T	T	01 11 46.9	
	baz=243,slow=74						
H03S3	**Juan Fernandez**	**80.88**	**123**	T	T	01 11 45.4	
	baz=243,slow=74						
SYO	**Syowa Base**	**80.95**	**192**	⇑*i*P	**P**	**23 42 22.2**	**-0.1**
SYO	**Syowa Base**	**80.95**	**192**	⇑*ep*P	**P**	**23 42 24.4**	**+2.1**
SYO	**Syowa Base**	**80.95**	**192**	⇑*e*PcP	**PcP**	**23 42 28.7**	**-0.1**
H03N3	**Juan Fernandez**	**81.03**	**123**	T	T	01 11 57.9	
	baz=252						
H03N2	**Juan Fernandez**	**81.03**	**123**	T	T	01 12 00.5	
	baz=252						
H03N1	**Juan Fernandez**	**81.05**	**123**	T	T	01 12 04.5	
	baz=252						
SKR	**Severo-Kuril's**	**81.08**	**342**	‖*e*P	**P**	**23 42 24.3**	**+1.3**
LPIG	**La Paz**	**81.10**	**57**	LR	LR	00 10 28.7	
	comp=Z,199nm,20.0s,baz=220,slow=30						
TROLL	**Troll, Antarti**	**81.39**	**180**	⇑P	**P**	**23 42 27.4**	**+2.6**
	comp=Z,776nm,0.7s						
SNAA	**Sanae**	**81.61**	**178**	⇑P	**P**	**23 42 28.1**	**+2.2**
	comp=Z,205nm,0.7s						
SNAA	**Sanae**	**81.61**	**178**	P	**P**	**23 42 26.8**	**+0.9**
SNAA				IAmb	IAmb	23 42 29.4	
	comp=Z,14nm,1.0s						
SNAA	**Sanae**	**81.61**	**178**	P	**P**	**23 42 28.4**	**+2.5**
	comp=Z,9.8nm,0.9s,baz=200,slow=3.9,SNR=34 comp=Z,9.8nm,0.9s						
SNAA	**Sanae**	**81.61**	**178**	*ce*P	**P**	**23 42 27.7**	**+1.8**
SNAA				pmax	pmax		
	comp=Z,12nm,0.9s						
VNA3	**Neumayer Olymp**	**81.68**	**176**	⇑P	**P**	**23 42 28.4**	**+2.2**
	comp=Z,14nm,0.9s						
MWC	**Mount Wilson**	**81.82**	**45**	P	**P**	**23 42 25.0**	**-2.7**
MWC				IAmb	IAmb	23 42 34.2	
	comp=Z,15nm,1.2s						
MWC	**Mount Wilson**	**81.82**	**45**	P	**P**	**23 42 25.0**	**-2.7**
MWC				pmax	pmax		
	comp=Z,15nm,1.2s						
TPO	**Tropico Hills**	**82.14**	**45**	P	**P**	**23 42 27.4**	**-1.8**
TPO				IAmb	IAmb	23 42 54.8	
	comp=Z,21nm,1.1s						
VNA2	**Neumayer--Watz**	**82.14**	**176**	⇑P	**P**	**23 42 31.1**	**+2.5**
	comp=Z,14nm,1.0s,baz=180,slow=4.5						
VES	**Vestal, Richgr**	**82.23**	**43**	P	**P**	**23 42 28.3**	**-1.2**
VES				IAmb	IAmb	23 42 35.6	
	comp=Z,22nm,0.9s						
VNA1	**Neumayer--Stat**	**82.36**	**176**	⇑P	**P**	**23 42 26.8**	**-2.9**
	comp=Z,14nm,0.9s						
YSS	**Yuzhno-Sakhali**	**82.42**	**333**	*e*P	**P**	**23 42 32.1**	**+1.9**
YSS				*e*S	**SKSac**	**23 52 49.2**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				pmax	pmax		
	comp=Z,800nm,4.1s						
PFO	**Pinyon Flats O**	**82.46**	**46**	LR	LR	00 14 27.9	
	comp=Z,311nm,18.1s,baz=226,slow=32						
ISA	**Isabella, Lake**	**82.49**	**44**	P	**P**	**23 42 29.6**	**-1.4**
ISA				IAmb	IAmb	23 42 46.5	
	comp=Z,9.5nm,0.9s						
ISA	**Isabella, Lake**	**82.49**	**44**	P	**P**	**23 42 29.6**	**-1.4**
ISA				pmax	pmax		
	comp=

QSM IAmb IAmb 23 42 43.5
comp=Z,14nm,1.2s
INCN Inchon 83.69 318 P P 23 42 36.4 -0.7
INCN Inchon 83.69 318 P P 23 42 36.4 -0.7
INCN pmax pmax
comp=Z,25nm,0.8s
WAKR Walker 83.78 41 P P 23 42 35.7 -2.0
WAKR IAmb IAmb 23 42 45.1
comp=Z,28nm,1.3s
PDSI Padang 83.91 272 P P 23 42 38.3 -0.5
DSP Deep Springs 83.91 43 P 23 42 36.0 -2.1
DSP IAmb IAmb 23 42 53.6
comp=Z,9.8nm,1.2s
GWY Greenwater Val 83.95 44 P P 23 42 35.5 -3.1
S14K Fog Glacier 83.98 9 P P 23 42 38.2 +0.1
baz=194
FURC Furnace Creek, 84.01 44 P P 23 42 36.7 -2.0
YBH Yreka Blue Hor 84.12 37 P P 23 42 36.9 -2.4
YBH IAmb IAmb 23 42 46.4
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 84.12 37 LR LR 00 14 47.3
comp=Z,5.9nm,18.3s,baz=262,slow=32
YBH Yreka Blue Hor 84.12 37 P P 23 42 36.9 -2.4
YBH pmax pmax
comp=Z,12nm,0.9s
CHIR Chirikof Islan 84.16 11 P P 23 42 37.6 -1.3
CHIR Chirikof Islan 84.16 11 P P 23 42 39.0 0.0
baz=198
LHV Little Huntoon 84.16 42 P P 23 42 37.0 -2.3
LHV IAmb IAmb 23 42 46.2
comp=Z,14nm,1.0s
CHGN Chignik 84.17 10 P P 23 42 36.7 -2.2
HATC Hat Creek Radi 84.17 38 P P 23 42 37.0 -2.6
MTPC Mountain Pass 84.21 45 P P 23 42 37.6 -2.4
MTPC IAmb IAmb 23 42 54.6
comp=Z,33nm,1.7s
GMN Gold Mountain 84.30 43 P P 23 42 38.0 -2.5
WCT Wildcat Mounta 84.36 44 P P 23 42 38.5 -2.1
NVAR Mina Array Bea 84.40 42 P P 23 42 38.5 -2.4
NVAR Mina Array Bea 84.40 42 P P 23 42 44.0 +3.0
comp=Z,7.2nm,0.9s,baz=219,slow=9.1,SNR=20
comp=Z,7.2nm,0.9s
RYN Ryan 84.40 42 P P 23 42 37.8 -3.0
RYN IAmb IAmb 23 42 54.0
comp=Z,20nm,1.6s
PSTR Posyet 84.81 324 *e*P **P 23 42 42.3 -0.3**
USA0B Ussuriysk Arra 85.28 325 IAmb IAmb 23 42 47.7
comp=Z,29nm,1.1s
USA0B Ussuriysk Arra 85.28 325⇑ *e*P **P 23 42 45.9 +1.0**
USRK Ussuriysk Ar. 85.28 325 P **P 23 42 46.8 +1.9**
comp=Z,25nm,0.9s,baz=120,slow=3.4,SNR=26
comp=Z,25nm,0.9s
NJ2 Nanjing 85.39 309 ⇑P **P 23 42 47.0 +1.2**
NJ2 pP **PcP 23 42 49.5 +0.7**
NJ2 pmax pmax
comp=Z,32nm,0.7s
MNSI Mandailing Nat 85.46 273 P **P 23 42 46.9 +0.3**
comp=Z,960nmcomp=Z,23nm,0.8s
R17L Mt. Peulik Vol 85.76 10 P **P 23 42 47.5 +0.4**
baz=197
OHAK Old Harbor 85.91 12 P **P 23 42 48.2 +0.5**
baz=200
R18K Karluk 86.02 11 P **P 23 42 48.7 +0.5**
baz=199
KDAK Kodiak Island 86.57 12 LR LR 00 19 45.9
comp=Z,132nm,18.2s,baz=201,slow=34
KDAK Kodiak Island 86.57 12 P **P 23 42 51.7 +0.8**
baz=200
O14K Tigyukauivet M 86.65 7 P **P 23 42 52.2 +0.9**
baz=193
O15K Ungalikthiuk R 86.75 8 P **P 23 42 52.0 +0.1**
baz=194
MDJ Mudanjiang 86.80 324 P **P 23 42 54.1 +1.7**
MDJ S **S 23 53 35.0 +7.0**
MDJ pmax pmax
comp=Z,24nm,1.0s
P16K Nushagak River 86.86 9 P **P 23 42 52.6 +0.3**
baz=196
RPSI Rantau Prapat 86.90 275 P **P 23 42 52.2 -1.5**
RPSI IAmb IAmb 23 42 54.1
comp=Z,24nm,1.0s
PSI Prapat 86.94 275 LR LR 00 23 32.2
comp=Z,405nm,19.4s,baz=114,slow=37
PSI Prapat 86.94 275 P **P 23 42 52.2 -1.9**
PSI pmax pmax
comp=Z,24nm,1.0s
Q18K Katmai Hardscr 86.95 11 P **P 23 42 53.5 +0.5**
baz=198
P17K Kvichak River 87.25 10 P **P 23 42 54.5 +0.3**
baz=197
N14K Kuskokwak Cree 87.26 7 P **P 23 42 52.5 -1.7**
N14K Kuskokwak Cree 87.26 7 P **P 23 42 54.9 +0.7**
baz=192,SNR=5.0
M11K Mekoryuk 87.30 5 P **P 23 42 54.9 +0.5**
baz=188
Q20K Shuyak Island 87.38 12 P **P 23 42 55.3 +0.4**
baz=201
O16K Kokwok River B 87.39 9 P **P 23 42 54.9 +0.1**
baz=196
Q19K Cape Douglas, 87.45 11 P **P 23 42 55.8 +0.6**
baz=200
GSI Gunungsitoli 87.47 273 P **P 23 42 55.7 -0.8**
GSI Gunungsitoli 87.47 273 P **P 23 42 57.4 +0.9**
M13K Dall Lake 87.57 6 P **P 23 42 56.3 +0.6**
baz=191
P18K Big Mountain, 87.63 10 P **P 23 42 56.6 +0.5**
baz=198
DL2 Dalian 87.65 316 P **P 23 42 57.3 +0.6**
DL2 *e*S **S 23 53 39.4 +3.0**
DL2 pmax pmax
comp=Z,52nm,1.3s
DL2 LR LR
comp=Z,500nm,17.1s
DL2 LR LR
comp=Z,490nm,15.6s
DL2 LR LR
comp=Z,530nm,21.9s
N15K Kwethluk River 87.69 8 P 23 42 59.2 +2.9
N15K Kwethluk River 87.69 8 P **P 23 42 57.3 +0.9**
baz=194,SNR=5.0
ELK Elko 87.70 42 LR LR 00 16 19.8
comp=Z,228nm,19.3s,baz=241,slow=32
O17K Koliganek Bris 87.70 9 P **P 23 42 57.3 +1.0**
baz=196
WHN Wuhan 87.74 306 ⇓P **P 23 42 59.0 +1.7**
WHN pmax pmax
comp=Z,200nm,1.0s
MTPU Mount Pierson 87.92 45 P **P 23 42 58.2 -0.3**
MTPU IAmb IAmb 23 43 05.9
comp=Z,8.1nm,0.9s
M14K Bethel 88.04 7 P **P 23 42 58.5 +0.6**
baz=192
O18K Koktuh Hills 88.07 10 P **P 23 42 57.4 -0.8**
O18K Koktuh Hills 88.07 10 P **P 23 42 58.8 +0.6**
baz=198
M15K Kasigluk River 88.13 7 P **P 23 42 59.2 +0.8**
baz=193
N16K Nishlik Lake 88.15 8 P **P 23 42 59.4 +0.8**
baz=195
MSU Marysvale 88.20 45 P **P 23 42 60.0 +0.4**
MSU Marysvale 88.20 45 P **P 23 43 00.0 +0.4**
P19K Oil Pt 88.21 11 P **P 23 42 59.8 +0.9**
baz=200
D05A Enumclaw 88.28 33 P **P 23 42 58.9 -0.6**
N17K Nushagak Hills 88.42 9 P **P 23 43 00.6 +0.8**
baz=196
CN2 Changchun 88.48 322 *e*P **P 23 43 01.3 +0.8**
CN2 pmax pmax
comp=Z,20nm,0.8s
O19K Port Alsworth 88.54 11 P **P 23 43 01.2 +0.8**
baz=199
L14K Kuka Creek 88.55 6 P **P 23 43 01.0 +0.7**
baz=192
M16K Timber Creek 88.66 8 P **P 23 43 01.0 +0.1**
baz=195
BNX BinXian 88.70 324 ⇓P **P 23 43 02.3 +0.8**
BNX pmax pmax
comp=Z,20nm,1.2s
O20K Slope Mountain 88.72 11 P **P 23 43 01.2 -0.1**
baz=200
TXAR Lajitas Array 88.92 56 P **P 23 43 06.1 +3.0**
comp=Z,1.2nm,0.8s,baz=211,slow=7.1,SNR=8.5
TXAR LR LR 00 14 54.7
comp=Z,82nm,20.9s,baz=250,slow=30
comp=Z,1.2nm,0.8s
K13K Kusilvak Mount 88.95 5 P **P 23 43 03.0 +0.8**
baz=190
TIA Tai'an 88.96 312 P **P 23 43 04.3 +1.3**
TIA pmax pmax
comp=Z,36nm,1.0s
L15K Ungalak Mounta 89.00 7 P **P 23 43 03.1 +0.7**
baz=193
N19K Bonanza Creek 89.10 10 P **P 23 43 03.5 +0.4**
baz=199
BBB Bella Bella 89.13 27 LR LR 00 18 24.3
comp=Z,75nm,18.8s,baz=200,slow=32
M17K Holitna River 89.22 9 P 23 43 06.8 +3.2
M17K Holitna River 89.22 9 P **P 23 43 04.3 +0.7**
baz=196
L16K Owhat River 89.26 8 P 23 43 06.8 +3.1
L16K Owhat River 89.26 8 P **P 23 43 04.3 +0.6**
baz=194
Q23K Middleton Isla 89.38 15 P **P 23 43 04.8 +0.5**
baz=206
M18K Stony River 89.54 9 P **P 23 43 05.9 +0.9**
baz=198
K15K Wolf Creek Mou 89.60 7 P **P 23 43 06.2 +0.9**
baz=193
CAPN Captain Cook N 89.63 12 P **P 23 43 06.4 +1.0**
baz=202
P23K Montague Islan 89.66 14 P **P 23 43 06.3 +0.7**
baz=205
CRAG Craig 89.78 23 P **P 23 43 07.2 +0.9**
baz=217
L17K Donlin 89.82 8 P **P 23 43 07.5 +1.2**
baz=195
N20K Mount Spurr 89.84 11 P **P 23 43 06.4 -0.2**
baz=201
SPCR Spurr Chakacha 89.84 11 P **P 23 43 07.3 +0.8**
baz=201
J14K Nanvaranak Lak 89.85 6 P **P 23 43 07.3 +0.9**
baz=191
CMIG Mar Romero 89.89 71 LR LR 00 15 06.7
comp=Z,109nm,19.3s,baz=228,slow=30
F10A Beach Ranch, E 89.91 37 P 23 43 10.0 +2.7
ANMO Albuquerque 89.93 50 LR LR 00 17 06.1
comp=Z,282nm,19.1s,baz=330,slow=31
ANMO Albuquerque 89.93 50⇑ *e*P **P 23 43 09.0 +1.2**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
L18K Granite Mounta 90.11 9 P **P 23 43 08.2 +0.5**
baz=197
M19K Big River Lodg 90.15 10 P **P 23 43 08.1 +0.2**
baz=199
STLK Strandline Lak 90.19 11 P **P 23 43 06.0 -2.1**
RC01 Rabbit Creek A 90.19 12 P **P 23 43 06.4 -1.7**
RC01 IAmb IAmb 23 43 11.1
comp=Z,24nm,1.1s
RC01 Rabbit Creek A 90.19 12 P **P 23 43 08.8 +0.7**
baz=203
V35K Ketchikan 90.20 24 P **P 23 43 09.0 +0.8**
baz=218
PWL Port Wells 90.25 13 P **P 23 43 09.1 +0.7**
baz=204
KAIM Kayak Island 90.27 15 P 23 43 11.8 +3.3
KAIM Kayak Island 90.27 15 P **P 23 43 09.0 +0.5**
baz=208
U33K Whale Pass 90.30 22 P **P 23 43 08.8 +0.1**
baz=217,SNR=5.2
M20K Styx River 90.33 11 P **P 23 43 09.6 +0.7**
baz=200
SIT Sitka 90.33 21 P **P 23 43 09.3 +0.5**
baz=215
L19K White Mountain 90.34 10 P **P 23 43 07.6 -1.2**
L19K IAmb IAmb 23 43 25.5
comp=Z,10nm,0.9s
L19K White Mountain 90.34 10 P **P 23 43 09.7 +0.8**
baz=198
SUA Susitna One 90.35 12 P **P 23 43 06.9 -2.1**
SUA IAmb IAmb 23 43 25.6
comp=Z,15nm,0.8s
SUA Susitna One 90.35 12 P **P 23 43 09.3 +0.3**
baz=202,SNR=6.2
K17K Iditarod 90.38 8 P **P 23 43 09.9 +0.9**
baz=195
GAMB Gambell 90.40 2 P **P 23 43 09.9 +1.0**
baz=184
MA2 Magadan 90.41 344 LR LR 00 18 29.9
comp=Z,113nm,20.2s,baz=127,slow=32
MA2 Magadan 90.41 344⇓ *e*P **P 23 43 11.4 +2.3**
MA2 pmax pmax
comp=Z,37nm,2.1s
EYAK Cordova Ski Ar 90.52 14 P **P 23 43 10.1 +0.5**
baz=206
GLI Glacier Island 90.53 14 P **P 23 43 10.2 +0.6**
baz=205,SNR=6.8
J16K Anvik River 90.66 7 P **P 23 43 10.3 +0.1**
baz=193
SKT Skwentna 90.69 11 P **P 23 43 11.0 +0.6**
baz=201
M22K Willow 90.73 12 P **P 23 43 11.3 +0.8**
baz=203
KNK Knik Glacier 90.74 13 P **P 23 43 11.3 +0.7**
baz=204
PMR Palmer 90.77 12 P **P 23 43 11.8 +1.1**
baz=204
L20K Farewell, AK 90.77 10 P **P 23 43 12.0 +1.2**
baz=199
S31K Pelican 90.79 20 P **P 23 43 11.4 +0.4**
baz=214
S32K Killisnoo 90.91 21 P **P 23 43 12.0 +0.5**
baz=216
J17K VABM Dome 90.94 7 P **P 23 43 12.7 +1.2**
baz=195
MESA MESA 91.09 16 P **P 23 43 13.4 +0.8**
baz=210
BMRM Bremner River 91.15 15 P **P 23 43 13.3 +0.7**
baz=207,SNR=9.9
LYN LuoYang 91.22 308 ⇓P **P 23 43 15.8 +2.2**
LYN pP pP 23 43 20.6 -1.2
LYN pmax pmax
comp=Z,22nm,1.2s
HNS HongShan 91.23 312 ⇑P **P 23 43 15.3 +1.8**
HNS pmax pmax
comp=Z,25nm,1.0s
M23K Glacier View 91.23 13 P **P 23 43 13.9 +1.0**
baz=205
J18K Innoko River 91.30 8 P **P 23 43 14.6 +1.3**
baz=197
CUT Chulitna 91.31 12 P **P 23 43 14.3 +1.1**
baz=202
CRQE Cirque 91.31 15 P **P 23 43 14.1 +0.6**
baz=209
PNL Peninsula 91.31 18 P **P 23 43 13.9 +0.5**
baz=212
KLU Klutina 91.33 14 P **P 23 43 14.4 +0.9**
baz=206
SCM Sheep Creek Mo 91.35 13 P **P 23 43 14.2 +0.7**
baz=205,SNR=5.2
GYA Guiyang 91.43 299 ⇑P **P 23 43 15.9 +1.0**
GYA pmax pmax
comp=Z,23nm,1.4s
PPLA Purkeypile 91.43 11 P **P 23 43 15.2 +1.1**
baz=201
NEW Newport 91.44 35 LR LR 00 19 13.4
comp=Z,135nm,18.6s,baz=234,slow=32
PINM Pinnacle 91.45 17 P **P 23 43 14.8 +0.7**
baz=211
ANM Nome 91.50 5 P **P 23 43 14.8 +0.7**
baz=189
K20K Telida 91.57 10 P **P 23 43 15.4 +0.8**
baz=199
HEH HeiHe 91.70 328 *e*P **P 23 43 15.9 +0.5**
HEH pmax pmax
comp=Z,7.0nm,1.5s
N25K Chitina, Valde 91.72 14 P **P 23 43 16.4 +1.1**
baz=207,SNR=6.9
BJI Beijing 91.73 315 P **P 23 43 17.1 +1.3**
BJI pmax pmax
comp=Z,5.0nm,0.9s
P29M Windy Craggy 91.74 18 P **P 23 43 15.9 +0.5**
baz=213
H16K Elim 91.83 6 P **P 23 43 16.7 +1.1**
baz=192
M24K Tolsona, Glenn 91.83 13 P **P 23 43 16.7 +0.9**
baz=206
MCARA McCarthy VSAT 91.88 15 P **P 23 43 16.7 +0.7**
baz=209
CTG Chitna Glacier 91.92 16 P **P 23 43 17.0 +0.6**
baz=210
CAST Castle Rocks 91.94 10 P **P 23 43 15.3 -0.9**
CAST IAmb IAmb 23 43 31.9
comp=Z,8.1nm,0.8s
CAST Castle Rocks 91.94 10 P **P 23 43 17.5 +1.3**
baz=201
J19K Poorman 91.95 9 P **P 23 43 17.4 +1.1**
baz=198
T35M Bob Quinn 91.97 23 P **P 23 43 17.1 +0.6**
baz=220
PLBC Pleasant Camp 91.99 19 P **P 23 43 17.4 +1.0**
baz=214
O28M Mount Upton 92.05 17 P **P 23 43 15.6 -1.6**
O28M IAmb IAmb 23 45 12.6
comp=Z,7.3nm,0.6s
O28M Mount Upton 92.05 17 P **P 23 43 16.6 -0.5**
baz=211
O29M Mount Kennedy 92.07 18 P **P 23 43 16.6 -0.4**
baz=213
SDCO Great Sand Dun 92.09 48 P **P 23 43 15.9 -2.0**
LOHW Long Hollow 92.17 41 P **P 23 43 16.0 -2.0**
LOHW IAmb IAmb 23 43 24.7
comp=Z,12nm,1.5s
MSO Missoula 92.21 37 P 23 43 16.5 -1.5
BPMT Black Pine Rid 92.24 38 P **P 23 43 17.1 -1.3**
TRF Thorofare Moun 92.27 11 P **P 23 43 16.8 -1.1**
TRF IAmb IAmb 23 43 34.4
comp=Z,9.3nm,0.8s
TRF Thorofare Moun 92.27 11 P **P 23 43 18.2 +0.3**
baz=202
HARP HAARP 92.31 14 P **P 23 43 18.9 +1.0**
baz=207
PD31 Pinedale Array 92.31 42 P **P 23 43 16.7 -2.0**
PD31 IAmb IAmb 23 43 24.6
comp=Z,7.4nm,1.2s
PDAR Pinedale Array 92.31 42 P **P 23 43 16.6 -2.1**
PDAR Pinedale Array 92.31 42 P **P 23 43 20.7 +2.0**
comp=Z,2.7nm,0.9s,baz=204,slow=3.3,SNR=12
PDAR LR LR 00 19 20.9
comp=Z,101nm,19.4s,baz=244,slow=32
comp=Z,2.7nm,0.9s
TNA Tin City 92.33 3 P **P 23 43 18.7 +0.8**
baz=187
J20K Nowinta River 92.34 9 P **P 23 43 19.2 +1.2**
baz=199
CHUM Lake Minchumin 92.34 10 P **P 23 43 18.2 +0.2**
baz=201
F14K Arctic Creek 92.34 4 P **P 23 43 18.7 +0.7**
baz=188
P30M Million Dollar 92.37 18 P **P 23 43 19.0 +0.7**
baz=214
S34M Telegraph Cree 92.39 22 P **P 23 43 18.8 +0.4**
baz=219
JCT Junction City 92.39 57 P **P 23 43 15.7 -3.4**
JCT Junction City 92.39 57 P **P 23 43 15.7 -3.4**
JCT pmax pmax
comp=Z,4.0nm,1.0s
QLMT Earthquake Lak 92.41 40 P **P 23 43 18.6 -0.5**
LRM Limekiln Ridge 92.42 39 P **P 23 43 18.1 -1.0**
RND Reindeer 92.49 12 P **P 23 43 17.8 -1.0**
RND IAmb IAmb 23 43 21.6
comp=Z,13nm,1.1s
RND Reindeer 92.49 12 P **P 23 43 17.8 -1.0**
RND pmax pmax
comp=Z,13nm,1.1s
G16K Koyuk River 92.56 6 P **P 23 43 19.7 +0.8**
baz=192
YHL Hebgen Lake 92.56 40 P **P 23 43 18.1 -1.9**
YHL IAmb IAmb 23 43 36.1
comp=Z,12nm,1.1s
NNA Nana 92.58 105 LR LR 00 17 11.7
comp=Z,131nm,19.1s,baz=236,slow=30
YUK6 Outpost Mounta 92.67 17 P **P 23 43 20.4 +0.5**
baz=213
F15K North Star Dit 92.68 5 P **P 23 43 20.8 +1.2**
baz=190
YHH Holmes Hill 92.72 40 P **P 23 43 20.3 -0.3**
H18K Honhosa River 92.73 7 P **P 23 43 20.6 +0.8**
baz=195
BOZ Bozeman (W) 92.75 39 P **P 23 43 19.6 -0.9**
BOZ IAmb IAmb 23 43 26.7
comp=Z,8.3nm,0.9s
BOZ Bozeman (W) 92.75 39 P **P 23 43 19.6 -0.9**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 92.75 13 P **P 23 43 20.9 +0.9**
baz=207
BPAW Bear Paw Mtn. 92.75 11 P **P 23 43 21.0 +1.1**
baz=202
MCK McKinley 92.77 12 P **P 23 43 20.6 +0.5**
baz=204
M26K Nabesna, AK 92.78 15 P **P 23 43 20.9 +0.8**
baz=209
HYT Haines Junctio 92.80 18 P **P 23 43 19.7 -0.7**
baz=214
Q32M Nakina River 92.84 21 P **P 23 43 19.6 -1.1**
baz=218
YUK3 Moose Creek 92.84 16 P **P 23 43 22.4 +1.8**
baz=211,SNR=7.0
OVMT Ovando 92.87 38 P **P 23 43 19.3 -1.7**
P32M Atlin 92.89 20 P **P 23 43 18.8 -1.9**
P32M Atlin 92.89 20 P **P 23 43 21.3 +0.6**
baz=217
TIY Taiyuan 92.92 311 *e*P **P 23 43 24.9 +3.5**
TIY pmax pmax
comp=Z,28nm,0.6s
YUK4 Talbot Arm 92.93 17 P **P 23 43 22.0 +0.9**
baz=213
SEY Seymchan 92.99 346⇑ *e*P **P 23 43 20.4 -0.6**
SEY pmax pmax
comp=Z,5.0nm,0.9s
M27K Edge Creek, AK 93.00 15 P **P 23 43 19.9 -1.5**
M27K IAmb IAmb 23 43 25.1
comp=Z,15nm,1.1s
M27K Edge Creek, AK 93.00 15 P **P 23 43 21.9 +0.6**
baz=210,SNR=8.9
BWN Browne 93.08 11 P **P 23 43 19.3 -2.2**
DLBC Dease Lake 93.17 22 LR LR 00 22 43.4
comp=Z,52nm,18.2s,baz=196,slow=34
DLBC Dease Lake 93.17 22 P **P 23 43 22.0 -0.1**
baz=220
L26K Log Cabin Wild 93.25 14 P **P 23 43 23.2 +0.9**
baz=209
BVCY Beaver Creek 93.29 16 P **P 23 43 23.1 +0.6**
baz=211
H19K Roundabout Mou 93.31 8 P **P 23 43 23.6 +1.2**
baz=197
YNE Yellowstone No 93.33 40 P **P 23 43 21.0 -2.4**
YNE IAmb IAmb 23 45 30.0
comp=Z,8.1nm,0.6s
WHY Whitehorse 93.40 19 P **P 23 43 23.7 +0.6**
baz=216
G18K Tagagawik 93.41 7 P **P 23 43 23.7 +0.8**
baz=195
K24K Donnelly Dome 93.44 13 P **P 23 43 21.5 -1.7**
K24K IAmb IAmb 23 43 26.7
comp=Z,14nm,0.9s
K24K Donnelly Dome 93.44 13 P **P 23 43 23.8 +0.7**
baz=206
N30M Aishikik Lake 93.44 18 P **P 23 43 24.1 +0.9**
baz=214
ATAH Atahualpa 93.46 100 LR LR 00 17 00.3
comp=Z,324nm,19.5s,baz=216,slow=30
XAN Xi'an 93.48 306 P **P 23 43 25.8 +1.7**
XAN S **S 23 54 37.9 +7.6**
XAN pmax pmax
comp=Z,11nm,1.3s
XAN LR LR
comp=Z,250nm,22.0s
XAN LR LR
comp=Z,270nm,21.3s
XAN LR LR
comp=Z,410nm,23.4s
H20K Anotleneega Mo 93.48 9 P **P 23 43 23.9 +0.6**
baz=198
NEA2 Nenana 93.54 11 P **P 23 43 24.6 +1.0**
baz=204
R33M Jennings River 93.59 21 P **P 23 43 24.0 -0.1**
baz=219
WRH Wood River Hil 93.60 12 P **P 23 43 22.8 -1.0**
WRH IAmb IAmb 23 43 39.2
comp=Z,11nm,0.7s
I21K Tanana 93.61 10 P **P 23 43 24.7 +0.9**
baz=201
L27K Beaver Creek, 93.62 15 P **P 23 43 24.9 +0.9**
baz=210
BCAR Beaver Creek A 93.64 15 P **P 23 43 22.2 -1.9**
P33M Teslin, Yukon 93.66 20 P **P 23 43 24.2 -0.1**
baz=218
MLY Manley 93.66 10 P **P 23 43 24.5 +0.3**
baz=202

F17K	Baldwin Pennin	93.69	6	P		P	23 43 23.5	-0.6	
	baz=193								
HDA	Harding Lake	93.75	12	P		P	23 43 25.0	+0.4	
	baz=205								
N31M	Braeburn, Yuko	93.82	18	P		P	23 43 25.5	+0.5	
	baz=215								
KMI	Kunming	93.90	296	P		P	23 43 28.4	+1.9	
KMI				pmax		pmax			
	comp=Z,320nm,1.2s								
M29M	Somme Creek	93.91	16	P		P	23 43 26.0	+0.6	
	baz=213								
H21K	Melozitna Rive	93.93	9	P		P	23 43 25.8	+0.5	
	baz=200								
XLT	XiLinHaoTe	93.95	318	*e*P		P	23 43 29.4	+3.3	
XLT				pmax		pmax			
	comp=Z,8.0nm,0.8s								
SCRK	Sand Creek	93.96	14	P		P	23 43 25.9	+0.2	
	baz=208								
F18K	Selawik	93.99	6	P		P	23 43 26.1	+0.6	
	baz=194								
I23K	Minto, Yukon-K	94.00	11	P		P	23 43 25.6	0.0	
	baz=203								
CMAR	Chiang Mai Arr	94.00	289	P		P	23 43 27.7	+0.9	
CMAR	Chiang Mai Arr	94.00	289	P		P	23 43 28.0	+1.2	
	comp=Z,6.1nm,0.8s,baz=140,slow=3.3,SNR=39								
	comp=Z,6.1nm,0.8s								
CMAR	Chiang Mai Arr	94.00	289	*i* P		P	23 43 28.7	+1.9	
CMAR				pmax		pmax			
	comp=Z,7.0nm,0.8s								
COLA	College	94.01	12⇑	*e*P		P	23 43 25.6	-0.1	
COLA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
IL31		94.09	12	P		P	23 43 26.4	+0.4	
IL31				IAmb		IAmb	23 43 35.6		
	comp=Z,9.5nm,1.4s								
ILAR	Eielson Array	94.09	12	P		P	23 43 25.4	-0.7	
ILAR	Eielson Array	94.09	12	P		P	23 43 26.9	+0.8	
	comp=Z,2.0nm,0.9s,baz=221,slow=5.5,SNR=19								
	comp=Z,2.0nm,0.9s								
ILAR	Eielson Array	94.09	12	P		P	23 43 25.4	-0.7	
CHTO	Chiang Mai	94.16	289	P		P	23 43 28.3	+0.8	
CHTO	Chiang Mai	94.16	289	P		P	23 43 28.3	+0.8	
CHTO				pmax		pmax			
	comp=Z,20nm,1.0s								
J25K	Salcha River,	94.24	13	P		P	23 43 25.6	-1.3	
J25K				IAmb		IAmb	23 43 29.6		
	comp=Z,5.3nm,0.8s								
J25K	Salcha River,	94.24	13	P		P	23 43 26.8	0.0	
	baz=207								
E17K	Hotham Inlet	94.26	5	P		P	23 43 27.8	+1.0	
	baz=192								
POKR	Poker Flat Res	94.31	12	P		P	23 43 27.6	+0.5	
	baz=205								
H22K	Ishtalitna Cre	94.36	10	P		P	23 43 28.0	+0.7	
	baz=202								
K27K	Chicken	94.41	14	P		P	23 43 27.8	+0.2	
	baz=210								
M30M	Minto, Yukon	94.45	17	P		P	23 43 27.5	-0.4	
	baz=214								
J26L	Joseph Creek	94.51	13	P		P	23 43 28.6	+0.5	
	baz=208								
L29M	L29M	94.55	16	P		P	23 43 28.4	+0.1	
	baz=213								
H23K	Yukon River	94.59	11	P		P	23 43 29.0	+0.6	
	baz=203								
G21K	Allakaket	94.64	9	P		P	23 43 28.5	0.0	
	baz=200								
E18K	Tukpahlearik C	94.70	6	P		P	23 43 27.7	-1.1	
	baz=193								
D17K	Noatak River	94.77	5	P		P	23 43 29.2	+0.1	
	baz=191								
F20K	Avaraart Lake	94.86	8	P		P	23 43 29.4	-0.2	
	baz=198								
H24K	Noodor Dome	94.88	11	P		P	23 43 29.5	-0.2	
	baz=205								
PRP	Porcupine Dome	95.02	12	P		P	23 43 28.3	-2.2	
PRP	Porcupine Dome	95.02	12	P		P	23 43 30.3	-0.3	
	baz=207								
DAWY	Dawson	95.05	15	P		P	23 43 30.6	0.0	
	baz=212								
E19K	Redstone River	95.08	7	P		P	23 43 31.2	+0.6	
	baz=196								
HHC	Hu-ho-hao-te	95.13	313	*e*P		P	23 43 32.3	+0.7	
HHC				pP		pP	23 43 37.3	-2.5	
HHC				pmax		pmax			
	comp=Z,12nm,0.6s								
HHC				pmax		pmax			
	comp=Z,150nm,4.2s								
TOAD	Toad River Com	95.15	24	P		P	23 43 31.5	+0.3	
	baz=224								
I26K	Coal Creek Min	95.30	13	P		P	23 43 31.7	+0.1	
	baz=209								
G22K	Bettles	95.30	9	P		P	23 43 31.9	+0.4	
	baz=202								
F21K	Alatna River	95.31	9	P		P	23 43 31.7	+0.1	
	baz=200								
K29M	Barlow Dome	95.31	16	P		P	23 43 31.6	-0.2	
	baz=214								
G23K	Bananza Creek	95.33	10	P		P	23 43 32.0	+0.3	
	baz=203								
PZH	PanZhiHua	95.33	297	P		P	23 43 33.8	+0.9	
JTS	Las Juntas de	95.42	81	LR		LR	00 18 26.1		
	comp=Z,184nm,18.6s,baz=224,slow=30								
C17K	DeLong Mountai	95.52	5	P		P	23 43 32.7	+0.1	
	baz=197								
BILL	Bilibino	95.55	353⇑	*e*P		P	23 43 33.3	+0.6	
BILL				pmax		pmax			
	comp=Z,5.0nm,0.8s								
H25L	Birch Creek	95.64	12	P		P	23 43 32.6	-0.5	
	baz=206								
J29N	Klondike Camp	95.66	15	P		P	23 43 32.6	-0.7	
	baz=213								
G24K	Hadweenzic Riv	95.74	11	P		P	23 43 33.5	-0.1	
	baz=205								
COLD	Coldfoot	95.78	10	P		P	23 43 33.5	-0.3	
	baz=203								
CD2	Chengdu	95.79	302	P		P	23 43 37.5	+2.7	
CD2				pmax		pmax			
	comp=Z,30nm,0.9s								
C18K	Utukok River	95.85	5	P		P	23 43 33.7	-0.4	
	baz=193								
I27K	Kandik River	95.88	14	P		P	23 43 33.3	-1.1	
	baz=210								
E20K	Nigu River	95.96	7	P		P	23 43 34.1	-0.5	
	baz=197								
D19K	Kuna River	95.98	7	P		P	23 43 35.2	+0.5	
	baz=196								
MMPY	Sheldon Lake,	96.01	19	P		P	23 43 34.4	-0.6	
	baz=219								
G25K	Bearman Lake	96.03	11	P		P	23 43 35.5	+0.6	
	baz=206								
TGTN	Hyland Airport	96.09	21	P		P	23 43 35.6	+0.2	
	baz=221								
I28M	Miner Creek	96.11	14	P		P	23 43 35.2	-0.2	
	baz=212								
J30M	Hart River	96.22	16	P		P	23 43 36.2	+0.2	
	baz=215								
D20K	Etivluk River	96.35	7	P		P	23 43 36.7	+0.3	
	baz=197								
E22K	Anaktuvuk Pass	96.39	9	P		P	23 43 35.9	-0.7	
	baz=201								
I29M	Ogilvie Camp,	96.40	15	P		P	23 43 36.0	-0.7	
	baz=213								
E21K	Kilik River	96.40	8	P		P	23 43 36.2	-0.4	
	baz=199								
F24K	Squaw Lake	96.41	10	P		P	23 43 36.6	-0.1	
	baz=205								
RSSD	Black Hills	96.41	44	P		P	23 43 40.4	+2.9	
RSSD				pmax		pmax			
	comp=Z,11nm,0.8s								
H27K	Steamboat Moun	96.44	13	P		P	23 43 37.0	+0.1	
	baz=210								
KOTAN	Kotaneelee Air	96.49	23	P		P	23 43 36.2	-0.9	
	baz=225								
B18K	Kokolik River	96.50	5	P		P	23 43 36.9	0.0	
	baz=192								
G26K	Porcupine Rive	96.62	12	P		P	23 43 37.6	0.0	
	baz=208								
E23K	Chandalar	96.64	10	P		P	23 43 37.2	-0.5	
	baz=203								
I30M	Mount Dempster	96.74	16	P		P	23 43 38.3	0.0	
	baz=215								
E24K	Your Creek	96.83	10	P		P	23 43 38.3	-0.3	
	baz=204								
F25K	Christian Rive	96.86	11	P		P	23 43 38.5	-0.3	
	baz=207								
G27K	Doyon Strip	96.91	13	P		P	23 43 38.7	-0.3	
	baz=210								
D22K	Ayikyak River	96.98	8	P		P	23 43 38.3	-0.9	
	baz=201								
C21K	Knifeblade Rid	96.98	7	P		P	23 43 38.8	-0.4	
	baz=199								
H29M	Whitestone	97.11	14	P		P	23 43 38.2	-1.6	
	baz=213								
TOLK	Toolik Lake Re	97.18	9	P		P	23 43 39.2	-1.0	
	baz=203								
F26K	Sheenjek River	97.21	12	P		P	23 43 39.1	-1.2	
	baz=208								
D23K	Nanushuk River	97.32	9	P		P	23 43 40.4	-0.3	
	baz=202								
E25K	Arctic Village	97.34	11	P		P	23 43 40.3	-0.6	
	baz=207								
B20K	Meade River	97.54	6	P		P	23 43 41.5	-0.1	
	baz=197								
EPYK	Eagle Plains	97.60	15	P		P	23 43 41.5	-0.6	
	baz=214								
H31M	Peel River	97.71	16	P		P	23 43 42.0	-0.6	
	baz=216								
G29M	Pine Creek	97.76	14	P		P	23 43 41.7	-1.1	
	baz=213								
LPAZ	La Paz	97.85	113	P		Pdif	23 43 49.9	+4.6	
	comp=Z,0.5nm,0.4s,baz=272,slow=2.6,SNR=2.5								
LPAZ				LR		LR	00 18 58.7		
	comp=Z,99nm,20.6s,baz=224,slow=30								
	comp=Z,0.5nm,0.4s								
LZH	Lanzhou	98.11	306	*e*P		Pdif	23 43 46.4	+1.1	
LZH				pP		pP	23 43 49.9	-3.6	
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
LZH				LR		LR			
	comp=Z,200nm,16.5s								
LZH				LR		LR			
	comp=Z,330nm,14.9s								
LZH				LR		LR			
	comp=Z,390nm,17.5s								
E27K	Coleen River	98.12	12	P		P	23 43 44.6	+0.2	
	baz=210								
C23K	Itkillik River	98.14	9	P		P	23 43 44.2	-0.2	
	baz=202								
G30M	tAoh Zraii Nji	98.22	15	P		P	23 43 43.9	-1.0	
	baz=215								
B22K	Teshekpuk Lake	98.26	8	P		P	23 43 44.9	+0.1	
	baz=200								
D25K	Kavik River	98.29	10	P		P	23 43 44.1	-1.0	
	baz=206								
G31M	Satah River	98.62	15	P		P	23 43 46.3	-0.2	
	baz=217								
YAK	Yakutsk	98.71	337	LR		LR	00 26 46.6		
	comp=Z,77nm,18.2s,baz=127,slow=34								
A22K	Sinclair Lake	98.72	7	P		P	23 43 47.2	+0.3	
	baz=199								
E28M	Babbage River	98.87	13	P		P	23 43 47.2	-0.5	
	baz=212								
C27K	Jago River	98.99	11	P		P	23 43 48.5	+0.3	
	baz=209								
E29M	Blow River	99.02	13	P		Pdif	23 43 48.2	-0.2	
	baz=214								
D27M	Malcolm River	99.15	12	P		Pdif	23 43 48.9	-0.1	
	baz=211								
INK	Inuvik	99.90	15	LR		LR	00 26 51.7		
	comp=Z,61nm,18.1s,baz=254,slow=34								
ULN	Ulaanbaatar	101.39	318⇓	*e*P		Pdif	23 43 59.1	-0.5	
ULN				pmax		pmax			
	comp=Z,2.0nm,1.3s								
SONM	Songino Array	101.77	318	P		Pdif	23 44 02.1	+0.8	
	comp=Z,0.3nm,0.4s,baz=114,slow=6.5,SNR=1.8								
GTA	Gaotai	102.43	308	*e*P		Pdif	23 44 12.3	+7.9	
GTA				pmax		pmax			
	comp=Z,4.0nm,1.5s								
WMQ	Urumqi	112.47	309	*e*PKP		PKiKP	23 48 42.5	-1.9	
WMQ				LR		LR			
	comp=Z,290nm,20.9s								
ZALV	Zalesovo Beam	116.59	319	PKP		PKPdf	23 48 50.7	-1.1	
	comp=Z,1.9nm,0.8s,baz=203,slow=1.1,SNR=8.0								
KURK	Kurchatov	119.90	315			PKiKP	23 48 59.0	+0.7	
KURK	Kurchatov	119.90	315	*i* PKIKP		PKPdf	23 48 58.1	-0.2	
KURBB	Kurchatov Arra	119.95	315	PKP		PKPdf	23 48 58.2	-0.2	
	comp=Z,2.0nm,0.2s,baz=105,slow=2.0,SNR=11								
KKAR	Karatay Array	124.60	305			PKiKP	23 49 08.5	+0.6	
KKAR	Karatay Array	124.60	305	PKIKP		PKiKP	23 49 08.5	+0.6	
BVAR	Borovoye Array	125.11	317	PKP		PKPdf	23 49 08.6	+0.3	
	comp=Z,5.1nm,0.9s,baz=90,slow=3.0,SNR=23								
BRVK	Borovoye	125.17	318	⇑PKIKP		PKiKP	23 49 08.9	+0.2	
ARTI	Arti	131.57	323	*i* PKIKP		PKiKP	23 49 21.8	+0.4	
ARTI							23 51 40.2		
ARTI				SS		SS	00 09 08.4	-3.9	
KIRV	Kirov	135.39	328	*d* PKIKP		PKiKP	23 49 28.9	-0.1	
ARCES	ARCESS Array B	135.50	349	PKP		PKPdf	23 49 27.8	+0.3	
	comp=Z,2.6nm,0.8s,baz=5.7,slow=1.2,SNR=7.4								
KLMR	Klimovskoe	138.44	335	*e*PKIKP		PKPdf	23 49 31.7	-1.4	
KLMR				pmax		pmax			
	comp=Z,11nm,1.2s								
BELG	Belogornoye	138.77	320⇑	*i* PKIKP		PKiKP	23 49 35.8	-0.3	
AKT	Akhty	141.48	304	*e*PKIKP		PKPdf	23 49 36.5	-2.9	
AKT				pmax		pmax			
	comp=Z,19nm,1.8s								
FINES	FINESS Array B	142.40	343	PKhKP		PKPpre	23 49 35.1		
	comp=Z,1.9nm,0.7s,baz=342,slow=3.0,SNR=9.6								
OBN	Obninsk	143.22	329⇑	*i* PKIKP		PKPbc	23 49 40.1	+1.2	
OBN				*i*			23 49 45.9		
OBN				*e*			23 52 58.1		
OBN				*i* PPP		PPP	23 56 13.3		
OBN							23 56 54.0		
OBN				*e*SSS		SSS	00 16 52.6		
OBN				pmax		pmax			
	comp=Z,16nm,1.4s								
OBN				MLR		MLR			
	comp=Z,63nm,18.0s								
VSR	Storozhevoye	144.03	322	*e*PKIKP		PKPab	23 49 40.3	-0.6	
VSR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
VORD	Divnogorie	144.08	322	*e*PKIKP		PKPab	23 49 40.6	-0.5	
VORD				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KBZ	Khabaz	144.52	308	PKP		PKPbc	23 49 43.3	+0.1	
	comp=Z,3.2nm,0.9s,baz=146,slow=2.6,SNR=5.1								
KIV	Kislovodsk	144.60	309	*i* PKIKP		PKPdf	23 49 46.9	+2.1	
KIV				pmax		pmax			
	comp=Z,6.0nm,1.0s								
NB2	NORSAR Subarra1	145.50	354	PKP		PKPab	23 49 46.6	+0.5	
	comp=Z,55nm,1.0s,baz=11,slow=3.6								
NB2	NORSAR Subarra1	145.50	354	PKP		PKPab	23 49 46.6	+0.5	
	baz=11,slow=3.6								
NOA	NORSAR Array B	145.50	354	PKPbc		PKPab	23 49 46.6	+0.5	
	comp=Z,25nm,0.9s,baz=11,slow=2.4,SNR=54								
ERBR	Yeremizino-Bor	145.54	313	*e*PKIKP		PKPbc	23 49 46.6	+0.2	
ERBR				pmax		pmax			
	comp=Z,64nm,1.0s								
HFS	Hagfors	146.10	351	PKPbc		PKPbc	23 49 47.9	+0.2	
	comp=Z,13nm,0.7s,baz=77,slow=3.2,SNR=18								
MNK	Minsk	147.34	334	*i* PKP2		PKPbc	23 49 52.2	+0.8	
MNK				*i*			23 53 15.8		
MNK				*i* SS		SS	00 12 20.1	+3.3	
MNK				pmax		pmax			
	comp=E,6.0nm,1.0s								
MNK				pmax		pmax			
	comp=N,6.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,19nm,0.9s								
MNK				MLR		MLR			
	comp=N,54nm,17.0s								
MNK				MLR		MLR			
	comp=E,63nm,19.0s								
MNK				MLR		MLR			
	comp=Z,105nm,18.0s								
ANN	Anapa	147.88	313	*e*PKP2		PKPbc	23 49 52.8	-0.4	
ANN				pmax		pmax			
	comp=Z,37nm,0.9s								
PABE	Paberze	147.95	339			PKiKP	23 49 54.4	-0.5	
SUW	Suwalki	149.44	338	*e*PKPbc		PKiKP	23 49 58.0	0.0	
SUW				*e*PKPab		PKPab	23 50 02.5	+0.7	
AKASG	Malin Array Be	149.45	328	PKPbc		PKPbc	23 49 57.5	+0.5	
	comp=Z,9.5nm,0.9s,baz=41,slow=3.3,SNR=21								
AKBB	Malin Array Si	149.45	328	PKP		PKPbc	23 49 57.7	+0.7	
EKA	Eskdalemuir Ar	151.07	9	PKPbc		PKPbc	23 50 01.0	+0.2	
	comp=Z,2.4nm,0.8s,baz=258,slow=4.2,SNR=4.0								
SORM	Soroca	151.56	325	⇑P		PKPdf	23 49 55.4	-0.5	
SORM	Soroca	151.56	325	⇑PKIKP		PKPdf	23 49 55.4	-0.5	
MMAI	Mount Meron Ar	152.25	290	PKPbc		PKiKP	23 50 06.0	+1.4	
	comp=Z,7.0nm,0.7s,baz=92,slow=5.8,SNR=24								
KIRS	Kirsehir-Merke	152.29	304	⇑P		PKiKP	23 50 04.7	+0.2	
BRTR	Keskin Array B	152.31	305			PKiKP	23 50 04.9	+0.3	
BRTR	Keskin Array B	152.31	305	PKP		PKPdf	23 49 58.0	+0.5	
	comp=Z,1.2nm,1.0s,baz=4.4,slow=1.6,SNR=3.9								
BRTR				PKPbc		PKiKP	23 50 05.0	+0.3	
	comp=Z,5.2nm,1.0s,baz=122,slow=2.4,SNR=17								
ANTO	Ankara	152.88	306	⇑P		PKPbc	23 50 05.7	+0.2	
ANTO	Ankara	152.88	306	⇑PKIKP		PKPbc	23 50 05.7	+0.2	
CFR	Carcaliu	153.48	320	⇑P		PKPbc	23 50 05.6	-0.9	
CFR	Carcaliu	153.48	320	⇑PKIKP		PKPbc	23 50 05.6	-0.9	
BURAR	Bucovina Array	153.48	327	⇓P		PKiKP	23 50 07.7	+1.0	
BURAR	Bucovina Array	153.48	327	⇓PKIKP		PKiKP	23 50 07.7	+1.0	
TPGR	Topolog	153.50	319	⇑P		PKPbc	23 50 05.2	-1.4	
KOLS	Kolonicke sedl	153.84	332	*e*PKP		PKiKP	23 50 09.8	+2.5	
STHS	Stebnicka Huta	153.88	334	*e*PKP		PKiKP	23 50 08.8	+1.4	
STHS				*e*			23 50 20.0		
HARR	Harsova	153.88	319	⇓P		PKPdf	23 49 54.8	-4.7	
HARR	Harsova	153.88	319	⇓PKIKP		PKPdf	23 49 54.8	-4.7	
PLOR	Plostina	153.91	322	⇑P		PKPab	23 50 16.7	-4.0	
TURR	Turia	154.12	323	⇓P		PKiKP	23 50 10.2	+2.2	
OZUR		154.21	324	⇓P		PKPbc	23 50 06.8	-1.3	
NIE	Niedzica	154.24	335	PKP		PKPdf	23 50 03.3	+3.4	
BOSR	Bodos	154.29	324	⇑P		PKiKP	23 50 09.4	+1.0	
OSTC	Ostas	154.59	342⇑	*e*PKP		PKiKP	23 50 10.8	+2.0	
OSTC				*e*PKPAB		pPKPbc	23 50 19.0	+1.8	
CHVC	Chvalec	154.61	342⇑	*e*PKP		PKiKP	23 50 10.9	+2.0	
CLL	Collm	154.67	347	*i* PKPbc		PKiKP	23 50 10.3	+1.4	
	comp=Z,8.0nm,1.0s								
CLL				LmV			01 02 00.0		
	comp=Z,100nm,19.4s								
STEB	Steborice	154.68	339⇑	*e*PKP		PKiKP	23 50 10.4	+1.4	
STEB				*e*PKPAB		sPKPbc	23 50 22.0	+1.7	
DPC	Dobruska-Polom	154.75	341	AMS		AMS	01 07 00.0		
	comp=Z,100nm,18.5s								
DPC			⇑	*e*PKP		PKiKP	23 50 11.5	+2.3	
LANS	Liptovska Anna	154.77	336	*e*PKP		PKiKP	23 50 12.2	+2.9	
LANS				*e*			23 50 26.2		
KRLC	Kraliky	154.86	341⇑	*e*PKP		PKiKP	23 50 11.4	+2.0	
KRLC				*e*PKPAB		sPKPbc	23 50 23.0	+2.2	
CBBR	Cluj-Babes-Bol	154.88	327	⇑P		PKiKP	23 50 10.1	+0.6	
MORC	Moravsky Berou	154.89	339	*e*PKP		PKPdf	23 50 01.4	+0.6	
CJR	Cluj-Napoca	154.90	327	⇑P		PKiKP	23 50 11.0	+1.4	
MAUC	Maruska	155.15	338⇑	*e*PKP		PKPdf	23 50 12.3	+11	
MARR	Marisel-Cluj	155.16	328	⇓P		PKPdf	23 50 10.1	+8.8	
ARR	Arges	155.30	324	⇑P		PKPdf	23 50 01.8	+0.3	
VRAC	Vranov	155.60	340	*e*PKP		PKPdf	23 50 02.8	+1.1	
JAVC	Velka Javorina	155.64	338	*e*PKP		PKPdf	23 50 04.1	+2.2	
KRUC	Moravsky	155.88	340	*e*PKP		PKPdf	23 50 03.4	+1.3	
ELND	Elena	156.11	318	⇑P		PKPdf	23 50 12.2	+10	
ZVC	Zvikov	156.15	344⇑	*e*PKP		PKPab	23 50 20.9	-9.2	
ZVC				*e*PKPAB		pPKPab	23 50 31.5	-6.9	
MODS	Modra-Piesok	156.19	338	*e*PKP		PKPab	23 50 29.1	-1.3	
SURR	Surduc	156.30	327	⇓P		PKPab	23 50 30.4	-0.5	
KHC	Kasperske Hory	156.59	344	AMS		AMS	01 07 40.0		
	comp=Z,200nm,21.3s								
KHC			⇑	*e*PKP		PKPab	23 50 22.4	-10	
KHC				*e*PKPAB		pPKPab	23 50 33.5	-6.9	
BZS	Buzias	156.64	328	⇑P		PKPdf	23 50 03.8	+0.6	
BZS	Buzias	156.64	328	⇑PKIKP		PKPdf	23 50 03.8	+0.6	
CKRC	Cesky Krumlov	156.69	343⇑	*e*PKP		PKPdf	23 50 12.9	+10	
GERES	GERESS Array B	156.82	344	PKP		PKPdf	23 50 03.8	+0.3	
	comp=Z,0.3nm,0.7s,baz=64,slow=2.3,SNR=3.6								
GERES				PKPab		PKPab	23 50 33.0	-0.1	
	comp=Z,0.8nm,0.8s,baz=42,slow=4.2,SNR=3.8								
CONA	Conrad Observa	157.04	339	*e*pPKP		PKPab	23 50 35.8	+1.7	
	comp=Z,9.1nm,1.7s								
RONA	Rosalia, Austr	157.11	338	*e*pPKP		PKPab	23 50 36.3	+1.9	
	comp=Z,11nm,1.2s								
MORH	Mrgy, Hungar	157.50	333	⇑P		PKPdf	23 50 04.1	-0.2	
MORH	Mrgy, Hungar	157.50	333	PKP		PKPdf	23 50 06.6	+2.4	
MOA	Molln	157.59	342	*e*pPKP		PKPab	23 50 37.8	+1.5	
	comp=Z,5.1nm,0.9s								
ARSA	Arzberg	157.75	339	*e*pPKP		PKPab	23 50 38.3	+1.2	
	comp=Z,3.7nm,1.3s								
BIOA	Bad Ischl, Aus	157.90	343	*e*pPKP		PKPab	23 50 39.4	+1.7	
	comp=Z,10.0nm,0.9s								
LESA	Schwarzleotal	158.40	344	*e*pPKP		PKPab	23 50 41.4	+1.4	
	comp=Z,16nm,2.0s								
SOKA	Soboth	158.41	339	*e*pPKP		PKPab	23 50 41.0	+0.9	
	comp=Z,8.6nm,1.1s								
KBA	Koelnbreinsper	158.55	343	*e*pPKP		PKPab	23 50 41.3	+0.6	
	comp=Z,7.3nm,1.0s								
OBKA	Obir	158.72	340	*e*PKP		PKPab	23 50 40.9	-0.5	
	comp=Z,6.4nm,1.1s								
WATA	Walderalm	158.74	346	*e*pPKP		PKPab	23 50 42.5	+1.0	
	comp=Z,0.9nm,0.6s								
RETA	Reutte	158.76	347	*e*pPKP		PKPab	23 50 42.2	+0.7	
	comp=Z,5.9nm,1.1s								
WTTA	Wattenberg	158.79	346	*e*pPKP		PKPab	23 50 42.6	+0.8	
	comp=Z,6.4nm,1.3s								
MOTA	Moosalm	158.83	347	*e*pPKP		PKPab	23 50 42.8	+0.9	
	comp=Z,8.6nm,1.1s								
MYKA	Terra Mystica	158.88	342	*e*pPKP		PKPab	23 50 42.6	+0.5	
	comp=Z,4.5nm,0.9s								
ESDC	Sonseca Array	165.57	26	PKP		PKPdf	23 50 15.3	+2.3	
	comp=Z,2.2nm,1.1s,baz=350,slow=3.1,SNR=6.4								
ESDC				PKPab		PKPab	23 51 12.9	+1.4	
	comp=Z,1.

GCAM					*i* IAML			23 40 35.0	
	comp=N,64nm,0.6s								
IZMR	**zmir-demi**	**1.23**	**352**	P		**Pn**		**23 40 18.4**	**-0.8**
IZMR				S		**Sn**		**23 40 36.6**	**+0.4**
IZMR				*i* IAML				23 40 39.0	
	comp=E,48nm,0.5s								
IZMR				*i* IAML				23 40 42.0	
	comp=N,55nm,0.5s								
KIRA	**zmir-Kiraz**	**1.29**	**8**	P		**Pn**		**23 40 19.2**	**-1.0**
KIRA				S		**Sn**		**23 40 39.9**	**+2.0**
KIRA				*i* IAML				23 40 41.0	
	comp=N,67nm,0.6s								
KIRA				*i* IAML				23 40 42.0	
	comp=E,39nm,0.4s								
SMG	**Samos**	**1.32**	**307**	P		**Pn**		**23 40 19.1**	**-1.4**
SMG				S		**Sb**		**23 40 37.6**	**-0.2**
ODEM	**Odemis-Izmir**	**1.36**	**357**	Pn		**Pn**		**23 40 19.9**	**-1.2**
KSL	**Kastellorizon**	**1.38**	**123**	P		**Pg**		**23 40 21.6**	**-0.2**
KSL				S		**Sg**		**23 40 39.8**	**+0.2**
DGB	**zmir**	**1.52**	**318**	P		**Pn**		**23 40 21.7**	**-1.5**
KARP	**Karpathos**	**1.59**	**211**	P		**Pn**		**23 40 23.1**	**-1.1**
KARP				S		**Sn**		**23 40 43.8**	**-1.2**
KULA	**Kula-Manisa**	**1.64**	**14**	Pn		**Pn**		**23 40 23.8**	**-1.2**
CHOS	**Chios island**	**2.23**	**312**	P		**Pn**		**23 40 32.3**	**-0.7**
CHOS				S		**Sn**		**23 41 00.1**	**-0.7**
NPS	**Neapolis**	**2.64**	**232**	P		**Pn**		**23 40 37.9**	**-0.8**
IDI	**Anoyia**	**3.11**	**239**	P		**Pn**		**23 40 44.2**	**-0.9**
MK31	**Makanchi Array**	**40.78**	**58**	⇑Pg		**P**		**23 47 40.2**	**+2.8**
	1.1nm,0.3s,baz=128,slow=16,SNR=111								
MK31				⇑Lg		Lg		23 48 10.2	
	10nm,0.5s,baz=124,slow=30,SNR=30								

IDC ***17*** *00:08:26.3±4.4, 18°.57S×120°.29E, h0km, mb3.5/1, mbtmp4.0/5, ML3.7/4, Error ellipse: s-maj=48.0km s-min=25.2km az=148.0*

AUST ***17*** *00:08:28.7±0.6, 18°.5±5′×12°.0E±′, h10km, mb4.5/9, ML3.7/3, ML4.8/2, Error ellipse: s-maj=15.7km s-min=6.0km az=132.5*

NOU ***17*** *00:08:30.3, 18°.30S×120°.27E, h113km, mb4.3/10, Western Australia*

ISC 17 00:08:25.9±0.9, 18°.34S±0°.07×120°.35E±0°.06, h10km, n28, σ2ᵉ49/35, Western Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.83**	**78**	P			**Pg**	**00 09 01.5**	**+0.5**
MBWA	**Marble Bar**	**2.87**	**192**	P			**Pb**	**00 09 15.3**	**-1.9**
MBWA				S			**Sn**	**00 09 48.2**	**+1.9**
MBWA	**Marble Bar**	**2.87**	**192**	P			**Pn**	**00 09 14.8**	**+3.0**
PSA00	**Pilbara Seismi**	**3.25**	**188**	P			**Pn**	**00 09 20.5**	**+3.4**
PSA00				S			**Sn**	**00 09 56.5**	**+0.6**
PSA00	**Pilbara Seismi**	**3.25**	**188**	P			**Pn**	**00 09 20.1**	**+3.0**
FITZ	**Fitzroy Crossi**	**5.03**	**88**	P			**Pn**	**00 09 44.4**	**+2.8**
	comp=Z,9.3nm,0.6s								
FITZ	**Fitzroy Crossi**	**5.03**	**88**	S			**Sn**	**00 10 38.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**5.03**	**88**	Pn			**Pn**	**00 09 44.7**	**+3.2**
	comp=Z,2.5nm,0.3s,baz=263,slow=8.9,SNR=72								
FITZ				Sn			**Sn**	**00 10 38.4**	**-1.4**
	comp=Z,14nm,0.3s,baz=2.4,slow=20,SNR=10								
FITZ				Lg		Lg		00 11 09.3	
	comp=Z,13nm,0.3s,baz=111,slow=22,SNR=3.9								
	comp=Z,8.4nm,0.3s								
FITZ	**Fitzroy Crossi**	**5.03**	**88**	P			**Pn**	**00 09 44.5**	**+3.0**
GIRL	**Giralia**	**7.16**	**232**	P			**Pn**	**00 10 12.6**	**+1.9**
	comp=Z,318μmcomp=Z,58nm,1.5s,comp=Z,0.2nm								
GIRL				S			**Sn**	**00 11 26.4**	**-5.7**
MEEK	**Meekatharra**	**8.42**	**191**	P			**Pn**	**00 10 30.3**	**+2.2**
	comp=Z,0.2nmcomp=Z,20nm,1.4s								
MEEK	**Meekatharra**	**8.42**	**191**	P			**Pn**	**00 10 30.3**	**+2.2**
CVQOZ	**Cooralya Stati**	**8.43**	**223**	P			**Pn**	**00 10 30.5**	**+2.3**
	comp=Z,251nm,1.5s,comp=Z,1.0nm								
KNRA	**Kununurra**	**8.47**	**73**	P			**Pn**	**00 10 32.3**	**+3.5**
	comp=Z,0.1nmcomp=Z,17nm,0.6s								
MORW	**Morawa**	**11.39**	**199**	P			**Pn**	**00 11 08.8**	**0.0**
	comp=Z,27nm,2.8s								
MORW	**Morawa**	**11.39**	**199**	P			**Pn**	**00 11 08.9**	**+0.2**
JAGI	**Jajag, Banyuwa**	**11.51**	**328**	P			**Pn**	**00 11 10.3**	**-0.1**
MTN	**Manton Dam**	**11.73**	**64**	P			**Pn**	**00 11 14.8**	**+1.3**
BLDU	**Ballidu**	**12.66**	**194**	P			**Pn**	**00 11 26.8**	**+0.6**
	comp=Z,61nm,2.7s								
BLDU	**Ballidu**	**12.66**	**194**	P			**Pn**	**00 11 26.7**	**+0.5**
KDU	**Kakadu**	**12.96**	**66**	P			**Pn**	**00 11 31.0**	**+0.7**
WRA	**Warramunga Arr**	**13.32**	**99**	Pn			**Pn**	**00 11 36.2**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=277,slow=14,SNR=32								
WRA				Sn			**Sn**	**00 13 56.6**	**-6.8**
	comp=Z,2.0nm,0.3s,baz=278,slow=25,SNR=10								
WRA				Lg		Lg		00 15 30.9	
	baz=274,slow=29								
	comp=Z,0.9nm,0.3s								
KLBR	**Kellerberrin**	**13.41**	**190**	P			**Pn**	**00 11 36.3**	**0.0**
	comp=Z,44nm,1.2s								
ASAR	**Alice Springs**	**13.72**	**115**	Pn			**Pn**	**00 11 41.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=293,slow=12,SNR=26								
ASAR				Sn			**Sn**	**00 14 10.2**	**-3.1**
	comp=Z,1.0nm,0.3s,baz=299,slow=24,SNR=6.0								
ASAR				Lg		Lg		00 15 44.0	
	baz=310,slow=36								
	comp=Z,1.0nm,0.5s								
MUN	**Mundaring**	**14.09**	**195**	P			**Pn**	**00 11 45.3**	**-0.4**
	comp=Z,46nm,2.6s								
MUN	**Mundaring**	**14.09**	**195**	P			**Pn**	**00 11 45.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**14.80**	**190**	Pn			**Pn**	**00 11 54.4**	**-0.9**
	comp=Z,5.7nm,0.3s,baz=24,slow=12,SNR=31								
NWAO				Sn			Sn	00 14 26.1	-13
	comp=Z,3.5nm,0.3s,baz=275,slow=6.9,SNR=5.8								
NWAO				Lg		Lg		00 16 10.0	
	comp=Z,0.7nm,0.3s,baz=285,slow=23,SNR=2.0								
	comp=Z,11nm,0.3s								
STKA	**Stephens Creek**	**23.43**	**129**	P			**P**	**00 13 36.9**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=307,slow=12,SNR=5.0								
STKA				S			**S**	**00 17 50.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=294,slow=10,SNR=2.9								
	comp=Z,1.0nm,0.6s								

SJA ***17*** *00:09:19.9±0.7, 35°.61S×71°.24W, h118km±4km, ML4.0, MW3.8*

GUC ***17*** *00:09:25.8±0.9, 35°.31S×71°.08W, h104km±3km, ML4.1*

NEIC ***17*** *00:09:25.2±0.8, 35°.31S±0°.05×71°.16W±0°.10, h110km±5km, mb4.1/3, ML4.1(GUC), Error ellipse: s-maj=11.9km s-min=6.6km az=109.0*

IDC ***17*** *00:09:27.4±2.1, 35°.28S×70°.59W, h114km±18km, mb3.6/8, mbtmp3.9/11, Error ellipse: s-maj=33.3km s-min=13.7km az=101.0*

ISC 17 00:09:26.1±0.6, 35°.31S±0°.03×70°.98W±0°.04, h108km±4km, n109, σ1ᵉ53/154, mb4.2/9, 14C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.54**	**18**				**Pn**	**00 09 42.2**	**-0.9**
BO02	**Sierra Bellavi**	**0.54**	**18**	⇑*e*P			**Pn**	**00 09 42.0**	**-1.2**
BO02				*e*S			**Sn**	**00 09 54.6**	**-1.2**
BO02				IAML				00 09 58.2	
	comp=N,12μm,0.4s								
BO02	**Sierra Bellavi**	**0.54**	**18**	*e*P			**Pn**	**00 09 41.7**	**-1.4**
BO02				*e*S			**Sn**	**00 09 57.5**	**+1.6**
BO02				IAML				00 09 59.2	
	comp=Z,6μm,0.4s								
ML02	**Panimavida**	**0.58**	**218**				**Pn**	**00 09 42.2**	**-1.1**
ML02				Sn			**Sn**	**00 09 54.8**	**-1.5**
ML02	**Panimavida**	**0.58**	**218**	⇑*e*P			**Pn**	**00 09 42.2**	**-1.1**
ML02				*e*S			**Sn**	**00 09 54.8**	**-1.5**
ML02				IAML				00 09 56.2	
	comp=E,15μm,0.5s								
ML02	**Panimavida**	**0.58**	**218**	*e*P			Pn	00 09 36.9	-6.4
ML02				IAML				00 09 55.9	
	comp=Z,3μm,0.5s								
GO05	**Hualane**	**0.83**	**290**	⇑*e*P			**Pn**	**00 09 46.0**	**+0.5**
GO05				IAML				00 10 02.2	
	comp=N,14μm,0.1s								
GO05	**Hualane**	**0.83**	**290**	*e*P			Pn	00 09 40.9	-4.6
GO05				*e*S			**Sn**	**00 10 01.1**	**+1.0**
GO05				IAML				00 10 02.0	
	comp=Z,2μm,0.1s								
BO01	**Tunca**	**0.92**	**355**				**Pn**	**00 09 45.3**	**-1.0**
BO01				Sn			**Sn**	**00 10 00.3**	**-1.2**
BO01	**Tunca**	**0.92**	**355**	⇑*e*P			**Pn**	**00 09 45.3**	**-1.0**
BO01				*e*S			**Sn**	**00 10 00.1**	**-1.3**
BO01	**Tunca**	**0.92**	**355**	*e*P			**Pn**	**00 09 44.5**	**-1.8**
BO01				*e*S			**Sn**	**00 10 00.9**	**-0.6**
BO01				IAML				00 10 01.8	
	comp=Z,1μm,0.3s								
BO03	**Pichilemu**	**1.14**	**315**	⇑*e*P			**Pn**	**00 09 47.8**	**-0.8**
BO03				IAML				00 10 07.5	
	comp=N,5μm,0.2s								
BO04	**La Punta**	**1.35**	**13**				**Pn**	**00 09 50.8**	**-0.3**
BO04				Sn			**Sn**	**00 10 09.9**	**-0.1**
BO04	**La Punta**	**1.35**	**13**	⇑*e*P			**Pn**	**00 09 50.5**	**-0.5**
BO04				*e*S			**Sn**	**00 10 09.8**	**-0.2**
BO04				IAML				00 10 11.7	
	comp=E,2μm,0.3s								
EDS3	**Malargue**	**1.37**	**110**	*e*P			**Pn**	**00 09 50.5**	**-0.9**
MT01	**Popeta**	**1.46**	**351**				**Pn**	**00 09 51.2**	**-1.1**
MT01				Sn			**Sn**	**00 10 10.9**	**-1.2**
MT01	**Popeta**	**1.46**	**351**	⇑*e*P			**Pn**	**00 09 51.2**	**-1.1**
MT01				*e*S			**Sn**	**00 10 10.7**	**-1.4**
MT01				IAML				00 10 13.0	
	comp=E,3μm,0.2s								
MT01	**Popeta**	**1.46**	**351**	*e*P			**Pn**	**00 09 51.3**	**-1.1**
MT01				*e*S			**Sn**	**00 10 11.0**	**-1.2**
MT01				IAML				00 10 13.3	
	comp=Z,2μm,0.1s								
MT09	**Talagante**	**1.52**	**360**				**Pn**	**00 09 52.4**	**-0.9**
MT09				Sn			**Sn**	**00 10 13.0**	**-0.8**
MT09	**Talagante**	**1.52**	**360**	⇑*e*P			**Pn**	**00 09 52.4**	**-0.9**
MT09				*e*S			**Sn**	**00 10 12.9**	**-1.0**
MT09				IAML				00 10 14.3	
	comp=N,4μm,0.2s								
LMEL	**Las Melosas**	**1.59**	**24**				**Pn**	**00 09 54.0**	**-0.1**
LMEL				Sn			**Sn**	**00 10 16.8**	**+1.5**
LMEL	**Las Melosas**	**1.59**	**24**	⇓*e*P			**Pn**	**00 09 54.0**	**-0.1**
LMEL				*e*S			**Sn**	**00 10 16.4**	**+1.1**
LMEL				IAML				00 10 21.6	
	comp=N,2μm,0.2s								
LMEL	**Las Melosas**	**1.59**	**24**	*e*P			**Pn**	**00 09 54.0**	**-0.1**
LMEL				*e*S			**Sn**	**00 10 19.2**	**+4.0**
LMEL				IAML				00 10 20.1	
	comp=Z,1μm,0.6s								
MT12	**Pirque**	**1.61**	**13**	⇓*e*P			**Pn**	**00 09 54.0**	**-0.1**
MT12				*e*S			**Sn**	**00 10 15.2**	**-0.3**
MT12				IAML				00 10 18.5	
	comp=E,2μm,0.4s								
MT13	**San Alfonso**	**1.66**	**20**				**Pn**	**00 09 55.0**	**+0.1**
MT13				Sn			**Sn**	**00 10 17.2**	**+0.5**
MT13	**San Alfonso**	**1.66**	**20**	⇓*e*P			**Pn**	**00 09 55.0**	**+0.1**
MT13				*e*S			**Sn**	**00 10 16.9**	**+0.2**
MT13				IAML				00 10 19.6	
	comp=E,2μm,0.7s								
MT13	**San Alfonso**	**1.66**	**20**	*e*P			**Pn**	**00 09 55.1**	**+0.1**
MT13				*e*S			**Sn**	**00 10 18.9**	**+2.2**
MT13				IAML				00 10 21.6	
	comp=Z,996nm,0.2s								
MT15	**Las Vizcachas**	**1.75**	**13**	*e*P			**Pn**	**00 09 55.8**	**-0.1**
MT15				*e*S			**Sn**	**00 10 18.6**	**+0.1**
MT15				IAML				00 10 21.7	
	comp=N,3μm,0.3s								
MT03	**Universidad Ad**	**1.85**	**12**				**Pn**	**00 09 56.9**	**-0.3**
MT03	**Universidad Ad**	**1.85**	**12**	*e*P			**Pn**	**00 09 57.1**	**-0.1**
MT03				*e*S			**Sn**	**00 10 20.4**	**-0.5**
MT03				IAML				00 10 25.6	
	comp=N,2μm,0.2s								
MT03	**Universidad Ad**	**1.85**	**12**	*e*P			Pn	00 09 43.5	-14
MT03				*e*P				00 09 57.1	
MT03				*e*S			**Sn**	**00 10 25.1**	**+4.2**
MT03				IAML				00 10 28.9	
	comp=Z,640nm,0.1s								
MT16	**CCHEN**	**1.91**	**12**				**Pn**	**00 09 57.8**	**-0.2**
MT16	**CCHEN**	**1.91**	**12**	*e*P			**Pn**	**00 09 58.0**	**0.0**
MT16				*e*S			**Sn**	**00 10 21.8**	**-0.4**
MT05	**Renca**	**1.92**	**6**				**Pn**	**00 09 57.9**	**-0.2**
MT05				Sn			**Sn**	**00 10 21.4**	**-0.9**
MT05	**Renca**	**1.92**	**6**	*e*P			**Pn**	**00 09 57.9**	**-0.2**
MT05				*e*S			**Sn**	**00 10 21.7**	**-0.7**
MT05				IAML				00 10 24.0	
	comp=N,2μm,0.2s								
MT05	**Renca**	**1.92**	**6**	*e*P			**Pn**	**00 09 57.3**	**-0.8**
MT05				*e*S			**Sn**	**00 10 21.5**	**-0.9**
MT05				IAML				00 10 24.5	
	comp=Z,1μm,0.5s								
MT14	**Cerro Cal¡n**	**1.94**	**11**	*e*P			**Pn**	**00 09 57.8**	**-0.6**
MT14				*e*S			**Sn**	**00 10 23.0**	**+0.1**
MT14				IAML				00 10 26.0	
	comp=E,2μm,0.4s								
MT04	**Ro Olivares**	**2.02**	**20**	*e*P			**Pn**	**00 09 59.5**	**0.0**
MT04				*e*S			**Sn**	**00 10 25.4**	**+0.5**
MT04				IAML				00 10 28.8	
	comp=N,957nm,0.2s								
MT04	**Ro Olivares**	**2.02**	**20**	*e*P			**Pn**	**00 09 59.5**	**0.0**
MT04				*e*S			**Sn**	**00 10 17.3**	**-7.6**
MT04				IAML				00 10 28.8	
	comp=Z,467nm,0.4s								
MT08	**Bocatoma Ro**	**2.02**	**23**				**Pn**	**00 09 59.7**	**+0.2**
MT08	**Bocatoma Ro**	**2.02**	**23**	*e*P			**Pn**	**00 09 59.9**	**+0.4**
MT08				*e*S			**Sn**	**00 10 25.1**	**+0.1**
MT08	**Bocatoma Ro**	**2.02**	**23**	*e*P			**Pn**	**00 09 59.9**	**+0.4**
MT08				*e*S			**Sn**	**00 10 30.3**	**+5.4**
MT08				IAML				00 10 33.2	
	comp=Z,188nm,0.2s								
MT02	**Curacav**	**2.04**	**356**				**Pn**	**00 09 59.0**	**-0.6**
MT02				Sn			**Sn**	**00 10 23.3**	**-1.8**
MT02	**Curacav**	**2.04**	**356**	⇑*e*P			**Pn**	**00 09 58.8**	**-0.8**
MT02				*e*S			**Sn**	**00 10 23.8**	**-1.4**
MT02				IAML				00 10 24.4	
	comp=N,781nm,0.2s								
MT02	**Curacav**	**2.04**	**356**	*e*P			**Pn**	**00 09 58.8**	**-0.8**
MT02				*e*S			**Sn**	**00 10 22.4**	**-2.8**
MT02				IAML				00 10 28.2	
	comp=Z,395nm,0.5s								
FCH	**Farellones**	**2.05**	**16**	*e*P			**Pn**	**00 09 59.6**	**-0.4**
FCH				*e*S			**Sn**	**00 10 26.1**	**+0.3**
FCH				IAML				00 10 31.3	
	comp=N,888nm,0.6s								
MT10	**Hacienda Santa**	**2.06**	**10**	*e*P			**Pn**	**00 09 59.7**	**-0.2**
MT10				*e*S			**Sn**	**00 10 25.1**	**-0.6**
MT10				IAML				00 10 32.1	
	comp=E,1μm,0.2s								
RFA	**San Rafael**	**2.13**	**76**	*e*P			**Pn**	**00 09 59.7**	**-1.1**
RFA				*e*S			**Sn**	**00 10 26.4**	**-0.8**
PEL	**Peldehue**	**2.17**	**7**				**Pn**	**00 10 00.8**	**-0.5**
PEL	**Peldehue**	**2.17**	**7**	⇑*e*P			**Pn**	**00 10 00.7**	**-0.5**
PEL				*e*S			**Sn**	**00 10 27.5**	**-0.6**
PEL				IAML				00 10 29.2	
	comp=N,1μm,0.6s								
PEL	**Peldehue**	**2.17**	**7**	*e*P			**Pn**	**00 10 00.8**	**-0.5**
PEL				*e*S			**Sn**	**00 10 32.4**	**+2.1**
PEL				IAML				00 10 31.9	
	comp=Z,377nm,0.4s								
BI05	**Punta Hualpn**	**2.30**	**231**				**Pn**	**00 10 01.4**	**-1.3**
ROC1	**El Roble**	**2.32**	**359**	*e*P			Pn	00 09 58.2	-5.2
ROC1				*e*S			**Sn**	**00 10 27.2**	**-4.7**
ROCH	**El Roble**	**2.33**	**359**	*e*P			**Pn**	**00 10 03.3**	**-0.1**
ROCH				IAML				00 10 35.9	
	comp=N,2μm,0.6s								
VA01	**Torpederas**	**2.34**	**346**				**Pn**	**00 10 02.6**	**-0.7**
VA01				Sn			**Sn**	**00 10 30.1**	**-1.9**
VA01	**Torpederas**	**2.34**	**346**	*e*P			**Pn**	**00 10 02.7**	**-0.7**
VA01				*e*S			**Sn**	**00 10 30.9**	**-1.1**
VA01				IAML				00 10 33.5	
	comp=E,2μm,0.1s								
VA01	**Torpederas**	**2.34**	**346**	*e*P			**Pn**	**00 10 02.8**	**-0.7**
VA01				*e*S			Sn	00 10 21.6	-10
VA01				IAML				00 10 32.1	
	comp=Z,541nm,0.2s								
VA03	**San Esteban**	**2.56**	**8**				**Pn**	**00 10 05.7**	**-0.6**
VA03	**San Esteban**	**2.56**	**8**	*e*P			**Pn**	**00 10 06.0**	**-0.4**
VA03				IAML				00 10 44.2	
	comp=E,673nm,0.3s								
VA03	**San Esteban**	**2.56**	**8**	*e*P			**Pn**	**00 10 05.9**	**-0.4**
VA03				*e*S			**Sn**	**00 10 40.2**	**+3.0**
VA03				IAML				00 10 41.9	
	comp=Z,270nm,0.2s								
CANA	**Caviahue**	**2.58**	**181**	*e*P			**Pn**	**00 10 05.7**	**-0.9**
CANA				*e*S			Sn	00 10 21.2	-17
AVIZ	**Vizcacheras**	**2.74**	**49**	*e*P			Pn	00 10 04.2	-4.5
AVIZ				*e*S			**Sn**	**00 10 36.2**	**-5.2**
VA06	**Catapilco**	**2.75**	**354**				**Pn**	**00 10 07.9**	**-0.9**
VA06	**Catapilco**	**2.75**	**354**	*e*P			**Pn**	**00 10 07.8**	**-0.9**
VA06				IAML				00 10 51.7	
	comp=E,874nm,0.4s								
AAGR	**Agrelo**	**2.84**	**39**	*e*P			**Pn**	**00 10 10.4**	**+0.3**
AAGR				*e*S			Sn	00 10 35.6	-8.3
ARCO	**CERRO ARCO**	**2.99**	**35**	*e*P			**Pn**	**00 10 07.9**	**-4.2**
ASAL	**Salagasta**	**3.24**	**34**	*e*P			Pn	00 10 10.6	-4.7
ASAL				*e*S			**Sn**	**00 10 55.1**	**+1.8**
LC02	**Puerto Saavedr**	**3.98**	**208**	Pn			**Pn**	**00 10 22.5**	**-2.5**
CO02	**Combarbal**	**4.09**	**360**				**Pn**	**00 10 25.6**	**-1.1**
CO02	**Combarbal**	**4.09**	**360**	*e*P			**Pn**	**00 10 25.4**	**-1.3**
CO02				IAML				00 11 17.1	
	comp=Z,140nm,0.3s								
ZON	**Zonda**	**4.21**	**28**				**Pn**	**00 10 28.2**	**-0.2**
GO06	**Curarrehue**	**4.29**	**185**	*e*P			Pn	00 10 24.4	-5.0
CFA	**Coronel Fontan**	**4.34**	**33**	P			**Pn**	**00 10 29.0**	**-1.1**
	comp=Z,4.1nm,0.3s,baz=208,slow=19,SNR=69								
CFA				S			**Sn**	**00 11 17.8**	**-2.0**
	comp=Z,15nm,0.4s,baz=239,slow=14,SNR=3.8								
CFA	**Coronel Fontan**	**4.34**	**33**	*e*P			**Pn**	**00 10 29.0**	**-1.1**
ACAN	**Cantantal**	**4.37**	**47**	*e*P			**Pn**	**00 10 29.5**	**-0.9**
ACAN				IAML				00 11 37.6	
	comp=Z,64nm,0.9s								
LR03	**Panguipulli**	**4.45**	**194**	Pn			**Pn**	**00 10 29.8**	**-1.7**
CO03	**El Pedregal**	**4.46**	**3**				**Pn**	**00 10 30.7**	**-1.0**
CO03	**El Pedregal**	**4.46**	**3**	*e*S			**Sn**	**00 11 21.8**	**-0.9**
CO03				IAML				00 11 23.2	
	comp=Z,88nm,0.5s								
RTLL	**Cerro Villicun**	**4.49**	**29**	*e*P			**Pn**	**00 10 31.5**	**-0.5**
RTLL				*e*P			**Pn**	**00 10 31.5**	**-0.5**
RTLL				*e*P			**Pn**	**00 10 31.5**	**-0.5**
CO06	**Fray Jorge**	**4.65**	**353**				**Pn**	**00 10 32.4**	**-1.8**
ACCO	**Cerro Coronel**	**4.97**	**19**	*e*S			**Sn**	**00 11 35.9**	**+0.5**
ACCO				*e*S			**Sn**	**00 11 35.9**	**+0.5**
LR05	**Currie**	**4.98**	**189**	Pn			**Pn**	**00 10 37.4**	**-1.2**
GO04	**Tololo Observa**	**5.12**	**2**				**Pn**	**00 10 39.9**	**-0.8**
CO01	**Juntas del Tor**	**5.37**	**8**				**Pn**	**00 10 44.4**	**+0.3**
CO05	**La Serena**	**5.38**	**358**	Pn			**Pn**	**00 10 43.5**	**-0.5**
PLCA	**Paso Flores**	**5.43**	**177**	Pn			**Pn**	**00 10 45.0**	**+0.2**
PLCA	**Paso Flores**	**5.43**	**177**	P			**Pn**	**00 10 45.4**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=332,slow=13,SNR=12								
LCO	**Las Campanas**	**6.28**	**2**	Pn			**Pn**	**00 10 56.0**	**-0.5**
VA04	**Juan Fernndez**	**6.69**	**282**	Pn			**Pn**	**00 11 00.7**	**-1.1**
AC04	**Llanos de Chal**	**7.08**	**359**	Pn			**Pn**	**00 11 05.8**	**-1.3**
TRQA	**Tornquist**	**7.74**	**113**				**Pn**	**00 11 14.3**	**-1.6**
AC02	**Maricunga**	**8.59**	**11**	Pn			**Pn**	**00 11 27.6**	**-0.4**
ITAB	**Concordia**	**17.99**	**69**	P			**P**	**00 13 26.7**	**-1.5**
ITAB				P			IAmb	IAmb	00 13 29.9
	comp=Z,6.2nm,0.7s								
LPAZ	**La Paz**	**19.11**	**8**	P			**Pn**	**00 13 42.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=182,slow=7.1,SNR=4.2								
AQDB	**Aquidauana**	**19.98**	**46**	P			**P**	**00 13 48.6**	**-1.3**
AQDB				P			IAmb	IAmb	00 13 49.3
	comp=Z,9.7nm,0.8s								
SIV	**San Ignacio**	**21.18**	**27**	P			**P**	**00 14 01.5**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=216,slow=11,SNR=8.4								
	comp=Z,1.1nm,0.5s								
VNA3	**Neumayer Olymp**	**47.82**	**157**	⇑P			**P**	**00 17 53.5**	**+1.2**
	comp=Z,3.5nm,0.7s								
VNA2	**Neumayer--Watz**	**48.47**	**157**	⇑P			**P**	**00 17 57.9**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=276,slow=8.1								
SNAA	**Sanae**	**50.05**	**157**	⇑P			**P**	**00 18 09.5**	**+0.1**
	comp=Z,24nm,0.5s								
SNAA	**Sanae**	**50.05**	**157**	P			**P**	**00 18 09.4**	**+0.1**
SNAA				IAmb			IAmb	00 18 11.0	
	comp=Z,3.1nm,1.2s								
SNAA	**Sanae**	**50.05**	**157**	P			**P**	**00 18 08.9**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=266,slow=3.8,SNR=5.7								
	comp=Z,1.7nm,0.7s								
TROLL	**Troll, Antarti**	**51.76**	**158**	⇑P			**P**	**00 18 24.8**	**+2.7**
	comp=Z,174nm,0.8s								
QSPA	**South Pole Qui**	**54.94**	**180**	P			**P**	**00 18 46.5**	**+1.0**
	comp=Z,0.7n

comp=E,99nm,18.2s,baz=288,slow=34
SFJD Kangerlussuaq 46.21 32 LR LR 00 58 03.1
comp=E,67nm,18.1s,baz=282,slow=37
H11N3 WAKE ISLAND Hy 57.57 267 T T 01 41 52.3
baz=49,slow=75,SNR=266
H11N2 WAKE ISLAND Hy 57.57 267 T T 01 41 56.1
baz=49,slow=75,SNR=110
H11N1 WAKE ISLAND Hy 57.59 267 T T 01 41 55.3
baz=49,slow=75,SNR=109
H11S1 WAKE ISLAND Hy 58.51 266 T T 01 43 06.5
baz=48,slow=75,SNR=46
H11S2 WAKE ISLAND Hy 58.51 266 T T 01 43 02.0
baz=48,slow=75,SNR=32
H11S3 WAKE ISLAND Hy 58.52 266 T T 01 43 04.3
baz=48,slow=75,SNR=35
LPAZ La Paz 82.19 122 P **P** **00 41 58.4 -0.8**
comp=E,1.6nm,0.9s,baz=346,slow=4.8,SNR=3.9
comp=E,1.6nm,0.9s
KURBB Kurchatov Arra 82.47 342 P **P** **00 41 58.3 -1.2**
comp=E,0.3nm,0.6s,baz=16,slow=5.5,SNR=2.6
comp=E,0.3nm,0.6s

CATAC 17 00:54:49.2±0.4,12°N±2°×8°7W±°, h111km±3km, M2.8/20, MLv2.8/20, Error ellipse: s-maj=6.3km s-min=3.0km az=49.4, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEN	**Leon**	**0.22**	**343**	P	Pn	00 55 06.1	+1.2
COPN	**Copaltepe**	**0.22**	**108**	P	Pn	00 55 05.5	+0.6
CNGA	**Al SSO del Vol**	**0.27**	**23**	P	Pn	00 55 05.7	+0.6
CNGN	**Cerro Negro**	**0.27**	**23**	P	Pn	00 55 05.4	+0.3
MOM2	**El Cardon**	**0.37**	**59**	P	Pn	00 55 05.9	+0.5
MOM2				S	Sn	00 55 20.2	+2.6
POLN	**Al Sur del Vol**	**0.40**	**359**	P	Pn	00 55 06.2	+0.5
POLN				S	Sn	00 55 20.0	+2.0
APQ3	**Volcan Apoyequ**	**0.43**	**87**	P	Pn	00 55 06.4	+0.6
CRIN	**San Cristobal**	**0.51**	**332**	P	Pn	00 55 07.0	+0.6
CRIN	**San Cristobal**	**0.51**	**332**	S	Sn	00 55 21.3	+2.1
TISN	**Laguna Tiscapa**	**0.54**	**101**	P	Pn	00 55 07.0	+0.6
UNAN	**Cigeo UNAN**	**0.54**	**104**	P	Pn	00 55 07.0	+0.5
WILN	**Americas 2**	**0.61**	**98**	P	Pn	00 55 07.7	+0.7
NANN	**Nandasmo**	**0.74**	**114**	P	Pn	00 55 09.4	+1.4
NANN	**Nandasmo**	**0.74**	**114**	S	Sn	00 55 25.2	+2.9
CSGN	**Cosiguina Volc**	**1.03**	**315**	P	Pn	00 55 11.1	+0.1
CSGN				S	Sn	00 55 27.7	+0.3
MATN	**Matagalpa**	**1.09**	**52**	P	Pn	00 55 10.7	-0.9
MATN	**Matagalpa**	**1.09**	**52**	S	Sn	00 55 28.3	-0.2
BOAB	**BOACO BROADBAN**	**1.13**	**80**	P	Pn	00 55 12.1	+0.2
BOAB	**BOACO BROADBAN**	**1.13**	**80**	S	Sn	00 55 30.6	+1.5
CHOHN	**Orocuina**	**1.27**	**344**	S	Sn	00 55 32.8	+0.7
CHOHN	**Orocuina**	**1.27**	**344**	P	Pn	00 55 13.6	0.0
MORN	**Al O del Volca**	**1.33**	**121**	P	Pn	00 55 15.3	+1.1
MORN				S	Sn	00 55 35.3	+2.3
OMEN	**Al SSO del Vol**	**1.37**	**122**	P	Pn	00 55 14.5	0.0
CNCH	**Conchagua**	**1.43**	**316**	P	Pn	00 55 15.1	-0.3
CNCH	**Conchagua**	**1.43**	**316**	S	Sn	00 55 37.8	+2.5
RCVN	**Varillal2**	**1.46**	**24**	P	Pn	00 55 15.7	-0.1
RCVN	**Varillal2**	**1.46**	**24**	S	Sn	00 55 36.4	+0.6
LCND	**La Caada**	**1.49**	**315**	P	Pn	00 55 15.9	-0.1
YUSH	**Yuscaran**	**1.70**	**359**	P	Pn	00 55 18.3	-0.3
YUSH	**Yuscaran**	**1.70**	**359**	S	Sn	00 55 40.5	-0.5
TGUH	**Tegucigalpa,Un**	**1.85**	**346**	P	Pn	00 55 20.5	-0.1
JTS	**Las Juntas de**	**2.66**	**137**	P	Pn	00 55 32.2	+1.4
JTS				S	Sn	00 56 02.7	-0.2
INDI	**Punta indio, G**	**2.69**	**151**	S	Sn	00 56 00.6	-2.9
INDI	**Punta indio, G**	**2.69**	**151**	P	Pn	00 55 32.1	+0.9
PMON	**Piamonte**	**2.84**	**301**	P	Pn	00 55 33.8	+0.5
JAYA	**Jayaque - finc**	**2.93**	**299**	P	Pn	00 55 34.7	+0.2

*IDC **17** 00:58:19.7±1.3,36°84N×28°08E, h0km, mb3.4/4, mbtmp3.4/6, ML3.8/2, Error ellipse: s-maj=39.7km s-min=19.0km az=160.0*
*ISK **17** 00:58:21.3, 36°91N×28°21E, h17km, ML3.4/13*
*AFAD **17** 00:58:22.1, 36°91N×28°18E, h7km±2km, ML3.1*
*ATH **17** 00:58:22.1, 36°92N×28°15E, h8km±3km, ML3.2/10, Manual Solution by I.Dede First location: 2019/08/17 00:59:44, This location: 2020/10/26 13:53:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **17** 00:58:23.0, 37°N±3°×2°8E±°, h10km±4km, M3.1/6, MLh3.1/6*
*GII **17** 00:58:25.5±0.0, 36°542N±0°002×28°382E±0°001, h10km, Mws3.5, confirmed*

ISC 17 00:58:21.8±0.9, 36°91N±0°02×28°19E±0°02, h17km±6km, n114, σ1§67/138, mb3.3/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.14**	**162**	P	**Pb**	**00 58 25.5**	**-0.4**
TURN				*i* IAML		00 58 28.0	
	comp=N,2μm,0.2s						
TURN				*i* IAML		00 58 28.0	
	comp=E,2μm,0.4s						
TURN				S	**Sg**	**00 58 28.3**	**-0.2**
MULA	**Mugla, Merkez-**	**0.36**	**17**	P	**Pb**	**00 58 29.4**	**-0.4**
MULA				S	**Sb**	**00 58 35.2**	**0.0**
MULA				*i* IAML		00 58 37.0	
	comp=N,2μm,0.4s						
MULA				*i* IAML		00 58 39.0	
	comp=E,3μm,0.3s						
DATC	**Datca-Mugla**	**0.45**	**251**	Pg	**Pb**	**00 58 31.2**	**0.0**
DATC				Sg	**Sb**	**00 58 38.3**	**+0.7**
DAT	**Datca**	**0.52**	**250**	Pg	**Pg**	**00 58 31.6**	**-0.7**
DAT	**Datca**	**0.52**	**250**	P	**Pb**	**00 58 32.0**	**-0.5**
DAT				S	**Sb**	**00 58 40.4**	**+0.5**
BDRM	**Kayabasi**	**0.62**	**285**	P	**Pb**	**00 58 33.7**	**-0.4**
BDRM				S	**Sb**	**00 58 44.0**	**+1.5**
BDRM				*i* IAML		00 58 46.0	
	comp=E,2μm,0.4s						
SABU	**Mula-Dalaman**	**0.63**	**98**	P	**Pn**	**00 58 34.7**	**-1.2**
SABU				S	**Sn**	**00 58 44.0**	**-1.6**
SABU				*i* IAML		00 58 46.0	
	comp=N,456nm,0.4s						
SABU				*i* IAML		00 58 46.0	
	comp=E,492nm,0.3s						
YAZI	**Mula-Dat§a-**	**0.63**	**249**	P	**Pg**	**00 58 33.7**	**-0.6**
YAZI				S	**Sb**	**00 58 44.1**	**+1.1**
YAZI				*i* IAML		00 58 45.0	
	comp=N,608nm,0.7s						
YAZI				*i* IAML		00 58 47.0	
	comp=E,952nm,0.4s						
ARG	**Arkhangelos**	**0.69**	**184**	Pg	**Pb**	**00 58 35.3**	**-0.1**
ARG	**Arkhangelos**	**0.69**	**184**	P	**Pb**	**00 58 35.4**	**0.0**
ARG				S	**Sn**	**00 58 47.5**	**+0.4**
ARG	**Arkhangelos**	**0.69**	**184**	P	**Pb**	**00 58 35.4**	**0.0**
ARG				S	**Sb**	**00 58 45.2**	**+0.6**
YKAV	**Yalikavak-Bodr**	**0.76**	**287**	Pg	**Pb**	**00 58 36.8**	**+0.3**
YKAV				Sg	**Sn**	**00 58 48.0**	**-0.7**
DNZT	**Denizli-Tavas-**	**0.76**	**61**	P	**Pn**	**00 58 37.4**	**-0.5**
DNZT				S	**Sn**	**00 58 50.0**	**+1.0**
DNZT				*i* IAML		00 58 53.0	
	comp=N,269nm,0.7s						
DNZT				*i* IAML		00 58 54.0	
	comp=E,220nm,0.6s						
AYDN	**Tasoluk**	**0.79**	**342**	P	**Pn**	**00 58 37.1**	**-1.1**
AYDN				S	**Sn**	**00 58 48.9**	**-0.7**
AYDN				*i* IAML		00 58 49.0	
	comp=E,2μm,0.3s						
AYDN				*i* IAML		00 58 53.0	
	comp=N,2μm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.80**	**46**	P	**Pn**	**00 58 37.3**	**-1.1**
TAVA				S	**Sn**	**00 58 50.5**	**+0.6**
TAVA				*i* IAML		00 58 54.0	
	comp=N,303nm,0.4s						
TAVA				*i* IAML		00 58 59.0	
	comp=E,327nm,0.7s						
DIDI	**Didim-Aydin**	**0.89**	**302**	Pg	**Pn**	**00 58 39.3**	**-0.2**
CAME	**Cameli-Denizli**	**0.89**	**87**	Pg	**Pn**	**00 58 38.9**	**-0.8**
ESEN	**Aydn-Nazilli**	**0.90**	**8**	P	**Pn**	**00 58 38.8**	**-0.8**
ESEN				S	**Sn**	**00 58 53.6**	**+1.4**
ESEN				*i* IAML		00 58 54.0	
	comp=N,751nm,0.5s						
ESEN				*i* IAML		00 58 54.0	
	comp=E,1μm,0.5s						
NISR	**Nisiros**	**0.90**	**251**	P	**Pb**	**00 58 39.2**	**+0.2**
NISR				S	**Sb**	**00 58 52.0**	**+1.3**
NISR	**Nisiros**	**0.90**	**251**	P	**Pb**	**00 58 38.9**	**-0.1**
NISR				S	**Sg**	**00 58 50.2**	**-1.0**
CAEL	**Denizli, Camel**	**0.93**	**76**	P	**Pn**	**00 58 41.4**	**+1.2**
DDIM	**Aydin, Didim**	**0.93**	**306**	P	**Pn**	**00 58 39.8**	**-0.2**
DDIM				S	**Sn**	**00 58 53.6**	**+0.5**
DDIM				*i* IAML		00 58 57.0	
	comp=N,1μm,0.6s						
DDIM				*i* IAML		00 59 03.0	
	comp=E,1μm,1.1s						
IZZE	**Mula-Seydike**	**0.96**	**119**	P	**Pn**	**00 58 40.5**	**+0.1**
IZZE				*i* IAML		00 59 01.0	
	comp=N,2μm,0.3s						
IZZE				*i* IAML		00 59 01.0	
	comp=E,643nm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.98**	**43**	P	**Pn**	**00 58 40.7**	**-0.2**
DNIZ				*i* IAML		00 58 57.0	
	comp=N,1μm,0.3s						
DNIZ				*i* IAML		00 59 03.0	
	comp=E,1μm,0.4s						
APMY	**Acipayam-Deniz**	**1.05**	**57**	Pg	**Pn**	**00 58 41.6**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.06**	**4**	Pg	**Pn**	**00 58 41.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**347**	Pg	**Pn**	**00 58 41.9**	**-0.1**
SMG	**Samos**	**1.34**	**307**	P	**Pb**	**00 58 46.2**	**-0.2**
SMG				S	**Sn**	**00 59 03.7**	**+0.6**
SMG	**Samos**	**1.34**	**307**	P	**Pb**	**00 58 46.1**	**-0.3**
SMG				S	**Sg**	**00 59 03.8**	**-1.4**
KSL	**Kastellorizon**	**1.35**	**124**	P	**Pg**	**00 58 48.1**	**+0.2**
KSL				S	**Sg**	**00 59 08.3**	**+2.8**
ODEM	**Odemis-Izmir**	**1.37**	**356**	Pn	**Pb**	**00 58 46.4**	**-0.6**
GMLD	**Gumuldur**	**1.54**	**319**	Pn	**Pb**	**00 58 49.4**	**-0.5**
KARP	**Karpathos**	**1.59**	**212**	Pn	**Pn**	**00 58 49.7**	**+0.5**
KARP	**Karpathos**	**1.59**	**212**	P	**Pb**	**00 58 50.1**	**-0.7**
KARP				S	**Sb**	**00 59 11.5**	**+0.9**
KARP	**Karpathos**	**1.59**	**212**	P	**Pb**	**00 58 50.0**	**-0.8**
BLCB	**Balcova**	**1.73**	**329**	Pn	**Pn**	**00 58 51.5**	**+0.4**
ISP	**Isparta**	**2.07**	**63**	P	**Pb**	**00 58 58.1**	**-0.8**
ISP	**Isparta**	**2.07**	**63**	P	**Pb**	**00 58 58.7**	**-0.3**
CHOS	**Chios island**	**2.25**	**312**	P	**Pn**	**00 58 58.8**	**+0.6**
CHOS				S	**Sn**	**00 59 25.7**	**+0.1**
CHOS	**Chios island**	**2.25**	**312**	P	**Pn**	**00 58 59.1**	**+0.9**
THERA	**Ancient Thera,**	**2.25**	**257**	P	**Pn**	**00 58 59.4**	**+1.2**
ZKR	**Zakros**	**2.40**	**222**	P	**Pn**	**00 59 01.9**	**+1.7**
ZKR	**Zakros**	**2.40**	**222**	P	**Pn**	**00 59 01.8**	**+1.6**
NPS	**Neapolis**	**2.66**	**233**	P	**Pn**	**00 59 04.5**	**+0.7**
SIGR	**SIGRI**	**2.94**	**322**	P	**Pn**	**00 59 09.4**	**+1.7**
MHLO	**Agia Marina, M**	**3.05**	**267**	P	**Pn**	**00 59 10.3**	**+1.1**
IDI	**Anoyia**	**3.12**	**240**	P	**Pn**	**00 59 11.6**	**+1.3**
KARY	**Karystos**	**3.19**	**292**	P	**Pn**	**00 59 12.0**	**+0.9**
DION	**Dionisos Attik**	**3.58**	**290**	P	**Pn**	**00 59 18.0**	**+1.5**
PTL	**Penteli**	**3.62**	**290**	P	**Pn**	**00 59 18.5**	**+1.4**
ATHU	**Athens Univers**	**3.66**	**288**	P	**Pn**	**00 59 18.5**	**+0.9**
LIA	**Limnos Island**	**3.81**	**323**	P	**Pn**	**00 59 20.4**	**+0.9**
AKMS	**Akamas**	**3.86**	**118**	P	**Pn**	**00 59 22.3**	**+2.0**
SMTH	**Samothraki Isl**	**4.12**	**330**	P	**Pn**	**00 59 24.7**	**+0.8**
VIL2	**Platees**	**4.12**	**290**	P	**Pn**	**00 59 24.2**	**+0.3**
NATA	**Nata**	**4.14**	**120**	P	**Pn**	**00 59 26.1**	**+1.8**
VLI	**Veliai**	**4.22**	**269**	P	**Pn**	**00 59 26.2**	**+0.9**
NEO	**Neokhori**	**4.59**	**303**	P	**Pn**	**00 59 31.3**	**+0.6**
CSS	**Mathiatis**	**4.60**	**113**	P	**Pn**	**00 59 32.1**	**+1.6**
CSS	**Mathiatis**	**4.60**	**113**	P	**Pn**	**00 59 31.6**	**+1.0**
CSS	**Mathiatis**	**4.60**	**113**	S	**Sn**	**01 00 22.4**	**-1.2**
ASGA	**Asgata**	**4.62**	**116**	P	**Pn**	**00 59 32.7**	**+1.9**
GUR	**Goura**	**4.77**	**284**	P	**Pn**	**00 59 34.1**	**+1.2**
BRTR	**Keskin Array B**	**5.12**	**55**	Pn	**Pn**	**00 59 41.2**	**+3.4**
	0.9nm,0.3s,baz=242,slow=16,SNR=29						
BRTR				Sn	**Sn**	**01 00 41.7**	**+5.0**
	0.1nm,0.3s,baz=226,slow=24,SNR=1.9						
	1.6nm,0.3s						
HNTI	**Hanita**	**6.89**	**122**	P	**Pn**	**01 00 02.3**	**+0.4**
HNTI	**Hanita**	**6.89**	**122**	S	**Sn**	**01 01 17.4**	**-2.5**
OFRI	**`Ofer**	**7.04**	**125**	P	**Pn**	**01 00 04.3**	**+0.3**
OFRI	**`Ofer**	**7.04**	**125**	S	**Sn**	**01 01 20.9**	**-2.8**
MMC7	**Mount Meron ar**	**7.07**	**121**	P	**Pn**	**01 00 05.1**	**+0.6**
MMA0B	**Mount Meron ar**	**7.08**	**121**	P	**Pn**	**01 00 05.4**	**+0.7**
MMA0B	**Mount Meron ar**	**7.08**	**121**	S	**Sn**	**01 01 22.7**	**-2.1**
MMAI	**Mount Meron Ar**	**7.08**	**121**	Pn	**Pn**	**01 00 05.0**	**+0.4**
	5.5nm,0.3s,baz=311,slow=13,SNR=17						
MMAI				Sn	**Sn**	**01 01 22.5**	**-2.3**
	9.8nm,0.3s,baz=298,slow=26,SNR=16						
	2.3nm,0.3s						
BLGI	**Bet Lehem HaGe**	**7.11**	**124**	P	**Pn**	**01 00 05.6**	**+0.7**
BLGI	**Bet Lehem HaGe**	**7.11**	**124**	S	**Sn**	**01 01 22.7**	**-2.6**
GEM	**Giv'at Ha'Em**	**7.15**	**119**	P	**Pn**	**01 00 06.1**	**+0.5**
GEM	**Giv'at Ha'Em**	**7.15**	**119**	S	**Sn**	**01 01 24.4**	**-2.0**
NATI	**Neve Ativ**	**7.18**	**118**	P	**Pn**	**01 00 07.1**	**+1.2**
NATI	**Neve Ativ**	**7.18**	**118**	S	**Sn**	**01 01 25.2**	**-1.8**
SLTI	**Sal'it**	**7.32**	**128**	P	**Pn**	**01 00 08.4**	**+0.5**
SLTI	**Sal'it**	**7.32**	**128**	S	**Sn**	**01 01 27.7**	**-2.9**
MMLI	**Mount Malkishu**	**7.44**	**125**	P	**Pn**	**01 00 10.1**	**+0.5**
MMLI	**Mount Malkishu**	**7.44**	**125**	S	**Sn**	**01 01 30.4**	**-3.2**
HMDT	**Nahal Hemdat**	**7.63**	**125**	P	**Pn**	**01 00 12.6**	**+0.5**
HMDT	**Nahal Hemdat**	**7.63**	**125**	S	**Sn**	**01 01 35.2**	**-2.9**
AMAZ	**Amatzia**	**7.73**	**132**	P	**Pn**	**01 00 13.4**	**-0.2**
AMAZ	**Amatzia**	**7.73**	**132**	S	**Sn**	**01 01 37.2**	**-3.5**
UJAP	**Al Uja**	**7.78**	**127**	P	**Pn**	**01 00 14.4**	**+0.2**
UJAP	**Al Uja**	**7.78**	**127**	S	**Sn**	**01 01 38.7**	**-3.1**
KZIT	**Kziot**	**7.90**	**137**	P	**Pn**	**01 00 15.9**	**0.0**
KZIT	**Kziot**	**7.90**	**137**	S	**Sn**	**01 01 40.7**	**-4.2**
YTIR	**Yattir**	**7.97**	**132**	P	**Pn**	**01 00 16.6**	**-0.3**
YTIR	**Yattir**	**7.97**	**132**	S	**Sn**	**01 01 43.2**	**-3.5**
DSI	**Dead Sea**	**7.99**	**130**	P	**Pn**	**01 00 17.4**	**+0.3**
DSI	**Dead Sea**	**7.99**	**130**	S	**Sn**	**01 01 43.4**	**-3.5**
MSBI	**Mazada**	**8.15**	**131**	P	**Pn**	**01 00 19.1**	**-0.1**
MSBI	**Mazada**	**8.15**	**131**	S	**Sn**	**01 01 47.4**	**-3.5**
GHAJ	**Ghor Haditha**	**8.29**	**130**	P	**Pn**	**01 00 21.6**	**+0.5**
GHAJ	**Ghor Haditha**	**8.29**	**130**	S	**Sn**	**01 01 50.9**	**-3.3**
ZFRI	**Zfri**	**8.60**	**135**	P	**Pn**	**01 00 25.1**	**-0.3**
ZFRI	**Zfri**	**8.60**	**135**	S	**Sn**	**01 01 57.7**	**-4.4**
PRNI	**Paran**	**8.66**	**137**	P	**Pn**	**01 00 26.1**	**-0.2**
PRNI	**Paran**	**8.66**	**137**	S	**Sn**	**01 01 60.0**	**-3.6**
KRMI	**Paran Flat**	**8.70**	**139**	P	**Pn**	**01 00 26.1**	**-0.7**
KRMI	**Paran Flat**	**8.70**	**139**	S	**Sn**	**01 02 00.5**	**-4.0**
HRFI	**Mount Harif**	**8.93**	**138**	P	**Pn**	**01 00 29.6**	**-0.3**
HRFI	**Mount Harif**	**8.93**	**138**	S	**Sn**	**01 02 06.2**	**-3.9**
MBRI	**Mt Berech**	**9.05**	**140**	P	**Pn**	**01 00 31.1**	**-0.6**
MBRI	**Mt Berech**	**9.05**	**140**	S	**Sn**	**01 02 09.2**	**-4.1**
EIL	**Elat**	**9.17**	**140**	P	**Pn**	**01 00 32.9**	**-0.4**
EIL	**Elat**	**9.17**	**140**	S	**Sn**	**01 02 12.2**	**-3.9**
ESDC	**Sonseca Array**	**25.32**	**286**	P	**P**	**01 03 47.6**	**+0.1**
	0.5nm,0.7s,baz=84,slow=8.3,SNR=7.5						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**33.50**	**232**	P	**P**	**01 04 59.7**	**-0.6**
	0.5nm,0.8s,baz=31,slow=8.7,SNR=2.4						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**38.11**	**53**	P	**P**	**01 05 40.7**	**+1.1**
	0.2nm,0.6s,baz=274,slow=9.3,SNR=3.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**40.77**	**58**	P	**P**	**01 06 03.8**	**+1.9**
	0.4nm,0.7s,baz=276,slow=8.1,SNR=4.8						
	0.4nm,0.7s						

NEIC 17 01:03:39.4±1.2, 38°02N±0°04×98°00W±0°03, h5km±2km, mb_Lg3.1/133, ML3.0/6, Error ellipse: s-maj=6.9km s-min=4.3km az=1.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.69**	**306**		Pg	01 03 51.5	-1.1
R32A					IAML	01 04 05.1	
	1μm,0.6s						
KAN08	**Anthony NE Sta**	**0.79**	**178**		Pg	01 03 53.2	-1.4
KAN08					IAML	01 04 08.6	
	comp=N,517nm,0.8s						
KAN01	**Argonia South**	**0.89**	**167**		Pg	01 03 54.9	-1.5
KAN01					IAmb_Lg	01 04 08.4	
	comp=Z,142nm,0.8s						
KAN01					IAML	01 04 17.4	
	comp=N,384nm,0.6s						
KAN01					IAML	01 04 18.7	
	comp=E,288nm,0.4s						
KAN14	**Manchester OK**	**1.06**	**178**		Pg	01 03 58.1	-1.6
GC02	**Grant County #**	**1.17**	**174**		Pg	01 04 00.1	-1.7
BLOK	**Blackwell**	**1.41**	**153**		Pn	01 04 04.1	-1.5
CROK	**Carrier**	**1.51**	**179**		Pn	01 04 05.9	-1.2
NOKA	**Waynoka**	**1.57**	**208**		Pn	01 04 07.5	-0.4
CBKS	**Cedar Bluff**	**1.58**	**301**		Pn	01 04 07.5	-0.5
T35A	**Sooner Cattle**	**1.62**	**132**		Pn	01 04 07.9	-0.7
T35A					IAmb_Lg	01 04 31.3	
	comp=Z,100nm,0.7s						
OK038	**West end E0370**	**1.65**	**201**		Pn	01 04 08.7	-0.3
QUOK	**Quay**	**2.12**	**150**		Pn	01 04 15.2	-0.2
OK052	**Battle Ridge R**	**2.24**	**154**		Pn	01 04 16.7	-0.4
ELIS	**Ellis County**	**2.26**	**211**		Pn	01 04 17.8	+0.5
CSTR	**Hydro, Custer**	**2.43**	**193**		Pn	01 04 19.4	-0.4
DEOK	**Depew**	**2.48**	**151**		Pn	01 04 19.6	-0.9
TUL3	**Leonard**	**2.75**	**139**		Pn	01 04 24.3	+0.1
TUL3					IAmb_Lg	01 05 06.4	
	comp=Z,62nm,0.8s						
RLO	**Rose Lookout**	**3.02**	**127**		IAmb_Lg	01 05 18.1	
	comp=Z,41nm,0.7s						
U38A	**Gravette**	**3.29**	**118**		Pn	01 04 32.1	+0.5
U38A					IAmb_Lg	01 05 25.8	
	comp=Z,66nm,0.7s						
N35A	**Tabor**	**3.37**	**32**		Pn	01 04 32.1	-0.6
BGNE	**Belgrade**	**3.39**	**358**		IAmb_Lg	01 05 30.6	
	comp=Z,53nm,0.7s						
SMWD	**Samnorwood**	**3.42**	**212**		Pn	01 04 33.2	-0.2
SMWD					IAmb_Lg	01 05 31.7	
	comp=Z,44nm,0.8s						
HHAR	**Hobbs**	**3.68**	**117**		Pn	01 04 36.3	-0.6
HHAR					IAmb_Lg	01 05 45.5	
	comp=Z,41nm,0.8s						
S39A	**Bolivar**	**3.72**	**94**		Pn	01 04 37.0	-0.4
P38A	**Dawn**	**3.84**	**64**		Pn	01 04 39.0	-0.1
P38A					IAmb_Lg	01 05 41.1	
	comp=Z,45nm,0.9s						
LOOK	**Love County**	**4.07**	**170**		IAmb_Lg	01 05 52.4	
	comp=Z,34nm,0.7s						
RTBA	**Rita Blanca**	**4.10**	**249**		Pn	01 04 42.0	-0.8
AMTX	**Amarillo**	**4.31**	**225**		IAmb_Lg	01 05 59.7	
	comp=Z,43nm,0.7s						
R40A	**Maddies Statio**	**4.53**	**85**		Pn	01 04 46.2	-2.3
N38A	**Joes South For**	**4.62**	**52**		Pn	01 04 48.4	-1.3
MGMO	**Mountain Grove**	**4.63**	**99**		IAmb_Lg	01 06 06.7	
	comp=Z,40nm,0.9s						
K30B	**Basset**	**4.81**	**346**		IAmb_Lg	01 06 19.0	
	comp=Z,27nm,0.8s						
P40A	**Paris**	**4.89**	**70**		IAmb_Lg	01 06 20.4	
	comp=Z,26nm,0.7s						
DKNS	**Dickens**	**4.95**	**210**		IAmb_Lg	01 06 19.1	
	comp=Z,30nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.17**	**113**		IAmb_Lg	01 06 29.3	
	comp=Z,34nm,0.8s						
T25A	**Trinidad**	**5.17**	**262**		Pn	01 04 57.0	-0.6
CCM	**Cathedral Cave**	**5.33**	**88**		IAmb_Lg	01 06 29.5	
	comp=Z,29nm,1.0s						
SCIA	**State Center**	**5.35**	**42**		Pb	01 05 17.3	+4.0
Z38A	**Mt. Pleasant**	**5.35**	**152**		IAmb_Lg	01 06 41.7	
	comp=Z,36nm,0.7s						
SN07	**Snyder 07**	**5.45**	**206**		IAmb_Lg	01 06 45.8	
	comp=Z,42nm,1.0s						
TREL	**Terrell**	**5.50**	**163**		IAmb_Lg	01 06 38.8	
	comp=Z,28nm,0.8s						
Q24A	**Divide**	**5.69**	**282**		IAmb_Lg	01 06 42.0	
	comp=Z,30nm,0.8s						
POST	**Post**	**5.71**	**211**		IAmb_Lg	01 06 50.4	
	comp=Z,21nm,0.8s						
ECSD	**EROS Data Cent**	**5.80**	**10**		Pn	01 05 04.7	-1.5
LCAR	**Lake Charles**	**5.81**	**107**		IAmb_Lg	01 06 47.3	
	comp=Z,33nm,0.7s						
WLAR	**White Oak Lake**	**5.87**	**136**		IAmb_Lg	01 06 50.6	
	comp=Z,31nm,0.8s						
SDCO	**Great Sand Dun**	**5.94**	**270**		IAmb_Lg	01 06 54.6	
	comp=Z,19nm,1.0s						
FVM	**French Village**	**5.98**	**88**		IAmb_Lg	01 06 50.9	
	comp=Z,17nm,0.7s						
SLM	**Saint Louis**	**6.14**	**82**		IAmb_Lg	01 06 57.7	
	comp=Z,23nm,0.9s						
PBMO	**Poplar Bluff**	**6.16**	**99**		IAmb_Lg	01 06 54.6	
	comp=Z,34nm,0.7s						
ISCO	**Idaho Springs**	**6.20**	**289**		Pn	01 05 09.5	-2.3
ISCO					IAmb_Lg	01 06 56.1	
	comp=Z,21nm,0.8s						
Z41A	**Richland Creek**	**6.36**	**137**		IAmb_Lg	01 07 18.5	
	comp=Z,24nm,1.0s						
SUSD	**Miller**	**6.46**	**354**		IAmb_Lg	01 07 10.4	
	comp=Z,22nm,0.8s						
L40A	**Anamosa**	**6.58**	**50**		IAmb_Lg	01 07 12.6	
	comp=Z,33nm,0.8s						
CGM3	**Cape Girardeau**	**6.66**	**94**		IAmb_Lg	01 07 07.1	
	comp=Z,18nm,0.7s						
I37A	**Lemond, Waseca**	**6.92**	**29**		IAmb_Lg	01 07 28.8	
	comp=Z,26nm,0.8s						
S44A	**Carbondale**	**6

SABU				S		Sb	01 44 04.7	+0.5
SABU				*i* IAML			01 44 07.0	
	comp=N,103nm,0.4s							
SABU				*i* IAML			01 44 07.0	
	comp=E,116nm,0.4s							
YAZI	**Mula-Datşa-**	**0.65**	**247**	P		**Pg**	**01 43 55.2**	**0.0**
YAZI				S		**Sb**	**01 44 05.3**	**+0.4**
YAZI				*i* IAML			01 44 06.0	
	comp=N,123nm,0.6s							
YAZI				*i* IAML			01 44 07.0	
	comp=E,151nm,0.5s							
ARG	**Arkhangelos**	**0.72**	**185**	Pg		**Pg**	**01 43 56.3**	**-0.2**
ARG				Sg		**Sb**	**01 44 07.5**	**+0.5**
ARG	**Arkhangelos**	**0.72**	**185**	P		**Pg**	**01 43 56.1**	**-0.4**
ARG				S		**Sg**	**01 44 06.5**	**+0.5**
ARG	**Arkhangelos**	**0.72**	**185**	P		**Pg**	**01 43 56.1**	**-0.4**
ARG				S		**Sg**	**01 44 05.9**	**-0.1**
DNZT	**Denizli-Tavas-**	**0.74**	**63**	P		**Pn**	**01 43 58.4**	**-0.5**
DNZT				S		**Sn**	**01 44 09.6**	**-0.5**
DNZT				*i* IAML			01 44 14.0	
	comp=N,63nm,0.6s							
DNZT				*i* IAML			01 44 15.0	
	comp=E,51nm,0.5s							
CAME	**Cameli-Denizli**	**0.88**	**89**	Pg		**Pb**	**01 43 59.6**	**-0.2**
RGE1	**Gennadi, Rhode**	**0.94**	**194**	P		**Pg**	**01 44 00.3**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.02**	**4**	Pg		**Pn**	**01 44 02.2**	**-0.6**
APMY	**Acipayam-Deniz**	**1.03**	**59**	Pg		**Pn**	**01 44 02.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**346**	Pg		**Pn**	**01 44 02.5**	**-0.5**
SMG	**Samos**	**1.33**	**306**	P		**Pn**	**01 44 06.7**	**-0.3**
SMG				S		**Sg**	**01 44 25.7**	**+0.4**
SMG	**Samos**	**1.33**	**306**	P		**Pn**	**01 44 06.8**	**-0.1**
SMG				S		**Sb**	**01 44 23.7**	**-0.8**
ODEM	**Odemis-Izmir**	**1.34**	**356**	Pn		**Pb**	**01 44 06.9**	**-0.7**
KSL	**Kastellorizon**	**1.36**	**125**	P		**Pg**	**01 44 09.2**	**+0.5**
KSL				S		**Sg**	**01 44 28.0**	**+1.6**
KARP	**Karpathos**	**1.62**	**211**	P		**Pn**	**01 44 10.7**	**-0.3**
KARP				S		**Sn**	**01 44 32.0**	**+0.1**
KARP	**Karpathos**	**1.62**	**211**	P		**Pn**	**01 44 10.8**	**-0.3**
KARP				S		**Sn**	**01 44 31.3**	**-0.6**
BLCB	**Balcova**	**1.71**	**328**	Pn		**Pn**	**01 44 12.3**	**+0.2**
BLCB	**Balcova**	**1.71**	**328**	P		**Pn**	**01 44 11.9**	**-0.2**
CHOS	**Chios island**	**2.23**	**311**	P		**Pn**	**01 44 19.4**	**0.0**
CHOS				S		**Sn**	**01 44 48.3**	**+1.3**
CHOS	**Chios island**	**2.23**	**311**	P		**Pn**	**01 44 19.4**	**0.0**
NPS	**Neapolis**	**2.68**	**232**	P		**Pn**	**01 44 25.4**	**-0.1**
IDI	**Anoyia**	**3.15**	**239**	P		**Pn**	**01 44 31.9**	**0.0**

TRN 17 02:10:12.1, 11°.40N×60°.03W, h25km, MD3.5, East of Tobago., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.54**	**241**	*eP*	Pn	02 10 38.5	+0.6
TRN				*eS*	Sn	02 10 56.7	-0.5
DMDM	**Guralp CMG5TDE**	**1.65**	**245**	*eP*	Pn	02 10 40.4	+1.0
DMDM				*eS*	Sn	02 11 00.1	+0.3
GCMP	**Grenada, Carri**	**1.74**	**309**	*eP*	Pn	02 10 40.3	-0.4
GCMP				*eS*	Sn	02 11 01.7	-0.4
GRGR	**Grenville**	**1.75**	**295**	*eP*	Pn	02 10 41.1	+0.2
GRGR				*eS*	Sn	02 11 03.0	+0.6
GRW	**Mount Saint Ca**	**1.77**	**296**	*eP*	Pn	02 10 42.1	+1.0
GRW				*eS*	Sn	02 11 03.8	+0.9
GRSS	**Sisters**	**1.79**	**300**	*eP*	Pn	02 10 41.1	-0.2
GRSS				*eS*	Sn	02 11 03.0	-0.2
GRFF	**Grenada Fort F**	**1.79**	**291**	*eP*	Pn	02 10 41.4	-0.1
GRFF				*eS*	Sn	02 11 03.8	+0.4
SVB	**Belmont**	**2.21**	**328**	*eP*	Pn	02 10 47.2	0.0
SVB				*eS*	Sn	02 11 13.0	-0.8
SLBI	**Saint Lucia, B**	**2.77**	**341**	*eP*	Pn	02 10 55.4	+0.6
SLBI				*eS*	Sn	02 11 27.2	-0.2
BIM	**Bigot**	**3.26**	**342**	*eP*	Pn	02 11 02.8	+1.1
BIM				*eS*	Sn	02 11 38.9	-0.8
SVN	**Savane Anatole**	**3.60**	**342**	*eP*	Pn	02 11 07.6	+1.3
SVN				*eS*	Sn	02 11 47.6	-0.4
DSLB	**Salisbury**	**4.24**	**342**	*eP*	Pn	02 11 15.3	+0.2

NAO **17** *02:21:39.5, 34°.95N×24°.51E, h10km, mb4.0*
MOS **17** *02:22:05.6±1.2, 37°.33N×20°.35E, h12km, mb4.4/9, Error ellipse: s-maj=8.1km s-min=3.4km az=76.1*
ATH **17** *02:22:07.8, 37°.38N×20°.39E, h7km±2km, ML3.9/20, Manual Solution by A.Agalos First location: 2019/08/17 02:23:14, This location: 2019/08/17 02:34:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
BEO **17** *02:22:08.7±0.7, 37°.45N×20°.23E, h0km, ML3.8/4*
NEIC **17** *02:22:08.2±1.9, 37°.29N±0°.07×20°.43E±0°.05, h10km±1km, mb4.6/11, Error ellipse: s-maj=12.9km s-min=2.9km az=209.0*
THE **17** *02:22:08.8, 37°N±1°×2°0E±°, h0km, M3.9/18, MLh3.9/18*
MED_RC **17** *02:22:10.0±0.6, 37°.39N×20°.46E, h25km±1km, MW4.2/12, Moment Tensor Solution.Mantle waves: s12,c15; Duration: 1ş0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.72±.43; $M_{\theta\theta}$-1.93±.26; $M_{\phi\phi}$0.20±.25; $M_{r\theta}$1.20±.24; $M_{\theta\phi}$1.23±.15; $M_{\phi r}$0.00±.26; Best double couple: M_o2.46000×10^{15} NP1:ϕ_s316.00000°, δ35.00000°, λ123.00000°. NP2:ϕ_s98.00000°, δ61.00000°, λ69.00000°. Principal axes: T 2.1600, Plg67.0000°, Azm328.0000°; N 0.6000, Plg18.0000°, Azm108.0000°; P -2.7600, Plg14.0000°, Azm203.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
HLW **17** *02:22:11.7, 37°.14N×20°.57E, h32km±35km, Ml3.9*
IDC **17** *02:22:11.3±2.0, 37°.38N×20°.53E, h41km±19km, mb3.7/15, mbtmp3.8/23, ML3.5/8, MS3.0/12, Error ellipse: s-maj=26.3km s-min=11.7km az=35.0*

ISC 17 02:22:08.9±0.5, **37°.41N**±0°.03×**20°.40E**±0°.04, **h21**km±3km, **n310**, σ1ş**63**/356, **mb4.2**/27, **MS3.1**/8, **25C-11D**, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.42**	**52**	P	**Pb**	**02 22 16.8**	**-0.7**
KRI1				S	**Sb**	**02 22 23.0**	**-0.3**
LTHK	**Lithakia**	**0.46**	**49**	P	**Pb**	**02 22 17.5**	**-0.7**
LTHK				S	**Sb**	**02 22 24.3**	**-0.3**
LTHK	**Lithakia**	**0.46**	**49**	P	**Pb**	**02 22 17.3**	**-0.9**
LTHK				S	**Sb**	**02 22 23.2**	**-1.3**
ORTH	**Orthonies,Zaky**	**0.50**	**28**	P	**Pb**	**02 22 18.4**	**-0.7**
ORTH				S	**Sb**	**02 22 25.6**	**-0.4**
ORTH	**Orthonies,Zaky**	**0.50**	**28**	P	**Pb**	**02 22 18.3**	**-0.7**
ORTH				S	**Sb**	**02 22 24.9**	**-1.1**
KYPS	**Kipseli, Zakin**	**0.53**	**39**	P	**Pb**	**02 22 19.2**	**-0.4**
KYPS				S	**Sb**	**02 22 25.8**	**-1.0**
PSDA	**Pessada-Kefalo**	**0.72**	**12**	P	**Pb**	**02 22 22.6**	**-0.2**
PSDA				S	**Sb**	**02 22 32.5**	**+0.3**
CLEM	**Kyllini,Ilia,G**	**0.76**	**50**	P	**Pb**	**02 22 23.0**	**-0.3**
CLEM				S	**Sb**	**02 22 33.4**	**+0.2**
VLS	**Valsamata**	**0.79**	**11**	P	**Pb**	**02 22 23.2**	**-0.6**
VLS				S	**Sb**	**02 22 34.9**	**+0.8**
VLS	**Valsamata**	**0.79**	**11**	P	**Pb**	**02 22 23.2**	**-0.6**
VLS				S	**Sb**	**02 22 34.8**	**+0.8**
VLS	**Valsamata**	**0.79**	**11**	P	**Pb**	**02 22 23.2**	**-0.6**
VLS				S	**Sb**	**02 22 34.5**	**+0.4**
VSK1	**VASILIKIADES**	**1.01**	**7**	P	**Pb**	**02 22 27.3**	**-0.4**
VSK1				S	**Sn**	**02 22 42.5**	**+1.0**
FSK	**Fiskardo**	**1.06**	**7**	P	**Pb**	**02 22 28.4**	**-0.1**
FSK				S	**Sn**	**02 22 43.7**	**+1.0**
FSK	**Fiskardo**	**1.06**	**7**	P	**Pb**	**02 22 28.4**	**-0.1**
FSK				S	**Sn**	**02 22 42.9**	**+0.3**
RLS	**Riolos of Patr**	**1.07**	**52**	P	**Pn**	**02 22 28.7**	**+0.1**
RLS				S	**Sn**	**02 22 45.1**	**+2.2**
RLS	**Riolos of Patr**	**1.07**	**52**	P	**Sb**	**02 22 28.3**	**-0.3**
RLS				S	**Sn**	**02 22 43.6**	**+0.8**
AXS	**Araxos**	**1.10**	**44**	P	**Pb**	**02 22 29.0**	**-0.2**
AXS				S	**Sn**	**02 22 45.0**	**+1.2**
PYL2	**Kinigos**	**1.17**	**115**	P	**Pb**	**02 22 30.2**	**-0.1**
DRO	**Drossia**	**1.17**	**62**	P	**Pb**	**02 22 30.9**	**+0.4**
DRO				S	**Sn**	**02 22 47.9**	**+2.4**
DRO	**Drossia**	**1.17**	**62**	P	**Pb**	**02 22 30.5**	**0.0**
PYL	**PYLOS**	**1.19**	**115**	P	**Pb**	**02 22 30.7**	**+0.1**
PYL				S	**Sn**	**02 22 48.6**	**+2.9**
PYL	**PYLOS**	**1.19**	**115**	P	**Pb**	**02 22 30.2**	**-0.4**
PYL				S	**Sn**	**02 22 46.3**	**+0.6**
EVGI	**Lefkada island**	**1.23**	**9**	P	**Pn**	**02 22 31.2**	**+0.3**
EVGI				S	**Sn**	**02 22 49.6**	**+2.7**
EVGI	**Lefkada island**	**1.23**	**9**	P	**Pn**	**02 22 31.2**	**+0.3**
ITM	**Ithomi**	**1.24**	**100**	P	**Pb**	**02 22 31.8**	**+0.2**
ITM	**Ithomi**	**1.24**	**100**	P	**Pb**	**02 22 32.0**	**+0.4**
ITM				S	**Sn**	**02 22 49.7**	**+2.6**
ITM	**Ithomi**	**1.24**	**100**	P	**Pb**	**02 22 31.6**	**0.0**
NYDR	**Nydri-Lefkada**	**1.33**	**10**	P	**Pb**	**02 22 33.5**	**+0.4**
NYDR				S	**Sb**	**02 22 51.9**	**+2.3**
LKD2	**Lefkada island**	**1.40**	**8**	P	**Pb**	**02 22 35.2**	**+0.9**
LKD2				S	**Sb**	**02 22 55.2**	**+3.5**
LKD2	**Lefkada island**	**1.40**	**8**	P	**Pb**	**02 22 33.9**	**-0.4**
TSLK	**Tsoukalades, L**	**1.43**	**8**	P	**Pb**	**02 22 35.0**	**+0.1**
TSLK				S	**Sb**	**02 22 56.0**	**+3.4**
TSLK	**Tsoukalades, L**	**1.43**	**8**	P	**Pb**	**02 22 34.9**	**+0.1**
PVO	**Paravola**	**1.50**	**36**	P	**Pb**	**02 22 36.9**	**+0.9**
PVO				S	**Sb**	**02 22 56.9**	**+2.2**
PVO	**Paravola**	**1.50**	**36**	P	**Pb**	**02 22 35.5**	**+0.5**
KLV	**Kalavryta, Ach**	**1.53**	**65**	P	**Pb**	**02 22 36.9**	**+0.4**
KLV				S	**Sb**	**02 22 58.6**	**+3.2**
KLV	**Kalavryta, Ach**	**1.53**	**65**	P	**Pb**	**02 22 35.9**	**-0.6**
EFP	**Efpalio**	**1.57**	**49**	P	**Pb**	**02 22 37.6**	**+0.4**
EFP				S	**Sb**	**02 22 58.6**	**+2.1**
EFP	**Efpalio**	**1.57**	**49**	P	**Pb**	**02 22 36.9**	**-0.3**
GUR	**Goura**	**1.63**	**70**	P	**Pb**	**02 22 38.4**	**+0.1**
GUR				S	**Sb**	**02 23 01.7**	**+3.3**
GUR	**Goura**	**1.63**	**70**	P	**Pb**	**02 22 37.7**	**-0.6**
SERG	**Sergoula**	**1.65**	**52**	P	**Pb**	**02 22 38.4**	**-0.2**
SERG				S	**Sb**	**02 23 01.8**	**+2.8**
ANX	**Ano Chora**	**1.69**	**45**	P	**Pb**	**02 22 38.3**	**-1.0**
KALE	**Kalithea**	**1.69**	**54**	P	**Pb**	**02 22 38.4**	**-0.9**
TETR	**Tetrakomo, Epi**	**2.05**	**19**	P	**Pn**	**02 22 43.5**	**+1.2**
LTK	**Loutraki**	**2.13**	**72**	P	**Pn**	**02 22 43.6**	**+0.4**
VLI	**Veliai**	**2.14**	**108**	P	**Pn**	**02 22 44.7**	**+1.3**
AGG	**Agios Georgios**	**2.22**	**43**	P	**Pn**	**02 22 45.0**	**+0.5**
AGG	**Agios Georgios**	**2.22**	**43**	P	**Pn**	**02 22 45.9**	**+1.1**
AXAR	**Agios Charalam**	**2.24**	**52**	P	**Pn**	**02 22 45.9**	**+1.1**
JAN	**Janina**	**2.28**	**9**	P	**Pn**	**02 22 46.0**	**+0.7**
JAN	**Janina**	**2.28**	**9**	P	**Pn**	**02 22 46.6**	**+1.3**
MET2	**Kameni Chora,**	**2.34**	**84**	P	**Pn**	**02 22 46.6**	**+0.5**
KEK	**Kerkira**	**2.35**	**349**		**Pb**	**02 22 50.3**	**-0.3**
MET6	**Megalochori,Me**	**2.36**	**85**	P	**Pn**	**02 22 47.3**	**+0.9**
LKR	**Lokris**	**2.40**	**58**	P	**Pn**	**02 22 47.3**	**-0.4**
VIL2	**Platees**	**2.41**	**70**	P	**Pn**	**02 22 48.1**	**+1.0**
ATAL	**Atalanti**	**2.44**	**57**	P	**Pn**	**02 22 48.8**	**+1.3**
THL	**Klokotos Trika**	**2.50**	**30**	P	**Pn**	**02 22 50.0**	**+1.7**
PARN2	**Moni Osiou Mel**	**2.54**	**71**	P	**Pn**	**02 22 49.9**	**+0.8**
STFN	**Stefani**	**2.61**	**72**	P	**Pn**	**02 22 50.8**	**+0.9**
PARN1	**Fyli,Attica,Gr**	**2.68**	**74**	P	**Pn**	**02 22 51.8**	**+0.9**
ATHU	**Athens Univers**	**2.74**	**77**	P	**Pn**	**02 22 52.2**	**+0.6**
ANKY	**Antikythira Is**	**2.79**	**122**	P	**Pn**	**02 22 52.8**	**+0.5**
PTL	**Penteli**	**2.82**	**76**	P	**Pn**	**02 22 53.6**	**+0.8**
DION	**Dionisos Attik**	**2.88**	**75**	P	**Pn**	**02 22 54.3**	**+0.7**
NEO	**Neokhori**	**2.92**	**45**	P	**Pn**	**02 22 55.2**	**+1.0**
KZN	**Kozani**	**3.09**	**20**	P	**Pn**	**02 22 58.0**	**+1.5**
KZN	**Kozani**	**3.09**	**20**	P	**Pn**	**02 22 58.1**	**+1.5**
LIT	**Litokhoron**	**3.15**	**31**		**Pn**	**02 22 59.0**	**+1.7**
LIT	**Litokhoron**	**3.15**	**31**	P	**Pn**	**02 22 59.0**	**+1.7**
LIT	**Litokhoron**	**3.15**	**31**	P	**Pn**	**02 22 58.4**	**+1.1**
KYMI	**Kymi, Euboea I**	**3.17**	**66**	P	**Pn**	**02 22 58.2**	**+0.7**
KBN	**Korca**	**3.23**	**5**	P	**Pn**	**02 23 01.7**	**+3.3**
KBN				S	**Sb**	**02 23 41.6**	**-2.8**
KARY	**Karystos**	**3.26**	**78**	P	**Pn**	**02 22 59.5**	**+0.7**
MHLO	**Agia Marina, M**	**3.28**	**101**	P	**Pn**	**02 22 59.7**	**+0.6**
TIP	**Timpagrande**	**3.37**	**303**		**Pn**	**02 23 01.9**	**+1.5**
TIP	**Timpagrande**	**3.37**	**303**	⇑P	**Pn**	**02 23 00.9**	**+0.5**
TIP				⇓S	**Sn**	**02 23 39.3**	**-0.4**
TIP	**Timpagrande**	**3.37**	**303**	P	**Pn**	**02 23 00.9**	**+0.5**
KNDR	**Palaiochora Ch**	**3.42**	**128**	P	**Pn**	**02 23 01.0**	**0.0**
FNA	**Florina**	**3.46**	**12**		**Pn**	**02 23 03.7**	**+2.1**
FNA	**Florina**	**3.46**	**12**	P	**Pn**	**02 23 03.7**	**+2.1**
FNA	**Florina**	**3.46**	**12**	*e*Pn	**Pn**	**02 23 03.9**	**+2.3**
FNA	**Florina**	**3.46**	**12**	P	**Pn**	**02 23 02.8**	**+1.3**
CEL	**Celeste**	**3.67**	**285**		**Pn**	**02 23 05.9**	**+1.4**
CEL	**Celeste**	**3.67**	**285**	P	**Pn**	**02 23 05.2**	**+0.8**
OHR	**Ohrid**	**3.71**	**5**	*i* Pn	**Pn**	**02 23 08.0**	**+2.9**
THE	**Thessaloniki**	**3.79**	**31**	P	**Pn**	**02 23 07.2**	**+1.1**
THE				S	**Sn**	**02 23 51.8**	**+1.8**
THE	**Thessaloniki**	**3.79**	**31**	P	**Pn**	**02 23 07.0**	**+1.0**
PLG	**Polygyros**	**3.80**	**38**	P	**Pn**	**02 23 07.0**	**+0.8**
PLG	**Polygyros**	**3.80**	**38**	P	**Pn**	**02 23 07.3**	**+1.0**
TIR	**Tirane**	**3.96**	**354**		**Pn**	**02 23 10.2**	**+1.8**
TIR	**Tirane**	**3.96**	**354**	⇑P	**Pn**	**02 23 08.8**	**+0.4**
TIR				⇑S	**Sn**	**02 23 54.8**	**+0.6**
TIR	**Tirane**	**3.96**	**354**	P	**Pn**	**02 23 10.2**	**+1.8**
TIR	**Tirane**	**3.96**	**354**	*e*Pn	**Pn**	**02 23 10.9**	**+2.5**
TIR	**Tirane**	**3.96**	**354**	P	**Pn**	**02 23 09.5**	**+1.1**
OUR	**Ouranopolis**	**4.04**	**43**	P	**Pn**	**02 23 10.0**	**+0.4**
OUR	**Ouranopolis**	**4.04**	**43**	P	**Pn**	**02 23 10.4**	**+0.9**
SOH	**Sokhos**	**4.11**	**33**	P	**Pn**	**02 23 12.9**	**+2.3**
IDI	**Anoyia**	**4.19**	**119**		**Pn**	**02 23 14.0**	**+2.3**
IDI	**Anoyia**	**4.19**	**119**	P	**Pn**	**02 23 13.2**	**+1.5**
	4.8nm,0.3s,baz=259,slow=13,SNR=18						
IDI				S	**Sn**	**02 23 57.5**	**-2.6**
	23nm,0.3s,baz=346,slow=21,SNR=11						
IDI	**Anoyia**	**4.19**	**119**	P	**Pn**	**02 23 12.7**	**+1.0**
KNT	**Kendrikon**	**4.22**	**27**	P	**Pn**	**02 23 13.6**	**+1.6**
VAY	**Valandovo**	**4.26**	**23**	*i* Pn	**Pn**	**02 23 14.1**	**+1.6**
CUC	**Castrocucco**	**4.42**	**307**		**Pn**	**02 23 15.6**	**+0.8**
SRS	**Serrai**	**4.46**	**33**	P	**Pn**	**02 23 16.6**	**+1.3**
SRS	**Serrai**	**4.46**	**33**	*e*Pn	**Pn**	**02 23 16.7**	**+1.4**
NPS	**Neapolis**	**4.72**	**115**	P	**Pn**	**02 23 23.0**	**+4.1**
RAFF	**Raffo Rosso**	**4.82**	**270**	Pn	**Pn**	**02 23 20.8**	**+0.6**
ACER	**Acerenza**	**4.84**	**316**		**Pn**	**02 23 22.4**	**+1.8**
MMB	**Musomishta**	**4.88**	**31**	*i* P	**Pn**	**02 23 22.3**	**+1.2**
KKB	**Krupnik**	**4.91**	**25**	*i* P	**Pn**	**02 23 22.7**	**+1.3**
PDG	**Podgorica**	**5.10**	**350**		**Pn**	**02 23 24.7**	**+0.7**
PDG	**Podgorica**	**5.10**	**350**	⇑P	**Pn**	**02 23 24.9**	**+0.9**
PDG				⇑S	**Sn**	**02 24 22.2**	**0.0**
BOSS	**Bosilegrad**	**5.33**	**17**	*e*Pn	**Pn**	**02 23 28.8**	**+1.5**
RZN	**Rozhen**	**5.44**	**37**	*i* P	**Pn**	**02 23 29.9**	**+1.0**
RDO	**Rodhopi**	**5.46**	**45**		**Pn**	**02 23 29.8**	**+0.8**
BARS	**Barje**	**5.51**	**11**	*e*Pn	**Pn**	**02 23 30.7**	**+0.9**
BARS				*e*Sn	**Sn**	**02 24 32.9**	**+0.4**
TREB	**Trebinje**	**5.53**	**344**	*e*Pn	**Pn**	**02 23 29.5**	**-0.5**
PLNA	**Plana**	**5.57**	**24**	*i* P	**Pn**	**02 23 32.8**	**+2.1**
ALN	**Alexandroupoli**	**5.60**	**50**	Pn	**Pn**	**02 23 32.1**	**+1.1**
ALN	**Alexandroupoli**	**5.60**	**50**	P	**Pn**	**02 23 32.1**	**+1.1**
SGRT	**San Giovanni R**	**5.64**	**322**		**Pn**	**02 23 32.6**	**+1.1**
VTS	**Vitosha**	**5.64**	**22**	*i* P	**Pn**	**02 23 33.1**	**+1.3**
VTS	**Vitosha**	**5.64**	**22**	*e*Pn	**Pn**	**02 23 33.2**	**+1.5**
KDZ	**Kurdzhali**	**5.69**	**41**	*i* P	**Pn**	**02 23 32.8**	**+0.6**
PAOL	**Paolisi**	**5.80**	**310**		**Pn**	**02 23 35.8**	**+2.1**
SELS	**Selova**	**5.83**	**5**	*e*Pn	**Pn**	**02 23 35.4**	**+1.2**
STON	**Ston**	**5.84**	**340**	*e*Pn	**Pn**	**02 23 32.8**	**-1.4**
STON	**Ston**	**5.84**	**340**	*e*Pn	**Pn**	**02 23 33.6**	**-0.6**
STON				*e*Sn	**Sn**	**02 24 39.0**	**-1.5**
SJES	**Sjenica**	**5.86**	**357**	*e*Pn	**Pn**	**02 23 36.2**	**+1.6**
SJES				*e*Sn	**Sn**	**02 24 41.8**	**+0.6**
ZAPS	**Zavoj**	**6.11**	**16**	*e*Pn	**Pn**	**02 23 39.5**	**+1.6**
GOCS	**Kraljevo Serbi**	**6.16**	**3**	*e*Sn	**Sn**	**02 24 48.4**	**-0.2**
IVAS	**Ivanjica**	**6.17**	**358**	*e*Pn	**Pn**	**02 23 39.5**	**+0.7**
RUDO	**Rudo**	**6.26**	**353**	*e*Pn	**Pn**	**02 23 41.5**	**+1.5**
BOVS	**Bovan**	**6.30**	**9**	⇓P	**Pn**	**02 23 40.8**	**+0.3**
BOVS	**Bovan**	**6.30**	**9**	*e*Pn	**Pn**	**02 23 41.0**	**+0.4**
MPEP	**Malo Peshtene**	**6.47**	**22**	*i* P	**Pn**	**02 23 44.7**	**+1.8**
GRUS	**Gruza**	**6.48**	**2**	*e*Pn	**Pn**	**02 23 43.5**	**+0.5**
ZAGS	**Zajecar**	**6.55**	**12**	*e*Pn	**Pn**	**02 23 44.8**	**+0.8**
VALD	**Valchedram**	**6.69**	**19**	*i* P	**Pn**	**02 23 47.1**	**+1.2**
DIVS	**Divibare**	**6.69**	**357**	*e*Pn	**Pn**	**02 23 46.8**	**+0.8**
PLVB	**Pleven**	**6.79**	**27**	⇑P	**Pn**	**02 23 48.4**	**+1.2**
TRUS	**Trudelj**	**6.81**	**0**	*e*Pn	**Pn**	**02 23 47.9**	**+0.3**
TRUS				*e*Sn	**Sn**	**02 25 02.1**	**-2.4**
ELND	**Elena**	**6.93**	**36**	⇑P	**Pn**	**02 23 50.4**	**+1.2**
ELND				⇑S	**Sn**	**02 25 10.1**	**+2.8**
SLUM	**Salum**	**7.11**	**145**	S	**Sn**	**02 25 04.0**	**-7.9**
TEKS	**Tekeris**	**7.17**	**355**	*e*Pn	**Pn**	**02 23 52.2**	**-0.3**
KIJV	**Kijevo**	**7.26**	**337**	*e*Pn	**Pn**	**02 23 54.2**	**+0.5**
CAMP	**Campotosto**	**7.42**	**316**	Pn	**Pn**	**02 24 00.1**	**+4.0**
MDVR	**Moldovita**	**7.44**	**7**	⇑P	**Pn**	**02 23 56.1**	**-0.1**
HERR	**Herculane**	**7.62**	**11**	⇑P	**Pn**	**02 23 59.1**	**+0.4**
A050A	**Klekovaca**	**7.65**	**339**	*e*Pn	**Pn**	**02 23 58.6**	**-0.6**
BLY	**Banja Luka**	**7.73**	**343**	*e*Pn	**Pn**	**02 24 01.2**	**+1.1**
VRSS	**Vrsac**	**7.74**	**5**	*e*Pn	**Pn**	**02 24 00.3**	**0.0**
FRGS	**Fruska Gora**	**7.76**	**357**	*e*Pn	**Pn**	**02 23 59.6**	**-1.0**
NRCA	**Norcia**	**7.78**	**316**		**Pn**	**02 24 03.2**	**+2.3**
FDMO	**Fiordimonte**	**7.93**	**317**		**Pn**	**02 24 06.3**	**+3.4**
A051A	**Mrakovica**	**8.04**	**342**	*e*Pn	**Pn**	**02 24 02.9**	**-1.6**
GZR	**Gura Zlata**	**8.18**	**12**	⇓P	**Pn**	**02 24 06.9**	**+0.5**
GZR	**Gura Zlata**	**8.18**	**12**	P	**Pn**	**02 24 06.9**	**+0.5**
BZS	**Buzias**	**8.26**	**6**	⇓P	**Pn**	**02 24 06.8**	**-0.6**
BZS	**Buzias**	**8.26**	**6**	P	**Pn**	**02 24 06.8**	**-0.6**
BZS	**Buzias**	**8.26**	**6**	*e*Pn	**Pn**	**02 24 06.6**	**-0.8**
MTUR	**Matau**	**8.56**	**23**	⇓P	**Pn**	**02 24 13.0**	**+1.3**
MTUR	**Matau**	**8.56**	**23**	P	**Pn**	**02 24 13.0**	**+1.3**
ARR	**Arges**	**8.57**	**20**	⇓P	**Pn**	**02 24 13.0**	**+1.3**
MOSL	**Moslavina**	**8.64**	**343**	*e*Pn	**Pn**	**02 24 13.0**	**+0.3**
VOIR		**8.75**	**22**	⇑P	**Pn**	**02 24 16.0**	**+1.7**
VOIR		**8.75**	**22**	P	**Pn**	**02 24 15.9**	**+1.7**
MORH	**Mrgy, Hungar**	**8.90**	**352**	*e*Pn	**Pn**	**02 24 13.6**	**-2.6**
MORH	**Mrgy, Hungar**	**8.90**	**352**	⇑P	**Pn**	**02 24 15.9**	**-0.3**
SIRR	**Siria**	**8.90**	**6**	⇑P	**Pn**	**02 24 16.5**	**+0.2**
BOJS	**Bojanci**	**8.96**	**336**	*e*Pn	**Pn**	**02 24 17.6**	**+0.5**
OZLJ	**Ozalj**	**9.00**	**337**	*e*Pn	**Pn**	**02 24 17.6**	**+0.1**
MLR	**Muntele Rosu**	**9.09**	**25**		**Pn**	**02 24 21.0**	**+2.1**
MLR	**Muntele Rosu**	**9.09**	**25**	P	**Pn**	**02 24 20.4**	**+1.6**
	0.7nm,0.3s,baz=278,slow=18,SNR=27						
MLR	**Muntele Rosu**	**9.09**	**25**	⇑P	**Pn**	**02 24 20.4**	**+1.6**
MLR	**Muntele Rosu**	**9.09**	**25**	P	**Pn**	**02 24 21.0**	**+2.1**
MLR	**Muntele Rosu**	**9.09**	**25**	*e*Pn	**Pn**	**02 24 21.6**	**+2.7**
SWA2		**9.17**	**151**	P	**Pn**	**02 24 19.0**	**-1.0**
DOPR	**Dopca**	**9.33**	**22**	⇑P	**Pn**	**02 24 23.6**	**+1.5**
MARR	**Marisel-Cluj**	**9.48**	**11**	⇑P	**Pn**	**02 24 25.1**	**+0.8**
COVR	**Voineasa-Covas**	**9.48**	**25**	⇑P	**Pn**	**02 24 25.9**	**+1.6**
DRGR		**9.54**	**10**	⇓P	**Pn**	**02 24 25.7**	**+0.6**
DRGR		**9.54**	**10**	P	**Pn**	**02 24 25.6**	**+0.6**
TURR	**Turia**	**9.60**	**24**	⇑P	**Pn**	**02 24 27.9**	**+1.9**
PLOR	**Plostina**	**9.64**	**27**	⇓P	**Pn**	**02 24 28.5**	**+2.0**
PLOR	**Plostina**	**9.64**	**27**	P	**Pn**	**02 24 28.5**	**+2.0**
VRI	**Vrincioaia**	**9.69**	**27**	⇑P	**Pn**	**02 24 28.5**	**+1.5**
VRI	**Vrincioaia**	**9.69**	**27**	P	**Pn**	**02 24 29.2**	**

MNK				*i* LR	LR	02 32 53.4		
MNK				*i* LRM	MLR	02 34 22.6		
	comp=N,37nm,17.2s							
MNK				*i* LRM	MLR	02 34 28.4		
	comp=E,71nm,14.0s							
MNK				*i* LRM	MLR	02 34 31.6		
	comp=Z,68nm,14.5s							
MNK	**Minsk**	**17.86**	**14**	*i* P	**Pn**	**02 26 12.0**	**-3.8**	
MNK				*i* S	**Sn**	**02 29 29.8**	**-4.3**	
MNK				pmax	pmax			
	comp=N,7.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MNK				pmax	pmax			
	comp=E,9.0nm,0.9s							
MNK				MLR	MLR			
	comp=N,37nm,17.0s							
MNK				MLR	MLR			
	comp=E,71nm,14.0s							
MNK				MLR	MLR			
	comp=Z,68nm,15.0s							
NACGM	**Naroch**	**18.04**	**12**	*e*P	**Pn**	**02 26 17.0**	**-1.1**	
	comp=N,6.0nm,1.2s							
KIV	**Kislovodsk**	**18.10**	**62**	*e*P	**Pn**	**02 26 18.1**	**-0.9**	
KIV				pmax	pmax			
	comp=E,6.0nm,1.1s							
PABE	**Paberze**	**18.27**	**6**		**Pn**	**02 26 20.7**	**-0.2**	
PABE				IAmb	IAmb	02 26 21.4		
	comp=Z,149nm,1.4s							
PABE	**Paberze**	**18.27**	**6**	*e*P	**Pn**	**02 26 19.7**	**-1.1**	
NCK	**Nalchik**	**18.64**	**64**⇑	*e*P	**Pn**	**02 26 26.5**	**+0.9**	
NCK				pmax	pmax			
	comp=Z,7.0nm,1.1s							
VORD	**Divnogorie**	**19.09**	**39**	*e*P	**P**	**02 26 29.2**	**-0.8**	
VORD				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GNI	**Garni**	**19.16**	**74**	P	**Pn**	**02 26 31.5**	**-0.5**	
	comp=Z,0.4nm,0.3s,baz=97,slow=5.3,SNR=3.4							
GNI				LR	LR	02 34 02.1		
	comp=Z,38nm,19.3s,baz=294,slow=37							
	comp=Z,4.2nm,0.8s							
GNI	**Garni**	**19.16**	**74**	*ce*P	**Pn**	**02 26 32.7**	**+0.7**	
GNI				pmax	pmax			
	comp=Z,16nm,1.3s							
ESDC	**Sonseca Array**	**19.18**	**284**	P	**Pn**	**02 26 34.0**	**+1.9**	
	baz=88,slow=10,SNR=6.0							
	comp=Z,1.7nm,1.1s							
VSR	**Storozhevoye**	**19.18**	**38**	*e*P	**P**	**02 26 29.0**	**-2.0**	
VSR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OBN	**Obninsk**	**20.85**	**27**	P	**P**	**02 26 45.9**	**-3.2**	
	comp=Z,11nm,0.5s,baz=272,slow=12,SNR=5.4							
OBN	**Obninsk**	**20.85**	**27**	*e*P	**P**	**02 26 48.7**	**-0.4**	
OBN				pmax	pmax			
	comp=Z,14nm,0.6s							
VSU	**Vasula**	**21.47**	**9**	*i* P	**P**	**02 26 55.1**	**-0.7**	
VSU				pmax	pmax			
	comp=Z,45nm,1.0s							
VSU	**Vasula**	**21.47**	**9**	*e*P	**P**	**02 26 54.9**	**-0.9**	
MOS	**Moscow**	**21.72**	**27**	*e*P	**P**	**02 26 55.5**	**-3.0**	
ARBE	**Arbavere**	**22.34**	**8**	*e*P	**P**	**02 27 06.0**	**+0.9**	
HFS	**Hagfors**	**23.15**	**351**	P	**P**	**02 27 14.4**	**+0.8**	
	comp=Z,5.4nm,0.7s,baz=158,slow=12,SNR=13							
	comp=Z,5.4nm,0.7s							
RAF	**Rauma**	**23.66**	**2**	*e*P	**P**	**02 27 18.8**	**+0.3**	
EKA	**Eskdalemuir Ar**	**24.01**	**326**	P	**P**	**02 27 22.9**	**+0.9**	
	comp=Z,4.4nm,0.9s,baz=114,slow=9.4,SNR=4.8							
	comp=Z,4.4nm,0.9s							
NC602	**NORSAR Array S**	**24.02**	**349**	P	**P**	**02 27 22.6**	**+0.6**	
BELG	**Belogornoye**	**24.23**	**43**	*de*P	**P**	**02 27 23.8**	**-0.2**	
BELG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**24.32**	**7**	P	**P**	**02 27 24.7**	**-0.1**	
FINES	**FINESS Array B**	**24.32**	**7**	P	**P**	**02 27 24.3**	**-0.5**	
	comp=Z,2.1nm,0.7s,baz=177,slow=10,SNR=12							
FINES				LR	LR	02 38 05.1		
	comp=Z,58nm,18.2s,baz=236,slow=39							
	comp=Z,2.1nm,0.7s							
FINES	**FINESS Array B**	**24.32**	**7**	*i* P	**P**	**02 27 25.0**	**+0.2**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FIA1	**FINESS Array S**	**24.32**	**7**	P	**P**	**02 27 25.2**	**+0.4**	
NB2	**NORSAR Subarra**	**24.36**	**349**	P	**P**	**02 27 24.9**	**-0.3**	
	comp=Z,1.9nm,1.0s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**02 27 24.7**	**-0.5**	
	comp=Z,2.2nm,0.9s,baz=160,slow=9.0,SNR=5.7							
NOA				LR	LR	02 37 24.0		
	comp=Z,23nm,21.1s,baz=185,slow=37							
	comp=Z,2.2nm,0.9s							
KLMR	**Klimovskoe**	**26.39**	**21**	*e*P	**P**	**02 27 41.5**	**-2.1**	
KLMR				pmax	pmax			
	comp=Z,21nm,1.6s							
AKTO	**Aktyubinsk**	**29.73**	**52**	LR	LR	02 44 48.2		
	comp=Z,25nm,19.0s,baz=254,slow=46							
ARTI	**Arti**	**31.60**	**41**	*c i* P		**P**	**02 28 28.7**	**-1.2**
ARTI							02 29 30.3	
ARTI				S		**S**	**02 33 38.2**	**+0.7**
ARTI				SS		**SnSn**	**02 35 23.4**	**-0.1**
ARTI				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ARCES	**ARCESS Array B**	**32.31**	**3**	P		**P**	**02 28 36.1**	**0.0**
ARCES				IAmb		IAmb	02 28 54.7	
	comp=Z,8.7nm,1.4s							
ARCES	**ARCESS Array B**	**32.31**	**3**	P		**P**	**02 28 35.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=186,slow=9.6,SNR=4.2							
ARCES				LR	LR	02 44 57.9		
	comp=Z,48nm,18.6s,baz=177,slow=42							
	comp=Z,0.9nm,0.6s							
ARCES	**ARCESS Array B**	**32.31**	**3**	P		**P**	**02 28 36.1**	**0.0**
ARCES				pmax	pmax			
	comp=Z,9.0nm,1.4s							
SVE	**Sverdlovsk**	**32.92**	**41**	*e*P		**P**	**02 28 41.1**	**-0.4**
SVE				pmax	pmax			
	comp=Z,8.0nm,1.1s							
SVE				MLR	MLR			
	comp=Z,107nm,11.0s							
BVAR	**Borovoye Array**	**37.69**	**49**	P		**P**	**02 29 22.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=261,slow=5.7,SNR=3.5							
	comp=Z,1.0nm,0.6s							
SPITS	**Spitsbergen Ar**	**40.92**	**359**	P		**P**	**02 29 48.4**	**-0.9**
	comp=Z,6.8nm,1.0s,baz=192,slow=11,SNR=1.5							
	comp=Z,6.8nm,1.0s							
AAK	**Ala-Archa**	**41.16**	**65**	LR	LR	02 50 00.0		
	comp=Z,21nm,18.7s,baz=247,slow=41							
KURBB	**Kurchatov Arra**	**42.77**	**53**	P		**P**	**02 30 03.5**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=281,slow=8.8,SNR=6.5							
KURBB				LR	LR	02 49 59.0		
	comp=Z,23nm,19.3s,baz=174,slow=39							
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**42.82**	**53**	P		**P**	**02 30 03.5**	**-1.6**
MK31	**Makanchi Array**	**45.79**	**58**	*de*P		**P**	**02 30 27.9**	**-1.1**
MKAR	**Makanchi Array**	**45.79**	**58**	P		**P**	**02 30 28.8**	**-0.2**
MKAR	**Makanchi Array**	**45.79**	**58**	P		**P**	**02 30 28.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=278,slow=7.0,SNR=13							
	comp=Z,0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**46.28**	**48**	P		**P**	**02 30 32.0**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=277,slow=8.4,SNR=7.9							
	comp=Z,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**46.28**	**48**	*i* P		**P**	**02 30 32.0**	**-0.7**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.5s							
SCHQ	**Schefferville**	**58.96**	**318**	P		**P**	**02 32 05.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=97,slow=16,SNR=1.7							
	comp=Z,0.9nm,0.4s							
SONM	**Songino Array**	**61.02**	**50**	P		**P**	**02 32 20.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=285,slow=8.1,SNR=3.8							
	comp=Z,0.5nm,0.5s							
LZH	**Lanzhou**	**64.64**	**63**	*e*P		**P**	**02 32 43.0**	**-2.3**
LZH				sP		pP	02 32 50.3	-0.4
LZH				pmax	pmax			
	comp=Z,19nm,1.3s							
YAK	**Yakutsk**	**65.83**	**29**	LR	LR	03 04 33.5		
	comp=Z,23nm,19.0s,baz=292,slow=39							
HHC	**Hu-ho-hao-te**	**67.55**	**55**	*e*P		**P**	**02 33 05.4**	**+1.5**
HHC				pmax	pmax			
	comp=Z,16nm,0.5s							
HHC				pmax	pmax			
	comp=Z,140nm,5.6s							
PZH	**PanZhiHua**	**67.92**	**73**	P		**P**	**02 33 07.5**	**+1.1**
H29M	**Whitestone**	**75.41**	**351**	P		**P**	**02 33 52.5**	**+1.8**
H29M				IAmb		IAmb	02 34 16.7	
	comp=Z,9.7nm,1.4s							
E19K	**Redstone River**	**75.44**	**359**	P		**P**	**02 33 52.6**	**+1.7**
E19K				IAmb		IAmb	02 34 01.5	
	comp=Z,11nm,1.4s							
I30M	**Mount Dempster**	**76.11**	**350**	P		**P**	**02 33 56.6**	**+1.8**
I30M				IAmb		IAmb	02 33 57.1	
	comp=Z,3.3nm,0.9s							
J30M	**Hart River**	**76.71**	**350**	P		**P**	**02 34 00.7**	**+2.5**
J30M				IAmb		IAmb	02 34 01.6	
	comp=Z,5.1nm,1.2s							
NJ2	**Nanjing**	**77.29**	**59**	*e*P		**P**	**02 34 02.5**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ILAR	**Eielson Array**	**77.67**	**354**	P		**P**	**02 34 03.2**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=6.6,slow=8.6,SNR=4.3							
	comp=Z,0.5nm,0.9s							
KSRS	**Korea Array**	**79.89**	**50**	P		**P**	**02 34 16.6**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=316,slow=5.1,SNR=4.2							
	comp=Z,1.5nm,0.8s							
TXAR	**Lajitas Array**	**95.43**	**313**	P		**P**	**02 35 31.6**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=74,slow=5.4,SNR=3.9							
	comp=Z,0.3nm,0.8s							

*AEIC **17** 02:37:27.2±2.2,54.82N±0.06×162.91W±0.04,h11km±5km, Error ellipse: s-maj=8.9km s-min=1.5km az=159.0*

NEIC 17 02:37:25.9±0.8,54.66N±0.04×162.78W±0.03,h10km±2km, ML2.5/14,ML2.1(AEIC),Error ellipse: s-maj=6.4km s-min=3.0km az=341.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**0.42**	**298**		Pg	02 37 34.0	0.0
FALS					Sg	02 37 39.6	+0.1
FALS	**False Pass**	**0.42**	**298**	IAML		02 37 40.0	
	comp=E,2μm,0.4s						
FALS				IAML		02 37 40.5	
	comp=N,2μm,0.3s						
DT1	**Dutton Round H**	**0.53**	**33**		Pg	02 37 36.2	0.0
DT1					Sg	02 37 43.5	+0.2
ISNN	**Isanotski Nort**	**0.60**	**287**		Pg	02 37 37.9	+0.4
ISNN					Sb	02 37 46.5	-0.6
SSLS	**Shishaldin Sou**	**0.71**	**275**		Pg	02 37 39.6	0.0
SSLS					Sb	02 37 49.5	-0.6
DOL	**Dolgoi Island**	**0.72**	**47**		Pg	02 37 39.8	-0.1
DOL					Sg	02 37 49.7	+0.4
SSBA	**Shishaldin**	**0.79**	**279**		Pg	02 37 40.7	-0.3
SSBA					Sb	02 37 51.9	-0.5
HAG	**Hague Volcano**	**0.83**	**37**		Pg	02 37 42.1	+0.2
PN7A	**Pavlof North-7**	**0.90**	**30**		Pg	02 37 43.1	-0.1
PS1A	**Pavlof South-1**	**0.97**	**38**		Pg	02 37 44.3	-0.2
WESE	**West Dahl East**	**1.07**	**261**		Pg	02 37 45.5	-0.8
S12K	**Black Hills**	**1.12**	**21**		Pb	02 37 47.1	-0.3
S12K				IAML		02 38 04.1	
	comp=E,130nm,0.2s						
S12K				IAML		02 38 04.1	
	comp=N,93nm,0.2s						
WEBT	**Westdahl Beart**	**1.15**	**267**		Pb	02 37 46.9	-0.9
WECS	**Westdahl Cape**	**1.17**	**264**		Pb	02 37 47.4	-0.8
SDPT	**Sand Point**	**1.50**	**62**		Pn	02 37 53.2	+0.4
SDPT	**Sand Point**	**1.50**	**62**	IAML		02 38 14.6	
	comp=E,94nm,0.3s						
AKUT	**Akutan**	**1.82**	**254**		Pn	02 37 57.7	+0.4
AKUT					Sb	02 38 21.6	-0.5
AKUT				IAML		02 38 24.8	
	comp=N,40nm,0.6s						
AKUT				IAML		02 38 24.9	
	comp=E,38nm,0.3s						
AHB	**Akutan Harbor**	**1.85**	**254**		Pn	02 37 58.4	+0.7
CNBA	**Chernabura Isl**	**1.86**	**84**	Pn	Pn	02 37 57.1	-0.6
CNBA				IAML		02 38 20.8	
	comp=E,21nm,0.1s						
AKGG	**Akutan Green G**	**1.93**	**257**		Pn	02 37 59.5	+0.7
LVA	**Lava Point**	**1.96**	**257**	Pn	Pn	02 37 59.6	+0.4
LVA				IAML		02 38 29.4	
	comp=E,24nm,1.3s						
LVA				IAML		02 38 35.0	
	comp=N,61nm,0.7s						
UNV	**Unalaska Valle**	**2.33**	**251**	Pn	Pn	02 38 04.1	-0.1

*IDC **17** 02:51:50.5±1.5,29.48N×92.37E,h0km,mb3.5/4, mbtmp3.5/6,ML3.7/2,MS3.6/1,Error ellipse: s-maj=166.3km s-min=23.4km az=59.0*

ISC 17 02:51:55.7±1.1,29.7N±0.6×93E±,h35km,n7,σ0s61/6, mb3.6/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.53**	**152**	Pn	**Pn**	**02 54 51.5**	**0.0**
	0.3nm,0.3s,baz=325,slow=12,SNR=1.4						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**18.91**	**337**	P	**Pn**	**02 56 14.0**	**-0.1**
	0.1nm,0.3s,baz=147,slow=8.2,SNR=6.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**23.48**	**337**	P	**P**	**02 57 02.4**	**+0.3**
	0.5nm,0.6s,baz=149,slow=9.5,SNR=4.2						
	0.5nm,0.6s						
LEM	**Lembang**	**39.02**	**156**	LR	LR	03 16 44.9	
	comp=Z,82nm,19.6s,baz=188,slow=38						
HFS	**Hagfors**	**59.39**	**325**	P	**P**	**03 01 54.8**	**+0.6**
	0.7nm,0.5s,baz=77,slow=9.0,SNR=5.1						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**60.48**	**326**	P	**P**	**03 02 01.0**	**-0.8**
	0.3nm,0.5s,baz=132,slow=15,SNR=1.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**66.16**	**139**	P	**P**	**03 02 39.9**	**0.0**
	0.5nm,0.9s,baz=318,slow=6.5,SNR=3.0						
	0.5nm,0.9s						

WEL 17 02:53:14.2±0.4,45.5S±3.×16.8E±,h5km,M3.5/15, ML3.7/15,MLv3.5/15,Error ellipse: s-maj=6.4km s-min=2.4km az=127.9,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.26**	**228**	P	Pg	02 53 20.0	+0.8
MSZ				S	Sg	02 53 23.6	+1.0
JCZ	**Jackson Bay**	**0.60**	**45**	P	Pg	02 53 26.0	+0.2
JCZ				S	Sg	02 53 33.8	+0.1
NSBS	**Neils Beach**	**0.61**	**34**	P	Pg	02 53 26.3	+0.5
NSBS				S	Sg	02 53 34.4	+0.7
QTPS	**Queenstown Pol**	**0.63**	**148**	P	Pg	02 53 26.1	-0.2
WKZ	**Wanaka**	**0.67**	**119**	P	Pg	02 53 27.3	+0.2
MECS	**Makarora Emerg**	**0.79**	**70**	P	Pg	02 53 29.9	+0.5
MECS				S	Sg	02 53 39.7	0.0
MLZ	**Mavora Lakes**	**0.87**	**184**	P	Pg	02 53 30.5	-0.4
MLZ				S	Sg	02 53 42.6	+0.5
HDWS	**Haast DOC Work**	**0.87**	**45**	P	Pg	02 53 31.0	+0.1
HDWS				S	Sg	02 53 42.3	+0.2
EAZ	**Earnscleugh**	**1.08**	**133**	P	Pg	02 53 34.2	-0.7
MOSS	**Mossburn Schoo**	**1.17**	**178**	P	Pg	02 53 36.1	-0.5
DCZ	**Deep Cove**	**1.21**	**217**	P	Pg	02 53 36.1	-1.4
DCZ				S	Sg	02 53 52.2	-1.1
TWAS	**Twizel Area Sc**	**1.39**	**80**	P	Pg	02 53 41.2	+0.4
WHZ	**Wether Hill Ro**	**1.40**	**187**	P	Pn	02 53 39.3	-1.2
LBZ	**Lake Benmore**	**1.43**	**86**	P	Pg	02 53 41.6	-0.1
FOZ	**Fox Glacier**	**1.52**	**51**	P	Pn	02 53 41.6	-0.4
RRKS	**Rarakau**	**1.72**	**197**	P	Pn	02 53 45.3	+0.4
TUZ	**Tuapeka**	**1.77**	**146**	P	Pn	02 53 45.9	+0.4
ODZ	**Otahua Downs**	**1.83**	**108**	P	Pn	02 53 46.1	-0.2
GCSZ	**Gaunt Creek Bo**	**1.94**	**53**	P	Pb	02 53 49.3	-0.9
PYZ	**Puysegur Point**	**1.98**	**212**	P	Pb	02 53 49.9	-0.8
TMZ	**Timaru**	**2.02**	**88**	P	Pn	02 53 48.8	-0.1
SYZ	**Scrubby Hill**	**2.14**	**162**	P	Pn	02 53 50.6	0.0
HHSZ	**Highcliff Hill**	**2.19**	**130**	P	Pn	02 53 51.6	+0.3
RPZ	**Rata Peaks**	**2.21**	**70**	P	Pn	02 53 51.5	0.0
ARCZ	**Arundel**	**2.21**	**77**	P	Pn	02 53 51.4	-0.3
WVZ	**Waitaha Valley**	**2.33**	**53**	P	Pn	02 53 53.8	+0.6
APZ	**The Paps**	**2.33**	**183**	P	Pn	02 53 53.2	-0.2
MHCZ	**Mount Hutt**	**2.62**	**69**	P	Pn	02 53 57.2	0.0
WACZ	**Wakanui South**	**2.68**	**79**	P	Pn	02 53 57.2	-0.8
LTZ	**Lake Taylor**	**3.42**	**61**	P	Pn	02 54 08.4	+0.2
DSZ	**Denniston Nort**	**3.82**	**45**	P	Pn	02 54 14.2	+0.4
THZ	**Tophouse**	**4.40**	**53**	P	Pn	02 54 24.2	+2.5
MRNZ	**Matariki Terra**	**4.56**	**49**	P	Pn	02 54 25.4	+1.5
QRZ	**Quartz Range**	**4.87**	**43**	P	Pn	02 54 28.8	+0.7
MSWZ	**Moikau Station**	**6.03**	**62**	P	Pn	02 54 44.7	+0.7

NEIC 17 03:19:00.4±0.5,38.08N±0.02×97.94W±0.02,h5km±2km, mb_Lg2.1/17,Error ellipse: s-maj=3.4km s-min=2.9km az=6.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R32A	**Long Quarter,**	**0.70**	**300**	Pg	Pg	03 19 13.5	-0.4
R32A				Sg	Sg	03 19 22.8	-0.2
KAN08	**Anthony NE Sta**	**0.85**	**182**	Pg	Pg	03 19 15.8	-0.9
KAN08				IAmb_Lg		03 19 28.3	
	comp=Z,20nm,0.8s						
KAN14	**Manchester OK**	**1.12**	**181**	Pg	Pg	03 19 20.7	-1.2
KAN14					Sg	03 19 35.0	-1.4
GC02	**Grant County #**	**1.22**	**177**	Pg	Pg	03 19 22.3	-1.6
GC02					Sg	03 19 38.5	-1.2
BLOK	**Blackwell**	**1.43**	**156**		Pn	03 19 26.3	-0.8
CROK	**Carrier**	**1.57**	**181**		Pn	03 19 27.9	-1.0
CBKS	**Cedar Bluff**	**1.59**	**298**		Pn	03 19 29.0	-0.4
T35A	**Sooner Cattle**	**1.62**	**135**		Pn	03 19 29.3	-0.4
OK038	**West end E0370**	**1.72**	**202**	Pn	Pn	03 19 29.9	-1.2
OK052	**Battle Ridge R**	**2.27**	**156**	Pn	Pn	03 19 37.8	-0.7
U38A	**Gravette**	**3.27**	**119**	IAmb_Lg		03 20 50.7	
	comp=Z,7.2nm,1.0s						
HHAR	**Hobbs**	**3.66**	**118**	IAmb_Lg		03 20 55.0	
	comp=Z,3.7nm,0.9s						
S39A	**Bolivar**	**3.67**	**95**	IAmb_Lg		03 21 16.0	
	comp=Z,3.6nm,1.0s						
P38A	**Dawn**	**3.77**	**64**	Pn	Pn	03 19 59.7	+0.5
P38A				IAmb_Lg		03 21 06.8	
	comp=Z,4.0nm,0.8s						
RTBA	**Rita Blanca**	**4.17**	**248**	Pn	Pn	03 20 03.6	-1.2
MIAR	**Mount Ida**	**4.98**	**134**	IAmb_Lg		03 21 41.6	
	comp=Z,4.0nm,0.7s						
T25A	**Trinidad**	**5.23**	**262**	IAmb_Lg		03 21 51.6	
	comp=Z,7.5nm,1.2s						
X40A	**Basin Creek Fa**	**5.46**	**129**	IAmb_Lg		03 21 58.6	
	comp=Z,3.8nm,0.7s						

IDC 17 03:39:37.3±3.0,4.10S×136.19E,h0km,mb3.5/1, mbtmp3.5/4,ML3.4/3,MS3.5/1,Error ellipse: s-maj=100.6km s-min=31.8km az=85.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.85**	**186**	Pn	Pn	03 43 21.8	-0.3
	0.1nm,0.3s,baz=5.5,slow=12,SNR=7.5						
WRA				Sn	Sn	03 46 06.7	-12
	0.1nm,0.3s,baz=8.0,slow=22,SNR=1.8						
	0.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.33**	**216**	P	Pn	03 43 41.1	+0.3
	0.1nm,0.3s,baz=35,slow=12,SNR=1.6						
FITZ				S	Sn	03 46 40.9	-14
	2.7nm,1.1s,baz=175,slow=17,SNR=1.6						
	2.2nm,0.9s						
ASAR	**Alice Springs**	**19.58**	**186**	P	P	03 44 07.1	0.0
	0.2nm,0.3s,baz=8.4,slow=11,SNR=22						
	2.4nm,0.8s						
JOW	**Kunigami**	**31.69**	**346**	LR	LR	03 57 28.8	
	comp=Z,84nm,19.6s,baz=304,slow=34						
MKAR	**Makanchi Array**	**69.38**	**324**	P	P	03 50 47.1	0.0
	0.2nm,0.5s,baz=130,slow=4.5,SNR=2.4						
	0.2nm,0.5s						

*DJA **17** 04:00:21.8±0.4,2.N±2.×12.5E±,h221km±4km,M3.8/14, mB4.7/1,mb3.6/4,MLv3.9/14,Mw(mB)4.0/1*

*IDC **17** 04:00:22.2±2.1,1.59N×124.59E,h238km±20km,mb3.6/8, mbtmp4.2/11,Error ellipse: s-maj=29.8km s-min=8.5km az=67.0*

*NEIC **17** 04:00:22.8±2.0,1.6N±0.1×124.67E±0.08,h232km±9km, mb4.2/12,Error ellipse: s-maj=17.3km s-min=11.1km az=197.0*

ISC 17 04:00:22.3±0.6,1.56N±0.05×124.74E±0.05,h235km,n52, σ1s85/61,mb3.9/13,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.24**	**218**	P	**Pn**	**04 00 56.0**	**-1.3**
KMSI				S	**S**	**04 01 23.1**	**-1.6**
SGSI	**Sangihe**	**2.25**	**20**	P	**Pn**	**04 01 02.0**	**-4.1**
SGSI				S	**S**	**04 01 37.5**	**-2.9**
TNTI	**Ternate**	**2.74**	**107**		**Pn**	**04 01 10.7**	**-0.3**
TNTI	**Ternate**	**2.74**	**107**	P	**Pn**	**04 01 11.1**	**0.0**
TNTI	**Ternate**	**2.74**	**107**	P	**Pn**	**04 01 10.3**	**-0.8**
TNTI				S	**S**	**04 01 47.8**	**-1.5**
MRSI	**Marisa**	**3.00**	**249**	P	**Pn**	**04 01 14.1**	**+0.2**
LUWI	**Luwuk**	**3.25**	**217**	Pn	**Pn**	**04 01 15.8**	**-0.9**
LUWI	**Luwuk**	**3.25**	**217**	P	**Pn**	**04 01 15.8**	**-0.9**
LUWI	**Luwuk**	**3.25**	**217**	P	**Pn**	**04 01 15.2**	**-1.5**
LUWI				S	**S**	**04 01 55.1**	**-4.5**
SANI	**Sanana**	**3.79**	**161**	P	**Pn**	**04 01 20.6**	**-2.5**
SANI	**Sanana**	**3.79**	**161**	S	**S**	**04 02 06.7**	**-4.4**
SANI	**Sanana**	**3.79**	**161**	P	**Pn**	**04 01 20.3**	**-2.8**
SANI				S	**S**	**04 02 04.7**	**-6.4**
APSI	**Ampana**	**3.95**	**232**	P	**Pn**	**04 01 23.6**	**-1.3**
TOLI2	**Tolitoli**	**3.98**	**264**		**Pn**	**04 01 24.6**	**-0.8**
TOLI2	**Tolitoli**	**3.98**	**264**	P	**Pn**	**04 01 24.9**	**-0.4**
TOLI2	**Tolitoli**	**3.98**	**264**	S	**S**	**04 02 13.3**	**-1.8**
NLAI	**Namlea**	**5.32**	**154**	P	**Pn**	**04 01 40.8**	**-0.8**
	29nm,0.9s						
KDI	**Kendari**	**5.88**	**201**	P	**Pn**	**04 01 49.0**	**+0.3**
	0.3nm,0.6s						
KAPI	**Kappang**	**8.21**	**217**		**Pn**	**04 02 19.3**	**+0.9**
KAPI	**Kappang**	**8.21**	**217**	P	**Pn**	**04 02 19.2**	**+0.8**
	0.3nm,0.6s,baz=41,slow=9.3,SNR=4.7						
PLAI	**Plampang**	**12.44**	**214**	P	**Pn**

VNDA	**Vanda**	**81.54**	**172**	P	**P**	**04 12 13.0**	**-0.3**
VNDA				IAmb	IAmb	04 12 20.0	
	comp=Z,2.5nm,1.4s						

*IDC **17** 04:29:07.1±1.2,16˚.46N×145˚.23E, h0km, mb3.9/13, mbtmp3.9/13, MS3.2/20, Error ellipse: s-maj=45.9km s-min=17.7km az=79.0*
*NEIC **17** 04:29:09.4±1.5, 16˚.5N±0˚.1×145˚.3E±0˚.4, h10km±1km, mb4.4/5, Error ellipse: s-maj=61.5km s-min=7.5km az=67.0.*
ISC 17 04:29:12.5±1.1,16˚.4N±0˚.1×145˚.2E±0˚.3, h35km, n42, σ0s78/21, mb4.3/15, MS3.2/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.84**	**186**	LR	LR	04 30 19.1	
	comp=Z,79nm,18.8s,baz=346,slow=25						
JOW	**Kunigami**	**18.79**	**306**	LR	LR	04 39 06.2	
	comp=Z,74nm,21.6s,baz=10.0,slow=32						
JAY	**Jayapura**	**19.33**	**194**	LR	LR	04 40 24.7	
	comp=Z,49nm,18.5s,baz=0.0,slow=35						
H11S3	**WAKE ISLAND Hy**	**20.63**	**81**	T	T	04 55 25.4	
	baz=268,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**20.64**	**81**	T	T	04 55 31.1	
	baz=268,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**20.65**	**81**	T	T	04 55 29.9	
	baz=268,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**20.91**	**78**	T	T	04 55 48.8	
	baz=264,slow=75,SNR=74						
H11N2	**WAKE ISLAND Hy**	**20.91**	**78**	T	T	04 55 49.0	
	baz=264,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**20.92**	**78**	T	T	04 55 50.2	
	baz=264,slow=75,SNR=55						
MJAR	**Matsushiro Arr**	**20.96**	**344**	P	**P**	**04 33 52.2**	**-0.3**
	0.8nm,0.6s,baz=175,slow=6.6,SNR=2.2						
MJAR				LR	LR	04 41 02.0	
	comp=Z,56nm,19.9s,baz=192,slow=34						
	0.8nm,0.6s						
JNU	**Nakatsue**	**21.05**	**325**	LR	LR	04 39 15.6	
	comp=Z,37nm,20.1s,baz=208,slow=29						
DAV	**Davao City (W)**	**21.30**	**246**	LR	LR	04 40 07.5	
	comp=Z,77nm,21.5s,baz=152,slow=31						
KSRS	**Korea Array**	**25.89**	**327**	P	**P**	**04 34 41.1**	**0.0**
	1.1nm,0.7s,baz=159,slow=7.4,SNR=2.9						
	1.1nm,0.7s						
ASAJ	**Asahikawa**	**27.69**	**356**	LR	LR	04 44 26.7	
	comp=Z,28nm,21.0s,baz=180,slow=33						
KAPI	**Kappang**	**32.95**	**232**	LR	LR	04 46 58.4	
	comp=Z,29nm,21.9s,baz=64,slow=32						
BATI	**Baumata**	**33.96**	**220**	LR	LR	04 48 54.5	
	comp=Z,115nm,18.6s,baz=166,slow=35						
WB0	**Warramunga Arr**	**37.50**	**197**	P	**P**	**04 36 22.1**	**-1.1**
WB0				IAmb	IAmb	04 36 50.9	
	comp=Z,6.3nm,1.3s						
WR8	**Warramunga Arr**	**37.65**	**197**	P	**P**	**04 36 24.1**	**-0.3**
WR8				IAmb	IAmb	04 36 34.2	
	comp=Z,6.4nm,1.2s						
WRA	**Warramunga Arr**	**37.68**	**197**	P	**P**	**04 36 25.1**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=19,slow=9.7,SNR=5.6						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**41.34**	**196**	P	**P**	**04 36 54.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=18,slow=8.5,SNR=2.2						
ASAR				LR	LR	04 53 56.4	
	comp=Z,35nm,19.3s,baz=88,slow=36						
	comp=Z,0.2nm,0.5s						
SHEM	**Shemya Is, Ala**	**42.78**	**26**	LR	LR	04 55 03.9	
	comp=Z,21nm,18.8s,baz=238,slow=36						
CMAR	**Chiang Mai Arr**	**44.06**	**280**	P	**P**	**04 37 16.8**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=75,slow=5.9,SNR=6.1						
CMAR				LR	LR	04 56 31.7	
	comp=Z,14nm,18.0s,baz=120,slow=37						
	comp=Z,1.8nm,0.3s						
SONM	**Songino Array**	**44.62**	**323**	P	**P**	**04 37 22.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=131,slow=6.8,SNR=4.0						
SONM				LR	LR	04 54 41.2	
	comp=Z,31nm,19.9s,baz=141,slow=34						
	comp=Z,0.3nm,0.4s						
PSI	**Prapat**	**47.42**	**258**	LR	LR	05 00 08.9	
	comp=Z,40nm,18.5s,baz=84,slow=39						
STKA	**Stephens Creek**	**48.15**	**184**	P	**P**	**04 37 50.1**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=0.0,slow=4.0,SNR=1.9						
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**59.51**	**323**	P	**P**	**04 39 12.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.6,SNR=1.8						
ZALV				LR	LR	05 05 07.5	
	comp=Z,18nm,18.2s,baz=120,slow=36						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.68**	**315**	P	**P**	**04 39 14.3**	**+0.8**
MKAR	**Makanchi Array**	**59.68**	**315**	P	**P**	**04 39 12.5**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=93,slow=6.9,SNR=5.0						
	comp=Z,0.3nm,0.6s						
KDAK	**Kodiak Island**	**61.53**	**33**	LR	LR	05 03 27.1	
	comp=Z,22nm,20.5s,baz=217,slow=34						
KURK	**Kurchatov**	**62.63**	**319**	P	**P**	**04 39 34.9**	**+1.6**
KURK				IAmb	IAmb	04 39 45.4	
	comp=Z,6.4nm,1.2s						
KURBB	**Kurchatov Arra**	**62.67**	**319**	P	**P**	**04 39 34.2**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=98,slow=7.1,SNR=12						
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**65.90**	**26**	LR	LR	05 10 35.6	
	comp=Z,18nm,18.2s,baz=204,slow=38						
BVAR	**Borovoye Array**	**67.90**	**321**	P	**P**	**04 40 08.4**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=92,slow=7.4,SNR=11						
	comp=Z,2.6nm,0.6s						
AB31	**Akbulak array**	**74.65**	**317**	P	**P**	**04 40 48.7**	**+0.4**
ABKAR	**Akbulak array**	**74.65**	**317**	P	**P**	**04 40 48.5**	**+0.1**
BBB	**Bella Bella**	**75.21**	**39**	LR	LR	05 06 54.4	
	comp=Z,35nm,19.9s,baz=226,slow=30						
NEW	**Newport**	**82.93**	**42**	LR	LR	05 10 19.2	
	comp=Z,31nm,20.0s,baz=291,slow=30						
ARCES	**ARCESS Array B**	**84.49**	**342**	P	**P**	**04 41 42.2**	**+0.8**
ARCES	**ARCESS Array B**	**84.49**	**342**	P	**P**	**04 41 40.3**	**-1.1**
	comp=Z,4.4nm,1.1s,baz=67,slow=3.0,SNR=3.8						
	comp=Z,4.4nm,1.1s						
FINES	**FINESS Array B**	**88.72**	**335**	P	**P**	**04 42 01.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=129,slow=2.7,SNR=5.1						
	comp=Z,1.2nm,0.8s						
LPIG	**La Paz**	**96.07**	**63**	LR	LR	05 16 58.8	
	comp=Z,29nm,19.8s,baz=206,slow=30						
LPAZ	**La Paz**	**148.07**	**95**	PKPbc	**PKPbc**	**04 48 55.5**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=284,slow=4.2,SNR=1.8						

*DJA **17** 04:40:57.9±1.5, 8˚.S±6˚×12˚.4E±˚, h187km±17km, M4.0/8, MLv4.0/8*
*IDC **17** 04:41:00.0±2.6, 8˚.11S×124˚.01E, h166km±25km, mb3.4/2, mbtmp3.9/5, Error ellipse: s-maj=57.3km s-min=22.1km az=62.0*
*NEIC **17** 04:41:00.5±0.9, 8˚.1S±0˚.1×123˚.93E±0˚.10, h166km±8km, mb4.2/5, Error ellipse: s-maj=14.8km s-min=13.6km az=204.0*
ISC 17 04:40:59.1±0.8, 8˚.11S±0˚.06×123˚.90E±0˚.08, h150km, n26, σ2s22/28, mb4.1/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.67**	**167**		**Pn**	**04 41 32.9**	**+2.2**
SOEI	**Soe**	**1.67**	**167**	P	**Pn**	**04 41 33.4**	**+2.7**
MMRI	**Maumere**	**1.72**	**252**		**Pn**	**04 41 33.8**	**+2.7**
MMRI	**Maumere**	**1.72**	**252**	P	**Pn**	**04 41 33.8**	**+2.7**
BATI	**Baumata**	**2.09**	**186**	P	**Pn**	**04 41 37.6**	**+2.2**
	291nm,0.3s,baz=16,slow=4.1,SNR=33						
BATI				S	**Sn**	**04 42 06.6**	**+3.2**
	145nm,0.3s,baz=162,slow=22,SNR=11						
BATI	**Baumata**	**2.09**	**186**	P	**Pn**	**04 41 37.3**	**+1.9**
EDFI	**Ende, Flores**	**2.27**	**254**	P	**Pn**	**04 41 40.4**	**+2.8**
BBSI	**Bau Bau**	**2.92**	**333**	P	**Pn**	**04 41 46.9**	**+1.3**
WSI	**Waingapu**	**3.88**	**246**	P	**Pn**	**04 41 58.2**	**+0.4**
BASI	**Baing, Sumba**	**3.89**	**237**	P	**Pn**	**04 41 58.0**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.91**	**300**	P	**Pn**	**04 41 57.5**	**-0.7**
WBSI	**Waikabubak, Su**	**4.70**	**251**	P	**Pn**	**04 42 08.2**	**-0.5**
MTN	**Manton Dam**	**8.53**	**124**		**Pn**	**04 42 59.5**	**-0.2**
KNRA	**Kununurra**	**8.90**	**148**		**Pn**	**04 43 03.0**	**-1.5**
FAKI	**Fak Fak**	**9.78**	**59**	Pn	**Pn**	**04 43 18.4**	**+2.0**
FITZ	**Fitzroy Crossi**	**10.07**	**170**	Pn	Pn	04 43 15.8	-4.4
WB0	**Warramunga Arr**	**15.42**	**140**	P	**Pn**	**04 44 28.6**	**-0.3**
WB0				IAmb	IAmb	04 45 02.7	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**15.51**	**140**	P	**Pn**	**04 44 29.4**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=320,slow=13,SNR=14						
WRA				S	Sn	04 47 08.2	-14
	comp=Z,1.1nm,0.5s,baz=317,slow=25,SNR=5.4						
WR8	**Warramunga Arr**	**15.62**	**140**	P	**Pn**	**04 44 31.4**	**0.0**
ASAR	**Alice Springs**	**18.20**	**149**	P	**P**	**04 45 01.5**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=331,slow=12,SNR=16						
ASAR				S	**S**	**04 48 15.5**	**-5.8**
	comp=Z,0.7nm,0.8s,baz=311,slow=20,SNR=4.3						
ASAR				ScP	**ScP**	**04 52 43.9**	**-4.8**
	comp=Z,0.3nm,0.7s,baz=332,slow=2.2,SNR=4.2						
COEN	**Coen**	**19.79**	**109**	P	**P**	**04 45 18.0**	**0.0**
COEN				IAmb	IAmb	04 45 39.1	
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**66.00**	**330**	P	**P**	**04 51 28.8**	**-0.6**
MKAR	**Makanchi Array**	**66.00**	**330**	P	**P**	**04 51 29.6**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=129,slow=7.5,SNR=15						
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**67.61**	**323**	P	**P**	**04 51 39.2**	**-0.8**
KURBB	**Kurchatov Arra**	**70.43**	**331**	P	**P**	**04 51 55.5**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=148,slow=5.2,SNR=4.7						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**81.87**	**180**	P	**P**	**04 53 01.4**	**-0.2**
QSPA				IAmb	IAmb	04 53 04.8	
	comp=Z,5.2nm,1.4s						

*TEH **17** 04:43:12.5, 34˚.74N×45˚.68E, h8km±237km*
*ISN **17** 04:43:13.1±0.3, 34˚.75N×45˚.66E, h12km±16km, ML3.5*
ISC 17 04:43:13.2±1.0, 34˚.76N±0˚.04×45˚.71E±0˚.04, h10km, n12, σ0s98/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.27**	**201**	Pg	**Pg**	**04 43 18.0**	**-0.7**
IDHR	**Dehrash**	**0.56**	**96**	Pg	**Pg**	**04 43 23.6**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.67**	**165**	Pg	**Pg**	**04 43 25.3**	**-0.8**
IGHG	**Ghaleghazi**	**0.83**	**121**	Pg	**Pg**	**04 43 29.1**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.20**	**113**	Pg	**Pg**	**04 43 36.4**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.21**	**160**	Pg	**Pb**	**04 43 35.1**	**-1.1**
IKRK	**Kirkuk**	**1.29**	**300**	*e*Pg	**Pg**	**04 43 37.5**	**-0.4**
IKRK				*e*Sg	**Sg**	**04 43 55.0**	**+0.3**
IKRK				AML	AML	04 44 01.6	
	comp=N,885nm,0.5s						
IKRK				AML	AML	04 44 03.3	
	comp=E,1μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.58**	**86**	Pg	**Pg**	**04 43 42.6**	**-0.9**
IBZA	**Bozab**	**1.80**	**99**	Pn	**Pg**	**04 43 46.9**	**-0.8**
BHD	**Baghdad**	**1.85**	**217**	*e*Pn	**Pb**	**04 43 45.9**	**-1.2**
BHD				*e*Sn	**Sb**	**04 44 10.0**	**-0.3**
BHD				AML	AML	04 44 14.6	
	comp=E,564nm,0.3s						
MAHB	**Mahabad**	**2.00**	**360**	Pn	**Pb**	**04 43 49.1**	**-0.6**
RAFI	**Al-Rafai**	**3.05**	**173**	*e*Pn	**Pn**	**04 44 03.0**	**+1.6**
RAFI				*e*Sn	**Sn**	**04 44 39.5**	**+1.5**

*CNRM **17** 04:46:33.9, 36˚.26N×3˚.92W, h0km, ML1.9*
*MDD **17** 04:46:36.0±0.8, 36˚.30N×3˚.73W, h2km±3km, mb_Lg2.2/17, Error ellipse: s-maj=5.0km s-min=2.8km az=167.0*
*SFS **17** 04:46:36.6, 36˚.37N×3˚.72W, h1km, ML2.5/7, ML2.2/10, MLv2.0/10*
*INMG **17** 04:46:37.9±1.4, 36˚.38N×3˚.80W, h3km±3km, ML1.8, Error ellipse: s-maj=5.2km s-min=2.8km az=126.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
ISC 17 04:46:34.3±1.2, 36˚.31N±0˚.02×3˚.73W±0˚.03, h6km±10km, n52, σ1s16/82, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELGU	**Los Guajares,**	**0.56**	**8**	Pg	**Pb**	**04 46 46.7**	**+0.1**
ELGU				Sg	**Sb**	**04 46 54.2**	**-0.7**
ELGU	**Los Guajares,**	**0.56**	**8**	Pg	**Pb**	**04 46 47.0**	**+0.3**
ELGU				Sg	**Sb**	**04 46 54.2**	**-0.7**
EALB	**Alboran**	**0.67**	**123**	Pg	**Pb**	**04 46 49.7**	**+1.2**
EALB				Sg	**Sb**	**04 46 59.4**	**+1.4**
EMAL	**Malaga-Limoner**	**0.72**	**309**	Pg	**Pb**	**04 46 49.4**	**+0.1**
EMAL				Sg	**Sg**	**04 46 58.2**	**+0.6**
EGOR	**Sierra Gorda,**	**0.85**	**339**	Pg	**Pb**	**04 46 51.4**	**-0.3**
EGOR				Sg	**Sg**	**04 47 00.8**	**-1.1**
EGOR	**Sierra Gorda,**	**0.85**	**339**	Pg	**Pb**	**04 46 51.6**	**0.0**
EGOR				Sg	**Sb**	**04 47 03.7**	**+0.3**
EGOR				*i* lVmb_Lg		04 47 09.4	
EQUE	**Quentar**	**0.92**	**14**	Pg	**Pb**	**04 46 53.3**	**+0.6**
EQUE				Sg	**Sb**	**04 47 05.4**	**+0.1**
EQUE				*i* lVmb_Lg		04 47 07.7	
EQTA	**Presa de Quent**	**0.92**	**14**	Sg	**Sb**	**04 47 05.1**	**-0.2**
PALE	**Palemas**	**1.11**	**189**	P	**Pg**	**04 46 55.3**	**-0.2**
PALE	**Palemas**	**1.11**	**189**	S	**Sg**	**04 47 14.7**	**+0.2**
GOG	**Mont Gurugu**	**1.24**	**151**	P	**Pn**	**04 46 58.0**	**-0.2**
GOG	**Mont Gurugu**	**1.24**	**151**	S	**Sg**	**04 47 14.6**	**+0.4**
ENIJ	**Nijar**	**1.39**	**61**	Pn	**Pn**	**04 47 00.5**	**+0.2**
ENIJ				Sg	**Sb**	**04 47 17.7**	**-1.0**
ENIJ	**Nijar**	**1.39**	**61**	Pn	**Pb**	**04 47 00.7**	**0.0**
ENIJ				Sn	**Sb**	**04 47 18.1**	**-0.6**
ENIJ				*i* lVmb_Lg		04 47 22.3	
EJIF	**Jimena Fronter**	**1.41**	**276**	Pn	**Pn**	**04 47 00.6**	**0.0**
EJIF				Sn	**Sb**	**04 47 20.1**	**+0.7**
SMIR	**Smir Dam**	**1.48**	**245**	P	**Pn**	**04 47 00.0**	**-1.4**
SMIR	**Smir Dam**	**1.48**	**245**	S	**Sn**	**04 47 17.4**	**-3.7**
E0803	**Jimena (Jaen)**	**1.53**	**8**	Pn	**Pb**	**04 47 02.8**	**-0.4**
E0803				Sn	**Sg**	**04 47 23.6**	**0.0**
EQES	**Quesada**	**1.58**	**19**	Pn	**Pg**	**04 47 04.4**	**-0.2**
EQES				Sn	**Sg**	**04 47 24.6**	**-0.5**
EQES				*i* lVmb_Lg		04 47 29.8	
E0802	**Ubeda,Jaen**	**1.73**	**9**	Sn	**Sb**	**04 47 28.7**	**0.0**
AKLM	**AKL**	**1.80**	**184**	P	**Pn**	**04 47 04.1**	**-1.2**
AKLM	**AKL**	**1.80**	**184**	S	**Sn**	**04 47 28.3**	**-0.9**
ESPR	**Espera**	**1.80**	**289**	Sn	**Sn**	**04 47 29.9**	**+0.9**
EADA	**Adamuz**	**1.97**	**340**	Pn	**Pb**	**04 47 10.2**	**-0.4**
EADA				Sg	**Sg**	**04 47 38.0**	**+0.3**
EADA	**Adamuz**	**1.97**	**340**	Pn	**Pn**	**04 47 09.6**	**+1.3**
EADA				Sn	**Sb**	**04 47 34.3**	**-1.2**
EADA				*i* lVmb_Lg		04 47 41.3	
ECAB	**El Cabril**	**2.22**	**323**	Pn	**Pn**	**04 47 13.0**	**+1.3**
ECAB				Sg	**Sg**	**04 47 45.0**	**-0.6**
ECAB	**El Cabril**	**2.22**	**323**	Pn	**Pn**	**04 47 12.8**	**+1.1**
ECAB				Sn	**Sn**	**04 47 40.6**	**+1.1**
ECAB				*i* lVmb_Lg		04 47 54.5	
EMIN	**Mina Concepcio**	**2.77**	**303**	Pn	**Pn**	**04 47 20.5**	**+1.3**
EMIN				Sn	**Sn**	**04 47 53.0**	**+0.1**
EMIN	**Mina Concepcio**	**2.77**	**303**	Pn	**Pn**	**04 47 20.6**	**+1.3**
EMIN				Sn	**Sn**	**04 47 53.4**	**+0.4**
EMIN				*i* lVmb_Lg		04 48 24.0	
PBAR	**Barrancos**	**3.23**	**306**	Pn	**Pn**	**04 47 26.9**	**+1.3**
PBAR				Sn	**Sn**	**04 48 03.2**	**-1.2**
PBAR	**Barrancos**	**3.23**	**306**	*e*Pn	**Pn**	**04 47 27.3**	**+1.7**
PBAR				*e*Sn	**Sn**	**04 48 04.0**	**-0.3**
PBAR				*i* IAML		04 48 05.4	
PBAR				*i* IAML		04 48 23.5	
PBAR				*i* IAML		04 48 23.5	
EGRO	**El Granado**	**3.25**	**293**	Pn	**Pn**	**04 47 26.9**	**+1.1**
EGRO				Sn	**Sn**	**04 48 04.0**	**-0.7**
EGRO				*i* lVmb_Lg		04 49 06.8	
PAB	**San Pablo**	**3.27**	**352**	Pn	**Pn**	**04 47 26.6**	**+0.5**
PAB				Sn	**Sn**	**04 48 04.7**	**-0.6**
PAB				*i* lVmb_Lg		04 48 41.2	
PVAQ	**Vaqueiros**	**3.38**	**290**	*e*Pn	**Pn**	**04 47 28.9**	**+1.3**
PVAQ				*e*Sn	**Sn**	**04 48 06.8**	**-1.2**
PVAQ				*i* IAML		04 48 08.4	
PVAQ				*i* IAML		04 48 11.4	
PVAQ				*i* IAML		04 48 13.1	
PBDV	**Barranco-do-Ve**	**3.50**	**287**	*e*Pn	**Pn**	**04 47 31.1**	**+1.8**
PBDV				*e*Sn	**Sn**	**04 48 11.5**	**+0.4**
MD31	**MD31**	**3.54**	**194**	P	**Pn**	**04 47 30.9**	**+1.0**
MD31	**MD31**	**3.54**	**194**	S	**Sn**	**04 48 13.0**	**+0.8**
MDT	**Midelt**	**3.56**	**192**	P	**Pn**	**04 47 30.8**	**+0.5**
MDT	**Midelt**	**3.56**	**192**	S	**Sn**	**04 48 11.8**	**-1.0**
EBAD	**Badajoz**	**3.57**	**314**	Pn	**Pn**	**04 47 31.6**	**+1.4**
EBAD				*i* lVmb_Lg		04 47 40.1	
EBAD				Sn	**Sn**	**04 48 11.6**	**-1.2**
PCVE	**Castro Verde**	**3.69**	**292**	*e*Pn	**Pn**	**04 47 34.4**	**+2.5**
PCVE				*e*Sn	**Sn**	**04 48 15.2**	**-0.6**
ZHG	**ZHG**	**3.73**	**221**	P	**Pn**	**04 47 33.5**	**+1.0**
MESJ	**Messejana**	**3.90**	**294**	*e*Sn	**Sn**	**04 48 20.7**	**-0.3**
PESTR	**Estremoz**	**3.99**	**311**	*e*Pn	**Pn**	**04 47 37.9**	**+1.9**
PESTR				*e*Sn	**Sn**	**04 48 21.7**	**-1.4**
PESTR				*i* IAML		04 48 43.1	
PESTR				*i* IAML		04 48 45.5	
PESTR				*i* IAML		04 48 53.9	
EVO	**Evora**	**4.07**	**304**	*e*Pn	**Pn**	**04 47 38.9**	**+1.8**
EVO				*e*Sn	**Sn**	**04 48 24.4**	**-0.6**
EVO				*i* IAML		04 48 25.4	
EVO				*i* IAML		04 48 25.6	
EVO				*i* IAML		04 48 25.6	
EPLA	**Plasencia**	**4.18**	**334**	Sg	**Sg**	**04 48 46.2**	**-2.3**
PMRV	**Marv??o**	**4.25**	**318**	*e*Pn	**Pn**	**04 47 41.6**	**+2.0**
PMRV				*e*Sn	**Sn**	**04 48 29.7**	**+0.1**
PMRV				*i* IAML		04 48 42.8	
PMRV				*i* IAML		04 48 43.3	
PMRV				*i* IAML		04 48 59.1	
PMTG	**Montargil**	**4.50**	**309**	*e*Pn	**Pn**	**04 47 44.9**	**+1.9**
PMTG				*e*Sn	**Sn**	**04 48 34.7**	**-1.1**
PMTG				*i* IAML		04 48 37.4	
PMTG				*i* IAML		04 48 48.1	
PMTG				*i* IAML		04 49 04.9	
PCBR	**Castelo Branco**	**4.60**	**321**	*e*Pn	**Pn**	**04 47 46.5**	**+2.1**
PSARD	**Sardoal**	**4.80**	**314**	*e*Pn	**Pn**	**04 47 48.9**	**+1.7**
PSARD				*e*Sn	**Sn**	**04 48 41.6**	**-1.5**
PSARD				*i* IAML		04 48 43.5	
PSARD				*i* IAML		04 48 47.0	
PSARD				*i* IAML		04 48 56.0	
PARRA	**Arraiolos**	**4.90**	**302**	*e*Pn	Pn	04 47 41.3	-7.3
PARRA				*e*Sn	Sn	04 48 27.9	-18
PARRA				*i* IAML		04 48 30.4	
PARRA				*i* IAML		04 48 30.5	
MVO	**Moncorvo**	**5.49**	**333**	*e*Pn	**Pn**	**04 47 58.5**	**+1.9**

RSNC 17 04:57:06.1±0.0, 9˚N±3˚×7˚W±˚, h33km±6km, M2.1, mB4.6, mb4.0, ML2.1, Mw(mB)3.8, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPC	**Capurgana**	**0.21**	**144**	P	Pn	04 57 11.7	-0.9
CAPC				S	Sb	04 57 17.2	-0.2
APAC	**Apartado, Choc**	**1.27**	**135**	P	Pn	04 57 27.1	-0.4
APAC				S	Sn	04 57 44.1	+0.6
UREC	**San Jos de Ur**	**2.19**	**118**	P	Pn	04 57 42.2	+1.9
UREC				S	Sn	04 58 04.4	-2.0
BCIP	**Isla Barro Col**	**2.36**	**279**	P	Pn	04 57 41.2	-1.3
BCIP				S	Sn	04 58 11.2	+0.9
SJCC	**San Jacinto, C**	**2.51**	**64**	P	Pn	04 57 45.4	+0.7
SJCC				S	Sn	04 58 13.4	-0.9
ZARC	**Zaragoza, Cauc**	**2.91**	**117**	P	Pn	04 57 49.2	-0.9
ZARC				S	Sn	04 58 21.0	-2.9
HELC	**Santa Helena**	**3.24**	**143**	P	Pn	04 57 57.2	+2.2
HELC				S	Sn	04 58 32.3	-0.4
PTBC	**PUERTO BERRIO,**	**3.75**	**127**	P	Pn	04 58 00.0	-1.7
PTBC				S	Sn	04 58 42.3	-2.5
CRJC	**Cerrejon, Guaj**	**5.03**	**64**	P	Pn	04 58 18.4	-1.0
CRJC				S	Sn	04 59 11.7	-4.9

*AFAD **17** 05:04:56.8, 38˚.72N×38˚.11E, h7km±2km, ML3.1*
*ISK **17** 05:04:57.7, 38˚.80N×38˚.12E, h5km, ML3.1/17*
ISC 17 05:04:57.5±1.1, 38.74N±0˚.02×38˚.14E±0˚.03, h5km±11km, n22, σ1s48/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEKM	**Malatya_Hekimh**	**0.20**	**314**	P	**Pg**	**05 05 01.5**	**0.0**
HEKM				S	**Sg**	**05 05 04.5**	**+0.4**
HEKM				*i* IAML		05 05 05.0	
	comp=N,2μm,0.4s						
HEKM				*i* IAML		05 05 07.0	
	comp=E,2μm,0.4s						
MAYA	**Malatya/Merkez**	**0.47**	**152**	P	**Pg**	**05 05 06.2**	**-0.5**
MAYA				S	**Sg**	**05 05 13.3**	**+0.5**
MAYA				*i* IAML		05 05 15.0	
	comp=N,1μm,0.5s						
MAYA				*i* IAML		05 05 15.0	
	comp=E,2μm,0.4s						
AKCD	**Akcadag**	**0.48**	**201**	P	**Pg**	**05 05 06.1**	**-0.6**
AKCD				S	**Sg**	**05 05 13.8**	**+0.9**
AKCD				*i* IAML		05 05 15.0	
	comp=E,5μm,0.2s						
AKCD				*i* IAML		05 05 16.0	
	comp=N,3μm,0.3s						
ELZG	**Elazig**	**0.70**	**110**	P	**Pg**	**05 05 10.5**	**-0.6**
ELZG				S	**Sg**	**05 05 21.2**	**+1.0**
ELZG				*i* IAML		05 05 25.0	
	comp=E,2μm,0.3s						
ELZG				*i* IAML		05 05 26.0	
	comp=N,1μm,0.9s						
ILIC	**ilic-Erzincan**	**0.78**	**25**	Pg	**Pb**	**05 05 13.2**	**-0.6**
ILIC				Sg	**Sb**	**05 05 24.4**	**-0.3**
TNCL	**Tunceli-Merkez**	**1.16**	**71**	P	**Pg**	**05 05 18.6**	**-1.1**
TNCL				S	**Sn**	**05 05 36.0**	**-0.7**
TN

FAQ	**Al Faqa, Dubai** SNR=26	**2.00**	**197**	P		**Pg**	**05 11 08.7**	**-1.3**
FAQ				S		**Sg**	**05 11 33.5**	**-2.5**
FAQ	**Al Faqa, Dubai** SNR=26	**2.00**	**197**	*e*P		**Pb**	**05 11 06.1**	**-1.7**
ASUD	**Al Ashush, Dub** SNR=21	**2.20**	**202**	P		**Pb**	**05 11 10.3**	**-0.8**
ASUD				S		**Sg**	**05 11 41.4**	**-0.8**
ASUD	**Al Ashush, Dub** SNR=22	**2.20**	**202**	*e*P		**Pb**	**05 11 10.1**	**-0.9**
AJN	**Ajban**	**2.38**	**209**	P		**Pb**	**05 11 13.4**	**-0.8**
AJN				S		**Sb**	**05 11 43.2**	**-0.4**
SOHO	**SOHO**	**2.54**	**174**	P		**Pn**	**05 11 12.4**	**+0.1**
SOHO	**SOHO** SNR=7.4	**2.54**	**174**	*e*P		**Pn**	**05 11 11.9**	**-0.4**
ALNE	**Al Ain** SNR=24	**2.64**	**190**	P		**Pn**	**05 11 15.5**	**+1.8**
ALNE				S		**Sb**	**05 11 52.0**	**+1.0**
ALNE	**Al Ain** SNR=15	**2.64**	**190**	*e*P		**Pn**	**05 11 14.0**	**+0.3**
KBAM	**BAM**	**3.14**	**38**	Pn		**Pn**	**05 11 22.2**	**+1.6**
HOQ	**Hoqain**	**3.22**	**162**	Pn		**Pn**	**05 11 21.6**	**-0.2**
HOQ	**Hoqain** SNR=21	**3.22**	**162**	P		**Pn**	**05 11 22.1**	**+0.3**
HOQ				S		**Sn**	**05 12 00.7**	**+0.7**
ARQ	**Araqi** SNR=67	**3.33**	**176**	P		**Pn**	**05 11 25.4**	**+2.2**
KRBR	**Kerman**	**3.33**	**8**	Pn		**Pn**	**05 11 25.4**	**+1.9**
CHMN	**Cheshme madani**	**3.38**	**20**	Pn		**Pn**	**05 11 26.4**	**+2.2**
BIDO	**Bidbid** SNR=5.7	**3.57**	**151**	P		**Pn**	**05 11 27.3**	**+0.8**
BIDO				S		**Sn**	**05 12 09.0**	**+0.4**
MZWR	**Madinat Zayed**	**3.60**	**217**	P		**Pn**	**05 11 29.0**	**+2.1**
KHGB	**Koh Gabri**	**3.70**	**3**	Pn		**Pn**	**05 11 30.5**	**+2.0**
KRM1	**Kerman Provinc**	**3.92**	**13**	Pn		**Pn**	**05 11 33.4**	**+1.8**
SMDO	**Samad** SNR=16	**3.95**	**155**	P		**Pn**	**05 11 34.0**	**+2.1**
SMDO				S		**Sn**	**05 12 19.0**	**+0.8**
CHBR	**Chabahar**	**3.96**	**105**	Pn		**Pn**	**05 11 32.6**	**+0.8**
BSY	**Bisya** SNR=29	**4.00**	**167**	P		**Pn**	**05 11 35.5**	**+3.0**
BSY				S		**Sn**	**05 12 23.9**	**+4.6**
WSAR	**Wadi Sarin** 0.2nm,0.3s,baz=161,slow=24,SNR=70	**4.05**	**147**	Pn		**Pn**	**05 11 33.6**	**+0.5**
WSAR	0.2nm,0.3s,baz=4.1,slow=24,SNR=7.7			Sn		**Sn**	**05 12 17.9**	**-2.4**
WSAR	**Wadi Sarin**	**4.05**	**147**	P		**Pn**	**05 11 34.3**	**+1.2**
WSAR				S		**Sn**	**05 12 21.5**	**+1.2**
GHWR	**Ruwais**	**4.07**	**229**	P		**Pn**	**05 11 35.3**	**+1.9**
ZRDN	**Zarand Kerman**	**4.29**	**3**	Pn		**Pn**	**05 11 38.7**	**+2.1**
NGCH	**Negor - Chabah**	**4.59**	**105**	Pn		**Pn**	**05 11 41.6**	**+1.0**
NGCH	**Negor - Chabah** SNR=21	**4.59**	**105**	P		**Pn**	**05 11 41.9**	**+1.3**
NGCH				S		**Sn**	**05 12 31.8**	**-1.9**
JMDO	**Jabal Madar** SNR=17	**4.61**	**158**	P		**Pn**	**05 11 43.0**	**+2.2**
JMDO				S		**Sn**	**05 12 35.6**	**+1.5**
DSBU	**Dashti - Bushe**	**4.73**	**292**	Pn		**Pn**	**05 11 43.7**	**+1.2**
WBK	**Wadi Bani Khal** SNR=45	**4.74**	**148**	P		**Pn**	**05 11 43.6**	**+0.9**
WBK				S		**Sn**	**05 12 37.0**	**-0.6**
IMEH	**Mehriz**	**4.91**	**344**	Pn		**Pn**	**05 11 46.4**	**+1.2**
TRNA	**Turayna** SNR=5.5	**4.93**	**248**	P		**Pn**	**05 11 47.2**	**+2.0**
IBAF	**Bafgh**	**4.94**	**353**	Pn		**Pn**	**05 11 47.4**	**+1.9**
ZHSF	**Zahedan**	**4.96**	**53**	Pn		**Pn**	**05 11 46.9**	**+1.1**
JLN	**Jalan Bani Buh** SNR=39	**5.35**	**147**	P		**Pn**	**05 11 51.2**	**+0.2**
MHTO	**MHTO** SNR=42	**5.88**	**164**	P		**Pn**	**05 12 00.3**	**+2.1**
KLNJ	**Kolanjah**	**5.94**	**318**	Pn		**Pn**	**05 12 00.1**	**+0.7**
IRAM	**Ramesheh**	**6.13**	**328**	Pn		**Pn**	**05 12 03.2**	**+1.3**
IKOO	**Kooshah**	**6.22**	**22**	Pn		**Pn**	**05 12 04.7**	**+1.6**
DQM	**DQM**	**6.82**	**170**	P		**Pn**	**05 12 13.7**	**+2.6**
JHBN	**Jahan bin**	**7.37**	**320**	Pn		**Pn**	**05 12 20.9**	**+1.9**
IKLH	**Kolahrood**	**7.76**	**330**	Pn		**Pn**	**05 12 25.4**	**+1.0**
DOK	**Doka**	**8.25**	**194**	P		**Pn**	**05 12 31.7**	**+0.9**
DMTO	**DMTO**	**8.99**	**188**	P		**Pn**	**05 12 43.0**	**+2.0**
WHFO	**Wadi Hawf** SNR=14	**9.00**	**195**	P		**Pn**	**05 12 42.2**	**+1.0**
GNI	**Garni** comp=Z,76nm,19.2s,baz=134,slow=41	**16.50**	**327**	LR		LR	05 21 39.3	
MMAI	**Mount Meron Ar** 0.5nm,0.3s,baz=113,slow=11,SNR=1.8 0.4nm,0.3s	**19.14**	**294**	P		**P**	**05 14 52.5**	**-1.9**
KBZ	**Khabaz** 2.0nm,0.9s,baz=25,slow=9.5,SNR=2.3 2.0nm,0.9s	**20.17**	**331**	P		**P**	**05 15 05.9**	**+0.4**
BRTR	**Keskin Array B** 0.5nm,0.6s,baz=125,slow=12,SNR=6.0 0.5nm,0.6s	**22.88**	**310**	P		**P**	**05 15 34.4**	**-0.5**
AKTO	**Aktyubinsk** comp=Z,30nm,19.7s,baz=170,slow=40	**23.77**	**3**	LR		LR	05 26 19.7	
BVAR	**Borovoye Array** 0.5nm,0.5s,baz=206,slow=9.6,SNR=1.5 0.5nm,0.5s	**28.37**	**18**	P		**P**	**05 16 27.2**	**+2.1**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=228,slow=7.6,SNR=4.7	**28.75**	**39**	P		**P**	**05 16 29.2**	**+0.6**
MKAR	comp=Z,22nm,21.0s,baz=274,slow=36 0.4nm,0.6s			LR		LR	05 27 52.4	
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=143,slow=8.1,SNR=1.8 0.3nm,0.4s	**31.63**	**327**	P		**P**	**05 16 52.0**	**-2.0**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=224,slow=8.1,SNR=2.3 0.4nm,0.3s	**34.45**	**30**	P		**P**	**05 17 19.8**	**+1.2**
CMAR	**Chiang Mai Arr** comp=Z,21nm,18.1s,baz=220,slow=40	**40.12**	**93**	LR		LR	05 37 32.7	
FINES	**FINESS Array B** 1.4nm,0.6s,baz=132,slow=8.9,SNR=10.0 1.4nm,0.6s	**40.25**	**338**	P		**P**	**05 18 06.8**	**-0.8**
WTTA	**Wattenberg** 1.6nm,0.4s	**40.47**	**313**	*i* P		P	05 18 03.5	-6.4
WATA	**Walderalm** 2.1nm,0.5s	**40.52**	**313**	*i* P		**P**	**05 18 08.4**	**-1.9**
SQTA	**Sankt Quirin** 0.4nm,0.3s	**40.74**	**312**	*i* P		**P**	**05 18 09.3**	**-2.7**
MOTA	**Moosalm** 0.4nm,0.2s	**40.84**	**313**	*e*P		**P**	**05 18 11.1**	**-1.8**
FETA	**Feichten** 0.7nm,0.3s	**41.01**	**312**	*i* pP		**P**	**05 18 15.5**	**+1.2**
DAVOX	**Davos/Dischmat** comp=Z,28nm,18.4s,baz=324,slow=38	**41.52**	**311**	LR		LR	05 36 51.5	
DAVA	**Damuels** 3.0nm,0.4s	**41.63**	**312**	*i* pP		**P**	**05 18 20.4**	**+1.0**
HFS	**Hagfors** 1.8nm,0.7s,baz=120,slow=11,SNR=1.7 1.8nm,0.7s	**44.24**	**331**	P		**P**	**05 18 38.9**	**-1.3**
SONM	**Songino Array** 0.3nm,0.3s,baz=270,slow=7.2,SNR=2.1 0.3nm,0.3s	**44.26**	**48**	P		**P**	**05 18 42.6**	**+1.9**
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=127,slow=4.5,SNR=1.9	**45.75**	**331**	P		**P**	**05 18 53.1**	**+0.8**
NOA	comp=Z,9.7nm,21.4s,baz=340,slow=40 0.4nm,0.7s			LR		LR	05 41 22.5	
ARCES	**ARCESS Array B** 2.0nm,0.9s,baz=145,slow=8.0,SNR=4.3 2.0nm,0.9s	**46.49**	**346**	P		**P**	**05 18 57.6**	**-0.3**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=312,slow=5.1,SNR=4.6 0.4nm,0.7s	**88.73**	**113**	P		**P**	**05 23 24.9**	**-0.2**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=301,slow=5.1,SNR=4.2 0.4nm,0.7s	**90.17**	**116**	P		**P**	**05 23 30.9**	**-0.9**

*IDC **17** 05:10:59.0±1.1,57.°78S×25.°52W,h0km,mb3.7/5, mbtmp3.7/6,ML3.7/1,Error ellipse: s-maj=49.6km s-min=21.4km az=72.0*

ISC 17 05:11:05.3±1.0,57.°9S±0.°2×25.°4W±0.°3,h49km,n17, σ1°53/11,mb3.6/4,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat** comp=Z,0.8nm,0.2s	**14.70**	**157**	⇑P	**Pn**	**05 14 27.9**	**-1.9**
VNA3	**Neumayer Olymp** comp=Z,0.8nm,0.2s	**14.91**	**160**	⇑P	**Pn**	**05 14 30.7**	**-1.9**
VNA2	**Neumayer--Watz** comp=Z,0.9nm,0.2s,baz=324,slow=14	**15.10**	**157**	⇑P	**Pn**	**05 14 32.7**	**-2.3**
SNAA	**Sanae** comp=Z,10.0nm,0.2s	**16.64**	**155**	⇑P	**Pn**	**05 14 54.3**	**-0.5**
SNAA	**Sanae** comp=Z,0.3nm,0.3s,baz=318,slow=14,SNR=17 comp=Z,0.8nm,0.4s	**16.64**	**155**	Pn	**Pn**	**05 14 53.9**	**-0.8**
QSPA	**South Pole Qui** comp=Z,1.2nm,0.6s,baz=269,slow=1.4,SNR=10 comp=Z,1.2nm,0.6s	**32.34**	**180**	P	**P**	**05 17 31.1**	**+1.6**
CPUP	**Villa Florida** comp=Z,2.0nm,0.3s,baz=57,slow=5.9,SNR=6.0 comp=Z,0.2nm,0.3s	**38.77**	**311**	P	**P**	**05 18 23.9**	**-0.9**
VNDA	**Vanda** comp=Z,0.6nm,0.6s,baz=190,slow=6.2,SNR=8.5 comp=Z,0.6nm,0.6s	**44.75**	**182**	P	**P**	**05 19 14.3**	**+1.3**
H04S2	**CROZET ISLANDS** baz=225	**45.93**	**111**	T	T	06 09 55.8	
H04S3	**CROZET ISLANDS** baz=225	**45.94**	**111**	T	T	06 10 00.4	
H04S1	**CROZET ISLANDS** baz=225	**45.95**	**111**	T	T	06 10 02.8	
H10N1	**ASCENSION HYDR** baz=188	**50.66**	**14**	T	T	06 14 47.5	
H10N3	**ASCENSION HYDR** baz=188	**50.66**	**14**	T	T	06 14 52.6	
H10N2	**ASCENSION HYDR** baz=188	**50.67**	**14**	T	T	06 14 51.9	
LPAZ	**La Paz** comp=Z,0.6nm,0.7s,baz=180,slow=6.1,SNR=2.1 comp=Z,0.6nm,0.7s	**52.24**	**304**	P	**P**	**05 20 11.6**	**-0.5**
TORD	**Tordi Ar. Bea** comp=Z,0.7nm,0.8s,baz=190,slow=4.5,SNR=2.5 comp=Z,0.7nm,0.8s	**74.23**	**27**	P	**P**	**05 22 37.5**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.5nm,0.4s,baz=92,slow=1.1,SNR=14	**152.06**	**309**	PKPbc	**PKPbc**	**05 30 53.5**	**+0.1**

*DJA **17** 05:18:26.8±0.6,7.°3S±3.°1×10.°6E±.°,h15km±5km,M4.3/18, mb4.3/1,MLv4.3/18*

*NEIC **17** 05:18:28.4±0.9,7.°3S±0.°1×106.°03E±0.°07,h67km±9km, mb4.3/12,Error ellipse: s-maj=19.0km s-min=8.3km az=200.0*

*IDC **17** 05:18:32.0±3.2,6.°96S×106.°24E,h92km±26km,mb3.7/14, mbtmp4.0/14,MS3.2/1,Error ellipse: s-maj=43.0km s-min=13.9km az=56.0*

ISC 17 05:18:27.4±0.9,7.°28S±0.°07×106.°08E±0.°05,h59km±8km, n69,σ1°48/63,mb4.1/19,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.55**	**60**	P	**Pn**	**05 18 39.6**	**-0.2**
SKJI				S	**Sn**	**05 18 47.1**	**-1.8**
CGJI	**Cibinong**	**0.76**	**330**	P	**Pn**	**05 18 42.8**	**+0.4**
CGJI				S	**Sn**	**05 18 54.1**	**+0.7**
DBJI	**Dramaga**	**0.98**	**43**	P	**Pn**	**05 18 45.6**	**+0.4**
DBJI				S	**Sn**	**05 19 00.3**	**+1.9**
CNJI	**Cibinong**	**1.04**	**92**	P	**Pn**	**05 18 45.7**	**-0.3**
CNJI				S	**Sn**	**05 18 58.0**	**-1.8**
SBJI	**Serang**	**1.15**	**3**	P	**Pn**	**05 18 48.3**	**+0.8**
SBJI				S	**Sn**	**05 19 04.3**	**+1.9**
TNG	**Tangerang**	**1.24**	**27**	P	**Pn**	**05 18 49.7**	**+1.1**
LEM	**Lembang** 496nm,0.6s,baz=233,slow=4.7,SNR=62	**1.59**	**74**	P	**Pn**	**05 18 54.5**	**+1.0**
LEM	910nm,0.5s,baz=316,slow=21,SNR=7.4			S	**Sn**	**05 19 15.5**	**+2.3**
LEM	comp=Z,191nm,20.2s,baz=336,slow=44			LR	LR	05 19 33.2	
LEM	**Lembang**	**1.59**	**74**	P	**Pn**	**05 18 55.2**	**+1.7**
BLSI	**Bandar Lampung**	**2.07**	**336**	P	**Pn**	**05 19 01.2**	**+1.3**
KASI	**Kota Agung**	**2.35**	**318**	P	**Pn**	**05 19 05.3**	**+1.6**
KLI	**Kotabumi**	**2.69**	**333**	P	**Pn**	**05 19 09.9**	**+1.6**
KPJI	**Karang Pucung**	**2.83**	**91**	P	**Pn**	**05 19 13.8**	**+3.6**
LWLI	**Liwa**	**3.01**	**318**	P	**Pn**	**05 19 15.6**	**+2.7**
MDSI	**Maura Dua**	**3.36**	**326**	P	**Pn**	**05 19 20.2**	**+2.7**
MNAI	**Manna**	**4.25**	**313**	Pn	**Pn**	**05 19 29.7**	**0.0**
MNAI	**Manna**	**4.25**	**313**	P	**Pn**	**05 19 31.7**	**+2.0**
LHSI	**Lahat**	**4.27**	**323**	P	**Pn**	**05 19 33.8**	**+3.8**
SMRI	**Semarang**	**4.33**	**87**	Pn	**Pn**	**05 19 32.5**	**+1.6**
SMRI	**Semarang**	**4.33**	**87**	P	**Pn**	**05 19 31.7**	**+0.8**
UGM	**Wanagama**	**4.45**	**98**	Pn	**Pn**	**05 19 33.3**	**+0.8**
UGM	**Wanagama**	**4.45**	**98**	P	Pn	05 19 37.5	+5.0
WOJI	**Wonogiri, Jawa**	**4.83**	**97**	P	**Pn**	**05 19 39.0**	**+1.3**
PCJI	**Pacitan**	**5.13**	**101**	P	**Pn**	**05 19 43.1**	**+1.3**
JAGI	**Jajag, Banyuwa**	**8.09**	**99**	Pn	**Pn**	**05 20 22.3**	**0.0**
COCO	**West Island**	**10.33**	**241**	Pn	**Pn**	**05 20 53.0**	**0.0**
PSI	**Prapat** comp=Z,115nm,18.5s,baz=102,slow=42	**12.30**	**324**	LR	LR	05 27 04.3	
MYLDM	**Lahad Datu**	**17.52**	**45**	P	**P**	**05 22 30.0**	**+1.8**
MYLDM	comp=Z,12nm,1.0s			IAmb	IAmb	05 22 41.9	
FITZ	**Fitzroy Cossi**	**21.88**	**121**	P	**P**	**05 23 16.0**	**+0.4**
KNRA	**Kununurra**	**23.73**	**113**	P	**P**	**05 23 34.5**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=151,slow=5.8,SNR=1.3 comp=Z,0.4nm,0.3s	**26.52**	**345**	P	**P**	**05 23 59.7**	**0.0**
H01W3	**Cape Leeuwin H** baz=341,slow=78,SNR=78	**28.46**	**166**	T	T	05 53 59.0	
H01W1	**Cape Leeuwin H** baz=341,slow=78,SNR=62	**28.47**	**166**	T	T	05 53 59.6	
H01W2	**Cape Leeuwin H** baz=341,slow=78,SNR=82	**28.47**	**166**	T	T	05 53 59.6	
WB0	**Warramunga Arr** comp=Z,5.0nm,1.1s	**30.14**	**117**	P	**P**	**05 24 32.6**	**+0.6**
WB0				IAmb	IAmb	05 24 33.9	
WRA	**Warramunga Arr**	**30.15**	**118**	P	**P**	**05 24 31.9**	**-0.2**
WRA	**Warramunga Arr** comp=Z,1.6nm,0.9s,baz=296,slow=8.7,SNR=13	**30.15**	**118**	P	**P**	**05 24 33.2**	**+1.1**
WRA	comp=Z,0.2nm,0.4s,baz=300,slow=2.6,SNR=1.5 comp=Z,1.6nm,0.9s			PcP	**PcP**	**05 27 33.4**	**+0.9**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=299,slow=8.5,SNR=5.7	**31.28**	**124**	P	**P**	**05 24 43.4**	**+1.3**
ASAR	comp=Z,0.2nm,0.3s,baz=292,slow=2.3,SNR=2.9 comp=Z,0.4nm,0.6s			PcP	**PcP**	**05 27 36.5**	**+1.1**
H08S2	**Diego Garcia H** baz=92,slow=75,SNR=43	**33.30**	**267**	T	T	06 00 20.3	
H08S3	**Diego Garcia H** baz=92,slow=75,SNR=248	**33.31**	**267**	T	T	06 00 29.4	
H08S1	**Diego Garcia H** baz=92,slow=75,SNR=32	**33.32**	**267**	T	T	06 00 23.4	
EVN	**Everest** comp=Z,4.9nm,1.1s	**39.67**	**333**	P	**P**	**05 25 53.9**	**-0.8**
EVN				IAmb	IAmb	05 25 56.5	
STKA	**Stephens Creek** comp=Z,1.2nm,0.5s,baz=318,slow=12,SNR=2.3 comp=Z,1.2nm,0.5s	**41.14**	**131**	P	**P**	**05 26 06.1**	**0.0**
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=177,slow=9.1,SNR=3.5 comp=Z,0.4nm,0.4s	**54.87**	**0**	P	**P**	**05 27 50.5**	**-1.5**
KDJ	**Kajisay**	**55.81**	**334**	P	**P**	**05 27 57.7**	**-1.2**
GAR	**Garm**	**56.74**	**327**	P	**P**	**05 28 03.8**	**-1.7**
GAR	comp=Z,4.4nm,0.7s			IAmb	IAmb	05 28 04.5	
MKAR	**Makanchi Array**	**57.84**	**341**	P	**P**	**05 28 11.1**	**-1.9**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.4s,baz=151,slow=8.3,SNR=12 comp=Z,0.6nm,0.4s	**57.84**	**341**	P	**P**	**05 28 11.3**	**-1.7**
KKAR	**Karatay Array**	**59.65**	**330**	P	**P**	**05 28 24.9**	**-0.7**
SANVU	**Saraoutou**	**60.31**	**104**	P	**P**	**05 28 29.9**	**-0.8**
H04N2	**CROZET ISLANDS** baz=68,slow=75,SNR=22	**60.46**	**220**	T	T	06 34 20.2	
H04N1	**CROZET ISLANDS** baz=68,slow=75,SNR=17	**60.47**	**220**	T	T	06 34 20.0	
H04N3	**CROZET ISLANDS** baz=68,slow=75,SNR=18	**60.48**	**220**	T	T	06 34 17.7	
H04S1	**CROZET ISLANDS** baz=73	**60.65**	**220**	T	T	06 34 34.6	
H04S3	**CROZET ISLANDS** baz=73	**60.66**	**220**	T	T	06 34 32.6	
H04S2	**CROZET ISLANDS** baz=73	**60.66**	**220**	T	T	06 34 36.1	
JKA	**Kamikawa-asahi**	**60.86**	**29**	P	**P**	**05 28 33.4**	**-0.4**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.5s,baz=151,slow=6.3,SNR=5.6 comp=Z,0.4nm,0.5s	**62.40**	**341**	P	**P**	**05 28 42.9**	**-1.2**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.3s,baz=139,slow=5.1,SNR=4.4 comp=Z,0.7nm,0.3s	**63.58**	**346**	P	**P**	**05 28 50.0**	**-1.8**
BVAR	**Borovoye Array** comp=Z,3.0nm,0.6s,baz=136,slow=9.0,SNR=12 comp=Z,3.0nm,0.6s	**67.27**	**338**	P	**P**	**05 29 15.3**	**-0.4**
AB31	**Akbulak array**	**69.19**	**330**	P	**P**	**05 29 27.0**	**-0.7**
AB31	comp=Z,8.3nm,0.6s			IAmb	IAmb	05 29 28.2	
ABKAR	**Akbulak array**	**69.19**	**330**	P	**P**	**05 29 26.7**	**-1.1**
BRTR	**Keskin Array B** comp=Z,1.6nm,0.6s,baz=139,slow=7.8,SNR=8.8 comp=Z,1.6nm,0.6s	**81.33**	**312**	P	**P**	**05 30 38.5**	**+0.4**
QSPA	**South Pole Qui** comp=Z,0.5nm,0.7s,baz=0.0,slow=2.0,SNR=3.4 comp=Z,0.5nm,0.7s	**82.71**	**180**	P	**P**	**05 30 47.8**	**+3.1**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=96,slow=5.2,SNR=4.4 comp=Z,0.2nm,0.3s	**87.34**	**322**	P	**P**	**05 31 07.6**	**-0.4**
BURAR	**Bucovina Array** comp=Z,0.7nm,0.8s	**89.20**	**318**	P	**P**	**05 31 16.6**	**-0.4**
BURAR				IAmb	IAmb	05 31 19.5	
FINES	**FINESS Array B** comp=Z,0.9nm,0.7s,baz=59,slow=4.9,SNR=4.1 comp=Z,0.9nm,0.7s	**91.58**	**332**	P	**P**	**05 31 28.1**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.7s,baz=95,slow=5.4,SNR=8.2 comp=Z,1.3nm,0.7s	**93.48**	**340**	P	**P**	**05 31 36.1**	**-0.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.5s,baz=267,slow=0.9,SNR=15	**144.43**	**48**	PKP	**PKPdf**	**05 37 57.5**	**-0.5**
BDFB	**Brasilia** comp=Z,1.1nm,0.3s,baz=90,slow=3.0,SNR=3.5	**145.69**	**228**	PKPbc	**PKiKP**	**05 38 03.3**	**-1.3**

NEIC 17 05:23:48.3±0.5,38.°058N±0.°010×97.°97W±0.°03,h5km±2km, mb_Lg2.1/7,Error ellipse: s-maj=3.6km s-min=3.2km az=72.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.69**	**302**	Pg	Pg	05 24 01.0	-0.5
R32A				Sg	Sg	05 24 10.6	+0.2
KAN08	**Anthony NE Sta**	**0.83**	**180**	Pg	Pg	05 24 03.8	-0.3
KAN14	**Manchester OK**	**1.10**	**180**	Pg	Pg	05 24 08.7	-0.7
GC02	**Grant County #**	**1.21**	**176**		Pg	05 24 10.2	-1.3
BLOK	**Blackwell**	**1.43**	**155**		Pn	05 24 14.0	-0.9
BLOK					Sb	05 24 32.8	-1.1
NOKA	**Waynoka**	**1.61**	**209**		Pn	05 24 17.1	-0.4
T35A	**Sooner Cattle**	**1.63**	**134**		Pn	05 24 17.3	-0.3
T35A					Sn	05 24 38.8	-0.1
OK038	**West end E0370**	**1.69**	**202**	Pn	Pn	05 24 17.8	-0.7
U38A	**Gravette** comp=Z,4.8nm,0.7s	**3.29**	**118**	IAmb_Lg		05 25 40.2	
KSCO	**Kaye Shedlock'** comp=Z,7.3nm,0.7s	**3.77**	**286**	IAmb_Lg		05 25 52.2	
WHAR	**Wooly Hollow** comp=Z,5.8nm,0.7s	**5.34**	**119**	IAmb_Lg		05 26 43.7	
ISCO	**Idaho Springs** comp=Z,1.5nm,1.0s	**6.21**	**289**	IAmb_Lg		05 27 17.4	

*NOU **17** 05:25:05.3,16.°50S×172.°65W,h116km,mb4.9/17,Samoa Islands Region*

*NEIC **17** 05:26:35.2±1.9,20.°9S±0.°1×178.°6W±0.°1,h600km±8km, mb4.6/77,Error ellipse: s-maj=17.2km s-min=15.7km az=133.0*

*IDC **17** 05:26:36.9±1.4,20.°85S×178.°78W,h614km±14km, mb3.8/18,mbtmp4.8/18,Error ellipse: s-maj=12.0km s-min=9.9km az=145.0*

ISC 17 05:26:33.0±0.3,20.°99S±0.°06×178.°56W±0.°07,h579km, n564,σ0°92/565,mb4.5/68,37C-27D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.56**	**315**	P	**P**	**05 28 02.8**	**+1.5**
FUTU	**Fugatoga**	**6.66**	**4**	P	**P**	**05 28 20.2**	**+1.1**
GLKZ	**Green Lake**	**8.26**	**176**	P	**P**	**05 28 33.9**	**-0.1**
GLKZ				S	S	05 30 01.0	-12
NIUE	**Niue**	**8.33**	**78**	P	P	05 28 40.9	+6.0
PINNC	**Pines Island,**	**13.10**	**260**	P	**P**	**05 29 24.1**	**+1.2**
DZM	**Mont Dzumac**	**14.00**	**263**	P	**P**	**05 29 34.6**	**+2.3**
DZM	**Mont Dzumac**	**14.00**	**263**	P	**P**	**05 29 34.8**	**+2.5**
SANVU	**Saraoutou**	**14.61**	**290**	P	**P**	**05 29 38.6**	**+0.5**
OUZ	**Omahuta**	**15.76**	**204**	P	**P**	**05 29 51.4**	**+2.4**
OUZ	**Omahuta**	**15.76**	**204**	P	**P**	**05 29 51.3**	**+2.4**
GRZ	**Great Barrier**	**16.08**	**198**	P	**P**	**05 29 53.8**	**+1.9**
WCZ	**Waipu Caves**	**16.14**	**201**	P	**P**	**05 29 55.5**	**+3.1**
KUZ	**Kuaotunu**	**16.47**	**196**	P	**P**	**05 29 57.3**	**+1.9**
KUZ	**Kuaotunu**	**16.47**	**196**	P	**P**	**05 29 56.9**	**+1.5**
WIAZ	**Waiheke Island**	**16.68**	**198**	P	**P**	**05 29 59.6**	**+2.3**
MBAZ	**Motutapu North**	**16.72**	**199**	P	**P**	**05 30 00.2**	**+2.5**
MXZ	**Matakaoa Point**	**16.74**	**189**	P	**P**	**05 29 55.9**	**-1.9**
MXZ	**Matakaoa Point**	**16.74**	**189**	P	**P**	**05 29 57.3**	**-0.5**
RVAZ	**Riverhead Bore**	**16.82**	**199**	P	**P**	**05 30 01.5**	**+2.9**
EPAZ	**Eden Park BICE**	**16.87**	**199**	P	**P**	**05 30 01.9**	**+2.9**
ETAZ	**East Tamaki Re**	**16.89**	**198**	P	**P**	**05 30 01.4**	**+2.2**
MKAZ	**Moumakai**	**16.96**	**197**	P	**P**	**05 30 02.1**	**+2.2**
WMGZ	**Waiomatatini S**	**16.97**	**188**	P	**P**	**05 30 00.3**	**+0.4**
WTAZ	**Waiatarua**	**16.97**	**199**	P	**P**	**05 30 02.3**	**+2.3**
HAZ	**Te Kaha**	**17.00**	**190**	P	**P**	**05 30 00.6**	**+0.4**
PKGZ	**Pakihiroa**	**17.07**	**189**	P	**P**	**05 30 00.4**	**-0.5**
AWAZ	**Awhitu Peninsu**	**17.07**	**199**	P	**P**	**05 30 03.0**	**+2.1**
RUGZ	**Raukumara Rang**	**17.23**	**190**	P	**P**	**05 30 02.1**	**-0.3**
PUZ	**Puketiti**	**17.24**	**189**	P	**P**	**05 30 02.1**	**-0.4**
OPRZ	**Ohinepanea**	**17.32**	**193**	P	**P**	**05 30 04.3**	**+1.2**
TOZ	**Tahuroa Road**	**17.46**	**196**		**P**	**05 30 06.0**	**+1.7**
TOZ	**Tahuroa Road**	**17.46**	**196**	P	**P**	**05 30 06.3**	**+1.9**
MWZ	**Matawai**	**17.61**	**190**	P	**P**	**05 30 04.6**	**-1.3**
URZ	**Urewera** 24nm,0.3s,baz=257,slow=2.3,SNR=50	**17.61**	**191**	P	**P**	**05 30 04.2**	**-1.5**
URZ	8.4nm,0.9s,baz=234,slow=20,SNR=2.1			S	**S**	**05 32 52.8**	**-6.1**
URZ	**Urewera**	**17.61**	**191**	P	**P**	**05 30 04.4**	**-1.4**
URZ	**Urewera**	**17.61**	**191**	P	**P**	**05 30 03.1**	**-2.6**
CNGZ	**Carnagh Statio**	**17.66**	**188**	P	**P**	**05 30 06.3**	**+0.1**
HRRZ	**Handcock Road**	**17.90**	**193**	P	**P**	**05 30 07.8**	**-0.7**
RIGZ	**Rimuhau**	**17.94**	**189**	P	**P**	**05 30 09.2**

comp=Z,19nm,0.8s
BBOO **Buckleboo** **41.86** **244** P **P** **05 33 33.3** **-0.2**
BBOO IAmb IAmb 05 34 07.0
comp=Z,37nm,1.4s
JAY **Jayapura** **43.71** **289** P **P** **05 33 48.7** **+0.5**
comp=Z,28nm,0.5s,baz=146,slow=5.7,SNR=34
comp=Z,28nm,0.5s
WR8 **Warramunga Arr** **43.87** **263** P **P** **05 33 48.6** **-0.7**
WR8 IAmb IAmb 05 33 50.1
comp=Z,13nm,0.5s
AS31 **Alice Springs** **43.90** **257** P **P** **05 33 49.5** **-0.1**
ASAR **Alice Springs** **43.90** **257** P **P** **05 33 50.0** **+0.4**
ASAR **Alice Springs** **43.90** **257** P **P** **05 33 49.9** **+0.3**
comp=Z,24nm,0.7s,baz=97,slow=7.7,SNR=318
ASAR PcP **PcP** **05 35 22.9** **+0.2**
comp=Z,4.2nm,0.6s,baz=105,slow=4.0,SNR=12
ASAR ScP **ScP** **05 38 17.8** **-2.0**
comp=Z,0.7nm,0.6s,baz=96,slow=4.2,SNR=3.5
ASAR S **S** **05 39 37.2** **-2.7**
comp=Z,3.4nm,0.8s,baz=93,slow=14,SNR=15
comp=Z,24nm,0.7s
WB0 **Warramunga Arr** **44.00** **263** P **P** **05 33 49.6** **-0.7**
WRA **Warramunga Arr** **44.02** **263** **P** **05 33 50.1** **-0.4**
WRA **Warramunga Arr** **44.02** **263** P **P** **05 33 50.2** **-0.3**
comp=Z,15nm,0.5s,baz=97,slow=8.4,SNR=166
WRA PcP **PcP** **05 35 23.1** **-0.1**
comp=Z,1.1nm,0.6s,baz=101,slow=3.4,SNR=2.0
WRA S **S** **05 39 36.2** **-5.4**
comp=Z,2.2nm,0.8s,baz=100,slow=14,SNR=8.2
comp=Z,15nm,0.5s
MTN **Manton Dam** **48.65** **271** **P** **05 34 25.1** **-0.4**
KNRA **Kununurra** **50.11** **267** **P** **05 34 36.1** **-0.1**
SOEI **Soe** **56.00** **272** **P** **05 35 18.7** **+0.6**
PSA00 **Pilbara Seismi** **57.05** **257** P **P** **05 35 24.8** **-0.4**
MBWA **Marble Bar** **57.24** **258** P **P** **05 35 25.9** **-0.5**
MBWA IAmb IAmb 05 35 26.9
comp=Z,28nm,0.8s
SBA **Scott Base** **57.35** **184** P **P** **05 35 28.9** **+2.7**
VNDA **Vanda** **57.38** **185** P **P** **05 35 28.4** **+2.0**
VNDA **Vanda** **57.38** **185** P **P** **05 35 28.6** **+2.2**
comp=Z,2.1nm,0.6s,baz=359,slow=6.2,SNR=27
VNDA ScP **ScP** **05 39 17.0** **+0.2**
comp=Z,2.3nm,0.8s,baz=354,slow=2.8,SNR=10
comp=Z,2.1nm,0.6s
GIRL **Giralia** **61.92** **255** P **P** **05 35 57.4** **-0.1**
TOLI2 **Tolitoli** **63.20** **282** **P** **05 36 06.5** **+0.6**
TOLI2 IAmb IAmb 05 36 09.7
comp=Z,13nm,0.6s
JHJ2 **Mitsune** **66.88** **323** P **P** **05 36 28.4** **-0.1**
QSPA **South Pole Qui** **69.08** **180** P **P** **05 36 43.7** **+2.2**
comp=Z,4.1nm,0.6s,baz=4.9,slow=2.5,SNR=32
comp=Z,4.1nm,0.6s
UGM **Wanagama** **69.43** **269** P **P** **05 36 43.8** **-0.7**
JOW **Kunigami** **70.08** **310** P **P** **05 36 48.0** **0.0**
JOW IAmb IAmb 05 37 31.8
comp=Z,18nm,1.1s
JGF **Kuroka** **70.09** **323** P **P** **05 36 47.3** **-0.5**
JGF IAmb IAmb 05 37 03.9
comp=Z,31nm,1.5s
MJAR **Matsushiro Arr** **70.30** **324** P **P** **05 36 48.9** **-0.2**
MJAR **Matsushiro Arr** **70.30** **324** P **P** **05 36 48.6** **-0.4**
comp=Z,7.0nm,0.7s,baz=153,slow=5.4,SNR=16
comp=Z,7.0nm,0.7s
MAJO **Matsushiro** **70.30** **324** P **P** **05 36 49.0** **-0.1**
JNU **Nakatsue** **72.28** **317** P **P** **05 37 00.3** **-0.3**
comp=Z,8.4nm,0.8s,baz=104,slow=6.9,SNR=7.7
comp=Z,8.4nm,0.8s
KIWB **Kanaga Island** **72.54** **1** P **P** **05 37 01.0** **-0.7**
YOJ **Yonaguni jima** **72.59** **306** P **P** **05 37 02.7** **+0.1**
YULB **Yu-li** **73.33** **304** P **P** **05 37 05.8** **-1.1**
YULB IAmb IAmb 05 37 06.5
comp=Z,11nm,0.6s
NACB **Ninganchiao** **73.52** **305** P **P** **05 37 06.9** **-1.1**
NACB IAmb IAmb 05 37 36.9
comp=Z,40nm,1.3s
SSLB **Suanglung** **73.81** **304** **P** **05 37 08.4** **-1.3**
SSLB IAmb IAmb 05 37 09.6
comp=Z,25nm,0.9s
JKA **Kamikawa-asahi** **73.91** **332** P **P** **05 37 10.7** **+1.0**
JKA IAmb IAmb 05 37 12.2
comp=Z,24nm,1.1s
NIKH **Nikolski High** **74.13** **6** P **P** **05 37 09.4** **-1.3**
NIKH **Nikolski High** **74.13** **6** P **P** **05 37 11.1** **+0.4**
baz=190
UNV **Unalaska Valle** **75.25** **7** P **P** **05 37 15.8** **-1.1**
UNV IAmb IAmb 05 37 16.8
comp=Z,14nm,0.6s
UNV **Unalaska Valle** **75.25** **7** P **P** **05 37 16.8** **-0.1**
baz=192
LVA **Lava Point** **75.62** **8** P **P** **05 37 18.0** **-1.0**
PEA0B **Petropavlovsk-** **76.61** **346** P **P** **05 37 24.7** **+0.2**
PEA0B IAmb IAmb 05 37 47.0
comp=Z,49nm,1.4s
PETK **Petropavlovsk-** **76.61** **346** P **P** **05 37 24.2** **-0.3**
comp=Z,7.8nm,0.6s,baz=90,slow=7.2,SNR=16
comp=Z,7.8nm,0.6s
KSRS **Korea Array** **76.91** **319** P **P** **05 37 27.3** **+0.8**
comp=Z,2.4nm,0.7s,baz=128,slow=6.2,SNR=8.1
comp=Z,2.4nm,0.7s
CNBA **Chernabura Isl** **77.23** **11** P **P** **05 37 27.4** **-0.3**
CNBA IAmb IAmb 05 37 28.4
comp=Z,19nm,1.2s
CHNA **Chernabura Isl** **77.24** **11** P **P** **05 37 27.2** **-0.6**
baz=198
SDPT **Sand Point** **77.58** **10** P **P** **05 37 29.1** **-0.5**
SDPT **Sand Point** **77.58** **10** P **P** **05 37 29.5** **-0.2**
baz=197
P08K **Saint George I** **77.66** **5** P **P** **05 37 29.9** **-0.2**
baz=189
S12K **Black Hills** **77.67** **9** P **P** **05 37 29.4** **-0.7**
S12K IAmb IAmb 05 37 30.2
comp=Z,21nm,0.7s
S12K **Black Hills** **77.67** **9** P **P** **05 37 29.9** **-0.2**
baz=196
S14K **Fog Glacier** **78.64** **11** P **P** **05 37 35.2** **-0.3**
baz=198
PMPB **Monarch Peak** **78.83** **44** P **P** **05 37 37.7** **+0.7**
PMPB IAmb IAmb 05 37 39.7
comp=Z,38nm,1.5s
CHGN **Chignik** **78.85** **11** P **P** **05 37 36.1** **-0.4**
CHGN IAmb IAmb 05 37 36.8
comp=Z,27nm,0.9s
CHGN **Chignik** **78.85** **11** P **P** **05 37 36.3** **-0.1**
baz=199
CHIR **Chirikof Islan** **78.95** **13** P **P** **05 37 36.7** **-0.3**
baz=202
USRK **Ussuriysk Ar.** **79.08** **326** P **P** **05 37 38.6** **+0.6**
comp=Z,8.6nm,0.7s,baz=124,slow=3.1,SNR=14
comp=Z,8.6nm,0.7s
USA0B **Ussuriysk Arra** **79.08** **326** P **P** **05 37 37.6** **-0.3**
USA0B IAmb IAmb 05 37 39.9
comp=Z,13nm,0.8s
BELA **Belgrano 2** **79.14** **173** P **P** **05 37 37.8** **-0.1**
CBX **Cerro Bola** **79.44** **49** P **P** **05 37 40.6** **+0.3**
NJ2 **Nanjing** **79.79** **310** *e*P **P** **05 37 43.3** **+1.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
SII **Sitkinak Islan** **79.94** **13** P **P** **05 37 42.1** **-0.1**
baz=203
R16K **Pilot Point** **80.20** **11** P **P** **05 37 43.4** **0.0**
baz=200
R17L **Mt. Peulik Vol** **80.49** **12** P **P** **05 37 44.5** **-0.6**
baz=201
OHAK **Old Harbor** **80.75** **14** P **P** **05 37 46.2** **-0.1**
baz=204
R18K **Karluk** **80.81** **13** P **P** **05 37 46.5** **-0.2**
baz=203
MAW **Mawson** **80.93** **200** P **P** **05 37 49.4** **+2.1**
comp=Z,1.9nm,1.0s,baz=90,slow=3.0,SNR=2.0
comp=Z,1.9nm,1.0s
WAKR **Walker** **81.06** **43** **P** **05 37 49.9** **+1.3**
O14K **Tigyukauivet M** **81.21** **9** P **P** **05 37 48.7** **0.0**
baz=196
O15K **Ungalikthiuk R** **81.35** **10** P **P** **05 37 49.5** **+0.1**
baz=198
DSP **Deep Springs** **81.35** **45** **P** **05 37 50.9** **+1.0**
KDAK **Kodiak Island** **81.42** **14** P **P** **05 37 49.5** **-0.2**
baz=204
Q16K **King Salmon** **81.42** **11** P **P** **05 37 50.1** **+0.4**
baz=201
P16K **Nushagak River** **81.51** **11** P **P** **05 37 50.7** **+0.5**
baz=199
Q18K **Katmai Hardscr** **81.70** **12** P **P** **05 37 51.2** **-0.2**
baz=202
M11K **Mekoryuk** **81.71** **6** P **P** **05 37 51.1** **-0.1**
baz=192
NVAR **Mina Array Bea** **81.74** **44** P **P** **05 37 53.2** **+1.0**
NVAR **Mina Array Bea** **81.74** **44** P **P** **05 37 53.3** **+1.1**
comp=Z,3.9nm,0.7s,baz=225,slow=7.8,SNR=36
comp=Z,3.9nm,0.7s
N14K **Kuskokwak Cree** **81.80** **8** P **P** **05 37 52.0** **+0.4**
baz=196
P17K **Kvichak River** **81.94** **11** P **P** **05 37 51.9** **-0.5**
baz=201
O16K **Kokwok River B** **82.03** **10** P **P** **05 37 51.9** **-0.9**
O16K IAmb IAmb 05 37 52.8
comp=Z,12nm,0.9s
O16K **Kokwok River B** **82.03** **10** P **P** **05 37 52.5** **-0.3**
baz=199,SNR=5.1
M13K **Dall Lake** **82.05** **8** P **P** **05 37 52.6** **-0.3**
baz=194
Q20K **Shuyak Island** **82.21** **13** P **P** **05 37 53.7** **-0.1**
baz=205
Q19K **Cape Douglas,** **82.24** **13** P **P** **05 37 53.5** **-0.5**
baz=203
TPNV **Topopah Spring** **82.26** **46** **P** **05 37 55.7** **+0.9**
N15K **Kwethluk River** **82.26** **9** P **P** **05 37 54.0** **0.0**
N15K IAmb IAmb 05 37 55.8
comp=Z,21nm,0.8s
N15K **Kwethluk River** **82.26** **9** P **P** **05 37 54.0** **0.0**
baz=197,SNR=6.7
P18K **Big Mountain,** **82.35** **12** P **P** **05 37 54.3** **-0.2**
baz=202
O17K **Koliganek Bris** **82.37** **11** P **P** **05 37 54.1** **-0.5**
baz=200
CN2 **Changchun** **82.37** **323** *e*P **P** **05 37 55.6** **+0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
BNX **BinXian** **82.53** **325** ⇑P **P** **05 37 56.0** **+0.3**
BNX pmax pmax
comp=Z,26nm,0.7s
M14K **Bethel** **82.56** **8** P **P** **05 37 55.7** **+0.2**
baz=196
K05A **Summer Lake** **82.67** **39** P **P** **05 37 58.0** **+1.2**
K05A IAmb IAmb 05 37 59.2
comp=Z,16nm,1.0s
M15K **Kasigluk River** **82.68** **9** P **P** **05 37 56.6** **+0.5**
baz=197,SNR=6.3
N16K **Nishlik Lake** **82.75** **10** P **P** **05 37 57.0** **+0.5**
baz=199,SNR=8.6
O18K **Koktuh Hills** **82.79** **12** P **P** **05 37 56.4** **-0.3**
baz=202
P19K **Oil Pt** **82.99** **13** P **P** **05 37 57.4** **-0.4**
baz=204
L14K **Kuka Creek** **83.04** **8** P **P** **05 37 57.9** **+0.1**
baz=195
N17K **Nushagak Hills** **83.06** **10** P **P** **05 37 58.3** **+0.3**
baz=200
TIA **Tai'an** **83.22** **313** P **P** **05 38 00.1** **+0.7**
TIA pmax pmax
comp=Z,10.0nm,0.9s
M16K **Timber Creek** **83.25** **9** P **P** **05 38 00.1** **+1.1**
M16K IAmb IAmb 05 38 01.3
comp=Z,48nm,1.5s
M16K **Timber Creek** **83.25** **9** P **P** **05 37 59.8** **+0.8**
baz=198,SNR=5.6
O19K **Port Alsworth** **83.27** **12** P **P** **05 37 58.5** **-0.5**
baz=203
PINE **Pine Mountain** **83.29** **38** **P** **05 38 01.1** **+1.2**
PINE IAmb IAmb 05 38 02.3
comp=Z,13nm,0.8s
HOM **Homer** **83.33** **13** P **P** **05 37 59.9** **+0.6**
baz=205
K13K **Kusilvak Mount** **83.38** **7** P **P** **05 38 00.5** **+1.0**
baz=193
I05D **Terrebonne, OR** **83.40** **37** P **P** **05 38 00.9** **+0.7**
I05D IAmb IAmb 05 38 02.7
comp=Z,8.8nm,0.8s
N18K **Kilae Creek** **83.43** **11** P **P** **05 37 60.0** **+0.1**
baz=201
O20K **Slope Mountain** **83.51** **13** P **P** **05 38 00.7** **+0.4**
baz=204
L15K **Ungalak Mounta** **83.51** **8** P **P** **05 38 00.2** **-0.1**
baz=196
N19K **Bonanza Creek** **83.81** **12** P **P** **05 38 01.3** **-0.6**
baz=203
L16K **Owhat River** **83.83** **9** P **P** **05 38 02.1** **+0.4**
baz=198
M17K **Holitna River** **83.85** **10** P **P** **05 38 02.2** **+0.3**
baz=200
K15K **Wolf Creek Mou** **84.10** **8** P **P** **05 38 03.3** **+0.1**
baz=196
M18K **Stony River** **84.20** **11** P **P** **05 38 03.6** **0.0**
baz=201
SEW **Seward** **84.22** **14** P **P** **05 38 03.3** **-0.5**
baz=207
J14K **Nanvaranak Lak** **84.30** **7** P **P** **05 38 03.9** **-0.2**
baz=194
Q23K **Middleton Isla** **84.38** **16** P **P** **05 38 04.5** **0.0**
baz=210
L17K **Donlin** **84.41** **9** P **P** **05 38 04.5** **-0.1**
baz=199
J08A **Circle Bar Ran** **84.47** **39** P **P** **05 38 06.3** **+0.7**
J08A IAmb IAmb 05 38 07.6
comp=Z,13nm,1.5s
P23K **Montague Islan** **84.61** **15** P **P** **05 38 05.5** **-0.2**
baz=209
GAMB **Gambell** **84.66** **3** P **P** **05 38 06.0** **+0.3**
baz=186
U15A **North Rim** **84.68** **48** P **P** **05 38 08.0** **+1.1**
U15A IAmb IAmb 05 38 09.3
comp=Z,8.2nm,0.7s
L18K **Granite Mounta** **84.74** **10** P **P** **05 38 06.1** **-0.1**
baz=200
M19K **Big River Lodg** **84.84** **11** P **P** **05 38 06.6** **-0.2**
M19K **Big River Lodg** **84.84** **11** P **P** **05 38 06.1** **-0.6**
baz=203
K17K **Iditarod** **84.96** **9** P **P** **05 38 06.8** **-0.5**
baz=199
L19K **White Mountain** **85.02** **11** P **P** **05 38 07.5** **-0.1**
baz=202
RC01 **Rabbit Creek A** **85.03** **14** P **P** **05 38 07.3** **-0.4**
baz=207
M20K **Styx River** **85.06** **12** P **P** **05 38 07.8** **-0.1**
baz=204
PWL **Port Wells** **85.14** **14** P **P** **05 38 08.1** **-0.1**
baz=208
SUA **Susitna One** **85.15** **13** P **P** **05 38 08.0** **-0.5**
baz=206
J16K **Anvik River** **85.18** **8** P **P** **05 38 07.6** **-0.7**
baz=197
KAIM **Kayak Island** **85.31** **16** P **P** **05 38 08.6** **-0.5**
baz=212
G08A **Pilot Rock** **85.32** **38** P **P** **05 38 11.0** **+1.3**
CRAG **Craig** **85.38** **24** P **P** **05 38 09.2** **-0.2**
baz=222
GLI **Glacier Island** **85.45** **15** P **P** **05 38 08.6** **-1.2**
baz=209
HEH **HeiHe** **85.45** **329** *e*P **P** **05 38 09.6** **-0.4**
HEH pmax pmax
comp=Z,14nm,0.6s
SKT **Skwentna** **85.46** **12** P **P** **05 38 09.2** **-0.6**
baz=205
L20K **Farewell, AK** **85.47** **11** P **P** **05 38 09.2** **-0.6**
baz=203
J17K **VABM Dome** **85.49** **9** P **P** **05 38 09.3** **-0.5**
baz=198
HNS **HongShan** **85.50** **313** ⇓P **P** **05 38 08.1** **-2.4**
HNS pmax pmax
comp=Z,10.0nm,1.2s
EYAK **Cordova Ski Ar** **85.50** **16** P **P** **05 38 09.5** **-0.4**
baz=211
M22K **Willow** **85.55** **13** P **P** **05 38 09.6** **-0.5**
baz=206
MTPU **Mount Pierson** **85.58** **47** P **P** **05 38 12.5** **+1.2**
KNK **Knik Glacier** **85.61** **14** P **P** **05 38 09.9** **-0.6**
baz=208
PMR **Palmer** **85.62** **14** P **P** **05 38 10.5** **0.0**
baz=207
LYN **LuoYang** **85.66** **309** P **P** **05 38 12.9** **+1.5**
LYN pmax pmax
comp=Z,28nm,0.6s
I17K **Unalakleet** **85.74** **8** P **P** **05 38 11.5** **+0.5**
baz=197
BGLC **Bering Glacier** **85.77** **17** P **P** **05 38 11.0** **-0.2**
baz=213
V35K **Ketchikan** **85.85** **25** P **P** **05 38 11.7** **0.0**
baz=223
U33K **Whale Pass** **85.86** **24** P **P** **05 38 11.9** **+0.2**
baz=222
BJI **Beijing** **85.88** **316** P **P** **05 38 13.0** **+0.8**
BJI pmax pmax
comp=Z,3.0nm,0.5s
ANM **Nome** **85.89** **6** P **P** **05 38 11.9** **+0.1**
baz=192
J18K **Innoko River** **85.91** **10** P **P** **05 38 12.0** **+0.1**
baz=200
BMO **Blue Mountains** **86.02** **39** P **P** **05 38 13.6** **+0.7**
M23K **Glacier View** **86.11** **14** P **P** **05 38 12.7** **-0.2**
baz=209
BMRM **Bremner River** **86.15** **16** P **P** **05 38 12.6** **-0.5**
baz=212
S31K **Pelican** **86.16** **21** P **P** **05 38 12.9** **-0.2**
baz=219
MESA **MESA** **86.19** **17** P **P** **05 38 12.9** **-0.6**
baz=214
SCM **Sheep Creek Mo** **86.24** **14** P **P** **05 38 13.4** **-0.2**
SCM **Sheep Creek Mo** **86.24** **14** P **P** **05 38 13.3** **-0.2**
baz=209,SNR=8.6
K20K **Telida** **86.25** **11** P **P** **05 38 13.3** **-0.1**
baz=203
KLU **Klutina** **86.27** **15** P **P** **05 38 13.1** **-0.6**
baz=210
H16K **Elim** **86.28** **7** P **P** **05 38 13.0** **-0.5**
baz=195
S32K **Killisnoo** **86.35** **22** P **P** **05 38 13.1** **-0.9**
baz=221
CRQE **Cirque** **86.36** **17** P **P** **05 38 13.4** **-0.8**
baz=213
WRAK **Wrangell Islan** **86.37** **24** P **P** **05 38 14.0** **-0.1**
baz=222
G15K **Niukluk** **86.44** **6** P **P** **05 38 14.3** **0.0**
baz=194
PNL **Peninsula** **86.51** **19** P **P** **05 38 14.7** **-0.1**
baz=216
J19K **Poorman** **86.58** **10** P **P** **05 38 15.0** **0.0**
baz=201
PINM **Pinnacle** **86.61** **18** P **P** **05 38 15.2** **-0.1**
baz=216
CAST **Castle Rocks** **86.66** **12** P **P** **05 38 14.1** **-1.3**
baz=205,SNR=9.1
N25K **Chitina, Valde** **86.69** **16** P **P** **05 38 15.5** **-0.2**
baz=212,SNR=9.4
F14K **Arctic Creek** **86.70** **5** P **P** **05 38 15.8** **+0.3**
baz=192
M24K **Tolsona, Glenn** **86.74** **15** P **P** **05 38 16.3** **+0.4**
baz=210
GLB **Gilahina Butte** **86.75** **16** P **P** **05 38 16.1** **+0.1**
GLB IAmb IAmb 05 38 16.5
comp=Z,6.7nm,0.6s
H17K **Granite Mounta** **86.85** **8** P **P** **05 38 16.8** **+0.6**
baz=198
MCARA **McCarthy VSAT** **86.91** **16** P **P** **05 38 16.5** **-0.1**
baz=213
R32K **Eaglecrest** **86.99** **22** P **P** **05 38 17.4** **+0.4**
baz=221
P29M **Windy Craggy** **86.99** **19** P **P** **05 38 16.9** **-0.2**
baz=218
J20K **Nowinta River** **86.99** **10** P **P** **05 38 17.0** **+0.1**
baz=203
CTG **Chitna Glacier** **87.01** **17** P **P** **05 38 17.0** **-0.3**
baz=214
TRF **Thorofare Moun** **87.04** **12** P **P** **05 38 16.2** **-1.2**
TRF **Thorofare Moun** **87.04** **12** P **P** **05 38 16.7** **-0.7**
baz=206,SNR=9.1
CHUM **Lake Minchumin** **87.04** **11** P **P** **05 38 16.6** **-0.6**
baz=204
F15K **North Star Dit** **87.08** **6** P **P** **05 38 16.4** **-0.9**
baz=193
GCSA **Galena City Sc** **87.09** **9** P **P** **05 38 16.8** **-0.5**
baz=200
O28M **Mount Upton** **87.18** **18** P **P** **05 38 17.3** **-0.9**
baz=216
HARP **HAARP** **87.24** **15** P **P** **05 38 17.5** **-0.7**
baz=211
TROLL **Troll, Antarti** **87.24** **180** ⇑P P 05 38 11.4 -7.0
comp=Z,7.5nm,0.2s
H18K **Honhosa River** **87.26** **8** P **P** **05 38 17.7** **-0.5**
baz=199
O29M **Mount Kennedy** **87.27** **19** P **P** **05 38 18.6** **+0.2**
baz=217
PLBC **Pleasant Camp** **87.28** **20** P **P** **05 38 18.1** **-0.2**
baz=219
VHRN **Van Horn** **87.36** **56** P **P** **05 38 20.6** **+0.9**
MCK **McKinley** **87.56** **13** P **P** **05 38 19.6** **-0.1**
baz=208
P30M **Million Dollar** **87.62** **19** P **P** **05 38 20.2** **+0.1**
baz=218
PAX **Paxson** **87.66** **14** P **P** **05 38 19.8** **-0.4**
baz=211
VNA3 **Neumayer Olymp** **87.69** **176** ⇑P **P** **05 38 19.9** **-0.4**
comp=Z,1.4nm,0.6s
TXAR **Lajitas Array** **87.76** **58** P **P** **05 38 23.0** **+1.5**
comp=Z,2.5nm,0.8s,baz=217,slow=5.9,SNR=23
TXAR PKKPbc **PKKPbc** **05 56 05.8** **+0.4**
comp=Z,0.1nm,0.4s,baz=64,slow=2.7,SNR=4.5
comp=Z,2.5nm,0.8s
M26K **Nabesna, AK** **87.77** **16** P **P** **05 38 21.1** **+0.4**
baz=213
YUK6 **Outpost Mounta** **87.84** **18** P **P** **05 38 21.1** **-0.2**
baz=217
H19K **Roundabout Mou** **87.89** **9** P **P** **05 38 21.4** **+0.4**
baz=201
S34M **Telegraph Cree** **87.92** **23** P **P** **05 38 21.9** **+0.5**
baz=224
YUK3 **Moose Creek** **87.92** **17** P **P** **05 38 21.8** **+0.2**
baz=215
HYT **Haines Junctio** **88.01** **19** P **P** **05 38 22.2** **+0.3**
baz=218
XAN **Xi'an** **88.02** **308** P **P** **05 38 23.8** **+1.3**
XAN pmax pmax
comp=Z,21nm,0.9s
M27K **Edge Creek, AK** **88.02** **16** P **P** **05 38 22.3** **+0.3**
M27K IAmb IAmb 05 38 23.6
comp=Z,16nm,1.1s
M27K **Edge Creek, AK** **88.02** **16** P **P** **05 38 22.3** **+0.3**
baz=214,SNR=9.0
H20K **Anotleneega Mo** **88.09** **10** P **P** **05 38 22.2** **+0.2**
baz=202
F17K **Baldwin Pennin** **88.14** **7** P **P** **05 38 21.3** **-0.9**
baz=196
L26K **Log Cabin Wild** **88.21** **15** P **P** **05 38 22.6** **-0.1**
baz=213,SNR=5.1
P32M **Atlin** **88.26** **21** P **P** **05 38 23.3** **+0.3**
baz=221
Q32M **Nakina River** **88.28** **22** P **P** **05 38 23.2** **-0.1**
baz=222
I21K **Tanana** **88.29** **11** P **P** **05 38 22.8** **-0.1**
baz=205
NEA2 **Nenana** **88.30** **12** P **P** **05 38 23.0** **-0.1**
baz=207
K24K **Donnelly Dome** **88.31** **14** P **P** **05 38 23.1** **0.0**
baz=210
BVCY **Beaver Creek** **88.34** **17** P **P** **05 38 23.3** **-0.1**
baz=215,SNR=5.1
G19K **Purcell Mounta** **88.38** **9** P **P** **05 38 23.4** **+0.1**
baz=200
MLY **Manley** **88.38** **11** P **P** **05 38 22.6** **-0.8**
baz=206
RIDG **Independent Ri** **88.46** **14** P **P** **05 38 23.6** **-0.3**
baz=211
HDA **Harding Lake** **88.58** **13** P **P** **05 38 23.7** **-0.7**
baz=209,SNR=9.1
H21K **Melozitna Rive** **88.58** **10** P **P** **05 38 23.9** **-0.4**
baz=204
CCB **Clear Creek Bu** **88.61** **13** P **P** **05 38 23.1** **-1.4**
CCB IAmb IAmb 05 38 24.5
comp=Z,11nm,0.8s
L27K **Beaver Creek,** **88.62** **16** P **P** **05 38 24.2** **-0.4**
baz=214
N30M **Aishikik Lake** **88.63** **19** P **P** **05 38 24.4** **-0.4**
baz=218
BCAR **Beaver Creek A** **88.64** **16** P **P** **05 38 24.9** **+0.2**
WHY **Whitehorse** **88.69** **20** P **P** **05 38 25.1** **0.0**
baz=220
E17K **Hotham Inlet** **88.69** **6** P **P** **05 38 25.1** **+0.3**
baz=196
DLBC **Dease Lake** **88.71** **23** P **P** **05 38 25.5** **+0.4**
baz=224
I23K **Minto, Yukon-K** **88.74** **12** P **P** **05 38 24.2** **-0.8**
baz=207
COLA **College** **88.80** **13** P **P** **05 38 24.9** **-0.4**
baz=208
SCRK **Sand Creek** **88.87** **14** P **P** **05 38 25.6** **-0.3**
baz=212
ILAR **Eielson Array** **88.91** **13** P **P** **05 38 25.1** **-0.8**
comp=Z,2.9nm,0.5s,baz=216,slow=5.3,SNR=52
comp=Z,2.9nm,0.5s
F19K **Shaleruckik Mo** **88.94** **8** P **P** **05 38 25.6** **-0.4**
baz=199
M29M **Somme Creek** **89.02** **17** P **P** **05 38 26.8** **+0.2**
M29M IAmb IAmb 05 38 27.9

comp=Z,8.4nm,0.8s
M29M Somme Creek 89.02 17 P P 05 38 26.4 -0.2
baz=217,SNR=12
P33M Teslin, Yukon 89.02 21 P P 05 38 26.2 -0.4
baz=222
H22K Ishtalitna Cre 89.04 11 P P 05 38 26.2 -0.3
baz=205
N31M Braeburn, Yuko 89.05 19 P P 05 38 26.6 0.0
baz=219
R33M Jennings River 89.06 22 P P 05 38 27.1 +0.3
R33M Jennings River 89.06 22 P P 05 38 26.3 -0.5
baz=224
J25K Salcha River, 89.10 14 P P 05 38 26.7 -0.1
J25K IAmb IAmb 05 38 27.0
comp=Z,4.0nm,0.7s
J25K Salcha River, 89.10 14 P P 05 38 26.2 -0.6
baz=211,SNR=7.2
POKR Poker Plat Res 89.10 13 P P 05 38 26.3 -0.4
baz=209
KMI Kunming 89.11 297 P P 05 38 28.4 +0.4
KMI pmax pmax
comp=Z,12nm,0.6s
TPAW Teton Pass 89.15 42 P P 05 38 28.6 +0.8
TPAW IAmb IAmb 05 38 29.8
comp=Z,3.9nm,0.9s
E18K Tukpahlearik C 89.16 7 P P 05 38 26.9 0.0
baz=197
D17K Noatak River 89.17 6 P P 05 38 27.1 +0.1
baz=194
G21K Allakaket 89.26 10 P P 05 38 27.5 0.0
baz=203
H23K Yukon River 89.31 12 P P 05 38 28.1 +0.3
baz=207
HHC Hu-ho-hao-te 89.32 315 *e*P P 05 38 29.3 +0.8
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.3s
K27K Chicken 89.37 15 P P 05 38 28.6 +0.6
baz=214
J26L Joseph Creek 89.41 14 P P 05 38 28.7 +0.4
J26L IAmb IAmb 05 38 29.8
comp=Z,10nm,0.8s
J26L Joseph Creek 89.41 14 P P 05 38 28.7 +0.4
baz=212,SNR=6.1
F20K Avaraart Lake 89.42 9 P P 05 38 28.7 +0.5
baz=201
LOHW Long Hollow 89.43 42 P P 05 38 29.7 +0.6
LOHW IAmb IAmb 05 38 30.8
comp=Z,3.5nm,0.6s
RDOG Red Dog Mine 89.53 6 P P 05 38 29.1 +0.4
baz=195
M30M Minto, Yukon 89.60 18 P P 05 38 29.6 +0.5
baz=218,SNR=13
E19K Redstone River 89.60 8 P P 05 38 29.1 +0.1
E19K IAmb IAmb 05 38 30.0
comp=Z,9.0nm,0.8s
E19K Redstone River 89.60 8 P P 05 38 29.5 +0.5
baz=200
N32M Quiet Lake 89.64 20 P P 05 38 29.7 +0.3
baz=222
L29M L29M 89.64 17 P P 05 38 29.8 +0.4
L29M IAmb IAmb 05 38 31.0
comp=Z,11nm,1.0s
L29M L29M 89.64 17 P P 05 38 30.2 +0.8
baz=217,SNR=8.2
H24K Nodor Dome 89.64 12 P P 05 38 30.3 +1.0
baz=208
PDAR Pinedale Array 89.68 43 P P 05 38 30.5 +0.2
PDAR Pinedale Array 89.68 43 P P 05 38 30.8 +0.5
comp=Z,3.5nm,0.6s,baz=217,slow=3.8,SNR=44
comp=Z,3.5nm,0.6s
CMAR Chiang Mai Arr 89.79 290 P P 05 38 32.5 +1.4
comp=Z,6.5nm,0.8s,baz=127,slow=3.0,SNR=35
comp=Z,6.5nm,0.8s
PRP Porcupine Dome 89.84 13 P P 05 38 31.2 +0.8
baz=211
F21K Alatna River 89.91 9 P P 05 38 30.7 +0.2
baz=203
CHTO Chiang Mai 89.92 290 P P 05 38 32.1 +0.5
G22K Bettles 89.95 10 P P 05 38 30.4 -0.3
baz=205
M31M Drury Creek, Y 90.02 19 P P 05 38 31.1 0.0
baz=221
G23K Bananza Creek 90.02 11 P P 05 38 30.9 -0.2
baz=207
DAWY Dawson 90.07 16 P P 05 38 31.5 +0.1
baz=216,SNR=9.0
I26K Coal Creek Min 90.19 14 P P 05 38 31.9 +0.1
baz=213
K29M Barlow Dome 90.39 17 P P 05 38 33.4 +0.5
baz=218,SNR=6.3
COLD Coldfoot 90.45 11 P P 05 38 33.7 +0.7
baz=206
D19K Kuna River 90.47 7 P P 05 38 33.3 +0.2
baz=199
G24K Hadweenzic Riv 90.48 12 P P 05 38 33.6 +0.4
baz=209
E20K Nigu River 90.49 8 P P 05 38 33.1 -0.1
baz=201
MAYO Mayo, Yukon 90.65 18 P P 05 38 33.9 -0.1
baz=219
I27K Kandik River 90.79 14 P P 05 38 34.6 0.0
baz=214
G25K Bearman Lake 90.81 12 P P 05 38 34.1 -0.4
baz=210
TOAD Toad River Com 90.81 25 P P 05 38 34.8 0.0
baz=229,SNR=6.4
LIRD Liard River Hi 90.85 24 P P 05 38 34.8 -0.2
baz=228
D20K Etivluk River 90.86 8 P P 05 38 34.6 -0.2
baz=200
C19K Lookout Ridge 90.88 7 P P 05 38 35.1 +0.1
baz=198
E22K Anaktuvuk Pass 91.01 10 P P 05 38 35.0 -0.6
baz=205
I28M Miner Creek 91.06 15 P P 05 38 34.7 -1.2
baz=216
F24K Squaw Lake 91.13 11 P P 05 38 35.5 -0.6
baz=208
J30M Hart River 91.29 17 P P 05 38 36.8 -0.3
baz=219
E23K Chandalar 91.30 10 P P 05 38 37.2 +0.2
baz=207
MMPY Sheldon Lake, 91.31 20 P P 05 38 37.0 -0.1
baz=223
I29M Ogilvie Camp, 91.40 16 P P 05 38 37.3 -0.1
baz=217
G26K Porcupine Rive 91.44 13 P P 05 38 38.2 +0.7
baz=212
TGTN Hyland Airport 91.52 22 P P 05 38 38.6 +0.6
baz=226
C21K Knifeblade Rid 91.52 8 P P 05 38 38.7 +0.9
baz=202
D22K Ayikyak River 91.56 9 P P 05 38 38.8 +0.8
baz=204
F25K Christian Rive 91.62 12 P P 05 38 38.7 +0.3
baz=211
G27K Doyon Strip 91.78 14 P P 05 38 39.8 +0.7
baz=214
A19K Wainwright 91.79 6 P P 05 38 40.0 +1.0
baz=196
D23K Nanushuk River 91.94 10 P P 05 38 40.2 +0.4
baz=206
B21K Ikpikpuk River 91.97 8 P P 05 38 40.8 +0.9
baz=202
F26K Sheenjek River 92.00 12 P P 05 38 41.1 +0.9
baz=212
B20K Meade River 92.02 7 P P 05 38 41.1 +1.0
baz=200
H29M Whitestone 92.07 15 P P 05 38 41.3 +0.8
baz=217
EPYK Eagle Plains 92.60 16 P P 05 38 43.2 +0.3
baz=219
G30M tAoh Zraii Nji 93.20 15 P P 05 38 45.7 0.0
baz=219
E29M Blow River 93.91 14 P P 05 38 48.7 -0.2
baz=218
D27M Malcolm River 93.94 13 P P 05 38 48.9 -0.1
baz=215
ZALV Zalesovo Beam 110.55 321 PKiKP **PKiKP** 05 43 58.5 -1.5
comp=Z,1.5nm,0.5s,baz=158,slow=1.0,SNR=9.5
MKAR Makanchi Array 111.16 313 PKiKP **PKiKP** 05 44 00.3 -1.2
comp=Z,1.3nm,0.6s,baz=51,slow=2.6,SNR=9.9
KURBB Kurchatov Arra 114.05 317 PKiKP **PKiKP** 05 44 05.4 -1.4
comp=Z,1.5nm,0.6s,baz=95,slow=1.9,SNR=14
BVAR Borovoye Array 119.12 320 PKP **PKPdf** 05 44 15.6 -0.9
comp=Z,6.0nm,0.4s,baz=118,slow=1.5,SNR=30

SPITS Spitsbergen Ar 122.32 356 PKP **PKPdf** 05 44 21.5 -0.5
comp=Z,5.4nm,0.6s,baz=44,slow=6.4,SNR=8.0
BOSA Boshof 125.59 206 PKP **PKPdf** 05 44 29.9 -0.1
comp=Z,3.7nm,1.0s,baz=153,slow=4.5,SNR=1.9
ARCES ARCESS Array B 129.31 349 PKP **PKPdf** 05 44 34.6 -1.0
comp=Z,3.5nm,0.5s,baz=30,slow=1.0,SNR=34
FINES FINESS Array B 136.09 343 PKP **PKPdf** 05 44 46.5 -2.0
comp=Z,2.5nm,0.7s,baz=29,slow=1.4,SNR=9.0
FINES SKP 05 47 26.4
comp=Z,4.2nm,0.9s,baz=66,slow=3.5,SNR=6.8
NB2 NORSAR Subarra 139.40 353 PKP PKPdf 05 44 46.0 -8.6
comp=Z,1.1nm,0.5s,baz=11,slow=3.1
NOA NORSAR Array B 139.40 353 PKhKP PKPpre 05 44 47.4
comp=Z,1.6nm,0.6s,baz=9.1,slow=2.3,SNR=8.9
NOA PKP **PKiKP** 05 44 56.0 -1.2
comp=Z,1.0nm,0.6s,baz=14,slow=3.9,SNR=4.3
BORU Boraas 142.47 350 *i* P **PKPdf** 05 44 56.0 -4.1
FABU Falkenberg 143.09 350 *i* P PKPab 05 44 58.3 -0.7
FABU IAmb IAmb 05 44 58.7
comp=Z,16nm,0.6s
BLEU Blekinge 143.15 347 *i* P PKPab 05 44 58.4 -1.0
BLEU IAmb IAmb 05 44 58.7
comp=Z,14nm,0.4s
AK03 Malin Array Si 143.17 330 PKP PKPab 05 44 58.6 -1.0
AKASG Malin Array Be 143.19 330 PKP PKPab 05 44 58.8 -0.8
comp=Z,16nm,0.4s,baz=44,slow=4.2,SNR=118
AKBB Malin Array Si 143.19 330 PKP PKPab 05 44 58.7 -1.0
AK23 Malin Array Si 143.19 331 PKP PKPab 05 44 58.9 -0.8
AK01 Malin Array Si 143.20 330 PKP PKPab 05 44 58.8 -0.9
KIEV Kiev 143.20 330 ⇓P PKPab 05 44 58.9 -0.8
KIEV Kiev 143.20 330 PKP PKPab 05 44 58.7 -1.0
AK04 Malin Array Si 143.20 330 PKP PKPab 05 44 58.7 -1.0
AK22 Malin Array Si 143.22 331 PKP PKPab 05 44 58.9 -0.9
AK09 Malin Array Si 143.22 330 PKP PKPab 05 44 58.8 -1.0
AK08 Malin Array Si 143.22 330 PKP PKPab 05 44 58.7 -1.1
AK21 Malin Array Si 143.22 331 PKP PKPab 05 44 58.9 -0.9
AK02 Malin Array Si 143.22 330 PKP PKPab 05 44 58.8 -1.0
AK11 Malin Array Si 143.23 330 PKP PKPab 05 44 58.9 -0.9
AK15 Malin Array Si 143.24 330 PKP PKPab 05 44 59.0 -0.8
AK10 Malin Array Si 143.24 330 PKP PKPab 05 44 59.0 -0.9
AK18 Malin Array Si 143.24 330 PKP PKPab 05 44 58.9 -1.0
AK05 Malin Array Si 143.25 330 PKP PKPab 05 44 59.0 -0.9
AK20 Malin Array Si 143.25 331 PKP PKPab 05 44 58.9 -1.0
AK12 Malin Array Si 143.26 330 PKP PKPab 05 44 59.0 -0.9
AK16 Malin Array Si 143.26 330 PKP PKPab 05 44 59.0 -0.9
AK19 Malin Array Si 143.27 331 PKP PKPab 05 44 59.1 -0.9
AK17 Malin Array Si 143.27 330 PKP PKPab 05 44 59.0 -1.0
MCD Coleburn Disti 143.29 4 *e*P PKPab 05 44 58.2 -1.6
DEL Delary 143.39 348 *i* P PKPab 05 44 59.7 -0.6
BJUU Bjuv 143.92 349 *i* P PKPbc 05 45 01.3 -0.7
DRUM Mains of Drumt 144.01 4 *e*P PKPbc 05 45 00.6 -1.7
RNPP9 Sopachiv 144.13 334 PKP PKPbc 05 45 02.2 -0.7
LUNU Lund 144.26 348 *i* P PKPbc 05 45 02.6 -0.5
INVG Invergeldie, C 144.38 5 *e*P **PKPdf** **05 45 03.1 -0.4**
LAWE Loch Awe, Argy 144.41 7 *e*P **PKPdf** **05 45 02.9 -0.7**
SORM Soroca 145.35 328 ⇑P **PKPbc** **05 45 06.4 -0.3**
EKA Eskdalemuir Ar 145.54 5 PKPbc **PKPbc** **05 45 06.1 -0.9**
comp=Z,5.2nm,0.7s,baz=2.6,slow=2.2,SNR=12
ESK Eskdalemuir 145.55 5 *e*P **PKPdf** **05 45 05.7 +0.2**
IOMK Kirk Michael 146.47 6 *e*P **PKPbc** **05 45 08.7 -1.0**
ILTH Belurgan, Co L 146.49 8 *e*P **PKPbc** **05 45 08.9 -0.7**
WIM Isle of Man 146.57 7 *e*P **PKPbc** **05 45 09.9 0.0**
GDLE Glaisdale, N Y 146.58 2 *e*P **PKPbc** **05 45 09.3 -0.3**
IGLA Longowla, Co 146.58 12 *e*P **PKPbc** **05 45 09.3 -0.6**
BRTR Keskin Array B 146.78 311 PKPbc **PKPbc** **05 45 10.6 -0.6**
comp=Z,6.3nm,0.6s,baz=136,slow=4.7,SNR=31
KIRS Kirsehir-Merke 146.82 310 ⇑P **PKPbc** **05 45 11.3 0.0**
TLCR 147.00 323 ⇑P **PKPbc** **05 45 11.4 +0.1**
BURAR Bucovina Array 147.23 330 ⇑P **PKPbc** **05 45 12.5 +0.5**
TESR Tescani 147.29 327 ⇓P **PKPbc** **05 45 12.0 -0.1**
ANTO Ankara 147.31 312 ⇑P **PKPbc** **05 45 12.8 +0.3**
WME Myndd Eilian 147.35 6 *e*P **PKPbc** **05 45 11.7 -0.3**
CFR Carcaliu 147.38 324 ⇓P **PKPbc** **05 45 12.2 -0.2**
TPGR Topolog 147.42 323 ⇓P **PKPbc** **05 45 12.6 +0.1**
KOLS Kolonicke sedl 147.53 334 *e*PKP **PKPbc** **05 45 13.1 +0.5**
STHS Stebnicka Huta 147.55 336 *e*PKP **PKPbc** **05 45 12.2 -0.5**
STHS *e* 05 45 17.2
MMAI Mount Meron Ar 147.60 299 PKPbc **PKPbc** **05 45 13.7 +0.3**
comp=Z,12nm,0.5s,baz=70,slow=4.7,SNR=22
VRI Vrincioaia 147.69 326 ⇑P **PKPbc** **05 45 13.2 +0.1**
HARR Harsova 147.80 323 ⇑P **PKiKP** **05 45 13.8 -1.0**
NIE Niedzica 147.91 337 *e*PKPbc **PKiKP** **05 45 14.3 -0.7**
NIE *e*PKPab **PKPab** **05 45 19.2 +0.8**
MANR Mangalia 147.95 322 ⇑P **PKiKP** **05 45 14.5 -0.6**
COVR Voineasa-Covas 147.97 326 ⇑P **PKPbc** **05 45 13.7 -0.2**
KSP Ksiaz 148.00 342 *e*PKPbc **PKPbc** **05 45 14.0 +0.2**
KSP *e*PKPab **PKPab** **05 45 19.2 +0.6**
NEHR Nehoiu 148.21 326 ⇑P **PKPbc** **05 45 14.7 +0.2**
OSTC Ostas 148.28 342 ⇑*e*PKP **PKiKP** **05 45 15.3 -0.4**
DOPR Dopca 148.31 327 ⇓P **PKiKP** **05 45 15.4 -0.5**
MLR Muntele Rosu 148.35 326 ⇑P **PKPbc** **05 45 14.5 -0.5**
STEB Steborice 148.35 340 ⇑*e*PKP **PKPbc** **05 45 14.9 +0.2**
STEB *e*PKPAB **PKPab** **05 45 20.6 +0.5**
HLM1 Long Mynd 148.35 5 *e*P **PKPbc** **05 45 13.6 -1.0**
UPC Upice 148.38 342 ⇑*e*PKP **PKPbc** **05 45 14.3 -0.4**
CLL Collm 148.42 346 *e*PKPbc **PKPbc** **05 45 14.7 -0.1**
baz=19,slow=2.1
CLL Collm 148.42 346 *i* PKPdf **PKPdf** **05 45 11.0 +0.6**
CLL ⇓*i*PKPbc **PKPbc** **05 45 14.8 0.0**
comp=Z,20nm,1.0s
CLL ⇑*i*PKPab **PKPab** **05 45 20.0 -0.3**
comp=Z,11nm,0.7s
CLZ Clausthal 148.43 349 *e*PKPbc **PKPbc** **05 45 15.2 +0.3**
baz=19,slow=2.1
DPC Dobruska-Polom 148.43 342 ⇑*e*PKP **PKiKP** **05 45 15.5 -0.5**
DPC *e*PKPAB **PKPab** **05 45 21.1 +0.6**
LANS Liptovska Anna 148.44 337 *e*PKP **PKiKP** **05 45 16.3 +0.2**
LANS *e* 05 45 21.8
KRLC Kraliky 148.54 341 ⇑*e*PKP **PKPbc** **05 45 15.4 +0.2**
MORC Moravsky Berou 148.56 340 *e*PKP **PKPbc** **05 45 15.2 0.0**
BRG Berggiesshubel 148.60 345 *e*PKPbc **PKiKP** **05 45 16.3 0.0**
baz=19,slow=2.1
BRG Berggiesshubel 148.60 345 *e*PKP **PKiKP** **05 45 16.3 0.0**
BRG Amp 05 45 16.8
comp=Z,7.3nm,0.6s
BRG Berggiesshubel 148.60 345 P **PKPab** **05 45 22.0 +0.9**
BRG Amp 05 45 22.6
comp=Z,6.4nm,0.8s
PVCC Panska Ves 148.76 344 ⇑*e*PKP **PKiKP** **05 45 15.9 -0.7**
MAUC Maruska 148.82 339 ⇑*e*PKP **PKiKP** **05 45 16.5 -0.4**
VOIR 148.84 327 ⇑P **PKPbc** **05 45 16.2 +0.1**
MCH1 Michaelchurch 148.86 5 *e*P **PKPbc** **05 45 14.9 -0.9**
MARR Marisel-Cluj 148.89 331 ⇓P **PKPbc** **05 45 16.1 -0.1**
DRGR 148.99 331 ⇑P **PKPbc** **05 45 16.5 0.0**
MONM Monmouth 149.03 5 *e*P **PKPbc** **05 45 15.1 -1.1**
TNR Turnu Rosu 149.08 328 ⇓P **PKiKP** **05 45 17.4 -0.1**
ARR Arges 149.10 327 ⇑P **PKiKP** **05 45 17.9 +0.3**
PRA Prague 149.21 344 ⇑*e*PKP **PKiKP** **05 45 17.2 -0.4**
PRU Pruhonice 149.26 343 ⇑*e*PKP **PKPbc** **05 45 16.7 -0.2**
VRAC Vranov 149.27 340 *e*PKP **PKPbc** **05 45 16.9 0.0**
JAVC Velka Javorina 149.31 339 *e*PKP **PKiKP** **05 45 18.4 +0.5**
MOX Moxa 149.34 347 *e*PKPbc **PKPbc** **05 45 17.1 +0.1**
baz=19,slow=2.1
KASTN Kahler Asten 149.36 351 *e*PKPbc **PKPbc** **05 45 17.0 -0.1**
baz=19,slow=2.1
TANN Tannenbergstha 149.38 346 *e*PKPbc **PKPbc** **05 45 17.3 0.0**
baz=19,slow=2.1
PLN Plauen 149.38 347 *e*PKPbc **PKPbc** **05 45 17.3 +0.1**
baz=19,slow=2.1
LOT Lotru 149.48 328 ⇑P **PKPbc** **05 45 17.2 -0.5**
KRUC Moravsky 149.55 340 *e*PKP **PKPbc** **05 45 17.5 -0.1**
TREC Trest 149.62 342 ⇑*e*PKP **PKiKP** **05 45 17.9 -0.6**
MANZ Manzenberg 149.86 346 *e*PKPbc **PKiKP** **05 45 18.6 -0.3**
baz=19,slow=2.1
SIRR Siria 149.86 331 ⇑P **PKiKP** **05 45 18.8 -0.3**
MODS Modra-Piesok 149.86 339 *e*PKP **PKPbc** **05 45 15.8 -2.6**
MODS *e* 05 45 23.8
GZR Gura Zlata 150.00 329 ⇑P **PKPbc** **05 45 18.8 -0.1**
SURR Surduc 150.04 330 ⇓P **PKPbc** **05 45 18.7 -0.1**
ROTZ Rotzenmuhle 150.04 346 *e*PKPbc **PKiKP** **05 45 18.9 -0.4**
baz=19,slow=2.1
ELND Elena 150.06 323 ⇑P **PKiKP** **05 45 19.3 -0.3**
SBD Saint Breward 150.09 8 *e*P **PKPbc** **05 45 17.8 -1.0**
UCC Uccle 150.16 356 *d*PKiKP **PKiKP** **05 45 19.0 -0.5**
MEM Membach 150.22 354 *d*PKP **PKPbc** **05 45 19.1 0.0**
BTNL Ternell 150.24 354 *d*PKiKP **PKPbc** **05 45 19.2 0.0**
BSTI Sart Tilman 150.29 355 *d*PKiKP **PKiKP** **05 45 19.5 -0.3**
KHC Kasperske Hory 150.30 344 ⇑*e*PKP **PKiKP** **05 45 19.5 -0.4**
KHC *e*PKPAB **PKPab** **05 45 28.5 +0.2**
TNS Taunus Mts 150.31 351 *e*PKPbc **PKiKP** **05 45 19.7 -0.3**
baz=19,slow=2.1
SRE Strehaia 150.32 328 ⇑P **PKiKP** **05 45 20.2 +0.1**

BZS Buzias 150.38 331 ⇓P **PKPbc** **05 45 19.6 -0.1**
CKRC Cesky Krumlov 150.38 343 ⇑*e*PKP **PKPbc** **05 45 19.5 -0.1**
PLVB Pleven 150.46 324 ⇑P **PKiKP** **05 45 20.2 -0.2**
BCLA Clavier 150.47 355 *d*PKP **PKPab** **05 45 27.4 -1.5**
BHOU Houvegnez 150.48 354 *d*PKiKP **PKiKP** **05 45 19.8 -0.4**
GEC2 GERESS Array S 150.53 343 *e*PKPbc **PKPbc** **05 45 19.9 -0.1**
baz=19,slow=2.1
GERES GERESS Array B 150.53 343 PKPbc **PKPbc** **05 45 19.4 -0.6**
comp=Z,6.1nm,0.7s,baz=29,slow=3.0,SNR=40
HERR Herculane 150.55 329 ⇓P **PKPbc** **05 45 19.8 -0.2**
BMRD Maredsous 150.63 356 *d*PKiKP **PKPbc** **05 45 19.4 -0.6**
BMRD *d*PKPab **PKPab** **05 45 29.1 -0.4**
CONA Conrad Observa 150.72 340 *i* PKiKP **PKiKP** **05 45 20.5 -0.4**
comp=Z,5.6nm,0.5s,SNR=15
CONA *e*PKP **PKPab** **05 45 30.3 +0.1**
comp=Z,2.1nm,0.9s
RCHB Rochefort 150.74 355 *d*PKiKP **PKPbc** **05 45 20.1 -0.2**
RONA Rosalia, Austr 150.78 339 *i* PKP **PKiKP** **05 45 20.5 -0.5**
comp=Z,15nm,0.5s,SNR=21
RONA *e*PKP **PKPab** **05 45 30.4 0.0**
comp=Z,1.8nm,0.6s
DOU Dourbes 150.85 356 *d*PKPdf **PKPdf** **05 45 14.1 -0.1**
DOU *d*PKP **PKPbc** **05 45 20.2 -0.3**
DOU *d*PKPab **PKPbc** **05 45 29.8 -0.6**
MDVR Moldovita 150.96 329 ⇓P **PKPbc** **05 45 20.9 -0.2**
WLF Walferdange 151.15 354 *d*PKPab **PKPbc** **05 45 30.0 -1.8**
MORH Mrgy, Hungar 151.18 335 ⇓P **PKPbc** **05 45 21.1 -0.3**
MOA Molln 151.28 342 *i* PKP **PKPbc** **05 45 21.3 -0.4**
comp=Z,3.9nm,0.5s,SNR=5.9
MOA *e*PKP **PKPab** **05 45 33.5 +1.0**
comp=Z,1.8nm,0.6s
ARSA Arzberg 151.42 340 *e*PKP **PKPbc** **05 45 21.2 -0.9**
comp=Z,1.7nm,0.5s
ARSA *e*PKP **PKPab** **05 45 33.8 +0.7**
comp=Z,1.9nm,0.6s
BIOA Bad Ischl, Aus 151.60 343 *e*PKP **PKPbc** **05 45 21.7 -0.7**
comp=Z,1.1nm,0.5s
BIOA *i* PKP **PKPab** **05 45 33.2 -0.5**
comp=Z,2.6nm,0.5s
RJOB Jochberg 151.78 344 *e*PKPbc **PKPbc** **05 45 22.5 -0.4**
baz=19,slow=2.1
BOVS Bovan 151.81 328 ⇑P **PKiKP** **05 45 22.8 -0.4**
SOKA Soboth 152.09 340 *i* PKP **PKPbc** **05 45 22.7 -0.8**
comp=Z,3.0nm,0.6s
SOKA *i* PKP **PKPab** **05 45 36.8 +0.8**
comp=Z,1.2nm,0.4s
PERS Pernice 152.10 340 *i* PKPbc **PKPbc** **05 45 22.7 -0.9**
LESA Schwarzleotal 152.10 344 *i* PKP **PKPbc** **05 45 22.9 -0.7**
comp=Z,5.0nm,0.7s,SNR=6.8
LESA *i* PKP **PKPab** **05 45 36.2 +0.2**
comp=Z,5.0nm,1.0s
LESA Schwarzleotal 152.10 344 *e*P **PKPbc** **05 45 22.9 -0.7**
comp=Z,5.0nm,0.7s,SNR=6.8
BFO Black Forest 152.17 350 *e*PKPbc **PKPbc** **05 45 23.2 -0.4**
baz=19,slow=2.1
KBA Koelnbreinsper 152.24 342 *i* PKP **PKPbc** **05 45 23.5 -0.5**
comp=Z,7.1nm,1.0s
OBKA Obir 152.39 340 *i* PKP **PKPbc** **05 45 23.4 -0.8**
comp=Z,2.2nm,0.7s
OBKA *i* PKP **PKPab** **05 45 37.3 0.0**
comp=Z,2.3nm,0.7s
WATA Walderalm 152.46 345 *i* PKP **PKPbc** **05 45 23.7 -0.7**
comp=Z,3.5nm,0.5s
WATA *i* PKP **PKPab** **05 45 37.8 +0.2**
comp=Z,3.3nm,0.6s
RETA Reutte 152.51 346 *e*PKP **PKPbc** **05 45 24.0 -0.5**
comp=Z,4.0nm,0.7s
RETA *i* PKP **PKPab** **05 45 37.7 0.0**
comp=Z,3.5nm,0.6s
WTTA Wattenberg 152.52 345 *i* PKP **PKPbc** **05 45 24.2 -0.4**
comp=Z,7.4nm,0.5s,SNR=8.3
WTTA *i* PKP **PKPab** **05 45 38.2 +0.4**
comp=Z,6.4nm,0.6s
WTTA Wattenberg 152.52 345 *e*P **PKPbc** **05 45 24.2 -0.4**
comp=Z,7.4nm,0.5s,SNR=8.3
MYKA Terra Mystica 152.56 342 *i* PKP **PKPbc** **05 45 23.3 -1.2**
comp=Z,5.1nm,0.8s,SNR=4.3
MYKA *i* PKP **PKPab** **05 45 37.7 -0.2**
comp=Z,2.6nm,0.6s
MOTA Moosalm 152.57 346 *i* PKP **PKPbc** **05 45 24.2 -0.4**
comp=Z,4.8nm,0.7s,SNR=5.5
MOTA *i* PKP **PKPab** **05 45 38.1 0.0**
comp=Z,5.8nm,0.6s
MOTA Moosalm 152.57 346 *e*P **PKPbc** **05 45 24.2 -0.4**
comp=Z,4.8nm,0.7s,SNR=5.5
SQTA Sankt Quirin 152.66 345 *e*PKP **PKPbc** **05 45 24.3 -0.5**
comp=Z,3.4nm,0.6s
SQTA *i* PKP **PKPab** **05 45 38.8 +0.4**
comp=Z,3.4nm,0.7s
ABTA Abfaltersbach 152.77 343 *i* PKP **PKPbc** **05 45 24.2 -0.9**
comp=Z,7.6nm,0.5s
ABTA *e*PKP **PKPab** **05 45 37.4 -1.4**
comp=Z,3.6nm,0.6s
DAVA Damuels 152.89 347 *e*PKiKP **PKiKP** **05 45 25.5 0.0**
comp=Z,5.8nm,1.0s
DAVA *i* PKP **PKPab** **05 45 39.4 -0.1**
comp=Z,7.4nm,1.0s
FETA Feichten 152.96 346 *i* PKP **PKPbc** **05 45 25.3 -0.3**
comp=Z,5.3nm,1.0s
FETA *i* PKP **PKPab** **05 45 40.1 +0.3**
comp=Z,7.0nm,1.3s
BOJS Bojanci 153.04 338 *i* PKPbc **PKiKP** **05 45 25.5 -0.1**
ESDC Sonseca Array 160.81 13 PKPab **PKPab** **05 46 13.3 -0.5**
comp=Z,1.6nm,1.0s,baz=351,slow=5.8,SNR=8.1
KEST Kesra 163.76 336 PKPab **PKPab** **05 46 25.8 -1.2**
comp=Z,2.4nm,0.8s,baz=34,slow=11,SNR=2.7
DBIC Dimbokro 164.51 156 PKP **PKPdf** **05 45 30.4 -1.5**
comp=Z,7.2nm,1.0s,baz=201,slow=3.9,SNR=3.7

IDC 17 06:06:57.1±1.9, 0.00S×125.81E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=174.0km s-min=25.9km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	Az°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.51**	**158**	P		P	06 11 46.7	-1.1
	0.8nm,0.5s,baz=336,slow=11,SNR=15							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**24.80**	**162**	P		P	06 12 21.9	+0.8
	0.4nm,0.4s,baz=344,slow=12,SNR=11							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**60.12**	**327**	P		P	06 17 06.3	-0.1
	0.3nm,0.3s,baz=119,slow=8.0,SNR=5.4							
	0.3nm,0.3s							

SNET 17 06:13:03.3±1.0, 12.92N×88.90W, h35km, ML3.1
CATAC 17 06:13:03.6±0.5, 13.3N×8.9W±, h29km±3km, M3.0/21, MLv3.0/21, Error ellipse: s-maj=7.0km s-min=3.1km az=17.4, confirmed, Off coast of central America

Code	Station Name	Δ°	Az°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TECO	**Alcaldia de Te**	**0.58**	**12**	*e*P		Pn	06 13 15.9	0.0
TECO				*e*S		Sn	06 13 24.5	0.0
TECO	**Alcaldia de Te**	**0.58**	**12**	P		Pn	06 13 15.9	0.0
TECA	**Tecapa**	**0.66**	**36**	*e*P		Pn	06 13 17.1	0.0
TECA				*e*P		Pb	06 13 17.2	+0.5
TECA				*e*S		Sn	06 13 27.0	+0.4
LALI	**Alcalda de L**	**0.66**	**322**	S		Sn	06 13 26.6	+0.1
LALI	**Alcalda de L**	**0.66**	**322**	P		Pb	06 13 16.6	0.0
LFRS	**El Faro**	**0.68**	**347**	*e*P		Pn	06 13 17.2	-0.1
LFRS				*e*S		Sn	06 13 27.9	+1.0
UESV	**Universidad de**	**0.68**	**10**	*e*P		Pn	06 13 17.3	+0.1
UESV				*e*S		Sn	06 13 27.6	+0.7
UESV	**Universidad de**	**0.68**	**10**	P		Pn	06 13 17.5	+0.2
LOMA	**Loma Larga**	**0.73**	**339**	*e*P		Pn	06 13 18.1	0.0
LOMA				*e*S		Sn	06 13 28.7	+0.5
LOMA	**Loma Larga**	**0.73**	**339**	P		Pn	06 13 18.2	+0.1
PQSS	**Presa 15 de Se**	**0.74**	**27**	*e*P		Pn	06 13 18.1	0.0
PQSS				*e*S		Sn	06 13 28.4	+0.1
PQSS	**Presa 15 de Se**	**0.74**	**27**	S		Sn	06 13 29.4	+1.1
PQSS	**Presa 15 de Se**	**0.74**	**27**	P		Pn	06 13 18.4	+0.3
PAVA	**Las Pavas**	**0.75**	**357**	*e*P		Pn	06 13 18.4	+0.1
PAVA				*e*S		Sn	06 13 29.5	+0.8
PAVA	**Las Pavas**	**0.75**	**357**	P		Pn	06 13 18.4	+0.1
LCY	**Lacayo**	**0.75**	**52**	*e*P		Pb	06 13 18.0	-0.2
SCLA	**Alcaldia de Sa**	**0.76**	**13**	*e*P		Pn	06 13 18.5	+0.1
SCLA				*e*S		Sn	06 13 29.8	+1.0
SCLA	**Alcaldia de Sa**	**0.76**	**13**	P		Pn	06 13 18.6	+0.2
PACA	**Pacayal**	**0.76**	**48**	*e*P		Pn	06 13 18.5	+0.1
PACA				*e*S		Sn	06 13 29.3	+0.3
PACA	**Pacayal**	**0.76**	**48**	P		Pn	06 13 18.7	+0.3
VSM	**San Miguel**	**0.77**	**53**	*e*P		Pb	06 13 18.5	-0.1
LBRS	**Las Brisas**	**0.78**	**350**	*e*P		Pn	06 13 19.0	+0.3

UDBS	**Universidad Do**	**0.79**	**342**	S	Sn	06 13 30.3	+0.6
UDBS	**Universidad Do**	**0.79**	**342**	P	Pb	06 13 18.9	+0.1
UTEC	**Universidad Te**	**0.79**	**338**	P	Pb	06 13 18.9	+0.1
UTEC	**Universidad Te**	**0.79**	**338**	S	Sn	06 13 30.4	+0.7
LFU	**La Fuente**	**0.81**	**345**	*e*P	Pb	06 13 19.3	+0.2
LFU				*e*S	Sn	06 13 30.8	+0.7
UEES	**Universidad Ev**	**0.82**	**336**	P	Pb	06 13 19.5	+0.2
UEES	**Universidad Ev**	**0.82**	**336**	S	Sn	06 13 31.0	+0.6
PMON	**Piamonte**	**0.85**	**332**	*e*P	Pb	06 13 20.3	+0.5
PMON	**Piamonte**	**0.85**	**332**	S	Sn	06 13 31.8	+0.7
PMON	**Piamonte**	**0.85**	**332**	P	Pn	06 13 19.7	+0.1
PIC2	**El Picacho**	**0.85**	**336**	*e*P	Pb	06 13 20.5	+0.5
BOQS	**Boqueron**	**0.85**	**335**	*e*P	Pb	06 13 20.2	+0.2
JAYA	**Jayaque - finc**	**0.87**	**322**	*e*P	Pn	06 13 19.8	-0.2
JAYA				*e*S	Sn	06 13 31.8	0.0
JAYA	**Jayaque - finc**	**0.87**	**322**	S	Sn	06 13 32.3	+0.5
JAYA	**Jayaque - finc**	**0.87**	**322**	P	Pn	06 13 20.0	0.0
CNRM	**Centro Naciona**	**0.88**	**54**	P	Pn	06 13 20.1	+0.1
CNRM	**Centro Naciona**	**0.88**	**54**	S	Sn	06 13 32.4	+0.6
CEDA	**San Andres**	**0.96**	**330**	P	Pn	06 13 20.6	-0.6
LCND	**La Caada**	**1.04**	**71**	*e*P	Pn	06 13 21.7	-0.6
LCND	**La Caada**	**1.04**	**71**	P	Pn	06 13 22.0	-0.3
CNCH	**Conchagua**	**1.09**	**73**	*e*P	Pn	06 13 22.4	-0.5
CNCH	**Conchagua**	**1.09**	**73**	P	Pn	06 13 22.3	-0.7
CNCH	**Conchagua**	**1.09**	**73**	S	Sb	06 13 37.5	-0.3
CEVE	**Cerro Verde**	**1.11**	**321**	S	Sb	06 13 38.2	-0.3
CEVE	**Cerro Verde**	**1.11**	**321**	P	Pn	06 13 23.1	-0.3
SBLS	**San Blas**	**1.12**	**321**	*e*P	Pn	06 13 23.6	+0.1
SNJE	**San Jose**	**1.13**	**323**	*e*P	Pn	06 13 23.8	+0.2
UNIC	**Universidad Ca**	**1.19**	**328**	P	Pn	06 13 24.8	+0.4
UNIC	**Universidad Ca**	**1.19**	**328**	S	Sn	06 13 39.9	+0.2
LLGN	**La Laguna**	**1.19**	**358**	S	Sn	06 13 40.3	+0.5
LLGN	**La Laguna**	**1.19**	**358**	P	Pn	06 13 24.4	0.0
NUBE	**Las Nubes**	**1.27**	**318**	*e*P	Pn	06 13 25.4	0.0
NUBE				*e*S	Sn	06 13 41.6	0.0
NUBE	**Las Nubes**	**1.27**	**318**	P	Pn	06 13 25.7	+0.3
SLOZ	**Alcaldia de Sa**	**1.36**	**321**	*e*P	Pn	06 13 27.1	+0.5
SLOZ	**Alcaldia de Sa**	**1.36**	**321**	S	Sn	06 13 44.1	+0.3
SLOZ	**Alcaldia de Sa**	**1.36**	**321**	P	Pn	06 13 26.5	-0.1
FAME	**Alcaldia de Sa**	**1.39**	**309**	P	Pn	06 13 27.2	+0.1
FAME	**Alcaldia de Sa**	**1.39**	**309**	S	Sn	06 13 44.6	+0.1
MTO3	**Montecristo**	**1.50**	**343**	S	Sn	06 13 47.1	-0.3
MTO3	**Montecristo**	**1.50**	**343**	P	Pn	06 13 28.7	0.0

*SDD **17** 06:16:22.6±1.7, 18°.68N×71°.93W, h14km±22km, MD2.7, ML2.0, MW2.4*
*OSPL **17** 06:16:24.5±1.7, 18°.71N×71°.84W, h6km±74km, ML1.8*
ISC 17 06:16:21.6±1.4**, 18°.74N**±0°.04×**71°.83W**±0°.04**, h8**km±12km**, n8, σ0°59/16, 1C-4D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.25**	**185**	⇓*e*P	g	**Pg**	**06 16 27.0**	**+0.5**
JIDR				⇓*e*Sg		**Sg**	**06 16 29.8**	**-0.1**
JIDR				IAML			06 16 31.4	
	comp=N,435nm,0.2s							
PAPH	**Port-au-Prince**	**0.50**	**245**	*i* P		**Pb**	**06 16 32.2**	**-0.3**
PAPH				*e*S		**Sb**	**06 16 40.0**	**+0.1**
PAPH				IAML			06 16 40.7	
	comp=Z,58nm,0.1s							
LODU1	**El Espartillar**	**0.51**	**139**	*i* P		**Pb**	**06 16 32.4**	**-0.4**
LODU1				*e*S		**Sb**	**06 16 40.6**	**+0.3**
LODU1				IAML			06 16 40.8	
	comp=Z,99nm,0.3s							
SDDR	**Presa de Saban**	**0.56**	**64**	*i* P		**Pn**	**06 16 35.8**	**-0.2**
SDDR				*e*S		**Sb**	**06 16 43.0**	**+1.1**
SDDR				IAML			06 16 44.5	
	comp=Z,22nm,0.5s							
SDDR	**Presa de Saban**	**0.56**	**64**	*e*Pg		**Pn**	**06 16 35.9**	**0.0**
SDDR				⇑*e*Sg		**Sb**	**06 16 43.1**	**+1.2**
SDDR				IAML			06 16 43.5	
	comp=N,27nm,0.2s							
REDR	**Restauracion**	**0.59**	**44**	⇓*e*Pg		**Pb**	**06 16 33.9**	**-0.2**
REDR				⇓*e*Sg		**Sb**	**06 16 42.2**	**-0.4**
REDR				IAML			06 16 42.7	
	comp=N,98nm,0.2s							
PODR	**Polo**	**0.77**	**138**	*e*Pg		**Pg**	**06 16 35.8**	**-0.7**
PODR				*e*Sg		**Sb**	**06 16 48.0**	**0.0**
PODR				IAML			06 17 29.5	
	comp=N,55nm,0.9s							
LOBH	**Bahia de las A**	**0.89**	**168**	*i* P		**Pn**	**06 16 40.6**	**+0.3**
LOBH				*e*S		**Sb**	**06 16 51.5**	**+0.3**
LOBH				IAML			06 16 52.2	
	comp=Z,51nm,2.2s							

NEIC 17 06:21:03.8±1.9**, 38°.04N**±0°.03×**97°.97W**±0°.02**, h5**km±2km**, mb_Lg2.0**/11**, Error ellipse: s-maj=4.7km s-min=3.0km az=25.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.70**	**303**		Pg	Pg	06 21 16.2	-1.0
R32A					Sg	Sg	06 21 26.0	-0.3
BLOK	**Blackwell**	**1.41**	**155**			Pn	06 21 29.6	-0.5
BLOK						Sb	06 21 48.4	-0.5
CROK	**Carrier**	**1.53**	**180**			Pn	06 21 30.2	-1.6
CBKS	**Cedar Bluff**	**1.59**	**300**			Pn	06 21 32.7	0.0
CBKS				IAmb_Lg			06 21 52.7	
	comp=Z,23nm,0.9s							
CBKS						Sn	06 21 53.9	+0.2
NOKA	**Waynoka**	**1.60**	**209**			Pn	06 21 31.4	-1.3
NOKA						Sb	06 21 54.4	+0.1
T35A	**Sooner Cattle**	**1.61**	**134**	Pg		Pn	06 21 33.3	+0.4
T35A						Sn	06 21 54.3	+0.2
OK038	**West end E0370**	**1.68**	**202**	Pn		Pn	06 21 33.1	-0.7
OK038						Sb	06 21 56.5	0.0
QUOK	**Quay**	**2.12**	**151**	Pn		Pn	06 21 38.8	-1.1
OK052	**Battle Ridge R**	**2.24**	**155**	IAmb_Lg			06 22 20.9	
	comp=Z,5.7nm,0.9s							
OK029	**Liberty Lake**	**2.27**	**169**	Pn		Pn	06 21 41.0	-1.0
TUL3	**Leonard**	**2.75**	**140**	IAmb_Lg			06 22 38.9	
	comp=Z,3.5nm,0.7s							
U38A	**Gravette**	**3.27**	**118**	IAmb_Lg			06 22 51.1	
	comp=Z,4.2nm,0.8s							
HHAR	**Hobbs**	**3.67**	**117**	IAmb_Lg			06 23 06.0	
	comp=Z,3.4nm,0.8s							
KSCO	**Kaye Shedlock'**	**3.78**	**286**	IAmb_Lg			06 23 05.0	
	comp=Z,4.1nm,0.7s							
P38A	**Dawn**	**3.81**	**64**	IAmb_Lg			06 23 08.2	
	comp=Z,4.9nm,0.9s							

*SKO **17** 06:35:21.2, 40°.21N×19°.68E, h0km*
*TIR **17** 06:35:21.7, 40°.34N×19°.86E, h9km±1km, Ml2.6/3*
*ATH **17** 06:35:22.9±0.5, 40°.40N×19°.79E, h11km±4km, ML2.7/11, Manual Solution by N.Liadopoulou First location: 2019/08/17 06:36:36, This location: 2019/08/17 06:44:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
ISC 17 06:35:21.9±1.2**, 40°.34N**±0°.02×**19°.79E**±0°.03**, h5**km±11km**, n32, σ0°92/42, 7C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.26**	**301**	⇑Pg		**Pg**	**06 35 26.7**	**-0.2**
VLO				Sg		**Sb**	**06 35 32.1**	**-1.6**
VLO				AML		AML	06 35 34.2	
	22nm,0.5s							
SRN	**Sarande**	**0.49**	**160**	⇑Pg		**Pg**	**06 35 31.3**	**+0.1**
SRN				Sg		**Sb**	**06 35 39.5**	**-0.7**
KEK	**Kerkira**	**0.62**	**179**	⇑Pg		**Pn**	**06 35 37.9**	**+0.6**
KEK				Sg		**Sb**	**06 35 44.0**	**-0.3**
KEK	**Kerkira**	**0.62**	**179**	P		**Pn**	**06 35 37.3**	**0.0**
KEK				S		**Sn**	**06 35 47.4**	**-0.2**
NEST	**Nestorio**	**0.97**	**85**	⇑P		**Pg**	**06 35 39.7**	**-0.8**
NEST				S		**Sb**	**06 35 53.3**	**-1.0**
NEST				AML		AML	06 36 03.9	
	0.3nm,0.5s							
NEST	**Nestorio**	**0.97**	**85**	P		**Pb**	**06 35 41.0**	**-0.2**
SCTE	**Santa Cesarea**	**1.04**	**256**	P		**Pb**	**06 35 41.9**	**-0.5**
PENT	**Pentalofos**	**1.04**	**97**	P		**Pn**	**06 35 43.1**	**-0.2**
JAN	**Janina**	**1.06**	**129**	P		**Pg**	**06 35 42.1**	**-0.2**
OHR	**Ohrid**	**1.09**	**45**	*i* Pg		**Pb**	**06 35 42.8**	**-0.5**
OHR				*i* Sg		**Sn**	**06 35 60.0**	**+0.6**
FNA	**Florina**	**1.29**	**69**	⇑P		**Pg**	**06 35 46.5**	**-0.2**
FNA				S		**Sn**	**06 36 04.2**	**0.0**
FNA	**Florina**	**1.29**	**69**	*i* Pg		**Pg**	**06 35 46.7**	**+0.1**
FNA				*i* Sg		**Sn**	**06 36 07.1**	**+2.9**
FNA	**Florina**	**1.29**	**69**	P		**Pb**	**06 35 46.1**	**-0.5**
MESG	**Mesagne**	**1.50**	**280**	P		**Pn**	**06 35 49.2**	**-0.2**
TETR	**Tetrakomo, Epi**	**1.52**	**130**	P		**Pg**	**06 35 50.7**	**-0.3**
KZN	**Kozani**	**1.52**	**91**	P		**Pg**	**06 35 50.5**	**-0.5**
TSLK	**Tsoukalades, L**	**1.65**	**156**	P		**Pn**	**06 35 51.6**	**+0.1**
LKD2	**Lefkada island**	**1.69**	**156**	⇑Pn		**Pb**	**06 35 53.3**	**-0.1**
LKD2				Sn		**Sg**	**06 36 17.3**	**+1.3**
LKD2	**Lefkada island**	**1.69**	**156**	P		**Pb**	**06 35 52.5**	**-0.9**
PUK	**Puka**	**1.71**	**3**	⇑Pn		**Pb**	**06 35 53.6**	**-0.2**
PUK				Sn		**Sg**	**06 36 18.3**	**+1.6**
PUK				AML		AML	06 36 25.5	
	0.2nm,0.4s							
EVGI	**Lefkada island**	**1.84**	**158**	P		**Pb**	**06 35 55.2**	**-0.8**
THL	**Klokotos Trika**	**1.88**	**114**	P		**Pb**	**06 35 55.6**	**-1.0**
EVR	**Evrytania**	**2.11**	**132**	P		**Pn**	**06 35 58.8**	**+0.9**
NOCI	**Noci**	**2.12**	**283**	P		**Pn**	**06 35 58.5**	**+0.6**
PVO	**Paravola**	**2.18**	**141**	P		**Pb**	**06 36 00.1**	**-1.7**
VLS	**Valsamata**	**2.25**	**164**	P		**Pn**	**06 36 00.7**	**+1.0**
LTRZ	**Laterza**	**2.28**	**278**	P		**Pn**	**06 36 00.8**	**+0.7**
ANX	**Ano Chora**	**2.40**	**136**	P		**Pn**	**06 36 02.8**	**+0.9**
KNT	**Kendrikon**	**2.50**	**70**	*i* Pn		**Pn**	**06 36 03.8**	**+0.5**
KNT	**Kendrikon**	**2.50**	**70**	P		**Pn**	**06 36 03.3**	**+0.1**
HORT	**Hortiatis**	**2.54**	**83**	P		**Pn**	**06 36 04.0**	**+0.2**
BARS	**Barje**	**2.91**	**31**	*i* Pn		**Pb**	**06 36 12.4**	**-1.8**

*PRE **17** 06:36:02.4±0.8, 26°.86S×26°.75E, h2km, ML2.6*
*BGSI **17** 06:36:06.0±1.5, 27°.07S×26°.91E, h15km±29km, ML2.7*
ISC 17 06:36:03.6±0.8**, 26°.93S**±0°.04×**26°.82E**±0°.04**, h6**km**, n25, σ1°64/46, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.73**	**47**	*e*P		**Pg**	**06 36 17.4**	**-0.3**
WDLM				*e*S		**Sg**	**06 36 26.4**	**-1.0**
WDLM				IAML			06 36 28.1	
	comp=Z,641nm,0.2s							
HRAO	**HartRAO**	**1.29**	**37**	*e*P		**Pn**	**06 36 26.7**	**-1.7**
HRAO				*e*S		**Sg**	**06 36 45.4**	**+0.2**
HRAO				IAML			06 36 50.5	
	comp=Z,99nm,0.1s							
SNKL	**Senekal, Frees**	**1.59**	**148**	*e*P		**Pb**	**06 36 34.1**	**+0.6**
SNKL				*e*S		**Sb**	**06 36 55.6**	**+1.7**
SNKL				IAML			06 37 00.2	
	comp=Z,106nm,0.3s							
NWCL	**Newcastle**	**2.85**	**107**	*e*P		**Pn**	**06 36 51.3**	**+1.5**
NWCL				*e*S		**Sn**	**06 37 26.5**	**+2.0**
NWCL				IAML			06 37 40.6	
	comp=Z,68nm,0.4s							
CRLN	**Carolina, Mapu**	**3.02**	**73**	*e*P		**Pn**	**06 36 52.4**	**+0.3**
CRLN				*e*S		**Sn**	**06 37 29.7**	**+1.0**
CRLN				IAML			06 37 40.7	
	comp=Z,18nm,0.7s							
LEPH	**Lephalale, Lim**	**3.18**	**16**	*e*P		**Pn**	**06 36 53.0**	**-1.3**
LEPH				*e*S		**Sn**	**06 37 31.4**	**-1.2**
LEPH				IAML			06 37 45.0	
	comp=Z,19nm,0.3s							
SKOMA	**Sekoma**	**3.54**	**312**	*i* P		**Pn**	**06 37 01.4**	**+2.0**
SKOMA				*i* S		**Sn**	**06 37 42.2**	**+0.6**
SKOMA				IAML			06 37 54.6	
	comp=E,34nm,0.3s							
LPHEP	**Lephephe**	**3.65**	**346**	*i* P		**Pn**	**06 37 02.8**	**+2.0**
LPHEP				*i* S		**Sn**	**06 37 45.2**	**+0.9**
LPHEP				IAML			06 38 02.5	
	comp=N,20nm,0.1s							
PILG	**Pilgrimsrest,**	**4.02**	**61**	*e*P		**Pn**	**06 37 06.3**	**+0.3**
PILG				*e*S		**Sn**	**06 37 53.4**	**-0.2**
PILG				IAML			06 38 12.4	
	comp=Z,25nm,0.6s							
PMBG	**Pietermaritzbu**	**4.15**	**129**	*e*P		**Pn**	**06 37 08.8**	**+1.2**
PMBG				*e*S		**Sn**	**06 37 57.8**	**+1.4**
PMBG				IAML			06 38 20.4	
	comp=Z,25nm,0.4s							
MREMI	**Moremi**	**4.38**	**8**	*i* P		**Pn**	**06 37 11.9**	**+1.2**
MREMI				*i* S		**Sn**	**06 38 00.3**	**-1.8**
MREMI				IAML			06 38 23.6	
	comp=N,73nm,0.2s							
ALKP	**Alkanpan, Nort**	**5.03**	**232**	*e*P		**Pn**	**06 37 20.4**	**+0.7**
ALKP				*e*S		**Sn**	**06 38 16.3**	**-1.9**
ALKP				IAML			06 38 42.3	
	comp=Z,17nm,0.4s							
MOPA	**Mopani**	**5.36**	**52**	*e*P		**Pn**	**06 37 24.1**	**0.0**
MOPA				*e*S		**Sn**	**06 38 24.2**	**-2.0**
MOPA				IAML			06 38 56.7	
	comp=Z,21nm,0.7s							
MOPA	**Mopani**	**5.36**	**52**	*i* P		**Pn**	**06 37 26.0**	**+1.9**
MOPA				*i* S		Sn	06 38 17.3	-8.9
MUSN	**Musina, Limpop**	**5.38**	**32**	*i* P		Pb	06 37 32.1	-6.0
MUSN				*i* S		**Sn**	**06 38 25.4**	**-1.5**
BFON	**Badsfontein, M**	**5.57**	**209**	*e*P		**Pn**	**06 37 27.5**	**+0.3**
BFON				*e*S		**Sn**	**06 38 29.9**	**-1.7**
BFON				IAML			06 39 06.8	
	comp=Z,12nm,0.4s							
GRAF	**Camdeboo Natio**	**5.71**	**200**	*e*P		**Pn**	**06 37 30.3**	**+1.3**
GRAF				*e*S		**Sn**	**06 38 33.6**	**-1.3**
GRAF				IAML			06 39 08.9	
	comp=Z,9.5nm,0.5s							
BROLN	**Tlhalogang**	**5.82**	**5**	*i* P		**Pn**	**06 37 32.7**	**+2.0**
BROLN				*i* S		**Sn**	**06 38 34.6**	**-3.2**
BROLN				IAML			06 39 06.5	
	comp=E,15nm,0.5s							
KGCAE	**Kacgae**	**5.83**	**313**	*i* P		**Pn**	**06 37 31.0**	**+0.2**
KGCAE				IAML			06 39 07.6	
	comp=E,30nm,0.2s							
BRAK	**Brakfontein**	**5.93**	**214**	*e*P		**Pn**	**06 37 32.7**	**+0.6**
BRAK				*e*S		**Sn**	**06 38 38.5**	**-1.9**
BRAK				IAML			06 39 15.7	
	comp=Z,7.5nm,0.4s							
ROOI	**Rooidraai Farm**	**6.24**	**206**	*e*P		**Pn**	**06 37 37.1**	**+0.8**
ROOI				*e*S		**Sn**	**06 38 46.0**	**-2.0**
ROOI				IAML			06 39 33.7	
	comp=Z,6.6nm,0.6s							
GRAN	**Grantham**	**6.71**	**216**	*e*P		**Pn**	**06 37 43.4**	**+0.6**
GRAN				*e*S		**Sn**	**06 38 57.2**	**-2.5**
GRAN				IAML			06 39 52.3	
	comp=Z,6.6nm,0.4s							
FRAZ	**Fraserburg**	**6.87**	**222**	*e*P		**Pn**	**06 37 45.0**	**0.0**
FRAZ				*e*S		**Sn**	**06 39 01.3**	**-2.2**
FRAZ				IAML			06 39 39.9	
	comp=Z,5.3nm,0.6s							
BLWY	**Bulawayo**	**6.95**	**14**	*i* P		Pb	06 37 57.4	-7.5
BLWY				*i* S		**Sn**	**06 39 09.0**	**+3.3**
SUR	**Sutherland**	**7.54**	**222**	*e*P		**Pn**	**06 37 54.3**	**0.0**
SUR				*e*S		**Sn**	**06 39 16.4**	**-3.9**
SUR				IAML			06 39 49.2	
	comp=Z,3.5nm,0.5s							

IDC 17 07:09:31.3±4.7**, 24°.23S**×**179°.55E, h502**km±35km**, mb3.4**/3**, mbtmp4.3**/4**, Error ellipse: s-maj=60.8km s-min=23.3km az=44.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.14**	**188**	P		P	07 12 32.4	+0.2
	7.1nm,0.8s,baz=347,slow=19,SNR=1.6							
URZ				S		S	07 15 04.1	+2.5
	7.2nm,1.0s,baz=65,slow=22,SNR=5.9							
ASAR	**Alice Springs**	**41.58**	**261**	P		P	07 16 35.0	+0.1
	2.9nm,0.7s,baz=98,slow=7.1,SNR=38							
ASAR				ScP		ScP	07 21 21.9	-0.8
	1.1nm,0.8s,baz=91,slow=3.6,SNR=7.3							
	2.9nm,0.7s							
WRA	**Warramunga Arr**	**41.98**	**267**	P		P	07 16 37.6	-0.5
	5.3nm,0.5s,baz=97,slow=8.4,SNR=98							
	5.3nm,0.5s							
QSPA	**South Pole Qui**	**65.86**	**180**	P		P	07 19 26.2	-0.3
	1.0nm,0.6s,baz=42,slow=1.4,SNR=10							
	1.0nm,0.6s							
BRTR	**Keskin Array B**	**147.45**	**307**	PKPbc		PKPbc	07 28 19.1	+0.3
	0.6nm,0.6s,baz=88,slow=4.6,SNR=2.7							

*ISK **17** 07:12:42.6, 36°.89N×28°.15E, h13km, ML2.9/12*
*AFAD **17** 07:12:43.2, 36°.91N×28°.17E, h7km±2km, ML2.9*
*THE **17** 07:12:43.5, 37°N×87°×2°8E±8°.7, h5km±46km, M2.8/5, MLh2.8/5*
*ATH **17** 07:12:44.1±0.5, 36°.89N×28°.16E, h10km±4km, ML2.9/5, Manual Solution by N.Liadopoulou First location: 2019/08/17 07:14:30, This location: 2019/08/17 07:23:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
ISC 17 07:12:43.5±1.0**, 36°.92N**±0°.02×**28°.15E**±0°.02**, h10**km±8km**, n33, σ0°59/46, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.16**	**152**	P		**Pg**	**07 12 47.0**	**0.0**
TURN				*i* IAML			07 12 49.0	
	comp=E,6μm,0.1s							
TURN				S		**Sg**	**07 12 49.3**	**-0.1**
TURN				*i* IAML			07 12 50.0	
	comp=N,5μm,0.3s							
MULA	**Mugla, Merkez-**	**0.36**	**22**	P		**Pg**	**07 12 50.7**	**0.0**
MULA				S		**Sg**	**07 12 56.0**	**+0.4**
MULA				*i* IAML			07 12 58.0	
	comp=E,1μm,0.3s							
DAT	**Datca**	**0.50**	**248**	Pg		**Pg**	**07 12 52.6**	**-0.6**
BDRM	**Kayabasi**	**0.58**	**285**	P		**Pg**	**07 12 54.9**	**+0.1**
BDRM				S		**Sb**	**07 13 04.4**	**+0.2**
BDRM				*i* IAML			07 13 08.0	
	comp=E,651nm,0.4s							
YAZI	**Mula-Dat§a-**	**0.61**	**247**	P		**Pg**	**07 12 55.3**	**0.0**
YAZI				S		**Sb**	**07 13 04.9**	**+0.1**
SABU	**Mula-Dalaman**	**0.66**	**98**	P		**Pg**	**07 12 55.9**	**-0.4**
SABU				S		**Sg**	**07 13 04.5**	**-0.5**
ARG	**Arkhangelos**	**0.70**	**182**	Pg		**Pg**	**07 12 56.3**	**-0.7**
ARG	**Arkhangelos**	**0.70**	**182**	P		**Pg**	**07 12 56.5**	**-0.5**
ARG	**Arkhangelos**	**0.70**	**182**	P		**Pg**	**07 12 56.8**	**-0.2**
ARG				S		**Sb**	**07 13 07.7**	**+0.1**
YKAV	**Yalikavak-Bodr**	**0.73**	**287**	Pg		**Pg**	**07 12 57.4**	**-0.1**
YKAV				Sg		**Sb**	**07 13 08.7**	**+0.5**
NISR	**Nisiros**	**0.88**	**250**	P		**Pn**	**07 13 01.6**	**-0.3**
NISR				S		**Sb**	**07 13 13.2**	**+0.7**
CAME	**Cameli-Denizli**	**0.92**	**88**	Pg		**Pg**	**07 13 00.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**349**	Pg		**Pg**	**07 13 03.7**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.05**	**6**	Pg		**Pg**	**07 13 03.5**	**-0.2**
APMY	**Acipayam-Deniz**	**1.07**	**59**	Pn		**Pg**	**07 13 03.9**	**-0.2**
SMG	**Samos**	**1.31**	**307**	P		**Pn**	**07 13 06.5**	**-1.4**
SMG	**Samos**	**1.31**	**307**	P		**Pn**	**07 13 07.6**	**-0.3**
SMG				S		**Sg**	**07 13 26.6**	**+1.0**
ODEM	**Odemis-Izmir**	**1.36**	**358**	Pn		**Pn**	**07 13 08.2**	**-0.4**
KSL	**Kastellorizon**	**1.39**	**123**	P		**Pg**	**07 13 10.4**	**+0.3**
KSL				S		**Sg**	**07 13 30.2**	**+2.1**
KSL	**Kastellorizon**	**1.39**	**123**	P		**Pb**	**07 13 09.3**	**-0.2**
KSL				S		**Sg**	**07 13 27.3**	**-0.8**
KARP	**Karpathos**	**1.58**	**211**	P		**Pn**	**07 13 11.3**	**-0.4**
KARP				S		**Sn**	**07 13 31.7**	**-0.6**
KARP	**Karpathos**	**1.58**	**211**	P		**Pn**	**07 13 11.4**	**-0.2**
KARP				S		**Sn**	**07 13 32.1**	**-0.2**
KULA	**Kula-Manisa**	**1.64**	**14**	Pn		**Pn**	**07 13 12.3**	**-0.2**
BLCB	**Balcova**	**1.71**	**329**	P		**Pn**	**07 13 12.4**	**-0.9**
GORD	**Gordes-Manisa**	**1.99**	**1**	Pn		**Pn**	**07 13 17.1**	**-0.1**
ZKR	**Zakros**	**2.39**	**222**	P		**Pn**	**07 13 23.3**	**+0.6**
TVSB	**Tavsanli**	**2.73**	**22**	Pn		**Pn**	**07 13 27.7**	**+0.2**
SEYD	**Seydisehir-KON**	**2.99**	**80**	Pn		**Pn**	**07 13 31.1**	**+0.1**
IDI	**Anoyia**	**3.10**	**239**	P		**Pn**	**07 13 33.6**	**+1.0**
AKMS	**Akamas**	**3.89**	**118**	P		**Pn**	**07 13 43.9**	**+0.6**
ALFC	**Alefka**	**4.01**	**115**	P		**Pn**	**07 13 45.0**	**-0.1**
NATA	**Nata**	**4.18**	**119**	P		**Pn**	**07 13 47.5**	**+0.2**
CSS	**Mathiatis**	**4.63**	**113**	P		**Pn**	**07 13 54.0**	**+0.3**

*NIED **17** 07:18:01.2, 46°.85N×153°.03E, h30km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=0.43; Mθθ=2.01; Mϕϕ=-1.59; Mrθ=0.35; Mθϕ=-0.05; Mϕr=1.24; Fault plane solution: M₀=2.23000×10¹⁵ NP1: ϕs=231.00000°, δ=60.00000°, λ=-162.00000°. NP2: ϕs=132.00000°, δ=75.00000°, λ=-31.00000°.*
*JMA **17** 07:18:01.2±0.8, 47°.N×147°.3E±°, h30km, MV4.8/13, KURILE ISLANDS REGION*
*BJI **17** 07:18:03.0, 46°.57N×153°.10E, h52km, mB4.9/6, mb4.6/29, Ms4.3/1, Ms7 4.0/3*
*SKHL **17** 07:18:04.5±0.1, 46°.90N×152°.80E, h50km±5km, mb4.9/5*
*MOS **17** 07:18:04.5±1.0, 46°.74N×152°.71E, h49km, mb4.5/16, Error ellipse: s-maj=8.8km s-min=7.0km az=77.7*
*IDC **17** 07:18:07.3±2.1, 46°.78N×152°.65E, h62km±18km, mb3.9/25, mbtmp4.2/29, MS3.5/26, Error ellipse: s-maj=15.1km s-min=10.3km az=138.0*
*NEIC **17** 07:18:07.4±1.0, 46°.9N±0°.1×152°.6E±0°.1, h53km±8km, mb4.7/26, Error ellipse: s-maj=20.2km s-min=7.1km az=136.0*
ISC 17 07:18:04.9±0.5**, 46°.74N**±0°.06×**152°.80E**±0°.05**, h40**km**, n208, σ1°48/209, mb4.5/72, MS3.7/22, 14C-15D, Kuril Islands**

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

YSS AMS AMS 07 22 16.3
comp=Z,10.0nm,0.3s
comp=Z,1μm,15.0s
PEA0B Petropavlovsk- 7.12 25 Pn **Pn 07 19 48.2 +1.8**
PEA0B Petropavlovsk- 7.12 25⇑*i*PN Pn 07 19 52.5 +6.1
PETK Petropavlovsk- 7.12 25 **Pn 07 19 47.6 +1.3**
PETK Petropavlovsk- 7.12 25 P **Pn 07 19 48.7 +2.3**
comp=Z,6.5nm,0.8s,baz=182,slow=9.9,SNR=12
PETK S **Sn 07 21 08.6 +2.7**
comp=Z,2.1nm,0.6s,baz=274,slow=27,SNR=0.9
PETK LR LR 07 22 05.0
comp=Z,87nm,19.5s,baz=210,slow=33
JAR Ashorobuto 7.27 245 *eP* **Pn 07 19 49.8 +1.3**
JAR *eS* **Sn 07 21 10.4 +0.7**
PET Petropavlovsk 7.34 29 *eP* **Pn 07 19 49.0 -0.4**
PET AMB AMB 07 20 03.1
comp=Z,20nm,0.4s
PET *eS* **Sn 07 21 07.3 -4.0**
PET A A 07 21 47.2
comp=Z,90nm,0.8s
PET A A 07 21 47.2
comp=Z,70nm,0.8s
JOB Onbets 7.44 242 *eS* **Sn 07 21 09.7 -4.2**
JKA Kamikawa-asahi 7.64 254 **Pn 07 19 56.5 +2.9**
JKA Kamikawa-asahi 7.64 254 *eP* **Pn 07 19 56.5 +2.9**
ASAJ Asahikawa 7.64 254 P **Pn 07 19 55.9 +2.3**
comp=Z,33nm,0.7s,baz=86,slow=14,SNR=17
ASAJ S **Sn 07 21 19.9 +1.0**
comp=Z,12nm,0.8s,baz=173,slow=17,SNR=0.9
ASAJ LR LR 07 22 42.9
comp=Z,218nm,19.7s,baz=9.5,slow=36
ASAJ Asahikawa 7.64 254 PN **Pn 07 19 56.5 +2.9**
JKK2 Kamakawa 2 7.65 252 *eP* **Pn 07 19 56.3 +2.7**
TYV Tymovskoe 7.87 305 *e*PN **Pn 07 19 53.7 -3.0**
TYV pmax pmax
comp=Z,9.0nm,1.4s
TYV pmax pmax
comp=Z,200nm,3.5s
TYV Tymovskoe 7.87 305 *eP* **Pn 07 19 55.8 -0.9**
TYV AMB AMB 07 19 56.0
comp=Z,200nm,3.5s
JCH Churui 7.89 242 *eP* **Pn 07 19 56.1 -0.9**
JCH *eS* **Sn 07 21 20.5 -4.4**
ERM Erimo 8.37 239 Pn **Pn 07 20 04.4 +0.9**
ERM Erimo 8.37 239⇓*e*PN **Pn 07 20 04.1 +0.6**
ERM pmax pmax
comp=Z,57nm,0.8s
OKH Okha 9.30 321 *eP* **Pn 07 20 16.4 +0.1**
OKH AMB AMB 07 20 18.4
comp=Z,260nm,0.9s
OKH AMS AMS 07 24 02.6
comp=Z,200nm,17.0s
JTM Tenmabayashi 10.36 239 Pn **Pn 07 20 28.4 -2.4**
JANG Nango 10.37 236 *eP* **Pn 07 20 27.1 -3.9**
JANG *eS* Sn 07 22 14.6 -11
TEY Ternei 11.42 267 *eP* **Pn 07 20 44.9 -0.4**
MA2 Magadan 12.92 355 P **Pn 07 21 07.2 +1.5**
comp=Z,6.7nm,0.4s,baz=180,slow=19,SNR=2.1
MA2 S **Sn 07 23 28.4 +0.4**
comp=Z,2.1nm,0.3s,baz=240,slow=14,SNR=1.5
MA2 LR LR 07 26 07.0
comp=Z,86nm,19.2s,baz=126,slow=37
MA2 Magadan 12.92 355⇓*i*PN **Pn 07 21 08.6 +2.9**
MA2 pmax pmax
comp=Z,22nm,1.4s
USA0B Ussuriysk Arra 14.82 268 Pn **Pn 07 21 31.1 -0.5**
USA0B Ussuriysk Arra 14.82 268 P **Pn 07 21 31.1 -0.5**
USRK Ussuriysk Ar. 14.82 268 Pn **Pn 07 21 31.5 -0.1**
USRK Ussuriysk Ar. 14.82 268 P **Pn 07 21 32.0 +0.4**
comp=Z,8.6nm,0.9s,baz=74,slow=11,SNR=10
USRK LR LR 07 27 06.6
comp=Z,150nm,19.4s,baz=44,slow=37
USRK Ussuriysk Ar. 14.82 268 P **Pn 07 21 32.0 +0.4**
MAJO Matsushiro 14.90 232⇓*eP* **Pn 07 21 33.0 +0.3**
MJAR Matsushiro Arr 14.90 232 P **Pn 07 21 29.5 -3.2**
comp=Z,2.9nm,0.8s,baz=23,slow=12,SNR=5.7
MJAR LR LR 07 27 28.3
comp=Z,88nm,19.9s,baz=56,slow=38
SHEM Shemya Is, Ala 14.99 59 P **Pn 07 21 33.2 -0.6**
comp=Z,22nm,0.7s,baz=322,slow=2.2,SNR=4.1
SHEM LR LR 07 26 18.2
comp=Z,83nm,21.6s,baz=241,slow=33
MSHR Mys Shultsa 15.94 263⇓*i*P **Pn 07 21 45.2 -0.9**
MSHR pmax pmax
comp=Z,20nm,1.0s
HEH HeiHe 17.16 291 *eP* **P 07 22 03.3 +0.6**
HEH pmax pmax
comp=Z,24nm,0.9s
AMKA Amchitka 17.93 65 P **P 07 22 12.0 +0.9**
YAK Yakutsk 20.22 328 LR LR 07 29 58.3
comp=Z,99nm,20.9s,baz=123,slow=35
YAK Yakutsk 20.22 328 *eP* **P 07 22 35.9 -0.2**
YAK *e* 07 22 54.6
YAK *eS* **S 07 26 18.8 -1.7**
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,361nm,5.3s
YAK pmax pmax
comp=N,197nm,5.3s
YAK pmax pmax
comp=E,158nm,5.1s
YAK smax smax
comp=E,117nm,4.0s
YAK smax smax
comp=N,112nm,3.7s
YAK Yakutsk 20.22 328 *eP* **P 07 22 35.9 -0.2**
KSRS Korea Array 20.59 252 P **P 07 22 40.8 +0.5**
comp=N,4.2nm,0.7s,baz=61,slow=9.0,SNR=14
comp=N,4.2nm,0.7s
JNU Nakatsue 21.53 239 P **P 07 22 50.7 +0.2**
JNU Nakatsue 21.53 239 P **P 07 22 50.5 -0.1**
comp=N,8.0nm,0.8s,baz=61,slow=9.3,SNR=4.7
JNU LR LR 07 30 57.5
comp=N,61nm,20.6s,baz=38,slow=36
comp=N,8.0nm,0.8s
BILL Bilibino 22.45 13⇑*i*P **P 07 23 01.6 +1.5**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 22.45 13 *eP* **P 07 23 01.6 +1.5**
BJI Beijing 27.26 269 P **P 07 23 43.8 -1.4**
BJI pmax pmax
comp=Z,2.0nm,0.6s
BJI LR LR
comp=Z,62nm,15.1s
TIXI Tiksi 27.42 344 LR LR 07 35 09.2
comp=Z,75nm,19.0s,baz=164,slow=37
H11N2 WAKE ISLAND Hy 29.31 152 T T 07 55 28.5
baz=340,slow=74
H11N1 WAKE ISLAND Hy 29.32 152 T T 07 55 37.0
baz=340
H11N3 WAKE ISLAND Hy 29.32 152 T T 07 55 34.4
baz=340,slow=74
NJ2 Nanjing 29.79 253 *eP* **P 07 24 07.4 -0.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
HHC Hu-ho-hao-te 30.08 274 *eP* **P 07 24 10.0 -0.4**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,82nm,5.3s
H11S1 WAKE ISLAND Hy 30.39 153 T T 07 56 54.9
baz=341,slow=74
H11S3 WAKE ISLAND Hy 30.40 153 T T 07 56 53.4
baz=341,slow=74
H11S2 WAKE ISLAND Hy 30.41 153 T T 07 56 55.4
baz=341
ULN Ulaanbaatar 30.70 289⇓*eP* **P 07 24 16.4 +0.5**
ULN pmax pmax
comp=Z,1.0nm,0.3s
ULN Ulaanbaatar 30.70 289 *eP* **P 07 24 16.4 +0.5**
M16K Timber Creek 31.01 45 P **P 07 24 19.4 +1.2**
M16K IAmb IAmb 07 24 29.5
comp=Z,18nm,1.4s
SONM Songino Array 31.14 289 P **P 07 24 18.5 -1.2**
comp=Z,0.5nm,0.5s,baz=92,slow=7.0,SNR=6.6
SONM LR LR 07 37 54.4
comp=Z,120nm,19.3s,baz=93,slow=38
comp=Z,0.5nm,0.5s
K17K Iditarod 31.50 42 P **P 07 24 24.2 +1.6**
K17K IAmb IAmb 07 24 34.8
comp=Z,22nm,1.5s

C18K Utukok River 31.74 30 P **P 07 24 25.6 +0.9**
C18K IAmb IAmb 07 25 03.8
comp=Z,15nm,1.2s
M17K Holitna River 31.77 44 P **P 07 24 26.3 +1.3**
M17K IAmb IAmb 07 24 27.6
comp=Z,18nm,1.4s
J18K Innoko River 32.31 40 P **P 07 24 30.7 +1.0**
H19K Roundabout Mou 32.73 37 **P 07 24 34.3 +1.0**
H19K IAmb IAmb 07 24 35.1
comp=Z,13nm,1.2s
E19K Redstone River 32.82 33 P **P 07 24 34.5 +0.4**
E19K IAmb IAmb 07 24 37.4
comp=Z,14nm,1.4s
Q19K Cape Douglas, 33.64 49 P **P 07 24 44.1 +2.8**
GUMO Guam 33.71 194 LR LR 07 37 34.4
comp=Z,30nm,19.7s,baz=44,slow=35
E22K Anaktuvuk Pass 34.97 33 **P 07 24 53.9 +1.1**
E22K IAmb IAmb 07 25 08.5
comp=Z,8.4nm,0.9s
XAN Xi'an 35.30 265 *eP* **P 07 24 58.3 +2.3**
C23K Itkillik River 35.69 30 P **P 07 24 59.6 +0.8**
COLA College 36.28 38⇓*i*P **P 07 25 05.6 +1.7**
COLA pmax pmax
comp=Z,6.0nm,0.9s
ILAR Eielson Array 36.69 39 P **P 07 25 08.1 +0.5**
comp=Z,1.3nm,1.0s,baz=256,slow=6.1,SNR=12
comp=Z,1.3nm,1.0s
LZH Lanzhou 37.67 272 *eP* **P 07 25 16.5 +0.1**
LZH pP pwP 07 25 29.8 -0.2
LZH pmax pmax
comp=Z,20nm,1.3s
GTA Gaotai 38.76 279 *eP* **P 07 25 27.6 +2.2**
GTA pmax pmax
comp=Z,6.0nm,1.2s
L27K Beaver Creek, 39.03 41 **P 07 25 28.8 +1.5**
CD2 Chengdu 40.67 265 P **P 07 25 40.0 -1.3**
CD2 pmax pmax
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 42.45 306 P **P**
comp=Z,1.2nm,0.5s,baz=50,slow=7.2,SNR=5.5
ZALV PcP **PcP 07 27 47.0 -0.7**
comp=Z,1.8nm,0.7s,baz=82,slow=3.1,SNR=6.9
ZALV LR LR 07 44 52.1
comp=Z,147nm,18.0s,baz=83,slow=38
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 42.45 306 *i* P **P 07 25 54.4 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
WMQ Urumqi 44.73 291 *eP* **P 07 26 16.1 +2.0**
WMQ pmax pmax
comp=Z,53nm,0.7s
PZH PanZhiHua 44.80 262 P **P 07 26 15.8 +0.9**
MK31 Makanchi Array 46.76 297 *d i*P **P 07 26 28.9 -1.1**
MKAR Makanchi Array 46.76 297 **P 07 26 28.8 -1.2**
MKAR Makanchi Array 46.76 297 P **P 07 26 28.6 -1.4**
comp=Z,1.0nm,0.6s,baz=70,slow=7.8,SNR=11
MKAR PcP **PcP 07 28 02.2 -0.5**
comp=Z,1.8nm,0.8s,baz=58,slow=3.9,SNR=6.3
MKAR LR LR 07 47 18.1
comp=Z,159nm,19.3s,baz=10.0,slow=38
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 46.76 297 *ceP* **P 07 26 33.9 +3.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 47.19 304⇑*i*P **P 07 26 32.6 -0.7**
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURK Kurchatov 47.19 304 *eP* **P 07 26 32.6 -0.7**
KURBB Kurchatov Arra 47.28 303 P **P 07 26 32.8 -1.2**
comp=Z,2.6nm,0.8s,baz=68,slow=8.3,SNR=12
KURBB LR LR 07 47 38.8
comp=Z,94nm,19.5s,baz=176,slow=38
comp=Z,2.6nm,0.8s
BVAR Borovoye Array 50.70 309 P **P 07 26 59.1 -1.0**
comp=Z,1.0nm,0.5s,baz=52,slow=9.3,SNR=3.2
BVAR LR LR 07 50 20.4
comp=Z,84nm,18.8s,baz=65,slow=38
comp=Z,1.0nm,0.5s
CHTO Chiang Mai 51.91 256 P **P 07 27 09.7 +0.1**
CHTO Chiang Mai 51.91 256 P **P 07 27 09.7 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
SHL Shillong 52.16 268 P **P 07 27 10.7 -0.9**
SHL IAmb IAmb 07 27 12.7
comp=Z,7.4nm,0.7s
SHL Shillong 52.16 268 P **P 07 27 10.7 -0.9**
SHL pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 52.16 256 P **P 07 27 11.6 +0.1**
comp=Z,2.6nm,0.5s,baz=34,slow=7.6,SNR=15
CMAR LR LR 07 52 35.4
comp=Z,20nm,19.5s,baz=240,slow=40
comp=Z,2.6nm,0.5s
CMAR Chiang Mai Arr 52.16 256 *ceP* **P 07 27 12.6 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
AAK Ala-Archa 53.65 296 LR LR 07 51 29.9
comp=Z,67nm,19.9s,baz=60,slow=37
AAK Ala-Archa 53.65 296 *ceP* **P 07 27 21.8 -0.6**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 53.65 296 *eP* **P 07 27 21.8 -0.6**
EVN Everest 54.12 274 **P 07 27 26.5 0.0**
ARTI Arti 54.98 317 LR LR 07 52 33.8
comp=Z,40nm,18.2s,baz=48,slow=38
KIRV Kirov 57.66 323 LR LR 07 55 10.7
comp=Z,60nm,18.0s,baz=29,slow=39
ARCES ARCESS Array B 57.79 341 P **P 07 27 50.5 -1.0**
comp=Z,2.2nm,1.0s,baz=36,slow=6.8,SNR=5.8
comp=Z,2.2nm,1.0s
AB31 Akbulak array 58.27 310 **P 07 27 53.9 -1.3**
AKTO Akbulak 58.58 312 LR LR 07 55 39.3
comp=Z,125nm,18.1s,baz=182,slow=38
SIMJ Simiganj 59.35 295 P **P 07 28 02.1 -0.8**
SIMJ IAmb IAmb 07 28 05.4
comp=Z,6.1nm,0.8s
NIL Nilore 59.71 288 **P 07 28 06.1 +0.7**
NIL Nilore 59.71 288 P **P 07 28 06.1 +0.7**
PLID Pearl Lake 59.85 55 **P 07 28 07.4 +0.9**
PLID IAmb IAmb 07 28 22.8
comp=Z,6.5nm,1.1s
SUMG Summit 60.73 4 P **P 07 28 12.7 +0.5**
SUMG IAmb IAmb 07 28 13.5
comp=Z,7.9nm,0.9s
SUMG Summit 60.73 4 P **P 07 28 12.7 +0.5**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 61.96 52 P **P 07 28 21.5 +0.8**
BOZ Bozeman (W) 61.96 52 P **P 07 28 21.5 +0.8**
BOZ pmax pmax
comp=Z,7.0nm,1.4s
NVAR Mina Array Bea 62.63 62 P **P 07 28 26.4 +1.1**
comp=Z,0.8nm,0.8s,baz=293,slow=7.7,SNR=6.0
comp=Z,0.8nm,0.8s
FINES FINESS Array B 63.96 335 P **P 07 28 32.8 -0.7**
comp=Z,3.4nm,0.5s,baz=28,slow=7.8,SNR=28
comp=Z,3.4nm,0.5s
PDAR Pinedale Array 64.92 54 P **P 07 28 40.9 +0.4**
comp=Z,0.7nm,0.7s,baz=342,slow=1.3,SNR=7.4
comp=Z,0.7nm,0.7s
NB2 NORSAR Subarra 68.17 341 P **P 07 29 00.1 -0.5**
comp=Z,2.7nm,0.6s,baz=28,slow=6.5
NB2 NORSAR Subarra 68.17 341 P **P 07 29 00.0 -0.5**
NOA NORSAR Array B 68.17 341 P **P 07 29 00.1 -0.5**
comp=Z,4.3nm,0.7s,baz=27,slow=6.3,SNR=14
comp=Z,4.3nm,0.7s
HFS Hagfors 68.39 339 P **P 07 29 01.5 -0.4**
comp=Z,6.4nm,0.5s,baz=53,slow=5.7,SNR=23
comp=Z,6.4nm,0.5s
WRA Warramunga Arr 68.43 199 P **P 07 29 01.2 -1.3**
comp=Z,1.1nm,0.8s,baz=18,slow=6.6,SNR=5.7
comp=Z,1.1nm,0.8s
WRA Warramunga Arr 68.43 199 *i* P **P 07 29 02.5 0.0**
KIV Kislovodsk 70.66 314 *eP* **P 07 29 18.7 +2.4**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,37nm,18.0s
KBZ Khabaz 70.72 314 P **P 07 29 15.7 -0.7**
comp=Z,2.9nm,0.7s,baz=11,slow=6.6,SNR=4.8
comp=Z,2.9nm,0.7s
E38A The Farm, Brul 71.30 41 P **P 07 29 20.1 +0.1**
E38A IAmb IAmb 07 29 20.4
comp=Z,6.6nm,0.8s
AKASG Malin Array Be 71.44 326 P **P 07 29 20.0 -0.7**
comp=Z,3.8nm,0.5s,baz=36,slow=6.2,SNR=9.7
AKASG LR LR 08 02 44.4
comp=Z,38nm,18.9s,baz=57,slow=38
comp=Z,3.8nm,0.5s
AKASG Malin Array Be 71.44 326 *ceP* **P 07 29 20.2 -0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 71.44 326 *ceP* **P 07 29 20.8 +0.1**
ASAR Alice Springs 72.13 198 P **P 07 29 25.1 0.0**
comp=Z,1.6nm,0.6s,baz=11,slow=5.5,SNR=38
comp=Z,1.6nm,0.6s
GNI Garni 72.38 310 LR LR 08 03 37.3
comp=Z,48nm,19.9s,baz=22,slow=38
I37A Lemond, Waseca 72.40 44 P **P 07 29 27.1 +0.4**
STHS Stebnicka Huta 75.42 330 *eP* **P 07 29 43.9 -0.3**
BUR08 Bucovina Ar. S 75.46 326 P **P 07 29 44.0 -0.6**
BUR08 IAmb IAmb 07 29 45.3
comp=Z,6.3nm,0.6s
KOLS Kolonicke sedl 75.47 329 *eP* **P 07 29 43.7 -0.8**
BURAR Bucovina Array 75.48 326 **P 07 29 44.2 -0.5**
BURAR IAmb IAmb 07 29 45.6
comp=Z,5.9nm,0.7s
BURAR Bucovina Array 75.48 326⇓P **P 07 29 44.7 0.0**
BURAR Bucovina Array 75.48 326 P **P 07 29 44.7 0.0**
TESR Tescani 75.83 325⇓P **P 07 29 46.7 +0.1**
LANS Liptovska Anna 76.25 331 *eP* **P 07 29 50.3 +1.3**
VRI Vrincioaia 76.33 324⇑P **P 07 29 50.3 +0.8**
VRI Vrincioaia 76.33 324 P **P 07 29 50.3 +0.8**
MORC Moravsky Berou 76.35 332 *eP* **P 07 29 48.9 -0.7**
CLL Collm 76.39 335 *i* P **P 07 29 49.1 -0.6**
CLL *i* *PP **sP 07 30 05.6 +0.2**
CLL Collm 76.39 335 *i* P **P 07 29 49.1 -0.6**
comp=Z,10.0nm,0.9s
CLL *i* pP **sP 07 30 05.6 +0.2**
TPGR Topolog 76.47 323⇑P **P 07 29 50.1 -0.2**
MLR Muntele Rosu 76.95 325 P **P 07 29 54.1 +0.9**
comp=Z,3.1nm,0.6s,baz=27,slow=2.3,SNR=4.5
comp=Z,3.1nm,0.6s
MLR Muntele Rosu 76.95 325⇓P **P 07 29 54.2 +1.1**
VRAC Vranov 77.06 332 *eP* **P 07 29 53.7 +0.1**
JAVC Velka Javorina 77.11 331 *eP* **P 07 29 54.5 +0.6**
DRGR 77.11 327⇓P **P 07 29 54.1 +0.2**
DRGR 77.11 327 P **P 07 29 54.1 +0.2**
KRUC Moravsky 77.34 332 *eP* **P 07 29 54.8 -0.3**
VOIR 77.35 325⇓P **P 07 29 56.1 +0.7**
VOIR 77.35 325 P **P 07 29 56.0 +0.7**
MODS Modra-Piesok 77.66 331 *eP* **P 07 29 54.6 -2.3**
TXAR Lajitas Array 77.68 60 P **P 07 29 57.8 +0.3**
comp=Z,0.6nm,0.7s,baz=298,slow=3.6,SNR=8.1
comp=Z,0.6nm,0.7s
KHC Kasperske Hory 78.16 334 *ceP* **P 07 30 00.6 +0.9**
KHC pmax pmax
comp=Z,7.0nm,1.3s
SURR Surduc 78.20 327⇓P **P 07 30 00.0 +0.1**
BRTR Keskin Array B 78.25 317 P **P 07 30 00.5 0.0**
comp=Z,2.2nm,0.9s,baz=57,slow=4.6,SNR=7.6
comp=Z,2.2nm,0.9s
BRTR Keskin Array B 78.25 317 *ceP* **P 07 30 01.3 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
GZR Gura Zlata 78.26 327⇓P **P 07 30 00.3 -0.1**
GZR Gura Zlata 78.26 327 P **P 07 30 00.2 -0.1**
GERES GERESS Array B 78.37 334 P **P 07 30 00.2 -0.7**
comp=Z,1.7nm,0.7s,baz=28,slow=6.0,SNR=12
comp=Z,1.7nm,0.7s
CONA Conrad Observa 78.51 332 *i* P **P 07 30 02.1 +0.4**
comp=Z,2.8nm,0.6s
BZS Buzias 78.51 327⇑P **P 07 30 01.9 +0.2**
BZS Buzias 78.51 327 P **P 07 30 01.8 +0.2**
RONA Rosalia, Austr 78.57 332 *i* P **P 07 30 02.8 +0.8**
comp=Z,4.1nm,0.8s
MEM Membach 78.88 339 *d*P **P 07 30 03.4 -0.2**
MOA Molln 79.08 333 *i* P **P 07 30 05.1 +0.3**
comp=Z,2.1nm,0.7s
ARSA Arzberg 79.21 332 *eP* **P 07 30 05.8 +0.3**
comp=Z,0.6nm,0.3s
PLVB Pleven 79.23 324⇑P **P 07 30 06.0 +0.4**
SOKA Soboth 79.88 332 *i* P **P 07 30 09.4 +0.2**
comp=Z,5.7nm,1.0s
LESA Schwarzleotal 79.95 334 *eP* **P 07 30 10.3 +0.7**
comp=Z,1.0nm,0.3s
KBA Koelnbreinsper 80.06 333 *i* P **P 07 30 11.2 +0.9**
comp=Z,8.1nm,0.7s
OBKA Obir 80.18 332 *i* P **P 07 30 11.0 +0.1**
comp=Z,4.5nm,1.1s
WATA Walderalm 80.36 334 *i* P **P 07 30 12.4 +0.5**
comp=Z,5.0nm,0.7s
MYKA Terra Mystica 80.36 333 *i* P **P 07 30 11.3 -0.5**
comp=Z,2.5nm,0.6s
WTTA Wattenberg 80.41 334 *i* P **P 07 30 12.8 +0.7**
comp=Z,7.4nm,0.7s
RETA Reutte 80.46 335 *i* P **P 07 30 13.0 +0.7**
comp=Z,3.6nm,0.9s
MOTA Moosalm 80.49 335 *i* P **P 07 30 13.3 +0.6**
comp=Z,5.3nm,0.8s
SQTA Sankt Quirin 80.57 335 *i* P **P 07 30 13.6 +0.6**
comp=Z,4.7nm,0.9s
ABTA Abfaltersbach 80.61 334 *eP* **P 07 30 14.3 +1.1**
comp=Z,1.8nm,0.7s
FETA Feichten 80.89 335 *i* P **P 07 30 15.2 +0.4**
comp=Z,2.9nm,1.0s
DAVA Damuels 80.90 335 *i* P **P 07 30 15.6 +0.8**
comp=Z,4.9nm,0.8s
MMAI Mount Meron Ar 82.66 311 P **P 07 30 24.8 +0.6**
comp=Z,6.6nm,0.8s,baz=31,slow=5.0,SNR=8.2
MMAI LR LR 08 12 38.1
comp=Z,54nm,18.1s,baz=349,slow=40
comp=Z,6.6nm,0.8s
ESDC Sonseca Array 91.50 342 P **P 07 31 05.9 -1.1**
comp=Z,0.7nm,0.9s,baz=73,slow=4.9,SNR=4.5
ESDC LR LR 08 18 44.3
comp=Z,18nm,18.1s,baz=34,slow=40
comp=Z,0.7nm,0.9s
RPZ Rata Peaks 91.50 167 LR LR 08 05 49.9
comp=Z,123nm,20.1s,baz=320,slow=31
KEST Kesra 91.58 331 LR LR 08 16 17.4
comp=Z,36nm,18.3s,baz=297,slow=38
QSPA South Pole Qui 136.47 180 PKP **PKiKP 07 37 22.1 -0.7**
comp=Z,0.7nm,0.9s,baz=27,slow=2.6,SNR=6.2
H03N2 Juan Fernandez 138.97 90 T T 10 12 43.3
baz=309,slow=77,SNR=9.9
H03N1 Juan Fernandez 138.98 90 T T 10 12 50.9
baz=309,slow=77,SNR=11
H03N3 Juan Fernandez 138.98 90 T T 10 12 26.6
baz=309,slow=77,SNR=11
PLCA Paso Flores 148.42 95 PKPbc **PKPbc 07 37 46.1 -0.5**
comp=Z,2.6nm,1.0s,baz=281,slow=4.2,SNR=5.2
CPUP Villa Florida 148.66 60 PKPbc **PKPbc 07 37 47.3 -0.2**
comp=Z,0.3nm,0.5s,baz=174,slow=2.9,SNR=3.4
SNAA Sanae 152.48 196 PKPbc **PKPbc 07 37 54.5 -0.9**
comp=Z,1.6nm,0.7s,baz=135,slow=1.4,SNR=13

SOME **17** *07:38:12.0, 44.˚73N×81.˚93E, h20km*
NNC **17** *07:38:13.4±0.6, 44.˚72N×81.˚92E, h0km, mb3.5, mpv3.5,*
Error ellipse: s-maj=10.2km s-min=2.3km az=120.0,
Suspected Mining explosion.
ISC 17 07:38:11.5±1.7, 44.70N±0.09×82.1E±0.1, h0km, n11,
σ1§18/17, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.10**	**5**	Pn		**Pb**		**07 38 49.7**	**-0.9**
	1.3nm,0.2s,baz=185,slow=16,SNR=360								
MK31				⇓Sn		**Sb**		**07 39 17.6**	**+0.3**
	23nm,0.6s,baz=187,slow=24								
PDGK	**Podgornoye**	**2.30**	**234**	⇓Pn		**Pn**		**07 38 52.2**	**+1.4**
	5.1nm,0.5s								
PDGK				⇑Sn		**Sn**		**07 39 21.1**	**+1.3**
	5.9nm,0.6s								
SHLS	**Shalkode**	**2.42**	**231**	*e*P		**Pn**		**07 38 51.9**	**-0.6**
	23nm,0.2s								
SHLS				*e*S		**Sn**		**07 39 20.7**	**-2.2**
	24nm,0.3s								
TDK	**Taldyqorghan**	**2.61**	**278**	Pg		**Pb**		**07 38 58.0**	**-1.1**
	34nm,0.1s								
TDK	**Taldyqorghan**	**2.61**	**278**	*e*P		**Pb**		**07 38 58.5**	**-0.7**
	34nm,0.1s								
TDK				*e*S		**Sb**		**07 39 32.0**	**+0.3**
	54nm,0.2s								
UZB	**Uzynbulak**	**2.68**	**236**	Pg		**Pn**		**07 38 57.4**	**+1.3**
	6.6nm,0.2s								
UZB				Lg		Lg		07 39 30.1	
	4.1nm,0.2s								
UZB	**Uzynbulak**	**2.68**	**236**	*e*P		**Pn**		**07 38 57.4**	**+1.3**
	3.1nm,0.1s								
UZB				*e*S		**Sn**		**07 39 30.1**	**+0.8**
	4.1nm,0.2s								

KPKS	**Kokpek**	**2.72**	**244**	Pg	**Pn**	**07 38 57.6**	**+1.1**
	2.5nm,0.1s						
KPKS				Lg	Lg	07 39 31.9	
	11nm,0.3s						
SATY	**Saty**	**3.10**	**239**	Pg	**Pb**	**07 39 06.8**	**-0.9**
	2.3nm,0.1s						
CHKK	**Chushkaly**	**3.73**	**259**	*e*P	**Pb**	**07 39 17.5**	**-0.8**
	10nm,0.2s						
CHKK				*e*S	**Sb**	**07 40 04.2**	**+0.1**
	5.3nm,0.2s						
KTBS	**Karatobe**	**3.98**	**258**	Pg	**Pb**	**07 39 21.4**	**-1.2**
	2.1nm,0.5s						
KTBS				Lg	Lg	07 40 11.2	
	5.5nm,0.4s						

NEIC 17 07:42:02.4±0.8,38°.02N±0°.03×97°.99W±0°.04,h5km±2km, mb_Lg1.8/2,Error ellipse: s-maj=7.3km s-min=3.1km az=47.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	**Long Quarter,**	**0.70**	**305**	Pg	Pg	07 42 14.9	-0.9
R32A				Sg	Sg	07 42 24.3	-0.7
GC02	**Grant County #**	**1.17**	**175**	Pg	Pg	07 42 23.8	-1.0
GC02				Sg	Sg	07 42 39.8	-0.1
BLOK	**Blackwell**	**1.40**	**154**		Pn	07 42 27.5	-1.1
CROK	**Carrier**	**1.51**	**180**		Pn	07 42 29.3	-0.8
NOKA	**Waynoka**	**1.57**	**209**		Pn	07 42 30.4	-0.6
CBKS	**Cedar Bluff**	**1.59**	**301**		Pn	07 42 30.6	-0.6
T35A	**Sooner Cattle**	**1.61**	**133**		Pn	07 42 30.8	-0.7
T35A				IAmb_Lg		07 42 55.0	
	comp=Z,6.8nm,0.8s						
OK038	**West end E0370**	**1.65**	**202**	Pn	Pn	07 42 32.0	0.0

CATAC 17 07:44:02.6±0.6,13°N±3°×91°W±°,h27km±6km,M3.1/19, MLv3.1/19,Error ellipse: s-maj=7.7km s-min=4.3km az=40.3,confirmed,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.96**	**38**	S	Sb	07 44 32.8	-0.2
FAME	**Alcaldia de Sa**	**0.96**	**38**	P	Pn	07 44 20.4	+0.1
NUBE	**Las Nubes**	**1.15**	**45**	P	Pn	07 44 22.6	-0.6
NUBE	**Las Nubes**	**1.15**	**45**	S	Sn	07 44 38.2	+0.1
CEVE	**Cerro Verde**	**1.22**	**53**	S	Sn	07 44 40.0	+0.1
CEVE	**Cerro Verde**	**1.22**	**53**	P	Pn	07 44 24.1	-0.1
LOAL	**Lomas de Alarc**	**1.22**	**42**	S	Sn	07 44 39.8	+0.1
LOAL	**Lomas de Alarc**	**1.22**	**42**	P	Pn	07 44 24.4	+0.4
SLOZ	**Alcaldia de Sa**	**1.24**	**41**	P	Pn	07 44 23.9	-0.3
JAYA	**Jayaque - finc**	**1.27**	**63**	P	Pn	07 44 24.6	-0.3
JAYA	**Jayaque - finc**	**1.27**	**63**	S	Sb	07 44 42.1	0.0
LALI	**Alcalda de L**	**1.33**	**72**	P	Pn	07 44 25.4	0.0
LALI	**Alcalda de L**	**1.33**	**72**	S	Sn	07 44 42.5	+0.3
UNIC	**Universidad Ca**	**1.37**	**49**	P	Pn	07 44 26.5	+0.4
UNIC	**Universidad Ca**	**1.37**	**49**	S	Sn	07 44 44.0	+0.5
CEDA	**San Andres**	**1.39**	**59**	S	Sb	07 44 45.0	-0.4
CEDA	**San Andres**	**1.39**	**59**	P	Pn	07 44 26.2	-0.1
PMON	**Piamonte**	**1.42**	**64**	S	Sn	07 44 44.9	+0.3
PMON	**Piamonte**	**1.42**	**64**	P	Pn	07 44 26.6	-0.2
PAVA	**Las Pavas**	**1.75**	**69**	P	Pn	07 44 31.7	+0.3
PAVA	**Las Pavas**	**1.75**	**69**	S	Sn	07 44 53.4	+0.5
MTO3	**Montecristo**	**1.79**	**43**	P	Pn	07 44 32.4	+0.4
MTO3	**Montecristo**	**1.79**	**43**	S	Sn	07 44 54.2	+0.2
TECO	**Alcaldia de Te**	**1.85**	**76**	P	Pn	07 44 32.0	-0.6
TECO	**Alcaldia de Te**	**1.85**	**76**	S	Sn	07 44 55.5	+0.4
UESV	**Universidad de**	**1.87**	**73**	P	Pn	07 44 33.2	+0.4
UESV	**Universidad de**	**1.87**	**73**	S	Sn	07 44 56.9	+1.3
ESQI	**Esquipulas**	**1.92**	**40**	S	Sn	07 44 57.7	+0.6
ESQI	**Esquipulas**	**1.92**	**40**	P	Pn	07 44 33.3	-0.4
SCLA	**Alcaldia de Sa**	**1.94**	**71**	S	Sn	07 44 57.3	-0.2
SCLA	**Alcaldia de Sa**	**1.94**	**71**	P	Pn	07 44 33.8	-0.1
PQSS	**Presa 15 de Se**	**2.08**	**75**	P	Pn	07 44 36.0	+0.3
PQSS	**Presa 15 de Se**	**2.08**	**75**	S	Sn	07 45 01.3	+0.6
LCND	**La Caada**	**2.67**	**85**	P	Pn	07 44 43.8	-0.1
LCND	**La Caada**	**2.67**	**85**	S	Sn	07 45 16.9	+1.5
CNCH	**Conchagua**	**2.72**	**86**	P	Pn	07 44 44.3	-0.4
CNCH	**Conchagua**	**2.72**	**86**	S	Sn	07 45 16.8	-0.1
CHOHN	**Orocuina**	**3.39**	**83**	S	Sn	07 45 34.0	+0.5
CHOHN	**Orocuina**	**3.39**	**83**	P	Pn	07 44 53.3	-0.6
TGUH	**Tegucigalpa,Un**	**3.40**	**73**	P	Pn	07 44 54.2	+0.2
CCIG	**Comitan**	**3.50**	**335**	P	Pn	07 44 55.2	-0.3
YUSH	**Yuscaran**	**3.77**	**76**	P	Pn	07 44 58.9	-0.3
YUSH	**Yuscaran**	**3.77**	**76**	S	Sn	07 45 43.1	+0.3
RCVN	**Varillal2**	**4.34**	**83**	S	Sn	07 45 56.8	+0.1
RCVN	**Varillal2**	**4.34**	**83**	P	Pn	07 45 06.7	-0.2

IDC 17 08:01:41.6±1.9, 1°.85N×99°.08E,h125km±8km,mb3.5/5, mbtmp3.9/6,Error ellipse: s-maj=71.3km s-min=16.2km az=56.0
DJA 17 08:01:46.0±0.5,2°N±3°×9°9E±°,h94km±6km,M3.8/11, MLv3.8/11
ISC 17 08:01:40.4±0.9,1°.83N±0°.06×99°.21E±0°.10,h100km,n14, σ2§55/15,mb3.9/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.01**	**344**	P	**Pn**	**08 02 03.8**	**+2.8**
	35nm,0.3s,baz=186,slow=9.2,SNR=46						
PSI				S	**Sn**	**08 02 19.5**	**+2.9**
	25nm,0.4s,baz=153,slow=6.9,SNR=5.2						
GSI	**Gunungsitoli**	**1.71**	**252**	P	**Pn**	**08 02 11.8**	**+2.5**
GSI				S	**Sn**	**08 02 31.2**	**-0.1**
TSI	**Tuntungan**	**1.78**	**339**	P	**Pn**	**08 02 12.7**	**+2.5**
PBSI	**Pulau Batu**	**2.09**	**206**	P	**Pn**	**08 02 17.9**	**+3.8**
KCSI	**Kotacane, Aceh**	**2.21**	**320**	P	**Pn**	**08 02 20.0**	**+4.2**
SNSI	**Sinabang, Aceh**	**2.94**	**281**	P	**Pn**	**08 02 26.2**	**+0.9**
SISI	**Saibi**	**3.13**	**182**	P	Pn	08 02 37.5	+10
MLSI	**Meulaboh, Aceh**	**3.70**	**311**	P	**Pn**	**08 02 36.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**16.53**	**359**	P	**Pn**	**08 05 26.9**	**+0.6**
	2.5nm,0.5s,baz=191,slow=10,SNR=10						
WRA	**Warramunga Arr**	**40.69**	**124**	P	**P**	**08 09 11.2**	**-0.2**
	2.6nm,0.4s,baz=302,slow=9.0,SNR=46						
	2.6nm,0.4s						
ASAR	**Alice Springs**	**42.20**	**129**	P	**P**	**08 09 22.8**	**-0.9**
	0.3nm,0.3s,baz=302,slow=7.3,SNR=9.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.16**	**344**	P	**P**	**08 10 01.0**	**-1.8**
	0.3nm,0.3s,baz=156,slow=7.7,SNR=8.9						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**53.29**	**349**	P	**P**	**08 10 46.9**	**-1.9**
	0.8nm,0.4s,baz=173,slow=6.4,SNR=4.9						
	0.8nm,0.4s						
BVAR	**Borovoye Array**	**56.34**	**340**	P	**P**	**08 11 08.2**	**-2.7**
	0.4nm,0.3s,baz=131,slow=4.4,SNR=2.5						
	0.4nm,0.3s						

AFAD 17 08:30:40.6,38°.73N×38°.13E,h7km±3km,ML2.5
ISK 17 08:30:41.6,38°.74N×38°.19E,h6km,ML2.7/4
ISC 17 08:30:41.1±1.1,38°.73N±0°.03×38°.16E±0°.04,h8km±13km, n8,σ0§70/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEKM	**Malatya_Hekimh**	**0.22**	**313**	P	**Pg**	**08 30 45.1**	**-0.5**
HEKM				S	**Sg**	**08 30 48.8**	**+0.1**
MAYA	**Malatya/Merkez**	**0.46**	**153**	P	**Pg**	**08 30 50.2**	**+0.2**
MAYA				S	**Sg**	**08 30 56.7**	**+0.7**
AKCD	**Akcadag**	**0.47**	**203**	P	**Pg**	**08 30 49.2**	**-1.2**
AKCD				S	**Sg**	**08 30 57.5**	**+0.9**
AKCD				*i* IAML		08 30 59.0	
	comp=E,424nm,0.2s						
AKCD				*i* IAML		08 31 00.0	
	comp=N,458nm,0.2s						
ELZG	**Elazig**	**0.69**	**110**	P	**Pg**	**08 30 53.9**	**-0.5**
ELZG				S	**Sb**	**08 31 04.8**	**-0.4**
ELZG				*i* IAML		08 31 07.0	
	comp=N,342nm,0.4s						
ELZG				*i* IAML		08 31 08.0	
	comp=E,432nm,0.3s						
ILIC	**ilic-Erzincan**	**0.79**	**24**	Pg	**Pb**	**08 30 56.9**	**-0.2**
ILIC				Sg	**Sb**	**08 31 07.9**	**-0.1**
SVSK	**Karacayir**	**1.49**	**323**	Pn	**Pg**	**08 31 09.7**	**0.0**
SVSK				Sn	**Sg**	**08 31 30.2**	**+1.2**
GAZ	**Gaziantep**	**1.73**	**206**	Pn	**Pb**	**08 31 13.3**	**+0.2**
BNN	**Bunyan**	**1.81**	**275**	Pn	**Pb**	**08 31 14.5**	**-0.1**

GCG 17 08:34:05.5±0.7,13°.60N×90°.89W,h25km±52km,MD3.6, ML3.1,1D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.77**	**29**	*i* P	Pn	08 34 21.6	+0.6
FG16				IAML		08 34 45.3	
	comp=N,1μm,0.2s						
ESSG	**Sabana Grande**	**0.78**	**4**	*e*P	Pb	08 34 20.1	-0.4
ESSG				⇓*i*S	Sn	08 34 31.9	-0.2
NUBE	**Las Nubes**	**1.12**	**74**	*i* P	Pb	08 34 26.4	+0.1
JAYA	**Jayaque - finc**	**1.40**	**88**	*i* P	Pn	08 34 29.6	-0.1
JAYA				*e*S	Sn	08 34 47.6	+0.1

IDC 17 08:34:44.6±50.0,14°.39S×163°.04E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=840.0km s-min=104.2km az=63.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.22**	**225**	P	P	08 40 21.0	-0.3
	1.2nm,0.8s,baz=30,slow=8.1,SNR=3.6						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**27.95**	**255**	P	P	08 40 37.0	0.0
	0.2nm,0.4s,baz=84,slow=9.2,SNR=4.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**29.00**	**247**	P	P	08 40 46.6	+0.2
	0.4nm,0.6s,baz=74,slow=9.8,SNR=7.4						
	0.4nm,0.6s						

NOU 17 08:39:46.8,12°.10S×167°.43E,h0km,MLv5.8/7,Santa Cruz Islands
IDC 17 08:40:08.3±3.2,11°.43S×166°.24E,h76km±27km,mb4.1/18, mbtmp4.4/20,MS3.6/26,Error ellipse: s-maj=19.9km s-min=15.2km az=90.0
NEIC 17 08:40:08.2±1.1,11°.53S±0°.08×166°.31E±0°.08,h71km±5km, mb4.6/31,Error ellipse: s-maj=12.1km s-min=10.4km az=126.0
ISC 17 08:40:06.4±0.4,11°.51S±0°.06×166°.31E±0°.07,h59km,n108, σ1§08/86,mb4.6/40,MS3.6/23,1C,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.93**	**335**	P	**Pn**	**08 40 22.7**	**-0.8**
LUES	**Luesalemba Tem**	**0.93**	**335**	P	**Pn**	**08 40 22.6**	**-0.9**
SANVU	**Saraoutou**	**4.01**	**168**		**Pn**	**08 41 07.1**	**+1.7**
HURO	**Huro Makira**	**4.45**	**283**	P	**Pn**	**08 41 11.3**	**-0.1**
HURO	**Huro Makira**	**4.45**	**283**	P	**Pn**	**08 41 11.0**	**-0.4**
NGOA	**Tingoa Renbel**	**6.12**	**269**	P	**Pn**	**08 41 33.8**	**-0.6**
NGOA	**Tingoa Renbel**	**6.12**	**269**	P	**Pn**	**08 41 33.7**	**-0.6**
ALEG	**Aligegeo Malai**	**6.17**	**296**	P	**Pn**	**08 41 35.4**	**+0.4**
ALEG	**Aligegeo Malai**	**6.17**	**296**	P	**Pn**	**08 41 35.7**	**+0.7**
HNR	**Honiara**	**6.59**	**288**		**Pn**	**08 41 41.7**	**+1.0**
HNR	**Honiara**	**6.59**	**288**	P	**Pn**	**08 41 42.1**	**+1.4**
	516nm,0.7s,baz=141,slow=3.6,SNR=15						
HNR				LR	LR	08 44 35.4	
	comp=Z,496nm,19.7s,baz=86,slow=41						
HNR	**Honiara**	**6.59**	**288**	P	**Pn**	**08 41 42.7**	**+2.0**
HNR	**Honiara**	**6.59**	**288**	P	**Pn**	**08 41 42.4**	**+1.7**
SAVO	**Savo Central**	**6.81**	**290**	P	**Pn**	**08 41 45.4**	**+1.6**
SAVO	**Savo Central**	**6.81**	**290**	P	**Pn**	**08 41 45.3**	**+1.5**
TATA	**Tatamba Isabel**	**7.12**	**295**	P	**Pn**	**08 41 49.3**	**+1.3**
TATA	**Tatamba Isabel**	**7.12**	**295**	P	**Pn**	**08 41 48.8**	**+0.8**
DZM	**Mont Dzumac**	**10.50**	**179**	Pn	**Pn**	**08 42 35.5**	**+1.1**
DZM	**Mont Dzumac**	**10.50**	**179**	*e*LR	LR	08 44 54.3	
	610nm,25.9s						
DZM	**Mont Dzumac**	**10.50**	**179**	P	**Pn**	**08 42 37.1**	**+2.7**
	5.4nm,0.9s,baz=138,slow=11,SNR=14						
DZM				S	**Sn**	**08 44 29.1**	**-1.5**
	3.0nm,0.7s,baz=73,slow=20,SNR=1.1						
DZM				LR	LR	08 46 37.6	
	comp=Z,169nm,18.2s,baz=32,slow=37						
ONTNC	**Ouen Toro**	**10.74**	**179**	Pn	**Pn**	**08 42 38.2**	**+0.7**
MSVF	**Nonsavu**	**12.94**	**120**		**Pn**	**08 43 07.9**	**+0.3**
PMG	**Port Moresby**	**18.95**	**275**	LR	LR	08 51 14.4	
	comp=Z,221nm,19.8s,baz=140,slow=35						
EIDS	**Eidsvold**	**19.93**	**224**		**P**	**08 44 33.0**	**-0.6**
CTAO	**Charters Tower**	**21.08**	**244**		**P**	**08 44 45.7**	**-0.3**
CTAO				IAmb	IAmb	08 44 51.3	
	comp=Z,16nm,0.8s						
COEN	**Coen**	**22.69**	**261**	P	**P**	**08 45 02.8**	**-0.5**
ARMA	**Armidale**	**23.23**	**214**		**P**	**08 45 08.8**	**+0.1**
ARMA				IAmb	IAmb	08 45 12.0	
	comp=Z,25nm,0.9s						
JAY	**Jayapura**	**26.91**	**287**	LR	LR	08 57 30.7	
	comp=Z,90nm,18.7s,baz=356,slow=39						
URZ	**Urewera**	**28.34**	**162**	LR	LR	08 55 10.5	
	comp=Z,204nm,20.2s,baz=51.5,slow=32						
RTZ	**Ruatahuna**	**28.62**	**162**	P	**P**	**08 45 56.9**	**-0.5**
RTZ				IAmb	IAmb	08 46 15.7	
	comp=Z,27nm,1.2s						
BKZ	**Black Stump Fm**	**29.00**	**164**	P	**P**	**08 46 00.2**	**-0.5**
BKZ				IAmb	IAmb	08 46 10.4	
	comp=Z,31nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**29.81**	**1**	T	T	09 17 03.4	
	baz=181,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.82**	**1**	T	T	09 16 39.3	
	baz=181,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**29.83**	**1**	T	T	09 16 51.6	
	baz=181,slow=76,SNR=19						
STKA	**Stephens Creek**	**30.49**	**225**	P	**P**	**08 46 14.6**	**+0.6**
STKA	**Stephens Creek**	**30.49**	**225**	P	**P**	**08 46 15.5**	**+1.5**
	comp=Z,8.8nm,0.8s,baz=54,slow=9.3,SNR=15						
STKA				LR	LR	08 57 27.9	
	comp=Z,140nm,21.3s,baz=30,slow=34						
	comp=Z,8.8nm,0.8s						
WR8	**Warramunga Arr**	**31.70**	**251**	P	**P**	**08 46 24.5**	**-0.2**
WR8				IAmb	IAmb	08 46 25.8	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**31.84**	**251**		**P**	**08 46 25.3**	**-0.8**
WRA	**Warramunga Arr**	**31.84**	**251**	P	**P**	**08 46 25.8**	**-0.3**
	comp=Z,11nm,0.9s,baz=82,slow=9.1,SNR=61						
WRA				PcP	**PcP**	**08 49 15.9**	**0.0**
	comp=Z,1.3nm,0.8s,baz=80,slow=3.0,SNR=7.2						
WRA				LR	LR	08 57 49.1	
	comp=Z,89nm,20.9s,baz=358,slow=33						
	comp=Z,11nm,0.9s						
GUMO	**Guam**	**32.77**	**319**	LR	LR	09 00 18.4	
	comp=Z,24nm,19.5s,baz=136,slow=37						
AS31	**Alice Springs**	**33.08**	**244**		**P**	**08 46 36.2**	**-0.7**
ASAR	**Alice Springs**	**33.08**	**244**	P	**P**	**08 46 36.5**	**-0.4**
	comp=Z,11nm,0.7s,baz=69,slow=9.8,SNR=126						
ASAR				PcP	**PcP**	**08 49 18.9**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=77,slow=2.3,SNR=10						
ASAR				LR	LR	08 59 05.5	
	comp=Z,124nm,20.9s,baz=82,slow=34						
	comp=Z,11nm,0.7s						
RAR	**Rarotonga**	**33.88**	**111**	LR	LR	08 57 44.1	
	comp=Z,193nm,19.3s,baz=280,slow=31						
KNRA	**Kununurra**	**36.69**	**259**	P	**P**	**08 47 08.2**	**+0.1**
KNRA				IAmb	IAmb	08 47 27.4	
	comp=Z,8.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.79**	**256**	P	**P**	**08 47 34.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**39.79**	**256**	LR	LR	09 02 41.4	
	comp=Z,162nm,20.6s,baz=71,slow=34						
PPT2	**Papeete2**	**43.05**	**103**	*e*LR	LR	08 59 59.3	
	comp=Z,236nm,25.8s						
PPT2				*e*LR	LR	09 00 02.9	
	comp=Z,231nm,27.8s						
TBI	**Tubuai**	**43.65**	**112**	*e*LR	LR	09 00 16.1	
	comp=Z,753nm,29.5s						
DAV	**Davao City (W)**	**44.52**	**293**	LR	LR	09 07 29.3	
	comp=Z,27nm,18.0s,baz=194,slow=37						
PSA00	**Pilbara Seismi**	**45.50**	**251**	P	**P**	**08 48 20.6**	**+0.3**
PSA00				IAmb	IAmb	08 48 22.4	
	comp=Z,12nm,1.1s						
TOLI2	**Tolitoli**	**46.94**	**282**	P	**P**	**08 48 31.4**	**-0.4**
JMZ	**Minamidaito 2**	**50.43**	**318**	P	**P**	**08 48 57.5**	**-0.8**
MJAR	**Matsushiro Arr**	**54.63**	**332**	P	**P**	**08 49 27.5**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=171,slow=7.8,SNR=6.8						
	comp=Z,1.5nm,0.8s						
SBUM	**Sibu**	**55.53**	**281**	P	**P**	**08 49 36.2**	**0.0**
SBUM				IAmb	IAmb	08 49 38.2	
	comp=Z,3.7nm,0.9s						
JNU	**Nakatsue**	**55.78**	**324**	LR	LR	09 11 35.1	
	comp=Z,20nm,19.6s,baz=112,slow=34						
ASAJ	**Asahikawa**	**59.41**	**340**	LR	LR	09 10 27.5	
	comp=Z,44nm,21.6s,baz=162,slow=31						
KSRS	**Korea Array**	**60.57**	**325**	P	**P**	**08 50 10.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=136,slow=7.7,SNR=4.5						
	comp=Z,1.1nm,0.7s						
NJ2	**Nanjing**	**62.73**	**315**	*e*P	**P**	**08 50 28.3**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
PETK	**Petropavlovsk-**	**64.78**	**354**	P	**P**	**08 50 37.8**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=172,slow=5.7,SNR=2.7						
PETK				LR	LR	09 15 51.0	
	comp=Z,30nm,19.1s,baz=122,slow=33						
	comp=Z,3.2nm,0.9s						
VNDA	**Vanda**	**66.04**	**181**	P	**P**	**08 50 46.2**	**-0.3**
VNDA				IAmb	IAmb	08 50 47.2	
	comp=Z,6.4nm,1.4s						
VNDA	**Vanda**	**66.04**	**181**	P	**P**	**08 50 46.2**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=350,slow=6.1,SNR=8.3						
	comp=Z,1.4nm,0.7s						
CASY	**Casey**	**66.15**	**201**	P	**P**	**08 50 46.5**	**-0.9**
CASY				IAmb	IAmb	08 50 48.4	
	comp=Z,17nm,1.4s						
PPI	**Padang Panjang**	**66.32**	**275**	P	**P**	**08 50 45.9**	**-3.5**
SBA	**Scott Base**	**66.34**	**180**	P	**P**	**08 50 49.0**	**+0.6**
SBA				IAmb	IAmb	08 50 50.4	
	comp=Z,3.9nm,0.9s						
RPSI	**Rantau Prapat**	**68.45**	**278**	P	**P**	**08 51 02.1**	**-0.8**
RPSI	**Rantau Prapat**	**68.45**	**278**	P	**P**	**08 51 02.2**	**-0.7**
PSI	**Prapat**	**68.48**	**278**	P	**P**	**08 51 02.2**	**-1.0**
	comp=Z,4.2nm,0.5s,baz=194,slow=3.6,SNR=7.1						
	comp=Z,4.2nm,0.5s						
UNV	**Unalaska Valle**	**69.09**	**17**	P	**P**	**08 51 06.9**	**+0.9**
GYA	**Guiyang**	**69.13**	**304**	P	**P**	**08 51 08.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,36nm,0.6s						
XAN	**Xi'an**	**70.84**	**312**	P	**P**	**08 51 17.8**	**+0.5**
XAN				pP	pwP	08 51 35.6	-0.1
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
MA2	**Magadan**	**71.94**	**352**	LR	LR	09 17 07.4	
	comp=Z,34nm,20.1s,baz=130,slow=31						
S12K	**Black Hills**	**72.00**	**18**	P	**P**	**08 51 24.2**	**+0.5**
HHC	**Hu-ho-hao-te**	**72.54**	**320**	*e*P	**P**	**08 51 29.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,67nm,4.2s						
CMAR	**Chiang Mai Arr**	**72.80**	**293**	P	**P**	**08 51 28.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**72.80**	**293**	P	**P**	**08 51 29.3**	**0.0**
	comp=Z,2.4nm,0.9s,baz=111,slow=3.7,SNR=11						
CMAR				LR	LR	09 24 59.5	
	comp=Z,12nm,19.0s,baz=135,slow=37						
	comp=Z,2.4nm,0.9s						
PZH	**PanZhiHua**	**73.19**	**302**	P	**P**	**08 51 33.6**	**+2.0**
KDAK	**Kodiak Island**	**76.81**	**21**	LR	LR	09 19 33.8	
	comp=Z,48nm,20.4s,baz=187,slow=31						
P18K	**Big Mountain,**	**77.15**	**19**	P	**P**	**08 51 54.2**	**+0.7**
QSPA	**South Pole Qui**	**78.50**	**180**	P	**P**	**08 52 01.8**	**+0.7**
	comp=Z,11nm,0.9s,baz=353,slow=3.6,SNR=38						
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**79.36**	**324**	P	**P**	**08 52 06.2**	**0.0**
	comp=Z,1.8nm,0.8s,baz=130,slow=5.8,SNR=8.0						
	comp=Z,1.8nm,0.8s						
L19K	**White Mountain**	**79.45**	**17**	P	**P**	**08 52 06.4**	**+0.2**
L19K				IAmb	IAmb	08 52 08.7	
	comp=Z,3.3nm,0.7s						
GTA	**Gaotai**	**79.78**	**314**	*e*P	**P**	**08 52 09.9**	**+1.3**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
J20K	**Nowinta River**	**81.21**	**16**	P	**P**	**08 52 16.9**	**+1.3**
TRF	**Thorofare Moun**	**81.78**	**18**	P	**P**	**08 52 18.5**	**-0.3**
TRF				IAmb	IAmb	08 52 49.5	
	comp=Z,10nm,1.5s						
KLU	**Klutina**	**81.83**	**21**	P	**P**	**08 52 19.2**	**+0.2**
KLU				IAmb	IAmb	08 52 33.0	
	comp=Z,4.8nm,1.1s						
ILAR	**Eielson Array**	**83.78**	**18**	P	**P**	**08 52 28.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=231,slow=5.7,SNR=11						
	comp=Z,0.7nm,0.6s						
J25K	**Salcha River,**	**84.14**	**19**	P	**P**	**08 52 29.9**	**-0.9**
J25K				IAmb	IAmb	08 52 33.1	
	comp=Z,4.8nm,0.6s						
BBB	**Bella Bella**	**84.65**	**34**	LR	LR	09 22 03.6	
	comp=Z,33nm,20.9s,baz=224,slow=30						
CLC	**China Lake**	**85.65**	**52**	P	**P**	**08 52 39.5**	**+0.4**
DSP	**Deep Springs**	**85.83**	**51**	P	**P**	**08 52 40.2**	**+0.4**
DSP				IAmb	IAmb	08 52 45.0	
	comp=Z,6.9nm,1.5s						
PFO	**Pinyon Flats O**	**85.90**	**55**	LR	LR	09 24 36.3	
	comp=Z,39nm,18.2s,baz=212,slow=31						
NVAR	**Mina Array Bea**	**85.90**	**50**	P	**P**	**08 52 40.7**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=237,slow=8.3,SNR=8.5						
	comp=Z,0.8nm,0.7s						
DLBC	**Dease Lake**	**86.56**	**28**	LR	LR	09 26 14.0	
	comp=Z,32nm,18.4s,baz=194,slow=32						
LPIG	**La Paz**	**88.70**	**65**	LR	LR	09 25 47.5	
	comp=Z,34nm,18.7s,baz=212,slow=31						
NEW	**Newport**	**89.74**	**41**	LR	LR	09 27 21.7	
	comp=Z,31nm,19.8s,baz=224,slow=32						
U15A	**North Rim**	**89.94**	**53**	P	**P**	**08 53 00.

PDSI	**Padang**	**5.36**	**340**	P		**Pn**	**08 52 25.9**	**-1.2**
	0.2nm35nm,0.6s							
KPJI	**Karang Pucung**	**6.71**	**102**	P		**Pn**	**08 52 45.5**	**-0.3**
	0.2nm45nm,1.4s							
COCO	**West Island**	**8.21**	**221**			**Pn**	**08 53 05.4**	**-0.9**
UGM	**Wanagama**	**8.38**	**104**	Pn		**Pn**	**08 53 08.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**12.01**	**103**	Pn		**Pn**	**08 53 57.9**	**-0.5**
LHMI	**Lhok Sumawe**	**12.35**	**334**	Pn		**Pn**	**08 54 00.5**	**-2.6**
KAPI	**Kappang**	**17.39**	**88**	LR		LR	09 03 03.0	
	comp=Z,58nm,18.8s,baz=333,slow=41							
KKM	**Kota Kinabalu**	**18.31**	**50**	P		**Pn**	**08 55 20.3**	**-1.2**
MYLDM	**Lahad Datu**	**19.60**	**56**			**P**	**08 55 34.7**	**-0.9**
MYLDM				IAmb		IAmb	08 55 52.2	
	comp=Z,24nm,1.0s							
TOLI2	**Tolitoli**	**19.74**	**70**			**P**	**08 55 36.9**	**-0.4**
TOLI2				IAmb		IAmb	08 55 39.2	
	comp=Z,26nm,0.9s							
SOEI	**Soe**	**22.07**	**101**	P		**P**	**08 56 02.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**24.50**	**352**	P		**P**	**08 56 26.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**24.50**	**352**	P		**P**	**08 56 27.4**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=180,slow=7.3,SNR=7.4							
CMAR				LR		LR	09 07 16.2	
	comp=Z,42nm,18.2s,baz=205,slow=40							
	comp=Z,1.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**25.76**	**120**	P		**P**	**08 56 37.2**	**-1.0**
KNRA	**Kununurra**	**27.68**	**113**	P		**P**	**08 56 54.5**	**-1.1**
KNRA				IAmb		IAmb	08 56 55.1	
	comp=Z,7.7nm,1.0s							
MTN	**Manton Dam**	**29.22**	**106**	P		**P**	**08 57 08.5**	**-0.8**
MTN				IAmb		IAmb	08 57 52.5	
	comp=Z,6.0nm,0.8s							
H08S2	**Diego Garcia H**	**29.65**	**265**	T		T	09 28 14.4	
	baz=89,slow=75,SNR=62							
H08S3	**Diego Garcia H**	**29.66**	**265**	T		T	09 28 19.2	
	baz=89,slow=75,SNR=258							
H08S1	**Diego Garcia H**	**29.67**	**265**	T		T	09 28 16.5	
	baz=89,slow=75,SNR=55							
H01W3	**Cape Leeuwin H**	**30.77**	**161**	T		T	09 29 49.1	
	baz=337,slow=76,SNR=20							
H01W2	**Cape Leeuwin H**	**30.78**	**161**	T		T	09 29 49.0	
	baz=337,slow=76,SNR=24							
H01W1	**Cape Leeuwin H**	**30.79**	**161**	T		T	09 29 53.7	
	baz=337,slow=76,SNR=20							
PZH	**PanZhiHua**	**32.29**	**359**	P		**P**	**08 57 39.8**	**+3.4**
WRA	**Warramunga Arr**	**34.07**	**117**			**P**	**08 57 51.5**	**-0.5**
WRA	**Warramunga Arr**	**34.07**	**117**	P		**P**	**08 57 51.8**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=287,slow=12,SNR=30							
	comp=Z,4.7nm,0.8s							
WR8	**Warramunga Arr**	**34.22**	**117**	P		**P**	**08 57 53.7**	**+0.5**
ASAR	**Alice Springs**	**35.11**	**123**	P		**P**	**08 58 00.9**	**0.0**
	comp=Z,3.2nm,0.8s,baz=300,slow=7.8,SNR=26							
	comp=Z,3.2nm,0.8s							
NJ2	**Nanjing**	**40.97**	**22**	*e*P		**P**	**08 58 51.0**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
STKA	**Stephens Creek**	**44.82**	**130**	P		**P**	**08 59 21.1**	**-0.4**
STKA	**Stephens Creek**	**44.82**	**130**	P		**P**	**08 59 22.0**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=293,slow=9.3,SNR=7.9							
STKA				LR		LR	09 19 50.9	
	comp=Z,38nm,18.3s,baz=10,slow=38							
	comp=Z,5.3nm,0.7s							
CTAO	**Charters Tower**	**44.89**	**112**	P		**P**	**08 59 22.7**	**+0.5**
CTAO				IAmb		IAmb	08 59 23.5	
	comp=Z,12nm,1.2s							
HHC	**Hu-ho-hao-te**	**47.36**	**10**	*e*P		**P**	**08 59 44.0**	**+2.6**
HHC				pmax		pmax		
	comp=Z,12nm,0.5s							
HHC				pmax		pmax		
	comp=Z,170nm,6.3s							
KSH	**Kashi**	**51.39**	**334**	P		**P**	**09 00 11.1**	**-1.2**
KSH				pmax		pmax		
	comp=Z,6.0nm,0.6s							
CAN	**Canberra**	**51.87**	**131**	P		**P**	**09 00 15.9**	**0.0**
CAN				IAmb		IAmb	09 00 17.8	
	comp=Z,7.4nm,0.9s							
SONM	**Songino Array**	**53.70**	**3**	P		**P**	**09 00 30.2**	**+1.0**
SONM				IAmb		IAmb	09 00 43.2	
	comp=Z,4.2nm,0.9s							
SONM	**Songino Array**	**53.70**	**3**	P		**P**	**09 00 29.9**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=184,slow=9.1,SNR=15							
SONM				PcP		**PcP**	**09 01 36.0**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=193,slow=3.6,SNR=3.9							
SONM				LR		LR	09 26 54.3	
	comp=Z,52nm,19.0s,baz=166,slow=40							
	comp=Z,3.7nm,0.8s							
MKAR	**Makanchi Array**	**55.46**	**343**			**P**	**09 00 41.5**	**-0.4**
MKAR	**Makanchi Array**	**55.46**	**343**	P		**P**	**09 00 42.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=141,slow=7.8,SNR=20							
	comp=Z,2.9nm,0.8s							
BNX	**BinXian**	**56.15**	**21**	⇓P		**P**	**09 00 47.4**	**+0.5**
BNX				pmax		pmax		
	comp=Z,6.0nm,1.1s							
H04S1	**CROZET ISLANDS**	**59.31**	**218**	T		T	10 05 22.9	
	baz=63,slow=75,SNR=22							
H04S3	**CROZET ISLANDS**	**59.32**	**218**	T		T	10 05 22.5	
	baz=63,slow=75,SNR=65							
H04S2	**CROZET ISLANDS**	**59.33**	**218**	T		T	10 05 21.0	
	baz=63,slow=75,SNR=40							
KURBB	**Kurchatov Arra**	**60.00**	**343**	P		**P**	**09 01 14.3**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=161,slow=6.3,SNR=8.2							
	comp=Z,2.1nm,0.7s							
KURK	**Kurchatov**	**60.05**	**343**			**P**	**09 01 13.9**	**-0.2**
KURK				IAmb		IAmb	09 01 15.9	
	comp=Z,4.9nm,1.1s							
ZAA0	**Zalesovo Array**	**61.49**	**348**			**P**	**09 01 24.0**	**+0.2**
ZAA0				IAmb		IAmb	09 01 25.6	
	comp=Z,5.8nm,1.1s							
ZALV	**Zalesovo Beam**	**61.49**	**348**			**P**	**09 01 23.7**	**-0.1**
ZALV	**Zalesovo Beam**	**61.49**	**348**	P		**P**	**09 01 24.1**	**+0.3**
	comp=Z,5.3nm,0.9s,baz=151,slow=3.4,SNR=13							
	comp=Z,5.3nm,0.9s							
BVAR	**Borovoye Array**	**64.69**	**339**	P		**P**	**09 01 45.3**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=145,slow=8.4,SNR=15							
	comp=Z,3.3nm,0.6s							
AB31	**Akbulak array**	**66.21**	**331**			**P**	**09 01 54.9**	**-0.2**
AB31				IAmb		IAmb	09 01 56.2	
	comp=Z,4.7nm,1.0s							
ABKAR	**Akbulak array**	**66.21**	**331**			**P**	**09 01 55.0**	**-0.1**
VNDA	**Vanda**	**77.84**	**169**	P		**P**	**09 03 04.5**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=328,slow=4.4,SNR=4.7							
	comp=Z,0.9nm,0.9s							
BURAR	**Bucovina Array**	**85.75**	**319**	P		**P**	**09 03 47.5**	**+0.8**
SNAA	**Sanae**	**89.09**	**198**	P		**P**	**09 04 03.2**	**+0.8**
SNAA	**Sanae**	**89.09**	**198**	P		**P**	**09 04 03.3**	**+0.9**
	comp=Z,2.4nm,1.0s,baz=94,slow=4.5,SNR=6.1							
	comp=Z,2.4nm,1.0s							
ARCES	**ARCESS Array B**	**90.97**	**340**	LR		LR	09 49 52.6	
	comp=Z,25nm,18.8s,baz=204,slow=39							
TXAR	**Lajitas Array**	**146.22**	**43**	PKPbc		**PKPab**	**09 10 49.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=303,slow=1.0,SNR=19							

PRE ***17*** *08:54:47.9±1.0,26.°38S×27.°42E,h2km,ML2.4*
BUL ***17*** *08:54:49.6±1.1,26.°50S×27.°73E,h6km±11km,MD3.2*
BGSI ***17*** *08:54:50.1±1.7,26.°60S×27.°74E,h15km±54km,ML2.7*
ISC 17 08:54:48.3±1.4**,26.°43S**±0.°03×**27.°56E**±0.°03**,h4**km±11km**,**
n22,σ1°**83**/42**, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HRAO	**HartRAO**	**0.55**	**12**	*e*P		**Pg**	**08 54 58.6**	**-0.1**
HRAO				*e*S		**Sg**	**08 55 05.5**	**-0.4**
HRAO				IAML			08 55 11.9	
	comp=Z,167nm,0.8s							
SNKL	**Senekal, Frees**	**1.85**	**174**	*e*P		**Pb**	**08 55 22.4**	**-0.3**
SNKL				*e*S		**Sg**	**08 55 47.9**	**0.0**
SNKL				IAML			08 55 52.4	
	comp=Z,71nm,0.6s							
CRLN	**Carolina, Mapu**	**2.25**	**80**	*e*P		**Pn**	**08 55 28.0**	**+1.5**
CRLN				IAML			08 55 58.5	
	comp=Z,14nm,0.4s							
CRLN				*e*S		**Sb**	**08 55 58.7**	**+0.8**
LBTB	**Lobatse**	**2.26**	**308**	*e*P		**Pn**	**08 55 25.9**	**-0.6**
LBTB				*e*S		**Sn**	**08 55 53.3**	**-1.6**
LBTB				IAML			08 55 58.6	
	comp=Z,88nm,0.3s							
LBTB	**Lobatse**	**2.26**	**308**	*i* P		**Pb**	**08 55 29.9**	**+0.2**
LBTB				*i* S		**Sn**	**08 55 57.9**	**+3.1**
NWCL	**Newcastle**	**2.46**	**123**	*e*P		**Pb**	**08 55 31.4**	**-1.7**
NWCL				*e*S		**Sb**	**08 56 03.8**	**+0.1**
NWCL				IAML			08 56 10.8	
	comp=Z,21nm,0.4s							
LEPH	**Lephalale, Lim**	**2.57**	**5**	*e*P		**Pn**	**08 55 31.8**	**+1.1**
LEPH				*e*S		**Sn**	**08 56 01.8**	**-0.5**
LEPH				IAML			08 56 10.9	
	comp=Z,29nm,0.5s							
BOSA	**Boshof**	**2.99**	**223**	*e*P		**Pn**	**08 55 36.2**	**-0.3**
BOSA				*e*S		**Sn**	**08 56 11.4**	**-1.5**
BOSA				IAML			08 56 21.7	
	comp=Z,19nm,0.3s							
BOSA	**Boshof**	**2.99**	**223**	*i* P		**Pn**	**08 55 38.5**	**+2.0**
BOSA				*i* S		**Sn**	**08 56 13.2**	**+0.4**
PILG	**Pilgrimsrest,**	**3.21**	**63**	*e*P		**Pn**	**08 55 41.6**	**+1.9**
PILG				*e*S		**Sn**	**08 56 20.9**	**+2.5**
PILG				IAML			08 56 38.0	
	comp=Z,32nm,0.5s							
LPHEP	**Lephephe**	**3.42**	**333**	*i* P		**Pn**	**08 55 44.7**	**+2.3**
LPHEP				*i* S		**Sn**	**08 56 25.0**	**+1.6**
LPHEP				IAML			08 56 39.1	
	comp=E,30nm,0.4s							
SKOMA	**Sekoma**	**3.79**	**299**	*i* P		**Pn**	**08 55 48.7**	**+1.1**
SKOMA				*i* S		**Sn**	**08 56 33.5**	**+0.9**
SKOMA				IAML			08 56 48.8	
	comp=N,50nm,0.3s							
PMBG	**Pietermaritzbu**	**4.03**	**140**	*e*P		**Pn**	**08 55 53.2**	**+2.3**
PMBG				*e*S		**Sn**	**08 56 41.0**	**+2.5**
PMBG				IAML			08 56 58.4	
	comp=Z,13nm,0.9s							
MOPA	**Mopani**	**4.53**	**51**	*i* P		**Pn**	**08 55 56.4**	**-1.2**
MOPA				*i* S		**Sn**	**08 56 46.2**	**-4.5**
MUSN	**Musina, Limpop**	**4.62**	**27**	*e*P		**Pn**	**08 55 59.1**	**+0.2**
MUSN				*e*S		**Sn**	**08 56 52.2**	**-0.9**
MUSN				IAML			08 57 14.7	
	comp=Z,16nm,0.4s							
MUSN	**Musina, Limpop**	**4.62**	**27**	*i* P		**Pn**	**08 55 59.0**	**0.0**
MUSN				*i* S		**Sn**	**08 56 50.8**	**-2.3**
BROLN	**Tlhalogang**	**5.31**	**358**	*i* P		**Pn**	**08 56 10.6**	**+2.2**
BROLN				*i* S		**Sn**	**08 57 07.4**	**-2.6**
BROLN				IAML			08 57 36.1	
	comp=E,9.5nm,0.7s							
KGCAE	**Kacgae**	**6.03**	**305**	*i* P		**Pn**	**08 56 19.6**	**+1.2**
KGCAE				*i* S		**Sn**	**08 57 27.1**	**-0.8**
KGCAE				IAML			08 58 00.8	
	comp=N,34nm,0.8s							
BLWY	**Bulawayo**	**6.33**	**9**	*i* P		**Pn**	**08 56 23.2**	**+0.7**
BLWY				*i* S		**Sn**	**08 57 32.4**	**-3.0**
BFON	**Badsfontein, M**	**6.33**	**211**	*e*P		**Pn**	**08 56 23.0**	**+0.5**
BFON				*e*S		**Sn**	**08 57 32.0**	**-3.3**
BFON				IAML			08 58 07.3	
	comp=Z,6.1nm,0.5s							
GRAF	**Camdeboo Natio**	**6.42**	**204**	*e*P		**Pn**	**08 56 24.4**	**+0.8**
GRAF				*e*S		**Sn**	**08 57 35.1**	**-2.3**
GRAF				IAML			08 58 15.6	
	comp=Z,7.2nm,0.5s							
KRI	**Karoi**	**9.74**	**12**	*i* P		Pn	08 57 02.4	-6.9

IDC ***17*** *09:12:23.2±0.8,0.°17N×127.°02E,h0km,mb4.0/9, mbtmp4.0/11,ML3.7/2,MS2.6/2,Error ellipse: s-maj=41.6km s-min=16.3km az=76.0*
DJA ***17*** *09:12:29.5±0.2,0.°N±2.°×12.°7E±.°,h10km,M4.4/19,mB5.0/1, mb4.5/10,MLv4.3/19,Mw(mB)4.3/1,MwMwp5.0/1, Mwp5.3/1*
ISC 17 09:12:25.4±0.7**,0.°02S**±0.°06×**126.°92E**±0.°07**,h10**km**,n28,**
σ2°**S13/28, mb4.1/9, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**0.91**	**30**	P		**Pn**	**09 12 46.9**	**+2.6**
TNTI				S		**Sn**	**09 12 59.7**	**+2.2**
SANI	**Sanana**	**2.22**	**205**	P		**Pb**	**09 13 05.5**	**-0.1**
KMSI	**Cibinong**	**2.99**	**281**	P		**Pn**	**09 13 14.1**	**+1.1**
NLAI	**Namlea**	**3.20**	**177**	P		**Pb**	**09 13 21.0**	**-1.4**
AAI	**Ambon**	**3.86**	**161**	P		**Pb**	**09 13 31.5**	**-2.2**
MSAI	**Masohi**	**3.87**	**149**	P		**Pb**	**09 13 33.6**	**-0.2**
SGSI	**Sangihe**	**3.94**	**339**	P		**Pn**	**09 13 29.0**	**+3.0**
LUWI	**Luwuk**	**4.26**	**256**	P		**Pn**	**09 13 32.3**	**+1.8**
APSI	**Ampana**	**5.34**	**260**	P		**Pn**	**09 13 46.8**	**+1.5**
	1µm71nm,0.8s							
KDI	**Kendari**	**5.80**	**228**	P		**Pn**	**09 13 54.9**	**+3.2**
TTSI	**Tana Toraja**	**7.70**	**247**	P		**Pn**	**09 14 18.8**	**+1.1**
	0.2nm6µm36nm,0.8s							
BNSI	**Bone**	**8.07**	**237**	P		**Pn**	**09 14 24.9**	**+2.1**
	28nm,0.9s							
SPSI	**Sidrap Palu**	**8.14**	**241**	P		**Pn**	**09 14 28.0**	**+4.2**
	45nm,0.5s							
BKSI	**Bulukumba**	**8.59**	**232**	P		**Pn**	**09 14 32.3**	**+2.4**
	19nm,0.6s							
KAPI	**Kappang**	**8.70**	**235**	Pn		**Pn**	**09 14 34.6**	**+3.1**
	1.7nm,0.3s,baz=56,slow=7.3,SNR=8.8							
KAPI				Sn		**Sn**	**09 16 06.3**	**-3.5**
	3.2nm,0.3s,baz=159,slow=23,SNR=16							
KAPI				LR		LR	09 19 01.6	
	comp=Z,47nm,20.3s,baz=9.0,slow=45							
	7.4nm,0.5s							
SMKI	**Samarinda**	**9.71**	**268**	P		Pn	09 14 57.4	+12
FITZ	**Fitzroy Crossi**	**18.01**	**184**	P		**P**	**09 16 37.1**	**+0.6**
	0.1nm,0.3s,baz=6.3,slow=9.2,SNR=2.4							
	1.8nm,0.7s							
KPJI	**Karang Pucung**	**19.35**	**248**	P		**Pn**	**09 16 53.9**	**+1.5**
WRA	**Warramunga Arr**	**21.09**	**160**	P		**P**	**09 17 11.0**	**+0.7**
	1.6nm,0.5s,baz=340,slow=11,SNR=53							
	1.6nm,0.5s							
GUMO	**Guam**	**22.34**	**52**	LR		LR	09 25 47.3	
	comp=Z,15nm,18.7s,baz=253,slow=36							
ASAR	**Alice Springs**	**24.46**	**164**	P		**P**	**09 17 45.8**	**+1.0**
	4.6nm,0.6s,baz=339,slow=11,SNR=55							
	4.6nm,0.6s							
SONM	**Songino Array**	**50.90**	**342**	P		**P**	**09 21 26.6**	**-0.2**
	0.5nm,0.5s,baz=162,slow=6.2,SNR=2.7							
	0.5nm,0.5s							
PETK	**Petropavlovsk-**	**58.83**	**21**	P		**P**	**09 22 22.2**	**-1.8**
	1.2nm,0.7s,baz=216,slow=6.7,SNR=1.3							
	1.2nm,0.7s							
MKAR	**Makanchi Array**	**60.74**	**326**	P		**P**	**09 22 35.8**	**-1.7**
	1.3nm,0.6s,baz=122,slow=8.3,SNR=13							
	1.3nm,0.6s							
KURBB	**Kurchatov Arra**	**64.99**	**328**	P		**P**	**09 23 03.8**	**-1.8**
	1.2nm,0.2s,baz=128,slow=5.9,SNR=6.4							
	1.2nm,0.2s							
BVAR	**Borovoye Array**	**70.56**	**328**	P		**P**	**09 23 38.8**	**-1.8**
	0.5nm,0.4s,baz=132,slow=2.1,SNR=2.1							
	0.5nm,0.4s							
VNDA	**Vanda**	**79.71**	**173**	P		**P**	**09 24 33.7**	**+0.7**
	0.5nm,0.7s,baz=345,slow=5.9,SNR=3.8							
	0.5nm,0.7s							
QSPA	**South Pole Qui**	**89.91**	**180**	P		**P**	**09 25 24.4**	**-0.3**
	1.2nm,1.1s,baz=0.0,slow=1.0,SNR=1.9							
	1.2nm,1.1s							

IDC 17 09:17:05.9±59.0**,21.°61S×174.°59W,h0**km**,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=1105.0km s-min=180.6km az=86.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**40.21**	**246**	P		P	09 24 44.4	0.0
	1.4nm,0.9s,baz=100,slow=11,SNR=3.7							
	1.4nm,0.9s							
ASAR	**Alice Springs**	**47.37**	**257**	P		P	09 25 42.0	-0.1
	1.5nm,0.7s,baz=98,slow=8.1,SNR=19							
	1.5nm,0.7s							
WRA	**Warramunga Arr**	**47.61**	**262**	P		P	09 25 43.8	-0.2
	1.6nm,0.6s,baz=102,slow=8.1,SNR=59							
	1.6nm,0.6s							

SJA ***17*** *09:18:16.6±0.7,29.°97S×71.°79W,h12km±3km,ML4.3, MW4.1*
GUC ***17*** *09:18:20.6±0.7,30.°03S×71.°65W,h33km±3km,ML4.3*
NEIC ***17*** *09:18:21.3,30.°02S×71.°68W,h29km*
NEIC ***17*** *09:18:21.5±1.2,30.°02S±0.°03×71.°68W±0.°05,h30km±4km, mb4.6/14,Mwr4.3/69,Mwr4.3(GUC),Error ellipse: s-maj=6.2km s-min=4.5km az=101.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.32; Mθθ0.71; Mϕϕ-3.02; Mrθ0.46; Mϕr0.20; Mθr-2.11; Fault plane solution: M₀3.49000×10¹⁵ NP1:φs7.10000°, δ26.39000°,λ105.77000°. NP2:φs169.60000°,δ64.68000°, λ82.32000°. Principal axes: T 3.1053, Plg69.0000°, Azm64.0000°; N 0.6744, Plg7.0000°, Azm173.0000°; P -3.7797, Plg19.0000°, Azm265.0000°;*
IDC ***17*** *09:18:25.8±2.7,29.°98S×71.°61W,h69km±23km,mb3.8/8, mbtmp4.1/13,MS3.3/4 Error ellipse: s-maj=21.8km s-min=15.5km az=83.0*
VAO ***17*** *09:18:30.7±3.6,29.°78S×71.°26W,h101km±23km,mb4.2*
ISC 17 09:18:20.8±1.1**,30.°00S**±0.°02×**71.°69W**±0.°04**,h27**km±8km**,**
n138,σ1°**75**/162**,mb4.5**/16**,7C-8D, Near coast of central**

Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO05	**La Serena**	**0.40**	**78**			**Pb**	**09 18 29.3**	**-0.3**
CO05				Sg		**Sb**	**09 18 35.2**	**-0.3**
CO05	**La Serena**	**0.40**	**78**	⇓*i*P		**Pb**	**09 18 29.4**	**-0.2**
CO05				*i* S		**Sb**	**09 18 35.5**	**0.0**
CO05				IAML			09 18 35.9	
	comp=E,22µm,0.3s							
CO06	**Fray Jorge**	**0.67**	**176**			**Pn**	**09 18 33.2**	**-1.4**
CO06				Sg		**Sn**	**09 18 41.8**	**-2.3**
CO06	**Fray Jorge**	**0.67**	**176**	⇑*i*P		**Pn**	**09 18 33.0**	**-1.5**
CO06				*e*S		**Sn**	**09 18 41.9**	**-2.3**
CO06				IAML			09 18 44.9	
	comp=E,17µm,0.3s							
GO04	**Tololo Observa**	**0.79**	**103**			**Pn**	**09 18 35.2**	**-1.2**
GO04				Sg		**Sn**	**09 18 46.0**	**-1.6**
GO04	**Tololo Observa**	**0.79**	**103**	⇓*e*P		**Pn**	**09 18 35.3**	**-1.2**
GO04				⇓*i*P		**Pn**	**09 18 35.3**	**-1.2**
GO04				*i* S		**Sn**	**09 18 46.0**	**-1.6**
GO04				IAML			09 18 48.3	
	comp=N,29µm,0.5s							
GO04	**Tololo Observa**	**0.79**	**103**	*e*P		**Pn**	**09 18 34.4**	**-2.0**
GO04				IAML			09 18 50.0	
	comp=Z,6µm,0.3s							
CO03	**El Pedregal**	**1.20**	**134**			**Pn**	**09 18 41.5**	**-0.5**
CO03	**El Pedregal**	**1.20**	**134**	⇓*i*P		**Pn**	**09 18 41.3**	**-0.7**
CO03				*i* S		**Sn**	**09 18 56.8**	**-0.7**
CO03				IAML			09 18 58.3	
	comp=E,5µm,0.2s							
CO03	**El Pedregal**	**1.20**	**134**	*e*P		**Pn**	**09 18 40.6**	**-1.4**
CO03				IAML			09 19 00.6	
	comp=Z,4µm,0.7s							
LCO	**Las Campanas**	**1.31**	**41**			**Pn**	**09 18 43.7**	**+0.1**
LCO	**Las Campanas**	**1.31**	**41**	⇓*i*P		**Pn**	**09 18 43.7**	**+0.1**
LCO				*i* S		**Sb**	**09 19 01.8**	**+0.3**
LCO				IAML			09 19 03.7	
	comp=Z,25µm,0.3s							
LCO	**Las Campanas**	**1.31**	**41**	*e*P		Pn	09 18 38.1	-5.5
LCO				IAML			09 19 04.1	
	comp=Z,8µm,1.4s							
CO02	**Combarbal**	**1.34**	**154**			**Pn**	**09 18 43.7**	**-0.1**
CO02				Sn		**Sn**	**09 19 00.8**	**0.0**
CO02	**Combarbal**	**1.34**	**154**	⇓*i*P		**Pn**	**09 18 43.6**	**-0.3**
CO02				*i* S		**Sn**	**09 19 01.1**	**+0.3**
CO02				IAML			09 19 05.7	
	comp=N,20µm,0.2s							
CO02	**Combarbal**	**1.34**	**154**	*e*P		**Pn**	**09 18 42.9**	**-1.0**
CO02				IAML			09 19 07.1	
	comp=Z,6µm,0.6s							
CO01	**Juntas del Tor**	**1.39**	**89**			**Pn**	**09 18 44.5**	**-0.1**
CO01	**Juntas del Tor**	**1.39**	**89**	⇓*i*P		**Pn**	**09 18 44.6**	**-0.1**
CO01	**Juntas del Tor**	**1.39**	**89**	*e*P		**Pn**	**09 18 44.7**	**0.0**
CO01				*e*S		**Sb**	**09 19 03.2**	**-0.5**
AC04	**Llanos de Chal**	**1.87**	**17**			**Pn**	**09 18 51.1**	**+0.1**
AC04	**Llanos de Chal**	**1.87**	**17**	*e*P		**Pn**	**09 18 51.1**	**+0.1**
AC04				IAML			09 19 26.5	
	comp=N,2µm,0.5s							
AC04	**Llanos de Chal**	**1.87**	**17**	*e*P		**Pn**	**09 18 51.1**	**+0.1**
AC04				*e*S		**Sn**	**09 19 14.0**	**+0.2**
AC04				IAML			09 19 21.7	
	comp=Z,1µm,0.4s							
AROD	**Rodeo**	**1.93**	**95**	*e*P		**Pb**	**09 18 54.8**	**-0.8**
ACDV	**Cuesta del Vie**	**2.24**	**95**	*e*P		**Pn**	**09 18 54.2**	**-2.1**
ACDV				IAML			09 19 34.9	
	comp=Z,631nm,0.6s							
ACCO	**Cerro Coronel**	**2.35**	**105**	*e*P		**Pb**	**09 19 01.6**	**-1.0**
VA06	**Catapilco**	**2.57**	**173**			**Pn**	**09 19 01.2**	**+0.5**
VA06	**Catapilco**	**2.57**	**173**	*e*P		**Pn**	**09 19 00.7**	**0.0**
VA06				IAML			09 19 48.2	
	comp=E,4µm,0.3s							
GO03	**Copiapo**	**2.72**	**28**			**Pn**	**09 19 03.4**	**+0.6**
GO03	**Copiapo**	**2.72**	**28**	⇓*i*P		**Pn**	**09 19 03.4**	**+0.6**
GO03				IAML			09 19 49.9	
	comp=E,1µm,0.5s							
GO03	**Copiapo**	**2.72**	**28**	*e*P		**Pn**	**09 19 03.0**	**+0.2**
GO03				*e*S		**Sn**	**09 19 36.6**	**+1.8**
GO03				IAML			09 19 48.5	
	comp=Z,1µm,1.0s							
RTLS	**Leoncito**	**2.73**	**132**	*e*P		**Pn**	**09 19 06.3**	**+3.1**
RTLS				*e*S		**Sb**	**09 19 39.9**	**-2.4**
RTLS				IAML			09 19 52.0	
	comp=Z,3µm,1.4s							
AGUA	**GUANDACOL**	**2.83**	**80**	*e*P		**Pb**	**09 19 08.4**	**-2.4**
AGUA				IAML			09 19 56.

comp=Z,442nm,0.7s
MT13 San Alfonso 3.92 163 Pn 09 19 21.0 +1.6
MT13 San Alfonso 3.92 163 eP **Pn 09 19 20.9 +1.6**
MT13 eS **Sn 09 20 08.0 +3.6**
MT13 IAML 09 20 31.8
comp=Z,538nm,0.6s
AAGR Agrelo 3.93 142 eP **Pn 09 19 18.4 -1.0**
AAGR IAML 09 20 31.5
comp=Z,464nm,1.5s
AC01 Pan de Azucar 3.96 14 Pn 09 19 18.2 -1.6
AC01 Pan de Azucar 3.96 14 eP **Pn 09 19 18.5 -1.3**
AC01 eS **Sb 09 20 17.5 +0.1**
AC01 IAML 09 20 28.4
comp=Z,310nm,0.5s
LMEL Las Melosas 4.04 162 Pn 09 19 23.0 +2.1
LMEL Las Melosas 4.04 162 eP **Pn 09 19 23.1 +2.1**
LMEL eS **Sn 09 20 10.8 +3.3**
LMEL IAML 09 20 22.0
comp=Z,405nm,0.8s
BO04 La Punta 4.08 167 Pn 09 19 22.1 +0.7
ACLC CERRO LA CRUZ 4.17 83 eP **Pn 09 19 24.9 +2.1**
ACLC eS **Sb 09 20 21.6 -1.9**
ACLC IAML 09 20 26.6
comp=Z,252nm,0.9s
BO01 Tunca 4.41 173 Pn 09 19 25.8 -0.1
BO01 Tunca 4.41 173 eP **Pn 09 19 26.2 +0.3**
BO01 eS **Sb 09 20 27.8 -2.4**
BO01 IAML 09 20 48.8
comp=Z,211nm,1.1s
ACAN Cantantal 4.48 122 eP **Pn 09 19 28.2 +1.3**
ACAN IAML 09 20 42.5
comp=Z,947nm,0.7s
APLL PUNTA DE LOS L 4.49 96 eP **Pn 09 19 29.1 +2.0**
BO02 Sierra Bellavi 4.84 171 Pn 09 19 32.2 +0.2
BO02 Sierra Bellavi 4.84 171 eP **Pn 09 19 33.0 +1.1**
BO02 IAML 09 20 53.2
comp=Z,280nm,0.6s
GO05 Hualane 5.00 182 eP **Pn 09 19 34.6 +0.6**
GO05 eS **Sb 09 20 51.2 +4.0**
GO05 IAML 09 21 06.6
comp=Z,163nm,1.2s
GO02 Mina Guanaco 5.17 22 Pn 09 19 35.8 -0.9
GO02 Mina Guanaco 5.17 22 eS **Sb 09 20 50.1 -2.3**
GO02 IAML 09 21 08.6
comp=Z,439nm,0.6s
PB14 IPOC Station P 5.48 12 Pn 09 19 38.7 -2.2
H03N1 Juan Fernandez 7.04 239 T T 09 27 26.1
baz=66,slow=72,SNR=7470
H03N2 Juan Fernandez 7.05 239 T T 09 27 26.5
baz=66,slow=72,SNR=8171
H03N3 Juan Fernandez 7.05 239 T T 09 27 25.4
baz=66,slow=72,SNR=6797
PLCA Paso Flores 10.75 175 P **Pn 09 20 55.4 +2.4**
comp=Z,1.5nm,0.7s,baz=344,slow=8.9,SNR=4.5
PLCA LR LR 09 24 52.1
comp=Z,138nm,20.0s,baz=350,slow=36
TRQA Tornquist 11.37 138 Pn 09 21 00.8 -0.7
CPUP Villa Florida 13.19 77 P **Pn 09 21 28.5 +2.1**
comp=Z,0.4nm,0.4s,baz=129,slow=16,SNR=2.8
CPUP S **Sn 09 23 51.5 -0.6**
comp=Z,1.7nm,0.9s,baz=34,slow=15,SNR=2.2
LPAZ La Paz 14.04 14 P **Pn 09 21 40.1 +1.6**
comp=Z,3.8nm,0.6s,baz=184,slow=6.9,SNR=22
LPAZ La Paz 14.04 14 eP **Pn 09 21 41.4 +2.8**
SIV San Ignacio 17.02 37 P **Pn 09 22 17.1 +0.1**
comp=Z,7.4nm,0.7s,baz=218,slow=12,SNR=39
SIV LR LR 09 28 38.8
comp=Z,50nm,21.2s,baz=121,slow=36
ITAB Concordia 17.40 86 P **Pn 09 22 19.2 -2.5**
PTLB Pontes e Lacer 18.52 41 P **P 09 22 34.7 -0.5**
PTLB Pontes e Lacer 18.52 41 eP **Pn 09 22 35.3 -0.2**
VILB Vilhena 20.03 35 P **P 09 22 50.8 -1.0**
VILB IAmb IAmb 09 23 07.2
comp=Z,12nm,0.8s
VILB Vilhena 20.03 35 eP **P 09 22 51.0 -0.8**
SALV Santo Antonio 20.31 50 eP **P 09 22 54.4 -0.4**
FRTB Fartura 20.84 77 eP **P 09 22 59.8 -0.7**
ITRB Iturama 21.87 67 eP **P 09 23 10.7 -0.9**
CZSB Cruzeiro do Su 22.18 357 P **P 09 23 14.9 0.0**
CZSB IAmb IAmb 09 23 31.7
comp=Z,20nm,1.0s
CZSB Cruzeiro do Su 22.18 357 eP **P 09 23 16.1 +1.2**
PDRB Porto dos Gac 22.98 40 eP **P 09 23 22.0 -1.5**
CLDB Colider 24.11 41 eP **P 09 23 33.8 -0.7**
TBTG Tabatinga, AM 25.73 4 P **P 09 23 48.9 -0.3**
TBTG IAmb IAmb 09 24 02.1
comp=Z,26nm,1.1s
TBTG Tabatinga, AM 25.73 4 eP **P 09 23 50.1 +1.0**
BDFB Brasilia 26.02 62 P **P 09 23 50.8 -1.1**
comp=Z,4.1nm,0.7s,baz=249,slow=3.4,SNR=6.1
BDFB LR LR 09 35 05.4
comp=Z,125nm,18.9s,baz=231,slow=38
comp=Z,4.1nm,0.7s
RUSC La Rusia 35.71 358 P **P 09 25 17.4 -0.3**
BAUV El Baul 38.88 6 P 09 25 43.4 -0.6
MDP Montagnes des 39.40 31 LR LR 09 44 17.0
comp=Z,52nm,19.0s,baz=190,slow=39
VNA3 Neumayer Olymp 52.96 159 ⇑P **P 09 27 34.4 -0.1**
comp=Z,3.6nm,0.6s
VNA1 Neumayer--Stat 53.24 158 ⇑P **P 09 27 36.0 -0.5**
comp=Z,3.7nm,0.9s
VNA2 Neumayer--Watz 53.59 158 ⇑P **P 09 27 39.0 -0.1**
comp=Z,6.6nm,0.5s,baz=290,slow=8.2
SNAA Sanae 55.18 159 ⇑P **P 09 27 50.5 -0.3**
comp=Z,128nm,0.6s
SNAA Sanae 55.18 159 P **P 09 27 50.6 -0.1**
SNAA IAmb IAmb 09 27 51.4
comp=Z,6.4nm,0.7s
SNAA Sanae 55.18 159 P **P 09 27 50.3 -0.4**
comp=Z,8.0nm,0.9s,baz=275,slow=8.6,SNR=59
comp=Z,8.0nm,0.9s
TROLL Troll, Antarti 56.90 159 ⇑P **P 09 28 02.9 -0.2**
comp=Z,171nm,0.7s
QSPA South Pole Qui 60.22 180 P **P 09 28 26.9 +0.6**
comp=Z,1.8nm,0.7s,baz=160,slow=0.9,SNR=12
comp=Z,1.8nm,0.7s
TXAR Lajitas Array 66.42 330 P **P 09 29 08.8 +1.2**
comp=Z,0.5nm,0.7s,baz=143,slow=7.6,SNR=8.0
comp=Z,0.5nm,0.7s
PBMO Poplar Bluff 68.72 344 P **P 09 29 21.9 0.0**
PBMO IAmb IAmb 09 29 23.2
comp=Z,5.6nm,0.9s
DBIC Dimbokro 73.65 72 P **P 09 29 52.0 -0.3**
comp=Z,3.0nm,0.7s,baz=292,slow=6.6,SNR=4.6
comp=Z,3.0nm,0.7s
ECSD EROS Data Cent 76.85 342 P **P 09 30 10.6 +0.6**
ECSD IAmb IAmb 09 30 11.5
comp=Z,4.8nm,0.9s
E46A Sault Ste Mari 76.86 351 P **P 09 30 10.5 +0.5**
KNB Kanab 77.01 327 P **P 09 30 11.4 +0.1**
KNB IAmb IAmb 09 30 30.2
comp=Z,9.1nm,1.5s
P18A Preston Nutter 78.00 331 P **P 09 30 17.4 +0.4**
P18A IAmb IAmb 09 30 19.7
comp=Z,4.7nm,1.2s
PDAR Pinedale Array 80.35 333 P **P 09 30 30.2 +0.5**
comp=Z,0.3nm,0.7s,baz=139,slow=9.2,SNR=3.9
comp=Z,0.3nm,0.7s
NVAR Mina Array Bea 80.79 325 P **P 09 30 33.3 +1.2**
comp=Z,0.6nm,0.8s,baz=146,slow=5.6,SNR=5.9
comp=Z,0.6nm,0.8s
ELK Elko 81.13 328 P **P 09 30 33.7 -0.2**
TORD Torodi Ar. Bea 82.58 70 P **P 09 30 41.6 -0.2**
comp=Z,3.3nm,0.9s,baz=272,slow=4.6,SNR=3.7
comp=Z,3.3nm,0.9s
ASAR Alice Springs 121.25 208 PKP **PKPdf 09 37 10.5 -1.4**
comp=Z,0.2nm,0.4s,baz=139,slow=1.4,SNR=5.0
WRA Warramunga Arr 124.37 210 PKP **PKPdf 09 37 16.9 -1.1**
comp=Z,0.3nm,0.5s,baz=159,slow=1.7,SNR=22
H11S2 WAKE ISLAND Hyl 126.03 272 T T 11 56 10.4
baz=115,slow=75,SNR=186
H11S1 WAKE ISLAND Hyl 126.04 272 T T 11 56 11.4
baz=115,slow=75,SNR=132
H11S3 WAKE ISLAND Hyl 126.05 272 T T 11 56 09.2
baz=115,slow=75,SNR=178
H11N3 WAKE ISLAND Hyl 126.34 273 T T 11 56 32.7
baz=116,slow=76,SNR=18
H11N1 WAKE ISLAND Hyl 126.36 273 T T 11 56 35.9
baz=116,slow=76,SNR=5.3
H11N2 WAKE ISLAND Hyl 126.36 273 T T 11 56 37.3
baz=116,slow=76,SNR=23
BVAR Borovoye Array 144.08 39 PKP **PKPdf 09 37 52.4 -1.1**
comp=Z,0.6nm,0.4s,baz=318,slow=1.9,SNR=2.4
KURBB Kurchatov Arra 149.67 39 PKPbc **PKPbc 09 38 07.4 -0.2**
comp=Z,0.6nm,0.4s,baz=291,slow=2.6,SNR=4.8
ZALV Zalesovo Beam 150.64 29 PKPbc **PKPbc 09 38 09.8 0.0**
comp=Z,4.4nm,0.5s,baz=306,slow=3.1,SNR=22
MKAR Makanchi Array 153.78 43 PKPbc **PKPbc 09 38 15.6 -1.6**
comp=Z,0.4nm,0.7s,baz=270,slow=1.4,SNR=2.4

IDC 17 09:39:25.6±2.5, 2.83S×151.68E, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=130.3km s-min=40.3km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.00**	**224**	P	P	09 44 43.4	+1.1
	4.0nm,0.5s,baz=46,slow=10,SNR=73						
WRA				PcP	PcP	09 48 22.1	-2.6
	0.3nm,0.8s,baz=58,slow=2.3,SNR=1.6						
	4.0nm,0.5s						
ASAR	**Alice Springs**	**26.92**	**218**	P	P	09 45 08.6	-0.2
	0.3nm,0.4s,baz=54,slow=9.1,SNR=15						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**148.60**	**291**	PKPbc	PKPbc	09 59 15.7	0.0
	2.9nm,1.0s,baz=70,slow=2.6,SNR=8.7						

NEIC 17 09:46:42.1±0.4, 19.11N±0.03×156.08W±0.07, h47km±4km, Error ellipse: s-maj=10.5km s-min=1.8km az=67.0
HVO 17 09:46:43.0±0.7, 19.06N±0.03×156.14W±0.03, h41km±5km, ML3.2/46, ML3.2/38(NEIC), Error ellipse: s-maj=5.0km s-min=2.6km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPH	**Captain Cook**	**0.48**	**26**		Pn	09 46 52.0	-1.5
KHU	**Kahuku**	**0.53**	**70**		Pn	09 46 53.0	-1.4
KHU					Sn	09 47 00.8	-1.7
HPO	**Honuapo**	**0.56**	**87**		Pn	09 46 53.3	-1.2
HPO					Sn	09 47 01.6	-1.2
MWH	**Mokuaweoweo**	**0.67**	**51**		Pn	09 46 54.7	-1.8
MWH					Sn	09 47 03.9	-2.2
MWH				IAML		09 47 04.3	
	comp=N,1μm,0.3s						
MWH				IAML		09 47 05.6	
	comp=E,821nm,0.3s						
ALEP	**Alea Permanent**	**0.67**	**44**		Pn	09 46 55.1	-1.3
ALEP					Sn	09 47 03.9	-2.1
HUH	**Hualalai**	**0.69**	**25**		Pn	09 46 54.8	-1.8
HUH					Sn	09 47 04.5	-1.8
HUH				IAML		09 47 09.5	
	comp=N,686nm,0.2s						
AIN	**Ainahou**	**0.72**	**64**		Pn	09 46 55.3	-1.5
AIN					Sn	09 47 04.6	-2.2
AIN				IAML		09 47 05.7	
	comp=E,791nm,0.2s						
HTC	**Hot Caves**	**0.73**	**76**		Pn	09 46 55.4	-1.5
HLP	**Hilina Pali**	**0.82**	**73**		Pn	09 46 56.8	-1.4
HLP					Sn	09 47 07.0	-2.2
HLP				IAML		09 47 07.8	
	comp=N,856nm,0.2s						
HLP				IAML		09 47 07.8	
	comp=E,847nm,0.4s						
HMH	**Humu'ula Sheep**	**0.82**	**49**		Pn	09 46 56.9	-1.5
HMH					Sn	09 47 07.2	-2.5
MLH	**Mauna Loa**	**0.83**	**59**		Pn	09 46 56.9	-1.6
MLH					Sn	09 47 07.4	-2.4
MLH				IAML		09 47 09.0	
	comp=N,698nm,0.1s						
MLH				IAML		09 47 10.9	
	comp=E,646nm,0.1s						
SDHHI	**Sand Hill**	**0.87**	**68**		Pn	09 46 57.0	-1.8
SDHHI					Sn	09 47 07.5	-2.9
WRMHI	**West Rim**	**0.87**	**66**		Pn	09 46 57.1	-1.8
WRMHI					Sn	09 47 07.8	-2.7
UWE	**Uwekahuna**	**0.88**	**66**		Pn	09 46 57.1	-1.9
OBL	**Observatory Le**	**0.89**	**66**		Pn	09 46 57.3	-1.8
OBL					Sn	09 47 08.2	-2.6
RIM	**Rim**	**0.89**	**68**		Pn	09 46 57.3	-1.9
RIM					Sn	09 47 08.0	-2.9
KKO	**Keanakako'i**	**0.89**	**68**		Pn	09 46 57.4	-1.8
KKO					Sn	09 47 08.1	-3.0
UWB	**Uwekahuna Bluf**	**0.89**	**66**		Pn	09 46 57.3	-1.9
UWB					Sn	09 47 07.9	-3.1
POHA	**Pohakuloa**	**0.90**	**40**		Pn	09 46 57.7	-1.8
POHA					Sn	09 47 08.5	-2.9
POHA	**Pohakuloa**	**0.90**	**40**	IAML		09 47 09.5	
	comp=E,862nm,0.1s						
POHA				IAML		09 47 10.2	
	comp=E,639nm,0.3s						
SBLHI	**Steaming Bluff**	**0.90**	**66**		Pn	09 46 57.4	-2.0
SBLHI					Sn	09 47 08.1	-3.2
BYL	**Byron's Ledge**	**0.90**	**67**		Pn	09 46 57.6	-1.8
HATHI	**Halema'uma'u T**	**0.91**	**66**		Pn	09 46 57.5	-1.9
HATHI				IAML		09 47 12.1	
	comp=N,549nm,0.5s						
RSD	**Rainshed**	**0.91**	**64**		Sn	09 47 08.4	-3.1
PUH	**Pauahi**	**0.93**	**70**		Pn	09 46 57.7	-2.0
PUH					Sn	09 47 08.9	-3.0
PUH				IAML		09 47 09.7	
	comp=N,524nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.97**	**71**		Pn	09 46 56.6	-3.6
NPOC	**North of Pu'u**	**1.03**	**71**		Pn	09 46 59.0	-2.0
NPOC					Sn	09 47 11.1	-3.3
JCUZ	**Jacuzzi**	**1.03**	**72**		Pn	09 46 59.1	-2.0
JCUZ					Sn	09 47 11.3	-3.2
HPAH	**Hawaii Prepara**	**1.05**	**23**		Pn	09 46 59.4	-2.0
HPAH				IAML		09 47 12.1	
	comp=E,421nm,0.2s						
HPAH				IAML		09 47 12.0	
	comp=N,415nm,0.3s						
JOKA	**Jonika Flow**	**1.14**	**71**		Pn	09 47 00.1	-2.4
MHA	**Mahukona**	**1.15**	**11**		Pn	09 47 00.6	-2.0
HON	**Honolulu**	**2.85**	**323**	Pn	Pn	09 47 23.0	-3.0

NEIC 17 09:56:35.5±0.5, 38.05N±0.01×97.97W±0.02, h5km±2km, mb_Lg2.8/105, ML2.8/6, Error ellipse: s-maj=3.2km s-min=2.6km az=352.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R32A	**Long Quarter,**	**0.70**	**303**		Pg	09 56 48.3	-0.6
R32A				Sg	Sg	09 56 57.8	-0.2
R32A				IAML		09 57 06.2	
	755nm,0.8s						
KAN08	**Anthony NE Sta**	**0.82**	**180**		Pg	09 56 50.1	-1.0
KAN08				Sg	Sg	09 57 00.9	-0.8
KAN08				IAML		09 57 06.0	
	comp=N,352nm,0.6s						
KAN01	**Argonia South**	**0.91**	**169**		Pg	09 56 51.8	-1.1
KAN01				Sg	Sg	09 57 04.2	-0.4
KAN01				IAmb_Lg		09 57 05.4	
	comp=Z,102nm,0.7s						
KAN01				IAML		09 57 09.3	
	comp=E,270nm,0.5s						
KAN01				IAML		09 57 12.4	
	comp=N,230nm,0.6s						
KAN14	**Manchester OK**	**1.09**	**180**		Pg	09 56 54.9	-1.4
GC02	**Grant County #**	**1.20**	**176**		Pg	09 56 57.0	-1.4
BLOK	**Blackwell**	**1.42**	**155**		Pn	09 57 00.7	-1.2
CROK	**Carrier**	**1.54**	**181**		Pn	09 57 03.0	-0.6
CBKS	**Cedar Bluff**	**1.59**	**299**		Pn	09 57 04.1	-0.2
NOKA	**Waynoka**	**1.60**	**209**		Pn	09 57 04.1	-0.4
T35A	**Sooner Cattle**	**1.61**	**134**		Pn	09 57 04.3	-0.4
OK038	**West end E0370**	**1.68**	**202**		Pn	09 57 05.4	-0.2
QUOK	**Quay**	**2.12**	**151**		Pn	09 57 11.7	0.0
OK052	**Battle Ridge R**	**2.25**	**155**		Pn	09 57 13.1	-0.3
OK029	**Liberty Lake**	**2.28**	**169**		Pn	09 57 13.7	-0.1
ADOK	**Arcadia Dam**	**2.44**	**169**		Pn	09 57 14.9	-1.0
DEOK	**Depew**	**2.49**	**151**		Pn	09 57 16.4	-0.4
OKCSW	**OKLAHOMA CITY**	**2.67**	**171**		Pn	09 57 19.3	+0.2
TUL3	**Leonard**	**2.75**	**140**		Pn	09 57 20.5	+0.3
TUL3				IAmb_Lg		09 58 08.8	
	comp=Z,34nm,0.7s						
U38A	**Gravette**	**3.28**	**118**		Pn	09 57 28.3	+0.8
U38A				IAmb_Lg		09 58 22.0	
	comp=Z,27nm,0.8s						
SMWD	**Samnorwood**	**3.46**	**213**		Pn	09 57 28.8	-1.3
SMWD				IAmb_Lg		09 58 28.4	
	comp=Z,24nm,0.8s						
HHAR	**Hobbs**	**3.67**	**117**		Pn	09 57 33.5	+0.7
HHAR				IAmb_Lg		09 58 41.9	
	comp=Z,18nm,0.9s						
KSCO	**Kaye Shedlock'**	**3.78**	**286**	IAmb_Lg		09 58 41.7	
	comp=Z,25nm,0.8s						
P38A	**Dawn**	**3.81**	**64**		Pn	09 57 34.9	+0.1
P38A				IAmb_Lg		09 58 38.1	
	comp=Z,24nm,0.8s						
LOOK	**Love County**	**4.09**	**171**	IAmb_Lg		09 58 57.2	
	comp=Z,26nm,1.1s						
RTBA	**Rita Blanca**	**4.13**	**249**	Pn	Pn	09 57 39.2	-0.2
R40A	**Maddies Statio**	**4.50**	**85**	Pn	Pn	09 57 44.6	+0.4
R40A				IAmb_Lg		09 59 07.5	
	comp=Z,14nm,0.8s						
N38A	**Joes South For**	**4.58**	**52**	Pn	Pn	09 57 46.0	+0.7
MGMO	**Mountain Grove**	**4.61**	**99**	Pn	Pn	09 57 46.8	+0.9
MGMO				IAmb_Lg		09 59 05.3	
	comp=Z,14nm,0.7s						
P40A	**Paris**	**4.86**	**70**	IAmb_Lg		09 59 16.6	
	comp=Z,12nm,0.7s						
MIAR	**Mount Ida**	**4.98**	**133**	IAmb_Lg		09 59 17.6	
	comp=Z,25nm,0.8s						
DKNS	**Dickens**	**4.99**	**210**	IAmb_Lg		09 59 14.8	
	comp=Z,23nm,0.9s						
APMT	**Aspermont**	**5.03**	**201**	IAmb_Lg		09 59 21.3	
	comp=Z,12nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.15**	**113**	Pn	Pn	09 57 53.3	+0.1
FCAR				IAmb_Lg		09 59 19.4	
	comp=Z,16nm,0.8s						
CCM	**Cathedral Cave**	**5.31**	**88**	IAmb_Lg		09 59 28.7	
	comp=Z,12nm,0.8s						
Z38A	**Mt. Pleasant**	**5.36**	**152**	IAmb_Lg		09 59 39.3	
	comp=Z,18nm,0.8s						
X40A	**Basin Creek Fa**	**5.46**	**129**	IAmb_Lg		09 59 30.7	
	comp=Z,20nm,0.8s						
SN07	**Snyder 07**	**5.49**	**207**	IAmb_Lg		09 59 37.6	
	comp=Z,14nm,0.7s						
ABTX	**Abilene, Hawle**	**5.58**	**195**	IAmb_Lg		09 59 42.9	
	comp=Z,14nm,1.0s						
Q24A	**Divide**	**5.71**	**281**	IAmb_Lg		09 59 39.0	
	comp=Z,12nm,0.8s						
POST	**Post**	**5.74**	**211**	IAmb_Lg		09 59 46.9	
	comp=Z,15nm,1.1s						
ECSD	**EROS Data Cent**	**5.77**	**10**	Pn	Pn	09 58 00.9	-0.9
LCAR	**Lake Charles**	**5.79**	**108**	IAmb_Lg		09 59 41.0	
	comp=Z,19nm,1.0s						
FVM	**French Village**	**5.96**	**88**	IAmb_Lg		09 59 48.7	
	comp=Z,10nm,0.8s						
PBMO	**Poplar Bluff**	**6.13**	**100**	IAmb_Lg		10 00 02.2	
	comp=Z,20nm,0.7s						
SGCY	**Sterling City**	**6.64**	**204**	IAmb_Lg		10 00 19.2	
	comp=Z,13nm,0.9s						
P43A	**Skaggs, Pawnee**	**6.78**	**74**	IAmb_Lg		10 00 19.1	
	comp=Z,14nm,0.7s						
S44A	**Carbondale**	**6.90**	**90**	IAmb_Lg		10 00 16.1	
	comp=Z,11nm,0.7s						
SIUC	**Southern Illin**	**6.93**	**90**	IAmb_Lg		10 00 15.3	
	comp=Z,11nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.07**	**80**	IAmb_Lg		10 00 33.6	
	comp=Z,11nm,0.9s						
HDIL	**Hopedale**	**7.18**	**67**	IAmb_Lg		10 00 30.6	
	comp=Z,15nm,0.7s						
143A	**Socs Landing,**	**7.56**	**133**	IAmb_Lg		10 00 48.4	
	comp=Z,13nm,0.9s						
OZNA	**Ozona**	**7.57**	**201**	IAmb_Lg		10 00 48.5	
	comp=Z,10nm,0.9s						
HAYD	**Hayden**	**7.62**	**292**	IAmb_Lg		10 00 47.2	
	comp=Z,8.1nm,1.0s						
JFWS	**Jewell Farm**	**7.63**	**48**	IAmb_Lg		10 00 52.8	
	comp=Z,12nm,0.8s						
MNHN	**Monahans**	**7.77**	**212**	IAmb_Lg		10 00 53.1	
	comp=Z,6.6nm,0.8s						
F33A	**5 Mile Ranch,**	**7.89**	**9**	IAmb_Lg		10 00 50.9	
	comp=Z,6.1nm,0.9s						
K22A	**Casper**	**7.99**	**308**	IAmb_Lg		10 01 03.7	
	comp=Z,12nm,1.0s						
I40A	**Norwalk**	**8.06**	**41**	IAmb_Lg		10 00 57.0	
	comp=Z,10nm,1.2s						
SPMN	**Marine on St.**	**8.15**	**27**	IAmb_Lg		10 01 08.7	
	comp=Z,7.5nm,1.0s						
PECS	**Pecos**	**8.24**	**218**	IAmb_Lg		10 01 09.6	
	comp=Z,7.2nm,0.8s						
MLDN	**Muldoon**	**8.28**	**175**	IAmb_Lg		10 01 21.4	
	comp=Z,13nm,1.0s						
SAND	**Sanderson**	**8.78**	**204**	IAmb_Lg		10 01 22.5	
	comp=Z,7.3nm,1.0s						
DRIO	**Del Rio**	**8.88**	**195**	IAmb_Lg		10 01 32.0	
	comp=Z,6.6nm,0.8s						
VHRN	**Van Horn**	**9.27**	**221**	IAmb_Lg		10 01 36.7	
	comp=Z,5.9nm,1.1s						

IDC 17 09:57:34.2±0.9, 7.06S×150.79E, h0km, mb4.1/11, mbtmp4.1/12, ML1.5/1, MS3.1/5, Error ellipse: s-maj=31.5km s-min=16.6km az=101.0
ISC 17 09:57:40.1±0.9, 7.1S±0.1×150.8E±0.2, h40km, n16, σ0.968/14, mb4.0/10, MS3.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.26**	**237**	Pn	**Pn**	**09 58 42.5**	**0.0**
	1.7nm,0.3s,baz=122,slow=23,SNR=1.9						
PMG				Sn	**Sn**	**09 59 31.7**	**+0.7**
	15nm,0.3s,baz=153,slow=16,SNR=8.4						
PMG				LR	LR	10 00 38.1	
	comp=Z,165nm,19.5s,baz=49,slow=43						
	8.5nm,0.6s						
WRA	**Warramunga Arr**	**20.44**	**230**	P	**P**	**10 02 13.4**	**-0.8**
	7.7nm,0.6s,baz=56,slow=11,SNR=51						
WRA				LR	LR	10 09 28.9	
	comp=Z,62nm,19.2s,baz=270,slow=35						
	7.7nm,0.6s						
GUMO	**Guam**	**21.36**	**344**	LR	LR	10 09 02.9	
	comp=Z,25nm,19.7s,baz=172,slow=32						
ASAR	**Alice Springs**	**23.12**	**223**	P	**P**	**10 02 41.9**	**-1.0**
	1.4nm,0.3s,baz=61,slow=9.3,SNR=54						
	1.4nm,0.3s						
STKA	**Stephens Creek**	**26.11**	**198**	P	**P**	**10 03 09.6**	**-0.7**
	1.7nm,0.5s,baz=32,slow=8.8,SNR=5.7						
	1.7nm,0.5s						
JOW	**Kunigami**	**40.16**	**328**	LR	LR	10 17 31.1	
	comp=Z,25nm,21.3s,baz=110,slow=30						
KSRS	**Korea Array**	**49.19**	**336**	P	**P**	**10 06 24.9**	**+0.6**
	1.2nm,0.8s,baz=161,slow=8.0,SNR=4.8						
	1.2nm,0.8s						
SONM	**Songino Array**	**67.21**	**329**	P	**P**	**10 08 30.7**	**+0.3**
	1.3nm,0.7s,baz=148,slow=5.9,SNR=6.1						
	1.3nm,0.7s						
VNDA	**Vanda**	**70.64**	**177**	P	**P**	**10 08 51.5**	**+0.4**
	1.0nm,0.7s,baz=326,slow=5.9,SNR=8.9						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**80.74**	**320**	P	**P**	**10 09 49.1**	**-0.3**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=3.1						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**81.94**	**327**	P	**P**	**10 09 54.7**	**-0.9**
	0.6nm,0.5s,baz=107,slow=7.9,SNR=3.6						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**10 10 01.5**	**+1.0**
	2.1nm,0.8s,baz=319,slow=1.0,SNR=15						
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**84.36**	**322**	P	**P**	**10 10 07.8**	**-0.3**
	1.4nm,0.8s,baz=113,slow=3.8,SNR=15						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**85.02**	**22**	P	**P**	**10 10 10.9**	**-0.3**
	2.0nm,0.7s,baz=252,slow=4.9,SNR=31						
	2.0nm,0.7s						
ARTI	**Arti**	**97.18**	**326**	LR	LR	10 54 29.9	
	comp=Z,20nm,21.0s,baz=20,slow=35						
TORD	**Torodi Ar. Bea**	**149.00**	**284**	PKPbc	**PKPbc**	**10 17 24.9**	**0.0**
	1.0nm,0.6s,baz=55,slow=2.1,SNR=5.3						

IDC 17 11:02:23.6±1.5, 8.81N×61.03W, h0km, mb3.8/7, mbtmp4.0/10, ML3.9/3, MS2.8/4, Error ellipse: s-maj=50.8km s-min=14.9km az=12.0
NEIC 17 11:02:26.1±1.9, 8.68N±0.07×61.13W±0.08, h10km±1km, mb4.3/17, Error ellipse: s-maj=14.1km s-min=10.7km az=70.0
FUNV 17 11:02:28.4, 8.68N×60.96W, h25km, MW4.7
**ISC 17 11:02:27.5±0.7, 8.65N±0.07×61.06W±0.05, h35km, n88, σ1.995/

GRGR	Grenville	3.51	350	*eP*	Pn	11 03 20.2	+0.5
GRW	Mount Saint Ca	3.54	350	*eP*	Pn	11 03 21.8	+1.7
GRW				*eS*	Sn	11 04 01.5	+0.7
GRSS	Sisters	3.67	351	*eP*	Pn	11 03 22.9	+1.1
GCMP	Grenada, Carri	3.83	355	*eP*	Pn	11 03 24.2	+0.1
PCRV	Puerto La Cruz	3.85	294	Pn	Pn	11 03 25.0	+0.7
	12nm,0.3s,baz=65,slow=6.2,SNR=110						
PCRV				Lg	Lg	11 04 22.6	
	56nm,0.3s,baz=136,slow=22,SNR=8.8						
PCRV				LR	LR	11 05 29.1	
	comp=Z,124nm,18.2s,slow=49						
	28nm,0.4s						
PCRV	Puerto La Cruz	3.85	294	*eP*	Pn	11 03 25.3	+1.1
PCRV				*eS*	Sn	11 04 07.2	-1.1
PCRV	Puerto La Cruz	3.85	294	*eP*	Pn	11 03 25.2	+0.9
SVB	Belmont	4.60	358	*eP*	Pn	11 03 36.3	+1.7
BBGH	Gun Hill	4.70	18	Pn	Pn	11 03 38.0	+1.9
BBGH	Gun Hill	4.70	18	*eP*	Pn	11 03 38.7	+2.7
SLBI	Saint Lucia, B	5.34	1	*eP*	Pn	11 03 44.8	0.0
CACV	CAICARA DEL OR	5.54	259	*eP*	Pn	11 03 41.4	-6.1
CACV				*eS*	Sn	11 04 37.1	-13
MPOM	Morne Pois Mar	5.76	2		Pn	11 03 51.5	+0.9
MPOM				Sn	Sn	11 04 52.3	-3.2
BIM	Bigot	5.83	360		Pn	11 03 52.7	+1.1
BIM	Bigot	5.83	360	*eP*	Pn	11 03 51.6	0.0
FUNV	FUNVISIS	5.96	288	*eP*	Pn	11 03 54.0	+0.6
FUNV				*eS*	Sn	11 04 58.3	-2.2
FDF	Fort de France	6.05	359		Pn	11 03 55.1	+0.5
TACV	Tcata	6.08	285	*eP*	Pn	11 03 55.6	+0.7
TACV				*eS*	Sn	11 05 00.6	-2.7
ILAM	Ilet Lapin Mar	6.09	2	Pn	Pn	11 03 54.8	-0.3
ILAM	Ilet Lapin Mar	6.09	2	*eP*	Pn	11 03 54.8	-0.3
SVN	Savane Anatole	6.16	359	Pn	Pn	11 03 56.8	+0.7
SVN	Savane Anatole	6.16	359	*eP*	Pn	11 03 55.9	-0.2
BOAV	Boa Vista	6.23	175	Pn	Pn	11 03 57.1	0.0
BENV	Beln	6.59	282	*eP*	Pn	11 04 03.1	+1.0
BENV				*eS*	Sn	11 05 12.5	-3.5
MDN	Morne-Daniel	6.64	357	*eP*	Pn	11 04 01.4	-1.2
DLDT	Laudat, Domini	6.65	358	*eP*	Pn	11 03 56.8	-6.0
DSLB	Salisbury	6.76	357	*eP*	Pn	11 04 05.7	+1.4
DWS	Wesley	6.88	358	*eP*	Pn	11 04 06.1	+0.1
BAUV	El Baul	6.91	273		Pn	11 04 06.7	+0.4
BAUV	El Baul	6.91	273	*eP*	Pn	11 04 06.5	+0.1
BAUV				*eS*	Sn	11 05 20.1	-3.7
BAUV	El Baul	6.91	273	*eP*	Pn	11 04 08.1	+1.8
TDBA	Terre de Bas,	7.18	356	Pn	Pn	11 04 08.3	-1.7
TBG	Guadaloupe-3	7.18	355	*eP*	Pn	11 04 10.9	+0.8
MAGL	Barre de l'ile	7.26	358	Pn	Pn	11 04 10.8	-0.4
MMLZ	Guadeloupe Bro	7.38	355	*eP*	Pn	11 04 13.8	+1.1
CBE	Ff, Capester	7.40	356		Pn	11 04 12.8	-0.3
ATGZ	Broadband at L	7.43	355	*eP*	Pn	11 04 14.0	+0.5
DHSZ	Broadband at M	7.61	355	*eP*	Pn	11 04 17.4	+1.5
GDHS	Morne Mazeau,	7.61	355		Pn	11 04 16.1	0.0
DSDZ	La Diserade, G	7.62	360	*eP*	Pn	11 04 16.0	-0.1
GDSD	La Dsirade Is	7.62	360	Pn	Pn	11 04 16.2	+0.1
ABD	La Joyeuse, An	7.79	357	Pn	Pn	11 04 18.7	+0.2
MLYT	Lee's Yard	8.10	352	*eP*	Pn	11 04 24.3	+1.6
MBWH		8.12	352	*eP*	Pn	11 04 26.2	+3.1
MBFL	Flemmings, Mon	8.13	352	*eP*	Pn	11 04 24.1	+0.9
ANWB	Willy Bob	8.99	356	*eP*	Pn	11 04 36.0	+1.0
MDP	Montagnes des	9.06	112	Pn	Pn	11 04 35.7	-0.3
	0.9nm,0.3s,baz=303,slow=11,SNR=32						
MDP				Sn	Sn	11 06 10.8	-6.1
	6.8nm,0.3s,baz=47,slow=16,SNR=8.6						
MDP				Lg	Lg	11 07 12.4	
	5.0nm,0.3s,baz=202,slow=22,SNR=3.7						
MDP				LR	LR	11 08 17.7	
	comp=Z,65nm,19.3s,baz=182,slow=39						
	3.5nm,0.3s						
SDV	Santo Domingo	9.47	272	Pn	Pn	11 04 40.5	-1.2
SDV	Santo Domingo	9.47	272	Pn	Pn	11 04 41.1	-0.6
	9.8nm,0.3s,baz=75,slow=6.1,SNR=3.2						
SDV				Sn	Sn	11 06 21.6	-5.5
	6.5nm,0.3s,baz=16,slow=7.9,SNR=3.2						
SDV				Lg	Lg	11 07 26.1	
	7.1nm,0.3s,baz=223,slow=15,SNR=4.0						
	23nm,0.4s						
SJG	San Juan	10.63	333	LR	LR	11 09 27.4	
	comp=Z,31nm,19.4s,baz=94,slow=40						
CAPV	Capacho	11.17	267	*eP*	Pn	11 05 04.2	-0.8
DR12	Loma Pena Alta	12.92	322	Pn	Pn	11 05 27.1	-1.6
ROSC	El Rosal	13.70	255	Lg	Lg	11 09 40.9	
	1.7nm,0.3s,baz=218,slow=23,SNR=5.4						
VILB	Vilhena	21.48	178	P	P	11 07 21.2	+8.0
VILB				IAmb	IAmb	11 07 46.8	
	comp=Z,10nm,0.9s						
ACON	Acoyapa	23.95	280	P	P	11 07 40.1	+1.4
ACON				IAmb	IAmb	11 07 49.4	
	comp=Z,5.6nm,0.9s						
LPAZ	La Paz	25.75	196	P	P	11 08 03.0	+7.3
LPAZ	La Paz	25.75	196	LR	LR	11 18 44.7	
	comp=Z,36nm,20.3s,baz=63,slow=38						
WHAR	Wooly Hollow	38.96	318	P	P	11 09 50.4	0.0
HBVL	Hebbronville	40.00	302	P	P	11 10 00.1	+1.0
HBVL				IAmb	IAmb	11 10 07.5	
	comp=Z,6.6nm,0.9s						
MGMO	Mountain Grove	40.05	320	P	P	11 10 00.1	+0.6
P40A	Paris	41.39	323	P	P	11 10 10.1	-0.3
BRDY	Brady	41.86	308		P	11 10 14.8	+0.3
PLPT	Palo Pinto	41.99	310	P	P	11 10 15.6	+0.1
TXAR	Lajitas Array	44.91	303	P	P	11 10 39.9	+0.7
	comp=Z,0.4nm,0.4s,baz=120,slow=8.2,SNR=19						
	comp=Z,0.4nm,0.4s						
PV01	Paradox Valley	51.80	312	P	P	11 11 33.5	+1.1
PV01				IAmb	IAmb	11 11 34.2	
	comp=Z,2.4nm,0.7s						
DGMT	Dagmar	53.73	326	P	P	11 11 48.0	+1.8
PDAR	Pinedale Array	54.30	317	P	P	11 11 50.7	-0.1
	comp=Z,1.5nm,0.7s,baz=111,slow=9.0,SNR=13						
	comp=Z,1.5nm,0.7s						
PSUT	Pine Spring	55.84	311	P	P	11 12 03.4	+1.5
PSUT				IAmb	IAmb	11 12 10.7	
	comp=Z,3.5nm,0.9s						
YHL	Hebgen Lake	56.23	319		P	11 12 06.5	+1.8
HLID	Hailey	57.89	316		P	11 12 17.4	+1.1
HLID				IAmb	IAmb	11 12 18.1	
	comp=Z,2.5nm,0.8s						
NVAR	Mina Array Bea	59.16	310	P	P	11 12 25.7	+0.4
	comp=Z,0.5nm,0.6s,baz=103,slow=7.5,SNR=5.8						
	comp=Z,0.5nm,0.6s						
ESDC	Sonseca Array	59.36	49	P	P	11 12 26.4	-0.1
	comp=Z,0.5nm,1.0s,baz=262,slow=8.5,SNR=2.4						
	comp=Z,0.5nm,1.0s						
PLID	Pearl Lake	59.49	318		P	11 12 28.2	+0.7
PLID				IAmb	IAmb	11 12 28.4	
	comp=Z,1.6nm,0.8s						
YKA	Yellowknife Ar	66.11	336	P	P	11 13 11.3	+0.4
	comp=Z,1.2nm,0.8s,baz=116,slow=6.7,SNR=4.1						
	comp=Z,1.2nm,0.8s						
R33M	Jennings River	72.42	330	P	P	11 13 53.0	+2.8
R33M				IAmb	IAmb	11 13 53.5	
	comp=Z,2.8nm,0.8s						
M31M	Drury Creek, Y	74.64	332	P	P	11 14 05.5	+2.4
M31M				IAmb	IAmb	11 14 13.1	
	comp=Z,3.9nm,0.9s						
HFS	Hagfors	74.96	30	P	P	11 14 06.6	+1.6
	comp=Z,2.0nm,0.9s,baz=268,slow=16,SNR=1.8						
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	80.46	334	P	P	11 14 36.6	+1.1
	comp=Z,0.5nm,0.7s,baz=94,slow=4.6,SNR=11						
	comp=Z,0.5nm,0.7s						
CMAR	Chiang Mai Arr	146.61	36	PKPbc	PKPab	11 22 08.0	+0.6
	comp=Z,1.0nm,0.7s,baz=303,slow=3.1,SNR=5.3						

*UPP **17** 11:03:59.5±2.8, 67°.55N×31°.65E, h0km, ML1.8, Presumed earthquake*
*KOLA **17** 11:04:06.7, 67°.48N×30°.39E, h0km, ML2.0, Error ellipse: s-maj=5.8km s-min=3.4km az=30.0, Murmansk region, Kovdor district*
*IDC **17** 11:04:10.0±2.4, 67°.75N×30°.03E, h0km, mbtmp2.7/2, ML1.9/2, Error ellipse: s-maj=34.3km s-min=9.5km az=73.0*

ISC 17 11:04:05.0±1.0, **67°.45N**±0°.05×**30°.49E**±0°.03, **h0**km, **n23, s19 20/27, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.97**	**79**	P	**Pg**	**11 04 23.2**	**-0.4**
APA	**Apatity**	**1.13**	**82**	S	**Sn**	**11 04 44.2**	**+0.1**
KVDA	**Kovda**	**1.20**	**128**	P	**Pn**	**11 04 28.8**	**-0.2**
KVDA				S	**Sn**	**11 04 45.8**	**-0.2**
LVZ	**Lovozero**	**1.65**	**72**	P	**Pn**	**11 04 35.6**	**+0.3**
LVZ				S	**Sn**	**11 04 57.5**	**+0.3**
TERR	**Teriberka**	**2.46**	**42**	S	**Sn**	**11 05 17.8**	**+0.9**
VADS	**Vadso**	**2.72**	**352**	P	**Pn**	**11 04 51.5**	**+1.6**
VADS				S	**Sn**	**11 05 23.6**	**+0.3**
VADS	**Vadso**	**2.72**	**352**	*eP*	**Pn**	**11 04 48.3**	**-1.5**
HEF	**Hetta**	**2.75**	**294**	*eP*	**Pn**	**11 04 49.7**	**-0.7**
ARCES	**ARCESS Array B**	**2.79**	**321**	Pn	**Pn**	**11 04 50.6**	**-0.2**
	0.3nm,0.3s,baz=136,slow=16,SNR=37						
ARCES				Lg	Lg	11 05 27.1	
	0.4nm,0.3s,baz=138,slow=26,SNR=7.4						
	0.9nm,0.2s						
ARCES	**ARCESS Array B**	**2.79**	**321**	P	**Pn**	**11 04 50.6**	**-0.2**
ARCES				S	**Sn**	**11 05 24.9**	**-0.2**
PAJU	**Pajala**	**2.90**	**265**	P	**Pn**	**11 04 52.6**	**+0.2**
PAJU				S	**Sb**	**11 05 33.5**	**-0.1**
KALU	**Kalix**	**3.26**	**244**	P	**Pn**	**11 04 57.5**	**+0.2**
LANU	**Lannavaara**	**3.29**	**284**	P	**Pn**	**11 04 57.2**	**-0.5**
ERTU	**Ertsjaerv**	**3.38**	**258**	P	**Pn**	**11 04 59.9**	**+0.9**
KUA	**Kurravaara**	**3.91**	**282**	P	**Pn**	**11 05 05.5**	**-0.6**
HARU	**Harads**	**3.98**	**256**	P	**Pn**	**11 05 07.2**	**0.0**
KOVU	**Salmi**	**3.99**	**286**	P	**Pn**	**11 05 07.3**	**0.0**
KOVU				S	**Sn**	**11 05 58.7**	**+3.9**
SJUU	**Sjulsmark**	**4.06**	**245**	P	**Pn**	**11 05 09.0**	**+0.8**
RATU	**Laukkuluspa**	**4.18**	**280**	P	**Pn**	**11 05 09.7**	**-0.3**
NIKU	**Nikkaluokta**	**4.39**	**281**	P	**Pn**	**11 05 13.2**	**+0.3**
I37NO	**I37NO**	**4.71**	**296**	I	I	11 32 10.0	
	baz=104,slow=319,SNR=1.4						
FAUS	**Fauske**	**5.86**	**276**	S	**Sn**	**11 06 37.6**	**-3.1**
FINES	**FINESS Array B**	**6.32**	**200**	Pn	Pb	11 05 47.1	-8.7
	0.1nm,0.3s,baz=13,slow=13,SNR=1.6						
FINES				Sn	Sn	11 07 00.3	+8.2
	baz=22,slow=23,SNR=2.1						
	1.2nm,0.9s						

*UCR **17** 11:27:38.1±1.4, 11°.37N×85°.80W, h191km±7km, MW3.6*
*CATAC **17** 11:27:40.9±0.5, 11°.N±3°.×8°.6W±°., h173km±3km, M2.7/19, MLv2.7/19, Error ellipse: s-maj=8.0km s-min=4.6km az=60.2, confirmed*

ISC 17 11:27:39.5±2.4, **11°.37N**±0°.05×**85°.69W**±0°.07, **h188**km±14km, **n64, s0 61/76, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMEN	**Al SSO del Vol**	**0.16**	**23**	P	**Pn**	**11 28 04.5**	**+0.2**
JAPN	**Al SSO del Vol**	**0.16**	**4**	*eP*	**Pn**	**11 28 05.3**	**+1.0**
JAPN	**Al SSO del Vol**	**0.16**	**4**	P	**Pn**	**11 28 04.4**	**+0.1**
JAPN				S	**S**	**11 28 22.6**	**-1.0**
ARIN	**Rivas**	**0.17**	**302**	P	**Pn**	**11 28 04.7**	**+0.4**
ARIN	**Rivas**	**0.17**	**302**	S	**S**	**11 28 23.0**	**-0.4**
MORN	**Al O del Volca**	**0.18**	**13**	P	**Pn**	**11 28 05.2**	**+0.8**
MORN				S	**S**	**11 28 23.2**	**-0.5**
CARN	**Rivas**	**0.24**	**137**	P	**Pn**	**11 28 04.9**	**+0.5**
CARN				S	**S**	**11 28 23.6**	**0.0**
LCRUZ	**La Cruz**	**0.29**	**169**	*eP*	**Pn**	**11 28 04.5**	**-0.1**
LCRUZ				*eS*	**S**	**11 28 23.6**	**-0.4**
PEJA	**Penjamo Buenos**	**0.60**	**142**	*eP*	**Pn**	**11 28 05.9**	**+0.3**
BUAI	**Buenos Aires**	**0.60**	**144**	*eP*	**Pn**	**11 28 06.1**	**+0.4**
VORI	**VORI**	**0.64**	**148**	*eP*	**Pn**	**11 28 06.5**	**+0.4**
LAPC	**Finca la Perla**	**0.65**	**157**	*eP*	**Pn**	**11 28 05.6**	**-0.3**
LAPC				*eS*	**S**	**11 28 26.0**	**-0.3**
VRLE	**La Escondida,**	**0.66**	**151**	*eP*	**Pn**	**11 28 06.1**	**0.0**
VRLE				*eS*	**S**	**11 28 28.4**	**+1.9**
GPS3	**Bodega del ICE**	**0.69**	**152**	*eP*	**Pn**	**11 28 06.6**	**+0.4**
NANN	**Nandasmo**	**0.71**	**323**	S	**S**	**11 28 27.8**	**+0.9**
NANN	**Nandasmo**	**0.71**	**323**	P	**Pn**	**11 28 07.5**	**+1.3**
ELI1	**Hacienda Flor**	**0.73**	**169**	*eP*	**Pn**	**11 28 06.1**	**-0.2**
ELI1	**Hacienda Flor**	**0.73**	**169**	P	**Pn**	**11 28 06.5**	**+0.2**
ELI1	**Hacienda Flor**	**0.73**	**169**	S	**S**	**11 28 27.3**	**+0.3**
SABN	**Sabanita**	**0.75**	**322**	P	**Pn**	**11 28 06.5**	**+0.1**
ALIBA	**Liberia Airpor**	**0.78**	**170**	*eP*	**Pn**	**11 28 07.1**	**+0.5**
ACON	**Acoyapa**	**0.78**	**40**	*eP*	**Pn**	**11 28 06.1**	**-0.5**
ACON	**Acoyapa**	**0.78**	**40**	P	**Pn**	**11 28 06.3**	**-0.3**
ACON	**Acoyapa**	**0.78**	**40**	S	**S**	**11 28 27.5**	**0.0**
MESS	**Mesas**	**0.79**	**142**	*eP*	**Pn**	**11 28 06.9**	**+0.2**
VMAR	**Armenia, Volca**	**0.79**	**134**	*eP*	**Pn**	**11 28 06.8**	**+0.1**
COLC	**Colonia**	**0.84**	**146**	*eP*	**Pn**	**11 28 07.2**	**+0.1**
CRUN	**El Crucero**	**0.86**	**316**	P	**Pn**	**11 28 07.5**	**+0.3**
CUI	**Cuipilapa**	**0.87**	**144**	*eP*	**Pn**	**11 28 07.6**	**+0.4**
CUI				*eS*	**S**	**11 28 28.6**	**0.0**
MOTZ	**Rio Naranjo**	**0.91**	**138**	*eP*	**Pn**	**11 28 08.0**	**+0.5**
WILN	**Americas 2**	**0.93**	**328**	P	**Pn**	**11 28 07.4**	**-0.1**
WILN				S	**S**	**11 28 28.5**	**-0.7**
UNAN	**Cigeo UNAN**	**0.94**	**323**	P	**Pn**	**11 28 07.4**	**-0.2**
UNAN				S	**S**	**11 28 28.9**	**-0.4**
MGAN	**Managua**	**0.95**	**325**	P	**Pn**	**11 28 08.0**	**+0.4**
R4DEC	**Barrio San Lui**	**0.95**	**325**	P	**Pn**	**11 28 08.0**	**+0.4**
TISN	**Laguna Tiscapa**	**0.96**	**324**	P	**Pn**	**11 28 08.8**	**+1.1**
TENO	**El Achiote**	**0.96**	**133**	*eP*	**Pn**	**11 28 08.5**	**+0.7**
TIMP	**Tierras Morena**	**1.02**	**140**	*eP*	**Pn**	**11 28 08.4**	**+0.1**
INVE	**Universidad In**	**1.08**	**145**	*eP*	**Pn**	**11 28 08.9**	**+0.3**
BOAB	**BOACO BROADBAN**	**.08**	**1**	P	**Pn**	**11 28 08.7**	**+0.2**
BOAB	**BOACO BROADBAN**	**.08**	**1**	S	**S**	**11 28 30.2**	**-1.0**
TILA	**Tilaran**	**1.14**	**142**	*eP*	**Pn**	**11 28 09.3**	**+0.2**
CHIK	**Chiripa**	**1.20**	**140**	*eP*	**Pn**	**11 28 10.1**	**+0.4**
COPN	**Copaltepe**	**1.20**	**313**	P	**Pn**	**11 28 09.5**	**0.0**
NICO	**Nicoya**	**1.25**	**169**	*eP*	**Pn**	**11 28 09.9**	**0.0**
TABAC	**Tabacon**	**1.25**	**133**	*eP*	**Pn**	**11 28 10.4**	**+0.3**
JTS	**Las Juntas de**	**1.29**	**146**	*eP*	**Pn**	**11 28 10.2**	**-0.2**
JTS				*eS*	**S**	**11 28 32.7**	**-1.5**
CEDE	**Laguna Cedeo**	**1.30**	**132**	*eP*	**Pn**	**11 28 11.2**	**+0.7**
ARE1	**Arenal 1**	**1.31**	**133**	*eP*	**Pn**	**11 28 11.2**	**+0.7**
VARE2	**V. Arenal**	**1.31**	**133**	*eP*	**Pn**	**11 28 11.2**	**+0.6**
CASO	**Castillo**	**1.32**	**135**	*eP*	**Pn**	**11 28 11.1**	**+0.5**
MOM2	**El Cardon**	**1.32**	**324**	P	**Pn**	**11 28 11.8**	**+1.2**
MOM2				S	**S**	**11 28 34.2**	**-0.4**
MTEVE	**Monteverde**	**1.34**	**141**	*eP*	**Pn**	**11 28 11.1**	**+0.1**
NYURE	**Nandayure**	**1.43**	**162**	*eP*	**Pn**	**11 28 11.5**	**0.0**
SOCE	**Pocosol**	**1.44**	**133**	P	**Pn**	**11 28 12.1**	**+0.5**
SOCE	**Pocosol**	**1.44**	**133**	S	**S**	**11 28 36.1**	**-0.3**
INDI	**Punta indio, G**	**1.50**	**173**	P	**Pn**	**11 28 11.9**	**-0.3**
INDI	**Punta indio, G**	**1.50**	**173**	S	**S**	**11 28 36.4**	**-1.1**
MATN	**Matagalpa**	**1.57**	**352**	P	**Pn**	**11 28 12.6**	**-0.3**
MATN	**Matagalpa**	**1.57**	**352**	S	**S**	**11 28 37.8**	**-1.1**
ESPN	**Las Esperanzas**	**1.59**	**59**	P	**Pn**	**11 28 13.2**	**+0.2**
ESPN	**Las Esperanzas**	**1.59**	**59**	S	**S**	**11 28 39.0**	**+0.1**
VPL2	**V. Platanar**	**1.66**	**129**	*eP*	**Pn**	**11 28 15.2**	**+1.4**
POLN	**Al Sur del Vol**	**1.68**	**319**	P	**Pn**	**11 28 14.8**	**+0.9**
POLN				S	**S**	**11 28 40.4**	**-0.3**
SRA1	**San Ramn**	**1.74**	**137**	*eP*	**Pn**	**11 28 14.8**	**+0.2**

SCB 17 11:40:12.2±1.4, **17°.38S**×**63°.80W**, **h14**km±8km, **ML3.5**/1, **MW3.1, Error ellipse: s-maj=5.6km s-min=4.6km az=1.0,**

*IDC **17** 11:41:51.2±3.5, 44°.24N×129°.38W, h60km±27km, mb3.6/10, mbtmp3.7/17, ML3.3/7, MS3.6/35, Error ellipse: s-maj=42.0km s-min=14.5km az=53.0*
*NEIC **17** 11:41:53.3±1.1, 44°.43N±0°.09×128°.6W±0°.2, h10km±2km, ML3.3/68, Error ellipse: s-maj=19.7km s-min=14.9km az=260.0*

ISC 17 11:41:45.5±0.9, **44°.33N**±0°.08×**129°.4W**±0°.1, **h10**km, **n96, s19 65/65, mb3.9/9, MS3.5/27, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.92**	**110**	Pn	**Pn**	**11 42 43.8**	**-2.1**
KEBM				IAML		11 43 31.5	
	comp=N,68nm,1.7s						
KEBM				IAML		11 43 50.3	
	comp=E,78nm,2.1s						
I02E	**Swisshome, OR**	**3.96**	**91**	Pn	**Pn**	**11 42 46.4**	**+0.1**
I02E				IAML		11 43 53.6	
	comp=E,49nm,2.0s						
HEBO	**Mount Hebo**	**4.08**	**76**	Pn	**Pn**	**11 42 47.8**	**-0.2**
HEBO				IAML		11 43 36.3	
	comp=N,76nm,2.6s						
J01E	**Myrtle Point**	**4.10**	**105**		**Pn**	**11 42 46.9**	**-1.3**
J01E				IAML		11 43 35.9	
	comp=N,41nm,0.5s						
J01E				IAML		11 43 42.2	
	comp=E,52nm,2.2s						
COR	**Corvallis**	**4.34**	**85**		**Pn**	**11 42 52.1**	**+0.7**
COR				IAML		11 43 52.4	
	comp=E,59nm,1.7s						
COR				IAML		11 44 48.4	
	comp=E,42nm,2.1s						
I03D	**Drain, OR**	**4.38**	**96**		**Pn**	**11 42 52.1**	**+0.1**
F03A	**Seaside**	**4.40**	**67**		**Pn**	**11 42 53.1**	**+0.8**
F03A				IAML		11 43 48.8	
	comp=E,72nm,0.4s						
G03D	**McMinnville, O**	**4.42**	**76**		**Pn**	**11 42 52.8**	**+0.2**
G03D				IAML		11 43 56.3	
	comp=N,45nm,2.5s						
G03D				IAML		11 44 02.0	
	comp=E,38nm,1.7s						
RADR	**Rader Ridge**	**4.43**	**60**	Pn	**Pn**	**11 42 52.4**	**-0.5**
RADR				IAML		11 44 37.8	
	comp=E,50nm,3.2s						
RADR				IAML		11 44 39.1	
	comp=N,49nm,1.9s						
K02D	**Willamette Mer**	**4.45**	**110**	Pn	**Pn**	**11 42 51.7**	**-1.4**
BUCK	**Buck Mountain**	**4.57**	**89**		**Pn**	**11 42 55.5**	**+0.6**
BUCK				IAML		11 43 57.5	
	comp=N,38nm,1.9s						
BUCK				IAML		11 45 00.5	
	comp=E,47nm,2.2s						
E03A	**Lebam**	**4.63**	**59**		**Pn**	**11 42 55.3**	**-0.3**
E03A				IAML		11 43 32.1	
	comp=N,27nm,2.6s						
E03A				IAML		11 44 40.6	
	comp=E,50nm,2.8s						
H04D	**Lebanon**	**4.74**	**85**		**Pn**	**11 42 57.4**	**+0.3**
H04D				IAML		11 43 31.0	
	comp=E,30nm,1.3s						
H04D				IAML		11 44 32.4	
	comp=N,42nm,2.0s						
WISH	**Wishkah**	**4.80**	**53**		**Pn**	**11 42 59.3**	**+1.5**
WISH				IAML		11 43 42.2	
	comp=N,42nm,3.1s						
WISH				IAML		11 45 23.4	
	comp=E,38nm,2.4s						
F04D	**Rainier, OR**	**4.81**	**66**	Pn	**Pn**	**11 42 58.1**	**+0.2**
NLWA	**Neilton Lookou**	**4.90**	**49**		**Pn**	**11 43 00.3**	**+1.0**
C03A	**Quillayute Air**	**4.91**	**41**	Pn	**Pn**	**11 43 01.3**	**+1.9**
G04A	**Mulino**	**4.97**	**77**	Pn	**Pn**	**11 42 59.9**	**-0.3**
BBOR	**Butler Butte**	**5.05**	**104**		**Pn**	**11 43 01.8**	**+0.3**
BBOR				IAML		11 44 08.6	
	comp=E,29nm,1.3s						
BBOR				IAML		11 44 12.6	
	comp=N,30nm,1.8s						
H04A	**Detroit Lake**	**5.14**	**84**		**Pn**	**11 43 03.0**	**+0.5**
H04A				IAML		11 44 06.7	
	comp=N,21nm,1.8s						
J04A	**Umpqua Nationa**	**5.35**	**99**		**Pn**	**11 43 07.2**	**+1.5**
YBH	**Yreka Blue Hor**	**5.52**	**116**		**Pn**	**11 43 07.8**	**0.0**
YBH	**Yreka Blue Hor**	**5.52**	**116**	P	**Pn**	**11 43 10.8**	**+3.0**
	comp=N,0.6nm,0.9s,baz=306,slow=6.6,SNR=9.1						
YBH				S	**Sn**	**11 44 11.3**	**0.0**
	comp=N,0.3nm,0.8s,baz=0.0,slow=18,SNR=1.8						
L04D	**Klamath Falls**	**5.56**	**110**		**Pn**	**11 43 10.2**	**+1.8**
GNW	**Green Mountain**	**5.58**	**52**		**Pn**	**11 43 09.1**	**+0.6**
I05D	**Terrebonne, OR**	**5.75**	**87**		**Pn**	**11 43 12.0**	**+1.1**
I05D				IAML		11 44 37.7	
	comp=E,27nm,2.6s						
LON	**Longmire**	**5.82**	**63**		**Pn**	**11 43 12.6**	**+0.7**
LON				IAML		11 44 30.1	
	comp=N,12nm,2.1s						
D05A	**Enumclaw**	**5.89**	**58**		**Pn**	**11 43 14.4**	**+1.6**
D05A				IAML		11 45 11.6	
	comp=E,20nm,1.9s						
PGC	**Sidney**	**5.93**	**41**		**Pn**	**11 43 14.8**	**+1.4**
PINE	**Pine Mountain**	**6.08**	**92**		**Pn**	**11 43 16.2**	**+0.5**
G06A	**Carlson Farm,**	**6.27**	**79**		**Pn**	**11 43 18.7**	**+0.6**
CBB	**Campbell River**	**6.32**	**24**		**Pn**	**11 43 21.7**	**+3.1**
A04D	**Lummi Island**	**6.34**	**44**	Pn	**Pn**	**11 43 20.7**	**+1.7**
K05A	**Summer Lake**	**6.35**	**102**		**Pn**	**11 43 20.1**	**+0.8**
LTY	**Liberty**	**6.74**	**61**		**Pn**	**11 43 24.3**	**-0.2**
HOPS	**Hopland Field**	**7.11**	**136**	Pn	**Pn**	**11 43 33.2**	**+3.6**
HAWA	**Hanford**	**7.21**	**70**	Pn	**Pn**	**11 43 31.1**	**+0.1**
WAH2	**Wahluke Slope**	**7.28**	**67**		**Pn**	**11 43 30.8**	**-1.2**
G08A	**Pilot Rock**	**7.45**	**79**		**Pn**	**11 43 34.5**	**+0.1**
D08A	**Wollman Far

KDAK	**Kodiak Island**	**19.73**	**321**	LR	LR	11 51 35.9			
	comp=E,88nm,19.4s,baz=122,slow=30								
ANMO	**Albuquerque**	**19.91**	**110**	P	**P**	**11 46 18.1**	**+0.6**		
	comp=E,0.1nm,0.3s,baz=40,slow=10,SNR=8.3								
ANMO				LR	LR	11 54 20.0			
	comp=E,318nm,20.1s,baz=34,slow=38								
	comp=E,0.7nm,0.4s								
YKA	**Yellowknife Ar**	**20.11**	**20**	P	**P**	**11 46 20.6**	**+1.4**		
	comp=E,3.5nm,1.1s,baz=211,slow=11,SNR=4.8								
	comp=E,3.5nm,1.1s								
ILAR	**Eielson Array**	**22.71**	**340**	P	**P**	**11 46 48.0**	**+0.9**		
	comp=E,2.3nm,1.1s,baz=157,slow=7.5,SNR=16								
ILAR				LR	LR	11 54 01.3			
	comp=E,119nm,18.4s,baz=144,slow=32								
	comp=E,2.3nm,1.1s								
ULM	**Lac du Bonnet**	**23.33**	**63**	P	**P**	**11 46 53.9**	**+0.2**		
	comp=E,4.1nm,0.8s,baz=281,slow=9.1,SNR=4.3								
	comp=E,4.1nm,0.8s								
INK	**Inuvik**	**24.13**	**356**	LR	LR	11 56 08.6			
	comp=E,82nm,18.4s,baz=40,slow=35								
TXAR	**Lajitas Array**	**25.29**	**118**	P	**P**	**11 47 12.6**	**+0.4**		
	comp=E,0.5nm,0.9s,baz=304,slow=4.9,SNR=4.1								
TXAR				LR	LR	11 57 18.0			
	comp=E,57nm,18.4s,baz=285,slow=37								
	comp=E,0.5nm,0.9s								
LPIG	**La Paz**	**25.48**	**136**	LR	LR	11 56 45.5			
	comp=E,71nm,18.8s,baz=242,slow=35								
SADO	**Sadowa**	**35.32**	**71**	LR	LR	12 03 19.4			
	comp=E,286nm,20.9s,baz=322,slow=36								
TKL	**Tuckaleechee C**	**35.59**	**88**	LR	LR	12 03 47.3			
	comp=E,474nm,18.7s,baz=298,slow=37								
FRB	**Frobisher Bay**	**38.79**	**38**	LR	LR	12 04 27.4			
	comp=E,57nm,21.6s,baz=266,slow=35								
SCHQ	**Schefferville**	**40.57**	**52**	LR	LR	12 06 19.1			
	comp=E,215nm,18.0s,baz=264,slow=36								
SFJD	**Kangerlussuaq**	**45.93**	**32**	LR	LR	12 09 59.6			
	comp=E,129nm,18.0s,baz=276,slow=37								
PETK	**Petropavlovsk-**	**46.96**	**308**	LR	LR	12 06 58.7			
	comp=E,36nm,21.3s,baz=92,slow=32								
JTS	**Las Juntas de**	**51.08**	**118**	LR	LR	12 13 33.7			
	comp=E,40nm,19.2s,baz=302,slow=37								
BORG	**Borgarnes**	**57.73**	**29**	LR	LR	12 16 12.3			
	comp=E,58nm,21.5s,baz=323,slow=36								
H11N3	**WAKE ISLAND Hy**	**57.81**	**267**	T	T	12 53 56.6			
	baz=49,slow=75,SNR=1700								
H11N2	**WAKE ISLAND Hy**	**57.81**	**267**	T	T	12 54 03.5			
	baz=49,slow=75,SNR=957								
H11N1	**WAKE ISLAND Hy**	**57.83**	**267**	T	T	12 53 57.8			
	baz=49,slow=75,SNR=784								
SJG	**San Juan**	**58.47**	**95**	LR	LR	12 20 25.5			
	comp=E,24nm,18.1s,baz=54,slow=40								
H11S1	**WAKE ISLAND Hy**	**58.75**	**266**	T	T	12 55 16.2			
	baz=49,slow=75,SNR=274								
H11S2	**WAKE ISLAND Hy**	**58.76**	**266**	T	T	12 55 13.4			
	baz=49,slow=75,SNR=142								
H11S3	**WAKE ISLAND Hy**	**58.77**	**266**	T	T	12 55 17.0			
	baz=49,slow=75,SNR=57								
ASAJ	**Asahikawa**	**59.96**	**304**	LR	LR	12 15 00.2			
	comp=E,25nm,20.4s,baz=154,slow=33								
ROSC	**El Rosal**	**62.08**	**112**	LR	LR	12 22 11.7			
	comp=E,25nm,19.9s,baz=235,slow=39								
PCRV	**Puerto La Cruz**	**64.91**	**101**	LR	LR	12 21 36.3			
	comp=E,77nm,21.9s,slow=37								
ARCES	**ARCESS Array B**	**64.95**	**9**	LR	LR	12 22 07.2			
	comp=E,31nm,18.3s,baz=106,slow=37								
USRK	**Ussuriysk Ar.**	**66.04**	**309**	LR	LR	12 20 38.7			
	comp=E,41nm,19.1s,baz=150,slow=35								
MJAR	**Matsushiro Arr**	**67.16**	**299**	LR	LR	12 15 29.1			
	comp=E,22nm,21.4s,baz=100,slow=30								
HFS	**Hagfors**	**71.58**	**1**	LR	LR	12 23 36.1			
	comp=E,25nm,18.5s,baz=7.5,slow=35								
FINES	**FINESS Array B**	**72.71**	**12**	P	**P**	**11 53 13.5**	**+0.3**		
	comp=E,2.6nm,1.0s,baz=332,slow=2.8,SNR=5.0								
	comp=E,2.6nm,1.0s								
SONM	**Songino Array**	**75.97**	**325**	P	**P**	**11 53 31.8**	**-0.8**		
	comp=E,0.8nm,0.7s,baz=35,slow=5.4,SNR=3.8								
	comp=E,0.8nm,0.7s								
GUMO	**Guam**	**77.65**	**277**	LR	LR	12 22 32.6			
	comp=E,28nm,19.3s,baz=94,slow=31								
ZALV	**Zalesovo Beam**	**77.83**	**340**	LR	LR	12 32 07.3			
	comp=E,19nm,19.7s,baz=26,slow=39								
ARTI	**Arti**	**79.44**	**356**	LR	LR	12 31 03.2			
	comp=E,20nm,19.0s,baz=20,slow=37								
BVAR	**Borovoye Array**	**81.55**	**348**	P	**P**	**11 54 02.8**	**-0.3**		
	comp=E,0.5nm,0.4s,baz=12,slow=7.5,SNR=2.1								
	comp=E,0.5nm,0.4s								
LPAZ	**La Paz**	**82.08**	**122**	P	**P**	**11 54 05.7**	**-1.3**		
	comp=E,1.6nm,0.7s,baz=330,slow=5.9,SNR=6.7								
	comp=E,1.6nm,0.7s								
VRAC	**Vranov**	**82.10**	**22**	LR	LR	12 32 17.2			
	comp=E,32nm,18.1s,baz=316,slow=37								
KURBB	**Kurchatov Arra**	**82.37**	**343**	P	**P**	**11 54 06.3**	**-1.1**		
	comp=E,1.1nm,0.9s,baz=17,slow=4.9,SNR=7.5								
	comp=E,1.1nm,0.9s								
HNR	**Honiara**	**83.07**	**250**	LR	LR	12 23 36.5			
	comp=E,86nm,21.2s,baz=68,slow=30								
AKASG	**Malin Array Be**	**83.53**	**14**	P	**P**	**11 54 12.7**	**-0.7**		
	comp=E,0.2nm,0.3s,baz=350,slow=4.7,SNR=7.6								
AKASG				LR	LR	12 30 38.7			
	comp=E,28nm,18.2s,baz=53,slow=35								
	comp=E,0.2nm,0.3s								
MKAR	**Makanchi Array**	**85.05**	**339**	LR	LR	12 35 59.3			
	comp=E,28nm,19.0s,baz=108,slow=38								

ISU ***17*** *11:42:26.39°.90N×67°.98E, h8km*

ISC 17 11:42:27.7±1.0, 39°.89N±0°.04×67°.93E±0°.07, h10km, n5, σ0.94/9.1, C, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BXML	**Bakhmal**	**0.22**	**158**	P		**Pg**		**11 42 31.3**	**-1.0**
BXML				S		**Sg**		**11 42 35.1**	**-0.3**
DZI	**Dzhizak**	**0.24**	**341**	P		**Pg**		**11 42 31.3**	**-1.3**
DZI				S		**Sg**		**11 42 35.3**	**-0.6**
AGL	**Agalyk**	**0.89**	**246**	P		**Pg**		**11 42 44.1**	**-0.7**
AGL				S		**Sb**		**11 42 57.6**	**+0.4**
KK31	**Karatay Array**	**3.75**	**30**	Pn		**Pn**		**11 43 26.7**	**+1.1**
	0.5nm,0.2s,baz=212,slow=15,SNR=9.6								
KK31				⇑Lg		Lg		11 44 22.8	
	1.8nm,0.2s,baz=212,slow=28								
AB31	**Akbulak array**	**10.95**	**331**	P		**Pn**		**11 45 04.4**	**+0.1**
	0.3nm,0.6s,baz=170,slow=11,SNR=5.5								
AB31				S		**Sn**		**11 47 07.4**	**+0.6**
	1.1nm,0.7s,baz=141,slow=24,SNR=3.7								

NEIC ***17*** *11:55:30.7±0.8, 35°.910N×0°.009×117°.71W±0°.01, h2km±2km, Error ellipse: s-maj=1.4km s-min=1.3km az=112.0*

PAS 17 11:55:31.2±1.1, 35°.920N±0°.009×117°.71W±0°.01, h3km±2km, ML3.1/21, ML2.9/86(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=103.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WVPM	**Volcano Peak E**	**0.09**	**289**				Pg	11 55 33.3	+0.2
JRC2	**Joshua Ridge**	**0.10**	**308**				Pg	11 55 33.5	+0.2
CLC	**China Lake**	**0.14**	**138**				Pg	11 55 34.0	+0.1
WRVM	**Rose V. Centra**	**0.17**	**301**				Pg	11 55 34.7	+0.2
WNMM	**Nine Mile Cany**	**0.17**	**244**				Pg	11 55 34.8	+0.2
MFS	**McCloud Flat S**	**0.23**	**329**				Pg	11 55 35.7	+0.1
SRTC	**Snort**	**0.23**	**188**				Pg	11 55 36.1	+0.5
WSHM	**Spangler Hills**	**0.36**	**151**				Pg	11 55 38.1	-0.1
LRMC	**Laurel Mtn Rad**	**0.44**	**177**				Pg	11 55 39.6	-0.1
CCCA	**Chr Cany lake**	**0.48**	**144**				Pg	11 55 40.8	+0.3
CCCA				IAML				11 55 51.3	
	comp=E,1μm,0.6s								
WBSM	**Bird Springs**	**0.52**	**222**				Pg	11 55 41.0	-0.1
WHFM	**Hanning Flat**	**0.56**	**247**				Pg	11 55 41.9	-0.1
WHFM							Sg	11 55 49.6	+0.2
CWC	**Cottonwood Cre**	**0.60**	**330**				Pg	11 55 42.8	+0.2
CGO	**Cerro Gordo**	**0.63**	**353**				Pg	11 55 43.1	-0.3
CGO							Sg	11 55 52.8	+1.2
DTP	**Desert Tortois**	**0.66**	**190**				Pg	11 55 43.5	-0.3
ISA	**Isabella, Lake**	**0.67**	**248**				Sg	11 55 53.0	+0.2
ISA	**Isabella, Lake**	**0.67**	**248**				Pg	11 55 43.9	-0.1
ISA				IAML				11 55 53.3	
	comp=N,709nm,0.3s								
ISA				IAML				11 55 53.9	
	comp=E,623nm,0.4s								
WASM	**Alta Sierra Ca**	**0.71**	**255**				Pg	11 55 44.7	-0.1
WASM							Sg	11 55 54.3	+0.3
CCAC	**Calif City Air**	**0.81**	**198**				Pg	11 55 46.2	-0.3
CCAC							Sg	11 55 57.3	+0.3
FURC	**Furnace Creek,**	**0.88**	**51**				Pg	11 55 48.1	+0.1
FURC				IAML				11 56 04.4	
	comp=N,383nm,0.9s								
FURC				IAML				11 56 14.4	
	comp=E,460nm,0.7s								
GWY	**Greenwater Val**	**0.89**	**72**			Pg		11 55 48.0	-0.1
GWY				IAML				11 56 02.9	
	comp=N,350nm,0.8s								
GWY				IAML				11 56 02.9	
	comp=E,426nm,0.4s								
SPG2	**Springville 2**	**0.90**	**288**			Pg		11 55 47.8	-0.7
SPG2						Sg		11 56 00.1	0.0
GSC	**Goldstone, Bar**	**0.96**	**130**	Pg		Pg		11 55 49.0	-0.6
GSC				IAML				11 56 04.5	
	comp=N,296nm,0.5s								
GSC				IAML				11 56 06.0	
	comp=E,334nm,0.6s								
TEJ	**El Tejon**	**1.05**	**229**				Pg	11 55 50.5	-0.9
HYS	**Haystack Butte**	**1.06**	**174**				Pg	11 55 50.9	-0.6
EDW2	**Edwards Air Fo**	**1.06**	**193**				Pg	11 55 50.6	-0.9
VES	**Vestal, Richgr**	**1.12**	**266**				Pg	11 55 52.3	-0.3
TPO	**Tropico Hills**	**1.12**	**202**				Pg	11 55 51.9	-0.8
TPO				IAML				11 56 10.1	
	comp=N,343nm,0.6s								
TPO				IAML				11 56 13.8	
	comp=E,275nm,0.8s								
SHOC	**Shoshone, Teco**	**1.17**	**91**				Pg	11 55 53.2	-0.4
SGV	**South Grapevin**	**1.19**	**27**				Pg	11 55 53.4	-0.6
SGV							Sg	11 56 09.7	+0.2
RRX	**Edison Barstow**	**1.19**	**151**				Pg	11 55 53.5	-0.6
TIN	**Tinemaha, Big**	**1.21**	**340**				Pg	11 55 53.9	-0.4
TIN				IAML				11 56 17.0	
	comp=E,343nm,0.8s								
TIN				IAML				11 56 17.0	
	comp=N,235nm,0.7s								
TJR	**Tejon Ranch**	**1.23**	**224**				Pg	11 55 53.1	-1.5
WCT	**Wildcat Mounta**	**1.24**	**45**				Pg	11 55 54.7	-0.2
AMDNV	**Amargosa**	**1.27**	**65**				Pg	11 55 54.4	-1.2
AMDNV							Sg	11 56 11.7	-0.4
THC	**Tehachapi Micr**	**1.27**	**218**				Pg	11 55 54.4	-1.2
LCH	**Last Change Ra**	**1.31**	**2**				Pg	11 55 56.1	-0.2
LCH							Sg	11 56 13.1	-0.2
VOG	**Valley Oaks Go**	**1.41**	**287**				Pn	11 55 57.3	-0.5
LRRC	**Littlerock Res**	**1.42**	**191**				Sb	11 56 16.6	0.0
GMN	**Gold Mountain**	**1.43**	**15**				Pn	11 55 57.6	-0.7
GMN				IAML				11 56 22.1	
	comp=N,126nm,0.6s								
DSP	**Deep Springs**	**1.46**	**352**				Pn	11 55 58.6	+0.1
DSP							Sb	11 56 17.2	-0.9
DSP				IAML				11 56 20.3	
	comp=E,100nm,0.7s								
HOLC	**Holcomb Ridge**	**1.46**	**184**				Pn	11 55 58.3	-0.3
HOLC							Sn	11 56 18.5	+0.1
JNH	**Juniper Hills**	**1.48**	**188**				Sb	11 56 18.7	-0.1
TUQ	**Turquoise Moun**	**1.53**	**108**				Pn	11 55 59.5	-0.1
TPNV	**Topopah Spring**	**1.56**	**49**				Pn	11 55 59.3	-0.7
TPNV				IAML				11 56 24.2	
	comp=E,93nm,0.8s								
TPNV				IAML				11 56 25.0	
	comp=E,77nm,0.6s								
MTUM	**Tungsten Hills**	**1.59**	**335**				Pn	11 56 00.8	+0.4
CHFC	**Chilao Flat St**	**1.60**	**189**				Pb	11 56 01.5	-0.1
CHFC							Sn	11 56 22.0	+0.1
BFSC	**Mount Baldy Ra**	**1.68**	**179**				Pb	11 56 02.5	-0.3
BFSC				IAML				11 56 25.7	
	comp=N,132nm,0.4s								
BFSC				IAML				11 56 26.2	
	comp=E,107nm,0.3s								
SSK	**Sunset Peak**	**1.71**	**179**				Pg	11 56 03.7	-0.2
SIL	**Silver Peak**	**1.73**	**155**				Pb	11 56 03.8	+0.1
CRGC	**Crocker Grade**	**1.77**	**248**				Pn	11 56 03.6	+0.7
BBRC	**Big Bear Solar**	**1.78**	**158**				Pb	11 56 04.8	+0.3
MZP	**Montezuma Peak**	**1.80**	**8**				Pn	11 56 03.0	-0.4
GTM	**Goat Mountain**	**1.96**	**145**				Pb	11 56 07.7	0.0
SHPR	**Sheep Range**	**2.14**	**73**				Pn	11 56 07.8	-0.3
DANC	**Danby, Needles**	**2.30**	**123**	Pn		Pn		11 56 08.3	-1.7
DANC				IAML				11 56 47.7	
	comp=N,76nm,0.7s								
DANC				IAML				11 56 49.0	
	comp=E,90nm,0.4s								
V12A	**Nelson**	**2.33**	**94**				Pn	11 56 09.6	-0.9
V12A				IAML				11 56 46.9	
	comp=N,56nm,0.7s								
V12A				IAML				11 56 48.5	
	comp=E,51nm,0.6s								
S11A	**Rachel**	**2.33**	**42**				Pn	11 56 10.5	-0.2
S11A				IAML				11 56 58.2	
	comp=N,64nm,1.0s								
S11A				IAML				11 56 58.8	
	comp=E,87nm,1.0s								
BELC	**Belle Mtn. Jos**	**2.38**	**143**				Pn	11 56 10.0	-1.2
BELC				IAML				11 56 50.9	
	comp=E,50nm,0.6s								
BELC				IAML				11 56 52.0	
	comp=N,52nm,0.5s								
PMD	**Palm Desert**	**2.52**	**154**				Pn	11 56 11.9	-1.1
PMD				IAML				11 56 55.2	
	comp=E,38nm,0.6s								
PFO	**Pinyon Flats O**	**2.52**	**156**				Pn	11 56 12.0	-1.2
PFO				IAML				11 56 56.9	
	comp=E,29nm,0.9s								
PRN	**Pahroc Range**	**2.60**	**54**				Pn	11 56 14.0	-0.3
PRN				IAML				11 57 08.8	
	comp=N,40nm,1.0s								
PRN				IAML				11 57 13.8	
	comp=E,33nm,0.7s								
IRM	**Iron Mountain**	**2.74**	**129**				Pn	11 56 14.1	-2.1
IRM				IAML				11 57 00.8	
	comp=E,25nm,0.4s								
IRM				IAML				11 57 04.1	
	comp=N,26nm,0.5s								
BC3	**Big Chuckawall**	**2.92**	**140**				Pn	11 56 16.8	-1.9
BC3				IAML				11 57 11.0	
	comp=E,19nm,0.6s								
BC3				IAML				11 57 12.1	
	comp=N,24nm,0.4s								
GLA	**Glamis**	**3.72**	**139**	Pn		Pn		11 56 27.8	-1.8
GLA				IAML				11 57 31.2	
	comp=E,23nm,0.5s								
GLA				IAML				11 57 34.2	
	comp=N,18nm,0.5s								
CCUT	**Cedar City**	**3.85**	**64**	Pn		Pn		11 56 31.9	+0.3

IDC ***17*** *12:00:00.7±0.7, 3°.88N×126°.51E, h0km, mb4.0/12, mbtmp4.0/12, MS3.0/2, Error ellipse: s-maj=57.5km s-min=13.6km az=70.0*

DJA ***17*** *12:00:05.0±0.4, 4°.1N±21°.×12°.7E±°, h13km±20km, M4.2/10, mB5.1/2, mb4.3/4, MLv4.2/10, Mw(mB)4.4/2*

NEIC ***17*** *12:00:07.4±0.8, 4°.0N±0°.1×127°.2E±0°.2, h51km±8km, mb4.5/17, Error ellipse: s-maj=23.9km s-min=13.7km az=65.0*

ISC 17 12:00:05.5±0.5, 3°.92N±0°.07×126°.79E±0°.08, h35km, n43, σ1.937/42, mb4.3/20, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.28**	**260**	P		P	**Pn**	**12 00 26.5**	**-0.4**
SGSI				S		S	**Sn**	**12 00 40.2**	**-2.7**
TNTI	**Ternate**	**3.18**	**170**				**Pn**	**12 00 55.8**	**+2.8**
TNTI	**Ternate**	**3.18**	**170**	P		P	**Pn**	**12 00 55.2**	**+2.2**
MRSI	**Marisa**	**5.93**	**235**	P		P	Pn	12 01 41.1	+10
SANI	**Sanana**	**5.98**	**188**	P		P	**Pn**	**12 01 32.1**	**+0.5**
	0.1nm18nm,1.4s								
LUWI	**Luwuk**	**6.36**	**219**	P		P	**Pn**	**12 01 36.8**	**+0.1**
FAKI	**Fak Fak**	**8.71**	**141**	Pn		Pn	**Pn**	**12 02 07.7**	**-1.3**
KNRA	**Kununurra**	**19.57**	**174**	P		P	**P**	**12 04 31.5**	**+1.1**
KNRA				IAmb		IAmb		12 04 36.6	
	comp=Z,11nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P		P	**P**	**12 04 57.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P		P	**P**	**12 04 55.7**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=6.1,slow=12,SNR=14								
	comp=Z,1.3nm,0.4s								
WB0	**Warramunga Arr**	**24.70**	**163**	P		P	**P**	**12 05 23.7**	**+0.2**
WB0				IAmb		IAmb		12 05 28.7	
	comp=Z,18nm,1.3s								
WRAB	**Tennant Creek**	**24.84**	**163**	P		P	**P**	**12 05 25.2**	**+0.4**
WRAB				IAmb		IAmb		12 05 32.0	
	comp=Z,7.2nm,0.8s								
WRA	**Warramunga Arr**	**24.84**	**163**	P		P	**P**	**12 05 23.1**	**-1.7**
WRA	**Warramunga Arr**	**24.84**	**163**	P		P	**P**	**12 05 24.9**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=342,slow=9.5,SNR=25								
	comp=Z,2.2nm,0.5s								
WR8	**Warramunga Arr**	**24.91**	**163**	P		P	**P**	**12 05 25.9**	**+0.5**
WR8				IAmb		IAmb		12 05 35.0	
	comp=Z,18nm,1.4s								

ASAR	**Alice Springs**	**28.28**	**166**	P		**P**		**12 05 55.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=346,slow=9.3,SNR=12								
	comp=Z,0.4nm,0.5s								
CM31	**Chiang Mai Arr**	**30.83**	**300**	P		**P**		**12 06 20.6**	**+2.1**
CM31				IAmb		IAmb		12 06 37.0	
	comp=Z,7.5nm,1.2s								
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P		**P**		**12 06 20.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**30.83**	**300**	LR		LR		12 19 46.0	
	comp=Z,10nm,18.9s,baz=195,slow=39								
INKA	**Innaminka**	**34.23**	**158**	P		**P**		**12 06 46.8**	**-1.2**
MORW	**Morawa**	**34.38**	**197**	P		**P**		**12 06 51.3**	**+1.9**
STKA	**Stephens Creek**	**38.28**	**159**	P		**P**		**12 07 23.5**	**+0.8**
STKA	**Stephens Creek**	**38.28**	**159**	P		**P**		**12 07 23.5**	**+0.8**
	comp=Z,4.5nm,0.6s,baz=342,slow=8.6,SNR=7.7								
	comp=Z,4.5nm,0.6s								
USRK	**Ussuriysk Ar.**	**40.38**	**6**	P		**P**		**12 07 40.9**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=186,slow=10,SNR=2.4								
	comp=Z,2.1nm,0.9s								
CAN	**Canberra**	**44.25**	**154**	P		**P**		**12 08 08.8**	**-2.9**
CAN				IAmb		IAmb		12 08 17.1	
	comp=Z,26nm,1.5s								
SONM	**Songino Array**	**47.14**	**341**	P		**P**		**12 08 33.9**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=145,slow=5.3,SNR=3.2								
	comp=Z,0.7nm,0.4s								
MKAR	**Makanchi Array**	**57.44**	**325**	P		**P**		**12 09 51.4**	**+0.6**
MKAR	**Makanchi Array**	**57.44**	**325**	P		**P**		**12 09 50.7**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=121,slow=7.2,SNR=7.1								
MKAR				PcP		**PcP**		**12 10 45.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=140,slow=4.3,SNR=1.6								
	comp=Z,0.7nm,0.4s								
ZALV	**Zalesovo Beam**	**60.45**	**333**	P		**P**		**12 10 10.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=111,slow=6.3,SNR=1.4								
	comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**61.62**	**327**	P		**P**		**12 10 18.9**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=124,slow=6.4,SNR=22								
	comp=Z,2.2nm,0.6s								
KURK	**Kurchatov**	**61.62**	**327**	P		**P**		**12 10 19.4**	**-0.1**
KURK				IAmb		IAmb		12 10 22.2	
	comp=Z,3.9nm,0.6s								
KK31	**Karatay Array**	**63.14**	**317**	P		**P**		**12 10 29.8**	**-0.1**
KK31				IAmb		IAmb		12 10 30.9	
	comp=Z,2.5nm,1.1s								
KKAR	**Karatay Array**	**63.14**	**317**	P		**P**		**12 10 30.6**	**+0.7**
BVAR	**Borovoye Array**	**67.20**	**327**	P		**P**		**12 10 56.7**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=116,slow=9.8,SNR=4.5								
	comp=Z,0.7nm,0.5s								
TIXI	**Tiksi**	**67.65**	**1**	P		**P**		**12 10 59.0**	**+0.5**
TIXI				IAmb		IAmb		12 11 14.5	
	comp=Z,10nm,0.9s								
TIXI	**Tiksi**	**67.65**	**1**	LR		LR		12 40 08.8	
	comp=Z,32nm,21.4s,baz=193,slow=36								
AB31	**Akbulak array**	**72.04**	**321**	P		**P**		**12 11 26.7**	**+0.7**
ABKAR	**Akbulak array**	**72.04**	**321**	P		**P**		**12 11 25.9**	**-0.1**
AKTO	**Aktyubinsk**	**73.55**	**322**	P		**P**		**12 11 34.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=102,slow=5.3,SNR=5.5								
	comp=Z,0.9nm,0.3s								
RAR	**Rarotonga**	**76.06**	**113**	P		**P**		**12 11 47.1**	**-2.8**
GLB	**Gilahina Butte**	**86.30**	**29**	P		**P**		**12 12 42.0**	**-1.7**
BRTR	**Keskin Array B**	**89.95**	**310**	P		**P**		**12 13 00.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=64,slow=3.4,SNR=2.3								
	comp=Z,0.6nm,0.7s								
LPAZ	**La Paz**	**160.87**	**131**	PKPab		**PKPab**		**12 20 47.7**	**+1.6**
	comp=Z,1.3nm,0.4s,baz=219,slow=5.6,SNR=6.2								

AEIC ***17*** *12:28:26.4±1.0, 55°.1N±0°.2×163°.5W±0°.2, h152km±5km, Error ellipse: s-maj=25.0km s-min=6.6km az=154.0*

NEIC 17 12:28:27.0±0.8, 55°.1N±0°.2×163°.6W±0°.2, h155km±2km, ML2.6/18, ML2.5(AEIC), Error ellipse: s-maj=27.4km s-min=6.4km az=155.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.29**	**162**				Pn	12 28 47.8	-0.2
FALS	**False Pass**	**0.29**	**162**				Sn	12 29 04.0	-0.1
ISNN	**Isanotski Nort**	**0.32**	**201**				Pn	12 28 48.3	+0.1
ISNN							Sn	12 29 05.0	+0.6
SSBA	**Shishaldin**	**0.48**	**222**				Pn	12 28 48.7	-0.2
SSBA							Sn	12 29 04.6	-1.0
SSLS	**Shishaldin Sou**	**0.49**	**210**				Pn	12 28 48.9	-0.1
DT1	**Dutton Round H**	**0.74**	**91**				Pn	12 28 50.0	-0.3
DT1							Sn	12 29 07.8	-0.3
WEBT	**Westdahl Beart**	**0.87**	**232**				Pn	12 28 51.3	+0.1
WESE	**West Dahl East**	**0.88**	**222**	

CRIN San Cristobal 1.21 60 S Sb 12 35 12.1 +1.7
CRIN San Cristobal 1.21 60 ⇑P Pn 12 34 53.4 -0.1
CRIN San Cristobal 1.21 60 P Pn 12 34 53.8 +0.4
LCND La Caada 1.22 11 eP Pn 12 34 53.2 -0.4
LCND La Caada 1.22 11 ⇑P Pn 12 34 53.6 0.0
BLLM Bellamira 1.34 355 eP Pn 12 34 55.1 -0.2
HERN Volcan Telica 1.36 68 Pn 12 34 54.5 -1.1
CNRM Centro Naciona 1.37 358 eP Pn 12 34 55.4 -0.3
PACA Pacayal 1.38 352 S Sb 12 35 15.4 +0.1
PACA Pacayal 1.38 352 ⇓P Pn 12 34 55.8 0.0
POLN Al Sur del Vol 1.39 67 ⇑P Pn 12 34 54.8 -1.2
POLN S Sn 12 35 14.7 +1.4
PLRN Geotermica Pol 1.41 70 ⇑P Pn 12 34 55.8 -0.3
PLRN S Sn 12 35 15.0 +1.4
CNGA Al SSO del Vol 1.44 74 P Pn 12 34 56.3 -0.4
CNGN Cerro Negro 1.45 74 Pn 12 34 55.6 -1.1
CNGN Cerro Negro 1.45 74 S Sn 12 35 16.4 +1.7
CNGN Cerro Negro 1.45 74 ⇑P Pn 12 34 55.8 -1.0
CNGN Cerro Negro 1.45 74 P Pn 12 34 55.9 -0.8
COPN Copaltepe 1.50 87 ⇑P Pn 12 34 56.5 -0.9
TECO Alcaldia de Te 1.57 336 S Sb 12 35 19.8 -0.9
TECO Alcaldia de Te 1.57 336 ⇑P Pn 12 34 57.9 -0.5
PQSS Presa 15 de Se 1.57 344 S Sn 12 35 19.7 +2.0
PQSS Presa 15 de Se 1.57 344 ⇑P Pn 12 34 58.7 +0.3
MOM2 El Cardon 1.64 78 ⇑P Pn 12 34 58.6 -0.7
MOM2 S Sn 12 35 21.0 +1.8
UESV Universidad de 1.66 337 P Pn 12 35 00.0 +0.4
UESV Universidad de 1.66 337 S Sn 12 35 21.7 +1.9
AMTN Mateare 1.66 85 P Pn 12 34 59.1 -0.6
AMTN Mateare 1.66 85 S Sn 12 35 21.5 +1.7
CAHU Cacacuatique 1.66 357 eP Pn 12 35 00.8 +0.9
SCLA Alcaldia de Sa 1.70 340 S Sb 12 35 23.3 -1.1
SCLA Alcaldia de Sa 1.70 340 ⇑P Pn 12 35 00.4 +0.2
APQ3 Volcan Apoyequ 1.72 84 ⇑P Pn 12 35 00.1 -0.3
APQ3 S Sn 12 35 22.6 +1.2
LFRS El Faro 1.77 329 eP Pn 12 35 00.6 -0.6
ABCN Banco Central 1.77 89 S Sn 12 35 23.8 +1.1
ABCN Banco Central 1.77 89 P Pn 12 35 01.3 +0.1
CRUN El Crucero 1.79 94 P Pn 12 35 00.4 -1.1
PAVA Las Pavas 1.79 334 S Sn 12 35 25.4 +2.2
PAVA Las Pavas 1.79 334 P Pn 12 35 01.9 +0.4
LALI Alcalda de L 1.81 320 eP Pn 12 35 00.6 -1.1
LALI Alcalda de L 1.81 320 eP Pn 12 35 01.2 -0.4
LALI IAML 12 35 28.4
comp=N,1µm,0.6s
LALI Alcalda de L 1.81 320 S Sn 12 35 24.7 +1.2
LALI Alcalda de L 1.81 320 ⇓P Pn 12 35 01.2 -0.4
USIM UNAN 1.81 89 Pn 12 34 59.5 -2.2
UNAN Cigeo UNAN 1.81 89 ⇑P Pn 12 35 01.4 -0.4
UNAN S Sn 12 35 24.4 +0.8
TISN Laguna Tiscapa 1.81 88 ⇓P Pn 12 35 01.2 -0.6
R4DEC Barrio San Lui 1.83 88 S Sn 12 35 24.8 +0.7
R4DEC Barrio San Lui 1.83 88 ⇓P Pn 12 35 01.8 -0.2
MGAN Managua 1.83 88 Pn 12 35 01.5 -0.5
MGAN Managua 1.83 88 S Sn 12 35 24.8 +0.7
MGAN Managua 1.83 88 ⇓P Pn 12 35 02.1 0.0
MGAN Managua 1.83 88 P Pn 12 35 01.4 -0.6
LOMA Loma Larga 1.84 326 P Pn 12 35 02.5 +0.2
LOMA Loma Larga 1.84 326 S Sn 12 35 26.2 +1.7
WILN Americas 2 1.89 88 ⇓P Pn 12 35 02.4 -0.5
WILN S Sn 12 35 26.4 +0.8
LFU La Fuente 1.90 330 eS Sn 12 35 28.4 +2.5
AERN Aeropuerto Man 1.91 88 P Pn 12 35 02.5 -0.6
AERN Aeropuerto Man 1.91 88 S Sn 12 35 26.5 +0.4
SABN Sabanita 1.92 97 P Pn 12 35 02.8 -0.5
UEES Universidad Ev 1.94 326 S Sn 12 35 28.7 +1.8
UEES Universidad Ev 1.94 326 P Pn 12 35 04.1 +0.5
NANN Nandasmo 1.96 94 P Pn 12 35 04.1 +0.3
NANN Nandasmo 1.96 94 S Sn 12 35 28.5 +1.1
BOQS Boqueron 1.98 325 eP Pn 12 35 04.4 +0.2
PMON Piamonte 1.98 324 S Sn 12 35 29.5 +1.6
PMON Piamonte 1.98 324 ⇑P Pn 12 35 04.3 +0.2
JAYA Jayaque - finc 2.01 320 eP Pn 12 35 04.0 -0.7
JAYA eS Sn 12 35 30.5 +1.7
JAYA Jayaque - finc 2.01 320 eP Pn 12 35 03.9 -0.7
JAYA eS Sn 12 35 28.3 -0.5
JAYA Jayaque - finc 2.01 320 S Sn 12 35 29.6 +0.8
JAYA Jayaque - finc 2.01 320 ⇑P Pn 12 35 03.9 -0.7
NADN Granada 2.08 99 ⇓eP Pn 12 35 03.6 -1.7
NADN eS Sn 12 35 28.9 -1.2
NADN Granada 2.08 99 ⇑P Pn 12 35 03.9 -1.4
NADN S Sn 12 35 29.9 -0.2
TGUH Tegucigalpa,Un 2.11 23 Pn 12 35 06.9 +0.9
TGUH Tegucigalpa,Un 2.11 23 P Pn 12 35 06.6 +0.6
LLGN La Laguna 2.20 339 eP Pn 12 35 08.1 +1.0
LLGN La Laguna 2.20 339 P Pn 12 35 07.9 +0.7
LLGN La Laguna 2.20 339 S Sn 12 35 35.4 +2.1
CEVE Cerro Verde 2.26 320 S Sn 12 35 36.3 +1.4
CEVE Cerro Verde 2.26 320 P Pn 12 35 08.1 0.0
UNIC Universidad Ca 2.33 324 P Pn 12 35 09.6 +0.7
UNIC Universidad Ca 2.33 324 S Sn 12 35 37.8 +1.3
RCVN Varillal2 2.39 52 S Sn 12 35 39.8 +1.7
RCVN Varillal2 2.39 52 ⇑P Pn 12 35 10.4 +0.5
NUBE Las Nubes 2.41 318 eP Pn 12 35 09.7 -0.4
NUBE Las Nubes 2.41 318 S Sn 12 35 39.4 +0.8
NUBE Las Nubes 2.41 318 ⇑P Pn 12 35 09.8 -0.4
BOAB BOACO BROADBAN 2.43 82 Pn 12 35 09.0 -1.2
BOAB BOACO BROADBAN 2.43 82 P Pn 12 35 09.7 -0.5
BOAB BOACO BROADBAN 2.43 82 S Sn 12 35 40.0 +1.2
JAPN Al SSO del Vol 2.46 103 eP Pn 12 35 10.2 -0.5
JAPN Al SSO del Vol 2.46 103 P Pn 12 35 10.3 -0.3
MORN Al O del Volca 2.48 103 P Pn 12 35 09.8 -1.2
MORN S Sn 12 35 39.8 -0.4
SLOZ Alcaldia de Sa 2.51 320 S Sn 12 35 42.3 +1.5
SLOZ Alcaldia de Sa 2.51 320 P Pn 12 35 11.5 +0.1
FAME Alcaldia de Sa 2.53 313 P Pn 12 35 11.4 -0.3
FAME Alcaldia de Sa 2.53 313 S Sn 12 35 42.2 +0.9
MTO3 Montecristo 2.58 332 Pn 12 35 12.8 +0.2
MTO3 Montecristo 2.58 332 i P Pn 12 35 12.9 +0.4
MTO3 Montecristo 2.58 332 P Pn 12 35 13.3 +0.8
MTO3 Montecristo 2.58 332 S Sn 12 35 44.2 +1.2
LCRUZ La Cruz 2.65 112 eP Pn 12 35 12.6 -0.6
CARN Rivas 2.71 109 eP Pn 12 35 16.7 +2.7
CARN Rivas 2.71 109 P Pn 12 35 12.7 -1.2
CARN S Sn 12 35 45.2 -0.4
ESQI Esquipulas 2.72 334 Pn 12 35 15.6 +1.3
ACON Acoyapa 2.89 92 Pn 12 35 15.4 -1.1
ACON Acoyapa 2.89 92 eP Pn 12 35 14.1 -2.4
ACON Acoyapa 2.89 92 P Pn 12 35 16.0 -0.5
ACON Acoyapa 2.89 92 S Sn 12 35 50.5 +0.4
ACON Acoyapa 2.89 92 P Pn 12 35 14.9 -1.6
ELI1 Hacienda Flor 2.91 120 eP Pn 12 35 17.8 +1.0
ELI1 Hacienda Flor 2.91 120 S Sn 12 35 49.5 -1.1
ELI1 Hacienda Flor 2.91 120 P Pn 12 35 15.9 -0.9
ALIBA Liberia Airpor 2.94 120 eP Pn 12 35 17.6 +0.4
LAPC Finca la Perla 2.95 116 eP Pn 12 35 16.6 -0.9
BUAI Buenos Aires 2.99 114 eP Pn 12 35 18.5 +0.5
VRLE La Escondida, 3.00 115 eP Pn 12 35 17.6 -0.6
PEJA Penjamo Buenos 3.00 113 eP Pn 12 35 18.5 +0.3
VORI VORI 3.01 115 eP Pn 12 35 21.5 +3.2
GPS2 Hotel Rincn d 3.03 116 eP Pn 12 35 18.8 +0.2
FG16 Alotenango, Sa 3.17 313 eP Pb 12 35 26.3 -2.3
FG16 eS Sb 12 36 06.2 -0.8
FG16 IAML 12 36 17.3
comp=N,5µm,0.2s
MESS Mesas 3.17 115 eP Pn 12 35 19.7 -0.8
JUD3 Juan Diaz 3 3.18 127 eP Pn 12 35 19.4 -1.2
HORNC Hornillas 3.20 115 eP Pn 12 35 20.4 -0.5
VMAR Armenia, Volca 3.22 113 eP Pn 12 35 21.0 -0.1
VMAR eS Sn 12 35 57.4 -0.9
CUI Cuipilapa 3.24 116 eP Pn 12 35 21.0 -0.4
MOTZ Rio Naranjo 3.31 115 eP Pn 12 35 22.2 -0.1
TENO El Achiote 3.38 114 eP Pn 12 35 22.7 -0.7
TIMP Tierras Morena 3.40 116 eP Pn 12 35 23.4 -0.2
INVE Universidad In 3.41 118 eP Pn 12 35 24.6 +0.9
ESSG Sabana Grande 3.48 311 i P Pn 12 35 25.1 +0.4
ESSG eS Sn 12 36 03.9 -1.0
ESSG IAML 12 36 07.2
comp=E,856nm,0.3s
TILA Tilaran 3.49 117 eP Pn 12 35 23.1 -1.8
NYURE Nandayure 3.51 126 eP Pn 12 35 24.6 -0.4
JTS Las Juntas de 3.59 120 Pn 12 35 26.1 -0.2
JTS Las Juntas de 3.59 120 Pn Pn 12 35 24.3 -1.9
comp=E,16nm,0.4s,baz=301,slow=19,SNR=25
JTS Sn Sn 12 36 03.9 -3.7
comp=E,26nm,0.3s,baz=306,slow=19,SNR=5.9
JTS Lg Lg 12 36 18.5
comp=E,22nm,0.3s,baz=325,slow=18,SNR=3.8
JTS Las Juntas de 3.59 120 eP Pn 12 35 26.6 +0.3
JTS Las Juntas de 3.59 120 P Pn 12 35 26.5 +0.3

SIUN Universidad Ur 3.64 63 Pn 12 35 27.3 +0.4
TABAC Tabacon 3.66 115 eP Pn 12 35 27.6 +0.5
MTEVE Monteverde 3.69 118 eP Pn 12 35 27.5 -0.2
VARE2 V. Arenal 3.71 116 eP Pn 12 35 28.5 +0.5
ARE1 Arenal 1 3.72 116 eP Pn 12 35 28.2 +0.2
CEDE Laguna Cedeo 3.72 115 eP Pn 12 35 27.6 -0.4
ESPN Las Esperanzas 3.74 88 Pn 12 35 28.1 -0.1
ESPN Las Esperanzas 3.74 88 P Pn 12 35 32.2 +4.0
VACR Volcan Arenal 3.75 115 eP Pn 12 35 26.2 -2.1
CBL1 Cabuya 3.89 130 eP Pn 12 35 31.7 +1.5
VPL2 V. Platanar 4.08 116 eP Pn 12 35 34.7 +1.6
PALD Palmares 4.15 119 eP Pn 12 35 36.3 +2.3
RTAL Retalhuleu 4.23 305 Pn Pn 12 35 37.9 +2.9
VPS8 V Poas 4.26 116 eP Pn 12 35 39.6 +3.8
BELE Belen 4.40 118 eP Pn 12 35 39.0 +1.5
HDC Heredia 4.45 118 eP Pn 12 35 42.8 +4.6
ACOS Acosta 4.51 120 eP Pn 12 35 40.7 +1.7
PAR1A Puntarenas Pro 4.54 123 eP Pn 12 35 40.5 +1.2
PICV PH. Pirrs 4.58 122 eP Pn 12 35 39.8 0.0
CVIMO Finca Echandi 4.59 116 eP Pn 12 35 41.9 +1.7
LCR2 La Lucha 2 4.67 120 Pn 12 35 42.5 +1.2
LCR2 La Lucha 2 4.67 120 eP Pn 12 35 39.8 -1.5
VICA Volcano Irazu 4.70 116 eP Pn 12 35 43.8 +2.0
REPA Paraso 4.75 118 eP Pn 12 35 44.6 +2.3
CVTQ Turrialba Volc 4.76 116 eP Pn 12 35 44.4 +1.8
CVTR Volcan Turrial 4.76 115 eP Pn 12 35 42.8 +0.2
VTR0 Volcan Turrial 4.76 115 eP Pn 12 35 44.6 +2.0
CVTV Tajo 4.77 115 eP Pn 12 35 46.0 +3.2
PIEC Cerro El Cedra 4.78 121 eP Pn 12 35 43.5 +0.8
VTCV VTCV, Calle Va 4.80 116 eP Pn 12 35 45.3 +2.2
VINA Juan Vinas 4.82 117 eP Pn 12 35 45.4 +2.1
EGUB Earth Gujpi 4.83 112 eP Pn 12 35 46.8 +3.6
RESJ San Isidro (Tu 4.86 115 eP Pn 12 35 45.8 +2.1
LCOCO El Coco 4.91 114 eP Pn 12 35 49.1 +4.8
SAJE San Jernim 5.30 121 eP Pn 12 35 50.9 +1.1
VERH Veragua Rainfo 5.30 114 eP Pn 12 35 49.1 -0.6
EDPE Pejibaye, P 5.34 123 eP Pn 12 35 50.9 +0.5
EDPE eS Sn 12 36 47.2 -3.6
FIMO Fila Mora 5.62 123 eP Pn 12 35 55.1 +0.9
CEUA Cerro Uatsi, L 5.66 115 eP Pn 12 35 56.8 +2.2
CCIG Comitan 5.70 317 Pn 12 35 57.7 +2.4
EDAD Golfito 5.96 125 eP Pn 12 35 59.7 +0.9
ALCO Alturas Coton, 6.07 121 eP Pn 12 36 00.6 +0.1
PTPA Petro Terminal 6.46 126 eP Pn 12 36 06.0 +0.4
GMAL Guarumal, Vera 8.04 122 P Pn 12 36 28.4 +1.0
comp=E,20nm,0.7s
TEIG Tepich 8.08 359 Pn 12 36 28.5 +0.6
TEIG Tepich 8.08 359 Pn Pn 12 36 23.4 -4.5
baz=128,slow=20,SNR=1.2
TEIG Sn Sn 12 37 50.6 -7.6
baz=128,slow=20,SNR=1.6
TEIG Tepich 8.08 359 P Pn 12 36 29.4 +1.5
comp=E,6µmcomp=E,8µmcomp=E,88nm,1.6s
CMIG Matias Romero 8.21 308 Pn Pn 12 36 30.9 +1.2
comp=E,8.3nm,0.3s,baz=130,slow=9.5,SNR=69
CMIG Sn Sn 12 37 59.1 -2.4
comp=E,0.9nm,0.3s,baz=150,slow=20,SNR=1.6
CACAO El Cacao, Vera 8.58 123 P Pn 12 36 35.5 +0.8
comp=E,46nm,1.1s
BCIP Isla Barro Col 8.65 109 P Pn 12 36 35.3 -0.4
comp=E,30nm,1.1s
TLIG Tlapa 11.46 300 Pn 12 37 17.1 +2.7
PAYG Puerto Ayora 12.87 190 Pn 12 37 36.8 +3.2
SJCC San Jacinto, C 12.89 99 P Pn 12 37 36.8 +2.9
comp=E,25nm,1.4s
GUY2C Guyana, Caldas 14.34 117 P Pn 12 37 53.8 -0.2
comp=E,13nm,0.7s
JAMC Jamundi, Valle 14.37 127 P P 12 38 01.4 +0.6
comp=E,400nmcomp=E,26nm,0.9s
PTBC PUERTO BERRIO, 14.57 111 P P 12 38 00.9 -2.0
comp=E,287nmcomp=E,3.9nm,0.7s
BBAC Balboa, Cauca 14.71 132 P P 12 38 07.6 +2.9
comp=E,34nm,0.9s
POPC Popayan, Colom 14.79 129 P P 12 38 04.2 -1.4
comp=E,454nmcomp=E,38nm,1.6s
OTAV Otavalo 15.20 140 eP P 12 38 16.2 +5.9
OTAV Otavalo 15.20 140 P P 12 38 11.0 +0.7
comp=E,8.2nm,1.5s
ROSC El Rosal 15.43 117 Pn 12 38 09.5 +0.9
ROSC El Rosal 15.43 117 LR LR 12 45 37.0
comp=E,572nm,18.1s,baz=334,slow=44
PRAC Prado 15.53 121 P P 12 38 12.5 -1.0
comp=E,22nm,0.7s
URIC Uribia, Colomb 15.79 90 P Pn 12 38 13.6 +0.7
comp=E,20nm,1.2s
RUSC La Rusia 16.08 111 Pn 12 38 15.7 -1.3
RUSC La Rusia 16.08 111 P Pn 12 38 15.7 -1.3
comp=E,17nm,1.2s
FLOC Florencia 16.19 129 P P 12 38 21.8 +0.9
comp=E,933nmcomp=E,67nm,1.6s
URMC La Uribe, Meta 16.20 122 P P 12 38 20.7 -0.4
comp=E,21nm,1.0s
COHC Cochancay 16.94 148 P 12 38 28.6 -0.6
COHC Cochancay 16.94 148 P Pn 12 38 27.4 -0.1
comp=E,383nmcomp=E,20nm,1.9s
MACC Macarena, Meta 17.26 124 P P 12 38 34.2 +1.4
comp=E,50nmcomp=E,35nm,0.9s
ZAIG Zacatecas 17.38 310 P P 12 38 35.3 +1.1
HBVL Hebbronville 17.88 328 P 12 38 40.2 +0.7
HBVL IAmb IAmb 12 38 44.0
comp=E,85nm,0.9s
KVTX Kingsville 17.89 331 P P 12 38 40.3 +0.8
KVTX IAmb IAmb 12 38 42.6
comp=E,106nm,0.9s
MCRA Macar, Loja 18.27 153 P P 12 38 42.3 -1.6
735A Kenedy 18.96 333 P Pn 12 38 52.4 +0.2
735A IAmb IAmb 12 38 56.7
comp=E,45nm,0.8s
346A Big Creek Wild 19.23 357 P Pn 12 38 55.4 0.0
346A IAmb IAmb 12 39 06.7
comp=E,160nm,1.6s
EF04 Eagle Ford 04 19.26 334 P P 12 38 55.0 +0.3
EF04 IAmb IAmb 12 38 56.0
comp=E,43nm,0.9s
833A Chaparral WMA, 19.27 329 P 12 38 55.6 +0.8
MLDN Muldoon 19.46 336 P Pn 12 38 58.0 -0.2
352A Blakely 19.51 8 P P 12 38 57.7 +0.3
352A IAmb IAmb 12 39 07.8
comp=E,106nm,1.1s
TIGA Tifton 19.70 12 P P 12 38 59.7 +0.3
TIGA IAmb IAmb 12 39 01.9
comp=E,59nm,0.8s
BAUV El Baul 19.99 97 P 12 39 00.9 -1.8
146A Union 20.46 358 IAmb IAmb 12 39 12.8
comp=E,71nm,1.1s
NATX Nacogdoches 20.47 344 P 12 39 08.6 +0.8
NATX IAmb IAmb 12 39 10.1
comp=E,69nm,0.9s
435B Jarrell 20.55 336 P P 12 39 09.0 +0.3
435B IAmb IAmb 12 39 14.0
comp=E,55nm,0.9s
152A Waverly Hall 20.71 8 IAmb IAmb 12 39 19.1
comp=E,50nm,1.1s
DRIO Del Rio 20.79 328 P 12 39 11.1 -0.3
DRIO IAmb IAmb 12 39 24.9
comp=E,48nm,1.0s
Z47A Carrollton 21.00 0 P 12 39 14.0 +0.5
Z47A IAmb IAmb 12 39 27.6
comp=E,59nm,1.4s
JCT Junction City 21.25 331 IAmb IAmb 12 39 20.5
comp=E,55nm,0.8s
ATAH Atahualpa 21.42 153 P P 12 39 20.4 +1.8
comp=E,8.9nm,1.0s,baz=337,slow=7.9,SNR=3.8
ATAH LR LR 12 46 52.3
comp=E,409nm,19.0s,baz=339,slow=34
comp=E,8.9nm,1.0s
BRDY Brady 21.57 334 P 12 39 19.3 -0.4
BRDY IAmb IAmb 12 39 22.8
comp=E,38nm,0.8s
WHTX Lake Whitney, 21.58 338 P 12 39 20.0 +0.2
WHTX IAmb IAmb 12 39 40.9
comp=E,62nm,1.2s
GOGA Godfrey 21.64 11 P P 12 39 20.1 -0.2
GOGA IAmb IAmb 12 39 29.7
comp=E,61nm,1.4s
Y45A Yeager Farm, C 21.70 357 IAmb IAmb 12 39 40.1
comp=E,41nm,1.0s
Y49A Blount Mountai 21.71 4 P 12 39 21.4 +0.2
FW13 Cleburne 21.90 338 IAmb IAmb 12 39 27.0
comp=E,41nm,1.1s
Z38A Mt. Pleasant 21.98 344 IAmb IAmb 12 39 25.8
comp=E,47nm,0.9s
Y52A Lilburn 21.98 9 P P 12 39 24.5 +0.4
OXF Oxford 22.34 357 IAmb IAmb 12 39 29.9

comp=Z,55nm,1.1s
TX31 Lajitas Ar. Si 22.44 322 IAmb IAmb 12 39 34.3
comp=Z,35nm,0.8s
TXAR Lajitas Array 22.44 322 P 12 39 29.7 +0.6
TXAR Lajitas Array 22.44 322 P P 12 39 29.4 +0.3
comp=Z,35nm,0.8s,baz=130,slow=8.1,SNR=115
TXAR PcP PcP 12 43 25.7 +2.6
comp=Z,2.2nm,0.9s,baz=105,slow=2.7,SNR=4.7
TXAR ScP ScP 12 47 05.0 +6.6
comp=Z,2.4nm,1.1s,baz=149,slow=2.7,SNR=8.3
TXAR LR LR 12 49 49.2
comp=Z,124nm,21.9s,baz=129,slow=41
comp=Z,35nm,0.8s
FW06 Azle 22.50 339 IAmb IAmb 12 39 32.8
comp=Z,60nm,1.0s
X51A Calhoun 22.56 7 IAmb IAmb 12 39 45.5
comp=Z,35nm,1.1s
PLPT Palo Pinto 22.64 337 IAmb IAmb 12 39 33.1
comp=Z,52nm,0.8s
HODGE Hodges 22.67 13 IAmb IAmb 12 39 40.8
comp=Z,46nm,0.9s
X40A Basin Creek Fa 22.70 350 IAmb IAmb 12 39 33.5
comp=Z,45nm,1.4s
UALR University of 22.90 351 IAmb IAmb 12 39 35.7
comp=Z,39nm,0.8s
JSC Jenkinsville 22.95 15 IAmb IAmb 12 39 36.1
comp=Z,36nm,1.1s
SWET Sewanee 23.10 5 IAmb IAmb 12 39 36.3
comp=Z,72nm,1.8s
ALPN Alpine 23.18 324 IAmb IAmb 12 39 41.3
comp=Z,20nm,0.8s
W52A Murphy 23.21 9 IAmb IAmb 12 39 55.9
comp=Z,28nm,1.1s
BG3 Lake Jocassee 23.27 11 IAmb IAmb 12 39 46.6
comp=Z,39nm,0.9s
PAULI Pauline 23.34 13 IAmb IAmb 12 39 47.1
comp=Z,33nm,0.9s
WHAR Wooly Hollow 23.39 351 IAmb IAmb 12 39 39.7
comp=Z,60nm,1.0s
BIRD Birdtown, Kers 23.50 16 IAmb IAmb 12 39 48.2
comp=Z,25nm,0.8s
WTFS Witchita Falls 23.54 338 IAmb IAmb 12 39 43.0
comp=Z,35nm,0.9s
SLBS Sierra La Lagu 23.71 302 P 12 39 44.4 +2.3
SLBS IAmb IAmb 12 39 56.0
comp=Z,78nm,1.6s
TKL Tuckaleechee C 23.78 9 LR LR 12 49 54.4
comp=Z,364nm,19.6s,baz=194,slow=40
ODSA Odessa 23.94 329 P 12 39 43.3 -0.9
SN07 Snyder 07 23.94 333 IAmb IAmb 12 39 44.9
comp=Z,52nm,1.1s
V53A Saluda 23.95 11 P P 12 39 44.1 -0.1
V53A IAmb IAmb 12 39 54.3
comp=Z,26nm,0.8s
FCAR Ozark Folk Cen 23.96 352 IAmb IAmb 12 40 12.2
comp=Z,28nm,1.1s
LCAR Lake Charles 24.02 354 P 12 39 43.6 -1.2
LPIG La Paz 24.19 303 LR LR 12 50 26.5
comp=Z,588nm,18.6s,baz=90,slow=39
U49A Red Boiling Sp 24.40 5 IAmb IAmb 12 39 55.7
comp=Z,23nm,1.0s
V55A Taylorsville 24.46 14 IAmb IAmb 12 39 50.9
comp=Z,25nm,1.0s
HHAR Hobbs 24.64 349 IAmb IAmb 12 39 52.2
comp=Z,28nm,1.1s
PBMO Poplar Bluff 24.66 356 IAmb IAmb 12 39 50.8
comp=Z,22nm,0.8s
TZTN Tazewell 24.68 9 IAmb IAmb 12 39 53.1
comp=Z,25nm,1.1s
TUL3 Leonard 24.70 345 IAmb IAmb 12 39 51.5
comp=Z,49nm,1.0s
T47A Sharon Grove 24.80 2 IAmb IAmb 12 39 59.5
comp=Z,33nm,0.9s
U38A Gravette 24.88 348 IAmb IAmb 12 39 54.9
comp=Z,44nm,1.0s
V58A Windy Hill, Pi 24.96 18 IAmb IAmb 12 40 01.4
comp=Z,40nm,0.8s
CZSB Cruzeiro do Su 24.96 141 eP P 12 39 59.3 +5.8
U56A King 25.13 15 IAmb IAmb 12 39 57.9
comp=Z,25nm,1.0s
MGMO Mountain Grove 25.22 352 IAmb IAmb 12 39 56.7
comp=Z,21nm,0.9s
SIUC Southern Illin 25.53 358 IAmb IAmb 12 40 06.3
comp=Z,24nm,0.9s
T35A Sooner Cattle 25.84 344 IAmb IAmb 12 40 04.9
comp=Z,27nm,0.9s
CROK Carrier 25.87 342 IAmb IAmb 12 40 01.3
comp=Z,46nm,0.9s
BLA Blacksburg 25.94 14 IAmb IAmb 12 40 30.1
comp=Z,29nm,1.2s
CCM Cathedral Cave 26.00 354 P P 12 40 01.5 -1.1
CCM IAmb IAmb 12 40 02.4
comp=Z,16nm,0.8s
WCI Wyandotte Cave 26.07 3 P 12 40 01.8 -1.6
KAN14 Manchester OK 26.28 342 IAmb IAmb 12 40 07.5
comp=Z,41nm,1.0s
R40A Maddies Statio 26.34 353 IAmb IAmb 12 40 06.3
comp=Z,35nm,1.4s
OLIL Olney 26.52 0 IAmb IAmb 12 40 07.2
comp=Z,20nm,0.9s
Q44A Meyer Farm, Va 26.71 358 IAmb IAmb 12 40 16.6
comp=Z,20nm,0.9s
Q51A Peebles 27.15 8 IAmb IAmb 12 40 13.3
comp=Z,17nm,0.9s
121A Cookes Peak, D 27.19 322 IAmb IAmb 12 40 21.6
comp=Z,22nm,1.0s
P40A Paris 27.54 353 IAmb IAmb 12 40 17.0
comp=Z,19nm,0.9s
RTBA Rita Blanca 27.58 334 IAmb IAmb 12 40 20.8
comp=Z,32nm,0.9s
Y22A Socorro 27.71 325 IAmb IAmb 12 40 24.4
comp=Z,35nm,1.1s
Y22D IRIS PASSCAL I 27.79 325 P P 12 40 19.6 +0.6
baz=137
R32A Long Quarter, 27.86 342 IAmb IAmb 12 40 22.3
comp=Z,36nm,0.9s
P53A Whipple 27.92 11 IAmb IAmb 12 40 28.1
comp=Z,16nm,0.8s
P52A Corning 27.93 10 IAmb IAmb 12 40 27.6
comp=Z,17nm,1.0s
ANMO Albuquerque 28.18 327 P 12 40 24.6 +2.0
ANMO Albuquerque 28.18 327 LR LR 12 53 09.2
comp=Z,183nm,20.4s,baz=211,slow=40
ACSO Alum Creek Sta 28.39 8 IAmb IAmb 12 40 24.1
comp=Z,13nm,0.8s
P57A Homestead Farm 28.71 16 IAmb IAmb 12 40 35.7
comp=Z,13nm,0.8s
O54A Avella 28.80 12 IAmb IAmb 12 40 40.0
comp=Z,11nm,0.7s
T25A Trinidad 28.90 332 IAmb IAmb 12 40 33.2
comp=Z,21nm,1.0s
PAMR Moraine State 29.58 12 IAmb IAmb 12 40 42.7
comp=Z,12nm,0.7s
KSCO Kaye Shedlock' 29.74 337 P P 12 40 36.6 +0.3
SSPA Standing Stone 29.82 16 P P 12 40 36.4 -0.4
SDCO Great Sand Dun 29.90 332 IAmb IAmb 12 40 48.3
comp=Z,18nm,1.1s
L40A Anamosa 29.97 355 IAmb IAmb 12 40 37.5
comp=Z,16nm,1.0s
PAOC Oil Creek Stat 30.22 13 IAmb IAmb 12 40 48.9
comp=Z,14nm,1.0s
S22A 4UR Ranch, Cre 30.53 330 IAmb IAmb 12 40 48.8
comp=Z,13nm,1.0s
L34A Svendsen Farm, 30.61 348 IAmb IAmb 12 40 43.5
comp=Z,26nm,0.9s
M57A Sunshine Farm, 30.68 16 IAmb IAmb 12 40 52.0
comp=Z,14nm,1.1s
JFWS Jewell Farm 30.76 357 IAmb IAmb 12 41 47.7
comp=Z,18nm,1.2s
WUAZ Wupatki 31.40 322 IAmb IAmb 12 40 56.5
comp=Z,13nm,1.1s
I42A Draeger Farm, 31.68 359 IAmb IAmb 12 40 53.2
comp=Z,26nm,1.1s
PV13 Radium Mtn., P 31.85 328 IAmb IAmb 12 41 04.9
comp=Z,42nm,1.8s
PV05 Paradox Valley 31.94 328 IAmb IAmb 12 41 00.8
comp=Z,15nm,1.1s
PV03 Paradox Valley 31.94 328 IAmb IAmb 12 41 00.8
comp=Z,16nm,1.2s
PV07 Paradox Valley 31.98 329 IAmb IAmb 12 41 00.9
comp=Z,14nm,1.2s
PV11 David Mesa, Pa 31.98 328 IAmb IAmb 12 41 05.2
comp=Z,21nm,1.1s
PV17 East Wray Mesa 32.02 328 IAmb IAmb 12 41 03.0
comp=Z,15nm,1.0s
PV16 Nyswonger Mesa 32.02 328 IAmb IAmb 12 41 01.6
comp=Z,18nm,1.2s
PV19 Morning Glory 32.05 328 IAmb IAmb 12 41 07.3

comp=Z,24nm,1.2s
PV04 Paradox Valley 32.07 328 IAmb IAmb 12 41 06.0
comp=Z,27nm,1.2s
L59A Walton 32.07 18 IAmb IAmb 12 40 58.0
comp=Z,18nm,0.9s
PV14 Lion Creek, Pa 32.12 328 IAmb IAmb 12 41 04.4
comp=Z,10.0nm,0.9s
PV22 Blue Mesa, Par 32.12 329 IAmb IAmb 12 41 08.6
comp=Z,12nm,1.2s
PV23 Carpenter Ridg 32.17 328 IAmb IAmb 12 41 04.9
comp=Z,18nm,0.9s
ESJX Sierra Juarez 32.36 312 IAmb IAmb 12 41 10.5
comp=Z,14nm,1.5s
SAML Samuel 32.43 129 P **P** **12 40 59.2 -0.9**
SAML IAmb IAmb 12 41 01.7
comp=Z,7.6nm,0.8s
SAML Samuel 32.43 129 *eP* **P** **12 40 59.7 -0.4**
UCCT U. Connecticut 32.68 22 **P** **12 41 01.4 -0.6**
HMU Henry Mountain 32.72 326 IAmb IAmb 12 41 11.3
comp=Z,12nm,0.9s
J57A Williamstown 32.91 16 IAmb IAmb 12 41 04.3
comp=Z,19nm,0.9s
HAYD Hayden 32.94 333 IAmb IAmb 12 41 14.7
comp=Z,21nm,1.3s
TRY Troy 33.00 20 IAmb IAmb 12 41 06.2
comp=Z,20nm,1.1s
G40A Rib Lake 33.10 357 IAmb IAmb 12 41 04.8
comp=Z,13nm,0.9s
DANC Danby, Needles 33.41 317 IAmb IAmb 12 41 15.1
comp=Z,16nm,0.9s
SADO Sadowa 33.45 12 LR LR 12 55 44.1
comp=Z,380nm,19.2s,baz=192,slow=39
PMD Palm Desert 33.54 314 **P** **12 41 10.8 +1.2**
PFO Pinyon Flats O 33.57 314 LR LR 12 57 32.1
comp=Z,498nm,18.2s,baz=141,slow=41
P18A Preston Nutter 33.69 328 IAmb IAmb 12 41 20.8
comp=Z,15nm,1.2s
V12A Nelson 33.71 319 **P** **12 41 12.3 +1.1**
COWI Conover 33.90 359 IAmb IAmb 12 41 11.4
comp=Z,21nm,1.2s
J61A Chester 33.92 21 IAmb IAmb 12 42 10.4
comp=Z,35nm,1.7s
BUKO Buck Lake 34.05 11 IAmb IAmb 12 41 14.1
comp=Z,15nm,0.8s
K22A Casper 34.38 336 IAmb IAmb 12 41 18.4
comp=Z,24nm,1.1s
LONY Lake Ozonia 34.43 17 IAmb IAmb 12 41 17.1
comp=Z,25nm,1.2s
LPAZ La Paz 34.45 145 P **P** **12 41 18.9 +0.5**
comp=Z,0.5nm,0.5s,baz=331,slow=6.4,SNR=1.8
LPAZ LR LR 12 56 07.4
comp=Z,274nm,19.0s,baz=308,slow=38
comp=Z,0.5nm,0.5s
LPAZ La Paz 34.45 145 *eP* P 12 41 23.7 +5.4
E38A The Farm, Brul 34.52 356 IAmb IAmb 12 41 17.0
comp=Z,23nm,1.0s
WBO Williamsburg 34.58 16 IAmb IAmb 12 41 18.2
comp=Z,12nm,1.0s
BSUT Blindstream Ca 34.63 329 IAmb IAmb 12 41 29.1
comp=Z,18nm,1.6s
RSSD Black Hills 34.72 340 **P** **12 41 20.3 +0.3**
RSSD IAmb IAmb 12 41 22.2
comp=Z,14nm,0.8s
RSSD Black Hills 34.72 340 P **P** **12 41 20.0 0.0**
RSSD pP **pP** **12 41 30.1 +0.9**
RSSD sP **sP** **12 41 35.2 +2.2**
RSSD PcP **PcP** **12 43 54.1 +0.7**
FRNY Flat Rock 34.92 18 IAmb IAmb 12 41 21.4
comp=Z,15nm,1.1s
I63A Otisfield 35.24 22 IAmb IAmb 12 41 25.0
comp=Z,26nm,1.2s
CCCA Chr Cany lake 35.25 316 IAmb IAmb 12 41 38.7
comp=Z,13nm,0.8s
CTU Camp Tracy 35.25 328 IAmb IAmb 12 41 30.5
comp=Z,13nm,1.3s
WSHM Spangler Hills 35.38 316 IAmb IAmb 12 42 03.0
comp=Z,8.2nm,0.5s
S11A Rachel 35.46 321 IAmb IAmb 12 41 39.5
comp=Z,9.2nm,0.9s
MDP Montagnes des 35.73 98 LR LR 12 58 22.7
comp=Z,204nm,18.6s,baz=317,slow=41
PD31 Pinedale Array 35.77 333 IAmb IAmb 12 41 34.1
comp=Z,9.6nm,1.0s
PDAR Pinedale Array 35.77 333 P **P** **12 41 29.0 -0.1**
PDAR Pinedale Array 35.77 333 P **P** **12 41 28.3 -0.8**
comp=Z,8.0nm,1.0s,baz=146,slow=7.6,SNR=23
PDAR PcP **PcP** **12 43 57.6 +1.1**
comp=Z,2.5nm,0.8s,baz=139,slow=2.2,SNR=8.5
comp=Z,8.0nm,1.0s
HWUT Hardware Ranch 35.83 329 IAmb IAmb 12 41 34.3
comp=Z,11nm,0.9s
EYMN Ely 35.84 356 IAmb IAmb 12 41 28.0
comp=Z,13nm,0.9s
TRQ Mont Tremblant 35.90 16 IAmb IAmb 12 41 29.6
comp=Z,18nm,1.3s
WVL Waterville 36.02 23 IAmb IAmb 12 41 31.8
comp=Z,24nm,1.2s
ITTB Itaituba 36.12 115 *eP* **P** **12 41 28.5 -3.7**
AHID Auburn Hatcher 36.48 331 IAmb IAmb 12 41 44.9
comp=Z,15nm,0.8s
PKME Peaks-Kenny Pk 36.75 22 IAmb IAmb 12 41 38.2
comp=Z,18nm,0.9s
VLDQ Val d'Or 36.99 12 IAmb IAmb 12 41 38.5
comp=Z,9.4nm,0.9s
EMMW East Machias 37.01 25 IAmb IAmb 12 41 42.0
comp=Z,23nm,1.3s
VILB Vilhena 37.24 131 *eP* **P** **12 41 43.3 +1.6**
NVAR Mina Array Bea 37.54 320 P **P** **12 41 45.6 +1.4**
NVAR Mina Array Bea 37.54 320 P **P** **12 41 45.5 +1.3**
comp=Z,3.6nm,1.0s,baz=118,slow=6.4,SNR=15
NVAR PcP **PcP** **12 44 03.1 +1.2**
comp=Z,3.0nm,0.8s,baz=108,slow=2.8,SNR=11
NVAR ScP **ScP** **12 47 53.3 +6.2**
comp=Z,1.2nm,1.0s,baz=113,slow=3.1,SNR=5.1
comp=Z,3.6nm,1.0s
RLMT Red Lodge 37.54 335 IAmb IAmb 12 41 53.0
comp=Z,17nm,0.9s
YMP Mirror Lake Pl 37.60 334 IAmb IAmb 12 41 56.3
comp=Z,20nm,0.9s
F64A Sherman 37.61 23 IAmb IAmb 12 41 44.7
comp=Z,26nm,1.1s
NPGB Novo Progresso 37.73 119 *eP* **P** **12 41 43.3 -2.5**
YNE Yellowstone No 37.76 334 IAmb IAmb 12 41 56.7
comp=Z,23nm,1.0s
YNR Norris Junctio 37.81 334 IAmb IAmb 12 41 52.4
comp=Z,17nm,1.0s
E62A Clayton Lake 37.83 21 IAmb IAmb 12 41 46.4
comp=Z,19nm,1.1s
YHB Horse Butte 38.07 333 IAmb IAmb 12 42 00.1
comp=Z,12nm,0.8s
D62A Allapoint, All 38.39 21 IAmb IAmb 12 41 51.6
comp=Z,22nm,1.0s
ULM Lac du Bonnet 38.57 352 P **P** **12 41 50.1 -2.4**
comp=Z,40nm,0.9s,baz=167,slow=10,SNR=37
comp=Z,40nm,0.9s
SIV San Ignacio 38.67 136 LR LR 12 57 43.1
comp=Z,117nm,18.6s,baz=280,slow=36
BOZ Bozeman (W) 38.92 334 IAmb IAmb 12 42 05.2
comp=Z,19nm,1.1s
LMN Caledonia Moun 39.04 26 IAmb IAmb 12 41 56.4
comp=Z,28nm,1.0s
PDRB Porto dos Gac 39.07 126 *eP* **P** **12 41 57.3 +0.2**
DLMT Dillon 39.17 332 IAmb IAmb 12 42 08.1
comp=Z,30nm,1.1s
CLDB Colider 39.39 124 *eP* **P** **12 41 56.8 -3.1**
PTLB Pontes e Lacer 39.66 133 *eP* **P** **12 42 04.2 +2.3**
BATG Bathurst New B 39.67 24 IAmb IAmb 12 42 01.8
comp=Z,22nm,1.0s
EGMT Eagleton 40.12 337 **P** **12 42 05.4 -0.1**
MSO Missoula 40.89 333 **P** **12 42 12.2 +0.2**
MSO IAmb IAmb 12 42 21.5
comp=Z,39nm,1.2s
BMO Blue Mountains 41.08 328 **P** **12 42 13.7 +0.1**
ICQ Pointe Anglais 41.09 21 **P** **12 42 11.3 -2.1**
ICQ IAmb IAmb 12 42 12.9
comp=Z,16nm,0.9s
F10A Beach Ranch, E 41.82 329 IAmb IAmb 12 42 24.9
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 42.20 321 LR LR 13 01 24.2
comp=Z,12nm,19.0s,baz=128,slow=38
SALV Santo Antonio 42.47 130 *eP* **P** **12 42 25.3 +0.2**
NEW Newport 43.40 332 IAmb IAmb 12 42 39.7
comp=Z,29nm,1.9s
NEW Newport 43.40 332 LR LR 13 05 15.1
comp=Z,359nm,18.1s,baz=128,slow=43
FFC Flin Flon 43.90 348 **P** **12 42 35.7 -0.5**
FFC IAmb IAmb 12 42 44.1
comp=Z,20nm,1.1s
FFC Flin Flon 43.90 348 P **P** **12 42 34.6 -1.6**
FFC pP **pP** **12 42 45.4 -0.2**
RPN Rapa Nui 44.09 208 LR LR 12 54 58.4
comp=Z,51nm,18.9s,baz=310,slow=28
BDQN Bodoquena, MS 44.70 136 *eP* **P** **12 42 44.7 +1.7**
D05A Enumclaw 45.07 328 IAmb IAmb 12 42 57.1
comp=Z,11nm,0.9s
SCHQ Schefferville 45.80 17 **P** **12 42 49.3 -2.0**
SCHQ Schefferville 45.80 17 P **P** **12 42 49.0 -2.3**
comp=Z,24nm,0.9s,baz=211,slow=10,SNR=17
SCHQ LR LR 13 03 22.0
comp=Z,523nm,18.3s,baz=218,slow=38
comp=Z,24nm,0.9s
H03N2 Juan Fernandez 46.12 169 T T 13 32 23.2
baz=343
H03N1 Juan Fernandez 46.13 169 T T 13 32 20.3
baz=343
H03N3 Juan Fernandez 46.14 169 T T 13 32 22.0
baz=343
AMBA Amambai (Brazi 47.59 137 *eP* **P** **12 43 09.0 +3.2**
KUQ Kuujjuuaa 48.30 14 **P** **12 43 08.4 -2.3**
SJPY San Joaquin 48.32 140 *eP* **P** **12 43 13.2 +1.8**
BDFB Brasilia 48.33 124 P **P** **12 43 10.8 -0.9**
comp=Z,7.1nm,0.9s,baz=329,slow=5.9,SNR=4.8
BDFB LR LR 13 05 02.7
comp=Z,324nm,18.1s,baz=321,slow=38
comp=Z,7.1nm,0.9s
CPUP Villa Florida 48.54 142 LR LR 13 04 54.9
comp=Z,80nm,18.4s,baz=198,slow=38
IPMB Ipameri, GO 49.45 127 *eP* **P** **12 43 20.0 -0.3**
BLKN Baker Lake 52.44 356 IAmb IAmb 12 43 49.2
comp=Z,14nm,1.1s
SPB Sao Paulo 53.31 132 P **P** **12 43 48.6 -0.4**
SPB pP **pP** **12 43 58.8 +0.4**
FRB Frobisher Bay 53.39 11 LR LR 13 07 45.1
comp=Z,601nm,18.7s,baz=220,slow=38
YKA Yellowknife Ar 53.78 345 P **P** **12 43 50.2 -1.6**
comp=Z,5.2nm,0.8s,baz=142,slow=6.9,SNR=18
YKA LR LR 13 08 19.6
comp=Z,210nm,21.0s,baz=153,slow=38
comp=Z,5.2nm,0.8s
YKAW3 Yellowknife Wh 53.84 345 IAmb IAmb 12 43 52.0
comp=Z,8.5nm,0.8s
TOAD Toad River Com 54.31 337 P **P** **12 43 55.6 -0.3**
baz=133,SNR=6.8
KOTAN Kotaneelee Air 54.78 339 P **P** **12 43 58.7 -0.5**
baz=135
RCBR Riachuelo 54.89 106 LR LR 13 09 24.3
comp=Z,79nm,18.2s,baz=302,slow=38
LIRD Liard River Hi 55.02 337 P **P** **12 44 01.0 0.0**
baz=133
PLCA Paso Flores 55.03 164 P **P** **12 44 02.4 +1.1**
comp=Z,1.8nm,0.9s,baz=338,slow=19,SNR=4.0
PLCA LR LR 13 03 39.8
comp=Z,129nm,18.1s,baz=359,slow=32
comp=Z,1.8nm,0.9s
PLCA Paso Flores 55.03 164 *eP* P 12 44 09.8 +8.5
T35M Bob Quinn 55.15 333 P **P** **12 44 01.7 -0.3**
baz=127
CRAG Craig 55.59 331 P **P** **12 44 04.6 -0.5**
baz=123
WRAK Wrangell Islan 55.76 332 P **P** **12 44 05.3 -1.0**
baz=124
DLBC Dease Lake 55.94 335 LR LR 13 11 33.3
comp=Z,287nm,21.3s,baz=106,slow=40
DLBC Dease Lake 55.94 335 P **P** **12 44 07.6 -0.1**
baz=128,SNR=14
U33K Whale Pass 55.95 331 P **P** **12 44 08.1 +0.5**
baz=123
S34M Telegraph Cree 56.09 334 P **P** **12 44 08.8 +0.1**
baz=126
WTLY Watson Lake, Y 56.51 337 IAmb IAmb 12 44 12.3
comp=Z,10nm,1.0s
WTLY Watson Lake, Y 56.51 337 P **P** **12 44 10.4 -1.3**
baz=130,SNR=5.3
R33M Jennings River 56.92 335 IAmb IAmb 12 45 24.1
comp=Z,6.5nm,0.7s
R33M Jennings River 56.92 335 P **P** **12 44 14.1 -0.5**
baz=127,SNR=6.5
Q32M Nakina River 57.19 335 P **P** **12 44 16.5 -0.3**
baz=126,SNR=8.2
TGTN Hyland Airport 57.24 338 P **P** **12 44 16.8 -0.1**
baz=131
S32K Kitimaat 57.36 332 P **P** **12 44 18.2 +0.6**
baz=122
SIT Sitka 57.48 332 P **P** **12 44 18.8 +0.2**
baz=122
R32K Eaglecrest 57.77 333 P **P** **12 44 21.1 +0.5**
baz=123
P33M Teslin, Yukon 58.16 336 IAmb IAmb 12 45 34.9
comp=Z,5.3nm,0.8s
P33M Teslin, Yukon 58.16 336 P **P** **12 44 23.5 +0.2**
baz=126
P32M Atlin 58.16 335 P **P** **12 44 23.7 +0.3**
baz=124
S31K Pelican 58.38 332 P **P** **12 44 25.2 +0.5**
baz=121
SKAG Skagway 58.77 334 P **P** **12 44 28.0 +0.4**
baz=123
N32M Quiet Lake 58.81 336 IAmb IAmb 12 46 07.7
comp=Z,9.7nm,0.8s
N32M Quiet Lake 58.81 336 P **P** **12 44 27.9 0.0**
baz=126
MMPY Sheldon Lake, 59.03 338 IAmb IAmb 12 44 30.1
comp=Z,10nm,0.9s
MMPY Sheldon Lake, 59.03 338 P **P** **12 44 29.4 +0.1**
baz=129,SNR=12
PLBC Pleasant Camp 59.22 334 P **P** **12 44 30.9 +0.3**
baz=122
WHY Whitehorse 59.25 335 P **P** **12 44 30.3 -0.7**
baz=124
P30M Million Dollar 59.83 334 P **P** **12 44 35.0 +0.1**
baz=121
P29M Windy Craggy 59.91 333 IAmb IAmb 12 44 36.5
comp=Z,14nm,1.1s
P29M Windy Craggy 59.91 333 P **P** **12 44 35.1 -0.4**
baz=120
M31M Drury Creek, Y 59.94 337 P **P** **12 44 35.4 -0.2**
baz=125
N31M Braeburn, Yuko 60.08 336 IAmb IAmb 12 44 45.5
comp=Z,7.5nm,0.9s
N31M Braeburn, Yuko 60.08 336 P **P** **12 44 36.4 -0.2**
baz=123
SFJD Kangerlussuaq 60.23 16 LR LR 13 11 46.4
comp=Z,294nm,18.0s,baz=219,slow=38
HYT Haines Junctio 60.42 335 P **P** **12 44 38.7 -0.4**
baz=121
N30M Aishikik Lake 60.59 335 IAmb IAmb 12 44 41.0
comp=Z,8.0nm,1.1s
N30M Aishikik Lake 60.59 335 P **P** **12 44 40.0 -0.1**
baz=122
O29M Mount Kennedy 60.61 334 P **P** **12 44 40.0 -0.4**
baz=120
PNL Peninsula 60.66 333 P **P** **12 44 40.3 -0.2**
baz=119
M30M Minto, Yukon 61.08 337 P **P** **12 44 43.1 -0.3**
baz=123
YUK4 Talbot Arm 61.17 335 P **P** **12 44 43.7 -0.6**
baz=120
PINM Pinnacle 61.24 333 P **P** **12 44 43.9 -0.7**
baz=118
MAYO Mayo, Yukon 61.30 338 P **P** **12 44 44.0 -0.8**
baz=124
O28M Mount Upton 61.54 334 P **P** **12 44 45.9 -0.9**
baz=118
C36M Paulatuk 61.60 346 P **P** **12 44 46.4 -0.3**
baz=139
M29M Somme Creek 61.66 336 IAmb IAmb 12 44 48.2
comp=Z,11nm,1.0s
M29M Somme Creek 61.66 336 P **P** **12 44 46.7 -0.7**
baz=121,SNR=13
L29M L29M 61.88 337 IAmb IAmb 12 44 56.9
comp=Z,7.1nm,1.0s
L29M L29M 61.88 337 P **P** **12 44 48.4 -0.4**
baz=122,SNR=5.3
J30M Hart River 62.01 339 P **P** **12 44 48.8 -1.0**
baz=124
MESA MESA 62.03 333 P **P** **12 44 48.9 -1.2**
baz=116
K29M Barlow Dome 62.04 338 P **P** **12 44 48.9 -1.1**
baz=123
H31M Peel River 62.05 340 P **P** **12 44 49.0 -0.8**
baz=127
CTG Chitna Glacier 62.13 334 P **P** **12 44 49.1 -1.6**
baz=117
YUK3 Moose Creek 62.14 335 P **P** **12 44 49.1 -1.6**
baz=119
I30M Mount Dempster 62.40 339 IAmb IAmb 12 44 52.6
comp=Z,8.3nm,1.0s
I30M Mount Dempster 62.40 339 P **P** **12 44 51.3 -1.1**
baz=124,SNR=7.7
J29N Klondike Camp 62.63 338 P **P** **12 44 52.8 -1.0**
baz=122
RES Resolute Bay 62.68 358 LR LR 13 12 13.2
comp=Z,146nm,21.4s,baz=174,slow=36
G31M Satah River 62.71 341 IAmb IAmb 12 44 54.2
comp=Z,12nm,0.9s
G31M Satah River 62.71 341 P **P** **12 44 53.1 -1.1**
baz=127,SNR=6.7
DAWY Dawson 62.86 337 P **P** **12 44 54.1 -1.2**
baz=121
F31M Tsiigehtchic 62.87 342 P **P** **12 44 54.3 -0.9**
baz=128
M27K Edge Creek, AK 63.00 335 P **P** **12 44 55.2 -1.2**
baz=118
KAIM Kayak Island 63.05 332 P **P** **12 44 55.0 -1.6**
baz=114
I29M Ogilvie Camp, 63.15 339 P **P** **12 44 55.5 -1.8**
baz=122
EPYK Eagle Plains 63.17 340 IAmb IAmb 12 44 58.1
comp=Z,9.3nm,1.0s
EPYK Eagle Plains 63.17 340 P **P** **12 44 55.4 -1.9**
baz=124
BCAR Beaver Creek A 63.30 336 P **P** **12 44 58.1 -0.2**
L27K Beaver Creek, 63.31 336 IAmb IAmb 12 44 59.0
comp=Z,6.8nm,1.0s
L27K Beaver Creek, 63.31 336 P **P** **12 44 56.6 -1.8**
baz=118,SNR=7.7
INK Inuvik 63.34 343 LR LR 13 18 04.9
comp=Z,211nm,18.1s,baz=78,slow=42
INK Inuvik 63.34 343 P **P** **12 44 56.2 -2.1**
baz=129
G30M tAoh Zraii Nji 63.36 341 P **P** **12 44 56.6 -2.0**
baz=125
BMRM Bremner River 63.56 333 P **P** **12 44 58.6 -1.5**
baz=114
F30M Barrier River 63.59 342 P **P** **12 44 58.3 -1.8**
baz=126
H29M Whitestone 63.64 340 P **P** **12 44 58.3 -2.1**
baz=123
Q23K Middleton Isla 63.75 331 P **P** **12 44 59.2 -2.1**
baz=112
I28M Miner Creek 63.78 339 P **P** **12 44 59.5 -2.0**
baz=121
N25K Chitina, Valde 63.82 334 P **P** **12 45 00.9 -0.9**
baz=114
K27K Chicken 63.87 337 IAmb IAmb 12 45 20.9
comp=Z,19nm,1.9s
K27K Chicken 63.87 337 P **P** **12 45 00.9 -1.1**
baz=118
EYAK Cordova Ski Ar 63.91 332 P **P** **12 45 01.4 -0.8**
baz=113
G29M Pine Creek 63.91 340 IAmb IAmb 12 45 02.6
comp=Z,12nm,0.9s
G29M Pine Creek 63.91 340 P **P** **12 45 01.0 -1.2**
baz=123
L26K Log Cabin Wild 63.91 335 P **P** **12 45 01.2 -1.1**
baz=116
KLU Klutina 64.36 333 P **P** **12 45 04.3 -0.9**
baz=113
I27K Kandik River 64.46 338 P **P** **12 45 05.0 -0.9**
baz=119
P23K Montague Islan 64.46 331 P **P** **12 45 05.0 -0.8**
baz=111
SCRK Sand Creek 64.59 336 IAmb IAmb 12 45 07.6
comp=Z,17nm,1.7s
SCRK Sand Creek 64.59 336 P **P** **12 45 06.0 -0.9**
baz=116
GLI Glacier Island 64.64 332 P **P** **12 45 05.8 -1.3**
baz=112
J26L Joseph Creek 64.67 337 IAmb IAmb 12 45 08.1
comp=Z,9.9nm,1.1s
J26L Joseph Creek 64.67 337 P **P** **12 45 06.3 -1.0**
baz=117,SNR=6.9
E29M Blow River 64.69 342 P **P** **12 45 06.4 -0.8**
baz=124
M24K Tolsona, Glenn 64.71 334 P **P** **12 45 06.8 -0.8**
baz=113
H27K Steamboat Moun 64.74 339 IAmb IAmb 12 45 08.3
comp=Z,14nm,1.1s
H27K Steamboat Moun 64.74 339 P **P** **12 45 07.1 -0.6**
baz=120,SNR=9.7
PAX Paxson 64.76 335 P **P** **12 45 07.4 -0.5**
baz=114
RIDG Independent Ri 64.83 336 P **P** **12 45 07.9 -0.5**
baz=115
I26K Coal Creek Min 64.88 338 IAmb IAmb 12 45 08.8
comp=Z,9.1nm,1.1s
I26K Coal Creek Min 64.88 338 P **P** **12 45 08.0 -0.5**
baz=118
F28M Old Crow 64.89 341 P **P** **12 45 08.3 -0.3**
baz=122,SNR=7.7
G27K Doyon Strip 65.07 339 P **P** **12 45 09.5 -0.3**
baz=120
SCM Sheep Creek Mo 65.11 333 P **P** **12 45 09.9 -0.3**
baz=112
PWL Port Wells 65.20 332 P **P** **12 45 10.2 -0.5**
baz=111
K24K Donnelly Dome 65.23 336 P **P** **12 45 10.3 -0.7**
baz=114
M23K Glacier View 65.27 333 P **P** **12 45 10.4 -0.8**
baz=112
E28M Babbage River 65.32 342 P **P** **12 45 11.0 -0.3**
baz=122
J25K Salcha River, 65.42 337 IAmb IAmb 12 45 12.7
comp=Z,5.9nm,0.9s
J25K Salcha River, 65.42 337 P **P** **12 45 11.5 -0.6**
baz=115,SNR=7.3
KNK Knik Glacier 65.45 333 P **P** **12 45 11.9 -0.4**
baz=111
SEW Seward 65.46 331 P **P** **12 45 11.8 -0.6**
baz=109
E27K Coleen River 65.75 341 P **P** **12 45 13.6 -0.6**
baz=120
PMR Palmer 65.82 333 P **P** **12 45 13.9 -0.7**
baz=110
PRP Porcupine Dome 65.86 337 P **P** **12 45 14.4 -0.7**
baz=115
G26K Porcupine Rive 65.88 339 IAmb IAmb 12 45 15.2
comp=Z,9.7nm,1.1s
G26K Porcupine Rive 65.88 339 P **P** **12 45 14.3 -0.6**
baz=118
RC01 Rabbit Creek A 65.92 332 P **P** **12 45 14.7 -0.6**
baz=109
HDA Harding Lake 65.95 336 IAmb IAmb 12 45 15.5
comp=Z,8.7nm,1.0s
HDA Harding Lake 65.95 336 P **P** **12 45 15.2 -0.3**
baz=113
IL31 66.07 336 IAmb IAmb 12 45 16.4
comp=Z,8.8nm,1.1s
ILAR Eielson Array 66.07 336 P **P** **12 45 15.2 -1.1**
ILAR Eielson Array 66.07 336 P **P** **12 45 14.9 -1.4**
comp=Z,4.5nm,1.0s,baz=112,slow=6.7,SNR=33
ILAR PP **PP** **12 47 40.6 -1.2**
comp=Z,0.9nm,0.9s,baz=126,slow=6.2,SNR=5.6
ILAR LR LR 13 16 35.9
comp=Z,134nm,21.6s,baz=86,slow=38
comp=Z,4.5nm,1.0s
D27M Malcolm River 66.10 342 P **P** **12 45 15.8 -0.6**
baz=121
H25L Birch Creek 66.30 338 P **P** **12 45 17.3 -0.4**
baz=115
KDAK Kodiak Island 66.31 328 P **P** **12 45 17.5 -0.4**
baz=105
M22K Willow 66.32 333 P **P** **12 45 17.6 -0.3**
baz=109
F26K Sheenjek River 66.35 340 P **P** **12 45 17.8 -0.2**
baz=118
HOM Homer 66.37 330 P **P** **12 45 17.3 -0.9**
baz=107
BMAR Burnt Mountain 66.37 339 P **P** **12 45 18.1 -0.1**
POKR Poker Plat Res 66.43 337 P **P** **12 45 18.0 -0.6**
baz=113
Q20K Shuyak Island 66.44 329 P **P** **12 45 18.4 -0.3**
baz=106
COLA College 66.49 336 P **P** **12 45 18.4 -0.5**
baz=113
MCK McKinley 66.50 335 IAmb IAmb 12 45 19.9
comp=Z,8.7nm,1.0s
MCK McKinley 66.50 335 P **P** **12 45 18.8 -0.2**
baz=111
SUA Susitna One 66.51 332 P **P** **12 45 18.6 -0.7**
baz=109
OHAK Old Harbor 66.53 327 P **P** **12 45 19.0 -0.3**
baz=104

G25K	Bearman Lake baz=115	66.61 339	P	P	12 45 19.6	-0.1
F25K	Christian Rive comp=Z,11nm,1.2s	66.81 339	IAmb	IAmb	12 45 21.5	
F25K	Christian Rive baz=116	66.81 339	P	P	12 45 20.6	-0.4
NEA2	Nenana baz=111,SNR=5.4	66.87 336	P	P	12 45 21.2	-0.2
H24K	Noodor Dome baz=113	66.88 337	P	P	12 45 20.7	-0.8
O20K	Slope Mountain baz=106	66.97 331	P	P	12 45 21.4	-0.8
TRF	Thorofare Moun comp=Z,13nm,1.1s	66.97 334	IAmb	IAmb	12 45 22.4	
TRF	Thorofare Moun baz=110	66.97 334	P	P	12 45 21.1	-1.1
E25K	Arctic Village baz=116	67.02 340	P	P	12 45 21.5	-0.8
SKT	Skwentna comp=Z,18nm,1.2s	67.02 333	IAmb	IAmb	12 45 22.7	
SKT	Skwentna baz=108,SNR=5.3	67.02 333	P	P	12 45 21.3	-1.2
G24K	Hadweenzic Riv baz=114	67.08 338	P	P	12 45 21.7	-1.0
SUMG	Summit	67.09 14	P	P	12 45 21.1	-2.0
SUMG	comp=Z,23nm,1.5s		IAmb	IAmb	12 45 32.3	
C27K	Jago River baz=119	67.13 342	P	P	12 45 21.8	-1.1
P19K	Oil Pt baz=106	67.14 330	P	P	12 45 22.4	-0.8
I23K	Minto, Yukon-K comp=Z,9.8nm,1.1s	67.19 336	IAmb	IAmb	12 45 31.7	
I23K	Minto, Yukon-K baz=111	67.19 336	P	P	12 45 22.5	-0.9
R18K	Karluk baz=104	67.23 328	P	P	12 45 22.8	-1.0
CHIR	Chirikof Islan baz=102	67.47 326	P	P	12 45 24.8	-0.5
BPAW	Bear Paw Mtn. comp=Z,7.5nm,1.0s	67.48 335	IAmb	IAmb	12 45 33.0	
BPAW	Bear Paw Mtn. baz=109,SNR=5.8	67.48 335	P	P	12 45 24.1	-1.2
H23K	Yukon River baz=112	67.51 337	P	P	12 45 25.0	-0.5
F24K	Squaw Lake baz=114	67.56 339	P	P	12 45 25.3	-0.5
PPLA	Purkeypile baz=108	67.60 334	P	P	12 45 25.4	-0.9
MLY	Manley comp=Z,6.2nm,1.0s	67.69 336	IAmb	IAmb	12 45 26.8	
MLY	Manley baz=110,SNR=5.3	67.69 336	P	P	12 45 26.0	-0.6
M20K	Styx River baz=106	67.72 332	P	P	12 45 26.0	-0.9
CAST	Castle Rocks comp=Z,15nm,1.5s	67.72 334	IAmb	IAmb	12 45 37.2	
CAST	Castle Rocks baz=108	67.72 334	P	P	12 45 25.7	-1.1
Q18K	Katmai Hardscr baz=104	67.77 329	P	P	12 45 26.5	-0.8
O19K	Port Alsworth baz=105	67.81 330	P	P	12 45 26.5	-0.9
D25K	Kavik River baz=116	67.82 341	P	P	12 45 26.3	-1.1
CHUM	Lake Minchumin baz=108	67.96 335	P	P	12 45 27.5	-0.8
E24K	Your Creek baz=113	68.00 339	P	P	12 45 28.0	-0.5
G23K	Bananza Creek baz=111	68.02 338	P	P	12 45 28.1	-0.5
N19K	Bonanza Creek baz=105	68.05 331	P	P	12 45 28.1	-0.9
P18K	Big Mountain, baz=104	68.06 329	P	P	12 45 28.1	-1.0
O18K	Koktuh Hills baz=104	68.16 330	P	P	12 45 28.6	-1.1
L20K	Farewell, AK baz=106	68.22 333	P	P	12 45 28.8	-1.2
H22K	Ishtalitna Cre baz=110	68.24 337	P	P	12 45 28.9	-1.2
R17L	Mt. Peulik Vol baz=102	68.24 327	P	P	12 45 29.5	-0.7
COLD	Coldfoot comp=Z,8.7nm,1.0s	68.28 338	IAmb	IAmb	12 45 31.4	
COLD	Coldfoot baz=111	68.28 338	P	P	12 45 29.5	-0.7
M19K	Big River Lodg baz=105	68.30 332	P	P	12 45 29.6	-0.8
E23K	Chandalar comp=Z,9.0nm,1.1s	68.38 339	IAmb	IAmb	12 45 44.1	
E23K	Chandalar baz=112	68.38 339	P	P	12 45 29.9	-1.0
D24K	Happy Valley baz=113	68.54 340	P	P	12 45 30.8	-1.0
K20K	Telida comp=Z,12nm,1.4s	68.55 334	IAmb	IAmb	12 45 40.3	
K20K	Telida baz=106	68.55 334	P	P	12 45 31.0	-1.1
L19K	White Mountain baz=105	68.58 332	P	P	12 45 30.9	-1.3
TOLK	Toolik Lake Re baz=112	68.59 340	P	P	12 45 30.6	-1.6
Q16K	King Salmon baz=102	68.62 329	P	P	12 45 31.1	-1.3
P17K	Kvichak River baz=102	68.62 329	P	P	12 45 31.2	-1.2
G22K	Bettles baz=110	68.64 338	P	P	12 45 31.7	-0.8
N18K	Kilae Creek baz=104	68.69 331	P	P	12 45 32.0	-1.0
H21K	Melozitna Rive baz=108	68.72 336	P	P	12 45 32.4	-0.6
C24K	Franklin Bluff baz=114	68.73 341	P	P	12 45 32.1	-0.9
J20K	Nowinta River baz=106	68.82 335	P	P	12 45 32.6	-1.0
M18K	Stony River baz=104	68.85 332	P	P	12 45 33.2	-0.7
O17K	Koliganek Bris baz=102	69.07 330	P	P	12 45 34.2	-1.0
D23K	Nanushuk River baz=112	69.09 340	P	P	12 45 34.5	-0.7
F22K	John River baz=110	69.09 338	P	P	12 45 34.3	-1.0
I20K	Naaghedeneel baz=106	69.13 335	P	P	12 45 34.8	-0.8
E22K	Anaktuvuk Pass baz=110	69.18 339	P	P	12 45 34.7	-1.1
G21K	Allakaket baz=108	69.26 337	P	P	12 45 35.6	-0.7
N17K	Nushagak Hills baz=102	69.28 330	P	P	12 45 35.8	-0.7
BORG	Borgarnes comp=Z,115nm,18.1s,baz=310,slow=37	69.30 25	LR	LR	13 16 29.3	
C23K	Itkillik River baz=112	69.39 341	P	P	12 45 36.4	-0.7
J19K	Poorman baz=105	69.39 334	P	P	12 45 35.7	-1.5
L18K	Granite Mounta baz=103	69.42 332	P	P	12 45 36.7	-0.7
F21K	Alatna River baz=108	69.47 338	P	P	12 45 36.7	-1.0
H20K	Anotleneega Mo baz=106	69.50 336	P	P	12 45 37.0	-0.9
CHNA	Chernabura Isl baz=98	69.53 324	P	P	12 45 37.3	-0.9
O16K	Kokwok River B baz=101	69.53 329	P	P	12 45 36.8	-1.3
TBI	Tubuai comp=Z,524nm,23.5s	69.57 239	eLR	LR	13 06 48.9	
M17K	Holitna River baz=102	69.58 331	P	P	12 45 37.5	-0.9
S14K	Fog Glacier baz=99	69.72 326	P	P	12 45 38.4	-1.1
J18K	Innoko River baz=104	69.73 334	P	P	12 45 38.2	-1.1
D22K	Ayikyak River baz=110	69.73 340	P	P	12 45 38.0	-1.2
N16K	Nishlik Lake baz=101	70.03 330	P	P	12 45 40.4	-0.9
E21K	Killik River baz=108	70.04 339	P	P	12 45 39.9	-1.2
SDPT	Sand Point baz=97	70.10 325	P	P	12 45 40.2	-1.5
H19K	Roundabout Mou baz=105	70.13 336	P	P	12 45 40.6	-1.1
L17K	Donlin baz=102	70.14 332	P	P	12 45 41.0	-0.8
M16K	Timber Creek baz=101	70.23 331	P	P	12 45 41.6	-0.9
F20K	Avaraart Lake baz=106	70.26 337	P	P	12 45 41.4	-1.0
K17K	Iditarod baz=102	70.26 333	P	P	12 45 41.5	-1.1
O15K	Ungalikthiuk R baz=99	70.33 329	P	P	12 45 42.1	-1.0
B22K	Teshekpuk Lake baz=109	70.47 341	P	P	12 45 42.8	-0.8
C21K	Knifeblade Rid baz=108	70.54 340	P	P	12 45 43.2	-1.0
G19K	Purcell Mounta baz=104	70.55 336	P	P	12 45 43.4	-0.9
L16K	Owhat River baz=103	70.60 331	P	P	12 45 44.2	-0.5
B21K	Ikpikpuk River baz=108	70.62 340	P	P	12 45 43.8	-0.8
N15K	Kwethluk River baz=100	70.63 330	P	P	12 45 44.6	-0.3
J17K	VABM Dome baz=102	70.75 333	P	P	12 45 44.7	-0.8
E20K	Nigu River baz=106	70.77 339	P	P	12 45 43.9	-1.7
H18K	Honhosa River baz=103	70.82 335	P	P	12 45 44.8	-1.2
E19K	Redstone River baz=105	70.93 338	P	P	12 45 46.1	-0.5
F19K	Shaleruckik Mo baz=104	70.98 337	P	P	12 45 46.1	-0.7
M15K	Kasigluk River baz=99	71.00 330	P	P	12 45 46.7	-0.4
S12K	Black Hills baz=96	71.04 325	P	P	12 45 46.9	-0.5
D20K	Etivluk River baz=106	71.04 339	P	P	12 45 46.7	-0.6
O14K	Tigyukauivet M baz=98	71.07 329	P	P	12 45 47.1	-0.4
G18K	Tagagawik baz=103	71.11 336	P	P	12 45 47.4	-0.3
A22K	Sinclair Lake baz=108	71.17 341	P	P	12 45 47.4	-0.5
N14K	Kuskukwak Cree baz=98	71.38 329	P	P	12 45 49.0	-0.4
J16K	Anvik River baz=100	71.41 333	P	P	12 45 48.8	-0.8
H17K	Granite Mounta baz=101	71.42 335	P	P	12 45 48.8	-0.8
D19K	Kuna River baz=104	71.52 339	P	P	12 45 48.8	-1.4
L15K	Ungalak Mounta baz=99	71.54 331	P	P	12 45 50.1	-0.3
I17K	Unalakleet baz=100	71.55 334	P	P	12 45 49.6	-0.7
B20K	Meade River baz=106	71.58 340	P	P	12 45 49.8	-0.6
M14K	Bethel comp=Z,20nm,1.1s	71.63 330	IAmb	IAmb	12 46 02.1	
M14K	Bethel baz=98	71.63 330	P	P	12 45 50.0	-0.8
K15K	Wolf Creek Mou baz=99	71.66 332	P	P	12 45 50.2	-0.9
L14K	Kuka Creek baz=98	72.06 331	P	P	12 45 52.7	-0.7
C19K	Lookout Ridge baz=103	72.18 339	P	P	12 45 53.4	-0.7
E18K	Tukpahlearik C baz=101	72.19 337	P	P	12 45 53.5	-0.7
M13K	Dall Lake baz=97	72.27 330	P	P	12 45 53.8	-0.8
H16K	Elim baz=99	72.35 334	P	P	12 45 54.4	-0.8
G16K	Koyuk River baz=99	72.52 335	P	P	12 45 55.1	-1.0
E17K	Hotham Inlet baz=100	72.59 337	P	P	12 45 56.0	-0.5
J14K	Nanvaranak Lak baz=97	72.65 332	P	P	12 45 56.1	-0.8
C18K	Utukok River baz=101	72.66 338	P	P	12 45 55.9	-1.1
A19K	Wainwright baz=102	72.93 340	P	P	12 45 58.1	-0.4
B18K	Kokolik River baz=101	73.01 339	P	P	12 45 58.8	-0.2
K13K	Kusilvak Mount baz=96	73.07 331	P	P	12 45 59.0	-0.4
D17K	Noatak River baz=99	73.18 337	P	P	12 46 00.0	0.0
C17K	DeLong Mountai baz=99	73.34 338	P	P	12 46 00.6	-0.4
UNV	Unalaska Valle baz=92	73.47 323	P	P	12 46 01.3	-0.7
F15K	North Star Dit baz=97	73.51 335	P	P	12 46 01.4	-0.6
ANM	Nome baz=96	73.68 334	P	P	12 46 02.3	-0.7
C16K	Lisburne Hills baz=97	74.11 338	P	P	12 46 05.8	+0.4
JMIC	Jaayen comp=Z,102nm,20.5s,baz=254,slow=36	75.25 19	LR	LR	13 18 55.1	
SPIA	Saint Paul Isl baz=90	75.66 326	P	P	12 46 14.9	+0.3
GAMB	Gambell baz=90	76.40 333	P	P	12 46 18.6	0.0
EKA	Eskdalemuir Ar comp=Z,0.8nm,0.6s,baz=259,slow=5.5,SNR=2.6 comp=Z,0.8nm,0.6s	77.29 36	P	P	12 46 21.2	-2.7
ESDC	Sonseca Array comp=Z,0.7nm,0.8s,baz=273,slow=5.6,SNR=6.7	77.92 52	P	P	12 46 24.5	-3.4
ESDC			LR	LR	13 17 28.0	
	comp=Z,91nm,19.3s,baz=278,slow=33 comp=Z,0.7nm,0.8s					
MDT	Midelt comp=Z,99nm,18.1s,baz=236,slow=33	78.15 59	LR	LR	13 17 14.5	
PMSA	Palmer Station comp=Z,103nm,19.7s,baz=67,slow=31	78.78 170	LR	LR	13 15 26.6	
SPITS	Spitsbergen Ar comp=Z,186nm,21.9s,baz=286,slow=36	81.18 12	LR	LR	13 22 53.8	
DBIC	Dimbokro comp=Z,84nm,20.8s,baz=308,slow=33	82.07 85	LR	LR	13 19 14.0	
NOA	NORSAR Array B comp=Z,56nm,20.9s,baz=270,slow=34	83.99 29	LR	LR	13 21 17.2	
SHEM	Shemya Is, Ala comp=Z,19nm,21.1s,baz=114,slow=34	85.13 323	LR	LR	13 22 35.3	
HFS	Hagfors comp=Z,54nm,18.5s,baz=292,slow=36	85.41 29	LR	LR	13 25 23.3	
DAVOX	Davos/Dischmat comp=Z,134nm,20.8s,baz=264,slow=32	86.69 43	LR	LR	13 19 41.3	
ARCES	ARCESS Array B comp=Z,7.4nm,1.2s,baz=297,slow=4.0,SNR=5.7	86.73 19	P	P	12 47 10.9	-2.3
ARCES			LR	LR	13 27 32.1	
	comp=Z,38nm,18.1s,baz=289,slow=37 comp=Z,7.4nm,1.2s					
CLL	Chillm	87.50 38	epP	pP	12 47 29.0	+1.7
VRAC	Vranov comp=Z,152nm,21.3s,baz=284,slow=33	90.30 39	LR	LR	13 23 37.5	
FINES	FINESS Array B comp=Z,93nm,18.0s,baz=250,slow=36	90.57 26	LR	LR	13 29 07.1	
AKASG	Malin Array Be comp=Z,83nm,19.9s,baz=240,slow=34	97.18 35	LR	LR	13 29 00.5	
MLR	Muntele Rosu comp=Z,83nm,19.9s,baz=272,slow=34	97.62 40	LR	LR	13 28 42.5	
DZM	Mont Dzumac comp=Z,71nm,24.2s	108.62 251	eLR	LR	13 24 46.9	
ZALV	Zalesovo Beam comp=Z,0.7nm,0.3s,baz=302,slow=3.8,SNR=5.2	113.94 5	PKiKP	PKiKP	12 53 07.9	-0.5
MJAR	Matsushiro Arr comp=Z,0.4nm,0.6s,baz=53,slow=1.5,SNR=1.5	114.86 320	PKP	PKPdf	12 53 12.2	+1.5
KURBB	Kurchatov Arra comp=Z,0.2nm,0.4s,baz=349,slow=2.0,SNR=5.8	116.46 9	PKP	PKiKP	12 53 12.1	-1.2
SONM	Songino Array comp=Z,1.3nm,0.9s,baz=48,slow=2.1,SNR=4.2	118.95 349	PKP	PKiKP	12 53 18.8	+0.4
KSRS	Kessa Array comp=Z,2.7nm,0.8s,baz=20,slow=1.8,SNR=11	120.21 327	PKP	PKPdf	12 53 21.0	+0.1
ASAR	Alice Springs comp=Z,1.4nm,0.8s,baz=98,slow=2.0,SNR=5.9	138.53 248	PKP	PKPdf	12 53 57.3	+1.2
WRA	Warramunga Arr comp=Z,1.7nm,1.0s,baz=92,slow=2.3,SNR=5.6	138.54 254	PKP	PKPdf	12 53 56.3	+0.2
FITZ	Fitzroy Crossi comp=Z,6.2nm,1.0s,baz=109,slow=6.0,SNR=5.2	146.90 255	PKPbc	PKPbc	12 54 13.7	+0.9
CMAR	Chiang Mai Arr comp=Z,6.1nm,0.8s,baz=13,slow=2.1,SNR=27	148.85 347	PKPbc	PKPdf	12 54 16.1	+1.9

*IDC **17** 12:42:42.3±2.5,9.°46S×120.°72E,h105km±21km, mb4.0/8, mbtmp4.3/13,MS3.2/4,Error ellipse: s-maj=37.6km s-min=9.6km az=54.0*

*DJA **17** 12:42:42.7±0.4,9.°3S±4.°×12.°1E±.°,h78km±5km,M4.4/17, mB5.2/1,mb4.4/4,MLv4.4/17,Mw(mB)4.6/1*
*NEIC **17** 12:42:42.7±1.9,9.°45S±0.°06×120.°70E±0.°09,h93km±9km, mb4.2/15,Error ellipse: s-maj=13.5km s-min=7.3km az=70.0*

ISC 17 12:42:41.8±0.6,9.°50S±0.°04×120.°74E±0.°03,h98km±7km, n83,σ1°67/92,mb4.2/12,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	Waingapu	0.47	249	P	Pn	12 42 57.7	+0.5
WSI				S	Sn	12 43 07.7	-1.0
BASI	Baing, Sumba	0.74	193	P	Pn	12 43 00.4	+1.0
BASI				S	Sn	12 43 13.8	+1.2
EDFI	Ende, Flores	1.19	52	P	Pn	12 43 04.1	-0.3
EDFI				S	Sn	12 43 19.1	-2.3
WBSI	Waikabubak, Su	1.34	264	P	Pn	12 43 06.5	+0.4
WBSI				S	Sn	12 43 23.9	-0.6
MMRI	Maumere	1.71	60		Pn	12 43 10.9	+0.4
MMRI				Sn	Sn	12 43 31.7	-0.7
MMRI	Maumere	1.71	60	P	Pn	12 43 11.1	+0.5
MMRI	Maumere	1.71	60	S	Sn	12 43 32.0	-0.4
MMRI	Maumere	1.71	60	P	Pn	12 43 11.2	+0.6
BATI	Baumata 568nm,0.3s,baz=292,slow=5.4,SNR=197	2.96	104	P	Pn	12 43 29.0	+1.9
BATI				S	Sn	12 44 04.2	+2.2
	205nm,0.4s,baz=229,slow=19,SNR=10.0						
BATI				LR	LR	12 44 47.8	
	comp=Z,154nm,19.8s,baz=192,slow=42						
BATI	Baumata	2.96	104	P	Pn	12 43 28.6	+1.5
PLAI	Plampang	3.00	283	P	Pn	12 43 28.6	+1.0
PLAI	Plampang	3.00	283	S	Sn	12 44 03.1	+0.2
PLAI	Plampang	3.00	283	P	Pn	12 43 28.9	+1.3
BSSI	Bau Bau, Buton	3.34	356	P	Pn	12 43 31.7	-0.4
SOEI	Soe	3.48	95		Pn	12 43 35.5	+1.4
SOEI				Sn	Sn	12 44 15.9	+1.3
SOEI	Soe	3.48	95	P	Pn	12 43 34.9	+0.7
SOEI	Soe	3.48	95	P	Pn	12 43 35.9	+1.7
BKSI	Bulukumba	4.19	352	P	Pn	12 43 43.6	0.0
BBSI	Bau Bau	4.38	25	P	Pn	12 43 46.5	+0.4
KAPI	Kappang	4.56	347		Pn	12 43 50.0	+1.4
KAPI	Kappang 17nm,0.4s,baz=168,slow=14,SNR=18	4.56	347	P	Pn	12 43 49.1	+0.5
KAPI				S	Sn	12 44 40.4	0.0
	25nm,0.5s,baz=198,slow=20,SNR=7.2						
KAPI				LR	LR	12 45 39.1	
	comp=Z,74nm,21.8s,baz=121,slow=39						
KAPI	Kappang	4.56	347	P	Pn	12 43 50.1	+1.5
KAPI	Kappang	4.56	347	S	Sn	12 44 39.7	-0.8
BNSI	Bone 0.2nm56nm,0.7s	5.10	353	P	Pn	12 43 57.8	+1.9
SPSI	Sidrap Palu 20nm,0.8s	5.58	350	P	Pn	12 44 02.3	-0.1
JAGI	Jajag, Banyuwa	6.59	278		Pn	12 44 14.9	-1.3
JAGI	Jajag, Banyuwa	6.59	278	P	Pn	12 44 15.6	-0.6
JAGI	Jajag, Banyuwa	6.59	278	S	Sn	12 45 29.0	-0.9
JAGI	Jajag, Banyuwa	6.59	278	P	Pn	12 44 14.2	-2.0
GMJI	Gumukmas	7.31	279	P	Pn	12 44 23.9	-2.1
FITZ	Fitzroy Crossi	9.78	151	Pn	Pn	12 44 59.5	-0.1
FITZ	Fitzroy Crossi 1.2nm,0.4s,baz=337,slow=14,SNR=23	9.78	151	P	Pn	12 44 59.3	-0.3
FITZ				S	Sn	12 46 40.6	-7.1
	20nm,0.3s,baz=0.0,slow=20,SNR=15						
FITZ	Fitzroy Crossi	9.78	151	P	Pn	12 44 59.2	-0.4
KNRA	Kununurra	9.95	129		Pn	12 45 00.6	-1.3
UGM	Wanagama	10.22	278	Pn	Pn	12 45 03.4	-2.4
UGM	Wanagama	10.22	278	P	Pn	12 45 05.8	+0.1
DRS	Darwin Rock St	10.39	107	P	Pn	12 45 07.1	-0.8
TOLI2	Tolitoli	10.54	0	Pn	Pn	12 45 10.9	+1.0
MTN	Manton Dam	10.72	109		Pn	12 45 10.9	-1.5
MTN	Manton Dam	10.72	109	P	Pn	12 45 11.2	-1.2
KDU	Kakadu	11.94	106	P	Pn	12 45 27.5	-1.3
BBJI	Bungbulang	13.11	278	P	Pn	12 45 44.7	+0.3
FAKI	Fak Fak	13.17	61	Pn	Pn	12 45 45.8	+0.7
FAKI	Fak Fak	13.17	61	P	Pn	12 45 46.8	+1.7
GIRL	Giralia	14.49	205	Pn	Pn	12 46 01.4	-0.7
SBUM	Sibu	14.59	324		P	12 46 05.4	-1.9
KKM	Kota Kinabalu	16.08	344		P	12 46 23.6	-0.4
KKM				IAmb	IAmb	12 46 25.6	
	comp=Z,12nm,1.1s						
WB0	Warramunga Arr	16.68	129		Pn	12 46 28.6	-1.1
WB0				IAmb	IAmb	12 46 30.8	
	comp=Z,8.6nm,0.7s						
WRA	Warramunga Arr	16.74	130		Pn	12 46 29.6	-0.9
WRA	Warramunga Arr comp=Z,8.9nm,0.7s,baz=305,slow=14,SNR=110	16.74	130	P	Pn	12 46 29.2	-1.3
WRA				S	Sn	12 49 22.2	-14
	comp=Z,5.8nm,0.6s,baz=310,slow=25,SNR=8.2						
WRAB	Tennant Creek	16.75	130		Pn	12 46 29.6	-0.9
WB2	Warramunga Arr	16.75	130	Pn	Pn	12 46 29.7	-0.9
WR8	Warramunga Arr	16.87	130		Pn	12 46 31.3	-0.7
WR8				IAmb	IAmb	12 46 33.4	
	comp=Z,13nm,0.8s						
WR0	Warramunga Arr	16.91	130	Pn	Pn	12 46 31.9	-0.6
WR0				IAmb	IAmb	12 46 35.9	
	comp=Z,11nm,0.8s						
MEEK	Meekatharra	17.17	186	P	Pn	12 46 36.7	+1.0
AS31	Alice Springs	18.89	140		Pn	12 46 57.2	+0.8
ASAR	Alice Springs	18.89	140		Pn	12 46 56.6	+0.2
ASAR	Alice Springs comp=Z,6.8nm,0.8s,baz=312,slow=11,SNR=43	18.89	140	P	P	12 46 54.9	+0.1
ASAR				S	S	12 50 16.1	-8.3
	comp=Z,3.7nm,0.8s,baz=317,slow=23,SNR=8.9						
AS01	Alice Springs	18.92	140	P	Pn	12 46 56.8	+0.1
MORW	Morawa	19.96	192	P	P	12 47 08.0	+1.7
QIS	Mount Isa	21.25	123	P	P	12 47 21.8	+1.5
BKNI	Bangkinang	21.91	295	P	P	12 47 29.8	+2.5
COEN	Coen	22.40	104		P	12 47 33.3	+0.8
COEN				IAmb	IAmb	12 47 55.4	
	comp=Z,9.4nm,1.1s						
COEN	Coen	22.40	104	P	P	12 47 33.7	+1.2
BBOO	Buckleboo	27.17	151		P	12 48 17.9	+1.7
BBOO				IAmb	IAmb	12 48 30.9	
	comp=Z,11nm,0.9s						
STKA	Stephens Creek	29.49	142	P	P	12 48 39.1	+2.3
STKA	Stephens Creek comp=Z,3.6nm,0.8s,baz=318,slow=12,SNR=5.0	29.49	142	P	P	12 48 37.6	+0.8
	comp=Z,3.6nm,0.8s						
CMAR	Chiang Mai Arr comp=Z,0.5nm,0.4s,baz=123,slow=7.9,SNR=4.2	35.13	322	P	P	12 49 25.7	-0.5
CMAR				PcP	PcP	12 51 54.8	-1.0
	comp=Z,0.5nm,0.5s,baz=150,slow=2.1,SNR=2.2 comp=Z,0.5nm,0.4s						
ARMA	Armidale	35.52	130	P	P	12 49 32.6	+3.0
CASY	Casey	57.14	185	P	P	12 52 19.8	+1.9
CASY				IAmb	IAmb	12 52 45.4	
	comp=Z,4.6nm,1.1s						
SONM	Songino Array comp=Z,1.3nm,0.4s,baz=165,slow=8.0,SNR=8.9 comp=Z,1.3nm,0.4s	58.48	349	P	P	12 52 26.1	-1.6
KBL	Kabul	65.66	315	P	P	12 53 16.0	-0.1
KBL				IAmb	IAmb	12 53 18.0	
	comp=Z,2.9nm,0.6s						
MKAR	Makanchi Array	65.69	332	P	P	12 53 16.1	+0.3
MKAR	Makanchi Array comp=Z,2.7nm,0.5s,baz=142,slow=8.0,SNR=33 comp=Z,2.7nm,0.5s	65.69	332	P	P	12 53 15.9	0.0
KKAR	Karatay Array	69.48	323	P	P	12 53 40.6	+0.8
ZALV	Zalesovo Beam comp=Z,2.8nm,0.4s,baz=137,slow=4.8,SNR=17 comp=Z,2.8nm,0.4s	70.12	338	P	P	12 53 42.2	-1.3
KURBB	Kurchatov Arra comp=Z,1.6nm,0.5s,baz=140,slow=5.7,SNR=20 comp=Z,1.6nm,0.5s	70.18	333	P	P	12 53 43.7	-0.2
BVAR	Borovoye Array comp=Z,2.3nm,0.7s,baz=115,slow=6.5,SNR=11 comp=Z,2.3nm,0.7s	75.55	331	P	P	12 54 15.3	-0.3
AB31	Akbulak array	78.96	324	P	P	12 54 34.3	-0.4
ABKAR	Akbulak array	78.96	324	P	P	12 54 34.1	-0.5
AKTO	Aktyubinsk comp=Z,1.1nm,0.3s,baz=98,slow=6.2,SNR=6.2 comp=Z,1.1nm,0.3s	80.61	325	P	P	12 54 44.4	+0.8
GNI	Garni comp=Z,39nm,18.3s,baz=355,slow=41	85.55	312	LR	LR	13 40 39.8	
EIL	Elat comp=Z,43nm,20.7s,baz=246,slow=37	91.02	300	LR	LR	13 39 12.7	

DJA 17 12:47:52.2±0.4,0.°N±3.°×12.°0E±.°,h10km,M4.0/9,mb4.2/1, MLv3.8/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	Palu	1.19	164	P	Pb	12 48 13.2	-1.6

PCI S Sb 12 48 29.2 -1.1
SMKI Samarinda 2.39 253 P Pn 12 48 32.4 +0.9
APSI Ampana 2.43 118 P Pn 12 48 33.6 +1.6
MRSI Marisa 2.45 84 P Pn 12 48 32.6 +0.3
TTSI Tana Toraja 3.28 174 P Pn 12 48 45.2 +1.5
LUWI Luwuk 3.51 111 P Pn 12 48 48.3 +1.4
SPSI Sidrap Palu 4.18 176 P Pn 12 48 54.9 -1.3
BNSI Bone 4.65 173 P Pn 12 49 02.1 -0.4

NIED ***17*** *12:54:45.2, 46˚.21N× 152˚.19E, h30km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.07; Mθθ1.12; Mϕϕ-1.05; Mrθ-0.25; Mθϕ-0.27; Mϕr0.80; Fault plane solution: M₀1.38000×10¹⁵ NP1: ϕs236.00000°, δ56.00000°, λ-171.00000°. NP2: ϕs141.00000°, δ83.00000°, λ-34.00000°.*
JMA ***17*** *12:54:45.2± 0.9, 46˚N-6˚× 15˚2E± ˚, h30km, MV4.9/15, KURILE ISLANDS REGION*
MOS ***17*** *12:54:47.8± 1.0, 46˚.03N× 152˚.02E, h56km, mb4.6/12, Error ellipse: s-maj=8.6km s-min=6.1km az=63.2*
SKHL ***17*** *12:54:47.9± 0.1, 46˚.10N× 152˚.20E, h55km± 5km, mb5.1/7*
NEIC ***17*** *12:54:49.4± 1.8, 46˚.0N± 0˚.1× 152˚.0E± 0˚.1, h52km± 7km, mb4.5/20, Error ellipse: s-maj=18.5km s-min=10.9km az=139.0*
IDC ***17*** *12:54:50.1± 2.7, 46˚.10N× 151˚.87E, h60km± 24km, mb3.7/22, mbtmp4.0/26, ML4.1/3, MS3.1/9, Error ellipse: s-maj=15.9km s-min=12.6km az=129.0*
ISC 17 12:54:48.0±0.5, **45˚.94N**±0˚.06× **152˚.16E**±0˚.06, **h48**km, **n179,** σ1§**69**/189, **mb4.2**/55, **MS3.0**/3, **8C-2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
KUR	**Kuril'sk**	**3.10**	**258**	*e*PN		**Pn**	**12**	**55 34.3**	**0.0**
KUR				*i* S		**Sn**	**12**	**56 09.8**	**-0.3**
KUR				pmax	pmax				
	comp=N,80nm,0.4s								
KUR				pmax	pmax				
	comp=Z,321nm,0.4s								
KUR				pmax	pmax				
	comp=E,49nm,0.2s								
KUR				smax	smax				
	comp=N,810nm,0.4s								
KUR				smax	smax				
	comp=E,326nm,0.4s								
KUR	**Kuril'sk**	**3.10**	**258**	*e*P		**Pn**	**12**	**55 35.0**	**+0.7**
KUR				AMB		AMB	12	55 35.5	
	comp=E,80nm,0.4s								
KUR				AMB		AMB	12	55 35.5	
	comp=E,50nm,0.4s								
KUR				AMB		AMB	12	55 35.5	
	comp=E,320nm,0.4s								
KUR				*e*S		**Sn**	**12**	**56 10.4**	**+0.3**
KUR				A		A	12	56 19.2	
	comp=E,810nm,0.4s								
KUR				A		A	12	56 19.2	
	comp=E,330nm,0.4s								
SHO	**Shikotan**	**4.32**	**243**	*c i*PN		**Pn**	**12**	**55 53.5**	**+2.4**
SHO				*i* S		**Sn**	**12**	**56 39.9**	**-0.2**
SHO				pmax	pmax				
	comp=N,59nm,0.4s								
SHO				pmax	pmax				
	comp=Z,100nm,0.4s								
SHO				pmax	pmax				
	comp=E,96nm,0.3s								
SHO				smax	smax				
	comp=E,209nm,0.2s								
SHO				smax	smax				
	comp=N,207nm,0.3s								
SHO	**Shikotan**	**4.32**	**243**	*e*P		**Pn**	**12**	**55 53.4**	**+2.4**
SHO				AMB		AMB	12	55 56.3	
	comp=N,60nm,0.4s								
SHO				AMB		AMB	12	55 56.3	
	comp=N,100nm,0.4s								
SHO				AMB		AMB	12	55 56.3	
	comp=N,100nm,0.4s								
SHO				*e*S		**Sn**	**12**	**56 41.0**	**+0.9**
SHO				A		A	12	56 51.1	
	comp=N,210nm,0.3s								
SHO				A		A	12	56 51.1	
	comp=N,210nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.86**	**249**	*e*PN		**Pn**	**12**	**55 59.6**	**+1.1**
YUK				*i* S		**Sn**	**12**	**56 53.3**	**-0.1**
YUK				pmax	pmax				
	comp=Z,355nm,0.3s								
YUK				pmax	pmax				
	comp=N,104nm,0.2s								
YUK				pmax	pmax				
	comp=E,166nm,0.3s								
YUK				smax	smax				
	comp=N,281nm,0.6s								
YUK				smax	smax				
	comp=E,578nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**4.86**	**249**	*e*P		**Pn**	**12**	**55 59.8**	**+1.3**
YUK				AMB		AMB	12	56 02.6	
	comp=E,100nm,0.3s								
YUK				AMB		AMB	12	56 02.6	
	comp=E,170nm,0.3s								
YUK				AMB		AMB	12	56 02.6	
	comp=E,360nm,0.3s								
YUK				*e*S		**Sn**	**12**	**56 53.6**	**+0.2**
YUK				A		A	12	56 59.0	
	comp=E,280nm,0.6s								
YUK				A		A	12	56 59.0	
	comp=E,580nm,0.6s								
GLVR	**Golovnino**	**5.21**	**247**	*e*PN		**Pn**	**12**	**56 03.8**	**+0.5**
GLVR				*i* S		**Sn**	**12**	**57 02.2**	**+0.1**
GLVR				pmax	pmax				
	comp=N,127nm,0.2s								
GLVR				pmax	pmax				
	comp=E,139nm,0.2s								
GLVR				pmax	pmax				
	comp=Z,164nm,0.2s								
GLVR				smax	smax				
	comp=N,692nm,0.6s								
GLVR				smax	smax				
	comp=E,392nm,0.4s								
GLVR	**Golovnino**	**5.21**	**247**	*e*P		**Pn**	**12**	**56 03.8**	**+0.5**
GLVR				AMB		AMB	12	56 08.1	
	comp=E,130nm,0.3s								
GLVR				AMB		AMB	12	56 08.1	
	comp=E,140nm,0.3s								
GLVR				AMB		AMB	12	56 08.1	
	comp=E,160nm,0.3s								
GLVR				*i* S		**Sn**	**12**	**57 02.2**	**+0.1**
GLVR				A		A	12	57 16.5	
	comp=E,690nm,0.5s								
GLVR				A		A	12	57 16.5	
	comp=E,390nm,0.5s								
RUSJ	**Misakicho**	**5.23**	**252**	*i* PN		**Pn**	**12**	**56 06.2**	**+2.5**
RUSJ				*i* S		**Sn**	**12**	**57 07.3**	**+4.6**
NEM2	**Nemuro 2**	**5.25**	**243**	*e*P		**Pn**	**12**	**56 02.9**	**-1.0**
NEM2				*e*S		**Sn**	**12**	**57 00.3**	**-2.8**
NMR	**Nemuro--Hokkai**	**5.26**	**243**	*e*PN		**Pn**	**12**	**56 02.9**	**-1.1**
NMR	**Nemuro--Hokkai**	**5.26**	**243**	*e*P		**Pn**	**12**	**56 03.0**	**-1.1**
JRA	**Rausu**	**5.38**	**251**	*e*P		**Pn**	**12**	**56 07.1**	**+1.4**
SKR	**Severo-Kuril's**	**5.43**	**28**	*e*PN		**Pn**	**12**	**56 05.6**	**-0.7**
SKR				pmax	pmax				
	comp=Z,60nm,0.7s								
SKR	**Severo-Kuril's**	**5.43**	**28**	*e*P		**Pn**	**12**	**56 05.2**	**-1.1**
SKR				AMB		AMB	12	56 10.0	
	comp=Z,60nm,0.6s								
SKR				*e*S		**Sn**	**12**	**57 02.7**	**-4.7**
SKR				A		A	12	57 27.9	
	comp=Z,130nm,0.5s								
SKR				A		A	12	57 27.9	
	comp=E,170nm,0.5s								
JNK	**Nakash**	**5.80**	**249**	P		**Pn**	**12**	**56 12.0**	**+0.6**
JNK				*e*S		**Sn**	**12**	**57 16.7**	**+0.1**
AKK	**Akkeshi**	**6.00**	**243**	*e*P		**Pn**	**12**	**56 13.2**	**-0.9**
JAK	**Akkeshi**	**6.10**	**244**	P		**Pn**	**12**	**56 14.6**	**-0.9**
JAK				*e*S		**Sn**	**12**	**57 21.5**	**-2.4**
JTKR	**Abashiri--Toko**	**6.18**	**254**	*e*P		**Pn**	**12**	**56 18.1**	**+1.5**
PAU	**Pauzhetka**	**6.33**	**27**	*e*P		**Pn**	**12**	**56 17.5**	**-1.1**
PAU				AMB		AMB	12	56 20.9	
	comp=Z,20nm,0.3s								
PAU				*e*S		**Sn**	**12**	**57 23.8**	**-5.7**
PAU				A		A	12	57 29.5	
	comp=Z,50nm,0.3s								
PAU				A		A	12	57 29.5	
	comp=Z,70nm,0.3s								
JAR	**Ashorobuto**	**6.55**	**249**	*e*P		**Pn**	**12**	**56 22.2**	**+0.5**
JAR				*e*S		**Sn**	**12**	**57 34.8**	**-0.2**
YSS	**Yuzhno-Sakhali**	**6.58**	**282**	*e*PN		**Pn**	**12**	**56 23.8**	**+1.7**
YSS				*e*S		**Sn**	**12**	**57 38.0**	**+2.3**
YSS				pmax	pmax				
	comp=Z,40nm,1.1s								
YSS	**Yuzhno-Sakhali**	**6.58**	**282**	*e*P		**Pn**	**12**	**56 23.5**	**+1.4**
YSS				AMB		AMB	12	56 25.3	
	comp=Z,40nm,0.6s								
YSS				*e*S		**Sn**	**12**	**57 33.5**	**-2.2**
YSS				A		A	12	57 38.9	
	comp=Z,40nm,0.3s								
YSS				A		A	12	57 38.9	
	comp=Z,50nm,0.3s								
YSS				AMS		AMS	12	58 48.2	
	comp=Z,800nm,18.0s								
JOB	**Onbets**	**6.69**	**246**	*e*P		**Pn**	**12**	**56 23.4**	**-0.2**
JOB				S		**Sn**	**12**	**57 35.8**	**-2.6**
JKK2	**Kamakawa 2**	**7.00**	**256**	P		**Pn**	**12**	**56 29.9**	**+2.1**
JKA	**Kamikawa-asahi**	**7.02**	**258**			**Pn**	**12**	**56 31.0**	**+2.8**
ASAJ	**Asahikawa**	**7.02**	**258**	P		**Pn**	**12**	**56 30.0**	**+1.8**
	comp=Z,6.1nm,0.3s,baz=71,slow=14,SNR=56								
ASAJ				S		**Sn**	**12**	**57 41.5**	**-5.0**
	comp=Z,12nm,0.7s,baz=43,slow=19,SNR=1.2								
ASAJ				LR		LR	12	59 07.4	
	comp=Z,169nm,18.6s,baz=38,slow=38								
	comp=Z,18nm,0.3s								
ASAJ	**Asahikawa**	**7.02**	**258**	PN		**Pn**	**12**	**56 31.0**	**+2.9**
JCH	**Churui**	**7.14**	**245**	*e*P		**Pn**	**12**	**56 28.8**	**-0.9**
JCH				S		**Sn**	**12**	**57 46.0**	**-3.4**
JAB	**Ashibetsu**	**7.49**	**255**	P		**Pn**	**12**	**56 37.0**	**+2.5**
ERM	**Erimo**	**7.59**	**242**			**Pn**	**12**	**56 36.3**	**+0.4**
ERM	**Erimo**	**7.59**	**242**	*i* PN		**Pn**	**12**	**56 36.9**	**+1.0**
JNBK	**Urakawa-nobuka**	**7.70**	**245**	P		**Pn**	**12**	**56 36.3**	**-1.1**
TYV	**Tymovskoe**	**8.02**	**311**	*e*PN		Pn	12	56 50.1	+8.4
TYV				pmax	pmax				
	comp=Z,100nm,3.7s								
TYV				pmax	pmax				
	comp=Z,10.0nm,1.0s								
TYV	**Tymovskoe**	**8.02**	**311**	*e*P		**Pn**	**12**	**56 42.1**	**+0.4**
TYV				AMB		AMB	12	56 43.8	
	comp=Z,10.0nm,0.5s								
PEA0B	**Petropavlovsk-**	**8.03**	**25**	Pn		**Pn**	**12**	**56 45.0**	**+3.1**
PEA0B	**Petropavlovsk-**	**8.03**	**25**	PN		**Pn**	**12**	**56 45.0**	**+3.1**
PETK	**Petropavlovsk-**	**8.03**	**25**	Pn		**Pn**	**12**	**56 43.1**	**+1.2**
PETK	**Petropavlovsk-**	**8.03**	**25**	P		**Pn**	**12**	**56 42.7**	**+0.8**
	comp=Z,2.2nm,0.5s,baz=202,slow=14,SNR=9.4								
PETK				S		**Sn**	**12**	**58 04.8**	**-6.4**
	comp=Z,2.2nm,0.7s,baz=251,slow=13,SNR=1.5								
PETK				LR		LR	12	59 45.6	
	comp=Z,76nm,20.6s,baz=209,slow=37								
PETK	**Petropavlovsk-**	**8.03**	**25**	PN		**Pn**	**12**	**56 43.1**	**+1.2**
PET	**Petropavlovsk**	**8.25**	**28**	*i* PN		**Pn**	**12**	**56 47.0**	**+2.1**
PET	**Petropavlovsk**	**8.25**	**28**	*e*P		**Pn**	**12**	**56 43.9**	**-1.0**
PET				AMB		AMB	12	56 52.0	
	comp=Z,10.0nm,0.8s								
JANG	**Nango**	**9.56**	**238**	P		**Pn**	**12**	**56 59.5**	**-3.5**
JANG				*e*S		**Sn**	**12**	**58 40.8**	**-8.2**
JTM	**Tenmabayashi**	**9.58**	**241**			**Pn**	**12**	**57 01.9**	**-1.3**
JTH	**Tanohata**	**9.64**	**235**	*e*S		Sn	12	58 40.6	-10
JMM	**Marumori**	**11.69**	**230**	Pn		**Pn**	**12**	**57 29.6**	**-2.5**
MA2	**Magadan**	**13.69**	**357**	LR		LR	13	02 55.6	
	comp=Z,67nm,18.7s,baz=148,slow=36								
MA2	**Magadan**	**13.69**	**357**	*i* P		**Pn**	**12**	**57 58.8**	**-0.4**
MAJO	**Matsushiro**	**14.07**	**233**			**Pn**	**12**	**58 02.4**	**-2.1**
MAJO	**Matsushiro**	**14.07**	**233**	P		**Pn**	**12**	**58 02.4**	**-2.1**
MJAR	**Matsushiro Arr**	**14.07**	**233**	Pn		**Pn**	**12**	**58 03.1**	**-1.4**
MJAR	**Matsushiro Arr**	**14.07**	**233**	P		**Pn**	**12**	**58 02.1**	**-2.4**
	comp=Z,2.3nm,0.8s,baz=29,slow=16,SNR=7.6								
MJAR				LR		LR	13	04 21.1	
	comp=Z,48nm,18.5s,baz=64,slow=41								
MJAR	**Matsushiro Arr**	**14.07**	**233**	P		**Pn**	**12**	**58 03.1**	**-1.4**
USA0B	**Ussuriysk Arra**	**14.36**	**270**	*e*P		**Pn**	**12**	**58 08.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**14.36**	**270**	P		Pn	12	58 02.5	-5.8
	comp=Z,1.9nm,0.5s,baz=81,slow=13,SNR=8.7								
USRK				LR		LR	13	03 24.9	
	comp=Z,93nm,19.9s,baz=68,slow=36								
VLA	**Vladivostok**	**14.73**	**266**	*e*P		**Pn**	**12**	**58 14.2**	**+0.9**
JGF	**Kuroka**	**15.22**	**232**	Pn		**Pn**	**12**	**58 19.0**	**-0.7**
SHEM	**Shemya Is, Ala**	**15.79**	**57**	LR		LR	13	02 58.1	
	comp=Z,61nm,20.3s,baz=196,slow=31								
SEY	**Seymchan**	**17.03**	**0**	P		**Pn**	**12**	**58 41.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=198,slow=20,SNR=5.1								
	comp=Z,3.6nm,1.1s								
SEY	**Seymchan**	**17.03**	**0**	*i* P		**P**	**12**	**58 43.4**	**-0.3**
SEY				pmax	pmax				
	comp=Z,6.0nm,1.2s								
KSRS	**Korea Array**	**19.93**	**253**	P		**P**	**12**	**59 14.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=14								
	comp=Z,2.4nm,0.7s								
KSRS	**Korea Array**	**19.93**	**253**	*e*P		**Pn**	**12**	**59 16.9**	**-0.8**
YAK	**Yakutsk**	**20.66**	**329**	LR		LR	13	07 39.1	
	comp=Z,46nm,18.2s,baz=128,slow=38								
YAK	**Yakutsk**	**20.66**	**329**	*e*P		Pn	12	59 28.7	+2.5
YAK				pmax	pmax				
	comp=Z,11nm,0.9s								
YAK				pmax	pmax				
	comp=N,4.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.2s								
TJN	**Taejon**	**20.90**	**252**	*e*P		**P**	**12**	**59 27.0**	**+0.8**
BILL	**Bilibino**	**23.33**	**13**	*e*P		**P**	**12**	**59 52.4**	**+0.9**
BILL				pmax	pmax				
	comp=Z,6.0nm,1.3s								
BILL	**Bilibino**	**23.33**	**13**	*e*P		**P**	**12**	**59 52.4**	**+0.9**
TIXI	**Tiksi**	**28.07**	**345**	*i* P		**P**	**13**	**00 35.3**	**+0.9**
TIXI				pmax	pmax				
	comp=Z,6.0nm,0.9s								
TIXI	**Tiksi**	**28.07**	**345**	*e*P		**P**	**13**	**00 35.3**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**28.82**	**150**	T		T	13	31 04.6	
	baz=339,slow=76,SNR=1587								
H11N1	**WAKE ISLAND Hy**	**28.84**	**150**	T		T	13	31 05.2	
	baz=339,slow=76,SNR=850								
H11N3	**WAKE ISLAND Hy**	**28.84**	**150**	T		T	13	31 05.4	
	baz=339,slow=76,SNR=798								
H11S1	**WAKE ISLAND Hy**	**29.89**	**151**	T		T	13	32 26.8	
	baz=339,slow=76,SNR=910								
H11S3	**WAKE ISLAND Hy**	**29.90**	**151**	T		T	13	32 27.1	
	baz=339,slow=76,SNR=489								
H11S2	**WAKE ISLAND Hy**	**29.91**	**151**	T		T	13	32 28.0	
	baz=339,slow=76,SNR=598								
ULN	**Ulaanbaatar**	**30.55**	**290**	*i* P		**P**	**13**	**00 55.8**	**-1.1**
SONM	**Songino Array**	**30.99**	**290**	LR		LR	13	13 21.4	
	comp=Z,45nm,19.5s,baz=126,slow=36								
C18K	**Utukok River**	**32.65**	**30**	P		**P**	**13**	**01 15.9**	**+0.8**
C18K				IAmb		IAmb	13	01 21.7	
	comp=Z,13nm,1.2s								
G18K	**Tagagawik**	**32.82**	**35**	P		**P**	**13**	**01 17.9**	**+1.4**
G18K				IAmb		IAmb	13	01 37.4	
	comp=Z,6.4nm,1.3s								
B20K	**Meade River**	**34.45**	**28**	P		**P**	**13**	**01 31.8**	**+1.3**
G23K	**Bananza Creek**	**36.39**	**35**	P		**P**	**13**	**01 47.6**	**+0.3**
COLA	**College**	**37.18**	**38**	*i* P		**P**	**13**	**01 54.7**	**+0.8**
COLA				pmax	pmax				
	comp=Z,3.0nm,1.2s								
ILAR	**Eielson Array**	**37.59**	**38**	P		**P**	**13**	**01 57.2**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=273,slow=8.6,SNR=4.4								
	comp=Z,0.2nm,0.5s								
ILAR	**Eielson Array**	**37.59**	**38**	*e*P		**P**	**13**	**01 57.5**	**0.0**
BCAR	**Beaver Creek A**	**39.94**	**40**	P		**P**	**13**	**02 19.4**	**+2.2**
ZALV	**Zalesovo Beam**	**42.55**	**306**	P		**P**	**13**	**02 37.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=70,slow=8.3,SNR=2.0								
ZALV				PcP		**PcP**	**13**	**04 30.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=108,slow=1.8,SNR=4.4								
	comp=Z,0.3nm,0.3s								
MK31	**Makanchi Array**	**46.73**	**298**	*i* P		**P**	**13**	**03 11.4**	**-0.7**
MKAR	**Makanchi Array**	**46.73**	**298**	P		**P**	**13**	**03 11.2**	**-0.9**
MKAR	**Makanchi Array**	**46.73**	**298**	P		**P**	**13**	**03 09.9**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=64,slow=6.6,SNR=6.0								
MKAR				PcP		**PcP**	**13**	**04 45.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=53,slow=3.1,SNR=7.4								
	comp=Z,0.7nm,0.7s								
MKAR	**Makanchi Array**	**46.73**	**298**	P		**P**	**13**	**03 11.2**	**-0.9**
KURK	**Kurchatov**	**47.27**	**304**	*i* P		**P**	**13**	**03 15.9**	**-0.3**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KURK	**Kurchatov**	**47.27**	**304**	*e*P		**P**	**13**	**03 15.9**	**-0.3**
KURBB	**Kurchatov Arra**	**47.36**	**304**	P		**P**	**13**	**03 14.3**	**-2.6**
	comp=Z,0.6nm,0.6s,baz=72,slow=8.4,SNR=7.8								
KURBB				PcP		**PcP**	**13**	**04 47.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=72,slow=4.1,SNR=5.1								
	comp=Z,0.6nm,0.6s								
BVAR	**Borovoye Array**	**50.87**	**310**	PcP		**PcP**	**13**	**05 00.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=66,slow=7.0,SNR=1.8								
BRVK	**Borovoye**	**50.91**	**310**	*i* P		**P**	**13**	**03 44.2**	**+0.2**
BRVK	**Borovoye**	**50.91**	**310**	*e*P		**P**	**13**	**03 44.2**	**+0.2**
CM31	**Chiang Mai Arr**	**51.54**	**256**	P		**P**	**13**	**03 50.8**	**+1.7**
CM31				IAmb		IAmb	13	03 51.5	
	comp=Z,5.7nm,0.9s								
CMAR	**Chiang Mai Arr**	**51.54**	**256**	P		**P**	**13**	**03 51.0**	**+1.8**
CMAR	**Chiang Mai Arr**	**51.54**	**256**	P		**P**	**13**	**03 50.1**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=44,slow=7.4,SNR=14								
	comp=Z,2.3nm,0.8s								
CMAR	**Chiang Mai Arr**	**51.54**	**256**	*e*P		**P**	**13**	**03 50.8**	**+1.7**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SHL	**Shillong**	**51.69**	**268**	P		**P**	**13**	**03 50.4**	**0.0**
SHL	**Shillong**	**51.69**	**268**	P		**P**	**13**	**03 50.4**	**0.0**
SHL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
AAK	**Ala-Archa**	**53.60**	**296**	*i* P		**P**	**13**	**04 02.9**	**-1.4**
AAK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KSH	**Kashi**	**54.35**	**292**	P		**P**	**13**	**04 13.8**	**+4.0**
KSH				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ARTI	**Arti**	**55.27**	**318**	*c i*P		**P**	**13**	**04 16.1**	**+0.1**
ARTI							13	05 15.3	
ARTI							13	06 15.0	
ARTI				S		**S**	**13**	**11 56.6**	**+0.6**
ARTI				SS		**SS**	**13**	**15 37.1**	**-2.9**
ARTI				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**58.40**	**341**	P		**P**	**13**	**04 37.8**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=41,slow=5.6,SNR=4.1								
	comp=Z,0.6nm,0.5s								
ARCES	**ARCESS Array B**	**58.40**	**341**	*e*P		**P**	**13**	**04 38.8**	**+0.8**
ARCES				pmax	pmax				
	comp=Z,1.0nm,0.9s								
AB31	**Akbulak array**	**58.44**	**310**	P		**P**	**13**	**04 38.8**	**+0.2**
ABKAR	**Akbulak array**	**58.44**	**310**	P		**P**	**13**	**04 38.9**	**+0.3**
SIMJ	**Simiganj**	**59.29**	**295**	P		**P**	**13**	**04 44.8**	**0.0**
LRM	**Limekiln Ridge**	**62.21**	**52**	P		**P**	**13**	**05 06.2**	**+1.4**
BOZ	**Bozeman (W)**	**62.80**	**52**	P		**P**	**13**	**05 10.9**	**+2.4**
BOZ				IAmb		IAmb	13	05 11.0	
	comp=Z,1.1nm,0.6s								
BOZ	**Bozeman (W)**	**62.80**	**52**	P		**P**	**13**	**05 10.9**	**+2.4**
BOZ				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NVAR	**Mina Array Bea**	**63.40**	**61**	P		**P**	**13**	**05 15.1**	**+2.4**
NVAR	**Mina Array Bea**	**63.40**	**61**	P		**P**	**13**	**05 14.7**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=307,slow=8.0,SNR=9.4								
	comp=Z,0.8nm,0.7s								
FINES	**FINESS Array B**	**64.49**	**335**	P		**P**	**13**	**05 17.8**	**-1.3**
FINES	**FINESS Array B**	**64.49**	**335**	P		**P**	**13**	**05 17.4**	**-1.7**
	comp=Z,1.7nm,0.5s,baz=35,slow=6.5,SNR=17								
	comp=Z,1.7nm,0.5s								
FINES	**FINESS Array B**	**64.49**	**335**	*e*P		**P**	**13**	**05 17.8**	**-1.3**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
TPAW	**Teton Pass**	**64.51**	**53**	P		**P**	**13**	**05 18.7**	**-1.3**
TPAW				IAmb		IAmb	13	05 23.7	
	comp=Z,2.0nm,0.8s								
PD31	**Pinedale Array**	**65.76**	**53**	P		**P**	**13**	**05 29.2**	**+1.2**
PDAR	**Pinedale Array**	**65.76**	**53**	P		**P**	**13**	**05 29.7**	**+1.6**
PDAR	**Pinedale Array**	**65.76**	**53**	P		**P**	**13**	**05 29.4**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=309,slow=3.8,SNR=10								
	comp=Z,1.1nm,0.7s								
WB0	**Warramunga Arr**	**67.35**	**198**	P		**P**	**13**	**05 39.1**	**+1.1**
WB0				IAmb		IAmb	13	06 08.7	
	comp=Z,7.4nm,1.4s								
WR0	**Warramunga Arr**	**67.51**	**198**	P		**P**	**13**	**05 39.8**	**+0.8**
WR0				IAmb		IAmb	13	06 04.4	
	comp=Z,11nm,1.4s								
WR8	**Warramunga Arr**	**67.51**	**198**	P		**P**	**13**	**05 40.1**	**+1.1**
WR8				IAmb		IAmb	13	06 11.7	
	comp=Z,12nm,1.5s								
WRA	**Warramunga Arr**	**67.53**	**198**	P		**P**	**13**	**05 39.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=12,slow=6.6,SNR=12								
	comp=Z,0.4nm,0.5s								
WRA	**Warramunga Arr**	**67.53**	**198**	*e*P		**P**	**13**	**05 40.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**68.12**	**207**	P		**P**	**13**	**05 43.6**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=24,slow=10.0,SNR=2.6								
	comp=Z,2.6nm,0.9s								
NB2	**NORSAR Subarra**	**68.78**	**341**	P		**P**	**13**	**05 45.9**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=26,slow=6.5								
NB2	**NORSAR Subarra**	**68.78**	**341**	P		**P**	**13**	**05 46.2**	**-0.4**
NOA	**NORSAR Array B**	**68.78**	**341**	P		**P**	**13**	**05 46.1**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=28,slow=6.4,SNR=8.7								
NOA				LR		LR	13	38 41.9	
	comp=Z,9.1nm,18.1s,

comp=Z,2.8nm,1.3s
MMAI Mount Meron Ar 82.85 311 P **P** **13 07 05.2 -2.2**
comp=Z,1.3nm,0.5s,baz=50,slow=4.5,SNR=4.1
comp=Z,1.3nm,0.5s
QSPA South Pole Qui 135.68 180 PKP **PKiKP** **13 14 04.0 +0.6**
comp=Z,0.8nm,1.1s,baz=315,slow=1.4,SNR=5.7
H03N2 Juan Fernandez 139.40 91 T T 15 49 43.9
baz=306,slow=77,SNR=26
H03N3 Juan Fernandez 139.42 91 T T 15 49 42.7
baz=306,slow=77,SNR=17
H03N1 Juan Fernandez 139.42 91 T T 15 49 51.7
baz=306,slow=77,SNR=22
SNAA Sanae 151.59 196 PKPbc **PKPbc** **13 14 34.7 -0.8**
comp=Z,0.8nm,0.7s,baz=120,slow=20,SNR=5.9

*PRE **17** 12:57:00.5±0.9, 25°.95S×29°.30E, h0km, ML2.6, Suspected explosion*
*BUL **17** 12:57:03.5±0.7, 25°.96S×29°.22E, h10km, MD3.2*
ISC 17 12:57:00.2±1.0, **25°.97S**±0°.06×**29°.26E**±0°.04, **h0**km, **n10, σ1s48/18, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRLN	**Carolina, Mapu**	**0.69**	**92**	*eP*		**Pg**	**12 57 13.3**	**-0.1**
CRLN				*eS*		**Sg**	**12 57 21.7**	**-0.6**
CRLN				IAML			12 57 30.6	
	comp=Z,98nm,0.7s							
PILG	**Pilgrimsrest,**	**1.67**	**52**	*eP*		**Pb**	**12 57 31.9**	**-0.1**
PILG				*eS*		**Sb**	**12 57 53.6**	**-0.1**
PILG				IAML			12 57 58.3	
	comp=Z,145nm,0.6s							
LEPH	**Lephalale, Lim**	**2.49**	**327**	*eP*		**Pn**	**12 57 43.5**	**+1.4**
LEPH				*eS*		**Sn**	**12 58 13.8**	**+0.6**
LEPH				IAML			12 58 22.0	
	comp=Z,51nm,0.4s							
MOPA	**Mopani**	**3.12**	**39**	*i* P		**Pn**	**12 57 52.3**	**+1.6**
MOPA				*i* S		**Sn**	**12 58 28.9**	**+0.1**
LBTB	**Lobatse**	**3.44**	**285**	*eP*		**Pn**	**12 57 57.0**	**+1.8**
LBTB				*eS*		**Sn**	**12 58 37.0**	**+0.2**
LBTB				IAML			12 58 49.3	
	comp=Z,40nm,0.3s							
LBTB	**Lobatse**	**3.44**	**285**	*i* P		**Pn**	**12 57 56.0**	**+0.8**
LBTB				*i* S		**Sn**	**12 58 35.0**	**-1.8**
MUSN	**Musina, Limpop**	**3.71**	**9**	*i* P		**Pn**	**12 57 59.9**	**+1.1**
MUSN				*i* S		**Sn**	**12 58 42.2**	**-1.1**
BOSA	**Boshof**	**4.43**	**233**	*i* P		**Pn**	**12 58 09.9**	**+1.1**
BOSA				*i* S		**Sn**	**12 58 59.3**	**-1.8**
BLWY	**Bulawayo**	**5.84**	**354**	*i* P		**Pn**	**12 58 29.0**	**+0.8**
BLWY				*i* S		**Sn**	**12 59 32.3**	**-3.6**
KRI	**Karoi**	**9.10**	**2**	*i* P		Pn	12 59 05.5	-7.6
KRI				*i* S		Sn	13 00 35.5	-21

*AEIC **17** 12:59:03.0±1.1, 56°.09N±0°.08×161°.45W±0°.09, h200km±5km, Error ellipse: s-maj=10.9km s-min=7.5km az=176.0*
NEIC 17 12:59:02.1±0.6, **56°.15N**±0°.08×**161°.5W**±0°.1, **h198**km±7km, **ML2.7**/6, **ML2.3**(AEIC), **Error ellipse: s-maj=11.7km s-min=8.9km az=161.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
S12K	**Black Hills**	**0.55**	**215**			Pn	12 59 29.2	0.0
S12K				IAML			12 59 50.3	
	comp=E,54nm,0.6s							
S12K	**Black Hills**	**0.55**	**215**			Sn	12 59 49.7	-0.3
PS1A	**Pavlof South-1**	**0.74**	**191**			Pn	12 59 30.2	+0.1
PS1A						Sn	12 59 51.6	0.0
PN7A	**Pavlof North-7**	**0.77**	**201**			Pn	12 59 30.2	-0.2
PN7A						Sn	12 59 52.2	+0.1
PS4A	**Pavlof South-4**	**0.83**	**194**			Pn	12 59 29.8	-0.7
PS4A						Sn	12 59 52.2	-0.3
SDPT	**Sand Point**	**0.99**	**144**			Pn	12 59 31.5	0.0
SDPT	**Sand Point**	**0.99**	**144**			Sn	12 59 53.7	-0.5
SDPT				IAML			12 59 54.6	
	comp=N,60nm,0.5s							
SDPT				IAML			12 59 54.9	
	comp=E,42nm,0.9s							
VNFG	**Fog Glacier, M**	**1.10**	**82**			Pn	12 59 33.1	+0.8
VNFG	**Fog Glacier, M**	**1.10**	**82**	IAML			13 00 55.5	
	comp=E,112nm,0.9s							
DT1	**Dutton Round H**	**1.14**	**203**			Pn	12 59 32.6	0.0
DT1						Sn	12 59 56.2	+0.1
CNBA	**Chernabura Isl**	**1.72**	**140**			Pn	12 59 37.5	-0.3
CNBA					Sn	Sn	13 00 03.5	-1.7
CHGN	**Chignik**	**1.73**	**84**		Pn	Pn	12 59 37.9	+0.2
O14K	**Tigyukauivet M**	**3.11**	**2**		Pn	Pn	12 59 52.6	-0.2
O15K	**Ungalikthiuk R**	**3.17**	**16**		Pn	Pn	12 59 53.3	-0.1
P16K	**Nushagak River**	**3.45**	**32**		Pn	Pn	12 59 57.5	+0.7
UNV	**Unalaska Valle**	**3.69**	**233**		Pn	Pn	12 59 59.6	-0.3
N14K	**Kuskokwak Cree**	**3.78**	**359**		Pn	Pn	13 00 00.7	-0.2
O16K	**Kokwok River B**	**3.90**	**26**		Pn	Pn	13 00 02.2	-0.2
N15K	**Kwethluk River**	**4.10**	**10**		Pn	Pn	13 00 04.9	+0.1
M14K	**Bethel**	**4.62**	**357**		Pn	Pn	13 00 11.1	-0.3
OHAK	**Old Harbor**	**4.66**	**73**		Pn	Pn	13 00 11.7	-0.2
M16K	**Timber Creek**	**5.06**	**14**		Pn	Pn	13 00 17.2	+0.1
KDAK	**Kodiak Island**	**5.15**	**68**		Pn	Pn	13 00 18.4	+0.2
L14K	**Kuka Creek**	**5.24**	**354**		Pn	Pn	13 00 19.0	-0.3
M17K	**Holitna River**	**5.67**	**20**		Pn	Pn	13 00 25.4	+0.5
SEW	**Seward**	**7.51**	**53**		Pn	Pn	13 00 48.8	+0.1
PWL	**Port Wells**	**8.35**	**50**		Pn	Pn	13 00 59.6	-0.1
HIN	**Hinchinbrook I**	**8.97**	**56**		Pn	Pn	13 01 07.8	0.0
SCM	**Sheep Creek Mo**	**9.26**	**46**		Pn	Pn	13 01 11.0	-0.6
KLU	**Klutina**	**9.68**	**50**		Pn	Pn	13 01 16.4	-0.7

*HEL **17** 13:00:00.7±0.1, 67°.94N×25°.86E, h0km, ML1.5, Suspected explosion*
*IDC **17** 13:00:02.5±3.9, 68°.01N×25°.82E, h0km, Error ellipse: s-maj=32.2km s-min=22.1km az=91.0*
*UPP **17** 13:00:02.8±0.9, 67°.89N×25°.49E, h0km, ML1.5, Presumed earthquake*
ISC 17 12:59:58.4±1.2, **67°.91N**±0°.02×**25°.94E**±0°.03, **h2**km±11km, **n33, σ0s73/51, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HEF	**Hetta**	**0.99**	**301**	*eP*		**Pb**	**13 00 18.0**	**-0.2**
HEF	**Hetta**	**0.99**	**301**	PG		**Pb**	**13 00 17.8**	**-0.4**
	baz=116							
HEF				MSG			13 00 29.7	
	comp=Z,3.9nm,0.2s							
HEF				SG		**Sb**	**13 00 30.4**	**-1.2**
KLF	**Kolari**	**1.02**	**229**	PG		**Pn**	**13 00 18.7**	**-1.0**
	baz=40							
KLF				MSG			13 00 31.8	
	comp=Z,3.4nm,0.2s							
KLF				SG		**Sg**	**13 00 32.2**	**+1.0**
RAJF	**Raja-Jooseppi**	**1.05**	**56**	PG		**Pn**	**13 00 20.2**	**+0.1**
RAJF				SB		**Sn**	**13 00 33.9**	**-1.4**
VRF	**Varrio**	**1.40**	**95**	PN		Pg	13 00 27.7	+2.4
	baz=279							
VRF				MSG			13 00 43.7	
	comp=Z,3.8nm,0.2s							
VRF				SG		**Sn**	**13 00 45.5**	**+1.5**
PAJU	**Pajala**	**1.41**	**232**	P		**Pg**	**13 00 25.9**	**+0.5**
PAJU				S		**Sb**	**13 00 44.2**	**+0.4**
PAJU	**Pajala**	**1.41**	**232**	PG		**Pg**	**13 00 26.1**	**+0.7**
	baz=44							
PAJU				SG		**Sg**	**13 00 44.6**	**+0.9**
KTK1	**Kautokeino**	**1.49**	**319**	*eP*		**Pb**	**13 00 27.1**	**+0.4**
KTK1	**Kautokeino**	**1.49**	**319**	PG		**Pb**	**13 00 27.0**	**+0.2**
KTK1				SG		**Sn**	**13 00 46.6**	**+0.5**
LANU	**Lannavaara**	**1.49**	**277**	P		**Pn**	**13 00 27.1**	**+0.3**
LANU				S		**Sn**	**13 00 46.5**	**+0.3**
LANU	**Lannavaara**	**1.49**	**277**	PG		**Pb**	**13 00 27.2**	**+0.3**
LANU				SG		**Sn**	**13 00 46.8**	**+0.5**
MASU	**Masugnsbyn**	**1.57**	**255**	P		**Pb**	**13 00 28.7**	**+0.5**
MASU				S		**Sb**	**13 00 49.3**	**+0.8**
ARA0	**ARCESS Array S**	**1.64**	**355**	PN		**Pg**	**13 00 30.2**	**+0.4**
	baz=172							
ARA0				SN		**Sb**	**13 00 50.8**	**+0.5**
ARCES	**ARCESS Array B**	**1.64**	**355**	Pg		**Pg**	**13 00 30.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=173,slow=15,SNR=90							
ARCES				Lg		Lg	13 00 50.9	
	comp=Z,0.8nm,0.3s,baz=177,slow=26,SNR=18							
KEV	**Kevo**	**1.89**	**11**	PG		**Pg**	**13 00 34.4**	**-0.3**
KEV				SG		**Sg**	**13 00 58.2**	**-0.9**
RANF	**Ranua**	**1.94**	**170**	PG		**Pg**	**13 00 36.1**	**+0.6**
	baz=353							
RANF				SG		**Sg**	**13 01 01.2**	**+0.6**
TOF	**Tornio**	**1.95**	**200**	PG		**Pg**	**13 00 36.1**	**+0.4**
TOF				MSG			13 00 59.0	
	comp=Z,2.6nm,0.2s							
TOF				SG		**Sg**	**13 01 01.6**	**+0.7**
ERTU	**Ertsjaerv**	**2.00**	**229**	P		**Pg**	**13 00 36.4**	**-0.3**
ERTU	**Ertsjaerv**	**2.00**	**229**	PG		**Pg**	**13 00 36.3**	**-0.3**
ERTU				SG		**Sg**	**13 01 02.4**	**-0.2**
OLKF	**Oulanka, Finla**	**2.10**	**138**	PG		**Pg**	**13 00 38.8**	**+0.3**
OLKF				MSG			13 01 03.9	
	comp=Z,2.2nm,0.2s							
OLKF				SG		**Sg**	**13 01 06.9**	**+1.2**
KUA	**Kurravaara**	**2.12**	**274**	P		**Pb**	**13 00 37.2**	**-0.2**
KIF	**Kilpisjarvi**	**2.19**	**302**	PG		**Pb**	**13 00 39.0**	**+0.3**
KIF				MSG			13 01 05.0	
	comp=Z,2.5nm,0.2s							
KIF				SG		**Sb**	**13 01 06.7**	**+0.6**
KOVU	**Salmi**	**2.19**	**281**	P		**Pb**	**13 00 38.6**	**-0.2**
DUNU	**Dundret**	**2.21**	**251**	P		**Pb**	**13 00 39.3**	**+0.2**
KALU	**Kalix**	**2.30**	**207**	PG		**Pg**	**13 00 41.6**	**-0.9**
KALU				SG		**Sg**	**13 01 11.5**	**-0.7**
MSF	**Maaselka**	**2.35**	**147**	PG		**Pg**	**13 00 43.1**	**-0.4**
	baz=331							
MSF				SG		**Sg**	**13 01 14.1**	**+0.1**
KU2	**Taivalkoski**	**2.39**	**157**	PG		**Pg**	**13 00 43.9**	**-0.4**
KU2				SG		**Sg**	**13 01 15.4**	**+0.2**
RATU	**Laukkuluspa**	**2.41**	**271**	P		**Pb**	**13 00 41.5**	**-0.9**
RATU				S		**Sb**	**13 01 11.9**	**-0.5**
KU6	**Riekki**	**2.45**	**139**	PG		**Pg**	**13 00 44.9**	**-0.4**
KU6				MSG			13 01 14.3	
	comp=Z,3.7nm,0.2s							
KU6				SG		**Sg**	**13 01 17.1**	**0.0**
OUL	**Oulu**	**2.84**	**180**	SG		**Sg**	**13 01 27.2**	**-2.4**
I37NO	**I37NO**	**2.94**	**297**	I		I	13 17 50.0	
	comp=Z,0.2nm,0.8s,baz=109,slow=318,SNR=20							
I43RU	**DUBNA INFRASON**	**2.36**	**150**	I		I	14 15 30.0	
	baz=340,slow=322,SNR=1.3							
I26DE	**FREYUNG INFRAS**	**20.09**	**204**	I		I	15 00 20.0	
	baz=14,slow=328,SNR=1.2							

*IDC **17** 13:49:17.2±1.1, 2°.60S×141°.04E, h0km, mb3.7/7, mbtmp3.7/8, ML3.7/1, MS3.3/6, Error ellipse: s-maj=20.7km s-min=8.1km az=13.0*
*DJA **17** 13:49:21.3±0.4, 3°.5±5°×14°.1E±°, h10km, M3.9/5, MLv3.9/5*
ISC 17 13:49:20.3±1.9, **2°.66S**±0°.07×**140°.66E**±0°.09, **h16**km±10km, **n20, σ1s93/19, mb3.7/7, MS3.3/3, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**0.15**	**17**	Pg		**Pb**	**13 49 24.7**	**-0.1**
	3μm,0.3s,baz=87,slow=18,SNR=6216							
JAY				Lg		Lg	13 49 28.0	
	4μm,0.3s,baz=86,slow=19,SNR=114							
JAY	**Jayapura**	**0.15**	**17**	P		**Pb**	**13 49 25.6**	**+0.8**
JAY				S		**Sb**	**13 49 28.0**	**+0.2**
GENI	**Genyem**	**0.50**	**278**	P		**Pg**	**13 49 30.2**	**-0.1**
GENI				S		**Sg**	**13 49 35.8**	**-1.2**
SMPI	**Sarmi**	**2.06**	**289**	P		**Pn**	**13 49 54.1**	**-0.2**
SMPI				S		**Sn**	**13 50 19.6**	**0.0**
WAMI	**Wamena**	**2.29**	**238**	P		**Pn**	**13 49 58.5**	**+1.0**
WAMI				S		**Sn**	**13 50 27.6**	**+2.2**
BAKI	**Biak**	**4.78**	**288**	P		**Pn**	**13 50 31.8**	**+0.1**
PMG	**Port Moresby**	**9.31**	**136**	LR		LR	13 56 19.6	
	comp=Z,163nm,18.2s,baz=51,slow=46							
GUMO	**Guam**	**16.68**	**14**	LR		LR	13 59 07.2	
	comp=Z,60nm,20.5s,baz=176,slow=36							
WRA	**Warramunga Arr**	**18.25**	**199**	P		**P**	**13 53 34.2**	**+0.9**
	0.3nm,0.3s,baz=18,slow=12,SNR=21							
WRA				S		**Sn**	**13 56 50.6**	**-6.1**
	1.2nm,0.9s,baz=19,slow=22,SNR=4.7							
WRA				LR		LR	14 00 39.6	
	comp=Z,111nm,20.4s,baz=31,slow=37 2.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.27**	**223**	P		**P**	**13 54 07.6**	**+1.5**
	2.8nm,0.7s,baz=50,slow=10,SNR=6.7							
FITZ				LR		LR	14 02 28.4	
	comp=Z,125nm,20.6s,baz=28,slow=37 2.8nm,0.7s							
ASAR	**Alice Springs**	**21.88**	**197**	P		**P**	**13 54 14.3**	**+1.6**
	1.2nm,0.8s,baz=19,slow=11,SNR=14							
ASAR				LR		LR	14 02 37.9	
	comp=Z,129nm,20.7s,baz=22,slow=36 1.2nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**33.14**	**50**	T		T	14 30 48.7	
	baz=232,slow=75,SNR=69							
H11S2	**WAKE ISLAND Hy**	**33.15**	**50**	T		T	14 30 47.8	
	baz=232,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy**	**33.16**	**50**	T		T	14 30 50.9	
	baz=232,slow=75,SNR=46							
MJAR	**Matsushiro Arr**	**39.07**	**357**	P		**P**	**13 56 45.9**	**-0.7**
	0.6nm,0.7s,baz=178,slow=10.0,SNR=1.9 0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**46.11**	**299**	P		**P**	**13 57 44.9**	**+0.7**
	0.2nm,0.3s,baz=104,slow=6.6,SNR=1.8 0.2nm,0.3s							
PETK	**Petropavlovsk-**	**57.38**	**12**	LR		LR	14 23 03.8	
	comp=Z,18nm,20.4s,baz=112,slow=35							
MKAR	**Makanchi Array**	**70.95**	**322**	P		**P**	**14 00 36.9**	**-0.2**
	0.6nm,0.9s,baz=104,slow=6.1,SNR=2.3 0.6nm,0.9s							
BVAR	**Borovoye Array**	**80.39**	**325**	P		**P**	**14 01 32.0**	**+1.0**
	0.4nm,0.4s,baz=94,slow=5.0,SNR=1.8 0.4nm,0.4s							
ILAR	**Eielson Array**	**84.98**	**24**	P		**P**	**14 01 52.9**	**-1.7**
	0.7nm,0.8s,baz=256,slow=3.6,SNR=6.9 0.7nm,0.8s							

*IDC **17** 13:54:37.0±0.6, 3°.39S×101°.61E, h0km, mb4.5/24, mbtmp4.5/25, ML4.8/1, MS3.3/10, Error ellipse: s-maj=23.8km s-min=11.3km az=46.0*
*DJA **17** 13:54:43.7±0.6, 4°.5±3°×10°.2E±°, h24km±5km, M4.8/28, mB5.4/6, mb4.7/18, MLv4.7/28, Mw(mB)4.8/6*
*NEIC **17** 13:54:44.9±2.3, 3°.55S±0°.1×101°.6E±0°.1, h59km±8km, mb4.9/45, Error ellipse: s-maj=19.6km s-min=8.4km az=224.0*
ISC 17 13:54:43.9±0.5, **3°.49S**±0°.05×**101°.54E**±0°.04, **h52**km±4km, **n179, σ1s69/187, mb4.8/56, MS3.3/8, 2C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.78**	**64**	P		**Pn**	**13 54 59.2**	**+0.4**
KSI	**Kapahiang**	**1.06**	**99**	P		**Pn**	**13 55 02.6**	**0.0**
KSI				S		**Sn**	**13 55 16.7**	**+0.3**
KRJI	**Kerinci**	**1.39**	**357**	P		**Pn**	**13 55 08.4**	**+1.3**
MNAI	**Manna**	**1.66**	**122**			**Pn**	**13 55 11.0**	**+0.3**
MNAI					Sn	**Sn**	**13 55 31.0**	**+0.2**
MNAI	**Manna**	**1.66**	**122**	P		**Pn**	**13 55 10.8**	**+0.2**
MNAI	**Manna**	**1.66**	**122**	P		**Pn**	**13 55 10.9**	**+0.3**
MNAI				S		**Sn**	**13 55 30.7**	**-0.1**
PPSI	**Pulau Pagai**	**1.69**	**295**	P		**Pn**	**13 55 12.5**	**+1.4**
PPSI				S		**Sn**	**13 55 33.0**	**+1.4**
LHSI	**Lahat**	**2.01**	**100**	P		**Pn**	**13 55 16.8**	**+1.4**
LHSI				S		**Sn**	**13 55 42.3**	**+3.0**
PDSI	**Padang**	**2.78**	**337**	P		**Pn**	**13 55 27.2**	**+1.2**
MDSI	**Maura Dua**	**2.81**	**111**	P		**Pn**	**13 55 27.9**	**+1.5**
LWLI	**Liwa**	**2.94**	**121**	P		**Pn**	**13 55 28.9**	**+0.7**
LWLI				S		**Sn**	**13 56 04.2**	**+1.9**
PPI	**Padang Panjang**	**3.22**	**339**	P		**Pn**	**13 55 33.9**	**+1.9**
SISI	**Saibi**	**3.26**	**311**	P		**Pn**	**13 55 33.8**	**+1.3**
SISI				S		**Sn**	**13 56 12.0**	**+1.9**
PMBI	**Palembang**	**3.27**	**80**	P		**Pn**	**13 55 31.6**	**-1.2**
PMBI	**Palembang**	**3.27**	**80**	P		**Pn**	**13 55 31.9**	**-0.9**
KASI	**Kota Agung**	**3.57**	**125**	P		**Pn**	**13 55 37.3**	**+0.4**
KLI	**Kotabumi**	**3.58**	**113**	P		**Pn**	**13 55 37.7**	**+0.8**
BKNI	**Bangkinang**	**3.82**	**352**	P		**Pn**	**13 55 42.0**	**+1.7**
DSRI	**Dabo**	**4.26**	**16**	P		**Pn**	**13 55 47.7**	**+1.4**
MNSI	**Mandailing Nat**	**4.68**	**335**	P		**Pn**	**13 55 53.7**	**+1.6**
PBSI	**Pulau Batu**	**4.72**	**316**	P		**Pn**	**13 55 54.2**	**+1.6**
PPBI	**Pangkal Pinang**	**4.78**	**74**	P		**Pn**	**13 55 54.3**	**+0.9**
CGJI	**Cibinong**	**5.17**	**127**	P		**Pn**	**13 55 59.0**	**+0.2**
	0.8nm76nm,0.8s							
TPRI	**Tanjung Pinang**	**5.30**	**34**	P		**Pn**	**13 56 02.9**	**+2.4**
BTDF	**Bukit Timah Da**	**5.31**	**25**	P		**Pn**	**13 56 02.4**	**+1.7**
TPI	**Tanjungpandan**	**6.15**	**83**	P		**Pn**	**13 56 12.5**	**+0.3**
GSI	**Gunungsitoli**	**6.19**	**320**			**Pn**	**13 56 13.9**	**+1.0**
GSI	**Gunungsitoli**	**6.19**	**320**	P		**Pn**	**13 56 13.6**	**+0.8**
GSI	**Gunungsitoli**	**6.19**	**320**	P		**Pn**	**13 56 14.4**	**+1.6**
RPSI	**Rantau Prapat**	**6.67**	**337**	Pn		**Pn**	**13 56 20.2**	**+0.8**
RPSI	**Rantau Prapat**	**6.67**	**337**			**Pn**	**13 56 19.9**	**+0.5**
CNJI	**Cibinong**	**6.74**	**125**	P		**Pn**	**13 56 20.1**	**-0.2**
	0.2nm33nm,1.4s							
PSI	**Prapat**	**6.77**	**337**	Pn		**Pn**	**13 56 19.9**	**-1.0**
	2.8nm,0.3s,baz=169,slow=5.2,SNR=11							
PSI				Sn		**Sn**	**13 57 30.9**	**-5.8**
	0.6nm,0.3s,baz=157,slow=13,SNR=2.1							
PSI	**Prapat**	**6.77**	**337**	P		**Pn**	**13 56 21.1**	**+0.2**
LEM	**Lembang**	**6.90**	**119**	Pn		**Pn**	**13 56 26.8**	**+4.1**
	2.5nm,0.3s,baz=330,slow=20,SNR=1.7							
LEM				LR		LR	13 59 17.9	
	comp=Z,178nm,21.6s,baz=178,slow=41							
BBJI	**Bungbulang**	**7.25**	**123**	P		**Pn**	**13 56 27.7**	**+0.3**
KCSI	**Kotacane, Aceh**	**7.92**	**332**	P		**Pn**	**13 56 36.9**	**+0.4**
	0.1nm11nm,0.6s							
IPM	**Ipoh**	**7.93**	**356**			Pn	13 56 41.1	+4.4
IPM	**Ipoh**	**7.93**	**356**	P		**Pn**	**13 56 39.4**	**+2.7**
KPJI	**Karang Pucung**	**8.29**	**118**	P		**Pn**	**13 56 43.0**	**+1.4**
	25nm,0.7s							
KULM	**Kulim**	**8.76**	**354**			**Pn**	**13 56 48.9**	**+0.8**
KULM	**Kulim**	**8.76**	**354**	P		**Pn**	**13 56 51.3**	**+3.2**
MLSI	**Meulaboh, Aceh**	**9.26**	**326**	P		**Pn**	**13 56 55.8**	**+1.0**
COCO	**West Island**	**9.82**	**208**	P		**Pn**	**13 57 00.7**	**-1.8**
UGM	**Wanagama**	**9.96**	**117**	P		**Pn**	**13 57 04.0**	**-0.5**
UGM	**Wanagama**	**9.96**	**117**	P		**Pn**	**13 57 05.6**	**+1.1**
	126nm,2.2s							
PCJI	**Pacitan**	**10.66**	**116**	P		**Pn**	**13 57 14.2**	**+0.1**
	64nm,1.9s							
GMJI	**Gumukmas**	**12.76**	**112**	P		**Pn**	**13 57 44.7**	**+2.0**
	19nm,1.0s							
JAGI	**Jajag, Banyuwa**	**13.48**	**112**			**Pn**	**13 57 50.9**	**-1.7**
JAGI	**Jajag, Banyuwa**	**13.48**	**112**	P		**Pn**	**13 57 51.8**	**-0.8**
JAGI	**Jajag, Banyuwa**	**13.48**	**112**	P		**Pn**	**13 57 52.3**	**-0.3**
	39nm,0.7s							
SRBI	**Singaraja**	**14.35**	**109**	P		**Pn**	**13 58 04.6**	**+0.4**
PLAI	**Plampang**	**16.99**	**109**	P		**Pn**	**13 58 37.5**	**-0.6**
KAPI	**Kappang**	**18.22**	**95**	P		**P**	**13 58 52.2**	**-0.8**
	3.3nm,0.3s,baz=246,slow=12,SNR=8.4							
KAPI				LR		LR	14 07 28.4	
	comp=Z,47nm,19.3s,baz=280,slow=42 11nm,0.3s							
MYLDM	**Lahad Datu**	**19.00**	**63**			**P**	**13 58 59.4**	**-2.1**
MYLDM	**Lahad Datu**	**19.00**	**63**	P		**Pn**	**13 59 05.5**	**+2.8**
TOLI2	**Tolitoli**	**19.77**	**77**			**P**	**13 59 07.2**	**-2.7**
TOLI2	**Tolitoli**	**19.77**	**77**	P		**Pn**	**13 59 11.2**	**-0.5**
LUWI	**Luwuk**	**21.35**	**84**	P		**P**	**13 59 27.0**	**+0.1**
LUWI				lAmb		lAmb	13 59 42.0	
	comp=Z,67nm,0.9s							
CM31	**Chiang Mai Arr**	**21.96**	**353**	P		**P**	**13 59 33.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.96**	**353**	P		**P**	**13 59 32.5**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=172,slow=9.0,SNR=24							
CMAR				PcP		**PcP**	**14 03 32.0**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=166,slow=2.2,SNR=4.7							
CMAR				LR		LR	14 07 52.2	
	comp=Z,72nm,19.4s,baz=190,slow=36 comp=Z,4.2nm,0.8s							
CHTO	**Chiang Mai**	**22.31**	**354**			**P**	**13 59 36.8**	**-0.4**
BATI	**Baumata**	**22.94**	**108**	P		**P**	**13 59 42.2**	**-1.8**
	comp=Z,9.9nm,0.4s,baz=263,slow=17,SNR=5.0 comp=Z,9.9nm,0.4s							
FITZ	**Fitzroy Crossi**	**27.71**	**123**	P		**P**	**14 00 27.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.71**	**123**	P		**P**	**14 00 27.6**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=301,slow=6.3,SNR=11 comp=Z,3.3nm,0.5s							
KNRA	**Kununurra**	**29.40**	**116**	P		**P**	**14 00 39.4**	**-3.2**
KNRA				lAmb		lAmb	14 00 58.1	
	comp=Z,39nm,1.8s							
PZH	**PanZhiHua**	**29.82**	**0**	P		**P**	**14 00 50.1**	**+3.9**
FAKI	**Fak Fak**	**30.66**	**90**	P		**P**	**14 00 53.9**	**+0.1**
FAKI				lAmb		lAmb	14 00 54.4	
	comp=Z,24nm,1.2s							
FAKI	**Fak Fak**	**30.66**	**90**	P		**P**	**14 00 56.8**	**+3.0**
MTN	**Manton Dam**	**30.70**	**109**	P		**P**	**14 00 51.9**	**-2.2**
MTN				lAmb		lAmb	14 01 05.5	
	comp=Z,19nm,1.4s							
H01W3	**Cape Leeuwin H**	**33.36**	**161**	T		T	14 35 31.8	
	baz=338							
H01W2	**Cape Leeuwin H**	**33.37**	**161**	T		T	14 35 42.4	
	baz=338							
H01W1	**Cape Leeuwin H**	**33.37**	**161**	T		T	14 35 44.0	
	baz=338							
EVN	**Everest**	**34.33**	**337**			**P**	**14 01 23.3**	**-3.2**
ENH	**Enshi**	**34.42**	**12**	P		**P**	**14 01 26.0**	**-0.5**
WB0	**Warramunga Arr**	**35.90**	**119**	P		**P**	**14 01 37.0**	**-2.4**
WB0				lAmb		lAmb	14 01 39.9

comp=Z,0.5nm,0.4s,baz=216,slow=8.6,SNR=6.1
comp=Z,0.5nm,0.4s
WMQ Urumqi 48.71 347 *eP* **P 14 03 25.3 +2.0**
WMQ pmax pmax
comp=Z,70nm,0.7s
WMQ pmax pmax
comp=Z,86nm,3.6s
KSH Kashi 48.84 334 P **P 14 03 23.9 -0.4**
KSH pmax pmax
comp=Z,7.0nm,0.6s
XLT XiLinHaoTe 48.95 14 *eP* **P 14 03 25.4 +0.3**
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,160nm,4.8s
TARG Taragay, Kyrgy 49.92 337 **P 14 03 33.1 +0.2**
CMSA Cobar Meteorol 49.98 129 P **P 14 03 34.3 +1.2**
KDJ Kajisay 50.51 337 P **P 14 03 37.5 +0.5**
KDJ IAmb IAmb 14 03 40.1
comp=Z,18nm,0.8s
SONM Songino Array 51.28 4 **P 14 03 43.0 +0.3**
SONM IAmb IAmb 14 03 44.4
comp=Z,11nm,1.0s
SONM Songino Array 51.28 4 P **P 14 03 43.4 +0.7**
SONM PcP **PcP 14 04 57.4 +0.2**
comp=Z,0.5nm,0.3s,baz=190,slow=4.7,SNR=1.3
comp=Z,9.3nm,0.6s
ULN Ulaanbaatar 51.37 5 **P 14 03 44.0 +0.6**
ULN IAmb IAmb 14 03 45.9
comp=Z,5.4nm,0.6s
ULN Ulaanbaatar 51.37 5 P **P 14 03 42.1 -1.3**
ULN pP **pP 14 03 57.1 -0.4**
ARSB Arslanbob 51.64 333 **P 14 03 46.2 +0.6**
ARSB IAmb IAmb 14 03 47.2
comp=Z,16nm,1.0s
EIDS Eidsvold 52.29 120 P **P 14 03 49.9 -0.6**
EIDS IAmb IAmb 14 04 04.8
comp=Z,22nm,1.6s
MJAR Matsushiro Arr 52.49 37 P **P 14 03 50.4 -1.4**
MJAR IAmb IAmb 14 04 03.7
comp=Z,15nm,1.9s
MJAR Matsushiro Arr 52.49 37 P **P 14 03 49.7 -2.0**
comp=Z,1.6nm,0.6s,baz=209,slow=7.7,SNR=13
comp=Z,1.6nm,0.6s
MKAR Makanchi Array 52.88 343 **P 14 03 54.4 -0.1**
MKAR Makanchi Array 52.88 343 P **P 14 03 54.5 +0.1**
comp=Z,16nm,0.4s,baz=154,slow=8.5,SNR=258
MKAR PcP **PcP 14 05 03.6 +0.6**
comp=Z,0.6nm,0.4s,baz=179,slow=4.4,SNR=1.0
comp=Z,16nm,0.4s
MAKZ Makanchi 52.98 343 P **P 14 03 55.7 +0.5**
MAKZ pP **pP 14 04 10.8 +1.5**
BNX BinXian 54.13 22 ⇑P **P 14 04 03.5 -0.2**
BNX pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 54.17 332 **P 14 04 03.5 -0.6**
USA0B Ussuriysk Arra 54.76 27 P **P 14 04 07.3 -1.0**
USRK Ussuriysk Ar. 54.76 27 P **P 14 04 07.7 -0.5**
USRK Ussuriysk Ar. 54.76 27 P **P 14 04 08.0 -0.2**
comp=Z,7.4nm,0.5s,baz=218,slow=4.7,SNR=24
comp=Z,7.4nm,0.5s
CORO Coronation Par 55.61 139 P **P 14 04 15.3 +0.8**
KURBB Kurchatov Arra 57.41 343 P **P 14 04 26.8 -0.2**
comp=Z,4.0nm,0.7s,baz=160,slow=6.6,SNR=30
KURBB PcP **PcP 14 05 20.6 +0.3**
comp=Z,1.8nm,0.5s,baz=154,slow=3.1,SNR=6.8
comp=Z,4.0nm,0.7s
KURK Kurchatov 57.47 343 **P 14 04 27.5 +0.1**
KURK IAmb IAmb 14 04 29.5
comp=Z,9.9nm,1.0s
KURK Kurchatov 57.47 343 P **P 14 04 27.3 -0.1**
KURK pP **pP 14 04 43.0 +1.3**
KURK PcP **PcP 14 05 20.8 +0.2**
HEH HeiHe 57.98 19 *eP* **P 14 04 30.8 -0.2**
HEH pmax pmax
comp=Z,7μm,0.7s
ZAA0 Zalesovo Array 58.91 349 IAmb IAmb 14 04 38.1
comp=Z,23nm,1.1s
ZALV Zalesovo Beam 58.91 349 P **P 14 04 36.9 -0.5**
comp=Z,12nm,0.4s,baz=160,slow=6.1,SNR=70
ZALV LR LR 14 33 12.9
comp=Z,36nm,19.4s,baz=90,slow=39
comp=Z,12nm,0.4s
ASAJ Asahikawa 59.99 33 LR LR 14 32 11.0
comp=Z,17nm,18.0s,baz=167,slow=38
H04N2 CROZET ISLANDS 60.54 218 T T 15 09 49.5
baz=61,slow=75
H04N1 CROZET ISLANDS 60.55 218 T T 15 09 51.2
baz=61,slow=75
H04N3 CROZET ISLANDS 60.56 218 T T 15 09 39.8
baz=61,slow=75
BVAR Borovoye Array 62.11 339 P **P 14 04 58.5 -0.8**
comp=Z,4.5nm,0.4s,baz=140,slow=9.1,SNR=30
BVAR PcP **PcP 14 05 39.1 -0.1**
comp=Z,2.4nm,0.7s,baz=165,slow=6.0,SNR=3.5
comp=Z,4.5nm,0.4s
BRVK Borovoye 62.17 339 **P 14 04 58.8 -0.9**
BRVK IAmb IAmb 14 05 00.5
comp=Z,4.3nm,0.6s
BRVK Borovoye 62.17 339 P **P 14 04 58.9 -0.8**
AB31 Akbulak array 63.68 331 IAmb IAmb 14 05 10.3
comp=Z,9.5nm,0.8s
ABKAR Akbulak array 63.68 331 **P 14 05 09.5 -0.3**
YAK Yakutsk 68.80 14 **P 14 05 41.2 -1.2**
YAK IAmb IAmb 14 05 41.9
comp=Z,20nm,0.8s
YAK Yakutsk 68.80 14 LR LR 14 40 49.8
comp=Z,30nm,20.0s,baz=162,slow=40
YAK Yakutsk 68.80 14 P **P 14 05 41.1 -1.2**
ARTI Arti 69.22 336 **P 14 05 44.1 -1.0**
ARTI Arti 69.22 336 P **P 14 05 42.6 -2.5**
ARTI pP **pP 14 05 58.6 -1.2**
ARTI sP **sP 14 06 05.5 -0.2**
KBZ Khabaz 70.43 319 P **P 14 05 53.1 +0.3**
comp=Z,5.8nm,0.8s,baz=125,slow=6.9,SNR=9.4
comp=Z,5.8nm,0.8s
MMAI Mount Meron Ar 72.15 306 P **P 14 06 05.8 +2.2**
comp=Z,3.0nm,0.7s,baz=112,slow=8.9,SNR=2.0
comp=Z,3.0nm,0.7s
LSZ Lusaka 73.03 255 LR LR 14 34 25.5
comp=Z,91nm,19.6s,baz=154,slow=33
PEA0B Petropavlovsk- 73.33 32 P **P 14 06 08.0 -2.0**
PETK Petropavlovsk- 73.33 32 P **P 14 06 08.9 -1.1**
PETK Petropavlovsk- 73.33 32 P **P 14 06 08.1 -1.9**
comp=Z,1.8nm,0.5s,baz=229,slow=5.5,SNR=16
comp=Z,1.8nm,0.5s
MA2 Magadan 73.75 24 P **P 14 06 11.3 -1.1**
MA2 IAmb IAmb 14 07 08.9
comp=Z,30nm,1.2s
MA2 Magadan 73.75 24 LR LR 14 38 26.1
comp=Z,19nm,21.8s,baz=92,slow=36
PET Petropavlovsk 73.78 32 P **P 14 06 11.3 -1.3**
BRTR Keskin Array B 75.45 312 P **P 14 06 22.4 -0.5**
BRTR Keskin Array B 75.45 312 P **P 14 06 22.6 -0.2**
comp=Z,3.1nm,0.5s,baz=132,slow=6.9,SNR=19
comp=Z,3.1nm,0.5s
BKZ Black Stump Fm 76.14 129 P **P 14 06 26.5 -0.2**
AKASG Malin Array Be 81.59 322 P **P 14 06 55.9 -0.3**
comp=Z,1.5nm,0.6s,baz=91,slow=4.7,SNR=9.2
comp=Z,1.5nm,0.6s
MLR Muntele Rosu 82.43 317 P **P 14 07 01.6 +0.7**
comp=Z,3.9nm,0.7s,baz=72,slow=9.6,SNR=5.4
comp=Z,3.9nm,0.7s
BURAR Bucovina Array 83.39 319 P **P 14 07 06.7 +0.9**
KOLS Kolonicke sedl 85.58 319 *eP* **P 14 07 18.8 +2.1**
FINES FINESS Array B 86.14 332 P **P 14 07 19.2 +0.1**
FINES FINESS Array B 86.14 332 P **P 14 07 19.3 +0.2**
comp=Z,1.0nm,0.5s,baz=90,slow=8.3,SNR=9.9
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 88.39 340 P **P 14 07 30.3 +0.5**
comp=Z,3.0nm,0.7s,baz=105,slow=4.5,SNR=13
comp=Z,3.0nm,0.7s
TROLL Troll, Antarti 89.49 198 ⇑P **PKiKP 14 12 33.2 +0.6**
comp=Z,5.0nm,0.1s
GERES GERESS Array B 91.17 319 P **P 14 07 43.9 +0.4**
comp=Z,1.0nm,0.8s,baz=63,slow=4.8,SNR=6.5
comp=Z,1.0nm,0.8s
HFS Hagfors 91.92 330 P **P 14 07 47.8 +1.3**
comp=Z,1.4nm,0.7s,baz=114,slow=7.0,SNR=5.7
comp=Z,1.4nm,0.7s
VNA2 Neumayer--Watz 92.83 198 P **PKiKP 14 12 31.3 -6.8**
baz=144,slow=37
VNA1 Neumayer--Stat 93.20 198 P PKiKP 14 12 26.4 -12
VNA3 Neumayer Olymp 93.42 198 P PKiKP 14 12 30.4 -8.7
PDAR Pinedale Array 132.09 31 PKP **PKPdf 14 13 52.0 -0.5**
comp=Z,0.2nm,0.4s,baz=322,slow=4.3,SNR=3.8

CPUP Villa Florida 143.99 213 PKP PKPbc 14 14 13.6 +1.3
comp=Z,0.2nm,0.3s,baz=143,slow=5.1,SNR=1.6
TXAR Lajitas Array 144.89 40 PKP **PKPab 14 14 15.6 +0.4**
comp=Z,5.4nm,0.5s,baz=319,slow=2.1,SNR=98

*SJA **17** 13:57:45.5±0.7,22.°94S×68.°77W,h120km±4km, ML3.6, MW3.6*
*GUC **17** 13:57:46.8±0.8,22.°91S×68.°74W,h120km±4km, ML3.8*
ISC 17 13:57:47.0±1.3,**22.°91S**±0.°03×**68.80W**±0.°04,**h117**km±9km, **n37**,σ0**99**/53,**6C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.58**	**94**	⇓*iP*		**Pn**	**13 58 04.5**	**-0.9**
AF01				*eS*		**Sn**	**13 58 17.8**	**-1.5**
AF01	**San Pedro de A**	**0.58**	**94**	*eP*		**Pn**	**13 58 04.6**	**-0.9**
AF01				*eS*		**Sn**	**13 58 18.8**	**-0.5**
AF01				*i* IAML			13 58 35.2	
comp=Z,3μm,0.5s								
PB06	**IPOC Station P**	**0.74**	**286**	⇑*iP*		**Pn**	**13 58 06.9**	**+0.4**
PB06				*eS*		**Sn**	**13 58 21.7**	**+0.5**
PB06	**IPOC Station P**	**0.74**	**286**	*eP*		**Pn**	**13 58 06.3**	**-0.2**
PB06				*i* IAML			13 58 24.5	
comp=Z,3μm,0.1s								
PB09	**IPOC Station P**	**1.18**	**340**	⇓*iP*		**Pn**	**13 58 11.5**	**+0.7**
PB09				*eS*		**Sn**	**13 58 29.5**	**+0.7**
PB09	**IPOC Station P**	**1.18**	**340**	*eP*		**Pn**	**13 58 11.5**	**+0.7**
PB09				*eS*		**Sn**	**13 58 29.8**	**+1.0**
PB09				*i* IAML			13 58 31.0	
comp=Z,932nm,0.9s								
PB03	**IPOC Station P**	**1.23**	**314**	⇑*iP*		**Pn**	**13 58 11.8**	**+0.5**
PB03				*eS*		**Sn**	**13 58 30.2**	**+0.4**
PB03				*i* IAML			13 58 31.7	
comp=E,1μm,0.2s								
PB03	**IPOC Station P**	**1.23**	**314**	*eP*		**Pn**	**13 58 11.2**	**-0.1**
PB03				*i* IAML			13 58 31.8	
comp=Z,1μm,0.3s								
PB05	**IPOC Station P**	**1.29**	**272**	⇑*iP*		**Pn**	**13 58 12.6**	**+0.6**
PB05				*eS*		**Sn**	**13 58 31.7**	**+0.8**
PB05				*i* IAML			13 58 32.5	
comp=E,1μm,0.2s								
PB05	**IPOC Station P**	**1.29**	**272**	*eP*		**Pn**	**13 58 11.9**	**-0.1**
PB05				*i* IAML			13 58 32.8	
comp=Z,768nm,0.3s								
PB10	**IPOC Station P**	**1.72**	**249**	⇑*iP*		**Pn**	**13 58 17.2**	**+0.4**
PB10				*eS*		**Sn**	**13 58 40.0**	**+0.4**
PB10	**IPOC Station P**	**1.72**	**249**	*eP*		**Pn**	**13 58 16.8**	**0.0**
PB10				*i* IAML			13 58 47.1	
comp=Z,231nm,0.2s								
PB02	**IPOC Station P**	**1.88**	**327**	⇑*iP*		**Pn**	**13 58 19.4**	**+0.5**
PB02				*eS*		**Sn**	**13 58 43.8**	**+0.5**
PB02				*i* IAML			13 58 44.7	
comp=E,1μm,0.1s								
PB02	**IPOC Station P**	**1.88**	**327**	*eP*		**Pn**	**13 58 19.4**	**+0.5**
PB02				*eS*		**Sn**	**13 58 43.7**	**+0.5**
PB02				*i* IAML			13 58 45.3	
comp=Z,966nm,0.4s								
PB01	**IPOC Station P**	**1.96**	**341**	*eP*		**Pn**	**13 58 20.2**	**+0.3**
PB01				*eS*		**Sn**	**13 58 45.3**	**+0.2**
PB01				*i* IAML			13 58 48.9	
comp=E,699nm,0.3s								
PB01	**IPOC Station P**	**1.96**	**341**	*eP*		**Pn**	**13 58 19.7**	**-0.2**
PB01				*eS*		**Sn**	**13 58 45.9**	**+0.7**
PB01				*i* IAML			13 58 47.6	
comp=Z,309nm,0.2s								
PB14	**IPOC Station P**	**2.25**	**220**	*eP*		**Pn**	**13 58 24.2**	**+0.4**
PB14	**IPOC Station P**	**2.25**	**220**	*eP*		**Pn**	**13 58 23.5**	**-0.3**
PB14				*i* IAML			13 58 57.2	
comp=Z,264nm,0.8s								
GO02	**Mina Guanaco**	**2.35**	**198**	⇑*iP*		**Pn**	**13 58 25.4**	**+0.3**
GO02				*i* IAML			13 58 58.3	
comp=N,765nm,0.2s								
GO02	**Mina Guanaco**	**2.35**	**198**	*eP*		**Pn**	**13 58 25.4**	**+0.3**
GO02				*eS*		**Sn**	**13 58 56.6**	**+2.3**
GO02				*i* IAML			13 59 00.5	
comp=Z,372nm,0.1s								
PATCX	**Punta Patache**	**2.43**	**329**	*eP*		**Pn**	**13 58 25.5**	**-0.3**
PATCX	**Punta Patache**	**2.43**	**329**	*eP*		**Pn**	**13 58 25.1**	**-0.7**
PATCX				*i* IAML			13 58 59.3	
comp=Z,176nm,0.5s								
SALTA		**2.61**	**121**	*eP*		**Pn**	**13 58 29.1**	**+0.5**
TA01	**Diego Aracena**	**2.66**	**331**	*eP*		**Pn**	**13 58 27.8**	**-1.0**
TA01				*eS*		**Sn**	**13 58 57.0**	**-3.9**
TA01				*i* IAML			13 58 57.4	
comp=Z,100nm,0.7s								
PB08	**IPOC Station P**	**2.77**	**353**	*eP*		**Pn**	**13 58 31.1**	**+0.5**
PB08	**IPOC Station P**	**2.77**	**353**	*eP*		**Pn**	**13 58 30.7**	**0.0**
PB08				*eS*		**Sn**	**13 59 02.3**	**-1.8**
HMBC	**Humberstone**	**2.81**	**339**	*eP*		**Pn**	**13 58 30.8**	**0.0**
HMBC				*i* IAML			13 59 34.4	
comp=Z,170nm,0.4s								
YJA	**Yavi**	**3.13**	**77**	*eP*		**Pn**	**13 58 36.9**	**+1.6**
GO01	**Chusmiza**	**3.25**	**353**	*eP*		**Pn**	**13 58 37.1**	**+0.2**
GO01	**Chusmiza**	**3.25**	**353**	*eS*		Sn	13 59 01.8	-14
GO01				*i* IAML			13 59 12.1	
comp=Z,74nm,0.2s								
AC01	**Pan de Azucar**	**3.62**	**207**	*eP*		**Pn**	**13 58 40.3**	**-1.0**
AC01				*eS*		**Sn**	**13 59 22.2**	**-1.1**
AC01				*i* IAML			13 59 28.9	
comp=Z,53nm,0.5s								
AZAP	**Zapla**	**3.67**	**112**	*eP*		**Pn**	**13 58 42.8**	**+0.5**
AC02	**Maricunga**	**3.92**	**184**	*eP*		**Pn**	**13 58 46.1**	**+0.3**
AC02	**Maricunga**	**3.92**	**184**	*eP*		**Pn**	**13 58 46.4**	**+0.6**
AC02				*eS*		Sn	13 59 14.1	-17
AC02				*i* IAML			13 59 23.3	
comp=Z,53nm,0.5s								
PB16	**IPOC Station P**	**4.60**	**352**	*eP*		**Pn**	**13 58 55.9**	**+0.8**
PB16	**IPOC Station P**	**4.60**	**352**	*eP*		**Pn**	**13 58 56.2**	**+1.1**
GO03	**Copiapo**	**4.84**	**195**	*eP*		**Pn**	**13 58 56.4**	**-1.4**
GO03				*eS*		**Sn**	**13 59 51.6**	**-1.3**
GO03				*i* IAML			13 59 51.9	
comp=Z,41nm,0.3s								

*THE **17** 14:00:58.2,35.°N±45.°×2.°8E±5.°0,h4km±29km, MLh2.8/3*
*ATH **17** 14:00:58.0,35.°02N×27.°76E,h30km±5km, ML2.9/3,*
Manual Solution by M.Kolligri First location: 2019/08/17 14:02:44, This location: 2020/06/30 09:33:53 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 11 km
*AFAD **17** 14:01:01.6,35.°28N×27.°69E,h33km±1km, ML2.4*
*ISK **17** 14:01:15.9,36.°40N×28.°17E,h15km, ML2.2/5*
ISC 17 14:01:00.3±2.1,**35.°17N**±0.°09×**27.°77E**±0.°05,**h18**km±5km, **n19**,σ1**09**/30,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.62**	**308**	P		**Pb**	**14 01 12.3**	**-0.2**
KARP				S		**Sn**	**14 01 24.3**	**+0.5**
KARP	**Karpathos**	**0.62**	**308**	P		**Pb**	**14 01 12.1**	**-0.5**
KARP				S		**Sg**	**14 01 21.6**	**+0.7**
RGE1	**Gennadi, Rhode**	**0.87**	**9**	P		**Pb**	**14 01 16.1**	**-0.7**
RGE1				S		**Sn**	**14 01 29.5**	**-0.3**
ARG	**Arkhangelos**	**1.09**	**16**	Pg		**Pg**	**14 01 20.6**	**-0.7**
ARG	**Arkhangelos**	**1.09**	**16**	P		**Pb**	**14 01 20.0**	**-0.5**
ARG				S		**Sg**	**14 01 36.2**	**+0.6**
ARG	**Arkhangelos**	**1.09**	**16**	P		**Pb**	**14 01 19.3**	**-1.2**
ARG				S		**Sg**	**14 01 34.9**	**-0.7**
ZKR	**Zakros**	**1.27**	**268**	P		**Pn**	**14 01 23.4**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.53**	**351**	P		**Pb**	**14 01 27.2**	**-0.9**
YAZI				S		**Sb**	**14 01 46.9**	**-0.2**
YAZI				*i* IAML			14 01 57.0	
comp=N,73nm,0.8s								
YAZI				*i* IAML			14 01 57.0	
comp=E,56nm,0.7s								
DAT	**Datca**	**1.56**	**354**	Pg		**Pb**	**14 01 27.9**	**-0.9**
DAT	**Datca**	**1.56**	**354**	P		**Pb**	**14 01 28.4**	**-0.4**
DAT				S		**Sg**	**14 01 49.9**	**-0.9**
TURN	**Turunc**	**1.65**	**13**	P		**Pb**	**14 01 30.0**	**-0.1**
TURN				S		**Sb**	**14 01 51.4**	**+0.8**
TURN				*i* IAML			14 01 55.0	
comp=E,75nm,0.8s								
TURN				*i* IAML			14 02 00.0	
comp=N,77nm,0.6s								
BDRM	**Kayabasi**	**1.91**	**352**	P		**Pb**	**14 01 33.2**	**-1.4**
BDRM				S		**Sn**	**14 01 56.4**	**+0.8**
BDRM				*i* IAML			14 02 08.0	
comp=E,61nm,0.6s								
SABU	**Mula-Dalaman**	**1.92**	**30**	P		**Pb**	**14 01 34.3**	**-0.4**
SABU				S		**Sg**	**14 02 05.5**	**+3.4**
SABU				*i* IAML			14 02 14.0	
comp=N,54nm,0.9s								
SABU				*i* IAML			14 02 15.0	
comp=E,39nm,0.8s								
CAME	**Cameli-Denizli**	**2.17**	**35**	Pg		**Pb**	**14 01 36.8**	**-2.2**
DNZT	**Denizli-Tavas-**	**2.34**	**25**	P		**Pn**	**14 01 38.9**	**+1.0**
DNZT				*i* IAML			14 02 22.0	
comp=N,24nm,1.1s								
DNZT				*i* IAML			14 02 36.0	
comp=E,20nm,0.9s								
AYDN	**Tasoluk**	**2.49**	**2**	P		**Pn**	**14 01 39.7**	**-0.2**
AYDN				*i* IAML			14 02 26.0	
comp=N,34nm,0.9s								
AYDN				*i* IAML			14 02 30.0	
comp=E,32nm,0.8s								
APMY	**Acipayam-Deniz**	**2.61**	**28**	Pn		**Pn**	**14 01 41.8**	**+0.2**
ESEN	**Aydn-Nazilli**	**2.67**	**10**	P		**Pn**	**14 01 43.9**	**+1.6**
ESEN				S		**Sn**	**14 02 14.1**	**0.0**
ESEN				*i* IAML			14 02 32.0	
comp=E,18nm,0.6s								
ESEN				*i* IAML			14 02 41.0	
comp=N,17nm,1.3s								
AYDB	**Zeytinkoy-Aydi**	**2.77**	**2**	Pn		**Pn**	**14 01 43.9**	**0.0**

*ISU **17** 14:16:16,40.°67N×73.°42E,h15km*
*SOME **17** 14:16:24.7,41.°08N×72.°60E,h15km*
*KRNET **17** 14:16:24.3±0.1,41.°14N×72.°48E,h13km,mb3.2*
*KNET **17** 14:16:26.6±0.4,41.°31N×72.°60E,h3km,3km,ml2.7, Error ellipse: s-maj=6.1km s-min=3.3km az=150.0*
*NNC **17** 14:16:34.6±2.9,41.°99N×72.°41E,h0km,mb3.4,mpv3.4, Error ellipse: s-maj=39.6km s-min=13.9km az=1.0*
ISC 17 14:16:26.1±0.7,**41.°23N**±0.°02×**72.°53E**±0.°02,**h10**km,**n53**, σ1**56**/84,**24C-16D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.35**	**74**	⇓*iP*		**Pg**	**14 16 32.6**	**-0.6**
ARSB				⇓*iS*		**Sg**	**14 16 38.8**	**+0.9**
ANR	**Andizhan**	**0.49**	**195**	P		**Pb**	**14 16 36.8**	**-0.1**
ANR				S		**Sb**	**14 16 48.2**	**+4.1**
TSTA	**Tashata**	**0.65**	**184**	S		Sg	14 16 36.8	-10
TSTA				S		**Sb**	**14 16 47.0**	**-1.8**
FRG	**Fergana**	**1.02**	**214**	P		**Pg**	**14 16 44.9**	**-0.9**
FRG				S		**Sn**	**14 17 02.6**	**+1.6**
SALK	**Salom-Alik**	**1.03**	**109**	⇑*iP*		**Pg**	**14 16 44.3**	**-1.7**
SALK				⇑*iS*		**Sg**	**14 16 58.9**	**-0.6**
TRKS	**Terek-Say**	**1.09**	**286**	⇑*iP*		**Pg**	**14 16 44.2**	**-2.9**
TRKS				⇑*iS*		**Sg**	**14 16 58.6**	**-2.7**
MINT	**Mingtut**	**1.41**	**238**	S		**Sg**	**14 17 10.6**	**-0.7**
MRKS	**Merke**	**1.60**	**19**	S		**Sg**	**14 17 18.0**	**+0.4**
79nm,0.3s								
MRKS	**Merke**	**1.60**	**19**	*eP*		**Pn**	**14 16 55.0**	**+0.4**
24nm,0.3s								
MRKS				*eS*		**Sg**	**14 17 17.5**	**-0.1**
79nm,0.3s								
EKS2	**Erkin-Say**	**1.71**	**33**	⇓P		**Pb**	**14 16 57.4**	**-0.3**
4.5nm,0.1s,SNR=8.3								
EKS2				⇓S		**Sg**	**14 17 20.4**	**-0.7**
21nm,0.2s								
EKS2	**Erkin-Say**	**1.71**	**33**	⇑*iP*		**Pb**	**14 16 57.9**	**+0.2**
EKS2				⇑*iS*		**Sg**	**14 17 22.3**	**+1.3**
PSK	**Pskem**	**1.76**	**294**	S		**Sg**	**14 17 24.4**	**+1.6**
UCH	**Uchtor**	**1.79**	**55**	⇑P		**Pb**	**14 16 59.0**	**-0.2**
14nm,0.2s,SNR=38								
UCH				⇓S		**Sg**	**14 17 23.8**	**+0.1**
39nm,0.2s								
UCH	**Uchtor**	**1.79**	**55**	⇑*iP*		**Pb**	**14 16 59.2**	**-0.1**
UCH				⇑*iS*		**Sg**	**14 17 24.8**	**+1.1**
DZA	**Taraz**	**1.89**	**332**	Pg		**Pb**	**14 17 00.7**	**0.0**
30nm,0.1s								
DZA				Lg		Lg	14 17 27.1	
290nm,0.2s								
DZA	**Taraz**	**1.89**	**332**	*eP*		**Pb**	**14 17 00.7**	**0.0**
30nm,0.1s								
DZA				*eS*		**Sg**	**14 17 27.1**	**+0.3**
290nm,0.2s								
CHMG	**Chimgan**	**1.92**	**280**	S		**Sg**	**14 17 27.1**	**-0.9**
CHRV	**Charvak**	**1.98**	**283**	S		**Sg**	**14 17 29.6**	**-0.3**
AAK	**Ala-Archa**	**2.03**	**45**	⇓P		**Pb**	**14 17 03.3**	**0.0**
22nm,0.3s,SNR=12								
AAK				⇓S		**Sg**	**14 17 30.6**	**-0.9**
35nm,0.2s								
AAK	**Ala-Archa**	**2.03**	**45**	⇑Pn		**Pg**	**14 17 04.7**	**-0.4**
6.8nm,0.5s,baz=136,slow=16								
AAK				⇑Sn		**Sb**	**14 17 29.3**	**+0.7**
13nm,0.5s,baz=136,slow=16								
AAK	**Ala-Archa**	**2.03**	**45**	⇑*iP*		**Pb**	**14 17 03.0**	**-0.2**
AAK				⇑*iS*		**Sg**	**14 17 31.3**	**-0.1**
KBK	**Karagaybulak**	**2.30**	**51**	⇑P		**Pb**	**14 17 07.2**	**-0.6**
9.5nm,0.2s,SNR=8.9								
KBK				⇑S		**Sg**	**14 17 38.8**	**-1.2**
67nm,0.3s								
KBK	**Karagaybulak**	**2.30**	**51**	⇑*iP*		**Pb**	**14 17 06.7**	**-1.1**
KBK				⇑*iS*		**Sb**	**14 17 37.7**	**+1.4**
KK31	**Karatay Array**	**2.40**	**322**	Pn		**Pn**	**14 17 06.4**	**+0.9**
2.0nm,0.2s,baz=118,slow=14,SNR=28								
KK31				⇑Lg		Lg	14 17 32.8	
9.4nm,0.3s,baz=126,slow=26								
CHMS	**Chumysh**	**2.42**	**42**	⇓P		**Pb**	**14 17 08.7**	**-1.0**
29nm,0.5s,SNR=12								
CHMS				⇓S		**Sb**	**14 17 41.4**	**+1.7**
22nm,0.3s								
CHMS	**Chumysh**	**2.42**	**42**	⇓*iP*		**Pb**	**14 17 08.4**	**-1.4**
CHMS				⇓*iS*		**Sb**	**14 17 40.4**	**+0.7**
USP	**Ospenovka**	**2.51**	**35**	⇓P		**Pb**	**14 17 09.3**	**-1.9**
9.2nm,0.2s,SNR=14								
USP				⇓S		**Sb**	**14 17 43.7**	**+1.5**
43nm,0.3s								
USP	**Ospenovka**	**2.51**	**35**	⇑*iP*		**Pb**	**14 17 09.5**	**-1.8**
USP				⇑*iS*		**Sb**	**14 17 42.6**	**+0.4**
BRLS	**Borolday**	**2.69**	**313**	Pg		**Pb**	**14 17 14.8**	**+0.3**
11nm,0.3s								
BRLS				Lg		Lg	14 17 51.4	
19nm,0.3s								
BRLS	**Borolday**	**2.69**	**313**	*eP*		**Pb**	**14 17 14.8**	**+0.3**
11nm,0.3s								
BRLS				*eS*		**Sg**	**14 17 51.4**	**-1.3**
19nm,0.3s								
SGDS	**Sogindy**	**2.71**	**34**	Pg		**Pb**	**14 17 14.2**	**-0.5**
3.8nm,0.2s								
GAR	**Garm**	**2.80**	**218**	⇓*iP*		**Pn**	**14 17 11.1**	**0.0**
GAR				⇓*iS*		**Sn**	**14 17 45.4**	**+0.4**
TKM2	**Tokmak 2**	**2.84**	**52**	⇓P		**Pb**	**14 17 14.5**	**-2.6**
8.7nm,0.3s								
TKM2	**Tokmak 2**	**2.84**	**52**	⇑*iP*		**Pn**	**14 17 14.2**	**+2.5**
TKM2				⇑*iS*		**Sb**	**14 17 50.7**	**-1.2**
ULHL	**Ulahol**	**2.96**	**69**	⇑*eP*		**Pn**	**14 17 15.7**	**+2.4**
ULHL				⇑*iS*		**Sb**	**14 17 53.2**	**-2.1**
KST	**Kastek**	**3.13**	**53**	Pg		**Pb**	**14 17 21.7**	**-0.3**
8.3nm,0.8s								
KST				Lg		Lg	14 18 03.5	
27nm,0.8s								
KST	**Kastek**	**3.13**	**53**

KUU					Lg	Lg	14 18 27.0	
	27nm,0.3s							
KUU	**Kurty**	**3.87**	**45**	*eP*	**Pb**	**14 17 35.8**	**+1.3**
	1.5nm,0.0s							
KUU				*eS*	**Sg**	**14 18 27.0**	**-3.4**
	27nm,0.3s							
KTBS	**Karatobe**	**3.95**	**50**	Pg	**Pb**	**14 17 37.2**	**+1.4**
	1.4nm,0.3s							
KTBS				Lg	Lg	14 18 29.5		
	30nm,0.5s							
BTLS	**Baital**	**3.97**	**16**	Lg	Lg	14 18 32.1		
	14nm,0.5s							
BTLS	**Baital**	**3.97**	**16**	*eP*	**Pb**	**14 17 38.5**	**+2.4**
	2.6nm,0.3s							
BTLS				*eS*	**Sg**	**14 18 32.0**	**-1.5**
	14nm,0.5s							
CHKK	**Chushkaly**	**4.21**	**50**	Pg	**Pb**	**14 17 41.9**	**+1.6**
	3.2nm,0.1s							
CHKK				Lg	Lg	14 18 37.8		
	10nm,0.4s							
CHKK	**Chushkaly**	**4.21**	**50**	*eP*	**Pb**	**14 17 41.9**	**+1.6**
	3.2nm,0.1s							
CHKK				*eS*	**Sg**	**14 18 37.8**	**-3.5**
	10nm,0.4s							
KPKS	**Kokpek**	**5.08**	**62**	Pg	**Pb**	**14 17 57.2**	**+2.1**
	0.4nm,0.2s							
UZB	**Uzynbulak**	**5.19**	**66**	*eP*	**Pg**	**14 18 01.6**	**-3.9**
	0.7nm,0.1s							
UZB				*eS*	**Sg**	**14 19 11.3**	**-1.4**
	2.3nm,0.4s							

DJA 17 14:18:57.7±0.6,1°S±6″×13°8E±°, h10km, M3.8/6, mb3.8/1, MLv3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.04**	**161**	P	Pg	14 19 16.3	-1.4
SMPI				S	Sb	14 19 31.7	+0.2
BAKI	**Biak**	**2.27**	**265**	P	Pn	14 19 35.7	+0.4
SRPI	**Serui, Papua**	**2.30**	**248**	P	Pn	14 19 36.0	+0.3
GENI	**Genyem**	**2.39**	**131**	P	Pn	14 19 38.3	+1.3
GENI				S	Sn	14 20 06.9	+0.5
JAY	**Jayapura**	**2.78**	**123**	P	Pn	14 19 41.5	-0.8
FAKI	**Fak Fak**	**6.41**	**253**	P	Pn	14 20 31.2	-1.0

*IDC **17** 14:22:57.8±1.7,4°.50S×153°.17E, h73km±13km, mb3.7/11, mbtmp4.0/14, MS2.8/2, Error ellipse: s-maj=15.4km s-min=13.1km az=129.0*
*NEIC **17** 14:23:00.1±1.6,4°.6S±0°.1×153°.1E±0°.1, h88km±7km, mb4.2/14, Error ellipse: s-maj=22.1km s-min=9.8km az=47.0*
ISC 17 14:22:55.9±0.6,4°.47S±0°.08×153°.22E±0°.07, h55km, n34, σ1s84/39, mb4.1/17, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.09**	**285**	Pn	**Pn**	**14 23 17.8**	**+2.8**
MANU	**Manus Island**	**6.32**	**292**	Pn	Pn	14 24 33.6	+7.1
PMG	**Port Moresby**	**7.76**	**230**	P	**Pn**	**14 24 49.3**	**+3.0**
	3.2nm,0.4s,baz=54,slow=19,SNR=1.1						
PMG				S	**Sn**	**14 26 13.5**	**+0.6**
	54nm,0.8s,baz=70,slow=18,SNR=14						
PMG				LR	LR	14 27 36.1	
	comp=Z,78nm,19.4s,baz=42,slow=36						
HNR	**Honiara**	**8.30**	**127**	P	Pn	14 24 57.7	+4.1
	14nm,0.3s,baz=348,slow=20,SNR=1.1						
HNR				S	**Sn**	**14 26 30.8**	**+4.8**
	126nm,1.0s,baz=277,slow=9.9,SNR=4.9						
HNR				LR	LR	14 28 24.8	
	comp=Z,58nm,21.7s,baz=174,slow=39						
JAY	**Jayapura**	**12.64**	**278**	P	**Pn**	**14 25 55.6**	**+2.4**
	2.4nm,0.6s,baz=132,slow=15,SNR=1.8						
SANVU	**Saraoutou**	**17.55**	**129**	Pn	**P**	**14 27 00.9**	**+3.7**
DZM	**Mont Dzumac**	**21.69**	**145**	P	**P**	**14 27 40.9**	**-1.5**
DZM				IAmb	IAmb	14 27 53.6	
	comp=Z,16nm,1.3s						
DZM	**Mont Dzumac**	**21.69**	**145**	P	**P**	**14 27 42.1**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=301,slow=9.5,SNR=7.0						
	comp=Z,3.3nm,0.6s						
MTN	**Manton Dam**	**23.35**	**248**	P	**P**	**14 27 58.8**	**-0.9**
MTN				IAmb	IAmb	14 28 27.2	
	comp=Z,6.5nm,0.7s						
WB0	**Warramunga Arr**	**23.83**	**229**	P	**P**	**14 28 02.9**	**-1.2**
WB0				IAmb	IAmb	14 28 04.0	
	comp=Z,6.1nm,0.6s						
WR8	**Warramunga Arr**	**23.87**	**228**	P	**P**	**14 28 03.3**	**-1.2**
WR8				IAmb	IAmb	14 28 05.0	
	comp=Z,4.8nm,0.7s						
WRAB	**Tennant Creek**	**23.96**	**229**	P	**P**	**14 28 04.5**	**-0.8**
WRAB				IAmb	IAmb	14 28 05.3	
	comp=Z,7.1nm,0.7s						
WRA	**Warramunga Arr**	**23.98**	**229**	P	**P**	**14 28 02.1**	**-3.3**
WRA	**Warramunga Arr**	**23.98**	**229**	P	**P**	**14 28 04.7**	**-0.8**
	comp=Z,5.0nm,0.6s,baz=52,slow=9.8,SNR=59						
WRA				PcP	**PcP**	**14 31 45.2**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=63,slow=2.3,SNR=2.2						
WRA				S	**S**	**14 32 17.8**	**-0.9**
	comp=Z,1.6nm,1.1s,baz=46,slow=17,SNR=7.3						
WRA				ScP	**ScP**	**14 35 18.7**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=55,slow=2.7,SNR=2.0						
	comp=Z,5.0nm,0.6s						
INKA	**Innaminka**	**26.02**	**206**	P	**P**	**14 28 22.7**	**-1.2**
INKA				IAmb	IAmb	14 28 35.6	
	comp=Z,10nm,1.5s						
KNRA	**Kununurra**	**26.50**	**243**	P	**P**	**14 28 27.0**	**-1.4**
KNRA				IAmb	IAmb	14 28 32.6	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**26.68**	**223**	P	**P**	**14 28 28.7**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=55,slow=8.8,SNR=11						
ASAR				S	**S**	**14 33 01.0**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=27,slow=15,SNR=1.7						
ASAR				ScP	**ScP**	**14 35 26.5**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=32,slow=3.2,SNR=2.3						
	comp=Z,0.9nm,0.7s						
STKA	**Stephens Creek**	**29.37**	**200**	P	**P**	**14 28 52.1**	**-1.8**
STKA	**Stephens Creek**	**29.37**	**200**	P	**P**	**14 28 52.0**	**-1.8**
	comp=Z,3.6nm,0.7s,baz=33,slow=13,SNR=6.3						
	comp=Z,3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.18**	**241**	P	**P**	**14 28 58.1**	**-3.1**
HIZ	**Hauiti**	**39.19**	**153**	P	**P**	**14 30 16.1**	**-2.6**
TCW	**Tory Channel**	**41.17**	**156**	P	**P**	**14 30 34.4**	**-0.5**
TUWZ	**Tuamarina**	**41.22**	**156**	P	**P**	**14 30 34.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**58.12**	**295**	P	**P**	**14 32 45.6**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=123,slow=4.4,SNR=5.3						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**66.27**	**328**	P	**P**	**14 33 39.0**	**+0.4**
VNDA	**Vanda**	**73.14**	**178**	P	**P**	**14 34 19.7**	**-0.4**
VNDA				IAmb	IAmb	14 34 20.8	
	comp=Z,2.6nm,0.8s						
VNDA	**Vanda**	**73.14**	**178**	P	**P**	**14 34 20.1**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=332,slow=7.1,SNR=14						
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**80.35**	**319**	P	**P**	**14 35 01.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=94,slow=7.4,SNR=4.1						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**81.69**	**22**	P	**P**	**14 35 07.2**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=233,slow=5.5,SNR=2.4						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**83.80**	**322**	P	**P**	**14 35 18.6**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=119,slow=3.3,SNR=2.3						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**85.49**	**180**	P	**P**	**14 35 28.0**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=4.0,slow=0.6,SNR=15						
	comp=Z,1.6nm,0.6s						
BVAR	**Borovoye Array**	**89.23**	**323**	P	**P**	**14 35 45.0**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=97,slow=6.0,SNR=11						
	comp=Z,2.4nm,0.7s						
GERES	**GERESS Array B**	**123.99**	**329**	PKP	**PKiKP**	**14 41 48.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=76,slow=1.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.60**	**289**	PKPbc	**PKPbc**	**14 42 42.0**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=57,slow=2.2,SNR=6.0						

*ISK **17** 14:30:44.2,39°.31N×40°.20E, h5km, ML2.3/5*
*AFAD **17** 14:30:44.7,39°.29N×40°.16E, h7km±2km, ML2.6*
ISC 17 14:30:44.4±1.2,39°.33N±0°.05×40°.23E±0°.04, h10km±12km, n9, σ0s90/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.27**	**67**	Pg	**Pb**	**14 30 51.2**	**-0.3**
YEDI				Sg	**Sb**	**14 30 56.3**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.57**	**248**	P	**Pg**	**14 30 54.9**	**-0.6**
TNCL				S	**Sg**	**14 31 03.0**	**-0.1**
TNCL				*i* IAML		14 31 05.0	
	comp=N,486nm,0.4s						
TNCL				*i* IAML		14 31 07.0	
	comp=E,478nm,0.3s						
KOVA	**Elazig, Kovanc**	**0.70**	**207**	P	**Pg**	**14 30 57.8**	**-0.2**
KOVA				*i* IAML	**S**	**14 31 07.0**	**-0.2**
	comp=E,371nm,0.2s						
KOVA				S	**S**	**14 31 07.0**	**-0.2**
KOVA				*i* IAML		14 31 08.0	
	comp=N,321nm,0.2s						
BAYT	**Aydıntepe-Bayb**	**1.06**	**357**	Pn	**Pn**	**14 31 06.2**	**+0.7**
KELT	**Kelkit**	**1.11**	**318**	P	**Pn**	**14 31 06.5**	**+0.4**
ELZG	**Elazig**	**1.28**	**230**	P	**Pn**	**14 31 07.6**	**-0.9**
ELZG				S	**Sn**	**14 31 25.7**	**0.0**
ELZG				*i* IAML		14 31 26.0	
	comp=E,129nm,0.4s						
ILIC	**ilic-Erzincan**	**1.29**	**276**	Pn	**Pg**	**14 31 09.6**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.40**	**147**	Pn	**Pg**	**14 31 11.5**	**+0.2**
SVAN				Sn	**Sg**	**14 31 31.7**	**+2.2**
AGRB	**Hanur-Agry**	**2.16**	**83**	Pn	**Pg**	**14 31 24.3**	**-1.4**

*CNRM **17** 14:34:00.5,34°.98N×4°.48W, h26km, ML3.0*
*INMG **17** 14:34:01.7±1.9,34°.98N×4°.38W, h22km±10km, ML2.1, Error ellipse: s-maj=5.0km s-min=3.6km az=93.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SW Al Hoceima (MARR)*
*MDD **17** 14:34:01.4±0.7,34°.89N×4°.47W, h28km±11km, mb_Lg2.6/25, Error ellipse: s-maj=9.3km s-min=2.9km az=3.0*
*SFS **17** 14:34:01.9,35°.14N×4°.37W, h0km, ML3.0/12, ML2.8/13, MLv2.7/13*
ISC 17 14:34:01.0±1.1,35°.00N±0°.02×4°.45W±0°.02, h26km±12km, n74, σ1s35/112, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.47**	**63**	P	**Pb**	**14 34 09.9**	**-0.9**
PALE	**Palemas**	**0.47**	**63**	S	**Sb**	**14 34 18.5**	**+1.0**
CHEFC	**Chefchaouen**	**0.74**	**279**	P	**Pn**	**14 34 13.8**	**-2.0**
CHEFC	**Chefchaouen**	**0.74**	**279**	S	**Sb**	**14 34 25.3**	**+0.4**
SICH	**Sidi Chahed**	**1.14**	**219**	P	**Pn**	**14 34 22.0**	**+0.7**
SICH	**Sidi Chahed**	**1.14**	**219**	S	**Sn**	**14 34 37.1**	**+0.9**
ECEU	**Ceuta**	**1.17**	**320**	P	**Pn**	**14 34 20.0**	**-1.7**
ECEU				S	**Sn**	**14 34 35.0**	**-1.9**
ECEU				*i* lVmb_Lg		14 34 53.4	
GOG	**Mont Gurugu**	**1.22**	**79**	P	**Pn**	**14 34 21.5**	**-0.9**
GOG	**Mont Gurugu**	**1.22**	**79**	S	**Sn**	**14 34 38.6**	**+0.5**
EMEL	**Melilla**	**1.26**	**76**	P	**Pn**	**14 34 22.4**	**-0.6**
EMEL				S	**Sn**	**14 34 39.0**	**-0.1**
EMEL				*i* lVmb_Lg		14 34 47.1	
EMLI	**Melilla**	**1.27**	**76**	Pg	**Pb**	**14 34 24.4**	**+0.2**
EMLI				Sg	**Sn**	**14 34 39.3**	**+0.1**
WMELI	**Melilla**	**1.27**	**75**	Pg	**Pn**	**14 34 22.3**	**-0.8**
WMELI				Sg	**Sn**	**14 34 39.4**	**+0.1**
LCRM	**LCR**	**1.35**	**194**	P	**Pn**	**14 34 23.9**	**-0.4**
LCRM	**LCR**	**1.35**	**194**	S	**Sb**	**14 34 43.4**	**+0.7**
EALB	**Alboran**	**1.49**	**51**	Pn	**Pn**	**14 34 25.4**	**-0.7**
EALB				Sn	**Sn**	**14 34 44.8**	**0.0**
EALB	**Alboran**	**1.49**	**51**	P	**Pn**	**14 34 24.7**	**-1.4**
EALB				S	**Sn**	**14 34 43.8**	**-1.0**
EALB				*i* lVmb_Lg		14 34 46.0	
EJIF	**Jimena Fronter**	**1.67**	**331**	P	**Pn**	**14 34 28.9**	**+0.4**
EJIF				S	**Sn**	**14 34 45.1**	**-4.1**
TAF	**Taforalt**	**1.69**	**96**	P	**Pn**	**14 34 29.7**	**+0.8**
TAF	**Taforalt**	**1.69**	**96**	S	**Sn**	**14 34 50.6**	**+0.9**
EMAL	**Malaga-Limoner**	**1.76**	**1**	Pn	**Pn**	**14 34 29.7**	**-0.1**
EMAL				Sn	**Sn**	**14 34 50.0**	**-1.4**
ELGU	**Los Guajares,**	**1.98**	**20**	Pn	**Pn**	**14 34 32.8**	**-0.1**
ELGU				Sn	**Sn**	**14 34 57.7**	**+0.6**
ELGU	**Los Guajares,**	**1.98**	**20**	P	**Pn**	**14 34 32.4**	**-0.6**
ELGU				S	**Sn**	**14 34 57.6**	**+0.6**
ELGU				*i* lVmb_Lg		14 35 10.6	
CZD	**Col de Zad**	**2.02**	**194**	P	**Pn**	**14 34 34.1**	**+0.4**
CZD	**Col de Zad**	**2.02**	**194**	S	**Sn**	**14 34 59.7**	**+1.4**
EGOR	**Sierra Gorda,**	**2.12**	**7**	Pn	**Pn**	**14 34 35.4**	**+0.4**
EGOR	**Sierra Gorda,**	**2.12**	**7**	P	**Pn**	**14 34 35.4**	**+0.4**
EGOR				S	**Sn**	**14 34 59.8**	**-0.8**
EGOR				*i* lVmb_Lg		14 35 15.0	
MD31	**MD31**	**2.14**	**187**	P	**Pn**	**14 34 35.1**	**0.0**
MD31	**MD31**	**2.14**	**187**	S	**Sn**	**14 34 59.4**	**-1.5**
MDT	**Midelt**	**2.18**	**183**	P	**Pn**	**14 34 35.0**	**-0.8**
MDT	**Midelt**	**2.18**	**183**	S	**Sn**	**14 35 02.7**	**+0.7**
ESPR	**Espera**	**2.19**	**329**	P	**Pn**	**14 34 37.3**	**+1.6**
ESPR				S	**Sn**	**14 34 59.7**	**-0.3**
ESPR				*i* lVmb_Lg		14 35 15.9	
EQUE	**Quentar**	**2.35**	**20**	P	**Pn**	**14 34 37.9**	**-0.1**
EQUE				S	**Sn**	**14 35 06.2**	**+0.1**
EQUE				*i* lVmb_Lg		14 35 15.2	
ENIJ	**Nijar**	**2.68**	**42**	P	**Pn**	**14 34 43.4**	**+0.8**
ENIJ				S	**Sn**	**14 35 12.6**	**-1.7**
ENIJ				*i* lVmb_Lg		14 35 29.8	
E0803	**Jimena (Jaen)**	**2.94**	**15**	P	**Pn**	**14 34 45.8**	**-0.3**
E0803				S	**Sn**	**14 35 21.2**	**+0.5**
AVE	**Averroes**	**2.98**	**236**	Pn	**Pb**	**14 34 52.0**	**-1.4**
EQES	**Quesada**	**3.01**	**21**	P	**Pn**	**14 34 49.8**	**+2.6**
EQES				S	**Sn**	**14 35 22.7**	**+0.2**
EQES				*i* lVmb_Lg		14 35 30.1	
EADA	**Adamuz**	**3.16**	**358**	Pn	**Pn**	**14 34 50.8**	**+1.6**
EADA				Sn	**Sn**	**14 35 26.2**	**+0.1**
EADA	**Adamuz**	**3.16**	**358**	P	**Pn**	**14 34 49.4**	**+0.2**
EADA				S	**Sn**	**14 35 24.8**	**-1.3**
EADA				*i* lVmb_Lg		14 35 39.9	
ECAB	**El Cabril**	**3.17**	**346**	Pn	**Pn**	**14 34 51.3**	**+2.1**
ECAB				Sn	**Sn**	**14 35 27.1**	**+0.9**
ECAB	**El Cabril**	**3.17**	**346**	P	**Pn**	**14 34 50.9**	**+1.7**
ECAB				S	**Sn**	**14 35 25.5**	**-0.7**
ECAB				*i* lVmb_Lg		14 35 38.7	
EMIN	**Mina Concepcio**	**3.29**	**328**	P	**Pn**	**14 34 51.8**	**+0.9**
EMIN				S	**Sn**	**14 35 28.1**	**-1.1**
EMIN				*i* lVmb_Lg		14 35 37.3	
EGRO	**El Granado**	**3.52**	**317**	Pn	**Pn**	**14 34 55.5**	**+1.4**
EGRO				Sn	**Sn**	**14 35 35.4**	**+0.6**
EGRO	**El Granado**	**3.52**	**317**	P	**Pn**	**14 34 55.7**	**+1.7**
EGRO				S	**Sn**	**14 35 34.5**	**-0.3**
EGRO				*i* lVmb_Lg		14 35 48.0	
PVAQ	**Vaqueiros**	**3.57**	**313**	Pn	**Pn**	**14 34 55.7**	**+1.1**
PVAQ	**Vaqueiros**	**3.57**	**313**	*eP*	**Pn**	**14 34 55.8**	**+1.1**
PVAQ				*eS*	**Sn**	**14 35 36.5**	**+0.5**
PVAQ				*i* IAML		14 35 39.7	
PVAQ				*i* IAML		14 35 40.8	
PVAQ				*i* IAML		14 35 44.3	
PBDV	**Barranco-do-Ve**	**3.60**	**310**	*eP*	**Pn**	**14 34 56.1**	**+1.0**
PBDV				*eS*	**Sn**	**14 35 38.6**	**+1.8**
PBDV				*i* IAML		14 35 41.0	
PBDV				*i* IAML		14 35 42.2	
PBDV				*i* IAML		14 35 45.2	
TISM	**Timmit**	**3.67**	**208**	P	**Pn**	**14 34 54.3**	**-1.8**
TISM	**Timmit**	**3.67**	**208**	S	**Sn**	**14 35 37.6**	**-0.9**
PBAR	**Barrancos**	**3.79**	**327**	Pn	**Pn**	**14 34 59.1**	**+1.3**
PBAR				Sn	**Sn**	**14 35 40.5**	**-1.0**
PBAR	**Barrancos**	**3.79**	**327**	*eP*	**Pn**	**14 34 58.5**	**+0.8**
PBAR				*eS*	**Sn**	**14 35 41.4**	**-0.1**
PBAR				*i* IAML		14 35 46.2	
PBAR				*i* IAML		14 35 48.1	
PBAR				*i* IAML		14 35 49.3	
PSIM	**Granatula de C**	**3.85**	**8**	P	**Pn**	**14 34 59.6**	**+0.9**
PSIM				S	**Sn**	**14 35 42.2**	**-1.0**
FIGM	**Figuig**	**3.91**	**136**	P	**Pn**	**14 34 60.0**	**+0.5**
FIGM	**Figuig**	**3.91**	**136**	S	**Sn**	**14 35 44.6**	**0.0**
PCVE	**Castro Verde**	**3.91**	**313**	Pn	**Pn**	**14 35 01.5**	**+2.1**
PCVE				Sn	**Sn**	**14 35 45.2**	**+0.7**
PCVE	**Castro Verde**	**3.91**	**313**	*eP*	**Pn**	**14 35 00.4**	**+1.0**
PCVE				*eS*	**Sn**	**14 35 45.5**	**+1.0**
PCVE				*i* IAML		14 35 46.6	
PCVE				*i* IAML		14 35 50.5	
PCVE				*i* IAML		14 35 50.9	
MORF	**Marmelete**	**4.10**	**305**	*eP*	**Pn**	**14 35 03.9**	**+1.8**
MORF				*eS*	**Sn**	**14 35 52.0**	**+2.7**
MORF				*i* IAML		14 35 56.2	
MORF				*i* IAML		14 35 58.8	
MORF				*i* IAML		14 35 59.2	
MESJ	**Messejana**	**4.16**	**314**	*eP*	**Pn**	**14 35 04.1**	**+1.4**
MESJ				*eS*	**Sn**	**14 35 52.1**	**+1.6**
MESJ				*i* IAML		14 35 54.7	
MESJ				*i* IAML		14 36 03.0	
EBAD	**Badajoz**	**4.27**	**332**	P	**Pn**	**14 35 04.8**	**+0.4**
EBAD				S	**Sn**	**14 35 51.6**	**-1.8**
EBAD				*i* lVmb_Lg		14 36 02.3	
PTEO	**Sao Teotonio**	**4.29**	**308**	*eP*	**Pn**	**14 35 05.7**	**+1.1**
OUZM	**OUZ**	**4.52**	**206**	P	**Pn**	**14 35 08.0**	**+0.2**
OUZM	**OUZ**	**4.52**	**206**	S	**Sn**	**14 36 02.7**	**+3.1**
PAB	**San Pablo**	**4.54**	**1**	P	**Pn**	**14 35 09.2**	**+1.1**
PAB				S	**Sn**	**14 35 55.5**	**-4.6**
PAB				*i* lVmb_Lg		14 36 02.5	
PESTR	**Estremoz**	**4.61**	**328**	*eP*	**Pn**	**14 35 10.7**	**+1.7**
PESTR				*i* IAML		14 36 09.1	
PESTR				*i* IAML		14 36 11.7	
PESTR				*i* IAML		14 36 19.1	
ESDC	**Sonseca Array**	**4.68**	**5**	P	**Pn**	**14 35 10.4**	**+0.3**
ESDC				S	**Sn**	**14 36 02.3**	**-1.3**
ESDC				*i* lVmb_Lg		14 36 11.7	
ESBB	**Sonseca Array**	**4.69**	**5**	P	**Pn**	**14 35 10.5**	**+0.4**
ESBB				S	**Sn**	**14 36 04.7**	**+1.0**
TIO	**Tiouine**	**4.70**	**211**	P	**Pn**	**14 35 09.6**	**-0.7**
TIO	**Tiouine**	**4.70**	**211**	S	**Sn**	**14 36 03.8**	**-0.3**
OUK	**Oukaimeden**	**4.74**	**218**	P	**Pn**	**14 35 09.5**	**-1.7**
OUK	**Oukaimeden**	**4.74**	**218**	S	**Sn**	**14 36 04.8**	**-0.8**
PMRV	**Marv??o**	**5.00**	**333**	*eP*	**Pn**	**14 35 15.7**	**+1.2**
PMRV				*i* IAML		14 36 26.8	
PMRV				*i* IAML		14 36 28.8	
PMRV				*i* IAML		14 36 30.8	
PMTG	**Montargil**	**5.06**	**325**	*eP*	**Pn**	**14 35 18.1**	**+3.0**
PMTG				*eS*	**Sn**	**14 36 13.7**	**+0.8**
PMTG				*i* IAML		14 36 16.1	
PMTG				*i* IAML		14 36 18.1	
PMTG				*i* IAML		14 36 33.9	
EPLA	**Plasencia**	**5.22**	**346**	P	**Pn**	**14 35 17.6**	**+0.2**
EPLA				S	**Sn**	**14 36 13.1**	**-3.7**
EPLA				*i* lVmb_Lg		14 36 34.2	
PARRA	**Arraiolos**	**5.29**	**317**	*eP*	Pn	14 35 12.8	-5.6
PARRA				*eS*	Sn	14 36 05.3	-13
PARRA				*i* IAML		14 36 09.3	
PARRA				*i* IAML		14 36 18.7	
PARRA				*i* IAML		14 36 20.5	
PSARD	**Sardoal**	**5.46**	**328**	*eP*	**Pn**	**14 35 22.4**	**+1.7**
PSARD				*eS*	**Sn**	**14 36 22.4**	**-0.4**
PSARD				*i* IAML		14 36 24.9	
PSARD				*i* IAML		14 36 27.7	
PSARD				*i* IAML		14 36 36.5	

*IDC **17** 14:52:04.7±0.6,23°.58N×121°.77E, h0km, mb3.9/13, mbtmp3.9/17, ML3.4/4, MS3.4/24, Error ellipse: s-maj=19.2km s-min=14.9km az=73.0*
*JMA **17** 14:52:05.5±0.2,23°.7N±0°.5×12°.2E±°, h7km±3km, MV3.9/16, TAIWAN REGION*
*NEIC **17** 14:52:05.4±1.9,23°.69N±0°.02×121°.59E±0°.04, h10km±1km, mb4.6/16, Error ellipse: s-maj=5.4km s-min=3.6km az=276.0*
*TAP **17** 14:52:05.9,23°.74N×121°.54E, h7km, ML4.5, C*
*ASIES **17** 14:52:05.8,23°.75N×121°.54E, h8km, Mw3.9, Fault plane solution: NP1:φs268.00000°, δ51.00000°, λ175.00000°. NP2:φs1.00000°, δ86.00000°, λ39.00000°.*
*BJI **17** 14:52:06.4,23°.73N×121°.56E, h7km, mB4.5/4, mb4.0/16, ML4.3/5, Ms4.1/11, Ms7 4.0/9*
ISC 17 14:52:06.1±0.7,23°.71N±0°.01×121°.60E±0°.02, h8km±4km, n247, σ1s29/318, mb4.1/23, MS3.5/21, 15C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.06**	**271**	*i* P	**Pg**	**14 52 07.9**	**0.0**
TEGC				*i* S	**Sg**	**14 52 09.3**	**+0.3**
SHUL	**Shoufeng**	**0.09**	**337**	⇑*i* P	**Pg**	**14 52 08.3**	**+0.1**
SHUL				S	**Sg**	**14 52 10.1**	**+0.4**
TEYL	**Yanliau Villag**	**0.16**	**359**	⇑*i* P	**Pg**	**14 52 10.5**	**+1.0**
TEYL				*eS*	**Sg**	**14 52 13.4**	**+1.7**
EGFH	**Guangfu**	**0.16**	**256**	*eP*	**Pg**	**14 52 09.0**	**-0.5**
EGFH				*eS*	**Sg**	**14 52 11.2**	**-0.6**
ESL	**Shilin**	**0.19**	**305**	⇓*i* P	**Pg**	**14 52 08.9**	**-1.0**
ESL				S	**Sg**	**14 52 10.8**	**-1.7**
WARBT	**Fenglin Townsh**	**0.20**	**273**	⇓*i* P	**Pg**	**14 52 09.2**	**-0.9**
WARBT				*eS*	**Sg**	**14 52 11.6**	**-1.2**
HWA	**Hwalien**	**0.27**	**1**	⇓P	**Pg**	**14 52 12.0**	**+0.6**
HWA				S	**Sb**	**14 52 16.5**	**-1.5**
HGSD	**Ruisui**	**0.27**	**217**	⇑*i* P	**Pb**	**14 52 12.5**	**-0.8**
HGSD				*eS*	**Sb**	**14 52 17.5**	**-0.4**
ETM	**Tongmen**	**0.27**	**339**	⇓*i* P	**Pg**	**14 52 11.1**	**-0.5**
ETM				*eS*	**Sg**	**14 52 13.8**	**-1.4**
EHYH	**Wanrong**	**0.32**	**228**	*eP*	**Pg**	**14 52 12.9**	**+0.5**
EHYH				*eS*	**Sg**	**14 52 17.1**	**+0.5**
EHY	**Hungye**	**0.32**	**232**	⇑P	**Pg**	**14 52 12.2**	**-0.3**
EHY				*eS*	**Sg**	**14 52 17.1**	**+0.3**
TWD	**Chiawan**	**0.37**	**359**	⇓*i* P	**Pg**	**14 52 13.3**	**+0.1**
TWD				*eS*	**Sg**	**14 52 18.4**	**+0.2**
ECBN	**Changbin**	**0.41**	**199**	⇑*i* P	**

ESAO	**Su ao**	**0.89**	**14**	*eP*	**Pg**	14 52 23.1	-0.2		
LONT	**Longtian**	**0.91**	**209**	*eP*	**Pg**	14 52 22.9	-0.7		
EOS2	**EOS2**	**0.91**	**39**	*eP*	**Pn**	14 52 25.6	+0.4		
EOS2				*eS*	**Sn**	14 52 38.6	+0.1		
TWC	**Suao**	**0.93**	**14**	⇓*P*	**Pg**	14 52 23.8	-0.1		
TWC				*eS*	**Sb**	14 52 36.9	0.0		
STYH	**Taoyuan**	**0.93**	**235**	*eP*	**Pg**	14 52 23.6	-0.3		
ENTT	**Nioudou**	**0.93**	**358**	⇓*P*	**Pg**	14 52 23.6	-0.4		
ENTT				*eS*	**Sg**	14 52 35.3	-0.8		
WCKO	**Fanlu**	**0.95**	**254**	*eP*	**Pb**	14 52 24.8	-0.1		
WCKO				*eS*	**Sg**	14 52 36.8	0.0		
WGK	**Gukeng**	**0.95**	**269**	⇑*P*	**Pb**	14 52 24.9	0.0		
WGK				*eS*	**Sn**	14 52 39.1	-0.5		
TCU	**Taichung**	**0.95**	**298**	*eP*	**Pb**	14 52 25.2	+0.3		
TCU				*eS*	**Sn**	14 52 39.5	-0.1		
WDL	**Douliou City**	**0.97**	**271**	*eP*	**Pb**	14 52 25.4	+0.1		
WDL				*eS*	**Sn**	14 52 40.1	0.0		
WDLH	**Douliu**	**0.97**	**269**	*eP*	**Pb**	14 52 25.3	0.0		
WDLH				*eS*	**Sn**	14 52 39.3	-0.8		
TPUB	**Ta-pu**	**0.98**	**246**		**Pg**	14 52 25.1	+0.1		
TPUB	**Ta-pu**	**0.98**	**246**	*P*	**Pb**	14 52 25.2	-0.2		
TPUB	**Ta-pu**	**0.98**	**246**	⇑*P*	**Pg**	14 52 25.0	+0.1		
TPUB				*eS*	**Sb**	14 52 38.2	-0.2		
YHNB	**Yeheng**	**0.98**	**348**		**Pg**	14 52 24.1	-0.8		
YHNB	**Yeheng**	**0.98**	**348**	*P*	**Pg**	14 52 24.7	-0.3		
YHNB	**Yeheng**	**0.98**	**348**	*P*	**Pg**	14 52 24.6	-0.4		
YHNB				*eS*	**Sg**	14 52 36.9	-0.8		
TWQ1	**Liyutan**	**0.99**	**310**	*eP*	**Pb**	14 52 25.6	+0.1		
TWQ1				*eS*	**Sg**	14 52 38.0	0.0		
CHN4	**Tsaushan**	**0.99**	**249**	*eP*	**Pb**	14 52 25.4	-0.1		
CHN4				*eS*	**Sn**	14 52 40.7	+0.2		
TWGBT	**Beinan**	**1.01**	**208**	*P*	**Pg**	14 52 24.5	-1.0		
TWGBT	**Beinan**	**1.01**	**208**	*eP*	**Pg**	14 52 23.7	-1.7		
TWG	**Pinlang**	**1.01**	**209**		**Pg**	14 52 23.7	-1.8		
TWG	**Pinlang**	**1.01**	**209**	*eP*	**Pg**	14 52 25.3	-0.2		
TWE	**Neicheng**	**1.01**	**3**	⇓*P*	**Pg**	14 52 25.3	-0.3		
TWE				*eS*	**Sb**	14 52 39.0	-0.4		
WTP	**Ta-pu**	**1.01**	**243**	⇑*iP*	**Pg**	14 52 25.6	0.0		
WTP				*eS*	**Sg**	14 52 38.3	-0.5		
NFF	**Wufeng Townshi**	**1.02**	**335**	*eP*	**Pg**	14 52 25.2	-0.5		
NFF				*eS*	**Sg**	14 52 38.8	-0.2		
WCHH	**Zhanghua**	**1.02**	**291**	*eP*	**Pb**	14 52 26.2	+0.1		
WCHH				*eS*	**Sn**	14 52 40.9	-0.4		
LDUT	**Ludao**	**1.04**	**187**	*eP*	**Pg**	14 52 25.4	-0.6		
TTN	**Taitung**	**1.04**	**204**	*eP*	**Pg**	14 52 25.9	-0.1		
TTN				*eS*	**Sn**	14 52 42.0	+0.3		
NSY	**Sanyi**	**1.04**	**313**	*eP*	**Pn**	14 52 27.4	+0.3		
FUSB	**Fushanzhiwuyua**	**1.05**	**359**	⇑*P*	**Pg**	14 52 25.3	-0.9		
FUSB				*eS*	**Sg**	14 52 39.8	-0.1		
ILA	**Ilan**	**1.06**	**7**	*eP*	**Pn**	14 52 27.0	-0.3		
NWLT	**Wulai**	**1.07**	**355**	⇑*P*	**Pg**	14 52 25.7	-0.9		
NWLT				*eS*	**Sg**	14 52 39.0	-1.6		
NSTT	**Nanjuang**	**1.07**	**329**	*eP*	**Pg**	14 52 26.4	-0.3		
NSTT				*eS*	**Sg**	14 52 39.5	-1.0		
LIOB	**Emei**	**1.07**	**330**	*eP*	**Pg**	14 52 26.7	-0.1		
WDJ	**Dajia District**	**1.08**	**306**	*eP*	**Pn**	14 52 27.9	+0.2		
CHY	**Chiayi**	**1.10**	**259**	*eP*	**Pg**	14 52 27.2	-0.1		
CHY				*eS*	**Sn**	14 52 42.9	-0.3		
NMLH	**Miaoli**	**1.11**	**318**	*eP*	**Pn**	14 52 27.9	0.0		
NMLH				*eS*	**Sn**	14 52 42.7	-0.8		
WTK	**Tuku**	**1.11**	**269**	*eP*	**Pb**	14 52 27.6	0.0		
WTK				*eS*	**Sb**	14 52 42.3	+0.1		
TWK	**Hsinying**	**1.11**	**247**	⇑*iP*	**Pg**	14 52 27.3	-0.1		
TWK				*eS*	**Sn**	14 52 43.1	-0.5		
CHN1	**Nanshi**	**1.11**	**242**	⇑*P*	**Pg**	14 52 27.5	0.0		
KSHI	**Guanxi Townshi**	**1.13**	**340**	⇓*P*	**Pb**	14 52 28.0	0.0		
KSHI				*eS*	**Sn**	14 52 43.3	-0.5		
EGS		**1.17**	**15**	*eP*	**Pn**	14 52 29.6	+0.8		
SBCB	**Hsinchu**	**1.22**	**333**	*i P*	**Pg**	14 52 30.4	+0.9		
SBCB				*eS*	**Sn**	14 52 48.6	+2.4		
WTCT	**Ta-ch'eng**	**1.22**	**278**	*eP*	**Pb**	14 52 29.0	-0.4		
WTCT				*eS*	**Sg**	14 52 45.6	+0.3		
HSN	**Hsinchu**	**1.23**	**332**	*eP*	**Pg**	14 52 30.6	+0.9		
HSN				*eS*	**Sn**	14 52 47.3	+0.8		
NHDH	**Xindian Distri**	**1.25**	**357**	*eS*	**Sg**	14 52 46.5	+0.1		
ECL	**Taimali**	**1.25**	**208**	*eP*	**Pn**	14 52 29.2	-0.8		
WSF	**Szhu**	**1.27**	**267**	*eP*	**Pn**	14 52 30.0	-0.1		
WSF				*eS*	**Sn**	14 52 47.2	-0.1		
TATO	**Taipei**	**1.27**	**355**		**Pn**	14 52 29.6	-0.5		
TATO	**Taipei**	**1.27**	**355**	*P*	**Pg**	14 52 30.3	-0.1		
TWA	**Mucha**	**1.27**	**359**	*eP*	**Pn**	14 52 30.0	-0.2		
WSL	**Shuilin Townsh**	**1.27**	**262**	*eP*	**Pn**	14 52 30.1	-0.1		
WSL				*eS*	**Sn**	14 52 47.6	+0.1		
TIPB	**Shuangxi**	**1.27**	**9**	*eP*	**Pn**	14 52 30.0	-0.3		
TIPB				*eS*	**Sn**	14 52 47.7	+0.1		
CHN3	**Shinhua**	**1.30**	**241**	⇑*P*	**Pg**	14 52 31.4	+0.4		
CHN3				*eS*	**Sb**	14 52 47.6	+0.1		
SCST	**Cishan**	**1.30**	**231**	*eP*	**Pg**	14 52 31.6	+0.4		
SSD	**Sandimen**	**1.31**	**223**	*eP*	**Pn**	14 52 30.4	-0.3		
NCUH	**Zhongli**	**1.31**	**343**	*eP*	**Pb**	14 52 30.9	-0.1		
NCUH				*eS*	**Sn**	14 52 49.9	+1.4		
CHN8	**Yiju**	**1.32**	**254**	*eP*	**Pn**	14 52 30.9	-0.1		
CHN8				*eS*	**Sg**	14 52 50.7	+1.9		
TAP	**Taipei**	**1.33**	**356**	*eS*	**Sg**	14 52 49.3	+0.4		
SSHA	**Shanhua**	**1.33**	**245**	*eP*	**Pg**	14 52 32.0	+0.4		
SSHA				*eS*	**Sg**	14 52 52.0	+3.0		
SHHT	**Tainan City**	**1.34**	**240**	*eP*	**Pg**	14 52 32.3	+0.5		
TWB1	**Santiao Chiao**	**1.34**	**15**	*eP*	**Pb**	14 52 31.4	-0.2		
TWB1				*eS*	**Sg**	14 52 50.3	+1.0		
NWF	**Wu-fen Shan**	**1.37**	**7**	*eP*	**Pg**	14 52 32.1	-0.2		
NWF				*eS*	**Sg**	14 52 51.0	+0.8		
WFSB	**Wu-fen Shan**	**1.37**	**7**	*eP*	**Pg**	14 52 32.9	+0.6		
WFSB				*eS*	**Sg**	14 52 49.9	-0.2		
TWM1	**Shoushan**	**1.40**	**231**	*eP*	**Pg**	14 52 33.9	+1.0		
SCLT	**Jiali**	**1.40**	**248**	*eP*	**Pn**	14 52 32.1	+0.2		
SCLT				*eS*	**Sg**	14 52 52.1	+1.1		
TWS1	**Kuangyinshan**	**1.40**	**353**	*eP*	**Pb**	14 52 32.3	-0.2		
TWS1				*eS*	**Sg**	14 52 51.2	+0.2		
SXI1	**Grass Mountain**	**1.40**	**10**	*eP*	**Pn**	14 52 32.2	+0.1		
MASBT	**Mashibuluo**	**1.41**	**219**	*eP*	**Pn**	14 52 32.1	+0.1		
SGLT	**Jiouru**	**1.41**	**226**	*eP*	**Pg**	14 52 33.8	+0.5		
YM01	**YM01**	**1.43**	**359**	*eP*	**Pn**	14 52 32.0	-0.5		
JYNG	**Yonagunijimaku**	**1.44**	**59**	*P*	**Pn**	14 52 32.1	-0.4		
JYNG				*eS*	**Sn**	14 52 51.2	-0.4		
TNOU	**National Taiwa**	**1.44**	**6**	*eP*	**Pb**	14 52 33.2	-0.1		
ZUZH	**Zhuzihu**	**1.45**	**358**	*eP*	**Pn**	14 52 32.9	+0.1		
ZUZH				*eS*	**Sg**	14 52 52.5	-0.3		
NTST	**Danshui**	**1.46**	**355**	*eP*	**Pb**	14 52 33.1	-0.4		
NTST				*eS*	**Sg**	14 52 54.3	+1.3		
YM08	**YM08**	**1.47**	**360**	*eP*	**Pn**	14 52 33.3	+0.3		
TAW	**Tawu**	**1.49**	**206**	*eP*	**Pg**	14 52 35.1	-0.4		
YOJ	**Yonaguni jima**	**1.49**	**60**		**Pg**	14 52 32.9	-0.3		
YOJ	**Yonaguni jima**	**1.49**	**60**	*P*	**Pn**	14 52 33.4	+0.2		
YOJ	**Yonaguni jima**	**1.49**	**60**	*eP*	**Pn**	14 52 32.7	-0.6		
YOJ	**Yonaguni jima**	**1.49**	**60**	*eP*	**Pn**	14 52 32.7	-0.6		
YOJ				*eS*	**Sn**	14 52 52.7	-0.3		
TSCK	**Chigu Township**	**1.50**	**248**	*eP*	**Pn**	14 52 33.3	0.0		
TSCK				*eS*	**Sg**	14 52 54.8	+0.5		
SCZT	**Fangliau**	**1.61**	**214**	*eP*	**Pb**	14 52 36.1	+0.1		
LAY	**Lan-yu**	**1.66**	**182**	*eP*	**Pn**	14 52 34.4	-1.2		
WDGT	**Dungji**	**1.84**	**256**	*eP*	**Pn**	14 52 37.4	-0.6		
PHUB	**P'eng-hu**	**1.87**	**264**	*eP*	**Pn**	14 52 37.9	-0.6		
PHUB				*eS*	**Sn**	14 53 02.2	0.0		
PNG	**Penghu**	**1.88**	**266**	*eP*	**Pn**	14 52 38.2	-0.4		
PNG				*eS*	**Sn**	14 53 02.8	+0.2		
PCYT	**Pengchaiyu**	**1.96**	**13**	*eP*	**Pn**	14 52 40.5	+0.8		
IRIF	**Iriomote-Funau**	**2.05**	**72**	*P*	**Pn**	14 52 40.7	-0.1		
IRIF				*S*	**Sn**	14 52 53.5	-0.1		
HATJ	**Hateruma jima**	**2.05**	**80**	*eP*	**Pn**	14 52 40.3	-0.6		
HATJ				*eS*	**Sn**	14 53 05.8	-0.9		
VCHM	**Qimei**	**2.05**	**256**	*eP*	**Pn**	14 52 40.0	-1.0		
VCHM				*eS*	**Sn**	14 53 06.0	-0.8		
JKRS	**Kuro-shima**	**2.27**	**76**	*P*	**Pn**	14 52 43.8	-0.1		
JKRS				*S*	**Sn**	14 53 11.5	-0.6		
VWUC	**VWUC**	**2.34**	**304**	*eP*	**Pn**	14 52 43.5	-1.4		
JIJ	**Ishigaki jima**	**2.42**	**74**	*P*	**Pn**	14 52 45.0	-0.9		
JIJ				*eS*	**Sn**	14 53 14.2	-1.6		
PTMZ	**Houxiangcun**	**2.62**	**301**	*eP*	**Pn**	14 52 47.2	-1.6		
JISG	**Ishigakijimahi**	**2.63**	**70**	*P*	**Pn**	14 52 48.1	-0.7		
JISG				*S*	**Sn**	14 53 19.7	-1.2		
MATB	**Ma-tsu**	**2.86**	**329**	*eP*	**Pn**	14 52 50.7	-1.4		
KNM	**Kinmen**	**2.98**	**284**	*eP*	**Pn**	14 52 54.7	+1.0		
KNM				*eS*	**Sn**	14 53 31.9	+2.2		
KNMB	**Chin-men Tao**	**3.03**	**285**		**Pn**	14 52 53.5	-0.9		
KNMB	**Chin-men Tao**	**3.03**	**285**	*eP*	**Pn**	14 52 53.3	-1.1		
MHZQ	**Yeshan**	**3.33**	**316**	*eP*	**Pn**	14 52 58.6	0.0		
MHZQ				*eS*	**Sn**	14 53 34.7	-3.7		
JIRB	**Irabujima**	**3.45**	**70**	*S*	**Sn**	14 53 41.6	+0.4		
XPSS	**Dashiqiu**	**3.45**	**339**	*eP*	**Pn**	14 52 58.9	-1.3		
XPSS				*eS*	**Sn**	14 53 40.2	-1.1		
AXDP	**Jialang**	**3.52**	**290**	*eP*	**Pn**	14 53 00.4	-0.7		
ZPLA	**Ao Xicun**	**3.53**	**274**	*eP*	**Pn**	14 53 00.7	-0.6		
ZPLA				*eS*	**Sn**	14 53 42.2	-1.1		
JIKM	**Ikemajima**	**3.54**	**69**	*S*	**Sn**	14 53 44.1	+0.5		
JMJ2	**Miyako jima3**	**3.56**	**72**	*eS*	**Sn**	14 53 44.0	+0.1		
DSXP	**Dongshan**	**3.83**	**271**	*eP*	**Pn**	14 53 04.3	-1.0		
SXFK	**Yanhouchang**	**4.48**	**308**	*eP*	**Pn**	14 53 13.3	-1.1		
SXFK				*eS*	**Sn**	14 54 02.8	-3.9		
JOW	**Kunigami**	**6.80**	**61**	Pn	**Pn**	14 53 44.6	-1.6		
	3.7nm,0.3s,baz=169,slow=14,SNR=23								
JOW				Sn	**Sn**	14 55 01.9	-2.0		
	0.2nm,0.3s,baz=145,slow=25,SNR=1.3								
	9.1nm,0.4s								
HKPS	**Hong Kong Po S**	**7.02**	**260**	Pn	**Pn**	14 53 45.5	-3.7		
SSE	**Sheshan**	**7.37**	**357**	Sn	Sn	14 55 28.8	+11		
SSE	**Sheshan**	**7.37**	**357**	LR	LR				
	comp=E,61nm,4.0s								
SSE	**Sheshan**	**7.37**	**357**	LR	LR				
	comp=N,110nm,4.1s								
SSE	**Sheshan**	**7.37**	**357**	smax	smax				
	comp=E,18nm,0.7s								
SSE	**Sheshan**	**7.37**	**357**	smax	smax				
	comp=N,17nm,0.7s								
SSE	**Sheshan**	**7.37**	**357**	Pn	Pn	14 54 01.8	+7.8		
WHN	**Wuhan**	**9.38**	**318**	S	Sn	14 56 20.9	+14		
WHN	**Wuhan**	**9.38**	**318**	LR	LR				
	comp=Z,1μm,6.6s								
WHN	**Wuhan**	**9.38**	**318**	LR	LR				
	comp=E,650nm,5.5s								
WHN	**Wuhan**	**9.38**	**318**	LR	LR				
	comp=N,1μm,4.7s								
WHN	**Wuhan**	**9.38**	**318**	P	Pn	14 54 30.8	+9.1		
QIZ	**Qiongzhong**	**11.90**	**249**	*P*	**Pn**	**14 54 57.3**	**+1.1**		
QIZ				S	**Sn**	**14 57 11.3**	**+2.0**		
QIZ				LR	LR				
	comp=N,110nm,12.1s								
QIZ				LR	LR				
	comp=N,110nm,12.5s								
JNU	**Nakatsue**	**12.43**	**39**	Pn	**Pn**	**14 55 04.8**	**+1.4**		
	comp=N,0.1nm,0.3s,baz=202,slow=13,SNR=3.7								
	comp=N,1.7nm,0.6s								
KSRS	**Korea Array**	**14.74**	**20**	Pn	**Pn**	**14 55 37.0**	**+2.2**		
	comp=N,0.4nm,0.3s,baz=194,slow=11,SNR=15								
	comp=N,1.8nm,0.7s								
KS19	**Wonju Array Si**	**14.76**	**20**	*P*	**P**	**14 55 42.0**	**+0.6**		
XAN	**Xi'an**	**15.13**	**316**	*eP*	**P**	**14 55 42.8**	**-2.7**		
XAN				*S*	**Sn**	**14 58 33.8**	**+5.7**		
XAN				LR	LR				
	comp=N,360nm,4.8s								
XAN				LR	LR				
	comp=N,330nm,4.5s								
XAN				LR	LR				
	comp=N,320nm,14.4s								
BJI	**Beijing**	**16.92**	**346**	*P*	**Pn**	**14 56 00.0**	**-3.2**		
BJI				*pmax*	*pmax*				
	comp=N,3.0nm,0.4s								
DAV	**Davao City (W)**	**16.98**	**166**	LR	LR	15 02 24.1			
	comp=N,72nm,20.6s,baz=0.0,slow=37								
CD2	**Chengdu**	**17.39**	**298**	*P*	**P**	**14 56 11.0**	**+0.4**		
CD2				*S*	**Sn**	**14 59 22.1**	**-1.0**		
CD2				*pmax*	*pmax*				
	comp=N,20nm,0.9s								
CD2				LR	LR				
	comp=N,860nm,5.1s								
CD2				LR	LR				
	comp=N,830nm,6.4s								
CD2				LR	LR				
	comp=N,1μm,6.9s								
JGF	**Kuroka**	**18.08**	**45**	Pn	**Pn**	**14 56 13.8**	**-4.1**		
JCJ	**Chichijima**	**18.90**	**75**	LR	LR	15 02 19.3			
	comp=N,70nm,19.2s,baz=106,slow=33								
MJAR	**Matsushiro Arr**	**19.20**	**44**	*P*	**P**	**14 56 29.0**	**-1.4**		
	baz=218,slow=8.8,SNR=4.8								
MJAR				LR	LR	15 04 09.1			
	comp=N,45nm,21.4s,baz=225,slow=38								
	comp=N,0.5nm,0.7s								
BTO	**Baotou**	**19.46**	**333**	*eP*	**Pn**	**14 56 39.8**	**+5.2**		
BTO				PP	**PnPn**	**14 56 57.9**	**+10**		
BTO				*pmax*	*pmax*				
	comp=N,35nm,0.5s								
BTO				*pmax*	*pmax*				
	comp=N,280nm,4.7s								
BTO				LR	LR				
	comp=N,400nm,5.3s								
BTO				LR	LR				
	comp=N,340nm,5.3s								
BTO				LR	LR				
	comp=N,230nm,6.8s								
CHTO	**Chiang Mai**	**21.66**	**261**	*P*	**P**	**14 56 56.2**	**-1.1**		
CMAR	**Chiang Mai Arr**	**21.77**	**260**	*P*	**P**	**14 56 57.7**	**-0.7**		
CMAR	**Chiang Mai Arr**	**21.77**	**260**	*P*	**P**	**14 56 59.7**	**+1.2**		
	comp=N,3.1nm,1.0s,baz=58,slow=8.8,SNR=12								
CMAR				LR	LR	15 06 07.7			
	comp=N,68nm,18.9s,baz=90,slow=38								
	comp=N,3.1nm,1.0s								
TOLI2	**Tolitoli**	**22.48**	**182**	*P*	**P**	**14 57 02.9**	**-3.2**		
SBUM	**Sibu**	**23.00**	**205**	*P*	**P**	**14 57 09.1**	**-2.5**		
GTA	**Gaotai**	**24.19**	**315**	*eP*	**P**	**14 57 27.4**	**+4.1**		
GTA				*pP*	*sP*	14 57 31.8	+5.8		
GTA				*pmax*	*pmax*				
	comp=N,2.0nm,1.0s								
GUMO	**Guam**	**24.20**	**110**	LR	LR	15 04 52.9			
	comp=N,40nm,21.0s,baz=277,slow=32								
GOMU	**GeErMu**	**26.24**	**304**	*P*	**P**	**14 57 42.1**	**-0.1**		
GOMU				*pP*	*sP*	14 57 45.6	+0.7		
GOMU				*sP*	*pP*	14 57 49.1	+4.5		
GOMU				S	**S**	**15 02 17.4**	**+2.3**		
GOMU				*pmax*	*pmax*				
	comp=N,2.0nm,0.6s								
GOMU				LR	LR				
	comp=N,73nm,8.2s								
GOMU				LR	LR				
	comp=N,94nm,8.3s								
GOMU				LR	LR				
	comp=N,80nm,8.2s								
ASAJ	**Asahikawa**	**26.66**	**35**	LR	LR	15 08 12.2			
	comp=N,41nm,21.7s,baz=134,slow=36								
JKA	**Kamikawa-asahi**	**26.66**	**35**	*P*	**P**	**14 57 42.6**	**-2.9**		
JKA				IAmb	IAmb	14 58 04.3			
	comp=Z,9.6nm,1.1s								
SONM	**Songino Array**	**26.95**	**337**	*P*	**P**	**14 57 51.1**	**+2.9**		
	comp=Z,0.7nm,0.5s,baz=160,slow=8.8,SNR=2.9								
SONM				LR	LR	15 09 24.6			
	comp=Z,70nm,21.1s,baz=59,slow=38								
	comp=Z,0.7nm,0.5s								
KAPI	**Kappang**	**28.60**	**184**	LR	LR	15 10 53.3			
	comp=Z,65nm,18.0s,baz=38,slow=40								
JAY	**Jayapura**	**32.02**	**142**	LR	LR	15 09 11.2			
	comp=Z,52nm,21.2s,baz=349,slow=32								
YAK	**Yakutsk**	**38.70**	**6**	LR	LR	15 18 47.9			
	comp=Z,38nm,18.1s,baz=182,slow=41								
MKAR	**Makanchi Array**	**38.94**	**316**	*P*	**P**	**14 59 29.5**	**-3.1**		
MKAR	**Makanchi Array**	**38.94**	**316**	*P*	**P**	**14 59 32.5**	**-0.1**		
	comp=Z,1.3nm,0.7s,baz=110,slow=9.2,SNR=8.0								
MKAR				PcP	**PcP**	**15 01 42.8**	**-0.3**		
	comp=Z,1.3nm,0.9s,baz=134,slow=4.2,SNR=3.7								
MKAR				LR	LR	15 16 59.9			
	comp=Z,50nm,18.2s,baz=77,slow=38								
	comp=Z,1.3nm,0.7s								
ZALV	**Zalesovo Beam**	**40.85**	**327**	*P*	**P**	**14 59 47.1**	**-1.2**		
ZALV	**Zalesovo Beam**	**40.85**	**327**	*P*	**P**	**14 59 47.9**	**-0.4**		
	comp=Z,1.5nm,0.6s,baz=114,slow=8.1,SNR=5.5								
ZALV				LR	LR	15 17 45.4			
	comp=Z,35nm,18.2s,baz=86,slow=38								
	comp=Z,1.5nm,0.6s								
PMG	**Port Moresby**	**41.32**	**140**	LR	LR	15 15 14.4			
	comp=Z,41nm,21.3s,baz=192,slow=34								
H11N1	**WAKE ISLAND Hy**	**42.14**	**86**	T	T	15 45 00.7			
	baz=283,slow=74,SNR=178								
H11N2	**WAKE ISLAND Hy**	**42.14**	**86**	T	T	15 45 03.4			
	baz=283,slow=74,SNR=114								
H11N3	**WAKE ISLAND Hy**	**42.15**	**86**	T	T	15 45 01.8			
	baz=283,slow=74,SNR=175								
H11S3	**WAKE ISLAND Hy**	**42.25**	**88**	T	T	15 45 07.7			
	baz=284,slow=75,SNR=444								
H11S1	**WAKE ISLAND Hy**	**42.26**	**88**	T	T	15 45 08.5			
	baz=284,slow=75,SNR=297								
H11S2	**WAKE ISLAND Hy**	**42.27**	**88**	T	T	15 45 08.3			
	baz=284,slow=75,SNR=205								
PALK	**Pallekele**	**42.47**	**254**	LR	LR	15 19 47.7			
	comp=Z,55nm,18.4s,baz=186,slow=39								
KURBB	**Kurchatov Arra**	**42.72**	**320**	*P*	**P**	**15 00 04.2**	**+0.6**		
	comp=Z,0.7nm,0.7s,baz=115,slow=7.2,SNR=4.3								
	comp=Z,0.7nm,0.7s								
WRA	**Warramunga Arr**	**45.13**	**163**	*P*	**P**	**15 00 20.9**	**-2.4**		
	comp=Z,1.0nm,0.7s,baz=344,slow=8.6,SNR=10								
WRA				PcP	**PcP**	**15 02 04.3**	**+0.4**		
	comp=Z,0.6nm,1.0s,baz=347,slow=3.2,SNR=1.7								
	comp=Z,1.0nm,0.7s								
WR8	**Warramunga Arr**	**45.19**	**163**	*P*	**P**	**15 00 21.9**	**-1.8**		
WR8				IAmb	IAmb	15 00 27.5			
	comp=Z,3.1nm,0.7s								
KKAR	**Karatay Array**	**46.06**	**308**	*P*	**P**	**15 00 28.9**	**-1.7**		
TIXI	**Tiksi**	**48.15**	**3**	LR	LR	15 22 36.4			
	comp=Z,67nm,18.6s,baz=192,slow=38								
BVAR	**Borovoye Array**	**48.28**	**321**	*P*	**P**	**15 00 49.2**	**+1.5**		
	comp=Z,1.1nm,0.6s,baz=109,slow=7.8,SNR=2.5								
	comp=Z,1.1nm,0.6s								
ASAR	**Alice Springs**	**48.58**	**165**	*P*	**P**	**15 00 49.5**	**-0.9**		
ASAR	**Alice Springs**	**48.58**	**165**	*P*	**P**	**15 00 48.9**	**-1.5**		
	comp=Z,1.0nm,0.9s,baz=337,slow=7.3,SNR=17								
ASAR				PcP	**PcP**	**15 02 14.9**	**-1.1**		
	comp=Z,0.4nm,0.7s,baz=343,slow=3.5,SNR=1.2								
	comp=Z,1.0nm,0.9s								
AB31	**Akbulak array**	**54.04**	**315**		**P**	**15 01 29.6**	**-1.4**		
AB31				IAmb	IAmb	15 01 40.2			
	comp=Z,1.6nm,0.8s								
ABKAR	**Akbulak array**	**54.04**	**315**	*P*	**P**	**15 01 29.5**	**-1.6**		
STKA	**Stephens Creek**	**58.49**	**160**	*P*	**P**	**15 02 01.5**	**-1.3**		
	comp=Z,2.7nm,0.8s,baz=351,slow=10,SNR=2.9								
	comp=Z,2.7nm,0.8s								
H19K	**Roundabout Mou**	**65.36**	**27**	*P*	**P**	**15 02 48.4**	**-0.3**		
GNI	**Garni**	**65.39**	**305**	LR	LR	15 35 10.0			
	comp=Z,39nm,20.1s,baz=176,slow=39								
J20K	**Nowinta River**	**66.44**	**28**	*P*	**P**	**15 02 54.5**	**-1.2**		
J20K				IAmb	IAmb	15 03 02.3			
	comp=Z,7.1nm,0.9s								
G21K	**Allakaket**	**66.48**	**26**	IAmb	IAmb	15 02 57.5			
	comp=Z,6.6nm,1.1s								
F24K	**Squaw Lake**	**68.54**	**24**		**P**	**15 03 06.1**	**-2.9**		
NEA2	**Nenana**	**68.57**	**28**	*P*	**P**	**15 03 08.9**	**-0.3**		
NEA2				IAmb	IAmb	15 03 14.9			
	comp=Z,6.6nm,0.9s								
ILAR	**Eielson Array**	**69.46**	**27**	*P*	**P**	**15 03 13.6**	**-1.1**		
	comp=

CELP eSg **Sn** **15 09 56.7 +1.0**
CELP IAML 15 09 57.2
comp=N,37nm,0.3s
OBIP Obispado Ponce **0.95 137** **Pn** **15 09 43.1 -0.1**
OBIP **Sn** **15 09 55.8 0.0**
OBIP Obispado Ponce **0.95 137** *eP* **Pn** **15 09 43.1 -0.1**
OBIP Obispado Ponce **0.95 137** *eS* **Sn** **15 09 55.8 0.0**
ECPR Experimental S **0.98 115** *eP* **Pn** **15 09 43.0 -0.6**
ECPR Experimental S **0.98 115** *eS* **Sn** **15 09 56.7 +0.3**
GCPR Guaynabo City **1.22 110** **Pn** **15 09 44.7 -2.2**
GCPR **Sn** **15 10 03.4 +1.0**
GCPR Guaynabo City **1.22 110** *eP* **Pn** **15 09 44.7 -2.2**
GCPR Guaynabo City **1.22 110** *eS* **Sn** **15 10 03.4 +1.0**
SJG San Juan **1.25 120** *eS* **Sn** **15 10 03.6 +0.5**
IGPR InterUniversit **1.36 124** **Pn** **15 09 48.5 -0.3**
IGPR **Sn** **15 10 05.2 -0.6**
IGPR InterUniversit **1.36 124** *eP* **Pn** **15 09 48.5 -0.3**
IGPR InterUniversit **1.36 124** *eS* **Sn** **15 10 05.2 -0.6**
PDPR Patillas Dam, **1.40 120** Pn **Pn** **15 09 48.6 -0.8**
PDPR IAML 15 10 09.7
comp=N,22nm,0.1s
PDPR IAML 15 10 10.6
comp=E,17nm,0.1s
PDPR Patillas Dam, **1.40 120** *eP* **Pn** **15 09 48.9 -0.5**
PDPR Patillas Dam, **1.40 120** *eS* **Sn** **15 10 06.6 -0.1**
HUMP Col San Antoni **1.49 113** **Pn** **15 09 50.4 -0.2**
HUMP **Sn** **15 10 10.0 +1.1**
HUMP Col San Antoni **1.49 113** IAML 15 10 12.5
comp=N,20nm,0.2s
HUMP IAML 15 10 13.2
comp=E,24nm,0.2s
HUMP Col San Antoni **1.49 113** *eP* **Pn** **15 09 50.4 -0.2**
HUMP Col San Antoni **1.49 113** *eS* **Sn** **15 10 10.0 +1.1**
DR12 Loma Pena Alta **1.98 272** Pn **Pn** **15 09 55.4 -1.9**
HATOM Hato Mayor del **1.98 272** *eP* **Pn** **15 09 55.7 -1.6**
HATOM *eSg* **Sn** **15 10 25.6 +4.7**
HATOM IAML 15 10 43.5
comp=N,23nm,3.0s

*NEIC **17** 15:22:29.4±0.6, 36.75N±0.01×98.07W±0.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.5km az=351.0*
NEIC 17 15:22:29.4±0.6, 36.75N±0.01×98.07W±0.01, h5km±1km, mb_Lg2.7/74, ML2.6/30, ML2.9/35, Error ellipse: s-maj=2.6km s-min=2.3km az=5.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.19**	**60**		Pg	15 22 33.9	+0.7
KAN14	**Manchester OK**	**0.22**	**23**		Pg	15 22 34.1	+0.4
KAN14				IAML		15 22 37.9	
	comp=E,3µm,0.3s						
CROK	**Carrier**	**0.26**	**165**		Pg	15 22 35.0	+0.6
CROK				IAML		15 22 41.0	
	comp=E,3µm,0.3s						
KAN01	**Argonia South**	**0.47**	**32**		Pg	15 22 38.9	+0.5
KAN01					Sg	15 22 45.3	+0.7
KAN13	**South Haven SW**	**0.54**	**61**		Pg	15 22 40.2	+0.4
KAN13					Sg	15 22 47.5	+0.7
KAN13				IAML		15 22 47.8	
	comp=N,749nm,0.3s						
OK038	**West end E0370**	**0.61**	**243**		Pg	15 22 41.5	+0.5
OK038					Sg	15 22 50.0	+1.0
OK038				IAML		15 23 00.8	
	comp=N,1µm,0.4s						
BLOK	**Blackwell**	**0.69**	**89**		Pg	15 22 42.7	+0.2
BLOK					Sg	15 22 52.0	+0.5
BLOK				IAML		15 22 54.8	
	comp=E,516nm,0.2s						
BLOK				IAML		15 23 00.6	
	comp=N,604nm,0.2s						
NOKA	**Waynoka**	**0.70**	**261**		Pg	15 22 43.0	+0.1
NOKA					Sg	15 22 52.8	+0.8
NOKA				IAML		15 23 01.9	
	comp=N,413nm,0.2s						
NOKA				IAML		15 23 04.9	
	comp=E,505nm,0.2s						
OK029	**Liberty Lake**	**1.08**	**152**		Pg	15 22 49.8	-0.2
OK029					Sg	15 23 04.1	+0.2
OK029				IAML		15 23 12.7	
	comp=E,214nm,0.5s						
CSTR	**Hydro, Custer**	**1.21**	**205**		Pg	15 22 52.6	-0.1
ADOK	**Arcadia Dam**	**1.23**	**153**	Pg	Pg	15 22 52.4	-0.7
QUOK	**Quay**	**1.24**	**117**		Pg	15 22 52.7	-0.5
T35A	**Sooner Cattle**	**1.26**	**82**		Pg	15 22 53.1	-0.4
T35A				IAML		15 23 14.3	
	comp=E,180nm,0.2s						
OK052	**Battle Ridge R**	**1.27**	**126**		Pg	15 22 53.4	-0.4
OK052				IAML		15 23 14.1	
	comp=E,315nm,0.4s						
ELIS	**Ellis County**	**1.29**	**238**	Pg	Pg	15 22 53.1	-1.0
DEOK	**Depew**	**1.56**	**125**		Pn	15 22 56.9	-0.9
R32A	**Long Quarter,**	**1.74**	**343**		Pn	15 22 59.5	-0.9
TUL3	**Leonard**	**2.02**	**114**		Pn	15 23 03.4	-0.8
TUL3				IAmb_Lg		15 23 39.5	
	comp=E,31nm,0.8s						
WMOK	**Wichita Mounta**	**2.09**	**196**		Pn	15 23 06.0	+0.9
WMOK	**Wichita Mounta**	**2.09**	**196**		Pn	15 23 06.4	+1.2
WMOK				IAmb_Lg		15 23 37.0	
	comp=E,18nm,0.8s						
SMWD	**Samnorwood**	**2.41**	**228**		Pn	15 23 10.7	+1.2
CBKS	**Cedar Bluff**	**2.44**	**328**	IAmb_Lg		15 23 51.4	
	comp=E,39nm,0.9s						
RLO	**Rose Lookout**	**2.52**	**103**		Pn	15 23 11.8	+0.8
LOOK	**Love County**	**2.85**	**165**	IAmb_Lg		15 24 01.0	
	comp=E,14nm,0.8s						
U38A	**Gravette**	**2.98**	**95**		Pb	15 23 24.2	+1.2
HHAR	**Hobbs**	**3.36**	**97**		Pn	15 23 23.0	+0.5
HHAR				IAmb_Lg		15 24 18.4	
	comp=E,19nm,0.8s						
RTBA	**Rita Blanca**	**3.77**	**267**		Pn	15 23 30.0	+1.7
DKNS	**Dickens**	**3.87**	**218**	IAmb_Lg		15 24 42.7	
	comp=E,14nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.25**	**303**	IAmb_Lg		15 24 55.3	
	comp=E,19nm,0.8s						
MIAR	**Mount Ida**	**4.27**	**120**	IAmb_Lg		15 24 49.4	
	comp=E,15nm,0.8s						
ABTX	**Abilene, Hawle**	**4.32**	**198**	IAmb_Lg		15 24 46.8	
	comp=E,16nm,1.0s						
SN07	**Snyder 07**	**4.33**	**213**	IAmb_Lg		15 24 45.3	
	comp=E,11nm,0.9s						
P38A	**Dawn**	**4.58**	**50**	IAmb_Lg		15 24 57.9	
	comp=E,15nm,0.8s						
POST	**Post**	**4.63**	**218**	IAmb_Lg		15 24 56.5	
	comp=E,15nm,0.7s						
BGNE	**Belgrade**	**4.65**	**359**	IAmb_Lg		15 24 58.2	
	comp=E,12nm,0.8s						
MGMO	**Mountain Grove**	**4.66**	**83**	Pn	Pn	15 23 40.6	+0.1
MGMO				IAmb_Lg		15 25 01.5	
	comp=E,10nm,0.8s						
R40A	**Maddies Statio**	**4.86**	**70**	IAmb_Lg		15 25 07.4	
	comp=E,15nm,0.8s						
WHAR	**Wooly Hollow**	**4.91**	**106**	IAmb_Lg		15 25 06.2	
	comp=E,16nm,1.0s						
UALR	**University of**	**5.06**	**111**	IAmb_Lg		15 25 15.3	
	comp=E,16nm,0.8s						
WLAR	**White Oak Lake**	**5.08**	**126**	IAmb_Lg		15 25 17.1	
	comp=E,14nm,0.8s						
T25A	**Trinidad**	**5.09**	**276**	IAmb_Lg		15 25 16.7	
	comp=E,16nm,0.8s						
SGCY	**Sterling City**	**5.45**	**209**	IAmb_Lg		15 25 29.4	
	comp=E,9.2nm,0.8s						
P40A	**Paris**	**5.50**	**58**	IAmb_Lg		15 25 31.0	
	comp=E,14nm,0.8s						
BRDY	**Brady**	**5.51**	**188**	IAmb_Lg		15 25 27.1	
	comp=E,7.3nm,0.8s						
Z41A	**Richland Creek**	**5.55**	**127**	IAmb_Lg		15 25 41.4	
	comp=E,16nm,0.8s						
CCM	**Cathedral Cave**	**5.59**	**74**	IAmb_Lg		15 25 30.9	
	comp=E,16nm,0.8s						
PBMO	**Poplar Bluff**	**6.13**	**87**	IAmb_Lg		15 25 52.2	
	comp=E,10nm,0.7s						
FVM	**French Village**	**6.21**	**76**	IAmb_Lg		15 25 46.2	
	comp=E,11nm,0.8s						
OZNA	**Ozona**	**6.35**	**204**	IAmb_Lg		15 26 08.0	
	comp=E,11nm,1.1s						
JCT	**Junction City**	**6.42**	**194**	IAmb_Lg		15 25 59.8	
	comp=E,10nm,0.9s						
MNHN	**Monahans**	**6.66**	**217**	IAmb_Lg		15 26 03.5	
	comp=E,7.5nm,0.8s						
ISCO	**Idaho Springs**	**6.67**	**299**	IAmb_Lg		15 26 07.0	
	comp=E,5.5nm,0.7s						
CGM3	**Cape Girardeau**	**6.75**	**83**	IAmb_Lg		15 26 12.3	
	comp=E,7.6nm,0.7s						
SIUC	**Southern Illin**	**7.13**	**80**	IAmb_Lg		15 26 17.5	
	comp=Z,9.6nm,0.8s						
PECS	**Pecos**	**7.21**	**224**	IAmb_Lg		15 26 36.7	
	comp=Z,7.5nm,1.1s						
SAND	**Sanderson**	**7.58**	**208**	IAmb_Lg		15 26 52.0	
	comp=Z,5.4nm,0.8s						
DRIO	**Del Rio**	**7.62**	**197**	IAmb_Lg		15 26 41.6	
	comp=Z,8.8nm,1.2s						
ALPN	**Alpine**	**7.88**	**218**	IAmb_Lg		15 26 51.9	
	comp=Z,7.0nm,1.1s						
HAYD	**Hayden**	**8.12**	**300**	IAmb_Lg		15 27 04.0	
	comp=Z,5.2nm,1.0s						
RSSD	**Black Hills**	**8.65**	**330**	IAmb_Lg		15 27 08.6	
	comp=Z,4.3nm,0.7s						

*IDC **17** 15:37:41.2±1.8, 9.46S×124.33E, h91km±22km, mb3.7/8, mbtmp4.3/12, MS3.1/4, Error ellipse: s-maj=38.4km s-min=20.3km az=49.0*
*NEIC **17** 15:37:41.5±2.7, 9.51S±0.06×123.99E±0.04, h95km±7km, mb4.5/14, Error ellipse: s-maj=9.7km s-min=5.0km az=162.0*
*DJA **17** 15:37:41.3±0.4, 9.3S×124.4E±, h61km±8km, M4.5/12, mB5.0/3, mb4.7/6, MLv4.4/12, Mw(mB)4.3/3*
ISC 17 15:37:42.3±0.4, 9.46S±0.05×124.16E±0.06, h100km, n90, σ18 82/88, mb4.2/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.31**	**161**		Pn	15 37 54.3	-2.9
SOEI	**Soe**	**0.31**	**161**	P	Pn	15 37 54.5	-2.7
SOEI	**Soe**	**0.31**	**161**	P	Pn	15 37 54.5	-2.7
BATI	**Baumata**	**0.89**	**214**	P	Pn	15 38 01.2	-0.4
	798nm,0.5s,baz=40,slow=1.5,SNR=187						
BATI				S	Sn	15 38 16.2	+0.1
	1µm,0.3s,baz=198,slow=23,SNR=12						
BATI	**Baumata**	**0.89**	**214**	P	Pn	15 38 01.2	-0.4
MMRI	**Maumere**	**2.07**	**293**		Pn	15 38 13.8	-2.0
MMRI	**Maumere**	**2.07**	**293**	P	Pn	15 38 14.4	-1.4
MMRI	**Maumere**	**2.07**	**293**	S	Sn	15 38 40.2	-1.2
MMRI	**Maumere**	**2.07**	**293**	P	Pn	15 38 14.2	-1.6
EDFI	**Ende, Flores**	**2.54**	**286**	P	Pn	15 38 20.9	-1.2
BASI	**Baing, Sumba**	**3.61**	**258**	P	Pn	15 38 35.8	-0.5
WSI	**Waingapu**	**3.82**	**267**	P	Pn	15 38 38.8	-0.3
BBSI	**Bau Bau**	**4.25**	**338**	P	Pn	15 38 43.7	-1.3
BSSI	**Bau Bau, Buton**	**4.91**	**312**	P	Pn	15 38 53.8	-0.1
BKSI	**Bulukumba**	**5.74**	**315**	P	Pn	15 39 04.2	-0.9
	0.2nm513nm61nm,0.9s						
KAPI	**Kappang**	**6.22**	**315**		Pn	15 39 08.2	-3.4
KAPI	**Kappang**	**6.22**	**315**	P	Pn	15 39 11.6	0.0
	17nm,0.5s,baz=131,slow=6.5,SNR=14						
KAPI				LR	LR	15 41 39.2	
	comp=Z,98nm,18.5s,baz=89,slow=38						
KAPI	**Kappang**	**6.22**	**315**	P	Pn	15 39 12.5	+0.9
PLAI	**Plampang**	**6.34**	**275**	P	Pn	15 39 13.2	-0.1
PLAI	**Plampang**	**6.34**	**275**	P	Pn	15 39 12.6	-0.7
	0.3nm75nm,0.7s						
BNSI	**Bone**	**6.44**	**321**	P	Pn	15 39 13.8	-0.9
	1µm150nm,0.9s						
DRS	**Darwin Rock St**	**7.24**	**115**	P	Pn	15 39 24.5	-1.1
SANI	**Sanana**	**7.58**	**14**	P	Pn	15 39 30.7	+0.5
MTN	**Manton Dam**	**7.62**	**117**		Pn	15 39 29.5	-1.2
MTN	**Manton Dam**	**7.62**	**117**	P	Pn	15 39 29.6	-1.2
KNRA	**Kununurra**	**7.64**	**144**		Pn	15 39 30.0	-0.9
TTSI	**Tana Toraja**	**7.70**	**326**	P	Pn	15 39 31.0	-0.8
	0.1nm23nm,0.9s						
LUWI	**Luwuk**	**8.48**	**351**	Pn	Pn	15 39 40.9	-1.5
FITZ	**Fitzroy Crossi**	**8.71**	**171**	Pn	Pn	15 39 43.9	-1.6
FITZ	**Fitzroy Crossi**	**8.71**	**171**	P	Pn	15 39 44.1	-1.4
	45nm,0.3s,baz=0.5,slow=12,SNR=415						
FITZ				S	Sn	15 41 10.7	-11
	129nm,0.4s,baz=194,slow=4.7,SNR=15						
KDU	**Kakadu**	**8.76**	**112**	P	Pn	15 39 44.2	-2.1
JAGI	**Jajag, Banyuwa**	**9.94**	**275**	Pn	Pn	15 39 57.1	-5.2
FAKI	**Fak Fak**	**10.34**	**52**	Pn	Pn	15 40 07.3	-0.3
FAKI	**Fak Fak**	**10.34**	**52**	P	Pn	15 40 07.6	-0.1
TOLI2	**Tolitoli**	**11.03**	**342**	Pn	Pn	15 40 18.5	+1.4
TOLI2	**Tolitoli**	**11.03**	**342**	P	Pn	15 40 19.8	+2.7
MBWA	**Marble Bar**	**12.39**	**200**	Pn	Pn	15 40 34.6	-0.6
MBWA	**Marble Bar**	**12.39**	**200**	P	Pn	15 40 35.4	+0.2
PSA00	**Pilbara Seismi**	**12.74**	**199**	Pn	Pn	15 40 37.9	-1.9
PSA00	**Pilbara Seismi**	**12.74**	**199**	P	Pn	15 40 40.4	+0.6
UGM	**Wanagama**	**13.57**	**275**	P	**P**	15 40 57.1	+0.8
UGM	**Wanagama**	**13.57**	**275**	P	Pn	15 40 53.0	+2.2
WB0	**Warramunga Arr**	**14.24**	**137**		Pn	15 40 56.2	-3.2
WRA	**Warramunga Arr**	**14.33**	**138**		Pn	15 40 56.2	-4.4
WRA	**Warramunga Arr**	**14.33**	**138**	P	Pn	15 40 57.0	-3.6
	6.4nm,0.5s,baz=318,slow=14,SNR=102						
WRA				S	Sn	15 43 23.1	-15
	11nm,0.6s,baz=320,slow=25,SNR=12						
WRA				LR	LR	15 46 20.6	
	comp=Z,88nm,18.4s,baz=51,slow=36						
WRAB	**Tennant Creek**	**14.33**	**138**		Pn	15 40 57.4	-3.2
WR8	**Warramunga Arr**	**14.44**	**137**		Pn	15 40 58.7	-3.3
BBJI	**Bungbulang**	**16.45**	**276**	P	**P**	15 41 28.5	+0.1
AS31	**Alice Springs**	**16.92**	**148**		Pn	15 41 32.2	-0.8
AS31				IAmb	IAmb	15 41 35.0	
	comp=Z,8.1nm,0.5s						
ASAR	**Alice Springs**	**16.92**	**148**		Pn	15 41 31.9	-1.2
ASAR	**Alice Springs**	**16.92**	**148**	P	**P**	15 41 32.9	-0.5
	comp=Z,15nm,0.5s,baz=322,slow=12,SNR=172						
ASAR				S	Sn	15 44 29.3	-12
	comp=Z,5.5nm,0.5s,baz=332,slow=27,SNR=16						
ASAR				LR	LR	15 48 48.9	
	comp=Z,104nm,20.5s,baz=24,slow=40						
AS01	**Alice Springs**	**16.94**	**148**	P	Pn	15 41 33.0	-0.4
KKM	**Kota Kinabalu**	**17.32**	**332**		Pn	15 41 39.2	+1.2
KKM				IAmb	IAmb	15 41 43.1	
	comp=Z,23nm,1.2s						
KKM	**Kota Kinabalu**	**17.32**	**332**	P	Pn	15 41 42.2	+4.1
MEEK	**Meekatharra**	**17.88**	**196**	P	Pn	15 41 47.0	+2.4
QIS	**Mount Isa**	**18.53**	**128**	P	Pn	15 41 54.2	+1.6
COEN	**Coen**	**19.14**	**105**	Pn	Pn	15 42 01.1	+1.2
COEN	**Coen**	**19.14**	**105**	P	Pn	15 42 00.3	+0.5
MORW	**Morawa**	**20.94**	**200**	P	**P**	15 42 16.1	-1.1
MORW				IAmb	IAmb	15 42 24.2	
	comp=Z,47nm,1.5s						
MORW	**Morawa**	**20.94**	**200**	P	Pn	15 42 20.4	-0.3
KLBR	**Kellerberrin**	**22.81**	**194**	P	**P**	15 42 39.8	+3.0
INKA	**Innaminka**	**23.98**	**142**	P	**P**	15 42 47.8	+0.2
BBOO	**Buckleboo**	**25.70**	**156**	P	**P**	15 43 04.6	+1.3
BBOO	**Buckleboo**	**25.70**	**156**	P	**P**	15 43 07.5	+4.2
HTT	**Hallett**	**27.46**	**152**	P	**P**	15 43 24.0	+4.9
GSI	**Gunungsitoli**	**28.56**	**291**	P	**P**	15 43 25.4	-3.6
TOO	**Toolangi**	**33.97**	**149**	P	**P**	15 44 15.1	-1.2
TOO				IAmb	IAmb	15 44 23.2	
	comp=Z,16nm,1.5s						
CMAR	**Chiang Mai Arr**	**37.27**	**318**	P	**P**	15 44 46.0	+1.2
	comp=Z,2.7nm,0.8s,baz=144,slow=6.7,SNR=18						
CMAR				LR	LR	16 04 02.8	
	comp=Z,16nm,19.0s,baz=170,slow=42						
	comp=Z,2.7nm,0.8s						
CHTO	**Chiang Mai**	**37.52**	**319**	P	**P**	15 44 47.5	+0.6
CHTO				IAmb	IAmb	15 44 49.3	
	comp=Z,4.4nm,0.8s						
NJ2	**Nanjing**	**41.59**	**353**	*eP*	**P**	15 45 23.3	+2.9
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PZH	**PanZhiHua**	**41.86**	**329**	P	**P**	15 45 24.5	+1.6
KSRS	**Korea Array**	**46.80**	**4**	P	**P**	15 46 02.0	+0.1
	comp=Z,0.9nm,0.9s,baz=180,slow=9.1,SNR=2.3						
	comp=Z,0.9nm,0.9s						
MJAR	**Matsushiro Arr**	**47.63**	**15**	P	**P**	15 46 07.6	-0.8
	comp=Z,1.0nm,0.7s,baz=186,slow=8.8,SNR=5.4						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.39**	**348**	*eP*	**P**	15 46 38.0	+0.9
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.0s						
EVN	**Everest**	**51.85**	**317**		**P**	15 46 38.1	-3.2
EVN				IAmb	IAmb	15 46 42.9	
	comp=Z,6.4nm,0.7s						
SONM	**Songino Array**	**59.18**	**346**	P	**P**	15 47 32.9	0.0
SONM				IAmb	IAmb	15 47 42.2	
	comp=Z,2.9nm,1.3s						
SONM	**Songino Array**	**59.18**	**346**	P	**P**	15 47 33.1	+0.2
	comp=Z,1.5nm,0.7s,baz=172,slow=6.6,SNR=4.8						
	comp=Z,1.5nm,0.7s						
WMQ	**Urumqi**	**62.51**	**331**	*eP*	**P**	15 47 56.6	+1.1
WMQ				LR	LR		
	comp=N,520nm,23.5s						
WMQ				LR	LR		
	comp=E,470nm,21.3s						
WMQ				LR	LR		
	comp=Z,200nm,21.3s						
NIL	**Nilore**	**64.61**	**314**	P	**P**	15 48 07.8	-1.6
MKAR	**Makanchi Array**	**67.29**	**330**	P	**P**	15 48 26.6	+0.3
	comp=Z,2.9nm,0.8s,baz=136,slow=7.7,SNR=19						
	comp=Z,2.9nm,0.8s						
PETK	**Petropavlovsk-**	**68.56**	**21**	P	**P**	15 48 35.2	+1.0
ARSB	**Arslanbob**	**69.00**	**321**	P	**P**	15 48 36.7	-0.6
ARSB				IAmb	IAmb	15 48 39.2	
	comp=E,4.1nm,0.5s						
ZALV	**Zalesovo Beam**	**71.38**	**337**	P	**P**	15 48 50.6	-0.7
ZALV	**Zalesovo Beam**	**71.38**	**337**	P	**P**	15 48 50.9	-0.5
	comp=Z,1.2nm,0.3s,baz=120,slow=6.0,SNR=8.1						
	comp=Z,1.2nm,0.3s						
KKAR	**Karatay Array**	**71.51**	**322**	P	**P**	15 48 52.0	-0.5
KURBB	**Kurchatov Arra**	**71.73**	**331**	P	**P**	15 48 53.7	+0.2
	comp=Z,1.6nm,0.7s,baz=140,slow=5.3,SNR=15						
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**71.75**	**331**	P	**P**	15 48 53.6	0.0
BVAR	**Borovoye Array**	**77.17**	**330**	P	**P**	15 49 25.9	+0.8
	comp=Z,0.5nm,0.5s,baz=136,slow=9.1,SNR=4.2						
	comp=Z,0.5nm,0.5s						
QSPA	**South Pole Qui**	**80.53**	**180**	P	P	15 49 48.4	+5.0
	comp=Z,0.7nm,0.6s,baz=338,slow=3.4,SNR=13						
ABKAR	**Akbulak array**	**80.92**	**323**	P	**P**	15 49 45.4	-0.1

*CATAC **17** 15:44:28.4±0.6, 13.7N±3.7×9.7W±, h9km±2km, M3.7/16, MLv3.7/16, Error ellipse: s-maj=6.1km s-min=4.9km az=48.2, confirmed*
*SNET **17** 15:44:30.3±1.8, 13.14N×90.02W, h19km, ML3.4*
*GCG **17** 15:44:31.5±1.7, 13.40N×90.12W, h3km±31km, MD3.6, ML3.8, MW3.1*
ISC 17 15:44:28.0±2.1, 13.02N±0.07×89.96W±0.06, h4km±11km, n53, σ0 56/58, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.78**	**53**		S	**Sb**	15 44 55.2	+0.2
LALI	**Alcalda de L**	**0.78**	**53**	P	**Pb**	15 44 44.4	+0.3
JAYA	**Jayaque - finc**	**0.80**	**38**	*eP*	**Pb**	15 44 44.6	0.0
JAYA				*eS*	**Sb**	15 44 56.5	+0.6
JAYA	**Jayaque - finc**	**0.80**	**38**	*i* P	**Pb**	15 44 44.6	0.0
JAYA				*i* S	**Sg**	15 44 55.0	+1.2
JAYA	**Jayaque - finc**	**0.80**	**38**	P	**Pb**	15 44 44.7	0.0
FAME	**Alcaldia de Sa**	**0.82**	**356**	S	**Sg**	15 44 53.9	-0.5
FAME	**Alcaldia de Sa**	**0.82**	**356**	P	**Pg**	15 44 43.5	-0.3
CEVE	**Cerro Verde**	**0.86**	**22**	*eS*	**Sb**	15 44 58.1	+0.3
NUBE	**Las Nubes**	**0.89**	**11**	P	**Pg**	15 44 45.3	+0.1
NUBE	**Las Nubes**	**0.89**	**11**	S	**Sg**	15 44 56.3	-0.5
RTR	**El Retiro**	**0.92**	**19**	*eP*	**Pg**	15 44 46.3	+0.5
PMON	**Piamonte**	**0.93**	**42**	S	**Sb**	15 44 59.8	+0.3
PMON	**Piamonte**	**0.93**	**42**	P	**Pb**	15 44 47.1	+0.3
CEDA	**San Andres**	**0.95**	**35**	*eP*	**Pb**	15 44 46.9	-0.2
CEDA				*eS*	**Sb**	15 45 00.5	+0.4
PANCS	**Alcalda de**	**0.96**	**52**	P	**Pb**	15 44 47.1	-0.1
PANCS	**Alcalda de**	**0.96**	**52**	S	**Sb**	15 45 00.5	+0.2
BOQS	**Boqueron**	**0.97**	**43**	*eP*	**Pb**	15 44 47.7	+0.2
LOMA	**Loma Larga**	**0.98**	**51**	*eP*	**Pb**	15 44 47.7	0.0
LOMA	**Loma Larga**	**0.98**	**51**	P	**Pb**	15 44 47.5	-0.3
LOMA	**Loma Larga**	**0.98**	**51**	S	**Sb**	15 45 02.2	+1.1
LOAL	**Lomas de Alarc**	**0.99**	**10**	P	**Pg**	15 44 46.9	-0.1
LOAL	**Lomas de Alarc**	**0.99**	**10**	S	**Sg**	15 45 00.0	+0.2
SLOZ	**Alcaldia de Sa**	**1.01**	**10**	P	**Pg**	15 44 47.2	-0.3
SLOZ	**Alcaldia de Sa**	**1.01**	**10**	S	**Sg**	15 45 00.9	+0.2
LFRS	**El Faro**	**1.06**	**55**	*eP*	**Pb**	15 44 48.7	-0.3
LBRS	**Las Brisas**	**1.14**	**51**	*eP*	**Pb**	15 44 50.3	-0.1
PAVA	**Las Pavas**	**1.21**	**55**	*eP*	**Pg**	15 44 51.3	+0.1
PAVA	**Las Pavas**	**1.21**	**55**	P	**Pb**	15 44 51.5	-0.1
PAVA	**Las Pavas**	**1.21**	**55**	S	**Sb**	15 45 08.6	+1.0
TECO	**Alcaldia de Te**	**1.25**	**66**	P	**Pg**	15 44 51.9	-0.2
TECO	**Alcaldia de Te**	**1.25**	**66**	S	**Sg**	15 45 08.7	+0.3
UESV	**Universidad de**	**1.29**	**62**	P	**Pg**	15 44 52.1	-0.7
UESV	**Universidad de**	**1.29**	**62**	S	**Sg**	15 45 09.8	+0.2
FG16	**Alotenango, Sa**	**1.36**	**337**	*i* P	**Pb**	15 44 54.8	+0.6
FG16				*i* S	**Sn**	15 45 13.4	+0.9
FG16				IAML		15 45 18.6	
	comp=E,4µm,0.0s						
SCLA	**Alcaldia de Sa**	**1.37**	**60**	P	**Pn**	15 44 54.1	0.0
SCLA	**Alcaldia de Sa**	**1.37**	**60**	S	**Sn**	15 45 13.0	+0.2
MTO3	**Montecristo**	**1.49**	**23**	*i* P	**Pn**	15 44 54.8	-0.9
MTO3	**Montecristo**	**1.49**	**23**	P	**Pn**	15 44 54.9	-0.9
MTO3	**Montecristo**	**1.49**	**23**	S	**Sn**	15 45 14.5	-1.3
TECA	**Tecapa**	**1.49**	**71**	*eP*	**Pn**	15 44 55.6	-0.2
LLGN	**La Laguna**	**1.50**	**41**	P	**Pn**	15 44 55.3	-0.5
LLGN	**La Laguna**	**1.50**	**41**	S	**Sn**	15 45 15.6	-0.4
ESQI	**Esquipulas**	**1.64**	**21**	P	**Pn**	15 44 57.8	0.0
**

EWUT	**Wuta**	**0.32 230**	*i*	P		**Pn**	**16 15 01.9**	**+0.1**
TWE	**Neicheng**	**0.35 282**	*i*	P		**Pn**	**16 15 02.3**	**+0.2**
TWE				S		**Sn**	**16 15 10.7**	**0.0**
ENA	**Nanau**	**0.35 231**	*i*	P		**Pn**	**16 15 02.2**	**+0.1**
ENA				S		**Sn**	**16 15 10.9**	**+0.2**
TWB1	**Santiao Chiao**	**0.36 352**		P		**Pn**	**16 15 01.8**	**-0.4**
TWB1			*i*	S		**Sn**	**16 15 09.8**	**-1.1**
TIPB	**Shuangxi**	**0.38 328**	*i*	P		**Pn**	**16 15 02.1**	**-0.3**
TIPB				S		**Sn**	**16 15 10.1**	**-1.1**
EAHA	**Aohua**	**0.42 221**	*eP*			**Pn**	**16 15 02.6**	**0.0**
EAHA			*eS*			**Sn**	**16 15 12.3**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.43 285**		P		**Pn**	**16 15 03.3**	**+0.5**
FUSB				S		**Sn**	**16 15 12.1**	**+0.2**
ENTT	**Nioudou**	**0.43 269**	*i*	P		**Pn**	**16 15 03.3**	**+0.5**
ENTT				S		**Sn**	**16 15 11.9**	**0.0**
EOS3	**EOS3**	**0.44 145**	*eP*			**Pn**	**16 15 03.8**	**+1.1**
EOS3				S		**Sn**	**16 15 13.3**	**+1.6**
SXI1	**Grass Mountain**	**0.47 341**		P		**Pn**	**16 15 03.0**	**-0.2**
SXI1				S		**Sn**	**16 15 11.9**	**-0.7**
LATG	**Datong**	**0.48 256**	*i*	P		**Pn**	**16 15 03.7**	**+0.4**
LATG				S		**Sn**	**16 15 13.2**	**+0.3**
NWLT	**Wulai**	**0.51 285**		P		**Pn**	**16 15 03.7**	**+0.3**
NWLT			*i*	S		**Sn**	**16 15 12.4**	**-0.7**
TWA	**Mucha**	**0.53 308**		P		**Pn**	**16 15 03.7**	**+0.1**
TWA				S		**Sn**	**16 15 12.7**	**-0.8**
NHDH	**Xindian Distri**	**0.56 304**	*eP*			**Pn**	**16 15 04.1**	**+0.2**
NHDH			*eS*			**Sn**	**16 15 13.6**	**-0.4**
EOS4	**EOS4**	**0.58 155**	*eP*			**Pn**	**16 15 04.4**	**+0.7**
EOS4			*eS*			**Sn**	**16 15 14.0**	**+0.3**
YHNB	**Yeheng**	**0.61 272**		P		**Pn**	**16 15 04.7**	**+0.2**
YHNB				S		**Sn**	**16 15 14.8**	**-0.2**
ETL	**Fush Village**	**0.62 218**	*eP*			**Pn**	**16 15 04.9**	**-0.3**
ETL			*eS*			**Sn**	**16 15 14.8**	**-0.3**
NACB	**Ninganchiao**	**0.63 221**		P		**Pn**	**16 15 04.1**	**-0.5**
NACB				S		**Sn**	**16 15 14.7**	**-0.4**
NNSB	**Datong**	**0.64 250**		P		**Pn**	**16 15 05.1**	**+0.3**
NNSB				S		**Sn**	**16 15 15.9**	**+0.3**
YM01	**YM01**	**0.66 319**	*eP*			**Pn**	**16 15 04.9**	**-0.1**
YM01				S		**Sn**	**16 15 14.6**	**-1.2**
YM08	**YM08**	**0.68 323**		P		**Pn**	**16 15 05.3**	**+0.1**
YM08			*eS*			**Sn**	**16 15 14.4**	**-1.7**
ETLH	**Xiulin Townshi**	**0.68 229**	*eP*			**Pn**	**16 15 05.1**	**-0.2**
ETLH				S		**Sn**	**16 15 15.8**	**-0.5**
ZUZH	**Zhuzihu**	**0.68 318**	*eP*			**Pn**	**16 15 04.9**	**-0.4**
ZUZH			*eS*			**Sn**	**16 15 14.9**	**-1.4**
TWD	**Chiawan**	**0.70 216**	*eP*			**Pn**	**16 15 05.3**	**-0.1**
TWD			*eS*			**Sn**	**16 15 15.1**	**-1.4**
TWS1	**Kuangyinshan**	**0.72 308**	*eP*			**Pn**	**16 15 06.0**	**+0.4**
TWS1			*eS*			**Sn**	**16 15 17.4**	**+0.4**
NTST	**Danshui**	**0.74 314**	*eS*			**Sn**	**16 15 17.6**	**+0.2**
KSHI	**Guanxi Townshi**	**0.80 279**	*eP*			**Pn**	**16 15 07.2**	**+0.7**
KSHI				S		**Sn**	**16 15 19.6**	**+1.0**
FUSS	**Fushou**	**0.83 241**	*eP*			**Pn**	**16 15 07.5**	**+0.4**
FUSS				S		**Sn**	**16 15 19.5**	**-0.1**
NCUH	**Zhongli**	**0.84 292**	*eP*			**Pn**	**16 15 07.2**	**+0.1**
NCUH				S		**Sn**	**16 15 19.7**	**+0.3**
NFF	**Wufeng Townshi**	**0.84 269**		P		**Pn**	**16 15 07.4**	**+0.4**
NFF			*eS*			**Sn**	**16 15 19.6**	**0.0**
JYNG	**Yonagunijimaku**	**0.84 103**		P		**Pn**	**16 15 07.2**	**+0.2**
JYNG			*eS*			**Sn**	**16 15 19.4**	**-0.1**
ETM	**Tongmen**	**0.85 216**		P		**Pn**	**16 15 06.4**	**-0.7**
ETM				S		**Sn**	**16 15 18.5**	**-1.0**
WHF	**Hehuan Shan**	**0.87 235**	*eP*			**Pn**	**16 15 08.0**	**+0.2**
WHF			*eS*			**Sn**	**16 15 19.8**	**-0.9**
TEYL	**Yanliau Villag**	**0.88 208**	*i*	P		**Pn**	**16 15 07.2**	**-0.2**
TEYL			*eS*			**Sn**	**16 15 20.1**	**-0.1**
TWT	**Tachien**	**0.88 244**	*eP*			**Pn**	**16 15 07.7**	**0.0**
TWT			*eS*			**Sn**	**16 15 20.1**	**-0.4**
TDCB	**Techi**	**0.90 244**	*eP*			**Pn**	**16 15 08.6**	**+0.8**
TDCB				S		**Sn**	**16 15 20.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.90 102**	*i*	P		**Pn**	**16 15 08.0**	**+0.3**
YOJ			*i*	S		**Sn**	**16 15 20.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.90 102**	*eP*			**Pn**	**16 15 07.8**	**+0.1**
YOJ			*eS*			**Sn**	**16 15 20.7**	**+0.1**
LIOB	**Emei**	**0.94 270**	*i*	P		**Pn**	**16 15 08.8**	**+0.6**
LIOB			*eS*			**Sn**	**16 15 22.5**	**+1.1**
NSTT	**Nanjuang**	**0.95 269**		P		**Pn**	**16 15 08.4**	**+0.2**
NSTT			*eS*			**Sn**	**16 15 21.8**	**+0.1**
SHUL	**Shoufeng**	**0.96 207**		P		**Pn**	**16 15 08.3**	**-0.2**
SHUL			*eS*			**Sn**	**16 15 22.6**	**+0.6**
SBCB	**Hsinchu**	**0.97 279**	*eP*			**Pn**	**16 15 08.9**	**+0.3**
SBCB			*eS*			**Sn**	**16 15 22.3**	**+0.2**
ESL	**Shilin**	**1.00 214**	*eP*			**Pn**	**16 15 08.1**	**-0.9**
OWD	**Renai**	**1.05 229**	*eP*			**Pn**	**16 15 10.2**	**+0.4**
OWD				S		**Sn**	**16 15 23.6**	**+0.3**
WHP	**Taichung City**	**1.07 250**		P		**Pn**	**16 15 11.1**	**+1.3**
WHP				S		**Sn**	**16 15 25.0**	**+0.6**
WUSB	**Renai**	**1.07 232**	*i*	P		**Pn**	**16 15 10.5**	**+0.6**
WUSB				S		**Sn**	**16 15 24.9**	**+0.4**
WARBT	**Fenglin Townsh**	**1.10 213**	*eP*			**Pn**	**16 15 09.3**	**-1.0**
WARBT				S		**Sn**	**16 15 23.2**	**-1.9**
EGFH	**Guangfu**	**1.13 210**	*eP*			**Pn**	**16 15 10.8**	**+0.3**
EGFH			*eS*			**Sn**	**16 15 24.2**	**-1.4**
NMLH	**Miaoli**	**1.15 265**		P		**Pn**	**16 15 11.1**	**+0.4**
NMLH			*eS*			**Sn**	**16 15 26.3**	**+0.3**
NSY	**Sanyi**	**1.19 259**	*eP*			**Pn**	**16 15 12.8**	**+1.4**
NSY			*eS*			**Sn**	**16 15 28.7**	**+1.6**
HGSD	**Ruisui**	**1.28 206**		P		**Pn**	**16 15 12.1**	**-0.5**
HGSD			*eS*			**Sn**	**16 15 28.6**	**-0.6**
SMLT	**Sun Moon Lake**	**1.29 234**		P		**Pn**	**16 15 14.3**	**+1.5**
SMLT			*eS*			**Sn**	**16 15 31.6**	**+2.0**
WDJ	**Dajia District**	**1.31 257**	*eP*			**Pn**	**16 15 13.1**	**+0.2**
WDJ			*eS*			**Sn**	**16 15 29.7**	**-0.1**
SSLB	**Suanglung**	**1.31 229**	*eP*			**Pn**	**16 15 14.1**	**+1.2**
SSLB			*eS*			**Sn**	**16 15 31.6**	**+1.6**
EHY	**Hungye**	**1.32 210**		P		**Pn**	**16 15 11.8**	**-1.2**
EHY			*eS*			**Sn**	**16 15 28.0**	**-2.0**
EHYH	**Wanrong**	**1.32 209**	*eP*			**Pn**	**16 15 13.2**	**+0.3**
EHYH			*eS*			**Sn**	**16 15 28.8**	**-1.2**
YULB	**Yu-li**	**1.43 209**	*eP*			**Pn**	**16 15 13.3**	**-1.1**
YULB			*eS*			**Sn**	**16 15 30.4**	**-2.1**
WHYT	**Xinyi Township**	**1.44 229**		P		**Pn**	**16 15 16.0**	**+1.4**
WHYT			*eS*			**Sn**	**16 15 35.1**	**+2.1**
WJS	**Zhushan**	**1.46 236**		P		**Pn**	**16 15 15.7**	**+1.0**
WJS			*eS*			**Sn**	**16 15 34.5**	**+1.2**
WNT	**Mingjian**	**1.46 238**		P		**Pn**	**16 15 16.3**	**+1.5**
WNT			*eS*			**Sn**	**16 15 34.2**	**+1.0**
TWF1	**Yuli**	**1.46 208**	*eP*			**Pn**	**16 15 15.3**	**+0.4**
TWF1			*eS*			**Sn**	**16 15 32.9**	**-0.5**
CHKH	**Chenggong**	**1.57 202**		P		**Pn**	**16 15 17.2**	**-0.5**
CHKH			*eS*			**Sn**	**16 15 33.5**	**-2.3**
IRIF	**Iriomote-Funau**	**1.57 101**		P		**Pn**	**16 15 16.4**	**+0.2**
IRIF			*eS*			**Sn**	**16 15 36.0**	**+0.1**
FULB	**Fuli**	**1.60 206**		P		**Pn**	**16 15 16.9**	**+0.2**
FULB			*eS*			**Sn**	**16 15 36.0**	**-0.7**
ALS	**Alishan**	**1.60 225**		P		**Pn**	**16 15 18.1**	**+1.2**
ALS			*eS*			**Sn**	**16 15 39.4**	**+2.3**
EHD	**Haiduan**	**1.68 207**	*eP*			**Pn**	**16 15 16.4**	**-1.4**
EHD			*eS*			**Sn**	**16 15 37.0**	**-1.5**
ELDTW	**Lidau**	**1.73 213**		P		**Pn**	**16 15 18.5**	**0.0**
ELDTW				S		**Sn**	**16 15 38.6**	**-1.3**
WCKO	**Fanlu**	**1.79 228**	*eP*			**Pn**	**16 15 19.7**	**+0.5**
WCKO			*eS*			**Sn**	**16 15 42.3**	**+1.3**
EDH	**Donghe**	**1.80 202**		P		**Pn**	**16 15 18.4**	**-1.0**
EDH			*eS*			**Sn**	**16 15 38.9**	**-2.5**
JKRS	**Kuro-shima**	**1.84 103**	*eP*			**Pn**	**16 15 20.7**	**+0.9**
JKRS			*eS*			**Sn**	**16 15 42.7**	**+0.5**
WTP	**Ta-pu**	**1.91 223**	*eP*			**Pn**	**16 15 22.9**	**+2.0**
WSL	**Shuilin Townsh**	**2.00 236**	*eP*			**Pn**	**16 15 23.3**	**+1.2**
TWG	**Pinlang**	**2.03 206**	*eP*			**Pn**	**16 15 22.6**	**+0.2**
TWG			*eS*			**Sn**	**16 15 45.4**	**-1.4**
TWGBT	**Beinan**	**2.03 206**	*eP*			**Pn**	**16 15 22.6**	**+0.2**
TWGBT			*eS*			**Sn**	**16 15 45.1**	**-1.7**
JISG	**Ishigakijimahi**	**2.06 91**	*eP*			**Pn**	**16 15 23.4**	**+0.6**
VWUC	**VWUC**	**2.38 279**	*eP*			**Pn**	**16 15 25.9**	**-1.3**
MATB	**Ma-tsu**	**2.42 309**	*eP*			**Pn**	**16 15 27.1**	**-0.5**
PTMZ	**Houxiangcun**	**2.68 279**	*eP*			**Pn**	**16 15 30.9**	**-0.4**

TIF **17** *16:25:07.9, 41.44N×41.00E, h22km±1km*
ISK **17** *16:25:07.1, 41.50N×40.98E, h11km, ML3.4/8*
AFAD **17** *16:25:08.6, 41.34N×41.04E, h17km±1km, MW3.2*
MOS **17** *16:25:12.7, 41.81N×41.35E, h15km±2km, MPVA3.2*

ISC 17 16:25:06.2±1.2, **41.49N**±0.02×**40.98E**±0.02, **h5**km±10km, **n36,** σ0.93/64, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HOPA	**Hopa-Artvin**	**0.36**	**106**	Pg	**Pb**	**16**	**25 14.9**	**-0.3**
HOPA				Sg	**Sb**	**16**	**25 20.5**	**-0.7**
CHOM	**Cayeli-Rize**	**0.42**	**203**	Pg	**Pb**	**16**	**25 16.1**	**0.0**
CHOM				Sg	**Sb**	**16**	**25 22.7**	**-0.1**
BCA	**Borcka**	**0.49**	**95**	Pg	**Pb**	**16**	**25 17.4**	**+0.1**
BCA				Sg	**Sb**	**16**	**25 24.4**	**-0.3**
BATM	**Batumi**	**0.55**	**77**	P	**Pb**	**16**	**25 19.4**	**+1.1**
BATM				S	**Sb**	**16**	**25 27.4**	**+0.9**
DBAD	**Bademkaya**	**0.71**	**131**	P	**Pb**	**16**	**25 20.7**	**-0.5**
DBAD				S	**Sg**	**16**	**25 28.8**	**-0.4**
DBAD				*i* IAML		16	25 31.0	
	comp=N,1μm,0.4s							
IZDR	**Rize**	**0.77**	**204**	P	**Pb**	**16**	**25 21.8**	**-0.3**
IZDR				S	**Sg**	**16**	**25 31.1**	**+0.2**
IZDR				*i* IAML		16	25 32.0	
	comp=E,816nm,0.4s							
IZDR				*i* IAML		16	25 33.0	
	comp=N,402nm,0.3s							
DDEM	**Demirkent**	**0.83**	**135**	P	**Pb**	**16**	**25 22.7**	**-0.5**
DDEM				S	**Sg**	**16**	**25 32.7**	**-0.2**
DDEM				*i* IAML		16	25 36.0	
	comp=N,2μm,0.4s							
DDEM				*i* IAML		16	25 37.0	
	comp=E,3μm,0.4s							
MACK	**Trabzon**	**1.06**	**240**	P	**Pn**	**16**	**25 28.5**	**+0.7**
MACK				S	**Sn**	**16**	**25 42.1**	**-0.8**
MACK				*i* IAML		16	25 43.0	
	comp=E,2μm,0.2s							
MACK				*i* IAML		16	25 44.0	
	comp=N,2μm,0.2s							
BAYT	**Aydıntepe-Bayb**	**1.26**	**210**	Pn	**Pn**	**16**	**25 30.4**	**-0.3**
AHAN	**Ardahan-Merkez**	**1.28**	**104**	P	**Pn**	**16**	**25 31.1**	**+0.2**
AHAN				S	**Sb**	**16**	**25 48.0**	**+0.3**
AHAN				*i* IAML		16	25 49.0	
	comp=N,235nm,0.8s							
AHAN				*i* IAML		16	25 51.0	
	comp=E,470nm,0.4s							
EPOS	**Posof**	**1.31**	**89**	P	**Pb**	**16**	**25 32.2**	**+0.7**
EPOS				S	**Sn**	**16**	**25 49.7**	**+0.3**
EPOS				*i* IAML		16	25 50.0	
	comp=E,312nm,0.3s							
EPOS				*i* IAML		16	25 52.0	
	comp=N,305nm,0.4s							
BAYB	**BAYBURT**	**1.34**	**204**	P	**Pb**	**16**	**25 31.9**	**-0.1**
BAYB				S	**Sn**	**16**	**25 49.6**	**-0.5**
BAYB				*i* IAML		16	25 51.0	
	comp=E,489nm,0.3s							
BAYB				*i* IAML		16	25 52.0	
	comp=N,310nm,0.3s							
GOLE	**Ardahan-G¶le**	**1.38**	**117**	P	**Pb**	**16**	**25 33.0**	**+0.4**
GOLE				S	**Sg**	**16**	**25 50.3**	**-0.4**
GOLE				*i* IAML		16	25 53.0	
	comp=N,225nm,0.2s							
GOLE				*i* IAML		16	25 54.0	
	comp=E,203nm,0.2s							
SENK	**Senkaya-Erzuru**	**1.39**	**131**	Pn	**Pb**	**16**	**25 33.0**	**+0.2**
KOPT	**Kop Dagi**	**1.51**	**194**	P	**Pg**	**16**	**25 35.3**	**+0.2**
KOPT				S	**Sg**	**16**	**25 56.0**	**+1.2**
KOPT				*i* IAML		16	26 01.0	
	comp=E,179nm,0.3s							
KOPT				*i* IAML		16	26 05.0	
	comp=N,172nm,0.8s							
GUMT	**Gumushane**	**1.53**	**228**	Pn	**Pg**	**16**	**25 35.1**	**-0.4**
ERZM	**Erzurum**	**1.61**	**169**	P	**Pg**	**16**	**25 37.3**	**+0.3**
ERZM				S	**Sg**	**16**	**25 59.7**	**+1.8**
KOPR	**Koprukoy-ERZUR**	**1.63**	**156**	Pn	**Pb**	**16**	**25 36.8**	**-0.1**
TKB	**Tkibuli**	**1.73**	**59**	P	**Pn**	**16**	**25 37.8**	**+0.7**
TKB				S	**Sg**	**16**	**26 02.5**	**+0.5**
BOZK	**Kars-Merkez-Bo**	**1.76**	**120**	P	**Pg**	**16**	**25 40.0**	**+0.2**
BOZK				S	**Sg**	**16**	**26 02.4**	**-0.2**
BOZK				*i* IAML		16	26 06.0	
	comp=N,131nm,0.9s							
BOZK				*i* IAML		16	26 06.0	
	comp=E,68nm,0.4s							
KELT	**Kelkit**	**1.87**	**225**	P	**Pb**	**16**	**25 40.7**	**-0.3**
KELT				S	**Sb**	**16**	**26 04.1**	**-0.6**
KELT				*i* IAML		16	26 06.0	
	comp=N,178nm,0.2s							
KELT				*i* IAML		16	26 09.0	
	comp=E,157nm,0.6s							
AKH	**Akhalkalaki**	**1.89**	**91**	P	**Pg**	**16**	**25 42.9**	**+0.4**
AKH				S	**Sb**	**16**	**26 06.2**	**+0.9**
EATA	**Eleskirt**	**1.99**	**144**	P	**Pb**	**16**	**25 42.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**2.07**	**189**	Pn	**Pb**	**16**	**25 43.0**	**-1.4**
ALIG	**Mtskhetisjvari**	**2.09**	**72**	P	**Pb**	**16**	**25 44.2**	**-0.5**
ALIG				S	**Sg**	**16**	**26 12.6**	**-0.8**
VSLR	**Vesyoloye**	**2.10**	**341**	*e*Pg	**Pg**	**16**	**25 46.3**	**-0.1**
VSLR				*i* Sg	**Sb**	**16**	**26 10.8**	**-0.2**
RPOR	**Krasnaya Polya**	**2.27**	**347**	*e*Pg	**Pb**	**16**	**25 47.9**	**+0.2**
RPOR				*e*Sg	**Sn**	**16**	**26 13.2**	**+0.3**
TRLG	**Trialeti**	**2.35**	**88**	P	**Pg**	**16**	**25 50.3**	**-0.9**
TRLG				S	**Sg**	**16**	**26 21.0**	**-0.6**
KOTA	**Agri, Merkez-K**	**2.39**	**134**	P	**Pg**	**16**	**25 50.9**	**-1.1**
AGRB	**Hanur-Agry**	**2.45**	**141**	Pn	**Pn**	**16**	**25 48.4**	**+1.4**
SUSE	**Susehri**	**2.46**	**240**	P	**Pb**	**16**	**25 51.1**	**0.0**
SUSE				S	**Sb**	**16**	**26 21.8**	**+0.1**
SUSE				*i* IAML		16	26 25.0	
	comp=N,103nm,0.4s							
SUSE				*i* IAML		16	26 31.0	
	comp=E,68nm,0.3s							
SHA1	**Shidzhatmaz**	**2.57**	**28**	*e*Pg	**Pn**	**16**	**25 48.6**	**-0.1**
SHA1				*e*Sg	**Sn**	**16**	**26 16.3**	**-4.2**
GUZR	**Guzeripl'**	**2.59**	**346**	*i* Pn	**Pb**	**16**	**25 52.7**	**-0.4**
GUZR				*e*Sn	**Sn**	**16**	**26 21.1**	**+0.5**
GRYR	**Gornoye**	**2.63**	**2**	*e*Pn	**Pn**	**16**	**25 51.1**	**+1.8**
GRYR				*e*Sn	**Sn**	**16**	**26 20.1**	**-1.6**
MRNR	**Maryino**	**2.69**	**336**	*e*Pn	**Pb**	**16**	**25 54.2**	**-0.6**
MRNR				*i* Sn	**Sn**	**16**	**26 24.5**	**+1.5**
GOYR	**Goytkh**	**3.00**	**337**	*e*Pn	**Pb**	**16**	**25 58.7**	**-1.5**
GOYR				*e*Sn	**Sn**	**16**	**26 32.4**	**+1.7**

IDC **17** *16:25:40.3±1.6, 35.46N×27.88E, h0km, mb3.7/3, mbtmp3.4/6, ML2.9/3, MS3.1/1, Error ellipse: s-maj=31.0km s-min=21.9km az=153.0*
AFAD **17** *16:25:42.2, 35.15N×27.86E, h14km±1km, MW3.9*
THE **17** *16:25:43.0, 35.N±35.°×2.°8E±3.°5, h0km±35km, MLh3.1/2*
GII **17** *16:25:43.2±0.0, 34.907N±0.001×27.899E±0.001, h2km, Mws3.8, confirmed*
ATH **17** *16:25:46.0±0.9, 35.28N×27.81E, h9km, ML3.0/4, Manual Solution by M.Kolligri First location: 2019/08/17 16:27:11, This location: 2020/07/04 22:52:17 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*

ISC 17 16:25:43.2±1.3, **35.11N**±0.04×**27.89E**±0.03, **h15**km±9km, **n63,** σ1.56/75, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KARP	**Karpathos**	**0.73**	**306**	P	**Pg**	**16**	**25 57.3**	**-0.2**
KARP				S	**Sb**	**16**	**26 09.4**	**+1.7**
KARP	**Karpathos**	**0.73**	**306**	P	**Pg**	**16**	**25 57.1**	**-0.4**
KARP				S	**Sg**	**16**	**26 06.7**	**-0.5**
ARG	**Arkhangelos**	**1.12**	**10**	P	**Pg**	**16**	**26 04.0**	**-0.7**
ARG				S	**Sn**	**16**	**26 20.3**	**+0.8**
ARG	**Arkhangelos**	**1.12**	**10**	P	**Pg**	**16**	**26 04.0**	**-0.7**
ARG				S	**Sb**	**16**	**26 18.7**	**0.0**
ZKR	**Zakros**	**1.37**	**271**	P	**Pn**	**16**	**26 09.0**	**+1.2**
ZKR	**Zakros**	**1.37**	**271**	P	**Pb**	**16**	**26 09.4**	**+0.9**
YAZI	**Mula-Dat§a-**	**1.60**	**347**	P	**Pn**	**16**	**26 11.4**	**+0.4**
YAZI				S	**Sb**	**16**	**26 33.1**	**+0.5**
TURN	**Turunc**	**1.69**	**10**	P	**Pb**	**16**	**26 14.0**	**+0.1**
TURN				S	**Sg**	**16**	**26 36.4**	**-1.1**
IZZE	**Mula-Seydike**	**1.71**	**39**	P	**Pn**	**16**	**26 13.5**	**+1.0**
IZZE				S	**Sn**	**16**	**26 35.5**	**+1.3**
SABU	**Mula-Dalaman**	**1.92**	**27**	P	**Pn**	**16**	**26 17.1**	**+1.8**
SABU				S	**Sg**	**16**	**26 49.8**	**+4.8**
BDRM	**Kayabasi**	**1.98**	**350**	P	**Pn**	**16**	**26 17.0**	**+0.8**
BDRM				S	**Sn**	**16**	**26 41.2**	**+0.4**
MULA	**Mugla, Merkez-**	**2.17**	**9**	P	**Pg**	**16**	**26 23.7**	**-1.1**
DNZT	**Denizli-Tavas-**	**2.35**	**23**	P	**Pn**	**16**	**26 22.9**	**+1.5**
DNZT				S	**Sn**	**16**	**26 52.7**	**+2.7**
THR3	**Thira Island,**	**2.40**	**303**	P	**Pn**	**16**	**26 23.9**	**+2.0**
IDI	**Anoyia**	**2.46**	**275**	P	**Pb**	**16**	**26 26.1**	**-1.1**
TAVA	**DENİZLI_Tavas**	**2.49**	**19**	P	**Pn**	**16**	**26 25.1**	**+1.8**
TAVA				S	**Sn**	**16**	**26 56.7**	**+3.2**
SMG	**Samos**	**2.73**	**342**	P	**Pn**	**16**	**26 27.8**	**+1.4**
SMG	**Samos**	**2.73**	**342**	P	**Pn**	**16**	**26 27.2**	**+0.7**
ANKY	**Antikythira Is**	**3.82**	**283**	P	**Pn**	**16**	**26 43.9**	**+2.5**
VLI	**Veliai**	**4.32**	**293**	P	**Pn**	**16**	**26 50.5**	**+2.1**
CSS	**Mathiatis**	**4.47**	**90**	P	**Pn**	**16**	**26 52.1**	**+1.6**
CSS	**Mathiatis**	**4.47**	**90**	S	**Sn**	**16**	**27 44.9**	**+2.7**
OFRI	**`Ofer**	**6.41**	**111**	P	**Pn**	**16**	**27 17.6**	**+0.5**
OFRI	**`Ofer**	**6.41**	**111**	S	**Sn**	**16**	**28 31.4**	**+1.5**
BRTR	**Keskin Array B**	**6.49**	**43**	Pn	**Pn**	**16**	**27 15.0**	**-3.3**
	0.1nm,0.3s,baz=225,slow=16,SNR=5.3							
BRTR				Sn	**Sn**	**16**	**28 28.3**	**-3.9**
	0.1nm,0.3s,baz=219,slow=20,SNR=3.8 0.3nm,0.5s							
MMC7	**Mount Meron ar**	**6.57**	**106**	P	**Pn**	**16**	**27 20.6**	**+1.2**
MMA0B	**Mount Meron ar**	**6.58**	**106**	P	**Pn**	**16**	**27 20.4**	**+0.9**
MMA0B	**Mount Meron ar**	**6.58**	**106**	S	**Sn**	**16**	**28 36.2**	**+1.9**
MMAI	**Mount Meron Ar**	**6.58**	**106**	Pn	**Pn**	**16**	**27 19.9**	**+0.5**
	1.8nm,0.3s,baz=297,slow=13,SNR=9.8 0.9nm,0.3s							
GEM	**Giv'at Ha'Em**	**6.72**	**104**	P	**Pn**	**16**	**27 22.1**	**+0.8**
GEM	**Giv'at Ha'Em**	**6.72**	**104**	S	**Sn**	**16**	**28 39.2**	**+1.5**
NATI	**Neve Ativ**	**6.76**	**104**	P	**Pn**	**16**	**27 23.4**	**+1.5**
NATI	**Neve Ativ**	**6.76**	**104**	S	**Sn**	**16**	**28 40.7**	**+2.0**
MMLI	**Mount Malkishu**	**6.82**	**111**	P	**Pn**	**16**	**27 23.4**	**+0.6**
MMLI	**Mount Malkishu**	**6.82**	**111**	S	**Sn**	**16**	**28 41.2**	**+1.1**
KZIT	**Kziot**	**6.89**	**126**	P	**Pn**	**16**	**27 24.1**	**+0.4**
KZIT	**Kziot**	**6.89**	**126**	S	**Sn**	**16**	**28 41.9**	**+0.1**
HMDT	**Nahal Hemdat**	**6.98**	**112**	P	**Pn**	**16**	**27 25.4**	**+0.5**
HMDT	**Nahal Hemdat**	**6.98**	**112**	S	**Sn**	**16**	**28 45.2**	**+1.2**
YTIR	**Yattir**	**7.12**	**120**	P	**Pn**	**16**	**27 27.1**	**+0.2**
YTIR	**Yattir**	**7.12**	**120**	S	**Sn**	**16**	**28 48.2**	**+0.6**
DSI	**Dead Sea**	**7.20**	**117**	P	**Pn**	**16**	**27 28.6**	**+0.7**
DSI	**Dead Sea**	**7.20**	**117**	S	**Sn**	**16**	**28 49.9**	**+0.6**
MSBI	**Mazada**	**7.32**	**119**	P	**Pn**	**16**	**27 30.1**	**+0.6**
MSBI	**Mazada**	**7.32**	**119**	S	**Sn**	**16**	**28 52.5**	**+0.2**
GHAJ	**Ghor Haditha**	**7.47**	**118**	P	**Pn**	**16**	**27 32.4**	**+0.7**
GHAJ	**Ghor Haditha**	**7.47**	**118**	S	**Sn**	**16**	**28 57.0**	**+0.8**
KRMI	**Paran Flat**	**7.62**	**129**	P	**Pn**	**16**	**27 33.6**	**-0.1**
KRMI	**Paran Flat**	**7.62**	**129**	S	**Sn**	**16**	**28 59.7**	**-0.2**
ZFRI	**Zfri**	**7.63**	**125**	P	**Pn**	**16**	**27 34.1**	**+0.2**
ZFRI	**Zfri**	**7.63**	**125**	S	**Sn**	**16**	**29 00.2**	**+0.1**
PRNI	**Paran**	**7.65**	**126**	P	**Pn**	**16**	**27 34.1**	**0.0**
PRNI	**Paran**	**7.65**	**126**	S	**Sn**	**16**	**29 00.5**	**-0.1**
HRFI	**Mount Harif**	**7.88**	**128**	P	**Pn**	**16**	**27 37.4**	**+0.2**
HRFI	**Mount Harif**	**7.88**	**128**	S	**Sn**	**16**	**29 06.0**	**-0.2**
MBRI	**Mt Berech**	**7.96**	**130**	P	**Pn**	**16**	**27 38.9**	**+0.4**
MBRI	**Mt Berech**	**7.96**	**130**	S	**Sn**	**16**	**29 08.0**	**-0.3**
EIL	**Elat**	**8.07**	**130**	P	**Pn**	**16**	**27 40.1**	**+0.3**
EIL	**Elat**	**8.07**	**130**	S	**Sn**	**16**	**29 10.5**	**-0.4**

	comp=E,21715µm,0.3s								
CRE					AML	AML			
	comp=N,78356µm,0.3s								
CRE					AML	AML			
	comp=E,21715µm,1.7s								
PNNI	**Pennabilli**	**0.34**	**107**		P	**Pg**	**16**	**52**	**27.1 +0.1**
PNNI					S	**Sb**	**16**	**52**	**33.8 -0.9**
SEI	**Scarperia**	**0.35**	**292**		P	**Pg**	**16**	**52**	**27.1 -0.2**
SEI					S	**Sg**	**16**	**52**	**33.4 +1.5**
SEI	**Scarperia**	**0.35**	**292**	⇓	P	**Pg**	**16**	**52**	**27.1 -0.2**
SEI					S	**Sg**	**16**	**52**	**33.3 +1.3**
SEI					AML	AML			
	comp=E,65700µm,1.2s								
SEI					AML	AML			
SEI					AML	AML			
	comp=E,61301µm,0.3s								
SEI					AML	AML			
CPGN	**Carpegna, Ital**	**0.39**	**108**		P	**Pg**	**16**	**52**	**28.2 +0.3**
BRSN	**Barisano**	**0.41**	**28**	⇑	P	**Pg**	**16**	**52**	**28.7 +0.3**
BRSN					AML	AML			
	comp=E,34100µm,1.2s								
BRSN					AML	AML			
	comp=N,41900µm,0.8s								
BRSN					AML	AML			
	comp=E,36700µm,1.2s								
BRSN					AML	AML			
	comp=N,43600µm,0.9s								
BRSN					AML	AML			
	comp=E,33765µm,0.6s								
BRSN					AML	AML			
	comp=N,41901µm,0.8s								
BRSN					AML	AML			
	comp=E,34026µm,0.7s								
BRSN					AML	AML			
	comp=N,43607µm,0.9s								
BRSN					AML	AML			
	comp=N,38346µm,0.8s								
BRSN					AML	AML			
	comp=N,40447µm,0.8s								
BRSN					AML	AML			
	comp=E,34026µm,1.3s								
PARC	**Parchiule**	**0.41**	**131**	⇑	P	**Pg**	**16**	**52**	**27.8 -0.6**
PARC					S	**Sg**	**16**	**52**	**34.7 +1.0**
PARC					AML	AML			
	comp=E,8120µm,0.9s								
PARC					AML	AML			
	comp=N,12150µm,0.7s								
PARC					AML	AML			
	comp=E,8118µm,0.9s								
PARC					AML	AML			
	comp=N,12135µm,0.7s								
PARC					AML	AML			
	comp=N,12135µm,1.3s								
PARC					AML	AML			
	comp=E,8118µm,1.1s								
SSP9	**Sansepolcro**	**0.42**	**146**	⇑	P	**Pg**	**16**	**52**	**28.0 -0.4**
SSP9					S	**Sg**	**16**	**52**	**35.0 +1.2**
SSP9					AML	AML			
	comp=E,12000µm,0.7s								
SSP9					AML	AML			
	comp=N,12750µm,1.4s								
SSP9					AML	AML			
	comp=N,12800µm,1.4s								
SSP9					AML	AML			
	comp=N,11203µm,0.7s								
SSP9					AML	AML			
	comp=E,9256µm,0.3s								
SSP9					AML	AML			
	comp=N,11203µm,1.3s								
IMOL	**Imola, Italy**	**0.44**	**354**		P	**Pg**	**16**	**52**	**29.5 +0.5**
IMOL					S	**Sb**	**16**	**52**	**38.4 +1.0**
IMOL	**Imola, Italy**	**0.44**	**354**	⇑	P	**Pg**	**16**	**52**	**29.4 +0.5**
IMOL					S	**Sb**	**16**	**52**	**38.5 +1.0**
IMOL					AML	AML			
	comp=E,33000µm,0.6s								
IMOL					AML	AML			
	comp=E,33000µm,0.6s								
IMOL					AML	AML			
	comp=N,30350µm,0.9s								
IMOL					AML	AML			
	comp=E,28146µm,0.9s								
IMOL					AML	AML			
	comp=N,26569µm,0.5s								
IMOL					AML	AML			
	comp=E,28146µm,1.1s								
RSM	**Repubblica di**	**0.46**	**88**	⇑	P	**Pg**	**16**	**52**	**29.5 +0.2**
RSM					AML	AML			
	comp=N,15600µm,0.8s								
RSM					AML	AML			
	comp=E,15700µm,0.9s								
RSM					AML	AML			
	comp=E,15700µm,1.1s								
RSM					AML	AML			
	comp=E,15693µm,0.9s								
RSM					AML	AML			
	comp=N,15611µm,0.8s								
RSM					AML	AML			
	comp=E,15693µm,1.1s								
MOCL	**Monte Cuccoli**	**0.46**	**281**		P	**Pg**	**16**	**52**	**29.2 -0.1**
MOCL					S	**Sg**	**16**	**52**	**36.7 +1.3**
MOCL					AML	AML			
	comp=E,11750µm,0.2s								
MOCL					AML	AML			
	comp=N,13700µm,0.6s								
MOCL					AML	AML			
	comp=E,11732µm,0.2s								
MOCL					AML	AML			
	comp=N,13729µm,0.6s								
BADI	**Badiali**	**0.52**	**142**	⇑	P	**Pg**	**16**	**52**	**29.6 -0.7**
BADI					S	**Sb**	**16**	**52**	**38.3 -1.4**
BADI					AML	AML			
	comp=E,8815µm,0.5s								
BADI					AML	AML			
	comp=N,7950µm,1.1s								
BADI					AML	AML			
	comp=E,8810µm,0.5s								
BADI					AML	AML			
	comp=E,7617µm,0.4s								
BADI					AML	AML			
	comp=N,7604µm,0.4s								
MTRZ	**Monterenzio**	**0.52**	**332**		P	**Pg**	**16**	**52**	**29.9 -0.4**
MTRZ	**Monterenzio**	**0.52**	**332**	⇑	P	**Pg**	**16**	**52**	**29.9 -0.4**
MTRZ					AML	AML			
	comp=E,22550µm,0.9s								
MTRZ					AML	AML			
	comp=E,21450µm,1.0s								
MTRZ					AML	AML			
	comp=N,19700µm,1.4s								
MTRZ					AML	AML			
	comp=N,20300µm,1.4s								
MTRZ					AML	AML			
	comp=N,19333µm,0.7s								
MTRZ					AML	AML			
	comp=E,22267µm,0.6s								
MTRZ					AML	AML			
	comp=E,21085µm,0.6s								
MTRZ					AML	AML			
	comp=N,20062µm,0.5s								
MTRZ					AML	AML			
	comp=N,19333µm,1.3s								
MPPT	**Montemurlo**	**0.52**	**274**	⇓	P	**Pg**	**16**	**52**	**30.2 -0.2**
MPPT					S	**Sb**	**16**	**52**	**38.7 -1.1**
MPPT					AML	AML			
	comp=E,14000µm,0.7s								
MPPT					AML	AML			
	comp=N,20500µm,0.5s								
MPPT					AML	AML			
	comp=E,13121µm,0.4s								
MPPT					AML	AML			
	comp=N,20529µm,0.5s								
BLLA	**Bellaria**	**0.53**	**65**		P	**Pg**	**16**	**52**	**30.7 +0.2**
BLLA					AML	AML			
	comp=E,10145µm,0.4s								
BLLA					AML	AML			
	comp=N,11735µm,1.4s								
BLLA					AML	AML			
	comp=E,10160µm,0.4s								
BLLA					AML	AML			
	comp=N,11795µm,1.4s								
BLLA					AML	AML			
	comp=E,10134µm,0.4s								
BLLA					AML	AML			
	comp=N,8096µm,0.7s								
BLLA					AML	AML			
	comp=E,10134µm,1.6s								
BLLA					AML	AML			
	comp=N,8096µm,1.3s								
PE3	**Peglio**	**0.55**	**114**		P	**Pg**	**16**	**52**	**30.7 -0.2**
PE3					S	**Sb**	**16**	**52**	**39.4 -1.0**
PE3					AML	AML			
	comp=E,49700µm,0.5s								
PE3					AML	AML			
	comp=N,28050µm,0.4s								
PE3					AML	AML			
	comp=N,28100µm,0.4s								
PE3					AML	AML			
	comp=E,49729µm,0.5s								
PE3					AML	AML			
	comp=N,28067µm,0.4s								
PE3					AML	AML			
	comp=N,28067µm,1.6s								
ATMC	**Monte Cedrone**	**0.55**	**149**		P	**Pg**	**16**	**52**	**30.4 -0.5**
ATMC					S	**Sb**	**16**	**52**	**39.2 -1.4**
CDCA	**Citt' di Caste**	**0.55**	**146**		P	**Pg**	**16**	**52**	**30.8 -0.3**
CDCA					S	**Sb**	**16**	**52**	**40.0 -0.7**
OSSC	**Osservatorio P**	**0.57**	**226**		P	**Pg**	**16**	**52**	**31.3 -0.1**
OSSC					S	**Sb**	**16**	**52**	**41.0 -0.2**
OSSC	**Osservatorio P**	**0.57**	**226**	⇑	P	**Pg**	**16**	**52**	**31.1 -0.2**
OSSC					S	**Sb**	**16**	**52**	**40.1 -1.0**
OSSC					AML	AML			
	comp=N,17850µm,0.7s								
OSSC					AML	AML			
	comp=E,17750µm,0.7s								
OSSC					AML	AML			
	comp=N,12400µm,0.5s								
OSSC					AML	AML			
	comp=E,12050µm,0.5s								
OSSC					AML	AML			
	comp=E,12061µm,0.5s								
OSSC					AML	AML			
	comp=N,17833µm,0.7s								
OSSC					AML	AML			
	comp=N,12394µm,0.5s								
OSSC					AML	AML			
	comp=E,12061µm,1.5s								
OSSC					AML	AML			
	comp=E,17725µm,0.7s								
OSSC					AML	AML			
	comp=N,12394µm,1.5s								
APEC	**Apecchio**	**0.57**	**129**		P	**Pg**	**16**	**52**	**31.1 -0.3**
APEC					S	**Sb**	**16**	**52**	**40.6 -0.6**
APEC					AML	AML			
	comp=N,9880µm,0.7s								
APEC					AML	AML			
	comp=N,9630µm,0.7s								
APEC					AML	AML			
	comp=E,9355µm,1.4s								
APEC					AML	AML			
	comp=N,9900µm,0.7s								
APEC					AML	AML			
	comp=E,9410µm,0.8s								
APEC					AML	AML			
	comp=N,9903µm,0.7s								
APEC					AML	AML			
	comp=N,9615µm,0.7s								
APEC					AML	AML			
	comp=N,9903µm,1.3s								
APEC					AML	AML			
	comp=E,9417µm,0.8s								
APEC					AML	AML			
	comp=E,8505µm,0.5s								
CSNT	**Castellina Chi**	**0.58**	**220**		P	**Pg**	**16**	**52**	**31.2 -0.4**
CSNT	**Castellina Chi**	**0.58**	**220**		P	**Pg**	**16**	**52**	**31.2 -0.4**
CSNT					S	**Sb**	**16**	**52**	**40.5 -1.1**
CSNT					AML	AML			
	comp=E,6475µm,0.9s								
CSNT					AML	AML			
	comp=N,13650µm,1.4s								
CSNT					AML	AML			
	comp=E,6473µm,0.9s								
CSNT					AML	AML			
	comp=N,13458µm,0.4s								
CAFI	**Castiglion Fio**	**0.60**	**169**		P	**Pg**	**16**	**52**	**31.5 -0.5**
MCIF	**Montecalvo in**	**0.60**	**100**		P	**Pg**	**16**	**52**	**31.8 -0.2**
CRMI	**Carmignano**	**0.62**	**258**	⇑	P	**Pg**	**16**	**52**	**32.1 -0.2**
CRMI					S	**Sb**	**16**	**52**	**41.6 -1.1**
CRMI					AML	AML			
	comp=E,11640µm,1.0s								
CRMI					AML	AML			
	comp=N,3805µm,0.5s								
CRMI					AML	AML			
	comp=N,8835µm,0.6s								
CRMI					AML	AML			
	comp=E,4475µm,1.0s								
CRMI					AML	AML			
	comp=N,8739µm,0.4s								
CRMI					AML	AML			
	comp=E,4025µm,0.7s								
CRMI					AML	AML			
	comp=N,3805µm,0.5s								
CRMI					AML	AML			
	comp=E,10280µm,0.5s								
ATPI	**Pietralunga -**	**0.64**	**137**		P	**Pg**	**16**	**52**	**31.9 -0.7**
ATPI					S	**Sb**	**16**	**52**	**42.1 -0.9**
ATPI					AML	AML			
	comp=E,5665µm,0.6s								
ATPI					AML	AML			
	comp=N,5740µm,0.8s								
ATPI					AML	AML			
	comp=E,5670µm,0.6s								
ATPI					AML	AML			
	comp=N,5795µm,0.8s								
ATPI					AML	AML			
	comp=E,5595µm,0.7s								
ATPI					AML	AML			
	comp=E,5591µm,0.7s								
ATPI					AML	AML			
	comp=N,5739µm,0.8s								
ATPI					AML	AML			
	comp=N,5795µm,0.8s								
ATPI					AML	AML			
	comp=N,5795µm,1.2s								
ATPI					AML	AML			
	comp=N,5739µm,1.2s								
ATPI					AML	AML			
	comp=E,5668µm,0.6s								
ATPC	**Poggio Castell**	**0.64**	**133**		P	**Pg**	**16**	**52**	**31.7 -1.0**
ATPC					S	**Sb**	**16**	**52**	**42.9 -0.4**
PIEI	**Pieia**	**0.65**	**126**		P	**Pg**	**16**	**52**	**32.1 -0.8**
PIEI					S	**Sb**	**16**	**52**	**42.6 -0.9**
PIEI					AML	AML			
	comp=E,3310µm,0.7s								
PIEI					AML	AML			
	comp=N,2185µm,1.1s								
PIEI					AML	AML			
	comp=E,3307µm,0.7s								
PIEI					AML	AML			
	comp=N,2092µm,0.6s								
PIEI					AML	AML			
	comp=E,3307µm,1.3s								
CMPO	**Campotto Po**	**0.66**	**360**		P	**Pg**	**16**	**52**	**33.5 +0.4**
ATMI	**Monte Miggiano**	**0.67**	**150**		P	**Pg**	**16**	**52**	**32.8 -0.5**
ATMI					S	**Sb**	**16**	**52**	**43.5 -0.7**
ATMI					AML	AML			
	comp=E,11075µm,1.6s								
ATMI					AML	AML			
	comp=N,14035µm,1.4s								
ATMI					AML	AML			
	comp=E,10976µm,0.3s								
ATMI					AML	AML			
	comp=N,12656µm,0.5s								
ATMI					AML	AML			
	comp=N,12656µm,1.6s								
ATBU	**Serra di Buran**	**0.70**	**129**		P	**Pg**	**16**	**52**	**33.1 -0.7**
ATBU					S	**Sb**	**16**	**52**	**44.1 -0.8**
ZCCA	**Zocca**	**0.74**	**306**		P	**Pb**	**16**	**52**	**35.6 -0.1**
ZCCA	**Zocca**	**0.74**	**306**		P	**Pb**	**16**	**52**	**35.2 -0.5**
ZCCA					AML	AML			
	comp=N,3305µm,0.5s								
ZCCA					AML	AML			
	comp=E,2900µm,1.1s								
ZCCA					AML	AML			
	comp=N,3020µm,0.5s								
ZCCA					AML	AML			
	comp=E,3070µm,1.1s								
ZCCA					AML	AML			
	comp=E,3067µm,1.1s								
ZCCA					AML	AML			
	comp=N,3019µm,0.5s								
ZCCA					AML	AML			
	comp=N,3301µm,0.5s								
ZCCA					AML	AML			
	comp=E,2900µm,1.1s								
FCOR	**Fonte Corniale**	**0.74**	**101**		P	**Pg**	**16**	**52**	**35.0 +0.3**
ATLO	**AVT- Montelove**	**0.74**	**144**		P	**Pg**	**16**	**52**	**33.7 -1.0**
ATLO					S	**Sb**	**16**	**52**	**46.2 0.0**
PESA	**Pesaro**	**0.74**	**88**		P	**Pg**	**16**	**52**	**33.9 -0.8**
PESA					AML	AML			
	comp=E,9170µm,0.5s								
PESA					AML	AML			
	comp=N,8020µm,1.2s								
PESA					AML	AML			
	comp=E,9187µm,0.5s								
PESA					AML	AML			
	comp=N,7538µm,0.5s								
PESA					AML	AML			
	comp=E,9187µm,1.5s								
MPAG	**Monte Paganucc**	**0.75**	**113**		P	**Pg**	**16**	**52**	**33.8 -0.9**
MPAG					S	**Sg**	**16**	**52**	**45.0 +0.6**
MPAG					AML	AML			
	comp=E,2430µm,0.6s								
MPAG					AML	AML			
	comp=N,2640µm,0.5s								
MPAG					AML	AML			
	comp=N,2635µm,0.5s								
MPAG					AML	AML			
	comp=N,2718µm,0.5s								
MPAG					AML	AML			
	comp=E,2428µm,0.6s								
MPAG					AML	AML			
	comp=N,2635µm,0.5s								
MPAG					AML	AML			
	comp=E,2458µm,0.6s								
FIU	**Minerbio Fiu**	**0.76**	**342**		P	**Pn**	**16**	**52**	**36.8 -0.8**
POPM	**Popiglio**	**0.77**	**280**		P	**Pg**	**16**	**52**	**35.0 -0.2**
POPM					S	**Sb**	**16**	**52**	**46.7 -0.2**
POPM	**Popiglio**	**0.77**	**280**		P	**Pg**	**16**	**52**	**35.2 0.0**
POPM					S	**Sb**	**16**	**52**	**46.5 -0.5**
POPM					AML	AML			
	comp=E,4930µm,0.7s								
POPM					AML	AML			
	comp=N,4390µm,0.3s								
POPM					AML	AML			
	comp=E,4652µm,0.2s								
POPM					AML	AML			
	comp=N,4385µm,0.3s								
ATFO	**Monte Foce - G**	**0.78**	**135**		P	**Pg**	**16**	**52**	**34.4 -1.0**
ATFO					AML	AML			
	comp=E,5920µm,0.8s								
ATFO					AML	AML			
	comp=N,4645µm,0.4s								
ATFO					AML	AML			
	comp=E,5920µm,0.8s								
ATFO					AML	AML			
	comp=N,4646µm,0.4s								
ATSC	**Scheggia e Pas**	**0.81**	**128**		P	**Pg**	**16**	**52**	**34.9 -0.9**
ATTE	**AVT- Monte Tez**	**0.82**	**151**	⇑	P	**Pg**	**16**	**52**	**35.3 -0.8**
ATTE					S	**Sb**	**16**	**52**	**48.0 -0.5**
ATTE					AML	AML			
	comp=E,7830µm,1.0s								
ATTE					AML	AML			
	comp=N,4680µm,0.9s								
ATTE					AML	AML			
	comp=E,7723µm,0.5s								
ATTE					AML	AML			
	comp=N,3991µm,0.4s								
FROS	**Frosini**	**0.85**	**214**		AML	AML			
	comp=N,7274µm,0.6s								
FROS					AML	AML			
	comp=E,4815µm,0.7s								
FROS					AML	AML			
	comp=N,7275µm,0.6s								
FROS					AML	AML			
	comp=E,4817µm,0.7s								
SSFR	**Montelago di S**	**0.85**	**124**		P	**Pg**	**16**	**52**	**35.7 -1.1**
SSFR					AML	AML			
	comp=E,4070µm,0.5s								
SSFR					AML	AML			
	comp=N,4150µm,0.2s								
SSFR					AML	AML			
	comp=E,3875µm,0.9s								
SSFR					AML	AML			
	comp=N,4065µm,0.2s								
SSFR					AML	AML			
	comp=E,4072µm,0.5s								
SSFR					AML	AML			
	comp=N,4150µm,0.2s								
SSFR					AML	AML			
	comp=N,4067µm,0.2s								
SSFR					AML	AML			
	comp=E,3743µm,0.2s								
BDI	**Bagni Di Lucca**	**0.89**	**280**		P	**Pg**	**16**	**52**	**36.8 -0.6**
BDI					S	**Sb**	**16**	**52**	**50.1 -0.3**
BDI	**Bagni Di Lucca**	**0.89**	**280**		P	**Pg**	**16**	**52**	**36.8 -0.6**
BDI					S	**Sb**	**16**	**52**	**49.9 -0.5**
BDI					AML	AML			
	comp=E,3950µm,0.7s								
BDI					AML	AML			
	comp=N,4005µm,1.0s								
BDI					AML	AML			
	comp=E,3495µm,0.7s								
BDI					AML	AML			
	comp=N,4025µm,0.9s								
BDI					AML	AML			
	comp=E,3951µm,0.7s								
BDI					AML	AML			
	comp=N,3796µm,0.9s								
BDI					AML	AML			
	comp=E,3493µm,0.7s								
BDI					AML	AML			
	comp=N,4023µm,0.9s								
BDI					AML	AML			
	comp=N,4023µm,1.1s								
BDI					AML	AML			
	comp=N,3796µm,1.1s								
BDI					AML	AML			
	comp=E,3951µm,1.4s								
BDI					AML	AML			
	comp=E,3493µm,1.3s								
COR1	**Corinaldo**	**0.91**	**108**		P	**Pg**	**16**	**52**	**37.6 -0.2**
COR1					AML	AML			
	comp=E,14500µm,0.6s								
COR1					AML	AML			
	comp=N,7975µm,0.9s								
COR1					AML	AML			
	comp=E,7545µm,0.6s								
COR1					AML	AML			
	comp=E,7550µm,0.6s								
COR1					AML	AML			
	comp=N,8080µm,0.7s								
COR1					AML	AML			
	comp=E,14517µm,0.6s								
COR1					AML	AML			
	comp=N,7976µm,0.9s								
COR1					AML	AML			
	comp=E,7549µm,0.6s								
COR1					AML	AML			
	comp=N,8078µm,0.7s								
COR1					AML	AML			
	comp=E,14517µm,1.4s								
COR1					AML	AML			
	comp=E,7549µm,1.4s								
COR1					AML	AML			
	comp=N,8078µm,1.3s								
ARVD	**Arcevia**	**0.92**	**117**		P	**Pg**	**16**	**52**	**37.0 -1.1**
ARVD					S	**Sb**	**16**	**52**	**51.1 -0.3**
ARVD					AML	AML			
	comp=E,1980µm,0.7s								
ARVD					AML	AML			
	comp=N,1885µm,0.7s								
ARVD					AML	AML			
	comp=N,1885µm,0.7s								
ARVD					AML	AML			
	comp=E,1979µm,0.7s								
MODE	**Modena**	**0.94**	**319**		P	**Pg**	**16**	**52**	**37.9 -0.6**
PII	**Pisa**	**0.95**	**258**		P	**Pg**	**16**	**52**	**38.3 -0.3**
PII					S	**Sg**	**16**	**52**	**50.8 -0.1**
PII	**Pisa**	**0.95**	**258**		P	**Pg**	**16**	**52**	**38.3 -0.3**
PII					AML	AML			
	comp=E,6680µm,0.7s								
PII					AML	AML			
	comp=N,7835µm,0.3s								
PII					AML	AML			
	comp=E,6682µm,0.7s								
PII					AML	AML			
	comp=N,7835µm,0.3s								
PII					AML	AML			
	comp=E,6682µm,1.3s								
MAIM	**Mastiano**	**0.95**	**270**		P	**Pg**	**16**	**52**	**38.4 -0.3**
MAIM					S	**Sb**	**16**	**52**	**52.2 0.0**
MAIM	**Mastiano**	**0.95**	**270**		P	**Pg**	**16**	**52**	**38.5 -0.2**

MAIM			S	**Sb**	**16 52 51.9**	**-0.3**
CARD	**Cardoso**	**0.96 277**	P	**Pg**	**16 52 38.6**	**-0.3**
CARD	**Cardoso**	**0.96 277**	P	**Pg**	**16 52 38.8**	**-0.1**
CARD			S	**Sg**	**16 52 51.6**	**+0.2**
CARD			AML	AML		
	comp=E,3205µm,0.4s					
CARD			AML	AML		
	comp=N,4200µm,1.1s					
CARD			AML	AML		
	comp=N,3456µm,0.5s					
CARD			AML	AML		
	comp=E,3208µm,0.4s					
CARD			AML	AML		
	comp=N,3456µm,1.5s					
RAVA	**Ravarino**	**0.97 330**	S	**Sn**	**16 52 59.1**	**+4.4**
RAVA	**Ravarino**	**0.97 330**	P	**Pg**	**16 52 38.5**	**-0.6**
GSCL	**Gusciola**	**0.98 296**	P	**Pg**	**16 52 39.3**	**+0.2**
GSCL			S	**Sn**	**16 52 54.6**	**-0.4**
GSCL	**Gusciola**	**0.98 296**	P	**Pg**	**16 52 39.1**	**-0.1**
MMUR	**Monte Murano**	**0.98 119**	P	**Pg**	**16 52 38.5**	**-0.8**
MGAB	**Montegabbione**	**1.03 168**	⇓P	**Pg**	**16 52 39.7**	**-0.5**
MGAB			AML	AML		
	comp=E,6480µm,0.4s					
MGAB			AML	AML		
	comp=N,7835µm,0.6s					
MGAB			AML	AML		
	comp=E,6545µm,0.6s					
MGAB			AML	AML		
	comp=N,8265µm,0.6s					
MGAB			AML	AML		
	comp=E,6480µm,0.4s					
MGAB			AML	AML		
	comp=N,7836µm,0.6s					
MGAB			AML	AML		
	comp=E,6542µm,0.6s					
MGAB			AML	AML		
	comp=N,8267µm,0.6s					
MGAB			AML	AML		
	comp=E,6480µm,1.6s					
SARO	**Sassorosso**	**1.05 285**	P	**Pg**	**16 52 39.9**	**-0.6**
SARO			S	**Sg**	**16 52 54.6**	**+0.4**
SARO	**Sassorosso**	**1.05 285**	P	**Pg**	**16 52 39.9**	**-0.6**
SARO			S	**Sg**	**16 52 54.2**	**0.0**
SENI	**Senigallia**	**1.05 101**	P	**Pg**	**16 52 40.4**	**-0.2**
VLC	**Villacollemand**	**1.05 284**	P	**Pg**	**16 52 40.0**	**-0.6**
VLC	**Villacollemand**	**1.05 284**	P	**Pg**	**16 52 40.2**	**-0.4**
VLC			S	**Sg**	**16 52 54.5**	**+0.2**
VLC			AML	AML		
	comp=E,1585µm,1.1s					
VLC			AML	AML		
	comp=N,2050µm,0.9s					
VLC			AML	AML		
	comp=E,1465µm,1.1s					
VLC			AML	AML		
	comp=N,2005µm,0.9s					
VLC			AML	AML		
	comp=E,1464µm,1.1s					
VLC			AML	AML		
	comp=N,2006µm,0.9s					
VLC			AML	AML		
	comp=E,1583µm,1.1s					
VLC			AML	AML		
	comp=N,2050µm,0.9s					
VLC			AML	AML		
	comp=N,2006µm,1.1s					
VLC			AML	AML		
	comp=N,2050µm,1.1s					
VLC			AML	AML		
	comp=E,1464µm,0.9s					
VLC			AML	AML		
	comp=E,1583µm,0.9s					
SNTG	**Esanatoglia**	**1.06 129**	P	**Pg**	**16 52 39.6**	**-1.0**
SNTG			AML	AML		
	comp=E,2525µm,0.7s					
SNTG			AML	AML		
	comp=N,2700µm,0.8s					
SNTG			AML	AML		
	comp=E,2390µm,0.7s					
SNTG			AML	AML		
	comp=N,2750µm,0.8s					
SNTG			AML	AML		
	comp=E,2390µm,0.7s					
SNTG			AML	AML		
	comp=N,2747µm,0.8s					
SNTG			AML	AML		
	comp=E,2526µm,0.7s					
SNTG			AML	AML		
	comp=E,2390µm,1.3s					
SNTG			AML	AML		
	comp=E,2526µm,1.3s					
SNTG			AML	AML		
	comp=N,2698µm,0.8s					
MAGO	**Bibbona**	**1.06 233**	AML	AML		
	comp=E,2522µm,0.7s					
MAGO			AML	AML		
	comp=E,2520µm,0.6s					
MAGO			AML	AML		
	comp=N,2805µm,0.8s					
MAGO			AML	AML		
	comp=N,2805µm,0.7s					
MAGO			AML	AML		
	comp=N,2805µm,1.3s					
MAGO			AML	AML		
	comp=E,2522µm,1.4s					
SACS	**San Casciano d**	**1.07 176**	P	**Pg**	**16 52 40.5**	**-0.4**
SACS			S	**Sb**	**16 52 55.8**	**+0.1**
SACS			AML	AML		
	comp=E,2690µm,0.8s					
SACS			AML	AML		
	comp=N,3765µm,0.5s					
SACS			AML	AML		
	comp=E,2515µm,0.8s					
SACS			AML	AML		
	comp=N,3975µm,0.5s					
SACS			AML	AML		
	comp=N,3976µm,0.5s					
SACS			AML	AML		
	comp=N,3766µm,0.5s					
SACS			AML	AML		
	comp=E,2516µm,0.8s					
SACS			AML	AML		
	comp=E,2691µm,0.8s					
SF04	**Casetta**	**1.09 186**	P	**Pg**	**16 52 40.8**	**-0.5**
SF04			AML	AML		
	comp=E,23µm,3.7s					
SF04			AML	AML		
	comp=N,45µm,6.0s					
SF04			AML	AML		
	comp=N,45µm,0.0s					
SF04			AML	AML		
	comp=E,23µm,0.3s					
ARCI	**Arcidosso**	**1.09 193**	P	**Pg**	**16 52 40.7**	**-0.7**
ARCI			AML	AML		
	comp=E,2180µm,0.8s					
ARCI			AML	AML		
	comp=N,4730µm,0.7s					
ARCI			AML	AML		
	comp=E,2385µm,0.8s					
ARCI			AML	AML		
	comp=N,5015µm,0.7s					
ARCI			AML	AML		
	comp=E,2178µm,0.8s					
ARCI			AML	AML		
	comp=N,4732µm,0.7s					
ARCI			AML	AML		
	comp=E,2387µm,0.8s					
ARCI			AML	AML		
	comp=N,5014µm,0.7s					
ARCI			AML	AML		
	comp=N,4732µm,1.3s					
ARCI			AML	AML		
	comp=N,5014µm,1.3s					
ARCI			AML	AML		
	comp=E,2387µm,1.2s					
ARCI			AML	AML		
	comp=E,2178µm,1.2s					
EL6	**Elcito**	**1.11 122**	P	**Pg**	**16 52 40.9**	**-0.7**
EL6			AML	AML		
	comp=E,6305µm,0.6s					
EL6			AML	AML		
	comp=N,5365µm,0.6s					
EL6			AML	AML		
	comp=N,5365µm,0.6s					
EL6			AML	AML		
	comp=E,6304µm,0.6s					
EL6			AML	AML		
	comp=N,5365µm,1.4s					
CAVE	**Cavezzo**	**1.11 329**	P	**Pg**	**16 52 40.5**	**-1.1**
SF01	**Poggio Pratacc**	**1.12 189**	P	**Pg**	**16 52 41.4**	**-0.5**
SF01			AML	AML		
	comp=E,1975µm,0.8s					
SF01			AML	AML		
	comp=N,2180µm,1.3s					
SF01			AML	AML		
	comp=E,1977µm,0.8s					
SF01			AML	AML		
	comp=N,1992µm,0.9s					
SF01			AML	AML		
	comp=N,1992µm,1.1s					
SF01			AML	AML		
	comp=E,1977µm,1.2s					
ADRI	**Adria, Italy**	**1.13 7**	*e*Pg	**Pb**	**16 52 42.3**	**0.0**
ADRI			*e*Sg	**Sn**	**16 53 00.8**	**+2.3**
SERM	**Sermide**	**1.15 342**	P	**Pn**	**16 52 43.4**	**+0.3**
SERM	**Sermide**	**1.15 342**	P	**Pn**	**16 52 43.3**	**+0.3**
SERM			AML	AML		
	comp=E,14900µm,1.2s					
SERM			AML	AML		
	comp=N,17950µm,0.7s					
SERM			AML	AML		
	comp=E,7760µm,1.2s					
SERM			AML	AML		
	comp=N,5195µm,0.5s					
SERM			AML	AML		
	comp=N,14639µm,0.4s					
SERM			AML	AML		
	comp=E,6800µm,0.4s					
SERM			AML	AML		
	comp=E,14339µm,0.3s					
SERM			AML	AML		
	comp=N,14639µm,1.6s					
SERM			AML	AML		
	comp=N,5196µm,0.5s					
EQUI	**Equi**	**1.22 282**	P	**Pg**	**16 52 42.2**	**-1.5**
EQUI	**Equi**	**1.22 282**	P	**Pg**	**16 52 42.8**	**-1.0**
EQUI			S	**Sg**	**16 52 59.4**	**-0.2**
FDMO	**Fiordimonte**	**1.28 133**	P	**Pn**	**16 52 43.8**	**-1.1**
FDMO			AML	AML		
	comp=E,2135µm,0.7s					
FDMO			AML	AML		
	comp=N,1655µm,1.0s					
FDMO			AML	AML		
	comp=E,2136µm,0.7s					
FDMO			AML	AML		
	comp=N,1577µm,0.7s					
GAZZ	**Gazzo Veronese**	**1.30 337**	*e*Pg	**Pg**	**16 52 45.9**	**+0.7**
GAZZ			*e*Sg	**Sn**	**16 53 05.7**	**+3.0**
CSP1	**Cessapalombo**	**1.31 129**	P	**Pn**	**16 52 44.2**	**-1.1**
CSP1			AML	AML		
	comp=E,4960µm,0.7s					
CSP1			AML	AML		
	comp=N,3110µm,0.6s					
CSP1			AML	AML		
	comp=E,4962µm,0.7s					
CSP1			AML	AML		
	comp=N,3109µm,0.6s					
CSP1			AML	AML		
	comp=E,4962µm,1.3s					
CASP	**Castiglione de**	**1.32 212**	⇓P	**Pn**	**16 52 43.7**	**-1.7**
CASP			S	**Sg**	**16 53 01.4**	**-1.4**
CASP			AML	AML		
	comp=E,828µm,1.1s					
CASP			AML	AML		
	comp=N,858µm,0.7s					
CASP			AML	AML		
	comp=E,797µm,0.7s					
CASP			AML	AML		
	comp=E,797µm,1.3s					
CASP			AML	AML		
	comp=N,859µm,0.7s					
GRAM	**Graiana**	**1.38 295**	P	**Pb**	**16 52 46.5**	**-0.1**
GRAM	**Graiana**	**1.38 295**	P	**Pn**	**16 52 46.2**	**0.0**
PLMA	**Palmaria, Port**	**1.42 276**	P	**Pn**	**16 52 45.1**	**-1.6**
PLMA	**Palmaria, Port**	**1.42 276**	P	**Pn**	**16 52 45.2**	**-1.5**
PLMA			AML	AML		
	comp=E,968µm,0.6s					
PLMA			AML	AML		
	comp=N,1250µm,0.9s					
PLMA			AML	AML		
	comp=N,1110µm,0.6s					
PLMA			AML	AML		
	comp=E,966µm,0.6s					
CESX	**Cesi**	**1.43 156**	P	**Pn**	**16 52 45.8**	**-1.1**
CESX			AML	AML		
	comp=E,2330µm,0.6s					
CESX			AML	AML		
	comp=N,2735µm,0.6s					
CESX			AML	AML		
	comp=E,2332µm,0.6s					
CESX			AML	AML		
	comp=N,2733µm,0.6s					
CESX			AML	AML		
	comp=N,2733µm,1.4s					
MMO1	**Montemonaco**	**1.50 132**	P	**Pn**	**16 52 47.7**	**-0.3**
ZOVE	**Zovencedo**	**1.55 352**	P	**Pn**	**16 52 47.4**	**-1.2**
ZOVE			S	**Sn**	**16 53 08.3**	**-0.7**
IESO	**Jesolo**	**1.69 18**	*e*Pg	**Pn**	**16 52 50.6**	**+0.2**
MSSA	**Maissana**	**1.70 284**	P	**Pn**	**16 52 49.9**	**-0.8**
MSSA			AML	AML		
	comp=E,960µm,0.8s					
MSSA			AML	AML		
	comp=N,1150µm,0.9s					
MSSA			AML	AML		
	comp=N,1150µm,0.9s					
MSSA			AML	AML		
	comp=E,961µm,0.8s					
BRJN	**Brijuni**	**1.70 54**	*e*Pn	**Pn**	**16 52 49.1**	**-1.5**
SANR	**Sandrigo**	**1.73 355**	P	**Pn**	**16 52 50.1**	**-0.8**
RM33	**Pellescritta (**	**1.74 143**	P	**Pn**	**16 52 50.1**	**-1.2**
RM33			AML	AML		
	comp=E,1250µm,1.0s					
RM33			AML	AML		
	comp=N,1130µm,0.6s					
RM33			AML	AML		
	comp=E,1160µm,1.0s					
RM33			AML	AML		
	comp=N,1195µm,0.6s					
RM33			AML	AML		
	comp=E,1160µm,1.0s					
RM33			AML	AML		
	comp=N,1198µm,0.6s					
RM33			AML	AML		
	comp=E,1250µm,1.0s					
RM33			AML	AML		
	comp=N,1129µm,0.6s					
ROVR	**Rover Verones**	**1.81 343**	⇑P	**Pn**	**16 52 51.2**	**-1.0**
ROVR			S	**Sn**	**16 53 14.7**	**-0.8**
ROVR			AML	AML		
	comp=E,2395µm,0.7s					
ROVR			AML	AML		
	comp=N,3250µm,0.4s					
ROVR			AML	AML		
	comp=E,975µm,0.7s					
ROVR			AML	AML		
	comp=N,1300µm,0.4s					
ROVR			AML	AML		
	comp=E,2197µm,0.4s					
ROVR			AML	AML		
	comp=N,1298µm,0.4s					
ROVR			AML	AML		
	comp=N,3251µm,0.4s					
ROVR			AML	AML		
	comp=E,840µm,0.4s					
ASOL	**Asolo**	**1.88 2**	P	**Pn**	**16 52 52.4**	**-0.7**
ASOL			S	**Sn**	**16 53 17.4**	**+0.2**
GORR	**Gorreto**	**1.93 292**	P	**Pn**	**16 52 54.2**	**+0.4**
CGRP	**Cima Grappa**	**1.96 360**	⇑*i*P	**Pn**	**16 52 53.1**	**-1.3**
CGRP			S	**Sn**	**16 53 18.9**	**-0.5**
CGRP			AML	AML		
	comp=E,2250µm,0.6s					
CGRP			AML	AML		
	comp=N,2590µm,0.6s					
CGRP			AML	AML		
	comp=E,2235µm,0.5s					
CGRP			AML	AML		
	comp=N,2620µm,0.6s					
CGRP			AML	AML		
	comp=E,2231µm,0.5s					
CGRP			AML	AML		
	comp=N,2623µm,0.6s					
CGRP			AML	AML		
	comp=E,2246µm,0.6s					
CGRP			AML	AML		
	comp=N,2589µm,0.6s					
CGRP			AML	AML		
	comp=E,2231µm,1.5s					
DOSS	**Dosso del Somm**	**2.01 348**	⇑P	**Pn**	**16 52 54.0**	**-1.1**
DOSS			AML	AML		
	comp=E,2170µm,0.6s					
DOSS			AML	AML		
	comp=N,2815µm,0.5s					
DOSS			AML	AML		
	comp=E,2875µm,0.5s					
DOSS			AML	AML		
	comp=N,2305µm,0.6s					
DOSS			AML	AML		
	comp=E,2166µm,0.6s					
DOSS			AML	AML		
	comp=N,2812µm,0.5s					
DOSS			AML	AML		
	comp=E,2874µm,0.5s					
DOSS			AML	AML		
	comp=N,2304µm,0.6s					
DOSS			AML	AML		
	comp=E,2874µm,1.5s					
DOSS			AML	AML		
	comp=N,2812µm,1.5s					
VARA	**Varagna**	**2.01 342**	⇑P	**Pn**	**16 52 54.2**	**-0.9**
VARA			S	**Sn**	**16 53 20.2**	**-0.4**
VARA			AML	AML		
	comp=E,2355µm,0.7s					
VARA			AML	AML		
	comp=N,3990µm,0.5s					
VARA			AML	AML		
	comp=E,3940µm,0.5s					
VARA			AML	AML		
	comp=N,2305µm,0.7s					
VARA			AML	AML		
	comp=E,3936µm,0.5s					
VARA			AML	AML		
	comp=N,2305µm,0.7s					
VARA			AML	AML		
	comp=E,2356µm,0.7s					
VARA			AML	AML		
	comp=N,3989µm,0.5s					
MAGA	**Magasa**	**2.04 336**	P	**Pn**	**16 52 54.9**	**-0.5**
MAGA			S	**Sn**	**16 53 21.3**	**+0.2**
MAGA			AML	AML		
	comp=E,5580µm,0.5s					
MAGA			AML	AML		
	comp=N,3685µm,0.4s					
MAGA			AML	AML		
	comp=E,5578µm,0.5s					
MAGA			AML	AML		
	comp=N,3684µm,0.4s					
VARN	**Col Varnada, M**	**2.08 6**	⇑P	**Pn**	**16 52 54.4**	**-1.6**
VARN			S	**Sn**	**16 53 21.8**	**-0.4**
LUSI	**Trento, Gardas**	**2.13 344**	⇑P	**Pn**	**16 52 55.6**	**-1.0**
LUSI			S	**Sn**	**16 53 22.2**	**-1.2**
LUSI			AML	AML		
	comp=E,2035µm,0.9s					
LUSI			AML	AML		
	comp=N,2420µm,0.6s					
LUSI			AML	AML		
	comp=E,2033µm,0.9s					
LUSI			AML	AML		
	comp=N,2420µm,0.6s					
LUSI			AML	AML		
	comp=N,2420µm,1.4s					
CTI	**Castel Tesino**	**2.13 357**	P	**Pn**	**16 52 55.5**	**-1.1**
CTI			S	**Sn**	**16 53 22.3**	**-1.2**
CTI			AML	AML		
	comp=E,3025µm,0.3s					
CTI			AML	AML		
	comp=N,3555µm,0.3s					
CTI			AML	AML		
	comp=E,3022µm,0.3s					
CTI			AML	AML		
	comp=N,3553µm,0.3s					
CERT	**Cerreto**	**2.15 156**	P	**Pn**	**16 52 56.6**	**-0.2**
CERT			AML	AML		
	comp=E,708µm,0.9s					
CERT			AML	AML		
	comp=N,454µm,0.8s					
CERT			AML	AML		
	comp=N,454µm,0.8s					
CERT			AML	AML		
	comp=N,454µm,1.2s					
CERT			AML	AML		
	comp=E,709µm,0.9s					
PANI	**Panarotta**	**2.16 351**	P	**Pn**	**16 52 56.1**	**-0.9**
PANI			S	**Sn**	**16 53 23.4**	**-0.9**
PANI			AML	AML		
	comp=E,873µm,0.7s					
PANI			AML	AML		
	comp=N,950µm,1.0s					
PANI			AML	AML		
	comp=E,873µm,0.7s					
PANI			AML	AML		
	comp=N,922µm,0.5s					
T0110	**Collepietro**	**2.22 139**	P	**Pn**	**16 52 57.8**	**-0.1**
RONC	**Roncone**	**2.23 338**	P	**Pn**	**16 52 57.6**	**-0.4**
SKDS	**Skadanscina**	**2.26 43**	*i* Pn	**Pn**	**16 52 56.3**	**-2.1**
SKDS			*e*Sn	**Sn**	**16 53 23.5**	**-3.0**
SKDS			IAML		16 53 47.0	
	comp=Z,322nm,0.6s					
TRI	**Trieste**	**2.27 37**	P	**Pn**	**16 52 55.3**	**-3.0**
MABI	**Malga Bissina**	**2.32 337**	P	**Pn**	**16 52 59.1**	**-0.3**
MABI			S	**Sn**	**16 53 28.3**	**-0.1**
MABI			AML	AML		
	comp=E,364µm,0.4s					
MABI			AML	AML		
	comp=N,400µm,0.4s					
MABI			AML	AML		
	comp=E,364µm,0.5s					
MABI			AML	AML		
	comp=N,401µm,0.4s					
ZIAN	**Ziano**	**2.36 356**	P	**Pn**	**16 52 59.2**	**-0.6**
ZIAN			S	**Sn**	**16 53 27.8**	**-1.4**
ZIAN			AML	AML		
	comp=E,1315µm,0.5s					
ZIAN			AML	AML		
	comp=N,1084µm,0.4s					
ZIAN			AML	AML		
	comp=E,1124µm,0.4s					
ZIAN			AML	AML		
	comp=N,1320µm,0.5s					
ZIAN			AML	AML		
	comp=E,1123µm,0.5s					
ZIAN			AML	AML		
	comp=E,1313µm,0.5s					
ZIAN			AML	AML		
	comp=N,1318µm,0.5s					
ZIAN			AML	AML		
	comp=N,1085µm,0.5s					
SABO	**M.te Sabotino**	**2.42 31**	P	**Pn**	**16 52 59.1**	**-1.5**
SABO			S	**Sn**	**16 53 29.6**	**-0.9**
SABO			AML	AML		
	comp=E,6845µm,0.5s					
SABO			AML	AML		
	comp=N,5575µm,0.5s					
SABO			AML	AML		
	comp=E,1625µm,0.5s					
SABO			AML	AML		
	comp=N,1470µm,0.5s					
SABO			AML	AML		
	comp=E,1623µm,0.5s					
SABO			AML	AML		
	comp=N,1467µm,0.5s					
SABO			AML	AML		
	comp=E,6842µm,0.5s					
SABO			AML	AML		
	comp=N,5574µm,0.5s					
SABO			AML	AML		
	comp=E,1623µm,1.5s					
SABO			AML	AML		
	comp=E,6842µm,1.5s					
STAL	**STALIGIAL**	**2.42 15**	P	**Pn**	**16 52 58.8**	**-1.8**
STAL			S	**Sn**	**16 53 30.0**	**-0.6**
STAL			AML	AML		
	comp=E,1140µm,0.2s					
STAL			AML	AML		
	comp=N,1106µm,0.9s					
STAL			AML	AML		
	comp=E,1150µm,0.9s					
STAL			AML	AML		
	comp=N,948µm,0.5s					
STAL			AML	AML		
	comp=E,1030µm,0.4s					
STAL			AML	AML		

STAL AML AML
comp=E,1140µm,0.2s
STAL AML AML
comp=N,1052µm,0.2s
STAL AML AML
comp=E,1030µm,1.6s
VVLD Villa Vallelon 2.44 146 P **Pn 16 53 00.7 -0.2**
VVLD AML AML
comp=E,360µm,0.7s
VVLD AML AML
comp=N,354µm,1.0s
VVLD AML AML
comp=E,370µm,0.8s
VVLD AML AML
comp=N,326µm,0.7s
VVLD AML AML
comp=E,370µm,0.8s
VVLD AML AML
comp=N,325µm,0.7s
VVLD AML AML
comp=N,355µm,0.9s
VVLD AML AML
comp=E,360µm,0.7s
VVLD AML AML
comp=N,325µm,1.3s
VVLD AML AML
comp=N,355µm,1.1s
VVLD AML AML
comp=E,370µm,1.2s
INTR Introdacqua 2.45 140 P **Pn 16 53 01.7 +0.7**
INTR AML AML
comp=E,644µm,0.8s
INTR AML AML
comp=N,1080µm,0.9s
INTR AML AML
comp=E,468µm,0.8s
INTR AML AML
comp=N,1105µm,0.9s
INTR AML AML
comp=E,467µm,0.8s
INTR AML AML
comp=N,1105µm,0.9s
INTR AML AML
comp=E,644µm,0.8s
INTR AML AML
comp=N,1080µm,0.9s
INTR AML AML
comp=E,467µm,1.2s
INTR AML AML
comp=E,644µm,1.2s
INTR AML AML
comp=N,1105µm,1.1s
INTR AML AML
comp=N,1080µm,1.1s
DST2 Trieste 2.46 18 ⇑P **Pn 16 52 59.7 -1.3**
DST2 S **Sn 16 53 31.0 -0.2**
DST2 AML AML
comp=E,2475µm,0.6s
DST2 AML AML
comp=N,1990µm,0.9s
DST2 AML AML
comp=E,2474µm,0.6s
DST2 AML AML
comp=N,1976µm,0.7s
MPRI Monte Prat 2.47 19 ⇑P **Pn 16 52 60.0 -1.3**
MPRI S **Sn 16 53 31.2 -0.5**
MPRI AML AML
comp=E,1150µm,0.8s
MPRI AML AML
comp=N,1325µm,0.9s
MPRI AML AML
comp=E,1505µm,0.8s
MPRI AML AML
comp=N,1755µm,0.9s
MPRI AML AML
comp=E,1148µm,0.8s
MPRI AML AML
comp=N,1322µm,0.9s
MPRI AML AML
comp=E,1502µm,0.8s
MPRI AML AML
comp=N,1753µm,0.9s
MPRI AML AML
comp=E,1502µm,1.2s
MPRI AML AML
comp=E,1148µm,1.2s
MPRI AML AML
comp=N,1322µm,1.1s
MPRI AML AML
comp=N,1753µm,1.1s
PGF Pioggiola 2.47 237 *e*Pn **Pn 16 53 00.1 -1.2**
PGF *e*Sn **Sn 16 53 27.9 -3.9**
comp=N,40nm,0.3s
PGF Pioggiola 2.47 237 AML AML
PGF AML AML
comp=N,171µm,1.4s
GEPF Gemona 2.54 21 P **Pn 16 53 00.5 -1.5**
GEPF S **Sn 16 53 32.4 -0.9**
GEPF AML AML
comp=E,627µm,0.6s
GEPF AML AML
comp=N,658µm,0.8s
GEPF AML AML
comp=E,627µm,0.6s
GEPF AML AML
comp=N,658µm,0.8s
OZOL Ozolo 2.54 348 P **Pn 16 53 02.1 -0.2**
OZOL S **Sn 16 53 33.8 +0.2**
OZOL AML AML
comp=E,2650µm,0.6s
OZOL AML AML
comp=N,1445µm,0.7s
OZOL AML AML
comp=E,2860µm,0.6s
OZOL AML AML
comp=N,1220µm,0.5s
OZOL AML AML
comp=E,2859µm,0.6s
OZOL AML AML
comp=N,1219µm,0.5s
OZOL AML AML
comp=E,2651µm,0.6s
OZOL AML AML
comp=N,1350µm,0.4s
CANO Canova, Maglio 2.59 278 P **Pn 16 53 01.1 -1.8**
CANO AML AML
comp=E,1530µm,0.9s
CANO AML AML
comp=N,512µm,0.4s
CANO AML AML
comp=E,1527µm,0.9s
CANO AML AML
comp=N,512µm,0.4s
APPI Appiano 2.59 351 P **Pn 16 53 02.6 -0.4**
APPI S **Sn 16 53 34.7 -0.1**
APPI AML AML
comp=E,955µm,0.4s
APPI AML AML
comp=N,1096µm,0.4s
APPI AML AML
comp=E,955µm,0.4s
APPI AML AML
comp=N,1098µm,0.4s
APPI AML AML
comp=E,955µm,1.6s
APPI AML AML
comp=N,1098µm,1.6s
CARE Lago del Cares 2.63 343 P **Pn 16 53 03.5 -0.1**
CARE S **Sn 16 53 35.0 -0.9**
CARE AML AML
comp=E,378µm,1.5s
CARE AML AML
comp=N,406µm,0.4s
CARE AML AML
comp=E,367µm,0.6s
CARE AML AML
comp=N,463µm,0.4s
CARE AML AML
comp=E,367µm,0.6s
CARE AML AML
comp=E,347µm,0.5s
CARE AML AML
comp=N,406µm,0.4s
CARE AML AML
comp=N,463µm,0.4s
FUSE Fusea 2.63 18 P **Pn 16 53 01.7 -1.7**

CLUD Cludinico 2.65 16 P **Pn 16 53 02.0 -1.7**
CLUD AML AML
comp=E,706µm,0.8s
CLUD AML AML
comp=N,454µm,0.8s
CLUD AML AML
comp=E,713µm,0.8s
CLUD AML AML
comp=N,502µm,0.7s
CLUD AML AML
comp=E,706µm,0.8s
CLUD AML AML
comp=N,454µm,0.8s
CLUD AML AML
comp=E,713µm,0.8s
CLUD AML AML
comp=N,454µm,1.2s
CLUD AML AML
comp=E,713µm,1.2s
CLUD AML AML
comp=E,706µm,1.2s
CLUD AML AML
comp=N,502µm,0.7s
RORO Rocca Rossa 2.71 275 AML AML
comp=E,112µm,0.6s
RORO AML AML
comp=E,112µm,0.6s
RORO AML AML
comp=N,103µm,1.5s
RORO AML AML
comp=N,98µm,0.6s
RORO AML AML
comp=E,112µm,1.4s
FVI Forni Avoltri 2.76 14 P **Pn 16 53 04.2 -1.1**
FVI AML AML
comp=E,584µm,1.5s
FVI AML AML
comp=N,536µm,0.5s
FVI AML AML
comp=E,460µm,0.9s
FVI AML AML
comp=N,535µm,0.5s
FVI AML AML
comp=E,460µm,1.1s
BRES Bressanone 2.78 359 P **Pn 16 53 05.5 -0.2**
BRES S **Sn 16 53 38.3 -1.4**
BRES AML AML
comp=E,512µm,1.5s
BRES AML AML
comp=N,661µm,1.6s
BRES AML AML
comp=E,498µm,0.4s
BRES AML AML
comp=N,616µm,0.3s
BERNI Berninapass 2.80 334 P **Pn 16 53 06.5 +0.6**
BERNI AML AML
comp=E,310µm,0.4s
BERNI AML AML
comp=N,360µm,0.3s
BERNI AML AML
comp=E,310µm,0.4s
BERNI AML AML
comp=N,360µm,0.3s
MUGIO Muggio 2.81 316 P **Pn 16 53 06.0 +0.1**
MUGIO AML AML
comp=E,268µm,1.5s
MUGIO AML AML
comp=N,347µm,0.6s
MUGIO AML AML
comp=E,260µm,0.7s
MUGIO AML AML
comp=N,347µm,0.6s
LJU Ljubljana 2.87 41 P **Pn 16 53 05.6 -1.0**
LJU AML AML
comp=E,4025µm,0.8s
LJU AML AML
comp=N,8465µm,0.8s
LJU AML AML
comp=E,4023µm,0.8s
LJU AML AML
comp=N,8466µm,0.8s
LJU AML AML
comp=E,4023µm,1.2s
LJU AML AML
comp=N,8466µm,1.2s
ABTA Abfaltersbach 2.87 10 *e*Pn **Pn 16 53 06.3 -0.5**
comp=N,17nm,0.4s,SNR=34
ABTA *e*Sn **Sn 16 53 42.0 +0.3**
comp=N,71nm,0.5s
GBOS Grotte di Boss 2.88 278 P **Pn 16 53 05.6 -1.2**
GBOS AML AML
comp=E,122µm,0.6s
GBOS AML AML
comp=N,238µm,0.7s
GBOS AML AML
comp=E,121µm,0.6s
GBOS AML AML
comp=N,238µm,0.7s
GBOS AML AML
comp=N,238µm,1.3s
GBOS AML AML
comp=E,121µm,1.4s
ACOM Acomizza, Ital 2.89 24 P **Pn 16 53 06.2 -0.9**
ACOM AML AML
comp=E,849µm,1.2s
ACOM AML AML
comp=N,768µm,1.1s
ACOM AML AML
comp=E,844µm,1.3s
ACOM AML AML
comp=N,761µm,0.8s
ACOM AML AML
comp=E,838µm,0.3s
ACOM AML AML
comp=N,760µm,0.8s
ACOM AML AML
comp=E,811µm,0.3s
ACOM AML AML
comp=N,761µm,0.8s
ACOM AML AML
comp=N,761µm,0.6s
VARE Varese 2.91 313 P **Pn 16 53 07.8 +0.5**
VARE AML AML
comp=E,446µm,0.6s
VARE AML AML
comp=N,686µm,1.3s
VARE AML AML
comp=E,446µm,0.6s
VARE AML AML
comp=N,554µm,0.6s
VARE AML AML
comp=N,554µm,1.4s
BOJS Bojanci 2.92 56 P **Pn 16 53 06.1 -1.2**
BOJS AML AML
comp=E,948µm,0.9s
BOJS AML AML
comp=N,1435µm,0.8s
BOJS AML AML
comp=E,949µm,0.9s
BOJS AML AML
comp=N,1433µm,0.8s
BOJS AML AML
comp=E,949µm,1.1s
MYKA Terra Mystica 3.00 25 *e*Pn **Pn 16 53 08.1 -0.4**
comp=E,14nm,0.3s,SNR=8.5
MYKA *e*Sn **Sn 16 53 46.5 +1.5**
comp=E,29nm,0.3s
ROSI Rosskopf 3.02 355 P **Pn 16 53 08.4 -0.6**
ROSI AML AML
comp=E,1148µm,1.4s
ROSI AML AML
comp=N,1565µm,0.7s
ROSI AML AML
comp=N,1561µm,0.7s
ROSI AML AML
comp=E,985µm,0.5s
SAOF Saorge 3.07 273 P **Pn 16 53 08.6 -0.9**
SAOF AML AML
comp=E,241µm,0.6s
SAOF AML AML
comp=N,298µm,0.7s
SAOF AML AML
comp=N,297µm,0.7s
SAOF AML AML
comp=E,241µm,0.6s
SAOF AML AML
comp=N,297µm,1.3s
TUE Stuetta 3.09 327 P **Pn 16 53 09.9 0.0**

TUE AML AML
comp=E,358µm,1.2s
TUE AML AML
comp=N,402µm,0.8s
TUE AML AML
comp=E,362µm,1.2s
TUE AML AML
comp=N,398µm,0.8s
TUE AML AML
comp=E,310µm,0.8s
TUE AML AML
comp=N,402µm,0.8s
TUE AML AML
comp=E,314µm,0.6s
TUE AML AML
comp=N,399µm,0.8s
TUE AML AML
comp=N,399µm,1.2s
TUE AML AML
comp=N,402µm,1.2s
TUE AML AML
comp=E,310µm,1.2s
TUE AML AML
comp=E,314µm,1.4s
OZLJ Ozalj 3.11 56 *e*Pn **Pn 16 53 08.6 -1.3**
SBF Sospel 3.16 270 *e*Pn **Pn 16 53 09.6 -1.2**
SBF *e*Sn **Sn 16 53 45.9 -3.0**
comp=E,198nm,0.4s
DAVOX Davos/Dischmat 3.17 335 Pn **Pn 16 53 12.8 +1.8**
comp=E,12nm,0.3s,baz=163,slow=10.0,SNR=76
DAVOX Sn **Sn 16 53 51.2 +2.0**
comp=E,19nm,0.3s,baz=148,slow=18,SNR=5.7
DAVOX LR LR 16 54 52.4
comp=E,210nm,19.4s,baz=120,slow=48
comp=E,42nm,0.4s
DAVOX Davos/Dischmat 3.17 335 P **Pn 16 53 12.3 +1.3**
FETA Feichten 3.19 347 *i* Pn **Pn 16 53 12.3 +1.1**
comp=E,133nm,0.8s,SNR=56
FETA *e*Sn **Sn 16 53 51.6 +1.8**
comp=E,67nm,0.5s
OBKA Obir 3.23 36 *i* Pn **Pn 16 53 10.5 -1.2**
comp=E,11nm,0.3s,SNR=14
OBKA *i* Sn **Sn 16 53 51.5 +0.8**
comp=E,196nm,0.7s
OBKA Obir 3.23 36 *e*Pn **Pn 16 53 10.7 -1.1**
SNR=32
OBKA *e*Sn **Sn 16 53 50.5 -0.1**
SNR=1.5
TRAV Traversella 3.31 300 P **Pn 16 53 12.2 -0.6**
TRAV AML AML
comp=E,260µm,0.7s
TRAV AML AML
comp=N,260µm,0.8s
TRAV AML AML
comp=N,260µm,0.8s
TRAV AML AML
comp=E,261µm,0.7s
KIJV Kijevo 3.32 87 *e*Pn **Pn 16 53 14.0 +1.1**
SQTA Sankt Quirin 3.33 353 *i* Pn **Pn 16 53 13.7 +0.7**
comp=E,43nm,0.2s,SNR=94
SQTA *i* Sn **Sn 16 53 55.7 +2.6**
comp=E,203nm,0.4s
KBA Koelnbreinsper 3.34 18 *i* Pn **Pn 16 53 12.8 -0.5**
comp=E,6.4nm,0.3s
KBA *i* Sn **Sn 16 53 53.0 -0.4**
comp=E,71nm,0.5s
KBA Koelnbreinsper 3.34 18 *e*Pn **Pn 16 53 12.8 -0.5**
SNR=31
KBA *e*Sn **Sn 16 53 52.9 -0.4**
SNR=2.8
WTTA Wattenberg 3.35 358 *i* Pn **Pn 16 53 14.4 +0.9**
comp=E,17nm,0.3s,SNR=14
WTTA *e*Sn **Sn 16 53 55.3 +1.8**
comp=E,126nm,0.3s
WTTA Wattenberg 3.35 358 *e*Pn **Pn 16 53 14.3 +0.9**
SNR=14
WTTA *e*Sn **Sn 16 53 55.7 +2.1**
SNR=2.9
WTTA Wattenberg 3.35 358 P **Pn 16 53 14.3 +0.9**
WTTA AML AML
comp=E,664µm,0.7s
WTTA AML AML
comp=N,620µm,1.3s
WTTA AML AML
comp=E,663µm,0.7s
WTTA AML AML
comp=N,619µm,1.3s
WTTA AML AML
comp=N,619µm,0.7s
FUSIO Fusio 3.37 320 P **Pn 16 53 14.1 +0.4**
FUSIO AML AML
comp=E,374µm,0.7s
FUSIO AML AML
comp=N,260µm,0.6s
FUSIO AML AML
comp=E,374µm,0.7s
FUSIO AML AML
comp=N,260µm,0.6s
WATA Walderalm 3.42 357 *i* Pn **Pn 16 53 15.5 +1.1**
comp=N,8.7nm,0.2s,SNR=20
WATA *i* Sn **Sn 16 53 57.9 +2.6**
comp=N,72nm,0.3s
A050A Klekovaca 3.44 79 *e*Pn **Pn 16 53 15.3 +0.7**
MOTA Moosalm 3.46 352 *i* Pn **Pn 16 53 15.7 +0.8**
comp=N,17nm,0.4s,SNR=34
MOTA *i* Sn **Sn 16 53 59.4 +3.1**
comp=N,18nm,0.3s
LESA Schwarzleotal 3.56 10 *i* Pn **Pn 16 53 16.1 -0.1**
comp=N,54nm,0.4s,SNR=58
LESA *i* Sn **Sn 16 54 01.4 +2.8**
comp=N,188nm,0.6s
PLONS Plons/SG 3.56 332 *e*Pn **Pn 16 53 18.2 +1.9**
SNR=13
PLONS *e*Sn **Sn 16 54 01.7 +2.9**
SNR=9.6
SOKA Soboth 3.57 38 *i* Pn **Pn 16 53 15.4 -1.0**
comp=N,3.0nm,0.3s,SNR=12
SOKA *i* Sn **Sn 16 53 56.9 -2.1**
comp=N,38nm,0.5s
SGRT San Giovanni R 3.61 125 P **Pn 16 53 17.8 +0.8**
SGRT AML AML
comp=E,186µm,0.6s
SGRT AML AML
comp=N,188µm,0.6s
SGRT AML AML
comp=N,188µm,0.6s
SGRT AML AML
comp=E,186µm,0.6s
SGRT AML AML
comp=N,188µm,1.4s
DAVA Damuels 3.63 339 *i* Pn **Pn 16 53 19.0 +1.7**
comp=N,53nm,0.6s,SNR=30
DAVA *i* Sn **Sn 16 54 03.2 +2.7**
comp=N,152nm,0.6s
DAVA Damuels 3.63 339 *e*Pn **Pn 16 53 18.8 +1.6**
SNR=44
RETA Reutte 3.64 349 *i* Pn **Pn 16 53 18.3 +0.9**
comp=N,25nm,0.4s,SNR=28
RETA *i* Sn **Sn 16 54 02.9 +2.2**
comp=N,48nm,0.4s
OBER Oberstdorf 3.65 344 *e*Pn **Pn 16 53 18.7 +1.3**
SNR=29
OBER *e*Sn **Sn 16 54 03.2 +2.4**
SNR=8.0
MBDF Montbardon 3.71 284 *e*Pn **Pn 16 53 16.7 -1.6**
MBDF *e*Sn **Sn 16 54 01.1 -1.2**
comp=N,29nm,0.3s
MSAG Monte S. Angel 3.74 125 P **Pn 16 53 19.4 +0.7**
MSAG AML AML
comp=E,56µm,0.5s
MSAG AML AML
comp=N,103µm,0.7s
MSAG AML AML
comp=N,241µm,0.7s
MSAG AML AML
comp=E,70µm,0.9s
MSAG AML AML
comp=N,103µm,0.7s
MSAG AML AML
comp=E,168µm,0.9s
BNALP Bannalp 3.79 322 P **Pn 16 53 21.0 +1.5**
A051A Mrakovica 3.81 72 *e*Pn **Pn 16 53 18.4 -1.2**
RJOB Jochberg 3.88 10 *e*Pn **Pn 16 53 20.6 0.0**
SNR=44
RJOB *e*Sn **Sn 16 54 07.2 +0.7**
SNR=2.9
LMR La Mourre 3.89 263 *e*Pn **Pn 16 53 19.4 -1.3**
LMR *e*Sn **Sn 16 54 03.5 -3.2**

comp=E,12nm,0.3s
MOSL Moslavina 3.91 63 *e*Pn **Pn** 16 53 20.3 -0.7
LPG La Plagne 3.94 295 *e*Pn **Pn** 16 53 21.8 +0.2
LPG *e*Sn **Sn** 16 54 07.4 -0.8
comp=E,39nm,0.5s
BLY Banja Luka 3.94 76 ⇑P **Pn** 16 53 23.8 +2.3
LPL La Plagne 3.96 296 *e*Pn **Pn** 16 53 22.6 +0.8
LPL *e*Sn **Sn** 16 54 08.6 0.0
comp=E,28nm,0.3s
BIOA Bad Ischl, Aus 3.98 18 *i* Pn **Pn** 16 53 21.8 -0.2
comp=E,8.6nm,0.4s,SNR=8.5
BIOA *i* Sn **Sn** 16 54 10.9 +1.9
comp=E,50nm,0.5s
WILA Wila 4.04 331 *e*Pn **Pn** 16 53 23.7 +0.8
SNR=7.5
ARSA Arzberg 4.23 37 *i* Pn **Pn** 16 53 24.1 -1.3
comp=E,3.8nm,0.4s,SNR=27
ARSA *e*Sn **Sn** 16 54 12.3 -2.8
comp=E,20nm,0.6s
ARSA Arzberg 4.23 37 *e*Pn **Pn** 16 53 24.1 -1.3
SNR=28
ARSA Arzberg 4.23 37 P **Pn** 16 53 24.0 -1.4
ARSA AML AML
comp=E,93µm,1.3s
ARSA AML AML
comp=N,64µm,0.9s
ARSA AML AML
comp=E,57µm,1.3s
ARSA AML AML
comp=N,55µm,0.7s
ARSA AML AML
comp=E,57µm,0.7s
MOA Molln 4.29 23 *i* Pn **Pn** 16 53 25.7 -0.4
comp=E,4.4nm,0.2s,SNR=17
MOA *i* Sn **Sn** 16 54 14.0 -2.5
comp=E,40nm,0.4s
MOA Molln 4.29 23 *e*Pn **Pn** 16 53 25.8 -0.4
SNR=29
ORIF Oris-en-Rattie 4.36 285 *e*Pn **Pn** 16 53 28.2 +0.9
ORIF *e*Sn **Sn** 16 54 17.2 -1.3
comp=E,37nm,0.6s
STON Ston 4.42 102 *e*Pn Pn 16 53 21.5 -6.4
SULZ Cheisacher 4.44 326 *e*Pn **Pn** 16 53 29.5 +1.2
SNR=9.4
SLE Schleitheim 4.49 330 *e*Pn **Pn** 16 53 29.0 0.0
SNR=12
SLE *e*Sn **Sn** 16 54 19.4 -2.1
SNR=6.2
SMRF Simiane la Rot 4.50 273 *e*Pn **Pn** 16 53 29.1 -0.1
SMRF *e*Sn **Sn** 16 54 19.0 -2.9
comp=E,11nm,0.3s
CABF La Chapelle 4.85 306 *e*Pn **Pn** 16 53 35.1 +1.1
CABF *e*Sn **Sn** 16 54 30.4 -0.2
comp=E,15nm,0.4s
NORI Noerdlinger Ri 4.87 351 *e*Sn **Sn** 16 54 28.3 -2.6
SNR=4.2
CONA Conrad Observa 4.91 34 *i* Pn **Pn** 16 53 33.9 -0.8
comp=E,3.4nm,0.5s,SNR=19
CONA *i* Sn **Sn** 16 54 28.7 -3.1
comp=E,21nm,0.4s
RONA Rosalia, Austr 4.91 38 *i* Pn **Pn** 16 53 33.3 -1.5
comp=E,3.0nm,0.4s,SNR=17
RONA *i* Sn **Sn** 16 54 29.4 -2.5
comp=E,17nm,0.4s
TREB Trebinje 4.92 102 *e*Pn **Pn** 16 53 34.8 -0.1
KLINJ Klinje 4.98 96 *e*Pn **Pn** 16 53 38.0 +2.2
BRY Bratogost 5.01 99 *e*Pn **Pn** 16 53 37.8 +1.6
BRY *i* Sn **Sn** 16 54 34.5 +0.1
BFO Black Forest 5.03 332 *e*Pn **Pn** 16 53 36.5 +0.2
SNR=30
BFO *e*Sn **Sn** 16 54 31.5 -3.3
SNR=6.9
GEC2 GERESS Array S 5.10 14 *e*Pn **Pn** 16 53 35.6 -1.7
SNR=8.7
GEC2 *e*Sn **Sn** 16 54 33.9 -2.7
SNR=2.7
GERES GERESS Array B 5.10 14 Pn **Pn** 16 53 35.6 -1.7
comp=E,0.6nm,0.3s,baz=195,slow=13,SNR=53
GERES Sn **Sn** 16 54 34.5 -2.1
comp=E,1.1nm,0.3s,baz=202,slow=23,SNR=12
comp=E,5.8nm,0.4s
CKRC Cesky Krumlov 5.20 19 *e*PN **Pn** 16 53 37.4 -1.3
CKRC *e*SN **Sn** 16 54 35.4 -3.5
VIVF Saint-Julien-l 5.20 283 *e*Pn **Pn** 16 53 38.6 -0.1
VIVF *e*Sn **Sn** 16 54 37.4 -1.6
comp=E,9.8nm,0.4s
UPM Unac-Piva 5.21 95 *e*Pn **Pn** 16 53 39.7 +0.7
UPM *e*Sn **Sn** 16 54 39.7 +0.3
HINF Hinteralfeld 5.21 320 *e*Pn **Pn** 16 53 38.7 -0.2
HINF *e*Sn **Sn** 16 54 37.4 -1.9
comp=E,66nm,0.5s
WET Wettzell 5.28 8 *e*Pn **Pn** 16 53 38.7 -1.1
SNR=14
WET *e*Sn **Sn** 16 54 37.5 -3.4
SNR=5.9
NKME Niksic 5.33 100 *e*Pn **Pn** 16 53 42.5 +1.9
NKME *e*Sn **Sn** 16 54 42.4 0.0
KHC Kasperske Hory 5.35 13 *e*PN **Pn** 16 53 39.0 -1.8
KHC *e*SN **Sn** 16 54 39.9 -2.9
MORH Mrgy, Hungar 5.36 62 *e*Pn **Pn** 16 53 38.9 -1.9
MORH Mrgy, Hungar 5.36 62 ⇑P **Pn** 16 53 39.6 -1.2
CEME Cevo 5.37 102 ⇓*i*Pn **Pn** 16 53 42.3 +1.2
CEME *e*Sn **Sn** 16 54 42.8 -0.5
BUM Brajici-Budva 5.43 105 *e*Pn **Pn** 16 53 43.4 +1.4
BUM *i* Sn **Sn** 16 54 45.1 +0.3
RUDO Rudo 5.48 91 *e*Pn **Pn** 16 53 44.0 +1.4
CDF Champ du Feu 5.49 327 *e*Pn **Pn** 16 53 42.4 -0.3
CDF *e*Sn **Sn** 16 54 44.6 -1.5
comp=E,60nm,0.4s
HAU Haudompre 5.58 319 *e*Pn **Pn** 16 53 44.1 +0.1
HAU *e*Sn **Sn** 16 54 46.5 -2.0
comp=E,70nm,0.3s
PDG Podgorica 5.64 103 ⇑P **Pn** 16 53 46.4 +1.7
PDG Podgorica 5.64 103 *e*Pn **Pn** 16 53 46.5 +1.7
PDG *e*Sn **Sn** 16 54 49.4 -0.5
DRME Dracevica, Mon 5.67 105 ⇓*i*Pn **Pn** 16 53 45.4 +0.2
DRME *e*Sn **Sn** 16 54 50.3 -0.4
KOME Kolasin 5.72 98 ⇓*i*Pn **Pn** 16 53 47.9 +2.0
KOME *e*Sn **Sn** 16 54 51.0 -0.8
LASF Ste Croix 5.74 274 *e*Pn **Pn** 16 53 45.5 -0.6
LASF *e*Sn **Sn** 16 54 49.6 -2.7
comp=E,3.0nm,0.3s
ZVC Zvikov 5.76 16 *e*PN **Pn** 16 53 45.6 -0.8
ZVC *e*SN **Sn** 16 54 49.0 -3.7
GRF Grafenberg Arr 5.79 356 *e*Pn **Pn** 16 53 44.9 -1.9
SNR=4.6
ULC Ulcinj 5.80 107 ⇓*i*Pn **Pn** 16 53 48.4 +1.5
ULC *e*Sn **Sn** 16 54 52.9 -0.8
ROTZ Rotzenmuhle 5.86 3 *e*Pn **Pn** 16 53 45.4 -2.3
SNR=6.2
ROTZ *e*Sn **Sn** 16 54 49.8 -5.3
SNR=3.7
TREC Trest 5.94 24 *e*PN **Pn** 16 53 47.2 -1.7
TREC *e*SN **Sn** 16 54 52.9 -4.4
SRO Srobarova 5.98 47 *e*SN **Sn** 16 54 57.1 -1.1
IVA Berane 5.98 97 ⇑*i*Pn **Pn** 16 53 51.8 +2.3
IVA *e*Sn **Sn** 16 54 56.6 -1.8
KRUC Moravsky 6.04 30 *e*PN **Pn** 16 53 47.4 -2.8
KRUC *e*SN **Sn** 16 54 54.9 -4.7
SMF Signal de Mont 6.25 299 *e*Pn **Pn** 16 53 53.5 +0.4
SMF *e*Sn **Sn** 16 55 03.3 -1.5
comp=E,47nm,0.6s
PAGF Fort de Pagny 6.27 320 *e*Pn **Pn** 16 53 54.6 +1.2
baz=136
PAGF *e*Sn **Sn** 16 55 03.4 -1.9
comp=E,41nm,0.5s
VRAC Vranov 6.32 30 Pn **Pn** 16 53 53.3 -0.7
comp=E,0.5nm,0.3s,baz=215,slow=15,SNR=5.0
VRAC Sn **Sn** 16 55 01.2 -5.3
comp=E,1.8nm,0.3s,baz=267,slow=13,SNR=6.2
comp=E,2.2nm,0.5s
VRAC Vranov 6.32 30 *e*PN **Pn** 16 53 51.3 -2.7
VRAC *e*SN **Sn** 16 55 01.0 -5.5
PRU Pruhonice 6.35 16 *e*PN **Pn** 16 53 53.3 -1.2
PRU AMS AMS 16 56 50.0
comp=E,300nm,13.7s
SFTF Sexfontaines 6.37 315 *e*Pn **Pn** 16 53 55.5 +0.8
baz=128
SFTF *e*Sn **Sn** 16 55 05.4 -2.3
comp=E,23nm,0.4s
JAVC Velka Javorina 6.39 37 *e*PN **Pn** 16 53 54.1 -1.0
LOR Lormes 6.50 304 *e*Pn **Pn** 16 53 57.0 +0.4
baz=116
LOR *e*Sn **Sn** 16 55 09.9 -1.3
comp=E,44nm,0.5s

MEZF Maizieres J'vi 6.55 317 *e*Pn **Pn** 16 53 58.6 +1.3
baz=132
MEZF *e*Sn **Sn** 16 55 10.7 -1.6
comp=E,16nm,0.4s
SAVF Savonnieres en 6.60 318 *e*Pn **Pn** 16 53 57.2 -0.6
SAVF *e*Sn **Sn** 16 55 09.6 -3.7
comp=E,32nm,0.6s
AVF Avril sur Loir 6.61 299 *e*Pn **Pn** 16 53 58.8 +0.7
AVF *e*Sn **Sn** 16 55 11.3 -2.5
comp=E,4.2nm,0.5s
SSF Saint Saulge 6.63 301 *e*Pn **Pn** 16 53 58.7 +0.4
SSF *e*Sn **Sn** 16 55 12.2 -1.9
comp=E,20nm,0.4s
MOX Moxa 6.73 359 *e*Pn **Pn** 16 53 57.7 -2.0
SNR=6.7
MOX *e*Sn **Sn** 16 55 11.8 -4.8
SNR=2.8
MAUC Maruska 6.84 35 *e*PN **Pn** 16 54 00.1 -1.2
MAUC *e*SN **Sn** 16 55 15.8 -3.6
BGF Bois d'Agland 6.86 296 *e*Pn **Pn** 16 54 02.1 +0.7
BGF *e*Sn **Sn** 16 55 17.3 -2.5
comp=E,30nm,0.6s
PVCC Panska Ves 6.87 15 *e*PN **Pn** 16 53 59.6 -2.0
PSZ Piszkesteto 6.91 52 ⇑P **Pn** 16 54 01.1 -1.2
WLF Walferdange 6.93 328 *d*P **Pn** 16 54 05.0 +2.5
WLF *d*S **Sn** 16 55 18.0 -3.7
MTLF Montolieu 6.99 269 *e*Pn **Pn** 16 54 01.7 -1.5
MTLF *e*Sn **Sn** 16 55 18.8 -4.2
comp=E,9.7nm,0.5s
KRLC Kraliky 7.03 27 *e*PN **Pn** 16 54 02.7 -1.2
KRLC AMS AMS 16 57 00.0
comp=E,300nm,12.6s
CAF Calviac 7.05 282 *e*Pn **Pn** 16 54 04.2 +0.1
CAF *e*Sn **Sn** 16 55 20.7 -3.9
comp=E,3.3nm,0.5s
MORC Moravsky Berou 7.05 32 *e*PN **Pn** 16 54 02.4 -1.8
BRG Berggiesshubel 7.11 11 Pn **Pn** 16 54 04.5 -0.3
BRG Sn **Sn** 16 55 21.8 -4.1
BRG Amp 16 55 24.6
comp=E,11nm,0.6s
DPC Dobruska-Polom 7.13 24 *e*PN **Pn** 16 54 04.0 -1.2
DPC AMS AMS 16 57 10.0
comp=E,300nm,11.8s
MDVR Moldovita 7.15 80 ⇓P **Pn** 16 54 08.7 +3.1
BOVS Bovan 7.17 89 ⇑P **Pn** 16 54 09.3 +3.6
BZS Buzias 7.18 73 ⇑P **Pn** 16 54 09.4 +3.5
TCF Toulx Ste Croi 7.19 293 *e*Pn **Pn** 16 54 06.7 +0.6
TCF *e*Sn **Sn** 16 55 25.6 -2.5
comp=E,5.4nm,0.3s
HYF Humbligny 7.25 301 *e*P Pn 16 54 12.4 +5.5
CHVC Chvalec 7.27 22 *e*PN **Pn** 16 54 05.3 -1.8
STEB Steborice 7.27 32 *e*PN **Pn** 16 54 05.4 -1.7
OSTC Ostas 7.28 23 *e*PN **Pn** 16 54 05.5 -1.8
CLL Collm 7.44 6 *e*Pn **Pn** 16 54 08.0 -1.3
CLL *e*Sn **Sn** 16 55 26.0 -8.0
CLL *e*Sg **Sg** 16 56 16.0 -2.9
comp=E,23nm,1.0s
CLL Lmax 16 57 00.0
RJF Les Rejaudoux 7.48 284 *e*Pn **Pn** 16 54 11.6 +1.7
RJF *e*Sn **Sn** 16 55 32.2 -2.8
comp=E,0.8nm,0.3s
BHOU Houvegnez 7.55 330 *d*P **Pn** 16 54 10.7 -0.3
BHOU *d*S **Sn** 16 55 31.8 -5.2
HERR Herculane 7.66 79 ⇓P **Pn** 16 54 14.1 +1.6
RCHB Rochefort 7.69 327 *d*P **Pn** 16 54 14.3 +1.5
RCHB *d*S **Sn** 16 55 35.6 -4.5
BTNL Ternell 7.71 332 *d*P **Pn** 16 54 16.7 +3.6
BTNL *d*S **Sn** 16 55 36.2 -4.4
MEM Membach 7.77 332 *d*P **Pn** 16 54 15.5 +1.7
MEM *d*S **Sn** 16 55 37.9 -4.2
GIVF Givet 7.81 325 *e*Pn **Pn** 16 54 16.5 +2.0
GIVF *e*Sn **Sn** 16 55 39.0 -4.2
comp=E,8.0nm,0.3s
BCLA Clavier 7.87 328 *d*P **Pn** 16 54 17.9 +2.6
BCLA *d*S **Sn** 16 55 41.0 -3.6
BSTI Sart Tilman 7.90 330 *d*S **Sn** 16 55 41.5 -4.0
DOU Dourbes 7.90 324 *d*P **Pn** 16 54 16.5 +0.7
DOU *d*S **Sn** 16 55 41.7 -3.7
GZR Gura Zlata 7.96 76 ⇑P **Pn** 16 54 17.3 +0.7
BMRD Maredsous 7.99 326 *d*P **Pn** 16 54 18.0 +1.1
BMRD *d*S **Sn** 16 55 44.9 -2.6
LFF La Frestale 7.99 281 *e*Pn **Pn** 16 54 18.9 +1.9
BAIF Baives 8.04 322 *e*Pn **Pn** 16 54 20.9 +3.2
BAIF *e*Sn **Sn** 16 55 46.1 -2.8
comp=E,13nm,0.5s
DRGR 8.20 66 ⇑P **Pn** 16 54 19.4 -0.5
EPF Esparros 8.39 268 *e*Pn **Pn** 16 54 21.5 -1.0
EPF *e*Sn **Sn** 16 55 52.9 -4.7
comp=E,5.0nm,0.7s
KEST Kesra 8.39 194 Pn **Pn** 16 54 25.2 +2.6
comp=E,0.8nm,0.3s,baz=345,slow=4.1,SNR=9.2
KEST Sn **Sn** 16 55 57.9 +0.1
comp=E,0.1nm,0.3s,baz=296,slow=13,SNR=1.0
comp=E,2.1nm,0.5s
MARR Marisel-Cluj 8.44 67 ⇑P **Pn** 16 54 22.1 -1.1
MFF Saint Martin d 8.85 292 *e*Pn **Pn** 16 54 28.9 +0.1
MFF Saint Martin d 8.85 292 *e*Pn **Pn** 16 54 29.1 +0.3
MFF *e*Sn **Sn** 16 56 05.6 -3.2
comp=E,0.5nm,0.2s
MFF *e*Sn Sg 16 56 06.8 -57
comp=E,5.5nm,0.5s
ETSF Etsaut 9.06 268 *e*P **Pn** 16 54 35.9 +4.1
ETSF *e*Sn **Sn** 16 56 08.0 -6.2
comp=E,2.9nm,0.5s
LDF La Druitiere 9.49 304 *e*Pn **Pn** 16 54 38.3 +0.7
LDF *e*Sn **Sn** 16 56 21.7 -2.8
comp=E,3.6nm,0.5s
SJPF Ste Jean 9.51 270 *e*P **Pn** 16 54 42.1 +4.3
VOIR 9.55 76 ⇓P **Pn** 16 54 39.2 +0.6
FLN La Foliniere 9.78 304 *e*Pn **Pn** 16 54 41.7 +0.2
baz=118
FLN *e*Sn **Sn** 16 56 26.9 -4.7
comp=E,1.1nm,0.3s
GRR Gorron 9.86 301 *e*Pn **Pn** 16 54 42.8 +0.2
GRR *e*Sn **Sn** 16 56 29.4 -4.1
comp=E,0.9nm,0.2s
MLR Muntele Rosu 10.19 76 LR LR 16 59 30.0
comp=E,67nm,19.4s,baz=254,slow=43
MLR Muntele Rosu 10.19 76 ⇑P **Pn** 16 54 47.5 +0.2
SGMF Saint Gilles 10.88 298 *e*P **Pn** 16 55 00.8 +4.3
QUIF Quistinic 11.17 296 *e*Pn **Pn** 16 54 59.9 -0.6
ESDC Sonseca Array 12.51 256 Pn **Pn** 16 55 20.1 +1.1
baz=55,slow=14,SNR=5.9
comp=E,0.2nm,0.5s
EKA Eskdalemuir Ar 14.95 325 Pn **Pn** 16 55 53.2 +1.2
baz=130,slow=13
comp=E,0.5nm,0.5s
HFS Hagfors 16.28 3 Pn **Pn** 16 56 09.3 -0.1
comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=2.0
HFS LR LR 17 03 41.7
comp=E,38nm,19.9s,baz=204,slow=42
comp=E,3.3nm,1.0s
NOA NORSAR Array B 17.15 359 P **P** 16 56 21.7 -0.5
baz=180,slow=13,SNR=2.4
NOA LR LR 17 02 58.9
comp=E,30nm,19.5s,baz=180,slow=37
comp=E,0.4nm,0.5s
FINES FINESS Array B 19.49 21 P **P** 16 56 48.1 +0.3
comp=E,0.1nm,0.3s,baz=200,slow=10.0,SNR=5.9
FINES LR LR 17 05 50.3
comp=E,51nm,20.9s,baz=228,slow=42
comp=E,4.2nm,1.1s
ARCES ARCESS Array B 26.62 11 LR LR 17 08 45.0
comp=E,34nm,21.4s,baz=242,slow=37
KIRV Kirov 27.29 44 LR LR 17 09 51.9
comp=E,51nm,20.9s,baz=231,slow=39
ARTI Arti 31.71 50 LR LR 17 11 28.6
comp=E,26nm,19.4s,baz=258,slow=36
TORD Torodi Ar. Bea 31.87 199 P **P** 16 58 46.5 +0.2
comp=E,2.6nm,0.6s,baz=10,slow=9.7,SNR=17
TORD PcP **PcP** 17 01 35.8 -1.2
comp=E,0.6nm,0.6s,baz=344,slow=2.9,SNR=3.6
TORD LR LR 17 11 00.0
comp=E,94nm,20.0s,baz=346,slow=35
comp=E,2.6nm,0.6s
KURBB Kurchatov Arra 44.38 57 P **P** 17 00 30.6 -0.7
comp=E,0.6nm,0.8s,baz=302,slow=8.8,SNR=4.7
comp=E,0.6nm,0.8s
ZALV Zalesovo Beam 46.97 51 P **P** 17 00 50.2 -1.7
comp=E,0.3nm,0.4s,baz=278,slow=10.0,SNR=2.3
comp=E,0.3nm,0.4s
MKAR Makanchi Array 48.08 61 P **P** 17 01 00.7 +0.1
comp=E,2.2nm,0.7s,baz=276,slow=8.5,SNR=11
comp=E,2.2nm,0.7s
TIXI Tiksi 56.53 20 LR LR 17 28 15.5
comp=E,26nm,20.9s,baz=353,slow=38
SONM Songino Array 61.84 50 P **P** 17 02 41.5 +1.2
comp=E,0.5nm,0.3s,baz=299,slow=8.6,SNR=5.5
comp=E,0.5nm,0.3s
YKA Yellowknife Ar 65.60 336 P **P** 17 03 06.2 +1.5
comp=E,1.3nm,0.8s,baz=47,slow=7.2,SNR=4.2
comp=E,1.3nm,0.8s
CMAR Chiang Mai Arr 75.41 78 P **P** 17 04 05.7 +0.4
comp=E,0.7nm,0.3s,baz=304,slow=6.8,SNR=5.3
comp=E,0.7nm,0.3s
PDAR Pinedale Array 79.01 320 P **P** 17 04 25.4 +0.1
comp=E,0.2nm,0.6s,baz=54,slow=7.5,SNR=3.5
comp=E,0.2nm,0.6s
TXAR Lajitas Array 86.25 308 P **P** 17 05 04.3 +1.2
comp=E,0.5nm,0.6s,baz=48,slow=3.7,SNR=7.3
comp=E,0.5nm,0.6s

AEIC ***17*** *17:10:31.9±0.8,54.83N±0.06×162.26W±0.05,h72km±6km, Error ellipse: s-maj=9.3km s-min=3.0km az=158.0*
NEIC 17 17:10:32.0±0.9,54.74N±0.06×162.21W±0.07,h71km±8km, ML3.0/34,**ML2.8**(AEIC)**, Error ellipse: s-maj=9.3km s-min=4.3km az=152.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.37**	**354**		Pn	17 10 43.3	-0.5
DT1					Sn	17 10 52.3	-0.1
DOL	**Dolgoi Island**	**0.45**	**26**		Pn	17 10 44.5	-0.1
DOL					Sn	17 10 53.9	+0.1
HAG	**Hague Volcano**	**0.60**	**17**		Pn	17 10 46.0	0.0
PS4A	**Pavlof South-4**	**0.64**	**19**		Pn	17 10 46.1	-0.2
PS4A					Sn	17 10 57.0	+0.1
PN7A	**Pavlof North-7**	**0.70**	**10**		Pn	17 10 47.0	-0.1
PN7A					Sn	17 10 59.7	+1.5
FALS	**False Pass**	**0.71**	**280**		Pn	17 10 46.7	-0.3
FALS					Sn	17 10 57.9	-0.2
PS1A	**Pavlof South-1**	**0.73**	**22**		Pn	17 10 47.3	0.0
PS1A					Sn	17 10 58.2	-0.4
ISNN	**Isanotski Nort**	**0.91**	**276**		Pn	17 10 49.9	+0.4
S12K	**Black Hills**	**0.96**	**5**		Pn	17 10 49.5	-0.6
S12K				IAML		17 11 03.8	
	comp=N,151nm,0.4s						
S12K				IAML		17 11 04.3	
	comp=E,237nm,0.3s						
S12K	**Black Hills**	**0.96**	**5**		Sn	17 11 02.3	-1.3
SSLS	**Shishaldin Sou**	**1.04**	**269**		Pn	17 10 51.5	+0.4
SSBA	**Shishaldin**	**1.11**	**272**		Pn	17 10 52.2	+0.2
SDPT	**Sand Point**	**1.17**	**58**		Sn	17 11 07.9	-0.2
SDPT	**Sand Point**	**1.17**	**58**		Pn	17 10 52.7	+0.1
WESP	**Westdahl Peak**	**1.48**	**261**		Pn	17 10 56.3	-0.5
WEBT	**Westdahl Beart**	**1.48**	**265**		Pn	17 10 57.0	+0.2
CNBA	**Chernabura Isl**	**1.52**	**86**		Pn	17 10 57.0	-0.2
CNBA					Sn	17 11 14.4	-1.9
VNFG	**Fog Glacier, M**	**2.16**	**43**		Pn	17 11 05.8	-0.1
VNFG				IAML		17 11 34.6	
	comp=N,118nm,0.6s						
VNFG				IAML		17 11 43.9	
	comp=E,107nm,0.6s						
VNFG	**Fog Glacier, M**	**2.16**	**43**		Sn	17 11 31.7	-0.1
VNFG	**Fog Glacier, M**	**2.16**	**43**		Pn	17 11 06.6	+0.7
AKUT	**Akutan**	**2.17**	**255**		Pn	17 11 04.8	-1.1
AKUT					Sn	17 11 30.4	-1.3
AKGG	**Akutan Green G**	**2.27**	**258**		Pn	17 11 07.8	+0.5
VNHG	**Veniaminof 1**	**2.28**	**48**		Pn	17 11 08.0	+0.5
LVA	**Lava Point**	**2.31**	**257**	Pn	Pn	17 11 08.3	+0.5
LVA				IAML		17 11 43.7	
	comp=E,36nm,1.2s						
LVA				IAML		17 11 57.7	
	comp=N,63nm,0.8s						
CHGN	**Chignik**	**2.66**	**53**	Sn	Sn	17 11 42.8	-1.0
UNV	**Unalaska Valle**	**2.67**	**252**	Pn	Pn	17 11 11.0	-1.7
MTBL	**Makushin Table**	**2.73**	**255**		Pn	17 11 14.1	+0.6
MREP	**Makushin Rep't**	**2.82**	**252**		Pn	17 11 14.8	+0.1
MGOD	**Makushin Gods**	**2.89**	**253**		Pn	17 11 16.1	+0.3
MAPS	**Pakushin South**	**2.93**	**253**		Pn	17 11 16.5	+0.4
ANPB	**Aniakchak Plen**	**3.03**	**46**		Pn	17 11 17.5	-0.1
R16K	**Pilot Point**	**3.84**	**41**	Pn	Pn	17 11 28.8	+0.3
CHIR	**Chirikof Isla**	**3.92**	**71**	Pn	Pn	17 11 28.9	-0.7
CHIR				IAML		17 13 56.9	
	comp=E,44nm,1.1s						
NIKH	**Nikolski High**	**4.32**	**248**	Pn	Pn	17 11 35.2	+0.2
NIKH				IAML		17 12 36.4	
	comp=E,24nm,1.2s						
NIKH				IAML		17 13 16.3	
	comp=N,21nm,1.2s						
PLK4	**Peulik 4**	**4.37**	**46**	Pn	Pn	17 11 35.7	-0.2
PLK4				IAML		17 13 01.8	
	comp=E,18nm,1.1s						
PLK4				IAML		17 13 21.0	
	comp=N,15nm,1.0s						
O14K	**Tigyukauivet M**	**4.55**	**6**	Pn	Pn	17 11 37.2	-1.0
O14K				IAML		17 12 19.4	
	comp=N,6.9nm,1.1s						
O14K				IAML		17 12 39.9	
	comp=E,8.1nm,1.2s						
O15K	**Ungalikthiuk R**	**4.63**	**15**	Pn	Pn	17 11 38.4	-1.0
O15K				IAML		17 13 45.7	
	comp=E,5.8nm,1.1s						
P16K	**Nushagak River**	**4.88**	**27**	Pn	Pn	17 11 42.2	-0.5
P16K				IAML		17 12 24.9	
	comp=N,23nm,1.0s						
N14K	**Kuskokwak Cree**	**5.20**	**3**	Pn	Pn	17 11 46.1	-1.1
N14K				IAML		17 14 25.9	
	comp=N,13nm,1.1s						
N14K				IAML		17 14 47.6	
	comp=E,14nm,1.1s						
O16K	**Kokwok River B**	**5.35**	**23**		Pn	17 11 48.4	-0.8
O16K				IAML		17 13 06.1	
	comp=N,3.8nm,1.1s						
N15K	**Kwethluk River**	**5.56**	**11**		Pn	17 11 51.6	-0.4
OHAK	**Old Harbor**	**5.59**	**60**	Pn	Pn	17 11 51.2	-1.3
M13K	**Dall Lake**	**5.72**	**354**	Pn	Pn	17 11 53.9	-0.2
M14K	**Bethel**	**6.03**	**1**	Pn	Pn	17 11 56.3	-2.0
KDAK	**Kodiak Island**	**6.17**	**57**	Pn	Pn	17 11 59.5	-0.8
Q19K	**Cape Douglas,**	**6.30**	**45**	Pn	Pn	17 12 01.9	-0.2
N17K	**Nushagak Hills**	**6.39**	**23**	Pn	Pn	17 12 01.7	-1.8
M16K	**Timber Creek**	**6.53**	**14**	Pn	Pn	17 12 04.6	-0.7
L14K	**Kuka Creek**	**6.62**	**358**		Pn	17 12 05.0	-1.5
SYI	**Shuyak Island**	**6.65**	**50**	Pn	Pn	17 12 07.4	+0.5
P19K	**Oil Pt**	**6.92**	**41**	Pn	Pn	17 12 09.9	-0.8
L16K	**Owhat River**	**7.13**	**11**	Pn	Pn	17 12 12.2	-1.3
M17K	**Holitna River**	**7.14**	**19**	Pn	Pn	17 12 13.2	-0.3
K13K	**Kusilvak Mount**	**7.32**	**351**	Pn	Pn	17 12 15.4	-0.7
K15K	**Wolf Creek Mou**	**7.58**	**2**	Pn	Pn	17 12 19.2	-0.5
CNPM	**China Poot**	**7.65**	**47**	Pn	Pn	17 12 21.8	+1.2
J14K	**Nanvaranak Lak**	**8.06**	**356**	Pn	Pn	17 12 25.0	-1.1
K17K	**Iditarod**	**8.25**	**13**	Pn	Pn	17 12 27.4	-1.3
J16K	**Anvik River**	**8.61**	**5**	Pn	Pn	17 12 31.6	-2.0

MOS ***17*** *17:17:52.1±1.1,42.66N×144.95E,h65km,mb4.3/9, Error ellipse: s-maj=12.9km s-min=7.6km az=80.9*
IDC ***17*** *17:17:52.4±4.2,42.75N×144.96E,h79km±28km,mb3.7/8, mbtmp3.9/10,MS3.3/1, Error ellipse: s-maj=48.1km s-min=20.0km az=75.0*
SKHL ***17*** *17:17:53.4±0.2,42.70N×144.80E,h91km±5km,mb5.0/6, msha5.9/7*
JMA ***17*** *17:17:53.1±0.1,42.8N±0.4×144.8E±0.5,h82km±1km, MV3.8/40,OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
ISC 17 17:17:53.1±0.8,42.72N±0.05×144.85E±0.03,h76km±5km, n62,σ1s00/84,**mb4.0**/14,**6C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK	**Akkeshi**	**0.30**	**359**	*i* P	**Pn**	**17 18 05.4**	**+0.4**
AKK				AMB	AMB	17 18 05.6	
	2µm,0.3s						
AKK				*e*S	**Sn**	**17 18 14.5**	**+0.8**
AKK				A	A	17 18 14.7	
	10µm,0.4s						
AKK				A	A	17 18 14.7	
	10µm,0.4s						
JAK	**Akkeshi**	**0.30**	**338**	*i* P	**Pn**	**17 18 05.4**	**+0.4**
JAK				S	**Sn**	**17 18 14.6**	**+0.9**
JKHN	**Kushirohamanak**	**0.43**	**32**	*i* P	**Pn**	**17 18 06.6**	**+0.7**
JKHN				*e*S	**Sn**	**17 18 16.2**	**+0.9**
JOB	**Onbets**	**0.77**	**284**	*i* P	**Pn**	**17 18 09.8**	**+0.6**
JOB				S	**Sn**	**17 18 22.2**	**+1.0**
JNK	**Nakash**	**0.87**	**354**	*i* P	**Pn**	**17 18 10.0**	**-0.4**
JNK				S	**Sn**	**17 18 22.2**	**-1.1**

NMR	**Nemuro--Hokkai**	**0.92**	**44**	*i*	P	N	**Pn**	**17 18 10.8**	**-0.1**
NMR				*i*	S	N	**Sn**	**17 18 23.5**	**-0.6**
NMR	**Nemuro--Hokkai**	**0.92**	**44**	*i*	P	N	**Pn**	**17 18 10.9**	**0.0**
NMR					AMB	N	AMB	17 18 11.2	
	220nm,0.2s								
NMR				*i*	S	N	**Sn**	**17 18 23.6**	**-0.6**
NMR					A	N	A	17 18 24.9	
	1μm,0.4s								
NMR					A	N	A	17 18 24.9	
	2μm,0.4s								
NEM2	**Nemuro 2**	**0.92**	**45**	*i*	P	N	**Pn**	**17 18 10.8**	**-0.1**
NEM2					S	N	**Sn**	**17 18 23.4**	**-0.9**
JAR	**Ashorobuto**	**0.98**	**306**	*i*	P	N	**Pn**	**17 18 11.9**	**+0.2**
JAR				*e*	S	N	**Sn**	**17 18 25.6**	**+0.1**
JCH	**Churui**	**1.10**	**265**	*i*	P	N	**Pn**	**17 18 13.6**	**+0.4**
JCH					S	N	**Sn**	**17 18 28.2**	**0.0**
GLVR	**Golovnino**	**1.13**	**25**	*e*	PN	N	**Pn**	**17 18 13.7**	**+0.2**
GLVR				*i*	S	N	**Sn**	**17 18 28.7**	**-0.1**
GLVR					pmax	N	pmax		
	comp=Z,305nm,0.1s								
GLVR					smax	N	smax		
	comp=N,1μm,0.2s								
GLVR					smax	N	smax		
	comp=E,3μm,0.2s								
GLVR	**Golovnino**	**1.13**	**25**	*e*	P	N	**Pn**	**17 18 13.7**	**+0.2**
GLVR					AMB	N	AMB	17 18 16.4	
	comp=E,310nm,0.2s								
GLVR				*i*	S	N	**Sn**	**17 18 28.9**	**+0.1**
GLVR					A	N	A	17 18 33.6	
	comp=E,1μm,0.2s								
GLVR					A	N	A	17 18 33.6	
	comp=E,3μm,0.2s								
JRA	**Rausu**	**1.23**	**9**	*i*	P	N	**Pn**	**17 18 14.9**	**+0.1**
JRA					S	N	**Sn**	**17 18 30.8**	**-0.3**
RUSJ	**Misakicho**	**1.42**	**12**	*e*	PN	N	**Pn**	**17 18 17.7**	**+0.5**
RUSJ				*i*	S	N	**Sn**	**17 18 36.0**	**+0.7**
JTKR	**Abashiri--Toko**	**1.43**	**332**	*i*	P	N	**Pn**	**17 18 17.7**	**+0.4**
JTKR				*e*	S	N	**Sn**	**17 18 35.7**	**+0.1**
ERM	**Erimo**	**1.44**	**241**	*d*	PN	N	**Pn**	**17 18 19.1**	**+1.7**
JEM	**Erimo**	**1.44**	**241**	*e*	P	N	**Pn**	**17 18 18.2**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.51**	**29**	*e*	PN	N	**Pn**	**17 18 18.7**	**+0.3**
YUK				*i*	S	N	**Sn**	**17 18 37.3**	**-0.1**
YUK					pmax	N	pmax		
	comp=Z,339nm,0.2s								
YUK					pmax	N	pmax		
	comp=N,162nm,0.1s								
YUK					pmax	N	pmax		
	comp=E,61nm,0.1s								
YUK					smax	N	smax		
	comp=N,1μm,0.3s								
YUK					smax	N	smax		
	comp=E,2μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.51**	**29**	*e*	P	N	**Pn**	**17 18 18.7**	**+0.3**
YUK					AMB	N	AMB	17 18 22.9	
	comp=E,160nm,0.3s								
YUK					AMB	N	AMB	17 18 22.9	
	comp=E,60nm,0.3s								
YUK					AMB	N	AMB	17 18 22.9	
	comp=E,340nm,0.3s								
YUK				*i*	S	N	**Sn**	**17 18 37.3**	**-0.1**
YUK					A	N	A	17 18 39.5	
	comp=E,1μm,0.4s								
YUK					A	N	A	17 18 39.5	
	comp=E,2μm,0.4s								
JNBK	**Urakawa-nobuka**	**1.61**	**255**		P	N	**Pn**	**17 18 19.4**	**-0.3**
JMP	**Maruseppu**	**1.69**	**320**		P	N	**Pn**	**17 18 20.9**	**+0.1**
JMP					S	N	**Sn**	**17 18 41.5**	**-0.2**
JFR	**Furan**	**1.72**	**286**		P	N	**Pn**	**17 18 21.0**	**-0.2**
JFR					S	N	**Sn**	**17 18 41.8**	**-0.6**
JBT2	**Biratori 2**	**1.83**	**273**		P	N	**Pn**	**17 18 22.2**	**-0.5**
JBT2					S	N	**Sn**	**17 18 44.5**	**-0.6**
SHO	**Shikotan**	**1.85**	**51**	*e*	PN	N	**Pn**	**17 18 25.6**	**+2.8**
SHO				*i*	S	N	**Sn**	**17 18 46.4**	**+1.0**
SHO					pmax	N	pmax		
	comp=Z,31nm,0.2s								
SHO					pmax	N	pmax		
	comp=N,6.0nm,0.1s								
SHO					smax	N	smax		
	comp=N,420nm,0.2s								
SHO					smax	N	smax		
	comp=E,794nm,0.2s								
SHO	**Shikotan**	**1.85**	**51**	*e*	P	N	**Pn**	**17 18 25.0**	**+2.2**
SHO					AMB	N	AMB	17 18 27.1	
	comp=E,30nm,0.2s								
SHO				*e*	S	N	**Sn**	**17 18 46.6**	**+1.2**
SHO					A	N	A	17 18 48.5	
	comp=E,420nm,0.2s								
SHO					A	N	A	17 18 48.5	
	comp=E,790nm,0.2s								
ASAJ	**Asahikawa**	**2.16**	**311**		P	N	**Pn**	**17 18 27.4**	**+0.4**
	comp=E,36nm,0.5s,baz=195,slow=15,SNR=110								
ASAJ					S	N	**Sn**	**17 18 53.8**	**+0.9**
	comp=E,108nm,0.6s,baz=60,slow=31,SNR=34								
KUR	**Kuril'sk**	**3.33**	**40**	*e*	PN	N	**Pn**	**17 18 44.2**	**+1.5**
KUR				*e*	S	N	**Sn**	**17 19 21.7**	**+0.6**
KUR					pmax	N	pmax		
	comp=Z,77nm,0.7s								
KUR					smax	N	smax		
	comp=N,102nm,0.2s								
KUR					smax	N	smax		
	comp=E,63nm,0.2s								
KUR	**Kuril'sk**	**3.33**	**40**	*e*	P	N	**Pn**	**17 18 43.9**	**+1.2**
KUR					AMB	N	AMB	17 18 45.0	
	comp=E,80nm,0.7s								
KUR				*e*	S	N	**Sn**	**17 19 22.1**	**+1.0**
KUR					A	N	A	17 19 23.4	
	comp=E,100nm,0.2s								
KUR					A	N	A	17 19 23.4	
	comp=E,60nm,0.2s								
YSS	**Yuzhno-Sakhali**	**4.49**	**341**	*e*	PN	N	**Pn**	**17 19 01.1**	**+2.5**
YSS				*e*	S	N	**Sn**	**17 19 52.1**	**+2.6**
YSS					pmax	N	pmax		
	comp=Z,10.0nm,0.7s								
YSS	**Yuzhno-Sakhali**	**4.49**	**341**	*e*	P	N	**Pn**	**17 19 00.2**	**+1.6**
YSS					AMB	N	AMB	17 19 02.8	
	comp=Z,10.0nm,0.7s								
MAJO	**Matsushiro**	**8.02**	**222**	*ce*	PN	N	**Pn**	**17 19 47.0**	**+0.2**
MJAR	**Matsushiro Arr**	**8.02**	**222**		P	N	**Pn**	**17 19 47.2**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=28,slow=15,SNR=2.4								
PEA0B	**Petropavlovsk-**	**13.48**	**35**	*e*	PN	N	**Pn**	**17 20 59.9**	**-1.0**
ULN	**Ulaanbaatar**	**26.89**	**294**	*e*	P	N	**P**	**17 23 28.6**	**+1.7**
ULN					pmax	N	pmax		
	comp=Z,4.0nm,0.9s								
ULN	**Ulaanbaatar**	**26.89**	**294**	*e*	P	N	**P**	**17 23 28.6**	**+1.7**
SONM	**Songino Array**	**27.34**	**294**		P	N	**P**	**17 23 30.6**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=82,slow=9.5,SNR=14								
	comp=Z,3.6nm,0.8s								
SONM	**Songino Array**	**27.34**	**294**	*e*	P	N	**P**	**17 23 32.0**	**+1.2**
SONM					pmax	N	pmax		
	comp=Z,4.0nm,0.8s								
BILL	**Bilibino**	**27.83**	**17**	*e*	P	N	**P**	**17 23 34.5**	**-0.3**
BILL					pmax	N	pmax		
	comp=Z,6.0nm,1.3s								
BILL	**Bilibino**	**27.83**	**17**	*e*	P	N	**P**	**17 23 34.5**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**29.50**	**134**		T	N	T	17 55 02.0	
	baz=327,slow=76,SNR=122								
H11N1	**WAKE ISLAND Hy**	**29.52**	**134**		T	N	T	17 55 08.1	
	baz=327,slow=76,SNR=146								
H11N3	**WAKE ISLAND Hy**	**29.52**	**134**		T	N	T	17 55 08.1	
	baz=327,slow=76,SNR=121								
TIXI	**Tiksi**	**30.06**	**350**	*e*	P	N	**P**	**17 23 53.5**	**-1.0**
TIXI					pmax	N	pmax		
	comp=Z,20nm,1.1s								
H11S1	**WAKE ISLAND Hy**	**30.42**	**136**		T	N	T	17 56 14.1	
	baz=328,slow=76,SNR=191								
H11S3	**WAKE ISLAND Hy**	**30.42**	**136**		T	N	T	17 56 16.9	
	baz=328,slow=76,SNR=139								
H11S2	**WAKE ISLAND Hy**	**30.43**	**136**		T	N	T	17 56 18.9	
	baz=328,slow=76,SNR=127								
ZALV	**Zalesovo Beam**	**40.29**	**308**		P	N	**P**	**17 25 22.4**	**0.0**
	comp=Z,1.0nm,0.4s,baz=80,slow=10.0,SNR=5.6								
ZALV					LR	N	LR	17 43 42.5	
	comp=Z,40nm,18.3s,baz=114,slow=38								
	comp=Z,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**40.29**	**308**	*e*	P	N	**P**	**17 25 22.9**	**+0.5**
ZALV					pmax	N	pmax		
	comp=Z,1.0nm,0.4s								
MK31	**Makanchi Array**	**43.58**	**298**	*d*	P	N	**P**	**17 25 48.5**	**-0.9**
MKAR	**Makanchi Array**	**43.58**	**298**		P	N	**P**	**17 25 48.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=81,slow=8.8,SNR=7.4								
	comp=Z,0.9nm,0.8s								
MKAR	**Makanchi Array**	**43.58**	**298**	*e*	P	N	**P**	**17 25 50.6**	**+1.2**
MKAR					pmax	N	pmax		
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**43.58**	**298**	*e*	P	N	**P**	**17 25 50.6**	**+1.2**
KURK	**Kurchatov**	**44.72**	**304**	*e*	P	N	**P**	**17 25 57.0**	**-1.4**
KURK					pmax	N	pmax		
	comp=Z,1.0nm,0.4s								
KURK	**Kurchatov**	**44.72**	**304**	*e*	P	N	**P**	**17 25 57.0**	**-1.4**
KURBB	**Kurchatov Arra**	**44.80**	**304**		P	N	**P**	**17 25 57.9**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=71,slow=8.8,SNR=8.2								
	comp=Z,1.2nm,0.5s								
BRVK	**Borovoye**	**48.91**	**309**	*ce*	P	N	**P**	**17 26 31.3**	**+0.3**
BRVK					pmax	N	pmax		
	comp=Z,2.0nm,0.8s								
BRVK	**Borovoye**	**48.91**	**309**	*e*	P	N	**P**	**17 26 31.3**	**+0.3**
ARTI	**Arti**	**54.05**	**317**	*c i*	P	N	**P**	**17 27 10.1**	**+0.7**
ARTI						N		17 28 11.2	
ARTI						N		17 29 10.3	
ARTI					S	N	**S**	**17 34 41.7**	**+2.2**
ARTI					SS	N	**SS**	**17 38 20.8**	**-0.5**
ARTI					pmax	N	pmax		
	comp=Z,8.0nm,1.9s								
WRA	**Warramunga Arr**	**63.10**	**191**		P	N	**P**	**17 28 11.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=11,slow=6.5,SNR=1.5								
	comp=Z,0.2nm,0.7s								
FINES	**FINESS Array B**	**65.02**	**332**		P	N	**P**	**17 28 23.7**	**-1.0**
	comp=Z,3.2nm,0.5s,baz=46,slow=11,SNR=30								
	comp=Z,3.2nm,0.5s								
NOA	**NORSAR Array B**	**69.94**	**338**		P	N	**P**	**17 28 54.5**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=24,slow=6.2,SNR=1.6								
	comp=Z,1.0nm,0.9s								
HFS	**Hagfors**	**69.97**	**336**		P	N	**P**	**17 28 54.9**	**-1.0**
	comp=Z,4.0nm,1.0s,baz=39,slow=9.6,SNR=5.9								
	comp=Z,4.0nm,1.0s								

DJA ***17*** *17:23:35.3±0.2, 7°S±5°×107°9E±°, h225km±2km, M4.6/29, mB5.2/8, mb5.0/12, MLv4.4/29, Mw(mB)4.7/8*
IDC ***17*** *17:23:36.5±0.7, 6.78S×108.98E, h226km±6km, mb3.5/11, mbtmp4.2/14, Error ellipse: s-maj=18.8km s-min=8.8km az=43.0*
NEIC ***17*** *17:23:36.9±2.1, 6.7S±0.1×109.00E±0.05, h231km±6km, mb4.3/32, Error ellipse: s-maj=17.1km s-min=6.5km az=195.0*

ISC 17 17:23:35.7±0.6, **6.84S**±0.07×**108.99E**±0.04, **h221**km±5km, **n93**, σ1**s59**/109, **mb4.1**/22, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.49**	**187**	P	P		**Pn**	**17 24 05.6**	**+0.4**
KPJI				S	S		**S**	**17 24 27.9**	**-0.6**
LEM	**Lembang**	**1.37**	**270**	P	P		**Pn**	**17 24 11.4**	**+1.0**
	944nm,0.7s,baz=49,slow=9.3,SNR=53								
LEM				S	S		**S**	**17 24 39.0**	**+1.7**
	443nm,0.8s,baz=346,slow=23,SNR=10								
LEM	**Lembang**	**1.37**	**270**	P	P		**Pn**	**17 24 11.3**	**+0.9**
LEM				S	S		**S**	**17 24 38.5**	**+1.2**
SMRI	**Semarang**	**1.45**	**98**		P		**Pn**	**17 24 13.0**	**+2.1**
SMRI				Sn	S		**Sn**	**17 24 42.0**	**+3.7**
SMRI	**Semarang**	**1.45**	**98**	P	P		**Pn**	**17 24 12.5**	**+1.6**
SMRI				S	S		**S**	**17 24 40.9**	**+2.7**
UGM	**Wanagama**	**1.85**	**125**		P		**Pn**	**17 24 14.6**	**+0.1**
UGM				Sn	S		**Sn**	**17 24 42.4**	**-2.2**
UGM	**Wanagama**	**1.85**	**125**	P	P		**Pn**	**17 24 14.2**	**-0.3**
CNJI	**Cibinong**	**1.91**	**256**	P	P		**Pn**	**17 24 13.8**	**-1.1**
WOJI	**Wonogiri, Jawa**	**2.16**	**118**	P	P		**Pn**	**17 24 17.3**	**0.0**
DBJI	**Dramaga**	**2.25**	**277**	P	P		**Pn**	**17 24 18.9**	**+0.6**
DBJI				S	S		**S**	**17 24 51.4**	**0.0**
NGJI	**Ngawi**	**2.50**	**102**	P	P		**Pn**	**17 24 23.3**	**+2.3**
PCJI	**Pacitan**	**2.55**	**122**	P	P		**Pn**	**17 24 20.8**	**-0.6**
TBJI	**Tambak Boyo**	**2.83**	**90**	P	P		**Pn**	**17 24 26.3**	**+1.7**
SBJI	**Serang**	**2.93**	**284**	P	P		**Pn**	**17 24 25.4**	**-0.3**
CGJI	**Cibinong**	**3.29**	**274**	P	P		**Pn**	**17 24 29.3**	**-0.4**
GRJI	**Gresik**	**3.46**	**91**	P	P		**Pn**	**17 24 34.1**	**+2.3**
BLSI	**Bandar Lampung**	**4.00**	**291**	P	P		**Pn**	**17 24 39.6**	**+1.3**
TPI	**Tanjungpandan**	**4.27**	**342**	P	P		**Pn**	**17 24 43.9**	**+2.3**
GMJI	**Gumukmas**	**4.64**	**108**	P	P		**Pn**	**17 24 45.9**	**-0.2**
KASI	**Kota Agung**	**4.66**	**286**	P	P		**Pn**	**17 24 47.1**	**+0.7**
KMMI	**Kalianget**	**4.94**	**93**	P	P		**Pn**	**17 24 49.9**	**0.0**
MDSI	**Maura Dua**	**5.33**	**296**	P	P		**Pn**	**17 24 56.0**	**+1.2**
JAGI	**Jajag, Banyuwa**	**5.36**	**108**		P		**Pn**	**17 24 54.7**	**-0.5**
JAGI				Sn	S		**Sn**	**17 25 54.9**	**-3.2**
JAGI	**Jajag, Banyuwa**	**5.36**	**108**	P	P		**Pn**	**17 24 54.2**	**-1.0**
	0.8nm5μm94nm,0.4s								
SRBI	**Singaraja**	**6.29**	**102**	P	P		**Pn**	**17 25 07.6**	**+0.6**
	0.5nm3μm115nm,0.6s								
DNP	**Denpasar**	**6.42**	**107**	P	P		**Pn**	**17 25 08.4**	**-0.3**
	207nm,0.8s								
MNAI	**Manna**	**6.49**	**292**	Pn	P		**Pn**	**17 25 10.2**	**+0.5**
MNAI				Sn	S		**Sn**	**17 26 19.1**	**-5.2**
MNAI	**Manna**	**6.49**	**292**	P	P		**Pn**	**17 25 10.1**	**+0.5**
	9μm213nm,0.5s								
KSI	**Kapahiang**	**7.12**	**296**	P	P		**Pn**	**17 25 18.4**	**+0.7**
	14μm191nm,0.5s								
MASI	**Maura Aman, Be**	**7.67**	**298**	P	P		**Pn**	**17 25 25.6**	**+0.9**
	0.6nm145nm,0.8s								
KRJI	**Kerinci**	**8.87**	**302**	P	P		**Pn**	**17 25 40.8**	**+0.6**
PLAI	**Plampang**	**8.92**	**103**	P	P		**Pn**	**17 25 40.3**	**-0.6**
	1μm83nm,0.5s								
PDSI	**Padang**	**10.35**	**304**	P	P		**Pn**	**17 25 58.1**	**-1.1**
PPI	**Padang Panjang**	**10.66**	**306**	P	P		**Pn**	**17 26 02.9**	**-0.3**
MMRI	**Maumere**	**13.24**	**99**	Pn	P		**Pn**	**17 26 33.3**	**-2.3**
IPM	**Ipoh**	**13.77**	**325**		P		**P**	**17 26 43.6**	**-0.2**
RPSI	**Rantau Prapat**	**13.81**	**313**	P	P		**Pn**	**17 26 40.9**	**-1.7**
PSI	**Prapat**	**13.88**	**313**	P	P		**Pn**	**17 26 40.9**	**-2.7**
	4.7nm,0.5s,baz=228,slow=14,SNR=4.4								
GSI	**Gunungsitoli**	**13.97**	**305**				**Pn**	**17 26 41.8**	**-2.8**
KULM	**Kulim**	**14.65**	**325**				**P**	**17 26 54.6**	**+1.2**
BATI	**Baumata**	**14.89**	**104**	P	P		**Pn**	**17 26 55.5**	**-0.2**
	21nm,0.4s,baz=286,slow=3.2,SNR=8.4								
BATI				S	S		**S**	**17 29 34.1**	**-6.5**
	24nm,0.6s,baz=142,slow=22,SNR=4.2								
SOEI	**Soe**	**15.39**	**102**	P	P		**Pn**	**17 26 59.5**	**-2.2**
GIRL	**Giralia**	**16.50**	**163**		P		**P**	**17 27 15.4**	**+1.6**
MBWA	**Marble Bar**	**17.62**	**145**	P	P		**P**	**17 27 27.7**	**+1.6**
MBWA					IAmb		IAmb	17 27 38.1	
	comp=Z,9.5nm,0.8s								
PSA00	**Pilbara Seismi**	**18.02**	**145**	P	P		**P**	**17 27 31.0**	**+0.6**
PSA00					IAmb		IAmb	17 27 35.8	
	comp=Z,6.2nm,1.1s								
PSA00	**Pilbara Seismi**	**18.02**	**145**	P	P		**P**	**17 27 30.4**	**0.0**
PSA00					IAmb		IAmb	17 27 34.9	
	comp=Z,26nm,1.2s								
FITZ	**Fitzroy Crossi**	**19.71**	**126**	P	P		**P**	**17 27 49.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.71**	**126**	P	P		**P**	**17 27 50.4**	**+1.7**
	comp=Z,8.6nm,0.7s,baz=328,slow=9.6,SNR=17								
FITZ				S	S		**S**	**17 31 23.1**	**+4.2**
	comp=Z,2.4nm,0.6s,baz=319,slow=20,SNR=1.6								
KNRA	**Kununurra**	**21.27**	**116**	P	P		**P**	**17 28 05.2**	**+0.1**
MTN	**Manton Dam**	**22.60**	**107**	P	P		**P**	**17 28 16.9**	**-0.9**
MTN					IAmb		IAmb	17 28 43.8	
	comp=Z,11nm,1.0s								
MORW	**Morawa**	**23.09**	**164**	P	P		**P**	**17 28 22.2**	**+0.1**
FAKI	**Fak Fak**	**23.49**	**82**	P	P		**P**	**17 28 25.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**27.02**	**339**	P	P		**P**	**17 28 57.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=163,slow=8.3,SNR=2.1								
	comp=Z,0.5nm,0.4s								
NWAO	**Narrogin (SRO)**	**27.07**	**165**	P	P		**P**	**17 28 58.0**	**+0.2**
WB0	**Warramunga Arr**	**27.80**	**120**	P	P		**P**	**17 29 05.2**	**+0.7**
WB0					IAmb		IAmb	17 29 32.6	
	comp=Z,8.7nm,1.4s								
WRA	**Warramunga Arr**	**27.83**	**120**	P	P		**P**	**17 29 05.0**	**+0.2**
WRA	**Warramunga Arr**	**27.83**	**120**	P	P		**P**	**17 29 06.0**	**+1.1**
	comp=Z,1.6nm,0.4s,baz=303,slow=9.0,SNR=56								
WRA				PcP	PcP		**PcP**	**17 32 15.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=298,slow=2.6,SNR=6.7								
WRA				S	S		**S**	**17 33 28.8**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=298,slow=16,SNR=5.0								
	comp=Z,1.6nm,0.4s								
WR8	**Warramunga Arr**	**27.97**	**120**	P	P		**P**	**17 29 06.8**	**+0.7**
WR8					IAmb		IAmb	17 29 08.6	
	comp=Z,10nm,1.4s								
AS31	**Alice Springs**	**29.20**	**128**	P	P		**P**	**17 29 18.0**	**+1.1**
ASAR	**Alice Springs**	**29.20**	**128**	P	P		**P**	**17 29 17.6**	**+0.7**
ASAR	**Alice Springs**	**29.20**	**128**	P	P		**P**	**17 29 17.9**	**+1.0**
	comp=Z,8.0nm,0.8s,baz=298,slow=7.7,SNR=79								
ASAR				PcP	PcP		**PcP**	**17 32 19.3**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=292,slow=2.6,SNR=6.0								
ASAR				S	S		**S**	**17 33 52.2**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=295,slow=17,SNR=3.3								
ASAR				ScP	ScP		**ScP**	**17 35 39.9**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=298,slow=2.0,SNR=5.7								
	comp=Z,8.0nm,0.8s								
COEN	**Coen**	**34.32**	**105**	P	P		**P**	**17 30 02.6**	**+0.9**
COEN					IAmb		IAmb	17 30 03.4	
	comp=Z,7.4nm,0.6s								
BBOO	**Buckleboo**	**36.06**	**139**	P	P		**P**	**17 30 16.7**	**+0.5**
INKA	**Innaminka**	**36.57**	**128**	P	P		**P**	**17 30 22.2**	**+1.6**
INKA					IAmb		IAmb	17 30 23.1	
	comp=Z,5.3nm,1.1s								
CTAO	**Charters Tower**	**38.45**	**114**	P	P		**P**	**17 30 37.3**	**+0.8**
CTAO					IAmb		IAmb	17 30 38.5	
	comp=Z,10nm,1.3s								
STKA	**Stephens Creek**	**39.30**	**134**	P	P		**P**	**17 30 44.9**	**+1.5**
STKA	**Stephens Creek**	**39.30**	**134**	P	P		**P**	**17 30 44.9**	**+1.5**
	comp=Z,23nm,0.5s,baz=312,slow=8.9,SNR=58								
RABL	**Rabaul**	**43.04**	**89**	P	P		**P**	**17 31 12.2**	**-1.8**
RABL					IAmb		IAmb	17 31 20.8	
	comp=Z,24nm,1.2s								
EIDS	**Eidsvold**	**44.19**	**120**	P	P		**P**	**17 31 23.9**	**+0.8**
TOO	**Toolangi**	**45.08**	**138**	P	P		**P**	**17 31 31.8**	**+1.8**
TOO					IAmb		IAmb	17 31 51.0	
	comp=Z,17nm,1.5s								
CAN	**Canberra**	**46.36**	**133**	P	P		**P**	**17 31 41.7**	**+1.7**
CAN					IAmb		IAmb	17 31 55.3	
	comp=Z,33nm,1.5s								
SONM	**Songino Array**	**54.48**	**358**	ScP	ScP		**ScP**	**17 37 17.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=163,slow=5.4,SNR=3.1								
MKAR	**Makanchi Array**	**58.43**	**339**	P	P		**P**	**17 33 07.0**	**-1.3**
MKAR	**Makanchi Array**	**58.43**	**339**	P	P		**P**	**17 33 08.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=151,slow=7.9,SNR=10								
	comp=Z,0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**63.00**	**339**	P	P		**P**	**17 33 38.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=132,slow=5.6,SNR=2.2								
	comp=Z,0.4nm,0.7s								
ZALV	**Zalesovo Beam**	**63.89**	**344**	P	P		**P**	**17 33 44.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=160,slow=7.5,SNR=2.8								
	comp=Z,0.3nm,0.3s								
QRZ	**Quartz Range**	**65.62**	**132**	P	P		**P**	**17 33 56.6**	**+0.5**
MAW	**Mawson**	**68.10**	**197**	P	P		**P**	**17 34 12.2**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=56,slow=6.3,SNR=8.6								
	comp=Z,2.3nm,0.6s								
BKZ	**Black Stump Fm**	**68.30**	**129**	P	P		**P**	**17 34 13.2**	**0.0**
AB31	**Akbulak array**	**70.30**	**328**	P	P		**P**	**17 34 24.1**	**-1.0**
ABKAR	**Akbulak array**	**70.30**	**328**	P	P		**P**	**17 34 24.2**	**-0.9**
VNDA	**Vanda**	**75.77**	**170**	P	P		**P**	**17 34 57.5**	**+0.9**
VNDA	**Vanda**	**75.77**	**170**	P	P		**P**	**17 34 56.2**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=317,slow=6.7,SNR=19								
	comp=Z,1.3nm,0.5s								
SBA	**Scott Base**	**76.83**	**169**	P	P		**P**	**17 35 04.3**	**+1.8**
SBA					IAmb		IAmb	17 35 05.3	
	comp=Z,3.2nm,0.9s								
QSPA	**South Pole Qui**	**83.15**	**180**	P	P		**P**	**17 35 37.7**	**+1.0**
QSPA					IAmb		IAmb	17 36 06.2	
	comp=Z,7.1nm,1.4s								
QSPA	**South Pole Qui**	**83.15**	**180**	P	P		**P**	**17 35 38.2**	**+1.5**
	comp=Z,2.3nm,0.9s,baz=138,slow=0.3,SNR=6.6								
	comp=Z,2.3nm,0.9s								
BRTR	**Keskin Array B**	**83.20**	**311**	P	P		**P**	**17 35 36.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=113,slow=2.2,SNR=2.7								
	comp=Z,0.5nm,0.7s								
ADK	**Adak**	**85.78**	**37**	P	P		**P**	**17 35 47.2**	**-2.8**
SNAA	**Sanae**	**90.27**	**197**	P	P		**P**	**17 36 12.3**	**+1.3**
SNAA					IAmb		IAmb	17 36 12.9	
	comp=Z,2.3nm,0.7s								
SNAA	**Sanae**	**90.27**	**197**	P	P		**P**	**17 36 12.0**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=148,slow=3.8,SNR=7.6								
	comp=Z,2.6nm,0.9s								
CPUP	**Villa Florida**	**144.46**	**201**	PKP			**PKPab**	**17 42 44.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=13,

EHYH	**Wanrong**	**1.93**	**228**	P	**Pn**	**17 41 19.3**	**+0.5**
EHYH				*e*S	**Sn**	**17 41 41.7**	**-1.0**
EHY	**Hungye**	**1.93**	**229**	*e*P	**Pn**	**17 41 19.8**	**+0.9**
EHY				S	**Sn**	**17 41 42.0**	**-0.9**
NMLH	**Miaoli**	**1.94**	**263**	*e*P	**Pb**	**17 41 22.6**	**+0.9**
YULB	**Yu-li**	**2.03**	**227**	*e*P	**Pn**	**17 41 20.6**	**+0.4**
YULB				S	**Sn**	**17 41 44.8**	**-0.5**
TWF1	**Yuli**	**2.06**	**226**	*e*P	**Pb**	**17 41 22.8**	**-0.8**
TWF1				S	**Sn**	**17 41 45.4**	**-0.5**
FULB	**Fuli**	**2.17**	**223**	*e*P	**Pn**	**17 41 23.2**	**+1.1**
FULB				*e*S	**Sn**	**17 41 49.4**	**+0.7**
YUS	**Yu-Shan**	**2.21**	**234**	*e*S	**Sn**	**17 41 51.9**	**+1.5**
EHD	**Haiduan**	**2.26**	**224**	*e*P	**Pn**	**17 41 24.5**	**+1.1**
EHD				*e*S	**Sn**	**17 41 51.5**	**+0.5**
EDH	**Donghe**	**2.33**	**219**	*e*S	**Sn**	**17 41 52.2**	**-0.5**
ELDTW	**Lidau**	**2.35**	**228**	*e*P	**Pn**	**17 41 25.4**	**+0.6**
ELDTW				S	**Sn**	**17 41 52.3**	**-1.1**

*ATH **17** 18:07:41.7, 37˚.68N×20˚.31E, h6km±1km, ML3.2/18, Manual Solution by M.Kolligri First location: 2019/08/17 18:08:46, This location: 2020/07/04 22:46:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **17** 18:07:42.9, 38˚N±1˚×2˚0E±˚, h13km±2km, M3.2/13, MLh3.2/13*
*IDC **17** 18:07:48.3±35.0, 38˚41N×21˚47E, h0km, mb3.5/3, mbtmp3.5/3, MS2.9/2, Error ellipse: s-maj=651.1km s-min=60.8km az=46.0*
ISC 17 18:07:42.0±1.8**, 37˚67N**±0˚05×**20˚33E**±0˚07**, h14**km±8km**, n47**, σ0°63/70**, mb3.6/3, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORTH	**Orthonies,Zaky**	**0.34**	**58**	P	**Pg**	**18 07 48.9**	**-0.1**
ORTH				S	**Sg**	**18 07 53.6**	**0.0**
ORTH	**Orthonies,Zaky**	**0.34**	**58**	P	**Pg**	**18 07 48.8**	**-0.1**
ORTH				S	**Sg**	**18 07 53.4**	**-0.2**
KRI1	**kERI**	**0.38**	**92**	P	**Pg**	**18 07 49.9**	**+0.2**
KRI1				S	**Sg**	**18 07 55.0**	**0.0**
KRI1	**kERI**	**0.38**	**92**	P	**Pg**	**18 07 49.6**	**-0.1**
KRI1				S	**Sg**	**18 07 54.8**	**-0.2**
LTHK	**Lithakia**	**0.40**	**85**	P	**Pg**	**18 07 50.1**	**0.0**
LTHK				S	**Sg**	**18 07 55.5**	**0.0**
LTHK	**Lithakia**	**0.40**	**85**	P	**Pg**	**18 07 49.9**	**-0.2**
LTHK				S	**Sg**	**18 07 55.1**	**-0.3**
KYPS	**Kipseli, Zakin**	**0.41**	**69**	P	**Pg**	**18 07 50.3**	**0.0**
KYPS				S	**Sg**	**18 07 55.9**	**0.0**
PSDA	**Pessada-Kefalo**	**0.48**	**24**	P	**Pg**	**18 07 51.6**	**+0.1**
PSDA				S	**Sb**	**18 07 58.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.48**	**24**	P	**Pg**	**18 07 51.3**	**-0.3**
PSDA				S	**Sg**	**18 07 56.7**	**-1.3**
ARG2	**Argostoli**	**0.52**	**14**	P	**Pg**	**18 07 52.7**	**+0.5**
ARG2				S	**Sg**	**18 07 59.0**	**-0.1**
VLS	**Valsamata**	**0.54**	**22**	P	**Pg**	**18 07 52.6**	**-0.1**
VLS				S	**Sg**	**18 08 00.5**	**+0.6**
VLS	**Valsamata**	**0.54**	**22**	P	**Pg**	**18 07 52.4**	**-0.3**
VLS				S	**Sg**	**18 07 59.1**	**-0.8**
CLEM	**Kyllini,Ilia,G**	**0.67**	**71**	P	**Pg**	**18 07 54.8**	**-0.2**
CLEM				S	**Sb**	**18 08 05.0**	**+0.4**
VSK1	**VASILIKIADES**	**0.76**	**14**	P	**Pg**	**18 07 56.4**	**-0.3**
VSK1				S	**Sb**	**18 08 07.6**	**+0.4**
FSK	**Fiskardo**	**0.81**	**13**	P	**Pg**	**18 07 57.6**	**-0.1**
FSK				S	**Sb**	**18 08 08.6**	**+0.1**
FSK	**Fiskardo**	**0.81**	**13**	P	**Pg**	**18 07 57.0**	**-0.6**
FSK				S	**Sg**	**18 08 08.4**	**+0.2**
RLS	**Riolos of Patr**	**0.97**	**67**	P	**Pg**	**18 08 00.1**	**-0.8**
RLS				S	**Sb**	**18 08 13.8**	**+0.3**
RLS	**Riolos of Patr**	**0.97**	**67**	P	**Pg**	**18 08 00.0**	**-0.8**
RLS				S	**Sg**	**18 08 12.8**	**-0.8**
AXS	**Araxos**	**0.98**	**57**	P	**Pg**	**18 08 00.1**	**-0.8**
AXS				S	**Sb**	**18 08 14.3**	**+0.9**
AXS	**Araxos**	**0.98**	**57**	P	**Pg**	**18 07 59.9**	**-0.9**
AXS				S	**Sb**	**18 08 13.5**	**0.0**
EVGI	**Lefkada island**	**0.98**	**15**	P	**Pg**	**18 08 00.5**	**-0.4**
EVGI				S	**Sb**	**18 08 14.2**	**+0.6**
EVGI	**Lefkada island**	**0.98**	**15**	P	**Pg**	**18 08 00.3**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.08**	**15**	P	**Pg**	**18 08 02.0**	**-0.8**
NYDR				S	**Sg**	**18 08 16.6**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.08**	**15**	P	**Pg**	**18 08 02.0**	**-0.8**
AMT	**Artemida-Makis**	**1.10**	**97**	P	**Pg**	**18 08 02.6**	**-0.6**
DRO	**Drossia**	**1.12**	**75**	P	**Pg**	**18 08 03.4**	**-0.3**
DRO				S	**Sb**	**18 08 18.5**	**+0.7**
DRO	**Drossia**	**1.12**	**75**	P	**Pg**	**18 08 02.9**	**-0.8**
LKD2	**Lefkada island**	**1.14**	**13**	P	**Pg**	**18 08 03.7**	**-0.3**
LKD2				S	**Sb**	**18 08 19.7**	**+1.3**
LKD2	**Lefkada island**	**1.14**	**13**	P	**Pg**	**18 08 03.2**	**-0.8**
TSLK	**Tsoukalades, L**	**1.18**	**12**	P	**Pg**	**18 08 04.5**	**-0.2**
TSLK				S	**Sg**	**18 08 19.8**	**-0.2**
TSLK	**Tsoukalades, L**	**1.18**	**12**	P	**Pg**	**18 08 04.3**	**-0.4**
PVO	**Paravola**	**1.33**	**45**	P	**Pn**	**18 08 06.9**	**+0.7**
PYL2	**Kinigos**	**1.35**	**124**	P	**Pn**	**18 08 06.9**	**+0.5**
ITM	**Ithomi**	**1.36**	**111**	P	**Pn**	**18 08 06.3**	**-0.4**
ITM	**Ithomi**	**1.36**	**111**	P	**Pn**	**18 08 07.9**	**+1.3**
PYL	**PYLOS**	**1.37**	**124**	P	**Pn**	**18 08 07.3**	**+0.6**
EFP	**Efpalio**	**1.45**	**58**	P	**Pn**	**18 08 08.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.48**	**75**	P	**Pn**	**18 08 09.5**	**+1.1**
SERG	**Sergoula**	**1.55**	**61**	P	**Pn**	**18 08 10.1**	**+0.8**
ANX	**Ano Chora**	**1.55**	**53**	P	**Pn**	**18 08 10.3**	**+1.0**
KALE	**Kalithea**	**1.60**	**63**	P	**Pn**	**18 08 10.6**	**+0.7**
GUR	**Goura**	**1.61**	**80**	P	**Pn**	**18 08 11.8**	**+1.6**
KEST	**Kesra**	**9.04**	**261**	LR	LR	18 14 37.5	
	comp=Z,91nm,19.5s,baz=75,slow=41						
VRAC	**Vranov**	**11.94**	**348**	LR	LR	18 16 27.1	
	comp=Z,34nm,19.0s,baz=212,slow=45						
FINES	**FINESS Array B**	**24.06**	**7**	P	**P**	**18 12 56.8**	**+0.2**
	0.8nm,0.5s,baz=172,slow=12,SNR=8.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	**P**	**18 16 01.3**	**-1.1**
	0.1nm,0.4s,baz=272,slow=8.5,SNR=5.4						
	0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**46.14**	**48**	P	**P**	**18 16 05.4**	**-0.4**
	0.8nm,0.4s,baz=276,slow=8.3,SNR=5.0						
	0.8nm,0.4s						

*IDC **17** 18:46:46.2±1.6, 28˚.98S×177˚.91W, h84km±9km, mb3.5/3, mbtmp3.8/3, Error ellipse: s-maj=40.5km s-min=13.6km az=6.0*
ISC 17 18:46:39.5±2.4**, 30˚3S**±0˚1×**177˚6W**±0˚4**, h35**km**, n6, σ0°72/6, mb4.0/3, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**346**	P	**Pn**	**18 46 58.4**	**+0.8**
	195nm,0.3s,baz=0.6,slow=20,SNR=7.9						
RAO				S	**Sn**	**18 47 10.3**	**-0.7**
	698nm,0.3s,baz=207,slow=24,SNR=12						
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**18 54 39.4**	**+0.1**
	0.3nm,0.6s,baz=112,slow=7.7,SNR=7.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**18 54 47.0**	**-0.1**
	1.0nm,0.4s,baz=110,slow=8.1,SNR=25						
	1.0nm,0.4s						
QSPA	**South Pole Qui**	**59.84**	**180**	P	P	18 56 51.1	+10
	1.3nm,0.7s,baz=40,slow=5.6,SNR=10.0						
	1.3nm,0.7s						
BVAR	**Borovoye Array**	**126.54**	**316**	PKP	**PKPdf**	**19 05 37.8**	**-0.6**
	0.4nm,0.6s,baz=111,slow=3.2,SNR=2.7						
FINES	**FINESS Array B**	**145.13**	**340**	PKP	**PKPab**	**19 06 12.1**	**0.0**
	1.0nm,0.5s,baz=29,slow=3.2,SNR=15						

*IDC **17** 18:59:24.4±1.6, 6˚.24S×154˚.61E, h0km, mb4.1/6, mbtmp4.1/9, ML2.1/1, MS3.2/4, Error ellipse: s-maj=31.2km s-min=14.4km az=32.0*
*NEIC **17** 18:59:30.7±1.2, 6˚.4S±0˚.1×154˚.83E±0˚.06, h50km±21km, mb4.0/13, Error ellipse: s-maj=21.2km s-min=6.5km az=198.0*
ISC 17 18:59:31.1±1.0**, 6˚3S**±0˚1×**154˚60E**±0˚06**, h48**km**, n33, σ1°84/33, mb4.0/10, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.20**	**310**		**Pn**	**19 00 21.7**	**+2.8**
TATA	**Tatamba Isabel**	**5.56**	**112**	P	**Pn**	**19 00 52.3**	**+0.9**
SAVO	**Savo Central**	**5.89**	**119**	P	**Pn**	**19 00 58.8**	**+2.9**
HNR	**Honiara**	**6.15**	**121**	Pn	Pn	19 00 55.2	-4.2
HNR	**Honiara**	**6.15**	**121**	Pn	**Pn**	**19 00 56.8**	**-2.6**
	38nm,0.8s,baz=239,slow=3.7,SNR=6.5						
HNR				Sn	**Sn**	**19 02 11.6**	**+3.2**
	4.8nm,0.3s,baz=29,slow=17,SNR=0.9						
HNR				LR	LR	19 03 15.7	
	comp=Z,107nm,18.4s,baz=222,slow=38						
HNR	**Honiara**	**6.15**	**121**	P	**Pn**	**19 01 01.8**	**+2.4**
ALEG	**Aligegeo Malai**	**6.52**	**112**	P	**Pn**	**19 01 05.3**	**+0.9**
PMG	**Port Moresby**	**8.00**	**247**		**Pn**	**19 01 25.8**	**+1.0**
PMG				Sn	**Sn**	**19 02 56.9**	**+2.9**
PMG	**Port Moresby**	**8.00**	**247**	Pn	**Pn**	**19 01 23.0**	**-1.8**
	1.5nm,0.3s,baz=41,slow=9.2,SNR=6.5						
PMG				Sn	**Sn**	**19 02 56.9**	**+2.9**
	1.5nm,0.3s,baz=178,slow=21,SNR=13						
PMG				LR	LR	19 04 22.2	
	comp=Z,126nm,21.1s,baz=335,slow=37						
	6.1nm,0.6s						
COEN	**Coen**	**13.58**	**235**	Pn	**Pn**	**19 02 43.6**	**+2.4**
CTAO	**Charters Tower**	**15.94**	**210**		**P**	**19 03 13.1**	**-2.0**
EIDS	**Eidsvold**	**19.27**	**190**	P	**P**	**19 03 51.3**	**-0.6**
EIDS				IAmb	IAmb	19 03 56.2	
	comp=Z,8.6nm,0.9s						
DZM	**Mont Dzumac**	**19.42**	**145**	P	**P**	**19 03 49.3**	**-4.2**
DZM				IAmb	IAmb	19 04 14.2	
	comp=Z,6.8nm,0.9s						
DZM	**Mont Dzumac**	**19.42**	**145**	P	**Pn**	**19 03 54.8**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=309,slow=13,SNR=5.8						
DZM				S	**Sn**	**19 07 33.1**	**+0.8**
	comp=Z,2.8nm,0.4s,baz=299,slow=21,SNR=5.7						
WB0	**Warramunga Arr**	**23.78**	**234**	P	**P**	**19 04 39.2**	**-0.3**
WB0				IAmb	IAmb	19 04 41.4	
	comp=Z,11nm,1.0s						
WR8	**Warramunga Arr**	**23.79**	**233**	P	**P**	**19 04 39.8**	**+0.2**
WRA	**Warramunga Arr**	**23.91**	**234**	P	**P**	**19 04 41.0**	**+0.3**
	comp=Z,11nm,0.9s,baz=57,slow=9.8,SNR=37						
	comp=Z,11nm,0.9s						
MTN	**Manton Dam**	**24.03**	**253**	P	**P**	**19 04 41.8**	**-0.1**
MTN				IAmb	IAmb	19 04 42.1	
	comp=Z,12nm,1.2s						
INKA	**Innaminka**	**25.07**	**210**	P	**P**	**19 04 50.0**	**-1.2**
INKA				IAmb	IAmb	19 04 52.1	
	comp=Z,2.7nm,0.8s						
AS31	**Alice Springs**	**26.36**	**227**	P	**P**	**19 05 03.1**	**+0.1**
ASAR	**Alice Springs**	**26.36**	**227**	P	**P**	**19 05 03.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=57,slow=9.3,SNR=54						
ASAR				LR	LR	19 13 10.6	
	comp=Z,58nm,20.1s,baz=205,slow=31						
	comp=Z,1.4nm,0.5s						
KNRA	**Kununurra**	**27.00**	**248**	P	**P**	**19 05 08.9**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**27.36**	**26**	T	T	19 33 44.5	
	baz=201,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.36**	**26**	T	T	19 33 40.4	
	baz=201,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.38**	**26**	T	T	19 33 40.5	
	baz=201						
STKA	**Stephens Creek**	**28.21**	**204**	P	**P**	**19 05 19.1**	**-0.3**
STKA	**Stephens Creek**	**28.21**	**204**	P	**P**	**19 05 18.3**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=32,slow=15,SNR=2.0						
STKA				LR	LR	19 15 37.6	
	comp=Z,123nm,18.5s,baz=208,slow=34						
	comp=Z,2.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**30.59**	**245**	P	**P**	**19 05 40.0**	**-0.6**
FITZ				IAmb	IAmb	19 05 55.6	
	comp=Z,4.0nm,1.5s						
BBOO	**Buckleboo**	**31.54**	**211**	P	**P**	**19 05 46.6**	**-2.2**
MORW	**Morawa**	**42.86**	**233**	P	**P**	**19 07 23.3**	**-1.5**
MKAR	**Makanchi Array**	**82.62**	**319**	P	**P**	**19 11 49.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=107,slow=6.9,SNR=1.8						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**83.68**	**180**	P	**P**	**19 11 55.2**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=349,slow=7.8,SNR=6.9						
	comp=Z,1.3nm,0.9s						
MAW	**Mawson**	**84.90**	**203**	P	**P**	**19 12 00.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=100,slow=6.1,SNR=2.0						
	comp=Z,1.0nm,0.6s						

*IDC **17** 19:12:13.5±5.1, 6˚.27S×149˚.19E, h60km±44km, mb3.3/2, mbtmp3.8/4, ML4.0/1, MS3.4/2, Error ellipse: s-maj=68.8km s-min=29.7km az=113.0*
ISC 17 19:12:13.1±1.5**, 6˚3S**±0˚3×**149˚2E**±0˚6**, h53**km**, n8, σ0°62/7, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.74**	**213**	P	**Pn**	**19 13 08.5**	**+0.2**
	41nm,0.4s,baz=21,slow=5.2,SNR=41						
PMG				S	**Sn**	**19 13 51.5**	**+0.4**
	129nm,0.6s,baz=52,slow=19,SNR=8.9						
WRA	**Warramunga Arr**	**19.86**	**225**	P	**P**	**19 16 39.2**	**-0.8**
	0.4nm,0.3s,baz=50,slow=11,SNR=26						
	2.7nm,0.7s						
ASAR	**Alice Springs**	**22.73**	**219**	P	**P**	**19 17 10.3**	**-0.5**
	0.4nm,0.4s,baz=59,slow=9.4,SNR=17						
	0.4nm,0.4s						
BATI	**Baumata**	**25.60**	**259**	LR	LR	19 29 12.4	
	comp=Z,140nm,18.8s,baz=242,slow=40						
TGY	**Tagay City**	**34.61**	**306**	LR	LR	19 33 40.5	
	comp=Z,34nm,18.9s,baz=11,slow=37						
PETK	**Petropavlovsk-**	**59.58**	**6**	P	**P**	**19 22 11.3**	**+0.1**
	1.0nm,0.6s,baz=156,slow=7.3,SNR=4.2						
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.31**	**285**	PKPbc	**PKPdf**	**19 31 50.0**	**+0.6**
	0.4nm,0.7s,baz=58,slow=3.4,SNR=4.4						
BDFB	**Brasilia**	**152.34**	**142**	PKPbc	**PKPbc**	**19 32 04.0**	**-0.3**
	1.8nm,0.5s,baz=72,slow=3.2,SNR=4.1						

*IDC **17** 19:28:20.3±2.6, 9˚.11S×66˚.87E, h0km, mb4.0/9, mbtmp4.0/9, MS3.6/20, Error ellipse: s-maj=68.5km s-min=28.4km az=64.0*
*NEIC **17** 19:28:26.1±2.3, 8˚.8S±0˚.1×67˚.5E±0˚.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=26.2km s-min=19.0km az=145.0*
ISC 17 19:28:25.6±1.0**, 8˚8S**±0˚2×**67˚6E**±0˚1**, h10**km**, n47, σ0°89/28, mb4.4/14, MS3.6/20, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSEY	**Mahe Island**	**12.67**	**288**	Pn	**Pn**	**19 31 26.9**	**+0.9**
PALK	**Pallekele**	**20.64**	**40**	P	**P**	**19 33 07.1**	**+1.5**
PALK				IAmb	IAmb	19 33 39.2	
	comp=Z,32nm,1.4s						
PALK	**Pallekele**	**20.64**	**40**	P	Pn	19 33 09.9	+2.0
	comp=Z,6.7nm,0.8s,baz=184,slow=14,SNR=2.4						
PALK				LR	LR	19 39 13.4	
	comp=Z,124nm,19.0s,baz=216,slow=31						
	comp=Z,6.7nm,0.8s						
ABPO	**Ambohimpanom**	**22.18**	**241**	P	**P**	**19 33 22.1**	**-0.2**
ABPO				IAmb	IAmb	19 33 24.3	
	comp=Z,39nm,1.5s						
KMBO	**Kilima Mbogo**	**31.11**	**282**	LR	LR	19 45 18.6	
	comp=Z,67nm,19.1s,baz=103,slow=33						
PSI	**Prnpat**	**33.32**	**71**	LR	LR	19 47 57.1	
	comp=Z,134nm,18.7s,baz=223,slow=35						
LSZ	**Lusaka**	**38.99**	**257**	LR	LR	19 48 48.6	
	comp=Z,188nm,20.7s,baz=141,slow=32						
BRDH	**Bariadhala**	**39.17**	**37**	LR	LR	19 51 46.4	
	comp=Z,113nm,19.1s,baz=172,slow=35						
MATP	**Matopo**	**39.42**	**249**	LR	LR	19 51 08.3	
	comp=Z,127nm,18.0s,baz=86,slow=35						
LEM	**Lembang**	**39.73**	**90**	LR	LR	19 48 57.3	
	comp=Z,78nm,20.1s,baz=188,slow=31						
EVN	**Everest**	**41.00**	**26**	P	**P**	**19 36 08.8**	**-1.0**
EVN				IAmb	IAmb	19 36 37.9	
	comp=Z,8.3nm,0.6s						
CM31	**Chiang Mai Arr**	**41.13**	**49**	P	**P**	**19 36 11.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**41.13**	**49**	P	**P**	**19 36 09.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.13**	**49**	P	**P**	**19 36 11.8**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=242,slow=9.4,SNR=25						
CMAR				LR	LR	19 51 23.3	
	comp=Z,34nm,18.5s,baz=190,slow=33						
	comp=Z,2.8nm,0.7s						
CHTO	**Chiang Mai**	**41.35**	**48**	P	**P**	**19 36 12.7**	**+0.6**
SHL	**Shillong**	**41.55**	**34**	P	**P**	**19 36 14.1**	**+0.3**
SHL				IAmb	IAmb	19 36 15.7	
	comp=Z,8.7nm,0.7s						
SLVN	**Son La**	**46.58**	**50**	P	**P**	**19 36 54.7**	**+0.6**
SLVN				IAmb	IAmb	19 36 56.2	
	comp=Z,4.1nm,0.8s						
GAR	**Garm**	**47.61**	**3**	P	**P**	**19 37 01.8**	**-0.1**
H01W3	**Cape Leeuwin H**	**49.84**	**129**	T	T	20 30 57.2	
	baz=290,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**49.85**	**129**	T	T	20 30 44.4	
	baz=290,slow=75,SNR=33						
H01W1	**Cape Leeuwin H**	**49.86**	**129**	T	T	20 31 07.7	
	baz=290,slow=75,SNR=33						
KAPI	**Kappang**	**51.92**	**90**	LR	LR	19 58 00.4	
	comp=Z,52nm,19.4s,baz=286,slow=34						
GNI	**Garni**	**53.06**	**338**	LR	LR	19 59 45.5	
	comp=Z,53nm,19.4s,baz=170,slow=36						
BATI	**Baumata**	**55.30**	**96**	LR	LR	20 00 49.1	
	comp=Z,122nm,18.0s,baz=238,slow=35						
MKAR	**Makanchi Array**	**56.87**	**12**	P	**P**	**19 38 09.8**	**-0.7**
MKAR	**Makanchi Array**	**56.87**	**12**	P	**P**	**19 38 09.6**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=201,slow=8.2,SNR=12						
	comp=Z,1.1nm,0.6s						
AB31	**Akbulak array**	**58.18**	**354**	P	**P**	**19 38 19.2**	**-0.4**
ABKAR	**Akbulak array**	**58.18**	**354**	P	**P**	**19 38 18.9**	**-0.7**
KURBB	**Kurchatov Arra**	**59.92**	**8**	P	**P**	**19 38 31.2**	**-0.5**
	comp=Z,2.4nm,1.0s,baz=205,slow=6.8,SNR=10						
	comp=Z,2.4nm,1.0s						
KURK	**Kurchatov**	**60.03**	**8**	P	**P**	**19 38 31.5**	**-0.9**
BVAR	**Borovoye Array**	**61.61**	**2**	LR	LR	20 07 46.9	
	comp=Z,38nm,18.6s,baz=198,slow=38						
ZALV	**Zalesovo Beam**	**64.18**	**11**	P	**P**	**19 38 59.0**	**-1.2**
ZALV	**Zalesovo Beam**	**64.18**	**11**	P	**P**	**19 38 59.2**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=192,slow=7.0,SNR=6.6						
ZALV				LR	LR	20 05 17.0	
	comp=Z,36nm,20.3s,baz=168,slow=34						
	comp=Z,1.5nm,0.8s						
ASAR	**Alice Springs**	**64.91**	**112**	P	**P**	**19 39 05.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=269,slow=5.3,SNR=5.5						
ASAR				LR	LR	20 04 25.5	
	comp=Z,38nm,19.8s,baz=233,slow=33						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**65.29**	**108**	P	**P**	**19 39 08.4**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=276,slow=6.2,SNR=1.7						
	comp=Z,0.4nm,0.9s						
WB0	**Warramunga Arr**	**65.34**	**108**	P	**P**	**19 39 09.1**	**+0.4**
WR8	**Warramunga Arr**	**65.44**	**108**	P	**P**	**19 39 09.7**	**+0.4**
SONM	**Songino Arrac**	**66.01**	**28**	P	**P**	**19 39 12.8**	**+0.4**
SONM				IAmb	IAmb	19 39 14.3	
	comp=Z,4.4nm,1.0s						
SONM	**Songino Array**	**66.01**	**28**	P	**P**	**19 39 13.5**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=221,slow=6.8,SNR=14						
SONM				LR	LR	20 07 38.8	
	comp=Z,77nm,19.2s,baz=228,slow=35						
	comp=Z,3.3nm,0.8s						
DAVOX	**Davos/Dischmat**	**75.34**	**323**	LR	LR	20 15 34.3	
	comp=Z,33nm,18.3s,baz=257,slow=38						
GUMO	**Guam**	**79.88**	**74**	LR	LR	20 19 45.7	
	comp=Z,13nm,18.4s,baz=218,slow=38						
MJB9	**Matsu-Tunnel**	**79.99**	**50**	P	**P**	**19 40 34.1**	**-1.3**
MJB9				IAmb	IAmb	19 41 09.1	
	comp=Z,6.1nm,1.3s						
MAJO	**Matsushiro**	**79.99**	**50**	P	**P**	**19 40 34.2**	**-1.2**
MAJO				IAmb	IAmb	19 41 14.1	
	comp=Z,11nm,1.5s						
MJAR	**Matsushiro Ar**	**79.99**	**50**	P	**P**	**19 40 35.7**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=244,slow=6.8,SNR=5.0						
	comp=Z,1.0nm,0.7s						
YAK	**Yakutsk**	**85.18**	**25**	LR	LR	20 19 23.8	
	comp=Z,24nm,18.4s,baz=232,slow=36						
ASAJ	**Asahikawa**	**85.50**	**44**	LR	LR	20 19 03.6	
	comp=Z,17nm,18.7s,baz=144,slow=35						
DZM	**Mont Dzumac**	**94.88**	**113**	LR	LR	20 25 30.4	
	comp=Z,37nm,18.1s,baz=218,slow=36						

*ISU **17** 19:33:21, 40˚.34N×68˚.74E, h10km*
*NNC **17** 19:33:25.1±7.3, 40˚.21N×68˚.79E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=64.5km s-min=37.4km az=13.0*
*SOME **17** 19:33:31.9, 40˚.58N×68˚.98E, h5km*
ISC 17 19:33:20.4±1.2**, 40˚14N**±0˚05×**68˚80E**±0˚05**, h1**km±12km**, n21, σ2°04/29, 2C-1D, Southeastern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BXML	**Bakhmal**	**0.74**	**233**	P	**Pn**	**19 33 36.9**	**-1.3**
BXML				S	**Sn**	**19 33 51.1**	**+0.8**
DZI	**Dzhizak**	**0.75**	**268**	P	**Pg**	**19 33 34.1**	**-0.6**
DZI				S	**Sg**	**19 33 45.0**	**+0.6**
NZBK	**Nazarbek**	**1.11**	**13**	S	**Sn**	**19 34 04.8**	**+5.7**
SAM	**Samarkand**	**1.50**	**252**	S	**Sg**	**19 34 11.2**	**+2.7**
AGL	**Agalyk**	**1.60**	**248**	P	**Pb**	**19 33 50.5**	**-0.4**
AGL				S	**Sg**	**19 34 12.0**	**+0.1**
CHMG	**Chimgan**	**1.68**	**33**	P	**Pg**	**19 33 54.0**	**+1.3**
CHRV	**Charvak**	**1.74**	**30**	P	**Pg**	**19 33 55.2**	**+1.5**
KTAB	**Kitab**	**1.79**	**236**	S	**Sg**	**19 34 18.4**	**+0.6**
BAYS

MASC				*e*S	**Sn**	**19 48 27.1**	**+0.1**
MASC				IAML		19 48 30.5	
	comp=E,665nm,0.1s						
MASC				IAML		19 48 30.9	
	comp=N,487nm,0.1s						
MASC	**Masc**	**1.05**	**279**	*i* P	**Pn**	**19 48 12.7**	**+0.5**
MASC				*e*S	**Sn**	**19 48 28.2**	**+1.3**
MASC				IAML		19 48 30.1	
	comp=Z,571nm,0.2s						
MCDR	**Montecristi**	**1.39**	**94**	*e*Pg	**Pn**	**19 48 17.1**	**+0.3**
MCDR				*e*Sg	**Sg**	**19 48 37.9**	**+1.9**
MCDR				IAML		19 48 42.0	
	comp=N,909nm,0.6s						
QMBU	**Quimbuelo**	**1.60**	**277**	*e*P	**Pn**	**19 48 19.8**	**+0.1**
QMBU				*e*Pg	**Pb**	**19 48 20.9**	**-0.1**
QMBU				*e*S	**Sn**	**19 48 40.6**	**+0.1**
QMBU				*e*Sg	**Sg**	**19 48 42.5**	**-0.2**
QMBU				IAML		19 48 43.4	
	comp=E,916nm,0.4s						
QMBU				IAML		19 48 45.0	
	comp=N,718nm,0.2s						
PAPH	**Port-au-Prince**	**1.67**	**152**	*e*P	**Pn**	**19 48 20.8**	**+0.1**
PAPH				*e*S	**Sn**	**19 48 41.4**	**-0.8**
PAPH				IAML		19 48 43.4	
	comp=N,207nm,0.4s						
PAPH				IAML		19 48 44.5	
	comp=E,196nm,0.2s						
PAPH	**Port-au-Prince**	**1.67**	**152**	*i* P	**Pn**	**19 48 21.0**	**+0.3**
PAPH				*e*S	**Sn**	**19 48 41.7**	**-0.5**
LOPP1	**Punta Rusia, P**	**1.82**	**94**	*i* P	**Pb**	**19 48 24.2**	**-0.6**
LOPP1				IAML		19 49 01.2	
	comp=Z,330nm,0.3s						
NMDO	**Nuevo Mundo**	**1.83**	**288**	*e*P	**Pn**	**19 48 23.5**	**+0.6**
NMDO				*e*S	**Sn**	**19 48 46.5**	**+0.4**
NMDO				IAML		19 48 53.9	
	comp=N,170nm,0.2s						
NMDO				IAML		19 48 56.3	
	comp=E,161nm,0.3s						
REDR	**Restauracion**	**1.83**	**117**	*e*Pg	**Pn**	**19 48 20.0**	**-3.0**
REDR				*e*Sg	**Sn**	**19 48 41.8**	**-4.5**
REDR				IAML		19 48 42.0	
	comp=N,2µm,0.5s						
MOAC	**Moa**	**1.84**	**291**	*e*P	**Pn**	**19 48 23.5**	**+0.5**
MOAC				*e*S	**Sn**	**19 48 47.3**	**+0.9**
MOAC				IAML		19 48 54.7	
	comp=N,211nm,0.1s						
MOAC				IAML		19 48 56.4	
	comp=E,271nm,0.2s						
GTBY	**Guantanamo Bay**	**1.87**	**268**	*e*P	**Pn**	**19 48 23.4**	**0.0**
GTBY				*e*S	**Sn**	**19 48 47.6**	**+0.5**
GTBY				IAML		19 48 53.7	
	comp=E,98nm,0.0s						
GTBY				IAML		19 48 55.4	
	comp=E,132nm,0.3s						
GTBY	**Guantanamo Bay**	**1.87**	**268**	*i* P	**Pn**	**19 48 23.6**	**+0.1**
GTBY				*e*S	**Sn**	**19 48 47.4**	**+0.3**
GTBY				IAML		19 48 52.7	
	comp=Z,85nm,0.3s						
JIDR	**Jimani**	**1.93**	**141⇑**	*e*Pg	**Pn**	**19 48 25.1**	**+0.8**
JIDR				*i* S	**Sn**	**19 48 50.0**	**+1.4**
JIDR				IAML		19 49 01.8	
	comp=N,264nm,0.3s						
MADR	**Mao Valverde**	**1.96**	**103**	*e*Pg	**Pg**	**19 48 28.1**	**-0.8**
MADR				*e*Sg	**Sg**	**19 48 55.2**	**+0.9**
MADR				IAML		19 48 59.5	
	comp=N,906nm,0.4s						
SDDR	**Presa de Saban**	**2.01**	**120**	*e*P	**Pn**	**19 48 25.4**	**0.0**
SDDR				*e*S	**Sn**	**19 48 50.0**	**-0.7**
SDDR				IAML		19 48 56.0	
	comp=N,259nm,0.2s						
SDDR				IAML		19 49 00.0	
	comp=N,272nm,0.4s						
SDDR	**Presa de Saban**	**2.01**	**120**	*i* P	**Pn**	**19 48 25.6**	**+0.1**
SDDR				*e*S	**Sn**	**19 48 49.1**	**-1.6**
SDDR				IAML		19 48 59.7	
	comp=Z,174nm,0.2s						
SDDR	**Presa de Saban**	**2.01**	**120⇑**	*e*Pg	**Pn**	**19 48 26.9**	**+1.4**
SDDR				*i* S	**Sb**	**19 48 53.4**	**+0.2**
SDDR				IAML		19 49 03.3	
	comp=N,312nm,0.3s						
LUDR	**Luperon**	**2.05**	**93**	*e*Pg	**Pn**	**19 48 27.1**	**+1.1**
LUDR				*i* S	**Sb**	**19 48 54.0**	**-0.2**
NEDR	**Neiba UASD**	**2.21**	**133⇑**	*e*Pg	**Pn**	**19 48 29.7**	**+1.6**
NEDR				⇑*e*Sg	**Sb**	**19 49 00.8**	**+1.8**
NEDR				IAML		19 49 04.5	
	comp=N,208nm,0.5s						
LODU1	**El Espartillar**	**2.27**	**136**	*i* P	**Pn**	**19 48 29.2**	**+0.3**
SC01	**Santiago de lo**	**2.33**	**104**	*i* P	**Pn**	**19 48 31.2**	**+1.4**
SC01				*e*S	**Sn**	**19 48 58.9**	**+0.3**
SC01				IAML		19 49 10.9	
	comp=Z,342nm,0.3s						
SC01	**Santiago de lo**	**2.33**	**104**	*e*Pg	**Pb**	**19 48 34.4**	**+0.9**
SC01				*i* S	**Sb**	**19 49 02.1**	**-0.3**
SC01				IAML		19 49 11.6	
	comp=N,458nm,0.4s						
GRTK	**Grand Turk**	**2.39**	**51**	*e*P	**Pn**	**19 48 31.0**	**+0.3**
GRTK				*e*S	**Sn**	**19 48 58.9**	**-1.2**
GRTK				IAML		19 49 16.7	
	comp=N,207nm,0.3s						
GRTK				IAML		19 49 18.7	
	comp=N,220nm,0.4s						
GRTK	**Grand Turk**	**2.39**	**51**	*i* P	**Pn**	**19 48 31.2**	**+0.6**
GRTK				*e*S	**Sn**	**19 49 00.1**	**0.0**
GRTK				IAML		19 49 20.8	
	comp=Z,103nm,1.6s						
PODR	**Polo**	**2.53**	**136**	*i* P	**Pn**	**19 48 34.8**	**+2.1**
PODR				*e*S	**Sb**	**19 49 08.0**	**-0.3**
PODR	**Polo**	**2.53**	**136**	*e*Pg	**Pn**	**19 48 34.8**	**+2.1**
PODR				⇑*e*Sg	**Sg**	**19 49 11.5**	**-1.2**
PODR				IAML		19 49 20.5	
	comp=N,134nm,0.3s						
PINC	**Pinares de May**	**2.55**	**281**	*e*P	**Pn**	**19 48 33.0**	**+0.3**
PINC				*e*S	**Sn**	**19 49 04.8**	**+0.9**
PINC				IAML		19 49 13.6	
	comp=N,149nm,0.3s						
PINC				IAML		19 49 14.0	
	comp=E,69nm,0.2s						
MARVS	**Santiago de Cu**	**2.61**	**270**	*e*P	**Pn**	**19 48 33.6**	**-0.1**
MARVS				*e*S	**Sn**	**19 49 05.7**	**+0.3**
MARVS				IAML		19 49 10.4	
	comp=N,60nm,0.3s						
MARVS				IAML		19 49 10.6	
	comp=E,93nm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.75**	**143**	*i* P	**Pn**	**19 48 37.9**	**+2.2**
HLGC	**Holguin**	**2.89**	**288**	*e*P	**Pn**	**19 48 40.4**	**+2.8**
HLGC				*e*S	**Sb**	**19 49 16.0**	**-2.5**
HLGC				IAML		19 49 32.0	
	comp=N,48nm,0.3s						
HLGC				IAML		19 49 34.9	
	comp=E,59nm,0.6s						
CHIV	**Chivirico**	**3.09**	**270**	*e*P	**Pn**	**19 48 40.4**	**+0.1**
CHIV				*e*S	**Sn**	**19 49 17.5**	**+0.2**
CHIV				IAML		19 49 21.6	
	comp=N,16nm,0.3s						
CHIV				IAML		19 49 24.2	
	comp=E,11nm,0.1s						
LMGC	**Las Mercedes**	**3.65**	**272**	*e*P	**Pn**	**19 48 48.5**	**+0.6**
LMGC				*e*S	**Sn**	**19 49 28.2**	**-2.8**
LMGC				IAML		19 49 34.0	
	comp=N,26nm,0.2s						
LMGC				IAML		19 49 34.1	
	comp=E,43nm,0.4s						

*TAP **17** 19:50:43.3,24°.52N×122°.74E,h98km,ML2.7,C*
*JMA **17** 19:50:43.4±0.2,24°.N±2°.×122°.7E±0°.5,h95km±1km,*
MV1.9/11,NW OFF ISHIGAKIJIMA IS
ISC 17 19:50:43.5±1.5,**24°.48N**±0°.04×**122°.73E**±0°.03,**h97**km±8km,
n72,σ0**87**/138,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.20**	**98**	P	**Pn**	**19 50 57.2**	**-0.1**
JYNG				*e*S	**Sn**	**19 51 07.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.26**	**94**	*i* P	**Pn**	**19 50 57.5**	**0.0**
YOJ				*i* S	**Sn**	**19 51 07.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.26**	**94**	*e*P	**Pn**	**19 50 57.4**	**-0.1**
YOJ				*e*S	**Sn**	**19 51 07.8**	**-0.2**
EOS3	**EOS3**	**0.42**	**243**	*i* P	**Pn**	**19 50 58.8**	**+0.6**
EOS3				S	**Sn**	**19 51 10.5**	**+1.3**
EOS2	**EOS2**	**0.45**	**262**	*e*P	**Pn**	**19 50 58.8**	**+0.4**
EOS2				*i* S	**Sn**	**19 51 10.6**	**+1.0**
EOS4	**EOS4**	**0.52**	**226**	*i* P	**Pn**	**19 50 59.0**	**+0.3**
EOS4				S	**Sn**	**19 51 11.1**	**+1.2**
EGS		**0.81**	**297**	P	**Pn**	**19 51 01.6**	**-0.1**
EGS				S	**Sn**	**19 51 15.2**	**-0.1**
ESAO	**Su ao**	**0.81**	**277**	*e*P	**Pn**	**19 51 00.2**	**-1.4**
TWC	**Suao**	**0.81**	**279**	*i* P	**Pn**	**19 51 01.3**	**-0.3**
TWC				*e*S	**Sn**	**19 51 13.9**	**-1.4**
TWB1	**Santiao Chiao**	**0.85**	**308**	P	**Pn**	**19 51 02.1**	**0.0**
TWB1				*e*S	**Sn**	**19 51 16.0**	**0.0**
ENA	**Nanau**	**0.90**	**267**	*e*P	**Pn**	**19 51 02.9**	**+0.3**
ENA				S	**Sn**	**19 51 17.1**	**+0.2**
EAHA	**Aohua**	**0.91**	**261**	P	**Pn**	**19 51 03.1**	**+0.4**
EAHA				*e*S	**Sn**	**19 51 16.8**	**-0.3**
IRIF	**Iriomote-Funau**	**0.93**	**99**	P	**Pn**	**19 51 03.0**	**+0.2**
IRIF				*e*S	**Sn**	**19 51 17.4**	**0.0**
ILA	**Ilan**	**0.93**	**288**	*e*S	**Sn**	**19 51 16.6**	**-0.9**
TIPB	**Shuangxi**	**0.95**	**301**	*i* P	**Pn**	**19 51 03.2**	**0.0**
TIPB				*e*S	**Sn**	**19 51 16.4**	**-1.6**
SXI1	**Grass Mountain**	**0.98**	**309**	*e*P	**Pn**	**19 51 03.6**	**0.0**
SXI1				*e*S	**Sn**	**19 51 18.2**	**-0.5**
TWE	**Neicheng**	**0.99**	**284**	*i* P	**Pn**	**19 51 03.7**	**+0.1**
TWE				*i* S	**Sn**	**19 51 18.1**	**-0.5**
NWF	**Wu-fen Shan**	**1.04**	**305**	*e*P	**Pn**	**19 51 04.6**	**+0.4**
ETL	**Fush Village**	**1.05**	**253**	P	**Pn**	**19 51 04.0**	**-0.3**
ENTT	**Nioudou**	**1.07**	**279**	*i* P	**Pn**	**19 51 05.0**	**+0.6**
ENTT				S	**Sn**	**19 51 20.2**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.07**	**285**	*e*P	**Pn**	**19 51 06.1**	**+1.5**
FUSB				*i* S	**Sn**	**19 51 20.8**	**+0.4**
HATJ	**Hateruma jima**	**1.07**	**113**	*e*S	**Sn**	**19 51 20.6**	**+0.4**
NACB	**Ninganchiao**	**1.07**	**254**	*i* P	**Pn**	**19 51 04.2**	**-0.3**
NACB				*e*S	**Sn**	**19 51 19.6**	**-0.7**
LATG	**Datong**	**1.09**	**273**	*i* P	**Pn**	**19 51 05.2**	**+0.3**
LATG				*e*S	**Sn**	**19 51 20.7**	**-0.2**
TWD	**Chiawan**	**1.10**	**249**	*e*P	**Pn**	**19 51 04.5**	**-0.3**
TWD				*i* S	**Sn**	**19 51 20.5**	**-0.4**
HWA	**Hwalien**	**1.14**	**244**	*e*P	**Pn**	**19 51 05.5**	**+0.3**
HWA				S	**Sn**	**19 51 22.3**	**+0.7**
NWLT	**Wulai**	**1.15**	**285**	P	**Pn**	**19 51 05.6**	**+0.2**
NWLT				*e*S	**Sn**	**19 51 20.8**	**-1.2**
ETLH	**Xiulin Townshi**	**1.17**	**257**	*e*P	**Pn**	**19 51 05.8**	**+0.2**
ETLH				*e*S	**Sn**	**19 51 21.6**	**-0.8**
JKRS	**Kuro-shima**	**1.20**	**101**	*e*P	**Pn**	**19 51 06.5**	**+0.6**
JKRS				*e*S	**Sn**	**19 51 23.2**	**+0.4**
TEYL	**Yanliau Villag**	**1.20**	**240**	*i* P	**Pn**	**19 51 05.8**	**-0.1**
TEYL				*e*S	**Sn**	**19 51 22.6**	**-0.2**
NNSB	**Datong**	**1.22**	**268**	P	**Pn**	**19 51 06.8**	**+0.4**
NNSB				*e*S	**Sn**	**19 51 22.9**	**-0.7**
ETM	**Tongmen**	**1.24**	**246**	*e*P	**Pn**	**19 51 06.1**	**-0.3**
ETM				*e*S	**Sn**	**19 51 22.0**	**-1.6**
YM01	**YM01**	**1.24**	**303**	*i* P	**Pn**	**19 51 06.6**	**+0.1**
YM01				S	**Sn**	**19 51 22.8**	**-1.0**
YHNB	**Yeheng**	**1.24**	**279**	*e*P	**Pn**	**19 51 07.2**	**+0.6**
YHNB				*i* S	**Sn**	**19 51 23.5**	**-0.5**
YM08	**YM08**	**1.25**	**305**	*i* P	**Pn**	**19 51 06.8**	**+0.2**
YM08				S	**Sn**	**19 51 23.6**	**-0.4**
SHUL	**Shoufeng**	**1.27**	**237**	*i* P	**Pn**	**19 51 06.8**	**+0.1**
SHUL				*i* S	**Sn**	**19 51 24.5**	**+0.2**
ZUZH	**Zhuzihu**	**1.27**	**303**	*i* P	**Pn**	**19 51 06.8**	**-0.1**
ZUZH				*i* S	**Sn**	**19 51 22.9**	**-1.5**
JIJ	**Ishigaki jima**	**1.30**	**95**	*e*P	**Pn**	**19 51 07.3**	**+0.2**
JIJ				S	**Sn**	**19 51 24.1**	**-0.8**
ESL	**Shilin**	**1.35**	**241**	*e*P	**Pn**	**19 51 07.6**	**-0.2**
ESL				S	**Sn**	**19 51 25.5**	**-0.6**
FUSS	**Fushou**	**1.37**	**261**	P	**Pn**	**19 51 07.7**	**-0.6**
FUSS				*e*S	**Sn**	**19 51 26.5**	**-0.4**
WHF	**Hehuan Shan**	**1.37**	**256**	P	**Pn**	**19 51 08.6**	**+0.1**
WHF				*e*S	**Sn**	**19 51 26.1**	**-1.2**
EGFH	**Guangfu**	**1.44**	**236**	P	**Pn**	**19 51 08.7**	**-0.1**
EGFH				*e*S	**Sn**	**19 51 27.2**	**-0.7**
KSHI	**Guanxi Townshi**	**1.44**	**282**	*e*P	**Pn**	**19 51 07.3**	**-1.6**
KSHI				*i* S	**Sn**	**19 51 28.3**	**+0.2**
WARBT	**Fenglin Townsh**	**1.44**	**238**	*e*P	**Pn**	**19 51 08.7**	**-0.2**
WARBT				*e*S	**Sn**	**19 51 27.1**	**-1.0**
JISG	**Ishigakijimahi**	**1.45**	**85**	P	**Pn**	**19 51 09.0**	**+0.1**
JISG				*e*S	**Sn**	**19 51 27.6**	**-0.6**
NFF	**Wufeng Townshi**	**1.47**	**276**	P	**Pn**	**19 51 09.9**	**+0.6**
NFF				*e*S	**Sn**	**19 51 28.1**	**-0.7**
OWD	**Renai**	**1.51**	**250**	P	**Pn**	**19 51 09.9**	**+0.1**
OWD				S	**Sn**	**19 51 28.7**	**-1.0**
HGSD	**Ruisui**	**1.54**	**231**	P	**Pn**	**19 51 09.5**	**-0.6**
HGSD				*e*S	**Sn**	**19 51 31.2**	**+0.9**
WUSB	**Renai**	**1.55**	**252**	P	**Pn**	**19 51 10.9**	**+0.6**
WUSB				S	**Sn**	**19 51 30.1**	**-0.5**
LIOB	**Emei**	**1.56**	**276**	P	**Pn**	**19 51 11.1**	**+0.7**
LIOB				S	**Sn**	**19 51 30.9**	**0.0**
NSTT	**Nanjuang**	**1.58**	**276**	P	**Pn**	**19 51 11.3**	**+0.8**
NSTT				S	**Sn**	**19 51 30.6**	**-0.2**
EHYH	**Wanrong**	**1.60**	**232**	P	**Pn**	**19 51 11.0**	**+0.2**
EHYH				*e*S	**Sn**	**19 51 28.5**	**-3.1**
EHY	**Hungye**	**1.61**	**233**	P	**Pn**	**19 51 11.3**	**+0.4**
EHY				*e*S	**Sn**	**19 51 29.9**	**-1.9**
YULB	**Yu-li**	**1.70**	**231**	*e*P	**Pn**	**19 51 11.9**	**-0.1**
YULB				*e*S	**Sn**	**19 51 33.1**	**-0.7**
TWF1	**Yuli**	**1.72**	**230**	P	**Pn**	**19 51 12.4**	**0.0**
TWF1				*e*S	**Sn**	**19 51 31.6**	**-2.8**
SSLB	**Suanglung**	**1.76**	**247**	P	**Pn**	**19 51 14.0**	**+1.1**
SSLB				*e*S	**Sn**	**19 51 36.1**	**+0.9**
NMLH	**Miaoli**	**1.76**	**272**	P	**Pn**	**19 51 13.6**	**+0.7**
NMLH				S	**Sn**	**19 51 35.7**	**+0.4**
SMLT	**Sun Moon Lake**	**1.77**	**251**	P	**Pn**	**19 51 14.0**	**+1.0**
SMLT				*e*S	**Sn**	**19 51 37.4**	**+1.8**
TYC	**Yuchr**	**1.80**	**252**	*e*P	**Pn**	**19 51 14.5**	**+1.1**
TYC				*e*S	**Sn**	**19 51 38.0**	**+1.9**
FULB	**Fuli**	**1.83**	**226**	P	**Pn**	**19 51 13.8**	**0.0**
FULB				*e*S	**Sn**	**19 51 38.8**	**+2.0**
CHKT	**Chengkung**	**1.85**	**222**	*e*S	**Sn**	**19 51 36.5**	**-0.9**
WHYT	**Xinyi Township**	**1.88**	**246**	P	**Pn**	**19 51 15.3**	**+0.9**
WHYT				S	**Sn**	**19 51 39.9**	**+1.8**
WWF	**Wufeng**	**1.90**	**257**	P	**Pn**	**19 51 15.5**	**+0.9**
WWF				S	**Sn**	**19 51 39.7**	**+1.3**
EHD	**Haiduan**	**1.92**	**227**	*e*P	**Pn**	**19 51 15.2**	**+0.2**
EHD				*e*S	**Sn**	**19 51 38.1**	**-0.8**
EDH	**Donghe**	**1.99**	**221**	P	**Pn**	**19 51 15.9**	**+0.2**
EDH				S	**Sn**	**19 51 39.0**	**-1.4**
ALS	**Alishan**	**2.00**	**242**	P	**Pn**	**19 51 17.1**	**+0.8**
ALS				*e*S	**Sn**	**19 51 42.3**	**+1.0**
ELDTW	**Lidau**	**2.02**	**231**	*e*P	**Pn**	**19 51 16.6**	**+0.2**
ELDTW				*i* S	**Sn**	**19 51 40.1**	**-1.4**
LDUT	**Ludao**	**2.14**	**213**	P	**Pn**	**19 51 16.7**	**-1.0**
LDUT				*e*S	**Sn**	**19 51 42.1**	**-1.7**
TWGBT	**Beinan**	**2.24**	**223**	*e*P	**Pn**	**19 51 19.5**	**+0.4**
TWGBT				S	**Sn**	**19 51 46.1**	**0.0**
TWG	**Pinlang**	**2.24**	**223**	*e*P	**Pn**	**19 51 20.4**	**+1.2**
TWG				*e*S	**Sn**	**19 51 46.6**	**+0.2**
CHY	**Chiayi**	**2.32**	**246**	P	**Pn**	**19 51 21.3**	**+1.2**
CHY				*e*S	**Sn**	**19 51 48.6**	**+0.4**
SCZT	**Fangliau**	**2.85**	**223**	*e*P	**Pn**	**19 51 27.7**	**+0.5**
SCZT				*e*S	**Sn**	**19 51 59.2**	**-1.6**

*SOME **17** 20:02:59.9,39°.22N×72°.42E,h5km*
*NNC **17** 20:03:04.5±7.0,38°.74N×72°.66E,h0km,mb3.8,mpv3.6,*
Error ellipse: s-maj=62.1km s-min=54.4km az=91.0
ISC 17 20:03:01.1±2.6,**39°.0N**±0°.2×**72°.23E**±0°.08,**h10**km,**n8,**
σ2**11**/12,**1C-1D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.81**	**11**	*e*P	**Pb**	**20 04 06.2**	**-2.3**
	7.8nm,0.3s						
MRKS				*e*S	**Sb**	**20 04 53.8**	**-0.8**
	20nm,0.4s						
KK31	**Karatay Array**	**4.29**	**343**	⇓Pn	**Pb**	**20 04 16.4**	**-0.2**
	2.6nm,0.4s,baz=156,slow=11,SNR=45						
KK31				⇑Sn	**Sb**	**20 05 11.9**	**+3.5**
	9.1nm,0.3s,baz=159,slow=23						
BRLS	**Borolday**	**4.41**	**337**	Pg	**Pb**	**20 04 16.2**	**-2.3**
	5.5nm,0.2s						
BRLS				Lg	Lg	20 05 10.9	
	10nm,0.1s						
BRLS	**Borolday**	**4.41**	**337**	*e*P	**Pb**	**20 04 16.2**	**-2.3**
	5.5nm,0.2s						
BRLS				*e*S	**Sb**	**20 05 10.9**	**-0.9**
	10nm,0.1s						
KST	**Kastek**	**4.92**	**34**	Pg	**Pn**	**20 04 17.8**	**+2.5**
	0.7nm,0.2s						
KST				Lg	Lg	20 05 13.8	
	3.9nm,0.5s						
KST	**Kastek**	**4.92**	**34**	*e*P	**Pb**	**20 04 25.4**	**-2.0**
	1.7nm,0.3s						
KST				*e*S	**Sb**	**20 05 27.0**	**+0.3**
	3.3nm,0.4s						
AB31	**Akbulak array**	**13.50**	**323**	P	**P**	**20 06 21.6**	**-0.2**
	0.4nm,0.3s,baz=141,slow=13,SNR=9.6						
BVA0	**Borovoye Array**	**14.08**	**355**	P	**P**	**20 06 28.1**	**-0.1**
	2.5nm,0.8s,baz=141,slow=13,SNR=4.1						

*AEIC **17** 20:05:24.8±2.8,53°.68N±0°.08×165°.17W±0°.05,h59km±8km,*
Error ellipse: s-maj=11.3km s-min=3.6km az=166.0
NEIC 17 20:05:25.3±1.6,**53°.59N**±0°.06×**164°.99W**±0°.02,**h35**km±2km,
ML3.2/18,**ML2.9**(AEIC),**Error ellipse: s-maj=10.0km**
s-min=3.1km az=351.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.72**	**320**		Pn	20 05 38.6	-0.3
AKUT					Sn	20 05 49.1	+0.5
AKUT				IAML		20 05 49.5	
	comp=E,1µm,0.6s						
AKUT				IAML		20 05 49.5	
	comp=N,605nm,0.4s						
AHB	**Akutan Harbor**	**0.72**	**318**		Pn	20 05 38.7	-0.3
AHB					Sn	20 05 49.5	+0.7
AKBBA	**Akutan Broad B**	**0.76**	**313**		Pn	20 05 39.3	-0.2
AKBBA					Sn	20 05 50.0	+0.4
ZRO	**Akutan Zero**	**0.77**	**311**		Pn	20 05 39.5	-0.2
ZRO					Sn	20 05 50.6	+0.5
AKV	**Akutan Volcano**	**0.79**	**313**		Pn	20 05 39.7	-0.3
AKV					Sn	20 05 51.4	+0.8
UNV	**Unalaska Valle**	**0.94**	**287**		Pn	20 05 41.3	-0.6
UNV				Sn	Sn	20 05 51.9	-2.2
UNV				IAML		20 05 56.3	
	comp=N,446nm,0.3s						
WEBT	**Westdahl Beart**	**1.01**	**8**		Pn	20 05 42.8	-0.3
SSLS	**Shishaldin Sou**	**1.27**	**27**		Pn	20 05 45.8	-0.8
SSBA	**Shishaldin**	**1.29**	**23**		Pn	20 05 46.3	-0.7
SSBA					Sn	20 06 03.1	+0.1
FALS	**False Pass**	**1.57**	**35**		Pn	20 05 49.8	-0.9
FALS					Sn	20 06 09.6	-0.1
DT1	**Dutton Round H**	**2.20**	**45**		Pn	20 05 59.6	+0.3
NIKH	**Nikolski High**	**2.40**	**257**		Pn	20 06 02.6	+0.5
NIKH					Sn	20 06 30.3	+0.1
NIKH				IAML		20 06 34.6	
	comp=N,130nm,0.6s						
NIKH				IAML		20 06 45.0	
	comp=E,83nm,0.6s						
HAG	**Hague Volcano**	**2.50**	**45**		Pn	20 06 04.5	+1.1
PN7A	**Pavlof North-7**	**2.54**	**42**		Pn	20 06 05.3	+1.2
S12K	**Black Hills**	**2.72**	**38**	Pn	Pn	20 06 06.5	0.0
S12K				IAML		20 06 50.2	
	comp=E,43nm,0.5s						
CLES	**Cleveland East**	**3.05**	**257**	Pn	Pn	20 06 11.3	+0.3
SDPT	**Sand Point**	**3.17**	**54**	Pn	Pn	20 06 13.4	+0.7
CNBA	**Chernabura Isl**	**3.41**	**67**	Pn	Pn	20 06 15.3	-0.6
P08K	**Saint George I**	**4.00**	**321**	Pn	Pn	20 06 24.6	+0.6
P08K				IAML		20 06 55.0	
	comp=N,29nm,1.1s						
P08K				IAML		20 07 54.1	
	comp=E,28nm,1.2s						
CHGN	**Chignik**	**4.67**	**52**	Pn	Pn	20 06 33.9	+0.8
CHGN				IAML		20 07 34.6	
	comp=N,30nm,0.1s						
CHGN				IAML		20 09 36.9	
	comp=E,34nm,0.1s						
ATKA	**Atka Island**	**5.74**	**260**	Pn	Pn	20 06 46.0	-2.0
O15K	**Ungalikthiuk R**	**6.29**	**25**	Pn	Pn	20 06 56.0	+0.5
OHAK	**Old Harbor**	**7.59**	**57**	Pn	Pn	20 07 11.6	-1.7
KDAK	**Kodiak Island**	**8.17**	**54**	Pn	Pn	20 07 20.9	-0.4

*IDC **17** 20:33:40.2±0.9,54°.46N×161°.92W,h0km,mb4.2/24,*
mbtmp4.1/28,ML3.8/4,MS3.3/10,Error ellipse:
s-maj=24.2km s-min=12.5km az=159.0
*AEIC **17** 20:33:44.8±3.8,54°.32N±0°.03×161°.67W±0°.05,h7km±4km,*
Error ellipse: s-maj=4.1km s-min=3.8km az=137.0
*NEIC **17** 20:33:45.3±1.8,54°.31N±0°.05×161°.63W±0°.06,h43km±8km,*
mb4.3/18,ML4.1/34,ML3.9(AEIC),Error ellipse:
s-maj=7.8km s-min=4.7km az=180.0
ISC 17 20:33:45.8±1.1,**54°.33N**±0°.07×**161°.63W**±0°.04,**h44**km±9km,
n227,σ0**95**/227,**mb4.3**/60,**MS3.4**/8,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.83**	**351**		Pn	**20 34 59.8**	**-1.3**
DOL					Sn	**20 34 11.1**	**-1.2**
DT1	**Dutton Round H**	**0.87**	**335**		Pn	**20 34 00.2**	**-1.4**
DT1					Sn	**20 34 11.6**	**-1.5**
HAG	**Hague Volcano**	**1.00**	**351**		Pn	**20 34 02.9**	**-0.6**
PS4A	**Pavlof South-4**	**1.03**	**353**		Pn	**20 34 03.1**	**-0.6**
PS4A					Sn	**20 34 17.7**	**+0.7**
PS1A	**Pavlof South-1**	**1.10**	**357**		Pn	**20 34 04.3**	**-0.4**
PS1A					Sn	**20 34 19.5**	**+0.8**
PN7A	**Pavlof North-7**	**1.13**	**349**		Pn	**20 34 05.0**	**-0.2**
PN7A					Sn	**20 34 21.9**	**+2.3**
FALS

comp=N,152nm,1.4s
P16K IAML 20 36 56.9
comp=E,182nm,1.4s
CAHL Cahill 5.14 41 Pn 20 35 00.9 +0.7
ACHA Angle Creek He 5.24 40 Pn 20 35 02.5 +0.9
KAKN Katmai Knife C 5.40 40 Pn 20 35 04.7 +0.9
OHAK Old Harbor 5.53 55 Pn 20 35 04.6 -0.8
OHAK Old Harbor 5.53 55 P Pn 20 35 04.5 -0.9
KAWH Katmai 5.56 40 Pn 20 35 06.3 +0.4
N14K Kuskokwak Cree 5.61 360 Pn 20 35 07.3 +0.7
O16K Kokwok River B 5.62 19 Pn 20 35 07.3 +0.6
SPIA Saint Paul Isl 5.64 304 Pn 20 35 08.0 +1.0
KAHC Katmai Hardscr 5.67 38 Pn 20 35 08.2 +0.7
KARR Katmai Rainbow 5.68 40 Pn 20 35 08.2 +0.7
N15K Kwethluk River 5.92 7 Pn 20 35 11.4 +0.7
O17K Koliganek Bris 5.99 23 Pn 20 35 13.1 +1.3
KDAK Kodiak Island 6.14 52 Pn Pn 20 35 12.9 -0.9
KDAK Kodiak Island 6.14 52 Pn Pn 20 35 12.5 -1.2
comp=E,1.7nm,0.3s,baz=232,slow=3.9,SNR=34
KDAK Sn **Sn 20 36 20.9 -1.7**
comp=E,2.0nm,0.3s,baz=37,slow=19,SNR=6.7
comp=E,4.0nm,0.3s
P18K Big Mountain, 6.17 32 Pn Pn 20 35 15.8 +1.5
M13K Dall Lake 6.17 352 Pn 20 35 15.3 +1.1
N16K Nishlik Lake 6.35 13 Pn 20 35 17.8 +1.0
M14K Bethel 6.44 359 Pn 20 35 18.6 +0.7
O18K Koktuh Hills 6.55 30 Pn 20 35 21.2 +1.7
M11K Mekoryuk 6.55 340 Pn 20 35 20.3 +0.9
N17K Nushagak Hills 6.66 19 Pn 20 35 21.4 +0.4
SYI Shuyak Island 6.68 46 Pn 20 35 21.5 +0.3
M16K Timber Creek 6.86 11 Pn 20 35 24.4 +0.6
L14K Kuka Creek 7.05 356 Pn 20 35 26.9 +0.6
N18K Kilae Creek 7.08 24 Pn 20 35 27.0 +0.3
O19K Port Alsworth 7.09 31 Pn 20 35 28.4 +1.6
ILSW Iliamna Southw 7.31 36 Pn 20 35 31.0 +1.1
M17K Holitna River 7.43 16 Pn 20 35 31.9 +0.3
L16K Owhat River 7.49 8 Pn 20 35 32.4 +0.1
N19K Bonanza Creek 7.55 28 Pn 20 35 34.8 +1.6
K13K Kusilvak Mount 7.79 349 Pn 20 35 37.3 +0.9
M18K Stony River 7.82 21 Pn 20 35 37.6 +0.8
ATKA Atka Island 7.83 259 Pn Pn 20 35 37.1 +0.2
K15K Wolf Creek Mou 7.99 0 Pn 20 35 39.5 +0.4
L18K Granite Mounta 8.33 16 Pn 20 35 44.1 +0.3
M19K Big River Lodg 8.50 24 Pn 20 35 47.2 +1.0
J14K Nanvaranak Lak 8.50 354 Pn 20 35 46.5 +0.4
K17K Iditarod 8.59 10 Pn 20 35 46.8 -0.5
J16K Anvik River 9.00 3 Pn 20 35 52.9 -0.1
J17K VABM Dome 9.19 7 Pn 20 35 54.8 -0.8
SKT Skwentna 9.34 31 Pn 20 35 58.8 +1.2
ADK Adak 9.38 261 Pn Pn 20 35 58.8 +0.5
J18K Innoko River 9.51 13 Pn 20 36 00.5 +0.6
KIWB Kanaga Island 9.66 261 Pn Pn 20 36 02.5 +0.5
PWL Port Wells 9.67 42 Pn Pn 20 36 00.9 -1.3
J19K Poorman 10.17 15 Pn 20 36 09.1 +0.2
HIN Hinchinbrook I 10.17 47 Pn 20 36 08.4 -0.6
ANM Nome 10.44 351 Pn Pn 20 36 12.7 0.0
J20K Nowinta River 10.58 18 Pn 20 36 14.7 +0.1
KAIM Kayak Island 10.89 52 Pn Pn 20 36 18.6 -0.2
KLU Klutina 10.99 43 Pn 20 36 19.3 -1.0
BPAW Bear Paw Mtn. 11.19 25 Pn 20 36 23.3 +0.3
H19K Roundabout Mou 11.53 11 Pn 20 36 26.5 -1.0
G18K Tagagawik 11.70 6 Pn 20 36 30.2 +0.3
MLY Manley 12.04 23 Pn 20 36 34.7 +0.2
IMAR Indian Mountai 12.32 15 Pn Pn 20 36 39.4 +1.1
RIDG Independent Ri 12.75 36 Pn 20 36 42.4 -1.8
ILAR Eielson Array 12.82 29 Pn Pn 20 36 40.7 -4.5
comp=E,0.2nm,0.3s,baz=211,slow=12,SNR=7.2
ILAR LR LR 20 41 01.6
comp=E,66nm,19.6s,baz=254,slow=34
comp=E,0.3nm,0.3s
G21K Allakaket 12.85 15 Pn 20 36 45.5 0.0
O28M Mount Upton 13.16 52 Pn Pn 20 36 49.4 -0.6
E19K Redstone River 13.34 7 Pn Pn 20 36 53.9 +1.6
BCAR Beaver Creek A 13.47 42 Pn Pn 20 36 52.7 -1.4
G24K Hadweenzic Riv 14.18 23 Pn 20 37 03.8 +0.2
M29M Somme Creek 14.54 47 Pn 20 37 07.8 -0.9
S31K Pelican 14.58 65 Pn Pn 20 37 08.3 -0.7
E22K Anaktuvuk Pass 14.60 15 Pn 20 37 10.2 +0.9
E21K Killik River 14.61 11 Pn 20 37 10.0 +0.6
L29M L29M 14.96 45 Pn 20 37 12.9 -1.2
M30M Minto, Yukon 15.31 47 Pn Pn 20 37 18.2 -0.5
BMAR Burnt Mountain 15.45 25 Pn Pn 20 37 21.4 +0.9
I28M Miner Creek 15.47 35 Pn 20 37 19.0 -1.7
J30M Hart River 16.32 41 Pn 20 37 31.5 -0.2
I30M Mount Dempster 16.61 39 Pn 20 37 35.0 -0.2
I30M IAmb IAmb 20 37 43.1
comp=E,15nm,0.7s
H31M Peel River 17.64 39 Pn 20 37 46.6 -1.2
DLBC Dease Lake 17.88 64 P P 20 37 51.1 -0.1
comp=E,0.1nm,0.3s,baz=133,slow=14,SNR=1.6
DLBC LR LR 20 43 41.4
comp=E,52nm,20.3s,baz=228,slow=34
comp=E,0.4nm,0.5s
INK Inuvik 19.18 32 P P 20 38 03.9 -1.4
comp=E,0.6nm,0.3s,baz=233,slow=15,SNR=5.8
comp=E,1.0nm,0.4s
PEA0B Petropavlovsk- 23.87 284 P P 20 38 54.0 -0.8
PEA0B IAmb IAmb 20 39 19.6
comp=E,19nm,1.1s
PETK Petropavlovsk- 23.87 284 P P 20 38 53.4 -1.4
PETK Petropavlovsk- 23.87 284 P P 20 38 53.9 -0.9
comp=E,4.7nm,0.5s,baz=80,slow=13,SNR=21
comp=E,4.7nm,0.5s
YKA Yellowknife Ar 25.41 52 P P 20 39 09.6 +0.9
comp=E,1.3nm,0.7s,baz=272,slow=8.8,SNR=4.4
comp=E,1.3nm,0.7s
MA2 Magadan 26.01 301 LR LR 20 49 53.0
comp=E,33nm,18.4s,baz=142,slow=38
MA2 Magadan 26.01 301 P P 20 39 14.4 +0.2
comp=E,18nm,1.1s
ELK Elko 33.50 95 LR LR 20 53 08.5
comp=E,92nm,18.2s,baz=227,slow=35
TIXI Tiksi 33.51 327 LR LR 20 53 16.2
comp=E,49nm,20.1s,baz=184,slow=35
YAK Yakutsk 35.40 311 LR LR 20 55 24.9
comp=E,55nm,21.0s,baz=103,slow=37
ULM Lac du Bonnet 39.12 68 P P 20 41 10.2 +1.7
comp=E,4.6nm,0.5s,baz=306,slow=8.8,SNR=10
comp=E,4.6nm,0.5s
H11N2 WAKE ISLAND Hy 42.05 227 T T 21 26 19.4
baz=27,slow=76,SNR=357
H11N3 WAKE ISLAND Hy 42.05 227 T T 21 26 19.8
baz=27,slow=76,SNR=430
H11N1 WAKE ISLAND Hy 42.06 227 T T 21 26 21.4
baz=27,slow=76,SNR=339
EYMN Ely 42.79 69 P 20 41 40.1 +1.3
EYMN IAmb IAmb 20 41 41.1
comp=E,8.1nm,0.6s
H11S1 WAKE ISLAND Hy 43.22 227 T T 21 27 49.7
baz=27,slow=76,SNR=163
H11S2 WAKE ISLAND Hy 43.23 227 T T 21 27 46.8
baz=27,slow=76,SNR=195
H11S3 WAKE ISLAND Hy 43.23 227 T T 21 27 46.5
baz=27,slow=76,SNR=134
MJAR Matsushiro Arr 44.34 272 P P 20 41 51.2 -0.1
comp=E,0.8nm,0.5s,baz=27,slow=5.4,SNR=5.5
comp=E,0.8nm,0.5s
G40A Rib Lake 45.12 71 P P 20 41 58.3 +0.8
G40A IAmb IAmb 20 41 59.1
comp=E,4.1nm,0.7s
COWI Conover 45.19 69 P P 20 41 58.6 +0.6
SPITS Spitsbergen Ar 47.75 1 P P 20 42 15.9 -1.8
comp=E,4.3nm,0.9s,baz=12,slow=7.4,SNR=4.1
comp=E,4.3nm,0.9s
TXAR Lajitas Array 48.22 97 P 20 42 24.3 +2.3
comp=E,0.1nm,0.5s,baz=291,slow=5.8,SNR=2.3
JCJ Chichijima 48.87 260 LR LR 21 00 13.5
comp=E,26nm,20.9s,baz=104,slow=33
KSRS Korea Array 49.70 280 P P 20 42 33.4 +0.3
comp=E,2.1nm,0.7s,baz=47,slow=7.2,SNR=9.4
comp=E,2.1nm,0.7s
O48B Farmland 51.20 73 P P 20 42 44.3 -0.2
SONM Songino Array 54.17 304 P P 20 43 05.3 -1.1
comp=E,1.9nm,0.6s,baz=45,slow=7.1,SNR=9.3
SONM LR LR 21 05 57.7
comp=E,41nm,18.6s,baz=162,slow=36
comp=E,1.9nm,0.6s
ARCES ARCESS Array B 56.34 357 P P 20 43 20.6 -0.9
comp=E,1.8nm,0.7s,baz=13,slow=8.3,SNR=6.1
comp=E,1.8nm,0.7s
HHC Hu-ho-hao-te 56.44 295 eP P 20 43 22.3 -0.5
HHC pmax pmax
comp=E,8.0nm,0.6s
HHC pmax pmax
comp=Z,98nm,4.9s
BTO Baotou 57.43 295 eP P 20 43 28.6 -1.2
BTO PP PP 20 45 38.0 +0.8
BTO S S 20 51 23.3 -0.2
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,380nm,4.5s
BTO LR LR
comp=N,360nm,4.4s
BTO LR LR
comp=E,1μm,7.6s
BTO LR LR
comp=Z,480nm,8.5s
LVZ Lovozero 57.49 353 P P 20 43 29.2 -0.5
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 58.97 321 P P 20 43 39.5 -0.8
comp=Z,0.4nm,0.3s,baz=38,slow=7.0,SNR=3.6
ZALV LR LR 21 10 09.3
comp=Z,75nm,19.4s,baz=83,slow=37
comp=Z,0.4nm,0.3s
GTA Gaotai 63.58 301 eP P 20 44 11.0 -0.8
GTA pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 63.95 322 P P 20 44 13.3 -0.5
comp=Z,0.3nm,0.3s,baz=26,slow=6.9,SNR=5.1
comp=Z,0.3nm,0.3s
FINES FINESS Array B 64.41 356 P P 20 44 16.1 -0.6
comp=Z,7.0nm,0.8s,baz=15,slow=8.1,SNR=14
comp=Z,4.7nm,0.8s
BVAR Borovoye Array 64.64 328 P P 20 44 17.6 -0.9
comp=Z,1.8nm,0.6s,baz=40,slow=5.5,SNR=12
BVAR LR LR 21 14 52.0
comp=Z,52nm,18.4s,baz=115,slow=38
comp=Z,1.8nm,0.6s
NB2 NORSAR Subarra 64.84 4 P P 20 44 18.9 -0.7
comp=Z,5.1nm,0.9s,baz=357,slow=6.5
NOA NORSAR Array B 64.84 4 P P 20 44 19.7 +0.1
comp=Z,3.2nm,0.8s,baz=356,slow=6.6,SNR=11
comp=Z,3.2nm,0.8s
MKAR Makanchi Array 65.67 317 P P 20 44 24.2 -0.9
comp=Z,0.5nm,0.5s,baz=44,slow=5.9,SNR=5.2
comp=Z,0.5nm,0.5s
WMQ Urumqi 65.82 312 eP P 20 44 28.3 +2.0
WMQ LR LR
comp=N,250nm,9.5s
HFS Hagfors 65.83 3 P P 20 44 25.6 -0.3
comp=N,7.7nm,0.8s,baz=2.5,slow=6.5,SNR=21
comp=N,7.7nm,0.8s
EKB Eskdalemuir 69.27 13 P P 20 44 48.3 +0.5
EKA Eskdalemuir Ar 69.28 13 P P 20 44 48.5 +0.7
comp=N,3.4nm,0.6s,baz=342,slow=4.8,SNR=12
comp=N,3.4nm,0.6s
AB31 Akbulak array 71.02 333 P P 20 44 58.0 -0.5
AB31 IAmb IAmb 20 44 59.3
comp=Z,2.3nm,1.0s
ABKAR Akbulak array 71.02 333 P P 20 44 58.3 -0.2
PZH PanZhiHua 72.59 291 P P 20 45 08.6 +0.1
KKAR Karatay Array 73.23 323 P P 20 45 12.3 +0.4
KSH Kashi 74.28 317 P P 20 45 19.1 +0.9
KSH pmax pmax
comp=Z,4.0nm,0.8s
RNPP1 Kostyukhnivka 74.51 355 P P 20 45 19.3 +0.1
RNPP8 Varash 74.52 355 P P 20 45 19.3 +0.1
RNPP5 Staryi Chortor 74.62 355 P P 20 45 19.9 +0.1
MI28 Mi28,Pidlybu 74.82 354 P P 20 45 21.4 +0.4
AK21 Malin Array Si 74.88 353 P P 20 45 20.4 -0.9
AK22 Malin Array Si 74.90 353 P P 20 45 20.5 -0.9
AK03 Malin Array Si 74.92 353 P P 20 45 20.5 -1.1
AK04 Malin Array Si 74.93 353 P P 20 45 20.4 -1.2
AK18 Malin Array Si 74.94 353 P P 20 45 20.7 -0.9
AK19 Malin Array Si 74.94 353 P P 20 45 20.6 -1.1
AKASG Malin Array Be 74.95 353 P P 20 45 21.0 -0.7
comp=Z,3.1nm,0.6s,baz=9.8,slow=5.6,SNR=12
comp=Z,3.1nm,0.6s
AKBB Malin Array Si 74.95 353 P 20 45 20.9 -0.8
AKBB IAmb IAmb 20 45 22.3
comp=Z,4.7nm,0.8s
AKBB Malin Array Si 74.95 353 P P 20 45 20.4 -1.3
KIEV Kiev 74.95 353 P P 20 45 21.0 -0.7
KIEV IAmb IAmb 20 45 22.3
comp=Z,4.2nm,0.8s
KIEV Kiev 74.95 353 P P 20 45 20.4 -1.3
comp=Z,22nm,1.0s
AK11 Malin Array Si 74.97 353 P P 20 45 21.1 -0.8
AK17 Malin Array Si 74.97 353 P P 20 45 21.0 -0.9
AK02 Malin Array Si 74.99 353 P P 20 45 21.2 -0.8
AK08 Malin Array Si 75.01 353 P P 20 45 20.9 -1.2
AK09 Malin Array Si 75.03 353 P P 20 45 21.2 -1.0
AK10 Malin Array Si 75.05 353 P P 20 45 21.4 -0.9
BRG Berggiesshubel 75.10 3 eP P 20 45 24.0 +1.4
BRG Amp 20 45 24.8
comp=Z,4.8nm,1.1s
BRG Berggiesshubel 75.10 3 Amp 20 45 34.1
comp=Z,2.8nm,1.1s
BRG Berggiesshubel 75.10 3 P P 20 45 33.9 +11
KSP Ksiaz 75.19 1 P P 20 45 23.4 +0.3
comp=Z,4.9nm,1.1s
DPC Dobruska-Polom 75.68 1 P P 20 45 26.5 +0.5
comp=Z,4.2nm,1.7s
LUBAR Lubar, Ukraine 75.82 354 P P 20 45 25.7 -1.1
SHIU Shidnytsya 76.73 357 P P 20 45 32.2 +0.2
LANS Liptovska Anna 76.89 359 eP P 20 45 34.6 +1.7
KOLS Kolonicke sedl 77.06 357 eP P 20 45 37.7 +3.9
GERES GERESS Array B 77.12 3 P P 20 45 34.9 +0.6
comp=Z,1.1nm,0.6s,baz=355,slow=4.3,SNR=10
comp=Z,1.1nm,0.6s
NDNU Novodnistrovsk 77.17 354 P P 20 45 33.9 -0.5
STNU Starunia 77.20 356 P P 20 45 33.8 -0.8
KMPD K-Podol'skiy 77.25 354 P P 20 45 34.6 -0.3
KMPD P P 20 45 33.9 -1.0
SORM Soroca 77.56 353 P P 20 45 35.7 -0.9
comp=Z,7.6nm,1.0s
KSV Kosov 77.57 355 P P 20 45 35.9 -0.8
CONA Conrad Observa 78.09 2 iP P 20 45 40.6 +0.9
comp=Z,3.4nm,0.8s
MOA Molln 78.14 3 eP P 20 45 39.8 0.0
comp=Z,5.6nm,2.0s
BUR08 Bucovina Ar. S 78.24 355 P P 20 45 40.4 -0.2
BUR08 IAmb IAmb 20 45 41.5
comp=Z,1.9nm,0.8s
BURAR Bucovina Array 78.27 355 P P 20 45 40.5 -0.1
BURAR IAmb IAmb 20 45 42.1
comp=Z,3.6nm,1.2s
BIOA Bad Ischl, Aus 78.28 3 eP P 20 45 40.2 -0.4
comp=Z,1.3nm,0.7s
RONA Rosalia, Austr 78.33 1 eP P 20 45 41.2 +0.3
comp=Z,1.4nm,0.6s
RETA Reutte 78.35 5 iP P 20 45 41.2 +0.1
comp=Z,1.1nm,0.3s
LESA Schwarzleotal 78.51 4 iP P 20 45 41.4 -0.6
comp=Z,1.2nm,0.7s
MOTA Moosalm 78.51 5 iP P 20 45 42.5 +0.4
comp=Z,3.2nm,0.8s
WATA Walderalm 78.55 5 iP P 20 45 42.9 +0.6
comp=Z,1.5nm,0.6s
WTTA Wattenberg 78.62 5 iP P 20 45 43.5 +0.7
comp=Z,2.2nm,0.7s
SQTA Sankt Quirin 78.64 5 iP P 20 45 43.7 +0.9
comp=Z,3.9nm,0.7s
ARSA Arzberg 78.77 2 iP P 20 45 44.5 +1.1
comp=Z,2.1nm,0.8s
FETA Feichten 78.82 5 iP P 20 45 44.5 +0.7
comp=Z,2.4nm,0.8s
KBA Koelnbreinsper 78.88 3 iP P 20 45 45.3 +1.1
comp=Z,5.3nm,1.0s
ABTA Abfaltersbach 79.17 4 eP P 20 45 47.2 +1.5
comp=Z,2.7nm,1.1s
SOKA Soboth 79.33 2 eP P 20 45 47.1 +0.7
comp=Z,3.8nm,1.2s
OBKA Obir 79.48 3 iP P 20 45 48.2 +0.8
comp=Z,6.4nm,0.6s
KBZ Khabaz 80.09 342 P P 20 45 51.1 +0.6
comp=Z,4.1nm,0.9s,baz=290,slow=4.6,SNR=5.6
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 80.56 288 P P 20 45 53.5 0.0
comp=Z,2.0nm,0.8s,baz=23,slow=5.5,SNR=12
comp=Z,2.0nm,0.8s
KBL Kabul 81.31 320 P 20 45 56.5 -1.1
KBL IAmb IAmb 20 45 57.9
comp=Z,2.8nm,0.8s
ESDC Sonseca Array 84.42 17 P P 20 46 13.9 +0.6
comp=Z,0.9nm,0.7s,baz=346,slow=5.1,SNR=8.1
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 85.40 348 P P 20 46 19.1 +0.7
comp=Z,1.7nm,0.8s,baz=17,slow=2.8,SNR=8.2
comp=Z,1.7nm,0.8s
BR105 Keskin Array S 85.41 348 P P 20 46 18.9 +0.5
comp=Z,65nmcomp=Z,3.8nm,1.1s
BR104 Keskin Array S 85.42 348 P P 20 46 19.1 +0.6
WRA Warramunga Arr 91.92 238 P P 20 46 48.9 -0.4
comp=Z,0.6nm,0.8s,baz=28,slow=5.0,SNR=2.9
comp=Z,0.6nm,0.8s
ASAR Alice Springs 95.28 236 P P 20 47 05.1 +0.4
comp=Z,0.1nm,0.4s,baz=30,slow=4.5,SNR=1.6
comp=Z,0.1nm,0.4s
QSPA South Pole Qui 144.10 180 PKP PKPdf 20 53 14.6 -0.4
comp=Z,0.8nm,0.5s,baz=247,slow=1.3,SNR=15

TEH ***17*** *20:39:41.7, 33.38N×46.47E, h10km±147km*
ISN ***17*** *20:39:42.0±0.4, 33.39N×46.48E, h16km±4km, ML3.0*
ISC 17 20:39:42.8±1.1, 33.40N±0.06×46.47E±0.04, h10km, n12, σ0.75/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ILBA	**Ilam Banvizeh**	**0.31**	**315**	Pg		**Pg**	**20 39 48.2**	**-0.9**
IBDR	**Badra**	**0.54**	**237**	*e*Pg		**Pg**	**20 39 52.7**	**-0.6**
IBDR				*e*Sg		**Sg**	**20 40 00.2**	**-0.2**
IBDR				AML	AML		20 40 11.0	
	comp=E,606nm,0.6s							
IBDR				AML	AML		20 40 11.7	
	comp=N,820nm,0.6s							
GLG1	**Gilan-e-Gharb**	**0.85**	**327**	Pg		**Pg**	**20 39 58.1**	**-1.1**
IGHG	**Ghaleghazi**	**0.93**	**5**	Pg		**Pg**	**20 39 60.0**	**-0.7**
KCHF	**Cheshme Sefid,**	**0.99**	**28**	Pg		**Pg**	**20 40 01.1**	**-0.8**
IDHR	**Dehrash**	**1.30**	**357**	Pg		**Pg**	**20 40 07.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**1.32**	**327**	Pg		**Pg**	**20 40 08.6**	**+0.5**
IBZA	**Bozab**	**1.57**	**47**	Pg		**Pg**	**20 40 12.4**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.74**	**33**	Pg		**Pb**	**20 40 14.8**	**-0.2**
BHD	**Baghdad**	**1.75**	**266**	*e*Pn		**Pn**	**20 40 13.5**	**+0.3**
BHD				*e*Sn		**Sb**	**20 40 37.0**	**-0.1**
BHD				AML	AML		20 40 48.9	
	comp=E,292nm,0.7s							
BDRS	**Dareh Seyedi**	**2.08**	**74**	Pn		**Pn**	**20 40 18.9**	**+0.9**
IKRK	**Kirkuk**	**2.66**	**319**	*e*Pn		**Pn**	**20 40 26.5**	**+0.8**
IKRK				*e*Sn		**Sn**	**20 40 58.8**	**+0.8**
IKRK				AML	AML		20 41 16.9	
	comp=N,120nm,0.9s							
IKRK				AML	AML		20 41 19.7	
	comp=E,122nm,0.7s							

IDC ***17*** *20:47:59.9±0.9, 23.31N×118.57E, h0km, mb3.6/8, mbtmp3.6/12, ML3.4/4, MS3.5/16, Error ellipse: s-maj=23.2km s-min=18.0km az=59.0*
BJI ***17*** *20:48:02.7, 23.40N×118.54E, h11km, mB4.6/5, mb4.3/18, ML4.9/7, Ms4.4/26, Ms7 4.2/22*
NEIC ***17*** *20:48:02.5±1.0, 23.44N±0.05×118.57E±0.05, h10km±1km, mb4.3/16, Error ellipse: s-maj=9.6km s-min=6.6km az=224.0*
TAP ***17*** *20:48:02.6, 23.38N×118.55E, h26km, ML4.8, D*
ISC 17 20:48:02.1±1.1, 23.39N±0.03×118.54E±0.02, h12km±7km, n215, σ0.94/296, mb3.9/15, MS3.7/15, 4C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VCHM	**Qimei**	**0.83**	**102**	⇓*i*P		**Pg**	**20 48 18.2**	**-0.1**
VCHM				*i* S		**Sg**	**20 48 29.2**	**0.0**
ZPLA	**Ao Xicun**	**0.91**	**307**	⇓*i*P		**Pb**	**20 48 20.1**	**+0.3**
ZPLA				*i* S		**Sb**	**20 48 32.5**	**+0.8**
PNG	**Penghu**	**0.95**	**79**	⇓*i*P		**Pg**	**20 48 20.2**	**-0.2**
PNG				*i* S		**Sg**	**20 48 32.7**	**0.0**
PHUB	**P'eng-hu**	**0.95**	**82**	⇓*i*P		**Pg**	**20 48 20.4**	**-0.1**
PHUB				S		**Sb**	**20 48 33.2**	**+0.1**
KNM	**Kinmen**	**1.03**	**354**	⇑*i*P		**Pg**	**20 48 22.0**	**+0.1**
KNM				*e*S		**Sn**	**20 48 36.5**	**-0.1**
WDGT	**Dungji**	**1.04**	**97**	⇓*i*P		**Pb**	**20 48 21.8**	**-0.1**
WDGT				*i* S		**Sb**	**20 48 35.3**	**-0.2**
DSXP	**Dongshan**	**1.07**	**287**	⇓*i*P		**Pb**	**20 48 22.2**	**-0.3**
DSXP				*i* S		**Sg**	**20 48 37.1**	**+0.4**
KNMB	**Chin-men Tao**	**1.08**	**353**			**Pb**	**20 48 22.5**	**-0.2**
KNMB				Sn		**Sg**	**20 48 37.3**	**+0.3**
KNMB	**Chin-men Tao**	**1.08**	**353**	⇑*i*P		**Pb**	**20 48 22.6**	**-0.1**
KNMB				S		**Sn**	**20 48 37.5**	**-0.4**
TSCK	**Chigu Township**	**1.44**	**99**	*e*P		**Pn**	**20 48 28.2**	**+0.2**
TSCK				*e*S		**Sn**	**20 48 46.7**	**-0.1**
CHN8	**Yiju**	**1.53**	**91**	P		**Pn**	**20 48 29.8**	**+0.6**
CHN8				*e*S		**Sb**	**20 48 50.4**	**+0.6**
SCLT	**Jiali**	**1.53**	**98**	*e*P		**Pb**	**20 48 30.0**	**-0.5**
SCLT				*i* S		**Sg**	**20 48 50.9**	**-0.6**
QZH	**Quanzhou**	**1.55**	**2**	⇑*i*Pn		**Pn**	**20 48 29.3**	**-0.2**
QZH				Sn		**Sg**	**20 48 51.4**	**-0.6**
QZH				smax	smax			
	comp=N,3μm,0.5s							
QZH				smax	smax			
	comp=E,7μm,0.8s							
WSL	**Shuilin Townsh**	**1.55**	**85**	*e*P		**Pn**	**20 48 29.7**	**+0.2**
WSL				*e*S		**Sb**	**20 48 51.2**	**+0.8**
WSF	**Szhu**	**1.56**	**81**	*e*P		**Pn**	**20 48 29.7**	**0.0**
TAI1	**Yung-k'ang**	**1.59**	**102**	*e*P		**Pb**	**20 48 31.8**	**+0.5**
TAI1				*e*S		**Sb**	**20 48 51.5**	**+0.1**
AXDP	**Jialang**	**1.59**	**341**	P		**Pn**	**20 48 29.9**	**-0.2**
AXDP				*e*S		**Sn**	**20 48 50.1**	**-0.5**
ICHU	**Yijhu**	**1.60**	**91**	*e*P		**Pn**	**20 48 30.8**	**+0.6**
ICHU				*e*S		**Sb**	**20 48 52.9**	**+0.3**
SSHA	**Shanhua**	**1.62**	**99**	*e*P		**Pn**	**20 48 31.0**	**+0.5**
WTCT	**Ta-ch'eng**	**1.66**	**73**	*e*P		**Pn**	**20 48 30.9**	**-0.2**
WTCT				*e*S		**Sn**	**20 48 52.0**	**-0.3**
SHHT	**Tainan City**	**1.70**	**102**	*e*P		**Pn**	**20 48 32.2**	**+0.6**
CHN3	**Shinhua**	**1.71**	**100**	*e*P		**Pn**	**20 48 31.2**	**-0.4**
CHN3				*e*S		**Sn**	**20 48 53.8**	**+0.5**
WTK	**Tuku**	**1.72**	**80**	*e*P		**Pn**	**20 48 31.7**	**-0.1**
PTMZ	**Houxiangcun**	**1.73**	**18**	P		**Pn**	**20 48 31.8**	**-0.1**
PTMZ				*e*S		**Sb**	**20 48 54.8**	**-0.6**
CHY	**Chiayi**	**1.73**	**86**	*e*P		**Pn**	**20 48 32.8**	**+0.8**
CHY				*e*S		**Sn**	**20 48 54.5**	**+0.5**
WRL	**Guolierlin Hig**	**1.76**	**73**	*e*P		**Pn**	**20 48 33.0**	**+0.6**
WRL				*e*S		**Sn**	**20 48 54.6**	**-0.1**
SNJT	**Kaohsiung City**	**1.77**	**111**	*e*P		**Pn**	**20 48 32.2**	**-0.2**
TWK	**Hsinying**	**1.79**	**93**	*e*P		**Pn**	**20 48 33.8**	**+0.9**
TWK				*e*S		**Sb**	**20 48 57.9**	**+0.6**
VWUC	**VWUC**	**1.80**	**27**	*e*P		**Pn**	**20 48 32.7**	**-0.2**
VWUC				*e*S		**Sb**	**20 48 57.1**	**-0.3**
TWM1	**Shoushan**	**1.82**	**108**	*e*P		**Pb**	**20 48 35.1**	**-0.2**
CHN1	**Nanshi**	**1.84**	**96**	P		**Pn**	**20 48 33.9**	**+0.4**
CHN1				*e*S		**Sn**	**20 48 56.4**	**-0.3**
WDLH	**Douliu**	**1.86**	**80**	*e*P		**Pn**	**20 48 33.8**	**+0.1**
WDLH				*e*S		**Sb**	**20 48 58.3**	**-0.8**
WDL	**Douliou City**	**1.86**	**80**	P		**Pn**	**20 48 34.1**	**+0.4**
WDL				*e*S		**Sb**	**20 48 58.8**	**-0.4**
SCST	**Cishan**	**1.86**	**105**	*e*P		**Pn**	**20 48 34.8**	**+1.0**
WGK	**Gukeng**	**1.88**	**81**	*e*P		**Pn**	**20 48 34.5**	**+0.5**
WGK				*e*S		**Sb**	**20 48 59.3**	**-0.4**
CHN4	**Tsaushan**	**1.89**	**91**	⇓*i*P		**Pn**	**20 48 34.6**	**+0.5**
CHN4				*e*S		**Sn**	**20 48 57.6**	**-0.2**
WCKO	**Fanlu**	**1.90**	**88**	*e*P		**Pn**	**20 48 34.0**	**-0.3**
WCKO				*e*S		**Sb**	**20 48 59.2**	**-1.0**
WTP	**Ta-pu**	**1.91**	**94**	*e*P		**Pn**	**20 48 35.3**	**+0.8**
WTP				*e*S		**Sn**	**20 48 56.9**	**-1.6**
SGLT	**Jiouru**	**1.91**	**110**	*e*P		**Pn**	**20 48 34.9**	**+0.4**
TPUB	**Ta-pu**	**1.92**	**92**	Pn		**Pn**	**20 48 34.6**	**0.0**
TPUB	**Ta-pu**	**1.92**	**92**	P		**Pb**	**20 48 36.5**	**-0.6**
TPUB	**Ta-pu**	**1.92**	**92**	*e*P		**Pn**	**20 48 34.6**	**0.0**
WCHH	**Zhanghua**	**1.97**	**69**	*e*P		**Pn**	**20 48 35.3**	**0.0**
WCHH				*e*S		**Sn**	**20 49 01.1**	**+1.2**
WLCH	**Liuqiu**	**1.98**	**121**	*e*P		**Pn**	**20 48 34.7**	**-0.7**
WNT	**Mingjian**	**2.02**	**76**	*e*P		**Pn**	**20 48 36.4**	**+0.4**
WNT				*e*S		**Sb**	**20 49 02.8**	**-1.1**
SSD	**Sandimen**	**2.03**	**108**	*e*P		**Pn**	**20 48 36.4**	**+0.3**
WJS	**Zhushan**	**2.05**	**77**	*e*P		**Pn**	**20 48 36.7**	**+0.4**
STYH	**Taoyuan**	**2.06**	**96**	*e*P		**Pn**	**20 48 37.3**	**+0.7**
STYH				*e*S		**Sn**	**20 49 02.2**	**-0.1**
MASBT	**Mashibuluo**	**2.08**	**111**	*e*P		**Pn**	**20 48 37.0**	**+0.3**
ALS	**Alishan**	**2.08**	**86**	*e*P		**Pn**	**20 48

SSLB	Suanglung	2.25	79	⇑P	Pn	20 48 39.0	-0.1
SSLB				S	Sn	20 49 07.7	+0.9
WCS	Beigang Elemen	2.27	72	eP	Pn	20 48 39.3	-0.1
WCS				eS	Sn	20 49 08.3	+0.9
NSY	Sanyi	2.27	63	eP	Pn	20 48 40.7	+1.2
NSY				eS	Sn	20 49 07.5	+0.1
ELDTW	Lidau	2.28	94	i P	Pn	20 48 40.7	+1.0
ELDTW				eS	Sn	20 49 07.9	+0.1
NMLH	Miaoli	2.35	60	eP	Pn	20 48 41.1	+0.6
ECL	Taimali	2.36	109	eP	Pn	20 48 41.3	+0.7
WHP	Taichung City	2.37	68	eP	Pn	20 48 40.9	0.0
WHP				eS	Sn	20 49 11.3	+1.4
SLIU	Shizi	2.39	119	eP	Pn	20 48 41.2	+0.2
SLIU				S	Sn	20 49 10.9	+0.7
TWG	Pinlang	2.40	103	Pn	Pn	20 48 41.9	+0.8
TWG	Pinlang	2.40	103	eP	Pn	20 48 42.4	+1.3
TAW	Tawu	2.40	115	eP	Pn	20 48 41.4	+0.2
TAWH	Dawu Township	2.40	115	eP	Pn	20 48 41.2	0.0
TAWH				eS	Sn	20 49 10.1	-0.5
TWGBT	Beinan	2.41	103	P	Pn	20 48 42.4	+1.1
TWGBT	Beinan	2.41	103	eP	Pn	20 48 42.2	+0.9
LONT	Longtian	2.43	101	eP	Pn	20 48 42.9	+1.3
LONT				eS	Sn	20 49 10.8	-0.5
WUSB	Renai	2.44	75	P	Pn	20 48 42.4	+0.5
WUSB				eS	Sn	20 49 12.2	+0.6
HEN	Hengchun	2.45	124	eP	Pn	20 48 42.5	+0.6
HEN				eS	Sn	20 49 12.5	+0.8
EHD	Haiduan	2.46	95	i P	Pn	20 48 43.2	+1.2
EHD				S	Sn	20 49 12.8	+0.7
ECS	Chishang	2.48	96	eP	Pn	20 48 43.5	+1.2
ECS				S	Sn	20 49 14.3	+1.8
OWD	Renai	2.48	76	P	Pn	20 48 43.0	+0.6
OWD				eS	Sn	20 49 13.1	+0.4
TTN	Taitung	2.48	104	eP	Pn	20 48 43.9	+1.7
SMST	Manzhou Townsh	2.52	122	eP	Pn	20 48 43.5	+0.6
SMST				eS	Sn	20 49 13.0	-0.4
YULB	Yu-li	2.53	89	Pn	Pn	20 48 43.5	+0.5
YULB	Yu-li	2.53	89	P	Pn	20 48 44.4	+1.4
YULB	Yu-li	2.53	89	eP	Pn	20 48 44.0	+1.0
TWF1	Yuli	2.53	90	eP	Pn	20 48 44.6	+1.6
FULB	Fuli	2.54	94	P	Pn	20 48 44.9	+1.8
FULB				eS	Sn	20 49 14.6	+0.7
TWKBT	Hengchun	2.54	124	eP	Pn	20 48 43.7	+0.5
TWKBT				eS	Sn	20 49 13.0	-1.1
TDCB	Techi	2.55	70	eP	Pn	20 48 43.6	+0.2
EHY	Hungye	2.56	87	eP	Pn	20 48 45.0	+1.6
TWT	Tachien	2.56	70	eP	Pn	20 48 43.7	+0.1
TWT				eS	Sn	20 49 15.3	+0.5
NSTT	Nanjuang	2.57	61	eP	Pn	20 48 43.9	+0.4
EDH	Donghe	2.58	99	eP	Pn	20 48 45.0	+1.4
EDH				eS	Sn	20 49 16.3	+1.5
EHYH	Wanrong	2.58	87	eP	Pn	20 48 44.5	+0.9
LIOB	Emei	2.58	61	eP	Pn	20 48 44.1	+0.4
WHF	Hehuan Shan	2.61	73	eP	Pn	20 48 45.1	+0.7
WHF				eS	Sn	20 49 16.3	+0.1
CHKT	Chengkung	2.61	96	eP	Pn	20 48 45.4	+1.3
CHKT				eS	Sb	20 49 18.4	-2.4
FUSS	Fushou	2.62	70	eP	Pn	20 48 44.7	+0.3
HSN	Hsinchu	2.63	57	eP	Pn	20 48 44.4	+0.1
HSN				eS	Sn	20 49 17.0	+0.9
WARBT	Fenglin Townsh	2.63	82	eP	Pn	20 48 45.2	+0.8
CHKH	Chenggong	2.63	94	eP	Pn	20 48 46.3	+2.0
CHKH				eS	Sn	20 49 18.0	+1.8
SBCB	Hsinchu	2.63	57	eP	Pn	20 48 45.1	+0.7
TSEB	Hengchuen, Pin	2.63	124	eP	Pn	20 48 43.9	-0.5
TSEB				eS	Sn	20 49 15.6	-0.7
HGSD	Ruisui	2.65	87	i P	Pn	20 48 46.6	+2.0
HGSD				eS	Sn	20 49 17.3	+0.7
NFF	Wufeng Townshi	2.66	62	eP	Pn	20 48 44.9	+0.1
EGFH	Guangfu	2.66	83	eP	Pn	20 48 47.1	+2.3
EGFH				eS	Sn	20 49 16.4	-0.6
ECBN	Changbin	2.67	91	eP	Pn	20 48 46.2	+1.3
ECBN				eS	Sn	20 49 16.8	-0.5
ESL	Shilin	2.69	80	eP	Pn	20 48 46.1	+1.0
MHZQ	Yeshan	2.74	9	eP	Pn	20 48 46.8	+1.0
ETM	Tongmen	2.77	77	eP	Pn	20 48 47.0	+0.8
ETM				eS	Sn	20 49 19.3	-0.3
TEGC	Jichi Village	2.77	83	eP	Pn	20 48 47.2	+1.0
KSHI	Guanxi Townshi	2.78	60	eP	Pn	20 48 47.2	+0.9
KSHI				eS	Sn	20 49 19.3	-0.5
LDUT	Ludao	2.79	104	P	Pn	20 48 47.5	+1.0
LDUT				eS	Sn	20 49 20.6	+0.5
NNSB	Datong	2.80	68	eP	Pn	20 48 46.6	-0.1
SHUL	Shoufeng	2.80	81	eP	Pn	20 48 48.0	+1.3
SHUL				eS	Sn	20 49 21.3	+1.4
ETLH	Xiulin Townshi	2.81	73	eP	Pn	20 48 47.2	+0.3
TEYL	Yanliau Villag	2.84	80	eP	Pn	20 48 48.6	+1.3
TEYL				eS	Sn	20 49 21.3	-0.2
HWA	Hwalien	2.87	78	eP	Pn	20 48 48.9	+1.2
NCUH	Zhongli	2.88	56	eP	Pn	20 48 48.6	+0.8
TWD	Chiawan	2.88	76	P	Pn	20 48 48.3	+0.5
TWD				eS	Sn	20 49 21.8	-0.6
YHNB	Yeheng	2.89	63		Pn	20 48 47.8	-0.2
YHNB	Yeheng	2.89	63	P	Pn	20 48 47.9	-0.1
YHNB	Yeheng	2.89	63	P	Pn	20 48 47.8	-0.2
YHNB				eS	Sn	20 49 20.7	-1.9
NACB	Ninganchiao	2.90	74		Pn	20 48 47.9	-0.2
NACB	Ninganchiao	2.90	74	P	Pn	20 48 49.9	+1.8
NACB	Ninganchiao	2.90	74	eP	Pn	20 48 48.5	+0.4
NACB				eS	Sn	20 49 22.4	-0.5
ETL	Fush Village	2.92	74	eP	Pn	20 48 48.7	+0.2
LATG	Datong	2.96	67	P	Pn	20 48 49.0	0.0
LATG				eS	Sn	20 49 22.9	-1.6
MATB	Ma-tsu	3.03	25	eP	Pn	20 48 50.0	+0.1
MATB				eS	Sn	20 49 25.0	-1.1
ENTT	Nioudou	3.03	65	eP	Pn	20 48 50.3	+0.4
ENTT				eS	Sn	20 49 25.5	-0.7
NWLT	Wulai	3.04	62	P	Pn	20 48 50.0	-0.1
NWLT				eS	Sn	20 49 26.4	0.0
EAHA	Aohua	3.07	72	eP	Pn	20 48 52.0	+1.6
EAHA				i S	Sn	20 49 27.8	+0.7
FUSB	Fushanzhiwuyua	3.10	63	eP	Pn	20 48 51.1	+0.2
FUSB				eS	Sn	20 49 27.1	-0.8
ENA	Nanau	3.10	70	eP	Pn	20 48 52.1	+1.2
SXFK	Yanhouchang	3.11	345	eP	Pn	20 48 51.6	+0.7
SXFK				eS	Sn	20 49 27.1	-0.9
TATO	Taipei	3.12	59		Pn	20 48 51.1	+0.1
TATO	Taipei	3.12	59	P	Pn	20 48 52.4	+1.3
LYUB	Lan-yu	3.13	116	eP	Pn	20 48 51.1	-0.1
TWS1	Kuangyinshan	3.13	56	eP	Pn	20 48 51.6	+0.4
TWS1				eS	Sn	20 49 28.5	-0.0
EWUT	Wuta	3.14	70	eP	Pn	20 48 51.7	+0.3
TWE	Neicheng	3.15	64	eP	Pn	20 48 52.2	+0.7
TWE				eS	Sn	20 49 26.9	-2.1
NTST	Danshui	3.19	56	eP	Pn	20 48 51.8	-0.3
TWA	Mucha	3.20	60	eP	Pn	20 48 52.6	+0.4
ESAO	Su ao	3.24	68	eP	Pn	20 48 54.2	+1.5
ESAO				eS	Sn	20 49 30.4	-0.9
TWC	Suao	3.26	67	i P	Pn	20 48 54.2	+1.2
TWC				eS	Sn	20 49 31.3	-0.4
ZUZH	Zhuzihu	3.26	57	eP	Pn	20 48 53.3	+0.2
ZUZH				eS	Sn	20 49 30.9	-0.9
YM01	YM01	3.27	57	P	Pn	20 48 53.5	+0.3
YM08	YM08	3.31	57	eP	Pn	20 48 53.8	+0.1
TIPB	Shuangxi	3.39	62	eP	Pn	20 48 55.1	+0.3
NWF	Wu-fen Shan	3.40	60	eP	Pn	20 48 55.4	+0.4
EGS		3.42	64	eP	Pn	20 48 56.4	+1.2
TNU	National Taiwa	3.43	59	eP	Pn	20 48 55.3	-0.3
SXI1	Grass Mountain	3.48	60	eP	Pn	20 48 55.9	-0.3
EOS2	EOS2	3.53	72	eP	Pn	20 48 58.2	+1.6
TWB1	Santiao Chiao	3.54	62	eP	Pn	20 48 57.3	+0.5
TWB1				eS	Sn	20 49 37.6	-0.9
XPSS	Dashiqiu	3.83	23	eP	Pn	20 49 01.1	+0.3
XPSS				eS	Sn	20 49 46.6	+0.8
PCYT	Pengchaiyu	3.91	55	eP	Pn	20 49 03.0	+1.0
HKPS	Hong Kong Po S	4.21	256		Pn	20 49 06.1	0.0
HKPS	Hong Kong Po S	4.21	256	P	Pn	20 49 06.2	+0.1
YOJ	Yonaguni jima	4.23	74	Pn	Pn	20 49 07.3	+1.0
YOJ	Yonaguni jima	4.23	74	eP	Pn	20 49 07.5	+1.2
GZH	Guangzhou	4.79	267	Pn	Pn	20 49 09.8	-4.3
GZH				Sg	Sb	20 50 23.1	-0.5
GZH				smax	smax		
	comp=N,2μm,0.6s						
GZH				smax	smax		
	comp=E,3μm,0.6s						
CNSH	ChangSha	6.95	315	Pn	Pn	20 49 43.4	-0.4
CNSH				smax	smax		
	comp=N,790nm,1.0s						
CNSH				smax	smax		
	comp=E,820nm,1.0s						

SSE	Sheshan	8.03	16	P	Pn	20 50 00.6	+2.1
SSE				S	Sn	20 51 33.6	+4.3
SSE				pmax	pmax		
	comp=Z,13nm,0.7s						
SSE				pmax	pmax		
	comp=Z,95nm,3.7s						
SSE				LR	LR		
	comp=N,580nm,9.8s						
SSE				LR	LR		
	comp=E,420nm,9.8s						
WHN	Wuhan	8.05	333	P	Pn	20 49 58.5	-0.3
WHN				LR	LR		
	comp=Z,4μm,7.7s						
QIZ	Qiongzhong	9.20	244	P	Pn	20 50 15.1	+0.4
QIZ				S	Sn	20 51 59.9	+1.7
QIZ				smax	smax		
	comp=N,39nm,1.7s						
QIZ				smax	smax		
	comp=E,49nm,0.8s						
QIZ				LR	LR		
	comp=N,430nm,8.7s						
QIZ				LR	LR		
	comp=E,410nm,8.2s						
JOW	Kunigami	9.46	67	Pn	Pn	20 50 18.1	-0.2
JOW	Kunigami	9.46	67	Pn	Pn	20 50 17.8	-0.5
	1.0nm,0.3s,baz=136,slow=19,SNR=16						
JOW				LR	LR	20 54 13.6	
	comp=Z,256nm,20.2s,baz=242,slow=40						
	2.0nm,0.4s						
XAN	Xi'an	13.55	324	eP	Pn	20 51 12.8	-1.4
XAN				LR	LR		
	comp=N,2μm,10.4s						
XAN				LR	LR		
	comp=E,2μm,11.4s						
XAN				LR	LR		
	comp=Z,830nm,9.4s						
SLVN	Son La	13.70	264		Pn	20 51 17.1	+0.9
JNU	Nakatsue	14.55	46		Pn	20 51 29.0	+1.1
JNU	Nakatsue	14.55	46	Pn	Pn	20 51 26.9	-1.1
	0.1nm,0.3s,baz=104,slow=23,SNR=1.6						
JNU				LR	LR	20 57 59.3	
	comp=Z,206nm,18.7s,baz=246,slow=41						
	2.1nm,0.8s						
PZH	PanZhiHua	15.55	285	P	Pn	20 51 42.8	+1.5
PZH				S	Sn	20 54 35.1	+1.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,4.7s						
PZH				LR	LR		
	comp=N,430nm,10.4s						
PZH				LR	LR		
	comp=E,480nm,9.9s						
PZH				LR	LR		
	comp=Z,460nm,12.1s						
KSAR	Wonju Array Be	16.14	28		Pn	20 51 50.5	+1.6
KSRS	Korea Array	16.17	28	Pn	Pn	20 51 48.9	-0.3
	0.2nm,0.3s,baz=208,slow=12,SNR=14						
	0.9nm,0.6s						
KKM	Kota Kinabalu	17.39	188	P	P	20 52 07.1	+1.0
KKM				lAmb	lAmb	20 52 15.1	
	comp=Z,16nm,1.1s						
MYLDM	Lahad Datu	18.10	180	P	P	20 52 15.2	+1.3
MYLDM				lAmb	lAmb	20 52 37.2	
	comp=Z,19nm,1.1s						
TNCH	TengChong	18.34	279	eP	Pn	20 52 15.6	-1.0
TNCH				S	Sn	20 55 37.4	-4.1
TNCH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,220nm,4.4s						
TNCH				LR	LR		
	comp=Z,470nm,7.1s						
TNCH				LR	LR		
	comp=Z,590nm,9.1s						
TNCH				LR	LR		
	comp=Z,470nm,12.3s						
CM31	Chiang Mai Arr	18.95	259	P	Pn	20 52 23.8	-0.1
CMAR	Chiang Mai Arr	18.95	259		P	20 52 23.3	+0.1
CMAR	Chiang Mai Arr	18.95	259	P	P	20 52 21.6	-1.6
	comp=Z,0.1nm,0.3s,baz=64,slow=9.5,SNR=14						
CMAR				LR	LR	20 59 04.8	
	comp=Z,127nm,19.8s,baz=80,slow=35						
	comp=Z,0.6nm,0.9s						
MJAR	Matsushiro Arr	21.44	48	P	P	20 52 49.5	-0.7
MJAR	Matsushiro Arr	21.44	48	P	P	20 52 49.7	-0.5
	comp=Z,0.9nm,0.9s,baz=233,slow=11,SNR=4.5						
MJAR				LR	LR	21 01 28.5	
	comp=Z,84nm,21.1s,baz=230,slow=38						
	comp=Z,0.9nm,0.9s						
SBUM	Sibu	21.70	197	P	P	20 52 54.5	+1.5
TOLI2	Tolitoli	22.25	174	P	P	20 53 01.4	+2.4
TOLI2				lAmb	lAmb	20 53 13.1	
	comp=Z,8.4nm,0.9s						
GTA	Gaotai	22.53	320	P	P	20 53 04.1	+2.2
GTA				pP	sP	20 53 08.3	+1.3
GTA				S	S	20 57 10.0	+1.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				LR	LR		
	comp=Z,310nm,10.5s						
GTA				LR	LR		
	comp=Z,380nm,13.5s						
GTA				LR	LR		
	comp=Z,300nm,12.0s						
GOMU	GeErMu	24.15	307	P	P	20 53 18.9	+0.4
GOMU				pP	pP	20 53 22.6	+0.4
GOMU				sP	sP	20 53 26.3	+2.5
GOMU				S	S	20 57 35.0	-1.6
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GOMU				LR	LR		
	comp=Z,200nm,10.2s						
GOMU				LR	LR		
	comp=Z,360nm,10.6s						
GOMU				LR	LR		
	comp=Z,440nm,10.5s						
SHL	Shillong	24.35	281		P	20 53 19.4	-0.8
LSA	Lhasa	25.26	290	P	P	20 53 30.3	+1.5
LSA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SONM	Songino Array	26.25	341	P	P	20 53 37.9	+0.7
	comp=Z,0.3nm,0.5s,baz=157,slow=7.8,SNR=4.4						
	comp=Z,0.3nm,0.5s						
GUMO	Guam	26.76	107	LR	LR	21 05 40.9	
	comp=Z,32nm,18.0s,baz=306,slow=40						
PSI	Prapat	27.92	226	LR	LR	21 06 10.7	
	comp=Z,73nm,19.4s,baz=334,slow=39						
ASAJ	Asahikawa	28.58	38	LR	LR	21 04 38.1	
	comp=Z,61nm,20.3s,baz=140,slow=35						
EVN	Everest	28.91	286	P	P	20 54 00.8	-0.9
EVN				lAmb	lAmb	20 54 19.2	
	comp=Z,8.0nm,1.1s						
MKAR	Makanchi Array	37.26	318		P	20 55 13.5	-0.2
MKAR	Makanchi Array	37.26	318	P	P	20 55 14.2	+0.5
	comp=Z,0.8nm,0.5s,baz=113,slow=9.6,SNR=11						
	comp=Z,0.8nm,0.5s						
YAK	Yakutsk	39.37	8	P	P	20 55 31.4	+0.3
YAK	Yakutsk	39.37	8	LR	LR	21 12 06.2	
	comp=Z,31nm,21.0s,baz=172,slow=37						
ZAA0	Zalesovo Array	39.64	329	P	P	20 55 33.0	-0.5
ZALV	Zalesovo Beam	39.64	329	P	P	20 55 32.9	-0.6
ZALV	Zalesovo Beam	39.64	329	P	P	20 55 33.7	+0.2
	comp=Z,2.1nm,0.8s,baz=115,slow=7.0,SNR=7.3						
	comp=Z,2.1nm,0.8s						
PALK	Pallekele	39.69	252	LR	LR	21 13 06.2	
	comp=Z,105nm,18.7s,baz=142,slow=38						
NIL	Nilore	40.81	295		P	20 55 43.8	+0.2
NIL				lAmb	lAmb	20 55 45.3	
	comp=Z,8.5nm,1.1s						
AAK	Ala-Archa	41.09	309	LR	LR	21 15 36.2	
	comp=Z,98nm,18.7s,baz=100,slow=40						
KURBB	Kurchatov Arra	41.19	322	P	P	20 55 46.5	0.0
	comp=Z,2.1nm,1.0s,baz=130,slow=7.2,SNR=9.7						
	comp=Z,2.1nm,1.0s						
MA2	Magadan	42.66	24	LR	LR	21 14 33.3	
	comp=Z,50nm,18.2s,baz=130,slow=37						
KKAR	Karatay Array	44.05	308	P	P	20 56 08.8	-1.0
COEN	Coen	44.26	145	P	P	20 56 11.8	+0.2
KBL	Kabul	44.33	296	P	P	20 56 12.3	-0.1
KBL				lAmb	lAmb	20 56 23.2	
	comp=Z,4.7nm,0.8s						
WRA	Warramunga Arr	45.74	159	P	P	20 56 22.1	-1.3
	comp=Z,0.9nm,0.9s,baz=342,slow=8.0,SNR=8.4						
	comp=Z,0.9nm,0.9s						
BVAR	Borovoye Array	46.78	322	P	P	20 56 31.8	+0.5
	comp=Z,0.9nm,0.8s,baz=109,slow=7.0,SNR=5.3						
	comp=Z,0.9nm,0.8s						
ASAR	Alice Springs	49.10	161	P	P	20 56 49.1	-0.4
	comp=Z,0.3nm,0.7s,baz=343,slow=6.6,SNR=5.0						
ASAR				LR	LR	21 22 51.0	
	comp=Z,64nm,18.0s,baz=236,slow=43						
	comp=Z,0.3nm,0.7s						
ABKAR	Akbulak array	52.28	315	P	P	20 57 13.2	-0.1
ARTI	Arti	54.39	324	LR	LR	21 20 33.1	
	comp=Z,35nm,18.3s,baz=119,slow=36						
HFS	Hagfors	77.06	330	LR	LR	21 36 40.7	
	comp=Z,42nm,18.4s,baz=247,slow=38						
VRAC	Vranov	79.98	319	LR	LR	21 36 34.9	
	comp=Z,42nm,18.6s,baz=146,slow=36						
DLBC	Dease Lake	80.84	30	LR	LR	21 40 30.1	
	comp=Z,42nm,18.8s,baz=178,slow=39						

IDC ***17*** *20:50:38.0±2.2, 10.86S×113.60E, h0km, mb3.5/5, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=85.3km s-min=20.4km az=44.0*
DJA ***17*** *20:50:40.5±1.0, 11.5S×117.4E, h15km±8km, M4.3/12, mb4.3/5, MLv4.2/12*
ISC 17 20:50:38.8±0.9, 10.9S±0.1×113.84E±0.07, h10km, n22, σ1.95/21, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	2.44	7	P		Pn	20 51 18.7	-0.1
DNP	Denpasar	2.60	32	P		Pn	20 51 22.3	+1.4
GMJI	Gumukmas	2.65	352	P		Pn	20 51 21.1	-0.5
SRBI	Singaraja	3.12	26	P		Pn	20 51 27.2	-0.8
PCJI	Pacitan	3.76	316	P		Pn	20 51 36.4	-0.5
KMMI	Kalianget	3.84	2	P		Pn	20 51 39.3	+1.4
WOJI	Wonogiri, Jawa	4.19	316	P		Pn	20 51 43.1	+0.3
PLAI	Plampang	4.40	62	P		Pn	20 51 46.9	+1.2
UGM	Wanagama	4.42	312	P		Pn	20 51 45.5	-0.5
WBSI	Waikabubak, Su	5.61	78	P		Pn	20 52 04.0	+1.6
	0.3nm40nm,1.2s							
KPJI	Karang Pucung	6.01	306	P		Pn	20 52 08.5	+0.7
	31nm,1.5s							
CNJI	Cibinong	7.53	298	P		Pn	20 52 28.9	+0.2
BATI	Baumata	9.69	87	Pn		Pn	20 53 01.4	+3.1
	1.6nm,0.3s,baz=63,slow=14,SNR=1.6							
BATI				Sn		Sn	20 54 43.2	-4.1
	3.6nm,0.3s,baz=169,slow=22,SNR=6.4							
	4.4nm,0.3s							
FITZ	Fitzroy Crossi	13.47	123	Pn		Pn	20 53 49.2	-0.9
	0.2nm,0.3s,baz=308,slow=6.6,SNR=11							
FITZ				Sn		Sn	20 56 08.7	-11
	0.4nm,0.3s,baz=170,slow=22,SNR=6.0							
WRA	Warramunga Arr	21.69	117	P		P	20 55 33.9	+3.9
	1.6nm,0.5s,baz=290,slow=9.9,SNR=14							
WRA				S		S	20 59 27.0	-3.3
	0.1nm,0.3s,baz=292,slow=18,SNR=4.8							
	1.6nm,0.5s							
ASAR	Alice Springs	22.94	126	P		P	20 55 45.6	+2.2
	0.6nm,0.6s,baz=302,slow=9.0,SNR=12							
	0.6nm,0.6s							
CMAR	Chiang Mai Arr	32.67	333	P		P	20 57 11.3	-0.1
	0.4nm,0.6s,baz=151,slow=9.2,SNR=2.3							
	0.4nm,0.6s							
H08S2	Diego Garcia H	40.91	271	T		T	21 41 44.7	
	baz=96							
H08S3	Diego Garcia H	40.92	271	T		T	21 41 51.3	
	baz=96							
H08S1	Diego Carcia H	40.93	271	T		T	21 41 52.0	
	baz=96							
SONM	Songino Array	58.86	354	P		P	21 00 37.4	-0.4
	0.4nm,0.4s,baz=178,slow=8.2,SNR=2.2							
	0.4nm,0.4s							
MKAR	Makanchi Array	63.99	336	P		P	21 01 12.6	+0.2
	0.3nm,0.8s,baz=144,slow=7.9,SNR=5.0							
	0.3nm,0.8s							

SNET ***17*** *20:55:18.3±15.0, 12.58N×88.99W, h48km, ML3.4*
CATAC ***17*** *20:55:22.4±0.3, 13.8N±3.5×8.8W±, h39km±5km, M3.7/22, MLv3.7/22, Error ellipse: s-maj=6.7km s-min=2.2km az=24.6, confirmed*
ISC 17 20:55:18.1±1.5, 12.34N±0.05×88.09W±0.04, h28km±13km, n49, σ1.04/58, 1C-19D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.82	39	⇓P		Pn	20 55 34.7	+0.8
CSGN				S		Sb	20 55 45.1	+0.5
POTN	Potosi Cosigui	0.87	41	⇓P		Pn	20 55 35.4	+0.9
POTN				S		Sb	20 55 45.8	-0.1
CNCH	Conchagua	0.96	15	eP		Pb	20 55 36.5	+0.3
CNCH				eS		Sb	20 55 48.3	-0.4
CNCH				eS			20 55 48.5	
CNCH	Conchagua	0.96	15	S		Sb	20 55 47.8	-1.0
CNCH	Conchagua	0.96	15	⇓P		Pb	20 55 36.6	+0.3
LCND	La Caada	0.98	12	eP		Pb	20 55 36.7	+0.2
LCND				eS		Sb	20 55 48.6	-0.6
LCND	La Caada	0.98	12	⇓P		Pb	20 55 36.7	+0.2
CRIN	San Cristobal	1.08	71	S		Sn	20 55 53.3	+1.7
CRIN	San Cristobal	1.08	71	⇓P		Pb	20 55 39.8	+1.6
BLLM	Bellamira	1.10	353	eP		Pb	20 55 38.6	0.0
CNRM	Centro Naciona	1.13	356	eS		Sn	20 55 52.1	-0.6
PACA	Pacayal	1.14	349	eP		Pb	20 55 39.6	+0.2
PACA	Pacayal	1.14	349	S		Sn	20 55 52.6	-0.7
PACA	Pacayal	1.14	349	⇓P		Pb	20 55 39.4	0.0
POLN	Al Sur del Vol	1.29	76	⇓P		Pb	20 55 42.1	+0.4
POLN				S		Sb	20 55 57.6	-0.3
PLRN	Geotermica Pol	1.31	79	P		Pb	20 55 42.5	+0.3
PLRN				S		Sb	20 55 57.9	-0.8
TECO	Alcaldia de Te	1.37	331	S		Sn	20 55 58.0	-0.6
TECO	Alcaldia de Te	1.37	331	P		Pb	20 55 43.0	0.0
CNGA	Al SSO del Vol	1.37	83	P		Pb	20 55 43.6	+0.5
CNGA				S		Sb	20 55 59.8	-0.4
CNGN	Cerro Negro	1.37	83	S		Sb	20 56 00.4	+0.1
CNGN	Cerro Negro	1.37	83	⇓P	

IFIL Filicudi I Eol 0.25 218 ⇓P Pn 21 35 49.8 +0.5
LLI Lipari 0.35 155 P Pn 21 35 50.3 +0.8
IST3 Stromboli F 0.37 84 P Pn 21 35 51.0 +1.5
IACL Alicudi 0.39 235 ⇓iP Pn 21 35 49.9 +0.4
IACL AML AML
comp=E,236µm,0.7s
IACL AML AML
comp=N,266µm,0.7s
VPL Vulcano Piano 0.42 155 ⇓iP Pn 21 35 49.9 +0.3
VPL AML AML
comp=N,384µm,1.2s
VPL AML AML
comp=E,403µm,0.9s
MILZ Milazzo 0.61 143 P Pn 21 35 49.9 -0.2
MILZ S S 21 36 19.9 -0.1
MILZ AML AML
comp=N,720µm,0.5s
MILZ AML AML
comp=E,1565µm,0.5s
MILZ AML AML
comp=N,720µm,0.5s
MILZ AML AML
comp=E,1565µm,0.5s
MUCR Ucria 0.72 173 P Pn 21 35 50.6 0.0
MUCR AML AML
comp=E,186µm,0.5s
MUCR AML AML
comp=N,219µm,0.9s
MUCR AML AML
comp=E,186µm,1.5s
MUCR AML AML
comp=N,162µm,0.6s
MUCR AML AML
comp=E,186µm,0.5s
MUCR AML AML
comp=N,219µm,0.9s
MSFR San Fratello 0.74 190 P Pn 21 35 50.8 +0.1
MSFR AML AML
comp=N,56µm,0.3s
MSFR AML AML
comp=E,49µm,0.4s
MSRU Castanea 0.77 130 ⇓iP Pn 21 35 50.5 -0.2
MSRU S S 21 36 20.1 -0.9
MSRU AML AML
comp=N,903µm,1.3s
MSRU AML AML
comp=E,1000µm,0.5s
MSRU AML AML
comp=N,903µm,0.7s
MSRU AML AML
comp=E,1001µm,0.5s
MSRU AML AML
comp=N,766µm,0.4s
MPNC Port Mandanici 0.77 143 P Pn 21 35 50.8 +0.1
MPNC S S 21 36 21.3 +0.3
MNO Monte Soro 0.83 184 P Pn 21 35 52.4 +1.2
MNO AML AML
comp=E,168µm,1.4s
MNO AML AML
comp=N,246µm,0.5s
MNO AML AML
comp=E,168µm,0.6s
MNO AML AML
comp=E,155µm,0.6s
AIO Antillo 0.87 155 ⇓iP Pn 21 35 51.6 +0.5
AIO AML AML
comp=E,238µm,1.1s
AIO AML AML
comp=N,218µm,1.3s
AIO AML AML
comp=N,218µm,0.7s
AIO AML AML
comp=E,201µm,0.5s
SICLA Scilla 0.90 124 P Pn 21 35 51.2 +0.1
SICLA S S 21 36 21.2 -0.7
SICLA AML AML
comp=N,489µm,1.0s
SICLA AML AML
comp=E,584µm,0.4s
SICLA AML AML
comp=E,584µm,0.4s
SICLA AML AML
comp=N,456µm,0.3s
PLLN Pollina 0.91 213 P Pn 21 35 51.5 +0.2
PLLN AML AML
comp=E,315µm,0.4s
PLLN AML AML
comp=N,392µm,0.7s
ECTS Castiglione 0.92 162 P Pn 21 35 52.1 +0.7
ECTS AML AML
comp=E,379µm,0.5s
ECTS AML AML
comp=N,618µm,0.5s
EPZF Pizzo Felice 0.94 175 P Pn 21 35 53.0 +1.5
EPZF AML AML
comp=N,557µm,0.5s
EPZF AML AML
comp=E,282µm,1.2s
EMSG Monte Spagnolo 0.95 171 P Pn 21 35 52.5 +0.9
EMSG AML AML
comp=E,560µm,0.4s
EMSG AML AML
comp=N,460µm,0.6s
EMSG AML AML
comp=E,560µm,0.4s
EMSG AML AML
comp=N,460µm,0.6s
GIB Gibilmanna 0.96 217 ⇓iP Pn 21 35 51.0 -0.6
GIB S S 21 36 22.4 -0.3
GIB AML AML
comp=N,376µm,0.5s
GIB AML AML
comp=E,292µm,0.6s
EPIT Pozzo Pitarron 0.97 166 P Pn 21 35 53.0 +1.2
CSLB Castelbuono 0.99 214 ⇓iP Pn 21 35 51.1 -0.6
CSLB S S 21 36 23.1 +0.3
CSLB AML AML
comp=E,49µm,0.7s
CSLB AML AML
comp=N,77µm,1.0s
CSLB AML AML
comp=N,77µm,1.0s
CSLB AML AML
comp=E,49µm,1.3s
CSLB AML AML
comp=E,49µm,0.7s
CEL Celeste 1.02 119 Pn 21 35 51.7 0.0
CEL Sn S 21 36 21.1 -1.9
CEL Celeste 1.02 119 ⇓iP Pn 21 35 51.8 0.0
CEL S S 21 36 21.9 -1.1
CEL AML AML
comp=E,428µm,0.6s
CEL AML AML
comp=E,413µm,0.6s
CEL AML AML
comp=N,454µm,0.6s
CEL AML AML
comp=N,462µm,0.5s
CEL AML AML
comp=N,463µm,0.5s
CEL AML AML
comp=N,451µm,0.5s
CEL AML AML
comp=E,428µm,0.6s
CEL AML AML
comp=E,413µm,0.6s
GMB Gambarie 1.03 125 AML AML
comp=E,1775µm,0.2s
GMB AML AML
comp=E,1940µm,0.6s
GMB AML AML
comp=N,1705µm,0.7s
GMB AML AML
comp=N,1707µm,0.4s
PETRA Petralia Sopra 1.05 209 ⇓P Pn 21 35 52.2 +0.1
PETRA AML AML
comp=E,263µm,0.3s
PETRA AML AML
comp=N,338µm,0.4s
GALF Gagliano Caste 1.06 188 P Pn 21 35 52.2 +0.2
GALF AML AML
comp=E,296µm,0.6s
GALF AML AML
comp=N,281µm,0.5s
GALF AML AML
comp=E,296µm,0.6s
CAGR Agira 1.15 190 ⇓P Pn 21 35 53.5 +1.0
CAGR AML AML
comp=E,165µm,1.4s
CAGR AML AML
comp=N,306µm,0.4s
CAGR AML AML
comp=E,149µm,0.5s
SOLUN Solunto 1.17 236 ⇓iP Pn 21 35 52.2 -0.3
SOLUN S S 21 36 22.8 -1.5
SOLUN AML AML
comp=N,346µm,1.3s
SOLUN AML AML
comp=E,332µm,1.0s
SOLUN AML AML
comp=N,346µm,0.7s
SOLUN AML AML
comp=E,332µm,1.0s
SOLUN AML AML
comp=N,336µm,0.6s
SOLUN AML AML
comp=E,332µm,1.1s
CET2 Cetraro 1.21 50 P Pn 21 35 53.4 +0.8
CET2 AML AML
comp=E,360µm,0.8s
CET2 AML AML
comp=N,503µm,0.3s
CET2 AML AML
comp=N,401µm,0.4s
CET2 AML AML
comp=E,261µm,0.4s
SOI Samo 1.23 124 ⇓iP Pn 21 35 53.2 +0.4
SOI S S 21 36 23.6 -1.3
SOI AML AML
comp=E,392µm,0.6s
SOI AML AML
comp=N,454µm,0.6s
SOI AML AML
comp=N,454µm,0.6s
SOI AML AML
comp=E,392µm,1.4s
SOI AML AML
comp=N,454µm,1.4s
SOI AML AML
comp=E,392µm,0.6s
SOI AML AML
comp=N,454µm,0.6s
CAR1 CAROLEI 1.23 66 ⇓iP Pn 21 35 53.3 +0.4
CAR1 S S 21 36 24.5 -0.5
CAR1 AML AML
comp=E,1155µm,0.5s
CAR1 AML AML
comp=N,1420µm,0.7s
CAR1 AML AML
comp=E,1160µm,0.5s
CAR1 AML AML
comp=N,1420µm,0.7s
CAR1 AML AML
comp=E,1195µm,0.5s
CAR1 AML AML
comp=N,1630µm,0.7s
CAR1 AML AML
comp=E,1195µm,1.5s
CAR1 AML AML
comp=E,1160µm,1.5s
CAR1 AML AML
comp=N,1420µm,0.7s
CAR1 AML AML
comp=N,1628µm,0.7s
CAR1 AML AML
comp=E,1158µm,0.5s
CAR1 AML AML
comp=E,1198µm,0.5s
USI Ustica 1.24 268 ⇓iP Pn 21 35 53.5 +0.7
USI S S 21 36 24.5 -0.4
RESU Resuttano 1.24 207 P Pn 21 35 53.9 +0.8
RESU AML AML
comp=E,132µm,0.5s
RESU AML AML
comp=N,170µm,0.6s
RESU AML AML
comp=E,132µm,0.5s
ALJA Alia 1.28 218 ⇓iP Pn 21 35 53.7 +0.5
ALJA S S 21 36 26.0 +0.4
ALJA AML AML
comp=E,410µm,1.0s
ALJA AML AML
comp=N,300µm,0.7s
ALJA AML AML
comp=N,308µm,1.0s
ALJA AML AML
comp=N,308µm,1.0s
ALJA AML AML
comp=E,410µm,1.0s
ALJA AML AML
comp=E,307µm,0.8s
ALJA AML AML
comp=N,299µm,0.7s
GRIS Grisolia 1.30 41 P Pn 21 35 54.2 +1.0
GRIS S S 21 36 25.5 -0.1
GRI Girifalco 1.30 87 P Pn 21 35 54.2 +1.0
GRI S S 21 36 25.2 -0.4
GRI AML AML
comp=E,476µm,1.6s
GRI AML AML
comp=N,524µm,0.5s
GRI AML AML
comp=E,476µm,0.4s
GRI AML AML
comp=N,524µm,1.5s
GRI AML AML
comp=E,420µm,0.5s
GRI AML AML
comp=N,523µm,0.5s
SPS2 Spezzano della 1.34 66 P Pn 21 35 54.3 +0.9
SPS2 S S 21 36 25.7 -0.4
SPS2 AML AML
comp=E,217µm,1.2s
SPS2 AML AML
comp=N,234µm,1.4s
SPS2 AML AML
comp=N,234µm,0.6s
SPS2 AML AML
comp=E,207µm,0.8s
SPS2 AML AML
comp=N,202µm,0.4s
PLAC Placanica 1.35 103 ⇓iP Pn 21 35 54.1 +0.5
PLAC S S 21 36 24.6 -1.7
PLAC AML AML
comp=E,468µm,0.5s
PLAC AML AML
comp=N,485µm,0.7s
PLAC AML AML
comp=E,478µm,0.7s
PLAC AML AML
comp=N,509µm,0.5s
PLAC AML AML
comp=E,468µm,1.5s
PLAC AML AML
comp=N,509µm,1.5s
PLAC AML AML
comp=N,485µm,1.3s
PLAC AML AML
comp=E,478µm,1.3s
PLAC AML AML
comp=N,509µm,0.5s
PLAC AML AML
comp=E,468µm,0.5s
PLAC AML AML
comp=N,485µm,0.7s
PLAC AML AML
comp=E,477µm,0.7s
BULG Bulgheria - Ca 1.40 20 P Pn 21 35 55.2 +1.4
HLNI Lentini 1.41 176 ⇓iP Pn 21 35 53.8 -0.1
HLNI AML AML
comp=N,74µm,1.5s
HLNI AML AML
comp=E,63µm,0.2s
HLNI AML AML
comp=N,74µm,0.5s
HLNI AML AML
comp=N,73µm,0.8s
CPTP Pietraperzia 1.43 199 P Pn 21 35 55.7 +1.6
CPTP AML AML
comp=E,126µm,1.3s
CPTP AML AML
comp=N,156µm,1.2s
CPTP AML AML
comp=E,126µm,0.7s
CPTP AML AML
comp=N,156µm,0.8s
CPTP AML AML
comp=E,127µm,1.3s
CPTP AML AML
comp=N,156µm,1.2s
CORL Corleone 1.43 233 ⇓iP Pn 21 35 54.0 -0.1
CORL S S 21 36 27.1 -0.2
CORL AML AML
comp=E,288µm,0.6s
CORL AML AML
comp=N,569µm,0.4s
CORL AML AML
comp=N,569µm,0.4s
CUC Castrocucco 1.48 33 Pn 21 35 55.7 +1.4
CUC Castrocucco 1.48 33 P Pn 21 35 55.8 +1.4
CUC AML AML
comp=E,50µm,1.6s
CUC AML AML
comp=N,38µm,0.8s
CUC AML AML
comp=E,50µm,0.4s
HAGA Augusta 1.50 168 ⇓iP Pn 21 35 54.6 0.0
HAGA S S 21 36 27.5 -0.6
HAGA AML AML
comp=E,110µm,1.6s
HAGA AML AML
comp=N,118µm,0.8s
HAGA AML AML
comp=E,110µm,0.4s
HAGA AML AML
comp=N,118µm,0.8s
CELI Celico 1.50 64 P Pn 21 35 55.9 +1.3
CELI S S 21 36 28.4 +0.3
CELI AML AML
comp=E,746µm,1.5s
CELI AML AML
comp=N,1026µm,0.9s
CELI AML AML
comp=N,518µm,0.8s
CELI AML AML
comp=E,696µm,0.5s
CELI AML AML
comp=E,304µm,0.6s
CELI AML AML
comp=N,1028µm,0.9s
MGR Morigerati 1.51 24 P Pn 21 35 55.8 +1.4
TDS Terranova Siba 1.52 53 P Pn 21 35 56.1 +1.6
TDS AML AML
comp=E,218µm,1.2s
TDS AML AML
comp=N,108µm,1.6s
TDS AML AML
comp=N,108µm,0.4s
TDS AML AML
comp=E,218µm,0.8s
TDS AML AML
comp=N,100µm,1.1s
TDS AML AML
comp=E,180µm,1.1s
AGST Augusta-Monte 1.54 166 P Pn 21 35 54.9 0.0
RAFF Raffo Rosso 1.57 192 Pn 21 35 55.3 +0.2
RAFF Raffo Rosso 1.57 192 P Pn 21 35 55.2 +0.2
HVZN Vizzini 1.58 181 P Pn 21 35 55.4 +0.2
CMPR Campora 1.61 15 P Pn 21 35 56.5 +1.3
TIP Timpagrande 1.61 74 Pn 21 35 56.2 +0.9
TIP Sn S 21 36 28.9 -0.5
TIP Timpagrande 1.61 74 ⇓iP Pn 21 35 56.3 +1.0
TIP S S 21 36 28.5 -0.9
TIP AML AML
comp=N,693µm,0.7s
TIP AML AML
comp=E,369µm,1.3s
TIP AML AML
comp=N,696µm,0.7s
TIP AML AML
comp=E,358µm,0.6s
TIP AML AML
comp=N,692µm,0.7s
TIP AML AML
comp=N,695µm,0.7s
TIP AML AML
comp=E,369µm,0.7s
TIP AML AML
comp=N,695µm,0.7s
TIP AML AML
comp=N,693µm,0.7s
TIP AML AML
comp=E,358µm,0.6s
TIP AML AML
comp=E,350µm,0.6s
SSY Sortino 1.62 171 ⇓P Pn 21 35 55.6 +0.1
MBFT Monte Bonifato 1.64 241 ⇓iP Pn 21 35 55.2 -0.3
MBFT S S 21 36 28.0 -1.7
MBFT AML AML
comp=E,134µm,0.5s
MBFT AML AML
comp=N,142µm,1.0s
MBFT AML AML
comp=N,142µm,1.0s
MBFT AML AML
comp=E,134µm,0.5s
SIRI Monte Sirino - 1.66 31 P Pn 21 35 57.2 +1.6
SIRI AML AML
comp=E,71µm,0.8s
SIRI AML AML
comp=N,47µm,0.9s
SIRI AML AML
comp=E,71µm,1.2s
SIRI AML AML
comp=N,47µm,1.1s
SALB San Lorenzo Be 1.66 47 P Pn 21 35 57.3 +1.7
SALB S S 21 36 30.7 +0.6
SALB AML AML
comp=N,98µm,0.8s
SALB AML AML
comp=N,98µm,1.2s
SALB AML AML
comp=E,159µm,1.5s
SALB AML AML
comp=E,156µm,0.4s
SALB AML AML
comp=N,95µm,0.4s
CRJA Costa Raja 1.68 236 ⇓iP Pn 21 35 56.0 +0.2
CRJA S S 21 36 30.1 -0.2
CRJA AML AML
comp=E,278µm,0.9s
CRJA AML AML
comp=N,297µm,0.9s
CRJA AML AML
comp=N,297µm,1.1s
CRJA AML AML
comp=E,277µm,0.9s
CRJA AML AML
comp=N,297µm,0.9s
CLTB Caltabellotta 1.69 226 ⇓iP Pn 21 35 55.8 -0.2
CLTB S S 21 36 30.5 -0.1
CLTB AML AML
comp=N,792µm,0.6s
CLTB AML AML
comp=E,561µm,0.4s
CLTB AML AML
comp=N,792µm,1.4s
CLTB AML AML
comp=N,792µm,0.6s
CLTA Licata 1.72 202 P Pn 21 35 56.5 +0.4
CLTA AML AML
comp=E,156µm,1.3s
CLTA AML AML
comp=N,184µm,1.1s
CLTA AML AML
comp=N,184µm,0.9s
CLTA AML AML
comp=E,156µm,0.7s
CLTA AML AML
comp=N,184µm,1.1s
CLTA AML AML
comp=E,133µm,0.5s
FAVR Favara 1.72 210 P Pn 21 35 57.1 +1.0
FAVR AML AML
comp=E,104µm,0.9s
FAVR AML AML
comp=E,104µm,1.1s
FAVR AML AML
comp=N,248µm,0.9s
FAVR AML AML
comp=N,219µm,0.8s

MFNL Monte Finestre 1.74 237⇓ *i*P Pn 21 35 56.6 +0.3
MFNL S S 21 36 30.7 -0.4
MFNL AML AML
comp=E,378µm,0.7s
MFNL AML AML
comp=N,216µm,0.6s
MFNL AML AML
comp=E,378µm,1.3s
MFNL AML AML
comp=N,209µm,0.6s
MFNL AML AML
comp=E,377µm,0.7s
PIPA Pietrapaola 1.76 65⇓ *i*P Pn 21 35 57.7 +1.5
PIPA S S 21 36 31.5 +0.4
PIPA AML AML
comp=N,343µm,1.2s
PIPA AML AML
comp=N,415µm,0.6s
PIPA AML AML
comp=E,425µm,0.6s
PIPA AML AML
comp=E,470µm,0.6s
PIPA AML AML
comp=N,343µm,0.8s
PIPA AML AML
comp=N,415µm,0.6s
PIPA AML AML
comp=N,337µm,0.6s
PIPA AML AML
comp=E,425µm,0.6s
PIPA AML AML
comp=E,470µm,0.6s
MCEL Monticello 1.76 27 P Pn 21 35 58.6 +2.2
CDRU Civita di Ruta 1.78 14 P Pn 21 35 57.8 +1.3
MMGO Monte Magaggia 1.78 233 P Pn 21 35 56.2 -0.3
SCIAC Sciacca 1.80 227 AML AML
comp=E,142µm,0.5s
SCIAC AML AML
comp=N,140µm,0.5s
SCIAC AML AML
comp=N,140µm,0.5s
ERC Erice 1.85 248 P Pn 21 35 56.9 -0.2
CAVT Castelvetrano 1.91 236⇓ *i*P Pn 21 35 57.6 +0.1
CAVT S S 21 36 32.4 -1.0
CAVT AML AML
comp=E,372µm,0.6s
CAVT AML AML
comp=N,223µm,0.8s
CAVT AML AML
comp=E,372µm,0.6s
CAVT AML AML
comp=N,223µm,0.8s
CROCE Santa Croce Ca 1.93 185 P Pn 21 35 58.3 +0.6
ISPIC ISPICA 1.98 177 P Pn 21 35 58.6 +0.5
MARS Marsala (TP) I 2.00 241 P Pn 21 35 58.8 +0.6
PTRP Pietrapertosa 2.03 29 P Pn 21 36 00.6 +2.1
LEVAN Levanzo 2.05 249 AML AML
comp=N,107µm,1.0s
LEVAN AML AML
comp=E,73µm,0.9s
MCRV Calabrutti - M 2.05 9 P Pn 21 36 00.3 +1.7
CRAC Craco 2.06 38 P Pn 21 36 00.2 +1.6
MRLC Muro Lucano 2.07 16 P Pn 21 36 00.5 +1.8
MTMR Montemarano 2.17 5 P Pn 21 36 01.1 +1.6
ACER Acerenza 2.22 24 Pn 21 36 00.9 +0.9
ACER Acerenza 2.22 24⇑ *i*P Pn 21 36 01.1 +1.1
ACER AML AML
comp=N,84µm,1.6s
ACER AML AML
comp=N,84µm,0.4s
ACER AML AML
comp=E,59µm,0.6s
ACER AML AML
comp=E,127µm,0.7s
ACER AML AML
comp=N,172µm,0.8s
ACER AML AML
comp=E,59µm,0.6s
MIGL Miglionico 2.25 35⇑ *i*P Pn 21 36 00.9 +0.7
MIGL S S 21 36 39.3 +0.9
MIGL AML AML
comp=E,262µm,1.6s
MIGL AML AML
comp=N,325µm,1.1s
MIGL AML AML
comp=E,262µm,0.4s
MIGL AML AML
comp=N,325µm,0.9s
MIGL AML AML
comp=N,265µm,0.7s
MIGL AML AML
comp=E,246µm,0.8s
PAOL Paolisi 2.27 356 Pn Pn 21 36 00.7 +0.2
PALZ Palazzo San Ge 2.37 23 ⇑P Pn 21 36 02.3 +1.0
LTRZ Laterza 2.43 40 ⇑P Pn 21 36 01.9 +0.1
LTRZ S S 21 36 40.6 -0.7
LTRZ AML AML
comp=N,315µm,0.9s
LTRZ AML AML
comp=E,187µm,0.4s
LTRZ AML AML
comp=E,181µm,0.5s
AMUR Altamura 2.57 33 ⇑P Pn 21 36 03.6 +0.5
TAR1 Taranto 2.63 47 P Pn 21 36 03.8 +0.1
TAR1 S S 21 36 42.9 -1.6
TAR1 AML AML
comp=E,148µm,0.4s
TAR1 AML AML
comp=N,228µm,0.5s
TAR1 AML AML
comp=E,148µm,1.6s
TAR1 AML AML
comp=N,228µm,0.5s
TAR1 AML AML
comp=E,147µm,0.4s
NOCI Noci 2.69 40 P Pn 21 36 04.3 0.0
NOCI S S 21 36 44.4 -1.3
NOCI AML AML
comp=E,98µm,0.5s
NOCI AML AML
comp=N,178µm,0.5s
NOCI AML AML
comp=N,178µm,0.5s
NOCI AML AML
comp=E,97µm,0.5s
WDD Wied Dalam 2.92 184 Pn 21 36 07.2 +0.5
SCTE Santa Cesarea 3.16 64 Pn Pn 21 36 09.2 +0.4
SCTE Santa Cesarea 3.16 64 ⇑P Pn 21 36 09.3 +0.4
SCTE S S 21 36 51.4 -2.6
INTR Introdacqua 3.31 349 Pn Pn 21 36 11.7 +1.2
VSL Villasalto 4.25 282 Pn 21 36 21.6 +0.8
VSL Villasalto 4.25 282 ⇑P Pn 21 36 21.5 +0.8
NRCA Norcia 4.26 343 Pn Pn 21 36 21.8 +0.9
DGI Dorgali Grotta 4.28 293 P Pn 21 36 21.2 +0.1
SU26 Carbonia-Igles 4.90 276 P Pn 21 36 29.1 +0.8
PDG Podgorica 5.01 42 Pn 21 36 30.4 +0.9
KEST Kesra 5.27 237 Pn 21 36 33.7 +1.0
KEST Kesra 5.27 237 P Pn 21 36 34.5 +1.7
comp=E,10.0nm,0.8s,baz=358,slow=3.8,SNR=18
FNA Florina 5.48 66 Pn 21 36 35.3 +0.1
ITM Ithomi 5.88 103 Pn Pn 21 36 42.0 +2.0
ZCCA Zocca 6.27 334 Pn 21 36 45.0 +0.4
BOJS Bojanci 6.75 3 *i*P Pn 21 36 51.5 +1.1
MSSA Maissana 6.80 326 Pn Pn 21 36 52.4 +1.3
PRMA PARMA 6.86 332 Pn 21 36 51.9 +0.3
SABO M.te Sabotino 7.27 354 Pn 21 36 55.8 -1.0
LJU Ljubljana 7.28 359 *i*P Pn 21 36 57.5 +0.7
STAL STALIGIAL 7.65 349 Pn 21 37 01.7 +0.3
OBKA Obir 7.75 359 *i*Pn Pn 21 37 03.2 +0.6
comp=E,2.2nm,0.3s,SNR=9.1
OBKA Obir 7.75 359 *e*P Pn 21 37 03.4 +0.7
baz=166,slow=0.0
PERS Pernice 7.88 2 *i*P Pn 21 37 04.8 +0.5
MYKA Terra Mystica 7.91 354 *e*Pn Pn 21 37 05.7 +1.0
comp=E,2.6nm,0.6s
SOKA Soboth 7.92 1 *i*Pn Pn 21 37 05.4 +0.7
comp=E,1.4nm,0.4s,SNR=7.8
MORH Mrgy, Hungar 7.98 20 P Pn 21 37 06.1 +0.6
comp=E,0.0nmcomp=E,2.9nm,1.3s
ABTA Abfaltersbach 8.15 349 *i*Pn Pn 21 37 09.1 +1.4
comp=E,7.1nm,0.7s,SNR=24
KBA Koelnbreinsper 8.38 353 *i*Pn Pn 21 37 11.2 +0.7
comp=E,1.5nm,0.4s
KBA Koelnbreinsper 8.38 353 *e*P Pn 21 37 11.2 +0.7
baz=166,slow=0.0

ARSA Arzberg 8.51 4 Pn 21 37 12.5 +0.5
ARSA Arzberg 8.51 4 *i*Pn Pn 21 37 13.1 +1.1
comp=E,1.0nm,0.5s
FUORN Ofenpass-Fuorn 8.52 339 Pn 21 37 13.2 +0.8
RDO Rodhopi 8.61 71 Pn Pn 21 37 14.5 +1.1
TUE Stuetta 8.68 334 Pn Pn 21 37 14.3 +0.1
FETA Feichten 8.77 342 *i*Pn Pn 21 37 17.1 +1.7
comp=E,21nm,0.6s,SNR=68
DAVOX Davos/Dischmat 8.78 337 P Pn 21 37 16.3 +0.7
comp=E,13nm,0.4s,baz=148,slow=11,SNR=61
LESA Schwarzleotal 8.79 351 *i*Pn Pn 21 37 17.1 +1.6
SNR=5.5
WTTA Wattenberg 8.80 346 *i*Pn Pn 21 37 17.9 +2.1
comp=E,6.8nm,0.7s,SNR=5.9
WTTA Wattenberg 8.80 346 *e*P Pn 21 37 18.0 +2.2
baz=166,slow=0.0
IDI Anoyia 8.81 110 Pn Pn 21 37 18.5 +2.6
IDI Anoyia 8.81 110 P P 21 37 19.3 -2.1
comp=E,5.1nm,0.6s,baz=305,slow=14,SNR=7.7
SQTA Sankt Quirin 8.85 344 *i*Pn Pn 21 37 18.6 +2.4
comp=E,32nm,0.5s,SNR=44
WATA Walderalm 8.88 346 *i*Pn Pn 21 37 18.9 +2.2
comp=E,3.2nm,0.4s,SNR=6.8
ALN Alexandroupoli 8.94 73 Pn Pn 21 37 18.8 +1.4
BIOA Bad Ischl, Aus 8.97 355 *i*Pn Pn 21 37 18.7 +1.0
comp=E,6.6nm,0.8s,SNR=7.9
MOTA Moosalm 8.99 344 *i*Pn Pn 21 37 19.8 +1.7
comp=E,6.0nm,0.6s,SNR=17
RONA Rosalia, Austr 9.01 7 *i*Pn Pn 21 37 19.7 +1.5
comp=E,0.8nm,0.4s
RJOB Jochberg 9.09 352 *e*P Pn 21 37 20.6 +1.4
baz=166,slow=0.0
MOA Molln 9.09 358 *i*Pn Pn 21 37 20.5 +1.2
comp=E,2.1nm,0.4s,SNR=8.7
MOA Molln 9.09 358 *e*P Pn 21 37 20.4 +1.2
baz=166,slow=0.0
PLONS Plons/SG 9.18 336 *e*P Pn 21 37 21.8 +1.5
baz=166,slow=0.0
RETA Reute 9.20 343 *i*Pn Pn 21 37 21.6 +1.0
comp=E,5.0nm,0.3s,SNR=5.3
CONA Conrad Observa 9.20 5 *i*Pn Pn 21 37 21.3 +0.7
comp=E,1.8nm,0.8s
DAVA Damuels 9.24 339 *i*Pn Pn 21 37 22.4 +1.2
comp=E,8.6nm,0.5s,SNR=11
DAVA Damuels 9.24 339 *e*P Pn 21 37 22.4 +1.2
baz=166,slow=0.0
SENIN Lac Senin/Sane 9.38 327 Pn Pn 21 37 23.2 +0.2
WILA Wila 9.65 336 *e*P Pn 21 37 26.5 +0.3
baz=166,slow=0.0
MODS Modra-Piesok 9.78 10 *e*P P 21 37 30.3 -1.7
BALST Balsthal 10.01 331 *e*P Pn 21 37 30.7 +0.2
baz=166,slow=0.0
SSB Saint Sauveur 10.01 314 Pn Pn 21 37 30.6 0.0
SULZ Cheisacher 10.02 333 *e*P Pn 21 37 30.6 0.0
baz=166,slow=0.0
CKRC Cesky Krumlov 10.06 358 *e*P Pn 21 37 31.6 +0.4
SLE Schleitheim 10.09 335 *e*P Pn 21 37 31.4 -0.2
baz=166,slow=0.0
GEC2 GERESS Array S 10.11 356 Pn Pn 21 37 32.2 +0.3
GEC2 GERESS Array S 10.11 356 *e*P Pn 21 37 32.4 +0.5
baz=166,slow=0.0
GERES GERESS Array B 10.11 356 Pn Pn 21 37 32.0 +0.2
GERES GERESS Array B 10.11 356 P Pn 21 37 32.4 +0.5
comp=E,4.9nm,0.8s,baz=172,slow=12,SNR=35
KHC Kasperske Hory 10.40 356 *e*P Pn 21 37 35.8 +0.4
WET Wettzell 10.47 353 *e*P Pn 21 37 36.3 +0.1
baz=166,slow=0.0
TREC Trest 10.55 3 *e*P Pn 21 37 38.4 +1.3
VRAC Vranov 10.63 7 P Pn 21 37 39.2 +1.1
comp=E,6.5nm,0.6s,baz=196,slow=10,SNR=10.0
BFO Black Forest 10.64 336 Pn Pn 21 37 37.9 -0.4
BFO Black Forest 10.64 336 *e*P Pn 21 37 38.3 0.0
baz=166,slow=0.0
MLR Muntele Rosu 10.68 47 P P 21 37 42.3 +0.1
comp=E,3.1nm,0.4s,baz=264,slow=3.7,SNR=13
ZVC Zvikov 10.69 358 *e*P Pn 21 37 40.0 +1.2
MAUC Maruska 10.83 11 *e*P P 21 37 44.9 +1.2
ECH Echery 10.94 332 Pn Pn 21 37 40.9 -1.1
PRU Pruhonice 11.23 359 *e*P P 21 37 47.2 -0.8
PLOR5 Plostina Array 11.30 47 P Pn 21 37 47.2 +0.8
comp=E,4.4nm,2.6s
OKC Ostrava-Krasne 11.34 11 *e*P P 21 37 50.4 +1.1
STEB Steborice 11.38 10 *e*P P 21 37 51.0 +1.3
KRLC Kraliky 11.41 7 *e*P P 21 37 51.3 +1.2
DPC Dobruska-Polom 11.64 5 *e*P P 21 37 54.1 +1.4
DPC Dobruska-Polom 11.64 5 P P 21 37 52.4 -0.3
comp=E,4.0nm,0.8s
BURAR Bucovina Array 11.68 37 P P 21 37 53.4 +0.2
UPC Upice 11.78 4 *e*P P 21 37 53.3 -0.9
OSTC Ostas 11.84 5 *e*P P 21 37 54.3 -0.6
CHVC Chvalec 11.86 4 *e*P P 21 37 54.6 -0.5
MOX Moxa 12.09 350 *e*P P 21 37 58.1 +0.5
baz=166,slow=0.0
KWP Kalvaria Pacla 12.27 25 P P 21 38 00.8 +1.2
comp=E,9.9nm,1.6s
KMPD K-Podol'skiy 12.94 37 P P 21 38 08.9 +1.9
CLF Chambon-Foret 12.96 320 Pn 21 38 05.5 -1.0
KASTN Kahler Asten 13.22 342 *e*P P 21 38 10.5 +0.3
comp=E,3.6nm,0.3s,baz=166,slow=0.0
LUBAR Lubar, Ukraine 14.50 35 P Pn 21 38 26.1 +1.1
ESBB Sonseca Array 14.55 279 P P 21 38 24.5 -0.5
ESDC Sonseca Array 14.55 279 P P 21 38 24.6 -0.4
ESDC Sonseca Array 14.55 279 P Pn 21 38 25.6 -0.2
comp=E,1.8nm,0.8s,baz=79,slow=12,SNR=23
BR106 Keskin Array S 14.65 80 P Pn 21 38 29.2 +2.1
comp=E,2.4nm,1.3s
BRTR Keskin Array B 14.67 80 Pn 21 38 28.9 +1.6
BRTR Keskin Array B 14.67 80 P Pn 21 38 29.9 +2.6
comp=E,1.7nm,0.9s,baz=257,slow=9.9,SNR=6.6
RNPP5 Staryi Chortor 14.72 29 P Pn 21 38 27.5 -0.1
RNPP8 Varash 14.80 28 P Pn 21 38 28.2 -0.3
PAB San Pablo 14.85 279 P P 21 38 28.5 +0.1
RNPP9 Sopachiv 14.87 28 P P 21 38 28.9 +0.6
BZK Bozkurt 15.01 72 P Pn 21 38 31.4 +0.2
comp=E,63nm,1.1s
CSS Mathiatis 15.34 99 P Pn 21 38 36.2 +1.0
CSS IAmb IAmb 21 38 37.3
comp=Z,12nm,1.1s
AK13 Malin Array Si 15.58 36 P Pn 21 38 37.8 0.0
AK14 Malin Array Si 15.62 36 P Pn 21 38 37.9 -0.3
AK06 Malin Array Si 15.63 36 P Pn 21 38 38.6 +0.3
AK17 Malin Array Si 15.63 36 P Pn 21 38 38.1 -0.2
AK19 Malin Array Si 15.64 35 P P 21 38 37.6 +0.9
AK16 Malin Array Si 15.64 36 P Pn 21 38 38.2 -0.3
AK12 Malin Array Si 15.65 36 P Pn 21 38 38.1 -0.4
AK20 Malin Array Si 15.65 35 P Pn 21 38 38.4 -0.1
AK05 Malin Array Si 15.65 36 P Pn 21 38 38.4 -0.2
AK18 Malin Array Si 15.66 36 P Pn 21 38 38.7 0.0
AK15 Malin Array Si 15.67 36 P Pn 21 38 38.6 -0.2
AK11 Malin Array Si 15.68 36 P Pn 21 38 38.7 -0.2
AK02 Malin Array Si 15.68 36 P Pn 21 38 38.7 -0.2
AK08 Malin Array Si 15.69 36 P Pn 21 38 38.8 -0.2
AK22 Malin Array Si 15.69 35 P Pn 21 38 38.9 -0.1
AK01 Malin Array Si 15.71 36 P Pn 21 38 39.0 -0.2
AK04 Malin Array Si 15.71 36 P Pn 21 38 38.9 -0.3
KIEV Kiev 15.71 36 P P 21 38 37.9 +0.4
AKASG Malin Array Be 15.72 36 P Pn 21 38 39.1 -0.2
comp=Z,2.0nm,0.4s,baz=230,slow=9.2,SNR=22
AKBB Malin Array Si 15.72 36 P P 21 38 37.6 0.0
AKBB IAmb IAmb 21 38 40.0
comp=Z,4.8nm,0.9s
AKBB Malin Array Si 15.72 36 P Pn 21 38 39.1 -0.2
AK03 Malin Array Si 15.73 36 P Pn 21 38 39.1 -0.4
SUW Suwalki 16.31 18 P P 21 38 43.6 -0.4
MDT Midelt 16.79 255 P P 21 38 50.4 +0.8
comp=Z,2.2nm,0.8s,baz=87,slow=11,SNR=5.5
MMAI Mont Meron Ar 17.67 103 P Pn 21 39 03.0 +0.5
comp=E,1.1nm,0.5s,baz=305,slow=10,SNR=2.6
PABE Paberze 17.86 17 P P 21 39 00.6 -0.2
NACGM Naroch 18.08 23 *e*P P 21 39 03.1 -0.1
MNK Minsk 18.09 25 *i*P P 21 39 02.4 -0.9
comp=E,12nm,1.0s
MNK *i*P P 21 39 02.4 -0.9
comp=N,8.0nm,0.9s
MNK *i*P P 21 39 02.4 -0.9
comp=Z,14nm,0.9s,baz=215
MNK *i*S S 21 42 14.6 -0.6
MNK *i*LRM MLR 21 47 56.2
comp=E,25nm,13.4s
MNK *i*LRM MLR 21 48 50.0
comp=Z,30nm,14.0s
MNK *i*LRM MLR 21 49 06.7
comp=N,14nm,10.9s
EKA Eskdalemuir Ar 20.49 330 P P 21 39 26.4 -2.3
comp=N,1.1nm,0.6s,baz=115,slow=8.2,SNR=6.6
comp=N,1.1nm,0.6s
HFS Hagfors 21.41 359 P P 21 39 35.7 -1.7
comp=N,2.5nm,0.4s,baz=178,slow=9.4,SNR=28
comp=N,2.5nm,0.4s
NC602 NORSAR Array S 22.09 356 P P 21 39 42.5 -1.2
NC602 IAmb IAmb 21 39 51.9
comp=Z,6.8nm,1.1s
NAO01 NORSAR Array S 22.24 355 P P 21 39 43.7 -1.4
NB2 NORSAR Subarra 22.41 355 P P 21 39 45.2 -1.5
comp=Z,1.1nm,0.5s,baz=175,slow=11
NOA NORSAR Array B 22.41 355 P P 21 39 45.8 -0.9
comp=Z,0.7nm,0.6s,baz=174,slow=9.0,SNR=6.2
comp=Z,0.7nm,0.6s
FINES FINESS Array B 23.77 14 P P 21 39 58.0 -0.9
FINES FINESS Array B 23.77 14 P P 21 39 58.2 -0.7
comp=Z,2.8nm,0.3s,baz=186,slow=8.4,SNR=67
comp=Z,2.8nm,0.3s
FIA1 FINESS Array S 23.77 14 P P 21 39 58.1 -0.8
FIA1 IAmb IAmb 21 40 06.7
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 28.02 208 P P 21 40 38.5 +1.2
comp=Z,0.3nm,0.4s,baz=19,slow=9.6,SNR=5.9
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 31.37 7 P P 21 41 04.6 -1.6
ARCES ARCESS Array B 31.37 7 P P 21 41 04.7 -1.5
comp=Z,0.7nm,0.3s,baz=191,slow=9.0,SNR=20
comp=Z,0.7nm,0.3s
ARTI Arti 33.60 44 P P 21 41 25.6 -0.1
ARTI IAmb IAmb 21 41 26.5
comp=Z,3.5nm,0.8s
AB31 Akbulak array 33.69 57 P P 21 41 27.0 +0.5
ABKAR Akbulak array 33.69 57 P P 21 41 27.2 +0.8
SPITS Spitsbergen Ar 39.53 1 P P 21 42 14.7 -0.5
comp=Z,1.6nm,0.5s,baz=180,slow=8.8,SNR=10
comp=Z,1.6nm,0.5s
BVAR Borovoye Array 40.23 51 P P 21 42 22.7 +1.6
comp=Z,0.6nm,0.6s,baz=268,slow=7.3,SNR=5.0
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 45.51 53 P P 21 43 03.7 +0.4
comp=Z,2.5nm,0.2s,baz=282,slow=9.0,SNR=4.3
comp=Z,2.5nm,0.2s
ZALV Zalesovo Beam 48.66 48 P P 21 43 27.7 +0.3
comp=Z,0.6nm,0.3s,baz=288,slow=8.0,SNR=3.4
comp=Z,0.6nm,0.3s
MKAR Makanchi Array 48.83 58 P P 21 43 29.5 +0.7
MKAR Makanchi Array 48.83 58 P P 21 43 29.7 +0.9
comp=Z,0.9nm,0.4s,baz=285,slow=7.0,SNR=24
comp=Z,0.9nm,0.4s
A36M Sachs Harbour 66.03 347 P P 21 45 28.4 +0.6
IMAR Indian Mountai 75.21 355 P P 21 46 24.0 +1.0

RHSSO 17 21:36:17.7±0.4, 43.45N×17.68E, h6km, ML1.4/6, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TREB	**Trebinje**	**0.89**	**146**	*e*Pg		Pg	21 36 33.0	-1.7
TREB				*e*Sg		Sg	21 36 46.4	+0.3
KIJV	**Kijevo**	**1.07**	**301**	*e*Pg		Pg	21 36 37.2	-1.1
KIJV				*e*Sg		Sg	21 36 51.8	-0.5
RUDO	**Rudo**	**1.24**	**82**	*e*Sg		Sg	21 36 57.4	-0.2
A050A	**Klekovaca**	**1.32**	**322⇑**	*i*Pg		Pn	21 36 41.6	-1.1
A050A				*e*Sg		Sb	21 36 59.8	-0.3
BLY	**Banja Luka**	**1.34**	**345**	*e*Pg		Pn	21 36 42.0	-1.0
BLY				*e*Sg		Sb	21 36 59.8	-0.9
A051A	**Mrakovica**	**1.66**	**341⇑**	*i*Pn		Pn	21 36 47.2	-0.1
A051A				*e*Sn		Sn	21 37 08.8	-0.1

*IDC **17**21:54:00.2±0.5, 31.18S×177.37W, h0km, mb4.4/14, mbtmp4.3/15, ML3.6/1, MS3.8/7, Error ellipse: s-maj=19.6km s-min=14.6km az=80.0*
*NEIC **17**21:54:02.1±1.2, 31.25S±0.07×177.4W±0.1, h10km±1km, mb4.8/27, Error ellipse: s-maj=19.7km s-min=11.2km az=72.0*

ISC 17 21:54:01.6±0.4, 31.24S±0.05×177.53W±0.09, h10km, n86, σ1§03/81, mb4.8/32, MS3.8/7, 4C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**2.01**	**350**			**Pn**	**21 54 34.5**	**-1.1**
RAO				Sn		**Sn**	**21 54 58.2**	**-2.6**
RAO	**Raoul Island**	**2.01**	**350**	Pn		**Pn**	**21 54 34.7**	**-0.8**
	120nm,0.3s,baz=183,slow=6.0,SNR=13							
RAO				Sn		**Sb**	**21 55 02.1**	**-1.2**
	308nm,0.3s,baz=112,slow=22,SNR=11							
URZ	**Urewera**	**8.27**	**211**	Pn		**Pn**	**21 55 59.4**	**-2.1**
	1.6nm,0.3s,baz=294,slow=9.7,SNR=7.1							
URZ				Sn		**Sn**	**21 57 32.4**	**-2.7**
	3.8nm,0.3s,baz=141,slow=18,SNR=8.3							
CTZ	**Chatham Island**	**12.49**	**177**	Pn		**Pn**	**21 56 57.3**	**-2.1**
RPZ	**Rata Peaks**	**15.38**	**213**	Pn		**Pn**	**21 57 35.0**	**-3.6**
	0.9nm,0.3s,baz=304,slow=3.9,SNR=5.4							
DZM	**Mont Dzumac**	**16.97**	**299**			**Pn**	**21 57 60.0**	**+0.7**
DZM	**Mont Dzumac**	**16.97**	**299**	*e*Pn		**Pn**	**21 57 56.0**	**-3.3**
	87nm,1.7s							
DZM				*e*LR		LR	22 01 53.8	
	405nm,27.1s							
DZM	**Mont Dzumac**	**16.97**	**299**	P		**Pn**	**21 58 00.1**	**+0.9**
	0.2nm,0.3s,baz=71,slow=15,SNR=5.3							
	3.9nm,0.9s							
RAR	**Rarotonga**	**18.78**	**62**	LR		LR	22 05 01.8	
	comp=Z,197nm,19.1s,baz=288,slow=36							
TBI	**Tubuai**	**26.10**	**79**	*e*LR		LR	22 05 48.4	
	1µm,28.8s							
TBI				*e*LR		LR	22 05 57.4	
	701nm,26.8s							
EIDS	**Eidsvold**	**28.19**	**274**			**P**	**21 59 55.5**	**+1.1**
PPT2	**Papeete2**	**28.76**	**68**	*e*LR		LR	22 06 59.6	
	107nm,22.5s							
PPT2				*e*LR		LR	22 07 05.5	
	129nm,22.2s							
PPT	**Papeete**	**28.77**	**68**	LR		LR	22 10 52.6	
	comp=Z,209nm,18.1s,baz=82,slow=35							
CTAO	**Charters Tower**	**34.34**	**280**			**P**	**22 00 49.6**	**+1.0**
CTAO				IAmb	IAmb		22 00 54.4	
	comp=Z,10nm,0.8s							
STKA	**Stephens Creek**	**34.69**	**258**	P		**P**	**22 00 52.5**	**+0.9**
STKA	**Stephens Creek**	**34.69**	**258**	P		**P**	**22 00 53.8**	**+2.2**
	comp=Z,7.7nm,0.8s,baz=93,slow=10,SNR=11							
	comp=Z,7.7nm,0.8s							
BBOO	**Buckleboo**	**39.14**	**255**	P		**P**	**22 01 29.7**	**+0.3**
TAOE	**Nuku Hiva Isla**	**41.28**	**65**	*e*LR		LR	22 13 02.1	
	comp=Z,146nm,23.4s							
AS31	**Alice Springs**	**43.47**	**268**	P		**P**	**22 02 05.7**	**+0.5**
ASAR	**Alice Springs**	**43.47**	**268**	P		**P**	**22 02 05.2**	**0.0**
ASAR	**Alice Springs**	**43.47**	**268**	P		**P**	**22 02 06.2**	**+1.0**
	comp=Z,5.3nm,0.8s,baz=103,slow=7.4,SNR=49							
ASAR				PcP		**PcP**	**22 03 54.1**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=123,slow=5.0,SNR=4.9							
	comp=Z,5.3nm,0.8s							
WRA	**Warramunga Arr**	**44.54**	**273**			**P**	**22 02 13.9**	**+0.2**
WRA	**Warramunga Arr**	**44.54**	**273**	P		**P**	**22 02 14.3**	**+0.6**
	comp=Z,5.7nm,0.7s,baz=113,slow=7.7,SNR=58							
WRA				PcP		**PP**	**22 03 57.8**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=122,slow=3.2,SNR=2.2							
	comp=Z,5.7nm,0.7s							
WB0	**Warramunga Arr**	**44.56**	**273**	P		**P**	**22 02 14.2**	**+0.2**
WB0				IAmb	IAmb		22 02 46.4	
	comp=Z,9.3nm,0.8s							
SBA	**Scott Base**	**47.23**	**184**	P		**P**	**22 02 34.2**	**0.0**
SBA				IAmb	IAmb		22 03 04.1	
	comp=Z,8.4nm,1.1s							
VNDA	**Vanda**	**47.30**	**186**	P		**P**	**22 02 35.9**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=349,slow=8.2,SNR=7.3							
	comp=Z,0.8nm,0.8s							
KNRA	**Kununurra**	**51.17**	**275**	P		**P**	**22 03 05.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.77**	**270**	P		**P**	**22 03 16.9**	**-0.2**
CASY	**Casey**	**54.59**	**208**	P		**P**	**22 03 29.9**	**+0.2**
CASY				IAmb	IAmb		22 03 46.0	
	comp=Z,9.0nm,0.8s							
RPN	**Rapa Nui**	**58.83**	**105**	LR		LR	22 25 09.0	
	comp=Z,72nm,18.6s,baz=262,slow=32							
QSPA	**South Pole Qui**	**58.87**	**180**			**P**	**22 04 01.0**	**+0.6**
QSPA	**South Pole Qui**	**58.87**	**180**	P		**P**	**22 04 01.8**	**+1.5**
	comp=Z,9.7nm,0.9s,baz=38,slow=1.7,SNR=30							
	comp=Z,9.7nm,0.9s							
BELA	**Belgrano 2**	**68.90**	**172**	P		**P**	**22 05 05.8**	**-0.3**
BELA				IAmb	IAmb		22 05 34.2	
	comp=Z,13nm,1.5s							
PMSA	**Palmer Station**	**71.33**	**155**	LR		LR	22 31 52.0	
	comp=Z,72nm,19.2s,baz=163,slow=32							
MAW	**Mawson**	**71.67**	**201**	P		**P**	**22 05 23.6**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=134,slow=6.0,SNR=4.9							

	comp=Z,3.1nm,1.0s								
SYO	**Syowa Base**	**76.39**	**193**	⇑*e*P		pP		22 05 54.0	+1.9
SNAA	**Sanae**	**77.31**	**178**	⇑P		**P**		**22 05 56.2**	**+0.3**
	comp=Z,114nm,1.1s								
SNAA	**Sanae**	**77.31**	**178**			**P**		**22 05 55.7**	**-0.2**
SNAA				IAmb		IAmb		22 05 57.3	
	comp=Z,6.6nm,1.0s								
SNAA	**Sanae**	**77.31**	**178**	P		**P**		**22 05 56.7**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=211,slow=3.8,SNR=11								
	comp=Z,3.8nm,0.9s								
VNA3	**Neumayer Olymp**	**77.44**	**176**	⇑P		**P**		**22 05 57.2**	**+0.6**
	comp=Z,11nm,0.7s								
VNA1	**Neumayer--Stat**	**78.11**	**176**	⇑P		**P**		**22 06 01.0**	**+0.8**
	comp=Z,11nm,0.8s								
MJAR	**Matsushiro Arr**	**79.16**	**325**	P		**P**		**22 06 06.9**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=167,slow=4.5,SNR=5.3								
	comp=Z,1.7nm,1.0s								
PLCA	**Paso Flores**	**81.64**	**133**	P		**P**		**22 06 18.7**	**-1.4**
	comp=Z,3.1nm,1.0s,baz=210,slow=6.7,SNR=4.4								
PLCA				LR		LR		22 35 07.2	
	comp=Z,60nm,18.2s,baz=184,slow=30								
	comp=Z,3.1nm,1.0s								
KSRS	**Korea Array**	**85.25**	**319**	P		**P**		**22 06 39.0**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=145,slow=4.8,SNR=5.4								
	comp=Z,1.6nm,0.9s								
NJ2	**Nanjing**	**87.10**	**310**	*e*P		**P**		**22 06 48.8**	**+1.2**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.5s								
CMB	**Columbia Colle**	**87.12**	**42**			**P**		**22 06 47.3**	**-0.3**
CMB				IAmb		IAmb		22 06 49.1	
	comp=Z,6.8nm,1.1s								
CLC	**China Lake**	**87.24**	**45**	P		**P**		**22 06 48.4**	**0.0**
CLC				IAmb		IAmb		22 06 50.2	
	comp=Z,7.6nm,1.0s								
IRM	**Iron Mountain**	**87.66**	**47**			**P**		**22 06 49.6**	**-0.7**
IRM				IAmb		IAmb		22 06 52.1	
	comp=Z,6.7nm,1.2s								
QSM	**Queen of Sheba**	**87.78**	**45**	P		**P**		**22 06 51.5**	**+0.6**
QSM				IAmb		IAmb		22 06 52.6	
	comp=Z,6.6nm,1.2s								
USRK	**Ussuriysk Ar.**	**88.08**	**326**	P		**P**		**22 06 52.3**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=115,slow=2.3,SNR=4.8								
	comp=Z,3.8nm,0.9s								
NVAR	**Mina Array Bea**	**88.58**	**42**			**P**		**22 06 54.6**	**-0.2**
NVAR	**Mina Array Bea**	**88.58**	**42**	P		**P**		**22 06 55.0**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=221,slow=7.0,SNR=11								
	comp=Z,2.3nm,0.9s								
TPNV	**Topopah Spring**	**88.81**	**45**	P		**P**		**22 06 56.2**	**+0.3**
TPNV				IAmb		IAmb		22 07 10.3	
	comp=Z,4.7nm,1.0s								
TPH	**Tonopah**	**88.97**	**43**	P		**P**		**22 06 56.9**	**+0.2**
PRN	**Pahroc Range**	**89.83**	**45**			**P**		**22 07 00.3**	**-0.3**
PRN				IAmb		IAmb		22 07 03.1	
	comp=Z,8.1nm,1.2s								
J05D	**Fort Rock, OR**	**90.31**	**37**	P		**P**		**22 07 03.0**	**+0.2**
J05D				IAmb		IAmb		22 07 17.1	
	comp=Z,9.7nm,1.3s								
LCMT	**Little Creek M**	**90.68**	**46**	P		**P**		**22 07 04.9**	**+0.3**
PINE	**Pine Mountain**	**90.82**	**37**			**P**		**22 07 05.3**	**+0.1**
PINE				IAmb		IAmb		22 07 07.0	
	comp=Z,6.1nm,1.0s								
BNX	**BinXian**	**91.43**	**325**	⇓P		**P**		**22 07 09.3**	**+1.7**
BNX				pmax		pmax			
	comp=Z,5.0nm,0.8s								
TXAR	**Lajitas Array**	**92.50**	**57**	P		**P**		**22 07 13.6**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=193,slow=5.1,SNR=5.5								
	comp=Z,0.9nm,1.0s								
PZH	**PanZhiHua**	**96.05**	**297**	P		**P**		**22 07 31.1**	**+1.5**
PDAR	**Pinedale Array**	**96.47**	**43**	P		**P**		**22 07 30.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=220,slow=3.9,SNR=4.4								
	comp=Z,0.3nm,0.6s								
HHC	**Hu-ho-hao-te**	**97.11**	**314**	*e*P		Pdif		22 07 35.6	+1.5
HHC				pmax		pmax			
	comp=Z,20nm,0.7s								
HHC				pmax		pmax			
	comp=Z,42nm,6.1s								
HHC				LR		LR			
	comp=N,140nm,17.5s								
HHC				LR		LR			
	comp=E,240nm,17.1s								
HHC				LR		LR			
	comp=Z,260nm,18.0s								
LPAZ	**La Paz**	**97.43**	**114**	LR		LR		22 43 00.3	
	comp=Z,35nm,20.4s,baz=126,slow=30								
CPUP	**Villa Florida**	**99.15**	**128**	LR		LR		22 47 47.0	
	comp=Z,18nm,18.4s,baz=38,slow=33								
MKAR	**Makanchi Array**	**118.62**	**310**	PKP		**PKPdf**		**22 12 48.8**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=106,slow=2.1,SNR=3.7								
KURBB	**Kurchatov Arra**	**121.96**	**313**	PKP		**PKPdf**		**22 12 55.3**	**-0.5**
	comp=Z,1.2nm,0.2s,baz=108,slow=1.8,SNR=5.7								
BVAR	**Borovoye Array**	**127.29**	**315**	PKP		**PKPdf**		**22 13 05.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=96,slow=2.6,SNR=5.0								
ARCES	**ARCESS Array B**	**139.49**	**348**	PKP		**PKiKP**		**22 13 29.7**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=37,slow=2.2,SNR=4.0								
KBZ	**Khabaz**	**145.91**	**303**	PKPbc		**PKPab**		**22 13 42.1**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=176,slow=3.8,SNR=6.1								
FIA1	**FINESS Array S**	**146.07**	**340**	PKPdf		**PKPdf**		**22 13 40.5**	**+0.4**
FINES	**FINESS Array B**	**146.07**	**340**	PKPdf		**PKPdf**		**22 13 40.2**	**+0.1**
FINES	**FINESS Array B**	**146.07**	**340**	PKPbc		**PKPdf**		**22 13 40.6**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=53,slow=3.1,SNR=35								
OBN	**Obninsk**	**146.09**	**325**	PKPbc		**PKPab**		**22 13 41.9**	**+0.1**
	comp=Z,9.6nm,0.5s,baz=301,slow=7.1,SNR=8.4								
GEVA	**Gevas**	**146.13**	**293**	PKPbc		**PKPab**		**22 13 43.1**	**+0.2**
NB2	**NORSAR Subarra**	**149.64**	**352**	PKP		**PKPbc**		**22 13 50.5**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=20,slow=3.0								
NOA	**NORSAR Array B**	**149.64**	**352**	PKPbc		**PKPbc**		**22 13 50.1**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=19,slow=2.8,SNR=6.4								
HFS	**Hagfors**	**150.15**	**349**	PKPbc		**PKPbc**		**22 13 51.9**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=106,slow=3.2,SNR=5.1								
PABE	**Paberze**	**151.38**	**334**	PKPbc		**PKPbc**		**22 13 54.8**	**-0.1**
MMAI	**Mount Meron Ar**	**152.11**	**282**	PKPbc		**PKiKP**		**22 13 58.4**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=101,slow=2.9,SNR=4.6								
AKASG	**Malin Array Be**	**152.21**	**322**	PKPbc		**PKPbc**		**22 13 56.4**	**-0.6**
AKASG	**Malin Array Be**	**152.21**	**322**	PKPbc		**PKPbc**		**22 13 56.6**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=47,slow=2.6,SNR=7.9								
BRTR	**Keskin Array B**	**153.35**	**297**	PKPbc		**PKiKP**		**22 14 00.8**	**+0.5**
	comp=Z,1.6nm,1.1s,baz=132,slow=2.1,SNR=5.2								
GERES	**GERESS Array B**	**160.47**	**337**	PKPab		**PKPab**		**22 14 42.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=43,slow=4.6,SNR=3.5								
TORD	**Torodi Ar. Bea**	**161.98**	**178**	PKP		**PKPdf**		**22 14 03.1**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=262,slow=1.5,SNR=3.6								
TORD				PKPab		**PKPab**		**22 14 49.0**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=199,slow=1.7,SNR=5.1								
ESDC	**Sonseca Array**	**170.09**	**30**	PKPab		**PKPab**		**22 15 24.5**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=322,slow=3.5,SNR=4.7								

CATAC 17 21:59:46.8±1.6, 11°N±10°×8°7W±°, h21km±6km, M2.7/10, MLv2.7/10, Error ellipse: s-maj=26.1km s-min=5.9km az=32.9, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**0.74**	**33**	P	Pb	21 59 59.8	-1.2
NANN	**Nandasmo**	**0.81**	**45**	P	Pn	22 00 03.7	+0.6
COPN	**Copaltepe**	**0.82**	**8**	P	Pn	22 00 03.0	-0.2
JAPN	**Al SSO del Vol**	**1.02**	**81**	P	Pn	22 00 06.3	+0.3
MORN	**Al O del Volca**	**1.06**	**80**	P	Pb	22 00 06.2	-0.3
MOM2	**El Cardon**	**1.09**	**12**	P	Pb	22 00 07.2	+0.2
CNGA	**Al SSO del Vol**	**1.13**	**0**	P	Pn	22 00 07.3	-0.1
POLN	**Al Sur del Vol**	**1.28**	**355**	P	Pn	22 00 09.6	-0.1
BOAB	**BOACO BROADBAN**	**1.49**	**43**	P	Pn	22 00 12.5	+0.1
CSGN	**Cosiguina Volc**	**1.81**	**333**	P	Pn	22 00 17.2	+0.3
CSGN				S	Sn	22 00 39.3	0.0
RCPN	**Sur Rio San Ju**	**2.23**	**16**	P	Pn	22 00 23.0	+0.2

*IDC **17** 22:01:36.8±1.1, 44°.02N×12°.09E, h0km, mb3.8/3, mbtmp3.6/10, ML3.2/7, MS2.8/6, Error ellipse: s-maj=25.8km s-min=11.4km az=112.0*
*GEN **17** 22:01:36.4, 43°.95N×11°.80E, h3km, Ml3.4*
*ROM **17** 22:01:36.6±0.1, 43°.922N±0°.003×11°.834E±0°.004, h7km, ML3.5/235, Mw3.4, Error ellipse: s-maj=0.3km s-min=0.2km az=42.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.40; $M_{\theta\theta}$1.20; $M_{\phi\phi}$0.20; $M_{r\theta}$0.51; $M_{\theta\phi}$-0.71; $M_{\phi r}$-0.43; Fault plane solution: $M_0$1.62947×10^{14} NP1:φs303.00000°, δ57.00000°, λ-83.00000°. NP2:φs111.00000°, δ34.00000°, λ-100.00000°.*
*PDG **17** 22:01:37.1±1.1, 43°.94N×11°.86E, h16km±1km, ML3.8/9 Error ellipse: s-maj=1.0km s-min=1.1km az=0.0*
*BEO **17** 22:01:37.8±2.6, 44°.08N×11°.41E, h39km±7km, ML3.5/9*
*PRU **17** 22:01:38.2, 43°.88N×12°.15E, h10km*
*LDG **17** 22:01:38.4±0.1, 43°.86N×11°.84E, h7km, Ml3.5/40, Error ellipse: s-maj=3.0km s-min=2.3km az=39.0*
ISC 17 22:01:37.4±0.7, 43°.92N±0°.01×11°.83E±0°.01, h8km±4km, n252, σ1s81/412, mb3.9/3, 14C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFI	**Santa Sofia**	**0.02**	**128**	⇑*i*P	**Pg**	**22 01 38.2**	**-0.8**
SFI				S	**Sg**	**22 01 39.0**	**-1.0**
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
SFI				AML	AML		
ASQU	**Asqua**	**0.12**	**193**	P	**Pg**	**22 01 40.1**	**0.0**
ASQU				S	**Sg**	**22 01 43.0**	**+0.9**
ASQU	**Asqua**	**0.12**	**193**	⇑*i*P	**Pg**	**22 01 40.1**	**0.0**
ASQU				S	**Sg**	**22 01 42.0**	**-0.1**
ASQU				AML	AML		
	comp=N,87500μm,0.6s						
ASQU				AML	AML		
	comp=E,49100μm,0.6s						
ASQU				AML	AML		
	comp=N,87486μm,0.6s						
LMD	**Lutirano**	**0.18**	**332**	P	**Pg**	**22 01 40.6**	**-0.6**
LMD				S	**Sg**	**22 01 43.8**	**0.0**
LMD	**Lutirano**	**0.18**	**332**	⇑*i*P	**Pg**	**22 01 40.6**	**-0.6**
LMD				S	**Sg**	**22 01 43.6**	**-0.2**
LMD				AML	AML		
	comp=E,46650μm,1.4s						
LMD				AML	AML		
	comp=N,89450μm,0.2s						
LMD				AML	AML		
	comp=E,45875μm,0.2s						
LMD				AML	AML		
	comp=N,89446μm,0.2s						
RUFI	**Rufina**	**0.24**	**252**	P	**Pg**	**22 01 42.1**	**-0.1**
RUFI				S	**Sg**	**22 01 46.6**	**+1.1**
RUFI	**Rufina**	**0.24**	**252**	⇑*i*P	**Pg**	**22 01 42.1**	**-0.1**
RUFI				S	**Sg**	**22 01 46.4**	**+0.9**
RUFI				AML	AML		
	comp=E,37050μm,1.0s						
RUFI				AML	AML		
	comp=N,43650μm,0.4s						
RUFI				AML	AML		
	comp=E,37100μm,1.0s						
RUFI				AML	AML		
	comp=N,43600μm,0.4s						
RUFI				AML	AML		
	comp=E,37100μm,1.0s						
RUFI				AML	AML		
	comp=N,43621μm,0.4s						
RUFI				AML	AML		
	comp=E,30800μm,0.5s						
CRE	**Caprese Michel**	**0.31**	**163**	⇑*i*P	**Pg**	**22 01 43.4**	**-0.2**
CRE				S	**Sg**	**22 01 49.0**	**+1.3**
CRE				AML	AML		
	comp=E,14850μm,0.9s						
CRE				AML	AML		
	comp=N,39950μm,0.3s						
CRE				AML	AML		
	comp=E,14850μm,1.1s						
CRE				AML	AML		
	comp=E,12169μm,0.3s						
CRE				AML	AML		
	comp=N,39971μm,0.3s						
BRIS	**BRISIGHELLA**	**0.33**	**316**	⇑*i*P	**Pg**	**22 01 43.4**	**-0.4**
BRIS				S	**Sg**	**22 01 48.9**	**+0.7**
BRIS				AML	AML		
	comp=N,56200μm,0.4s						
BRIS				AML	AML		
	comp=E,72350μm,0.3s						
BRIS				AML	AML		
	comp=E,68700μm,0.4s						
BRIS				AML	AML		
	comp=N,60150μm,0.4s						
BRIS				AML	AML		
	comp=E,68715μm,0.4s						
BRIS				AML	AML		
	comp=N,56203μm,0.4s						
BRIS				AML	AML		
	comp=E,72359μm,0.3s						
BRIS				AML	AML		
	comp=N,60120μm,0.4s						
SEI	**Scarperia**	**0.37**	**292**	P	**Pg**	**22 01 44.2**	**-0.4**
SEI				S	**Sg**	**22 01 50.6**	**+1.1**
SEI	**Scarperia**	**0.37**	**292**	⇓*i*P	**Pg**	**22 01 44.3**	**-0.4**
SEI				S	**Sg**	**22 01 50.4**	**+0.9**
SEI				AML	AML		
	comp=E,36700μm,0.4s						
SEI				AML	AML		
	comp=N,66600μm,0.4s						
SEI				AML	AML		
	comp=E,36700μm,1.6s						
SEI				AML	AML		
	comp=N,66568μm,0.4s						
SEI				AML	AML		
	comp=E,36736μm,0.4s						
CPGN	**Carpegna, Ital**	**0.38**	**108**	P	**Pg**	**22 01 45.1**	**+0.3**
CPGN				S	**Sb**	**22 01 51.2**	**-1.2**
CPGN				AML	AML		
	comp=E,6770μm,0.3s						
CPGN				AML	AML		
	comp=N,8310μm,1.6s						
CPGN				AML	AML		
	comp=E,7405μm,1.6s						
CPGN				AML	AML		
	comp=N,7695μm,1.3s						
CPGN				AML	AML		
	comp=N,8315μm,1.6s						
CPGN				AML	AML		
	comp=E,6770μm,0.3s						
CPGN				AML	AML		
	comp=N,7695μm,0.7s						
CPGN				AML	AML		
	comp=N,7594μm,0.4s						
CPGN				AML	AML		
	comp=E,6127μm,0.6s						
CPGN				AML	AML		
	comp=N,7838μm,0.7s						
CPGN				AML	AML		
	comp=E,6772μm,0.3s						
PARC	**Parchiule**	**0.40**	**132**	⇑P	**Pg**	**22 01 44.9**	**-0.4**
PARC				S	**Sb**	**22 01 51.8**	**-1.3**
PARC				AML	AML		
	comp=E,4200μm,0.6s						
PARC				AML	AML		
	comp=N,4950μm,0.6s						
PARC				AML	AML		
	comp=N,4950μm,1.4s						
PARC				AML	AML		
	comp=N,4949μm,0.6s						
PARC				AML	AML		
	comp=E,4202μm,0.6s						
SSP9	**Sansepolcro**	**0.41**	**147**	P	**Pg**	**22 01 45.1**	**-0.2**
SSP9				S	**Sb**	**22 01 52.0**	**-1.2**
SSP9				AML	AML		
	comp=E,5990μm,0.3s						
SSP9				AML	AML		
	comp=E,5985μm,0.3s						
SSP9				AML	AML		
	comp=N,6785μm,1.3s						
SSP9				AML	AML		
	comp=E,5988μm,0.3s						
SSP9				AML	AML		
	comp=N,5284μm,0.5s						
BRSN	**Barisano**	**0.41**	**26**	⇑P	**Pg**	**22 01 45.7**	**+0.3**
BRSN				AML	AML		
	comp=N,20600μm,1.0s						
BRSN				AML	AML		
	comp=N,21400μm,1.0s						
BRSN				AML	AML		
	comp=E,24750μm,0.6s						
BRSN				AML	AML		
	comp=E,24400μm,0.6s						
BRSN				AML	AML		
	comp=E,24774μm,0.6s						
BRSN				AML	AML		
	comp=N,21411μm,1.0s						
BRSN				AML	AML		
	comp=N,20580μm,1.0s						
BRSN				AML	AML		
	comp=E,24402μm,0.6s						
IMOL	**Imola, Italy**	**0.45**	**352**	P	**Pg**	**22 01 46.5**	**+0.4**
IMOL				S	**Sb**	**22 01 55.5**	**+1.1**
IMOL	**Imola, Italy**	**0.45**	**352**	P	**Pg**	**22 01 46.6**	**+0.4**
IMOL				S	**Sb**	**22 01 53.2**	**-1.2**
IMOL				AML	AML		
	comp=E,17600μm,0.9s						
IMOL				AML	AML		
	comp=N,14600μm,0.5s						
IMOL				AML	AML		
	comp=E,17600μm,1.1s						
IMOL				AML	AML		
	comp=E,17594μm,0.9s						
IMOL				AML	AML		
	comp=N,14580μm,0.5s						
RSM	**Repubblica di**	**0.45**	**88**	⇑P	**Pg**	**22 01 46.6**	**+0.4**
RSM				S	**Sb**	**22 01 53.3**	**-1.2**
RSM				AML	AML		
	comp=N,8210μm,0.8s						
RSM				AML	AML		
	comp=E,9220μm,1.1s						
RSM				AML	AML		
	comp=N,8213μm,0.8s						
RSM				AML	AML		
	comp=E,9245μm,1.1s						
MOCL	**Monte Cuccoli**	**0.48**	**281**	P	**Pg**	**22 01 46.3**	**-0.4**
MOCL				S	**Sg**	**22 01 53.8**	**+0.9**
MOCL				AML	AML		
	comp=E,7640μm,0.4s						
MOCL				AML	AML		
	comp=N,8100μm,0.6s						
MOCL				AML	AML		
	comp=N,8100μm,1.4s						
MOCL				AML	AML		
	comp=N,8100μm,0.6s						
MOCL				AML	AML		
	comp=E,5685μm,0.5s						
SAIV	**Sant'Angelo In**	**0.49**	**120**	P	**Pg**	**22 01 46.5**	**-0.5**
SAIV				S	**Sb**	**22 01 55.3**	**-0.4**
BADI	**Badiali**	**0.51**	**143**	P	**Pg**	**22 01 46.7**	**-0.5**
BADI				S	**Sb**	**22 01 55.3**	**-0.8**
BADI				AML	AML		
	comp=E,5065μm,0.8s						
BADI				AML	AML		
	comp=E,5060μm,0.8s						
BADI				AML	AML		
	comp=N,4030μm,1.6s						
BADI				AML	AML		
	comp=N,4030μm,0.4s						
BADI				AML	AML		
	comp=N,3753μm,0.5s						
BADI				AML	AML		
	comp=E,4522μm,0.4s						
BLLA	**Bellaria**	**0.52**	**64**	P	**Pg**	**22 01 47.4**	**0.0**
BLLA				S	**Sg**	**22 01 54.6**	**+0.4**
BLLA				AML	AML		
	comp=E,6325μm,1.5s						
BLLA				AML	AML		
	comp=N,6805μm,1.5s						
BLLA				AML	AML		
	comp=E,6320μm,1.5s						
BLLA				AML	AML		
	comp=N,6805μm,0.5s						
BLLA				AML	AML		
	comp=N,6194μm,0.5s						
BLLA				AML	AML		
	comp=E,5768μm,0.4s						
MTRZ	**Monterenzio**	**0.53**	**331**	P	**Pg**	**22 01 47.4**	**-0.3**
MTRZ	**Monterenzio**	**0.53**	**331**	P	**Pg**	**22 01 47.6**	**-0.1**
MTRZ				S	**Sg**	**22 01 54.2**	**-0.4**
MTRZ				AML	AML		
	comp=N,11400μm,1.4s						
MTRZ				AML	AML		
	comp=N,11090μm,1.4s						
MTRZ				AML	AML		
	comp=N,11400μm,0.6s						
MTRZ				AML	AML		
	comp=N,11090μm,0.6s						
MTRZ				AML	AML		
	comp=E,10985μm,0.4s						
MTRZ				AML	AML		
	comp=E,11530μm,0.4s						
MTRZ				AML	AML		
	comp=N,10996μm,0.5s						
MTRZ				AML	AML		
	comp=E,10972μm,0.4s						
MTRZ				AML	AML		
	comp=N,11343μm,0.5s						
MTRZ				AML	AML		
	comp=E,11537μm,0.4s						
PE3	**Peglio**	**0.53**	**114**	P	**Pg**	**22 01 47.7**	**0.0**
PE3				AML	AML		
	comp=N,16500μm,0.5s						
PE3				AML	AML		
	comp=E,34550μm,0.4s						
PE3				AML	AML		
	comp=E,34555μm,0.4s						
PE3				AML	AML		
	comp=N,16503μm,0.5s						
MPPT	**Montemurlo**	**0.53**	**275**	P	**Pg**	**22 01 47.4**	**-0.4**
MPPT				S	**Sg**	**22 01 55.8**	**+1.0**
MPPT				AML	AML		
	comp=E,7690μm,0.6s						
MPPT				AML	AML		
	comp=N,12850μm,0.5s						
MPPT				AML	AML		
	comp=E,7692μm,0.6s						
MPPT				AML	AML		
	comp=N,12862μm,0.5s						
ATMC	**Monte Cedrone**	**0.54**	**150**	P	**Pg**	**22 01 47.5**	**-0.4**
ATMC				S	**Sb**	**22 01 56.1**	**-1.0**
CDCA	**Citt' di Caste**	**0.54**	**147**	P	**Pg**	**22 01 48.0**	**+0.1**
APEC	**Apecchio**	**0.56**	**130**	P	**Pg**	**22 01 47.8**	**-0.4**
APEC				S	**Sb**	**22 01 56.6**	**-1.0**
OSSC	**Osservatorio P**	**0.58**	**227**	P	**Pg**	**22 01 48.1**	**-0.4**
OSSC	**Osservatorio P**	**0.58**	**227**	P	**Pg**	**22 01 48.3**	**-0.2**
OSSC				S	**Sb**	**22 01 57.2**	**-0.9**
OSSC				AML	AML		
	comp=E,9170μm,0.6s						
OSSC				AML	AML		
	comp=N,5990μm,0.4s						
OSSC				AML	AML		
	comp=N,9190μm,0.6s						
OSSC				AML	AML		
	comp=E,9170μm,0.6s						
OSSC				AML	AML		
	comp=E,5795μm,0.4s						
OSSC				AML	AML		
	comp=N,5995μm,0.4s						
OSSC				AML	AML		
	comp=E,9170μm,1.4s						
OSSC				AML	AML		
	comp=N,9190μm,1.4s						
OSSC				AML	AML		
	comp=N,9215μm,0.6s						
OSSC				AML	AML		
	comp=E,5796μm,0.4s						
OSSC				AML	AML		
	comp=E,9168μm,0.6s						
OSSC				AML	AML		
	comp=N,5994μm,0.4s						
CSNT	**Castellina Chi**	**0.59**	**221**	P	**Pg**	**22 01 48.3**	**-0.5**
CSNT	**Castellina Chi**	**0.59**	**221**	⇑P	**Pg**	**22 01 48.3**	**-0.5**
CSNT				S	**Sg**	**22 01 57.4**	**+0.9**
CSNT				AML	AML		
	comp=E,4275μm,0.9s						
CSNT				AML	AML		
	comp=N,6300μm,1.3s						
CSNT				AML	AML		
	comp=N,6300μm,0.7s						
CSNT				AML	AML		
	comp=E,4275μm,1.1s						
CSNT				AML	AML		
	comp=E,3994μm,0.6s						
CSNT				AML	AML		
	comp=N,5773μm,0.5s						
CAFI	**Castiglion Fio**	**0.59**	**170**	P	**Pg**	**22 01 48.6**	**-0.3**
CAFI				S	**Sb**	**22 01 57.8**	**-0.9**
CAFI				AML	AML		
	comp=E,4220μm,0.6s						
CAFI				AML	AML		
	comp=N,3790μm,0.6s						
CAFI				AML	AML		
	comp=E,4375μm,0.6s						
CAFI				AML	AML		
	comp=N,4075μm,0.6s						
CAFI				AML	AML		
	comp=E,4222μm,0.6s						
CAFI				AML	AML		
	comp=N,3790μm,0.6s						
CAFI				AML	AML		
	comp=N,4074μm,0.6s						
CAFI				AML	AML		
	comp=E,4373μm,0.6s						

ATPC	**Poggio Castell**	**0.63**	**133**	P	**Pg**	**22 01 49.0**	**-0.6**
ATPC				S	**Sb**	**22 01 58.9**	**-0.8**
CRMI	**Carmignano**	**0.63**	**259**	P	**Pg**	**22 01 49.1**	**-0.5**
CRMI				S	**Sg**	**22 01 58.7**	**+0.8**
CRMI				AML	AML		
	comp=E,6275µm,0.6s						
CRMI				AML	AML		
	comp=N,2390µm,0.5s						
CRMI				AML	AML		
	comp=E,6280µm,0.6s						
CRMI				AML	AML		
	comp=N,5955µm,0.5s						
CRMI				AML	AML		
	comp=E,2645µm,0.6s						
CRMI				AML	AML		
	comp=N,5955µm,0.5s						
CRMI				AML	AML		
	comp=E,2647µm,0.6s						
CRMI				AML	AML		
	comp=N,2390µm,0.5s						
CRMI				AML	AML		
	comp=E,6278µm,0.6s						
PIEI	**Pieia**	**0.64**	**126**	P	**Pg**	**22 01 48.8**	**-0.9**
PIEI				S	**Sg**	**22 01 58.3**	**+0.2**
PIEI				AML	AML		
	comp=E,1795µm,0.7s						
PIEI				AML	AML		
	comp=N,1280µm,1.2s						
PIEI				AML	AML		
	comp=N,1280µm,0.8s						
PIEI				AML	AML		
	comp=N,1113µm,0.3s						
PIEI				AML	AML		
	comp=E,1641µm,0.3s						
ATMI	**Monte Miggiano**	**0.66**	**151**	P	**Pg**	**22 01 49.9**	**-0.3**
ATMI				S	**Sb**	**22 02 00.4**	**-0.2**
ATMI				AML	AML		
	comp=N,8465µm,0.5s						
ATMI				AML	AML		
	comp=E,7760µm,0.4s						
ATMI				AML	AML		
	comp=E,7762µm,0.4s						
ATMI				AML	AML		
	comp=N,8466µm,0.5s						
CMPO	**Campotto Po**	**0.67**	**359**	P	**Pg**	**22 01 50.4**	**+0.1**
ATBU	**Serra di Buran**	**0.68**	**130**	P	**Pg**	**22 01 50.1**	**-0.4**
ATBU				S	**Sg**	**22 02 00.3**	**+0.8**
ATVA	**AVT- Monte Val**	**0.72**	**152**	P	**Pg**	**22 01 50.5**	**-0.8**
ATVA				S	**Sb**	**22 02 01.9**	**-0.3**
ATLO	**AVT- Montelove**	**0.73**	**145**	P	**Pg**	**22 01 51.0**	**-0.6**
ATLO				S	**Sg**	**22 02 01.6**	**+0.5**
MPAG	**Monte Paganucc**	**0.73**	**113**	P	**Pg**	**22 01 50.5**	**-1.1**
MPAG				S	**Sb**	**22 02 02.0**	**-0.7**
MPAG				AML	AML		
	comp=E,1850µm,0.3s						
MPAG				AML	AML		
	comp=E,1660µm,0.3s						
MPAG				AML	AML		
	comp=N,1650µm,0.7s						
MPAG				AML	AML		
	comp=E,1850µm,0.4s						
MPAG				AML	AML		
	comp=N,1710µm,1.0s						
MPAG				AML	AML		
	comp=N,1658µm,0.6s						
MPAG				AML	AML		
	comp=E,1850µm,0.3s						
MPAG				AML	AML		
	comp=E,1660µm,0.3s						
MPAG				AML	AML		
	comp=N,1646µm,0.7s						
ZCCA	**Zocca**	**0.75**	**306**	P	**Pb**	**22 01 53.0**	**+0.2**
ZCCA	**Zocca**	**0.75**	**306**	P	**Pg**	**22 01 51.5**	**-0.3**
ZCCA				AML	AML		
	comp=E,1500µm,0.8s						
ZCCA				AML	AML		
	comp=E,1550µm,0.9s						
ZCCA				AML	AML		
	comp=E,1495µm,0.8s						
ZCCA				AML	AML		
	comp=N,1620µm,0.8s						
ZCCA				AML	AML		
	comp=N,1735µm,0.8s						
ZCCA				AML	AML		
	comp=N,1733µm,0.8s						
ZCCA				AML	AML		
	comp=E,1551µm,0.9s						
ZCCA				AML	AML		
	comp=E,1499µm,0.8s						
ZCCA				AML	AML		
	comp=N,1620µm,0.8s						
FIU	**Minerbio Fiu**	**0.76**	**342**	P	**Pg**	**22 01 51.7**	**-0.4**
FIU				AML	AML		
	comp=N,11050µm,0.6s						
FIU				AML	AML		
	comp=E,9595µm,0.4s						
FIU				AML	AML		
	comp=N,11047µm,0.6s						
FIU				AML	AML		
	comp=E,9602µm,0.4s						
FRON	**Frontone**	**0.76**	**121**	P	**Pg**	**22 01 47.8**	**-4.4**
FRON				S	**Sb**	**22 02 02.8**	**-0.7**
ATFO	**Monte Foce - G**	**0.77**	**135**	P	**Pg**	**22 01 51.3**	**-0.9**
ATFO				S	**Sg**	**22 02 02.9**	**+0.6**
ATFO				AML	AML		
	comp=N,2405µm,0.4s						
ATFO				AML	AML		
	comp=E,3565µm,0.6s						
ATFO				AML	AML		
	comp=E,3565µm,1.4s						
ATFO				AML	AML		
	comp=E,3567µm,0.6s						
ATFO				AML	AML		
	comp=N,2405µm,0.4s						
POPM	**Popiglio**	**0.78**	**280**	P	**Pg**	**22 01 51.8**	**-0.7**
POPM				S	**Sb**	**22 02 03.8**	**-0.3**
POPM	**Popiglio**	**0.78**	**280**	P	**Pg**	**22 01 51.9**	**-0.6**
POPM				S	**Sb**	**22 02 03.7**	**-0.4**
POPM				AML	AML		
	comp=N,2565µm,0.4s						
POPM				AML	AML		
	comp=E,2405µm,0.8s						
POPM				AML	AML		
	comp=N,2565µm,1.6s						
POPM				AML	AML		
	comp=E,2405µm,1.2s						
POPM				AML	AML		
	comp=N,2563µm,0.4s						
POPM				AML	AML		
	comp=E,2407µm,0.8s						
ATSC	**Scheggia e Pas**	**0.79**	**128**	P	**Pg**	**22 01 51.9**	**-0.8**
ATSC				S	**Sg**	**22 02 03.1**	**+0.1**
SSFR	**Montelago di S**	**0.84**	**124**	P	**Pg**	**22 01 52.5**	**-1.1**
SSFR				AML	AML		
	comp=E,3365µm,0.2s						
SSFR				AML	AML		
	comp=N,2680µm,0.7s						
SSFR				AML	AML		
	comp=E,3265µm,0.7s						
SSFR				AML	AML		
	comp=N,2495µm,0.5s						
SSFR				AML	AML		
	comp=E,3365µm,1.8s						
SSFR				AML	AML		
	comp=E,3364µm,0.3s						
SSFR				AML	AML		
	comp=E,3174µm,0.3s						
SSFR				AML	AML		
	comp=N,2457µm,0.4s						
SSFR				AML	AML		
	comp=N,2498µm,0.5s						
COR1	**Corinaldo**	**0.90**	**108**	P	**Pg**	**22 01 54.3**	**-0.3**
COR1				S	**Sg**	**22 02 06.6**	**+0.3**
COR1				AML	AML		
	comp=N,5500µm,0.8s						
COR1				AML	AML		
	comp=E,3520µm,0.6s						
COR1				AML	AML		
	comp=N,5545µm,0.8s						
COR1				AML	AML		
	comp=E,3520µm,1.4s						
COR1				AML	AML		
	comp=N,5545µm,1.2s						
COR1				AML	AML		
	comp=N,5500µm,1.2s						
COR1				AML	AML		
	comp=E,6840µm,0.6s						
COR1				AML	AML		
	comp=N,5499µm,0.8s						
COR1				AML	AML		
	comp=E,3521µm,0.6s						
COR1				AML	AML		
	comp=E,6843µm,0.6s						
BDI	**Bagni Di Lucca**	**0.90**	**280**	P	**Pg**	**22 01 53.9**	**-0.8**
BDI				S	**Sb**	**22 02 07.1**	**-0.4**
BDI	**Bagni Di Lucca**	**0.90**	**280**	P	**Pg**	**22 01 53.9**	**-0.8**
BDI				S	**Sb**	**22 02 07.1**	**-0.4**
BDI				AML	AML		
	comp=N,2685µm,1.1s						
BDI				AML	AML		
	comp=E,2235µm,0.5s						
BDI				AML	AML		
	comp=N,2680µm,0.9s						
BDI				AML	AML		
	comp=N,2685µm,0.9s						
BDI				AML	AML		
	comp=N,2680µm,1.1s						
BDI				AML	AML		
	comp=E,2290µm,1.1s						
BDI				AML	AML		
	comp=E,2130µm,0.8s						
BDI				AML	AML		
	comp=N,2530µm,0.7s						
BDI				AML	AML		
	comp=E,2236µm,0.5s						
BDI				AML	AML		
	comp=N,2348µm,0.9s						
ARVD	**Arcevia**	**0.91**	**117**	P	**Pg**	**22 01 54.0**	**-0.9**
ARVD				S	**Sg**	**22 02 07.0**	**+0.3**
ARVD				AML	AML		
	comp=E,1148µm,1.6s						
ARVD				AML	AML		
	comp=E,1152µm,1.6s						
ARVD				AML	AML		
	comp=N,1205µm,0.7s						
ARVD				AML	AML		
	comp=E,1152µm,0.4s						
ARVD				AML	AML		
	comp=N,1205µm,0.7s						
ARVD				AML	AML		
	comp=E,984µm,0.4s						
PII	**Pisa**	**0.96**	**259**	P	**Pg**	**22 01 55.4**	**-0.5**
PII				S	**Sg**	**22 02 08.4**	**0.0**
PII	**Pisa**	**0.96**	**259**	P	**Pg**	**22 01 55.4**	**-0.5**
PII				AML	AML		
	comp=E,3575µm,0.6s						
PII				AML	AML		
	comp=N,3780µm,0.7s						
PII				AML	AML		
	comp=E,3575µm,1.4s						
PII				AML	AML		
	comp=N,3779µm,0.7s						
PII				AML	AML		
	comp=E,3575µm,0.6s						
MAIM	**Mastiano**	**0.96**	**270**	P	**Pg**	**22 01 55.5**	**-0.5**
MAIM				S	**Sb**	**22 02 09.2**	**0.0**
MAIM	**Mastiano**	**0.96**	**270**	P	**Pg**	**22 01 55.7**	**-0.2**
MAIM				S	**Sg**	**22 02 08.6**	**+0.1**
CARD	**Cardoso**	**0.98**	**277**	P	**Pg**	**22 01 55.7**	**-0.5**
CARD				S	**Sb**	**22 02 09.3**	**-0.4**
CARD	**Cardoso**	**0.98**	**277**	P	**Pg**	**22 01 55.7**	**-0.5**
CARD				S	**Sb**	**22 02 09.4**	**-0.3**
CARD				AML	AML		
	comp=E,1990µm,0.6s						
CARD				AML	AML		
	comp=N,2670µm,1.1s						
CARD				AML	AML		
	comp=N,2670µm,0.9s						
CARD				AML	AML		
	comp=N,2245µm,0.8s						
CARD				AML	AML		
	comp=E,1991µm,0.6s						
RAVA	**Ravarino**	**0.98**	**329**	P	**Pb**	**22 01 56.7**	**0.0**
GSCL	**Gusciola**	**0.99**	**296**	P	**Pg**	**22 01 56.3**	**-0.2**
GSCL				S	**Sg**	**22 02 09.6**	**+0.2**
FERS	**Ferrara-Casagl**	**1.01**	**348**	P	**Pg**	**22 01 55.8**	**-1.0**
MGAB	**Montegabbione**	**1.02**	**168**	P	**Pg**	**22 01 56.7**	**-0.4**
MGAB				AML	AML		
	comp=E,3490µm,0.5s						
MGAB				AML	AML		
	comp=E,3480µm,0.5s						
MGAB				AML	AML		
	comp=N,4235µm,0.5s						
MGAB				AML	AML		
	comp=E,3480µm,1.5s						
MGAB				AML	AML		
	comp=N,3715µm,0.6s						
MGAB				AML	AML		
	comp=N,3713µm,0.6s						
MGAB				AML	AML		
	comp=N,4235µm,0.5s						
MGAB				AML	AML		
	comp=E,3490µm,1.5s						
MGAB				AML	AML		
	comp=E,3485µm,0.5s						
SNTG	**Esanatoglia**	**1.04**	**129**	P	**Pg**	**22 01 56.9**	**-0.6**
SNTG				AML	AML		
	comp=E,1555µm,0.8s						
SNTG				AML	AML		
	comp=N,1440µm,0.4s						
SNTG				AML	AML		
	comp=E,1430µm,1.0s						
SNTG				AML	AML		
	comp=N,1375µm,1.0s						
SNTG				AML	AML		
	comp=E,1555µm,1.2s						
SNTG				AML	AML		
	comp=E,1554µm,0.8s						
SNTG				AML	AML		
	comp=N,1374µm,1.0s						
SNTG				AML	AML		
	comp=E,1389µm,0.7s						
SNTG				AML	AML		
	comp=N,1440µm,0.4s						
SARO	**Sassorosso**	**1.06**	**285**	P	**Pg**	**22 01 57.6**	**-0.3**
VLC	**Villacollemand**	**1.07**	**284**	P	**Pg**	**22 01 57.3**	**-0.6**
VLC	**Villacollemand**	**1.07**	**284**	P	**Pg**	**22 01 57.3**	**-0.6**
VLC				S	**Sg**	**22 02 11.6**	**-0.2**
VLC				AML	AML		
	comp=E,856µm,1.6s						
VLC				AML	AML		
	comp=N,1340µm,1.2s						
VLC				AML	AML		
	comp=E,846µm,1.6s						
VLC				AML	AML		
	comp=N,1345µm,1.2s						
VLC				AML	AML		
	comp=N,1345µm,0.8s						
VLC				AML	AML		
	comp=N,1340µm,0.8s						
VLC				AML	AML		
	comp=N,1338µm,1.2s						
VLC				AML	AML		
	comp=E,802µm,0.7s						
VLC				AML	AML		
	comp=N,1349µm,1.1s						
VLC				AML	AML		
	comp=E,820µm,0.8s						
SACS	**San Casciano d**	**1.07**	**177**	P	**Pg**	**22 01 57.4**	**-0.5**
SACS				S	**Sg**	**22 02 11.8**	**0.0**
SACS				AML	AML		
	comp=E,1655µm,0.7s						
SACS				AML	AML		
	comp=N,1910µm,0.5s						
SACS				AML	AML		
	comp=E,1520µm,1.2s						
SACS				AML	AML		
	comp=N,2045µm,0.5s						
SACS				AML	AML		
	comp=E,1658µm,0.7s						
SACS				AML	AML		
	comp=N,1908µm,0.5s						
SACS				AML	AML		
	comp=E,1439µm,0.7s						
SACS				AML	AML		
	comp=N,2046µm,0.5s						
SF04	**Casetta**	**1.09**	**186**	P	**Pg**	**22 01 57.9**	**-0.4**
SF04				AML	AML		
	comp=E,13µm,2.4s						
SF04				AML	AML		
	comp=N,25µm,4.1s						
ARCI	**Arcidosso**	**1.09**	**194**	P	**Pg**	**22 01 57.6**	**-0.8**
ARCI				AML	AML		
	comp=E,1174µm,0.7s						
ARCI				AML	AML		
	comp=N,2365µm,0.8s						
ARCI				AML	AML		
	comp=N,2455µm,0.8s						
ARCI				AML	AML		
	comp=N,2455µm,1.2s						
ARCI				AML	AML		
	comp=N,2365µm,1.2s						
ARCI				AML	AML		
	comp=E,1345µm,0.8s						
ARCI				AML	AML		
	comp=E,1174µm,0.7s						
ARCI				AML	AML		
	comp=E,1343µm,0.8s						
ARCI				AML	AML		
	comp=N,2365µm,0.8s						
EL6	**Elcito**	**1.10**	**122**	P	**Pg**	**22 01 57.7**	**-0.8**
EL6				AML	AML		
	comp=E,3385µm,0.8s						
EL6				AML	AML		
	comp=N,3330µm,0.5s						
EL6				AML	AML		
	comp=N,3329µm,0.5s						
EL6				AML	AML		
	comp=E,3388µm,0.8s						
CAVE	**Cavezzo**	**1.12**	**328**	P	**Pg**	**22 01 57.2**	**-1.7**
SF01	**Poggio Pratacc**	**1.12**	**190**	P	**Pg**	**22 01 58.5**	**-0.4**
SF01				AML	AML		
	comp=N,1535µm,0.5s						
SF01				AML	AML		
	comp=E,1095µm,0.6s						
SF01				AML	AML		
	comp=E,1095µm,0.6s						
SF01				AML	AML		
	comp=N,1538µm,0.5s						
RIBO	**Ribolla Roccas**	**1.12**	**211**	P	**Pg**	**22 01 58.1**	**-0.8**
RIBO	**Ribolla Roccas**	**1.12**	**211**	AML	AML		
	comp=E,1106µm,0.7s						
ADRI	**Adria, Italy**	**1.13**	**7**	*e*Pg	**Pn**	**22 01 59.3**	**-0.2**
ADRI				*e*Sg	**Sn**	**22 02 15.6**	**+0.4**
SERM	**Sermide**	**1.16**	**341**	P	**Pn**	**22 02 00.6**	**+0.7**
SERM	**Sermide**	**1.16**	**341**	P	**Pg**	**22 01 58.3**	**-1.4**
SERM				AML	AML		
	comp=E,9400µm,1.2s						
SERM				AML	AML		
	comp=N,8910µm,0.7s						
SERM				AML	AML		
	comp=N,3025µm,1.0s						
SERM				AML	AML		
	comp=E,3890µm,0.4s						
SERM				AML	AML		
	comp=E,3891µm,0.4s						
SERM				AML	AML		
	comp=N,2996µm,0.8s						
SERM				AML	AML		
	comp=N,8798µm,0.4s						
SERM				AML	AML		
	comp=E,8319µm,0.4s						
NDIM	**Novi di Modena**	**1.18**	**326**	P	**Pg**	**22 01 58.2**	**-1.8**
NDIM				S	**Sg**	**22 02 14.6**	**-0.7**
NDIM				AML	AML		
	comp=E,4140µm,0.8s						
NDIM				AML	AML		
	comp=N,6195µm,1.5s						
NDIM				AML	AML		
	comp=E,4250µm,0.8s						
NDIM				AML	AML		
	comp=N,6195µm,1.4s						
NDIM				AML	AML		
	comp=E,4250µm,1.2s						
NDIM				AML	AML		
	comp=E,4140µm,1.2s						
NDIM				AML	AML		
	comp=N,6195µm,0.5s						
NDIM				AML	AML		
	comp=N,6195µm,0.6s						
NDIM				AML	AML		
	comp=N,5320µm,1.1s						
NDIM				AML	AML		
	comp=E,4252µm,0.8s						
NDIM				AML	AML		
	comp=E,4138µm,0.8s						
NDIM				AML	AML		
	comp=N,4990µm,1.1s						
EQUI	**Equi**	**1.23**	**282**	P	**Pb**	**22 02 00.1**	**-0.9**
FDMO	**Fiordimonte**	**1.27**	**133**	P	**Pn**	**22 02 00.4**	**-1.1**
FDMO				AML	AML		
	comp=E,1185µm,0.9s						
FDMO				AML	AML		
	comp=N,1208µm,0.9s						
FDMO				AML	AML		
	comp=N,1208µm,1.1s						
FDMO				AML	AML		
	comp=N,1021µm,0.5s						
FDMO				AML	AML		
	comp=E,1102µm,0.6s						
SBPO	**S.Benedetto Po**	**1.31**	**331**	P	**Pg**	**22 02 04.4**	**+1.9**
CASP	**Castiglione de**	**1.33**	**212**	P	**Pn**	**22 02 00.7**	**-1.5**
CASP				S	**Sb**	**22 02 18.9**	**-0.8**
CASP				AML	AML		
	comp=E,466µm,0.8s						
CASP				AML	AML		
	comp=N,572µm,0.6s						
CASP				AML	AML		
	comp=N,572µm,0.6s						
CASP				AML	AML		
	comp=E,466µm,0.8s						
PRMA	**PARMA**	**1.38**	**308**	P	**Pb**	**22 02 03.4**	**0.0**
GRAM	**Graiana**	**1.39**	**295**	P	**Pn**	**22 02 02.9**	**-0.3**
GRAM				AML	AML		
	comp=E,1685µm,0.4s						
GRAM				AML	AML		
	comp=N,1785µm,1.6s						
GRAM				AML	AML		
	comp=N,1785µm,0.4s						
GRAM				AML	AML		
	comp=E,1684µm,0.4s						
GRAM				AML	AML		
	comp=N,1646µm,0.6s						
MC2	**Monte Cornacci**	**1.41**	**135**	P	**Pn**	**22 02 02.4**	**-1.2**
CESX	**Cesi**	**1.42**	**157**	P	**Pn**	**22 02 02.6**	**-0.8**
CESX				AML	AML		
	comp=N,1860µm,0.7s						
CESX				AML	AML		
	comp=N,1860µm,1.3s						
CESX				AML	AML		
	comp=E,1455µm,0.6s						
CESX				AML	AML		
	comp=E,1455µm,0.6s						
CESX				AML	AML		
	comp=N,1861µm,0.7s						
PLMA	**Palmaria, Port**	**1.43**	**276**	P	**Pn**	**22 02 02.7**	**-1.0**
PLMA				S	**Sn**	**22 02 22.3**	**-0.3**
OPPE	**Oppeano**	**1.47**	**342**	P	**Pn**	**22 02 03.4**	**-0.8**
OPPE				S	**Sn**	**22 02 23.5**	**-0.1**
MMO1	**Montemonaco**	**1.49**	**132**	P	**Pn**	**22 02 04.0**	**-0.6**
BARO	**Barbarano Roma**	**1.68**	**174**	P	**Pn**	**22 02 06.6**	**-0.4**
BARO				AML	AML		
	comp=E,476µm,0.6s						
BARO				AML	AML		
	comp=N,648µm,0.7s						
BARO				AML	AML		
	comp=E,7550µm,1.6s						
BARO				AML	AML		
	comp=N,7260µm,1.6s						
BARO				AML	AML		
	comp=N,7260µm,0.4s						
BARO				AML	AML		
	comp=E,476µm,1.4s						
BARO				AML	AML		
	comp=E,7550µm,0.4s						
BARO				AML	AML		
	comp=E,476µm,0.6s						
BARO				AML	AML		
	comp=E,14754µm,5.9s						
BARO				AML	AML		
	comp=N,9003µm,2.5s						
BARO				AML	AML		
	comp=N,648µm,1.3s						
IESO	**Jesolo**	**1.69**	**18**	*e*Pg	**Pn**	**22 02 06.6**	**-0.5**
BRJN	**Brijuni**	**1.70**	**54**	*e*Pn	**Pn**	**22 02 06.1**	**-1.2**
MSSA	**Maissana**	**1.71**	**284**	P	**Pn**	**22 02 06.7**	**-0.9**
MSSA				AML	AML		
	comp=E,613µm,0.7s						
MSSA				AML	AML		
	comp=E,613µm,1.3s						
MSSA				AML	AML		

comp=N,830µm,1.0s
MSSA AML AML
comp=N,830µm,1.0s
MSSA AML AML
comp=E,613µm,0.7s
RM33 Pellescritta (1.73 144 P Pn 22 02 07.5 -0.5
RM33 AML AML
comp=E,760µm,0.9s
RM33 AML AML
comp=E,710µm,0.9s
RM33 AML AML
comp=N,592µm,0.8s
RM33 AML AML
comp=N,576µm,0.9s
RM33 AML AML
comp=N,591µm,0.8s
RM33 AML AML
comp=N,575µm,0.9s
RM33 AML AML
comp=E,669µm,0.8s
RM33 AML AML
comp=E,642µm,0.8s
ROVR Rover Verones 1.81 343 P Pn 22 02 08.3 -0.7
ROVR S Sb 22 02 32.9 -0.9
ROVR AML AML
comp=E,1324µm,0.7s
ROVR AML AML
comp=E,532µm,0.6s
ROVR AML AML
comp=N,676µm,0.3s
ROVR AML AML
comp=N,1680µm,0.4s
ROVR AML AML
comp=N,1679µm,0.4s
ROVR AML AML
comp=E,1296µm,0.4s
ROVR AML AML
comp=E,532µm,0.6s
ROVR AML AML
comp=N,676µm,0.3s
MBAL Monte Baldo - 1.91 339 P Pn 22 02 09.8 -0.5
MBAL S Sn 22 02 34.8 +0.1
MBAL AML AML
comp=E,1715µm,1.2s
MBAL AML AML
comp=N,696µm,0.5s
MBAL AML AML
comp=E,1715µm,0.8s
MBAL AML AML
comp=N,585µm,0.4s
MBAL AML AML
comp=E,946µm,0.5s
MBAL AML AML
comp=N,696µm,0.5s
MBAL AML AML
comp=E,945µm,0.5s
MBAL AML AML
comp=N,585µm,0.4s
MBAL AML AML
comp=E,1716µm,1.2s
AQU L'Aquila 1.94 143 ePn Pb 22 02 11.9 -1.2
CGRP Cima Grappa 1.96 359 P Pn 22 02 10.2 -1.0
CGRP S Sn 22 02 36.0 -0.1
CGRP AML AML
comp=E,1044µm,0.8s
CGRP AML AML
comp=E,1022µm,1.6s
CGRP AML AML
comp=N,1250µm,0.5s
CGRP AML AML
comp=N,1151µm,0.5s
CGRP AML AML
comp=N,1152µm,0.5s
CGRP AML AML
comp=N,1252µm,0.5s
CGRP AML AML
comp=E,1020µm,0.8s
CGRP AML AML
comp=E,1043µm,0.8s
DOSS Dosso del Somm 2.02 347 P Pn 22 02 11.0 -0.9
DOSS AML AML
comp=E,1520µm,0.5s
DOSS AML AML
comp=N,1640µm,0.5s
DOSS AML AML
comp=E,1635µm,0.4s
DOSS AML AML
comp=N,1630µm,0.5s
DOSS AML AML
comp=N,1630µm,1.5s
DOSS AML AML
comp=E,1520µm,1.5s
DOSS AML AML
comp=N,1640µm,1.5s
DOSS AML AML
comp=E,1635µm,1.6s
DOSS AML AML
comp=N,1630µm,0.5s
DOSS AML AML
comp=E,1518µm,0.5s
DOSS AML AML
comp=E,1637µm,0.4s
DOSS AML AML
comp=N,1641µm,0.5s
VARA Varagna 2.02 341 P Pn 22 02 11.3 -0.7
VARA AML AML
comp=E,1280µm,0.6s
VARA AML AML
comp=N,1280µm,0.6s
VARA AML AML
comp=E,1280µm,1.4s
VARA AML AML
comp=N,1280µm,1.4s
VARA AML AML
comp=E,2075µm,0.5s
VARA AML AML
comp=N,2085µm,0.5s
VARA AML AML
comp=N,2082µm,0.5s
VARA AML AML
comp=N,1278µm,0.6s
VARA AML AML
comp=E,1279µm,0.6s
VARA AML AML
comp=E,2079µm,0.5s
MAGA Magasa 2.04 336 P Pn 22 02 12.1 -0.2
MAGA S Sn 22 02 38.5 +0.4
MAGA AML AML
comp=E,3440µm,0.5s
MAGA AML AML
comp=N,1705µm,0.4s
MAGA AML AML
comp=E,3437µm,0.5s
MAGA AML AML
comp=N,1709µm,0.4s
VARN Col Varnada, M 2.09 5 P Pn 22 02 11.5 -1.2
VARN S Sn 22 02 39.0 +0.1
VARN AML AML
comp=E,1260µm,0.8s
VARN AML AML
comp=N,1420µm,0.5s
VARN AML AML
comp=E,1275µm,0.8s
VARN AML AML
comp=N,1420µm,0.5s
VARN AML AML
comp=N,1420µm,1.5s
VARN AML AML
comp=N,1420µm,1.5s
VARN AML AML
comp=E,1260µm,1.2s
VARN AML AML
comp=E,1275µm,1.2s
VARN AML AML
comp=N,1418µm,0.5s
VARN AML AML
comp=N,1420µm,0.5s
VARN AML AML
comp=E,1262µm,0.8s
VARN AML AML
comp=E,1272µm,0.8s
CTI Castel Tesino 2.14 357 P Pn 22 02 12.6 -0.8
CTI S Sn 22 02 39.4 -0.9
CTI AML AML
comp=E,1530µm,0.4s
CTI AML AML
comp=N,1685µm,0.3s
CTI AML AML
comp=E,1533µm,0.4s
CTI AML AML
comp=N,1685µm,0.3s
LUSI Trento, Gardas 2.14 343 P Pn 22 02 12.6 -0.9
LUSI AML AML
comp=E,1050µm,0.8s
LUSI AML AML
comp=N,1515µm,0.5s
LUSI AML AML
comp=N,1515µm,1.5s
LUSI AML AML
comp=E,977µm,0.6s
LUSI AML AML
comp=N,1512µm,0.5s
PANI Panarotta 2.16 351 P Pn 22 02 13.2 -0.7
PANI S Sn 22 02 40.8 -0.3
PANI AML AML
comp=E,542µm,0.8s
PANI AML AML
comp=E,542µm,1.2s
PANI AML AML
comp=N,518µm,0.4s
PANI AML AML
comp=N,518µm,0.4s
PANI AML AML
comp=E,541µm,0.8s
SKDS Skadanscina 2.26 43 i Pn Pn 22 02 13.4 -1.7
SKDS i Sn Sn 22 02 42.1 -1.0
RIY Rijeka 2.36 52 ePn Pn 22 02 15.4 -1.1
RIY eSn Sn 22 02 46.1 +0.5
SABO M.te Sabotino 2.42 31 P Pn 22 02 16.1 -1.2
SABO S Sn 22 02 46.5 -0.6
SABO AML AML
comp=E,1130µm,0.5s
SABO AML AML
comp=E,4860µm,0.5s
SABO AML AML
comp=N,1062µm,0.6s
SABO AML AML
comp=N,3980µm,0.6s
SABO AML AML
comp=E,1132µm,0.5s
SABO AML AML
comp=N,1064µm,0.6s
SABO AML AML
comp=E,4859µm,0.5s
SABO AML AML
comp=N,3979µm,0.6s
PGF Pioggiola 2.48 237 ePn Pn 22 02 17.1 -1.1
PGF eSn Sn 22 02 46.0 -2.7
comp=N,44nm,0.5s
LJU Ljubljana 2.86 41 P Pn 22 02 22.6 -0.7
LJU S Sn 22 02 58.1 +0.1
LJU AML AML
comp=N,4475µm,0.7s
LJU AML AML
comp=N,4475µm,1.3s
LJU AML AML
comp=E,2505µm,0.6s
LJU AML AML
comp=N,4476µm,0.7s
LJU AML AML
comp=E,2506µm,0.6s
ABTA Abfaltersbach 2.87 9 ePn Pn 22 02 23.4 -0.2
comp=E,24nm,0.4s,SNR=35
ABTA Sn Sn 22 03 00.2 +1.8
comp=E,92nm,0.7s
MYKA Terra Mystica 3.00 25 ePn Pn 22 02 25.2 -0.1
comp=E,4.2nm,0.3s,SNR=9.0
MYKA Sn Sn 22 03 01.5 -0.1
comp=E,23nm,0.4s
OZLJ Ozalj 3.10 55 ePn Pn 22 02 25.7 -0.9
SBF Sospel 3.17 271 ePn Pn 22 02 27.2 -0.5
SBF eSn Sn 22 03 01.7 -4.1
comp=E,126nm,0.5s
DAVOX Davos/Dischmat 3.18 335 Pn Pn 22 02 29.1 +1.2
comp=E,6.1nm,0.3s,baz=160,slow=9.5,SNR=75
DAVOX Sn Sn 22 03 08.8 +2.8
comp=E,10nm,0.3s,baz=46,slow=21,SNR=16
comp=E,11nm,0.3s
FETA Feichten 3.20 346 i Pn Pn 22 02 29.4 +1.3
comp=E,68nm,0.8s,SNR=35
FETA i Sn Sn 22 03 07.4 +0.8
comp=E,33nm,0.9s
OBKA Obir 3.23 36 i Pn Pn 22 02 27.7 -0.8
comp=E,6.6nm,0.3s,SNR=12
OBKA i Sn Sn 22 03 09.7 +2.6
comp=E,36nm,0.4s
OBKA Obir 3.23 36 ePn Pn 22 02 27.7 -0.8
SNR=12
OBKA eSn Sn 22 03 07.3 +0.1
SNR=2.1
KIJV Kijevo 3.31 87 ePn Pn 22 02 29.9 +0.4
SQTA Sankt Quirin 3.33 353 i Pn Pn 22 02 30.9 +0.9
comp=E,32nm,0.2s,SNR=80
SQTA i Sn Sn 22 03 12.6 +2.8
comp=E,43nm,0.5s
KBA Koelnbreinsper 3.34 18 i Pn Pn 22 02 29.5 -0.6
comp=E,3.3nm,0.4s
KBA i Sn Sn 22 03 10.4 +0.5
comp=E,42nm,0.7s
KBA Koelnbreinsper 3.34 18 ePn Pn 22 02 29.7 -0.4
SNR=13
KBA eSn Sn 22 03 10.7 +0.8
SNR=1.7
WTTA Wattenberg 3.35 358 i Pn Pn 22 02 31.5 +1.2
comp=E,10.0nm,0.4s,SNR=11
WTTA eSn Sn 22 03 11.8 +1.5
comp=E,59nm,0.5s
WTTA Wattenberg 3.35 358 ePn Pn 22 02 31.5 +1.2
SNR=8.2
WATA Walderalm 3.42 357 i Pn Pn 22 02 32.5 +1.3
comp=E,7.2nm,0.2s,SNR=29
WATA eSn Sn 22 03 13.2 +1.1
comp=E,43nm,0.4s
A050A Klekovaca 3.43 79 ePn Pn 22 02 32.3 +1.1
MOTA Moosalm 3.47 352 i Pn Pn 22 02 33.0 +1.2
comp=E,11nm,0.5s,SNR=28
MOTA i Sn Sn 22 03 13.3 +0.2
comp=E,30nm,0.3s
LESA Schwarzleotal 3.56 9 i Pn Pn 22 02 33.3 +0.3
comp=E,22nm,0.3s,SNR=59
LESA i Sn Sn 22 03 16.7 +1.4
comp=E,137nm,0.6s
SOKA Soboth 3.57 38 i Pn Pn 22 02 32.5 -0.6
comp=E,2.8nm,0.4s,SNR=9.4
SOKA i Sn Sn 22 03 14.9 -0.7
comp=E,18nm,0.6s
PLONS Plons/SG 3.58 332 ePn Pn 22 02 35.5 +2.3
SNR=19
PLONS eSn Sn 22 03 18.8 +3.1
SNR=5.6
DAVA Damuels 3.64 339 i Pn Pn 22 02 35.9 +1.8
comp=E,25nm,0.4s,SNR=23
DAVA i Sn Sn 22 03 19.2 +1.8
comp=E,114nm,0.4s
DAVA Damuels 3.64 339 ePn Pn 22 02 35.9 +1.8
SNR=12
DAVA eSn Sn 22 03 20.1 +2.8
SNR=4.9
RETA Reutte 3.65 349 i Pn Pn 22 02 35.5 +1.3
comp=E,18nm,0.4s,SNR=16
RETA i Sn Sn 22 03 20.0 +2.5
comp=E,31nm,0.5s
OBER Oberstdorf 3.65 343 ePn Pn 22 02 35.8 +1.5
SNR=11
OBER eSn Sn 22 03 20.3 +2.6
SNR=6.5
MBDF Montbardon 3.72 284 ePn Pn 22 02 34.6 -0.7
MBDF eSn Sn 22 03 16.4 -2.9
comp=E,46nm,0.8s
A051A Mrakovica 3.80 71 ePn Pn 22 02 35.7 -0.6
RJOB Jochberg 3.88 10 ePn Pn 22 02 37.7 +0.3
SNR=18
RJOB eSn Sn 22 03 24.0 +0.8
SNR=2.7
MOSL Moslavina 3.90 62 ePn Pn 22 02 36.5 -1.1
LMR La Mourre 3.91 263 ePn Pn 22 02 36.6 -1.1
LMR eSn Sn 22 03 19.9 -3.8
comp=E,9.1nm,0.4s
BLY Banja Luka 3.93 76 ePn Pn 22 02 34.5 -3.6
BLY Banja Luka 3.93 76 ePn Pn 22 02 38.3 +0.2
BLY eSn Sn 22 03 25.0 +0.6
LPG La Plagne 3.95 295 ePn Pn 22 02 37.6 -1.0
LPG eSn Sn 22 03 22.6 -2.6
comp=E,33nm,0.7s
LPL La Plagne 3.97 296 ePn Pn 22 02 40.1 +1.3
LPL eSn Sn 22 03 22.2 -3.4
comp=E,53nm,0.7s
BIOA Bad Ischl, Aus 3.98 18 i Pn Pn 22 02 39.2 +0.4
comp=E,5.2nm,0.3s,SNR=5.1
BIOA i Sn Sn 22 03 26.9 +1.2
comp=E,34nm,0.7s
WILA Wila 4.05 331 ePn Pn 22 02 41.1 +1.3
SNR=4.8
WILA eSn Sn 22 03 28.2 +0.8
SNR=6.1
ARSA Arzberg 4.22 37 i Pn Pn 22 02 41.2 -1.0
comp=E,20nm,0.5s,SNR=26
ARSA i Sn Sn 22 03 30.7 -0.9
comp=E,11nm,0.5s
ARSA Arzberg 4.22 37 ePn Pn 22 02 41.3 -0.8
SNR=9.3
FUR Furstenfeldbru 4.27 355 ePn Pn 22 02 43.1 +0.4
SNR=2.9
MOA Molln 4.29 23 i Pn Pn 22 02 42.7 -0.2
comp=E,1.9nm,0.2s,SNR=8.8
MOA i Sn Sn 22 03 32.8 -0.3
comp=E,22nm,0.4s
MOA Molln 4.29 23 ePn Pn 22 02 42.9 -0.1
SNR=19
MOA eSn Sn 22 03 32.4 -0.7
SNR=3.9
ORIF Oris-en-Rattie 4.38 285 ePn Pn 22 02 45.3 +1.0
ORIF eSn Sn 22 03 35.7 +0.2
comp=E,47nm,0.8s
STON Ston 4.41 102 ePn Pn 22 02 45.1 +0.6
STON Ston 4.41 102 ePn Pn 22 02 45.6 +1.1
STON eSn Sn 22 03 37.1 +1.1
SLE Schleitheim 4.50 330 eSn Sn 22 03 36.7 -1.7
SNR=5.0
SMRF Simiane la Rot 4.51 273 ePn Pn 22 02 45.2 -0.9
SMRF eSn Sn 22 03 34.5 -4.3
comp=E,15nm,0.5s
CABF La Chapelle 4.87 306 ePn Pn 22 02 52.1 +1.1
CABF eSn Sn 22 03 46.0 -1.5
comp=E,26nm,0.7s
CONA Conrad Observa 4.90 34 i Pn Pn 22 02 51.0 -0.4
comp=E,2.9nm,0.6s,SNR=7.2
CONA i Sn Sn 22 03 46.1 -2.3
comp=E,9.2nm,0.5s
RONA Rosalia, Austr 4.91 38 i Pn Pn 22 02 50.5 -1.0
comp=E,4.3nm,0.3s,SNR=11
RONA i Sn Sn 22 03 45.9 -2.5
comp=E,8.1nm,0.5s
TREB Trebinje 4.91 102 ePn Pn 22 02 51.6 +0.1
TREB Trebinje 4.91 102 ePn Pn 22 02 52.0 +0.5
TREB eSn Sn 22 03 50.5 +2.1
KLINJ Klinje 4.97 96 ePn Pn 22 02 52.5 +0.1
BRY Bratogost 4.99 99 ePn Pn 22 02 53.7 +0.9
BRY eSn Sn 22 03 51.3 +0.5
BFO Black Forest 5.04 332 ePn Pn 22 02 53.6 +0.3
SNR=19
BFO eSn Sn 22 03 48.6 -3.1
SNR=7.8
GEC2 GERESS Array S 5.10 14 ePn Pn 22 02 53.3 -0.9
SNR=7.0
GEC2 eSn Sn 22 03 50.5 -2.8
SNR=2.8
GERES GERESS Array B 5.10 14 Pn Pn 22 02 52.7 -1.4
comp=E,0.4nm,0.3s,baz=193,slow=13,SNR=53
GERES Sn Sn 22 03 49.1 -4.2
comp=E,0.3nm,0.3s,baz=194,slow=26,SNR=6.5
GERES LR LR 22 04 31.8
comp=E,20nm,18.3s,baz=155,slow=35
comp=E,4.7nm,0.4s
UPM Unac-Piva 5.19 95 ePn Pn 22 02 56.4 +0.8
UPM eSn Sn 22 03 58.1 +2.4
CKRC Cesky Krumlov 5.20 18 ePN Pn 22 02 55.0 -0.5
CKRC eSN Sn 22 03 53.4 -2.2
VIVF Saint-Julien-l 5.21 283 ePn Pn 22 02 54.4 -1.3
VIVF Saint-Julien-l 5.21 283 eP Pn 22 02 58.1 +2.4
VIVF eSn Sn 22 03 52.6 -3.4
comp=E,8.8nm,0.5s
HINF Hinteralfeld 5.22 320 ePn Pn 22 02 55.8 0.0
HINF eSn Sn 22 03 54.3 -1.9
comp=E,21nm,0.3s
WET Wettzell 5.28 8 ePn Pn 22 02 55.7 -0.9
SNR=11
WET eSn Sn 22 03 54.9 -2.7
SNR=4.8
NKME Niksic 5.32 100 ePn Pn 22 02 57.6 +0.4
NKME i Sn Sn 22 03 58.4 -0.3
MORH Mrgy, Hungar 5.35 62 ePn Pn 22 02 54.9 -2.6
KHC Kasperske Hory 5.36 12 ePN Pn 22 02 56.2 -1.4
KHC eSN Sn 22 03 56.9 -2.6
CEME Cevo 5.36 102⇑i Pn Pn 22 02 57.7 0.0
CEME eSn Sn 22 03 59.4 -0.2
BUM Brajici-Budva 5.42 105 ePn Pn 22 02 59.0 +0.4
BUM eSn Sn 22 04 00.4 -0.7
RUDO Rudo 5.47 91 ePn Pn 22 02 58.7 -0.5
RUDO Rudo 5.47 91 ePn Pn 22 03 00.8 +1.6
BBLS Lazi&#263i 5.48 88 ePn Pn 22 02 59.9 +0.5
BBLS eSn Sn 22 04 04.3 +1.7
CDF Champ du Feu 5.50 326 ePn Pn 22 02 59.3 -0.3
CDF eSn Sn 22 03 58.9 -4.1
comp=E,83nm,0.8s
TEKS Tekeris 5.57 81 ePn Pn 22 03 00.8 +0.2
HAU Haudompre 5.59 319 ePn Pn 22 03 00.8 -0.1
HAU eSn Sn 22 04 03.0 -2.4
comp=E,65nm,0.5s
PDG Podgorica 5.63 103 ePn Pn 22 03 03.0 +1.6
PDG eSn Sn 22 04 06.2 0.0
PDG Podgorica 5.63 103⇓i Pn Pn 22 03 01.2 -0.2
PDG i Sn Sn 22 04 05.2 -1.0
DRME Dracevica, Mon 5.66 105⇑i Pn Pn 22 03 02.8 +1.0
DRME eSn Sn 22 04 06.0 -1.0
KOME Kolasin 5.70 98⇑i Pn Pn 22 03 03.2 +0.7
KOME eSn Sn 22 04 07.2 -1.0
LASF Ste Croix 5.75 274 ePn Pn 22 03 01.8 -1.3
LASF eSn Sn 22 04 05.0 -4.3
comp=E,2.2nm,0.3s
ZVC Zvikov 5.76 16 ePN Pn 22 03 02.8 -0.3
ZVC eSN Sn 22 04 06.4 -3.0
ROTZ Rotzenmuhle 5.86 2 ePn Pn 22 03 02.8 -1.8
SNR=5.1
ROTZ eSn Sn 22 04 06.9 -5.0
SNR=3.3
DIVS Divibare 5.89 85 ePn Pn 22 03 06.6 +1.5
TREC Trest 5.94 24 ePN Pn 22 03 04.1 -1.6
TREC eSN Sn 22 04 10.4 -3.5
SJES Sjenica 5.95 93 ePn Pn 22 03 07.3 +1.4
SJES eSn Sn 22 04 14.3 0.0
IVA Berane 5.97 97 ePn Pn 22 03 07.0 +0.9
IVA eSn Sn 22 04 13.2 -1.5
KRUC Moravsky 6.04 30 ePN Pn 22 03 05.6 -1.3
KRUC eSN Sn 22 04 12.5 -3.7
IVAS Ivanjica 6.04 90 ePn Pn 22 03 07.8 +0.7
SMF Signal de Mont 6.26 299 ePn Pn 22 03 10.7 +0.7
SMF eSn Sn 22 04 18.9 -2.9
comp=E,17nm,0.4s
PAGF Fort de Pagny 6.28 320 ePn Pn 22 03 10.2 -0.1
PAGF eSn Sn 22 04 18.0 -4.2
comp=E,38nm,0.6s
VRAC Vranov 6.31 30 Pn Pn 22 03 09.8 -1.0
comp=E,0.4nm,0.3s,baz=213,slow=13,SNR=4.4
VRAC Sn Sn 22 04 18.3 -4.7
comp=E,1.1nm,0.3s,baz=310,slow=16,SNR=5.8
VRAC LR LR 22 05 38.6
comp=E,46nm,21.6s,baz=190,slow=39
comp=E,1.3nm,0.4s
VRAC Vranov 6.31 30 ePN Pn 22 03 10.2 -0.6
VRAC eSN Sn 22 04 19.3 -3.7
PRU Pruhonice 6.35 16 ePN Pn 22 03 10.1 -1.2
SFTF Sexfontaines 6.38 315 ePn Pn 22 03 11.8 +0.1
baz=129
SFTF eSn Sn 22 04 22.0 -2.7
comp=E,6.9nm,0.4s
GRUS Gruza 6.42 87 ePn Pn 22 03 13.7 +1.4
TANN Tannenbergstha 6.52 4 ePn Pn 22 03 12.6 -1.0
SNR=5.1
LOR Lormes 6.52 304 ePn Pn 22 03 13.5 -0.1
baz=121
LOR eSn Sn 22 04 25.2 -2.9
comp=E,33nm,0.5s
GOCS Kraljevo Serbi 6.56 90 ePn Pn 22 03 14.7 +0.4
GOCS eSn Sn 22 04 27.0 -2.3
MEZF Maizieres J'vi 6.57 317 ePn Pn 22 03 14.4 +0.2
baz=133
MEZF eSn Sn 22 04 23.6 -5.6
comp=E,12nm,0.6s
SAVF Savonnieres en 6.61 318 ePn Pn 22 03 14.2 -0.6

SAVF	**Savonnieres en**	**6.61**	**318**	*e*Pn		**Pn**	**22 03 14.9**	**+0.1**	
	baz=136								
SAVF				*e*Sn		**Sn**	**22 04 26.8**	**-3.4**	
	comp=E,15nm,0.5s								
SAVF				*e*Sn		Sb	22 04 27.0	-25	
	comp=E,10nm,0.5s								
AVF	**Avril sur Loir**	**6.63**	**299**	*e*Pn		**Pn**	**22 03 15.6**	**+0.6**	
AVF				*e*Sn		**Sn**	**22 04 25.2**	**-5.5**	
	comp=E,8.1nm,0.7s								
SSF	**Saint Saulge**	**6.64**	**301**	*e*Pn		**Pn**	**22 03 15.9**	**+0.7**	
SSF				*e*Sn		**Sn**	**22 04 27.7**	**-3.4**	
	comp=E,21nm,0.5s								
MOX	**Moxa**	**6.73**	**359**	*e*Pn		**Pn**	**22 03 14.8**	**-1.7**	
	SNR=7.6								
MOX				*e*Sn		**Sn**	**22 04 28.7**	**-4.7**	
	SNR=4.2								
SELS	**Selova**	**6.79**	**93**	*e*Pn		**Pn**	**22 03 18.2**	**+0.9**	
SELS				*e*Sn		**Sn**	**22 04 32.6**	**-2.1**	
BGF	**Bois d'Agland**	**6.87**	**296**	*e*Pn		**Pn**	**22 03 19.0**	**+0.6**	
BGF				*e*Sn		**Sn**	**22 04 31.6**	**-5.1**	
	comp=E,19nm,0.6s								
VRSS	**Vrsac**	**6.90**	**77**	*e*Pn		**Pn**	**22 03 18.2**	**-0.6**	
WLF	**Walferdange**	**6.94**	**328**	*d*P		**Pn**	**22 03 17.6**	**-1.8**	
WLF				*d*S		**Sn**	**22 04 34.7**	**-3.8**	
MTLF	**Montolieu**	**7.00**	**269**	*e*Pn		**Pn**	**22 03 19.1**	**-1.1**	
MTLF				*e*Sn		**Sn**	**22 04 33.0**	**-6.9**	
	comp=E,5.9nm,0.5s								
KRLC	**Kraliky**	**7.03**	**27**	*e*PN		**Pn**	**22 03 20.0**	**-0.6**	
MORC	**Moravsky Berou**	**7.05**	**32**	*e*PN		**Pn**	**22 03 20.1**	**-0.8**	
CAF	**Calviac**	**7.06**	**282**	*e*Pn		**Pn**	**22 03 20.0**	**-1.1**	
CAF				*e*Sn		**Sn**	**22 04 36.2**	**-5.4**	
	comp=E,0.7nm,0.3s								
BRG	**Berggiesshubel**	**7.11**	**11**	Pn		**Pn**	**22 03 22.1**	**+0.4**	
BRG				Sn		**Sn**	**22 04 38.4**	**-4.1**	
BRG				Amp			22 04 41.7		
	comp=Z,5.4nm,0.6s								
DPC	**Dobruska-Polom**	**7.13**	**24**	*e*PN		**Pn**	**22 03 19.8**	**-2.2**	
DPC				*e*SN		**Sn**	**22 04 37.4**	**-5.7**	
UPC	**Upice**	**7.18**	**22**	*e*PN		**Pn**	**22 03 22.1**	**-0.6**	
TCF	**Toulx Ste Croi**	**7.21**	**293**	*e*Pn		**Pn**	**22 03 23.4**	**+0.3**	
TCF				*e*Sn		**Sn**	**22 04 40.7**	**-4.4**	
	comp=Z,2.7nm,0.3s								
HYF	**Humbligny**	**7.26**	**301**	*e*Pn		**Pn**	**22 03 23.6**	**-0.2**	
HYF				*e*Sn		**Sn**	**22 04 42.5**	**-3.9**	
	comp=Z,18nm,0.3s								
STEB	**Steborice**	**7.26**	**32**	*e*PN		**Pn**	**22 03 22.9**	**-0.9**	
OSTC	**Ostas**	**7.28**	**23**	*e*PN		**Pn**	**22 03 23.5**	**-0.6**	
BARS	**Barje**	**7.36**	**95**	*e*Pn		**Pn**	**22 03 25.8**	**+0.6**	
CLL	**Collm**	**7.44**	**6**	*e*Pn		**Pn**	**22 03 26.0**	**-0.2**	
CLL				*e*Sn		**Sn**	**22 04 46.0**	**-4.7**	
CLL				*e*Sg		**Sg**	**22 05 33.0**	**-3.0**	
	comp=Z,15nm,1.0s								
CLL				Lm		MLR	22 06 24.0		
	comp=Z,100nm,21.0s								
RJF	**Les Rejaudoux**	**7.49**	**284**	*e*Pn		**Pn**	**22 03 27.7**	**+0.8**	
MEM	**Membach**	**7.78**	**331**	*d*P		**Pn**	**22 03 31.4**	**+0.6**	
MEM				*d*S		**Sn**	**22 04 51.5**	**-7.5**	
GIVF	**Givet**	**7.82**	**325**	*e*Pn		**Pn**	**22 03 32.9**	**+1.5**	
GIVF				*e*Sn		**Sn**	**22 04 54.4**	**-5.7**	
	comp=Z,4.7nm,0.3s								
ZAPS	**Zavoj**	**7.87**	**91**	*e*Pn		**Pn**	**22 03 32.2**	**0.0**	
BAIF	**Baives**	**8.05**	**322**	*e*P		**Pn**	**22 03 38.4**	**+3.8**	
BAIF				*e*Sn		**Sn**	**22 05 01.3**	**-4.5**	
	comp=Z,6.1nm,0.5s								
KEST	**Kesra**	**8.39**	**194**	Pn		**Pn**	**22 03 43.4**	**+3.9**	
	comp=Z,0.7nm,0.3s,baz=325,slow=3.2,SNR=6.9								
	comp=Z,1.6nm,0.5s								
EPF	**Esparros**	**8.40**	**268**	*e*Pn		**Pn**	**22 03 38.9**	**-0.6**	
EPF				*e*Sn		**Sn**	**22 05 07.8**	**-6.7**	
	comp=Z,0.5nm,0.3s								
ETSF	**Etsaut**	**9.07**	**268**	*e*P		**Pn**	**22 03 52.6**	**+3.9**	
ETSF				*e*Sn		**Sn**	**22 05 24.6**	**-6.5**	
	comp=Z,0.2nm,0.1s								
SJPF	**Ste Jean**	**9.52**	**270**	*e*Pn		**Pn**	**22 03 54.4**	**-0.4**	
SJPF				*e*Sn		**Sn**	**22 05 34.9**	**-7.0**	
MLR	**Muntele Rosu**	**10.18**	**76**	LR		LR	22 08 23.4		
	comp=Z,51nm,19.8s,baz=247,slow=41								
ESDC	**Sonseca Array**	**12.52**	**256**	Pn		**Pn**	**22 04 38.5**	**+2.7**	
	baz=56,slow=14,SNR=2.5								
	comp=Z,0.2nm,0.6s								
EKA	**Eskdalemuir Ar**	**14.96**	**325**	Pn		**Pn**	**22 05 09.9**	**+0.9**	
	baz=135,slow=14								
	comp=Z,0.5nm,0.5s								
FINES	**FINESS Array B**	**19.48**	**21**	P		**P**	**22 06 04.8**	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=197,slow=10.0,SNR=5.4								
FINES				LR		LR	22 13 25.0		
	comp=Z,36nm,20.8s,baz=228,slow=37								
	comp=Z,1.9nm,1.0s								
GNI	**Garni**	**24.64**	**87**	LR		LR	22 18 50.0		
	comp=Z,44nm,19.9s,baz=167,slow=42								
TORD	**Torodi Ar. Bea**	**31.87**	**199**	P		**P**	**22 08 03.1**	**0.0**	
	comp=Z,1.2nm,0.6s,baz=12,slow=10.0,SNR=11								
	comp=Z,1.2nm,0.6s								
SUMG	**Summit**	**37.04**	**337**	*i* P		**P**	**22 08 48.0**	**+0.3**	
ZALV	**Zalesovo Beam**	**46.96**	**51**	LR		LR	22 33 31.6		
	comp=Z,29nm,19.9s,baz=74,slow=41								
MKAR	**Makanchi Array**	**48.07**	**61**	P		**P**	**22 10 17.3**	**+0.1**	
	comp=Z,1.4nm,0.8s,baz=279,slow=6.4,SNR=11								
	comp=Z,1.4nm,0.8s								
SONM	**Songino Array**	**61.84**	**50**	P		**P**	**22 11 59.1**	**+2.2**	
	comp=Z,0.8nm,0.9s,baz=306,slow=6.3,SNR=4.2								
TXAR	**Lajitas Array**	**86.26**	**308**	P		**P**	**22 14 21.4**	**+1.6**	
	comp=Z,0.3nm,0.6s,baz=61,slow=5.9,SNR=4.8								
	comp=Z,0.3nm,0.6s								

UPA ***17*** *22:03:41.6±1.1, 8.˚32N×82.˚82W, h34km±5km, ML3.3*
UCR ***17*** *22:03:41.7±1.0, 8.˚27N×82.˚78W, h26km±2km, MW3.8*
ISC 17 22:03:41.7±1.0,**8.30N**±0.04×**82.80W**±0.03,**h32**km±6km,
n47,σ0**s77/64**,**Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
ARIEL	**Armuelles**	**0.06**	**258**	*e*P		**Pb**	**22 03 46.3**	**-0.9**	
LESP3	**La Esperanza,**	**0.11**	**2**	*e*P		**Pb**	**22 03 46.7**	**-0.7**	
LESP3				*e*S		**Sb**	**22 03 51.0**	**-0.3**	
PTPA	**Petro Terminal**	**0.12**	**218**	*e*P		**Pn**	**22 03 47.6**	**+0.1**	
PTPM	**Petroterminale**	**0.12**	**222**	*e*P		**Pn**	**22 03 47.6**	**+0.1**	
PTPM				*e*P		**Pn**	**22 03 47.6**	**+0.1**	
PTPM				*e*S		**Sb**	**22 03 52.8**	**+1.3**	
PTPM				*e*S			22 03 53.0		
DVD	**David**	**0.37**	**68**	*e*P		**Pb**	**22 03 50.2**	**0.0**	
DVD				*e*S		**Sn**	**22 03 57.0**	**+0.1**	
DMCAL	**E. de Neily**	**0.37**	**0**	*e*P		**Pb**	**22 03 50.3**	**-0.1**	
PEDE3	**Pedregal, Chir**	**0.38**	**77**	*e*P		**Pb**	**22 03 50.3**	**-0.2**	
PEDE3				*e*S		**Sb**	**22 03 56.8**	**+0.4**	
NELY	**Ciudad Neily**	**0.38**	**337**	*e*P		**Pb**	**22 03 50.2**	**-0.3**	
NELY				*e*S		**Sn**	**22 03 57.4**	**+0.1**	
LOMA3	**Las Lomas, Chi**	**0.42**	**72**	*e*P		**Pb**	**22 03 51.0**	**-0.1**	
LOMA3				*e*S		**Sb**	**22 03 57.7**	**+0.3**	
JEFFS	**S de V. Baru**	**0.45**	**35**	*e*P		**Pb**	**22 03 51.7**	**+0.1**	
CGUAY	**Guayabal, Coch**	**0.47**	**70**	*e*P		**Pb**	**22 03 51.6**	**-0.1**	
CHIR3	**Chiriqui UPA,**	**0.47**	**78**	*e*P		**Pb**	**22 03 51.4**	**-0.4**	
CHIR3				*e*S		**Sn**	**22 04 00.1**	**+0.6**	
FITO	**Golfito**	**0.48**	**312**	*e*P		**Pb**	**22 03 50.9**	**-1.0**	
FITO				*e*S		**Sb**	**22 03 58.3**	**-0.7**	
PTAR3	**Potrerillos Ar**	**0.49**	**37**	*e*P		**Pb**	**22 03 52.1**	**-0.1**	
PTAR3				*e*S		**Sb**	**22 03 59.4**	**-0.1**	
BANCO	**falda S V. Bar**	**0.49**	**32**	*e*P		**Pb**	**22 03 52.1**	**-0.2**	
BRU2	**Volcan**	**0.50**	**12**	*e*P		**Pb**	**22 03 52.4**	**-0.1**	
BRU2				*e*S		**Sn**	**22 04 00.5**	**0.0**	
BRU2	**Volcan**	**0.50**	**12**	*e*P		**Pb**	**22 03 52.2**	**-0.2**	
BRU2				*e*S		**Sn**	**22 04 00.5**	**0.0**	
EDAD	**Golfito**	**0.51**	**314**	*e*P		**Pb**	**22 03 51.4**	**-1.1**	
EDAD				*e*S		**Sb**	**22 03 59.2**	**-0.6**	
BC3P	**Paso Ancho**	**0.55**	**19**	*e*P		**Pb**	**22 03 52.4**	**-0.8**	
BC3P				AMP			22 03 53.0		
	comp=Z,2μm,0.2s								
BC3P				*e*S		**Sn**	**22 04 01.7**	**+0.1**	
VITO	**San Vito**	**0.55**	**341**	*e*P		**Pb**	**22 03 53.1**	**0.0**	
BQSF3	**Alto Boquete,**	**0.57**	**39**	*e*P		**Pb**	**22 03 52.6**	**-0.8**	
BQSF3				*e*S		**Sb**	**22 04 01.9**	**+0.4**	
WILLF	**Boquete**	**0.57**	**38**	*e*P		**Pb**	**22 03 52.9**	**-0.6**	
LNBQ3	**Los Naranjos,**	**0.60**	**35**	*e*P		**Pb**	**22 03 53.3**	**-0.7**	
LNBQ3				AMP			22 03 54.4		
	comp=Z,2μm,0.1s								
LNBQ3				*e*S		**Sn**	**22 04 03.0**	**0.0**	
DAP26	**falda E V. Bar**	**0.61**	**37**	*e*P		**Pb**	**22 03 53.4**	**-0.7**	
ALCO	**Alturas Coton,**	**0.65**	**357**	*e*P		**Pb**	**22 03 53.9**	**-0.9**	
PBNVO	**Pueblo Nuevo,**	**0.84**	**45**	*e*P		**Pn**	**22 03 56.7**	**-0.6**	
RBALA	**Bur**	**0.86**	**48**	*e*P		**Pn**	**22 03 57.2**	**-0.4**	
FIMO	**Fila Mora**	**0.88**	**321**	*e*P		**Pn**	**22 03 58.0**	**-0.1**	
CHGR2	**Aguacate**	**0.90**	**45**	*e*P		**Pn**	**22 03 57.7**	**-0.6**	
CHGR2				*e*S		**Sn**	**22 04 10.0**	**-0.2**	
RMDIO	**Remedios, Chir**	**0.96**	**94**	*e*P		**Pn**	**22 03 58.9**	**-0.1**	
KKNTU	**Kakinᵖ**	**1.12**	**61**	*e*P		**Pn**	**22 04 00.6**	**-0.6**	
EDPE	**Pejibaye, P**	**1.15**	**318**	*e*P		**Pn**	**22 04 01.7**	**+0.1**	
SAJE	**San Jernim**	**1.26**	**326**	*e*P		**Pn**	**22 04 03.0**	**-0.2**	
CEUA	**Cerro Uatsi, L**	**1.32**	**354**	*e*P		**Pb**	**22 04 06.3**	**+0.2**	
VERH	**Veragua Rainfo**	**1.67**	**346**	*e*P		**Pn**	**22 04 09.9**	**+1.1**	
LLNJ	**Naranjito**	**1.74**	**312**	*e*P		**Pn**	**22 04 11.1**	**+1.4**	
PIEC	**Cerro El Cedra**	**1.75**	**319**	*e*P		**Pn**	**22 04 10.9**	**+0.8**	
LCR2	**La Lucha 2**	**1.87**	**320**	*e*P		**Pn**	**22 04 12.0**	**+0.3**	
VTCV	**VTCV, Calle Va**	**1.91**	**331**	*e*P		**Pn**	**22 04 13.6**	**+1.3**	
PICV	**PH. Pirrs**	**1.91**	**314**	*e*P		**Pn**	**22 04 13.5**	**+1.3**	
RESJ	**San Isidro (Tu**	**1.91**	**334**	*e*P		**Pn**	**22 04 14.1**	**+1.9**	
LCOCO	**El Coco**	**1.93**	**337**	*e*P		**Pb**	**22 04 14.5**	**-1.7**	
CVTV	**Tajo**	**1.94**	**331**	*e*P		**Pn**	**22 04 14.2**	**+1.5**	
CVTQ	**Turrialba Volc**	**1.95**	**331**	*e*P		**Pn**	**22 04 14.5**	**+1.5**	
VTR0	**Volcan Turrial**	**1.96**	**331**	*e*P		**Pn**	**22 04 14.5**	**+1.4**	
CVTR	**Volcan Turrial**	**1.96**	**331**	*e*P		**Pn**	**22 04 14.4**	**+1.3**	
VICA	**Volcano Irazu**	**1.97**	**328**	*e*P		**Pn**	**22 04 14.4**	**+1.1**	

BJI ***17*** *22:28:35.4, 30.˚90N×142.˚67E, h18km, mB4.9/13, mb4.8/67, Ms4.2/31, Ms7 4.0/34*
MOS ***17*** *22:28:36.6±0.9, 30.˚90N×142.˚54E, h17km, mb5.1/68, Error ellipse: s-maj=8.1km s-min=4.1km az=122.2*
IDC ***17*** *22:28:36.0±0.4, 30.˚93N×142.˚57E, h0km, mb4.6/27, mbtmp4.6/34, ML3.6/7, MS3.6/19, Error ellipse: s-maj=14.9km s-min=10.5km az=74.0*
JMA ***17*** *22:28:37.4±0.3, 31˚N±1˚×14˚3E±1˚, h44km, MV4.8/29, MW4.6/29, FAR E OFF IZU ISLANDS*
NEIC ***17*** *22:28:37.9±1.1, 30.˚93N±0.˚05×142.˚55E±0.˚07, h10km±1km, mb5.0/119, Error ellipse: s-maj=11.2km s-min=7.2km az=297.0*
NIED ***17*** *22:28:37.4, 31.˚01N×142.˚72E, h44km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=4.41; Mθθ=0.39; Mϕϕ=4.80; Mrθ=0.48; Mθϕ=-1.11; Mϕr=2.14; Fault plane solution: M₀5.20000×10¹⁵ NP1: ϕs169.00000°, δ33.00000°, λ-89.00000°. NP2: ϕs348.00000°, δ57.00000°, λ-91.00000°.*
ISC 17 22:28:38.1±0.6,**30.˚98N**±0.˚03×**142.˚54E**±0.˚04,**h15**km±3km,
h15km:**pP-P,n727,**σ1ˢ**12**/752,**mb4.9**/174,**MS3.9**/30,
12C-11D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JAOM	**Aogashimamukai**	**2.79**	**303**	P		**Pn**	**22 29 22.4**	**+0.2**	
JHCJ	**Hachijojimakas**	**3.13**	**313**	*e*P		**Pn**	**22 29 27.2**	**+0.3**	
JHCJ				*e*S		**Sn**	**22 30 03.0**	**-0.9**	
JHJ2	**Mitsune**	**3.14**	**313**			**Pn**	**22 29 26.9**	**-0.2**	
JHJ2				Sn		**Sn**	**22 30 01.8**	**-2.5**	
JHJ2	**Mitsune**	**3.14**	**313**	*e*P		**Pn**	**22 29 26.7**	**-0.4**	
JHJ2				*e*S		**Sn**	**22 30 03.1**	**-1.2**	
JHJ	**Hachijo jima 2**	**3.17**	**313**	Pn		**Pn**	**22 29 27.0**	**-0.4**	
	38nm,0.3s,baz=113,slow=23,SNR=22								
JHJ				Sn		**Sn**	**22 30 02.1**	**-2.8**	
	132nm,0.3s,baz=49,slow=21,SNR=11								
	73nm,0.3s								
JMKN	**Mikurajimanish**	**3.83**	**320**	*e*P		**Pn**	**22 29 36.6**	**+0.2**	
JMKN				*e*S		**Sn**	**22 30 20.3**	**-1.0**	
JCJ	**Chichijima**	**3.88**	**185**			**Pn**	**22 29 36.6**	**-0.6**	
JCJ	**Chichijima**	**3.88**	**185**	Pn		**Pn**	**22 29 35.8**	**-1.4**	
	41nm,0.3s,baz=97,slow=19,SNR=12								
JCJ				Sn		**Sn**	**22 30 14.9**	**-7.6**	
	54nm,0.3s,baz=270,slow=21,SNR=7.0								
	88nm,0.3s								
BSO1	**Boso 1**	**3.89**	**341**	P		**Pn**	**22 29 36.7**	**-0.2**	
BSO1				*e*S		**Sn**	**22 30 20.4**	**-1.6**	
JMYK	**Miyake Tsubota**	**3.98**	**321**	*e*S		**Sn**	**22 30 24.7**	**-0.2**	
BSO2	**Boso 2**	**4.05**	**339**	S		**Sn**	**22 30 28.2**	**+1.9**	
JOD2	**Odawara 2**	**5.16**	**327**	P		**Pn**	**22 29 55.0**	**+0.1**	
JOD2				*e*S		**Sn**	**22 30 51.6**	**-2.5**	
JSG	**Sagara**	**5.20**	**316**	Pn		**Pn**	**22 29 57.2**	**+1.9**	
JSG	**Sagara**	**5.20**	**316**	P		**Pn**	**22 29 58.8**	**+3.5**	
JRY	**Ryogami san**	**5.87**	**330**	P		**Pn**	**22 30 05.2**	**+0.6**	
JRY				*e*S		**Sn**	**22 31 09.1**	**-2.5**	
JIE	**Ise**	**5.98**	**306**	*e*P		**Pn**	**22 30 07.5**	**+1.4**	
JIE				*e*S		**Sn**	**22 31 13.0**	**-1.2**	
JGF	**Kuroka**	**6.33**	**318**			**Pn**	**22 30 12.6**	**+1.6**	
JGF	**Kuroka**	**6.33**	**318**	P		**Pn**	**22 30 12.9**	**+2.0**	
INU	**Inuyama**	**6.36**	**315**			**Pn**	**22 30 13.4**	**+2.1**	
INU	**Inuyama**	**6.36**	**315**	P		**Pn**	**22 30 13.9**	**+2.7**	
JTNC	**Tanabenakahech**	**6.51**	**298**	*e*P		**Pn**	**22 30 15.8**	**+2.4**	
MJAR	**Matsushiro Arr**	**6.62**	**328**			**Pn**	**22 30 15.6**	**+0.8**	
MJAR	**Matsushiro Arr**	**6.62**	**328**	Pn		**Pn**	**22 30 15.3**	**+0.5**	
	1.9nm,0.3s,baz=147,slow=11,SNR=134								
MJAR				Sn		**Sn**	**22 31 29.6**	**-0.4**	
	1.2nm,0.3s,baz=147,slow=25,SNR=6.9								
	27nm,0.5s								
MJAR	**Matsushiro Arr**	**6.62**	**328**	P		**Pn**	**22 30 15.6**	**+0.8**	
MAJO	**Matsushiro**	**6.62**	**328**			**Pn**	**22 30 15.6**	**+0.7**	
MAJO	**Matsushiro**	**6.62**	**328**	P		**Pn**	**22 30 15.5**	**+0.7**	
MAJO	**Matsushiro**	**6.62**	**328**	*d*P		**Pn**	**22 30 15.4**	**+0.6**	
MJB9	**Matsu-Tunnel**	**6.62**	**328**			**Pn**	**22 30 15.6**	**+0.7**	
JMM	**Marumori**	**7.02**	**349**			**Pn**	**22 30 18.8**	**-1.5**	
JMM	**Marumori**	**7.02**	**349**	P		**Pn**	**22 30 20.6**	**+0.3**	
JMN	**Monobe**	**7.83**	**293**			**Pn**	**22 30 33.5**	**+2.0**	
JSD	**Sado**	**7.88**	**335**	P		**Pn**	**22 30 30.8**	**-1.3**	
JMK	**Ichinoseki**	**8.03**	**353**	*e*P		**Pn**	**22 30 32.2**	**-1.9**	
JMK				*e*S		**Sn**	**22 31 56.5**	**-8.1**	
JTO	**Tosashimizu**	**8.49**	**285**	*e*P		**Pn**	**22 30 42.8**	**+2.3**	
JOI	**OKI**	**9.38**	**307**	*e*P		**Pn**	**22 30 55.6**	**+2.9**	
JTM	**Tenmabayashi**	**9.86**	**353**	Pn		**Pn**	**22 30 58.0**	**-1.3**	
JTM	**Tenmabayashi**	**9.86**	**353**	P		**Pn**	**22 30 57.2**	**-2.0**	
JNU	**Nakatsue**	**10.13**	**285**			**Pn**	**22 31 04.3**	**+1.3**	
JNU	**Nakatsue**	**10.13**	**285**	Pn		**Pn**	**22 31 04.2**	**+1.2**	
	0.4nm,0.3s,baz=81,slow=10,SNR=9.8								
JNU				LR		LR	22 34 48.8		
	comp=Z,218nm,18.1s,baz=104,slow=37								
	11nm,0.8s								
JNU	**Nakatsue**	**10.13**	**285**	P		**Pn**	**22 31 07.0**	**+4.0**	
ERM	**Erimo**	**11.03**	**2**	Pn		**Pn**	**22 31 11.8**	**-3.4**	
ERM	**Erimo**	**11.03**	**2**	P		**Pn**	**22 31 13.1**	**-2.1**	
ERM	**Erimo**	**11.03**	**2**	S		Sn	22 33 07.0	-11	
ERM	**Erimo**	**11.03**	**2**	*e*P		**Pn**	**22 31 15.8**	**+0.6**	
JEM	**Erimo**	**11.03**	**2**	P		**Pn**	**22 31 13.4**	**-1.8**	
JEM	**Erimo**	**11.03**	**2**	S		Sn	22 33 07.1	-11	
JCH	**Churui**	**11.63**	**3**	*e*P		**Pn**	**22 31 20.5**	**-3.0**	
JCH				*e*S		Sn	22 33 21.2	-12	
ASAJ	**Asahikawa**	**13.12**	**0**	Pn		**Pn**	**22 31 41.7**	**-2.1**	
	2.4nm,0.3s,baz=230,slow=10,SNR=21								
ASAJ				Sn		Sn	22 33 57.7	-12	
	1.1nm,0.3s,baz=304,slow=30,SNR=3.9								
ASAJ	**Asahikawa**	**13.12**	**0**	P		**Pn**	**22 31 41.0**	**-2.8**	
JKA	**Kamikawa-asahi**	**13.12**	**0**	Pn		**Pn**	**22 31 41.0**	**-2.8**	
JOW	**Kunigami**	**13.16**	**255**	Pn		**Pn**	**22 31 46.2**	**+1.7**	
JOW	**Kunigami**	**13.16**	**255**	Pn		**Pn**	**22 31 44.1**	**-0.4**	
	0.1nm,0.3s,baz=230,slow=11,SNR=3.5								
JOW				LR		LR	22 37 11.4		
	comp=Z,240nm,18.2s,baz=75,slow=39								
	6.3nm,0.8s								
JOW	**Kunigami**	**13.16**	**255**	P		**P**	**22 31 53.3**	**-1.2**	
YUK	**Yuzh-Kuril'sk**	**13.29**	**10**	*i* P		**Pn**	**22 31 47.2**	**+1.0**	
KSRS	**Korea Array**	**13.71**	**302**	Pn		**Pn**	**22 31 53.5**	**+1.7**	
	0.9nm,0.3s,baz=109,slow=12,SNR=26								
KSRS				LR		LR	22 37 09.5		
	comp=Z,173μm,18.7s,baz=110,slow=37								
	6.0nm,0.8s								
KSAR	**Wonju Array Be**	**13.73**	**302**			**Pn**	**22 31 53.0**	**+0.9**	
KSAR	**Wonju Array Be**	**13.73**	**302**	P		**Pn**	**22 31 53.0**	**+0.9**	
TJN	**Taejon**	**13.73**	**297**	*e*P		**Pn**	**22 31 53.5**	**+1.3**	
KS19	**Wonju Array Si**	**13.77**	**302**			**Pn**	**22 31 53.6**	**+0.9**	
INCN	**Inchon**	**14.66**	**301**			**Pn**	**22 32 06.2**	**+1.2**	
INCN	**Inchon**	**14.66**	**301**	P		**Pn**	**22 32 06.2**	**+1.2**	
USRK	**Ussuriysk Ar.**	**15.61**	**331**	Pn		**Pn**	**22 32 18.0**	**+0.6**	
USRK	**Ussuriysk Ar.**	**15.61**	**331**	Pn		**Pn**	**22 32 17.9**	**+0.5**	
	0.2nm,0.3s,baz=149,slow=12,SNR=8.2								
USRK				LR		LR	22 39 20.2		
	comp=Z,105nm,19.4s,baz=152,slow=41								
	5.2nm,0.8s								
USRK	**Ussuriysk Ar.**	**15.61**	**331**	P		**Pn**	**22 32 18.0**	**+0.6**	
YSS	**Yuzhno-Sakhali**	**15.95**	**1**	*e*P		**P**	**22 32 30.9**	**+5.5**	
YSS				*e*S		**S**	**22 35 28.5**	**-3.8**	
YSS				pmax		pmax			
	comp=Z,40nm,0.8s								
MDJ	**Mudanjiang**	**17.00**	**327**			**Pn**	**22 32 33.9**	**-1.4**	
MDJ	**Mudanjiang**	**17.00**	**327**	P		**Pn**	**22 32 31.8**	**-3.4**	
MDJ				pmax		pmax			
	comp=Z,24nm,2.2s								
GUMO	**Guam**	**17.44**	**172**	Pn		**Pn**	**22 32 38.7**	**-2.2**	
GUMO				IAmb		IAmb	22 32 47.7		
	comp=Z,172nm,1.1s								
GUMO	**Guam**	**17.44**	**172**	LR		LR	22 38 31.6		
	comp=Z,79nm,21.1s,baz=26,slow=34								
GUMO	**Guam**	**17.44**	**172**	P		**Pn**	**22 32 38.7**	**-2.2**	
GUMO				pmax		pmax			
	comp=Z,172nm,1.2s								
SSE	**Sheshan**	**18.30**	**276**	P		**P**	**22 32 51.8**	**+0.3**	
SSE				S		**S**	**22 36 18.0**	**-2.4**	
SSE				pmax		pmax			
	comp=Z,11nm,0.7s								
SSE				pmax		pmax			
	comp=Z,56nm,3.3s								
SSE				LR		LR			
	comp=Z,140nm,16.0s								
SSE				LR		LR			
	comp=Z,110nm,15.1s								
YOJ	**Yonaguni jima**	**18.46**	**254**	P		**P**	**22 32 53.1**	**-0.2**	
YOJ				IAmb		IAmb	22 32 55.5		
	comp=Z,77nm,0.7s								
YOJ	**Yonaguni jima**	**18.46**	**254**	P		**Pn**	**22 32 54.8**	**+1.4**	
YOJ	**Yonaguni jima**	**18.46**	**254**	P		**P**	**22 32 53.1**	**-0.2**	
YOJ				pmax		pmax			
	comp=Z,77nm,0.7s								
CN2	**Changchun**	**18.62**	**318**	*e*P		**Pn**	**22 32 56.3**	**+1.1**	
CN2				*e*S		**Sn**	**22 36 19.5**	**-3.5**	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,100nm,3.0s								
CN2				LR		LR			
	comp=Z,200nm,11.0s								
CN2				LR		LR			
	comp=Z,100nm,11.0s								
CN2				LR		LR			
	comp=Z,200nm,11.0s								
DL2	**Dalian**	**18.86**	**300**	P		**Pn**	**22 33 01.3**	**+3.2**	
DL2				pmax		pmax			
	comp=Z,29nm,1.0s								
DL2				LR		LR			
	comp=Z,520nm,13.4s								
DL2				LR		LR			
	comp=Z,360nm,17.8s								
DL2				LR		LR			
	comp=Z,650nm,13.9s

ENH IAmb IAmb 22 34 31.4
comp=Z,13nm,0.5s
XAN Xi'an 28.45 285 P **P** **22 34 31.4 -1.0**
XAN pmax pmax
comp=Z,29nm,0.9s
XAN LR LR
comp=Z,170nm,15.1s
XAN LR LR
comp=Z,230nm,15.1s
XAN LR LR
comp=Z,190nm,17.2s
DAV Davao City (W) 28.60 217 LR LR 22 45 09.1
comp=Z,76nm,20.2s,baz=0.0,slow=35
QIZ Qiongzhong 31.82 256 P **P** **22 35 03.3 +1.0**
QIZ S **S** **22 40 14.0 +1.7**
QIZ LR LR
comp=Z,86nm,5.9s
QIZ LR LR
comp=Z,89nm,6.3s
ULN Ulaanbaatar 31.84 312 **P** **22 35 02.9 +0.5**
ULN Ulaanbaatar 31.84 312 P **P** **22 35 04.8 +2.4**
ULN Ulaanbaatar 31.84 312 *d iP* **P** **22 35 04.6 +2.2**
ULN pmax pmax
comp=Z,21nm,1.0s
YAK Yakutsk 32.17 349 **P** **22 35 04.0 -0.9**
YAK IAmb IAmb 22 35 06.0
comp=Z,21nm,0.7s
YAK Yakutsk 32.17 349 *eP* **P** **22 35 04.9 0.0**
YAK *e**PP **pwP** **22 35 16.0 -1.0**
YAK *e* 22 36 11.9
YAK *e*PPP PPP 22 36 22.0
YAK *e* 22 37 52.2
YAK *e*S **S** **22 40 16.2 -0.7**
YAK *e*SS **SnSn** **22 42 08.5 +0.8**
YAK *e* 22 45 30.7
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,113nm,3.8s
YAK pmax pmax
comp=N,54nm,4.9s
YAK pmax pmax
comp=E,153nm,4.5s
YAK smax smax
comp=E,93nm,4.6s
YAK smax smax
comp=N,53nm,3.3s
SONM Songino Array 32.25 312 **P** **22 35 07.1 +1.2**
SONM Songino Array 32.25 312 P **P** **22 35 07.9 +2.0**
comp=N,5.8nm,0.6s,baz=109,slow=7.5,SNR=49
SONM PcP **PcP** **22 37 54.8 +0.6**
comp=N,0.4nm,0.4s,baz=104,slow=3.9,SNR=2.2
SONM LR LR 22 47 55.5
comp=N,90nm,19.3s,baz=111,slow=36
comp=N,5.8nm,0.6s
LZH Lanzhou 32.51 290 *eP* **P** **22 35 08.0 -0.4**
LZH sP sP 22 35 15.3 +3.4
LZH pmax pmax
comp=N,13nm,1.3s
LZH LR LR
comp=N,190nm,14.6s
LZH LR LR
comp=N,200nm,14.9s
LZH LR LR
comp=N,180nm,14.0s
BOD Bodaibo 33.23 332 *eP* **P** **22 35 14.2 -0.1**
BOD pmax pmax
comp=Z,13nm,1.0s
TNTI Ternate 33.31 208 P **P** **22 35 13.7 -1.7**
TNTI IAmb IAmb 22 35 15.4
comp=Z,17nm,0.9s
MYLDM Lahad Datu 34.19 226 P **P** **22 35 22.7 -0.4**
MYLDM IAmb IAmb 22 35 37.7
comp=Z,36nm,1.0s
ZAK Zakamensk 35.00 315 *eP* **P** **22 35 31.3 +1.5**
ZAK pmax pmax
comp=Z,12nm,1.4s
FAKI Fak Fak 35.11 198 P **P** **22 35 29.9 -1.0**
FAKI IAmb IAmb 22 35 31.5
comp=Z,16nm,0.8s
KMI Kunming 35.47 271 P **P** **22 35 34.8 +0.4**
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI LR LR
comp=Z,140nm,15.6s
GTA Gaotai 35.65 296 P **P** **22 35 35.8 +0.2**
GTA PcP **PcP** **22 38 05.0 +1.0**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA LR LR
comp=Z,140nm,14.2s
GTA LR LR
comp=Z,230nm,16.4s
GTA LR LR
comp=Z,280nm,14.5s
SLVN Son La 35.84 264 **P** **22 35 36.5 -0.8**
PZH PanZhiHua 35.91 273 P **P** **22 35 36.9 -1.1**
MRSI Marisa 36.08 217 P **P** **22 35 39.8 +0.5**
comp=Z,42nm,1.0s
TOLI2 Tolitoli 36.16 219 P **P** **22 35 39.1 -0.9**
MSAI Masohi 36.52 203 P **P** **22 35 43.5 +0.4**
MOY Mondy 36.77 316 *eP* **P** **22 35 47.1 +2.1**
PCI Palu 38.35 218 P **P** **22 35 58.4 -0.3**
comp=Z,31nm,0.8s
TNCH TengChong 39.13 272 ⇓ *iP* **P** **22 36 04.3 -1.0**
TNCH pP pP 22 36 07.8 0.0
TNCH sP sP 22 36 10.9 +2.1
TNCH S **S** **22 42 03.6 -1.2**
TNCH pmax pmax
comp=Z,28nm,0.8s
TNCH pmax pmax
comp=Z,170nm,2.9s
TNCH LR LR
comp=Z,250nm,17.4s
TNCH LR LR
comp=Z,290nm,19.8s
TNCH LR LR
comp=Z,200nm,13.9s
BILL Bilibino 39.62 14 *c iP* **P** **22 36 09.7 +1.0**
BILL pmax pmax
comp=Z,11nm,1.1s
GOMU GeErMu 39.78 291 P **P** **22 36 11.5 +0.6**
GOMU pP sP 22 36 15.6 +1.2
GOMU sP pwP 22 36 18.9 -4.4
GOMU S **S** **22 42 16.3 +1.5**
GOMU pmax pmax
comp=Z,35nm,0.9s
GOMU LR LR
comp=Z,55nm,8.3s
GOMU LR LR
comp=Z,96nm,8.2s
GOMU LR LR
comp=Z,86nm,8.9s
CHTO Chiang Mai 41.12 263 **P** **22 36 20.3 -1.4**
CHTO Chiang Mai 41.12 263 P **P** **22 36 20.9 -0.8**
CHTO P **P** **22 36 20.9 -0.8**
CHTO Chiang Mai 41.12 263 P **P** **22 36 20.3 -1.4**
CHTO pmax pmax
comp=Z,18nm,1.4s
CMAR Chiang Mai Arr 41.27 263 P **P** **22 36 21.9 -1.1**
CMAR Chiang Mai Arr 41.27 263 P **P** **22 36 22.4 -0.5**
comp=Z,0.6nm,0.3s,baz=44,slow=7.6,SNR=8.9
CMAR LR LR 22 55 15.0
comp=Z,100nm,18.3s,baz=65,slow=39
comp=Z,0.6nm,0.3s
TIXI Tiksi 41.40 353 ⇓ *iP* **P** **22 36 23.8 +0.5**
TIXI pmax pmax
comp=Z,13nm,0.9s
UNV Unalaska Valle 42.85 43 P **P** **22 36 35.8 +0.5**
baz=259
SOEI Soe 44.13 206 P **P** **22 36 45.5 -0.8**
SOEI IAmb IAmb 22 37 03.6
comp=Z,42nm,1.0s
SOEI Soe 44.13 206 P **P** **22 36 46.2 -0.1**
comp=Z,43nm,1.1s
SHL Shillong 44.63 276 **P** **22 36 49.0 -1.3**
SHL Shillong 44.63 276 P **P** **22 36 50.0 -0.4**
SHL Shillong 44.63 276 P **P** **22 36 49.1 -1.3**
SHL pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 44.66 303 *eP* **P** **22 36 52.3 +2.1**
WMQ PcP **PP** **22 38 36.3 +1.9**
WMQ pmax pmax
comp=Z,29nm,1.1s
WMQ pmax pmax
comp=Z,180nm,3.7s
WMQ LR LR
comp=Z,200nm,24.3s
COEN Coen 44.68 179 P **P** **22 36 50.6 +0.1**
COEN IAmb IAmb 22 36 51.9
comp=Z,20nm,0.9s
COEN Coen 44.68 179 P **P** **22 36 50.9 +0.5**
comp=Z,22nm,1.2s
BATI Baumata 44.78 207 P **P** **22 36 50.6 -0.7**
comp=Z,39nm,0.9s,baz=282,slow=3.8,SNR=3.9
comp=Z,39nm,0.9s
MTN Manton Dam 44.93 196 **P** **22 36 51.6 -0.8**
MTN Manton Dam 44.93 196 P **P** **22 36 51.5 -1.0**
comp=Z,35nm,0.8s
TNA Tin City 45.76 26 P **P** **22 36 59.4 +0.9**
baz=246
K13K Kusilvak Mount 45.82 32 P **P** **22 36 60.0 +0.9**
baz=252
M13K Dall Lake 46.01 34 P **P** **22 37 01.0 +0.4**
baz=255
F14K Arctic Creek 46.34 27 P **P** **22 37 03.0 -0.1**
baz=248
ANM Nome 46.38 28 P **P** **22 37 03.3 -0.1**
baz=249
ZSN Zaisan 46.54 308 *eP* **P** **22 37 05.6 +0.6**
ZSN pmax pmax
comp=Z,14nm,1.2s
ZSN Zaisan 46.54 308 *eP* **P** **22 37 05.6 +0.6**
comp=Z,14nm,1.2s
SDPT Sand Point 46.55 41 P **P** **22 37 04.2 -0.6**
baz=263
J14K Nanvaranak Lak 46.56 31 P **P** **22 37 04.8 0.0**
baz=253
L14K Kuka Creek 46.56 33 P **P** **22 37 04.5 -0.4**
baz=255
M14K Bethel 46.76 34 P **P** **22 37 06.6 +0.2**
baz=256
ZAA0 Zalesovo Array 46.83 317 **P** **22 37 07.2 +0.2**
ZAA0 IAmb IAmb 22 38 40.9
comp=Z,7.8nm,0.7s
ZALV Zalesovo Beam 46.83 317 **P** **22 37 07.3 +0.2**
ZALV Zalesovo Beam 46.83 317 P **P** **22 37 08.0 +1.0**
comp=Z,2.9nm,0.6s,baz=106,slow=7.3,SNR=19
ZALV PcP **PcP** **22 38 40.3 +0.4**
comp=Z,8.8nm,0.6s,baz=98,slow=3.3,SNR=14
ZALV LR LR 22 57 32.7
comp=Z,64nm,18.9s,baz=122,slow=37
comp=Z,2.9nm,0.6s
KULM Kulim 46.88 246 P **P** **22 37 07.6 -0.3**
KULM IAmb IAmb 22 37 45.7
comp=Z,29nm,1.4s
CHNA Chernabura Isl 47.00 42 P **P** **22 37 08.3 -0.1**
baz=264
G15K Niukluk 47.06 28 P **P** **22 37 09.4 +0.6**
baz=250
F15K North Star Dit 47.07 27 P **P** **22 37 10.1 +1.2**
F15K IAmb IAmb 22 37 11.9
comp=Z,19nm,1.2s
F15K North Star Dit 47.07 27 P **P** **22 37 10.1 +1.2**
baz=249
S14K Fog Glacier 47.19 40 P **P** **22 37 09.3 -0.7**
baz=263
K15K Wolf Creek Mou 47.34 32 P **P** **22 37 11.8 +0.8**
baz=255
M15K Kasigluk River 47.35 34 P **P** **22 37 12.0 +0.9**
baz=258
O15K Ungalikthiuk R 47.48 36 P **P** **22 37 13.4 +1.3**
O15K Ungalikthiuk R 47.48 36 P **P** **22 37 12.4 +0.3**
baz=260
N15K Kwethluk River 47.53 35 P **P** **22 37 13.2 +0.7**
baz=259
H16K Elim 47.68 29 P **P** **22 37 13.8 +0.2**
baz=252
C16K Lisburne Hills 47.80 23 P **P** **22 37 14.5 +0.1**
baz=246
CHGN Chignik 47.82 40 P **P** **22 37 15.1 +0.4**
baz=264
G16K Koyuk River 47.87 28 P **P** **22 37 15.9 +0.9**
baz=252
J16K Anvik River 48.00 31 P **P** **22 37 16.7 +0.6**
baz=255
I17K Unalakleet 48.12 30 P **P** **22 37 17.3 +0.3**
baz=255
L16K Owhat River 48.14 33 P **P** **22 37 17.4 +0.1**
baz=258
EVN Everest 48.19 281 P **P** **22 37 18.9 +0.1**
EVN IAmb IAmb 22 37 33.0
comp=Z,6.0nm,0.7s
N16K Nishlik Lake 48.24 35 P **P** **22 37 18.1 +0.1**
baz=260
KNRA Kununurra 48.24 198 P **P** **22 37 18.3 -0.1**
M16K Timber Creek 48.25 34 P **P** **22 37 18.3 +0.2**
baz=259
MK31 Makanchi Array 48.32 307 *d iP* **P** **22 37 19.8 +0.9**
MKAR Makanchi Array 48.32 307 **P** **22 37 19.6 +0.7**
MKAR Makanchi Array 48.32 307 P **P** **22 37 19.9 +1.0**
comp=Z,21nm,0.9s,baz=90,slow=8.4,SNR=70
comp=Z,21nm,0.9s
D17K Noatak River 48.37 25 P **P** **22 37 19.1 +0.3**
baz=249
O16K Kokwok River B 48.43 36 P **P** **22 37 18.8 -0.6**
baz=261
G17K Kiwalik Mounta 48.58 28 P **P** **22 37 20.5 0.0**
baz=253
E17K Hotham Inlet 48.61 26 P **P** **22 37 21.2 +0.5**
baz=251
C17K DeLong Mountai 48.62 24 P **P** **22 37 21.3 +0.5**
baz=248
F17K Baldwin Pennin 48.62 26 P **P** **22 37 21.0 +0.2**
baz=252
J17K VABM Dome 48.70 31 **P** **22 37 22.8 +1.4**
J17K IAmb IAmb 22 37 24.4
comp=Z,16nm,1.0s
J17K VABM Dome 48.70 31 P **P** **22 37 21.8 +0.4**
baz=257,SNR=5.7
H17K Granite Mounta 48.72 29 P **P** **22 37 22.5 +0.8**
baz=255
L17K Donlin 48.78 32 P **P** **22 37 22.2 +0.1**
baz=259
K17K Iditarod 48.89 32 P **P** **22 37 23.2 +0.2**
baz=258,SNR=6.1
O17K Koliganek Bris 48.95 36 P **P** **22 37 24.0 +0.5**
baz=262
N17K Nushagak Hills 49.02 35 P **P** **22 37 24.1 +0.1**
baz=261
M17K Holitna River 49.04 33 P **P** **22 37 24.4 +0.2**
baz=260
R17L Mt. Peulik Vol 49.08 39 P **P** **22 37 24.1 -0.4**
baz=264
E18K Tukpahlearik C 49.17 25 P **P** **22 37 25.2 +0.1**
baz=252
P17K Kvichak River 49.21 36 P **P** **22 37 25.4 0.0**
baz=263
F18K Selawik 49.28 26 P **P** **22 37 25.4 -0.4**
baz=254
CHIR Chirikof Islan 49.34 41 P **P** **22 37 26.1 -0.4**
baz=266
C18K Utukok River 49.36 24 P **P** **22 37 26.2 -0.4**
baz=250
B18K Kokolik River 49.41 23 P **P** **22 37 26.5 -0.3**
baz=249
H18K Honhosa River 49.41 29 P **P** **22 37 26.7 -0.2**
baz=256
G18K Tagagawik 49.48 28 P **P** **22 37 27.2 -0.3**
baz=255,SNR=9.7
L18K Granite Mounta 49.53 33 P **P** **22 37 27.6 -0.2**
baz=260
N18K Kiae Creek 49.67 35 P **P** **22 37 28.7 -0.3**
baz=262
P18K Big Mountain, 49.85 36 P **P** **22 37 29.9 -0.5**
baz=264
O18K Koktuh Hills 49.91 36 P **P** **22 37 30.9 +0.1**
baz=263
A19K Wainwright 49.95 22 P **P** **22 37 31.2 +0.3**
baz=249
C19K Lookout Ridge 50.06 23 P **P** **22 37 32.0 +0.2**
baz=252
F19K Shaleruckik Mo 50.07 26 P **P** **22 37 31.9 +0.1**
baz=255
R18K Karluk 50.09 39 P **P** **22 37 32.0 -0.2**
baz=266
G19K Purcell Mounta 50.16 27 P **P** **22 37 32.1 -0.5**
baz=256
SII Sitkinak Islan 50.18 40 P **P** **22 37 31.4 -1.5**
baz=267
H19K Roundabout Mou 50.28 28 P **P** **22 37 34.7 +1.2**
H19K IAmb IAmb 22 37 36.0
comp=Z,20nm,1.1s
H19K Roundabout Mou 50.28 28 P **P** **22 37 32.8 -0.7**
baz=258,SNR=8.7
J19K Poorman 50.33 30 P **P** **22 37 33.4 -0.5**
baz=260
L19K White Mountain 50.38 33 P **P** **22 37 34.1 -0.2**
baz=262
N19K Bonanza Creek 50.38 35 P **P** **22 37 34.1 -0.3**
baz=263
D19K Kuna River 50.39 24 P **P** **22 37 34.6 +0.3**
baz=254
O19K Port Alsworth 50.39 35 P **P** **22 37 34.4 +0.1**
baz=264
E19K Redstone River 50.43 26 P **P** **22 37 34.9 +0.3**
baz=255,SNR=13
KURK Kurchatov 50.55 312 **P** **22 37 36.1 +0.3**
KURK IAmb IAmb 22 37 40.3
comp=Z,22nm,1.1s
KURK Kurchatov 50.55 312 P **P** **22 37 36.6 +0.8**
KURK P **P** **22 37 36.6 +0.8**
KURK Kurchatov 50.55 312 *ce*P **P** **22 37 36.3 +0.5**
KURK pmax pmax
comp=Z,20nm,1.1s
M19K Big River Lodg 50.56 33 P **P** **22 37 36.3 +0.6**
baz=262
KURBB Kurchatov Arra 50.61 312 P **P** **22 37 36.7 +0.4**
comp=Z,9.2nm,0.7s,baz=90,slow=6.9,SNR=48
KURBB PcP **PcP** **22 38 53.9 +0.2**
comp=Z,0.6nm,0.6s,baz=87,slow=4.7,SNR=1.4
comp=Z,9.2nm,0.7s
Q19K Cape Douglas, 50.62 37 P **P** **22 37 36.5 +0.3**
baz=266
SHLS Shalkode 50.68 303 *eP* **P** **22 37 35.6 -1.5**
SHLS pmax pmax
comp=Z,12nm,0.9s
SHLS Shalkode 50.68 303 *eP* **P** **22 37 35.6 -1.5**
comp=Z,12nm,0.9s
OHAK Old Harbor 50.70 39 P **P** **22 37 36.9 +0.1**
baz=267
MDSI Maura Dua 50.83 233 P **P** **22 37 38.7 +0.4**
L20K Farewell, AK 50.87 32 P **P** **22 37 38.2 +0.1**
baz=262
P19K Oil Pt 50.88 36 P **P** **22 37 37.6 -0.6**
baz=265
F20K Avaraart Lake 50.90 26 P **P** **22 37 38.3 +0.2**
baz=257,SNR=7.0
K20K Telida 50.90 31 P **P** **22 37 38.2 -0.1**
baz=262,SNR=6.6
H20K Anotleneega Mo 50.91 28 P **P** **22 37 38.1 -0.2**
baz=259,SNR=6.7
I20K Naaghedeneel 50.95 29 P **P** **22 37 39.0 +0.4**
baz=260
D20K Etivluk River 50.98 24 P **P** **22 37 39.1 +0.3**
baz=255,SNR=9.3
J20K Nowinta River 50.99 30 P **P** **22 37 39.5 +0.6**
baz=261,SNR=9.1
UZB Uzynbulak 51.00 303 *eP* **P** **22 37 40.1 +0.6**
UZB Uzynbulak 51.00 303 *eP* **P** **22 37 40.2 +0.6**
E20K Nigu River 51.01 25 P **P** **22 37 39.3 +0.2**
baz=256
WB0 Warramunga Arr 51.06 190 P **P** **22 37 39.0 -0.8**
KDAK Kodiak Island 51.11 39 P **P** **22 37 40.1 +0.2**
KDAK Kodiak Island 51.11 39 *eP* **P** **22 37 38.8 -1.0**
KDAK pmax pmax
comp=Z,112nm,2.3s
KDAK Kodiak Island 51.11 39 P **P** **22 37 39.9 +0.1**
baz=268
M20K Styx River 51.15 33 P **P** **22 37 40.5 +0.3**
baz=264
B20K Meade River 51.15 23 P **P** **22 37 39.7 -0.3**
baz=253
TDK Taldyqorghan 51.19 305 *eP* **P** **22 37 41.6 +0.9**
TDK pmax pmax
comp=Z,22nm,1.1s
TDK Taldyqorghan 51.19 305 *eP* **P** **22 37 41.6 +0.9**
comp=Z,22nm,1.1s
WR8 Warramunga Arr 51.23 190 P **P** **22 37 40.4 -0.7**
WR8 IAmb IAmb 22 37 41.4
comp=Z,28nm,0.8s
WRAB Tennant Creek 51.23 190 *i* P **P** **22 37 45.1 +4.0**
WRAB pmax pmax
comp=Z,7.0nm,0.3s
WRA Warramunga Arr 51.24 190 **P** **22 37 39.5 -1.7**
WRA Warramunga Arr 51.24 190 P **P** **22 37 40.5 -0.7**
comp=Z,31nm,0.9s,baz=8.3,slow=8.0,SNR=68
WRA PcP **PcP** **22 38 57.5 +1.1**
comp=Z,2.8nm,1.0s,baz=18,slow=4.1,SNR=2.8
comp=Z,31nm,0.9s
QIS Mount Isa 51.32 184 P **P** **22 37 41.5 -0.3**
comp=Z,10nm,1.1s
FITZ Fitzroy Crossi 51.43 201 **P** **22 37 42.5 -0.1**
FITZ Fitzroy Crossi 51.43 201 P **P** **22 37 43.0 +0.3**
comp=Z,13nm,0.8s,baz=28,slow=8.2,SNR=16
comp=Z,13nm,0.8s
SATY Saty 51.46 303 *eP* **P** **22 37 43.8 +0.9**
SATY pmax pmax
comp=Z,7.0nm,0.7s
SATY Saty 51.46 303 *eP* **P** **22 37 43.8 +0.9**
comp=Z,7.3nm,0.7s
IMAR Indian Mountai 51.46 28 P **P** **22 37 43.3 +0.9**
N20K Mount Spurr 51.52 34 P **P** **22 37 42.2 -0.8**
baz=265
PRZ Przheval'sk 51.56 302 **P** **22 37 44.2 +0.5**
PRZ Przheval'sk 51.56 302 P **P** **22 37 44.2 +0.5**
PRZ pmax pmax
comp=Z,61nm,0.9s
G21K Allakaket 51.66 27 P **P** **22 37 44.2 +0.3**
baz=260,SNR=9.1
HOM Homer 51.69 36 P **P** **22 37 43.5 -0.7**
baz=267
PPLA Purkeypile 51.69 32 P **P** **22 37 44.2 -0.1**
baz=264
A21K Barrow 51.71 21 P **P** **22 37 44.4 +0.3**
baz=253
C21K Knifeblade Rid 51.73 24 P **P** **22 37 44.4 +0.1**
baz=256
GSI Gunungsitoli 51.75 244 P **P** **22 37 44.6 -0.7**
GSI IAmb IAmb 22 37 57.8
comp=Z,28nm,1.0s
H21K Melozitna Rive 51.79 28 P **P** **22 37 45.2 +0.3**
baz=261,SNR=6.3
F21K Alatna River 51.79 26 P **P** **22 37 45.1 +0.2**
baz=259
CAST Castle Rocks 51.80 31 P **P** **22 37 45.2 +0.3**
baz=263,SNR=6.4
E21K Killik River 51.86 25 P **P** **22 37 45.6 +0.2**
baz=258
CNPM China Poot 51.89 36 P **P** **22 37 45.4 -0.3**
B21K Ikpikpuk River 51.90 23 **P** **22 37 46.5 +0.9**
B21K IAmb IAmb 22 37 47.7
comp=Z,11nm,0.8s
B21K Ikpikpuk River 51.90 23 P **P** **22 37 45.8 +0.2**
baz=256
SKT Skwentna 51.91 33 P **P** **22 37 46.6 +0.8**
SKT IAmb IAmb 22 37 51.8
comp=Z,27nm,1.7s
SKT Skwentna 51.91 33 P **P** **22 37 46.1 +0.2**
baz=265
I21K Tanana 52.06 29 P **P** **22 37 46.9 0.0**
baz=262
TARG Taragay, Kyrgy 52.12 301 P **P** **22 37 49.2 +1.0**
TARG Taragay, Kyrgy 52.12 301 P **P** **22 37 49.2 +1.0**
TARG pmax pmax
comp=Z,36nm,1.0s
A22K Sinclair Lake 52.13 22 P **P** **22 37 47.2 -0.1**
baz=255
SUA Susitna One 52.24 34 P **P** **22 37 48.4 0.0**
baz=266
F22K John River 52.34 26 P **P** **22 37 49.2 +0.2**
baz=260
BPAW Bear Paw Mtn. 52.36 31 P **P** **22 37 49.3 +0.1**
baz=264
D22K Ayikyak River 52.41 24 P **P** **22 37 49.5 0.0**
baz=259,SNR=5.1
H22K Ishtalitna Cre 52.41 28 P **P** **22 37 49.8 +0.3**
baz=262,SNR=7.1
B22K Teshekpuk Lake 52.47 23 P **P** **22 37 50.4 +0.6**
baz=257
G22K Bettles 52.51 27 P **P** **22 37 50.4 +0.3**
baz=261
KDJ Kajisay 52.51 302 P **P** **22 37 51.9 +1.1**
KDJ IAmb IAmb 22 37 53.3
comp=Z,16nm,0.8s
KDJ Kajisay 52.51 302 P **P** **22 37 51.9 +1.1**
KDJ pmax pmax

comp=Z,15nm,0.8s
AAA Alma-Ata 52.52 303 *e*P **P** **22 37 51.6 +0.9**
AAA pmax pmax
comp=Z,24nm,0.9s
AAA Alma-Ata 52.52 303 *e*P **P** **22 37 51.7 +0.9**
comp=Z,24nm,0.9s
TNSS Tian-Shan 52.52 303 *e*P **P** **22 37 51.6 +0.5**
TNSS Tian-Shan 52.52 303 *e*P **P** **22 37 51.7 +0.5**
MLY Manley 52.57 29 **P** **22 37 51.7 +1.0**
MLY Manley 52.57 29 P **P** **22 37 50.8 +0.1**
baz=263,SNR=10
E22K Anaktuvuk Pass 52.59 25 P **P** **22 37 51.1 +0.3**
baz=260,SNR=13
TRF Thorofare Moun 52.60 31 P **P** **22 37 51.2 +0.1**
baz=265
RC01 Rabbit Creek A 52.71 34 P **P** **22 37 51.9 +0.1**
baz=267
KUU Kurty 52.81 304 *e*P **P** **22 37 53.6 +0.8**
KUU pmax pmax
comp=Z,17nm,0.9s
KUU Kurty 52.81 304 *e*P **P** **22 37 53.7 +0.8**
comp=Z,17nm,0.9s
PMR Palmer 53.02 34 P **P** **22 37 54.4 +0.4**
baz=268
COLD Coldfoot 53.05 27 P **P** **22 37 55.5 +1.3**
COLD IAmb IAmb 22 38 16.2
comp=Z,18nm,1.6s
COLD Coldfoot 53.05 27 P **P** **22 37 54.7 +0.4**
baz=262
G23K Bananza Creek 53.06 27 P **P** **22 37 54.7 +0.4**
baz=263,SNR=14
D23K Nanushuk River 53.14 24 P **P** **22 37 55.2 +0.4**
baz=261
H23K Yukon River 53.15 28 P **P** **22 37 55.1 +0.2**
baz=264,SNR=8.8
I23K Minto, Yukon-K 53.16 29 P **P** **22 37 55.1 +0.1**
baz=265
MCK McKinley 53.23 31 P **P** **22 37 55.8 +0.2**
baz=266
NEA2 Nenana 53.23 30 P **P** **22 37 56.4 +0.8**
NEA2 IAmb IAmb 22 37 57.8
comp=Z,17nm,0.9s
NEA2 Nenana 53.23 30 P **P** **22 37 55.7 +0.2**
baz=265,SNR=16
C23K Itkillik River 53.31 23 P **P** **22 37 56.0 0.0**
baz=260
KNK Knik Glacier 53.34 34 P **P** **22 37 56.5 +0.1**
baz=268
PWL Port Wells 53.38 35 P **P** **22 37 56.7 0.0**
baz=269
E23K Chandalar 53.39 26 P **P** **22 37 57.1 +0.3**
baz=262
TOLK Toolik Lake Re 53.49 25 P **P** **22 37 57.3 -0.2**
baz=262
TKM2 Tokmak 2 53.52 303 P **P** **22 38 00.2 +1.9**
SNR=18
WRH Wood River Hil 53.65 30 P **P** **22 37 59.2 +0.6**
COLA College 53.78 30 *i* P **P** **22 38 00.3 +0.8**
COLA pmax pmax
comp=Z,8.0nm,0.9s
CCB Clear Creek Bu 53.78 30 P **P** **22 38 00.7 +1.2**
E24K Your Creek 53.81 26 P **P** **22 38 00.3 +0.5**
baz=263,SNR=6.3
D24K Happy Valley 53.83 24 P **P** **22 38 00.3 +0.5**
baz=262,SNR=5.9
H24K Noodor Dome 53.83 29 P **P** **22 38 00.0 0.0**
baz=266,SNR=11
SCM Sheep Creek Mo 53.89 34 P **P** **22 38 00.3 -0.2**
baz=269
KSH Kashi 53.93 299 P **P** **22 38 05.9 +4.7**
KSH pmax pmax
comp=Z,30nm,0.8s
C24K Franklin Bluff 53.95 24 P **P** **22 38 00.7 0.0**
baz=262
POKR Poker Plat Res 53.97 29 P **P** **22 38 02.6 +1.6**
POKR IAmb IAmb 22 38 09.1
comp=Z,9.0nm,0.8s
POKR Poker Plat Res 53.97 29 P **P** **22 38 00.8 -0.2**
baz=266
F24K Squaw Lake 53.98 26 P **P** **22 38 01.0 -0.1**
baz=264,SNR=6.5
GLI Glacier Island 53.99 35 P **P** **22 38 00.4 -0.7**
baz=270
KBK Karagaybulak 54.03 303 P **P** **22 38 03.8 +1.7**
SNR=18
G24K Hadweenzic Riv 54.06 27 P **P** **22 38 02.0 +0.4**
baz=265,SNR=8.4
CHMS Chumysh 54.11 303 P **P** **22 38 03.8 +1.4**
SNR=5.9
SGDS Sogindy 54.11 304 *e*P **P** **22 38 03.4 +0.9**
comp=Z,6.3nm,0.8s
HDA Harding Lake 54.14 30 P **P** **22 38 01.7 -0.5**
baz=267,SNR=5.3
IL31 54.18 30 P **P** **22 38 02.6 +0.1**
IL31 IAmb IAmb 22 38 03.6
comp=Z,10nm,0.9s
ILAR Eielson Array 54.18 30 P **P** **22 38 02.5 0.0**
comp=Z,5.9nm,0.8s,baz=261,slow=6.1,SNR=45
ILAR LR LR 22 58 41.2
comp=Z,44nm,21.9s,baz=250,slow=33
comp=Z,5.9nm,0.8s
BTLS Baital 54.24 306 *e*P **P** **22 38 04.2 +1.0**
BTLS pmax pmax
comp=Z,15nm,1.0s
BTLS Baital 54.24 306 *e*P **P** **22 38 04.3 +1.0**
comp=Z,15nm,1.0s
USP Ospenovka 54.24 303 P **P** **22 38 04.5 +1.2**
SNR=14
AAK Ala-Archa 54.37 303 **P** **22 38 05.2 +0.8**
AAK IAmb IAmb 22 38 06.7
comp=Z,16nm,0.8s
AAK Ala-Archa 54.37 303 P **P** **22 38 06.2 +1.7**
AAK Ala-Archa 54.37 303 P **P** **22 38 05.9 +1.5**
SNR=7.4
AAK Ala-Archa 54.37 303 *ce*P **P** **22 38 05.8 +1.4**
AAK pmax pmax
comp=Z,18nm,0.8s
AAK Ala-Archa 54.37 303 *i* P **P** **22 38 06.0 +1.5**
SNR=7.4
Q23K Middleton Isla 54.38 37 P **P** **22 38 03.5 -0.5**
baz=272
BRZS Berezniki 54.41 312 *e*P **P** **22 38 05.1 +0.7**
BRZS Berezniki 54.41 312 *e*P **P** **22 38 05.2 +0.7**
M24K Tolsona, Glenn 54.44 33 P **P** **22 38 04.7 +0.2**
baz=270
UCH Uchtor 54.44 302 P **P** **22 38 07.2 +1.9**
SNR=17
KLU Klutina 54.56 34 P **P** **22 38 05.4 0.0**
baz=270
G25K Bearman Lake 54.61 27 P **P** **22 38 05.9 +0.3**
baz=266
K24K Donnelly Dome 54.63 31 P **P** **22 38 05.9 +0.1**
baz=269
EYAK Cordova Ski Ar 54.66 35 P **P** **22 38 05.7 -0.2**
baz=271
H25L Birch Creek 54.70 28 P **P** **22 38 06.4 +0.2**
baz=267
D25K Kavik River 54.71 24 P **P** **22 38 06.6 +0.3**
baz=264
PAX Paxson 54.76 32 P **P** **22 38 07.0 +0.1**
baz=270
PRP Porcupine Dome 54.79 29 P **P** **22 38 06.8 -0.3**
baz=268
J25K Salcha River, 54.83 30 P **P** **22 38 07.4 0.0**
baz=269
F25K Christian Rive 54.84 26 P **P** **22 38 07.4 0.0**
baz=266,SNR=8.9
EKS2 Erkin-Say 54.88 303 P **P** **22 38 09.2 +1.1**
SNR=8.7
E25K Arctic Village 54.91 26 P **P** **22 38 07.8 0.0**
baz=266
HARP HAARP 54.91 33 P **P** **22 38 08.3 +0.4**
baz=270
AS31 Alice Springs 54.96 190 P **P** **22 38 08.1 -0.5**
AS31 Alice Springs 54.96 190 P **P** **22 38 07.9 -0.8**
comp=Z,4.2nm,1.3s
ASAR Alice Springs 54.96 190 **P** **22 38 07.7 -0.9**
ASAR Alice Springs 54.96 190 P **P** **22 38 07.9 -0.7**
comp=Z,5.2nm,0.7s,baz=9.0,slow=7.1,SNR=56
ASAR PcP **PcP** **22 39 11.2 +0.8**
comp=Z,2.7nm,0.8s,baz=14,slow=3.8,SNR=2.6
comp=Z,5.2nm,0.7s
RIDG Independent Ri 55.05 31 P **P** **22 38 08.8 -0.1**
baz=270
N25K Chitina, Valde 55.19 34 P **P** **22 38 10.2 +0.2**
baz=272
BMRM Bremner River 55.20 35 P **P** **22 38 09.6 -0.5**
baz=272
BMAR Burnt Mountain 55.24 27 P **P** **22 38 12.0 +1.7**
C26K Camden Bay 55.27 24 P **P** **22 38 10.9 +0.6**
baz=265
F26K Sheenjek River 55.42 26 P **P** **22 38 12.0 +0.5**
baz=268
SCRK Sand Creek 55.43 31 P **P** **22 38 11.6 -0.1**
baz=270,SNR=9.7
BVAR Bovoye Array 55.45 316 P **P** **22 38 12.8 +0.9**
comp=Z,3.3nm,0.5s,baz=93,slow=8.9,SNR=28
BVAR PcP **PcP** **22 39 12.5 +0.6**
comp=Z,4.5nm,0.7s,baz=108,slow=6.0,SNR=5.3
comp=Z,3.3nm,0.5s
BRVK Borovoye 55.51 316 **P** **22 38 12.0 -0.3**
BRVK Borovoye 55.51 316 P **P** **22 38 13.3 +1.0**
BRVK Borovoye 55.51 316 *d* P **P** **22 38 12.9 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.9s
G26K Porcupine Rive 55.54 27 P **P** **22 38 12.4 +0.2**
baz=269,SNR=5.9
J26L Joseph Creek 55.61 30 P **P** **22 38 12.3 -0.7**
baz=270,SNR=10
C27K Jago River 55.67 24 P **P** **22 38 13.0 -0.3**
baz=267
L26K Log Cabin Wild 55.73 32 P **P** **22 38 13.9 +0.2**
baz=272
M26K Nabesna, AK 55.92 33 P **P** **22 38 15.7 +0.6**
baz=272
MCARA McCarthy VSAT 55.95 34 P **P** **22 38 16.2 +0.8**
baz=273
K27K Chicken 56.27 31 P **P** **22 38 17.8 +0.2**
baz=272
MBWA Marble Bar 56.28 206 P **P** **22 38 17.7 -0.4**
MBWA IAmb IAmb 22 38 18.3
comp=Z,19nm,0.8s
MBWA Marble Bar 56.28 206 P **P** **22 38 17.5 -0.5**
G27K Doyon Strip 56.38 27 P **P** **22 38 19.2 +0.9**
baz=271
E27K Coleen River 56.40 26 P **P** **22 38 18.7 +0.2**
baz=270
I27K Kandik River 56.42 29 P **P** **22 38 18.6 -0.1**
baz=272
L27K Beaver Creek, 56.42 32 P **P** **22 38 19.3 +0.6**
baz=273
H27K Steamboat Moun 56.44 28 P **P** **22 38 19.1 +0.3**
baz=271,SNR=17
M27K Edge Creek, AK 56.44 33 P **P** **22 38 18.1 -0.9**
baz=273
BCAR Beaver Creek A 56.44 32 **P** **22 38 19.4 +0.5**
MESA MESA 56.56 35 P **P** **22 38 18.9 -1.0**
baz=275
DZA Taraz 56.59 304 *e*P **P** **22 38 21.1 +0.8**
DZA pmax pmax
comp=Z,9.0nm,1.1s
DZA Taraz 56.59 304 *e*P **P** **22 38 21.1 +0.8**
comp=Z,9.2nm,1.1s
PSA00 Pilbara Seismi 56.61 205 P **P** **22 38 20.1 -0.4**
EIDS Eidsvold 56.62 171 P **P** **22 38 20.3 -0.2**
EIDS IAmb IAmb 22 38 21.8
comp=Z,19nm,1.6s
D27M Malcolm River 56.63 25 P **P** **22 38 19.4 -0.7**
baz=270
F28M Old Crow 57.05 26 P **P** **22 38 24.0 +0.9**
baz=272,SNR=6.1
I28M Miner Creek 57.12 29 P **P** **22 38 24.3 +0.5**
baz=273,SNR=12
KK31 Karatay Array 57.13 304 P **P** **22 38 24.7 +0.7**
KK31 Karatay Array 57.13 304 P **P** **22 38 24.7 +0.7**
KK31 pmax pmax
comp=Z,76nm,1.3s
KKAR Karatay Array 57.13 304 **P** **22 38 24.6 +0.6**
KKAR Karatay Array 57.13 304 P **P** **22 38 24.6 +0.6**
E28M Babbage River 57.15 25 P **P** **22 38 23.5 -0.3**
baz=271,SNR=5.5
DAWY Dawson 57.45 31 P **P** **22 38 25.9 -0.1**
baz=274,SNR=8.3
DZM Mont Dzumac 57.52 154 P **P** **22 38 28.7 +1.7**
comp=Z,9.2nm,1.0s,baz=66,slow=5.0,SNR=5.8
DZM LR LR 23 00 58.3
comp=Z,65nm,20.8s,baz=351,slow=34
comp=Z,9.2nm,1.0s
NIL Nilore 57.60 292 **P** **22 38 28.2 +0.6**
NIL IAmb IAmb 22 38 30.5
comp=Z,23nm,0.8s
NIL Nilore 57.60 292 P **P** **22 38 29.2 +1.7**
NIL Nilore 57.60 292 P **P** **22 38 28.2 +0.6**
NIL pmax pmax
comp=Z,23nm,0.9s
BRLS Boroldoy 57.62 304 *e*P **P** **22 38 29.7 +2.2**
BRLS pmax pmax
comp=Z,11nm,1.0s
BRLS Boroldoy 57.62 304 *e*P **P** **22 38 29.8 +2.2**
comp=Z,11nm,1.0s
H29M Whitestone 57.72 28 P **P** **22 38 28.4 +0.5**
baz=274
E29M Blow River 57.77 26 P **P** **22 38 28.6 +0.5**
baz=273
G29M Pine Creek 57.81 27 P **P** **22 38 29.4 +1.0**
baz=274,SNR=9.1
I29M Ogilvie Camp, 57.81 29 P **P** **22 38 29.2 +0.7**
baz=275,SNR=14
J29N Klondike Camp 57.92 30 P **P** **22 38 29.5 +0.1**
baz=275
CHM Chimkent 57.97 303 *e*P **P** **22 38 30.9 +0.9**
CHM pmax pmax
comp=Z,14nm,1.0s
CHM Chimkent 57.97 303 *e*P **P** **22 38 30.9 +0.9**
comp=Z,14nm,1.0s
M29M Somme Creek 58.02 33 P **P** **22 38 29.8 -0.3**
baz=276,SNR=7.0
L29M L29M 58.10 32 **P** **22 38 32.3 +1.7**
L29M L29M 58.10 32 P **P** **22 38 29.9 -0.7**
baz=276,SNR=22
O29M Mount Kennedy 58.22 35 P **P** **22 38 30.5 -1.1**
baz=278
K29M Barlow Dome 58.29 31 P **P** **22 38 31.2 -0.8**
baz=276,SNR=18
GAR Garm 58.31 299 **P** **22 38 33.1 +0.5**
EPYK Eagle Plains 58.37 28 P **P** **22 38 32.2 -0.2**
baz=275,SNR=19
G30M tAoh Zraii Nji 58.51 27 P **P** **22 38 33.5 +0.2**
baz=275,SNR=8.3
F30M Barrier River 58.62 26 P **P** **22 38 33.6 -0.5**
baz=275
I30M Mount Dempster 58.63 29 P **P** **22 38 34.6 +0.2**
baz=276,SNR=12
HYT Haines Junctio 58.67 34 P **P** **22 38 33.9 -0.8**
baz=278
J30M Hart River 58.72 30 P **P** **22 38 34.9 -0.1**
baz=277
P29M Windy Craggy 58.73 36 P **P** **22 38 34.6 -0.4**
baz=279
M30M Minto, Yukon 58.77 32 P **P** **22 38 35.2 0.0**
baz=278,SNR=6.1
N30M Aishikik Lake 58.78 34 P **P** **22 38 35.3 -0.1**
baz=278
P30M Million Dollar 59.05 35 P **P** **22 38 37.5 +0.2**
baz=279
HYB Hyderabad 59.20 273 *e*P **P** **22 38 39.1 +0.2**
HYB *es*P **sP** **22 38 43.7 +1.2**
HYB *e*PP **PP** **22 40 49.9 +0.2**
HYB *e*ScS **ScS** **22 48 29.7 +0.7**
G31M Satah River 59.28 27 P **P** **22 38 38.9 +0.3**
baz=277,SNR=6.0
SIMJ Simiganj 59.39 299 **P** **22 38 40.9 +0.8**
INK Inuvik 59.39 25 P **P** **22 38 40.2 +0.8**
INK IAmb IAmb 22 38 44.4
comp=Z,15nm,1.3s
INK Inuvik 59.39 25 P **P** **22 38 40.2 +0.8**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 59.39 25 P **P** **22 38 39.2 -0.2**
baz=277
H31M Peel River 59.40 28 P **P** **22 38 39.6 0.0**
baz=278,SNR=7.4
N31M Braeburn, Yuko 59.40 33 P **P** **22 38 39.6 0.0**
baz=279
M31M Drury Creek, Y 59.93 33 P **P** **22 38 43.6 +0.3**
baz=280
SKAG Skagway 59.97 36 P **P** **22 38 43.1 -0.5**
baz=281
WHY Whitehorse 59.97 34 P **P** **22 38 43.1 -0.6**
baz=280
SVE Sverdlovsk 60.38 321 *e*P **P** **22 38 47.3 +0.9**
SVE pmax pmax
comp=Z,15nm,1.0s
SIT Sitka 60.45 38 P **P** **22 38 46.9 +0.1**
baz=272
R32K Eaglecrest 60.62 37 P **P** **22 38 47.7 -0.3**
baz=282
KBL Kabul 60.63 295 P **P** **22 38 48.9 +0.1**
KBL IAmb IAmb 22 38 50.6
comp=Z,18nm,0.9s
KBL Kabul 60.63 295 P **P** **22 38 49.7 +0.9**
SNR=17
KBL Kabul 60.63 295 P **P** **22 38 48.9 +0.1**
KBL pmax pmax
comp=Z,18nm,1.0s
P32M Atlin 60.75 35 P **P** **22 38 48.0 -1.0**
baz=282
S32K Killisnoo 60.76 38 P **P** **22 38 48.9 0.0**
baz=282
P33M Teslin, Yukon 61.06 35 P **P** **22 38 51.7 +0.5**
baz=282
MMPY Sheldon Lake, 61.28 32 **P** **22 38 53.7 +1.2**
MMPY IAmb IAmb 22 38 58.4
comp=Z,14nm,1.3s
MMPY Sheldon Lake, 61.28 32 P **P** **22 38 53.1 +0.6**
baz=282
A36M Sachs Harbour 61.55 21 P **P** **22 38 53.9 -0.2**
baz=282
Q32M Nakina River 61.62 36 P **P** **22 38 54.2 -0.9**
baz=283
ARTI Arti 61.69 321 **P** **22 38 55.4 +0.1**
ARTI IAmb IAmb 22 38 58.1
comp=Z,12nm,0.6s
ARTI Arti 61.69 321 *d* P **P** **22 38 55.5 +0.2**
ARTI 22 39 33.9
ARTI S **S** **22 47 18.0 +0.9**
ARTI SS **SS** **22 51 17.7 -0.4**
ARTI pmax pmax
comp=Z,18nm,1.2s
U33K Whale Pass 61.85 39 P **P** **22 38 56.3 0.0**
baz=284
CRAG Craig 62.01 40 P **P** **22 38 56.8 -0.6**
baz=285
R33M Jennings River 62.16 35 P **P** **22 38 57.2 -1.4**
baz=284
PALK Pallekele 62.19 261 LR LR 23 09 10.7
comp=Z,64nm,18.0s,baz=138,slow=39
S34M Telegraph Cree 62.45 37 P **P** **22 39 00.8 +0.4**
baz=285
STKA Stephens Creek 62.52 181 P **P** **22 39 00.6 -0.4**
comp=Z,2.8nm,0.7s,baz=324,slow=7.9,SNR=3.3
comp=Z,2.8nm,0.7s
C36M Paulatuk 62.56 24 P **P** **22 39 00.3 -0.6**
baz=285
AB31 Akbulak array 62.65 313 **P** **22 39 02.6 +0.7**
AB31 IAmb IAmb 22 39 07.3
comp=Z,9.5nm,0.6s
ABKAR Akbulak array 62.65 313 **P** **22 39 02.5 +0.6**
V35K Ketchikan 62.88 40 P **P** **22 39 02.6 -0.6**
baz=286
DLBC Dease Lake 62.88 36 LR LR 23 09 39.9
comp=Z,36nm,18.1s,baz=193,slow=39
DLBC Dease Lake 62.88 36 P **P** **22 39 03.6 +0.3**
baz=285
TGTN Hyland Airport 62.91 33 P **P** **22 39 03.5 0.0**
baz=285
T35M Bob Quinn 63.16 38 P **P** **22 39 05.8 +0.7**
baz=286
MORW Morawa 64.83 206 P **P** **22 39 16.3 0.0**
KIRV Kirov 65.68 325 *i* P **P** **22 39 21.9 +0.3**
SPITS Spitsbergen Ar 66.63 350 P **P** **22 39 28.6 +1.2**
comp=Z,5.5nm,0.7s,baz=54,slow=6.3,SNR=8.1
comp=Z,5.5nm,0.7s
SPITS Spitsbergen Ar 66.63 350 P **P** **22 39 28.7 +1.2**
SPITS pmax pmax
comp=Z,58nm,1.9s
NWAO Narrogin (SRO) 67.92 203 P **P** **22 39 35.9 -0.1**
NWAO Narrogin (SRO) 67.92 203 P **P** **22 39 35.9 -0.1**
NWAO pmax pmax
comp=Z,75nm,1.3s
LVZ Lovozero 68.02 337 *e*P **P** **22 39 37.5 +1.1**
LVZ pmax pmax
comp=Z,15nm,1.1s
RES Resolute Bay 68.23 14 LR LR 23 15 01.0
comp=Z,69nm,18.3s,baz=6.0,slow=41
YKA Yellowknife Ar 68.60 29 P **P** **22 39 39.7 -0.3**
YKA Yellowknife Ar 68.60 29 P **P** **22 39 40.6 +0.6**
comp=Z,4.0nm,0.7s,baz=300,slow=6.4,SNR=8.7
comp=Z,4.0nm,0.7s
APA Apatity 68.60 337 *e*P **P** **22 39 39.3 -0.6**
APA *e*S **S** **22 48 35.9 -5.7**
APA *e* 22 49 38.8
APA MLR MLR
comp=Z,235nm,4.4s
BELG Belogornoye 68.92 319 *i* P **P** **22 39 43.2 +1.0**
BELG pmax pmax
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 69.40 329 *e*P **P** **22 39 43.0 -2.0**
KLMR pmax pmax
comp=Z,24nm,1.7s
ARCES ARCESS Array B 69.99 341 P **P** **22 39 49.2 +0.6**
ARCES ARCESS Array B 69.99 341 P **P** **22 39 49.0 +0.4**
comp=Z,6.1nm,0.8s,baz=57,slow=6.6,SNR=8.0
comp=Z,6.1nm,0.8s
ARCES ARCESS Array B 69.99 341 P **P** **22 39 49.2 +0.6**
NEEM North Greenlan 71.51 3 *e*P **P** **22 39 58.5 +0.4**
DAG Danmarks Havn 71.87 356 P **P** **22 40 00.9 +1.1**
DAG pmax pmax
comp=Z,22nm,1.2s
DAG Danmarks Havn 71.87 356 *i* P **P** **22 40 00.0 +0.2**
MOS Moscow 72.70 325 *e*P **P** **22 40 04.1 -1.0**
MOS pmax pmax
comp=Z,31nm,1.1s
MXC Moxie City 72.73 46 P **P** **22 40 05.9 +0.3**
VRH Novokhopyorsk 72.74 320 *e*P **P** **22 40 03.5 -2.0**
VRH pmax pmax
comp=Z,6.0nm,0.9s
JLN Jalan Bani Buh 73.31 286 P **P** **22 40 10.5 +1.2**
AKT Akhty 73.51 309 *e*P **P** **22 40 09.5 -0.9**
AKT *e* 22 40 23.0
AKT *e* 22 42 56.3
AKT pmax pmax
comp=Z,25nm,0.7s
OBN Obninsk 73.54 325 *i* P **P** **22 40 08.3 -1.8**
OBN *i* 22 40 28.5
OBN *i* 22 42 53.2
OBN pmax pmax
comp=Z,25nm,1.4s
OBN MLR MLR
comp=Z,65nm,17.0s
OBN Obninsk 73.54 325 P **P** **22 40 10.4 +0.3**
comp=Z,19nm,1.1s
PINE Pine Mountain 73.58 49 **P** **22 40 11.2 +0.3**
PINE IAmb IAmb 22 40 15.7
comp=Z,14nm,1.0s
LPSR Galich'ya Gora 73.59 322 *e*P **P** **22 40 08.3 -2.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BIDO Bidbid 73.74 288 P **P** **22 40 12.2 +0.3**
NEW Newport 73.85 43 LR LR 23 14 44.0
comp=Z,44nm,18.1s,baz=180,slow=38
SEKA Sheki 73.99 309 P **P** **22 40 12.6 -0.6**
SMDO Samad 74.02 288 P **P** **22 40 12.3 -1.4**
LKRN Lenkeran, Azer 74.05 306 P **P** **22 40 13.3 -0.1**
VSR Storozhevoye 74.14 320 *e*P **P** **22 40 12.4 -1.3**
VSR pmax pmax
comp=Z,9.0nm,1.0s
SHME Shamm 74.20 291 P **P** **22 40 16.2 +1.6**
SNR=18
SHME Shamm 74.20 291 *i* P **P** **22 40 16.2 +1.6**
SNR=18
MNGR Mingechevir, A 74.27 308 P **P** **22 40 14.4 -0.2**
JMDO Jabal Madar 74.28 287 P **P** **22 40 15.8 +0.7**
MDH Madha 74.42 290 P **P** **22 40 16.6 +0.8**
MASF Masafi 74.50 290 P **P** **22 40 17.7 +1.4**
BLKN Baker Lake 74.59 23 P **P** **22 40 15.9 -0.1**
BLKN IAmb IAmb 22 40 19.4
comp=Z,16nm,0.9s
FIA1 FINESS Array S 74.62 334 P **P** **22 40 16.7 +0.4**
FINES FINESS Array B 74.62 334 P **P** **22 40 16.6 +0.4**
FINES FINESS Array B 74.62 334 P **P** **22 40 16.6 +0.3**
comp=Z,5.8nm,0.8s,baz=74,slow=4.5,SNR=16
comp=Z,5.8nm,0.8s
FINES FINESS Array B 74.62 334 P **P** **22 40 16.7 +0.4**
UOSS Minazif 74.66 290 **P** **22 40 16.9 -0.3**
UOSS IAmb IAmb 22 40 19.5
comp=Z,31nm,1.1s
UOSS Minazif 74.66 290 P **P** **22 40 18.0 +0.8**
UOSS Minazif 74.66 290 *i* P **P** **22 40 18.4 +1.2**
SNR=6.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SOHO	**SOHO**	**74.76**	**289**	P	**P**	**22 40 19.0**	**+1.3**
SOHO				P	**P**	**22 40 19.0**	**+1.3**
SOHO	**SOHO**	**74.76**	**289**	*i* P	**P**	**22 40 19.1**	**+1.3**
	SNR=11						
HATD	**Hatta, Dubai**	**74.77**	**290**	P	**P**	**22 40 19.5**	**+1.6**
	SNR=8.9						
HATD	**Hatta, Dubai**	**74.77**	**290**	*i* P	**P**	**22 40 20.0**	**+2.1**
	SNR=8.9						
GANJ	**Ganja**	**74.84**	**308**	P	**P**	**22 40 17.8**	**-0.3**
GOF	**Gofitskoye**	**74.88**	**314**	*ce*P	**P**	**22 40 19.8**	**+1.6**
ASHO	**Ashiyiah**	**74.89**	**290**	P	**P**	**22 40 20.1**	**+1.5**
	SNR=7.4						
ASHO				P	**P**	**22 40 20.1**	**+1.5**
	SNR=7.4						
ASHO	**Ashiyiah**	**74.89**	**290**	*i* P	**P**	**22 40 19.9**	**+1.3**
	SNR=7.4						
MHTO	**MHTO**	**75.03**	**286**	P	**P**	**22 40 20.3**	**+0.9**
NAZ	**Nazwa, Dubai**	**75.07**	**290**	P	**P**	**22 40 20.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**75.07**	**290**	P	**P**	**22 40 20.7**	**+1.2**
ARQ	**Araqi**	**75.14**	**288**	P	**P**	**22 40 21.5**	**+1.5**
	SNR=8.9						
FAQ	**Al Faqa, Dubai**	**75.24**	**290**	P	**P**	**22 40 21.7**	**+1.1**
FAQ				P	**P**	**22 40 21.7**	**+1.1**
FAQ	**Al Faqa, Dubai**	**75.24**	**290**	P	**P**	**22 40 21.7**	**+1.1**
NCK	**Nalchik**	**75.28**	**312**	⇑*i*P	**P**	**22 40 21.6**	**+1.1**
NCK				pmax	pmax		
	comp=Z,15nm,1.2s						
ALNE	**Al Ain**	**75.43**	**289**	P	**P**	**22 40 23.0**	**+1.3**
ALNE	**Al Ain**	**75.43**	**289**	*i* P	**P**	**22 40 23.1**	**+1.4**
	SNR=11						
ASUD	**Al Ashush, Dub**	**75.51**	**290**	P	**P**	**22 40 23.4**	**+1.2**
ASUD				P	**P**	**22 40 23.4**	**+1.2**
ASUD	**Al Ashush, Dub**	**75.51**	**290**	P	**P**	**22 40 23.6**	**+1.5**
KBZ	**Khabaz**	**75.61**	**312**	P	**P**	**22 40 24.1**	**+1.8**
	comp=Z,14nm,0.9s,baz=85,slow=1.8,SNR=22						
	comp=Z,14nm,0.9s						
KBZ	**Khabaz**	**75.61**	**312**	*d i*P	**P**	**22 40 23.6**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,24nm,1.0s						
KIV	**Kislovodsk**	**75.64**	**313**		**P**	**22 40 22.9**	**+0.2**
KIV	**Kislovodsk**	**75.64**	**313**	*e*P	**P**	**22 40 23.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV	**Kislovodsk**	**75.64**	**313**	P	**P**	**22 40 23.4**	**+0.8**
	comp=Z,11nm,1.1s						
WVOR	**Wild Horse Val**	**75.71**	**49**	P	**P**	**22 40 23.1**	**0.0**
WVOR				IAmb	IAmb	22 40 27.5	
	comp=Z,11nm,1.4s						
WVOR	**Wild Horse Val**	**75.71**	**49**	P	**P**	**22 40 23.2**	**0.0**
WVOR				pmax	pmax		
	comp=Z,11nm,1.4s						
AJN	**Ajban**	**75.81**	**290**	P	**P**	**22 40 24.6**	**+0.8**
DQM	**DQM**	**75.88**	**285**	P	**P**	**22 40 24.0**	**-0.3**
NAX	**Nakhchivan**	**76.09**	**307**	P	**P**	**22 40 25.1**	**-0.2**
ERBR	**Yeremizino-Bor**	**76.13**	**315**	*e*P	**P**	**22 40 23.5**	**-1.8**
ERBR				*e**PP	**pP**	**22 40 26.5**	**-1.5**
ERBR				*e*S	**S**	**22 50 05.8**	**-2.7**
ERBR				pmax	pmax		
	comp=Z,29nm,1.2s						
GNI	**Garni**	**76.14**	**309**		**P**	**22 40 25.7**	**0.0**
GNI				IAmb	IAmb	22 40 54.8	
	comp=Z,21nm,1.1s						
GNI	**Garni**	**76.14**	**309**	*i* P	**P**	**22 40 27.0**	**+1.3**
GNI				pmax	pmax		
	comp=Z,16nm,1.6s						
GNI	**Garni**	**76.14**	**309**	P	**P**	**22 40 27.7**	**+2.0**
VSU	**Vasula**	**76.16**	**331**	*ce*P	**P**	**22 40 24.9**	**-0.3**
VSU				pmax	pmax		
	comp=Z,21nm,1.0s						
UMZA	**Um Al Zommool**	**76.53**	**288**	P	**P**	**22 40 28.7**	**+0.7**
CMB	**Columbia Colle**	**76.66**	**54**		**P**	**22 40 28.7**	**+0.2**
CMB				IAmb	IAmb	22 40 32.5	
	comp=Z,7.7nm,1.0s						
CMB	**Columbia Colle**	**76.66**	**54**	P	**P**	**22 40 28.7**	**+0.2**
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	**Summit**	**76.72**	**0**		**P**	**22 40 29.3**	**+0.6**
SUMG				IAmb	IAmb	22 40 31.2	
	comp=Z,16nm,0.8s						
SUMG	**Summit**	**76.72**	**0**	P	**P**	**22 40 29.3**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,16nm,0.8s						
SUMG	**Summit**	**76.72**	**0**	*e*P	**P**	**22 40 29.9**	**+1.2**
MZWR	**Madinat Zayed**	**77.08**	**290**	P	**P**	**22 40 31.6**	**+0.6**
MRZ	**Mangatainoka R**	**77.57**	**155**	P	**P**	**22 40 33.5**	**+0.2**
RYN	**Ryan**	**77.65**	**52**		**P**	**22 40 34.2**	**0.0**
MZR	**Muzera**	**77.76**	**289**	P	**P**	**22 40 35.8**	**+0.8**
MZR	**Muzera**	**77.76**	**289**	*i* P	**P**	**22 40 35.8**	**+0.8**
	SNR=12						
GHWR	**Ruwais**	**77.79**	**291**	P	**P**	**22 40 35.5**	**+0.4**
LRM	**Limekiln Ridge**	**77.84**	**44**	P	**P**	**22 40 35.7**	**+0.4**
NVAR	**Mina Array Bea**	**77.89**	**52**	P	**P**	**22 40 35.5**	**-0.1**
NVAR	**Mina Array Bea**	**77.89**	**52**	P	**P**	**22 40 36.2**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=280,slow=5.5,SNR=14						
	comp=Z,2.7nm,0.7s						
MNK	**Minsk**	**78.05**	**327**	*i* P	**P**	**22 40 36.7**	**+0.8**
MNK				*i*		22 43 31.7	
MNK				*i* PPP	PPP	22 45 21.7	
MNK				*i* S	**S**	**22 50 31.2**	**+2.1**
MNK				*i* SS	**SS**	**22 55 32.0**	**+2.5**
MNK				*i* SSS	SSS	22 58 55.3	
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,8.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,70nm,18.0s						
MNK				MLR	MLR		
	comp=E,47nm,16.0s						
MNK				MLR	MLR		
	comp=N,22nm,14.0s						
ANN	**Anapa**	**78.45**	**315**	*e*P	**P**	**22 40 36.9**	**-1.4**
ANN				*e**PP	**pP**	**22 40 39.7**	**-1.3**
ANN				*e*		22 43 32.7	
ANN				*e*S	**S**	**22 50 33.2**	**-0.5**
ANN				*e*SS	**SS**	**22 55 34.1**	**-1.9**
ANN				pmax	pmax		
	comp=Z,27nm,1.0s						
BOZ	**Bozeman (W)**	**78.45**	**44**	P	**P**	**22 40 39.1**	**+0.6**
BOZ				IAmb	IAmb	22 40 53.8	
	comp=Z,15nm,1.9s						
BOZ	**Bozeman (W)**	**78.45**	**44**	P	**P**	**22 40 39.1**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,15nm,1.9s						
GURO	**Guroymak-BITLI**	**78.75**	**308**	P	**P**	**22 40 41.7**	**+1.4**
GURO				IAmb	IAmb	22 40 43.0	
	comp=Z,14nm,0.9s						
ELK	**Elko**	**78.76**	**49**	LR	LR	23 09 31.2	
	comp=Z,65nm,20.2s,baz=252,slow=31						
YHL	**Hebgen Lake**	**79.12**	**44**	P	**P**	**22 40 42.9**	**+0.5**
DOK	**Doka**	**79.33**	**285**	P	**P**	**22 40 43.9**	**+0.3**
AK03	**Malin Array Si**	**79.67**	**324**	P	**P**	**22 40 44.7**	**-0.2**
AKASG	**Malin Array Be**	**79.68**	**324**	P	**P**	**22 40 45.4**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=46,slow=5.9,SNR=17						
	comp=Z,2.3nm,0.6s						
AKBB	**Malin Array Si**	**79.68**	**324**		**P**	**22 40 45.0**	**0.0**
AKBB				IAmb	IAmb	22 40 46.3	
	comp=Z,25nm,1.5s						
AKBB	**Malin Array Si**	**79.68**	**324**	P	**P**	**22 40 45.0**	**0.0**
AKBB				pmax	pmax		
	comp=Z,25nm,1.5s						
AKBB	**Malin Array Si**	**79.68**	**324**	P	**P**	**22 40 44.8**	**-0.2**
AK01	**Malin Array Si**	**79.69**	**324**	P	**P**	**22 40 45.0**	**0.0**
KIEV	**Kiev**	**79.70**	**324**		**P**	**22 40 45.3**	**+0.3**
KIEV				IAmb	IAmb	22 40 46.3	
	comp=Z,25nm,1.6s						
KIEV	**Kiev**	**79.70**	**324**	P	**P**	**22 40 45.3**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,25nm,1.6s						
KIEV	**Kiev**	**79.70**	**324**	P	**P**	**22 40 45.4**	**+0.4**
KIEV	**Kiev**	**79.70**	**324**	P	**P**	**22 40 44.7**	**-0.3**
	comp=Z,44nm,1.8s						
AK04	**Malin Array Si**	**79.70**	**324**	P	**P**	**22 40 45.1**	**+0.1**
AK09	**Malin Array Si**	**79.70**	**323**	P	**P**	**22 40 45.2**	**+0.1**
AK08	**Malin Array Si**	**79.71**	**324**	P	**P**	**22 40 45.0**	**-0.1**
AK02	**Malin Array Si**	**79.72**	**324**	P	**P**	**22 40 45.2**	**+0.1**
AK11	**Malin Array Si**	**79.73**	**324**	P	**P**	**22 40 45.3**	**+0.1**
AK22	**Malin Array Si**	**79.73**	**324**	P	**P**	**22 40 45.2**	**0.0**
AK05	**Malin Array Si**	**79.74**	**324**	P	**P**	**22 40 45.4**	**+0.1**
AK12	**Malin Array Si**	**79.75**	**324**	P	**P**	**22 40 45.5**	**+0.2**
AK16	**Malin Array Si**	**79.76**	**324**	P	**P**	**22 40 45.5**	**+0.1**
AK06	**Malin Array Si**	**79.77**	**324**	P	**P**	**22 40 45.6**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AK14	**Malin Array Si**	**79.78**	**324**	P	**P**	**22 40 45.4**	**-0.1**
FXWY	**Fox Creek**	**79.87**	**45**		**P**	**22 40 46.9**	**+0.5**
HFS	**Hagfors**	**79.99**	**337**	P	**P**	**22 40 46.6**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=76,slow=6.3,SNR=6.6						
	comp=Z,5.0nm,0.9s						
TPNV	**Topopah Spring**	**80.05**	**53**	P	**P**	**22 40 47.1**	**-0.3**
TPNV	**Topopah Spring**	**80.05**	**53**	P	**P**	**22 40 47.1**	**-0.3**
TPNV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RLMT	**Red Lodge**	**80.10**	**43**		**P**	**22 40 48.1**	**+0.4**
RLMT				IAmb	IAmb	22 40 52.4	
	comp=Z,20nm,1.5s						
NB2	**NORSAR Subarra**	**80.13**	**338**	P	**P**	**22 40 47.0**	**-0.3**
	comp=Z,9.6nm,1.0s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**80.13**	**338**	P	**P**	**22 40 47.2**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=39,slow=5.2,SNR=12						
	comp=Z,3.9nm,0.9s						
MARD	**Mardin**	**80.24**	**308**		**P**	**22 40 48.9**	**+0.5**
MARD				IAmb	IAmb	22 40 50.6	
	comp=Z,16nm,0.8s						
MI28	**Mi28,Pidlybu**	**80.33**	**324**	P	**P**	**22 40 49.0**	**+0.6**
SUW	**Suwalki**	**80.51**	**329**	*e*P	**P**	**22 40 50.2**	**+0.8**
SUW	**Suwalki**	**80.51**	**329**	P	**P**	**22 40 49.5**	**+0.2**
SUW	**Suwalki**	**80.51**	**329**	P	**P**	**22 40 49.5**	**+0.2**
ABTO	**Aybut**	**80.64**	**285**	P	**P**	**22 40 50.5**	**-0.3**
HWUT	**Hardware Ranch**	**80.65**	**47**		**P**	**22 40 50.8**	**+0.2**
HWUT				IAmb	IAmb	22 40 56.1	
	comp=Z,23nm,1.6s						
LUBAR	**Lubar, Ukraine**	**80.91**	**324**	P	**P**	**22 40 51.8**	**+0.2**
ARPR	**Arapgir-MALATY**	**80.93**	**310**	P	**P**	**22 40 52.8**	**+0.7**
ARPR				IAmb	IAmb	22 41 07.9	
	comp=Z,24nm,1.1s						
RNPP8	**Varash**	**80.97**	**325**	P	**P**	**22 40 51.9**	**0.0**
RNPP5	**Staryi Chortor**	**81.03**	**325**	P	**P**	**22 40 52.5**	**+0.3**
PD31	**Pinedale Array**	**81.25**	**45**	P	**P**	**22 40 53.5**	**-0.4**
PDAR	**Pinedale Array**	**81.25**	**45**	P	**P**	**22 40 53.4**	**-0.5**
PDAR	**Pinedale Array**	**81.25**	**45**	P	**P**	**22 40 54.2**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=298,slow=3.2,SNR=9.1						
	comp=Z,1.4nm,0.9s						
PFO	**Pinyon Flats O**	**81.64**	**56**	P	**P**	**22 40 55.5**	**-0.4**
PFO	**Pinyon Flats O**	**81.64**	**56**	LR	LR	23 16 07.4	
	comp=Z,70nm,18.5s,baz=230,slow=35						
PFO	**Pinyon Flats O**	**81.64**	**56**	*i* P	**P**	**22 40 55.9**	**0.0**
PFO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SORM	**Soroca**	**81.69**	**322**	P	**P**	**22 40 55.6**	**-0.1**
KONO	**Kongsberg**	**81.72**	**338**	*i* P	**P**	**22 40 57.1**	**+1.4**
KONO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LCMT	**Little Creek M**	**82.06**	**52**	P	**P**	**22 40 58.3**	**+0.2**
BC3	**Big Chuckawall**	**82.33**	**55**	P	**P**	**22 40 59.4**	**-0.1**
KNB	**Kanab**	**82.34**	**51**	P	**P**	**22 41 00.2**	**+0.6**
KNB				IAmb	IAmb	22 41 03.5	
	comp=Z,9.9nm,1.2s						
KNB	**Kanab**	**82.34**	**51**	P	**P**	**22 41 00.2**	**+0.6**
KNB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BNN	**Bunyan**	**82.69**	**311**		**P**	**22 41 02.4**	**+1.0**
BNN				IAmb	IAmb	22 41 03.8	
	comp=Z,22nm,1.1s						
BR131	**Keskin Array S**	**83.60**	**313**		**P**	**22 41 06.5**	**+0.5**
BR131	**Keskin Array S**	**83.60**	**313**	*d i*P	**P**	**22 41 06.6**	**+0.5**
BRTR	**Keskin Array B**	**83.60**	**313**	P	**P**	**22 41 06.8**	**+0.7**
	comp=Z,11nm,0.9s,baz=63,slow=5.7,SNR=50						
	comp=Z,11nm,0.9s						
BUR08	**Bucovina Ar. S**	**83.65**	**323**	P	**P**	**22 41 06.9**	**+0.7**
BUR08				IAmb	IAmb	22 41 07.9	
	comp=Z,12nm,1.2s						
BURAR	**Bucovina Array**	**83.66**	**323**		**P**	**22 41 06.7**	**+0.5**
RAYN	**Ar Rayn**	**83.88**	**294**		**P**	**22 41 07.8**	**+0.1**
RAYN	**Ar Rayn**	**83.88**	**294**	P	**P**	**22 41 08.1**	**+0.5**
RAYN	**Ar Rayn**	**83.88**	**294**	P	**P**	**22 41 07.8**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,116nm,1.6s						
RAYN	**Ar Rayn**	**83.88**	**294**	*i* P	**P**	**22 41 08.8**	**+1.2**
	SNR=29						
ANTO	**Ankara**	**84.05**	**313**	P	**P**	**22 41 09.0**	**+0.7**
ANTO				IAmb	IAmb	22 41 10.3	
	comp=Z,12nm,0.8s						
ANTO	**Ankara**	**84.05**	**313**	P	**P**	**22 41 09.5**	**+1.2**
ANTO	**Ankara**	**84.05**	**313**	P	**P**	**22 41 09.0**	**+0.7**
ANTO				pmax	pmax		
	comp=Z,12nm,0.9s						
KOLS	**Kolonicke sedl**	**84.29**	**325**	*e*P	**P**	**22 41 10.0**	**+0.8**
TBI	**Tubuai**	**84.61**	**121**	*e*LR	LR	23 07 52.2	
	comp=Z,621nm,24.8s						
NIE	**Niedzica**	**84.92**	**326**	*e*P	**P**	**22 41 14.1**	**+1.7**
ISCO	**Idaho Springs**	**85.39**	**46**	P	**P**	**22 41 15.8**	**+0.4**
ISCO	**Idaho Springs**	**85.39**	**46**	P	**P**	**22 41 15.8**	**+0.4**
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LANS	**Liptovska Anna**	**85.49**	**327**	*e*P	**P**	**22 41 17.9**	**+2.6**
STEB	**Steborice**	**85.73**	**328**	*e*P	**P**	**22 41 17.5**	**+1.0**
MORC	**Moravsky Berou**	**85.95**	**328**	*e*P	**P**	**22 41 17.8**	**+0.2**
KRLC	**Kraliky**	**86.08**	**328**	*e*P	**P**	**22 41 18.9**	**+0.6**
KRLC	**Kraliky**	**86.08**	**328**	*e*P	**P**	**22 41 18.9**	**+0.6**
DPC	**Dobruska-Polom**	**86.09**	**329**	*e*P	**P**	**22 41 18.8**	**+0.5**
DPC	**Dobruska-Polom**	**86.09**	**329**	*e*P	**P**	**22 41 18.8**	**+0.5**
PSZ	**Piszkesteto**	**86.14**	**325**	P	**P**	**22 41 18.6**	**0.0**
PSZ				IAmb	IAmb	22 41 20.4	
	comp=Z,18nm,1.5s						
PSZ	**Piszkesteto**	**86.14**	**325**	P	**P**	**22 41 18.6**	**0.0**
PSZ				pmax	pmax		
	comp=Z,18nm,1.5s						
MMAI	**Mount Meron Ar**	**86.27**	**306**	P	**P**	**22 41 20.0**	**+0.4**
	comp=Z,4.6nm,0.8s,baz=50,slow=5.5,SNR=7.3						
	comp=Z,4.6nm,0.8s						
JAVC	**Velka Javorina**	**86.54**	**327**	*e*P	**P**	**22 41 21.8**	**+1.2**
VRAC	**Vranov**	**86.72**	**328**	*e*P	**P**	**22 41 21.4**	**0.0**
CLL	**Collm**	**86.82**	**331**	P	**P**	**22 41 21.6**	**-0.1**
CLL				IAmb	IAmb	22 41 23.6	
	comp=Z,5.6nm,0.9s						
CLL	**Collm**	**86.82**	**331**	*i* P	**P**	**22 41 22.3**	**+0.5**
CLL				pmax	pmax		
	comp=Z,14nm,1.5s						
CLL	**Collm**	**86.82**	**331**	*e*P	**P**	**22 41 22.1**	**+0.3**
	comp=Z,13nm,1.4s,baz=338,slow=4.7						
CLL	**Collm**	**86.82**	**331**	*i* P	**P**	**22 41 22.3**	**+0.5**
	comp=Z,14nm,1.5s						
KRUC	**Moravsky**	**86.99**	**328**	*e*P	**P**	**22 41 22.7**	**+0.1**
CLZ	**Clausthal**	**87.48**	**333**	*e*P	**P**	**22 41 25.8**	**+0.8**
	comp=Z,11nm,1.3s,baz=338,slow=4.7						
ANMO	**Albuquerque**	**87.75**	**50**	LR	LR	23 19 09.6	
	comp=Z,73nm,18.5s,baz=4.0,slow=35						
MOX	**Moxa**	**87.89**	**331**	*e*L	L	23 26 30.0	
	comp=Z,84nm,18.1s						
RONA	**Rosalia, Austr**	**88.02**	**327**	*i* P	**P**	**22 41 28.2**	**+0.5**
	comp=Z,6.6nm,1.4s						
CONA	**Conrad Observa**	**88.05**	**327**	*e*PcP	**P**	**22 41 28.8**	**+0.8**
	comp=Z,4.5nm,1.7s						
KHC	**Kasperske Hory**	**88.20**	**329**	*ce*P	**P**	**22 41 28.9**	**+0.4**
KHC				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KHC	**Kasperske Hory**	**88.20**	**329**	*e*P	**P**	**22 41 29.0**	**+0.4**
ROTZ	**Rotzenmuhle**	**88.31**	**330**	*e*P	**P**	**22 41 29.0**	**0.0**
	comp=Z,4.7nm,1.9s,baz=338,slow=4.7						
GERES	**GERESS Array B**	**88.36**	**329**	P	**P**	**22 41 30.2**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=54,slow=4.5,SNR=4.5						
	comp=Z,0.4nm,0.6s						
ARSA	**Arzberg**	**88.70**	**327**	*e*P	**P**	**22 41 29.8**	**-1.1**
	comp=Z,2.2nm,1.1s						
GRF	**Grafenberg Arr**	**88.79**	**331**	*e*L	L	23 29 41.1	
	comp=Z,54nm,18.6s						
MOA	**Molln**	**88.84**	**328**	*e*P	**P**	**22 41 31.8**	**+0.3**
	comp=Z,3.1nm,1.4s						
BIOA	**Bad Ischl, Aus**	**89.24**	**328**	*i* PcP	**P**	**22 41 33.9**	**+0.4**
	comp=Z,4.5nm,1.0s						
SOKA	**Soboth**	**89.35**	**327**	*e*P	**P**	**22 41 34.2**	**+0.2**
	comp=Z,9.2nm,1.6s						
RJOB	**Jochberg**	**89.59**	**329**	*e*P	**P**	**22 41 35.7**	**+0.6**
	comp=Z,7.0nm,1.1s,baz=338,slow=4.7						
OBKA	**Obir**	**89.70**	**327**	*e*P	**P**	**22 41 35.4**	**-0.3**
	comp=Z,2.1nm,0.8s						
KBA	**Koelnbreinsper**	**89.83**	**328**	*i* P	**P**	**22 41 34.1**	**-2.4**
	comp=Z,3.5nm,1.3s						
LESA	**Schwarzleotal**	**89.88**	**329**	*i* P	**P**	**22 41 35.8**	**-0.7**
	comp=Z,4.9nm,1.3s						
MYKA	**Terra Mystica**	**90.03**	**328**	*e*P	**P**	**22 41 36.9**	**-0.3**
	comp=Z,1.1nm,0.5s						
WATA	**Walderalm**	**90.43**	**329**	*e*P	**P**	**22 41 38.9**	**-0.3**
	comp=Z,1.4nm,0.8s						
ABTA	**Abfaltersbach**	**90.46**	**328**	*i* P	**P**	**22 41 38.7**	**-0.5**
	comp=Z,4.8nm,1.0s						
WTTA	**Wattenberg**	**90.46**	**329**	*i* PcP	**P**	**22 41 39.4**	**+0.1**
	comp=Z,4.7nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOTA	**Moosalm**	**90.63**	**329**	*i* P	**P**	**22 41 39.9**	**-0.2**
	comp=Z,6.5nm,1.1s						
RETA	**Reutte**	**90.67**	**330**	*i* PcP	**PcP**	**22 41 40.9**	**-0.4**
	comp=Z,7.8nm,0.9s						
SQTA	**Sankt Quirin**	**90.68**	**329**	*i* P	**P**	**22 41 39.6**	**-0.7**
	comp=Z,3.6nm,1.0s						
SCHQ	**Schefferville**	**90.88**	**16**	LR	LR	23 27 01.5	
	comp=Z,44nm,19.2s,baz=139,slow=39						
BFO	**Black Forest**	**91.04**	**331**	P	**P**	**22 41 42.5**	**+0.7**
BFO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BFO	**Black Forest**	**91.04**	**331**	*e*P	**P**	**22 41 40.7**	**-1.2**
	comp=Z,36nm,1.9s,baz=338,slow=4.7						
FETA	**Feichten**	**91.05**	**329**	*i* PcP	**P**	**22 41 42.3**	**+0.2**
	comp=Z,6.6nm,1.0s						
DAVA	**Damuels**	**91.21**	**330**	*i* PcP	**P**	**22 41 43.3**	**+0.5**
	comp=Z,12nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**91.56**	**329**		**P**	**22 41 44.7**	**+0.1**
TUE	**Stuetta**	**92.07**	**330**		**P**	**22 41 46.6**	**-0.2**
TUE				IAmb	IAmb	22 41 48.0	
	comp=Z,7.8nm,1.1s						
WMOK	**Wichita Mounta**	**92.80**	**46**	P	**P**	**22 41 49.8**	**-0.5**
WMOK				IAmb	IAmb	22 41 50.9	
	comp=Z,5.9nm,1.3s						
WMOK	**Wichita Mounta**	**92.80**	**46**	P	**P**	**22 41 49.8**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TXAR	**Lajitas Array**	**93.03**	**53**	P	**P**	**22 41 51.3**	**-0.2**
TXAR	**Lajitas Array**	**93.03**	**53**	P	**P**	**22 41 52.3**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=277,slow=2.5,SNR=15						
	comp=Z,1.9nm,0.9s						
RKT	**Rikitea**	**95.54**	**114**	*e*LR	LR	23 12 51.9	
	comp=Z,4µm,41.8s						
QSPA	**South Pole Qui**	**120.74**	**180**	PKP	**PKiKP**	**22 47 29.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=248,slow=0.4,SNR=22						
TORD	**Torodi Ar. Bea**	**122.21**	**313**	PKP	**PKPdf**	**22 47 32.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=27,slow=2.3,SNR=9.1						
LPAZ	**La Paz**	**148.45**	**69**	PKPbc	**PKPbc**	**22 48 25.8**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=16,slow=4.7,SNR=22						
PLCA	**Paso Flores**	**151.61**	**119**	PKPbc	**PKPbc**	**22 48 31.4**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=232,slow=4.5,SNR=5.9						

---

*IDC **17** 22:36:04.9±1.4, 22.°58N×142.°09E, h236km±13km, mb3.7/15, mbtmp4.4/20, Error ellipse: s-maj=18.9km s-min=9.2km az=85.0*

*NEIC **17** 22:36:06.9±1.2, 22.°55N±0.°09×142.°0E±0.°1, h251km±8km, mb4.3/35, Error ellipse: s-maj=18.5km s-min=13.0km az=96.0*

*JMA **17** 22:36:08.7±0.3, 23°N±1°×14°3E±°, h296km, MV5.0/32, IOTO ISLANDS REGION*

ISC 17 22:36:07.4±0.6**, 22.°62N**±0.°06×**142.°03E**±0.°09**, h260**km**, n104, σ1.°37**/106**, mb4.1**/37**, 1C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.00**	**2**	P	**Pn**	**22 37 10.9**	**-0.7**
JHH2				S	**S**	**22 38 00.1**	**-2.6**
CBIJ	**Chichi jima**	**4.46**	**2**	P	**Pn**	**22 37 15.8**	**-1.1**
CBIJ				S	**S**	**22 38 08.3**	**-4.1**
JCJ	**Chichijima**	**4.46**	**2**		**Pn**	**22 37 15.9**	**-1.0**
JCJ	**Chichijima**	**4.46**	**2**	P	**Pn**	**22 37 15.7**	**-1.3**
	288nm,0.3s,baz=123,slow=7.6,SNR=60						
JCJ				S	**S**	**22 38 08.4**	**-4.1**
	128nm,0.4s,baz=291,slow=23,SNR=8.4						
JCJ	**Chichijima**	**4.46**	**2**	P	**Pn**	**22 37 15.9**	**-1.0**
JHCJ	**Hachijojimakas**	**10.60**	**350**	*e*P	**Pn**	**22 38 31.6**	**-1.6**
JHJ2	**Mitsune**	**10.63**	**350**	Pn	**Pn**	**22 38 31.0**	**-2.7**
JHJ2	**Mitsune**	**10.63**	**350**	*e*P	**Pn**	**22 38 31.6**	**-2.1**
JHJ	**Hachijo jima 2**	**10.64**	**350**	P	**Pn**	**22 38 31.7**	**-2.1**
	79nm,0.3s,baz=62,slow=24,SNR=11						
JMKN	**Mikurajimanish**	**11.43**	**350**	*e*P	**Pn**	**22 38 42.0**	**-1.6**
BSO1	**Boso 1**	**12.02**	**356**	*e*P	**Pn**	**22 38 48.6**	**-1.8**
BSO3	**Boso 3**	**12.21**	**354**	*e*P	**Pn**	**22 38 51.4**	**-1.5**
BSO4	**Boso 4**	**12.41**	**354**	*e*P	**Pn**	**22 38 54.1**	**-1.6**
JIE	**Ise**	**12.62**	**339**	*e*P	**Pn**	**22 38 59.1**	**+0.8**
JKN2	**Miekihoku**	**12.63**	**338**	P	**P**	**22 38 59.7**	**-0.6**
JHMK	**Hamakita**	**12.71**	**344**	P	**Pn**	**22 38 57.9**	**-1.4**
JOD2	**Odawara 2**	**12.86**	**349**	*e*P	**Pn**	**22 38 59.9**	**-1.3**
JTO	**Tosashimizu**	**13.06**	**323**	P	**P**	**22 39 06.1**	**+1.0**
JOW	**Kunigami**	**13.18**	**291**		**Pn**	**22 39 05.1**	**-0.2**
JOW	**Kunigami**	**13.18**	**291**	P	**Pn**	**22 39 05.3**	**0.0**
	8.4nm,0.7s,baz=120,slow=15,SNR=8.2						
JMN	**Monobe**	**13.19**	**329**		**Pn**	**22 39 05.6**	**+0.3**
JMN	**Monobe**	**13.19**	**329**	P	**P**	**22 39 08.7**	**+2.1**
JNY	**Yasuok**	**13.20**	**345**	P	**Pn**	**22 39 04.0**	**-1.5**
INU	**Inuyama**	**13.41**	**342**		**Pn**	**22 39 07.4**	**-0.6**
INU	**Inuyama**	**13.41**	**342**	P	**P**	**22 39 08.8**	**-0.2**
JGF	**Kuroka**	**13.56**	**344**		**Pn**	**22 39 08.7**	**-1.1**
JGF	**Kuroka**	**13.56**	**344**	P	**Pn**	**22 39 10.1**	**+0.3**
MJAR	**Matsushiro Arr**	**14.26**	**347**		**Pn**	**22 39 16.5**	**-1.8**
MJAR	**Matsushiro Arr**	**14.26**	**347**	P	**Pn**	**22 39 15.6**	**-2.7**
	3.7nm,0.4s,baz=167,slow=11,SNR=20						
MAJO	**Matsushiro**	**14.26**	**347**		**Pn**	**22 39 16.4**	**-1.9**
MAJO	**Matsushiro**	**14.26**	**347**	P	**Pn**	**22 39 16.9**	**-1.4**
MJB9	**Matsu-Tunnel**	**14.27**	**347**	P	**Pn**	**22 39 16.3**	**-2.1**
JNU	**Nakatsue**	**14.36**	**319**		**P**	**22 39 20.1**	**+0.5**
JNU	**Nakatsue**	**14.36**	**319**	P	**P**	**22 39 22.0**	**+2.4**
	10nm,0.6s,baz=106,slow=4.3,SNR=12						
JNU	**Nakatsue**	**14.36**	**319**	P	**P**	**22 39 22.4**	**+2.8**
JMM	**Marumori**	**15.23**	**356**	P	**P**	**22 39 27.4**	**-1.7**
JMM	**Marumori**	**15.23**	**356**	P	**P**	**22 39 29.3**	**+0.2**
JMK	**Ichinoseki**	**16.29**	**358**	*e*P	**Pn**	**22 39 42.5**	**+0.1**
JTM	**Tenmabayashi**	**18.13**	**358**		**P**	**22 40 01.4**	**+0.8**
JTM	**Tenmabayashi**	**18.13**	**358**	P	**P**	**22 40 02.5**	**+1.9**
KSRS	**Korea Array**	**19.14**	**324**	P	**P**	**22 40 10.8**	**-0.7**
	2.6nm,0.5s,baz=143,slow=10,SNR=7.6						
KSAR	**Wonju Array Be**	**19.15**	**324**	P	**P**	**22 40 12.1**	**+0.4**
KS19	**Wonju Array Si**	**19.20**	**324**	P	**P**	**22 40 13.6**	**+1.3**
KS19				IAmb	IAmb	22 40 29.5	
	comp=Z,12nm,0.8s						
ERM	**Erimo**	**19.36**	**3**	P	**P**	**22 40 14.6**	**+0.8**
SSLB	**Suanglung**	**19.41**	**278**	P	**P**	**22 40 15.0**	**+0.4**
ASAJ	**Asahikawa**	**21.44**	**1**	P	**P**	**22 40 36.9**	**+1.6**
	comp=Z,9.3nm,0.7s,baz=231,slow=11,SNR=6.2						
	comp=Z,9.3nm,0.7s						
JKA	**Kamikawa-asahi**	**21.44**	**1**	P	**P**	**22 40 36.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**23.06**	**341**	P	**P**	**22 40 49.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**23.06**	**341**	P	**P**	**22 40 50.7**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=160,slow=9.7,SNR=8.7						
	comp=Z,5.8nm,0.8s						
BNX	**BinXian**	**25.96**	**336**	⇑P	**P**	**22 41 16.8**	**+0.6**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**31.15**	**299**	*e*P	P	22 42 07.4	+5.0
XAN				pP	pwP	22 42 58.9	+0.8
HHC	**Hu-ho-hao-te**	**31.42**	**312**	*e*P	**P**	**22 42 04.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,81nm,5.0s						
PZH	**PanZhiHua**	**36.74**	**284**	P	**P**	**22 42 51.1**	**+0.6**
KSM	**Kuching**	**37.30**	**240**	P	**P**	**22 42 52.1**	**-3.1**
KSM				IAmb	IAmb	22 42 58.1	
	comp=Z,7.6nm,0.7s						
ULN	**Ulaanbaatar**	**37.58**	**321**	P	**P**	**22 42 57.5**	**+0.3**
SONM	**Songino Array**	**37.95**	**320**	P	**P**	**22 43 00.5**	**+0.2**
SONM	**Songino Array**	**37.95**	**320**	P	**P**	**22 43 00.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=137,slow=7.7,SNR=10.0						
	comp=Z,1.5nm,0.5s						
GTA	**Gaotai**	**39.47**	**305**	*e*P	**P**	**22 43 13.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KNRA	**Kununurra**	**40.22**	**200**	P	**P**	**22 43 17.7**	**-1.5**
KNRA				IAmb	IAmb	22 43 59.2	
	comp=Z,34nm,1.5s						
CTAO	**Charters Tower**	**42.65**	**174**	P	**P**	**22 43 38.0**	**-0.8**
WB0	**Warramunga Arr**	**42.79**	**191**	P	**P**	**22 43 38.9**	**-1.0**
WB0				IAmb	IAmb	22 43 39.8	
	comp=Z,4.2nm,0.6s						
WRA	**Warramunga Arr**	**42.97**	**191**	P	**P**	**22 43 40.7**	**-0.7**
	comp=Z,6.0nm,0.6s,baz=9.5,slow=8.1,SNR=50						
	comp=Z,6.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.53**	**203**	P	**P**	**22 43 45.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.53**	**203**	P	**P**	**22 43 45.3**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=32,slow=10,SNR=15						
	comp=Z,2.1nm,0.3s						
ATKA	**Atka Island**	**44.60**	**37**	P	**P**	**22 43 54.5**	**+0.7**
AS31	**Alice Springs**	**46.68**	**190**	P	**P**	**22 44 09.5**	**-1.0**
ASAR	**Alice Springs**	**46.69**	**190**	P	**P**	**22 44 08.8**	**-1.7**
ASAR	**Alice Springs**	**46.69**	**190**	P	**P**	**22 44 09.8**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=11,slow=8.1,SNR=30						
	comp=Z,1.2nm,0.6s						
WMQ	**Urumqi**	**49.17**	**309**	*e*P	**P**	**22 44 31.5**	**+2.1**

WMQ					LR	LR			
	comp=Z,220nm,23.9s								
EVN	**Everest**	**49.86**	**288**		P	**P**	**22**	**44**	**35.2 -0.4**
EVN					IAmb	IAmb	22	44	36.8
	comp=Z,4.0nm,0.5s								
AKUT	**Akutan**	**50.02**	**37**		P	**P**	**22**	**44**	**35.9 +0.4**
ZAA0	**Zalesovo Array**	**52.83**	**321**		P	**P**	**22**	**44**	**55.8 -0.5**
ZALV	**Zalesovo Beam**	**52.83**	**321**		P	**P**	**22**	**44**	**56.2 0.0**
	comp=Z,2.7nm,0.4s,baz=110,slow=7.2,SNR=17								
	comp=Z,2.7nm,0.4s								
MKAR	**Makanchi Array**	**53.29**	**312**		P	**P**	**22**	**45**	**00.1 +0.3**
MKAR	**Makanchi Array**	**53.29**	**312**		P	**P**	**22**	**45**	**00.6 +0.8**
	comp=Z,1.7nm,0.5s,baz=85,slow=9.2,SNR=22								
	comp=Z,1.7nm,0.5s								
STKA	**Stephens Creek**	**54.19**	**180**		P	**P**	**22**	**45**	**05.8 -0.6**
	comp=Z,1.5nm,0.5s,baz=350,slow=6.5,SNR=4.5								
	comp=Z,1.5nm,0.5s								
O15K	**Ungalikthiuk R**	**54.62**	**32**		P	**P**	**22**	**45**	**09.9 +0.7**
O15K					IAmb	IAmb	22	45	51.6
	comp=Z,18nm,1.4s								
K15K	**Wolf Creek Mou**	**54.77**	**28**		P	**P**	**22**	**45**	**10.8 +0.7**
K15K					IAmb	IAmb	22	45	40.0
	comp=Z,13nm,1.5s								
N15K	**Kwethluk River**	**54.77**	**31**		P	**P**	**22**	**45**	**11.1 +0.9**
N15K					IAmb	IAmb	22	45	32.0
	comp=Z,17nm,1.5s								
KURK	**Kurchatov**	**56.07**	**317**		P	**P**	**22**	**45**	**19.5 0.0**
KURK					IAmb	IAmb	22	45	20.9
	comp=Z,2.1nm,0.5s								
KURBB	**Kurchatov Arra**	**56.12**	**317**		P	**P**	**22**	**45**	**20.1 +0.2**
	comp=Z,4.6nm,0.6s,baz=93,slow=7.5,SNR=51								
	comp=Z,4.6nm,0.6s								
K17K	**Iditarod**	**56.33**	**29**		P	**P**	**22**	**45**	**22.5 +1.3**
K17K					IAmb	IAmb	22	46	02.2
	comp=Z,11nm,1.4s								
KSH	**Kashi**	**57.83**	**303**		P	**P**	**22**	**45**	**34.9 +2.6**
KSH					pmax	pmax			
	comp=Z,4.0nm,0.6s								
J19K	**Poorman**	**57.84**	**27**		P	**P**	**22**	**45**	**32.4 +0.7**
J19K					IAmb	IAmb	22	46	09.9
	comp=Z,8.3nm,1.5s								
C19K	**Lookout Ridge**	**57.94**	**21**		P	**P**	**22**	**45**	**33.7 +1.3**
E19K	**Redstone River**	**58.20**	**23**		P	**P**	**22**	**45**	**35.2 +1.1**
E19K					IAmb	IAmb	22	46	04.1
	comp=Z,8.4nm,1.4s								
D19K	**Kuna River**	**58.22**	**22**		P	**P**	**22**	**45**	**35.1 +0.7**
D19K					IAmb	IAmb	22	46	04.2
	comp=Z,13nm,1.4s								
CAST	**Castle Rocks**	**59.24**	**29**		P	**P**	**22**	**45**	**42.1 +0.7**
CAST					IAmb	IAmb	22	45	43.3
	comp=Z,6.2nm,1.1s								
BPAW	**Bear Paw Mtn.**	**59.85**	**28**		P	**P**	**22**	**45**	**46.1 +0.6**
BVAR	**Borovoye Array**	**61.28**	**319**		P	**P**	**22**	**45**	**55.7 +0.4**
	comp=Z,4.6nm,0.4s,baz=85,slow=8.1,SNR=24								
	comp=Z,4.6nm,0.4s								
KKAR	**Karatay Array**	**61.65**	**308**		P	**P**	**22**	**45**	**58.0 0.0**
ILAR	**Eielson Array**	**61.71**	**27**		P	**P**	**22**	**45**	**57.4 -0.6**
	comp=Z,0.8nm,0.6s,baz=259,slow=6.0,SNR=9.6								
	comp=Z,0.8nm,0.6s								
BMAR	**Burnt Mountain**	**62.95**	**25**		P	**P**	**22**	**46**	**07.2 +1.1**
KBL	**Kabul**	**63.96**	**299**		P	**P**	**22**	**46**	**13.4 -0.2**
KBL					IAmb	IAmb	22	46	15.5
	comp=Z,3.6nm,1.0s								
AB31	**Akbulak array**	**68.14**	**316**		P	**P**	**22**	**46**	**39.2 -0.4**
ARCES	**ARCESS Array B**	**77.71**	**341**		P	**P**	**22**	**47**	**35.6 +0.5**
	comp=Z,1.5nm,0.8s,baz=70,slow=7.5,SNR=5.7								
	comp=Z,1.5nm,0.8s								
PINE	**Pine Mountain**	**79.52**	**47**		P	**P**	**22**	**47**	**46.6 +0.8**
PINE					IAmb	IAmb	22	47	47.7
	comp=Z,6.7nm,0.8s								
O02D	**Mt. Diablo Mer**	**79.52**	**51**		P	**P**	**22**	**47**	**46.5 +0.9**
O02D					IAmb	IAmb	22	48	22.0
	comp=Z,16nm,1.4s								
FINES	**FINESS Array B**	**81.89**	**334**		P	**P**	**22**	**47**	**57.0 -0.6**
	comp=Z,0.9nm,0.3s,baz=68,slow=4.5,SNR=20								
	comp=Z,0.9nm,0.3s								
LHV	**Little Huntoon**	**83.33**	**51**		P	**P**	**22**	**48**	**06.4 +0.9**
LHV					IAmb	IAmb	22	48	07.2
	comp=Z,2.4nm,0.7s								
BPMT	**Black Pine Rid**	**83.34**	**42**		P	**P**	**22**	**48**	**05.3 -0.4**
NVAR	**Mina Array Bea**	**83.40**	**51**		P	**P**	**22**	**48**	**06.0 -0.2**
NVAR	**Mina Array Bea**	**83.40**	**51**		P	**P**	**22**	**48**	**06.7 +0.5**
	comp=Z,2.1nm,0.6s,baz=280,slow=5.6,SNR=13								
	comp=Z,2.1nm,0.6s								
TXAR	**Lajitas Array**	**98.37**	**54**		P	**P**	**22**	**49**	**19.2 +2.9**
	comp=Z,0.1nm,0.5s,baz=311,slow=5.9,SNR=3.9								

TEH 17 22:38:07.8, 34°.15N × 59°.87E, h8km ± 58km, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.61**	**145**	Pg	Pb	22 38 20.4	-0.4
AFRZ	**Afriz**	**1.01**	**225**	Pg	Pb	22 38 27.8	+0.1
TBJM	**Torbat-e-JAM**	**1.18**	**19**	Pg	Pg	22 38 30.3	-0.2
TBHD	**Torbat heydari**	**1.36**	**338**	Pg	Pb	22 38 33.6	-0.1
IDAH	**Dahanechah**	**1.41**	**180**	Pg	Pn	22 38 33.9	0.0
BAGH	**Bagheran - Bir**	**1.47**	**202**	Pg	Pg	22 38 36.1	0.0
ITEG	**Tejag**	**1.56**	**217**	Pg	Pg	22 38 38.4	+0.7
JRKH	**Jarkhoshk**	**1.80**	**13**	Pg	Pb	22 38 41.5	+0.5
IKOO	**Kooshah**	**1.87**	**203**	Pn	Pb	22 38 42.1	-0.2
IMYA	**Miami**	**2.19**	**5**	Pn	Pb	22 38 47.1	-0.8
IAKL	**Akhelmad**	**2.61**	**340**	Pn	Pn	22 38 52.4	+1.8

ISN 17 22:48:50.7±0.4, 32°.72N × 46°.75E, h8km ± 2km, ML2.9
TEH 17 22:48:51.4, 32°.74N × 46°.77E, h8km ± 100km
ISC 17 22:48:51.8±2.4, 32°.7N±0°.1 × 46°.73E±0°.06, h10km, n10, σ0892/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.79**	**301**	*e*Pg	**Pg**	**22 49 06.0**	**-1.1**
IBDR				*e*Sg	**Sb**	**22 49 17.5**	**-0.9**
ILBA	**Ilam Banvizeh**	**1.02**	**335**	Pg	**Pg**	**22 49 11.1**	**-0.4**
GLG1	**Gilan-e-Gharb**	**1.57**	**334**	Pg	**Pb**	**22 49 20.8**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.59**	**9**	Pg	**Pb**	**22 49 21.0**	**-0.4**
IDOB	**Doab**	**1.62**	**48**	Pg	**Pn**	**22 49 21.5**	**+0.8**
IGHG	**Ghaleghazi**	**1.63**	**355**	Pg	**Pg**	**22 49 22.5**	**-0.6**
IBZA	**Bozab**	**2.00**	**28**	Pn	**Pb**	**22 49 27.9**	**-0.6**
IDHR	**Dehrash**	**2.01**	**352**	Pn	**Pn**	**22 49 27.1**	**+1.0**
BHD	**Baghdad**	**2.06**	**287**	*e*Pn	**Pn**	**22 49 27.5**	**+1.0**
BHD				*e*Sn	**Sb**	**22 49 54.5**	**-0.4**
IKRK	**Kirkuk**	**3.34**	**324**	*e*Pn	**Pn**	**22 49 45.5**	**+1.3**
IKRK				*e*Sn	**Sn**	**22 50 25.0**	**+1.0**

IDC 17 22:49:22.0±7.0, 31°.56S × 177°.27W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=310.2km s-min=58.4km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.68**	**268**	P	P	22 57 29.1	+0.1
	1.5nm,0.9s,baz=107,slow=6.8,SNR=7.5						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**44.77**	**273**	P	P	22 57 37.2	-0.4
	2.2nm,0.8s,baz=115,slow=7.7,SNR=8.1						
	2.2nm,0.8s						
FINES	**FINESS Array B**	**146.45**	**340**	PKPbc	PKPdf	23 09 03.5	+0.5
	2.7nm,0.9s,baz=40,slow=2.8,SNR=5.5						

RSNC 17 23:03:22.8±0.0, 7°.N±2°.×7°.3W±°, h146km±3km, M2.4, ML2.3
FUNV 17 23:03:25.6, 6°.96N × 73°.42W, h5km, MW2.7
ISC 17 23:03:21.7±1.8, 6°.83N±0°.04 × 73°.14W±0°.05, h151km ± 12km, n16, σ1830/29, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**189**	P	**Pn**	**23 03 42.3**	**-0.2**
BARC				S	**Sn**	**23 03 57.8**	**-0.5**
BRJC	**Barrancabermej**	**0.61**	**284**	P	**Pn**	**23 03 43.9**	**+0.2**
BRJC				S	**Sn**	**23 04 00.8**	**+0.3**
PAMC	**Pamplona, Colo**	**0.67**	**41**	P	**Pn**	**23 03 45.3**	**+0.6**
PAMC				S	**Sn**	**23 04 02.6**	**+0.4**
RUSC	**La Rusia**	**0.93**	**176**	P	**Pn**	**23 03 46.3**	**-0.3**
RUSC				S	**Sn**	**23 04 05.2**	**-0.4**
CAPV	**Capacho**	**1.32**	**39**	*e*P	**Pn**	**23 03 51.1**	**+1.3**
CAPV				*e*S	**Sn**	**23 04 11.6**	**+0.4**
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	**Pn**	**23 03 48.7**	**-1.0**
PTBC				S	**Sn**	**23 04 10.0**	**-1.0**
OCAC	**Ocana**	**1.41**	**353**	P	**Pn**	**23 03 50.5**	**-0.1**
OCAC				S	**Sn**	**23 04 12.7**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	P	**Pn**	**23 03 55.3**	**+0.4**
ZARC				S	**Sn**	**23 04 20.5**	**+0.2**
NORC	**Norcasia**	**2.13**	**234**	P	**Pn**	**23 03 58.3**	**-0.1**
NORC				S	**Sn**	**23 04 26.1**	**-0.6**
NORC	**Norcasia**	**2.13**	**234**	S	**Sn**	**23 04 26.3**	**-0.4**
ROSC	**El Rosal**	**2.30**	**211**	P	**Pn**	**23 04 02.8**	**+2.0**
ROSC				S	**Sn**	**23 04 34.3**	**+3.4**
HELC	**Santa Helena**	**2.45**	**255**	P	**Pn**	**23 04 04.8**	**+2.1**
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P	**Pn**	**23 04 03.9**	**+0.9**
UREC	**San Jos de Ur**	**2.54**	**291**	P	**Pn**	**23 04 02.6**	**-0.8**
UREC				S	**Sn**	**23 04 32.8**	**-2.7**
VILC	**Villavicencio,**	**2.75**	**191**	P	**Pn**	**23 04 06.1**	**-0.1**
VILC				S	**Sn**	**23 04 40.6**	**+0.1**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	**Pn**	**23 04 05.6**	**-1.0**
PTGC				S	**Sn**	**23 04 38.8**	**-2.5**

RSNC 17 23:03:42.1±0.0, 5°.N±2°.×7°.6W±°, h99km±3km, M2.1, ML2.3, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.14**	**328**	P	Pn	23 03 55.9	-0.2
PLMC				S	Sn	23 04 06.8	+0.3
NIZA	**Niza - Manizal**	**0.78**	**70**	P	Pn	23 04 00.4	-0.1
YOTC	**Yotoco, Valle**	**0.81**	**190**	P	Pn	23 04 00.3	-0.4
YOTC				S	Sn	23 04 14.3	-0.3
GUY2C	**Guyana, Caldas**	**0.95**	**63**	P	Pn	23 04 02.1	-0.3
GUY2C				S	Sn	23 04 17.4	-0.2
CBOC	**Ciudad Bolivar**	**1.08**	**10**	P	Pn	23 04 03.4	-0.2
CBOC				S	Sn	23 04 19.6	-0.2
ORTC	**Ortega, Tolima**	**1.30**	**132**	P	Pn	23 04 05.1	-0.8
ORTC				S	Sn	23 04 23.0	-1.0
NORC	**Norcasia**	**1.54**	**60**	P	Pn	23 04 09.8	+0.9
HELC	**Santa Helena**	**1.55**	**26**	P	Pn	23 04 09.0	-0.3

IDC 17 23:07:42.6±0.7, 43°.95N × 79°.87E, h0km, mb3.7/15, mbtmp3.8/23, ML3.9/8, MS3.4/10, Error ellipse: s-maj=11.1km s-min=8.9km az=146.0
MOS 17 23:07:44.2±1.3, 44°.15N × 79°.83E, h12km, mb4.5/12, Error ellipse: s-maj=5.7km s-min=4.7km az=70.7
MOS Felt (IV-V) at Zharkent; (II-III) at Taldykorgan, Saty.
NNC 17 23:07:46.7±0.3, 44°.07N × 79°.68E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=2.4km s-min=1.3km az=77.0
BJI 17 23:07:46.6, 44°.08N × 79°.83E, h22km, mB4.9/7, mb4.4/21, ML4.7/11, Ms4.2/7, Ms7 4.1/2
SOME 17 23:07:46.6, 44°.10N × 79°.73E, h20km, MS4.4
NEIC 17 23:07:48.2±1.8, 44°.20N±0°.05 × 79°.79E±0°.10, h27km±6km, mb4.4/16, Error ellipse: s-maj=11.1km s-min=6.1km az=121.0
ISC 17 23:07:43.8±1.1, 44°.16N±0°.02 × 79°.88E±0°.02, h2km±7km, n225, σ1963/254, mb4.1/44, MS3.5/8, 17C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.87**	**199**	⇓P	**Pb**	**23 08 01.6**	**-0.1**
	5μm,0.5s						
PDGK				⇑S	**Sg**	**23 08 12.2**	**+0.4**
	35μm,0.5s						
PDGK	**Podgornoye**	**0.87**	**199**	PG	**Pb**	**23 08 01.6**	**-0.1**
PDGK				S	**Sg**	**23 08 12.1**	**+0.4**
SHLS	**Shalkode**	**1.04**	**197**	P	**Pg**	**23 08 04.0**	**+0.3**
	12μm,0.5s						
SHLS				S	**Sg**	**23 08 16.8**	**-0.4**
	14μm,0.3s						
SHLS	**Shalkode**	**1.04**	**197**	*e*PG	**Pg**	**23 08 04.0**	**+0.3**
SHLS	**Shalkode**	**1.04**	**197**	*e*P	**Pg**	**23 08 04.0**	**+0.3**
	12μm,0.5s						
SHLS				*e*S	**Sg**	**23 08 16.8**	**-0.4**
	14μm,0.3s						
SHLS	**Shalkode**	**1.04**	**197**	*e*P	**Pg**	**23 08 04.0**	**+0.3**
KPKS	**Kokpek**	**1.10**	**232**	P	**Pg**	**23 08 05.6**	**+0.6**
	77nm,0.3s						
KPKS				S	**Sg**	**23 08 19.4**	**+0.2**
	84μm,0.5s						
KPKS	**Kokpek**	**1.10**	**232**	*e*PG	**Pg**	**23 08 05.5**	**+0.6**
KPKS	**Kokpek**	**1.10**	**232**	*e*P	**Pg**	**23 08 05.5**	**+0.6**
UZB	**Uzynbulak**	**1.18**	**212**	P	**Pg**	**23 08 06.6**	**+0.1**
	2μm,0.3s						
UZB				S	**Sg**	**23 08 21.1**	**-0.7**
	17μm,0.5s						
UZB	**Uzynbulak**	**1.18**	**212**	*e*PG	**Pg**	**23 08 06.5**	**+0.1**
UZB	**Uzynbulak**	**1.18**	**212**	*e*P	**Pg**	**23 08 06.6**	**+0.1**
	2μm,0.3s						
UZB				*e*S	**Sg**	**23 08 21.1**	**-0.7**
	17μm,0.5s						
UZB	**Uzynbulak**	**1.18**	**212**	*e*P	**Pg**	**23 08 06.6**	**+0.1**
TDK	**Taldyqorghan**	**1.35**	**309**	P	**Pb**	**23 08 11.8**	**+2.1**
	5μm,0.5s						
TDK				S	**Sn**	**23 08 30.0**	**+1.9**
	54μm,0.4s						
TDK	**Taldyqorghan**	**1.35**	**309**	*e*P	**Pb**	**23 08 11.8**	**+2.1**
	5μm,0.5s						
TDK				*e*S	**Sn**	**23 08 30.0**	**+1.9**
	54μm,0.4s						
ARXS	**Arharly**	**1.48**	**273**	P	**Pg**	**23 08 12.5**	**+0.4**
	7μm,0.3s						
ARXS				S	**Sb**	**23 08 31.2**	**0.0**
	21μm,0.4s						
ARXS	**Arharly**	**1.48**	**273**	*e*PG	**Pg**	**23 08 12.4**	**+0.4**
SATY	**Saty**	**1.53**	**225**	P	**Pn**	**23 08 12.7**	**+0.5**
	3μm,0.2s						
SATY				S	**Sn**	**23 08 31.6**	**-1.1**
	47μm,0.3s						
SATY	**Saty**	**1.53**	**225**	*e*PG	**Pn**	**23 08 12.7**	**+0.5**
SATY				*e*S	**Sn**	**23 08 32.7**	**0.0**
SATY	**Saty**	**1.53**	**225**	*e*P	**Pn**	**23 08 12.7**	**+0.5**
SATY				*e*S	**Sn**	**23 08 32.8**	**0.0**
PRZ	**Przheval'sk**	**1.99**	**213**	P	**Pb**	**23 08 20.9**	**+0.1**
PRZ				Sn	**Sn**	**23 08 44.1**	**0.0**
CHKK	**Chushkaly**	**2.11**	**263**	*e*PN	**Pn**	**23 08 20.9**	**+0.9**
CHKK				*e*S	**Sn**	**23 08 46.9**	**+0.1**
CHKK	**Chushkaly**	**2.11**	**263**	*e*P	**Pb**	**23 08 22.1**	**-0.6**
	2μm,0.4s						
CHKK				*e*S	**Sn**	**23 08 47.6**	**+0.9**
	7μm,0.5s						
CHKK	**Chushkaly**	**2.11**	**263**	*e*P	**Pn**	**23 08 20.9**	**+0.9**
CHKK				*e*S	**Sn**	**23 08 46.9**	**+0.1**
KNDC	**Almaty**	**2.31**	**247**	⇓Pn	**Pn**	**23 08 23.6**	**+0.7**
	2μm,0.4s						
KNDC				⇑Lg	Lg	23 08 55.2	
	4μm,0.7s						
KNDC	**Almaty**	**2.31**	**247**	PN	**Pn**	**23 08 23.6**	**+0.7**
KNDC						23 08 55.1	
AAA	**Alma-Ata**	**2.35**	**247**	Pg	**Pb**	**23 08 27.1**	**+0.3**
	633nm,0.2s						
AAA				Lg	Lg	23 08 56.2	
	212nm,0.4s						
AAA	**Alma-Ata**	**2.35**	**247**	*e*PN	**Pn**	**23 08 24.4**	**+1.0**
AAA				*e*S	**Sn**	**23 08 53.5**	**+0.7**
AAA	**Alma-Ata**	**2.35**	**247**	*e*P	**Pb**	**23 08 27.1**	**+0.3**
	633nm,0.2s						
AAA				*e*S	**Sb**	**23 08 56.2**	**-0.1**
	212nm,0.4s						
AAA	**Alma-Ata**	**2.35**	**247**	*e*P	**Pn**	**23 08 24.4**	**+1.0**
AAA				*e*S	**Sn**	**23 08 53.5**	**+0.7**
KTBS	**Karatobe**	**2.35**	**260**	Pg	**Pb**	**23 08 26.2**	**-0.6**
	2μm,0.5s						
KTBS				Lg	Lg	23 08 54.7	
	4μm,0.6s						
TNSS	**Tian-Shan**	**2.40**	**243**	Lg	Lg	23 08 56.4	
	831nm,0.5s						
TNSS	**Tian-Shan**	**2.40**	**243**	*e*P	**Pb**	**23 08 27.2**	**-0.7**
	112nm,0.4s						
TNSS				*e*S	**Sn**	**23 08 56.4**	**+1.7**
	831nm,0.5s						
KUU	**Kurty**	**2.57**	**265**	Lg	Lg	23 09 00.5	
	4μm,0.5s						
KUU	**Kurty**	**2.57**	**265**	*e*PN	**Pn**	**23 08 27.1**	**+0.8**
KUU	**Kurty**	**2.57**	**265**	*e*P	**Pb**	**23 08 29.6**	**-0.8**
	965nm,0.4s						
KUU				*e*S	**Sb**	**23 09 00.5**	**-1.9**
	4μm,0.5s						
KUU	**Kurty**	**2.57**	**265**	*e*P	**Pn**	**23 08 27.1**	**+0.8**
IZV	**Izvestkoviy**	**2.62**	**246**	Lg	Lg	23 09 03.4	
	2μm,0.5s						
IZV	**Izvestkoviy**	**2.62**	**246**	*e*P	**Pb**	**23 08 31.3**	**-0.2**
	774nm,0.5s						
IZV				*e*S	**Sb**	**23 09 03.4**	**-0.8**
	2μm,0.5s						
MTBS	**Maitube**	**2.71**	**249**	Pg	**Pb**	**23 08 33.1**	**+0.2**
	599nm,0.3s						
MTBS				Lg	Lg	23 09 06.5	
	5μm,0.4s						
MTBS	**Maitube**	**2.71**	**249**	*e*P	**Pb**	**23 08 33.1**	**+0.2**
	599nm,0.3s						
MTBS				*e*S	**Sb**	**23 09 06.5**	**-0.1**
	5μm,0.4s						
KDJ	**Kajisay**	**2.83**	**225**		**Pn**	**23 08 31.5**	**+1.4**
KDJ	**Kajisay**	**2.83**	**225**	PN	**Pn**	**23 08 31.5**	**+1.4**
TARG	**Taragay, Kyrgy**	**2.86**	**213**		**Pn**	**23 08 32.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**2.86**	**213**	PN	**Pn**	**23 08 32.2**	**+1.4**
KRBS	**Karabastau**	**3.07**	**263**	Pg	**Pg**	**23 08 42.2**	**-0.3**
	9.2nm,0.3s						
DGS	**Degeres**	**3.11**	**254**	Lg	Lg	23 09 19.3	
	2μm,0.4s						
MK31	**Makanchi Array**	**3.14**	**32**	⇓Pn	**Pb**	**23 08 38.9**	**-1.3**
	26nm,0.3s,baz=210,slow=14						
MK31				⇓Pg	**Pg**	**23 08 47.1**	**+3.2**
	72nm,0.3s,baz=215,slow=17						
MK31				⇓Lg	Lg	23 09 29.5	
	1μm,0.4s,baz=214,slow=28						
MK31	**Makanchi Array**	**3.14**	**32**	*d*iPN	**Pb**	**23 08 38.0**	**-2.2**
MK31				pmax	pmax		
	comp=Z,27nm,0.3s						
MKAR	**Makanchi Array**	**3.14**	**32**		**Pb**	**23 08 37.7**	**-2.6**
MKAR				Sn	**Sn**	**23 09 09.5**	**-2.7**
MKAR	**Makanchi Array**	**3.14**	**32**	Pn	**Pb**	**23 08 38.0**	**-2.2**
	comp=Z,9.9nm,0.3s,baz=209,slow=16,SNR=238						
MKAR				Lg	Lg	23 09 25.8	
	comp=Z,606nm,0.3s,baz=212,slow=29,SNR=12						
	comp=Z,33nm,0.5s						
ULHL	**Ulahol**	**3.27**	**236**	P	**Pn**	**23 08 38.3**	**+2.1**
	SNR=6.9						
TKM2	**Tokmak 2**	**3.35**	**250**	P	**Pn**	**23 08 38.9**	**+1.7**
	SNR=112						
SGDS	**Sogindy**	**3.86**	**261**	Lg	Lg	23 09 44.0	
	comp=Z,795nm,0.4s						
SGDS	**Sogindy**	**3.86**	**261**	*e*P	**Pn**	**23 08 44.9**	**+0.7**
KBK	**Karagaybulak**	**3.89**	**249**	P	**Pn**	**23 08 46.4**	**+1.7**
	SNR=95						
CHMS	**Chumysh**	**3.90**	**255**	P	**Pn**	**23 08 45.6**	**+0.9**
	SNR=214						
USP	**Ospenovka**	**4.00**	**259**	P	**Pn**	**23 08 46.8**	**+0.8**
	SNR=218						
FRU1	**Bishkek**	**4.05**	**252**		**Pn**	**23 08 48.5**	**+1.7**
FRU1	**Bishkek**	**4.05**	**252**	PN	**Pn**	**23 08 48.5**	**+1.7**
AAK	**Ala-Archa**	**4.21**	**251**		**Pn**	**23 08 50.1**	**+1.1**
AAK	**Ala-Archa**	**4.21**	**251**	Pn	**Pn**	**23 08 49.9**	**+0.9**
	comp=Z,18nm,0.3s,baz=95,slow=8.3,SNR=42						
AAK				Lg	Lg	23 09 53.7	
	comp=Z,80nm,0.3s,baz=349,slow=22,SNR=11						
AAK				LR	LR	23 09 53.9	
	comp=Z,67nm,19.5s,baz=114,slow=32						
	comp=Z,34nm,0.3s						
AAK	**Ala-Archa**	**4.21**	**251**	P	**Pn**	**23 08 50.3**	**+1.3**
	SNR=34						
AAK	**Ala-Archa**	**4.21**	**251**	⇑Pn	**Pn**	**23 08 50.3**	**+1.3**
	comp=Z,29nm,0.6s						
AAK				⇑Pg	**Pb**	**23 08 59.8**	**+1.2**
	comp=Z,277nm,0.7s						
AAK				⇓Lg	Lg	23 09 54.9	
	comp=Z,378nm,0.6s						
AAK	**Ala-Archa**	**4.21**	**251**	*c*iPN	**Pn**	**23 08 50.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,308nm,0.6s						
BTLS	**Baital**	**4.26**	**284**	Lg	Lg	23 09 55.6	
	comp=Z,365nm,0.7s						
BTLS	**Baital**	**4.26**	**284**	*e*PN	**Pn**	**23 08 50.5**	**+1.0**
BTLS	**Baital**	**4.26**	**284**	*e*P	**Pb**	**23 09 01.8**	**+2.5**
	comp=Z,202nm,0.4s						
BTLS				*e*S	**Sb**	**23 09 55.6**	**+4.5**
	comp=Z,365nm,0.7s						
BTLS	**Baital**	**4.26**	**284**	*e*P	**Pn**	**23 08 50.6**	**+1.0**
UCH	**Uchtor**	**4.37**	**246**	P	**Pn**	**23 08 53.7**	**+2.2**
	SNR=191						
EKS2	**Erkin-Say**	**4.69**	**254**	P	**Pn**	**23 08 56.7**	**+1.1**
	SNR=164						
ZSN	**Zaisan**	**4.80**	**45**	Pg	**Pg**	**23 09 14.9**	**-0.7**
	comp=Z,36nm,0.4s						
ZSN	**Zaisan**	**4.80**	**45**	*e*P	**Pg**	**23 09 14.9**	**-0.7**
	comp=Z,36nm,0.4s						
ZSN				*e*S	**Sg**	**23 10 17.9**	**+0.1**
	comp=Z,813nm,0.6s						
MRKS	**Merke**	**5.04**	**256**	*e*P	**Pb**	**23 09 16.6**	**+3.9**
	comp=Z,109nm,0.3s						
MRKS				*e*S	**Sg**	**23 10 21.0**	**-4.7**
	comp=Z,493nm,0.6s						
KSH	**Kashi**	**5.47**	**214**	Pn	Pb	23 09 15.4	-4.7
KSH				smax	smax		
	comp=Z,400nm,0.9s						
KSH				smax	smax		
	comp=Z,510nm,1.1s						
WMQ	**Urumqi**	**5.65**	**91**	Pn	Pn	23 09 15.0	+6.2
WMQ				smax	smax		
	comp=Z,480nm,0.9s						
WMQ				smax	smax		
	comp=Z,820nm,0.9s						
SEM	**Semipalatin

comp=Z,10nm,0.3s
ZALV Zalesovo Beam 10.32 17 *i* P **Pn** **23 10 14.3 +1.6**
ZALV pmax pmax
comp=Z,11nm,0.4s
BVA0 Borovoye Array 10.87 328 Pn **Pn** **23 10 21.7 +1.6**
comp=Z,6.4nm,0.5s,baz=141,slow=12,SNR=42
BVA0 ⇑Lg Lg 23 13 29.8
comp=Z,504nm,1.0s
BVA0 Borovoye Array 10.87 328 *e*P **Pn** **23 10 21.7 +1.6**
BVAR Borovoye Array 10.87 328 Pn **Pn** **23 10 21.0 +0.9**
comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=13
BVAR Lg Lg 23 13 32.0
comp=Z,2.0nm,0.3s,baz=124,slow=29,SNR=12
BVAR LR LR 23 14 36.3
comp=Z,211nm,18.9s,baz=143,slow=38
comp=Z,1.5nm,0.3s
BRVK Borovoye 10.93 328 **Pn** **23 10 21.5 +0.5**
BRVK Borovoye 10.93 328 ⇑Pn **Pn** **23 10 23.7 +2.6**
comp=Z,6.9nm,0.8s
BRVK ⇑Lg Lg 23 13 31.8
comp=Z,490nm,0.9s
BRVK Borovoye 10.93 328 *e*P **Pn** **23 10 22.2 +1.2**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
NIL Nilore 11.69 208 **Pn** **23 10 31.6 +0.1**
NIL Nilore 11.69 208 P **Pn** **23 10 31.6 +0.1**
KBL Kabul 12.73 225 **Pn** **23 10 46.3 +0.3**
KBL Kabul 12.73 225 P **Pn** **23 10 46.3 +0.3**
GOMU GeErMu 13.90 120 P **Pn** **23 11 00.6 -1.4**
AB31 Akbulak array 14.58 297 **Pn** **23 11 08.5 -2.5**
AB31 Akbulak array 14.58 297 Pn **Pn** **23 11 12.2 +1.3**
comp=Z,12nm,0.7s,baz=102,slow=13,SNR=153
AB31 ⇓Lg Lg 23 15 26.7
comp=Z,32nm,0.6s
AB31 Akbulak array 14.58 297 *e*P **Pn** **23 11 08.2 -2.8**
ABKAR Akbulak array 14.58 297 **Pn** **23 11 08.3 -2.7**
GTA Gaotai 15.60 101 *e*P **Pn** **23 11 21.8 -2.9**
GTA pP P 23 11 29.6 +0.5
GTA pmax pmax
comp=Z,2.0nm,0.7s
GTA LR LR
comp=Z,300nm,8.4s
GTA LR LR
comp=Z,270nm,8.7s
GTA LR LR
comp=Z,150nm,6.2s
MOY Mondy 15.99 55 *e*P **P** **23 11 32.1 -1.3**
MOY pmax pmax
comp=Z,15nm,1.3s
AKTO Aktyubinsk 16.08 301 Pn **Pn** **23 11 28.8 -1.9**
comp=Z,1.1nm,0.3s,baz=108,slow=12,SNR=12
AKTO Sn **Sn** **23 14 20.8 -8.6**
comp=Z,1.4nm,0.3s,baz=197,slow=6.9,SNR=1.9
AKTO Lg Lg 23 16 16.9
comp=Z,1.3nm,0.3s,baz=264,slow=21,SNR=4.6
comp=Z,2.7nm,0.3s
ZAK Zakamensk 17.02 60 *e*P **P** **23 11 46.3 +1.5**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
EVN Everest 17.10 159 **Pn** **23 11 45.6 +1.1**
EVN IAmb IAmb 23 11 56.2
comp=Z,28nm,0.8s
SVE Sverdlovsk 17.55 323 *e*P **Pn** **23 11 49.5 +0.3**
SVE *e*S **Sn** **23 15 03.5 -1.4**
SVE pmax pmax
comp=Z,9.0nm,1.1s
ARTI Arti 18.30 320 P **Pn** **23 11 57.4 -1.2**
ARTI IAmb IAmb 23 12 11.3
comp=Z,16nm,0.4s
ARTI Arti 18.30 320 P **P** **23 11 59.0 +0.3**
comp=Z,0.8nm,0.3s,baz=123,slow=16,SNR=6.5
ARTI Lg Lg 23 17 28.3
comp=Z,0.6nm,0.3s,baz=127,slow=3.0,SNR=9.0
comp=Z,2.5nm,0.5s
ARTI Arti 18.30 320 *d i*P **P** **23 11 59.4 +0.6**
ARTI S **Sn** **23 15 24.9 +1.6**
ARTI pmax pmax
comp=Z,6.0nm,1.9s
SONM Songino Array 18.75 69 P **Pn** **23 12 05.5 +1.2**
SONM Songino Array 18.75 69 P **Pn** **23 12 05.0 +0.7**
comp=Z,1.3nm,0.3s,baz=270,slow=11,SNR=26
SONM Lg Lg 23 17 40.2
baz=266,slow=25
comp=Z,3.7nm,0.5s
SONM Songino Array 18.75 69 P **Pn** **23 12 05.5 +1.2**
SONM pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 19.20 69 P **P** **23 12 08.9 +0.1**
ULN Ulaanbaatar 19.20 69 *i* P **Pn** **23 12 10.4 +0.7**
ULN pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou 19.97 106 *e*P **Pn** **23 12 19.0 0.0**
LZH pP sP 23 12 25.5 +6.9
LZH sP pP 23 12 30.0 +12
LZH S **S** **23 16 01.0 -1.7**
LZH pmax pmax
comp=Z,21nm,1.2s
LZH LR LR
comp=Z,370nm,12.7s
LZH LR LR
comp=Z,200nm,14.6s
SHL Shillong 20.96 148 P **P** **23 12 29.1 +1.0**
SHL IAmb IAmb 23 12 36.4
comp=Z,16nm,0.8s
SHL Shillong 20.96 148 P **P** **23 12 29.1 +1.0**
SHL pmax pmax
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 23.52 87 *e*P **P** **23 12 57.3 +2.2**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,64nm,4.2s
KIRV Kirov 23.61 318 P **P** **23 12 59.1 +3.4**
comp=Z,5.8nm,0.5s,baz=111,slow=8.6,SNR=3.6
KIRV Lg Lg 23 20 10.9
comp=Z,1.0nm,0.3s,baz=138,slow=22,SNR=3.9
KIRV Kirov 23.61 318 ⇑ *i*P **P** **23 12 55.8 +0.2**
AKT Akhty 23.65 275 *e*P **P** **23 12 56.4 0.0**
AKT *e* 23 13 23.6
AKT pmax pmax
comp=Z,23nm,1.2s
AKT MLR MLR
comp=Z,192nm,12.0s
XAN Xi'an 24.59 104 P **P** **23 13 06.3 +1.1**
XAN pP sP 23 13 13.4 +7.0
XAN pmax pmax
comp=Z,14nm,0.9s
XLT XiLinHaoTe 25.90 78 *e*P **P** **23 13 20.6 +3.5**
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,140nm,4.7s
GNI Garni 26.23 274 P **P** **23 13 19.4 -0.7**
GNI Garni 26.23 274 LR LR 23 26 46.4
comp=Z,34nm,18.4s,baz=138,slow=44
GNI Garni 26.23 274 ⇑ *i*P **P** **23 13 20.0 -0.1**
GNI pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 26.49 282 P **P** **23 13 22.0 -0.2**
comp=Z,0.7nm,0.6s,baz=87,slow=17,SNR=2.3
comp=Z,0.7nm,0.6s
KBZ Khabaz 26.49 282 *e*P **P** **23 13 21.6 -0.6**
KBZ pmax pmax
comp=Z,1.0nm,1.0s
KIV Kislovodsk 26.59 283 *e*P **P** **23 13 23.3 +0.1**
KIV *e*S **S** **23 17 57.8 -0.8**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,63nm,15.0s
SHA1 Shidzhatmaz 26.66 282 *e*P **P** **23 13 23.3 -0.7**
KLMR Klimovskoe 29.09 319 *e*P **P** **23 13 44.8 -0.5**
KLMR pmax pmax
comp=Z,8.0nm,1.1s
MOS Moscow 29.09 309 *e*P **P** **23 13 49.0 +3.6**
MARD Mardin 30.19 271 P **P** **23 13 55.1 -0.3**
CMAR Chiang Mai Arr 30.21 142 P **P** **23 13 54.1 -1.5**
comp=Z,0.6nm,0.3s,baz=320,slow=8.7,SNR=1.8
CMAR LR LR 23 28 01.3
comp=Z,41nm,18.6s,baz=285,slow=41
comp=Z,0.6nm,0.3s
BZK Bozkurt 33.26 283 P **P** **23 14 21.6 -0.6**
comp=Z,69nm,1.1s
AK09 Malin Array Si 34.29 299 P **P** **23 14 31.1 0.0**
AK08 Malin Array Si 34.31 299 P **P** **23 14 31.0 -0.2**
AK10 Malin Array Si 34.31 299 P **P** **23 14 30.8 -0.5**
AKASG Malin Array Be 34.31 299 P **P** **23 14 30.5 -0.8**
comp=Z,0.4nm,0.5s,baz=73,slow=8.0,SNR=4.3
comp=Z,0.4nm,0.5s
AKBB Malin Array Si 34.31 299 P **P** **23 14 29.5 -1.8**
BR131 Keskin Array S 34.33 279 P **P** **23 14 31.5 -0.2**
BR131 Keskin Array S 34.33 279 P **P** **23 14 31.5 -0.2**
BR131 pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 34.33 279 P **P** **23 14 30.6 -1.2**
BRTR Keskin Array B 34.33 279 P **P** **23 14 32.1 +0.4**
comp=Z,0.5nm,0.6s,baz=106,slow=7.9,SNR=5.5
comp=Z,0.5nm,0.6s
AK02 Malin Array Si 34.33 299 P **P** **23 14 30.6 -0.9**
AK06 Malin Array Si 34.35 299 P **P** **23 14 31.6 0.0**
AK12 Malin Array Si 34.37 299 P **P** **23 14 31.5 -0.3**
AK16 Malin Array Si 34.39 299 P **P** **23 14 32.2 +0.2**
AK22 Malin Array Si 34.40 299 P **P** **23 14 31.4 -0.7**
AK18 Malin Array Si 34.41 299 P **P** **23 14 31.3 -0.8**
AK21 Malin Array Si 34.42 299 P **P** **23 14 31.4 -0.8**
AK17 Malin Array Si 34.42 299 P **P** **23 14 31.8 -0.5**
AK20 Malin Array Si 34.44 299 P **P** **23 14 31.7 -0.7**
AK19 Malin Array Si 34.45 299 P **P** **23 14 32.1 -0.3**
RAYN Ar Rayn 34.84 245 P **P** **23 14 35.2 -1.0**
RAYN IAmb IAmb 23 14 46.2
comp=Z,2.6nm,0.7s
RAYN Ar Rayn 34.84 245 P **P** **23 14 35.2 -1.0**
RAYN pmax pmax
comp=Z,3.0nm,0.7s
MI28 Mi28,Pidlybu 35.25 300 P **P** **23 14 37.9 -1.5**
SORM Soroca 35.37 295 P **P** **23 14 39.8 -0.7**
comp=Z,2.6nm,3.0s
LUBAR Lubar, Ukraine 35.38 298 P **P** **23 14 40.0 -0.5**
FINES FINESS Array B 35.60 318 P **P** **23 14 42.4 +0.1**
FINES FINESS Array B 35.60 318 P **P** **23 14 42.0 -0.3**
comp=Z,1.5nm,0.8s,baz=103,slow=8.2,SNR=4.8
comp=Z,1.5nm,0.8s
FINES FINESS Array B 35.60 318 *i* P **P** **23 14 44.4 +2.1**
FINES pmax pmax
comp=Z,11nm,1.4s
NDNU Novodnistrovsk 35.91 296 P **P** **23 14 45.1 0.0**
TIXI Tiksi 36.09 24 LR LR 23 30 31.9
comp=Z,91nm,18.4s,baz=235,slow=38
RNPP9 Sopachiv 36.27 301 P **P** **23 14 48.6 +0.5**
TIRR Tirgusor 36.33 289 P **P** **23 14 48.0 -0.7**
comp=Z,9.6nm,1.3s
RNPP1 Kostyukhnivka 36.36 301 P **P** **23 14 47.0 -1.9**
KSRS Korea Array 36.55 84 P **P** **23 14 49.9 -0.8**
comp=Z,0.6nm,0.4s,baz=288,slow=9.8,SNR=2.7
comp=Z,0.6nm,0.4s
PALK Pallekele 36.75 179 *i* P **P** **23 14 55.3 +2.7**
PALK pmax pmax
comp=Z,7.0nm,1.1s
TESR Tescani 36.91 293 P **P** **23 14 53.9 +0.2**
comp=Z,7.3nm,2.3s
KLYT Kilyos 36.99 284 P **P** **23 14 52.3 -2.1**
ARCES ARCESS Array B 37.13 332 P **P** **23 14 55.6 +0.3**
ARCES IAmb IAmb 23 15 22.7
comp=Z,6.1nm,1.1s
ARCES ARCESS Array B 37.13 332 P **P** **23 14 55.5 +0.3**
comp=Z,2.3nm,0.5s,baz=92,slow=9.6,SNR=26
comp=Z,2.3nm,0.5s
ARCES ARCESS Array B 37.13 332 P **P** **23 14 55.6 +0.3**
ARCES pmax pmax
comp=Z,6.0nm,1.1s
BURAR Bucovina Array 37.55 295 P **P** **23 14 58.4 -0.8**
BURAR Bucovina Array 37.55 295 P **P** **23 14 58.7 -0.5**
BURAR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 37.67 292 P **P** **23 15 00.8 +0.4**
MLR IAmb IAmb 23 15 03.0
comp=Z,4.2nm,1.0s
MLR Muntele Rosu 37.67 292 P **P** **23 15 00.8 +0.4**
MLR pmax pmax
comp=Z,4.0nm,1.0s
KWP Kalwaria Pacla 38.63 299 P **P** **23 15 09.6 +1.4**
KWP pmax pmax
comp=Z,9.0nm,1.4s
KNT Kendrikon 41.29 286 P **P** **23 15 31.2 +0.8**
KNT pmax pmax
comp=Z,3.0nm,1.3s
HFS Hagfors 41.72 317 P **P** **23 15 33.8 +0.2**
comp=Z,1.0nm,0.6s,baz=81,slow=9.5,SNR=4.5
comp=Z,1.0nm,0.6s
JOW Kunigami 42.38 98 P **P** **23 15 39.1 -0.4**
NC405 NORSAR Array S 42.53 318 P **P** **23 15 40.1 -0.2**
NB2 NORSAR Subarra 42.79 318 P **P** **23 15 42.5 +0.1**
comp=Z,0.7nm,0.5s,baz=81,slow=8.6
NOA NORSAR Array B 42.79 318 P **P** **23 15 42.0 -0.4**
comp=Z,0.3nm,0.4s,baz=81,slow=8.1,SNR=2.8
comp=Z,0.3nm,0.4s
RONA Rosalia, Austr 43.26 298 *e*P **P** **23 15 46.9 +0.4**
comp=Z,2.4nm,0.7s
PDG Podgorica 43.27 290 P **P** **23 15 46.6 +0.1**
PDG IAmb IAmb 23 16 11.6
comp=Z,17nm,1.5s
CONA Conrad Observa 43.46 298 *e*P **P** **23 15 49.0 +0.9**
comp=Z,1.6nm,0.8s
ASAJ Asahikawa 44.01 67 LR LR 23 35 25.7
comp=Z,49nm,18.3s,baz=60,slow=38
SOKA Soboth 44.43 297 *e*P **P** **23 15 54.3 -1.6**
comp=Z,2.0nm,1.0s
GERES GERESS Array B 44.50 300 P **P** **23 15 56.0 -0.5**
comp=Z,0.2nm,0.5s,baz=62,slow=9.0,SNR=2.1
comp=Z,0.2nm,0.5s
GERES GERESS Array B 44.50 300 P **P** **23 15 56.0 -0.5**
OBKA Obir 44.80 297 *e*P **P** **23 15 57.3 -1.5**
comp=Z,3.8nm,1.8s
KBA Koelnbreinsper 45.36 298 *e*P **P** **23 16 03.8 +0.4**
comp=Z,3.4nm,1.1s
ABTA Abfaltersbach 46.01 298 *i* P **P** **23 16 08.7 +0.3**
comp=Z,2.2nm,1.0s
WTTA Wattenberg 46.37 299 *e*P **P** **23 16 10.5 -0.8**
comp=Z,4.6nm,1.4s
WATA Walderalm 46.38 299 *i* P **P** **23 16 09.9 -1.5**
comp=Z,4.6nm,1.3s
SQTA Sankt Quirin 46.65 299 *i* P **P** **23 16 13.6 0.0**
comp=Z,3.6nm,1.1s
MOTA Moosalm 46.67 299 *i* P **P** **23 16 14.5 +0.8**
comp=Z,3.4nm,1.1s
FETA Feichten 47.03 299 *e*P **P** **23 16 16.5 0.0**
comp=Z,2.7nm,1.1s
DAVA Damuels 47.46 300 *i* P **P** **23 16 20.6 +0.7**
comp=Z,8.7nm,1.8s
ESDC Sonseca Array 59.93 298 P **P** **23 17 52.1 +0.9**
comp=Z,0.5nm,1.0s,baz=53,slow=7.5,SNR=6.9
comp=Z,0.5nm,1.0s
ILAR Eielson Array 65.42 20 P **P** **23 18 27.4 -0.1**
comp=Z,0.7nm,0.6s,baz=320,slow=5.4,SNR=10.0
comp=Z,0.7nm,0.6s
KDAK Kodiak Island 69.44 27 LR LR 23 50 49.1
comp=Z,86nm,18.0s,baz=211,slow=37
TORD Torodi Ar. Bea 72.51 271 P **P** **23 19 11.0 -1.3**
comp=Z,0.4nm,0.6s,baz=42,slow=5.4,SNR=4.6
comp=Z,0.4nm,0.6s
DLBC Dease Lake 74.80 16 LR LR 23 57 13.9
comp=Z,83nm,18.0s,baz=170,slow=40
WRA Warramunga Arr 80.90 129 P **P** **23 19 57.9 -1.5**
comp=Z,0.4nm,0.4s,baz=320,slow=5.4,SNR=1.7
comp=Z,0.4nm,0.4s
ASAR Alice Springs 83.65 132 P **P** **23 20 12.0 -1.8**
comp=Z,0.4nm,0.7s,baz=320,slow=5.1,SNR=4.8
comp=Z,0.4nm,0.7s
ASAR Alice Springs 83.65 132 P **P** **23 20 12.0 -1.8**

IDC 17 23:10:29.0±3.3, 31.60S×176.99W, h0km, mb3.9/2, mbtmp4.0/4, ML3.6/2, MS3.5/1, Error ellipse: s-maj=72.9km s-min=34.7km az=108.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.48**	**341**	Pn	Pn	23 11 11.3	+0.8
	27nm,0.3s,baz=165,slow=20,SNR=1.3						
RAO				Sn	Sn	23 11 37.7	-3.8
	44nm,0.3s,baz=142,slow=23,SNR=5.9						
	90nm,0.4s						
URZ	**Urewera**	**8.22**	**214**	Pn	Pn	23 12 30.2	+0.7
	0.4nm,0.3s,baz=190,slow=14,SNR=1.7						
URZ				Sn	Sn	23 13 58.0	-5.1
	1.0nm,0.3s,baz=275,slow=18,SNR=7.7						
	6.3nm,0.8s						
STKA	**Stephens Creek**	**35.07**	**258**	LR	LR	23 30 27.4	
	comp=Z,72nm,18.1s,baz=214,slow=34						
ASAR	**Alice Springs**	**43.92**	**268**	P	P	23 18 37.6	-0.2
	1.6nm,1.0s,baz=110,slow=8.8,SNR=6.4						
	1.6nm,1.0s						
WRA Warramunga Arr 45.02 273 P **P** 23 18 46.2 -0.4
1.9nm,0.7s,baz=113,slow=7.8,SNR=5.7
1.9nm,0.7s
FINES FINESS Array B 146.57 340 PKPbc PKPdf 23 30 10.5 +0.4
0.9nm,0.8s,baz=29,slow=3.2,SNR=4.0

NEIC 17 23:18:05.4±0.9, 35.14N±0.02×95.36W±0.02, h7km±1km, Error ellipse: s-maj=3.6km s-min=2.9km az=140.0
NEIC 17 23:18:05.0±0.9, 35.13N±0.02×95.35W±0.02, h5km±1km, mb_Lg3.1/123, ML2.6/5, ML3.2/12, Error ellipse: s-maj=3.5km s-min=2.9km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**336**		Pg	23 18 21.4	-0.1
TUL3				Sg	Sg	23 18 32.9	+0.3
TUL3				IAML		23 18 36.4	
	411nm,0.6s						
RLO	**Rose Lookout**	**1.07**	**15**		Pg	23 18 25.3	-0.2
RLO				Sg	Sg	23 18 39.5	+0.1
DEOK	**Depew**	**1.17**	**308**		Pg	23 18 27.2	-0.3
DEOK				Sg	Sg	23 18 42.7	0.0
DEOK				IAML		23 18 47.4	
	comp=N,714nm,0.5s						
DEOK				IAML		23 18 50.1	
	comp=E,414nm,0.5s						
OK052	**Battle Ridge R**	**1.46**	**307**		Pn	23 18 32.1	0.0
OK052					Sg	23 18 51.8	-0.2
QUOK	**Quay**	**1.52**	**314**		Pn	23 18 33.0	+0.2
QUOK					Sg	23 18 53.6	-0.1
U38A	**Gravette**	**1.53**	**31**		Pn	23 18 33.2	+0.2
U38A					Sb	23 18 53.5	0.0
MIAR	**Mount Ida**	**1.57**	**111**		Pb	23 18 34.3	-0.3
MIAR					Sg	23 18 55.9	+0.3
MIAR				IAmb_Lg		23 18 56.9	
	comp=Z,62nm,0.7s						
HHAR	**Hobbs**	**1.63**	**45**		Pn	23 18 34.8	+0.5
HHAR					Sb	23 18 56.8	+0.4
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pn	23 18 36.1	+0.4
OKCSW				IAmb_Lg		23 19 04.5	
	comp=Z,210nm,0.8s						
ADOK	**Arcadia Dam**	**1.73**	**288**		Pn	23 18 36.0	+0.3
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	23 18 36.9	-0.5
OKCFA					Sg	23 19 00.6	-0.3
OK029	**Liberty Lake**	**1.84**	**292**		Pn	23 18 38.1	+0.8
OK029					Sg	23 19 03.6	-0.5
LOOK	**Love County**	**1.89**	**234**		Pb	23 18 39.2	-0.7
LOOK					Sb	23 19 04.6	+0.9
Z38A	**Mt. Pleasant**	**1.89**	**171**		Pb	23 18 39.3	-0.7
Z38A					Sb	23 19 04.7	+0.8
Z38A				IAmb_Lg		23 19 08.6	
	comp=Z,151nm,0.8s						
T35A	**Sooner Cattle**	**2.02**	**333**		Pn	23 18 40.5	+0.8
X40A	**Basin Creek Fa**	**2.17**	**106**		Pn	23 18 42.5	+0.8
X40A				IAmb_Lg		23 19 17.7	
	comp=Z,159nm,0.7s						
BLOK	**Blackwell**	**2.22**	**318**		Pn	23 18 43.5	+1.0
WLAR	**White Oak Lake**	**2.35**	**127**		Pn	23 18 45.2	+1.0
WLAR				IAmb_Lg		23 19 19.4	
	comp=Z,131nm,0.7s						
Z35A	**Perchaven, San**	**2.39**	**222**		Pn	23 18 45.7	+1.0
TREL	**Terrell**	**2.47**	**195**		Pn	23 18 46.4	+0.5
TREL				IAmb_Lg		23 19 29.5	
	comp=Z,85nm,1.0s						
UALR	**University of**	**2.50**	**97**		Pn	23 18 47.5	+1.2
UALR				IAmb_Lg		23 19 26.8	
	comp=Z,96nm,0.9s						
WHAR	**Wooly Hollow**	**2.52**	**85**		Pn	23 18 47.4	+0.9
WHAR				IAmb_Lg		23 19 31.1	
	comp=Z,49nm,0.8s						
CROK	**Carrier**	**2.54**	**303**		Pn	23 18 47.6	+0.7
GC02	**Grant County #**	**2.66**	**311**		Pn	23 18 50.0	+1.5
FCAR	**Ozark Folk Cen**	**2.74**	**73**		Pn	23 18 50.3	+0.6
KAN14	**Manchester OK**	**2.79**	**312**	IAmb_Lg		23 19 41.1	
	comp=Z,36nm,0.8s						
Z41A	**Richland Creek**	**2.82**	**131**		Pn	23 18 51.6	+0.9
Z41A				IAmb_Lg		23 19 32.7	
	comp=Z,47nm,0.8s						
FW06	**Azle**	**2.82**	**221**		Pn	23 18 52.1	+1.3
WMOK	**Wichita Mounta**	**2.84**	**263**		Pn	23 18 51.6	+0.5
KAN08	**Anthony NE Sta**	**2.98**	**315**	IAmb_Lg		23 19 46.6	
	comp=Z,38nm,0.8s						
OK038	**West end E0370**	**3.06**	**297**		Pn	23 18 54.0	-0.1
237A	**Washetta, Mont**	**3.14**	**187**	IAmb_Lg		23 19 46.2	
	comp=Z,32nm,1.1s						
CCAR	**Cane Creek**	**3.19**	**111**	IAmb_Lg		23 19 46.6	
	comp=Z,32nm,0.7s						
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		23 19 51.4	
	comp=Z,105nm,0.8s						
NOKA	**Waynoka**	**3.27**	**298**	IAmb_Lg		23 19 54.8	
	comp=Z,41nm,0.8s						
NATX	**Nacogdoches**	**3.41**	**170**	IAmb_Lg		23 20 02.2	
	comp=Z,40nm,0.8s						
LCAR	**Lake Charles**	**3.55**	**73**		Pn	23 19 01.1	+0.4
LCAR				IAmb_Lg		23 20 00.9	
	comp=Z,62nm,0.9s						
SMWD	**Samnorwood**	**4.01**	**271**		Pn	23 19 06.3	-0.8
SMWD				IAmb_Lg		23 20 22.4	
	comp=Z,43nm,0.9s						
R40A	**Maddies Statio**	**4.01**	**37**		Pn	23 19 08.0	+0.9
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		23 20 31.3	
	comp=Z,60nm,0.9s						
PBMO	**Poplar Bluff**	**4.32**	**66**		Pn	23 19 12.3	+1.0
APMT	**Aspermont**	**4.34**	**247**	Pn	Pn	23 19 11.9	+0.3
APMT				IAmb_Lg		23 20 27.1	
	comp=Z,21nm,1.1s						
ABTX	**Abilene, Hawle**	**4.36**	**236**	IAmb_Lg		23 20 28.5	
	comp=Z,26nm,1.1s						
CCM	**Cathedral Cave**	**4.41**	**47**		Pn	23 19 12.8	+0.2
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		23 20 32.7	
	comp=Z,56nm,0.7s						
GNAR	**Gosnell**	**4.43**	**78**		Pn	23 19 13.4	+0.5
P38A	**Dawn**	**4.72**	**17**		Pn	23 19 16.9	+0.1
P38A				IAmb_Lg		23 20 42.9	
	comp=Z,41nm,0.8s						
DKNS	**Dickens**	**4.83**	**254**	IAmb_Lg		23 20 48.8	
	comp=Z,25nm,0.8s						
FVM	**French Village**	**4.88**	**53**	Pn	Pn	23 19 18.9	-0.2
FVM				IAmb_Lg		23 20 39.3	
	comp=Z,53nm,1.0s						
BRDY	**Brady**	**4.90**	**220**		Pn	23 19 19.5	+0.1
OXF	**Oxford**	**4.93**	**95**	IAmb_Lg		23 20 52.8	
	comp=Z,46nm,0.8s						
Y45A	**Yeager Farm, C**	**4.96**	**103**	IAmb_Lg		23 20 49.0	
	comp=Z,24nm,0.8s						
CBKS	**Cedar Bluff**	**5.08**	**318**	IAmb_Lg		23 20 46.3	
	comp=Z,26nm,0.7s						
CGM3	**Cape Girardeau**	**5.09**	**63**	IAmb_Lg		23 20 47.4	
	comp=Z,40nm,0.7s						
P40A	**Paris**	**5.12**	**30**		Pn	23 19 22.4	0.0
P40A				IAmb_Lg		23 20 53.6	
	comp=Z,49nm,0.8s						
SLM	**Saint Louis**	**5.39**	**48**	IAmb_Lg		23 20 58.9	
	comp=Z,52nm,0.8s						
POST	**Post**	**5.50**	**250**	IAmb_Lg		23 21 05.7	
	comp=Z,19nm,0.7s						
SIUC	**Southern Illin**	**5.58**	**61**	IAmb_Lg		23 21 04.1	
	comp=Z,60nm,0.8s						
SGCY	**Sterling City**	**5.79**	**238**	IAmb_Lg		23 21 18.2	
	comp=Z,48nm,1.0s						
JCT	**Junction City**	**5.96**	**220**	IAmb_Lg		23 21 31.1	
	comp=Z,15nm,0.8s						
PLAL	**Pickwick Lake**	**5.97**	**89**	Pn	Pn	23 19 35.1	+1.1
PLAL				IAmb_Lg		23 21 16.7	
	comp=Z,23nm,0.8s						
MSTX	**Muleshoe**	**6.23**	**261**	IAmb_Lg		23 21 26.5	
	comp=Z,17nm,1.1s						
T47A	**Sharon Grove**	**6.93**	**72**	IAmb_Lg		23 21 53.4	
	comp=Z,33nm,0.8s						
SCIA	**State Center**	**6.97**	**13**	IAmb_Lg		23 22 05.9	
	comp=Z,34nm,0.7s						
KSCO	**Kaye Shedlock'**	**6.99**	**306**	IAmb_Lg		23 22 01.4	
	comp=Z,28nm,0.8s						
V48A	**Smith Brothers**	**6.99**	**83**	IAmb_Lg		23 21 53.8	
	comp=Z,13nm,0.7s						
T25A	**Trinidad**	**7.60**	**288**	IAmb_Lg		23 22 11.8	
	comp=Z,21nm,0.8s						
L40A	**Anamosa**	**7.64**	**24**	IAmb_Lg		23 22 10.7	
	comp=Z,32nm,0.7s						
SWET	**Sewanee**	**7.72**	**87**	IAmb_Lg		23 22 26.6	
	comp=Z,18nm,0.9s						
U49A	**Red Boiling Sp**	**7.90**	**77**	IAmb_Lg		23 22 26.1	
	comp=Z,12nm,0.8s						
WCI	**Wyandotte Cave**	**7.91**	**64**	IAmb_Lg		23 22 23.9	

comp=Z,27nm,0.8s
L42A Oliver, Polo 8.18 31 IAmb_Lg 23 22 23.2
comp=Z,23nm,0.7s
SFIN Lafayette 8.38 49 IAmb_Lg 23 22 36.8
comp=Z,35nm,0.9s
M44A Midewin, Midew 8.49 40 IAmb_Lg 23 22 39.0
comp=Z,31nm,0.9s
ECSD EROS Data Cent 8.65 354 IAmb_Lg 23 22 46.8
comp=Z,9.5nm,0.9s
Q24A Divide 8.71 299 IAmb_Lg 23 22 51.0
comp=Z,12nm,0.9s
I37A Lemond, Waseca 9.00 9 IAmb_Lg 23 23 14.4
comp=Z,18nm,1.0s
K43A Burlington 9.33 34 IAmb_Lg 23 23 21.3
comp=Z,31nm,0.9s
I40A Norwalk 9.48 21 IAmb_Lg 23 23 03.8
comp=Z,17nm,0.9s

CATAC ***17*** *23:29:47.3±0.6, 13°N±3°×9°1W±°, h14km±2km, M3.7/15, MLv3.7/15, Error ellipse: s-maj=7.0km s-min=3.3km az=24.6, confirmed*
GCG ***17*** *23:29:48.9±0.7, 13°.60N×90°.49W, h21km±6km, MD3.9, ML3.8, MW3.3*
SNET ***17*** *23:29:53.0±2.8, 13°.79N×90°.23W, h60km, ML3.6*
ISC 17 23:29:47.2±2.1, 13°.45N±0°.08×90°.54W±0°.06, h19km±3km, n38, σ0§57/46, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAME	**Alcaldia de Sa**	**0.64**	**52**	P	**Pg**	**23 30 00.4**	**+0.4**
FG16	**Alotenango, Sa**	**0.82**	**2**	*i* P	**Pn**	**23 30 06.1**	**+2.1**
FG16				IAML		23 30 24.3	
	comp=E,10μm,0.2s						
NUBE	**Las Nubes**	**0.86**	**58**	*i* P	**Pb**	**23 30 03.8**	**+0.1**
NUBE				*e*S	**Sb**	**23 30 15.2**	**+0.2**
NUBE	**Las Nubes**	**0.86**	**58**	*i* P	**Pb**	**23 30 03.8**	**+0.1**
NUBE				*i* S	**Sb**	**23 30 15.2**	**+0.2**
NUBE	**Las Nubes**	**0.86**	**58**	P	**Pb**	**23 30 03.8**	**+0.1**
LOAL	**Lomas de Alarc**	**0.92**	**53**	*e*P	**Pg**	**23 30 04.8**	**-0.3**
LOAL				*e*S	**Sg**	**23 30 16.8**	**-0.4**
LOAL	**Lomas de Alarc**	**0.92**	**53**	P	**Pg**	**23 30 04.8**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.93**	**52**	S	**Sg**	**23 30 17.3**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.93**	**52**	P	**Pb**	**23 30 04.7**	**-0.1**
CEVE	**Cerro Verde**	**0.96**	**67**	*e*P	**Pb**	**23 30 05.7**	**+0.1**
CEVE				*e*S	**Sg**	**23 30 18.7**	**-0.1**
CEVE	**Cerro Verde**	**0.96**	**67**	P	**Pb**	**23 30 05.6**	**+0.1**
ESSG	**Sabana Grande**	**0.97**	**343**	*i* P	**Pb**	**23 30 04.7**	**-0.9**
ESSG				*i* S	**Sb**	**23 30 16.7**	**-1.4**
JAYA	**Jayaque - finc**	**1.08**	**79**	*e*P	**Pb**	**23 30 06.9**	**-0.5**
JAYA				*e*S	**Sb**	**23 30 20.9**	**-0.3**
JAYA	**Jayaque - finc**	**1.08**	**79**	*i* P	**Pb**	**23 30 06.9**	**-0.5**
JAYA				*i* S	**Sb**	**23 30 20.8**	**-0.4**
JAYA	**Jayaque - finc**	**1.08**	**79**	P	**Pb**	**23 30 07.0**	**-0.5**
UNIC	**Universidad Ca**	**1.10**	**61**	S	**Sb**	**23 30 21.3**	**-0.3**
UNIC	**Universidad Ca**	**1.10**	**61**	P	**Pb**	**23 30 07.3**	**-0.4**
PMON	**Piamonte**	**1.22**	**77**	S	**Sb**	**23 30 24.7**	**-0.4**
PMON	**Piamonte**	**1.22**	**77**	P	**Pn**	**23 30 09.1**	**-0.2**
BOQS	**Boqueron**	**1.25**	**77**	*e*P	**Pn**	**23 30 10.0**	**+0.1**
UEES	**Universidad Ev**	**1.29**	**78**	S	**Sb**	**23 30 26.3**	**-0.8**
UEES	**Universidad Ev**	**1.29**	**78**	P	**Pn**	**23 30 10.2**	**-0.1**
LOMA	**Loma Larga**	**1.34**	**81**	*e*P	**Pn**	**23 30 11.0**	**-0.1**
LOMA				*e*S	**Sn**	**23 30 27.8**	**-0.7**
LOMA	**Loma Larga**	**1.34**	**81**	P	**Pn**	**23 30 11.2**	**+0.1**
UDBS	**Universidad Do**	**1.37**	**79**	S	**Sn**	**23 30 28.9**	**-0.2**
UDBS	**Universidad Do**	**1.37**	**79**	P	**Pn**	**23 30 11.7**	**+0.3**
LFU	**La Fuente**	**1.42**	**78**	*e*P	**Pb**	**23 30 12.6**	**-0.5**
LFRS	**El Faro**	**1.44**	**83**	*e*P	**Pn**	**23 30 12.8**	**+0.3**
MTO3	**Montecristo**	**1.48**	**50**	*e*P	**Pn**	**23 30 12.9**	**-0.2**
MTO3	**Montecristo**	**1.48**	**50**	*i* P	**Pn**	**23 30 12.9**	**-0.2**
MTO3	**Montecristo**	**1.48**	**50**	S	**Sn**	**23 30 32.4**	**+0.4**
MTO3	**Montecristo**	**1.48**	**50**	P	**Pn**	**23 30 13.0**	**-0.2**
ESQI	**Esquipulas**	**1.60**	**46**	S	**Sb**	**23 30 35.9**	**-0.4**
ESQI	**Esquipulas**	**1.60**	**46**	P	**Pn**	**23 30 14.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.78**	**82**	P	**Pn**	**23 30 17.5**	**+0.5**
PACA	**Pacayal**	**2.15**	**89**	P	**Pn**	**23 30 22.7**	**+0.4**
CNCH	**Conchagua**	**2.63**	**93**	S	**Sn**	**23 31 01.7**	**+1.3**
CNCH	**Conchagua**	**2.63**	**93**	P	**Pn**	**23 30 29.4**	**+0.6**

NIED ***17*** *23:48:24.9, 31°.89N×129°.19E, h11km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.82; Mθθ1.12; Mϕϕ-1.94; Mrθ2.72; Mθϕ2.13; Mϕr1.06; Fault plane solution: M₀3.79000×10¹⁴ NP1:φ₁9.00000°, δ58.00000°, λ156.00000°. NP2:φ₂113.00000°, δ70.00000°, λ34.00000°.*
JMA 17 23:48:24.9±0.1, 31°.9N±0°.4×129°.2E±0°.5, h11km±2km, MV3.7/40, SW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.49**	**115**	*i* P	Pg	23 48 34.2	-0.4
JSJ				S	Sg	23 48 40.8	-0.3
JFU	**Fukue jima 2**	**0.85**	**334**	*i* P	Pg	23 48 41.4	0.0
JFU				*e*S	Sb	23 48 53.0	-0.2
NGSJ	**Nagasakinomoza**	**0.90**	**35**	*i* P	Pg	23 48 41.9	-0.4
NGSJ				S	Sb	23 48 54.4	-0.2
JHD	**Hondo**	**0.98**	**54**	A	A	23 48 43.5	
	comp=N,4.0nm,2.4s,comp=E,8.0nm,0.7s						
JSU	**Suzuyama**	**1.14**	**109**	P	Pb	23 48 46.0	-0.8
JSU				*e*S	Sb	23 49 01.6	0.0
JZO	**Okuchi**	**1.22**	**78**	P	Pn	23 48 47.0	-1.0
JIU3	**Izumi3**	**1.52**	**64**	*e*P	Pn	23 48 51.6	-0.5
JTZ	**Takazaki**	**1.61**	**89**	P	Pn	23 48 52.7	-0.6

IDC ***17*** *23:55:46.5±3.5, 18°.83N×147°.04E, h54km±31km, mb4.0/16, mbtmp4.2/19, ML3.9/3, MS3.8/40, Error ellipse: s-maj=26.4km s-min=12.8km az=80.0*
BJI ***17*** *23:55:50.5, 18°.78N×146°.02E, h70km, mB4.9/2, mb4.5/20, Ms4.4/13, Ms7 4.1/13*
NEIC ***17*** *23:55:50.5±1.7, 18°.84N±0°.04×146°.2E±0°.2, h68km±8km, mb4.5/23, Error ellipse: s-maj=22.9km s-min=6.5km az=93.0*
ISC 17 23:55:47.5±0.6, 18°.86N±0°.07×146°.4E±0°.1, h50km, n105, σ1§80/68, mb4.5/35, MS3.9/43, 2C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.45**	**196**	P	**Pn**	**23 57 07.8**	**+1.6**
	31nm,0.3s,baz=349,slow=3.3,SNR=11						
GUMO				S	**Sn**	**23 58 11.5**	**+3.9**
	73nm,0.4s,baz=117,slow=23,SNR=4.8						
GUMO				LR	LR	23 58 59.5	
	comp=Z,367nm,18.6s,baz=25,slow=34						
	58nm,0.3s						
JHJ	**Hachijo jima 2**	**15.41**	**339**	LR	LR	00 05 51.0	
	comp=Z,158nm,18.0s,baz=86,slow=39						
INU	**Inuyama**	**18.43**	**335**		**P**	**23 59 59.0**	**+0.3**
JGF	**Kuroka**	**18.51**	**336**		**P**	**23 59 59.9**	**+0.2**
JGF				IAmb	IAmb	00 00 16.3	
	comp=Z,36nm,1.3s						
JOW	**Kunigami**	**18.51**	**299**	P	**Pn**	**00 00 03.8**	**+3.4**
	comp=Z,0.5nm,0.3s,baz=124,slow=15,SNR=2.3						
JOW				LR	LR	00 06 20.7	
	comp=Z,405nm,21.3s,baz=76,slow=33						
	comp=Z,3.7nm,0.6s						
MJAR	**Matsushiro Arr**	**19.05**	**339**		**P**	**00 00 05.9**	**+0.3**
MJAR	**Matsushiro Arr**	**19.05**	**339**	P	**P**	**00 00 06.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=159,slow=8.9,SNR=7.5						
	comp=Z,3.4nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.05**	**339**	P	**P**	**00 00 05.9**	**+0.3**
MJB9				IAmb	IAmb	00 00 25.7	
	comp=Z,22nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**19.19**	**88**	T	T	00 18 57.0	
	baz=275,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**19.20**	**88**	T	T	00 18 57.1	
	baz=275,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**19.21**	**88**	T	T	00 18 58.3	
	baz=275,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**19.33**	**84**	T	T	00 19 06.5	
	baz=272						
H11N2	**WAKE ISLAND Hy**	**19.33**	**84**	T	T	00 19 06.2	
	baz=272						
H11N3	**WAKE ISLAND Hy**	**19.34**	**84**	T	T	00 19 05.0	
	baz=272						
JNU	**Nakatsue**	**19.90**	**319**		**P**	**00 00 14.1**	**-0.8**
JNU				IAmb	IAmb	00 00 24.4	
	comp=Z,15nm,1.0s						
JNU	**Nakatsue**	**19.90**	**319**	P	**Pn**	**00 00 18.0**	**+1.1**
	comp=Z,7.0nm,1.0s,baz=130,slow=14,SNR=7.4						
JNU				LR	LR	00 07 11.0	
	comp=Z,143nm,19.9s,baz=118,slow=34						
	comp=Z,7.0nm,1.0s						
DAV	**Davao City (W)**	**23.43**	**243**	LR	LR	00 08 26.8	
	comp=Z,328nm,21.7s,baz=66,slow=32						
TATO	**Taipei**	**23.92**	**289**	P	**P**	**00 00 53.2**	**-3.7**
KSRS	**Korea Array**	**24.61**	**323**	P	**P**	**00 01 05.0**	**+2.0**
	comp=Z,7.6nm,0.9s,baz=142,slow=9.0,SNR=24						
	comp=Z,7.6nm,0.9s						
KSAR	**Wonju Array Be**	**24.63**	**323**		**P**	**00 01 00.7**	**-2.6**
TIA	**Tai'an**	**31.05**	**310**	P	P	00 01 55.1	-5.6
TIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TIA				LR	LR		
	comp=N,250nm,17.7s						
TIA				LR	LR		
	comp=E,180nm,15.9s						
TIA				LR	LR		
	comp=Z,260nm,20.0s						
BNX	**BinXian**	**31.10**	**334**	⇑P	**P**	**00 02 03.8**	**+2.8**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HNR	**Honiara**	**31.11**	**154**	LR	LR	00 14 35.7	
	comp=Z,150nm,19.2s,baz=352,slow=37						
HNS	**HongShan**	**33.31**	**310**	⇑P	**P**	**00 02 23.1**	**+2.6**
HNS				pmax	pmax		
	comp=Z,54nm,1.1s						
HNS				LR	LR		
	comp=Z,200nm,15.1s						
HNS				LR	LR		
	comp=Z,150nm,14.3s						
HNS				LR	LR		
	comp=Z,150nm,15.1s						
BJT	**Baijiatuan**	**33.50**	**315**	P	**P**	**00 02 20.4**	**-1.8**
BJI	**Beijing**	**33.51**	**316**	P	**P**	**00 02 24.8**	**+2.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BJI				LR	LR		
	comp=Z,100nm,12.6s						
BJI				LR	LR		
	comp=Z,78nm,13.5s						
BJI				LR	LR		
	comp=Z,110nm,17.7s						
QIZ	**Qiongzhong**	**34.58**	**276**	P	**P**	**00 02 30.1**	**-1.6**
QIZ				S	**S**	**00 07 53.5**	**-4.1**
QIZ				LR	LR		
	comp=Z,88nm,11.7s						
QIZ				LR	LR		
	comp=Z,120nm,12.4s						
QIZ				LR	LR		
	comp=Z,610nm,27.5s						
HEH	**HeiHe**	**34.81**	**338**	*e*P	**P**	**00 02 34.8**	**+1.4**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PETK	**Petropavlovsk-**	**35.29**	**12**	LR	LR	00 18 49.3	
	comp=Z,70nm,18.0s,baz=188,slow=39						
KAPI	**Kappang**	**35.41**	**231**	LR	LR	00 15 32.4	
	comp=Z,98nm,20.4s,baz=58,slow=33						
SOEI	**Soe**	**35.87**	**219**	P	**P**	**00 02 40.8**	**-2.1**
HHC	**Hu-ho-hao-te**	**37.00**	**314**	*e*P	**P**	**00 02 52.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,90nm,5.6s						
HHC				LR	LR		
	comp=Z,240nm,15.7s						
HHC				LR	LR		
	comp=Z,210nm,16.1s						
HHC				LR	LR		
	comp=Z,200nm,15.6s						
SHEM	**Shemya Is, Ala**	**40.08**	**26**	LR	LR	00 20 02.0	
	comp=Z,61nm,18.3s,baz=304,slow=36						
WB0	**Warramunga Arr**	**40.16**	**198**	P	**P**	**00 03 17.6**	**-1.3**
WB0				IAmb	IAmb	00 03 22.3	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**40.34**	**198**	P	**P**	**00 03 19.9**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=18,slow=9.2,SNR=6.1						
WRA				PcP	**PcP**	**00 05 22.6**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=21,slow=3.2,SNR=2.2						
	comp=Z,2.0nm,1.0s						
MA2	**Magadan**	**40.79**	**3**	LR	LR	00 19 58.2	
	comp=Z,35nm,19.9s,baz=138,slow=36						
PZH	**PanZhiHua**	**41.77**	**289**	P	**P**	**00 03 32.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.03**	**210**	P	**P**	**00 03 32.8**	**-1.4**
FITZ	**Fitzroy Crossi**	**42.03**	**210**	P	**P**	**00 03 33.8**	**-0.5**
	comp=Z,3.9nm,1.1s,baz=26,slow=8.5,SNR=1.4						
	comp=Z,3.9nm,1.1s						
ULN	**Ulaanbaatar**	**43.08**	**321**		**P**	**00 03 43.0**	**+0.2**
ULN				IAmb	IAmb	00 03 47.0	
	comp=Z,5.3nm,0.8s						
SONM	**Songino Array**	**43.46**	**321**	P	**P**	**00 03 45.4**	**-0.4**
SONM	**Songino Array**	**43.46**	**321**	P	**P**	**00 03 48.1**	**+2.3**
	comp=Z,3.4nm,0.8s,baz=133,slow=8.1,SNR=16						
SONM				PcP	**PcP**	**00 05 33.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=130,slow=4.3,SNR=2.1						
SONM				LR	LR	00 22 54.6	
	comp=Z,178nm,18.9s,baz=98,slow=37						
	comp=Z,3.4nm,0.8s						
AS31	**Alice Springs**	**44.00**	**197**	P	**P**	**00 03 49.4**	**-0.8**
ASAR	**Alice Springs**	**44.00**	**197**	P	**P**	**00 03 48.2**	**-2.0**
ASAR	**Alice Springs**	**44.00**	**197**	P	**P**	**00 03 49.7**	**-0.5**
	comp=Z,1.4nm,1.0s,baz=20,slow=5.5,SNR=5.4						
ASAR				PcP	**PcP**	**00 05 34.3**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=26,slow=4.5,SNR=2.4						
	comp=Z,1.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.89**	**277**	P	**P**	**00 03 55.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**44.89**	**277**	P	**P**	**00 04 00.7**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=70,slow=5.9,SNR=7.3						
CMAR				LR	LR	00 22 27.7	
	comp=Z,80nm,19.8s,baz=90,slow=35						
	comp=Z,0.6nm,0.3s						
GTA	**Gaotai**	**45.01**	**307**	*e*P	**P**	**00 04 02.4**	**+4.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				LR	LR		
	comp=Z,200nm,15.3s						
GTA				LR	LR		
	comp=Z,100nm,16.0s						
GTA				LR	LR		
	comp=Z,180nm,16.7s						
DZM	**Mont Dzumac**	**45.14**	**153**	*e*SS	SS	00 13 53.7	-5.8
	comp=Z,60nm,23.3s						
DZM				*e*LR	LR	00 16 40.7	
	comp=Z,317nm,23.5s						
DZM	**Mont Dzumac**	**45.14**	**153**	LR	LR	00 20 53.6	
	comp=Z,153nm,20.7s,baz=300,slow=34						
GOMU	**GeErMu**	**48.36**	**302**	P	**P**	**00 04 26.8**	**+1.9**
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PSI	**Prapat**	**49.12**	**257**	LR	LR	00 24 26.9	
	comp=Z,134nm,20.3s,baz=93,slow=35						
STKA	**Stephens Creek**	**50.66**	**185**	LR	LR	00 30 12.7	
	comp=Z,75nm,18.1s,baz=26,slow=41						
BRDH	**Bariadhala**	**51.14**	**284**	LR	LR	00 29 09.0	
	comp=Z,135nm,18.3s,baz=158,slow=39						
WMQ	**Urumqi**	**54.74**	**311**	*e*P	**P**	**00 05 11.3**	**-0.7**
WMQ				pP	sP	00 05 31.1	+1.1
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
WMQ				LR	LR		
	comp=Z,200nm,7.1s						
WMQ				LR	LR		
	comp=Z,200nm,20.9s						
ZAA0	**Zalesovo Array**	**58.32**	**322**		**P**	**00 05 36.9**	**-0.3**
ZAA0				IAmb	IAmb	00 05 40.4	
	comp=Z,4.4nm,0.8s						
ZALV	**Zalesovo Beam**	**58.32**	**322**		**P**	**00 05 37.6**	**+0.5**
ZALV	**Zalesovo Beam**	**58.32**	**322**	P	**P**	**00 05 38.5**	**+1.3**
	comp=Z,5.6nm,0.9s,baz=102,slow=7.6,SNR=15						
ZALV				LR	LR	00 30 49.5	
	comp=Z,101nm,20.0s,baz=91,slow=36						
	comp=Z,5.6nm,0.9s						
KDAK	**Kodiak Island**	**58.84**	**33**	LR	LR	00 31 07.8	
	comp=Z,54nm,19.3s,baz=241,slow=36						
MK31	**Makanchi Array**	**58.86**	**314**	P	**P**	**00 05 41.0**	**-0.2**
MK31				IAmb	IAmb	00 05 44.3	
	comp=Z,5.1nm,0.9s						
MKAR	**Makanchi Array**	**58.86**	**314**		**P**	**00 05 40.5**	**-0.7**
MKAR	**Makanchi Array**	**58.86**	**314**	P	**P**	**00 05 42.8**	**+1.6**
	comp=Z,4.8nm,0.9s,baz=92,slow=9.1,SNR=28						
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**61.62**	**318**		**P**	**00 06 00.5**	**+0.6**
KURBB	**Kurchatov Arra**	**61.67**	**318**	P	**P**	**00 06 01.5**	**+1.2**
	comp=Z,17nm,1.1s,baz=97,slow=6.7,SNR=59						
	comp=Z,17nm,1.1s						
ILAR	**Eielson Array**	**63.20**	**26**	P	**P**	**00 06 11.2**	**+1.0**
ILAR	**Eielson Array**	**63.20**	**26**	P	**P**	**00 06 06.8**	**-3.4**
	comp=Z,0.6nm,0.8s,baz=262,slow=6.8,SNR=5.0						
ILAR				LR	LR	00 35 10.3	
	comp=Z,52nm,18.3s,baz=256,slow=38						
	comp=Z,0.6nm,0.8s						
KSH	**Kashi**	**63.35**	**305**	P	P	00 06 17.4	+5.6
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AAK	**Ala-Archa**	**64.32**	**309**	LR	LR	00 36 35.9	
	comp=Z,130nm,18.4s,baz=133,slow=38						
BMAR	**Burnt Mountain**	**64.69**	**23**	P	**P**	**00 06 19.3**	**-0.7**
PALK	**Pallekele**	**64.76**	**269**	LR	LR	00 32 16.9	
	comp=Z,86nm,20.1s,baz=112,slow=34						
RAR	**Rarotonga**	**66.02**	**125**	LR	LR	00 31 18.1	
	comp=Z,60nm,19.7s,baz=298,slow=32						
NIL	**Nilore**	**66.07**	**299**		**P**	**00 06 28.8**	**-0.7**
NIL				IAmb	IAmb	00 06 33.7	
	comp=Z,11nm,0.9s						
L29M	**L29M**	**66.77**	**29**	P	**P**	**00 06 35.7**	**+2.2**
L29M				IAmb	IAmb	00 06 44.7	
	comp=Z,9.9nm,1.2s						
BVAR	**Borovoye Array**	**66.80**	**320**	P	**P**	**00 06 35.0**	**+1.1**
	comp=Z,8.0nm,0.8s,baz=101,slow=8.0,SNR=26						
BVAR				LR	LR	00 37 52.3	
	comp=Z,104nm,18.6s,baz=82,slow=38						
	comp=Z,8.0nm,0.8s						
BRVK	**Borovoye**	**66.86**	**320**		**P**	**00 06 33.5**	**-0.7**
BRVK				IAmb	IAmb	00 06 38.7	
	comp=Z,11nm,1.0s						
KK31	**Karatay Array**	**67.21**	**310**		**P**	**00 06 35.4**	**-1.2**
KK31				IAmb	IAmb	00 06 40.7	
	comp=Z,4.1nm,0.8s						
KKAR	**Karatay Array**	**67.21**	**310**		**P**	**00 06 36.0**	**-0.6**
PPT	**Papeete**	**72.55**	**116**	LR	LR	00 33 04.0	
	comp=Z,284nm,19.6s,baz=333,slow=31						
PPT2	**Papeete2**	**72.56**	**116**	*e*LR	LR	00 29 26.5	
	comp=Z,256nm,20.8s						
PPT2				*e*LR	LR	00 29 34.9	
	comp=Z,212nm,22.5s						
BBB	**Bella Bella**	**72.58**	**40**	LR	LR	00 39 26.4	
	comp=Z,47nm,18.6s,baz=214,slow=36						
ARTI	**Arti**	**73.45**	**325**	LR	LR	00 41 24.7	
	comp=Z,53nm,20.4s,baz=84,slow=37						
AB31	**Akbulak array**	**73.70**	**317**		**P**	**00 07 16.6**	**+0.5**
AB31				IAmb	IAmb	00 07 18.2	
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**73.70**	**317**		**P**	**00 07 16.6**	**+0.5**
AKTO	**Aktyubinsk**	**74.71**	**318**	LR	LR	00 42 21.0	
	comp=Z,135nm,18.1s,baz=150,slow=37						
TBI	**Tubuai**	**75.31**	**121**	*e*LR	LR	00 30 38.7	
	comp=Z,295nm,23.5s						
YBH	**Yreka Blue Hor**	**78.32**	**50**	LR	LR	00 35 11.3	
	comp=Z,5.9nm,19.8s,baz=294,slow=30						
PINE	**Pine Mountain**	**79.04**	**47**		**P**	**00 07 49.4**	**+2.7**
PINE				IAmb	IAmb	00 07 52.0	
	comp=Z,8.1nm,1.0s						
NEW	**Newport**	**80.33**	**42**	LR	LR	00 41 03.4	
	comp=Z,66nm,18.4s,baz=312,slow=34						
NVAR	**Mina Array Bea**	**82.49**	**52**	P	**P**	**00 08 02.5**	**-2.8**
	comp=Z,0.6nm,0.7s,baz=247,slow=6.1,SNR=4.7						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**82.56**	**342**	P	**P**	**00 08 04.6**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=60,slow=4.7,SNR=1.1						
	comp=Z,1.8nm,0.9s						
PFO	**Pinyon Flats O**	**85.45**	**56**	LR	LR	00 42 36.1	
	comp=Z,58nm,18.6s,baz=222,slow=33						
KBZ	**Khabaz**	**86.53**	**315**	LR	LR	00 50 38.5	
	comp=Z,105nm,19.4s,baz=103,slow=38						
KVAR	**Kislovodsk Arr**	**86.58**	**315**	LR	LR	00 49 39.3	
	comp=Z,51nm,19.8s,baz=340,slow=37						
FIA1	**FINESS Array S**	**87.03**	**335**	P	**P**	**00 08 27.2**	**-0.1**
FINES	**FINESS Array B**	**87.03**	**335**	P	**P**	**00 08 26.5**	**-0.9**
FINES	**FINESS Array B**	**87.03**	**335**	P	**P**	**00 08 26.6**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=63,slow=4.8,SNR=27						
FINES				LR	LR	00 51 31.2	
	comp=Z,44nm,18.5s,baz=58,slow=38						
	comp=Z,1.5nm,0.5s						
PDAR	**Pinedale Array**	**87.21**	**46**	LR	LR	00 42 18.5	
	comp=Z,37nm,20.1s,baz=246,slow=32						
AKASG	**Malin Array Be**	**91.57**	**326**	LR	LR	00 51 21.2	
	comp=Z,67nm,21.8s,baz=31,slow=36						
HFS	**Hagfors**	**92.50**	**338**	P	**P**	**00 08 51.7**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=140,slow=7.7,SNR=4.3						
	comp=Z,1.5nm,0.8s						
ANMO	**Albuquerque**	**92.61**	**52**	LR	LR	00 52 17.7	
	comp=Z,46nm,18.3s,baz=354,slow=37						
NOA	**NORSAR Array B**	**92.67**	**340**	LR	LR	00 55 11.5	
	comp=Z,36nm,21.2s,baz=60,slow=38						
LPIG	**La Paz**	**93.90**	**63**	LR	LR	00 44 03.9	
	comp=Z,101nm,19.4s,baz=220,slow=31						
TXAR	**Lajitas Array**	**97.17**	**56**	LR	LR	00 52 25.1	
	comp=Z,43nm,18.1s,baz=250,slow=35						
VRAC	**Vranov**	**98.87**	**329**	LR	LR	00 58 44.8	
	comp=Z,99nm,18.2s,baz=47,slow=38						
LPAZ	**La Paz**	**146.97**	**91**	PKPbc	**PKPdf**	**00 15 22.1**	**-2.1**
	comp=Z,1.2nm,1.0s,baz=304,slow=7.3,SNR=3.6						

CATAC ***18*** *00:17:51.7±0.3, 12°N±2°×9°0W±°, h5km, M4.2/30, mb4.0/4, mB4.8/2, MLv4.3/30, Mw(mB)4.0/2, Error ellipse: s-maj=4.4km s-min=2.5km az=41.0, confirmed*
IDC ***18*** *00:17:52.1±1.8, 12°.25N×90°.09W, h0km, mb3.9/8, mbtmp3.9/10, ML3.7/2, MS3.5/6, Error ellipse: s-maj=48.3km s-min=20.8km az=30.0*
SNET ***18*** *00:17:54.8±1.8, 12°.28N×90°.33W, h15km, ML4.1*
NEIC ***18*** *00:17:55.1±1.3, 12°.34N±0°.05×90°.26W±0°.06, h10km±1km, mb4.4/27, Error ellipse: s-maj=12.5km s-min=3.7km az=228.0*
UCR ***18*** *00:17:55.9±1.1, 12°.46N×90°.20W, h10km, MB4.4(NEIC)*
GCG ***18*** *00:17:59.3±1

PACA	Pacayal	2.34	58		P		Pn	00 18 32.0	-0.7
PACA	Pacayal	2.34	58		S		Sn	00 19 01.6	+0.9
RANC	El Ranchito	2.35	59		P		Pb	00 18 42.1	+4.5
LLGN	La Laguna	2.37	36		P		Pn	00 18 32.7	-0.3
LLGN	La Laguna	2.37	36		S		Sb	00 19 03.2	-3.4
MTO3	Montecristo	2.37	24				Pn	00 18 32.7	-0.4
MTO3					Sn		Sn	00 19 01.3	-0.1
MTO3	Montecristo	2.37	24	*i*	P		Pn	00 18 32.7	-0.4
MTO3	Montecristo	2.37	24		P		Pn	00 18 32.7	-0.4
MTO3	Montecristo	2.37	24		S		Sn	00 19 02.5	+1.1
ESQI	Esquipulas	2.52	23				Pn	00 18 34.7	-0.5
ESQI					Sn		Sn	00 19 03.9	-1.2
ESQI	Esquipulas	2.52	23		P		Pn	00 18 35.4	+0.2
ESQI	Esquipulas	2.52	23		S		Sn	00 19 06.0	+1.0
RTAL	Retalhuleu	2.62	331				Pn	00 18 35.0	-1.4
RTAL					Sn		Sn	00 19 05.0	-2.4
RTAL	Retalhuleu	2.62	331		P		Pn	00 18 35.5	-0.9
RTAL	Retalhuleu	2.62	331		S		Sn	00 19 03.6	-3.8
LCND	La Caada	2.64	66	*eP*			Pn	00 18 35.3	-1.4
LCND	La Caada	2.64	66		P		Pn	00 18 35.2	-1.4
CNCH	Conchagua	2.68	67		S		Sn	00 19 10.8	+1.7
CNCH	Conchagua	2.68	67		P		Pn	00 18 36.3	-1.0
SOKI	Kika Raxquin	2.77	339	*eP*			Pn	00 18 38.0	-0.8
SOKI				*eS*			Sn	00 19 07.1	-4.4
SOKI				IAML				00 19 12.4	
	comp=E,2µm,0.3s								
CSGN	Cosiguina Volc	2.84	75	*eP*			Pn	00 18 37.0	-2.5
CSGN				*eS*			Sn	00 19 13.3	+0.5
CSGN	Cosiguina Volc	2.84	75		P		Pn	00 18 37.7	-1.8
CSGN					S		Sn	00 19 12.5	-0.3
POTN	Potosi Cosigui	2.89	74	*eP*			Pn	00 18 39.2	-0.9
POTN				*eS*			Sn	00 19 13.3	-0.8
POTN	Potosi Cosigui	2.89	74		P		Pn	00 18 39.7	-0.5
POTN					S		Sn	00 19 13.6	-0.6
SARH	Santa Rosa de	2.97	31	*i*	P		Pn	00 18 41.4	0.0
SMCA	Catarina	3.10	328	*eP*			Pn	00 18 41.7	-1.2
QUIS	Sacapulas	3.12	347	*i*	P		Pn	00 18 44.8	+1.3
QUIS				IAML				00 19 24.7	
	comp=N,922nm,0.7s								
HUEH	Huehuetenango	3.26	340				Pn	00 18 44.9	-0.5
CRIN	San Cristobal	3.27	81				Pn	00 18 44.6	-0.8
CRIN	San Cristobal	3.27	81	*eP*			Pn	00 18 44.8	-0.6
CRIN	San Cristobal	3.27	81		P		Pn	00 18 45.0	-0.4
CRIN	San Cristobal	3.27	81		S		Sn	00 19 24.4	+0.8
POLN	Al Sur del Vol	3.50	83		P		Pn	00 18 47.1	-1.4
POLN					S		Sn	00 19 27.1	-1.9
TGUH	Tegucigalpa,Un	3.52	59				Pn	00 18 47.7	-1.2
CNGN	Cerro Negro	3.59	85				Pn	00 18 49.2	-0.7
COPN	Copaltepe	3.69	90	*eP*			Pn	00 18 49.9	-1.3
COPN				*eS*			Sn	00 19 30.7	-3.1
COPN	Copaltepe	3.69	90		P		Pn	00 18 50.1	-1.0
MGAN	Managua	4.03	91		Pn		Pn	00 18 55.7	0.0
RCVN	Varillal2	4.28	71		P		Pn	00 18 58.1	-1.3
RCVN	Varillal2	4.28	71		S		Sn	00 19 48.9	+0.2
RCPN	Sur Rio San Ju	4.36	72		P		Pn	00 18 59.6	-0.8
CCIG	Comitan	4.38	337				Pn	00 19 01.0	+0.2
CCIG	Comitan	4.38	337	*eP*			Pn	00 19 02.2	+1.5
MATN	Matagalpa	4.39	80		P		Pn	00 18 58.2	-2.7
MATN	Matagalpa	4.39	80		S		Sn	00 19 49.1	-2.1
BOAB	BOACO BROADBAN	4.60	87				Pn	00 19 01.9	-1.7
BOAB	BOACO BROADBAN	4.60	87		P		Pn	00 19 02.2	-1.4
BOAB	BOACO BROADBAN	4.60	87		S		Sn	00 19 53.8	-2.4
LAPC	Finca la Perla	5.05	106	*eP*			Pn	00 19 10.8	+0.9
ACON	Acoyapa	5.08	92		Pn		Pn	00 19 08.9	-1.4
ACON	Acoyapa	5.08	92	*eP*			Pn	00 19 09.9	-0.4
JUD3	Juan Diaz 3	5.16	113	*eP*			Pn	00 19 11.4	0.0
INDI	Punta indio, G	5.32	116		P		Pn	00 19 13.9	+0.3
INDI	Punta indio, G	5.32	116		S		Sn	00 20 08.9	-5.1
CUI	Cuipilapa	5.33	107	*eP*			Pn	00 19 14.8	+1.1
VMAR	Armenia, Volca	5.34	105	*eP*			Pn	00 19 14.5	+0.7
SIUN	Universidad Ur	5.65	74				Pn	00 19 17.1	-1.0
JTS	Las Juntas de	5.65	109				Pn	00 19 18.9	+0.8
JTS	Las Juntas de	5.65	109		Pn		Pn	00 19 15.4	-2.7
	comp=N,2.5nm,0.3s,baz=300,slow=20,SNR=12								
JTS					Sn		Sn	00 20 19.1	-3.0
	comp=N,3.8nm,0.3s,baz=345,slow=19,SNR=6.5								
	comp=N,4.9nm,0.3s								
JTS	Las Juntas de	5.65	109	*eP*			Pn	00 19 19.1	+1.0
JTS				*eS*			Sn	00 20 24.8	+2.6
JTS	Las Juntas de	5.65	109		P		Pn	00 19 20.0	+1.9
JTS					S		Sn	00 20 21.6	-0.5
VARE2	V. Arenal	5.81	107	*eP*			Pn	00 19 21.7	+1.3
SOCE	Pocosol	5.93	107		Pn		Pn	00 19 22.8	+0.8
ESPN	Las Esperanzas	5.93	90		Pn		Pn	00 19 21.9	0.0
CMIG	Matias Romero	6.52	318		Pn		Pn	00 19 30.3	+0.3
	comp=N,1.4nm,0.3s,baz=143,slow=11,SNR=23								
CMIG					Sn		Sn	00 20 39.2	-4.3
	comp=N,2.4nm,0.3s,baz=101,slow=16,SNR=5.8								
	comp=N,3.5nm,0.3s								
PICV	PH. Pirrs	6.59	113	*eP*			Pn	00 19 33.9	+2.8
PICV				*eS*			Sn	00 20 41.7	-3.7
LCR2	La Lucha 2	6.72	111				Pn	00 19 34.1	+1.2
LCR2	La Lucha 2	6.72	111	*eP*			Pn	00 19 35.1	+2.2
LCR2	La Lucha 2	6.72	111		P		Pn	00 19 34.9	+1.9
LCR2	La Lucha 2	6.72	111		S		Sn	00 20 44.8	-4.0
PIEC	Cerro El Cedra	6.80	112	*eP*			Pn	00 19 36.2	+1.9
CVTQ	Turrialba Volc	6.84	108	*eP*			Pn	00 19 34.4	-0.4
CVTR	Volcan Turrial	6.84	108	*eP*			Pn	00 19 37.2	+2.3
CVTV	Tajo	6.86	108	*eP*			Pn	00 19 36.7	+1.7
TEIG	Tepich	8.20	14				Pn	00 19 53.6	+0.5
BRU2	Volcan	8.28	114		Pn		Pn	00 19 54.4	0.0
TLIG	Tlapa	9.53	305				Pn	00 20 13.2	+1.7
JRQG	Juriquilla Cam	12.82	312		Pn		Pn	00 20 56.2	-0.4
FLOC	Florencia	18.02	125				Pn	00 22 05.4	+0.9
DRIO	Del Rio	19.59	332				P	00 22 22.7	+0.7
NATX	Nacogdoches	19.84	349				P	00 22 24.6	-0.1
HPIG		20.50	318		P		Pn	00 22 35.5	+1.0
HPIG					IAmb		IAmb	00 22 40.2	
	comp=Z,9.7nm,1.3s								
BRDY	Brady	20.57	339				P	00 22 33.1	+0.4
WHTX	Lake Whitney,	20.72	343		P		P	00 22 35.6	+1.4
WHTX					IAmb		IAmb	00 22 44.7	
	comp=Z,22nm,0.8s								
Z47A	Carrollton	20.98	5		P		P	00 22 37.7	+0.7
Z47A					IAmb		IAmb	00 22 45.1	
	comp=Z,14nm,0.8s								
TXAR	Lajitas Array	21.04	326				P	00 22 39.0	+1.1
TXAR	Lajitas Array	21.04	326		P		P	00 22 39.9	+2.1
	comp=Z,1.4nm,0.7s,baz=142,slow=9.5,SNR=15								
	comp=Z,1.4nm,0.7s								
TX31	Lajitas Ar. Si	21.04	326		P		P	00 22 37.8	-0.1
OZNA	Ozona	21.09	334				P	00 22 39.1	+0.7
GOGA	Godfrey	22.01	16		P		P	00 22 47.8	-0.2
GOGA					IAmb		IAmb	00 22 52.8	
	comp=Z,20nm,1.5s								
BAUV	El Baul	22.18	96		P		P	00 22 49.6	-0.5
BAUV					IAmb		IAmb	00 22 59.9	
	comp=Z,14nm,0.7s								
OXF	Oxford	22.20	2		P		P	00 22 50.8	+0.7
OXF					IAmb		IAmb	00 23 19.5	
	comp=Z,15nm,1.1s								
MIAR	Mount Ida	22.41	353				P	00 22 52.4	0.0
MIAR					IAmb		IAmb	00 23 12.5	
	comp=Z,4.4nm,0.8s								
FPAL	Fort Paine	22.63	10		P		P	00 22 54.1	-0.6
FPAL					IAmb		IAmb	00 22 56.9	
	comp=Z,4.7nm,0.9s								
VHRN	Van Horn	22.89	326				P	00 22 57.7	+0.1
SWET	Sewanee	23.23	9		P		P	00 23 00.7	-0.4
SWET					IAmb		IAmb	00 23 07.5	
	comp=Z,8.1nm,0.5s								
V48A	Smith Brothers	23.62	7		P		P	00 23 04.7	-0.1
V48A					IAmb		IAmb	00 23 12.4	
	comp=Z,8.8nm,0.7s								
TKL	Tuckaleechee C	24.07	13		P		P	00 23 09.2	+0.2
TKL					IAmb		IAmb	00 23 35.1	
	comp=Z,13nm,1.3s								
TKL	Tuckaleechee C	24.07	13		P		P	00 23 09.3	+0.2
	comp=Z,4.8nm,0.9s,baz=172,slow=10,SNR=6.5								
TKL					LR		LR	00 33 20.1	
	comp=Z,72nm,18.5s,baz=174,slow=39								
	comp=Z,4.8nm,0.9s								
SJG	San Juan	24.08	73		LR		LR	00 32 33.3	
	comp=Z,51nm,21.6s,baz=134,slow=37								
OK052	Battle Ridge R	24.36	347		P		P	00 23 10.7	-1.0
WCI	Wyandotte Cave	26.14	7		P		P	00 23 27.5	-0.3
SADO	Sadowa	33.82	14		LR		LR	00 39 11.7	
	comp=Z,63nm,19.6s,baz=278,slow=38								
PDAR	Pinedale Array	34.69	335		P		P	00 24 44.7	+1.1
PDAR	Pinedale Array	34.69	335		P		P	00 24 45.9	+2.3
	comp=Z,1.1nm,1.1s,baz=142,slow=7.3,SNR=5.0								
	comp=Z,1.1nm,1.1s								

NVAR	Mina Array Bea	36.04	321		P		P	00 24 57.6	+2.3
	comp=Z,1.3nm,0.8s,baz=128,slow=6.9,SNR=4.1								
	comp=Z,1.3nm,0.8s								
MCMT	McKenzie Canyo	37.75	334		P		P	00 25 11.3	+1.5
SCHQ	Schefferville	46.35	19		P		P	00 26 18.2	-1.3
	comp=Z,4.1nm,0.5s,baz=216,slow=9.8,SNR=18								
SCHQ					LR		LR	00 44 56.5	
	comp=Z,53nm,19.6s,baz=242,slow=35								
	comp=Z,4.1nm,0.5s								
FRB	Frobisher Bay	53.69	12		LR		LR	00 51 37.7	
	comp=Z,70nm,18.5s,baz=313,slow=38								
M29M	Somme Creek	60.66	337		P		P	00 28 06.0	+1.5
F28M	Old Crow	64.05	341		P		P	00 28 28.0	+1.1
G27K	Doyon Strip	64.19	340		P		P	00 28 28.1	+0.1
G27K					IAmb		IAmb	00 28 56.2	
	comp=Z,4.7nm,1.4s								
ILAR	Eielson Array	65.08	337		P		P	00 28 33.8	0.0
	comp=Z,1.4nm,0.9s,baz=116,slow=7.4,SNR=9.7								
	comp=Z,1.4nm,0.9s								
BMAR	Burnt Mountain	65.49	340		P		P	00 28 37.6	+1.2
F25K	Christian Rive	65.93	340		P		P	00 28 40.4	+1.1
BPAW	Bear Paw Mtn.	66.44	335		P		P	00 28 43.5	+1.0
BPAW					IAmb		IAmb	00 28 58.5	
	comp=Z,3.8nm,1.3s								
MLY	Manley	66.69	336		P		P	00 28 45.0	+0.9
MLY					IAmb		IAmb	00 28 48.0	
	comp=Z,3.4nm,1.1s								
EKA	Eskdalemuir Ar	78.47	36		P		P	00 29 54.1	-0.3
	comp=Z,1.6nm,0.8s,baz=270,slow=4.8,SNR=2.2								
	comp=Z,1.6nm,0.8s								
ESDC	Sonseca Array	79.56	52		P		P	00 29 59.1	-1.6
	comp=Z,0.4nm,0.9s,baz=273,slow=2.4,SNR=2.3								
	comp=Z,0.4nm,0.9s								
TIXI	Tiksi	92.30	348		LR		LR	01 18 33.9	
	comp=Z,27nm,18.7s,baz=212,slow=39								
WRA	Warramunga Arr	136.47	254		PKP		PKPdf	00 37 15.6	-0.6
	comp=Z,0.3nm,0.6s,baz=88,slow=1.9,SNR=2.3								
CMAR	Chiang Mai Arr	148.15	343		PKPbc		PKPbc	00 37 41.2	+1.0
	comp=Z,1.0nm,0.4s,baz=18,slow=2.7,SNR=6.5								

TRN 18 00:35:23.6, 17.72N×63.29W, h10km, MD3.6, North-west of Saba Island., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.65	126	*eP*	Pn	00 35 38.7	-0.2
SKI				*eS*	Sn	00 35 50.2	+1.0
MBFL	Flemmings, Mon	1.41	133	*eP*	Pg	00 35 50.8	+0.1
MBFL				*eS*	Sg	00 36 12.2	+3.2
MBWH		1.43	133	*eP*	Pg	00 35 51.6	+0.6
MBWH				*eS*	Sg	00 36 12.6	+2.9
ANWB	Willy Bob	1.43	92	*eP*	Pg	00 35 50.8	-0.3
ANWB				*eS*	Sg	00 36 12.3	+2.6
MLYT	Lee's Yard	1.44	133	*eP*	Pg	00 35 52.0	+0.6
MLYT				*eS*	Sg	00 36 13.1	+3.0
DHSZ	Broadband at M	2.05	134	*eP*	Pb	00 36 01.6	+0.7
DHSZ				*eS*	Sb	00 36 26.3	-0.1
ATGZ	Broadband at L	2.20	137	*eP*	Pn	00 36 01.5	+1.2
ATGZ				*eS*	Sb	00 36 30.8	0.0
MMLZ	Guadeloupe Bro	2.28	137	*eP*	Pb	00 36 03.0	-1.7
MMLZ				*eS*	Sb	00 36 32.0	-1.0
TBG	Guadaloupe-3	2.43	140	*eS*	Sn	00 36 35.2	+1.9
DSLB	Salisbury	2.89	142	*eP*	Pn	00 36 12.5	+2.7
DSLB				*eS*	Sn	00 36 46.7	+2.1

*NEIC **18** 00:35:54.9±2.1,22.90S±0.07×66.61W±0.07, h198km±11km, mb4.2/5, Error ellipse: s-maj=12.2km s-min=6.6km az=140.0*
*IDC **18** 00:35:54.4±1.8,22.845S×66.43W, h176km±21km, mb3.3/2, mbtmp3.8/7, Error ellipse: s-maj=31.1km s-min=15.3km az=106.0*

ISC 18 00:35:54.0±0.6, 22.88S±0.05×66.68W±0.05, h200km, n53, σ2.507/60, 7C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.29	57	⇑*iP*	Pn	00 36 29.7	+3.3
SALTA		1.37	167	*iP*	Pn	00 36 30.5	+3.4
AF01	San Pedro de A	1.38	267	Pn	Pn	00 36 29.2	+2.1
SLA	San Lorenzo	2.12	150	*eP*	Pn	00 36 37.6	+3.6
PB09	IPOC Station P	2.61	294		Pn	00 36 41.5	+2.2
PB09				Sn	Sn	00 37 15.5	+0.9
PB09	IPOC Station P	2.61	294	⇑*iP*	Pn	00 36 41.7	+2.4
PB09				*eS*	Sn	00 37 15.4	+0.9
PB09				IAML		00 37 19.9	
	comp=N,65nm,0.4s						
PB06	IPOC Station P	2.67	273		Pn	00 36 41.0	+1.0
PB06				Sn	Sn	00 37 16.1	+0.3
PB06	IPOC Station P	2.67	273	*eP*	Pn	00 36 41.9	+1.9
PB06				*eS*	Sn	00 37 16.2	+0.3
PB06				IAML		00 37 19.1	
	comp=N,202nm,0.2s						
PB03	IPOC Station P	2.96	286		Pn	00 36 44.9	+1.5
PB03	IPOC Station P	2.96	286	⇑*iP*	Pn	00 36 44.7	+1.4
PB03				IAML		00 37 22.8	
	comp=N,221nm,0.2s						
PB01	IPOC Station P	3.19	305		Pn	00 36 47.7	+1.8
PB01	IPOC Station P	3.19	305	⇑*iP*	Pn	00 36 47.5	+1.6
PB01				IAML		00 37 28.0	
	comp=E,126nm,0.1s						
PB05	IPOC Station P	3.25	270		Pn	00 36 48.1	+1.4
PB05	IPOC Station P	3.25	270	⇑*iP*	Pn	00 36 48.0	+1.2
PB05				IAML		00 37 30.9	
	comp=E,83nm,0.3s						
PB02	IPOC Station P	3.36	297		Pn	00 36 49.4	+1.3
PB02	IPOC Station P	3.36	297	*eP*	Pn	00 36 49.3	+1.2
PB02				IAML		00 37 29.3	
	comp=N,223nm,0.3s						
GO02	Mina Guanaco	3.50	229		Pn	00 36 52.0	+2.1
PB08	IPOC Station P	3.57	319		Pn	00 36 53.8	+2.9
PB10	IPOC Station P	3.62	259		Pn	00 36 52.5	+1.4
PB10	IPOC Station P	3.62	259	⇑*iP*	Pn	00 36 52.3	+1.2
PATCX	Punta Patache	3.82	302		Pn	00 36 54.5	+0.8
PB14	IPOC Station P	3.83	242		Pn	00 36 55.2	+1.2
HMBC	Humberstone	3.95	310		Pn	00 36 56.5	+1.2
GO01	Chusmiza	3.97	323		Pn	00 36 58.0	+2.1
GO01	Chusmiza	3.97	323	*eP*	Pn	00 36 57.8	+1.9
TA01	Diego Aracena	3.99	305	Pn	Pn	00 36 57.7	+2.0
PB11	IPOC Station P	4.17	318	Pn	Pn	00 36 59.2	+1.2
AC02	Maricunga	4.52	209		Pn	00 37 04.7	+1.9
AC01	Pan de Azucar	4.83	227	Pn	Pn	00 37 06.2	0.0
PB16	IPOC Station P	5.24	329		Pn	00 37 14.1	+1.9
AC06	Mina Casimiro	5.56	216	Pn	Pn	00 37 14.4	-1.2
GO03	Copiapo	5.69	214	Pn	Pn	00 37 17.0	-0.3
AC04	Llanos de Chal	6.62	216	Pn	Pn	00 37 28.5	-0.7
LPAZ	La Paz	6.70	348		Pn	00 37 32.5	+1.5
LPAZ	La Paz	6.70	348	P	Pn	00 37 32.8	+1.8
	comp=N,1.3nm,0.4s,baz=167,slow=7.9,SNR=9.7						
LPAZ				S	Sn	00 38 46.1	-1.7
	comp=N,1.1nm,0.7s,baz=223,slow=19,SNR=1.2						
LCO	Las Campanas	7.09	210	Pn	Pn	00 37 34.6	-1.1
CO01	Juntas del Tor	7.70	203	Pn	Pn	00 37 43.8	+0.3
GO04	Tololo Observa	8.14	206	Pn	Pn	00 37 47.4	-1.9
SIV	San Ignacio	8.66	39	P	Pn	00 37 55.4	-0.5
	comp=N,6.3nm,0.5s,baz=227,slow=12,SNR=37						
SIV				S	Sn	00 39 26.2	-7.0
	comp=N,0.4nm,0.5s,baz=255,slow=20,SNR=1.7						
CO03	El Pedregal	8.69	203	Pn	Pn	00 37 55.1	-1.2
CFA	Coronel Fontan	8.80	189	P	Pn	00 37 57.8	+0.2
	comp=N,0.9nm,0.3s,baz=14,slow=17,SNR=20						
CFA				S	Sn	00 39 30.5	-5.9
	comp=N,0.7nm,0.3s,baz=108,slow=20,SNR=6.0						
BO02	Sierra Bellavi	12.40	196	Pn	P	00 38 45.9	-2.1
PLCA	Paso Flores	18.09	190	P	P	00 39 51.1	+0.2
PLCA	Paso Flores	18.09	190	P	Pn	00 39 53.9	+0.8
	comp=N,1.8nm,0.9s,baz=22,slow=5.4,SNR=2.2						
BDFB	Brasilia	19.03	71	P	P	00 40 00.7	-0.5
BDFB				IAmb	IAmb	00 40 03.6	
	comp=Z,6.2nm,0.7s						
BDFB	Brasilia	19.03	71	P	P	00 40 01.3	+0.1
	comp=Z,5.9nm,0.8s,baz=248,slow=7.8,SNR=8.3						
MACA	Manacapuru-AM	20.45	17	P	P	00 40 15.4	-0.9
MAL2	Monte Alegre,	24.03	32	P	P	00 40 52.0	+1.2
MAL2				IAmb	IAmb	00 40 53.5	
	comp=Z,8.4nm,0.7s						
BANI	BANI	41.18	355	P	P	00 43 20.0	+0.8
QSPA	South Pole Qui	67.32	180	P	P	00 46 30.1	+3.0
QSPA				IAmb	IAmb	00 46 53.6	
	comp=Z,5.1nm,1.4s						
QSPA	South Pole Qui	67.32	180	P	P	00 46 30.8	+3.7
	comp=Z,0.6nm,0.5s,baz=124,slow=7.3,SNR=13						
	comp=Z,0.6nm,0.5s						

TORD	Torodi Ar. Bea	75.90	69		P		P	00 47 19.2	+0.2
	comp=Z,0.2nm,0.4s,baz=259,slow=6.0,SNR=7.5								
	comp=Z,0.2nm,0.4s								
MKAR	Makanchi Array	145.48	39		PKPbc		PKiKP	00 55 11.8	-0.4
	comp=Z,0.2nm,0.6s,baz=291,slow=4.0,SNR=2.1								

*SOME **18** 00:38:51.3,44.10N×79.78E, h15km, MS2.6*
*NNC **18** 00:38:52.2±0.7,44.09N×79.73E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=4.7km s-min=3.0km az=71.0*
*IDC **18** 00:38:54.7±2.5,44.28N×80.16E, h0km, mbtmp2.9/5, ML2.7/5, Error ellipse: s-maj=23.8km s-min=17.1km az=18.0*

ISC 18 00:38:52.6±1.2, 44.10N±0.03×79.76E±0.03, h4km±10km, n58, σ1.967/78, 10C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	0.79	194	⇑P	Pg	00 39 07.3	-0.5
	62nm,0.2s						
PDGK				⇑S	Sg	00 39 18.3	+0.2
	3µm,0.6s						
SHLS	Shalkode	0.96	193	P	Pg	00 39 09.8	-1.3
	692nm,0.3s						
SHLS				S	Sg	00 39 22.6	-0.9
	1µm,0.4s						
SHLS	Shalkode	0.96	193	*eP*	Pg	00 39 09.8	-1.3
	691nm,0.2s						
SHLS				*eS*	Sg	00 39 22.6	-0.9
	707nm,0.2s						
KPKS	Kokpek	1.00	231	P	Pg	00 39 11.4	-0.4
	888nm,0.2s						
KPKS				S	Sg	00 39 25.2	+0.4
	4µm,0.4s						
UZB	Uzynbulak	1.09	210	P	Pg	00 39 12.1	-1.4
	213nm,0.2s						
UZB				S	Sg	00 39 27.0	-0.6
	1µm,0.3s						
UZB	Uzynbulak	1.09	210	*eP*	Pg	00 39 12.5	-1.0
	178nm,0.1s						
UZB				*eS*	Sg	00 39 27.2	-0.5
	2µm,0.2s						
TDK	Taldyqorghan	1.32	314	*eP*	Pg	00 39 17.4	-0.6
	410nm,0.1s						
TDK				*eS*	Sg	00 39 35.3	+0.2
	3µm,0.2s						
ARXS	Arharly	1.39	275	P	Pn	00 39 18.2	-0.7
	282nm,0.2s						
ARXS				S	Sg	00 39 37.4	-0.1
	3µm,0.6s						
SATY	Saty	1.43	224	P	Pn	00 39 18.5	-0.9
	758nm,0.2s						
SATY				S	Sg	00 39 38.4	-0.1
	3µm,0.3s						
CHKK	Chushkaly	2.01	264	Pg	Pn	00 39 27.9	+0.5
	150nm,0.3s						
CHKK				Lg	Lg	00 39 54.9	
	396nm,0.3s						
CHKK	Chushkaly	2.01	264	*eP*	Pn	00 39 27.9	+0.5
	155nm,0.1s						
CHKK				*eS*	Sn	00 39 54.7	+1.7
	867nm,0.2s						
KNDC	Almaty	2.21	248	⇓Pn	Pn	00 39 31.3	+1.2
	149nm,0.5s						
KNDC				⇓Sn	Sb	00 40 01.6	+0.7
	93nm,0.3s						
AAA	Alma-Ata	2.25	248	Pg	Pb	00 39 33.3	-0.5
	106nm,0.2s						
AAA				Lg	Lg	00 40 03.2	
	32nm,0.2s						
AAA	Alma-Ata	2.25	248	*eP*	Pb	00 39 33.3	-0.5
	106nm,0.2s						
AAA				*eS*	Sb	00 40 03.2	+1.3
	32nm,0.2s						
KTBS	Karatobe	2.26	261	Pg	Pn	00 39 31.9	+1.2
	122nm,0.5s						
KTBS				Lg	Lg	00 40 01.8	
	0.7nm,0.3s						
TNSS	Tian-Shan	2.30	244	Pg	Pn	00 39 33.0	+1.3
	21nm,0.2s						
TNSS				Lg	Lg	00 40 03.5	
TNSS	Tian-Shan	2.30	244	*eP*	Pn	00 39 33.0	+1.3
	21nm,0.2s	

ZSN	**Zaisan**	**4.90**	**45**	*eP*		**Pb**	**00 40 19.3**	**+0.3**
	4.5nm,0.1s							
ZSN				*eS*		**Sb**	**00 41 22.8**	**+4.5**
	47nm,0.5s							
MRKS	**Merke**	**4.95**	**256**	Pg		**Pb**	**00 40 21.9**	**+2.0**
	13nm,0.7s							
MRKS				Lg		Lg	00 41 26.8	
	20nm,0.4s							
MRKS	**Merke**	**4.95**	**256**	*eP*		**Pb**	**00 40 21.9**	**+2.0**
	12nm,0.2s							
MRKS				*eS*		**Sg**	**00 41 26.8**	**-4.7**
	37nm,0.3s							
KSH	**Kashi**	**5.38**	**213**	Pn		**Pg**	**00 40 39.3**	**+3.6**
KSH				Sn		Sg	00 41 55.8	+10
KSH				smax		smax		
	comp=N,19nm,0.8s							
KSH				smax		smax		
	comp=E,25nm,1.0s							
WMQ	**Urumqi**	**5.74**	**90**	P		**Pn**	**00 40 17.8**	**-0.8**
KURBB	**Kurchatov Arra**	**6.58**	**353**	Pn		**Pn**	**00 40 30.5**	**+0.4**
	comp=E,0.1nm,0.3s,baz=177,slow=12,SNR=4.2							
KURBB				Sn		**Sn**	**00 41 45.4**	**-0.2**
	comp=E,0.3nm,0.3s,baz=168,slow=15,SNR=4.7							
KURBB				Lg		Lg	00 42 15.5	
	comp=E,0.4nm,0.3s,baz=170,slow=28,SNR=5.7							
	comp=E,0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**6.58**	**353**	⇑Pg		Pg	00 40 53.3	-5.3
	comp=E,9.9nm,0.7s							
KURBB				⇓Lg		Lg	00 42 21.0	
	comp=E,40nm,0.7s							
KURK	**Kurchatov**	**6.67**	**354**	⇓Pg		Pg	00 40 54.7	-5.6
	comp=E,2.5nm,0.4s							
KURK				⇓Lg		Lg	00 42 24.3	
	comp=E,22nm,0.7s							
KK31	**Karatay Array**	**6.79**	**265**	⇑Pn		Pn	00 40 39.6	+6.7
	comp=E,0.2nm,0.2s,baz=73,slow=13,SNR=8.8							
KK31				Pg		**Pb**	**00 40 55.2**	**+4.1**
	comp=E,4.7nm,0.5s,baz=76,slow=16,SNR=19							
KK31				⇓Lg		Lg	00 42 25.7	
	comp=E,11nm,0.6s,baz=73,slow=29,SNR=7.5							
BRLS	**Borolday**	**7.29**	**265**	Pg		Pg	00 41 06.6	-5.5
	comp=E,1.5nm,0.9s							
BRLS				Lg		Lg	00 42 43.5	
	comp=E,7.8nm,0.9s							
BRLS	**Borolday**	**7.29**	**265**	*eP*		**Pg**	**00 41 10.2**	**-1.9**
	comp=E,1.2nm,0.2s							
BRLS				*eS*		**Sg**	**00 42 49.7**	**+3.2**
	comp=E,12nm,0.6s							
IUG	**luzhnay**	**7.38**	**258**	Pg		Pg	00 41 09.1	-4.8
	comp=E,6.9nm,0.4s							
IUG				Lg		Lg	00 42 47.5	
	comp=E,26nm,0.9s							
ZALV	**Zalesovo Beam**	**10.40**	**17**	Pn		**Pn**	**00 41 22.2**	**-0.2**
	comp=E,0.3nm,0.3s,baz=203,slow=14,SNR=3.3							
ZALV				Sn		**Sn**	**00 43 14.5**	**-4.8**
	comp=E,0.2nm,0.3s,baz=208,slow=21,SNR=1.9							
ZALV				Lg		Lg	00 44 18.2	
	comp=E,0.4nm,0.3s,baz=200,slow=28,SNR=7.0							
	comp=E,0.5nm,0.4s							
BVA0	**Borovoye Array**	**10.87**	**329**	⇓Lg		Lg	00 44 32.7	
	comp=E,7.5nm,0.8s,baz=127,slow=29,SNR=7.8							
BVAR	**Borovoye Array**	**10.87**	**329**	Pn		**Pn**	**00 41 31.2**	**+2.4**
	baz=150,slow=14,SNR=6.2							
BVAR				Sn		**Sn**	**00 43 27.6**	**-3.3**
	baz=135,slow=16,SNR=2.0							
BVAR				Lg		Lg	00 44 33.6	
	comp=E,0.1nm,0.3s,baz=124,slow=23,SNR=9.1							
	comp=E,0.3nm,0.4s							
AB31	**Akbulak array**	**14.53**	**298**	⇑P		**Pn**	**00 42 20.4**	**+1.4**
	comp=E,0.2nm,0.3s,baz=110,slow=8.4,SNR=4.7							
SONM	**Songino Array**	**18.85**	**69**	P		**P**	**00 43 11.3**	**-2.3**
	comp=E,0.1nm,0.3s,baz=269,slow=8.6,SNR=1.6							
	comp=E,0.1nm,0.3s							

*TAP **18** 00:58:48.4,25.02N×122.29E,h134km±1km,ML3.6,C*
*JMA **18** 00:58:49.1±0.3,25.2N×122.3E±0.5,h126km±2km,*
MV2.2/10,TAIWAN REGION

ISC 18 00:58:47.9±2.1,25.00N±0.08×122.31E±0.04,
h136km±12km,n37,σ0870/65,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.29**	**271**	P	**Pn**	**00 59 06.9**	**+0.2**
TWB1				*eS*	**Sn**	**00 59 20.6**	**-0.3**
SXI1	**Grass Mountain**	**0.40**	**283**	P	**Pn**	**00 59 07.5**	**+0.3**
SXI1				S	**Sn**	**00 59 21.5**	**-0.4**
TIPB	**Shuangxi**	**0.44**	**266**	*i* P	**Pn**	**00 59 07.6**	**+0.3**
TIPB				*i* S	**Sn**	**00 59 21.4**	**-0.7**
TWC	**Suao**	**0.57**	**227**	*eP*	**Pn**	**00 59 07.8**	**-0.3**
EOS2	**EOS2**	**0.58**	**187**	*eP*	**Pn**	**00 59 08.5**	**+0.5**
EOS2				*eS*	**Sn**	**00 59 23.4**	**+0.1**
TWE	**Neicheng**	**0.64**	**244**	*eP*	**Pn**	**00 59 09.9**	**+1.4**
TWE				*i* S	**Sn**	**00 59 25.2**	**+1.1**
PCYT	**Pengchaiyu**	**0.66**	**341**	*eP*	**Pn**	**00 59 08.9**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.70**	**250**	P	**Pn**	**00 59 09.1**	**+0.1**
FUSB				S	**Sn**	**00 59 25.1**	**+0.2**
EOS3	**EOS3**	**0.71**	**179**	*eP*	**Pn**	**00 59 09.5**	**+0.6**
EOS3				*eS*	**Sn**	**00 59 25.1**	**+0.3**
EWUT	**Wuta**	**0.73**	**221**	*eP*	**Pn**	**00 59 09.8**	**+0.6**
ENT	**Nioudou**	**0.76**	**242**	*eP*	**Pn**	**00 59 10.4**	**+1.0**
ENTT				S	**Sn**	**00 59 26.1**	**+0.4**
NWLT	**Wulai**	**0.76**	**253**	*eP*	**Pn**	**00 59 10.0**	**+0.6**
NWLT				S	**Sn**	**00 59 25.3**	**-0.4**
ENA	**Nanau**	**0.77**	**222**	*i* P	**Pn**	**00 59 09.8**	**+0.3**
ENA				*eS*	**Sn**	**00 59 24.9**	**-0.8**
JYNG	**Yonaguni jima**	**0.80**	**133**	*eP*	**Pn**	**00 59 09.5**	**-0.1**
YOJ	**Yonaguni jima**	**0.84**	**130**	*eP*	**Pn**	**00 59 10.4**	**+0.5**
YOJ				*eS*	**Sn**	**00 59 26.9**	**+0.2**
LATG	**Datong**	**0.85**	**237**	*eP*	**Pn**	**00 59 10.9**	**+0.7**
LATG				S	**Sn**	**00 59 27.2**	**+0.2**
EOS4	**EOS4**	**0.88**	**179**	*eP*	**Pn**	**00 59 10.8**	**+0.9**
YHNB	**Yeheng**	**0.91**	**249**	P	**Pn**	**00 59 10.9**	**+0.2**
YHNB				S	**Sn**	**00 59 26.9**	**-1.0**
NNSB	**Datong**	**1.01**	**236**	*i* P	**Pn**	**00 59 12.3**	**+0.6**
NNSB				*i* S	**Sn**	**00 59 29.3**	**-0.4**
NACB	**Ninganchiao**	**1.05**	**218**	*eP*	**Pn**	**00 59 11.5**	**-0.3**
NACB				*eS*	**Sn**	**00 59 28.7**	**-1.3**
KSHI	**Guanxi Townshi**	**1.05**	**258**	*eP*	**Pn**	**00 59 12.4**	**+0.6**
ETLH	**Xiulin Townshi**	**1.09**	**224**	*eP*	**Pn**	**00 59 12.7**	**+0.3**
ETLH				*eS*	**Sn**	**00 59 29.2**	**-1.6**
TWD	**Chiawan**	**1.12**	**215**	*eP*	**Pn**	**00 59 12.9**	**+0.4**
TWD				*eS*	**Sn**	**00 59 29.9**	**-1.3**
NFF	**Wufeng Townshi**	**1.14**	**251**	*eP*	**Pn**	**00 59 13.1**	**+0.4**
NFF				*eS*	**Sn**	**00 59 30.6**	**-1.0**
FUSS	**Fushou**	**1.22**	**232**	*eP*	**Pn**	**00 59 14.2**	**+0.4**
FUSS				*eS*	**Sn**	**00 59 32.9**	**-0.6**
LIOB	**Emei**	**1.23**	**253**	*eP*	**Pn**	**00 59 13.8**	**+0.3**
LIOB				S	**Sn**	**00 59 32.0**	**-1.0**
NSTT	**Nanjuang**	**1.24**	**253**	*eP*	**Pn**	**00 59 14.1**	**+0.4**
NSTT				*eS*	**Sn**	**00 59 32.5**	**-0.8**
WHF	**Hehuan Shan**	**1.27**	**228**	*eP*	**Pn**	**00 59 15.1**	**+0.5**
WHF				*eS*	**Sn**	**00 59 33.8**	**-0.9**
WHP	**Taichung City**	**1.43**	**240**	*eP*	**Pn**	**00 59 16.6**	**+0.8**
WHP				*eS*	**Sn**	**00 59 36.6**	**-0.4**
IRIF	**Iriomote-Funau**	**1.46**	**117**	*eS*	**Sn**	**00 59 36.4**	**-0.9**
OWD	**Renai**	**1.47**	**225**	*eP*	**Pn**	**00 59 16.9**	**+0.7**
OWD				*eS*	**Sn**	**00 59 37.0**	**-0.7**
WUSB	**Renai**	**1.48**	**227**	*eP*	**Pn**	**00 59 17.5**	**+1.2**
WUSB				*eS*	**Sn**	**00 59 37.9**	**-0.1**
WCS	**Beigang Elemen**	**1.58**	**234**	*eP*	**Pn**	**00 59 18.0**	**+0.6**
JKRS	**Kuro-shima**	**1.73**	**116**	*eP*	**Pn**	**00 59 19.5**	**+0.5**
JKRS				*eS*	**Sn**	**00 59 42.5**	**-0.2**
JIJ	**Ishigaki jima**	**1.79**	**110**	*eP*	**Pn**	**00 59 20.1**	**+0.5**
JIJ				*eS*	**Sn**	**00 59 42.8**	**-1.2**
JISG	**Ishigakijimahi**	**1.87**	**102**	*eP*	**Pn**	**00 59 21.1**	**+0.4**
JISG				*eS*	**Sn**	**00 59 44.7**	**-1.0**
JTJ	**Tarama**	**2.21**	**99**	*eS*	**Sn**	**00 59 53.1**	**+0.1**

WEL 18 01:02:33.6±1.1,31.5S±8.1×17.9E±1.3,h12km,M4.1/7,
mB4.5/7,ML4.6/8,MLv4.4/3,Mw(mB)3.7/7,Error ellipse:
s-maj=19.3km s-min=4.7km az=121.1,confirmed,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.44**	**63**	P	Pn	01 03 26.8	-0.3
GLKZ				S	Sn	01 04 09.0	+1.1
HAZ	**Te Kaha**	**6.87**	**185**	P	Pn	01 04 16.3	+2.2
HAZ				S	Sn	01 05 33.3	+1.1
PKGZ	**Pakihiroa**	**6.96**	**183**	P	Pn	01 04 17.8	+2.4
RUGZ	**Raukumara Rang**	**7.08**	**186**	P	Pn	01 04 18.6	+1.4
RUGZ				S	Sn	01 05 39.3	+1.6
TWGZ	**Tauwhareparae**	**7.27**	**184**	P	Pn	01 04 21.3	+1.5
TWGZ				S	Sn	01 05 43.3	+1.0
RIGZ	**Rimuhau**	**7.81**	**185**	P	Pn	01 04 26.7	-0.5
RIGZ				S	Sn	01 05 54.3	-1.3
MTHZ	**Maungataniwha**	**8.06**	**190**	P	Pn	01 04 31.4	+0.9
MTHZ				S	Sn	01 06 06.0	+4.4
BKZ	**Black Stump Fm**	**8.42**	**191**	P	Pn	01 04 35.1	-0.4
BKZ				S	Sn	01 06 10.1	-0.3
OTVZ	**Oturere**	**8.58**	**195**	P	Pn	01 04 39.0	+1.2
SNVZ	**South Ngauruho**	**8.61**	**195**	P	Pn	01 04 40.4	+2.3
SNVZ				S	Sn	01 06 17.9	+2.6
KWHZ	**Kaweka Forest**	**8.68**	**191**	P	Pn	01 04 39.0	-0.1
KWHZ				S	Sn	01 06 16.8	-0.2
WNVZ	**Wahianoa**	**8.75**	**195**	P	Pn	01 04 41.2	+1.1
KRHZ	**Kereru**	**8.90**	**191**	P	Pn	01 04 41.0	-1.1
KRHZ				S	Sn	01 06 22.1	-0.3
KAHZ	**Kahuranaki**	**8.98**	**188**	P	Pn	01 04 42.0	-1.1
KAHZ				S	Sn	01 06 24.1	-0.1
PNHZ	**Pukenui**	**9.20**	**192**	P	Pn	01 04 43.7	-2.4
PNHZ				S	Sn	01 06 23.6	-6.0
PXZ	**Pawanui**	**9.21**	**188**	P	Pn	01 04 43.6	-2.7

*MEX **18** 01:27:34.5±0.4,14.40N×92.75W,h41km±10km,MD4.0*
*CATAC **18** 01:27:34.6±0.6,15.3N×93.3W±,h34km±4km,M3.7/9,*
MLv3.7/9,Error ellipse: s-maj=8.7km s-min=4.1km az=37.4,
confirmed
*GCG **18** 01:27:35.1±1.7,14.47N×92.54W,h50km±15km,MD4.0,*
ML3.7

ISC 18 01:27:33.4±1.4,14.47N±0.06×92.70W±0.04,h44km±23km,
n25,σ1947/41,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.60**	**43**	*eP*	**Pn**	**01 27 45.6**	**-0.1**
THIG				*eS*	**Sn**	**01 27 54.4**	**-0.1**
THIG		**0.60**	**43**	*i* P	**Pn**	**01 27 45.6**	**-0.1**
THIG				*i* S	**Sn**	**01 27 54.9**	**+0.4**
SMCA	**Catarina**	**0.71**	**57**	*i* P	**Pn**	**01 27 47.0**	**-0.2**
SMCA				*i* S	**Sn**	**01 27 56.6**	**-0.5**
SMCA				IAML		01 27 57.4	
	comp=E,4μm,0.2s						
RTAL	**Retalhuleu**	**0.97**	**86**	*eP*	**Pn**	**01 27 50.8**	**+0.1**
RTAL				*eS*	**Sn**	**01 28 03.1**	**-0.2**
RTAL	**Retalhuleu**	**0.97**	**86**	P	**Pn**	**01 27 50.7**	**+0.1**
PCIG		**1.33**	**338**	*eP*	**Pn**	**01 27 55.5**	**0.0**
PCIG				*eS*	**Sn**	**01 28 11.7**	**-0.4**
HUEH	**Huehuetenango**	**1.43**	**54**	*eP*	**Pn**	**01 27 57.6**	**+0.4**
HUEH				*eS*	**Sn**	**01 28 15.2**	**+0.3**
HUEH	**Huehuetenango**	**1.43**	**54**	*i* P	**Pn**	**01 27 57.7**	**+0.5**
HUEH				*i* S	**Sn**	**01 28 15.6**	**+0.7**
HUEH				IAML		01 28 21.6	
	comp=E,2μm,0.6s						
HUEH	**Huehuetenango**	**1.43**	**54**	P	**Pn**	**01 27 57.4**	**+0.2**
QUIS	**Sacapulas**	**1.75**	**62**	*i* P	**Pn**	**01 28 02.0**	**+0.5**
QUIS				*i* S	**Sn**	**01 28 24.0**	**+1.2**
QUIS				IAML		01 28 27.0	
	comp=E,613nm,0.3s						
ESSG	**Sabana Grande**	**1.81**	**92**	*i* P	**Pn**	**01 28 01.6**	**-0.6**
ESSG				*i* S	**Sn**	**01 28 22.4**	**-1.6**
CCIG	**Comitan**	**1.88**	**17**	*eP*	**Pn**	**01 28 04.2**	**+0.9**
CCIG				*eS*	**Sn**	**01 28 26.9**	**+0.9**
CCIG	**Comitan**	**1.88**	**17**	*i* P	**Pn**	**01 28 04.2**	**+0.9**
CCIG				IAML		01 28 30.9	
	comp=N,682nm,0.4s						
CCIG	**Comitan**	**1.88**	**17**	P	**Pn**	**01 28 04.4**	**+1.1**
CCIG	**Comitan**	**1.88**	**17**	S	**Sn**	**01 28 27.7**	**+1.7**
TGIG		**2.33**	**350**	*eP*	**Pn**	**01 28 10.6**	**+1.1**
TGIG				*eS*	**Sn**	**01 28 36.5**	**-0.4**
NUBE	**Las Nubes**	**2.88**	**101**	*i* P	**Pn**	**01 28 18.2**	**+1.2**
NUBE				*i* S	**Sn**	**01 28 50.2**	**-0.3**
NUBE	**Las Nubes**	**2.88**	**101**	P	**Pn**	**01 28 18.1**	**+1.2**
JAYA	**Jayaque - finc**	**3.25**	**104**	*i* P	**Pn**	**01 28 22.7**	**+0.6**
JAYA	**Jayaque - finc**	**3.25**	**104**	P	**Pn**	**01 28 23.6**	**+1.5**
JAYA	**Jayaque - finc**	**3.25**	**104**	S	**Sn**	**01 28 59.1**	**-0.6**
CMIG	**Matias Romero**	**3.35**	**321**	*eP*	**Pn**	**01 28 24.4**	**+1.0**
CMIG				*eS*	**Sn**	**01 29 01.4**	**-0.6**
HUIG	**Huatulco**	**3.54**	**292**	*eP*	**Pn**	**01 28 26.6**	**+0.6**
HUIG				*eS*	**Sn**	**01 29 02.5**	**-4.1**
NEUV	**Arroyo Zacate**	**4.40**	**318**	*eP*	**Pn**	**01 28 39.8**	**+2.1**
NEUV				*eS*	**Sn**	**01 29 29.6**	**+1.9**
SCIG	**Sabancuy**	**4.70**	**18**	*eP*	**Pn**	**01 28 40.5**	**-1.4**
SCIG				*eS*	**Sn**	**01 29 29.7**	**-5.5**

*IDC **18** 01:34:05.3±1.4,5.34S×134.45E,h0km,mb3.5/2,*
mbtmp3.6/6,ML3.4/4,Error ellipse: s-maj=33.0km
s-min=14.8km az=92.0

ISC 18 01:34:10.0±1.1,5.37S±0.09×134.4E±0.1,h35km,n6,
σ1875/10,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.93**	**66**	Pn	**Pn**	**01 35 46.7**	**-2.6**
	0.5nm,0.3s,baz=221,slow=20,SNR=1.6						
JAY				Sn	**Sn**	**01 37 09.7**	**+2.7**
	0.4nm,0.3s,baz=301,slow=5.9,SNR=1.9						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**14.48**	**180**	Pn	**Pn**	**01 37 32.9**	**+0.3**
	0.1nm,0.3s,baz=1.7,slow=13,SNR=1.8						
WRA				Sn	**Sn**	**01 40 13.2**	**+1.1**
	0.1nm,0.3s,baz=4.9,slow=23,SNR=1.9						
	0.2nm,0.2s						
FITZ	**Fitzroy Crossi**	**15.25**	**213**	Pn	**Pn**	**01 37 41.6**	**-1.3**
	0.2nm,0.3s,baz=37,slow=10,SNR=1.9						
FITZ				Sn	**Sn**	**01 40 31.6**	**+0.9**
	0.2nm,0.3s,baz=56,slow=19,SNR=2.1						
	5.5nm,1.1s						
ASAR	**Alice Springs**	**18.19**	**181**	P	**Pn**	**01 38 20.4**	**+0.4**
	0.2nm,0.3s,baz=4.7,slow=11,SNR=13						
ASAR				S	**S**	**01 41 45.6**	**-0.9**
	0.4nm,0.8s,baz=3.9,slow=29,SNR=1.4						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**69.34**	**325**	P	**P**	**01 45 14.2**	**+0.2**
	0.2nm,0.5s,baz=123,slow=5.3,SNR=2.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**73.47**	**327**	P	**P**	**01 45 40.5**	**+1.6**
	0.2nm,0.3s,baz=116,slow=4.2,SNR=1.6						
	0.2nm,0.3s						

*BGR **18** 01:49:24.6,19.16S×63.65W,h33km,mb5.1,Ms3.7*
*SCB **18** 01:50:16.5±1.3,19.72S×64.52W,h594km±14km,ML4.6/1,*
MW4.6,Error ellipse: s-maj=10.4km s-min=6.0km az=1.0
*SJA **18** 01:50:16.4±2.2,19.48S×63.92W,h569km,ML4.8,MW4.8*
*NEIC **18** 01:50:20.9±2.0,19.70S±0.09×63.9W±0.1,h564km±5km,*
mb4.6/431,Error ellipse: s-maj=14.6km s-min=12.4km
az=74.0
*VAO **18** 01:50:20.1±0.3,19.76S×64.03W,h576km±3km,mb5.1*
*IDC **18** 01:50:21.9±0.4,19.49S×63.82W,h579km±4km,mb4.1/27,*
mbtmp5.0/31,Error ellipse: s-maj=10.1km s-min=6.1km
az=63.0

ISC 18 01:50:20.1±0.2,19.62S±0.04×63.97W±0.05,h564km,
n573,σ1935/429,mb4.7/304,5C,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOVT	**TarijaAcel**	**2.03**	**200**	Pg	**P**	**01 51 33.5**	**+2.0**
MOCB	**Mochara**	**2.26**	**224**	Pg	**P**	**01 51 33.7**	**+0.9**
SOET	**ToroToro**	**2.29**	**310**	Pg	**P**	**01 51 35.2**	**+2.2**
YJA	**Yavi**	**2.93**	**209**	*i* P	**P**	**01 51 37.9**	**+1.5**
YJA				*eS*	**S**	**01 52 38.1**	**-0.3**
YJA				IAML		01 52 39.5	
	comp=Z,124nm,0.9s						
YJA	**Yavi**	**2.93**	**209**	Pg	**P**	**01 51 37.8**	**+1.5**
SOEO	**Opoqueri**	**3.85**	**285**	Pg	**P**	**01 51 43.6**	**+1.1**
SIV	**San Ignacio**	**4.54**	**38**	P	**P**	**01 51 49.4**	**+2.2**
	comp=Z,853nm,0.6s,baz=227,slow=8.1,SNR=3760						
SIV				S	**S**	**01 52 59.8**	**+1.6**
	comp=Z,81nm,0.8s,baz=270,slow=13,SNR=12						
BBOE	**La Paz, Chanca**	**4.72**	**306**	Pg	**P**	**01 51 51.8**	**+2.5**
BBOJ	**La Paz, Jacaqu**	**4.79**	**303**	Pg	**P**	**01 51 52.1**	**+2.3**
PB08	**IPOC Station P**	**4.90**	**263**	P	**P**	**01 51 51.2**	**+0.8**
PB08	**IPOC Station P**	**4.90**	**263**	*i* P	**P**	**01 51 51.3**	**+0.8**
				eS	**S**	**01 53 02.2**	**-1.9**
PB08	**IPOC Station P**	**4.90**	**263**	Pg	**P**	**01 51 51.0**	**+0.5**
GO01	**Chusmiza**	**4.92**	**269**	P	**P**	**01 51 51.3**	**+0.5**
GO01	**Chusmiza**	**4.92**	**269**	*i* P	**P**	**01 51 51.2**	**+0.5**
GO01				*eS*	**S**	**01 53 03.1**	**-1.5**
GO01	**Chusmiza**	**4.92**	**269**	Pg	**P**	**01 51 51.3**	**+0.5**
AF01	**San Pedro de A**	**5.14**	**229**	P	**P**	**01 51 53.5**	**+1.2**
AF01	**San Pedro de A**	**5.14**	**229**	Pg	**P**	**01 51 53.4**	**+1.2**
LPAZ	**La Paz**	**5.16**	**309**	P	**P**	**01 51 54.6**	**+1.7**
	comp=Z,880nm,0.4s,baz=139,slow=5.4,SNR=5172						
LPAZ				S	**S**	**01 53 07.8**	**-0.7**
	comp=Z,570nm,0.7s,baz=180,slow=20,SNR=16						
LPAZ	**La Paz**	**5.16**	**309**	*i* P	**P**	**01 51 54.6**	**+1.7**
LPAZ				IAML		01 53 11.8	
	comp=Z,321nm,0.8s						
LPAZ	**La Paz**	**5.16**	**309**	Pg	**P**	**01 51 54.8**	**+1.8**
LPAZ				Sg	**S**	**01 53 08.2**	**-0.3**
LPAZ				IAML		01 53 09.7	
	comp=Z,100nm,0.5s						
LPAZ	**La Paz**	**5.16**	**309**	*eP*	**P**	**01 51 54.7**	**+1.8**
LPAZ	**La Paz**	**5.16**	**309**	P	**P**	**01 51 54.4**	**+1.5**
	comp=Z,17μmcomp=Z,2μm,1.1s						
LPAZ				S	**S**	**01 53 08.1**	**-0.4**
	comp=Z,17μmcomp=Z,2μm,1.1s						
BBOB	**La Paz, Bander**	**5.26**	**310**	Pg	**P**	**01 51 55.1**	**+1.5**
SLA	**San Lorenzo**	**5.28**	**195**	*i* P	**P**	**01 51 53.8**	**+0.5**
SLA				IAML		01 53 10.8	
	comp=Z,109nm,0.7s						
BBOD	**La Paz, Gloria**	**5.30**	**303**	Pg	**P**	**01 51 55.8**	**+1.8**
PB11	**IPOC Station P**	**5.36**	**267**		**P**	**01 51 53.8**	**-0.2**
PB11	**IPOC Station P**	**5.36**	**267**	*i* P	**P**	**01 51 53.9**	**-0.2**
PB11	**IPOC Station P**	**5.36**	**267**	Pg	**P**	**01 51 54.6**	**+0.6**
PB01	**IPOC Station P**	**5.37**	**254**	P	**P**	**01 51 54.0**	**0.0**
PB01	**IPOC Station P**	**5.37**	**254**	*i* P	**P**	**01 51 54.1**	**0.0**
PB01	**IPOC Station P**	**5.37**	**254**	Pg	**P**	**01 51 54.6**	**+0.6**
PB01				Sg	**S**	**01 53 08.6**	**-2.1**
PB09	**IPOC Station P**	**5.39**	**245**	P	**P**	**01 51 55.3**	**+1.0**
PB09	**IPOC Station P**	**5.39**	**245**	*i* P	**P**	**01 51 55.0**	**+0.8**
PB09	**IPOC Station P**	**5.39**	**245**	Pg	**P**	**01 51 55.2**	**+1.0**
PB16	**IPOC Station P**	**5.39**	**283**	P	**P**	**01 51 56.1**	**+1.3**
PB16	**IPOC Station P**	**5.39**	**283**	Pg	**P**	**01 51 56.1**	**+1.3**
PB18	**Visviri**	**5.60**	**290**	P	**P**	**01 51 58.7**	**+2.1**
HMBC	**Humberstone**	**5.60**	**262**	P	**P**	**01 51 55.8**	**-0.3**
HMBC	**Humberstone**	**5.60**	**262**	Pg	**P**	**01 51 56.1**	**0.0**
PB02	**IPOC Station P**	**5.81**	**252**	P	**P**	**01 51 58.4**	**+0.6**
PB02	**IPOC Station P**	**5.81**	**252**	Pg	**P**	**01 51 58.4**	**+0.6**
TA02	**Huaiquique**	**5.83**	**263**	P	**P**	**01 51 57.9**	**0.0**
TA01	**Diego Aracena**	**5.91**	**260**		**P**	**01 51 58.4**	**-0.3**
PB03	**IPOC Station P**	**5.92**	**245**	P	**P**	**01 51 59.1**	**+0.2**
PB03	**IPOC Station P**	**5.92**	**245**	Pg	**P**	**01 51 59.5**	**+0.6**
PATCX	**Punta Patache**	**5.93**	**257**	P	**P**	**01 51 59.1**	**+0.2**
PB06	**IPOC Station P**	**6.06**	**239**		**P**	**01 52 00.5**	**+0.4**
PB06	**IPOC Station P**	**6.06**	**239**	Pg	**P**	**01 52 00.9**	**+0.7**
AP01	**Chacalluta**	**6.15**	**281**	P	**P**	**01 52 01.1**	**+0.2**
PTLB	**Pontes e Lacer**	**6.20**	**49**		**P**	**01 52 03.4**	**+2.1**
PTLB	**Pontes e Lacer**	**6.20**	**49**	*eP*	**P**	**01 52 03.5**	**+2.1**
MURT	**Porto Murtinho**	**6.30**	**110**	*eP*	**P**	**01 52 03.4**	**+1.4**
PB05	**IPOC Station P**	**6.64**	**240**	P	**P**	**01 52 05.4**	**0.0**
BDQN	**Bodoquena, MS**	**6.84**	**98**	*eP*	**P**	**01 52 08.8**	**+1.6**
PB10	**IPOC Station P**	**7.25**	**236**	P	**P**	**01 52 11.0**	**0.0**
VILB	**Vilhena**	**7.55**	**29**		**P**	**01 52 16.1**	**+2.0**
VILB	**Vilhena**	**7.55**	**29**	*eP*	**P**	**01 52 16.2**	**+2.2**
AC02	**Maricunga**	**8.61**	**212**		**P**	**01 52 25.6**	**+0.9**
SALV	**Santo Antonio**	**8.71**	**66**	*eP*	**P**	**01 52 26.9**	**+1.5**
AMBA	**Amambai (Brazi**	**9.00**	**113**	*eP*	**P**	**01 52 29.4**	**+1.2**
SJPY	**San Joaquin**	**9.04**	**128**	*eP*	**P**	**01 52 29.3**	**+0.8**
CPUP	**Villa Florida**	**9.06**	**139**	P	**P**	**01 52 28.5**	**-0.2**
	comp=Z,104nm,0.6s,baz=184,slow=12,SNR=772						
CPUP				S	**S**	**01 54 11.3**	**-2.9**
	comp=Z,3.5nm,0.7s,baz=241,slow=13,SNR=1.0						
AC06	**Mina Casimiro**	**9.68**	**216**		**P**	**01 52 34.8**	**-0.1**
RPRD	**Ribas do Rio P**	**9.69**	**97**	*eP*	**P**	**01 52 36.6**	**+1.4**

GUA01 **Guaratinga, BA** 23.16 86 *e*P P **P** 01 54 44.8 **+0.7**
PIAT **Ana Tenorio** 23.20 321 P P **P** 01 54 46.2 **+1.4**
comp=Z,33nm,0.9s
CMC01 **Camacan, BA** 23.70 84 *e*P P **P** 01 54 49.0 **+0.2**
MACC **Macarena, Meta** 23.70 335 P P **P** 01 54 47.9 **-0.9**
comp=Z,28nm,0.8s
MACC S **S** 01 58 21.9 **-3.0**
comp=Z,28nm,0.8s
BONI **La Bonita** 23.97 325 P P **P** 01 54 52.8 **+1.3**
comp=Z,48nm,1.0s
FLOC **Florencia** 23.98 330 IAmb IAmb 01 54 58.9
comp=Z,28nm,1.1s
FLOC **Florencia** 23.98 330 P P **P** 01 54 49.9 **-1.4**
FLOC **Florencia** 23.98 330 P P **P** 01 54 49.8 **-1.6**
comp=Z,21nm,1.1s
OTAV **Otavalo** 24.31 323 **P** 01 54 56.4 **+1.7**
OTAV IAmb IAmb 01 55 16.4
comp=Z,21nm,1.4s
OTAV **Otavalo** 24.31 323 *e*P P **P** 01 54 53.0 **-1.7**
OTAV **Otavalo** 24.31 323 P P **P** 01 54 55.4 **+0.7**
comp=Z,9.8nm,0.9s
PPLP **Puerto Lpez** 24.35 316 P P **P** 01 54 55.4 **+0.8**
comp=Z,759nmcomp=Z,66nm,0.6s
GARC **Garzon, Huila** 24.44 331 P P **P** 01 54 54.7 **-1.0**
comp=Z,810nmcomp=Z,59nm,0.9s
PAC1 **Pacto, Paraso** 24.53 322 P P **P** 01 54 57.6 **+1.3**
comp=Z,493nmcomp=Z,20nm,0.6s
URMC **La Uribe, Meta** 24.92 335 P P **P** 01 54 59.6 **-0.1**
comp=Z,38nm,0.8s
BBAC **Balboa, Cauca** 25.14 327 P P **P** 01 55 01.6 **-0.3**
comp=Z,556nmcomp=Z,54nm,1.1s
POPC **Popayan, Colom** 25.31 329 P P **P** 01 55 03.2 **-0.1**
comp=Z,365nmcomp=Z,36nm,1.2s
VILC **Villavicencio,** 25.44 337 P P **P** 01 55 04.7 **+0.3**
comp=Z,774nmcomp=Z,102nm,0.6s
PRAC **Prado** 25.55 334 P P **P** 01 55 03.9 **-1.3**
PRAC **Prado** 25.55 334 P P **P** 01 55 03.7 **-1.5**
comp=Z,21nm,0.8s
ORTC **Ortega, Tolima** 25.87 333 P P **P** 01 55 07.3 **-0.8**
comp=Z,48nm,1.1s
JAMC **Jamundi, Valle** 25.89 330 P P **P** 01 55 07.1 **-1.4**
comp=Z,30nm,1.1s
CVER **Cruz Verde, Cu** 25.96 336 P P **P** 01 55 10.4 **+1.1**
comp=Z,1µmcomp=Z,101nm,1.2s
ROSC **El Rosal** 26.35 336 P P **P** 01 55 13.8 **+1.2**
comp=Z,41nm,0.8s,baz=155,slow=14,SNR=24
ROSC S **S** 01 59 08.6 **+1.5**
comp=Z,7.3nm,0.6s,baz=197,slow=20,SNR=2.0
comp=Z,41nm,0.8s
ROSC **El Rosal** 26.35 336 P P **P** 01 55 13.3 **+0.6**
ROSC **El Rosal** 26.35 336 P P **P** 01 55 13.5 **+0.9**
comp=Z,616nmcomp=Z,61nm,1.0s
YOTC **Yotoco, Valle** 26.42 331 P P **P** 01 55 11.1 **-1.9**
comp=Z,26nm,0.9s
YOTC S **S** 01 58 59.5 **-8.2**
comp=Z,26nm,0.9s
GR1C **Gorgona, Isla** 26.45 327 P P **P** 01 55 13.2 **+0.1**
ANIL **Santa Ana** 26.46 334 P P **P** 01 55 12.5 **-1.0**
COYC **Coyhaique** 26.74 193 **P** 01 55 14.8 **-0.4**
RUSC **La Rusia** 26.89 340 P P **P** 01 55 16.8 **-0.6**
RUSC **La Rusia** 26.89 340 P P **P** 01 55 16.6 **-0.9**
comp=Z,523nmcomp=Z,41nm,1.1s
GUY2C **Guyana, Caldas** 27.11 334 P P **P** 01 55 18.8 **-0.6**
comp=Z,492nmcomp=Z,56nm,0.9s
PLMC **San Jos del P** 27.21 332 P P **P** 01 55 17.8 **-2.1**
comp=Z,953nmcomp=Z,73nm,0.9s
NORC **Norcasia** 27.22 336 P P **P** 01 55 18.3 **-1.6**
comp=Z,343nmcomp=Z,23nm,0.8s
NBPB **Pedra Branca-C** 27.55 63 *e*P P **P** 01 55 23.6 **+0.8**
BARC **Barichara** 27.58 340 P P **P** 01 55 21.6 **-1.6**
CBOC **Ciudad Bolivar** 27.95 334 P P **P** 01 55 24.8 **-1.7**
comp=Z,2µmcomp=Z,241nm,1.0s
PTBC **PUERTO BERRIO,** 27.96 337 P P **P** 01 55 23.8 **-2.6**
comp=Z,482nmcomp=Z,22nm,0.7s
PTBC S S 01 59 21.9 -10
comp=Z,482nmcomp=Z,22nm,0.7s
HELC **Santa Helena** 28.05 335 P P **P** 01 55 26.0 **-1.6**
HELC **Santa Helena** 28.05 335 P P **P** 01 55 25.4 **-2.1**
comp=Z,366nmcomp=Z,35nm,1.2s
BRJC **Barrancabermej** 28.12 339 P P **P** 01 55 25.1 **-2.6**
comp=Z,34nm,0.9s
PAMC **Pamplona, Colo** 28.13 341 P P **P** 01 55 26.6 **-1.7**
AY03 **Cochrane** 28.45 192 IAmb IAmb 01 55 32.4
comp=Z,22nm,0.9s
NBAN **Anadia - AL** 28.52 74 *e*P P **P** 01 55 30.9 **-0.3**
ZARC **Zaragoza, Cauc** 28.99 337 P P **P** 01 55 32.9 **-2.4**
comp=Z,1µmcomp=Z,61nm,1.0s
SDV **Santo Domingo** 29.07 346 P P **P** 01 55 36.5 **+0.4**
comp=Z,12nm,0.5s,baz=180,slow=5.1,SNR=1.2
SDV S **S** 01 59 49.0 **-0.1**
comp=Z,12nm,0.4s,baz=115,slow=14,SNR=1.4
comp=Z,12nm,0.5s
DBBC **Dabeiba** 29.08 334 P P **P** 01 55 35.6 **-0.5**
OCAC **Ocana** 29.17 341 P P **P** 01 55 33.9 **-3.1**
comp=Z,666nmcomp=Z,34nm,0.7s
MAPC **Malpelo** 29.18 322 P P **P** 01 55 38.6 **+1.7**
comp=Z,3µmcomp=Z,48nm,0.9s
NBCL **Cascavel-CE** 29.34 62 *e*P P **P** 01 55 39.1 **+0.8**
UREC **San Jos de Ur** 29.48 336 P P **P** 01 55 36.9 **-2.6**
PCRV **Puerto La Cruz** 29.61 359 S S **S** 01 59 53.5 **-3.6**
comp=Z,12nm,1.0s,baz=173,slow=19,SNR=3.1
PTAC **Punta Ardita,** 29.88 332 P P **P** 01 55 43.2 **+0.3**
comp=Z,2µmcomp=Z,86nm,1.2s
APAC **Apartado, Choc** 30.03 334 P P **P** 01 55 43.6 **-0.6**
comp=Z,36nm,1.0s
RCBR **Riachuelo** 30.55 67 **P** 01 55 50.3 **+1.5**
RCBR **Riachuelo** 30.55 67 *e*P P **P** 01 55 50.1 **+1.3**
ARGC **Ariguani, Magd** 30.99 340 P P **P** 01 55 50.1 **-2.3**
comp=Z,1µmcomp=Z,156nm,0.7s
ARGC S S 02 00 10.1 -8.1
comp=Z,1µmcomp=Z,156nm,0.7s
SJCC **San Jacinto, C** 31.34 338 S pP 01 57 24.2 -4.1
SJCC **San Jacinto, C** 31.34 338 P P **P** 01 55 53.7 **-1.8**
comp=Z,692nmcomp=Z,99nm,0.9s
SJCC S S 02 00 16.8 -6.8
comp=Z,692nmcomp=Z,99nm,0.9s
SJCC **San Jacinto, C** 31.34 338 P P **P** 01 55 54.4 **-1.1**
CACAO **El Cacao, Vera** 31.53 327 P P **P** 01 55 55.9 **-1.2**
comp=Z,58nm,0.9s
AZU **Azuero** 31.61 328 P P **P** 01 55 57.6 **-0.2**
comp=Z,30nm,0.8s
GRGR **Grenville** 31.63 4 P P **P** 01 55 58.3 **+0.4**
comp=Z,87nm,0.7s
CRJC **Cerrejon, Guaj** 31.68 343 P P P 01 55 54.9 -3.6
comp=Z,23nm,0.7s
GMAL **Guarumal, Vera** 32.08 326 P P **P** 01 56 02.6 **+0.8**
comp=Z,2µmcomp=Z,83nm,0.8s
URIC **Uribia, Colomb** 32.11 345 P P 01 55 57.8 -4.1
comp=Z,21nm,1.2s
GO09 **Cerro Castillo** 32.27 190 IAmb IAmb 01 56 04.3
comp=Z,22nm,0.9s
EFI **East Falkland** 32.33 173 P P **P** 01 56 03.6 **+0.3**
BCIP **Isla Barro Col** 32.59 330 P P **P** 01 56 06.0 **-0.1**
comp=Z,31nm,1.4s
FDF **Fort de France** 34.24 5 P P **P** 01 56 20.5 **+0.5**
MG03 **Isla Dawson** 34.53 187 **P** 01 56 22.3 **+0.4**
LCR2 **La Lucha 2** 35.22 324 IAmb IAmb 01 56 31.3
comp=Z,25nm,0.8s
JTS **Las Juntas de** 36.20 323 **P** 01 56 38.4 **+2.2**
JTS **Las Juntas de** 36.20 323 P P **P** 01 56 38.0 **+1.8**
comp=Z,37nm,0.8s,baz=146,slow=3.6,SNR=34
JTS pP **pP** 01 58 15.1 **+3.1**
comp=Z,4.9nm,0.8s,baz=127,slow=19,SNR=2.5
comp=Z,37nm,0.8s
JTS **Las Juntas de** 36.20 323 P P **P** 01 56 38.0 **+1.8**
comp=Z,55nm,0.9s
ANWB **Willy Bob** 37.11 3 P P **P** 01 56 42.4 **-1.2**
ANWB **Willy Bob** 37.11 3 *e*P P **P** 01 56 41.7 **-1.9**
ANWB **Willy Bob** 37.11 3 P P **P** 01 56 41.8 **-1.8**
comp=Z,151nm,0.6s
ESPN **Las Esperanzas** 37.42 326 P P **P** 01 56 45.9 **-0.2**
comp=Z,51nm,1.0s
CELP **Cerrillos** 37.54 356 **P** 01 56 46.6 **-0.5**
SJG **San Juan** 37.55 357 P P **P** 01 56 46.7 **-0.5**
comp=Z,9.7nm,0.4s,baz=180,slow=5.1,SNR=7.9
SJG pP **pP** 01 58 26.7 **+2.9**
comp=Z,12nm,0.8s,baz=180,slow=6.1,SNR=3.1
SJG S **S** 02 01 51.7 **-5.0**
comp=Z,20nm,0.8s,baz=150,slow=17,SNR=14
comp=Z,9.7nm,0.4s
SJG **San Juan** 37.55 357 P P **P** 01 56 45.2 **-2.0**
comp=Z,7.5nm,0.5s
ACON **Acoyapa** 37.70 325 P P **P** 01 56 47.4 **-1.0**
GCPR **Guaynabo City** 37.74 357 IAmb IAmb 01 56 59.4
comp=Z,14nm,0.8s
AOPR **Arecibo Observ** 37.82 356 IAmb IAmb 01 56 50.3
comp=Z,19nm,0.7s

MTO3 **Montecristo** 42.03 322 P P **P** 01 57 24.1 **+0.8**
MTO3 IAmb IAmb 01 57 25.0
comp=Z,25nm,0.7s
ESPZ **Base Esperanza** 44.01 175 P P **P** 01 57 37.7 **-0.1**
PMSA **Palmer Station** 45.13 180 P P **P** 01 57 47.1 **+0.7**
PMSA IAmb IAmb 01 57 49.0
comp=Z,32nm,1.1s
TEIG **Tepich** 46.20 328 S S **S** 02 03 57.5 **-3.3**
comp=Z,0.1nm,0.7s,baz=128,slow=20,SNR=3.2
CMIG **Matias Romero** 47.47 318 P P **P** 01 58 04.9 **+0.2**
comp=Z,6.1nm,0.6s,baz=132,slow=7.9,SNR=13
CMIG pP **pP** 01 59 51.7 **+3.4**
comp=Z,6.8nm,0.9s,baz=118,slow=6.4,SNR=4.9
CMIG S S **S** 02 04 19.6 **+1.2**
comp=Z,0.7nm,0.4s,baz=131,slow=18,SNR=1.6
comp=Z,6.1nm,0.6s
JSC **Jenkinsville** 56.07 343 IAmb IAmb 01 59 07.5
comp=Z,24nm,0.8s
BIRD **Birdtown, Kers** 56.19 344 IAmb IAmb 01 59 08.3
comp=Z,28nm,0.8s
HODGE **Hodges** 56.31 342 IAmb IAmb 01 59 09.3
comp=Z,33nm,1.3s
Y52A **Lilburn** 56.52 340 IAmb IAmb 01 59 10.1
comp=Z,15nm,0.7s
W57A **Gilead** 56.55 344 IAmb IAmb 01 59 10.4
comp=Z,20nm,0.8s
PAULI **Pauline** 56.73 342 IAmb IAmb 01 59 12.2
comp=Z,20nm,0.8s
LRAL **Lakeview Retre** 56.79 337 IAmb IAmb 01 59 11.5
comp=Z,10nm,0.5s
146A **Union** 57.23 335 IAmb IAmb 01 59 15.0
comp=Z,24nm,0.7s
Y49A **Blount Mountai** 57.32 338 IAmb IAmb 01 59 15.2
comp=Z,38nm,0.6s
Z47A **Carrollton** 57.34 336 IAmb IAmb 01 59 15.3
comp=Z,17nm,0.8s
X51A **Calhoun** 57.43 340 IAmb IAmb 01 59 16.3
comp=Z,26nm,0.7s
V55A **Taylorsville** 57.53 343 IAmb IAmb 01 59 17.8
comp=Z,38nm,0.7s
FPAL **Fort Paine** 57.66 339 IAmb IAmb 01 59 17.5
comp=Z,15nm,0.7s
T59A **Double "B" Far** 57.72 347 P P **P** 01 59 17.5 **0.0**
U56A **King** 57.78 344 IAmb IAmb 01 59 19.4
comp=Z,23nm,0.7s
V53A **Saluda** 57.81 342 IAmb IAmb 01 59 19.4
comp=Z,24nm,1.0s
HKT **Hockley** 58.05 327 P P **P** 01 59 21.3 **+1.4**
X48A **Hartselle** 58.08 338 IAmb IAmb 01 59 20.6
comp=Z,41nm,0.7s
TKL **Tuckaleechee C** 58.09 341 IAmb IAmb 01 59 20.7
comp=Z,26nm,1.0s
TKL **Tuckaleechee C** 58.09 341 P P **P** 01 59 20.1 **0.0**
comp=Z,15nm,0.7s,baz=158,slow=9.9,SNR=17
TKL pP **pP** 02 01 10.6 **+0.9**
comp=Z,16nm,0.9s,baz=158,slow=10,SNR=7.1
TKL S **S** 02 06 33.7 **-4.8**
comp=Z,2.5nm,0.9s,baz=149,slow=15,SNR=0.8
comp=Z,15nm,0.7s
W50A **Signal Mountai** 58.16 339 IAmb IAmb 01 59 21.2
comp=Z,14nm,0.7s
SWET **Sewanee** 58.38 339 IAmb IAmb 01 59 22.4
comp=Z,26nm,1.1s
Y45A **Yeager Farm, C** 58.50 335 IAmb IAmb 01 59 23.5
comp=Z,17nm,0.7s
833A **Chaparral WMA,** 58.69 323 IAmb IAmb 01 59 25.6
comp=Z,12nm,0.6s
PLAL **Pickwick Lake** 58.93 337 IAmb IAmb 01 59 25.7
comp=Z,13nm,0.7s
NATX **Nacogdoches** 58.95 330 IAmb IAmb 01 59 27.9
comp=Z,21nm,0.7s
OXF **Oxford** 59.02 336 IAmb IAmb 01 59 26.1
comp=Z,35nm,0.7s
V48A **Smith Brothers** 59.16 338 IAmb IAmb 01 59 27.4
comp=Z,15nm,0.8s
CLTN **Cedars of Leba** 59.31 339 IAmb IAmb 01 59 28.4
comp=Z,13nm,0.6s
S54A **Dingess, Beckl** 59.39 344 IAmb IAmb 01 59 29.9
comp=Z,23nm,0.7s
T50A **Nancy** 59.67 341 IAmb IAmb 01 59 30.8
comp=Z,11nm,0.6s
Q56A **Snyder Ridge,** 60.06 346 IAmb IAmb 01 59 34.9
comp=Z,13nm,0.8s
P57A **Homestead Farm** 60.24 348 IAmb IAmb 01 59 35.7
comp=Z,14nm,0.7s
T47A **Sharon Grove** 60.38 339 IAmb IAmb 01 59 35.3
comp=Z,24nm,0.8s
Q54A **Coxs Mills** 60.39 345 IAmb IAmb 01 59 35.9
comp=Z,12nm,0.7s
VNA3 **Neumayer Olymp** 60.42 162 ⇑P P **P** 01 59 35.4 **+0.3**
comp=Z,16nm,0.6s
VNA1 **Neumayer--Stat** 60.55 162 ⇑P P **P** 01 59 36.3 **+0.3**
comp=Z,23nm,0.9s
R50A **Paris** 60.68 342 IAmb IAmb 01 59 37.8
comp=Z,12nm,0.7s
Q52A **Bidwell** 60.74 344 IAmb IAmb 01 59 38.5
comp=Z,25nm,0.8s
BRNJ **Basking Ridge** 60.79 351 IAmb IAmb 01 59 39.7
comp=Z,17nm,0.8s
MCWV **Mont Chateau** 60.80 346 IAmb IAmb 01 59 39.6
comp=Z,17nm,0.7s
PAL **Palisades** 61.01 351 IAmb IAmb 01 59 40.6
comp=Z,21nm,0.8s
LCAR **Lake Charles** 61.07 335 IAmb IAmb 01 59 40.1
comp=Z,11nm,0.7s
WCI **Wyandotte Cave** 61.24 340 P P **P** 01 59 40.0 **-1.0**
WCI IAmb IAmb 01 59 40.7
comp=Z,19nm,0.6s
N58A **Sunbury** 61.30 349 IAmb IAmb 01 59 42.9
comp=Z,25nm,0.9s
SSPA **Standing Stone** 61.32 348 P P **P** 01 59 42.1 **+0.6**
SSPA IAmb IAmb 01 59 43.1
comp=Z,16nm,1.1s
P52A **Corning** 61.33 344 IAmb IAmb 01 59 42.2
comp=Z,23nm,0.8s
P51A **Williamsport** 61.44 343 IAmb IAmb 01 59 43.3
comp=Z,27nm,1.4s
L64A **Middleborough** 61.57 354 IAmb IAmb 01 59 44.3
comp=Z,30nm,0.7s
CGM3 **Cape Girardeau** 61.57 337 IAmb IAmb 01 59 43.8
comp=Z,11nm,0.6s
UCCT **U. Connecticut** 61.57 353 IAmb IAmb 01 59 44.1
comp=Z,25nm,0.7s
PLPT **Palo Pinto** 61.61 327 IAmb IAmb 01 59 44.8
comp=Z,12nm,0.7s
O53A **New Philadelph** 61.69 345 IAmb IAmb 01 59 44.8
comp=Z,28nm,0.7s
O52A **Adamsville** 61.71 345 IAmb IAmb 01 59 44.8
comp=Z,12nm,0.7s
S44A **Barbadale** 61.77 337 IAmb IAmb 01 59 44.0
comp=Z,11nm,0.6s
SIUC **Southern Illin** 61.78 337 IAmb IAmb 01 59 43.7
comp=Z,9.6nm,0.6s
M57A **Sunshine Farm,** 61.86 349 IAmb IAmb 01 59 46.7
comp=Z,32nm,0.7s
TXAR **Lajitas Array** 61.92 321 P P **P** 01 59 45.7 **0.0**
comp=Z,1.9nm,0.7s,baz=140,slow=5.6,SNR=22
TXAR PcP **PcP** 02 00 20.6 **+0.7**
comp=Z,0.7nm,0.6s,baz=125,slow=5.0,SNR=5.3
TXAR pP **pP** 02 01 40.5 **+2.1**
comp=Z,0.4nm,0.7s,baz=142,slow=8.3,SNR=2.6
comp=Z,1.9nm,0.7s
WES **Weston** 62.06 354 IAmb IAmb 01 59 47.5
comp=Z,16nm,0.8s
PAMR **Moraine State** 62.08 346 IAmb IAmb 01 59 47.9
comp=Z,47nm,1.4s
P48A **Milroy** 62.10 341 IAmb IAmb 01 59 45.8
comp=Z,11nm,0.6s
ACSO **Alum Creek Sta** 62.12 344 IAmb IAmb 01 59 47.2
comp=Z,32nm,0.7s
N53A **Lisbon** 62.12 346 IAmb IAmb 01 59 47.5
comp=Z,21nm,0.7s
BLO **Bloomington** 62.17 340 IAmb IAmb 01 59 47.1
comp=Z,26nm,0.8s
HRV **Adam Dziewonsk** 62.20 354 P P **P** 01 59 47.9 **+0.8**
HRV IAmb IAmb 01 59 48.7
comp=Z,34nm,0.8s
L61B **Northampton** 62.27 353 IAmb IAmb 01 59 48.8
comp=Z,31nm,0.7s
L59A **Walton** 62.34 351 IAmb IAmb 01 59 49.9
comp=Z,28nm,0.8s
HHAR **Hobbs** 62.40 333 IAmb IAmb 01 59 48.9
comp=Z,14nm,0.7s
K62A **Royalston** 62.43 353 IAmb IAmb 01 59 50.2
comp=Z,20nm,0.9s
O49A **Covington** 62.45 343 IAmb IAmb 01 59 48.9
comp=Z,21nm,0.7s
MGMO **Mountain Grove** 62.45 335 IAmb IAmb 01 59 49.4
comp=Z,24nm,0.8s
FVM **French Village** 62.46 337 IAmb IAmb 01 59 48.8
comp=Z,35nm,1.4s
PAOC **Oil Creek Stat** 62.54 347 IAmb IAmb 01 59 50.6
comp=Z,37nm,0.7s
SNAA **Sanae** 62.58 162 ⇑P **P** 01 59 49.0 **-0.3**
comp=Z,146nm,0.4s
SNAA **Sanae** 62.58 162 P P **P** 01 59 49.4 **+0.1**
SNAA IAmb IAmb 01 59 50.3
comp=Z,20nm,1.1s
SNAA **Sanae** 62.58 162 P P **P** 01 59 49.4 **+0.1**
comp=Z,12nm,0.7s,baz=293,slow=8.3,SNR=28
SNAA S **S** 02 07 33.3 **-0.2**
comp=Z,0.7nm,0.6s,baz=323,slow=20,SNR=1.4
comp=Z,12nm,0.7s
N51A **Ashland** 62.60 344 IAmb IAmb 01 59 50.4
comp=Z,28nm,1.1s
O48B **Farmland** 62.75 342 IAmb IAmb 01 59 50.9
comp=Z,29nm,0.7s
Q44A **Meyer Farm, Va** 62.76 338 IAmb IAmb 01 59 50.5
comp=Z,16nm,0.7s
RLO **Rose Lookout** 62.78 332 IAmb IAmb 01 59 51.9
comp=Z,13nm,0.8s
P46A **Rosedale** 62.80 340 IAmb IAmb 01 59 51.5
comp=Z,13nm,0.9s
CCM **Cathedral Cave** 62.83 336 P P **P** 01 59 50.4 **-0.9**
CCM IAmb IAmb 01 59 51.2
comp=Z,16nm,0.7s
MNHN **Monahans** 62.87 323 IAmb IAmb 01 59 52.8
comp=Z,9.4nm,0.7s
TUL3 **Leonard** 62.91 331 IAmb IAmb 01 59 52.6
comp=Z,13nm,0.8s
APMT **Aspermont** 62.95 326 IAmb IAmb 01 59 53.1
comp=Z,12nm,0.7s
K57A **Scipio Center** 63.10 350 IAmb IAmb 01 59 54.1
comp=Z,38nm,0.9s
J61A **Chester** 63.14 353 IAmb IAmb 01 59 55.0
comp=Z,20nm,1.1s
DEOK **Depew** 63.18 331 IAmb IAmb 01 59 54.5
comp=Z,31nm,1.0s
M50A **Fremont** 63.23 344 IAmb IAmb 01 59 54.4
comp=Z,24nm,0.8s
ACCN **Adirondack Com** 63.32 352 IAmb IAmb 01 59 55.8
comp=Z,9.6nm,0.7s
R40A **Maddies Statio** 63.43 335 IAmb IAmb 01 59 55.0
comp=Z,10.0nm,0.7s
OK052 **Battle Ridge R** 63.44 331 IAmb IAmb 01 59 56.2
comp=Z,19nm,0.7s
HNH **Hanover** 63.47 353 IAmb IAmb 01 59 57.4
comp=Z,26nm,0.9s
I62A **Tamworth** 63.54 354 IAmb IAmb 01 59 57.8
comp=Z,18nm,1.2s
QUOK **Quay** 63.54 331 IAmb IAmb 01 59 57.7
comp=Z,19nm,1.1s
P43A **Skaggs, Pawnee** 63.60 338 IAmb IAmb 01 59 55.7
comp=Z,30nm,0.7s
J57A **Williamstown** 63.68 350 IAmb IAmb 01 59 57.8
comp=Z,36nm,1.1s
DBIC **Dimbokro** 63.76 72 P P **P** 01 59 57.5 **-0.2**
DBIC **Dimbokro** 63.76 72 P P **P** 01 59 57.6 **-0.2**
comp=Z,92nm,0.7s,baz=260,slow=5.6,SNR=96
comp=Z,92nm,0.7s
NCB **Newcomb** 63.97 352 IAmb IAmb 01 59 59.9
comp=Z,20nm,1.1s
T35A **Sooner Cattle** 64.07 331 IAmb IAmb 02 00 00.8
comp=Z,17nm,0.8s
WVL **Waterville** 64.08 355 IAmb IAmb 02 00 00.8
comp=Z,25nm,0.9s
VT1 **Waterbury** 64.14 353 IAmb IAmb 02 00 01.1
comp=Z,20nm,1.2s
H62A **Milan** 64.21 354 IAmb IAmb 02 00 02.7
comp=Z,16nm,0.7s
AAM **Ann Arbor** 64.23 344 IAmb IAmb 02 00 00.6
comp=Z,21nm,0.9s
TROLL **Troll, Antarti** 64.28 162 ⇑P **P** **02 00 00.3 +0.1**
comp=Z,1µm,0.7s
SMWD **Samnorwood** 64.40 327 IAmb IAmb 02 00 02.4
comp=Z,17nm,0.8s
CROK **Carrier** 64.41 330 IAmb IAmb 02 00 02.5
comp=Z,25nm,0.7s
P40A **Paris** 64.42 336 IAmb IAmb 02 00 01.4
comp=Z,20nm,1.2s
G65A **Princeton** 64.58 357 IAmb IAmb 02 00 03.9
comp=Z,32nm,0.9s
FRNY **Flat Rock** 64.73 352 IAmb IAmb 02 00 04.2
comp=Z,10nm,0.7s
G62A **West of Eustis** 64.80 355 IAmb IAmb 02 00 05.5
comp=Z,34nm,1.0s
MSTX **Muleshoe** 64.85 325 IAmb IAmb 02 00 05.2
comp=Z,18nm,0.7s
DELO **Deloro Mine** 65.03 349 IAmb IAmb 02 00 06.1
comp=Z,18nm,0.6s
L42A **Oliver, Polo** 65.75 339 IAmb IAmb 02 00 09.7
comp=Z,18nm,0.7s
N38A **Joes South For** 65.97 336 IAmb IAmb 02 00 10.9
comp=Z,17nm,0.8s
BUKO **Buck Lake** 66.25 348 IAmb IAmb 02 00 13.3
comp=Z,17nm,0.7s
R32A **Long Quarter,** 66.30 331 IAmb IAmb 02 00 14.3
comp=Z,22nm,0.7s
L40A **Anamosa** 66.34 338 IAmb IAmb 02 00 14.1
comp=Z,22nm,0.9s
RTBA **Rita Blanca** 66.71 327 IAmb IAmb 02 00 17.4
comp=Z,7.0nm,0.6s
N35A **Tabor** 66.98 334 IAmb IAmb 02 00 17.6
comp=Z,21nm,0.7s
I42A **Draeger Farm,** 67.20 341 IAmb IAmb 02 00 19.1
comp=Z,36nm,1.0s
ACRG **Accra** 67.53 75 P P **P** **02 00 20.8 -0.5**
ANMO **Albuquerque** 67.62 323 P P **P** **02 00 22.4 +0.8**
I40A **Norwalk** 67.75 339 IAmb IAmb 02 00 22.3
comp=Z,24nm,1.2s
TUC **Tucson** 68.36 318 P P **P** **02 00 27.4 +1.4**
PMOZ **Porto Moniz, M** 68.68 41 *e*P P **P** **02 00 32.2 +4.2**
PMOZ *i* IAmb IAmb 02 00 33.9
comp=Z,120nm,1.2s
G40A **Rib Lake** 68.85 340 IAmb IAmb 02 00 28.7
comp=Z,7.2nm,0.6s
SPMN **Marine on St.** 69.66 339 IAmb IAmb 02 00 33.6
comp=Z,15nm,0.7s
ECSD **EROS Data Cent** 69.79 335 IAmb IAmb 02 00 34.8
comp=Z,28nm,1.3s
Q24A **Divide** 69.87 327 IAmb IAmb 02 00 37.2
comp=Z,10nm,0.9s
QSPA **South Pole Qui** 70.57 180 P P **P** **02 00 40.6 +1.8**
QSPA IAmb IAmb 02 00 41.4
comp=Z,14nm,0.6s
QSPA **South Pole Qui** 70.57 180 P P **P** **02 00 40.3 +1.6**
comp=Z,10nm,0.5s,baz=169,slow=3.0,SNR=112
QSPA S **S** **02 09 08.7 +1.1**
comp=Z,1.4nm,1.0s,baz=78,slow=9.3,SNR=6.2
comp=Z,10nm,0.5s
F33A **5 Mile Ranch,** 71.44 337 IAmb IAmb 02 00 44.0
comp=Z,11nm,0.7s
PV22 **Blue Mesa, Par** 71.49 324 IAmb IAmb 02 00 46.8
comp=Z,11nm,0.8s
U15A **North Rim** 72.05 321 IAmb IAmb 02 00 50.8
comp=Z,8.5nm,0.8s
HMU **Henry Mountain** 72.17 323 IAmb IAmb 02 00 51.3
comp=Z,17nm,1.3s
O20A **White River Ci** 72.35 326 IAmb IAmb 02 00 51.7
comp=Z,14nm,0.9s
TORD **Torodi Ar. Bea** 72.36 69 P P **P** **02 00 49.2 -0.7**
TORD **Torodi Ar. Bea** 72.36 69 P P **P** **02 00 49.2 -0.7**
comp=Z,88nm,0.6s,baz=250,slow=5.3,SNR=794
comp=Z,88nm,0.6s
KNB **Kanab** 72.75 321 IAmb IAmb 02 00 54.9
comp=Z,19nm,0.9s
SRU **San Rafael Swe** 72.86 324 IAmb IAmb 02 00 54.5
comp=Z,12nm,0.7s
P18A **Preston Nutter** 73.07 324 IAmb IAmb 02 00 56.1
comp=Z,15nm,0.7s
V12A **Nelson** 73.14 319 P P **P** **02 00 55.8 +1.7**
RSSD **Black Hills** 73.26 331 P P **P** **02 00 55.2 +0.5**
AGMN **Agassiz Nation** 73.38 338 IAmb IAmb 02 00 55.6
comp=Z,13nm,0.8s
E28A **Huff** 73.76 335 IAmb IAmb 02 00 58.6
comp=Z,29nm,0.8s
BSUT **Blindstream Ca** 73.98 325 IAmb IAmb 02 01 01.4
comp=Z,13nm,0.8s
SCHQ **Schefferville** 74.18 358 IAmb IAmb 02 01 00.3
comp=Z,24nm,0.7s
SCHQ **Schefferville** 74.18 358 P P **P** **02 00 58.8 -0.6**
comp=Z,22nm,0.6s,baz=178,slow=6.4,SNR=5.4
SCHQ pP **pP** **02 02 59.0 +2.2**
comp=Z,3.4nm,0.8s,baz=170,slow=8.9,SNR=2.7
SCHQ S **S** **02 09 44.3 -3.3**
comp=Z,3.3nm,1.0s,baz=217,slow=20,SNR=2.6

comp=Z,22nm,0.6s
JLU Jordanelle 74.41 324 lAmb lAmb 02 01 03.6
comp=Z,29nm,1.4s
WIN Windhoek 74.78 109 P **P** **02 01 04.0 +0.1**
WIN lAmb lAmb 02 01 04.8
comp=Z,18nm,0.8s
PDAR Pinedale Array 74.93 327 P **P** **02 01 04.8 +0.6**
PDAR Pinedale Array 74.93 327 P **P** **02 01 04.5 +0.4**
comp=Z,3.7nm,0.5s,baz=127,slow=5.0,SNR=66
PDAR pP **pP** **02 03 05.0 +2.8**
comp=Z,1.1nm,0.6s,baz=134,slow=6.8,SNR=6.7
comp=Z,3.7nm,0.5s
SPR3 Spring Creek 3 74.96 322 lAmb lAmb 02 01 06.7
comp=Z,9.7nm,0.8s
ULM Lac du Bonnet 75.05 339 P **P** **02 01 04.1 -0.3**
comp=Z,13nm,0.5s,baz=150,slow=6.1,SNR=28
ULM pP **pP** **02 03 02.9 +0.7**
comp=Z,3.6nm,0.7s,baz=156,slow=8.1,SNR=3.8
ULM S **S** **02 09 55.0 -2.1**
comp=Z,1.1nm,0.8s,baz=139,slow=20,SNR=1.3
comp=Z,13nm,0.5s
HWUT Hardware Ranch 75.17 325 lAmb lAmb 02 01 07.1
comp=Z,9.1nm,0.6s
BGU Big Grassy Mou 75.50 324 lAmb lAmb 02 01 09.4
comp=Z,11nm,0.9s
AHID Auburn Hatcher 75.73 326 lAmb lAmb 02 01 10.3
comp=Z,16nm,0.8s
VES Vestal, Richgr 75.90 317 lAmb lAmb 02 01 11.7
comp=Z,15nm,0.8s
TSUM Tsumeb 76.12 106 P **P** **02 01 11.7 +0.4**
TSUM lAmb lAmb 02 01 12.4
comp=Z,33nm,0.8s
EDA Edea 76.38 81 P **P** **02 01 11.5 -1.1**
EDA lAmb lAmb 02 01 13.7
comp=Z,14nm,1.1s
SYO Syowa Base 76.61 159† *e*P **P** **02 01 13.0 +0.2**
DGMT Dagmar 76.71 334 lAmb lAmb 02 01 15.5
comp=Z,26nm,1.0s
YNE Yellowstone No 76.76 328 lAmb lAmb 02 01 15.9
comp=Z,12nm,0.8s
MORF Marmelete 76.92 42 *e*P **P** **02 01 15.9 +0.9**
MORF lAmb lAmb 02 01 17.3
comp=Z,48nm,1.1s
MORF Marmelete 76.92 42 lAmb lAmb 02 01 17.0
comp=Z,37nm,1.0s
MORF Marmelete 76.92 42 *e*P **P** **02 01 16.1 +1.1**
MORF *i* lAmb lAmb 02 01 17.3
comp=Z,56nm,1.3s
MD31 MD31 76.95 48 lAmb lAmb 02 01 17.2
comp=Z,26nm,1.1s
NVAR Mina Array Bea 76.99 319 P **P** **02 01 16.7 +1.0**
NVAR Mina Array Bea 76.99 319 P **P** **02 01 16.9 +1.2**
comp=Z,4.2nm,0.9s,baz=121,slow=4.2,SNR=24
NVAR pP **pP** **02 03 16.6 +1.3**
comp=Z,0.2nm,0.6s,baz=130,slow=4.3,SNR=1.4
comp=Z,4.2nm,0.9s
PTEO Sao Teotonio 77.02 42 *e*P **P** **02 01 17.0 +1.5**
PTEO *i* lAmb lAmb 02 01 18.7
comp=Z,69nm,1.6s
PBDV Barranco-do-Ve 77.34 43 *e*P **P** **02 01 18.6 +1.3**
PBDV *i* lAmb lAmb 02 01 23.9
comp=Z,30nm,1.4s
KOOLE Kule 77.42 110 *i* P **P** **02 01 18.4 +0.1**
PCVE Castro Verde 77.51 42 *e*P **P** **02 01 19.3 +1.1**
PCVE *i* lAmb lAmb 02 01 38.2
comp=Z,16nm,1.5s
MESJ Messejana 77.52 42 *e*P **P** **02 01 19.1 +0.8**
MESJ lAmb lAmb 02 01 19.9
comp=Z,19nm,0.8s
MESJ Messejana 77.52 42 lAmb lAmb 02 01 20.1
comp=Z,20nm,0.8s
MESJ Messejana 77.52 42 *e*P **P** **02 01 19.0 +0.8**
MESJ *i* lAmb lAmb 02 01 19.5
comp=Z,22nm,0.8s
PMAFR Mafra 77.53 41 *e*P **P** **02 01 18.6 +0.3**
PMAFR *i* lAmb lAmb 02 01 20.2
comp=Z,35nm,1.5s
PVAQ Vaqueiros 77.58 43 *e*P **P** **02 01 19.4 +0.9**
PVAQ *i* lAmb lAmb 02 01 30.9
comp=Z,35nm,1.6s
PARRA Arraiolos 77.60 41 *e*P **P** **02 01 22.5 +3.9**
PARRA *i* lAmb lAmb 02 01 25.6
comp=Z,24nm,1.6s
WAKR Walker 77.74 319 P **P** **02 01 21.7 +2.1**
PBEJ Beja 77.85 42 *e*P **P** **02 01 20.9 +0.9**
PBEJ *i* lAmb lAmb 02 01 21.6
comp=Z,20nm,0.9s
HLID Hailey 78.04 325 lAmb lAmb 02 01 23.6
comp=Z,15nm,0.8s
EVO Evora 78.06 42 *e*P **P** **02 01 21.9 +0.8**
EVO *i* lAmb lAmb 02 01 24.6
comp=Z,17nm,1.6s
PMTG Montargil 78.25 41 *e*P **P** **02 01 22.8 +0.7**
PMTG *i* lAmb lAmb 02 01 26.5
comp=Z,45nm,1.6s
PAHR Pah Rah Range 78.44 320 lAmb lAmb 02 01 25.9
comp=Z,15nm,0.9s
PBAR Barrancos 78.46 42 *e*P **P** **02 01 24.0 +0.7**
PBAR *i* lAmb lAmb 02 01 31.6
comp=Z,16nm,1.3s
PESTR Estremoz 78.53 42 *e*P **P** **02 01 24.2 +0.5**
PESTR *i* lAmb lAmb 02 01 25.8
comp=Z,25nm,1.1s
PSARD Sardoal 78.61 41 *e*P **P** **02 01 24.6 +0.5**
PSARD *i* lAmb lAmb 02 01 25.8
comp=Z,41nm,1.3s
PCAS Casmilo, Conde 78.68 40 *e*P **P** **02 01 25.1 +0.6**
PCAS *i* lAmb lAmb 02 01 26.4
comp=Z,45nm,1.6s
GRTLG Ghanzi 78.78 109 lAmb lAmb 02 01 26.3
comp=Z,19nm,0.8s
EGMT Eagleton 78.81 331 lAmb lAmb 02 01 26.1
comp=Z,15nm,0.9s
COI Coimbra 78.83 40 lAmb lAmb 02 01 26.6
comp=Z,49nm,1.1s
COI Coimbra 78.83 40 *e*P **P** **02 01 25.8 +0.6**
COI *i* lAmb lAmb 02 01 26.8
comp=Z,62nm,1.2s
PMRV Marv??o 78.99 41 *e*P **P** **02 01 26.2 +0.1**
PMRV *i* lAmb lAmb 02 01 28.8
comp=Z,28nm,1.5s
PHPEN Phepeng 79.06 113 *i* P **P** **02 01 26.6 -0.3**
PHPEN Phepeng 79.06 113 lAmb lAmb 02 01 27.5
comp=Z,14nm,0.8s
PCBR Castelo Branco 79.18 41 *e*P **P** **02 01 27.3 +0.2**
PCBR *i* lAmb lAmb 02 01 43.8
comp=Z,11nm,1.3s
PVIS Viseu 79.45 40 *e*P **P** **02 01 29.1 +0.6**
VNDA Vanda 79.47 189 P **P** **02 01 29.0 +1.0**
comp=Z,1.4nm,0.6s,baz=124,slow=5.1,SNR=21
VNDA pP **pP** **02 03 31.4 +3.7**
comp=Z,0.8nm,0.8s,baz=154,slow=1.7,SNR=3.4
comp=Z,1.4nm,0.6s
MTE Manteigas 79.47 40 lAmb lAmb 02 01 30.0
comp=Z,30nm,0.9s
MTE Manteigas 79.47 40 *e*P **P** **02 01 29.1 +0.4**
MTE *i* lAmb lAmb 02 01 30.8
comp=Z,42nm,1.4s
TAM Tamanrasset 79.85 61 lAmb lAmb 02 01 32.3
comp=Z,30nm,0.7s
PVRL Vila Real 79.90 40 *e*P **P** **02 01 31.4 +0.5**
PVRL *i* lAmb lAmb 02 01 39.5
comp=Z,37nm,1.8s
POLO Lamas de Olo 79.91 39 *e*P **P** **02 01 31.0 0.0**
POLO *i* lAmb lAmb 02 01 33.6
comp=Z,11nm,1.5s
PCAB Cabril 79.98 39 *e*P **P** **02 01 31.7 +0.4**
PCAB *i* lAmb lAmb 02 01 36.0
comp=Z,57nm,1.7s
PGAV Gavieira, Arco 79.99 39 *e*P **P** **02 01 31.8 +0.4**
PGAV *i* lAmb lAmb 02 01 37.9
comp=Z,51nm,1.4s
J08A Circle Bar Ran 80.16 323 lAmb lAmb 02 01 35.3
comp=Z,21nm,0.7s
BOSA Boshof 80.20 117 P **P** **02 01 32.6 -0.3**
comp=Z,4.8nm,0.6s,baz=252,slow=5.8,SNR=21
comp=Z,4.8nm,0.6s
GMARE Gumare 80.21 107 *i* P **P** **02 01 34.0 +0.9**
GMARE Gumare 80.21 107 lAmb lAmb 02 01 34.2
comp=Z,18nm,1.1s
MVO Moncorvo 80.25 40 *e*P **P** **02 01 33.4 +0.7**
MVO *i* lAmb lAmb 02 01 34.0
comp=Z,52nm,0.8s
BMO Blue Mountains 80.45 325 lAmb lAmb 02 01 35.7
comp=Z,21nm,1.5s
PBRG Braganca 80.80 40 *e*P **P** **02 01 36.0 +0.5**
PBRG *i* lAmb lAmb 02 01 38.1
comp=Z,29nm,1.4s
PAB San Pablo 80.97 42 P **P** **02 01 37.0 +0.5**
PAB lAmb lAmb 02 01 37.9
comp=Z,24nm,0.7s
CKGRV CKGRV 81.05 110 *i* P **P** **02 01 37.2 -0.2**
F10A Beach Ranch, E 81.13 326 lAmb lAmb 02 01 43.2
comp=Z,8.1nm,0.7s
K05A Summer Lake 81.17 321 lAmb lAmb 02 01 40.1
comp=Z,29nm,0.8s
KDWAN Kaudwane 81.24 112 *i* P **P** **02 01 38.4 0.0**
KDWAN Kaudwane 81.24 112 lAmb lAmb 02 01 39.2
comp=Z,35nm,0.9s
ESDC Sonseca Array 81.29 43 P **P** **02 01 38.4 +0.3**
ESDC lAmb lAmb 02 01 40.5
comp=Z,20nm,1.1s
ESDC Sonseca Array 81.29 43 P **P** **02 01 38.5 +0.4**
comp=Z,14nm,0.9s,baz=236,slow=4.9,SNR=106
comp=Z,14nm,0.9s
ESBB Sonseca Array 81.29 43 lAmb lAmb 02 01 40.5
comp=Z,22nm,1.1s
LBTB Lobatse 81.56 113 lAmb lAmb 02 01 40.6
comp=Z,15nm,1.0s
J05D Fort Rock, OR 81.70 322 lAmb lAmb 02 01 41.9
comp=Z,8.2nm,0.7s
PINE Pine Mountain 81.84 322 lAmb lAmb 02 01 43.5
comp=Z,19nm,0.8s
PHDHD Phuduhudu 82.09 109 *i* P **P** **02 01 43.0 +0.2**
PHDHD Phuduhudu 82.09 109 lAmb lAmb 02 01 43.8
comp=Z,21nm,0.8s
LPHEP Lephephe 82.29 112 *i* P **P** **02 01 43.7 0.0**
I05D Terrebonne, OR 82.39 322 lAmb lAmb 02 01 45.6
comp=Z,15nm,0.7s
C09A Chrisman Ranch 82.85 327 lAmb lAmb 02 01 47.0
comp=Z,9.6nm,0.7s
H04A Detroit Lake 83.09 322 lAmb lAmb 02 01 48.5
comp=Z,11nm,0.8s
FRB Frobisher Bay 83.16 358 P **P** **02 01 46.4 -0.4**
comp=Z,13nm,0.9s,baz=204,slow=12,SNR=5.2
comp=Z,13nm,0.9s
KSANE Kasane 83.40 106 *i* P **P** **02 01 49.9 +0.5**
KSANE Kasane 83.40 106 lAmb lAmb 02 01 50.6
comp=Z,27nm,0.8s
SOOWA Sowa 83.48 109 *i* P **P** **02 01 50.2 +0.5**
MREMI Moremi 83.93 112 *i* P **P** **02 01 52.1 +0.2**
MREMI Moremi 83.93 112 lAmb lAmb 02 01 53.1
comp=Z,17nm,1.0s
BROLN Tlhalogang 84.30 110 *i* P **P** **02 01 53.8 0.0**
D05A Enumclaw 84.46 324 lAmb lAmb 02 01 55.0
comp=Z,20nm,1.0s
MAW Mawson 84.74 162 P **P** **02 01 54.6 -0.2**
comp=Z,5.9nm,1.0s,baz=225,slow=7.1,SNR=8.2
comp=Z,5.9nm,1.0s
GNW Green Mountain 85.14 324 lAmb lAmb 02 01 58.0
comp=Z,11nm,0.7s
CEST Esterri de Car 86.18 42 lAmb lAmb 02 02 04.8
comp=Z,13nm,0.8s
KEST Kesra 88.50 51 lAmb lAmb 02 02 17.2
comp=Z,8.2nm,0.9s
KEST Kesra 88.50 51 P **P** **02 02 12.8 -0.5**
comp=Z,8.0nm,1.0s,baz=278,slow=1.9,SNR=11
comp=Z,8.0nm,1.0s
CLF Chambon-Foret 89.56 38 P **P** **02 02 17.2 -0.5**
SSB Saint Sauveur 89.57 41 lAmb lAmb 02 02 18.6
comp=Z,6.5nm,0.8s
BORG Borgarnes 90.23 17 P **P** **02 02 21.6 +1.1**
comp=Z,29nm,0.9s,baz=177,slow=5.0,SNR=2.3
comp=Z,29nm,0.9s
EKA Eskdalemuir Ar 90.64 30 P **P** **02 02 21.6 -1.0**
comp=Z,2.4nm,0.8s,baz=232,slow=3.5,SNR=6.4
comp=Z,2.4nm,0.8s
YKA Yellowknife Ar 91.03 339 P **P** **02 02 24.4 +0.2**
comp=Z,7.5nm,0.8s,baz=128,slow=4.0,SNR=18
YKA pP **pP** **02 04 30.6 +2.3**
comp=Z,1.6nm,0.7s,baz=129,slow=4.6,SNR=4.4
comp=Z,7.5nm,0.8s
WLF Walferdange 92.60 38 P **P** **02 02 31.8 0.0**
WLF Walferdange 92.60 38 *e*P **P** **02 02 31.7 -0.1**
comp=Z,27nm,1.1s,baz=246,slow=4.5
OSSC Osservatorio P 93.10 45 lAmb lAmb 02 02 35.0
comp=Z,5.8nm,0.7s
TUE Stuetta 93.11 42 lAmb lAmb 02 02 35.0
comp=Z,9.2nm,0.9s
SUMG Summit 93.55 7 P **P** **02 02 36.1 0.0**
DAVOX Davos/Dischmat 93.57 41 P **P** **02 02 36.7 +0.2**
comp=Z,12nm,0.9s,baz=240,slow=15,SNR=38
comp=Z,12nm,0.9s
DAVA Damuels 93.78 41 *i* P **P** **02 02 37.0 -0.4**
comp=Z,6.7nm,0.7s,SNR=5.1
STU Stuttgart 93.99 39 *e*P **P** **02 02 37.8 -0.4**
comp=Z,24nm,0.9s,baz=246,slow=4.5
BUG Bochum--Univer 94.04 36 *e*P **P** **02 02 37.9 -0.4**
comp=Z,22nm,1.1s,baz=246,slow=4.5
NRCA Nia 94.08 46 lAmb lAmb 02 02 39.7
comp=Z,5.9nm,1.0s
FDMO Fiordimonte 94.14 46 lAmb lAmb 02 02 39.5
comp=Z,7.2nm,1.2s
CAMP Campotosto 94.16 46 lAmb lAmb 02 02 47.0
comp=Z,4.7nm,1.1s
FETA Feichten 94.20 41 *i* P **P** **02 02 39.1 -0.3**
comp=Z,6.1nm,0.8s,SNR=6.7
CTI Castel Tesino 94.38 43 lAmb lAmb 02 02 40.7
comp=Z,6.0nm,0.8s
RETA Reutte 94.41 41 *i* P **P** **02 02 40.1 -0.1**
comp=Z,18nm,0.8s,SNR=7.0
MOTA Moosalm 94.56 41 *i* P **P** **02 02 40.4 -0.6**
comp=Z,23nm,1.0s,SNR=10.0
SQTA Sankt Quirin 94.58 41 *i* P **P** **02 02 40.7 -0.3**
comp=Z,34nm,0.7s,SNR=18
KASTN Kahler Asten 94.59 37 *e*P **P** **02 02 40.1 -0.7**
comp=Z,9.3nm,1.1s,baz=246,slow=4.5
IBBN Ibburen 94.70 36 *e*P **P** **02 02 40.7 -0.5**
comp=Z,28nm,1.2s,baz=246,slow=4.5
WATA Walderalm 94.85 41 *i* P **P** **02 02 41.8 -0.5**
comp=Z,29nm,1.0s,SNR=10
WTTA Wattenberg 94.86 41 *i* P **P** **02 02 42.1 -0.3**
comp=Z,36nm,0.9s,SNR=18
FUR Furstenfeldbru 95.00 41 *e*P **P** **02 02 42.3 -0.5**
comp=Z,13nm,1.1s,baz=246,slow=4.5
STAL STALIGIAL 95.14 43 lAmb lAmb 02 02 43.8
comp=Z,6.2nm,0.9s
ABTA Abtersbach 95.21 42 *i* P **P** **02 02 43.4 -0.5**
comp=Z,9.1nm,0.8s,SNR=5.9
LESA Schwarzleotal 95.58 42 *i* P **P** **02 02 45.0 -0.5**
comp=Z,25nm,1.1s,SNR=8.2
GRF Grafenberg Arr 95.58 39 *e*L L 02 48 30.4
comp=Z,28nm,19.7s
SABO M.te Sabotino 95.61 43 lAmb lAmb 02 02 47.4
comp=Z,6.4nm,0.8s
ROBS Robic 95.65 43 *i* P **P** **02 02 45.1 -0.6**
SKDS Skedanscina 95.71 44 *i* P **P** **02 02 45.6 -0.5**
RETH Rethem/Aller, 95.77 36 *e*P **P** **02 02 46.0 0.0**
comp=Z,13nm,1.2s,baz=246,slow=4.5
RJOB Jochberg 95.77 41 *e*P **P** **02 02 45.7 -0.6**
comp=Z,6.6nm,1.3s,baz=246,slow=4.5
MYKA Terra Mystica 95.88 43 *i* P **P** **02 02 46.7 -0.2**
comp=Z,11nm,0.8s
MOX Moxa 96.20 38 *e*P **P** **02 02 47.7 -0.3**
comp=Z,4.1nm,1.1s,baz=246,slow=4.5
MOX *e*L L 02 46 57.6
comp=Z,29nm,21.3s
GBRS Gornja Briga 96.23 44 *e*P **P** **02 02 47.8 -0.6**
MANZ Manzenberg 96.23 39 *e*P **P** **02 02 47.9 -0.4**
comp=Z,0.8nm,0.8s,baz=246,slow=4.5
BIOA Bad Ischl, Aus 96.28 42 *i* Pdiff **P** **02 02 47.9 -0.7**
comp=Z,8.4nm,0.8s
WET Wettzell 96.36 40 *e*P **P** **02 02 48.6 -0.3**
comp=Z,6.5nm,1.1s,baz=246,slow=4.5
OBKA Obir 96.42 43 *e*Pdiff **P** **02 02 49.3 0.0**
comp=Z,4.7nm,0.7s
PLN Plaen 96.45 39 *e*P **P** **02 02 49.3 +0.1**
comp=Z,1.8nm,1.0s,baz=246,slow=4.5
MOA Molln 96.73 42 *e*Pdiff **P** **02 02 50.2 -0.4**
comp=Z,5.3nm,0.6s,SNR=5.7
GEC2 GERESS Array S 96.75 41 *e*P **P** **02 02 49.9 -0.9**
comp=Z,3.8nm,0.9s,baz=246,slow=4.5
GERES GERESS Array B 96.75 41 P **P** **02 02 49.9 -0.9**
comp=Z,2.2nm,0.8s,baz=242,slow=4.2,SNR=20
comp=Z,2.2nm,0.8s
KHC Kasperske Hory 96.78 40 *e*P **P** **02 02 50.4 -0.4**
SOKA Soboth 96.79 43 *e*Pdiff **P** **02 02 50.6 -0.4**
comp=Z,1.1nm,0.6s
CKRC Cesky Krumlov 97.12 41 *e*P Pdif 02 02 51.9 -0.4
CLL Collm 97.26 38 *e*P Pdif 02 02 52.7 -0.1
comp=Z,4.0nm,1.0s,baz=246,slow=4.5
ZVC Zvikov 97.27 40 *e*P Pdif 02 02 52.6 -0.3
ARSA Arzberg 97.31 42 lAmb lAmb 02 02 53.1
comp=Z,2.9nm,0.8s
ARSA Arzberg 97.31 42 *e*Pdiff Pdif 02 02 52.9 -0.3
comp=Z,1.6nm,0.6s
PRU Pruhonice 97.68 40 *e*P Pdif 02 02 54.6 -0.1
CONA Conrad Observa 97.76 42 *i* Pdiff Pdif 02 02 55.0 -0.3
comp=Z,1.1nm,0.6s
RONA Rosalia, Austr 97.96 42 *e*Pdiff Pdif 02 02 56.0 -0.1
comp=Z,1.1nm,0.5s
TREC Trest 98.01 41 *e*P Pdif 02 02 56.3 +0.1
KRUC Moravsky 98.49 41 *e*PDIFF Pdif 02 02 57.6 -0.7
VRAC Vranov 98.69 41 P Pdif 02 02 59.1 -0.2
comp=Z,1.2nm,0.4s,baz=250,slow=9.2,SNR=6.3
comp=Z,1.2nm,0.4s
VRAC Vranov 98.69 41 *e*PDIFF Pdif 02 02 58.7 -0.6
UPC Upice 98.75 40 *e*P Pdif 02 02 59.9 +0.4
CHVC Chvalec 98.80 39 *e*P Pdif 02 02 59.6 -0.1
DPC Dobruska-Polom 98.88 40 *e*P Pdif 02 03 00.5 +0.4
OSTC Ostas 98.89 40 *e*P Pdif 02 03 00.5 +0.4
KRLC Kraliky 99.07 40 *e*P **Pdif** **02 03 01.6 +0.6**
MORC Moravsky Berou 99.43 41 *e*PDIFF **Pdif** **02 03 02.4 -0.2**
MAUC Maruska 99.47 41 *e*P **Pdif** **02 03 03.2 +0.4**
STEB Steborice 99.63 40 *e*P **Pdif** **02 03 03.9 +0.5**
KBZ Khabaz 115.35 50 PKP **PKPdf** **02 07 58.1 -0.1**
comp=Z,5.2nm,0.9s,baz=225,slow=2.9,SNR=9.0
STKA Stephens Creek 123.24 206 PKP **PKPdf** **02 08 13.5 -0.3**
comp=Z,2.2nm,0.7s,baz=112,slow=5.4,SNR=2.1
ARTI Arti 123.91 34 **PKPdf** **02 08 14.7 +0.4**
AKTO Aktyubinsk 125.16 42 PKP **PKPdf** **02 08 17.4 +0.6**
comp=Z,6.1nm,0.7s,baz=293,slow=4.1,SNR=26
ABKAR Akbulak array 126.64 43 **PKPdf** **02 08 20.3 +0.7**
BRVK Borovoye 131.54 35 **PKPdf** **02 08 29.6 +0.8**
BVAR Borovoye Array 131.61 35 PKP **PKPdf** **02 08 28.9 -0.1**
comp=Z,2.9nm,0.6s,baz=296,slow=3.6,SNR=17
BVAR SKPbc **SKPbc** **02 11 00.1 -2.2**
comp=Z,2.7nm,0.9s,baz=282,slow=2.8,SNR=7.1
ASAR Alice Springs 133.58 203 PKP **PKPdf** **02 08 33.2 -0.6**
comp=Z,3.1nm,0.7s,baz=156,slow=2.2,SNR=33
ASAR SKPbc **SKPbc** **02 11 08.7 -1.3**
comp=Z,2.0nm,0.8s,baz=159,slow=4.0,SNR=8.8
PETK Petropavlovsk- 133.69 326 PKP **PKPdf** **02 08 32.4 -0.5**
comp=Z,5.3nm,1.1s,baz=87,slow=5.9,SNR=3.5
PETK SKPbc **SKPbc** **02 11 08.0 -1.3**
comp=Z,5.9nm,0.8s,baz=84,slow=7.4,SNR=7.2
SIMJ Simiganj 135.30 55 **PKPdf** **02 08 36.4 -0.1**
KKAR Karatay Array 135.32 48 **PKPdf** **02 08 36.6 +0.3**
WRA Warramunga Arr 136.78 206 **PKPdf** **02 08 39.2 -0.6**
WRA Warramunga Ar 136.78 206 PKhKP PKPpre 02 08 29.9
comp=Z,0.6nm,0.7s,baz=171,slow=2.3,SNR=6.0
WRA PKP **PKPdf** **02 08 39.8 +0.1**
comp=Z,4.5nm,0.7s,baz=153,slow=1.8,SNR=26
WRA SKPbc **SKPbc** **02 11 18.7 -1.3**
comp=Z,3.4nm,0.8s,baz=158,slow=2.7,SNR=13
KURK Kurchatov 137.19 35 **PKPdf** **02 08 40.1 +0.6**
KURBB Kurchatov Arra 137.19 35 PKhKP PKPpre 02 08 30.1
comp=Z,0.5nm,0.3s,baz=310,slow=2.2,SNR=2.8
KURBB PKP **PKPdf** **02 08 39.6 +0.1**
comp=Z,5.9nm,0.6s,baz=306,slow=2.6,SNR=4.9
KURBB SKP 02 11 19.9
comp=Z,1.9nm,0.3s,baz=303,slow=3.4,SNR=8.5
ZALV Zalesovo Beam 138.22 27 PKhKP PKPpre 02 08 32.8
comp=Z,2.6nm,0.5s,baz=291,slow=4.1,SNR=6.3
ZALV PKP **PKPdf** **02 08 40.0 -1.2**
comp=Z,16nm,0.6s,baz=310,slow=1.9,SNR=23
ZALV pPKP pPKPdf 02 10 56.7 +3.6
comp=Z,2.3nm,0.9s,baz=314,slow=6.0,SNR=2.5
ZALV SKPbc **SKPbc** **02 11 22.2 -0.7**
comp=Z,5.6nm,0.5s,baz=307,slow=3.7,SNR=14
AAK Ala-Archa 138.24 47 **PKPdf** **02 08 42.8 +0.9**
KSH Kashi 140.32 51 PKP **PKPdf** **02 08 46.8 +1.1**
KSH sPKP 02 11 49.0
MKAR Makanchi Array 141.36 38 PKhKP PKPpre 02 08 42.5
comp=Z,9.4nm,0.9s,baz=302,slow=3.2,SNR=32
MKAR SKPbc **SKPbc** **02 11 28.6 -2.9**
comp=Z,5.9nm,0.8s,baz=303,slow=2.8,SNR=10
MTN Manton Dam 144.48 206 PKPbc 02 08 52.9 -0.7
HEH HeiHe 148.11 346 *e*P **PKPdf** **02 08 58.8 +0.2**
HEH pmax pmax
comp=Z,8.0nm,0.9s
JTM Tenmabayashi 149.96 320 **PKPbc** **02 09 07.7 +0.3**
SONM Songino Array 150.78 13 **PKPbc** **02 09 09.9 +0.6**
SONM Songino Array 150.78 13 PKP **PKPdf** **02 09 03.4 +0.3**
comp=Z,6.0nm,1.0s,baz=329,slow=2.5,SNR=21
SONM PKPbc **PKPbc** **02 09 09.7 +0.4**
comp=Z,37nm,0.8s,baz=305,slow=1.3,SNR=78
SONM PKPab **PKPab** **02 09 18.9 0.0**
comp=Z,5.8nm,0.7s,baz=334,slow=3.7,SNR=5.9
SONM PP **PP** **02 12 52.7 +1.1**
comp=Z,1.0nm,0.7s,baz=336,slow=3.2,SNR=2.9
USRK Ussuriysk Ar. 152.09 335 PKPbc **PKPbc** **02 09 12.5 +0.3**
comp=Z,12nm,0.8s,baz=25,slow=4.8,SNR=16
USRK PKPab **PKPab** **02 09 23.5 -1.0**
comp=Z,2.3nm,0.6s,baz=45,slow=2.2,SNR=5.0
MJAR Matsushiro Ar 154.26 316 PKP **PKPdf** **02 09 06.7 -1.7**
comp=Z,1.3nm,0.8s,baz=20,slow=3.9,SNR=6.8
MJAR PKPbc **PKiKP** **02 09 16.1 -1.0**
comp=Z,1.7nm,0.7s,baz=73,slow=2.5,SNR=5.4
MJAR PKPab **PKPab** **02 09 34.1 0.0**
comp=Z,4.8nm,0.8s,baz=60,slow=4.6,SNR=9.1
MJAR SKP 02 11 45.9
comp=Z,1.3nm,0.8s,baz=63,slow=2.7,SNR=4.1
GOMU GeErMu 155.10 44 P **PKPdf** **02 09 08.6 -1.4**
GOMU PcP **PKPab** **02 09 39.5 +1.4**
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GTA Gaotai 155.82 32 *e*PKP **PKPdf** **02 09 11.0 +0.5**
GTA PKPab **PKPab** **02 09 40.8 0.0**
SHL Shillong 156.95 71 **PKPab** **02 09 45.7 -0.6**
HHC Hu-ho-hao-te 158.49 9 *e*P **PKPdf** **02 09 15.1 +1.4**
KSRS Korea Array 159.41 332 PKP **PKPdf** **02 09 14.5 -0.2**
comp=Z,2.9nm,1.0s,baz=37,slow=1.2,SNR=9.8
KSRS PKPab **PKPab** **02 09 56.2 0.0**
comp=Z,5.5nm,0.8s,baz=29,slow=4.3,SNR=15
KSAR Wonju Array Be 159.44 332 **PKPdf** **02 09 15.6 +0.8**
BJI Beijing 159.64 360 PKP **PKPdf** **02 09 15.8 +0.9**
CMAR Chiang Mai Arr 163.80 91 **PKPdf** **02 09 19.5 -0.3**
CMAR Chiang Mai Arr 163.80 91 PKP **PKPdf** **02 09 19.9 +0.1**
comp=Z,1.5nm,0.7s,baz=250,slow=0.9,SNR=9.7
CMAR PKPab **PKPab** **02 10 16.0 -0.3**
comp=Z,5.7nm,0.8s,baz=252,slow=5.2,SNR=26
CMAR PP **PP** **02 14 01.3 -2.7**
comp=Z,1.1nm,0.3s,baz=289,slow=4.9,SNR=4.1
PZH PanZhiHua 165.18 60 PKP **PKPdf** **02 09 15.8 -5.1**
NJ2 Nanjing 167.36 349 *e*P **PKPdf** **02 09 21.9 -0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s

BEO ***18*** *02:15:31.0±0.8,45°.59N×26°.71E,h1km±3km,ML2.4/9*
MCSM ***18*** *02:15:33.0±0.2,46°.N±2°×2°.6E±°,h9km±2km,mb4.0, MLv2.9*
BUC ***18*** *02:15:33.3±0.1,45°.61N×26°.43E,h6km±1km,ml2.4/43, Error ellipse: s-maj=0.8km s-min=0.7km az=22.0*

ISC 18 02:15:33.0±1.0,**45°.61N**±0°.02×**26°.46E**±0°.01,**h5**km±8km,
n79,σ0**86**/119,**53C-23D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BISRR	**Bisoca**	**0.19**	**110**	↑P	**Pg**	**02 15 36.8**	**0.0**
BISRR				↓S	**Sg**	**02 15 40.3**	**+1.0**
BISRR	**Bisoca**	**0.19**	**110**	P	**Pg**	**02 15 36.7**	**-0.1**
NEHR	**Nehoiu**	**0.22**	**211**	↑P	**Pg**	**02 15 36.5**	**-0.8**
NEHR				↑S	**Sg**	**02 15 39.9**	**-0.3**
PLOR	**Plostina**	**0.28**	**30**	↑P	**Pg**	**02 15 38.7**	**+0.3**
PLOR				↑S	**Sg**	**02 15 42.5**	**+0.4**
PLOR5	**Plostina Array**	**0.28**	**32**	P	**Pg**	**02 15 38.9**	**+0.5**
COVR	**Voineasa-Covas**	**0.29**	**323**	↑P	**Pg**	**02 15 39.3**	**+0.6**
COVR				↑S	**Sg**	**02 15 42.5**	**-0.1**
VRI	**Vrincioaia**	**0.32**	**37**	↓P	**Pg**	**02 15 39.5**	**+0.3**
VRI				↑S	**Sg**	**02 15 44.2**	**+0.8**
VRI	**Vrincioaia**	**0.32**	**37**	P	**Pg**	**02 15 39.6**	**+0.4**
MLR	**Muntele Rosu**	**0.38**	**252**	↑P	**Pg**	**02 15 40.2**	**-0.2**
MLR				↑S	**Sg**	**02 15 45.9**	**+0.5**
MLR	**Muntele Rosu**	**0.38**	**252**	*e*Pg	**Pg**	**02 15 40.1**	**-0.3**
MLR				*e*Sg	**Sb**	**02 15 48.6**	**+0.1**
MLR	**Muntele Rosu**	**0.38**	**252**	P	**Pg**	**02 15 40.2**	**-0.2**
GRER		**0.43**	**122**	↓P	**Pb**	**02 15 42.5**	**-0.5**
GRER				↑S	**Sg**	**02 15 48.3**	**+1.3**
ODBI	**Odobesti**	**0.45**	**70**	↑P	**Pb**	**02 15 43.1**	**-0.2**
ODBI				↓S	**Sb**	**02 15 49.0**	**-1.3**
ODBI	**Odobesti**	**0.45**	**70**	P	**Pb**	**02 15 43.7**	**+0.4**
ISR	**Istrita**	**0.50**	**173**	↑P	**Pg**	**02 15 43.2**	**+0.6**
ISR				↑S	**Sg**	**02 15 49.5**	**+0.5**
ISR	**Istrita**	**0.50**	**173**	P	**Pg**	**02 15 43.1**	**+0.5**
TURR	**Turia**	**0.54**	**325**	↓P	**Pb**	**02 15 44.2**	**-0.7**
TURR				↓S	**Sg**	**02 15 51.5**	**+1.0**
PANC	**Panciu**	**0.55**	**61**	↑S	**Sb**	**02 15 52.6**	**-0.7**

OZUR		0.67	316	⇑P		Pb	02 15 46.8	-0.5
OZUR				⇑S		Sg	02 15 55.1	+0.4
BOSR	**Bodos**	0.72	310	⇓P		Pb	02 15 47.8	-0.3
BOSR				⇑S		Sg	02 15 56.9	+0.6
ONER	**Baraj Valea Uz**	0.72	357	⇓P		Pb	02 15 47.7	-0.4
ONER				⇑S		Sb	02 15 57.6	-0.7
GHRR		0.80	56	⇑P		Pb	02 15 49.5	+0.1
GHRR				⇑S		Sb	02 16 00.5	0.0
GHRR		0.80	56	P		Pg	02 15 49.0	+0.6
DOPR	**Dopca**	0.83	296	⇑P		Pg	02 15 49.0	+0.1
DOPR				⇑S		Sb	02 16 01.0	-0.3
TESR	**Tescani**	0.91	8	⇑P		Pb	02 15 51.4	+0.1
TESR				⇓S		Sb	02 16 03.5	-0.2
TESR	**Tescani**	0.91	8	P		Pb	02 15 51.5	+0.2
SULR		0.94	189	⇑P		Pb	02 15 51.9	+0.1
SULR				⇑S		Sb	02 16 04.6	0.0
NEGRR	**Negrea**	1.00	94	⇑P		Pb	02 15 52.6	-0.2
NEGRR				⇓S		Sn	02 16 07.6	-0.4
VOIR		1.00	260	⇑P		Pg	02 15 51.7	-0.6
VOIR				⇑S		Sb	02 16 06.0	-0.4
VOIR		1.00	260	P		Pn	02 15 53.2	-0.6
SCTR	**Scanteiesti**	1.08	86	⇑P		Pg	02 15 53.8	+0.1
SCTR				⇑S		Sn	02 16 10.5	+0.4
TATR	**Tatarca**	1.12	90	⇑P		Pg	02 15 54.6	+0.1
TATR				⇑S		Sn	02 16 11.2	+0.2
VLDR	**Vladesti**	1.16	78	⇓P		Pg	02 15 55.1	-0.2
VLDR				⇑S		Sn	02 16 12.2	+0.2
LEHL	**Lehliu**	1.17	167	⇑S		Sn	02 16 12.6	+0.5
AMRR	**Amara**	1.18	148	⇓P		Pb	02 15 55.7	-0.2
CFR	**Carcaliu**	1.26	110	⇓S		Sn	02 16 14.4	-0.1
JOSR	**Joseni**	1.27	329	⇑P		Pg	02 15 57.7	+0.2
JOSR				⇑S		Sn	02 16 17.4	-0.3
ARR	**Arges**	1.30	260	⇑P		Pn	02 15 57.5	-0.4
ARR				⇑S		Sn	02 16 15.8	+0.1
BIZ	**Bicaz**	1.35	350	⇓S		Sn	02 16 18.1	+1.3
SGRR	**Singureni**	1.43	194	⇑P		Pb	02 15 59.8	-0.3
SGRR				⇑S		Sg	02 16 18.8	-0.1
HUMR	**Humele**	1.51	224	⇑P		Pn	02 16 00.5	-0.1
HUMR				⇑S		Sg	02 16 22.0	+0.6
MDB	**Medias**	1.54	291	⇓P		Pn	02 16 00.8	-0.3
TPGR	**Topolog**	1.58	118	⇑P		Pn	02 16 01.5	-0.1
TLCR		1.72	104	⇑P		Pn	02 16 03.6	+0.1
TLCR				⇑S		Sg	02 16 27.6	-0.5
ICOR	**Ion Corvin**	1.77	147	⇑P		Pn	02 16 04.1	-0.2
TIRR	**Tirgusor**	1.81	129	⇓P		Pn	02 16 05.5	+0.8
TIRR				⇓S		Sb	02 16 29.1	-0.2
TIRR	**Tirgusor**	1.81	129	Pn		Pn	02 16 05.4	+0.8
LOT	**Lotru**	1.90	266	⇑P		Pn	02 16 06.1	+0.1
LOT				⇑S		Sn	02 16 30.7	+0.3
BURAR	**Bucovina Array**	2.18	337	⇓P		Pn	02 16 10.8	+0.9
BURAR				⇓S		Sb	02 16 39.6	-0.7
EFOR	**EFORIE**	2.18	134	⇓S		Sb	02 16 38.5	-1.5
PURM	**Purcari**	2.55	68	Pn		Pn	02 16 13.7	-1.2
MARR	**Marisel-Cluj**	2.55	296	⇑P		Pn	02 16 14.9	-0.2
GZR	**Gura Zlata**	2.60	266	⇑P		Pn	02 16 15.4	-0.2
GZR	**Gura Zlata**	2.60	266	*e*Pn		Pn	02 16 16.4	+0.7
GZR				*e*Sn		Sb	02 16 50.1	-2.1
ELND	**Elena**	2.71	189	⇓P		Pn	02 16 17.9	+0.7
ELND				⇓S		Sn	02 16 52.0	+1.6
SORM	**Soroca**	2.84	27	⇓P		Pn	02 16 18.8	-0.1
SORM	**Soroca**	2.84	27	Pn		Pn	02 16 19.0	+0.1
DRGR		2.86	296	⇓P		Pn	02 16 19.4	+0.2
DRGR		2.86	296	*e*Pn		Pn	02 16 19.2	0.0
DRGR				*e*Sn		Sn	02 16 56.7	+2.7
KMPD	**K-Podol'skiy**	2.95	0	Pn		Pn	02 16 19.6	-0.9
BZS	**Buzias**	3.40	272	*e*Pn		Pn	02 16 26.5	-0.1
BZS				*e*Sn		Sn	02 17 09.5	+2.3
SIRR	**Siria**	3.41	283	⇑P		Pn	02 16 26.9	+0.1
SIRR	**Siria**	3.41	283	*e*Pn		Pn	02 16 28.4	+1.6
MDVR	**Moldovita**	3.45	258	*e*Pn		Pn	02 16 28.7	+1.3
ZAGS	**Zajecar**	3.51	241	*e*Pn		Pn	02 16 27.8	-0.3
ZAGS				*e*Sn		Sn	02 17 11.2	+1.3
ZAPS	**Zavoj**	3.60	231	*e*Pn		Pn	02 16 29.0	-0.4
ZAPS				*e*Sn		Sn	02 17 11.7	-0.6
VRSS	**Vrsac**	3.65	264	*e*Pn		Pn	02 16 32.2	+2.1
VRSS				*e*Sn		Sn	02 17 15.5	+2.0
BOVS	**Bovan**	3.92	241	*e*Pn		Pn	02 16 32.9	-0.9
BOVS				*e*Sn		Sn	02 17 22.4	+2.2
BOSS	**Bosilegrad**	4.23	224	*e*Pn		Pn	02 16 38.5	+0.4
KOLS	**Kolonicke sedl**	4.38	321	*e*PG		Pb	02 16 47.7	-2.6
KOLS				*e*SG		Sn	02 17 07.1	-24
GRUS	**Gruza**	4.44	249	*e*Pn		Pn	02 16 41.5	+0.6
SELS	**Selova**	4.51	240	*e*Pn		Pn	02 16 42.5	+0.6
SELS				*e*Sn		Sn	02 17 36.0	+1.3
KLIY	**Kilyos**	4.75	156	Pn		Pn	02 16 44.8	-0.7
AK11	**Malin Array Si**	5.38	19	Pn		Pn	02 16 52.0	-1.9
AK01	**Malin Array Si**	5.41	19	Pn		Pn	02 16 52.8	-1.4
AK20	**Malin Array Si**	5.41	17	Pn		Pn	02 16 52.7	-1.5
AK04	**Malin Array Si**	5.43	19	P		Pn	02 16 53.1	-1.3
EZN	**Ezine**	5.78	181	P		Pn	02 16 59.6	+0.2
TIR	**Tirane**	6.41	231	P		Pn	02 17 07.6	-0.4

*ISK **18** 02:17:10.8, 36°.95N × 28°.17E, h9km, ML3.0/16*
*THE **18** 02:17:11.1, 37°.N ± 7°.×2°.8E ± °, h11km ± 7km, M2.8/4, MLh2.8/4*
*ATH **18** 02:17:11.1 ± 0.5, 36°.88N × 28°.11E, h12km ± 4km, ML2.9/7, Manual Solution by N.Liadopoulou First location: 2019/08/18 02:18:53, This location: 2020/07/03 07:01:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*AFAD **18** 02:17:11.0, 36°.91N × 28°.18E, h7km ± 2km, ML2.8*
ISC 18 02:17:11.0 ± 0.9, 36°.90N ± 0°.02 × 28°.17E ± 0°.02, h12km ± 7km, n44, σ0s58/62, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TURN	**Turunc**	**0.14**	**154**	P		**Pg**	**02 17 14.6**	**+0.1**
TURN				S		**Sg**	**02 17 16.9**	**0.0**
TURN				*i*	IAML		02 17 17.0	
	comp=N,7μm,0.2s							
TURN				*i*	IAML		02 17 17.0	
	comp=E,4μm,0.4s							
MULA	**Mugla, Merkez-**	**0.37**	**19**	P		**Pg**	**02 17 18.3**	**-0.2**
MULA				S		**Sg**	**02 17 23.6**	**0.0**
MULA				*i*	IAML		02 17 24.0	
	comp=N,1μm,0.2s							
MULA				*i*	IAML		02 17 28.0	
	comp=E,2μm,0.3s							
DAT	**Datca**	**0.50**	**250**	Pg		**Pg**	**02 17 21.3**	**+0.4**
DAT				Sg		**Sb**	**02 17 29.1**	**0.0**
DAT	**Datca**	**0.50**	**250**	P		**Pg**	**02 17 21.5**	**+0.6**
DAT				S		**Sb**	**02 17 29.6**	**+0.5**
BDRM	**Kayabasi**	**0.60**	**286**	P		**Pg**	**02 17 23.1**	**+0.4**
BDRM				S		**Sb**	**02 17 32.3**	**+0.5**
BDRM				*i*	IAML		02 17 36.0	
	comp=E,360nm,0.5s							
YAZI	**Mula-Dat§a-**	**0.61**	**249**	P		**Pg**	**02 17 22.4**	**-0.6**
YAZI				S		**Sb**	**02 17 32.5**	**+0.3**
SABU	**Mula-Dalaman**	**0.65**	**97**	P		**Pg**	**02 17 23.7**	**+0.1**
SABU				S		**Sg**	**02 17 31.2**	**-1.0**
SABU				*i*	IAML		02 17 35.0	
	comp=N,364nm,0.4s							
SABU				*i*	IAML		02 17 36.0	
	comp=E,328nm,0.3s							
ARG	**Arkhangelos**	**0.69**	**183**	Pg		**Pg**	**02 17 24.6**	**+0.2**
ARG				Sg		**Sn**	**02 17 36.3**	**-0.7**
ARG	**Arkhangelos**	**0.69**	**183**	P		**Pg**	**02 17 24.6**	**+0.2**
ARG				S		**Sb**	**02 17 35.6**	**+1.3**
ARG	**Arkhangelos**	**0.69**	**183**	P		**Pg**	**02 17 24.3**	**0.0**
ARG				S		**Sb**	**02 17 34.3**	**+0.1**
ESEN	**Aydn-Nazilli**	**0.91**	**9**	P		**Pg**	**02 17 28.1**	**-0.4**
ESEN				S		**Sg**	**02 17 40.3**	**0.0**
ESEN				*i*	IAML		02 17 43.0	
	comp=N,366nm,0.5s							
ESEN				*i*	IAML		02 17 43.0	
	comp=E,609nm,0.5s							
CAME	**Cameli-Denizli**	**0.91**	**87**	Pg		**Pg**	**02 17 28.6**	**0.0**
CAME				Sg		**Sb**	**02 17 41.4**	**+0.5**
NAZL	**Nazilli-Aydin**	**1.06**	**5**	Pg		**Pb**	**02 17 30.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**348**	Pg		**Pg**	**02 17 31.1**	**-0.4**
APMY	**Acipayam-Deniz**	**1.07**	**58**	Pg		**Pb**	**02 17 31.4**	**-0.1**
SMG	**Samos**	**1.33**	**308**	P		**Pn**	**02 17 35.6**	**+0.3**
SMG				S		**Sg**	**02 17 54.3**	**+0.5**
SMG	**Samos**	**1.33**	**308**	P		**Pn**	**02 17 35.1**	**-0.3**
SMG				S		**Sb**	**02 17 52.2**	**-0.7**
KSL	**Kastellorizon**	**1.37**	**123**	P		**Pn**	**02 17 34.6**	**-1.2**
KSL				S		**Sb**	**02 17 53.5**	**-0.4**
KSL	**Kastellorizon**	**1.37**	**123**	P		**Pb**	**02 17 36.4**	**-0.1**
KSL				S		**Sg**	**02 17 54.8**	**-0.2**
ODEM	**Odemis-Izmir**	**1.37**	**357**	Pn		**Pn**	**02 17 36.0**	**0.0**
KARP	**Karpathos**	**1.58**	**211**	P		**Pn**	**02 17 38.6**	**-0.2**
KARP				S		**Sn**	**02 18 00.2**	**+1.1**
KARP	**Karpathos**	**1.58**	**211**	P		**Pn**	**02 17 38.6**	**-0.2**
KARP				S		**Sn**	**02 17 58.2**	**-0.9**
KULA	**Kula-Manisa**	**1.66**	**14**	Pn		**Pn**	**02 17 40.1**	**+0.2**
BLCB	**Balcova**	**1.73**	**329**	Pn		**Pn**	**02 17 41.3**	**+0.5**
BASM	**Basmaki-Afyon**	**1.81**	**55**	Pn		**Pn**	**02 17 42.7**	**+0.7**
AKS	**Akhisar**	**1.99**	**352**	Pn		**Pn**	**02 17 44.7**	**+0.2**
GORD	**Gordes-Manisa**	**2.00**	**0**	Pn		**Pn**	**02 17 44.9**	**+0.2**
ISP	**Isparta**	**2.09**	**63**	Pn		**Pn**	**02 17 46.9**	**+1.0**
ISP	**Isparta**	**2.09**	**63**	P		**Pn**	**02 17 46.6**	**+0.7**
CHOS	**Chios Island**	**2.24**	**312**	P		**Pn**	**02 17 48.0**	**+0.1**
GEDZ	**Gediz**	**2.35**	**24**	Pn		**Pn**	**02 17 50.3**	**+0.8**
NPS	**Neapolis**	**2.64**	**232**	P		**Pn**	**02 17 53.0**	**-0.4**
TVSB	**Tavsanli**	**2.74**	**21**	Pn		**Pn**	**02 17 55.7**	**+0.9**
YAYO	**Edremit-Balk**	**2.84**	**343**	Pn		**Pn**	**02 17 56.9**	**+0.8**
IDI	**Anoyia**	**3.10**	**240**	P		**Pn**	**02 17 59.5**	**-0.3**
EZN	**Ezine**	**3.26**	**334**	Pn		**Pn**	**02 18 03.1**	**+1.3**
LIA	**Limnos Island**	**3.80**	**323**	P		**Pn**	**02 18 08.9**	**-0.4**
AKMS	**Akamas**	**3.87**	**118**	P		**Pn**	**02 18 10.9**	**+0.6**
ALFC	**Alefka**	**3.99**	**115**	P		**Pn**	**02 18 12.7**	**+0.7**
SMTH	**Samothraki Isl**	**4.12**	**331**	P		**Pn**	**02 18 13.7**	**0.0**
NATA	**Nata**	**4.16**	**119**	P		**Pn**	**02 18 14.8**	**+0.5**
CSS	**Mathiatis**	**4.62**	**113**	P		**Pn**	**02 18 21.2**	**+0.7**
ASGA	**Asgata**	**4.64**	**116**	P		**Pn**	**02 18 21.4**	**+0.6**
MVOU	**Mavrovouni**	**4.82**	**111**	P		**Pn**	**02 18 23.7**	**+0.4**

*SDD **18** 02:20:56.3 ± 1.6, 19°.47N × 70°.42W, h23km ± 15km, MD3.5, ML3.1, MW3.3*
*OSPL **18** 02:20:56.8 ± 2.2, 19°.44N × 70°.41W, h0km ± 10km, ML2.8*
ISC 18 02:20:54.3 ± 1.3, 19°.40N ± 0°.03 × 70°.40W ± 0°.02, h7km ± 11km, n23, σ1s32/40, 12C-13D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SC01	**Santiago de lo**	**0.31**	**275**	*i* P		**Pb**	**02 21 02.6**	**+0.4**
SC01				*e*S		**Sb**	**02 21 06.1**	**-1.3**
SC01				IAML			02 21 11.9	
	comp=Z,1μm,0.2s							
LONA1	**Toro Cenizo, N**	**0.51**	**92**	*i* P		**Pb**	**02 21 06.0**	**+0.4**
LONA1				*e*S		**Sb**	**02 21 14.0**	**+0.9**
LONA1				IAML			02 21 18.7	
	comp=Z,2μm,1.9s							
CADR	**Cabrera**	**0.51**	**58**	⇓*e*Pg		**Pb**	**02 21 05.1**	**-0.6**
CADR				⇓*e*Sg		**Sb**	**02 21 13.2**	**-0.1**
CADR				IAML			02 21 14.2	
	comp=N,3μm,0.3s							
NADR	**Nagua**	**0.52**	**95**	⇓*e*Pg		**Pb**	**02 21 06.0**	**+0.3**
NADR				⇓*e*Sg		**Sb**	**02 21 14.5**	**+1.1**
NADR				IAML			02 21 17.2	
	comp=N,4μm,0.3s							
DR08	**Loma La Naviza**	**0.56**	**140**	⇓*e*Pg		**Pb**	**02 21 07.0**	**+0.5**
DR08				⇑*e*Sg		**Sb**	**02 21 15.5**	**+0.7**
DR08				IAML			02 21 17.7	
	comp=N,7μm,0.2s							
ABDR	**Alto Bandera**	**0.62**	**200**	⇑*e*Pg		**Pn**	**02 21 08.4**	**-1.4**
ABDR				⇓*e*Sg		**Sn**	**02 21 18.4**	**-1.8**
ABDR				IAML			02 21 22.6	
	comp=N,440nm,0.3s							
LUDR	**Luperon**	**0.71**	**314**	⇑*e*Pg		**Pb**	**02 21 08.9**	**-0.2**
LOPP1	**Punta Rusia, P**	**0.88**	**301**	*i* P		**Pb**	**02 21 11.7**	**-0.2**
LOPP1				*e*S		**Sb**	**02 21 23.8**	**0.0**
LOPP1				IAML			02 21 32.6	
	comp=Z,253nm,0.4s							
SDDR	**Presa de Saban**	**0.93**	**244**	*i* P		**Pn**	**02 21 12.8**	**-1.1**
SDDR				*e*S		**Sn**	**02 21 25.5**	**-2.0**
SDDR				IAML			02 21 26.7	
	comp=Z,96nm,0.3s							
SDDR	**Presa de Saban**	**0.93**	**244**	⇑*e*Pg		**Pn**	**02 21 12.7**	**-1.1**
SDDR				⇑*e*Sg		**Sn**	**02 21 26.0**	**-1.5**
SDDR				IAML			02 21 30.7	
	comp=N,137nm,0.6s							
REDR	**Restauracion**	**0.96**	**256**	⇑*e*Pg		**Pn**	**02 21 17.4**	**+3.2**
REDR				⇓*e*Sg		**Sn**	**02 21 33.5**	**+5.4**
REDR				IAML			02 21 36.4	
	comp=N,639nm,0.2s							
BANI	**BANI**	**1.00**	**178**	⇑*e*Pg		**Pn**	**02 21 15.2**	**+0.4**
BANI				⇓*e*Sg		**Sn**	**02 21 30.3**	**+1.0**
BANI				IAML			02 21 30.7	
	comp=N,494nm,0.6s							
SDD	**Santo Domingo**	**1.04**	**154**	*i* P		**Pn**	**02 21 15.0**	**-0.3**
SDD				*e*S		**Sn**	**02 21 29.4**	**-0.7**
HATOM	**Hato Mayor del**	**1.14**	**122**	⇓*e*Pg		**Pg**	**02 21 16.1**	**-0.2**
HATOM				⇑*e*Sg		**Sn**	**02 21 32.7**	**+0.1**
HATOM				IAML			02 21 37.6	
	comp=N,90nm,0.4s							
SMDR	**Samana, DR**	**1.15**	**95**	⇑*e*Pg		**Pg**	**02 21 16.7**	**+0.2**
SMDR				⇓*e*Sg		**Sn**	**02 21 32.3**	**-0.6**
SMDR				IAML			02 21 36.3	
	comp=N,221nm,0.6s							
MIDR	**Miches**	**1.34**	**108**	⇑*e*Pg		**Pg**	**02 21 19.9**	**-0.2**
MIDR				IAML			02 21 45.0	
	comp=N,79nm,0.5s							
LODU1	**El Espartillar**	**1.45**	**224**	*i* P		**Pg**	**02 21 22.9**	**+0.7**
PODR	**Polo**	**1.48**	**214**	⇓*e*Pg		**Pg**	**02 21 23.3**	**+0.5**
PODR				IAML			02 21 53.4	
	comp=N,59nm,0.6s							
JIDR	**Jimani**	**1.64**	**237**	⇑*e*Pg		**Pg**	**02 21 25.9**	**+0.1**
JIDR				⇓*e*Sg		**Sg**	**02 21 46.7**	**-0.4**
JIDR				IAML			02 21 49.4	
	comp=N,191nm,0.8s							
HIDR	**Higuey Centro**	**1.79**	**116**	⇓*e*Pg		**Pb**	**02 21 27.2**	**-0.1**
HIDR				⇓*e*Sg		**Sg**	**02 21 51.8**	**0.0**
HIDR				IAML			02 21 55.2	
	comp=N,311nm,0.3s							
LOVI	**El Cajuil, Ovi**	**1.83**	**210**	*i* P		**Pg**	**02 21 29.2**	**-0.4**
LOBH	**Bahia de las A**	**1.93**	**218**	*i* P		**Pg**	**02 21 30.7**	**-0.5**
GRTK	**Grand Turk**	**2.21**	**342**	*i* P		**Pn**	**02 21 31.5**	**+0.1**
GRTK				*e*S		**Sn**	**02 21 57.9**	**-1.1**
GRTK				IAML			02 21 57.9	
	comp=Z,60nm,1.6s							

IDC 18 02:42:36.1 ± 1.8, 0°.33S × 128°.01E, h0km, mb3.6/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=118.4km s-min=21.6km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**17.81**	**187**	P		Pn	02 46 45.6	+0.1
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=1.8 1.4nm,0.6s							
WRA	**Warramunga Arr**	**20.45**	**163**	P		P	02 47 15.7	+0.3
	1.5nm,0.8s,baz=342,slow=11,SNR=8.1 1.5nm,0.8s							
ASAR	**Alice Springs**	**23.89**	**167**	P		P	02 47 51.6	-0.1
	2.1nm,0.4s,baz=346,slow=11,SNR=40 2.1nm,0.4s							
MKAR	**Makanchi Array**	**61.61**	**326**	P		P	02 52 56.9	+1.3
	0.4nm,0.7s,baz=126,slow=7.2,SNR=2.8 0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**65.83**	**328**	P		P	02 53 22.3	-1.0
	0.1nm,0.3s,baz=125,slow=4.3,SNR=5.9 0.1nm,0.3s							

*CATAC **18** 02:57:24.1 ± 0.7, 13°.N ± 5°.×9°.1W ± °, h9km ± 4km, M3.1/13, MLv3.1/13, Error ellipse: s-maj=13.2km s-min=7.1km az=144.1, confirmed*
*SNET **18** 02:57:26.0 ± 2.4, 13°.47N × 90°.57W, h29km, ML3.1*
*GCG **18** 02:57:26.0 ± 0.6, 13°.40N × 90°.55W, h50km ± 16km, MD4.0, ML3.5, MW3.0*
ISC 18 02:57:30.5 ± 2.8, 13°.4N ± 0°.1 × 90°.4W ± 0°.1, h38km, n37, σ2s04/39, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
FAME	**Alcaldia de Sa**	**0.57**	**38**	P		**Pn**	**02 57 39.6**	**-2.5**
NUBE	**Las Nubes**	**0.77**	**49**	*e*P		**Pn**	**02 57 42.6**	**-2.4**
NUBE	**Las Nubes**	**0.77**	**49**	*i* P		**Pn**	**02 57 42.5**	**-2.4**
NUBE	**Las Nubes**	**0.77**	**49**	P		**Pn**	**02 57 43.0**	**-1.9**
NUBE	**Las Nubes**	**0.77**	**49**	S		**Sn**	**02 57 55.8**	**+0.5**
LOAL	**Lomas de Alarc**	**0.83**	**44**	P		**Pn**	**02 57 43.4**	**-2.3**
LOAL	**Lomas de Alarc**	**0.83**	**44**	S		**Sn**	**02 57 58.0**	**+1.1**
CEVE	**Cerro Verde**	**0.85**	**60**	*e*P		**Pn**	**02 57 44.1**	**-2.1**
CEVE				*e*S		**Sn**	**02 57 56.4**	**-1.1**
CEVE	**Cerro Verde**	**0.85**	**60**	P		**Pn**	**02 57 44.0**	**-2.2**
CEVE	**Cerro Verde**	**0.85**	**60**	S		**Sn**	**02 57 59.2**	**+1.7**
SLOZ	**Alcaldia de Sa**	**0.85**	**43**	P		**Pn**	**02 57 44.2**	**-1.7**
SLOZ	**Alcaldia de Sa**	**0.85**	**43**	S		**Sn**	**02 57 59.6**	**+2.3**
SBLS	**San Blas**	**0.85**	**59**	*e*P		**Pn**	**02 57 44.0**	**-2.2**
RTR	**El Retiro**	**0.87**	**55**	*e*P		**Pn**	**02 57 44.8**	**-1.5**
FG16	**Alotenango, Sa**	**0.88**	**352**	*i* P		**Pn**	**02 57 45.6**	**-1.0**
FG16				*i* S		**Sn**	**02 58 01.2**	**+2.9**
FG16				IAML			02 58 07.1	
	comp=N,1μm,0.2s							
JAYA	**Jayaque - finc**	**0.94**	**74**	*e*P		**Pn**	**02 57 45.2**	**-2.1**
JAYA	**Jayaque - finc**	**0.94**	**74**	*i* P		**Pn**	**02 57 45.0**	**-2.3**
JAYA				*i* S		**Sn**	**02 57 59.9**	**+0.3**
JAYA	**Jayaque - finc**	**0.94**	**74**	P		**Pn**	**02 57 45.1**	**-2.1**
UNIC	**Universidad Ca**	**0.99**	**54**	P		**Pn**	**02 57 45.9**	**-2.1**
UNIC	**Universidad Ca**	**0.99**	**54**	S		**Sn**	**02 58 01.0**	**+0.2**
PMON	**Piamonte**	**1.08**	**73**	P		**Pn**	**02 57 47.9**	**-1.2**
PMON	**Piamonte**	**1.08**	**73**	S		**Sn**	**02 58 05.7**	**+2.7**
UEES	**Universidad Ev**	**1.15**	**74**	P		**Pn**	**02 57 48.7**	**-1.5**
LOMA	**Loma Larga**	**1.20**	**78**	*e*P		**Pn**	**02 57 50.1**	**-0.7**
LOMA	**Loma Larga**	**1.20**	**78**	P		**Pn**	**02 57 48.5**	**-2.3**
LOMA	**Loma Larga**	**1.20**	**78**	S		**Sn**	**02 58 09.6**	**+3.6**
LFRS	**El Faro**	**1.30**	**80**	*e*P		**Pn**	**02 57 51.4**	**-0.8**
MTO3	**Montecristo**	**1.40**	**45**	P		**Pn**	**02 57 52.2**	**-1.5**
PAVA	**Las Pavas**	**1.44**	**77**	P		**Pn**	**02 57 52.7**	**-1.4**
ESQI	**Esquipulas**	**1.53**	**41**	P		**Pn**	**02 57 54.7**	**-0.7**
TECO	**Alcaldia de Te**	**1.56**	**85**	P		**Pn**	**02 57 53.9**	**-1.8**
TECO	**Alcaldia de Te**	**1.56**	**85**	S		**Sn**	**02 58 17.0**	**+2.3**
LLGN	**La Laguna**	**1.59**	**61**	P		**Pn**	**02 57 54.7**	**-1.4**
LLGN	**La Laguna**	**1.59**	**61**	S		**Sn**	**02 58 18.5**	**+3.1**
SCLA	**Alcaldia de Sa**	**1.63**	**79**	P		**Pn**	**02 57 55.7**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.63**	**79**	S		**Sn**	**02 58 19.4**	**+2.9**
RANC	**El Ranchito**	**2.03**	**89**	P		Pn	02 57 54.4	-7.9

*UCR **18** 02:57:42.2 ± 1.0, 4°.97N × 82°.80W, h15km ± 50km, MW3.6*
*CATAC **18** 02:57:44.9 ± 0.6, 5°.N ± 4°.×8°.3W ± °, h89km ± 23km, M4.0/12, mb4.1/2, mB4.7/4, MLv4.0/12, Mw(mB)3.9/4, Error ellipse: s-maj=11.2km s-min=4.7km az=51.0, confirmed*
*RSNC **18** 02:57:47.4 ± 0.5, 5°.N ± 2°.×8°.2W ± °, h0km, M3.7, mB4.7, mb4.2, ML2.8, Mw(mB)4.0*
*UPA **18** 02:57:55.9 ± 1.0, 6°.56N × 82°.52W, h1km ± 15km, MW4.4*
ISC 18 02:57:44.7 ± 1.1, 5°.27N ± 0°.05 × 82°.67W ± 0°.07, h15km, n77, σ2s44/91, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MAPC	**Malpelo**	**1.65**	**140**	P		**Pn**	**02 58 11.8**	**-1.3**
MAPC				S		Sn	02 58 22.2	-12
CACAO	**El Cacao, Vera**	**2.74**	**41**	*e*P		**Pn**	**02 58 27.7**	**-0.4**
CACAO				*e*S		**Sn**	**02 58 52.3**	**-8.7**
CACAO	**El Cacao, Vera**	**2.74**	**41**	P		**Pn**	**02 58 27.3**	**-0.9**
CACAO				S		**Sn**	**02 58 57.1**	**-3.9**
GMAL	**Guarumal, Vera**	**2.86**	**30**	*e*P		**Pn**	**02 58 27.0**	**-2.9**
GMAL				*e*S		Sn	02 58 50.6	-13
MARI3	**Mariato, Verag**	**2.90**	**35**	*e*P		**Pn**	**02 58 29.3**	**-1.1**
MARI3				*e*S		Sn	02 58 51.9	-13
PTPM	**Petroterminale**	**2.92**	**356**	*e*P		Pn	02 58 25.6	-5.2
ACHO3	**Achotines, Los**	**3.27**	**49**	*e*P		**

SC01				*e*S	**Sg**	**03 02 05.2**	**+0.9**
SC01				IAML		03 02 06.8	
	comp=Z,94nm,0.1s						
NADR	**Nagua**	**0.47**	**100**	⇓*e*Pg	**Pb**	**03 02 02.7**	**-0.2**
NADR				⇓*e*Sg	**Sb**	**03 02 11.2**	**+1.2**
NADR				IAML		03 02 14.0	
	comp=N,422nm,0.3s						
DR08	**Loma La Naviza**	**0.56**	**146**	⇓*e*Pg	**Pg**	**03 02 03.9**	**+0.4**
DR08				⇓*e*Sg	**Sg**	**03 02 10.7**	**-0.1**
DR08				IAML		03 02 14.5	
	comp=N,1µm,0.2s						
ABDR	**Alto Bandera**	**0.67**	**203**	⇓*e*Pg	**Pg**	**03 02 05.4**	**-0.1**
ABDR				⇓*e*Sg	**Sg**	**03 02 14.2**	**-0.3**
ABDR				IAML		03 02 18.8	
	comp=N,75nm,0.7s						
LOPP1	**Punta Rusia, P**	**0.90**	**298**	*i* P	**Pg**	**03 02 08.8**	**-1.0**
LOPP1				*e*S	**Sg**	**03 02 22.8**	**+1.2**
LOPP1				IAML		03 02 25.2	
	comp=Z,35nm,1.2s						
HATOM	**Hato Mayor del**	**1.12**	**125**	⇑*e*Pg	**Pb**	**03 02 13.1**	**-0.9**
HATOM				⇓*e*Sg	**Sg**	**03 02 28.6**	**0.0**
HATOM				IAML		03 02 34.4	
	comp=N,16nm,0.4s						
MIDR	**Miches**	**1.31**	**110**	⇓*e*Pg	**Pn**	**03 02 16.9**	**+0.1**
MIDR				IAML		03 02 39.3	
	comp=N,14nm,0.8s						
LODU1	**El Espartillar**	**1.51**	**225**	*i* P	**Pn**	**03 02 20.0**	**+0.3**
HIDR	**Higuey Centro**	**1.76**	**118**	⇓*e*Pg	**Pb**	**03 02 24.0**	**-0.9**
HIDR				⇑*e*Sg	**Sb**	**03 02 47.3**	**+0.3**
HIDR				IAML		03 02 56.4	
	comp=N,36nm,0.2s						

*NNC **18** 03:12:58.1±0.6,43˚.93N×77˚.00E, h0km, mb3.8, mpv4.1, Error ellipse: s-maj=4.3km s-min=3.4km az=145.0*
*SOME **18** 03:12:59.6, 43˚.87N×76˚.90E, h30km, MS2.3*
*KNET **18** 03:12:59.6±0.4, 43˚.88N×76˚.79E, h28km±2km, ml3.6, Error ellipse: s-maj=3.3km s-min=2.5km az=131.0*
*KRNET **18** 03:13:01.2±0.1, 43˚.87N×76˚.80E, h35km, mb3.9*
ISC 18 03:12:59.1±0.9,**43˚.95N**±0˚.02×**76˚.92E**±0˚.02,**h24**km±5km, **n66**,σ1§**43**/119,**30C-25D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHKK	**Chushkaly**	**0.11**	**152**	P		**Pb**	**03 13 03.4**	**-0.3**
	2µm,0.1s							
CHKK				S		**Sb**	**03 13 06.8**	**0.0**
	70µm,0.2s							
CHKK	**Chushkaly**	**0.11**	**152**	*e*P		**Pb**	**03 13 03.4**	**-0.3**
	2µm,0.1s							
CHKK				*e*S		**Sb**	**03 13 06.8**	**0.0**
	74µm,0.2s							
KTBS	**Karatobe**	**0.29**	**216**	P		**Pb**	**03 13 05.9**	**0.0**
	2µm,0.2s							
KTBS				S		**Sb**	**03 13 11.0**	**+0.3**
	10nm,0.2s							
KUU	**Kurty**	**0.42**	**262**	P		**Pb**	**03 13 08.4**	**+0.4**
	146nm,0.1s							
KUU				S		**Sn**	**03 13 15.1**	**-1.6**
	3µm,0.2s							
KUU	**Kurty**	**0.42**	**262**	*e*P		**Pb**	**03 13 08.4**	**+0.4**
	84nm,0.1s							
KUU				*e*S		**Sn**	**03 13 15.2**	**-1.4**
	4µm,0.1s							
ARXS	**Arharly**	**0.71**	**68**	P		**Pb**	**03 13 11.6**	**-1.1**
	546nm,0.3s							
ARXS				S		**Sb**	**03 13 21.2**	**-1.0**
	3µm,0.3s							
ARXS	**Arharly**	**0.71**	**68**	*e*P		**Pb**	**03 13 11.7**	**-1.1**
ARXS				*e*S		**Sb**	**03 13 21.1**	**-1.0**
KOTS	**Kotyrbulak**	**0.73**	**169**	P		**Pb**	**03 13 12.2**	**-1.1**
	1µm,0.2s							
KOTS				S		**Sb**	**03 13 22.1**	**-0.8**
	5µm,0.3s							
KOTS	**Kotyrbulak**	**0.73**	**169**	*e*P		**Pb**	**03 13 12.4**	**-0.8**
	495nm,0.1s							
KOTS				*e*S		**Sb**	**03 13 22.1**	**-0.8**
	6µm,0.2s							
KNDC	**Almaty**	**0.73**	**177**	⇓P		**Pb**	**03 13 12.4**	**-0.8**
	248nm,0.2s							
KNDC				⇓S		**Sb**	**03 13 21.4**	**-1.5**
	884nm,0.3s							
AAA	**Alma-Ata**	**0.74**	**180**	P		**Pb**	**03 13 12.7**	**-0.6**
	2µm,0.2s							
AAA				S		**Sb**	**03 13 22.9**	**-0.1**
	412nm,0.2s							
AAA	**Alma-Ata**	**0.74**	**180**	*e*P		**Pb**	**03 13 12.7**	**-0.6**
	2µm,0.1s							
AAA				*e*S		**Sb**	**03 13 22.9**	**-0.1**
	368nm,0.1s							
MTBS	**Maitube**	**0.89**	**204**	P		**Pb**	**03 13 15.1**	**-0.9**
	120nm,0.2s							
MTBS				S		**Sb**	**03 13 27.3**	**-0.1**
	1µm,0.2s							
MTBS	**Maitube**	**0.89**	**204**	*e*P		**Pb**	**03 13 15.6**	**-0.4**
	143nm,0.1s							
MTBS				*e*S		**Sb**	**03 13 27.4**	**-0.1**
	2µm,0.2s							
TNSS	**Tian-Shan**	**0.91**	**179**	P		**Pb**	**03 13 15.3**	**-1.2**
	64nm,0.2s							
TNSS				S		**Sb**	**03 13 27.7**	**-0.7**
	181nm,0.4s							
TNSS	**Tian-Shan**	**0.91**	**179**	*e*P		**Pb**	**03 13 15.8**	**-0.7**
	27nm,0.1s							
TNSS				*e*S		**Sb**	**03 13 27.7**	**-0.7**
	273nm,0.1s							
KRBS	**Karabastau**	**0.94**	**255**	P		**Pn**	**03 13 16.7**	**-0.1**
	11nm,0.1s							
KRBS				S		**Sn**	**03 13 30.1**	**+0.7**
	358nm,0.3s							
IZV	**Izvestkoviy**	**0.94**	**194**	P		**Pb**	**03 13 15.9**	**-0.9**
	118nm,0.1s							
IZV				S		**Sb**	**03 13 28.5**	**-0.4**
	798nm,0.2s							
IZV	**Izvestkoviy**	**0.94**	**194**	*e*P		**Pb**	**03 13 16.2**	**-0.6**
	117nm,0.1s							
IZV				*e*S		**Sb**	**03 13 28.6**	**-0.3**
	754nm,0.1s							
DGS	**Degeres**	**1.09**	**230**	P		**Pn**	**03 13 19.0**	**0.0**
	185nm,0.2s							
DGS				S		**Sn**	**03 13 33.8**	**+0.5**
	981nm,0.5s							
KST	**Kastek**	**1.14**	**218**	P		**Pn**	**03 13 19.8**	**+0.1**
	112nm,0.2s							
KST				S		**Sb**	**03 13 35.0**	**+0.3**
	1µm,0.5s							
KST	**Kastek**	**1.14**	**218**	*e*P		**Pb**	**03 13 19.9**	**-0.3**
	264nm,0.2s							
KST				*e*S		**Sb**	**03 13 34.9**	**+0.3**
	825nm,0.3s							
KPKS	**Kokpek**	**1.37**	**110**	P		**Pn**	**03 13 22.0**	**-0.7**
	0.6nm,0.6s							
KPKS				S		**Sn**	**03 13 39.4**	**-0.8**
	194nm,0.3s							
SATY	**Saty**	**1.40**	**129**	P		**Pn**	**03 13 22.8**	**-0.4**
	84nm,0.1s							
SATY				S		**Sn**	**03 13 41.0**	**-0.1**
	3µm,0.1s							
TKM2	**Tokmak 2**	**1.41**	**224**	⇓P		**Pn**	**03 13 23.9**	**+0.5**
	127nm,0.1s,SNR=102							
TKM2				⇓S		**Sb**	**03 13 42.3**	**-0.2**
	2µm,0.1s							
TKM2	**Tokmak 2**	**1.41**	**224**	⇑*i*P		**Pn**	**03 13 23.9**	**+0.5**
TKM2				⇑*i*S		**Sn**	**03 13 40.4**	**-0.9**
TDK	**Taldyqorghan**	**1.50**	**45**	P		**Pb**	**03 13 25.5**	**-0.7**
	269nm,0.4s							
TDK				S		**Sb**	**03 13 45.3**	**+0.5**
	2µm,0.3s							
TDK	**Taldyqorghan**	**1.50**	**45**	*e*P		**Pb**	**03 13 26.0**	**-0.1**
	187nm,0.1s							
TDK				*e*S		**Sb**	**03 13 45.3**	**+0.5**
	2µm,0.1s							
KNOS	**Konyrlen**	**1.68**	**75**	P		**Pn**	**03 13 27.8**	**+0.8**
KNOS				S		**Sb**	**03 13 49.8**	**-0.3**
UZB	**Uzynbulak**	**1.73**	**117**	P		**Pn**	**03 13 28.0**	**+0.3**
	112nm,0.2s							
UZB				S		**Sn**	**03 13 49.6**	**+0.5**
	847nm,0.3s							
UZB	**Uzynbulak**	**1.73**	**117**	*e*P		**Pn**	**03 13 28.7**	**+1.0**
	55nm,0.2s							
UZB				*e*S		**Sn**	**03 13 49.9**	**+0.8**
	932nm,0.2s							
SGDS	**Sogindy**	**1.73**	**254**	P		**Pb**	**03 13 30.4**	**+0.2**
	28nm,0.2s							
SGDS				S		**Sb**	**03 13 53.4**	**+1.8**
	344nm,0.3s							
ULHL	**Ulahol**	**1.77**	**196**	⇑P		**Pb**	**03 13 30.2**	**-0.9**
	116nm,0.3s,SNR=24							
ULHL				⇓S		**Sb**	**03 13 53.5**	**+0.6**
	144nm,0.1s							
ULHL	**Ulahol**	**1.77**	**196**	⇓*i*P		**Pn**	**03 13 29.2**	**+0.8**
ULHL				⇓*i*S		**Sn**	**03 13 49.6**	**-0.7**
PRZ	**Przheval'sk**	**1.82**	**143**	⇑*i*P		**Pb**	**03 13 30.8**	**-1.0**
PRZ				⇑*i*S		**Sn**	**03 13 52.5**	**+1.0**
KDJ	**Kajisay**	**1.83**	**174**	⇑*i*P		**Pn**	**03 13 30.4**	**+1.2**
KDJ				⇑*i*S		**Sn**	**03 13 51.8**	**+0.2**
CHMS	**Chumysh**	**1.84**	**240**	⇑P		**Pn**	**03 13 30.4**	**+1.2**
	55nm,0.2s,SNR=21							
CHMS				⇑S		**Sb**	**03 13 54.7**	**0.0**
	739nm,0.2s							
CHMS	**Chumysh**	**1.84**	**240**	⇑*i*P		**Pn**	**03 13 30.0**	**+0.8**
CHMS				⇑*i*S		**Sn**	**03 13 50.9**	**-0.8**
USP	**Ospenovka**	**1.88**	**250**	⇑P		**Pn**	**03 13 31.0**	**+1.2**
	41nm,0.2s,SNR=89							
USP				⇓S		**Sb**	**03 13 55.5**	**-0.4**
	346nm,0.2s							
USP	**Ospenovka**	**1.88**	**250**	⇑*i*P		**Pn**	**03 13 30.7**	**+0.9**
USP				⇑*i*S		**Sn**	**03 13 52.0**	**-0.8**
KBK	**Karagaybulak**	**1.93**	**229**	⇑P		**Pb**	**03 13 32.3**	**-1.5**
	76nm,0.1s,SNR=44							
KBK				⇓S		**Sb**	**03 13 58.3**	**+0.8**
	896nm,0.2s							
KBK	**Karagaybulak**	**1.93**	**229**	⇓*i*P		**Pn**	**03 13 31.3**	**+0.7**
KBK				⇓*i*S		**Sn**	**03 13 53.3**	**-0.9**
PDGK	**Podgornoye**	**1.97**	**108**	⇓P		**Pn**	**03 13 30.4**	**-0.6**
	8.6nm,0.2s							
PDGK				⇓S		**Sn**	**03 13 55.2**	**+0.2**
	90nm,0.4s							
SHLS	**Shalkode**	**2.01**	**112**	Pg		**Pb**	**03 13 37.5**	**+2.5**
	22nm,0.3s							
SHLS				Lg		Lg	03 14 05.7	
	248nm,0.3s							
SHLS	**Shalkode**	**2.01**	**112**	*e*P		**Pb**	**03 13 38.6**	**+3.6**
	5.6nm,0.1s							
SHLS				*e*S		**Sb**	**03 14 06.8**	**+7.1**
	249nm,0.2s							
FRU1	**Bishkek**	**2.02**	**236**	⇑P		**Pn**	**03 13 32.4**	**+0.7**
FRU1				⇑*i*S		**Sn**	**03 13 55.1**	**-1.1**
AAK	**Ala-Archa**	**2.20**	**234**	⇑P		**Pn**	**03 13 35.8**	**+1.5**
	42nm,0.3s,SNR=14							
AAK				⇓S		**Sb**	**03 14 04.1**	**-1.1**
	676nm,0.4s							
AAK	**Ala-Archa**	**2.20**	**234**	⇑P		**Pn**	**03 13 35.8**	**+1.5**
	4.0nm,0.4s							
AAK				⇓S		**Sb**	**03 14 03.9**	**-1.3**
	13nm,0.4s							
AAK	**Ala-Archa**	**2.20**	**234**	⇑*i*P		**Pn**	**03 13 35.1**	**+0.8**
AAK				⇑*i*S		**Sn**	**03 13 59.5**	**-1.3**
TARG	**Taragay, Kyrgy**	**2.31**	**163**	⇓*i*P		**Pn**	**03 13 37.4**	**+1.4**
TARG				⇓*i*S		**Sn**	**03 14 03.9**	**0.0**
BTLS	**Baital**	**2.33**	**299**	Pg		**Pb**	**03 13 40.8**	**+0.5**
	20nm,0.2s							
BTLS				Lg		Lg	03 14 11.4	
	83nm,0.4s							
BTLS	**Baital**	**2.33**	**299**	*e*P		**Pb**	**03 13 40.6**	**+0.4**
	8.8nm,0.1s							
BTLS				*e*S		**Sb**	**03 14 10.5**	**+1.9**
	88nm,0.2s							
UCH	**Uchtor**	**2.46**	**226**	⇓P		**Pn**	**03 13 39.9**	**+1.8**
	22nm,0.2s,SNR=24							
UCH				⇑S		**Sb**	**03 14 11.0**	**-2.0**
	94nm,0.2s							
UCH	**Uchtor**	**2.46**	**226**	⇑*i*P		**Pn**	**03 13 38.8**	**+0.7**
UCH				⇑*i*S		**Sn**	**03 14 06.2**	**-1.5**
EKS2	**Erkin-Say**	**2.63**	**242**	⇑P		**Pn**	**03 13 41.8**	**+1.7**
	39nm,0.2s,SNR=15							
EKS2				⇓S		**Sb**	**03 14 14.6**	**-2.9**
	41nm,0.2s							
EKS2	**Erkin-Say**	**2.63**	**242**	⇓*i*P		**Pn**	**03 13 41.0**	**+0.9**
EKS2				⇓*i*S		**Sn**	**03 14 10.0**	**-1.3**
MRKS	**Merke**	**2.95**	**247**	Pg		**Pb**	**03 13 52.0**	**+1.0**
	14nm,0.5s							
MRKS				Lg		Lg	03 14 30.2	
	91nm,0.5s							
MRKS	**Merke**	**2.95**	**247**	*e*P		**Pb**	**03 13 52.2**	**+1.3**
	7.1nm,0.2s							
MRKS				*e*S		**Sb**	**03 14 30.3**	**+3.7**
	140nm,0.2s							
SALK	**Salom-Alik**	**3.83**	**218**	⇓*e*P		**Pn**	**03 13 57.6**	**+1.0**
SALK				⇓*i*S		**Sn**	**03 14 38.5**	**-2.4**
MK31	**Makanchi Array**	**4.73**	**51**	Pn		**Pn**	**03 14 09.3**	**+0.4**
	2.3nm,0.3s,baz=228,slow=14,SNR=125							
MK31				⇓Sn		**Sb**	**03 15 11.1**	**-6.8**
	7.2nm,0.4s,baz=244,slow=24							
MK31				⇓Lg		Lg	03 15 28.2	
	4.7nm,0.3s,baz=246,slow=28,SNR=5.3							
KK31	**Karatay Array**	**4.74**	**262**	⇑Pg		Pb	03 14 27.1	+5.8
	3.0nm,0.5s,baz=137,slow=17,SNR=5.5							
KK31				⇑Lg		Lg	03 15 27.0	
	11nm,0.3s,baz=75,slow=29,SNR=1.1							
TRKS	**Terek-Say**	**4.89**	**242**	⇑*e*P		**Pn**	**03 14 12.4**	**+1.1**
TRKS				⇑*i*S		**Sn**	**03 15 04.6**	**-2.6**
BRLS	**Boroldaу**	**5.23**	**262**	Pg		Pb	03 14 37.1	+7.3
	0.8nm,0.4s							
BRLS				Lg		Lg	03 15 47.5	
	19nm,0.5s							
BRLS	**Boroldaу**	**5.23**	**262**	*e*P		Pb	03 14 40.7	+11
	1.8nm,0.1s							
BRLS				*e*S		Sb	03 15 53.5	+21
	27nm,0.3s							
IUG	**Iuzhnay**	**5.36**	**253**	Pg		Pb	03 14 39.6	+7.6
	17nm,0.7s							
IUG				Lg		Lg	03 15 51.7	
	96nm,0.9s							
BVA0	**Borovoye Array**	**10.06**	**337**	⇑Lg		Lg	03 18 14.9	
	17nm,0.8s,baz=148,slow=26,SNR=8.0							

*NEIC **18** 03:19:37.3±0.8,35˚.14N±0˚.02×95˚.37W±0˚.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.9km az=133.0*
NEIC 18 03:19:37.3±0.8,**35˚.13N**±0˚.02×**95˚.36W**±0˚.02,**h5**km±1km, **mb_Lg2.5**/49,**ML2.8**/12,**ML2.6**/7,**Error ellipse: s-maj=3.2km s-min=2.9km az=136.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TUL3	**Leonard**	**0.85**	**336**			Pg	03 19 53.6	-0.1
TUL3						Sg	03 20 04.9	+0.1
RLO	**Rose Lookout**	**1.07**	**15**			Pg	03 19 57.5	-0.4
RLO						Sg	03 20 11.9	+0.2
RLO				IAML			03 20 14.2	
	comp=E,246nm,0.2s							
RLO				IAML			03 20 18.3	
	comp=N,213nm,0.2s							
DEOK	**Depew**	**1.17**	**308**			Pg	03 19 59.3	-0.4
DEOK						Sg	03 20 14.6	-0.2
DEOK				IAML			03 20 19.5	
	comp=E,175nm,0.3s							
DEOK				IAML			03 20 19.7	
	comp=N,256nm,0.4s							
OK052	**Battle Ridge R**	**1.46**	**307**			Pn	03 20 04.1	-0.2
OK052						Sn	03 20 23.9	+0.2
QUOK	**Quay**	**1.51**	**314**			Pn	03 20 04.8	-0.3
QUOK						Sb	03 20 25.5	+0.2
U38A	**Gravette**	**1.53**	**31**			Pn	03 20 05.4	+0.1
U38A						Sb	03 20 25.8	-0.1
MIAR	**Mount Ida**	**1.58**	**111**			Pb	03 20 06.6	-0.4
HHAR	**Hobbs**	**1.63**	**45**			Pn	03 20 07.1	+0.4
OKCSW	**OKLAHOMA CITY**	**1.72**	**280**			Pb	03 20 08.7	-0.7
OKCSW						Sb	03 20 31.8	+0.5
OKCFA	**Oklahoma City**	**1.73**	**280**			Pb	03 20 08.9	-0.7
OKCFA						Sg	03 20 32.5	-0.5
OK029	**Liberty Lake**	**1.83**	**292**			Pn	03 20 10.1	+0.7
LOOK	**Love County**	**1.88**	**233**			Pn	03 20 10.9	+0.7
Z38A	**Mt. Pleasant**	**1.89**	**170**			Pb	03 20 11.7	-0.6
Z38A						Sg	03 20 37.5	-0.6
Z38A				IAmb_Lg			03 20 40.6	
	comp=Z,26nm,0.9s							
T35A	**Sooner Cattle**	**2.01**	**333**			Pn	03 20 13.0	+1.0
T35A						Sb	03 20 39.7	0.0
X40A	**Basin Creek Fa**	**2.18**	**106**			Pn	03 20 15.4	+1.2
X40A				IAmb_Lg			03 20 50.1	
	comp=Z,13nm,0.8s							
WLAR	**White Oak Lake**	**2.35**	**127**	IAmb_Lg			03 20 49.9	
	comp=Z,25nm,0.9s							
Z35A	**Perchaven, San**	**2.38**	**222**			Pn	03 20 18.1	+1.1
TREL	**Terrell**	**2.47**	**194**	IAmb_Lg			03 20 56.8	
	comp=Z,33nm,0.7s							
UALR	**University of**	**2.50**	**97**	IAmb_Lg			03 21 02.0	
	comp=Z,17nm,1.1s							
WHAR	**Wooly Hollow**	**2.52**	**85**			Pn	03 20 19.9	+1.0
CROK	**Carrier**	**2.53**	**304**			Pb	03 20 21.9	-1.4
FCAR	**Ozark Folk Cen**	**2.75**	**73**			Pn	03 20 22.8	+0.7
WMOK	**Wichita Mounta**	**2.84**	**263**			Pn	03 20 24.0	+0.7
237A	**Washetta, Mont**	**3.14**	**187**	IAmb_Lg			03 21 20.5	
	comp=Z,20nm,1.0s							
MGMO	**Mountain Grove**	**3.22**	**50**	IAmb_Lg			03 21 26.0	
	comp=Z,9.0nm,0.8s							
LCAR	**Lake Charles**	**3.56**	**74**	IAmb_Lg			03 21 31.6	
	comp=Z,8.0nm,0.8s							
SMWD	**Samnorwood**	**4.00**	**271**	IAmb_Lg			03 21 55.6	
	comp=Z,6.2nm,0.8s							
ABTX	**Abilene, Hawle**	**4.35**	**236**	IAmb_Lg			03 22 08.0	
	comp=Z,7.8nm,1.1s							
CCM	**Cathedral Cave**	**4.42**	**47**	IAmb_Lg			03 22 05.3	
	comp=Z,10nm,0.8s							
P38A	**Dawn**	**4.72**	**17**	IAmb_Lg			03 22 14.9	
	comp=Z,6.8nm,0.8s							
DKNS	**Dickens**	**4.82**	**254**	IAmb_Lg			03 22 19.7	
	comp=Z,5.4nm,0.8s							
FVM	**French Village**	**4.89**	**53**	IAmb_Lg			03 22 17.6	
	comp=Z,11nm,1.0s							
CGM3	**Cape Girardeau**	**5.09**	**63**	IAmb_Lg			03 22 19.7	
	comp=Z,5.7nm,0.7s							
P40A	**Paris**	**5.12**	**30**	IAmb_Lg			03 22 20.2	
	comp=Z,10nm,0.8s							
POST	**Post**	**5.49**	**250**	IAmb_Lg			03 22 44.8	
	comp=Z,5.9nm,0.9s							
S44A	**Carbondale**	**5.55**	**61**	IAmb_Lg			03 22 32.0	
	comp=Z,9.9nm,0.8s							
SIUC	**Southern Illin**	**5.58**	**61**	IAmb_Lg			03 22 35.6	
	comp=Z,11nm,0.8s							
N35A	**Tabor**	**5.73**	**358**	IAmb_Lg			03 22 53.8	
	comp=Z,13nm,0.8s							
SGCY	**Sterling City**	**5.78**	**238**	IAmb_Lg			03 22 51.0	
	comp=Z,11nm,1.0s							
P48A	**Milroy**	**9.02**	**58**	IAmb_Lg			03 24 23.3	
	comp=Z,5.2nm,0.7s							

*MOS **18** 03:24:18.1±1.0, 18˚.54N×94˚.58E, h17km, mb5.3/86, MS4.6/20, Error ellipse: s-maj=6.6km s-min=3.4km az=122.7*
*BJI **18** 03:24:21.1, 18˚.46N×94˚.49E, h50km, mB5.2/67, mb5.0/81, Ms5.0/94, Ms7 4.8/91*
*BKK **18** 03:24:21.6±0.8, 18˚.N±4˚×.9˚5E±˚, h14km±7km, M5.7/21, mB6.5/10, mb5.3/4, Mjma5.2/21, ML5.9/17, MLv5.3/9, Mw(mB)6.3/10, MwMwp4.1/3, Mwp4.6/3*
*NEIC **18** 03:24:21.9±1.8, 18˚.47N±0˚.07×94˚.54E±0˚.07, h26km±3km, mb5.4/228, Mww5.2/16, Error ellipse: s-maj=10.3km s-min=8.4km az=215.0*
*IDC **18** 03:24:22.2±2.2, 18˚.50N×94˚.59E, h34km±16km, mb4.5/35, mbtmp4.7/38, ML4.9/4, MS4.5/75, Error ellipse: s-maj=12.0km s-min=9.6km az=27.0*
*GCMT **18** 03:24:22.9±0.1, 18˚.40N±0˚.01×94˚.64E±0˚.01, h24km, MW5.4/127, Moment Tensor Solution. s103,c166; s127,c225; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.42±.02; $M_{\theta\theta}$0.62±.01; $M_{\phi\phi}$-0.19±.01; $M_{r\theta}$0.57±.02; $M_{r\phi}$-0.41±.01; $M_{\theta\phi}$-1.03±.02; Best double couple: $M_0$1.36100×10^{17} NP1:ϕ_s78.00000°, δ25.00000°, λ-156.00000°. NP2:ϕ_s327.00000°, δ80.00000°, λ-67.00000°. Principal axes: T 1.3630, Plg31.0000°, Azm37.0000°; N -0.0030, Plg23.0000°, Azm142.0000°; P -1.3590, Plg50.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **18** 03:24:23.5, 18˚.51N×94˚.53E, h24km*
*DJA **18** 03:24:23.6±1.1, 19˚N±3˚×.9˚4E±˚, h30km±10km, M5.3/17, mb5.2/17, mB5.6/14, MLv6.2/4, Mw(mB)5.0/14, MwMwp5.0/4, Mwp5.3/4*
*NEIC **18** 03:24:23.5, 18˚.51N×94˚.32E, h24km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.97; $M_{\theta\theta}$5.20; $M_{\phi\phi}$-0.24; $M_{r\theta}$3.47; $M_{\theta\phi}$-2.29; $M_{r\phi}$-6.16; Fault plane solution: $M_0$9.01000×10^{16} NP1: ϕ_s319.42000°, δ72.81000°, λ-68.38000°. NP2:ϕ_s86.14000°, δ27.36000°, λ-139.98000°. Principal axes: T 8.5786, Plg25.0000°, Azm33.0000°; N 0.8011, Plg21.0000°, Azm133.0000°; P -9.3797, Plg57.0000°, Azm258.0000°;*
*NDI **18** 03:24:24.4±3.3, 18˚.35N×94˚.35E, h25km, ML5.4, MW5.2, mb5.4(NEIC)*
*BGR **18** 03:24:25.0, 19˚.21N×94˚.77E, h33km, mb5.2, Ms4.5*
ISC 18 03:24:22.1±0.3,**18˚.50N**±0˚.03×**94˚.50E**±0˚.03,**h32**km±1km, **h32**km:**pP-P, n1064**,σ1§**44**/1086,**mb5.2**/271,**MS4.6**/109, **50C-47D, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CM13	**Chiang Mai Arr**	**4.19**	**90**	P		**Pn**	**03 25 23.9**	**+0.1**
CM15	**Chiang Mai Arr**	**4.20**	**90**	P		**Pn**	**03 25 24.3**	**+0.3**
CM31	**Chiang Mai Arr**	**4.22**	**90**			**Pn**	**03 25 24.8**	**+0.5**
CM31	**Chiang Mai Arr**	**4.22**	**90**	P		**Pn**	**03 25 25.0**	**+0.8**
CM31				S		**Sn**	**03 26 12.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**4.22**	**90**			**Pn**	**03 25 24.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**4.22**	**90**	Pn		**Pn**	**03 25 24.5**	**+0.3**
	26nm,0.3s,baz=269,slow=15,SNR=208							
CMAR				Sn		**Sn**	**03 26 10.7**	**-1.8**
	73nm,0.3s,baz=264,slow=18,SNR=3.5							
CMAR				Lg		Lg	03 26 34.1	
	31nm,0.3s,baz=252,slow=30,SNR=7.8							
CMAR				LR		LR	03 27 40.2	
	comp=Z,12µm,19.0s,baz=265,slow=48							
	125nm,0.8s							
CMAR	**Chiang Mai Arr**	**4.22**	**90**	*i* P		**Pn**	**03 25 24.6**	**+0.3**
CMAR				pmax		pmax		
	comp=Z,66nm,0.4s

comp=N,4µm,0.2s
SHL Shillong 7.44 341 P **Pn** **03 26 08.9 +0.3**
TNCH TengChong 7.50 29⇑*i*P **Pn** **03 26 12.6 +3.2**
TNCH S **Sn** **03 27 36.9 +3.5**
TNCH LR LR
comp=N,18µm,14.9s
GUWA GUWAHATI 8.08 342 *e*P **Pn** **03 26 19.2 +2.0**
GUWA *e*S **Sn** **03 27 46.0 -1.6**
GUWA IAML 03 27 46.8
comp=E,8µm,0.3s
GUWA IAML 03 27 46.8
comp=N,7µm,0.3s
JORH JORHAT 8.21 358 *e*P **Pn** **03 26 21.4 +2.4**
JORH *e*S **Sn** **03 27 52.2 +1.6**
JORH IAML 03 27 53.9
comp=N,9µm,0.3s
JORH IAML 03 27 54.8
comp=E,10µm,0.2s
TEZP TEZPUR 8.23 349 *e*P **Pn** **03 26 20.8 +1.5**
TEZP *e*S **Sn** **03 27 49.9 -1.2**
TEZP IAML 03 27 52.2
comp=E,4µm,0.2s
BWNR Bhubaneshwar 8.39 284 *e*P **Pn** **03 26 21.9 +0.3**
BWNR *e*S Sn 03 27 47.6 -7.6
BWNR IAML 03 27 50.3
comp=N,7µm,0.2s
BWNR IAML 03 27 50.4
comp=E,4µm,0.2s
ITAN ITANAGAR 8.63 355 *e*P Pn 03 26 29.8 +5.0
ITAN *e*S **Sn** **03 28 01.2 +0.1**
ITAN IAML 03 28 02.6
comp=E,10µm,0.5s
SLVN Son La 9.29 71 **Pn** **03 26 35.6 +1.7**
BOK Bokaro 9.60 305 *e*P **Pn** **03 26 39.5 +1.3**
BOK *e*S **Sn** **03 28 18.0 -7.0**
BOK IAML 03 28 20.0
comp=E,1µm,0.7s
BOK IAML 03 28 20.0
comp=N,1µm,0.3s
KMI Kunming 10.10 48 ⇑P Pn 03 26 50.5 +5.3
KMI S **Sn** **03 28 42.6 +5.1**
KMI pmax pmax
comp=N,88nm,1.8s
KMI pmax pmax
comp=N,1µm,6.0s
KMI LR LR
comp=N,8µm,6.1s
KMI LR LR
comp=N,7µm,6.9s
KMI LR LR
comp=N,9µm,17.0s
GTK Tadong 10.32 329 *e*P **Pn** **03 26 48.9 +0.8**
GTK *e*S **Sn** **03 28 39.6 -3.1**
GTK IAML 03 28 42.0
comp=E,6µm,0.3s
GTK IAML 03 28 42.1
comp=N,6µm,0.8s
PZH PanZhiHua 10.40 39 P Pn 03 26 56.0 +6.8
PZH S **Sn** **03 28 51.1 +6.3**
PZH pmax pmax
comp=N,200nm,1.5s
PZH pmax pmax
comp=N,1µm,4.1s
PZH LR LR
comp=N,5µm,10.6s
PZH LR LR
comp=N,6µm,12.6s
PZH LR LR
comp=N,8µm,10.5s
VIS Vishakhapatnam 10.65 268 *e*P **Pn** **03 26 51.1 -1.3**
VIS *e*S Sn 03 28 41.6 -9.0
VIS IAML 03 28 45.9
comp=N,3µm,0.6s
VIS IAML 03 28 46.3
comp=E,1µm,0.3s
GAYA Gaya 10.65 308 *e*P **Pn** **03 26 51.9 -0.6**
GAYA *e*S **Sn** **03 28 44.6 -6.1**
GAYA IAML 03 28 45.4
comp=N,2µm,0.2s
GAYA IAML 03 28 45.5
comp=E,2µm,0.2s
UBPT Khong Chiam 10.98 105 **Pn** **03 26 58.4 +1.4**
CMBY CAMPBELL BAY 11.44 183 *e*P **Pn** **03 27 01.5 -1.8**
CMBY *e*S Sn 03 28 56.6 -13
CMBY IAML 03 28 57.3
comp=E,303nm,0.3s
CMBY IAML 03 28 57.3
comp=N,515nm,0.2s
LSA Lhasa 11.56 345 P **Pn** **03 27 04.0 -1.3**
LSA LR LR
comp=N,2µm,19.4s
LSA LR LR
comp=N,3µm,20.8s
LHMI Lhok Sumawe 13.41 169 P **P** **03 27 39.6 +0.3**
GYA Guiyang 13.75 53 ⇓P **Pn** **03 27 36.8 +1.8**
GYA pP P 03 27 46.8 +3.6
GYA S **Sn** **03 30 09.9 +3.2**
GYA pmax pmax
comp=N,26nm,0.8s
GYA pmax pmax
comp=N,1µm,5.5s
GYA LR LR
comp=N,4µm,12.8s
GYA LR LR
comp=N,4µm,10.5s
GYA LR LR
comp=N,6µm,16.2s
MLSI Meulaboh, Aceh 14.27 172 P **P** **03 27 47.8 -1.1**
comp=N,4µmcomp=N,10µmcomp=N,892nm,1.2s
KULM Kulim 14.44 155 **Pn** **03 27 45.9 +1.6**
QIZ Qiongzhong 14.55 85 P **Pn** **03 27 44.5 -1.3**
QIZ S **Sn** **03 30 28.8 +2.7**
QIZ LR LR
comp=N,3µm,10.6s
QIZ LR LR
comp=N,1µm,16.3s
MDRS Chennai 14.73 251 *e*P **Pn** **03 27 46.0 -2.4**
MDRS *e*S Sn 03 30 19.7 -11
NGP Nagpur 14.77 283 *e*P **Pn** **03 27 48.7 -0.1**
NGP *e*S Sn 03 30 19.6 -12
CD2 Chengdu 14.94 32 P **Pn** **03 27 50.4 -0.7**
CD2 S **Sn** **03 30 36.5 +1.0**
CD2 pmax pmax
comp=N,80nm,0.8s
CD2 pmax pmax
comp=N,630nm,4.9s
CD2 LR LR
comp=N,9µm,12.7s
CD2 LR LR
comp=N,7µm,8.6s
CD2 LR LR
comp=N,9µm,13.9s
DLV Lat 14.99 114 **Pn** **03 27 53.1 +1.2**
HYB Hyderabad 15.21 268 *e*P **Pn** **03 27 52.7 -2.0**
HYB IVmB_BB 03 27 55.5
comp=Z,1µm,1.6s
HYB *e*sP **sP** **03 28 11.3 -0.5**
HYB *e*S **Sn** **03 30 44.6 +2.4**
HYB IVMs_BB IVMs_BB 03 34 46.1
comp=Z,1µm,6.7s
KCSI Kotacane, Aceh 15.23 167 P **P** **03 27 58.5 -1.1**
comp=Z,81nm,1.4s
PSI Prapat 16.20 164 Pn **P** **03 28 10.3 -0.1**
comp=Z,0.5nm,0.3s,baz=346,slow=12,SNR=3.9
PSI LR LR 03 35 00.6
comp=Z,3µm,21.3s,baz=338,slow=39
comp=Z,2.7nm,0.4s
GULI GuiLin 16.20 63 P **Pn** **03 28 07.8 +0.4**
GULI sP **pP** **03 28 18.8 -0.1**
GULI S **Sn** **03 31 06.6 +0.4**
GULI pmax pmax
comp=Z,28nm,1.0s
GULI pmax pmax
comp=Z,980nm,7.4s
GULI LR LR
comp=Z,3µm,9.8s
GULI LR LR
comp=Z,3µm,14.6s
GULI LR LR
comp=Z,5µm,13.3s
RPSI Rantau Prapat 16.30 164 P **P** **03 28 10.3 -1.1**
RPSI Rantau Prapat 16.30 164 P **P** **03 28 11.3 -0.1**
RPSI IAmb IAmb 03 28 17.5
comp=Z,64nm,1.8s
JHNI Jhansi 16.33 298 *e*P **Pn** **03 28 09.3 +0.2**
JHNI *e*S Sn 03 30 54.3 -15
BHPL Bhopal 16.63 289 *e*P **Pn** **03 28 13.6 +0.6**
BHPL *e*S Sn 03 31 02.7 -14
LGTI Lohaghat 16.96 313 *e*P **P** **03 28 21.7 +3.0**
LGTI *e*S Sn 03 31 14.6 -10
PTH Pithoragarh 17.04 313 *e*P **P** **03 28 21.2 +1.4**
PTH *e*S Sn 03 31 16.1 -11
SALM Salem 17.14 249 *e*P **Pn** **03 28 20.6 +1.3**
SALM *e*S Sn 03 31 15.6 -13
GSI Gunungsitoli 17.36 170 P **Pn** **03 28 21.6 -0.4**
GSI Gunungsitoli 17.36 170 P **P** **03 28 26.4 +3.3**
comp=Z,56nm,0.7s
PALK Pallekele 17.46 232 **Pn** **03 28 21.9 -1.4**
PALK Pallekele 17.46 232 P **Pn** **03 28 22.6 -0.7**
comp=Z,2.7nm,0.3s,baz=48,slow=10,SNR=12
PALK S Sn 03 31 21.5 -15
comp=Z,6.7nm,0.3s,baz=333,slow=13,SNR=6.6
PALK LR LR 03 34 43.9
comp=Z,3µm,21.7s,baz=50,slow=36
comp=Z,12nm,0.5s
PALK Pallekele 17.46 232 P **P** **03 28 25.0 +0.7**
PALK S **Sn** **03 31 40.6 +3.7**
GOMU GeErMu 17.63 1 P **Pn** **03 28 23.5 -2.2**
GOMU pP sP 03 28 37.5 -1.5
GOMU sP pP 03 28 43.3 +8.4
GOMU pmax pmax
comp=Z,55nm,1.1s
GOMU pmax pmax
comp=Z,240nm,5.6s
GOMU LR LR
comp=Z,1µm,19.3s
GOMU LR LR
comp=Z,1µm,16.3s
GOMU LR LR
comp=Z,2µm,20.4s
ENH Enshi 17.97 46 P **Pn** **03 28 27.8 -1.8**
GZH Guangzhou 18.20 72 P **P** **03 28 35.9 +3.5**
GZH LR LR
comp=Z,7µm,7.6s
GZH LR LR
comp=Z,3µm,5.9s
AYAN Aya Nagar 18.75 305 *e*P **Pn** **03 28 41.8 +2.8**
AYAN *e*S Sn 03 31 51.6 -16
NDI New Delhi 18.78 306 *e*P **Pn** **03 28 41.3 +1.9**
NDI *e*S Sn 03 31 54.9 -14
PBSI Pulau Batu 18.81 168 P Pn 03 28 47.9 +8.1
DDI Dehra Dun 19.02 311 *e*P **Pn** **03 28 44.8 +2.5**
DDI *e*S Sn 03 31 58.8 -16
KUDL Kundal 19.10 303 *e*P **Pn** **03 28 46.9 +3.7**
KUDL *e*S Sn 03 31 59.9 -16
KAD Karad 19.37 270 *e*P **Pn** **03 28 47.7 +1.1**
KAD *e*S S 03 32 04.0 -19
LZH Lanzhou 19.37 23 ⇑P **P** **03 28 45.3 0.0**
LZH pP pP 03 28 54.0 +0.1
LZH sP sP 03 29 00.3 +2.3
LZH S **S** **03 32 17.4 -5.4**
LZH SS **SnSn** **03 32 39.3 +1.8**
LZH pmax pmax
comp=Z,95nm,1.7s
LZH pmax pmax
comp=Z,1µm,4.5s
LZH LR LR
comp=Z,4µm,18.1s
LZH LR LR
comp=Z,2µm,18.7s
LZH LR LR
comp=Z,6µm,16.8s
CNSH ChangSha 19.46 57 P **P** **03 28 46.0 -0.2**
CNSH LR LR
comp=Z,2µm,6.6s
CNSH LR LR
comp=Z,2µm,11.4s
CNSH LR LR
comp=Z,2µm,15.7s
POO Poona 19.58 273 *e*P **Pn** **03 28 53.1 +4.0**
POO *e*S S 03 32 10.0 -17
KLP Kalpa 19.59 315 *e*P **Pn** **03 28 52.9 +3.4**
KLP *e*S S 03 32 13.5 -14
HNLY HANLEY 19.91 319 *e*P **Pn** **03 28 57.7 +4.2**
HNLY *e*S S 03 32 22.3 -12
AJM Ajmer 19.97 297 *e*P Pn 03 28 57.4 +3.7
AJM *e*S S 03 32 21.1 -14
XAN Xi'an 20.13 37 P **P** **03 28 51.9 -1.7**
XAN pP sP 03 29 03.5 -2.7
XAN S **S** **03 32 35.1 -3.0**
XAN pmax pmax
comp=Z,120nm,0.9s
XAN pmax pmax
comp=Z,1µm,8.7s
XAN LR LR
comp=Z,2µm,17.2s
XAN LR LR
comp=Z,4µm,15.1s
XAN LR LR
comp=Z,4µm,18.6s
GTA Gaotai 21.34 11 ⇑P **P** **03 29 06.3 -0.4**
GTA S **S** **03 32 56.5 -5.6**
GTA ScS **ScS** **03 40 26.1 -2.9**
GTA pmax pmax
comp=Z,65nm,1.0s
GTA pmax pmax
comp=Z,830nm,7.6s
GTA LR LR
comp=Z,2µm,16.7s
GTA LR LR
comp=Z,2µm,15.6s
GTA LR LR
comp=Z,3µm,18.5s
WHN Wuhan 21.64 53 P **P** **03 29 11.8 +2.0**
WHN pP **sP** **03 29 20.5 -2.1**
WHN sP **pP** **03 29 24.3 +5.8**
WHN PP **PnPn** **03 29 36.1 +5.0**
WHN sS **sS** **03 33 21.1 -0.5**
WHN pmax pmax
comp=Z,1µm,3.8s
WHN LR LR
comp=Z,5µm,12.6s
WHN LR LR
comp=Z,4µm,6.9s
WHN LR LR
comp=Z,7µm,17.9s
LYN LuoYang 22.61 41 P **P** **03 29 19.6 -0.6**
LYN pP sP 03 29 30.8 -2.3
LYN S **S** **03 33 20.6 -5.4**
LYN pmax pmax
comp=Z,210nm,0.9s
LYN pmax pmax
comp=Z,1µm,4.2s
LYN LR LR
comp=Z,5µm,13.1s
LYN LR LR
comp=Z,5µm,12.0s
LYN LR LR
comp=Z,7µm,12.7s
KSM Kuching 22.96 136 **P** **03 29 23.7 -0.3**
QZH Quanzhou 23.27 70 P **P** **03 29 26.3 -0.7**
QZH pP **sP** **03 29 37.0 -2.9**
QZH pmax pmax
comp=Z,500nm,5.6s
QZH LR LR
comp=Z,4µm,8.6s
QZH LR LR
comp=Z,1µm,6.4s
QZH LR LR
comp=Z,2µm,13.7s
SBUM Sibu 23.58 131 **P** **03 29 31.8 +1.6**
NIL Nilore 24.25 313 P **P** **03 29 36.7 +0.3**
NIL IAmb IAmb 03 29 54.5
comp=Z,240nm,1.4s
NIL Nilore 24.25 313 P **P** **03 29 36.7 +0.3**
NIL Nilore 24.25 313 P **P** **03 29 36.7 +0.3**
NIL pmax pmax
comp=Z,240nm,1.4s
KKM Kota Kinabalu 24.53 118 **P** **03 29 40.5 +1.4**
KKM IAmb IAmb 03 29 52.1
comp=Z,84nm,1.2s
TIY Taiyuan 24.75 36 *e*P **P** **03 29 40.8 -0.1**
TIY sP **sP** **03 29 56.1 +2.0**
TIY S **S** **03 33 57.6 -3.6**
TIY sS **sS** **03 34 18.6 +2.1**
TIY SS **SnSn** **03 34 51.1 +1.9**
TIY pmax pmax
comp=Z,93nm,0.9s
TIY pmax pmax
comp=Z,410nm,4.3s
TIY LR LR
comp=Z,2µm,17.9s
TIY LR LR
comp=Z,2µm,15.1s
TIY LR LR
comp=Z,2µm,17.9s
MDSI Maura Dua 24.76 156 P **P** **03 29 44.8 +3.8**
YULB Yu-li 25.48 74 P **P** **03 29 47.0 -0.6**
YULB IAmb IAmb 03 30 01.9
comp=Z,159nm,1.4s
TGY Tagaytay City 25.74 96 LR LR 03 40 08.7
comp=Z,1µm,20.5s,baz=266,slow=37
NJ2 Nanjing 25.75 54 *e*P **P** **03 29 51.3 +1.4**
NJ2 pP **pP** **03 29 59.6 +0.3**
NJ2 sP **sP** **03 30 04.8 +1.6**
NJ2 S **S** **03 34 15.0 -2.1**
NJ2 sS **sS** **03 34 32.0 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 LR LR
comp=Z,3µm,20.8s
NJ2 LR LR
comp=Z,2µm,18.9s
NJ2 LR LR
comp=Z,2µm,18.0s
BTO Baotou 25.76 28 *e*P **P** **03 29 49.6 -0.4**
BTO pP **sP** **03 30 00.3 -2.9**
BTO sP pP 03 30 08.8 +10
BTO S **S** **03 34 16.0 -1.2**
BTO pmax pmax
comp=Z,67nm,0.7s
BTO pmax pmax
comp=Z,910nm,4.9s
BTO LR LR
comp=Z,2µm,12.1s
BTO LR LR
comp=Z,2µm,13.5s
BTO LR LR
comp=Z,2µm,15.9s
HNS HongShan 25.85 39 ⇑P **P** **03 29 50.1 -0.6**
HNS S **S** **03 34 16.3 -2.1**
HNS pmax pmax
comp=Z,39nm,0.8s
HNS pmax pmax
comp=Z,360nm,8.2s
HNS LR LR
comp=Z,1µm,13.5s
HNS LR LR
comp=Z,2µm,17.8s
HNS LR LR
comp=Z,2µm,16.7s
WMQ Urumqi 25.89 349 *e*P **P** **03 29 53.0 +1.9**
WMQ LR LR
comp=Z,1µm,17.3s
WMQ LR LR
comp=Z,2µm,19.3s
WMQ LR LR
comp=Z,2µm,22.1s
KSH Kashi 26.37 326 P **P** **03 29 56.0 +0.4**
KSH pP sP 03 30 09.8 +1.0
KSH S **S** **03 34 26.3 -0.7**
KSH pmax pmax
comp=Z,65nm,1.0s
KSH LR LR
comp=Z,1µm,19.6s
KSH LR LR
comp=Z,2µm,23.7s
KSH LR LR
comp=Z,1µm,24.0s
TIA Tai'an 26.63 44 P **P** **03 29 56.8 -1.1**
TIA S **S** **03 34 26.4 -4.5**
TIA pmax pmax
comp=Z,29nm,0.8s
TIA pmax pmax
comp=Z,320nm,9.4s
TIA LR LR
comp=Z,2µm,20.2s
TIA LR LR
comp=Z,4µm,20.2s
TIA LR LR
comp=Z,6µm,19.6s
HHC Hu-ho-hao-te 26.66 30⇓*i*P **P** **03 29 58.6 +0.4**
HHC pP sP 03 30 11.1 -0.3
HHC PP **PnPn** **03 30 46.3 +6.6**
HHC S **S** **03 34 31.3 -0.2**
HHC sS sS 03 34 47.1 +0.2
HHC pmax pmax
comp=Z,26nm,1.3s
HHC pmax pmax
comp=Z,300nm,4.6s
HHC LR LR
comp=Z,2µm,17.6s
HHC LR LR
comp=Z,1µm,19.2s
HHC LR LR
comp=Z,2µm,19.3s
MYLDM Lahad Datu 26.92 116 P **P** **03 30 02.3 +1.7**
MYLDM IAmb IAmb 03 30 13.0
comp=Z,140nm,0.9s
TARG Taragay, Kyrgy 27.18 332 IAmb IAmb 03 30 46.5
comp=Z,71nm,1.1s
TARG Taragay, Kyrgy 27.18 332 P **P** **03 30 05.4 +2.1**
TARG pmax pmax
comp=Z,63nm,0.9s
SSE Sheshan 27.20 57 P **P** **03 30 01.3 -1.7**
SSE S **S** **03 34 38.1 -1.8**
SSE pmax pmax
comp=Z,7.0nm,0.5s
SSE pmax pmax
comp=Z,76nm,3.5s
SSE LR LR
comp=Z,2µm,6.8s
SSE LR LR
comp=Z,630nm,7.4s
PRZ Przheval'sk 27.54 334 P **P** **03 30 08.4 +2.2**
PRZ pmax pmax
comp=Z,72nm,1.1s
SHLS Shalkode 27.67 336 *e*P **P** **03 30 05.8 -1.5**
SHLS Shalkode 27.67 336 *e*P **P** **03 30 05.9 -1.5**
KBL Kabul 27.70 310 **P** **03 30 08.6 +0.8**
KBL Kabul 27.70 310 P **P** **03 30 09.2 +1.4**
SNR=20
KBL P **P** **03 30 09.2 +1.4**
SNR=20
KBL S **S** **03 34 48.4 +0.1**
KBL S **S** **03 34 48.4 +0.1**
KBL Kabul 27.70 310 P **P** **03 30 08.6 +0.8**
KBL pmax pmax
comp=Z,41nm,1.0s
KDJ Kajisay 27.79 332 P **P** **03 30 09.9 +1.5**
KDJ IAmb IAmb 03 30 51.6
comp=Z,62nm,1.2s
KDJ Kajisay 27.79 332 P **P** **03 30 09.9 +1.5**
KDJ pmax pmax
comp=Z,62nm,1.2s
UZB Uzynbulak 27.84 335 *e*P **P** **03 30 08.6 -0.1**
UZB Uzynbulak 27.84 335 *e*P **P** **03 30 08.7 -0.1**
SATY Saty 28.01 334 *e*P **P** **03 30 10.0 -0.3**
SATY Saty 28.01 334 *e*P **P** **03 30 10.1 -0.3**
KPKS Kokpek 28.24 335 *e*P **P** **03 30 11.7 -0.6**
KPKS Kokpek 28.24 335 *e*P **P** **03 30 11.8 -0.6**
LEM Lembang 28.30 152 LR LR 03 43 09.3
comp=Z,1µm,18.6s,baz=182,slow=40
BJI Beijing 28.46 37 P **P** **03 30 14.1 -0.1**
BJI pP **sP** **03 30 24.8 -2.6**
BJI sP **pP** **03 30 29.9 +6.3**
BJI S **S** **03 34 59.3 -0.3**
BJI sS **sS** **03 35 18.3 +3.2**
BJI pmax pmax
comp=Z,13nm,1.2s
BJI pmax pmax
comp=Z,79nm,3.6s
BJI LR LR
comp=Z,410nm,15.1s
BJI LR LR
comp=Z,540nm,17.7s
BJI LR LR
comp=Z,830nm,17.1s
TNSS Tian-Shan 28.61 333 *e*P **P** **03 30 15.5 -0.5**
TNSS Tian-Shan 28.61 333 *e*P **P** **03 30 15.6 -0.5**
AAA Alma-Ata 28.77 333 *e*P **P** **03 30 17.0 +0.1**
AAA pmax pmax
comp=Z,58nm,1.4s
AAA Alma-Ata 28.77 333 *e*P **P** **03 30 17.0 +0.1**
comp=Z,58nm,1.4s

GAR Garm 29.28 319 IAmb IAmb 03 31 08.8
comp=Z,63nm,1.0s
AAK Ala-Archa 29.44 329 P **P** **03 30 22.0 -1.1**
AAK IAmb IAmb 03 30 49.2
comp=Z,75nm,1.6s
AAK Ala-Archa 29.44 329 LR LR 03 45 55.2
comp=Z,674nm,19.4s,baz=134,slow=44
AAK Ala-Archa 29.44 329 P **P** **03 30 23.5 +0.4**
AAK Ala-Archa 29.44 329*d* iP **P** **03 30 25.0 +1.9**
AAK pmax pmax
comp=Z,25nm,1.3s
AAK Ala-Archa 29.44 329 *i* P **P** **03 30 24.8 +1.8**
SNR=5.3
SIMJ Simiganj 29.90 317 **P** **03 30 28.0 +0.8**
SIMJ IAmb IAmb 03 30 44.9
comp=Z,44nm,0.9s
ZSN Zaisan 29.93 347 *e*P **P** **03 30 27.1 -0.1**
ZSN Zaisan 29.93 347 *e*P **P** **03 30 27.1 -0.1**
MK31 Makanchi Array 29.95 343 *i* P **P** **03 30 27.3 -0.1**
MK31 pmax pmax
comp=Z,27nm,0.9s
MKAR Makanchi Array 29.95 343 P **P** **03 30 27.1 -0.3**
MKAR Makanchi Array 29.95 343 P **P** **03 30 27.6 +0.2**
comp=Z,4.7nm,0.6s,baz=150,slow=9.8,SNR=29
MKAR LR LR 03 45 16.6
comp=Z,1μm,21.6s,baz=156,slow=42
comp=Z,4.7nm,0.6s
MKAR Makanchi Array 29.95 343 *i* P **P** **03 30 27.7 +0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
SGDS Sogindy 29.99 330 *e*P **P** **03 30 27.9 +0.1**
TRKS Terek-Say 30.41 324 P **P** **03 30 32.5 +0.8**
TRKS pmax pmax
comp=Z,12nm,0.8s
SONM Songino Array 30.83 16 P **P** **03 30 35.1 -0.1**
SONM IAmb IAmb 03 30 36.6
comp=Z,74nm,1.1s
SONM Songino Array 30.83 16 P **P** **03 30 34.9 -0.4**
comp=Z,44nm,0.8s,baz=200,slow=9.8,SNR=160
SONM LR LR 03 44 58.4
comp=Z,3μm,18.6s,baz=194,slow=40
comp=Z,44nm,0.8s
SONM Songino Array 30.83 16 P **P** **03 30 35.1 -0.1**
SONM pmax pmax
comp=Z,74nm,1.1s
ULN Ulaanbaatar 31.03 16 **P** **03 30 36.9 -0.2**
ULN IAmb IAmb 03 30 38.7
comp=Z,52nm,0.9s
ULN Ulaanbaatar 31.03 16 P **P** **03 30 37.5 +0.5**
ULN P **P** **03 30 37.5 +0.5**
ULN Ulaanbaatar 31.03 16*c* iP **P** **03 30 36.7 -0.4**
ULN pmax pmax
comp=Z,69nm,1.0s
TOLI2 Tolitoli 31.05 121 P **P** **03 30 36.1 -1.3**
TOLI2 IAmb IAmb 03 30 48.8
comp=Z,47nm,1.0s
DL2 Dalian 31.11 44 P **P** **03 30 37.1 -0.5**
DL2 S **S** **03 35 37.1 -4.0**
DL2 pmax pmax
comp=Z,51nm,1.0s
DL2 LR LR
comp=Z,2μm,20.4s
DL2 LR LR
comp=Z,2μm,20.4s
DL2 LR LR
comp=Z,4μm,17.8s
XLT XiLinHaoTe 31.15 31 *e*P **P** **03 30 38.0 -0.1**
XLT S **S** **03 35 38.4 -3.5**
XLT sS sS 03 35 58.5 +1.0
XLT SS **SnSn** **03 37 26.6 +1.4**
XLT pmax pmax
comp=Z,17nm,1.2s
XLT LR LR
comp=Z,2μm,17.9s
XLT LR LR
comp=Z,2μm,19.2s
DZA Taraz 31.23 326 *e*P **P** **03 30 38.7 0.0**
DZA Taraz 31.23 326 *e*P **P** **03 30 38.8 0.0**
BTLS Baital 31.48 332 *e*P **P** **03 30 41.0 +0.2**
BTLS Baital 31.48 332 *e*P **P** **03 30 41.0 +0.2**
KK31 Karatay Array 31.81 326 *e*P **P** **03 30 44.4 +0.5**
KKAR Karatay Array 31.81 326 P **P** **03 30 43.5 -0.3**
KKAR Karatay Array 31.81 326 P **P** **03 30 43.5 -0.3**
JOW Kunigami 32.18 69 P **P** **03 30 46.4 -0.9**
JOW IAmb IAmb 03 30 59.1
comp=Z,111nm,1.7s
JOW Kunigami 32.18 69 LR LR 03 44 59.6
comp=Z,997nm,18.9s,baz=268,slow=39
DAV Davao City (W) 32.31 107 LR LR 03 43 53.7
comp=Z,1μm,21.8s,baz=320,slow=36
ZAK Zakamensk 32.57 10 *e*P **P** **03 30 50.1 -0.4**
ZAK pmax pmax
comp=Z,26nm,1.2s
JLN Jalan Bani Buh 33.05 282 P **P** **03 30 57.4 +2.5**
SNR=8.2
JLN P **P** **03 30 57.4 +2.5**
SNR=8.2
WBK Wadi Bani Khal 33.46 283 P **P** **03 30 57.7 -0.9**
MOY Mondy 33.49 7 *e*P **P** **03 30 59.2 +0.7**
MOY pmax pmax
comp=Z,31nm,1.9s
H08S3 Diego Garcia H 33.85 222 T T 04 06 02.2
baz=39,slow=75,SNR=59
H08S2 Diego Garcia H 33.86 222 T T 04 06 06.8
baz=39,slow=75,SNR=27
H08S1 Diego Garcia H 33.87 222 T T 04 05 57.9
baz=39,slow=75,SNR=47
LUWI Luwuk 33.91 122 P **P** **03 31 04.4 +1.9**
TJN Taejon 33.95 52⇑ *i*P **P** **03 31 02.3 -0.3**
SNY Shenyang 33.97 41⇓ P **P** **03 31 01.8 -0.8**
SNY pmax pmax
comp=Z,34nm,1.1s
SNY pmax pmax
comp=Z,190nm,4.7s
SNY LR LR
comp=Z,1μm,17.5s
SNY LR LR
comp=Z,960nm,22.5s
SNY LR LR
comp=Z,1μm,19.4s
KAPI Kappang 34.15 131 P **P** **03 31 05.1 +0.6**
KAPI IAmb IAmb 03 31 15.6
comp=Z,84nm,1.1s
KAPI Kappang 34.15 131 LR LR 03 47 29.2
comp=Z,552nm,19.8s,baz=314,slow=41
KAPI Kappang 34.15 131 P **P** **03 31 04.6 +0.1**
KAPI P **P** **03 31 04.6 +0.1**
KAPI Kappang 34.15 131⇑ *i*P **P** **03 31 04.8 +0.3**
KAPI pmax pmax
comp=Z,19nm,1.0s
BIDO Bidbid 34.25 285 P **P** **03 31 07.6 +2.2**
JMDO Jabal Madar 34.27 283 P **P** **03 31 07.8 +2.3**
JMDO P **P** **03 31 07.8 +2.3**
SMDO Samad 34.32 284 P **P** **03 31 09.0 +2.9**
SNR=5.2
MHTO MHTO 34.42 280 P **P** **03 31 09.4 +2.6**
KURBB Kurchatov Arra 34.48 342 P **P** **03 31 06.9 -0.1**
comp=Z,8.5nm,0.6s,baz=153,slow=8.3,SNR=59
KURBB PcP **PcP** **03 33 41.5 -0.1**
comp=Z,0.6nm,0.4s,baz=157,slow=2.3,SNR=4.4
KURBB ScP **ScP** **03 37 24.7 +0.1**
comp=Z,0.8nm,0.9s,baz=158,slow=3.1,SNR=2.8
KURBB LR LR 03 48 50.4
comp=Z,448nm,20.1s,baz=150,slow=42
comp=Z,8.5nm,0.6s
IRK Irkutsk 34.54 11 *e*P **P** **03 31 08.2 +0.7**
IRK pmax pmax
comp=Z,70nm,1.9s
KURK Kurchatov 34.54 342 P **P** **03 31 07.3 -0.2**
KURK IAmb IAmb 03 31 29.7
comp=Z,48nm,1.1s
KURK Kurchatov 34.54 342 P **P** **03 31 07.5 0.0**
KURK Kurchatov 34.54 342*c* iP **P** **03 31 07.5 0.0**
KURK pmax pmax
comp=Z,35nm,1.3s
KSRS Korea Array 34.79 50 P **P** **03 31 08.4 -1.4**
comp=Z,2.0nm,0.8s,baz=243,slow=8.9,SNR=13
KSRS PcP **PcP** **03 33 42.7 -0.1**
comp=Z,0.9nm,0.6s,baz=272,slow=4.0,SNR=4.1
comp=Z,2.0nm,0.8s
DQM DQM 34.88 278 P **P** **03 31 12.2 +1.3**
BSY Bisya 35.10 283 P **P** **03 31 15.0 +2.3**
SNR=5.3
BSY P **P** **03 31 15.0 +2.3**
SNR=5.3
JNU Nakatsue 35.64 59 LR LR 03 47 11.2
comp=Z,1μm,19.4s,baz=260,slow=38
ARQ Araqi 35.73 284 P **P** **03 31 20.3 +2.2**
SOHO SOHO 35.73 286 P **P** **03 31 20.1 +2.0**
SOHO P **P** **03 31 20.1 +2.0**
SOHO SOHO 35.73 286 P **P** **03 31 20.1 +2.0**
MDH Madha 35.99 288 P **P** **03 31 21.9 +1.5**
MDH Madha 35.99 288 *i* P **P** **03 31 22.0 +1.7**
SNR=6.6
UOSS Minazif 36.06 287 P **P** **03 31 22.5 +1.5**
UOSS Minazif 36.06 287 P **P** **03 31 22.3 +1.4**
HATD Hatta, Dubai 36.12 287 P **P** **03 31 24.2 +2.8**
SNR=5.6
HATD Hatta, Dubai 36.12 287 *i* P **P** **03 31 24.1 +2.7**
SNR=5.6
MSFE Esma-Masafi 36.12 288 P **P** **03 31 22.3 +0.8**
MASF Masafi 36.12 288 P **P** **03 31 22.4 +0.9**
ZAA0 Zalesovo Array 36.16 350 IAmb IAmb 03 31 33.1
comp=Z,32nm,0.8s
ZALV Zalesovo Beam 36.16 350 **P** **03 31 21.4 0.0**
ZALV Zalesovo Beam 36.16 350 P **P** **03 31 21.0 -0.3**
comp=Z,25nm,0.9s,baz=168,slow=7.6,SNR=60
comp=Z,25nm,0.9s
ZALV Zalesovo Beam 36.16 350 *i* P **P** **03 31 21.1 -0.3**
ZALV pmax pmax
comp=Z,21nm,0.8s
ASHO Ashiyiah 36.18 287 P **P** **03 31 25.5 +3.5**
SNR=7.8
ASHO Ashiyiah 36.18 287 *i* P **P** **03 31 25.1 +3.1**
SNR=22
CN2 Changchun 36.22 39 P **P** **03 31 21.3 -0.7**
CN2 PP **PnPn** **03 32 43.8 -0.3**
CN2 S **S** **03 36 56.3 -3.9**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,1μm,16.0s
ALNE Al Ain 36.44 286 P **P** **03 31 26.9 +2.7**
ALNE P **P** **03 31 26.9 +2.7**
FAQ Al Faqa, Dubai 36.60 287 P **P** **03 31 27.8 +2.2**
ASUD Al Ashush, Dub 36.84 287 P **P** **03 31 30.2 +2.6**
ASUD P **P** **03 31 30.2 +2.6**
ASUD Al Ashush, Dub 36.84 287 *i* P **P** **03 31 30.2 +2.6**
SNR=6.4
SHAO Shalim 36.87 276 P **P** **03 31 30.4 +2.5**
AJN Ajban 37.15 286 P **P** **03 31 32.3 +2.1**
AJN P **P** **03 31 32.3 +2.1**
DMTO DMTO 37.55 275 P **P** **03 31 36.4 +2.8**
DOK Doka 38.21 277 P **P** **03 31 41.4 +2.2**
DOK P **P** **03 31 41.4 +2.2**
JMN Monobe 38.23 59 P **P** **03 31 39.1 -0.2**
RBK Rabkut 38.28 275 P **P** **03 31 42.2 +2.3**
RBK P **P** **03 31 42.2 +2.3**
BNX BinXian 38.46 38⇑ P **P** **03 31 39.6 -1.4**
BNX pmax pmax
comp=Z,59nm,0.8s
WHFO Wadi Hawf 38.63 276 P **P** **03 31 44.5 +1.7**
WHFO P **P** **03 31 44.5 +1.7**
GHWR Ruwais 39.07 285 P **P** **03 31 48.1 +1.7**
JRN Qarnain Island 39.10 287 P **P** **03 31 48.0 +1.3**
JRN P **P** **03 31 48.0 +1.3**
ABTO Aybut 39.16 275 P **P** **03 31 48.6 +1.3**
BVA0 Borovoye Array 39.23 337 *i* P **P** **03 31 47.2 -0.2**
BVAR Borovoye Array 39.23 337 P **P** **03 31 47.1 -0.2**
comp=Z,4.5nm,0.9s,baz=141,slow=9.6,SNR=11
BVAR PcP **PcP** **03 33 56.3 +0.3**
comp=Z,2.7nm,0.6s,baz=151,slow=3.7,SNR=2.0
BVAR LR LR 03 52 46.8
comp=Z,625nm,20.6s,baz=149,slow=43
comp=Z,4.5nm,0.9s
BRVK Borovoye 39.30 337 **P** **03 31 47.6 -0.3**
BRVK Borovoye 39.30 337 P **P** **03 31 47.9 0.0**
BRVK P **P** **03 31 47.9 0.0**
BRVK Borovoye 39.30 337*c* iP **P** **03 31 47.7 -0.2**
BRVK pmax pmax
comp=Z,11nm,1.5s
USA0B Ussuriysk Arra 40.48 42*d* iP **P** **03 31 57.1 -0.7**
USRK Ussuriysk Ar. 40.48 42 P **P** **03 31 56.2 -1.6**
USRK Ussuriysk Ar. 40.48 42 P **P** **03 31 56.5 -1.3**
comp=Z,9.9nm,0.6s,baz=250,slow=7.8,SNR=21
USRK LR LR 03 51 04.6
comp=Z,2μm,19.1s,baz=235,slow=40
comp=Z,9.9nm,0.6s
BATI Baumata 40.52 132 LR LR 03 51 17.4
comp=Z,792nm,21.4s,baz=286,slow=40
TRNA Turayna 40.59 287 P **P** **03 32 00.4 +1.4**
HEH HeiHe 41.13 32 *e*P **P** **03 32 02.3 -0.8**
HEH pP **sP** **03 32 14.0 -2.5**
HEH S **S** **03 38 13.3 -0.8**
HEH pmax pmax
comp=Z,42nm,1.0s
HEH pmax pmax
comp=Z,310nm,4.0s
HEH LR LR
comp=Z,1μm,18.5s
HEH LR LR
comp=Z,1μm,19.6s
HEH LR LR
comp=Z,3μm,18.7s
SAKB Bahrain 41.21 288 P **P** **03 32 06.1 +2.0**
AB31 Akbulak array 41.38 326 **P** **03 32 06.1 +0.9**
AB31 Akbulak array 41.38 326 *e*P **P** **03 32 06.0 +0.9**
ABKAR Akbulak array 41.38 326 **P** **03 32 06.0 +0.8**
JGF Kuroka 41.44 57 **P** **03 32 03.9 -2.0**
BOD Bodaibo 41.83 16 *e*P **P** **03 32 08.0 -0.7**
BOD pmax pmax
comp=Z,64nm,1.4s
MJB9 Matsu-Tunnel 42.32 56 P **P** **03 32 12.6 -0.5**
MAJO Matsushiro 42.32 56*d* iP **P** **03 32 12.1 -1.0**
MAJO pmax pmax
comp=Z,9.0nm,1.5s
MJAR Matsushiro Arr 42.32 56 **P** **03 32 12.0 -1.1**
MJAR Matsushiro Arr 42.32 56 P **P** **03 32 12.1 -1.1**
comp=Z,3.0nm,1.1s,baz=258,slow=8.5,SNR=10
MJAR PcP **PcP** **03 34 07.4 +1.0**
comp=Z,7.7nm,1.0s,baz=253,slow=2.9,SNR=9.4
MJAR ScP **ScP** **03 37 53.1 -1.8**
comp=Z,1.6nm,0.8s,baz=252,slow=3.2,SNR=5.3
MJAR LR LR 03 52 20.0
comp=Z,990nm,18.7s,baz=259,slow=40
comp=Z,3.0nm,1.1s
FAKI Fak Fak 42.83 116 **P** **03 32 17.2 -0.3**
FAKI IAmb IAmb 03 32 28.3
comp=Z,110nm,1.1s
AKTO Aktyubinsk 43.08 326 LR LR 03 54 43.6
comp=Z,477nm,20.6s,baz=170,slow=42
ZEA Zeya 43.30 28 *e*P **P** **03 32 20.5 -0.2**
ZEA *e* 03 42 44.5
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=E,500nm,13.0s
ZEA MLR MLR
comp=N,600nm,12.0s
ZEA MLR MLR
comp=Z,700nm,15.0s
KBD Kabd 43.86 293 P **P** **03 32 26.4 +0.8**
LKRN Lenkeran, Azer 44.37 307 P **P** **03 32 31.7 +2.1**
JCJ Chichijima 44.57 70 LR LR 03 50 40.8
comp=Z,531nm,21.9s,baz=289,slow=36
RAYN Ar Rayn 45.84 285 **P** **03 32 41.7 +0.1**
RAYN Ar Rayn 45.84 285 P **P** **03 32 42.1 +0.5**
RAYN Ar Rayn 45.84 285 P **P** **03 32 42.0 +0.5**
RAYN Ar Rayn 45.84 285 *i* P **P** **03 32 42.3 +0.8**
SNR=6.1
SVE Sverdlovsk 45.84 335 *e*P **P** **03 32 41.7 +0.7**
SVE *e*S **S** **03 39 22.2 -0.6**
SVE pmax pmax
comp=Z,55nm,0.9s
AKT Akhty 45.85 310 *e*P **P** **03 32 42.3 +0.8**
AKT *e**PP **sP** **03 32 54.2 -0.7**
AKT *e* 03 34 30.5
AKT *e*S **S** **03 39 23.8 +0.1**
AKT *e* 03 42 37.3
AKT pmax pmax
comp=Z,35nm,0.9s
AKT MLR MLR
comp=Z,456nm,21.0s
MNGR Mingechevir, A 46.14 309 P **P** **03 32 45.8 +2.2**
SEKA Sheki 46.16 310 P **P** **03 32 45.4 +1.5**
GRNR Gornyy 46.21 36⇑ *i*P **P** **03 32 42.8 -1.3**
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=E,620nm,16.0s
GRNR MLR MLR
comp=Z,950nm,16.0s
ARTI Arti 46.49 333 **P** **03 32 46.1 0.0**
ARTI IAmb IAmb 03 33 04.2
comp=Z,23nm,0.9s
ARTI Arti 46.49 333 LR LR 03 56 22.1
comp=Z,454nm,19.8s,baz=130,slow=41
ARTI Arti 46.49 333 *i* P **P** **03 32 46.1 0.0**
ARTI pmax pmax
comp=Z,17nm,1.2s
GANJ Ganja 46.67 309 P **P** **03 32 49.8 +2.0**
ASAJ Asahikawa 47.53 47 P **P** **03 32 53.2 -1.2**
comp=Z,12nm,0.6s,baz=257,slow=6.6,SNR=15
ASAJ LR LR 03 54 18.5
comp=Z,594nm,20.3s,baz=246,slow=38
comp=Z,12nm,0.6s
ASAJ Asahikawa 47.53 47 P **P** **03 32 53.4 -1.0**
ASAJ pmax pmax
comp=Z,104nm,1.6s
JKA Kamikawa-asahi 47.53 47 **P** **03 32 53.4 -1.0**
FITZ Fitzroy Crossi 47.54 138 **P** **03 32 54.1 -0.6**
FITZ Fitzroy Crossi 47.54 138 LR LR 03 54 59.4
comp=Z,547nm,21.6s,baz=320,slow=39
MTN Manton Dam 47.70 128 **P** **03 32 55.1 -1.0**
MTN IAmb IAmb 03 33 05.6
comp=Z,21nm,0.9s
GNI Garni 47.74 308 **P** **03 32 58.0 +1.6**
GNI Garni 47.74 308 LR LR 03 57 58.4
comp=Z,264nm,19.2s,baz=91,slow=42
GNI Garni 47.74 308 P **P** **03 32 58.3 +1.9**
GNI P **P** **03 32 58.3 +1.9**
GNI Garni 47.74 308*d* iP **P** **03 32 58.2 +1.9**
GNI pmax pmax
comp=Z,41nm,2.0s
KNRA Kununurra 47.88 133 **P** **03 32 56.8 -0.6**
KNRA IAmb IAmb 03 33 10.3
comp=Z,49nm,0.9s
YSS Yuzhno-Sakhali 48.50 43 *e*P **P** **03 33 02.0 +0.1**
YSS *e* 03 34 55.6
YSS *e*PPP PPP 03 35 47.0
YSS *e*S **S** **03 40 00.5 -0.5**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,1μm,13.0s
YSS MLR MLR
comp=E,1μm,16.0s
TRLG Trialeti 48.51 309 P **P** **03 33 04.7 +2.4**
GUMO Guam 48.54 88 LR LR 03 53 03.8
comp=E,456nm,20.6s,baz=276,slow=36
GEVA Gevas 48.69 305 **P** **03 33 04.3 +0.5**
GURO Guroymak-BITLI 49.53 305 P **P** **03 33 11.7 +1.6**
BELG Belogornoye 49.70 324*d* iP **P** **03 33 10.8 -0.1**
BELG pmax pmax
comp=Z,7.0nm,0.7s
TYV Tymovskoe 49.82 38 *e*P **P** **03 33 11.8 -0.1**
TYV pmax pmax
comp=Z,14nm,1.6s
TYV pmax pmax
comp=Z,300nm,3.6s
KBZ Khabaz 49.87 312 P **P** **03 33 13.2 +0.9**
comp=Z,13nm,0.9s,baz=125,slow=7.9,SNR=22
KBZ LR LR 04 01 55.9
comp=Z,214nm,18.5s,baz=110,slow=45
comp=Z,13nm,0.9s
KBZ Khabaz 49.87 312*ce*P **P** **03 33 13.3 +0.9**
KBZ pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 49.92 21 P **P** **03 33 12.3 -0.2**
comp=Z,33nm,0.6s,baz=267,slow=5.0,SNR=6.0
YAK LR LR 03 56 28.2
comp=Z,976nm,19.5s,baz=222,slow=39
comp=Z,33nm,0.6s
YAK Yakutsk 49.92 21 *e*P **P** **03 33 10.3 -2.2**
YAK *e**PP **pP** **03 33 21.4 -0.8**
YAK *e* 03 34 29.2
YAK *e* 03 35 05.1
YAK *e*PPP PPP 03 35 57.8
YAK *e*S **S** **03 40 14.6 -5.9**
YAK *e**SS **sS** **03 40 36.2 -0.2**
YAK *e*SS **SS** **03 43 47.5 -5.9**
YAK *e*SSS SSS 03 45 15.8
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,171nm,4.8s
YAK pmax pmax
comp=N,59nm,2.5s
YAK pmax pmax
comp=E,113nm,4.4s
YAK smax smax
comp=N,191nm,6.2s
YAK smax smax
comp=E,93nm,3.3s
YAK MLR MLR
comp=Z,1μm,26.0s
YAK MLR MLR
comp=N,751nm,23.0s
YAK MLR MLR
comp=E,902nm,23.0s
SHA1 Shidzhatmaz 50.04 312*d* iP **P** **03 33 15.4 +1.4**
KVAR Kislovodsk Arr 50.06 312 LR LR 03 57 23.9
comp=E,285nm,21.1s,baz=153,slow=40
KIV Kislovodsk 50.07 312 P **P** **03 33 15.0 +1.0**
KIV Kislovodsk 50.07 312 P **P** **03 33 15.8 +1.8**
KIV P **P** **03 33 15.8 +1.8**
KIV Kislovodsk 50.07 312⇓ P **P** **03 33 15.0 +1.0**
KIV Kislovodsk 50.07 312 *e*P **P** **03 33 13.0 -1.0**
KIV *e*S **S** **03 40 22.5 -0.8**
KIV pmax pmax
comp=Z,21nm,3.3s
KIV pmax pmax
comp=Z,56nm,1.0s
KIV Kislovodsk 50.07 312 *i* P **P** **03 33 15.5 +1.4**
SNR=7.3
GOF Gofitskoye 50.09 314*ce*P **P** **03 33 15.4 +1.3**
ATD Arta Tunnel 50.23 270 LR LR 03 52 57.8
comp=Z,14nm,21.3s,baz=78,slow=34
MARD Mardin 50.35 303 IAmb IAmb 03 33 18.7
comp=Z,94nm,1.8s
MORW Morawa 51.67 156 P **P** **03 33 25.2 -0.8**
KIRV Kirov 51.71 332 LR LR 04 00 15.9
comp=Z,967nm,19.7s,baz=128,slow=42
KIRV Kirov 51.71 332*d* iP **P** **03 33 26.0 0.0**
KIRV *e**PP **sP** **03 33 37.7 -1.7**
ERBR Yeremizino-Bor 51.99 314 *e*P **P** **03 33 27.8 -0.6**
ERBR pmax pmax
comp=Z,20nm,0.9s
SOC Sochi 52.09 311 *e*P **P** **03 33 27.2 -1.9**
SOC *e* 03 35 30.5
SOC *e*PPP PPP 03 36 29.3
SOC *e*S **S** **03 40 48.4 -2.7**
SOC *e*SS **SS** **03 44 30.3 +1.8**
SOC *e*SSS SSS 03 46 09.6
SOC MLR MLR
comp=Z,325nm,21.0s
VRH Novokhopyorsk 52.67 321 *e*P **P** **03 33 30.8 -2.5**
VRH pmax pmax
comp=Z,20nm,1.0s
ASF Jabal al Asfar 53.25 297 LR LR 04 01 45.7
comp=Z,231nm,18.8s,baz=153,slow=42
ANN Anapa 53.92 312 *e*P **P** **03 33 40.7 -1.9**
ANN pmax pmax
comp=Z,36nm,1.2s
VORD Divnogorie 54.07 320 *e*P **P** **03 33 41.0 -2.6**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 54.22 320 *e*P **P** **03 33 41.6 -3.0**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VORR Voronezh 54.32 321 *e*P **P** **03 33 43.8 -1.6**
VORR pmax pmax
comp=Z,20nm,0.8s
MMAI Mount Meron Ar 54.51 298 P **P** **03 33 47.6 +0.4**
comp=Z,5.2nm,0.7s,baz=84,slow=8.5,SNR=6.7
MMAI LR LR 04 02 14.5
comp=Z,324nm,18.2s,baz=82,slow=42
comp=Z,5.2nm,0.7s

WRA Warramunga Arr 54.66 132 P **P** **03 33 47.5 -0.8**
WRA Warramunga Arr 54.66 132 P **P** **03 33 47.1 -1.2**
comp=Z,5.5nm,0.8s,baz=319,slow=7.2,SNR=41
WRA LR LR 03 59 58.8
comp=Z,332nm,20.2s,baz=292,slow=39
comp=Z,5.5nm,0.8s
WRA Warramunga Arr 54.66 132 *i* P **P** **03 33 47.5 -0.8**
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRAB Tennant Creek 54.66 132 P **P** **03 33 47.3 -1.0**
WRAB Tennant Creek 54.66 132 *eP* **P** **03 33 47.7 -0.6**
WRAB pmax pmax
comp=Z,13nm,1.1s
LPSR Galich'ya Gora 54.74 322 *eP* **P** **03 33 46.4 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
EIL Elat 54.97 294 LR LR 04 01 32.4
comp=Z,238nm,20.5s,baz=91,slow=40
NWAO Narrogin (SRO) 55.57 157 P **P** **03 33 54.2 -0.4**
NWAO Narrogin (SRO) 55.57 157 LR LR 03 56 44.5
comp=Z,724nm,21.9s,baz=294,slow=35
NWAO Narrogin (SRO) 55.57 157 P **P** **03 33 54.2 -0.4**
NWAO pmax pmax
comp=Z,134nm,1.3s
KIRS Kirsehir-Merke 55.89 305 ⇑P **P** **03 33 57.7 +0.7**
BZK Bozkurt 56.03 308 ⇓P **P** **03 33 59.5 +1.6**
BR104 Keskin Array S 56.13 306 P **P** **03 33 58.6 -0.3**
comp=Z,95nmcomp=Z,12nm,0.9s
BR131 Keskin Array S 56.14 306*d* *i* P **P** **03 33 58.5 -0.4**
BR131 *i* *PP **sP** **03 34 10.7 -1.8**
BRTR Keskin Array B 56.14 306 P **P** **03 33 59.1 +0.2**
BRTR Keskin Array B 56.14 306 P **P** **03 33 59.4 +0.4**
comp=Z,5.5nm,0.8s,baz=122,slow=8.9,SNR=37
BRTR PcP **PcP** **03 34 56.9 +0.2**
comp=Z,3.8nm,0.9s,baz=116,slow=3.4,SNR=4.1
BRTR LR LR 04 04 11.2
comp=Z,229nm,19.6s,baz=113,slow=42
comp=Z,5.5nm,0.8s
BRTR Keskin Array B 56.14 306 *i* P **P** **03 33 59.0 +0.1**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BR105 Keskin Array S 56.15 306 P **P** **03 33 59.0 0.0**
comp=Z,103nmcomp=Z,13nm,0.9s
BR106 Keskin Array S 56.15 306 P **P** **03 33 59.0 0.0**
comp=Z,91nmcomp=Z,12nm,0.9s
CSS Mathiatis 56.23 300 P **P** **03 33 59.7 +0.2**
CSS Mathiatis 56.23 300 P **P** **03 33 59.5 0.0**
comp=Z,21nm,0.8s
SIM Simferopol' 56.28 312 *eP* **P** **03 34 00.4 +0.8**
SIM *eS* **S** **03 41 47.3 -0.3**
SIM pmax pmax
comp=Z,28nm,1.0s
MOS Moscow 56.40 325 *eP* **P** **03 33 58.8 -1.5**
MOS pmax pmax
comp=Z,100nm,1.6s
MOS pmax pmax
comp=Z,63nm,1.4s
OBN Obninsk 56.79 324 LR LR 04 02 31.1
comp=Z,530nm,21.8s,baz=51,slow=40
OBN Obninsk 56.79 324*de* **P** **03 34 03.0 -0.1**
OBN *e* 03 36 08.5
OBN *i* S **S** **03 41 54.6 +0.6**
OBN pmax pmax
comp=Z,56nm,1.5s
OBN MLR MLR
comp=Z,655nm,22.0s
OBN Obninsk 56.79 324 P **P** **03 34 04.4 +1.3**
comp=Z,33nm,1.6s
ANTO Ankara 56.80 306 P **P** **03 34 03.6 +0.1**
ANTO Ankara 56.80 306 P **P** **03 34 04.2 +0.7**
ANTO P **P** **03 34 04.2 +0.7**
ANTO Ankara 56.80 306 ⇓P **P** **03 34 04.5 +1.0**
ANTO Ankara 56.80 306 P **P** **03 34 04.5 +1.0**
ANTO Ankara 56.80 306 P **P** **03 34 03.4 -0.1**
comp=Z,211nmcomp=Z,12nm,1.0s
TIXI Tiksi 56.82 12 P **P** **03 34 01.6 -1.4**
TIXI IAmb IAmb 03 34 13.1
comp=Z,86nm,1.7s
TIXI Tiksi 56.82 12 LR LR 04 01 13.0
comp=Z,1μm,21.7s,baz=240,slow=39
TIXI Tiksi 56.82 12*ce*P **P** **03 34 01.2 -1.8**
TIXI pmax pmax
comp=Z,19nm,0.8s
ASAR Alice Springs 56.88 136 P **P** **03 34 03.6 -0.6**
comp=Z,2.2nm,0.4s,baz=312,slow=7.0,SNR=76
ASAR PcP **PcP** **03 34 58.9 -0.7**
comp=Z,3.6nm,0.7s,baz=323,slow=4.2,SNR=4.4
ASAR LR LR 04 00 31.5
comp=Z,302nm,19.4s,baz=298,slow=38
comp=Z,2.2nm,0.4s
KLMR Klimovskoe 57.20 332 *eP* **P** **03 34 03.6 -2.3**
KLMR pmax pmax
comp=Z,39nm,1.5s
KLMR MLR MLR
comp=Z,552nm,17.0s
MA2 Magadan 57.34 30 P **P** **03 34 05.8 -1.2**
MA2 Magadan 57.34 30 P **P** **03 34 06.0 -0.9**
comp=Z,50nm,0.7s,baz=265,slow=6.3,SNR=18
comp=Z,50nm,0.7s
MA2 Magadan 57.34 30*c* *i* P **P** **03 34 05.7 -1.2**
MA2 pmax pmax
comp=Z,59nm,0.8s
COEN Coen 57.81 121 P **P** **03 34 10.0 -0.9**
COEN IAmb IAmb 03 34 21.9
comp=Z,23nm,0.8s
PMG Port Moresby 58.89 114 LR LR 04 01 32.8
comp=Z,64nm,21.6s,baz=314,slow=38
SEY Seymchan 59.25 27 P **P** **03 34 19.0 -1.2**
comp=Z,3.3nm,0.3s,baz=254,slow=4.6,SNR=11
SEY LR LR 04 02 37.0
comp=Z,1μm,19.4s,baz=245,slow=39
comp=Z,3.3nm,0.3s
SEY Seymchan 59.25 27 *eP* **P** **03 34 17.6 -2.6**
SEY pmax pmax
comp=Z,29nm,1.7s
OPO Ambohidratompo 59.30 234 LR LR 03 57 11.8
comp=Z,449nm,18.9s,baz=186,slow=33
PETK Petropavlovsk- 59.37 39 P **P** **03 34 19.9 -1.3**
comp=Z,1.9nm,0.5s,baz=238,slow=1.6,SNR=2.8
PETK LR LR 04 02 05.9
comp=Z,1μm,21.5s,baz=255,slow=38
comp=Z,1.9nm,0.5s
PURM Purcari 59.41 314 ⇑P **P** **03 34 22.1 +0.6**
PURM Purcari 59.41 314 P **P** **03 34 21.7 +0.2**
comp=Z,70nm,1.0s
KMBO Kilima Mbogo 59.52 257 P **P** **03 34 23.5 +0.4**
comp=Z,7.6nm,1.0s,baz=67,slow=8.6,SNR=7.4
KMBO LR LR 03 59 18.4
comp=Z,384nm,18.9s,baz=92,slow=35
comp=Z,7.6nm,1.0s
KMBO Kilima Mbogo 59.52 257 *i* P **P** **03 34 23.7 +0.5**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
LODK Lodwar 59.69 263 P **P** **03 34 24.8 +0.6**
LODK Lodwar 59.69 263 P **P** **03 34 24.3 +0.2**
SNR=6.4
BAL3X Bal3x, Balta 59.72 315 P **P** **03 34 24.0 +0.3**
TLCR 60.04 312 ⇓P **P** **03 34 26.0 +0.1**
TLCR 60.04 312 P **P** **03 34 26.0 +0.1**
MILM Milestii Mici 60.16 314 ⇑P **P** **03 34 26.1 -0.6**
MILM Milestii Mici 60.16 314 P **P** **03 34 26.1 -0.6**
AK09 Malin Array Si 60.22 318 P **P** **03 34 26.6 -0.5**
AK10 Malin Array Si 60.24 318 P **P** **03 34 26.7 -0.5**
AK08 Malin Array Si 60.25 318 P **P** **03 34 26.4 -0.8**
AK07 Malin Array Si 60.27 318 P **P** **03 34 27.1 -0.3**
AKASG Malin Array Be 60.27 318 P **P** **03 34 27.5 +0.1**
AKASG Malin Array Be 60.27 318 P **P** **03 34 27.1 -0.3**
comp=Z,3.9nm,0.6s,baz=84,slow=6.5,SNR=38
comp=Z,3.9nm,0.6s
AKASG Malin Array Be 60.27 318 P **P** **03 34 27.5 +0.1**
AKASG pmax pmax
comp=Z,12nm,1.2s
AKBB Malin Array Si 60.27 318 IAmb IAmb 03 34 40.3
comp=Z,22nm,0.8s
AKBB Malin Array Si 60.27 318*d* *i* P **P** **03 34 26.8 -0.7**
AKBB pmax pmax
comp=Z,12nm,0.6s
AKBB Malin Array Si 60.27 318 P **P** **03 34 26.7 -0.7**
AK06 Malin Array Si 60.27 318 P **P** **03 34 26.9 -0.6**
KIEV Kiev 60.28 318 P **P** **03 34 27.2 -0.3**
KIEV IAmb IAmb 03 34 40.4
comp=Z,21nm,0.8s
KIEV Kiev 60.28 318 ⇓P **P** **03 34 26.8 -0.7**
KIEV Kiev 60.28 318 P **P** **03 34 27.2 -0.3**
KIEV pmax pmax
comp=Z,21nm,0.9s
KIEV Kiev 60.28 318 *i* P **P** **03 34 26.9 -0.6**
SNR=15
KIEV Kiev 60.28 318 P **P** **03 34 26.7 -0.7**
comp=Z,111nm,0.9s
TIRR Tirgusor 60.29 311 P **P** **03 34 27.6 0.0**
TIRR IAmb IAmb 03 34 40.9
comp=Z,24nm,0.9s
TIRR Tirgusor 60.29 311 ⇓P **P** **03 34 28.4 +0.8**
TIRR Tirgusor 60.29 311 P **P** **03 34 28.4 +0.8**
TPGR Topolog 60.30 312 ⇓P **P** **03 34 27.5 -0.3**
BAND Balkesir-Ban 60.41 306 ⇓P **P** **03 34 29.6 +1.0**
CFR Carcaliu 60.52 312 ⇑P **P** **03 34 29.6 +0.3**
CFR Carcaliu 60.52 312 P **P** **03 34 29.5 +0.3**
SORM Soroca 60.58 315 ⇓P **P** **03 34 29.2 -0.3**
SORM Soroca 60.58 315 P **P** **03 34 29.8 +0.3**
HARR Harsova 60.64 311 ⇑P **P** **03 34 30.1 0.0**
HARR Harsova 60.64 311 P **P** **03 34 30.0 0.0**
SCTR Scanteiesti 60.65 312 ⇓P **P** **03 34 31.4 +1.3**
PHSR Pinarhisar 60.85 308 ⇓P **P** **03 34 32.7 +1.1**
TUDR 60.87 312 ⇑P **P** **03 34 33.1 +1.6**
LUBAR Lubar, Ukraine 61.12 317 P **P** **03 34 32.3 -1.0**
PANC Panciu 61.25 313 ⇓P **P** **03 34 35.3 +1.1**
MI28 Mi28,Pidlybu 61.28 318 P **P** **03 34 33.6 -0.7**
BISRR Bisoca 61.54 312 ⇑P **P** **03 34 38.1 +1.9**
VRI Vrincioaia 61.54 313 ⇑P **P** **03 34 37.5 +1.3**
VRI Vrincioaia 61.54 313 P **P** **03 34 37.5 +1.3**
VRI Vrincioaia 61.54 313 P **P** **03 34 37.1 +0.9**
comp=Z,583nmcomp=Z,65nm,1.1s
JOF Joensuu 61.55 332 *eP* **P** **03 34 36.0 +0.1**
MNK Minsk 61.58 323 *i* P **P** **03 34 36.4 +0.2**
MNK *i* 03 36 50.3
MNK *i* PPP PPP 03 38 16.8
MNK *i* S **S** **03 42 58.1 +2.1**
MNK *i* SS **SS** **03 47 01.4 +4.1**
MNK pmax pmax
comp=E,11nm,1.0s
MNK pmax pmax
comp=Z,26nm,0.8s
MNK pmax pmax
comp=N,19nm,0.8s
MNK MLR MLR
comp=N,386nm,20.0s
MNK MLR MLR
comp=E,478nm,22.0s
MNK MLR MLR
comp=Z,548nm,20.0s
PLOR5 Plostina Array 61.59 313 P **P** **03 34 37.6 +1.1**
comp=Z,107nmcomp=Z,109nm,0.9s
PLOR Plostina 61.59 313 ⇑P **P** **03 34 38.2 +1.6**
PLOR Plostina 61.59 313 P **P** **03 34 38.1 +1.6**
TESR Tescani 61.62 313 ⇓P **P** **03 34 37.2 +0.4**
TESR Tescani 61.62 313 P **P** **03 34 36.7 0.0**
comp=Z,626nmcomp=Z,33nm,1.3s
RAZG Razgrad 61.63 310 ⇓P **P** **03 34 38.0 +1.2**
ISR Istrita 61.64 312 ⇓P **P** **03 34 36.5 -0.5**
ISR Istrita 61.64 312 P **P** **03 34 36.4 -0.5**
GIRR Girov 61.75 314 ⇑P **P** **03 34 38.3 +0.8**
EZN Ezine 61.77 306 P **P** **03 34 37.8 0.0**
LVZ Lovozero 61.81 338 P **P** **03 34 38.4 +0.8**
LVZ IAmb IAmb 03 34 57.6
comp=Z,31nm,1.1s
LVZ Lovozero 61.81 338 P **P** **03 34 38.4 +0.8**
LVZ pmax pmax
comp=Z,31nm,1.1s
NEHR Nehoiu 61.83 312 ⇓P **P** **03 34 40.2 +2.0**
KMPD K-Podol'skiy 61.87 316 P **P** **03 34 37.3 -1.0**
COVR Voineasa-Covas 61.91 313 ⇓P **P** **03 34 40.0 +1.3**
HORU Horodok 61.93 316 P **P** **03 34 38.4 -0.3**
ALN Alexandroupoli 61.97 307 P **P** **03 34 39.2 +0.1**
ALN pmax pmax
comp=Z,20nm,0.8s
TURR Turia 62.05 313 ⇓P **P** **03 34 40.3 +0.7**
MLR Muntele Rosu 62.08 312 IAmb IAmb 03 34 54.1
comp=Z,43nm,0.9s
MLR Muntele Rosu 62.08 312 LR LR 04 08 34.6
comp=Z,160nm,18.8s,baz=66,slow=43
MLR Muntele Rosu 62.08 312 ⇑P **P** **03 34 41.3 +1.4**
MLR Muntele Rosu 62.08 312 P **P** **03 34 41.3 +1.4**
MLR Muntele Rosu 62.08 312 P **P** **03 34 40.9 +1.0**
ELND Elena 62.09 309 ⇑P **P** **03 34 40.4 +0.5**
APA Apatity 62.14 338 *eP* **P** **03 34 38.5 -1.3**
APA MLR MLR
comp=Z,712nm,22.8s
OZUR 62.21 313 ⇓P **P** **03 34 41.8 +1.1**
RDO Rodhopi 62.35 307 IAmb IAmb 03 34 59.1
comp=Z,22nm,1.0s
RNPP5 Staryi Chortor 62.43 319 P **P** **03 34 42.0 0.0**
RNPP9 Sopachiv 62.44 319 P **P** **03 34 41.6 -0.5**
RNPP8 Varash 62.45 319 P **P** **03 34 41.8 -0.4**
DOPR Dopca 62.48 313 ⇑P **P** **03 34 43.2 +0.7**
BURAR Bucovina Array 62.65 315 P **P** **03 34 44.6 +0.8**
BURAR Bucovina Array 62.65 315 ⇑P **P** **03 34 44.5 +0.8**
BURAR Bucovina Array 62.65 315 P **P** **03 34 44.5 +0.8**
VOIR 62.70 312 ⇑P **P** **03 34 44.2 +0.1**
VOIR 62.70 312 P **P** **03 34 44.2 +0.1**
HUMR Humele 62.74 311 ⇓P **P** **03 34 45.1 +0.9**
VSU Vasula 62.80 327 *eP* **P** **03 34 43.8 -0.5**
ARR Arges 63.00 312 ⇑P **P** **03 34 46.5 +0.4**
PLVB Pleven 63.00 310 ⇑P **P** **03 34 46.7 +0.7**
ARCR ARCALIA 63.22 314 ⇓P **P** **03 34 49.3 +1.9**
TNR Turnu Rosu 63.25 312 ⇑P **P** **03 34 48.7 +1.1**
TNR Turnu Rosu 63.25 312 P **P** **03 34 48.7 +1.1**
ARBE Arbavere 63.34 328 *eP* **P** **03 34 48.6 +0.7**
LOT Lotru 63.61 312 ⇓P **P** **03 34 50.0 -0.1**
CTAO Charters Tower 63.62 125 P **P** **03 34 50.7 +0.3**
CTAO IAmb IAmb 03 35 03.1
comp=Z,31nm,1.0s
CTAO Charters Tower 63.62 125 P **P** **03 34 50.7 +0.3**
CTAO pmax pmax
comp=Z,31nm,1.0s
FINES FINESS Array B 63.62 330 P **P** **03 34 49.7 0.0**
FINES FINESS Array B 63.62 330 P **P** **03 34 49.9 +0.2**
comp=Z,3.6nm,0.6s,baz=106,slow=8.4,SNR=22
FINES LR LR 04 07 24.2
comp=Z,897nm,20.0s,baz=102,slow=41
comp=Z,3.6nm,0.6s
FINES FINESS Array B 63.62 330 *i* P **P** **03 34 49.5 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.6s
CJR Cluj-Napoca 63.73 314 ⇑P **P** **03 34 52.2 +1.3**
CJR Cluj-Napoca 63.73 314 P **P** **03 34 52.1 +1.3**
BMR Baia Mare 63.81 315 ⇑P **P** **03 34 52.4 +1.1**
BMR Baia Mare 63.81 315 P **P** **03 34 52.4 +1.1**
PABE Paberze 63.94 323 P **P** **03 34 52.0 +0.2**
PABE Paberze 63.94 323 *eP* **P** **03 34 52.1 +0.2**
SRE Strehaia 64.01 311 ⇑P **P** **03 34 53.0 +0.3**
SRE Strehaia 64.01 311 P **P** **03 34 52.9 +0.3**
MARR Marisel-Cluj 64.06 313 ⇓P **P** **03 34 52.9 -0.2**
MESR Meseseni 64.18 314 ⇓P **P** **03 34 55.5 +1.8**
DEV Deva 64.21 313 ⇓P **P** **03 34 55.4 +1.4**
DEV Deva 64.21 313 P **P** **03 34 55.3 +1.4**
SUW Suwalki 64.28 322 P **P** **03 34 53.8 -0.4**
SUW Suwalki 64.28 322 P **P** **03 34 53.8 -0.4**
SUW Suwalki 64.28 322 *eP* **P** **03 34 54.4 +0.3**
KEF Keuruu 64.31 331 *eP* **P** **03 34 54.1 -0.1**
GZR Gura Zlata 64.31 312 ⇓P **P** **03 34 54.4 -0.2**
GZR Gura Zlata 64.31 312 P **P** **03 34 54.4 -0.2**
THE Thessaloniki 64.32 307 P **P** **03 34 54.4 -0.3**
THE pmax pmax
comp=Z,20nm,1.2s
KNT Kendrikon 64.34 307 P **P** **03 34 54.0 -0.9**
KNT pmax pmax
comp=Z,23nm,0.8s
DRGR 64.34 314 ⇑P **P** **03 34 55.9 +1.0**
DRGR 64.34 314 P **P** **03 34 56.4 +1.5**
VADS Vadso 64.35 340 *eP* **P** **03 34 55.4 +1.1**
KWP Kalwaria Pacla 64.38 317 *eP* **P** **03 34 54.8 -0.2**
KWP Kalwaria Pacla 64.38 317 P **P** **03 34 52.3 -2.7**
OUL Oulu 64.38 334 P **P** **03 34 55.4 +0.8**
OUL pmax pmax
comp=Z,19nm,1.1s
HERR Herculane 64.57 311 ⇑P **P** **03 34 57.5 +1.2**
VAY Valandovo 64.58 308 *i* P **P** **03 34 56.0 -0.4**
SGF Sodankyl 64.64 337 P **P** **03 34 54.0 -2.3**
SGF pmax pmax
comp=Z,44nm,1.1s
KOLS Kolonicke sedl 64.65 316 *eP* **P** **03 34 57.3 +0.6**
SURR Surduc 64.76 312 ⇑P **P** **03 34 58.7 +1.2**
KEV Kevo 65.03 339 P **P** **03 34 58.5 -0.3**
KEV IAmb IAmb 03 35 15.5
comp=Z,39nm,1.1s
KEV Kevo 65.03 339 P **P** **03 34 58.5 -0.3**
KEV pmax pmax
comp=Z,39nm,1.1s
MDVR Moldovita 65.07 311 ⇑P **P** **03 35 00.5 +0.9**
BOVS Bovan 65.12 310 ⇑P **P** **03 34 59.6 -0.3**
BZS Buzias 65.12 312 ⇑P **P** **03 35 00.5 +0.6**
BZS Buzias 65.12 312 P **P** **03 35 00.4 +0.6**
STHS Stebnicka Huta 65.33 317 *eP* **P** **03 35 00.3 -0.9**
STHS *e* 03 35 11.7
ITM Ithomi 65.36 303 IAmb IAmb 03 35 13.5
comp=Z,35nm,0.7s
ARA0 ARCESS Array S 65.48 339 *eP* **P** **03 35 02.4 +0.6**
ARCES ARCESS Array B 65.48 339 P **P** **03 35 02.2 +0.4**
ARCES IAmb IAmb 03 35 18.4
comp=Z,26nm,1.1s
ARCES ARCESS Array B 65.48 339 P **P** **03 35 02.0 +0.2**
comp=Z,2.8nm,0.5s,baz=87,slow=6.8,SNR=40
ARCES LR LR 04 08 06.1
comp=Z,632nm,19.5s,baz=105,slow=40
comp=Z,2.8nm,0.5s
ARCES ARCESS Array B 65.48 339 P **P** **03 35 02.2 +0.4**
ARCES pmax pmax
comp=Z,26nm,1.1s
FNA Florina 65.51 307 IAmb IAmb 03 35 02.6
comp=Z,15nm,0.8s
RAF Rauma 65.63 329 *eP* **P** **03 35 03.0 +0.2**
BEL Belsk 65.64 319 *eP* **P** **03 35 03.1 +0.1**
BEL Belsk 65.64 319 P **P** **03 35 03.4 +0.3**
BEL pmax pmax
comp=Z,69nm,1.0s
OHR Ohrid 65.93 307 *i* P **P** **03 35 03.6 -1.7**
NIE Niedzica 65.94 317 *eP* **P** **03 35 06.2 +1.0**
NIE Niedzica 65.94 317 P **P** **03 35 06.4 +1.2**
NIE pmax pmax
comp=Z,12nm,1.1s
KTK1 Kautokeino 66.17 338 *eP* **P** **03 35 06.2 0.0**
BILL Bilibino 66.18 23*c* *i* P **P** **03 35 05.0 -1.3**
BILL pmax pmax
comp=Z,27nm,0.8s
SJUU Sjulsmark 66.23 334 *eP* **P** **03 35 06.8 +0.2**
PSZ Piszkesteto 66.24 315 ⇑P **P** **03 35 07.3 +0.1**
PSZ Piszkesteto 66.24 315 P **P** **03 35 07.2 +0.1**
PSZ Piszkesteto 66.24 315 *eP* **P** **03 35 07.1 -0.1**
HAMF Hammerfest 66.34 340 *eP* **P** **03 35 07.7 +0.5**
LANS Liptovska Anna 66.49 316 *eP* **P** **03 35 09.7 +1.0**
LANS *e* 03 35 21.2
PDG Podgorica 66.98 309 IAmb IAmb 03 35 29.1
comp=Z,44nm,1.3s
PDG Podgorica 66.98 309 ⇑P **P** **03 35 11.4 -0.4**
MORH Mrgy, Hungar 67.17 313 ⇑P **P** **03 35 13.4 +0.5**
JETT Jettan, Norway 67.25 339 *eP* **P** **03 35 13.9 +0.8**
SRO Srobarova 67.31 315 P **P** **03 35 16.4 +2.6**
SRO pmax pmax
comp=Z,28nm,1.0s
SRO Srobarova 67.31 315 *eP* **P** **03 35 15.7 +1.9**
SRO *e* 03 35 28.0
OKC Ostrava-Krasne 67.33 317 P **P** **03 35 13.4 -0.6**
OKC pmax pmax
comp=Z,15nm,1.2s
OKC Ostrava-Krasne 67.33 317 *eS* **S** **03 44 02.5 -4.7**
OKC AMS AMS 04 10 10.0
comp=Z,300nm,18.2s
STKA Stephens Creek 67.43 138 P **P** **03 35 14.6 -0.2**
STKA Stephens Creek 67.43 138 P **P** **03 35 13.8 -0.9**
comp=Z,6.9nm,0.9s,baz=322,slow=8.7,SNR=4.6
STKA LR LR 04 06 29.5
comp=Z,650nm,22.0s,baz=299,slow=38
comp=Z,6.9nm,0.9s
STKA Stephens Creek 67.43 138 P **P** **03 35 14.6 -0.2**
STKA pmax pmax
comp=Z,105nm,1.1s
MAUC Maruska 67.56 317 *eP* **P** **03 35 16.4 +0.9**
MAUC *ePP* **sP** **03 35 27.7 -1.5**
STEB Steborice 67.57 317 *eP* **P** **03 35 16.4 +0.9**
STEB *ePP* **sP** **03 35 26.9 -2.3**
UPP Uppsala 67.60 328 *eP* **P** **03 35 15.6 +0.2**
JAVC Velka Javorina 67.69 316 *eP* **P** **03 35 16.9 +0.6**
MORC Moravsky Berou 67.73 317 *eP* **P** **03 35 16.1 -0.4**
TRO Tromso 67.77 339 *eP* **P** **03 35 16.2 -0.2**
MODS Modra-Piesok 67.97 315 *eP* **P** **03 35 15.1 -3.0**
MODS *e* 03 35 26.2
KRLC Kraliky 68.20 317 *eP* **P** **03 35 20.1 +0.6**
KRLC *e*PP **sP** **03 35 31.1 -2.1**
KRLC MLR MLR
comp=Z,300nm,17.2s
KRLC Kraliky 68.20 317 *eP* **P** **03 35 20.1 +0.6**
KRLC *ePP* **sP** **03 35 31.1 -2.1**
KRLC AMS AMS 04 10 30.0
comp=Z,300nm,17.2s
VRAC Vranov 68.37 316 LR LR 04 10 47.4
comp=Z,204nm,19.2s,baz=84,slow=41
VRAC Vranov 68.37 316 *eP* **P** **03 35 20.8 +0.3**
KSP Ksiaz 68.47 318 *eP* **P** **03 35 21.4 +0.3**
KSP Ksiaz 68.47 318 P **P** **03 35 21.6 +0.5**
KSP pmax pmax
comp=Z,14nm,1.2s
DPC Dobruska-Polom 68.48 318 *eP* **P** **03 35 22.2 +0.9**
DPC *e*PP **sP** **03 35 33.1 -1.9**
DPC *eS* **S** **03 44 18.4 -2.7**
DPC MLR MLR
comp=Z,400nm,24.0s
DPC Dobruska-Polom 68.48 318 *eP* **P** **03 35 22.2 +0.9**
DPC *ePP* **sP** **03 35 33.1 -1.9**
DPC *eS* **S** **03 44 18.4 -2.7**
DPC AMS AMS 04 09 00.0
comp=Z,400nm,24.0s
KRUC Moravsky 68.51 316 *eP* **P** **03 35 21.3 -0.1**
OSTC Ostas 68.54 318 *eP* **P** **03 35 22.5 +0.9**
OSTC MLR MLR
comp=Z,400nm,25.5s
OSTC Ostas 68.54 318 *eP* **P** **03 35 22.5 +0.9**
OSTC AMS AMS 04 09 00.0
comp=Z,400nm,25.5s
CHVC Chvalec 68.64 318 *eP* **P** **03 35 23.0 +0.8**
CHVC MLR MLR
comp=Z,400nm,24.0s
CHVC Chvalec 68.64 318 *eP* **P** **03 35 23.0 +0.8**
CHVC AMS AMS 04 09 00.0
comp=Z,400nm,24.0s
UPC Upice 68.67 318 P **P** **03 35 23.6 +1.2**
UPC pmax pmax
comp=Z,14nm,2.4s
UPC Upice 68.67 318 *eP* **P** **03 35 23.2 +0.8**
UPC *eS* **S** **03 44 21.1 -2.1**
UPC AMS AMS 04 09 00.0
comp=Z,500nm,28.5s
RONA Rosalia, Austr 68.67 315 *eP* **P** **03 35 22.9 +0.4**
comp=Z,1.4nm,0.5s
RONA *i* pP **sP** **03 35 34.9 -1.4**
comp=Z,3.2nm,0.8s
KOGS Kog 68.81 313 *i* P **P** **03 35 23.4 +0.1**
FAUS Fauske 68.92 336 *eP* **P** **03 35 23.6 0.0**
CONA Conrad Observa 68.95 315 *eP* **P** **03 35 24.8 +0.5**
comp=Z,2.0nm,0.7s,SNR=6.9
CONA *ep*P **sP** **03 35 36.9 -1.1**
comp=Z,4.2nm,0.9s
STEI Steigen 68.97 337 *eP* **P** **03 35 24.0 +0.1**
PTJ Puntijarka 69.05 313 P **P** **03 35 25.5 +0.6**
TREC Trest 69.09 317 *eP* **P** **03 35 25.9 +0.8**
TREC MLR MLR
comp=Z,300nm,21.7s
TREC Trest 69.09 317 *eP* **P** **03 35 25.9 +0.8**
TREC AMS AMS 04 07 10.0
comp=Z,300nm,21.7s
MOR8 Moi Rana 69.22 335 *eP* **P** **03 35 25.5 0.0**
ARSA Arzberg 69.23 314 *eP* **P** **03 35 26.6 +0.7**
comp=Z,3.2nm,0.8s,SNR=6.7
ARSA *ep*P **sP** **03 35 38.2 -1.5**
comp=Z,4.8nm,0.7s
SHEM Shemya Is, Ala 69.24 40 LR LR 04 09 49.4
comp=Z,159nm,19.0s,baz=288,slow=39
HFS Hagfors 69.57 328 P **P** **03 35 27.8 +0.1**
comp=Z,5.0nm,0.4s,baz=101,slow=4.7,SNR=60
HFS LR LR 04 10 28.7
comp=Z,609nm,20.9s,baz=87,slow=40
comp=Z,5.0nm,0.4s
SPB2 Spitsbergen Ar 69.58 348 IAmb IAmb 03 35 44.6
comp=Z,52nm,1.2s
SPITS Spitsbergen Ar 69.58 348 P **P** **03 35 27.4 -0.1**
comp=Z,1.6nm,0.4s,baz=118,slow=10,SNR=15
SPITS LR LR 04 12 08.6
comp=Z,459nm,21.1s,baz=108,slow=41
comp=Z,1.6nm,0.4s
PVCC Panska Ves 69.59 318 *eP* **P** **03 35 29.8 +1.7**
PVCC *e*PP **sP** **03 35 41.0 -0.8**

PVCC MLR MLR
comp=Z,400nm,24.0s
PVCC Panska Ves 69.59 318 *eP* **P 03 35 29.8 +1.7**
PVCC *epP* **sP 03 35 41.0 -0.8**
PVCC AMS AMS 04 09 30.0
comp=Z,400nm,24.0s
HSPB Hornsund (broa 69.61 346 *eP* **P 03 35 28.2 +0.5**
LOF Lofoten 69.61 337 *eP* **P 03 35 27.2 -0.7**
ACER Acerenza 69.62 307 P **P 03 35 28.9 +0.4**
SOKA Soboth 69.62 314 *eP* **P 03 35 29.1 +0.7**
comp=Z,4.8nm,0.8s,SNR=8.8
SOKA *epP* **sP 03 35 40.4 -1.8**
comp=Z,4.7nm,0.7s
PRU Pruhonice 69.65 317 *eP* **P 03 35 29.5 +1.1**
PRU *e*PP* **sP 03 35 40.7 -1.5**
PRU *eS* **S 03 44 32.8 -2.0**
PRU MLR MLR
comp=Z,400nm,22.3s
PRU Pruhonice 69.65 317 *eP* **P 03 35 29.5 +1.1**
PRU *epP* **sP 03 35 40.7 -1.5**
PRU *eS* **S 03 44 32.8 -2.0**
PRU AMS AMS 04 09 50.0
comp=Z,400nm,22.3s
SGRT San Giovanni R 69.65 308 P **P 03 35 27.7 -1.1**
PDKS Podkum 69.71 313 *eP* **P 03 35 29.1 +0.1**
PRA Prague 69.71 317 AMS AMS 04 10 00.0
comp=Z,400nm,24.2s
LEIR Leirfjorden 69.76 335 *eP* **P 03 35 29.4 +0.6**
CUC Castrocucco 69.82 307 P **P 03 35 29.3 -0.5**
CKRC Cesky Krumlov 69.90 316 *eP* **P 03 35 30.8 +0.7**
CKRC *eS* **S 03 44 32.8 -5.1**
CKRC MLR MLR
comp=Z,400nm,16.8s
CKRC Cesky Krumlov 69.90 316 *eP* **P 03 35 30.8 +0.7**
CKRC *eS* **S 03 44 32.8 -5.1**
CKRC AMS AMS 04 07 50.0
comp=Z,400nm,16.8s
ZVC Zvikov 69.92 317 *eP* **P 03 35 30.9 +0.7**
ZVC AMS AMS 04 07 40.0
comp=Z,300nm,20.5s
BRG Berggiesshubel 69.96 318 P **P 03 35 31.9 +1.6**
BRG pmax pmax
comp=Z,15nm,1.0s
BRG Berggiesshubel 69.96 318 *eP* **P 03 35 31.5 +1.2**
comp=Z,9.8nm,1.0s,baz=82,slow=6.0
BRG Berggiesshubel 69.96 318 *eP* **P 03 35 32.1 +1.7**
BRG Amp 03 35 32.9
comp=Z,9.8nm,1.0s
BRG pP **pP 03 35 43.5 +3.1**
BRG Amp 03 35 45.2
comp=Z,13nm,1.0s
BRG sP **PcP 03 35 48.4 -4.2**
BRG Amp 03 35 49.8
comp=Z,6.6nm,0.9s
BRG ⇑PP sP 03 35 53.8 +10
BRG Amp 03 35 55.3
comp=Z,10nm,1.0s
BRG Berggiesshubel 69.96 318 S **S 03 44 39.0 +0.6**
OBKA Obir 69.97 314 *eP* **P 03 35 31.2 +0.6**
comp=Z,4.6nm,0.8s,SNR=5.6
OBKA *epP* **sP 03 35 42.6 -1.8**
comp=Z,5.1nm,0.7s
CEL Celeste 69.99 305 IAmb IAmb 03 35 44.4
comp=Z,33nm,0.9s
MOA Molln 70.03 315 *eP* **P 03 35 31.0 +0.1**
comp=Z,5.3nm,0.7s,SNR=5.0
MOA *epP* **sP 03 35 42.5 -2.1**
comp=Z,6.4nm,0.9s
LJU Ljubljana 70.03 313 *eP* **P 03 35 31.3 +0.4**
LJU *i* pP **sP 03 35 43.5 -1.1**
CRNS Crni Vrh 70.21 313 *eP* **P 03 35 32.3 +0.2**
CRNS *epP* **sP 03 35 44.2 -1.6**
EIDS Eidsvold 70.22 127 P **P 03 35 32.9 +0.6**
EIDS IAmb IAmb 03 35 45.4
comp=Z,51nm,1.1s
NSS Namsos 70.26 333 *eP* **P 03 35 32.1 +0.2**
GEC2 GERESS Array S 70.30 316 *eP* **P 03 35 33.2 +0.6**
comp=Z,9.3nm,0.9s,baz=82,slow=6.0
GEC2 *eL* L 04 11 05.4
comp=Z,237nm,21.9s
GERES GERESS Array B 70.30 316 P **P 03 35 32.9 +0.2**
comp=Z,4.9nm,0.7s,baz=75,slow=6.1,SNR=58
GERES LR LR 04 11 18.7
comp=Z,223nm,21.7s,baz=89,slow=40
comp=Z,4.9nm,0.7s
KHC Kasperske Hory 70.35 316 *ceP* **P 03 35 33.1 +0.3**
KHC pmax pmax
comp=Z,13nm,1.8s
KHC Kasperske Hory 70.35 316 *eP* **P 03 35 32.9 +0.1**
KHC *epP* **sP 03 35 44.3 -2.3**
KHC *ex* x 03 36 02.5
KHC *eS* **S 03 44 41.7 -1.5**
KHC AMS AMS 04 11 20.0
comp=Z,400nm,19.9s
BIOA Bad Ischl, Aus 70.46 315 *eP* **P 03 35 33.8 +0.3**
comp=Z,6.5nm,1.1s
CLL Collm 70.51 319 ⇓ *iP* **P 03 35 33.5 -0.2**
CLL *i* *PP **sP 03 35 45.7 -1.7**
CLL *eS* **S 03 44 40.0 -4.8**
CLL pmax pmax
comp=Z,77nm,2.7s
CLL MLR MLR
comp=Z,300nm,20.8s
CLL Collm 70.51 319 *eL* L 04 14 31.2
comp=Z,326nm,19.6s
NC405 NORSAR Array S 70.51 329 P **P 03 35 33.6 +0.1**
NC405 IAmb IAmb 03 35 34.1
comp=Z,26nm,1.1s
NC602 NORSAR Array S 70.61 329 IAmb IAmb 03 35 51.0
comp=Z,18nm,0.9s
NC602 NORSAR Array S 70.61 329 *eP* **P 03 35 34.0 -0.2**
NC303 NORSAR Array S 70.67 329 IAmb IAmb 03 36 24.1
comp=Z,44nm,1.4s
KBA Koelnbreinsper 70.73 314 P **P 03 35 35.5 +0.1**
KBA pmax pmax
comp=Z,20nm,1.0s
KBA Koelnbreinsper 70.73 314 *eP* **P 03 35 35.4 +0.1**
comp=Z,5.2nm,0.8s
NB2 NORSAR Subarra 70.76 329 P **P 03 35 34.2 -0.9**
comp=Z,39nm,1.7s,baz=87,slow=6.2
NB2 NORSAR Subarra 70.76 329 P **P 03 35 31.6 -3.5**
NB2 pmax pmax
comp=Z,48nm,2.0s
NB2 NORSAR Subarra 70.76 329 P **P 03 35 34.2 -0.9**
baz=87,slow=6.2
NOA NORSAR Array B 70.76 329 P **P 03 35 34.5 -0.6**
comp=Z,5.0nm,0.7s,baz=87,slow=6.0,SNR=27
NOA LR LR 04 11 33.5
comp=Z,713nm,19.6s,baz=85,slow=40
comp=Z,5.0nm,0.7s
WET Wettzell 70.81 317 P **P 03 35 36.6 +1.0**
WET pmax pmax
comp=Z,10.0nm,1.6s
WET Wettzell 70.81 317 *eP* **P 03 35 36.3 +0.7**
comp=Z,188nm,3.0s,baz=82,slow=6.0
WET *eL* L 04 12 55.6
comp=Z,193nm,22.0s
TANN Tannenbergstha 70.94 318 *eP* **P 03 35 36.9 +0.5**
comp=Z,14nm,1.3s,baz=82,slow=6.0
RJOB Jochberg 71.02 315 *eP* **P 03 35 37.2 +0.2**
comp=Z,85nm,2.4s,baz=82,slow=6.0
OSL Oslo 71.07 328 *eP* **P 03 35 36.7 -0.2**
PLN Plauen 71.13 318 *eP* **P 03 35 38.0 +0.5**
comp=Z,2.7nm,1.0s,baz=82,slow=6.0
LESA Schwarzleotal 71.14 315 *eP* **P 03 35 37.5 -0.2**
comp=Z,8.7nm,0.6s,SNR=7.1
LESA *epP* **sP 03 35 49.5 -1.9**
comp=Z,18nm,1.1s
ROTZ Rotzenmuhle 71.17 317 *eP* **P 03 35 38.7 +0.9**
comp=Z,3.2nm,1.0s,baz=82,slow=6.0
MANZ Manzenberg 71.21 317 *eP* **P 03 35 38.9 +0.8**
comp=Z,42nm,2.8s,baz=82,slow=6.0
GUMA Gualdo di Mace 71.25 310 IAmb IAmb 03 35 58.5
comp=Z,30nm,1.0s
STAL STALIGIAL 71.26 314 IAmb IAmb 03 35 50.8
comp=Z,28nm,1.0s
ABTA Abfaltersbach 71.34 314 *eP* **P 03 35 38.3 -0.7**
comp=Z,6.1nm,1.1s
ABTA *epP* **sP 03 35 50.6 -2.1**
comp=Z,8.7nm,1.0s
FDMO Fiordimonte 71.43 310 IAmb IAmb 03 35 59.0
comp=Z,25nm,0.9s
MOX Moxa 71.45 318 P **P 03 35 40.0 +0.6**
MOX pmax pmax
comp=Z,15nm,1.1s
MOX Moxa 71.45 318 *eP* **P 03 35 40.1 +0.7**
comp=Z,188nm,3.0s,baz=82,slow=6.0
MOX *eL* L 04 15 12.6
comp=Z,270nm,18.5s
FLTG Flechtingen 71.49 320 *eP* **P 03 35 39.7 +0.1**
comp=Z,39nm,1.8s,baz=82,slow=6.0
GRB1 Grafenberg Arr 71.58 317 P **P**
GRB1 pmax pmax **03 35 41.7 +1.5**
comp=Z,25nm,1.0s
KONO Kongsberg 71.66 328 *eP* **P 03 35 40.9 +0.4**
GRC1 Grafenberg Arr 71.71 316 P **P 03 35 41.4 +0.3**
GRC1 pmax pmax
comp=Z,10.0nm,1.9s
GRF Grafenberg Arr 71.82 317 *eL* L 04 15 21.5
comp=Z,409nm,18.9s
WTTA Wattenberg 71.86 315 P **P**
WTTA pmax pmax **03 35 42.0 -0.2**
comp=Z,19nm,1.0s
WTTA Wattenberg 71.86 315 *eP* **P 03 35 42.0 -0.2**
comp=Z,7.1nm,0.6s,SNR=6.0
WTTA *epP* **sP 03 35 53.7 -2.3**
comp=Z,17nm,1.1s
WATA Walderalm 71.89 315 *eP* **P 03 35 41.5 -0.9**
comp=Z,5.9nm,0.8s,SNR=6.7
WATA *epP* **sP 03 35 53.7 -2.4**
comp=Z,8.7nm,1.0s
FUR Furstenfeldbru 71.98 316 *eL* L 04 12 00.6
comp=Z,222nm,21.5s
CTI Castel Tesino 72.02 313 IAmb IAmb 03 35 44.5
comp=Z,48nm,1.9s
CLZ Clausthal 72.08 320 *eP* **P 03 35 44.0 +0.7**
comp=Z,8.9nm,0.9s,baz=82,slow=6.0
SQTA Sankt Quirin 72.16 315 *eP* **P 03 35 43.1 -0.8**
comp=Z,6.9nm,0.6s,SNR=8.2
SQTA *epP* **sP 03 35 55.0 -2.7**
comp=Z,11nm,0.8s
SKAR Skarslia 72.21 329 *eP* **P 03 35 44.5 +0.7**
MOTA Moosalm 72.21 315 *eP* **P 03 35 43.5 -0.8**
comp=Z,11nm,0.9s,SNR=6.9
MOTA *epP* **sP 03 35 55.8 -2.2**
comp=Z,20nm,0.9s
GTTG Gottingen 72.37 319 *eP* **P 03 35 45.3 +0.4**
comp=Z,19nm,1.0s,baz=82,slow=6.0
RETA Reutte 72.42 315 *eP* **P 03 35 45.1 -0.3**
comp=Z,10nm,0.6s,SNR=6.6
RETA *epP* **sP 03 35 57.2 -2.0**
comp=Z,16nm,1.0s
FETA Feichten 72.51 315 *eP* **P 03 35 45.8 -0.3**
comp=Z,4.8nm,0.8s
FETA *epP* **sP 03 35 57.2 -2.6**
comp=Z,5.3nm,0.8s
RETH Rethem/Aller, 72.58 321 *eP* **P 03 35 46.3 +0.2**
comp=Z,16nm,1.4s,baz=82,slow=6.0
ZCCA Zocca 72.75 312 IAmb IAmb 03 36 21.5
comp=Z,41nm,0.9s
FUORN Ofenpass-Fuorn 72.89 314 IAmb IAmb 03 36 21.1
comp=Z,45nm,1.9s
DAVA Damuels 73.04 315 *eP* **P 03 35 49.1 -0.1**
comp=Z,6.3nm,0.6s,SNR=5.7
DAVA *epP* **sP 03 36 00.7 -2.3**
comp=Z,8.5nm,0.8s
DAVOX Davos/Dischmat 73.12 314 LR LR 04 15 34.3
comp=Z,174nm,19.1s,baz=71,slow=42
STU Stuttgart 73.26 316 P **P 03 35 49.9 -0.4**
STU Stuttgart 73.26 316 P **P 03 35 49.9 -0.4**
STU pmax pmax
comp=Z,12nm,0.8s
KASTN Kahler Asten 73.38 319 *eP* **P 03 35 51.6 +0.7**
comp=Z,59nm,2.1s,baz=82,slow=6.0
LSZ Lusaka 73.42 247 P **P**
LSZ IAmb IAmb **03 35 51.6 -0.2**
03 36 05.0
comp=Z,36nm,1.2s
LSZ Lusaka 73.42 247 LR LR 04 05 43.5
comp=Z,360nm,20.6s,baz=88,slow=34
LSZ Lusaka 73.42 247 P **P 03 35 51.7 -0.2**
LSZ P **P 03 35 51.7 -0.2**
LSZ Lusaka 73.42 247 P **P**
LSZ pmax pmax **03 35 51.6 -0.2**
comp=Z,36nm,1.3s
TNS Taunus Mts 73.52 318 P **P 03 35 52.9 +1.1**
TNS pmax pmax
comp=Z,17nm,0.9s
TNS Taunus Mts 73.52 318 *eP* **P 03 35 52.6 +0.8**
comp=Z,235nm,3.1s,baz=82,slow=6.0
TNS *eL* L 04 14 44.1
comp=Z,353nm,19.8s
IBBN Ibbenburen 73.61 320 *eP* **P 03 35 52.8 +0.6**
comp=Z,99nm,1.9s,baz=82,slow=6.0
BFO Black Forest 73.90 316 *eL* L 04 14 35.3
comp=Z,218nm,20.9s
BUG Bochum--Univer 74.05 319 P **P**
BUG pmax pmax **03 35 52.9 -1.9**
comp=Z,23nm,1.2s
PGF Pioggiola 74.48 310 P **P**
PGF pmax pmax **03 35 57.7 0.0**
comp=Z,20nm,0.9s
NOR Nord 74.84 352 P **P 03 35 59.5 +0.6**
NOR Nord 74.84 352 *i* P P 03 36 08.8 +10
NOR IAmb IAmb 03 36 12.5
comp=Z,25nm,1.1s
BTNL Ternell 74.91 319 *dP* **P 03 36 00.4 +0.5**
comp=Z,6.5nm,0.9s
MEM Membach 74.98 319 *dP* **P 03 36 00.8 +0.6**
H04N2 CROZET ISLANDS 75.05 209 T T 04 57 30.6
baz=42,slow=74,SNR=55
H04N1 CROZET ISLANDS 75.06 209 T T 04 57 31.4
baz=42,slow=74,SNR=43
H04N3 CROZET ISLANDS 75.07 209 T T 04 57 30.0
baz=42,slow=74,SNR=65
WLF Walferdange 75.07 318 P **P**
WLF pmax pmax **03 36 02.4 +1.6**
comp=Z,36nm,1.4s
WLF Walferdange 75.07 318 *dP* **P 03 36 02.1 +1.3**
comp=Z,16nm,1.3s
WLF Walferdange 75.07 318 *eP* **P 03 36 02.1 +1.3**
comp=Z,259nm,2.6s,baz=82,slow=6.0
GAMB Gambell 75.25 27 P **P 03 36 00.9 -0.6**
baz=282
MATP Matopo 75.37 242 LR LR 04 05 43.7
comp=Z,502nm,21.2s,baz=64,slow=33
BCLA Clavier 75.46 319 *dP* **P 03 36 05.2 +2.1**
ISO Isola 75.55 312 P **P 03 36 02.7 -1.1**
ISO pmax pmax
comp=Z,13nm,1.4s
RCHB Rochefort 75.56 318 *dP* **P 03 36 04.1 +0.5**
comp=Z,5.2nm,1.1s
KEST Kesra 75.60 303 P **P 03 36 04.4 +0.2**
comp=Z,5.2nm,0.7s,baz=167,slow=0.4,SNR=14
KEST LR LR 04 16 06.3
comp=Z,82nm,18.5s,baz=96,slow=41
comp=Z,5.2nm,0.7s
BMRD Maredsous 75.82 319 *dP* **P 03 36 05.7 +0.6**
BMRD *dx* x 03 36 13.2
TNA Tin City 76.42 25 P **P 03 36 06.9 -1.3**
baz=285
C16K Lisburne Hills 76.68 22 P **P**
C16K IAmb IAmb **03 36 09.8 +0.2**
03 36 21.4
comp=Z,34nm,0.9s
C16K Lisburne Hills 76.68 22 P **P 03 36 09.1 -0.4**
baz=286
JMIC Jan Mayen 76.82 341 LR LR 04 15 54.5
comp=Z,211nm,21.3s,baz=74,slow=40
F14K Arctic Creek 77.09 25 P **P 03 36 11.8 -0.2**
baz=286
KSANE Kasane 77.10 246 P **P 03 36 13.1 +0.1**
MREMI Moremi 77.19 241 P **P 03 36 13.4 0.0**
MREMI IAmb IAmb 03 36 26.4
comp=Z,53nm,1.4s
DAG Danmarks Havn 77.23 347 *i* P P 03 36 19.1 +6.6
DAG IAmb IAmb 03 36 24.0
comp=Z,19nm,0.9s
C17K DeLong Mountai 77.39 22 P **P 03 36 13.2 -0.4**
baz=288
SPIA Saint Paul Isl 77.46 34 P **P 03 36 13.9 -0.3**
baz=284
A19K Wainwright 77.53 20 P **P 03 36 13.3 -1.0**
baz=290
B18K Kokolik River 77.57 21 P **P 03 36 14.0 -0.6**
baz=289
RDOG Red Dog Mine 77.61 22 P **P 03 36 15.2 +0.3**
RDOG Red Dog Mine 77.61 22 P **P 03 36 14.3 -0.6**
baz=288
D17K Noatak River 77.67 22 P **P 03 36 14.9 -0.3**
baz=288,SNR=13
F15K North Star Dit 77.69 25 P **P**
F15K IAmb IAmb **03 36 16.1 +0.7**
03 36 28.4
comp=Z,34nm,0.9s
F15K North Star Dit 77.69 25 P **P 03 36 14.5 -0.9**
baz=288
ANM Nome 77.74 26 P **P 03 36 15.5 -0.1**
baz=287
P08K Saint George I 77.98 34 P **P 03 36 16.5 -0.5**
baz=285
C18K Utukok River 78.02 21 IAmb IAmb 03 36 30.4
comp=Z,34nm,0.8s
C18K Utukok River 78.02 21 P **P 03 36 16.7 -0.5**
baz=290,SNR=6.0
G15K Niukluk 78.15 25 P **P 03 36 17.2 -0.7**
baz=288
E17K Hotham Inlet 78.33 23 P **P 03 36 18.9 0.0**
baz=290,SNR=8.5
C19K Lookout Ridge 78.40 21 P **P 03 36 19.2 -0.1**
baz=291,SNR=5.6
A21K Barrow 78.48 18 P **P 03 36 19.6 0.0**
baz=294
M11K Mekoryuk 78.61 30 P **P 03 36 20.7 +0.2**
baz=287
E18K Tukpahlearik C 78.66 22 **P 03 36 20.8 +0.1**
E18K IAmb IAmb 03 36 34.1
comp=Z,54nm,0.8s
E18K Tukpahlearik C 78.66 22 P **P 03 36 20.8 +0.1**
baz=291,SNR=7.6
G16K Koyuk River 78.69 25 IAmb IAmb 03 36 34.2
comp=Z,43nm,0.9s
G16K Koyuk River 78.69 25 P **P 03 36 20.6 -0.3**
baz=290
DBG Daneborg 78.72 345 *i* P **P 03 36 21.6 +0.7**
DBG IAmb IAmb 03 36 24.4
comp=Z,3.2nm,0.7s
B20K Meade River 78.85 19 IAmb IAmb 03 36 35.3
comp=Z,35nm,0.8s
B20K Meade River 78.85 19 P **P 03 36 20.6 -1.0**
baz=293
K13K Kusilvak Mount 78.85 28 P **P 03 36 21.0 -0.8**
baz=288
H16K Elim 79.00 25 P **P 03 36 22.1 -0.5**
baz=290
J14K Nanvaranak Lak 79.07 27 P **P 03 36 22.2 -0.8**
baz=289
A22K Sinclair Lake 79.10 18 P **P 03 36 22.6 -0.5**
baz=295
D19K Kuna River 79.13 21 **P 03 36 23.3 0.0**
D19K IAmb IAmb 03 36 36.7
comp=Z,47nm,0.8s
D19K Kuna River 79.13 21 P **P 03 36 23.3 0.0**
baz=293,SNR=5.5
EKA Eskdalemuir Ar 79.24 325 P **P 03 36 24.6 +0.5**
comp=Z,6.6nm,0.6s,baz=88,slow=5.7,SNR=26
comp=Z,6.6nm,0.6s
F18K Selawik 79.30 23 P **P 03 36 24.1 -0.1**
baz=292,SNR=6.9
G17K Kiwalik Mounta 79.33 24 P **P 03 36 24.8 +0.4**
baz=291
NIKH Nikolski High 79.35 38 P **P 03 36 24.7 -0.1**
baz=286
D20K Etivluk River 79.55 21 P **P 03 36 25.4 -0.1**
baz=294,SNR=9.3
LBTB Lobatse 79.78 239 LR LR 04 08 21.2
comp=Z,319nm,20.3s,baz=69,slow=33
B21K Ikpikpuk River 79.81 19 IAmb IAmb 03 36 39.4
comp=Z,48nm,1.0s
B21K Ikpikpuk River 79.81 19 P **P 03 36 27.1 +0.2**
baz=296
H17K Granite Mounta 79.82 25 P **P 03 36 27.0 0.0**
H17K IAmb IAmb 03 36 39.2
comp=Z,36nm,0.8s
H17K Granite Mounta 79.82 25 P **P 03 36 26.8 -0.3**
baz=292
E19K Redstone River 79.85 22 IAmb IAmb 03 36 39.1
comp=Z,35nm,0.8s
E19K Redstone River 79.85 22 P **P 03 36 26.6 -0.6**
baz=294,SNR=9.1
B22K Teshekpuk Lake 79.86 19 P **P 03 36 26.7 -0.5**
baz=297
E20K Nigu River 79.88 21 P **P 03 36 27.2 -0.2**
baz=294,SNR=11
I17K Unalakleet 79.89 26 P **P 03 36 26.8 -0.6**
baz=291
F19K Shaleruckik Mo 79.90 23 P **P 03 36 27.6 +0.1**
F19K IAmb IAmb 03 36 40.3
comp=Z,31nm,0.9s
F19K Shaleruckik Mo 79.90 23 P **P 03 36 27.0 -0.4**
baz=293
L14K Kuka Creek 79.93 29 **P 03 36 27.6 -0.1**
L14K IAmb IAmb 03 36 40.9
comp=Z,52nm,1.0s
L14K Kuka Creek 79.93 29 P **P 03 36 27.7 +0.1**
baz=290,SNR=5.5
M13K Dall Lake 79.94 30 P **P 03 36 27.1 -0.6**
baz=290
G18K Tagagawik 79.94 24 P **P 03 36 27.3 -0.4**
baz=293,SNR=5.4
C21K Knifeblade Rid 79.96 20 P **P 03 36 28.2 +0.5**
baz=296,SNR=6.5
K15K Wolf Creek Mou 80.11 27 IAmb IAmb 03 36 40.9
comp=Z,29nm,0.9s
K15K Wolf Creek Mou 80.11 27 P **P 03 36 28.4 -0.3**
baz=291,SNR=5.2
J16K Anvik River 80.15 26 IAmb IAmb 03 36 42.3
comp=Z,54nm,0.9s
J16K Anvik River 80.15 26 P **P 03 36 29.0 +0.1**
baz=291,SNR=6.9
H18K Honhosa River 80.35 24 IAmb IAmb 03 36 41.7
comp=Z,30nm,0.8s
H18K Honhosa River 80.35 24 P **P 03 36 29.5 -0.4**
baz=293,SNR=5.9
L15K Ungalak Mounta 80.35 28 P **P 03 36 29.9 -0.1**
baz=291,SNR=5.3
G19K Purcell Mounta 80.43 23 P **P 03 36 30.3 -0.1**
baz=294,SNR=6.5
UNV Unalaska Valle 80.44 36 P **P 03 36 29.9 -0.6**
baz=288
M14K Bethel 80.47 29 IAmb IAmb 03 36 42.5
comp=Z,52nm,0.9s
M14K Bethel 80.47 29 P **P 03 36 30.4 -0.2**
baz=291,SNR=6.9
E21K Killik River 80.54 20 P **P 03 36 30.6 -0.3**
baz=296
F20K Avaraart Lake 80.55 22 P **P 03 36 30.5 -0.4**
F20K IAmb IAmb 03 36 42.8
comp=Z,31nm,0.8s
F20K Avaraart Lake 80.55 22 P **P 03 36 30.6 -0.4**
baz=295
J17K VABM Dome 80.75 26 **P 03 36 32.6 +0.5**
J17K IAmb IAmb 03 36 45.5
comp=Z,34nm,0.9s
J17K VABM Dome 80.75 26 P **P 03 36 32.0 -0.1**
baz=293,SNR=5.6
D22K Ayikyak River 80.76 20 P **P 03 36 32.3 +0.2**
baz=298,SNR=8.5
N14K Kuskokwak Cree 80.89 30 P **P 03 36 32.4 -0.4**
baz=291,SNR=6.5
H19K Roundabout Mou 80.93 23 P **P 03 36 33.2 +0.2**
H19K Roundabout Mou 80.93 23 P **P 03 36 33.1 +0.1**
baz=295,SNR=5.9
C23K Itkillik River 80.95 19 P **P 03 36 32.7 -0.3**
baz=299,SNR=5.6
M15K Kasigluk River 81.07 29 P **P 03 36 33.1 -0.7**
baz=292,SNR=8.3
DZM Mont Dzumac 81.09 117 *eS* **S 03 46 44.7 +2.1**
comp=Z,1µm,37.4s
DZM Mont Dzumac 81.09 117 *eLQ* LQ 03 58 20.0
comp=Z,890nm,37.4s
DZM *eLR* LR 04 01 50.6
comp=Z,330nm,24.2s
GCSA Galena City Sc 81.09 24 P **P 03 36 33.3 -0.5**
baz=294
L16K Owhat River 81.23 28 P **P 03 36 34.2 -0.5**
baz=293,SNR=5.6
F21K Alatna River 81.26 21 P **P 03 36 34.2 -0.6**
baz=297,SNR=5.8
O14K Tigyukauivet M 81.33 30 P **P 03 36 33.9 -1.4**
baz=292
K17K Iditarod 81.34 26 IAmb IAmb 03 36 47.5
comp=Z,54nm,0.9s
K17K Iditarod 81.34 26 P **P 03 36 35.2 0.0**
baz=294,SNR=7.1
D23K Nanushuk River 81.36 19 P **P 03 36 35.4 +0.2**
baz=299,SNR=6.2
E22K Anaktuvuk Pass 81.39 20 IAmb IAmb 03 36 52.8
comp=Z,35nm,0.8s
E22K Anaktuvuk Pass 81.39 20 P **P 03 36 35.4 -0.1**
baz=298,SNR=8.6
H20K Anotleneega Mo 81.53 23 P **P 03 36 36.5 +0.2**
baz=296,SNR=5.8
N15K Kwethluk River 81.54 29 IAmb IAmb 03 36 50.1

	comp=Z,45nm,0.9s								
N15K	**Kwethluk River**	81.54	29	P		P	03 36 36.3	-0.1	
	baz=292,SNR=5.2								
F22K	**John River**	81.57	21	P		P	03 36 36.2	-0.2	
	baz=298								
L17K	**Donlin**	81.57	27	P		P	03 36 36.6	+0.1	
	baz=294,SNR=5.5								
G21K	**Allakaket**	81.58	22	IAmb		IAmb	03 36 49.5		
	comp=Z,37nm,0.8s								
G21K	**Allakaket**	81.58	22	P		P	03 36 36.5	0.0	
	baz=297,SNR=12								
C24K	**Franklin Bluff**	81.58	18	P		P	03 36 36.6	+0.2	
	baz=301								
BOSA	**Boshof**	81.64	236	P		P	03 36 37.2	-0.3	
	comp=Z,5.5nm,0.9s,baz=84,slow=2.1,SNR=6.9								
BOSA				LR		LR	04 09 54.1		
	comp=Z,435nm,19.2s,baz=68,slow=33								
	comp=Z,5.5nm,0.9s								
J18K	**Innoko River**	81.69	25	IAmb		IAmb	03 36 48.9		
	comp=Z,22nm,0.8s								
J18K	**Innoko River**	81.69	25	P		P	03 36 37.0	-0.1	
	baz=295,SNR=6.9								
M16K	**Timber Creek**	81.73	28	IAmb		IAmb	03 36 50.5		
	comp=Z,31nm,0.8s								
M16K	**Timber Creek**	81.73	28	P		P	03 36 37.1	-0.3	
	baz=293,SNR=6.5								
IMAR	**Indian Mountai**	81.73	23	P		P	03 36 37.6	+0.3	
FALS	**False Pass**	81.81	35	P		P	03 36 37.5	-0.3	
	baz=290								
D24K	**Happy Valley**	81.84	19	P		P	03 36 37.8	+0.1	
	baz=301								
TOLK	**Toolik Lake Re**	81.87	19	P		P	03 36 38.3	+0.3	
	baz=300,SNR=5.5								
J19K	**Poorman**	81.90	25			P	03 36 38.5	+0.3	
J19K				IAmb		IAmb	03 36 50.5		
	comp=Z,26nm,0.9s								
J19K	**Poorman**	81.90	25	P		P	03 36 37.9	-0.4	
	baz=296,SNR=6.1								
I20K	**Naaghedeneel**	82.00	24	P		P	03 36 38.8	+0.2	
	baz=297,SNR=5.8								
N16K	**Nishlik Lake**	82.03	29	P		P	03 36 38.5	-0.4	
	baz=293,SNR=9.1								
O15K	**Ungalikthiuk R**	82.05	30	P		P	03 36 38.5	-0.5	
	baz=293,SNR=6.3								
G22K	**Bettles**	82.08	21	P		P	03 36 39.0	-0.1	
	baz=299,SNR=6.1								
TAM	**Tamanrasset**	82.11	291	IAmb		IAmb	03 37 09.8		
	comp=Z,14nm,0.3s								
TAM	**Tamanrasset**	82.11	291	P		P	03 36 41.1	+0.8	
TAM				pmax		pmax			
	comp=Z,7.0nm,2.2s								
E23K	**Chandalar**	82.15	20	IAmb		IAmb	03 36 59.3		
	comp=Z,27nm,0.9s								
E23K	**Chandalar**	82.15	20	P		P	03 36 39.3	-0.3	
	baz=300,SNR=8.2								
NEEM	**North Greenlan**	82.15	353	*i* P		P	03 36 45.4	+5.7	
NEEM				IAmb		IAmb	03 36 51.4		
	comp=Z,40nm,1.1s								
H21K	**Melozitna Rive**	82.23	23	P		P	03 36 39.9	0.0	
	baz=298,SNR=6.2								
L18K	**Granite Mounta**	82.23	27	P		P	03 36 40.4	+0.4	
	baz=295								
S12K	**Black Hills**	82.23	34	P		P	03 36 39.4	-0.7	
	baz=291								
M17K	**Holitna River**	82.25	27	P		P	03 36 39.6	-0.5	
	baz=294								
COLD	**Coldfoot**	82.38	21	P		P	03 36 40.5	-0.1	
	baz=300								
J20K	**Nowinta River**	82.40	24	IAmb		IAmb	03 36 53.2		
	comp=Z,84nm,1.8s								
J20K	**Nowinta River**	82.40	24	P		P	03 36 40.9	+0.1	
	baz=297,SNR=5.4								
D25K	**Kavik River**	82.49	18	P		P	03 36 41.1	-0.1	
	baz=303								
E24K	**Your Creek**	82.51	20	P		P	03 36 41.0	-0.4	
	baz=302								
C26K	**Camden Bay**	82.58	17	P		P	03 36 41.6	0.0	
	baz=304								
H22K	**Ishtalitna Cre**	82.63	22	P		P	03 36 42.3	+0.3	
	baz=299,SNR=5.9								
O16K	**Kokwok River B**	82.70	29	P		P	03 36 42.1	-0.3	
	baz=294,SNR=5.9								
G23K	**Bananza Creek**	82.70	21			P	03 36 43.2	+0.9	
G23K				IAmb		IAmb	03 36 54.7		
	comp=Z,37nm,0.9s								
G23K	**Bananza Creek**	82.70	21	P		P	03 36 42.3	-0.1	
	baz=300								
N17K	**Nushagak Hills**	82.72	28	IAmb		IAmb	03 36 55.5		
	comp=Z,37nm,1.1s								
N17K	**Nushagak Hills**	82.72	28	P		P	03 36 42.7	+0.2	
	baz=295,SNR=7.1								
I21K	**Tanana**	82.76	23	P		P	03 36 43.0	+0.3	
	baz=299								
K20K	**Telida**	82.81	25	P		P	03 36 42.9	-0.1	
	baz=297,SNR=6.9								
M18K	**Stony River**	82.91	27	P		P	03 36 43.4	-0.1	
	baz=296								
P16K	**Nushagak River**	82.98	30	P		P	03 36 43.3	-0.5	
	baz=294								
F24K	**Squaw Lake**	82.99	20	IAmb		IAmb	03 36 56.3		
	comp=Z,32nm,0.9s								
F24K	**Squaw Lake**	82.99	20	P		P	03 36 43.3	-0.6	
	baz=302,SNR=8.3								
L19K	**White Mountain**	83.02	26	P		P	03 36 45.0	+0.9	
L19K				IAmb		IAmb	03 36 57.6		
	comp=Z,24nm,0.9s								
L19K	**White Mountain**	83.02	26	P		P	03 36 44.0	-0.1	
	baz=297,SNR=6.1								
O17K	**Koliganek Bris**	83.08	29	P		P	03 36 43.8	-0.6	
	baz=295,SNR=6.6								
C27K	**Jago River**	83.09	17	P		P	03 36 44.4	+0.1	
	baz=306								
SDPT	**Sand Point**	83.20	34	P		P	03 36 44.5	-0.6	
	baz=293								
N18K	**Kilae Creek**	83.24	28	P		P	03 36 44.7	-0.6	
	baz=296								
CHUM	**Lake Minchumin**	83.25	24	P		P	03 36 45.2	0.0	
	baz=299								
L20K	**Farewell, AK**	83.29	26	P		P	03 36 45.5	0.0	
	baz=297,SNR=6.3								
MLY	**Manley**	83.29	23	P		P	03 36 45.4	-0.1	
	baz=300,SNR=11								
S14K	**Fog Glacier**	83.32	33	P		P	03 36 45.6	-0.3	
	baz=293								
H23K	**Yukon River**	83.32	22	IAmb		IAmb	03 36 58.1		
	comp=Z,36nm,0.8s								
H23K	**Yukon River**	83.32	22	P		P	03 36 46.1	+0.5	
	baz=301,SNR=6.3								
M19K	**Big River Lodg**	83.34	26	P		P	03 36 45.8	0.0	
	baz=297								
E25K	**Arctic Village**	83.40	19	P		P	03 36 46.2	+0.2	
	baz=304								
CAST	**Castle Rocks**	83.57	25	P		P	03 36 46.9	0.0	
	baz=299,SNR=18								
G24K	**Hadweenzic Riv**	83.57	21	IAmb		IAmb	03 37 00.6		
	comp=Z,32nm,0.8s								
G24K	**Hadweenzic Riv**	83.57	21	P		P	03 36 46.8	0.0	
	baz=303,SNR=9.2								
P17K	**Kvichak River**	83.63	29	P		P	03 36 47.2	-0.1	
	baz=296,SNR=5.6								
BPAW	**Bear Paw Mtn.**	83.66	24	P		P	03 36 47.3	-0.1	
	baz=300,SNR=15								
F25K	**Christian Rive**	83.67	20	P		P	03 36 47.8	+0.4	
	baz=304,SNR=9.9								
I23K	**Minto, Yukon-K**	83.73	22	P		P	03 36 47.4	-0.2	
	baz=301,SNR=7.1								
Q16K	**King Salmon**	83.75	30	P		P	03 36 47.8	-0.1	
	baz=295								
PPLA	**Purkeypile**	83.78	25	P		P	03 36 47.7	-0.5	
	baz=299								
R16K	**Pilot Point**	83.78	31	P		P	03 36 47.3	-0.8	
	baz=295								
N19K	**Bonanza Creek**	83.80	27	IAmb		IAmb	03 37 00.3		
	comp=Z,33nm,0.8s								
N19K	**Bonanza Creek**	83.80	27	P		P	03 36 47.4	-0.8	
	baz=297,SNR=8.0								
BORG	**Borgarnes**	83.82	337	LR		LR	04 18 07.1		
	comp=Z,208nm,19.2s,baz=73,slow=38								
CHNA	**Chernabura Isl**	83.88	34	P		P	03 36 47.6	-0.9	
	baz=293								
M20K	**Styx River**	83.88	26	IAmb		IAmb	03 37 02.0		
	comp=Z,22nm,0.8s								
M20K	**Styx River**	83.88	26	P		P	03 36 47.8	-0.8	
	baz=298								
H24K	**Noodor Dome**	83.90	22	IAmb		IAmb	03 37 00.9		
	comp=Z,28nm,0.9s								
H24K	**Noodor Dome**	83.90	22	P		P	03 36 48.2	-0.3	
	baz=302,SNR=8.6								
O18K	**Koktuh Hills**	83.91	28	P		P	03 36 48.1	-0.6	
	baz=296,SNR=6.0								
SUMG	**Summit**	83.92	347	IAmb		IAmb	03 37 11.9		
	comp=Z,21nm,0.9s								
SUMG	**Summit**	83.92	347	P		P	03 36 49.1	+0.1	
SUMG				pmax		pmax			
	comp=Z,29nm,1.5s								
SUMG	**Summit**	83.92	347	*i* P		P	03 36 48.7	-0.3	
SUMG				IAmb		IAmb	03 36 52.1		
	comp=Z,16nm,1.2s								
G25K	**Bearman Lake**	83.99	20	P		P	03 36 47.5	-1.5	
	baz=304								
F26K	**Sheenjek River**	84.09	19	P		P	03 36 48.7	-0.8	
	baz=305,SNR=9.7								
D27M	**Malcolm River**	84.09	17	P		P	03 36 48.8	-0.8	
	baz=308								
P18K	**Big Mountain,**	84.10	29	P		P	03 36 48.8	-1.0	
	baz=296								
BMAR	**Burnt Mountain**	84.11	19	P		P	03 36 50.9	+1.3	
NEA2	**Nenana**	84.13	23	P		P	03 36 49.0	-0.8	
	baz=301,SNR=13								
O19K	**Port Alsworth**	84.15	28	P		P	03 36 49.1	-0.8	
	baz=297,SNR=5.2								
TRF	**Thorofare Moun**	84.25	24	P		P	03 36 51.0	+0.4	
TRF				IAmb		IAmb	03 37 08.6		
	comp=Z,23nm,1.0s								
TRF	**Thorofare Moun**	84.25	24	P		P	03 36 50.1	-0.5	
	baz=300								
TSUM	**Tsumeb**	84.26	248	LR		LR	04 12 08.0		
	comp=Z,618nm,19.9s,baz=67,slow=34								
R17L	**Mt. Peulik Vol**	84.35	31	P		P	03 36 50.2	-0.8	
	baz=296								
H25L	**Birch Creek**	84.36	21	P		P	03 36 50.8	0.0	
	baz=304								
COLA	**College**	84.42	22	P		P	03 36 51.4	+0.2	
COLA				pmax		pmax			
	comp=Z,30nm,1.0s								
COLA	**College**	84.42	22	P		P	03 36 51.4	+0.2	
	baz=302								
POKR	**Poker Plat Res**	84.44	22	P		P	03 36 51.1	-0.2	
	baz=303,SNR=7.9								
SKT	**Skwentna**	84.49	26	P		P	03 36 51.5	-0.1	
	baz=299,SNR=7.9								
Q18K	**Katmai Hardscr**	84.54	29	P		P	03 36 51.4	-0.6	
	baz=297,SNR=6.0								
WRH	**Wood River Hil**	84.55	23	IAmb		IAmb	03 37 04.5		
	comp=Z,12nm,0.7s								
CCB	**Clear Creek Bu**	84.56	23	IAmb		IAmb	03 37 04.0		
	comp=Z,11nm,0.7s								
E27K	**Coleen River**	84.57	18	IAmb		IAmb	03 37 03.5		
	comp=Z,16nm,0.8s								
E27K	**Coleen River**	84.57	18	P		P	03 36 51.3	-0.6	
	baz=308								
N20K	**Mount Spurr**	84.59	27	P		P	03 36 51.4	-0.8	
	baz=299								
MCK	**McKinley**	84.63	24	P		P	03 36 51.8	-0.5	
	baz=302,SNR=6.5								
G26K	**Porcupine Rive**	84.64	20	P		P	03 36 52.1	-0.1	
	baz=306,SNR=16								
D28M	**Stokes Point**	84.66	17	P		P	03 36 52.5	+0.3	
	baz=310								
ESDC	**Sonseca Array**	84.67	310	P		P	03 36 53.3	+0.2	
ESDC	**Sonseca Array**	84.67	310	P		P	03 36 52.9	-0.2	
	comp=Z,3.4nm,0.7s,baz=56,slow=4.6,SNR=49								
ESDC				LR		LR	04 23 49.1		
	comp=Z,156nm,18.9s,baz=48,slow=42								
	comp=Z,3.4nm,0.7s								
CUT	**Chulitna**	84.80	25	P		P	03 36 52.7	-0.4	
	baz=300								
ILAR	**Eielson Array**	84.83	22	P		P	03 36 51.8	-1.5	
	comp=Z,7.1nm,0.7s,baz=300,slow=4.9,SNR=24								
ILAR				PP		PP	03 40 08.2	-1.0	
	comp=Z,1.2nm,0.8s,baz=301,slow=7.3,SNR=4.9								
ILAR				LR		LR	04 19 32.1		
	comp=Z,574nm,20.2s,baz=290,slow=39								
	comp=Z,7.1nm,0.7s								
PRP	**Porcupine Dome**	84.89	21	P		P	03 36 53.7	0.0	
	baz=304,SNR=21								
P19K	**Oil Pt**	84.89	28	P		P	03 36 53.5	-0.2	
	baz=298,SNR=5.2								
E28M	**Babbage River**	84.90	17	IAmb		IAmb	03 37 05.8		
	comp=Z,33nm,1.2s								
E28M	**Babbage River**	84.90	17	P		P	03 36 51.9	-1.6	
	baz=310								
O20K	**Slope Mountain**	84.95	28	P		P	03 36 53.1	-0.9	
	baz=299								
HDA	**Harding Lake**	85.00	23	P		P	03 36 53.1	-1.0	
HDA				IAmb		IAmb	03 37 04.5		
	comp=Z,23nm,0.7s								
HDA	**Harding Lake**	85.00	23	P		P	03 36 53.1	-1.0	
	baz=303,SNR=5.5								
Q19K	**Cape Douglas,**	85.04	29	P		P	03 36 53.6	-0.9	
	baz=298								
SUA	**Susitna One**	85.08	26	P		P	03 36 53.6	-1.1	
	baz=300								
CAPN	**Captain Cook N**	85.25	27	P		P	03 36 54.7	-0.7	
	baz=300								
R18K	**Karluk**	85.30	30	P		P	03 36 55.1	-0.6	
	baz=297								
KULLO	**Kullorsuaq**	85.39	353	*i* P		P	03 36 56.8	+0.9	
KULLO				IAmb		IAmb	03 37 02.8		
	comp=Z,14nm,0.8s								
G27K	**Dogon Strip**	85.39	19	P		P	03 36 55.8	-0.3	
	baz=308								
F28M	**Old Crow**	85.44	18	IAmb		IAmb	03 37 08.2		
	comp=Z,16nm,0.9s								
F28M	**Old Crow**	85.44	18	P		P	03 36 55.7	-0.5	
	baz=309								
J25K	**Salcha River,**	85.46	22	IAmb		IAmb	03 37 07.2		
	comp=Z,26nm,0.8s								
J25K	**Salcha River,**	85.46	22	P		P	03 36 55.4	-1.1	
	baz=305,SNR=9.6								
E29M	**Blow River**	85.50	17	P		P	03 36 56.3	-0.3	
	baz=311								
HOM	**Homer**	85.59	28	P		P	03 36 56.3	-0.8	
	baz=300								
PMR	**Palmer**	85.67	25	P		P	03 36 56.0	-1.5	
	baz=302								
RC01	**Rabbit Creek A**	85.69	26	P		P	03 36 57.5	-0.2	
	baz=301								
K24K	**Donnelly Dome**	85.77	23	P		P	03 36 56.8	-1.2	
	baz=304,SNR=11								
Q20K	**Shuyak Island**	85.77	29	P		P	03 36 57.1	-0.9	
	baz=299								
H27K	**Steamboat Moun**	85.79	20	IAmb		IAmb	03 37 10.4		
	comp=Z,15nm,0.8s								
H27K	**Steamboat Moun**	85.79	20	P		P	03 36 57.0	-1.1	
	baz=308,SNR=6.1								
I26K	**Coal Creek Min**	85.82	21	IAmb		IAmb	03 37 18.1		
	comp=Z,15nm,0.9s								
I26K	**Coal Creek Min**	85.82	21	P		P	03 36 57.5	-0.7	
	baz=306								
A36M	**Sachs Harbour**	85.83	12	P		P	03 36 58.0	-0.1	
	baz=322								
SII	**Sitkinak Islan**	85.89	31	P		P	03 36 58.3	-0.5	
	baz=298								
O22K	**Cooper Landing**	86.01	27	P		P	03 36 58.8	-0.4	
	baz=301								
OHAK	**Cal Harbor**	86.02	30	P		P	03 36 58.2	-1.1	
	baz=298								
KNK	**Knik Glacier**	86.04	25	P		P	03 36 59.0	-0.4	
	baz=302,SNR=5.6								
KDAK	**Kodiak Island**	86.08	30	LR		LR	04 19 02.3		
	comp=Z,286nm,18.7s,baz=311,slow=38								
KDAK	**Kodiak Island**	86.08	30	P		P	03 36 58.4	-1.2	
	baz=299								
M23K	**Glacier View**	86.14	25	P		P	03 36 58.6	-1.2	
	baz=303								
RIDG	**Independent Ri**	86.14	23	P		P	03 36 59.5	-0.4	
	baz=305,SNR=6.9								
I27K	**Kandik River**	86.15	20	P		P	03 36 59.3	-0.6	
	baz=308,SNR=5.4								
J26L	**Joseph Creek**	86.16	22	IAmb		IAmb	03 37 11.7		
	comp=Z,35nm,0.9s								
J26L	**Joseph Creek**	86.16	22	P		P	03 36 59.0	-1.0	
	baz=306,SNR=9.9								
SCM	**Sheep Creek Mo**	86.27	25	P		P	03 36 60.0	-0.6	
	baz=303,SNR=5.3								
SCRK	**Sand Creek**	86.32	22	IAmb		IAmb	03 37 12.5		
	comp=Z,29nm,0.7s								
SCRK	**Sand Creek**	86.32	22	P		P	03 37 00.1	-0.8	
	baz=306,SNR=13								
SEW	**Seward**	86.32	27	P		P	03 37 00.0	-0.7	
	baz=301								
MVO	**Moncorvo**	86.35	312	*eP*		P	03 37 02.4	+1.0	
MVO				*i* IAmb		IAmb	03 37 06.6		
	comp=Z,35nm,1.8s								
PAX	**Paxson**	86.36	23	IAmb		IAmb	03 37 18.4		
	comp=Z,15nm,0.9s								
PAX	**Paxson**	86.36	23	P		P	03 37 00.5	-0.5	
	baz=305								
PWL	**Port Wells**	86.39	26	P		P	03 37 00.4	-0.8	
	baz=302,SNR=6.4								
G29M	**Pine Creek**	86.44	18	P		P	03 36 60.0	-1.3	
	baz=311								
DOT	**Dot Lake**	86.48	22	IAmb		IAmb	03 37 12.9		
	comp=Z,12nm,0.8s								
M24K	**Tolsona, Glenn**	86.57	24	P		P	03 37 01.0	-1.0	
	baz=304,SNR=5.4								
F30M	**Barrier River**	86.61	17	P		P	03 37 01.2	-0.9	
	baz=313								
INK	**Inuvik**	86.74	16	LR		LR	04 22 12.8		
	comp=Z,309nm,19.5s,baz=328,slow=40								
INK	**Inuvik**	86.74	16	P		P	03 37 01.1	-1.5	
	baz=315								
H29M	**Whitestone**	86.79	19	P		P	03 37 01.4	-1.6	
	baz=311								
I28M	**Miner Creek**	86.79	20			P	03 37 02.6	-0.6	
I28M				IAmb		IAmb	03 37 14.7		
	comp=Z,12nm,0.8s								
I28M	**Miner Creek**	86.79	20	P		P	03 37 01.3	-1.9	
	baz=309								
HARP	**HAARP**	86.80	24	P		P	03 37 02.6	-0.5	
	baz=305,SNR=5.7								
RES	**Resolute Bay**	86.83	2	LR		LR	04 20 36.4		
	comp=Z,181nm,19.1s,baz=0.5,slow=39								
GLI	**Glacier Island**	86.89	26	P		P	03 37 02.4	-1.1	
	baz=303								
G30M	**tAoh Zraii Nji**	86.92	18	IAmb		IAmb	03 37 14.8		
	comp=Z,27nm,1.1s								
G30M	**tAoh Zraii Nji**	86.92	18	P		P	03 37 02.7	-1.0	
	baz=313,SNR=5.2								
K27K	**Chicken**	86.96	22	IAmb		IAmb	03 37 16.6		
	comp=Z,32nm,1.3s								
K27K	**Chicken**	86.96	22	P		P	03 37 03.9	+0.1	
	baz=308								
MTE	**Manteigas**	86.99	312	*eP*		P	03 37 05.6	+1.0	
MTE				*i* IAmb		IAmb	03 37 22.6		
	comp=Z,29nm,2.2s								
MTE				*eS*		S	03 47 46.9	+5.5	
KLU	**Klutina**	87.02	25	P		P	03 37 04.0	-0.3	
	baz=304,SNR=6.2								
L26K	**Log Cabin Wild**	87.11	23	IAmb		IAmb	03 37 36.4		
	comp=Z,36nm,1.2s								
L26K	**Log Cabin Wild**	87.11	23	P		P	03 37 04.5	-0.1	
	baz=306,SNR=6.3								
PCBR	**Castelo Branco**	87.15	311	*eP*		P	03 37 05.8	+0.6	
PCBR				*i* IAmb		IAmb	03 37 20.4		
	comp=Z,24nm,1.6s								
EPYK	**Eagle Plains**	87.19	18	P		P	03 37 03.9	-1.1	
	baz=312								
F31M	**Tsiigehtchic**	87.30	17	P		P	03 37 05.0	-0.4	
	baz=315								
I29M	**Ogilvie Camp,**	87.37	20	P		P	03 37 05.5	-0.3	
	baz=311								
PBAR	**Barrancos**	87.44	309	*eP*		P	03 37 07.2	+0.5	
PBAR				*i* IAmb		IAmb	03 37 22.6		
	comp=Z,20nm,1.8s								
N25K	**Chitina, Valde**	87.47	24	P		P	03 37 05.9	-0.5	
	baz=305,SNR=9.7								
MDT	**Midelt**	87.50	304	LR		LR	04 25 09.2		
	comp=Z,148nm,18.0s,baz=77,slow=42								
G31M	**Satah River**	87.52	17	P		P	03 37 06.1	-0.3	
	baz=314								
M26K	**Nabesna, AK**	87.62	23	P		P	03 37 07.0	-0.2	
	baz=307,SNR=7.3								
EYAK	**Cordova Ski Ar**	87.62	25	P		P	03 37 06.9	-0.2	
	baz=304								
L27K	**Beaver Creek,**	87.64	22	IAmb		IAmb	03 37 20.0		
	comp=Z,36nm,1.5s								
L27K	**Beaver Creek,**	87.64	22	P		P	03 37 06.2	-1.0	
	baz=308								
BCAR	**Beaver Creek A**	87.66	22	P		P	03 37 07.7	+0.4	
PSARD	**Sardoal**	87.73	311	*eP*		P	03 37 09.0	+0.9	
PSARD				*i* IAmb		IAmb	03 37 23.5		
	comp=Z,28nm,1.4s								
BMRM	**Bremner River**	87.84	25	P		P	03 37 07.5	-0.7	
	baz=305,SNR=6.1								
DAWY	**Dawson**	87.86	21	P		P	03 37 08.2	0.0	
	baz=310								
PMTG	**Montargil**	87.98	311	*eP*		P	03 37 09.9	+0.7	
PMTG				*i* IAmb		IAmb	03 37 10.9		
	comp=Z,18nm,1.6s								
J29N	**Klondike Camp**	88.00	20	P		P	03 37 08.8	-0.2	
	baz=311								
Q23K	**Middleton Isla**	88.01	27	P		P	03 37 08.7	-0.2	
	baz=304								
EVO	**Evora**	88.02	310	*eP*		P	03 37 10.3	+0.8	
M27K	**Edge Creek, AK**	88.06	23	P		P	03 37 08.6	-0.7	
	baz=308,SNR=5.1								
I30M	**Mount Dempster**	88.07	19	IAmb		IAmb	03 37 20.8		
	comp=Z,34nm,1.2s								
I30M	**Mount Dempster**	88.07	19	P		P	03 37 08.5	-0.8	
	baz=313,SNR=5.2								
PBEJ	**Beja**	88.11	309	*eP*		P	03 37 10.9	+1.1	
PBEJ				*i* IAmb		IAmb	03 37 13.7		
	comp=Z,20nm,1.7s								
C36M	**Paulatuk**	88.19	13	P		P	03 37 08.7	-0.9	
	baz=324								
MCARA	**McCarthy VSAT**	88.22	24	P		P	03 37 09.6	-0.3	
	baz=307,SNR=6.8								
PVAQ	**Vaqueiros**	88.23	309	*eP*		P	03 37 11.7	+1.2	
PVAQ				*i* IAmb		IAmb	03 37 15.3		
	comp=Z,34nm,2.0s								
PVAQ				*eS*		S	03 47 48.0	-5.2	
H31M	**Peel River**	88.28	18			P	03 37 10.2	0.0	
H31M	**Peel River**	88.28	18	P		P	03 37 08.7	-1.5	
	baz=314								
BVCY	**Beaver Creek**	88.39	23	P		P	03 37 10.1	-0.7	
	baz=309,SNR=6.3								
MESJ	**Messejana**	88.44	309	*eP*		P	03 37 12.4	+1.0	
MESJ				*i* IAmb		IAmb	03 37 32.9		
	comp=Z,29nm,1.5s								
TORD	**Torodi Ar. Bea**	88.50	283

	baz=313								
SFJD	**Kangerlussuaq**	**90.91**	**347**		LR	LR	04 23 24.3		
	comp=Z,540nm,20.8s,baz=25,slow=39								
P30M	**Million Dollar**	**91.32**	**23**		P	**P**	**03 37 24.0**	**-0.5**	
	baz=312								
P29M	**Windy Craggy**	**91.36**	**24**		P	**P**	**03 37 24.5**	**-0.1**	
	baz=311								
MMPY	**Sheldon Lake,**	**91.52**	**19**		IAmb	IAmb	03 37 38.2		
	comp=Z,19nm,0.9s								
MMPY	**Sheldon Lake,**	**91.52**	**19**		P	**P**	**03 37 24.5**	**-0.8**	
	baz=317,SNR=5.1								
WHY	**Whitehorse**	**91.71**	**22**		P	**P**	**03 37 25.3**	**-1.0**	
	baz=314								
N32M	**Quiet Lake**	**91.98**	**21**		P	**P**	**03 37 27.3**	**-0.3**	
	baz=316								
PLBC	**Pleasant Camp**	**91.99**	**23**		P	**P**	**03 37 26.8**	**-0.8**	
	baz=313								
SKAG	**Skagway**	**92.38**	**23**		P	**P**	**03 37 30.0**	**+0.7**	
	baz=314								
P33M	**Teslin, Yukon**	**92.75**	**22**		P	**P**	**03 37 30.1**	**-1.0**	
	baz=316								
P32M	**Atlin**	**92.88**	**22**		P	**P**	**03 37 31.5**	**-0.2**	
	baz=315								
S31K	**Pelican**	**93.06**	**24**		P	**P**	**03 37 31.4**	**-1.0**	
	baz=313								
RPZ	**Rata Peaks**	**93.28**	**135**		LR	LR	04 22 38.8		
	comp=Z,249nm,18.9s,baz=301,slow=38								
R32K	**Eaglecrest**	**93.50**	**24**		P	**P**	**03 37 34.3**	**-0.3**	
	baz=314								
Q32M	**Nakina River**	**93.85**	**22**		P	**P**	**03 37 35.9**	**-0.5**	
	baz=316								
R33M	**Jennings River**	**93.99**	**21**		P	**P**	**03 37 36.7**	**-0.3**	
	baz=317								
SIT	**Sitka**	**94.03**	**25**		P	**P**	**03 37 36.7**	**-0.3**	
	baz=313								
S32K	**Killisnoo**	**94.04**	**24**		P	**P**	**03 37 36.8**	**-0.2**	
	baz=314								
S34M	**Telegraph Cree**	**95.02**	**23**		P	**P**	**03 37 41.6**	**+0.1**	
	baz=317								
DLBC	**Dease Lake**	**95.03**	**22**		LR	LR	04 25 15.4		
	comp=Z,550nm,19.9s,baz=288,slow=38								
DLBC	**Dease Lake**	**95.03**	**22**		P	**P**	**03 37 41.5**	**-0.1**	
	baz=318								
U33K	**Whale Pass**	**95.57**	**25**		P	**P**	**03 37 43.4**	**-0.6**	
	baz=315								
SYO	**Syowa Base**	**95.60**	**197**[1]		*e*P	**P**	**03 37 44.2**	**+0.5**	
WRAK	**Wrangell Islan**	**95.65**	**24**		P	**P**	**03 37 43.6**	**-0.8**	
	baz=316								
URZ	**Urewera**	**95.65**	**128**		LR	LR	04 22 36.8		
	comp=Z,194nm,22.0s,baz=285,slow=37								
CRAG	**Craig**	**96.03**	**25**		P	**P**	**03 37 45.7**	**-0.4**	
	baz=315								
T35M	**Bob Quinn**	**96.03**	**23**		P	**P**	**03 37 45.1**	**-1.1**	
	baz=318								
YKA	**Yellowknife Ar**	**96.06**	**13**		P	**P**	**03 37 46.2**	**0.0**	
	comp=Z,1.3nm,0.8s,baz=333,slow=5.2,SNR=3.1								
YKA					LR	LR	04 27 23.9		
	comp=Z,162nm,19.6s,baz=305,slow=39								
	comp=Z,1.3nm,0.8s								
TOAD	**Toad River Com**	**96.31**	**20**		P	**P**	**03 37 47.7**	**+0.2**	
	baz=322								
DBIC	**Dimbokro**	**96.71**	**279**		LR	LR	04 25 45.3		
	comp=Z,150nm,18.3s,baz=115,slow=38								
V35K	**Ketchikan**	**96.73**	**24**		P	**P**	**03 37 48.8**	**-0.5**	
	baz=316								
FRB	**Frobisher Bay**	**96.96**	**352**		LR	LR	04 28 50.5		
	comp=Z,178nm,19.1s,baz=16,slow=40								
PDAR	**Pinedale Array**	**115.13**	**19**		PKP	**PKiKP**	**03 42 60.0**	**-0.7**	
	comp=Z,0.1nm,0.4s,baz=295,slow=4.6,SNR=2.5								
NVAR	**Mina Array Bea**	**115.55**	**28**		PKP	**PKiKP**	**03 43 01.8**	**+0.2**	
	comp=Z,0.2nm,0.5s,baz=316,slow=3.6,SNR=2.4								
PPT2	**Papeete2**	**119.37**	**100**		*e*LQ	LQ	04 14 43.0		
	comp=Z,406nm,23.8s								
PPT2					*e*LR	LR	04 19 37.8		
	comp=Z,279nm,27.5s								
PPT2					*e*LR	LR	04 19 41.3		
	comp=Z,300nm,23.8s								
TBI	**Tubuai**	**120.48**	**107**		*e*LR	LR	04 20 10.2		
	comp=Z,2μm,30.2s								
ANMO	**Albuquerque**	**123.24**	**21**			**PKPdf**	**03 43 16.5**	**0.0**	
ANMO	**Albuquerque**	**123.24**	**21**		PKIKP	**PKPdf**	**03 43 16.5**	**0.0**	
TAOE	**Nuku Hiva Isla**	**126.22**	**87**		*e*LR	LR	04 22 48.9		
	comp=Z,363nm,23.4s								
TXAR	**Lajitas Array**	**129.32**	**21**		PKP	**PKPdf**	**03 43 28.2**	**+0.1**	
	comp=Z,0.5nm,0.5s,baz=72,slow=0.4,SNR=10								
RKT	**Rikitea**	**133.70**	**105**		*e*LR	LR	04 26 08.9		
	comp=Z,3μm,33.2s								
MAN01	**Angra dos Reis**	**140.99**	**256**		*e*P	**PKPdf**	**03 43 51.6**	**+1.8**	
BDFB	**Brasilia**	**144.09**	**269**		PKP	PKPbc	03 43 54.3	+0.6	
	comp=Z,4.0nm,0.7s,baz=90,slow=1.7,SNR=5.4								
BB19B	**Bebedouro**	**145.16**	**260**		*e*P	**PKPdf**	**03 43 58.7**	**+1.5**	
GO09	**Cerro Castillo**	**145.68**	**195**			**PKPdf**	**03 43 56.9**	**-0.3**	
LDASE	**Londrina, Braz**	**147.57**	**255**		*e*P	**PKPbc**	**03 44 05.3**	**+1.4**	
ITTB	**Itaituba**	**147.69**	**292**		*e*P	**PKPbc**	**03 44 05.0**	**+0.5**	
ARAG	**Araguaiana, MT**	**147.70**	**270**		*e*P	**PKPbc**	**03 44 05.0**	**+0.6**	
BAUV	**El Baul**	**147.74**	**326**			**PKPdf**	**03 44 03.6**	**+1.8**	
BOAV	**Boa Vista**	**147.81**	**308**			**PKPdf**	**03 44 04.1**	**+2.2**	
BOAV	**Boa Vista**	**147.81**	**308**		*e*P	**PKPdf**	**03 44 03.0**	**+1.0**	
NPGB	**Novo Progresso**	**148.53**	**287**		*e*P	**PKPdf**	**03 44 03.3**	**+0.2**	
C2SB	**Chapadao do Su**	**149.07**	**264**		*e*P	**PKPdf**	**03 44 05.3**	**+1.5**	
SDV	**Santo Domingo**	**149.08**	**330**		*e*P	**PKPdf**	**03 44 06.4**	**+2.2**	
RPRD	**Ribas do Rio P**	**149.98**	**261**		*e*P	**PKPdf**	**03 44 08.0**	**+2.8**	
CLDB	**Colider**	**150.31**	**281**		*e*P	**PKPdf**	**03 44 07.6**	**+1.7**	
AMBA	**Amambai (Brazi**	**151.15**	**256**		*e*P	**PKPdf**	**03 44 08.6**	**+1.6**	
PDRB	**Porto dos Gac**	**151.41**	**280**		*e*P	**PKPdf**	**03 44 11.3**	**+3.7**	
TRQA	**Tornquist**	**151.70**	**222**			**PKPbc**	**03 44 13.2**	**-0.5**	
TRQA	**Tornquist**	**151.70**	**222**		PKIKP	**PKPbc**	**03 44 13.2**	**-0.5**	
AQDB	**Aquidauana**	**151.85**	**261**			**PKPbc**	**03 44 13.2**	**-1.3**	
SJPY	**San Joaquin**	**151.97**	**251**		*e*P	**PKPdf**	**03 44 09.8**	**+1.6**	
CPUP	**Villa Florida**	**152.85**	**248**		PKPbc	**PKPbc**	**03 44 15.8**	**-0.8**	
	comp=Z,1.0nm,0.7s,baz=348,slow=1.3,SNR=9.6								
MURT	**Porto Murtinho**	**153.63**	**258**		*e*P	**PKPdf**	**03 44 12.7**	**+2.0**	
VILB	**Vilhena**	**155.04**	**279**		*e*P	**PKPdf**	**03 44 14.2**	**+1.3**	

*JMA **18** 03:31:10.7±0.8,46°N±8°×15°4E±°, h142km, MV3.8/9, KURILE ISLANDS REGION*
*IDC **18** 03:31:10.6±2.3,48°.26N×153°.06E, h146km±20km, mb3.3/8, mbtmp3.8/11, MS3.5/1, Error ellipse: s-maj=31.7km s-min=12.6km az=148.0*
ISC 18 03:31:08.6±1.0, 47°.9N±0°.1×153°.1E±0°.1, h150km, n26, σ2s 85/23, mb3.5/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.98**	**28**	P	**Pn**	**03 32 32.6**	**-2.2**
	3.3nm,0.7s,baz=212,slow=15,SNR=10.0						
PETK				S	**Sn**	**03 33 37.8**	**-4.6**
	1.2nm,0.7s,baz=184,slow=21,SNR=0.9						
JRA	**Rausu**	**6.83**	**237**	*e*P	**Pn**	**03 32 47.7**	**+1.3**
NEM2	**Nemuro 2**	**6.87**	**231**	*e*P	**Pn**	**03 32 45.6**	**-1.3**
NEM2				*e*S	**Sn**	**03 33 58.9**	**-4.9**
JTKR	**Abashiri--Toko**	**7.52**	**242**	*e*P	**Pn**	**03 32 57.5**	**+2.0**
JAK	**Akkeshi**	**7.68**	**233**	P	**Pn**	**03 32 56.6**	**-1.1**
JAK				*e*S	**Sn**	**03 34 18.7**	**-4.7**
JOB	**Onbets**	**8.21**	**236**	*e*P	**Pn**	**03 33 05.1**	**+0.3**
JOB				*e*S	**Sn**	**03 34 34.1**	**-2.0**
ASAJ	**Asahikawa**	**8.23**	**246**	P	**Pn**	**03 33 08.7**	**+3.6**
	11nm,0.6s,baz=77,slow=17,SNR=8.3						
JCH	**Churui**	**8.67**	**236**	*e*P	**Pn**	**03 33 10.3**	**-0.5**
JCH				*e*S	**Sn**	**03 34 42.1**	**-5.0**
JNBK	**Urakawa-nobuka**	**9.23**	**236**	*e*P	**Pn**	**03 33 17.5**	**-0.8**
JANG	**Nango**	**11.22**	**232**	*e*P	Pn	03 33 40.9	-3.7
JANG				*e*S	Sn	03 35 38.6	-10
USRK	**Ussuriysk Ar.**	**15.11**	**264**	P	**P**	**03 34 36.8**	**+0.9**
	1.9nm,0.7s,baz=66,slow=11,SNR=2.7						
KSRS	**Korea Array**	**21.16**	**250**	P	**P**	**03 35 45.2**	**+3.4**
	1.9nm,0.7s,baz=50,slow=9.4,SNR=7.2						
	1.9nm,0.7s						
JNU	**Nakatsue**	**22.33**	**237**	P	**P**	**03 35 58.5**	**+4.5**
	4.1nm,0.9s,baz=29,slow=10,SNR=2.8						
	4.1nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**30.25**	**154**	T	T	04 09 12.1	
	baz=341,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.27**	**154**	T	T	04 09 24.5	
	baz=341,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**30.27**	**154**	T	T	04 09 03.5	
	baz=341,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**31.35**	**155**	T	T	04 10 33.3	
	baz=344,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**31.36**	**155**	T	T	04 10 33.9	
	baz=344,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**31.37**	**155**	T	T	04 10 48.0	
	baz=344,slow=76,SNR=28						
MKAR	**Makanchi Array**	**46.41**	**296**	P	**P**	**03 39 20.6**	**+0.7**
	0.4nm,0.7s,baz=70,slow=10,SNR=2.0						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.82**	**303**	P	**P**	**03 39 23.6**	**+0.7**
	0.6nm,0.5s,baz=68,slow=8.4,SNR=4.0						
	0.6nm,0.5s						
HNR	**Honiara**	**57.41**	**172**	LR	LR	04 03 36.7	
	comp=Z,43nm,21.9s,baz=300,slow=34						
NVAR	**Mina Array Bea**	**61.91**	**63**	P	**P**	**03 41 13.7**	**+1.3**
	0.5nm,0.5s,baz=301,slow=6.7,SNR=2.8						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**62.99**	**334**	P	**P**	**03 41 18.9**	**0.0**
	2.6nm,1.0s,baz=46,slow=4.0,SNR=2.2						
	2.6nm,1.0s						
PDAR	**Pinedale Array**	**64.07**	**54**	P	**P**	**03 41 28.1**	**+1.5**
	0.4nm,0.7s,baz=287,slow=1.6,SNR=5.5						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**76.93**	**61**	P	**P**	**03 42 46.0**	**+1.4**
	0.5nm,0.5s,baz=299,slow=5.2,SNR=12						
	0.5nm,0.5s						

*NEIC **18** 03:37:27.5±0.8,55°.65N±0°.03×158°.88W±0°.07, h52km±10km, Error ellipse: s-maj=7.3km s-min=2.5km az=126.0*
AEIC 18 03:37:28.1±1.0, 55°.68N±0°.04×158°.94W±0°.08, h57km±4km, ML3.0, ML3.2/50(NEIC), **Error ellipse: s-maj=8.3km s-min=4.3km az=129.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNKR	**Veniaminof 5**	**0.43**	**326**		Pn	03 37 38.6	-0.6
VNKR					Sn	03 37 46.0	-1.2
VNSG	**Veniaminof 6**	**0.46**	**350**		Pn	03 37 38.9	-0.6
VNHG	**Veniaminof 1**	**0.56**	**347**		Pn	03 37 40.2	-0.5
VNNF	**Veniaminof 3**	**0.65**	**341**		Pn	03 37 41.3	-0.4
CHGN	**Chignik**	**0.69**	**25**		Pn	03 37 41.0	-1.1
CHGN					Sn	03 37 51.4	-0.9
CHGN	**Chignik**	**0.69**	**25**	IAML		03 37 52.6	
	comp=N,876nm,0.1s						
VNFG	**Fog Glacier, M**	**0.70**	**331**		Pn	03 37 41.9	-0.4
VNFG					Sn	03 37 53.2	+0.5
VNFG	**Fog Glacier, M**	**0.70**	**331**		Pn	03 37 41.9	-0.4
VNFG	**Fog Glacier, M**	**0.70**	**331**	IAML		03 38 00.8	
	comp=N,1μm,0.7s						
SDPT	**Sand Point**	**0.93**	**250**		Pn	03 37 44.4	-0.7
SDPT					Sn	03 37 57.5	-0.2
SDPT	**Sand Point**	**0.93**	**250**	IAML		03 38 00.1	
	comp=E,466nm,0.6s						
SDPT				IAML		03 38 00.4	
	comp=N,750nm,0.6s						
CNBA	**Chernabura Isl**	**0.93**	**204**		Pn	03 37 44.1	-1.0
CNBA				IAML		03 38 02.2	
	comp=E,623nm,0.3s						
CNBA	**Chernabura Isl**	**0.93**	**204**		Sn	03 37 56.9	-0.9
ANPB	**Aniakchak Plen**	**1.19**	**18**		Pn	03 37 47.9	-0.8
ANPK	**Aniakchak Peak**	**1.25**	**21**		Pn	03 37 48.2	-1.3
AZAC	**Aniakchak**	**1.29**	**18**		Pn	03 37 49.4	-0.6
ANNE	**Aniakchak Nort**	**1.33**	**21**		Pn	03 37 50.0	-0.6
PS1A	**Pavlof South-1**	**1.61**	**262**		Pn	03 37 53.7	-0.5
PS1A					Sn	03 38 13.8	-0.1
PS4A	**Pavlof South-4**	**1.69**	**260**		Pn	03 37 54.5	-0.8
PS4A					Sn	03 38 15.9	+0.1
HAG	**Hague Volcano**	**1.72**	**259**		Pn	03 37 55.1	-0.7
DOL	**Dolgoi Island**	**1.75**	**254**		Pn	03 37 55.1	-1.0
DOL					Sn	03 38 16.3	-1.0
PN7A	**Pavlof North-7**	**1.75**	**263**		Pn	03 37 55.8	-0.4
S12K	**Black Hills**	**1.77**	**272**		Pn	03 37 55.5	-0.8
S12K				IAML		03 38 19.1	
	comp=E,240nm,0.5s						
S12K	**Black Hills**	**1.77**	**272**		Sn	03 38 17.5	-0.2
DT1	**Dutton Round H**	**1.99**	**255**		Pn	03 37 58.3	-1.0
R16K	**Pilot Point**	**2.04**	**21**		Pn	03 37 59.5	-0.6
R16K	**Pilot Point**	**2.04**	**21**	IAML		03 38 24.8	
	comp=E,134nm,0.8s						
R16K				IAML		03 38 26.6	
	comp=N,138nm,0.6s						
PLK4	**Peulik 4**	**2.43**	**35**		Pn	03 38 05.5	+0.1
PLK4				IAML		03 38 36.5	
	comp=N,128nm,0.7s						
PLK4				IAML		03 38 40.3	
	comp=E,114nm,0.6s						
PLK1	**Peulik 1**	**2.49**	**30**		Pn	03 38 05.9	-0.3
PLK5	**Peulik 5**	**2.59**	**25**		Pn	03 38 07.2	-0.4
FALS	**False Pass**	**2.69**	**254**		Pn	03 38 08.7	-0.2
SII	**Sitkinak Islan**	**2.81**	**70**		Pn	03 38 09.1	-1.5
KJL	**Kejulik**	**3.02**	**36**		Pn	03 38 13.0	-0.5
SSBA	**Shishaldin**	**3.10**	**255**		Pn	03 38 14.1	-0.5
R18K	**Karluk**	**3.12**	**51**		Pn	03 38 14.4	-0.4
R18K	**Karluk**	**3.12**	**51**	IAML		03 39 01.9	
	comp=E,96nm,0.5s						
R18K				IAML		03 39 07.6	
	comp=N,95nm,0.5s						
KAKN	**Katmai Knife C**	**3.38**	**37**		Pn	03 38 18.2	-0.3
P16K	**Nushagak River**	**3.41**	**8**		Pn	03 38 18.2	-0.5
P16K	**Nushagak River**	**3.41**	**8**	IAML		03 39 16.0	
	comp=E,63nm,0.8s						
P16K				IAML		03 39 22.0	
	comp=N,61nm,1.1s						
O15K	**Ungalikthiuk R**	**3.54**	**353**		Pn	03 38 19.7	-0.9
O15K	**Ungalikthiuk R**	**3.54**	**353**	IAML		03 38 59.5	
	comp=E,43nm,0.7s						
KAHC	**Katmai Hardscr**	**3.67**	**34**		Pn	03 38 22.1	-0.3
KAHG	**Katmai Hook Gl**	**3.71**	**39**		Pn	03 38 22.5	-0.4
P17K	**Kvichak River**	**3.78**	**20**		Pn	03 38 23.5	-0.3
O14K	**Tigyukauivet M**	**3.80**	**342**		Pn	03 38 23.4	-0.7
KDAK	**Kodiak Island**	**4.09**	**56**		Pn	03 38 26.6	-1.4
KDAK	**Kodiak Island**	**4.09**	**56**	IAML		03 39 33.5	
	comp=E,30nm,0.5s						
KDAK				IAML		03 39 36.9	
	comp=E,28nm,1.1s						
P18K	**Big Mountain,**	**4.23**	**27**		Pn	03 38 29.7	-0.4
Q19K	**Cape Douglas,**	**4.35**	**39**		Pn	03 38 31.4	-0.3
ZRO	**Akutan Zero**	**4.36**	**252**		Pn	03 38 31.5	-0.3
N14K	**Kuskokwak Cree**	**4.51**	**342**		Pn	03 38 33.2	-0.5
N14K	**Kuskokwak Cree**	**4.51**	**342**	IAML		03 39 26.2	
	comp=N,27nm,0.8s						
N14K				IAML		03 40 04.0	
	comp=E,22nm,0.8s						
N15K	**Kwethluk River**	**4.55**	**353**		Pn	03 38 34.0	-0.3
N15K	**Kwethluk River**	**4.55**	**353**	IAML		03 39 54.4	
	comp=E,24nm,1.1s						
SYI	**Shuyak Island**	**4.62**	**48**		Pn	03 38 34.9	-0.4
UNV	**Unalaska Valle**	**4.75**	**250**		Pn	03 38 36.1	-0.9
UNV	**Unalaska Valle**	**4.75**	**250**	IAML		03 39 46.4	
	comp=N,30nm,0.4s						
P19K	**Oil Pt**	**5.03**	**35**	Pn	Pn	03 38 40.7	-0.2
P19K				IAML		03 40 02.9	
	comp=E,17nm,1.0s						
P19K				IAML		03 40 03.8	
	comp=N,16nm,1.1s						
M13K	**Dall Lake**	**5.30**	**336**	Pn	Pn	03 38 44.5	0.0
M13K				IAML		03 42 19.3	
	comp=E,10nm,1.0s						
M14K	**Bethel**	**5.33**	**344**	Pn	Pn	03 38 44.1	-1.0
M14K				IAML		03 39 43.7	
	comp=N,9.8nm,0.9s						
M14K				IAML		03 39 44.4	
	comp=E,17nm,1.1s						
M16K	**Timber Creek**	**5.36**	**360**	Pn	Pn	03 38 45.4	0.0
N19K	**Bonanza Creek**	**5.66**	**23**		Pn	03 38 49.2	-0.5
M17K	**Holitna River**	**5.80**	**7**	Pn	Pn	03 38 50.7	-0.7
L16K	**Owhat River**	**6.06**	**358**	Pn	Pn	03 38 54.9	-0.1
K15K	**Wolf Creek Mou**	**6.77**	**350**	Pn	Pn	03 39 04.6	-0.2
K13K	**Kusilvak Mount**	**6.94**	**337**	Pn	Pn	03 39 06.8	-0.2
K17K	**Iditarod**	**7.07**	**2**	Pn	Pn	03 39 08.6	-0.2
J14K	**Nanvaranak Lak**	**7.48**	**343**	Pn	Pn	03 39 14.1	-0.3
PWL	**Port Wells**	**7.63**	**43**	Pn	Pn	03 39 15.6	-0.9
J16K	**Anvik River**	**7.68**	**354**		Pn	03 39 15.7	-1.5
J17K	**VABM Dome**	**7.75**	**360**	Pn	Pn	03 39 18.1	0.0
HIN	**Hinchinbrook I**	**8.12**	**49**	Pn	Pn	03 39 21.4	-1.8
FID	**Port Fidalgo**	**8.31**	**47**	Pn	Pn	03 39 23.7	-2.1
KLU	**Klutina**	**8.95**	**44**	Pn	Pn	03 39 33.3	-1.3

*IDC **18** 03:38:07.3±0.6, 18°.42N×94°.51E, h0km, mb4.4/27, mbtmp4.4/28, ML4.3/1, MS3.4/3, Error ellipse: s-maj=18.8km s-min=11.7km az=31.0*
*NDI **18** 03:38:11.3±2.9, 18°.38N×94°.43E, h9km±13km, ML4.6, MW4.6, mb4.8(NEIC)*
*NEIC **18** 03:38:13.3±2.3, 18°.40N±0°.09×94°.55E±0°.06, h35km±2km, mb4.8/58, Error ellipse: s-maj=17.6km s-min=3.0km az=211.0*
*BJI **18** 03:38:14.2, 18°.52N×94°.47E, h65km, mB5.0/4, mb4.5/36, Ms4.0/5, Ms7 3.8/4*
*BKK **18** 03:38:14.3±0.7, 18°N±3°×9°5E±°, h22km±7km, M4.5/24, mB5.1/7, mb4.6/7, Mjma4.2/24, ML4.8/19, MLv4.6/18, Mw(mB)4.5/7*
ISC 18 03:38:12.4±0.4, 18°.39N±0°.05×94°.39E±0°.04, h35km, n217, σ1s 85/216, mb4.6/75, 17C-18D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesariang**	**3.37**	**93**	P	**Pn**	**03 39 02.2**	**-0.4**
CM13	**Chiang Mai Arr**	**4.29**	**89**	P	**Pn**	**03 39 14.8**	**-0.4**
CM15	**Chiang Mai Arr**	**4.30**	**88**	P	**Pn**	**03 39 15.0**	**-0.4**
CM31	**Chiang Mai Arr**	**4.32**	**88**		**Pn**	**03 39 15.3**	**-0.3**
CM31	**Chiang Mai Arr**	**4.32**	**88**	P	**Pn**	**03 39 15.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**4.32**	**88**		**Pn**	**03 39 16.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**4.32**	**88**	Pn	**Pn**	**03 39 14.2**	**-1.5**
	4.1nm,0.3s,baz=267,slow=14,SNR=88						
CMAR				Sn	**Sn**	**03 40 01.1**	**-3.8**
	3.6nm,0.3s,baz=270,slow=19,SNR=6.6						
CMAR				Lg	Lg	03 40 23.3	
	3.6nm,0.3s,baz=268,slow=30,SNR=8.0						
CMAR				LR	LR	03 40 29.1	
	comp=Z,88nm,21.1s,baz=275,slow=34						
	16nm,0.5s						
CM05	**Chiang Mai Arr**	**4.32**	**89**	P	**Pn**	**03 39 15.6**	**-0.1**
CM02	**Chiang Mai Arr**	**4.33**	**89**	P	**Pn**	**03 39 15.5**	**-0.2**
CM01	**Chiang Mai Arr**	**4.34**	**89**	P	**Pn**	**03 39 15.4**	**-0.5**
CHTO	**Chiang Mai**	**4.34**	**84**		**Pn**	**03 39 15.6**	**-0.3**
CHTO	**Chiang Mai**	**4.34**	**84**	S	**Sn**	**03 40 00.8**	**-4.5**
CHTO	**Chiang Mai**	**4.34**	**84**	P	**Pn**	**03 39 15.4**	**-0.5**
CM04	**Chiang Mai Arr**	**4.36**	**89**	P	**Pn**	**03 39 16.0**	**-0.2**
CM09	**Chiang Mai Arr**	**4.37**	**89**	P	**Pn**	**03 39 16.1**	**-0.2**
LAMP	**Lampang**	**4.98**	**88**	P	**Pn**	**03 39 24.1**	**-0.6**
BRDH	**Bariadhala**	**4.98**	**329**	Pn	**Pn**	**03 39 27.8**	**+3.0**
	24nm,0.3s,baz=250,slow=20,SNR=6.5						
BRDH				Sn	**Sn**	**03 40 24.8**	**+3.7**
	147nm,0.3s,baz=238,slow=23,SNR=12						
DGPR	**DIGLIPUR**	**5.37**	**195**	*e*P	**Pn**	**03 39 33.7**	**+3.7**
DGPR				*e*S	**Sn**	**03 40 28.7**	**-2.0**
DGPR				IAML		03 40 32.5	
	comp=E,531nm,0.2s						
DGPR				IAML		03 40 32.7	
	comp=N,734nm,0.3s						
KHLT	**Khaolaem Dam**	**5.38**	**131**	P	**Pn**	**03 39 30.6**	**+0.4**
	comp=N,0.5nmcomp=N,0.4nmcomp=N,1.1nmcomp=N,48nm,0.8s						
AZL	**Aizawl**	**5.55**	**344**	*e*P	**Pn**	**03 39 35.4**	**+2.7**
AZL				*e*S	**Sn**	**03 40 35.6**	**+0.2**
AZL				IAML		03 40 38.7	
	comp=N,844nm,0.3s						
UTHA	**Uthaitani**	**5.59**	**119**	P	**Pn**	**03 39 33.6**	**+0.4**
	comp=N,18nm,0.7s						
AGT	**Agartala**	**6.20**	**332**	*e*P	**Pn**	**03 39 42.0**	**+0.5**
AGT				*e*S	**Sn**	**03 40 51.1**	**-0.1**
AGT				IAML		03 40 55.9	
	comp=E,140nm,0.3s						
AGT				IAML		03 40 55.9	
	comp=N,670nm,0.3s						
IMP	**Imphal**	**6.42**	**356**	*e*P	**Pn**	**03 39 47.2**	**+2.6**
IMP				*e*S	**Sn**	**03 40 56.0**	**-0.7**
IMP				IAML		03 41 02.4	
	comp=N,100nm,0.5s						
IMP				IAML		03 41 02.6	
	comp=E,127nm,0.5s						
KOHI	**KOHIMA**	**7.30**	**358**	*e*P	**Pn**	**03 39 58.5**	**+1.7**
KOHI				*e*S	**Sn**	**03 41 15.6**	**-2.9**
KOHI				IAML		03 41 21.3	
	comp=N,811nm,0.6s						
SHL	**Shillong**	**7.51**	**342**		**Pn**	**03 39 59.9**	**+0.3**
SHL	**Shillong**	**7.51**	**342**	*e*P	**Pn**	**03 39 59.9**	**+0.3**
SHL				*e*S	**Sn**	**03 41 19.4**	**-4.3**
SHL				IAML		03 41 22.6	
	comp=E,938nm,0.3s						
SHL				IAML		03 41 22.6	
	comp=N,280nm,0.2s						
TNCH	**TengChong**	**7.64**	**29**	P	**Pn**	**03 40 05.1**	**+3.7**
TNCH				S	**Sn**	**03 41 29.8**	**+2.9**
TNCH			

LZH					pmax	pmax		
	comp=N,26nm,1.4s							
HNLY	**HANLEY**	**19.93**	**319**	*eP*	**Pn**	03 42 45.0	**+1.3**	
HNLY				*eS*	S	03 46 11.1	-14	
XAN	**Xi'an**	**20.28**	**37**	P	**P**	03 42 43.3	**-1.8**	
XAN				pP	sP	03 42 56.8	-2.2	
XAN				pmax	pmax			
	comp=N,27nm,0.9s							
GTA	**Gaotai**	**21.47**	**12**	P	**P**	03 42 57.8	**-0.2**	
GTA				pP	sP	03 43 15.3	+3.5	
GTA				pmax	pmax			
	comp=N,13nm,0.9s							
LYN	**LuoYang**	**22.76**	**41**	P	**P**	03 43 10.6	**-1.1**	
LYN				pmax	pmax			
	comp=N,54nm,0.7s							
NIL	**Nilore**	**24.26**	**313**	P	**P**	03 43 27.4	**+1.1**	
NIL				IAmb	IAmb	03 43 29.1		
	comp=Z,35nm,0.8s							
NJ2	**Nanjing**	**25.90**	**54**	*eP*	**P**	03 43 41.3	**+0.1**	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.5s							
WMQ	**Urumqi**	**25.98**	**349**	*eP*	**P**	03 43 44.6	**+2.8**	
HNS	**HongShan**	**26.00**	**39**	⇑P	**P**	03 43 40.3	**-1.7**	
HNS				pmax	pmax			
	comp=Z,14nm,0.9s							
KSH	**Kashi**	**26.41**	**327**	P	**P**	03 43 46.5	**+0.6**	
KSH				sP	sP	03 44 12.3	+12	
KSH				pmax	pmax			
	comp=Z,21nm,0.9s							
HHC	**Hu-ho-hao-te**	**26.81**	**30**	*eP*	**P**	03 43 49.5	**+0.1**	
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
TARG	**Taragay, Kyrgy**	**27.24**	**332**	P	**P**	03 43 56.0	**+2.3**	
KBL	**Kabul**	**27.70**	**311**	P	**P**	03 43 57.8	**+0.1**	
SIMJ	**Simiganj**	**29.92**	**318**	P	**P**	03 44 18.2	**+1.0**	
SIMJ	**Simiganj**	**29.92**	**318**	P	**P**	03 44 18.1	**+0.8**	
MKAR	**Makanchi Array**	**30.03**	**343**	P	**P**	03 44 17.4	**-0.6**	
MKAR	**Makanchi Array**	**30.03**	**343**	P	**P**	03 44 17.8	**-0.2**	
	comp=Z,1.3nm,0.6s,baz=155,slow=8.1,SNR=9.5							
	comp=Z,1.3nm,0.6s							
SONM	**Songino Array**	**30.96**	**16**	P	**P**	03 44 25.8	**-0.5**	
SONM	**Songino Array**	**30.96**	**16**	P	**P**	03 44 26.1	**-0.3**	
	comp=Z,7.0nm,0.8s,baz=198,slow=9.8,SNR=27							
	comp=Z,7.0nm,0.8s							
ULN	**Ulaanbaatar**	**31.17**	**17**	P	**P**	03 44 27.0	**-1.2**	
H08S3	**Diego Garcia H**	**33.70**	**222**	T	T	04 19 46.6		
	baz=39,slow=75,SNR=9.8							
H08S2	**Diego Garcia H**	**33.71**	**222**	T	T	04 19 29.4		
	baz=39,slow=75,SNR=7.9							
H08S1	**Diego Garcia H**	**33.72**	**222**	T	T	04 19 31.5		
	baz=39,slow=75,SNR=6.0							
KURBB	**Kurchatov Arra**	**34.56**	**342**	P	**P**	03 44 57.9	**+0.4**	
	comp=Z,2.0nm,0.6s,baz=153,slow=8.1,SNR=15							
KURBB				PcP	**PcP**	03 47 32.3	**+0.6**	
	comp=Z,0.9nm,0.5s,baz=162,slow=2.5,SNR=5.7							
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**34.62**	**342**		**P**	03 44 58.5	**+0.4**	
KURK	**Kurchatov**	**34.62**	**342**	P	**P**	03 44 58.3	**+0.3**	
KURK				pP	**pP**	03 45 08.6	**+0.4**	
KSRS	**Korea Array**	**34.94**	**50**	P	**P**	03 44 59.0	**-2.0**	
	comp=Z,0.5nm,0.6s,baz=259,slow=8.8,SNR=2.3							
	comp=Z,0.5nm,0.6s							
ZAA0	**Zalesovo Array**	**36.25**	**350**		**P**	03 45 12.0	**-0.1**	
ZAA0				IAmb	IAmb	03 45 26.5		
	comp=Z,6.6nm,0.7s							
ZALV	**Zalesovo Beam**	**36.25**	**350**	P	**P**	03 45 11.5	**-0.6**	
ZALV	**Zalesovo Beam**	**36.25**	**350**	P	**P**	03 45 12.1	**+0.1**	
	comp=Z,3.3nm,0.5s,baz=176,slow=8.7,SNR=16							
	comp=Z,3.3nm,0.5s							
BNX	**BinXian**	**38.60**	**38**	⇓P	**P**	03 45 30.6	**-1.5**	
BNX				pmax	pmax			
	comp=Z,15nm,0.8s							
BVAR	**Borovoye Array**	**39.30**	**337**	P	**P**	03 45 38.0	**+0.2**	
	comp=Z,14nm,0.8s,baz=134,slow=10,SNR=44							
BVAR				PcP	**PcP**	03 47 47.0	**+0.9**	
	comp=Z,3.1nm,0.8s,baz=134,slow=4.2,SNR=6.8							
	comp=Z,14nm,0.8s							
USRK	**Ussuriysk Ar.**	**40.62**	**42**	P	**P**	03 45 47.6	**-1.4**	
	comp=Z,1.3nm,0.5s,baz=255,slow=7.3,SNR=3.6							
	comp=Z,1.3nm,0.5s							
SOEI	**Soe**	**40.64**	**131**	P	**P**	03 45 49.3	**-0.2**	
AB31	**Akbulak array**	**41.41**	**326**		**P**	03 45 56.9	**+1.5**	
ABKAR	**Akbulak array**	**41.41**	**326**		**P**	03 45 56.9	**+1.5**	
ARTI	**Arti**	**46.54**	**333**	P	**P**	03 46 36.2	**-0.2**	
ARTI				IAmb	IAmb	03 46 47.3		
	comp=Z,4.5nm,0.6s							
ASAJ	**Asahikawa**	**47.67**	**47**	P	**P**	03 46 43.5	**-2.0**	
	comp=Z,6.3nm,0.9s,baz=326,slow=3.2,SNR=4.9							
	comp=Z,6.3nm,0.9s							
GEVA	**Gevas**	**48.68**	**305**		**P**	03 46 55.9	**+2.4**	
GEVA				IAmb	IAmb	03 46 57.7		
	comp=Z,6.0nm,0.9s							
GURO	**Guroymak-BITLI**	**49.51**	**305**	P	**P**	03 47 02.5	**+2.6**	
BELG	**Belogornoye**	**49.73**	**324**	P	**P**	03 47 01.8	**+0.7**	
	comp=Z,19nm,0.7s,baz=184,slow=16,SNR=5.9							
	comp=Z,19nm,0.7s							
KBZ	**Khabaz**	**49.87**	**312**	P	**P**	03 47 03.4	**+1.1**	
	comp=Z,5.7nm,0.8s,baz=124,slow=7.2,SNR=12							
	comp=Z,5.7nm,0.8s							
KIV	**Kislovodsk**	**50.07**	**312**		**P**	03 47 05.7	**+1.7**	
KIV	**Kislovodsk**	**50.07**	**312**	⇑P	**P**	03 47 06.3	**+2.4**	
KIV	**Kislovodsk**	**50.07**	**312**	P	**P**	03 47 05.7	**+1.7**	
MARD	**Mardin**	**50.33**	**304**	P	**P**	03 47 07.7	**+1.6**	
MARD				IAmb	IAmb	03 47 09.0		
	comp=Z,4.9nm,0.7s							
WB0	**Warramunga Arr**	**54.58**	**132**	P	**P**	03 47 36.8	**-0.8**	
WRA	**Warramunga Arr**	**54.65**	**132**	P	**P**	03 47 37.7	**-0.4**	
	comp=Z,1.8nm,0.7s,baz=320,slow=7.3,SNR=13							
WRA				PcP	**PcP**	03 48 40.5	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=306,slow=4.1,SNR=6.4							
	comp=Z,1.8nm,0.7s							
WR8	**Warramunga Arr**	**54.77**	**132**	P	**P**	03 47 38.5	**-0.5**	
KIRS	**Kirsehir-Merke**	**55.87**	**305**	⇓P	**P**	03 47 48.0	**+1.2**	
BR131	**Keskin Array S**	**56.12**	**306**		**P**	03 47 50.3	**+1.6**	
BRTR	**Keskin Array B**	**56.12**	**306**	P	**P**	03 47 49.6	**+0.9**	
	comp=Z,1.8nm,0.7s,baz=129,slow=8.8,SNR=14							
BRTR				PcP	**PcP**	03 48 47.0	**+0.6**	
	comp=Z,1.3nm,0.7s,baz=122,slow=5.4,SNR=5.8							
	comp=Z,1.8nm,0.7s							
ASAR	**Alice Springs**	**56.87**	**136**	P	**P**	03 47 54.0	**0.0**	
	comp=Z,0.8nm,0.7s,baz=314,slow=7.0,SNR=10							
ASAR				PcP	**PcP**	03 48 49.4	**0.0**	
	comp=Z,1.6nm,0.8s,baz=320,slow=4.1,SNR=7.8							
	comp=Z,0.8nm,0.7s							
TLCR		**60.04**	**312**	⇓P	**P**	03 48 16.9	**+1.1**	
AKASG	**Malin Array Be**	**60.29**	**318**	P	**P**	03 48 17.3	**-0.1**	
	comp=Z,2.5nm,0.7s,baz=83,slow=6.3,SNR=18							
	comp=Z,2.5nm,0.7s							
AKBB	**Malin Array Si**	**60.29**	**318**	P	**P**	03 48 17.5	**0.0**	
AKBB				IAmb	IAmb	03 48 18.2		
	comp=Z,6.1nm,0.8s							
KIEV	**Kiev**	**60.30**	**318**	P	**P**	03 48 17.5	**0.0**	
KIEV				IAmb	IAmb	03 48 18.2		
	comp=Z,5.4nm,0.7s							
KIEV	**Kiev**	**60.30**	**318**	⇓P	**P**	03 48 17.6	**0.0**	
KIEV	**Kiev**	**60.30**	**318**	P	**P**	03 48 17.5	**0.0**	
TPGR	**Topolog**	**60.30**	**312**	⇑P	**P**	03 48 18.7	**+1.0**	
CFR	**Carcaliu**	**60.52**	**312**	⇑P	**P**	03 48 19.8	**+0.7**	
SORM	**Soroca**	**60.59**	**315**	⇑P	**P**	03 48 19.9	**+0.5**	
VLDR	**Vladesti**	**60.60**	**313**	⇓P	**P**	03 48 21.5	**+1.8**	
VRI	**Vrincioaia**	**61.55**	**313**	⇓P	**P**	03 48 27.9	**+1.8**	
PLOR	**Plostina**	**61.60**	**313**	⇑P	**P**	03 48 27.9	**+1.4**	
TESR	**Tescani**	**61.63**	**313**	⇓P	**P**	03 48 27.5	**+0.8**	
ISR	**Istrita**	**61.65**	**312**	⇑P	**P**	03 48 28.9	**+2.1**	
NEHR	**Nehoiu**	**61.83**	**312**	⇓P	**P**	03 48 30.8	**+2.7**	
COVR	**Voineasa-Covas**	**61.91**	**313**	⇑P	**P**	03 48 30.2	**+1.6**	
TURR	**Turia**	**62.05**	**313**	⇑P	**P**	03 48 30.8	**+1.3**	
MLR	**Muntele Rosu**	**62.08**	**312**	P	**P**	03 48 31.6	**+1.7**	
MLR	**Muntele Rosu**	**62.08**	**312**	P	**P**	03 48 31.3	**+1.4**	
	comp=Z,12nm,0.8s,baz=169,slow=2.8,SNR=27							
	comp=Z,12nm,0.8s							
MLR	**Muntele Rosu**	**62.08**	**312**	⇓P	**P**	03 48 31.7	**+1.8**	
DOPR	**Dopca**	**62.48**	**313**	⇑P	**P**	03 48 34.6	**+2.2**	
BURAR	**Bucovina Array**	**62.66**	**315**	P	**P**	03 48 34.7	**+1.1**	
BURAR	**Bucovina Array**	**62.66**	**315**	⇑P	**P**	03 48 35.0	**+1.3**	
BUR08	**Bucovina Ar. S**	**62.67**	**315**	IAmb	IAmb	03 48 35.7		
	comp=Z,9.7nm,1.4s							
VOIR		**62.71**	**312**	⇑P	**P**	03 48 34.0	**0.0**	
ARR	**Arges**	**63.00**	**312**	⇓P	**P**	03 48 37.0	**+1.1**	
MDB	**Medias**	**63.19**	**313**	⇓P	**P**	03 48 39.3	**+2.2**	
FIA1	**FINESS Array S**	**63.67**	**330**	P	**P**	03 48 40.3	**+0.4**	
FINES	**FINESS Array B**	**63.67**	**330**	P	**P**	03 48 40.2	**+0.3**	
	comp=Z,3.2nm,0.8s,baz=120,slow=7.5,SNR=10							
	comp=Z,3.2nm,0.8s							
CJR	**Cluj-Napoca**	**63.74**	**314**	⇑P	**P**	03 48 42.1	**+1.3**	
CBBR	**Cluj-Babes-Bol**	**63.77**	**314**	⇓P	**P**	03 48 42.7	**+1.8**	
PABE	**Paberze**	**63.97**	**323**	P	**P**	03 48 42.2	**+0.3**	
MARR	**Marisel-Cluj**	**64.07**	**314**	⇑P	**P**	03 48 44.5	**+1.5**	
SUW	**Suwalki**	**64.30**	**322**	P	**P**	03 48 44.0	**-0.2**	
GZR	**Gura Zlata**	**64.31**	**312**	⇑P	**P**	03 48 44.7	**+0.2**	
DRGR		**64.35**	**314**	⇓P	**P**	03 48 45.8	**+1.1**	
HERR	**Herculane**	**64.57**	**312**	⇑P	**P**	03 48 47.7	**+1.5**	
KOLS	**Kolonicke sedl**	**64.66**	**316**	*eP*	**P**	03 48 47.4	**+0.7**	
SURR	**Surduc**	**64.76**	**313**	⇓P	**P**	03 48 48.3	**+0.9**	
MDVR	**Moldovita**	**65.07**	**311**	⇓P	**P**	03 48 50.7	**+1.2**	
BOVS	**Bovan**	**65.11**	**310**	⇑P	**P**	03 48 50.6	**+0.8**	
BZS	**Buzias**	**65.12**	**312**	⇓P	**P**	03 48 50.1	**+0.4**	
FNA	**Florina**	**65.50**	**307**	IAmb	IAmb	03 48 52.9		
	comp=Z,7.3nm,0.8s							
ARCES	**ARCESS Array B**	**65.55**	**339**	P	**P**	03 48 52.9	**+0.7**	
	comp=Z,2.0nm,0.8s,baz=93,slow=6.6,SNR=6.9							
	comp=Z,2.0nm,0.8s							
PDG	**Podgorica**	**66.98**	**309**	⇓P	**P**	03 49 01.4	**-0.3**	
MORH	**Mrgy, Hungar**	**67.17**	**313**	⇓P	**P**	03 49 03.4	**+0.5**	
MAUC	**Maruska**	**67.57**	**317**	*eP*	**P**	03 49 06.6	**+1.2**	
STEB	**Steborice**	**67.58**	**317**	*eP*	**P**	03 49 06.4	**+0.9**	
KRLC	**Kraliky**	**68.22**	**317**	*eP*	**P**	03 49 10.1	**+0.6**	
DPC	**Dobruska-Polom**	**68.50**	**318**	*eP*	**P**	03 49 12.2	**+1.0**	
RONA	**Rosalia, Austr**	**68.68**	**315**	*eP*	**P**	03 49 13.3	**+0.9**	
	comp=Z,3.1nm,1.1s							
CONA	**Conrad Observa**	**68.96**	**315**	*eP*	**P**	03 49 15.2	**+1.0**	
	comp=Z,5.1nm,1.4s							
ARSA	**Arzberg**	**69.24**	**314**	*eP*	**P**	03 49 16.9	**+1.0**	
	comp=Z,0.6nm,0.4s							
CRES	**Cresnjevec Ost**	**69.42**	**313**	*eP*	**P**	03 49 18.0	**+1.0**	
LEGS	**Legarje**	**69.50**	**313**	*eP*	**P**	03 49 18.7	**+1.2**	
HFS	**Hagfors**	**69.62**	**328**	P	**P**	03 49 18.3	**+0.3**	
	comp=Z,5.5nm,0.8s,baz=104,slow=6.3,SNR=15							
	comp=Z,5.5nm,0.8s							
SOKA	**Soboth**	**69.63**	**314**	*eP*	**P**	03 49 19.4	**+1.0**	
	comp=Z,0.9nm,0.4s							
SPITS	**Spitsbergen Ar**	**69.67**	**348**	P	**P**	03 49 18.3	**+0.3**	
	comp=Z,4.5nm,0.9s,baz=95,slow=9.3,SNR=4.1							
	comp=Z,4.5nm,0.9s							
ZVC	**Zvikov**	**69.94**	**317**	*eP*	**P**	03 49 21.4	**+1.3**	
BRG	**Berggiesshubel**	**69.97**	**318**	*eP*	**P**	03 49 22.5	**+2.2**	
BRG				Amp		03 49 22.9		
	comp=Z,3.5nm,0.8s							
OBKA	**Obir**	**69.98**	**314**	*eP*	**P**	03 49 21.7	**+1.2**	
	comp=Z,7.3nm,0.0s							
MOA	**Molln**	**70.03**	**315**	*eP*	**P**	03 49 21.4	**+0.6**	
	comp=Z,2.1nm,0.6s							
CRNS	**Crni Vrh**	**70.22**	**313**	*i* P	**P**	03 49 22.8	**+0.8**	
GEC2	**GERESS Array S**	**70.31**	**316**	IAmb	IAmb	03 49 24.4		
	comp=Z,6.4nm,1.0s							
GERES	**GERESS Array B**	**70.31**	**316**		**P**	03 49 23.3	**+0.7**	
GERES	**GERESS Array B**	**70.31**	**316**	P	**P**	03 49 23.4	**+0.9**	
	comp=Z,3.4nm,0.8s,baz=77,slow=6.0,SNR=27							
	comp=Z,3.4nm,0.8s							
KHC	**Kasperske Hory**	**70.37**	**316**	*eP*	**P**	03 49 23.8	**+1.0**	
CLL	**Collm**	**70.53**	**319**	*i* P	**P**	03 49 24.4	**+0.7**	
CLL				*es*P	**sP**	03 49 40.0	**+1.4**	
CLL				*eP*cP	**PcP**	03 49 47.0	**+2.2**	
NB2	**NORSAR Subarra**	**70.80**	**329**	P	**P**	03 49 25.0	**-0.2**	
	comp=Z,2.1nm,0.7s,baz=86,slow=6.2							
NOA	**NORSAR Array B**	**70.80**	**329**	P	**P**	03 49 25.1	**-0.2**	
	comp=Z,3.1nm,0.7s,baz=87,slow=6.0,SNR=15							
	comp=Z,3.1nm,0.7s							
LESA	**Schwarzleotal**	**71.15**	**315**	*eP*	**P**	03 49 27.8	**+0.2**	
	comp=Z,3.1nm,0.5s,SNR=6.7							
STAL	**STALIGIAL**	**71.27**	**314**	IAmb	IAmb	03 49 29.5		
	comp=Z,9.9nm,1.0s							
ABTA	**Abfaltersbach**	**71.34**	**314**	*eP*	**P**	03 49 29.2	**+0.4**	
	comp=Z,0.8nm,0.5s							
FDMO	**Fiordimonte**	**71.43**	**310**	IAmb	IAmb	03 49 30.9		
	comp=Z,8.0nm,0.7s							
WTTA	**Wattenberg**	**71.87**	**315**	*i* P	**P**	03 49 32.2	**0.0**	
	comp=Z,2.8nm,0.6s							
WATA	**Walderalm**	**71.90**	**315**	*i* P	**P**	03 49 31.9	**-0.4**	
	comp=Z,0.9nm,0.4s							
SQTA	**Sankt Quirin**	**72.17**	**315**	*i* P	**P**	03 49 33.9	**+0.1**	
	comp=Z,2.3nm,0.4s							
MOTA	**Moosalm**	**72.22**	**315**	*eP*	**P**	03 49 34.3	**+0.2**	
	comp=Z,2.3nm,0.7s							
RETA	**Reutte**	**72.43**	**315**	*eP*	**P**	03 49 35.3	**0.0**	
	comp=Z,3.8nm,0.7s							
FETA	**Feichten**	**72.52**	**315**	*eP*	**P**	03 49 36.0	**0.0**	
	comp=Z,1.0nm,0.6s							
OSSC	**Osservatorio P**	**72.69**	**311**	IAmb	IAmb	03 49 39.0		
	comp=Z,7.5nm,1.0s							
ZCCA	**Zocca**	**72.75**	**312**	IAmb	IAmb	03 49 40.6		
	comp=Z,9.5nm,0.8s							
DAVA	**Damuels**	**73.05**	**315**	*i* P	**P**	03 49 39.7	**+0.5**	
	comp=Z,3.0nm,0.6s							
DAVOX	**Davos/Dischmat**	**73.13**	**314**	P	**P**	03 49 40.2	**+0.5**	
	comp=Z,2.2nm,0.5s,baz=130,slow=5.7,SNR=11							
	comp=Z,2.2nm,0.5s							
H04N2	**CROZET ISLANDS**	**74.91**	**209**	T	T	05 11 27.3		
	baz=42,slow=75,SNR=9.0							
H04N1	**CROZET ISLANDS**	**74.91**	**209**	T	T	05 11 26.2		
	baz=42,slow=75,SNR=8.2							
H04N3	**CROZET ISLANDS**	**74.92**	**209**	T	T	05 11 19.1		
	baz=42,slow=75,SNR=8.9							
KEST	**Kesra**	**75.58**	**303**	IAmb	IAmb	03 49 55.8		
	comp=Z,11nm,1.3s							
KEST	**Kesra**	**75.58**	**303**	P	**P**	03 49 54.4	**+0.4**	
	comp=Z,4.4nm,1.0s,baz=3.4,slow=5.2,SNR=5.2							
	comp=Z,4.4nm,1.0s							
E18K	**Tukpahlearik C**	**78.80**	**22**	P	**P**	03 50 11.3	**0.0**	
E18K				IAmb	IAmb	03 50 24.4		
	comp=Z,7.5nm,0.9s							
D19K	**Kuna River**	**79.27**	**21**		pP	03 50 25.3	+0.3	
EKA	**Eskdalemuir Ar**	**79.28**	**325**	P	**P**	03 50 15.2	**+1.1**	
	comp=Z,4.8nm,0.7s,baz=87,slow=6.3,SNR=12							
	comp=Z,4.8nm,0.7s							
D20K	**Etivluk River**	**79.69**	**21**	IAmb	IAmb	03 50 29.5		
	comp=Z,12nm,0.9s							
H17K	**Granite Mounta**	**79.96**	**25**	IAmb	IAmb	03 50 29.6		
	comp=Z,6.5nm,0.8s							
F21K	**Alatna River**	**81.40**	**21**	IAmb	IAmb	03 50 37.1		
	comp=Z,7.0nm,0.8s							
E22K	**Anaktuvuk Pass**	**81.53**	**20**	IAmb	IAmb	03 50 38.1		
	comp=Z,7.3nm,1.1s							
H21K	**Melozitna Rive**	**82.37**	**23**	IAmb	IAmb	03 50 42.7		
	comp=Z,8.5nm,0.8s							
D25K	**Kavik River**	**82.62**	**18**	IAmb	IAmb	03 50 49.0		
	comp=Z,8.9nm,0.9s							
E24K	**Your Creek**	**82.64**	**20**	IAmb	IAmb	03 50 46.0		
	comp=Z,9.3nm,0.9s							
G23K	**Bananza Creek**	**82.84**	**21**	P	**P**	03 50 32.6	**-0.3**	
MLY	**Manley**	**83.43**	**23**	P	**P**	03 50 36.4	**+0.3**	
MLY				IAmb	IAmb	03 50 48.0		
	comp=Z,6.4nm,0.8s							
H23K	**Yukon River**	**83.46**	**22**	IAmb	IAmb	03 50 48.5		
	comp=Z,6.2nm,0.8s							
BPAW	**Bear Paw Mtn.**	**83.80**	**24**	IAmb	IAmb	03 50 50.5		
	comp=Z,6.7nm,0.8s							
SUMG	**Summit**	**84.00**	**347**	*i* P	**P**	03 50 37.0	**-2.3**	
NEA2	**Nenana**	**84.27**	**23**	IAmb	IAmb	03 50 51.7		
	comp=Z,6.2nm,0.7s							
ESBB	**Sonseca Array**	**84.67**	**310**	P	**P**	03 50 44.0	**+1.1**	
ESBB				IAmb	IAmb	03 50 58.9		
	comp=Z,8.9nm,1.5s							
ESDC	**Sonseca Array**	**84.67**	**310**	P	**P**	03 50 43.6	**+0.7**	
ESDC	**Sonseca Array**	**84.67**	**310**	P	**P**	03 50 43.4	**+0.5**	
	comp=Z,1.9nm,0.7s,baz=56,slow=4.4,SNR=24							
	comp=Z,1.9nm,0.7s							
ILAR	**Eielson Array**	**84.97**	**22**	P	**P**	03 50 42.9	**-1.0**	
ILAR	**Eielson Array**	**84.97**	**22**	P	**P**	03 50 43.0	**-0.9**	
	comp=Z,1.2nm,0.7s,baz=298,slow=4.4,SNR=14							
	comp=Z,1.2nm,0.7s							
SCRK	**Sand Creek**	**86.46**	**22**	IAmb	IAmb	03 51 02.9		
	comp=Z,4.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**88.43**	**283**	P	**P**	03 51 02.3	**+0.6**	
	comp=Z,1.6nm,0.9s,baz=62,slow=4.3,SNR=6.7							
	comp=Z,1.6nm,0.9s							
NVAR	**Mina Array Bea**	**115.69**	**28**	PKP	**PKPdf**	03 56 52.5	**+0.8**	
	comp=Z,0.2nm,0.5s,baz=320,slow=2.5,SNR=1.7							
CPUP	**Villa Florida**	**152.72**	**248**	PKPbc	**PKPbc**	03 58 06.3	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=262,slow=0.1,SNR=4.3							

IDC ***18*** *03:43:50.4±2.2, 22°.29S×80°.23E, h0km, mb3.9/8, mbtmp3.9/8, MS4.2/1, Error ellipse: s-maj=82.6km s-min=23.5km az=43.0*

ISC 18 03:43:51.9±2.1, 22°.3S±0°.5×80°.2E±0°.4, h10km, n13, σ0s 41/11, mb4.0/8, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**16.40**	**332**	T	T	04 04 30.9	
	baz=156						
H08S1	**Diego Garcia H**	**16.41**	**332**	T	T	04 04 31.2	
	baz=156						
H08S3	**Diego Garcia H**	**16.42**	**332**	T	T	04 04 30.9	
	baz=156						
MAW	**Mawson**	**46.56**	**189**	LR	LR	04 08 18.1	
	comp=Z,276nm,20.3s,baz=22,slow=32						
ASAR	**Alice Springs**	**49.17**	**103**	P	**P**	03 52 40.5	**0.0**
	1.2nm,0.7s,baz=268,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	03 54 03.7	**-0.1**
	0.2nm,0.6s,baz=259,slow=3.3,SNR=4.3						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**50.29**	**98**	P	**P**	03 52 49.5	**+0.4**
	2.0nm,0.6s,baz=262,slow=7.9,SNR=28						
WRA				PcP	**PcP**	03 54 07.8	**-0.1**
	0.2nm,0.3s,baz=266,slow=2.7,SNR=1.7						
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**68.82**	**2**	P	**P**	03 54 56.4	**+0.1**
	0.8nm,0.6s,baz=174,slow=4.3,SNR=5.3						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**72.65**	**359**	P	**P**	03 55 19.1	**-0.3**
	0.3nm,0.7s,baz=192,slow=6.4,SNR=3.0						
	0.3nm,0.7s						
SONM	**Songino Array**	**73.69**	**18**	P	**P**	03 55 25.9	**+0.1**
	0.3nm,0.5s,baz=188,slow=5.2,SNR=1.7						
	0.3nm,0.5s						
BRTR	**Keskin Array B**	**75.52**	**325**	P	**P**	03 55 37.2	**+0.6**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.5						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**75.53**	**354**	P	**P**	03 55 36.1	**-0.1**
	0.8nm,0.4s,baz=148,slow=8.7,SNR=4.6						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**76.06**	**3**	P	**P**	03 55 39.0	**-0.3**
	0.8nm,0.4s,baz=185,slow=5.8,SNR=4.2						
	0.8nm,0.4s						
ILAR	**Eielson Array**	**127.69**	**23**	PKP	**PKPdf**	04 02 56.1	**-0.8**
	0.3nm,0.8s,baz=298,slow=2.8,SNR=3.0						

NEIC ***18*** *04:02:46.7±0.9, 39°.253N×0°.006×111°.99W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=256.0*

UUSS 18 04:02:46.3±1.3, 39°.26N±0°.01×111°.98W±0°.02, h6km±5km, ML2.2/13, ML2.5/105(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=214.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLU	**Fool Peak**	**0.19**	**308**		Pg	04 02 50.4	+0.3
LEVU	**Levan**	**0.28**	**28**		Pg	04 02 52.2	+0.4
WCU	**Willow Creek**	**0.31**	**196**		Pg	04 02 52.6	+0.2
TMUT	**Trail Mountain**	**0.60**	**86**		Sg	04 03 07.0	+1.2
TMUT	**Trail Mountain**	**0.60**	**86**		Pg	04 02 58.6	+0.7
TMUT				IAML		04 03 08.7	
	comp=E,259nm,0.6s						
TMUT				IAML		04 03 10.8	
	comp=N,193nm,0.4s						
OWUT	**

comp=N,19nm,1.7s
PV01 Paradox Valley 2.90 112 IAML 04 04 21.8
comp=E,18nm,0.8s
PV01 IAML 04 04 29.0
comp=N,16nm,1.0s
R11B Troy Canyon, C 2.96 253 Pb 04 03 39.0 -0.5
R11B IAML 04 04 20.9
comp=N,7.1nm,0.8s
R11B IAML 04 04 24.3
comp=E,6.2nm,0.4s
O20A White River Ci 3.01 72 Pb 04 03 39.5 -1.0
O20A IAML 04 04 22.1
comp=E,31nm,0.7s
PRN Pahroc Range 3.04 233 IAML 04 04 24.0
comp=E,23nm,0.7s
PRN IAML 04 04 29.7
comp=N,19nm,0.6s
MVCO Mesa Verde 3.42 126 Pb 04 03 44.1 -3.4
S22A 4UR Ranch, Cre 4.31 109 IAML 04 05 13.0
comp=E,4.3nm,1.1s
ISCO Idaho Springs 4.95 82 IAML 04 05 30.7
comp=E,2.5nm,2.8s
ISCO IAML 04 05 31.5
comp=E,2.6nm,2.2s

MOS ***18*** *04:05:11.5±1.4,23.˙54N×121.˙68E,h14km,mb5.0/24,Error ellipse: s-maj=10.3km s-min=7.4km az=109.7*

IDC ***18*** *04:05:13.2±0.5,23.˙63N×121.˙63E,h0km,mb4.3/24, mbtmp4.4/29,ML3.9/3,MS4.1/50,Error ellipse: s-maj=16.1km s-min=13.0km az=64.0*

GCMT ***18*** *04:05:14.6±0.3,23.˙77N±0.˙03×121.˙60E±0.˙03,h17km±1km, MW4.9/92,Moment Tensor Solution. s37,c43; s92,c120; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.59±.16; Mθθ-1.25±.10; Mφφ-1.35±.11; Mrθ0.39±.28; Mrφ-0.86±.06; Mθφ0.97±.32; Best double couple: Mo2.59100×10¹⁶ NP1:φ229.0000°,δ34.0000°,λ101.0000°. NP2: φ36.0000°,δ57.0000°,λ83.0000°. Principal axes: T 2.8230, Plg77.0000°, Azm283.0000°; N -0.4750, Plg6.0000°, Azm40.0000°; P -2.3580, Plg11.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***18*** *04:05:14.1,23.˙77N×121.˙58E,h10km,mB5.1/36,mb4.5/63, ML5.2/13,Ms5.0/80,Ms7 4.9/78*

TAP ***18*** *04:05:14.8,23.˙74N×121.˙54E,h7km,ML5.0,B*

JMA ***18*** *04:05:14.1±0.4,23.˙7N±0.˙5×12.˙2E±.˙,h2km±4km,MD5.0/18, MV4.5/18,TAIWAN REGION*

ASIES ***18*** *04:05:14.6,23.˙75N×121.˙54E,h5km,Mw4.7,Fault plane solution: NP1:φ212.00000°,δ28.00000°,λ86.00000°. NP2:φ36.00000°,δ62.00000°,λ92.00000°.*

NEIC ***18*** *04:05:15.6±2.5,23.˙72N±0.˙09×121.˙53E±0.˙06,h10km±1km, mb5.0/135,Mww4.9/13,Error ellipse: s-maj=15.8km s-min=8.7km az=164.0*

NEIC ***18*** *04:05:15.8,23.˙70N×121.˙56E,h16km,Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10¹⁶Nm; Mrr1.88; Mθθ-0.95; Mφφ-0.93; Mrθ1.55; Mθφ-0.91; Mrφ0.55; Fault plane solution: Mo2.49000×10¹⁶ NP1:φ60.94000°, δ65.96000°,λ102.73000°. NP2:φ211.93000°,δ27.03000°, λ63.71000°. Principal axes: T 2.5710, Plg67.0000°, Azm354.0000°; N -0.1720, Plg12.0000°, Azm236.0000°; P -2.3991, Plg20.0000°, Azm141.0000°;*

NEIC ***18*** *04:05:15.8,23.˙70N×121.˙56E,h16km*

ISC 18 04:05:15.8±0.5,23.˙73N±0.˙01×121.˙58E±0.˙02,h12km±2km, n706,σ1ŝ74/752,mb4.9/115,MS4.2/59,26C-32D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.04**	**242**	⇑*i*P		**Pg**		**04 05 16.4**	**-1.7**
TEGC				S		**Sg**		**04 05 18.4**	**-1.3**
SHUL	**Shoufeng**	**0.06**	**345**	⇑P		**Pg**		**04 05 19.9**	**-1.4**
SHUL				S		**Sg**		**04 05 18.6**	**-1.4**
TEYL	**Yanliau Villag**	**0.14**	**7**	P		**Pg**		**04 05 19.2**	**0.0**
TEYL				S		**Sg**		**04 05 23.6**	**+1.9**
EGFH	**Guangfu**	**0.15**	**247**	P		**Pg**		**04 05 17.8**	**-1.6**
EGFH				S		**Sg**		**04 05 20.0**	**-2.0**
ESL	**Shilin**	**0.16**	**303**	⇓P		**Pg**		**04 05 17.4**	**-2.1**
ESL				S		**Sg**		**04 05 19.8**	**-2.3**
WARBT	**Fenglin Townsh**	**0.18**	**267**	⇓P		**Pg**		**04 05 17.8**	**-2.0**
WARBT				S		**Sg**		**04 05 20.1**	**-2.5**
ETM	**Tongmen**	**0.25**	**341**	⇓P		**Pg**		**04 05 19.6**	**-1.5**
ETM				S		**Sg**		**04 05 22.7**	**-1.9**
HWA	**Hwalien**	**0.25**	**5**	*e*P		**Pg**		**04 05 20.6**	**-0.5**
HWA				eS		**Sg**		**04 05 26.5**	**+2.0**
HGSD	**Ruisui**	**0.28**	**211**	⇓P		**Pg**		**04 05 21.3**	**-0.2**
EHYH	**Wanrong**	**0.32**	**223**	*e*P		**Pg**		**04 05 21.1**	**-1.1**
EHYH				eS		**Sg**		**04 05 26.7**	**+0.1**
EHY	**Hungye**	**0.32**	**227**	*e*P		**Pg**		**04 05 21.0**	**-1.4**
EHY				eS		**Sg**		**04 05 26.2**	**-0.6**
TWD	**Chiawan**	**0.35**	**2**	⇓P		**Pg**		**04 05 21.8**	**-1.1**
TWD				eS		**Sb**		**04 05 28.6**	**-0.9**
VWDT	**VWDT**	**0.40**	**274**	⇓P		**Pg**		**04 05 22.6**	**-1.2**
VWDT				eS		**Sg**		**04 05 29.0**	**-0.2**
YULB	**Yu-li**	**0.42**	**218**			**Pg**		**04 05 23.0**	**-1.2**
YULB	**Yu-li**	**0.42**	**218**	P		**Pg**		**04 05 23.1**	**-1.1**
YULB	**Yu-li**	**0.42**	**218**	S		**Sg**		**04 05 28.6**	**-1.2**
YULB	**Yu-li**	**0.42**	**218**	⇑*i*P		**Pg**		**04 05 23.0**	**-1.2**
YULB				S		**Sg**		**04 05 30.0**	**+0.2**
ECBN	**Changbin**	**0.43**	**196**	*e*P		**Pg**		**04 05 24.5**	**+0.2**
ECBN				eS		**Sb**		**04 05 31.8**	**+0.1**
ETL	**Fush Village**	**0.43**	**5**	*e*P		**Pg**		**04 05 23.4**	**-1.0**
ETL				eS		**Sg**		**04 05 30.9**	**+0.7**
OWD	**Renai**	**0.43**	**301**	*e*P		**Pg**		**04 05 22.9**	**-1.6**
OWD				eS		**Sg**		**04 05 28.8**	**-1.4**
NACB	**Ninganchiao**	**0.44**	**2**			**Pg**		**04 05 23.3**	**-1.3**
NACB	**Ninganchiao**	**0.44**	**2**	P		**Pg**		**04 05 23.3**	**-1.3**
NACB	**Ninganchiao**	**0.44**	**2**	⇓*i*P		**Pg**		**04 05 23.3**	**-1.3**
EYUL	**Yuli**	**0.45**	**212**	*e*P		**Pg**		**04 05 24.4**	**-0.3**
TWF1	**Yuli**	**0.46**	**215**	*e*P		**Pg**		**04 05 23.9**	**-0.9**
TWF1				eS		**Sg**		**04 05 31.1**	**+0.2**
ETLH	**Xiulin Townshi**	**0.48**	**349**	*e*P		**Pg**		**04 05 24.1**	**-1.3**
ETLH				eS		**Sg**		**04 05 31.6**	**-0.3**
WUSB	**Renai**	**0.50**	**302**	⇓P		**Pg**		**04 05 24.3**	**-1.3**
WUSB				S		**Sg**		**04 05 31.1**	**-1.1**
WHF	**Hehuan Shan**	**0.51**	**325**	⇓P		**Pg**		**04 05 24.2**	**-1.6**
WHF				eS		**Sg**		**04 05 31.3**	**-1.4**
CHKH	**Chenggong**	**0.56**	**198**	*e*P		**Pg**		**04 05 26.5**	**-0.3**
CHKH				eS		**Sb**		**04 05 36.5**	**+1.0**
SSLB	**Suanglung**	**0.58**	**276**			**Pg**		**04 05 25.5**	**-1.5**
SSLB	**Suanglung**	**0.58**	**276**	P		**Pg**		**04 05 25.6**	**-1.5**
SSLB	**Suanglung**	**0.58**	**276**	⇓P		**Pg**		**04 05 25.5**	**-1.5**
SSLB				eS		**Sg**		**04 05 33.2**	**-1.5**
FULB	**Fuli**	**0.59**	**206**	*e*P		**Pb**		**04 05 28.7**	**+0.7**
EHP	**Heping Village**	**0.60**	**14**	*e*P		**Pg**		**04 05 27.2**	**-0.2**
FUSS	**Fushou**	**0.60**	**329**	*e*P		**Pg**		**04 05 26.4**	**-1.3**
FUSS				eS		**Sg**		**04 05 34.7**	**-0.9**
EAHA	**Aohua**	**0.62**	**14**	*e*P		**Pg**		**04 05 27.1**	**-0.7**
EAHA				eS		**Sb**		**04 05 37.5**	**+0.3**
TWT	**Tachien**	**0.64**	**325**	⇓P		**Pg**		**04 05 27.2**	**-1.1**
TWT				eS		**Sg**		**04 05 36.0**	**-0.8**
SMLT	**Sun Moon Lake**	**0.64**	**284**	⇓P		**Pg**		**04 05 27.0**	**-1.3**
SMLT				eS		**Sg**		**04 05 36.6**	**-0.2**
TDCB	**Techi**	**0.65**	**324**	⇓P		**Pg**		**04 05 27.2**	**-1.3**
TDCB				S		**Sg**		**04 05 35.6**	**-1.5**
CHKT	**Chengkung**	**0.66**	**197**	⇓P		**Pg**		**04 05 27.9**	**-0.7**
CHKT				eS		**Sn**		**04 05 40.2**	**-1.0**
WHYT	**Xinyi Township**	**0.67**	**267**	*e*P		**Pg**		**04 05 27.6**	**-1.2**
WHYT				eS		**Sg**		**04 05 36.7**	**-0.9**
EHD	**Haiduan**	**0.67**	**211**	*e*P		**Pg**		**04 05 27.9**	**-1.0**
EHD				eS		**Sb**		**04 05 38.3**	**-0.4**
WCS	**Beigang Elemen**	**0.69**	**298**	*e*P		**Pg**		**04 05 28.2**	**-1.1**
WCS				eS		**Sg**		**04 05 38.2**	**-0.2**
ECS	**Chishang**	**0.71**	**208**	*e*P		**Pg**		**04 05 29.7**	**+0.1**
ENA	**Nanau**	**0.71**	**12**	*e*P		**Pg**		**04 05 28.8**	**-0.9**
ENA				eS		**Sb**		**04 05 40.1**	**+0.2**
NNSB	**Datong**	**0.72**	**346**	⇓*i*P		**Pg**		**04 05 28.6**	**-1.3**
NNSB				eS		**Sg**		**04 05 38.0**	**-1.3**
EWUT	**Wuta**	**0.74**	**14**	*e*P		**Pg**		**04 05 29.0**	**-1.1**
ALS	**Alishan**	**0.74**	**253**	*e*P		**Pg**		**04 05 29.4**	**-0.9**
ALS				eS		**Sg**		**04 05 39.6**	**-0.5**
ELDTW	**Lidau**	**0.74**	**224**	*e*P		**Pg**		**04 05 28.7**	**-1.6**
EOS4	**EOS4**	**0.78**	**60**	*e*P		**Pg**		**04 05 30.8**	**-0.1**
EOS4				eS		**Sn**		**04 05 43.2**	**-0.6**
WJS	**Zhushan**	**0.79**	**277**	⇓P		**Pg**		**04 05 31.1**	**+0.1**
WJS				eS		**Sb**		**04 05 42.9**	**+0.8**
EDH	**Donghe**	**0.79**	**199**	P		**Pg**		**04 05 30.4**	**-0.8**
EDH				eS		**Sn**		**04 05 43.5**	**-1.1**
WHP	**Taichung City**	**0.80**	**313**	⇓P		**Pg**		**04 05 30.1**	**-1.2**
WHP				eS		**Sg**		**04 05 40.4**	**-1.3**
LATG	**Datong**	**0.81**	**357**	⇓P		**Pg**		**04 05 30.0**	**-1.4**
LATG				eS		**Sg**		**04 05 41.4**	**-0.6**
WNT	**Mingjian**	**0.83**	**280**	*e*P		**Pg**		**04 05 31.7**	**-0.3**
WNT				eS		**Sn**		**04 05 44.8**	**-0.8**
EOS3	**EOS3**	**0.87**	**50**	*e*P		**Pb**		**04 05 32.7**	**-0.1**
EOS3				eS		**Sn**		**04 05 46.5**	**+0.1**
ESAO	**Su ao**	**0.88**	**16**	*e*P		**Pg**		**04 05 31.7**	**-1.1**
ESAO				eS		**Sb**		**04 05 45.5**	**+0.9**
ENTT	**Nioudou**	**0.91**	**359**	⇓P		**Pg**		**04 05 32.2**	**-1.2**
ENTT				eS		**Sg**		**04 05 45.1**	**-0.1**
EOS2	**EOS2**	**0.91**	**41**	*e*P		**Pn**		**04 05 34.4**	**+0.1**
TWC	**Suao**	**0.91**	**16**	*e*P		**Pg**		**04 05 32.4**	**-1.0**
TWC				eS		**Sb**		**04 05 45.6**	**0.0**
LONT	**Longtian**	**0.92**	**207**	*e*P		**Pg**		**04 05 32.4**	**-1.2**
STYH	**Taoyuan**	**0.92**	**233**	*e*P		**Pg**		**04 05 32.4**	**-1.2**
STYH				eS		**Sb**		**04 05 46.5**	**+0.5**
TCU	**Taichung**	**0.93**	**297**	*e*P		**Pb**		**04 05 34.0**	**+0.2**
TCU				eS		**Sn**		**04 05 47.5**	**-0.3**
WGK	**Gukeng**	**0.93**	**268**	⇑P		**Pg**		**04 05 33.7**	**-0.1**
WGK				eS		**Sn**		**04 05 47.4**	**-0.6**
WCKO	**Fanlu**	**0.94**	**252**	*e*P		**Pg**		**04 05 33.6**	**-0.4**
WCKO				eS		**Sb**		**04 05 47.1**	**+0.6**
WDL	**Douliou City**	**0.95**	**269**	*e*P		**Pg**		**04 05 34.1**	**-0.1**
WDL				eS		**Sn**		**04 05 48.2**	**-0.4**
WDLH	**Douliu**	**0.95**	**268**	*e*P		**Pg**		**04 05 34.0**	**-0.2**
WDLH				eS		**Sn**		**04 05 48.0**	**-0.6**
YHNB	**Yeheng**	**0.96**	**349**			**Pg**		**04 05 33.3**	**-1.0**
YHNB	**Yeheng**	**0.96**	**349**	P		**Pg**		**04 05 33.3**	**-1.0**
YHNB	**Yeheng**	**0.96**	**349**	⇓P		**Pg**		**04 05 33.3**	**-1.0**
YHNB				eS		**Sg**		**04 05 45.5**	**-1.3**
TWQ1	**Liyutan**	**0.96**	**310**	*e*P		**Pg**		**04 05 34.4**	**0.0**
TWQ1				eS		**Sg**		**04 05 47.0**	**+0.1**
TPUB	**Ta-pu**	**0.97**	**244**			**Pb**		**04 05 33.9**	**-0.7**
TPUB	**Ta-pu**	**0.97**	**244**	P		**Pb**		**04 05 34.1**	**-0.5**
TPUB	**Ta-pu**	**0.97**	**244**	⇑P		**Pb**		**04 05 33.9**	**-0.7**
TPUB				S		**Sg**		**04 05 47.2**	**0.0**
CHN4	**Tsaushan**	**0.98**	**248**	⇑P		**Pb**		**04 05 34.2**	**-0.5**
CHN4				eS		**Sn**		**04 05 48.6**	**-0.6**
TWE	**Neicheng**	**0.99**	**5**	⇓P		**Pb**		**04 05 33.8**	**-1.1**
TWE				eS		**Sb**		**04 05 48.2**	**+0.3**
NFF	**Wufeng Townshi**	**0.99**	**335**	*e*P		**Pb**		**04 05 34.0**	**-1.0**
NFF				eS		**Sg**		**04 05 46.7**	**-1.3**
WCHH	**Zhanghua**	**1.00**	**291**	*e*P		**Pb**		**04 05 34.9**	**-0.1**
WCHH				eS		**Sn**		**04 05 49.3**	**-0.3**
WTP	**Ta-pu**	**1.01**	**242**	⇑P		**Pb**		**04 05 34.4**	**-0.8**
WTP				eS		**Sb**		**04 05 48.2**	**-0.2**
NSY	**Sanyi**	**1.01**	**313**	⇓P		**Pn**		**04 05 35.6**	**-0.2**
NSY				eS		**Sn**		**04 05 50.0**	**-0.1**
TWGBT	**Beinan**	**1.02**	**207**	P		**Pb**		**04 05 32.9**	**-2.5**
TWGBT	**Beinan**	**1.02**	**207**	*e*P		**Pb**		**04 05 32.6**	**-2.7**
TWGBT				eS		**Sn**		**04 05 51.7**	**+1.6**
TWG	**Pinlang**	**1.02**	**207**			**Pb**		**04 05 32.5**	**-2.9**
TWG	**Pinlang**	**1.02**	**207**	*e*P		**Pb**		**04 05 32.8**	**-2.6**
FUSB	**Fushanzhiwuyua**	**1.03**	**0**	⇑P		**Pb**		**04 05 34.0**	**-1.6**
FUSB				eS		**Sg**		**04 05 49.0**	**0.0**
CHN2	**Minshiung**	**1.03**	**259**	*e*P		**Pb**		**04 05 35.4**	**-0.2**
CHN2				eS		**Sn**		**04 05 50.3**	**-0.2**
NSTT	**Nanjuang**	**1.04**	**330**	*e*P		**Pb**		**04 05 35.2**	**-0.6**
NSTT				eS		**Sb**		**04 05 48.6**	**-0.8**
ILA	**Ilan**	**1.04**	**8**	*e*P		**Pg**		**04 05 35.9**	**0.0**
ILA				eS		**Sn**		**04 05 51.4**	**+0.6**
NWLT	**Wulai**	**1.05**	**356**	⇓P		**Pb**		**04 05 34.8**	**-1.1**
NWLT				eS		**Sb**		**04 05 48.2**	**-1.4**
LIOB	**Emei**	**1.05**	**331**	*e*P		**Pb**		**04 05 35.3**	**-0.6**
LIOB				eS		**Sb**		**04 05 50.5**	**-0.1**
TTN	**Taitung**	**1.05**	**202**	*e*P		**Pb**		**04 05 35.6**	**-0.2**
LDUT	**Ludao**	**1.05**	**186**	*e*P		**Pb**		**04 05 33.3**	**-2.7**
WDJ	**Dajia District**	**1.06**	**306**	*e*P		**Pn**		**04 05 36.6**	**+0.2**
WDJ				eS		**Sn**		**04 05 51.9**	**+0.7**
NMLH	**Miaoli**	**1.08**	**318**	*e*P		**Pn**		**04 05 37.0**	**+0.2**
NMLH				eS		**Sg**		**04 05 51.1**	**+0.4**
CHY	**Chiayi**	**1.08**	**258**	*e*P		**Pb**		**04 05 36.1**	**-0.4**
CHY				eS		**Sn**		**04 05 52.0**	**+0.2**
WTK	**Tuku**	**1.09**	**268**	*e*P		**Pb**		**04 05 36.4**	**-0.3**
WTK				eS		**Sn**		**04 05 52.0**	**0.0**
TWK	**Hsinying**	**1.10**	**246**	*e*P		**Pb**		**04 05 36.1**	**-0.7**
TWK				eS		**Sn**		**04 05 52.3**	**0.0**
CHN1	**Nanshi**	**1.11**	**241**	⇑*i*P		**Pb**		**04 05 36.3**	**-0.6**
CHN1				eS		**Sn**		**04 05 52.3**	**-0.1**
KSHI	**Guanxi Townshi**	**1.11**	**341**	*e*P		**Pb**		**04 05 36.8**	**-0.1**
KSHI				eS		**Sg**		**04 05 51.9**	**+0.4**
WRL	**Guolierlin Hig**	**1.11**	**279**	*e*P		**Pb**		**04 05 36.2**	**-0.8**
WRL				eS		**Sg**		**04 05 52.2**	**+0.4**
NTC	**Toucheng**	**1.14**	**11**	*e*P		**Pg**		**04 05 38.4**	**+0.6**
EGS		**1.16**	**16**	*e*P		**Pb**		**04 05 37.6**	**-0.1**
SBCB	**Hsinchu**	**1.19**	**333**	*e*P		**Pg**		**04 05 38.9**	**+0.1**
WTCT	**Ta-ch'eng**	**1.20**	**277**	⇓P		**Pn**		**04 05 37.8**	**-0.6**
WTCT				eS		**Sg**		**04 05 55.2**	**+0.8**
HSN	**Hsinchu**	**1.21**	**333**	*e*P		**Pg**		**04 05 39.4**	**+0.4**
HSN				eS		**Sg**		**04 05 56.5**	**+1.8**
NHDH	**Xindian Distri**	**1.23**	**358**	*e*P		**Pn**		**04 05 38.4**	**-0.4**
NHDH				eS		**Sg**		**04 05 55.4**	**-0.1**
TATO	**Taipei**	**1.24**	**356**			**Pn**		**04 05 38.4**	**-0.6**
TATO	**Taipei**	**1.24**	**356**	P		**Pb**		**04 05 39.1**	**-0.1**
TWA	**Mucha**	**1.25**	**0**	*e*P		**Pn**		**04 05 38.5**	**-0.6**
TWA				eS		**Sn**		**04 05 55.7**	**-0.1**
ICHU	**Yijhu**	**1.25**	**253**	*e*P		**Pn**		**04 05 39.1**	**0.0**
ICHU				eS		**Sg**		**04 05 57.2**	**+1.1**
WSF	**Szhu**	**1.25**	**266**	*e*P		**Pn**		**04 05 38.6**	**-0.5**
WSF				eS		**Sg**		**04 05 56.1**	**+0.1**
WSL	**Shuilin Townsh**	**1.26**	**261**	*e*P		**Pn**		**04 05 39.3**	**+0.1**
WSL				eS		**Sg**		**04 05 57.5**	**+1.1**
TIPB	**Shuangxi**	**1.26**	**10**	*e*P		**Pn**		**04 05 38.9**	**-0.4**
ECL	**Taimali**	**1.27**	**207**	*e*P		**Pn**		**04 05 37.3**	**-2.0**
ECL				eS		**Sg**		**04 05 57.8**	**+1.2**
NCUH	**Zhongli**	**1.29**	**344**	*e*P		**Pg**		**04 05 40.4**	**-0.2**
NCUH				eS		**Sg**		**04 05 58.9**	**+1.6**
CHN3	**Shinhua**	**1.29**	**240**	*e*P		**Pb**		**04 05 40.2**	**+0.2**
CHN3				eS		**Sg**		**04 05 59.7**	**+2.3**
SCST	**Cishan**	**1.30**	**230**	*e*P		**Pg**		**04 05 40.6**	**-0.3**
SCST				eS		**Sg**		**04 06 00.5**	**+2.7**
TAP	**Taipei**	**1.31**	**357**	*e*P		**Pg**		**04 05 40.7**	**-0.3**
TAP				eS		**Sg**		**04 05 57.8**	**-0.1**
SSD	**Sandimen**	**1.31**	**222**	*e*P		**Pn**		**04 05 39.0**	**-0.9**
SSD				eS		**Sn**		**04 05 57.6**	**+0.2**
CHN8	**Yiju**	**1.31**	**253**	*e*P		**Pn**		**04 05 39.6**	**-0.3**
CHN8				eS		**Sg**		**04 05 58.8**	**+0.7**
SSHA	**Shanhua**	**1.32**	**244**	*e*P		**Pg**		**04 05 41.7**	**+0.4**
SSHA				eS		**Sg**		**04 06 01.2**	**+2.7**
TWB1	**Santiao Chiao**	**1.33**	**16**	*e*P		**Pg**		**04 05 41.6**	**+0.3**
TWB1				eS		**Sg**		**04 05 59.2**	**+0.6**
SHHT	**Tainan City**	**1.33**	**238**	*e*P		**Pg**		**04 05 41.2**	**-0.3**
SHHT				eS		**Sg**		**04 06 01.6**	**+2.8**
NWF	**Wu-fen Shan**	**1.35**	**8**	*e*P		**Pg**		**04 05 41.6**	**-0.1**
NWF				eS		**Sg**		**04 05 59.5**	**+0.2**
WFSB	**Wu-fen Shan**	**1.35**	**8**	*e*P		**Pb**		**04 05 41.2**	**+0.2**
WFSB				eS		**Sg**		**04 06 00.0**	**+0.7**
TWS1	**Kuangyinshan**	**1.37**	**354**	*e*P		**Pb**		**04 05 41.5**	**0.0**
TWS1				eS		**Sg**		**04 06 01.1**	**+1.0**
SXI1	**Grass Mountain**	**1.39**	**11**	*e*P		**Pn**		**04 05 40.9**	**-0.2**
SXI1				eS		**Sb**		**04 05 59.8**	**+0.4**
TWM1	**Shoushan**	**1.39**	**230**	*e*P		**Pb**		**04 05 42.2**	**+0.4**
TWM1				eS		**Sg**		**04 06 05.2**	**+4.5**
MASBT	**Mashibuluo**	**1.41**	**218**	*e*P		**Pn**		**04 05 40.6**	**-0.7**
MASBT				eS		**Sg**		**04 06 01.4**	**+0.1**
YM01	**YM01**	**1.41**	**360**	*e*P		**Pb**		**04 05 42.3**	**+0.1**
SGLT	**Jiouru**	**1.41**	**225**	*e*P		**Pg**		**04 05 43.2**	**+0.2**
TAI1	**Yung-k'ang**	**1.42**	**241**	*e*P		**Pn**		**04 05 41.4**	**0.0**
TAI1				eS		**Sg**		**04 06 02.8**	**+1.3**
TNOU	**National Taiwa**	**1.43**	**7**	*e*P		**Pb**		**04 05 42.2**	**-0.2**
ZUZH	**Zhuzihu**	**1.43**	**359**	*e*P		**Pn**		**04 05 41.8**	**+0.2**
ZUZH				eS		**Sg**		**04 06 02.6**	**+0.7**
NTST	**Danshui**	**1.44**	**355**	*e*P		**Pb**		**04 05 42.7**	**+0.2**
JYNG	**Yonagunijimaku**	**1.44**	**60**	P		**Pn**		**04 05 41.2**	**-0.6**
JYNG				eS		**Sg**		**04 06 02.0**	**-0.3**
JYNG	**Yonagunijimaku**	**1.44**	**60**	A		A		04 05 41.2	
comp=N,23nm,4.3s,comp=E,25nm,3.2s									
YM08	**YM08**	**1.45**	**0**	*e*P		**Pn**		**04 05 41.2**	**-0.7**
TSCK	**Chigu Township**	**1.49**	**247**	*e*P		**Pn**		**04 05 42.3**	**-0.1**
TSCK				eS		**Sg**		**04 06 03.3**	**-0.4**
YOJ	**Yonaguni jima**	**1.50**	**61**			**Pn**		**04 05 42.2**	**-0.3**
YOJ	**Yonaguni jima**	**1.50**	**61**	P		**Pn**		**04 05 42.2**	**-0.3**
YOJ	**Yonaguni jima**	**1.50**	**61**	P		**Pn**		**04 05 42.2**	**-0.3**
YOJ	**Yonaguni jima**	**1.50**	**61**	*e*P		**Pn**		**04 05 41.6**	**-0.9**
YOJ				eS		**Sg**		**04 06 03.1**	**-0.9**
YOJ	**Yonaguni jima**	**1.50**	**61**	*e*P		**Pn**		**04 05 42.2**	**-0.3**
YOJ	**Yonaguni jima**	**1.50**	**61**	A		A		04 05 42.2	
comp=N,26nm,4.5s,comp=E,26nm,6.1s									
SNJT	**Kaohsiung City**	**1.50**	**230**	*e*P		**Pb**		**04 05 43.9**	**+0.3**
SNJT				eS		**Sg**		**04 06 06.9**	**+2.8**
TAW	**Tawu**	**1.50**	**205**	*e*P		**Pb**		**04 05 43.8**	**+0.2**
TAWH	**Dawu Township**	**1.52**	**205**	*e*P		**Pn**		**04 05 41.4**	**-1.4**
TWY	**Chenhua**	**1.54**	**1**	*e*P		**Pn**		**04 05 42.9**	**-0.3**
SCZT	**Fangliau**	**1.61**	**213**	*e*P		**Pn**		**04 05 44.5**	**+0.4**
SCZT				eS		**Sb**		**04 06 06.6**	**+0.8**
SLIU	**Shizi**	**1.67**	**206**	*e*P		**Pn**		**04 05 44.7**	**-0.1**
LAY	**Lan-yu**	**1.68**	**181**	*e*P		**Pn**		**04 05 43.0**	**-2.1**
LAY				eS		**Sn**		**04 06 05.9**	**-0.6**
LYUB	**Lan-yu**	**1.72**	**180**	*e*P		**Pn**		**04 05 42.0**	**-3.5**
WLCH	**Liuqiu**	**1.76**	**219**	*e*P		**Pn**		**04 05 48.6**	**+0.6**
WDGT	**Dungji**	**1.82**	**256**	*e*P		**Pn**		**04 05 46.0**	**-1.0**
WDGT				eS		**Sb**		**04 06 11.1**	**-0.8**
SMST	**Manzhou Townsh**	**1.83**	**202**	*e*P		**Pn**		**04 05 48.1**	**+0.9**
PHUB	**P'eng-hu**	**1.85**	**264**	*e*P		**Pn**		**04 05 46.6**	**-0.8**
PHUB				eS		**Sn**		**04 06 11.1**	**+0.3**
PNG	**Penghu**	**1.86**	**265**	*e*P		**Pn**		**04 05 46.9**	**-0.6**
PNG				eS		**Sb**		**04 06 12.5**	**-0.5**
HEN	**Hengchun**	**1.88**	**205**	*e*P		**Pn**		**04 05 47.9**	**+0.1**
HEN				eS		**Sb**		**04 06 14.6**	**+1.0**
TWK1	**Hengchun**	**1.92**	**202**	*e*P		**Pn**		**04 05 49.0**	**+0.8**
TWKBT	**Hengchun**	**1.92**	**202**	*e*P		**Pn**		**04 05 47.9**	**-0.3**
TSEB	**Hengchuen, Pin**	**1.93**	**199**	*e*P		**Pn**		**04 05 49.0**	**+0.6**
TSEB				eS		**Sb**		**04 06 13.7**	**-1.1**
PCYT	**Pengchaiyu**	**1.94**	**13**	*e*P		**Pb**		**04 05 49.9**	**-1.3**
VCHM	**Qimei**	**2.04**	**256**	*e*P		**Pn**		**04 05 49.8**	**-0.2**
VCHM				eS		**Sn**		**04 06 16.2**	**+0.8**
IRIF	**Iriomote-Funau**	**2.06**	**72**	P		**Pn**		**04 05 49.7**	**-0.5**
IRIF				eS		**Sn**		**04 06 16.6**	**+0.8**
IRIF	**Iriomote-Funau**	**2.06**	**72**	A		A		04 05 49.7	
comp=N,13nm,4.0s,comp=E,15nm,9.9s									
HATJ	**Hateruma jima**	**2.06**	**80**	P		**Pn**		**04 05 49.2**	**-1.0**
HATJ				eS		**Sn**		**04 06 14.0**	**-2.0**
HATJ	**Hateruma jima**	**2.06**	**80**	A		A		04 05 49.2	
comp=N,32nm,3.1s,comp=E,25nm,2.7s									
JKRS	**Kuro-shima**	**2.28**	**77**	P		**

LYN pmax pmax
comp=E,34nm,0.5s
LYN pmax pmax
comp=E,290nm,6.5s
LYN LR LR
comp=E,12μm,8.6s
LYN LR LR
comp=E,4μm,10.7s
LYN LR LR
comp=E,12μm,9.6s
GYA Guiyang 13.79 284 ⇑P **Pn 04 08 33.3 +2.0**
GYA pmax pmax
comp=E,32nm,0.8s
GYA LR LR
comp=E,8μm,10.3s
KSAR Wonju Array Be 14.70 20 P 04 08 48.8 -1.0
KSAR Wonju Array Be 14.70 20 P **P 04 08 48.8 -1.0**
KSRS Korea Array 14.72 20 Pn **P 04 08 47.5 -2.5**
comp=E,9nm,0.3s,baz=198,slow=12,SNR=42
KS19 Wonju Array Si 14.75 20 P **P 04 08 50.0 -0.3**
HNS HongShan 14.85 338 ⇑P **P 04 08 52.0 +0.6**
HNS S **S 04 11 47.1 -1.2**
HNS pmax pmax
comp=Z,39nm,1.2s
HNS pmax pmax
comp=Z,410nm,5.3s
HNS LR LR
comp=N,4μm,11.9s
HNS LR LR
comp=E,2μm,11.2s
HNS LR LR
comp=Z,4μm,11.2s
XAN Xi'an 15.10 316 P **Pn 04 08 49.5 +0.4**
XAN S **Sn 04 11 37.9 +1.6**
XAN pmax pmax
comp=Z,29nm,1.5s
XAN LR LR
comp=Z,4μm,8.4s
XAN LR LR
comp=Z,4μm,11.7s
XAN LR LR
comp=Z,6μm,13.0s
DL2 Dalian 15.13 0 P **P 04 08 54.4 -0.1**
DL2 pmax pmax
comp=Z,27nm,0.8s
DL2 pmax pmax
comp=Z,340nm,4.5s
DL2 LR LR
comp=Z,2μm,12.0s
DL2 LR LR
comp=Z,2μm,8.0s
DL2 LR LR
comp=Z,2μm,12.0s
TIY Taiyuan 15.99 333 *e*P **Pn 04 09 02.1 +1.4**
TIY S **Sn 04 12 04.5 +6.6**
TIY SS **S 04 12 14.8 +3.0**
TIY pmax pmax
comp=Z,440nm,5.3s
TIY LR LR
comp=Z,3μm,10.9s
TIY LR LR
comp=Z,2μm,10.3s
TIY LR LR
comp=Z,3μm,8.5s
SLVN Son La 16.50 265 P 04 09 10.1 +0.1
BJI Beijing 16.89 346 P **P 04 09 15.9 +1.9**
BJI pP **sP 04 09 21.8 +2.7**
BJI sP pP 04 09 25.4 +7.9
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI LR LR
comp=Z,840nm,9.6s
BJI LR LR
comp=Z,520nm,7.1s
BJI LR LR
comp=Z,830nm,11.2s
DAV Davao City (W) 17.00 166 LR LR 04 15 31.2
comp=Z,762nm,20.9s,baz=352,slow=37
KMI Kunming 17.21 278 P **P 04 09 20.8 +2.8**
KMI pmax pmax
comp=Z,21nm,1.8s
KMI pmax pmax
comp=Z,350nm,4.8s
KMI LR LR
comp=Z,3μm,6.8s
KMI LR LR
comp=Z,7μm,8.5s
KMI LR LR
comp=Z,6μm,9.4s
CD2 Chengdu 17.37 298 P **P 04 09 19.3 -0.2**
CD2 pP pP 04 09 21.8 -1.1
CD2 sP sP 04 09 23.0 -1.4
CD2 S **Sn 04 12 33.8 +2.4**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,320nm,4.7s
JGF Kuroka 18.08 46 P **P 04 09 29.2 +1.9**
PZH PanZhiHua 18.18 283 P **P 04 09 28.8 +0.3**
PZH S **Sn 04 12 41.4 -10**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,240nm,7.7s
PZH LR LR
comp=Z,3μm,13.7s
PZH LR LR
comp=Z,4μm,13.3s
PZH LR LR
comp=Z,5μm,11.8s
KKM Kota Kinabalu 18.32 197 P 04 09 31.3 +1.1
JHJ Hachijo jima 2 18.52 56 Pn **P 04 09 31.9 -0.2**
comp=Z,1.0nm,0.3s,baz=234,slow=8.7,SNR=1.1
JHJ LR LR 04 16 39.9
comp=Z,492nm,20.3s,baz=274,slow=37
comp=Z,45nm,0.8s
JCJ Chichijima 18.91 75 Pn **P 04 09 35.6 -0.8**
comp=Z,37nm,0.6s,baz=248,slow=19,SNR=1.2
JCJ LR LR 04 16 01.7
comp=Z,525nm,20.8s,baz=276,slow=34
HHC Hu-ho-hao-te 19.03 336 *e*P **Pn 04 09 38.8 +0.3**
HHC S **Sn 04 13 10.3 -1.3**
HHC sS S 04 13 15.3 +1.6
HHC pmax pmax
comp=Z,11nm,1.3s
HHC pmax pmax
comp=Z,700nm,5.4s
HHC LR LR
comp=Z,2μm,12.4s
HHC LR LR
comp=Z,790nm,12.5s
HHC LR LR
comp=Z,2μm,13.0s
MJAR Matsushiro Arr 19.20 44 P **P 04 09 38.4 -1.2**
MJAR Matsushiro Arr 19.20 44 P **P 04 09 39.0 -0.5**
comp=Z,3.1nm,0.8s,baz=225,slow=9.8,SNR=6.5
MJAR LR LR 04 18 07.0
comp=Z,284nm,19.2s,baz=226,slow=40
MJAR Matsushiro Arr 19.20 44 P **P 04 09 38.4 -1.2**
MJAR pmax pmax
comp=Z,24nm,1.8s
BTO Baotou 19.43 333 *e*P **Pn 04 09 44.8 +1.4**
BTO pP **sP 04 09 47.6 +0.4**
BTO sP **pP 04 09 52.0 +6.4**
BTO PP **PnPn 04 10 00.3 +3.6**
BTO pmax pmax
comp=Z,16nm,0.7s
BTO pmax pmax
comp=Z,1μm,4.6s
BTO LR LR
comp=Z,3μm,9.0s
BTO LR LR
comp=Z,2μm,10.4s
BTO LR LR
comp=Z,4μm,8.4s
LZH Lanzhou 19.66 313 *e*P **Pn 04 09 48.8 +2.6**
LZH sP sP 04 09 57.5 +7.7
LZH pmax pmax
comp=Z,35nm,1.7s
LZH pmax pmax
comp=Z,950nm,4.4s
LZH LR LR
comp=Z,2μm,10.8s
LZH LR LR
comp=Z,3μm,12.1s
LZH LR LR
comp=Z,4μm,10.8s
CN2 Changchun 20.27 8 P Pn 04 09 53.6 +0.4
CN2 S **S 04 13 37.3 -1.0**
CN2 LR LR
comp=Z,540nm,14.0s
CN2 LR LR
comp=Z,2μm,14.0s
CN2 LR LR
comp=Z,1μm,11.0s
MSHR Mys Shultsa 20.41 21⇓ *e*P **P 04 09 53.5 +0.8**
MSHR pmax pmax
comp=Z,47nm,1.4s
XLT XiLinHaoTe 20.62 349 *e*P Pn 04 09 58.8 +1.4
XLT S Sn 04 13 50.1 +0.2
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,200nm,4.0s
XLT LR LR
comp=Z,130nm,12.5s
XLT LR LR
comp=Z,840nm,13.1s
XLT LR LR
comp=Z,2μm,12.7s
TNCH TengChong 21.04 278⇑ *i*P **P 04 10 01.8 +1.9**
TNCH sP sP 04 10 09.8 +4.9
TNCH pmax pmax
comp=Z,35nm,1.2s
TNCH LR LR
comp=Z,2μm,7.2s
TNCH LR LR
comp=Z,6μm,9.4s
TNCH LR LR
comp=Z,6μm,9.3s
CHTO Chiang Mai 21.64 261 P 04 10 07.7 +1.4
CHTO Chiang Mai 21.64 261 P **P 04 10 07.7 +1.4**
CHTO pmax pmax
comp=Z,37nm,1.3s
CM31 Chiang Mai Arr 21.75 260 P **P 04 10 09.6 +2.2**
CMAR Chiang Mai Arr 21.75 260 P 04 10 08.7 +1.3
CMAR Chiang Mai Arr 21.75 260 P **P 04 10 07.5 +0.1**
comp=Z,5.2nm,0.8s,baz=63,slow=8.7,SNR=30
CMAR LR LR 04 18 44.3
comp=Z,474nm,19.1s,baz=80,slow=37
comp=Z,5.2nm,0.8s
CMAR Chiang Mai Arr 21.75 260 *i* P **P 04 10 09.1 +1.7**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
MDJ Mudanjiang 21.84 16 P **P 04 10 10.3 +2.2**
MDJ pP sP 04 10 13.1 +0.6
MDJ SS **SnSn 04 14 44.1 +10**
MDJ pmax pmax
comp=Z,14nm,1.2s
MDJ LR LR
comp=Z,1μm,16.5s
MDJ LR LR
comp=Z,3μm,16.5s
MDJ LR LR
comp=Z,1μm,13.1s
USA0B Ussuriysk Arra 22.13 20 *d* *i*P **P 04 10 13.4 +2.2**
USRK Ussuriysk Ar. 22.13 20 P **P 04 10 10.9 -0.3**
comp=Z,2.9nm,0.6s,baz=199,slow=12,SNR=8.5
USRK LR LR 04 19 12.7
comp=Z,249nm,18.9s,baz=194,slow=38
comp=Z,2.9nm,0.6s
BNX BinXian 22.46 11 ⇓P **P 04 10 15.8 +1.0**
BNX S **S 04 14 22.9 +1.8**
BNX pmax pmax
comp=Z,10.0nm,0.9s
BNX LR LR
comp=Z,1μm,11.4s
BNX LR LR
comp=Z,1μm,15.7s
BNX LR LR
comp=Z,1μm,9.8s
TOLI2 Tolitoli 22.50 182 P 04 10 14.4 -0.9
SBUM Sibu 23.01 205 P 04 10 18.9 -1.9
GTA Gaotai 24.16 315 *e*P **P 04 10 32.8 +0.7**
GTA pP sP 04 10 37.6 +0.3
GTA pmax pmax
comp=Z,23nm,1.5s
GTA pmax pmax
comp=Z,460nm,6.0s
GTA LR LR
comp=Z,940nm,10.5s
GTA LR LR
comp=Z,2μm,12.4s
GTA LR LR
comp=Z,2μm,12.0s
GUMO Guam 24.23 110 LR LR 04 17 58.8
comp=Z,324nm,21.0s,baz=274,slow=32
KSM Kuching 24.67 208 P **P 04 10 35.6 -1.1**
KSM IAmb IAmb 04 10 46.9
comp=Z,39nm,1.1s
GOMU GeErMu 26.21 304 P **P 04 10 52.3 +1.3**
GOMU sP sP 04 10 55.8 -0.4
GOMU S **S 04 15 22.9 -0.4**
GOMU pmax pmax
comp=Z,15nm,1.4s
GOMU pmax pmax
comp=Z,240nm,4.9s
GOMU LR LR
comp=Z,2μm,8.3s
GOMU LR LR
comp=Z,1μm,8.5s
GOMU LR LR
comp=Z,3μm,8.7s
ASAJ Asahikawa 26.65 35 LR LR 04 21 07.4
comp=Z,269nm,21.2s,baz=207,slow=36
ULN Ulaanbaatar 26.72 338 P 04 10 53.5 -1.7
ULN Ulaanbaatar 26.72 338 *d* *i*P **P 04 10 57.5 +2.3**
ULN pmax pmax
comp=Z,8.0nm,0.7s
HEH HeiHe 26.87 8 *e*P **P 04 11 00.3 +4.0**
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH LR LR
comp=Z,1μm,10.4s
HEH LR LR
comp=Z,650nm,10.0s
HEH LR LR
comp=Z,2μm,12.0s
SONM Songino Array 26.93 337 P **P 04 10 56.0 -1.0**
SONM Songino Array 26.93 337 P **P 04 10 57.5 +0.4**
comp=Z,6.0nm,0.8s,baz=155,slow=8.6,SNR=14
SONM LR LR 04 22 58.1
comp=Z,602nm,18.4s,baz=144,slow=39
comp=Z,6.0nm,0.8s
SONM Songino Array 26.93 337 P **P 04 10 56.0 -1.0**
SONM pmax pmax
comp=Z,10.0nm,1.2s
SHL Shillong 27.03 280 P **P 04 10 59.0 +0.8**
SHL IAmb IAmb 04 11 05.2
comp=Z,28nm,1.0s
SHL Shillong 27.03 280 P **P 04 10 59.0 +0.8**
SHL pmax pmax
comp=Z,28nm,1.0s
BRDH Bariadhala 27.51 274 LR LR 04 21 54.9
comp=Z,287nm,19.4s,baz=134,slow=36
LSA Lhasa 27.77 289 P **P 04 11 08.3 +3.1**
LSA LR LR
comp=Z,600nm,10.1s
LSA LR LR
comp=Z,1μm,13.7s
KAPI Kappang 28.62 184 LR LR 04 22 57.8
comp=Z,190nm,21.3s,baz=354,slow=37
YSS Yuzhno-Sakhali 28.73 31 *e*P **P 04 11 09.2 -3.7**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,600nm,16.0s
BKSI Bulukumba 28.91 183 P **P 04 11 15.1 +0.3**
comp=Z,47nm,0.8s
ZEA Zeya 30.27 7 *e*P P 04 11 32.7 +6.1
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,400nm,11.0s
ZEA MLR MLR
comp=N,500nm,10.0s
ZEA MLR MLR
comp=Z,600nm,12.0s
SMPI Sarmi 30.52 145 P **P 04 11 28.7 -0.4**
comp=Z,1μmcomp=Z,10nm,1.3s
EVN Everest 31.50 285 P 04 11 39.2 +0.7
JAY Jayapura 32.05 142 LR LR 04 21 56.3
comp=Z,568nm,21.1s,baz=4.5,slow=31
EDFI Ende, Flores 32.28 180 P **P 04 11 42.7 -2.0**
BATI Baumata 33.79 176 LR LR 04 26 39.5
comp=Z,179nm,20.4s,baz=194,slow=38
WMQ Urumqi 34.23 314 *e*P **P 04 12 03.8 +2.3**
WMQ LR LR
comp=Z,990nm,10.9s
WMQ LR LR
comp=Z,2μm,11.3s
WMQ LR LR
comp=Z,440nm,12.9s
YAK Yakutsk 38.68 6 LR LR 04 29 16.8
comp=Z,235nm,20.1s,baz=185,slow=37
MK31 Makanchi Array 38.91 316 *d* *i*P **P 04 12 42.7 +1.3**
MKAR Makanchi Array 38.91 316 P **P 04 12 41.5 +0.1**
MKAR Makanchi Array 38.91 316 P **P 04 12 41.0 -0.4**
comp=Z,5.3nm,0.8s,baz=113,slow=8.8,SNR=30
MKAR PcP **PcP 04 14 51.7 -0.3**
comp=Z,1.7nm,0.9s,baz=101,slow=4.6,SNR=3.6
MKAR LR LR 04 29 59.9
comp=Z,492nm,19.4s,baz=79,slow=38
comp=Z,5.3nm,0.8s
MKAR Makanchi Array 38.91 316 *ce*P **P 04 12 42.4 +1.0**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
PETK Petropavlovsk- 40.04 34 LR LR 04 30 22.6
comp=Z,132nm,18.5s,baz=233,slow=38
HYB Hyderabad 40.65 269 *e*P **P 04 12 55.4 -0.8**
ZAA0 Zalesovo Array 40.82 327 P **P 04 12 55.6 -1.5**
ZALV Zalesovo Beam 40.82 327 P **P 04 12 55.8 -1.3**
ZALV Zalesovo Beam 40.82 327 P **P 04 12 57.1 +0.1**
comp=Z,5.3nm,0.6s,baz=120,slow=7.8,SNR=11
ZALV LR LR 04 31 01.8
comp=Z,424nm,18.4s,baz=125,slow=38
comp=Z,5.3nm,0.6s
ZALV Zalesovo Beam 40.82 327 *i* P **P 04 13 00.3 +3.2**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
MA2 Magadan 41.27 22 LR LR 04 31 13.9
comp=Z,205nm,18.7s,baz=236,slow=38
KSH Kashi 41.45 303 P P 04 13 07.4 +4.7
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH LR LR
comp=Z,1μm,13.4s
KSH LR LR
comp=Z,1μm,15.5s
KSH LR LR
comp=Z,1μm,17.9s
H11N1 WAKE ISLAND Hy 42.15 86 T T 04 58 05.2
baz=283,slow=74,SNR=902
H11N2 WAKE ISLAND Hy 42.15 86 T T 04 58 04.3
baz=283,slow=74,SNR=912
H11N3 WAKE ISLAND Hy 42.17 86 T T 04 58 05.4
baz=283,slow=74,SNR=847
H11S3 WAKE ISLAND Hy 42.27 88 T T 04 58 12.6
baz=284,slow=74,SNR=4844
H11S1 WAKE ISLAND Hy 42.28 88 T T 04 58 13.3
baz=284,slow=74,SNR=2458
H11S2 WAKE ISLAND Hy 42.29 88 T T 04 58 13.9
baz=284,slow=74,SNR=2317
PALK Pallekele 42.46 254 LR LR 04 31 57.0
comp=Z,189nm,19.4s,baz=60,slow=38
KURK Kurchatov 42.67 320 P **P 04 13 12.2 -0.1**
KURK Kurchatov 42.67 320⇑ *i*P **P 04 13 12.8 +0.5**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 42.69 320 P **P 04 13 12.4 0.0**
comp=Z,5.1nm,0.8s,baz=110,slow=8.0,SNR=21
KURBB PcP **PcP 04 15 04.8 +0.7**
comp=Z,0.5nm,0.6s,baz=107,slow=2.6,SNR=1.7
KURBB LR LR 04 32 07.7
comp=Z,210nm,20.0s,baz=178,slow=38
comp=Z,5.1nm,0.8s
COEN Coen 43.00 148 P **P 04 13 15.8 +0.5**
AAK Ala-Archa 43.07 308 LR LR 04 33 12.4
comp=Z,264nm,18.3s,baz=84,slow=39
AAK Ala-Archa 43.07 308⇑ *e*P **P 04 13 17.4 +1.5**
AAK pmax pmax
comp=Z,3.0nm,1.2s
WB0 Warramunga Arr 45.00 163 IAmb IAmb 04 13 31.0
comp=Z,19nm,1.3s
WRAB Tennant Creek 45.15 163 P **P 04 13 28.4 -4.1**
WRAB pmax pmax
comp=Z,11nm,1.2s
WRA Warramunga Arr 45.15 163 P **P 04 13 31.6 -1.0**
WRA Warramunga Arr 45.15 163 P **P 04 13 30.2 -2.3**
comp=Z,3.9nm,0.7s,baz=345,slow=8.7,SNR=20
WRA PcP **PcP 04 15 12.9 0.0**
comp=Z,0.6nm,0.5s,baz=340,slow=2.9,SNR=1.9
WRA LR LR 04 34 35.7
comp=Z,147nm,18.6s,baz=218,slow=39
comp=Z,3.9nm,0.7s
WRA Warramunga Arr 45.15 163 *i* P **P 04 13 30.7 -1.8**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WR8 Warramunga Arr 45.21 163 P **P 04 13 31.2 -1.8**
GAR Garm 45.76 302 IAmb IAmb 04 13 43.4
comp=Z,14nm,1.0s
KK31 Karatay Array 46.03 308 P **P 04 13 41.3 +1.9**
KK31 Karatay Array 46.03 308 P **P 04 13 41.3 +1.9**
KK31 pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 46.03 308 P **P 04 13 40.2 +0.9**
KKAR Karatay Array 46.03 308 P **P 04 13 40.2 +0.9**
KBL Kabul 46.69 296 P **P 04 13 45.4 +0.6**
KBL IAmb IAmb 04 13 51.2
comp=Z,24nm,1.3s
KBL Kabul 46.69 296 P **P 04 13 45.4 +0.6**
KBL pmax pmax
comp=Z,24nm,1.3s
TIXI Tiksi 48.13 3 P **P 04 13 52.9 -2.3**
TIXI IAmb IAmb 04 13 57.4
comp=Z,22nm,1.4s
TIXI Tiksi 48.13 3 P **P 04 13 54.8 -0.4**
comp=Z,7.7nm,0.9s,baz=194,slow=7.1,SNR=5.1
TIXI LR LR 04 36 04.4
comp=Z,434nm,19.8s,baz=200,slow=38
comp=Z,7.7nm,0.9s
TIXI Tiksi 48.13 3⇑ *e*P **P 04 13 54.2 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 48.25 321 P **P 04 13 56.5 -0.1**
comp=Z,2.6nm,0.5s,baz=107,slow=9.9,SNR=11
BVAR PcP **PcP 04 15 22.7 -0.7**
comp=Z,1.2nm,0.6s,baz=103,slow=5.0,SNR=2.1
BVAR LR LR 04 33 54.4
comp=Z,150nm,18.9s,baz=92,slow=36
comp=Z,2.6nm,0.5s
BRVK Borovoye 48.32 321 P **P 04 13 57.3 +0.3**
BRVK Borovoye 48.32 321 *d* *i*P **P 04 13 55.7 -1.3**
BRVK pmax pmax
comp=Z,12nm,2.6s
ASAR Alice Springs 48.61 165 P **P 04 13 58.2 -1.3**
ASAR Alice Springs 48.61 165 P **P 04 13 57.5 -2.0**
comp=Z,3.4nm,0.7s,baz=342,slow=6.4,SNR=18
ASAR PcP **PcP 04 15 23.6 -1.5**
comp=Z,1.2nm,0.8s,baz=342,slow=4.2,SNR=2.6
ASAR LR LR 04 36 05.5
comp=Z,99nm,18.4s,baz=304,slow=38
comp=Z,3.4nm,0.7s
ASAR Alice Springs 48.61 165 P **P 04 13 58.2 -1.3**
HNR Honiara 49.92 127 LR LR 04 33 24.8
comp=Z,136nm,20.9s,baz=338,slow=34
AB31 Akbulak array 54.02 315 P **P 04 14 39.2 -0.6**
ABKAR Akbulak array 54.02 315 P **P 04 14 39.4 -0.5**
SVE Sverdlovsk 54.62 324 *e*P **P 04 14 44.7 +0.6**
AKTO Aktyubinsk 55.35 316 LR LR 04 40 12.2
comp=Z,401nm,18.1s,baz=131,slow=38
ARTI Arti 55.78 323 P **P 04 14 50.5 -2.0**
ARTI Arti 55.78 323 LR LR 04 41 02.0
comp=Z,182nm,18.6s,baz=95,slow=38
ARTI Arti 55.78 323 *c* *i*P **P 04 14 53.5 +1.0**
ARTI 04 15 48.8
ARTI S **S 04 22 42.1 +3.1**
ARTI SS **SS 04 26 24.9 +0.6**
ARTI pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 58.51 160 P **P 04 15 10.7 -1.3**
comp=Z,6.5nm,0.8s,baz=332,slow=7.1,SNR=6.2
STKA LR LR 04 40 26.7
comp=Z,96nm,21.8s,baz=6.7,slow=36
comp=Z,6.5nm,0.8s
SPIA Saint Paul Isl 58.59 36 P **P 04 15 11.3 -1.0**
baz=265
GAMB Gambell 58.71 29 P **P 04 15 11.6 -1.4**
baz=260
P08K Saint George I 58.93 37 P **P 04 15 12.9 -1.8**

baz=266
NIKH Nikolski High 59.19 41 P P 04 15 14.7 -1.9
baz=269
TNA Tin City 60.58 27 P P 04 15 24.3 -1.6
baz=263
UNV Unalaska Valle 60.60 40 P P 04 15 24.4 -1.9
baz=270
KIRV Kirov 60.80 325 LR LR 04 43 30.2
comp=Z,111nm,20.0s,baz=94,slow=38
KIRV Kirov 60.80 325*c i*P P 04 15 27.3 -0.2
M11K Mekoryuk 60.90 33 P P 04 15 26.7 -1.4
baz=267
F14K Arctic Creek 61.23 27 P P 04 15 28.5 -1.9
baz=264
ANM Nome 61.56 28 P P 04 15 30.6 -2.0
baz=266
K13K Kusilvak Mount 61.72 31 P P 04 15 31.4 -2.4
baz=268
C16K Lisburne Hills 61.92 24 P P 04 15 32.8 -2.2
baz=264
F15K North Star Dit 61.95 27 P P 04 15 33.2 -2.0
baz=266
G15K Niukluk 62.16 28 P P 04 15 34.8 -1.8
baz=267
J14K Nanvaranak Lak 62.27 30 P P 04 15 35.7 -1.7
baz=268
M13K Dall Lake 62.32 33 P P 04 15 35.5 -2.3
baz=270
L14K Kuka Creek 62.65 32 P P 04 15 37.8 -2.1
baz=270,SNR=5.6
D17K Noatak River 62.72 25 P P 04 15 38.5 -1.8
baz=266
C17K DeLong Mountai 62.74 24 P P 04 15 37.6 -2.9
baz=266
G16K Koyuk River 62.88 27 P P 04 15 39.0 -2.5
baz=268
H16K Elim 62.91 28 P P 04 15 39.1 -2.5
baz=268
M14K Bethel 63.00 32 P P 04 15 40.0 -2.3
baz=271
DZM Mont Dzumac 63.06 133 *e*LR LR 04 34 30.8
comp=Z,524nm,26.6s
DZM Mont Dzumac 63.06 133 LR LR 04 38 19.8
comp=Z,128nm,21.3s,baz=346,slow=32
S12K Black Hills 63.12 38 P P 04 15 40.9 -2.3
baz=273
N14K Kuskokwak Cree 63.15 33 P P 04 15 41.3 -2.0
baz=271
E17K Hotham Inlet 63.17 25 P P 04 15 41.8 -1.5
baz=268
K15K Wolf Creek Mou 63.20 31 P P 04 15 41.6 -2.0
baz=270
L15K Ungalak Mounta 63.22 31 P P 04 15 41.6 -2.2
baz=271
B18K Kokolik River 63.30 23 P P 04 15 42.5 -1.7
baz=266
O14K Tigyukauivet M 63.39 34 P P 04 15 43.7 -1.2
baz=272
C18K Utukok River 63.48 24 P P 04 15 43.6 -1.8
baz=267
I17K Unalakleet 63.57 29 P P 04 15 45.0 -1.0
baz=270
G17K Kiwalik Mounta 63.60 27 P P 04 15 44.6 -1.6
baz=269,SNR=8.2
A19K Wainwright 63.60 22 P P 04 15 44.2 -1.9
baz=267
J16K Anvik River 63.62 30 P P 04 15 44.7 -1.7
baz=271
M15K Kasigluk River 63.63 32 P P 04 15 44.5 -2.0
baz=272
E18K Tukpahlearik C 63.66 25 IAmb IAmb 04 15 49.4
comp=Z,6.3nm,0.8s
E18K Tukpahlearik C 63.66 25 P P 04 15 44.4 -2.1
baz=268
H17K Granite Mounta 63.91 28 IAmb IAmb 04 15 56.0
comp=Z,8.1nm,0.9s
H17K Granite Mounta 63.91 28 P P 04 15 46.3 -2.0
baz=270
N15K Kwethluk River 63.95 33 IAmb IAmb 04 15 53.7
comp=Z,14nm,0.9s
N15K Kwethluk River 63.95 33 P P 04 15 46.5 -2.1
baz=272
F18K Selawik 64.02 26 P P 04 15 47.7 -1.1
baz=270,SNR=7.3
SDPT Sand Point 64.04 38 P P 04 15 47.9 -1.3
baz=275
C19K Lookout Ridge 64.08 23 P P 04 15 47.9 -1.4
baz=269
O15K Ungalikthiuk R 64.13 34 P P 04 15 48.3 -1.5
baz=273
L16K Owhat River 64.18 31 IAmb IAmb 04 15 53.4
comp=Z,9.8nm,1.2s
L16K Owhat River 64.18 31 P P 04 15 48.8 -1.2
baz=272
J17K VABM Dome 64.30 29 P P 04 15 52.0 +1.1
J17K IAmb IAmb 04 15 54.5
comp=Z,10nm,0.8s
J17K VABM Dome 64.30 29 P P 04 15 50.0 -0.9
baz=272,SNR=6.8
G18K Tagagawik 64.42 27 P P 04 15 49.9 -1.8
baz=271
M16K Timber Creek 64.46 32 P P 04 15 50.5 -1.5
baz=273
S14K Fog Glacier 64.48 37 P P 04 15 50.6 -1.6
baz=275
H18K Honhosa River 64.56 27 IAmb IAmb 04 16 10.6
comp=Z,19nm,1.4s
H18K Honhosa River 64.56 27 P P 04 15 51.5 -1.1
baz=272
N16K Nishlik Lake 64.59 33 P P 04 15 51.5 -1.3
baz=274,SNR=6.2
CHNA Chernabura Isl 64.59 39 P P 04 15 51.5 -1.3
baz=276
D19K Kuna River 64.61 24 P P 04 15 52.0 -0.9
baz=270,SNR=7.3
K17K Iditarod 64.69 30 P P 04 15 54.3 +0.9
K17K IAmb IAmb 04 15 57.1
comp=Z,12nm,0.9s
K17K Iditarod 64.69 30 P P 04 15 51.6 -1.8
baz=273
L17K Donlin 64.72 31 P P 04 15 52.0 -1.6
baz=273
F19K Shaleruckik Mo 64.76 26 P P 04 15 52.6 -1.2
baz=271
B20K Meade River 64.94 22 P P 04 15 53.9 -0.9
baz=270
E19K Redstone River 64.95 25 IAmb IAmb 04 16 06.9
comp=Z,9.2nm,0.8s
E19K Redstone River 64.95 25 P P 04 15 53.7 -1.4
baz=272
O16K Kokwok River B 64.99 34 P P 04 15 54.1 -1.3
baz=274
P16K Nushagak River 65.08 34 P P 04 15 54.4 -1.7
baz=275
A21K Barrow 65.11 21 P P 04 15 54.7 -1.3
baz=270
D20K Etivluk River 65.15 23 IAmb IAmb 04 16 16.0
comp=Z,9.0nm,0.9s
D20K Etivluk River 65.15 23 P P 04 15 55.3 -1.0
baz=272
M17K Holitna River 65.17 32 P P 04 15 55.5 -1.1
baz=274
GCSA Galena City Sc 65.21 28 P P 04 15 55.3 -1.4
baz=273
E20K Nigu River 65.33 24 P P 04 15 56.6 -0.9
baz=272,SNR=5.2
H19K Roundabout Mou 65.35 27 IAmb IAmb 04 16 09.9
comp=Z,13nm,0.9s
H19K Roundabout Mou 65.35 27 P P 04 15 56.4 -1.2
baz=273,SNR=8.2
GNI Garni 65.36 305 LR LR 04 48 06.4
comp=Z,103nm,21.2s,baz=74,slow=39
J18K Innoko River 65.36 29 P P 04 15 55.6 -2.2
baz=274,SNR=6.0
N17K Nushagak Hills 65.36 33 P P 04 15 55.8 -2.1
baz=275
R16K Pilot Point 65.44 36 P P 04 15 56.5 -1.9
baz=276
L18K Granite Mounta 65.47 31 P P 04 15 56.0 -2.4
baz=274
O17K Koliganek Bris 65.48 33 P P 04 15 56.5 -2.0
baz=275
F20K Avaraart Lake 65.56 25 P P 04 15 57.4 -1.6
baz=273
KLMR Klimovskoe 65.74 328 *e*P P 04 15 59.4 -0.8
KLMR pmax pmax
comp=Z,8.0nm,1.0s
C21K Kniveblade Rid 65.80 23 P P 04 15 58.7 -1.8
baz=273
J19K Poorman 65.81 29 IAmb IAmb 04 16 08.4
comp=Z,23nm,1.5s
J19K Poorman 65.81 29 P P 04 15 58.8 -1.8
baz=275,SNR=6.8
Q16K King Salmon 65.81 35 P P 04 15 59.2 -1.5
baz=276
B21K Ikpikpuk River 65.83 22 P P 04 15 58.8 -1.9
baz=273
P17K Kvichak River 65.87 34 P P 04 15 59.4 -1.7
baz=276
M18K Stony River 65.94 31 P P 04 15 59.8 -1.7
baz=276
N18K Kilae Creek 65.99 32 P P 04 15 59.6 -2.3
baz=276
H20K Anotleneega Mo 66.00 27 P P 04 16 00.3 -1.7
baz=275
KBZ Khabaz 66.05 309 P P 04 16 03.2 +0.7
comp=Z,5.1nm,0.8s,baz=142,slow=5.1,SNR=9.6
KBZ LR LR 04 50 47.5
comp=Z,91nm,18.1s,baz=61,slow=41
comp=Z,5.1nm,0.8s
KBZ Khabaz 66.05 309 *de*P P 04 16 02.8 +0.3
KBZ pmax pmax
comp=Z,6.0nm,0.9s
R17L Mt. Peulik Vol 66.08 36 P P 04 16 00.6 -2.0
baz=277
E21K Killik River 66.14 24 P P 04 16 00.3 -2.4
baz=274
KIV Kislovodsk 66.16 309 *e*P P 04 16 04.2 +0.8
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,127nm,17.0s
KIV Kislovodsk 66.16 309 P P 04 16 02.7 -0.7
comp=Z,10nm,0.8s
B22K Teshekpuk Lake 66.20 22 P P 04 16 01.3 -1.7
baz=274
I20K Naaghedeneel 66.23 28 P P 04 16 01.4 -2.0
baz=275
L19K White Mountain 66.33 31 IAmb IAmb 04 16 16.4
comp=Z,19nm,1.2s
L19K White Mountain 66.33 31 P P 04 16 02.7 -1.3
baz=276,SNR=6.4
O18K Koktuh Hills 66.42 33 P P 04 16 02.0 -2.7
baz=277
F21K Alatna River 66.42 25 P P 04 16 02.9 -1.7
baz=275
IMAR Indian Mountai 66.43 26 P P 04 16 05.5 +0.9
J20K Nowinta River 66.44 28 P P 04 16 02.6 -2.0
baz=276,SNR=8.2
P18K Big Mountain, 66.46 34 P P 04 16 02.1 -2.9
baz=277
G21K Allakaket 66.47 26 IAmb IAmb 04 16 17.3
comp=Z,14nm,0.9s
G21K Allakaket 66.47 26 P P 04 16 01.6 -3.4
baz=275
K20K Telida 66.56 29 IAmb IAmb 04 16 13.4
comp=Z,11nm,0.9s
K20K Telida 66.56 29 P P 04 16 02.7 -2.8
baz=276
D22K Ayikyak River 66.57 23 P P 04 16 03.1 -2.4
baz=275
M19K Big River Lodg 66.57 31 IAmb IAmb 04 16 13.6
comp=Z,15nm,1.1s
M19K Big River Lodg 66.57 31 P P 04 16 03.0 -2.7
baz=277
N19K Bonanza Creek 66.66 32 P P 04 16 03.1 -3.2
baz=277
Q18K Katmai Hardscr 66.67 34 P P 04 16 03.8 -2.6
baz=278
L20K Farewell, AK 66.74 30 P P 04 16 03.7 -3.1
baz=277
O19K Port Alsworth 66.82 33 P P 04 16 04.5 -2.6
baz=277
H21K Melozitna Rive 66.85 27 P P 04 16 05.1 -2.2
baz=276,SNR=11
F22K John River 66.89 25 P P 04 16 05.2 -2.4
baz=276
E22K Anaktuvuk Pass 66.96 24 P P 04 16 05.6 -2.4
baz=276
R18K Karluk 67.11 36 P P 04 16 06.4 -2.7
baz=278
M20K Styx River 67.17 31 IAmb IAmb 04 16 17.4
comp=Z,11nm,0.9s
M20K Styx River 67.17 31 P P 04 16 06.7 -2.8
baz=278
C23K Itkillik River 67.20 22 P P 04 16 06.7 -2.7
baz=277
G22K Bettles 67.22 25 P P 04 16 07.6 -2.0
baz=277
I21K Tanana 67.25 27 P P 04 16 08.0 -1.8
baz=277
CHUM Lake Minchumin 67.27 29 P P 04 16 08.8 -1.2
baz=278
D23K Nanushuk River 67.28 23 P P 04 16 07.0 -3.0
baz=277
Q19K Cape Douglas, 67.33 34 P P 04 16 07.8 -2.7
baz=278
H22K Ishtalitna Cre 67.40 26 P P 04 16 08.2 -2.6
baz=278
SII Sitkinak Islan 67.41 37 P P 04 16 08.5 -2.6
baz=279
P19K Oil Pt 67.43 33 P P 04 16 08.2 -2.9
baz=279
CAST Castle Rocks 67.44 29 IAmb IAmb 04 16 23.1
comp=Z,16nm,1.0s
CAST Castle Rocks 67.44 29 P P 04 16 08.6 -2.5
baz=278,SNR=8.7
PPLA Purkeypile 67.46 30 P P 04 16 08.2 -3.2
baz=276
O20K Slope Mountain 67.67 33 P P 04 16 09.5 -3.1
baz=279
COLD Coldfoot 67.69 25 P P 04 16 10.0 -2.6
baz=278
N20K Mount Spurr 67.70 31 P P 04 16 10.5 -2.4
baz=279
TOLK Toolik Lake Re 67.72 23 P P 04 16 10.0 -2.8
baz=278
OHAK Old Harbor 67.79 36 P P 04 16 10.7 -2.6
baz=280
MLY Manley 67.79 27 IAmb IAmb 04 16 25.3
comp=Z,13nm,1.0s
MLY Manley 67.79 27 P P 04 16 10.6 -2.7
baz=278,SNR=10
E23K Chandalar 67.79 24 P P 04 16 11.1 -2.2
baz=278
BPAW Bear Paw Mtn. 67.82 28 P P 04 16 11.2 -2.3
baz=279,SNR=10
G23K Bananza Creek 67.83 25 P P 04 16 11.7 -1.8
baz=278
C24K Franklin Bluff 67.88 22 P P 04 16 10.4 -3.3
baz=278
SKT Skwentna 67.90 31 P P 04 16 11.0 -3.1
baz=279
D24K Happy Valley 67.92 23 P P 04 16 11.1 -3.0
baz=278
KTH Kantishna Hill 67.93 29 IAmb IAmb 04 16 20.8
comp=Z,12nm,0.9s
Q20K Shuyak Island 68.03 34 P P 04 16 11.6 -3.2
baz=280
KDAK Kodiak Island 68.07 35 P P 04 16 15.3 +0.2
KDAK Kodiak Island 68.07 35 P P 04 16 15.3 +0.2
KDAK pmax pmax
comp=Z,54nm,1.5s
KDAK Kodiak Island 68.07 35 P P 04 16 11.7 -3.4
baz=280
H23K Yukon River 68.16 26 P P 04 16 12.8 -2.9
baz=279,SNR=5.7
E24K Your Creek 68.21 24 IAmb IAmb 04 16 28.3
comp=Z,15nm,0.9s
E24K Your Creek 68.21 24 P P 04 16 12.9 -3.1
baz=279
HOM Homer 68.23 33 P P 04 16 12.6 -3.5
baz=280
TRF Thorofare Moun 68.23 29 P P 04 16 12.8 -3.4
baz=280
CAPN Captain Cook N 68.28 32 P P 04 16 13.0 -3.4
baz=280
I23K Minto, Yukon-K 68.35 27 IAmb IAmb 04 16 20.7
comp=Z,17nm,1.1s
I23K Minto, Yukon-K 68.35 27 P P 04 16 13.7 -3.0
baz=280
SUA Susitna One 68.36 31 P P 04 16 13.6 -3.4
baz=280
CUT Chulitna 68.42 30 P P 04 16 14.4 -2.8
baz=280
F24K Squaw Lake 68.53 24 P P 04 16 16.0 -1.9
baz=280,SNR=10
NEA2 Nenana 68.56 28 P P 04 16 15.5 -2.7
baz=280,SNR=13
M22K Willow 68.60 31 P P 04 16 15.5 -2.8
baz=280
D25K Kavik River 68.75 22 P P 04 16 16.6 -2.7
baz=281
MCK McKinley 68.78 29 P P 04 16 17.0 -2.5
baz=281
G24K Hadweenzic Riv 68.83 25 IAmb IAmb 04 16 22.3
comp=Z,12nm,0.9s
G24K Hadweenzic Riv 68.83 25 P P 04 16 17.5 -2.3
baz=281
H24K Noodor Dome 68.83 26 IAmb IAmb 04 16 22.1
comp=Z,12nm,1.0s
H24K Noodor Dome 68.83 26 P P 04 16 17.5 -2.3
baz=281,SNR=5.5
RC01 Rabbit Creek A 68.90 31 P P 04 16 18.0 -2.3
baz=281
WRH Wood River Hil 69.00 28 IAmb IAmb 04 16 33.0
comp=Z,14nm,1.2s
COLA College 69.03 27 P P 04 16 18.5 -2.4
baz=281
O22K Cooper Landing 69.03 32 P P 04 16 18.8 -2.3
baz=281
PMR Palmer 69.09 31 P P 04 16 18.6 -2.8
baz=281
POKR Poker Plat Res 69.15 27 P P 04 16 19.1 -2.7
baz=281
SEW Seward 69.23 32 P P 04 16 19.7 -2.7
baz=282
E25K Arctic Village 69.28 24 P P 04 16 20.3 -2.3
baz=282
G25K Bearman Lake 69.36 25 P P 04 16 20.9 -2.0
baz=282
F25K Christian Rive 69.36 24 IAmb IAmb 04 16 35.8
comp=Z,12nm,0.9s
F25K Christian Rive 69.36 24 P P 04 16 21.0 -2.1
baz=282,SNR=7.4
KNK Knik Glacier 69.44 31 P P 04 16 22.1 -1.6
baz=282
ILAR Eielson Array 69.45 27 P P 04 16 23.5 -0.2
comp=Z,2.3nm,0.9s,baz=295,slow=9.5,SNR=7.9
comp=Z,2.3nm,0.9s
HDA Harding Lake 69.50 28 IAmb IAmb 04 16 34.7
comp=Z,11nm,1.1s
HDA Harding Lake 69.50 28 P P 04 16 21.9 -2.1
baz=282
H25L Birch Creek 69.57 26 P P 04 16 22.7 -1.7
baz=282
C27K Jago River 69.61 22 P P 04 16 22.1 -2.4
baz=283
PWL Port Wells 69.62 31 P P 04 16 22.2 -2.5
baz=282
M23K Glacier View 69.71 30 P P 04 16 22.8 -2.5
baz=282
BMAR Burnt Mountain 69.79 24 P P 04 16 25.8 0.0
PRP Porcupine Dome 69.85 26 IAmb IAmb 04 16 30.8
comp=Z,19nm,1.4s
PRP Porcupine Dome 69.85 26 P P 04 16 24.8 -1.5
baz=283
SCM Sheep Creek Mo 69.88 30 P P 04 16 24.4 -2.0
baz=283
F26K Sheenjek River 69.89 24 IAmb IAmb 04 16 31.3
comp=Z,14nm,1.0s
F26K Sheenjek River 69.89 24 P P 04 16 24.4 -1.9
baz=283,SNR=6.9
SPITS Spitsbergen Ar 70.00 348 P P 04 16 26.9 0.0
comp=Z,6.0nm,1.1s,baz=86,slow=8.8,SNR=1.7
SPITS LR LR 04 50 03.2
comp=Z,88nm,21.6s,baz=50,slow=38
comp=Z,6.0nm,1.1s
ARCES ARCESS Array B 70.09 338 LR LR 04 52 24.6
comp=Z,127nm,18.2s,baz=93,slow=40
J25K Salcha River, 70.12 27 P P 04 16 25.5 -2.4
baz=283
K24K Donnelly Dome 70.13 28 P P 04 16 25.2 -2.7
baz=283,SNR=6.9
G26K Porcupine Rive 70.21 25 IAmb IAmb 04 16 32.5
comp=Z,18nm,1.0s
G26K Porcupine Rive 70.21 25 P P 04 16 26.0 -2.2
baz=284,SNR=6.1
GLI Glacier Island 70.21 31 P P 04 16 26.2 -2.2
baz=283
M24K Tolsona, Glenn 70.35 30 P P 04 16 26.9 -2.4
baz=284
PAX Paxson 70.47 29 IAmb IAmb 04 16 36.1
comp=Z,12nm,1.2s
PAX Paxson 70.47 29 P P 04 16 27.6 -2.4
baz=284
RIDG Independent Ri 70.55 28 P P 04 16 28.3 -2.2
baz=284
KLU Klutina 70.61 31 P P 04 16 28.7 -2.3
baz=284
D27M Malcolm River 70.64 22 P P 04 16 29.8 -1.2
baz=286
E27K Coleen River 70.70 23 P P 04 16 29.8 -1.6
baz=285
SCRK Sand Creek 70.86 28 IAmb IAmb 04 16 36.4
comp=Z,14nm,1.3s
SCRK Sand Creek 70.86 28 P P 04 16 31.6 -0.9
baz=285,SNR=5.8
I26K Coal Creek Min 70.87 26 IAmb IAmb 04 16 33.9
comp=Z,9.3nm,0.9s
I26K Coal Creek Min 70.87 26 P P 04 16 30.9 -1.4
baz=285
J26L Joseph Creek 70.91 27 IAmb IAmb 04 16 33.8
comp=Z,11nm,0.9s
J26L Joseph Creek 70.91 27 P P 04 16 31.2 -1.5
baz=285,SNR=6.8
DOT Dot Lake 70.91 28 IAmb IAmb 04 16 43.3
comp=Z,12nm,1.2s
Q23K Middleton Isla 70.91 33 P P 04 16 31.3 -1.3
baz=284
EYAK Cordova Ski Ar 70.93 31 P P 04 16 31.5 -1.2
baz=284
G27K Doyon Strip 71.06 25 IAmb IAmb 04 16 37.6
comp=Z,12nm,1.1s
G27K Doyon Strip 71.06 25 P P 04 16 31.9 -1.6
baz=286
N25K Chitina, Valde 71.20 30 P P 04 16 33.2 -1.3
baz=285
H27K Steamboat Moun 71.26 25 IAmb IAmb 04 16 48.3
comp=Z,17nm,1.2s
H27K Steamboat Moun 71.26 25 P P 04 16 33.4 -1.4
baz=286
E28M Babbage River 71.32 22 P P 04 16 33.3 -1.7
baz=287
BMRM Bremner River 71.36 31 P P 04 16 35.3 -0.1
BMRM IAmb IAmb 04 16 39.1
comp=Z,18nm,1.0s
BMRM Bremner River 71.36 31 P P 04 16 34.0 -1.5
baz=285
D28M Stokes Point 71.38 22 P P 04 16 33.3 -2.0
baz=288
L26K Log Cabin Wild 71.39 29 IAmb IAmb 04 16 47.2
comp=Z,11nm,1.1s
L26K Log Cabin Wild 71.39 29 P P 04 16 34.1 -1.4
baz=286
I27K Kandik River 71.41 26 P P 04 16 33.6 -2.0
baz=286
F28M Old Crow 71.49 24 IAmb IAmb 04 16 47.7
comp=Z,14nm,1.0s
F28M Old Crow 71.49 24 P P 04 16 34.7 -1.4
baz=287
GLB Gilahina Butte 71.61 30 IAmb IAmb 04 16 42.5
comp=Z,11nm,0.9s
K27K Chicken 71.66 27 IAmb IAmb 04 16 48.9
comp=Z,17nm,1.0s
K27K Chicken 71.66 27 P P 04 16 35.7 -1.4
baz=286
M26K Nabesna, AK 71.72 29 IAmb IAmb 04 16 41.9
comp=Z,21nm,1.1s
M26K Nabesna, AK 71.72 29 P P 04 16 35.3 -2.2
baz=286,SNR=7.1
KAIM Kayak Island 71.73 32 P P 04 16 34.9 -2.7
baz=286
E29M Blow River 71.96 23 P P 04 16 36.0 -2.9
baz=289
MCARA McCarthy VSAT 71.99 30 P P 04 16 36.4 -2.8
baz=286
FINES FINESS Array B 72.02 330 P P 04 16 39.2 -0.1
comp=Z,1.7nm,0.7s,baz=47,slow=6.0,SNR=8.2
FINES LR LR 04 51 08.5
comp=Z,309nm,18.1s,baz=65,slow=38
comp=Z,1.7nm,0.7s
FINES FINESS Array B 72.02 330 *i* P P 04 16 41.0 +1.7
FINES pmax pmax
comp=Z,2.0nm,0.7s

L27K	Beaver Creek, comp=Z,20nm,1.2s	72.04	28	IAmb	IAmb	04 16 44.5		
L27K	Beaver Creek, baz=287,SNR=12	72.04	28	P	P	04 16 36.7	-2.8	
BCAR	Beaver Creek A	72.06	28	P	P	04 16 39.6	-0.1	
I28M	Miner Creek comp=Z,12nm,1.1s	72.12	26	IAmb	IAmb	04 16 44.1		
I28M	Miner Creek baz=288	72.12	26	P	P	04 16 37.2	-2.8	
CRQE	Cirque baz=287	72.14	31	P	P	04 16 37.5	-2.7	
M27K	Edge Creek, AK comp=Z,23nm,1.6s	72.23	29	IAmb	IAmb	04 18 53.7		
M27K	Edge Creek, AK baz=287	72.23	29	P	P	04 16 37.3	-3.5	
G29M	Pine Creek comp=Z,17nm,1.0s	72.39	24	IAmb	IAmb	04 16 52.9		
G29M	Pine Creek baz=289	72.39	24	P	P	04 16 38.8	-2.7	
H29M	Whitestone comp=Z,10.0nm,0.8s	72.49	25	IAmb	IAmb	04 16 48.3		
H29M	Whitestone baz=289	72.49	25	P	P	04 16 39.2	-2.9	
BVCY	Beaver Creek baz=288	72.66	29	P	P	04 16 40.6	-2.6	
DAWY	Dawson baz=289,SNR=9.7	72.78	27	P	P	04 16 42.4	-1.5	
I29M	Ogilvie Camp, baz=289	72.79	26	P	P	04 16 42.8	-1.1	
MESA	MESA baz=288	72.84	31	P	P	04 16 42.8	-1.7	
CTG	Chitna Glacier baz=288	72.89	30	P	P	04 16 42.8	-1.9	
F30M	Barrier River baz=291	72.97	23	P	P	04 16 43.2	-1.8	
G30M	tAoh Zraii Nji comp=Z,19nm,1.1s	73.04	24	IAmb	IAmb	04 16 48.7		
G30M	tAoh Zraii Nji baz=291	73.04	24	P	P	04 16 43.4	-2.0	
YUK3	Moose Creek baz=288	73.04	29	P	P	04 16 43.8	-1.9	
EPYK	Eagle Plains comp=Z,20nm,1.1s	73.07	24	IAmb	IAmb	04 16 52.9		
EPYK	Eagle Plains baz=290	73.07	24	P	P	04 16 44.3	-1.3	
MNK	Minsk	73.11	323	*i* P	P	04 16 44.1	-1.8	
MNK				*i*		04 19 25.1		
MNK				*i* PPP	PPP	04 21 13.8		
MNK				*i* S	S	04 26 12.9	-0.3	
MNK				*i* SS	SS	04 30 58.3	+4.6	
MNK	comp=N,6.0nm,0.8s			pmax	pmax			
MNK	comp=E,9.0nm,1.0s			pmax	pmax			
MNK	comp=Z,6.0nm,0.7s			pmax	pmax			
MNK	comp=Z,164nm,16.0s			MLR	MLR			
MNK	comp=E,159nm,18.0s			MLR	MLR			
MNK	comp=N,96nm,19.0s			MLR	MLR			
J29N	Klondike Camp baz=290	73.13	26	P	P	04 16 44.7	-1.3	
AKASG	Malin Array Be comp=N,0.4nm,0.4s,baz=60,slow=5.7,SNR=1.8	73.45	318	P	P	04 16 46.7	-1.3	
AKASG				LR	LR	04 51 54.8		
O28M	comp=N,114nm,18.3s,baz=48,slow=38 comp=N,0.4nm,0.4s Mount Upton baz=289	73.49	30	P	P	04 16 46.6	-1.9	
ASF	Jabal al Asfar comp=N,177nm,19.5s,baz=153,slow=40	73.50	298	LR	LR	04 53 45.3		
AK06	Malin Array Si	73.50	318	P	P	04 16 47.8	-0.5	
INK	Inuvik comp=N,6.4nm,0.8s,baz=316,slow=3.8,SNR=6.0 comp=N,6.4nm,0.8s	73.51	22	P	P	04 16 47.3	-0.7	
INK	Inuvik baz=293	73.51	22	P	P	04 16 46.6	-1.4	
AK21	Malin Array Si	73.54	319	P	P	04 16 47.9	-0.6	
I30M	Mount Dempster comp=Z,16nm,1.2s	73.60	25	IAmb	IAmb	04 17 00.7		
I30M	Mount Dempster baz=291	73.60	25	P	P	04 16 46.9	-2.0	
L29M	L29M comp=Z,19nm,1.2s	73.62	28	IAmb	IAmb	04 16 54.1		
L29M	L29M baz=290,SNR=6.7	73.62	28	P	P	04 16 47.8	-1.1	
K29M	Barlow Dome baz=290	73.63	27	P	P	04 16 47.4	-1.6	
PINM	Pinnacle baz=289	73.68	31	P	P	04 16 47.4	-1.9	
M29M	Somme Creek baz=290,SNR=5.7	73.71	29	P	P	04 16 47.9	-1.6	
BR131	Keskin Array S	73.73	307	P	P	04 16 49.8	-0.3	
BR131	comp=Z,25nm,2.0s			IAmb	IAmb	04 16 57.5		
BR131	Keskin Array S	73.73	307	‖ *i* P	P	04 16 51.7	+1.6	
BRTR	Keskin Array B comp=Z,1.1nm,0.7s,baz=76,slow=6.1,SNR=8.0 comp=Z,1.1nm,0.7s	73.73	307	*ce* P	P	04 16 51.2	+1.1	
BRTR	comp=Z,1.0nm,0.6s			pmax	pmax			
F31M	Tsiigehtchic baz=293	73.77	23	P	P	04 16 46.5	-3.1	
G31M	Satah River comp=Z,8.6nm,0.8s	73.77	23	IAmb	IAmb	04 16 55.2		
G31M	Satah River baz=292	73.77	23	P	P	04 16 46.7	-2.9	
J30M	Hart River baz=291	73.86	26	P	P	04 16 47.6	-2.7	
H31M	Peel River comp=Z,16nm,1.1s	74.17	25	IAmb	IAmb	04 17 02.7		
H31M	Peel River baz=292	74.17	25	P	P	04 16 49.3	-2.8	
PNL	Peninsula baz=290	74.23	31	P	P	04 16 51.5	-1.0	
M30M	Minto, Yukon comp=Z,20nm,1.2s	74.39	28	IAmb	IAmb	04 16 58.4		
M30M	Minto, Yukon baz=291,SNR=9.9	74.39	28	P	P	04 16 51.3	-2.1	
O29M	Mount Kennedy baz=290	74.40	31	P	P	04 16 51.2	-2.4	
MMAI	Mount Meron Ar comp=Z,102nm,20.0s,baz=73,slow=39	74.44	300	LR	LR	04 53 29.2		
A36M	Sachs Harbour baz=299	74.45	17	P	P	04 16 52.2	-1.2	
N30M	Aishikik Lake baz=291	74.66	29	P	P	04 16 52.5	-2.5	
HYT	Haines Junctio baz=291	74.71	30	P	P	04 16 53.1	-2.2	
P29M	Windy Craggy baz=291	75.03	31	P	P	04 16 54.5	-2.7	
P30M	Million Dollar baz=292	75.22	30	P	P	04 16 55.5	-2.7	
RNPP9	Sopachiv	75.22	320	P	P	04 16 57.9	-0.4	
N31M	Braeburn, Yuko baz=292	75.24	29	P	P	04 16 56.2	-2.1	
M31M	Drury Creek, Y baz=293	75.56	28	P	P	04 16 58.3	-1.9	
PLBC	Pleasant Camp baz=292	75.74	31	P	P	04 16 59.5	-1.7	
KMPD	K-Podol'skiy	75.83	317	P	P	04 17 01.6	-0.3	
EIL	Elat comp=Z,118nm,18.2s,baz=62,slow=39	75.88	296	LR	LR	04 54 58.4		
WHY	Whitehorse baz=293	75.96	30	P	P	04 17 00.7	-1.8	
C36M	Paulatuk baz=301	76.11	19	P	P	04 17 01.3	-1.7	
SKAG	Skagway baz=293	76.23	31	P	P	04 17 02.6	-1.3	
S31K	Pelican baz=293	76.38	32	P	P	04 17 03.1	-1.7	
N32M	Quiet Lake baz=295	76.56	29	P	P	04 17 03.9	-2.0	
MMPY	Sheldon Lake, baz=296	76.72	27	P	P	04 17 05.2	-1.6	
P32M	Atlin baz=295	76.93	30	P	P	04 17 06.4	-1.6	
P33M	Teslin, Yukon baz=295	77.08	30	P	P	04 17 07.0	-1.8	
R32K	Eaglecrest baz=294	77.09	32	P	P	04 17 07.3	-1.5	
SIT	Sitka baz=294	77.19	33	P	P	04 17 07.7	-1.7	
MLR	Muntele Rosu comp=Z,143nm,18.1s,baz=50,slow=40	77.22	314	LR	LR	04 56 34.1		
S32K	Killisnoo baz=294	77.40	33	P	P	04 17 08.1	-2.4	
Q32M	Nakina River baz=296	77.87	31	P	P	04 17 11.1	-2.4	
HFS	Hagfors comp=Z,3.1nm,0.8s,baz=64,slow=9.8,SNR=5.1	78.14	331	P	P	04 17 14.5	-0.2	
HFS	comp=Z,372nm,20.0s,baz=60,slow=38 comp=Z,3.1nm,0.8s			LR	LR	04 54 49.2		
R33M	Jennings River baz=297	78.28	30	P	P	04 17 12.8	-2.9	
TGTN	Hyland Airport baz=299	78.47	27	P	P	04 17 14.5	-2.0	
U33K	Whale Pass baz=296	78.69	33	P	P	04 17 15.9	-1.9	
NB2	NORSAR Subarra comp=Z,0.9nm,0.6s,baz=61,slow=5.3	78.79	332	P	P	04 17 18.3	0.0	
NOA	NORSAR Array B comp=Z,1.4nm,0.7s,baz=60,slow=5.3,SNR=6.8	78.79	332	P	P	04 17 17.9	-0.5	
NOA	comp=Z,186nm,19.1s,baz=55,slow=38 comp=Z,1.4nm,0.7s			LR	LR	04 54 46.4		
S34M	Telegraph Cree baz=297	78.87	31	P	P	04 17 17.2	-1.6	
WTLY	Watson Lake, Y comp=Z,11nm,1.0s	78.92	29	IAmb	IAmb	04 17 27.1		
WTLY	Watson Lake, Y baz=298	78.92	29	P	P	04 17 17.2	-1.8	
WRAK	Wrangell Islan baz=296	78.95	33	P	P	04 17 16.7	-2.5	
CRAG	Craig baz=296	78.97	34	P	P	04 17 17.8	-1.6	
DLBC	Dease Lake baz=298	79.15	31	P	P	04 17 18.7	-1.7	
JMIC	Jan Mayen comp=Z,99nm,18.6s,baz=97,slow=38	79.36	345	LR	LR	04 55 47.4		
T35M	Bob Quinn baz=298	79.72	32	P	P	04 17 22.0	-1.5	
V35K	Ketchikan baz=297	79.81	34	P	P	04 17 23.3	-0.6	
KOTAN	Kotaneelee Air baz=302	80.96	27	P	P	04 17 28.7	-1.3	
TOAD	Toad River Com baz=302	81.13	29	P	P	04 17 29.3	-1.7	
VRAC	Vranov comp=Z,131nm,19.4s,baz=54,slow=38	81.52	320	LR	LR	04 56 59.0		
CLL	Collm	82.63	323	*i* P	P	04 17 39.6	+0.6	
CLL	Collm	82.63	323	*i* P	P	04 17 39.6	+0.6	
CLL	comp=N,200nm,19.1s			Lm	MLR	04 58 00.0		
CLL	comp=E,200nm,20.7s			Lm	MLR	04 58 00.0		
YKA	Yellowknife Ar comp=E,3.8nm,0.9s,baz=319,slow=5.4,SNR=7.9 comp=E,3.8nm,0.9s	83.25	23	P	P	04 17 42.2	+0.2	
YKA	Yellowknife Ar	83.25	23	*ce* P	P	04 17 42.4	+0.4	
YKA	comp=Z,4.0nm,0.9s			pmax	pmax			
GERES	GERESS Array B	83.42	321	P	P	04 17 42.3	-1.0	
GERES	GERESS Array B comp=Z,1.8nm,0.8s,baz=57,slow=4.9,SNR=11 comp=Z,1.8nm,0.8s	83.42	321	P	P	04 17 43.7	+0.4	
GERES	GERESS Array B	83.42	321	P	P	04 17 42.3	-1.0	
MOA	Molln comp=Z,1.7nm,0.5s	83.57	320	*i* PcP	PcP	04 17 48.3	+0.1	
SOKA	Soboth comp=Z,1.3nm,0.6s	83.66	318	*e* PcP	PcP	04 17 47.5	-1.2	
OBKA	Obir comp=Z,0.9nm,0.4s	84.03	318	*i* pP	P	04 17 48.1	+1.6	
LESA	Schwarzleotal comp=Z,1.6nm,0.6s	84.71	320	*i* PcP	PcP	04 17 53.9	+0.5	
WTTA	Wattenberg comp=Z,17nm,0.6s	85.41	320	*e* PcP	P	04 17 54.3	+0.8	
MOTA	Moosalm comp=Z,0.6nm,0.5s	85.68	320	*e* pP	pP	04 17 58.3	-0.6	
FETA	Feichten comp=Z,0.5nm,0.5s	86.06	320	*e* pP	pP	04 18 00.5	-0.3	
FUORN	Ofenpass-Fuorn	86.54	320	P	P	04 17 59.9	+0.6	
FDMO	Fiordimonte	86.62	316		P	04 17 59.4	+0.1	
FDMO	comp=Z,18nm,1.5s			IAmb	IAmb	04 18 10.9		
DAVOX	Davos/Dischmat comp=Z,144nm,18.6s,baz=73,slow=38	86.69	320	LR	LR	05 00 21.4		
NRCA	Norcia	86.70	316	P	P	04 17 59.8	0.0	
BORG	Borgarnes comp=Z,73nm,19.9s,baz=30,slow=38	87.26	345	LR	LR	04 59 50.3		
BORG	Borgarnes	87.26	345	*i* P	P	04 18 02.6	+0.6	
RAR	Rarotonga comp=Z,60nm,20.0s,baz=308,slow=31	88.60	114	LR	LR	04 50 46.6		
B08A	Colville Reser comp=Z,9.4nm,1.0s	89.94	36	IAmb	IAmb	04 18 22.9		
MXC	Moxie City comp=Z,11nm,1.3s	90.48	37	IAmb	IAmb	04 18 25.9		
D08A	Wolimai Farm, comp=Z,7.3nm,1.1s	90.95	37	IAmb	IAmb	04 18 27.8		
J04A	Umpqua Nationa	91.36	41	P	P	04 18 23.1	+1.1	
PINE	Pine Mountain comp=Z,7.9nm,0.9s	91.74	40	IAmb	IAmb	04 18 31.7		
J05D	Fort Rock, OR	91.86	41	P	P	04 18 25.4	+1.2	
K05A	Summer Lake	92.39	41	P	P	04 18 27.4	+0.7	
PPT	Papeete comp=Z,97nm,18.9s,baz=320,slow=33	95.88	107	LR	LR	04 57 40.5		
PPT2	Papeete2 comp=Z,250nm,28.5s	95.89	107	*e* LR	LR	04 49 33.6		
PPT2	comp=Z,231nm,23.5s			*e* LR	LR	04 49 42.7		
NVAR	Mina Array Bea comp=Z,1.0nm,0.8s,baz=299,slow=4.7,SNR=8.3 comp=Z,1.0nm,0.8s	96.52	43	P	P	04 18 45.7	-0.1	
TBI	Tubuai comp=Z,499nm,26.5s	98.19	112	*e* LR	LR	04 50 31.4		
PDAR	Pinedale Array comp=Z,0.2nm,0.7s,baz=316,slow=4.6,SNR=2.2 comp=Z,0.2nm,0.7s	98.79	35	P	Pdif	04 18 56.2	+0.2	
WBSI	Waikabubak, Su 35nm,1.0s	12.44	250	P	Pn	04 22 14.1	-0.3	
FITZ	Fitzroy Crossi 1.5nm,0.3s,baz=29,slow=8.6,SNR=26	13.63	203	Pn	Pn	04 22 26.0	-4.0	
FITZ	8.4nm,0.3s,baz=32,slow=19,SNR=12			Sn	Sn	04 24 44.1	-16	
PLAI	Plampang	13.76	255	P	Pn	04 22 33.0	+1.3	
PLAI	Plampang 34nm,1.3s	13.76	255	P	Pn	04 22 31.1	-0.6	
COEN	Coen	14.42	126		Pn	04 22 40.8	+0.6	
COEN	Coen	14.42	126	P	Pn	04 22 39.0	-1.2	
WB0	Warramunga Arr	14.47	168		Pn	04 22 38.1	-2.8	
TWSI	Taliwang, Sumb 17nm,1.4s	14.60	257	P	Pn	04 22 41.5	-1.1	
WRAB	Tennant Creek	14.62	168		Pn	04 22 40.5	-2.3	
WRA	Warramunga Arr 2.6nm,0.3s,baz=349,slow=14,SNR=29	14.63	168	Pn	Pn	04 22 38.4	-4.5	
WRA	2.2nm,0.3s,baz=333,slow=23,SNR=6.9 2.7nm,0.3s			Sn	Sn	04 25 14.3	-10	
WR8	Warramunga Arr	14.68	168		Pn	04 22 41.8	-1.7	
QIS	Mount Isa	16.99	152	P	P	04 23 12.3	-0.4	
AS31	Alice Springs	18.20	172	P	P	04 23 26.2	+0.1	
AS31	comp=Z,3.7nm,0.6s			IAmb	IAmb	04 23 30.9		
ASAR	Alice Springs	18.20	172	Pn	Pn	04 23 27.8	+0.7	
ASAR	Alice Springs comp=Z,2.1nm,0.3s,baz=349,slow=9.2,SNR=70	18.20	172	P	P	04 23 26.1	0.0	
ASAR	comp=Z,1.2nm,0.5s,baz=342,slow=26,SNR=4.4 comp=Z,5.5nm,0.5s			S	S	04 26 41.0	-8.3	
AS01	Alice Springs	18.21	172	P	P	04 23 26.2	+0.1	
MBWA	Marble Bar	19.13	215	P	Pn	04 23 36.9	-1.1	
MBWA	comp=Z,16nm,1.0s			IAmb	IAmb	04 24 04.7		
MBWA	Marble Bar	19.13	215	P	Pn	04 23 37.8	-0.2	
PSA00	Pilbara Seismi	19.39	214	P	P	04 23 39.5	+0.5	
PSA00	comp=Z,35nm,1.4s			IAmb	IAmb	04 24 19.2		
PSA00	Pilbara Seismi	19.39	214	P	Pn	04 23 39.9	-1.2	
UGM	Wanagama comp=Z,100nm,2.5s	20.72	262	P	P	04 23 52.6	-0.8	
STKA	Stephens Creek comp=Z,1.7nm,0.6s,baz=325,slow=12,SNR=1.4 comp=Z,1.7nm,0.6s	27.94	161	P	P	04 25 02.6	+0.9	
NWAO	Narrogin (SRO) comp=Z,161nm,18.2s,baz=216,slow=38	30.22	204	LR	LR	04 38 28.6		
NJ2	Nanjing	39.20	343	*e* P	P	04 26 42.5	+3.3	
NJ2	comp=Z,12nm,0.6s			pmax	pmax			
CMAR	Chiang Mai Arr comp=Z,1.4nm,0.2s,baz=122,slow=8.7,SNR=1.7 comp=Z,1.4nm,0.2s	39.79	308	P	P	04 26 45.4	+1.0	
PZH	PanZhiHua	42.80	319	P	P	04 27 11.3	+2.3	
HHC	Hu-ho-hao-te	49.57	340	*e* P	P	04 28 04.8	+3.0	
HHC	comp=Z,17nm,0.6s			pmax	pmax			
GTA	Gaotai	53.32	330	*e* P	P	04 28 30.4	+0.5	
GTA	comp=Z,3.0nm,1.6s			pmax	pmax			
CASY	Casey	62.33	189	P	P	04 29 32.4	+0.1	
CASY	comp=Z,7.6nm,1.4s			IAmb	IAmb	04 29 45.6		
ROCAM	Rodrigues Isla	67.34	251	P	P	04 30 05.4	-0.2	
MKAR	Makanchi Array comp=Z,1.1nm,0.4s,baz=112,slow=8.4,SNR=15 comp=Z,1.1nm,0.4s	67.70	326	P	P	04 30 08.8	+1.3	
RAR	Rarotonga	68.43	111	P	P	04 30 10.6	-1.8	
RAR	comp=Z,82nm,1.5s			IAmb	IAmb	04 30 49.4		
ZALV	Zalesovo Beam comp=Z,0.5nm,0.4s,baz=92,slow=3.5,SNR=2.1 comp=Z,0.5nm,0.4s	70.84	333	P	P	04 30 27.3	+0.7	
KURBB	Kurchatov Arra comp=Z,0.6nm,0.5s,baz=136,slow=5.5,SNR=6.9 comp=Z,0.6nm,0.5s	71.93	328	P	P	04 30 34.1	+0.9	
KURK	Kurchatov	71.94	328	P	P	04 30 33.9	+0.7	
VNDA	Vanda comp=Z,78nm,19.7s,baz=266,slow=36	73.74	173	LR	LR	05 03 06.1		
BVAR	Borovoye Array comp=Z,0.5nm,0.5s,baz=97,slow=3.5,SNR=2.6 comp=Z,0.5nm,0.5s	77.50	327	P	P	04 31 06.5	+1.1	
QSPA	South Pole Qui comp=Z,0.6nm,0.8s,baz=276,slow=3.0,SNR=1.5 comp=Z,0.6nm,0.8s	84.43	180	P	P	04 31 43.2	+1.1	

*IDC **18** 04:19:08.8±1.2,5˚.29S×131˚.71E,h0km,mb4.0/7, mbtmp4.2/10,ML4.7/3,MS3.9/2,Error ellipse: s-maj=52.4km s-min=19.3km az=72.0*
*NEIC **18** 04:19:20.8±1.4,5˚.51S±0˚.06×131˚.29E±0˚.10,h92km±9km, mb4.5/7,Error ellipse: s-maj=16.2km s-min=3.6km az=121.0*
*DJA **18** 04:19:21.0±0.2,5˚S±3˚×13˚1E±˚,h99km±4km,M4.6/17, mb4.5/17,mB5.2/5,MLv4.7/13,Mw(mB)4.6/5*
ISC 18 04:19:20.8±0.5,5˚.54S±0˚.04×131˚.25E±0˚.06,h100km,n66, σ1°89/67,mb4.1/12,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BNDI	Bandanaira	1.68	307	P		Pn	04 19 48.3	-1.0
BNDI	Bandanaira	1.68	307	P		Pn	04 19 48.1	-1.2
BNDI				S		Sn	04 20 07.8	-3.1
SAUI	Saumlaki	2.43	179			Pn	04 20 00.4	+1.4
SAUI	Saumlaki	2.43	179	P		Pn	04 20 00.4	+1.4
FAKI	Fak Fak	2.79	21			Pn	04 20 02.5	-1.2
FAKI	Fak Fak	2.79	21	P		Pn	04 20 02.3	-1.4
FAKI	Fak Fak	2.79	21	S		Sn	04 20 34.0	-2.8
FAKI	Fak Fak	2.79	21	P		Pn	04 20 02.4	-1.3
KMPI	Kaimana, Papua	3.08	53	P		Pn	04 20 07.4	-0.2
MSAI	Masohi	3.18	313	P		Pn	04 20 07.0	-1.9
AAI	Ambon	3.56	301	P		Pn	04 20 13.1	-0.9
SWI	Sorong	4.64	0	P		Pn	04 20 26.4	-2.3
RKPI	Ransiki, Papua	4.96	36	P		Pn	04 20 33.2	+0.3
SANI	Sanana	6.29	303	P		Pn	04 20 50.5	-0.6
SANI	Sanana	6.29	303	P		Pn	04 20 49.5	-1.6
BAKI	Biak 0.4nm71nm,0.6s	6.49	48	P		Pn	04 20 56.0	+2.2
DRS	Darwin Rock St	6.86	183	P		Pn	04 20 58.3	-0.5
KDU	Kakadu	7.21	170	P		Pn	04 21 02.4	-1.1
MTN	Manton Dam	7.26	181			Pn	04 21 03.9	-0.3
MTN	Manton Dam	7.26	181	P		Pn	04 21 03.8	-0.5
SOEI	Soe	8.09	238			Pn	04 21 16.1	+0.4
SOEI	Soe	8.09	238	P		Pn	04 21 16.0	+0.4
SOEI	Soe	8.09	238	S		Sn	04 22 46.8	+1.3
SOEI	Soe 57nm,0.8s	8.09	238	P		Pn	04 21 15.9	+0.3
BATI	Baumata 14nm,0.3s,baz=264,slow=0.1,SNR=6.8	8.83	238	Pn		Pn	04 21 25.4	-0.3
BATI	9.0nm,0.3s,baz=200,slow=23,SNR=2.1 53nm,0.4s			Sn		Sn	04 23 01.5	-2.0
BATI	Baumata	8.83	238	P		Pn	04 21 25.1	-0.5
EDFI	Ende, Flores 14nm,1.1s	10.01	251	P		Pn	04 21 42.5	+0.8
KNRA	Kununurra	10.37	193			Pn	04 21 44.3	-2.2

*TRN **18** 04:45:06.8, 10˚.90N×62˚.15W,h90km,MD2.9,North of the Paria peninsula.*
*FUNV **18** 04:45:08.5, 10˚.90N×62˚.24W,h33km,MW3.4*
ISC 18 04:45:03.0±2.6,10˚.80N±0˚.08×62˚.2W±0˚.1,h121km±25km, n10,σ2°12/19,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DMDM	Guralp CMG5TDE	0.60	100	*e* P		Pn	04 45 23.6	+2.0
DMDM				*e* S		Sn	04 45 34.0	-1.7
TRN	Trinidad (W)	0.76	102	*e* P		Pn	04 45 24.4	+1.6
TRN				*e* S		Sn	04 45 36.4	-1.3
GRFF	Grenada Fort F	1.30	18	*e* P		Pn	04 45 28.9	+0.6
GRFF				*e* S		Sn	04 45 45.3	-2.2
GRGR	Grenville	1.41	20	*e* P		Pn	04 45 31.0	+1.6
GRGR				*e* S		Sn	04 45 48.1	-1.4
GCMP	Grenada, Carri	1.82	23	*e* P		Pn	04 45 34.4	+0.2
GCMP				*e* S		Sn	04 45 57.7	-0.4
PCRV	Puerto La Cruz	2.52	256	*e* P		Pn	04 45 45.5	+2.4
PCRV				*e* S		Sn	04 46 12.2	-1.7
TACV	Tcata	4.84	263	*e* P		Pn	04 46 16.4	+2.6
TACV				*e* S		Sn	04 47 07.0	-1.9
CACV	CAICARA DEL OR	5.39	234	*e* P		Pn	04 46 20.3	-0.9
CACV				*e* S		Sn	04 47 11.8	-10
BENV	Beln	5.42	262	*e* P		Pn	04 46 24.6	+2.9
BENV				*e* S		Sn	04 47 20.6	-2.4
BAUV	El Baul	6.09	253	*e* P		Pn	04 46 32.8	+2.1
BAUV				*e* S		Sn	04 47 36.2	-2.8

MEX 18 04:51:38.4±0.8,16˚.43N×95˚.12W,h70km±11km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMIG	Matias Romero	0.70	19	*e* P		Pn	04 51 51.9	-1.4
CMIG				*e* S		Sn	04 52 02.3	-2.0
HUIG	Huatulco	1.16	236	*e* P		Pn	04 51 57.0	-1.9
HUIG				*e* S		Sn	04 52 12.9	-1.3
UXUV	UXUV	1.29	46	*e* P		Pn	04 51 59.6	-1.0
UXUV				*e* S		Sn	04 52 12.8	-4.3
NEUV	Arroyo Zacate	1.44	333	*e* P		Pn	04 52 01.4	-1.2
NEUV				*e* S		Sn	04 52 19.0	-1.7
VHO	Vista Hermosa	1.67	293	*e* P		Pn	04 52 06.9	+1.0
VHO				*e* S		Sn	04 52 26.5	-0.2
PCIG		1.96	111	*e* P		Pn	04 52 09.1	-0.5
PCIG				*e* S		Sn	04 52 31.8	-1.4
PEIG	Puerto Escondi	2.00	258	*e* P		Pn	04 52 08.0	-2.0
PEIG				*e* S		Sn	04 52 31.5	-2.6
YOIG	Yosondua	2.37	281	*e* P		Pn	04 52 15.5	+0.3
YOIG				*e* S		Sn	04 52 41.6	-1.9
YOIG	Yosondua	2.37	281	*e*		Pn	04 52 15.6	+0.3
YOIG				*e*			04 52 40.6	
TOIG	Toxpalan	2.49	312	*e* P		Pn	04 52 18.2	+1.4
TOIG				*e*			04 52 36.0	
TXIG	Tlaxiaco	2.67	288	*e* P		Pn	04 52 20.1	+0.7
TXIG				*e* S		Sn	04 52 43.1	-7.7
TXIG	Tlaxiaco	2.67	288	*e* P		Pn	04 52 20.0	+0.7
TXIG				*e* S		Sn	04 52 47.3	-3.4
PNIG	Pinotepa	2.89	270	*e* P		Pn	04 52 20.9	-1.2
PNIG				*e* S		Sn	04 52 51.1	-4.6
PNIG	Pinotepa	2.89	270	*e* P		Pn	04 52 20.6	-1.5
PNIG				*e* S		Sn	04 52 50.6	-5.1
MGIG	Malinaltepec	3.46	284	*e* P		Pn	04 52 27.6	-2.5
MGIG				*e* S		Sn	04 53 07.1	-2.9

MEX 18 04:51:41.6±0.8,17˚.30N×100˚.33W,h48km±7km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CAIG	El Cayaco	0.26	166	*e* P		Pn	04 51 48.6	-1.5
CAIG				*e* S		Sn	04 51 54.2	-2.0
DAIG	Los Arroyos	0.71	113	*e* P		Pn	04 51 54.5	-0.9
DAIG				*e* S		Sn	04 52 03.6	-1.7
MEIG	Mezcala	0.92	47	*e* P		Pn	04 51 57.1	-1.2

MEIG				eS		Sn	04 52 08.3	-2.3
ARIG	**Puente Sto Nin**	**0.98**	**359**	*e*P		Pn	04 51 56.8	-2.2
ARIG				eS		Sn	04 52 10.0	-1.9
ZIIG	**Zihuatanejo**	**1.12**	**286**	eS		Sn	04 52 13.1	-2.2
CRIG	**Cruz Grande**	**1.28**	**116**	eP		Pn	04 52 01.5	-1.5
CRIG				eS		Sn	04 52 16.5	-2.6
YAIG	**Yautepec**	**1.97**	**38**	eS		Sn	04 52 30.2	-6.0
FTIG	**Fresnillo de T**	**2.18**	**74**	eS		Sn	04 52 38.4	-3.1

IDC ***18*** *04:57:04.7±1.3,25°.67N×109°.94W, h0km, mb3.1/1, mbtmp3.1/5, ML3.4/4, Error ellipse: s-maj=24.0km s-min=11.0km az=109.0*
MEX ***18*** *04:57:07.7±0.7,25°.60N×110°.16W, h5km, MD4.2*
ISC 18 04:57:06.4±1.6,**25°.62N**±0°.04×**110°.11W**±0°.04,
h12km±11km,**n20,σ2°24/25,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSIG	**Topolobambo**	**0.97**	**91**	*i* P	**Pg**	**04 57 23.9**	**-1.1**
TSIG				eS	**Sg**	**04 57 38.0**	**+0.3**
LPIG	**La Paz**	**1.52**	**187**	Pg	**Pn**	**04 57 34.2**	**+0.8**
	2.4nm,0.3s,baz=350,slow=6.1,SNR=7.5						
LPIG				Lg	Lg	04 57 54.8	
	21nm,0.3s,baz=330,slow=20,SNR=11						
LPIG				LR	LR	04 57 59.0	
	comp=Z,169nm,20.6s,baz=17,slow=34						
LPIG	**La Paz**	**1.52**	**187**	*e*P	**Pn**	**04 57 31.7**	**-1.7**
LPIG				eS	**Sn**	**04 57 50.2**	**-3.0**
SLBS	**Sierra La Lagu**	**1.94**	**175**	*e*P	**Pn**	**04 57 39.8**	**+0.6**
SLBS				eS	**Sn**	**04 58 05.6**	**+2.1**
CSIG	**Choix**	**1.97**	**52**	*e*P	Pn	04 57 36.6	-3.0
CSIG				eS	**Sn**	**04 58 03.3**	**-1.0**
GUYB	**Guaymas**	**2.37**	**343**	*e*P	Pn	04 57 39.8	-5.2
GUYB				eS	**Sn**	**04 58 09.5**	**-4.4**
SRIG	**Santa Rosalia**	**2.55**	**312**	*e*P	**Pn**	**04 57 49.5**	**+1.9**
SRIG				eS	**Sn**	**04 58 17.1**	**-1.4**
SSIG	**Sanalona**	**2.81**	**106**	*e*P	**Pn**	**04 57 54.4**	**+3.4**
SSIG				eS	**Sn**	**04 58 24.8**	**0.0**
HSIG		**3.46**	**348**	*e*P	**Pn**	**04 58 00.3**	**+0.1**
HSIG				eS	**Sn**	**04 58 43.1**	**+2.0**
HPIG		**4.20**	**71**	*e*P	**Pn**	**04 58 08.9**	**-1.5**
HPIG				eS	**Sn**	**04 58 56.1**	**-3.4**
PDIG	**Papasquiaro**	**4.31**	**97**	*e*P	**Pn**	**04 58 14.3**	**+2.4**
PDIG				eS	**Sn**	**04 59 03.2**	**+1.0**
BCIG	**La Boquilla**	**4.62**	**65**	*e*	**Pb**	**04 58 27.8**	**+0.3**
TXAR	**Lajitas Array**	**6.81**	**56**	Pn	Pn	04 58 43.8	-2.5
	0.2nm,0.3s,baz=231,slow=13,SNR=43						
TXAR				Sn	**Sn**	**04 59 59.6**	**-4.2**
	0.4nm,0.3s,baz=143,slow=25,SNR=4.7						
TXAR				Lg	Lg	05 00 34.9	
	0.8nm,0.3s,baz=238,slow=32,SNR=5.8						
	0.4nm,0.2s						
ANMO	**Albuquerque**	**9.81**	**18**	Pn	**Pn**	**04 59 26.6**	**-0.9**
	0.1nm,0.3s,baz=196,slow=18,SNR=1.7						
ANMO				Lg	Lg	05 02 07.9	
	0.1nm,0.3s,baz=209,slow=19,SNR=2.1						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**14.53**	**333**	Pn	**Pn**	**05 00 34.3**	**+2.4**
	baz=158,slow=13,SNR=6.6						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**17.11**	**1**	P	**Pn**	**05 01 05.7**	**+0.1**
	baz=191,slow=7.5,SNR=5.8						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**45.69**	**339**	P	**P**	**05 05 27.1**	**+0.2**
	0.2nm,0.8s,baz=152,slow=7.2,SNR=4.4						
	0.2nm,0.8s						
H03N2	**Juan Fernandez**	**65.80**	**152**	T	T	06 19 38.1	
	baz=331,slow=77,SNR=7.3						
H03N1	**Juan Fernandez**	**65.81**	**152**	T	T	06 19 39.3	
	baz=331,slow=77,SNR=9.8						
H03N3	**Juan Fernandez**	**65.82**	**152**	T	T	06 19 39.7	
	baz=331,slow=77,SNR=9.7						

FUNV ***18*** *05:02:50.0,8°.26N×72°.29W, h32km, MW2.9*
RSNC ***18*** *05:02:54.6±0.2,8°.N±3°×7°.2W±°, h0km±3km, M1.8, ML1.6*
ISC 18 05:02:48.6±1.7,**7°.73N**±0°.08×**71°.81W**±0°.05,**h6**km±12km,
n10,σ1°.06/18,1D,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.52**	**285**	⇓*i*P	**Pg**	**05 02 59.2**	**+0.4**
CAPV				eS	**Sg**	**05 03 05.6**	**0.0**
PAMC	**Pamplona, Colo**	**0.97**	**246**	P	**Pg**	**05 03 06.3**	**-1.0**
PAMC				S	**Sb**	**05 03 21.9**	**+0.6**
OCAC	**Ocana**	**1.58**	**289**	P	**Pb**	**05 03 18.1**	**-0.3**
OCAC				S	**Sn**	**05 03 38.0**	**-0.2**
BARC	**Barichara**	**1.77**	**230**	P	**Pn**	**05 03 20.4**	**+0.3**
BARC				S	**Sn**	**05 03 41.7**	**-1.4**
BRJC	**Barrancabermej**	**2.06**	**249**	P	**Pn**	**05 03 23.9**	**0.0**
BRJC				S	**Sn**	**05 03 50.0**	**+0.1**
RUSC	**La Rusia**	**2.22**	**215**	P	**Pn**	**05 03 27.4**	**+0.9**
PTBC	**PUERTO BERRIO,**	**2.88**	**246**	P	**Pn**	**05 03 36.9**	**+1.7**
ZARC	**Zaragoza, Cauc**	**3.04**	**266**	P	**Pn**	**05 03 36.9**	**-0.3**
ZARC				S	**Sn**	**05 04 14.1**	**+0.2**
BAUV	**El Baul**	**3.92**	**72**	*e*P	**Pn**	**05 03 50.8**	**+1.5**
BAUV				eS	**Sn**	**05 04 36.4**	**+0.8**
BENV	**Beln**	**4.71**	**62**	*e*P	**Pn**	**05 04 00.2**	**-0.1**
BENV				eS	**Sn**	**05 04 53.1**	**-2.3**

NEIC ***18*** *05:08:42.5±0.8, 19°.379N×0°.008×155°.254W×0°.009, h2km±4km, Error ellipse: s-maj=1.4km s-min=0.8km az=46.0*
HVO 18 05:08:41.8±0.6,**19°.40N**±0°.01×**155°.258W**±0°.009,
h2km±4km,**ML2.6**/18,**ML1.8**/23(NEIC),**Error ellipse:**
s-maj=1.9km s-min=0.6km az=216.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKO	**Keanakako'i**	**0.01**	**283**		Pg	05 08 42.8	+0.4
KKO					Sg	05 08 43.3	+0.5
RIM	**Rim**	**0.01**	**267**		Pg	05 08 42.9	+0.5
RIM					Sg	05 08 43.4	+0.6
BYL	**Byron's Ledge**	**0.02**	**353**		Pg	05 08 42.8	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**354**		Pg	05 08 43.1	+0.6
HATHI					Sg	05 08 44.0	+1.0
SBLHI	**Steaming Bluff**	**0.03**	**343**		Pg	05 08 43.2	+0.6
SBLHI					Sg	05 08 44.2	+1.1
OBL	**Observatory Le**	**0.03**	**311**		Pg	05 08 43.3	+0.7
OBL					Sg	05 08 44.4	+1.3
UWB	**Uwekahuna Bluf**	**0.03**	**326**		Pg	05 08 43.2	+0.6
UWB					Sg	05 08 44.1	+1.0
SDHHI	**Sand Hill**	**0.04**	**259**		Pg	05 08 43.3	+0.8
SDHHI					Sg	05 08 44.4	+1.3
WRMHI	**West Rim**	**0.04**	**285**		Pg	05 08 43.5	+0.8
WRMHI					Sg	05 08 44.5	+1.2
UWE	**Uwekahuna**	**0.04**	**307**		Pg	05 08 43.5	+0.8
UWE				IAML		05 08 44.0	
	comp=E,877nm,0.3s						
UWE				IAML		05 08 44.3	
	comp=N,1μm,0.1s						
PUH	**Pauahi**	**0.04**	**119**		Pg	05 08 43.5	+0.8
PUH					Sg	05 08 44.6	+1.2
RSD	**Rainshed**	**0.07**	**344**		Pg	05 08 45.6	+2.3
KNHH	**Kane Nui o Ham**	**0.09**	**101**		Pg	05 08 44.4	+0.9
HLP	**Hilina Pali**	**0.11**	**205**		Pg	05 08 44.9	+0.9
HLP					Sg	05 08 45.0	-0.4
HLP				IAML		05 08 46.5	
	comp=N,405nm,1.9s						
HLP				IAML		05 08 47.2	
	comp=E,336nm,0.4s						
STCH	**Steam Cracks**	**0.13**	**95**		Pg	05 08 45.1	+0.8
NPOC	**North of Pu'u**	**0.14**	**91**		Pg	05 08 45.2	+0.7
NPOC					Sg	05 08 48.2	+1.8
JCUZ	**Jacuzzi**	**0.15**	**95**		Pg	05 08 45.4	+0.7
MLH	**Mauna Loa**	**0.15**	**309**		Pg	05 08 45.9	+1.0
MLH				IAML		05 08 49.1	
	comp=N,215nm,0.9s						
AIN	**Ainahou**	**0.19**	**263**		Pg	05 08 46.6	+1.0
AIN				IAML		05 08 50.6	
	comp=N,265nm,2.7s						
AIN				IAML		05 08 52.2	
	comp=E,320nm,0.4s						
HTC	**Hot Caves**	**0.21**	**220**		Pg	05 08 47.7	+1.9
JOKA	**Jonika Flow**	**0.24**	**81**	Pg	Pg	05 08 46.8	+0.3
JOKA				IAML		05 08 54.2	
	comp=N,186nm,1.3s						
HMH	**Humu'ula Sheep**	**0.30**	**314**	Pg	Pg	05 08 48.3	+0.7
HMH				IAML		05 08 55.5	
	comp=N,109nm,2.9s						
HMH				IAML		05 08 55.7	
	comp=E,113nm,2.9s						
MWH	**Mokuaweoweo**	**0.33**	**286**	Pg	Pg	05 08 49.1	+0.8
MWH				IAML		05 08 57.4	
	comp=N,170nm,1.8s						
ALEP	**Alea Permanent**	**0.39**	**292**		Pg	05 08 49.8	+0.4

NEIC ***18*** *05:10:33.2±0.7, 19°.07N±0°.04×155°.42W±0°.02, h43km±3km, Error ellipse: s-maj=5.8km s-min=3.0km az=160.0*
HVO 18 05:10:34.8±0.7,**19°.05N**±0°.05×**155°.40W**±0°.04,**h35**km±7km,
ML2.4/16,**ML2.4**/38(NEIC),**Error ellipse: s-maj=7.9km**
s-min=4.4km az=162.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPO	**Honuapo**	**0.15**	**285**		Pb	05 10 40.5	-0.7
HPO					Sb	05 10 44.8	-0.8
HTC	**Hot Caves**	**0.19**	**1**		Pn	05 10 41.0	+0.5
HLP	**Hilina Pali**	**0.26**	**20**		Pn	05 10 41.7	-0.4
HLP					Sb	05 10 46.9	-0.6
HLP	**Hilina Pali**	**0.26**	**20**	IAML		05 10 47.3	
	comp=E,590nm,0.7s						
HLP				IAML		05 10 47.3	
	comp=N,456nm,0.5s						
KHU	**Kahuku**	**0.28**	**314**		Pn	05 10 41.7	-0.9
KHU					Sn	05 10 46.8	-0.4
AIN	**Ainahou**	**0.33**	**350**		Pn	05 10 42.4	-0.9
AIN					Sn	05 10 48.2	-0.2
SDHHI	**Sand Hill**	**0.35**	**17**		Pb	05 10 42.4	-1.2
SDHHI					Sn	05 10 48.0	-1.3
RIM	**Rim**	**0.36**	**19**		Pb	05 10 42.4	-1.3
RIM					Sn	05 10 48.3	-1.3
PUH	**Pauahi**	**0.37**	**28**		Pb	05 10 42.5	-1.2
PUH					Sn	05 10 48.2	-1.4
PUH				IAML		05 10 50.4	
	comp=N,335nm,1.7s						
WRMHI	**West Rim**	**0.37**	**15**		Pb	05 10 42.5	-1.3
WRMHI					Sn	05 10 48.3	-1.4
KKO	**Keanakako'i**	**0.37**	**20**		Pb	05 10 42.6	-1.2
KKO					Sn	05 10 48.2	-1.6
OBL	**Observatory Le**	**0.38**	**17**		Pb	05 10 42.6	-1.4
UWE	**Uwekahuna**	**0.38**	**15**		Pb	05 10 42.8	-1.2
UWE				IAML		05 10 57.5	
	comp=N,286nm,1.3s						
UWE				IAML		05 11 00.9	
	comp=E,350nm,1.6s						
BYL	**Byron's Ledge**	**0.38**	**20**		Pb	05 10 42.8	-1.2
BYL					Sn	05 10 48.6	-1.5
BYL				IAML		05 10 51.7	
	comp=N,195nm,3.3s						
UWB	**Uwekahuna Bluf**	**0.39**	**17**		Pb	05 10 42.5	-1.5
UWB					Sn	05 10 48.3	-2.0
HATHI	**Halema'uma'u T**	**0.39**	**19**		Pb	05 10 42.7	-1.4
KNHH	**Kane Nui o Ham**	**0.39**	**34**		Pb	05 10 42.8	-1.3
SBLHI	**Steaming Bluff**	**0.40**	**18**		Pb	05 10 42.6	-1.5
SBLHI					Sn	05 10 48.5	-2.0
STCH	**Steam Cracks**	**0.42**	**38**		Pb	05 10 43.0	-1.4
STCH					Sb	05 10 49.4	-1.7
STCH				IAML		05 10 50.4	
	comp=E,203nm,0.3s						
RSD	**Rainshed**	**0.43**	**16**		Pb	05 10 43.0	-1.7
RSD	**Rainshed**	**0.43**	**16**		Sb	05 10 49.3	-2.0
JCUZ	**Jacuzzi**	**0.44**	**40**		Pn	05 10 49.6	+4.9
NPOC	**North of Pu'u**	**0.44**	**39**		Pn	05 10 49.5	+4.7
MLH	**Mauna Loa**	**0.44**	**2**		Pb	05 10 43.5	-1.4
MLH	**Mauna Loa**	**0.44**	**2**	Sg	Sb	05 10 50.3	-1.5
MLH				IAML		05 10 56.2	
	comp=E,190nm,1.3s						
MLH				IAML		05 11 02.0	
	comp=N,171nm,2.3s						
MWH	**Mokuaweoweo**	**0.47**	**337**		Pb	05 10 43.8	-1.8
MWH				IAML		05 10 48.6	
	comp=E,246nm,2.0s						
MWH				IAML		05 10 51.0	
	comp=N,196nm,0.5s						
MWH				Sg	Sb	05 10 51.0	-1.9
JOKA	**Jonika Flow**	**0.54**	**44**		Pn	05 10 44.5	-1.5
JOKA				IAML		05 11 03.1	
	comp=N,216nm,1.4s						
ALEP	**Alea Permanent**	**0.54**	**335**		Pn	05 10 44.4	-2.0
ALEP					Sb	05 10 52.1	-2.3
HMH	**Humu'ula Sheep**	**0.56**	**352**		Pn	05 10 45.2	-1.4
HMH				Sg	Sn	05 10 53.1	-1.7
HMH				IAML		05 10 53.9	
	comp=E,216nm,0.5s						
HMH				IAML		05 10 54.1	
	comp=N,177nm,0.2s						
CPH	**Captain Cook**	**0.66**	**312**		Pn	05 10 45.5	-2.2
POHA	**Pohakuloa**	**0.71**	**350**		Pn	05 10 46.6	-2.1
POHA					Sn	05 10 55.4	-3.2
POHA	**Pohakuloa**	**0.71**	**350**	IAML		05 10 55.1	
	comp=N,83nm,2.8s						
POHA				IAML		05 11 00.3	
	comp=N,115nm,2.8s						
HUH	**Hualalai**	**0.75**	**327**		Pn	05 10 47.6	-1.7

NNC ***18*** *05:38:11.4±12.0, 37°.15N×70°.45E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=124.5km s-min=66.4km az=159.0*
IDC ***18*** *05:38:15.4±19.0, 36°.90N×71°.61E, h161km±136km, mb3.4/3, mbtmp3.8/7, ML3.0/4, Error ellipse: s-maj=188.8km s-min=76.5km az=173.0*
ISC 18 05:38:08.2±2.2,**36°.6N**±0°.2×**71°.2E**±0°.2,**h100**km,**n17,**
σ1°.34/19,mb3.7/3,1C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**6.22**	**23**	P	**Pn**	**05 39 38.7**	**+0.9**
	SNR=17						
EKS2	**Erkin-Say**	**6.42**	**17**	P	**Pn**	**05 39 41.3**	**+1.1**
	SNR=7.8						
KK31	**Karatay Array**	**6.56**	**356**	⇓P	**Pn**	**05 39 42.4**	**+0.2**
	3.5nm,0.2s,baz=178,slow=13,SNR=131						
KK31				⇓S	**Sn**	**05 40 53.9**	**-1.6**
	5.0nm,0.3s,baz=186,slow=26,SNR=7.1						
AAK	**Ala-Archa**	**6.58**	**22**	P	**Pn**	**05 39 43.9**	**+1.4**
	SNR=6.5						
AAK	**Ala-Archa**	**6.58**	**22**	⇓P	**Pn**	**05 39 43.9**	**+1.4**
	2.9nm,0.4s						
AAK				⇓S	**Sn**	**05 40 57.8**	**+1.6**
	4.2nm,0.7s						
CHMS	**Chumysh**	**6.99**	**22**	P	**Pn**	**05 39 49.1**	**+1.2**
	SNR=10						
USP	**Ospenovka**	**7.17**	**20**	P	**Pn**	**05 39 51.0**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**7.20**	**27**	P	**Pn**	**05 39 51.7**	**+0.7**
	SNR=12						
MKAR	**Makanchi Array**	**13.15**	**35**	P	**Pn**	**05 41 10.3**	**-0.7**
	0.2nm,0.3s,baz=225,slow=14,SNR=10						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**15.02**	**18**	P	**Pn**	**05 41 34.9**	**0.0**
	baz=207,slow=10,SNR=3.0						
	2.4nm,0.2s						
AB31	**Akbulak array**	**15.12**	**331**	P	**Pn**	**05 41 34.8**	**-1.4**
	0.6nm,0.5s,baz=163,slow=11,SNR=26						
BVAR	**Borovoye Array**	**16.48**	**358**	P	**Pn**	**05 41 52.4**	**-0.8**
	baz=160,slow=11,SNR=2.1						
	0.4nm,0.4s						
AKTO	**Aktyubinsk**	**16.82**	**330**	⇑P	**P**	**05 42 00.1**	**+2.2**
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**19.80**	**24**	P	**P**	**05 42 27.8**	**-2.6**
	0.3nm,0.3s,baz=222,slow=9.1,SNR=4.7						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**37.53**	**326**	P	**P**	**05 45 12.7**	**+0.5**
	0.8nm,0.8s,baz=122,slow=9.7,SNR=3.9						
	0.8nm,0.8s						
ARCES	**ARCESS Array B**	**41.16**	**338**	P	**P**	**05 45 42.5**	**+0.2**
	0.5nm,0.4s,baz=120,slow=8.9,SNR=1.7						
	0.5nm,0.4s						
HFS	**Hagfors**	**43.13**	**322**	P	**P**	**05 45 58.4**	**0.0**
	3.4nm,1.0s,baz=83,slow=12,SNR=5.7						
	3.4nm,1.0s						

INMG ***18*** *05:47:22.6±2.1, 35°.65N×4°.54W, h92km±12km, ML2.5, Error ellipse: s-maj=6.1km s-min=5.3km az=158.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
CNRM ***18*** *05:47:22.0, 35°.59N×4°.63W, h96km, ML2.1*
MDD ***18*** *05:47:23.4±0.3, 35°.71N×4°.58W, h90km±5km, Mb2.6/23, Error ellipse: s-maj=2.7km s-min=2.0km az=155.0*
SFS ***18*** *05:47:23.3, 35°.71N×4°.58W, h84km, ML2.9/23, MLv2.8/23*
IGIL ***18*** *05:47:24.0, 35°.71N×4°.58W, h90km*

ISC 18 05:47:20.5±1.2,**35°.68N**±0°.02×**4°.57W**±0°.03,**h109**km±7km,
n109,σ1°.78/175,1BC-1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIR	**Smir Dam**	**0.66**	**270**	P	**Pn**	**05 47 39.4**	**+1.0**
SMIR	**Smir Dam**	**0.66**	**270**	S	**Sn**	**05 47 51.7**	**-0.1**
ECEU	**Ceuta**	**0.69**	**288**	Pn	**Pn**	**05 47 39.6**	**+1.0**
ECEU				Sn	**Sn**	**05 47 49.8**	**-2.5**
ECEU	**Ceuta**	**0.69**	**288**	P	**Pn**	**05 47 39.8**	**+1.2**
ECEU				⇑*i*IVmb_VC		05 47 41.9	
	976nm,SNR=8.5						
ECEU				S	**Sn**	**05 47 51.7**	**-0.6**
PALE	**Palemas**	**0.69**	**132**	P	**Pn**	**05 47 39.1**	**+0.4**
PALE	**Palemas**	**0.69**	**132**	S	**Sn**	**05 47 52.0**	**-0.5**
EJIF	**Jimena Fronter**	**1.06**	**317**	⇑P	**Pn**	**05 47 44.6**	**+2.4**
EJIF				S	**Sn**	**05 48 00.5**	**+1.9**
EMAL	**Malaga-Limoner**	**1.08**	**6**	Pn	**Pn**	**05 47 42.8**	**+0.3**
EMAL				Sn	**Sn**	**05 47 57.1**	**-2.0**
CPS	**Cap Spartel**	**1.09**	**276**	S	**Sn**	**05 47 58.5**	**-0.7**
EALB	**Alboran**	**1.28**	**78**	Sn	**Sn**	**05 48 00.7**	**-2.1**
EALB				Pn	**Pn**	**05 47 44.8**	**+0.2**
EALB	**Alboran**	**1.28**	**78**	P	**Pn**	**05 47 45.0**	**+0.4**
EALB				P		05 47 45.2	
EALB				⇑*i*IVmb_VC		05 47 47.1	
	248nm,SNR=1.7						
EALB				S	**Sn**	**05 48 01.2**	**-1.7**
EALB				S		05 48 01.2	
AKLM	**AKL**	**1.31**	**153**	P	**Pn**	**05 47 44.5**	**-0.6**
AKLM	**AKL**	**1.31**	**153**	S	**Sn**	**05 47 59.7**	**-4.0**
GOG	**Mont Gurugu**	**1.37**	**109**	P	**Pn**	**05 47 46.0**	**+0.2**
GOG				P		05 47 46.0	
GOG	**Mont Gurugu**	**1.37**	**109**	S	**Sn**	**05 48 05.4**	**+0.5**
ELGU	**Los Guajares,**	**1.41**	**33**	Pn	**Pn**	**05 47 46.4**	**+0.1**
ELGU				Sn	**Sn**	**05 48 03.2**	**-2.5**
ELGU	**Los Guajares,**	**1.41**	**33**	P	**Pn**	**05 47 46.4**	**+0.1**
ELGU				⇑*i*IVmb_VC		05 47 48.5	
	346nm,SNR=8.4						
ELGU				S	**Sn**	**05 48 03.7**	**-2.1**
EGOR	**Sierra Gorda,**	**1.47**	**15**	Pn	**Pn**	**05 47 48.7**	**+1.6**
EGOR				Sn	**Sn**	**05 48 06.7**	**-0.6**
EGOR	**Sierra Gorda,**	**1.47**	**15**	P	**Pn**	**05 47 48.6**	**+1.6**
EGOR				S	**Sn**	**05 48 07.4**	**+0.2**
ESPR	**Espera**	**1.57**	**319**	Pn	**Pn**	**05 47 49.9**	**+1.8**
ESPR	**Espera**	**1.57**	**319**	P	**Pn**	**05 47 49.6**	**+1.5**
ESPR				⇑*i*IVmb_VC		05 47 50.5	
	424nm,SNR=5.8						
ESPR				S	**Sn**	**05 48 09.9**	**+0.8**
EXMOR	**Moron de la Fr**	**1.60**	**334**	P	**Pn**	**05 47 50.8**	**+2.3**
EXMOR				S	**Sn**	**05 48 10.3**	**+0.6**
EQUE	**Quentar**	**1.77**	**31**	S	**Sn**	**05 48 16.1**	**+2.4**
LCRM	**LCR**	**2.00**	**187**	P	**Pn**	**05 47 54.4**	**+0.7**
LCRM				P		05 47 54.5	
LCRM	**LCR**	**2.00**	**187**	S	**Sn**	**05 48 20.5**	**+1.5**
ARNO	**Arenosillo**	**2.24**	**310**	Pn	**Pn**	**05 47 58.2**	**+1.7**
ENIJ	**Nijar**	**2.30**	**55**	Pn	**Pn**	**05 47 58.3**	**+1.0**
ENIJ	**Nijar**	**2.30**	**55**	P	**Pn**	**05 47 58.7**	**+1.3**
ENIJ				⇑*i*IVmb_VC		05 48 01.4	
	70nm,SNR=1.2						
ENIJ				S	**Sn**	**05 48 26.3**	**+0.7**
E0803	**Jimena (Jaen)**	**2.32**	**22**	P	**Pn**	**05 47 59.7**	**+2.1**
E0803				S	**Sn**	**05 48 26.1**	**0.0**
EQES	**Quesada**	**2.44**	**29**	P	**Pn**	**05 48 01.1**	**+1.9**
EQES				⇑*i*IVmb_VC		05 48 05.4	
	51nm,SNR=0.9						
EQES				S	**Sn**	**05 48 29.1**	**+0.3**
EADA	**Adamuz**	**2.48**	**360**	Pn	**Pn**	**05 48 01.2**	**+1.6**
EADA				Sn	**Sn**	**05 48 28.3**	**-1.4**
EADA	**Adamuz**	**2.48**	**360**	P	**Pn**	**05 48 01.2**	**+1.6**
EADA				⇑*i*IVmb_VC		05 48 02.3	
	244nm,SNR=4.8						
EADA				S	**Sn**	**05 48 29.1**	**-0.6**
EXCBR	**El Cabril**	**2.48**	**344**	P	**Pn**	**05 48 00.9**	**+1.2**
EXCBR				S	**Sn**	**05 48 28.1**	**-1.6**
ECAB	**El Cabril**	**2.48**	**344**	Pn	**Pn**	**05 48 00.7**	**+1.0**
ECAB				Sn	**Sn**	**05 48 27.9**	**-1.8**
ECAB	**El Cabril**	**2.48**	**344**	⇑P	**Pn**	**05 48 00.7**	**+1.0**
ECAB				⇑*i*IVmb_VC		05 48 01.0	
	312nm,SNR=5.4						
ECAB				S	**Sn**	**05 48 27.9**	**-1.8**
E0802	**Ubeda,Jaen**	**2.53**	**22**	P	**Pn**	**05 48 03.5**	**+3.2**
E0802				S	**Sn**	**05 48 30.0**	**-0.9**
CZD	**Col de Zad**	**2.67**	**188**	P	**Pn**	**05 48 03.5**	**+1.0**
CZD	**Col de Zad**	**2.67**	**188**	S	**Sn**	**05 48 33.3**	**-1.3**
EMIN	**Mina Concepcio**	**2.68**	**322**	Pn	**Pn**	**05 48 03.4**	**+1.2**
EMIN				Sn	**Sn**	**05 48 32.6**	**-1.7**
EMIN	**Mina Concepcio**	**2.68**	**322**	P	**Pn**	**05 48 03.4**	**+1.2**
EMIN				S	**Sn**	**05 48 32.6**	**-1.7**
EXAYA	**Ayamonte**	**2.75**	**305**	S	**Sn**	**05 48 35.5**	**-0.5**
ZHG	**ZHG**	**2.81**	**218**	P	**Pn**	**05 48 05.0**	**+1.0**
ZHG	**ZHG**	**2.81**	**218**	S	**Sn**	**05 48 36.0**	**-1.5**
ZHG	**ZHG**	**2.81**	**218**	S	**Sn**	**05 48 38.2**	**+0.7**
MD31	**MD31**	**2.81**	**183**	P	**Pn**	**05 48 05.4**	**+1.3**
MD31	**MD31**	**2.81**	**183**	S	**Sn**	**05 48 37.1**	**-0.5**
MDT	**Midelt**	**2.86**	**181**	P	**Pn**	**05 48 05.9**	**+1.1**
MDT	**Midelt**	**2.86**	**181**	S	**Sn**	**05 48 37.5**	**-1.3**
MDT	**Midelt**	**2.86**	**181**	S	**Sn**	**05 48 37.4**	**-1.3**
EGRO	**El Granado**	**2.98**	**309**	Pn	**Pn**	**05 48 07.4**

PFVI				*i*	IAML			05 48 60.0	
PFVI				*i*	IAML			05 49 01.1	
EXPDH	**Pilar de la Ho**	**3.75**	**53**	*P*		**Pn**		**05 48 18.2**	**+1.8**
PTEO	**Sao Teotonio**	**3.82**	**300**	*eP*		**Pn**		**05 48 19.1**	**+1.7**
PTEO				*eS*		**Sn**		**05 49 00.5**	**-1.0**
PTEO				*i*	IAML			05 49 02.4	
PTEO				*i*	IAML			05 49 02.7	
PTEO				*i*	IAML			05 49 04.9	
ETRV	**Los Montesinos**	**3.84**	**52**	*P*		**Pn**		**05 48 19.8**	**+2.1**
ETRV				⇑*i*	IVmb_VC			05 48 22.6	
	371nm,SNR=1.1								
PAB	**San Pablo**	**3.86**	**3**	*P*		**Pn**		**05 48 19.3**	**+1.3**
PAB				⇑*i*	IVmb_VC			05 48 20.2	
	52nm,SNR=1.1								
PAB				*S*		**Sn**		**05 49 00.0**	**-2.6**
PAB				*S*				05 49 00.1	
EVO	**Evora**	**3.96**	**317**	Pn		**Pn**		**05 48 20.8**	**+1.7**
EVO				Sn		**Sn**		**05 49 02.7**	**-2.0**
EVO	**Evora**	**3.96**	**317**	*eP*		**Pn**		**05 48 20.9**	**+1.7**
EVO				*eS*		**Sn**		**05 49 03.2**	**-1.5**
EVO				*i*	IAML			05 49 05.3	
EVO				*i*	IAML			05 49 05.5	
EVO				*i*	IAML			05 49 05.6	
PESTR	**Estremoz**	**3.99**	**324**	Pn		**Pn**		**05 48 21.4**	**+1.7**
PESTR				Sn		**Sn**		**05 49 03.3**	**-2.2**
PESTR	**Estremoz**	**3.99**	**324**	*eP*		**Pn**		**05 48 21.4**	**+1.7**
PESTR				*eS*		**Sn**		**05 49 03.9**	**-1.6**
PESTR				*i*	IAML			05 49 05.0	
PESTR				*i*	IAML			05 49 06.2	
PESTR				*i*	IAML			05 49 06.5	
PESTR	**Estremoz**	**3.99**	**324**	*P*		**Pn**		**05 48 21.7**	**+2.1**
ESDC	**Sonseca Array**	**4.01**	**7**	*S*		**Sn**		**05 49 03.8**	**-2.4**
ESBB	**Sonseca Array**	**4.02**	**7**	*S*		**Sn**		**05 49 03.5**	**-2.8**
TISM	**Timmit**	**4.25**	**202**	*P*		**Pn**		**05 48 22.4**	**-0.7**
TISM	**Timmit**	**4.25**	**202**	*S*		**Sn**		**05 49 12.0**	**+0.2**
PMRV	**Marv??o**	**4.36**	**330**	*eP*		**Pn**		**05 48 26.2**	**+1.6**
PMRV				*eS*		**Sn**		**05 49 12.4**	**-2.1**
PMRV				*i*	IAML			05 49 25.5	
PMRV				*i*	IAML			05 49 26.4	
PMRV				*i*	IAML			05 49 27.4	
PMTG	**Montargil**	**4.46**	**320**	*eP*		**Pn**		**05 48 27.7**	**+1.7**
PMTG				*eS*		**Sn**		**05 49 14.4**	**-2.5**
PMTG				*i*	IAML			05 49 19.7	
PMTG				*i*	IAML			05 49 27.4	
PMTG				*i*	IAML			05 49 30.8	
EVIV	**Cofrentes, Val**	**4.51**	**36**	*P*		**Pn**		**05 48 28.3**	**+1.7**
EVIV				*S*		**Sn**		**05 49 17.3**	**-0.9**
EPLA	**Plasencia**	**4.53**	**345**	*P*		**Pn**		**05 48 28.9**	**+1.8**
EPLA				⇑*i*	IVmb_VC			05 48 29.2	
	196nm,SNR=2.6								
EPLA				*S*		**Sn**		**05 49 15.6**	**-3.1**
UCM	**Universidad Co**	**4.74**	**12**	Sn		**Sn**		**05 49 21.3**	**-2.3**
UCM				Pn		**Pn**		**05 48 31.6**	**+1.8**
PARRA	**Arraiolos**	**4.74**	**313**	*eP*		Pn		05 48 23.6	-6.2
PARRA				*eS*		Sn		05 49 08.1	-16
PARRA				*i*	IAML			05 49 08.8	
PARRA				*i*	IAML			05 49 10.3	
PARRA				*i*	IAML			05 49 11.1	
PCBR	**Castelo Branco**	**4.75**	**332**	*eP*		**Pn**		**05 48 31.5**	**+1.7**
PCBR				*eS*		**Sn**		**05 49 21.2**	**-2.6**
PCBR				*i*	IAML			05 49 23.5	
PCBR				*i*	IAML			05 49 24.4	
ECHE	**Chera**	**4.84**	**35**	*P*		**Pn**		**05 48 33.3**	**+2.1**
ECHE				*S*		**Sn**		**05 49 25.4**	**-0.6**
PSARD	**Sardoal**	**4.84**	**325**	*eP*		**Pn**		**05 48 32.7**	**+1.5**
PSARD				*eS*		**Sn**		**05 49 23.3**	**-2.7**
PSARD				*i*	IAML			05 49 27.2	
PSARD				*i*	IAML			05 49 27.4	
PSARD				*i*	IAML			05 49 27.6	
GUD	**Guadarrama**	**4.96**	**4**	*S*		**Sn**		**05 49 26.4**	**-2.8**
PMAFR	**Mafra**	**4.98**	**312**	*eP*		**Pn**		**05 48 35.2**	**+2.3**
PMAFR				*eS*		**Sn**		**05 49 27.7**	**-1.6**
PMAFR				*i*	IAML			05 49 33.9	
PMAFR				*i*	IAML			05 49 36.5	
PMAFR				*i*	IAML			05 49 38.9	
TIO	**Tiouine**	**5.25**	**206**	Pn		**Pn**		**05 48 38.5**	**+1.7**
TIO				Sn		**Sn**		**05 49 35.0**	**-1.3**
MTE	**Manteigas**	**5.26**	**334**	*eS*		**Sn**		**05 49 34.9**	**-1.4**
MTE				*i*	IAML			05 49 36.9	
MTE				*i*	IAML			05 49 38.2	
PCAS	**Casmilo, Conde**	**5.36**	**326**	*eP*		**Pn**		**05 48 39.5**	**+1.4**
PCAS				*eS*		**Sn**		**05 49 35.7**	**-2.8**
PCAS				*i*	IAML			05 49 40.4	
PCAS				*i*	IAML			05 49 59.9	
PCAS				*i*	IAML			05 50 14.7	
EJUZ	**Juzbado, Salam**	**5.49**	**350**	*P*		**Pn**		**05 48 41.9**	**+1.8**
EJUZ				*S*		**Sn**		**05 49 39.0**	**-3.0**
ETOR	**Torete**	**5.50**	**20**	*P*		**Pn**		**05 48 41.7**	**+1.6**
ETOR				*S*		**Sn**		**05 49 38.4**	**-3.7**
PVIS	**Viseu**	**5.67**	**334**	*eP*		**Pn**		**05 48 43.7**	**+1.4**
PVIS				*eS*		**Sn**		**05 49 43.6**	**-2.5**
MVO	**Moncorvo**	**5.80**	**341**	*eP*		**Pn**		**05 48 46.4**	**+2.2**
MVO				*eS*		**Sn**		**05 49 46.3**	**-3.2**
MVO				*i*	IAML			05 49 51.7	
MVO				*i*	IAML			05 50 02.6	
MVO				*i*	IAML			05 50 11.6	
POLO	**Lamas de Olo**	**6.22**	**337**	*eP*		**Pn**		**05 48 52.2**	**+2.3**
POLO				*eS*		**Sn**		**05 49 57.3**	**-2.2**
POLO				*i*	IAML			05 49 58.8	
POLO				*i*	IAML			05 49 59.7	
POLO				*i*	IAML			05 50 04.9	
PBRG	**Braganca**	**6.34**	**345**	*eP*		**Pn**		**05 48 51.6**	**0.0**
PBRG				*eS*		**Sn**		**05 49 58.3**	**-4.2**
PBRG				*i*	IAML			05 50 01.6	
PBRG				*i*	IAML			05 50 03.0	
PBRG				*i*	IAML			05 50 03.3	
ECAL	**Calabor**	**6.47**	**346**	*S*		**Sn**		**05 50 04.4**	**-1.3**
PCAB	**Cabril**	**6.60**	**337**	*eP*		**Pn**		**05 48 57.3**	**+2.3**
PCAB				*eS*		**Sn**		**05 50 04.8**	**-3.8**
PCAB				*i*	IAML			05 50 09.6	
PCAB				*i*	IAML			05 50 10.4	
PCAB				*i*	IAML			05 50 34.1	
ELOB	**Lobios**	**6.75**	**337**	*P*		**Pn**		**05 48 59.4**	**+2.3**
ELOB				*S*		**Sn**		**05 50 09.7**	**-2.7**
PGAV	**Gavieira, Arco**	**6.91**	**336**	*eP*		**Pn**		**05 48 01.6**	**+2.5**
PGAV				*eS*		**Sn**		**05 50 13.0**	**-3.2**
PGAV				*i*	IAML			05 50 15.5	
PGAV				*i*	IAML			05 50 33.9	
PGAV				*i*	IAML			05 50 34.6	
EZAM	**Zamans**	**7.21**	**335**	*P*		**Pn**		**05 49 05.6**	**+2.3**

GCG ***18*** *05:48:11.9±1.6, 16°.00N×90°.15W, h2km±20km, MD4.2, ML3.6, MW3.1*
CATAC ***18*** *05:48:12.6±0.3, 16°.N±2°×9°.0W±°, h3km×3km, M3.6/19, MLv3.6/19, Error ellipse: s-maj=3.8km s-min=2.9km az=155.8, confirmed*

ISC 18 05:48:11.5±1.2, 16°.02N±0°.03×90°.15W±0°.03, h4km±12km, n46, σ0s87/52, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETF	**Flores**	**0.93**	**17**	*i* P	**Pg**	**05 48 29.4**	**-0.1**
PETF				*i* S	**Sn**	**05 48 44.3**	**-0.9**
PETF				IAML		05 48 50.9	
	comp=E,2μm,0.5s						
PETF	**Flores**	**0.93**	**17**	P	**Pg**	**05 48 29.6**	**+0.1**
PETF	**Flores**	**0.93**	**17**	S	**Sb**	**05 48 42.5**	**-0.5**
QUIS	**Sacapulas**	**1.16**	**232**	*i* P	**Pb**	**05 48 34.0**	**-0.2**
QUIS				*i* S	**Sn**	**05 48 51.4**	**+0.3**
QUIS				IAML		05 48 52.2	
	comp=N,3μm,0.5s						
GCG4	**OSOP**	**1.47**	**195**	*i* P	**Pn**	**05 48 38.9**	**0.0**
GCG4				IAML		05 49 03.2	
	comp=E,1μm,0.5s						
HUEH	**Huehuetenango**	**1.48**	**242**	*i* P	**Pn**	**05 48 39.0**	**-0.1**
HUEH				*i* S	**Sg**	**05 49 00.2**	**+1.0**
HUEH				IAML		05 49 01.8	
	comp=E,2μm,0.5s						
HUEH	**Huehuetenango**	**1.48**	**242**	P	**Pn**	**05 48 39.2**	**+0.1**
HUEH	**Huehuetenango**	**1.48**	**242**	S	**Sg**	**05 48 59.8**	**+0.7**
IZABA	**Izabal, Puerto**	**1.53**	**101**	P	**Pb**	**05 48 40.3**	**-0.1**
IZABA	**Izabal, Puerto**	**1.53**	**101**	S	**Sg**	**05 49 01.8**	**+1.1**
ESQI	**Esquipulas**	**1.64**	**152**	P	**Pn**	**05 48 41.4**	**+0.2**
ESQI	**Esquipulas**	**1.64**	**152**	S	**Sg**	**05 49 04.4**	**0.0**
SOKI	**Kika Raxquin**	**1.70**	**226**	*i* P	**Pn**	**05 48 42.8**	**+0.5**
ESSG	**Sabana Grande**	**1.75**	**202**	*i* P	**Pn**	**05 48 43.3**	**+0.6**
ESSG				*i* S	**Sg**	**05 49 07.5**	**-0.3**
ESSG				IAML		05 49 09.4	
	comp=N,489nm,0.5s						

MTO3	**Montecristo**	**1.78**	**155**	*i* P		**Pn**		**05 48 42.3**	**-0.9**
MTO3				*i* S		**Sb**		**05 49 08.1**	**+0.6**
MTO3	**Montecristo**	**1.78**	**155**	P		**Pn**		**05 48 43.2**	**0.0**
MTO3	**Montecristo**	**1.78**	**155**	S		**Sb**		**05 49 07.6**	**+0.1**
SARH	**Santa Rosa de**	**1.82**	**133**	*i* P		**Pb**		**05 48 44.7**	**-0.6**
SARH				*i* S		**Sb**		**05 49 08.6**	**+0.1**
SARH	**Santa Rosa de**	**1.82**	**133**	P		**Pb**		**05 48 44.6**	**-0.8**
SARH	**Santa Rosa de**	**1.82**	**133**	S		**Sg**		**05 49 09.5**	**-0.4**
CCIG	**Comitan**	**1.93**	**278**	*i* P		**Pb**		**05 48 47.2**	**-0.2**
CCIG				IAML				05 49 20.6	
	comp=N,280nm,0.5s								
CCIG	**Comitan**	**1.93**	**278**	P		**Pg**		**05 48 48.1**	**-0.5**
CCIG	**Comitan**	**1.93**	**278**	S		**Sg**		**05 49 14.4**	**+0.7**
SLOZ	**Alcaldia de Sa**	**2.01**	**170**	P		**Pb**		**05 48 47.6**	**-1.0**
SLOZ	**Alcaldia de Sa**	**2.01**	**170**	S		**Sb**		**05 49 15.1**	**+1.1**
UNIC	**Universidad Ca**	**2.10**	**164**	P		**Pn**		**05 48 48.5**	**+1.0**
RTAL	**Retalhuleu**	**2.11**	**225**	P		**Pb**		**05 48 48.8**	**-1.4**
NUBE	**Las Nubes**	**2.13**	**170**	*i* P		**Pn**		**05 48 49.3**	**+1.3**
NUBE	**Las Nubes**	**2.13**	**170**	P		**Pb**		**05 48 49.4**	**-1.3**
NUBE	**Las Nubes**	**2.13**	**170**	S		**Sb**		**05 49 17.9**	**+0.2**
FAME	**Alcaldia de Sa**	**2.16**	**177**	P		**Pb**		**05 48 50.5**	**-0.8**
LLGN	**La Laguna**	**2.18**	**148**	P		**Pb**		**05 48 51.2**	**-0.3**
LLGN	**La Laguna**	**2.18**	**148**	S		**Sb**		**05 49 18.4**	**-0.5**
CEVE	**Cerro Verde**	**2.23**	**167**	P		**Pb**		**05 48 51.0**	**-1.5**
CEVE	**Cerro Verde**	**2.23**	**167**	S		**Sb**		**05 49 21.2**	**+0.5**
PMON	**Piamonte**	**2.43**	**161**	P		**Pb**		**05 48 54.2**	**-1.6**
PMON	**Piamonte**	**2.43**	**161**	S		**Sb**		**05 49 28.0**	**+1.9**
JAYA	**Jayaque - finc**	**2.44**	**164**	P		**Pb**		**05 48 56.6**	**+0.5**
JAYA	**Jayaque - finc**	**2.44**	**164**	S		**Sb**		**05 49 26.2**	**-0.4**
UEES	**Universidad Ev**	**2.45**	**159**	P		**Pb**		**05 48 54.3**	**-1.9**
UEES	**Universidad Ev**	**2.45**	**159**	S		**Sb**		**05 49 26.0**	**-0.7**
PAVA	**Las Pavas**	**2.57**	**153**	P		**Pb**		**05 48 58.0**	**-0.2**
PAVA	**Las Pavas**	**2.57**	**153**	S		**Sb**		**05 49 31.3**	**+1.0**
INTHN	**La Esperanza I**	**2.60**	**130**	P		**Pn**		**05 48 56.0**	**+1.5**
SCLA	**Alcaldia de Sa**	**2.68**	**149**	P		**Pn**		**05 48 56.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.39**	**125**	P		**Pb**		**05 49 10.8**	**-1.4**

IDC ***18*** *05:52:19.7±1.0, 34°.27N×80°.07E, h0km, mb3.8/7, mbtmp3.7/11, ML3.1/4, Error ellipse: s-maj=44.4km s-min=16.9km az=58.0*

ISC 18 05:52:24.3±1.0, 34°.4N±0°.1×80°.2E±0°.2, h28km, n12, σ0s80/13, mb3.7/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.49**	**7**	Pn	**Pn**	**05 55 20.1**	**-0.1**
	0.4nm,0.3s,baz=185,slow=12,SNR=13						
MKAR				Sn	**Sn**	**05 57 37.8**	**-0.5**
	0.2nm,0.3s,baz=196,slow=25,SNR=5.9						
	1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**16.27**	**356**	Pn	**Pn**	**05 56 10.6**	**0.0**
	baz=184,slow=11,SNR=8.3						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**19.83**	**8**	*P*	**P**	**05 56 53.4**	**+0.8**
	baz=215,slow=12,SNR=1.4						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**19.89**	**342**	*P*	**P**	**05 56 53.4**	**+0.1**
	0.1nm,0.3s,baz=156,slow=11,SNR=5.8						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**23.06**	**129**	*P*	**P**	**05 57 28.1**	**+0.5**
	0.7nm,0.3s,baz=307,slow=11,SNR=4.9						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**43.43**	**326**	*P*	**P**	**06 00 22.8**	**-1.5**
	2.3nm,0.7s,baz=107,slow=6.6,SNR=7.6						
	2.3nm,0.7s						
HFS	**Hagfors**	**49.30**	**323**	*P*	**P**	**06 01 11.4**	**+0.9**
	4.0nm,1.0s,baz=115,slow=8.7,SNR=3.7						
	4.0nm,1.0s						
NOA	**NORSAR Array B**	**50.52**	**324**	*P*	**P**	**06 01 20.6**	**+0.8**
	0.8nm,0.8s,baz=87,slow=7.5,SNR=2.9						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**74.54**	**19**	*P*	**P**	**06 04 00.7**	**+0.6**
	0.5nm,1.0s,baz=307,slow=5.3,SNR=3.4						
	0.5nm,1.0s						
WRA	**Warramunga Arr**	**74.66**	**128**	*P*	**P**	**06 04 00.5**	**-0.9**
	0.6nm,0.7s,baz=323,slow=5.7,SNR=7.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**77.06**	**131**	*P*	**P**	**06 04 14.4**	**-0.6**
	0.4nm,0.5s,baz=310,slow=5.6,SNR=7.0						
	0.4nm,0.5s						
LPAZ	**La Paz**	**146.34**	**294**	PKPbc	**PKPbc**	**06 12 03.5**	**-0.2**
	0.3nm,0.3s,baz=12,slow=11,SNR=1.8						

CATAC 18 06:00:56.9±1.0, 12°N±6°×8°8W±°, h29km±12km, M2.9/13, MLv2.9/13, Error ellipse: s-maj=14.9km s-min=5.0km az=25.2, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**1.25**	**30**	P	Pn	06 01 18.3	-0.1
POTN				S	Sb	06 01 35.4	-0.2
CRIN	**San Cristobal**	**1.33**	**54**	P	Pn	06 01 20.2	+0.6
CNCH	**Conchagua**	**1.39**	**13**	P	Pn	06 01 20.4	-0.2
LCND	**La Caada**	**1.41**	**10**	P	Pn	06 01 20.6	-0.1
POLN	**Al Sur del Vol**	**1.50**	**60**	P	Pn	06 01 20.5	-1.3
POLN				S	Sn	06 01 40.4	-0.1
PLRN	**Geotermica Pol**	**1.51**	**63**	P	Pn	06 01 20.8	-1.2
CNGA	**Al SSO del Vol**	**1.53**	**68**	P	Pn	06 01 21.7	-0.6
COPN	**Copaltepe**	**1.54**	**80**	P	Pn	06 01 22.8	+0.3
PACA	**Pacayal**	**1.56**	**354**	P	Pn	06 01 23.2	+0.4
MOM2	**El Cardon**	**1.71**	**72**	P	Pn	06 01 24.5	-0.2
MOM2				S	Sn	06 01 47.1	+1.5
TECO	**Alcaldia de Te**	**1.73**	**339**	S	Sn	06 01 46.5	+0.3
UESV	**Universidad de**	**1.83**	**340**	P	Pn	06 01 26.8	+0.4
UESV	**Universidad de**	**1.83**	**340**	S	Sn	06 01 49.0	+0.4
CHOHN	**Orocuina**	**1.83**	**32**	P	Pn	06 01 25.9	-0.7
SCLA	**Alcaldia de Sa**	**1.87**	**342**	P	Pn	06 01 27.3	+0.3
LOMA	**Loma Larga**	**1.99**	**330**	S	Sn	06 01 52.8	0.0
NADN	**Granada**	**2.08**	**94**	P	Pn	06 01 30.5	+0.7
YUSH	**Yuscaran**	**2.40**	**32**	P	Pn	06 01 35.0	+0.7
RCVN	**Varillal2**	**2.53**	**49**	P	Pn	06 01 35.8	-0.4

UPA ***18*** *06:20:30.4±0.5, 9°.79N×79°.17W, h40km±2km, MD4.0, MW4.1*
CATAC ***18*** *06:20:30.2±0.4, 10°N±3°×7°9W±°, h38km±6km, M3.6/14, mb3.7/2, mB4.9/1, MLv3.5/14, Mw(mB)4.1/1, Error ellipse: s-maj=7.2km s-min=4.8km az=11.3, confirmed*

ISC 18 06:20:30.4±1.4, 9°.77N±0°.08×79°.15W±0°.04, h46km±25km, n25, σ0s79/37, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	**Chepo, Panama**	**0.59**	**177**	*eP*	**Pn**	**06 20 42.9**	**+0.3**
CHPO				*eS*	**Sn**	**06 20 51.6**	**+0.3**
FRIJ	**El Hiral**	**0.78**	**227**	*eP*	**Pn**	**06 20 44.7**	**-0.4**
FRIJ				*eS*	**Sn**	**06 20 55.6**	**-0.2**
GAMB1	**Gamboa**	**0.85**	**221**	*eP*	**Pn**	**06 20 45.7**	**-0.2**
GAMB1				*eS*	**Sn**	**06 20 56.9**	**-0.4**
UPA	**Univ. de Panam**	**0.87**	**206**	*i* P	**Pn**	**06 20 46.0**	**-0.3**
UPA				*eS*	**Sn**	**06 20 57.3**	**-0.5**
BCIP	**Isla Barro Col**	**0.90**	**229**	⇓*iP*	**Pn**	**06 20 46.6**	**-0.1**
BCIP				*eS*	**Sn**	**06 20 58.8**	**+0.1**
BCIP	**Isla Barro Col**	**0.90**	**229**	P	**Pn**	**06 20 46.8**	**+0.1**
BCIP				S	**Sn**	**06 20 58.4**	**-0.2**
FLAM	**Flamenco Islan**	**0.93**	**204**	*eP*	**Pn**	**06 20 46.6**	**-0.5**
ARRA3	**Arraijan, Pana**	**0.94**	**212**	*eP*	**Pn**	**06 20 46.6**	**-0.6**
ARRA3				*eS*	**Sn**	**06 20 59.7**	**+0.1**
ZANG	**Zanguenga, Cho**	**1.07**	**221**	*eP*	**Pn**	**06 20 49.2**	**+0.2**
ZANG				*eS*	**Sn**	**06 21 04.0**	**+1.2**
CAP2	**Capurgana**	**2.09**	**122**	P	**Pn**	**06 21 03.7**	**+0.7**
CAP2				S	**Sn**	**06 21 25.9**	**-1.8**
CHIT3	**Chitre**	**2.19**	**215**	*eP*	**Pn**	**06 21 04.4**	**0.0**
CHIT3				*eS*	**Sn**	**06 21 30.3**	**+0.1**
AZU	**Azuero**	**2.25**	**210**	*eP*	**Pn**	**06 21 05.1**	**-0.1**
AZU				*eS*	**Sn**	**06 21 31.8**	**0.0**
LCBC	**Los crdobas,**	**2.89**	**108**	*eP*	**Pn**	**06 21 14.1**	**+0.2**
LCBC				*eS*	**Sn**	**06 21 47.6**	**+0.1**
PTAC	**Punta Ardita,**	**2.92**	**153**	*eP*	**Pn**	**06 21 14.8**	**+0.4**
CACAO	**El Cacao, Vera**	**2.94**	**215**	*eP*	**Pn**	**06 21 15.1**	**+0.4**
CACAO				*eS*	**Sn**	**06 21 48.3**	**-0.4**
BRU2	**Volcan**	**3.63**	**255**	P	**Pn**	**06 21 25.1**	**+0.9**
BRU2	**Volcan**	**3.63**	**255**	S	**Sn**	**06 22 05.2**	**-0.6**
CDITO	**Canoas**	**3.86**	**252**	P	**Pn**	**06 21 28.8**	**+1.5**
CDITO	**Canoas**	**3.86**	**252**	S	**Sn**	**06 22 11.7**	**+0.3**
OCHAL	**Ojochal**	**4.49**	**262**	P	**Pn**	**06 21 37.1**	**+1.2**
OCHAL	**Ojochal**	**4.49**	**262**	S	**Sn**	**06 22 24.1**	**-2.8**
LCR2	**La Lucha 2**	**4.79**	**270**	P	**Pn**	**06 21 40.3**	**+0.1**
COVE	**Coope Vega, Sa**	**5.25**	**281**	P	**Pn**	**06 21 46.7**	**+0.2**
COVE	**Coope Vega, Sa**	**5.25**	**281**	S	Sn	06 22 39.3	-6.5
JTS	**Las Juntas de**	**5.74**	**276**	P	**Pn**	**06 21 53.5**	**+0.4**

MOS ***18*** *06:28:30.5±1.1, 23°.97N×94°.03E, h50km, mb5.0/57, Error ellipse: s-maj=8.9km s-min=3.6km az=122.3*
BGR ***18*** *06:28:32.0, 23°.86N×93°.65E, h33km, mb4.8, Ms3.7*
BJI ***18*** *06:28:31.7, 24°.12N×93°.86E, h51km, mB4.8/15, mb4.7/46, ML4.2/5, Ms4.0/20, Ms7 3.6/22*
IDC ***18*** *06:28:33.0±1.2, 23°.93N×94°.03E, h60km±10km, mb4.3/35, mbtmp4.6/36, MS3.5/38, Error ellipse: s-maj=9.7km s-min=8.6km az=28.0*
BKK ***18*** *06:28:33.4±0.5, 24°N±6°×9°4E±°, h50km, M4.2/24, mB4.7/19, mb4.5/21, Mjma4.2/24, ML5.1/14, MLv4.6/11, Mw(mB)3.9/19*
NDI ***18*** *06:28:34.3±1.2, 24°.10N×93°.87E, h63km±12km, ML4.5, MW4.7, mb5.0(NEIC)*
NEIC ***18*** *06:28:34.7±1.6, 24°.02N±0°.05×93°.86E±0°.07, h63km±3km, mb5.0/151, Error ellipse: s-maj=9.4km s-min=7.0km az=64.0*

ISC 18 06:28:33.2±0.4, 24°.01N±0°.03×93°.97E±0°.03, h60km±3km, h60km:pP-P, n753, σ1s27/727, mb4.9/181, 24C-29D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.82**	**359**	*eP*	**Pn**	**06 28 49.3**	**+0.2**
IMP				*eS*	**Sn**	**06 28 59.9**	**-0.8**
IMP				IAML		06 29 06.8	
	comp=E,28μm,0.5s						
IMP				IAML		06 29 07.1	
	comp=N,11μm,0.9s						
IMP	**Imphal**	**0.82**	**359**	*eP*	**Pn**	**06 28 48.4**	**-0.6**
IMP				*eS*	Sn	06 29 13.3	+13
AZL	**Aizawl**	**1.20**	**257**	*eP*	**Pn**	**06 28 54.2**	**+0.2**
AZL				*eS*	**Sn**	**06 29 09.6**	**+0.1**
AZL				IAML		06 29 13.8	
	comp=N,8μm,0.6s						
AZL	**Aizawl**	**1.20**	**257**	*eP*	**Pn**	**06 28 52.5**	**-1.5**
AZL				*eS*	**Sn**	**06 29 16.9**	**+7.3**
SILR	**SILCHAR**	**1.31**	**306**	*eP*	**Pn**	**06 28 58.6**	**+3.2**
SILR				*eS*	Sn	06 29 39.3	+27
KOHI	**KOHIMA**	**1.71**	**4**	*eP*	**Pn**	**06 29 01.2**	**+0.3**
KOHI	**KOHIMA**	**1.71**	**4**	*eP*	**Pn**	**06 28 56.6**	**-4.3**
KOHI				*eS*	**Sn**	**06 29 25.0**	**+3.2**
SHL	**Shillong**	**2.44**	**310**		**Pn**	**06 29 10.4**	**-0.6**
SHL				Sn	**Sn**	**06 29 36.8**	**-3.0**
SHL	**Shillong**	**2.44**	**310**	*eP*	**Pn**	**06 29 09.2**	**-1.8**
SHL				*eS*	**Sn**	**06 29 35.0**	**-4.8**
SHL				IAML		06 29 38.3	
	comp=N,4μm,1.8s						
SHL				IAML		06 29 38.9	
	comp=E,4μm,0.3s						
SHL	**Shillong**	**2.44**	**310**	*eP*	**Pn**	**06 29 08.0**	**-3.0**
SHL				*eS*	**Sn**	**06 29 38.3**	**-1.5**
SHL	**Shillong**	**2.44**	**310**	P	**Pn**	**06 29 09.8**	**-1.2**
AGT	**Agartala**	**2.49**	**268**	*eP*	**Pn**	**06 29 10.9**	**-0.4**
AGT				*eS*	**Sn**	**06 29 38.3**	**-2.3**
AGT				IAML		06 29 59.3	
	comp=E,5μm,2.1s						
AGT				IAML		06 30 01.9	
	comp=N,8μm,4.5s						
AGT	**Agartala**	**2.49**	**268**	*eP*	**Pn**	**06 29 06.7**	**-4.6**
AGT				*eS*	Sn	06 29 58.8	+18
BRDH	**Bariadhala**	**2.52**	**239**	P	**Pn**	**06 29 10.7**	**-1.1**
	comp=N,3μm,0.6s,baz=61,slow=10,SNR=60						
BRDH				S	**Sn**	**06 29 41.7**	**+0.4**
	comp=N,1μm,0.4s,baz=59,slow=23,SNR=11						
JORH	**JORHAT**	**2.73**	**5**	*eP*	**Pn**	**06 29 14.7**	**0.0**
JORH				*eS*	**Sn**	**06 29 44.4**	**-2.2**
JORH				IAML		06 29 58.1	
	comp=E,4μm,0.6s						
JORH				IAML		06 29 58.5	
	comp=N,4μm,0.5s						
TEZP	**TEZPUR**	**2.80**	**338**	*eP*	**

JHNI eS **Sn** **06 34 24.3 -0.5**
LZH Lanzhou 14.75 33 eP **Pn** **06 31 57.4 -1.2**
LZH pP P 06 32 07.1 +3.9
LZH pmax pmax
comp=Z,34nm,1.4s
LZH LR LR
comp=Z,310nm,13.0s
LZH LR LR
comp=Z,320nm,14.6s
LZH LR LR
comp=Z,540nm,17.8s
NDI New Delhi 15.72 291 eS Sn 06 34 44.0 -20
NPLP NPLP New Delhi 15.75 291 eP **Pn** **06 32 11.2 0.0**
NPLP eS Sn 06 34 50.1 -15
AYAN Aya Nagar 15.75 290 eP **Pn** **06 32 06.8 -4.5**
AYAN eS Sn 06 34 46.4 -18
HNLY HANLEY 15.81 307 eP **P** **06 32 15.0 -0.4**
HYB Hyderabad 15.84 248 eP **P** **06 32 15.5 +0.2**
HYB esP **sP** **06 32 36.8 +0.6**
GTA Gaotai 16.13 17 eP **Pn** **06 32 14.8 -1.4**
GTA LR LR
comp=Z,240nm,9.8s
GTA LR LR
comp=Z,400nm,15.6s
GTA LR LR
comp=Z,150nm,9.8s
KUDL Kundal 16.23 288 eS Sn 06 34 50.1 -26
XAN Xi'an 16.44 49 P **Pn** **06 32 19.6 -0.5**
XAN sP sP 06 32 41.0 -1.5
XAN S **Sn** **06 35 19.1 -2.6**
XAN pmax pmax
comp=Z,27nm,1.0s
XAN LR LR
comp=Z,180nm,11.0s
XAN LR LR
comp=Z,210nm,12.4s
XAN LR LR
comp=Z,200nm,13.7s
AJM Ajmer 17.65 282 eP **Pn** **06 32 33.4 -1.7**
AJM eS Sn 06 35 37.0 -14
WHN Wuhan 19.24 66 P **P** **06 32 52.3 -0.3**
WHN pmax pmax
comp=Z,48nm,0.7s
WMQ Urumqi 20.42 347 eP Pn 06 33 07.3 -0.7
WMQ pmax pmax
comp=Z,81nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.3s
NIL Nilore 20.50 303 P **P** **06 33 06.3 -0.1**
NIL Nilore 20.50 303 P **P** **06 33 06.3 -0.1**
NIL pmax pmax
comp=Z,25nm,0.8s
KCSI Kotacane, Aceh 20.70 169 P **P** **06 33 09.4 +0.8**
comp=Z,826nmcomp=Z,16nm,0.8s
PALK Pallekele 20.95 220 P **P** **06 33 12.1 +0.7**
PALK Pallekele 20.95 220 P **P** **06 33 11.5 +0.2**
comp=Z,15nm,0.8s,baz=18,slow=12,SNR=5.7
PALK S **S** **06 36 51.1 -10**
comp=Z,3.5nm,0.7s,baz=65,slow=16,SNR=1.5
PALK LR LR 06 41 41.1
comp=Z,104nm,21.4s,baz=48,slow=38
comp=Z,15nm,0.8s
PALK Pallekele 20.95 220 P **P** **06 33 12.1 +0.7**
PALK pmax pmax
comp=Z,16nm,0.9s
BTO Baotou 21.34 35 eP **P** **06 33 14.5 -0.9**
BTO sP **sP** **06 33 33.3 -3.3**
BTO PP **PnPn** **06 33 40.8 +3.2**
BTO S **S** **06 37 07.3 -1.9**
BTO pmax pmax
comp=Z,22nm,0.5s
BTO pmax pmax
comp=Z,200nm,3.9s
BTO LR LR
comp=Z,400nm,8.4s
BTO LR LR
comp=Z,190nm,6.5s
BTO LR LR
comp=Z,880nm,14.5s
PSI Prapat 21.62 166 P **P** **06 33 19.1 +0.4**
comp=Z,3.2nm,0.5s,baz=336,slow=12,SNR=6.4
comp=Z,3.2nm,0.5s
KSH Kashi 21.68 320 P **P** **06 33 19.8 +0.7**
KSH sP sP 06 33 41.6 +1.2
KSH pmax pmax
comp=Z,49nm,0.8s
RPSI Rantau Prapat 21.73 167 P **P** **06 33 19.1 -0.5**
HNS HongShan 22.21 48 ⇓P **P** **06 33 26.3 +1.7**
HNS S **S** **06 37 25.1 -0.4**
TARG Taragay, Kyrgy 22.21 327 **P** **06 33 26.3 +1.2**
TARG IAmb IAmb 06 33 29.9
comp=Z,94nm,1.6s
TARG Taragay, Kyrgy 22.21 327 P **P** **06 33 26.3 +1.2**
TARG pmax pmax
comp=Z,94nm,1.6s
HHC Hu-ho-hao-te 22.35 37 eP **P** **06 33 29.4 +3.2**
HHC S **S** **06 37 30.5 +2.4**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,50nm,5.9s
HHC LR LR
comp=Z,140nm,13.5s
HHC LR LR
comp=Z,180nm,13.5s
HHC LR LR
comp=Z,210nm,18.5s
PRZ Przheval'sk 22.49 329 **P** **06 33 29.6 +1.8**
PRZ IAmb IAmb 06 33 31.4
comp=Z,64nm,0.8s
PRZ Przheval'sk 22.49 329 P **P** **06 33 29.7 +1.8**
PRZ pmax pmax
comp=Z,64nm,0.8s
SHLS Shalkode 22.54 331 eP **P** **06 33 26.8 -1.4**
SHLS pmax pmax
comp=Z,18nm,0.7s
SHLS Shalkode 22.54 331 eP **P** **06 33 26.9 -1.4**
comp=Z,18nm,0.7s
UZB Uzynbulak 22.72 331 eP **P** **06 33 30.6 +0.4**
UZB Uzynbulak 22.72 331 eP **P** **06 33 30.7 +0.4**
KDJ Kajisay 22.82 326 P **P** **06 33 32.4 +1.0**
KDJ Kajisay 22.82 326 P **P** **06 33 32.4 +1.0**
KDJ pmax pmax
comp=Z,30nm,0.9s
GSI Gunungsitoli 22.84 171 P **P** **06 33 31.6 0.0**
GSI IAmb IAmb 06 33 57.8
comp=Z,121nm,2.0s
SATY Saty 22.93 330 eP **P** **06 33 32.9 +0.5**
SATY pmax pmax
comp=Z,33nm,0.9s
SATY Saty 22.93 330 eP **P** **06 33 33.0 +0.5**
comp=Z,33nm,0.9s
KPKS Kokpek 23.12 331 eP **P** **06 33 34.7 +0.5**
KPKS Kokpek 23.12 331 eP **P** **06 33 34.8 +0.5**
NJ2 Nanjing 23.35 64 eP **P** **06 33 37.8 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ULHL Ulahol 23.39 325 P **P** **06 33 38.9 +2.0**
SNR=12
TNSS Tian-Shan 23.61 328 eP **P** **06 33 39.5 +0.3**
TNSS Tian-Shan 23.61 328 eP **P** **06 33 39.6 +0.3**
AAA Alma-Ata 23.75 328 eP **P** **06 33 40.9 +0.8**
AAA pmax pmax
comp=Z,48nm,0.8s
AAA Alma-Ata 23.75 328 eP **P** **06 33 41.0 +0.8**
comp=Z,48nm,0.8s
KBL Kabul 24.08 302 **P** **06 33 43.5 +0.1**
KBL IAmb IAmb 06 34 07.0
comp=Z,79nm,1.7s
KBL Kabul 24.08 302 P **P** **06 33 43.5 +0.1**
KBL pmax pmax
comp=Z,79nm,1.7s
ARXS Arharly 24.09 331 eP **P** **06 33 43.9 +0.7**
TKM2 Tokmak 2 24.20 326 P **P** **06 33 46.0 +1.6**
SNR=44
UCH Uchtor 24.30 323 P **P** **06 33 47.1 +1.6**
SNR=33
KBK Karagaybulak 24.36 324 P **P** **06 33 47.7 +2.0**
SNR=10
TDK Taldyqorghan 24.47 333 eP **P** **06 33 47.1 +0.6**
TDK Taldyqorghan 24.47 333 eP **P** **06 33 47.1 +0.6**
ZSN Zaisan 24.49 345 eP **P** **06 33 47.3 +0.6**
ZSN Zaisan 24.49 345 eP **P** **06 33 47.4 +0.6**
KUU Kurty 24.54 328 eP **P** **06 33 48.1 +0.9**
KUU pmax pmax
comp=Z,25nm,1.0s
KUU Kurty 24.54 328 eP **P** **06 33 48.1 +0.9**
comp=Z,25nm,1.0s
MK31 Makanchi Array 24.59 340 *i* P **P** **06 33 48.5 +0.9**
MK31 pmax pmax
comp=Z,46nm,0.7s
MKAR Makanchi Array 24.59 340 P **P** **06 33 48.8 +1.2**
MKAR Makanchi Array 24.59 340 P **P** **06 33 49.1 +1.5**
comp=Z,40nm,0.7s,baz=149,slow=9.8,SNR=76
MKAR PcP **PcP** **06 37 25.2 +1.1**
comp=Z,1.1nm,0.7s,baz=167,slow=5.2,SNR=2.7
MKAR ScP **ScP** **06 40 57.4 -0.4**
comp=Z,1.3nm,1.1s,baz=150,slow=5.6,SNR=3.7
comp=Z,40nm,0.7s
MKAR Makanchi Array 24.59 340 *i* P **P** **06 33 48.7 +1.1**
MKAR pmax pmax
comp=Z,39nm,0.7s
AAK Ala-Archa 24.59 324 **P** **06 33 49.9 +2.0**
AAK Ala-Archa 24.59 324 LR LR 06 45 30.4
comp=Z,55nm,18.1s,baz=146,slow=41
AAK Ala-Archa 24.59 324 P **P** **06 33 49.9 +2.0**
SNR=14
AAK Ala-Archa 24.59 324*d* iP **P** **06 33 49.8 +2.0**
AAK pmax pmax
comp=Z,32nm,1.0s
FRU1 Bishkek 24.64 324 P **P** **06 33 50.2 +2.0**
FRU1 IAmb IAmb 06 33 51.7
comp=Z,38nm,0.6s
FRU1 Bishkek 24.64 324 P **P** **06 33 50.2 +2.0**
FRU1 pmax pmax
comp=Z,38nm,0.6s
CHMS Chumysh 24.70 325 P **P** **06 33 50.2 +1.5**
SNR=8.1
GAR Garm 25.00 312 **P** **06 33 52.0 +0.5**
EKS2 Erkin-Say 25.00 323 P **P** **06 33 53.8 +2.3**
SNR=39
USP Ospenovka 25.02 325 P **P** **06 33 52.9 +1.3**
SNR=26
SGDS Sogindy 25.08 325 eP **P** **06 33 53.0 +0.8**
SIMJ Simiganj 25.73 310 **P** **06 33 58.0 -0.2**
SONM Songino Array 25.75 19 P **P** **06 33 59.4 +1.2**
SONM IAmb IAmb 06 34 01.9
comp=Z,38nm,0.8s
SONM Songino Array 25.75 19 P **P** **06 33 59.6 +1.4**
comp=Z,34nm,0.8s,baz=199,slow=9.8,SNR=85
SONM PcP **PcP** **06 37 26.7 -0.1**
comp=Z,0.4nm,0.5s,baz=208,slow=2.5,SNR=2.4
SONM ScP **ScP** **06 41 00.6 -0.5**
comp=Z,1.6nm,0.8s,baz=195,slow=3.2,SNR=7.0
SONM LR LR 06 46 18.8
comp=Z,70nm,19.3s,baz=201,slow=41
comp=Z,34nm,0.8s
SONM Songino Array 25.75 19 P **P** **06 33 59.4 +1.2**
SONM pmax pmax
comp=Z,38nm,0.8s
ULN Ulaanbaatar 25.98 20 **P** **06 34 01.0 +0.6**
ULN IAmb IAmb 06 34 03.9
comp=Z,38nm,0.8s
ULN Ulaanbaatar 25.98 20*d* iP **P** **06 34 01.2 +0.8**
BTLS Baital 26.50 327 eP **P** **06 34 05.6 +0.7**
BTLS Baital 26.50 327 eP **P** **06 34 05.7 +0.7**
IUG Iuzhnay 26.86 318 eP **P** **06 34 11.9 +3.6**
XLT XiLinHaoTe 26.87 37 eP **P** **06 34 10.8 +2.4**
XLT pmax pmax
comp=Z,12nm,0.8s
KK31 Karatay Array 27.13 320 P **P** **06 34 11.2 +0.5**
KK31 Karatay Array 27.13 320 P **P** **06 34 11.2 +0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 27.13 320 P **P** **06 34 11.1 +0.4**
KKAR Karatay Array 27.13 320 P **P** **06 34 11.1 +0.4**
CHM Chimkent 27.22 318 eP **P** **06 34 12.4 +1.0**
CHM pmax pmax
comp=Z,15nm,0.8s
CHM Chimkent 27.22 318 eP **P** **06 34 12.4 +1.0**
comp=Z,15nm,0.8s
ZAK Zakamensk 27.30 13 eP **P** **06 34 12.9 +0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.5s
BRLS Borolday 27.49 320 eP **P** **06 34 13.7 -0.1**
BRLS Borolday 27.49 320 eP **P** **06 34 13.8 -0.1**
KURBB Kurchatov Arra 29.14 340 P **P** **06 34 29.1 +0.7**
comp=Z,19nm,0.7s,baz=154,slow=8.2,SNR=79
KURBB PcP **PcP** **06 37 35.0 +0.2**
comp=Z,0.4nm,0.4s,baz=174,slow=2.7,SNR=4.3
KURBB ScP **ScP** **06 41 11.1 -0.1**
comp=Z,1.9nm,1.0s,baz=165,slow=2.5,SNR=6.3
KURBB LR LR 06 48 53.1
comp=Z,43nm,19.3s,baz=168,slow=42
comp=Z,19nm,0.7s
KURBB Kurchatov Arra 29.14 340 P **P** **06 34 29.0 +0.6**
KURK Kurchatov 29.19 340 P **P** **06 34 29.5 +0.6**
KURK IAmb IAmb 06 34 30.6
comp=Z,28nm,0.8s
KURK Kurchatov 29.19 340*d* iP **P** **06 34 29.5 +0.6**
KURK pmax pmax
comp=Z,29nm,0.7s
ZAA0 Zalesovo Array 30.68 349 P **P** **06 34 42.7 +0.7**
ZAA0 IAmb IAmb 06 34 44.1
comp=Z,30nm,0.9s
ZALV Zalesovo Beam 30.68 349 P **P** **06 34 42.9 +1.0**
ZALV Zalesovo Beam 30.68 349 P **P** **06 34 43.1 +1.1**
comp=Z,27nm,0.8s,baz=160,slow=9.3,SNR=5.8
ZALV PcP **PcP** **06 37 38.7 +0.1**
comp=Z,0.8nm,0.4s,baz=184,slow=5.8,SNR=2.8
ZALV ScP **ScP** **06 41 15.7 -0.5**
comp=Z,0.5nm,0.4s,baz=130,slow=5.8,SNR=2.0
ZALV LR LR 06 49 17.1
comp=Z,38nm,20.3s,baz=179,slow=40
comp=Z,27nm,0.8s
ZALV Zalesovo Beam 30.68 349 P **P** **06 34 42.9 +1.0**
BRZS Berezniki 30.78 333 eP **P** **06 34 43.8 +0.8**
BRZS Berezniki 30.78 333 eP **P** **06 34 43.8 +0.8**
KSRS Kosa Array 31.93 57 P **P** **06 34 51.4 -1.8**
comp=Z,0.5nm,0.5s,baz=259,slow=8.1,SNR=2.0
KSRS PcP **PcP** **06 37 42.2 -0.1**
comp=Z,0.9nm,0.6s,baz=257,slow=3.8,SNR=5.4
JNU Nakatsue 33.52 66 LR LR 06 49 56.8
comp=Z,90nm,20.2s,baz=267,slow=38
BVA0 Borovoye Array 34.03 334 *i* P **P** **06 35 11.8 +0.5**
BVAR Borovoye Array 34.03 334 P **P** **06 35 12.2 +0.8**
comp=Z,12nm,0.7s,baz=138,slow=10.0,SNR=39
BVAR PcP **PcP** **06 37 48.4 +0.5**
comp=Z,2.4nm,0.7s,baz=64,slow=3.4,SNR=3.9
BVAR LR LR 06 50 22.5
comp=Z,75nm,18.5s,baz=138,slow=38
comp=Z,12nm,0.7s
BRVK Borovoye 34.10 334 P **P** **06 35 12.4 +0.5**
BRVK IAmb IAmb 06 35 13.6
comp=Z,13nm,1.0s
BRVK Borovoye 34.10 334*ce* P **P** **06 35 12.6 +0.7**
BRVK pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 34.10 334 P **P** **06 35 12.6 +0.7**
BRVK pP **pP** **06 35 28.4 +1.2**
BNX BinXian 34.59 43 ⇓P **P** **06 35 16.8 +0.6**
BNX pmax pmax
comp=Z,10.0nm,0.5s
DAV Davao City (W) 34.67 114 LR LR 06 52 08.3
comp=Z,43nm,18.0s,baz=304,slow=41
AB31 Akbulak array 36.65 322 P **P** **06 35 34.4 +0.5**
AB31 IAmb IAmb 06 35 35.9
comp=Z,14nm,0.8s
AB31 Akbulak array 36.65 322 *i* P **P** **06 35 35.0 +1.1**
ABKAR Akbulak array 36.65 322 P **P** **06 35 34.4 +0.5**
HEH HeiHe 36.86 36 eP **P** **06 35 36.3 +0.7**
HEH pmax pmax
comp=Z,30nm,0.8s
USA0B Ussuriysk Arra 36.94 47⇑ eP **P** **06 35 38.9 +2.5**
USRK Ussuriysk Ar. 36.94 47 P **P** **06 35 37.0 +0.6**
comp=Z,1.6nm,0.6s,baz=251,slow=9.1,SNR=5.0
USRK LR LR 06 51 39.7
comp=Z,44nm,19.5s,baz=257,slow=38
comp=Z,1.6nm,0.6s
KAPI Kappang 38.26 136 LR LR 06 56 30.8
comp=Z,44nm,18.1s,baz=302,slow=44
AKTO Aktyubinsk 38.33 323 LR LR 06 54 20.8
comp=Z,54nm,19.0s,baz=9.0,slow=40
MJB9 Matsu-Tunnel 39.87 61 P **P** **06 36 01.4 +0.2**
MAJO Matsushiro 39.87 61 P **P** **06 36 00.6 -0.6**
MAJO Matsushiro 39.87 61 P **P** **06 36 00.6 -0.6**
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 39.87 61 P **P** **06 36 00.3 -0.8**
MJAR Matsushiro Arr 39.87 61 P **P** **06 35 59.7 -1.5**
comp=Z,2.9nm,0.8s,baz=272,slow=9.0,SNR=13
MJAR PcP **PcP** **06 38 05.8 -0.2**
comp=Z,1.6nm,0.8s,baz=287,slow=2.4,SNR=4.9
MJAR LR LR 06 53 24.2
comp=Z,41nm,21.1s,baz=250,slow=37
comp=Z,2.9nm,0.8s
MJAR Matsushiro Arr 39.87 61 P **P** **06 36 00.4 -0.8**
MJAR pmax pmax
comp=Z,6.0nm,1.6s
SVE Sverdlovsk 40.71 332*ce* P **P** **06 36 09.1 +1.4**
SVE pmax pmax
comp=Z,46nm,0.7s
ARTI Arti 41.42 331 P **P** **06 36 14.5 +0.9**
ARTI Arti 41.42 331 LR LR 06 55 58.7
comp=Z,42nm,18.9s,baz=138,slow=40
ARTI Arti 41.42 331*d* iP **P** **06 36 14.1 +0.6**
ARTI *PP **sP** **06 36 34.9 -1.5**
ARTI 06 37 50.6
ARTI 06 38 09.2
ARTI S **S** **06 42 27.6 +3.5**
ARTI SS **ScS** **06 46 07.3 -4.1**
ARTI pmax pmax
comp=Z,14nm,0.6s
ARTI Arti 41.42 331 P **P** **06 36 14.2 +0.6**
ARTI pP **pP** **06 36 30.2 +1.0**
JCJ Chichijima 43.41 75 LR LR 06 55 39.3
comp=Z,42nm,19.6s,baz=252,slow=38
RAYN Ar Rayn 44.18 280 P **P** **06 36 36.3 -0.1**
RAYN Ar Rayn 44.18 280 P **P** **06 36 39.1 +2.6**
ASAJ Asahikawa 44.27 51 LR LR 06 56 43.4
comp=Z,46nm,19.3s,baz=342,slow=38
YAK Yakutsk 45.02 23*d* iP **P** **06 36 42.8 +0.3**
YAK pmax pmax
comp=Z,38nm,0.7s
YAK Yakutsk 45.02 23 P **P** **06 36 42.6 +0.2**
BELG Belogornoye 45.04 321 P **P** **06 36 43.3 +0.5**
comp=Z,22nm,0.7s,baz=13,slow=1.3,SNR=7.7
comp=Z,22nm,0.7s
BELG Belogornoye 45.04 321*d* iP **P** **06 36 43.0 +0.2**
BELG pmax pmax
comp=Z,4.0nm,0.8s
NCK Nalchik 45.41 308⇓ eP **P** **06 36 46.7 +0.7**
NCK pmax pmax
comp=Z,7.0nm,0.4s
KBZ Khabaz 45.95 308 P **P** **06 36 51.7 +1.5**
comp=Z,1.7nm,0.5s,baz=116,slow=6.7,SNR=4.4
comp=Z,1.7nm,0.5s
KBZ Khabaz 45.95 308⇑ eP **P** **06 36 52.3 +2.2**
KBZ pmax pmax
comp=Z,6.0nm,1.2s
SHA1 Shidzhatmaz 46.12 308⇑ eP **P** **06 36 53.2 +1.4**
KIV Kislovodsk 46.13 309 ⇑P **P** **06 36 53.7 +1.9**
KIV Kislovodsk 46.13 309 eP **P** **06 36 50.2 -1.5**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,31nm,16.0s
KIV Kislovodsk 46.13 309 P **P** **06 36 52.3 +0.6**
comp=Z,19nm,1.1s
KIRV Kirov 46.68 330 P **P** **06 36 56.5 +0.8**
comp=Z,18nm,0.5s,baz=67,slow=3.3,SNR=7.0
KIRV LR LR 06 57 53.6
comp=Z,47nm,18.8s,baz=155,slow=38
comp=Z,18nm,0.5s
VRH Novokhopyorsk 48.18 318 eP **P** **06 37 06.5 -0.9**
VRH pmax pmax
comp=Z,20nm,1.2s
GUMO Guam 49.06 93 LR LR 06 58 23.2
comp=Z,25nm,19.5s,baz=75,slow=36
VORD Divnogorie 49.62 317 eP **P** **06 37 18.2 -0.2**
VORD pmax pmax
comp=Z,10.0nm,1.6s
VSR Storozhevoye 49.75 318 eP **P** **06 37 17.2 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.5s
VORR Voronezh 49.82 318 eP **P** **06 37 19.7 -0.2**
VORR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 50.19 319 eP **P** **06 37 21.9 -0.8**
LPSR pmax pmax
comp=Z,20nm,1.5s
TIXI Tiksi 51.58 13 P **P** **06 37 33.1 +0.2**
TIXI Tiksi 51.58 13⇓ iP **P** **06 37 32.7 -0.2**
TIXI pmax pmax
comp=Z,13nm,0.5s
TIXI Tiksi 51.58 13 P **P** **06 37 33.0 0.0**
TIXI pP **pP** **06 37 49.3 +0.2**
MOS Moscow 51.66 323 eP **P** **06 37 32.5 -1.2**
MOS *e* 06 37 54.9
OBN Obninsk 52.10 322 P **P** **06 37 36.6 -0.3**
comp=Z,12nm,0.6s,baz=108,slow=17,SNR=5.0
comp=Z,12nm,0.6s
OBN Obninsk 52.10 322*de* P **P** **06 37 36.7 -0.3**
OBN *e* 06 39 40.6
OBN *ePPP PPP 06 40 39.8
OBN *eS **S** **06 44 52.5 -3.9**
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,52nm,21.0s
KLMR Klimovskoe 52.18 330 eP **P** **06 37 35.8 -1.7**
KLMR *ePP **pP** **06 37 54.1 +0.4**
KLMR *e 06 39 34.4
KLMR pmax pmax
comp=Z,49nm,1.4s
KIRS Kirsehir-Merke 52.45 302 ⇓P **P** **06 37 41.9 +1.9**
EIL Elat 52.48 290 LR LR 07 03 57.5
comp=Z,50nm,18.7s,baz=74,slow=40
BR131 Keskin Array S 52.65 303⇓ eP **P** **06 37 42.2 +0.7**
BRTR Keskin Array B 52.65 303 P **P** **06 37 42.2 +0.7**
comp=Z,1.0nm,0.7s,baz=127,slow=7.9,SNR=5.3
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 52.65 303 *i* P **P** **06 37 42.7 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
MA2 Magadan 52.90 32 LR LR 07 02 43.4
comp=Z,57nm,18.4s,baz=286,slow=39
MA2 Magadan 52.90 32*ce* P **P** **06 37 42.2 -0.7**
MA2 pmax pmax
comp=Z,30nm,1.6s
MA2 Magadan 52.90 32 P **P** **06 37 42.1 -0.9**
MA2 pP **pP** **06 37 58.9 -0.3**
SKR Severo-Kuril's 54.27 44⇓ eP **P** **06 37 51.7 -1.3**
SEY Seymchan 54.62 29⇓ iP **P** **06 37 55.2 -0.2**
SEY pmax pmax
comp=Z,8.0nm,1.1s
PURM Purcari 55.35 311 P **P** **06 38 01.0 +0.1**
PETK Petropavlovsk- 55.47 41 P **P** **06 38 01.3 -0.4**
PETK Petropavlovsk- 55.47 41 P **P** **06 38 01.0 -0.7**
comp=Z,1.4nm,0.5s,baz=263,slow=4.0,SNR=5.3
PETK LR LR 07 05 14.4
comp=Z,34nm,18.3s,baz=274,slow=40
comp=Z,1.4nm,0.5s
PETK Petropavlovsk- 55.47 41 P **P** **06 38 01.3 -0.4**
AK09 Malin Array Si 55.87 316 P **P** **06 38 04.1 -0.5**
AK08 Malin Array Si 55.89 316 P **P** **06 38 04.1 -0.6**
AKASG Malin Array Be 55.91 316 P **P** **06 38 04.4 -0.5**
comp=Z,1.5nm,0.4s,baz=77,slow=6.8,SNR=16
AKASG LR LR 07 04 23.7
comp=Z,52nm,20.4s,baz=67,slow=38
comp=Z,1.5nm,0.4s
AKBB Malin Array Si 55.91 316 P **P** **06 38 04.4 -0.5**
AKBB IAmb IAmb 06 38 05.9
comp=Z,17nm,0.9s
AKBB Malin Array Si 55.91 316*d* iP **P** **06 38 04.3 -0.5**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 55.91 316 P **P** **06 38 04.5 -0.4**
KIEV Kiev 55.92 316 ⇑P **P** **06 38 04.8 -0.1**
KIEV Kiev 55.92 316 P **P** **06 38 04.8 -0.1**
KIEV Kiev 55.92 316 P **P** **06 38 04.4 -0.5**
KIEV pP **pP** **06 38 21.0 -0.2**
TLCR 56.09 309 ⇓P **P** **06 38 07.0 +0.7**
TLCR 56.09 309 P **P** **06 38 06.9 +0.7**
JOF Joensuu 56.49 331 eP **P** **06 38 09.1 +0.3**
LVZ Lovozero 56.55 337 P **P** **06 38 08.6 -0.6**
LVZ IAmb IAmb 06 38 10.4
comp=Z,14nm,0.9s
LVZ Lovozero 56.55 337*de* P **P** **06 38 09.2 0.0**
LVZ pmax pmax
comp=Z,16nm,0.8s
LVZ Lovozero 56.55 337 P **P** **06 38 07.5 -1.7**
CFR Carcaliu 56.57 309 ⇓P **P** **06 38 10.2 +0.6**
CFR Carcaliu 56.57 309 P **P** **06 38 10.2 +0.6**
MNK Minsk 56.98 321 *i* P **P** **06 38 11.5 -0.9**
comp=E,19nm,0.9s

MNK *i* P **P** **06 38 11.5 -0.9**
comp=N,13nm,0.9s
MNK *i* P **P** **06 38 11.5 -0.9**
comp=Z,24nm,0.8s,baz=94
MNK *i* PP **PP** **06 40 19.0 -0.3**
MNK *i* PPP PPP 06 41 37.0
MNK *i* S **S** **06 46 02.5 +0.4**
MNK *i* SS **SS** **06 49 54.9 +3.9**
MNK *i* SSS SSS 06 52 23.7
MNK *i* LQ LQ 06 59 32.2
MNK *i* LR LR 07 03 44.8
MNK *i* LRM MLR 07 05 53.0
comp=N,69nm,24.7s
MNK *i* LRM MLR 07 06 11.1
comp=Z,33nm,18.1s
MNK Minsk 56.98 321 *i* P **P** **06 38 11.5 -0.9**
MNK *i* 06 40 18.9
MNK *i* PPP PPP 06 41 36.9
MNK *i* S **S** **06 46 02.4 +0.4**
MNK *i* SS **SS** **06 49 54.9 +3.9**
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=E,19nm,0.9s
MNK MLR MLR
comp=N,69nm,25.0s
MNK MLR MLR
comp=Z,33nm,18.0s
VRI Vrincioaia 57.54 310 ⇑P **P** **06 38 18.0 +1.4**
VRI Vrincioaia 57.54 310 P **P** **06 38 17.9 +1.4**
TESR Tescani 57.58 311 ⇓P **P** **06 38 17.3 +0.6**
PLOR Plostina 57.60 310 ⇑P **P** **06 38 18.6 +1.6**
PLOR Plostina 57.60 310 P **P** **06 38 18.6 +1.6**
NACGM Naroch 57.65 321⇑ *i* P **P** **06 38 17.5 +0.4**
comp=Z,23nm,0.9s,baz=94
KMPD K-Podol'skiy 57.66 313 P **P** **06 38 16.7 -0.6**
COVR Voineasa-Covas 57.91 310 ⇓P **P** **06 38 20.3 +1.2**
VSU Vasula 57.98 325*c* *i* P **P** **06 38 18.5 -0.8**
VSU pmax pmax
comp=Z,17nm,0.8s
VSU Vasula 57.98 325 *e*P **P** **06 38 19.0 -0.4**
RNPP9 Sopachiv 58.04 317 P **P** **06 38 19.5 -0.4**
MLR Muntele Rosu 58.10 310 P **P** **06 38 21.9 +1.3**
comp=Z,11nm,0.8s,baz=126,slow=1.7,SNR=16
comp=Z,11nm,0.8s
MLR Muntele Rosu 58.10 310 ⇑P **P** **06 38 22.1 +1.4**
MLR Muntele Rosu 58.10 310 P **P** **06 38 22.0 +1.3**
ALN Alexandroupoli 58.37 304 P **P** **06 38 22.8 +0.4**
ALN IAmb IAmb 06 38 24.7
comp=Z,6.2nm,0.7s
ALN Alexandroupoli 58.37 304 P **P** **06 38 22.8 +0.4**
ALN pmax pmax
comp=Z,6.0nm,0.7s
ARBE Arbavere 58.47 326 *e*P **P** **06 38 23.5 +0.8**
BURAR Bucovina Array 58.52 312 ⇑P **P** **06 38 24.9 +1.4**
BURAR Bucovina Array 58.52 312 P **P** **06 38 24.9 +1.4**
FIA1 FINESS Array S 58.65 329 P **P** **06 38 24.6 +0.7**
FINES FINESS Array B 58.65 329 P **P** **06 38 24.7 +0.7**
FINES FINESS Array B 58.65 329 P **P** **06 38 24.4 +0.4**
comp=Z,5.9nm,0.7s,baz=100,slow=7.9,SNR=27
FINES LR LR 07 03 58.2
comp=Z,45nm,19.7s,baz=218,slow=36
comp=Z,5.9nm,0.7s
WB0 Warramunga Arr 58.70 134 P **P** **06 38 24.3 -0.6**
WB0 IAmb IAmb 06 38 24.4
comp=Z,7.3nm,0.6s
VOIR 58.74 310 ⇑P **P** **06 38 25.2 +0.2**
VOIR 58.74 310 P **P** **06 38 25.2 +0.2**
WRA Warramunga Arr 58.79 135 P **P** **06 38 24.6 -0.9**
WRA Warramunga Arr 58.79 135 P **P** **06 38 24.8 -0.8**
comp=Z,5.2nm,0.6s,baz=324,slow=7.4,SNR=74
WRA ScP **ScP** **06 43 06.2 -3.8**
comp=Z,0.5nm,0.8s,baz=330,slow=4.5,SNR=2.9
comp=Z,5.2nm,0.6s
WRA Warramunga Arr 58.79 135 *i* P **P** **06 38 24.7 -0.8**
WRA pmax pmax
comp=Z,6.0nm,0.5s
WRAB Tennant Creek 58.79 135 *i* P **P** **06 38 24.5 -1.0**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
ARR Arges 59.03 310 ⇓P **P** **06 38 27.4 +0.4**
TNR Turnu Rosu 59.27 310 ⇑P **P** **06 38 30.5 +1.8**
TNR Turnu Rosu 59.27 310 P **P** **06 38 30.4 +1.8**
PABE Paberze 59.29 322 *e*P **P** **06 38 29.1 +0.7**
KEF Keuruu 59.31 329 *e*P **P** **06 38 28.3 -0.2**
MEF Metsahovi 59.34 327 *e*P **P** **06 38 29.7 +0.9**
SGF Sodankyl 59.42 336 P **P** **06 38 30.1 +0.8**
SGF pmax pmax
comp=Z,26nm,0.9s
SUW Suwalki 59.72 320 P **P** **06 38 30.7 -0.8**
SUW pmax pmax
comp=Z,34nm,1.0s
SUW Suwalki 59.72 320 *e*P **P** **06 38 31.8 +0.3**
MARR Marisel-Cluj 60.00 311 ⇑P **P** **06 38 34.7 +1.0**
ARCES ARCESS Array B 60.21 338 P **P** **06 38 35.2 +0.6**
comp=Z,3.7nm,0.7s,baz=89,slow=7.6,SNR=14
ARCES LR LR 07 06 17.2
comp=Z,45nm,21.9s,baz=196,slow=38
comp=Z,3.7nm,0.7s
DEV Deva 60.21 310 ⇑P **P** **06 38 36.3 +1.3**
DEV Deva 60.21 310 P **P** **06 38 36.3 +1.3**
DRGR 60.27 311 ⇑P **P** **06 38 36.5 +0.9**
DRGR 60.27 311 P **P** **06 38 36.4 +0.9**
KIBK Kibwezi 60.29 252 P **P** **06 38 34.1 -2.0**
GZR Gura Zlata 60.34 310 ⇑P **P** **06 38 37.3 +1.2**
GZR Gura Zlata 60.34 310 P **P** **06 38 37.2 +1.2**
KOLS Kolonicke sedl 60.42 314 *e*P **P** **06 38 36.6 +0.1**
RAF Rauma 60.69 328 *e*P **P** **06 38 38.8 +0.8**
SURR Surduc 60.76 310 ⇑P **P** **06 38 40.1 +1.4**
KTK1 Kautokeino 60.91 337 *e*P **P** **06 38 40.1 +0.7**
HAMF Hammerfest 61.03 339 *e*P **P** **06 38 41.4 +1.2**
SIRR Siria 61.04 311 ⇓P **P** **06 38 41.4 +0.7**
SJUU Sjulsmark 61.10 333 *e*P **P** **06 38 41.4 +0.7**
BZS Buzias 61.13 310 ⇓P **P** **06 38 41.6 +0.3**
BZS Buzias 61.13 310 P **P** **06 38 41.6 +0.3**
MDVR Moldovita 61.15 309 ⇑P **P** **06 38 42.4 +0.9**
AS31 Alice Springs 61.23 138 P **P** **06 38 41.9 -0.3**
ASAR Alice Springs 61.23 138 P **P** **06 38 41.8 -0.5**
comp=Z,5.6nm,0.5s,baz=320,slow=6.8,SNR=131
comp=Z,5.6nm,0.5s
BILL Bilibino 61.35 24*d* *i* P **P** **06 38 42.3 -0.1**
BILL pmax pmax
comp=Z,25nm,0.7s
NIE Niedzica 61.68 315 *e*P **P** **06 38 45.8 +0.8**
NIE Niedzica 61.68 315 P **P** **06 38 46.0 +1.0**
NIE pmax pmax
comp=Z,6.0nm,0.9s
JETT Jettan, Norway 61.98 338 *e*P **P** **06 38 47.9 +1.2**
TRO Tromso 62.50 338 *e*P **P** **06 38 50.3 +0.3**
UPP Uppsala 62.72 327⇑ *e*P **P** **06 38 52.3 +0.6**
MORH Mrgy, Hungar 63.12 311 ⇑P **P** **06 38 55.0 +0.3**
STEB Steborice 63.27 315 *e*P **P** **06 38 56.1 +0.6**
MAUC Maruska 63.29 315 *e*P **P** **06 38 56.6 +0.8**
MORC Moravsky Berou 63.43 315 *e*P **P** **06 38 56.7 0.0**
JAVC Velka Javorina 63.45 314 *e*P **P** **06 38 56.8 -0.1**
FAUS Fauske 63.73 335 *e*P **P** **06 38 58.4 +0.2**
KRLC Kraliky 63.89 316 *e*P **P** **06 39 00.1 +0.4**
KRLC Kraliky 63.89 316 *e*P **P** **06 39 00.1 +0.4**
MOR8 Moi Rana 64.07 334 *e*P **P** **06 39 00.1 -0.4**
VRAC Vranov 64.10 315 P **P** **06 39 01.8 +0.7**
comp=Z,12nm,0.9s,baz=88,slow=6.2,SNR=15
VRAC LR LR 07 08 39.6
comp=Z,39nm,20.3s,baz=83,slow=38
comp=Z,12nm,0.9s
VRAC Vranov 64.10 315 *e*P **P** **06 39 01.5 +0.4**
KSP Ksiaz 64.11 316 *e*P **P** **06 39 01.7 +0.7**
SPA0 Spitsbergen Ar 64.12 347 *e*P **P** **06 39 01.7 +0.9**
SPITS Spitsbergen Ar 64.12 347 P **P** **06 39 01.2 +0.5**
comp=Z,3.0nm,0.6s,baz=109,slow=9.9,SNR=7.3
comp=Z,3.0nm,0.6s
DPC Dobruska-Polom 64.15 316 *e*P **P** **06 39 01.6 +0.2**
DPC Dobruska-Polom 64.15 316 *e*P **P** **06 39 01.6 +0.2**
OSTC Ostas 64.19 316 *e*P **P** **06 39 02.2 +0.6**
OSTC Ostas 64.19 316 *e*P **P** **06 39 02.2 +0.6**
KRUC Moravsky 64.26 315 *e*P **P** **06 39 02.0 -0.1**
CHVC Chvalec 64.29 316 *e*P **P** **06 39 03.0 +0.7**
CHVC Chvalec 64.29 316 *e*P **P** **06 39 03.0 +0.7**
BLY Banja Luka 64.35 310 ⇓P **P** **06 39 03.8 +1.0**
LOF Lofoten 64.39 336 *e*P **P** **06 39 02.3 -0.2**
RONA Rosalia, Austr 64.51 313 *e*P **P** **06 39 04.1 +0.2**
comp=Z,4.9nm,1.2s

LEIR Leirfjorden 64.61 334 *e*P **P** **06 39 04.4 +0.4**
HFS Hagfors 64.68 327 P **P** **06 39 04.8 +0.1**
comp=Z,7.9nm,0.7s,baz=109,slow=8.0,SNR=18
HFS LR LR 07 11 03.3
comp=Z,46nm,18.8s,baz=96,slow=39
comp=Z,7.9nm,0.7s
CONA Conrad Observa 64.77 313 *i* P **P** **06 39 05.6 +0.1**
comp=Z,12nm,1.3s,SNR=7.4
ARSA Arzberg 65.10 313 *i* P **P** **06 39 07.2 -0.5**
comp=Z,2.4nm,0.8s
PRU Pruhonice 65.33 316 *e*P **P** **06 39 09.7 +0.7**
PRU Pruhonice 65.33 316 *e*P **P** **06 39 09.7 +0.7**
SHEM Shemya Is, Ala 65.39 41 LR LR 07 10 17.4
comp=Z,14nm,20.6s,baz=88,slow=38
SOKA Soboth 65.52 312 *i* P **P** **06 39 10.4 0.0**
comp=Z,3.1nm,0.7s
BRG Berggiesshubel 65.58 317 P **P** **06 39 12.3 +1.7**
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 65.58 317 *e*P **P** **06 39 12.0 +1.4**
comp=Z,6.3nm,0.9s,baz=79,slow=6.3
BRG Berggiesshubel 65.58 317 *e*P **P** **06 39 12.2 +1.7**
BRG Amp 06 39 13.7
comp=Z,6.3nm,0.9s
BRG pP **pP** **06 39 29.6 +2.3**
BRG Amp 06 39 32.8
comp=Z,2.6nm,0.8s
CKRC Cesky Krumlov 65.66 314 *e*P **P** **06 39 11.8 +0.6**
CKRC Cesky Krumlov 65.66 314 *e*P **P** **06 39 11.8 +0.6**
NC602 NORSAR Array S 65.69 328 P **P** **06 39 11.5 +0.4**
NC602 NORSAR Array S 65.69 328 *e*P **P** **06 39 11.4 +0.2**
NB2 NORSAR Subarra 65.82 328 P **P** **06 39 11.5 -0.5**
comp=Z,1.7nm,0.6s,baz=84,slow=6.5
NB2 NORSAR Subarra 65.82 328 P **P** **06 39 11.5 -0.5**
baz=84,slow=6.5
NOA NORSAR Array B 65.82 328 P **P** **06 39 11.7 -0.3**
comp=Z,2.5nm,0.7s,baz=85,slow=6.7,SNR=14
NOA LR LR 07 09 38.9
comp=Z,20nm,18.4s,baz=105,slow=37
comp=Z,2.5nm,0.7s
MOA Molln 65.84 313 *i* P **P** **06 39 12.3 -0.1**
comp=Z,5.9nm,0.6s
OBKA Obir 65.88 312 *e*P **P** **06 39 11.6 -1.2**
comp=Z,4.5nm,0.9s
MBAR Mbarara 65.94 258⇓ *i* P **P** **06 39 14.1 +0.4**
MBAR pmax pmax
comp=Z,9.0nm,1.1s
NC204 NORSAR Array S 66.01 328 P **P** **06 39 13.3 0.0**
GEC2 GERESS Array S 66.05 315 P **P** **06 39 14.2 +0.3**
GEC2 GERESS Array S 66.05 315 *e*P **P** **06 39 14.1 +0.3**
comp=Z,8.6nm,0.9s,baz=79,slow=6.3
GEC2 *e*L L 07 08 41.6
comp=Z,34nm,20.5s
GERES GERESS Array B 66.05 315 P **P** **06 39 14.4 +0.6**
GERES GERESS Array B 66.05 315 P **P** **06 39 14.1 +0.3**
comp=Z,6.7nm,0.7s,baz=74,slow=5.6,SNR=50
comp=Z,6.7nm,0.7s
GERES GERESS Array B 66.05 315 P **P** **06 39 14.4 +0.6**
KHC Kasperske Hory 66.08 315 *e*P **P** **06 39 14.5 +0.6**
KHC Kasperske Hory 66.08 315 *e*P **P** **06 39 14.5 +0.6**
CLL Collm 66.10 317 *i* P **P** **06 39 13.7 -0.2**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 66.10 317 *e*P **P** **06 39 13.8 -0.1**
comp=Z,7.5nm,1.2s,baz=79,slow=6.3
CLL *e*L L 07 09 42.6
comp=Z,52nm,21.7s
CLL Collm 66.10 317 *i* P **P** **06 39 13.7 -0.2**
comp=Z,7.0nm,1.1s
CLL LmV 07 09 00.0
comp=Z,100nm,21.8s
BIOA Bad Ischl, Aus 66.29 313 *i* P **P** **06 39 15.1 -0.2**
comp=Z,3.4nm,0.6s
WET Wettzell 66.53 315 P **P** **06 39 17.6 +0.8**
WET pmax pmax
comp=Z,9.0nm,1.7s
WET Wettzell 66.53 315 *e*P **P** **06 39 17.4 +0.6**
comp=Z,12nm,1.3s,baz=79,slow=6.3
WET *e*L L 07 07 02.0
comp=Z,52nm,18.3s
TANN Tannenbergstha 66.58 316 *e*P **P** **06 39 17.3 +0.2**
comp=Z,5.8nm,0.9s,baz=79,slow=6.3
KBA Koelnbreinsper 66.59 313 P **P** **06 39 16.9 -0.5**
KBA pmax pmax
comp=Z,7.0nm,1.0s
KBA Koelnbreinsper 66.59 313 *i* P **P** **06 39 16.9 -0.5**
comp=Z,2.4nm,0.6s
PLN Plauen 66.76 317 *e*P **P** **06 39 18.1 -0.2**
comp=Z,2.3nm,1.1s,baz=79,slow=6.3
RJOB Jochberg 66.84 313 *e*P **P** **06 39 18.6 -0.2**
comp=Z,5.6nm,0.9s,baz=79,slow=6.3
ROTZ Rotzenmuhle 66.86 316 *e*P **P** **06 39 19.7 +0.8**
comp=Z,3.0nm,0.9s,baz=79,slow=6.3
NEUB Neuenburg 66.88 317 *e*P **P** **06 39 19.0 +0.1**
comp=Z,11nm,0.7s,baz=79,slow=6.3
MANZ Manzenberg 66.88 316 *e*P **P** **06 39 19.4 +0.4**
comp=Z,1.1nm,1.0s,baz=79,slow=6.3
LESA Schwarzleotal 66.98 313 *i* P **P** **06 39 19.3 -0.4**
comp=Z,7.6nm,0.5s,SNR=6.4
MOX Moxa 67.07 317 P **P** **06 39 20.6 +0.4**
MOX pmax pmax
comp=Z,7.0nm,1.2s
MOX Moxa 67.07 317 *e*P **P** **06 39 20.5 +0.3**
comp=Z,6.2nm,1.0s,baz=79,slow=6.3
MOX *e*L L 07 10 39.6
comp=Z,39nm,19.5s
STAL STALIGIAL 67.18 312 P **P** **06 39 20.6 -0.4**
STAL IAmb IAmb 06 39 21.1
comp=Z,13nm,1.1s
ABTA Abfaltersbach 67.22 312 *e*P **P** **06 39 20.6 -0.7**
comp=Z,7.3nm,1.3s
CAMP Campotosto 67.45 308 P **P** **06 39 23.1 +0.2**
CAMP IAmb IAmb 06 39 24.7
comp=Z,8.1nm,0.7s
AQU L'Aquila 67.50 308 P **P** **06 39 23.7 +0.6**
AQU pmax pmax
comp=Z,13nm,1.1s
GRF Grafenberg Arr 67.50 316 *e*L L 07 08 55.1
comp=Z,51nm,19.9s
CLZ Clausthal 67.62 318 *e*P **P** **06 39 23.9 +0.2**
comp=Z,8.0nm,0.8s,baz=79,slow=6.3
NRDL Niedersach Rie 67.67 319 *e*P **P** **06 39 24.6 +0.9**
comp=Z,14nm,1.1s,baz=79,slow=6.3
WTTA Wattenberg 67.70 313 P **P** **06 39 23.8 -0.6**
WTTA pmax pmax
comp=Z,9.0nm,1.0s
WTTA Wattenberg 67.70 313 *i* P **P** **06 39 23.7 -0.8**
comp=Z,3.1nm,0.5s
WATA Walderalm 67.73 313 *e*P **P** **06 39 23.8 -0.8**
comp=Z,3.4nm,0.8s
FUR Furstenfeldbru 67.76 314 *e*L L 07 15 12.2
comp=Z,47nm,20.3s
SQTA Sankt Quirin 68.00 313 *e*P **P** **06 39 25.4 -0.8**
comp=Z,5.6nm,0.5s
MOTA Moosalm 68.04 313 *e*P **P** **06 39 25.7 -0.9**
comp=Z,6.9nm,0.8s,SNR=5.6
RETA Reutte 68.24 314 *e*P **P** **06 39 27.5 -0.2**
comp=Z,17nm,1.7s
FETA Feichten 68.36 313 *e*P **P** **06 39 27.9 -0.6**
comp=Z,7.1nm,1.1s
FUORN Ofenpass-Fuorn 68.76 313 P **P** **06 39 31.2 0.0**
OSSC Osservatorio P 68.78 309 P **P** **06 39 30.9 -0.1**
DAVA Damuels 68.87 313 *e*P **P** **06 39 31.3 -0.4**
comp=Z,7.9nm,0.9s
DAVOX Davos/Dischmat 68.98 313 P **P** **06 39 32.1 -0.3**
comp=Z,4.9nm,0.7s,baz=88,slow=4.4,SNR=13
DAVOX LR LR 07 11 24.6
comp=Z,35nm,21.4s,baz=80,slow=37
comp=Z,4.9nm,0.7s
STU Stuttgart 68.99 315 P **P** **06 39 32.6 +0.4**
STU IAmb IAmb 06 39 33.5
comp=Z,11nm,0.9s
STU Stuttgart 68.99 315 P **P** **06 39 32.6 +0.4**
STU pmax pmax
comp=Z,11nm,0.9s
TNS Taunus Mts 69.14 317 *e*P **P** **06 39 33.4 +0.1**
comp=Z,5.8nm,0.8s,baz=79,slow=6.3
TNS *e*L L 07 09 44.8
comp=Z,33nm,19.2s
TUE Stuetta 69.41 313 P **P** **06 39 34.9 -0.2**
BFO Black Forest 69.65 315 *e*L L 07 09 23.4
comp=Z,40nm,20.9s
GAMB Gambell 70.62 28 P **P** **06 39 41.3 -0.6**
baz=285
WLF Walferdange 70.72 317 IAmb IAmb 06 39 44.8
comp=Z,22nm,1.0s
WLF Walferdange 70.72 317 *e*P **P** **06 39 44.1 +1.3**
comp=Z,22nm,1.0s,baz=79,slow=6.3
TNA Tin City 71.68 26 P **P** **06 39 48.4 +0.1**
baz=288
C16K Lisburne Hills 71.80 23 P **P** **06 39 49.2 +0.2**
baz=289,SNR=5.6
STKA Stephens Creek 71.84 139 P **P** **06 39 48.0 -1.7**
comp=Z,1.8nm,0.6s,baz=341,slow=10,SNR=3.5
comp=Z,1.8nm,0.6s
KEST Kesra 72.24 302 IAmb IAmb 06 39 55.0
comp=Z,12nm,1.0s
KEST Kesra 72.24 302 P **P** **06 39 52.1 -0.3**
comp=Z,12nm,1.0s,baz=359,slow=4.3,SNR=11
comp=Z,12nm,1.0s
F14K Arctic Creek 72.34 26 P **P** **06 39 52.1 -0.2**
baz=289
C17K DeLong Mountai 72.48 22 P **P** **06 39 53.0 -0.1**
baz=291
A19K Wainwright 72.54 20 P **P** **06 39 53.4 0.0**
baz=292
B18K Kokolik River 72.62 21 P **P** **06 39 54.8 +0.9**
baz=292,SNR=5.1
D17K Noatak River 72.80 23 P **P** **06 39 55.4 +0.5**
baz=291,SNR=19
F15K North Star Dit 72.92 25 P **P** **06 39 55.9 +0.1**
baz=290
ANM Nome 73.03 26 P **P** **06 39 56.6 +0.2**
baz=290
C18K Utukok River 73.10 22 P **P** **06 39 57.7 +0.9**
C18K IAmb IAmb 06 39 58.4
comp=Z,13nm,0.8s
C18K Utukok River 73.10 22 P **P** **06 39 57.2 +0.3**
baz=293,SNR=7.5
SPIA Saint Paul Isl 73.19 34 P **P** **06 39 57.7 +0.2**
baz=288
G15K Nikuluk 73.41 26 P **P** **06 39 59.0 +0.3**
baz=291
C19K Lookout Ridge 73.45 21 IAmb IAmb 06 40 01.0
comp=Z,14nm,0.8s
C19K Lookout Ridge 73.45 21 P **P** **06 39 59.2 +0.4**
baz=294,SNR=9.8
E17K Hotham Inlet 73.48 23 P **P** **06 39 59.6 +0.6**
baz=292,SNR=9.6
P08K Saint George I 73.74 35 P **P** **06 40 00.9 +0.2**
baz=289
E18K Tukpahlearik C 73.78 23 P **P** **06 40 01.7 +1.0**
E18K IAmb IAmb 06 40 02.5
comp=Z,19nm,0.7s
E18K Tukpahlearik C 73.78 23 P **P** **06 40 01.3 +0.5**
baz=293,SNR=13
B20K Meade River 73.85 20 P **P** **06 40 01.6 +0.5**
baz=296
G16K Koyuk River 73.92 25 P **P** **06 40 02.3 +0.7**
baz=292
A22K Sinclair Lake 74.05 19 P **P** **06 40 03.0 +0.7**
baz=298
M11K Mekoryuk 74.12 31 P **P** **06 40 03.6 +0.8**
baz=291
D19K Kuna River 74.19 21 IAmb IAmb 06 40 05.0
comp=Z,19nm,0.8s
D19K Kuna River 74.19 21 P **P** **06 40 03.7 +0.4**
baz=295,SNR=11
H16K Elim 74.26 26 P **P** **06 40 04.0 +0.4**
baz=293
K13K Kusilvak Mount 74.27 29 P **P** **06 40 03.7 0.0**
baz=291
J14K Nanvaranak Lak 74.44 28 P **P** **06 40 04.9 +0.2**
baz=292
F18K Selawik 74.46 23 P **P** **06 40 05.2 +0.5**
baz=294,SNR=11
EKA Eskdalemuir Ar 74.50 324 P **P** **06 40 05.3 +0.2**
comp=Z,1.3nm,0.5s,baz=80,slow=5.5,SNR=6.2
comp=Z,1.3nm,0.5s
G17K Kiwalik Mounta 74.54 25 P **P** **06 40 05.0 -0.2**
baz=294
D20K Etivluk River 74.59 21 P **P** **06 40 05.9 +0.4**
baz=297,SNR=15
B21K Ikpikpuk River 74.81 20 IAmb IAmb 06 40 08.8
comp=Z,19nm,0.9s
B21K Ikpikpuk River 74.81 20 P **P** **06 40 07.4 +0.7**
baz=298,SNR=6.9
B22K Teshekpuk Lake 74.83 19 P **P** **06 40 07.0 +0.3**
baz=299
E20K Nigu River 74.94 21 P **P** **06 40 07.8 +0.2**
baz=297,SNR=15
E19K Redstone River 74.95 22 IAmb IAmb 06 40 09.1
comp=Z,17nm,0.8s
E19K Redstone River 74.95 22 P **P** **06 40 07.9 +0.4**
baz=296,SNR=19
C21K Knifeblade Rid 74.98 20 P **P** **06 40 08.1 +0.4**
baz=298,SNR=7.2
F19K Shaleruckik Mo 75.03 23 IAmb IAmb 06 40 09.2
comp=Z,14nm,0.8s
F19K Shaleruckik Mo 75.03 23 P **P** **06 40 08.4 +0.4**
baz=296,SNR=13
H17K Granite Mounta 75.05 25 P **P** **06 40 08.8 +0.6**
baz=295
G18K Tagagawik 75.12 24 P **P** **06 40 08.5 -0.1**
baz=296
LSZ Lusaka 75.16 246 **P** **06 40 10.1 +0.4**
LSZ Lusaka 75.16 246 LR LR 07 12 39.4
comp=Z,95nm,19.6s,baz=169,slow=35
LSZ Lusaka 75.16 246 P **P** **06 40 10.1 +0.4**
LSZ pmax pmax
comp=Z,6.0nm,0.8s
I17K Unalakleet 75.18 26 P **P** **06 40 09.0 +0.1**
baz=294
NIKH Nikolski High 75.34 38 P **P** **06 40 09.9 -0.1**
baz=290
L14K Kuka Creek 75.36 29 IAmb IAmb 06 40 12.1
comp=Z,23nm,1.3s
L14K Kuka Creek 75.36 29 P **P** **06 40 10.3 +0.3**
baz=293,SNR=5.0
M13K Dall Lake 75.42 30 P **P** **06 40 10.3 0.0**
baz=293
J16K Anvik River 75.47 27 IAmb IAmb 06 40 12.2
comp=Z,22nm,1.2s
J16K Anvik River 75.47 27 P **P** **06 40 10.9 +0.3**
baz=294,SNR=6.0
K15K Wolf Creek Mou 75.48 28 P **P** **06 40 11.2 +0.5**
baz=294
H18K Honhosa River 75.55 25 IAmb IAmb 06 40 12.5
comp=Z,14nm,1.1s
H18K Honhosa River 75.55 25 P **P** **06 40 11.3 +0.3**
baz=296,SNR=5.3
E21K Killik River 75.58 21 P **P** **06 40 11.5 +0.3**
baz=299
G19K Purcell Mounta 75.59 23 P **P** **06 40 11.6 +0.4**
baz=297,SNR=7.2
F20K Avaraart Lake 75.66 22 P **P** **06 40 11.8 +0.2**
baz=298
L15K Ungalak Mounta 75.75 28 P **P** **06 40 12.3 +0.1**
baz=294
D22K Ayikyak River 75.77 20 P **P** **06 40 13.0 +0.7**
baz=300,SNR=9.0
C23K Itkillik River 75.91 19 P **P** **06 40 13.8 +0.8**
baz=302,SNR=15
M14K Bethel 75.92 29 IAmb IAmb 06 40 14.6
comp=Z,18nm,0.8s
M14K Bethel 75.92 29 P **P** **06 40 12.8 -0.4**
baz=294
J17K VABM Dome 76.04 26 P **P** **06 40 13.8 -0.1**
baz=296
H19K Roundabout Mou 76.10 24 IAmb IAmb 06 40 16.6
comp=Z,14nm,0.8s
H19K Roundabout Mou 76.10 24 P **P** **06 40 14.3 +0.1**
baz=298,SNR=12
GCSA Galena City Sc 76.30 25 P **P** **06 40 15.4 +0.1**
baz=297
UNV Unalaska Valle 76.33 37 P **P** **06 40 15.8 +0.1**
baz=292
F21K Alatna River 76.34 22 IAmb IAmb 06 40 17.5
comp=Z,21nm,0.8s
F21K Alatna River 76.34 22 P **P** **06 40 15.9 +0.3**
baz=300,SNR=13
D23K Nanushuk River 76.35 20 P **P** **06 40 16.3 +0.8**
baz=302,SNR=14
N14K Kuskokwak Cree 76.38 30 P **P** **06 40 16.1 +0.3**
baz=294
E22K Anaktuvuk Pass 76.43 21 IAmb IAmb 06 40 17.7
comp=Z,12nm,0.8s
E22K Anaktuvuk Pass 76.43 21 P **P** **06 40 16.2 +0.1**
baz=301,SNR=12
M15K Kasigluk River 76.51 29 P **P** **06 40 16.5 -0.1**
baz=295
C24K Franklin Bluff 76.53 19 P **P** **06 40 16.7 +0.2**
baz=303
L16K Owhat River 76.61 28 P **P** **06 40 17.3 +0.2**
baz=296

F22K John River 76.63 21 P P 06 40 17.5 +0.3
baz=301
K17K Iditarod 76.66 27 IAmb IAmb 06 40 19.6
comp=Z,19nm,0.9s
K17K Iditarod 76.66 27 P P 06 40 17.6 +0.3
baz=297,SNR=13
G21K Allakaket 76.68 22 IAmb IAmb 06 40 18.8
comp=Z,14nm,0.8s
G21K Allakaket 76.68 22 P P 06 40 17.5 +0.1
baz=300,SNR=12
H20K Anotleneega Mo 76.70 24 P P 06 40 18.1 +0.5
baz=299,SNR=5.9
D24K Happy Valley 76.81 19 P P 06 40 18.6 +0.4
baz=303,SNR=6.5
O14K Tigyukauivet M 76.86 31 P P 06 40 18.5 -0.1
baz=295
IMAR Indian Mountai 76.86 23 P P 06 40 19.0 +0.5
TOLK Toolik Lake Re 76.86 20 IAmb IAmb 06 40 20.5
comp=Z,19nm,0.8s
TOLK Toolik Lake Re 76.86 20 P P 06 40 19.1 +0.5
baz=303,SNR=8.6
L17K Donlin 76.92 27 P P 06 40 18.8 0.0
baz=297,SNR=5.4
J18K Innoko River 76.96 26 IAmb IAmb 06 40 20.4
comp=Z,13nm,1.1s
J18K Innoko River 76.96 26 P P 06 40 18.9 -0.1
baz=298,SNR=9.0
N15K Kwethluk River 77.00 30 P P 06 40 19.5 +0.1
baz=296
M16K Timber Creek 77.13 29 P P 06 40 20.5 +0.4
baz=296
J19K Poorman 77.14 25 IAmb IAmb 06 40 21.9
comp=Z,13nm,1.1s
J19K Poorman 77.14 25 P P 06 40 20.3 +0.2
baz=299,SNR=12
G22K Bettles 77.16 22 P P 06 40 20.4 +0.3
baz=302
E23K Chandalar 77.17 20 IAmb IAmb 06 40 22.1
comp=Z,10nm,0.6s
E23K Chandalar 77.17 20 P P 06 40 20.9 +0.7
baz=303,SNR=6.9
I20K Naaghedeneel 77.18 24 IAmb IAmb 06 40 22.4
comp=Z,18nm,1.0s
I20K Naaghedeneel 77.18 24 P P 06 40 21.0 +0.7
baz=299
H21K Melozitna Rive 77.36 23 P P 06 40 21.7 +0.4
baz=301,SNR=41
COLD Coldfoot 77.43 21 P P 06 40 22.2 +0.5
baz=303
D25K Kavik River 77.44 18 P P 06 40 22.4 +0.7
baz=306,SNR=7.6
N16K Nishlik Lake 77.46 29 P P 06 40 22.1 +0.1
baz=297
C26K Camden Bay 77.50 18 P P 06 40 22.6 +0.6
baz=307
E24K Your Creek 77.51 20 P P 06 40 22.7 +0.5
baz=304
MATP Matopo 77.54 241 LR LR 07 13 13.3
comp=Z,75nm,19.6s,baz=74,slow=35
L18K Granite Mounta 77.55 27 P P 06 40 22.9 +0.5
baz=298
O15K Ungalikthiuk R 77.56 30 P P 06 40 22.5 0.0
baz=296
J20K Nowinta River 77.62 25 P P 06 40 23.3 +0.6
baz=300,SNR=5.5
M17K Holitna River 77.62 28 P P 06 40 23.2 +0.4
baz=298
H22K Ishtalitna Cre 77.75 22 P P 06 40 24.2 +0.7
baz=302,SNR=18
G23K Bananza Creek 77.77 21 IAmb IAmb 06 40 25.4
comp=Z,12nm,0.8s
G23K Bananza Creek 77.77 21 P P 06 40 24.1 +0.5
baz=303,SNR=10
I21K Tanana 77.91 23 IAmb IAmb 06 40 26.4
comp=Z,10nm,0.9s
I21K Tanana 77.91 23 P P 06 40 25.0 +0.7
baz=301
S12K Black Hills 77.96 34 P P 06 40 25.4 +0.5
baz=295
C27K Jago River 78.01 18 P P 06 40 25.3 +0.4
baz=308
F24K Squaw Lake 78.02 20 IAmb IAmb 06 40 26.9
comp=Z,12nm,0.8s
F24K Squaw Lake 78.02 20 P P 06 40 25.6 +0.6
baz=305,SNR=6.1
K20K Telida 78.05 25 IAmb IAmb 06 40 27.1
comp=Z,12nm,1.1s
K20K Telida 78.05 25 P P 06 40 25.8 +0.6
baz=300,SNR=6.1
N17K Nushagak Hills 78.14 29 P P 06 40 26.2 +0.6
baz=298
O16K Kokwok River B 78.16 30 P P 06 40 26.3 +0.5
baz=297
M18K Stony River 78.26 27 P P 06 40 26.5 +0.2
baz=299
L19K White Mountain 78.33 27 IAmb IAmb 06 40 28.6
comp=Z,11nm,1.0s
L19K White Mountain 78.33 27 P P 06 40 27.1 +0.3
baz=300,SNR=6.7
E25K Arctic Village 78.38 19 IAmb IAmb 06 40 29.0
comp=Z,19nm,1.4s
E25K Arctic Village 78.38 19 P P 06 40 27.1 +0.2
baz=306
H23K Yukon River 78.42 22 IAmb IAmb 06 40 29.2
comp=Z,10.0nm,0.8s
H23K Yukon River 78.42 22 P P 06 40 28.1 +0.9
baz=303,SNR=9.1
MLY Manley 78.43 23 IAmb IAmb 06 40 29.0
comp=Z,16nm,0.8s
MLY Manley 78.43 23 P P 06 40 27.9 +0.6
baz=302,SNR=26
CHUM Lake Minchumin 78.46 24 P P 06 40 28.1 +0.7
baz=301
P16K Nushagak River 78.47 30 P P 06 40 28.0 +0.5
baz=298
O17K Koliganek Bris 78.53 29 P P 06 40 28.1 +0.3
baz=298
L20K Farewell, AK 78.57 26 P P 06 40 28.3 +0.2
baz=300
BORG Borgarnes 78.58 337 LR LR 07 14 60.0
comp=Z,31nm,21.8s,baz=328,slow=35
G24K Hadweenzic Riv 78.62 21 IAmb IAmb 06 40 30.3
comp=Z,11nm,0.8s
G24K Hadweenzic Riv 78.62 21 P P 06 40 28.9 +0.6
baz=305,SNR=7.8
N18K Kilae Creek 78.62 28 P P 06 40 28.8 +0.4
baz=299
M19K Big River Lodg 78.65 27 P P 06 40 28.6 +0.1
baz=300
F25K Christian Rive 78.67 20 IAmb IAmb 06 40 31.2
comp=Z,20nm,0.8s
F25K Christian Rive 78.67 20 P P 06 40 28.6 0.0
baz=306,SNR=12
CAST Castle Rocks 78.79 25 IAmb IAmb 06 40 31.4
comp=Z,12nm,0.7s
CAST Castle Rocks 78.79 25 P P 06 40 29.7 +0.4
baz=302,SNR=16
BPAW Bear Paw Mtn. 78.84 24 P P 06 40 30.1 +0.5
baz=302,SNR=12
I23K Minto, Yukon-K 78.86 23 P P 06 40 29.8 +0.2
baz=304,SNR=6.0
SDPT Sand Point 78.93 34 P P 06 40 30.1 0.0
baz=296
H24K Noodor Dome 78.98 22 P P 06 40 30.5 +0.2
baz=305,SNR=8.1
D27M Malcolm River 79.00 17 P P 06 40 30.9 +0.5
baz=310
G25K Bearman Lake 79.02 21 P P 06 40 31.5 +1.0
baz=306,SNR=10.0
PPLA Purkeypile 79.03 25 P P 06 40 31.0 +0.3
baz=302
F26K Sheenjek River 79.07 19 IAmb IAmb 06 40 33.6
comp=Z,17nm,0.7s
F26K Sheenjek River 79.07 19 P P 06 40 31.7 +0.9
baz=308,SNR=15
P17K Kvichak River 79.10 30 P P 06 40 31.3 +0.3
baz=299
BMAR Burnt Mountain 79.10 20 P P 06 40 32.7 +1.8
N19K Bonanza Creek 79.16 28 P P 06 40 31.2 -0.2
baz=300
M20K Styx River 79.18 26 P P 06 40 31.4 -0.1
baz=301
Q16K King Salmon 79.25 30 P P 06 40 31.8 +0.1
baz=299
NEA2 Nenana 79.27 23 P P 06 40 31.8 -0.1
baz=304,SNR=9.9
O18K Koktuh Hills 79.33 29 P P 06 40 32.5 +0.2
baz=300

H25L Birch Creek 79.41 21 P P 06 40 33.5 +0.9
baz=307
TRF Thorofare Moun 79.46 24 P P 06 40 33.7 +0.6
baz=303
E27K Coleen River 79.51 18 IAmb IAmb 06 40 35.6
comp=Z,18nm,1.0s
E27K Coleen River 79.51 18 P P 06 40 33.6 +0.5
baz=310,SNR=5.9
CHGN Chignik 79.53 33 P P 06 40 33.5 +0.1
baz=298
COLA College 79.54 23 *de* P P 06 40 33.3 0.0
COLA College 79.54 23 P P 06 40 33.6 +0.4
baz=305
P18K Big Mountain, 79.55 29 P P 06 40 33.5 0.0
baz=300
POKR Poker Plat Res 79.55 22 P P 06 40 34.1 +0.7
POKR Poker Plat Res 79.55 22 P P 06 40 33.8 +0.4
baz=305,SNR=8.1
CHNA Chernabura Isl 79.61 34 P P 06 40 33.9 0.0
baz=297
G26K Porcupine Rive 79.64 20 P P 06 40 34.7 +0.9
baz=308,SNR=29
SKT Skwentna 79.77 26 IAmb IAmb 06 40 35.3
comp=Z,16nm,1.1s
SKT Skwentna 79.77 26 P P 06 40 34.4 -0.2
baz=302,SNR=5.7
MCK McKinley 79.80 24 IAmb IAmb 06 40 36.0
comp=Z,87nm,0.8s
MCK McKinley 79.80 24 P P 06 40 34.6 -0.1
baz=304
E28M Babbage River 79.81 17 IAmb IAmb 06 40 36.7
comp=Z,14nm,0.7s
E28M Babbage River 79.81 17 P P 06 40 35.2 +0.4
baz=312
N20K Mount Spurr 79.91 27 P P 06 40 35.6 +0.1
baz=302
ILAR Eielsen Array 79.94 22 P P 06 40 34.8 -0.7
ILAR Eielsen Array 79.94 22 P P 06 40 34.6 -0.8
comp=Z,5.4nm,0.7s,baz=299,slow=5.0,SNR=54
ILAR PP PP 06 43 37.2 +0.1
comp=Z,0.8nm,0.7s,baz=300,slow=6.8,SNR=6.7
comp=Z,5.4nm,0.7s
ILAR Eielson Array 79.94 22 P P 06 40 34.8 -0.7
PRP Porcupine Dome 79.96 21 IAmb IAmb 06 40 37.5
comp=Z,19nm,0.8s
PRP Porcupine Dome 79.96 21 P P 06 40 35.8 +0.1
baz=307,SNR=22
Q18K Katmai Hardscr 80.02 30 P P 06 40 36.0 -0.1
baz=300
CUT Chulitna 80.04 25 P P 06 40 36.0 0.0
baz=303
HDA Harding Lake 80.13 23 P P 06 40 36.4 -0.1
baz=306
P19K Oil Pt 80.29 28 P P 06 40 37.7 +0.2
baz=301
SUA Susitna One 80.36 26 P P 06 40 38.2 +0.3
baz=303
F28M Old Crow 80.38 18 IAmb IAmb 06 40 39.6
comp=Z,15nm,0.8s
F28M Old Crow 80.38 18 P P 06 40 38.2 +0.4
baz=312,SNR=8.4
G27K Doyon Strip 80.38 19 P P 06 40 38.3 +0.5
baz=310,SNR=6.8
E29M Blow River 80.41 17 IAmb IAmb 06 40 39.8
comp=Z,15nm,1.0s
E29M Blow River 80.41 17 P P 06 40 38.5 +0.6
baz=313
M22K Willow 80.46 26 P P 06 40 38.7 +0.4
baz=304
Q19K Cape Douglas, 80.48 29 P P 06 40 38.5 0.0
baz=301
A36M Sachs Harbour 80.55 12 P P 06 40 38.8 +0.2
baz=324
J25K Salcha River, 80.56 22 P P 06 40 38.3 -0.6
baz=307,SNR=8.9
ESDC Sonseca Array 80.80 309 P P 06 40 40.7 +0.1
ESDC Sonseca Array 80.80 309 P P 06 40 40.7 +0.1
comp=Z,2.0nm,0.9s,baz=62,slow=5.6,SNR=9.8
ESDC LR LR 07 21 54.4
comp=Z,26nm,18.4s,baz=127,slow=40
comp=Z,2.0nm,0.9s
H27K Steamboat Moun 80.80 20 P P 06 40 41.0 +0.9
baz=310,SNR=27
R18K Karluk 80.82 31 P P 06 40 40.3 0.0
baz=301
I26K Coal Creek Min 80.87 21 P P 06 40 40.6 +0.1
baz=309
K24K Donnelly Dome 80.90 23 P P 06 40 40.4 -0.3
baz=307,SNR=21
PMR Palmer 80.94 26 P P 06 40 41.1 +0.3
baz=304
HOM Homer 80.97 28 P P 06 40 40.9 -0.1
baz=303
RC01 Rabbit Creek A 80.98 26 P P 06 40 41.1 0.0
baz=304
I27K Kandik River 81.18 20 P P 06 40 42.8 +0.7
baz=310,SNR=27
Q20K Shuyak Island 81.21 29 P P 06 40 42.6 +0.2
baz=302
J26L Joseph Creek 81.24 22 IAmb IAmb 06 40 43.8
comp=Z,22nm,0.8s
J26L Joseph Creek 81.24 22 P P 06 40 42.8 +0.3
baz=309,SNR=28
RIDG Independent Ri 81.27 23 IAmb IAmb 06 40 43.4
comp=Z,21nm,0.9s
RIDG Independent Ri 81.27 23 P P 06 40 42.3 -0.4
baz=308,SNR=12
KNK Knik Glacier 81.31 26 IAmb IAmb 06 40 44.1
comp=Z,14nm,1.0s
KNK Knik Glacier 81.31 26 P P 06 40 43.1 +0.2
baz=305
O22K Cooper Landing 81.33 27 P P 06 40 43.4 +0.5
baz=304
M23K Glacier View 81.37 25 P P 06 40 43.6 +0.4
baz=306,SNR=5.1
RES Resolute Bay 81.37 2 LR LR 07 18 34.7
comp=Z,44nm,19.1s,baz=1.0,slow=37
G29M Pine Creek 81.39 18 P P 06 40 43.4 +0.2
baz=313
SCRK Sand Creek 81.42 22 IAmb IAmb 06 40 44.9
comp=Z,18nm,1.0s
SCRK Sand Creek 81.42 22 P P 06 40 43.7 +0.1
baz=308,SNR=22
SII Sitkinak Island 81.46 31 P P 06 40 43.5 -0.3
baz=301
SCM Sheep Creek Mo 81.50 25 P P 06 40 44.2 +0.2
baz=306
PAX Paxson 81.52 23 P P 06 40 44.4 +0.4
baz=307,SNR=6.1
F30M Barrier River 81.52 17 IAmb IAmb 06 40 45.7
comp=Z,16nm,0.7s
F30M Barrier River 81.52 17 P P 06 40 44.4 +0.6
baz=315,SNR=5.1
OHAK Old Harbor 81.53 30 P P 06 40 43.8 -0.3
baz=302
KDAK Kodiak Island 81.56 30 LR LR 07 20 04.3
comp=Z,49nm,19.9s,baz=299,slow=38
KDAK Kodik Island 81.56 30 P P 06 40 44.7 +0.5
baz=302
INK Inuvik 81.61 16 P P 06 40 45.0 +0.7
INK pmax pmax
comp=Z,32nm,0.9s
INK Inuvik 81.61 16 P P 06 40 44.7 +0.4
baz=317,SNR=11
PWL Port Wells 81.67 26 P P 06 40 45.0 +0.2
baz=305
H29M Whitestone 81.76 19 P P 06 40 45.6 +0.5
baz=313,SNR=12
M24K Tolsona, Glenn 81.78 24 P P 06 40 45.5 +0.1
baz=307
I28M Miner Creek 81.81 20 IAmb IAmb 06 40 46.9
comp=Z,14nm,0.7s
I28M Miner Creek 81.81 20 P P 06 40 45.9 +0.3
baz=312,SNR=15
G30M tAoh Zrail Nji 81.85 18 P P 06 40 45.9 +0.3
baz=315,SNR=16
HARP HAARP 81.98 24 P P 06 40 47.0 +0.6
baz=308
K27K Chicken 82.04 22 P P 06 40 47.3 +0.7
baz=310
EPYK Eagle Plains 82.14 18 IAmb IAmb 06 40 48.0
comp=Z,14nm,0.9s
EPYK Eagle Plains 82.14 18 P P 06 40 47.5 +0.4
baz=314,SNR=7.0
GLI Glacier Island 82.16 26 P P 06 40 47.8 +0.5
baz=306
F31M Tsiigehtchic 82.19 17 P P 06 40 47.3 0.0
baz=317

LBTB Lobatse 82.20 238 LR LR 07 15 56.4
comp=Z,66nm,18.3s,baz=75,slow=35
KLU Klutina 82.25 25 P P 06 40 48.2 +0.3
baz=307,SNR=10
L26K Log Cabin Wild 82.25 23 P P 06 40 48.4 +0.6
baz=309
I29M Ogilvie Camp, 82.37 20 P P 06 40 48.3 -0.1
baz=313
G31M Satah River 82.43 17 P P 06 40 48.4 -0.2
baz=317,SNR=11
N25K Chitina, Valde 82.68 24 P P 06 40 51.2 +1.1
baz=308,SNR=9.6
L27K Beaver Creek, 82.76 22 P P 06 40 51.9 +1.5
baz=310,SNR=21
BCAR Beaver Creek A 82.77 22 P P 06 40 52.0 +1.5
M26K Nabesna, AK 82.77 23 IAmb IAmb 06 40 53.6
comp=Z,16nm,0.9s
M26K Nabesna, AK 82.77 23 P P 06 40 51.5 +0.9
baz=310,SNR=6.5
EYAK Cordova Ski Ar 82.88 25 P P 06 40 51.9 +0.8
baz=307
DAWY Dawson 82.91 21 P P 06 40 51.7 +0.4
baz=312,SNR=7.0
C36M Paulatuk 82.95 13 P P 06 40 51.3 0.0
baz=326,SNR=6.5
J29N Klondike Camp 83.02 20 P P 06 40 52.4 +0.5
baz=313
I30M Mount Dempster 83.05 19 P P 06 40 52.5 +0.5
baz=315,SNR=28
BMRM Bremner River 83.07 25 P P 06 40 53.0 +0.8
baz=308,SNR=9.9
GLB Gilahina Butte 83.08 24 IAmb IAmb 06 40 53.9
comp=Z,10nm,0.9s
M27K Edge Creek, AK 83.20 23 IAmb IAmb 06 40 55.1
comp=Z,21nm,0.9s
M27K Edge Creek, AK 83.20 23 P P 06 40 54.2 +1.3
baz=310,SNR=11
H31M Peel River 83.22 18 P P 06 40 53.1 +0.3
baz=317,SNR=20
Q23K Middleton Isla 83.32 27 P P 06 40 54.1 +0.8
baz=307
MCARA McCarthy VSAT 83.41 24 P P 06 40 54.1 +0.3
baz=310,SNR=6.0
BVCY Beaver Creek 83.52 23 P P 06 40 55.0 +0.6
baz=311
J30M Hart River 83.52 20 IAmb IAmb 06 40 55.9
comp=Z,8.9nm,0.7s
J30M Hart River 83.52 20 P P 06 40 55.1 +0.7
baz=315,SNR=8.0
K29M Barlow Dome 83.67 20 IAmb IAmb 06 40 56.9
comp=Z,14nm,0.8s
K29M Barlow Dome 83.67 20 P P 06 40 55.8 +0.5
baz=314,SNR=12
CRQE Cirque 83.78 24 P P 06 40 56.1 +0.2
baz=310
KAIM Kayak Island 83.79 26 P P 06 40 56.1 +0.3
baz=309
L29M L29M 83.98 21 IAmb IAmb 06 40 58.7
comp=Z,10nm,1.1s
L29M L29M 83.98 21 P P 06 40 57.7 +1.0
baz=314,SNR=6.1
YUK3 Moose Creek 84.08 23 P P 06 40 58.3 +0.8
baz=312
BGLC Bering Glacier 84.11 25 P P 06 40 58.4 +1.0
baz=310
CTG Chitna Glacier 84.30 24 P P 06 40 59.6 +1.0
baz=311
BOSA Boshof 84.31 235 P P 06 40 59.3 +0.3
comp=Z,3.4nm,0.8s,baz=83,slow=5.1,SNR=4.9
BOSA LR LR 07 14 42.6
comp=Z,84nm,21.5s,baz=40,slow=33
comp=Z,3.4nm,0.8s
M29M Somme Creek 84.32 22 IAmb IAmb 06 41 00.7
comp=Z,9.8nm,0.7s
M29M Somme Creek 84.32 22 P P 06 40 59.7 +1.1
baz=313,SNR=10
MAYO Mayo, Yukon 84.36 20 P P 06 40 59.3 +0.7
baz=316
MESA MESA 84.59 25 P P 06 41 00.9 +0.9
baz=311
M30M Minto, Yukon 84.79 21 P P 06 41 01.5 +0.7
baz=315
O28M Mount Upton 84.85 24 P P 06 41 02.4 +0.9
baz=312
PINM Pinnacle 85.28 24 P P 06 41 04.1 +0.7
baz=312
YUK6 Outpost Mounta 85.39 23 P P 06 41 04.6 +0.4
baz=314
SFJD Kangerlussuaq 85.46 347 LR LR 07 24 32.7
comp=Z,54nm,18.0s,baz=89,slow=39
N30M Aishikik Lake 85.48 22 IAmb IAmb 06 41 06.8
comp=Z,14nm,0.9s
N30M Aishikik Lake 85.48 22 P P 06 41 05.3 +1.0
baz=315,SNR=6.2
O29M Mount Kennedy 85.76 23 P P 06 41 06.3 +0.5
baz=313
HYT Haines Junctio 85.78 23 P P 06 41 07.0 +1.1
baz=314
M31M Drury Creek, Y 85.84 21 P P 06 41 06.7 +0.6
baz=317
PNL Peninsula 85.89 24 P P 06 41 06.7 +0.3
baz=313
N31M Braeburn, Yuko 85.90 22 P P 06 41 07.5 +1.0
baz=316,SNR=6.0
P30M Million Dollar 86.46 23 P P 06 41 10.2 +0.9
baz=315
MMPY Sheldon Lake, 86.50 19 IAmb IAmb 06 41 11.4
comp=Z,12nm,0.8s
MMPY Sheldon Lake, 86.50 19 P P 06 41 10.3 +1.0
baz=320,SNR=14
P29M Windy Craggy 86.53 24 P P 06 41 09.6 +0.1
baz=314
TORD Torodi Ar. Bea 86.78 283 P P 06 41 12.2 +0.6
comp=Z,2.5nm,1.0s,baz=44,slow=7.6,SNR=10
comp=Z,2.5nm,1.0s
WHY Whitehorse 86.80 22 P P 06 41 11.2 +0.3
baz=316
N32M Quiet Lake 87.04 21 P P 06 41 12.6 +0.6
baz=318
PLBC Pleasant Camp 87.15 23 P P 06 41 12.8 +0.3
baz=315
SKAG Skagway 87.52 23 P P 06 41 14.8 +0.5
baz=316
P33M Teslin, Yukon 87.83 21 P P 06 41 16.0 +0.1
baz=318
P32M Atlin 87.98 22 P P 06 41 16.9 +0.3
baz=318
TGTN Hyland Airport 88.24 19 P P 06 41 18.1 +0.3
baz=322
S31K Pelican 88.26 24 P P 06 41 18.3 +0.5
baz=316
R32K Eaglecrest 88.67 23 P P 06 41 20.0 +0.3
baz=317
Q32M Nakina River 88.95 22 P P 06 41 21.6 +0.2
baz=319
R33M Jennings River 89.06 21 P P 06 41 22.4 +0.6
baz=320
WTLY Watson Lake, Y 89.20 20 P P 06 41 23.0 +0.8
baz=322
SIT Sitka 89.25 24 P P 06 41 23.1 +0.6
baz=316
DLBC Dease Lake 90.11 21 LR LR 07 24 24.0
comp=Z,49nm,18.8s,baz=32,slow=37
DLBC Dease Lake 90.11 21 P P 06 41 26.6 0.0
baz=321
S34M Telegraph Cree 90.14 22 P P 06 41 26.7 +0.1
baz=320
LIRD Liard River Hi 90.58 19 P P 06 41 28.8 +0.1
baz=324
U33K Whale Pass 90.78 24 P P 06 41 29.7 +0.1
baz=318
YKA Yellowknife Ar 90.83 13 P P 06 41 29.6 -0.1
comp=Z,1.6nm,0.7s,baz=323,slow=5.4,SNR=4.2
comp=Z,1.6nm,0.7s
WRAK Wrangell Islan 90.84 24 P P 06 41 30.9 +1.0
baz=319
T35M Bob Quinn 91.16 22 P P 06 41 31.8 +0.3
baz=320
TOAD Toad River Com 91.30 19 P P 06 41 32.1 0.0
baz=325
V35K Ketchikan 91.93 24 P P 06 41 35.3 +0.3
baz=319
PDAR Pinedale Array 110.10 18 PKiKP PKiKP 06 46 57.9 -0.7
comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=6.3
M65A Busby, Falmout 113.22 347 P PKiKP 06 47 03.8 -0.3
baz=15
ANMO Albuquerque 118.25 19 PKPdf 06 47 14.1 -0.2
ANMO Albuquerque 118.25 19 PKIKP PKPdf 06 47 14.1 -0.2

PPT2	**Papeete2**	**120.67**	**97**	*e*LR	LR	07 24 26.6	
	comp=Z,58nm,23.0s						
PPT2				*e*LR	LR	07 24 27.5	
	comp=Z,109nm,30.0s						
BRDY	**Brady**	**123.63**	**13**		**PKPdf**	**06 47 24.2**	**-0.3**
TXAR	**Lajitas Array**	**124.32**	**19**		**PKiKP**	**06 47 26.4**	**+0.1**
TXAR	**Lajitas Array**	**124.32**	**19**	PKP	**PKiKP**	**06 47 26.2**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=187,slow=0.4,SNR=26						
TXAR				PP	**PP**	**06 49 11.5**	**+1.1**
	comp=Z,0.1nm,0.7s,baz=331,slow=7.4,SNR=3.8						
TXAR	**Lajitas Array**	**124.32**	**19**	PKIKP	**PKiKP**	**06 47 26.4**	**+0.1**
RKT	**Rikitea**	**135.32**	**99**	*e*LR	LR	07 31 21.9	
	comp=Z,3µm,37.8s						
BDFB	**Brasilia**	**143.37**	**276**	PKP	**PKPdf**	**06 48 00.6**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=68,slow=7.4,SNR=3.3						
ROSC	**El Rosal**	**149.13**	**337**	PKPbc	**PKiKP**	**06 48 17.2**	**-0.2**
	comp=Z,20nm,0.7s,baz=74,slow=2.2,SNR=14						
CPUP	**Villa Florida**	**153.94**	**259**	PKPbc	**PKPbc**	**06 48 25.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=82,slow=8.7,SNR=1.9						
CPUP				PKPab	**PKPab**	**06 48 39.0**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=112,slow=5.4,SNR=3.8						
LPAZ	**La Paz**	**161.53**	**291**	PKP	**PKPdf**	**06 48 28.5**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=22,slow=8.9,SNR=2.6						
LPAZ				PKPab	**PKPab**	**06 49 12.5**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=152,slow=0.6,SNR=4.5						

IDC ***18*** *06:47:09.2±1.5, 10°.50S×118°.77E, h0km, mb4.1/3, mbtmp3.9/8, ML3.7/5, Error ellipse: s-maj=52.9km s-min=19.9km az=50.0*

DJA ***18*** *06:47:16.6±1.2, 10°.5±.9°×11°.9E±°, h17km±8km, M3.9/6, MLv3.9/6*

ISC 18 06:47:14.5±0.8, 10°.49S±0°.07×119°.08E±0°.05, h41km, n16, σ2.9 47/22, mb4.2/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.90**	**20**	P	**Pn**	**06 47 28.6**	**-2.1**
WSI	**Waingapu**	**1.45**	**56**	P	**Pn**	**06 47 39.5**	**+1.3**
BASI	**Baing, Sumba**	**1.50**	**80**	P	**Pn**	**06 47 40.8**	**+2.0**
PLAI	**Plampang**	**2.10**	**322**	P	**Pn**	**06 47 47.4**	**+0.3**
PLAI				S	**Sn**	**06 48 12.0**	**0.0**
TWSI	**Taliwang, Sumb**	**2.78**	**309**	P	**Pn**	**06 47 58.1**	**+1.6**
TWSI				S	**Sn**	**06 48 30.8**	**+1.9**
EDFI	**Ende, Flores**	**3.10**	**56**	P	**Pn**	**06 48 01.3**	**+0.3**
BATI	**Baumata**	**4.52**	**87**	Pn	**Pn**	**06 48 23.0**	**+2.6**
	7.1nm,0.3s,baz=229,slow=20,SNR=2.1						
BATI				Sn	**Sn**	**06 49 14.2**	**+2.4**
	6.5nm,0.3s,baz=322,slow=19,SNR=1.8						
	24nm,0.4s						
BKSI	**Bulukumba**	**5.24**	**11**	P	**Pn**	**06 48 31.6**	**+1.3**
KAPI	**Kappang**	**5.48**	**7**	Pn	**Pn**	**06 48 34.6**	**+0.9**
	2.4nm,0.3s,baz=173,slow=14,SNR=4.8						
KAPI				Sn	**Sn**	**06 49 34.2**	**-1.3**
	5.6nm,0.3s,baz=192,slow=20,SNR=7.2						
	4.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**9.88**	**141**	Pn	**Pn**	**06 49 35.8**	**+1.9**
	0.4nm,0.3s,baz=325,slow=12,SNR=10.0						
FITZ				Sn	**Sn**	**06 51 19.2**	**-4.3**
	1.1nm,0.3s,baz=279,slow=19,SNR=16						
	2.8nm,0.7s						
WRA	**Warramunga Arr**	**17.45**	**124**	P	**Pn**	**06 51 15.9**	**+1.0**
	0.2nm,0.3s,baz=297,slow=14,SNR=13						
WRA				S	**Sn**	**06 54 21.2**	**-7.2**
	0.2nm,0.4s,baz=356,slow=30,SNR=5.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**19.27**	**135**	P	**Pn**	**06 51 39.3**	**+2.1**
	0.1nm,0.3s,baz=316,slow=11,SNR=12						
ASAR				S	S	06 55 01.7	-10
	0.5nm,0.7s,baz=316,slow=26,SNR=4.3						
	0.6nm,0.7s						
NWAO	**Narrogin (SRO)**	**22.39**	**184**	S	**S**	**06 56 11.3**	**-1.6**
	29nm,1.3s,baz=153,slow=16,SNR=2.1						
SONM	**Songino Array**	**59.15**	**350**	P	**P**	**06 57 11.2**	**+0.1**
	0.8nm,0.4s,baz=175,slow=8.1,SNR=3.6						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**65.81**	**333**	P	**P**	**06 57 55.9**	**+0.3**
	1.1nm,0.5s,baz=146,slow=7.4,SNR=11						
	1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**70.45**	**339**	P	**P**	**06 58 23.8**	**-0.6**
	1.4nm,0.6s,baz=131,slow=6.1,SNR=5.4						
	1.4nm,0.6s						

NEIC ***18*** *07:06:43.2±1.5, 11°.28S±0°.05×123°.89E±0°.06, h10km±1km, mb4.8/28, Error ellipse: s-maj=10.5km s-min=7.9km az=114.0*

DJA ***18*** *07:06:44.6±1.2, 11°.5±.2°×12°.4E±°, h13km±9km, M4.9/55, mb5.1/55, mB5.3/19, MLv5.5/13, Mw(mB)4.8/19*

IDC ***18*** *07:06:47.8±0.7, 11°.33S×123°.73E, h45km±5km, mb4.0/14, mbtmp4.3/16, ML4.8/3, MS3.7/24, Error ellipse: s-maj=20.8km s-min=8.1km az=84.0*

ISC 18 07:06:46.2±0.3, 11°.39S±0°.04×123°.95E±0°.05, h35km, n195, σ1.9 63/180, mb4.6/33, MS3.8/20, 2D, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**1.21**	**346**	P	**Pn**	**07 07 07.4**	**+0.7**
	12µm,0.5s,baz=134,slow=1.7,SNR=984						
BATI				S	**Sn**	**07 07 22.5**	**+0.6**
	8µm,0.3s,baz=178,slow=20,SNR=7.6						
BATI	**Baumata**	**1.21**	**346**	P	**Pn**	**07 07 07.3**	**+0.6**
BATI				S	**Sn**	**07 07 22.4**	**+0.6**
SOEI	**Soe**	**1.65**	**11**		**Pn**	**07 07 13.5**	**+0.6**
SOEI	**Soe**	**1.65**	**11**	P	**Pn**	**07 07 14.2**	**+1.3**
SOEI	**Soe**	**1.65**	**11**	P	**Pn**	**07 07 13.4**	**+0.6**
MMRI	**Maumere**	**3.21**	**328**		**Pn**	**07 07 34.3**	**0.0**
MMRI	**Maumere**	**3.21**	**328**	P	**Pn**	**07 07 35.2**	**+1.0**
MMRI	**Maumere**	**3.21**	**328**	S	**Sn**	**07 08 12.3**	**+1.0**
MMRI	**Maumere**	**3.21**	**328**	P	**Pn**	**07 07 34.3**	**0.0**
EDFI	**Ende, Flores**	**3.44**	**319**	P	**Pn**	**07 07 36.5**	**-0.9**
BASI	**Baing, Sumba**	**3.51**	**289**	P	**Pn**	**07 07 39.4**	**+1.1**
WSI	**Waingapu**	**3.98**	**295**	P	**Pn**	**07 07 45.4**	**+0.7**
WBSI	**Waikabubak, Su**	**4.81**	**291**	P	**Pn**	**07 07 56.4**	**+0.2**
BSSI	**Bau Bau, Buton**	**6.23**	**326**	P	**Pn**	**07 08 14.8**	**-1.0**
	1.0nm3µm296nm,0.8s						
KNRA	**Kununurra**	**6.33**	**133**		**Pn**	**07 08 19.3**	**+2.2**
KNRA	**Kununurra**	**6.33**	**133**	P	**Pn**	**07 08 18.5**	**+1.4**
KNRA				S	**Sn**	**07 09 26.6**	**-1.7**
PLAI	**Plampang**	**6.59**	**292**	P	**Pn**	**07 08 21.3**	**+0.6**
PLAI	**Plampang**	**6.59**	**292**	P	**Pn**	**07 08 20.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**6.87**	**166**	Pn	**Pn**	**07 08 25.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**6.87**	**166**	P	**Pn**	**07 08 25.7**	**+1.2**
	38nm,0.3s,baz=358,slow=11,SNR=473						
FITZ				S	**Sn**	**07 09 40.2**	**-1.2**
	537nm,0.4s,baz=173,slow=12,SNR=18						
DRS	**Darwin Rock St**	**6.88**	**99**	P	**Pn**	**07 08 25.1**	**+0.5**
BKSI	**Bulukumba**	**7.12**	**328**	P	**Pn**	**07 08 27.9**	**0.0**
	0.5nm1µm163nm,0.7s						
MTN	**Manton Dam**	**7.17**	**102**		**Pn**	**07 08 28.9**	**+0.3**
MTN	**Manton Dam**	**7.17**	**102**	P	**Pn**	**07 08 28.6**	**-0.1**
MTN	**Manton Dam**	**7.17**	**102**	S	**Sn**	**07 09 45.9**	**-3.0**
MTN	**Manton Dam**	**7.17**	**102**	P	**Pn**	**07 08 28.9**	**+0.3**
TWSI	**Taliwang, Sumb**	**7.44**	**290**	P	**Pn**	**07 08 32.4**	**0.0**
KAPI	**Kappang**	**7.57**	**326**		**Pn**	**07 08 34.6**	**+0.4**
KAPI	**Kappang**	**7.57**	**326**	P	**Pn**	**07 08 32.8**	**-1.3**
	5.7nm,0.3s,baz=147,slow=9.6,SNR=18						
KAPI				LR	LR	07 12 03.2	
	comp=Z,364nm,19.0s,baz=156,slow=43						
	50nm,0.9s						
KAPI	**Kappang**	**7.57**	**326**	P	**Pn**	**07 08 35.8**	**+1.6**
BNSI	**Bone**	**7.92**	**331**	P	**Pn**	**07 08 39.6**	**+0.7**
	0.4nm2µm97nm,0.8s						
KDU	**Kakadu**	**8.44**	**100**	P	**Pn**	**07 08 45.7**	**-0.3**
	comp=Z,85nm,0.4s						
KDU	**Kakadu**	**8.44**	**100**	P	**Pn**	**07 08 46.4**	**+0.4**
SPSI	**Sidrap Palu**	**8.46**	**330**	P	**Pn**	**07 08 46.8**	**+0.5**
	comp=Z,3µmcomp=Z,43nm,0.9s						
NLAI	**Namlea**	**8.68**	**21**	P	**Pn**	**07 08 50.6**	**+1.3**
	comp=Z,73nm,0.7s						
SRBI	**Singaraja**	**9.22**	**290**	P	**Pn**	**07 08 56.3**	**-0.4**
	comp=Z,85nm,0.9s						
TTSI	**Tana Toraja**	**9.24**	**333**	P	**Pn**	**07 08 57.9**	**+0.8**
	comp=Z,68nm,0.9s						
SANI	**Sanana**	**9.49**	**12**	P	**Pn**	**07 09 03.2**	**+2.6**
SANI	**Sanana**	**9.49**	**12**	P	**Pn**	**07 09 02.7**	**+2.1**
	comp=Z,652nmcomp=Z,58nm,0.6s						
JAGI	**Jajag, Banyuwa**	**10.08**	**286**		**Pn**	**07 09 06.1**	**-2.5**
JAGI	**Jajag, Banyuwa**	**10.08**	**286**	P	**Pn**	**07 09 06.8**	**-1.8**
JAGI	**Jajag, Banyuwa**	**10.08**	**286**	P	**Pn**	**07 09 05.7**	**-2.9**
MBWA	**Marble Bar**	**10.53**	**202**		**Pn**	**07 09 16.1**	**+1.5**
MBWA	**Marble Bar**	**10.53**	**202**	P	**Pn**	**07 09 15.1**	**+0.5**
	comp=Z,59nm,0.8s						
MBWA	**Marble Bar**	**10.53**	**202**	P	**Pn**	**07 09 16.3**	**+1.6**

APSI	**Ampana**	**10.66**	**347**	P	**Pn**	**07 09 17.4**	**+0.9**
	comp=Z,1µmcomp=Z,80nm,0.9s						
GMJI	**Gumukmas**	**10.80**	**286**	P	**Pn**	**07 09 16.7**	**-1.8**
	comp=Z,68nm,0.9s						
PSA00	**Pilbara Seismi**	**10.86**	**201**		**Pn**	**07 09 20.3**	**+1.0**
PSA00	**Pilbara Seismi**	**10.86**	**201**		**Pn**	**07 09 20.0**	**+0.7**
PSA00	**Pilbara Seismi**	**10.86**	**201**	P	**Pn**	**07 09 20.0**	**+0.7**
	comp=Z,74nm,0.8s						
PSA00	**Pilbara Seismi**	**10.86**	**201**	P	**Pn**	**07 09 20.5**	**+1.2**
FAKI	**Fak Fak**	**11.77**	**45**	Pn	**Pn**	**07 09 29.5**	**-2.2**
FAKI	**Fak Fak**	**11.77**	**45**	P	**Pn**	**07 09 29.3**	**-2.4**
	comp=Z,33nm,0.6s						
KMPI	**Kaimana, Papua**	**12.34**	**52**	P	**Pn**	**07 09 39.3**	**-0.2**
SWI	**Sorong**	**12.73**	**35**	P	**Pn**	**07 09 45.2**	**+0.4**
	comp=Z,672nmcomp=Z,52nm,0.8s						
TOLI2	**Tolitoli**	**12.81**	**346**	Pn	**Pn**	**07 09 43.0**	**-3.0**
TOLI2	**Tolitoli**	**12.81**	**346**	P	**Pn**	**07 09 46.7**	**+0.7**
NGJI	**Ngawi**	**12.95**	**287**	P	**Pn**	**07 09 48.9**	**+1.0**
	comp=Z,66nm,0.7s						
PCJI	**Pacitan**	**12.98**	**283**	P	**Pn**	**07 09 47.1**	**-1.2**
	comp=Z,119nm,0.8s						
WB0	**Warramunga Arr**	**13.06**	**131**	Pn	**Pn**	**07 09 47.3**	**-2.0**
WRA	**Warramunga Arr**	**13.12**	**132**	Pn	**Pn**	**07 09 48.1**	**-2.2**
WRA	**Warramunga Arr**	**13.12**	**132**	P	**Pn**	**07 09 48.7**	**-1.6**
	comp=Z,54nm,0.4s,baz=309,slow=15,SNR=539						
WRA				S	Sn	07 12 07.1	-8.0
	comp=Z,92nm,0.6s,baz=304,slow=24,SNR=14						
WRA				LR	LR	07 15 36.6	
	comp=Z,713nm,18.9s,baz=325,slow=40						
WRAB	**Tennant Creek**	**13.13**	**132**	Pn	**Pn**	**07 09 48.6**	**-1.6**
WB2	**Warramunga Arr**	**13.13**	**132**	P	**Pn**	**07 09 47.8**	**-2.6**
WB1	**Warramunga Ar.**	**13.14**	**132**	P	**Pn**	**07 09 48.9**	**-1.6**
WR8	**Warramunga Arr**	**13.25**	**131**		**Pn**	**07 09 49.8**	**-2.2**
WOJI	**Wonogiri, Jawa**	**13.32**	**284**	P	**Pn**	**07 09 52.0**	**-0.9**
	comp=Z,128nm,1.7s						
UGM	**Wanagama**	**13.68**	**283**	Pn	**Pn**	**07 09 56.0**	**-1.8**
UGM	**Wanagama**	**13.68**	**283**	P	**Pn**	**07 09 56.3**	**-1.6**
SMRI	**Semarang**	**14.01**	**287**	P	**Pn**	**07 10 02.6**	**+0.2**
	comp=Z,91nm,0.8s						
RKPI	**Ransiki, Papua**	**14.12**	**47**	P	**Pn**	**07 10 05.7**	**+1.9**
GIRL	**Giralia**	**14.54**	**218**	Pn	**Pn**	**07 10 10.4**	**+0.9**
KPJI	**Karang Pucung**	**15.36**	**284**	P	**Pn**	**07 10 18.8**	**-1.6**
	comp=Z,61nm,0.9s						
AS31	**Alice Springs**	**15.46**	**144**		**Pn**	**07 10 20.9**	**-0.8**
AS31				IAmb	IAmb	07 10 23.8	
	comp=Z,30nm,0.5s						
AS31	**Alice Springs**	**15.46**	**144**	P	**Pn**	**07 10 20.4**	**-1.4**
ASAR	**Alice Springs**	**15.46**	**144**		**Pn**	**07 10 21.5**	**-0.3**
ASAR	**Alice Springs**	**15.46**	**144**	P	**Pn**	**07 10 20.8**	**-1.0**
	comp=Z,50nm,0.4s,baz=318,slow=12,SNR=388						
ASAR				S	**Sn**	**07 13 05.9**	**-6.0**
	comp=Z,31nm,0.5s,baz=319,slow=24,SNR=7.3						
ASAR				LR	LR	07 16 50.2	
	comp=Z,569nm,18.6s,baz=296,slow=38						
AS01	**Alice Springs**	**15.48**	**143**	P	**Pn**	**07 10 21.1**	**-1.0**
BAKI	**Biak**	**15.76**	**51**	P	**Pn**	**07 10 26.4**	**+0.8**
	comp=Z,1µmcomp=Z,94nm,0.9s						
MEEK	**Meekatharra**	**15.98**	**198**	P	**Pn**	**07 10 28.6**	**0.0**
	comp=Z,67nm,0.7s						
MEEK	**Meekatharra**	**15.98**	**198**	P	**Pn**	**07 10 28.7**	**+0.2**
BBJI	**Bungbulang**	**16.55**	**282**	P	**Pn**	**07 10 34.8**	**-1.0**
LEM	**Lembang**	**16.75**	**284**	P	**Pn**	**07 10 38.9**	**+0.5**
	comp=Z,78nm,0.8s						
STKI	**Sintang**	**16.82**	**312**	P	**P**	**07 10 40.8**	**-0.3**
	comp=Z,110nm,1.5s						
MYLDM	**Lahad Datu**	**17.33**	**341**	P	**Pn**	**07 10 45.0**	**-0.6**
MYLDM	**Lahad Datu**	**17.33**	**341**	P	**P**	**07 10 46.9**	**+0.3**
SMPI	**Sarmi**	**17.37**	**59**	P	**P**	**07 10 48.3**	**+1.2**
	comp=Z,54nm,1.3s						
QIS	**Mount Isa**	**17.58**	**123**	P	**Pn**	**07 10 46.0**	**-2.7**
QIS	**Mount Isa**	**17.58**	**123**	P	**Pn**	**07 10 47.7**	**-1.0**
DBJI	**Dramaga**	**17.65**	**284**	P	**P**	**07 10 50.7**	**+0.5**
	comp=Z,144nm,0.8s						
SBUM	**Sibu**	**18.03**	**319**	P	**Pn**	**07 10 52.2**	**-2.0**
SBUM	**Sibu**	**18.03**	**319**	P	**P**	**07 10 56.1**	**+1.7**
GENI	**Genyem**	**18.30**	**63**	P	**Pn**	**07 10 58.9**	**+1.4**
GENI	**Genyem**	**18.30**	**63**	P	**Pn**	**07 10 59.0**	**+1.4**
	comp=Z,64nm,1.1s						
DAV	**Davao City (W)**	**18.41**	**5**	LR	LR	07 18 12.0	
	comp=Z,107nm,21.5s,baz=154,slow=37						
KSM	**Kuching**	**18.63**	**312**	P	**P**	**07 10 59.2**	**-1.9**
KSM				IAmb	IAmb	07 11 03.0	
	comp=Z,61nm,1.1s						
KSM	**Kuching**	**18.63**	**312**	P	**P**	**07 11 00.2**	**-0.8**
CGJI	**Cibinong**	**18.64**	**283**	P	**P**	**07 11 01.2**	**+0.1**
	comp=Z,83nm,0.7s						
JAY	**Jayapura**	**18.81**	**63**	P	**Pn**	**07 11 04.7**	**+1.0**
	comp=Z,12nm,0.3s,baz=215,slow=9.5,SNR=5.3						
	comp=Z,14nm,0.9s						
JAY	**Jayapura**	**18.81**	**63**	P	**Pn**	**07 11 05.1**	**+1.4**
COEN	**Coen**	**18.93**	**100**	P	**P**	**07 11 04.5**	**+0.2**
COEN				IAmb	IAmb	07 11 07.4	
	comp=Z,21nm,0.5s						
COEN	**Coen**	**18.93**	**100**	P	**P**	**07 11 04.4**	**+0.1**
	comp=Z,32nm,0.5s						
COEN	**Coen**	**18.93**	**100**	P	**Pn**	**07 11 05.7**	**+0.6**
KKM	**Kota Kinabalu**	**18.95**	**336**	P	**P**	**07 11 02.6**	**-2.0**
KKM				IAmb	IAmb	07 11 05.5	
	comp=Z,34nm,0.8s						
KKM	**Kota Kinabalu**	**18.95**	**336**	P	**P**	**07 11 04.2**	**-0.4**
MORW	**Morawa**	**19.08**	**202**	P	**Pn**	**07 11 08.4**	**+1.6**
MORW	**Morawa**	**19.08**	**202**	P	**Pn**	**07 11 08.4**	**+1.6**
	comp=Z,48nm,0.9s						
MORW	**Morawa**	**19.08**	**202**	P	**Pn**	**07 11 08.7**	**+1.9**
KASI	**Kota Agung**	**20.10**	**285**	P	**P**	**07 11 17.3**	**+0.2**
	comp=Z,924nmcomp=Z,86nm,0.5s						
MDSI	**Maura Dua**	**20.74**	**288**	P	**P**	**07 11 24.4**	**+0.4**
MTSU	**Mount Surprise**	**20.79**	**111**	P	Pn	07 11 27.5	+0.3
MTSU	**Mount Surprise**	**20.79**	**111**	P	Pn	07 11 27.9	+0.7
KLBR	**Kellerberrin**	**20.91**	**195**	P	**P**	**07 11 27.1**	**+1.4**
	comp=Z,102nm,0.8s						
KLBR	**Kellerberrin**	**20.91**	**195**	P	Pn	07 11 28.8	+0.4
MNAI	**Manna**	**21.93**	**287**	P	**P**	**07 11 35.4**	**-1.4**
MNAI	**Manna**	**21.93**	**287**	P	**P**	**07 11 36.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**22.31**	**195**	P	**P**	**07 11 42.5**	**+1.8**
NWAO				IAmb	IAmb	07 11 59.3	
	comp=Z,73nm,1.4s						
NWAO	**Narrogin (SRO)**	**22.31**	**195**	P	**P**	**07 11 43.0**	**+2.2**
	comp=Z,7.4nm,0.6s,baz=22,slow=8.2,SNR=6.0						
NWAO				S	**S**	**07 15 39.0**	**-5.1**
	comp=Z,52nm,1.0s,baz=118,slow=16,SNR=5.9						
NWAO				LR	LR	07 21 34.9	
	comp=Z,265nm,21.1s,baz=284,slow=40						
	comp=Z,7.4nm,0.6s						
PMG	**Port Moresby**	**22.91**	**87**	P	**P**	**07 11 50.2**	**+2.9**
	comp=Z,6.0nm,0.8s,baz=272,slow=9.5,SNR=3.9						
PMG				LR	LR	07 22 04.0	
	comp=Z,304nm,18.5s,baz=280,slow=40						
	comp=Z,6.0nm,0.8s						
CTAO	**Charters Tower**	**23.12**	**115**	P	**P**	**07 11 49.7**	**+0.2**
CTAO				IAmb	IAmb	07 11 53.3	
	comp=Z,62nm,1.6s						
CTAO	**Charters Tower**	**23.12**	**115**	P	**P**	**07 11 52.1**	**+2.7**
BBOO	**Buckleboo**	**24.05**	**154**	P	**P**	**07 11 59.9**	**+1.7**
BBOO	**Buckleboo**	**24.05**	**154**	P	**P**	**07 12 01.1**	**+2.9**
QLP	**Quilpie**	**24.36**	**131**	P	**P**	**07 12 03.7**	**+2.6**
WHYH	**Whyalla**	**24.91**	**152**	P	**P**	**07 12 09.2**	**+3.2**
HTT	**Hallett**	**25.88**	**150**	P	**P**	**07 12 17.8**	**+2.9**
STKA	**Stephens Creek**	**26.09**	**144**	P	**P**	**07 12 19.9**	**+3.1**
STKA	**Stephens Creek**	**26.09**	**144**	P	**P**	**07 12 19.9**	**+3.1**
	comp=Z,4.7nm,0.4s,baz=315,slow=10,SNR=17						
STKA				LR	LR	07 23 07.9	
	comp=Z,232nm,19.5s,baz=261,slow=37						
	comp=Z,4.7nm,0.4s						
STKA	**Stephens Creek**	**26.09**	**144**	P	**P**	**07 12 19.7**	**+2.9**
CMSA	**Cobar Meteorol**	**28.38**	**138**	P	**P**	**07 12 40.5**	**+3.2**
RPSI	**Rantau Prapat**	**28.55**	**298**	P	**P**	**07 12 38.6**	**-0.4**
PSI	**Prapat**	**28.61**	**298**	LR	LR	07 26 54.2	
	comp=Z,215nm,18.6s,baz=132,slow=43						
GSI	**Gunungsitoli**	**29.09**	**294**	P	**P**	**07 12 41.9**	**-1.9**
GSI				IAmb	IAmb	07 13 34.1	
	comp=Z,33nm,1.3s						
GUMO	**Guam**	**32.35**	**40**	LR	LR	07 24 47.4	
	comp=Z,26nm,21.2s,baz=148,slow=33						
HNR	**Honiara**	**35.44**	**90**	LR	LR	07 28 44.8	
	comp=Z,106nm,19.8s,baz=186,slow=37						
YHNB	**Yeheng**	**35.93**	**356**	P	**P**	**07 13 40.9**	**-2.6**
SLVN	**Son La**	**38.02**	**329**	P	**P**	**07 13 59.5**	**-1.8**
JOW	**Kunigami**	**38.22**	**6**	LR	LR	07 29 57.0	
	comp=Z,30nm,20.4s,baz=295,slow=36						
CMAR	**Chiang Mai Arr**	**38.58**	**320**	P	**P**	**07 14 04.1**	**-1.9**
CMAR	**Chiang Mai Arr**	**38.58**	**320**	P	**P**	**07 14 05.2**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=145,slow=6.6,SNR=12						
CMAR				pP	**pP**	**07 14 17.0**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=143,slow=7.1,SNR=4.0						

CMAR				LR	LR	07 33 14.1	
	comp=Z,58nm,18.4s,baz=140,slow=41						
	comp=Z,1.7nm,0.3s						
CHTO	**Chiang Mai**	**38.84**	**320**	P	**P**	**07 14 05.8**	**-2.5**
KMI	**Kunming**	**41.77**	**331**	P	**P**	**07 14 33.6**	**+0.9**
KMI				pmax	pmax		
	comp=Z,19nm,0.7s						
DZM	**Mont Dzumac**	**41.93**	**110**	LR	LR	07 31 46.4	
	comp=Z,286nm,18.9s,baz=293,slow=36						
PZH	**PanZhiHua**	**43.41**	**330**	P	**P**	**07 14 42.6**	**-3.3**
NJ2	**Nanjing**	**43.47**	**354**	*e*P	**P**	**07 14 46.5**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
JNU	**Nakatsue**	**44.75**	**8**	LR	LR	07 32 20.4	
	comp=Z,29nm,20.7s,baz=196,slow=34						
CD2	**Chengdu**	**46.31**	**336**	P	**P**	**07 15 07.5**	**-1.3**
CD2				pP	pP	07 15 12.8	-6.1
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
PALK	**Pallekele**	**46.85**	**291**	LR	LR	07 34 50.6	
	comp=Z,65nm,21.7s,baz=117,slow=36						
XAN	**Xi'an**	**47.38**	**343**	P	**P**	**07 15 15.8**	**-1.3**
XAN				pmax	pmax		
	comp=Z,19nm,1.1s						
KSRS	**Korea Array**	**48.73**	**4**	P	**P**	**07 15 26.4**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=184,slow=10.0,SNR=5.4						
	comp=Z,0.7nm,0.6s						
HNS	**HongShan**	**49.30**	**350**	*e*P	**P**	**07 15 32.0**	**+0.3**
MJAR	**Matsushiro Arr**	**49.53**	**15**	P	**P**	**07 15 32.2**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=182,slow=9.4,SNR=4.2						
	comp=Z,0.9nm,0.6s						
H08S2	**Diego Garcia H**	**50.84**	**269**	T	T	08 10 56.8	
	baz=98,slow=76,SNR=4.2						
H08S3	**Diego Garcia H**	**50.85**	**269**	T	T	08 10 57.8	
	baz=98,slow=76,SNR=24						
H08S1	**Diego Garcia H**	**50.85**	**269**	T	T	08 10 58.1	
	baz=98,slow=76,SNR=16						
LZH	**Lanzhou**	**50.89**	**339**	*e*P	**P**	**07 15 44.4**	**+0.3**
LZH				sP	pP	07 15 52.3	-2.1
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC	**Hu-ho-hao-te**	**53.22**	**348**	*e*P	**P**	**07 16 04.4**	**+3.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
BTO	**Baotou**	**53.31**	**347**	*e*P	**P**	**07 16 05.3**	**+3.3**
BTO				PP	**PP**	**07 17 59.3**	**-3.3**
BTO				S	S	07 23 41.0	+10
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,140nm,3.8s						
BTO				LR	LR		
	comp=N,180nm,6.3s						
BTO				LR	LR		
	comp=E,87nm,8.5s						
BTO				LR	LR		
	comp=Z,170nm,6.6s						
URZ	**Urewera**	**54.28**	**129**	LR	LR	07 39 18.5	
	comp=Z,193nm,20.5s,baz=296,slow=36						
GOMU	**GeErMu**	**54.73**	**331**	P	**P**	**07 16 11.0**	**-1.7**
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA	**

SMKR			eS	Sb	07 19 12.4	-0.9	
SRKR	**Sorokina**	**2.04 292**	eS	Sn	07 19 15.4	+0.2	
ZLN	**Zelenaya**	**2.12 274**	eP	Pb	07 18 54.1	-0.9	
MKZ	**Mys Kozlova**	**2.13 231**	eP	Pb	07 18 53.8	-1.2	
MKZ			eS	Sb	07 19 19.7	-1.3	
CIRR	**Tsirk**	**2.16 277**	eP	Pn	07 18 53.8	+1.7	
BZGR	**Bezymyannyi-Gr**	**2.19 272**	eP	Pb	07 18 55.1	-0.9	
KLY	**Klyuchi**	**2.23 282**	eP	Pn	07 18 53.4	+0.4	
BZWR	**Bezymyannyi-We**	**2.30 273**	eP	Pb	07 18 56.5	-1.5	
BZMR	**Bezymyannaya**	**2.30 272**	eP	Pb	07 18 56.8	-1.3	
KIRR	**Kirishev**	**2.38 272**	eP	Pb	07 18 58.2	-1.2	
KPT	**Kopyto**	**2.45 273**	eP	Pb	07 18 58.6	-2.0	
KMNR	**Kamenistaya**	**2.46 268**	eP	Pb	07 18 59.5	-1.1	
TUMD	**Tumrok D**	**2.48 255**	eP	Pb	07 18 59.8	-1.2	
SRDR	**Sredinnyy**	**2.75 280**	eP	Pn	07 19 02.9	+2.7	
SRDR			eS	Sb	07 19 36.9	-2.0	
ESO	**Esso**	**3.31 272**	eP	Pn	07 19 10.7	+3.0	
KII	**Karymskiy**	**3.51 239**	eP	Pn	07 19 13.3	+2.7	
SDLR	**Sedlovina**	**4.24 234**	eP	Pn	07 19 24.6	+3.9	
KRER	**Koryakskii**	**4.29 235**	eP	Pn	07 19 25.4	+4.0	
SMAR	**Somma**	**4.29 234**	eP	Pn	07 19 25.4	+3.9	
KRX	**Arik**	**4.30 236**	eP	Pn	07 19 25.4	+3.9	
UGLR	**Uglovaya**	**4.32 233**	eP	Pn	07 19 25.7	+4.0	
AVH	**Avacha**	**4.32 234**	eP	Pn	07 19 25.9	+4.2	
KOK	**Koryaka**	**4.35 235**	eP	Pn	07 19 26.0	+3.8	
GNL	**Ganaly**	**4.44 243**	eP	Pn	07 19 28.0	+4.6	
PET	**Petropavlovsk**	**4.52 232**	eP	Pn	07 19 28.1	+3.8	
KRMR	**Karymshinskiy**	**4.88 233**	eS	Sn	07 20 30.7	+5.5	
GRL	**Gorelyy**	**5.10 231**	eP	Pn	07 19 37.0	+4.6	
MTVR	**Mutnovka**	**5.10 230**	eP	Pn	07 19 36.7	+4.3	
ASAK	**Asacha**	**5.29 231**	eP	Pn	07 19 39.9	+4.9	

*IDC **18** 07:29:45.0±1.0,24˚.68N×121˚.08E,h0km,mb3.7/6, mbtmp3.8/8,ML4.0/2,MS4.1/4, Error ellipse: s-maj=36.9km s-min=18.9km az=64.0*
*TAP **18** 07:30:04.2,25˚.21N×122˚.25E,h193km,ML4.1,C*
*JMA **18** 07:30:05.1±0.3,25˚.2N±2˚×122˚.2E±0˚.7,h183km±2km, MV4.0/18,TAIWAN REGION*

ISC 18 07:30:03.8±0.8,25˚.20N±0˚.04×122˚.23E±0˚.03,h193km±5km, n165,σ0§93/258,mb3.3/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.29**	**230**	P	**Pn**	**07 30 29.8**	**+0.4**
SXI1	**Grass Mountain**	**0.34**	**253**	*i* P	**Pn**	**07 30 29.8**	**+0.2**
SXI1				S	**Sn**	**07 30 50.5**	**+1.0**
TNOU	**National Taiwa**	**0.42**	**264**	*e*P	**Pn**	**07 30 30.1**	**+0.3**
WFSB	**Wu-fen Shan**	**0.43**	**253**	*e*P	**Pn**	**07 30 30.2**	**+0.4**
TIPB	**Shuangxi**	**0.43**	**239**	*i* P	**Pn**	**07 30 30.0**	**+0.2**
TIPB				eS	**Sn**	**07 30 50.2**	**+0.3**
EGS		**0.44**	**218**	*e*P	**Pn**	**07 30 30.3**	**+0.4**
PCYT	**Pengchaiyu**	**0.46**	**342**	P	**Pn**	**07 30 30.7**	**+0.8**
TWY	**Chenhua**	**0.58**	**278**	*e*P	**Pn**	**07 30 30.6**	**+0.2**
YM08	**YM08**	**0.58**	**269**	*e*P	**Pn**	**07 30 30.6**	**+0.1**
YM01	**YM01**	**0.60**	**265**	*i* P	**Pn**	**07 30 30.7**	**+0.2**
ILA	**Ilan**	**0.61**	**226**	*e*P	**Pn**	**07 30 30.6**	**+0.1**
ILA				eS	**Sn**	**07 30 52.1**	**+1.0**
ZUZH	**Zhuzihu**	**0.62**	**267**	*e*P	**Pn**	**07 30 30.8**	**+0.1**
ZUZH				S	**Sn**	**07 30 52.2**	**+0.9**
TWA	**Mucha**	**0.62**	**250**	*e*P	**Pn**	**07 30 30.6**	**0.0**
TWA				S	**Sn**	**07 30 51.4**	**+0.1**
TWC	**Suao**	**0.68**	**211**	*i* P	**Pn**	**07 30 30.8**	**-0.1**
TWC				S	**Sn**	**07 30 50.2**	**-1.6**
NHDH	**Xindian Distri**	**0.68**	**250**	*e*P	**Pn**	**07 30 31.1**	**+0.2**
NHDH				S	**Sn**	**07 30 51.1**	**-0.6**
TWE	**Neicheng**	**0.70**	**227**	*e*P	**Pn**	**07 30 31.4**	**+0.4**
TWE				S	**Sn**	**07 30 52.4**	**+0.5**
NTST	**Danshui**	**0.71**	**268**	*e*P	**Pn**	**07 30 31.4**	**+0.4**
TATO	**Taipei**	**0.71**	**252**	P	**Pn**	**07 30 30.7**	**-0.3**
TATO	**Taipei**	**0.71**	**252**	S	**Sn**	**07 30 51.3**	**-0.7**
ESAO	**Su ao**	**0.71**	**210**	*e*P	**Pn**	**07 30 31.2**	**+0.1**
ESAO				eS	**Sn**	**07 30 50.2**	**-1.9**
FUSB	**Fushanzhiwuyua**	**0.73**	**234**	*i* P	**Pn**	**07 30 31.2**	**-0.1**
FUSB				*i* S	**Sn**	**07 30 51.6**	**-0.8**
TWS1	**Kuangyinshan**	**0.74**	**263**	*e*P	**Pn**	**07 30 31.5**	**+0.3**
EOS2	**EOS2**	**0.77**	**180**	*i* P	**Pn**	**07 30 31.9**	**+0.6**
EOS2				eS	**Sn**	**07 30 52.4**	**-0.2**
NWLT	**Wulai**	**0.78**	**238**	*i* P	**Pn**	**07 30 31.4**	**-0.1**
NWLT				S	**Sn**	**07 30 51.2**	**-1.6**
ENTT	**Nioudou**	**0.82**	**228**	*i* P	**Pn**	**07 30 31.9**	**+0.3**
ENTT				S	**Sn**	**07 30 53.8**	**+0.5**
EWUT	**Wuta**	**0.85**	**209**	*i* P	**Pn**	**07 30 32.3**	**+0.4**
EWUT				S	**Sn**	**07 30 52.4**	**-1.2**
ENA	**Nanau**	**0.88**	**210**	*i* P	**Pn**	**07 30 32.5**	**+0.4**
ENA				eS	**Sn**	**07 30 53.2**	**-0.7**
EOS3	**EOS3**	**0.91**	**175**	*i* P	**Pn**	**07 30 32.9**	**+0.8**
EOS3				*i* S	**Sn**	**07 30 53.8**	**-0.2**
LATG	**Datong**	**0.92**	**224**	P	**Pn**	**07 30 32.8**	**+0.4**
LATG				eS	**Sn**	**07 30 54.8**	**+0.2**
YHNB	**Yeheng**	**0.94**	**236**	P	**Pn**	**07 30 32.2**	**-0.3**
YHNB	**Yeheng**	**0.94**	**236**	S	**Sn**	**07 30 53.1**	**-1.6**
YHNB	**Yeheng**	**0.94**	**236**	*i* P	**Pn**	**07 30 32.4**	**-0.1**
YHNB				*i* S	**Sn**	**07 30 52.9**	**-1.8**
EAHA	**Aohua**	**0.97**	**208**	*e*P	**Pn**	**07 30 33.0**	**+0.3**
EAHA				eS	**Sn**	**07 30 54.2**	**-0.8**
NCUH	**Zhongli**	**0.98**	**257**	P	**Pn**	**07 30 33.1**	**+0.5**
NCUH				*i* S	**Sn**	**07 30 53.9**	**-1.0**
JYNG	**Yonagunijimaku**	**0.98**	**139**	*e*P	**Pn**	**07 30 32.9**	**+0.1**
JYNG				S	**Sn**	**07 30 53.9**	**-1.2**
YOJ	**Yonaguni jima**	**1.02**	**136**	P	**Pn**	**07 30 33.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.02**	**136**	S	**Sn**	**07 30 54.6**	**-0.9**
YOJ	**Yonaguni jima**	**1.02**	**136**	*i* P	**Pn**	**07 30 33.5**	**+0.5**
YOJ				*i* S	**Sn**	**07 30 54.6**	**-0.9**
YOJ	**Yonaguni jima**	**1.02**	**136**	*e*P	**Pn**	**07 30 33.4**	**+0.5**
YOJ				S	**Sn**	**07 30 54.3**	**-1.2**
KSHI	**Guanxi Townshi**	**1.04**	**247**	*e*P	**Pn**	**07 30 33.6**	**+0.5**
KSHI				eS	**Sn**	**07 30 55.4**	**-0.4**
EOS4	**EOS4**	**1.07**	**176**	*e*P	**Pn**	**07 30 33.1**	**+0.1**
EOS4				*i* S	**Sn**	**07 30 54.6**	**-1.0**
NNSB	**Datong**	**1.08**	**225**	*i* P	**Pn**	**07 30 33.9**	**+0.3**
NNSB				*i* S	**Sn**	**07 30 55.9**	**-0.7**
NFF	**Wufeng Townshi**	**1.16**	**241**	*i* P	**Pn**	**07 30 34.0**	**-0.1**
NFF				*i* S	**Sn**	**07 30 55.3**	**-2.1**
NACB	**Ninganchiao**	**1.17**	**210**	P	**Pn**	**07 30 33.7**	**-0.4**
NACB	**Ninganchiao**	**1.17**	**210**	S	**Sn**	**07 30 56.6**	**-1.0**
NACB	**Ninganchiao**	**1.17**	**210**	*i* P	**Pn**	**07 30 33.7**	**-0.4**
NACB				*i* S	**Sn**	**07 30 56.0**	**-1.5**
ETL	**Fush Village**	**1.17**	**208**	*e*P	**Pn**	**07 30 33.9**	**-0.3**
ETL				S	**Sn**	**07 30 56.6**	**-1.1**
ETLH	**Xiulin Townshi**	**1.20**	**215**	*i* P	**Pn**	**07 30 34.4**	**-0.1**
ETLH				eS	**Sn**	**07 30 56.9**	**-1.2**
SBCB	**Hsinchu**	**1.20**	**251**	*i* P	**Pn**	**07 30 34.8**	**+0.5**
SBCB				*i* S	**Sn**	**07 30 57.5**	**-0.4**
HSN	**Hsinchu**	**1.21**	**251**	P	**Pn**	**07 30 34.4**	**+0.1**
HSN				*i* S	**Sn**	**07 30 57.1**	**-0.9**
LIOB	**Emei**	**1.23**	**244**	*i* P	**Pn**	**07 30 34.8**	**+0.2**
LIOB				*i* S	**Sn**	**07 30 57.3**	**-1.1**
NSTT	**Nanjuang**	**1.25**	**244**	*i* P	**Pn**	**07 30 34.9**	**+0.1**
NSTT				*i* S	**Sn**	**07 30 57.3**	**-1.4**
TWD	**Chiawan**	**1.25**	**208**	*i* P	**Pn**	**07 30 34.4**	**-0.3**
TWD				S	**Sn**	**07 30 56.7**	**-2.0**
FUSS	**Fushou**	**1.30**	**224**	*i* P	**Pn**	**07 30 36.4**	**+0.9**
FUSS				S	**Sn**	**07 30 59.4**	**-0.5**
HWA	**Hwalien**	**1.34**	**205**	*e*P	**Pn**	**07 30 35.8**	**+0.3**
TWT	**Tachien**	**1.34**	**226**	P	**Pn**	**07 30 36.6**	**+0.9**
TWT				*i* S	**Sn**	**07 30 60.0**	**-0.4**
TDCB	**Techi**	**1.35**	**226**	*i* P	**Pn**	**07 30 36.7**	**+0.9**
TDCB				eS	**Sn**	**07 30 59.7**	**-0.8**
WHF	**Hehuan Shan**	**1.37**	**220**	*i* P	**Pn**	**07 30 36.7**	**+0.5**
WHF				*i* S	**Sn**	**07 31 00.3**	**-0.9**
ETM	**Tongmen**	**1.40**	**209**	*e*P	**Pn**	**07 30 35.5**	**-0.4**
TEYL	**Yanliau Villag**	**1.44**	**204**	*i* P	**Pn**	**07 30 36.6**	**+0.2**
TEYL				S	**Sn**	**07 31 00.9**	**-0.7**
NMLH	**Miaoli**	**1.46**	**244**	*i* P	**Pn**	**07 30 36.9**	**+0.4**
NMLH				*i* S	**Sn**	**07 31 01.1**	**-0.8**
WHP	**Taichung City**	**1.48**	**232**	*i* P	**Pn**	**07 30 37.3**	**+0.4**
WHP				S	**Sn**	**07 31 00.7**	**-1.7**
SHUL	**Shoufeng**	**1.53**	**204**	*i* P	**Pn**	**07 30 37.4**	**+0.3**
SHUL				S	**Sn**	**07 31 03.3**	**+0.2**
NSY	**Sanyi**	**1.54**	**240**	*i* P	**Pn**	**07 30 38.6**	**+1.3**
NSY				*i* S	**Sn**	**07 31 03.3**	**0.0**
ESL	**Shilin**	**1.56**	**208**	*e*P	**Pn**	**07 30 36.8**	**-0.7**
ESL				eS	**Sn**	**07 31 01.5**	**-2.0**
OWD	**Renai**	**1.56**	**218**	*i* P	**Pn**	**07 30 38.2**	**+0.6**
OWD				eS	**Sn**	**07 31 03.2**	**-0.7**
WUSB	**Renai**	**1.57**	**220**	*i* P	**Pn**	**07 30 38.5**	**+0.8**
WUSB				eS	**Sn**	**07 31 03.9**	**-0.1**
TWQ1	**Liyutan**	**1.57**	**238**	*i* P	**Pn**	**07 30 37.9**	**+0.3**
TWQ1				S	**Sn**	**07 31 02.7**	**-1.0**
TEGC	**Jichi Village**	**1.61**	**203**	*e*P	**Pn**	**07 30 38.0**	**+0.1**
TEGC				eS	**Sn**	**07 31 04.5**	**+0.1**
IRIF	**Iriomote-Funau**	**1.61**	**122**	*e*P	**Pn**	**07 30 37.8**	**0.0**
IRIF				eS	**Sn**	**07 31 02.5**	**-1.8**
WCS	**Beigang Elemen**	**1.65**	**227**	*i* P	**Pn**	**07 30 38.2**	**-0.1**
WCS				*i* S	**Sn**	**07 31 04.1**	**-0.9**
WARBT	**Fenglin Townsh**	**1.66**	**208**	*i* P	**Pn**	**07 30 37.6**	**-0.8**
WARBT				eS	**Sn**	**07 31 03.5**	**-1.8**
WDJ	**Dajia District**	**1.68**	**240**	*e*P	**Pn**	**07 30 39.2**	**+0.7**
EGFH	**Guangfu**	**1.69**	**206**	P	**Pn**	**07 30 38.1**	**-0.6**
EGFH				eS	**Sn**	**07 31 02.3**	**-3.4**
VWDT	**VWDT**	**1.75**	**215**	*i* P	**Pn**	**07 30 40.3**	**+1.1**
VWDT				S	**Sn**	**07 31 07.4**	**+0.7**
TCU	**Taichung**	**1.76**	**234**	P	**Pn**	**07 30 39.7**	**+0.4**
TCU				eS	**Sn**	**07 31 06.6**	**-0.3**
SMLT	**Sun Moon Lake**	**1.78**	**223**	*i* P	**Pn**	**07 30 40.0**	**+0.3**
SMLT				eS	**Sn**	**07 31 06.6**	**-1.0**
TYC	**Yuchr**	**1.79**	**225**	*i* P	**Pn**	**07 30 40.1**	**+0.4**
TYC				eS	**Sn**	**07 31 06.5**	**-1.1**
SSLB	**Suanglung**	**1.82**	**220**	P	**Pn**	**07 30 40.3**	**+0.3**
SSLB	**Suanglung**	**1.82**	**220**	S	**Sn**	**07 31 07.3**	**-0.8**
SSLB	**Suanglung**	**1.82**	**220**	*i* P	**Pn**	**07 30 40.5**	**+0.4**
SSLB				eS	**Sn**	**07 31 07.5**	**-0.6**
HATJ	**Hateruma jima**	**1.83**	**128**	*e*P	**Pn**	**07 30 40.9**	**+0.9**
HATJ				eS	**Sn**	**07 31 07.1**	**-1.0**
HGSD	**Ruisui**	**1.85**	**204**	*i* P	**Pn**	**07 30 40.8**	**+0.5**
HGSD				eS	**Sn**	**07 31 09.2**	**+0.7**
EHY	**Hungye**	**1.88**	**206**	*e*P	**Pn**	**07 30 39.7**	**-0.9**
EHYH	**Wanrong**	**1.88**	**206**	*e*P	**Pn**	**07 30 39.8**	**-0.8**
JKRS	**Kuro-shima**	**1.88**	**120**	*e*P	**Pn**	**07 30 41.3**	**+0.8**
JKRS				S	**Sn**	**07 31 08.1**	**-0.9**
WCHH	**Zhanghua**	**1.89**	**234**	*e*P	**Pn**	**07 30 41.1**	**+0.5**
JIJ	**Ishigaki jima**	**1.93**	**115**	P	**Pn**	**07 30 42.0**	**+0.4**
JIJ				eS	**Sn**	**07 31 07.7**	**-2.2**
WNT	**Mingjian**	**1.93**	**227**	*i* P	**Pn**	**07 30 41.6**	**+0.5**
WNT				eS	**Sn**	**07 31 09.6**	**-0.4**
WJS	**Zhushan**	**1.94**	**225**	*i* P	**Pn**	**07 30 41.7**	**+0.6**
WJS				eS	**Sn**	**07 31 09.6**	**-0.5**
WHYT	**Xinyi Township**	**1.95**	**220**	*i* P	**Pn**	**07 30 41.8**	**+0.5**
WHYT				*i* S	**Sn**	**07 31 09.2**	**-1.3**
JISG	**Ishigakijimahi**	**1.98**	**107**	P	**Pn**	**07 30 42.0**	**+0.4**
JISG				S	**Sn**	**07 31 09.4**	**-1.5**
YULB	**Yu-li**	**1.99**	**206**	P	**Pn**	**07 30 40.7**	**-1.0**
YULB	**Yu-li**	**1.99**	**206**	S	**Sn**	**07 31 11.2**	**0.0**
YULB	**Yu-li**	**1.99**	**206**	*e*P	**Pn**	**07 30 40.9**	**-0.8**
ECBN	**Changbin**	**2.00**	**201**	*e*P	**Pn**	**07 30 42.3**	**+0.4**
ECBN				eS	**Sn**	**07 31 10.6**	**-0.8**
TWF1	**Yuli**	**2.02**	**205**	*e*P	**Pn**	**07 30 41.9**	**-0.2**
ALS	**Alishan**	**2.12**	**218**	*e*P	**Pn**	**07 30 43.2**	**-0.2**
ALS				eS	**Sn**	**07 31 14.4**	**+0.2**
CHKH	**Chenggong**	**2.14**	**201**	*e*P	**Pn**	**07 30 42.8**	**-0.4**
CHKH				eS	**Sn**	**07 31 13.5**	**-0.5**
WGK	**Gukeng**	**2.14**	**226**	*e*P	**Pn**	**07 30 43.9**	**+0.6**
WDLH	**Douliu**	**2.15**	**226**	*e*P	**Pn**	**07 30 43.8**	**+0.4**
FULB	**Fuli**	**2.16**	**203**	*e*P	**Pn**	**07 30 43.5**	**-0.1**
WTCT	**Ta-ch'eng**	**2.22**	**234**	*e*P	**Pn**	**07 30 44.2**	**+0.1**
WTCT				eS	**Sn**	**07 31 12.6**	**-2.8**
CHKT	**Chengkung**	**2.23**	**201**	P	**Pn**	**07 30 44.3**	**0.0**
CHKT				eS	**Sn**	**07 31 15.5**	**-0.3**
EHD	**Haiduan**	**2.24**	**205**	*e*P	**Pn**	**07 30 43.7**	**-0.7**
WTK	**Tuku**	**2.25**	**229**	P	**Pn**	**07 30 44.7**	**+0.2**
WTK				S	**Sn**	**07 31 15.0**	**-1.1**
MATB	**Ma-tsu**	**2.27**	**295**	*i* P	**Pn**	**07 30 44.9**	**+0.2**
MATB				eS	**Sn**	**07 31 14.6**	**-1.9**
ELDTW	**Lidau**	**2.29**	**209**	*e*P	**Pn**	**07 30 45.4**	**+0.3**
ELDTW				eS	**Sn**	**07 31 17.7**	**+0.6**
WCKO	**Fanlu**	**2.29**	**221**	P	**Pn**	**07 30 44.8**	**-0.2**
WCKO				eS	**Sn**	**07 31 15.8**	**-1.2**
JTJ	**Tarama**	**2.31**	**103**	*e*P	**Pn**	**07 30 46.0**	**+0.9**
CHY	**Chiayi**	**2.36**	**225**	*e*P	**Pn**	**07 30 47.2**	**+1.5**
CHY				eS	**Sn**	**07 31 18.0**	**-0.3**
EDH	**Donghe**	**2.37**	**201**	*e*P	**Pn**	**07 30 45.8**	**0.0**
EDH				eS	**Sn**	**07 31 18.1**	**-0.5**
TPUB	**Ta-pu**	**2.39**	**218**	P	**Pn**	**07 30 46.3**	**+0.3**
TPUB	**Ta-pu**	**2.39**	**218**	*i* P	**Pn**	**07 30 46.4**	**+0.4**
TPUB				S	**Sn**	**07 31 17.7**	**-1.3**
WSF	**Szhu**	**2.40**	**230**	*e*P	**Pn**	**07 30 46.4**	**+0.2**
WSF				eS	**Sn**	**07 31 19.2**	**+0.2**
STYH	**Taoyuan**	**2.42**	**214**	*e*P	**Pn**	**07 30 47.0**	**+0.7**
WTP	**Ta-pu**	**2.44**	**218**	*e*P	**Pn**	**07 30 46.9**	**+0.3**
WTP				eS	**Sn**	**07 31 19.4**	**-0.6**
WSL	**Shuilin Townsh**	**2.47**	**228**	*i* P	**Pn**	**07 30 47.2**	**+0.3**
WSL				S	**Sn**	**07 31 19.3**	**-1.2**
LONT	**Longtian**	**2.49**	**204**	*e*P	**Pn**	**07 30 46.6**	**-0.6**
LONT				eS	**Sn**	**07 31 19.1**	**-2.9**
TWK	**Hsinying**	**2.49**	**220**	*e*P	**Pn**	**07 30 47.4**	**+0.2**
TWK				eS	**Sn**	**07 31 19.8**	**-1.3**
XPSS	**Dashiqiu**	**2.52**	**314**	*e*P	**Pn**	**07 30 47.8**	**+0.3**
VWUC	**VWUC**	**2.53**	**266**	*e*P	**Pn**	**07 30 48.0**	**+0.4**
CHN1	**Nanshi**	**2.54**	**218**	*e*P	**Pn**	**07 30 48.0**	**+0.3**
CHN1				S	**Sn**	**07 31 20.9**	**-1.1**
TWGBT	**Beinan**	**2.59**	**204**	P	**Pn**	**07 30 47.8**	**-0.5**
TWGBT	**Beinan**	**2.59**	**204**	*e*P	**Pn**	**07 30 49.0**	**+0.6**
TWGBT				eS	**Sn**	**07 31 21.7**	**-1.4**
CHN8	**Yiju**	**2.61**	**225**	*e*P	**Pn**	**07 30 48.9**	**+0.5**
LDUT	**Ludao**	**2.61**	**196**	*e*P	**Pn**	**07 30 47.9**	**-0.6**
LDUT				eS	**Sn**	**07 31 21.7**	**-1.6**
JIRB	**Irabujima**	**2.69**	**97**	*e*P	**Pn**	**07 30 50.5**	**+1.0**
JIRB				eS	**Sn**	**07 31 24.2**	**-0.8**
CHN3	**Shinhua**	**2.71**	**219**	*e*P	**Pn**	**07 30 50.6**	**+0.9**
CHN3				eS	**Sn**	**07 31 25.7**	**+0.2**
SCLT	**Jiali**	**2.74**	**223**	P	**Pn**	**07 30 50.7**	**+0.7**
SCLT				eS	**Sn**	**07 31 25.7**	**-0.3**
JIKM	**Ikemajima**	**2.75**	**95**	*e*S	**Sn**	**07 31 26.0**	**-0.2**
SHHT	**Tainan City**	**2.77**	**219**	P	**Pn**	**07 30 51.4**	**+1.1**
SHHT				S	**Sn**	**07 31 27.2**	**+0.6**
SCST	**Cishan**	**2.79**	**215**	*e*P	**Pn**	**07 30 51.9**	**+1.2**
JMJ	**Miyako jima 2**	**2.80**	**97**	P	**Pn**	**07 30 52.6**	**+1.9**
JMJ	**Miyako jima 2**	**2.80**	**97**	S	**Sn**	**07 31 28.3**	**+1.0**
PTMZ	**Houxiangcun**	**2.83**	**268**	*e*P	**Pn**	**07 30 51.2**	**+0.3**
TSCK	**Chigu Township**	**2.83**	**224**	*e*P	**Pn**	**07 30 51.6**	**+0.5**
ECL	**Taimali**	**2.84**	**205**	*e*P	**Pn**	**07 30 52.9**	**+1.7**
SSD	**Sandimen**	**2.84**	**211**	*e*P	**Pn**	**07 30 52.0**	**+0.7**
JMJ2	**Miyako jima3**	**2.85**	**98**	*e*P	**Pn**	**07 30 52.5**	**+1.3**
JMJ2				eS	**Sn**	**07 31 27.6**	**-0.7**
TWM1	**Shoushan**	**2.88**	**215**	*e*P	**Pn**	**07 30 53.3**	**+1.6**
JOGS	**Gusukube**	**2.91**	**98**	*e*P	**Pn**	**07 30 53.5**	**+1.5**
JOGS				eS	**Sn**	**07 31 28.8**	**-0.8**
PNG	**Penghu**	**2.93**	**237**	*e*P	**Pn**	**07 30 52.8**	**+0.5**
PHUB	**P'eng-hu**	**2.95**	**236**	*e*P	**Pn**	**07 30 52.4**	**0.0**
PHUB				eS	**Sn**	**07 31 28.7**	**-1.7**
MASBT	**Mashibuluo**	**2.96**	**210**	*e*P	**Pn**	**07 30 53.1**	**+0.5**
MASBT				eS	**Sn**	**07 31 29.8**	**-1.0**
SNJT	**Kaohsiung City**	**2.99**	**216**	*e*P	**Pn**	**07 30 54.1**	**+1.2**
MHZQ	**Yeshan**	**3.03**	**288**	*e*P	**Pn**	**07 30 53.6**	**+0.3**
WDGT	**Dungji**	**3.04**	**231**	*e*P	**Pn**	**07 30 53.8**	**+0.3**
WDGT				eS	**Sn**	**07 31 30.9**	**-1.4**
SCZT	**Fangliau**	**3.17**	**208**	*e*P	**Pn**	**07 30 55.5**	**+0.4**
LAY	**Lan-yu**	**3.20**	**191**	*e*P	**Pn**	**07 30 55.5**	**0.0**
VCHM	**Qimei**	**3.23**	**233**	P	**Pn**	**07 30 56.1**	**+0.2**
VCHM				eS	**Sn**	**07 31 35.2**	**-1.4**
AXDP	**Jialang**	**3.88**	**267**	*e*P	**Pn**	**07 31 03.9**	**+0.2**
SXFK	**Yanhouchang**	**4.30**	**287**	*e*P	**Pn**	**07 31 09.2**	**0.0**
JOW	**Kunigami**	**5.68**	**72**	Pn	**Pn**	**07 31 26.1**	**-0.6**

8.2nm,0.3s,baz=102,slow=23,SNR=51

JOW					Sn	**Sn**	**07 32 27.2**	**-5.0**

5.0nm,0.3s,baz=114,slow=25,SNR=7.1
13nm,0.2s

KSRS	**Korea Array**	**13.15**	**20**	Pn	**P**	**07 33 06.5**	**0.0**

0.4nm,0.3s,baz=212,slow=12,SNR=16
3.4nm,0.7s

SONM	**Songino Array**	**25.83**	**335**	P	**P**	**07 35 18.1**	**+0.7**

1.1nm,0.7s,baz=144,slow=10.0,SNR=5.8
1.1nm,0.7s

MKAR	**Makanchi Array**	**38.29**	**315**	P	**P**	**07 37 05.3**	**-0.2**

0.4nm,0.5s,baz=103,slow=9.6,SNR=4.8
0.4nm,0.5s

ZALV	**Zalesovo Beam**	**39.93**	**326**	P	**P**	**07 37 18.7**	**-0.3**

0.6nm,0.4s,baz=134,slow=5.9,SNR=2.7
0.6nm,0.4s

WRA	**Warramunga Arr**	**46.39**	**164**	P	**P**	**07 38 11.0**	**0.0**

0.7nm,0.6s,baz=347,slow=8.6,SNR=8.0
0.7nm,0.6s

SHEM	**Shemya Is, Ala**	**47.45**	**40**	LR	LR	07 57 00.8	

comp=Z,410nm,21.3s,baz=293,slow=34

BVAR	**Borovoye Array**	**47.51**	**320**	P	**P**	**07 38 18.9**	**-0.5**

0.6nm,0.5s,baz=120,slow=8.5,SNR=2.2
0.6nm,0.5s

ASAR	**Alice Springs**	**49.87**	**166**	P	**P**	**07 38 39.3**	**+1.6**

0.6nm,0.7s,baz=349,slow=6.0,SNR=7.1

*IDC **18** 07:40:22.1±2.0,7˚.76S×119˚.03E,h0km,mb3.8/2, mbtmp3.8/4,ML3.9/2,MS3.4/1, Error ellipse: s-maj=56.0km s-min=22.5km az=71.0*
*DJA **18** 07:40:24.1±0.2,8˚S±2˚×117˚9E±˚,h10km,M4.0/13, MLv4.0/13*

ISC 18 07:40:26.6±1.0,7˚.79S±0˚.04×118˚.95E±0˚.06,h34km,n16, σ0§49/18,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.56**	**228**	P	**Pn**	**07 40 52.0**	**+0.1**
WBSI	**Waikabubak, Su**	**1.89**	**167**	P	**Pn**	**07 40 56.7**	**+0.1**
WBSI				S	**Sn**	**07 41 19.2**	**-0.1**
BSSI	**Bau Bau, Buton**	**2.24**	**43**	P	**Pn**	**07 41 01.1**	**-0.2**
TWSI	**Taliwang, Sumb**	**2.25**	**245**	P	**Pn**	**07 41 01.5**	**0.0**
WSI	**Waingapu**	**2.30**	**145**	P	**Pn**	**07 41 01.8**	**-0.3**
WSI				S	**Sn**	**07 41 29.2**	**0.0**
BKSI	**Bulukumba**	**2.71**	**26**	P	**Pn**	**07 41 07.9**	**+0.1**
KAPI	**Kappang**	**2.87**	**16**	Pn	**Pn**	**07 41 08.9**	**-1.0**

6.8nm,0.3s,baz=216,slow=6.0,SNR=20

KAPI					Sn	**Sn**	**07 41 42.6**	**-0.7**

31nm,0.3s,baz=291,slow=22,SNR=9.4

KAPI					LR	LR	07 42 35.9	

comp=Z,131nm,18.9s,baz=242,slow=48
18nm,0.2s

EDFI	**Ende, Flores**	**2.88**	**110**	P	**Pn**	**07 41 10.2**	**+0.1**
BASI	**Baing, Sumba**	**2.90**	**146**	P	**Pn**	**07 41 10.5**	**+0.1**
BNSI	**Bone**	**3.56**	**19**	P	**Pn**	**07 41 19.7**	**+0.3**
SPSI	**Sidrap Palu**	**

*JMA **18** 07:41:59.6±0.2,30°N±1°×14°2E±°, h53km, MV4.2/21, NEAR TORISHIMA IS*
*IDC **18** 07:41:59.5±1.3,30°.15N×141°.09E, h53km±14km, mb3.5/5, mbtmp3.7/10, ML3.3/5, Error ellipse: s-maj=44.1km s-min=8.0km az=72.0*
ISC 18 07:41:59.3±0.8, 30°.22N±0°.07×141°.4E±0°.2, h50km, n19, σ1$ 42/23, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.63**	**329**	*eP*	**Pn**	**07 42 42.0**	**+2.7**
JHJ2	**Mitsune**	**3.17**	**336**	*eP*	**Pn**	**07 42 48.6**	**+1.8**
JHJ2				*eS*	**Sn**	**07 43 23.6**	**+0.3**
JHJ	**Hachijo jima 2**	**3.19**	**335**	P	**Pn**	**07 42 48.3**	**+1.3**
	6.3nm,0.3s,baz=59,slow=23,SNR=2.8						
JHJ				S	**Sn**	**07 43 23.4**	**-0.4**
	60nm,0.3s,baz=102,slow=23,SNR=3.8 34nm,0.5s						
CBIJ	**Chichi jima**	**3.19**	**167**	P	**Pn**	**07 42 49.5**	**+2.4**
JCJ	**Chichijima**	**3.19**	**167**	P	**Pn**	**07 42 48.4**	**+1.3**
	12nm,0.3s,baz=74,slow=24,SNR=8.6						
JCJ				S	**Sn**	**07 43 24.1**	**+0.1**
	73nm,0.3s,baz=282,slow=22,SNR=5.5 34nm,0.3s						
JMKN	**Mikurajimanish**	**3.96**	**338**	*eP*	**Pn**	**07 42 59.9**	**+2.3**
JMKN				*eS*	**Sn**	**07 43 42.5**	**-0.3**
JMYK	**Miyake Tsubota**	**4.13**	**338**	*eS*	**Sn**	**07 43 47.0**	**+0.1**
BSO1	**Boso 1**	**4.43**	**356**	*eP*	**Pn**	**07 43 05.2**	**+1.7**
BSO3	**Boso 3**	**4.63**	**351**	*eP*	**Pn**	**07 43 08.0**	**+1.6**
BSO4	**Boso 4**	**4.84**	**350**	*eS*	**Sn**	**07 44 03.7**	**-0.4**
JHO	**Hitachi**	**6.41**	**354**	*eP*	**Pn**	**07 43 31.7**	**+0.6**
MJAR	**Matsushiro Arr**	**6.84**	**338**	P	**Pn**	**07 43 38.1**	**+1.0**
	0.1nm,0.3s,baz=160,slow=11,SNR=7.1						
MJAR				S	**Sn**	**07 44 51.7**	**-1.8**
	0.6nm,0.3s,baz=172,slow=22,SNR=4.1 1.6nm,0.4s						
KSRS	**Korea Array**	**13.30**	**306**	P	Pn	07 45 02.2	-3.2
	0.1nm,0.3s,baz=124,slow=15,SNR=2.1 0.3nm,0.4s						
ASAJ	**Asahikawa**	**13.90**	**4**	P	**Pn**	**07 45 12.9**	**-0.6**
	0.4nm,0.3s,baz=212,slow=11,SNR=1.4 3.8nm,0.9s						
WRA	**Warramunga Arr**	**50.33**	**189**	P	**P**	**07 50 49.8**	**-1.4**
	0.3nm,0.3s,baz=6.2,slow=7.6,SNR=6.2 0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**50.38**	**313**	P	**P**	**07 50 50.2**	**-1.1**
	0.6nm,0.5s,baz=93,slow=6.4,SNR=5.8 0.6nm,0.5s						
ASAR	**Alice Springs**	**54.06**	**188**	P	**P**	**07 51 18.3**	**-0.6**
	0.4nm,0.4s,baz=4.0,slow=5.7,SNR=9.3 0.4nm,0.4s						
FINES	**FINESS Array B**	**74.84**	**333**	P	**P**	**07 53 33.8**	**-0.4**
	0.4nm,0.4s,baz=64,slow=4.4,SNR=8.6 0.4nm,0.4s						
TXAR	**Lajitas Array**	**94.29**	**53**	P	**P**	**07 55 14.6**	**+0.8**
	0.2nm,0.7s,baz=317,slow=2.9,SNR=4.2 0.2nm,0.7s						

*NEIC **18** 07:42:24.9±0.8, 36°.089N±0°.006×117°.853W±0°.009, h4km±2km, Error ellipse: s-maj=1.3km s-min=0.6km az=129.0*
PAS 18 07:42:25.2±0.8, 36°.090N±0°.008×117°.86W±0°.01, h2km±2km, ML3.2/277, ML3.1/84(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=57.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFS	**McCloud Flat S**	**0.03**	**13**		Pg	07 42 26.9	+0.9
WRVM	**Rose V. Centra**	**0.08**	**195**		Pg	07 42 28.6	+1.7
WCSM	**Coso Springs S**	**0.10**	**129**		Pg	07 42 27.4	+0.2
WCSM					Sg	07 42 29.0	+0.5
JRC2	**Joshua Ridge**	**0.12**	**158**		Pg	07 42 29.4	+1.9
WVPM	**Volcano Peak E**	**0.14**	**165**		Pg	07 42 28.2	+0.2
WVPM					Sg	07 42 30.5	+0.5
WNMM	**Nine Mile Cany**	**0.25**	**188**		Pg	07 42 30.1	+0.1
WNMM					Sg	07 42 33.7	+0.5
TOW	**Tower One**	**0.29**	**164**		Pn	07 42 36.3	-0.3
MPMC	**Manual Prospec**	**0.30**	**96**		Pg	07 42 31.2	+0.1
MPMC					Sg	07 42 35.6	+0.5
MPMC	**Manual Prospec**	**0.30**	**96**	IAML		07 42 36.0	
	comp=E,3μm,0.5s						
MPMC				IAML		07 42 36.0	
	comp=N,2μm,0.4s						
CLC	**China Lake**	**0.35**	**142**		Pg	07 42 32.0	+0.1
CLC	**China Lake**	**0.35**	**142**		Sg	07 42 37.2	+0.8
CWC	**Cottonwood Cre**	**0.39**	**333**		Pg	07 42 32.7	-0.1
CWC				IAML		07 42 38.6	
	comp=E,1μm,0.2s						
CWC				IAML		07 42 41.9	
	comp=N,2μm,0.2s						
CWC	**Cottonwood Cre**	**0.39**	**333**		Sg	07 42 38.4	+0.5
SRTC	**Snort**	**0.41**	**167**		Pg	07 42 33.6	+0.6
SRTC					Sb	07 42 40.3	-1.5
CGO	**Cerro Gordo**	**0.46**	**6**		Pg	07 42 34.1	-0.1
CGO					Sg	07 42 40.8	+0.7
WORM	**Onyx Ranch**	**0.50**	**218**		Pg	07 42 34.6	-0.1
WORM					Sg	07 42 41.5	+0.3
WHFM	**Hanning Flat**	**0.56**	**225**		Pg	07 42 35.8	-0.1
WHFM					Sg	07 42 43.5	+0.4
WSHM	**Spangler Hills**	**0.57**	**148**		Pg	07 42 36.2	0.0
WSHM				IAML		07 42 44.5	
	comp=N,780nm,0.4s						
WSHM				IAML		07 42 44.5	
	comp=N,661nm,0.5s						
WSHM	**Spangler Hills**	**0.57**	**148**		Sg	07 42 44.4	+0.7
WBSM	**Bird Springs**	**0.59**	**202**		Pg	07 42 36.6	0.0
WBSM					Sg	07 42 44.7	+0.4
LRMC	**Laurel Mtn Rad**	**0.63**	**166**		Pg	07 42 37.4	+0.2
LRMC					Sg	07 42 45.9	+0.6
LRMC				IAML		07 42 46.5	
	comp=N,839nm,0.3s						
LRMC				IAML		07 42 47.0	
	comp=E,1μm,0.3s						
ISA	**Isabella, Lake**	**0.65**	**230**		Pg	07 42 37.8	0.0
ISA	**Isabella, Lake**	**0.65**	**230**		Sg	07 42 46.6	+0.4
WASM	**Alta Sierra Ca**	**0.66**	**238**		Pg	07 42 37.9	0.0
WASM					Sg	07 42 47.0	+0.5
CCCA	**Chr Cany lake**	**0.69**	**144**		Pg	07 42 38.9	+0.4
CCCA				IAML		07 42 55.6	
	comp=E,1μm,0.5s						
SPG2	**Springville 2**	**0.74**	**279**		Pg	07 42 39.1	-0.3
SPG2					Sg	07 42 48.8	-0.2
QSM	**Queen of Sheba**	**0.82**	**98**	Pg	Pg	07 42 40.8	0.0
DTP	**Desert Tortois**	**0.82**	**179**		Pg	07 42 40.6	-0.3
DTP					Sg	07 42 51.8	+0.2
FURC	**Furnace Creek,**	**0.89**	**65**		Pg	07 42 42.5	+0.2
CCAC	**Calif City Air**	**0.94**	**188**		Pg	07 42 43.0	-0.3
CCAC					Sg	07 42 55.7	+0.2
GWY	**Greenwater Val**	**0.97**	**84**		Pg	07 42 43.6	-0.2
GWY				IAML		07 43 02.2	
	comp=N,730nm,0.6s						
GWY				IAML		07 43 04.3	
	comp=E,760nm,0.7s						
GWY	**Greenwater Val**	**0.97**	**84**		Sg	07 42 57.1	+0.6
TIN	**Tinemaha, Big**	**1.01**	**343**		Pg	07 42 44.5	-0.1
TIN	**Tinemaha, Big**	**1.01**	**343**		Sg	07 42 58.3	+0.7
VES	**Vestal, Richgr**	**1.02**	**256**		Pg	07 42 44.6	-0.2
TEJ	**El Tejon**	**1.09**	**218**		Pg	07 42 45.5	-0.6
TEJ					Sg	07 43 00.0	-0.2
SGV	**South Grapevin**	**1.11**	**37**		Pg	07 42 46.0	-0.5
MAGC	**SCE Magundon P**	**1.13**	**230**		Pg	07 42 46.6	-0.2
LCH	**Last Change Ra**	**1.15**	**9**		Pg	07 42 47.1	-0.3
GSC	**Goldstone, Bar**	**1.17**	**132**		Pg	07 42 47.0	-0.5
GSC				IAML		07 43 06.6	
	comp=E,572nm,0.6s						
EDW2	**Edwards Air Fo**	**1.21**	**185**		Sg	07 43 03.5	-0.6
WCT	**Wildcat Mounta**	**1.22**	**55**		Pg	07 42 48.0	-0.6
WCT				IAML		07 43 10.8	
	comp=E,261nm,0.9s						
WCT				IAML		07 43 12.3	
	comp=N,200nm,0.7s						
ARVC	**Arvin**	**1.24**	**220**		Pg	07 42 48.7	-0.3
TPO	**Tropico Hills**	**1.24**	**194**		Pg	07 42 48.4	-0.7
TPO				IAML		07 43 05.6	
	comp=E,458nm,0.4s						
TPO				IAML		07 43 07.5	
	comp=N,336nm,0.8s						
HYS	**Haystack Butte**	**1.25**	**169**		Pg	07 42 48.4	-0.7
HYS					Sg	07 43 04.5	-0.7
VOG	**Valley Oaks Go**	**1.25**	**281**		Pg	07 42 48.6	-0.5
VOG					Sg	07 43 05.7	+0.3
BAKC	**Calstate**	**1.25**	**234**		Pg	07 42 49.0	-0.3
TJR	**Tejon Ranch**	**1.28**	**214**		Pg	07 42 49.0	-0.8
TJR					Sg	07 43 06.1	-0.2
DSP	**Deep Springs**	**1.28**	**356**		Pg	07 42 49.0	-0.8
THC	**Tehachapi Micr**	**1.35**	**209**		Pg	07 42 49.9	-1.1
SBB	**Saddle Back Bu**	**1.40**	**179**		Pn	07 42 50.8	-1.0
SBB					Sg	07 43 09.4	-0.8
LEOC	**Leona Valley**	**1.50**	**194**		Pn	07 42 52.8	-0.4
HOLC	**Holcomb Ridge**	**1.63**	**179**		Pn	07 42 54.2	-0.8
KCC	**Kaiser Creek**	**1.70**	**317**		Pn	07 42 56.3	+0.4
BCW	**Bitter Crk WRg**	**1.71**	**228**		Pn	07 42 56.5	+0.4
TUQ	**Turquoise Moun**	**1.71**	**112**		Pn	07 42 55.1	-1.0
MLAC	**Mammoth, Mammo**	**1.72**	**333**		Pb	07 42 57.3	-0.4
CRGC	**Crocker Grade**	**1.74**	**241**		Pb	07 42 57.3	-0.6
MCSM	**Casa Diablo Ho**	**1.77**	**332**		Pb	07 42 58.2	-0.4
CARC	**Carrizo Plain**	**1.79**	**245**		Pb	07 42 58.5	-0.3
BFSC	**Mount Baldy Ra**	**1.85**	**175**		Pn	07 42 57.7	-0.5
BFSC				IAML		07 43 25.7	
	comp=E,117nm,0.7s						
BFSC				IAML		07 43 27.5	
	comp=N,99nm,0.8s						
MWC	**Mount Wilson**	**1.87**	**185**		Pn	07 42 58.4	+0.1
MWC				IAML		07 43 25.8	
	comp=N,192nm,0.3s						
MWC				IAML		07 43 26.6	
	comp=E,168nm,0.9s						
SSK	**Sunset Peak**	**1.88**	**176**		Pn	07 42 58.2	-0.3
SMMC	**Simmler**	**1.90**	**247**		Pn	07 42 59.5	+0.8
PASC	**Pasadena Art C**	**1.93**	**188**		Pn	07 42 58.9	-0.2
PASC				IAML		07 43 29.6	
	comp=E,117nm,0.8s						
MTPC	**Mountain Pass**	**1.97**	**107**		Pn	07 42 58.8	-1.0
MTPC				IAML		07 43 29.7	
	comp=E,84nm,0.5s						
MTPC				IAML		07 43 30.1	
	comp=N,94nm,0.7s						
TSCN	**Private Proper**	**2.09**	**256**		Pn	07 43 02.3	+1.0
PKD	**Bear Valley Ra**	**2.18**	**267**		Pn	07 43 03.2	+0.7
SHPR	**Sheep Range**	**2.22**	**78**		Pn	07 43 03.5	+0.2
ELS	**Elsinore Mount**	**2.46**	**172**		Pn	07 43 06.0	-0.4
V12A	**Nelson**	**2.47**	**98**		Pn	07 43 05.9	-0.7
V12A				IAML		07 43 45.6	
	comp=N,52nm,1.1s						
V12A				IAML		07 43 50.1	
	comp=E,59nm,0.6s						
BELC	**Belle Mtn. Jos**	**2.58**	**143**		Pn	07 43 07.5	-0.7
PRN	**Pahroc Range**	**2.61**	**59**		Pn	07 43 08.7	+0.1
PRN				IAML		07 43 59.1	
	comp=N,82nm,0.8s						
PRN				IAML		07 44 06.3	
	comp=E,104nm,0.8s						
PMD	**Palm Desert**	**2.73**	**153**		Pn	07 43 09.0	-1.0
PFO	**Pinyon Flats O**	**2.73**	**155**		Pn	07 43 09.6	-0.6
R11B	**Troy Canyon, C**	**2.90**	**38**		Pn	07 43 12.9	+0.4
SAO	**San Andreas Ge**	**2.97**	**284**		Pn	07 43 14.6	+1.3
DPP	**Dos Picos Cty**	**3.18**	**166**		Pn	07 43 15.4	-0.8
CBX	**Cerro Bola**	**3.90**	**165**		Pn	07 43 25.5	-0.7
CBX				IAML		07 44 33.7	
	comp=N,35nm,1.0s						
GLA	**Glamis**	**3.93**	**140**		Pn	07 43 26.0	-0.6
GLA				IAML		07 44 35.3	
	comp=N,29nm,0.7s						
ESJX	**Sierra Juarez**	**4.37**	**158**	Pn	Pn	07 43 32.9	0.0
ESJX				IAML		07 44 40.1	
	comp=N,19nm,0.1s						
Y14A	**Wickenburg**	**4.53**	**117**		Pn	07 43 33.9	-0.9
Y14A				IAML		07 44 54.8	
	comp=E,15nm,0.6s						
Y14A				IAML		07 44 59.3	
	comp=N,15nm,1.1s						

*IDC **18** 07:52:41.2±0.5, 54°.92N×164°.75E, h0km, mb4.1/27, mbtmp4.1/30, ML3.8/3, MS3.7/38, Error ellipse: s-maj=17.6km s-min=10.5km az=159.0*
*KRSC **18** 07:52:42.4±1.1, 54°.90N×164°.66E, h49km±23km, Mc5.2, Ml4.8*
*NEIC **18** 07:52:43.5±1.0, 55°.02N±0°.04×164°.6E±0°.1, h10km±1km, mb4.5/145, Error ellipse: s-maj=12.2km s-min=4.1km az=238.0*
*MOS **18** 07:52:44.2±0.8, 54°.93N×164°.71E, h32km, mb4.8/20, MS3.9/11, Error ellipse: s-maj=5.8km s-min=5.5km az=138.3*
ISC 18 07:52:43.5±1.8, 54°.97N±0°.04×164°.76E±0°.04, h16km±11km, n554, σ2$ 16/477, mb4.5/103, MS3.9/47, 7C-14D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.74**	**71**	PN	**Pb**	**07 52 58.1**	**+0.2**
BKI				S	**Sb**	**07 53 08.8**	**+1.0**
BKI	**Bering**	**0.74**	**71**	*i* P	**Pb**	**07 52 58.2**	**+0.2**
BKI				*eS*	**Sb**	**07 53 08.9**	**+1.0**
KBTR	**Krutoberegovo**	**1.66**	**319**	PN	**Pn**	**07 53 09.8**	**-2.1**
KBTR	**Krutoberegovo**	**1.66**	**319**	*eP*	**Pn**	**07 53 09.9**	**-2.1**
KBG	**Krutoberegovo**	**1.74**	**319**	PN	**Pn**	**07 53 11.0**	**-2.0**
KBG				S	**Sn**	**07 53 31.0**	**-3.8**
KBG	**Krutoberegovo**	**1.74**	**319**	*eP*	**Pn**	**07 53 11.1**	**-2.0**
KBG				*eS*	**Sn**	**07 53 31.0**	**-3.8**
MKZ	**Mys Kozlova**	**1.80**	**258**	PN	**Pn**	**07 53 12.1**	**-1.7**
MKZ				S	**Sn**	**07 53 32.7**	**-3.6**
MKZ	**Mys Kozlova**	**1.80**	**258**	*eP*	**Pn**	**07 53 12.2**	**-1.7**
MKZ				*eS*	**Sn**	**07 53 32.7**	**-3.6**
SMKR	**Semkarok**	**2.46**	**312**	PN	**Pn**	**07 53 23.4**	**+0.4**
SMKR	**Semkarok**	**2.46**	**312**	*eP*	**Pn**	**07 53 23.5**	**+0.4**
ZLN	**Zelenaya**	**2.48**	**297**	PN	**Pn**	**07 53 23.8**	**+0.5**
ZLN	**Zelenaya**	**2.48**	**297**	*eP*	**Pn**	**07 53 23.8**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**2.51**	**295**	PN	**Pn**	**07 53 23.7**	**0.0**
BZGR	**Bezymyannyi-Gr**	**2.51**	**295**	*eP*	**Pn**	**07 53 23.7**	**0.0**
TUMD	**Tumrok D**	**2.52**	**277**	PN	**Pn**	**07 53 23.2**	**-0.5**
TUMD				S	**Sn**	**07 53 53.3**	**-0.7**
TUMD	**Tumrok D**	**2.52**	**277**	*eP*	**Pn**	**07 53 23.3**	**-0.5**
TUMD				*eS*	**Sn**	**07 53 53.4**	**-0.7**
CIRR	**Tsirk**	**2.55**	**298**	PN	**Pn**	**07 53 24.2**	**-0.1**
CIRR	**Tsirk**	**2.55**	**298**	*eP*	**Pn**	**07 53 24.3**	**-0.1**
BZMR	**Bezymyannaya**	**2.62**	**294**	PN	**Pn**	**07 53 25.3**	**+0.1**
BZMR	**Bezymyannaya**	**2.62**	**294**	*eP*	**Pn**	**07 53 25.4**	**+0.1**
BZWR	**Bezymyannyi-We**	**2.62**	**294**	PN	**Pn**	**07 53 25.5**	**+0.2**
BZWR	**Bezymyannyi-We**	**2.62**	**294**	*eP*	**Pn**	**07 53 25.6**	**+0.2**
KLY	**Klyuchi**	**2.69**	**302**	PN	**Pn**	**07 53 24.6**	**-1.4**
KLY				S	**Sn**	**07 53 55.3**	**-2.9**
KLY	**Klyuchi**	**2.69**	**302**	*eP*	**Pn**	**07 53 24.7**	**-1.4**
KLY				*eS*	**Sn**	**07 53 55.4**	**-2.9**
KMNR	**Kamenistaya**	**2.70**	**289**	PN	**Pn**	**07 53 26.7**	**+0.4**
KMNR	**Kamenistaya**	**2.70**	**289**	*eP*	**Pn**	**07 53 26.7**	**+0.4**
KIRR	**Kirishev**	**2.70**	**293**	PN	**Pn**	**07 53 26.8**	**+0.4**
KIRR	**Kirishev**	**2.70**	**293**	*eP*	**Pn**	**07 53 26.8**	**+0.4**
KPT	**Kopyto**	**2.77**	**293**	PN	**Pn**	**07 53 27.7**	**+0.5**
KPT	**Kopyto**	**2.77**	**293**	*eP*	**Pn**	**07 53 27.8**	**+0.5**
KOZ	**Kozyrevsk**	**2.98**	**294**	PN	**Pn**	**07 53 31.1**	**+0.9**
KOZ	**Kozyrevsk**	**2.98**	**294**	*eP*	**Pn**	**07 53 31.1**	**+0.9**
SRDR	**Sredinnyy**	**3.16**	**297**	PN	**Pn**	**07 53 33.8**	**+1.2**
SRDR	**Sredinnyy**	**3.16**	**297**	*eP*	**Pn**	**07 53 33.8**	**+1.2**
KII	**Karymskiy**	**3.23**	**255**	PN	**Pn**	**07 53 33.4**	**-0.1**
KII	**Karymskiy**	**3.23**	**255**	*eP*	**Pn**	**07 53 33.5**	**-0.1**
ESO	**Esso**	**3.58**	**288**	PN	**Pn**	**07 53 38.2**	**-0.1**
ESO	**Esso**	**3.58**	**288**	*eP*	**Pn**	**07 53 38.2**	**-0.1**
NLC	**Nalytchevo**	**3.66**	**243**	PN	**Pn**	**07 53 38.3**	**-1.0**
NLC	**Nalytchevo**	**3.66**	**243**	*eP*	**Pn**	**07 53 38.4**	**-1.0**
SDLR	**Sedlovina**	**3.85**	**246**	PN	**Pn**	**07 53 41.4**	**-0.7**
SDLR	**Sedlovina**	**3.85**	**246**	*eP*	**Pn**	**07 53 41.4**	**-0.7**
SMAR	**Somma**	**3.90**	**246**	PN	**Pn**	**07 53 42.9**	**+0.1**
SMAR	**Somma**	**3.90**	**246**	*eP*	**Pn**	**07 53 42.9**	**+0.1**
KRER	**Koryakskii**	**3.91**	**247**	PN	**Pn**	**07 53 43.2**	**+0.3**
KRER	**Koryakskii**	**3.91**	**247**	*eP*	**Pn**	**07 53 43.3**	**+0.3**
UGLR	**Uglovaya**	**3.91**	**246**	PN	**Pn**	**07 53 42.6**	**-0.3**
UGLR	**Uglovaya**	**3.91**	**246**	*eP*	**Pn**	**07 53 42.7**	**-0.3**
AVH	**Avacha**	**3.93**	**247**	PN	**Pn**	**07 53 43.1**	**-0.1**
AVH	**Avacha**	**3.93**	**247**	*eP*	**Pn**	**07 53 43.1**	**-0.1**
KRX	**Arik**	**3.93**	**248**	PN	**Pn**	**07 53 43.2**	**-0.1**
KRX	**Arik**	**3.93**	**248**	*eP*	**Pn**	**07 53 43.3**	**-0.1**
KOK	**Koryaka**	**3.97**	**248**	PN	**Pn**	**07 53 44.0**	**+0.3**
KOK	**Koryaka**	**3.97**	**248**	*eP*	**Pn**	**07 53 44.1**	**+0.3**
DALK	**Dalny**	**4.04**	**244**	PN	**Pn**	**07 53 44.2**	**-0.3**
DALK	**Dalny**	**4.04**	**244**	*eP*	**Pn**	**07 53 44.3**	**-0.3**
PET	**Petropavlovsk**	**4.09**	**244**		**Pn**	**07 53 45.2**	**-0.1**
PET	**Petropavlovsk**	**4.09**	**244**	*e*PN	**Pn**	**07 53 45.2**	**-0.1**
PET				pmax	pmax		
	comp=Z,106nm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,10.0s						
PET				MLR	MLR		
	comp=Z,800nm,15.0s						
PET	**Petropavlovsk**	**4.09**	**244**	*e*P	**Pn**	**07 53 44.8**	**-0.6**
INSR	**Institute**	**4.10**	**245**	*e*S	**Sn**	**07 54 28.9**	**-4.0**
GNL	**Ganaly**	**4.19**	**255**	PN	**Pn**	**07 53 47.0**	**+0.3**
GNL	**Ganaly**	**4.19**	**255**	*e*P	**Pn**	**07 53 47.0**	**+0.3**
KRMR	**Karymshinskiy**	**4.46**	**244**	PN	**Pn**	**07 53 50.3**	**-0.1**
KRMR	**Karymshinskiy**	**4.46**	**244**	*e*P	**Pn**	**07 53 50.3**	**-0.1**
KRMR				*e*S	**Sn**	**07 54 38.2**	**-3.8**
RUS	**Russkaya**	**4.49**	**238**	PN	**Pn**	**07 53 49.8**	**-1.0**
RUS	**Russkaya**	**4.49**	**238**	*e*P	**Pn**	**07 53 49.9**	**-1.0**
PEA0B	**Petropavlovsk-**	**4.56**	**249**		**Pn**	**07 53 52.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**4.56**	**249**	*de*PN	**Pn**	**07 53 52.2**	**+0.5**
PETK	**Petropavlovsk-**	**4.56**	**249**	Pn	**Pn**	**07 53 51.3**	**-0.4**
	comp=Z,8.0nm,0.3s,baz=71,slow=18,SNR=140						
PETK				Sn	**Sn**	**07 54 39.4**	**-5.0**
	comp=Z,4.2nm,0.3s,baz=65,slow=25,SNR=4.5						
PETK				LR	LR	07 55 48.9	
	comp=Z,1μm,21.8s,baz=45,slow=41 comp=Z,24nm,0.5s						
MTVR	**Mutnovka**	**4.63**	**240**	PN	**Pn**	**07 53 52.3**	**-0.5**
MTVR	**Mutnovka**	**4.63**	**240**	*e*P	**Pn**	**07 53 52.4**	**-0.5**
GRL	**Gorelyy**	**4.64**	**241**	PN	**Pn**	**07 53 52.3**	**-0.7**
GRL	**Gorelyy**	**4.64**	**241**	*e*P	**Pn**	**07 53 52.4**	**-0.7**
ASAK	**Asacha**	**4.83**	**240**	PN	**Pn**	**07 53 55.8**	**+0.3**
ASAK	**Asacha**	**4.83**	**240**	*e*P	**Pn**	**07 53 55.8**	**+0.3**
APC	**Apacha**	**4.93**	**249**	PN	**Pn**	**07 53 59.1**	**+2.3**
APC	**Apacha**	**4.93**	**249**	*e*P	**Pn**	**07 53 59.1**	**+2.3**
MIPR	**Malaya Ipel'ka**	**5.47**	**244**	PN	**Pn**	**07 54 05.4**	**+1.1**
MIPR	**Malaya Ipel'ka**	**5.47**	**244**	*e*P	**Pn**	**07 54 05.4**	**+1.1**
SHEM	**Shemya Is, Ala**	**5.97**	**108**	Pn	**Pn**	**07 54 11.2**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=264,slow=19,SNR=1.7 comp=Z,25nm,0.6s						
SMY	**Shemya**	**5.97**	**108**	Pn	**Pn**	**07 54 13.3**	**+2.3**
SMY	**Shemya**	**5.97**	**108**	PN	**Pn**	**07 54 13.3**	**+2.3**
SKR	**Severo-Kuril's**	**6.76**	**234**	*e*PN	**Pn**	**07 54 22.1**	**+0.1**
SKR	**Severo-Kuril's**	**6.76**	**234**	*e*P	**Pn**	**07 54 22.1**	**+0.1**
MA2	**Magadan**	**8.87**	**307**	LR	LR	07 58 39.9	
	comp=Z,634nm,19.2s,baz=110,slow=40						
MA2	**Magadan**	**8.87**	**307**	*e*PN	**Pn**	**07 54 51.2**	**+0.3**
MA2				MLR	MLR		
	comp=Z,540nm,12.0s						
SEY	**Seymchan**	**10.21**	**326**	LR	LR	07 58 51.5	
	comp=Z,263nm,18.8s,baz=126,slow=36						
SPIA	**Saint Paul Isl**	**14.11**	**71**	P	**Pn**	**07 56 01.3**	**-1.1**
	baz=272						
P08K	**Saint George I**	**14.52**	**73**	P	**Pn**	**07 56 06.7**	**-1.4**
	baz=274						
GAMB	**Gambell**	**14.80**	**44**	P	**Pn**	**07 56 10.4**	**-1.5**
	baz=245						
NIKH	**Nikolski High**	**15.62**	**86**	Pn	**Pn**	**07 56 24.6**	**+1.8**
NIKH				IAmb	IAmb	07 56 50.2	
	comp=Z,22nm,0.8s						
NIKH	**Nikolski High**	**15.62**	**86**	P	**Pn**	**07 56 21.8**	**-1.0**
	baz=288						
YSS	**Yuzhno-Sakhali**	**15.96**	**249**	*e*P	**P**	**07 56 32.7**	**+2.0**
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
M11K	**Mekoryuk**	**16.36**	**59**	P	**Pn**	**07 56 30.6**	**-1.6**
	baz=264						
UNV	**Unalaska Valle**	**16.72**	**82**	Pn	**P**	**07 56 39.2**	**+0.2**
UNV	**Unalaska Valle**	**16.72**	**82**	P	**Pn**	**07 56 35.7**	**-1.1**
	baz=286						
TNA	**Tin City**	**17.05**	**41**	P	**Pn**	**07 56 38.9**	**-1.9**
	baz=245						
AKUT	**Akutan**	**17.06**	**81**	P	**P**	**07 56 44.2**	**+1.4**
AKUT				IAmb	IAmb	07 56 55.8	
	comp=Z,52nm,1.0s						
K13K	**Kusilvak Mount**	**17.33**	**54**	P	**P**	**07 56 45.5**	**-0.2**
K13K	**Kusilvak Mount**	**17.33**	**54**	P	**Pn**	**07 56 42.9**	**-1.4**
	baz=260						
GRNR	**Gornyy**	**17.55**	**268**	*i* P	**P**	**07 56 48.8**	**+0.5**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
GRNR				MLR	MLR		
	comp=N,190nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,470nm,15.0s						
F14K	**Arctic Creek**	**17.62**

H17K Granite Mounta 20.02 46 P P 07 57 12.1 -3.2
baz=257
N16K Nishlik Lake 20.05 59 P P 07 57 13.3 -2.4
baz=270
S14K Fog Glacier 20.06 72 P P 07 57 13.3 -2.5
baz=281
J17K VABM Dome 20.10 51 Pn 07 57 18.3 +0.3
J17K IAmb IAmb 07 57 43.5
comp=Z,20nm,1.1s
J17K VABM Dome 20.10 51 P P 07 57 13.0 -3.1
baz=262
L17K Donlin 20.33 54 P P 07 57 16.2 -2.4
baz=266
CHNA Chernabura Isl 20.37 76 P P 07 57 16.7 -2.4
baz=285
K17K Iditarod 20.37 53 Pn 07 57 20.6 -0.5
K17K IAmb IAmb 07 57 50.0
comp=Z,26nm,0.9s
K17K Iditarod 20.37 53 P P 07 57 16.2 -2.9
baz=265,SNR=7.3
CNBA Chernabura Isl 20.38 76 P P 07 57 19.1 -0.1
O16K Kokwok River B 20.42 62 P P 07 57 20.6 +1.1
O16K Kokwok River B 20.42 62 P P 07 57 17.1 -2.4
baz=273
E18K Tukpahlearik C 20.48 39 P Pn 07 57 22.2 -0.1
E18K Tukpahlearik C 20.48 39 P P 07 57 16.8 -3.4
baz=250
P16K Nushagak River 20.51 63 P P 07 57 17.5 -3.1
baz=275
F18K Selawik 20.57 41 P P 07 57 17.2 -3.9
baz=253
CHGN Chignik 20.68 71 P Pn 07 57 23.9 -0.8
M17K Holitna River 20.70 57 Pn 07 57 24.7 -0.3
M17K IAmb IAmb 07 57 49.0
comp=Z,21nm,1.0s
M17K Holitna River 20.70 57 P P 07 57 19.3 -3.4
baz=269
H18K Honhosa River 20.71 46 P Pn 07 57 24.6 -0.6
H18K IAmb IAmb 07 57 48.7
comp=Z,24nm,1.3s
H18K Honhosa River 20.71 46 P P 07 57 19.0 -3.8
baz=258,SNR=6.7
C18K Utukok River 20.74 35 Pn 07 57 24.6 -0.9
C18K Utukok River 20.74 35 P P 07 57 19.5 -3.6
baz=246
G18K Tagagawik 20.76 44 P Pn 07 57 24.9 -0.8
G18K Tagagawik 20.76 44 P P 07 57 23.0 -0.3
baz=256
N17K Nushagak Hills 20.83 59 P P 07 57 25.3 +1.2
N17K IAmb IAmb 07 58 03.9
comp=Z,25nm,1.4s
N17K Nushagak Hills 20.83 59 P P 07 57 21.7 -2.4
baz=272
B18K Kokolik River 20.85 33 P P 07 57 21.4 -2.8
baz=244
O17K Koliganek Bris 20.91 61 P P 07 57 22.6 -2.3
baz=274
L18K Granite Mounta 21.09 54 P P 07 57 28.1 +1.3
L18K Granite Mounta 21.09 54 P P 07 57 24.3 -2.5
baz=268
JTM Tenmabayashi 21.15 238 P P 07 57 26.6 -1.1
J18K Innoko River 21.16 51 P P 07 57 29.6 +1.9
J18K IAmb IAmb 07 57 59.3
comp=Z,19nm,1.1s
J18K Innoko River 21.16 51 P P 07 57 24.7 -2.9
baz=264,SNR=10
Q16K King Salmon 21.23 64 P P 07 57 25.8 -2.6
baz=277,SNR=5.7
GCSA Galena City Sc 21.26 47 P P 07 57 26.1 -2.5
baz=261
P17K Kvichak River 21.29 63 P P 07 57 26.9 -2.1
baz=276
F19K Shaleruckik Mo 21.35 41 IAmb IAmb 07 57 36.8
comp=Z,26nm,1.4s
F19K Shaleruckik Mo 21.35 41 P P 07 57 27.6 -2.0
baz=255,SNR=9.5
G19K Purcell Mounta 21.44 43 P P 07 57 28.9 -1.7
baz=257
C19K Lookout Ridge 21.46 35 P P 07 57 32.0 +1.3
C19K IAmb IAmb 07 57 54.6
comp=Z,15nm,0.9s
C19K Lookout Ridge 21.46 35 P P 07 57 28.8 -2.0
baz=247
A19K Wainwright 21.46 32 P P 07 57 28.8 -2.0
baz=242
N18K Kilae Creek 21.47 59 P 07 57 32.3 +1.4
N18K Kilae Creek 21.47 59 P P 07 57 29.2 -1.7
baz=272
M18K Stony River 21.48 56 P P 07 57 29.5 -1.5
baz=270
R17L Mt. Peulik Vol 21.54 67 P P 07 57 30.2 -1.5
baz=280
H19K Roundabout Mou 21.57 45 P P 07 57 29.9 -2.0
baz=260,SNR=6.6
J19K Poorman 21.70 49 P 07 57 34.6 +1.2
J19K Poorman 21.70 49 P P 07 57 31.1 -2.3
baz=264,SNR=7.6
E19K Redstone River 21.72 40 P P 07 57 31.4 -2.2
baz=254,SNR=5.5
D19K Kuna River 21.73 37 IAmb IAmb 07 58 04.0
comp=Z,15nm,1.1s
D19K Kuna River 21.73 37 P P 07 57 31.3 -2.5
baz=250
O18K Koktuh Hills 21.86 61 P P 07 57 32.5 -2.6
baz=275
P18K Big Mountain, 21.89 62 P P 07 57 33.1 -2.4
baz=276
L19K White Mountain 21.94 54 P P 07 57 37.6 +1.6
L19K IAmb IAmb 07 58 21.5
comp=Z,23nm,1.2s
L19K White Mountain 21.94 54 P P 07 57 33.9 -2.2
baz=270
Q18K Katmai Hardscr 22.09 64 P P 07 57 34.9 -2.8
baz=278
N19K Bonanza Creek 22.15 58 P P 07 57 39.8 +1.4
N19K Bonanza Creek 22.15 58 P P 07 57 35.9 -2.4
baz=273
M19K Big River Lodg 22.16 55 P P 07 57 40.0 +1.6
M19K Big River Lodg 22.16 55 P P 07 57 35.9 -2.5
baz=271
F20K Avaraart Lake 22.18 41 P P 07 57 35.2 -3.3
baz=257
H20K Anotleneega Mo 22.21 46 P P 07 57 35.7 -3.1
baz=261
O19K Port Alsworth 22.27 60 P P 07 57 36.7 -2.8
baz=275
I20K Naaghedeneel 22.29 48 IAmb IAmb 07 57 45.8
comp=Z,25nm,1.1s
I20K Naaghedeneel 22.29 48 P P 07 57 36.5 -3.1
baz=263
D20K Etivluk River 22.32 37 P P 07 57 40.8 +0.8
D20K Etivluk River 22.32 37 P P 07 57 37.0 -3.1
baz=252
E20K Nigu River 22.33 38 P P 07 57 37.1 -3.1
baz=253
K20K Telida 22.34 51 P P 07 57 36.8 -3.5
baz=267
J20K Nowinta River 22.36 49 P 07 57 41.8 +1.3
J20K IAmb IAmb 07 57 46.4
comp=Z,16nm,0.8s
J20K Nowinta River 22.36 49 P P 07 57 38.2 -2.3
baz=265,SNR=13
L20K Farewell, AK 22.40 54 P P 07 57 37.4 -3.6
baz=270
R18K Karluk 22.56 67 P P 07 57 40.1 -2.5
baz=281
B20K Meade River 22.59 34 P P 07 57 39.8 -3.1
baz=248
TIXI Tiksi 22.65 331 P 07 57 43.5 +0.1
TIXI IAmb IAmb 07 57 57.4
comp=Z,32nm,1.3s
TIXI Tiksi 22.65 331 LR LR 08 07 12.5
comp=Z,249nm,19.0s,baz=144,slow=38
TIXI Tiksi 22.65 331⇓ eP P 07 57 43.7 +0.3
TIXI pmax pmax
comp=Z,9.0nm,1.1s
TIXI MLR MLR
comp=Z,245nm,14.0s
IMAR Indian Mountai 22.75 45 P P 07 57 45.0 +0.4
Q19K Cape Douglas, 22.75 63 P P 07 57 41.8 -2.9
baz=278
M20K Styx River 22.76 55 P P 07 57 41.9 -3.0
baz=272
P19K Oil Pt 22.87 61 P P 07 57 43.1 -2.8
baz=277
G21K Allakaket 22.93 43 P P 07 57 47.9 +1.4
G21K Allakaket 22.93 43 P P 07 57 43.9 -2.6
baz=260
HEH HeiHe 22.97 274 eP P 07 57 44.8 -2.2
HEH pmax pmax
comp=Z,7.0nm,0.6s
F21K Alatna River 23.07 41 P P 07 57 45.1 -2.9
baz=259
C21K Knifeblade Rid 23.09 36 P P 07 57 44.7 -3.4
baz=253
H21K Melozitna Rive 23.09 45 IAmb IAmb 07 57 53.1
comp=Z,21nm,1.2s
H21K Melozitna Rive 23.09 45 P P 07 57 45.0 -3.2
baz=263,SNR=12
O20K Slope Mountain 23.13 60 P P 07 57 45.1 -3.5
baz=276
CHUM Lake Minchumin 23.15 50 P P 07 57 45.3 -3.4
baz=268
E21K Killik River 23.17 38 P P 07 57 46.0 -3.0
baz=255
PPLA Purkeypile 23.18 53 IAmb IAmb 07 58 13.5
comp=Z,26nm,1.2s
PPLA Purkeypile 23.18 53 P P 07 57 46.4 -2.9
baz=270
N20K Mount Spurr 23.23 57 P P 07 57 46.9 -2.8
baz=274
CAST Castle Rocks 23.24 51 P P 07 57 50.9 +1.3
CAST Castle Rocks 23.24 51 P P 07 57 46.5 -3.2
baz=269,SNR=12
OHAK Old Harbor 23.25 67 P P 07 57 46.6 -3.1
baz=282
A21K Barrow 23.28 31 P P 07 57 46.3 -3.6
baz=246
B21K Ikpikpuk River 23.29 35 IAmb IAmb 07 57 54.9
comp=Z,15nm,0.8s
B21K Ikpikpuk River 23.29 35 P P 07 57 46.6 -3.5
baz=252
I21K Tanana 23.38 47 P P 07 57 52.1 +1.1
I21K Tanana 23.38 47 P P 07 57 47.8 -3.2
baz=265
Q20K Shuyak Island 23.45 63 P P 07 57 49.0 -2.8
baz=280
KDAK Kodiak Island 23.50 66 P P 07 57 52.9 +0.6
KDAK IAmb IAmb 07 58 36.0
comp=Z,20nm,1.2s
KDAK Kodiak Island 23.50 66 P P 07 57 52.4 +0.1
comp=Z,8.6nm,0.7s,baz=280,slow=3.5,SNR=6.3
comp=Z,8.6nm,0.7s
KDAK Kodiak Island 23.50 66 P P 07 57 49.7 -2.6
baz=282
SKT Skwentna 23.51 55 P P 07 57 50.0 -2.4
baz=273
USRK Ussuriysk Ar. 23.60 256 LR LR 08 07 31.7
comp=Z,360nm,18.6s,baz=58,slow=38
F22K John River 23.63 41 P P 07 57 50.9 -2.5
baz=260
A22K Sinclair Lake 23.65 32 P P 07 57 50.9 -2.7
baz=248
HOM Homer 23.67 61 P P 07 57 51.2 -2.7
baz=278
H22K Ishtalitna Cre 23.70 45 P P 07 57 51.8 -2.4
baz=264
D22K Ayikyak River 23.74 38 P P 07 57 52.4 -2.2
baz=256
BPAW Bear Paw Mtn. 23.74 50 IAmb IAmb 07 58 08.8
comp=Z,28nm,1.4s
BPAW Bear Paw Mtn. 23.74 50 P P 07 57 53.2 -1.4
baz=268,SNR=9.9
CAPN Captain Cook N 23.78 58 P P 07 57 53.7 -1.3
baz=276
G22K Bettles 23.78 43 P P 07 57 52.2 -2.8
baz=262
E22K Anaktuvuk Pass 23.88 39 P P 07 57 56.9 +0.9
E22K IAmb IAmb 07 58 00.6
comp=Z,10nm,0.8s
E22K Anaktuvuk Pass 23.88 39 P P 07 57 54.9 -1.1
baz=258,SNR=7.1
MLY Manley 23.89 47 P P 07 57 57.1 +1.0
MLY IAmb IAmb 07 58 00.5
comp=Z,9.5nm,0.9s
MLY Manley 23.89 47 P P 07 57 55.3 -0.8
baz=267,SNR=13
B22K Teshekpuk Lake 23.91 34 P P 07 57 53.7 -2.3
baz=252
TRF Thorofare Moun 24.05 51 P P 07 57 56.5 -1.2
baz=271,SNR=17
CUT Chulitna 24.08 54 P P 07 57 56.1 -1.7
baz=273
COLD Coldfoot 24.34 42 IAmb IAmb 07 58 23.4
comp=Z,15nm,1.0s
COLD Coldfoot 24.34 42 P P 07 57 59.3 -0.8
baz=262
G23K Bananza Creek 24.34 43 P P 07 57 58.6 -1.6
baz=264
VLA Vladivostok 24.35 255⇓ eP P 07 58 03.7 +3.3
VLA pmax pmax
comp=Z,77nm,1.8s
VLA MLR MLR
comp=Z,285nm,15.0s
RC01 Rabbit Creek A 24.44 57 P P 07 57 59.1 -2.0
baz=276
H23K Yukon River 24.45 45 P P 07 58 01.8 +0.7
H23K IAmb IAmb 07 58 06.2
comp=Z,19nm,1.1s
H23K Yukon River 24.45 45 P P 07 57 59.6 -1.6
baz=266,SNR=13
D23K Nanushuk River 24.47 38 P P 07 57 58.9 -2.4
baz=258
I23K Minto, Yukon-K 24.48 47 P P 07 58 02.5 +1.0
I23K Minto, Yukon-K 24.48 47 P P 07 57 59.7 -1.8
baz=268,SNR=20
NEA2 Nenana 24.59 48 P P 07 58 03.2 +0.7
NEA2 IAmb IAmb 07 58 07.3
comp=Z,15nm,0.8s
NEA2 Nenana 24.59 48 P P 07 58 00.9 -1.6
baz=269,SNR=20
MCK McKinley 24.65 50 IAmb IAmb 07 58 24.7
comp=Z,13nm,0.9s
MCK McKinley 24.65 50 P P 07 57 58.9 -4.2
baz=271
PMR Palmer 24.68 56 P P 07 57 59.2 -4.0
baz=276
E23K Chandalar 24.68 40 P P 07 58 04.4 +1.1
E23K Chandalar 24.68 40 P P 07 57 59.3 -4.1
baz=261,SNR=5.9
C23K Itkillik River 24.69 36 P P 07 57 59.6 -3.7
baz=256
SEW Seward 24.70 59 P P 07 58 00.5 -2.9
baz=279
TOLK Toolik Lake Re 24.80 39 P P 07 58 02.7 -1.7
baz=260,SNR=6.7
KNK Knik Glacier 25.02 56 P P 07 58 04.9 -1.5
baz=276
E24K Your Creek 25.10 40 P P 07 58 05.7 -1.4
baz=262,SNR=6.5
COLA College 25.12 48 P P 07 58 06.3 -0.8
COLA IAmb IAmb 07 58 25.0
comp=Z,12nm,0.8s
COLA College 25.12 48 d iP P 07 58 07.0 -0.1
COLA pmax pmax
comp=Z,21nm,1.5s
COLA College 25.12 48 P P 07 58 04.3 -2.8
baz=270
H24K Noodor Dome 25.13 45 IAmb IAmb 07 58 40.4
comp=Z,19nm,1.4s
H24K Noodor Dome 25.13 45 P P 07 58 04.5 -2.9
baz=268
PWL Port Wells 25.14 57 P P 07 58 06.3 -1.2
baz=278
D24K Happy Valley 25.16 38 IAmb IAmb 07 58 12.2
comp=Z,12nm,0.8s
D24K Happy Valley 25.16 38 P P 07 58 06.4 -1.1
baz=260
F24K Squaw Lake 25.26 42 P P 07 58 06.6 -1.9
baz=264
BNX BinXian 25.28 264 ⇓P P 07 58 08.0 -0.8
BNX pmax pmax
comp=Z,7.0nm,1.1s
POKR Poker Plat Res 25.30 47 IAmb IAmb 07 58 14.2
comp=Z,18nm,1.1s
POKR Poker Plat Res 25.30 47 P P 07 58 05.7 -3.1
baz=270
C24K Franklin Bluff 25.31 36 P P 07 58 07.8 -1.1
baz=258
G24K Hadweenzic Riv 25.35 43 P P 07 58 06.9 -2.4
baz=266,SNR=16
SCM Sheep Creek Mo 25.51 55 P P 07 58 08.0 -2.9
baz=276
HDA Harding Lake 25.51 49 IAmb IAmb 07 58 32.5
comp=Z,7.7nm,0.9s
HDA Harding Lake 25.51 49 P P 07 58 07.7 -3.1
baz=271
ILAR Eielson Array 25.53 48 P P 07 58 10.8 -0.2
ILAR Eielson Array 25.53 48 P P 07 58 10.6 -0.3
comp=Z,7.2nm,1.0s,baz=259,slow=8.5,SNR=40
comp=Z,7.2nm,1.0s
GLI Glacier Island 25.74 57 P P 07 58 09.6 -3.3
baz=279
MJB9 Matsu-Tunnel 25.87 236 P P 07 58 16.6 +2.3
MAJO Matsushiro 25.87 236 P P 07 58 14.1 -0.2
MAJO Matsushiro 25.87 236 de P P 07 58 15.1 +0.8
MAJO pmax pmax
comp=Z,14nm,0.7s
MJAR Matsushiro Arr 25.87 236 P P 07 58 14.2 0.0
MJAR Matsushiro Arr 25.87 236 P P 07 58 14.0 -0.3
comp=Z,6.8nm,0.8s,baz=24,slow=8.4,SNR=26
comp=Z,6.8nm,0.8s
G25K Bearman Lake 25.89 43 P P 07 58 10.0 -4.2
baz=267
H25L Birch Creek 25.99 45 P P 07 58 11.2 -3.9
baz=269
M24K Tolsona, Glenn 26.02 54 P P 07 58 12.1 -3.4
baz=277
K24K Donnelly Dome 26.05 50 P P 07 58 12.0 -3.7
baz=274
D25K Kavik River 26.05 38 P P 07 58 16.1 +0.5
D25K IAmb IAmb 07 58 38.9
comp=Z,8.6nm,0.9s
D25K Kavik River 26.05 38 P P 07 58 12.1 -3.5
baz=262
PRP Porcupine Dome 26.10 46 IAmb IAmb 07 58 39.1
comp=Z,11nm,0.9s
PRP Porcupine Dome 26.10 46 P P 07 58 12.2 -4.1
baz=270,SNR=11
F25K Christian Rive 26.12 42 IAmb IAmb 07 58 40.7
comp=Z,9.0nm,1.0s
F25K Christian Rive 26.12 42 P P 07 58 12.9 -3.5
baz=266
J25K Salcha River, 26.18 48 P P 07 58 13.5 -3.5
baz=272
E25K Arctic Village 26.20 40 IAmb IAmb 07 58 21.1
comp=Z,16nm,1.2s
E25K Arctic Village 26.20 40 P P 07 58 13.2 -3.8
baz=265
KLU Klutina 26.21 55 P P 07 58 14.6 -2.6
baz=278
PAX Paxson 26.25 52 P P 07 58 14.7 -2.9
baz=276
Q23K Middleton Isla 26.36 60 P P 07 58 15.1 -3.5
baz=282
EYAK Cordova Ski Ar 26.45 58 P P 07 58 17.6 -1.6
baz=280
HARP HAARP 26.45 53 P P 07 58 17.0 -2.3
baz=277
RIDG Independent Ri 26.46 50 IAmb IAmb 07 58 37.7
comp=Z,10.0nm,1.0s
RIDG Independent Ri 26.46 50 P P 07 58 16.0 -3.4
baz=275
BMAR Burnt Mountain 26.52 42 P P 07 58 21.4 +1.4
C26K Camden Bay 26.64 36 P P 07 58 18.5 -2.4
baz=262
F26K Sheenjek River 26.70 41 P P 07 58 19.5 -2.1
baz=267
G26K Porcupine Rive 26.82 43 IAmb IAmb 07 58 47.5
comp=Z,9.7nm,0.8s
G26K Porcupine Rive 26.82 43 P P 07 58 20.5 -2.0
baz=269
N25K Chitina, Valde 26.82 55 P P 07 58 19.3 -3.4
baz=279
SCRK Sand Creek 26.82 50 IAmb IAmb 07 58 26.0
comp=Z,9.1nm,1.0s
SCRK Sand Creek 26.82 50 P P 07 58 20.5 -2.3
baz=275,SNR=8.4
BMRM Bremner River 26.93 56 P P 07 58 21.8 -1.8
baz=280
J26L Joseph Creek 26.97 48 P P 07 58 22.4 -1.7
baz=274
C27K Jago River 27.02 37 P P 07 58 22.5 -1.8
baz=264
I26K Coal Creek Min 27.10 47 P P 07 58 23.1 -2.0
baz=273
L26K Log Cabin Wild 27.21 52 P P 07 58 25.5 -0.6
baz=277
KAIM Kayak Island 27.22 59 P P 07 58 24.5 -1.8
baz=282
MCARA McCarthy VSAT 27.61 55 P P 07 58 27.9 -1.8
baz=281
G27K Doyon Strip 27.66 43 IAmb IAmb 07 58 34.6
comp=Z,11nm,1.5s
G27K Doyon Strip 27.66 43 P P 07 58 28.8 -1.3
baz=271
K27K Chicken 27.66 49 IAmb IAmb 07 58 34.3
comp=Z,12nm,1.0s
K27K Chicken 27.66 49 P P 07 58 27.7 -2.4
baz=276
E27K Coleen River 27.68 40 P P 07 58 28.1 -2.3
baz=269
I27K Kandik River 27.72 46 P P 07 58 28.3 -2.5
baz=274
H27K Steamboat Moun 27.73 45 IAmb IAmb 07 58 35.9
comp=Z,9.2nm,1.1s
H27K Steamboat Moun 27.73 45 P P 07 58 28.5 -2.2
baz=273
L27K Beaver Creek, 27.89 51 P P 07 58 28.5 -3.7
baz=278,SNR=9.9
BCAR Beaver Creek A 27.91 51 P 07 58 32.8 +0.3
D27M Malcolm River 27.95 38 P P 07 58 29.2 -3.6
baz=267
M27K Edge Creek, AK 27.97 53 IAmb IAmb 07 58 59.6
comp=Z,14nm,1.1s
M27K Edge Creek, AK 27.97 53 P P 07 58 28.5 -4.6
baz=280
JHJ Hachijo jima 2 28.00 229 LR LR 08 09 54.2
comp=Z,53nm,22.0s,baz=106,slow=37
F28M Old Crow 28.34 42 P P 07 58 32.4 -3.8
baz=271
MESA MESA 28.37 57 P P 07 58 32.4 -4.4
baz=284
BVCY Beaver Creek 28.43 53 P P 07 58 32.6 -4.5
baz=280
I28M Miner Creek 28.43 46 IAmb IAmb 07 58 51.5
comp=Z,9.7nm,1.2s
I28M Miner Creek 28.43 46 P P 07 58 32.2 -4.9
baz=275
E28M Babbage River 28.45 40 P P 07 58 33.4 -3.8
baz=270
YUK3 Moose Creek 28.74 54 P P 07 58 36.1 -3.9
baz=282
D28M Stokes Point 28.75 38 P P 07 58 35.7 -4.0
baz=269
DAWY Dawson 28.83 49 P P 07 58 37.6 -3.0
baz=278
H29M Whitestone 29.00 44 P P 07 58 39.9 -2.2
baz=275
E29M Blow River 29.06 40 P P 07 58 41.1 -1.5
baz=272
O28M Mount Upton 29.08 56 P P 07 58 39.4 -3.7
baz=284
G29M Pine Creek 29.09 43 P P 07 58 40.3 -2.5
baz=274
I29M Ogilvie Camp, 29.12 46 P P 07 58 40.4 -2.8
baz=277
PINM Pinnacle 29.22 57 P P 07 58 40.4 -3.7
baz=285
M29M Somme Creek 29.52 52 IAmb IAmb 07 58 48.7
comp=Z,6.4nm,1.1s
M29M Somme Creek 29.52 52 P P 07 58 42.7 -4.1
baz=282
L29M L29M 29.54 51 P P 07 58 43.4 -3.5
baz=281,SNR=6.0
EPYK Eagle Plains 29.65 44 P P 07 58 44.3 -3.6
baz=276
K29M Barlow Dome 29.68 49 P P 07 58 44.6 -3.6
baz=280
YUK4 Talbot Arm 29.68 54 P P 07 58 45.7 -2.7
baz=284
PNL Peninsula 29.75 58 P P 07 58 44.8 -4.0
baz=286
G30M tAoh Zraii Nji 29.79 43 P P 07 58 44.7 -4.4
baz=276
I30M Mount Dempster 29.94 46 P P 07 58 46.4 -4.2
baz=279
J30M Hart River 30.06 48 P P 07 58 48.0 -3.7
baz=280
M30M Minto, Yukon 30.25 52 P P 07 58 48.4 -4.8
baz=283
HYT Haines Junctio 30.34 55 P P 07 58 49.8 -4.4
baz=285

N30M Aishikik Lake 30.38 54 P **P** **07 58 50.0 -4.3**
baz=284
KSRS Korea Array 30.45 250 P **P** **07 58 56.6 +1.5**
comp=Z,6.3nm,0.8s,baz=41,slow=9.0,SNR=27
comp=Z,6.3nm,0.8s
KSAR Wonju Array Be 30.48 250 P **P** **07 58 55.9 +0.5**
KSAR Wonju Array Be 30.48 250 P **P** **07 58 55.9 +0.5**
G31M Satah River 30.56 43 P P 07 58 50.7 -5.1
baz=278
P29M Windy Craggy 30.56 57 P **P** **07 58 51.7 -4.3**
baz=287
INK Inuvik 30.68 40 P **P** **07 58 57.7 +0.8**
comp=Z,1.0nm,0.4s,baz=234,slow=4.7,SNR=4.4
comp=Z,1.0nm,0.4s
INK Inuvik 30.68 40 P **P** **07 58 52.5 -4.4**
baz=276
H31M Peel River 30.69 45 P **P** **07 58 54.2 -2.8**
baz=279
F31M Tsiigehtchic 30.70 42 P **P** **07 58 53.7 -3.3**
baz=277
P30M Million Dollar 30.80 56 P P 07 58 53.2 -4.8
baz=287
N31M Braeburn, Yuko 30.98 53 P P 07 58 54.0 -5.6
baz=285
M31M Drury Creek, Y 31.43 52 lAmb lAmb 07 59 08.9
comp=Z,8.1nm,1.1s
M31M Drury Creek, Y 31.43 52 P **P** **07 58 58.9 -4.6**
baz=285
WHY Whitehorse 31.63 55 P **P** **07 59 00.7 -4.7**
baz=287
SKAG Skagway 31.78 57 P **P** **07 59 04.0 -2.7**
baz=289
S31K Pelican 31.84 60 P **P** **07 59 02.7 -4.5**
baz=291
JNU Nakatsue 32.21 241 LR LR 08 11 32.9
comp=Z,132nm,20.6s,baz=42,slow=35
N32M Quiet Lake 32.32 53 P **P** **07 59 08.3 -3.1**
baz=288
JCJ Chichijima 32.34 220 LR LR 08 15 32.6
comp=Z,9.1nm,18.5s,baz=340,slow=42
P32M Atlin 32.52 56 P **P** **07 59 11.9 -1.3**
baz=290
R32K Eaglecrest 32.58 59 P **P** **07 59 11.7 -2.0**
baz=291
SIT Sitka 32.63 61 P **P** **07 59 13.0 -1.1**
baz=292
MMPY Sheldon Lake, 32.72 50 P **P** **07 59 13.8 -1.1**
baz=287
P33M Teslin, Yukon 32.74 55 P **P** **07 59 14.9 -0.3**
baz=289
S32K Killisnoo 32.85 60 P **P** **07 59 13.8 -2.2**
baz=292
A36M Sachs Harbour 33.09 32 P **P** **07 59 16.0 -2.0**
baz=277
Q32M Nakina River 33.44 57 P **P** **07 59 19.9 -1.5**
baz=291
R33M Jennings River 33.90 56 P **P** **07 59 23.4 -2.0**
baz=292
C36M Paulatuk 33.92 37 P **P** **07 59 24.8 -0.4**
baz=282
T33K Petersburg 33.92 61 P **P** **07 59 22.9 -2.5**
baz=294
U33K Whale Pass 34.12 62 P **P** **07 59 24.1 -3.0**
baz=295
S34M Telegraph Cree 34.39 58 P **P** **07 59 28.1 -1.3**
baz=293
WRAK Wrangell Islan 34.39 61 P **P** **07 59 28.2 -1.2**
baz=295
TGTN Hyland Airport 34.40 51 P **P** **07 59 26.8 -2.7**
baz=290
CRAG Craig 34.40 63 P **P** **07 59 28.8 -0.7**
baz=296
WTLY Watson Lake, Y 34.66 54 P **P** **07 59 30.3 -1.5**
baz=292
DLBC Dease Lake 34.72 57 P **P** **07 59 33.0 +0.6**
comp=Z,1.4nm,0.6s,baz=122,slow=19,SNR=3.2
comp=Z,1.4nm,0.6s
DLBC Dease Lake 34.72 57 P **P** **07 59 31.2 -1.2**
baz=293
T35M Bob Quinn 35.20 59 P **P** **07 59 36.2 -0.3**
baz=295
H11N2 WAKE ISLAND Hy 35.21 176 T T 08 38 03.2
baz=359,slow=76,SNR=323
H11N3 WAKE ISLAND Hy 35.23 176 T T 08 38 04.4
baz=359,slow=76,SNR=411
H11N1 WAKE ISLAND Hy 35.23 177 T T 08 38 04.7
baz=359,slow=76,SNR=353
V35K Ketchikan 35.23 63 P **P** **07 59 34.7 -2.0**
baz=297
ULN Ulaanbaatar 35.76 283‖ *e*P **P** **07 59 43.8 +2.3**
ULN pmax pmax
comp=Z,9.0nm,2.0s
U35K Hyder 35.78 61 P **P** **07 59 39.9 -1.5**
baz=297
WRGLY Wrigley 35.90 47 P **P** **07 59 41.4 -1.0**
baz=291
SONM Songino Array 36.15 283 P **P** **07 59 45.6 +0.8**
comp=Z,0.6nm,0.4s,baz=58,slow=9.1,SNR=3.8
comp=Z,0.6nm,0.4s
LIRD Liard River Hi 36.19 54 P **P** **07 59 43.3 -1.7**
baz=294
H11S1 WAKE ISLAND Hy 36.42 177 T T 08 39 35.1
baz=359,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 36.43 177 T T 08 39 31.8
baz=359,slow=76,SNR=3.5
H11S2 WAKE ISLAND Hy 36.44 177 T T 08 39 46.2
baz=359,slow=76,SNR=14
TOAD Toad River Com 36.83 55 P **P** **07 59 49.7 -0.7**
baz=296
KOTAN Kotaneelee Air 36.84 52 P **P** **07 59 49.7 -0.7**
baz=295
HHC Hu-ho-hao-te 37.40 270 *e*P **P** **07 59 55.4 -0.2**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,63nm,6.7s
HHC LR LR
comp=N,260nm,12.1s
HHC LR LR
comp=E,310nm,13.5s
HHC LR LR
comp=Z,510nm,13.4s
HNS HongShan 37.91 264 *e*P **P** **08 00 02.5 +2.8**
BBB Bella Bella 38.58 65 LR LR 08 15 11.1
comp=Z,83nm,20.1s,baz=254,slow=35
JOW Kunigami 38.64 238 LR LR 08 18 09.4
comp=Z,67nm,18.6s,baz=317,slow=40
NJ2 Nanjing 39.45 254 *e*P **P** **08 00 12.3 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 39.90 46 P **P** **08 00 16.0 -0.1**
comp=Z,1.5nm,0.8s,baz=302,slow=9.0,SNR=3.7
comp=Z,1.5nm,0.8s
RES Resolute Bay 40.53 24 LR LR 08 19 02.9
comp=Z,39nm,18.8s,baz=3.5,slow=39
LYN LuoYang 41.20 262 P **P** **08 00 28.9 +1.7**
LYN pmax pmax
comp=Z,18nm,1.0s
XAN Xi'an 43.60 265 *e*P **P** **08 00 47.5 +0.7**
XAN pmax pmax
XAN comp=Z,9.0nm,0.9s LR LR
XAN comp=N,410nm,12.4s LR LR
XAN comp=E,330nm,12.4s LR LR
XAN comp=Z,340nm,13.7s LR LR
ZALV Zalesovo Beam 44.07 303 LR LR 08 20 51.8
comp=Z,149nm,18.6s,baz=68,slow=38
GUMO Guam 44.11 208 LR LR 08 21 49.7
comp=Z,33nm,18.6s,baz=48,slow=40
GTA Gaotai 45.10 278 *e*P **P** **08 01 01.0 +2.1**
GTA pmax pmax
GTA comp=Z,6.0nm,1.1s LR LR
GTA comp=N,320nm,16.0s LR LR
GTA comp=E,330nm,16.7s LR LR
GTA comp=Z,300nm,16.7s LR LR
SPITS Spitsbergen Ar 45.72 351 P **P** **08 01 03.6 +0.5**
comp=Z,3.0nm,0.7s,baz=60,slow=12,SNR=4.3
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 47.83 74 LR LR 08 18 03.6
comp=Z,8.2nm,20.9s,baz=292,slow=32
JTMT Jette 48.39 63 P **P** **08 01 25.7 +1.1**
KURK Kurchatov 49.05 303 P **P** **08 01 29.1 -0.3**
KURK Kurchatov 49.05 303‖ *i*P **P** **08 01 29.5 +0.1**
KURK pmax pmax
comp=Z,12nm,1.2s
KURK MLR MLR
comp=Z,316nm,17.0s
KURBB Kurchatov Arra 49.16 303 P **P** **08 01 30.4 +0.2**
comp=Z,2.1nm,0.4s,baz=54,slow=7.5,SNR=13
comp=Z,2.1nm,0.4s
BPMT Black Pine Rid 49.68 64 P **P** **08 01 35.2 +0.6**
MK31 Makanchi Array 49.79 297‖ *e*P **P** **08 01 34.7 -0.4**
MKAR Makanchi Array 49.79 297 P **P** **08 01 34.5 -0.6**
MKAR Makanchi Array 49.79 297 P **P** **08 01 34.0 -1.1**
comp=Z,0.6nm,0.4s,baz=48,slow=6.7,SNR=10
MKAR LR LR 08 23 40.7
comp=Z,299nm,19.2s,baz=5.5,slow=37
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 49.79 297 P **P** **08 01 34.5 -0.6**
GOMU GeErMu 50.18 278 P **P** **08 01 38.3 -0.3**
GOMU S S **08 08 48.4 -1.6**
GOMU GeErMu 50.18 278 SS **SS** **08 12 21.6 -1.3**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
GOMU LR LR
comp=N,190nm,16.3s
GOMU LR LR
comp=E,150nm,14.4s
GOMU LR LR
comp=Z,290nm,14.7s
GOMU GeErMu 50.18 278 P **P** **08 01 38.4 -0.2**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 51.35 310 P **P** **08 01 46.9 +0.2**
comp=Z,1.5nm,0.5s,baz=67,slow=5.0,SNR=8.3
comp=Z,1.5nm,0.5s
BRVK Borovoye 51.37 310 *d i*P **P** **08 01 47.6 +0.7**
BRVK pmax pmax
comp=Z,10.0nm,1.5s
BRVK MLR MLR
comp=Z,161nm,16.0s
YNE Yellowstone No 52.42 63 lAmb lAmb 08 02 36.5
comp=Z,6.1nm,1.3s
NVAR Mina Array Bea 52.55 75 P **P** **08 01 54.9 -1.3**
comp=Z,1.0nm,0.9s,baz=297,slow=8.0,SNR=6.4
comp=Z,1.0nm,0.9s
LHV Little Huntoon 52.57 75 lAmb lAmb 08 02 27.1
comp=Z,12nm,1.4s
RLMT Red Lodge 52.73 63 lAmb lAmb 08 02 18.3
comp=Z,5.9nm,0.9s
SVE Sverdlovsk 52.76 318 *e*P **P** **08 01 58.7 +1.5**
SVE pmax pmax
comp=Z,15nm,1.4s
LAO LASA Array 53.18 59 lAmb lAmb 08 02 41.0
comp=Z,6.3nm,1.0s
PZH PanZhiHua 53.34 265 P **P** **08 02 03.3 +1.3**
TPH Tonopah 53.40 74 lAmb lAmb 08 02 25.1
comp=Z,6.6nm,1.0s
ARTI Arti 53.94 319 P **P** **08 02 06.4 +0.6**
ARTI Arti 53.94 319 *c i*P **P** **08 02 06.2 +0.3**
ARTI 08 03 11.3
ARTI 08 04 04.4
ARTI S **S** **08 09 42.0 +1.7**
ARTI SS **SS** **08 13 19.9 -0.9**
ARTI pmax pmax
comp=Z,17nm,1.3s
PD31 Pinedale Array 54.22 65 lAmb lAmb 08 02 40.0
comp=Z,7.0nm,1.4s
PDAR Pinedale Array 54.22 65 P **P** **08 02 08.8 +0.4**
comp=Z,0.9nm,0.8s,baz=349,slow=3.2,SNR=11
comp=Z,0.9nm,0.8s
SPR3 Spring Creek 3 54.34 71 lAmb lAmb 08 02 43.0
comp=Z,6.5nm,1.0s
TPNV Topopah Spring 54.75 74 lAmb lAmb 08 02 46.0
comp=Z,6.9nm,1.0s
GWY Greenwater Val 55.06 75 lAmb lAmb 08 02 37.0
comp=Z,6.0nm,0.9s
MPU Maple Canyon 55.07 69 lAmb lAmb 08 02 47.4
comp=Z,5.1nm,0.9s
PRN Pahroc Range 55.08 73 lAmb lAmb 08 02 59.1
comp=Z,6.2nm,1.0s
KIRV Kirov 55.48 325‖ *e*P **P** **08 02 18.3 +1.4**
SFJD Kangerlussuaq 55.50 16 LR LR 08 28 43.1
comp=Z,61nm,18.5s,baz=345,slow=39
ULM Lac du Bonnet 55.52 50 P **P** **08 02 19.2 +1.9**
comp=Z,2.1nm,0.8s,baz=326,slow=7.1,SNR=3.3
comp=Z,2.1nm,0.8s
TMUT Trail Mountain 55.82 69 lAmb lAmb 08 02 53.4
comp=Z,6.6nm,1.0s
LCMT Little Creek M 56.36 72 lAmb lAmb 08 02 57.0
comp=Z,4.9nm,1.1s
KNB Kanab 56.59 72 lAmb lAmb 08 03 08.4
comp=Z,5.9nm,1.1s
KLMR Klimovskoe 56.67 331 *e*P **P** **08 02 24.6 -0.8**
KLMR *e* 08 03 20.3
KLMR pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 56.67 298 LR LR 08 27 47.6
comp=Z,166nm,18.1s,baz=34,slow=37
AAK Ala-Archa 56.67 298‖ *e*P **P** **08 02 26.6 +0.7**
AAK pmax pmax
comp=Z,8.0nm,1.1s
AAK MLR MLR
comp=Z,138nm,16.0s
O20A White River Ci 56.79 66 lAmb lAmb 08 03 10.0
comp=Z,6.3nm,0.9s
PFO Pinyon Flats O 57.06 77 LR LR 08 23 09.2
comp=Z,108nm,21.1s,baz=243,slow=32
DAV Davao City (W) 57.07 228 LR LR 08 31 30.4
comp=Z,16nm,16.6s,baz=160,slow=41
IRM Iron Mountain 57.40 76 lAmb lAmb 08 03 03.4
comp=Z,7.0nm,1.2s
PV13 Radium Mtn., P 57.93 68 P **P** **08 02 36.5 +1.5**
KSH Kashi 58.18 294 P **P** **08 02 41.3 +4.7**
KSH pP pwP 08 02 45.0 -1.3
KSH sP sP 08 02 48.8 +7.2
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=N,440nm,18.4s
KSH LR LR
comp=E,290nm,12.6s
KSH LR LR
comp=Z,210nm,15.3s
KK31 Karatay Array 58.33 301 P **P** **08 02 36.2 -1.3**
KK31 lAmb lAmb 08 02 48.7
comp=Z,6.2nm,1.1s
KK31 Karatay Array 58.33 301 P **P** **08 02 36.2 -1.3**
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 58.33 301 P **P** **08 02 36.1 -1.4**
KKAR Karatay Array 58.33 301 P **P** **08 02 36.1 -1.4**
AB31 Akbulak array 58.63 312 P **P** **08 02 39.6 +0.3**
ABKAR Akbulak array 58.63 312 **P** **08 02 39.7 +0.3**
FINES FINESS Array B 59.44 338 P **P** **08 02 44.5 -0.3**
comp=Z,2.5nm,0.8s,baz=318,slow=2.6,SNR=5.4
FINES LR LR 08 32 13.6
comp=Z,69nm,18.3s,baz=40,slow=40
comp=Z,2.5nm,0.8s
JAY Jayapura 60.63 208 LR LR 08 25 08.1
comp=Z,47nm,21.6s,baz=346,slow=32
CMAR Chiang Mai Arr 61.23 261 P **P** **08 02 57.9 +0.2**
comp=Z,1.2nm,0.3s,baz=21,slow=8.4,SNR=6.7
CMAR LR LR 08 32 17.7
comp=Z,75nm,18.0s,baz=35,slow=39
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 61.23 261 *i* P **P** **08 02 59.4 +1.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ANMO Albuquerque 61.58 69‖ *e*P **P** **08 03 01.0 +0.9**
ANMO pmax pmax
comp=Z,11nm,4.1s
BRDH Bariadhala 62.10 270 LR LR 08 34 18.5
comp=Z,125nm,18.5s,baz=62,slow=40
OBN Obninsk 62.36 329‖ *e*P **P** **08 03 06.0 +1.3**
OBN *e* 08 03 45.0
OBN *e* 08 05 20.7
OBN *e*S **S** **08 11 26.0 -4.2**
OBN pmax pmax
comp=Z,17nm,1.4s
OBN MLR MLR
comp=Z,70nm,16.0s
NB2 NORSAR Subarra 62.46 346 P **P** **08 03 07.2 +1.8**
comp=Z,2.0nm,0.8s,baz=18,slow=6.9
NOA NORSAR Array B 62.46 346 P **P** **08 03 05.2 -0.2**
comp=Z,0.5nm,0.6s,baz=19,slow=6.7,SNR=4.2
comp=Z,0.5nm,0.6s
SCHQ Schefferville 62.67 31 P **P** **08 03 07.5 +0.6**
comp=Z,1.5nm,0.6s,baz=346,slow=7.3,SNR=3.8
SCHQ LR LR 08 34 50.9
comp=Z,65nm,18.1s,baz=331,slow=40
comp=Z,1.5nm,0.6s
HNR Honiara 64.28 185 LR LR 08 26 24.3
comp=Z,139nm,21.9s,baz=30,slow=32
MNK Minsk 65.28 334 *i* P **P** **08 03 22.7 -1.3**
MNK *i* 08 05 46.6
MNK *i* PPP PPP 08 07 18.8
MNK *i* S **S** **08 12 07.7 +1.2**
MNK *i* SS **SS** **08 16 20.1 +1.8**
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,13nm,1.0s
MNK pmax pmax
comp=Z,11nm,0.7s
PMG Port Moresby 65.81 199 LR LR 08 28 49.9
comp=Z,44nm,18.6s,baz=128,slow=33
TX31 Lajitas Ar. Si 67.40 71 P **P** **08 03 39.1 +1.0**
TX31 lAmb lAmb 08 03 43.0
comp=Z,3.1nm,0.8s
TXAR Lajitas Array 67.40 71 P **P** **08 03 39.0 +0.9**
TXAR Lajitas Array 67.40 71 P **P** **08 03 39.1 +1.1**
comp=Z,2.4nm,0.8s,baz=300,slow=4.4,SNR=21
TXAR LR LR 08 31 26.5
comp=Z,34nm,19.9s,baz=358,slow=34
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 67.40 71 P **P** **08 03 39.0 +0.9**
LPIG La Paz 67.77 80 LR LR 08 31 16.8
comp=Z,38nm,18.2s,baz=263,slow=34
AKASG Malin Array Be 68.36 331 P **P** **08 03 44.4 +0.8**
comp=Z,1.1nm,0.5s,baz=29,slow=6.1,SNR=8.5
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 68.36 331‖ *e*P **P** **08 03 46.2 +2.6**
AKBB pmax pmax
comp=Z,10.0nm,2.0s
AKBB MLR MLR
comp=Z,110nm,19.0s
D62A Allapoint, All 68.67 36 P **P** **08 03 46.2 +0.6**
KIV Kislovodsk 69.88 319 *e*P **P** **08 03 53.2 -0.2**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,47nm,17.0s
KBZ Khabaz 70.00 319 P **P** **08 03 54.2 +0.3**
comp=Z,3.2nm,0.9s,baz=29,slow=3.6,SNR=5.5
comp=Z,3.2nm,0.9s
KBZ Khabaz 70.00 319‖ *i*P **P** **08 03 55.0 +1.1**
KBZ pmax pmax
comp=Z,7.0nm,1.3s
SHA1 Shidzhatmaz 70.08 319‖ *e*P **P** **08 03 55.7 +1.0**
GNI Garni 72.33 316 LR LR 08 40 30.2
comp=Z,111nm,18.9s,baz=26,slow=40
VRAC Vranov 72.72 339 LR LR 08 39 40.5
comp=Z,46nm,20.0s,baz=32,slow=39
GERES GERESS Array B 73.74 341 P **P** **08 04 18.2 +1.7**
comp=Z,0.5nm,0.7s,baz=28,slow=6.0,SNR=4.3
GERES LR LR 08 41 45.1
comp=Z,93nm,18.1s,baz=40,slow=40
comp=Z,0.5nm,0.7s
DZM Mont Dzumac 76.73 178 *e*LR LR 08 28 12.8
comp=Z,82nm,24.7s
BRTR Keskin Array B 76.84 323 P **P** **08 04 35.5 +1.0**
comp=Z,1.5nm,0.7s,baz=66,slow=4.9,SNR=5.9
comp=Z,1.5nm,0.7s
TAOE Nuku Hiva Isla 78.40 124 *e*LR LR 08 29 04.8
comp=Z,464nm,28.4s
WRA Warramunga Arr 79.00 209 P **P** **08 04 45.5 -0.8**
comp=Z,2.0nm,0.9s,baz=22,slow=5.8,SNR=6.9
WRA LR LR 08 40 52.3
comp=Z,47nm,18.6s,baz=225,slow=37
comp=Z,2.0nm,0.9s
PALK Pallekele 80.68 269 LR LR 08 46 11.7
comp=Z,47nm,19.6s,baz=317,slow=40
RAR Rarotonga 81.70 147 LR LR 08 39 15.3
comp=Z,96nm,18.2s,baz=314,slow=34
PPT2 Papeete2 82.01 136 *e*LR LR 08 30 38.1
comp=Z,67nm,23.0s
PPT2 *e*LR LR 08 30 38.4
comp=Z,132nm,26.0s
MMAI Mount Meron Ar 82.19 319 LR LR 08 44 55.6
comp=Z,51nm,18.2s,baz=26,slow=38
ASF Jabal al Asfar 82.37 318 LR LR 08 47 47.3
comp=Z,76nm,18.2s,baz=151,slow=40
ASAR Alice Springs 82.66 208 P **P** **08 05 06.5 +0.6**
comp=Z,3.7nm,0.9s,baz=14,slow=5.2,SNR=16
comp=Z,3.7nm,0.9s
ESDC Sonseca Array 85.24 351 P **P** **08 05 21.3 +2.2**
comp=Z,0.5nm,0.8s,baz=357,slow=5.2,SNR=6.5
comp=Z,0.5nm,0.8s
EIL Elat 85.35 318 LR LR 08 47 35.2
comp=Z,60nm,19.4s,baz=66,slow=39
SJG San Juan 95.36 48 LR LR 08 53 57.1
comp=Z,11nm,18.1s,baz=5.5,slow=38
ATD Arta Tunnel 97.84 303 LR LR 08 56 17.2
comp=Z,5.5nm,18.9s,baz=240,slow=39
QSPA South Pole Qui 144.72 180 PKP **PKPab** **08 12 16.5 -0.3**
comp=Z,3.7nm,0.7s,baz=351,slow=1.0,SNR=24

---

*ATH **18** 08:23:23.8, 39˚.41N×25˚.63E, h8km±2km, ML2.3/7, Manual Solution by N.Liadopoulou First location: 2019/08/18 08:24:49, This location: 2019/08/18 08:32:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **18** 08:23:24.4, 39˚.37N×25˚.73E, h7km±3km, ML2.5*
*THE **18** 08:23:24.6, 39˚N±1˚×2˚6E±˚, h10km±2km, M2.3/7, MLh2.3/7*
*ISK **18** 08:23:24.2, 39˚.40N×25˚.72E, h13km, ML2.7/27*

ISC 18 08:23:24.1±0.8, **39˚.38N**±0˚.02×**25˚.67E**±0˚.02, **h17**km±6km, **n69**, σ**0˚90**/99, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.22**	**139**	Pg	**Pg**	**08 23 29.6**	**+0.3**
SIGR				Sg	**Sg**	**08 23 32.8**	**0.0**
SIGR	**SIGRI**	**0.22**	**139**	P	**Pg**	**08 23 29.6**	**+0.3**
SIGR				S	**Sg**	**08 23 32.8**	**0.0**
SIGR	**SIGRI**	**0.22**	**139**	P	**Pg**	**08 23 29.6**	**+0.3**
SIGR				S	**Sg**	**08 23 32.6**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.37**	**78**	Pg	**Pg**	**08 23 31.4**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.38**	**71**	P	**Pb**	**08 23 32.0**	**-0.5**
KOCA				S	**Sb**	**08 23 37.0**	**-1.1**
KOCA				*i* IAML		08 23 37.0	
	comp=N,504nm,0.6s						
KOCA				*i* IAML		08 23 38.0	
	comp=E,716nm,0.2s						
BOZC	**Bozcaada**	**0.55**	**32**	P	**Pg**	**08 23 34.8**	**-0.3**
BOZC				S	**Sb**	**08 23 42.2**	**-0.7**
BOZC				*i* IAML		08 23 47.0	
	comp=N,234nm,0.3s						
LIA	**Limnos Island**	**0.64**	**324**	P	**Pg**	**08 23 36.9**	**+0.1**
LIA				S	**Sg**	**08 23 46.1**	**+0.7**
LIA	**Limnos Island**	**0.64**	**324**	P	**Pg**	**08 23 36.0**	**-0.8**
LIA				S	**Sg**	**08 23 42.7**	**-2.7**
EZNE	**Ezine-Canakkal**	**0.66**	**55**	Pg	**Pb**	**08 23 36.9**	**-0.2**
EZNE				Sg	**Sb**	**08 23 46.1**	**+0.2**
EZN	**Ezine**	**0.67**	**48**	Pg	**Pg**	**08 23 37.0**	**-0.4**
EZN				Sg	**Sb**	**08 23 46.3**	**-0.1**
EZN	**Ezine**	**0.67**	**48**	P	**Pg**	**08 23 36.7**	**-0.7**
EZN				S	**Sb**	**08 23 46.5**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.77**	**62**	P	**Pb**	**08 23 39.0**	**0.0**
BAYC				S	**Sg**	**08 23 47.0**	**-2.3**
BAYC				*i* IAML		08 23 49.0	
	comp=N,261nm,0.6s						
BAYC				*i* IAML		08 23 49.0	
	comp=E,201nm,0.3s						
ECEA	**Canakkale, Ece**	**0.77**	**30**	P	**Pb**	**08 23 39.0**	**0.0**
ECEA				S	**Sb**	**08 23 49.8**	**+0.6**
ECEA				*i* IAML		08 23 52.0	
	comp=N,336nm,0.4s						
AYVA	**Ayvalik**	**0.79**	**95**	P	**Pg**	**08 23 39.1**	**-0.5**
AYVA				S	**Sg**	**08 23 49.3**	**-0.8**
AYVA				*i* IAML		08 23 53.0	
	comp=E,153nm,0.4s						
AYVA				*i* IAML		08 23 57.0	
	comp=N,183nm,0.6s						
GOAD	**anakkale-G¶**	**0.80**	**13**	P	**Pb**	**08 23 39.8**	**+0.1**
GOAD				S	**Sb**	**08 23 50.4**	**+0.2**
GOAD				*i* IAML		08 23 53.0	
	comp=N,244nm,0.3s						
GOAD				*i* IAML		08 23 53.0	
	comp=E,242nm,0.4s						
GADA	**Gvkgeada**	**0.83**	**12**	Pg	**Pg**	**08 23 39.8**	**-0.6**
GADA				Sg	**Sb**	**08 23 51.7**	**+0.7**

GADA	**Gvkgeada**	**0.83**	**12**	P		**Pg**	**08 23 39.7**	**-0.6**
GADA				S		**Sb**	**08 23 52.0**	**+1.0**
CNKL	**anakkale-Mer**	**0.88**	**39**	P		**Pb**	**08 23 41.1**	**+0.1**
CNKL				S		**Sb**	**08 23 52.8**	**+0.4**
CNKL				*i* IAML			08 23 56.0	
	comp=E,134nm,0.2s							
EAG2	**Marmaro, Chios**	**0.90**	**158**	P		**Pg**	**08 23 42.0**	**+0.3**
KARB	**zmir-Karabur**	**0.92**	**141**	P		**Pg**	**08 23 41.8**	**-0.1**
KARB				S		**Sg**	**08 23 53.2**	**-0.8**
KARB				*i* IAML			08 23 56.0	
	comp=E,246nm,0.5s							
COMU	**Canakkale**	**0.95**	**40**	Pg		**Pb**	**08 23 42.1**	**0.0**
SKY	**Skiros Island**	**1.01**	**241**	P		**Pg**	**08 23 43.0**	**-0.6**
SKY				S		**Sg**	**08 23 56.0**	**-0.8**
FOCM	**Foa**	**1.06**	**129**	Pg		**Pb**	**08 23 44.6**	**+0.6**
BUHA	**Balikesir, Bur**	**1.09**	**83**	P		**Pb**	**08 23 44.8**	**+0.3**
BUHA				S		**Sb**	**08 23 58.9**	**+0.3**
BUHA				*i* IAML			08 24 03.0	
	comp=E,116nm,0.3s							
BUHA				*i* IAML			08 24 07.0	
	comp=N,90nm,0.3s							
SMTH	**Samothraki Isl**	**1.10**	**354**	P		**Pb**	**08 23 44.7**	**0.0**
SMTH				S		**Sn**	**08 24 00.3**	**+0.8**
SMTH	**Samothraki Isl**	**1.10**	**354**	P		**Pb**	**08 23 44.5**	**-0.2**
SMTH				S		**Sg**	**08 23 58.3**	**-1.5**
YAYO	**Edremit-Balk**	**1.11**	**77**	Pg		**Pg**	**08 23 45.1**	**-0.5**
ZEDA	**zmir-Bergama**	**1.17**	**110**	P		**Pb**	**08 23 45.9**	**+0.1**
ZEDA				S		**Sb**	**08 23 59.9**	**-0.7**
ZEDA				*i* IAML			08 24 03.0	
	comp=N,123nm,0.2s							
ZEDA				*i* IAML			08 24 04.0	
	comp=E,157nm,0.4s							
GELI	**Tayfur-Gelibol**	**1.19**	**31**	Pn		**Pb**	**08 23 46.2**	**0.0**
CANM	**Can-anakkale**	**1.24**	**59**	Pn		**Pb**	**08 23 46.7**	**-0.3**
URLA	**Izmir**	**1.25**	**144**	P		**Pn**	**08 23 46.7**	**0.0**
URLA				S		**Sb**	**08 23 59.8**	**-3.2**
URLA				*i* IAML			08 24 07.0	
	comp=E,134nm,0.5s							
URLA				*i* IAML			08 24 07.0	
	comp=N,140nm,0.3s							
ZEYE	**Izmir, Urla-Ze**	**1.31**	**150**	P		**Pn**	**08 23 48.4**	**+0.8**
ZEYE				S		**Sb**	**08 24 02.2**	**-2.5**
ZEYE				*i* IAML			08 24 07.0	
	comp=E,129nm,0.4s							
ZEYE				*i* IAML			08 24 08.0	
	comp=N,113nm,0.8s							
YENI	**Yenice-Canakka**	**1.33**	**65**	Pn		**Pn**	**08 23 48.2**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**1.37**	**16**	P		**Pg**	**08 23 50.0**	**-0.5**
CAVK				S		**Sb**	**08 24 06.1**	**-0.3**
CAVK				*i* IAML			08 24 10.0	
	comp=E,78nm,0.8s							
CAVK				*i* IAML			08 24 16.0	
	comp=N,57nm,0.8s							
AOS	**Alonnisos**	**1.41**	**262**	P		**Pn**	**08 23 50.3**	**+1.4**
THAS	**Thassos island**	**1.43**	**329**	P		**Pn**	**08 23 49.6**	**+0.4**
THAS	**Thassos island**	**1.43**	**329**	P		**Pn**	**08 23 49.0**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.43**	**239**	P		**Pn**	**08 23 49.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.44**	**26**	Pn		**Pn**	**08 23 50.2**	**+0.8**
BLCB	**Balcova**	**1.46**	**132**	Pn		**Pn**	**08 23 50.2**	**+0.6**
ALN	**Alexandroupoli**	**1.54**	**11**	Pn		**Pn**	**08 23 51.9**	**+1.1**
ALN	**Alexandroupoli**	**1.54**	**11**	P		**Pn**	**08 23 51.3**	**+0.5**
ALN				S		**Sn**	**08 24 11.5**	**+1.1**
ALN	**Alexandroupoli**	**1.54**	**11**	P		**Pn**	**08 23 51.6**	**+0.8**
BALY	**Balya**	**1.55**	**76**	P		**Pn**	**08 23 51.4**	**+0.5**
BALY				S		**Sn**	**08 24 10.9**	**+0.3**
BALY				*i* IAML			08 24 15.0	
	comp=E,82nm,0.4s							
KRBG	**Karabiga-Canak**	**1.61**	**50**	Pn		**Pn**	**08 23 51.8**	**+0.1**
OUR	**Ouranopolis**	**1.61**	**307**	Pn		**Pn**	**08 23 53.4**	**+1.6**
OUR	**Ouranopolis**	**1.61**	**307**	P		**Pn**	**08 23 52.0**	**+0.2**
KESN	**Edirne-Kesan**	**1.64**	**28**	P		**Pn**	**08 23 53.5**	**+1.0**
KESN				S		**Sn**	**08 24 14.1**	**+0.7**
KESN				*i* IAML			08 24 20.0	
	comp=E,63nm,0.3s							
KESN				*i* IAML			08 24 22.0	
	comp=N,47nm,0.2s							
KARY	**Karystos**	**1.66**	**216**	P		**Pn**	**08 23 53.8**	**+1.4**
GONE	**Gonen-Balikesi**	**1.69**	**66**	Pn		**Pn**	**08 23 53.3**	**+0.5**
RDO	**Rodhopi**	**1.77**	**357**	Pn		**Pn**	**08 23 54.9**	**+1.0**
RDO	**Rodhopi**	**1.77**	**357**	P		**Pn**	**08 23 54.4**	**+0.4**
BKES	**Balkesir-Mer**	**1.78**	**78**	P		**Pn**	**08 23 55.3**	**+1.2**
BKES				S		**Sn**	**08 24 16.8**	**+0.5**
BKES				*i* IAML			08 24 25.0	
	comp=N,38nm,0.7s							
BKES				*i* IAML			08 24 28.0	
	comp=E,58nm,0.6s							
KAVA	**Kavala**	**1.84**	**332**	P		**Pn**	**08 23 55.5**	**+0.6**
KAVA	**Kavala**	**1.84**	**332**	P		**Pn**	**08 23 55.3**	**+0.4**
MRMT	**Marmara Adasi**	**1.92**	**53**	Pn		**Pn**	**08 23 56.8**	**+0.8**
EDC	**Edincik**	**1.94**	**59**	Pn		**Pn**	**08 23 56.6**	**+0.3**
GORD	**Gordes-Manisa**	**2.00**	**103**	Pn		**Pn**	**08 23 58.2**	**+1.0**
ODEM	**Odemis-Izmir**	**2.17**	**120**	Pn		**Pn**	**08 24 00.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**129**	Pn		**Pn**	**08 24 01.8**	**+1.2**
KDZ	**Kurdzhali**	**2.26**	**354**	Pn		**Pn**	**08 24 01.9**	**+1.2**
KULA	**Kula-Manisa**	**2.48**	**109**	Pn		**Pn**	**08 24 04.5**	**+0.7**
NAZL	**Nazilli-Aydin**	**2.49**	**124**	Pn		**Pn**	**08 24 05.0**	**+1.1**
EDRB	**Edirne**	**2.60**	**18**	Pn		**Pn**	**08 24 06.1**	**+0.8**
SLVT	**Silivri**	**2.68**	**46**	Pn		**Pn**	**08 24 07.3**	**+0.8**
ARMT	**Armutlu**	**2.72**	**63**	Pn		**Pn**	**08 24 08.4**	**+1.3**
CTKS	**Kestanelik-??a**	**2.85**	**49**	Pn		**Pn**	**08 24 10.2**	**+1.4**
TVSB	**Tavsanli**	**2.94**	**87**	Pn		**Pn**	**08 24 11.8**	**+1.7**
BGKT	**Bogazkoy**	**2.98**	**52**	Pn		**Pn**	**08 24 11.9**	**+1.4**

*IDC **18** 08:24:12.7±12.0, 19.°98N×144.°83E, h404km±107km, mb3.2/5, mbtmp4.0/6, Error ellipse: s-maj=177.6km s-min=21.4km az=77.0*

ISC 18 08:24:12.2±2.8, 20.°0N±0.°2×144.°9E±0.°6, h400km, n6, σ0§24/6, mb3.3/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**16.69**	**297**	P	**P**	**08 27 42.9**	**0.0**
	5.5nm,0.6s,baz=132,slow=19,SNR=3.8						
KSRS	**Korea Array**	**22.84**	**323**	P	**P**	**08 28 42.5**	**+0.2**
	0.6nm,0.5s,baz=147,slow=9.6,SNR=5.8						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**41.00**	**195**	P	**P**	**08 31 18.4**	**0.0**
	0.3nm,0.4s,baz=18,slow=9.0,SNR=5.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**57.03**	**313**	P	**P**	**08 33 18.2**	**+0.1**
	0.5nm,0.6s,baz=90,slow=7.3,SNR=4.8						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**59.86**	**318**	P	**P**	**08 33 36.9**	**-0.4**
	2.2nm,0.2s,baz=90,slow=7.4,SNR=4.2						
	2.2nm,0.2s						
BVAR	**Borovoye Array**	**65.00**	**320**	P	**P**	**08 34 10.9**	**0.0**
	1.6nm,0.5s,baz=104,slow=5.5,SNR=6.8						
	1.6nm,0.5s						

*IDC **18** 08:32:17.6±1.3, 72.°32N×2.°95E, h0km, mb3.4/4, mbtmp3.6/9, ML3.1/5, MS3.2/8, Error ellipse: s-maj=22.9km s-min=19.2km az=35.0*

*BER **18** 08:32:18.6±2.8, 72.°45N×2.°27E, h10km, Mw4.2, ML3.8(NAO), Confirmed Earthquake*

*KOLA **18** 08:32:19.7, 72.°34N×2.°86E, h0km, ML3.0, Error ellipse: s-maj=35.7km s-min=26.5km az=140.0, Norwegian sea, Mohn ridge*

*NAO **18** 08:32:20.5±0.7, 72.°42N×2.°66E, h25km±11km, ML3.8*

*DNK **18** 08:32:21.6±1.5, 72.°62N×1.°08E, h15km, ML2.1*

ISC 18 08:32:16.2±0.7, 72.°45N±0.°07×2.°50E±0.°06, h10km, n75, σ2§16/78, mb3.5/3, MS3.3/5, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**3.71**	**252**	*e*P	**Pn**	**08 33 13.9**	**+0.5**
JNW	**Jan Mayen West**	**3.72**	**253**	*e*P	**Pn**	**08 33 14.0**	**+0.4**
JNW				IAML		08 33 29.2	
	comp=Z,17nm,1.0s						
BJO1	**Bjornoya**	**5.13**	**59**	*e*P	**Pn**	**08 33 34.1**	**+1.2**
BJO1				IAML		08 33 35.7	
	comp=Z,12nm,0.4s						
HSPB	**Hornsund (broa**	**5.71**	**31**	*e*P	**Pn**	**08 33 42.5**	**+1.7**
LOF	**Lofoten**	**5.72**	**134**	Pn	**Pn**	**08 33 42.2**	**+1.2**
LOF				Sn	**Sn**	**08 34 42.5**	**-4.1**
LOF	**Lofoten**	**5.72**	**134**	*e*P	**Pn**	**08 33 42.3**	**+1.2**
LOF				IAML		08 33 43.9	
	comp=Z,8.8nm,0.4s						
LOF				*e*S	**Sn**	**08 34 43.5**	**-3.1**
TRO	**Tromso**	**6.04**	**110**	Pn	**Pn**	**08 33 45.6**	**+0.2**
TRO				Sn	Sn	08 34 47.8	-6.8
TRO	**Tromso**	**6.04**	**110**	*e*P	**Pn**	**08 33 45.8**	**+0.3**
TRO				*e*S	Sn	08 34 48.5	-6.1
TRO				IAML		08 34 53.0	
	comp=Z,9.8nm,0.6s						
STEI	**Steigen**	**6.26**	**130**	*e*P	**Pn**	**08 33 49.1**	**+0.7**
STEI				*e*S	**Sn**	**08 34 56.1**	**-3.9**
JETT	**Jettan, Norway**	**6.51**	**108**	Pn	**Pn**	**08 33 52.8**	**+0.8**
JETT				Sn	Sn	08 35 00.4	-5.8
JETT	**Jettan, Norway**	**6.51**	**108**	*e*P	**Pn**	**08 33 52.9**	**+0.8**
JETT				*e*S	**Sn**	**08 35 01.6**	**-4.7**
FAUS	**Fauske**	**6.72**	**133**	Pn	**Pn**	**08 33 54.9**	**+0.2**
FAUS				Sn	Sn	08 35 04.6	-6.5
FAUS	**Fauske**	**6.72**	**133**	P	**Pn**	**08 33 54.8**	**+0.1**
FAUS				S	**Sn**	**08 35 05.8**	**-5.3**
FAUS	**Fauske**	**6.72**	**133**	*e*P	**Pn**	**08 33 55.0**	**+0.2**
FAUS				IAML		08 33 57.1	
	comp=Z,6.6nm,0.5s						
FAUS				*e*S	Sn	08 35 05.4	-5.7
SPA0	**Spitsbergen Ar**	**6.72**	**25**	*e*	Pn	08 33 51.4	-3.4
SPA0				Pn	Pb	08 33 56.9	-16
	baz=218,slow=16						
SPITS	**Spitsbergen Ar**	**6.72**	**25**	Pn	**Pn**	**08 33 56.9**	**+2.2**
	baz=212,slow=15						
	comp=Z,3.6nm,0.3s						
DBG	**Daneborg**	**6.75**	**297**	Pn	**Pn**	**08 33 53.7**	**-1.5**
DBG				Sn	**Sn**	**08 35 04.0**	**-8.0**
DBG	**Daneborg**	**6.75**	**297**	*e*P	**Pn**	**08 33 53.6**	**-1.6**
DBG				*e*S	Sn	08 35 02.6	-9.3
DBG	**Daneborg**	**6.75**	**297**	*i* P	**Pn**	**08 33 53.9**	**-1.3**
DBG				*i* S	Sn	08 35 00.9	-11
VAGH	**Vaagaholmen**	**6.86**	**142**	Pn	**Pn**	**08 33 56.6**	**0.0**
VAGH	**Vaagaholmen**	**6.86**	**142**	*e*P	**Pn**	**08 33 57.7**	**+1.1**
VAGH				IAML		08 33 58.8	
	comp=Z,8.4nm,0.6s						
VAGH				*e*S	Sn	08 35 08.5	-6.1
KBS	**Kingsbay**	**6.90**	**15**	*e*	Pn	08 33 41.3	-16
KBS				*e*P	Pb	08 33 59.8	-16
KBS	**Kingsbay**	**6.90**	**15**	*i* P	**Pn**	**08 34 00.4**	**+3.2**
HAMF	**Hammerfest**	**6.95**	**95**	Pn	**Pn**	**08 33 57.5**	**-0.3**
HAMF				Sn	Sn	08 35 09.7	-7.1
HAMF	**Hammerfest**	**6.95**	**95**	*e*P	**Pn**	**08 33 57.6**	**-0.3**
HAMF				*e*S	Sn	08 35 10.1	-6.7
KIF	**Kilpisjarvi**	**6.96**	**111**	Pn	**Pn**	**08 33 58.7**	**+0.7**
KIF				Sn	Sn	08 35 11.4	-5.6
KIF	**Kilpisjarvi**	**6.96**	**111**	*e*	**Pn**	**08 33 57.3**	**-0.7**
KIF				*e*P	Pb	08 33 58.6	-18
KIF				*e*S	Sn	08 35 11.4	-5.6
KONS	**Konsvik**	**7.04**	**143**	Pn	**Pn**	**08 33 59.0**	**0.0**
KONS				Sn	**Sn**	**08 35 13.3**	**-5.6**
KONS	**Konsvik**	**7.04**	**143**	*e*P	**Pn**	**08 33 59.6**	**+0.5**
DAG	**Danmarks Havn**	**7.06**	**317**	*e*P	**Pn**	**08 33 58.5**	**-0.9**
DAG				*e*S	Sn	08 35 09.3	-10
DAG	**Danmarks Havn**	**7.06**	**317**	*i* P	**Pn**	**08 33 57.7**	**-1.7**
DAG				*i* S	Sn	08 35 07.6	-12
DAG				IAML		08 35 11.3	
	comp=Z,6.5nm,0.3s						
STOK	**Stokkvaagen**	**7.17**	**144**	Pn	**Pn**	**08 34 01.7**	**+0.8**
STOK				Sn	Sn	08 35 14.3	-7.9
STOK	**Stokkvaagen**	**7.17**	**144**	*e*P	**Pn**	**08 34 01.3**	**+0.5**
HOPEN	**Hopen**	**7.23**	**46**	Pn	**Pn**	**08 34 03.6**	**+1.8**
HOPEN	**Hopen**	**7.23**	**46**	*e*P	**Pn**	**08 34 04.1**	**+2.3**
LEIR	**Leirfjorden**	**7.38**	**144**	Pn	**Pn**	**08 34 05.3**	**+1.5**
LEIR	**Leirfjorden**	**7.38**	**144**	*e*P	**Pn**	**08 34 04.0**	**+0.1**
SALU	**Saltoluokta**	**7.48**	**125**	*e*P	**Pn**	**08 34 05.9**	**+0.7**
MOR8	**Moi Rana**	**7.58**	**140**	Pn	**Pn**	**08 34 07.9**	**+1.4**
MOR8				Sn	Sn	08 35 24.5	-7.8
MOR8	**Moi Rana**	**7.58**	**140**	*e*P	**Pn**	**08 34 07.9**	**+1.4**
KTK1	**Kautokeino**	**7.65**	**107**	Pn	**Pn**	**08 34 08.6**	**+1.1**
KTK1				Sn	Sn	08 35 28.9	-5.2
KTK1	**Kautokeino**	**7.65**	**107**	*e*P	**Pn**	**08 34 08.4**	**+0.9**
SCO	**Scoresbysund**	**8.00**	**268**	*e*P	Pn	08 34 08.9	-3.4
ARA0	**ARCESS Array S**	**8.03**	**100**	Pn	**Pn**	**08 34 13.3**	**+0.6**
	baz=306,slow=12						
ARA0				Sn	**Sn**	**08 35 38.8**	**-4.5**
	baz=300,slow=22						
ARA0	**ARCESS Array S**	**8.03**	**100**	Pn	**Pn**	**08 34 13.3**	**+0.6**
	baz=306,slow=12						
ARA0				Sn	**Sn**	**08 35 38.8**	**-4.5**
	baz=300,slow=22						
ARCES	**ARCESS Array B**	**8.03**	**100**	Pn	**Pn**	**08 34 12.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=311,slow=11,SNR=29						
ARCES				Sn	**Sn**	**08 35 40.1**	**-3.3**
	comp=Z,1.0nm,0.3s,baz=309,slow=22,SNR=7.3						
ARCES				LR	LR	08 36 36.3	
	comp=Z,35nm,20.8s,baz=284,slow=33						
	comp=Z,2.5nm,0.4s						
ARCES	**ARCESS Array B**	**8.03**	**100**	P	**Pn**	**08 34 13.2**	**+0.5**
ARCES				S	**Sn**	**08 35 38.9**	**-4.5**
HEF	**Hetta**	**8.14**	**109**	Pn	**Pn**	**08 34 15.3**	**+1.0**
HEF				Sn	Sn	08 35 38.9	-7.4
HEF	**Hetta**	**8.14**	**109**	*e*P	**Pn**	**08 34 14.9**	**+0.6**
HEF				*e*S	Sn	08 35 40.3	-5.9
KEV	**Kevo**	**8.36**	**97**	Pn	**Pn**	**08 34 17.2**	**-0.1**
KEV				Sn	Sn	08 35 43.4	-8.1
KEV	**Kevo**	**8.36**	**97**	*e*P	**Pn**	**08 34 17.3**	**+0.1**
NSS	**Namsos**	**8.67**	**152**	*e*P	**Pn**	**08 34 22.2**	**+0.7**
VADS	**Vadso**	**8.90**	**92**	Pn	**Pn**	**08 34 24.6**	**+0.1**
VADS				Sn	Sn	08 35 57.0	-7.7
VADS	**Vadso**	**8.90**	**92**	P	**Pn**	**08 34 24.6**	**+0.1**
VADS				S	Sn	08 35 57.7	-6.9
VADS	**Vadso**	**8.90**	**92**	*e*P	**Pn**	**08 34 24.7**	**+0.1**
VADS				*e*S	Sn	08 35 57.9	-6.7
TERR	**Teriberka**	**11.10**	**91**	P	Pn	08 34 52.4	-2.3
LVZ	**Lovozero**	**11.71**	**97**	P	**Pn**	**08 35 02.7**	**-0.3**
NOA	**NORSAR Array B**	**11.95**	**159**	Pn	**Pn**	**08 35 06.8**	**+0.5**
	baz=343,slow=13,SNR=2.8						
	comp=Z,0.6nm,0.6s						
NRA0	**NORES Array S**	**12.28**	**159**	Pn	**Pn**	**08 35 11.2**	**+0.3**
	baz=351,slow=16						
NRA0	**NORESS Array S**	**12.28**	**159**	Pn	**Pn**	**08 35 11.2**	**+0.3**
	baz=351,slow=16						
HFS	**Hagfors**	**13.12**	**155**	Pn	**Pn**	**08 35 23.4**	**+1.0**
	baz=344,slow=16						
HFS	**Hagfors**	**13.12**	**155**	Pn	**Pn**	**08 35 23.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=347,slow=12,SNR=19						
HFS				LR	LR	08 39 56.9	
	comp=Z,80nm,20.5s,baz=19,slow=36						
	comp=Z,2.2nm,0.4s						
HFS	**Hagfors**	**13.12**	**155**	Pn	**Pn**	**08 35 23.4**	**+1.0**
	baz=344,slow=16						
FIA0	**FINESS Array S**	**14.24**	**129**	P	**Pn**	**08 35 36.9**	**-0.7**
	baz=338,slow=12						
FIA0	**FINESS Array S**	**14.24**	**129**	P	**Pn**	**08 35 36.9**	**-0.7**
	baz=338,slow=12						
FINES	**FINESS Array B**	**14.24**	**129**	Pn	**Pn**	**08 35 37.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=343,slow=13,SNR=12						
FINES				LR	LR	08 40 41.8	
	comp=Z,131nm,18.0s,baz=34,slow=36						
	comp=Z,4.2nm,0.8s						
KLMR	**Klimovskoe**	**18.29**	**110**	P	**Pn**	**08 36 30.1**	**+0.4**
	comp=Z,20nm,2.1s						
KIRV	**Kirov**	**23.04**	**102**	LR	LR	08 46 02.5	
	comp=Z,41nm,18.2s,baz=298,slow=36						
GERES	**GERESS Array B**	**24.23**	**162**	P	**P**	**08 37 34.5**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=354,slow=12,SNR=8.1						
	comp=Z,1.0nm,0.6s						
RES	**Resolute Bay**	**24.74**	**321**	LR	LR	08 47 25.9	
	comp=Z,94nm,19.4s,baz=24,slow=36						
AKASG	**Malin Array Be**	**24.81**	**137**	P	**P**	**08 37 39.3**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=344,slow=10.0,SNR=4.7						
AKASG				LR	LR	08 47 02.7	
	comp=Z,100nm,18.7s,baz=44,slow=36						
	comp=Z,0.5nm,0.4s						
DAVOX	**Davos/Dischmat**	**25.98**	**168**	LR	LR	08 48 27.2	
	comp=Z,91nm,18.2s,baz=85,slow=38						
ARTI	**Arti**	**27.56**	**96**	LR	LR	08 48 59.1	
	comp=Z,64nm,18.3s,baz=251,slow=36						
TORD	**Torodi Ar. Bea**	**59.28**	**181**	P	**P**	**08 42 21.5**	**+3.8**
	comp=Z,0.3nm,0.4s,baz=9.5,slow=7.8,SNR=2.1						
	comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**67.00**	**294**	P	**P**	**08 43 12.1**	**+3.1**
	comp=Z,0.1nm,0.5s,baz=7.2,slow=6.5,SNR=2.3						
	comp=Z,0.1nm,0.5s						

*IDC **18** 08:45:27.9±0.7, 38.°10N×98.°03W, h0km, mb3.9/4, mbtmp3.9/11, ML3.8/7, MS3.4/22, Error ellipse: s-maj=10.1km s-min=8.5km az=168.0*

*NEIC **18** 08:45:29.7, 38.°02N×98.°01W, h5km*

*NEIC **18** 08:45:29.7±0.9, 38.°02N±0.°02×98.°01W±0.°04, h5km±2km, mb4.1/30, mb_Lg4.2/164, ML4.0/6, Mwr4.1/52, Error ellipse: s-maj=6.5km s-min=3.0km az=56.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.40; Mθθ1.55; Mϕϕ-1.15; Mrθ-0.08; Mϕθ0.56; Mrϕ0.57; Fault plane solution: M₀1.61000×10¹⁵ NP1:φ₀217.00000°, δ72.32000°, λ-159.67000°. NP2:φ₀120.58000°, δ70.67000°, λ-18.78000°. Principal axes: T 1.6667, Plg1.0000°, Azm349.0000°; N -0.1159, Plg63.0000°, Azm256.0000°; P -1.5508, Plg27.0000°, Azm79.0000°;*

ISC 18 08:45:28.3±0.5, 38.°02N±0.°03×97.°99W±0.°04, h10km, n235, σ1§45/203, mb4.0/6, MS3.6/15, Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R32A	**Long Quarter,**	**0.70**	**305**		**Pg**	**08 45 42.1**	**+0.3**
R32A				Sg	**Sg**	**08 45 51.7**	**+0.7**
R32A				IAML		08 45 59.3	
	19µm,1.2s						
KAN08	**Anthony NE Sta**	**0.79**	**179**		**Pg**	**08 45 43.8**	**+0.2**
KAN08				IAML		08 46 03.4	
	comp=N,5µm,0.5s						
KAN01	**Argonia South**	**0.88**	**168**		**Pg**	**08 45 45.5**	**+0.2**
KAN01				Sg	**Sg**	**08 45 57.3**	**+0.5**
KAN01				IAML		08 46 05.2	
	comp=E,4µm,0.5s						
KAN01				IAML		08 46 08.2	
	comp=N,5µm,0.6s						
KAN14	**Manchester OK**	**1.06**	**179**		**Pg**	**08 45 48.6**	**-0.2**
KAN14				Sg	**Sg**	**08 46 03.0**	**+0.5**
GC02	**Grant County #**	**1.17**	**175**		**Pb**	**08 45 50.8**	**+0.1**
GC02				Sg	**Sb**	**08 46 06.9**	**+1.0**
BLOK	**Blackwell**	**1.40**	**154**		**Pn**	**08 45 54.8**	**+0.9**
CROK	**Carrier**	**1.51**	**180**		**Pn**	**08 45 56.2**	**+0.7**
NOKA	**Waynoka**	**1.57**	**209**		**Pn**	**08 45 58.0**	**+1.7**
CBKS	**Cedar Bluff**	**1.59**	**300**		**Pb**	**08 45 58.5**	**+0.8**
CBKS				IAmb_Lg		08 46 23.6	
	comp=Z,1µm,0.8s						
T35A	**Sooner Cattle**	**1.61**	**133**		**Pn**	**08 45 58.7**	**+1.9**
T35A				IAmb_Lg		08 46 24.7	
	comp=Z,2µm,0.7s						
OK038	**West end E0370**	**1.65**	**202**		**Pn**	**08 45 59.2**	**+1.8**
QUOK	**Quay**	**2.11**	**151**		**Pn**	**08 46 05.1**	**+1.4**
OK052	**Battle Ridge R**	**2.23**	**155**		**Pn**	**08 46 06.7**	**+1.3**
OK029	**Liberty Lake**	**2.26**	**169**		**Pn**	**08 46 07.4**	**+1.6**
ELIS	**Ellis County**	**2.26**	**211**		**Pn**	**08 46 08.6**	**+2.8**
ELIS				IAmb_Lg		08 46 43.9	
	comp=Z,696nm,0.9s						
ADOK	**Arcadia Dam**	**2.42**	**168**		**Pn**	**08 46 09.4**	**+1.5**
CSTR	**Hydro, Custer**	**2.44**	**194**		**Pn**	**08 46 11.2**	**+3.0**
DEOK	**Depew**	**2.48**	**151**		**Pn**	**08 46 10.3**	**+1.6**
DEOK				IAmb_Lg		08 46 52.3	
	comp=Z,679nm,0.9s						
OKCSW	**OKLAHOMA CITY**	**2.65**	**170**		**Pn**	**08 46 12.2**	**+1.1**
OKCSW				IAmb_Lg		08 47 00.8	
	comp=Z,532nm,0.7s						
TUL3	**Leonard**	**2.74**	**139**		**Pn**	**08 46 14.0**	**+1.6**
TUL3				IAmb_Lg		08 46 57.3	
	comp=Z,1µm,1.1s						
RLO	**Rose Lookout**	**3.01**	**127**		**Pn**	**08 46 17.6**	**+1.6**
RLO				IAmb_Lg		08 47 11.3	
	comp=Z,911nm,1.2s						
U38A	**Gravette**	**3.28**	**118**		**Pn**	**08 46 21.7**	**+1.9**
WMOK	**Wichita Mounta**	**3.34**	**191**		**Pn**	**08 46 22.8**	**+2.2**
N35A	**Tabor**	**3.37**	**32**		**Pn**	**08 46 23.6**	**+2.6**
BGNE	**Belgrade**	**3.39**	**358**		**Pn**	**08 46 23.0**	**+1.7**
BGNE				IAmb_Lg		08 47 21.1	
	comp=Z,1µm,0.7s						
SMWD	**Samnorwood**	**3.43**	**213**		**Pn**	**08 46 23.9**	**+2.0**
SMWD				IAmb_Lg		08 47 22.5	
	comp=Z,438nm,0.8s						
HHAR	**Hobbs**	**3.67**	**117**		**Pn**	**08 46 27.2**	**+2.1**
HHAR				IAmb_Lg		08 47 36.1	
	comp=Z,587nm,0.8s						
S39A	**Bolivar**	**3.71**	**94**	IAmb_Lg		08 47 37.6	
	comp=Z,459nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.77**	**287**		**Pn**	**08 46 28.6**	**+1.9**
KSCO				IAmb_Lg		08 47 31.1	
	comp=Z,633nm,0.7s						
P38A	**Dawn**	**3.83**	**64**		**P

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
Z41A				IAmb_Lg		08 48 55.8	
	comp=Z,395nm,1.1s						
SUSD	Miller	6.46	354	Pn	Pn	08 47 04.8	+1.3
SUSD				IAmb_Lg		08 49 01.4	
	comp=Z,503nm,0.8s						
L40A	Anamosa	6.58	50		Pn	08 47 06.1	+1.1
CGM3	Cape Girardeau	6.65	94		Pn	08 47 07.5	+1.5
CGM3				IAmb_Lg		08 48 58.7	
	comp=Z,575nm,1.1s						
PARMO	Parma	6.70	99		Pn	08 47 08.2	+1.5
BRDY	Brady	6.77	187		Pn	08 47 08.2	+0.4
P43A	Skaggs, Pawnee	6.80	74	Pn	Pn	08 47 09.8	+1.6
NATX	Nacogdoches	6.82	155	IAmb_Lg		08 49 17.7	
	comp=Z,182nm,0.8s						
CPRX	Cap Rock	6.91	226	Pn	Pn	08 47 10.8	+1.1
S44A	Carbondale	6.92	90	Pn	Pn	08 47 11.6	+1.9
S44A				IAmb_Lg		08 49 16.5	
	comp=Z,500nm,0.9s						
SIUC	Southern Illin	6.94	90		Pn	08 47 11.0	+0.9
Q44A	Meyer Farm, Va	7.09	80		Pn	08 47 14.2	+2.0
HDIL	Hopedale	7.20	67		Pn	08 47 15.0	+1.4
HTMS	Hat Mesa	7.21	222		Pn	08 47 14.9	+1.1
435B	Jarrell	7.23	177	IAmb_Lg		08 49 37.1	
	comp=Z,189nm,0.9s						
CLN7	Carlsbad 7	7.35	222		Pn	08 47 17.0	+1.2
ANMO	Albuquerque	7.48	248	Pn	Pn	08 47 19.6	+1.9
	comp=Z,0.3nm,0.3s,baz=166,slow=15,SNR=5.8						
ANMO				Pg	Pb	08 47 46.0	+7.7
	comp=Z,3.8nm,0.3s,baz=165,slow=17,SNR=15						
ANMO				Lg	Lg	08 49 21.4	
	comp=Z,12nm,0.3s,baz=86,slow=6.6,SNR=6.4						
ANMO				LR	LR	08 50 31.4	
	comp=Z,202nm,21.2s,baz=152,slow=41						
	comp=Z,0.9nm,0.3s						
T45A	Paducah	7.49	95		Pn	08 47 18.7	+1.1
L42A	Oliver, Polo	7.52	55		Pn	08 47 19.0	+0.9
OZNA	Ozona	7.54	201		Pn	08 47 19.0	+0.6
OZNA				IAmb_Lg		08 49 39.2	
	comp=Z,176nm,0.9s						
143A	Socs Landing,	7.55	133	IAmb_Lg		08 49 42.5	
	comp=Z,350nm,0.9s						
HAYD	Hayden	7.61	292	IAmb_Lg		08 49 46.9	
	comp=Z,223nm,0.8s						
RSSD	Black Hills	7.62	325		Pn	08 47 22.2	+2.6
RSSD				IAmb_Lg		08 49 42.7	
	comp=Z,351nm,1.1s						
JFWS	Jewell Farm	7.66	48		Pn	08 47 21.1	+1.2
JCT	Junction City	7.67	192		Pn	08 47 20.6	+0.4
JCT				IAmb_Lg		08 49 51.2	
	comp=Z,355nm,1.0s						
MNHN	Monahans	7.74	212		Pn	08 47 21.4	+0.3
MNHN				IAmb_Lg		08 49 42.7	
	comp=Z,367nm,1.3s						
OXF	Oxford	7.76	114		Pn	08 47 21.8	+0.5
OLIL	Olney	7.80	82		Pn	08 47 23.5	+1.6
F33A	5 Mile Ranch,	7.92	9		Pn	08 47 22.9	-0.5
F33A				IAmb_Lg		08 49 49.9	
	comp=Z,243nm,0.8s						
K22A	Casper	7.99	308		Pn	08 47 26.5	+1.8
I40A	Norwalk	8.09	41	Pn	Pn	08 47 26.2	+0.4
I40A				IAmb_Lg		08 50 06.6	
	comp=Z,256nm,0.8s						
SPMN	Marine on St.	8.18	27		Pn	08 47 28.6	+1.6
SPMN				IAmb_Lg		08 50 01.3	
	comp=Z,338nm,0.9s						
PECS	Pecos	8.21	218	IAmb_Lg		08 50 03.2	
	comp=Z,154nm,0.9s						
MLDN	Muldoon	8.25	174	IAmb_Lg		08 50 06.6	
	comp=Z,141nm,1.0s						
PV15	Paradox Valley	8.27	275	Pn	Pn	08 47 30.5	+1.9
M44A	Midewin, Midew	8.37	63		Pn	08 47 30.7	+1.1
VBMS	Vicksburg	8.42	131	IAmb_Lg		08 50 15.9	
	comp=Z,205nm,0.8s						
PV02	Paradox Valley	8.48	275		Pn	08 47 32.2	+0.8
PLAL	Pickwick Lake	8.54	108		Pn	08 47 32.5	+0.5
HNDO	Hondo	8.54	188		Pn	08 47 31.9	-0.1
HNDO				IAmb_Lg		08 50 08.4	
	comp=Z,169nm,0.9s						
SAND	Sanderson	8.75	204		Pn	08 47 35.7	+0.8
SAND				IAmb_Lg		08 50 21.1	
	comp=Z,120nm,0.8s						
MNTX	Cornudas Mount	8.76	226	Pn	Pn	08 47 35.6	+0.6
L44A	Lake County Fo	8.77	59		Pn	08 47 36.2	+1.1
E28A	Huff	8.78	348		Pn	08 47 34.6	-0.7
E28A				IAmb_Lg		08 50 18.7	
	comp=Z,296nm,1.0s						
EF04	Eagle Ford 04	8.79	179	IAmb_Lg		08 50 20.1	
	comp=Z,248nm,1.2s						
DRIO	Del Rio	8.85	195	IAmb_Lg		08 50 22.5	
	comp=Z,176nm,1.0s						
ALPN	Alpine	8.95	213		Pn	08 47 38.1	+0.4
ALPN				IAmb_Lg		08 50 20.3	
	comp=Z,240nm,1.2s						
I42A	Draeger Farm,	9.03	47	IAmb_Lg		08 50 26.4	
	comp=Z,379nm,1.0s						
BLO	Bloomington	9.05	79		Pn	08 47 40.5	+1.5
735A	Kenedy	9.14	179	IAmb_Lg		08 50 37.6	
	comp=Z,111nm,1.1s						
WCI	Wyandotte Cave	9.22	85		Pn	08 47 42.4	+1.1
VHRN	Van Horn	9.24	221		Pn	08 47 43.1	+1.3
VHRN				IAmb_Lg		08 50 47.8	
	comp=Z,140nm,0.9s						
G40A	Rib Lake	9.29	36		Pn	08 47 42.5	+0.2
G40A				IAmb_Lg		08 50 31.3	
	comp=Z,227nm,0.9s						
EPT	El Paso	9.37	231	IAmb_Lg		08 50 43.8	
	comp=Z,106nm,1.1s						
Z47A	Carrollton	9.40	118	IAmb_Lg		08 50 36.8	
	comp=Z,322nm,0.9s						
833A	Chaparral WMA,	9.74	187		Pn	08 47 48.3	-0.2
833A				IAmb_Lg		08 50 46.3	
	comp=Z,145nm,1.1s						
E38A	The Farm, Brul	9.81	27	IAmb_Lg		08 50 51.0	
	comp=Z,253nm,1.0s						
L46A	Eue Claire	9.81	62	Pn	Pn	08 47 51.1	+1.6
TX31	Lajitas Ar. Si	9.87	210		Pn	08 47 50.4	0.0
TXAR	Lajitas Array	9.87	210	Pn	Pn	08 47 50.4	+0.1
	comp=Z,0.9nm,0.3s,baz=34,slow=11,SNR=50						
TXAR				Sn	Sn	08 49 38.0	-3.3
	comp=Z,2.4nm,0.3s,baz=39,slow=13,SNR=4.0						
TXAR				Lg	Lg	08 50 36.0	
	comp=Z,2.8nm,0.3s,baz=29,slow=26,SNR=8.3						
TXAR				LR	LR	08 52 03.6	
	comp=Z,52nm,21.1s,baz=15,slow=40						
	comp=Z,1.6nm,0.4s						
MDND	Maddock	9.89	354	IAmb_Lg		08 50 55.4	
	comp=Z,208nm,0.9s						
P48A	Milroy	9.92	78		Pn	08 47 50.8	-0.1
N47A	Urbana	9.93	69		Pn	08 47 51.8	+0.8
BW06	Boulder Array	10.02	302	Pn	Pn	08 47 53.5	+1.1
PD31	Pinedale Array	10.02	302		Pn	08 47 53.4	+0.9
PDAR	Pinedale Array	10.02	302		Pn	08 47 53.9	+1.5
PDAR	Pinedale Array	10.02	302	Pn	Pn	08 47 53.1	+0.6
	comp=Z,0.8nm,0.3s,baz=112,slow=16,SNR=20						
PDAR				Sn	Sn	08 49 38.4	-6.6
	comp=Z,2.1nm,0.3s,baz=76,slow=6.3,SNR=3.5						
PDAR				Lg	Lg	08 50 36.7	
	comp=Z,4.6nm,0.3s,baz=109,slow=30,SNR=7.8						
PDAR				LR	LR	08 51 54.9	
	comp=Z,84nm,19.9s,baz=85,slow=39						
	comp=Z,1.9nm,0.5s						
H43A	Windswept, Lux	10.03	47		Pn	08 47 52.4	0.0
SWET	Sewanee	10.09	102		Pn	08 47 54.8	+1.5
R49A	Shelbyville	10.10	85		Pn	08 47 55.8	+2.4
O48B	Farmland	10.22	73		Pn	08 47 55.2	+0.3
LRAL	Lakeview Retre	10.24	116	Pn	Pn	08 47 57.0	+1.6
AGMN	Agassiz Nation	10.39	8		Pn	08 47 56.0	-1.3
COWI	Conover	10.41	36		Pn	08 47 57.6	0.0
LAO	LASA Array	10.58	328		Pn	08 48 00.2	+0.1
HBVL	Hebbronville	10.94	183	Pn	Pn	08 48 05.9	+1.0
EYMN	Ely	11.00	23		Pn	08 48 04.2	-1.4
RLMT	Red Lodge	11.03	314		Pn	08 48 06.7	+0.4
N49A	Columbus Grove	11.06	71	Pn	Pn	08 48 07.0	+0.5
J47A	Sunmer	11.28	58	Pn	Pn	08 48 10.8	+1.4
YMP	Mirror Lake Pl	11.34	310		Pn	08 48 11.9	+1.3
250A	Grady	11.34	119	Pn	Pn	08 48 11.9	+1.5
FXWY	Fox Creek	11.36	304		Pn	08 48 12.9	+2.1
DGMT	Dagmar	11.38	339		Pn	08 48 11.1	+0.2
S51A	Beattyville	11.39	87		Pn	08 48 12.1	+1.0
YNE	Yellowstone No	11.39	312		Pn	08 48 11.7	+0.4
Q51A	Peebles	11.52	80		Pn	08 48 13.0	+0.2
TZTN	Tazewell	11.60	93	Pn	Pn	08 48 15.6	+1.7
TKL	Tuckaleechee C	11.63	97		Pn	08 48 15.8	+1.4
TKL	Tuckaleechee C	11.63	97	Pn	Pn	08 48 14.8	+0.4
	comp=Z,2.0nm,0.3s,baz=244,slow=7.4,SNR=18						
TKL				Sn	Sn	08 50 20.2	-4.1
	comp=Z,2.2nm,0.3s,baz=203,slow=23,SNR=3.9						
TKL				Lg	Lg	08 51 28.8	
	comp=Z,1.8nm,0.3s,baz=40,slow=11,SNR=9.5						
TKL				LR	LR	08 52 42.7	
	comp=Z,238nm,18.8s,baz=294,slow=37						
	comp=Z,11nm,0.8s						
AAM	Ann Arbor	11.77	64		Pn	08 48 15.9	-0.3
ACSO	Alum Creek Sta	11.86	75		Pn	08 48 17.6	+0.1
GLMI	Grayling	12.11	52	Pn	Pn	08 48 19.3	-1.6
ULM	Lac du Bonnet	12.32	6	Pn	Pn	08 48 20.0	-3.7
	comp=Z,1.8nm,0.3s,baz=186,slow=12,SNR=17						
ULM				Sn	Sn	08 50 31.0	-10
	comp=Z,2.2nm,0.3s,baz=267,slow=20,SNR=3.9						
ULM				Lg	Lg	08 51 46.6	
	comp=Z,4.1nm,0.3s,baz=109,slow=19,SNR=4.7						
	comp=Z,5.5nm,0.5s						
Q52A	Bidwell	12.36	81		Pn	08 48 24.8	+0.5
V53A	Saluda	12.38	96	Pn	Pn	08 48 25.5	+0.8
N51A	Ashland	12.41	72		Pn	08 48 24.8	-0.2
P52A	Corning	12.47	78		Pn	08 48 25.7	-0.2
O52A	Adamsville	12.73	76	Pn	Pn	08 48 30.6	+1.2
I49A	Point Hope	12.89	58	Pn	Pn	08 48 30.7	-0.8
P53A	Whipple	13.04	78		Pn	08 48 33.1	-0.6
E46A	Sault Ste Mari	13.12	46		Pn	08 48 32.1	-2.5
S54A	Dingess, Beckl	13.17	86		Pn	08 48 35.4	-0.1
EGMT	Eagleton	13.18	323		Pn	08 48 36.1	+0.6
O53A	New Philadelph	13.21	75		Pn	08 48 35.5	-0.4
M52A	Chesterland	13.27	69		Pn	08 48 36.7	0.0
N53A	Lisbon	13.55	73		Pn	08 48 40.7	+0.1
V55A	Taylorsville	13.59	94		Pn	08 48 42.2	+1.0
ELK	Elko	13.62	287	LR	LR	08 53 22.8	
	comp=Z,50nm,20.2s,baz=94,slow=35						
LYMT	Lyon Mountain	13.81	315		Pn	08 48 44.5	+0.2
O54A	Avella	13.85	76		Pn	08 48 43.8	-0.8
BLA	Blacksburg	13.95	88	Pn	Pn	08 48 45.6	-0.5
R55A	Marlinton	14.07	83	Pn	Pn	08 48 48.7	+1.0
PAMR	Moraine State	14.12	73		Pn	08 48 47.4	-1.0
BPMT	Black Pine Rid	14.19	311	Pn	Pn	08 48 50.4	+0.8
OVMT	Ovando	14.27	314	Pn	Pn	08 48 50.2	-0.2
ERPA	Erie	14.37	68	Pn	Pn	08 48 50.6	-1.2
PAOC	Oil Creek Stat	14.50	70		Pn	08 48 52.6	-1.0
W57A	Gilead	14.74	96	Pn	Pn	08 48 58.7	+1.9
Q56A	Snyder Ridge,	14.75	80		Pn	08 48 56.0	-1.0
T57A	Hurt	14.91	88		Pn	08 49 00.2	+1.1
S57A	Dark Hollow, R	15.04	85	Pn	Pn	08 49 02.7	+1.9
SADO	Sadowa	15.65	59	Pn	Pn	08 49 05.5	-3.3
	comp=Z,0.3nm,0.3s,baz=260,slow=11,SNR=6.1						
SADO				LR	LR	08 55 16.1	
	comp=Z,139nm,21.5s,baz=262,slow=38						
	comp=Z,3.3nm,0.8s						
BUKO	Buck Lake	15.71	56		Pn	08 49 10.3	+0.7
BUKO				IAmb	IAmb	08 49 16.0	
	comp=Z,12nm,0.9s						
NVAR	Mina Array Bea	15.97	278	Pn	Pn	08 49 12.5	-0.8
	baz=90,slow=10,SNR=5.3						
	comp=Z,0.3nm,0.8s						
L56A	Greenwood	16.16	69		Pn	08 49 14.8	-0.7
L56A				IAmb	IAmb	08 49 57.4	
	comp=Z,13nm,0.7s						
J55A	Hilton	16.17	65	Pn	Pn	08 49 14.1	-1.5
J55A				IAmb	IAmb	08 49 54.6	
	comp=Z,12nm,0.6s						
T59A	Double "B" Far	16.25	87	Pn	Pn	08 49 17.0	+0.3
T59A				IAmb	IAmb	08 49 18.3	
	comp=Z,16nm,1.3s						
M57A	Sunshine Farm,	16.39	72		Pn	08 49 17.2	-1.2
M57A				IAmb	IAmb	08 49 47.3	
	comp=Z,11nm,0.8s						
DELO	Deloro Mine	16.61	61	Pn	Pn	08 49 18.7	-2.5
N58A	Sunbury	16.67	74		Pn	08 49 21.2	-0.7
N58A				IAmb	IAmb	08 49 32.8	
	comp=Z,20nm,1.3s						
PECO	Prince Edward	16.90	63	Pn	Pn	08 49 24.6	-0.3
PECO				IAmb	IAmb	08 49 42.0	
	comp=Z,11nm,0.8s						
FFC	Flin Flon	16.93	352	Pn	Pn	08 49 24.5	-0.6
MVL	Millersville	16.93	77	Pn	Pn	08 49 24.0	-1.3
MVL				IAmb	IAmb	08 49 43.3	
	comp=Z,9.5nm,0.6s						
K57A	Scipio Center	17.01	67	Pn	Pn	08 49 25.9	-0.3
K57A				IAmb	IAmb	08 50 05.4	
	comp=Z,8.3nm,0.7s						
NEW	Newport	17.27	312	LR	LR	08 56 41.8	
	comp=Z,86nm,20.8s,baz=134,slow=39						
BINY	Binghamton	17.33	69		Pn	08 49 28.0	-2.3
J57A	Williamstown	17.50	65	Pn	Pn	08 49 31.2	-1.1
WUPA	West Chester U	17.50	77		Pn	08 49 32.9	+0.5
L59A	Walton	18.02	69		Pn	08 49 38.1	-0.8
L59A				IAmb	IAmb	08 49 59.9	
	comp=Z,12nm,1.0s						
LONY	Lake Ozonia	18.74	62	P	P	08 49 48.0	+0.8
NCB	Newcomb	18.87	64	P	P	08 49 48.7	+0.1
NCB				IAmb	IAmb	08 49 51.5	
	comp=Z,7.3nm,0.8s						
YBH	Yreka Blue Hor	19.31	289	LR	LR	08 58 10.9	
	comp=Z,5.5nm,19.4s,baz=92,slow=40						
FRNY	Flat Rock	19.48	62		P	08 49 55.8	+0.6
FRNY				IAmb	IAmb	08 49 56.3	
	comp=Z,7.9nm,0.8s						
L61B	Northampton	19.79	69	P	P	08 50 00.9	+2.1
L61B				IAmb	IAmb	08 50 39.7	
	comp=Z,7.0nm,0.7s						
UCCT	U. Connecticut	20.09	71	P	P	08 50 03.7	+1.7
CMIG	Matias Romero	21.03	172	LR	LR	09 01 53.7	
	comp=Z,36nm,18.5s,baz=357,slow=47						
H62A	Milan	21.14	63	P	P	08 50 15.2	+1.9
E62A	Clayton Lake	22.64	59	P	P	08 50 30.8	+1.5
E62A				IAmb	IAmb	08 50 39.5	
	comp=Z,6.2nm,1.1s						
YKA	Yellowknife Ar	26.54	343	P	P	08 51 06.2	+0.3
	comp=Z,1.3nm,0.7s,baz=144,slow=9.4,SNR=4.3						
YKA				LR	LR	09 01 56.3	
	comp=Z,133nm,20.2s,baz=91,slow=37						
	comp=Z,1.3nm,0.7s						
SCHQ	Schefferville	26.96	41	P	P	08 51 10.9	+1.1
	comp=Z,2.5nm,0.8s,baz=265,slow=0.6,SNR=3.7						
	comp=Z,2.5nm,0.8s						
DLBC	Dease Lake	29.09	325	LR	LR	09 03 33.8	
	comp=Z,107nm,20.6s,baz=58,slow=37						
JTS	Las Juntas de	29.99	154	LR	LR	09 04 32.9	
	comp=Z,45nm,21.7s,baz=356,slow=38						
FRB	Frobisher Bay	31.21	25	LR	LR	09 04 07.5	
	comp=Z,87nm,19.4s,baz=170,slow=36						
INK	Inuvik	36.06	338	LR	LR	09 08 00.7	
	comp=Z,106nm,20.6s,baz=41,slow=38						
RES	Resolute Bay	36.78	1	LR	LR	09 07 52.1	
	comp=Z,164nm,18.2s,baz=302,slow=37						
ILAR	Eielson Array	39.04	329	P	P	08 52 55.0	+0.1
	comp=Z,0.8nm,0.8s,baz=108,slow=6.8,SNR=9.5						
	comp=Z,0.8nm,0.8s						
SFJD	Kangerlussuaq	39.26	27	LR	LR	09 08 37.7	
	comp=Z,62nm,20.7s,baz=136,slow=35						
KDAK	Kodiak Island	40.27	318	LR	LR	09 09 15.1	
	comp=Z,72nm,19.1s,baz=93,slow=36						
EKA	Eskdalemuir Ar	62.26	40	P	P	08 55 51.4	+1.3
	comp=Z,0.7nm,0.6s,baz=101,slow=8.6,SNR=3.5						
	comp=Z,0.7nm,0.6s						
TIXI	Tiksi	65.75	345	LR	LR	09 27 06.2	
	comp=Z,43nm,19.1s,baz=12,slow=38						
MA2	Magadan	67.52	329	LR	LR	09 29 32.7	
	comp=Z,46nm,18.4s,baz=78,slow=39						
MDT	Midelt	73.05	62	LR	LR	09 26 42.6	
	comp=Z,60nm,19.1s,baz=162,slow=34						
USRK	Ussuriysk Ar.	86.51	327	LR	LR	09 42 15.3	
	comp=Z,27nm,18.9s,baz=263,slow=39						
AKTO	Aktyubinsk	89.42	15	LR	LR	09 41 55.7	
	comp=Z,38nm,18.4s,baz=237,slow=38						
SONM	Songino Array	91.80	344	LR	LR	09 43 07.9	
	comp=Z,37nm,20.4s,baz=232,slow=38						
HHC	Hu-ho-hao-te	96.98	338	*e*P	P	08 58 59.8	-0.5
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						

*DJA **18** 09:02:11.2±0.5, 9°S±5°×11°9E±°, h114^{km}±7^{km}, M3.9/10, MLv3.9/10*

*IDC **18** 09:02:11.2±3.7, 8°.97S×118°.89E, h117^{km}±35^{km}, mb3.0/2, mbtmp3.6/6, Error ellipse: s-maj=47.7km s-min=12.4km az=64.0*

ISC 18 09:02:10.5±0.9**, 8°.98S**±0°.05×**118°.82E**±0°.05**, h102**^{km}**, n16,** σ1^{s}95/21**, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.87	139	P	Pn	09 02 31.9	+2.2
WBSI				S	Sn	09 02 47.3	+3.1
PLAI	Plampang	1.04	278	P	Pn	09 02 33.6	+2.1
PLAI				S	Sn	09 02 49.6	+2.3
WSI	Waingapu	1.61	115	P	Pn	09 02 40.5	+2.3
TWSI	Taliwang, Sumb	1.93	277	P	Pn	09 02 44.1	+1.9
BASI	Baing, Sumba	2.13	125	P	Pn	09 02 46.6	+1.8
EDFI	Ende, Flores	2.85	86	P	Pn	09 02 56.6	+2.2
BSSI	Bau Bau, Buton	3.27	31	P	Pn	09 03 01.2	+1.2
BKSI	Bulukumba	3.86	20	P	Pn	09 03 09.5	+1.7
KAPI	Kappang	4.05	13	P	Pn	09 03 11.9	+1.5
	14nm,0.3s,baz=182,slow=7.7,SNR=20						
KAPI				S	Sn	09 03 57.5	+0.6
	9.6nm,0.5s,baz=318,slow=20,SNR=1.5						
JAGI	Jajag, Banyuwa	4.64	276	P	Pn	09 03 17.7	-0.6
BATI	Baumata	4.93	105	P	Pn	09 03 23.4	+1.0
	45nm,0.5s,baz=280,slow=6.1,SNR=2.1						
BATI				S	Sn	09 04 18.3	0.0
	26nm,0.3s,baz=222,slow=21,SNR=5.9						
BATI	Baumata	4.93	105	P	Pn	09 03 24.3	+1.9
FITZ	Fitzroy Crossi	11.23	145	P	Pn	09 04 47.3	-0.6
	0.9nm,0.3s,baz=336,slow=13,SNR=28						
FITZ				S	Sn	09 06 48.0	-3.4
	6.8nm,0.5s,baz=202,slow=21,SNR=12						
WRA	Warramunga Arr	18.55	128	P	P	09 06 18.3	-1.0
	0.6nm,1.0s,baz=302,slow=12,SNR=4.9						
ASAR	Alice Springs	20.53	137	P	P	09 06 41.3	+0.4
	0.2nm,0.3s,baz=315,slow=9.6,SNR=5.7						
	0.2nm,0.3s						
SONM	Songino Array	57.63	350	P	P	09 11 48.7	-1.3
	0.7nm,0.5s,baz=177,slow=8.7,SNR=3.6						
	0.7nm,0.5s						

*IDC **18** 09:02:22.7±2.3, 1°.34N×126°.87E, h134^{km}±21^{km}, mb3.6/10, mbtmp4.1/12, MS3.1/1, Error ellipse: s-maj=43.8km s-min=11.4km az=70.0*

*DJA **18** 09:02:23.2±0.6, 2°N±3°×12°7E±°, h123^{km}±7^{km}, M4.3/10, mb4.1/2, MLv4.4/10*

ISC 18 09:02:19.7±0.7**, 1°.53N**±0°.06×**127°.2E**±0°.1**, h103**^{km}**, n17,** σ2^{s}53/18**, mb3.9**/10**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.77	168	P	Pn	09 02 44.9	+6.8
TNTI				S	Sn	09 03 01.3	+9.4
SGSI	Sangihe	2.72	322	P	Pn	09 03 05.1	+3.3
SANI	Sanana	3.76	199	P	Pn	09 03 18.8	+3.0
NLAI	Namlea	4.74	181	P	Pn	09 03 33.2	+4.2
KAPI	Kappang	9.89	229	S	Sn	09 06 28.2	+0.1
	5.6nm,0.5s,baz=127,slow=14,SNR=2.1						
JAY	Jayapura	14.08	107	P	P	09 05 40.9	+1.7
	12nm,0.7s,baz=263,slow=1.8,SNR=5.9						
FITZ	Fitzroy Crossi	19.57	184	P	P	09 06 37.5	-2.1
	2.6nm,0.5s,baz=6.3,slow=8.8,SNR=5.9						
WRA	Warramunga Arr	22.46	162	P	P	09 07 09.9	-0.7
	4.2nm,0.4s,baz=340,slow=11,SNR=43						
WRA				ScP	ScP	09 14 25.0	-4.8
	0.7nm,0.7s,baz=339,slow=3.2,SNR=6.4						
	4.2nm,0.4s						
ASAR	Alice Springs	25.88	166	P	P	09 07 41.7	-0.4
	1.7nm,0.5s,baz=351,slow=7.5,SNR=28						
ASAR				ScP	ScP	09 14 34.5	-4.7
	0.4nm,0.4s,baz=346,slow=2.7,SNR=6.2						
	1.7nm,0.5s						
KSRS	Korea Array	35.75	1	P	P	09 09 09.9	+1.2
	0.2nm,0.4s,baz=179,slow=9.2,SNR=2.1						
	0.2nm,0.4s						
STKA	Stephens Creek	35.92	159	P	P	09 09 09.4	-0.8
	4.0nm,0.8s,baz=333,slow=9.1,SNR=11						
	4.0nm,0.8s						
SONM	Songino Array	49.52	342	P	P	09 10 59.7	-0.3
	0.7nm,0.6s,baz=156,slow=7.3,SNR=2.8						
	0.7nm,0.6s						
MKAR	Makanchi Array	59.62	326	P	P	09 12 13.2	+0.2
	2.1nm,0.6s,baz=124,slow=8.3,SNR=24						
MKAR				LR	LR	09 40 19.2	
	comp=Z,16nm,19.4s,baz=205,slow=38						
	2.1nm,0.6s						
ZALV	Zalesovo Beam	62.75	333	P	P	09 12 32.8	-1.1
	0.7nm,0.4s,baz=115,slow=8.8,SNR=2.5						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	63.84	328	P	P	09 12 40.6	-0.5
	1.6nm,0.5s,baz=130,slow=6.3,SNR=19						
	1.6nm,0.5s						
BVAR	Borovoye Array	69.41	327	P	P	09 13 15.6	-0.9
	0.7nm,0.4s,baz=115,slow=6.5,SNR=2.2						
	0.7nm,0.4s						
VNDA	Vanda	81.20	173	P	P	09 14 22.6	-1.0
	0.7nm,0.6s,baz=310,slow=7.5,SNR=7.8						
	0.7nm,0.6s						

*NEIC **18** 09:07:13.0±1.6, 35°.14N±0°.02×95°.36W±0°.02, h5^{km}±1^{km}, mb3.9/9, mb_Lg4.0/148, ML4.3/12, Mwr3.7/49, Error ellipse: s-maj=3.0km s-min=2.8km az=140.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.52; $M_{\theta\theta}$3.09; $M_{\phi\phi}$-2.57; $M_{r\theta}$1.84; $M_{\theta\phi}$-2.82; $M_{\phi r}$1.08; Fault plane solution: $M_0$4.55000×10^{14} NP1:ϕ_s155.96000°, δ61.79000°, λ-6.85000°. NP2:ϕ_s249.21000°, δ83.96000°, λ-151.61000°. Principal axes: T 4.6030, Plg15.0000°, Azm19.0000°; N -0.1029, Plg61.0000°, Azm260.0000°; P -4.5000, Plg24.0000°, Azm116.0000°;*

*IDC **18** 09:07:12.0±0.8, 35°.18N×95°.32W, h0^{km}, mb3.9/2, mbtmp3.7/11, ML3.6/9, MS3.2/8 Error ellipse: s-maj=13.3km s-min=8.5km az=151.0*

*NEIC **18** 09:07:13.0±1.5, 35°.13N±0°.02×95°.35W±0°.02, h6^{km}±5^{km}, Error ellipse: s-maj=2.3km s-min=2.1km az=155.0*

*NEIC **18** 09:07:13.1, 35°.11N×95°.35W, h16^{km}*

ISC 18 09:07:12.6±1.2**, 35°.15N**±0°.03×**95°.36W**±0°.03**, h9**^{km}±10^{km}**, n156,** σ1^{s}30/144**, MS3.4**/3**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUL3	Leonard	0.84	335	Pg	Pb	09 07 29.3	0.0
TUL3				Sg	Sb	09 07 40.5	-0.2
TUL3				IAML		09 07 42.9	
	5μm,0.5s						
RLO	Rose Lookout	1.05	15		Pb	09 07 33.2	+0.2
RLO				Sg	Sb	09 07 47.0	+0.2
RLO				IAML		09 07 52.9	
	comp=E,9μm,0.2s						
DEOK	Depew	1.16	307		Pg	09 07 35.0	+0.2
DEOK				Sg	Sg	09 07 50.3	+0.3
DEOK				IAML		09 07 55.3	
	comp=N,8μm,0.5s						
DEOK				IAML		09 07 56.1	
	comp=E,5μm,0.2s						
OK052	Battle Ridge R	1.45	306		Pn	09 07 39.7	+0.7
OK052					Sn	09 08 00.6	+2.6
QUOK	Quay	1.50	313		Pn	09 07 40.6	+1.0
QUOK					Sg	09 08 01.1	+0.3
U38A	Gravette	1.51	31		Pb	09 07 40.9	+0.1
U38A					Sg	09 08 01.8	+0.6
MIAR	Mount Ida	1.59	112		Pb	09 07 42.0	-0.1
MIAR					Sg	09 08 03.3	-0.4
MIAR				IAmb_Lg		09 08 04.6	
	comp=Z,409nm,0.7s						
HHAR	Hobbs	1.62	45		Pb	09 07 42.5	-0.1
HHAR					Sg	09 08 04.7	0.0
ADOK	Arcadia Dam	1.72	288		Pn	09 07 43.9	+1.2
OKCSW	OKLAHOMA CITY	1.72	279		Pn	09 07 44.0	+1.3
OKCSW					Sg	09 08 07.9	0.0
OKCSW				IAmb_Lg		09 08 10.9	
	comp=Z,2μm,0.8s						
OKCFA	Oklahoma City	1.73	279		Pn	09 07 44.5	+1.6
OKCFA					Sg	09 08 08.6	+0.3
OK004	Okla Sci Mus	1.77	283		Pn	09 07 45.0	+1.6
OK004					Sg	09 08 09.3	-0.2
OK029	Liberty Lake	1.83	291		Pn	09 07 45.6	+1.4
OK029					Sg	09 08 11.3	-0.1
LOOK	Love County	1.89	233		Pn	09 07 46.7	+1.6
LOOK					Sg	09 08 13.4	-0.1
LOOK				IAmb_Lg		09 08 18.0	
	comp=Z,859nm,1.1s						
Z38A	Mt. Pleasant	1.91	171		Pn	09 07 47.0	+1.7
Z38A					Sb	09 08 13.3	+1.8
Z38A				IAmb_Lg		09 08 16.5	
	comp=Z,1μm,0.9s						
T35A	Sooner Cattle	2.00	332		Pb	09 07 48.5	-0.5
T35A					Sb	09 08 15.3	+1.3
X40A	Basin Creek Fa	2.18	107		Pn	09 07 50.6	+1.6
BLOK	Blackwell	2.20	317		Pb	09 07 51.9	-0.7

WLAR **White Oak Lake** 2.36 127 Pn 09 07 53.7 +2.1
WLAR IAmb_Lg 09 08 27.4
comp=Z,1µm,0.7s
Z35A **Perchaven, San** 2.40 221 Pn 09 07 53.5 +1.4
Z35A IAmb_Lg 09 08 33.5
comp=Z,267nm,0.9s
TREL **Terrell** 2.49 194 Pn 09 07 54.6 +1.3
UALR **University of** 2.51 98 Pn 09 07 55.1 +1.6
UALR IAmb_Lg 09 08 37.7
comp=Z,977nm,0.9s
WHAR **Wooly Hollow** 2.52 86 Pn 09 07 55.5 +1.8
WHAR IAmb_Lg 09 08 37.5
comp=Z,429nm,0.7s
CROK **Carrier** 2.52 303 Pn 09 07 55.5 +1.7
GC02 **Grant County #** 2.64 311 Pn 09 07 57.2 +1.8
FCAR **Ozark Folk Cen** 2.74 73 Pn 09 07 57.9 +1.2
CSTR **Hydro, Custer** 2.76 281 Pn 09 07 58.3 +1.2
KAN14 **Manchester OK** 2.77 311 Pn 09 07 58.8 +1.6
KAN14 IAmb_Lg 09 08 47.7
comp=Z,226nm,0.8s
KAN01 **Argonia South** 2.79 317 Pn 09 07 58.6 +1.2
KAN01 IAmb_Lg 09 08 46.6
comp=Z,379nm,0.8s
FW06 **Azle** 2.83 221 Pn 09 07 60.0 +2.0
Z41A **Richland Creek** 2.84 131 Pn 09 08 00.0 +2.0
Z41A IAmb_Lg 09 08 45.8
comp=Z,416nm,0.8s
WMOK **Wichita Mounta** 2.84 263 Pn 09 07 59.3 +1.2
WTFS **Witchita Falls** 2.91 243 Pn 09 08 00.8 +1.7
KAN08 **Anthony NE Sta** 2.96 315 Pn 09 08 00.7 +1.0
KAN08 IAmb_Lg 09 08 50.2
comp=Z,289nm,0.7s
S39A **Bolivar** 3.02 32 IAmb_Lg 09 09 42.8
comp=Z,124nm,0.8s
OK038 **West end E0370** 3.05 297 Pn 09 08 02.0 +1.0
237A **Washetta, Mont** 3.16 187 Pn 09 08 03.7 +1.2
MGMO **Mountain Grove** 3.20 50 Pn 09 08 04.8 +1.7
MGMO IAmb_Lg 09 08 58.3
comp=Z,682nm,0.9s
CCAR **Cane Creek** 3.21 112 Pn 09 08 05.3 +2.2
CCAR IAmb_Lg 09 09 01.5
comp=Z,676nm,0.9s
NOKA **Waynoka** 3.26 298 Pn 09 08 05.4 +1.6
NOKA IAmb_Lg 09 09 03.5
comp=Z,281nm,0.7s
FW13 **Cleburne** 3.28 212 Pn 09 08 05.4 +1.2
PLPT **Palo Pinto** 3.38 227 Pn 09 08 06.5 +0.9
ELIS **Ellis County** 3.43 287 IAmb_Lg 09 09 05.3
comp=Z,172nm,0.8s
NATX **Nacogdoches** 3.43 170 Pn 09 08 07.1 +0.9
NATX IAmb_Lg 09 09 10.6
comp=Z,343nm,0.8s
LCAR **Lake Charles** 3.55 74 Pn 09 08 08.9 +1.1
LCAR IAmb_Lg 09 09 08.3
comp=Z,465nm,0.9s
WHTX **Lake Whitney,** 3.60 210 Pn 09 08 09.8 +1.2
SNAG **San Augustine** 3.75 164 Pn 09 08 11.2 +0.5
R40A **Maddies Statio** 4.00 37 Pn 09 08 16.1 +2.1
SMWD **Samnorwood** 4.00 271 Pn 09 08 14.9 +0.8
SMWD IAmb_Lg 09 09 29.8
comp=Z,358nm,0.9s
143A **Socs Landing,** 4.09 125 Pn 09 08 16.5 +1.2
143A IAmb_Lg 09 09 29.6
comp=Z,306nm,0.7s
R32A **Long Quarter,** 4.23 322 Pn 09 08 18.2 +1.0
R32A IAmb_Lg 09 09 28.7
comp=Z,436nm,0.8s
PBMO **Poplar Bluff** 4.32 66 Pn 09 08 19.5 +1.1
APMT **Aspermont** 4.34 247 Pn 09 08 20.3 +1.5
ABTX **Abilene, Hawle** 4.36 236 IAmb_Lg 09 09 37.0
comp=Z,220nm,1.1s
HNVL **Huntsville, TX** 4.38 181 Pn 09 08 20.5 +1.2
CCM **Cathedral Cave** 4.40 48 Pn 09 08 20.5 +0.9
CCM **Cathedral Cave** 4.40 48 IAmb_Lg 09 09 37.1
comp=Z,479nm,0.9s
MET **Memphis--Engin** 4.45 89 IAmb_Lg 09 09 46.1
comp=Z,324nm,0.8s
PEBM **Pemiscott Bayo** 4.58 76 Pn 09 08 23.5 +1.5
P38A **Dawn** 4.70 18 Pn 09 08 23.9 +0.2
P38A IAmb_Lg 09 09 55.0
comp=Z,305nm,0.7s
435B **Jarrell** 4.74 204 Pn 09 08 24.9 +0.7
441A **DeRidder** 4.75 157 Pn 09 08 26.0 +1.6
PARMO **Parma** 4.80 70 Pn 09 08 26.3 +1.4
DKNS **Dickens** 4.83 254 Pn 09 08 26.6 +1.1
DKNS IAmb_Lg 09 09 56.5
comp=Z,235nm,0.8s
LNXT **Lenox** 4.87 77 Pn 09 08 26.1 +0.1
FVM **French Village** 4.88 53 Pn 09 08 26.7 +0.6
FVM IAmb_Lg 09 09 51.1
comp=Z,544nm,1.1s
BRDY **Brady** 4.91 219 Pn 09 08 27.2 +0.5
OXF **Oxford** 4.94 96 Pn 09 08 27.8 +0.9
OXF IAmb_Lg 09 10 00.8
comp=Z,374nm,0.8s
HALT **Halls** 4.97 79 IAmb_Lg 09 09 51.8
comp=Z,451nm,0.8s
Y45A **Yeager Farm, C** 4.97 103 Pn 09 08 27.9 +0.5
Y45A IAmb_Lg 09 10 03.1
comp=Z,204nm,0.8s
VBMS **Vicksburg** 4.98 125 Pn 09 08 29.0 +1.4
SN07 **Snyder 07** 5.03 247 Pn 09 08 29.2 +1.0
SN07 IAmb_Lg 09 10 01.4
comp=Z,182nm,1.0s
CBKS **Cedar Bluff** 5.07 318 Pn 09 08 29.7 +1.0
CBKS IAmb_Lg 09 09 57.0
comp=Z,502nm,1.1s
CGM3 **Cape Girardeau** 5.08 63 Pn 09 08 29.0 +0.1
CGM3 IAmb_Lg 09 09 54.5
comp=Z,283nm,0.8s
P40A **Paris** 5.11 30 Pn 09 08 29.5 +0.2
P40A IAmb_Lg 09 09 55.6
comp=Z,407nm,0.8s
HKT **Hockley** 5.20 185 Pn 09 08 30.8 +0.4
POST **Post** 5.50 250 IAmb_Lg 09 10 21.7
comp=Z,184nm,0.9s
S44A **Carbondale** 5.54 61 Pn 09 08 36.6 +1.4
N35A **Tabor** 5.71 358 Pn 09 08 37.5 0.0
SGCY **Sterling City** 5.79 238 Pn 09 08 39.1 +0.3
SGCY IAmb_Lg 09 10 27.0
comp=Z,415nm,1.0s
146A **Union** 5.81 114 IAmb_Lg 09 10 23.0
comp=Z,118nm,1.1s
N38A **Joes South For** 5.88 16 Pn 09 08 39.9 0.0
JCT **Junction City** 5.97 220 IAmb_Lg 09 10 28.0
comp=Z,141nm,0.9s
PLAL **Pickwick Lake** 5.98 90 IAmb_Lg 09 10 26.8
comp=Z,201nm,0.8s
MSTX **Muleshoe** 6.23 261 IAmb_Lg 09 10 37.6
comp=Z,86nm,0.9s
EF04 **Eagle Ford 04** 6.27 200 Pn 09 08 46.4 +1.2
N41A **Harden Midland** 6.59 31 Pn 09 08 50.1 +0.5
735A **Kenedy** 6.61 199 Pn 09 08 51.8 +1.8
BGNE **Belgrade** 6.62 341 Pn 09 08 50.9 +0.8
ODSA **Odessa** 6.71 245 Pn 09 08 51.7 +0.3
T47A **Sharon Grove** 6.93 72 Pn 09 08 56.5 +2.1
T47A IAmb_Lg 09 10 52.2
comp=Z,242nm,0.7s
SCIA **State Center** 6.95 13 IAmb_Lg 09 11 03.1
comp=Z,345nm,0.7s
KSCO **Kaye Shedlock'** 6.97 306 Pn 09 08 55.2 +0.2
KSCO IAmb_Lg 09 11 08.3
comp=Z,362nm,1.1s
V48A **Smith Brothers** 7.00 83 IAmb_Lg 09 11 09.2
comp=Z,101nm,0.7s
MNHN **Monahans** 7.27 241 Pn 09 08 59.1 +0.1
CLTN **Cedars of Leba** 7.41 80 IAmb_Lg 09 11 21.8
comp=Z,70nm,0.9s
Y49A **Blount Mountai** 7.50 97 IAmb_Lg 09 11 32.2
comp=Z,73nm,0.7s
T25A **Trinidad** 7.59 288 IAmb_Lg 09 11 23.8
comp=Z,148nm,0.7s
L40A **Anamosa** 7.62 24 IAmb_Lg 09 11 17.5
comp=Z,272nm,0.9s
SAND **Sanderson** 7.71 230 Pn 09 09 03.3 -1.7
SWET **Sewanee** 7.72 87 IAmb_Lg 09 11 19.8
comp=Z,119nm,0.8s
OGNE **Ogallala** 7.82 320 Pn 09 09 07.6 +1.0
OGNE IAmb_Lg 09 11 28.2
comp=Z,275nm,0.8s
U49A **Red Boiling Sp** 7.90 77 Pn 09 09 09.1 +1.4
U49A IAmb_Lg 09 11 19.7
comp=Z,114nm,0.9s
WCI **Wyandotte Cave** 7.91 64 Pn 09 09 08.2 +0.5
WCI IAmb_Lg 09 11 24.4
comp=Z,198nm,0.8s
PECS **Pecos** 8.06 245 Pn 09 09 10.2 +0.3
L42A **Oliver, Polo** 8.17 31 Pn 09 09 11.9 +0.7
L42A IAmb_Lg 09 11 54.1
comp=Z,168nm,0.8s
250A **Grady** 8.22 110 Pn 09 09 11.7 -0.4
ALPN **Alpine** 8.44 238 Pn 09 09 15.0 -0.2
M44A **Midewin, Midew** 8.48 41 IAmb_Lg 09 11 41.4
comp=Z,279nm,1.0s
HBVL **Hebbronville** 8.54 200 Pn 09 09 16.9 +0.4
ECSD **EROS Data Cent** 8.63 354 IAmb_Lg 09 11 54.7
comp=Z,88nm,0.9s
Q24A **Divide** 8.70 299 IAmb_Lg 09 12 05.0
comp=Z,93nm,0.8s
JFWS **Jewell Farm** 8.71 26 Pn 09 09 18.3 -0.4
JFWS IAmb_Lg 09 11 55.0
comp=Z,255nm,0.8s
R49A **Shelbyville** 8.76 66 Pn 09 09 21.1 +1.7
I37A **Lemond, Waseca** 8.98 9 Pn 09 09 22.9 +0.4
I37A IAmb_Lg 09 12 05.3
comp=Z,141nm,0.7s
P48A **Milroy** 9.01 59 Pn 09 09 23.5 +0.7
ANMO **Albuquerque** 9.10 272 Pn Pn 09 09 26.0 +1.7
comp=Z,0.4nm,0.3s,baz=184,slow=12,SNR=5.9
ANMO Pg 09 09 58.4
comp=Z,0.8nm,0.3s,baz=181,slow=16,SNR=10
ANMO Lg Lg 09 12 01.5
comp=Z,3.0nm,0.3s,baz=136,slow=12,SNR=3.8
ANMO LR LR 09 13 35.6
comp=Z,55nm,20.4s,baz=186,slow=42
comp=Z,0.4nm,0.3s
TXAR **Lajitas Array** 9.11 233 Pn Pn 09 09 23.8 -0.6
comp=Z,1.0nm,0.3s,baz=53,slow=11,SNR=54
TXAR Sn Sn 09 11 03.5 -3.6
comp=Z,1.7nm,0.3s,baz=111,slow=28,SNR=3.8
TXAR Lg Lg 09 11 54.6
comp=Z,1.7nm,0.3s,baz=39,slow=16,SNR=4.1
TXAR LR LR 09 13 23.8
comp=Z,41nm,18.7s,baz=41,slow=41
comp=Z,1.1nm,0.3s
TX31 **Lajitas Ar. Si** 9.11 233 Pn 09 09 24.4 +0.1
L44A **Lake County Fo** 9.12 37 Pn 09 09 24.8 +0.5
I40A **Norwalk** 9.47 21 Pn 09 09 28.8 -0.2
I40A IAmb_Lg 09 12 19.7
comp=Z,102nm,0.8s
TKL **Tuckaleechee C** 9.47 84 Pn Pn 09 09 27.2 -2.0
comp=Z,0.5nm,0.3s,baz=283,slow=8.7,SNR=8.3
TKL Lg Lg 09 12 03.2
comp=Z,2.6nm,0.3s,baz=222,slow=14,SNR=4.6
comp=Z,3.1nm,0.9s
N47A **Urbana** 9.53 50 IAmb_Lg 09 12 25.0
comp=Z,229nm,0.8s
SUSD **Miller** 9.68 345 IAmb_Lg 09 12 25.9
comp=Z,226nm,0.9s
L46A **Eue Claire** 9.86 43 IAmb_Lg 09 12 40.9
comp=Z,176nm,0.8s
I42A **Draeger Farm,** 10.05 28 Pn 09 09 37.0 0.0
HAYD **Hayden** 10.83 303 Pn 09 09 46.6 -1.4
ACSO **Alum Creek Sta** 11.04 59 Pn 09 09 50.4 -0.2
U54A **Nelsons Funny** 11.08 79 Pn 09 09 51.1 -0.1
Q52A **Bidwell** 11.13 66 Pn 09 09 52.8 +0.9
RSSD **Black Hills** 11.17 326 Pn 09 09 52.8 +0.1
P52A **Corning** 11.43 63 Pn 09 09 55.1 -0.9
PV10 **Paradox Valley** 11.43 290 Pn 09 09 57.9 +1.6
E38A **The Farm, Brul** 11.80 13 Pn 09 09 59.1 -1.9
COWI **Conover** 11.91 21 Pn 09 10 01.1 -1.5
R55A **Marlinton** 12.62 71 Pn 09 10 12.7 +0.4
N53A **Lisbon** 12.77 59 Pn 09 10 14.7 +0.4
PDAR **Pinedale Array** 13.40 309 Pn Pn 09 10 23.1 0.0
comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=10
PDAR Lg Lg 09 14 10.3
comp=Z,1.2nm,0.3s,baz=105,slow=28,SNR=8.4
PDAR LR LR 09 16 37.4
comp=Z,32nm,19.7s,baz=119,slow=42
comp=Z,1.9nm,0.9s
LOHW **Long Hollow** 14.49 310 Pn Pn 09 10 38.6 +0.7
ULM **Lac du Bonnet** 15.10 359 Pn Pn 09 10 41.4 -4.6
comp=Z,0.5nm,0.3s,baz=178,slow=12,SNR=7.4
ULM Sn Sn 09 13 22.0 -11
comp=Z,0.6nm,0.3s,baz=88,slow=17,SNR=3.2
ULM Lg Lg 09 14 58.8
comp=Z,1.0nm,0.3s,baz=282,slow=20,SNR=4.5
comp=Z,1.9nm,0.5s
M57A **Sunshine Farm,** 15.59 61 Pn Pn 09 10 49.5 -3.0
M57A IAmb IAmb 09 11 05.8
comp=Z,4.7nm,0.8s
SADO **Sadowa** 15.69 47 Pn Pn 09 10 49.5 -4.3
comp=Z,0.2nm,0.3s,baz=222,slow=15,SNR=2.4
SADO LR LR 09 17 23.5
comp=Z,82nm,19.1s,baz=283,slow=39
comp=Z,1.2nm,0.6s
N58A **Sunbury** 15.75 63 Pn Pn 09 10 53.1 -1.5
N58A IAmb IAmb 09 11 04.7
comp=Z,9.9nm,1.3s
DELO **Deloro Mine** 16.50 50 Pn Pn 09 11 04.9 +0.8
ELK **Elko** 16.63 296 Pn Pn 09 11 06.7 +0.5
comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=3.9
comp=Z,0.3nm,0.5s
LPIG **La Paz** 17.01 234 LR LR 09 17 58.9
comp=Z,70nm,19.6s,baz=104,slow=38
CMIG **Matias Romero** 17.99 179 P Pn 09 11 23.6 +0.7
comp=Z,0.5nm,0.3s,baz=12,slow=7.9,SNR=14
comp=Z,1.5nm,0.4s
NCB **Newcomb** 18.49 55 P P 09 11 27.2 -1.7
NCB IAmb IAmb 09 12 00.9
comp=Z,7.2nm,1.1s
NVAR **Mina Array Bea** 18.66 287 P P 09 11 30.3 -0.7
NVAR **Mina Array Bea** 18.66 287 P P 09 11 31.6 +0.7
comp=Z,0.1nm,0.3s,baz=100,slow=14,SNR=7.4
comp=Z,0.5nm,0.7s
FRNY **Flat Rock** 19.23 53 P P 09 11 36.2 -0.8
FRNY IAmb IAmb 09 12 19.0
comp=Z,13nm,1.4s
SCHQ **Schefferville** 27.87 36 P P 09 13 02.9 +0.5
comp=Z,6.4nm,1.2s,baz=239,slow=5.9,SNR=3.3
comp=Z,6.4nm,1.2s
FRB **Frobisher Bay** 33.01 22 LR LR 09 27 17.1
comp=Z,54nm,20.4s,baz=314,slow=37
SFJD **Kangerlussuaq** 40.91 25 LR LR 09 32 46.9
comp=Z,49nm,18.1s,baz=150,slow=38
ILAR **Eielson Array** 42.58 330 P P 09 15 10.6 +2.1
comp=Z,0.4nm,0.6s,baz=110,slow=7.0,SNR=7.8
comp=Z,0.4nm,0.6s
NNA **Nana** 50.06 156 LR LR 09 36 55.1
comp=Z,191nm,19.8s,baz=327,slow=36

JMA ***18*** *09:12:09.4±0.2,23.7°7N±0.6×12.2°E±°, h7km±4km, MV3.3/11, TAIWAN REGION*
TAP ***18*** *09:12:09.9,23.74N×121.52E, h6km, ML3.7, B*
IDC ***18*** *09:12:10.9±1.5,23.36N×121.37E, h0km, mb3.4/4, mbtmp3.4/5, ML3.2/1, MS2.1/1, Error ellipse: s-maj=75.6km s-min=24.5km az=66.0*

ISC 18 09:12:10.4±0.7, 23.72N±0.01×121.54E±0.02, h10km±4km, n134, σ0s98/204, mb3.3/4, 2C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.01**	**204**	*i*	**P**	**09 12 11.9**	**-0.2**
TEGC					S	**09 12 12.9**	**-0.3**
SHUL	**Shoufeng**	**0.07**	**14**	*i*	**P**	**09 12 12.4**	**-0.3**
SHUL					S	**09 12 14.4**	**+0.1**
ESL	**Shilin**	**0.14**	**314**	⇓	**P**	**09 12 12.6**	**-1.0**
ESL					S	**09 12 14.2**	**-1.6**
WARBT	**Fenglin Townsh**	**0.14**	**271**	⇓ *i*	**P**	**09 12 12.8**	**-0.9**
WARBT					eS	**09 12 14.2**	**-1.7**
TEYL	**Yanliau Villag**	**0.16**	**18**	*e*	**P**	**09 12 14.7**	**+0.7**
TEYL					eS	**09 12 18.5**	**+2.2**
HGSD	**Ruisui**	**0.25**	**206**	⇓	**P**	**09 12 16.6**	**+1.1**
HGSD					S	**09 12 21.2**	**+2.3**
ETM	**Tongmen**	**0.25**	**350**	⇓ *i*	**P**	**09 12 14.9**	**-0.7**
ETM					eS	**09 12 17.5**	**-1.5**
HWA	**Hwalien**	**0.27**	**12**	*e*	**P**	**09 12 15.9**	**+0.1**
HWA					eS	**09 12 20.5**	**+1.0**
EHYH	**Wanrong**	**0.28**	**220**	*e*	**P**	**09 12 16.3**	**-1.4**
EHY	**Hungye**	**0.29**	**224**	*e*	**P**	**09 12 16.0**	**-0.2**
EHY					eS	**09 12 20.3**	**+0.1**
TWD	**Chiawan**	**0.37**	**8**	*i*	**P**	**09 12 17.2**	**-0.5**
TWD					eS	**09 12 22.0**	**-0.5**
VWDT	**VWDT**	**0.37**	**276**	⇓ *i*	**P**	**09 12 17.4**	**-0.3**
VWDT					eS	**09 12 22.6**	**0.0**
YULB	**Yu-li**	**0.39**	**215**		**P**	**09 12 18.4**	**-1.1**
YULB	**Yu-li**	**0.39**	**215**	*e*	**P**	**09 12 18.2**	**-1.4**
YULB					eS	**09 12 24.0**	**-1.6**
ECBN	**Changbin**	**0.41**	**192**	*e*	**P**	**09 12 19.5**	**-0.2**
OWD	**Renai**	**0.41**	**305**	⇓ *i*	**P**	**09 12 17.9**	**-0.7**
OWD					S	**09 12 23.4**	**-0.6**
EYUL	**Yuli**	**0.42**	**209**	*e*	**P**	**09 12 19.5**	**-0.5**
EYUL					eS	**09 12 26.5**	**+0.1**
TWF1	**Yuli**	**0.43**	**212**		**P**	**09 12 18.9**	**-1.2**
TWF1					eS	**09 12 25.1**	**-1.5**
ETL	**Fush Village**	**0.45**	**9**	*e*	**P**	**09 12 18.5**	**-0.7**
ETL					eS	**09 12 25.5**	**+0.3**
NACB	**Ninganchiao**	**0.46**	**6**		**P**	**09 12 18.8**	**-0.6**
NACB	**Ninganchiao**	**0.46**	**6**		**S**	**09 12 25.2**	**-0.3**
NACB	**Ninganchiao**	**0.46**	**6**	⇓ *i*	**P**	**09 12 18.6**	**-0.8**
NACB					eS	**09 12 24.4**	**-1.1**
WUSB	**Renai**	**0.48**	**305**	⇓ *i*	**P**	**09 12 19.4**	**-0.4**
WUSB					eS	**09 12 25.5**	**-0.6**
ETLH	**Xiulin Townshi**	**0.49**	**353**	*i*	**P**	**09 12 19.2**	**-0.9**
ETLH					eS	**09 12 26.8**	**+0.2**
WHF	**Hehuan Shan**	**0.50**	**329**	⇓ *i*	**P**	**09 12 19.4**	**-0.8**
WHF					eS	**09 12 25.8**	**-1.1**
CHKH	**Chenggong**	**0.54**	**195**	*e*	**P**	**09 12 22.4**	**+0.4**
CHKH					eS	**09 12 30.3**	**+0.5**
SSLB	**Suanglung**	**0.54**	**278**		**P**	**09 12 20.5**	**-0.5**
SSLB	**Suanglung**	**0.54**	**278**	⇓ *i*	**P**	**09 12 20.5**	**-0.5**
FULB	**Fuli**	**0.56**	**204**	*e*	**P**	**09 12 22.7**	**+0.2**
SMLT	**Sun Moon Lake**	**0.61**	**286**	⇓ *i*	**P**	**09 12 21.9**	**-0.4**
SMLT					eS	**09 12 30.2**	**-0.2**
TWT	**Tachien**	**0.63**	**328**		**P**	**09 12 22.4**	**-0.3**
TWT					eS	**09 12 30.0**	**-1.1**
WHYT	**Xinyi Township**	**0.63**	**268**	*e*	**P**	**09 12 22.8**	**-0.9**
WHYT					eS	**09 12 30.2**	**-0.8**
CHKT	**Chengkung**	**0.63**	**195**	*e*	**P**	**09 12 23.4**	**-0.3**
CHKT					eS	**09 12 34.5**	**-1.2**
EAHA	**Aohua**	**0.64**	**16**	*e*	**P**	**09 12 22.2**	**-0.6**
EAHA					eS	**09 12 30.8**	**-0.3**
TDCB	**Techi**	**0.64**	**327**	⇓ *i*	**P**	**09 12 22.4**	**-0.5**
TDCB					eS	**09 12 29.7**	**-1.7**
EHD	**Haiduan**	**0.64**	**209**	*e*	**P**	**09 12 22.1**	**-0.8**
EHD					eS	**09 12 33.5**	**+0.6**
WCS	**Beigang Elemen**	**0.67**	**301**	*e*	**P**	**09 12 23.4**	**-0.9**
ECS	**Chishang**	**0.69**	**206**	*e*	**P**	**09 12 25.2**	**-1.0**
ALS	**Alishan**	**0.71**	**253**	*e*	**P**	**09 12 24.3**	**-0.8**
ELDTW	**Lidau**	**0.71**	**223**	*e*	**P**	**09 12 23.8**	**-0.4**
NNSB	**Datong**	**0.72**	**348**	⇓ *i*	**P**	**09 12 23.8**	**-0.7**
NNSB					eS	**09 12 32.5**	**-1.4**
ENA	**Nanau**	**0.73**	**14**	*e*	**P**	**09 12 24.0**	**-0.6**
ENA					eS	**09 12 34.7**	**+0.5**
WJS	**Zhushan**	**0.75**	**278**	*e*	**P**	**09 12 26.2**	**-1.0**
WJS					eS	**09 12 36.9**	**-1.8**
EWUT	**Wuta**	**0.76**	**16**	*e*	**P**	**09 12 24.5**	**-0.6**
EDH	**Donghe**	**0.77**	**197**	*e*	**P**	**09 12 26.5**	**-0.9**
EDH					eS	**09 12 36.9**	**+0.4**
WHP	**Taichung City**	**0.78**	**316**		**P**	**09 12 25.4**	**-0.9**
WHP					eS	**09 12 34.8**	**-1.0**
WNT	**Mingjian**	**0.80**	**282**	*e*	**P**	**09 12 26.9**	**-1.0**
WNT					eS	**09 12 38.4**	**-1.5**
EOS4	**EOS4**	**0.82**	**60**	*e*	**P**	**09 12 27.1**	**+0.5**
LATG	**Datong**	**0.82**	**359**	⇓ *i*	**P**	**09 12 25.2**	**-1.0**
LATG					eS	**09 12 36.6**	**-0.3**
STYH	**Taoyuan**	**0.89**	**233**	*e*	**P**	**09 12 27.3**	**-0.7**
STYH					eS	**09 12 38.6**	**-1.3**
LONT	**Longtian**	**0.89**	**205**	*e*	**P**	**09 12 28.7**	**-0.4**
LONT					eS	**09 12 41.1**	**-1.0**
ESAO	**Su ao**	**0.90**	**18**	*e*	**P**	**09 12 27.5**	**-0.3**
ESAO					eS	**09 12 38.8**	**-0.7**
WGK	**Gukeng**	**0.90**	**268**	*e*	**P**	**09 12 28.9**	**-0.3**
WGK					eS	**09 12 42.5**	**+0.3**
TCU	**Taichung**	**0.90**	**299**	*e*	**P**	**09 12 28.7**	**-0.6**
TCU					eS	**09 12 40.3**	**-0.1**
WCKO	**Fanlu**	**0.90**	**252**	*e*	**P**	**09 12 28.8**	**-0.5**
WCKO					eS	**09 12 41.4**	**-1.1**
ENTT	**Nioudou**	**0.92**	**1**	⇓ *i*	**P**	**09 12 27.5**	**-0.7**
ENTT					eS	**09 12 39.2**	**-1.0**
WDLH	**Douliu**	**0.92**	**269**		**P**	**09 12 29.2**	**-0.3**
WDLH					eS	**09 12 43.0**	**+0.2**
TWC	**Suao**	**0.93**	**17**		**P**	**09 12 27.7**	**-0.7**
TWC					eS	**09 12 39.5**	**-1.1**
TPUB	**Ta-pu**	**0.93**	**244**		**P**	**09 12 28.9**	**-0.8**
TPUB	**Ta-pu**	**0.93**	**244**		**P**	**09 12 28.9**	**-0.8**
TPUB					eS	**09 12 41.2**	**-0.1**
CHN4	**Tsaushan**	**0.94**	**248**		**P**	**09 12 29.4**	**-0.4**
CHN4					eS	**09 12 41.4**	**-0.2**
YHNB	**Yeheng**	**0.96**	**351**		**P**	**09 12 28.4**	**-0.6**
YHNB	**Yeheng**	**0.96**	**351**		**S**	**09 12 41.6**	**-0.6**
YHNB	**Yeheng**	**0.96**	**351**	⇓ *i*	**P**	**09 12 28.4**	**-0.6**
YHNB					eS	**09 12 43.1**	**-1.2**
WCHH	**Zhanghua**	**0.97**	**292**	*e*	**P**	**09 12 30.2**	**0.0**
WCHH					eS	**09 12 43.5**	**-0.6**
WTP	**Ta-pu**	**0.97**	**241**	*e*	**P**	**09 12 29.7**	**-0.5**
TWGBT	**Beinan**	**0.99**	**206**		**P**	**09 12 27.6**	**-1.9**
TWGBT	**Beinan**	**0.99**	**206**	*e*	**P**	**09 12 27.5**	**-2.0**
NFF	**Wufeng Townshi**	**0.99**	**337**	*e*	**P**	**09 12 29.2**	**-0.4**
NFF					eS	**09 12 42.0**	**-0.4**
TWE	**Neicheng**	**1.01**	**6**	*e*	**P**	**09 12 29.3**	**-0.5**
TWE					eS	**09 12 43.7**	**+0.3**
NSTT	**Nanjuang**	**1.04**	**332**	*e*	**P**	**09 12 30.5**	**0.0**
NSTT					eS	**09 12 43.3**	**-0.6**
WDJ	**Dajia District**	**1.04**	**308**	*e*	**P**	**09 12 31.9**	**+0.8**
WDJ					eS	**09 12 44.5**	**+0.2**
LDUT	**Ludao**	**1.04**	**184**	*e*	**P**	**09 12 29.4**	**-1.0**
LDUT					eS	**09 12 45.4**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.04**	**2**	*e*	**P**	**09 12 29.8**	**-0.7**
FUSB					eS	**09 12 44.0**	**0.0**
LIOB	**Emei**	**1.04**	**333**	*e*	**P**	**09 12 30.7**	**-0.5**
LIOB					eS	**09 12 43.6**	**-0.5**
CHY	**Chiayi**	**1.05**	**258**	*e*	**P**	**09 12 31.1**	**-0.2**
CHY					eS	**09 12 45.4**	**-0.6**
NWLT	**Wulai**	**1.06**	**358**		**P**	**09 12 30.1**	**-0.7**
NWLT					eS	**09 12 42.6**	**-1.9**
WTK	**Tuku**	**1.06**	**269**	*e*	**P**	**09 12 31.4**	**0.0**
WTK					*i* S	**09 12 47.2**	**+1.0**
TWK	**Hsinying**	**1.07**	**245**	*e*	**P**	**09 12 31.5**	**-0.1**
TWK					eS	**09 12 47.9**	**+1.4**
NMLH	**Miaoli**	**1.07**	**320**	*e*	**P**	**09 12 32.0**	**+0.4**
CHN1	**Nanshi**	**1.07**	**241**	*e*	**P**	**09 12 31.8**	**+0.2**
CHN1					eS	**09 12 47.9**	**+1.4**
KSHI	**Guanxi Townshi**	**1.11**	**342**	*e*	**P**	**09 12 31.9**	**-0.2**
EGS		**1.18**	**17**	*e*	**P**	**09 12 33.3**	**+0.3**
SBCB	**Hsinchu**	**1.19**	**335**	*e*	**P**	**09 12 32.7**	**-0.4**
HSN	**Hsinchu**	**1.20**	**334**	*e*	**P**	**09 12 34.4**	**+1.0**
WSF	**Szhu**	**1.21**	**267**	*e*	**P**	**09 12 33.1**	**0.0**
WSF					eS	**09 12 51.2**	**+1.1**
WSL	**Shuilin Townsh**	**1.22**	**261**	*e*	**P**	**09 12 33.7**	**+0.1**
WSL					eS	**09 12 52.6**	**+2.3**
ECL	**Taimali**	**1.24**	**206**	*e*	**P**	**09 12 32.7**	**-1.5**
TATO	**Taipei**	**1.26**	**358**		**P**	**09 12 34.0**	**-0.1**
TWA	**Mucha**	**1.26**	**2**	*e*	**P**	**09 12 33.9**	**-0.3**
TWA					eS	**09 12 49.4**	**-1.6**
SCST	**Cishan**	**1.27**	**230**	*e*	**P**	**09 12 36.0**	**+1.7**
CHN8	**Yiju**	**1.28**	**254**	*e*	**P**	**09 12 35.0**	**0.0**
CHN8					eS	**09 12 53.4**	**+1.8**
TIPB	**Shuangxi**	**1.28**	**12**		**P**	**09 12 34.5**	**0.0**
TIPB					eS	**09 12 48.7**	**-2.9**
NCUH	**Zhongli**	**1.29**	**345**	*e*	**P**	**09 12 35.2**	**0.0**
SHHT	**Tainan City**	**1.30**	**238**	*e*	**P**	**09 12 36.5**	**+1.1**
TWB1	**Santiao Chiao**	**1.35**	**17**	*e*	**P**	**09 12 35.4**	**0.0**
TWB1					S	**09 12 52.7**	**-0.6**
TWM1	**Shoushan**	**1.36**	**229**	*e*	**P**	**09 12 38.5**	**+2.0**
MASBT	**Mashibuluo**	**1.38**	**218**	*e*	**P**	**09 12 35.1**	**-0.4**
SGLT	**Jiouru**	**1.38**	**225**	*e*	**P**	**09 12 36.1**	**-0.8**
TWS1	**Kuangyinshan**	**1.38**	**355**	*e*	**P**	**09 12 36.0**	**+0.2**
TWS1					eS	**09 12 56.7**	**+1.7**
SXI1	**Grass Mountain**	**1.41**	**12**	*e*	**P**	**09 12 36.0**	**-0.3**
YM01	**YM01**	**1.43**	**1**	*e*	**P**	**09 12 37.1**	**-0.1**
ZUZH	**Zhuzihu**	**1.44**	**0**	*e*	**P**	**09 12 36.2**	**-0.5**
ZUZH

PNG	Penghu	1.83	266	eP		Pn	09	12	42.2 +0.2
VCHM	Qimei	2.00	256	eP		Pn	09	12	44.2 -0.2
IRIF	Iriomote-Funau	2.09	72	eS		Sn	09	13	11.8 0.0
HATJ	Hateruma jima	2.10	80	eS		Sn	09	13	09.7 -2.2
VWUC	VWUC	2.29	304	eP		Pn	09	12	47.5 -0.9
JIJ	Ishigaki jima	2.46	74	eS		Sn	09	13	20.4 -0.5
PTMZ	Houxiangcun	2.57	301	eP		Pn	09	12	50.9 -1.4
JISG	Ishigakijimahi	2.67	70	eP		Pn	09	12	52.8 -0.8
JISG				eS		Sn	09	13	23.3 -2.8
MATB	Ma-tsu	2.83	329	eP		Pn	09	12	56.3 +0.6
KNM	Kinmen	2.93	284	eP		Pn	09	12	58.3 +1.2
KNMB	Chin-men Tao	2.98	285	eP		Pn	09	12	57.6 -0.2
MHZQ	Yeshan	3.29	317	eP		Pn	09	13	01.2 -1.0
AXDP	Jialang	3.47	291	eP		Pn	09	13	04.3 -0.2
KSRS	Korea Array	14.75	20	Pn		P	09	15	45.6 +0.4
	0.1nm,0.3s,baz=199,slow=11,SNR=7.1								
	1.1nm,0.7s								
CMAR	Chiang Mai Arr	21.72	260	LR		LR	09	26	32.5
	comp=Z,5.5nm,20.2s,baz=215,slow=40								
MKAR	Makanchi Array	38.90	316	P		P	09	19	39.6 +3.3
	0.2nm,0.3s,baz=118,slow=9.7,SNR=3.6								
	0.2nm,0.3s								
KURBB	Kurchatov Arra	42.68	320	P		P	09	20	10.4 +3.1
	0.2nm,0.6s,baz=111,slow=9.2,SNR=2.2								
	0.2nm,0.6s								
WRA	Warramunga Arr	45.15	163	P		P	09	20	27.9 +0.3
	0.3nm,0.7s,baz=343,slow=7.8,SNR=1.7								
	0.3nm,0.7s								
ASAR	Alice Springs	48.60	165	P		P	09	20	53.3 -1.2
	1.2nm,1.2s,baz=344,slow=9.0,SNR=2.2								
	1.2nm,1.2s								

*IDC **18** 09:18:08.3±1.5,23˚.28N×121˚.28E,h0km,mb3.5/4, mbtmp3.5/5,ML3.4/1,Error ellipse: s-maj=74.3km s-min=24.3km az=65.0*
*TAP **18** 09:18:09.4,23˚.73N×121˚.52E,h6km,ML3.8,B*
*JMA **18** 09:18:09.4±0.1,23˚.7N±0˚.3×121˚.6E±0˚.8,h2km±1km, MV3.3/14,TAIWAN REGION*

ISC 18 09:18:09.6±0˚.7,23˚.71N±0˚.01×121˚.55E±0˚.02,h9km±4km, n139,σ0s92/235,mb3.4/4,2C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TEGC	Jichi Village	0.01	250	⇑	iP	Pg	09	18	10.9	-0.2
TEGC					iS	Sg	09	18	12.2	0.0
SHUL	Shoufeng	0.08	9	⇑	iP	Pg	09	18	11.8	+0.1
SHUL					iS	Sg	09	18	13.9	+0.6
EGH	Guangfu	0.12	249		eP	Pg	09	18	12.0	-0.3
EGFH					S	Sg	09	18	14.0	-0.2
ESL	Shilin	0.15	313	⇓	iP	Pg	09	18	12.2	-0.6
ESL					iS	Sg	09	18	14.1	-0.9
WARBT	Fenglin Townsh	0.15	272	⇓	iP	Pg	09	18	12.3	-0.6
WARBT					S	Sg	09	18	14.6	-0.5
TEYL	Yanliau Villag	0.16	16		eP	Pg	09	18	14.4	+1.4
TEYL					eS	Sg	09	18	17.8	+2.4
HGSD	Ruisui	0.25	208		eP	Pg	09	18	15.6	+1.1
HGSD					S	Sg	09	18	20.5	+2.6
ETM	Tongmen	0.26	348	⇓	iP	Pg	09	18	14.5	-0.3
ETM					S	Sg	09	18	18.0	-0.3
HWA	Hwalien	0.27	11		eP	Pg	09	18	15.6	+0.6
HWA					eS	Sg	09	18	20.6	+2.0
EHYH	Wanrong	0.29	221		P	Pg	09	18	16.0	+0.7
EHYH					eS	Sg	09	18	19.0	-0.1
EHY	Hungye	0.29	226		P	Pg	09	18	15.2	-0.2
EHY					eS	Sg	09	18	19.9	+0.6
TWD	Chiawan	0.37	7		eP	Pg	09	18	16.8	0.0
TWD					eS	Sg	09	18	21.6	-0.1
VWDT	VWDT	0.38	276		eP	Pg	09	18	17.0	+0.1
VWDT					eS	Sg	09	18	22.0	0.0
YULB	Yu-li	0.39	216		eP	Pg	09	18	17.9	+0.5
YULB					eS	Sb	09	18	23.8	-1.2
ECBN	Changbin	0.40	193		eP	Pb	09	18	18.8	-0.1
ECBN					eS	Sb	09	18	26.1	+0.9
OWD	Renai	0.42	305		iP	Pg	09	18	17.5	-0.3
OWD					iS	Sg	09	18	22.9	-0.5
EYUL	Yuli	0.42	210		eP	Pg	09	18	18.6	+0.8
TWF1	Yuli	0.43	213		eP	Pg	09	18	18.2	+0.3
TWF1					eS	Sb	09	18	26.5	+0.6
ETL	Fush Village	0.45	9		eP	Pg	09	18	18.4	0.0
ETL					eS	Sg	09	18	23.7	-0.6
NACB	Ninganchiao	0.46	5		eP	Pg	09	18	17.8	-0.8
NACB					eS	Sg	09	18	23.9	-0.8
WUSB	Renai	0.48	305		P	Pg	09	18	19.0	-0.1
WUSB					iS	Sg	09	18	25.0	+0.4
ETLH	Xiulin Townshi	0.50	353		eP	Pg	09	18	19.1	-0.2
ETLH					eS	Sg	09	18	25.4	-0.4
WHF	Hehuan Shan	0.50	329		P	Pg	09	18	19.1	-0.4
WHF					eS	Sg	09	18	25.5	-0.6
CHKH	Chenggong	0.54	195		eP	Pb	09	18	21.0	-0.2
SSLB	Suanglung	0.55	278		iP	Pg	09	18	20.1	-0.2
SSLB					eS	Sg	09	18	27.3	-0.3
FULB	Fuli	0.56	205		eP	Pb	09	18	22.4	+0.7
FUSS	Fushou	0.60	332		P	Pg	09	18	21.2	-0.1
FUSS					eS	Sg	09	18	28.9	-0.3
SMLT	Sun Moon Lake	0.62	286		eP	Pg	09	18	21.5	-0.1
SMLT					eS	Sg	09	18	29.6	-0.2
CHKT	Chengkung	0.63	196		P	Pb	09	18	22.6	-0.2
CHKT					eS	Sb	09	18	32.3	+0.5
EAHA	Aohua	0.64	16		eP	Pg	09	18	21.9	0.0
EAHA					eS	Sg	09	18	31.7	+1.4
TWT	Tachien	0.64	328		eP	Pg	09	18	22.0	+0.1
TWT					eS	Sg	09	18	32.0	-0.4
WHYT	Xinyi Township	0.64	269		eP	Pg	09	18	22.1	+0.2
WHYT					eS	Sg	09	18	30.5	+0.2
EHD	Haiduan	0.64	209		eP	Pg	09	18	21.9	-0.1
EHD					eS	Sb	09	18	31.8	-0.4
TDCB	Techi	0.65	326	⇓	iP	Pg	09	18	22.0	-0.2
TDCB					eS	Sg	09	18	29.4	-1.2
WCS	Beigang Elemen	0.68	301		iP	Pg	09	18	22.9	+0.2
WCS					eS	Sg	09	18	30.9	-0.7
ECS	Chishang	0.69	206		eP	Pb	09	18	24.3	+0.5
ALS	Alishan	0.71	254		eP	Pg	09	18	23.1	-0.3
ALS					iS	Sb	09	18	33.8	-0.6
ELDTW	Lidau	0.71	223		eP	Pg	09	18	23.0	-0.3
NNSB	Datong	0.73	348		iP	Pg	09	18	23.6	-0.1
NNSB					iS	Sg	09	18	32.7	-0.5
ENA	Nanau	0.73	14		eP	Pg	09	18	23.6	-0.1
ENA					eS	Sg	09	18	33.2	-0.1
EWUT	Wuta	0.76	16		eP	Pg	09	18	24.1	-0.1
WJS	Zhushan	0.76	278		iP	Pb	09	18	25.5	+0.5
WJS					eS	Sb	09	18	35.4	-0.1
EDH	Donghe	0.77	197		eP	Pb	09	18	25.9	+0.7
EDH					eS	Sn	09	18	37.8	-0.6
WHP	Taichung City	0.79	316		eP	Pg	09	18	24.9	+0.1
WHP					eS	Sg	09	18	34.5	-0.6
WNT	Mingjian	0.81	282		eP	Pb	09	18	26.6	+0.7
WNT					eS	Sb	09	18	37.1	+0.2
EOS4	EOS4	0.81	60		eP	Pg	09	18	25.8	+0.6
EOS4					eS	Sb	09	18	37.6	+0.9
LATG	Datong	0.82	359		eP	Pg	09	18	25.1	-0.3
LATG					eS	Sg	09	18	36.3	+0.2
LONT	Longtian	0.89	206		eP	Pg	09	18	26.6	-0.1
LONT					eS	Sb	09	18	38.8	-0.5
STYH	Taoyuan	0.89	233		eP	Pg	09	18	26.5	-0.2
STYH					eS	Sb	09	18	39.2	-0.1
ESAO	Su ao	0.90	17		eP	Pg	09	18	27.8	+0.8
EOS3	EOS3	0.91	51		eP	Pg	09	18	27.1	+0.1
WGK	Gukeng	0.91	269		eP	Pb	09	18	28.1	+0.7
WGK					eS	Sn	09	18	41.2	-0.5
TCU	Taichung	0.91	299		eP	Pn	09	18	28.6	+0.1
TCU					eS	Sb	09	18	40.1	+0.3
WCKO	Fanlu	0.91	253		eP	Pb	09	18	28.2	+0.7
WCKO					eS	Sb	09	18	40.1	+0.3
ENTT	Nioudou	0.92	1		eP	Pg	09	18	27.5	+0.1
ENTT					eS	Sg	09	18	39.0	-0.4
WDLH	Douliu	0.93	269		iP	Pn	09	18	28.7	-0.1
WDLH					eS	Sn	09	18	42.4	+0.1
TWC	Suao	0.93	17		eP	Pg	09	18	27.5	0.0
TWC					eS	Sb	09	18	42.0	+1.5
TPUB	Ta-pu	0.94	244		P	Pb	09	18	28.6	+0.5
TPUB					eS	Sg	09	18	40.2	+0.3
CHN4	Tsaushan	0.95	248		eP	Pb	09	18	28.8	+0.6
CHN4					eS	Sn	09	18	41.9	-0.9
TWQ1	Liyutan	0.95	312		eP	Pn	09	18	29.3	+0.1
TWQ1					eS	Sg	09	18	40.4	+0.1
YHNB	Yeheng	0.97	351		iP	Pg	09	18	28.4	+0.2
YHNB					iS	Sg	09	18	40.2	-0.6
WTP	Ta-pu	0.98	242		P	Pb	09	18	29.0	+0.3
WTP					eS	Sn	09	18	43.0	-0.6
WCHH	Zhanghua	0.98	292		eP	Pn	09	18	29.6	+0.1
WCHH					eS	Sn	09	18	43.2	-0.3
TWG	Pinlang	0.99	206		eP	Pb	09	18	29.2	+0.3
TWG					eS	Sb	09	18	42.1	0.0
TWGBT	Beinan	0.99	206		eP	Pg	09	18	26.9	-1.7
NFF	Wufeng Townshi	1.00	337		P	Pg	09	18	29.0	+0.2
NFF					iS	Sg	09	18	41.0	-0.7
CHN2	Minshiung	1.00	260		eP	Pn	09	18	30.6	+0.8
CHN2					eS	Sn	09	18	44.0	-0.1
TWE	Neicheng	1.01	6		eP	Pg	09	18	29.2	+0.1
TWE					eS	Sg	09	18	42.1	0.0
TTN	Taitung	1.02	201		eP	Pn	09	18	30.5	+0.4
LDUT	Ludao	1.04	184		eP	Pg	09	18	28.7	-0.8
LDUT					eS	Sb	09	18	44.1	+0.7
FUSB	Fushanzhiwuyua	1.04	2		eP	Pg	09	18	29.8	+0.1
NSTT	Nanjuang	1.04	331		P	Pg	09	18	30.0	+0.4
NSTT					iS	Sg	09	18	42.9	-0.3
WDJ	Dajia District	1.04	307		eP	Pn	09	18	31.2	+0.7
LIOB	Emei	1.05	332		iP	Pb	09	18	30.4	+0.5
LIOB					eS	Sg	09	18	42.8	-0.6
CHY	Chiayi	1.05	259		eP	Pn	09	18	31.0	+0.5
CHY					eS	Sn	09	18	44.9	-0.5
NWLT	Wulai	1.06	358		eP	Pg	09	18	29.6	-0.4
NWLT					eS	Sg	09	18	43.2	-0.6
ILA	Ilan	1.06	10		eP	Pg	09	18	29.7	-0.4
WTK	Tuku	1.06	269		iP	Pn	09	18	30.9	+0.2
WTK					eS	Sn	09	18	45.8	+0.1
TWK	Hsinying	1.07	246		eP	Pn	09	18	30.8	-0.1
TWK					eS	Sn	09	18	45.4	-0.5
CHN1	Nanshi	1.07	241		iP	Pn	09	18	31.0	+0.2
CHN1					eS	Sn	09	18	45.8	-0.2
NMLH	Miaoli	1.07	320		eP	Pn	09	18	31.6	+0.8
NMLH					eS	Sg	09	18	44.9	+0.6
KSHI	Guanxi Townshi	1.11	342		eP	Pn	09	18	32.1	+0.7
KSHI					eS	Sg	09	18	45.1	-0.4
WTCT	Ta-ch'eng	1.17	278		eP	Pb	09	18	31.6	-0.5
WTCT					eS	Sn	09	18	48.3	0.0
EGS		1.18	17		eP	Pg	09	18	33.3	+1.1
SBCB	Hsinchu	1.19	335		eP	Pg	09	18	33.9	+1.4
SBCB					eS	Sb	09	18	47.9	0.0
HSN	Hsinchu	1.21	334		eP	Pg	09	18	33.8	+1.0
HSN					eS	Sg	09	18	49.4	+0.9
ICHU	Yijhu	1.22	254		eP	Pg	09	18	34.5	+1.5
WSF	Szhu	1.22	267		eP	Pg	09	18	33.5	+0.5
WSF					eS	Sn	09	18	50.3	+0.8
WSL	Shuilin Townsh	1.23	261		iP	Pg	09	18	33.5	+0.3
WSL					eS	Sn	09	18	50.8	+1.1
ECL	Taimali	1.24	206		eP	Pn	09	18	33.2	+0.1
ECL					eS	Sg	09	18	49.2	-0.2
CHN3	Shinhua	1.26	240		eP	Pg	09	18	35.1	+1.3
TWA	Mucha	1.26	1		eP	Pn	09	18	33.7	+0.2
TWA					S	Sb	09	18	48.9	-1.1
SCST	Cishan	1.27	230		eP	Pg	09	18	34.9	+0.9
SCST					eS	Sn	09	18	54.4	+3.6
TIPB	Shuangxi	1.28	11		eP	Pn	09	18	34.1	+0.4
TIPB					eS	Sb	09	18	50.4	-0.1
SSD	Sandimen	1.28	221		eP	Pn	09	18	33.9	+0.2
CHN8	Yiju	1.28	254		eP	Pg	09	18	34.4	+0.2
CHN8					eS	Sn	09	18	52.8	+1.8
NCUH	Zhongli	1.29	345		eP	Pg	09	18	35.1	+0.7
NCUH					eS	Sg	09	18	53.1	+1.9
SHHT	Tainan City	1.30	238		eP	Pg	09	18	35.3	+0.8
SHHT					eS	Sn	09	18	55.6	+4.1
TWB1	Santiao Chiao	1.35	17		eP	Pn	09	18	34.6	-0.1
SCLT	Jiali	1.35	247		eP	Pn	09	18	35.8	+0.2
SCLT					eS	Sg	09	18	54.6	+1.5
TWM1	Shoushan	1.36	230		eP	Pg	09	18	35.3	+1.5
TWM1					eS	Sg	09	18	56.1	+2.7
MASBT	Mashibuluo	1.38	218		eP	Pb	09	18	35.5	-0.1
SGLT	Jiouru	1.38	225		eP	Pg	09	18	37.7	+1.6
SGLT					eS	Sg	09	18	56.7	+2.6
TWS1	Kuangyinshan	1.39	355		eP	Pn	09	18	35.9	+0.7
SXI1	Grass Mountain	1.41	12		eP	Pg	09	18	37.3	+0.6
SXI1					eS	Sb	09	18	55.2	+1.0
YM01	YM01	1.43	1		eP	Pn	09	18	36.4	+0.7
ZUZH	Zhuzihu	1.44	360		eP	Pb	09	18	37.1	+0.4
ZUZH					eS	Sn	09	18	54.2	-0.9
TNOU	National Taiwa	1.45	8		eP	Pb	09	18	37.1	+0.4
NTST	Danshui	1.45	356		eP	Pb	09	18	37.6	+0.9
TSCK	Chigu Township	1.46	248		eP	Pb	09	18	36.8	-0.1
TSCK					iS	Sg	09	18	58.2	+1.7
YM08	YM08	1.47	1		eP	Pn	09	18	36.7	+0.4
JYNG	Yonagunijimaku	1.47	60		eS	Sn	09	18	55.6	-0.1
TAWH	Dawu Township	1.50	204		eP	Pb	09	18	37.9	+0.3
YOJ	Yonaguni jima	1.53	61		eP	Pb	09	18	37.6	+0.1
YOJ					iS	Sb	09	18	58.4	+0.7
YOJ	Yonaguni jima	1.53	61		eP	Pn	09	18	37.5	+0.4
YOJ					eS	Sn	09	18	57.3	+0.2
SCZT	Fangliau	1.58	213		P	Pg	09	18	39.8	-0.2
SCZT					eS	Sg	09	19	00.9	+0.4
LAY	Lan-yu	1.67	180		eP	Pn	09	18	36.0	-3.0
LYUB	Lan-yu	1.70	179		eP	Pn	09	18	36.0	-3.5
WDGT	Dungji	1.79	256		eP	Pn	09	18	40.8	+0.1
WDGT					eS	Sb	09	19	04.6	-0.6
PHUB	P'eng-hu	1.82	264		eP	Pn	09	18	41.2	0.0
PHUB					iS	Sb	09	19	06.4	+0.3
PNG	Penghu	1.83	266		eP	Pn	09	18	42.0	+0.7
PNG					eS	Sn	09	19	05.4	+0.7
TWKBT	Hengchun	1.89	201		eP	Pb	09	18	44.2	-0.1
PCYT	Pengchaiyu	1.97	14		eP	Pn	09	18	44.0	+0.9
VCHM	Qimei	2.01	256		eP	Pn	09	18	43.6	-0.1
VCHM					eS	Sn	09	19	08.0	-1.0
IRIF	Iriomote-Funau	2.09	72		eS	Sn	09	19	11.1	+0.2
HATJ	Hateruma jima	2.09	80		S	Sn	09	19	10.6	+0.5
VWUC	VWUC	2.30	304		eP	Pn	09	18	46.8	-0.9
JKRS	Kuro-shima	2.31	76		eP	Pn	09	18	49.0	+1.2
JIJ	Ishigaki jima	2.46	74		eP	Pn	09	18	50.7	+0.8
JIJ					S	Sn	09	19	19.4	-0.6
JISG	Ishigakijimahi	2.67	70		P	Pn	09	18	52.3	-0.5
JISG					eS	Sn	09	19	23.9	-1.4
MATB	Ma-tsu	2.83	329		eP	Pn	09	18	54.4	-0.6
KNM	Kinmen	2.93	284		eP	Pn	09	18	57.7	+1.2
KNMB	Chin-men Tao	2.98	285		eP	Pn	09	18	57.0	-0.2
JMJ2	Miyako jima3	3.60	73		eS	Sn	09	19	48.3	+0.1
KSRS	Korea Array	14.75	20	Pn		P	09	21	44.2	-0.3
	0.2nm,0.3s,baz=203,slow=12,SNR=5.4									
	0.8nm,0.5s									
MKAR	Makanchi Array	38.91	316	P		P	09	25	36.0	+0.4
	0.5nm,0.7s,baz=109,slow=9.9,SNR=4.5									
	0.5nm,0.7s									
KURBB	Kurchatov Arra	42.68	320	P		P	09	26	09.2	+2.6
	0.2nm,0.3s,baz=111,slow=7.3,SNR=2.9									
	0.2nm,0.3s									
WRA	Warramunga Arr	45.15	163	P		P	09	26	25.0	-1.8
	0.4nm,0.6s,baz=343,slow=8.1,SNR=2.1									
	0.4nm,0.6s									
ASAR	Alice Springs	48.60	165	P		P	09	26	50.0	-3.8
	1.4nm,1.3s,baz=343,slow=8.5,SNR=1.8									
	1.4nm,1.3s									

IDC 18 09:20:13.8±5.3,5˚.01S×151˚.22E,h120km±44km,mb3.2/3, mbtmp3.7/4,Error ellipse: s-maj=136.6km s-min=31.5km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PMG	Port Moresby	5.94	222		P	Pn	09	21	40.4	+1.0
	19nm,0.5s,baz=259,slow=1.9,SNR=10.0									
PMG					S	Sn	09	22	46.8	+0.5
	46nm,0.5s,baz=157,slow=21,SNR=8.7									
WRA	Warramunga Arr	22.14	226		P	P	09	24	58.8	-1.1
	0.9nm,0.7s,baz=51,slow=9.8,SNR=13									
	0.9nm,0.7s									
ASAR	Alice Springs	24.95	220		P	P	09	25	26.9	+0.7
	0.9nm,0.6s,baz=55,slow=9.0,SNR=16									
	0.9nm,0.6s									
ILAR	Eielson Array	82.95	22		P	P	09	32	24.9	-0.2
	0.3nm,0.6s,baz=258,slow=5.6,SNR=5.1									
	0.3nm,0.6s									

*MOS **18** 09:28:27.7±0.8,2˚.38S×79˚.37W,h89km,mb5.2/22,Error ellipse: s-maj=12.5km s-min=6.1km az=104.0*
*RSNC **18** 09:28:27.7±0.4,2˚.5S×8˚.0W,h87km±7km,M4.8,mb5.2, mB5.2,ML4.5,Mw(mB)4.6,MwMwp4.9,Mwp5.2*
*IDC **18** 09:28:28.2±0.5,2˚.31S×79˚.30W,h83km±3km,mb4.5/19, mbtmp4.8/26,MS3.8/43,Error ellipse: s-maj=15.6km s-min=9.4km az=67.0*
*VAO **18** 09:28:29.4±0.4,2˚.37S×79˚.09W,h80km±2km,mb5.8*
*NEIC **18** 09:28:29.9,2˚.32S×79˚.29W,h70km*
*NEIC **18** 09:28:29.6±1.7,2˚.32S±0˚.06×79˚.28W±0˚.10,h85km±6km, mb5.2/69,Mww5.0/18,Error ellipse: s-maj=14.2km s-min=8.4km az=92.0*
*NEIC **18** 09:28:29.9,2˚.42S×79˚.29W,h70km,Moment Tension Solution. Duration: 1s6 Moment tensor: Scale 10^16^Nm; Mrr=3.76; Mθθ=0.99; Mφφ=4.75; Mrθ=-0.23; Mθφ=0.61; Mφr=0.98; Fault plane solution: Mo=4.50000×10^16 NP1:φs8.40000°, δ51.62000°,λ=-86.88000°. NP2:φs183.38000°,δ38.49000°, λ=-93.93000°. Principal axes: T 4.9293, Plg7.0000°, Azm96.0000°; N -1.0526, Plg2.0000°, Azm186.0000°; P -3.8768, Plg83.0000°, Azm297.0000°;*
*GCMT **18** 09:28:30.9±0.2,2˚.36S±0˚.01×79˚.36W±0˚.02,h96km±2km, MW5.0/108,Moment Tensor Solution. s63,c70; s108,c165; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=3.38±.09; Mθθ=-1.34±.09; Mφφ=4.72±.11; Mrθ=0.12±.06; Mθφ=1.69±.10; Mφr=1.25±.10; Best double couple: Mo=4.47900×10^16 NP1:φs209.00000°,δ39.00000°, λ=-69.00000°. NP2:φs3.00000°,δ54.00000°,λ=-106.00000°. Principal axes: T 5.3200, Plg8.0000°, Azm104.0000°; N -1.6810, Plg13.0000°, Azm12.0000°; P -3.6390, Plg75.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IGQ **18** 09:28:30.0±0.2,2˚.5±1˚.8×8˚.0W±˚,h63km±2km,MLv5.1/31*

ISC 18 09:28:28.1±0.3,2˚.40S±0˚.03×79.47W±0˚.03,h85km±2km, h85km:pP-P,n756,σ1s11/789,mb5.0/87,35C-57D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PU07	PU07	0.06	27	⇓	P	Pn	09	28	40.5	+0.4
MILO	Milagro-Astudi	0.15	324	⇓	P	Pn	09	28	40.8	+0.5
MILO					S	Sn	09	28	50.5	+1.2
PU06	PU06	0.16	262	⇓	P	Pn	09	28	40.8	+0.5
PU06					S	Sn	09	28	50.5	+1.1
COHC	Cochancay	0.22	107			Pn	09	28	40.5	-0.1
COHC	Cochancay	0.22	107		S	Sn	09	28	49.4	-0.3
COHC				⇓	P	Pn	09	28	40.4	-0.1
COHC	Cochancay	0.22	107		P	Pn	09	28	40.5	-0.1
COHC					S	Sn	09	28	49.1	-0.7
PU04	PU04	0.31	203	⇓	P	Pn	09	28	41.5	+0.5
PU04					S	Sn	09	28	51.6	+1.1
GYE1	Ecuador-Trinit	0.47	289		S	Sn	09	28	53.0	+0.7
GYE1					P	Pn	09	28	42.3	+0.2
GYE3	Ecuador-Guayaq	0.49	299		P	Pn	09	28	42.1	-0.1
AC07	Ecuador-Guayaq	0.57	296	⇑	P	Pn	09	28	43.0	0.0
AC07					S	Sn	09	28	51.7	-2.3
AGUAY	Guayaquil	0.59	305		S	Sn	09	28	53.0	-0.6
AGUAY					P	Pn	09	28	42.7	-0.4
ABAB	Ecuador-Univer	0.60	356		P	Pn	09	28	42.4	-0.7
PU03	PU03	0.60	214	⇓	P	Pn	09	28	44.2

TULM Tulcn-Chalpat 3.52 29 ⇓P Pn 09 29 23.0 +2.0
TULM Tulcn-Chalpat 3.52 29 P Pn 09 29 22.7 +1.6
CHMA Chilma 3.53 23 ⇓P Pn 09 29 22.6 +1.6
ECEN Cerro Negro 3.54 25 ⇓P Pn 09 29 22.8 +1.5
ATUL Tulcn 3.60 29 P Pn 09 29 24.3 +2.3
CMBC Cumbal 3.70 26 P Pn 09 29 25.7 +2.2
CMBC Cumbal 3.70 26 P Pn 09 29 28.1 +4.6
SNLR San Lorenzo-Es 3.72 10 ⇓P Pn 09 29 23.1 -0.2
TUMC Tumaco 4.26 10 Pn 09 29 31.0 +0.4
TUMC Tumaco 4.26 10 P Pn 09 29 31.3 +0.7
TUMC Tumaco 4.26 10 P Pn 09 29 31.1 +0.4
TUMC S Sn 09 30 22.5 +3.3
CRUC La Cruz 4.68 33 P Pn 09 29 38.6 +2.0
ATAH Atahualpa 4.82 167 P Pn 09 29 41.0 +2.4
209nm,0.5s,baz=14,slow=8.5,SNR=374
ATAH S Sn 09 30 37.2 +3.7
2µm,0.5s,baz=226,slow=12,SNR=10.0
BBAC Balboa, Cauca 4.92 27 ⇓P Pn 09 29 40.1 +0.2
BBAC Balboa, Cauca 4.92 27 P Pn 09 29 39.8 -0.1
BBAC S Sn 09 30 40.1 +4.4
FLOC Florencia 5.50 44 Pn 09 29 46.2 -1.3
FLOC Florencia 5.50 44 ⇑P Pn 09 29 46.7 -0.8
FLOC Florencia 5.50 44 P Pn 09 29 46.6 -0.9
2µm440nm,0.9s
GR1C Gorgona, Isla 5.52 14 P Pn 09 29 46.1 -1.7
GR1C S Sn 09 30 50.3 +0.3
POPC Popayan, Colom 5.65 30 P Pn 09 29 49.5 -0.2
717nm197nm,1.0s
GARC Garzon, Huila 6.05 41 P Pn 09 29 56.7 +1.5
5µm224nm,0.6s
JAMC Jamundi, Valle 6.24 27 P Pn 09 29 56.4 -1.4
2µm236nm,1.0s
JAMC S Sn 09 31 05.7 -2.1
2µm236nm,1.0s
BETC Betania 6.46 39 P Pn 09 30 04.1 +3.5
MAPC Malpelo 6.71 341 P Pn 09 30 03.2 -0.9
3µm96nm,0.8s
YOTC Yotoco, Valle 7.07 26 P Pn 09 30 05.5 -3.5
ORTC Ortega, Tolima 7.55 34 P Pn 09 30 14.6 -1.0
2µm288nm,1.1s
PRAC Prado 7.61 37 P Pn 09 30 15.3 -1.0
821nm124nm,1.3s
PLMC San Jos del P 7.92 24 P Pn 09 30 15.9 -4.8
CZSB Cruzeiro do Su 8.57 128 Pn 09 30 28.3 -1.1
CZSB Cruzeiro do Su 8.57 128 eP Pn 09 30 28.4 -1.0
CZSB Cruzeiro do Su 8.57 128 P Pn 09 30 28.5 -1.0
3µm35µm5µm,0.9s
GUY2C Guyana, Caldas 8.61 28 P Pn 09 30 26.5 -3.9
ROSC El Rosal 8.84 36 Pn 09 30 31.6 -1.9
ROSC El Rosal 8.84 36 P Pn 09 30 33.0 -0.4
14nm,0.5s,baz=95,slow=14,SNR=8.5
ROSC LR LR 09 34 35.3
comp=Z,1µm,19.6s,baz=209,slow=42
PTAC Punta Ardita, 9.63 10 P Pn 09 30 42.8 -1.1
2µm55nm,0.9s
TBTG Tabatinga, AM 9.71 101 Pn 09 30 41.6 -3.3
TBTG Tabatinga, AM 9.71 101 eP Pn 09 30 41.5 -3.5
TBTG Tabatinga, AM 9.71 101 P Pn 09 30 41.7 -3.3
NNA Nana 9.88 165 Pn 09 30 47.6 +0.3
NNA Nana 9.88 165 P Pn 09 30 47.8 +0.5
111nm,0.4s,baz=332,slow=12,SNR=69
NNA S Sn 09 32 33.1 -3.3
940nm,0.4s,baz=274,slow=22,SNR=28
NNA Nana 9.88 165 *c iP* Pn 09 30 47.6 +0.3
PTBC PUERTO BERRIO, 10.19 29 P Pn 09 30 53.4 +1.8
97nm20nm,1.0s
RUSC La Rusia 10.42 38 Pn 09 30 55.7 +0.6
RUSC La Rusia 10.42 38 P Pn 09 30 56.0 +0.9
1µm57nm,1.3s
APAC Apartado, Choc 10.63 16 P Pn 09 30 56.8 -0.7
PAYG Puerto Ayora 10.95 279 Pn 09 31 03.4 +1.5
BCIP Isla Barro Col 11.50 358 Pn 09 31 09.4 +0.1
BCIP Isla Barro Col 11.50 358 P Pn 09 31 09.4 +0.1
BRU2 Volcan 11.57 344 Pn Pn 09 31 11.8 +1.3
LCR2 La Lucha 2 12.88 340 Pn 09 31 30.5 +2.3
HDC Heredia 13.16 339 Pn Pn 09 31 32.9 +1.1
HDC Heredia 13.16 339 eP Pn 09 31 35.3 +3.4
SOCE Pocosol 13.70 338 Pn Pn 09 31 41.1 +2.3
JTS Las Juntas de 13.74 337 Pn 09 31 41.6 +2.3
JTS Las Juntas de 13.74 337 P Pn 09 31 39.6 +0.3
10nm,1.0s,baz=156,slow=11,SNR=7.0
JTS Las Juntas de 13.74 337 P Pn 09 31 41.6 +2.3
SDV Santo Domingo 14.26 38 P Pn 09 31 45.1 -1.1
13nm,0.4s,baz=218,slow=11,SNR=16
SDV LR LR 09 38 05.2
comp=Z,746nm,20.5s,baz=230,slow=41
SDV Santo Domingo 14.26 38 eP Pn 09 31 44.3 -1.9
TEFE Tefe 14.86 95 eP Pn 09 31 47.5 -6.3
ESPN Las Esperanzas 15.27 342 P 09 32 00.7 -1.3
ACON Acoyapa 15.36 338 P 09 32 02.0 -1.0
BOAB BOACO BROADBAN 15.98 337 P 09 32 10.2 +0.3
BAUV El Baul 16.02 45 Pn 09 32 07.8 -0.7
SIUN Universidad Ur 16.85 342 P P 09 32 20.3 +0.7
LPAZ La Paz 17.75 142 P P 09 32 29.1 -1.0
LPAZ La Paz 17.75 142 P P 09 32 28.7 -1.4
13nm,0.6s,baz=315,slow=8.0,SNR=60
LPAZ LR LR 09 39 24.4
comp=Z,284nm,19.6s,baz=310,slow=37
LPAZ La Paz 17.75 142 P P 09 32 29.1 -1.0
LPAZ La Paz 17.75 142 eP P 09 32 28.4 -1.6
PB18 Visviri 18.00 148 P Pn 09 32 35.4 +2.1
TGUH Tegucigalpa,Un 18.09 335 P Pn 09 32 34.5 +0.5
PB16 IPOC Station P 18.61 149 P Pn 09 32 40.3 -0.3
PCRV Puerto La Cruz 19.34 50 P P 09 32 46.1 -0.9
18nm,0.8s,baz=216,slow=6.2,SNR=17
PCRV LR LR 09 41 10.9
comp=Z,508nm,18.9s,slow=40
MTO3 Montecristo 19.36 330 P Pn 09 32 49.1 0.0
ESQI Esquipulas 19.48 330 P Pn 09 32 50.9 +0.3
BOAV Boa Vista 19.53 76 P P 09 32 46.8 -2.2
BOAV Boa Vista 19.53 76 eP P 09 32 47.0 -2.0
PB11 IPOC Station P 19.74 152 P Pn 09 32 52.5 -1.1
GO01 Chusmiza 19.89 150 P P 09 32 53.8 +0.4
TA02 Huaiquique 19.96 154 P Pn 09 32 55.1 -1.0
TA01 Diego Aracena 20.20 154 P P 09 32 55.8 -0.4
MTDJ Mount Denham 20.58 5 P P 09 33 01.6 +1.2
PB01 IPOC Station P 20.93 153 P P 09 33 04.7 +0.6
PB02 IPOC Station P 20.99 154 P P 09 33 05.2 +0.3
HUEH Huehuetenango 21.25 326 P P 09 33 10.0 +2.2
PB03 IPOC Station P 21.70 155 P P 09 33 14.6 +2.3
PB09 IPOC Station P 21.70 153 P P 09 33 13.4 +1.0
VILB Vilhena 21.76 120 P P 09 33 12.6 -0.4
VILB Vilhena 21.76 120 eP P 09 33 11.8 -1.2
PETF Flores 21.77 332 P P 09 33 15.2 +2.2
PB05 IPOC Station P 22.23 157 P P 09 33 18.9 +0.8
PB06 IPOC Station P 22.35 155 P P 09 33 20.2 +0.7
PB10 IPOC Station P 22.70 158 P P 09 33 24.0 +1.2
NMDO Nuevo Mundo 23.24 11 P P 09 33 29.4 +1.2
DR12 Loma Pena Alta 23.28 25 P P 09 33 28.5 -0.1
PB14 IPOC Station P 23.77 159 P 09 33 34.5 +1.2
ITTB Itaituba 23.77 95 eP P 09 33 31.9 -1.2
PTLB Pontes e Lacer 23.87 124 P 09 33 33.9 -0.1
PTLB Pontes e Lacer 23.87 124 eP P 09 33 33.0 -0.9
OBIP Obispado Ponce 23.94 31 P P 09 33 34.1 -0.4
CELP Cerrillos 23.98 31 P P 09 33 34.9 0.0
UUPR Utuado, UPR, P 24.06 31 P P 09 33 35.7 +0.1
TEIG Tepich 24.09 339 P P 09 33 36.7 +0.8
AOPR Arecibo Observ 24.12 31 P P 09 33 36.7 +0.5
PDPR Patillas Dam, 24.23 33 P P 09 33 37.4 +0.3
SJG San Juan 24.24 32 P P 09 33 37.1 -0.1
SJG San Juan 24.24 32 LR LR 09 44 40.4
comp=Z,181nm,20.9s,baz=226,slow=40
SJG San Juan 24.24 32 P P 09 33 37.1 -0.1
PDRB Porto dos Gac 24.33 113 eP P 09 33 37.7 -0.5
HUMP Col San Antoni 24.43 33 P P 09 33 38.1 -0.8
NPGB Novo Progresso 24.46 102 eP P 09 33 38.1 -1.3
GO02 Mina Guanaco 24.55 158 P 09 33 41.8 +1.4
GO02 IAmb IAmb 09 34 12.2
comp=Z,72nm,0.7s
CMIG Matias Romero 24.63 322 LR LR 09 41 49.0
comp=Z,150nm,21.5s,baz=172,slow=32
CLDB Colider 24.95 111 eP P 09 33 43.4 -0.4
MAL2 Monte Alegre, 25.27 90 P 09 33 45.6 -1.2
CAMR Camarioca 25.37 356 P P 09 33 49.2 +1.7
CAMR IAmb IAmb 09 33 52.8
comp=Z,217nm,0.7s
SMRT St. Maarten 25.96 38 P P 09 33 51.0 -1.9
ANWB Willy Bob 26.49 40 P P 09 33 55.7 -1.9
SALV Santo Antonio 26.98 121 eP P 09 34 01.1 -1.1
TLIG Tlapa 27.35 317 P P 09 34 07.4 +1.8
MDP Montagnes des 27.82 74 LR LR 09 45 36.4
comp=Z,525nm,19.0s,baz=260,slow=37

BDQN Bodoquena, MS 28.52 131 eP P 09 34 15.5 -0.3
MURT Porto Murtinho 28.61 134 eP P 09 34 15.8 -0.8
AQDB Aquidauana 29.33 130 P P 09 34 22.7 -0.3
AQDB Aquidauana 29.33 130 eP P 09 34 23.0 0.0
SNDB Serra Nova Dou 29.49 110 eP P 09 34 23.2 -1.3
CO02 Combarbal 29.75 165 P P 09 34 27.6 +0.9
PRPB Parauapebas 29.80 98 eP P 09 34 25.8 -1.5
ARAG Araguaiana, MT 30.28 118 eP P 09 34 30.2 -1.3
MOIG Morelia 30.60 317 P P 09 34 36.7 +2.2
MOIG IAmb IAmb 09 34 38.4
comp=Z,36nm,0.9s
ZON Zonda 30.73 162 P P 09 34 36.4 +1.1
ZON IAmb IAmb 09 35 11.8
comp=Z,56nm,1.5s
ZON Zonda 30.73 162 P P 09 34 36.4 +1.1
ZON pmax pmax
comp=Z,56nm,1.5s
JRQG Juriquilla Cam 30.82 319 P P 09 34 38.8 +2.4
RPRD Ribas do Rio P 30.90 127 eP P 09 34 36.6 -0.3
AMBA Amambai (Brazi 31.30 133 eP P 09 34 40.4 0.0
VA03 San Esteban 31.34 165 P P 09 34 41.8 +1.1
VA03 IAmb IAmb 09 34 43.8
comp=Z,89nm,1.5s
TMAB Tom-Au,PA,Br 31.34 91 eP P 09 34 39.2 -1.7
PEL Peldehue 31.67 166 P P 09 34 44.6 +1.0
PEL IAmb IAmb 09 35 18.0
comp=Z,33nm,1.1s
PEL Peldehue 31.67 166 P P 09 34 44.6 +1.0
PEL pmax pmax
comp=Z,33nm,1.1s
SJPY San Joaquin 31.82 137 eP P 09 34 44.6 -0.3
CPUP Villa Florida 31.91 140 P P 09 34 45.4 -0.2
comp=Z,0.6nm,0.7s,baz=165,slow=9.5,SNR=3.5
CPUP pP pP 09 35 04.0 -2.5
comp=Z,6.2nm,0.8s,baz=186,slow=9.2,SNR=16
CPUP LR LR 09 50 19.6
comp=Z,58nm,20.4s,baz=184,slow=41
CPUP Villa Florida 31.91 140 eP P 09 34 44.8 -0.9
MT08 Bocatoma Ro 32.13 165 P P 09 34 49.3 +1.5
MT08 IAmb IAmb 09 34 51.7
comp=Z,42nm,0.9s
MT13 San Alfonso 32.34 166 P P 09 34 51.5 +2.0
MT13 IAmb IAmb 09 35 33.1
comp=Z,29nm,0.9s
SMTB Santa Maria do 32.35 103 eP P 09 34 48.1 -1.6
LMEL Las Melosas 32.46 166 P P 09 34 50.9 +0.3
LMEL IAmb IAmb 09 34 54.0
comp=Z,43nm,1.2s
TRCB Terra Rica 32.99 130 eP P 09 34 55.0 -0.3
ITRB Iturama 33.24 123 eP P 09 34 56.4 -1.0
BDFB Brasilia 33.66 115 P P 09 35 01.1 -0.2
BDFB Brasilia 33.66 115 P P 09 35 00.6 -0.7
comp=Z,8.5nm,0.9s,baz=264,slow=10,SNR=11
BDFB LR LR 09 50 15.0
comp=Z,472nm,18.6s,baz=301,slow=39
comp=Z,8.5nm,0.9s
BDFB Brasilia 33.66 115 P P 09 35 01.1 -0.2
BDFB pmax pmax
comp=Z,23nm,1.0s
ZAIG Zacatecas 33.67 319 P P 09 35 03.4 +2.0
IPMB Ipameri, GO 34.34 119 eP P 09 35 06.3 -0.8
PTGB Pitanga 34.51 132 eP P 09 35 08.2 -0.3
HBVL Hebbronville 34.66 329 P P 09 35 11.6 +2.0
HBVL IAmb IAmb 09 35 12.2
comp=Z,20nm,0.9s
BI02 San Fabin de 34.92 168 P P 09 35 13.2 +1.4
152A Waverly Hall 35.23 352 P P 09 35 13.2 -1.3
152A IAmb IAmb 09 35 14.9
comp=Z,29nm,0.9s
SDBA SAO DESIDERIO 35.64 108 eP P 09 35 17.5 -0.8
HKT Hockley 35.77 335 *d iP* P 09 35 19.8 +0.8
HKT pmax pmax
comp=Z,21nm,1.2s
GOGA Godfrey 35.82 354 P P 09 35 18.4 -1.0
GOGA Godfrey 35.82 354 P P 09 35 18.4 -1.0
GOGA pmax pmax
comp=Z,18nm,0.9s
LRAL Lakeview Retre 35.95 349 P P 09 35 19.9 -0.7
LRAL IAmb IAmb 09 35 21.2
comp=Z,37nm,0.8s
EF04 Eagle Ford 04 36.00 332 P P 09 35 22.1 +1.0
146A Union 36.01 346 P P 09 35 20.8 -0.3
146A IAmb IAmb 09 35 22.1
comp=Z,40nm,1.0s
833A Chaparral WMA, 36.05 329 P P 09 35 22.1 +0.5
833A IAmb IAmb 09 35 24.1
comp=Z,31nm,0.9s
PMNB Patos De Minas 36.11 119 eP P 09 35 20.2 -2.1
MLDN Muldoon 36.16 334 P P 09 35 23.8 +1.4
MLDN IAmb IAmb 09 35 25.2
comp=Z,52nm,1.1s
Z47A Carrollton 36.33 348 P P 09 35 22.8 -1.0
Z47A P eP 09 37 47.2 +0.3
JSC Jenkinsville 36.53 358 P 09 37 47.2 -0.3
HODGE Hodges 36.53 356 P P 09 35 24.7 -0.8
HODGE PcP PcP 09 37 47.0 -0.5
143A Socs Landing, 36.70 343 P P 09 35 26.6 -0.3
143A IAmb IAmb 09 35 30.5
comp=Z,22nm,0.9s
143A PcP PcP 09 37 48.0 -0.1
RCLB Rio Claro- Sao 36.84 125 eP P 09 35 28.8 +0.4
JANB Januaria 36.88 112 eP P 09 35 27.2 -1.6
NATX Nacogdoches 36.91 338 P P 09 35 29.3 +0.5
NATX IAmb IAmb 09 35 30.5
comp=Z,39nm,0.9s
HNDO Hondo 36.98 331 P P 09 35 29.9 +0.5
PAUL Pauline 37.09 357 P P 09 35 30.0 -0.3
CPSB Cacapava Do Su 37.19 141 eP P 09 35 31.5 +0.2
FPAL Fort Paine 37.20 352 P P 09 35 30.6 -0.6
435B Jarrell 37.24 334 P P 09 35 32.6 +1.0
X48A Hartselle 37.34 350 P P 09 35 31.5 -0.9
X48A IAmb IAmb 09 35 32.4
comp=Z,17nm,0.8s
237A Washetta, Mont 37.56 337 P P 09 35 35.4 +1.1
DRIO Del Rio 37.57 329 P P 09 35 35.1 +0.7
VAO Valinhos 37.57 126 eP P 09 35 34.6 -0.1
Z41A Richland Creek 37.64 342 P P 09 35 35.2 +0.3
Z41A IAmb IAmb 09 35 36.1
comp=Z,35nm,1.0s
RPN Rapa Nui 37.71 227 LR LR 09 48 28.4
comp=Z,138nm,18.9s,baz=47,slow=32
PET01 Itanhaem-SP 37.95 128 eP P 09 35 36.1 -1.6
PLTB Pedras Altas 38.04 143 eP P 09 35 37.9 -0.5
TKL Tuckaleechee C 38.07 354 LR LR 09 50 42.5
comp=Z,65nm,21.0s,baz=173,slow=35
WLAR White Oak Lake 38.13 341 P P 09 35 39.8 +0.7
WLAR IAmb IAmb 09 35 41.4
comp=Z,51nm,1.0s
DIAM Diamantina, MG 38.47 117 eP P 09 35 41.1 -1.3
BSCB Bom Sucesso 38.52 121 eP P 09 35 41.7 -1.0
PLCA Paso Flores 39.00 169 P P 09 35 47.0 +0.6
comp=Z,13nm,0.8s,baz=345,slow=11,SNR=19
comp=Z,13nm,0.8s
PLCA Paso Flores 39.00 169 P P 09 35 47.6 +1.3
PLCA pP pP 09 36 08.9 +1.4
PLCA sP sP 09 36 18.5 +0.8
PLCA PcP PcP 09 37 55.9 +0.7
PLCA Paso Flores 39.00 169 eP P 09 35 47.7 +1.3
MIAR Mount Ida 39.07 341 P P 09 35 46.8 -0.1
MIAR pmax pmax
comp=Z,25nm,1.3s
FW06 Azle 39.12 336 P P 09 35 48.4 +1.0
TXAR Lajitas Array 39.15 325 P P 09 35 48.5 +0.7
TXAR Lajitas Array 39.15 325 P P 09 35 48.9 +1.1
comp=Z,6.2nm,0.9s,baz=148,slow=9.4,SNR=59
TXAR PcP PcP 09 37 56.7 +0.8
comp=Z,11nm,0.8s,baz=144,slow=4.1,SNR=30
TXAR pPcP 09 38 19.6
comp=Z,7.6nm,1.0s,baz=127,slow=4.0,SNR=7.5
TXAR LR LR 09 51 10.5
comp=Z,55nm,20.7s,baz=117,slow=35
comp=Z,6.2nm,0.9s
U49A Red Boiling Sp 39.16 352 P P 09 35 46.4 -1.2
SLBS Sierra La Lagu 39.39 313 P P 09 35 51.9 +2.0
SLBS sP sP 09 36 22.3 +2.5
NBPB Pedra_Branca-C 39.90 96 eP P 09 35 53.2 -1.0
SJMB Sao Joao De Ma 40.83 116 eP P 09 36 00.8 -1.0
WCI Wyandotte Cave 40.92 352 P P 09 35 59.6 -2.5
WCI pP pP 09 36 20.4 -1.9
WCI sP sP 09 36 30.8 -1.3
WCI PcP PcP 09 38 00.6 -0.6
DUB01 Friburgo-RJ 41.00 121 eP P 09 36 03.0 -0.2
NBCL Cascavel-CE 41.15 94 eP P 09 36 03.7 -0.7

WMOK Wichita Mounta 41.15 336 P P 09 36 04.9 +0.7
WMOK pmax pmax
comp=Z,60nm,1.0s
CMC01 Camacan, BA 41.42 111 eP P 09 36 03.2 -3.4
CAM01 Campos-RJ 41.51 121 eP P 09 36 06.8 -0.5
CCM Cathedral Cave 41.70 346 P P 09 36 06.7 -1.9
CCM pP pP 09 36 27.8 -1.0
CCM PcP PcP 09 38 03.4 -0.3
RIB01 Linhares ES 41.74 117 eP P 09 36 08.0 -1.2
SSPA Standing Stone 42.85 2 P P 09 36 16.4 -1.5
SSPA PcP PcP 09 38 07.4 -0.1
COYC Coyhaique 43.48 172 P P 09 36 23.9 +1.0
COYC pP pP 09 36 44.3 -0.1
COYC PcP PcP 09 38 10.1 +0.5
NBAN Anadia - AL 43.52 101 eP P 09 36 23.2 -0.5
RCBR Riachuelo 43.58 96 LR LR 09 56 11.0
comp=Z,250nm,18.8s,baz=276,slow=38
M65A Busby, Falmout 44.48 9 P P 09 36 31.3 +0.4
baz=192
Y22D IRIS PASSCAL I 44.54 327 P P 09 36 32.2 +0.4
baz=139
ANMO Albuquerque 44.95 328 LR LR 09 55 56.8
comp=Z,93nm,18.8s,baz=224,slow=37
ANMO Albuquerque 44.95 328 *d iP* P 09 36 36.4 +1.3
ANMO pmax pmax
comp=Z,81nm,0.9s
ANMO Albuquerque 44.95 328 P P 09 36 36.6 +1.5
TUC Tucson 45.52 322 P P 09 36 40.9 +1.4
TUC pmax pmax
comp=Z,35nm,1.1s
TUC Tucson 45.52 322 P P 09 36 40.7 +1.3
TUC PcP PcP 09 38 17.7 +0.7
SADO Sadowa 46.96 0 LR LR 09 57 26.6
comp=Z,87nm,19.0s,baz=184,slow=37
ISCO Idaho Springs 48.36 333 P P 09 37 02.7 +1.0
ISCO pmax pmax
comp=Z,15nm,1.1s
KNB Kanab 49.98 325 P P 09 37 15.4 +1.4
KNB IAmb IAmb 09 37 16.9
comp=Z,29nm,1.0s
KNB Kanab 49.98 325 P P 09 37 15.4 +1.4
KNB pmax pmax
comp=Z,29nm,1.0s
PFO Pinyon Flats O 49.98 319 P P 09 37 15.2 +1.2
PFO IAmb IAmb 09 37 16.8
comp=Z,18nm,1.1s
PFO Pinyon Flats O 49.98 319 LR LR 09 56 50.2
comp=Z,138nm,18.4s,baz=85,slow=34
PFO Pinyon Flats O 49.98 319 *d iP* P 09 37 15.5 +1.5
PFO pmax pmax
comp=Z,34nm,1.1s
PFO Pinyon Flats O 49.98 319 P P 09 37 15.4 +1.5
PFO pP pP 09 37 37.2 +2.4
PFO PcP PcP 09 38 33.3 +0.3
D62A Allapoint, All 50.12 9 P P 09 37 14.3 -0.3
D62A IAmb IAmb 09 37 16.0
comp=Z,40nm,1.2s
ELS Elsinore Mount 50.64 318 P P 09 37 19.9 +1.0
TCRU Three Creeks R 50.89 327 P P 09 37 22.1 +1.1
TCRU IAmb IAmb 09 37 23.3
comp=Z,25nm,0.9s
RSSD Black Hills 51.27 337 P P 09 37 24.4 +0.8
RSSD IAmb IAmb 09 37 25.7
comp=Z,29nm,0.8s
RSSD Black Hills 51.27 337 P P 09 37 24.4 +0.8
RSSD pmax pmax
comp=Z,29nm,0.9s
RSSD Black Hills 51.27 337 P P 09 37 24.5 +0.8
RSSD pP pP 09 37 46.3 +1.8
RSSD PcP PcP 09 38 37.4 -0.3
LRMC Laurel Mtn Rad 51.93 320 P P 09 37 29.8 +1.2
LRMC IAmb IAmb 09 37 31.4
comp=Z,48nm,1.2s
PDAR Pinedale Array 52.52 332 P P 09 37 32.8 -0.2
PDAR Pinedale Array 52.52 332 P P 09 37 33.0 0.0
comp=Z,8.0nm,0.7s,baz=125,slow=8.5,SNR=94
PDAR pP pP 09 37 54.5 +0.6
comp=Z,5.4nm,0.9s,baz=131,slow=8.1,SNR=6.4
PDAR PcP PcP 09 38 41.8 -0.6
comp=Z,5.9nm,0.9s,baz=134,slow=4.3,SNR=5.6
PDAR LR LR 10 01 27.2
comp=Z,63nm,18.8s,baz=130,slow=38
comp=Z,8.0nm,0.7s
ELK Elko 53.92 327 LR LR 10 00 16.9
comp=Z,136nm,18.7s,baz=138,slow=35
ELK Elko 53.92 327 P P 09 37 44.2 +0.9
NVAR Mina Array Bea 54.16 323 P P 09 37 45.7 +0.6
NVAR Mina Array Bea 54.16 323 P P 09 37 46.5 +1.4
comp=Z,12nm,0.8s,baz=137,slow=7.0,SNR=118
NVAR PcP PcP 09 38 48.6 -0.1
comp=Z,5.5nm,0.7s,baz=134,slow=4.6,SNR=6.1
comp=Z,12nm,0.8s
ULM Lac du Bonnet 54.31 347 P P 09 37 44.4 -1.3
comp=Z,14nm,0.7s,baz=157,slow=7.5,SNR=21
comp=Z,14nm,0.7s
ULM Lac du Bonnet 54.31 347 *c iP* P 09 37 43.4 -2.2
YNR Norris Junctio 54.54 333 P P 09 37 48.6 +0.9
EGMT Eagleton 56.75 336 P P 09 38 03.2 0.0
WVOR Wild Horse Val 56.94 326 P P 09 38 05.5 +0.7
WVOR pmax pmax
comp=Z,44nm,1.4s
SCHQ Schefferville 57.98 9 P P 09 38 10.5 -1.2
SCHQ IAmb IAmb 09 38 11.7
comp=Z,39nm,1.6s
SCHQ Schefferville 57.98 9 P P 09 38 10.7 -1.0
comp=Z,12nm,1.1s,baz=202,slow=6.4,SNR=6.8
SCHQ PcP PcP 09 39 02.2 -0.7
comp=Z,8.7nm,0.8s,baz=182,slow=4.3,SNR=5.4
SCHQ LR LR 10 02 53.8
comp=Z,43nm,20.2s,baz=197,slow=36
comp=Z,12nm,1.1s
J05D Fort Rock, OR 58.95 325 P P 09 38 19.7 +0.8
FFC Flin Flon 59.90 345 P P 09 38 24.0 -1.0
FFC pmax pmax
comp=Z,39nm,1.4s
FFC Flin Flon 59.90 345 P P 09 38 23.9 -1.0
NEW Newport 60.16 332 LR LR 10 06 02.7
comp=Z,41nm,20.8s,baz=134,slow=38
NEW Newport 60.16 332 P P 09 38 27.3 +0.4
NEW pmax pmax
comp=Z,24nm,1.1s
PMSA Palmer Station 63.23 173 LR LR 10 02 21.8
comp=Z,42nm,18.6s,baz=321,slow=32
FRB Frobisher Bay 66.48 5 LR LR 10 08 21.7
comp=Z,34nm,21.5s,baz=231,slow=36
BBB Bella Bella 68.06 330 LR LR 10 10 23.4
comp=Z,66nm,18.6s,baz=160,slow=37
YKA Yellowknife Ar 69.97 343 P P 09 39 29.5 -0.6
comp=Z,11nm,0.8s,baz=136,slow=5.7,SNR=24
YKA pP pP 09 39 52.2 +0.2
comp=Z,5.0nm,0.8s,baz=136,slow=5.1,SNR=5.4
YKA LR LR 10 12 12.9
comp=Z,81nm,18.7s,baz=282,slow=38
comp=Z,11nm,0.8s
PPT Papeete 70.32 252 LR LR 10 01 14.4
comp=Z,34nm,21.2s,baz=108,slow=28
PPT2 Papeete2 70.32 252 eLR LR 10 01 18.5
comp=Z,288nm,26.0s
PPT2 eLR LR 10 01 24.6
comp=Z,255nm,28.8s
TBI Tubuai 70.70 246 eLR LR 10 01 03.2
comp=Z,730nm,29.5s
TOAD Toad River Com 70.93 337 P P 09 39 35.9 -0.2
baz=131,SNR=20
KOTAN Kotaneelee Air 71.33 338 P P 09 39 38.5 +0.1
baz=132
V35K Ketchikan 71.56 332 P P 09 39 39.9 0.0
baz=124
LIRD Liard River Hi 71.63 337 P P 09 39 40.5 +0.2
baz=130
T35M Bob Quinn 71.88 333 P P 09 39 42.2 +0.4
baz=125
SFJD Kangerlussuaq 72.20 11 LR LR 10 10 41.0
comp=Z,43nm,21.7s,baz=179,slow=35
CRAG Craig 72.36 331 P P 09 39 45.3 +0.6
baz=122
WRAK Wrangell Islan 72.51 332 P P 09 39 45.8 +0.2
baz=123
DLBC Dease Lake 72.63 335 LR LR 10 14 16.4
comp=Z,48nm,18.1s,baz=108,slow=38
DLBC Dease Lake 72.63 335 P P 09 39 47.0 +0.6
baz=126,SNR=19
U33K Whale Pass 72.71 332 P P 09 39 47.7 +1.0
baz=122
S34M Telegraph Cree 72.80 334 P P 09 39 48.1 +0.8
baz=125,SNR=6.0

T33K **Petersburg** 73.01 332 P P 09 39 48.7 +0.2
baz=123
WTLY **Watson Lake, Y** 73.14 337 P P 09 39 49.0 -0.2
baz=128
WRGLY **Wrigley** 73.23 341 P P 09 39 50.1 +0.4
baz=133
R33M **Jennings River** 73.59 335 P P 09 39 52.7 +0.6
baz=125,SNR=9.5
TGTN **Hyland Airport** 73.81 338 P P 09 39 54.2 +1.0
baz=128,SNR=12
Q32M **Nakina River** 73.89 335 P P 09 39 54.3 +0.3
baz=124,SNR=5.5
S32K **Killisnoo** 74.11 333 P P 09 39 55.2 +0.3
baz=121
SIT **Sitka** 74.24 332 P P 09 39 56.4 +0.7
baz=121
R32K **Eaglecrest** 74.51 333 P P 09 39 57.8 +0.6
baz=122
P33M **Teslin, Yukon** 74.83 335 P P 09 39 59.5 +0.3
baz=124,SNR=14
P32M **Atlin** 74.86 335 P P 09 39 59.9 +0.5
baz=123
DBIC **Dimbokro** 75.02 82 P P 09 40 01.1 -0.1
comp=Z,6.7nm,0.8s,baz=305,slow=2.7,SNR=6.6
DBIC LR LR 10 11 24.0
comp=Z,87nm,18.7s,baz=290,slow=34
comp=Z,6.7nm,0.8s
S31K **Pelican** 75.12 333 P P 09 40 00.8 0.0
baz=120
N32M **Quiet Lake** 75.46 336 P P 09 40 03.4 +0.6
baz=124
SKAG **Skagway** 75.49 334 P P 09 40 03.2 +0.4
baz=121
MMPY **Sheldon Lake,** 75.59 338 P P 09 40 04.2 +0.7
baz=126,SNR=24
WHY **Whitehorse** 75.93 335 P P 09 40 06.2 +0.6
baz=122
PLBC **Pleasant Camp** 75.94 334 P P 09 40 06.7 +1.2
baz=120
PARRA **Arraiolos** 76.38 49 *e*P P 09 40 14.3 +5.9
PARRA *i* lAmb lAmb 09 40 53.9
comp=Z,18nm,2.0s
P30M **Million Dollar** 76.54 334 P P 09 40 09.8 +0.9
baz=120
M31M **Drury Creek, Y** 76.56 337 P P 09 40 09.6 +0.6
baz=123,SNR=12
P29M **Windy Craggy** 76.63 334 P P 09 40 10.3 +0.8
baz=119,SNR=7.2
N31M **Braeburn, Yuko** 76.74 336 P P 09 40 10.6 +0.6
baz=121,SNR=9.0
MESJ **Messejana** 76.77 50 *e*P P 09 40 11.8 +1.1
MESJ *i* lAmb lAmb 09 41 01.4
comp=Z,28nm,1.7s
MESJ **Messejana** 76.77 50 *e*P P 09 40 11.7 +1.1
PBDV **Barranco-do-Ve** 76.85 51 *e*P P 09 40 14.1 +3.0
PCVE **Castro Verde** 76.86 51 *e*P P 09 40 11.7 +0.5
PVAQ **Vaqueiros** 77.06 51 *e*P P 09 40 12.5 +0.2
PMTG **Montargil** 77.06 49 *e*P P 09 40 12.5 +0.3
PMTG *i* lAmb lAmb 09 40 39.4
comp=Z,22nm,1.8s
EVO **Evora** 77.09 50 *e*P P 09 40 12.5 0.0
PCAS **Casmilo, Conde** 77.09 48 *e*P P 09 40 12.4 0.0
PCAS *i* lAmb lAmb 09 41 10.8
comp=Z,41nm,1.7s
HYT **Haines Junctio** 77.12 335 P P 09 40 12.5 +0.2
baz=119,SNR=5.9
N30M **Aishikik Lake** 77.26 335 P P 09 40 14.3 +1.3
baz=120,SNR=13
O29M **Mount Kennedy** 77.33 334 P P 09 40 14.3 +0.9
baz=118
PNL **Peninsula** 77.39 333 P P 09 40 14.8 +1.1
baz=118
PESTR **Estremoz** 77.49 49 P P 09 40 14.2 -0.5
PESTR **Estremoz** 77.49 49 *e*P P 09 40 14.9 +0.3
PESTR *i* lAmb lAmb 09 40 38.0
comp=Z,26nm,1.2s
RES **Resolute Bay** 77.53 356 LR LR 10 14 55.2
comp=Z,64nm,20.6s,baz=63,slow=36
YUK6 **Outpost Mounta** 77.55 335 P P 09 40 15.2 +0.4
baz=119
C36M **Paulatuk** 77.67 345 P P 09 40 16.0 +1.0
baz=134
PVIS **Viseu** 77.70 48 *e*P P 09 40 15.6 -0.3
M30M **Minto, Yukon** 77.71 336 P P 09 40 15.9 +0.5
baz=120,SNR=14
PGAV **Gavieira, Arco** 77.73 46 *e*P P 09 40 16.0 -0.1
PCBR **Castelo Branco** 77.80 49 *e*P P 09 40 19.4 +3.0
YUK4 **Talbot Arm** 77.86 335 P P 09 40 17.5 +1.0
baz=119
MTE **Manteigas** 77.88 48 *e*P P 09 40 16.8 -0.1
MTE *i* lAmb lAmb 09 40 51.9
comp=Z,34nm,1.8s
MAYO **Mayo, Yukon** 77.89 338 P P 09 40 17.3 +0.9
baz=122,SNR=6.3
PVRL **Vila Real** 77.97 47 *e*P P 09 40 20.0 +2.7
PINM **Pinnacle** 77.97 333 P P 09 40 18.1 +1.2
baz=117
O28M **Mount Upton** 78.25 334 P P 09 40 19.8 +1.0
baz=117
M29M **Somme Creek** 78.31 336 P P 09 40 19.7 +0.8
baz=119,SNR=28
MVO **Moncorvo** 78.44 47 *e*P P 09 40 20.5 +0.5
MVO *i* lAmb lAmb 09 41 01.4
comp=Z,33nm,1.7s
L29M **L29M** 78.51 337 P P 09 40 20.5 +0.7
baz=119,SNR=40
H31M **Peel River** 78.52 340 P P 09 40 20.1 +0.2
H31M lAmb lAmb 09 40 21.6
comp=Z,36nm,1.1s
H31M **Peel River** 78.52 340 P P 09 40 20.4 +0.6
baz=123,SNR=14
J30M **Hart River** 78.56 338 P P 09 40 21.0 +0.7
baz=121,SNR=17
MDT **Midelt** 78.62 56 P P 09 40 20.7 -0.5
comp=Z,2.5nm,0.8s,baz=272,slow=3.8,SNR=4.6
comp=Z,2.5nm,0.8s
K29M **Barlow Dome** 78.64 337 P P 09 40 21.0 +0.4
baz=120,SNR=33
MESA **MESA** 78.77 333 P P 09 40 22.4 +0.9
baz=115
YUK3 **Moose Creek** 78.83 335 P P 09 40 22.6 +0.7
baz=117,SNR=9.7
CTG **Chitna Glacier** 78.84 334 P P 09 40 22.3 +0.5
baz=116
I30M **Mount Dempster** 78.92 339 P P 09 40 22.8 +0.6
baz=121,SNR=32
G31M **Satah River** 79.12 341 P P 09 40 23.5 +0.5
baz=124,SNR=24
SUMG **Summit** 79.19 12 P P 09 40 23.2 -0.7
SUMG lAmb lAmb 09 40 24.7
comp=Z,32nm,0.8s
SUMG **Summit** 79.19 12 P P 09 40 23.2 -0.7
SUMG pmax pmax
comp=Z,32nm,0.8s
J29N **Klondike Camp** 79.20 338 P P 09 40 24.2 +0.6
baz=119
F31M **Tsiigehtchic** 79.24 341 P P 09 40 23.8 +0.2
F31M lAmb lAmb 09 40 25.1
comp=Z,53nm,1.0s
F31M **Tsiigehtchic** 79.24 341 P P 09 40 24.1 +0.5
baz=124,SNR=5.9
BVCY **Beaver Creek** 79.29 335 P P 09 40 24.7 +0.6
baz=117,SNR=8.9
DAWY **Dawson** 79.47 337 P P 09 40 25.0 -0.1
baz=118,SNR=14
CRQE **Cirque** 79.53 333 P P 09 40 25.9 +0.3
baz=114
EPYK **Eagle Plains** 79.64 340 P P 09 40 26.4 +0.4
baz=121,SNR=13
INK **Inuvik** 79.66 342 LR LR 10 18 10.4
comp=Z,66nm,18.5s,baz=42,slow=38
INK **Inuvik** 79.66 342 P P 09 40 26.5 +0.6
INK pmax pmax
comp=Z,67nm,1.7s
INK **Inuvik** 79.66 342 P P 09 40 26.5 +0.6
baz=124,SNR=26
M27K **Edge Creek, AK** 79.69 335 P P 09 40 27.2 +0.8
baz=116,SNR=14
I29M **Ogilvie Camp,** 79.69 339 P P 09 40 26.5 +0.3
baz=120,SNR=20
MCARA **McCarthy VSAT** 79.76 334 P P 09 40 27.4 +0.8
baz=114,SNR=10
A36M **Sachs Harbour** 79.79 347 P P 09 40 25.9 -0.6
baz=133
G30M **tAoh Zraii Nji** 79.79 340 P P 09 40 26.1 -0.6
baz=122
KAIM **Kayak Island** 79.80 332 P P 09 40 26.9 +0.1
baz=113
L27K **Beaver Creek,** 79.97 336 P P 09 40 28.5 +0.7
baz=116,SNR=21
F30M **Barrier River** 79.99 341 P P 09 40 28.1 +0.4
baz=122,SNR=12
RAR **Rarotonga** 80.10 249 LR LR 10 08 25.3
comp=Z,94nm,21.3s,baz=175,slow=30
H29M **Whitestone** 80.14 339 P P 09 40 29.1 +0.5
baz=120,SNR=22
M26K **Nabesna, AK** 80.18 335 P P 09 40 29.1 +0.2
baz=115,SNR=7.6
BMRM **Bremner River** 80.29 333 P P 09 40 30.0 +0.4
baz=113,SNR=8.0
I28M **Miner Creek** 80.33 338 P P 09 40 30.1 +0.3
baz=118,SNR=30
G29M **Pine Creek** 80.37 340 P P 09 40 30.2 +0.4
baz=120,SNR=17
ESDC **Sonseca Array** 80.41 49 P P 09 40 30.6 -0.2
comp=Z,3.0nm,1.0s,baz=267,slow=5.1,SNR=12
ESDC pP pP 09 40 51.5 -1.8
comp=Z,4.9nm,0.9s,baz=266,slow=6.2,SNR=10.0
ESDC LR LR 10 12 58.7
comp=Z,29nm,20.2s,baz=270,slow=33
comp=Z,3.0nm,1.0s
K27K **Chicken** 80.50 337 P P 09 40 31.4 +0.8
baz=116
Q23K **Middleton Isla** 80.52 332 P P 09 40 31.1 +0.4
baz=111
N25K **Chitina, Valde** 80.54 334 P P 09 40 31.3 +0.4
baz=113,SNR=5.4
L26K **Log Cabin Wild** 80.58 335 P P 09 40 31.5 +0.4
baz=114,SNR=15
EYAK **Cordova Ski Ar** 80.65 333 P P 09 40 31.6 +0.2
baz=112
I27K **Kandik River** 81.02 338 P P 09 40 33.7 +0.3
baz=116,SNR=12
E29M **Blow River** 81.07 341 P P 09 40 33.8 +0.2
baz=120,SNR=9.4
KLU **Klutina** 81.08 334 P P 09 40 34.1 +0.3
baz=112,SNR=14
HARP **HAARP** 81.10 335 P P 09 40 33.8 0.0
baz=113
SCRK **Sand Creek** 81.24 336 P P 09 40 34.9 +0.2
baz=114,SNR=21
H27K **Steamboat Moun** 81.27 339 P P 09 40 34.7 0.0
baz=117,SNR=17
J26L **Joseph Creek** 81.29 337 P P 09 40 35.4 +0.5
baz=114,SNR=40
VNA3 **Neumayer Olymp** 81.32 162 ⇑P P 09 40 35.0 +0.2
comp=Z,34nm,0.8s
F28M **Old Crow** 81.34 340 P P 09 40 35.1 +0.1
F28M lAmb lAmb 09 40 35.9
comp=Z,21nm,0.9s
F28M **Old Crow** 81.34 340 P P 09 40 34.8 -0.2
baz=118,SNR=11
GLI **Glacier Island** 81.39 333 P P 09 40 34.8 -0.6
baz=111
M24K **Tolsona, Glenn** 81.42 334 P P 09 40 36.1 +0.5
baz=112,SNR=11
PAX **Paxson** 81.45 335 P P 09 40 35.4 -0.4
baz=112,SNR=25
I26K **Coal Creek Min** 81.47 338 P P 09 40 35.2 -0.5
baz=115
RIDG **Independent Ri** 81.49 336 P P 09 40 36.2 +0.3
baz=113,SNR=21
VNA1 **Neumayer--Stat** 81.58 161 ⇑P P 09 40 36.9 +0.8
comp=Z,28nm,0.9s
G27K **Doyon Strip** 81.58 339 P P 09 40 36.0 -0.3
baz=116,SNR=18
E28M **Babbage River** 81.71 341 P P 09 40 36.4 -0.4
baz=119,SNR=7.6
D28M **Stokes Point** 81.81 342 P P 09 40 37.2 -0.1
baz=120
SCM **Sheep Creek Mo** 81.83 334 P P 09 40 37.9 +0.1
baz=111,SNR=15
K24K **Donnelly Dome** 81.90 336 P P 09 40 38.1 0.0
baz=112,SNR=6.4
VNA2 **Neumayer--Watz** 81.93 162 ⇑P P 09 40 38.3 +0.2
comp=Z,24nm,0.7s,baz=306,slow=4.7
TORD **Torodi Ar. Bea** 81.95 76 P P 09 40 38.0 -1.2
comp=Z,5.1nm,1.0s,baz=300,slow=5.4,SNR=11
TORD pP pP 09 41 00.9 -0.9
comp=Z,9.1nm,0.5s,baz=278,slow=6.0,SNR=2.0
comp=Z,5.1nm,1.0s
PWL **Port Wells** 81.95 333 P P 09 40 38.2 -0.1
baz=110,SNR=8.6
M23K **Glacier View** 82.00 334 P P 09 40 38.6 0.0
baz=110,SNR=10
J25K **Saicha River,** 82.05 337 P P 09 40 39.0 +0.2
baz=113,SNR=30
E27K **Coleen River** 82.18 341 P P 09 40 39.6 +0.1
baz=117,SNR=11
KNK **Knik Glacier** 82.19 333 P P 09 40 39.8 +0.2
baz=110,SNR=5.7
SEW **Seward** 82.22 332 P P 09 40 39.3 -0.4
baz=108,SNR=5.2
G26K **Porcupine Rive** 82.40 339 P P 09 40 40.5 0.0
baz=114,SNR=12
PRP **Porcupine Dome** 82.46 337 P P 09 40 40.8 -0.3
baz=113,SNR=13
D27M **Malcolm River** 82.47 342 P P 09 40 40.8 -0.1
baz=118,SNR=6.4
O22K **Cooper Landing** 82.47 332 P P 09 40 40.6 -0.4
baz=108
PMR **Palmer** 82.56 333 P P 09 40 40.5 -0.9
baz=109
HDA **Harding Lake** 82.60 336 P P 09 40 41.5 -0.2
baz=111,SNR=23
RC01 **Rabbit Creek A** 82.67 333 P P 09 40 42.2 +0.1
baz=108
ILAR **Eielson Array** 82.71 336 P P 09 40 41.6 -0.6
comp=Z,15nm,0.9s,baz=128,slow=3.6,SNR=101
ILAR pP pP 09 41 04.2 -0.6
comp=Z,9.6nm,1.0s,baz=125,slow=3.2,SNR=7.5
ILAR PP PP 09 43 54.8 +1.7
comp=Z,6.3nm,0.9s,baz=109,slow=7.0,SNR=21
ILAR LR LR 10 20 22.7
comp=Z,56nm,18.4s,baz=94,slow=38
comp=Z,15nm,0.9s
F26K **Sheenjek River** 82.84 340 P P 09 40 43.2 +0.3
baz=114,SNR=16
H25L **Birch Creek** 82.87 338 P P 09 40 43.6 +0.7
baz=112,SNR=24
POKR **Poker Plat Res** 83.06 337 P P 09 40 43.7 -0.3
baz=111
M22K **Willow** 83.06 333 P P 09 40 43.9 -0.1
baz=108
KDAK **Kodiak Island** 83.09 329 LR LR 10 17 36.5
comp=Z,59nm,20.1s,baz=107,slow=36
KDAK **Kodiak Island** 83.09 329 P P 09 40 43.9 -0.3
baz=106
COLA **College** 83.13 336 *d* *i*P P 09 40 43.8 -0.5
COLA pmax pmax
comp=Z,24nm,0.9s
COLA **College** 83.13 336 P P 09 40 44.2 -0.2
baz=110
HOM **Homer** 83.14 331 P P 09 40 45.7 +1.2
baz=106
G25K **Bearman Lake** 83.16 338 P P 09 40 45.5 +1.1
baz=112,SNR=18
MCK **McKinley** 83.18 335 P P 09 40 44.9 +0.2
baz=109,SNR=13
Q20K **Shuyak Island** 83.22 330 P P 09 40 45.9 +1.0
baz=106
CAPN **Captain Cook N** 83.23 332 P P 09 40 45.8 +0.9
baz=107
SUA **Susitna One** 83.25 333 P P 09 40 45.6 +0.4
baz=108
OHAK **Old Harbor** 83.31 328 P P 09 40 45.7 +0.3
baz=105
F25K **Christian Rive** 83.32 339 P P 09 40 46.0 +0.7
baz=113,SNR=9.4
CUT **Chulitna** 83.33 334 P P 09 40 45.4 +0.1
baz=108,SNR=8.0
H24K **Noodor Dome** 83.49 337 P P 09 40 46.4 +0.1
baz=111,SNR=27
E25K **Arctic Village** 83.50 340 P P 09 40 47.1 +0.8
baz=113,SNR=11
C27K **Jago River** 83.51 341 P P 09 40 46.7 +0.5
baz=115
NEA2 **Nenana** 83.53 336 P P 09 40 46.3 -0.1
baz=109,SNR=74
SNAA **Sanae** 83.54 162 ⇑P P 09 40 46.9 +0.4
comp=Z,258nm,0.5s
SNAA **Sanae** 83.54 162 P P 09 40 46.1 -0.3
comp=Z,12nm,0.7s,baz=313,slow=1.9,SNR=7.1
comp=Z,12nm,0.7s
SNAA **Sanae** 83.54 162 *d* *i*P P 09 40 46.8 +0.4
SNAA pmax pmax
comp=Z,14nm,0.7s
SII **Sitkinak Islan** 83.62 327 P P 09 40 47.1 +0.1
baz=104
G24K **Hadweenzic Riv** 83.65 338 P P 09 40 47.5 +0.5
baz=111,SNR=23
TRF **Thorofare Moun** 83.67 335 P P 09 40 47.2 -0.2
baz=108,SNR=12
O20K **Slope Mountain** 83.73 331 P P 09 40 47.5 -0.2
baz=106
SKT **Skwentna** 83.76 333 P P 09 40 47.8 +0.1
baz=107,SNR=25
I23K **Minto, Yukon-K** 83.83 336 P P 09 40 48.1 +0.2
baz=109,SNR=48
N20K **Mount Spurr** 83.85 332 P P 09 40 47.8 -0.4
baz=106
P19K **Oil Pt** 83.91 331 P P 09 40 48.4 -0.1
baz=105
Q19K **Cape Douglas,** 83.93 330 P P 09 40 48.5 -0.1
baz=105
R18K **Karluk** 84.00 328 P P 09 40 49.0 +0.1
baz=104
C26K **Camden Bay** 84.01 342 P P 09 40 48.6 -0.1
baz=114
F24K **Squaw Lake** 84.09 339 P P 09 40 49.8 +0.5
baz=111,SNR=6.6
H23K **Yukon River** 84.13 337 P P 09 40 49.3 -0.2
baz=109,SNR=16
BPAW **Bear Paw Mtn.** 84.16 335 P P 09 40 49.5 -0.1
baz=108,SNR=63
EKA **Eskdalemuir Ar** 84.20 34 P P 09 40 49.3 -0.7
comp=Z,6.2nm,0.8s,baz=231,slow=5.3,SNR=7.8
comp=Z,6.2nm,0.8s
D25K **Kavik River** 84.24 341 P P 09 40 50.3 +0.3
baz=112,SNR=15
PPLA **Purkeypile** 84.32 334 P P 09 40 50.6 -0.1
baz=106,SNR=13
MLY **Manley** 84.35 336 P P 09 40 50.3 -0.3
baz=108,SNR=62
CAST **Castle Rocks** 84.42 334 P P 09 40 50.7 -0.3
baz=106,SNR=48
M20K **Styx River** 84.46 333 P P 09 40 50.8 -0.6
baz=105,SNR=6.9
E24K **Your Creek** 84.50 339 P P 09 40 51.5 +0.1
E24K **Your Creek** 84.50 339 P P 09 40 52.0 +0.6
baz=110,SNR=7.0
Q18K **Katmai Hardscr** 84.55 329 P P 09 40 51.2 -0.6
baz=104
O19K **Port Alsworth** 84.58 331 P P 09 40 51.1 -0.8
baz=104
G23K **Bananza Creek** 84.60 338 P P 09 40 52.1 +0.2
baz=109,SNR=26
CHUM **Lake Minchumin** 84.66 335 P P 09 40 51.8 -0.4
baz=106,SNR=5.3
N19K **Bonanza Creek** 84.81 332 P P 09 40 52.5 -0.6
baz=104
COLD **Coldfoot** 84.83 338 P P 09 40 54.0 +1.0
baz=109,SNR=16
P18K **Big Mountain,** 84.83 330 P P 09 40 52.2 -1.0
baz=103
H22K **Ishtalitna Cre** 84.86 337 P P 09 40 53.0 -0.2
baz=107,SNR=8.5
I21K **Tanana** 84.89 336 P P 09 40 53.0 -0.3
baz=107,SNR=15
E23K **Chandalar** 84.89 339 P P 09 40 53.6 +0.2
baz=109,SNR=8.0
O18K **Koktuh Hills** 84.93 331 P P 09 40 53.2 -0.4
baz=103
L20K **Farewell, AK** 84.96 333 P P 09 40 53.1 -0.6
baz=105,SNR=14
D24K **Happy Valley** 84.99 340 P P 09 40 53.6 -0.2
baz=110
R17L **Mt. Peulik Vol** 85.02 328 P P 09 40 54.2 0.0
baz=102
M19K **Big River Lodg** 85.04 333 P P 09 40 53.7 -0.5
baz=104
TOLK **Toolik Lake Re** 85.07 340 P P 09 40 54.2 0.0
baz=109
C24K **Franklin Bluff** 85.15 341 P P 09 40 55.1 +0.6
baz=110,SNR=12
G22K **Bettles** 85.22 338 P P 09 40 55.4 +0.4
baz=107
TROLL **Troll, Antarti** 85.25 162 ⇑P P 09 40 55.8 +0.6
comp=Z,1μm,0.8s
K20K **Telida** 85.27 334 P P 09 40 54.8 -0.5
baz=105,SNR=16
L19K **White Mountain** 85.32 333 P P 09 40 54.8 -0.8
baz=104,SNR=9.2
H21K **Melozitna Rive** 85.36 337 P P 09 40 55.3 -0.4
baz=106,SNR=8.1
Q16K **King Salmon** 85.39 329 P P 09 40 55.9 0.0
baz=102
P17K **Kvichak River** 85.40 330 P P 09 40 55.7 -0.2
baz=102
N18K **Kilae Creek** 85.45 331 P P 09 40 55.9 -0.4
baz=103,SNR=11
J20K **Nowinta River** 85.51 335 P P 09 40 56.0 -0.4
baz=105,SNR=20
D23K **Nanushuk River** 85.56 340 P P 09 40 57.5 +0.9
baz=108
M18K **Stony River** 85.61 332 P P 09 40 56.2 -0.7
baz=103
R16K **Pilot Point** 85.64 328 P P 09 40 57.2 0.0
baz=101
F22K **John River** 85.65 338 P P 09 40 57.5 +0.4
baz=107
E22K **Anaktuvuk Pass** 85.70 339 P P 09 40 57.6 +0.3
baz=107,SNR=9.4
I20K **Naaghedeneel** 85.81 335 P P 09 40 57.3 -0.5
baz=104,SNR=5.9
C23K **Itkillik River** 85.82 341 P P 09 40 58.0 +0.2
C23K lAmb lAmb 09 40 59.0
comp=Z,29nm,0.8s
C23K **Itkillik River** 85.82 341 P P 09 40 58.5 +0.7
baz=108,SNR=9.1
O17K **Koliganek Bris** 85.84 330 P P 09 40 58.0 -0.1
baz=102,SNR=13
CHGN **Chignik** 85.86 327 P P 09 40 58.4 +0.1
baz=100
G21K **Allakaket** 85.87 337 P P 09 40 58.7 +0.5
baz=105
DAG **Danmarks Havn** 85.89 12 *i*P P 09 40 57.0 -1.0
N17K **Nushagak Hills** 86.05 331 P P 09 40 58.7 -0.4
baz=102
F21K **Alatna River** 86.05 338 P P 09 40 59.7 +0.6
baz=106,SNR=18
J19K **Poorman** 86.10 335 P P 09 40 58.8 -0.5
baz=103,SNR=10
P16K **Nushagak River** 86.15 329 P P 09 40 59.4 -0.2
baz=101
H20K **Anotleneega Mo** 86.15 336 P P 09 40 59.4 -0.1
baz=104,SNR=30
L18K **Granite Mounta** 86.17 333 P P 09 40 59.5 -0.2
baz=102,SNR=5.7
D22K **Ayikyak River** 86.23 340 P P 09 40 59.8 0.0
baz=106
CHNA **Chernabura Isl** 86.26 325 P P 09 40 59.3 -1.0
baz=99
TAM **Tamanrasset** 86.30 67 P P 09 41 02.3 +0.9
TAM pmax pmax
comp=Z,8.0nm,1.5s
O16K **Kokwok River B** 86.31 330 P P 09 40 59.7 -0.7
baz=101
M17K **Holitna River** 86.34 332 P P 09 41 00.1 -0.5
baz=102
J18K **Innoko River** 86.45 334 P P 09 41 01.0 -0.1
baz=102,SNR=7.3
S14K **Fog Glacier** 86.48 327 P P 09 41 01.5 +0.1
baz=99
E21K **Killik River** 86.56 339 P P 09 41 01.7 +0.1
baz=105
H19K **Roundabout Mou** 86.79 336 P P 09 41 03.1 +0.5
baz=103,SNR=14
GCSA **Galena City Sc** 86.80 335 P P 09 41 03.2 +0.5
baz=102,SNR=10.0
N16K **Nishlik Lake** 86.80 331 P P 09 41 02.9 0.0
baz=100
SDPT **Sand Point** 86.84 326 P P 09 41 03.5 +0.4
baz=99
F20K **Avaraart Lake** 86.86 338 P P 09 41 03.4 +0.4
baz=103,SNR=9.4
B22K **Teshekpuk Lake** 86.89 341 P P 09 41 03.7 +0.7
baz=106,SNR=7.8
L17K **Donlin** 86.89 333 P P 09 41 03.6 +0.3
baz=101,SNR=7.6
M16K **Timber Creek** 87.00 331 P P 09 41 04.0 +0.2
baz=100
K17K **Iditarod** 87.00 333 P P 09 41 03.9 +0.1
baz=101,SNR=6.1

C21K	Knifeblade Rid	87.03	340	P		P		09 41 04.5	+0.7		
	baz=104,SNR=8.8										
B21K	Ikpikpuk River	87.09	340	P		P		09 41 04.4	+0.4		
	baz=105,SNR=14										
O15K	Ungalikthiuk R	87.10	329	P		P		09 41 05.1	+0.7		
	baz=99										
G19K	Purcell Mounta	87.18	337	P		P		09 41 05.1	+0.5		
	baz=102,SNR=20										
E20K	Nigu River	87.31	339	P		P		09 41 05.8	+0.6		
	baz=103										
L16K	Owhat River	87.36	332	P		P		09 41 06.4	+0.9		
	baz=100,SNR=15										
N15K	Kwethluk River	87.40	330	P		P		09 41 06.2	+0.4		
	baz=99										
J17K	VABM Dome	87.48	334	P		P		09 41 06.8	+0.7		
	baz=100,SNR=5.3										
H18K	Honhosa River	87.50	335	P		P		09 41 07.1	+0.9		
	baz=101										
E19K	Redstone River	87.52	338	P		P		09 41 06.2	+0.1		
	baz=102										
A22K	Sinclair Lake	87.56	341	P		P		09 41 06.6	+0.3		
	baz=104										
D20K	Etivluk River	87.57	339	P		P		09 41 07.1	+0.7		
	baz=103										
F19K	Shaleruckik Mo	87.60	337	P		P		09 41 06.7	+0.2		
	baz=102										
QSPA	South Pole Qui	87.67	180	P		P		09 41 08.6	+1.6		
	comp=Z,58nm,0.9s,baz=154,slow=1.6,SNR=150										
QSPA				LR		LR		10 15 27.7			
	comp=Z,69nm,18.7s,baz=236,slow=32										
	comp=Z,58nm,0.9s										
G18K	Tagagawik	87.76	336	P		P		09 41 08.2	+0.8		
	baz=101,SNR=45										
M15K	Kasigluk River	87.78	331	P		P		09 41 08.0	+0.5		
	baz=99,SNR=8.9										
S12K	Black Hills	87.79	326	P		P		09 41 07.7	0.0		
	baz=97										
O14K	Tigyukauivet M	87.85	329	P		P		09 41 07.9	0.0		
	baz=98										
DOU	Dourbes	88.01	40	*d*P		P		09 41 08.9	0.0		
	comp=Z,6.1nm,1.3s										
B20K	Meade River	88.04	340	P		P		09 41 09.4	+0.9		
	baz=102,SNR=11										
D19K	Kuna River	88.06	339	P		P		09 41 09.5	+0.7		
	baz=101										
H17K	Granite Mounta	88.11	335	P		P		09 41 09.9	+0.9		
	baz=100										
J16K	Anvik River	88.14	333	P		P		09 41 10.1	+1.0		
	baz=99,SNR=6.2										
BMRD	Maredsous	88.14	40	*d*P		P		09 41 09.5	0.0		
A21K	Barrow	88.15	342	P		P		09 41 09.9	+0.9		
	baz=103										
N14K	Kuskokwak Cree	88.15	330	P		P		09 41 09.9	+0.6		
	baz=98,SNR=9.2										
I17K	Unalakleet	88.27	334	P		P		09 41 11.0	+1.2		
	baz=99,SNR=5.4										
F18K	Selawik	88.29	337	P		P		09 41 10.6	+0.8		
	baz=100										
L15K	Ungalak Mounta	88.30	332	P		P		09 41 10.8	+0.8		
	baz=98,SNR=8.1										
M14K	Bethel	88.40	331	P		P		09 41 11.6	+1.1		
	baz=98,SNR=13										
K15K	Wolf Creek Mou	88.41	332	P		P		09 41 11.6	+1.1		
	baz=98,SNR=9.9										
FALS	False Pass	88.45	325	P		P		09 41 11.1	+0.3		
	baz=96										
G17K	Kiwalik Mounta	88.51	336	P		P		09 41 12.0	+1.1		
	baz=99,SNR=33										
C19K	Lookout Ridge	88.70	339	P		P		09 41 12.9	+1.2		
	baz=100,SNR=12										
E18K	Tukpahlearik C	88.79	338	P		P		09 41 12.8	+0.6		
	baz=99,SNR=20										
L14K	Kuka Creek	88.83	331	P		P		09 41 12.8	+0.4		
	baz=97,SNR=8.6										
MEM	Membach	88.96	39	*d*P		P		09 41 13.8	+0.5		
	comp=Z,5.9nm,1.1s										
WLF	Walferdange	88.97	40	*d*P		P		09 41 13.4	0.0		
	comp=Z,8.5nm,1.0s										
M13K	Dall Lake	89.04	330	P		P		09 41 14.9	+1.5		
	baz=96,SNR=5.6										
H16K	Elim	89.05	335	P		P		09 41 14.4	+1.0		
	baz=97,SNR=7.2										
G16K	Koyuk River	89.20	335	P		P		09 41 14.9	+0.8		
	baz=97										
C18K	Utukok River	89.20	339	P		P		09 41 14.5	+0.3		
	baz=98,SNR=6.4										
E17K	Hotham Inlet	89.21	337	P		P		09 41 15.0	+0.8		
	baz=98,SNR=50										
A19K	Wainwright	89.39	340	P		P		09 41 15.4	+0.5		
	baz=98										
J14K	Nanvaranak Lak	89.40	333	P		P		09 41 16.7	+1.6		
	baz=96,SNR=18										
B18K	Kokolik River	89.52	339	P		P		09 41 16.6	+1.1		
	baz=98										
RDOG	Red Dog Mine	89.75	338	P		P		09 41 17.4	+0.7		
	baz=97										
D17K	Noatak River	89.77	338	P		P		09 41 17.6	+0.9		
	baz=97,SNR=16										
K13K	Kusilvak Mount	89.83	332	P		P		09 41 18.0	+0.9		
	baz=95,SNR=13										
G15K	Niukluk	89.86	335	P		P		09 41 18.2	+1.1		
	baz=96,SNR=12										
C17K	DeLong Mountai	89.90	338	P		P		09 41 18.1	+0.7		
	baz=96,SNR=8.0										
UNV	Unalaska Valle	90.17	324	P		P		09 41 19.0	+0.1		
	baz=94										
F15K	North Star Dit	90.18	336	P		P		09 41 19.9	+1.2		
	baz=95,SNR=13										
ANM	Nome	90.38	334	P		P		09 41 20.3	+0.6		
	baz=94										
M11K	Mekoryuk	90.45	330	P		P		09 41 19.8	-0.2		
	baz=94										
C16K	Lisburne Hills	90.68	338	P		P		09 41 21.5	+0.5		
	baz=94										
F14K	Arctic Creek	90.86	335	P		P		09 41 22.6	+0.7		
	baz=94										
DAVOX	Davos/Dischmat	91.28	43	P		P		09 41 24.5	0.0		
	comp=Z,2.0nm,0.7s,baz=278,slow=18,SNR=5.5										
DAVOX				LR		LR		10 19 30.8			
	comp=Z,28nm,20.2s,baz=264,slow=34										
	comp=Z,2.0nm,0.7s										
DAVA	Damuels	91.30	43	*e*P		P		09 41 24.7	+0.1		
	comp=Z,8.1nm,1.3s										
TNA	Tin City	91.53	335	P		P		09 41 25.6	+0.7		
	baz=92										
NIKH	Nikolski High	91.53	323	P		P		09 41 25.7	+0.5		
	baz=92										
FETA	Feichten	91.87	43	*e*P		P		09 41 27.4	+0.2		
	comp=Z,4.8nm,1.0s										
P08K	Saint George I	92.03	326	P		P		09 41 28.0	+0.5		
	baz=91										
MOTA	Moosalm	92.14	43	*e*P		P		09 41 28.4	0.0		
	comp=Z,4.4nm,0.9s										
SQTA	Sankt Quirin	92.21	43	*e*P		P		09 41 28.7	0.0		
	comp=Z,6.1nm,0.9s										
NOA	NORSAR Array B	92.42	29	LR		LR		10 19 13.3			
	comp=Z,16nm,21.8s,baz=260,slow=33										
SPIA	Saint Paul Isl	92.42	327	P		P		09 41 29.5	+0.3		
	baz=90										
WTTA	Wattenberg	92.50	43	*e*P		P		09 41 30.4	+0.3		
	comp=Z,5.4nm,1.1s										
SBA	Scott Base	92.56	191	P		P		09 41 31.0	+1.4		
SBA				IAmb		IAmb		09 41 32.4			
	comp=Z,14nm,1.0s										
SBA	Scott Base	92.56	191	P		P		09 41 31.0	+1.4		
SBA				pmax		pmax					
	comp=Z,14nm,1.0s										
KBS	Kingsbay	92.61	11	*e*P		P		09 41 30.1	+0.4		
KBS				pmax		pmax					
	comp=Z,12nm,1.1s										
ABTA	Abfaltersbach	93.09	43	*e*P		P		09 41 33.0	+0.3		
	comp=Z,1.3nm,0.6s										
GAMB	Gambell	93.13	334	P		P		09 41 33.1	+0.8		
	baz=89										
LESA	Schwarzleotal	93.21	43	P		P		09 41 33.4	+0.2		
	comp=Z,3.3nm,1.2s										
CLL	Collm	93.41	39	*i* P		P		09 41 34.2	+0.2		
CLL				*e**PP		pP		09 41 58.0	+1.2		
CLL				pmax		pmax					
	comp=Z,7.0nm,1.2s										
CLL	Collm	93.41	39	*i* P		P		09 41 34.2	+0.2		
	comp=Z,7.0nm,1.2s										
CLL				*e*pP		pP		09 41 58.0	+1.2		
SPITS	Spitsbergen Ar	93.53	12	P		P		09 41 33.5	-0.5		
	comp=Z,5.9nm,0.9s,baz=153,slow=5.6,SNR=4.3										
SPITS				PKKPbc		PKKPdf		09 58 39.5	-1.5		
	comp=Z,1.2nm,0.6s,baz=74,slow=6.2,SNR=4.6										
	comp=Z,5.9nm,0.9s										

HFS	Hagfors	93.65	30	LR		LR		10 21 31.2			
	comp=Z,19nm,19.9s,baz=239,slow=34										
VNDA	Vanda	93.65	191	P		P		09 41 35.8	+1.1		
	comp=Z,5.4nm,0.7s,baz=118,slow=3.7,SNR=44										
	comp=Z,5.4nm,0.7s										
KHC	Kasperske Hory	93.80	41	⇓*i*P		P		09 41 35.7	-0.2		
KHC				pmax		pmax					
	comp=Z,5.0nm,1.6s										
BRG	Berggiesshubel	94.00	39	*e*P		P		09 41 38.4	+1.7		
BRG				Amp				09 41 39.3			
	comp=Z,4.9nm,1.0s										
BRG				pP		pP		09 42 01.3	+1.7		
BRG				Amp				09 42 02.4			
	comp=Z,4.2nm,1.1s										
SOKA	Soboth	94.83	44	*e*P		P		09 41 40.3	-0.5		
	comp=Z,1.9nm,1.0s										
ARSA	Arzberg	95.14	43	*e*P		P		09 41 41.8	-0.3		
	comp=Z,2.3nm,0.8s										
CONA	Conrad Observa	95.35	42	*e*P		P		09 41 43.2	+0.2		
	comp=Z,6.1nm,1.6s										
RONA	Rosalia, Austr	95.65	42	*e*P		P		09 41 44.7	+0.3		
	comp=Z,3.0nm,1.0s										
VRAC	Vranov	95.77	41	LR		LR		10 20 34.9			
	comp=Z,20nm,21.5s,baz=268,slow=33										
TSUM	Tsumeb	95.87	109	LR		LR		10 23 10.8			
	comp=Z,100nm,18.8s,baz=141,slow=34										
ARCES	ARCESS Array B	97.45	20	PKKPbc		PKKPbc		09 58 29.6	-2.7		
	comp=Z,1.1nm,0.5s,baz=114,slow=2.9,SNR=7.6										
ARCES				LR		LR		10 23 02.7			
	comp=Z,22nm,19.4s,baz=196,slow=34										
SYO	Syowa Base	97.82	161	⇑*e*P		Pdif		09 41 54.2	+0.5		
URZ	Urewera	99.03	231	LR		LR		10 19 57.6			
	comp=Z,98nm,18.4s,baz=193,slow=31										
FINES	FINESS Array B	99.51	28	PP		PP		09 46 07.2	+1.5		
	comp=Z,1.9nm,0.8s,baz=235,slow=6.7,SNR=4.3										
FINES				PKKPbc		PKKPbc		09 58 24.1	-2.2		
	comp=Z,2.4nm,0.8s,baz=70,slow=6.3,SNR=6.3										
FINES				LR		LR		10 22 51.0			
	comp=Z,33nm,19.3s,baz=188,slow=33										
BILL	Bilibino	101.12	340	⇓*e*P		Pdif		09 42 09.0	+0.6		
BILL				pmax		pmax					
	comp=Z,4.0nm,0.6s										
AK13	Malin Array Si	103.55	38	P		Pdif		09 42 19.7	+0.1		
DZM	Mont Dzumac	111.27	245	*e*LR		LR		10 20 50.3			
	comp=Z,77nm,25.9s										
SOC	Sochi	112.50	43	*i* PKIKP		PKiKP		09 46 54.7	0.0		
SOC				*e*				09 47 41.5			
SOC				*e*PPP		PPP		09 50 04.3			
SOC				*e*				09 53 27.9			
SOC				*e*SSS		SSS		10 07 24.9			
KIV	Kislovodsk	114.38	42	*e*PKIKP		PKiKP		09 46 58.6	+0.1		
KIV				pmax		pmax					
	comp=Z,4.0nm,0.9s										
KBZ	Khabaz	114.61	42	PKP		PKiKP		09 46 58.6	-0.1		
	comp=Z,1.9nm,0.8s,baz=202,slow=3.8,SNR=4.7										
KBZ	Khabaz	114.61	42	⇓*i*PKIKP		PKiKP		09 46 58.0	-0.7		
ARTI	Arti	116.52	25	*e*PKIKP		PKPdf		09 47 01.7	-0.4		
YSS	Yuzhno-Sakhali	122.49	327	⇑*e*PKIKP		PKPdf		09 47 11.2	-2.6		
BRVK	Borovoye	123.65	21	*de*PKIKP		PKPdf		09 47 15.8	-0.1		
BVAR	Borovoye Array	123.72	21	PKP		PKiKP		09 47 16.3	0.0		
	comp=Z,2.5nm,0.7s,baz=277,slow=2.4,SNR=11										
BVAR				pPKP		pPKPdf		09 47 39.6	-0.2		
	comp=Z,1.2nm,0.6s,baz=349,slow=3.0,SNR=3.4										
BVAR				PKKPbc		PKKPab		09 57 03.6	-0.3		
	comp=Z,1.1nm,0.6s,baz=90,slow=5.8,SNR=5.5										
ZALV	Zalesovo Beam	127.02	12	PKP		PKPdf		09 47 21.9	-0.4		
	comp=Z,14nm,0.8s,baz=281,slow=2.3,SNR=42										
ZALV				pPKP		pPKPdf		09 47 44.6	-1.5		
	comp=Z,11nm,0.9s,baz=318,slow=2.0,SNR=6.1										
HEH	HeiHe	127.15	339	*e*PKP		PKPdf		09 47 21.9	-0.8		
STKA	Stephens Creek	128.25	225	PKP		PKiKP		09 47 25.7	-0.3		
	comp=Z,10nm,0.8s,baz=92,slow=3.1,SNR=9.3										
STKA	Stephens Creek	128.25	225	⇑*e*PKIKP		PKPdf		09 47 24.5	-0.9		
KURK	Kurchatov	128.42	18	*d*PKIKP		PKPdf		09 47 24.7	-0.4		
KURBB	Kurchatov Arra	128.47	18	PKP		PKPdf		09 47 25.3	+0.1		
	comp=Z,9.0nm,0.7s,baz=325,slow=2.3,SNR=93										
KURBB				pPKP		pPKPdf		09 47 48.4	-0.6		
	comp=Z,7.8nm,1.0s,baz=319,slow=2.7,SNR=7.9										
USA0B	Ussuriysk Arra	129.93	331	⇓*e*PKIKP		PKiKP		09 47 28.8	-0.2		
USRK	Ussuriysk Ar.	129.93	331	PKP		PKPdf		09 47 28.2	+0.1		
	comp=Z,6.5nm,0.8s,baz=298,slow=0.6,SNR=7.9										
BNX	BinXian	130.83	335	PKP		PKPdf		09 47 28.5	-1.3		
MJAR	Matsushiro Arr	131.41	319	PKP		PKPdf		09 47 30.9	-0.3		
	comp=Z,3.6nm,0.8s,baz=53,slow=1.5,SNR=15										
MAJO	Matsushiro	131.41	319	*de*PKIKP		PKPdf		09 47 30.4	-0.9		
MK31	Makanchi Array	133.02	17	*d*PKIKP		PKPdf		09 47 33.5	-0.5		
MKAR	Makanchi Array	133.02	17	PKP		PKPdf		09 47 33.4	-0.6		
	comp=Z,3.0nm,0.8s,baz=352,slow=2.5,SNR=20										
AAK	Ala-Archa	133.67	27	*de*PKIKP		PKiKP		09 47 36.6	-0.2		
SONM	Songino Array	134.46	354	PKP		PKPdf		09 47 36.8	0.0		
	comp=Z,5.5nm,0.7s,baz=337,slow=1.3,SNR=24										
XLT	XiLinHaoTe	136.43	344	*e*PKP		PKPdf		09 47 40.5	0.0		
KSRS	Korea Array	136.98	328	PKiKP		PKPpre		09 47 29.4			
	comp=Z,1.5nm,0.8s,baz=49,slow=3.6,SNR=5.6										
KSRS				PKP		PKPdf		09 47 41.5	-0.1		
	comp=Z,12nm,1.0s,baz=20,slow=1.1,SNR=32										
KSRS				pPKP		pPKPdf		09 48 04.5	-0.9		
	comp=Z,8.1nm,1.0s,baz=39,slow=0.8,SNR=6.1										
WMQ	Urumqi	137.21	14	*e*PKP		PKPdf		09 47 42.8	+0.8		
WMQ				LR		LR					
	comp=Z,310nm,23.7s										
ASAR	Alice Springs	138.46	230	PKhKP		PKPpre		09 47 34.0			
	comp=Z,1.7nm,0.8s,baz=129,slow=3.3,SNR=13										
ASAR				PKP		PKPdf		09 47 44.8	0.0		
	comp=Z,6.9nm,0.8s,baz=111,slow=2.0,SNR=25										
BJI	Beijing	139.93	341	PKP		PKPdf		09 47 47.3	+0.4		
WRA	Warramunga Arr	140.08	235	PKhKP		PKPpre		09 47 39.1			
	comp=Z,5.5nm,0.6s,baz=126,slow=2.3,SNR=53										
HHC	Hu-ho-hao-te	140.45	347	*e*PKP		PKPdf		09 47 46.5	-1.5		
HNS	HongShan	142.81	341	⇓PKP		PKPdf		09 47 52.5	+0.3		
TIA	Tai'an	143.02	337	PKP		PKPbc		09 47 49.4	-0.2		
GTA	Gaotai	143.16	1	*e*PKP		PKPab		09 47 49.0	+0.4		
GTA				pPKP		pPKPdf		09 48 13.4	-3.4		
GTA				sPKP				09 48 30.4			
GTA				PP		PP		09 51 01.3	-1.1		
NJ2	Nanjing	145.83	332	*e*PKPbc		PKPdf		09 47 57.8	+0.2		
GOMU	GeErMu	145.96	8	PKPbc		PKPdf		09 47 57.8	-0.4		
GOMU				pPKP		pPKPdf		09 48 21.4	-0.6		
GOMU				sPKP				09 48 31.6			
LZH	Lanzhou	146.34	355	*e*PKPbc		PKPbc		09 47 59.8	-0.1		
LZH				pPKP		pPKPdf		09 48 22.8	+0.4		
FITZ	Fitzroy Crossi	147.96	230	PKP		PKPdf		09 48 01.7	+0.2		
	comp=Z,46nm,1.0s,baz=184,slow=2.0,SNR=24										
FITZ				PKPbc		PKPbc		09 48 04.9	+0.2		
	comp=Z,46nm,1.0s,baz=172,slow=5.4,SNR=30										
WHN	Wuhan	149.10	336	PKPbc		PKPdf		09 48 03.1	0.0		
WHN				pPKP		pPKPbc		09 48 30.3	-0.6		
HYB	Hyderabad	153.76	54	*e*PKPdf		PKPdf		09 48 09.9	-0.6		
HYB				*e*PKIKP		PKiKP		09 48 18.4	-0.1		
HYB				*es*PKPdf		pPKPbc		09 48 42.7	+0.6		
HYB				*e*PP		PP		09 52 05.4	-0.3		
HYB				*e*SKSdf		SKSdf		09 55 09.5	-0.9		
HYB				*e*SKKSac		SKKSac		09 58 49.4	+0.5		
CMAR	Chiang Mai Arr	163.97	5	PKP		PKPdf		09 48 22.5	0.0		
	comp=Z,5.2nm,0.8s,baz=297,slow=2.0,SNR=28										
CMAR				PKPab		PKPab		09 49 14.6	-0.8		
	comp=Z,3.8nm,0.9s,baz=336,slow=5.2,SNR=7.1										

*IDC **18** 09:32:41.0±1.4, 35.78N×26.24E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=333.8km s-min=24.0km az=141.0*
*ATH **18** 09:32:44.3±0.5, 35.11N×26.94E, h7km±2km, ML3.2/6, Manual Solution by N.Liadopoulou First location: 2019/08/18 09:34:04, This location: 2019/08/18 09:43:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*THE **18** 09:32:45.1, 35°N×2°E±°, h10km±5km, M3.0/6, ML h3.0/6*

ISC 18 09:32:44.2±1.4, 35°11'N±0°07×26°91'E±0°04, h14km±9km, n31, σ0°93/42, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.49	25	P	Pg	09 32 54.2	+0.4
KARP				S	Sb	09 33 02.2	+0.6
KARP	Karpathos	0.49	25	P	Pg	09 32 54.1	+0.3
KARP				S	Sb	09 33 01.7	+0.1
ZKR	Zakros	0.57	271	P	Pb	09 32 55.4	-0.5
ZKR	Zakros	0.57	271	P	Pg	09 32 55.2	-0.1
ZKR				S	Sb	09 33 04.6	+0.8
NPS	Neapolis	1.07	279	P	Pb	09 33 04.5	0.0
NPS				S	Sn	09 33 20.2	+0.6
NPS	Neapolis	1.07	279	P	Pb	09 33 04.5	0.0
NPS				S	Sn	09 33 20.1	+0.6
ARG	Arkhangelos	1.49	41	P	Pn	09 33 11.4	+0.9
ARG				S	Sb	09 33 31.6	+1.3
ARG	Arkhangelos	1.49	41	P	Pn	09 33 11.9	+1.4
ARG				S	Sn	09 33 30.6	+0.8
IACM	Heraklion	1.52	278	P	Pb	09 33 12.3	+0.2
IACM				S	Sg	09 33 32.8	-0.2
IDI	Anoyia	1.66	277	P	Pb	09 33 14.2	-0.4
IDI				S	Sn	09 33 34.9	+0.6
IDI	Anoyia	1.66	277	P	Pb	09 33 14.6	0.0
IDI				S	Sg	09 33 36.7	-1.1
THERA	Ancient Thera,	1.72	318	P	Pn	09 33 13.6	0.0
THERA				S	Sn	09 33 35.9	+0.5
THERA	Ancient Thera,	1.72	318	P	Pn	09 33 13.7	0.0
THERA				S	Sb	09 33 37.0	0.0
THR6	Thira Island,	1.75	316	P	Pn	09 33 14.5	+0.3
THR5	Thira Island,	1.82	316	P	Pn	09 33 15.4	+0.2
GVD	Gavdhos	2.33	264	P	Pn	09 33 24.0	+1.9
KSL	Kastellorizon	2.42	64	P	Pn	09 33 23.8	+0.6
SMG	Samos	2.60	359	P	Pn	09 33 25.8	0.0
SMG	Samos	2.60	359	P	Pn	09 33 25.8	0.0
ANKY	Antikythira Is	3.04	285	P	Pn	09 33 33.7	+1.8
VLI	Veliai	3.60	298	P	Pn	09 33 40.6	+1.0
ATHU	Athens Univers	3.81	320	P	Pn	09 33 43.2	+0.8
DION	Dionisos Attik	3.81	322	P	Pn	09 33 44.3	+1.8
KYMI	Kymi, Euboea I	4.18	328	P	Pn	09 33 48.1	+0.6
KLV	Kalavryta, Ach	4.82	309	P	Pn	09 33 58.3	+1.9
DRO	Drossia	5.06	306	P	Pn	09 34 01.2	+1.5
MLR	Muntele Rosu	10.40	356	LR	LR	09 38 38.6	
	comp=Z,18nm,21.6s,baz=116,slow=37						
TORD	Torodi Ar. Bea	31.57	232	P	P	09 39 05.3	-1.1
	0.6nm,0.3s,baz=33,slow=8.5,SNR=9.6						
	0.6nm,0.3s						
KURBB	Kurchatov Arra	40.04	51	P	P	09 40 17.8	-0.9
	0.7nm,0.6s,baz=277,slow=8.5,SNR=6.6						
	0.7nm,0.6s						
MKAR	Makanchi Array	42.61	57	P	P	09 40 39.3	-0.6
	0.5nm,0.5s,baz=270,slow=8.1,SNR=7.2						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	44.01	46	P	P	09 40 49.2	-1.8
	1.0nm,0.5s,baz=268,slow=8.2,SNR=3.9						
	1.0nm,0.5s						

IDC 18 09:33:07.5±3.7, 4.13S×141.14E, h0km, mb3.4/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=100.5km s-min=13.5km az=87.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	1.67	345	Pg	Pn	09 33 36.1	-1.9
	4.5nm,0.3s,baz=143,slow=10,SNR=21						
JAY				Lg	Lg	09 34 00.6	
	8.4nm,0.3s,baz=162,slow=10,SNR=9.2						
WRA	Warramunga Arr	17.05	202	P	Pn	09 37 06.0	-1.5
	0.3nm,0.3s,baz=24,slow=12,SNR=16						
	0.7nm,0.4s						
FITZ	Fitzroy Crossi	20.56	226	P	P	09 37 48.9	+1.0
	2.0nm,0.6s,baz=40,slow=18,SNR=2.1						
	2.0nm,0.6s						
ASAR	Alice Springs	20.64	199	P	P	09 37 47.6	-1.1
	0.6nm,0.5s,baz=26,slow=11,SNR=18						
	0.6nm,0.5s						
MKAR	Makanchi Array	72.39	322	P	P	09 44 37.0	+1.5
	0.1nm,0.3s,baz=133,slow=8.5,SNR=3.7						
	0.1nm,0.3s						

*IDC **18** 10:05:33.4±1.4, 0.52S×127.88E, h0km, mb3.9/4, mbtmp4.0/6, ML3.8/2, MS3.1/3, Error ellipse: s-maj=51.6km s-min=20.5km az=72.0*
*DJA **18** 10:05:37.2±0.2, 1°S±2°×12°7E±°, h10km, M4.3/11, mB5.3/1, mb5.0/4, MLv4.0/11, Mw(mB)4.7/1*

**ISC 18 10:05

JNS Sasagawa 0.71 186 A A 10 06 54.4
comp=N,11nm,0.2s,comp=E,22nm,0.3s
JYK Kaneyama 0.84 62 *i*P **Pg** **10 06 56.5 -0.6**
JYK S **Sg** **10 07 07.8 -0.3**
JYAR Yonezawaarcadi 0.84 137 A A 10 06 57.2
comp=N,26nm,0.6s,comp=E,28nm,0.5s
JOU Okura 1.00 99 ⇓*i*P **Pb** **10 06 59.5 -0.7**
JOU ⇓S **Sg** **10 07 13.2 0.0**
JOU Okura 1.00 99 A A 10 06 59.5
comp=N,13nm,1.4s,comp=E,15nm,1.1s
JSD Sado 1.03 242 P **Pb** **10 06 59.6 -1.1**
JSD Sado 1.03 242 S **Sb** **10 07 13.5 -0.6**
JSD Sado 1.03 242 ⇓*i*P **Pb** **10 06 59.2 -1.4**
JSD ⇓S **Sb** **10 07 13.1 -1.0**
JSD Sado 1.03 242 A A 10 06 59.2
comp=N,18nm,0.7s,comp=E,11nm,0.8s
JIZZ Izumozaki 1.14 209 A A 10 07 02.2
comp=N,43nm,0.5s,comp=E,25nm,0.3s
JFY Yanaizu 1.15 168 A A 10 07 02.4
comp=N,8.0nm,0.7s,comp=E,9.0nm,0.3s
JOFO Osakifurukawao 1.18 86 A A 10 07 02.8
comp=N,32nm,3.2s,comp=E,43nm,0.8s
JYW Yuwa 1.19 31 A A 10 07 02.6
comp=N,27nm,1.1s,comp=E,21nm,1.1s
JOTO OTAMA OYAMA 1.21 143 A A 10 07 03.6
comp=N,14nm,0.6s,comp=E,11nm,2.0s
JMM Marumori 1.28 121 **Pn** **10 07 04.6 0.0**
JMM Sn **Sn** **10 07 21.8 +0.2**
JMM Marumori 1.28 121 P **Pb** **10 07 04.9 0.0**
JMM Marumori 1.28 121 S **Sg** **10 07 22.1 +0.1**
JMM Marumori 1.28 121 A A 10 07 04.5
comp=N,19nm,0.4s,comp=E,20nm,0.5s
JRG Rokugo 1.29 47 A A 10 07 04.4
comp=N,12nm,1.9s,comp=E,14nm,0.7s
JUON Uonuma 1.35 192 A A 10 07 05.7
comp=N,5.0nm,0.2s,comp=E,5.0nm,1.1s
JOG3 Oga3 1.41 350 A A 10 07 06.3
comp=N,14nm,1.4s,comp=E,15nm,1.5s
JMST Minamisoumatoc 1.42 124 A A 10 07 06.8
comp=N,12nm,0.4s,comp=E,8.0nm,0.6s
JSB Shiboa 1.61 165 A A 10 07 09.7
comp=N,7.0nm,2.5s,comp=E,8.0nm,1.5s
JFK Kawauchi 1.64 135 A A 10 07 10.2
comp=N,7.0nm,0.9s,comp=E,7.0nm,0.7s
JSZI Iwateshizukuis 1.71 44 A A 10 07 10.8
comp=N,8.0nm,2.7s,comp=E,11nm,1.3s
JJN Nakama 1.73 215 A A 10 07 11.4
comp=N,7.0nm,0.8s,comp=E,7.0nm,0.7s
JKT Katashina 1.76 184 A A 10 07 12.0
comp=N,5.0nm,0.3s,comp=E,7.0nm,0.5s
ONAJ Iwakimizushiy 1.80 142 A A 10 07 12.6
comp=N,9.0nm,0.4s,comp=E,12nm,0.3s
JNTW Noshirotokiwa 1.83 18 A A 10 07 12.6
comp=N,9.0nm,1.9s,comp=E,7.0nm,4.7s
JAH Hinai 1.91 29 A A 10 07 13.8
comp=N,5.0nm,0.9s,comp=E,4.0nm,3.7s
MJB9 Matsu-Tunnel 2.20 206 **Pn** **10 07 18.2 +0.9**
MJB9 Sn **Sn** **10 07 45.2 +0.7**
MAJO Matsushiro 2.20 206 **Pn** **10 07 17.4 +0.1**
MAJO Sn **Sn** **10 07 44.2 -0.3**
MAJO Matsushiro 2.20 206 P **Pn** **10 07 18.2 +0.9**
MJAR Matsushiro Arr 2.20 206 Pn **Pn** **10 07 17.3 0.0**
comp=E,3.2nm,0.3s,baz=15,slow=16,SNR=117
MJAR Sn **Sn** **10 07 45.6 +1.1**
comp=E,16nm,0.3s,baz=138,slow=17,SNR=6.1
MJAR LR LR 10 08 18.0
comp=E,173nm,21.4s,baz=54,slow=45
comp=E,74nm,0.4s
JTM Tenmabayashi 2.59 29 **Pn** **10 07 22.2 -0.5**
JTM Tenmabayashi 2.59 29 P **Pn** **10 07 23.0 +0.3**
JGF Kuroka 3.35 210 **Pn** **10 07 33.3 +0.2**
INU Inuyama 3.71 212 **Pn** **10 07 38.9 +0.9**
INU Inuyama 3.71 212 P **Pn** **10 07 38.7 +0.7**
JSG Sagara 3.97 195 Pn **Pn** **10 07 41.3 -0.3**
ERM Erimo 4.51 38 Pn **Pn** **10 07 49.2 +0.2**
ERM Erimo 4.51 38 P **Pn** **10 07 50.2 +1.2**
JEM Erimo 4.51 38 P **Pn** **10 07 50.8 +1.8**
JHJ Hachijo jima 2 5.41 177 Pn **Pn** **10 08 01.0 -0.4**
comp=E,9.5nm,0.3s,baz=287,slow=21,SNR=8.1
comp=E,58nm,0.9s
JHJ2 Mitsune 5.42 176 Pn **Pn** **10 08 01.3 -0.2**
JHJ2 Mitsune 5.42 176 P **Pn** **10 08 02.4 +0.9**
ASAJ Asahikawa 6.08 22 Pn **Pn** **10 08 11.4 +0.9**
comp=E,0.8nm,0.3s,baz=214,slow=8.3,SNR=8.3
comp=E,4.1nm,0.6s
JKA Kamikawa-asahi 6.08 22 Pn **Pn** **10 08 10.5 0.0**
USA0B Ussuriysk Arra 7.95 318 Pn **Pn** **10 08 34.9 -1.4**
USRK Ussuriysk Ar. 7.95 318 Pn **Pn** **10 08 35.0 -1.2**
comp=E,0.7nm,0.3s,baz=124,slow=14,SNR=9.5
USRK Sn **Sn** **10 10 06.8 +0.8**
comp=E,0.4nm,0.3s,baz=141,slow=31,SNR=4.4
USRK LR LR 10 11 24.0
comp=E,110nm,20.7s,baz=112,slow=36
comp=E,24nm,0.4s
JNU Nakatsue 8.78 235 Pn **Pn** **10 08 50.2 +2.6**
JNU Nakatsue 8.78 235 Pn **Pn** **10 08 47.7 0.0**
comp=E,0.2nm,0.3s,baz=43,slow=8.4,SNR=5.4
comp=E,1.5nm,0.8s
KSRS Korea Array 9.13 267 Pn **Pn** **10 08 53.4 +0.9**
KSRS Sn **Sn** **10 10 36.8 +1.6**
comp=E,3.6nm,0.3s,baz=76,slow=14,SNR=120
comp=E,1.0nm,0.3s,baz=75,slow=24,SNR=6.4
comp=E,20nm,0.6s
KSAR Wonju Array Be 9.16 267 **Pn** **10 08 54.0 +1.1**
KS19 Wonju Array Si 9.17 267 **Pn** **10 08 54.5 +1.5**
TJN Taejon 9.81 261 **Pn** **10 09 04.0 +2.2**
JCJ Chichijima 11.64 168 LR LR 10 13 44.2
comp=E,70nm,21.7s,baz=32,slow=36
NJ2 Nanjing 17.96 255 *e*P **P** **10 10 51.8 +0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
BJI Beijing 18.04 282 P **Pn** **10 10 51.4 0.0**
XLT XiLinHaoTe 18.33 294 *e*P **P** **10 11 00.0 +4.9**
XLT pmax pmax
comp=Z,9.0nm,1.1s
PETK Petropavlovsk- 19.28 35 P **Pn** **10 11 06.6 +0.2**
comp=Z,0.2nm,0.3s,baz=198,slow=9.1,SNR=4.6
comp=Z,2.4nm,0.9s
HNS HongShan 19.50 274 ⇓P **Pn** **10 11 11.8 +2.7**
HNS S S 10 15 00.3 +12
HNS pmax pmax
comp=Z,10.0nm,1.0s
HNS LR LR
comp=N,85nm,13.5s
HNS LR LR
comp=Z,100nm,14.3s
HHC Hu-ho-hao-te 21.52 285 *e*P **P** **10 11 30.4 +0.5**
HHC pmax pmax
comp=Z,6.0nm,0.9s
MA2 Magadan 22.28 15 P **P** **10 11 36.8 -0.9**
MA2 IAmb IAmb 10 11 49.5
comp=Z,24nm,1.5s
YAK Yakutsk 24.28 349 LR LR 10 21 39.5
comp=Z,38nm,18.4s,baz=90,slow=37
SONM Songino Array 25.64 302 P **P** **10 12 11.7 +1.2**
SONM Songino Array 25.64 302 P **P** **10 12 09.9 -0.5**
comp=Z,2.0nm,0.8s,baz=97,slow=8.7,SNR=8.1
SONM LR LR 10 22 42.7
comp=Z,43nm,18.8s,baz=192,slow=38
comp=Z,2.0nm,0.8s
LZH Lanzhou 28.29 276 *e*P **P** **10 12 33.4 -1.0**
LZH pP sP 10 12 39.4 -0.1
LZH pmax pmax
comp=Z,19nm,1.3s
LZH LR LR
comp=N,370nm,12.7s
LZH LR LR
comp=E,310nm,13.1s
LZH LR LR
comp=Z,360nm,13.1s
PZH PanZhiHua 33.73 260 P **P** **10 13 24.0 +1.6**
WMQ Urumqi 38.76 295 ⇓P P 10 14 10.3 +5.1
WMQ pmax pmax
comp=Z,68nm,0.8s
WMQ pmax pmax
comp=Z,60nm,3.6s
WMQ LR LR
comp=N,980nm,11.5s
WMQ LR LR
comp=E,970nm,13.3s
WMQ LR LR
comp=Z,960nm,24.3s
ZALV Zalesovo Beam 39.73 311 P **P** **10 14 13.3 +0.2**
comp=Z,1.0nm,0.6s,baz=79,slow=7.9,SNR=3.7
ZALV PcP **PcP** **10 16 18.9 -0.4**
comp=Z,1.6nm,0.6s,baz=159,slow=4.5,SNR=6.1
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 41.99 300 P **P** **10 14 31.1 -0.7**
comp=Z,0.4nm,0.7s,baz=86,slow=9.5,SNR=3.2
comp=Z,0.4nm,0.7s
N15K Kwethluk River 43.08 40 P **P** **10 14 40.7 +0.2**
N15K IAmb IAmb 10 15 07.9
comp=Z,10.0nm,1.2s
O15K Ungalikthiuk R 43.20 41 P **P** **10 14 42.0 +0.6**
O15K IAmb IAmb 10 14 43.2
comp=Z,9.4nm,0.8s
L16K Owhat River 43.45 37 P **P** **10 14 43.4 0.0**
J17K VABM Dome 43.75 35 P **P** **10 14 46.4 +0.5**
KURK Kurchatov 43.76 307 P **P** **10 14 46.2 +0.2**
KURBB Kurchatov Arra 43.83 307 P **P** **10 14 46.5 -0.1**
comp=Z,1.8nm,0.8s,baz=82,slow=8.0,SNR=13
comp=Z,1.8nm,0.8s
K17K Iditarod 44.06 36 P **P** **10 14 49.1 +0.8**
G18K Tagagawik 44.18 31 P **P** **10 14 49.9 +0.7**
G18K IAmb IAmb 10 14 50.4
comp=Z,6.3nm,0.7s
H19K Roundabout Mou 45.05 32 **P** **10 14 57.0 +0.9**
J20K Nowinta River 45.98 34 P **P** **10 15 04.1 +0.6**
J20K IAmb IAmb 10 15 05.5
comp=Z,6.0nm,1.1s
F21K Alatna River 46.35 30 **P** **10 15 07.6 +1.1**
CAST Castle Rocks 46.90 35 **P** **10 15 11.3 +0.5**
CAST IAmb IAmb 10 15 12.8
comp=Z,4.0nm,1.0s
MLY Manley 47.44 33 **P** **10 15 15.4 +0.4**
MLY IAmb IAmb 10 15 53.2
comp=Z,4.4nm,1.0s
PMG Port Moresby 48.23 170 LR LR 10 35 48.5
comp=Z,74nm,18.6s,baz=94,slow=36
AAK Ala-Archa 48.39 297 LR LR 10 36 57.0
comp=Z,35nm,18.0s,baz=334,slow=38
BVAR Borovoye Array 48.39 311 P **P** **10 15 22.1 -0.5**
comp=Z,0.7nm,0.5s,baz=101,slow=7.7,SNR=4.3
BVAR PcP **PcP** **10 16 48.5 -0.4**
comp=Z,1.2nm,0.6s,baz=59,slow=5.7,SNR=5.0
comp=Z,0.7nm,0.5s
ILAR Eielson Array 49.09 33 Pn **P** **10 15 27.3 -0.4**
ILAR Eielson Array 49.09 33 P **P** **10 15 27.2 -0.6**
comp=Z,2.4nm,0.8s,baz=278,slow=6.1,SNR=33
comp=Z,2.4nm,0.8s
AB31 Akbulak array 55.76 309 **P** **10 16 17.0 -0.4**
AB31 IAmb IAmb 10 16 21.6
comp=Z,2.2nm,0.7s
ABKAR Akbulak array 55.76 309 **P** **10 16 17.1 -0.3**
WB0 Warramunga Arr 58.18 186 P **P** **10 16 34.2 -0.6**
WRA Warramunga Arr 58.36 186 P **P** **10 16 35.3 -0.7**
WRA Warramunga Arr 58.36 186 P **P** **10 16 35.4 -0.6**
comp=Z,5.7nm,0.8s,baz=2.1,slow=7.1,SNR=55
WRA PcP **PcP** **10 17 26.4 -0.5**
comp=Z,1.1nm,0.7s,baz=358,slow=4.3,SNR=4.7
comp=Z,5.7nm,0.8s
SPITS Spitsbergen Ar 58.74 348 P **P** **10 16 37.6 -0.5**
comp=Z,6.0nm,1.0s,baz=202,slow=8.8,SNR=3.6
comp=Z,6.0nm,1.0s
ASAR Alice Springs 62.08 186 P **P** **10 17 00.6 -0.9**
comp=Z,1.9nm,0.7s,baz=358,slow=7.3,SNR=22
comp=Z,1.9nm,0.7s
FINES FINESS Array B 66.75 331 P **P** **10 17 31.2 -0.4**
comp=Z,2.0nm,0.8s,baz=49,slow=8.8,SNR=5.5
comp=Z,2.0nm,0.8s
PINE Pine Mountain 70.57 49 **P** **10 17 57.1 +1.0**
HFS Hagfors 72.07 335 P **P** **10 18 04.1 -0.4**
comp=Z,1.0nm,0.5s,baz=36,slow=5.5,SNR=13
comp=Z,1.0nm,0.5s
AK03 Malin Array Si 72.13 321 P **P** **10 18 03.9 -1.2**
AKASG Malin Array Be 72.14 321 P **P** **10 18 04.3 -0.9**
comp=Z,2.0nm,0.6s,baz=48,slow=6.3,SNR=11
AKASG LR LR 10 52 27.5
comp=Z,24nm,18.2s,baz=351,slow=38
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 72.14 321 P **P** **10 18 03.9 -1.3**
AK01 Malin Array Si 72.15 321 P **P** **10 18 03.5 -1.7**
KIEV Kiev 72.15 321 P **P** **10 18 04.0 -1.2**
comp=Z,24nm,1.0s
AK04 Malin Array Si 72.16 321 P **P** **10 18 03.8 -1.4**
NB2 NORSAR Subarra 72.19 336 P **P** **10 18 04.5 -0.8**
comp=Z,1.0nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 72.19 336 P **P** **10 18 03.6 -1.7**
comp=Z,0.7nm,0.6s,baz=38,slow=6.0,SNR=5.5
NOA LR LR 10 52 52.8
comp=Z,9.2nm,19.2s,baz=170,slow=38
comp=Z,0.7nm,0.6s
RNPP9 Sopachiv 73.28 323 P **P** **10 18 11.1 -0.8**
HRY Holter Researc 73.94 43 P **P** **10 18 16.7 +0.6**
LRM Limekiln Ridge 74.18 44 P **P** **10 18 17.6 0.0**
KMPD K-Podol'skiy 74.90 321 P **P** **10 18 20.0 -1.4**
NVAR Mina Array Bea 75.35 52 P **P** **10 18 25.8 +1.3**
comp=Z,2.2nm,0.7s,baz=298,slow=5.5,SNR=26
comp=Z,2.2nm,0.7s
TPAW Teton Pass 76.49 45 P **P** **10 18 31.3 +0.3**
TPAW IAmb IAmb 10 18 36.8
comp=Z,4.2nm,1.2s
BRTR Keskin Array B 76.67 310 P **P** **10 18 31.4 -0.6**
comp=Z,0.6nm,0.7s,baz=85,slow=4.3,SNR=4.3
comp=Z,0.6nm,0.7s
BR106 Keskin Array S 76.68 310 P **P** **10 18 31.2 -0.8**
R11B Troy Canyon, C 77.08 51 P **P** **10 18 34.6 +0.3**
MLR Muntele Rosu 77.22 319 LR LR 10 55 45.7
comp=Z,44nm,19.3s,baz=74,slow=38
MPMC Manual Prospec 77.32 54 P **P** **10 18 35.6 -0.1**
TPNV Topopah Spring 77.55 53 P **P** **10 18 37.1 +0.2**
TPNV IAmb IAmb 10 18 38.7
comp=Z,3.8nm,0.9s
PDAR Pinedale Array 77.74 45 P **P** **10 18 37.1 -0.9**
comp=Z,0.8nm,0.7s,baz=237,slow=2.0,SNR=9.8
comp=Z,0.8nm,0.7s
QSM Queen of Sheba 77.77 54 P **P** **10 18 38.5 +0.5**
QSM IAmb IAmb 10 18 39.8
comp=Z,5.5nm,1.0s
RAO Raoul Island 78.33 143 LR LR 10 51 04.2
comp=Z,71nm,19.0s,baz=354,slow=34
CLL Collm 79.00 329 *i*P **P** **10 18 48.1 +3.6**
comp=Z,6.0nm,1.0s
RONA Rosalia, Austr 80.33 325 *e*P **P** **10 18 50.5 -1.4**
comp=Z,0.9nm,0.4s
CONA Conrad Observa 80.35 325 *e*P **P** **10 18 52.1 +0.1**
comp=Z,0.5nm,0.4s
GERES GERESS Array B 80.60 327 P **P** **10 18 52.9 -0.5**
comp=Z,0.3nm,0.4s,baz=4.7,slow=13,SNR=4.4
comp=Z,0.3nm,0.4s
KBA Koelnbreinsper 82.11 326 *e*P **P** **10 19 01.8 +0.4**
comp=Z,1.4nm,0.4s
MOTA Moosalm 82.86 327 *e*P **P** **10 19 05.5 +0.1**
comp=Z,0.3nm,0.2s
FETA Feichten 83.28 327 *e*P **P** **10 19 07.7 +0.1**
comp=Z,0.3nm,0.2s
DAVA Damuels 83.42 328 *e*P **P** **10 19 08.2 -0.1**
comp=Z,0.8nm,0.2s
TXAR Lajitas Array 90.44 51 P **P** **10 19 43.2 +0.5**
comp=Z,0.6nm,0.8s,baz=297,slow=3.0,SNR=9.3
comp=Z,0.6nm,0.8s
QSPA South Pole Qui 128.27 180 PKP **PKiKP** **10 25 47.2 +0.4**
comp=Z,1.9nm,1.1s,baz=287,slow=5.0,SNR=3.3
LPAZ La Paz 147.22 55 PKPbc **PKPbc** **10 26 25.1 -0.2**
comp=Z,2.0nm,0.7s,baz=318,slow=3.9,SNR=6.5
MBWA Marble Bar 2.73 186 P Pn 10 12 23.9 -0.6
PSAC1 Pilbara Seismi 3.09 184 P Pn 10 12 30.1 +0.5
PSAA1 Pilbara Seismi 3.13 184 P Pn 10 12 30.3 +0.2
GIRL Giralia 6.87 231 P Pn 10 13 21.5 0.0
comp=Z,250μmcomp=Z,0.2nmcomp=Z,57nm,1.7s
MEEK Meekatharra 8.27 189 P Pn 10 13 40.5 -0.2
comp=Z,0.1nmcomp=Z,31nm,2.8s

NEIC ***18*** *10:14:24.7±1.5, 68°.83N±0°.01×146°.32W±0°.06, h12km±6km, Error ellipse: s-maj=3.1km s-min=1.6km az=90.0*
AEIC 18 10:14:23.5±1.9, 68°.82N±0°.02×146°.33W±0°.08, h14km±1km, ML2.8, ML3.0/120(NEIC), Error ellipse: s-maj=4.3km s-min=2.3km az=74.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
D25K	**Kavik River**	**0.50**	**358**			Pg	10 14 33.2	-0.3
D25K	**Kavik River**	**0.50**	**358**			Sg	10 14 40.5	+0.4
E25K	**Arctic Village**	**0.76**	**158**			Pg	10 14 38.1	-0.1
E25K					IAML		10 14 52.1	
	comp=N,451nm,0.7s							
E25K	**Arctic Village**	**0.76**	**158**			Sb	10 14 49.2	+0.5
D24K	**Happy Valley**	**0.96**	**291**			Pg	10 14 42.1	+0.1
D24K					IAML		10 15 02.2	
	comp=N,359nm,0.6s							
D24K	**Happy Valley**	**0.96**	**291**			Sn	10 14 55.6	-0.3
E24K	**Your Creek**	**1.09**	**228**			Pb	10 14 44.1	-0.2
TOLK	**Toolik Lake Re**	**1.20**	**263**			Pg	10 14 46.8	+0.2
TOLK					IAML		10 15 08.8	
	comp=E,289nm,0.7s							
TOLK					IAML		10 15 09.2	
	comp=N,226nm,1.1s							
C26K	**Camden Bay**	**1.21**	**24**			Pg	10 14 47.5	+0.7
C26K	**Camden Bay**	**1.21**	**24**		IAML		10 15 08.5	
	comp=E,331nm,0.8s							
C24K	**Franklin Bluff**	**1.23**	**318**			Pg	10 14 47.9	+0.6
C24K	**Franklin Bluff**	**1.23**	**318**			Sg	10 15 04.2	+0.9
C27K	**Jago River**	**1.23**	**48**			Pb	10 14 46.5	0.0
F25K	**Christian Rive**	**1.26**	**168**			Pb	10 14 47.3	+0.2
F25K					IAML		10 15 08.8	
	comp=E,254nm,0.5s							
F25K					IAML		10 15 09.6	
	comp=N,239nm,0.4s							
F25K	**Christian Rive**	**1.26**	**168**			Sg	10 15 06.1	+1.9
F26K	**Sheenjek River**	**1.40**	**143**			Pb	10 14 49.7	+0.4
F26K	**Sheenjek River**	**1.40**	**143**			Sg	10 15 09.0	+0.6
F24K	**Squaw Lake**	**1.43**	**205**			Pb	10 14 50.1	+0.1
F24K					IAML		10 15 11.9	
	comp=N,173nm,0.7s							
F24K					IAML		10 15 13.7	
	comp=E,203nm,0.4s							
F24K	**Squaw Lake**	**1.43**	**205**			Sg	10 15 10.1	+0.4
E23K	**Chandalar**	**1.44**	**239**			Pb	10 14 50.2	+0.1
E23K					IAML		10 15 16.9	
	comp=E,213nm,0.5s							
E23K					IAML		10 15 16.9	
	comp=N,184nm,0.4s							
E23K	**Chandalar**	**1.44**	**239**			Sg	10 15 10.5	+0.7
BMAR	**Burnt Mountain**	**1.55**	**154**			Pb	10 14 52.1	+0.2
D23K	**Nanushuk River**	**1.58**	**277**			Pg	10 14 53.6	-0.2
D23K					IAML		10 15 21.1	
	comp=E,192nm,0.8s							
C23K	**Itkillik River**	**1.83**	**306**			Pb	10 14 56.5	-0.2
C23K					IAML		10 15 25.0	
	comp=E,173nm,0.5s							
E27K	**Coleen River**	**1.86**	**108**			Pb	10 14 56.3	-0.9
E27K					IAML		10 15 22.9	
	comp=N,140nm,0.6s							
E27K					IAML		10 15 24.2	
	comp=E,109nm,0.7s							
D27M	**Malcolm River**	**1.98**	**75**			Pb	10 14 58.8	-0.4
D27M					IAML		10 15 30.2	
	comp=E,88nm,0.5s							
D27M					IAML		10 15 30.8	
	comp=N,130nm,0.7s							
G25K	**Bearman Lake**	**2.07**	**177**			Pb	10 14 59.7	-1.1
G26K	**Porcupine Rive**	**2.11**	**152**			Pn	10 14 59.4	+1.0
E22K	**Anaktuvuk Pass**	**2.14**	**254**			Pb	10 15 00.8	-1.2
E22K					IAML		10 15 33.3	
	comp=E,75nm,1.0s							
E22K					IAML		10 15 33.4	
	comp=N,130nm,0.8s							
COLD	**Coldfoot**	**2.17**	**224**			Pb	10 15 01.1	-1.4
G24K	**Hadweenzic Riv**	**2.18**	**192**			Pn	10 15 00.6	+1.3
G24K					IAML		10 15 34.4	
	comp=E,77nm,1.1s							
G24K					IAML		10 15 39.5	
	comp=N,92nm,0.5s							
D22K	**Ayikyak River**	**2.31**	**274**	Pn	Pb		10 15 03.8	-1.0
D22K					IAML		10 15 39.8	
	comp=E,85nm,0.4s							
FYU	**Fort Yukon**	**2.31**	**169**			Pn	10 15 02.6	+1.6
FYU					IAML		10 15 42.7	
	comp=N,96nm,0.8s							
E28M	**Babbage River**	**2.49**	**92**			Pn	10 15 04.3	+0.7
G27K	**Doyon Strip**	**2.69**	**137**			Pn	10 15 06.7	+0.4
F28M	**Old Crow**	**2.70**	**114**			Pn	10 15 07.6	+1.1
F28M					IAML		10 15 58.6	
	comp=N,55nm,0.9s							
B22K	**Teshekpuk Lake**	**2.92**	**305**	Pn	Pn		10 15 11.1	+1.8
H24K	**Noodor Dome**	**3.06**	**192**			Pn	10 15 12.9	+1.5
H24K					IAML		10 16 05.7	
	comp=N,38nm,1.0s							
H24K					IAML		10 16 08.7	
	comp=E,41nm,1.1s							
B21K	**Ikpikpuk River**	**3.06**	**289**	Pn	Pn		10 15 13.8	+2.5
B21K					IAML		10 16 11.8	
	comp=N,56nm,1.2s							
B21K					IAML		10 16 16.9	
	comp=E,38nm,1.1s							
C21K	**Knifeblade Rid**	**3.06**	**280**			Pn	10 15 14.2	+2.8
E29M	**Blow River**	**3.12**	**94**			Pn	10 15 14.4	+2.1
E29M					IAML		10 16 08.9	
	comp=N,53nm,0.7s							
F21K	**Alatna River**	**3.13**	**242**		IAML		10 16 10.7	
	comp=E,41nm,1.0s							
F21K					IAML		10 16 12.9	
	comp=N,40nm,0.7s							
H27K	**Steamboat Moun**	**3.19**	**142**			Pn	10 15 12.9	-0.3
H27K					IAML		10 16 12.9	
	comp=E,46nm,1.3s							
H23K	**Yukon River**	**3.26**	**204**			Pn	10 15 16.7	+2.6
H23K					IAML		10 16 20.5	
	comp=N,47nm,0.8s							
PRP	**Porcupine Dome**	**3.33**	**174**			Pn	10 15 16.7	+1.3
G29M	**Pine Creek**	**3.68**	**117**			Pn	10 15 21.8	+1.8
I26K	**Coal Creek Min**	**3.74**	**159**			Pn	10 15 22.6	+1.8
I23K	**Minto, Yukon-K**	**3.88**	**199**			Pn	10 15 24.6	+2.0
I23K					IAML		10 16 33.9	
	comp=E,26nm,1.3s							
I23K					IAML		10 16 36.2	
	comp=N,22nm,1.3s							
F20K	**Avaraart Lake**	**3.97**	**248**			Pn	10 15 26.7	+2.9
F20K					IAML		10 16 45.2	
	comp=N,22nm,0.8s							
B20K	**Meade River**	**4.00**	**292**	Pn	Pn		10 15 26.3	+1.9
COLA	**College**	**4.01**	**189**	Pn	Pn		10 15 26.5	+2.1
H29M	**Whitestone**	**4.02**	**127**			Pn	10 15 26.6	+2.0
H29M					IAML		10 16 38.6	
	comp=N,22nm,1.8s							
H21K	**Melozitna Rive**	**4.05**	**221**			Pn	10 15 26.7	+1.7
H21K					IAML		10 16 44.1	
	comp=E,19nm,1.0s							
IL31		**4.08**	**183**			Pn	10 15 26.9	+1.6
F30M	**Barrier River**	**4.11**	**102**			Pn	10 15 26.8	+0.9
F30M					IAML		10 16 20.8	
	comp=E,23nm,1.0s							
F30M					IAML		10 16 23.3	
	comp=N,21nm,1.8s							
I28M	**Miner Creek**	**4.21**	**141**			Pn	10 15 29.2	+2.0
I28M					IAML		10 16 49.9	
	comp=E,21nm,1.6s							
CCB	**Clear Creek Bu**	**4.24**	**189**	Pn	Pn		10 15 28.9	+1.4
G30M	**tAoh Zraii Nji**	**4.24**	**111**	Pn	Pn		10 15 29.9	+2.2
G30M					IAML		10 16 20.4	
	comp=N,16nm,0.8s							
G30M					IAML		10 16 42.3	
	comp=E,15nm,1.6s							
J25K	**Salcha River,**	**4.25**	**174**			Pn	10 15 30.3	+2.5
J25K					IAML		10 16 50.9	
	comp=E,14nm,1.1s							
EPYK	**Eagle Plains**	**4.42**	**119**			Pn	10 15 31.4	+1.3
WRH	**Wood River Hil**	**4.43**	**190**	Pn	Pn		10 15 31.7	+1.5

NNC 18 10:07:13.3±15.0, 36°.80N×69°.76E, h104km±278km, mb3.0, mpv3.5, 2C-3D, Error ellipse: s-maj=120.4km s-min=93.0km az=179.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.33**	**5**	P		Pn	10 08 45.4	+1.4
	1.4nm,0.2s,baz=184,slow=13,SNR=65							
KK31				⇓S		Sn	10 09 57.3	+2.5
	4.3nm,0.6s,baz=190,slow=28							
AAK	**Ala-Archa**	**6.88**	**31**	⇓P		Pn	10 08 50.6	-1.1
	0.7nm,0.3s							
AAK				⇓S		Sn	10 10 06.3	-2.2
	3.1nm,0.6s							
AB31	**Akbulak array**	**14.36**	**333**	⇑P		Pn	10 10 32.6	+1.1
	0.7nm,0.6s,baz=164,slow=11,SNR=15							
AKTO	**Aktyubinsk**	**16.04**	**332**	⇑P		Pn	10 10 52.1	-0.5
	0.6nm,0.8s							

AUST 18 10:11:40.6±1.0, 18°S±10°×12°0E±°, h10km, mb4.3/2, ML2.8/2, ML3.2/5, Error ellipse: s-maj=26.5km s-min=11.3km az=141.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AUBRM	**Broome Senior**	**2.13**	**77**	P		Pn	10 12 16.2	0.0

WRH				IAML		10 16 44.3
	comp=N,12nm,0.7s					
WRH				IAML		10 16 49.3
	comp=E,14nm,1.3s					
HDA	**Harding Lake**	**4.44 183**	Pn	Pn		10 15 31.9 +1.6
HDA				IAML		10 16 49.9
	comp=E,13nm,0.8s					
HDA				IAML		10 17 09.5
	comp=N,12nm,1.0s					
I29M	**Ogilvie Camp,**	**4.68 134**		Pn		10 15 35.4 +1.8
I29M				IAML		10 17 04.3
	comp=N,15nm,1.6s					
F19K	**Shaleruckik Mo**	**4.77 251**		Pn		10 15 37.0 +2.1
F19K				IAML		10 17 04.7
	comp=N,11nm,0.8s					
F19K				IAML		10 17 19.5
	comp=E,9.5nm,2.2s					
C19K	**Lookout Ridge**	**4.79 280**		Pn		10 15 37.3 +2.1
C19K				IAML		10 17 07.4
	comp=N,14nm,1.6s					
C19K				IAML		10 17 21.2
	comp=E,11nm,2.0s					
G19K	**Purcell Mounta**	**4.93 242**	Pn	Pn		10 15 38.7 +1.6
G31M	**Satah River**	**4.94 107**		Pn		10 15 39.0 +1.8
SCRK	**Sand Creek**	**4.96 168**		Pn		10 15 38.1 +0.6
SCRK	**Sand Creek**	**4.96 168**	IAML			10 17 05.0
	comp=E,11nm,1.5s					
SCRK				IAML		10 17 25.6
	comp=N,9.0nm,2.9s					
BPAW	**Bear Paw Mtn.**	**5.10 204**		Pn		10 15 41.7 +2.3
BPAW				IAML		10 17 13.5
	comp=E,12nm,2.4s					
BPAW				IAML		10 17 35.0
	comp=N,8.3nm,4.2s					
DOT	**Dot Lake**	**5.28 169**	Pn	Pn		10 15 43.7 +1.8
DOT				IAML		10 17 37.1
	comp=N,6.9nm,2.7s					
I30M	**Mount Dempster**	**5.31 128**		Pn		10 15 43.7 +1.2
I30M				IAML		10 16 50.0
	comp=E,8.3nm,2.6s					
I30M				IAML		10 17 22.1
	comp=N,8.8nm,1.9s					
C18K	**Utukok River**	**5.41 275**	Pn	Pn		10 15 45.3 +1.6
H31M	**Peel River**	**5.54 117**	Pn	Pn		10 15 46.3 +0.9
J20K	**Nowinta River**	**5.61 218**	Pn	Pn		10 15 48.6 +2.2
TRF	**Thorofare Moun**	**5.63 198**		Pn		10 15 48.5 +1.7
PAX	**Paxson**	**5.89 176**	Pn	Pn		10 15 52.2 +1.9
L26K	**Log Cabin Wild**	**5.95 167**		Pn		10 15 53.1 +2.0
MENT	**Mentasta**	**6.01 169**	Pn	Pn		10 15 53.6 +1.7
L27K	**Beaver Creek,**	**6.07 160**		Pn		10 15 54.1 +1.4
J19K	**Poorman**	**6.11 222**	Pn	Pn		10 15 56.1 +2.8
K29M	**Barlow Dome**	**6.12 140**		Pn		10 15 55.7 +2.1
L29M	**L29M**	**6.64 146**	Pn	Pn		10 16 00.0 -0.5

*NOU **18** 10:22:59.0,20˚.15S×175˚.56W,h221km,mb4.4/22, Tonga Islands*
*NEIC **18** 10:22:59.8±0.8,20˚.12S±0˚.08×175˚.6W±0˚.1,h231km±14km, mb4.3/14, Error ellipse: s-maj=19.9km s-min=4.9km az=56.0*
*IDC **18** 10:23:08.2±7.3,20˚.74S×176˚.09W,h288km±70km, mb3.5/4, mbtmp4.3/6, Error ellipse: s-maj=46.4km s-min=28.9km az=178.0*
ISC 18 10:22:58.1±0.6,20˚.33S±0˚.09×175˚.70W±0˚.06,h200km, n55,σ1s53/49,mb4.1/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.61**	**305**	P	**Pn**	**10 23 56.5**	**+1.4**
TAVE	**Taveuni**	**5.38**	**311**	P	**Pn**	**10 24 18.2**	**+0.8**
NIUE	**Niue**	**5.58**	**78**	Pn	**Pn**	**10 24 20.7**	**+0.7**
NIUE	**Niue**	**5.58**	**78**	P	**Pn**	**10 24 21.2**	**+1.2**
NIUE	**Niue**	**5.58**	**78**	S	**Sn**	**10 25 22.2**	**-2.4**
MSVF	**Nonsavu**	**6.45**	**293**		**Pn**	**10 24 32.8**	**+1.4**
MSVF	**Nonsavu**	**6.45**	**293**	P	**Pn**	**10 24 33.2**	**+1.8**
FUNA	**Funafuti**	**12.73**	**336**	Pn	**Pn**	**10 25 50.9**	**-1.5**
DVP	**Devils Point**	**15.46**	**277**	P	**P**	**10 26 27.6**	**+1.5**
PINNC	**Pines Island,**	**15.85**	**259**		**Pn**	**10 26 32.3**	**+1.5**
PINNC	**Pines Island,**	**15.85**	**259**	P	**Pn**	**10 26 33.2**	**+2.4**
QUENC	**Ouen Island, N**	**16.40**	**260**	P	**Pn**	**10 26 38.3**	**+1.0**
DZM	**Mont Dzumac**	**16.74**	**261**		**Pn**	**10 26 41.4**	**-0.2**
DZM	**Mont Dzumac**	**16.74**	**261**	P	**Pn**	**10 26 41.4**	**-0.2**
	36nm,0.7s,baz=79,slow=17,SNR=29						
DZM	**Mont Dzumac**	**16.74**	**261**	P	**Pn**	**10 26 42.1**	**+0.6**
ONTNC	**Ouen Toro**	**16.75**	**260**		**P**	**10 26 40.8**	**+0.5**
ONTNC				IAmb	IAmb	10 27 04.8	
	comp=Z,22nm,0.8s						
SANVU	**Saraoutou**	**16.98**	**284**	P	**P**	**10 26 42.5**	**-0.4**
URZ	**Urewera**	**18.92**	**198**	P	**P**	**10 27 02.8**	**-1.1**
	comp=Z,5.9nm,0.4s,baz=277,slow=2.8,SNR=14						
URZ	**Urewera**	**18.92**	**198**	P	**P**	**10 27 03.3**	**-0.6**
TOZ	**Tahuroa Road**	**18.95**	**202**	P	**P**	**10 27 05.2**	**+1.0**
TOZ				IAmb	IAmb	10 27 18.9	
	comp=Z,7.6nm,1.1s						
BKZ	**Black Stump Fm**	**19.94**	**198**	P	**P**	**10 27 15.5**	**+0.6**
BFZ	**Birch Farm**	**21.42**	**197**	P	**P**	**10 27 32.5**	**+2.1**
SNZO	**South Karori**	**22.45**	**199**	P	**P**	**10 27 42.0**	**+1.6**
QRZ	**Quartz Range**	**22.76**	**204**	P	**P**	**10 27 44.5**	**+1.2**
KHZ	**Kahutara**	**23.82**	**200**	P	**P**	**10 27 54.0**	**+1.2**
RPZ	**Rata Peaks**	**25.81**	**202**	P	**P**	**10 28 12.3**	**+1.4**
JCZ	**Jackson Bay**	**26.98**	**205**	P	**P**	**10 28 22.1**	**+0.7**
ODZ	**Otahua Downs**	**27.12**	**202**	P	**P**	**10 28 25.0**	**+2.5**
EIDS	**Eidsvold**	**30.97**	**254**	P	**P**	**10 28 55.9**	**-0.9**
EIDS				IAmb	IAmb	10 28 56.3	
	comp=Z,5.0nm,0.8s						
CTAO	**Charters Tower**	**35.65**	**264**	P	**P**	**10 29 36.1**	**-1.3**
CTAO				IAmb	IAmb	10 29 37.1	
	comp=Z,10nm,0.6s						
CTAO	**Charters Tower**	**35.65**	**264**	P	**P**	**10 29 36.4**	**-1.0**
CMSA	**Cobar Meteorol**	**36.30**	**244**	P	**P**	**10 29 41.2**	**-1.5**
COEN	**Coen**	**39.73**	**272**	P	**P**	**10 30 09.8**	**-1.7**
COEN				IAmb	IAmb	10 30 11.3	
	comp=Z,7.2nm,0.7s						
COEN	**Coen**	**39.73**	**272**	P	**P**	**10 30 10.2**	**-1.3**
STKA	**Stephens Creek**	**39.81**	**244**	P	**P**	**10 30 09.8**	**-2.2**
	comp=Z,3.0nm,0.7s,baz=95,slow=13,SNR=3.1						
	comp=Z,3.0nm,0.7s						
WR8	**Warramunga Arr**	**46.61**	**261**	P	**P**	**10 31 04.3**	**-2.3**
WR8				IAmb	IAmb	10 31 05.2	
	comp=Z,3.5nm,0.8s						
AS31	**Alice Springs**	**46.66**	**256**	P	**P**	**10 31 05.5**	**-1.4**
ASAR	**Alice Springs**	**46.66**	**256**	P	**P**	**10 31 05.5**	**-1.4**
ASAR	**Alice Springs**	**46.66**	**256**	P	**P**	**10 31 05.2**	**-1.7**
	comp=Z,4.7nm,0.6s,baz=97,slow=8.2,SNR=93						
ASAR				PcP	**PcP**	**10 32 37.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=103,slow=3.9,SNR=5.0						
	comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**46.76**	**261**	P	**P**	**10 31 05.8**	**-2.0**
WRA	**Warramunga Arr**	**46.76**	**261**	P	**P**	**10 31 05.5**	**-2.3**
	comp=Z,2.5nm,0.4s,baz=97,slow=8.8,SNR=54						
	comp=Z,2.5nm,0.4s						
KNRA	**Kununurra**	**52.82**	**265**	P	**P**	**10 31 51.9**	**-1.5**
KNRA				IAmb	IAmb	10 31 53.6	
	comp=Z,11nm,0.7s						
CASY	**Casey**	**65.04**	**205**	P	**P**	**10 33 17.4**	**+0.8**
CASY				IAmb	IAmb	10 33 39.4	
	comp=Z,3.2nm,1.0s						
QSPA	**South Pole Qui**	**69.74**	**180**	P	**P**	**10 33 46.5**	**+0.2**
NVAR	**Mina Array Bea**	**79.43**	**42**	P	**P**	**10 34 46.2**	**+3.7**
	comp=Z,0.1nm,0.4s,baz=232,slow=3.3,SNR=1.7						
	comp=Z,0.1nm,0.4s						
AKASG	**Malin Array Be**	**143.88**	**333**	PKP	PKPab	10 42 06.6	-0.4
	comp=Z,0.4nm,0.3s,baz=42,slow=4.3,SNR=5.1						
AKBB	**Malin Array Si**	**143.88**	**333**	PKP	PKPpre	10 41 54.6	
AK18	**Malin Array Si**	**143.93**	**333**	PKP	PKPpre	10 41 54.8	
AK16	**Malin Array Si**	**143.95**	**333**	PKP	PKPpre	10 41 53.7	
RNPP8	**Varash**	**144.74**	**336**	PKP	PKPpre	10 41 56.3	
RNPP5	**Staryi Chortor**	**144.81**	**336**	PKP	PKPpre	10 41 56.5	
KMPD	**K-Podol'skiy**	**146.67**	**333**	PKP	PKPpre	10 41 59.3	
BRTR	**Keskin Array B**	**148.30**	**314**	PKPbc	**PKPbc**	**10 42 20.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=138,slow=3.2,SNR=2.7						
CLL	**Collm**	**148.34**	**350**	*i* PKPbc	**PKiKP**	**10 42 21.4**	**-0.7**
GERES	**GERESS Array B**	**150.56**	**347**	PKPbc	**PKiKP**	**10 42 27.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=35,slow=4.9,SNR=4.4						

*TRN **18** 10:36:55.8,9˚.29N×62˚.53W,h167km,MD3.7, Venezuela.*
*FUNV **18** 10:37:00.6,9˚.66N×62˚.87W,h16km,MW3.4*
ISC 18 10:36:55.9±1.7,9˚.3N±0˚.1×62˚.69W±0˚.07,h31km,n12, σ2s14/16,Near coast of Venezuela

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

DMDM	**Guralp CMG5TDE**	**1.81**	**38**	*e*P	**Pb**	**10 37 28.5**	**0.0**
TRN	**Trinidad (W)**	**1.87**	**42**	*e*P	**Pb**	**10 37 29.4**	**0.0**
PCRV	**Puerto La Cruz**	**2.12**	**295**	*e*P	**Pn**	**10 37 30.3**	**+1.0**
PCRV				*e*S	**Sn**	**10 37 52.8**	**-2.0**
PCRV	**Puerto La Cruz**	**2.12**	**295**	*e*P	**Pb**	**10 37 35.0**	**+1.1**
GRGR	**Grenville**	**3.03**	**20**	*e*P	**Pn**	**10 37 42.6**	**+0.9**
GRSS	**Sisters**	**3.20**	**19**	*e*P	**Pn**	**10 37 45.8**	**+1.7**
GCMP	**Grenada, Carri**	**3.44**	**21**	*e*P	**Pn**	**10 37 48.2**	**+0.9**
CACV	**CAICARA DEL OR**	**4.17**	**246**	*e*P	**Pn**	**10 37 57.4**	**-0.1**
CACV				*e*S	Sn	10 38 38.1	-7.0
TACV	**Tcata**	**4.37**	**282**	*e*P	**Pn**	**10 38 01.7**	**+1.5**
TACV				*e*S	**Sn**	**10 38 46.9**	**-3.2**
BENV	**Beln**	**4.89**	**279**	*e*P	**Pn**	**10 38 09.8**	**+2.3**
BENV				*e*S	**Sn**	**10 39 00.1**	**-3.0**
BAUV	**El Baul**	**5.30**	**267**	*e*P	**Pn**	**10 38 16.2**	**+3.2**
BAUV				*e*S	**Sn**	**10 39 10.3**	**-2.7**
BAUV	**El Baul**	**5.30**	**267**	*e*P	**Pn**	**10 38 15.1**	**+2.1**

*IDC **18** 11:14:57.8±1.2,6˚.18S×152˚.01E,h0km,mb3.9/8, mbtmp3.9/9,ML2.0/1,MS2.9/3, Error ellipse: s-maj=45.3km s-min=21.4km az=115.0*
*NEIC **18** 11:15:00.9±1.0,6˚.1S±0˚.1×151˚.8E±0˚.2,h10km±1km, mb4.4/18, Error ellipse: s-maj=30.0km s-min=10.9km az=118.0*
ISC 18 11:15:04.6±0.8,6˚.1S±0˚.1×151˚.7E±0˚.1,h41km,n35, σ0s98/35,mb4.1/17,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.94**	**13**		**Pn**	**11 15 33.9**	**-1.2**
PMG	**Port Moresby**	**5.59**	**234**	Pn	**Pn**	**11 16 25.0**	**-0.3**
PMG				Sn	**Sn**	**11 17 25.4**	**-2.9**
PMG	**Port Moresby**	**5.59**	**234**	Pn	**Pn**	**11 16 26.6**	**+1.3**
	2.9nm,0.3s,baz=46,slow=9.2,SNR=6.9						
PMG				Sn	**Sn**	**11 17 29.3**	**+1.0**
	6.9nm,0.3s,baz=88,slow=4.2,SNR=6.5						
PMG				LR	LR	11 18 24.3	
	comp=Z,64nm,18.7s,baz=168,slow=36						
	7.1nm,0.3s						
GUMO	**Guam**	**20.69**	**341**	LR	LR	11 27 48.3	
	comp=Z,13nm,20.2s,baz=182,slow=37						
DZM	**Mont Dzumac**	**21.34**	**140**	LR	LR	11 26 27.5	
	comp=Z,109nm,19.1s,baz=353,slow=33						
MTN	**Manton Dam**	**21.37**	**250**	P	**P**	**11 19 48.2**	**-0.6**
MTN				IAmb	IAmb	11 20 13.4	
	comp=Z,7.5nm,0.9s						
WB0	**Warramunga Arr**	**21.64**	**229**	P	**P**	**11 19 51.5**	**-0.2**
WR8	**Warramunga Arr**	**21.68**	**229**	P	**P**	**11 19 50.9**	**-1.2**
WR8				IAmb	IAmb	11 20 05.8	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**21.79**	**229**	P	**P**	**11 19 52.8**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=55,slow=9.9,SNR=15						
	comp=Z,1.9nm,0.7s						
INKA	**Innaminka**	**23.93**	**205**	P	**P**	**11 20 14.7**	**-0.2**
KNRA	**Kununurra**	**24.44**	**245**	P	**P**	**11 20 19.3**	**-0.5**
KNRA				IAmb	IAmb	11 20 27.0	
	comp=Z,8.7nm,0.9s						
AS31	**Alice Springs**	**24.48**	**223**	P	**P**	**11 20 19.9**	**-0.2**
ASAR	**Alice Springs**	**24.48**	**223**	P	**P**	**11 20 19.8**	**-0.3**
ASAR	**Alice Springs**	**24.48**	**223**	P	**P**	**11 20 19.9**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=56,slow=8.2,SNR=29						
	comp=Z,3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.10**	**243**	P	**P**	**11 20 52.2**	**-0.6**
MBWA	**Marble Bar**	**34.40**	**241**	P	**P**	**11 21 47.9**	**-0.3**
MJB9	**Matsu-Tunnel**	**44.26**	**344**	P	**P**	**11 23 09.8**	**-0.4**
MJB9				IAmb	IAmb	11 23 25.1	
	comp=Z,1.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**59.19**	**4**	P	**P**	**11 25 02.1**	**+0.7**
SONM	**Songino Array**	**66.84**	**329**	P	**P**	**11 25 53.4**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=101,slow=6.0,SNR=1.5						
	comp=Z,0.3nm,0.3s						
SBA	**Scott Base**	**72.16**	**177**	P	**P**	**11 26 24.9**	**+0.3**
O15K	**Ungalikthiuk R**	**75.56**	**23**	P	**P**	**11 26 45.6**	**+0.8**
O15K				IAmb	IAmb	11 26 58.3	
	comp=Z,3.9nm,0.8s						
M14K	**Bethel**	**75.79**	**21**		**P**	**11 26 46.6**	**+0.6**
M14K				IAmb	IAmb	11 26 58.2	
	comp=Z,5.5nm,0.8s						
L14K	**Kuka Creek**	**75.93**	**21**	P	**P**	**11 26 48.0**	**+1.1**
M16K	**Timber Creek**	**77.08**	**22**	P	**P**	**11 26 54.8**	**+1.4**
M16K				IAmb	IAmb	11 26 56.5	
	comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**	**11 27 14.6**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=108,slow=4.7,SNR=1.9						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**81.62**	**327**	P	**P**	**11 27 18.5**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=104,slow=4.7,SNR=4.9						
	comp=Z,0.8nm,0.4s						
E19K	**Redstone River**	**81.73**	**18**	P	**P**	**11 27 19.4**	**+0.8**
E19K				IAmb	IAmb	11 27 21.2	
	comp=Z,4.1nm,0.9s						
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**11 27 28.6**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=252,slow=5.4,SNR=21						
	comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**11 27 29.4**	**-0.7**
QSPA				IAmb	IAmb	11 27 41.1	
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**83.88**	**180**	P	**P**	**11 27 29.1**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=314,slow=0.8,SNR=6.2						
	comp=Z,1.4nm,1.0s						
KURBB	**Kurchatov Arra**	**84.14**	**322**	P	**P**	**11 27 31.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=115,slow=4.3,SNR=4.7						
	comp=Z,0.6nm,0.8s						
J25K	**Salcha River,**	**84.25**	**23**	P	**P**	**11 27 33.0**	**+1.2**
DOT	**Dot Lake**	**84.33**	**24**	P	**P**	**11 27 33.5**	**+1.4**
DOT				IAmb	IAmb	11 27 34.0	
	comp=Z,2.6nm,0.9s						
MD01	**Midelt array s**	**145.51**	**324**	PKPdf	**PKPdf**	**11 34 38.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**149.64**	**286**	PKPbc	**PKPbc**	**11 34 50.2**	**-0.7**
	comp=Z,2μm,0.5s,baz=70,slow=3.8,SNR=3.7						

*IDC **18** 11:38:39.0±0.7,20˚.87S×151˚.95E,h0km,mb4.2/12, mbtmp4.2/17,ML3.8/4,MS3.6/15, Error ellipse: s-maj=25.0km s-min=15.5km az=75.0*
*NEIC **18** 11:38:41.5±1.5,20˚.85S±0˚.05×151˚.93E±0˚.09,h10km±1km, mb4.7/22, Error ellipse: s-maj=14.2km s-min=7.6km az=251.0*
ISC 18 11:38:41.3±0.4,20˚.95S±0˚.06×151˚.94E±0˚.06,h10km,n80, σ1s47/71,mb4.7/29,MS3.4/11,East of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**4.47**	**190**	Pn	**Pn**	**11 39 49.9**	**+0.7**
EIDS	**Eidsvold**	**4.47**	**190**	P	**Pn**	**11 39 49.9**	**+0.7**
EIDS	**Eidsvold**	**4.47**	**190**	S	**Sn**	**11 40 40.9**	**-0.4**
CTAO	**Charters Tower**	**5.40**	**278**		**Pn**	**11 40 00.8**	**-1.1**
MTSU	**Mount Surprise**	**7.71**	**290**	P	**Pn**	**11 40 33.2**	**-0.6**
	comp=Z,0.5nmcomp=Z,733μmcomp=Z,20nm,0.6s						
QLP	**Quilpie**	**9.01**	**230**	P	**Pn**	**11 40 52.6**	**+1.1**
	comp=Z,56nm,1.2s,comp=Z,0.2nm						
ARMA	**Armidale**	**9.44**	**182**	Pn	**Pn**	**11 40 59.0**	**+1.5**
COEN	**Coen**	**10.87**	**308**		**Pn**	**11 41 15.9**	**-1.2**
COEN	**Coen**	**10.87**	**308**	P	**Pn**	**11 41 16.8**	**-0.4**
	comp=Z,28nm,0.7s,comp=Z,0.1nm						
QIS	**Mount Isa**	**11.55**	**270**	P	**Pn**	**11 41 26.5**	**+0.1**
	comp=Z,8.7nm,1.0s						
CMSA	**Cobar Meteorol**	**11.94**	**207**	P	**Pn**	**11 41 31.8**	**+0.1**
	comp=Z,17nm,1.9s						
LHI	**Lord Howe Isla**	**12.31**	**150**	Pn	**Pn**	**11 41 37.0**	**+0.3**
LHI	**Lord Howe Isla**	**12.31**	**150**	P	**Pn**	**11 41 37.3**	**+0.6**
	comp=Z,68nm,1.6s						
PMG	**Port Moresby**	**12.37**	**337**	Pn	**Pn**	**11 41 36.1**	**-1.4**
PMG	**Port Moresby**	**12.37**	**337**	Pn	**Pn**	**11 41 35.9**	**-1.6**
	comp=Z,14nm,0.9s,baz=220,slow=9.8,SNR=3.7						
PMG				LR	LR	11 45 56.1	
	comp=Z,259nm,19.2s,baz=196,slow=36						
DZM	**Mont Dzumac**	**13.55**	**97**	Pn	**Pn**	**11 41 52.0**	**-1.8**
DZM	**Mont Dzumac**	**13.55**	**97**	Pn	**Pn**	**11 41 52.7**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=350,slow=4.1,SNR=16						
	comp=Z,4.8nm,0.7s						
HNR	**Honiara**	**13.81**	**35**	LR	LR	11 46 24.1	
	comp=Z,56nm,19.6s,baz=183,slow=34						
STKA	**Stephens Creek**	**14.29**	**218**	Pn	**Pn**	**11 42 03.0**	**-0.7**
STKA	**Stephens Creek**	**14.29**	**218**	Pn	**Pn**	**11 42 02.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=19,slow=14,SNR=4.9						
STKA				LR	LR	11 47 35.8	
	comp=Z,162nm,20.4s,baz=31,slow=37						
	comp=Z,5.4nm,0.8s						
SANVU	**Saraoutou**	**15.49**	**72**	P	**P**	**11 42 23.8**	**-0.7**
SANVU				IAmb	IAmb	11 42 29.1	
	comp=Z,36nm,1.0s						
WR8	**Warramunga Arr**	**16.38**	**270**		**Pn**	**11 42 29.7**	**-1.7**
WRA	**Warramunga Arr**	**16.53**	**270**		**Pn**	**11 42 30.9**	**-2.5**
WRA	**Warramunga Arr**	**16.53**	**270**	Pn	**Pn**	**11 42 31.8**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=90,slow=12,SNR=25						
WRA				LR	LR	11 48 55.0	
	comp=Z,429nm,21.9s,baz=91,slow=37						
	comp=Z,5.6nm,0.9s						
AS31	**Alice Springs**	**16.91**	**257**		**Pn**	**11 42 38.0**	**-0.2**
AS31	**Alice Springs**	**16.91**	**257**	P	**Pn**	**11 42 38.3**	**+0.1**
	comp=Z,3.9nm,0.7s						
ASAR	**Alice Springs**	**16.91**	**257**	Pn	**Pn**	**11 42 37.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=79,slow=12,SNR=18						
ASAR				LR	LR	11 49 29.6	
	comp=Z,538nm,19.0s,baz=84,slow=38						
	comp=Z,3.0nm,0.7s						
KDU	**Kakadu**	**20.35**	**291**	P	Pn	11 43 19.8	-0.3
	comp=Z,109nm,0.7s						
JAY	**Jayapura**	**21.34**	**328**	P	**P**	**11 43 27.3**	**-1.5**
	comp=Z,7.8nm,0.9s,baz=349,slow=13,SNR=4.4						
JAY				LR	LR	11 52 38.4	
	comp=Z,87nm,18.5s,baz=312,slow=39						
	comp=Z,7.8nm,0.9s						
MTN	**Manton Dam**	**21.46**	**289**	P	**P**	**11 43 31.3**	**+1.3**
GENI	**Genyem**	**21.55**	**326**	P	**P**	**11 43 33.6**	**+2.6**
	comp=Z,98nm,1.2s						
KNRA	**Kununurra**	**22.61**	**280**		**P**	**11 43 41.1**	**-1.2**
KNRA				IAmb	IAmb	11 43 51.0	
	comp=Z,20nm,0.7s						
SMPI	**Sarmi**	**22.84**	**324**	P	**P**	**11 43 49.2**	**+4.4**
	comp=Z,53nm,1.2s						
MSVF	**Nonsavu**	**24.83**	**87**	P	**P**	**11 44 05.4**	**+1.3**
MSVF				IAmb	IAmb	11 44 07.4	
	comp=Z,12nm,1.0s						
FITZ	**Fitzroy Crossi**	**24.94**	**272**	P	**P**	**11 44 04.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.94**	**272**	P	**P**	**11 44 04.7**	**-0.3**
	comp=Z,5.7nm,0.8s,baz=128,slow=8.4,SNR=7.9						
FITZ				LR	LR	11 54 15.3	
	comp=Z,276nm,21.2s,baz=104,slow=38						
	comp=Z,5.7nm,0.8s						
BAKI	**Biak**	**24.99**	**320**	P	**P**	**11 44 09.4**	**+4.0**
	comp=Z,52nm,0.8s						
URZ	**Urewera**	**27.73**	**134**	LR	LR	11 55 38.6	
	comp=Z,70nm,18.1s,baz=293,slow=37						
SWI	**Sorong**	**28.39**	**312**	P	**P**	**11 44 38.9**	**+2.8**
	comp=Z,71nm,1.1s						
BATI	**Baumata**	**29.20**	**287**	LR	LR	11 58 03.0	
	comp=Z,231nm,21.4s,baz=152,slow=40						
MORW	**Morawa**	**33.42**	**249**	P	**P**	**11 45 19.5**	**-0.9**
MORW				IAmb	IAmb	11 45 49.0	
	comp=Z,6.2nm,0.9s						
KAPI	**Kappang**	**35.02**	**292**	LR	LR	12 01 07.5	
	comp=Z,65nm,18.0s,baz=77,slow=38						
PLAI	**Plampang**	**35.06**	**285**	P	**P**	**11 45 37.5**	**+2.8**
TOLI2	**Tolitoli**	**37.55**	**302**	P	**P**	**11 45 56.5**	**+0.5**
TOLI2				IAmb	IAmb	11 46 01.2	
	comp=Z,5.5nm,0.7s						
DAV	**Davao City (W)**	**38.02**	**314**	LR	LR	12 03 57.5	
	comp=Z,40nm,18.1s,baz=150,slow=40						
MYLDM	**Lahad Datu**	**41.84**	**305**	P	**P**	**11 46 31.2**	**-0.6**
MYLDM				IAmb	IAmb	11 46 50.4	
	comp=Z,17nm,1.1s						
RAR	**Rarotonga**	**44.91**	**99**	P	**P**	**11 46 57.9**	**+1.4**
SBUM	**Sibu**	**45.31**	**296**		**P**	**11 46 59.1**	**-0.7**
SBUM				IAmb	IAmb	11 47 05.0	
	comp=Z,8.9nm,0.9s						
KSM	**Kuching**	**46.42**	**294**		**P**	**11 47 07.4**	**-1.2**
IPM	**Ipoh**	**55.95**	**291**	P	**P**	**11 48 20.3**	**+0.1**
KULM	**Kulim**	**56.66**	**292**	P	**P**	**11 48 24.5**	**-0.8**
KULM				IAmb	IAmb	11 48 29.0	
	comp=Z,10nm,0.8s						
VNDA	**Vanda**	**56.83**	**177**	P	**P**	**11 48 24.9**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=31,slow=2.0,SNR=18						
	comp=Z,1.5nm,0.9s						
PSI	**Prapat**	**57.02**	**288**	LR	LR	12 18 21.7	
	comp=Z,99nm,18.8s,baz=160,slow=42						
SBA	**Scott Base**	**57.40**	**176**	P	**P**	**11 48 30.3**	**+0.8**
JNU	**Nakatsue**	**57.41**	**339**	P	**P**	**11 48 28.5**	**-1.6**
JNU				IAmb	IAmb	11 48 33.9	
	comp=Z,13nm,1.1s						
JNU	**Nakatsue**	**57.41**	**339**	P	**P**	**11 48 29.1**	**-1.0**
	comp=Z

ISC 18 11:43:54.0±1.8, 39°3'N±0°1'×73°23'E±0°1', h10km, n5, σ1°36'/9, 5C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.65**	**16**	⇑*eP*	**Pb**	**11 44 24.3**	**-0.3**
SALK				⇑*eS*	**Sb**	**11 44 46.9**	**+1.4**
GAR	**Garm**	**2.28**	**263**	⇓*eP*	**Pn**	**11 44 32.2**	**+0.3**
GAR				⇓*eS*	**Sn**	**11 45 00.9**	**+0.8**
UCH	**Uchtor**	**3.09**	**18**	⇓*eP*	**Pn**	**11 44 44.2**	**+1.0**
UCH				⇓*eS*	**Sn**	**11 45 21.4**	**+1.0**
KK31	**Karatay Array**	**4.32**	**333**	⇓Pn	**Pn**	**11 45 00.5**	**+0.7**
	0.5nm,0.3s,baz=141,slow=12,SNR=6.0						
KK31				⇑Sn	**Sn**	**11 45 48.1**	**-2.1**
	0.8nm,0.3s,baz=149,slow=25,SNR=4.2						
PDGK	**Podgornoye**	**6.20**	**47**	⇑P	**Pg**	**11 45 51.4**	**-1.3**
	0.8nm,0.4s						
PDGK				⇑S	Sn	11 46 15.2	-22
	2.8nm,0.5s						

NEIC 18 11:50:45.0±1.0, 14°2'N±0°1'×145°6'E±0°1', h92km±9km, mb4.4/18, Error ellipse: s-maj=20.3km s-min=13.5km az=126.0

IDC 18 11:50:44.6±0.7, 14°16'N×145°42'E, h97km±5km, mb3.7/12, mbtmp4.0/12, Error ellipse: s-maj=21.4km s-min=11.7km az=108.0

ISC 18 11:50:45.1±0.6, 14°20'N±0°08'×145°5'E±0°1', h100km, n43, σ0°79/41, mb4.1/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.84**	**224**	Pn	**Pn**	**11 51 03.7**	**-0.2**
GUMO	**Guam**	**0.84**	**224**	LR	LR	11 50 55.2	
	comp=Z,25nm,19.1s,baz=106,slow=14						
GUMO				P	**Pn**	**11 51 03.8**	**-0.1**
	4μm,0.3s,baz=86,slow=1.5,SNR=1108						
GUMO				S	**Sn**	**11 51 16.8**	**-1.1**
	4μm,0.3s,baz=286,slow=22,SNR=20						
JHJ2	**Mitsune**	**19.52**	**346**	P	**P**	**11 55 04.7**	**+0.2**
JOW	**Kunigami**	**20.40**	**311**	P	**P**	**11 55 13.5**	**-0.6**
JOW				IAmb	IAmb	11 55 31.5	
	comp=Z,12nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**20.80**	**75**	T	T	12 16 53.4	
	baz=263,slow=74,SNR=165						
H11S1	**WAKE ISLAND Hy**	**20.82**	**75**	T	T	12 16 54.4	
	baz=263,slow=74,SNR=42						
H11S2	**WAKE ISLAND Hy**	**20.82**	**75**	T	T	12 16 54.7	
	baz=263,slow=74,SNR=40						
H11N1	**WAKE ISLAND Hy**	**21.21**	**72**	T	T	12 17 16.9	
	baz=262,SNR=16						
H11N2	**WAKE ISLAND Hy**	**21.21**	**72**	T	T	12 17 18.6	
	baz=262,slow=74,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**21.22**	**72**	T	T	12 17 18.6	
	baz=262,slow=74,SNR=12						
FAKI	**Fak Fak**	**21.47**	**219**	P	**P**	**11 55 26.7**	**+1.0**
FAKI				IAmb	IAmb	11 55 30.4	
	comp=Z,14nm,0.7s						
JYT	**Yasato**	**22.44**	**349**	P	**P**	**11 55 35.3**	**-0.4**
JNU	**Nakatsue**	**23.05**	**327**	P	**P**	**11 55 40.3**	**-1.7**
JNU				IAmb	IAmb	11 56 08.3	
	comp=Z,7.0nm,1.1s						
KSRS	**Korea Array**	**27.93**	**329**	P	**P**	**11 56 25.9**	**0.0**
	comp=Z,0.6nm,0.8s,baz=145,slow=9.2,SNR=4.2						
	comp=Z,0.6nm,0.8s						
WR8	**Warramunga Arr**	**35.61**	**198**	P	**P**	**11 57 33.0**	**-0.4**
WRA	**Warramunga Arr**	**35.65**	**198**	P	**P**	**11 57 32.4**	**-1.3**
WRA	**Warramunga Arr**	**35.65**	**198**	P	**P**	**11 57 33.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=22,slow=9.6,SNR=9.1						
	comp=Z,0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**37.58**	**212**	P	**P**	**11 57 50.7**	**+0.6**
ASAR	**Alice Springs**	**39.29**	**197**	P	**P**	**11 58 04.8**	**+0.4**
ASAR	**Alice Springs**	**39.29**	**197**	pP	pP	11 58 27.4	+0.5
	comp=Z,0.3nm,0.7s,baz=18,slow=12,SNR=4.5						
ARMA	**Armidale**	**44.75**	**172**	P	**P**	**11 58 49.6**	**+0.8**
ARMA				IAmb	IAmb	11 58 52.8	
	comp=Z,7.2nm,1.1s						
STKA	**Stephens Creek**	**45.96**	**185**	P	**P**	**11 58 58.2**	**0.0**
	comp=Z,2.8nm,0.7s,baz=348,slow=15,SNR=2.8						
	comp=Z,2.8nm,0.7s						
SONM	**Songino Array**	**46.58**	**324**	P	**P**	**11 59 03.5**	**+0.5**
SONM	**Songino Array**	**46.58**	**324**	P	**P**	**11 59 03.7**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=153,slow=10.0,SNR=4.7						
	comp=Z,0.5nm,0.4s						
AKUT	**Akutan**	**55.02**	**33**	P	**P**	**12 00 06.0**	**-0.1**
SDPT	**Sand Point**	**58.32**	**33**	P	**P**	**12 00 28.0**	**-1.5**
CNBA	**Chernabura Isl**	**58.59**	**34**	P	**P**	**12 00 30.5**	**-0.9**
O15K	**Ungalikthiuk R**	**60.17**	**29**	P	**P**	**12 00 41.7**	**-0.4**
O15K				IAmb	IAmb	12 00 43.5	
	comp=Z,8.5nm,0.9s						
N15K	**Kwethluk River**	**60.46**	**28**	P	**P**	**12 00 44.8**	**+0.6**
N15K				IAmb	IAmb	12 00 45.7	
	comp=Z,7.9nm,1.0s						
F15K	**North Star Dit**	**61.29**	**21**	P	**P**	**12 00 49.3**	**-0.4**
F15K				IAmb	IAmb	12 01 08.6	
	comp=Z,6.2nm,1.1s						
MKAR	**Makanchi Array**	**61.46**	**316**	P	**P**	**12 00 51.5**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=90,slow=8.8,SNR=10						
MKAR				pP	**pP**	**12 01 15.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=95,slow=12,SNR=4.3						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**61.47**	**324**	P	**P**	**12 00 51.4**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=96,slow=10,SNR=1.9						
ZALV				pP	**pP**	**12 01 16.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=116,slow=9.8,SNR=1.8						
	comp=Z,0.5nm,0.4s						
CNPM	**China Poot**	**64.42**	**30**	P	**P**	**12 01 10.4**	**-0.1**
CNPM				IAmb	IAmb	12 01 20.6	
	comp=Z,16nm,1.1s						
KURBB	**Kurchatov Arra**	**64.54**	**320**	P	**P**	**12 01 11.1**	**-0.4**
	comp=Z,2.2nm,0.2s,baz=100,slow=6.7,SNR=6.2						
KURBB				pP	**pP**	**12 01 36.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=100,slow=6.6,SNR=2.7						
	comp=Z,2.2nm,0.2s						
IL31		**67.77**	**25**	P	**P**	**12 01 30.4**	**-1.4**
IL31				IAmb	IAmb	12 01 30.9	
	comp=Z,2.5nm,1.1s						
ILAR	**Eielson Array**	**67.77**	**25**	P	**P**	**12 01 30.6**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=250,slow=5.8,SNR=24						
	comp=Z,1.0nm,0.4s						
DOT	**Dot Lake**	**68.73**	**27**	P	**P**	**12 01 38.0**	**0.0**
DOT				IAmb	IAmb	12 01 38.6	
	comp=Z,3.1nm,0.9s						
KKAR	**Karatay Array**	**69.49**	**311**	P	**P**	**12 01 43.9**	**+0.9**
BVAR	**Borovoye Array**	**69.81**	**322**	P	**P**	**12 01 44.2**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=98,slow=8.9,SNR=5.3						
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**76.48**	**318**	P	**P**	**12 02 24.6**	**+0.6**
NVAR	**Mina Array Bea**	**86.09**	**51**	P	**P**	**12 03 16.6**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=273,slow=5.4,SNR=11						
NVAR				pP	**pP**	**12 03 40.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=284,slow=5.3,SNR=3.7						
	comp=Z,0.7nm,0.5s						
FINES	**FINESS Array B**	**90.86**	**335**	P	**P**	**12 03 35.4**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=83,slow=4.4,SNR=10						
	comp=Z,1.9nm,0.8s						
PDAR	**Pinedale Array**	**91.13**	**45**	P	**P**	**12 03 39.6**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=240,slow=3.4,SNR=4.8						
	comp=Z,0.2nm,0.6s						

IDC 18 11:55:23.1±1.8, 54°.90'N×164°.79'E, h0km, mb3.6/5, mbtmp3.5/6, ML2.5/1, MS2.1/2, Error ellipse: s-maj=58.5km s-min=21.1km az=167.0

KRSC 18 11:55:24.7±0.9, 54°.84'N×164°.67'E, h40km±20km, Ml3.7

ISC 18 11:55:27.6±0.9, 54°91'N±0°06'×164°78'E±0°04, h34km, n42, σ1°12/45, mb3.5/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.75**	**66**	*eP*	**Pn**	**11 55 40.4**	**-1.3**
BKI				*eS*	**Sn**	**11 55 51.3**	**-0.5**
KBTR	**Krutoberegovo**	**1.71**	**320**	*eP*	**Pn**	**11 55 52.9**	**-2.1**
KBG	**Krutoberegovo**	**1.79**	**320**	*eP*	**Pn**	**11 55 56.2**	**+0.2**
MKZ	**Mys Kozlova**	**1.80**	**260**	*eP*	**Pn**	**11 55 54.7**	**-1.5**
MKZ				*eS*	**Sn**	**11 56 14.9**	**-2.9**
SMKR	**Semkarok**	**2.51**	**313**	*eP*	**Pn**	**11 56 05.8**	**-0.3**
ZLN	**Zelenaya**	**2.52**	**298**	*eP*	**Pn**	**11 56 05.5**	**-0.7**
TUMD	**Tumrok D**	**2.54**	**279**	*eS*	**Sn**	**11 56 35.9**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**2.55**	**296**	*eP*	**Pn**	**11 56 06.4**	**-0.1**
BZMR	**Bezymyannaya**	**2.65**	**295**	*eP*	**Pn**	**11 56 07.7**	**-0.3**
BZWR	**Bezymyannyi-We**	**2.66**	**295**	*eP*	**Pn**	**11 56 07.5**	**-0.6**
KMNR	**Kamenistaya**	**2.73**	**290**	*eP*	**Pn**	**11 56 09.3**	**+0.2**
KLY	**Klyuchi**	**2.73**	**303**	*eP*	**Pn**	**11 56 07.4**	**-1.5**
KLY				*eS*	**Sn**	**11 56 38.4**	**-2.3**
KIRR	**Kirishev**	**2.74**	**294**	*eP*	**Pn**	**11 56 09.5**	**+0.4**
KPT	**Kopyto**	**2.81**	**294**	*eP*	**Pn**	**11 56 10.0**	**-0.1**
KOZ	**Kozyrevsk**	**3.02**	**294**	*eP*	**Pn**	**11 56 13.7**	**+0.7**
KOZ				*eS*	**Sn**	**11 56 48.4**	**+0.4**
SRDR	**Sredinnyy**	**3.20**	**298**	*eP*	**Pn**	**11 56 16.7**	**+1.3**
KII	**Karymskiy**	**3.23**	**257**	*eP*	**Pn**	**11 56 16.6**	**+0.7**
SPN	**Mys Shipunski**	**3.34**	**239**	*eP*	**Pn**	**11 56 16.5**	**-0.9**
SPN				*eS*	**Sn**	**11 56 52.6**	**-3.1**
ESO	**Esso**	**3.61**	**289**	*eP*	**Pn**	**11 56 20.9**	**-0.1**
SDLR	**Sedlovina**	**3.83**	**247**	*eP*	**Pn**	**11 56 24.5**	**+0.3**
SMAR	**Somma**	**3.89**	**247**	*eP*	**Pn**	**11 56 23.4**	**-1.7**
KRER	**Koryakskii**	**3.90**	**248**	*eP*	**Pn**	**11 56 25.7**	**+0.6**
UGLR	**Uglovaya**	**3.90**	**247**	*eP*	**Pn**	**11 56 25.5**	**+0.4**
AVH	**Avacha**	**3.92**	**248**	*eP*	**Pn**	**11 56 25.8**	**+0.5**
KRX	**Arik**	**3.92**	**249**	*eP*	**Pn**	**11 56 25.8**	**+0.4**
KOK	**Koryaka**	**3.96**	**248**	*eP*	**Pn**	**11 56 26.5**	**+0.5**
PET	**Petropavlovsk**	**4.08**	**245**	*eP*	**Pn**	**11 56 26.8**	**-0.6**
GNL	**Ganaly**	**4.18**	**256**	*eP*	**Pn**	**11 56 29.6**	**+0.5**
KRMR	**Karymshinskiy**	**4.45**	**245**	*eP*	**Pn**	**11 56 33.1**	**+0.5**
KRMR				*eS*	**Sn**	**11 57 21.3**	**-1.8**
PETK	**Petropavlovsk-**	**4.55**	**250**	Pn	**Pn**	**11 56 34.1**	**+0.2**
	1.2nm,0.3s,baz=73,slow=18,SNR=12						
PETK				Sn	**Sn**	**11 57 26.1**	**+0.5**
	0.9nm,0.3s,baz=70,slow=42,SNR=2.5						
PETK				LR	LR	11 57 55.0	
	comp=Z,9.4nm,18.1s,baz=277,slow=33						
	1.4nm,0.4s						
MTVR	**Mutnovka**	**4.61**	**241**	*eP*	**Pn**	**11 56 34.6**	**-0.3**
GRL	**Gorelyy**	**4.63**	**242**	*eP*	**Pn**	**11 56 36.8**	**+1.7**
ASAK	**Asacha**	**4.81**	**241**	*eP*	**Pn**	**11 56 38.1**	**+0.5**
MA2	**Magadan**	**8.91**	**307**	LR	LR	12 00 47.5	
	comp=Z,24nm,19.9s,baz=329,slow=36						
ILAR	**Eielson Array**	**25.56**	**48**	P	**P**	**12 00 52.9**	**+0.1**
	0.7nm,0.6s,baz=258,slow=9.2,SNR=10						
	0.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**35.15**	**177**	T	T	12 40 45.4	
	baz=359,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**35.17**	**177**	T	T	12 40 45.3	
	baz=359,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**35.17**	**177**	T	T	12 40 49.8	
	baz=359,slow=76,SNR=21						
KURBB	**Kurchatov Arra**	**49.20**	**303**	P	**P**	**12 04 12.5**	**+0.6**
	0.4nm,0.2s,baz=54,slow=8.0,SNR=2.1						
	0.4nm,0.2s						
MKAR	**Makanchi Array**	**49.83**	**297**	P	**P**	**12 04 17.0**	**+0.1**
	0.2nm,0.6s,baz=52,slow=7.7,SNR=2.2						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**51.40**	**310**	P	**P**	**12 04 29.3**	**+0.7**
	0.4nm,0.4s,baz=60,slow=8.5,SNR=2.4						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**67.40**	**71**	P	**P**	**12 06 20.6**	**+1.1**
	0.3nm,0.7s,baz=304,slow=3.7,SNR=4.7						
	0.3nm,0.7s						

CATAC 18 12:23:16.5±0.3, 12°N±2°×8°8W±°, h37km±4km, M3.6/34, MLv3.6/34, Error ellipse: s-maj=4.8km s-min=1.8km az=26.1, confirmed

SNET 18 12:23:17.3±1.6, 12°.50N×87°.65W, h57km, ML3.5

GCG 18 12:23:18.3±0.3, 12°.56N×87°.87W, h96km±32km, MD4.0

ISC 18 12:23:16.3±1.3, 12°34N±0°06×87°74W±0°04, h54km±19km, n76, σ0°65/94, 18C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POTN	**Potosi Cosigui**	**0.69**	**20**	⇑P	**Pn**	**12 23 30.0**	**-0.2**
POTN				S	**Sn**	**12 23 40.3**	**0.0**
CRIN	**San Cristobal**	**0.77**	**62**	S	**Sn**	**12 23 44.2**	**+2.2**
CRIN	**San Cristobal**	**0.77**	**62**	⇑P	**Pn**	**12 23 31.7**	**+0.5**
QUEN	**Al S del Volca**	**0.91**	**74**	⇓P	**Pn**	**12 23 31.9**	**-1.0**
QUEN				S	**Sn**	**12 23 44.6**	**-0.6**
TEL3	**Telica 3**	**0.91**	**75**	⇑P	**Pn**	**12 23 32.7**	**-0.3**
HERN	**Volcan Telica**	**0.93**	**73**	S	**Sn**	**12 23 46.3**	**+0.4**
HERN	**Volcan Telica**	**0.93**	**73**	⇑P	**Pn**	**12 23 33.1**	**-0.2**
HOYN	**Al Sur del Vol**	**0.93**	**74**	⇑P	**Pn**	**12 23 33.1**	**-0.3**
HOYN				S	**Sn**	**12 23 45.8**	**0.0**
CNCH	**Conchagua**	**0.93**	**355**	*eP*	**Pn**	**12 23 33.3**	**-0.1**
CNCH				*eS*	**Sn**	**12 23 46.1**	**+0.2**
CNCH	**Conchagua**	**0.93**	**355**	S	**Sn**	**12 23 45.7**	**-0.3**
CNCH	**Conchagua**	**0.93**	**355**	⇑P	**Pn**	**12 23 33.0**	**-0.4**
POLN	**Al Sur del Vol**	**0.96**	**71**	⇑P	**Pn**	**12 23 32.3**	**-1.3**
POLN				S	**Sn**	**12 23 45.9**	**-0.5**
LCND	**La Caada**	**0.97**	**352**	*eP*	**Pn**	**12 23 33.5**	**-0.3**
LCND				*eS*	**Sn**	**12 23 46.3**	**-0.4**
LCND	**La Caada**	**0.97**	**352**	⇑P	**Pn**	**12 23 33.6**	**-0.2**
PLRN	**Geotermica Pol**	**0.98**	**76**	⇓P	**Pn**	**12 23 33.6**	**-0.4**
PLRN				S	**Sn**	**12 23 47.1**	**+0.1**
CNGA	**Al SSO del Vol**	**1.03**	**81**	⇓P	**Pn**	**12 23 34.5**	**-0.1**
CNGA				S	**Sn**	**12 23 48.4**	**+0.2**
CNGN	**Cerro Negro**	**1.03**	**81**	S	**Sn**	**12 23 48.5**	**+0.3**
CNGN	**Cerro Negro**	**1.03**	**81**	⇑P	**Pn**	**12 23 34.5**	**-0.1**
COPN	**Copaltepe**	**1.14**	**98**	⇑P	**Pn**	**12 23 35.8**	**-0.2**
COPN				S	**Sn**	**12 23 50.6**	**-0.1**
BLLM	**Bellamira**	**1.19**	**336**	*eP*	**Pn**	**12 23 36.6**	**-0.3**
LCY	**Lacayo**	**1.20**	**334**	*eP*	**Pn**	**12 23 36.9**	**-0.1**
MOM2	**El Cardon**	**1.23**	**86**	⇑P	**Pn**	**12 23 37.4**	**+0.1**
MOM2				S	**Sn**	**12 23 53.6**	**+0.6**
PACA	**Pacayal**	**1.25**	**333**	*eP*	**Pn**	**12 23 38.3**	**+0.6**
PACA				*eS*	**Sn**	**12 23 54.5**	**+0.8**
PACA	**Pacayal**	**1.25**	**333**	P	**Pn**	**12 23 38.1**	**+0.4**
PACA	**Pacayal**	**1.25**	**333**	S	**Sn**	**12 23 53.0**	**-0.6**
CHOHN	**Orocuina**	**1.27**	**27**	S	**Sn**	**12 23 53.5**	**-0.4**
CHOHN	**Orocuina**	**1.27**	**27**	⇑P	**Pn**	**12 23 37.5**	**-0.4**
APQ2	**Apoyeque**	**1.40**	**96**	P	**Pn**	**12 23 39.8**	**+0.3**
APQ2				S	**Sn**	**12 23 57.3**	**+0.5**
TISN	**Laguna Tiscapa**	**1.46**	**98**	⇓P	**Pn**	**12 23 39.7**	**-0.6**
TISN				S	**Sn**	**12 23 57.9**	**+0.4**
CRUN	**El Crucero**	**1.46**	**104**	P	**Pn**	**12 23 39.7**	**-0.7**
CRUN				S	**Sn**	**12 23 55.4**	**-3.1**
UNAN	**Cigeo UNAN**	**1.46**	**99**	P	**Pn**	**12 23 39.9**	**-0.4**
UNAN				S	**Sn**	**12 23 59.0**	**+0.6**
R4DEC	**Barrio San Lui**	**1.48**	**97**	P	**Pn**	**12 23 40.8**	**+0.3**
R4DEC	**Barrio San Lui**	**1.48**	**97**	S	**Sn**	**12 23 59.2**	**+0.4**
MGAN	**Managua**	**1.48**	**97**	P	**Pn**	**12 23 40.9**	**+0.3**
MGAN	**Managua**	**1.48**	**97**	S	**Sn**	**12 23 59.1**	**+0.2**
CAHU	**Cacacuatique**	**1.49**	**342**	*eP*	**Pn**	**12 23 41.5**	**+0.5**
PQSS	**Presa 15 de Se**	**1.50**	**328**	P	**Pn**	**12 23 41.5**	**+0.5**
WILN	**Americas 2**	**1.53**	**97**	P	**Pn**	**12 23 41.3**	**0.0**
TECO	**Alcaldia de Te**	**1.56**	**320**	P	**Pn**	**12 23 41.3**	**-0.5**
TECO	**Alcaldia de Te**	**1.56**	**320**	S	**Sn**	**12 23 59.8**	**-1.1**
NANN	**Nandasmo**	**1.64**	**104**	P	**Pn**	**12 23 43.8**	**+1.0**
NANN	**Nandasmo**	**1.64**	**104**	S	**Sn**	**12 24 00.4**	**+1.2**
UESV	**Universidad de**	**1.64**	**322**	S	**Sn**	**12 24 00.7**	**-0.5**
UESV	**Universidad de**	**1.64**	**322**	⇑P	**Pn**	**12 23 42.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.66**	**325**	S	**Sn**	**12 24 04.3**	**+1.0**
SCLA	**Alcaldia de Sa**	**1.66**	**325**	⇑P	**Pn**	**12 23 43.6**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.76**	**15**	⇑P	**Pn**	**12 23 45.0**	**+0.4**
TGUH				S	**Sn**	**12 24 06.0**	**0.0**
OCON	**Estacion meteo**	**1.78**	**44**	⇑P	**Pn**	**12 23 45.0**	**+0.3**
PAVA	**Las Pavas**	**1.79**	**320**	S	**Sn**	**12 24 06.8**	**+0.1**
PAVA	**Las Pavas**	**1.79**	**320**	P	**Pn**	**12 23 45.3**	**+0.3**
LFRS	**El Faro**	**1.81**	**315**	*eP*	**Pn**	**12 23 45.0**	**-0.2**
YUSH	**Yuscaran**	**1.83**	**29**	S	**Sn**	**12 24 07.2**	**-0.3**
YUSH	**Yuscaran**	**1.83**	**29**	⇑P	**Pn**	**12 23 45.6**	**+0.1**
MATN	**Matagalpa**	**1.87**	**72**	S	**Sn**	**12 24 07.9**	**-0.6**
MATN	**Matagalpa**	**1.87**	**72**	⇑P	**Pn**	**12 23 44.8**	**-1.2**
LOMA	**Loma Larga**	**1.90**	**313**	S	**Sn**	**12 24 08.3**	**-1.0**
LOMA	**Loma Larga**	**1.90**	**313**	P	**Pn**	**12 23 46.5**	**0.0**
LALI	**Alcalda de L**	**1.91**	**307**	S	**Sn**	**12 24 09.2**	**-0.2**
LALI	**Alcalda de L**	**1.91**	**307**	⇓P	**Pn**	**12 23 47.5**	**+1.0**
UDBS	**Universidad Do**	**1.94**	**315**	P	**Pn**	**12 23 46.9**	**0.0**
UDBS	**Universidad Do**	**1.94**	**315**	S	**Sn**	**12 24 09.9**	**-0.2**
RCVN	**Varillal2**	**1.95**	**51**	S	**Sn**	**12 24 11.3**	**+0.6**
RCVN	**Varillal2**	**1.95**	**51**	⇓P	**Pn**	**12 23 47.5**	**+0.3**
RCPN	**Sur Rio San Ju**	**1.99**	**54**	P	**Pn**	**12 23 47.2**	**-0.5**
BOAB	**BOACO BROADBAN**	**2.03**	**87**	P	**Pn**	**12 23 47.8**	**-0.3**
BOAB	**BOACO BROADBAN**	**2.03**	**87**	S	**Sn**	**12 24 12.3**	**-0.1**
BOQS	**Boqueron**	**2.04**	**313**	*eP*	**Pn**	**12 23 48.6**	**+0.2**
PMON	**Piamonte**	**2.05**	**312**	P	**Pn**	**12 23 48.9**	**+0.4**
JAYA	**Jayaque - finc**	**2.11**	**308**	*eP*	**Pn**	**12 23 49.1**	**-0.3**
JAYA	**Jayaque - finc**	**2.11**	**308**	*iP*	**Pn**	**12 23 49.3**	**-0.1**
JAYA				*iS*	**Sn**	**12 24 13.7**	**-0.9**
JAYA	**Jayaque - finc**	**2.11**	**308**	⇓P	**Pn**	**12 23 49.5**	**+0.1**
NUBE	**Las Nubes**	**2.52**	**308**	*iP*	**Pn**	**12 23 55.4**	**+0.5**
NUBE				*iS*	**Sn**	**12 24 24.2**	**-0.3**
NUBE	**Las Nubes**	**2.52**	**308**	⇓P	**Pn**	**12 23 55.6**	**+0.6**
ACON	**Acoyapa**	**2.54**	**98**	⇓P	**Pn**	**12 23 55.7**	**+0.6**
MTO3	**Montecristo**	**2.58**	**323**	*iP*	**Pn**	**12 23 56.2**	**+0.4**
MTO3	**Montecristo**	**2.58**	**323**	⇓P	**Pn**	**12 23 56.3**	**+0.4**

SOME 18 12:35:45.7, 42°.30N×80°.87E, h5km

KRNET 18 12:35:49.4±0.1, 42°.31N×80°.37E, mb3.0

ISC 18 12:35:50.2±3.9, 42°5'N±0°1'×80°6'E±0°1', h12km±16km, n7, σ1°42/11, 10C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.06**	**311**	*eP*	Pg	**12 36 07.3**	**-3.4**
	1.3nm,0.0s						
SHLS				*eS*	**Sg**	**12 36 22.8**	**-1.8**
	5.8nm,0.1s						
PDGK	**Podgornoye**	**1.17**	**318**	⇑P	**Pg**	**12 36 12.2**	**-0.5**
	1.2nm,0.3s						
PDGK				⇓S	**Sg**	**12 36 30.7**	**+2.7**
	5.1nm,0.4s						
PRZ	**Przheval'sk**	**1.59**	**272**	⇑*iP*	Pn	12 36 17.1	-1.3
PRZ				⇑*iS*	**Sn**	**12 36 37.6**	**-1.5**
TARG	**Taragay, Kyrgy**	**2.17**	**251**	⇑*iP*	**Pn**	**12 36 26.7**	**+0.1**
TARG				⇑*iS*	**Sn**	**12 36 53.5**	**-0.1**
KDJ	**Kajisay**	**2.53**	**264**	⇑*iP*	**Pn**	**12 36 31.6**	**+0.4**
KDJ				⇑*iS*	**Sn**	**12 37 02.4**	**+0.4**
ULHL	**Ulahol**	**3.21**	**268**	⇑*iP*	**Pn**	**12 36 41.3**	**+0.7**
ULHL				⇑*iS*	**Sn**	**12 37 19.1**	**+0.3**
MK31	**Makanchi Array**	**4.51**	**15**	⇑Pn	Pn	12 37 04.8	+6.5
	0.2nm,0.3s,baz=200,slow=14,SNR=10						
MK31				⇓Sn	**Sb**	**12 38 03.2**	**-0.3**
	1.7nm,0.8s,baz=188,slow=20,SNR=5.0						
MK31				⇓Lg	Lg	12 38 21.5	
	1.2nm,0.6s						

IDC 18 12:41:18.3±1.9, 28°.46N×104°.81E, h0km, mb4.0/6, mbtmp3.9/8, ML3.6/1, MS3.0/6, Error ellipse: s-maj=37.0km s-min=26.6km az=172.0

ISC 18 12:41:21.0±1.2, 28°5'N±0°1'×104°8'E±0°2, h19km, n13, σ0°69/8, mb3.9/6, MS2.9/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.34**	**210**	Pn	**Pn**	**12 44 01.9**	**-0.1**
	0.2nm,0.3s,baz=40,slow=13,SNR=1.5						
CMAR				LR	LR	12 48 57.2	
	comp=Z,23nm,18.8s,baz=170,slow=40						
SONM	**Songino Array**	**19.37**	**3**	P	**Pn**	**12 45 46.4**	**-0.4**
	0.2nm,0.3s,baz=184,slow=12,SNR=6.5						
	1.3nm,0.6s						
JOW	**Kunigami**	**20.82**	**89**	LR	LR	12 53 39.8	
	comp=Z,34nm,20.6s,baz=110,slow=36						
KSRS	**Korea Array**	**21.30**	**59**	P	**P**	**12 46 06.7**	**+0.2**
	1.4nm,0.7s,baz=243,slow=9.8,SNR=11						
	1.4nm,0.7s						
JNU	**Nakatsue**	**22.82**	**72**	LR	LR	12 56 16.1	
	comp=Z,43nm,18.4s,baz=276,slow=39						
MKAR	**Makanchi Array**	**25.41**	**322**	P	**P**	**12 46 47.5**

COEN	Coen	10.61	58	P	Pn	12 52 16.2	+0.5
QLP	Quilpie	11.67	127	P	Pn	12 52 30.2	0.0
	comp=Z,22nm,2.6s						
YAPP	Yappala Statio	12.67	163	P	Pn	12 52 42.4	-1.4
BBOO	Buckleboo	13.12	172	Pn	Pn	12 52 50.0	+0.1
BBOO	Buckleboo	13.12	172	P	Pn	12 52 49.4	-0.6
	comp=Z,41nm,1.8s						
BBOO	Buckleboo	13.12	172	P	Pn	12 52 50.2	+0.3
PSA00	Pilbara Seismi	13.26	260	Pn	Pn	12 52 51.2	-0.7
MBWA	Marble Bar	13.34	262	Pn	Pn	12 52 51.8	-1.1
MBWA	Marble Bar	13.34	262	P	Pn	12 52 51.6	-1.4
	comp=Z,27nm,1.9s						
SOEI	Soe	13.63	316		Pn	12 52 56.2	-0.9
NAPP	Napperby	13.88	165	P	Pn	12 52 60.0	-0.3
	comp=Z,6.5nm,0.4s						
STKA	Stephens Creek	13.89	152	P	Pn	12 52 58.1	-2.4
STKA	Stephens Creek	13.89	152	Pn	Pn	12 52 57.9	-2.7
	comp=Z,0.4nm,0.3s,baz=331,slow=13,SNR=8.1						
STKA				Sn	Sn	12 55 26.3	-8.5
	comp=Z,0.5nm,0.3s,baz=247,slow=15,SNR=3.1						
STKA	Stephens Creek	13.89	152	P	Pn	12 52 59.7	-0.8
HTT	Hallett	14.31	163	P	Pn	12 53 05.5	-0.9
	comp=Z,7.6nm,1.8s						
HTT	Hallett	14.31	163	P	Pn	12 53 06.5	+0.2
SDAN	Sedan	15.44	163	P	Pn	12 53 19.7	-1.7
MEEK	Meekatharra	15.60	241	P	Pn	12 53 19.6	-4.0
MEEK	Meekatharra	15.60	241	P	Pn	12 53 23.1	-0.5
CMSA	Cobar Meteorol	15.80	140	P	Pn	12 53 23.1	-3.1
CMSA	Cobar Meteorol	15.80	140	P	Pn	12 53 24.0	-2.2
FAKI	Fak Fak	16.84	354	P	Pn	12 53 40.4	+0.9
FAKI				IAmb	IAmb	12 53 43.2	
	comp=Z,20nm,1.1s						
KLBR	Kellerberrin	18.67	228	P	P	12 53 59.7	-2.0
MORW	Morawa	18.67	237	P	P	12 54 01.6	-0.2
MORW				IAmb	IAmb	12 54 02.8	
	comp=Z,9.8nm,1.1s						
MORW	Morawa	18.67	237	P	P	12 54 00.1	-1.7
NWAO	Narrogin (SRO)	19.81	225	P	P	12 54 14.1	-0.2
NWAO				IAmb	IAmb	12 54 24.9	
	comp=Z,20nm,1.1s						
MUN	Mundaring	19.98	229	P	P	12 54 14.1	-1.9
TOO	Toolangi	20.41	153	P	P	12 54 21.5	+0.8
TOO				IAmb	IAmb	12 54 36.9	
	comp=Z,4.5nm,1.1s						
CAN	Canberra	20.43	142	P	P	12 54 18.7	-2.3
MYLDM	Lahad Datu	29.06	327	P	P	12 55 43.9	-0.2
MYLDM				IAmb	IAmb	12 55 55.9	
	comp=Z,7.1nm,1.1s						
SBUM	Sibu	30.67	314	P	P	12 56 00.2	+1.8
SANVU	Saraoutou	32.02	88	P	P	12 56 11.7	+1.4
GUMO	Guam	34.88	19	LR	LR	13 11 51.1	
	comp=Z,14nm,18.4s,baz=324,slow=38						
QSPA	South Pole Qui	70.27	180	P	P	13 00 58.9	+2.1
MKAR	Makanchi Array	80.94	327	P	P	13 01 59.8	+1.8
MKAR	Makanchi Array	80.94	327	P	P	13 02 00.8	+2.8
	comp=Z,0.5nm,0.4s,baz=128,slow=6.3,SNR=10						
	comp=Z,0.5nm,0.4s						
ZALV	Zalesovo Beam	84.65	333	P	P	13 02 18.7	+1.7
	comp=Z,0.3nm,0.2s,baz=132,slow=6.4,SNR=2.3						
	comp=Z,0.3nm,0.2s						
KURBB	Kurchatov Arra	85.32	328	P	P	13 02 22.7	+2.2
	comp=Z,0.7nm,0.3s,baz=114,slow=4.2,SNR=1.8						
	comp=Z,0.7nm,0.3s						

*MEX **18** 12:51:46.1±0.9, 18°.15N×100°.33W, h53km±11km, MD4.3*
*IDC **18** 12:51:50.8±4.7, 18°.69N×99°.79W, h81km±41km, mb3.5/3, mbtmp3.6/6, ML3.3/3, MS2.7/3, Error ellipse: s-maj=84.9km s-min=21.9km az=35.0*

ISC 18 12:51:44.5±0.9, 18°.15N±0°.03×100°.29W±0°.04, h54km±8km, n30, σ1°59/49, mb3.5/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.14	338	eP		Pn	12 51 53.2	+0.1
ARIG				eS		Sn	12 51 59.3	0.0
MEIG	Mezcala	0.68	109	eP		Pn	12 51 58.5	+0.2
MEIG				eS		Sn	12 52 08.6	+0.3
ATYC	Atoyac	0.94	188	eP		Pn	12 52 01.2	-0.4
ATYC				i S		Sn	12 52 13.9	-0.2
CAIG	El Cayaco	1.09	179	eP		Pn	12 52 03.2	-0.4
CAIG				eS		Sn	12 52 17.4	-0.5
ZIIG	Zihuatanejo	1.24	244	eP		Pn	12 52 05.4	-0.2
ZIIG				i S		Sn	12 52 20.4	-0.8
DAIG	Los Arroyos	1.28	151	eP		Pn	12 52 06.1	0.0
DAIG				i S		Sn	12 52 21.5	-0.7
VNTA	La Mica	1.31	160	eP		Pn	12 52 06.3	-0.2
VNTA				i S		Sn	12 52 23.1	+0.1
ACP2	Acapulco	1.32	163	eP		Pn	12 52 06.3	-0.4
ACP2				i S		Sn	12 52 23.9	+0.6
YAIG	Yautepec	1.36	58	i P		Pn	12 52 07.9	+0.6
YAIG				i S		Sn	12 52 24.3	-0.2
UNM	Universidad Na	1.58	42	eP		Pn	12 52 11.6	+1.1
UNM				eS		Sn	12 52 29.1	-0.8
HMTT	Tlapaneco	1.69	102	eP		Pn	12 52 12.2	+0.5
HMTT				eS		Sn	12 52 32.7	+0.5
TLIG	Tlapa	1.74	109	eP		Pn	12 52 13.9	+1.3
TLIG				eS		Sn	12 52 29.3	-4.5
PPCL	Tochimilco	1.76	64	eP		Pn	12 52 13.9	+1.0
PPCL				i S		Sn	12 52 33.1	-1.2
CRIG	Cruz Grande	1.79	142	eP		Pn	12 52 13.1	0.0
PBPN	Popocatepetl	1.81	60	eP		Pn	12 52 14.8	+1.0
PBPN				i S		Sn	12 52 33.9	-2.1
MGIG	Malinaltepec	1.82	120	eP		Pn	12 52 14.8	+1.1
PPM	Popocatepetl	1.82	60	eP		Pn	12 52 15.2	+1.2
PPM				eS		Sn	12 52 32.1	-4.1
PPSX	Xalitzintla	1.93	61	eP		Pn	12 52 16.7	+1.5
PPSX				i S		Sn	12 52 33.0	-5.5
FTIG	Fresnillo de T	2.07	96	eP		Pn	12 52 18.3	+1.3
FTIG				i S		Sn	12 52 40.9	-0.8
HLIG	Huajuapan de L	2.39	97	eP		Pn	12 52 23.0	+1.6
HLIG				i S		Sn	12 52 48.8	-0.9
TXIG	Tlaxiaco	2.57	110	eP		Pn	12 52 25.5	+1.6
TXIG				i S		Sn	12 52 53.0	-1.2
PNIG	Pinotepa	2.71	130	eP		Pn	12 52 26.1	+0.5
PNIG				i S		Sn	12 52 55.5	-1.7
CMIG	Matias Romero	5.26	101	P		Pn	12 53 02.7	+2.0
	2.0nm,0.3s,baz=279,slow=10,SNR=14							
CMIG				S		Sn	12 53 58.8	-1.3
	20nm,0.3s,baz=152,slow=22,SNR=10							
CMIG				LR		LR	12 55 23.2	
	comp=Z,41nm,19.6s,baz=322,slow=43							
	3.5nm,0.3s							
LPIG	La Paz	11.06	304	LR		LR	12 57 50.5	
	comp=Z,18nm,20.5s,baz=188,slow=32							
TXAR	Lajitas Array	11.55	345	P		Pn	12 54 26.9	0.0
	baz=162,slow=14,SNR=4.6							
	0.3nm,0.6s							
ANMO	Albuquerque	17.61	343	P		P	12 55 48.0	+1.4
	0.1nm,0.3s,baz=246,slow=16,SNR=5.8							
	1.0nm,0.6s							
NVAR	Mina Array Bea	25.60	326	P		P	12 57 10.9	+1.9
	1.4nm,0.9s,baz=141,slow=10,SNR=10							
	1.4nm,0.9s							
PDAR	Pinedale Array	25.77	344	P		P	12 57 11.3	+0.8
	0.5nm,0.7s,baz=134,slow=10,SNR=6.0							
	0.5nm,0.7s							
ELK	Elko	25.93	333	LR		LR	13 08 27.9	
	comp=Z,72nm,19.9s,baz=152,slow=39							
ULM	Lac du Bonnet	32.22	5	P		P	12 58 05.8	-1.6
	2.8nm,0.6s,baz=174,slow=12,SNR=4.0							
	2.8nm,0.6s							

*IDC **18** 13:02:12.8±0.8, 22°.37N×143°.79E, h96km±6km, mb3.6/12, mbtmp4.0/15, Error ellipse: s-maj=22.1km s-min=11.8km az=75.0*
*NEIC **18** 13:02:13.6±1.9, 22°.41N±0°.09×143°.7E±0°.2, h102km±4km, mb4.7/17, Error ellipse: s-maj=21.1km s-min=13.2km az=100.0*

ISC 18 13:02:14.6±0.6, 22°.42N±0°.07×143°.7E±0°.1, h118km, n45, σ1°45/47, mb4.1/18, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.86	344	Pn		Pn	13 03 24.9	-0.7
JCJ	Chichijima	4.86	344	P		Pn	13 03 24.8	-0.8
	84nm,0.4s,baz=208,slow=5.8,SNR=13							
JCJ				S		Sn	13 04 19.2	-1.6
	297nm,0.5s,baz=145,slow=23,SNR=12							
JHJ2	Mitsune	11.19	343	Pn		Pn	13 04 50.3	-0.8
JHJ	Hachijo jima 2	11.21	343	P		Pn	13 04 50.9	-0.4
	17nm,0.5s,baz=54,slow=11,SNR=1.0							

JGF	Kuroka	14.25	339	Pn	Pn	13 05 30.2	-0.9
MJAR	Matsushiro Arr	14.86	343	Pn	Pn	13 05 36.4	-2.4
MJAR	Matsushiro Arr	14.86	343	P	Pn	13 05 37.7	-1.0
	0.8nm,0.6s,baz=124,slow=11,SNR=7.7						
JMM	Marumori	15.60	351	Pn	Pn	13 05 46.0	-2.0
KSRS	Korea Array	20.24	321	P	P	13 06 42.9	+2.4
	0.8nm,0.8s,baz=143,slow=9.3,SNR=8.2						
	0.8nm,0.8s						
YHNB	Yeheng	20.58	281	P	P	13 06 43.3	-1.0
SSLB	Sunglung	20.96	278	P	P	13 06 48.4	0.0
H11S3	WAKE ISLAND Hy	21.89	96	T	T	13 30 22.6	
	baz=284,slow=75,SNR=20						
H11S1	WAKE ISLAND Hy	21.90	96	T	T	13 30 23.2	
	baz=284,slow=75,SNR=11						
H11S2	WAKE ISLAND Hy	21.91	96	T	T	13 30 16.8	
	baz=284,slow=75,SNR=11						
COEN	Coen	36.15	181	P	P	13 09 06.3	+0.5
MTN	Manton Dam	37.14	201	P	P	13 09 13.3	-0.9
KNRA	Kununurra	40.59	202	P	P	13 09 42.0	-0.9
KNRA				IAmb	IAmb	13 11 09.2	
	comp=Z,25nm,1.5s						
CTAO	Charters Tower	42.32	176	P	P	13 09 56.0	-0.9
CTAO				IAmb	IAmb	13 11 19.2	
	comp=Z,12nm,1.4s						
WB0	Warramunga Arr	42.90	193	P	P	13 10 00.2	-1.5
WB0				IAmb	IAmb	13 10 23.5	
	comp=Z,31nm,1.9s						
WR8	Warramunga Arr	43.06	193	P	P	13 10 02.0	-1.0
WR8				IAmb	IAmb	13 11 23.1	
	comp=Z,21nm,1.6s						
WRA	Warramunga Arr	43.08	193	P	P	13 10 02.4	-0.8
	comp=Z,1.1nm,0.3s,baz=16,slow=9.2,SNR=23						
	comp=Z,1.1nm,0.3s						
FITZ	Fitzroy Crossi	43.97	205	P	P	13 10 09.5	-0.7
KULM	Kulim	44.91	254	P	P	13 10 18.5	+0.5
AS31	Alice Springs	46.78	192	P	P	13 10 31.4	-1.0
ASAR	Alice Springs	46.79	192	P	P	13 10 31.7	-0.7
	comp=Z,1.0nm,0.4s,baz=9.9,slow=7.6,SNR=54						
	comp=Z,1.0nm,0.4s						
GSI	Gunungsitoli	49.47	251	P	P	13 10 53.7	+0.4
CHGN	Chignik	53.92	36	P	P	13 11 26.5	+0.8
ZALV	Zalesovo Beam	53.95	321	P	P	13 11 28.2	+2.3
	comp=Z,0.6nm,0.4s,baz=113,slow=8.8,SNR=3.5						
	comp=Z,0.6nm,0.4s						
O15K	Ungalikthiuk R	53.98	32	P	P	13 11 26.7	+0.6
MKAR	Makanchi Array	54.56	312	P	P	13 11 32.1	+1.4
	comp=Z,0.3nm,0.3s,baz=92,slow=8.4,SNR=6.6						
MKAR				pP	pP	13 11 54.9	-2.7
	comp=Z,0.3nm,0.4s,baz=86,slow=8.7,SNR=2.6						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	57.33	317	P	P	13 11 51.6	+1.4
	comp=Z,1.0nm,0.4s,baz=95,slow=7.6,SNR=9.6						
	comp=Z,1.0nm,0.4s						
J20K	Nowinta River	57.99	27	P	P	13 11 55.7	+1.1
J20K				IAmb	IAmb	13 12 13.3	
	comp=Z,13nm,1.8s						
ILAR	Eielson Array	61.19	27	P	P	13 12 15.6	-1.0
	comp=Z,0.4nm,0.6s,baz=254,slow=5.6,SNR=8.4						
ILAR				pP	pP	13 12 41.2	-2.7
	comp=Z,0.5nm,0.8s,baz=260,slow=5.8,SNR=3.8						
	comp=Z,0.4nm,0.6s						
D25K	Kavik River	62.15	22	P	P	13 12 25.2	+2.3
BVAR	Borovoye Array	62.44	319	P	P	13 12 26.7	+1.6
	comp=Z,1.4nm,0.4s,baz=97,slow=7.3,SNR=11						
BVAR				pP	pP	13 12 50.8	-1.7
	comp=Z,1.2nm,0.4s,baz=96,slow=8.6,SNR=3.6						
	comp=Z,1.4nm,0.4s						
I28M	Miner Creek	64.18	27	P	P	13 12 38.2	+1.7
I28M				IAmb	IAmb	13 14 44.4	
	comp=Z,14nm,1.8s						
G31M	Satah River	66.48	25	P	P	13 12 52.6	+1.5
R33M	Jennings River	68.64	33	P	P	13 13 04.3	-0.7
R33M				IAmb	IAmb	13 13 36.9	
	comp=Z,21nm,1.7s						
ABKAR	Akbulak array	69.36	316	P	P	13 13 10.1	+0.6
ARCES	ARCESS Array B	78.39	342	P	P	13 14 04.4	+2.6
	comp=Z,1.2nm,0.6s,baz=74,slow=8.9,SNR=4.0						
	comp=Z,1.2nm,0.6s						
NVAR	Mina Array Bea	82.33	52	P	P	13 14 25.2	+1.4
	comp=Z,0.6nm,0.7s,baz=280,slow=5.4,SNR=8.1						
NVAR				pP	pP	13 14 50.0	-2.8
	comp=Z,0.5nm,0.7s,baz=246,slow=6.4,SNR=3.1						
	comp=Z,0.6nm,0.7s						
FINES	FINESS Array B	82.74	335	P	P	13 14 25.2	+0.1
FINES	FINESS Array B	82.74	335	P	P	13 14 25.6	+0.5
	comp=Z,2.0nm,0.9s,baz=59,slow=5.6,SNR=8.3						
	comp=Z,2.0nm,0.9s						
HFS	Hagfors	88.25	337	P	P	13 14 52.6	+0.1
	comp=Z,0.8nm,0.6s,baz=62,slow=3.5,SNR=5.1						
	comp=Z,0.8nm,0.6s						
PLCA	Paso Flores	145.87	130	PKPbc	PKPab	13 21 41.4	+0.3
	comp=Z,1.5nm,0.4s,baz=251,slow=2.2,SNR=18						

*FUNV **18** 13:29:30.8, 8°.17N×71°.39W, h5km, MW3.6*
*RSNC **18** 13:29:31.3±0.0, 8°.N±3°×7°.1W±°, h17km±6km, M2.9, mb3.6, ML2.6*

ISC 18 13:29:27.8±1.8, 8°.20N±0°.04×71°.34W±0°.03, h3km±14km, n22, σ1°21/40, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.98	46	P		Pn	13 29 48.7	+0.1
SDV				S		Sb	13 30 01.8	+0.9
CAPV	Capacho	1.02	251	eP		Pg	13 29 47.8	+0.4
CAPV				eS		Sb	13 30 02.2	0.0
PAMC	Pamplona, Colo	1.60	238	P		Pn	13 29 57.2	-0.2
PAMC				S		Sn	13 30 17.6	-1.1
OCAC	Ocana	1.96	271	P		Pn	13 30 02.3	+0.2
OCAC				S		Sn	13 30 27.3	0.0
MCQV	Machiques	2.19	327	eP		Pb	13 30 07.4	-0.6
MCQV				eS		Sb	13 30 34.7	-0.9
BARC	Barichara	2.43	229	P		Pb	13 30 11.7	-0.6
BARC				S		Sb	13 30 42.6	-0.1
BRJC	Barrancabermej	2.68	243	P		Pb	13 30 16.3	-0.1
BRJC				S		Sb	13 30 50.3	+0.6
RUSC	La Rusia	2.87	217	P		Pn	13 30 15.5	+0.6
RUSC				S		Sb	13 30 55.4	-0.4
CRJC	Cerrejon, Guaj	3.19	332	P		Pn	13 30 19.2	+0.2
CRJC				S		Sn	13 30 56.8	-0.8
BAUV	El Baul	3.34	77	eP		Pn	13 30 22.8	+1.8
BAUV				eS		Sn	13 31 02.4	+1.1
PTBC	PUERTO BERRIO,	3.50	242	P		Pn	13 30 22.5	-0.7
PTBC				S		Sb	13 31 13.2	-0.3
URIC	Uribia, Colomb	3.54	350	P		Pn	13 30 22.7	-1.0
URIC				S		Sn	13 31 07.4	+1.3
BENV	Beln	4.09	64	eP		Pn	13 30 33.4	+2.1
BENV				eS		Sn	13 31 20.6	+0.9
SJCC	San Jacinto, C	4.15	294	P		Pn	13 30 32.0	-0.2
SJCC				S		Sn	13 31 21.8	+0.5
HELC	Santa Helena	4.61	245	P		Pn	13 30 41.5	+2.7
HELC				S		Sn	13 31 32.9	-0.2
TACV	Tcata	4.67	65	eP		Pn	13 30 41.5	+2.2
TACV				eS		Sn	13 31 33.5	-0.6
VILC	Villavicencio,	4.69	210	P		Pn	13 30 39.8	+0.2
CACV	CAICARA DEL OR	4.79	97	eP		Pb	13 30 50.2	-2.3
CACV				eS		Sb	13 31 49.1	-1.6
GUY2C	Guyana, Caldas	4.97	234	P		Pn	13 30 45.0	+1.2
PRAC	Prado	5.68	219	P		Pn	13 30 54.3	+1.1
	2.6nm,0.8s							
ORTC	Ortega, Tolima	5.77	223	P		Pn	13 30 55.1	+0.7
PCRV	Puerto La Cruz	6.90	73	eP		Pn	13 31 12.2	+2.2
PCRV				eS		Sn	13 32 26.6	-2.5

*HEL **18** 13:30:00.2±0.1, 67°.94N×25°.88E, h0km, ML1.6, Suspected explosion*
*IDC **18** 13:30:01.4±4.2, 67°.97N×25°.88E, h0km, Error ellipse: s-maj=32.7km s-min=23.3km az=90.0*
*BER **18** 13:30:02.9±2.6, 67°.95N×25°.72E, h0km, ML1.5, Suspected explosion*
*UPP **18** 13:30:02.5±0.8, 67°.89N×25°.47E, h0km, ML1.6, Presumed earthquake*

ISC 18 13:29:59.6±0.7, 67°.98N±0°.02×25°.73E±0°.02, h0km, n38, σ1°17/62, 1D, Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HEF	Hetta	0.89	300	eP		Pb	13 30 17.4	-0.5
HEF				eS		Sb	13 30 30.1	-0.1
HEF	Hetta	0.89	300	PG		Pb	13 30 17.4	-0.5
	baz=114							
HEF				MSG			13 30 29.5	
	comp=Z,4.7nm,0.2s							
HEF				SG		Sb	13 30 29.9	-0.3
KLF	Kolari	1.00	223	PG		Pg	13 30 18.1	-0.7
KLF				MSG			13 30 31.3	
	comp=Z,4.4nm,0.2s							
KLF				SG		Sg	13 30 31.6	-0.2
RAJF	Raja-Jooseppi	1.09	61	PG		Pg	13 30 19.4	-1.0
RAJF				SB		Sg	13 30 33.4	-1.1
PAJU	Pajala	1.39	228	P		Pg	13 30 25.5	-0.6
PAJU				S		Sb	13 30 43.8	-0.8
PAJU	Pajala	1.39	228	PG		Pg	13 30 25.6	-0.6
PAJU				SN		Sn	13 30 48.7	+3.5
KTK1	Kautokeino	1.39	320	⇓eP		Pn	13 30 26.4	+0.2
KTK1				eS		Sn	13 30 45.1	-0.1
KTK1				IAML			13 30 49.5	
	comp=Z,4.8nm,0.4s							
KTK1	Kautokeino	1.39	320	PG		Pg	13 30 26.4	+0.2
KTK1				SG		Sn	13 30 46.2	+1.0
LANU	Lannavaara	1.41	275	P		Pb	13 30 26.5	-0.2
LANU				S		Sn	13 30 46.4	+0.7
LANU	Lannavaara	1.41	275	PG		Pn	13 30 26.4	-0.1
LANU				SG		Sn	13 30 46.0	+0.3
VRF	Varrio	1.49	97	PN		Pn	13 30 27.0	-0.6
	baz=275							
VRF				MSG			13 30 43.2	
	comp=Z,4.4nm,0.2s							
VRF				SG		Sg	13 30 45.0	-2.3
MASU	Masugnsbyn	1.51	252	P		Pg	13 30 28.2	-0.4
ARA0	ARCESS Array S	1.57	357	eP		Pb	13 30 29.9	+0.4
ARA0				eS		Sn	13 30 50.4	+0.7
ARA0	ARCESS Array S	1.57	357	PN		Pb	13 30 29.8	+0.2
ARA0				SN		Sn	13 30 50.1	+0.4
ARCES	ARCESS Array B	1.57	357	Pg		Pb	13 30 29.7	+0.2
	comp=Z,0.8nm,0.3s,baz=173,slow=15,SNR=35							
ARCES				Lg	Lg		13 30 51.1	
	comp=Z,0.8nm,0.3s,baz=176,slow=23,SNR=14							
KEV	Kevo	1.85	14	PG		Pn	13 30 33.8	+1.3
KEV				SG		Sn	13 30 57.9	+1.3
ERTU	Ertsjaerv	1.98	226	P		Pb	13 30 35.9	-0.5
ERTU	Ertsjaerv	1.98	226	PG		Pb	13 30 35.9	-0.6
ERTU				SG		Sg	13 31 02.5	-0.7
TOF	Tornio	1.98	197	PG		Pb	13 30 35.7	-0.8
	baz=21							
TOF				MSG			13 30 58.5	
	comp=Z,2.6nm,0.2s							
TOF				SG		Sb	13 31 01.0	-0.6
RANF	Ranua	2.01	168	PG		Pn	13 30 35.5	+0.7
RANF	baz=353							
				SG		Sn	13 31 00.7	+0.1
KUA	Kurravaara	2.03	272	P		Pb	13 30 37.2	-0.2
KIF	Kilpisjarvi	2.09	302	eP		Pb	13 30 38.7	+0.4
KIF				eS		Sg	13 31 05.8	-0.9
KIF	Kilpisjarvi	2.09	302	PG		Pb	13 30 38.6	+0.2
	baz=121							
KIF				MSG			13 31 04.7	
	comp=Z,2.5nm,0.2s							
KIF				SG		Sg	13 31 06.2	-0.5
KOVU	Salmi	2.10	279	P		Pb	13 30 38.1	-0.5
DUNU	Dundret	2.16	249	P		Pb	13 30 38.8	-0.7
OLKF	Oulanka, Finla	2.19	137	PG		Pn	13 30 38.4	+1.1
OLKF				MSG			13 31 03.2	
	comp=Z,2.2nm,0.2s							
OLKF				SG		Sn	13 31 06.4	+1.2
KALU	Kalix	2.32	205	P		Pn	13 30 40.1	+1.2
KALU	Kalix	2.32	205	PG		Pb	13 30 40.9	-1.3
KALU				SG		Sb	13 31 11.1	-0.3
RATU	Laukkuluspa	2.33	269	P		Pb	13 30 40.9	-1.5
MSF	Maaselka	2.45	146	PG		Pn	13 30 42.8	+2.0
	baz=327							
MSF				SG		Sn	13 31 13.6	+2.3
KU2	Taivalkoski	2.48	155	PG		Pn	13 30 43.5	+2.2
KU2				SG		Sn	13 31 14.8	+2.6
JETT	Jettan, Norway	2.50	312	eP		Pb	13 30 45.5	+0.1
JETT				eS		Sb	13 31 16.0	-0.8
JETT				IAML			13 31 20.0	
	comp=Z,8.4nm,0.2s							
VADS	Vadso	2.52	30	eP		Pn	13 30 43.1	+1.4
VADS				eS		Sn	13 31 14.1	+1.0
VADS				IAML			13 31 17.4	
	comp=Z,5.7nm,0.4s							
KU6	Riekki	2.55	138	PG		Pn	13 30 44.4	+2.2
	baz=323							
KU6				MSG			13 31 13.5	
	comp=Z,3.5nm,0.2s							
KU6				SG		Sn	13 31 16.6	+2.7
I37NO	I37NO	2.84	296	I	I	I	13 47 40.0	
	comp=Z,0.1nm,0.8s,baz=107,slow=314,SNR=3.2							
OUL	Oulu	2.90	179	SG		Sb	13 31 26.6	-1.6
LVZ	Lovozero	3.37	87	SN		Sn	13 31 33.5	-0.6
I43RU	DUBNA INFRASON	2.46	149	I	I	I	14 44 30.0	
	baz=340,slow=322,SNR=2.2							

*IDC **18** 13:35:48.1±2.7, 38°.48N×142°.28E, h41km±24km, mb3.4/7, mbtmp3.7/12, ML3.3/5, MS3.0/2, Error ellipse: s-maj=30.5km s-min=17.4km az=93.0*
*JMA **18** 13:35:49.6±0.1, 38°.5N±0°.3×142°.0E±0°.7, h42km±1km, MV3.8/38, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF
*NIED **18** 13:35:49.6, 38°.45N×142°.01E, h42km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.48; Mθθ-0.49; Mφφ-0.99; Mrθ0.75; Mrφ-3.27; Mθφ5.45; Fault plane solution: M0 6.50000×10^14^ NP1: φs263.00000°, δ29.00000°, λ163.00000°. NP2: φs80.00000°, δ82.00000°, λ62.00000°.*

**ISC 18 13:35:46.8±1.8, 38°.42N±0°.05×142°.24E±0°.09, h30km±11km, n34, σ1°29/34, m

ZALV	**Zalesovo Beam**	**41.48**	**311**	P		**P**	**13 43 30.5**	**-0.3**
	0.6nm,0.4s,baz=78,slow=9.4,SNR=2.2							
	0.6nm,0.4s							
MKAR	**Makanchi Array**	**43.95**	**301**	P		**P**	**13 43 50.5**	**-0.5**
	0.4nm,0.7s,baz=83,slow=9.9,SNR=4.9							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**45.68**	**307**	P		**P**	**13 44 04.5**	**-0.1**
	1.6nm,0.7s,baz=83,slow=8.3,SNR=22							
	1.6nm,0.7s							
ILAR	**Eielson Array**	**47.98**	**33**	P		**P**	**13 44 22.1**	**-0.3**
	0.1nm,0.5s,baz=276,slow=8.8,SNR=1.6							
	0.1nm,0.5s							
BVAR	**Borovoye Array**	**50.13**	**312**	LR		LR	14 08 34.2	
	comp=Z,32nm,19.4s,baz=197,slow=39							
WRA	**Warramunga Arr**	**58.52**	**189**	P		**P**	**13 45 41.0**	**+0.6**
	0.3nm,0.5s,baz=3.8,slow=7.1,SNR=2.7							
	0.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**59.30**	**349**	P		**P**	**13 45 44.6**	**-0.5**
	4.4nm,0.9s,baz=354,slow=10,SNR=5.4							
	4.4nm,0.9s							
ASAR	**Alice Springs**	**62.25**	**189**	P		**P**	**13 46 06.0**	**+0.3**
	0.2nm,0.7s,baz=18,slow=12,SNR=4.4							
	0.2nm,0.7s							

NEIC ***18*** *13:45:56.6±1.5, 6.82N±0.05×73.0W±0.1, h161km±8km, mb4.2/10, Error ellipse: s-maj=14.8km s-min=7.3km az=78.0*

FUNV ***18*** *13:45:57.7, 6.80N×73.11W, h167km, MW4.1*

IDC ***18*** *13:45:57.7±3.9, 6.76N×73.02W, h164km±29km, mb3.3/3, mbtmp3.8/4, Error ellipse: s-maj=63.4km s-min=25.3km az=80.0*

RSNC ***18*** *13:45:58.7±0.0, 7°N±1°×7°3W±°, h146km±1km, M3.8, mB5.1, mb3.9, ML3.4, Mw(mB)4.5*

ISC 18 13:45:56.4±0.7, 6.86N±0.03×73.10W±0.04, h154km±5km, n71, σ1§63/112, mb4.0/8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BARC	**Barichara**	**0.28**	**196**	P		**P**	**Pn**	**13 46 18.3**	**+0.6**
BARC				S		S	**Sn**	**13 46 33.6**	**-0.3**
PAMC	**Pamplona, Colo**	**0.62**	**40**	P		**P**	**Pn**	**13 46 21.1**	**+1.7**
PAMC				S		S	**Sn**	**13 46 38.4**	**+1.4**
BRJC	**Barrancabermej**	**0.65**	**280**	P		P	**Pn**	**13 46 19.9**	**+0.9**
BRJC				S		S	**Sn**	**13 46 37.2**	**+1.0**
RUSC	**La Rusia**	**0.96**	**179**			P	**Pn**	**13 46 22.2**	**+0.4**
RUSC				Sn		Sn	**Sn**	**13 46 40.7**	**-0.6**
RUSC	**La Rusia**	**0.96**	**179**			P	**Pn**	**13 46 22.3**	**+0.4**
RUSC				S		S	**Sn**	**13 46 41.1**	**-0.2**
CAPV	**Capacho**	**1.27**	**38**	*e*P		**P**	**Pn**	**13 46 26.5**	**+2.3**
CAPV				*e*S		S	**Sn**	**13 46 48.0**	**+2.5**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P		P	**Pn**	**13 46 24.8**	**-0.3**
PTBC				S		S	**Sn**	**13 46 45.5**	**-1.6**
OCAC	**Ocana**	**1.38**	**351**	P		P	**Pn**	**13 46 26.3**	**+1.0**
OCAC				S		S	**Sn**	**13 46 47.7**	**+0.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P		P	**Pn**	**13 46 30.9**	**+0.8**
ZARC				S		S	**Sn**	**13 46 56.1**	**+0.1**
NORC	**Norcasia**	**2.18**	**234**	P		P	**Pn**	**13 46 34.2**	**+0.3**
NORC				S		S	**Sn**	**13 47 02.0**	**-0.8**
ROSC	**El Rosal**	**2.35**	**211**				**Pn**	**13 46 37.6**	**+1.4**
ROSC	**El Rosal**	**2.35**	**211**	P		P	**Pn**	**13 46 38.3**	**+2.1**
	87nm,0.3s,baz=114,slow=22,SNR=96								
ROSC				S			**Sn**	**13 47 08.7**	**+1.7**
	806nm,0.3s,baz=41,slow=17,SNR=28								
ROSC	**El Rosal**	**2.35**	**211**	S		P	**Pn**	**13 46 38.1**	**+1.8**
ROSC				S		S	**Sn**	**13 47 09.0**	**+2.0**
BOG	**Bogota**	**2.42**	**203**	P		P	**Pn**	**13 46 37.0**	**-0.1**
HELC	**Santa Helena**	**2.50**	**255**	P		P	**Pn**	**13 46 38.5**	**+0.4**
HELC				S		S	**Sn**	**13 47 09.9**	**-0.3**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P		P	**Pn**	**13 46 39.8**	**+1.4**
CVER				S		S	**Sn**	**13 47 11.2**	**+0.4**
UREC	**San Jos de Ur**	**2.57**	**290**	P		P	**Pn**	**13 46 38.8**	**+0.3**
UREC				S		S	**Sn**	**13 47 08.8**	**-2.3**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P		P	**Pn**	**13 46 42.6**	**+1.0**
GUY2C				S		S	**Sn**	**13 47 18.8**	**+2.3**
VILC	**Villavicencio,**	**2.80**	**192**	P		P	**Pn**	**13 46 41.7**	**+0.2**
VILC				S		S	**Sn**	**13 47 16.6**	**+0.2**
PTGC	**Puerto Gaitan,**	**2.82**	**160**	P		P	**Pn**	**13 46 41.6**	**0.0**
PTGC				S		S	**Sn**	**13 47 15.3**	**-1.4**
NIZA	**Niza - Manizal**	**2.96**	**233**	P		P	Pn	13 46 47.7	+4.0
NIZA				S		S	**Sn**	**13 47 24.0**	**+3.7**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P		P	**Pn**	**13 46 46.0**	**+1.2**
CBOC				S		S	**Sn**	**13 47 22.0**	**-0.3**
DBBC	**Dabeiba**	**3.09**	**273**	P		P	**Pn**	**13 46 45.7**	**+0.6**
DBBC				S		S	**Sn**	**13 47 21.3**	**-1.5**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P		P	**Pn**	**13 46 48.6**	**+2.3**
ARGC				S		S	**Sn**	**13 47 26.3**	**+1.3**
MCQV	**Machiques**	**3.22**	**10**	*e*P		P	**Pn**	**13 46 47.9**	**+1.3**
MCQV				*e*S		S	**Sn**	**13 47 25.9**	**+0.2**
PRAC	**Prado**	**3.60**	**210**	P		P	**Pn**	**13 46 51.9**	**+0.3**
PRAC				S		S	**Sn**	**13 47 34.0**	**-0.5**
APAC	**Apartado, Choc**	**3.60**	**287**	P		P	**Pn**	**13 46 52.2**	**+0.6**
APAC				S		S	**Sn**	**13 47 34.2**	**-0.2**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P		P	**Pn**	**13 46 52.4**	**+0.4**
ORTC				S		S	**Sn**	**13 47 35.2**	**0.0**
SJCC	**San Jacinto, C**	**3.65**	**326**	P		P	**Pn**	**13 46 52.6**	**+0.3**
SJCC				S		S	**Sn**	**13 47 34.5**	**-1.2**
PLMC	**San Jos del P**	**3.71**	**239**	P		P	**Pn**	**13 46 54.2**	**+1.1**
PLMC				S		S	**Sn**	**13 47 36.3**	**-0.9**
LCBC	**Los crdobas,**	**3.79**	**302**	P		P	**Pn**	**13 46 54.9**	**+0.8**
LCBC				S		S	**Sn**	**13 47 37.2**	**-1.7**
URMC	**La Uribe, Meta**	**3.81**	**200**	P		P	**Pn**	**13 46 55.2**	**+0.8**
URMC				S		S	**Sn**	**13 47 39.7**	**+0.2**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P		P	**Pn**	**13 46 58.6**	**0.0**
CRJC				S		S	**Sn**	**13 47 46.8**	**-0.3**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P		P	**Pn**	**13 47 00.8**	**-0.2**
YOTC				S		S	**Sn**	**13 47 54.3**	**+3.0**
GUVC	**San Jose del G**	**4.32**	**174**	P		P	**Pn**	**13 47 01.2**	**+0.3**
GUVC				S		S	**Sn**	**13 47 49.4**	**-1.8**
SMRC	**Santa Marta, M**	**4.42**	**346**				**Pn**	**13 47 03.3**	**+1.1**
SMRC	**Santa Marta, M**	**4.42**	**346**	P		P	**Pn**	**13 47 03.6**	**+1.4**
SMRC				S		S	**Sn**	**13 47 51.1**	**-2.4**
CAPC	**Capurgana**	**4.56**	**293**	P		P	**Pn**	**13 47 03.6**	**-0.5**
CAPC				S		S	**Sn**	**13 47 50.7**	**-6.2**
PTAC	**Punta Ardita,**	**4.68**	**274**	P		P	**Pn**	**13 47 04.8**	**-0.9**
PTAC				S		S	**Sn**	**13 47 58.7**	**-1.0**
MACC	**Macarena, Meta**	**4.75**	**189**	P		P	**Pn**	**13 47 05.5**	**-1.1**
MACC				S		S	**Sn**	**13 47 57.3**	**-4.0**
URIC	**Uribia, Colomb**	**4.93**	**13**	P		P	**Pn**	**13 47 08.8**	**-0.2**
URIC				S		S	**Sn**	**13 48 04.8**	**-0.9**
GARC	**Garzon, Huila**	**5.22**	**207**	P		P	**Pn**	**13 47 12.5**	**-0.6**
GARC				S		S	**Sn**	**13 48 09.5**	**-3.4**
BAUV	**El Baul**	**5.42**	**67**				**Pn**	**13 47 14.4**	**-1.1**
BAUV	**El Baul**	**5.42**	**67**	*e*P		P	**Pn**	**13 47 15.2**	**-0.3**
BAUV				*e*S		S	**Sn**	**13 48 13.2**	**-4.1**
POPC	**Popayan, Colom**	**5.58**	**220**	P		P	**Pn**	**13 47 18.3**	**+0.5**
	9.6nm,0.5s								
FLOC	**Florencia**	**5.83**	**206**				**Pn**	**13 47 21.2**	**+0.3**
FLOC	**Florencia**	**5.83**	**206**	P		P	**Pn**	**13 47 20.6**	**-0.3**
	14nm,1.0s								
FLOC				S		S	**Sn**	**13 48 25.3**	**-1.8**
	14nm,1.0s								
BENV	**Beln**	**6.25**	**60**	*e*P		P	**Pn**	**13 47 27.1**	**+0.5**
BENV				*e*S		S	**Sn**	**13 48 31.6**	**-5.7**
GR1C	**Gorgona, Isla**	**6.34**	**233**	P		P	**Pn**	**13 47 27.5**	**-0.1**
BBAC	**Balboa, Cauca**	**6.34**	**221**	P		P	**Pn**	**13 47 29.0**	**+1.1**
CACV	**CAICARA DEL OR**	**6.55**	**83**	*e*P		P	Pn	13 47 37.0	+6.6
CACV				*e*S		S	Sn	13 48 50.4	+6.2
TACV	**Tcata**	**6.83**	**61**	*e*P		P	**Pn**	**13 47 33.8**	**-0.5**
TACV				*e*S		S	**Sn**	**13 48 46.0**	**-5.1**
BCIP	**Isla Barro Col**	**7.05**	**289**	P		P	**Pn**	**13 47 35.4**	**-1.7**
LCR2	**La Lucha 2**	**11.16**	**286**	Pn		Pn	**Pn**	**13 48 33.6**	**+1.7**
DR12	**Loma Pena Alta**	**12.39**	**17**	P		P	**P**	**13 48 52.6**	**-0.9**
HERN	**Volcan Telica**	**14.68**	**294**	Pn		Pn	**Pn**	**13 49 17.2**	**+0.4**
WHAR	**Wooly Hollow**	**33.34**	**331**	P		P	**P**	**13 52 20.8**	**+1.1**
WHAR				IAmb		IAmb		13 52 23.5	
	comp=Z,9.0nm,1.4s								
FCAR	**Ozark Folk Cen**	**33.74**	**332**	P		P	**P**	**13 52 23.5**	**+0.3**
FCAR				IAmb		IAmb		13 53 00.1	
	comp=Z,5.9nm,1.5s								
BLO	**Bloomington**	**34.37**	**341**	P		P	**P**	**13 52 27.6**	**-0.9**
CCM	**Cathedral Cave**	**35.14**	**335**	P		P	**P**	**13 52 35.0**	**-0.2**
CCM				IAmb		IAmb		13 52 37.6	
	comp=Z,3.9nm,0.7s								
OZNA	**Ozona**	**35.52**	**316**	P		P	**P**	**13 52 38.3**	**-0.4**
OZNA				IAmb		IAmb		13 52 43.7	
	comp=Z,4.1nm,1.3s								
MMNY	**Mt. Morris Dam**	**35.97**	**354**	P		P	**P**	**13 52 41.0**	**-1.3**
MMNY				IAmb		IAmb		13 53 19.5	
	comp=Z,12nm,1.1s								
TXAR	**Lajitas Array**	**36.45**	**312**	P		P	**P**	**13 52 48.2**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=131,slow=9.7,SNR=8.3								
	comp=Z,0.5nm,0.6s								
ECSD	**EROS Data Cent**	**42.12**	**334**	P		**P**		**13 53 33.4**	**+0.1**
ULM	**Lac du Bonnet**	**47.25**	**340**	P		**P**		**13 54 14.6**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=140,slow=10,SNR=3.8								
	comp=Z,2.0nm,0.6s								
PDAR	**Pinedale Array**	**48.05**	**324**	P		**P**		**13 54 21.9**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=128,slow=9.9,SNR=3.6								
	comp=Z,0.3nm,0.5s								
J20K	**Nowinta River**	**79.95**	**334**	P		**P**		**13 57 48.3**	**+0.3**
BELA	**Belgrano 2**	**87.23**	**172**	P		**P**		**13 58 23.3**	**-1.5**
MKAR	**Makanchi Array**	**122.28**	**20**	PKP		**PKPdf**		**14 04 33.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=318,slow=3.3,SNR=4.2								
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**		**14 05 27.1**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=122,slow=3.3,SNR=7.8								
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc		**PKPbc**		**14 05 30.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=110,slow=2.6,SNR=1.9								

IDC 18 14:34:10.3±2.9, 30.28S×177.40W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=61.5km s-min=27.5km az=89.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**1.12**	**336**	Pn		Pn		14 34 33.3	+0.1
	69nm,0.3s,baz=77,slow=12,SNR=8.8								
RAO				Sn		Sn		14 34 49.9	+0.6
	155nm,0.3s,baz=265,slow=24,SNR=6.5								
ASAR	**Alice Springs**	**43.63**	**267**	P		P		14 42 16.6	-0.2
	0.4nm,0.8s,baz=105,slow=7.3,SNR=6.3								
	0.4nm,0.8s								
WRA	**Warramunga Arr**	**44.61**	**272**	P		P		14 42 24.8	+0.1
	0.3nm,0.4s,baz=112,slow=8.7,SNR=2.6								
	0.3nm,0.4s								
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc		PKPbc		14 53 47.8	-1.0
	1.0nm,0.7s,baz=60,slow=4.6,SNR=6.2								

IDC 18 14:51:25.2±1.8, 0.35N×125.42E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=226.7km s-min=22.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**21.98**	**157**	P		P	P	14 56 19.8	-1.2
	0.4nm,0.4s,baz=334,slow=11,SNR=2.2								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**25.26**	**162**	P		P		14 56 54.0	+0.7
	0.2nm,0.3s,baz=345,slow=12,SNR=19								
	0.2nm,0.3s								
MKAR	**Makanchi Array**	**59.61**	**327**	P		P		15 01 31.6	+0.5
	0.3nm,0.5s,baz=114,slow=8.0,SNR=5.3								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**63.89**	**329**	P		P		15 01 59.1	-0.6
	0.3nm,0.6s,baz=130,slow=6.9,SNR=5.5								
	0.3nm,0.6s								

DJA ***18*** *15:09:33.6±0.5, 0°N±4°×12°2E±°, h174km±5km, M3.7/9, mb3.7/2, MLv3.7/9*

IDC ***18*** *15:09:35.1±14.0, 0.21N×121.88E, h195km±150km, mb3.2/6, mbtmp3.7/7, MS3.7/1, Error ellipse: s-maj=95.7km s-min=23.3km az=60.0*

ISC 18 15:09:33.5±0.9, 0.36N±0.08×122.07E±0.07, h180km±7km, n15, σ0§66/18, mb3.5/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MRSI	**Marisa**	**0.17**	**314**	P		**P**	**Pn**	**15 09 57.3**	**-0.1**
MRSI				S		S	**Sn**	**15 10 15.6**	**-0.1**
APSI	**Ampana**	**1.32**	**198**	P		P	**Pn**	**15 10 04.7**	**+0.8**
APSI				S		S	**Sn**	**15 10 26.9**	**-0.6**
LUWI	**Luwuk**	**1.56**	**153**	P		P	**Pn**	**15 10 07.2**	**+1.2**
LUWI				S		S	**Sn**	**15 10 31.4**	**+0.1**
KMSI	**Cibinong**	**1.93**	**84**	P		P	**Pn**	**15 10 09.1**	**-0.7**
PCI	**Palu**	**2.56**	**241**	P		P	**Pn**	**15 10 16.2**	**-0.7**
PCI				S		S	**Sn**	**15 10 49.7**	**-0.9**
TTSI	**Tana Toraja**	**4.06**	**214**	P		P	**Pn**	**15 10 35.3**	**-0.1**
SANI	**Sanana**	**4.59**	**121**	P		P	**Pn**	**15 10 41.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.67**	**169**	P		P		**15 13 37.5**	**-0.5**
	2.8nm,1.0s,baz=11,slow=8.5,SNR=5.5								
WRA	**Warramunga Arr**	**23.49**	**150**	P		**P**		**15 14 26.9**	**-0.2**
	0.6nm,0.7s,baz=326,slow=11,SNR=11								
	0.6nm,0.7s								
ASAR	**Alice Springs**	**26.50**	**155**	P		**P**		**15 14 54.5**	**0.0**
	0.4nm,0.6s,baz=343,slow=14,SNR=22								
	0.4nm,0.6s								
PMG	**Port Moresby**	**26.80**	**112**	LR		LR		15 28 43.8	
	comp=Z,134nm,18.6s,baz=210,slow=43								
STKA	**Stephens Creek**	**37.01**	**152**	P		**P**		**15 16 25.6**	**-0.2**
	5.9nm,1.1s,baz=331,slow=13,SNR=3.8								
	5.9nm,1.1s								
SONM	**Songino Array**	**49.21**	**346**	P		**P**		**15 18 04.6**	**+0.9**
	0.9nm,0.5s,baz=159,slow=8.1,SNR=5.5								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**57.82**	**329**	P		**P**		**15 19 06.3**	**+0.2**
	0.8nm,0.5s,baz=128,slow=8.2,SNR=11								
	0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**62.19**	**330**	P		**P**		**15 19 36.0**	**+0.2**
	0.2nm,0.6s,baz=118,slow=5.9,SNR=4.9								
	0.2nm,0.6s								

IDC ***18*** *15:32:05.8±2.2, 4.58S×153.41E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=109.1km s-min=23.0km az=120.0*

ISC 18 15:32:16.4±2.2, 4.7S±0.4×153.4E±0.6, h85km, n6, σ0§47/6, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**23.95**	**229**	P		**P**		**15 37 22.8**	**-0.2**
	1.6nm,0.5s,baz=53,slow=9.7,SNR=17								
	1.6nm,0.5s								
ASAR	**Alice Springs**	**26.63**	**223**	P		**P**		**15 37 47.6**	**+0.4**
	0.6nm,0.4s,baz=56,slow=8.5,SNR=20								
	0.6nm,0.4s								
PETK	**Petropavlovsk-**	**57.68**	**3**	P		**P**		**15 41 58.4**	**+0.5**
	2.0nm,0.9s,baz=144,slow=6.2,SNR=5.6								
	2.0nm,0.9s								
MKAR	**Makanchi Array**	**80.60**	**319**	P		**P**		**15 44 19.5**	**-0.2**
	0.1nm,0.5s,baz=104,slow=4.6,SNR=1.6								
	0.1nm,0.5s								
ILAR	**Eielson Array**	**81.83**	**22**	P		**P**		**15 44 25.5**	**-0.3**
	0.3nm,0.7s,baz=235,slow=6.3,SNR=5.6								
	0.3nm,0.7s								
TORD	**Torodi Ar. Bea**	**150.80**	**289**	PKPbc		**PKiKP**		**15 52 00.6**	**-0.1**
	0.5nm,0.4s,baz=60,slow=3.4,SNR=7.4								

NNC 18 15:44:41.7±2.7, 54.12N×86.45E, h0km, mb3.8, mpv3.1, 1C-8D, Error ellipse: s-maj=23.4km s-min=12.9km az=14.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ZAA0	**Zalesovo Array**	**0.98**	**260**	⇑P		Pg		15 44 59.6	-0.9
	0.6nm,0.4s								
ZAA0				⇓S		Sb		15 45 14.5	-0.5
	4.9nm,0.8s								
KURK	**Kurchatov**	**5.88**	**238**	⇓Pn		Pn		15 46 11.1	+1.1
	1.4nm,0.5s								
KURK				⇓Sn		Sn		15 47 20.4	+2.3
	1.9nm,0.7s								
KURK				⇓Lg		Lg		15 47 48.5	
	11nm,0.9s								
KURBB	**Kurchatov Arra**	**5.99**	**237**	⇓Pn		Pn		15 46 13.0	+1.6
	6.3nm,0.5s								
KURBB				⇓Sn		Sn		15 47 20.6	0.0
	2.3nm,0.5s								
KURBB				⇓Lg		Lg		15 47 49.4	
	19nm,0.8s								
MK31	**Makanchi Array**	**7.80**	**202**	Pn		Pn		15 46 37.5	+1.1
	0.7nm,0.5s,baz=28,slow=12,SNR=37								
MK31				Sn		Sn		15 48 05.1	-0.4
	0.5nm,0.5s,baz=27,slow=26,SNR=5.8								
MK31				⇓Lg		Lg		15 48 47.1	
	5.5nm,0.8s,baz=26,slow=30,SNR=8.0								

IDC ***18*** *15:56:47.0±1.4, 28.66N×140.77E, h0km, mb3.6/3, mbtmp3.6/5, ML2.7/2, MS2.8/3, Error ellipse: s-maj=50.3km s-min=18.1km az=65.0*

JMA ***18*** *15:56:49.8±0.2, 29.1N±0.7×14.2E±°, h128km, MV3.3/12, NEAR TORISHIMA IS*

ISC 18 15:56:51.9±1.2, 29.1N±0.1×141.6E±0.3, h50km, n20, σ1§77/14, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CBIJ	**Chichi jima**	**2.02**	**165**	P		**P**		**15 57 23.8**	**+0.4**
CBIJ						*e*S		**15 57 49.8**	**+2.3**
JCJ	**Chichijima**	**2.02**	**165**	Pn		**Pn**		**15 57 23.5**	**+0.1**
	35nm,0.3s,baz=84,slow=21,SNR=13								
JCJ				Sn		**Sn**		**15 57 48.9**	**+1.4**
	81nm,0.3s,baz=292,slow=22,SNR=13								
JHH2	**Haha-jima-NKT2**	**2.46**	**168**	*e*P		**Pn**		**15 57 29.6**	**0.0**
JHH2				*e*S		**Sn**		**15 58 00.1**	**+1.7**
JHJ2	**Mitsune**	**4.33**	**340**	*e*P		**Pn**		**15 57 57.0**	**+1.8**
JHJ	**Hachijo jima 2**	**4.34**	**339**	Pn		**Pn**		**15 57 55.6**	**+0.2**
	1.6nm,0.3s,baz=274,slow=20,SNR=1.7								
	8.1nm,0.3s								
JNY	**Yasuok**	**7.04**	**334**	*e*P		**Pn**		**15 58 34.4**	**+2.0**
JHO	**Hitachi**	**7.59**	**354**	*e*P		**Pn**		**15 58 40.0**	**+0.2**
MJAR	**Matsushiro Arr**	**8.00**	**340**	Pn		**Pn**		**15 58 44.3**	**-1.2**
	0.1nm,0.3s,baz=155,slow=12,SNR=12								
	1.1nm,0.4s								
JNU	**Nakatsue**	**10.06**	**296**	LR		LR		16 02 10.0	
	comp=Z,80nm,19.1s,baz=98,slow=34								
JOW	**Kunigami**	**12.00**	**263**	LR		LR		16 03 32.5	
	comp=Z,22nm,19.9s,baz=126,slow=36								
H11N2	**WAKE ISLAND Hy**	**24.78**	**106**	T		T		16 29 02.3	
	baz=296,slow=75,SNR=48								
H11N1	**WAKE ISLAND Hy**	**24.79**	**106**	T		T		16 29 04.0	
	baz=296,slow=75,SNR=50								
H11N3	**WAKE ISLAND Hy**	**24.80**	**106**	T		T		16 29 05.5	
	baz=296,slow=75,SNR=66								
H11S3	**WAKE ISLAND Hy**	**25.19**	**109**	T		T		16 29 33.5	
	baz=299,slow=75,SNR=4.1								
H11S1	**WAKE ISLAND Hy**	**25.19**	**109**	T		T		16 29 34.7	
	baz=299,slow=75,SNR=10								
H11S2	**WAKE ISLAND Hy**	**25.20**	**109**	T		T		16 29 36.3	
	baz=299,slow=75,SNR=7.5								
CMAR	**Chiang Mai Arr**	**40.27**	**265**	LR		LR		16 20 34.0	
	comp=Z,14nm,19.2s,baz=95,slow=36								
MKAR	**Makanchi Array**	**48.86**	**308**	P		**P**		**16 05 33.3**	**+0.9**
	0.2nm,0.5s,baz=77,slow=11,SNR=5.6								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**49.22**	**189**	P		**P**		**16 05 32.3**	**-3.0**
	2.0nm,0.8s,baz=13,slow=8.8,SNR=12								
	2.0nm,0.8s								
ASAR	**Alice Springs**	**52.94**	**189**	P		**P**		**16 06 00.9**	**-2.3**
	0.5nm,1.0s,baz=4.2,slow=6.7,SNR=6.5								
	0.5nm,1.0s								

IDC ***18*** *16:45:24.5±1.3, 8.87N×145.96E, h0km, mb3.8/12, mbtmp3.9/14, ML4.1/2, MS3.2/8, Error ellipse: s-maj=40.3km s-min=17.4km az=94.0*

ISC 18 16:45:29.6±1.3, 8.91N±0.08×145.9E±0.3, h35km, n24, σ1§26/15, mb3.8/12, MS3.1/6, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GUMO	**Guam**	**4.75**	**348**	Pn		**Pn**		**16 46 36.8**	**-1.9**
	24nm,0.3s,baz=138,slow=9.3,SNR=21								
GUMO				Sn		**Sn**		**16 47 30.8**	**-1.8**
	25nm,0.3s,baz=31,slow=23,SNR=11								
GUMO				LR		LR		16 49 18.6	
	comp=Z,53nm,18.6s,baz=186,slow=49								
	49nm,0.3s								
JAY	**Jayapura**	**12.46**	**205**	Pn		**Pn**		**16 48 23.1**	**-1.6**
	0.3nm,0.3s,baz=2.2,slow=9.1,SNR=2.6								
JAY				LR		LR		16 52 28.5	
	comp=Z,168nm,18.1s,baz=28,slow=34								
	5.1nm,0.7s								
DAV	**Davao City (W)**	**20.17**	**266**	LR		LR		16 57 39.7	
	comp=Z,41nm,19.7s,baz=142,slow=36								
H11S3	**WAKE ISLAND Hy**	**22.34**	**63**	T		T

NEIC ***18*** *18:00:26.5, 16˚.62N× 146˚.32E, h22km*
MOS ***18*** *18:00:26.3± 1.2, 16˚.72N× 146˚.03E, h44km, mb5.9/69, MS5.5/57, Error ellipse: s-maj=7.4km s-min=4.0km az=105.0*
IDC ***18*** *18:00:28.9± 1.0, 16˚.66N× 146˚.03E, h54km± 8km, mb5.1/41, mbtmp5.3/45, MS5.4/81, Error ellipse: s-maj=11.7km s-min=5.5km az=97.0*
GCMT ***18*** *18:00:29.4± 0.1, 16˚.55N× 146˚.55E, h14km, MW5.8/162, Moment Tensor Solution. s138,c257; s162,c499; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr=2.81±.05; Mθθ 6.00±.06; Mϕϕ=3.19±.05; Mrθ=-1.76±.12; Mθϕ=-5.40±.04; Mϕr=-0.21±.11; Best double couple: Mo 7.33400× 10^17 NP1: ϕs 339.00000°, δ 72.00000°, λ=-7.00000°. NP2: ϕs 71.00000°, δ 83.00000°, λ=-162.00000°. Principal axes: T 8.6950, Plg 8.0000°, Azm 204.0000°; N -2.7220, Plg 71.0000°, Azm 92.0000°; P -5.9730, Plg 17.0000°, Azm 297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
DJA ***18*** *18:00:29.6± 0.6, 17˚.N× 2˚.×14˚.6E± ˚, h46km± 5km, M5.7/113, mB6.1/90, mb5.8/113, MLv6.0/1, Mw(mB) 5.8/90, MwMwp5.5/43, Mwp5.7/43*
IPGP ***18*** *18:00:29.0, 16˚.64N× 146˚.32E, h6km, Mw6.0, Fault plane solution: NP1: ϕs 76.00000°, δ 75.00000°, λ=-145.00000°. NP2: ϕs 335.00000°, δ 56.00000°, λ=-18.00000°.*
ISC 18 18:00:28.0± 0.4, 16˚.63N± 0˚.02× 146˚.39E± 0˚.03, h43km× 2km, h43km: pP-P, n1699, σ 2s 33/1585, mb5.9/514, MS5.6/482, 19C-36D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
GUMO	**Guam**	**3.36**	**206**			**Pn**	**18 01 16.9**	**-1.1**
GUMO	**Guam**	**3.36**	**206**	P		**Pn**	**18 01 17.1**	**-1.0**
	2μm,0.5s,baz=106,slow=1.0,SNR=404							
GUMO				LR		LR	18 01 45.8	
	comp=Z,53μm,18.0s,baz=80,slow=24							
GUMO				S		**Sn**	**18 01 55.3**	**-1.5**
	6μm,0.6s,baz=342,slow=18,SNR=11							
GUMO	**Guam**	**3.36**	**206**	P		**Pn**	**18 01 17.1**	**-1.0**
GUMO	**Guam**	**3.36**	**206**	S		**Sn**	**18 01 56.5**	**-0.3**
GUMO	**Guam**	**3.36**	**206**	P		**Pn**	**18 01 16.9**	**-1.1**
JCJ	**Chichijima**	**11.12**	**340**			**Pn**	**18 03 05.7**	**+1.2**
JCJ	**Chichijima**	**11.12**	**340**	P		**Pn**	**18 03 04.0**	**-0.5**
	33nm,0.5s,baz=119,slow=12,SNR=5.8							
JCJ				S		**Sn**	**18 05 04.8**	**-2.6**
	138nm,0.6s,baz=232,slow=22,SNR=2.1							
PATS	**Pohnpei**	**15.19**	**128**	P		Pn	18 03 52.4	-7.3
PATS	**Pohnpei**	**15.19**	**128**	P		**Pn**	**18 04 01.4**	**+1.7**
JMZ	**Minamidaito 2**	**16.83**	**305**			**P**	**18 04 21.9**	**-0.3**
JHJ2	**Mitsune**	**17.45**	**341**			**P**	**18 04 29.1**	**+0.1**
JHJ2	**Mitsune**	**17.45**	**341**	P		**P**	**18 04 29.3**	**+0.3**
JHJ	**Hachijo jima 2**	**17.47**	**341**	P		**Pn**	**18 04 28.3**	**-0.2**
	62nm,0.8s,baz=273,slow=23,SNR=14							
JHJ				S		**Sn**	**18 07 40.8**	**-1.2**
	85nm,0.9s,baz=113,slow=16,SNR=1.8							
JHJ				LR		LR	18 10 44.9	
	comp=Z,13μm,18.1s,baz=164,slow=36							
MANU	**Manus Island**	**18.58**	**177**			**P**	**18 04 40.8**	**-0.8**
JSG	**Sagara**	**19.42**	**339**	P		**Pn**	**18 04 51.3**	**-0.7**
JSG	**Sagara**	**19.42**	**339**	P		**Pn**	**18 04 52.1**	**+0.1**
H11S3	**WAKE ISLAND Hy**	**19.44**	**82**	P		**Pn**	**18 04 54.6**	**+2.3**
	baz=272,slow=7.7,SNR=8.4							
H11S3				T		T	18 25 36.0	
	baz=266,slow=75,SNR=104							
H11S1	**WAKE ISLAND Hy**	**19.45**	**81**	P		**Pn**	**18 04 54.9**	**+2.5**
	baz=272,slow=7.7,SNR=7.4							
H11S1				T		T	18 25 34.9	
	baz=266,slow=75,SNR=218							
WAKE	**Wake Island**	**19.45**	**79**	P		**P**	**18 04 51.4**	**+0.3**
WAKE				IAmb		IAmb	18 05 02.4	
	comp=Z,1μm,1.6s							
WAKE	**Wake Island**	**19.45**	**79**	P		**Pn**	**18 04 53.1**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**19.46**	**82**	P		**Pn**	**18 04 54.1**	**+1.7**
	baz=272,slow=7.7,SNR=6.8							
H11S2				T		T	18 25 36.0	
	baz=266,slow=75,SNR=244							
JOW	**Kunigami**	**19.63**	**304**	P		**Pn**	**18 04 55.4**	**+0.6**
	comp=Z,290nm,0.7s,baz=141,slow=9.6,SNR=82							
JOW				S		**S**	**18 08 27.9**	**-4.5**
	comp=Z,31nm,1.1s,baz=128,slow=14,SNR=1.5							
JOW				LR		LR	18 11 13.3	
	comp=Z,21μm,21.1s,baz=116,slow=33							
JOW	**Kunigami**	**19.63**	**304**	P		**Pn**	**18 04 55.7**	**+1.0**
H11N1	**WAKE ISLAND Hy**	**19.72**	**78**	P		**Pn**	**18 04 56.3**	**+0.8**
	baz=256,slow=13,SNR=18							
H11N1				T		T	18 25 57.1	
	baz=264,slow=74,SNR=990							
H11N2	**WAKE ISLAND Hy**	**19.72**	**78**	P		**Pn**	**18 04 56.6**	**+1.0**
	baz=256,slow=13,SNR=16							
H11N2				T		T	18 26 01.6	
	baz=264,slow=74,SNR=1130							
H11N3	**WAKE ISLAND Hy**	**19.73**	**78**	P		**Pn**	**18 04 56.4**	**+0.6**
	baz=256,slow=13,SNR=14							
H11N3				T		T	18 25 48.4	
	baz=264,slow=74,SNR=888							
JAY	**Jayapura**	**19.84**	**197**	P		**Pn**	**18 04 56.3**	**-0.9**
	comp=Z,152nm,0.7s,baz=16,slow=5.4,SNR=51							
JAY				S		**S**	**18 08 36.0**	**-0.6**
	comp=Z,12nm,0.9s,baz=238,slow=7.0,SNR=0.9							
JAY				LR		LR	18 11 52.7	
	comp=Z,13μm,20.8s,baz=16,slow=35							
JAY	**Jayapura**	**19.84**	**197**	P		**Pn**	**18 04 57.0**	**-0.2**
	comp=Z,14μmcomp=Z,815nm,1.9s							
SMPI	**Sarmi**	**20.00**	**203**	P		**P**	**18 04 57.6**	**+0.5**
	comp=Z,13μmcomp=Z,705nm,2.3s							
GENI	**Genyem**	**20.07**	**198**	P		Pn	18 04 59.3	-0.6
GENI	**Genyem**	**20.07**	**198**	P		Pn	18 05 00.7	+0.8
	comp=Z,1μm,1.5s							
BAKI	**Biak**	**20.41**	**211**	P		Pn	18 05 03.0	-1.0
	comp=Z,11μmcomp=Z,670nm,0.9s							
JMN	**Monobe**	**20.41**	**329**	P		**P**	**18 05 02.7**	**+1.2**
INU	**Inuyama**	**20.44**	**338**			**P**	**18 05 01.8**	**+0.1**
INU					IAMs_20	IAMs_20	18 11 52.3	
	comp=Z,25μm,20.0s							
INU	**Inuyama**	**20.44**	**338**	P		Pn	18 05 03.3	-0.8
INU	**Inuyama**	**20.44**	**338**	S		Sn	18 08 52.4	-1.1
JGF	**Kuroka**	**20.54**	**339**	P		**P**	**18 05 02.2**	**-0.6**
JGF	**Kuroka**	**20.54**	**339**	P		**P**	**18 05 02.3**	**-0.6**
JGF	**Kuroka**	**20.54**	**339**	S		Sn	18 08 54.7	-1.4
SRPI	**Serui, Papua**	**20.94**	**210**	P		Pn	18 05 09.3	-0.9
	comp=Z,9μmcomp=Z,4μmcomp=Z,341nm,1.0s							
MJAR	**Matsushiro Arr**	**21.12**	**341**	P		**P**	**18 05 07.1**	**-2.0**
MJAR	**Matsushiro Arr**	**21.12**	**341**	P		**P**	**18 05 07.8**	**-1.3**
	comp=Z,12nm,0.6s,baz=172,slow=11,SNR=53							
MJAR				LR		LR	18 12 17.6	
	comp=Z,14μm,19.0s,baz=156,slow=34							
	comp=Z,12nm,0.6s							
MAJO	**Matsushiro**	**21.12**	**341**			**P**	**18 05 07.9**	**-1.2**
MAJO	**Matsushiro**	**21.12**	**341**	P		**P**	**18 05 09.3**	**+0.2**
MAJO	**Matsushiro**	**21.12**	**341**	P		**P**	**18 05 07.9**	**-1.2**
MAJO				pmax		pmax		
	comp=Z,69nm,0.7s							
MAJO				MLR		MLR		
	comp=Z,13μm,19.0s							
MJB9	**Matsu-Tunnel**	**21.13**	**341**	P		**P**	**18 05 08.4**	**-0.8**
JMJ	**Miyako jima 2**	**21.33**	**296**	P		**P**	**18 05 12.7**	**+1.3**
RABL	**Rabaul**	**21.46**	**164**	P		**P**	**18 05 13.1**	**+0.2**
RABL				IAmb		IAmb	18 05 24.0	
	comp=Z,1μm,1.1s							
JNU	**Nakatsue**	**21.58**	**322**	P		**P**	**18 05 13.7**	**-0.4**
	comp=Z,16nm,0.8s,baz=124,slow=7.3,SNR=20							
JNU				LR		LR	18 12 17.4	
	comp=Z,8μm,21.6s,baz=106,slow=33							
	comp=Z,16nm,0.8s							
JNU	**Nakatsue**	**21.58**	**322**	P		**P**	**18 05 15.9**	**+1.8**
RKPI	**Ransiki, Papua**	**21.69**	**215**	P		**P**	**18 05 17.2**	**+1.9**
	comp=Z,13μmcomp=Z,6μmcomp=Z,304nm,0.9s							
JMM	**Marumori**	**21.72**	**348**	P		**P**	**18 05 15.2**	**-0.3**
JMM	**Marumori**	**21.72**	**348**	P		**P**	**18 05 16.7**	**+1.2**
JMM	**Marumori**	**21.72**	**348**	S		**S**	**18 09 16.5**	**+3.0**
WAMI	**Wamena**	**21.75**	**201**	P		**P**	**18 05 19.1**	**+3.1**
DAV	**Davao City (W)**	**22.45**	**247**		IAMs_20	IAMs_20	18 11 34.8	
	comp=Z,21μm,21.0s							
DAV	**Davao City (W)**	**22.45**	**247**	LR		LR	18 14 15.9	
	comp=Z,7μm,19.8s,baz=70,slow=37							
DAV	**Davao City (W)**	**22.45**	**247**	P		**P**	**18 05 25.8**	**+2.2**
DAV				P		**P**	**18 05 25.8**	**+2.2**
DAV				S		**S**	**18 09 30.9**	**+3.4**
DAV				S		**S**	**18 09 30.9**	**+3.4**
DAV	**Davao City (W)**	**22.45**	**247**	P		**P**	**18 05 25.0**	**+1.4**
JSD	**Sado**	**22.49**	**343**	P		**P**	**18 05 25.1**	**+1.3**
SWI	**Sorong**	**22.91**	**222**	P		**P**	**18 05 28.2**	**-0.2**
	comp=Z,8μmcomp=Z,756nm,1.1s							
SWI	**Sorong**	**22.91**	**222**	P		**P**	**18 05 28.4**	**0.0**
YOJ	**Yonaguni jima**	**23.22**	**293**	P		**P**	**18 05 31.8**	**+0.4**
YOJ				IAmb		IAmb	18 05 34.9	
	comp=Z,857nm,1.6s							
YOJ	**Yonaguni jima**	**23.22**	**293**	S		**S**	**18 09 42.8**	**+2.5**
YOJ	**Yonaguni jima**	**23.22**	**293**	P		**P**	**18 05 31.8**	**+0.4**
YOJ				pmax		pmax		
	comp=Z,857nm,1.6s							
JTU	**Tsushima**	**23.44**	**323**	P		**P**	**18 05 35.3**	**+1.8**
KMPI	**Kaimana, Papua**	**23.74**	**213**	P		**P**	**18 05 37.0**	**+0.5**
	comp=Z,11μmcomp=Z,10μmcomp=Z,1μm,0.9s							
FAKI	**Fak Fak**	**23.93**	**217**			**P**	**18 05 38.2**	**0.0**
FAKI				IAmb		IAmb	18 05 50.6	
	comp=Z,403nm,0.8s							
FAKI				IAMs_20		IAMs_20	18 14 26.4	
	comp=Z,18μm,19.0s							
FAKI	**Fak Fak**	**23.93**	**217**	P		**P**	**18 05 39.0**	**+0.8**
FAKI	**Fak Fak**	**23.93**	**217**	P		**P**	**18 05 37.8**	**-0.4**
	comp=Z,10μmcomp=Z,7μmcomp=Z,642nm,1.1s							
SGSI	**Sangihe**	**24.19**	**240**	P		**P**	**18 05 43.0**	**+2.3**
	comp=Z,7μmcomp=Z,7μmcomp=Z,539nm,0.9s							
TNTI	**Ternate**	**24.49**	**232**			**P**	**18 05 42.2**	**-1.2**
TNTI	**Ternate**	**24.49**	**232**	P		**P**	**18 05 43.0**	**-0.3**
JTM	**Tenmabayashi**	**24.51**	**350**	IAmb		IAmb	18 05 47.1	
	comp=Z,232nm,0.8s							
JTM	**Tenmabayashi**	**24.51**	**350**	P		**P**	**18 05 44.5**	**+1.2**
JTM	**Tenmabayashi**	**24.51**	**350**	S		**S**	**18 10 05.3**	**+4.5**
TWGBT	**Beinan**	**24.59**	**289**	P		**P**	**18 05 45.0**	**+0.8**
TWG	**Pinlang**	**24.60**	**289**	IAmb		IAmb	18 06 05.6	
	comp=Z,279nm,0.8s							
TGY	**Tagaytay City**	**24.67**	**268**	LR		LR	18 13 21.5	
	comp=Z,6μm,22.0s,baz=82,slow=32							
TATO	**Taipei**	**24.69**	**294**	P		**P**	**18 05 45.1**	**0.0**
TATO	**Taipei**	**24.69**	**294**	P		**P**	**18 05 46.4**	**+1.3**
TATO				P		**P**	**18 05 46.4**	**+1.3**
TATO				S		**S**	**18 10 10.2**	**+6.2**
TATO				S		**S**	**18 10 10.2**	**+6.2**
TATO	**Taipei**	**24.69**	**294**	P		**P**	**18 05 46.6**	**+1.5**
YHNB	**Yeheng**	**24.71**	**293**	IAMs_20		IAMs_20	18 14 00.6	
	comp=Z,17μm,21.0s							
TPUB	**Ta-pu**	**25.08**	**290**	P		**P**	**18 05 48.1**	**-0.6**
TPUB				IAmb		IAmb	18 06 14.7	
	comp=Z,351nm,1.2s							
ERM	**Erimo**	**25.45**	**354**	P		**P**	**18 05 51.4**	**-0.4**
ERM	**Erimo**	**25.45**	**354**	P		**P**	**18 05 53.3**	**+1.5**
ERM	**Erimo**	**25.45**	**354**	*d* iP		**P**	**18 05 51.0**	**-0.8**
ERM				pmax		pmax		
	comp=Z,218nm,1.2s							
ERM				MLR		MLR		
	comp=Z,10μm,16.0s							
JEM	**Erimo**	**25.45**	**354**	P		**P**	**18 05 53.8**	**+2.0**
MMPI	**Merauke**	**25.64**	**194**	P		**P**	**18 05 54.0**	**+0.3**
PMG	**Port Moresby**	**25.88**	**178**			**P**	**18 05 55.3**	**-0.6**
PMG				IAmb		IAmb	18 06 07.2	
	comp=Z,706nm,1.3s							
PMG	**Port Moresby**	**25.88**	**178**	P		**P**	**18 05 55.8**	**-0.1**
	comp=Z,155nm,0.9s,baz=356,slow=6.3,SNR=34							
PMG				LR		LR	18 14 56.6	
	comp=Z,7μm,21.3s,baz=348,slow=34							
	comp=Z,155nm,0.9s							
PMG	**Port Moresby**	**25.88**	**178**	P		**P**	**18 05 55.7**	**-0.2**
PMG	**Port Moresby**	**25.88**	**178**	S		**S**	**18 10 26.0**	**+3.0**
PMG	**Port Moresby**	**25.88**	**178**	P		**P**	**18 05 56.1**	**+0.1**
PMG	**Port Moresby**	**25.88**	**178**	S		**S**	**18 10 26.1**	**+3.0**
PMG	**Port Moresby**	**25.88**	**178**	*c* iP		**P**	**18 05 56.0**	**+0.1**
PMG				pmax		pmax		
	comp=Z,492nm,1.2s							
PMG				MLR		MLR		
	comp=Z,5μm,16.0s							
TJN	**Taejon**	**25.92**	**323**	*e* P		**P**	**18 05 54.4**	**-1.8**
MSAI	**Masohi**	**26.30**	**223**	P		**P**	**18 05 59.6**	**-0.2**
	comp=Z,7μmcomp=Z,4μmcomp=Z,406nm,0.8s							
KSRS	**Korea Array**	**26.38**	**325**	P		**P**	**18 05 57.8**	**-2.5**
	comp=Z,4.7nm,0.4s,baz=145,slow=8.8,SNR=36							
KSRS				PcP		**PcP**	**18 09 25.2**	**0.0**
	comp=Z,5.6nm,0.9s,baz=122,slow=1.6,SNR=3.9							
KSRS				ScP		**ScP**	**18 13 00.6**	**-1.1**
	comp=Z,8.0nm,1.1s,baz=141,slow=3.4,SNR=8.3							
KSRS				LR		LR	18 15 04.0	
	comp=Z,9947μm,21.1s,baz=135,slow=33							
KSRS				P3KPbc			18 38 45.8	
	comp=Z,1.2nm,0.7s,baz=324,slow=3.8,SNR=6.1							
	comp=Z,4.7nm,0.4s							
KSAR	**Wonju Array Be**	**26.39**	**325**	P		**P**	**18 05 57.7**	**-2.7**
KSAR	**Wonju Array Be**	**26.39**	**325**	P		**P**	**18 05 57.7**	**-2.7**
AAI	**Amboni**	**27.04**	**223**	P		**P**	**18 06 06.2**	**-0.2**
	comp=Z,5μmcomp=Z,3μmcomp=Z,358nm,0.8s							
SSE	**Sheshan**	**27.09**	**307**	P		**P**	**18 06 06.6**	**-0.2**
SSE				S		**S**	**18 10 40.3**	**-1.7**
SSE				pmax		pmax		
	comp=Z,370nm,7.9s							
SSE				LR		LR		
	comp=Z,3μm,17.2s							
SSE				LR		LR		
	comp=Z,3μm,16.8s							
INCN	**Inchon**	**27.11**	**324**	P		**P**	**18 06 06.3**	**-0.7**
INCN				P		**P**	**18 06 06.3**	**-0.7**
INCN				S		**S**	**18 10 46.5**	**+4.1**
INCN				S		**S**	**18 10 46.5**	**+4.1**
QZH	**Quanzhou**	**27.23**	**292**	*i* iP		**P**	**18 06 08.4**	**+0.3**
QZH				PP		**PnPn**	**18 06 56.8**	**+3.7**
QZH				S		**S**	**18 10 47.5**	**+3.1**
QZH				pmax		pmax		
	comp=Z,140nm,1.0s							
QZH				pmax		pmax		
	comp=Z,1μm,6.1s							
QZH				LR		LR		
	comp=Z,4μm,12.7s							
QZH				LR		LR		
	comp=Z,10μm,19.2s							
QZH				LR		LR		
	comp=Z,12μm,23.0s							
KMSI	**Cibinong**	**27.24**	**236**	P		**P**	**18 06 09.4**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**27.32**	**359**	*e* P		**P**	**18 06 06.1**	**-2.5**
YUK				*i* S		**S**	**18 10 45.0**	**-0.3**
YUK				pmax		pmax		
	comp=Z,1μm,1.3s							
YUK				pmax		pmax		
	comp=E,292nm,0.7s							
YUK				pmax		pmax		
	comp=N,535nm,1.1s							
SANI	**Sanana**	**27.39**	**229**	S		**S**	**18 10 43.4**	**-3.6**
SANI				P		**P**	**18 06 06.7**	**-2.9**
SANI	**Sanana**	**27.39**	**229**	P		**P**	**18 06 08.3**	**-1.3**
SANI	**Sanana**	**27.39**	**229**	P		**P**	**18 06 07.9**	**-1.7**
	comp=N,123nm,0.8s							
NLAI	**Namlea**	**27.44**	**226**	P		**P**	**18 06 10.5**	**+0.5**
JKA	**Kamikawa-asahi**	**27.59**	**354**	IAmb		IAmb	18 06 31.9	
	comp=Z,457nm,1.4s							
ASAJ	**Asahikawa**	**27.59**	**354**	LR		LR	18 16 52.4	
	comp=Z,9μm,21.1s,baz=188,slow=36							
ASAJ	**Asahikawa**	**27.59**	**354**	P		**P**	**18 06 12.5**	**+1.4**
ASAJ				pmax		pmax		
	comp=Z,234nm,1.3s							
HJU	**Haeju**	**28.02**	**324**	P		**P**	**18 06 16.1**	**+1.2**
HJU				S		**S**	**18 10 59.9**	**+3.4**
HJU				AmB				
	comp=Z,2μm,4.0s							
HJU				AMS		AMS		
	comp=Z,9μm,19.2s							
TATA	**Tatamba Isabel**	**28.18**	**151**	P		**P**	**18 06 17.4**	**+0.8**
HHU	**Hamhung**	**28.42**	**329**	P		**P**	**18 06 19.4**	**+0.8**
HHU				S		**S**	**18 11 06.2**	**+3.4**
HHU				AmB				
	comp=Z,834nm,4.4s							
HHU				AMS		AMS		
	comp=Z,8μm,19.5s							
KUR	**Kuril'sk**	**28.54**	**2**	*e* P		**P**	**18 06 19.0**	**-0.5**
KUR				*e*			18 07 11.7	
KUR				*e*S		**S**	**18 11 03.3**	**-1.2**
KUR				*e*SS		**SnSn**	**18 12 25.2**	**-1.5**
KUR				*e*			18 17 02.4	
KUR				pmax		pmax		
	comp=Z,1μm,1.1s							
KUR				pmax		pmax		
	comp=N,350nm,1.3s							
KUR				pmax		pmax		
	comp=E,201nm,1.0s							
KUR				pmax		pmax		
	comp=Z,2μm,4.1s							
KUR				MLR		MLR		
	comp=Z,5μm,15.0s							
KUR				MLR		MLR		
	comp=N,3μm,20.0s							
SAUI	**Saumlaki**	**28.65**	**213**	IAmb		IAmb	18 06 23.6	
	comp=Z,386nm,0.9s							
PYAG	**Pyongyang**	**28.71**	**325**	P		**P**	**18 06 22.1**	**+1.0**
PYAG				S		**S**	**18 11 11.1**	**+3.8**
PYAG				AmB				
	comp=Z,833nm,3.2s							
MRSI	**Marisa**	**28.95**	**239**	P		**P**	**18 06 24.3**	**+0.8**
	comp=Z,3μmcomp=Z,3μmcomp=Z,127nm,0.8s							
VLA	**Vladivostok**	**29.16**	**338**	*de*P		**P**	**18 06 25.2**	**+0.2**
VLA				pmax		pmax		
	comp=Z,82nm,1.2s							
VLA				MLR		MLR		
	comp=Z,6μm,16.0s							
PSTR	**Posyet**	**29.16**	**336**	||*e*P		**P**	**18 06 25.0**	**0.0**
HNR	**Honiara**	**29.16**	**152**	LR		LR	18 15 43.7	
	comp=Z,10μm,21.2s,baz=330,slow=31							
HNR	**Honiara**	**29.16**	**152**	P		**P**	**18 06 25.4**	**+0.1**
HNR				pmax		pmax		
	comp=Z,286nm,1.1s							
LUWI	**Luwuk**	**29.18**	**235**	S		**S**	**18 11 16.9**	**+1.8**
LUWI				P		**P**	**18 06 22.5**	**-3.0**
LUWI	**Luwuk**	**29.18**	**235**	IAmb		IAmb	18 07 04.0	
	comp=Z,251nm,0.9s							
LUWI	**Luwuk**	**29.18**	**235**	P		**P**	**18 06 26.3**	**+0.8**
LUWI	**Luwuk**	**29.18**	**235**	P		**P**	**18 06 26.0**	**+0.5**
	comp=Z,3μmcomp=Z,247nm,0.8s							
NJ2	**Nanjing**	**29.30**	**307**	||P		**P**	**18 06 23.3**	**-3.1**
NJ2				pmax		pmax		
	comp=Z,560nm,10.5s							
NJ2				LR		LR		
	comp=Z,9μm,19.9s							
NJ2				LR		LR		
	comp=Z,7μm,23.7s							
NJ2				LR		LR		
	comp=Z,10μm,22.7s							
TEY	**Ternei**	**29.49**	**346**	*e*P		P	18 06 19.9	-8.1
TEY							18 11 06.3	
TOLI2	**Tolitoli**	**29.56**	**241**	P		**P**	**18 06 28.8**	**-0.2**
TOLI2	**Tolitoli**	**29.56**	**241**	P		**P**	**18 06 29.9**	**+1.0**
MYLDM	**Lahad Datu**	**29.61**	**251**	P		**P**	**18 06 30.3**	**+0.9**
APSI	**Ampana**	**29.99**	**237**	P		**P**	**18 06 34.9**	**+2.1**
USA0B	**Ussuriysk Arra**	**30.06**	**339**	||*e*P		**P**	**18 06 31.1**	**-1.9**
USRK	**Ussuriysk Ar.**	**30.06**	**339**	P		**P**	**18 06 31.8**	**-1.2**
	comp=Z,4.9nm,0.6s,baz=150,slow=9.3,SNR=10							
USRK				ScP		**ScP**	**18 13 11.3**	**-1.7**
	comp=Z,4.2nm,0.9s,baz=98,slow=5.0,SNR=4.5							
USRK				LR		LR	18 17 02.6	
	comp=Z,8μm,20.3s,baz=148,slow=33							
	comp=Z,4.9nm,0.6s							
YSS	**Yuzhno-Sakhali**	**30.39**	**355**	P		**P**	**18 06 34.8**	**-1.1**
YSS	**Yuzhno-Sakhali**	**30.39**	**355**	P		**P**	**18 06 36.4**	**+0.5**
YSS	**Yuzhno-Sakhali**	**30.39**	**355**	*e*P		**P**	**18 06 34.6**	**-1.3**
YSS				*e**PP		**pwP**	**18 06 50.7**	**+0.4**
YSS				*e*			18 07 31.6	
YSS				*e*			18 09 34.9	
YSS				*e*S		**S**	**18 11 28.6**	**-4.8**
YSS				*e*SS		**SS**	**18 13 35.2**	**-9.0**
YSS				pmax		pmax		
	comp=Z,700nm,5.6s							
YSS				pmax		pmax		
	comp=Z,50nm,0.9s							
YSS				smax		smax		
	comp=N,500nm,6.3s							
YSS				smax		smax		
	comp=E,800nm,6.3s							
YSS				MLR		MLR		
	comp=E,7μm,16.0s							
COEN	**Coen**	**30.56**	**186**	P		**P**	**18 06 38.5**	**+0.8**
	comp=Z,122nm,1.1s							
COEN	**Coen**	**30.56**	**186**	P		**P**	**18 06 37.9**	**+0.2**
DL2	**Dalian**	**31.00**	**321**	P		**P**	**18 06 40.1**	**-1.3**
DL2				PP		**PnPn**	**18 07 44.3**	**+0.7**
DL2				S		**S**	**18 11 41.9**	**-1.4**
DL2				pmax		pmax		
	comp=Z,500nm,10.7s							
DL2				LR		LR		
	comp=Z,5μm,18.4s							
DL2				LR		LR		
	comp=Z,8μm,20.2s							
DL2				LR		LR		
	comp=Z,8μm,22.8s							
NGOA	**Tingoa Renbel**	**31.10**	**153**	P		**P**	**18 06 42.6**	**+0.2**
MDJ	**Mudanjiang**	**31.29**	**337**	IAMs_20		IAMs_20	18 17 35.0	
	comp=Z,16μm,21.0s							
MDJ	**Mudanjiang**	**31.29**	**337**	P		**P**	**18 06 45.4**	**+1.5**
MDJ				S		**S**	**18 11 54.3**	**+6.6**
MDJ				ScS		**ScS**	**18 17 12.8**	**-1.6**
MDJ				pmax		pmax		
	comp=Z,28nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,500nm,10.0s							
MDJ				LR		LR		
	comp=Z,11μm,21.3s							
MDJ				LR		LR		
	comp=Z,12μm,20.6s							
MDJ				LR		LR		
	comp=Z,20μm,20.6s							
KKM	**Kota Kinabalu**	**31.35**	**254**	P		**P**	**18 06 45.9**	**+0.9**
KKM				IAmb		IAmb	18 06 48.5	
	comp=Z,149nm,0.9s							
KKM	**Kota Kinabalu**	**31.35**	**254**	P		**P**	**18 06 47.1**	**+2.2**
PCI	**Palu**	**31.46**	**239**	P		**P**	**18 06 45.6**	**-0.2**

CNSH LR LR
comp=Z,3μm,15.7s
MTN Manton Dam 32.94 208 IAmb IAmb 18 06 59.6
comp=Z,114nm,0.7s
MTN Manton Dam 32.94 208 P **P** **18 06 57.5 -1.2**
comp=Z,160nm,0.7s
BNX BinXian 33.08 335 ⇑P **P** **18 06 56.8 -2.8**
BNX S **S** **18 12 13.0 -2.6**
BNX PcS **PcS** **18 13 27.0 -0.6**
BNX pmax pmax
comp=Z,370nm,10.6s
BNX LR LR
comp=Z,2μm,12.6s
BNX LR LR
comp=Z,2μm,12.8s
BNX LR LR
comp=Z,3μm,12.8s
SPSI Sidrap Palu 33.33 234 P **P** **18 07 03.0 +0.9**
comp=Z,74nm,1.2s
BNSI Bone 33.34 233 P **P** **18 07 05.3 +3.1**
comp=Z,3μmcomp=Z,2μmcomp=Z,123nm,1.3s
SMKI Samarinda 33.41 242 P **P** **18 07 04.6 +1.8**
comp=Z,3μmcomp=Z,314nm,1.0s
BKSI Bulukumba 33.92 232 P **P** **18 07 07.8 +0.6**
KAPI Kappang 34.01 233 P **P** **18 07 07.5 -0.5**
KAPI IAmb IAmb 18 07 20.1
comp=Z,343nm,1.9s
KAPI Kappang 34.01 233 P **P** **18 07 08.8 +0.9**
comp=Z,16nm,0.4s,baz=50,slow=8.6,SNR=11
KAPI LR LR 18 19 05.3
comp=Z,2μm,19.4s,baz=42,slow=33
KAPI Kappang 34.01 233 P **P** **18 07 09.5 +1.6**
KAPI P **P** **18 07 09.5 +1.6**
KAPI S **S** **18 12 35.6 +5.1**
KAPI S **S** **18 12 35.6 +5.1**
KAPI Kappang 34.01 233⇓*e*P **P** **18 07 08.9 +0.9**
KAPI pmax pmax
comp=Z,191nm,1.9s
SOEI Soe 34.15 221 P **P** **18 07 07.2 -2.1**
SOEI S S 18 12 23.4 -10
SOEI Soe 34.15 221 IAmb IAmb 18 07 41.9
comp=Z,322nm,1.2s
SOEI Soe 34.15 221 P **P** **18 07 10.1 +0.7**
SOEI Soe 34.15 221 P **P** **18 07 07.9 -1.5**
comp=Z,3μmcomp=Z,4μmcomp=Z,210nm,0.9s
BSSI Bau Bau, Buton 34.18 231 P **P** **18 07 11.2 +1.7**
comp=Z,3μmcomp=Z,2μmcomp=Z,147nm,1.1s
TYV Tymovskoe 34.28 356 *e*P **P** **18 07 09.8 -0.1**
TYV *e*S **S** **18 12 35.3 +1.3**
TYV pmax pmax
comp=Z,45nm,1.0s
TYV pmax pmax
comp=Z,400nm,3.2s
TYV smax smax
comp=N,900nm,3.7s
TYV smax smax
comp=E,1μm,3.7s
TYV smax smax
comp=N,26nm,1.9s
TYV smax smax
comp=E,25nm,1.9s
MTSU Mount Surprise 34.61 183 P **P** **18 07 14.2 +1.1**
comp=Z,206nm,0.8s
MTSU Mount Surprise 34.61 183 P **P** **18 07 13.8 +0.7**
MMRI Maumere 34.66 225 P **P** **18 07 13.9 +0.3**
MMRI Maumere 34.66 225 P **P** **18 07 12.8 -0.8**
comp=Z,3μmcomp=Z,3μmcomp=Z,360nm,1.2s
HNS HongShan 34.74 313 ⇑P **P** **18 07 15.5 +1.4**
HNS PP **PnPn** **18 08 31.1 0.0**
HNS S S 18 12 51.4 +10
HNS pmax pmax
comp=Z,29nm,1.0s
HNS LR LR
comp=Z,4μm,17.7s
HNS LR LR
comp=Z,6μm,17.5s
HNS LR LR
comp=Z,9μm,17.5s
QIZ Qiongzhong 34.84 280 P **P** **18 07 15.8 +0.6**
QIZ S **S** **18 12 45.3 +1.9**
QIZ pmax pmax
comp=Z,19nm,1.0s
QIZ LR LR
comp=Z,2μm,18.7s
QIZ LR LR
comp=Z,2μm,16.4s
SKR Severo-Kuril's 34.86 11 *e*P **P** **18 07 14.4 -0.5**
SKR *e*S **S** **18 12 43.0 +0.2**
SKR pmax pmax
comp=Z,800nm,5.5s
SKR pmax pmax
comp=Z,297nm,0.9s
SKR MLR MLR
comp=Z,6μm,15.0s
BATI Baumata 34.88 222 P **P** **18 07 14.2 -1.3**
comp=Z,97nm,0.8s,baz=75,slow=1.5,SNR=15
BATI LR LR 18 20 12.2
comp=Z,7μm,22.0s,baz=50,slow=34
comp=Z,97nm,0.8s
BATI Baumata 34.88 222 P **P** **18 07 14.3 -1.3**
comp=Z,2μmcomp=Z,153nm,0.7s
GRNR Gornyy 34.98 349⇑P **P** **18 07 14.7 -1.4**
GRNR pmax pmax
comp=Z,7.0nm,0.6s
BJT Baijiatuau 35.08 318 IAMs_20 IAMs_20 18 22 20.7
comp=Z,9μm,18.0s
BJI Beijing 35.09 318 P **P** **18 07 14.8 -2.3**
BJI S **S** **18 12 39.4 -7.3**
BJI LR LR
comp=Z,4μm,17.7s
BJI LR LR
comp=Z,2μm,18.5s
BJI LR LR
comp=Z,5μm,16.7s
EDFI Ende, Flores 35.12 226 P **P** **18 07 16.0 -1.7**
comp=Z,1μmcomp=Z,118nm,1.0s
LYN LuoYang 35.20 307 P **P** **18 07 18.5 +0.4**
LYN PP **PnPn** **18 08 34.9 -1.9**
LYN S **S** **18 12 47.5 -1.1**
LYN sS sS 18 13 14.0 +7.2
LYN pmax pmax
comp=Z,47nm,0.9s
LYN pmax pmax
comp=Z,650nm,11.7s
LYN LR LR
comp=Z,10μm,14.1s
LYN LR LR
comp=Z,10μm,16.8s
LYN LR LR
comp=Z,11μm,17.2s
MIDW Midway 35.30 65 P **P** **18 07 19.6 +0.6**
MIDW IAmb IAmb 18 07 21.6
comp=Z,320nm,1.1s
SBUM Sibu 36.43 251 P **P** **18 07 29.5 +0.6**
SBUM Sibu 36.43 251 P **P** **18 07 30.7 +1.8**
CTAO Charters Tower 36.49 180 P **P** **18 07 29.7 +0.5**
CTAO IAmb IAmb 18 07 39.4
comp=Z,309nm,1.6s
CTAO Charters Tower 36.49 180 P **P** **18 07 29.7 +0.5**
CTAO Charters Tower 36.49 180 P **P** **18 07 29.7 +0.5**
CTAO pmax pmax
comp=Z,309nm,1.6s
CTAO MLR MLR
comp=Z,5μm,20.0s
TIY Taiyuan 36.50 312 *e*P **P** **18 07 28.5 -0.8**
TIY PP **PP** **18 08 58.6 +5.7**
TIY S **S** **18 13 08.3 -0.3**
TIY sS **sS** **18 13 27.9 +1.0**
TIY SS **SnSn** **18 15 40.1 0.0**
TIY pmax pmax
comp=Z,460nm,5.0s
TIY LR LR
comp=Z,5μm,17.9s
TIY LR LR
comp=Z,3μm,22.0s
TIY LR LR
comp=Z,6μm,20.6s
KNRA Kununurra 36.51 209 IAmb IAmb 18 07 31.0
comp=Z,164nm,0.8s
KNRA Kununurra 36.51 209 P **P** **18 07 28.5 -1.0**
comp=Z,231nm,0.8s
NKL Nikolayevsk 36.72 354 *e*P **P** **18 07 28.5 -2.3**
NKL *e*S **S** **18 13 10.9 -0.3**
NKL pmax pmax
comp=N,144nm,1.0s
NKL pmax pmax
comp=E,161nm,1.1s
NKL pmax pmax
comp=Z,343nm,1.1s
NKL smax smax
comp=N,872nm,5.6s
NKL smax smax
comp=E,512nm,5.6s
NKL MLR MLR
comp=E,12μm,14.0s
NKL MLR MLR
comp=N,13μm,17.0s
NKL MLR MLR
comp=Z,18μm,19.0s
WSI Waingapu 36.73 226 P **P** **18 07 28.3 -3.1**
comp=Z,3μmcomp=Z,3μmcomp=Z,312nm,0.9s
HEH HeiHe 36.87 340 *e*P **P** **18 07 28.6 -3.5**
HEH PcP **PcP** **18 09 53.3 +0.1**
HEH S **S** **18 13 06.8 -6.9**
HEH ScP **ScP** **18 13 34.4 -2.3**
HEH pmax pmax
comp=Z,43nm,1.1s
HEH pmax pmax
comp=Z,400nm,5.7s
HEH LR LR
comp=Z,8μm,15.8s
HEH LR LR
comp=Z,5μm,13.4s
HEH LR LR
comp=Z,8μm,15.9s
BASI Baing, Sumba 36.93 226 P **P** **18 07 33.0 -0.1**
WBSI Waikabubak, Su 37.35 228 P **P** **18 07 33.7 -3.0**
comp=Z,2μmcomp=Z,165nm,0.7s
XLT XiLinHaoTe 37.36 323 *e*P **P** **18 07 37.9 +1.3**
XLT S **S** **18 13 17.6 -4.0**
XLT sS sS 18 13 40.8 +0.9
XLT pmax pmax
comp=Z,31nm,1.2s
XLT LR LR
comp=Z,770nm,18.9s
XLT LR LR
comp=Z,5μm,20.1s
XLT LR LR
comp=Z,10μm,22.4s
PEA0B Petropavlovsk- 37.47 11*d i*P **P** **18 07 38.6 +1.4**
PETK Petropavlovsk- 37.47 11 P **P** **18 07 38.3 +1.1**
comp=Z,93nm,0.9s,baz=186,slow=6.1,SNR=81
PETK PcP **PcP** **18 09 54.1 -0.9**
comp=Z,16nm,0.7s,baz=201,slow=1.3,SNR=3.8
PETK ScP **ScP** **18 13 37.4 -1.5**
comp=Z,9.4nm,0.9s,baz=203,slow=6.8,SNR=4.6
PETK LR LR 18 23 33.1
comp=Z,6μm,18.7s,baz=195,slow=37
comp=Z,93nm,0.9s
QIS Mount Isa 37.55 190 P **P** **18 07 38.2 -0.1**
comp=Z,396nm,0.8s
QIS Mount Isa 37.55 190 P **P** **18 07 38.9 +0.6**
PET Petropavlovsk 37.57 12 P **P** **18 07 38.9 +0.9**
PET PcP **PcP** **18 09 55.7 +0.5**
PET Petropavlovsk 37.57 12 P **P** **18 07 39.7 +1.6**
PET Petropavlovsk 37.57 12*de*P **P** **18 07 39.3 +1.2**
PET *e* 18 09 11.7
PET *e* 18 09 56.0
PET *e*S **S** **18 13 27.3 +3.0**
PET pmax pmax
comp=Z,163nm,1.1s
PET pmax pmax
comp=Z,800nm,5.9s
PET pmax pmax
comp=Z,2μm,14.4s
PET pmax pmax
comp=Z,700nm,11.9s
PET pmax pmax
comp=Z,1μm,12.0s
PET MLR MLR
comp=Z,6μm,17.0s
PET MLR MLR
comp=Z,5μm,16.0s
PET Petropavlovsk 37.57 12 P **P** **18 07 39.7 +1.6**
comp=Z,3μmcomp=Z,171nm,1.2s
XAN Xi'an 37.79 304 P **P** **18 07 40.3 0.0**
XAN pP pP 18 07 52.5 +0.9
XAN S **S** **18 13 27.6 -0.6**
XAN SS **SnSn** **18 16 05.6 -5.7**
XAN pmax pmax
comp=Z,42nm,1.0s
XAN pmax pmax
comp=Z,810nm,8.5s
XAN LR LR
comp=Z,4μm,15.8s
XAN LR LR
comp=Z,8μm,16.4s
XAN LR LR
comp=Z,10μm,17.9s
SANVU Saraoutou 37.92 146 P **P** **18 07 41.3 -0.1**
SANVU IAmb IAmb 18 07 53.1
comp=Z,160nm,0.8s
SANVU IAMs_20 IAMs_20 18 21 42.2
comp=Z,9μm,18.0s
PLAI Plampang 37.97 230 P **P** **18 07 42.6 +0.7**
PLAI Plampang 37.97 230 P **P** **18 07 39.5 -2.4**
comp=Z,2μmcomp=Z,131nm,0.7s
GYA Guiyang 38.09 292⇓P **P** **18 07 44.8 +1.8**
GYA PP **PnPn** **18 09 13.3 +0.9**
GYA S **S** **18 13 35.5 +2.3**
GYA pmax pmax
comp=Z,57nm,1.7s
GYA pmax pmax
comp=Z,1μm,6.0s
GYA LR LR
comp=Z,4μm,17.1s
GYA LR LR
comp=Z,3μm,21.1s
GYA LR LR
comp=Z,7μm,24.4s
STKI Sintang 38.15 248 P **P** **18 07 44.2 +0.8**
comp=Z,134nm,0.8s
WRAB Tennant Creek 38.21 199 P **P** **18 07 43.3 -0.6**
WRAB IAmb IAmb 18 07 56.0
comp=Z,483nm,1.2s
WRAB Tennant Creek 38.21 199*c i*P **P** **18 07 43.8 -0.1**
WRAB pmax pmax
comp=Z,440nm,1.2s
WRAB MLR MLR
comp=Z,6μm,17.0s
WRA Warramunga Arr 38.23 199 P **P** **18 07 43.5 -0.4**
comp=Z,169nm,0.8s,baz=21,slow=9.1,SNR=199
WRA PcP **PcP** **18 09 58.4 +0.6**
comp=Z,14nm,0.8s,baz=18,slow=3.9,SNR=2.7
WRA S **S** **18 13 32.6 -2.3**
comp=Z,25nm,1.1s,baz=19,slow=15,SNR=11
WRA ScP **ScP** **18 13 40.4 -1.9**
comp=Z,36nm,1.0s,baz=335,slow=4.4,SNR=9.6
WRA LR LR 18 25 04.1
comp=Z,6μm,18.6s,baz=24,slow=39
comp=Z,169nm,0.8s
WRA Warramunga Arr 38.23 199 *i* P **P** **18 07 43.2 -0.8**
WRA pmax pmax
comp=Z,179nm,0.8s
HHC Hu-ho-hao-te 38.53 316 *e*P **P** **18 07 44.6 -1.9**
HHC PP **PnPn** **18 09 19.3 +1.9**
HHC S **S** **18 13 36.9 -2.5**
HHC sS sS 18 14 00.5 +2.7
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,400nm,9.3s
HHC LR LR
comp=Z,7μm,16.0s
HHC LR LR
comp=Z,6μm,16.0s
HHC LR LR
comp=Z,10μm,18.6s
KSM Kuching 38.58 251 P **P** **18 07 48.2 +1.1**
HIA Hailar 39.09 332 IAMs_20 IAMs_20 18 23 04.2
comp=Z,10μm,19.0s
SRBI Singaraja 39.43 234 P **P** **18 07 55.3 +1.2**
comp=Z,3μmcomp=Z,3μmcomp=Z,184nm,1.9s
BTO Baotou 39.45 315 *e*P **P** **18 07 58.4 +4.2**
BTO pmax pmax
comp=Z,42nm,0.5s
BTO pmax pmax
comp=Z,1μm,5.6s
BTO LR LR
comp=Z,18μm,17.3s
BTO LR LR
comp=Z,7μm,18.1s
BTO LR LR
comp=Z,10μm,16.7s
DNP Denpasar 39.80 233 P **P** 18 08 11.7 +14
ZEA Zeya 39.93 342 *e*P **P** **18 07 56.4 -1.4**
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA MLR MLR
comp=E,4μm,16.0s
FITZ Fitzroy Crossi 40.10 212 P **P** **18 07 59.2 -0.4**
FITZ Fitzroy Crossi 40.10 212 P **P** **18 07 59.2 -0.4**
comp=Z,15nm,0.7s
FITZ Fitzroy Crossi 40.10 212 LR LR 18 24 14.4
comp=Z,3μm,21.2s,baz=44,slow=36
FITZ Fitzroy Crossi 40.10 212 P **P** **18 08 00.0 +0.3**
SLVN Son La 40.36 284 P **P** **18 08 03.0 +1.0**
SLVN IAMs_20 IAMs_20 18 25 26.1
comp=Z,9μm,20.0s
SLVN Son La 40.36 284 P **P** **18 08 03.2 +1.2**
JAGI Jajag, Banyuwa 40.49 234 P **P** **18 08 02.3 -0.6**
JAGI Jajag, Banyuwa 40.49 234 P **P** **18 08 03.6 +0.6**
JAGI Jajag, Banyuwa 40.49 234 P **P** **18 08 02.7 -0.3**
comp=Z,2μmcomp=Z,90nm,1.0s
GMJI Gumukmas 40.92 235 P **P** **18 08 06.4 -0.1**
CD2 Chengdu 41.27 298 P **P** **18 08 09.3 0.0**
CD2 pP pP 18 08 21.6 +0.9
CD2 sP sP 18 08 26.3 +0.7
CD2 S **S** **18 14 21.8 +1.2**
CD2 SS **SS** **18 17 25.1 0.0**
CD2 pmax pmax
comp=Z,130nm,1.3s
CD2 pmax pmax
comp=Z,1μm,5.4s
CD2 LR LR
comp=Z,8μm,15.7s
CD2 LR LR
comp=Z,10μm,19.6s
CD2 LR LR
comp=Z,9μm,21.4s
KMI Kunming 41.51 289 ⇓P **P** **18 08 13.3 +1.8**
KMI PcS **PcS** **18 13 59.9 -0.5**
KMI S **S** **18 14 23.8 -0.8**
KMI SS **SS** **18 17 32.9 +2.7**
KMI pmax pmax
comp=Z,820nm,3.9s
KMI LR LR
comp=Z,2μm,19.5s
KMI LR LR
comp=Z,4μm,18.0s
KMI LR LR
comp=Z,6μm,21.1s
AS01 Alice Springs 41.85 197 P **P** **18 08 14.0 0.0**
AS31 Alice Springs 41.87 197 P **P** **18 08 13.7 -0.4**
comp=Z,53nm,0.6s
ASAR Alice Springs 41.87 197 P **P** **18 08 13.6 -0.6**
comp=Z,54nm,0.7s,baz=20,slow=9.2,SNR=448
ASAR PcP **PcP** **18 10 10.4 +0.9**
comp=Z,16nm,0.8s,baz=20,slow=5.9,SNR=2.5
ASAR ScP **ScP** **18 13 56.2 -0.2**
comp=Z,10nm,1.0s,baz=14,slow=4.7,SNR=5.0
ASAR S **S** **18 14 27.3 -2.1**
comp=Z,32nm,1.0s,baz=22,slow=16,SNR=16
ASAR LR LR 18 25 56.8
comp=Z,5μm,20.7s,baz=18,slow=37
ASAR P3KPbc 18 37 39.4
comp=Z,0.3nm,0.7s,baz=194,slow=4.8,SNR=7.8
comp=Z,54nm,0.7s
EIDS Eidsvold 41.99 174 P **P** **18 08 15.0 -0.1**
EIDS Eidsvold 41.99 174 P **P** **18 08 15.8 +0.7**
comp=Z,52nm,1.9s
EIDS Eidsvold 41.99 174 P **P** **18 08 15.5 +0.4**
SHEM Shemya Is, Ala 42.10 25 LR LR 18 22 48.8
comp=Z,6μm,22.0s,baz=253,slow=32
SMY Shemya 42.10 25 P **P** **18 08 17.5 +1.8**
SMY IAmb IAmb 18 08 21.2
comp=Z,512nm,1.6s
SMY Shemya 42.10 25 P **P** **18 08 17.5 +1.8**
SMY pmax pmax
comp=Z,512nm,1.6s
LZH Lanzhou 42.36 306 *e*P **P** **18 08 18.1 -0.2**
LZH pP pP 18 08 29.3 -0.5
LZH sP sP 18 08 38.4 +3.6
LZH PP **PP** **18 10 01.3 +4.3**
LZH S **S** **18 14 29.3 -7.6**
LZH ScS **ScS** **18 18 16.5 -0.4**
LZH pmax pmax
comp=Z,75nm,1.4s
LZH pmax pmax
comp=Z,760nm,4.4s
LZH LR LR
comp=Z,4μm,15.2s
LZH LR LR
comp=Z,8μm,15.9s
LZH LR LR
comp=Z,11μm,18.7s
PZH PanZhiHua 42.49 291 ⇓P **P** **18 08 20.4 +1.0**
PZH PP **PP** **18 09 59.8 +1.3**
PZH S **S** **18 14 40.9 +2.0**
PZH pmax pmax
comp=Z,70nm,1.0s
PZH pmax pmax
comp=Z,890nm,7.3s
PZH LR LR
comp=Z,3μm,21.6s
PZH LR LR
comp=Z,3μm,22.7s
PZH LR LR
comp=Z,5μm,23.9s
PCJI Pacitan 42.69 237 P **P** **18 08 21.2 +0.3**
comp=Z,146nm,0.6s
TPI Tanjungpandan 42.83 247 P **P** **18 08 23.0 +0.8**
comp=Z,2μmcomp=Z,265nm,1.0s
MA2 Magadan 43.00 3 P **P** **18 08 23.0 0.0**
MA2 IAmb IAmb 18 08 25.8
comp=Z,429nm,1.2s
MA2 Magadan 43.00 3 P **P** **18 08 23.5 +0.6**
comp=Z,213nm,0.9s,baz=165,slow=7.9,SNR=51
MA2 LR LR 18 24 07.9
comp=Z,4μm,20.6s,baz=197,slow=33
comp=Z,213nm,0.9s
MA2 Magadan 43.00 3 P **P** **18 08 23.7 +0.8**
MA2 Magadan 43.00 3*ce*P **P** **18 08 22.8 -0.1**
MA2 pmax pmax
comp=Z,422nm,1.2s
MA2 MLR MLR
comp=Z,3μm,18.0s
MA2 Magadan 43.00 3 P **P** **18 08 23.5 +0.6**
comp=Z,3μmcomp=Z,384nm,1.0s
QLP Quilpie 43.01 183 P **P** **18 08 22.8 -0.5**
comp=Z,370nm,1.1s
QLP Quilpie 43.01 183 P **P** **18 08 23.8 +0.5**
UGM Wanagama 43.06 238 P **P** **18 08 24.5 +0.5**
DZM Mont Dzumac 43.19 152 P **P** **18 08 25.9 +1.0**
DZM IAmb IAmb 18 08 36.1
comp=Z,267nm,1.1s
DZM ScP **ScP** **18 14 06.6 +4.8**
DZM Mont Dzumac 43.19 152 *e*P **P** **18 08 25.5 +0.5**
comp=Z,636nm,1.2s
DZM Mont Dzumac 43.19 152 *e*PP **PP** **18 10 00.4 -5.6**
comp=Z,178nm,26.6s
DZM *e*S **S** **18 14 45.6 -3.3**
comp=Z,727nm,23.9s
DZM *e*SS **SS** **18 18 08.3 +5.1**
comp=Z,9μm,23.1s
DZM *e*LR LR 18 20 23.7
comp=Z,13μm,22.1s
DZM Mont Dzumac 43.19 152 LR LR 18 23 38.3
comp=Z,10μm,20.9s,baz=354,slow=32
ONTNC Ouen Toro 43.40 152 P **P** **18 08 26.2 -0.3**
AMKA Amchitka 43.44 30 P **P** **18 08 25.7 -0.8**
OUENC Ouen Island, N 43.67 152 P **P** **18 08 30.6 +1.9**
KPJI Karang Pucung 44.05 240 P **P** **18 08 32.7 +0.8**
comp=Z,168nm,1.3s
TPRI Tanjung Pinang 44.08 254 P **P** **18 08 33.9 +1.7**
comp=Z,2μmcomp=Z,94nm,1.0s
PINNC Pines Island, 44.11 152 P **P** **18 08 33.4 +1.1**
DSRI Dabo 44.59 252 P **P** **18 08 38.1 +1.8**
comp=Z,2μmcomp=Z,202nm,1.2s
ULN Ulaanbaatar 44.80 323 P **P** **18 08 35.9 -1.9**
ULN Ulaanbaatar 44.80 323 P **P** **18 08 38.0 +0.2**
ULN P **P** **18 08 38.0 +0.2**
ULN S **S** **18 15 10.8 -1.3**
ULN S **S** **18 15 10.8 -1.3**
ULN Ulaanbaatar 44.80 323*d i*P **P** **18 08 36.3 -1.5**
ULN pmax pmax
comp=Z,42nm,1.0s
ULN MLR MLR
comp=Z,8μm,19.0s

LEM Lembang 44.88 242 LR LR 18 25 49.3
comp=Z,1µm,20.9s,baz=56,slow=34
CHTO Chiang Mai 45.15 280 P P 18 08 41.3 +0.6
CHTO Chiang Mai 45.15 280 P P 18 08 42.2 +1.4
CHTO P P 18 08 42.2 +1.4
CHTO P P 18 08 42.2 +1.4
CHTO S S 18 15 20.0 +2.4
CHTO S S 18 15 20.0 +2.4
CHTO S S 18 15 20.0 +2.4
CHTO Chiang Mai 45.15 280 P P 18 08 41.9 +1.2
CHTO Chiang Mai 45.15 280 P P 18 08 41.3 +0.6
CHTO pmax pmax
comp=Z,40nm,1.0s
CHTO MLR MLR
comp=Z,4µm,20.0s
SONM Songino Array 45.17 322 P P 18 08 39.8 -0.8
comp=Z,20nm,0.7s,baz=135,slow=7.6,SNR=32
SONM PcP PcP 18 10 20.0 -0.4
comp=Z,28nm,1.1s,baz=116,slow=3.4,SNR=5.0
SONM ScP ScP 18 14 06.7 -3.0
comp=Z,5.5nm,1.0s,baz=120,slow=3.2,SNR=4.7
SONM LR LR 18 28 43.9
comp=Z,9µm,18.2s,baz=118,slow=38
comp=Z,20nm,0.7s
CM31 Chiang Mai Arr 45.18 280 P P 18 08 43.1 +2.1
SNR=46
CM31 P P 18 08 43.1 +2.1
SNR=46
CMAR Chiang Mai Arr 45.18 280 P P 18 08 42.2 +1.2
comp=Z,76nm,0.8s,baz=74,slow=6.4,SNR=186
CMAR LR LR 18 28 27.9
comp=Z,2µm,18.8s,baz=90,slow=37
BBJI Bungbulang 45.19 241 P P 18 08 40.1 -1.0
TNCH TengChong 45.33 289 ⇓*i*P P 18 08 43.0 +0.7
TNCH pP pP 18 08 52.8 -1.0
TNCH S S 18 15 23.8 +3.4
TNCH pmax pmax
comp=Z,57nm,0.9s
TNCH LR LR
comp=Z,1µm,16.5s
TNCH LR LR
comp=Z,2µm,19.7s
TNCH LR LR
comp=Z,5µm,19.8s
ADK Adak 45.71 31 P P 18 08 46.5 +1.8
ADK IAmb IAmb 18 08 55.8
comp=Z,442nm,1.6s
ADK Adak 45.71 31 P P 18 08 46.8 +2.1
ADK Adak 45.71 31 P P 18 08 46.5 +1.8
ADK pmax pmax
comp=Z,442nm,1.6s
ADK MLR MLR
comp=Z,4µm,18.0s
MBWA Marble Bar 45.76 216 P P 18 08 44.7 -0.8
MBWA Marble Bar 45.76 216 P P 18 08 40.8 -4.7
MBWA Marble Bar 45.76 216 P P 18 08 44.7 -0.8
MBWA P P 18 08 44.7 -0.8
MBWA Marble Bar 45.76 216 P P 18 08 45.1 -0.4
SBJI Serang 45.79 244 P P 18 09 01.6 +16
PSA00 Pilbara Seismi 46.03 215 P P 18 08 48.5 +0.9
IPM Ipoh 46.09 260 P P 18 08 50.7 +2.5
BLSI Bandar Lampung 46.18 245 P P 18 08 48.8 -0.1
comp=Z,2µmcomp=Z,172nm,1.0s
KULM Kulim 46.19 261 P P 18 08 51.7 +2.7
MSVF Nonsavu 46.24 136 P P 18 08 49.4 0.0
MSVF IAmb IAmb 18 09 01.8
comp=Z,237nm,1.7s
MSVF Nonsavu 46.24 136 P P 18 08 49.8 +0.4
MSVF Nonsavu 46.24 136 *de*P P 18 08 51.0 +1.6
MSVF pmax pmax
comp=Z,147nm,1.6s
MSVF MLR MLR
comp=Z,3µm,16.0s
KLI Kotabumi 46.28 246 P P 18 08 50.4 +0.7
comp=Z,4µmcomp=Z,379nm,1.0s
GTA Gaotai 46.34 309 *e*P P 18 08 51.1 +1.1
GTA pP pP 18 09 01.6 -0.1
GTA PcP PcP 18 10 24.3 -0.4
GTA PP PP 18 10 39.6 +0.2
GTA ScP ScP 18 14 14.3 -0.4
GTA S S 18 15 34.8 +0.3
GTA ScS ScS 18 18 41.0 -1.0
GTA pmax pmax
comp=Z,570nm,8.7s
GTA LR LR
comp=Z,3µm,15.3s
GTA LR LR
comp=Z,12µm,18.5s
GTA LR LR
comp=Z,15µm,18.5s
CGJI Cibinong 46.41 243 P P 18 08 49.2 -1.5
comp=Z,2µmcomp=Z,102nm,1.2s
SEY Seymchan 46.44 4 P P 18 08 49.7 -0.6
comp=Z,89nm,1.0s,baz=183,slow=7.0,SNR=75
SEY LR LR 18 26 16.6
comp=Z,6µm,21.7s,baz=188,slow=33
comp=Z,89nm,1.0s
SEY Seymchan 46.44 4 *e*P P 18 08 48.7 -1.6
SEY pmax pmax
comp=Z,117nm,1.0s
FUTU Fugatoga 46.62 129 IAMs_20 IAMs_20 18 27 00.2
comp=Z,5µm,18.0s
MDSI Maura Dua 46.70 247 P P 18 08 53.1 +0.1
comp=Z,2µmcomp=Z,136nm,1.1s
YAK Yakutsk 46.86 349 P P 18 08 51.3 -2.3
comp=Z,68nm,0.6s,baz=130,slow=0.5,SNR=52
YAK LR LR 18 27 42.6
comp=Z,2µm,21.7s,baz=150,slow=35
comp=Z,68nm,0.6s
KASI Kota Agung 46.91 246 P P 18 08 54.5 -0.1
comp=Z,2µmcomp=Z,94nm,0.9s
LHSI Lahat 46.98 248 P P 18 08 56.2 +1.0
comp=Z,2µmcomp=Z,82nm,0.9s
ARMA Armidale 47.05 174 P P 18 08 55.7 +0.2
LWLI Liwa 47.05 246 P P 18 08 55.5 -0.4
ATKA Atka Island 47.15 32 IAmb IAmb 18 09 14.0
comp=Z,146nm,0.8s
ATKA Atka Island 47.15 32 P P 18 08 57.2 +1.2
BKNI Bangkinang 47.52 255 P P 18 08 59.8 +0.4
BKNI S S 18 15 54.6 +2.9
BKNI Bangkinang 47.52 255 P P 18 08 58.7 -0.7
BKNI Bangkinang 47.52 255 P P 18 08 58.9 -0.5
comp=Z,108nm,0.4s
BOD Bodaibo 47.66 337 *e*P P 18 08 59.5 -0.4
BOD pmax pmax
comp=Z,44nm,1.5s
MNAI Manna 47.73 248 P P 18 09 03.6 +2.6
KSI Kapahiang 47.73 249 P P 18 09 01.0 -0.1
MASI Maura Aman, Be 47.83 250 P P 18 09 02.7 +0.9
comp=Z,4µmcomp=Z,212nm,1.2s
CMSA Cobar Meteorol 47.90 181 P P 18 09 02.1 +0.2
KRJI Kerinci 48.09 252 P P 18 09 05.0 +1.1
comp=Z,248nm,1.0s
ZAK Zakamensk 48.20 324 *e*P P 18 09 02.0 -2.3
ZAK *e* 18 18 51.4
ZAK pmax pmax
comp=Z,28nm,1.2s
PPI Padang Panjang 48.41 254 P P 18 09 07.2 +0.9
comp=Z,40nm,0.8s
STKA Stephens Creek 48.45 185 P P 18 09 06.2 -0.1
comp=Z,39nm,0.7s,baz=355,slow=9.7,SNR=37
STKA LR LR 18 28 53.6
comp=Z,7µm,21.6s,baz=3.7,slow=35
comp=Z,39nm,0.7s
STKA Stephens Creek 48.45 185 P P 18 09 06.1 -0.1
STKA Stephens Creek 48.45 185 *c i*P P 18 09 06.4 +0.2
PDSI Padang 48.53 253 P P 18 09 07.1 -0.2
comp=Z,74nm,0.7s
IRK Irkutsk 48.58 327 *e*P P 18 09 02.9 -4.2
IRK pmax pmax
comp=Z,76nm,1.9s
PSI Prapat 48.62 259 LR LR 18 30 18.8
comp=Z,838nm,20.4s,baz=78,slow=37
PSI Prapat 48.62 259 P P 18 09 10.7 +2.7
PSI Prapat 48.62 259 P P 18 09 07.7 -0.3
PSI pmax pmax
comp=Z,205nm,1.0s
PSI MLR MLR
comp=Z,2µm,20.0s
RPSI Rantau Prapat 48.65 259 P P 18 09 07.7 -0.5
RPSI IAmb IAmb 18 09 11.9
comp=Z,205nm,1.0s
MNSI Mandailing Nat 48.70 256 P P 18 09 10.1 +1.6
comp=Z,99nm,0.8s
TSI Tuntungan 48.72 260 P P 18 09 11.8 +3.1
comp=Z,3µmcomp=Z,130nm,1.2s

JORH JORHAT 49.20 291 *e*P P 18 09 14.3 +2.1
JORH IAmb IAmb 18 09 19.5
comp=Z,115nm,2.4s
JORH *e*S S 18 16 15.6 +0.5
KOHI KOHIMA 49.32 290 *e*P P 18 09 12.3 -1.1
KOHI IAmb IAmb 18 09 17.8
comp=Z,610nm,2.9s
KOHI *e*S S 18 16 19.7 +2.5
KCSI Kotacane, Aceh 49.47 260 P P 18 09 15.4 +1.0
comp=Z,978nmcomp=Z,91nm,1.1s
IMP Imphal 49.48 289 *e*P P 18 09 16.3 +1.9
IMP IAmb IAmb 18 09 20.6
comp=Z,388nm,2.3s
GOMU GeErMu 49.52 304 P P 18 09 15.3 +0.3
GOMU sP sP 18 09 31.5 0.0
GOMU PcP PcP 18 10 36.0 -0.5
GOMU PP PP 18 11 08.6 -0.9
GOMU S S 18 16 19.6 -0.6
GOMU pmax pmax
comp=Z,26nm,0.9s
GOMU pmax pmax
comp=Z,750nm,6.4s
GOMU LR LR
comp=Z,2µm,16.8s
GOMU LR LR
comp=Z,2µm,17.8s
GOMU LR LR
comp=Z,3µm,17.7s
ZIRO ZIRO 49.57 292 *e*P P 18 09 16.3 +1.1
ZIRO IAmb IAmb 18 09 24.0
comp=Z,125nm,2.2s
LHMI Lhok Sumawe 49.72 263 P P 18 09 20.0 +3.7
SISI Saibi 49.95 254 P P 18 09 18.3 +0.2
MOY Mondy 50.08 325 *e*P P 18 09 16.2 -2.4
WHYH Whyalla 50.10 190 P P 18 09 19.8 +1.0
BBOO Buckleboo 50.15 191 P P 18 09 19.2 0.0
BBOO Buckleboo 50.15 191 P P 18 09 19.7 +0.5
HTT Hallett 50.29 188 P P 18 09 21.2 +0.9
NIKH Nikolski High 50.34 34 IAmb IAmb 18 09 30.7
comp=Z,378nm,1.5s
NIKH Nikolski High 50.34 34 P P 18 09 22.3 +1.9
NIKH Nikolski High 50.34 34 P P 18 09 21.7 +1.3
baz=241,SNR=7.5
NIKH S S 18 16 35.6 +5.4
baz=241
GSI Gunungsitoli 50.39 258 P P 18 09 21.4 0.0
GSI Gunungsitoli 50.39 258 P P 18 09 22.8 +1.4
GSI Gunungsitoli 50.39 258 P P 18 09 23.1 +1.7
TEZP TEZPUR 50.50 291 *e*P P 18 09 24.5 +2.4
TEZP IAmb IAmb 18 09 29.2
comp=Z,296nm,2.4s
AZL Aizawl 50.66 287 *e*P P 18 09 24.5 +1.0
AZL IAmb IAmb 18 09 29.0
comp=Z,647nm,2.2s
MEEK Meekatharra 50.78 213 P P 18 09 24.5 +0.4
SHL Shillong 51.33 290 P P 18 09 28.9 +0.3
SNR=16
SHL Shillong 51.33 290 *e*P P 18 09 29.0 +0.4
SHL IAmb IAmb 18 09 35.5
comp=Z,304nm,2.6s
SHL *e*S S 18 16 43.9 -1.3
DGPR DIGLIPUR 51.66 274 *e*P P 18 09 33.1 +2.2
DGPR IAmb IAmb 18 09 48.2
comp=Z,584nm,1.7s
BRDH Bariadhala 51.68 286 LR LR 18 31 58.8
comp=Z,3µm,20.3s,baz=99,slow=37
CAN Canberra 51.72 177 IAmb IAmb 18 09 46.5
comp=Z,279nm,1.3s
CAN IAMs_20 IAMs_20 18 27 39.8
comp=Z,6µm,21.0s
CAN Canberra 51.72 177 P P 18 09 32.0 +0.9
CAN Canberra 51.72 177 P P 18 09 32.6 +1.5
CNB Canberra Magne 51.74 177 P P 18 09 31.4 +0.2
SPIA Saint Paul Isl 51.82 28 IAmb IAmb 18 10 03.1
comp=Z,400nm,1.4s
SPIA IAMs_20 IAMs_20 18 27 34.3
comp=Z,6µm,22.0s
SPIA Saint Paul Isl 51.82 28 P P 18 09 32.8 +1.3
baz=237
SPIA S S 18 16 55.9 +5.4
baz=237
P08K Saint George I 51.83 29 IAMs_20 IAMs_20 18 28 26.7
comp=Z,6µm,21.0s
P08K Saint George I 51.83 29 P P 18 09 33.3 +1.8
baz=238
AGT Agartala 51.97 288 *e*P P 18 09 34.6 +1.5
AGT IAmb IAmb 18 09 36.6
comp=Z,178nm,2.4s
UNV Unalaska Valle 51.99 33 IAMs_20 IAMs_20 18 27 52.1
comp=Z,5µm,19.0s
UNV Unalaska Valle 51.99 33 P P 18 09 33.8 +1.0
baz=243,SNR=12
UNV S S 18 16 59.7 +6.7
baz=243
LSA Lhasa 51.99 295 P P 18 09 34.3 +0.5
LSA pmax pmax
comp=Z,66nm,0.7s
LSA LR LR
comp=Z,1µm,19.2s
LSA LR LR
comp=Z,3µm,25.4s
CMBY CAMPBELL BAY 52.10 266 *e*P P 18 09 33.1 -1.2
CMBY IAmb IAmb 18 09 36.4
comp=Z,1µm,2.6s
CMBY *e*S S 18 17 02.1 +6.4
AKUT Akutan 52.51 33 IAmb IAmb 18 09 53.2
comp=Z,178nm,0.8s
AKUT Akutan 52.51 33 P P 18 09 38.1 +1.5
KIP Kipapa 52.55 76 P P 18 09 38.1 +0.6
KIP IAmb IAmb 18 09 40.1
comp=Z,98nm,0.8s
KIP Kipapa 52.55 76 *d i*P P 18 09 39.0 +1.5
KIP pmax pmax
comp=Z,105nm,0.8s
BILL Bilibino 52.94 9 P P 18 09 40.1 +0.4
BILL Bilibino 52.94 9 *d i*P P 18 09 39.8 +0.2
BILL pmax pmax
comp=Z,400nm,1.4s
BILL MLR MLR
comp=Z,3µm,18.0s
COBR COOCHBEHAR 53.49 291 *e*P P 18 09 45.7 +1.3
COBR IAmb IAmb 18 10 01.6
comp=Z,1µm,2.0s
FALS False Pass 54.06 33 IAmb IAmb 18 10 07.8
comp=Z,164nm,0.8s
FALS False Pass 54.06 33 P P 18 09 49.1 +1.1
baz=246
MORW Morawa 54.07 213 P P 18 09 48.5 0.0
GTK Tadong 54.23 292 *e*P P 18 09 53.0 +3.0
GTK IAmb IAmb 18 09 57.4
comp=Z,669nm,2.9s
GTK *e*S S 18 17 26.8 +2.2
HLK Haleakala 54.26 76 IAmb IAmb 18 10 01.9
comp=Z,253nm,1.0s
CAL Calcutta 54.74 286 *e*P P 18 09 57.9 +4.4
CAL IAmb IAmb 18 10 10.6
comp=Z,583nm,2.2s
CAL *e*S S 18 17 33.2 +1.9
HPAH Hawaii Prepara 54.85 77 IAmb IAmb 18 10 05.3
comp=Z,223nm,0.9s
MWH Mokuaweoweo 55.01 78 IAmb IAmb 18 10 07.9
comp=Z,294nm,1.2s
POHA Pohakuloa 55.04 77 P P 18 09 56.7 +0.7
HMH Humu'ula Sheep 55.10 77 P P 18 09 56.9 +0.4
HMH IAmb IAmb 18 10 11.2
comp=Z,245nm,1.1s
S12K Black Hills 55.11 33 IAmb IAmb 18 10 11.4
comp=Z,155nm,0.8s
S12K IAMs_20 IAMs_20 18 31 35.6
comp=Z,6µm,20.0s
S12K Black Hills 55.11 33 P P 18 09 56.5 +0.8
baz=246,SNR=16
S12K S S 18 17 37.4 +2.0
baz=246
GAMB Gambell 55.12 21 IAmb IAmb 18 09 59.4
comp=Z,216nm,1.0s
GAMB Gambell 55.12 21 P P 18 09 57.3 +1.7
baz=231,SNR=24
GAMB S S 18 17 40.2 +5.0
baz=231
KLBR Kellerberrin 55.27 210 P P 18 09 56.9 -0.2
M11K Mekoryuk 55.31 26 IAmb IAmb 18 10 21.8
comp=Z,175nm,1.3s
M11K IAMs_20 IAMs_20 18 29 30.5
comp=Z,7µm,22.0s
M11K Mekoryuk 55.31 26 P P 18 09 58.7 +1.7
baz=239
M11K S S 18 17 43.3 +5.6
baz=239
HATHI Halema'uma'u T 55.33 78 IAmb IAmb 18 10 00.8
comp=Z,215nm,1.1s
BYL Byron's Ledge 55.33 78 IAmb IAmb 18 10 09.1
comp=Z,199nm,1.0s
SDPT Sand Point 55.80 34 P P 18 10 02.9 +2.3
SDPT Sand Point 55.80 34 P P 18 10 01.6 +1.0
baz=248,SNR=28
SDPT S S 18 17 47.2 +2.7
baz=248
TIXI Tiksi 55.99 353 P P 18 10 00.1 -1.6
TIXI Tiksi 55.99 353 P P 18 10 00.4 -1.3
comp=Z,17nm,0.4s,baz=167,slow=6.6,SNR=28
TIXI LR LR 18 33 03.0
comp=Z,2µm,21.8s,baz=172,slow=35
comp=Z,17nm,0.4s
TIXI Tiksi 55.99 353 *c i*P P 18 10 01.5 -0.2
TIXI pmax pmax
comp=Z,30nm,0.9s
TIXI MLR MLR
comp=Z,2µm,16.0s
CHNA Chernabura Isl 56.09 34 P P 18 10 04.7 +2.0
CHNA Chernabura Isl 56.09 34 P P 18 10 03.7 +1.0
baz=249,SNR=32
CHNA S S 18 17 51.9 +3.6
baz=249
WMQ Urumqi 56.17 312 *e*P P 18 10 04.8 +1.2
WMQ S S 18 17 50.1 +0.2
WMQ pmax pmax
comp=Z,71nm,0.9s
WMQ pmax pmax
comp=Z,490nm,6.3s
WMQ LR LR
comp=Z,4µm,21.3s
WMQ LR LR
comp=Z,5µm,17.1s
WMQ LR LR
comp=Z,5µm,20.7s
MUN Mundaring 56.33 211 P P 18 10 05.4 +0.7
M13K Dall Lake 56.56 27 IAMs_20 IAMs_20 18 30 09.5
comp=Z,7µm,22.0s
M13K Dall Lake 56.56 27 P P 18 10 08.6 +2.7
baz=242,SNR=19
M13K S S 18 17 59.8 +5.5
baz=242
NWAO Narrogin (SRO) 56.62 209 P P 18 10 06.2 -0.5
NWAO Narrogin (SRO) 56.62 209 IAMs_20 IAMs_20 18 36 40.6
comp=Z,5µm,18.0s
NWAO Narrogin (SRO) 56.62 209 P P 18 10 06.1 -0.6
comp=Z,31nm,0.7s,baz=46,slow=7.3,SNR=28
NWAO LR LR 18 36 33.6
comp=Z,4µm,18.5s,baz=58,slow=38
comp=Z,31nm,0.7s
NWAO Narrogin (SRO) 56.62 209 P P 18 10 06.3 -0.4
NWAO P P 18 10 06.3 -0.4
NWAO Narrogin (SRO) 56.62 209 P P 18 10 07.2 +0.5
NWAO Narrogin (SRO) 56.62 209 P P 18 10 06.2 -0.5
NWAO pmax pmax
comp=Z,48nm,0.9s
NWAO MLR MLR
comp=Z,5µm,18.0s
S14K Fog Glacier 56.64 33 P P 18 10 08.6 +1.9
baz=248,SNR=8.7
K13K Kusilvak Mount 56.74 25 P P 18 10 09.3 +2.1
baz=240,SNR=119
K13K S S 18 18 01.0 +4.2
baz=240
BOK Bokaro 56.88 288 *e*P P 18 10 09.5 +0.6
BOK IAmb IAmb 18 10 12.6
comp=Z,381nm,1.7s
BOK *e*S S 18 18 06.8 +7.0
O14K Tigyukauivet M 56.98 29 IAmb IAmb 18 10 26.4
comp=Z,133nm,1.1s
O14K IAMs_20 IAMs_20 18 30 42.8
comp=Z,6µm,22.0s
O14K Tigyukauivet M 56.98 29 P P 18 10 11.0 +2.1
baz=245,SNR=11
O14K S S 18 18 03.7 +3.8
baz=245
N14K Kuskokwak Cree 57.08 28 IAmb IAmb 18 10 28.2
comp=Z,141nm,0.8s
N14K IAMs_20 IAMs_20 18 31 51.3
comp=Z,7µm,20.0s
N14K Kuskokwak Cree 57.08 28 P P 18 10 11.6 +2.0
baz=244,SNR=16
N14K S S 18 18 05.5 +4.3
baz=244
RAO Raoul Island 57.17 143 LR LR 18 34 35.3
comp=Z,2µm,18.0s,baz=308,slow=36
CHGN Chignik 57.24 33 IAmb IAmb 18 10 31.6
comp=Z,133nm,1.0s
CHGN Chignik 57.24 33 P P 18 10 12.7 +1.9
baz=249,SNR=10.0
L14K Kuka Creek 57.28 26 IAMs_20 IAMs_20 18 30 53.5
comp=Z,5µm,22.0s
L14K Kuka Creek 57.28 26 P P 18 10 13.2 +2.2
baz=242,SNR=82
L14K S S 18 18 09.2 +5.4
baz=242
BWNR Bhubaneshwar 57.31 284 *e*P P 18 10 12.2 +0.3
BWNR IAmb IAmb 18 10 19.2
comp=Z,478nm,2.2s
M14K Bethel 57.32 27 IAMs_20 IAMs_20 18 30 44.8
comp=Z,6µm,22.0s
M14K Bethel 57.32 27 P P 18 10 13.7 +2.4
baz=243,SNR=65
M14K S S 18 18 10.0 +5.6
baz=243
GLAD Gladstone 57.34 179 P P 18 10 12.4 +0.8
GAYA Gaya 57.39 289 *e*P P 18 10 16.3 +3.9
GAYA *e*S S 18 18 05.8 -0.6
TNA Tin City 57.50 21 IAmb IAmb 18 10 23.8
comp=Z,176nm,1.0s
TNA Tin City 57.50 21 P P 18 10 14.3 +1.8
baz=234,SNR=22
TNA S S 18 18 10.2 +3.6
baz=234
J14K Nanvaranak Lak 57.60 25 IAMs_20 IAMs_20 18 30 28.9
comp=Z,6µm,22.0s
J14K Nanvaranak Lak 57.60 25 P P 18 10 15.4 +2.2
baz=241
J14K S S 18 18 13.3 +5.4
baz=241
O15K Ungalikthiuk R 57.62 29 IAmb IAmb 18 10 18.2
comp=Z,145nm,0.8s
O15K IAMs_20 IAMs_20 18 31 01.8
comp=Z,4µm,22.0s
O15K Ungalikthiuk R 57.62 29 P P 18 10 15.7 +2.2
baz=246,SNR=37
O15K S S 18 18 13.0 +4.5
baz=246
OUZ Omahuta 57.67 154 IAMs_20 IAMs_20 18 31 26.1
comp=Z,6µm,20.0s
OUZ Omahuta 57.67 154 P P 18 10 15.0 +0.9
OUZ Omahuta 57.67 154 P P 18 10 16.4 +2.3
ANM Nome 57.84 22 IAmb IAmb 18 10 18.8
comp=Z,237nm,1.0s
ANM IAMs_20 IAMs_20 18 29 44.2
comp=Z,5µm,22.0s
ANM Nome 57.84 22 P P 18 10 17.1 +2.2
baz=238,SNR=22
ANM S S 18 18 16.3 +5.2
baz=238
M15K Kasigluk River 57.86 28 P P 18 10 17.1 +1.9
baz=245,SNR=43
M15K S S 18 18 15.5 +4.0
baz=245
N15K Kwethluk River 57.90 28 IAmb IAmb 18 10 34.6
comp=Z,171nm,0.7s
N15K Kwethluk River 57.90 28 P P 18 10 17.5 +2.0
baz=246,SNR=52
N15K S S 18 18 16.2 +4.1
baz=246
L15K Ungalak Mounta 57.95 26 P P 18 10 17.4 +1.7
baz=243,SNR=62
L15K S S 18 18 16.9 +4.3
baz=243
F14K Arctic Creek 58.00 21 P P 18 10 18.2 +2.2
baz=236
F14K S S 18 18 18.4 +5.2
baz=236
R16K Pilot Point 58.11 32 P P 18 10 18.8 +1.9
baz=250
K15K Wolf Creek Mou 58.21 26 IAMs_20 IAMs_20 18 31 22.1
comp=Z,6µm,21.0s

K15K	**Wolf Creek Mou**	**58.21**	**26**	P		**P**	**18 10 19.7 +2.2**
	baz=243,SNR=64						
K15K				S		**S**	**18 18 20.3 +4.3**
	baz=243						
P16K	**Nushagak River**	**58.44**	**30**	P		**P**	**18 10 21.3 +2.2**
	baz=248,SNR=8.6						
P16K				S		**S**	**18 18 23.9 +4.8**
	baz=248						
G15K	**Niukluk**	**58.55**	**22**	P		**P**	**18 10 21.8 +1.9**
	baz=239						
G15K				S		**S**	**18 18 24.0 +3.6**
	baz=239						
CHIR	**Chirikof Islan**	**58.56**	**34**	IAmb		IAmb	18 10 41.1
	comp=Z,195nm,1.2s						
CHIR	**Chirikof Islan**	**58.56**	**34**	P		**P**	**18 10 21.9 +1.8**
CHIR	**Chirikof Islan**	**58.56**	**34**	P		**P**	**18 10 21.6 +1.6**
	baz=252						
CHIR				S		**S**	**18 18 24.8 +4.1**
	baz=252						
WCZ	**Waipu Caves**	**58.60**	**154**	P		**P**	**18 10 23.1 +2.5**
O16K	**Kokwok River B**	**58.60**	**29**	IAmb		IAmb	18 10 37.9
	comp=Z,129nm,1.0s						
O16K	**Kokwok River B**	**58.60**	**29**	P		**P**	**18 10 22.3 +2.0**
	baz=248,SNR=30						
O16K				S		**S**	**18 18 25.2 +4.0**
	baz=248						
N16K	**Nishlik Lake**	**58.63**	**28**	P		**P**	**18 10 22.7 +2.1**
	baz=247,SNR=22						
N16K				S		**S**	**18 18 26.0 +4.4**
	baz=247						
F15K	**North Star Dit**	**58.71**	**21**	IAmb		IAmb	18 10 24.8
	comp=Z,223nm,1.1s						
F15K	**North Star Dit**	**58.71**	**21**	P		**P**	**18 10 22.8 +1.8**
	baz=238,SNR=66						
F15K				S		**S**	**18 18 26.7 +4.2**
	baz=238						
ZSN	**Zaisan**	**58.73**	**316**	*eP*		**P**	**18 10 19.7 -1.7**
ZSN				*eS*		**S**	**18 18 19.9 -3.4**
ZSN	**Zaisan**	**58.73**	**316**	*eP*		**P**	**18 10 19.8 -1.7**
ZSN				*eS*		**S**	**18 18 19.9 -3.4**
R17L	**Mt. Peulik Vol**	**58.75**	**32**	P		**P**	**18 10 22.7 +1.2**
	baz=251,SNR=11						
R17L				S		**S**	**18 18 24.8 +1.5**
	baz=251						
PLK4	**Peulik 4**	**58.75**	**32**	IAmb		IAmb	18 10 50.8
	comp=Z,214nm,1.3s						
PLK4				IAMs_20		IAMs_20	18 32 59.7
	comp=Z,6µm,20.0s						
M16K	**Timber Creek**	**58.77**	**28**	IAmb		IAmb	18 10 38.3
	comp=Z,110nm,0.8s						
M16K				IAMs_20		IAMs_20	18 32 54.9
	comp=Z,7µm,20.0s						
M16K	**Timber Creek**	**58.77**	**28**	P		**P**	**18 10 23.4 +2.0**
	baz=246,SNR=52						
M16K				S		**S**	**18 18 28.2 +4.9**
	baz=246						
MOO	**Moorlands**	**58.78**	**179**	P		**P**	**18 10 24.2 +2.5**
L16K	**Owhat River**	**58.82**	**27**	IAmb		IAmb	18 10 24.8
	comp=Z,98nm,1.0s						
L16K				IAMs_20		IAMs_20	18 32 05.4
	comp=Z,5µm,22.0s						
L16K	**Owhat River**	**58.82**	**27**	P		**P**	**18 10 23.4 +1.6**
	baz=245,SNR=67						
L16K				S		**S**	**18 18 28.3 +4.3**
	baz=245						
GKPR	**Gorakhpur**	**58.86**	**291**	*eP*		**P**	**18 10 24.5 +1.8**
GKPR				IAmb		IAmb	18 10 29.2
	comp=Z,179nm,1.5s						
GKPR				*eS*		**S**	**18 18 24.2 -1.4**
Q16K	**King Salmon**	**58.96**	**31**	P		**P**	**18 10 25.0 +2.2**
	baz=250						
H16K	**Elim**	**59.04**	**23**	P		**P**	**18 10 24.8 +1.5**
	baz=241,SNR=24						
H16K				S		**S**	**18 18 30.8 +4.1**
	baz=241						
J16K	**Anvik River**	**59.04**	**25**	IAMs_20		IAMs_20	18 31 24.0
	comp=Z,6µm,22.0s						
J16K	**Anvik River**	**59.04**	**25**	P		**P**	**18 10 25.4 +2.1**
	baz=243,SNR=83						
J16K				S		**S**	**18 18 32.6 +5.8**
	baz=243						
O17K	**Koliganek Bris**	**59.14**	**29**	P		**P**	**18 10 26.0 +2.0**
	baz=249,SNR=52						
O17K				S		**S**	**18 18 32.9 +4.7**
	baz=249						
P17K	**Kvichak River**	**59.24**	**30**	P		**P**	**18 10 25.5 +0.7**
	baz=250,SNR=8.7						
TAU	**Tasmania Unive**	**59.25**	**179**	P		**P**	**18 10 25.9 +1.0**
TAU				IAmb		IAmb	18 10 38.9
	comp=Z,172nm,1.1s						
TAU	**Tasmania Unive**	**59.25**	**179**	P		**P**	**18 10 26.1 +1.2**
TAU	**Tasmania Unive**	**59.25**	**179**	P		**P**	**18 10 25.9 +1.0**
TAU				pmax		pmax	
	comp=Z,172nm,1.2s						
I17K	**Unalakleet**	**59.28**	**24**	IAMs_20		IAMs_20	18 31 07.2
	comp=Z,5µm,22.0s						
I17K	**Unalakleet**	**59.28**	**24**	P		**P**	**18 10 27.3 +2.4**
	baz=243,SNR=28						
I17K				S		**S**	**18 18 35.1 +5.4**
	baz=243						
G16K	**Koyuk River**	**59.37**	**22**	IAmb		IAmb	18 11 24.8
	comp=Z,72nm,0.8s						
G16K	**Koyuk River**	**59.37**	**22**	P		**P**	**18 10 26.9 +1.4**
	baz=240						
G16K				S		**S**	**18 18 35.2 +4.2**
	baz=240						
N17K	**Nushagak Hills**	**59.37**	**29**	IAmb		IAmb	18 10 41.9
	comp=Z,115nm,0.8s						
N17K				IAMs_20		IAMs_20	18 33 34.1
	comp=Z,6µm,20.0s						
N17K	**Nushagak Hills**	**59.37**	**29**	P		**P**	**18 10 27.9 +2.2**
	baz=248,SNR=53						
N17K				S		**S**	**18 18 36.6 +5.3**
	baz=248						
L17K	**Donlin**	**59.51**	**27**	P		**P**	**18 10 28.9 +2.3**
	baz=246,SNR=75						
L17K				S		**S**	**18 18 38.0 +5.1**
	baz=246						
SII	**Sitkinak Islan**	**59.55**	**34**	IAMs_20		IAMs_20	18 32 33.9
	comp=Z,4µm,20.0s						
SII	**Sitkinak Islan**	**59.55**	**34**	P		**P**	**18 10 28.5 +1.5**
SII	**Sitkinak Islan**	**59.55**	**34**	P		**P**	**18 10 28.9 +2.0**
	baz=253,SNR=14						
SII				S		**S**	**18 18 37.7 +4.1**
	baz=253						
M17K	**Holitna River**	**59.59**	**28**	IAmb		IAmb	18 10 30.9
	comp=Z,225nm,1.1s						
M17K				IAMs_20		IAMs_20	18 33 19.8
	comp=Z,6µm,20.0s						
M17K	**Holitna River**	**59.59**	**28**	P		**P**	**18 10 29.7 +2.5**
	baz=248,SNR=48						
M17K				S		**S**	**18 18 38.9 +4.8**
	baz=248						
R18K	**Karluk**	**59.70**	**32**	P		**P**	**18 10 29.0 +1.1**
	baz=252						
R18K				S		**S**	**18 18 38.4 +3.0**
	baz=252						
J17K	**VABM Dome**	**59.71**	**25**	IAMs_20		IAMs_20	18 32 18.7
	comp=Z,6µm,22.0s						
J17K	**VABM Dome**	**59.71**	**25**	P		**P**	**18 10 30.2 +2.3**
	baz=245,SNR=112						
J17K				S		**S**	**18 18 40.8 +5.4**
	baz=245						
K17K	**Iditarod**	**59.74**	**26**	IAMs_20		IAMs_20	18 32 19.6
	comp=Z,5µm,20.0s						
K17K	**Iditarod**	**59.74**	**26**	P		**P**	**18 10 30.4 +2.2**
	baz=246,SNR=208						
K17K				S		**S**	**18 18 41.5 +5.6**
	baz=246						
Q18K	**Katmai Hardscr**	**59.76**	**31**	P		**P**	**18 10 28.7 +0.2**
	baz=251,SNR=38						
Q18K				S		**S**	**18 18 37.0 +0.5**
	baz=251						
C16K	**Lisburne Hills**	**59.89**	**19**	P		**P**	**18 10 30.4 +1.3**
	baz=236,SNR=40						
C16K				S		**S**	**18 18 41.2 +3.6**
	baz=236						
P18K	**Big Mountain,**	**59.90**	**30**	IAmb		IAmb	18 11 26.1
	comp=Z,194nm,1.7s						
P18K	**Big Mountain,**	**59.90**	**30**	P		**P**	**18 10 30.0 +0.7**
	baz=251,SNR=8.9						
P18K				S		**S**	**18 18 38.7 +0.6**
	baz=251						
N18K	**Kilae Creek**	**60.03**	**29**	IAmb		IAmb	18 10 47.9
	comp=Z,108nm,1.0s						
N18K				IAMs_20		IAMs_20	18 33 23.3
	comp=Z,5µm,20.0s						
N18K	**Kilae Creek**	**60.03**	**29**	P		**P**	**18 10 32.5 +2.3**
	baz=249,SNR=44						
N18K				S		**S**	**18 18 44.0 +4.4**
	baz=249						
G17K	**Kiwalik Mounta**	**60.04**	**23**	P		**P**	**18 10 31.7 +1.5**
	baz=242,SNR=151						
G17K				S		**S**	**18 18 43.8 +4.1**
	baz=242						
ZALV	**Zalesovo Beam**	**60.05**	**323**	P		**P**	**18 10 28.5 -2.0**
	comp=Z,7.2nm,0.8s,baz=112,slow=7.2,SNR=26						
ZALV				LR		LR	18 36 04.2
	comp=Z,7µm,21.1s,baz=98,slow=36						
ZALV				PKPPKP		**P'P'df**	**18 39 54.4 -4.1**
	comp=Z,6.5nm,0.9s,baz=299,slow=3.1,SNR=10						
	comp=Z,7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**60.05**	**323**	*i* P		**P**	**18 10 27.8 -2.7**
ZALV				pmax		pmax	
	comp=Z,7.0nm,0.7s						
H17K	**Granite Mounta**	**60.06**	**23**	IAMs_20		IAMs_20	18 32 27.9
	comp=Z,4µm,22.0s						
H17K	**Granite Mounta**	**60.06**	**23**	P		**P**	**18 10 32.3 +2.0**
	baz=243						
H17K				S		**S**	**18 18 44.3 +4.4**
	baz=243						
O18K	**Koktuh Hills**	**60.06**	**30**	IAmb		IAmb	18 10 48.6
	comp=Z,182nm,1.1s						
O18K	**Koktuh Hills**	**60.06**	**30**	P		**P**	**18 10 32.2 +1.8**
	baz=250,SNR=34						
O18K				S		**S**	**18 18 43.3 +3.2**
	baz=250						
OHAK	**Old Harbor**	**60.21**	**33**	IAmb		IAmb	18 11 01.3
	comp=Z,100nm,1.0s						
OHAK	**Old Harbor**	**60.21**	**33**	P		**P**	**18 10 33.1 +1.7**
OHAK	**Old Harbor**	**60.21**	**33**	P		**P**	**18 10 33.2 +1.7**
	baz=254,SNR=19						
OHAK				S		**S**	**18 18 46.2 +4.2**
	baz=254						
L18K	**Granite Mounta**	**60.23**	**27**	IAMs_20		IAMs_20	18 33 09.7
	comp=Z,6µm,21.0s						
L18K	**Granite Mounta**	**60.23**	**27**	P		**P**	**18 10 34.0 +2.4**
	baz=248,SNR=104						
L18K				S		**S**	**18 18 47.5 +5.3**
	baz=248						
D17K	**Noatak River**	**60.30**	**20**	P		**P**	**18 10 33.6 +1.7**
	baz=238,SNR=50						
D17K				S		**S**	**18 18 46.3 +3.5**
	baz=238						
M18K	**Stony River**	**60.34**	**28**	P		**P**	**18 10 34.6 +2.3**
	baz=249,SNR=52						
M18K				S		**S**	**18 18 48.4 +4.8**
	baz=249						
MK31	**Makanchi Array**	**60.37**	**315**	*d i* P		**P**	**18 10 31.4 -1.4**
MKAR	**Makanchi Array**	**60.37**	**315**	P		**P**	**18 10 31.4 -1.5**
	comp=Z,5.9nm,0.6s,baz=90,slow=7.4,SNR=56						
MKAR				LR		LR	18 38 10.1
	comp=Z,3µm,18.9s,baz=84,slow=38						
MKAR				PKPPKP		**P'P'df**	**18 39 51.0 -7.2**
	comp=Z,1.7nm,1.0s,baz=266,slow=4.6,SNR=4.8						
MKAR				PKP2bc			18 40 04.1
	comp=Z,5.3nm,1.1s,baz=321,slow=1.7,SNR=4.8						
	comp=Z,5.9nm,0.6s						
E17K	**Hotham Inlet**	**60.40**	**21**	P		**P**	**18 10 34.1 +1.6**
	baz=240,SNR=92						
E17K				S		**S**	**18 18 48.2 +4.1**
	baz=240						
ALBI	**Allahabad**	**60.44**	**290**	*eP*		**P**	**18 10 34.7 +1.1**
BRCI	**Bahraich**	**60.45**	**293**	*eP*		**P**	**18 10 32.6 -1.0**
BRCI				*eS*		**S**	**18 18 50.7 +4.6**
Q19K	**Cape Douglas,**	**60.52**	**31**	IAmb		IAmb	18 10 44.9
	comp=Z,132nm,1.0s						
Q19K				IAMs_20		IAMs_20	18 33 46.6
	comp=Z,4µm,20.0s						
Q19K	**Cape Douglas,**	**60.52**	**31**	P		**P**	**18 10 34.1 +0.5**
	baz=252						
RDOG	**Red Dog Mine**	**60.54**	**20**	P		**P**	**18 10 35.4 +1.8**
	baz=238,SNR=30						
RDOG				S		**S**	**18 18 49.9 +3.9**
	baz=238						
O19K	**Port Alsworth**	**60.59**	**30**	IAmb		IAmb	18 10 39.2
	comp=Z,231nm,1.4s						
O19K	**Port Alsworth**	**60.59**	**30**	P		**P**	**18 10 35.6 +1.6**
	baz=251,SNR=22						
O19K				S		**S**	**18 18 50.6 +3.8**
	baz=251						
TOZ	**Tahuroa Road**	**60.61**	**154**	IAmb		IAmb	18 10 49.9
	comp=Z,243nm,1.8s						
TOZ				IAMs_20		IAMs_20	18 36 24.9
	comp=Z,5µm,19.0s						
TOZ	**Tahuroa Road**	**60.61**	**154**	P		**P**	**18 10 36.0 +1.7**
C17K	**DeLong Mountai**	**60.68**	**19**	P		**P**	**18 10 36.4 +1.9**
	baz=238,SNR=46						
C17K				S		**S**	**18 18 51.0 +3.2**
	baz=238						
J18K	**Innoko River**	**60.70**	**26**	IAMs_20		IAMs_20	18 32 49.1
	comp=Z,5µm,22.0s						
J18K	**Innoko River**	**60.70**	**26**	P		**P**	**18 10 36.5 +1.8**
	baz=247,SNR=44						
J18K				S		**S**	**18 18 52.0 +3.8**
	baz=247						
N19K	**Bonanza Creek**	**60.72**	**29**	IAmb		IAmb	18 10 52.8
	comp=Z,111nm,0.8s						
N19K				IAMs_20		IAMs_20	18 34 35.7
	comp=Z,5µm,20.0s						
N19K	**Bonanza Creek**	**60.72**	**29**	P		**P**	**18 10 37.0 +2.0**
	baz=251,SNR=46						
N19K				S		**S**	**18 18 53.5 +4.8**
	baz=251						
KDAK	**Kodiak Island**	**60.73**	**32**	P		**P**	**18 10 35.9 +0.9**
KDAK				IAmb		IAmb	18 10 47.7
	comp=Z,126nm,0.9s						
KDAK	**Kodiak Island**	**60.73**	**32**	LR		LR	18 34 33.8
	comp=Z,2µm,20.3s,baz=232,slow=34						
KDAK	**Kodiak Island**	**60.73**	**32**	*d i* P		**P**	**18 10 36.3 +1.3**
KDAK				pmax		pmax	
	comp=Z,165nm,0.9s						
KDAK				MLR		MLR	
	comp=Z,3µm,17.0s						
KDAK	**Kodiak Island**	**60.73**	**32**	P		**P**	**18 10 36.6 +1.6**
	baz=254						
KDAK				S		**S**	**18 18 51.3 +2.7**
	baz=254						
H18K	**Honhosa River**	**60.74**	**23**	IAMs_20		IAMs_20	18 32 14.0
	comp=Z,5µm,22.0s						
H18K	**Honhosa River**	**60.74**	**23**	P		**P**	**18 10 36.4 +1.4**
	baz=245,SNR=132						
H18K				S		**S**	**18 18 52.6 +3.9**
	baz=245						
F18K	**Selawik**	**60.92**	**22**	P		**P**	**18 10 37.3 +1.2**
	baz=243,SNR=52						
F18K				S		**S**	**18 18 54.3 +3.5**
	baz=243						
P19K	**Oil Pt**	**60.94**	**30**	P		**P**	**18 10 37.6 +1.2**
	baz=252,SNR=16						
P19K				S		**S**	**18 18 52.5 +1.0**
	baz=252						
G18K	**Tagagawik**	**60.96**	**23**	P		**P**	**18 10 37.8 +1.3**
	baz=244,SNR=221						
G18K				S		**S**	**18 18 54.9 +3.5**
	baz=244						
E18K	**Tukpahlearik C**	**60.98**	**21**	IAmb		IAmb	18 10 40.4
	comp=Z,172nm,0.9s						
E18K	**Tukpahlearik C**	**60.98**	**21**	P		**P**	**18 10 38.1 +1.6**
	baz=241,SNR=98						
E18K				S		**S**	**18 18 54.1 +2.5**
	baz=241						
HIZ	**Hauiti**	**61.00**	**155**	IAmb		IAmb	18 10 53.6
	comp=Z,173nm,1.1s						
HIZ				IAMs_20		IAMs_20	18 33 09.3
	comp=Z,4µm,20.0s						
HIZ	**Hauiti**	**61.00**	**155**	P		**P**	**18 10 38.1 +1.1**
HIZ	**Hauiti**	**61.00**	**155**	P		**P**	**18 10 39.0 +1.9**
L19K	**White Mountain**	**61.02**	**27**	IAmb		IAmb	18 10 40.9
	comp=Z,157nm,1.1s						
L19K				IAMs_20		IAMs_20	18 33 22.5
	comp=Z,6µm,21.0s						
L19K	**White Mountain**	**61.02**	**27**	P		**P**	**18 10 38.7 +1.7**
	baz=250,SNR=92						
L19K				S		**S**	**18 18 56.8 +4.5**
	baz=250						
Q20K	**Shuyak Island**	**61.05**	**32**	P		**P**	**18 10 38.2 +1.0**
	baz=254,SNR=11						
Q20K				S		**S**	**18 18 54.6 +1.9**
	baz=254						
SYI	**Shuyak Island**	**61.05**	**32**	IAmb		IAmb	18 10 51.7
	comp=Z,140nm,0.8s						
SYI				IAMs_20		IAMs_20	18 34 24.6
	comp=Z,6µm,20.0s						
M19K	**Big River Lodg**	**61.13**	**28**	IAmb		IAmb	18 10 49.7
	comp=Z,86nm,1.0s						
M19K	**Big River Lodg**	**61.13**	**28**	P		**P**	**18 10 39.9 +2.2**
	baz=250,SNR=37						
M19K				S		**S**	**18 18 57.7 +4.0**
	baz=250						
LKN	**LUCKNOW**	**61.14**	**292**	*e*P		**P**	**18 10 38.2 -0.2**
LKN				IAmb		IAmb	18 10 43.6
	comp=Z,734nm,2.2s						
LKN				*e*S		**S**	**18 18 58.1 +3.2**
GCSA	**Galena City Sc**	**61.15**	**24**	P		**P**	**18 10 39.3 +1.6**
	baz=246,SNR=42						
GCSA				S		**S**	**18 18 57.7 +4.0**
	baz=246						
KHEZ	**Kahui Hut**	**61.33**	**156**	P		**P**	**18 10 40.3 +0.9**
J19K	**Poorman**	**61.36**	**25**	IAMs_20		IAMs_20	18 33 30.3
	comp=Z,5µm,21.0s						
J19K	**Poorman**	**61.36**	**25**	P		**P**	**18 10 41.1 +1.9**
	baz=248,SNR=231						
J19K				S		**S**	**18 19 00.7 +4.2**
	baz=248						
O20K	**Slope Mountain**	**61.37**	**30**	P		**P**	**18 10 40.2 +0.8**
	baz=253,SNR=6.0						
O20K				S		**S**	**18 18 57.5 +0.7**
	baz=253						
C18K	**Utukok River**	**61.39**	**19**	IAmb		IAmb	18 10 42.5
	comp=Z,118nm,0.9s						
C18K	**Utukok River**	**61.39**	**19**	P		**P**	**18 10 40.5 +1.1**
	baz=240,SNR=70						
C18K				S		**S**	**18 18 59.4 +2.5**
	baz=240						
VRZ	**Vera Road**	**61.48**	**155**	P		**P**	**18 10 42.5 +2.2**
LGTI	**Lohaghat**	**61.49**	**295**	*e*P		**P**	**18 10 44.3 +3.6**
LGTI				IAmb		IAmb	18 10 49.0
	comp=Z,533nm,2.4s						
LGTI				*e*S		**S**	**18 19 06.3 +7.0**
PTH	**Pithoragarh**	**61.51**	**295**	*e*P		**P**	**18 10 40.2 -0.9**
PTH				IAmb		IAmb	18 10 48.2
	comp=Z,657nm,2.3s						
PTH				*e*S		**S**	**18 19 04.2 +4.3**
L20K	**Farewell, AK**	**61.55**	**27**	P		**P**	**18 10 42.4 +1.8**
	baz=250,SNR=37						
L20K				S		**S**	**18 19 04.2 +5.1**
	baz=250						
B18K	**Kokolik River**	**61.57**	**18**	P		**P**	**18 10 42.2 +1.7**
	baz=239,SNR=63						
B18K				S		**S**	**18 19 02.0 +3.0**
	baz=239						
HAZ	**Te Kaha**	**61.63**	**152**	P		**P**	**18 10 41.8 +0.5**
H19K	**Roundabout Mou**	**61.63**	**23**	IAMs_20		IAMs_20	18 33 37.4
	comp=Z,4µm,19.0s						
H19K	**Roundabout Mou**	**61.63**	**23**	P		**P**	**18 10 42.9 +1.9**
	baz=246,SNR=116						
H19K				S		**S**	**18 19 04.9 +5.1**
	baz=246						
G19K	**Purcell Mounta**	**61.64**	**23**	P		**P**	**18 10 42.6 +1.5**
	baz=245,SNR=174						
G19K				S		**S**	**18 19 03.3 +3.2**
	baz=245						
M20K	**Styx River**	**61.69**	**28**	IAmb		IAmb	18 10 45.7
	comp=Z,208nm,1.2s						
M20K	**Styx River**	**61.69**	**28**	P		**P**	**18 10 43.8 +2.3**
	baz=251,SNR=88						
M20K				S		**S**	**18 19 06.4 +5.4**
	baz=251						
F19K	**Shaleruckik Mo**	**61.69**	**22**	P		**P**	**18 10 42.5 +1.2**
	baz=244						
F19K				S		**S**	**18 19 03.1 +2.5**
	baz=244						
MXZ	**Matakaoa Point**	**61.70**	**152**	P		**P**	**18 10 42.7 +0.9**
MXZ	**Matakaoa Point**	**61.70**	**152**	P		**P**	**18 10 41.5 -0.3**
HOM	**Homer**	**61.72**	**31**	P		**P**	**18 10 43.0 +1.4**
	baz=254						
URZ	**Urewera**	**61.74**	**153**	LR		LR	18 37 09.9
	comp=Z,3µm,18.7s,baz=323,slow=36						
URZ	**Urewera**	**61.74**	**153**	P		**P**	**18 10 43.2 +1.2**
URZ	**Urewera**	**61.74**	**153**	P		**P**	**18 10 42.2 +0.1**
K20K	**Telida**	**61.77**	**26**	IAMs_20		IAMs_20	18 33 23.3
	comp=Z,6µm,22.0s						
K20K	**Telida**	**61.77**	**26**	P		**P**	**18 10 44.3 +2.3**
	baz=250						
K20K				S		**S**	**18 19 07.3 +5.5**
	baz=250						
NGZ	**Ngauruhoe**	**61.87**	**155**	P		**P**	**18 10 45.1 +2.0**
N20K	**Mount Spurr**	**61.89**	**29**	P		**P**	**18 10 44.3 +1.3**
	baz=253						
N20K				S		**S**	**18 19 05.2 +1.7**
	baz=253						
RTZ	**Ruatahuna**	**61.98**	**153**	IAMs_20		IAMs_20	18 34 13.3
	comp=Z,3µm,19.0s						
RTZ	**Ruatahuna**	**61.98**	**153**	P		**P**	**18 10 44.2 +0.4**
JOSI	**Joshimath**	**62.02**	**296**	*e*P		**P**	**18 10 46.9 +2.4**
JOSI				IAmb		IAmb	18 10 47.7
	comp=Z,624nm,2.6s						
JOSI				*e*S		**S**	**18 19 11.2 +4.7**
J20K	**Nowinta River**	**62.03**	**25**	IAMs_20		IAMs_20	18 33 51.0
	comp=Z,5µm,20.0s						
J20K	**Nowinta River**	**62.03**	**25**	P		**P**	**18 10 45.8 +2.1**
	baz=249,SNR=252						
J20K				S		**S**	**18 19 10.4 +5.5**
	baz=249						
SHLS	**Shalkode**	**62.05**	**310**	*e*P		**P**	**18 10 40.0 -4.4**
SHLS				*e*S		**S**	**18 18 58.9 -7.3**
SHLS	**Shalkode**	**62.05**	**310**	*e*P		**P**	**18 10 40.0 -4.4**
SHLS				*e*S		**S**	**18 18 59.0 -7.3**
PUZ	**Puketiti**	**62.10**	**152**	P		**P**	**18 10 43.9 -0.6**
QRZ	**Quartz Range**	**62.10**	**158**	IAmb		IAmb	18 10 58.4
	comp=Z,99nm,0.9s						
QRZ				IAMs_20		IAMs_20	18 34 09.3
	comp=Z,4µm,20.0s						
QRZ	**Quartz Range**	**62.10**	**158**	P		**P**	**18 10 45.4 +1.0**
QRZ	**Quartz Range**	**62.10**	**158**	P		**P**	**18 10 46.2 +1.8**
BRLK	**Bradley Lake**	**62.12**	**31**	IAmb		IAmb	18 11 05.4
	comp=Z,104nm,0.8s						
I20K	**Naaghedeneel**	**62.12**	**25**	IAMs_20		IAMs_20	18 33 53.4
	comp=Z,4µm,21.0s						
I20K	**Naaghedeneel**	**62.12**	**25**	P		**P**	**18 10 46.4 +2.1**
	baz=249,SNR=100						
I20K				S		**S**	**18 19 11.4 +5.3**
	baz=249						
C19K	**Lookout Ridge**	**62.12**	**19**	P		**P**	**18 10 46.1 +1.8**
	baz=241,SNR=167						
C19K				S		**S**	**18 19 09.4 +3.2**
	baz=241						
E19K	**Redstone River**	**62.15**	**21**	P		**P**	**18 10 46.1 +1.6**
	baz=245,SNR=218						
E19K				S		**S**	**18 19 09.1 +2.6**
	baz=245						
H20K	**Anotleneega Mo**	**62.22**	**24**	P		**P**	**18 10 46.7 +1.7**
	baz=248,SNR=191						
H20K				S		**S**	**18 19 10.9 +3.5**
	baz=248						
A19K	**Wainwright**	**62.22**	**18**	P		**P**	**18 10 46.9 +2.1**
	baz=239,SNR=38						
A19K				S		**S**	**18 19 10.4 +3.2**
	baz=239						
BKZ	**Black Stump Fm**	**62.23**	**154**	P		**P**	**18 10 45.5 +0.1**
BKZ				IAmb		IAmb	18 10 55.1
	comp=Z,76nm,0.8s						
BKZ				IAMs_20		IAMs_20	18 32 37.9
	comp=Z,4µm,21.0s						
BKZ	**Black Stump Fm**	**62.23**	**154**	P		**P**	**18 10 46.1 +0.7**
BKZ	**Black Stump Fm**	**62.23**	**154**	P		**P**	**18 10 45.7 +0.3**
FRKB	**FARRUKHABAD**	**62.24**	**293**	*e*P		**P**	**18 10 46.9 +1.1**
FRKB				IAmb		IAmb	18 10 48.6
	comp=Z,421nm,2.0s						
CAPN	**Captain Cook N**	**62.26**	**29**	P		**P**	**18 10 46.4 +1.2**
	baz=254						
D19K	**Kuna River**	**62.31**	**20**	IAMs_20		IAMs_20	18 36 15.3
	comp=

F20K Avaraart Lake 62.51 22 IAmb IAmb 18 10 50.7
comp=Z,146nm,0.8s
F20K Avaraart Lake 62.51 22 P **P** **18 10 48.5 +1.7**
baz=246,SNR=184
F20K S **S** **18 19 14.7 +3.7**
baz=246
CAST Castle Rocks 62.63 26 IAMs_20 IAMs_20 18 34 00.1
comp=Z,6µm,21.0s
CAST Castle Rocks 62.63 26 P **P** **18 10 49.1 +1.3**
baz=252,SNR=286
CAST S **S** **18 19 15.7 +3.0**
baz=252
SLKM Skilak Lake 62.63 30 IAmb IAmb 18 11 08.0
comp=Z,214nm,1.3s
SLKM IAMs_20 IAMs_20 18 36 03.3
comp=Z,3µm,20.0s
SUA Susitna One 62.65 29 IAMs_20 IAMs_20 18 34 55.6
comp=Z,4µm,21.0s
SUA Susitna One 62.65 29 P **P** **18 10 48.5 +0.5**
baz=254
DSZ Denniston Nort 62.66 159 IAmb IAmb 18 10 58.0
comp=Z,117nm,1.0s
DSZ IAMs_20 IAMs_20 18 36 06.9
comp=Z,4µm,20.0s
DSZ Denniston Nort 62.66 159 P **P** **18 10 48.2 0.0**
CHUM Lake Minchumin 62.69 26 P **P** **18 10 50.2 +2.2**
baz=251,SNR=22
CHUM S **S** **18 19 17.7 +4.4**
baz=251
NNZ Nelson 62.76 157 IAMs_20 IAMs_20 18 36 35.6
comp=Z,4µm,18.0s
NNZ Nelson 62.76 157 P **P** **18 10 49.0 +0.2**
TSZ Takapari Road 62.76 155 P **P** **18 10 49.5 +0.6**
PRZ Przheval'sk 62.80 310 IAmb IAmb 18 11 07.8
comp=Z,83nm,0.9s
SATY Saty 62.81 310 *eP* **P** **18 10 47.2 -2.3**
SATY *eS* **S** **18 19 12.5 -3.4**
SATY Saty 62.81 310 *eP* **P** **18 10 47.2 -2.3**
SATY *eS* **S** **18 19 12.5 -3.4**
E20K Nigu River 62.85 21 P **P** **18 10 50.5 +1.3**
baz=245,SNR=318
E20K S **S** **18 19 18.3 +3.0**
baz=245
O22K Cooper Landing 62.87 30 IAMs_20 IAMs_20 18 39 15.4
comp=Z,4µm,21.0s
O22K Cooper Landing 62.87 30 P **P** **18 10 50.5 +1.2**
baz=255,SNR=14
O22K S **S** **18 19 18.3 +2.8**
baz=255
SEW Seward 62.90 30 IAmb IAmb 18 11 09.3
comp=Z,204nm,1.1s
SEW IAMs_20 IAMs_20 18 35 43.4
comp=Z,4µm,21.0s
SEW Seward 62.90 30 P **P** **18 10 50.8 +1.2**
baz=256,SNR=22
SEW S **S** **18 19 19.0 +3.0**
baz=256
D20K Etivluk River 62.90 20 IAMs_20 IAMs_20 18 36 53.9
comp=Z,4µm,19.0s
D20K Etivluk River 62.90 20 P **P** **18 10 50.6 +1.1**
baz=245,SNR=189
D20K S **S** **18 19 19.0 +3.1**
baz=245
TDK Taldyqorghan 62.91 312 *eP* **P** **18 10 48.1 -1.8**
TDK pmax pmax
comp=Z,85nm,1.6s
TDK MLR MLR
comp=Z,3µm,16.0s
TDK Taldyqorghan 62.91 312 *eP* **P** **18 10 48.2 -1.8**
comp=Z,85nm,1.6s
TDK LR LR 18 39 15.4
comp=Z,3µm,16.2s
M22K Willow 63.01 29 IAMs_20 IAMs_20 18 34 04.3
comp=Z,5µm,22.0s
M22K Willow 63.01 29 P **P** **18 10 51.2 +0.9**
baz=254,SNR=13
M22K S **S** **18 19 19.3 +2.0**
baz=254
RC01 Rabbit Creek A 63.02 29 IAMs_20 IAMs_20 18 35 14.3
comp=Z,4µm,21.0s
RC01 Rabbit Creek A 63.02 29 P **P** **18 10 51.4 +1.1**
baz=255,SNR=10
RC01 S **S** **18 19 19.0 +1.5**
baz=255
THZ Tophouse 63.06 158 IAMs_20 IAMs_20 18 34 25.6
comp=Z,4µm,21.0s
THZ Tophouse 63.06 158 P **P** **18 10 51.8 +0.9**
H21K Melozitna Rive 63.08 24 IAMs_20 IAMs_20 18 34 33.9
comp=Z,4µm,20.0s
H21K Melozitna Rive 63.08 24 P **P** **18 10 52.5 +1.8**
baz=250,SNR=195
H21K S **S** **18 19 23.2 +4.9**
baz=250
G21K Allakaket 63.12 23 IAmb IAmb 18 10 54.7
comp=Z,159nm,1.1s
G21K IAMs_20 IAMs_20 18 35 15.8
comp=Z,4µm,20.0s
G21K Allakaket 63.12 23 P **P** **18 10 52.6 +1.7**
baz=249,SNR=92
G21K S **S** **18 19 23.4 +4.7**
baz=249
MRZ Mangatainoka R 63.12 155 IAmb IAmb 18 11 03.9
comp=Z,215nm,1.4s
MRZ IAMs_20 IAMs_20 18 36 43.4
comp=Z,4µm,19.0s
MRZ Mangatainoka R 63.12 155 P **P** **18 10 51.3 +0.1**
CUT Chulitna 63.13 28 IAMs_20 IAMs_20 18 34 17.3
comp=Z,7µm,22.0s
CUT Chulitna 63.13 28 P **P** **18 10 51.7 +0.7**
baz=254,SNR=15
CUT S **S** **18 19 20.6 +1.8**
baz=254
KTH Kantishna Hill 63.17 26 IAMs_20 IAMs_20 18 34 06.3
comp=Z,7µm,21.0s
I21K Tanana 63.25 25 IAMs_20 IAMs_20 18 33 54.2
comp=Z,4µm,22.0s
I21K Tanana 63.25 25 P **P** **18 10 53.6 +1.9**
baz=251,SNR=232
I21K S **S** **18 19 25.5 +5.3**
baz=251
KURK Kurchatov 63.25 319 P **P** **18 10 50.0 -2.0**
KURK Kurchatov 63.25 319 P **P** **18 10 50.9 -1.2**
KURK P **P** **18 10 50.9 -1.2**
KURK Kurchatov 63.25 319 P **P** **18 10 50.9 -1.2**
ARXS Arharly 63.28 311 *eP* **P** **18 10 52.2 -0.3**
KURBB Kurchatov Arra 63.30 319 P **P** **18 10 50.9 -1.4**
comp=Z,23nm,0.6s,baz=98,slow=7.1,SNR=72
KURBB LR LR 18 39 42.6
comp=Z,9µm,19.1s,baz=96,slow=37
KURBB PKP2bc 18 39 54.9
comp=Z,6.1nm,0.9s,baz=286,slow=3.3,SNR=9.9
comp=Z,23nm,0.6s
KURBB Kurchatov Arra 63.30 319 P **P** **18 10 50.1 -2.3**
B20K Meade River 63.30 19 P **P** **18 10 53.6 +1.6**
baz=244,SNR=79
B20K S **S** **18 19 23.4 +2.7**
baz=244
BPAW Bear Paw Mtn. 63.31 26 IAMs_20 IAMs_20 18 33 57.0
comp=Z,6µm,22.0s
BPAW Bear Paw Mtn. 63.31 26 P **P** **18 10 53.8 +1.5**
baz=252,SNR=300
BPAW S **S** **18 19 24.8 +3.7**
baz=252
DDI Dehra Dun 63.33 296 *eP* **P** **18 10 54.0 +0.9**
DDI IAmb IAmb 18 11 00.6
comp=Z,623nm,2.2s
DDI *eS* **S** **18 19 23.6 +1.1**
SNZO South Karori 63.34 156 P **P** **18 10 52.5 -0.1**
SNZO IAmb IAmb 18 10 53.6
comp=Z,106nm,0.8s
SNZO South Karori 63.34 156 IAMs_20 IAMs_20 18 36 30.9
comp=Z,4µm,19.0s
SNZO South Karori 63.34 156 P **P** **18 10 54.2 +1.6**
JHNI Jhansi 63.36 290 *eP* **P** **18 10 53.0 -0.2**
JHNI IAmb IAmb 18 10 55.2
comp=Z,341nm,1.5s
JHNI *eS* **S** **18 19 25.4 +2.4**
F21K Alatna River 63.39 22 IAmb IAmb 18 11 07.9
comp=Z,87nm,0.9s
F21K Alatna River 63.39 22 P **P** **18 10 54.3 +1.5**
baz=248,SNR=63
F21K S **S** **18 19 26.2 +4.1**
baz=248
INZ Inchbonnie 63.40 160 IAmb IAmb 18 10 54.0
comp=Z,99nm,0.9s
INZ IAMs_20 IAMs_20 18 40 26.6
comp=Z,4µm,18.0s

BFZ Birch Farm 63.41 155 IAMs_20 IAMs_20 18 35 37.9
comp=Z,6µm,19.0s
BFZ Birch Farm 63.41 155 P **P** **18 10 54.2 +1.1**
BFZ Birch Farm 63.41 155 P **P** **18 10 53.5 +0.4**
TRF Thorofare Moun 63.41 27 IAMs_20 IAMs_20 18 34 25.7
comp=Z,6µm,22.0s
TRF Thorofare Moun 63.41 27 P **P** **18 10 54.0 +0.9**
baz=253,SNR=134
TRF S **S** **18 19 24.2 +1.5**
baz=253
PMR Palmer 63.43 29 P **P** **18 10 53.7 +0.7**
PMR Palmer 63.43 29 P **P** **18 10 53.7 +0.7**
PMR pmax pmax
comp=Z,333nm,1.5s
PMR Palmer 63.43 29 P **P** **18 10 53.9 +0.9**
baz=255,SNR=42
PMR S **S** **18 19 24.0 +1.4**
baz=255
BHW Baring Head 63.48 156 IAmb IAmb 18 11 03.7
comp=Z,57nm,0.7s
GHO Glory Hole Cre 63.57 29 IAMs_20 IAMs_20 18 36 06.9
comp=Z,5µm,20.0s
FOZ Fox Glacier 63.60 161 P **P** **18 10 54.3 0.0**
FOZ IAmb IAmb 18 11 04.3
comp=Z,264nm,1.5s
PWL Port Wells 63.62 30 P **P** **18 10 55.7 +1.4**
baz=256,SNR=75
PWL S **S** **18 19 28.4 +3.3**
baz=256
E21K Killik River 63.68 21 IAmb IAmb 18 11 47.5
comp=Z,87nm,1.0s
E21K Killik River 63.68 21 P **P** **18 10 56.0 +1.4**
baz=247,SNR=35
E21K S **S** **18 19 27.9 +2.3**
baz=247
C21K Knifeblade Rid 63.69 20 P **P** **18 10 56.5 +1.8**
baz=246,SNR=41
C21K S **S** **18 19 28.3 +2.6**
baz=246
KDJ Kajisay 63.69 309 P **P** **18 10 55.8 +0.4**
KDJ pmax pmax
comp=Z,57nm,1.1s
KNK Knik Glacier 63.70 29 IAMs_20 IAMs_20 18 35 33.3
comp=Z,5µm,21.0s
KNK Knik Glacier 63.70 29 P **P** **18 10 56.3 +1.4**
baz=256,SNR=41
KNK S **S** **18 19 28.1 +2.1**
baz=256
MLY Manley 63.70 25 IAMs_20 IAMs_20 18 36 17.1
comp=Z,4µm,19.0s
MLY Manley 63.70 25 P **P** **18 10 56.4 +1.5**
baz=252,SNR=356
MLY S **S** **18 19 29.4 +3.4**
baz=252
AGRA Agra 63.70 293 *eP* **P** **18 10 55.1 -0.4**
AGRA IAmb IAmb 18 10 57.7
comp=Z,265nm,1.8s
AGRA *eS* **S** **18 19 31.6 +4.4**
ASOR Ausora 63.70 294 *eP* **P** **18 10 55.1 -0.3**
ASOR IAmb IAmb 18 10 57.2
comp=Z,702nm,1.5s
ASOR *eS* **S** **18 19 33.6 +6.5**
H22K Ishtalitna Cre 63.72 24 P **P** **18 10 57.0 +2.1**
baz=251,SNR=76
H22K S **S** **18 19 30.3 +4.2**
baz=251
LTZ Lake Taylor 63.73 159 IAMs_20 IAMs_20 18 34 29.4
comp=Z,3µm,20.0s
LTZ Lake Taylor 63.73 159 P **P** **18 10 54.6 -0.7**
JCZ Jackson Bay 63.78 162 P **P** **18 10 56.8 +1.1**
JCZ Jackson Bay 63.78 162 P **P** **18 10 57.5 +1.8**
MDRS Chennai 63.79 277 *eP* **P** **18 10 58.0 +1.8**
MDRS IAmb IAmb 18 11 08.4
comp=Z,518nm,2.2s
ALCI Alchi Leh 63.82 300 *eP* **P** **18 10 53.0 -3.6**
ALCI IAmb IAmb 18 10 59.4
comp=Z,596nm,2.3s
KHZ Kahutara 63.86 158 IAMs_20 IAMs_20 18 35 35.8
comp=Z,5µm,20.0s
KHZ Kahutara 63.86 158 P **P** **18 10 56.8 +0.8**
KHZ Kahutara 63.86 158 P **P** **18 10 55.6 -0.5**
P23K Montague Islan 63.88 31 IAMs_20 IAMs_20 18 34 50.2
comp=Z,5µm,21.0s
P23K Montague Islan 63.88 31 P **P** **18 10 58.0 +2.0**
baz=258
P23K S **S** **18 19 32.0 +3.7**
baz=258
TNSS Tian-Shan 63.88 310 *eP* **P** **18 10 54.3 -2.6**
TNSS Tian-Shan 63.88 310 *eP* **P** **18 10 54.3 -2.6**
B21K Ikpikpuk River 63.94 20 IAmb IAmb 18 10 59.7
comp=Z,119nm,0.9s
B21K IAMs_20 IAMs_20 18 37 49.1
comp=Z,4µm,20.0s
B21K Ikpikpuk River 63.94 20 P **P** **18 10 57.8 +1.5**
baz=246,SNR=41
B21K S **S** **18 19 31.8 +3.2**
baz=246
F22K John River 63.96 22 P **P** **18 10 58.7 +2.2**
baz=250,SNR=90
F22K S **S** **18 19 33.6 +4.4**
baz=250
BWN Browne 63.97 26 IAMs_20 IAMs_20 18 34 52.3
comp=Z,4µm,21.0s
G22K Bettles 64.01 23 P **P** **18 10 58.3 +1.6**
baz=251
G22K S **S** **18 19 34.2 +4.5**
baz=251
SMLA Simla 64.03 297 *eP* **P** **18 10 56.0 -1.5**
SMLA IAmb IAmb 18 11 04.5
comp=Z,478nm,2.5s
SMLA *eS* **S** **18 19 31.7 +0.7**
A21K Barrow 64.05 17 P **P** **18 10 58.5 +1.5**
baz=243
A21K S **S** **18 19 32.9 +2.9**
baz=243
MCK McKinley 64.07 27 IAmb IAmb 18 10 59.4
comp=Z,163nm,1.2s
MCK McKinley 64.07 27 P **P** **18 10 58.0 +0.7**
baz=254,SNR=44
MCK S **S** **18 19 30.8 +0.1**
baz=254
M23K Glacier View 64.12 29 P **P** **18 10 58.8 +1.2**
baz=257,SNR=48
M23K S **S** **18 19 34.9 +3.5**
baz=257
OXZ Oxford 64.14 159 IAmb IAmb 18 10 58.5
comp=Z,106nm,0.8s
OXZ IAMs_20 IAMs_20 18 40 57.1
comp=Z,4µm,18.0s
JMIU JAMIA UNIVERSI 64.14 294 *eP* **P** **18 10 57.1 -1.2**
JMIU IAmb IAmb 18 10 59.0
comp=Z,341nm,2.0s
JMIU *eS* **S** **18 19 35.6 +3.0**
RPZ Rata Peaks 64.16 160 IAMs_20 IAMs_20 18 35 29.6
comp=Z,5µm,20.0s
RPZ Rata Peaks 64.16 160 LR LR 18 35 52.7
comp=Z,4µm,20.7s,baz=324,slow=33
RPZ Rata Peaks 64.16 160 P **P** **18 10 59.4 +1.4**
GVZ Greta Valley S 64.16 159 IAmb IAmb 18 11 02.9
comp=Z,125nm,0.8s
GVZ IAMs_20 IAMs_20 18 35 21.8
comp=Z,3µm,20.0s
NDI New Delhi 64.20 294 *eP* **P** **18 11 00.6 +1.9**
NDI IAmb IAmb 18 11 05.9
comp=Z,436nm,2.9s
NDI *eS* **S** **18 19 36.9 +3.6**
LDR Lodi Road 64.21 294 *eP* **P** **18 10 56.5 -2.2**
LDR IAmb IAmb 18 11 05.1
comp=Z,447nm,3.8s
LDR *eS* **S** **18 19 34.9 +1.5**
GLI Glacier Island 64.22 30 IAMs_20 IAMs_20 18 36 35.1
comp=Z,5µm,20.0s
GLI Glacier Island 64.22 30 P **P** **18 10 59.4 +1.2**
baz=258,SNR=15
GLI S **S** **18 19 36.1 +3.6**
baz=258
NPLP NPLP New Delhi 64.24 294 *eP* **P** **18 10 58.6 -0.4**
NPLP IAmb IAmb 18 11 00.3
comp=Z,142nm,2.0s
NPLP *eS* **S** **18 19 38.9 +5.1**
NEA2 Nenana 64.25 26 IAmb IAmb 18 11 01.9
comp=Z,108nm,1.0s
NEA2 IAMs_20 IAMs_20 18 36 14.9
comp=Z,5µm,20.0s
NEA2 Nenana 64.25 26 P **P** **18 10 59.6 +1.2**
baz=254,SNR=60
NEA2 S **S** **18 19 36.0 +3.2**
baz=254
D22K Ayikyak River 64.28 21 IAmb IAmb 18 11 02.5
comp=Z,195nm,1.1s
D22K Ayikyak River 64.28 21 P **P** **18 11 00.1 +1.5**
baz=248,SNR=92
D22K S **S** **18 19 36.0 +2.9**
baz=248
Q23K Middleton Isla 64.28 32 IAMs_20 IAMs_20 18 35 00.2
comp=Z,4µm,21.0s
Q23K Middleton Isla 64.28 32 P **P** **18 11 00.3 +1.7**
baz=259
I23K Minto, Yukon-K 64.29 25 IAMs_20 IAMs_20 18 36 34.8
comp=Z,3µm,20.0s
I23K Minto, Yukon-K 64.29 25 P **P** **18 11 00.2 +1.6**
baz=254,SNR=138
I23K S **S** **18 19 36.0 +2.8**
baz=254
NRLA Narela 64.29 294 *eP* **P** **18 10 58.6 -0.8**
NRLA IAmb IAmb 18 11 05.1
comp=Z,440nm,2.8s
NRLA *eS* **S** **18 19 38.9 +4.5**
E22K Anaktuvuk Pass 64.31 21 P **P** **18 11 00.6 +1.8**
baz=250,SNR=104
E22K S **S** **18 19 36.8 +3.3**
baz=250
SCM Sheep Creek Mo 64.32 29 P **P** **18 11 00.5 +1.5**
baz=257,SNR=100
SCM S **S** **18 19 38.3 +4.5**
baz=257
GNR GANAUR 64.33 295 *eP* **P** **18 10 59.2 -0.4**
GNR IAmb IAmb 18 11 01.8
comp=Z,772nm,1.8s
GNR *eS* **S** **18 19 37.7 +2.8**
KUU Kurty 64.34 311 *eP* **P** **18 10 57.4 -2.0**
KUU MLR MLR
comp=Z,2µm,14.0s
KUU Kurty 64.34 311 *eP* **P** **18 10 57.5 -2.0**
KUU LR LR 18 39 31.3
comp=Z,2µm,13.9s
CGRH CHANDIGARH 64.39 296 *eP* **P** **18 10 59.2 -0.8**
CGRH IAmb IAmb 18 11 04.6
comp=Z,1000nm,2.7s
CGRH *eS* **S** **18 19 39.7 +4.1**
A22K Sinclair Lake 64.39 18 P **P** **18 11 00.8 +1.6**
baz=245,SNR=6.0
A22K S **S** **18 19 36.7 +2.5**
baz=245
HIN Hinchinbrook I 64.40 30 IAMs_20 IAMs_20 18 35 07.0
comp=Z,6µm,22.0s
H23K Yukon River 64.41 24 IAmb IAmb 18 11 03.3
comp=Z,184nm,1.0s
H23K Yukon River 64.41 24 P **P** **18 11 01.3 +1.8**
baz=253,SNR=165
H23K S **S** **18 19 37.7 +2.9**
baz=253
LBZ Lake Benmore 64.49 161 P **P** **18 11 00.1 -0.1**
G23K Bananza Creek 64.50 23 IAmb IAmb 18 11 04.0
comp=Z,128nm,0.9s
G23K IAMs_20 IAMs_20 18 34 43.2
comp=Z,4µm,22.0s
G23K Bananza Creek 64.50 23 P **P** **18 11 01.9 +1.9**
baz=252,SNR=110
G23K S **S** **18 19 39.2 +3.4**
baz=252
HYB Hyderabad 64.54 282 *eP* **P** **18 11 00.9 -0.3**
HYB *ePP* **PP** **18 13 22.8 -0.7**
HYB *eS* **S** **18 19 39.8 +1.9**
WKZ Wanaka 64.54 162 IAMs_20 IAMs_20 18 36 19.6
comp=Z,3µm,19.0s
COLD Coldfoot 64.59 23 IAmb IAmb 18 11 04.5
comp=Z,149nm,1.0s
COLD IAMs_20 IAMs_20 18 33 57.6
comp=Z,4µm,22.0s
COLD Coldfoot 64.59 23 P **P** **18 11 02.3 +1.7**
baz=252,SNR=121
COLD S **S** **18 19 39.8 +3.0**
baz=252
B22K Teshekpuk Lake 64.60 19 IAmb IAmb 18 11 11.2
comp=Z,115nm,0.8s
B22K Teshekpuk Lake 64.60 19 P **P** **18 11 02.1 +1.6**
baz=247,SNR=10
B22K S **S** **18 19 40.2 +3.4**
baz=247
KSH Kashi 64.61 306 P **P** **18 11 06.1 +4.7**
KSH pP sP 18 11 20.6 +2.8
KSH PcP **PcP** **18 11 39.3 +4.2**
KSH PP **PP** **18 13 29.8 +6.0**
KSH pmax pmax
comp=Z,25nm,0.9s
KSH LR LR
comp=Z,3µm,17.1s
KSH LR LR
comp=Z,5µm,20.4s
KSH LR LR
comp=Z,7µm,20.6s
DCZ Deep Cove 64.61 164 P **P** **18 11 01.1 +0.2**
DCZ IAmb IAmb 18 11 10.5
comp=Z,65nm,0.7s
WRH Wood River Hil 64.63 26 IAMs_20 IAMs_20 18 35 52.8
comp=Z,5µm,21.0s
BHK Bhakra 64.65 297 *eP* **P** **18 10 59.2 -2.5**
BHK IAmb IAmb 18 11 02.9
comp=Z,488nm,1.5s
BHK *eS* **S** **18 19 37.7 -1.1**
BHPL Bhopal 64.65 288 *eP* **P** **18 11 04.1 +2.2**
BHPL IAmb IAmb 18 11 08.8
comp=Z,226nm,2.4s
BHPL *eS* **S** **18 19 43.9 +4.7**
PALK Pallekele 64.70 270 P **P** **18 11 01.0 -1.3**
PALK IAmb IAmb 18 11 04.4
comp=Z,135nm,1.6s
PALK Pallekele 64.70 270 LR LR 18 35 58.8
comp=Z,2µm,21.7s,baz=73,slow=33
PALK Pallekele 64.70 270 P **P** **18 11 03.0 +0.8**
PALK Pallekele 64.70 270 P **P** **18 11 01.0 -1.3**
PALK pmax pmax
comp=Z,135nm,1.6s
PALK MLR MLR
comp=Z,3µm,21.0s
JHJR Jhajjar 64.70 294 *eP* **P** **18 11 03.3 +1.2**
JHJR IAmb IAmb 18 11 06.5
comp=Z,410nm,2.0s
JHJR *eS* **S** **18 19 41.8 +2.2**
MLZ Mavora Lakes 64.78 163 IAmb IAmb 18 11 19.2
comp=Z,80nm,1.0s
MLZ IAMs_20 IAMs_20 18 39 03.9
comp=Z,4µm,19.0s
CCB Clear Creek Bu 64.79 26 IAmb IAmb 18 11 04.4
comp=Z,156nm,1.2s
CCB IAMs_20 IAMs_20 18 36 40.1
comp=Z,4µm,20.0s
EYAK Cordova Ski Ar 64.80 30 IAMs_20 IAMs_20 18 35 31.5
comp=Z,6µm,22.0s
EYAK Cordova Ski Ar 64.80 30 P **P** **18 11 04.5 +2.5**
EYAK Cordova Ski Ar 64.80 30 P **P** **18 11 03.8 +1.8**
baz=259,SNR=16
EYAK S **S** **18 19 43.6 +4.1**
baz=259
RAR Rarotonga 64.81 124 LR LR 18 32 34.8
comp=Z,1µm,21.9s,baz=300,slow=30
COLA College 64.83 25 P **P** **18 11 02.5 +0.3**
COLA IAmb IAmb 18 11 07.0
comp=Z,116nm,0.9s
COLA College 64.83 25 IAMs_20 IAMs_20 18 35 38.0
comp=Z,5µm,20.0s
COLA College 64.83 25 P **P** **18 11 03.5 +1.3**
COLA College 64.83 25 P **P** **18 11 02.5 +0.3**
COLA pmax pmax
comp=Z,116nm,0.9s
COLA MLR MLR
comp=Z,5µm,20.0s
COLA College 64.83 25 P **P** **18 11 03.0 +0.9**
baz=255
RTK Rohtak 64.86 295 *eP* **P** **18 11 00.6 -2.4**
RTK IAmb IAmb 18 11 09.7
comp=Z,532nm,2.4s
KUDL Kundal 64.89 294 *eP* **P** **18 11 04.7 +1.5**
KUDL IAmb IAmb 18 11 07.8
comp=Z,334nm,1.1s
KUDL *eS* **S** **18 19 45.1 +3.3**
DIV Divide 64.90 30 IAmb IAmb 18 11 06.0
comp=Z,120nm,0.8s
KLU Klutina 64.90 29 IAmb IAmb 18 11 06.0
comp=Z,197nm,1.1s
KLU Klutina 64.90 29 P **P** **18 11 04.6 +1.8**
baz=258,SNR=46
KLU S **S** **18 19 43.7 +2.7**

baz=258
M24K Tolsona, Glenn 64.91 29 IAMs_20 IAMs_20 18 35 27.4
comp=Z,5µm,22.0s
M24K Tolsona, Glenn 64.91 29 P **P** **18 11 04.9 +2.1**
baz=258,SNR=33
M24K S **S** **18 19 45.7 +4.6**
baz=258
NRDN NARMADA NAGAR 64.96 288 *e*P **P** **18 11 06.7 +2.9**
NRDN IAmb IAmb 18 11 09.4
comp=Z,592nm,2.0s
NRDN *e*S **S** **18 19 45.1 +2.1**
D23K Nanushuk River 64.99 21 IAmb IAmb 18 11 07.4
comp=Z,160nm,0.9s
D23K Nanushuk River 64.99 21 P **P** **18 11 05.1 +1.9**
baz=250,SNR=68
D23K S **S** **18 19 46.2 +4.5**
baz=250
POKR Poker Plat Res 65.07 25 IAmb IAmb 18 11 06.2
comp=Z,143nm,1.2s
POKR IAMs_20 IAMs_20 18 35 46.3
comp=Z,6µm,21.0s
POKR Poker Plat Res 65.07 25 P **P** **18 11 04.4 +0.6**
baz=255,SNR=20
POKR S **S** **18 19 43.5 +0.7**
baz=255
H24K Noodor Dome 65.08 24 IAMs_20 IAMs_20 18 35 45.5
comp=Z,3µm,20.0s
H24K Noodor Dome 65.08 24 P **P** **18 11 05.5 +1.7**
baz=255,SNR=124
H24K S **S** **18 19 45.5 +2.5**
baz=255
HDA Harding Lake 65.09 26 IAmb IAmb 18 11 06.0
comp=Z,136nm,0.9s
HDA IAMs_20 IAMs_20 18 35 04.1
comp=Z,4µm,22.0s
HDA Harding Lake 65.09 26 P **P** **18 11 04.5 +0.6**
baz=256,SNR=94
HDA S **S** **18 19 42.4 -0.7**
baz=256
ILAR Eielson Array 65.20 26 P **P** **18 11 04.0 -0.7**
comp=Z,115nm,0.8s,baz=250,slow=6.2,SNR=401
ILAR LR LR 18 36 32.8
comp=Z,4µm,21.7s,baz=251,slow=33
ILAR PKPPKP P'P'df 18 39 37.2 -13
comp=Z,0.9nm,1.0s,baz=112,slow=1.3,SNR=5.4
ILAR Eielson Array 65.20 26 P **P** **18 11 04.0 -0.7**
comp=Z,115nm,0.8s
ODZ Otahua Downs 65.22 161 IAmb IAmb 18 11 18.5
comp=Z,246nm,1.9s
ODZ Otahua Downs 65.22 161 P **P** **18 11 05.9 +1.0**
TOLK Toolik Lake Re 65.27 21 P **P** **18 11 06.8 +1.8**
baz=252,SNR=54
TOLK S **S** **18 19 48.0 +2.8**
baz=252
RAGM Ragged Mountai 65.29 31 IAmb IAmb 18 11 16.4
comp=Z,159nm,1.2s
RAGM IAMs_20 IAMs_20 18 35 49.5
comp=Z,5µm,22.0s
C23K Itkillik River 65.31 20 IAMs_20 IAMs_20 18 38 54.5
comp=Z,3µm,19.0s
C23K Itkillik River 65.31 20 P **P** **18 11 07.3 +2.1**
baz=250,SNR=49
C23K S **S** **18 19 48.9 +3.4**
baz=250
KAIM Kayak Island 65.34 31 IAMs_20 IAMs_20 18 34 46.9
comp=Z,6µm,21.0s
KAIM Kayak Island 65.34 31 P **P** **18 11 07.6 +2.0**
baz=260,SNR=12
KAIM S **S** **18 19 50.9 +4.7**
baz=260
PAX Paxson 65.41 28 P **P** **18 11 07.5 +1.4**
baz=258,SNR=127
PAX S **S** **18 19 49.2 +1.9**
baz=258
BMRM Bremner River 65.43 30 IAMs_20 IAMs_20 18 36 03.1
comp=Z,5µm,22.0s
BMRM Bremner River 65.43 30 P **P** **18 11 07.9 +1.7**
baz=260,SNR=55
BMRM S **S** **18 19 51.5 +4.1**
baz=260
HARP HAARP 65.44 28 P **P** **18 11 07.7 +1.5**
baz=259,SNR=44
HARP S **S** **18 19 50.6 +3.2**
baz=259
K24K Donnelly Dome 65.45 27 P **P** **18 11 07.6 +1.3**
baz=258,SNR=55
K24K S **S** **18 19 49.2 +1.5**
baz=258
G24K Hadweenzic Riv 65.46 24 IAmb IAmb 18 11 10.2
comp=Z,150nm,1.0s
G24K IAMs_20 IAMs_20 18 35 45.8
comp=Z,4µm,22.0s
G24K Hadweenzic Riv 65.46 24 P **P** **18 11 08.2 +1.9**
baz=255,SNR=144
G24K S **S** **18 19 51.8 +4.2**
baz=255
E24K Your Creek 65.47 22 IAmb IAmb 18 11 18.0
comp=Z,166nm,0.9s
E24K IAMs_20 IAMs_20 18 35 60.0
comp=Z,4µm,22.0s
E24K Your Creek 65.47 22 P **P** **18 11 08.1 +1.7**
baz=253,SNR=131
E24K S **S** **18 19 52.2 +4.4**
baz=253
HMT Hamilton 65.48 31 IAmb IAmb 18 11 09.8
comp=Z,85nm,0.8s
HMT IAMs_20 IAMs_20 18 36 04.7
comp=Z,6µm,21.0s
F24K Squaw Lake 65.53 23 IAmb IAmb 18 11 10.8
comp=Z,152nm,1.0s
F24K IAMs_20 IAMs_20 18 35 25.6
comp=Z,4µm,22.0s
F24K Squaw Lake 65.53 23 P **P** **18 11 08.8 +2.0**
baz=254,SNR=92
F24K S **S** **18 19 52.9 +4.4**
baz=254
N25K Chitina, Valde 65.54 29 IAmb IAmb 18 11 10.3
comp=Z,96nm,0.8s
N25K IAMs_20 IAMs_20 18 36 45.2
comp=Z,5µm,20.0s
N25K Chitina, Valde 65.54 29 P **P** **18 11 08.8 +1.8**
baz=260,SNR=56
N25K S **S** **18 19 54.2 +5.2**
baz=260
SGDS Sogindy 65.58 311 *e*P **P** **18 11 05.5 -2.0**
D24K Happy Valley 65.68 21 IAMs_20 IAMs_20 18 43 56.4
comp=Z,3µm,18.0s
D24K Happy Valley 65.68 21 P **P** **18 11 09.4 +1.8**
baz=252,SNR=87
D24K S **S** **18 19 53.9 +3.7**
baz=252
AAK Ala-Archa 65.68 310 P **P** **18 11 08.7 +0.3**
AAK Ala-Archa 65.68 310 LR LR 18 41 55.6
comp=Z,5µm,18.1s,baz=85,slow=38
AAK Ala-Archa 65.68 310 P **P** **18 11 08.0 -0.4**
AAK P **P** **18 11 08.0 -0.4**
AAK P **P** **18 11 08.0 -0.4**
AAK S **S** **18 19 53.4 +2.0**
AAK S **S** **18 19 53.4 +2.0**
AAK S **S** **18 19 53.4 +2.0**
AAK Ala-Archa 65.68 310 P **P** **18 11 08.7 +0.3**
AAK pmax pmax
comp=Z,16nm,1.1s
AAK MLR MLR
comp=Z,6µm,18.0s
AAK Ala-Archa 65.68 310 P **P** **18 11 07.2 -1.1**
BERG Berg Lake 65.77 31 IAMs_20 IAMs_20 18 36 13.2
comp=Z,5µm,21.0s
J25K Salcha River, 65.80 26 IAmb IAmb 18 11 20.6
comp=Z,70nm,0.8s
J25K Salcha River, 65.80 26 P **P** **18 11 08.9 +0.3**
baz=258,SNR=79
J25K S **S** **18 19 52.4 +0.4**
baz=258
RIDG Independent Ri 65.84 27 P **P** **18 11 10.1 +1.3**
baz=258,SNR=184
RIDG S **S** **18 19 56.1 +3.6**
baz=258
GLB Gilahina Butte 65.89 30 IAMs_20 IAMs_20 18 37 47.3
comp=Z,5µm,21.0s
C24K Franklin Bluff 65.90 20 IAMs_20 IAMs_20 18 37 10.1
comp=Z,4µm,22.0s
C24K Franklin Bluff 65.90 20 P **P** **18 11 10.7 +1.7**
baz=252,SNR=27
C24K S **S** **18 19 56.5 +3.8**
baz=252
BGLC Bering Glacier 65.93 31 P **P** **18 11 11.4 +2.1**
baz=261

PRP Porcupine Dome 65.94 25 IAMs_20 IAMs_20 18 36 12.5
comp=Z,5µm,22.0s
PRP Porcupine Dome 65.94 25 P **P** **18 11 09.0 -0.5**
baz=257,SNR=32
PRP S **S** **18 19 54.2 +0.5**
baz=257
H25L Birch Creek 66.00 24 P **P** **18 11 11.1 +1.4**
baz=256,SNR=137
H25L S **S** **18 19 58.7 +4.6**
baz=256
BTLS Baital 66.00 312 *e*P **P** **18 11 08.8 -1.3**
G25K Bearman Lake 66.01 24 P **P** **18 11 11.7 +2.0**
baz=256,SNR=44
G25K S **S** **18 19 57.8 +3.6**
baz=256
VRDI Verde Repeater 66.02 30 IAmb IAmb 18 11 13.1
comp=Z,239nm,1.3s
VRDI IAMs_20 IAMs_20 18 37 50.9
comp=Z,4µm,21.0s
CRQM Cirque 66.10 30 IAMs_20 IAMs_20 18 36 26.5
comp=Z,6µm,22.0s
CRQE Cirque 66.12 30 P **P** **18 11 12.6 +1.9**
baz=261,SNR=40
CRQE S **S** **18 20 00.4 +4.3**
baz=261
SYZ Scrubby Hill 66.14 163 P **P** **18 11 12.2 +1.5**
SNH Sunshine Point 66.16 31 IAMs_20 IAMs_20 18 36 09.6
comp=Z,4µm,21.0s
MENT Mentasta 66.19 28 IAmb IAmb 18 11 48.9
comp=Z,120nm,1.1s
MENT Mentasta 66.19 28 P **P** **18 11 13.0 +1.9**
WAX Waxell Ridge 66.19 31 IAmb IAmb 18 11 29.2
comp=Z,126nm,1.0s
WAX IAMs_20 IAMs_20 18 36 37.4
comp=Z,4µm,22.0s
TGL Tana Glacier 66.25 30 IAMs_20 IAMs_20 18 36 29.9
comp=Z,6µm,22.0s
MCARA McCarthy VSAT 66.25 30 IAMs_20 IAMs_20 18 38 29.9
comp=Z,4µm,20.0s
MCARA McCarthy VSAT 66.25 30 P **P** **18 11 13.3 +1.8**
baz=261,SNR=47
MCARA S **S** **18 20 01.2 +3.8**
baz=261
SCRK Sand Creek 66.26 27 P **P** **18 11 12.9 +1.3**
baz=259,SNR=198
SCRK S **S** **18 19 58.8 +1.1**
baz=259
FYU Fort Yukon 66.30 24 IAMs_20 IAMs_20 18 36 41.8
comp=Z,3µm,21.0s
L26K Log Cabin Wild 66.37 28 IAmb IAmb 18 11 18.5
comp=Z,123nm,0.8s
L26K Log Cabin Wild 66.37 28 P **P** **18 11 14.1 +1.9**
baz=260,SNR=138
L26K S **S** **18 20 00.7 +1.9**
baz=260
F25K Christian Rive 66.39 23 IAmb IAmb 18 11 16.4
comp=Z,173nm,0.9s
F25K Christian Rive 66.39 23 P **P** **18 11 14.2 +1.9**
baz=256,SNR=184
F25K S **S** **18 20 01.5 +2.6**
baz=256
M26K Nabesna, AK 66.43 29 IAmb IAmb 18 11 35.2
comp=Z,126nm,1.4s
M26K IAMs_20 IAMs_20 18 37 57.5
comp=Z,6µm,20.0s
M26K Nabesna, AK 66.43 29 P **P** **18 11 14.2 +1.6**
baz=261,SNR=28
M26K S **S** **18 20 01.4 +1.8**
baz=261
E25K Arctic Village 66.54 22 IAmb IAmb 18 11 35.1
comp=Z,137nm,1.1s
E25K Arctic Village 66.54 22 P **P** **18 11 15.3 +2.1**
baz=256,SNR=51
E25K S **S** **18 20 03.5 +2.7**
baz=256
J26L Joseph Creek 66.54 26 IAMs_20 IAMs_20 18 37 47.5
comp=Z,3µm,19.0s
J26L Joseph Creek 66.54 26 P **P** **18 11 14.7 +1.3**
baz=259,SNR=229
J26L S **S** **18 20 02.8 +1.8**
baz=259
D25K Kavik River 66.57 21 P **P** **18 11 14.8 +1.4**
baz=254,SNR=96
D25K S **S** **18 20 03.0 +1.9**
baz=254
MESA MESA 66.60 31 IAMs_20 IAMs_20 18 38 33.2
comp=Z,3µm,20.0s
MESA MESA 66.60 31 P **P** **18 11 16.0 +2.1**
baz=263,SNR=18
MESA S **S** **18 20 06.0 +3.9**
baz=263
YAH Yahtse 66.72 31 IAMs_20 IAMs_20 18 38 36.5
comp=Z,4µm,20.0s
BMAR Burnt Mountain 66.74 23 P **P** **18 11 16.0 +1.5**
GRNC Granite Creek 66.77 31 IAMs_20 IAMs_20 18 36 55.6
comp=Z,5µm,22.0s
ARSB Arslanbob 66.84 308 IAmb IAmb 18 11 46.0
comp=Z,160nm,1.6s
BARN Barnard Glacie 66.86 30 IAmb IAmb 18 11 18.8
comp=Z,124nm,1.2s
BARN IAMs_20 IAMs_20 18 36 38.0
comp=Z,5µm,22.0s
I26K Coal Creek Min 66.87 25 IAmb IAmb 18 11 17.4
comp=Z,143nm,1.4s
I26K IAMs_20 IAMs_20 18 39 24.9
comp=Z,4µm,20.0s
I26K Coal Creek Min 66.87 25 P **P** **18 11 15.7 +0.4**
baz=259
I26K S **S** **18 20 05.8 +1.1**
baz=259
M27K Edge Creek, AK 66.94 29 IAmb IAmb 18 11 19.6
comp=Z,172nm,1.1s
M27K IAMs_20 IAMs_20 18 40 03.0
comp=Z,3µm,20.0s
M27K Edge Creek, AK 66.94 29 P **P** **18 11 17.6 +1.7**
baz=262,SNR=76
M27K S **S** **18 20 09.0 +3.1**
baz=262
G26K Porcupine Rive 66.94 24 IAMs_20 IAMs_20 18 37 01.8
comp=Z,3µm,21.0s
G26K Porcupine Rive 66.94 24 P **P** **18 11 17.6 +1.9**
baz=258,SNR=153
G26K S **S** **18 20 11.3 +5.8**
baz=258
F26K Sheenjek River 66.97 23 IAMs_20 IAMs_20 18 35 34.4
comp=Z,4µm,22.0s
F26K Sheenjek River 66.97 23 P **P** **18 11 17.9 +1.9**
baz=257,SNR=145
F26K S **S** **18 20 09.9 +4.0**
baz=257
BRZS Berezniki 67.00 318 *e*P **P** **18 11 12.9 -3.5**
CTG Chitna Glacier 67.00 30 P **P** **18 11 18.1 +1.7**
baz=263,SNR=53
CTGM Chitina Glacie 67.00 30 IAmb IAmb 18 11 20.3
comp=Z,150nm,0.9s
CTGM IAMs_20 IAMs_20 18 36 52.8
comp=Z,6µm,22.0s
L27K Beaver Creek, 67.06 28 IAmb IAmb 18 11 20.2
comp=Z,124nm,0.9s
L27K IAMs_20 IAMs_20 18 36 55.3
comp=Z,6µm,22.0s
L27K Beaver Creek, 67.06 28 P **P** **18 11 18.0 +1.4**
baz=262,SNR=116
L27K S **S** **18 20 10.5 +3.3**
baz=262
BCAR Beaver Creek A 67.08 28 P **P** **18 11 17.9 +1.2**
K27K Chicken 67.10 27 IAmb IAmb 18 11 20.8
comp=Z,187nm,1.1s
K27K Chicken 67.10 27 P **P** **18 11 18.9 +2.1**
baz=261
K27K S **S** **18 20 11.7 +4.1**
baz=261
NIL Nilore 67.12 300 P **P** **18 11 17.1 -0.4**
NIL IAmb IAmb 18 11 30.4
comp=Z,98nm,0.9s
NIL Nilore 67.12 300 P **P** **18 11 17.7 +0.1**
NIL Nilore 67.12 300 P **P** **18 11 17.1 -0.4**
NIL pmax pmax
comp=Z,98nm,0.9s
NIL MLR MLR
comp=Z,3µm,20.0s
LOGN Logan Glacier 67.15 30 IAmb IAmb 18 11 21.1
comp=Z,176nm,1.1s
C26K Camden Bay 67.22 20 P **P** **18 11 19.2 +1.8**
baz=256,SNR=8.7
C26K S **S** **18 20 12.5 +3.8**
baz=256
BVCY Beaver Creek 67.41 29 P **P** **18 11 20.7 +1.9**
baz=263,SNR=63
BVCY S **S** **18 20 14.9 +3.5**
baz=263
PCA Pinnacle 67.43 31 IAmb IAmb 18 11 22.3
comp=Z,213nm,1.3s
PINM Pinnacle 67.43 31 P **P** **18 11 20.8 +1.7**
baz=264,SNR=12
PINM S **S** **18 20 14.1 +2.2**
baz=264
YUK3 Moose Creek 67.52 29 P **P** **18 11 21.4 +1.6**
baz=263,SNR=28
YUK3 S **S** **18 20 16.2 +3.1**
baz=263
O28M Mount Upton 67.54 31 P **P** **18 11 22.0 +2.0**
baz=264,SNR=62
O28M S **S** **18 20 16.0 +2.5**
baz=264
I27K Kandik River 67.55 25 P **P** **18 11 21.0 +1.3**
baz=261,SNR=62
I27K S **S** **18 20 16.1 +3.1**
baz=261
C27K Jago River 67.55 21 IAmb IAmb 18 11 27.0
comp=Z,131nm,1.1s
C27K Jago River 67.55 21 P **P** **18 11 21.5 +2.0**
baz=257,SNR=13
C27K S **S** **18 20 16.5 +3.7**
baz=257
EGAK Eagle 67.61 26 IAMs_20 IAMs_20 18 39 30.5
comp=Z,3µm,20.0s
H27K Steamboat Moun 67.69 25 IAMs_20 IAMs_20 18 37 27.7
comp=Z,6µm,21.0s
H27K Steamboat Moun 67.69 25 P **P** **18 11 22.3 +1.7**
baz=260,SNR=225
H27K S **S** **18 20 18.3 +3.6**
baz=260
BCPM Bancas Point 67.73 32 IAmb IAmb 18 11 24.2
comp=Z,143nm,1.1s
G27K Doyon Strip 67.74 24 IAMs_20 IAMs_20 18 36 10.0
comp=Z,4µm,22.0s
G27K Doyon Strip 67.74 24 P **P** **18 11 22.8 +1.9**
baz=260,SNR=57
G27K S **S** **18 20 19.9 +4.6**
baz=260
PNL Peninsula 67.82 32 P **P** **18 11 24.0 +2.5**
PNL Peninsula 67.82 32 P **P** **18 11 23.4 +1.9**
baz=265,SNR=11
TRD Trivandrum 67.98 273 *e*P **P** **18 11 20.3 -2.9**
TRD IAmb IAmb 18 11 32.8
comp=Z,743nm,2.6s
DZA Taraz 68.01 310 *e*P **P** **18 11 21.0 -2.0**
DZA Taraz 68.01 310 *e*P **P** **18 11 21.0 -2.0**
E27K Coleen River 68.01 23 IAmb IAmb 18 11 26.3
comp=Z,80nm,0.9s
E27K IAMs_20 IAMs_20 18 37 31.0
comp=Z,3µm,22.0s
E27K Coleen River 68.01 23 P **P** **18 11 24.3 +1.8**
baz=260,SNR=23
E27K S **S** **18 20 21.2 +2.8**
baz=260
TRKS Terek-Say 68.22 309 P **P** **18 11 23.6 -0.9**
TRKS pmax pmax
comp=Z,15nm,1.2s
I28M Miner Creek 68.22 26 IAmb IAmb 18 11 35.2
comp=Z,116nm,1.0s
I28M IAMs_20 IAMs_20 18 36 48.8
comp=Z,4µm,21.0s
I28M Miner Creek 68.22 26 P **P** **18 11 25.4 +1.4**
baz=262,SNR=92
I28M S **S** **18 20 24.4 +3.3**
baz=262
DAWY Dawson 68.28 27 P **P** **18 11 25.9 +1.6**
baz=263,SNR=142
DAWY S **S** **18 20 26.0 +4.3**
baz=263
O29M Mount Kennedy 68.29 31 IAMs_20 IAMs_20 18 39 03.9
comp=Z,3µm,20.0s
O29M Mount Kennedy 68.29 31 P **P** **18 11 26.8 +2.3**
baz=266,SNR=55
O29M S **S** **18 20 27.6 +5.5**
baz=266
YUK4 Talbot Arm 68.34 30 P **P** **18 11 27.9 +2.9**
baz=265,SNR=36
YUK4 S **S** **18 20 28.9 +6.0**
baz=265
D27M Malcolm River 68.43 21 IAmb IAmb 18 11 45.7
comp=Z,94nm,0.9s
D27M Malcolm River 68.43 21 P **P** **18 11 27.1 +2.0**
baz=260,SNR=20
D27M S **S** **18 20 25.4 +2.0**
baz=260
YUK6 Outpost Mounta 68.44 31 P **P** **18 11 27.7 +2.1**
baz=266,SNR=27
YUK6 S **S** **18 20 28.9 +4.7**
baz=266
BVA0 Borovoye Array 68.49 321 *i* P **P** **18 11 21.6 -4.1**
BVAR Borovoye Array 68.49 321 P **P** **18 11 24.1 -1.6**
comp=Z,25nm,0.6s,baz=98,slow=6.7,SNR=108
BVAR S **S** **18 20 21.4 -3.1**
comp=Z,2.2nm,0.9s,baz=82,slow=11,SNR=6.0
BVAR PKP2bc 18 39 38.5
comp=Z,7.3nm,1.0s,baz=321,slow=2.1,SNR=18
BVAR LR LR 18 41 10.9
comp=Z,7µm,21.9s,baz=79,slow=36
comp=Z,25nm,0.6s
M29M Somme Creek 68.52 29 P **P** **18 11 28.3 +2.4**
baz=265,SNR=196
M29M S **S** **18 20 27.2 +2.4**
baz=265
BRVK Borovoye 68.55 321 P **P** **18 11 24.2 -1.9**
BRVK Borovoye 68.55 321 P **P** **18 11 24.7 -1.4**
BRVK P **P** **18 11 24.7 -1.4**
BRVK P **P** **18 11 24.7 -1.4**
BRVK S **S** **18 20 24.9 -0.4**
BRVK S **S** **18 20 24.9 -0.4**
BRVK S **S** **18 20 24.9 -0.4**
BRVK Borovoye 68.55 321 *d* P **P** **18 11 23.7 -2.4**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK MLR MLR
comp=Z,4µm,17.0s
F28M Old Crow 68.56 23 IAmb IAmb 18 11 29.7
comp=Z,115nm,0.9s
F28M Old Crow 68.56 23 P **P** **18 11 27.8 +1.9**
baz=262,SNR=79
F28M S **S** **18 20 27.5 +2.6**
baz=262
KK31 Karatay Array 68.60 310 *i* P **P** **18 11 25.1 -1.5**
KAD Karad 68.66 282 *e*P **P** **18 11 25.1 -2.4**
KAD IAmb IAmb 18 11 28.5
comp=Z,483nm,2.1s
KAD *e*S **S** **18 20 25.9 -1.9**
P29M Windy Craggy 68.66 32 P **P** **18 11 29.2 +2.5**
baz=267,SNR=29
P29M S **S** **18 20 31.8 +5.4**
baz=267
POO Poona 68.73 284 *e*P **P** **18 11 28.4 +0.4**
POO IAmb IAmb 18 11 36.7
comp=Z,386nm,2.5s
POO *e*S **S** **18 20 26.4 -2.3**
L29M L29M 68.74 28 IAMs_20 IAMs_20 18 39 38.6
comp=Z,3µm,20.0s
L29M L29M 68.74 28 P **P** **18 11 29.6 +2.4**
baz=265,SNR=225
L29M S **S** **18 20 30.5 +3.2**
baz=265
J29N Klondike Camp 68.83 27 IAmb IAmb 18 11 31.8
comp=Z,164nm,0.9s
J29N Klondike Camp 68.83 27 P **P** **18 11 30.0 +2.2**
baz=264,SNR=26
J29N S **S** **18 20 32.0 +3.6**
baz=264
E28M Babbage River 68.83 22 IAmb IAmb 18 11 48.3
comp=Z,108nm,1.0s
E28M IAMs_20 IAMs_20 18 37 19.7
comp=Z,3µm,22.0s
E28M Babbage River 68.83 22 P **P** **18 11 30.1 +2.5**
baz=261,SNR=43
E28M S **S** **18 20 32.0 +3.9**
baz=261
HYT Haines Junctio 68.85 31 P **P** **18 11 30.6 +2.5**
baz=266,SNR=131
HYT S **S** **18 20 33.1 +4.2**
baz=266
I29M Ogilvie Camp, 68.89 26 IAMs_20 IAMs_20 18 39 57.4
comp=Z,4µm,20.0s
I29M Ogilvie Camp, 68.89 26 P **P** **18 11 29.2 +1.2**
baz=264,SNR=64

I29M S **S** **18 20 32.0 +3.1**
baz=264
H29M **Whitestone** **68.96 25** IAmb IAmb 18 11 47.8
H29M comp=Z,118nm,0.9s IAMs_20 IAMs_20 18 37 34.2
comp=Z,6µm,22.0s
H29M **Whitestone** **68.96 25** P **P** **18 11 30.1 +1.7**
H29M baz=263,SNR=50 S **S** **18 20 32.8 +3.1**
baz=263
IUG **luzhnay** **69.01 309** *e*P **P** **18 11 27.3 -2.0**
IUG pmax pmax
comp=Z,115nm,1.9s
IUG **luzhnay** **69.01 309** *e*P **P** **18 11 27.4 -2.0**
comp=Z,115nm,1.9s
K29M **Barlow Dome** **69.08 27** P **P** **18 11 31.2 +1.9**
K29M baz=265,SNR=200 S **S** **18 20 32.9 +1.5**
baz=265
P30M **Million Dollar** **69.08 31** P **P** **18 11 31.9 +2.5**
P30M baz=267 S **S** **18 20 35.7 +4.3**
baz=267
BRLS **Boroldayy** **69.09 310** *e*P **P** **18 11 28.7 -1.0**
BRLS **Boroldayy** **69.09 310** *e*P **P** **18 11 28.7 -1.0**
N30M **Aishikik Lake** **69.09 30** IAMs_20 IAMs_20 18 39 29.1
comp=Z,5µm,20.0s
N30M **Aishikik Lake** **69.09 30** P **P** **18 11 31.4 +2.0**
N30M baz=266,SNR=97 S **S** **18 20 34.6 +3.0**
baz=266
G29M **Pine Creek** **69.18 24** IAmb IAmb 18 11 33.8
G29M comp=Z,192nm,1.1s IAMs_20 IAMs_20 18 37 16.9
comp=Z,4µm,22.0s
G29M **Pine Creek** **69.18 24** P **P** **18 11 31.6 +1.8**
G29M baz=264,SNR=60 S **S** **18 20 34.5 +2.2**
baz=264
D28M **Stokes Point** **69.22 22** P **P** **18 11 31.6 +1.7**
D28M baz=262 S **S** **18 20 36.7 +4.1**
baz=262
M30M **Minto, Yukon** **69.31 29** IAmb IAmb 18 11 34.2
comp=Z,140nm,1.1s
M30M **Minto, Yukon** **69.31 29** P **P** **18 11 32.5 +1.8**
M30M baz=266,SNR=85 S **S** **18 20 37.1 +3.1**
baz=266
PLBC **Pleasant Camp** **69.35 32** P **P** **18 11 33.2 +2.2**
PLBC baz=268,SNR=48 S **S** **18 20 37.7 +3.2**
baz=268
GOA **Goa** **69.37 281** *e*P **P** **18 11 32.4 +0.6**
GOA IAmb IAmb 18 11 37.6
comp=Z,402nm,1.7s
GOA *e*S **S** **18 20 36.5 +0.4**
S31K **Pelican** **69.37 34** P **P** **18 11 32.4 +1.4**
S31K baz=268 S **S** **18 20 39.7 +5.0**
baz=268
E29M **Blow River** **69.40 23** IAmb IAmb 18 11 37.6
E29M comp=Z,120nm,1.2s IAMs_20 IAMs_20 18 39 23.7
comp=Z,3µm,20.0s
E29M **Blow River** **69.40 23** P **P** **18 11 32.9 +1.8**
E29M baz=263,SNR=22 S **S** **18 20 37.4 +2.6**
baz=263
EPYK **Eagle Plains** **69.64 25** IAmb IAmb 18 11 35.6
EPYK comp=Z,243nm,1.3s IAMs_20 IAMs_20 18 38 39.1
comp=Z,5µm,21.0s
EPYK **Eagle Plains** **69.64 25** P **P** **18 11 34.1 +1.4**
EPYK baz=265,SNR=68 S **S** **18 20 40.5 +2.7**
baz=265
J30M **Hart River** **69.65 27** IAmb IAmb 18 11 36.8
J30M comp=Z,172nm,1.1s IAMs_20 IAMs_20 18 40 15.7
comp=Z,4µm,20.0s
J30M **Hart River** **69.65 27** P **P** **18 11 34.6 +1.7**
J30M baz=266,SNR=141 S **S** **18 20 41.2 +3.0**
baz=266
I30M **Mount Dempster** **69.68 26** IAmb IAmb 18 11 39.4
comp=Z,69nm,0.8s
I30M IAMs_20 IAMs_20 18 38 57.4
comp=Z,3µm,21.0s
I30M **Mount Dempster** **69.68 26** P **P** **18 11 34.4 +1.3**
I30M baz=266,SNR=87 S **S** **18 20 41.7 +3.2**
baz=266
N31M **Braeburn, Yuko** **69.72 30** IAMs_20 IAMs_20 18 39 47.8
comp=Z,5µm,20.0s
N31M **Braeburn, Yuko** **69.72 30** P **P** **18 11 35.6 +2.3**
N31M baz=268,SNR=60 S **S** **18 20 42.8 +3.9**
baz=268
MAYO **Mayo, Yukon** **69.78 28** P **P** **18 11 35.8 +2.3**
baz=267,SNR=11
SIT **Sitka** **69.84 35** P **P** **18 11 35.7 +1.7**
baz=270
SKAG **Skagway** **69.88 32** IAmb IAmb 18 11 37.9
comp=Z,155nm,1.2s
SKAG **Skagway** **69.88 32** P **P** **18 11 36.4 +2.3**
SKAG **Skagway** **69.88 32** P **P** **18 11 36.5 +2.3**
baz=269,SNR=22
SKAG S **S** **18 20 46.0 +5.3**
baz=269
G30M **tAoh Zraii Nji** **69.89 24** IAmb IAmb 18 11 38.1
comp=Z,225nm,1.1s
G30M IAMs_20 IAMs_20 18 40 50.7
comp=Z,3µm,19.0s
G30M **tAoh Zraii Nji** **69.89 24** P **P** **18 11 35.5 +1.3**
G30M baz=265,SNR=86 S **S** **18 20 44.2 +3.5**
baz=265
SIMJ **Simiganj** **70.07 306** P **P** **18 11 34.1 -1.9**
SIMJ IAmb IAmb 18 12 08.7
comp=Z,99nm,1.2s
BESE **Bessie Mountai** **70.11 33** IAmb IAmb 18 11 39.9
comp=Z,191nm,1.3s
F30M **Barrier River** **70.11 23** P **P** **18 11 37.1 +1.6**
F30M baz=265,SNR=74 S **S** **18 20 45.3 +2.1**
baz=265
WHY **Whitehorse** **70.13 31** P **P** **18 11 38.1 +2.2**
WHY baz=269,SNR=69 S **S** **18 20 49.4 +5.6**
baz=269
S32K **Killisnoo** **70.25 34** IAMs_20 IAMs_20 18 35 58.0
comp=Z,3µm,21.0s
S32K **Killisnoo** **70.25 34** P **P** **18 11 38.7 +2.2**
baz=270,SNR=7.1
R32K **Eaglecrest** **70.28 33** P **P** **18 11 39.2 +2.4**
baz=270
JIS **Juneau Island** **70.36 33** P **P** **18 11 40.5 +3.4**
M31M **Drury Creek, Y** **70.41 29** IAmb IAmb 18 11 41.1
comp=Z,154nm,1.1s
M31M **Drury Creek, Y** **70.41 29** P **P** **18 11 39.1 +1.7**
M31M baz=268,SNR=84 S **S** **18 20 49.2 +2.4**
baz=268
KBL **Kabul** **70.50 301** P **P** **18 11 38.0 -0.7**
KBL P **P** **18 11 38.0 -0.7**
KBL S **S** **18 20 50.3 +1.0**
KBL S **S** **18 20 50.3 +1.0**
H31M **Peel River** **70.56 25** IAMs_20 IAMs_20 18 40 26.7
comp=Z,3µm,20.0s
H31M **Peel River** **70.56 25** P **P** **18 11 40.1 +1.7**
H31M baz=267,SNR=162 S **S** **18 20 49.9 +1.3**
baz=267
G31M **Satah River** **70.65 24** IAMs_20 IAMs_20 18 38 47.9
comp=Z,4µm,21.0s
G31M **Satah River** **70.65 24** P **P** **18 11 40.0 +1.3**
G31M baz=267,SNR=126 S **S** **18 20 49.5 +0.1**
baz=267
P32M **Atlin** **70.70 32** IAmb IAmb 18 11 43.3
comp=Z,110nm,0.9s
P32M IAMs_20 IAMs_20 18 39 38.8
comp=Z,3µm,21.0s
P32M **Atlin** **70.70 32** P **P** **18 11 41.5 +2.2**
baz=270,SNR=31
P32M S **S** **18 20 55.4 +5.0**
baz=270

F31M **Tsiigehtchic** **70.88 24** IAmb IAmb 18 11 43.0
comp=Z,96nm,0.9s
F31M **Tsiigehtchic** **70.88 24** P **P** **18 11 41.2 +1.0**
baz=267,SNR=17
F31M S **S** **18 20 51.8 -0.2**
baz=267
INK **Inuvik** **71.01 23** LR LR 18 42 27.1
comp=Z,1µm,20.5s,baz=264,slow=35
INK **Inuvik** **71.01 23** P **P** **18 11 41.8 +0.9**
INK pmax pmax
comp=Z,137nm,1.0s
INK **Inuvik** **71.01 23** P **P** **18 11 42.0 +1.1**
baz=267,SNR=78
INK S **S** **18 20 54.2 +0.7**
baz=267
N32M **Quiet Lake** **71.02 30** IAMs_20 IAMs_20 18 41 19.9
comp=Z,4µm,20.0s
N32M **Quiet Lake** **71.02 30** P **P** **18 11 43.4 +2.1**
baz=270
N32M S **S** **18 20 58.9 +4.9**
baz=270
U33K **Whale Pass** **71.07 36** IAmb IAmb 18 11 45.1
comp=Z,112nm,1.1s
U33K **Whale Pass** **71.07 36** P **P** **18 11 43.9 +2.3**
baz=272,SNR=11
U33K S **S** **18 21 00.2 +5.5**
baz=272
CRAG **Craig** **71.09 36** P **P** **18 11 44.1 +2.4**
baz=272
CRAG S **S** **18 20 58.4 +3.5**
baz=272
T33K **Petersburg** **71.14 35** P **P** **18 11 44.2 +2.2**
baz=272
P33M **Teslin, Yukon** **71.15 31** IAMs_20 IAMs_20 18 41 01.6
comp=Z,4µm,20.0s
P33M **Teslin, Yukon** **71.15 31** P **P** **18 11 44.0 +2.0**
baz=271,SNR=36
P33M S **S** **18 20 58.5 +2.8**
baz=271
Q32M **Nakina River** **71.45 33** IAmb IAmb 18 11 55.6
comp=Z,172nm,1.4s
Q32M **Nakina River** **71.45 33** P **P** **18 11 46.6 +2.6**
baz=272,SNR=16
Q32M S **S** **18 21 03.1 +3.7**
baz=272
WRAK **Wrangell Islan** **71.49 35** IAmb IAmb 18 11 47.6
comp=Z,136nm,1.2s
WRAK **Wrangell Islan** **71.49 35** P **P** **18 11 46.1 +2.1**
baz=272,SNR=7.2
WRAK S **S** **18 21 02.7 +3.2**
baz=272
H02S2 **DAWSON INLET T** **71.57 39** T T 19 30 50.9
SNR=13
PPT **Papeete** **71.63 115** P **P** **18 11 46.1 +0.6**
comp=Z,23nm,0.6s,baz=241,slow=10,SNR=1.7
PPT LR LR 18 36 19.5
comp=Z,3µm,21.5s,baz=278,slow=30
comp=Z,23nm,0.6s
PPT2 **Papeete2** **71.64 115** *e*PKIKP P 18 11 38.5 -7.2
comp=Z,86nm,23.8s
PPT2 **Papeete2** **71.64 115** *e*P **P** **18 11 45.4 -0.3**
comp=Z,100nm,1.2s
PPT2 *e*S **S** **18 21 02.6 +0.1**
comp=Z,1µm,23.5s
PPT2 *e*SS **SS** **18 25 41.1 +2.1**
comp=Z,720nm,24.5s
PPT2 *e*LQ LQ 18 30 28.9
comp=Z,2µm,24.5s
PPT2 *e*LR LR 18 33 27.2
comp=Z,7µm,22.2s
PPT2 *e*LR LR 18 33 28.6
comp=Z,6µm,31.2s
PAE **Paea** **71.67 115** *e*LR LR 18 33 39.0
comp=Z,1µm,22.3s
MMPY **Sheldon Lake,** **71.86 29** IAmb IAmb 18 11 58.4
comp=Z,301nm,1.7s
MMPY **Sheldon Lake,** **71.86 29** P **P** **18 11 48.5 +2.1**
baz=271,SNR=44
MMPY S **S** **18 21 06.9 +3.1**
baz=271
V35K **Ketchikan** **71.96 37** P **P** **18 11 48.6 +1.7**
baz=273
V35K S **S** **18 21 09.0 +4.1**
baz=273
TVO **Taravao** **72.00 115** *e*PKIKP **P** **18 11 46.3 -1.5**
comp=Z,38nm,1.0s
TVO **Taravao** **72.00 115** *e*LR LR 18 33 48.0
comp=Z,1µm,21.8s
PMOR **Pomariorio Ree** **72.07 112** *e*P **P** **18 11 51.2 +3.0**
comp=Z,424nm,1.4s
PMOR **Pomariorio Ree** **72.07 112** *e*LR LR 18 33 55.7
comp=Z,8µm,24.0s
S34M **Telegraph Cree** **72.09 34** IAmb IAmb 18 11 51.5
comp=Z,158nm,1.2s
S34M **Telegraph Cree** **72.09 34** P **P** **18 11 49.8 +2.2**
baz=273,SNR=36
S34M S **S** **18 21 11.4 +5.0**
baz=273
R33M **Jennings River** **72.11 32** IAmb IAmb 18 11 51.7
comp=Z,105nm,1.0s
R33M IAMs_20 IAMs_20 18 42 02.0
comp=Z,3µm,19.0s
R33M **Jennings River** **72.11 32** P **P** **18 11 50.2 +2.2**
baz=272,SNR=56
R33M S **S** **18 21 12.1 +5.2**
baz=272
VAH **Vaihoa** **72.40 112** *e*LR LR 18 34 00.8
comp=Z,4µm,23.9s
T35M **Bob Quinn** **72.62 35** IAmb IAmb 18 11 55.3
comp=Z,150nm,1.2s
T35M IAMs_20 IAMs_20 18 39 49.6
comp=Z,3µm,21.0s
T35M **Bob Quinn** **72.62 35** P **P** **18 11 53.2 +2.3**
baz=274,SNR=27
DLBC **Dease Lake** **72.64 33** LR LR 18 37 39.2
comp=Z,2µm,21.6s,baz=275,slow=31
DLBC **Dease Lake** **72.64 33** P **P** **18 11 53.5 +2.5**
baz=274,SNR=65
DLBC S **S** **18 21 16.9 +4.0**
baz=274
U35K **Hyder** **72.82 36** P **P** **18 11 53.9 +1.9**
baz=274
U35K S **S** **18 21 17.6 +2.9**
baz=274
WTLY **Watson Lake, Y** **73.17 31** IAmb IAmb 18 11 58.3
comp=Z,194nm,1.0s
WTLY **Watson Lake, Y** **73.17 31** P **P** **18 11 56.4 +2.4**
baz=274,SNR=16
WTLY S **SKiKP** **18 21 22.5 0.0**
baz=274
TGTN **Hyland Airport** **73.32 30** P **P** **18 11 57.1 +2.1**
baz=274,SNR=39
TGTN S **SKiKP** **18 21 24.7 +1.9**
baz=274
A36M **Sachs Harbour** **73.81 19** IAmb IAmb 18 12 17.2
comp=Z,192nm,0.8s
A36M IAMs_20 IAMs_20 18 42 45.0
comp=Z,3µm,22.0s
A36M **Sachs Harbour** **73.81 19** P **P** **18 11 58.9 +1.3**
baz=274,SNR=15
A36M S **S** **18 21 26.9 +1.5**
baz=274
SVE **Sverdlovsk** **73.94 325** *c**e*P **P** **18 11 56.8 -1.8**
SVE *e*S **SKiKP** **18 21 23.7 0.0**
SVE pmax pmax
comp=Z,45nm,1.1s
SVE MLR MLR
comp=Z,4µm,19.0s
TBI **Tubuai** **74.21 121** *e*P P 18 12 06.4 +5.7
comp=Z,635nm,30.0s
TBI *e*S **S** **18 21 30.9 -0.5**
comp=Z,5µm,27.2s
TBI *e*SS **SS** **18 26 21.7 +3.7**
comp=Z,3µm,27.0s
TBI *e*LR LR 18 34 33.9
comp=Z,13µm,27.2s
TBI *e*LR LR 18 34 38.1
comp=Z,3µm,28.0s
BBB **Bella Bella** **74.31 40** LR LR 18 38 27.3
comp=Z,7µm,21.4s,baz=268,slow=31
C36M **Paulatuk** **74.41 22** IAmb IAmb 18 12 04.7
comp=Z,130nm,0.9s
C36M **Paulatuk** **74.41 22** P **P** **18 12 02.1 +1.0**
baz=276,SNR=24
C36M S **S** **18 21 31.7 -0.6**
baz=276
LIRD **Liard River Hi** **74.59 32** P **P** **18 12 04.6 +2.2**
baz=277,SNR=21

LIRD S **S** **18 21 37.4 +2.7**
baz=277
TOAD **Toad River Com** **75.10 33** P **P** **18 12 07.1 +1.8**
baz=278,SNR=87
TOAD S **S** **18 21 42.6 +2.1**
baz=278
ARTI **Arti** **75.23 325** P **P** **18 12 04.1 -2.0**
ARTI IAMs_20 IAMs_20 18 48 08.6
comp=Z,4µm,20.0s
ARTI **Arti** **75.23 325** LR LR 18 47 44.1
comp=Z,3µm,18.5s,baz=89,slow=38
ARTI **Arti** **75.23 325** *d*P **P** **18 12 03.2 -2.9**
ARTI *PP **pP** **18 12 17.4 -0.8**
ARTI PPP PPP 18 16 39.8
ARTI S **S** **18 21 38.3 -3.6**
ARTI *SS **SKSac** **18 22 09.9 -2.1**
ARTI SS **SS** **18 26 22.9 -8.7**
ARTI pmax pmax
comp=Z,32nm,0.9s
ARTI MLR MLR
comp=Z,4µm,19.0s
AB31 **Akbulak array** **75.30 317** *i*P **P** **18 12 04.6 -2.0**
WRGLY **Wrigley** **75.38 28** P **P** **18 12 08.8 +2.0**
baz=278,SNR=8.1
WRGLY S **S** **18 21 45.4 +2.2**
baz=278
KOTAN **Kotaneelee Air** **75.53 31** P **P** **18 12 09.5 +1.8**
baz=278,SNR=18
KOTAN S **S** **18 21 49.1 +4.1**
baz=278
AKTO **Aktyubinsk** **76.35 319** LR LR 18 46 30.6
comp=Z,7µm,21.8s,baz=70,slow=36
TAOE **Nuku Hiva Isla** **76.92 103** *e*PKIKP **P** **18 12 14.7 -1.9**
comp=Z,86nm,23.6s
TAOE *e*S **S** **18 21 56.4 -5.7**
comp=Z,514nm,31.3s
TAOE *e*SS **SS** **18 27 02.4 +2.8**
comp=Z,412nm,24.2s
TAOE *e*LQ LQ 18 32 17.6
comp=Z,3µm,24.3s
TAOE *e*LR LR 18 36 03.6
comp=Z,8µm,27.2s
C03A **Quillayute Air** **77.21 44** IAmb IAmb 18 12 36.3
comp=Z,210nm,1.4s
NLWA **Neilton Lookou** **77.78 44** IAMs_20 IAMs_20 18 38 35.9
comp=Z,3µm,22.0s
WISH **Wishkah** **77.90 44** IAmb IAmb 18 12 43.7
comp=Z,193nm,1.1s
RADR **Rader Ridge** **78.02 45** IAmb IAmb 18 12 38.2
comp=Z,275nm,1.5s
E03A **Lebam** **78.15 45** IAmb IAmb 18 12 36.5
comp=Z,121nm,1.0s
A04D **Lummi Island** **78.28 43** IAmb IAmb 18 12 27.9
comp=Z,158nm,1.1s
F03A **Seaside** **78.28 45** IAmb IAmb 18 12 52.5
comp=Z,184nm,1.0s
KEBM **Edson Butte** **78.36 49** IAmb IAmb 18 12 53.1
comp=Z,223nm,1.2s
GNW **Green Mountain** **78.44 44** IAmb IAmb 18 12 28.2
comp=Z,130nm,1.1s
KBO **Bosley Butte** **78.58 49** IAmb IAmb 18 12 40.3
comp=Z,169nm,1.3s
J01E **Myrtle Point** **78.59 48** IAmb IAmb 18 12 54.1
comp=Z,143nm,1.2s
G03D **McMinnville, O** **78.63 46** IAmb IAmb 18 12 29.1
comp=Z,135nm,1.2s
COR **Corvallis** **78.73 47** P **P** **18 12 26.0 -0.1**
COR IAmb IAmb 18 12 40.3
comp=Z,268nm,1.4s
COR **Corvallis** **78.73 47** IAMs_20 IAMs_20 18 39 21.4
comp=Z,3µm,22.0s
COR **Corvallis** **78.73 47** P **P** **18 12 26.0 -0.1**
COR pmax pmax
comp=Z,268nm,1.4s
COR MLR MLR
comp=Z,3µm,22.0s
NGCH **Negor - Chabah** **78.88 293** P **P** **18 12 27.9 +0.7**
I03D **Drain, OR** **78.89 48** IAmb IAmb 18 12 30.7
comp=Z,151nm,1.3s
JCC **Jacoby Creek,** **79.01 51** IAMs_20 IAMs_20 18 39 54.1
comp=Z,3µm,20.0s
KMPM **Mount Pierce** **79.03 51** IAmb IAmb 18 12 42.9
comp=Z,100nm,0.9s
BUCK **Buck Mountain** **79.04 47** IAmb IAmb 18 12 31.8
comp=Z,253nm,1.2s
D05A **Enumclaw** **79.07 44** IAmb IAmb 18 12 47.0
comp=Z,220nm,1.3s
H04D **Lebanon** **79.14 47** IAmb IAmb 18 12 32.1
comp=Z,155nm,1.2s
G04A **Mulino** **79.17 46** IAmb IAmb 18 12 45.5
comp=Z,231nm,1.0s
H04A **Detroit Lake** **79.49 46** IAmb IAmb 18 12 33.4
comp=Z,127nm,1.1s
YKA **Yellowknife Ar** **79.50 28** P **P** **18 12 30.1 +0.2**
comp=Z,69nm,0.9s,baz=291,slow=5.8,SNR=66
YKA LR LR 18 47 05.6
comp=Z,4µm,20.0s,baz=288,slow=35
comp=Z,69nm,0.9s
KIRV **Kirov** **79.55 328** *d*P **P** **18 12 27.5 -2.7**
comp=Z,5µm,18.4s,baz=68,slow=38
KCPM **Cahto Peak** **79.60 52** IAmb IAmb 18 12 45.8
comp=Z,113nm,0.9s
M02C **Callahan** **79.75 50** IAMs_20 IAMs_20 18 39 38.9
comp=Z,4µm,21.0s
YBH **Yreka Blue Hor** **79.78 50** P **P** **18 12 33.6 +1.6**
comp=Z,2.6nm,0.9s,baz=308,slow=1.8,SNR=36
YBH LR LR 18 40 01.5
comp=Z,260nm,21.8s,baz=274,slow=30
J04A **Umpqua Nationa** **79.87 48** IAmb IAmb 18 12 52.8
comp=Z,135nm,0.8s
O02D **Mt. Diablo Mer** **80.08 51** IAmb IAmb 18 12 48.7
comp=Z,408nm,2.0s
HOPS **Hopland Field** **80.14 52** IAMs_20 IAMs_20 18 40 10.0
comp=Z,3µm,20.0s
I05D **Terrebonne, OR** **80.16 47** IAmb IAmb 18 13 02.5
comp=Z,136nm,1.3s
K04D **Chiloquin, OR** **80.27 48** IAmb IAmb 18 12 49.0
comp=Z,204nm,1.0s
G06A **Carlson Farm,** **80.44 46** IAmb IAmb 18 12 48.8
comp=Z,201nm,1.8s
MCCM **Marconi Confer** **80.48 53** IAMs_20 IAMs_20 18 40 59.2
comp=Z,2µm,20.0s
J05D **Fort Rock, OR** **80.48 48** IAmb IAmb 18 12 50.3
comp=Z,172nm,1.0s
B08A **Colville Reser** **80.55 42** IAmb IAmb 18 12 39.6
comp=Z,163nm,1.0s
TULE **Intermountain** **80.63 49** IAMs_20 IAMs_20 18 42 03.6
comp=Z,2µm,20.0s
MNRC **McLaughlin Min** **80.64 52** IAMs_20 IAMs_20 18 40 36.6
comp=Z,3µm,20.0s
E07A **Sunnyside** **80.64 44** IAmb IAmb 18 12 39.9
comp=Z,134nm,1.2s
O03E **Paynes Creek** **80.79 51** IAMs_20 IAMs_20 18 41 02.3
comp=Z,3µm,21.0s
WAH2 **Wahluke Slope** **80.79 44** IAmb IAmb 18 12 40.4
comp=Z,140nm,1.1s
HOPEN **Hopen** **80.83 348** *e*P **P** **18 12 37.3 +0.4**
HAWA **Hanford** **80.90 44** IAMs_20 IAMs_20 18 40 49.5
comp=Z,3µm,22.0s
HATC **Hat Creek Radi** **80.91 50** IAmb IAmb 18 13 17.3
comp=Z,336nm,1.4s
HATC IAMs_20 IAMs_20 18 40 14.3
comp=Z,3µm,22.0s
D08A **Wollman Farm,** **81.14 44** IAmb IAmb 18 12 42.3
comp=Z,146nm,1.2s
JLN **Jalan Bani Buh** **81.17 290** P **P** **18 12 39.7 0.0**
SNR=7.5
JLN P **P** **18 12 39.7 0.0**
SNR=7.5
E08A **Dider Farm, El** **81.19 44** IAmb IAmb 18 12 42.7
comp=Z,136nm,1.4s
RES **Resolute Bay** **81.27 14** LR LR 18 47 31.4
comp=Z,1µm,22.0s,baz=306,slow=35
RES **Resolute Bay** **81.27 14** P **P** **18 12 39.7 +0.6**
RES pmax pmax
comp=Z,144nm,1.5s
SPA0 **Spitsbergen Ar** **81.30 351** *e*P **P** **18 12 39.3 0.0**
SPITS **Spitsbergen Ar** **81.30 351** P **P** **18 12 38.3 -1.0**
comp=Z,2.6nm,0.4s,baz=321,slow=8.8,SNR=5.7
SPITS PKKPbc **PKKPbc** **18 31 15.1 -1.4**
comp=Z,1.0nm,0.4s,baz=142,slow=4.2,SNR=7.9
SPITS LR LR 18 54 32.2
comp=Z,602nm,19.1s,baz=38,slow=40
comp=Z,2.6nm,0.4s
YPT **Yellepit** **81.37 45** IAmb IAmb 18 12 43.7
comp=Z,116nm,1.2s
KBS **Kingsbay** **81.42 352** P **P** **18 12 38.8 -1.1**

KBS	Kingsbay	81.42	352	c	iP		P		18 12 39.8	-0.1
KBS	Kingsbay	81.42	352		eP		P		18 12 40.7	+0.8
KBS	Kingsbay	81.42	352		eP		P		18 12 39.5	-0.4
NOR	Nord	81.58	358		eP		P		18 12 41.5	+0.7
WSAR	Wadi Sarin	81.60	292		P		P		18 12 42.1	+0.1
	SNR=14									
SAO	San Andreas Ge	81.92	54		IAMs_20	IAMs_20			18 52 14.4	
	comp=Z,2µm,19.0s									
BIDO	Bidbid	81.98	292		P		P		18 12 44.1	+0.2
	SNR=20									
BIDO					P		P		18 12 44.1	+0.2
	SNR=20									
NEW	Newport	81.99	42		IAmb	IAmb			18 12 47.2	
	comp=Z,186nm,1.1s									
NEW	Newport	81.99	42		P		P		18 12 44.9	+1.4
	comp=Z,143nm,1.0s,baz=285,slow=4.3,SNR=113									
NEW					LR		LR		18 42 18.0	
	comp=Z,5µm,21.5s,baz=286,slow=30									
	comp=Z,143nm,1.0s									
SMDO	Samad	82.17	292		P		P		18 12 44.8	-0.2
	SNR=12									
SMDO					P		P		18 12 44.8	-0.2
	SNR=12									
BELG	Belogornoye	82.23	322		LR		LR		18 50 10.8	
	comp=Z,4µm,19.8s,baz=83,slow=36									
BELG	Belogornoye	82.23	322	d	iP		P		18 12 42.6	-2.0
BELG					pmax	pmax				
	comp=Z,49nm,1.1s									
BELG					MLR	MLR				
	comp=Z,531nm,18.0s									
HSPB	Hornsund (broa	82.24	350		eP		P		18 12 40.6	-3.6
HSPB					eL		L		18 50 47.5	
	comp=Z,4µm,20.2s									
BBGB	Big Mountain B	82.29	54		IAmb	IAmb			18 13 01.0	
	comp=Z,141nm,1.1s									
JMDO	Jabal Madar	82.29	291		P		P		18 12 46.2	+0.6
	SNR=11									
JMDO					P		P		18 12 46.2	+0.6
	SNR=11									
MPK	Martis Peak	82.36	51		IAmb	IAmb			18 12 50.0	
	comp=Z,230nm,1.2s									
J08A	Circle Bar Ran	82.41	47		IAmb	IAmb			18 12 49.2	
	comp=Z,143nm,1.1s									
CMB	Columbia Colle	82.42	53		IAmb	IAmb			18 12 49.1	
	comp=Z,108nm,1.3s									
WVOR	Wild Horse Val	82.55	48		IAmb	IAmb			18 12 49.9	
	comp=Z,137nm,1.1s									
WVOR					IAMs_20	IAMs_20			18 42 05.4	
	comp=Z,4µm,22.0s									
WVOR	Wild Horse Val	82.55	48		P		P		18 12 48.6	+1.9
WVOR					pmax	pmax				
	comp=Z,121nm,1.1s									
PMPB	Monarch Peak	82.57	55		IAmb	IAmb			18 13 01.6	
	comp=Z,160nm,1.3s									
LVZ	Lovozero	82.59	339		IAMs_20	IAMs_20			18 50 44.3	
	comp=Z,3µm,22.0s									
LVZ	Lovozero	82.59	339	ce	P		P		18 12 44.3	-2.0
LVZ					pmax	pmax				
	comp=Z,40nm,1.4s									
LVZ					MLR	MLR				
	comp=Z,2µm,20.0s									
RAMR	Ramage Ranch	82.66	55		IAMs_20	IAMs_20			18 51 12.4	
	comp=Z,2µm,20.0s									
PAHR	Pah Rah Range	82.73	51		IAmb	IAmb			18 13 07.8	
	comp=Z,94nm,1.1s									
MHTO	MHTO	82.77	290		P		P		18 12 47.9	-0.1
MHTO					P		P		18 12 47.9	-0.1
BMO	Blue Mountains	82.81	45		IAmb	IAmb			18 12 51.1	
	comp=Z,159nm,1.2s									
BMO					IAMs_20	IAMs_20			18 42 54.2	
	comp=Z,4µm,22.0s									
SHME	Shamm	83.08	295		P		P		18 12 50.4	+0.8
	SNR=5.1									
SHME					P		P		18 12 50.4	+0.8
	SNR=5.1									
SHME	Shamm	83.08	295	i	P		P		18 12 49.5	-0.1
	SNR=8.9									
MDH	Madha	83.14	294		P		P		18 12 50.0	0.0
MDH					P		P		18 12 50.0	0.0
APA	Apatity	83.17	339		eP		P		18 12 44.4	-4.8
APA					eS		S		18 23 00.3	-5.5
APA					MLR	MLR				
	comp=Z,4µm,27.0s									
VADS	Vadso	83.21	342		eP		P		18 12 49.0	-0.4
SOHO	SOHO	83.23	293		P		P		18 12 50.1	-0.3
SOHO					P		P		18 12 50.1	-0.3
SOHO	SOHO	83.23	293	i	P		P		18 12 49.6	-0.9
	SNR=17									
MASF	Masafi	83.24	294		P		P		18 12 50.3	-0.2
	SNR=9.6									
MSFE	Esma-Masafi	83.25	294	i	P		P		18 12 50.1	-0.4
	SNR=6.2									
BJO1	Bjornoya	83.26	348		eP		P		18 12 48.6	-0.9
UOSS	Minazif	83.31	294		P		P		18 12 50.3	-0.6
UOSS	Minazif	83.31	294		P		P		18 12 50.8	-0.1
UOSS					P		P		18 12 50.8	-0.1
UOSS	Minazif	83.31	294	i	P		P		18 12 50.1	-0.8
	SNR=12									
HATD	Hatta, Dubai	83.41	294		P		P		18 12 52.3	+0.9
	SNR=8.3									
HATD					P		P		18 12 52.3	+0.9
	SNR=8.3									
HATD	Hatta, Dubai	83.41	294	i	P		P		18 12 50.9	-0.4
	SNR=19									
DQM	DQM	83.43	289		P		P		18 12 52.1	+0.6
DQM					P		P		18 12 52.1	+0.6
ARQ	Araqi	83.45	292		P		P		18 12 51.7	+0.1
	SNR=16									
ARQ					P		P		18 12 51.7	+0.1
	SNR=16									
ASHO	Ashiyiah	83.51	294		P		P		18 12 52.9	+1.0
	SNR=7.6									
ASHO					P		P		18 12 52.9	+1.0
	SNR=7.6									
ASHO	Ashiyiah	83.51	294	i	P		P		18 12 51.5	-0.4
	SNR=18									
KLMR	Klimovskoe	83.58	332		eP		P		18 12 47.6	-3.9
KLMR					e				18 15 59.7	
KLMR					pmax	pmax				
	comp=Z,111nm,1.5s									
KLMR					MLR	MLR				
	comp=Z,4µm,18.0s									
PLID	Pearl Lake	83.64	45		IAmb	IAmb			18 13 03.3	
	comp=Z,75nm,1.1s									
RYN	Ryan	83.67	52		IAmb	IAmb			18 12 55.9	
	comp=Z,88nm,1.2s									
NAZ	Nazwa, Dubai	83.78	294		P		P		18 12 53.5	+0.3
	SNR=10									
NAZ					P		P		18 12 53.5	+0.3
	SNR=10									
NAZ	Nazwa, Dubai	83.78	294	i	P		P		18 12 52.7	-0.5
	SNR=20									
LHV	Little Huntoon	83.79	52		IAmb	IAmb			18 13 12.4	
	comp=Z,119nm,1.3s									
NVAR	Mina Array Bea	83.89	52		P		P		18 12 55.8	+2.0
	comp=Z,24nm,0.7s,baz=266,slow=5.7,SNR=146									
	comp=Z,24nm,0.7s									
FAQ	Al Faqa, Dubai	83.90	294		P		P		18 12 53.2	-0.6
ALNE	Al Ain	83.94	293		P		P		18 12 54.3	+0.1
	SNR=26									
ALNE	Al Ain	83.94	293	i	P		P		18 12 53.8	-0.3
	SNR=27									
VES	Vestal, Richgr	84.01	55		IAmb	IAmb			18 12 56.6	
	comp=Z,137nm,1.1s									
KEV	Kevo	84.09	342		P		P		18 12 53.0	-0.9
KEV	Kevo	84.09	342		P		P		18 12 53.0	-0.9
KEV					pmax	pmax				
	comp=Z,37nm,1.1s									
KEV					MLR	MLR				
	comp=Z,4µm,19.0s									
ASUD	Al Ashush, Dub	84.16	294		P		P		18 12 55.8	+0.6
	SNR=12									
ASUD					P		P		18 12 55.8	+0.6
	SNR=12									
ASUD	Al Ashush, Dub	84.16	294	i	P		P		18 12 55.3	+0.1
	SNR=9.0									
TIN	Tinemaha, Big	84.33	53		IAmb	IAmb			18 13 14.8	
	comp=Z,97nm,0.9s									
MSO	Missoula	84.48	43		IAMs_20	IAMs_20			18 43 10.9	
	comp=Z,3µm,22.0s									
AJN	Ajban	84.48	294		P		P		18 12 56.5	-0.3
	SNR=13									
AJN					P		P		18 12 56.5	-0.3
	SNR=13									
AJN	Ajban	84.48	294	i	P		P		18 12 56.2	-0.6
	SNR=11									
HAMF	Hammerfest	84.53	344		eP		P		18 12 55.4	-0.7
Q09A	Carvers	84.62	51		IAmb	IAmb			18 13 14.3	
	comp=Z,126nm,1.0s									
ARA0	ARCESS Array S	84.65	342		eP		P		18 12 56.4	-0.4
ARCES	ARCESS Array B	84.65	342		P		P		18 12 55.4	-1.4
	comp=Z,34nm,1.0s,baz=65,slow=5.3,SNR=32									
ARCES					PKKPbc	PKKPbc			18 31 06.5	-2.2
	comp=Z,4.3nm,0.8s,baz=298,slow=2.6,SNR=7.7									
ARCES					LR	LR			18 54 41.3	
	comp=Z,3µm,19.2s,baz=65,slow=38									
	comp=Z,34nm,1.0s									
TULEG	Thule	84.66	8		iP		P		18 12 57.0	+0.3
TPH	Tonopah	84.81	52		IAmb	IAmb			18 13 01.5	
	comp=Z,98nm,1.2s									
UMZA	Um Al Zommool	84.83	292		P		P		18 12 59.0	+0.4
UMZA					P		P		18 12 59.0	+0.4
TPO	Tropico Hills	84.95	55		IAmb	IAmb			18 13 02.5	
	comp=Z,139nm,1.3s									
MAK	Makhachkala	85.16	313		eP		P		18 12 57.1	-2.7
MAK					e				18 16 15.1	
MAK					ePPP	PPP			18 18 07.1	
MAK					e				18 23 17.9	
MAK					eSS	SS			18 29 02.5	+2.0
MAK					eSSS	SSS			18 32 32.0	
MAK					pmax	pmax				
	comp=Z,201nm,1.1s									
HLID	Hailey	85.18	46		IAmb	IAmb			18 13 03.4	
	comp=Z,84nm,1.1s									
PASC	Pasadena Art C	85.19	56		IAmb	IAmb			18 13 02.9	
	comp=Z,90nm,1.4s									
PASC					IAMs_20	IAMs_20			18 56 14.0	
	comp=Z,2µm,18.0s									
MPMC	Manual Prospec	85.19	54		IAmb	IAmb			18 13 03.5	
	comp=Z,78nm,1.1s									
LRMC	Laurel Mtn Rad	85.21	55		IAmb	IAmb			18 13 14.6	
	comp=Z,199nm,1.8s									
MWC	Mount Wilson	85.27	56		IAmb	IAmb			18 13 14.7	
	comp=Z,165nm,1.6s									
CCCA	Chr Cany lake	85.44	54		IAmb	IAmb			18 13 04.7	
	comp=Z,70nm,1.1s									
AKT	Akhty	85.46	312		eP		P		18 12 59.4	-2.1
AKT					e				18 16 15.8	
AKT					eS		SKSac		18 23 22.7	-0.9
AKT					pmax	pmax				
	comp=Z,56nm,1.2s									
ELK	Elko	85.47	49		IAmb	IAmb			18 13 05.1	
	comp=Z,136nm,1.1s									
ELK	Elko	85.47	49		P		P		18 13 03.2	+1.4
	comp=Z,79nm,1.0s,baz=288,slow=4.4,SNR=153									
ELK					LR	LR			18 44 30.9	
	comp=Z,4µm,21.5s,baz=283,slow=31									
	comp=Z,79nm,1.0s									
FURC	Furnace Creek,	85.55	53		IAmb	IAmb			18 13 10.2	
	comp=Z,86nm,1.1s									
NEEM	North Greenlan	85.56	4		eP		P		18 13 03.4	+1.8
KTK1	Kautokeino	85.62	342		eP		P		18 13 00.1	-1.5
MZWR	Madinat Zayed	85.67	293		P		P		18 13 02.6	-0.2
MZWR					P		P		18 13 02.6	-0.2
SHAO	Shalim	85.68	287		P		P		18 13 03.8	+0.8
DLMT	Dillon	85.83	44		IAmb	IAmb			18 13 30.5	
	comp=Z,80nm,0.9s									
DLMT					IAMs_20	IAMs_20			18 53 46.0	
	comp=Z,2µm,19.0s									
TPNV	Topopah Spring	85.88	53		IAmb	IAmb			18 13 18.0	
	comp=Z,109nm,1.2s									
SEKA	Sheki	85.92	312		P		P		18 13 02.5	-1.3
GSC	Goldstone, Bar	85.94	55		IAmb	IAmb			18 13 07.1	
	comp=Z,78nm,1.1s									
R11B	Troy Canyon, C	85.95	51		IAmb	IAmb			18 13 07.5	
	comp=Z,113nm,1.3s									
JETT	Jettan, Norway	86.08	343		eP		P		18 13 04.6	+0.7
VRH	Novokhopyorsk	86.08	322		eP		P		18 12 59.3	-4.9
VRH					pmax	pmax				
	comp=Z,10.0nm,1.0s									
VRH					MLR	MLR				
	comp=Z,5µm,21.0s									
MNGR	Mingechevir, A	86.14	311		P		P		18 13 04.0	-0.8
SHOC	Shoshone, Teco	86.17	54		IAmb	IAmb			18 13 08.1	
	comp=Z,83nm,1.2s									
MZR	Muzera	86.24	293		P		P		18 13 05.4	-0.2
	SNR=19									
MZR					P		P		18 13 05.4	-0.2
	SNR=19									
MZR	Muzera	86.24	293	i	P		P		18 13 05.7	+0.1
	SNR=9.0									
DAG	Danmarks Havn	86.36	357		P		P		18 13 02.1	-3.0
DAG	Danmarks Havn	86.36	357		P		P		18 13 04.4	-0.7
DAG					pmax	pmax				
	comp=Z,93nm,0.9s									
DAG	Danmarks Havn	86.36	357	i	P		P		18 13 05.0	-0.1
DMTO	DMTO	86.39	287		P		P		18 13 06.3	-0.2
DMTO					P		P		18 13 06.3	-0.2
RKT	Rikitea	86.39	115		eP		P		18 13 06.9	+0.7
	comp=Z,4µm,37.8s									
RKT	Rikitea	86.39	115		eS		S		18 23 39.0	-0.3
	comp=Z,4µm,30.5s									
RKT					eSS		SS		18 29 19.8	-0.5
	comp=Z,3µm,34.0s									
RKT	Rikitea	86.39	115		eLR	LR			18 40 12.1	
	comp=Z,19µm,32.5s									
BOZ	Bozeman (W)	86.40	43		IAmb	IAmb			18 13 09.2	
	comp=Z,141nm,1.1s									
CPE	Camp Elliot	86.42	57		IAMs_20	IAMs_20			18 57 09.1	
	comp=Z,2µm,18.0s									
TRO	Tromso	86.43	344		P		P		18 13 04.5	-1.1
TRO	Tromso	86.43	344		eP		P		18 13 04.2	-1.4
GHWR	Ruwais	86.50	294		P		P		18 13 06.7	-0.2
GHWR					P		P		18 13 06.7	-0.2
MOS	Moscow	86.55	328		eP		P		18 13 02.4	-4.0
MOS					e				18 13 22.4	
MOS					e				18 23 25.3	
MOS					eS		SKSac		18 23 33.4	+3.9
MOS					pmax	pmax				
	comp=Z,76nm,1.4s									
MOS					smax	smax				
	comp=E,500nm,2.5s									
MOS					smax	smax				
	comp=N,500nm,3.0s									
MOS					MLR	MLR				
	comp=Z,6µm,18.0s									
MOS					MLR	MLR				
	comp=N,4µm,17.0s									
MOS					MLR	MLR				
	comp=E,4µm,17.0s									
PRN	Pahroc Range	86.65	52		IAmb	IAmb			18 13 11.6	
	comp=Z,89nm,1.2s									
SPR3	Spring Creek 3	86.68	50		IAmb	IAmb			18 13 12.0	
	comp=Z,157nm,1.1s									
PFO	Pinyon Flats O	86.72	56		P		P		18 13 07.8	-0.2
PFO	Pinyon Flats O	86.72	56		IAMs_20	IAMs_20			18 58 04.7	
	comp=Z,2µm,19.0s									
PFO	Pinyon Flats O	86.72	56		P		P		18 13 08.9	+0.9
	comp=Z,40nm,1.1s,baz=274,slow=3.9,SNR=41									
PFO					LR	LR			18 45 42.2	
	comp=Z,1µm,21.1s,baz=269,slow=31									
	comp=Z,40nm,1.1s									
PFO	Pinyon Flats O	86.72	56	d	iP		P		18 13 09.1	+1.1
PFO					pmax	pmax				
	comp=Z,100nm,1.1s									
GANJ	Ganja	86.73	311		P		P		18 13 06.8	-0.9
PMD	Palm Desert	86.78	56		IAmb	IAmb			18 13 10.8	
	comp=Z,78nm,1.2s									
DOK	Doka	86.88	288		P		P		18 13 08.7	-0.1
DOK					P		P		18 13 08.7	-0.1
CASY	Casey	86.89	194		P		P		18 13 08.3	+0.6
CASY	Casey	86.89	194		IAMs_20	IAMs_20			18 51 15.7	
	comp=Z,2µm,20.0s									
HVU	Hansel Valley	86.90	47		IAmb	IAmb			18 13 12.2	
	comp=Z,155nm,1.2s									
RBK	Rabkut	87.13	287		P		P		18 13 10.3	+0.2
RBK					P		P		18 13 10.3	+0.2
LPSR	Galich'ya Gora	87.14	324		eP		P		18 13 05.3	-4.1
LPSR					pmax	pmax				
	comp=Z,30nm,1.0s									
LPSR					MLR	MLR				
	comp=Z,3µm,18.0s									
V12A	Nelson	87.33	54		IAmb	IAmb			18 13 14.2	
	comp=Z,96nm,1.1s									
VORR	Voronezh	87.35	323		eP		P		18 13 06.8	-3.6
VORR					pmax	pmax				
	comp=Z,30nm,0.5s									
VORR					MLR	MLR				
	comp=Z,3µm,17.0s									
OBN	Obninsk	87.36	327		LR	LR			18 54 20.3	
	comp=Z,3µm,18.6s,baz=3.0,slow=37									
OBN	Obninsk	87.36	327	d	iP		P		18 13 07.3	-3.1
OBN					e				18 16 27.4	
OBN					ePPP	PPP			18 18 32.4	
OBN					i S		SKSac		18 23 32.2	-2.3
OBN					pmax	pmax				
	comp=Z,62nm,1.4s									
OBN					MLR	MLR				
	comp=Z,7µm,17.0s									
DUG	Dugway, Tooele	87.40	49		IAMs_20	IAMs_20			18 44 26.2	
	comp=Z,3µm,22.0s									
WHFO	Wadi Hawf	87.41	288		P		P		18 13 11.0	-0.4
WHFO					P		P		18 13 11.0	-0.4
FXWY	Fox Creek	87.48	45		IAmb	IAmb			18 13 15.1	
	comp=Z,106nm,1.1s									
FXWY					IAMs_20	IAMs_20			18 51 49.6	
	comp=Z,2µm,20.0s									
GOF	Gofitskoye	87.49	316	ce	P		P		18 13 08.5	-2.8
SLWR	Sila	87.50	294		P		P		18 13 12.3	+0.6
BC3	Big Chuckawall	87.51	56		IAmb	IAmb			18 13 25.9	
	comp=Z,80nm,1.2s									
VSR	Storozhevoye	87.56	323		eP		P		18 13 06.1	-5.3
VSR					pmax	pmax				
	comp=Z,50nm,1.5s									
VSR					MLR	MLR				
	comp=Z,4µm,19.0s									
TPAW	Teton Pass	87.58	45		IAmb	IAmb			18 13 15.6	
	comp=Z,91nm,1.1s									
VORD	Divnogorie	87.59	323		eP		P		18 13 06.8	-4.8
VORD					pmax	pmax				
	comp=Z,20nm,0.8s									
VORD					MLR	MLR				
	comp=Z,1µm,13.0s									
IRM	Iron Mountain	87.59	55		IAmb	IAmb			18 13 15.1	
	comp=Z,67nm,1.2s									
SHMA	Al-Shehemyia	87.61	296		P		P		18 13 12.4	+0.2
	SNR=5.3									
ESJX	Sierra Juarez	87.62	57		IAmb	IAmb			18 13 15.7	
	comp=Z,83nm,1.4s									
YNE	Yellowstone No	87.67	44		IAmb	IAmb			18 13 18.7	
	comp=Z,81nm,1.1s									
NCK	Nalchik	87.68	315	⍰	iP		P		18 13 10.6	-1.6
NCK					pmax	pmax				
	comp=Z,48nm,0.8s									
SNOW	Snow King Moun	87.73	45		IAMs_20	IAMs_20			18 49 33.2	
	comp=Z,2µm,20.0s									
TRNA	Turayna	87.73	295		P		P		18 13 12.6	-0.2
AHID	Auburn Hatcher	87.73	46		IAMs_20	IAMs_20			18 47 06.4	
	comp=Z,3µm,21.0s									
LOHW	Long Hollow	87.78	45		IAmb	IAmb			18 13 16.3	
	comp=Z,64nm,1.1s									
HWUT	Hardware Ranch	87.81	47		IAMs_20	IAMs_20			18 45 15.7	
	comp=Z,3µm,21.0s									
NEE2	Needles Airpor	87.81	54		IAmb	IAmb			18 13 16.2	
	comp=Z,78nm,1.1s									
NAX	Nakhchivan	87.82	310		P		P		18 13 12.1	-1.0
CCUT	Cedar City	87.87	52		IAmb	IAmb			18 13 17.2	
	comp=Z,121nm,1.2s									
SAKB	Bahrain	87.94	296		P		P		18 13 14.3	+0.5
VTX	Valle De La Tr	87.95	58		IAmb	IAmb			18 13 17.1	
	comp=Z,76nm,1.3s									
CTU	Camp Tracy	88.00	48		IAmb	IAmb			18 13 17.0	
	comp=Z,102nm,1.1s									
ABTO	Aybut	88.00	287		P		P		18 13 14.1	-0.2
ABTO					P		P		18 13 14.1	-0.2
GNI	Garni	88.04	311		P		P		18 13 13.0	-1.2
GNI	Garni	88.04	311		LR	LR			18 55 25.9	
	comp=Z,2µm,21.6s,baz=63,slow=38									
GNI	Garni	88.04	311		P		P		18 13 14.0	-0.2
GNI					P		P		18 13 14.0	-0.2
GNI	Garni	88.04	311	d	iP		P		18 13 12.5	-1.7
GNI					pmax	pmax				
	comp=Z,60nm,1.4s									
GNI					MLR	MLR				
	comp=Z,2µm,23.0s									
GNI	Garni	88.04	311		P		P		18 13 12.7	-1.5
SMRA	Abu-Samra	88.06	295		P		P		18 13 14.0	-0.4
	SNR=6.8									
KBZ	Khabaz	88.07	315		P		P		18 13 11.7	-2.3
	comp=Z,20nm,0.9s,baz=76,slow=4.2,SNR=21									
KBZ					LR	LR			18 56 06.0	
	comp=Z,3µm,19.2s,baz=62,slow=38									
	comp=Z,20nm,0.9s									
KBZ	Khabaz	88.07	315	d	iP		P		18 13 11.4	-2.6
KBZ					pmax	pmax				
	comp=Z,41nm,1.1s									
KBZ					MLR	MLR				
	comp=Z,3µm,20.0s									
TCUT	Toone Canyon	88.09	48		IAmb	IAmb			18 13 17.4	
	comp=Z,81nm,0.9s									
KVAR	Kislovodsk Arr	88.12	315		LR	LR			18 54 58.5	
	comp=Z,2µm,21.0s,baz=285,slow=37									
RLMT	Red Lodge	88.12	43		IAmb	IAmb			18 13 18.5	
	comp=Z,124nm,1.1s									
RLMT					IAMs_20	IAMs_20			18 45 06.4	
	comp=Z,3µm,22.0s									
KIV	Kislovodsk	88.13	315		P		P		18 13 12.1	-2.4
KIV					IAmb	IAmb			18 13 24.9	
	comp=Z,35nm,0.6s									
KIV					IAMs_20	IAMs_20			18 56 15.1	
	comp=Z,3µm,20.0s									
KIV	Kislovodsk	88.13	315		P		P		18 13 14.4	0.0
KIV					P		P		18 13 14.4	0.0
KIV	Kislovodsk	88.13	315		eP		P		18 13 11.8	-2.7
KIV					e				18 23 35.4	
KIV					pmax	pmax				
	comp=Z,88nm,4.3s									
KIV					pmax	pmax				
	comp=Z,29nm,1.1s									
KIV					MLR	MLR				
	comp=Z,2µm,20.0s									
KIV	Kislovodsk	88.13	315		P		P		18 13 12.1	-2.4
LCMT	Little Creek M	88.14	52		IAmb	IAmb			18 13 18.3	
	comp=Z,90nm,1.3s									
GLA	Glamis	88.19	56		IAmb	IAmb			18 13 18.2	
	comp=Z,73nm,1.2s									
SHA1	Shidzhatmaz	88.23	315	d	iP		P		18 13 12.2	-2.9
W13A	Hualapai Mount	88.28	54		IAmb	IAmb			18 13 29.9	
	comp=Z,78nm,1.4s									
MPU	Maple Canyon	88.31	49		IAmb	IAmb			18 13 18.6	
	comp=Z,95nm,1.1s									
FFC	Flin Fl

VSLR Vesoyloye 90.10 316 *ce*P P 18 13 21.3 -2.3
VSLR pmax pmax
comp=Z,111nm,1.2s
VSLR MLR MLR
comp=Z,4μm,21.0s
214A Organ Pipe Nat 90.16 57 IAmb IAmb 18 13 27.8
comp=Z,113nm,1.1s
KONS Konsvik 90.17 343 *e*P P 18 13 23.3 -0.1
SOC Sochi 90.26 316 *e*P P 18 13 18.8 -5.5
SOC *e*S **SKSac** 18 23 44.4 -7.8
SOC pmax pmax
comp=Z,28nm,0.9s
SOC MLR MLR
comp=Z,4μm,18.0s
STOK Stokkvaagen 90.32 343 *e*P P 18 13 23.5 -0.6
VSU Vasula 90.42 333 *de*P P 18 13 20.5 -4.2
VSU pmax pmax
comp=Z,60nm,1.3s
LEIR Leirfjorden 90.45 343 *e* P 18 13 19.1 -5.6
O20A White River Ci 90.69 48 IAmb IAmb 18 13 38.0
comp=Z,104nm,1.0s
O20A IAMs_20 IAMs_20 18 46 37.0
comp=Z,3μm,21.0s
PV21 Cone Mtn., Par 90.76 49 IAmb IAmb 18 13 30.2
comp=Z,124nm,1.0s
PV05 Paradox Valley 90.85 50 IAmb IAmb 18 13 30.6
comp=Z,84nm,1.1s
PV16 Nyswonger Mesa 90.90 50 IAmb IAmb 18 13 30.7
comp=Z,139nm,1.1s
K22A Casper 90.90 45 IAmb IAmb 18 13 32.1
comp=Z,145nm,1.2s
JMIC Jan Mayen 90.91 352 LR LR 18 55 35.2
comp=Z,236nm,20.8s,baz=42,slow=36
JMIC Jan Mayen 90.91 352 *e*P P 18 13 28.1 +1.3
PV22 Blue Mesa, Par 90.91 49 IAmb IAmb 18 13 39.2
comp=Z,103nm,1.2s
SUMG Summit 90.95 1 P P 18 13 26.4 -1.1
SUMG Summit 90.95 1 P P 18 13 27.7 +0.2
SUMG pmax pmax
comp=Z,24nm,1.0s
SUMG Summit 90.95 1 *i* P P 18 13 28.0 +0.5
PV03 Paradox Valley 90.97 50 IAmb IAmb 18 13 30.8
comp=Z,106nm,1.1s
PV13 Radium Mtn., P 91.03 50 IAmb IAmb 18 13 31.1
comp=Z,88nm,1.1s
NUUG Nuugaatsiaq 91.04 6 *e*P P 18 13 27.3 -0.1
PV07 Paradox Valley 91.05 49 IAmb IAmb 18 13 31.2
comp=Z,71nm,1.2s
KOPT Kop Dagi 91.11 312 IAmb IAmb 18 14 20.5
comp=Z,89nm,1.7s
PV15 Paradox Valley 91.20 49 IAmb IAmb 18 13 32.0
comp=Z,75nm,1.1s
PV01 Paradox Valley 91.22 50 IAmb IAmb 18 13 32.0
comp=Z,74nm,1.0s
HAYD Hayden 91.24 47 IAmb IAmb 18 13 32.5
comp=Z,119nm,1.1s
HAYD IAMs_20 IAMs_20 18 47 38.1
comp=Z,2μm,20.0s
ANN Anapa 91.26 318 *e*P P 18 13 26.1 -2.8
ANN *e**PP **pP** 18 13 39.5 -1.8
ANN *e* 18 23 53.3
ANN pmax pmax
comp=Z,70nm,1.2s
ANN MLR MLR
comp=E,3μm,19.0s
ANN MLR MLR
comp=N,6μm,21.0s
ANN MLR MLR
comp=Z,5μm,21.0s
W18A Petrified Fore 91.46 53 IAmb IAmb 18 13 34.7
comp=Z,100nm,1.2s
X18A Snowflake 91.51 53 IAmb IAmb 18 13 34.2
comp=Z,55nm,1.2s
MVCO Mesa Verde 91.62 50 IAmb IAmb 18 13 34.3
comp=Z,80nm,1.2s
MVCO IAMs_20 IAMs_20 18 51 47.9
comp=Z,2μm,19.0s
TUC Tucson 91.65 56 P P 18 13 31.1 -0.1
TUC IAmb IAmb 18 13 34.9
comp=Z,62nm,1.2s
TUC Tucson 91.65 56 IAMs_20 IAMs_20 19 02 05.2
TUC Tucson 91.65 56 P P 18 13 31.1 -0.1
TUC pmax pmax
comp=Z,62nm,1.3s
TUC MLR MLR
comp=Z,2μm,18.0s
NIAQ Niaqornat 91.70 7 *e*P P 18 13 32.3 +1.9
NIAQ IAMs_20 IAMs_20 18 51 54.8
comp=Z,3μm,20.4s
SAATT Saattut 91.89 6 *e*P P 18 13 33.5 +2.2
SAATT IAMs_20 IAMs_20 18 51 38.5
comp=Z,4μm,26.6s
NSS Namsos 91.93 342 *e*P P 18 13 30.9 -0.7
RSSD Black Hills 91.95 43 P P 18 13 32.4 -0.1
RSSD Black Hills 91.95 43 IAMs_20 IAMs_20 18 55 59.6
comp=Z,2μm,20.0s
RSSD Black Hills 91.95 43 P P 18 13 32.4 -0.1
RSSD pmax pmax
comp=Z,142nm,1.2s
RSSD MLR MLR
comp=Z,2μm,20.0s
MNK Minsk 92.05 329 *i* P P 18 13 29.2 -3.2
MNK *i* *PP **pP** 18 13 43.6 -0.9
MNK *i* 18 17 09.7
MNK *i* PPP PPP 18 19 08.4
MNK *i* S **SKSac** 18 23 57.5 -4.5
MNK *i* SS **SS** 18 30 40.6 +0.7
MNK *i* SSS SSS 18 34 18.9
MNK pmax pmax
comp=Z,41nm,1.2s
MNK pmax pmax
comp=N,27nm,1.2s
MNK pmax pmax
comp=E,19nm,0.9s
MNK MLR MLR
comp=Z,3μm,17.0s
MNK MLR MLR
comp=N,3μm,19.0s
MNK MLR MLR
comp=E,2μm,18.0s
MSEY Mahe Island 92.19 266 P P 18 13 34.3 +0.3
S22A 4UR Ranch, Cre 92.64 49 IAmb IAmb 18 13 39.2
comp=Z,64nm,1.1s
S22A IAMs_20 IAMs_20 18 48 28.5
comp=Z,3μm,21.0s
ISCO Idaho Springs 92.68 47 IAmb IAmb 18 13 39.4
comp=Z,61nm,1.1s
ISCO IAMs_20 IAMs_20 18 49 08.5
comp=Z,3μm,22.0s
ISCO Idaho Springs 92.68 47 P P 18 13 38.2 +2.1
ISCO pmax pmax
comp=Z,60nm,1.1s
SCO Scoresbysund 92.73 356 *e*P P 18 13 35.8 +0.5
RAYN Ar Rayn 93.06 295 P P 18 13 35.7 -2.1
RAYN Ar Rayn 93.06 295 P P 18 13 36.3 -1.5
RAYN Ar Rayn 93.06 295 P P 18 13 35.7 -2.1
RAYN pmax pmax
comp=Z,27nm,0.9s
RAYN MLR MLR
comp=Z,1μm,19.0s
RAYN Ar Rayn 93.06 295 *i* P P 18 13 35.9 -1.9
SNR=27
GDH Godhavn 93.18 7 *e*P P 18 13 39.2 +1.9
GDH IAMs_20 IAMs_20 18 51 40.5
comp=Z,3μm,24.5s
SIM Simferopol' 93.31 319 *e*P P 18 13 36.5 -2.0
SIM pmax pmax
comp=Z,20nm,0.7s
Q24A Divide 93.35 48 IAmb IAmb 18 13 42.3
comp=Z,48nm,1.1s
PABE Paberze 93.36 331 IAmb IAmb 18 13 38.4
comp=Z,65nm,1.0s
AKASG Malin Array Be 93.37 325 P P 18 13 35.9 -2.7
comp=Z,0.7nm,0.6s,baz=47,slow=4.7,SNR=16
AKASG PKKPbc **PKKPdf** 18 30 43.9 -0.3
comp=Z,1.0nm,0.6s,baz=264,slow=2.7,SNR=4.9
AKASG LR LR 18 58 48.0
comp=Z,4μm,18.1s,baz=54,slow=38
AKASG Malin Array Be 93.37 325 *i* P P 18 13 36.0 -2.6
AKBB Malin Array Si 93.37 325 *d* iP P 18 13 34.3 -4.3
AKBB pmax pmax
comp=Z,17nm,1.5s
AKBB MLR MLR
comp=Z,6μm,19.0s
KIEV Kiev 93.39 325 P P 18 13 36.4 -2.2

ILULI Ilulissat 93.48 6 IAMs_20 IAMs_20 18 54 03.2
comp=Z,3μm,22.0s
ILULI Ilulissat 93.48 6 *e*P P 18 13 40.3 +1.6
ULM Lac du Bonnet 93.92 35 P P 18 13 40.9 -0.2
comp=Z,40nm,0.9s,baz=306,slow=5.5,SNR=25
comp=Z,40nm,0.9s
ULM Lac du Bonnet 93.92 35 *d* iP P 18 13 41.4 +0.3
121A Cookes Peak, D 93.93 55 IAmb IAmb 18 13 45.8
comp=Z,71nm,1.2s
Y22D IRIS PASSCAL I 94.01 53 IAMs_20 IAMs_20 18 49 12.2
comp=Z,2μm,21.0s
Y22D IRIS PASSCAL I 94.01 53 P P 18 13 43.9 +1.9
baz=293
ANMO Albuquerque 94.02 52 P P 18 13 43.5 +1.4
ANMO Albuquerque 94.02 52 IAMs_20 IAMs_20 18 48 35.3
comp=Z,2μm,21.0s
ANMO Albuquerque 94.02 52 P P 18 13 43.3 +1.2
comp=Z,37nm,1.1s,baz=270,slow=1.0,SNR=54
ANMO LR LR 18 49 09.3
comp=Z,2μm,21.5s,baz=30,slow=31
comp=Z,37nm,1.1s
ANMO Albuquerque 94.02 52 *d* iP P 18 13 43.6 +1.4
ANMO pmax pmax
comp=Z,47nm,1.2s
ANMO MLR MLR
comp=Z,1μm,17.0s
VNDA Vanda 94.39 177 P P 18 13 40.9 -1.7
comp=Z,6.5nm,1.0s,baz=321,slow=4.9,SNR=18
VNDA LR LR 18 53 22.5
comp=Z,986nm,21.7s,baz=349,slow=34
comp=Z,6.5nm,1.0s
HFS Hagfors 94.54 338 P P 18 13 40.9 -2.8
comp=Z,3.1nm,0.6s,baz=64,slow=3.4,SNR=17
HFS PKKPbc **PKKPdf** 18 30 40.9 -1.4
comp=Z,1.4nm,0.7s,baz=144,slow=5.3,SNR=4.4
HFS LR LR 18 57 24.8
comp=Z,3μm,21.5s,baz=46,slow=36
comp=Z,3.1nm,0.6s
T25A Trinidad 94.64 49 IAMs_20 IAMs_20 18 49 35.6
comp=Z,3μm,21.0s
OGNE Ogallala 94.67 45 IAmb IAmb 18 13 47.2
comp=Z,58nm,1.1s
OGNE IAMs_20 IAMs_20 18 58 12.8
comp=Z,2μm,19.0s
NB2 NORSAR Subarra 94.73 340 P P 18 13 41.1 -3.6
comp=Z,4.8nm,0.9s,baz=41,slow=5.1
NB2 PKKP **PKKPdf** 18 30 42.2 +0.1
comp=Z,0.7nm,0.6s,baz=188,slow=1.8
NB2 NORSAR Subarra 94.73 340 P P 18 13 45.9 +1.2
NB2 NORSAR Subarra 94.73 340 P P 18 13 41.1 -3.6
baz=41,slow=5.1
NOA NORSAR Array B 94.73 340 P P 18 13 41.8 -2.9
comp=Z,2.6nm,0.8s,baz=46,slow=4.8,SNR=7.5
NOA PKKPbc **PKKPdf** 18 30 41.5 -0.5
comp=Z,2.8nm,0.9s,baz=227,slow=2.8,SNR=4.1
NOA LR LR 18 58 46.9
comp=Z,3μm,21.2s,baz=40,slow=37
comp=Z,2.6nm,0.8s
RNPP1 Kostyukhnivka 94.86 327 P P 18 13 47.5 +2.1
LPIG La Paz 94.94 63 P P 18 13 46.9 +0.6
comp=Z,10nm,0.3s,baz=225,slow=4.3,SNR=5.7
LPIG LR LR 18 47 42.0
comp=Z,2μm,21.9s,baz=290,slow=30
comp=Z,10nm,0.3s
AGMN Agassiz Nation 94.95 36 IAmb IAmb 18 13 47.6
comp=Z,49nm,1.1s
SBA Scott Base 95.03 176 P P 18 13 47.4 +1.9
SBA IAmb IAmb 18 14 00.8
comp=Z,147nm,1.9s
SBA Scott Base 95.03 176 P P 18 13 47.4 +1.9
SBA pmax pmax
comp=Z,147nm,2.0s
SBA MLR MLR
comp=Z,2μm,22.0s
SUSD Miller 95.05 41 IAMs_20 IAMs_20 18 49 28.4
comp=Z,3μm,21.0s
KSCO Kaye Shedlock' 95.11 47 IAMs_20 IAMs_20 18 51 21.8
comp=Z,2μm,20.0s
SOEG Soedalen 95.39 359 *e*P P 18 13 44.9 -2.6
SLBS Sierra La Lagu 95.39 63 IAMs_20 IAMs_20 18 47 23.0
comp=Z,3μm,21.0s
FRB Frobisher Bay 95.44 15 LR LR 18 56 55.2
comp=Z,2μm,21.7s,baz=329,slow=36
K30B Basset 95.47 43 IAMs_20 IAMs_20 18 58 11.9
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 95.67 7 IAMs_20 IAMs_20 18 55 19.0
comp=Z,3μm,22.0s
SFJD Kangerlussuaq 95.67 7 LR LR 18 56 04.5
comp=Z,2μm,22.0s,baz=342,slow=35
F33A 5 Mile Ranch, 95.98 39 IAmb IAmb 18 13 52.5
comp=Z,74nm,1.2s
BR131 Keskin Array S 96.02 314 P P 18 13 48.6 -2.6
BR131 P P 18 13 48.6 -2.6
BR131 Keskin Array S 96.02 314 *de*P P 18 13 48.2 -3.0
BRTR Keskin Array B 96.02 314 P P 18 13 47.9 -3.3
comp=Z,6.0nm,0.8s,baz=92,slow=3.5,SNR=24
BRTR LR LR 19 00 33.0
comp=Z,2μm,21.0s,baz=50,slow=38
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 96.02 314 *i* P P 18 13 48.5 -2.6
BRTR pmax pmax
comp=Z,6.0nm,0.8s
KONO Kongsberg 96.31 340 IAMs_20 IAMs_20 18 59 32.7
comp=Z,3μm,22.0s
ANTO Ankara 96.53 315 P P 18 13 51.0 -2.4
ANTO Ankara 96.53 315 IAMs_20 IAMs_20 19 01 50.6
comp=Z,2μm,20.0s
ANTO Ankara 96.53 315 P P 18 13 51.7 -1.7
ANTO P P 18 13 51.7 -1.7
ANTO Ankara 96.53 315 P P 18 13 51.0 -2.4
ANTO pmax pmax
comp=Z,18nm,1.0s
ANTO MLR MLR
comp=Z,2μm,20.0s
ECSD EROS Data Cent 96.86 41 IAmb IAmb 18 13 57.0
comp=Z,45nm,1.2s
ECSD EROS Data Cent 96.86 41 IAMs_20 IAMs_20 18 50 24.4
comp=Z,3μm,22.0s
ASF Jabal al Asfar 96.93 306 LR LR 19 03 03.1
comp=Z,1μm,19.6s,baz=137,slow=39
BGNE Belgrade 97.04 43 IAmb IAmb 18 13 57.7
comp=Z,61nm,1.2s
BGNE IAMs_20 IAMs_20 19 02 19.4
comp=Z,2μm,18.0s
MSTX Muleshoe 97.19 52 IAMs_20 IAMs_20 18 51 20.4
comp=Z,2μm,21.0s
CBKS Cedar Bluff 97.21 46 IAmb IAmb 18 13 59.0
comp=Z,75nm,1.1s
CBKS IAMs_20 IAMs_20 18 55 21.3
comp=Z,2μm,21.0s
BURAR Bucovina Array 97.26 324 P P 18 13 53.7 -2.8
EYMN Ely 97.59 35 IAMs_20 IAMs_20 18 54 55.1
comp=Z,3μm,20.0s
MMAI Mount Meron Ar 97.72 308 P P 18 13 56.5 -2.4
comp=Z,7.3nm,0.9s,baz=68,slow=9.1,SNR=6.0
MMAI LR LR 19 01 45.5
comp=Z,1μm,21.5s,baz=38,slow=38
comp=Z,7.3nm,0.9s
ANGG Ammassalik, Gr 97.95 2 IAMs_20 IAMs_20 18 59 14.0
comp=Z,2μm,20.0s
MLR Muntele Rosu 98.02 322 LR LR 19 00 10.0
comp=Z,4μm,20.0s,baz=58,slow=37
R32A Long Quarter, 98.10 46 IAmb IAmb 18 14 03.2
comp=Z,60nm,1.1s
R32A IAMs_20 IAMs_20 18 55 56.9
comp=Z,2μm,20.0s
SNART Snartemo 98.11 340 *e*P Pdif 18 14 01.9 +1.9
E38A The Farm, Brul 98.32 36 IAmb IAmb 18 14 02.7
comp=Z,34nm,1.0s
BORG Borgarnes 98.33 355 LR LR 19 01 09.7
comp=Z,295nm,18.8s,baz=16,slow=37
SPMN Marine on St. 98.38 38 IAmb IAmb 18 14 03.8
comp=Z,38nm,1.0s
TXAR Lajitas Array 98.44 56 P Pdif 18 14 03.9 +1.6
comp=Z,7.4nm,1.1s,baz=282,slow=2.4,SNR=32
TXAR PKiKP **PKiKP** 18 18 35.8 +1.4
comp=Z,1.9nm,1.0s,baz=316,slow=4.7,SNR=2.1
TXAR PKKPbc **PKKPbc** 18 30 29.7 -2.9
comp=Z,0.5nm,0.8s,baz=109,slow=6.8,SNR=4.3
TXAR LR LR 18 51 18.6
comp=Z,916nm,20.9s,baz=300,slow=31
comp=Z,7.4nm,1.1s
I37A Lemond, Waseca 98.69 39 IAmb IAmb 18 14 04.9
comp=Z,38nm,1.1s
N35A Tabor 98.95 43 IAMs_20 IAMs_20 19 05 20.0
comp=Z,2μm,18.0s
OK038 West end E0370 99.01 48 IAmb IAmb 18 14 07.2
comp=Z,30nm,0.9s

ATD Arta Tunnel 99.42 285 LR LR 19 00 16.5
comp=Z,14nm,19.5s,baz=52,slow=36
EIL Elat 99.49 305 LR LR 19 03 21.8
comp=Z,869nm,21.1s,baz=48,slow=38
OKC Ostrava-Krasne 99.64 329 AMS AMS 19 03 30.0
comp=Z,4μm,16.3s
WMOK Wichita Mounta 99.80 49 IAMs_20 IAMs_20 19 01 55.1
comp=Z,2μm,20.0s
SCIA State Center 99.95 41 IAMs_20 IAMs_20 18 53 04.1
comp=Z,3μm,22.0s
MORC Moravsky Berou 99.98 329 *e*PDIFF **Pdif** 18 14 09.1 +0.5
OSTC Ostas 100.11 330 AMS AMS 19 04 10.0
comp=Z,4μm,15.6s
ABTX Abilene, Hawle 100.14 52 IAMs_20 IAMs_20 18 54 23.3
comp=Z,3μm,22.0s
VYHS Vyhne 100.16 328 *e*PDIFF **Pdif** 18 14 08.5 -0.9
CHVC Chvalec 100.16 330 AMS AMS 19 04 20.0
comp=Z,5μm,16.0s
DPC Dobruska-Polom 100.19 330 AMS AMS 19 01 10.0
comp=Z,4μm,18.4s
UPC Upice 100.23 330 AMS AMS 19 04 20.0
comp=Z,5μm,15.8s
T35A Sooner Cattle 100.36 46 IAMs_20 IAMs_20 18 52 30.7
comp=Z,3μm,22.0s
VRAC Vranov 100.75 329 *e*PDIFF **Pdif** 18 14 11.2 -0.8
PVCC Panska Ves 100.90 331 AMS AMS 19 03 50.0
comp=Z,4μm,16.5s
BRG Berggiesshubel 100.95 332 ļ *e*Pif **Pdif** 18 14 13.0 +0.2
BRG Amp 18 14 14.7
comp=Z,4.9nm,1.3s
P38A Dawn 100.97 43 IAMs_20 IAMs_20 18 53 47.5
comp=Z,2μm,22.0s
JCT Junction City 100.98 54 IAMs_20 IAMs_20 18 54 08.0
comp=Z,2μm,20.0s
KRUC Moravsky 101.02 329 *e*PDIFF **Pdif** 18 14 10.8 -2.4
CLL Collm 101.07 332 *i* P **Pdif** 18 14 10.8 -2.5
CLL *i* 18 18 21.0
CLL *e* 18 24 43.0
CLL *e*S **Sdif** 18 25 45.0 -3.9
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL pmax pmax
comp=Z,53nm,2.3s
CLL MLR MLR
comp=Z,4μm,18.6s
CLL Collm 101.07 332 *e*L L 19 01 58.7
comp=Z,4μm,20.6s
RICC Richard 101.11 331 AMS AMS 19 00 00.0
comp=Z,4μm,20.5s
PRA Prague 101.28 331 AMS AMS 19 05 00.0
comp=Z,4μm,15.8s
PRU Pruhonice 101.28 331 AMS AMS 19 05 10.0
TREC Trest 101.30 330 AMS AMS 19 02 00.0
comp=Z,4μm,18.9s
IVI Ivigtut 101.56 7 IAMs_20 IAMs_20 18 58 24.7
comp=Z,2μm,22.0s
ZVC Zvikov 101.82 330 AMS AMS 19 05 20.0
comp=Z,4μm,15.5s
NRS Narsarsuaq 101.90 6 IAMs_20 IAMs_20 18 58 46.7
comp=Z,3μm,22.0s
RONA Rosalia, Austr 101.97 328 *e*PKKP **PKKPbc** 18 30 26.7 +3.6
comp=Z,2.8nm,1.0s
P40A Paris 101.99 42 IAMs_20 IAMs_20 18 53 22.3
comp=Z,2μm,22.0s
CONA Conrad Observa 102.03 328 *e*PKKP **PKKPbc** 18 30 23.6 +0.7
comp=Z,5.9nm,1.7s
WHTX Lake Whitney, 102.07 51 IAMs_20 IAMs_20 18 58 00.5
comp=Z,2μm,20.0s
U38A Gravette 102.08 46 IAMs_20 IAMs_20 18 53 55.0
comp=Z,2μm,22.0s
N41A Harden Midland 102.09 41 IAMs_20 IAMs_20 18 53 24.9
comp=Z,2μm,22.0s
S39A Bolivar 102.14 44 IAMs_20 IAMs_20 18 55 05.2
comp=Z,2μm,21.0s
MOX Moxa 102.16 332 *e*PP **PP** 18 18 29.2 -0.4
MOX *e*L L 19 04 25.2
comp=Z,4μm,18.5s
CKRC Cesky Krumlov 102.19 330 AMS AMS 19 02 20.0
comp=Z,3μm,19.0s
KHC Kasperske Hory 102.33 330 AMS AMS 19 05 30.0
comp=Z,5μm,15.8s
GEC2 GERESS Array S 102.47 330 *e*L L 19 02 41.7
comp=Z,4μm,20.0s
GERES GERESS Array B 102.47 330 P **Pdif** 18 14 17.2 -2.6
comp=Z,2.2nm,1.1s,baz=38,slow=6.2,SNR=5.1
GERES PP **PP** 18 18 30.7 -1.4
comp=Z,0.5nm,0.6s,baz=49,slow=6.1,SNR=2.2
GERES PKKPbc **PKKPbc** 18 30 20.5 -1.3
comp=Z,1.5nm,0.8s,baz=222,slow=5.4,SNR=6.2
R40A Maddies Statio 102.52 44 IAMs_20 IAMs_20 18 56 34.6
comp=Z,2μm,22.0s
KARP Karpathos 102.54 313 IAMs_20 IAMs_20 19 04 45.8
comp=Z,3μm,22.0s
WET Wettzell 102.65 331 *e*L L 19 02 36.3
comp=Z,5μm,21.7s
ARSA Arzberg 102.66 328 *e*PKKP **PKKPbc** 18 30 21.1 0.0
comp=Z,4.5nm,1.6s
MOA Molln 102.88 329 *e*PKKP **PKKPbc** 18 30 19.8 -0.6
comp=Z,1.8nm,0.6s
GRF Grafenberg Arr 103.02 332 *e*PP **PP** 18 18 35.4 -0.8
GRF *e*L L 19 05 02.4
comp=Z,4μm,18.6s
GLMI Grayling 103.26 35 IAMs_20 IAMs_20 19 04 02.1
comp=Z,2μm,20.0s
Z38A Mt. Pleasant 103.27 49 IAMs_20 IAMs_20 19 04 46.0
comp=Z,2μm,19.0s
SOKA Soboth 103.29 328 *e*PKKP **PKKPbc** 18 30 19.1 -0.2
comp=Z,1.2nm,0.7s
BIOA Bad Ischl, Aus 103.30 329 *e*PKKP **PKKPbc** 18 30 18.3 -0.9
comp=Z,1.7nm,0.6s
SCHQ Schefferville 103.41 19 Pdiff **Pdif** 18 14 23.2 -0.5
comp=Z,9.1nm,0.9s,baz=14,slow=5.7,SNR=5.7
P43A Skaggs, Pawnee 103.54 41 IAMs_20 IAMs_20 18 54 10.2
comp=Z,2μm,22.0s
OBKA Obir 103.65 328 *e*PKKP **PKKPbc** 18 30 18.7 +0.5
KVTX Kingsville 103.80 55 IAMs_20 IAMs_20 19 06 15.7
comp=Z,2μm,18.0s
EKA Eskdalemuir Ar 103.82 343 PKKPbc PKKPbc 18 30 16.3 -1.6
comp=Z,2.8nm,0.8s,baz=236,slow=3.7,SNR=3.5
TNS Taunus Mts 103.84 334 *e*L L 19 05 30.9
comp=Z,2μm,21.0s
ESK Eskdalemuir 103.84 343 IAMs_20 IAMs_20 19 05 33.9
comp=Z,3μm,21.0s
KBA Koelnbreinsper 103.86 329 *e*PKKP **PKKPbc** 18 30 17.7 0.0
comp=Z,0.4nm,0.4s
LESA Schwarzleotal 103.95 330 *e*PKKP **PKKPbc** 18 30 16.3 -1.1
comp=Z,1.1nm,0.4s
MYKA Terra Mystica 104.03 329 *e*PKKP **PKKPbc** 18 30 17.2 +0.1
comp=Z,1.5nm,0.4s
FUR Furstenfeldbru 104.09 331 *e*L L 19 03 39.5
comp=Z,3μm,20.5s
NATX Nacogdoches 104.26 50 IAMs_20 IAMs_20 19 04 09.3
comp=Z,2μm,19.0s
HKT Hockley 104.27 52 IAMs_20 IAMs_20 18 58 40.5
comp=Z,2μm,19.0s
Q44A Meyer Farm, Va 104.29 42 IAMs_20 IAMs_20 18 59 50.0
comp=Z,2μm,22.0s
ABTA Abfaltersbach 104.50 329 *i* PKKP **PKKPbc** 18 30 15.5 -0.2
comp=Z,0.9nm,0.5s
WATA Walderalm 104.54 330 *e*PKKP **PKKPbc** 18 30 16.5 +0.8
comp=Z,4.4nm,1.4s
WTTA Wattenberg 104.56 330 *e*PKKP **PKKPbc** 18 30 15.6 0.0
comp=Z,4.4nm,0.9s
I49A Point Hope 104.81 34 IAMs_20 IAMs_20 19 00 37.2
comp=Z,2μm,20.0s
S44A Carbondale 104.83 43 IAMs_20 IAMs_20 19 08 00.6
comp=Z,2μm,18.0s
WLF Walferdange 105.23 334 IAMs_20 IAMs_20 19 11 33.9
comp=Z,2μm,20.0s
BFO Black Forest 105.31 332 *e*L L 19 06 18.9
comp=Z,3μm,19.3s
DAVA Damuels 105.38 331 *e*PKKP **PKKPbc** 18 30 13.0 -0.1
comp=Z,5.7nm,0.9s
T45A Paducah 105.62 43 IAMs_20 IAMs_20 19 08 44.4
comp=Z,2μm,19.0s
SCTE Santa Cesarea 105.65 321 IAMs_20 IAMs_20 19 08 57.5
comp=Z,2μm,20.0s
441A DeRidder 105.85 51 IAMs_20 IAMs_20 18 57 54.6
comp=Z,2μm,20.0s
ECH Echery 105.91 333 IAMs_20 IAMs_20 19 05 52.7
comp=Z,2μm,19.0s
P48A Milroy 106.19 39 IAMs_20 IAMs_20 18 56 39.0
comp=Z,3μm,22.0s
UNM Universidad Na 106.31 64 IAMs_20 IAMs_20 18 52 41.2
comp=Z,2μm,20.0s
WCI Wyandotte Cave 106.40 41 IAMs_20 IAMs_20 18 56 24.0
comp=Z,2μm,22.0s
QSPA South Pole Qui 106.45 180 IAMs_20 IAMs_20 19 02 25.7

	comp=Z,2µm,19.0s								
QSPA	**South Pole Qui**	**106.45**	**180**	Pdiff		**Pdif**	**18 14 37.4**	**+0.5**	
	comp=Z,5.4nm,1.0s,baz=315,slow=1.2,SNR=9.8								
QSPA				PP		**PP**	**18 19 02.3**	**+0.3**	
	comp=Z,12nm,0.9s,baz=30,slow=4.4,SNR=7.5								
QSPA				PKKPbc		**PKKPbc**	**18 30 08.7**	**-2.4**	
	comp=Z,0.7nm,0.5s,baz=289,slow=1.5,SNR=11								
OXF	**Oxford**	**106.53**	**45**	IAMs_20	IAMs_20		19 07 49.9		
	comp=Z,2µm,18.0s								
DSB	**Dublin**	**106.56**	**343**	IAMs_20	IAMs_20		19 03 07.6		
	comp=Z,2µm,22.0s								
T47A	**Sharon Grove**	**106.63**	**42**	IAMs_20	IAMs_20		19 01 14.2		
	comp=Z,2µm,22.0s								
Y45A	**Yeager Farm, C**	**106.80**	**46**	IAMs_20	IAMs_20		18 59 24.1		
	comp=Z,2µm,20.0s								
R49A	**Shelbyville**	**107.06**	**40**	IAMs_20	IAMs_20		18 56 43.4		
	comp=Z,3µm,22.0s								
PLAL	**Pickwick Lake**	**107.17**	**44**	IAMs_20	IAMs_20		19 01 29.6		
	comp=Z,2µm,21.0s								
CUC	**Castrocucco**	**107.28**	**322**	IAMs_20	IAMs_20		19 08 40.4		
	comp=Z,2µm,19.0s								
V48A	**Smith Brothers**	**107.56**	**43**	IAMs_20	IAMs_20		19 02 36.8		
	comp=Z,2µm,22.0s								
U49A	**Red Boiling Sp**	**107.77**	**42**	IAMs_20	IAMs_20		19 03 36.3		
	comp=Z,2µm,20.0s								
146A	**Union**	**107.82**	**47**	IAMs_20	IAMs_20		18 56 51.3		
	comp=Z,3µm,22.0s								
T50A	**Nancy**	**108.06**	**41**	IAMs_20	IAMs_20		18 57 24.7		
	comp=Z,3µm,22.0s								
X48A	**Hartselle**	**108.17**	**44**	IAMs_20	IAMs_20		19 02 21.1		
	comp=Z,2µm,20.0s								
Z47A	**Carrollton**	**108.19**	**46**	IAMs_20	IAMs_20		18 57 43.0		
	comp=Z,2µm,21.0s								
CEL	**Celeste**	**108.34**	**321**	IAMs_20	IAMs_20		19 07 18.8		
	comp=Z,3µm,22.0s								
LONY	**Lake Ozonia**	**108.53**	**30**	IAMs_20	IAMs_20		19 00 46.9		
	comp=Z,2µm,22.0s								
W50A	**Signal Mountai**	**108.86**	**43**	IAMs_20	IAMs_20		18 59 47.4		
	comp=Z,2µm,22.0s								
Y49A	**Blount Mountai**	**108.94**	**44**	IAMs_20	IAMs_20		19 02 54.5		
	comp=Z,3µm,20.0s								
LRAL	**Lakeview Retre**	**109.02**	**45**	IAMs_20	IAMs_20		19 09 42.8		
	comp=Z,2µm,18.0s								
E62A	**Clayton Lake**	**109.21**	**25**	IAMs_20	IAMs_20		19 02 54.5		
	comp=Z,2µm,21.0s								
SSB	**Saint Sauveur**	**109.32**	**332**	IAMs_20	IAMs_20		19 12 04.9		
	comp=Z,2µm,19.0s								
J59A	**Piesco**	**109.43**	**30**	IAMs_20	IAMs_20		19 03 57.8		
	comp=Z,2µm,20.0s								
X51A	**Calhoun**	**109.55**	**43**	IAMs_20	IAMs_20		18 58 32.5		
	comp=Z,2µm,22.0s								
TKL	**Tuckaleechee C**	**109.57**	**42**	PKiKP	**PKiKP**		**18 18 53.6**	**-0.8**	
	comp=Z,5.0nm,0.5s,baz=270,slow=1.0,SNR=11								
VT1	**Waterbury**	**109.60**	**29**	IAMs_20	IAMs_20		19 02 14.5		
	comp=Z,2µm,21.0s								
SSPA	**Standing Stone**	**109.74**	**34**	IAMs_20	IAMs_20		19 01 32.6		
	comp=Z,3µm,22.0s								
W52A	**Murphy**	**109.83**	**42**	IAMs_20	IAMs_20		19 04 35.8		
	comp=Z,2µm,20.0s								
G62A	**West of Eustis**	**109.91**	**27**	IAMs_20	IAMs_20		19 05 12.0		
	comp=Z,2µm,21.0s								
LBNH	**Lisbon**	**110.05**	**28**	IAMs_20	IAMs_20		19 10 37.1		
	comp=Z,2µm,20.0s								
250A	**Grady**	**110.14**	**46**	IAMs_20	IAMs_20		19 08 30.5		
	comp=Z,2µm,19.0s								
V53A	**Saluda**	**110.18**	**41**	IAMs_20	IAMs_20		19 02 25.9		
	comp=Z,2µm,20.0s								
U54A	**Nelsons Funny**	**110.25**	**40**	IAMs_20	IAMs_20		18 59 08.6		
	comp=Z,2µm,22.0s								
HNH	**Hanover**	**110.30**	**29**	IAMs_20	IAMs_20		19 05 59.7		
	comp=Z,2µm,20.0s								
F64A	**Sherman**	**110.31**	**25**	IAMs_20	IAMs_20		19 09 10.4		
	comp=Z,1µm,20.0s								
PKME	**Peaks-Kenny Pk**	**110.40**	**26**	IAMs_20	IAMs_20		19 08 22.0		
	comp=Z,2µm,20.0s								
J61A	**Chester**	**110.45**	**29**	IAMs_20	IAMs_20		19 00 22.7		
	comp=Z,2µm,22.0s								
Y52A	**Lilburn**	**110.50**	**43**	IAMs_20	IAMs_20		18 59 11.6		
	comp=Z,2µm,22.0s								
I62A	**Tamworth**	**110.60**	**28**	IAMs_20	IAMs_20		19 02 53.7		
	comp=Z,2µm,21.0s								
152A	**Waverly Hall**	**110.78**	**45**	IAMs_20	IAMs_20		19 02 47.4		
	comp=Z,2µm,22.0s								
WVL	**Waterville**	**110.80**	**27**	IAMs_20	IAMs_20		19 08 22.7		
	comp=Z,2µm,20.0s								
I63A	**Otisfield**	**110.81**	**28**	IAMs_20	IAMs_20		19 04 47.9		
	comp=Z,2µm,21.0s								
V55A	**Taylorsville**	**111.05**	**40**	IAMs_20	IAMs_20		18 59 44.0		
	comp=Z,2µm,22.0s								
L61B	**Northampton**	**111.08**	**30**	IAMs_20	IAMs_20		19 05 36.3		
	comp=Z,2µm,20.0s								
GOGA	**Godfrey**	**111.17**	**43**	IAMs_20	IAMs_20		19 02 17.4		
	comp=Z,2µm,21.0s								
G65A	**Princeton**	**111.17**	**25**	IAMs_20	IAMs_20		19 03 04.2		
	comp=Z,2µm,21.0s								
VSL	**Villasalto**	**111.25**	**326**	IAMs_20	IAMs_20		19 10 13.4		
	comp=Z,2µm,18.0s								
352A	**Blakely**	**111.35**	**46**	IAMs_20	IAMs_20		19 02 35.4		
	comp=Z,2µm,21.0s								
SYO	**Syowa Base**	**111.42**	**202**	⇑PP	**PP**		**18 19 40.4**	**+2.5**	
HRV	**Adam Dziewonsk**	**111.56**	**29**	IAMs_20	IAMs_20		19 06 37.2		
	comp=Z,2µm,20.0s								
EMMW	**East Machias**	**111.61**	**25**	IAMs_20	IAMs_20		19 09 59.0		
	comp=Z,2µm,19.0s								
WES	**Weston**	**111.77**	**29**	IAMs_20	IAMs_20		19 11 53.6		
	comp=Z,2µm,20.0s								
154A	**Montrose**	**111.89**	**44**	IAMs_20	IAMs_20		19 05 10.7		
	comp=Z,2µm,20.0s								
TIGA	**Tifton**	**112.29**	**45**	IAMs_20	IAMs_20		19 11 08.4		
	comp=Z,2µm,18.0s								
L64A	**Middleborough**	**112.34**	**29**	IAMs_20	IAMs_20		19 12 18.8		
	comp=Z,2µm,19.0s								
Y57A	**Sumter**	**112.76**	**41**	IAMs_20	IAMs_20		19 00 11.3		
	comp=Z,2µm,21.0s								
Y58A	**Scranton**	**113.29**	**41**	IAMs_20	IAMs_20		19 00 27.2		
	comp=Z,2µm,22.0s								
NHSC	**New Hope**	**113.49**	**42**	IAMs_20	IAMs_20		19 00 43.6		
	comp=Z,2µm,22.0s								
257A	**Skidaway Islan**	**113.67**	**43**	IAMs_20	IAMs_20		19 08 07.6		
	comp=Z,2µm,20.0s								
656A	**Willston**	**114.27**	**46**	IAMs_20	IAMs_20		19 01 13.9		
	comp=Z,2µm,21.0s								
TEIG	**Tepich**	**115.02**	**58**	IAMs_20	IAMs_20		19 01 23.2		
	comp=Z,2µm,22.0s								
DWPF	**Disney Wildern**	**115.80**	**47**	IAMs_20	IAMs_20		19 04 17.6		
	comp=Z,2µm,21.0s								
PGAV	**Gavieira, Arco**	**117.17**	**339**	*e*SS	SS		18 36 37.7	+14	
PGAV				*e*LR	LR		18 57 38.7		
PGAV				*i* IAMs_20	IAMs_20		19 16 57.0		
	comp=Z,1µm,18.0s								
MVO	**Moncorvo**	**117.44**	**338**	*e*SS	SS		18 36 37.0	+10	
MVO				*e*LR	LR		18 57 00.6		
MVO				*i* IAMs_20	IAMs_20		19 17 24.3		
	comp=Z,2µm,18.0s								
ESDC	**Sonseca Array**	**117.53**	**335**	PKP		**PKPdf**	**18 19 07.4**	**-2.2**	
	comp=Z,0.5nm,0.4s,baz=28,slow=2.3,SNR=3.2								
ESDC				PP		**PP**	**18 20 17.0**	**-3.8**	
	comp=Z,1.2nm,0.8s,baz=29,slow=5.9,SNR=4.3								
ESDC				PKKPbc		**PKKPbc**	**18 29 31.3**	**-1.6**	
	comp=Z,2.5nm,0.9s,baz=250,slow=5.3,SNR=5.3								
PAB	**San Pablo**	**117.80**	**335**	IAMs_20	IAMs_20		19 13 59.4		
	comp=Z,2µm,20.0s								
CART	**Cartagena**	**117.96**	**331**	IAMs_20	IAMs_20		19 13 21.5		
	comp=Z,2µm,21.0s								
MTE	**Manteigas**	**118.30**	**338**	IAMs_20	IAMs_20		19 12 31.5		
	comp=Z,2µm,21.0s								
MTE	**Manteigas**	**118.30**	**338**	*e*LR	LR		18 59 03.3		
MTE				*i* IAMs_20	IAMs_20		19 12 40.1		
	comp=Z,2µm,20.0s								
BELA	**Belgrano 2**	**118.73**	**180**			**PKPdf**	**18 19 10.3**	**-0.3**	
PMRV	**Marv??o**	**119.09**	**337**	*e*LR	LR		18 58 48.6		
PMRV				*i* IAMs_20	IAMs_20		19 12 34.1		
	comp=Z,2µm,22.0s								
LSZ	**Lusaka**	**120.78**	**262**	P		**PKiKP**	**18 19 17.5**	**+0.9**	
PVAQ	**Vaqueiros**	**120.98**	**336**	*e*LR	LR		18 59 39.4		
PVAQ				*i* IAMs_20	IAMs_20		19 16 34.1		
	comp=Z,2µm,20.0s								
PAYG	**Puerto Ayora**	**122.00**	**80**	IAMs_20	IAMs_20		19 11 59.2		
	comp=Z,2µm,20.0s								
SNAA	**Sanae**	**122.03**	**191**	⇑P		**PKPdf**	**18 19 16.7**	**-0.5**	
	comp=Z,135nm,0.6s								
SNAA	**Sanae**	**122.03**	**191**	IAMs_20	IAMs_20		19 12 50.2		
	comp=Z,2µm,20.0s								
SNAA	**Sanae**	**122.03**	**191**	PKP		**PKPdf**	**18 19 16.2**	**-1.0**	
	comp=Z,4.0nm,0.6s,baz=180,slow=1.0,SNR=13								
BROLN	**Tlhalogang**	**122.45**	**255**	*i* P		**PKiKP**	**18 19 20.1**	**+0.4**	
BBSR	**BB Station**	**122.90**	**31**	IAMs_20	IAMs_20		19 08 47.5		
	comp=Z,1µm,22.0s								
VNA2	**Neumayer--Watz**	**123.46**	**190**	⇑P		**PKiKP**	**18 19 20.3**	**+0.2**	
	comp=Z,31nm,0.8s,baz=66,slow=1.3								
HDC	**Heredia**	**123.47**	**66**	*e*P		**PKPdf**	**18 19 18.5**	**-3.2**	
VNA3	**Neumayer Olymp**	**123.55**	**189**	⇑P		**PKPdf**	**18 19 20.2**	**+0.1**	
	comp=Z,20nm,0.8s								
VNA1	**Neumayer--Stat**	**123.85**	**190**	⇑P		**PKiKP**	**18 19 21.1**	**+0.3**	
	comp=Z,18nm,0.8s								
BOSA	**Boshof**	**124.84**	**246**	PKP		**PKPdf**	**18 19 22.6**	**-1.3**	
	comp=Z,3.9nm,0.8s,baz=63,slow=2.3,SNR=5.4								
GTBY	**Guantanamo Bay**	**125.39**	**50**	IAMs_20	IAMs_20		19 17 32.0		
	comp=Z,2µm,19.0s								
CKGRV	**CKGRV**	**125.79**	**255**	*i* P		**PKiKP**	**18 19 27.1**	**+0.8**	
SKOMA	**Sekoma**	**125.88**	**252**	*i* P		**PKiKP**	**18 19 27.0**	**+0.6**	
GRTK	**Grand Turk**	**127.18**	**45**	IAMs_20	IAMs_20		19 22 49.8		
	comp=Z,1µm,20.0s								
PMSA	**Palmer Station**	**127.68**	**164**	*e*P		**PKPdf**	**18 19 27.0**	**-1.0**	
LKGWB	**Lokgwabe**	**128.33**	**252**	*i* P		**PKPdf**	**18 19 30.7**	**0.0**	
PMOZ	**Porto Moniz, M**	**128.38**	**342**	*e*LR	LR		19 08 00.1		
PMOZ				*i* IAMs_20	IAMs_20		19 18 46.5		
	comp=Z,1µm,20.0s								
APAC	**Apartado, Choc**	**131.00**	**63**	P		PKPdf	18 19 26.1	-10	
	comp=Z,862nmcomp=Z,41nm,1.6s								
SJCC	**San Jacinto, C**	**131.16**	**60**	P		**PKPdf**	**18 19 36.7**	**+0.4**	
	comp=Z,880nmcomp=Z,70nm,1.4s								
UREC	**San Jos de Ur**	**131.97**	**63**	P		**PKPdf**	**18 19 38.1**	**+0.3**	
	comp=Z,3µmcomp=Z,21nm,1.6s								
OTAV	**Otavalo**	**132.73**	**74**	IAMs_20	IAMs_20		19 11 36.2		
	comp=Z,1µm,21.0s								
OTAV	**Otavalo**	**132.73**	**74**	*e*P		**PKPdf**	**18 19 36.2**	**-3.6**	
SJG	**San Juan**	**132.90**	**44**	IAMs_20	IAMs_20		19 20 47.3		
	comp=Z,2µm,21.0s								
MCRA	**Macar, Loja**	**132.95**	**80**	P		**PKiKP**	**18 19 40.5**	**-0.4**	
	comp=Z,587nmcomp=Z,18nm,1.1s								
YOTC	**Yotoco, Valle**	**133.06**	**68**	P		**PKPdf**	**18 19 39.7**	**-0.3**	
	comp=Z,790nmcomp=Z,38nm,1.7s								
JAMC	**Jamundi, Valle**	**133.12**	**69**	P		**PKiKP**	**18 19 42.5**	**+1.1**	
POPC	**Popayan, Colom**	**133.41**	**70**	P		**PKiKP**	**18 19 42.6**	**+0.6**	
	comp=Z,702nmcomp=Z,52nm,1.9s								
TORD	**Torodi Ar. Bea**	**134.26**	**308**	PKP		**PKPdf**	**18 19 41.0**	**-1.0**	
	comp=Z,2.8nm,0.9s,baz=38,slow=2.0,SNR=7.7								
TORD				SKPbc		**SKPbc**	**18 23 07.2**	**-1.1**	
	comp=Z,9.6nm,1.2s,baz=23,slow=4.0,SNR=6.3								
TORD				SKKPbc		**SKKPbc**	**18 32 14.4**	**-3.4**	
	comp=Z,3.1nm,0.8s,baz=260,slow=2.9,SNR=4.8								
ROSC	**El Rosal**	**134.45**	**66**	PKP		**PKPdf**	**18 19 42.9**	**-0.1**	
	comp=Z,19nm,0.7s,baz=310,slow=5.2,SNR=5.0								
ROSC				SKPbc		**SKPab**	**18 23 13.4**	**+0.7**	
	comp=Z,7.8nm,0.5s,baz=14,slow=5.9,SNR=5.4								
ATAH	**Atahualpa**	**135.26**	**83**	SKPbc		**SKPab**	**18 23 16.0**	**-0.2**	
	comp=Z,47nm,1.0s,baz=318,slow=6.1,SNR=18								
SDV	**Santo Domingo**	**135.45**	**58**	IAMs_20	IAMs_20		19 24 08.8		
	comp=Z,2µm,21.0s								
SDV	**Santo Domingo**	**135.45**	**58**	*e*P		**PKPdf**	**18 19 40.9**	**-3.7**	
H03S2	**Juan Fernandez**	**135.95**	**122**	T	T		20 50 59.1		
	baz=258,slow=75,SNR=10								
H03S1	**Juan Fernandez**	**135.97**	**122**	T	T		20 51 00.2		
	baz=258,slow=75,SNR=13								
H03S3	**Juan Fernandez**	**135.97**	**122**	T	T		20 50 58.4		
	baz=258,slow=75,SNR=14								
BAUV	**El Baul**	**137.50**	**56**			**PKPdf**	**18 19 48.7**	**+0.6**	
NNA	**Nana**	**137.91**	**90**	IAMs_20	IAMs_20		19 17 56.2		
	comp=Z,1µm,18.0s								
NNA	**Nana**	**137.91**	**90**	PKP		**PKPdf**	**18 19 48.3**	**-0.6**	
	comp=Z,17nm,0.8s,baz=313,slow=3.0,SNR=5.5								
NNA				SKPbc		**SKiKP**	**18 23 23.5**	**-0.2**	
	comp=Z,14nm,0.8s,baz=286,slow=4.1,SNR=7.4								
PLCA	**Paso Flores**	**140.10**	**135**	PKhKP	PKPpre		18 19 47.5		
	comp=Z,4.3nm,0.7s,baz=259,slow=2.7,SNR=9.3								
PLCA				SKPbc		**SKiKP**	**18 23 28.2**	**+0.7**	
	comp=Z,20nm,1.0s,baz=250,slow=3.7,SNR=8.1								
PLCA	**Paso Flores**	**140.10**	**135**	*e*P		**PKPdf**	**18 19 50.0**	**-2.2**	
GRGR	**Grenville**	**140.18**	**46**	IAMs_20	IAMs_20		19 19 37.3		
	comp=Z,2µm,22.0s								
CZSB	**Cruzeiro do Su**	**140.84**	**82**	*e*P		**PKPdf**	**18 19 52.8**	**-1.4**	
BI02	**San Fabin de**	**141.20**	**128**			PKPpre	18 19 49.5		
ML02	**Panimavida**	**141.40**	**127**			**PKPdf**	**18 19 50.8**	**-3.8**	
TBTG	**Tabatinga, AM**	**142.30**	**75**	*e*P		**PKPdf**	**18 19 55.4**	**-1.5**	
ROC1	**El Roble**	**142.58**	**123**	*e*P		**PKPdf**	**18 19 51.4**	**-5.8**	
PEL	**Peldehue**	**142.80**	**123**	*e*P		**PKPdf**	**18 19 49.8**	**-7.5**	
VA03	**San Esteban**	**143.01**	**123**	*e*P		PKPbc	18 19 54.0	-0.5	
DBIC	**Dimbokro**	**143.33**	**307**	PKhKP		PKPpre	18 19 53.9		
	comp=Z,12nm,0.8s,baz=92,slow=3.6,SNR=14								
AUSP	**Uspallata**	**144.11**	**122**	*e*P		**PKPdf**	**18 20 00.3**	**+0.4**	
ARCO	**CERRO ARCO**	**144.29**	**123**	*e*P		**PKPdf**	**18 20 00.4**	**+0.4**	
AAGR	**Agrelo**	**144.30**	**124**	*e*P		**PKPdf**	**18 20 00.5**	**+0.5**	
RTLS	**Leoncito**	**144.31**	**122**	*e*P		**PKPdf**	**18 20 00.5**	**+0.2**	
AC01	**Pan de Azucar**	**144.38**	**112**			**PKPdf**	**18 20 01.1**	**+0.9**	
ASAL	**Salagasta**	**144.45**	**123**	*e*P		**PKPdf**	**18 20 00.6**	**+0.4**	
GO03	**Copiapo**	**144.48**	**114**	*e*P		**PKPdf**	**18 20 00.5**	**+0.1**	
AROD	**Rodeo**	**144.59**	**119**	*e*P		**PKPdf**	**18 20 01.9**	**+1.1**	
ACCO	**Cerro Coronel**	**144.83**	**120**	*e*P		**PKPdf**	**18 20 02.1**	**+0.9**	
ZON	**Zonda**	**144.88**	**121**	*e*P		PKPbc	18 20 00.6	+0.4	
ACDV	**Cuesta del Vie**	**144.89**	**119**	*e*P		**PKPdf**	**18 20 02.7**	**+1.5**	
SJA	**San Juan**	**144.99**	**121**	*e*P		**PKPdf**	**18 20 01.2**	**+0.1**	
RTLL	**Cerro Villicun**	**145.11**	**121**	*e*P		**PKPdf**	**18 20 02.3**	**+0.9**	
GO02	**Mina Guanaco**	**145.41**	**110**	*e*P		**PKPab**	**18 20 04.0**	**+1.4**	
AC02	**Paticunga**	**145.58**	**113**	*e*P		**PKPab**	**18 20 04.0**	**+1.6**	
AGUA	**GUANDACOL**	**145.59**	**118**	*e*P		**PKiKP**	**18 20 04.6**	**-1.7**	
VCA	**Vinchina**	**146.00**	**117**	*e*P		**PKPab**	**18 20 04.4**	**-0.1**	
AVFE	**Valle Fertil**	**146.14**	**121**	*e*P		**PKPab**	**18 20 05.2**	**+0.4**	
ACHE	**Chepes**	**146.64**	**122**	*e*P		**PKPab**	**18 20 06.4**	**-0.5**	
TEFE	**Tefe**	**146.86**	**70**	*e*P		**PKPdf**	**18 20 03.4**	**-1.4**	
ACLC	**CERRO LA CRUZ**	**146.90**	**119**	*e*P		**PKPbc**	**18 20 06.3**	**-0.3**	
LPAZ	**La Paz**	**146.91**	**94**	PKPbc		**PKPbc**	**18 20 07.4**	**0.0**	
	comp=Z,222nm,0.9s,baz=294,slow=1.8,SNR=160								
LPAZ	**La Paz**	**146.91**	**94**	*e*P		**PKPdf**	**18 20 03.6**	**-1.9**	
APLL	**PUNTA DE LOS L**	**146.99**	**120**	*e*P		**PKPbc**	**18 20 06.4**	**-0.2**	
AANI	**Anillaco**	**147.07**	**118**	*e*P		**PKPab**	**18 20 08.9**	**+0.3**	
TRQA	**Tornquist**	**147.19**	**136**	IAMs_20	IAMs_20		19 34 21.0		
	comp=Z,1µm,21.0s								
BOAV	**Boa Vista**	**147.38**	**57**	*e*P		**PKPdf**	**18 20 03.9**	**-1.7**	
CYA	**Choya**	**148.13**	**117**	*e*P		**PKPdf**	**18 20 07.3**	**+0.8**	
SALTA		**148.47**	**109**	*e*P		**PKPbc**	**18 20 10.1**	**-1.3**	
FSA	**Cafayete**	**148.49**	**113**	*e*P		**PKPdf**	**18 20 08.8**	**+1.5**	
AHML	**Horco Molle**	**148.92**	**114**	*e*P		**PKPdf**	**18 20 09.5**	**+1.7**	
AZAP	**Zapla**	**149.62**	**110**	*e*P		**PKPdf**	**18 20 11.2**	**+1.9**	
SAML	**Samuel**	**150.19**	**79**	IAMs_20	IAMs_20		19 27 03.4		
	comp=Z,1µm,21.0s								
SAML	**Samuel**	**150.19**	**79**	*e*P		**PKPdf**	**18 20 08.8**	**-1.3**	
MDP	**Montagnes des**	**151.36**	**43**	PKP		**PKPdf**	**18 20 13.1**	**+1.1**	
	comp=Z,32nm,0.9s,baz=323,slow=3.2,SNR=11								
MDP				PKPbc		**PKiKP**	**18 20 19.5**	**+1.0**	
	comp=Z,213nm,1.0s,baz=309,slow=3.3,SNR=38								
SIV	**San Ignacio**	**153.64**	**93**	PKP		**PKPdf**	**18 20 13.8**	**-1.5**	
	comp=Z,7.4nm,0.9s,baz=262,slow=7.1,SNR=5.3								
VILB	**Vilhena**	**154.04**	**85**	*e*P		**PKPdf**	**18 20 14.5**	**-1.3**	
ITTB	**Itaituba**	**155.10**	**63**	*e*P		**PKPdf**	**18 20 15.6**	**-1.8**	
CPUP	**Villa Florida**	**155.94**	**118**	PKP		**PKPdf**	**18 20 18.7**	**+0.6**	
	comp=Z,3.9nm,0.9s,baz=226,slow=1.3,SNR=13								
CPUP				PKPab		**PKPab**	**18 20 45.8**	**+0.5**	
	comp=Z,16nm,0.9s,baz=104,slow=3.2,SNR=19								
NPGB	**Novo Progresso**	**156.70**	**68**	*e*P		**PKPdf**	**18 20 17.9**	**-1.7**	
MURT	**Porto Murtinho**	**156.79**	**106**	*e*P		**PKPdf**	**18 20 17.3**	**-2.1**	
PDRB	**Porto dos Gac**	**157.04**	**80**	*e*P		**PKPdf**	**18 20 17.4**	**-2.5**	
SJPY	**San Joaquin**	**157.41**	**115**	*e*P		**PKPdf**	**18 20 18.9**	**-1.3**	
CLDB	**Colider**	**157.71**	**78**	*e*P		**PKPdf**	**18 20 19.0**	**-1.8**	
AQDB	**Aquidauana**	**158.71**	**104**	*e*P		**PKPdf**	**18 20 20.4**	**-1.4**	
SALV	**Santo Antonio**	**158.78**	**91**	*e*P		**PKPdf**	**18 20 18.8**	**-3.1**	
TMAB	**Tom-Au,PA,Br**	**159.90**	**47**	*e*P		**PKPdf**	**18 20 21.4**	**-2.0**	
RPRD	**Ribas do Rio P**	**160.57**	**104**	*e*P		**PKPdf**	**18 20 22.2**	**-1.8**	
PRPB	**Parauapebas**	**161.03**	**59**	*e*P		**PKPdf**	**18 20 23.1**	**-1.6**	
SNDB	**Serra Nova Dou**	**162.25**	**77**	*e*P		**PKPdf**	**18 20 24.2**	**-1.7**	
ARAG	**Araguaiana, MT**	**162.49**	**90**	*e*P		**PKPdf**	**18 20 24.7**	**-1.3**	
SMTB	**Santa Maria do**	**164.34**	**62**	*e*P		**PKPdf**	**18 20 26.6**	**-1.3**	
RCLB	**Rio Claro- Sao**	**165.67**	**116**	*e*P		**PKPdf**	**18 20 26.3**	**-2.6**	
IPMB	**Ipameri, GO**	**165.99**	**98**	*e*P		**PKPdf**	**18 20 27.0**	**-2.2**	
BDFB	**Brasilia**	**166.12**	**88**	PKP		**PKPdf**	**18 20 29.5**	**0.0**	
	comp=Z,31nm,0.9s,baz=236,slow=3.6,SNR=29								
NBCL	**Cascavel-CE**	**166.84**	**21**	*e*P		**PKPdf**	**18 20 26.9**	**-3.0**	
PARB	**Paraibuna**	**166.89**	**123**	*e*P		**PKPdf**	**18 20 27.7**	**-2.1**	
PMNB	**Patos De Minas**	**167.62**	**101**	*e*P		**PKPdf**	**18 20 27.4**	**-3.1**	
SDBA	**SAO DESIDERIO**	**168.29**	**70**	*e*P		**PKPdf**	**18 20 28.0**	**-2.9**	
BSCB	**Bom Sucesso**	**168.57**	**114**	*e*P		**PKPdf**	**18 20 28.1**	**-3.0**	
JANB	**Januaria**	**169.58**	**83**	*e*P		**PKPdf**	**18 20 29.3**	**-2.5**	
SJMB	**Sao Joao De Ma**	**172.49**	**107**	*e*P		**PKPdf**	**18 20 33.6**	**+0.4**	
GUA01	**Guaratinga, BA**	**174.06**	**90**	*e*P		**PKPdf**	**18 20 34.7**	**+0.9**	
CMC01	**Camacan, BA**	**174.18**	**78**	*e*P		**PKPdf**	**18 20 31.4**	**-2.5**	

JMA 18 18:02:44.1±0.1, 32°0N±0°1×129°8E±0°2, h13km±1km, MV0.8/24, W OFF AMAKUSA ISLAND, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.36**	**197**	*e*P	Pg	18 02 50.9	-0.5
JSJ				S	Sg	18 02 55.8	-0.4
JHD	**Hondo**	**0.51**	**29**	P	Pg	18 02 54.1	0.0
JHD				S	Sg	18 03 01.1	+0.3
JZO	**Okuchi**	**0.65**	**79**	*e*S	Sg	18 03 05.5	0.0

*BER **18** 18:04:48.4±1.3, 67°.60N×20°.55E, h0km, ML1.1, Suspected explosion*
*HEL **18** 18:04:48.3±0.0, 67°.84N×20°.19E, h1km, ML1.1, ML1.8(UPP), ML1.1(BER), Confirmed Induced event*
UPP 18 18:04:47.6±0.0, 67°.84N×20°.21E, h0km, ML1.8, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**22**	P	Pg	18 04 50.3	+0.3
KUA				S	Sg	18 04 52.0	+0.3
KUA	**K

GMN IAML 18 28 28.6
comp=N,126nm,0.5s
TPNV Topopah Spring 1.56 56 Pn 18 28 10.3 -0.8
TPNV IAML 18 28 36.0
comp=N,173nm,0.6s
TPNV IAML 18 28 36.5
comp=N,183nm,0.5s
MWC Mount Wilson 1.86 185 Pn 18 28 14.3 -0.8
MWC IAML 18 28 42.4
comp=E,100nm,0.4s
MTPC Mountain Pass 1.97 107 Pn 18 28 15.2 -1.5
TPH Tonopah 2.06 14 Pg 18 28 21.1 -0.4
TPH IAML 18 28 52.2
comp=N,43nm,1.0s
TPH IAML 18 28 59.7
comp=E,44nm,1.0s
SHPR Sheep Range 2.23 78 Pn 18 28 20.0 -0.1
LHV Little Huntoon 2.23 347 Pn 18 28 20.7 +0.7
LHV IAML 18 29 06.1
comp=N,42nm,0.7s
LHV IAML 18 29 12.0
comp=E,61nm,0.9s
NVAR Mina Array Bea 2.37 352 Pn 18 28 22.1 -0.1
PMPB Monarch Peak 2.38 274 Pn 18 28 23.5 +1.3
PMPB IAML 18 29 01.6
comp=E,80nm,1.0s
ELS Elsinore Mount 2.45 171 Pn 18 28 23.0 -0.2
V12A Nelson 2.47 97 Pn 18 28 22.4 -1.1
BELC Belle Mtn. Jos 2.58 143 Pn 18 28 24.1 -0.9
BELC IAML 18 29 13.1
comp=N,34nm,0.7s
BELC IAML 18 29 13.8
comp=E,29nm,1.4s
RYN Ryan 2.60 349 Pn 18 28 25.6 +0.4
BBGB Big Mountain B 2.61 282 Pn 18 28 25.2 -0.1
PRN Pahroc Range 2.62 59 Pn 18 28 25.3 -0.3
PRN IAML 18 29 13.7
comp=E,66nm,1.0s
PRN IAML 18 29 18.9
comp=N,74nm,0.7s
PMD Palm Desert 2.72 153 Pn 18 28 25.5 -1.3
PFO Pinyon Flats O 2.72 154 Pn 18 28 26.0 -0.9
R11B Troy Canyon, C 2.91 38 Pn 18 28 29.8 +0.3
R11B IAML 18 29 16.1
comp=E,24nm,0.6s
IRM Iron Mountain 2.94 130 Pn 18 28 28.5 -1.3
BORC Borrego Spring 3.05 157 IAML 18 29 20.4
comp=E,21nm,0.9s
BORC IAML 18 29 21.5
comp=N,16nm,0.8s
BC3 Big Chuckawall 3.13 140 IAML 18 29 34.3
comp=E,14nm,1.5s
BC3 IAML 18 29 38.0
comp=N,18nm,1.9s
YUH Yuha Desert 3.78 154 IAML 18 30 34.4
comp=E,9.6nm,4.9s
YUH IAML 18 30 51.0
comp=N,9.3nm,4.8s
PSUT Pine Spring 4.03 51 IAML 18 29 52.9
comp=E,21nm,0.7s
PSUT IAML 18 29 56.6
comp=N,19nm,1.4s
SPR3 Spring Creek 3 4.05 43 IAML 18 29 53.4
comp=E,16nm,1.1s
SPR3 IAML 18 29 57.9
comp=N,11nm,1.1s
KNB Kanab 4.17 76 IAML 18 29 53.9
comp=E,6.6nm,2.0s
KNB IAML 18 30 09.7
comp=N,7.3nm,1.5s
U15A North Rim 4.52 84 IAML 18 30 09.2
comp=E,7.3nm,1.0s
U15A IAML 18 30 20.2
comp=N,8.6nm,3.2s
Y14A Wickenburg 4.53 117 IAML 18 30 06.3
comp=N,8.1nm,4.3s
Y14A IAML 18 30 25.6
comp=E,6.5nm,1.5s
MTPU Mount Pierson 4.95 65 IAML 18 29 43.9
comp=N,6.4nm,4.8s
MTPU IAML 18 30 21.6
comp=E,5.5nm,4.8s
ELK Elko 5.09 23 IAML 18 30 26.8
comp=E,4.8nm,0.7s
WUAZ Wupatki 5.31 94 IAML 18 29 59.5
comp=E,9.1nm,4.5s
WUAZ IAML 18 30 32.1
comp=E,6.6nm,1.7s

*IDC **18** 18:49:14.3±0.6, 16°.55N×146°.52E, h0km, mb4.0/24, mbtmp4.0/27, ML4.1/3, MS4.2/27, Error ellipse: s-maj=19.8km s-min=11.5km az=95.0*
*NEIC **18** 18:49:16.0±1.9, 16°.65N±0°.07×146°.4E±0°.1, h10km±1km, mb4.9/36, Error ellipse: s-maj=20.1km s-min=12.4km az=99.0*
*GCMT **18** 18:49:21.0±0.3, 16°.58N±0°.02×146°.54E±0°.03, h14km±2km, MW4.9/78, Moment Tensor Solution. s9,c11; s78,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.17; $M_{\theta\theta}$2.46±.15; $M_{\phi\phi}$-2.16±.13; $M_{r\theta}$-0.36±.27; $M_{\theta\phi}$-0.84±.11; $M_{\phi r}$0.35±.28; Best double couple: M_o2.50600×10^{16} NP1:ϕ235.00000°, δ79.00000°, λ-180.00000°. NP2: ϕ145.00000°, δ90.00000°, λ-11.00000°. Principal axes: T 2.6650, Plg8.0000°, Azm190.0000°; N -0.3140, Plg79.0000°, Azm325.0000°; P -2.3470, Plg8.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **18** 18:49:28.4±2.0, 16°N±4°×14°7E±°, h28km±15km, M4.8/18, mb5.0/18, mbB5.7/5, MLv4.6/1, Mw(mB)5.2/5*

ISC 18 18:49:19.4±0.5, 16.61N±0.05×146.40E±0.09, h35km, n92, σ1°49/70, mb4.5/43, MS4.1/24, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.35**	**206**	Pn	**Pn**	**18 50 08.3**	**-1.0**
	29nm,0.3s,baz=35,slow=3.7,SNR=16						
GUMO				Sn	**Sn**	**18 50 47.7**	**-0.1**
	52nm,0.3s,baz=48,slow=21,SNR=6.1						
GUMO				LR	LR	18 51 22.3	
	comp=Z,4μm,19.6s,baz=76,slow=38 193nm,0.6s						
JCJ	**Chichijima**	**11.14**	**340**	Pn	**Pn**	**18 51 53.8**	**-2.5**
MANU	**Manus Island**	**18.56**	**177**		**Pn**	**18 53 33.4**	**-0.4**
MANU				IAmb	IAmb	18 53 48.8	
	comp=Z,48nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**19.44**	**81**	T	T	19 14 32.6	
	baz=268,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**19.45**	**81**	T	T	19 14 39.6	
	baz=268,slow=75,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**19.45**	**81**	T	T	19 14 29.7	
	baz=268,slow=75,SNR=8.1						
JOW	**Kunigami**	**19.65**	**304**	P	**P**	**18 53 43.7**	**-1.6**
JOW				IAmb	IAmb	18 54 07.4	
	comp=Z,54nm,1.1s						
JOW	**Kunigami**	**19.65**	**304**	P	**Pn**	**18 53 47.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=123,slow=6.0,SNR=5.9						
JOW				LR	LR	19 00 52.2	
	comp=Z,900nm,18.5s,baz=122,slow=35 Z,7.7nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**19.71**	**78**	T	T	19 13 47.8	
	baz=264,slow=74,SNR=72						
H11N2	**WAKE ISLAND Hy**	**19.72**	**78**	T	T	19 13 48.4	
	baz=264,slow=74,SNR=28						
H11N3	**WAKE ISLAND Hy**	**19.73**	**78**	T	T	19 13 49.2	
	baz=264,slow=74,SNR=59						
JAY	**Jayapura**	**19.82**	**197**	P	**Pn**	**18 53 47.7**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=80,slow=0.3,SNR=11						
JAY				LR	LR	19 00 43.4	
	comp=Z,621nm,20.9s,baz=0.0,slow=35 Z,15nm,0.9s						
JAY	**Jayapura**	**19.82**	**197**	P	**Pn**	**18 53 49.9**	**+0.9**
	comp=Z,62nm,1.0s						
SMPI	**Sarmi**	**19.98**	**203**	P	**Pn**	**18 53 50.6**	**-0.2**
	comp=Z,46nm,1.3s						
GENI	**Genyem**	**20.05**	**198**	P	**Pn**	**18 53 51.9**	**+0.3**
	comp=Z,70nm,0.9s						
JMN	**Monobe**	**20.44**	**329**	P	**P**	**18 53 50.6**	**-3.3**
SRPI	**Serui, Papua**	**20.92**	**210**	P	Pn	18 54 03.0	+1.1
	comp=Z,33nm,0.7s						
MJAR	**Matsushiro Arr**	**21.14**	**341**	P	**P**	**18 54 00.7**	**-0.7**
MJAR	**Matsushiro Arr**	**21.14**	**341**	P	**P**	**18 54 01.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=168,slow=10,SNR=6.8						
MJAR				LR	LR	19 01 19.4	
	comp=Z,391nm,19.4s,baz=166,slow=34						
	comp=Z,0.4nm,0.5s						
MAJO	**Matsushiro**	**21.14**	**341**		**P**	**18 54 00.2**	**-1.2**
MJB9	**Matsu-Tunnel**	**21.15**	**341**	P	**P**	**18 54 00.5**	**-1.0**
RABL	**Rabaul**	**21.44**	**164**	P	**P**	**18 54 06.7**	**+1.9**
JNU	**Nakatsue**	**21.60**	**322**	P	**P**	**18 54 07.7**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=150,slow=14,SNR=1.4						
	comp=Z,0.8nm,0.7s						
WAMI	**Wamena**	**21.73**	**201**	P	**P**	**18 54 12.7**	**+4.8**
	comp=Z,8μmcomp=Z,150nm,1.1s						
SWI	**Sorong**	**22.90**	**222**	P	**P**	**18 54 25.1**	**+4.7**
	comp=Z,49nm,1.0s						
YULB	**Yu-li**	**24.51**	**290**	P	**P**	**18 54 35.2**	**-0.6**
YULB				IAmb	IAmb	18 54 51.8	
	comp=Z,40nm,1.5s						
TGY	**Tagaytay City**	**24.68**	**268**	LR	LR	19 02 22.8	
	comp=Z,530nm,20.7s,baz=93,slow=32						
SSLB	**Suanglung**	**24.90**	**291**	P	**P**	**18 54 39.1**	**-0.2**
PMG	**Port Moresby**	**25.86**	**178**	LR	LR	19 06 11.9	
	comp=Z,351nm,18.4s,baz=322,slow=39						
KSRS	**Korea Array**	**26.40**	**325**	P	**P**	**18 54 53.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=143,slow=9.2,SNR=6.3						
	comp=Z,0.2nm,0.4s						
ASAJ	**Asahikawa**	**27.61**	**354**	P	**P**	**18 55 05.1**	**+1.6**
	comp=Z,6.8nm,1.1s,baz=172,slow=8.5,SNR=6.5						
ASAJ				LR	LR	19 06 25.4	
	comp=Z,374nm,19.6s,baz=180,slow=37						
	comp=Z,6.8nm,1.1s						
HNR	**Honiara**	**29.14**	**152**	LR	LR	19 05 04.5	
	comp=Z,480nm,21.4s,baz=350,slow=33						
USRK	**Ussuriysk Ar.**	**30.09**	**339**	LR	LR	19 06 31.0	
	comp=Z,534nm,18.1s,baz=143,slow=34						
MTN	**Manton Dam**	**32.93**	**208**	P	**P**	**18 55 49.5**	**-1.3**
MTN				IAmb	IAmb	18 56 06.7	
	comp=Z,13nm,0.9s						
KLR	**Kul'dur**	**34.65**	**343**	LR	LR	19 10 49.8	
	comp=Z,411nm,19.0s,slow=37						
BATI	**Baumata**	**34.87**	**222**	LR	LR	19 09 49.3	
	comp=Z,304nm,20.9s,baz=128,slow=35						
ENH	**Enshi**	**36.32**	**299**	P	**P**	**18 56 18.9**	**-1.2**
SBUM	**Sibu**	**36.43**	**251**	P	**P**	**18 56 18.9**	**-2.3**
KNRA	**Kununurra**	**36.50**	**209**	P	**P**	**18 56 19.9**	**-1.6**
KNRA				IAmb	IAmb	18 56 31.2	
	comp=Z,9.9nm,0.7s						
PETK	**Petropavlovsk-**	**37.49**	**11**	P	**P**	**18 56 28.8**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=198,slow=9.1,SNR=2.0						
PETK				LR	LR	19 12 55.6	
	comp=Z,319nm,18.8s,baz=199,slow=38						
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**38.03**	**199**	P	**P**	**18 56 33.9**	**-0.7**
WB0				IAmb	IAmb	18 56 36.0	
	comp=Z,32nm,1.1s						
WR8	**Warramunga Arr**	**38.17**	**198**	P	**P**	**18 56 35.6**	**-0.1**
WR8				IAmb	IAmb	18 56 38.0	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**38.21**	**199**		**P**	**18 56 34.8**	**-1.2**
WRA	**Warramunga Arr**	**38.21**	**199**	P	**P**	**18 56 35.4**	**-0.7**
	comp=Z,27nm,1.1s,baz=20,slow=9.2,SNR=47						
WRA				PcP	**PcP**	**18 58 50.6**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=22,slow=3.4,SNR=1.0						
WRA				LR	LR	19 14 11.3	
	comp=Z,351nm,18.2s,baz=358,slow=39						
AS31	**Alice Springs**	**41.85**	**197**	P	**P**	**18 57 06.4**	**+0.1**
ASAR	**Alice Springs**	**41.85**	**197**	P	**P**	**18 57 05.6**	**-0.7**
ASAR	**Alice Springs**	**41.85**	**197**	P	**P**	**18 57 06.0**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=16,slow=11,SNR=58						
ASAR				LR	LR	19 14 48.0	
	comp=Z,231nm,19.2s,baz=17,slow=37						
	comp=Z,4.4nm,0.7s						
SHEM	**Shemya Is, Ala**	**42.12**	**25**	LR	LR	19 10 55.1	
	comp=Z,455nm,21.3s,baz=272,slow=31						
MA2	**Magadan**	**43.02**	**3**	P	**P**	**18 57 14.9**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=186,slow=9.2,SNR=1.9						
MA2				LR	LR	19 13 19.5	
	comp=Z,204nm,22.0s,baz=174,slow=34						
	comp=Z,6.1nm,0.7s						
DZM	**Mont Dzumac**	**43.17**	**152**	P	**P**	**18 57 14.3**	**-2.8**
DZM				IAmb	IAmb	18 57 30.3	
	comp=Z,26nm,1.1s						
DZM	**Mont Dzumac**	**43.17**	**152**	LR	LR	19 12 09.4	
	comp=Z,458nm,21.1s,baz=3.0,slow=32						
CHTO	**Chiang Mai**	**45.16**	**280**	P	**P**	**18 57 31.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**45.19**	**280**	P	**P**	**18 57 35.1**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=72,slow=6.6,SNR=12						
CMAR				LR	LR	19 17 09.8	
	comp=Z,175nm,19.2s,baz=90,slow=37						
	comp=Z,2.1nm,0.8s						
SONM	**Songino Array**	**45.19**	**322**	P	**P**	**18 57 34.8**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=140,slow=8.4,SNR=6.9						
	comp=Z,0.3nm,0.5s						
SEY	**Seymchan**	**46.46**	**4**	P	**P**	**18 57 43.4**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=221,slow=14,SNR=5.1						
SEY				LR	LR	19 20 26.2	
	comp=Z,192nm,18.0s,baz=204,slow=40						
	comp=Z,1.6nm,0.8s						
YAK	**Yakutsk**	**46.89**	**349**	P	**P**	**18 57 47.7**	**+1.7**
	comp=Z,3.3nm,0.4s,baz=260,slow=2.3,SNR=2.1						
YAK				LR	LR	19 16 35.2	
	comp=Z,190nm,20.6s,baz=162,slow=35						
	comp=Z,3.3nm,0.4s						
STKA	**Stephens Creek**	**48.43**	**185**	P	**P**	**18 57 56.8**	**-1.6**
	comp=Z,5.2nm,1.0s,baz=344,slow=9.8,SNR=4.9						
STKA				LR	LR	19 17 45.8	
	comp=Z,278nm,21.9s,baz=358,slow=35						
	comp=Z,5.2nm,1.0s						
PSI	**Prapat**	**48.62**	**259**	LR	LR	19 16 28.0	
	comp=Z,237nm,22.0s,baz=66,slow=34						
RPSI	**Rantau Prapat**	**48.65**	**259**	P	**P**	**18 58 01.5**	**+1.1**
RPSI				IAmb	IAmb	18 58 18.9	
	comp=Z,10nm,0.8s						
BRDH	**Bariadhala**	**51.69**	**286**	LR	LR	19 20 59.4	
	comp=Z,281nm,20.0s,baz=343,slow=37						
TIXI	**Tiksi**	**56.01**	**353**	P	**P**	**18 58 55.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=180,slow=2.2,SNR=1.1						
	comp=Z,0.4nm,0.3s						
K17K	**Iditarod**	**59.76**	**26**		**P**	**18 59 22.4**	**+1.8**
ZALV	**Zalesovo Beam**	**60.08**	**323**	P	**P**	**18 59 25.3**	**+2.3**
	comp=Z,0.4nm,0.4s,baz=99,slow=8.9,SNR=2.2						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanai Array**	**60.39**	**315**	P	**P**	**18 59 25.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=81,slow=9.1,SNR=2.3						
	comp=Z,0.2nm,0.5s						
H19K	**Roundabout Mou**	**61.65**	**23**		**P**	**18 59 33.5**	**+0.1**
D19K	**Kuna River**	**62.33**	**20**	IAmb	IAmb	18 59 50.5	
	comp=Z,18nm,1.2s						
SEW	**Seward**	**62.92**	**30**	P	**P**	**18 59 40.8**	**-1.2**
KURK	**Kurchatov**	**63.27**	**319**	P	**P**	**18 59 44.1**	**-0.4**
KURK				IAmb	IAmb	19 00 10.5	
	comp=Z,14nm,1.4s						
KURBB	**Kurchatov Arra**	**63.32**	**319**	P	**P**	**18 59 43.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=95,slow=6.4,SNR=8.2						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**65.22**	**26**	P	**P**	**18 59 57.0**	**-0.1**
ILAR	**Eielson Array**	**65.22**	**26**	P	**P**	**18 59 56.4**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=266,slow=6.2,SNR=5.1						
ILAR				LR	LR	19 26 06.8	
	comp=Z,162nm,21.4s,baz=280,slow=34						
	comp=Z,1.2nm,0.5s						
PAX	**Paxson**	**65.43**	**28**	IAmb	IAmb	19 00 25.1	
	comp=Z,9.5nm,0.9s						
DOT	**Dot Lake**	**66.18**	**27**	P	**P**	**19 00 04.6**	**+1.2**
DOT				IAmb	IAmb	19 00 20.6	
	comp=Z,9.6nm,0.8s						
J26L	**Joseph Creek**	**66.56**	**26**	IAmb	IAmb	19 00 34.4	
	comp=Z,16nm,1.1s						
BVAR	**Borovoye Array**	**68.51**	**321**	P	**P**	**19 00 18.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=88,slow=6.0,SNR=4.8						
	comp=Z,0.8nm,0.5s						
M29M	**Somme Creek**	**68.54**	**29**	IAmb	IAmb	19 00 45.0	
	comp=Z,7.0nm,0.8s						
KKAR	**Karatay Array**	**68.61**	**310**	P	**P**	**19 00 18.6**	**-0.5**
H31M	**Peel River**	**70.58**	**25**		**P**	**19 00 28.8**	**-2.0**
H31M				IAmb	IAmb	19 00 49.9	
	comp=Z,13nm,0.9s						
INK	**Inuvik**	**71.03**	**23**	P	**P**	**19 00 33.3**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=275,slow=7.0,SNR=4.8						
	comp=Z,1.9nm,0.7s						
PPT	**Papeete**	**71.62**	**115**	LR	LR	19 25 21.6	
	comp=Z,231nm,20.7s,baz=325,slow=30						
PINE	**Pine Mountain**	**80.58**	**47**		**P**	**19 01 27.7**	**-1.1**
PINE				IAmb	IAmb	19 01 50.1	
	comp=Z,26nm,1.3s						
RES	**Resolute Bay**	**81.29**	**14**	P	**P**	**19 01 32.5**	**+0.9**
	comp=Z,5.1nm,1.0s,baz=267,slow=4.8,SNR=4.1						
	comp=Z,5.1nm,1.0s						
BMO	**Blue Mountains**	**82.83**	**45**		**P**	**19 01 40.4**	**-0.1**
BMO				IAmb	IAmb	19 02 01.9	
	comp=Z,8.8nm,1.1s						
NVAR	**Mina Array Bea**	**83.90**	**52**	P	**P**	**19 01 45.1**	**-1.1**
NVAR	**Mina Array Bea**	**83.90**	**52**	P	**P**	**19 01 47.7**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=264,slow=6.9,SNR=5.2						
	comp=Z,1.1nm,0.8s						
ARCES	**ARCESS Array B**	**84.68**	**342**	P	**P**	**19 01 50.8**	**+1.5**
	comp=Z,3.5nm,1.1s,baz=58,slow=5.7,SNR=1.4						
	comp=Z,3.5nm,1.1s						
ELK	**Elko**	**85.48**	**49**	LR	LR	19 32 37.2	
	comp=Z,169nm,20.7s,baz=43,slow=30						
PDAR	**Pinedale Array**	**88.80**	**46**	P	**P**	**19 02 09.0**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=268,slow=3.2,SNR=1.2						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**89.05**	**335**	P	**P**	**19 02 10.2**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=56,slow=2.5,SNR=4.8						
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**94.75**	**340**	LR	LR	19 47 27.0	
	comp=Z,135nm,21.6s,baz=40,slow=37						
LPAZ	**La Paz**	**146.91**	**94**	PKPbc	**PKPab**	**19 09 01.4**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=263,slow=2.1,SNR=7.6						
SIV	**San Ignacio**	**153.63**	**93**	PKPbc	**PKiKP**	**19 09 15.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=252,slow=2.9,SNR=7.4						

*IDC **18** 18:55:09.4±0.6, 16°.59N×146°.26E, h0km, mb4.0/22, mbtmp4.1/25, ML4.2/3, Error ellipse: s-maj=20.1km s-min=11.3km az=95.0*
*NEIC **18** 18:55:11.9±2.0, 16°.3N±0°.1×146°.5E±0°.1, h10km±1km, mb5.0/97, Error ellipse: s-maj=26.0km s-min=15.3km az=117.0*
*DJA **18** 18:55:28.6±1.0, 15°N±6°×14°7E±°, h51km±9km, M4.5/13, mb5.0/13, mB5.9/2, MLv4.3/1, Mw(mB)5.5/2*

ISC 18 18:55:14.7±0.5, 16°44N±0°.06×146°.6E±0°.1, h35km, n122, σ2°25/80, mb4.8/77, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.29**	**210**		**Pn**	**18 56 03.9**	**+0.2**
GUMO	**Guam**	**3.29**	**210**	Pn	**Pn**	**18 56 03.5**	**-0.2**
	44nm,0.3s,baz=120,slow=7.1,SNR=23						
GUMO				Sn	**Sn**	**18 56 42.5**	**+0.9**
	120nm,0.3s,baz=345,slow=23,SNR=8.3 106nm,0.3s						
MANU	**Manus Island**	**18.39**	**178**	Pn	**P**	**18 59 22.6**	**-4.2**
H11S3	**WAKE ISLAND Hy**	**19.29**	**81**	T	T	19 20 35.3	
	baz=268,slow=75,SNR=2.1						
H11S1	**WAKE ISLAND Hy**	**19.30**	**81**	T	T	19 20 29.6	
	baz=268,slow=75,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**19.30**	**81**	T	T	19 20 35.1	
	baz=268,slow=75,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**19.58**	**77**	T	T	19 19 43.6	
	baz=264,slow=74,SNR=18						
H11N2	**WAKE ISLAND Hy**	**19.59**	**77**	T	T	19 19 44.2	
	baz=264,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**19.60**	**77**	T	T	19 19 45.1	
	baz=264,slow=74,SNR=19						
JAY	**Jayapura**	**19.71**	**198**	P	**Pn**	**18 59 42.6**	**-0.4**
	0.9nm,0.3s,baz=346,slow=6.4,SNR=13 14nm,0.8s						
JAY	**Jayapura**	**19.71**	**198**	P	**P**	**18 59 41.3**	**-0.1**
	64nm,0.9s						
JOW	**Kunigami**	**19.89**	**304**	P	**P**	**18 59 42.6**	**-0.6**
JOW	**Kunigami**	**19.89**	**304**	P	**P**	**18 59 39.4**	**-3.8**
	0.8nm,0.3s,baz=124,slow=13,SNR=4.5 11nm,0.8s						
SMPI	**Sarmi**	**19.90**	**204**	P	**Pn**	**18 59 46.2**	**+1.1**
	2μm32nm,1.0s						
GENI	**Genyem**	**19.95**	**199**	P	**P**	**18 59 44.1**	**+0.2**
	63nm,0.6s						
SRPI	**Serui, Papua**	**20.87**	**210**	P	Pn	18 59 56.2	-0.3
MJAR	**Matsushiro Arr**	**21.36**	**341**	P	**P**	**18 59 55.9**	**-3.1**
	1.1nm,0.8s,baz=170,slow=10.0,SNR=4.9 1.1nm,0.8s						
WAMI	**Wamena**	**21.64**	**202**	P	**P**	**19 00 05.4**	**+3.2**
	98nm,0.8s						
JNU	**Nakatsue**	**21.84**	**322**	P	**P**	**19 00 00.8**	**-3.4**
	2.0nm,0.9s,baz=168,slow=9.3,SNR=1.4 2.0nm,0.9s						
FAKI	**Fak Fak**	**23.89**	**218**	P	**P**	**19 00 23.9**	**-1.4**
FAKI				IAmb	IAmb	19 00 37.6	
	comp=Z,60nm,1.3s						
SSLB	**Suanglung**	**25.12**	**291**		**P**	**19 00 40.9**	**+4.3**
SSLB				IAmb	IAmb	19 00 53.5	
	comp=Z,50nm,1.2s						
PMG	**Port Moresby**	**25.69**	**179**	P	**P**	**19 00 37.1**	**-4.6**
PMG				IAmb	IAmb	19 00 54.1	
	comp=Z,28nm,0.9s						
KSRS	**Korea Array**	**26.64**	**325**	P	**P**	**19 00 47.4**	**-2.6**
	comp=Z,1.0nm,0.7s,baz=140,slow=9.7,SNR=5.1						
	comp=Z,1.0nm,0.7s						
ASAJ	**Asahikawa**	**27.79**	**354**	P	**P**	**19 00 59.2**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=142,slow=7.4,SNR=4.3						
	comp=Z,4.6nm,0.7s						
NJ2	**Nanjing**	**29.56**	**307**	*e*P	**P**	**19 01 18.8**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BNX	**BinXian**	**33.33**	**335**	↓P	P	19 01 53.6	+4.4
BNX				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KNRA	**Kununurra**	**36.44**	**210**		**P**	**19 02 16.1**	**-0.2**
KNRA				IAmb	IAmb	19 02 24.7	
	comp=Z,11nm,0.7s						
PETK	**Petropavlovsk-**	**37.62**	**11**		**P**	**19 02 24.7**	**-1.3**
PETK	**Petropavlovsk-**	**37.62**	**11**	P	**P**	**19 02 25.8**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=202,slow=7.5,SNR=6.5						
	comp=Z,2.6nm,0.8s						
WB0	**Warramunga Arr**	**37.93**	**199**	P	P	19 02 23.4	-5.6
WB0				IAmb	IAmb	19 02 29.8	
	comp=Z,17nm,0.9s						
WRAB	**Tennant Creek**	**38.10**	**199**		**P**	**19 02 26.7**	**-3.7**
WRAB				IAmb	IAmb	19 02 55.4	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**38.11**	**199**		**P**	**19 02 26.8**	**-3.7**
WRA	**Warramunga Arr**	**38.11**	**199**	P	**P**	**19 02 29.8**	**-0.8**
	comp=Z,17nm,0.8s,baz=21,slow=9.2,SNR=46						
WRA				ScP	**ScP**	**19 08 34.1**	**+3.7**
	comp=Z,0.9nm,0.9s,baz=15,slow=4.3,SNR=2.8						
KSM	**Kuching**	**38.69**	**251**	P	**P**	**19 02 34.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**38.79**	**316**	*e*P	**P**	**19 02 39.9**	**+3.7**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
AS31	**Alice Springs**	**41.74**	**198**	P	**P**	**19 03 00.5**	**-0.2**
ASAR	**Alice Springs**	**41.74**	**198**	P	**P**	**19 02 59.1**	**-1.6**
ASAR	**Alice Springs**	**41.74**	**198**	P	**P**	**19 03 00.8**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=15,slow=11,SNR=60						
ASAR				ScP	**ScP**	**19 08 48.6**	**+4.1**
	comp=Z,0.3nm,0.7s,baz=10,slow=3.4,SNR=2.2 comp=Z,4.0nm,0.6s						
PZH	**PanZhiHua**	**42.73**	**291**	P	**P**	**19 03 11.4**	**+2.5**
UGM	**Wanagama**	**43.11**	**239**	P	**P**	**19 03 14.0**	**+2.0**
MA2

N15K	**Kwehluk River**	**57.98**	**28**	P		**P**	**19 05 05.8**	**+2.1**
M16K	**Timber Creek**	**58.84**	**28**			**P**	**19 05 14.0**	**+4.4**
M16K				IAmb		IAmb	19 05 21.1	
	comp=Z,14nm,0.9s							
M17K	**Holitna River**	**59.67**	**28**			**P**	**19 05 17.0**	**+1.6**
J17K	**VABM Dome**	**59.80**	**25**			**P**	**19 05 17.3**	**+1.2**
J17K				IAmb		IAmb	19 05 33.4	
	comp=Z,12nm,0.8s							
K17K	**Iditarod**	**59.83**	**26**			**P**	**19 05 17.1**	**+0.7**
H17K	**Granite Mounta**	**60.16**	**23**	IAmb		IAmb	19 05 27.1	
	comp=Z,13nm,0.8s							
ZALV	**Zalesovo Beam**	**60.31**	**323**	P		**P**	**19 05 17.0**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=122,slow=13,SNR=1.4							
	comp=Z,0.6nm,0.8s							
MKAR	**Makanchi Array**	**60.63**	**315**	P		**P**	**19 05 18.9**	**-3.4**
	comp=Z,0.9nm,1.1s,baz=90,slow=8.8,SNR=5.2							
	comp=Z,0.9nm,1.1s							
G18K	**Tagagawik**	**61.06**	**23**	IAmb		IAmb	19 05 32.7	
	comp=Z,14nm,0.9s							
M19K	**Big River Lodg**	**61.21**	**28**			**P**	**19 05 29.2**	**+3.4**
M19K				IAmb		IAmb	19 05 49.7	
	comp=Z,10.0nm,1.1s							
J19K	**Poorman**	**61.45**	**25**	IAmb		IAmb	19 05 35.8	
	comp=Z,10.0nm,0.9s							
C18K	**Utukok River**	**61.51**	**19**	IAmb		IAmb	19 06 14.8	
	comp=Z,10.0nm,1.1s							
H19K	**Roundabout Mou**	**61.73**	**23**			**P**	**19 05 30.7**	**+1.5**
H19K				IAmb		IAmb	19 05 51.4	
	comp=Z,9.3nm,0.8s							
M20K	**Styx River**	**61.77**	**28**	P		**P**	**19 05 30.0**	**+0.3**
M20K				IAmb		IAmb	19 05 54.3	
	comp=Z,12nm,0.9s							
J20K	**Nowinta River**	**62.12**	**25**			**P**	**19 05 32.6**	**+0.7**
C19K	**Lookout Ridge**	**62.24**	**19**	P		**P**	**19 05 35.3**	**+2.6**
E19K	**Redstone River**	**62.26**	**21**	IAmb		IAmb	19 05 41.5	
	comp=Z,9.2nm,0.8s							
D19K	**Kuna River**	**62.42**	**20**	IAmb		IAmb	19 05 50.8	
	comp=Z,14nm,1.0s							
PPLA	**Purkeypile**	**62.51**	**27**	P		**P**	**19 05 35.5**	**+0.8**
CAST	**Castle Rocks**	**62.72**	**26**			**P**	**19 05 36.1**	**+0.2**
IMAR	**Indian Mountai**	**62.93**	**23**	P		**P**	**19 05 35.0**	**-2.3**
H21K	**Melozitna Rive**	**63.18**	**24**	IAmb		IAmb	19 05 47.4	
	comp=Z,8.0nm,0.8s							
TRF	**Thorofare Moun**	**63.50**	**27**			**P**	**19 05 42.5**	**+1.2**
KURBB	**Kurchatov Area**	**63.55**	**319**	P		**P**	**19 05 38.0**	**-3.7**
	comp=Z,0.8nm,0.8s,baz=101,slow=5.7,SNR=5.1							
	comp=Z,0.8nm,0.8s							
KNK	**Knik Glacier**	**63.77**	**29**	P		P	19 05 48.7	+5.8
MLY	**Manley**	**63.79**	**25**	IAmb		IAmb	19 05 51.3	
	comp=Z,10nm,0.8s							
G23K	**Bananza Creek**	**64.59**	**23**	IAmb		IAmb	19 05 56.7	
	comp=Z,6.5nm,0.8s							
COLD	**Coldfoot**	**64.69**	**23**	P		**P**	**19 05 50.1**	**+1.2**
COLD				IAmb		IAmb	19 05 57.3	
	comp=Z,5.8nm,0.8s							
WRH	**Wood River Hil**	**64.72**	**26**	IAmb		IAmb	19 06 03.6	
	comp=Z,9.6nm,0.9s							
HYB	**Hyderabad**	**64.76**	**282**	*e*P		**P**	**19 05 50.1**	**-0.1**
H24K	**Noodor Dome**	**65.17**	**24**	IAmb		IAmb	19 06 14.1	
	comp=Z,6.7nm,0.8s							
HDA	**Harding Lake**	**65.18**	**26**	IAmb		IAmb	19 06 07.0	
	comp=Z,7.9nm,0.8s							
IL31		**65.29**	**26**	IAmb		IAmb	19 05 59.4	
	comp=Z,12nm,1.2s							
ILAR	**Eielson Array**	**65.29**	**26**	P		**P**	**19 05 51.4**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=251,slow=6.6,SNR=13							
	comp=Z,2.8nm,0.9s							
PAX	**Paxson**	**65.49**	**28**	IAmb		IAmb	19 06 13.6	
	comp=Z,14nm,1.2s							
E24K	**Your Creek**	**65.58**	**22**	IAmb		IAmb	19 06 03.0	
	comp=Z,7.5nm,0.7s							
F24K	**Squaw Lake**	**65.64**	**23**	IAmb		IAmb	19 06 03.6	
	comp=Z,7.5nm,0.9s							
J25K	**Salcha River,**	**65.89**	**26**	IAmb		IAmb	19 06 04.2	
	comp=Z,5.0nm,0.6s							
DOT	**Dot Lake**	**66.25**	**27**	IAmb		IAmb	19 06 15.4	
	comp=Z,13nm,1.0s							
SCRK	**Sand Creek**	**66.35**	**27**	IAmb		IAmb	19 06 16.8	
	comp=Z,14nm,1.2s							
L26K	**Log Cabin Wild**	**66.45**	**28**	IAmb		IAmb	19 06 20.0	
	comp=Z,8.0nm,0.9s							
F25K	**Christian Rive**	**66.48**	**23**	IAmb		IAmb	19 06 09.2	
	comp=Z,7.5nm,0.8s							
J26L	**Joseph Creek**	**66.63**	**26**	IAmb		IAmb	19 06 22.2	
	comp=Z,14nm,1.1s							
D25K	**Kavik River**	**66.68**	**21**	IAmb		IAmb	19 06 19.5	
	comp=Z,12nm,0.9s							
BMAR	**Burnt Mountain**	**66.84**	**23**	P		**P**	**19 06 05.1**	**+2.3**
K27K	**Chicken**	**67.19**	**27**	IAmb		IAmb	19 06 22.8	
	comp=Z,6.7nm,0.9s							
H27K	**Steamboat Moun**	**67.78**	**25**	IAmb		IAmb	19 06 17.1	
	comp=Z,7.7nm,0.8s							
I28M	**Miner Creek**	**68.31**	**26**	IAmb		IAmb	19 06 40.4	
	comp=Z,7.3nm,1.1s							
BVAR	**Borovoye Array**	**68.74**	**321**	P		**P**	**19 06 11.4**	**-3.6**
	comp=Z,1.0nm,0.7s,baz=102,slow=8.1,SNR=8.9							
	comp=Z,1.0nm,0.7s							
K29M	**Barrow Dome**	**69.16**	**27**	IAmb		IAmb	19 06 39.8	
	comp=Z,12nm,1.0s							
INK	**Inuvik**	**71.11**	**23**	P		**P**	**19 06 28.6**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=272,slow=9.1,SNR=3.7							
	comp=Z,1.8nm,0.6s							
YKA	**Yellowknife Ar**	**79.58**	**28**	P		**P**	**19 07 18.1**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=297,slow=5.7,SNR=5.1							
	comp=Z,1.1nm,0.6s							
J05D	**Fort Rock, OR**	**80.47**	**48**	P		**P**	**19 07 26.3**	**+2.9**
K05A	**Summer Lake**	**80.85**	**48**	IAmb		IAmb	19 07 44.2	
	comp=Z,11nm,0.9s							
NVAR	**Mina Array Bea**	**83.86**	**52**			**P**	**19 07 41.3**	**-0.1**
NVAR	**Mina Array Bea**	**83.86**	**52**	P		**P**	**19 07 42.4**	**+1.1**
	comp=Z,1.7nm,1.0s,baz=274,slow=5.3,SNR=5.0							
	comp=Z,1.7nm,1.0s							
MFID	**Camas Ranch**	**84.24**	**47**	IAmb		IAmb	19 08 08.9	
	comp=Z,7.3nm,1.1s							
HLID	**Hailey**	**85.18**	**46**			**P**	**19 07 48.9**	**+1.0**
R11B	**Troy Canyon, C**	**85.93**	**51**			**P**	**19 07 53.5**	**+1.8**
HVU	**Hansel Valley**	**86.89**	**47**	IAmb		IAmb	19 08 17.1	
	comp=Z,18nm,1.7s							
YHL	**Hebgen Lake**	**86.96**	**44**	IAmb		IAmb	19 08 11.1	
	comp=Z,11nm,0.9s							
PSUT	**Pine Spring**	**87.16**	**51**	IAmb		IAmb	19 08 08.8	
	comp=Z,7.8nm,0.9s							
KNB	**Kanab**	**88.43**	**52**	IAmb		IAmb	19 08 35.8	
	comp=Z,11nm,1.3s							
PDAR	**Pinedale Array**	**88.79**	**46**	P		**P**	**19 08 07.1**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=286,slow=6.8,SNR=2.1							
	comp=Z,0.3nm,0.4s							
U15A	**North Rim**	**89.03**	**52**	IAmb		IAmb	19 08 18.8	
	comp=Z,6.3nm,1.1s							
FINES	**FINESS Array B**	**89.28**	**336**	P		**P**	**19 08 06.0**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=68,slow=5.9,SNR=2.0							
	comp=Z,1.7nm,0.9s							
CFA	**Coronel Fontan**	**144.97**	**122**	PKPbc		**PKPdf**	**19 14 49.2**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=255,slow=4.9,SNR=11							

*NEIC **18** 18:56:43.0±0.8, 35.˚680N±0.˚009×117.˚47W±0.˚01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.6km az=214.0*
*PAS **18** 18:56:43.5±0.7, 35.˚670N±0.˚008×117.˚48W±0.˚01, h4km±1km, ML3.5/309, ML3.2/148(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=63.0*

ISC 18 18:56:43.1±0.9, 35.˚67N±0.˚02×117.˚46W±0.˚02, h13km±7km, n69, σ0:64/58, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.07**	**203**		**Pg**	**18 56 45.1**	**-0.7**
CCCA	**Chr Cany lake**	**0.16**	**152**		**Pg**	**18 56 47.4**	**+0.4**
CLC	**China Lake**	**0.19**	**323**		**Pg**	**18 56 47.0**	**-0.4**
CLC				IAML		18 56 50.1	
	comp=N,6μm,0.9s						
CLC				IAML		18 56 50.4	
	comp=E,6μm,0.5s						
LRMC	**Laurel Mtn Rad**	**0.26**	**224**		**Pg**	**18 56 48.4**	**-0.3**
LRMC				IAML		18 56 52.8	
	comp=N,7μm,0.3s						
TOW	**Tower One**	**0.29**	**300**		**Pg**	**18 56 49.3**	**+0.2**
TOW					**Sg**	**18 56 54.0**	**+0.9**
MPMC	**Manual Prospec**	**0.39**	**356**		**Pg**	**18 56 50.8**	**-0.2**
MPMC				IAML		18 56 58.5	
	comp=E,2μm,0.9s						
MPMC	**Manual Prospec**	**0.39**	**356**		**Sg**	**18 56 56.5**	**+0.1**
WVPM	**Volcano Peak E**	**0.41**	**314**		**Pg**	**18 56 51.1**	**-0.2**
WVPM					**Sg**	**18 56 57.4**	**+0.6**
JRC2	**Joshua Ridge**	**0.42**	**318**		**Pg**	**18 56 51.5**	**-0.1**
JRC2					**Sg**	**18 56 57.6**	**+0.2**
WCSM	**Coso Springs S**	**0.44**	**325**		**Pg**	**18 56 51.8**	**0.0**
WCSM					**Sg**	**18 56 57.7**	**-0.1**
WRVM	**Rose V. Centra**	**0.49**	**314**		**Sg**	**18 56 59.4**	**+0.1**
MFS	**McCloud Flat S**	**0.55**	**324**		**Sg**	**18 57 01.5**	**+0.1**
QSM	**Queen of Sheba**	**0.56**	**58**		**Pg**	**18 56 54.5**	**+0.3**
QSM	**Queen of Sheba**	**0.56**	**58**		**Sg**	**18 57 02.2**	**+0.5**
WORM	**Onyx Ranch**	**0.64**	**273**		**Sg**	**18 56 55.2**	**-0.4**
WORM					**Sg**	**18 57 03.6**	**-0.4**
GSC	**Goldstone, Bar**	**0.65**	**124**		**Sg**	**18 56 56.0**	**+0.2**
GSC	**Goldstone, Bar**	**0.65**	**124**		**Sg**	**18 57 05.0**	**+0.7**
CCAC	**Calif City Air**	**0.69**	**222**		**Sg**	**18 57 05.8**	**+0.2**
WHFM	**Hanning Flat**	**0.73**	**273**		**Pg**	**18 56 56.8**	**-0.5**
GWY	**Greenwater Val**	**0.82**	**51**		**Pg**	**18 56 59.1**	**0.0**
GWY				IAML		18 57 13.4	
	comp=N,1μm,0.6s						
GWY				IAML		18 57 14.9	
	comp=E,1μm,0.7s						
ISA	**Isabella, Lake**	**0.83**	**270**		**Pg**	**18 56 58.6**	**-0.6**
ISA				IAML		18 57 10.1	
	comp=E,524nm,0.7s						
RRX	**Edison Barstow**	**0.88**	**154**		**Pg**	**18 57 00.2**	**+0.1**
RRX					**Sg**	**18 57 11.8**	**+0.3**
CWC	**Cottonwood Cre**	**0.92**	**327**		**Pg**	**18 57 00.9**	**-0.1**
CGO	**Cerro Gordo**	**0.93**	**343**		**Sg**	**18 57 13.4**	**+0.1**
FURC	**Furnace Creek,**	**0.93**	**31**		**Pg**	**18 57 01.2**	**0.0**
FURC				IAML		18 57 16.9	
	comp=E,1μm,0.7s						
FURC				IAML		18 57 23.1	
	comp=N,870nm,0.8s						
TPO	**Tropico Hills**	**1.01**	**219**		**Pg**	**18 57 02.0**	**-0.6**
TPO	**Tropico Hills**	**1.01**	**219**	IAML		18 57 18.6	
	comp=N,1μm,0.6s						
TEJ	**El Tejon**	**1.09**	**247**		**Sg**	**18 57 17.7**	**-0.8**
VTV	**Victorville**	**1.11**	**175**		**Sg**	**18 57 19.3**	**+0.3**
AMDNV	**Amargosa**	**1.23**	**50**		**Pg**	**18 57 06.0**	**-0.9**
TUQ	**Turquoise Moun**	**1.27**	**100**		**Pg**	**18 57 06.6**	**-1.1**
WCT	**Wildcat Mounta**	**1.31**	**31**		**Pg**	**18 57 07.4**	**-1.0**
VES	**Vestal, Richgr**	**1.33**	**278**		**Pn**	**18 57 07.6**	**+0.1**
VES				IAML		18 57 29.1	
	comp=N,444nm,0.6s						
VES				IAML		18 57 31.3	
	comp=E,573nm,0.7s						
CHFC	**Chilao Flat St**	**1.41**	**199**		**Pn**	**18 57 09.7**	**+1.0**
BFSC	**Mount Baldy Ra**	**1.43**	**187**	IAML		18 57 30.5	
	comp=E,386nm,0.5s						
BFSC				IAML		18 57 31.0	
	comp=N,309nm,0.5s						
OSI	**Osito Audit: C**	**1.48**	**225**		**Pb**	**18 57 10.9**	**+0.4**
OSI				IAML		18 57 34.1	
	comp=E,361nm,0.7s						
OSI				IAML		18 57 35.1	
	comp=N,442nm,0.9s						
MWC	**Mount Wilson**	**1.52**	**199**	IAML		18 57 33.3	
	comp=N,449nm,0.5s						
MWC				IAML		18 57 33.8	
	comp=E,363nm,0.6s						
MTPC	**Mountain Pass**	**1.56**	**96**		**Pn**	**18 57 10.9**	**0.0**
MTPC				IAML		18 57 34.5	
	comp=N,284nm,0.2s						
MTPC				IAML		18 57 35.5	
	comp=E,290nm,0.3s						
PASC	**Pasadena Art C**	**1.61**	**202**		**Pn**	**18 57 12.0**	**+0.7**
PASC				IAML		18 57 36.5	
	comp=N,197nm,0.6s						
PASC				IAML		18 57 37.5	
	comp=E,183nm,0.6s						
TPNV	**Topopah Spring**	**1.61**	**37**	IAML		18 57 38.0	
	comp=E,240nm,0.7s						
TPNV				IAML		18 57 38.8	
	comp=E,300nm,0.5s						
GMN	**Gold Mountain**	**1.64**	**6**		**Pn**	**18 57 12.6**	**+0.6**
VOG	**Valley Oaks Go**	**1.69**	**293**		**Pb**	**18 57 14.2**	**+0.1**
DANC	**Danby, Needles**	**1.99**	**121**		**Pn**	**18 57 16.3**	**-0.3**
ELS	**Elsinore Mount**	**2.01**	**179**		**Pn**	**18 57 17.6**	**+0.6**
ELS				IAML		18 57 49.9	
	comp=E,100nm,0.5s						
ELS				IAML		18 57 55.6	
	comp=N,125nm,0.6s						
BELC	**Belle Mtn. Jos**	**2.05**	**144**		**Pn**	**18 57 17.9**	**+0.4**
BELC				IAML		18 57 50.6	
	comp=E,271nm,0.3s						
BELC				IAML		18 57 51.5	
	comp=N,194nm,0.5s						
PMD	**Palm Desert**	**2.20**	**156**		**Pn**	**18 57 19.2**	**-0.2**
PMD				IAML		18 57 54.5	
	comp=E,129nm,0.3s						
PMD				IAML		18 57 56.1	
	comp=N,82nm,0.6s						
PFO	**Pinyon Flats O**	**2.21**	**158**		**Pn**	**18 57 20.5**	**+0.8**
PFO				IAML		18 57 56.2	
	comp=N,103nm,0.3s						
PFO				IAML		18 57 59.1	
	comp=N,82nm,0.8s						
MDPB	**Devils Postpil**	**2.35**	**327**	IAML		18 58 00.6	
	comp=N,100nm,0.8s						
MDPB				IAML		18 58 03.5	
	comp=E,91nm,1.0s						
IRM	**Iron Mountain**	**2.42**	**128**		**Pn**	**18 57 21.9**	**-0.7**
IRM				IAML		18 58 02.4	
	comp=E,178nm,0.3s						
IRM				IAML		18 58 05.7	
	comp=N,132nm,0.4s						
NEE2	**Needles Airpor**	**2.49**	**110**		**Pn**	**18 57 23.3**	**-0.2**
NEE2				IAML		18 58 04.9	
	comp=E,188nm,0.5s						
BC3	**Big Chuckawall**	**2.60**	**140**	Pn	**Pn**	**18 57 24.8**	**-0.2**
BC3				IAML		18 58 08.7	
	comp=E,84nm,0.4s						
BC3				IAML		18 58 09.4	
	comp=N,86nm,0.3s						
PRN	**Pahroc Range**	**2.60**	**47**		**Pn**	**18 57 26.2**	**+1.1**
PRN				IAML		18 58 17.8	
	comp=E,154nm,0.7s						
PRN				IAML		18 58 17.8	
	comp=N,168nm,0.7s						
DPP	**Dos Picos Cty**	**2.70**	**171**		**Pn**	**18 57 27.0**	**+0.7**
DPP				IAML		18 58 08.8	
	comp=E,126nm,0.8s						
LHV	**Little Huntoon**	**2.71**	**342**	IAML		18 58 16.5	
	comp=N,58nm,1.2s						
LHV				IAML		18 58 16.7	
	comp=E,78nm,1.4s						
NVAR	**Mina Array Bea**	**2.84**	**346**		**Pn**	**18 57 30.4**	**+2.0**
W13A	**Hualapai Mount**	**2.97**	**100**	IAML		18 58 22.8	
	comp=N,41nm,1.3s						
BLYC	**Blythe**	**3.08**	**127**		**Pn**	**18 57 31.2**	**-0.4**
BLYC				IAML		18 58 24.4	
	comp=N,60nm,0.6s						
BLYC				IAML		18 58 28.1	
	comp=E,58nm,0.7s						
CMB	**Columbia Colle**	**3.33**	**316**		**Pb**	**18 57 40.3**	**-1.8**
CMB				IAML		18 58 37.6	
	comp=N,44nm,0.8s						
SAO	**San Andreas Ge**	**3.41**	**290**		**Pn**	**18 57 36.9**	**+0.9**
KNB	**Kanab**	**3.98**	**69**	IAML		18 58 55.6	
	comp=E,30nm,1.0s						
KNB				IAML		18 59 01.3	
	comp=N,24nm,1.6s						
Y14A	**Wickenburg**	**4.05**	**114**	IAML		18 58 57.1	
	comp=N,51nm,0.6s						
Y14A				IAML		18 59 00.5	
	comp=E,32nm,0.9s						
PSUT	**Pine Spring**	**4.06**	**44**	IAML		18 58 58.9	
	comp=E,19nm,1.1s						
PSUT				IAML		18 59 09.4	
	comp=N,21nm,1.0s						
SPR3	**Spring Creek 3**	**4.16**	**36**	IAML		18 58 56.8	
	comp=E,17nm,1.8s						
113A	**Mohawk Valley,**	**4.21**	**132**	IAML		18 59 11.3	
	comp=E,15nm,1.2s						
U15A	**North Rim**	**4.25**	**78**	IAML		18 58 57.1	
	comp=E,23nm,1.1s						
U15A				IAML		18 58 58.5	
	comp=N,28nm,1.1s						
AFDM	**Forest Hills D**	**4.31**	**321**	IAML		18 59 03.0	
	comp=E,28nm,0.8s						
AFDM				IAML		18 59 07.9	
	comp=N,20nm,1.3s						
PKCU	**Pink Cliffs**	**4.51**	**65**	IAML		18 59 09.7	
	comp=E,34nm,1.3s						
PKCU				IAML		18 59 19.3	
	comp=N,32nm,0.9s						
MTPU	**Mount Pierson**	**4.85**	**59**	IAML		18 59 30.8	
	comp=N,11nm,2.2s						
WUAZ	**Wupatki**	**4.96**	**90**	IAML		18 59 22.4	
	comp=N,26nm,0.5s						

*VAO **18** 19:13:55.5±0.9, 20.˚19S×68.˚74W, h81km±9km, mb4.3*
*NEIC **18** 19:13:59.6±2.0, 20.˚20S±0.˚05×68.˚77W±0.˚10, h112km±8km, mb4.4/12, Mwr4.3(GUC), Error ellipse: s-maj=13.5km s-min=7.4km az=96.0*
*SJA **18** 19:13:59.1±0.6, 20.˚15S×68.˚87W, h119km±3km, ML4.1, MW4.1*
*IDC **18** 19:14:01.7±2.3, 20.˚02S×68.˚57W, h127km±20km, mb3.7/8, mbtmp4.1/11, Error ellipse: s-maj=21.2km s-min=16.4km az=91.0*
*GUC **18** 19:14:01.4±0.8, 20.˚10S×68.˚88W, h105km±3km, ML4.2*

ISC 18 19:13:59.1±0.6, 20.˚11S±0.˚03×68.˚80W±0.˚04, h115km±5km, n108, σ1°62/141, mb4.3/9, 14C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.34**	**265**		**Pn**	**19 14 16.3**	**+0.3**
PB08	**IPOC Station P**	**0.34**	**265**	*e*P	**Pn**	**19 14 16.9**	**+0.9**
PB08				*e*S	**Sn**	**19 14 28.8**	**+0.1**
PB08				IAML		19 14 29.9	
	comp=N,13μm,0.2s						
PB08	**IPOC Station P**	**0.34**	**265**	*e*P	**Pn**	**19 14 16.9**	**+0.9**
PB08				*e*S	**Sn**	**19 14 29.8**	**+1.0**
PB08				IAML		19 14 30.7	
	comp=Z,4μm,0.3s						
GO01	**Chusmiza**	**0.58**	**320**		**Pn**	**19 14 18.4**	**+0.9**
GO01	**Chusmiza**	**0.58**	**320**	*e*P	**Pn**	**19 14 18.5**	**+0.9**
GO01				*e*S	**Sn**	**19 14 31.4**	**-0.1**
GO01				IAML		19 14 33.1	
	comp=E,14μm,0.4s						
GO01	**Chusmiza**	**0.58**	**320**	*e*P	**Pn**	**19 14 18.4**	**+0.9**
GO01				*e*S	**Sn**	**19 14 33.3**	**+1.9**
GO01				IAML		19 14 34.9	
	comp=Z,3μm,0.3s						
PB11	**IPOC Station P**	**0.88**	**293**		**Pn**	**19 14 20.3**	**+0.6**
PB11	**IPOC Station P**	**0.88**	**293**	*e*P	**Pn**	**19 14 20.3**	**+0.6**
PB11				*e*S	**Sn**	**19 14 34.3**	**-0.9**
PB11				IAML		19 14 36.5	
	comp=N,14μm,0.4s						
PB11	**IPOC Station P**	**0.88**	**293**	*e*P	**Pn**	**19 14 20.3**	**+0.6**
PB11				*e*S	**Sn**	**19 14 36.0**	**+0.8**
PB11				IAML		19 14 38.1	
	comp=Z,5μm,0.5s						
HMBC	**Humberstone**	**1.04**	**261**		**Pn**	**19 14 20.6**	**-0.5**
HMBC	**Humberstone**	**1.04**	**261**	*e*P	**Pn**	**19 14 21.2**	**+0.1**
HMBC				*e*S	**Sn**	**19 14 36.8**	**-1.1**
HMBC				IAML		19 14 38.2	
	comp=N,6μm,0.3s						
HMBC	**Humberstone**	**1.04**	**261**	*e*P	**Pn**	**19 14 21.3**	**+0.1**
HMBC				*e*S	**Sn**	**19 14 38.3**	**+0.4**
HMBC				IAML		19 14 45.0	
	comp=Z,3μm,0.3s						
PB01	**IPOC Station P**	**1.13**	**215**		**Pn**	**19 14 22.2**	**+0.1**
PB01	**IPOC Station P**	**1.13**	**215**	*e*P	**Pn**	**19 14 22.9**	**+0.7**
PB01				*e*S	**Sn**	**19 14 39.3**	**-0.2**
PB01				IAML		19 14 41.8	
	comp=N,5μm,0.3s						
PB01	**IPOC Station P**	**1.13**	**215**	*e*P	**Pn**	**19 14 22.8**	**+0.7**
PB01				*e*S	**Sn**	**19 14 40.9**	**+1.4**
PB01				IAML		19 14 42.3	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**1.26**	**263**		**Pn**	**19 14 23.9**	**+0.5**
TA02	**Huaiquique**	**1.26**	**263**	*e*P	**Pn**	**19 14 23.9**	**+0.5**
TA02				*e*S	**Sn**	**19 14 40.3**	**-1.6**
TA02				IAML		19 14 43.8	
	comp=N,11μm,0.2s						
TA02	**Huaiquique**	**1.26**	**263**	*e*P	**Pn**	**19 14 24.0**	**+0.5**
TA02				*e*S	**Sn**	**19 14 43.7**	**+1.8**
TA02				IAML		19 14 44.1	
	comp=Z,4μm,0.3s						
TA01	**Diego Aracena**	**1.38**	**251**		**Pn**	**19 14 24.8**	**+0.1**
TA01	**Diego Aracena**	**1.38**	**251**	*e*P	**Pn**	**19 14 24.8**	**+0.1**
TA01				*e*S	**Sn**	**19 14 42.8**	**-1.4**
TA01	**Diego Aracena**	**1.38**	**251**	*e*P	**Pn**	**19 14 24.1**	**-0.6**
TA01				IAML		19 14 50.8	
	comp=Z,1μm,0.5s						
PATCX	**Punta Patache**	**1.45**	**241**		**Pn**	**19 14 25.9**	**+0.3**
PATCX	**Punta Patache**	**1.45**	**241**	*e*P	**Pn**	**19 14 26.1**	**+0.3**
PATCX				*e*S	**Sn**	**19 14 45.4**	**-0.5**
PATCX				IAML		19 14 51.7	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.45**	**241**	*e*P	**Pn**	**19 14 26.0**	**+0.3**
PATCX				IAML		19 14 53.9	
	comp=Z,1μm,0.3s						
PB02	**IPOC Station P**	**1.58**	**220**		**Pn**	**19 14 27.8**	**+0.6**
PB02	**IPOC Station P**	**1.58**	**220**	*e*P	**Pn**	**19 14 27.8**	**+0.6**
PB02				*e*S	**Sn**	**19 14 48.5**	**-0.2**
PB02				IAML		19 14 53.4	
	comp=E,5μm,0.4s						
PB02	**IPOC Station P**	**1.58**	**220**	*e*P	**Pn**	**19 14 27.9**	**+0.6**
PB02				*e*S	**Sn**	**19 14 51.6**	**+3.0**
PB02				IAML		19 14 59.9	
	comp=Z,5μm,0.4s						
PB09	**IPOC Station P**	**1.73**	**194**		**Pn**	**19 14 30.3**	**+1.2**
PB09	**IPOC Station P**	**1.73**	**194**	*e*P	**Pn**	**19 14 30.3**	**+1.2**
PB09				*e*S	**Sn**	**19 14 53.1**	**+1.2**
PB09				IAML		19 14 57.6	
	comp=E,1μm,0.3s						
PB09	**IPOC Station P**	**1.73**	**194**	*e*P	**Pn**	**19 14 30.3**	**+1.2**
PB09				*e*S	**Sn**	**19 14 55.5**	**+3.6**
PB09				IAML		19 15 02.6	
	comp=Z,1μm,0.3s						
PB16	**IPOC Station P**	**1.89**	**339**		**Pn**	**19 14 33.6**	**+2.1**
PB16	**IPOC Station P

PB10	**IPOC Station P**	**3.76**	**205**	*e*P		**Pn**	**19 14 54.1**	**-1.1**
PB10				*e*S		**Sn**	**19 15 43.2**	**+4.4**
PB10				IAML			19 15 60.0	
	comp=Z,223nm,0.9s							
LPAZ	**La Paz**	**3.86**	**10**			**Pn**	**19 14 59.3**	**+2.1**
LPAZ	**La Paz**	**3.86**	**10**	P		**Pn**	**19 14 59.9**	**+2.7**
	comp=Z,31nm,0.3s,baz=179,slow=6.1,SNR=260							
LPAZ	**La Paz**	**3.86**	**10**	*e*P		**Pn**	**19 15 00.9**	**+3.7**
LPAZ	**La Paz**	**3.86**	**10**	*e*P		**Pn**	**19 14 53.9**	**-3.3**
PB14	**IPOC Station P**	**4.73**	**198**			**Pn**	**19 15 07.1**	**-1.5**
PB14	**IPOC Station P**	**4.73**	**198**	*e*P		**Pn**	**19 15 07.4**	**-1.2**
PB14				*e*S		**Sn**	**19 16 01.0**	**-1.7**
PB14				IAML			19 16 17.5	
	comp=Z,268nm,0.6s							
GO02	**Mina Guanaco**	**5.08**	**188**			**Pn**	**19 15 12.6**	**-0.7**
GO02	**Mina Guanaco**	**5.08**	**188**	*e*P		**Pn**	**19 15 13.1**	**-0.2**
GO02				*e*S		**Sn**	**19 16 09.9**	**-1.1**
GO02				IAML			19 16 41.1	
	comp=Z,242nm,0.4s							
AC01	**Pan de Azucar**	**6.23**	**195**			**Pn**	**19 15 26.3**	**-2.3**
AC02	**Maricunga**	**6.70**	**183**			**Pn**	**19 15 34.9**	**-0.5**
AC06	**Mina Casimiro**	**7.35**	**191**			**Pn**	**19 15 40.8**	**-2.9**
AC04	**Llanos de Chal**	**8.32**	**194**	Pn		**Pn**	**19 15 52.5**	**-4.3**
SIV	**San Ignacio**	**8.41**	**62**	P		**Pn**	**19 15 56.9**	**-1.4**
	comp=Z,42nm,0.4s,baz=254,slow=9.4,SNR=192							
PTLB	**Pontes e Lacer**	**10.30**	**65**			**Pn**	**19 16 22.5**	**-1.3**
PTLB	**Pontes e Lacer**	**10.30**	**65**	*e*P		**Pn**	**19 16 20.8**	**-3.0**
BDQN	**Bodoquena, MS**	**11.31**	**94**	*e*P		**Pn**	**19 16 33.2**	**-4.1**
CFA	**Coronel Fontan**	**11.46**	**178**	P		**Pn**	**19 16 35.6**	**-3.6**
	comp=Z,1.0nm,0.3s,baz=357,slow=12,SNR=12							
CFA				S		Sn	19 18 32.3	-13
	comp=Z,1.1nm,0.7s,baz=256,slow=21,SNR=1.5							
CPUP	**Villa Florida**	**12.22**	**123**	P		**Pn**	**19 16 48.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=282,slow=9.3,SNR=3.2							
SAML	**Samuel**	**12.35**	**27**			**Pn**	**19 16 50.7**	**-0.5**
SAML	**Samuel**	**12.35**	**27**	*e*P		**Pn**	**19 16 48.7**	**-2.4**
SALV	**Santo Antonio**	**13.15**	**74**	*e*P		**Pn**	**19 16 59.0**	**-2.5**
PDRB	**Porto dos Gac**	**14.35**	**56**	*e*P		**Pn**	**19 17 13.9**	**-3.2**
BO01	**Tunca**	**14.37**	**188**			**P**	**19 17 22.7**	**+2.0**
BO02	**Sierra Bellavi**	**14.73**	**186**	P		**P**	**19 17 27.6**	**+2.8**
CLDB	**Colider**	**15.53**	**56**	*e*P		**Pn**	**19 17 29.6**	**-2.2**
ARAG	**Araguaiana, MT**	**16.74**	**78**	*e*P		**Pn**	**19 17 45.1**	**-1.8**
SNDB	**Serra Nova Dou**	**18.65**	**67**	*e*P		**P**	**19 18 07.0**	**-1.1**
IPMB	**Ipameri, GO**	**19.57**	**87**	*e*P		**P**	**19 18 16.8**	**-1.5**
ITTB	**Itaituba**	**20.17**	**41**	*e*P		**P**	**19 18 23.6**	**-1.0**
BDFB	**Brasilia**	**20.27**	**81**			**P**	**19 18 25.1**	**-0.6**
BDFB	**Brasilia**	**20.27**	**81**	P		**P**	**19 18 25.2**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=258,slow=11,SNR=8.1							
	comp=Z,3.2nm,0.5s							
COHC	**Cochancay**	**20.30**	**328**	P		**P**	**19 18 26.8**	**+0.9**
VAO	**Valinhos**	**20.50**	**102**	P		**P**	**19 18 27.1**	**-1.2**
VAO				IAmb	IAmb		19 19 09.7	
	comp=Z,18nm,1.2s							
PLCA	**Paso Flores**	**20.61**	**184**	P		**P**	**19 18 29.0**	**-0.2**
PLCA				IAmb	IAmb		19 18 34.0	
	comp=Z,8.1nm,0.8s							
PLCA	**Paso Flores**	**20.61**	**184**	P		**P**	**19 18 30.5**	**+1.3**
	comp=Z,6.3nm,0.7s,baz=360,slow=11,SNR=15							
	comp=Z,6.3nm,0.7s							
PLCA	**Paso Flores**	**20.61**	**184**	*e*P		**P**	**19 18 27.2**	**-2.0**
MAL2	**Monte Alegre,**	**22.96**	**40**	P		**P**	**19 18 52.8**	**-1.1**
MAL2				IAmb	IAmb		19 18 54.3	
	comp=Z,17nm,0.8s							
SMTB	**Santa Maria do**	**23.35**	**64**	*e*P		**P**	**19 18 57.2**	**-0.3**
BOAV	**Boa Vista**	**23.80**	**21**	P		**P**	**19 19 00.3**	**-1.2**
JANB	**Januaria**	**23.86**	**82**	*e*P		**P**	**19 19 01.5**	**-0.7**
RUSC	**La Rusia**	**26.18**	**350**	P		**P**	**19 19 24.8**	**+1.2**
RUSC				IAmb	IAmb		19 19 26.7	
	comp=Z,11nm,0.5s							
BAUV	**El Baul**	**28.88**	**2**	P		**P**	**19 19 45.7**	**-1.4**
BAUV				IAmb	IAmb		19 20 27.1	
	comp=Z,6.1nm,0.9s							
RCBR	**Riachuelo**	**34.96**	**71**	P		**P**	**19 20 40.4**	**-0.1**
HERN	**Volcan Telica**	**37.05**	**330**	P		**P**	**19 21 00.3**	**+2.1**
HERN				IAmb	IAmb		19 21 02.9	
	comp=Z,74nm,0.4s							
PDPR	**Patillas Dam,**	**37.99**	**4**	P		**P**	**19 21 04.7**	**-1.3**
PDPR				IAmb	IAmb		19 21 05.5	
	comp=Z,20nm,1.0s							
CELP	**Cerrillos**	**38.01**	**3**	P		**P**	**19 21 06.4**	**+0.2**
TXAR	**Lajitas Array**	**59.56**	**325**	P		**P**	**19 23 51.0**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=134,slow=5.7,SNR=2.6							
	comp=Z,0.2nm,0.6s							
SNAA	**Sanae**	**63.55**	**161**	P		**P**	**19 24 18.1**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=296,slow=8.2,SNR=5.5							
	comp=Z,1.8nm,0.7s							
DBIC	**Dimbokro**	**68.24**	**74**	P		**P**	**19 24 47.9**	**-0.1**
	comp=Z,3.4nm,0.4s,baz=268,slow=6.0,SNR=12							
	comp=Z,3.4nm,0.4s							
QSPA	**South Pole Qui**	**70.07**	**180**	P		**P**	**19 25 01.8**	**+3.3**
	comp=Z,2.3nm,0.4s,baz=194,slow=4.2,SNR=29							
	comp=Z,2.3nm,0.4s							
PDAR	**Pinedale Array**	**72.97**	**330**	P		**P**	**19 25 18.1**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=114,slow=4.6,SNR=2.8							
	comp=Z,0.2nm,0.4s							
TORD	**Torodi Ar. Bea**	**76.79**	**71**	P		**P**	**19 25 38.3**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=255,slow=5.3,SNR=82							
	comp=Z,2.5nm,0.3s							
ASAR	**Alice Springs**	**131.18**	**208**	PKP		**PKiKP**	**19 32 59.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=125,slow=1.2,SNR=9.3							
WRA	**Warramunga Arr**	**134.19**	**211**	PKP		**PKiKP**	**19 33 05.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=149,slow=1.9,SNR=6.1							
MKAR	**Makanchi Array**	**144.45**	**35**	PKP		**PKPdf**	**19 33 21.5**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=339,slow=2.2,SNR=2.3							
MJAR	**Matsushiro Arr**	**151.28**	**310**	PKPbc		**PKiKP**	**19 33 40.3**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=80,slow=1.2,SNR=5.0							

*NEIC **18** 19:18:54.7±1.7,2˚.68N±0˚.05×97˚.49E±0˚.05,h71km±8km, mb4.5/12, Error ellipse: s-maj=9.9km s-min=3.3km az=47.0*
*IDC **18** 19:18:55.8±3.2,2˚.75N×97˚.59E,h83km±25km, mb3.7/10, mbtmp4.0/11, Error ellipse: s-maj=42.5km s-min=15.6km az=54.0*
*DJA **18** 19:18:56.0±0.4,3˚N±2˚×9˚8E±˚, h28km±3km, M4.3/19, mb4.2/4, MLv4.3/19*
ISC 18 19:18:54.8±0.9,2.74N±0˚.05×97.53E±0˚.05,h82km±8km, n50,σ1°93/53,mb4.2/17,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCSI	**Kotacane, Aceh**	**0.81**	**17**	P		**Pn**	**19 19 11.2**	**-0.7**
KCSI				S		**Sn**	**19 19 23.7**	**-0.9**
TSI	**Tuntungan**	**1.28**	**54**	P		**Pn**	**19 19 18.6**	**+1.2**
TSI				S		**Sn**	**19 19 35.2**	**+0.8**
RPSI	**Rantau Prapat**	**1.39**	**92**			**Pn**	**19 19 18.5**	**-0.3**
RPSI	**Rantau Prapat**	**1.39**	**92**			**Pn**	**19 19 18.8**	**0.0**
PSI	**Prapat**	**1.40**	**87**	P		**Pn**	**19 19 18.8**	**-0.2**
	57nm,0.3s,baz=279,slow=10,SNR=63							
PSI				S		**Sn**	**19 19 36.9**	**-0.3**
	221nm,0.6s,baz=279,slow=13,SNR=11							
GSI	**Gunungsitoli**	**1.43**	**178**			**Pn**	**19 19 18.0**	**-1.4**
GSI	**Gunungsitoli**	**1.43**	**178**	P		**Pn**	**19 19 20.3**	**+1.0**
MLSI	**Meulaboh, Aceh**	**1.89**	**324**	P		**Pn**	**19 19 26.6**	**+1.3**
MLSI				S		**Sn**	**19 19 50.1**	**+1.6**
LHMI	**Lhok Sumawe**	**2.54**	**347**			**Pn**	**19 19 35.7**	**+1.7**
LHMI	**Lhok Sumawe**	**2.54**	**347**	P		**Pn**	**19 19 35.0**	**+1.0**
LHMI				S		**Sn**	**19 20 06.1**	**+2.0**
MNSI	**Mandailing Nat**	**2.82**	**133**	P		**Pn**	**19 19 38.7**	**+1.0**
PBSI	**Pulau Batu**	**2.88**	**165**	P		**Pn**	**19 19 38.6**	**0.0**
IPM	**Ipoh**	**3.89**	**64**			**Pn**	**19 19 53.2**	**+0.9**
KULM	**Kulim**	**4.01**	**51**			**Pn**	**19 19 54.5**	**+0.6**
BKNI	**Bangkinang**	**4.25**	**124**	P		**Pn**	**19 19 59.1**	**+1.9**
PPI	**Padang Panjang**	**4.28**	**138**	P		**Pn**	**19 20 01.6**	**+4.0**
SISI	**Saibi**	**4.33**	**159**	P		**Pn**	**19 20 00.1**	**+1.8**
PDSI	**Padang**	**4.66**	**141**	P		**Pn**	**19 20 04.2**	**+1.3**
CMBY	**CAMPBELL BAY**	**5.56**	**320**	*e*P		**Pn**	**19 20 13.8**	**-1.3**
CMBY				*e*S		**Sn**	**19 21 13.0**	**-4.6**
CMBY				IAML			19 21 43.5	
	comp=E,253nm,1.9s							
CMBY				IAML			19 21 46.0	
	comp=N,306nm,0.3s							
KRJI	**Kerinci**	**6.20**	**141**	P		**Pn**	**19 20 24.9**	**+0.9**
	comp=N,91nm,0.6s							
TPRI	**Tanjung Pinang**	**7.22**	**104**	P		**Pn**	**19 20 38.7**	**+0.9**
MNAI	**Manna**	**8.90**	**142**	Pn		**Pn**	**19 20 59.8**	**-0.9**
PBA	**Port Blair**	**10.05**	**332**	*e*S		Sn	19 22 56.0	-11
CMAR	**Chiang Mai Arr**	**15.68**	**5**	P		**Pn**	**19 22 31.7**	**+0.6**
	comp=N,1.1nm,0.9s,baz=199,slow=11,SNR=7.3							
KKM	**Kota Kinabalu**	**18.91**	**79**	P		**P**	**19 23 04.8**	**-4.5**
TRD	**Trivandrum**	**21.25**	**286**	*e*P		P	19 23 42.2	+7.7
TRD				*e*S		S	19 27 14.2	-12
AZL	**Aizawl**	**21.39**	**348**	*e*P		P	19 23 45.9	+10
AZL				*e*S		**S**	**19 27 20.6**	**-8.7**
MTN	**Manton Dam**	**36.78**	**116**	P		**P**	**19 25 53.9**	**-1.1**
MTN				IAmb	IAmb		19 26 31.2	
	comp=Z,12nm,1.2s							
WB0	**Warramunga Arr**	**42.55**	**123**	P		**P**	**19 26 43.4**	**+0.6**
WB0				IAmb	IAmb		19 26 43.9	
	comp=Z,3.8nm,0.6s							
WRA	**Warramunga Arr**	**42.59**	**124**	P		**P**	**19 26 43.6**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=302,slow=9.2,SNR=23							
	comp=Z,1.9nm,0.7s							
WR8	**Warramunga Arr**	**42.73**	**124**	P		**P**	**19 26 44.9**	**+0.6**
GAR	**Garm**	**43.78**	**329**	P		**P**	**19 26 53.9**	**+1.2**
GAR				IAmb	IAmb		19 26 55.6	
	comp=Z,18nm,1.5s							
ASAR	**Alice Springs**	**44.07**	**129**	P		**P**	**19 26 55.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=302,slow=8.0,SNR=8.9							
	comp=Z,0.4nm,0.6s							
KSRS	**Korea Array**	**44.40**	**35**	P		**P**	**19 26 57.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=228,slow=8.6,SNR=2.9							
	comp=Z,0.6nm,0.7s							
SONM	**Songino Array**	**45.57**	**8**	P		**P**	**19 27 07.7**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=186,slow=9.4,SNR=4.1							
	comp=Z,0.6nm,0.4s							
MKAR	**Makanchi Array**	**45.84**	**345**	P		**P**	**19 27 09.2**	**+0.5**
MKAR	**Makanchi Array**	**45.84**	**345**	P		**P**	**19 27 09.5**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=160,slow=8.5,SNR=26							
	comp=Z,0.9nm,0.3s							
BNX	**BinXian**	**50.17**	**27**	⇑P		P	19 27 50.3	+8.2
BNX				pmax	pmax			
	comp=Z,7.0nm,2.5s							
KURBB	**Kurchatov Arra**	**50.34**	**344**	P		**P**	**19 27 44.1**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=158,slow=7.4,SNR=9.8							
	comp=Z,0.5nm,0.4s							
KURK	**Kurchatov**	**50.40**	**344**	P		**P**	**19 27 43.6**	**-0.2**
INKA	**Innaminka**	**51.45**	**129**	P		**P**	**19 27 52.6**	**+0.6**
INKA				IAmb	IAmb		19 27 54.4	
	comp=Z,2.1nm,0.8s							
ZAA0	**Zalesovo Array**	**52.10**	**351**	P		**P**	**19 27 56.8**	**+0.4**
ZAA0				IAmb	IAmb		19 27 58.4	
	comp=Z,2.7nm,0.9s							
ZALV	**Zalesovo Beam**	**52.10**	**351**	P		**P**	**19 27 57.1**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=172,slow=6.3,SNR=21							
	comp=Z,2.4nm,0.3s							
BVAR	**Borovoye Array**	**54.92**	**340**	P		**P**	**19 28 17.7**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=143,slow=9.0,SNR=18							
	comp=Z,2.5nm,0.6s							
VOI	**Vohitsoka**	**55.29**	**241**	P		**P**	**19 28 18.7**	**-1.7**
AB31	**Akbulak array**	**56.32**	**331**	P		**P**	**19 28 27.8**	**+0.6**
ABKAR	**Akbulak array**	**56.32**	**331**	P		**P**	**19 28 28.6**	**+1.4**
EIDS	**Eidsvold**	**58.90**	**122**	P		**P**	**19 28 45.9**	**+0.2**
EIDS				IAmb	IAmb		19 28 51.6	
	comp=Z,5.1nm,1.1s							
BRTR	**Keskin Array B**	**68.33**	**312**	P		**P**	**19 29 49.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=111,slow=9.2,SNR=4.7							
	comp=Z,0.8nm,0.7s							
FINES	**FINESS Array B**	**78.80**	**332**	P		**P**	**19 30 50.1**	**+1.6**
	comp=Z,3.5nm,1.1s,baz=90,slow=3.8,SNR=5.8							
	comp=Z,3.5nm,1.1s							

*BYKL **18** 19:44:58.9±0.2,51˚.82N×96˚.04E,h9km±9km ASRS **18** 19:44:59.2±0.2,52˚N±2˚×9˚6E±˚, h10km, MLh4.0/10, Error ellipse: s-maj=4.0km s-min=2.6km az=7.4, confirmed*
ISC 18 19:45:00.5±0.7,51.82N±0˚.04×95.85E±0˚.02,h10km,n40, σ3°14/69,1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KZLR	**Kyzyl**	**0.88**	**263**	Pg		**Pb**	**19 45 17.4**	**-0.4**
KZLR				Sg		**Sb**	**19 45 29.4**	**-0.1**
KZLR	**Kyzyl**	**0.88**	**263**	*e*Pg		**Pg**	**19 45 17.2**	**-0.1**
KZLR				*e*Sg		**Sb**	**19 45 29.4**	**-0.1**
ARDR	**Aradan**	**1.67**	**298**	Pg		**Pg**	**19 45 31.9**	**-0.6**
ARDR				Sg		**Sg**	**19 45 55.0**	**+0.8**
ARDR	**Aradan**	**1.67**	**298**	*e*Pg		**Pg**	**19 45 31.7**	**-0.8**
ARDR				*e*Sg		**Sg**	**19 45 54.8**	**+0.6**
ORL	**Orlik**	**2.54**	**72**	*i*Pg		**Pn**	**19 45 42.1**	**+0.2**
ORL				*e*			19 45 50.4	
ORL				*e*Sg		**Sn**	**19 46 13.9**	**+0.9**
ORL				max				
	50nm,0.5s							
ORL				Smax				
	98nm,0.8s							
CERR	**Cheremushki**	**2.91**	**293**	Pg		**Pb**	**19 45 53.3**	**+0.9**
CERR				Sg		**Sg**	**19 46 33.4**	**-0.5**
DJO	**Djoy, Khakassi**	**3.00**	**290**	Pg		**Pb**	**19 45 52.0**	**-2.0**
DJO				Sg		**Sg**	**19 46 34.9**	**-1.9**
MOY	**Mondy**	**3.20**	**91**	Pg		**Pb**	**19 45 54.2**	**-3.3**
MOY				Sg		**Sb**	**19 46 34.7**	**-1.8**
MOY	**Mondy**	**3.20**	**91**	*e*Pg		**Pn**	**19 45 53.7**	**+2.7**
MOY				*e*			19 45 58.3	
MOY				*e*Sg		**Sb**	**19 46 34.3**	**-2.3**
MOY				max				
	25nm,0.6s							
MOY				Smax				
	159nm,1.6s							
MINR	**Mina**	**3.24**	**343**	Pg		**Pg**	**19 45 59.7**	**-2.8**
MINR				Sg		**Sg**	**19 46 41.1**	**-3.3**
MINR	**Mina**	**3.24**	**343**	*e*Pg		**Pb**	**19 45 59.0**	**+1.0**
MINR				*e*Sg		**Sg**	**19 46 43.6**	**-0.8**
TEL	**Teeli**	**3.63**	**259**	Pg		**Pn**	**19 45 57.2**	**+0.5**
TEL				Sg		**Sb**	**19 46 47.8**	**-0.9**
VEH	**Verkhnyaya Baz**	**3.67**	**295**	Pg		**Pb**	**19 46 01.2**	**-4.2**
VEH				Sg		**Sg**	**19 46 55.3**	**-2.9**
ARS	**Arshan**	**4.08**	**86**	*e*Pn		**Pn**	**19 46 00.3**	**-2.6**
ARS				*e*Pg		**Pb**	**19 46 09.6**	**-2.8**
ARS				*e*Sg		**Sb**	**19 47 02.0**	**+0.3**
ARS				Pmax				
	33nm,0.9s							
ARS				Smax				
	305nm,1.0s							
GZL	**Zheleznogorsk**	**4.65**	**344**	Sg		**Sg**	**19 47 24.6**	**-5.2**
GZLN	**Zheleznogorsk**	**4.73**	**346**	Pg		**Pb**	**19 46 25.2**	**+1.8**
GZLN				Sg		**Sg**	**19 47 28.1**	**-4.1**
TLY	**Talaya**	**4.85**	**89**	*e*Pg		**Pb**	**19 46 24.0**	**-1.4**
TLY				*e*Sg		**Sb**	**19 47 25.4**	**+1.6**
TLY				Pmax				
	5.0nm,0.8s							
TLY				Smax				
	55nm,1.6s							
ZAK	**Zakamensk**	**4.90**	**104**	Pg		**Pb**	**19 46 27.0**	**+0.6**
ZAK				Sg		**Sb**	**19 47 27.9**	**+2.5**
ZAK	**Zakamensk**	**4.90**	**104**	*e*Pg		**Pb**	**19 46 24.5**	**-1.9**
ZAK				*e*Sg		**Sb**	**19 47 27.2**	**+1.8**
ZAK				Pmax				
	7.0nm,0.8s							
ZAK				Smax				
	112nm,1.6s							
CUR	**Chagan-Uzun**	**5.04**	**253**	Pn		**Pn**	**19 46 18.8**	**+2.6**
CUR				P		Pb	19 46 19.0	-10
CUR				Pg		**Pg**	**19 46 33.2**	**-3.9**
CUR				Sg		**Sb**	**19 47 34.4**	**+4.8**
ULGR	**Ulagan, Altay**	**5.10**	**259**	Pn		**Pn**	**19 46 20.3**	**+3.3**
ULGR				Pg		**Pg**	**19 46 37.1**	**-1.0**
ULGR				Sg		**Sg**	**19 47 41.0**	**-3.1**
YALR	**Yailyu, Altay**	**5.11**	**273**	Pn		**Pn**	**19 46 19.5**	**+2.4**
YALR				Pg		**Pb**	**19 46 33.2**	**+3.2**
YALR				Sg		**Sg**	**19 47 41.2**	**-3.3**
IRK	**Irkutsk**	**5.22**	**82**	*e*Sg		**Sb**	**19 47 36.8**	**+2.4**
IRK				Smax				
	210nm,1.0s							
IVK	**Ivanovka**	**5.32**	**87**	*e*Pg		**Pb**	**19 46 31.9**	**-1.5**
IVK				*e*Sg		**Sb**	**19 47 39.6**	**+2.4**
IVK				Pmax				
	11nm,0.8s							
IVK				Smax				
	52nm,1.2s							
ARTR	**Artybash**	**5.32**	**273**	Pn		**Pn**	**19 46 21.5**	**+1.6**
ARTR				Pg		**Pg**	**19 46 38.0**	**-4.3**
ARTR				Sg		**Sg**	**19 47 50.2**	**-0.8**
LSTR	**Listvyanka**	**5.57**	**86**	*e*Pg		**Pb**	**19 46 36.9**	**-0.9**
LSTR				*e*Sg		**Sb**	**19 47 47.4**	**+2.9**
LSTR				Pmax				
	3.0nm,0.9s							
LSTR				Smax				
	45nm,1.5s							
BGT	**Bolshoye Golou**	**5.92**	**84**	*e*Pg		**Pb**	**19 46 42.5**	**-1.2**
BGT				*e*Sg		**Sb**	**19 47 58.5**	**+3.9**
BGT				Pmax				
	4.0nm,0.2s							
BGT				Smax				
	81nm,1.4s							
VBR	**Suhoy Ruchey**	**6.31**	**86**	*e*Sg		**Sb**	**19 48 10.5**	**+4.8**
TRG	**Tyrgan**	**6.51**	**78**	*e*Pg		**Pb**	**19 46 53.5**	**-0.3**
TRG				*e*Sg		**Sb**	**19 48 16.0**	**+4.4**
TRG				Pmax				
	1.0nm,0.2s							
TRG				Smax				
	49nm,1.5s							
HRMR	**Khuramsha**	**6.90**	**87**	*e*Pg		**Pb**	**19 47 00.8**	**+0.3**
HRMR				*e*Sg		**Sb**	**19 48 28.8**	**+5.9**
HRMR				Pmax				
	8.0nm,0.8s							
HRMR				Smax				
	46nm,1.3s							
ZRHB	**Zarechye**	**6.99**	**80**	*e*Sg		**Sb**	**19 48 32.1**	**+6.7**
ZRHB				Smax				
	194nm,1.2s							
UUDB	**Ulan-Yde**	**7.32**	**85**	*e*Sg		**Sb**	**19 48 41.8**	**+6.9**
UUDB				Smax				
	129nm,1.9s							
OGRR	**Ongureny**	**7.36**	**71**	*e*Pg		**Pb**	**19 47 09.0**	**+0.7**
OGRR				*e*Sg		**Sb**	**19 48 42.7**	**+6.6**
OGRR				Pmax				
	3.0nm,0.5s							
OGRR				Smax				
	41nm,1.0s							
KELR	**Kotokel**	**7.56**	**78**	*e*Sg		**Sb**	**19 48 49.3**	**+7.5**
GORB	**Goryachinsk**	**7.70**	**76**	*e*Sg		**Sb**	**19 48 53.3**	**+7.6**
ULN	**Ulaanbaatar**	**8.25**	**114**	*e*Sg		Sb	19 49 11.6	+10
ULN				Smax				
	18nm,1.4s							
SYVR	**Suvo**	**8.78**	**72**	*e*Sg		Sg	19 49 27.2	-15
SYVR				Smax				
	34nm,1.7s							
YLYR	**Ulyunkhan**	**9.65**	**66**	*e*Pg		Pn	19 47 50.2	+31
YLYR				*e*Sg		Sn	19 49 53.6	+46
YLYR				Pmax				
	1.0nm,0.7s							
YLYR				Smax				
	32nm,1.8s							
KMO	**Kumora**	**9.94**	**60**	*e*Pn		**Pn**	**19 47 21.6**	**-1.6**
KMO				*e*Sg		Sn	19 50 03.0	+48
KMO				Smax				
	38nm,1.6s							
KPC	**Khapcheranga**	**10.69**	**95**	*e*Sg		Sn	19 50 24.9	+52
KPC				Smax				
	21nm,1.9s							

*IDC **18** 19:56:06.0±1.2,37˚.66N×92˚.01E,h0km,mb3.7/5, mbtmp3.7/9,ML3.2/4, Error ellipse: s-maj=63.6km s-min=18.6km az=54.0*
ISC 18 19:56:11.3±1.3,37.8N±0˚.2×91.9E±0˚.2,h35km,n9, σ1°59/10,mb3.6/5,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**11.41**	**325**	Pn		**Pn**	**19 58 52.2**	**+0.5**
	0.4nm,0.3s,baz=131,slow=14,SNR=18							
MKAR				Sn		**Sn**	**20 00 55.4**	**-2.5**
	0.2nm,0.3s,baz=136,slow=25,SNR=4.7							
	0.6nm,0.3s							
SONM	**Songino Array**	**14.59**	**42**	Pn		**Pn**	**19 59 35.5**	**+0.3**
	0.1nm,0.3s,baz=248,slow=7.6,SNR=1.7							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**15.93**	**328**	Pn		**Pn**	**19 59 51.9**	**-0.7**
	0.1nm,0.3s,baz=139,slow=11,SNR=4.3							
	2.1nm,0.2s							
ZALV	**Zalesovo Beam**	**16.83**	**346**	P		**Pn**	**20 00 04.0**	**0.0**
	0.2nm,0.3s,baz=171,slow=12,SNR=6.0							
	0.3nm,0.2s							
BVAR	**Borovoye Array**	**21.28**	**322**	P		**P**	**20 00 57.4**	**+2.9**
	0.5nm,0.5s,baz=134,slow=8.3,SNR=2.9							
	0.5nm,0.5s							
FINES	**FINESS Array B**	**46.24**	**323**	P		**P**	**20 04 33.2**	**+0.6**
	2.3nm,1.0s,baz=107,slow=10,SNR=6.3							
	2.3nm,1.0s							
ARCES	**ARCESS Array B**	**46.89**	**334**	P		**P**	**20 04 37.4**	**-0.3**
	2.4nm,0.9s,baz=80,slow=10,SNR=2.7							
	2.4nm,0.9s							
WRA	**Warramunga Arr**	**69.98**	**137**	P		**P**	**20 07 18.4**	**-0.9**

KLBR	**Kellerberrin**	**13.43**	**190**	P	**Pn**	**20 17 50.4**	**+1.8**
	comp=Z,26nm,1.4s						
KLBR	**Kellerberrin**	**13.43**	**190**	P	**Pn**	**20 17 50.3**	**+1.7**
ASAR	**Alice Springs**	**13.68**	**115**	Pn	**Pn**	**20 17 51.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=291,slow=13,SNR=15						
ASAR				Sn	**Sn**	**20 20 21.5**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=289,slow=22,SNR=6.5						
	comp=Z,0.5nm,0.3s						
AS01	**Alice Springs**	**13.71**	**115**	P	**Pn**	**20 17 55.6**	**+2.9**
MUN	**Mundaring**	**14.11**	**195**	P	**Pn**	**20 17 59.1**	**+1.1**
	comp=Z,19nm,1.5s						
MUN	**Mundaring**	**14.11**	**195**	P	**Pn**	**20 17 59.5**	**+1.4**
MTKN	**Mount Kenneth**	**14.18**	**196**	P	**Pn**	**20 18 00.4**	**+1.4**
NWAO	**Narrogin (SRO)**	**14.82**	**190**	Pn	**Pn**	**20 18 08.1**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=13,slow=14,SNR=6.4						
NWAO				Sn	Sn	20 20 40.9	-11
	comp=Z,0.3nm,0.3s,baz=294,slow=5.0,SNR=3.2						
	comp=Z,3.4nm,0.5s						
NWAO	**Narrogin (SRO)**	**14.82**	**190**	P	**Pn**	**20 18 10.1**	**+2.4**
STKA	**Stephens Creek**	**23.40**	**129**	P	**P**	**20 19 47.5**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=318,slow=12,SNR=1.7						
	comp=Z,2.9nm,1.0s						
H08S2	**Diego Garcia H**	**47.75**	**276**	T	T	21 13 02.7	
	baz=107,slow=76,SNR=4.9						
H08S3	**Diego Garcia H**	**47.76**	**276**	T	T	21 13 12.6	
	baz=107,slow=76,SNR=5.6						
H08S1	**Diego Garcia H**	**47.77**	**276**	T	T	21 13 02.9	
	baz=107,slow=76,SNR=6.9						
MKAR	**Makanchi Array**	**73.36**	**334**	P	**P**	**20 26 10.3**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=142,slow=7.3,SNR=2.4						
	comp=Z,0.3nm,0.8s						

*NEIC **18** 21:08:06.5±0.8, 19°.42N±0°.02×155°.487W±0°.004, h49km±3km, Error ellipse: s-maj=2.8km s-min=0.6km az=178.0*

HVO 18 21:08:07.8±0.7, **19°.41N**±0°.02×**155°.47W**±0°.02, **h44**km±3km, **ML2.5**/28, **ML2.5**/42(NEIC), **Error ellipse: s-maj=2.8km s-min=2.6km az=189.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIN	**Ainahou**	**0.04**	**163**		Pn	21 08 14.8	-0.3
AIN					Sn	21 08 19.9	-0.2
AIN	**Ainahou**	**0.04**	**163**	IAML		21 08 20.4	
	comp=E,2μm,0.3s						
AIN				IAML		21 08 20.6	
	comp=N,2μm,0.4s						
MLH	**Mauna Loa**	**0.12**	**42**		Pn	21 08 14.9	-0.5
MLH					Sn	21 08 20.1	-0.5
MLH	**Mauna Loa**	**0.12**	**42**	IAML		21 08 20.3	
	comp=E,562nm,0.3s						
MLH				IAML		21 08 20.6	
	comp=N,694nm,0.1s						
MWH	**Mokuaweoweo**	**0.14**	**303**		Pn	21 08 14.9	-1.0
MWH					Sn	21 08 20.4	-1.1
MWH	**Mokuaweoweo**	**0.14**	**303**	IAML		21 08 20.6	
	comp=N,455nm,0.3s						
MWH				IAML		21 08 20.9	
	comp=E,244nm,0.5s						
WRMHI	**West Rim**	**0.16**	**90**		Pn	21 08 14.8	-0.7
WRMHI					Sn	21 08 20.1	-0.8
SDHHI	**Sand Hill**	**0.17**	**96**		Pn	21 08 14.9	-0.6
SDHHI					Sn	21 08 20.1	-0.8
UWE	**Uwekahuna**	**0.17**	**85**		Pn	21 08 14.9	-0.7
UWE					Sn	21 08 20.1	-0.9
UWE	**Uwekahuna**	**0.17**	**85**	IAML		21 08 20.3	
	comp=N,394nm,0.1s						
UWE				IAML		21 08 23.2	
	comp=E,365nm,0.3s						
OBL	**Observatory Le**	**0.17**	**86**		Pn	21 08 14.8	-0.7
OBL					Sn	21 08 20.1	-0.9
HTC	**Hot Caves**	**0.18**	**158**		Pn	21 08 15.2	-0.3
UWB	**Uwekahuna Bluf**	**0.18**	**84**		Pn	21 08 14.8	-0.8
UWB					Sn	21 08 19.8	-1.3
RIM	**Rim**	**0.18**	**93**		Pn	21 08 15.0	-0.7
RIM					Sn	21 08 20.0	-1.1
HLP	**Hilina Pali**	**0.19**	**126**		Pn	21 08 15.2	-0.4
HLP					Sn	21 08 20.5	-0.5
HLP	**Hilina Pali**	**0.19**	**126**	IAML		21 08 21.0	
	comp=N,579nm,0.2s						
HLP				IAML		21 08 21.1	
	comp=E,367nm,0.2s						
RSD	**Rainshed**	**0.19**	**73**		Pn	21 08 15.1	-0.6
RSD					Sn	21 08 20.6	-0.6
SBLHI	**Steaming Bluff**	**0.19**	**84**		Pn	21 08 14.8	-0.8
SBLHI					Sn	21 08 20.0	-1.2
KKO	**Keanakako'i**	**0.19**	**93**		Pn	21 08 15.0	-0.7
KKO					Sn	21 08 20.6	-0.7
HMH	**Humu'ula Sheep**	**0.20**	**356**		Pn	21 08 15.6	-0.4
HMH					Sn	21 08 21.4	-0.3
HMH	**Humu'ula Sheep**	**0.20**	**356**	IAML		21 08 21.5	
	comp=E,1μm,0.3s						
HMH				IAML		21 08 21.8	
	comp=N,2μm,0.2s						
BYL	**Byron's Ledge**	**0.20**	**88**		Pn	21 08 15.0	-0.8
BYL					Sn	21 08 20.4	-0.8
BYL	**Byron's Ledge**	**0.20**	**88**	IAML		21 08 20.6	
	comp=N,168nm,0.4s						
BYL				IAML		21 08 27.1	
	comp=E,153nm,0.9s						
HATHI	**Halema'uma'u T**	**0.20**	**85**		Pn	21 08 15.0	-0.8
HATHI					Sn	21 08 20.1	-1.1
HATHI	**Halema'uma'u T**	**0.20**	**85**	IAML		21 08 22.0	
	comp=E,173nm,0.7s						
HATHI				IAML		21 08 24.4	
	comp=N,191nm,1.5s						
KHU	**Kahuku**	**0.21**	**221**		Pn	21 08 15.2	-0.8
KHU					Sn	21 08 20.6	-1.1
ALEP	**Alea Permanent**	**0.21**	**309**		Pn	21 08 15.1	-1.0
ALEP					Sn	21 08 20.8	-1.2
PUH	**Pauahi**	**0.24**	**98**		Pn	21 08 15.3	-0.7
PUH					Sn	21 08 20.9	-0.9
KNHH	**Kane Nui o Ham**	**0.28**	**95**		Pn	21 08 15.8	-0.7
STCH	**Steam Cracks**	**0.33**	**94**		Pn	21 08 16.1	-0.8
STCH					Sn	21 08 22.0	-1.2
STCH	**Steam Cracks**	**0.33**	**94**	IAML		21 08 22.2	
	comp=E,353nm,0.1s						
STCH				IAML		21 08 22.6	
	comp=N,233nm,0.1s						
HPO	**Honuapo**	**0.33**	**194**		Pn	21 08 16.0	-0.7
HPO					Sn	21 08 22.1	-0.9
NPOC	**North of Pu'u**	**0.34**	**92**		Pn	21 08 16.3	-0.7
NPOC					Sn	21 08 22.4	-1.1
JCUZ	**Jacuzzi**	**0.35**	**94**		Pn	21 08 16.7	-0.4
JCUZ					Sn	21 08 22.6	-1.0
POHA	**Pohakuloa**	**0.35**	**350**		Pn	21 08 16.3	-1.1
POHA					Sn	21 08 22.7	-1.3
POHA	**Pohakuloa**	**0.35**	**350**	IAML		21 08 22.9	
	comp=N,505nm,0.2s						
POHA				IAML		21 08 23.7	
	comp=N,382nm,0.1s						
CPH	**Captain Cook**	**0.43**	**281**		Pn	21 08 16.6	-1.4
JOKA	**Jonika Flow**	**0.44**	**86**		Pn	21 08 17.3	-0.8
JOKA					Sn	21 08 24.1	-1.2
JOKA	**Jonika Flow**	**0.44**	**86**	IAML		21 08 28.1	
	comp=N,194nm,1.6s						
HUH	**Hualalai**	**0.44**	**309**		Pn	21 08 17.3	-1.1
HUH					Sn	21 08 24.7	-1.1
HUH	**Hualalai**	**0.44**	**309**	IAML		21 08 26.5	
	comp=E,285nm,0.2s						
HUH				IAML		21 08 28.7	
	comp=N,291nm,0.2s						
HPAH	**Hawaii Prepara**	**0.66**	**341**		Pn	21 08 19.3	-1.6
HPAH					Sn	21 08 27.6	-2.7
HPAH	**Hawaii Prepara**	**0.66**	**341**	IAML		21 08 28.1	
	comp=N,1μm,0.2s						
HPAH				IAML		21 08 28.3	
	comp=E,729nm,0.1s						

IDC 18 21:13:22.3±58.0, **21°.24S**×**175°.95W**, **h0**km, **mb3.7**/3, **mbtmp3.7**/3, **Error ellipse: s-maj=1084.0km s-min=185.4km az=84.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.20**	**245**	P	P	21 20 53.1	+0.7
	1.3nm,0.7s,baz=108,slow=9.6,SNR=1.3						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**46.22**	**257**	P	P	21 21 48.6	-0.8
	0.8nm,0.7s,baz=102,slow=6.8,SNR=7.8						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**46.40**	**262**	P	P	21 21 50.9	0.0
	0.6nm,0.6s,baz=97,slow=7.8,SNR=3.1						
	0.6nm,0.6s						

*CATAC **18** 21:18:52.1±1.4, 10°.N±5°×7°.8W±°, h26km±11km, M3.3/7, MLv3.3/7, Error ellipse: s-maj=11.1km s-min=4.4km az=0.9, confirmed*

RSNC 18 21:18:54.2±0.0, **9°.N**±3°×**7°.8W**±°, **h63**km±15km, **M2.8, ML2.6, Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAP2	**Capurgana**	**0.95**	**151**	P	Pn	21 19 11.9	+0.1
CAP2				S	Sn	21 19 26.3	+1.5
CAPC	**Capurgana**	**0.97**	**151**	P	Pn	21 19 11.2	-0.8
CAPC				S	Sn	21 19 24.9	-0.2
LCBC	**Los crdobas,**	**1.57**	**114**	P	Pn	21 19 20.1	+0.2
LCBC				S	Sn	21 19 48.1	+8.9
APAC	**Apartado, Choc**	**2.00**	**142**	P	Pn	21 19 26.6	+0.9
APAC				S	Sn	21 19 53.2	+3.5
BCIP	**Isla Barro Col**	**2.02**	**261**	P	Pn	21 19 24.9	-1.0
BCIP				S	Sn	21 19 50.0	-0.1
PTAC	**Punta Ardita,**	**2.33**	**180**	P	Pn	21 19 30.9	+0.7
PTAC				S	Sn	21 19 55.0	-2.7
SJCC	**San Jacinto, C**	**2.63**	**81**	P	Pn	21 19 32.9	-1.5
SJCC				S	Sn	21 20 03.1	-2.2
SJCC	**San Jacinto, C**	**2.63**	**81**	P	Pn	21 19 32.9	-1.5
SJCC				S	Sn	21 20 02.1	-3.2
URJC	**San Jos de Ur**	**2.85**	**127**	P	Pn	21 19 34.6	-2.7
URJC				S	Sn	21 20 11.0	+0.6
DBBC	**Dabeiba**	**2.93**	**147**	P	Pn	21 19 38.6	+0.1
AZU	**Azuero**	**2.96**	**235**	P	Pn	21 19 37.6	-1.1
AZU				S	Sn	21 20 12.4	-0.7
ZARC	**Zaragoza, Cauc**	**3.54**	**124**	P	Pn	21 19 46.2	-0.5
ZARC				S	Sn	21 20 27.9	+0.5
ARGC	**Ariguani, Magd**	**3.54**	**84**	P	Pn	21 19 46.5	-0.3
ARGC				S	Sn	21 20 25.3	-2.2
HELC	**Santa Helena**	**3.99**	**145**	P	Pn	21 19 53.8	+0.6
HELC				S	Sn	21 20 41.2	+2.3
PTBC	**PUERTO BERRIO,**	**4.44**	**131**	P	Pn	21 19 58.1	-1.0
PTBC				S	Sn	21 20 49.6	+0.1
BRJC	**Barrancabermej**	**4.75**	**121**	P	Pn	21 20 02.6	-0.7
BRJC				S	Sn	21 20 57.2	+0.2

*NEIC **18** 21:22:20.3±1.8, 17°.79S±0°.07×69°.34W±0°.09, h164km±4km, mb4.1/5, Error ellipse: s-maj=12.9km s-min=7.9km az=121.0*

*GUC **18** 21:22:22.2±0.7, 17°.86S×69°.38W, h143km±3km, ML3.2*

*IDC **18** 21:22:23.1±1.6, 17°.80S×68°.96W, h151km±12km, mb3.5/5, mbtmp4.0/7, Error ellipse: s-maj=22.2km s-min=20.2km az=95.0*

ISC 18 21:22:20.6±0.7, **17.78S**±0°.05×**69°.26W**±0°.08, **h155**km±6km, **n47**, σ1**s56**/56, **mb4.0**/5, **1C, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**0.28**	**312**		Pn	**21 22 43.0**	**+0.6**
PB18				Sn	Sn	**21 22 59.0**	**+0.1**
PB18	**Visviri**	**0.28**	**312**	*eP*	Pn	**21 22 43.1**	**+0.8**
PB18				*eS*	Sn	**21 22 59.4**	**+0.5**
PB18				IAML		21 23 00.8	
	comp=E,260nm,0.6s						
PB16	**IPOC Station P**	**0.60**	**203**		Pn	**21 22 44.0**	**+0.3**
PB16				Sn	Sn	**21 23 01.0**	**-0.5**
PB16	**IPOC Station P**	**0.60**	**203**	↑*iP*	Pn	**21 22 44.1**	**+0.3**
PB16				*eS*	Sn	**21 23 01.0**	**-0.5**
AP01	**Chacalluta**	**1.19**	**240**		Pn	**21 22 47.1**	**-0.3**
AP01				Sn	Sn	**21 23 06.0**	**-2.0**
AP01	**Chacalluta**	**1.19**	**240**	*eP*	Pn	**21 22 47.1**	**-0.3**
LPAZ	**La Paz**	**1.83**	**36**		Pn	**21 22 56.0**	**+1.2**
LPAZ	**La Paz**	**1.83**	**36**	P	Pn	**21 22 55.8**	**+0.9**
	comp=E,94nm,0.3s,baz=288,slow=3.6,SNR=1036						
LPAZ				S	Sn	**21 23 20.6**	**-0.4**
	comp=E,39nm,0.5s,baz=23,slow=16,SNR=12						
GO01	**Chusmiza**	**1.88**	**178**		Pn	**21 22 56.4**	**+1.1**
GO01	**Chusmiza**	**1.88**	**178**	*eP*	Pn	**21 22 56.3**	**+1.1**
GO01				*eS*	Sn	**21 23 22.8**	**+1.0**
GO01				IAML		21 23 35.1	
	comp=N,334nm,0.1s						
PB11	**IPOC Station P**	**2.01**	**191**		Pn	**21 22 56.5**	**+0.2**
PB11	**IPOC Station P**	**2.01**	**191**	*eP*	Pn	**21 22 56.5**	**+0.2**
PB11				*eS*	Sn	**21 23 22.7**	**-1.2**
PB11				IAML		21 23 26.3	
	comp=E,233nm,0.2s						
PB08	**IPOC Station P**	**2.35**	**178**		Pn	**21 23 01.0**	**+0.4**
PB08	**IPOC Station P**	**2.35**	**178**	*eP*	Pn	**21 23 01.7**	**+1.1**
PB08				IAML		21 23 35.2	
	comp=N,125nm,0.3s						
HMBC	**Humberstone**	**2.56**	**193**		Pn	**21 23 02.5**	**-0.2**
HMBC	**Humberstone**	**2.56**	**193**	*eP*	Pn	**21 23 03.1**	**+0.3**
HMBC				IAML		21 23 43.3	
	comp=N,243nm,0.4s						
TA02	**Huaiquique**	**2.61**	**198**	Pn	Pn	**21 23 01.3**	**-2.1**
TA01	**Diego Aracena**	**2.91**	**197**	Pn	Pn	**21 23 03.2**	**-3.7**
TA01	**Diego Aracena**	**2.91**	**197**	*eP*	Pn	**21 23 06.5**	**-0.5**
TA01				IAML		21 23 52.4	
	comp=E,188nm,0.4s						
PATCX	**Punta Patache**	**3.14**	**195**	Pn	Pn	**21 23 09.7**	**-0.4**
PB01	**IPOC Station P**	**3.25**	**184**		Pn	**21 23 11.2**	**-0.2**
PB01	**IPOC Station P**	**3.25**	**184**	*eP*	Pn	**21 23 12.0**	**+0.5**
PB02	**IPOC Station P**	**3.57**	**190**		Pn	**21 23 16.1**	**+0.4**
PB02	**IPOC Station P**	**3.57**	**190**	*eP*	Pn	**21 23 16.0**	**+0.4**
PB09	**IPOC Station P**	**4.00**	**180**		Pn	**21 23 21.5**	**+0.3**
PB03	**IPOC Station P**	**4.27**	**186**		Pn	**21 23 24.6**	**-0.1**
PB06	**IPOC Station P**	**4.91**	**183**	Pn	Pn	**21 23 32.7**	**-0.4**
PB05	**IPOC Station P**	**5.13**	**190**		Pn	**21 23 35.3**	**-0.6**
PB10	**IPOC Station P**	**5.83**	**192**	Pn	Pn	**21 23 43.9**	**-1.3**
PB14	**IPOC Station P**	**6.90**	**189**	Pn	Pn	**21 23 57.8**	**-1.8**
GO02	**Mina Guanaco**	**7.36**	**182**	Pn	Pn	**21 24 04.6**	**-1.1**
SIV	**San Ignacio**	**8.04**	**78**	P	Pn	**21 24 12.7**	**-1.9**
	comp=E,14nm,0.4s,baz=266,slow=9.6,SNR=78						
SIV				S	Sn	**21 25 39.6**	**-4.7**
	comp=E,2.1nm,0.7s,baz=342,slow=21,SNR=1.8						
AC01	**Pan de Azucar**	**8.42**	**188**	Pn	Pn	**21 24 17.1**	**-2.5**
CFA	**Coronel Fontan**	**13.80**	**176**	P	Pn	**21 25 30.6**	**+0.9**
	comp=E,0.5nm,0.4s,baz=356,slow=9.6,SNR=6.2						
VA03	**San Esteban**	**14.97**	**184**		Pn	**21 25 44.1**	**-0.4**
MT02	**Curacav**	**15.51**	**186**		Pn	**21 25 50.8**	**-0.3**
BDFB	**Brasilia**	**20.46**	**87**	P	P	**21 26 47.4**	**+1.0**
BDFB	**Brasilia**	**20.46**	**87**	P	P	**21 26 47.5**	**+1.2**
	comp=E,3.3nm,0.4s,baz=260,slow=8.4,SNR=7.8						
	comp=E,3.3nm,0.4s						
PLCA	**Paso Flores**	**22.90**	**183**	P	P	**21 27 11.1**	**+0.1**
PLCA				IAmb	IAmb	21 27 14.9	
	comp=Z,10nm,1.4s						
PLCA	**Paso Flores**	**22.90**	**183**	P	P	**21 27 14.3**	**+3.3**
	comp=Z,1.7nm,0.7s,baz=346,slow=8.9,SNR=4.3						
	comp=Z,1.7nm,0.7s						
RUSC	**La Rusia**	**23.82**	**351**	P	P	**21 27 16.3**	**-3.7**
RUSC				IAmb	IAmb	21 27 45.2	
	comp=Z,8.6nm,1.5s						
DR12	**Loma Pena Alta**	**36.34**	**360**	P	P	**21 29 09.1**	**-0.7**
DBIC	**Dimbokro**	**68.05**	**75**	P	P	**21 33 05.0**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=222,slow=5.4,SNR=5.2						
	comp=Z,1.8nm,0.5s						
PDAR	**Pinedale Array**	**70.74**	**330**	P	P	**21 33 23.6**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=118,slow=4.6,SNR=1.7						
	comp=Z,0.1nm,0.3s						
QSPA	**South Pole Qui**	**72.39**	**180**	P	P	**21 33 28.4**	**-1.2**
QSPA				IAmb	IAmb	21 33 41.4	
	comp=Z,5.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**76.45**	**71**	P	P	**21 33 55.2**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=254,slow=5.2,SNR=43						
	comp=Z,1.2nm,0.3s						
SONM	**Songino Array**	**149.81**	**6**	PKPbc	**PKPab**	**21 41 55.6**	**-2.7**
	comp=Z,0.5nm,0.6s,baz=5.7,slow=4.3,SNR=2.9						

*NEIC **18** 21:29:10.6±1.8, 31°.388N±0°.010×103°.661W±0°.008, h5km±1km, mb_Lg2.3/32, ML2.6/46, Error ellipse: s-maj=2.7km s-min=1.7km az=298.0*

TXNET 18 21:29:10.1, 31°.4N±0°.7×**103.7W**±0°.6, **h6**km±1km, **ML2.6**/15, **3C-1D, Error ellipse: s-maj=1.1km s-min=0.8km az=24.2, final, Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCOS	**Crockett Middl**	**0.13**	**88**		Pg	21 29 13.9	+1.0
PCOS					Sg	21 29 15.8	+1.1
PCOS	**Crockett Middl**	**0.13**	**88**	P	Pg	21 29 13.9	+1.0
PCOS				S	Sg	21 29 15.8	+1.1
TPB10	**Southeast of T**	**0.14**	**213**	↑P	Pg	21 29 13.5	+0.4
TPB10				S	Sg	21 29 16.5	+1.4
LWM2	**Layne Water Mi**	**0.15**	**154**	P	Pg	21 29 13.7	+0.5
LWM2				S	Sg	21 29 16.7	+1.4
TPB07	**Mentone**	**0.17**	**358**	↑P	Pg	21 29 14.9	+1.2
TPB07				S	Sg	21 29 18.1	+2.0
LWM1	**Layne Water Mi**	**0.17**	**171**	P	Pg	21 29 14.2	+0.6
LWM1				S	Sg	21 29 17.2	+1.2
PECS	**Pecos**	**0.18**	**259**		Pg	21 29 14.6	+0.9
PECS				Sg	Sg	21 29 17.3	+1.1
PECS				IAML		21 29 19.4	
	2μm,0.5s						
PECS	**Pecos**	**0.18**	**259**	↓P	Pg	21 29 14.5	+0.7
PECS				S	Sg	21 29 17.5	+1.3
TPB13	**Reeves - Culbe**	**0.22**	**314**	P	Pg	21 29 16.1	+1.6
TPB13				S	Sg	21 29 20.1	+2.7
TPB12	**Southwest of T**	**0.32**	**233**	↑P	Pg	21 29 16.9	+0.6
TPB12				S	Sb	21 29 22.6	-1.0
TPB03	**Saragosa**	**0.34**	**158**	P	Pb	21 29 17.9	-0.8
TPB03				S	Sg	21 29 22.7	+1.3
TPB04	**Verhalen**	**0.40**	**123**	P	Pg	21 29 18.6	+0.7
TPB04				S	Sb	21 29 24.7	-1.4
TPB16	**Coyonosa**	**0.45**	**128**	P	Pg	21 29 19.5	+0.7
TPB06	**Permian Basin**	**0.45**	**57**	P	Pb	21 29 21.8	+1.3
TPB06				S	Sb	21 29 28.0	+0.5
TPB01	**Permian Basin**	**0.47**	**193**	P	Pg	21 29 19.5	+0.2
TPB01				S	Sb	21 29 28.5	+0.4
TPB27	**North of Pyote**	**0.48**	**69**	P	Pn	21 29 22.8	-0.8
TPB27				S	Sb	21 29 30.7	+2.2
TPB19	**West of Imperi**	**0.49**	**102**	P	Pb	21 29 22.2	+1.0
TPB15	**Southwest of C**	**0.53**	**111**	P	Pn	21 29 23.8	-0.5
TPB15				S	Sn	21 29 33.6	0.0
TPB05	**Hovey Rd**	**0.56**	**149**	P	Pg	21 29 21.3	+0.3
TPB05				S	Sg	21 29 29.3	+1.0
TPB11	**China Draw**	**0.62**	**329**	S	Sb	21 29 31.7	-0.6
TPB09	**Culberson Coun**	**0.66**	**304**	P	Pb	21 29 23.6	-0.5
TPB09				S	Sb	21 29 33.2	-0.3
MNHN	**Monahans**	**0.77**	**95**		Pg	21 29 24.8	-0.2
MNHN	**Monahans**	**0.77**	**95**	P	Pg	21 29 25.5	+0.5
MNHN				S	Sb	21 29 37.8	+1.0
TPB08	**Permian Basin**	**0.82**	**128**	P	Pn	21 29 27.7	-0.7
CLNB	**Carlsbad**	**0.88**	**348**	P	Pn	21 29 28.7	-0.4
CLNB				S	Sb	21 29 40.1	+0.3
CLN7	**Carlsbad 7**	**1.01**	**353**	Pg	Pn	21 29 31.7	+0.7
CLN7	**Carlsbad 7**	**1.01**	**353**	P	Pb	21 29 30.5	+0.3
ALPN	**Alpine**	**1.03**	**179**	Pg	Pg	21 29 28.9	-0.9
ALPN				IAML		21 29 50.5	
	97nm,0.7s						
ALPN	**Alpine**	**1.03**	**179**	P	Pg	21 29 29.5	-0.3
ALPN				S	Sb	21 29 43.8	-0.3
HTMS	**Hat Mesa**	**1.06**	**1**	Pg	Pn	21 29 32.6	+0.9
HTMS	**Hat Mesa**	**1.06**	**1**	S	Sn	21 29 46.4	-0.5
ODSA	**Odessa**	**1.19**	**53**	Pg	Pg	21 29 32.6	-0.3
ODSA					Sg	21 29 48.3	0.0
ODSA	**Odessa**	**1.19**	**53**	P	Pg	21 29 32.8	-0.1
ODSA				S	Sg	21 29 48.3	0.0
VHRN	**Van Horn**	**1.29**	**242**		Pn	21 29 34.2	-0.6
VHRN				IAML		21 29 57.4	
	76nm,0.6s						
VHRN	**Van Horn**	**1.29**	**242**	P	Pn	21 29 34.3	-0.5
VHRN				S	Sg	21 29 51.3	-0.4
TMB01	**Midkiff**	**1.37**	**79**	P	Pg	21 29 36.4	0.0
TMB01				S	Sn	21 29 54.7	+0.2
TMB02	**Rankin**	**1.41**	**98**	P	Pn	21 29 36.3	0.0
TMB02				S	Sg	21 29 55.5	+0.2
MNTX	**Cornudas Mount**	**1.50**	**282**		Pb	21 29 38.2	-0.1
MNTX					Sg	21 29 58.0	-0.3
MNTX	**Cornudas Mount**	**1.50**	**282**	P	Pb	21 29 38.3	-0.1
MNTX				S	Sg	21 29 58.0	-0.3
TMB04	**Seminole**	**1.57**	**39**	P	Pb	21 29 39.7	0.0
TMB04				S	Sg	21 30 01.0	+0.3
CPRX	**Cap Rock**	**1.63**	**354**		Pb	21 29 40.6	-0.1
CPRX	**Cap Rock**	**1.63**	**354**	P	Pb	21 29 40.9	+0.2
TMB06	**Greenwood**	**1.69**	**70**	S	Sg	21 30 04.0	-0.3
TMB05	**Klondike**	**1.96**	**51**	P	Pb	21 29 45.7	-0.5
TMB05				S	Sg	21 30 12.0	-1.0
SAND	**Sanderson**	**1.96**	**137**		Pn	21 29 44.0	0.0
SAND					Sb	21 30 11.0	0.0
SAND	**Sanderson**	**1.96**	**137**	P	Pb	21 29 45.5	-0.8
SAND				S	Sb	21 30 11.0	0.0
TX31	**Lajitas Ar. Si**	**2.06**	**180**		Pn	21 29 45.6	+0.2
TX31	**Lajitas Ar. Si**	**2.06**	**180**	P	Pb	21 29 47.1	-1.0
TX31				S	Sb	21 30 15.0	+1.0
TXAR	**Lajitas Array**	**2.06**	**180**		Pn	21 29 45.1	-0.3
SGCY	**Sterling City**	**2.22**	**76**	Pn	Pn	21 29 47.9	+0.4
OZNA	**Ozona**	**2.23**	**102**		Pn	21 29 48.0	+0.4
OZNA				lAmb_Lg		21 30 20.2	
	comp=Z,7.7nm,0.7s						
OZNA	**Ozona**	**2.23**	**102**	P	Pn	21 29 49.2	+1.6
OZNA				S	Sb	21 30 18.2	-0.4
POST	**Post**	**2.47**	**47**	Pn	Pn	21 29 51.5	+0.6
MSTX	**Muleshoe**	**2.67**	**16**	Pn	Pn	21 29 54.1	+0.4
SN07	**Snyder 07**	**2.89**	**54**	Pn	Pn	21 29 57.5	+0.8
SN07				lAm

	0.4nm1µm90nm,1.0s							
FAKI				S	Sn	22 07 47.6	+3.1	
	0.4nm1µm90nm,1.0s							
BBSI	**Bau Bau**	**6.16**	**226**	P	**Pn**	**22 06 50.4**	**-0.2**	
	0.1nm45nm,0.9s							
TOLI2	**Tolitoli**	**6.65**	**290**		**Pn**	**22 06 57.9**	**+0.6**	
PCI	**Palu**	**7.20**	**272**	P	**Pn**	**22 07 05.8**	**+1.0**	
TTSI	**Tana Toraja**	**7.44**	**256**	P	**Pn**	**22 07 08.8**	**+0.7**	
	675nm60nm,0.6s							
BNSI	**Bone**	**7.61**	**245**	P	**Pn**	**22 07 11.0**	**+0.5**	
	0.1nm18nm,0.5s							
SPSI	**Sidrap Palu**	**7.76**	**249**	P	**Pn**	**22 07 12.0**	**-0.5**	
	65nm,0.6s							
BKSI	**Bulukumba**	**8.02**	**239**	P	**Pn**	**22 07 18.4**	**+2.3**	
KAPI	**Kappang**	**8.20**	**242**		**Pn**	**22 07 20.1**	**+1.6**	
KAPI	**Kappang**	**8.20**	**242**	Pn	**Pn**	**22 07 22.8**	**+4.3**	
	7.0nm,0.3s,baz=65,slow=4.9,SNR=10							
KAPI				LR	LR	22 10 41.6		
	comp=Z,100nm,20.4s,baz=81,slow=38							
	19nm,0.3s							
EDFI	**Ende, Flores**	**9.20**	**215**	P	**Pn**	**22 07 36.9**	**+4.5**	
FITZ	**Fitzroy Crossi**	**16.85**	**185**		**P**	**22 09 17.7**	**0.0**	
FITZ	**Fitzroy Crossi**	**16.85**	**185**	Pn	**Pn**	**22 09 17.2**	**+1.6**	
	0.2nm,0.3s,baz=6.0,slow=19,SNR=1.6							
	2.8nm,0.9s							
WB0	**Warramunga Arr**	**19.82**	**159**	P	**P**	**22 09 47.9**	**-2.5**	
WB0				IAmb	IAmb	22 10 05.1		
	comp=Z,9.8nm,1.4s							
WRA	**Warramunga Arr**	**19.96**	**159**	P	**P**	**22 09 50.0**	**-1.9**	
	comp=Z,0.3nm,0.3s,baz=341,slow=12,SNR=10							
	comp=Z,1.3nm,0.6s							
WR8	**Warramunga Arr**	**20.03**	**159**	P	**P**	**22 09 50.8**	**-1.9**	
COEN	**Coen**	**20.39**	**129**	P	**P**	**22 09 56.6**	**-0.1**	
COEN				IAmb	IAmb	22 09 57.1		
	comp=Z,9.7nm,0.8s							
GUMO	**Guam**	**22.99**	**50**	LR	LR	22 18 39.9		
	comp=Z,22nm,18.3s,baz=294,slow=36							
ASAR	**Alice Springs**	**23.31**	**164**	P	**P**	**22 10 25.8**	**-2.0**	
	comp=Z,1.6nm,0.7s,baz=348,slow=12,SNR=13							
	comp=Z,1.6nm,0.7s							
QIZ	**Qiongzhong**	**26.25**	**321**	P	**P**	**22 10 52.7**	**-2.2**	
SONM	**Songino Array**	**52.04**	**342**	P	**P**	**22 14 29.9**	**+0.6**	
	comp=Z,0.3nm,0.3s,baz=148,slow=6.8,SNR=1.8							
	comp=Z,0.3nm,0.3s							
MKAR	**Makanchi Array**	**61.78**	**327**	P	**P**	**22 15 37.7**	**-0.7**	
MKAR	**Makanchi Array**	**61.78**	**327**	P	**P**	**22 15 38.8**	**+0.5**	
	comp=Z,0.5nm,0.5s,baz=111,slow=7.8,SNR=11							
	comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**65.10**	**334**	P	**P**	**22 16 01.6**	**+1.4**	
	comp=Z,0.3nm,0.5s,baz=126,slow=7.3,SNR=1.5							
	comp=Z,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**66.05**	**329**	P	**P**	**22 16 05.7**	**-0.5**	
	comp=Z,0.2nm,0.4s,baz=123,slow=5.9,SNR=5.3							
	comp=Z,0.2nm,0.4s							
KURK	**Kurchatov**	**66.05**	**329**	P	**P**	**22 16 04.7**	**-1.6**	
KURK				IAmb	IAmb	22 16 22.8		
	comp=Z,2.6nm,0.8s							
ADK	**Adak**	**70.87**	**33**	P	**P**	**22 16 34.2**	**-2.3**	
BVAR	**Borovoye Array**	**71.61**	**328**	P	**P**	**22 16 41.3**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=120,slow=5.2,SNR=2.6							
	comp=Z,0.2nm,0.3s							
TIXI	**Tiksi**	**72.73**	**1**	P	**P**	**22 16 46.0**	**-1.3**	
TIXI				IAmb	IAmb	22 16 56.0		
	comp=Z,5.7nm,1.4s							

*IDC **18** 23:07:02.6±1.3,22°.46N×121°.11E,h0km,mb3.5/6, mbtmp3.6/7,ML3.6/1, Error ellipse: s-maj=71.6km s-min=21.1km az=67.0*

*JMA **18** 23:07:05.8±0.1,22°.7N±0°.5×121°.5E±0°.6,h14km±3km, MV3.9/16, TAIWAN REGION*

*TAP **18** 23:07:06.3,22°.59N×121°.36E,h33km,ML4.0,C*

ISC 18 23:07:05.3±0.9,22°.58N±0°.02×121°.39E±0°.02,h17km±7km, n161,σ0§97/262,mb3.4/6,15C-10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.12**	**40**	⇓*i*P	**Pb**	**23 07 12.4**	**+3.2**
LDUT				S	**Sb**	**23 07 16.8**	**+5.0**
TTN	**Taitung**	**0.28**	**307**	*e*P	**Pn**	**23 07 14.4**	**-0.3**
TTN				S	**Sn**	**23 07 19.9**	**-0.6**
TWGBT	**Beinan**	**0.37**	**309**	⇓*i*P	**Pb**	**23 07 14.6**	**+1.2**
TWGBT				S	**Sb**	**23 07 20.1**	**+1.2**
TWG	**Pinlang**	**0.38**	**309**	⇓*i*P	**Pb**	**23 07 14.6**	**+1.0**
TWG				*i* S	**Sb**	**23 07 20.4**	**+1.3**
EDH	**Donghe**	**0.40**	**349**	⇑*i*P	**Pb**	**23 07 15.3**	**+1.4**
EDH				*i* S	**Sb**	**23 07 22.0**	**+2.3**
LONT	**Longtian**	**0.40**	**324**	P	**Pb**	**23 07 15.3**	**+1.3**
LONT				S	**Sb**	**23 07 21.4**	**+1.5**
ECL	**Taimali**	**0.40**	**272**	⇓*i*P	**Pb**	**23 07 14.6**	**+0.6**
ECL				*i* S	**Sb**	**23 07 20.1**	**+0.3**
TAW	**Tawu**	**0.51**	**244**	P	**Pb**	**23 07 16.2**	**+0.4**
TAW				S	**Sb**	**23 07 23.0**	**+0.1**
CHKT	**Chengkung**	**0.51**	**358**	⇑*i*P	**Pb**	**23 07 16.8**	**+0.9**
CHKT				*i* S	**Sb**	**23 07 24.5**	**+1.3**
TAWH	**Dawu Township**	**0.52**	**242**	⇓*i*P	**Pb**	**23 07 16.5**	**+0.4**
TAWH				*i* S	**Sb**	**23 07 23.4**	**0.0**
ECS	**Chishang**	**0.53**	**343**	⇑*i*P	**Pb**	**23 07 17.4**	**+1.1**
ECS				eS	**Sb**	**23 07 25.8**	**+2.1**
LAY	**Lan-yu**	**0.56**	**164**	⇑*i*P	**Pb**	**23 07 17.3**	**+0.5**
LAY				eS	**Sb**	**23 07 26.1**	**+1.6**
EHD	**Haiduan**	**0.59**	**343**	⇑*i*P	**Pg**	**23 07 17.3**	**+0.3**
EHD				*i* S	**Sb**	**23 07 25.5**	**+0.2**
CHKH	**Chenggong**	**0.60**	**1**	⇑*i*P	**Pb**	**23 07 18.0**	**+0.5**
CHKH				eS	**Sb**	**23 07 26.4**	**+0.6**
LYUB	**Lan-yu**	**0.61**	**163**	⇑*i*P	**Pg**	**23 07 16.9**	**-0.4**
LYUB				eS	**Sg**	**23 07 24.5**	**-0.9**
FULB	**Fuli**	**0.62**	**352**	⇑*i*P	**Pb**	**23 07 18.4**	**+0.6**
FULB				eS	**Sb**	**23 07 27.4**	**+1.2**
SLIU	**Shizi**	**0.66**	**236**	*i* P	**Pg**	**23 07 18.4**	**+0.1**
SLIU				eS	**Sb**	**23 07 28.5**	**+1.2**
ELDTW	**Lidau**	**0.69**	**331**	⇑*i*P	**Pg**	**23 07 18.8**	**-0.2**
ELDTW				eS	**Sg**	**23 07 28.0**	**-0.2**
MASBT	**Mashibuluo**	**0.70**	**272**	⇓*i*P	**Pb**	**23 07 19.4**	**+0.3**
MASBT				*i* S	**Sg**	**23 07 28.0**	**-0.3**
SSD	**Sandimen**	**0.72**	**283**	⇓*i*P	**Pg**	**23 07 19.4**	**0.0**
SSD				eS	**Sg**	**23 07 27.9**	**-0.9**
ECBN	**Changbin**	**0.73**	**5**	*e*P	**Pg**	**23 07 20.1**	**+0.5**
ECBN				eS	**Sg**	**23 07 29.8**	**+0.5**
SCZT	**Fangliau**	**0.74**	**254**	⇓*i*P	**Pg**	**23 07 19.9**	**+0.1**
SCZT				S	**Sg**	**23 07 29.1**	**-0.5**
SMST	**Manzhou Townsh**	**0.76**	**222**	*i* P	**Pg**	**23 07 20.0**	**-0.1**
SMST				*i* S	**Sg**	**23 07 29.4**	**-0.7**
EYUL	**Yuli**	**0.76**	**355**	*e*P	**Pg**	**23 07 20.5**	**+0.2**
EYUL				eS	**Sn**	**23 07 33.1**	**+0.6**
TWF1	**Yuli**	**0.77**	**354**	*e*P	**Pg**	**23 07 19.9**	**-0.5**
YULB	**Yu-li**	**0.81**	**354**	*e*P	**Pg**	**23 07 20.4**	**-0.8**
YULB				eS	**Sb**	**23 07 32.8**	**+1.1**
STYH	**Taoyuan**	**0.81**	**316**	⇑P	**Pb**	**23 07 21.4**	**+0.4**
STYH				S	**Sb**	**23 07 31.9**	**+0.2**
TSEB	**Hengchuen, Pin**	**0.82**	**214**	P	**Pg**	**23 07 21.4**	**+0.1**
TSEB				*i* S	**Sb**	**23 07 32.7**	**+0.9**
HEN	**Hengchun**	**0.83**	**226**	*e*P	**Pg**	**23 07 21.4**	**-0.1**
HEN				eS	**Sb**	**23 07 32.5**	**+0.2**
TWKBT	**Hengchun**	**0.83**	**220**	⇑*i*P	**Pg**	**23 07 21.1**	**-0.4**
TWKBT				eS	**Sg**	**23 07 31.7**	**-0.8**
TWK1	**Hengchun**	**0.83**	**220**	*i* P	**Pg**	**23 07 21.2**	**-0.4**
TWK1				S	**Sg**	**23 07 32.2**	**-0.4**
SGLT	**Jiouru**	**0.84**	**280**	*e*P	**Pn**	**23 07 23.5**	**+1.1**
SGLT				eS	**Sb**	**23 07 33.5**	**+1.0**
SCST	**Cishan**	**0.88**	**290**	*e*P	**Pn**	**23 07 23.4**	**+0.4**
SCST				eS	**Sb**	**23 07 34.4**	**+0.8**
HGSD	**Ruisui**	**0.91**	**2**	*e*P	**Pb**	**23 07 22.5**	**-0.2**
HGSD				eS	**Sb**	**23 07 35.3**	**+0.9**
EHYH	**Wanrong**	**0.91**	**358**	*i* P	**Pb**	**23 07 22.1**	**-0.5**
EHYH				eS	**Sg**	**23 07 34.3**	**-0.7**
EHY	**Hungye**	**0.92**	**356**	⇑P	**Pb**	**23 07 22.0**	**-0.9**
EHY				eS	**Sb**	**23 07 34.0**	**-0.9**
TWM1	**Shoushan**	**0.92**	**285**	P	**Pn**	**23 07 24.6**	**+1.0**
TWM1				eS	**Sn**	**23 07 37.8**	**+1.3**
WLCH	**Liuqiu**	**0.96**	**256**	*e*P	**Pn**	**23 07 26.6**	**+2.5**
WTP	**Ta-pu**	**0.97**	**313**	⇑*i*P	**Pn**	**23 07 24.7**	**+0.4**
WTP				*i* S	**Sn**	**23 07 38.1**	**+0.4**
SNJT	**Kaohsiung City**	**0.99**	**280**	*e*P	**Pn**	**23 07 26.5**	**+2.0**
SNJT				eS	**Sn**	**23 07 39.6**	**+1.5**
CHN1	**Nanshi**	**0.99**	**307**	⇓*i*P	**Sn**	**23 07 25.4**	**+0.8**
CHN1				*i* S	**Sn**	**23 07 39.2**	**+0.9**
TPUB	**Ta-pu**	**1.00**	**316**	P	**Pn**	**23 07 25.3**	**+0.7**
TPUB				eS	**Sn**	**23 07 38.4**	**0.0**
SNST	**Tainan City**	**1.04**	**308**	*e*P	**Pn**	**23 07 27.0**	**+1.8**
SNST				S	**Sn**	**23 07 40.2**	**+0.9**
CHN3	**Shinhua**	**1.06**	**298**	*e*P	**Pn**	**23 07 27.6**	**+2.1**
CHN3				eS	**Sn**	**23 07 41.9**	**+2.0**
ALS	**Alishan**	**1.07**	**330**	⇑*i*P	**Pb**	**23 07 25.8**	**+0.2**
ALS				eS	**Sg**	**23 07 40.5**	**+0.3**
TWK	**Hsinying**	**1.07**	**310**	⇓*i*P	**Pn**	**23 07 26.7**	**+1.0**
TWK				eS	**Sn**	**23 07 41.3**	**+1.0**
WCKO	**Fanlu**	**1.12**	**320**	*e*P	**Pn**	**23 07 26.8**	**+0.6**
WCKO				eS	**Sn**	**23 07 41.8**	**+0.5**
TEGC	**Jichi Village**	**1.13**	**7**	*e*P	**Pb**	**23 07 26.1**	**-0.4**
TEGC				S	**Sb**	**23 07 41.4**	**+0.5**
WARBT	**Fenglin Townsh**	**1.13**	**360**	*e*P	**Pb**	**23 07 25.0**	**-1.5**
SSHA	**Shanhua**	**1.15**	**299**	*e*P	**Pb**	**23 07 26.6**	**-0.3**
SSHA				eS	**Sn**	**23 07 43.3**	**+1.1**
SHUL	**Shoufeng**	**1.21**	**8**	P	**Pn**	**23 07 27.0**	**-0.6**
SHUL				eS	**Sb**	**23 07 42.6**	**-0.6**
WHYT	**Xinyi Township**	**1.21**	**336**	P	**Pb**	**23 07 28.5**	**+0.6**
WHYT				eS	**Sb**	**23 07 43.8**	**+0.5**
ESL	**Shilin**	**1.23**	**2**	*e*P	**Pn**	**23 07 26.4**	**-1.3**
ESL				eS	**Sb**	**23 07 42.8**	**-0.9**
SCLT	**Jiali**	**1.25**	**298**	*i* P	**Pg**	**23 07 29.4**	**-0.1**
SSLB	**Suanglung**	**1.26**	**342**	⇑P	**Pn**	**23 07 28.1**	**-0.2**
SSLB				eS	**Sb**	**23 07 45.3**	**+0.5**
CHN2	**Minshiung**	**1.26**	**319**	*e*P	**Pg**	**23 07 29.5**	**-0.3**
CHY	**Chiayi**	**1.27**	**316**	*e*P	**Pb**	**23 07 29.5**	**+0.7**
CHY				eS	**Sg**	**23 07 46.0**	**-0.5**
ICHU	**Yijhu**	**1.28**	**307**	*e*P	**Pb**	**23 07 29.4**	**+0.4**
TEYL	**Yanliau Villag**	**1.29**	**9**	*e*P	**Pn**	**23 07 29.2**	**+0.5**
TEYL				eS	**Sb**	**23 07 45.5**	**-0.1**
CHN8	**Yiju**	**1.32**	**305**	*e*P	**Pn**	**23 07 29.4**	**+0.4**
CHN8				eS	**Sg**	**23 07 47.4**	**-0.8**
TSCK	**Chigu Township**	**1.32**	**295**	P	**Pb**	**23 07 30.0**	**+0.2**
TSCK				S	**Sg**	**23 07 47.4**	**-0.8**
WGK	**Gukeng**	**1.33**	**325**	*e*P	**Pg**	**23 07 30.8**	**-0.3**
WGK				eS	**Sg**	**23 07 48.4**	**-0.1**
WDLH	**Douliu**	**1.35**	**325**	*e*P	**Pb**	**23 07 30.9**	**+0.7**
WDLH				S	**Sg**	**23 07 48.5**	**-0.5**
SMLT	**Sun Moon Lake**	**1.37**	**341**	*i* P	**Pn**	**23 07 30.8**	**+0.9**
SMLT				eS	**Sg**	**23 07 49.3**	**-0.3**
WJS	**Zhushan**	**1.37**	**334**	*e*P	**Pg**	**23 07 31.5**	**-0.3**
WJS				*i* S	**Sg**	**23 07 50.0**	**+0.2**
ETM	**Tongmen**	**1.38**	**4**	*e*P	**Pn**	**23 07 28.7**	**-1.2**
OWD	**Renai**	**1.38**	**352**	*e*P	**Pn**	**23 07 29.9**	**-0.1**
OWD				eS	**Sn**	**23 07 46.9**	**-1.1**
HWA	**Hwalien**	**1.40**	**8**	*e*P	**Pn**	**23 07 30.1**	**-0.1**
HWA				eS	**Sn**	**23 07 47.8**	**-0.5**
TYC	**Yuchr**	**1.40**	**340**	*i* P	**Pb**	**23 07 31.6**	**+0.5**
TYC				*i* S	**Sb**	**23 07 49.7**	**+1.0**
WSL	**Shuilin Townsh**	**1.42**	**311**	*e*P	**Pb**	**23 07 31.4**	**0.0**
WSL				S	**Sb**	**23 07 49.4**	**+0.2**
WUSB	**Renai**	**1.42**	**350**	P	**Pn**	**23 07 30.9**	**+0.3**
WUSB				eS	**Sn**	**23 07 48.2**	**-0.9**
WTK	**Tuku**	**1.43**	**320**	*e*P	**Pb**	**23 07 31.7**	**+0.1**
WTK				*i* S	**Sb**	**23 07 50.2**	**+0.6**
WNT	**Mingjian**	**1.44**	**333**	*i* P	**Pb**	**23 07 32.7**	**+0.9**
WNT				*i* S	**Sg**	**23 07 51.5**	**-0.4**
WSF	**Szhu**	**1.50**	**315**	*e*P	**Pn**	**23 07 32.3**	**+0.8**
WSF				*i* S	**Sb**	**23 07 51.9**	**+0.4**
TWD	**Chiawan**	**1.50**	**7**	*e*P	**Pn**	**23 07 30.9**	**-0.6**
TWD				eS	**Sn**	**23 07 50.2**	**-0.6**
WCS	**Beigang Elemen**	**1.53**	**343**	*e*P	**Pb**	**23 07 33.3**	**0.0**
WCS				eS	**Sb**	**23 07 53.2**	**+0.8**
WHF	**Hehuan Shan**	**1.56**	**356**	*e*P	**Pn**	**23 07 32.6**	**-0.2**
WHF				eS	**Sn**	**23 07 51.4**	**-1.4**
ETL	**Fush Village**	**1.58**	**8**	*e*P	**Pn**	**23 07 32.5**	**-0.2**
NACB	**Ninganchiao**	**1.59**	**7**	P	**Pn**	**23 07 31.4**	**-1.4**
NACB				eS	**Sn**	**23 07 50.5**	**-2.6**
ETLH	**Xiulin Townshi**	**1.62**	**3**	*e*P	**Pn**	**23 07 32.5**	**-0.8**
ETLH				eS	**Sn**	**23 07 53.3**	**-0.5**
WTCT	**Ta-ch'eng**	**1.63**	**322**	*e*P	**Pn**	**23 07 34.8**	**-0.2**
WTCT				*i* S	**Sn**	**23 07 53.1**	**-0.9**
FUSS	**Fushou**	**1.66**	**355**	*e*P	**Pn**	**23 07 34.1**	**+0.2**
WCHH	**Zhanghua**	**1.67**	**333**	P	**Pb**	**23 07 35.8**	**+0.1**
WCHH				S	**Sb**	**23 07 57.5**	**+0.9**
TWT	**Tachien**	**1.67**	**353**	*e*P	**Pn**	**23 07 35.5**	**+1.4**
TDCB	**Techi**	**1.68**	**353**	*e*P	**Pn**	**23 07 35.1**	**+1.1**
TCU	**Taichung**	**1.69**	**337**	*e*P	**Pb**	**23 07 35.9**	**-0.1**
TCU				eS	**Sb**	**23 07 56.9**	**-0.1**
WHP	**Taichung City**	**1.73**	**347**	*e*P	**Pb**	**23 07 37.1**	**+0.3**
WHP				eS	**Sb**	**23 07 59.5**	**+1.1**
EOS4	**EOS4**	**1.75**	**29**	*e*P	**Pn**	**23 07 34.8**	**+0.2**
EOS4				S	**Sn**	**23 07 55.7**	**-0.7**
EAHA	**Aohua**	**1.77**	**10**	*e*P	**Pn**	**23 07 35.5**	**+0.3**
EAHA				eS	**Sn**	**23 07 56.9**	**-0.5**
NNSB	**Datong**	**1.84**	**360**	*e*P	**Pn**	**23 07 36.5**	**+0.2**
TWQ1	**Liyutan**	**1.84**	**342**	P	**Pb**	**23 07 38.1**	**-0.6**
TWQ1				eS	**Sb**	**23 07 58.1**	**-0.4**
ENA	**Nanau**	**1.86**	**10**	*e*P	**Pn**	**23 07 36.4**	**-0.2**
ENA				eS	**Sn**	**23 07 58.6**	**-1.1**
WDJ	**Dajia District**	**1.89**	**339**	*e*P	**Pb**	**23 07 39.4**	**0.0**
WDJ				eS	**Sb**	**23 08 02.9**	**+0.2**
EWUT	**Wuta**	**1.89**	**11**	*e*P	**Pn**	**23 07 36.9**	**+0.1**
EOS3	**EOS3**	**1.90**	**27**	*e*P	**Pn**	**23 07 37.7**	**+0.8**
EOS3				S	**Sn**	**23 08 00.6**	**+0.3**
VCHM	**Qimei**	**1.91**	**289**	P	**Pn**	**23 07 37.0**	**-0.1**
VCHM				*i* S	**Sn**	**23 07 59.5**	**-1.3**
PHUB	**P'eng-hu**	**1.91**	**299**	*i* P	**Pn**	**23 07 37.2**	**0.0**
PHUB				*i* S	**Sn**	**23 07 59.0**	**-1.9**
NSY	**Sanyi**	**1.91**	**343**	*i* P	**Pb**	**23 07 40.4**	**+0.6**
NSY				eS	**Sb**	**23 08 04.1**	**+0.6**
LATG	**Datong**	**1.95**	**4**	*e*P	**Pn**	**23 07 37.9**	**+0.2**
LATG				eS	**Sn**	**23 08 01.4**	**-0.6**
PNG	**Penghu**	**1.95**	**300**	P	**Pn**	**23 07 37.7**	**0.0**
PNG				eS	**Sn**	**23 07 59.7**	**-2.2**
EOS2	**EOS2**	**1.98**	**23**	*e*P	**Pn**	**23 07 38.9**	**+0.8**
NMLH	**Miaoli**	**2.02**	**344**	P	**Pb**	**23 07 40.8**	**-0.9**
NMLH				*i* S	**Sb**	**23 08 06.8**	**+0.3**
ESAO	**Su ao**	**2.03**	**12**	*e*P	**Pn**	**23 07 39.2**	**+0.5**
ESAO				eS	**Sn**	**23 08 02.5**	**-1.2**
ENTT	**Nioudou**	**2.05**	**5**	*e*P	**Pn**	**23 07 39.6**	**+0.5**
ENTT				eS	**Sn**	**23 08 03.7**	**-0.7**
NFF	**Wufeng Townshi**	**2.05**	**353**	*e*P	**Pn**	**23 07 40.9**	**+1.7**
NFF				eS	**Sn**	**23 08 06.3**	**+1.8**
TWC	**Suao**	**2.06**	**12**	*e*P	**Pn**	**23 07 40.0**	**+0.8**
NSTT	**Nanjuang**	**2.07**	**350**	*e*P	**Pn**	**23 07 40.7**	**+1.3**
NSTT				eS	**Sb**	**23 08 07.5**	**-0.4**
YHNB	**Yeheng**	**2.08**	**360**	*e*P	**Pn**	**23 07 40.5**	**+1.0**
LIOB	**Emei**	**2.08**	**351**	*e*P	**Pn**	**23 07 41.1**	**+1.6**
LIOB				eS	**Sn**	**23 08 06.8**	**+1.7**
TWE	**Neicheng**	**2.14**	**7**	*e*P	**Pn**	**23 07 40.7**	**+0.3**
FUSB	**Fushanzhiwuyua**	**2.17**	**5**	*e*P	**Pn**	**23 07 41.4**	**+0.5**
FUSB				eS	**Sn**	**23 08 07.9**	**+0.4**
NWLT	**Wulai**	**2.19**	**3**	*e*P	**Pn**	**23 07 42.0**	**+1.0**
NWLT				eS	**Sn**	**23 08 06.0**	**-1.8**
KSHI	**Guanxi Townshi**	**2.19**	**355**	*e*P	**Pb**	**23 07 43.5**	**-1.1**
EGS		**2.31**	**12**	*e*P	**Pn**	**23 07 44.5**	**+1.9**
JYNG	**Yonagunijimaku**	**2.34**	**37**	*e*P	**Pn**	**23 07 43.9**	**+0.8**
JYNG				eS	**Sn**	**23 08 10.6**	**-1.0**
YOJ	**Yonaguni jima**	**2.39**	**38**	*e*P	**Pn**	**23 07 44.1**	**+0.4**
YOJ				eS	**Sn**	**23 08 11.6**	**-1.2**
YOJ	**Yonaguni jima**	**2.39**	**38**	*e*P	**Pn**	**23 07 44.4**	**+0.7**
YOJ				eS	**Sn**	**23 08 11.9**	**-0.8**
TWA	**Mucha**	**2.39**	**4**	*e*P	**Pn**	**23 07 44.5**	**+0.7**
TIPB	**Shuangxi**	**2.41**	**9**	*e*P	**Pn**	**23 07 45.4**	**+1.3**
TWB1	**Santiao Chiao**	**2.48**	**13**	*e*P	**Pn**	**23 07 46.5**	**+1.6**
NWF	**Wu-fen Shan**	**2.50**	**8**	*e*P	**Pn**	**23 07 46.5**	**+1.2**
NWF				eS	**Sn**	**23 08 14.8**	**-0.8**
WFSB	**Wu-fen Shan**	**2.50**	**8**	*e*P	**Pn**	**23 07 46.1**	**+0.8**
TWS1	**Kuangyinshan**	**2.51**	**1**	*e*P	**Pn**	**23 07 46.5**	**+1.2**
SXI1	**Grass Mountain**	**2.54**	**10**	*e*P	**Pn**	**23 07 46.8**	**+0.9**
YM01	**YM01**	**2.56**	**4**	*e*P	**Pn**	**23 07 46.6**	**+0.5**
YM01				eS	**Sn**	**23 08 16.0**	**-0.9**
ZUZH	**Zhuzihu**	**2.57**	**3**	*e*P	**Pn**	**23 07 46.4**	**+0.1**
TNOU	**National Taiwa**	**2.58**	**8**	*e*P	**Pn**	**23 07 46.7**	**+0.3**
YM08	**YM08**	**2.60**	**4**	*e*P	**Pn**	**23 07 46.3**	**-0.3**
HATJ	**Hateruma jima**	**2.66**	**56**	*e*P	**Pn**	**23 07 47.9**	**+0.3**
HATJ				S	**Sn**	**23 08 17.8**	**-1.6**
TWY	**Chenhua**	**2.69**	**4**	*e*P	**Pn**	**23 07 49.9**	**+2.0**
IRIF	**Iriomote-Funau**	**2.77**	**51**	P	**Pn**	**23 07 49.5**	**+0.6**
IRIF				eS	**Sn**	**23 08 22.4**	**+0.4**
JKRS	**Kuro-shima**	**2.92**	**55**	*e*P	**Pn**	**23 07 51.7**	**+0.7**
JKRS				S	**Sn**	**23 08 25.6**	**-0.1**
VWUC	**VWUC**	**2.98**	**324**	*i* P	**Pn**	**23 07 52.1**	**+0.2**
JIJ	**Ishigaki jima**	**3.09**	**54**	P	**Pn**	**23 07 53.8**	**+0.4**
JIJ				eS	**Sn**	**23 08 27.8**	**-2.2**
PCYT	**Pengchaiyu**	**3.10**	**12**	*e*P	**Pn**	**23 07 53.4**	**-0.1**
PTMZ	**Houxiangcun**	**3.21**	**320**	*i* P	**Pn**	**23 07 55.3**	**+0.3**
KNM	**Kinmen**	**3.27**	**305**	*e*P	**Pn**	**23 07 56.8**	**+0.9**
KNMB	**Chin-men Tao**	**3.33**	**305**	*e*P	**Pn**	**23 07 56.7**	**+0.1**
JISG	**Ishigakijimahi**	**3.34**	**53**	P	**Pn**	**23 07 57.3**	**+0.5**
JISG				eS	**Sn**	**23 08 35.1**	**-1.1**
ZPLA	**Ao Xicun**	**3.60**	**293**	*e*P	**Pn**	**23 08 00.6**	**+0.1**
JTJ	**Tarama**	**3.67**	**55**	P	**Pn**	**23 08 01.9**	**+0.7**
JTJ				S	**Sn**	**23 08 42.9**	**-1.3**
MATB	**Ma-tsu**	**3.79**	**340**	*e*P	**Pn**	**23 08 02.4**	**-0.6**
DSXP	**Dongshan**	**3.81**	**288**	*e*P	**Pn**	**23 08 02.7**	**-0.6**
AXDP	**Jialang**	**3.89**	**307**	*e*P	**Pn**	**23 08 04.3**	**0.0**
MHZQ	**Yeshan**	**4.11**	**329**	*e*P	**Pn**	**23 08 07.4**	**0.0**
JIRB	**Irabujima**	**4.13**	**56**	*e*P	**Pn**	**23 08 08.2**	**+0.6**
JMJ2	**Miyako jima3**	**4.20**	**58**	*e*P	**Pn**	**23 08 09.6**	**+0.9**
JMJ2				eS	**Sn**	**23 08 56.8**	**-0.6**
XPSS	**Dashiqiu**	**4.46**	**346**	*e*P	**Pn**	**23 08 11.9**	**-0.4**
KSRS	**Korea Array**	**15.86**	**19**	Pn	**Pn**	**23 10 50.0**	**+2.3**
	0.3nm,0.3s,baz=194,slow=12,SNR=8.3						
	2.0nm,0.7s						
SONM	**Songino Array**	**27.91**	**338**	P	**P**	**23 12 54.3**	**-0.4**
	0.3nm,0.4s,baz=141,slow=9.3,SNR=1.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**39.62**	**317**	P	**P**	**23 14 35.3**	**-0.9**
	0.4nm,0.7s,baz=111,slow=8.6,SNR=5.3						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**41.69**	**328**	P	**P**	**23 14 52.2**	**-0.8**
	0.6nm,0.3s,baz=131,slow=7.4,SNR=6.0						
	0.6nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**42.41**	**85**	T	T	00 00 16.8	
	baz=282,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**42.41**	**85**	T	T	00 00 06.8	
	baz=282,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**42.43**	**85**	T	T	00 00 17.3	
	baz=282,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**42.49**	**87**	T	T	00 00 12.8	
	baz=284,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**42.50**	**87**	T	T	00 00 35.1	
	baz=284,slow=75,SNR=37						
H11S2	**WAKE ISLAND Hy**	**42.51**	**87**	T	T	00 00 23.9	
	baz=284,slow=75,SNR=44						
**KURBB

HFS Sn **Sn** **23 21 31.0 -4.7**
comp=Z,0.1nm,0.3s,baz=23,slow=27,SNR=1.8
HFS Lg Lg 23 22 21.0
comp=Z,0.3nm,0.3s,baz=14,slow=25,SNR=4.5
comp=Z,1.4nm,0.8s

IDC 18 23:25:15.2±2.2, 4°.83N×127°.83E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=208.3km s-min=21.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.44**	**166**	P	P	23 30 44.7	-0.1
	1.1nm,0.7s,baz=346,slow=10,SNR=4.9						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**28.94**	**168**	P	P	23 31 16.6	+0.2
	0.2nm,0.5s,baz=349,slow=8.7,SNR=1.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**57.29**	**324**	P	P	23 35 04.4	-0.5
	0.4nm,0.5s,baz=120,slow=7.9,SNR=8.7						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**60.12**	**332**	P	P	23 35 25.4	+1.1
	0.4nm,0.4s,baz=133,slow=6.3,SNR=1.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.42**	**327**	P	P	23 35 33.2	0.0
	1.3nm,0.6s,baz=124,slow=6.5,SNR=11						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**67.01**	**326**	P	P	23 36 09.5	-0.4
	0.4nm,0.5s,baz=115,slow=6.5,SNR=3.4						
	0.4nm,0.5s						

*KRNET **18** 23:37:26.9±0.1, 41°.05N×75°.22E, h18km, mb4.1*
*NNC **18** 23:37:29.6±1.6, 41°.09N×75°.17E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=11.8km s-min=6.9km az=175.0*
*SOME **18** 23:37:29.4, 41°.07N×75°.12E, h20km*
*KNET **18** 23:37:30.3±0.6, 41°.18N×75°.21E, h15km±9km, ml3.3, Error ellipse: s-maj=8.8km s-min=3.7km az=179.0*
ISC 18 23:37:29.2±1.3, 41°.15N±0°.04×75°.13E±0°.02, h4km±11km, n64, σ1.945/101, 37C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.03**	**256**	↑*eP*	**Pg**	**23 37 47.2**	**-1.7**
SALK				↑*eS*	**Sg**	**23 38 02.0**	**-0.2**
UCH	**Uchtor**	**1.17**	**337**	P	**Pn**	**23 37 52.1**	**-0.8**
	217nm,0.1s,SNR=1033						
UCH				↓S	**Sn**	**23 38 09.6**	**+0.1**
	441nm,0.4s						
UCH	**Uchtor**	**1.17**	**337**	↓*eP*	**Pg**	**23 37 51.2**	**-0.5**
UCH				↓*eS*	**Sn**	**23 38 08.9**	**-0.7**
ULHL	**Ulahol**	**1.38**	**37**	↓P	**Pn**	**23 37 54.5**	**-1.0**
	63nm,0.2s,SNR=6.2						
ULHL				↑S	**Sg**	**23 38 13.4**	**-0.1**
	199nm,0.2s						
ULHL	**Ulahol**	**1.38**	**37**	↑*eP*	**Pn**	**23 37 53.5**	**-1.9**
ULHL				↑*eS*	**Sb**	**23 38 12.9**	**-0.8**
KBK	**Karagaybulak**	**1.51**	**355**	P	**Pg**	**23 37 58.4**	**+0.1**
	186nm,0.1s,SNR=79						
KBK				↑S	**Sg**	**23 38 19.9**	**+2.0**
	897nm,0.2s						
KBK	**Karagaybulak**	**1.51**	**355**	↑*eP*	**Pn**	**23 37 56.9**	**-0.4**
KBK				↑*eS*	**Sg**	**23 38 18.8**	**+1.0**
AAK	**Ala-Archa**	**1.56**	**342**	↓P	**Pg**	**23 37 59.0**	**-0.1**
	83nm,0.2s,SNR=84						
AAK				↑S	**Sg**	**23 38 21.3**	**+1.9**
	154nm,0.2s						
AAK	**Ala-Archa**	**1.56**	**342**	↓P	**Pg**	**23 37 59.1**	**0.0**
	37nm,0.5s						
AAK				↑S	**Sg**	**23 38 24.7**	**+5.3**
	181nm,0.7s						
AAK	**Ala-Archa**	**1.56**	**342**	↑*eP*	**Pb**	**23 37 57.9**	**-0.9**
AAK				↑*eS*	**Sg**	**23 38 20.6**	**+1.2**
ARSB	**Arslanbob**	**1.63**	**277**	↑*eP*	**Pn**	**23 37 58.6**	**-0.3**
ARSB				↑*eS*	**Sg**	**23 38 21.8**	**+0.2**
FRU1	**Bishkek**	**1.70**	**347**	↑*eP*	**Pb**	**23 38 00.7**	**-0.4**
FRU1				↑*eS*	**Sg**	**23 38 25.4**	**+1.5**
TKM2	**Tokmak 2**	**1.81**	**11**	↓P	**Pb**	**23 38 03.0**	**0.0**
	61nm,0.2s,SNR=98						
TKM2				↑S	**Sg**	**23 38 27.9**	**+0.7**
	292nm,0.2s						
TKM2	**Tokmak 2**	**1.81**	**11**	↓*eP*	**Pb**	**23 38 01.8**	**-1.2**
TKM2				↓*eS*	**Sg**	**23 38 27.2**	**0.0**
EKS2	**Erkin-Say**	**1.82**	**327**	↑P	**Pg**	**23 38 03.5**	**-0.6**
	79nm,0.4s,SNR=52						
EKS2				↓S	**Sg**	**23 38 28.9**	**+1.3**
	300nm,0.6s						
EKS2	**Erkin-Say**	**1.82**	**327**	↑*eP*	**Pb**	**23 38 02.5**	**-0.7**
EKS2				↑*eS*	**Sg**	**23 38 28.5**	**+0.9**
KDJ	**Kajisay**	**1.82**	**57**	↓*eP*	**Pn**	**23 38 00.8**	**-0.7**
KDJ				↓*eS*	**Sb**	**23 38 25.6**	**-0.9**
CHMS	**Chumysh**	**1.87**	**351**	↑P	**Pg**	**23 38 04.5**	**-0.6**
	154nm,0.3s,SNR=154						
CHMS				↓S	**Sg**	**23 38 30.7**	**+1.4**
	211nm,0.2s						
CHMS	**Chumysh**	**1.87**	**351**	↑*eP*	**Pb**	**23 38 03.1**	**-0.9**
CHMS				↑*eS*	**Sg**	**23 38 29.6**	**+0.3**
KST	**Kastek**	**1.99**	**18**	Pg	**Pg**	**23 38 06.6**	**-0.7**
	38nm,0.3s						
KST				Lg	Lg	23 38 33.9	
	235nm,0.4s						
KST	**Kastek**	**1.99**	**18**	*eP*	**Pg**	**23 38 07.0**	**-0.4**
	33nm,0.2s						
KST				*eS*	**Sg**	**23 38 34.0**	**+0.8**
	279nm,0.4s						
MRKS	**Merke**	**2.14**	**319**	Pg	**Pg**	**23 38 09.3**	**-0.8**
	89nm,0.2s						
MRKS				Lg	Lg	23 38 38.7	
	220nm,0.2s						
MRKS	**Merke**	**2.14**	**319**	*eP*	**Pg**	**23 38 09.3**	**-0.8**
	89nm,0.2s						
MRKS				*eS*	**Sg**	**23 38 37.7**	**-0.1**
	434nm,0.5s						
DGS	**Degeres**	**2.15**	**13**	Pg	**Pg**	**23 38 09.4**	**-1.0**
	127nm,0.6s						
DGS				Lg	Lg	23 38 39.9	
	260nm,0.1s						
USP	**Ospenovka**	**2.17**	**348**	↓P	**Pb**	**23 38 08.9**	**-0.2**
	193nm,0.3s,SNR=242						
USP				↑S	**Sg**	**23 38 39.8**	**+1.0**
	329nm,0.3s						
USP	**Ospenovka**	**2.17**	**348**	↑*eP*	**Pb**	**23 38 07.3**	**-1.8**
USP				↑*eS*	**Sb**	**23 38 36.9**	**+0.5**
IZV	**Izvestkoviy**	**2.19**	**30**	Pg	**Pb**	**23 38 09.5**	**+0.1**
	47nm,0.4s						
IZV				Lg	Lg	23 38 40.2	
	117nm,0.2s						
IZV	**Izvestkoviy**	**2.19**	**30**	*eP*	**Pb**	**23 38 09.5**	**+0.1**
	55nm,0.4s						
IZV				*eS*	**Sg**	**23 38 38.5**	**-0.9**
	128nm,0.3s						
MTBS	**Maitube**	**2.20**	**26**	Pg	**Pb**	**23 38 10.0**	**+0.3**
	11nm,0.3s						
MTBS				Lg	Lg	23 38 40.1	
	139nm,0.3s						
MTBS	**Maitube**	**2.20**	**26**	*eP*	**Pg**	**23 38 10.6**	**-0.8**
	14nm,0.1s						
MTBS				*eS*	**Sg**	**23 38 40.0**	**+0.1**
	213nm,0.3s						
TNSS	**Tian-Shan**	**2.32**	**35**	Pg	**Pg**	**23 38 12.6**	**-1.1**
	17nm,0.5s						
TNSS				Lg	Lg	23 38 45.1	
	48nm,0.8s						
TNSS	**Tian-Shan**	**2.32**	**35**	*eP*	**Pg**	**23 38 12.9**	**-0.7**
	12nm,0.2s						
TNSS				*eS*	**Sg**	**23 38 44.2**	**+0.4**
	54nm,0.5s						
SGDS	**Sogindy**	**2.33**	**351**	Pg	**Pg**	**23 38 12.9**	**-1.0**
	68nm,0.3s						
SGDS				Lg	Lg	23 38 45.7	
	889nm,0.5s						
AAA	**Alma-Ata**	**2.45**	**32**	Pg	**Pg**	**23 38 15.2**	**-0.9**
	51nm,0.1s						
AAA				Lg	Lg	23 38 49.2	
	27nm,0.3s						
AAA	**Alma-Ata**	**2.45**	**32**	*eP*	**Pg**	**23 38 15.9**	**-0.2**
	32nm,0.1s						
AAA				*eS*	**Sg**	**23 38 49.3**	**+1.5**
	27nm,0.3s						
KNDC	**Almaty**	**2.48**	**33**	↑Pg	**Pg**	**23 38 17.5**	**+0.8**
	201nm,0.7s						
KNDC				↑Lg	Lg	23 38 49.9	
	284nm,0.9s						
PRZ	**Przheval'sk**	**2.78**	**60**	↑*eP*	**Pn**	**23 38 14.6**	**-0.2**
PRZ				↑*eS*	**Sn**	**23 38 49.4**	**+0.5**
KTBS	**Karatobe**	**2.81**	**24**	Pg	**Pb**	**23 38 20.9**	**+1.0**
	28nm,0.5s						
KTBS				Lg	Lg	23 38 59.0	
	435nm,0.5s						
KUU	**Kurty**	**2.88**	**18**	Pg	**Pb**	**23 38 22.0**	**+0.7**
	12nm,0.2s						
KUU				Lg	Lg	23 39 00.7	
	665nm,0.4s						
KUU	**Kurty**	**2.88**	**18**	*eP*	**Pg**	**23 38 22.8**	**-1.6**
	6.8nm,0.1s						
KUU				*eS*	**Sg**	**23 39 01.1**	**-0.7**
	692nm,0.6s						
TRKS	**Terek-Say**	**3.03**	**279**	↓*eP*	**Pn**	**23 38 18.6**	**+0.5**
TRKS				↓*eS*	**Sn**	**23 38 56.3**	**+1.4**
CHKK	**Chushkaly**	**3.03**	**26**	Pg	**Pb**	**23 38 24.9**	**+1.1**
	24nm,0.3s						
CHKK				Lg	Lg	23 39 05.8	
	311nm,0.3s						
CHKK	**Chushkaly**	**3.03**	**26**	*eP*	**Pb**	**23 38 25.2**	**+1.4**
	4.6nm,0.1s						
CHKK				*eS*	**Sg**	**23 39 05.0**	**-1.5**
	311nm,0.3s						
SATY	**Saty**	**3.10**	**51**	Pg	**Pb**	**23 38 25.3**	**+0.4**
	16nm,0.5s						
SATY				Lg	Lg	23 39 06.3	
	69nm,0.5s						
DZA	**Taraz**	**3.33**	**303**	Pg	**Pb**	**23 38 30.4**	**+1.6**
	84nm,0.5s						
DZA				Lg	Lg	23 39 15.4	
	291nm,0.4s						
DZA	**Taraz**	**3.33**	**303**	*eP*	**Pb**	**23 38 30.4**	**+1.6**
	8.5nm,0.1s						
DZA				*eS*	**Sg**	**23 39 14.3**	**-1.7**
	333nm,0.3s						
KPKS	**Kokpek**	**3.51**	**47**	Pg	**Pb**	**23 38 32.7**	**+0.8**
	0.1nm,0.1s						
KPKS				Lg	Lg	23 39 19.2	
	41nm,0.4s						
ARXS	**Arharly**	**3.65**	**32**	Pg	**Pb**	**23 38 34.7**	**+0.3**
	25nm,0.4s						
ARXS				Lg	Lg	23 39 22.9	
	96nm,0.5s						
SHLS	**Shalkode**	**3.79**	**57**	Pg	**Pg**	**23 38 42.1**	**+0.3**
	21nm,0.4s						
SHLS				Lg	Lg	23 39 35.7	
	48nm,0.4s						
SHLS	**Shalkode**	**3.79**	**57**	*eP*	**Pg**	**23 38 42.1**	**+0.3**
	4.2nm,0.2s						
SHLS				*eS*	**Sg**	**23 39 34.3**	**+3.3**
	109nm,0.5s						
PDGK	**Podgornoye**	**3.90**	**55**	↓Pn	**Pb**	**23 38 35.8**	**-2.9**
	18nm,0.8s						
PDGK				↑Pg	**Pg**	**23 38 46.2**	**+2.3**
	19nm,0.6s						
PDGK				↑Lg	Lg	23 39 33.5	
	94nm,0.8s						
IUG	**Iuzhnay**	**3.95**	**286**	Pg	**Pb**	**23 38 41.1**	**+1.7**
	27nm,0.2s						
IUG				Lg	Lg	23 39 33.6	
	189nm,0.3s						
KK31	**Karatay Array**	**3.95**	**301**	↓Pg	**Pb**	**23 38 41.1**	**+1.6**
	12nm,0.3s,baz=130,slow=13,SNR=260						
KK31				↓Lg	Lg	23 39 33.5	
	22nm,0.3s,baz=124,slow=29,SNR=9.5						
BTLS	**Baital**	**3.97**	**349**	Pg	**Pb**	**23 38 42.0**	**+2.3**
	8.9nm,0.7s						
BTLS				Lg	Lg	23 39 34.9	
	65nm,0.6s						
BTLS	**Baital**	**3.97**	**349**	*eP*	**Pb**	**23 38 42.0**	**+2.3**
	6.2nm,0.4s						
BTLS				*eS*	**Sg**	**23 39 34.4**	**-2.4**
	123nm,0.7s						
GAR	**Garm**	**4.27**	**241**	↑*eP*	**Pn**	**23 38 35.3**	**+0.2**
GAR				↑*eS*	**Sn**	**23 39 25.4**	**-0.1**
CHM	**Chimkent**	**4.30**	**288**	*eP*	**Pb**	**23 38 47.8**	**+2.4**
	19nm,0.1s						
CHM				*eS*	**Sg**	**23 39 43.9**	**-3.3**
	200nm,0.3s						
BRLS	**Borolday**	**4.37**	**297**	Pg	**Pb**	**23 38 49.0**	**+2.5**
	12nm,0.4s						
BRLS				Lg	Lg	23 39 48.4	
	30nm,0.2s						
BRLS	**Borolday**	**4.37**	**297**	*eP*	**Pb**	**23 38 49.0**	**+2.5**
	12nm,0.4s						
BRLS				*eS*	**Sg**	**23 39 46.0**	**-3.4**
	50nm,0.4s						
TDK	**Taldyqorghan**	**4.54**	**31**	Pg	**Pb**	**23 38 50.4**	**+0.9**
	31nm,0.5s						
TDK				Lg	Lg	23 39 49.2	
	65nm,0.8s						
TDK	**Taldyqorghan**	**4.54**	**31**	*eP*	**Pg**	**23 38 52.9**	**-3.2**
	59nm,0.5s						
TDK				*eS*	**Sg**	**23 39 52.9**	**-2.0**
	121nm,0.6s						
MK31	**Makanchi Array**	**7.65**	**40**	↑Pn	Pn	23 39 30.7	+9.3
	0.8nm,0.5s,baz=224,slow=14,SNR=7.8						
MK31				↓Pg	**Pg**	**23 39 57.7**	**+2.1**
	1.4nm,0.5s,baz=219,slow=15,SNR=4.9						
MK31				↑Lg	Lg	23 41 33.1	
	4.1nm,0.6s,baz=226,slow=25,SNR=4.1						
KURBB	**Kurchatov Arra**	**9.77**	**13**	↓Lg	Lg	23 42 38.6	
	38nm,0.7s						
KURK	**Kurchatov**	**9.87**	**13**	↑Lg	Lg	23 42 40.8	
	20nm,0.8s						

IDC 19 00:00:15.1±2.2, 8°.70S×129°.88E, h0km, mb3.1/1, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=68.0km s-min=28.4km az=76.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.21**	**203**	Pn	Pn	00 02 42.2	-0.9
	0.1nm,0.3s,baz=34,slow=14,SNR=8.3						
FITZ				Sn	Sn	00 04 27.1	-11
	0.5nm,0.3s,baz=284,slow=20,SNR=5.6						
	2.7nm,1.0s						
WRA	**Warramunga Arr**	**11.98**	**159**	Pn	Pn	00 03 08.2	+0.8
	0.3nm,0.3s,baz=339,slow=13,SNR=6.0						
WRA				Sn	Sn	00 05 14.5	-7.4
	0.1nm,0.3s,baz=332,slow=22,SNR=3.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**15.38**	**166**	Pn	Pn	00 03 53.5	-0.2
	0.1nm,0.3s,baz=339,slow=9.4,SNR=6.9						
ASAR				Sn	Sn	00 06 46.4	+1.6
	0.1nm,0.3s,baz=345,slow=23,SNR=1.6						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**69.57**	**327**	P	P	00 11 26.1	+0.1
	0.1nm,0.5s,baz=134,slow=6.2,SNR=1.4						
	0.1nm,0.5s						

*NEIC **19** 00:09:12.4±0.8, 35°.67N±0°.01×117°.47W±0°.01, h11km±3km, Error ellipse: s-maj=1.7km s-min=1.2km az=198.0*
PAS 19 00:09:12.9±0.9, 35°.672N±0°.006×117°.47W±0°.01, h9km±4km, ML3.7/328, ML3.4/178(NEIC), Error ellipse: s-maj=1.7km s-min=0.6km az=119.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.07**	**195**		Pg	00 09 15.2	0.0
WSHM				Sg	Sg	00 09 16.2	-0.5
CCCA	**Chr Cany lake**	**0.17**	**150**	Pg	Pg	00 09 16.9	+0.3
CCCA				Sg	Sg	00 09 19.9	+0.8
CLC	**China Lake**	**0.18**	**324**		Pg	00 09 16.6	-0.1
LRMC	**Laurel Mtn Rad**	**0.26**	**222**		Pg	00 09 17.9	-0.3
LRMC				Sg	Sg	00 09 21.8	+0.1
TOW	**Tower One**	**0.28**	**300**		Pg	00 09 18.8	+0.3
TOW					Sb	00 09 23.6	-1.3
MPMC	**Manual Prospec**	**0.39**	**358**		Pg	00 09 20.2	-0.4
MPMC	**Manual Prospec**	**0.39**	**358**		Sg	00 09 25.9	+0.1
WNMM	**Nine Mile Cany**	**0.39**	**296**		Pg	00 09 20.5	-0.2
WVPM	**Volcano Peak E**	**0.40**	**315**		Pg	00 09 20.6	-0.2
WVPM					Sg	00 09 26.4	+0.4
JRC2	**Joshua Ridge**	**0.41**	**318**		Pg	00 09 21.0	-0.1
JRC2					Sg	00 09 26.9	+0.3
WCSM	**Coso Springs S**	**0.43**	**326**		Sg	00 09 27.2	+0.2
WRVM	**Rose V. Centra**	**0.48**	**315**		Pg	00 09 22.0	-0.3
WRVM					Sg	00 09 28.9	+0.3
MFS	**McCloud Flat S**	**0.54**	**325**		Sg	00 09 30.9	+0.2
WBSM	**Bird Springs**	**0.56**	**256**		Pg	00 09 23.5	-0.4
WBSM					Sg	00 09 31.1	-0.2
QSM	**Queen of Sheba**	**0.57**	**59**		Pg	00 09 23.7	-0.3
QSM				Sg	Sg	00 09 31.3	-0.2
WORM	**Onyx Ranch**	**0.63**	**272**		Pg	00 09 24.6	-0.6
WORM					Sg	00 09 32.9	-0.5
GSC	**Goldstone, Bar**	**0.66**	**124**		Pg	00 09 25.1	-0.6
GSC					IAML	00 09 34.2	
	comp=N,2μm,0.4s						
GSC					IAML	00 09 34.6	
	comp=E,4μm,0.5s						
CCAC	**Calif City Air**	**0.68**	**221**		Pg	00 09 25.7	-0.5
CCAC					Sg	00 09 35.0	-0.1
WHFM	**Hanning Flat**	**0.72**	**272**		Pg	00 09 26.2	-0.6
WHFM					Sg	00 09 35.7	-0.5
HYS	**Haystack Butte**	**0.81**	**186**		Sg	00 09 38.5	-0.6
ISA	**Isabella, Lake**	**0.82**	**270**		Pg	00 09 28.0	-0.8
ISA					IAML	00 09 41.2	
	comp=E,873nm,0.2s						
ISA					IAML	00 09 41.9	
	comp=N,1μm,0.3s						
ISA	**Isabella, Lake**	**0.82**	**270**		Sg	00 09 39.5	+0.1
GWY	**Greenwater Val**	**0.83**	**51**		Pg	00 09 28.4	-0.5
GWY					IAML	00 09 42.2	
	comp=N,2μm,0.4s						
GWY					IAML	00 09 42.9	
	comp=E,3μm,0.3s						
WASM	**Alta Sierra Ca**	**0.89**	**275**		Sg	00 09 41.1	-0.5
CWC	**Cottonwood Cre**	**0.91**	**327**		Pg	00 09 30.0	-0.5
CWC	**Cottonwood Cre**	**0.91**	**327**		IAML	00 09 43.8	
	comp=E,922nm,0.3s						
CWC					IAML	00 09 44.5	
	comp=N,824nm,0.2s						
CGO	**Cerro Gordo**	**0.92**	**343**		Sg	00 09 43.0	+0.4
FURC	**Furnace Creek,**	**0.93**	**32**		Pg	00 09 30.5	-0.4
SHOC	**Shoshone, Teco**	**1.00**	**76**		Pg	00 09 31.4	-0.8
TPO	**Tropico Hills**	**1.01**	**218**		Pg	00 09 31.6	-0.7
TPO					IAML	00 09 51.2	
	comp=E,2μm,0.8s						
VTV	**Victorville**	**1.11**	**174**		Pg	00 09 33.5	-0.9
VTV					Sg	00 09 48.6	-0.2
SPG2	**Springville 2**	**1.18**	**297**		Sb	00 09 49.8	-1.0
TJR	**Tejon Ranch**	**1.22**	**239**		Sb	00 09 50.6	-1.6
TUQ	**Turquoise Moun**	**1.28**	**100**		Pn	00 09 35.3	-1.9
WCT	**Wildcat Mounta**	**1.31**	**31**		Pn	00 09 36.2	-1.3
WCT					Sb	00 09 54.2	-0.5
WCT					IAML	00 09 55.7	
	comp=E,660nm,0.6s						
WCT					IAML	00 09 57.3	
	comp=N,498nm,0.3s						
VES	**Vestal, Richgr**	**1.32**	**278**		Pn	00 09 37.0	-0.6
VES					Sb	00 09 54.4	-0.7
VES					IAML	00 09 57.0	
	comp=N,1μm,0.4s						
VES					IAML	00 09 57.1	
	comp=E,785nm,0.6s						
BAKC	**Calstate**	**1.37**	**257**		Pn	00 09 38.1	-0.2
BFSC	**Mount Baldy Ra**	**1.44**	**186**	Pn	Pn	00 09 38.4	-0.9
BFSC					Sb	00 09 58.4	0.0
BFSC					IAML	00 09 60.0	
	comp=N,323nm,0.5s						
OSI	**Osito Audit: C**	**1.47**	**225**		Pn	00 09 39.8	0.0
OSI					IAML	00 10 02.0	
	comp=N,1μm,0.7s						
OSI					IAML	00 10 04.7	
	comp=E,792nm,0.8s						
TIN	**Tinemaha, Big**	**1.51**	**336**		Pn	00 09 39.9	-0.4
TIN					IAML	00 10 06.7	
	comp=N,593nm,0.6s						
TIN					IAML	00 10 10.7	
	comp=E,540nm,0.6s						
MWC	**Mount Wilson**	**1.52**	**199**		Pn	00 09 39.5	-1.0
MWC					IAML	00 10 03.0	
	comp=N,953nm,0.5s						
MWC					IAML	00 10 04.9	
	comp=E,798nm,0.7s						
MTPC	**Mountain Pass**	**1.57**	**96**		Pn	00 09 39.4	-1.8
MTPC					IAML	00 10 04.6	
	comp=E,312nm,0.2s						
MTPC					IAML	00 10 07.7	
	comp=N,392nm,0.6s						
PASC	**Pasadena Art C**	**1.61**	**202**		IAML	00 10 07.7	
	comp=N,416nm,0.7s						
PASC					IAML	00 10 08.7	
	comp=E,563nm,0.8s						
TPNV	**Topopah Spring**	**1.61**	**37**		Pn	00 09 40.8	-0.9
TPNV					IAML	00 10 06.5	
	comp=E,456nm,0.5s						
TPNV					IAML	00 10 11.4	
	comp=E,570nm,0.8s						
GMN	**Gold Mountain**	**1.63**	**6**		Pn	00 09 41.5	-0.7
VOG	**Valley Oaks Go**	**1.68**	**293**		Pb	00 09 43.4	-0.6
DANC	**Danby, Needles**	**2.00**	**120**		Pn	00 09 46.3	-0.6
DANC					IAML	00 10 20.5	
	comp=N,622nm,0.4s						
MZP	**Montezuma Peak**	**2.03**	**2**		Pn	00 09 46.8	-0.8
SHPR	**Sheep Range**	**2.05**	**65**		IAML	00 10 19.3	
	comp=N,167nm,0.7s						
BELC	**Belle Mtn. Jos**	**2.06**	**144**		IAML	00 10 19.9	
	comp=N,313nm,0.5s						
BELC					IAML	00 10 20.7	
	comp=E,567nm,0.4s						
PMD	**Palm Desert**	**2.21**	**156**		IAML	00 10 25.5	
	comp=E,168nm,0.4s						
PFO	**Pinyon Flats O**	**2.22**	**158**		IAML	00 10 25.7	
	comp=E,130nm,0.9s						
S11A	**Rachel**	**2.41**	**35**		Pb	00 09 57.5	+0.9
S11A					IAML	00 10 36.8	
	comp=N,339nm,0.8s						
S11A					IAML	00 10 43.6	
	comp=E,295nm,1.1s						
TPH	**Tonopah**	**2.41**	**5**		Pn	00 09 52.3	-0.4
TPH					Pg	00 09 57.2	+0.6
IRM	**Iron Mountain**	**2.44**	**128**		Pn	00 09 50.8	-2.2
IRM					IAML	00 10 30.4	
	comp=E,315nm,0.3s						
IRM					IAML	00 10 31.0	
	comp=N,157nm,0.3s						
NEE2	**Needles Airpor**	**2.50**	**110**		IAML	00 10 34.4	
	comp=E,377nm,0.3s						
BORC	**Borrego Spring**	**2.55**	**160**		Pb	00 09 59.5	+0.6
BORC					IAML	00 10 35.0	
	comp=E,185nm,0.6s						
BORC					IAML	00 10 37.5	
	comp=N,121nm,0.9s						
PRN	**Pahroc Range**	**2.61**	**48**		Pn	00 09 54.6	-0.8
PRN					IAML	00 10 39.8	
	comp=N,228nm,0.5s						
PRN					IAML	00 10 43.2	
	comp=E,280nm,0.7s						
BC3	**Big Chuckawall**	**2.61**	**140**		IAML	00 10 37.4	
	comp=N,239nm,0.6s						
BC3					IAML	00 10 37.6	
	comp=E,197nm,0.5s						
DPP	**Dos Picos Cty**	**2.70**	**171**		Pn	00 09 55.7	-0.9
DPP					Pg	00 10 01.2	-0.3
DPP					IAML	00 10 42.9	
	comp=E,112nm,0.8s						
LHV	**Little Huntoon**	**2.71**	**342**		Pn	00 09 56.8	+0.2
LHV					Pg	00 10 03.2	-1.6
LHV					IAML	00 10 47.7	
	comp=E,86nm,0.7s						
PMPB	**Monarch Peak**	**2.76**	**282**		Pn	00 09 57.1	-0.3
PMPB					IAML	00 10 45.1	
	comp=N,137nm,1.0s						
PMPB					I

GLA	**Glamis**	**3.41**	**139**			Pn		00 10 04.5	-1.8
CBX	**Cerro Bola**	**3.42**	**168**			Pn		00 10 06.1	-0.4
CBX					Pg	Pb		00 10 14.7	+1.0
CBX					IAML			00 11 04.3	
	comp=N,167nm,0.5s								
LCMT	**Little Creek M**	**3.66**	**67**			Pn		00 10 09.8	-0.1
LCMT					Pg	Pb		00 10 19.2	+1.3
CCUT	**Cedar City**	**3.80**	**59**			Pn		00 10 11.1	-0.8
CCUT					Pg	Pb		00 10 22.9	+2.6
ESJX	**Sierra Juarez**	**3.87**	**160**		Pn	Pn		00 10 11.8	-1.0
ESJX						Pb		00 10 23.5	+2.0
ESJX					IAML			00 12 33.4	
	comp=E,38nm,0.1s								
KNB	**Kanab**	**3.98**	**69**			Pn		00 10 13.8	-0.6
KNB					Pg	Pb		00 10 24.1	+0.7
KNB					IAML			00 11 22.6	
	comp=E,28nm,1.0s								
KNB					IAML			00 11 23.5	
	comp=N,29nm,0.8s								
SZCU	**Shurtz Canyon**	**4.01**	**60**			Pn		00 10 14.5	-0.3
SZCU					IAML			00 11 24.1	
	comp=E,37nm,0.4s								
Y14A	**Wickenburg**	**4.06**	**114**		Pg	Pb		00 10 26.9	+2.3
Y14A					IAML			00 11 24.1	
	comp=N,79nm,0.6s								
Y14A					IAML			00 11 31.8	
	comp=E,67nm,0.5s								
PSUT	**Pine Spring**	**4.06**	**44**		Pn	Pn		00 10 14.9	-0.6
PSUT					IAML			00 11 31.4	
	comp=E,44nm,1.1s								
PSUT					IAML			00 11 34.1	
	comp=N,40nm,1.0s								
SPR3	**Spring Creek 3**	**4.16**	**36**		IAML			00 11 23.4	
	comp=N,32nm,1.2s								
SPR3					IAML			00 11 30.7	
	comp=E,37nm,1.1s								
113A	**Mohawk Valley,**	**4.22**	**132**		IAML			00 11 33.5	
	comp=N,27nm,1.2s								
U15A	**North Rim**	**4.26**	**78**		IAML			00 11 25.8	
	comp=E,34nm,0.8s								
U15A					IAML			00 11 41.0	
	comp=N,33nm,0.8s								
AFDM	**Forest Hills D**	**4.30**	**321**		IAML			00 11 33.5	
	comp=E,36nm,0.6s								
AFDM					IAML			00 11 37.9	
	comp=N,29nm,0.8s								
PKCU	**Pink Cliffs**	**4.51**	**65**		IAML			00 11 34.6	
	comp=E,56nm,0.6s								
PKCU					IAML			00 11 36.0	
	comp=N,45nm,0.7s								
MTPU	**Mount Pierson**	**4.85**	**59**		IAML			00 11 50.4	
	comp=N,16nm,1.2s								
MTPU					IAML			00 11 59.8	
	comp=E,15nm,3.0s								
TCRU	**Three Creeks R**	**4.97**	**52**		IAML			00 11 55.1	
	comp=E,35nm,0.8s								
TCRU					IAML			00 12 00.8	
	comp=N,29nm,1.0s								
WUAZ	**Wupatki**	**4.97**	**90**		IAML			00 11 53.7	
	comp=N,21nm,0.9s								
WUAZ					IAML			00 12 00.2	
	comp=N,28nm,0.5s								

*HVO **19** 00:09:51.3±1.3, 19°.193N×0°.007×155°.554W±0°.008, h1km±7km, Error ellipse: s-maj=1.2km s-min=1.0km az=133.0*

NEIC 19 00:09:51.9±1.0, **19°.207N**×0°.005×**155°.547W**±0°.009, **h8**km±2km, **ML2.6**/42, **ML2.7**/36(HVO), **Error ellipse: s-maj=1.2km s-min=0.7km az=108.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.07**	**301**		Pg	00 09 54.5	+0.3
KHU					Sg	00 09 56.7	+0.8
HPO	**Honuapo**	**0.12**	**183**		Sg	00 09 56.5	0.0
HPO	**Honuapo**	**0.12**	**183**		Pg	00 09 54.4	-0.2
HTC	**Hot Caves**	**0.14**	**78**		Pg	00 09 55.3	+0.2
AIN	**Ainahou**	**0.18**	**27**		Pg	00 09 56.2	+0.3
AIN				IAML		00 10 01.7	
	comp=E,1μm,0.3s						
AIN				IAML		00 10 02.0	
	comp=N,2μm,0.2s						
HLP	**Hilina Pali**	**0.24**	**69**		Pg	00 09 57.3	+0.4
HLP				IAML		00 10 05.6	
	comp=E,1μm,0.3s						
HLP				IAML		00 10 05.9	
	comp=N,900nm,0.5s						
HLP	**Hilina Pali**	**0.24**	**69**		Sg	00 10 02.3	+2.1
MWH	**Mokuaweoweo**	**0.28**	**350**		Pg	00 09 56.9	-0.8
SDHHI	**Sand Hill**	**0.30**	**53**		Pg	00 09 58.2	+0.2
SDHHI					Sg	00 10 03.3	+1.3
WRMHI	**West Rim**	**0.31**	**50**		Pg	00 09 58.1	0.0
WRMHI					Sg	00 10 03.4	+1.2
RIM	**Rim**	**0.32**	**54**		Pg	00 09 58.4	+0.1
RIM					Sg	00 10 03.6	+1.0
UWE	**Uwekahuna**	**0.32**	**48**		Pg	00 09 58.2	-0.2
UWE	**Uwekahuna**	**0.32**	**48**		Sg	00 10 03.9	+1.3
MLH	**Mauna Loa**	**0.32**	**28**		Pg	00 09 58.4	-0.1
MLH				IAML		00 10 08.5	
	comp=N,906nm,0.3s						
MLH	**Mauna Loa**	**0.32**	**28**		Sg	00 10 04.2	+1.4
OBL	**Observatory Le**	**0.33**	**50**		Pg	00 09 58.6	+0.2
OBL					Sb	00 10 04.2	-1.3
KKO	**Keanakako'i**	**0.33**	**54**		Pg	00 09 58.6	+0.1
KKO					Sg	00 10 03.9	+1.0
UWB	**Uwekahuna Bluf**	**0.33**	**49**		Pg	00 09 58.6	0.0
UWB					Sg	00 10 04.1	+1.1
BYL	**Byron's Ledge**	**0.34**	**53**		Pg	00 09 58.0	-0.7
BYL				IAML		00 10 09.6	
	comp=E,760nm,0.5s						
SBLHI	**Steaming Bluff**	**0.34**	**50**		Pg	00 09 58.8	0.0
SBLHI					Sg	00 10 04.0	+0.7
ALEP	**Alea Permanent**	**0.34**	**345**		Pg	00 09 58.5	-0.5
ALEP					Sg	00 10 04.4	+0.9
HATHI	**Halema'uma'u T**	**0.34**	**51**		Pg	00 09 58.3	-0.5
HATHI				IAML		00 10 04.8	
	comp=E,850nm,0.4s						
HATHI				IAML		00 10 04.8	
	comp=N,924nm,0.4s						
HATHI	**Halema'uma'u T**	**0.34**	**51**		Sg	00 10 04.5	+1.1
PUH	**Pauahi**	**0.35**	**62**		Pg	00 09 58.9	-0.1
PUH					Sg	00 10 04.2	+0.5
PUH	**Pauahi**	**0.35**	**62**	IAML		00 10 07.6	
	comp=N,589nm,0.6s						
PUH				IAML		00 10 07.9	
	comp=E,471nm,0.4s						
RSD	**Rainshed**	**0.36**	**45**		Sg	00 10 04.6	+0.8
RSD	**Rainshed**	**0.36**	**45**	Pg	Pg	00 09 56.2	-2.9
KNHH	**Kane Nui o Ham**	**0.40**	**64**		Pg	00 09 59.1	-0.7
KNHH				Sg	Sb	00 10 06.4	-1.1
HMH	**Humu'ula Sheep**	**0.40**	**9**		Pg	00 10 00.2	+0.3
HMH	**Humu'ula Sheep**	**0.40**	**9**		Sb	00 10 06.6	-1.2
STCH	**Steam Cracks**	**0.44**	**66**		Pg	00 09 59.6	-0.8
STCH				IAML		00 10 13.2	
	comp=E,378nm,0.3s						
CPH	**Captain Cook**	**0.45**	**309**		Pg	00 10 00.3	-0.4
NPOC	**North of Pu'u**	**0.45**	**66**		Pg	00 10 00.4	-0.4
HUH	**Hualalai**	**0.55**	**330**		Pg	00 10 02.0	-0.6
POHA	**Pohakuloa**	**0.55**	**1**		Pg	00 10 01.8	-0.9
POHA				IAML		00 10 11.5	
	comp=E,409nm,0.6s						
POHA				IAML		00 10 13.1	
	comp=E,360nm,0.8s						
POHA	**Pohakuloa**	**0.55**	**1**		Sg	00 10 10.4	+0.5
JOKA	**Jonika Flow**	**0.56**	**66**		Sg	00 10 11.1	+0.9
JOKA	**Jonika Flow**	**0.56**	**66**		Pg	00 10 01.9	-0.9
HPAH	**Hawaii Prepara**	**0.83**	**350**	Pg	Pg	00 10 05.9	-2.0
HPAH				IAML		00 10 20.8	
	comp=N,213nm,0.4s						
HPAH				IAML		00 10 35.3	
	comp=E,203nm,0.7s						
MHA	**Mahukona**	**1.03**	**341**	Pg	Pn	00 10 12.4	-0.3

*SOME **19** 00:14:08.6, 39°.62N×73°.93E, h15km*
*KRNET **19** 00:14:08.3±0.1, 39°.71N×74°.38E, mb3.0*

ISC 19 00:14:12.7±2.7, **39°.7N**±0°.1×**74°.01E**±0°.06, **h10**km, **n12, σ2§18/24, 6C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**1.16**	**353**	⇓*iP*	**Pn**	**00 14 32.4**	**-2.8**
SALK				⇓*iS*	**Sb**	**00 14 49.5**	**-0.7**
ARSB	**Arslanbob**	**1.78**	**334**	⇑*eP*	**Pn**	**00 14 44.4**	**+0.8**
ARSB				⇑*eS*	**Sb**	**00 15 10.8**	**+3.0**
UCH	**Uchtor**	**2.52**	**8**	⇑*iP*	**Pn**	**00 14 52.7**	**-1.4**
UCH				⇑*iS*	**Sn**	**00 15 25.2**	**0.0**
TRKS	**Terek-Say**	**2.83**	**310**	⇓*iP*	**Pn**	**00 14 59.4**	**+1.3**
TRKS				⇓*iS*	**Sb**	**00 15 36.9**	**-1.3**
AAK	**Ala-Archa**	**2.93**	**7**	⇑Pn	**Pb**	**00 15 04.4**	**-0.7**
	2.0nm,0.5s						
AAK				⇓Sn	**Sb**	**00 15 42.0**	**+1.1**
	23nm,1.0s						
MRKS	**Merke**	**3.07**	**349**	*eP*	**Pb**	**00 15 05.7**	**-1.7**
	6.0nm,0.3s						
MRKS				*eS*	**Sb**	**00 15 48.0**	**+3.0**
	31nm,0.4s						
KST	**Kastek**	**3.62**	**23**	*eP*	**Pb**	**00 15 14.2**	**-2.7**
	5.5nm,0.4s						
KST				*eS*	**Sb**	**00 16 00.9**	**+0.1**
	21nm,0.7s						
IZV	**Izvestkoviy**	**3.84**	**30**	*eP*	**Pb**	**00 15 21.9**	**+1.3**
	1.7nm,0.2s						
IZV				*eS*	**Sg**	**00 16 16.0**	**0.0**
	13nm,0.6s						
MTBS	**Maitube**	**3.85**	**27**	*eP*	**Pb**	**00 15 21.6**	**+0.9**
	1.4nm,0.1s						
MTBS				*eS*	**Sg**	**00 16 15.2**	**-1.1**
	6.5nm,0.3s						
TNSS	**Tian-Shan**	**3.97**	**33**	*eP*	**Pb**	**00 15 24.4**	**+1.4**
	1.4nm,0.1s						
TNSS				*eS*	**Sg**	**00 16 20.0**	**-0.3**
	6.6nm,0.4s						
KK31	**Karatay Array**	**4.28**	**323**	Pn	**Pb**	**00 15 23.5**	**-4.5**
	0.6nm,0.3s,baz=130,slow=13,SNR=29						
KK31				⇑Sn	**Sn**	**00 16 10.3**	**+2.5**
	3.0nm,0.5s						
KK31				⇓Lg	Lg	00 16 26.4	
	2.7nm,0.3s,baz=122,slow=29,SNR=4.0						
BRLS	**Borolday**	**4.55**	**318**	*eP*	**Pb**	**00 15 31.5**	**-1.2**
	1.1nm,0.2s						
BRLS				*eS*	**Sb**	**00 16 32.5**	**+4.8**
	6.9nm,0.2s						

*IDC **19** 00:26:07.3±1.9, 5°.34S×151°.98E, h0km, mb3.7/7, mbtmp3.7/8, ML2.4/1, MS3.1/6, Error ellipse: s-maj=75.7km s-min=22.7km az=117.0*

ISC 19 00:26:16.0±1.8, **5°.4S**±0°.3×**151°.7E**±0°.4, **h57**km, **n15, σ1§06/11, mb3.8/7, MS3.0/3, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.97**	**228**	Pn	**Pn**	**00 27 43.1**	**+1.3**
	5.0nm,0.3s,baz=243,slow=20,SNR=4.0						
PMG				Sn	**Sn**	**00 28 46.9**	**-2.1**
	4.7nm,0.3s,baz=136,slow=13,SNR=3.2						
PMG				LR	LR	00 30 11.4	
	comp=Z,110nm,20.2s,baz=175,slow=39 14nm,0.3s						
HNR	**Honiara**	**9.15**	**116**	LR	LR	00 32 08.2	
	comp=Z,68nm,18.1s,baz=152,slow=41						
JAY	**Jayapura**	**11.29**	**284**	LR	LR	00 32 30.0	
	comp=Z,98nm,19.3s,baz=298,slow=33						
WRA	**Warramunga Arr**	**22.19**	**228**	P	**P**	**00 31 08.5**	**+0.8**
	2.3nm,0.6s,baz=52,slow=10,SNR=14						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**24.94**	**222**	P	**P**	**00 31 34.6**	**+0.5**
	3.2nm,0.8s,baz=56,slow=9.0,SNR=25						
	3.2nm,0.8s						
KAPI	**Kappang**	**31.77**	**269**	LR	LR	00 48 34.3	
	comp=Z,28nm,18.2s,baz=351,slow=42						
MJAR	**Matsushiro Arr**	**43.58**	**344**	LR	LR	00 51 04.3	
	comp=Z,16nm,18.6s,baz=195,slow=34						
LEM	**Lembang**	**43.79**	**266**	LR	LR	00 56 25.8	
	comp=Z,77nm,18.0s,baz=302,slow=41						
SONM	**Songino Array**	**66.23**	**328**	P	**P**	**00 36 58.9**	**+0.7**
	0.4nm,0.4s,baz=138,slow=5.9,SNR=2.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**80.03**	**319**	P	**P**	**00 38 19.5**	**0.0**
	0.1nm,0.4s,baz=115,slow=6.3,SNR=2.2						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**83.15**	**22**	P	**P**	**00 38 34.8**	**-0.7**
	0.2nm,0.6s,baz=266,slow=6.0,SNR=3.0						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**83.57**	**322**	P	**P**	**00 38 38.1**	**+0.1**
	0.3nm,0.7s,baz=98,slow=6.2,SNR=2.2						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**89.04**	**323**	P	**P**	**00 39 03.8**	**-1.0**
	0.3nm,0.5s,baz=101,slow=7.5,SNR=3.1						
	0.3nm,0.5s						
GERES	**GERESS Array B**	**123.96**	**328**	PKP	**PKPdf**	**00 45 07.8**	**-0.3**
	0.3nm,0.6s,baz=329,slow=1.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.39**	**287**	PKPbc	**PKPbc**	**00 45 59.5**	**-0.2**
	1.8nm,0.7s,baz=57,slow=3.3,SNR=11						

*VAO **19** 00:28:07.7±1.7, 18°.75S×68°.28W, h186km±11km, mb4.6*
*SCB **19** 00:28:12.4±0.8, 18°.80S×68°.08W, h223km±8km, ML4.2/2, MW3.7, Error ellipse: s-maj=3.6km s-min=2.3km az=1.0*
*IDC **19** 00:28:13.4±1.0, 18°.70S×67°.84W, h203km±8km, mb3.7/10, mbtmp4.2/16, MS2.0/1, Error ellipse: s-maj=14.9km s-min=10.7km az=50.0*
*NEIC **19** 00:28:13.1±2.9, 18°.84S±0°.05×67°.88W±0°.09, h213km±5km, mb4.3/31, Mwr4.1(GUC), Error ellipse: s-maj=12.2km s-min=6.7km az=93.0*
*GUC **19** 00:28:13.5±0.7, 18°.85S×68°.19W, h218km±6km, ML4.1*

ISC 19 00:28:13.1±0.6, **18°.82S**±0°.04×**67°.96W**±0°.05, **h210**km±5km, **n146, σ1§17/170, mb4.1/17, 7C, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.27**	**16**	Pg	**Pn**	**00 28 41.7**	**+0.3**
GO01	**Chusmiza**	**1.44**	**234**		**Pn**	**00 28 48.4**	**+0.7**
GO01				Sn	**S**	**00 29 15.8**	**+1.4**
GO01	**Chusmiza**	**1.44**	**234**	⇑*iP*	**Pn**	**00 28 48.4**	**+0.7**
GO01				IAML		00 29 19.3	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.44**	**234**	Pg	**Pn**	**00 28 48.3**	**+0.6**
PB16	**IPOC Station P**	**1.54**	**288**		**Pn**	**00 28 49.5**	**+0.7**
PB16				Sn	**S**	**00 29 16.9**	**+0.8**
PB16	**IPOC Station P**	**1.54**	**288**	⇑*iP*	**Pn**	**00 28 49.4**	**+0.7**
PB16				*eS*	**S**	**00 29 17.1**	**+1.1**
PB16				IAML		00 29 18.3	
	comp=N,227nm,0.5s						
PB16	**IPOC Station P**	**1.54**	**288**	Pg	**Pn**	**00 28 49.0**	**+0.3**
PB08	**IPOC Station P**	**1.73**	**220**		**Pn**	**00 28 51.2**	**+1.1**
PB08				Sn	**S**	**00 29 20.6**	**+1.9**
PB08	**IPOC Station P**	**1.73**	**220**	⇑*iP*	**Pn**	**00 28 51.2**	**+1.1**
PB08				*eS*	**S**	**00 29 19.9**	**+1.1**
PB08				IAML		00 29 20.9	
	comp=E,996nm,0.4s						
PB08	**IPOC Station P**	**1.73**	**220**	Pg	**Pn**	**00 28 51.0**	**+0.9**
BBOJ	**La Paz, Jacaqu**	**1.85**	**353**	Pg	**Pn**	**00 28 52.3**	**+0.8**
SOEJ	**Jacaque**	**1.85**	**353**	Pg	**Pn**	**00 28 52.4**	**+0.9**
PB11	**IPOC Station P**	**1.85**	**239**		**Pn**	**00 28 50.9**	**-0.2**
PB11				Sn	**S**	**00 29 20.4**	**+0.1**
PB11	**IPOC Station P**	**1.85**	**239**	⇑*iP*	**Pn**	**00 28 51.0**	**0.0**
PB11				IAML		00 29 21.6	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.85**	**239**	Pg	**Pn**	**00 28 51.2**	**+0.1**
PB18	**Visviri**	**1.89**	**310**		**Pn**	**00 28 53.5**	**+1.6**
PB18	**Visviri**	**1.89**	**310**	⇑*iP*	**Pn**	**00 28 53.4**	**+1.6**
BBOE	**La Paz, Chanca**	**2.00**	**359**	Pg	**Pn**	**00 28 53.7**	**+0.7**
BBOD	**La Paz, Gloria**	**2.25**	**344**	Pg	**Pn**	**00 28 56.1**	**+0.5**
AP01	**Chacalluta**	**2.30**	**281**		**Pn**	**00 28 55.0**	**-0.4**
AP01				Sn	**S**	**00 29 27.9**	**-0.2**
AP01	**Chacalluta**	**2.30**	**281**	⇑*iP*	**Pn**	**00 28 55.1**	**-0.3**
HMBC	**Humberstone**	**2.32**	**231**		**Pn**	**00 28 55.5**	**-0.3**
HMBC				Sn	**S**	**00 29 27.5**	**-1.3**
HMBC	**Humberstone**	**2.32**	**231**	⇑*iP*	**Pn**	**00 28 55.4**	**-0.4**
HMBC	**Humberstone**	**2.32**	**231**	Pg	**Pn**	**00 28 55.5**	**-0.3**
TA02	**Huaiquique**	**2.50**	**234**		**Pn**	**00 28 57.1**	**-0.5**
TA02				Sn	**S**	**00 29 30.4**	**-1.6**
LPAZ	**La Paz**	**2.52**	**356**	Pn	**Pn**	**00 28 58.8**	**+0.2**
LPAZ				Sn	**S**	**00 29 32.3**	**-1.4**
LPAZ	**La Paz**	**2.52**	**356**	P	**Pn**	**00 28 58.7**	**+0.2**
	comp=E,129nm,0.3s,baz=161,slow=5.6,SNR=992						
LPAZ				S	**S**	**00 29 31.9**	**-1.7**
	comp=E,148nm,0.6s,baz=267,slow=14,SNR=29						
LPAZ				LR	LR	00 29 40.5	
	comp=E,26nm,18.2s,baz=198,slow=36						
LPAZ	**La Paz**	**2.52**	**356**	Pg	**Pn**	**00 28 58.7**	**+0.2**
PB01	**IPOC Station P**	**2.63**	**213**		**Pn**	**00 28 59.1**	**0.0**
PB01				Sn	**S**	**00 29 35.1**	**+0.3**
PB01	**IPOC Station P**	**2.63**	**213**	*eP*	**Pn**	**00 28 59.4**	**+0.2**
PB01				IAML		00 29 37.2	
	comp=E,1μm,0.3s						
PB01	**IPOC Station P**	**2.63**	**213**	Pg	**Pn**	**00 28 59.7**	**+0.5**
BBOB	**La Paz, Bander**	**2.67**	**357**	Pg	**Pn**	**00 29 00.0**	**-0.1**
TA01	**Diego Aracena**	**2.72**	**230**		**Pn**	**00 28 59.2**	**-0.7**
TA01					**S**	**00 29 34.5**	**-1.8**
TA01	**Diego Aracena**	**2.72**	**230**	*i* P	**Pn**	**00 28 59.5**	**-0.4**
TA01				IAML		00 29 37.7	
	comp=N,916nm,0.1s						
PATCX	**Punta Patache**	**2.86**	**226**		**Pn**	**00 29 01.1**	**-0.7**
PATCX				Sn	**S**	**00 29 38.4**	**-1.1**
PATCX	**Punta Patache**	**2.86**	**226**	*eP*	**Pn**	**00 29 01.5**	**-0.3**
PB02	**IPOC Station P**	**3.08**	**216**		**Pn**	**00 29 04.3**	**0.0**
PB02				Sn	**S**	**00 29 42.7**	**-1.3**
PB02	**IPOC Station P**	**3.08**	**216**	*eP*	**Pn**	**00 29 04.5**	**+0.3**
PB02	**IPOC Station P**	**3.08**	**216**	Pg	**Pn**	**00 29 04.5**	**+0.3**
PB02				Sg	**S**	**00 29 43.1**	**-0.9**
PB02				IAML		00 29 45.2	
	comp=N,582nm,0.5s						
PB09	**IPOC Station P**	**3.19**	**202**		**Pn**	**00 29 04.2**	**-1.5**
PB09				Sn	**S**	**00 29 47.4**	**+0.8**
MOCB	**Mochara**	**3.26**	**138**	Pg	**Pn**	**00 29 08.5**	**+1.8**
MOCB				Sg	**S**	**00 29 50.7**	**+2.4**
MOCB				IAML		00 29 57.1	
	comp=N,280nm,0.9s						
PB03	**IPOC Station P**	**3.62**	**207**		**Pn**	**00 29 11.2**	**+0.4**
PB03				Sn	**S**	**00 29 54.5**	**-1.3**
PB03	**IPOC Station P**	**3.62**	**207**	Pg	**Pn**	**00 29 11.1**	**+0.4**
YJA	**Yavi**	**4.05**	**146**	Pg	**Pn**	**00 29 17.8**	**+1.5**
AF01	**San Pedro de A**	**4.12**	**183**	Pn	**Pn**	**00 29 16.7**	**-0.2**
PB06	**IPOC Station P**	**4.15**	**201**		**Pn**	**00 29 17.0**	**-0.2**
PB06				Sn	**S**	**00 30 04.5**	**-2.9**
PB06	**IPOC Station P**	**4.15**	**201**	Pg	**Pn**	**00 29 17.6**	**+0.4**
PB05	**IPOC Station P**	**4.52**	**207**		**Pn**	**00 29 21.6**	**-0.3**
PB05	**IPOC Station P**	**4.52**	**207**	Pg	**Pn**	**00 29 22.0**	**+0.2**
PB10	**IPOC Station P**	**5.26**	**207**	Pn	**Pn**	**00 29 30.7**	**-0.3**
PB10	**IPOC Station P**	**5.26**	**207**	Pg	**Pn**	**00 29 30.5**	**-0.5**
PB14	**IPOC Station P**	**6.21**	**201**	Pn	**Pn**	**00 29 43.0**	**-0.4**
GO02	**Mina Guanaco**	**6.49**	**193**		**Pn**	**00 29 46.9**	**-0.1**
SIV	**San Ignacio**	**7.16**	**68**	P	**Pn**	**00 29 52.9**	**-2.6**
	comp=N,8.1nm,0.3s,baz=260,slow=11,SNR=69						
SIV				S	S	00 31 01.4	-15
	comp=N,6.3nm,0.6s,baz=251,slow=15,SNR=6.2						
AC01	**Pan de Azucar**	**7.69**	**198**	Pn	**Pn**	**00 30 01.6**	**-0.7**
AC02	**Maricunga**	**8.05**	**187**	Pn	**Pn**	**00 30 06.8**	**-0.6**
AC06	**Mina Casimiro**	**8.78**	**194**	Pn	**Pn**	**00 30 15.1**	**-1.3**
GO03	**Copiapo**	**8.98**	**193**	Pn	**Pn**	**00 30 18.8**	**-0.2**
GO03				Sn	**S**	**00 31 56.7**	**-3.3**
PTLB	**Pontes e Lacer**	**9.08**	**70**		**Pn**	**00 30 18.2**	**-2.2**
PTLB	**Pontes e Lacer**	**9.08**	**70**	*eP*	**Pn**	**00 30 18.1**	**-2.3**
PTLB				*eS*	**S**	**00 32 04.2**	**+1.7**
VILB	**Vilhena**	**9.48**	**53**		**Pn**	**00 30 23.2**	**-2.3**
VILB	**Vilhena**	**9.48**	**53**	*eP*	**Pn**	**00 30 23.6**	**-1.9**
AC04	**Llanos de Chal**	**9.77**	**196**	Pn	**Pn**	**00 30 27.8**	**-1.3**
BDQN	**Bodoquena, MS**	**10.69**	**101**	*eP*	**Pn**	**00 30 38.5**	**-2.5**
NNA	**Nana**	**10.93**	**307**	Pn	**Pn**	**00 30 43.5**	**-0.7**
NNA	**Nana**	**10.93**	**307**	P	**Pn**	**00 30 43.3**	**-0.9**
	comp=N,10nm,0.3s,baz=152,slow=9.8,SNR=9.1						
NNA				S	S	00 32 36.2	-10
	comp=N,6.9nm,0.6s,baz=28,slow=19,SNR=3.8						
CO01	**Juntas del Tor**	**11.27**	**189**	Pn	**Pn**	**00 30 50.2**	**+1.5**
GO04	**Tololo Observa**	**11.59**	**192**	Pn	**Pn**	**00 30 52.0**	**-0.7**
AQDB	**Aquidauana**	**11.67**	**100**		**Pn**	**00 30 52.6**	**-0.9**
SALV	**Santo Antonio**	**12.07**	**78**	*eP*	**Pn**	**00 30 55.0**	**-3.6**
CO03	**El Pedregal**	**12.22**	**191**		**Pn**	**00 31 00.1**	**-0.4**
CPUP	**Villa Florida**	**12.34**	**129**	Pn	**Pn**	**00 31 00.4**	**-1.5**
CPUP	**Villa Florida**	**12.34**	**129**	P	**Pn**	**00 31 01.8**	**-0.1**
	comp=N,1.0nm,0.9s,baz=168,slow=12,SNR=4.3						
SJPY	**San Joaquin**	**12.60**	**121**	*eP*	**Pn**	**00 31 05.0**	**-0.2**
CO02	**Combarbal**	**12.63**	**192**	Pn	**Pn**	**00 31 06.3**	**+0.6**
CO02				P	**P**	**00 31 11.2**	**+2.1**
CFA	**Coronel Fontan**	**12.73**	**181**	P	**P**	**00 31 08.8**	**-1.3**
	comp=N,1.1nm,0.4s,baz=354,slow=10,SNR=7.7						
AMBA	**Amambai (Brazi**	**12.79**	**111**	*eP*	**Pn**	**00 31 07.9**	**+0.2**
PDRB	**Porto dos Gac**	**12.99**	**58**	*eP*	**Pn**	**00 31 07.2**	**-3.0**
RPRD	**Ribas do Rio P**	**13.54**	**99**	*eP*	**Pn**	**00 31 17.8**	**+0.8**
VA06	**Catapilco**	**14.01**	**192**	Pn	**Pn**	**00 31 22.3**	**-0.3**
VA03	**San Esteban**	**14.08**	**189**	P	**P**	**00 31 25.2**	**+0.1**
CLDB	**Colider**	**14.16**	**58**	*eP*	**Pn**	**00 31 23.8**	**-0.9**
MT02	**Curacav**	**14.66**	**191**		**P**	**00 31 31.0**	**-0.5**
TRCB	**Terra Rica**	**14.87**	**108**	P	**Pn**	**00 31 32.2**	**-1.1**
TRCB	**Terra Rica**	**14.87**	**108**	*eP*	**Pn**	**00 31 33.5**	**+0.2**
MT09	**Talagante**	**15.14**	**190**		**Pn**	**00 31 35.4**	**-1.2**
MT01	**Popeta**	**15.27**	**190**		**P**	**00 31 39.2**	**+1.1**
MT01				IAmb	IA

comp=Z,1.3nm,0.3s,baz=254,slow=6.0,SNR=8.5
comp=Z,1.3nm,0.3s

ECSD	**EROS Data Cent**	**67.57**	**338**		**P**	**00 38 46.7**	**-0.1**
ECSD				IAmb	IAmb	00 38 47.2	

comp=Z,2.7nm,0.7s

ISCO	**Idaho Springs**	**68.08**	**330**	P	**P**	**00 38 50.9**	**+0.4**
MSU	**Marysvale**	**70.50**	**325**	P	**P**	**00 39 06.1**	**+0.8**
QSPA	**South Pole Qui**	**71.36**	**180**	P	**P**	**00 39 13.0**	**+3.1**

comp=Z,1.7nm,0.6s,baz=164,slow=3.3,SNR=17
comp=Z,1.7nm,0.6s

PDAR	**Pinedale Array**	**72.26**	**329**	P	**P**	**00 39 16.6**	**+1.0**

comp=Z,0.5nm,0.5s,baz=120,slow=8.5,SNR=8.0
comp=Z,0.5nm,0.5s

ULM	**Lac du Bonnet**	**73.06**	**342**	P	**P**	**00 39 19.6**	**-0.2**

comp=Z,6.0nm,0.4s,baz=150,slow=6.9,SNR=16
comp=Z,6.0nm,0.4s

NVAR	**Mina Array Bea**	**73.96**	**321**	P	**P**	**00 39 27.2**	**+1.5**

comp=Z,1.1nm,0.8s,baz=136,slow=4.9,SNR=6.5
comp=Z,1.1nm,0.8s

TORD	**Torodi Ar. Bea**	**75.62**	**71**	P	**P**	**00 39 34.7**	**-0.7**

comp=Z,3.8nm,0.5s,baz=262,slow=4.6,SNR=57
comp=Z,3.8nm,0.5s

ESDC	**Sonseca Array**	**83.31**	**44**	P	**P**	**00 40 18.2**	**+1.7**

comp=Z,0.7nm,0.8s,baz=244,slow=5.7,SNR=6.1
comp=Z,0.7nm,0.8s

YKA	**Yellowknife Ar**	**88.97**	**340**	P	**P**	**00 40 43.5**	**+0.2**

comp=Z,2.1nm,0.8s,baz=132,slow=4.1,SNR=5.9
comp=Z,2.1nm,0.8s

ASAR	**Alice Springs**	**132.69**	**208**	PKP	**PKiKP**	**00 47 04.5**	**-0.3**

comp=Z,0.2nm,0.5s,baz=130,slow=1.7,SNR=5.8

WRA	**Warramunga Arr**	**135.70**	**211**	PKP	**PKiKP**	**00 47 10.2**	**-0.7**

comp=Z,0.8nm,0.5s,baz=140,slow=1.6,SNR=6.0

ZALV	**Zalesovo Beam**	**139.16**	**24**	PKP	**PKPdf**	**00 47 15.1**	**+0.6**

comp=Z,0.6nm,0.4s,baz=296,slow=4.7,SNR=3.9

USRK	**Ussuriysk Ar.**	**149.67**	**331**	PKPbc	**PKiKP**	**00 47 39.0**	**+0.3**

comp=Z,2.9nm,0.8s,baz=29,slow=3.3,SNR=4.6

SONM	**Songino Array**	**150.70**	**8**	PKPbc	**PKiKP**	**00 47 41.2**	**+0.2**

comp=Z,1.7nm,0.7s,baz=289,slow=1.6,SNR=7.6

SONM				PKPab	**PKPab**	**00 47 50.3**	**+2.3**

comp=Z,0.8nm,0.5s,baz=296,slow=1.4,SNR=4.8

MJAR	**Matsushiro Arr**	**151.01**	**313**	PKPbc	**PKiKP**	**00 47 42.1**	**+0.3**

comp=Z,1.1nm,0.5s,baz=49,slow=2.2,SNR=1.4

AUST 19 00:35:04.3±0.4**, 20°S**±4°×**13°4E**±°**, h10**km**, mb3.9**/3**,**
ML2.5/3**, ML3.6**/5**, Error ellipse: s-maj=9.6km**
s-min=6.1km az=34.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WB10	**Warramunga Arr**	**0.35**	**93**	P	Pb	00 35 12.6	-0.1
WRAB	**Tennant Creek**	**0.36**	**121**	Pg	Pg	00 35 12.1	+0.7
WRAB				P	Pb	00 35 12.2	-0.7
WRAB				S	Sg	00 35 17.1	+0.9
WR0	**Warramunga Arr**	**0.53**	**114**	P	Pb	00 35 15.3	-0.5
AS31	**Alice Springs**	**3.90**	**182**	P	Pn	00 36 04.2	-0.2
AS08	**Alice Springs**	**3.92**	**181**	P	Pn	00 36 05.0	+0.4
AS10	**Alice Springs**	**3.93**	**181**	P	Pn	00 36 05.1	+0.2
QIS	**Mount Isa**	**5.30**	**100**	P	Pn	00 36 25.0	+1.3

comp=Z,0.0nmcomp=Z,50μmcomp=Z,6.0nm,2.3s

KNRA	**Kununurra**	**6.44**	**308**	P	Pn	00 36 38.4	-0.9

comp=Z,39μmcomp=Z,11nm,1.3s,comp=Z,0.1nm

KDU	**Kakadu**	**7.18**	**348**	P	Pn	00 36 49.4	-0.1

comp=Z,68μmcomp=Z,4.9nm,0.5s,comp=Z,0.1nm

---

*JMA **19** 00:44:51.6*±*0.2, 31°N*±*2°×13°8E*±*°, h513km, MV3.8/22,*
NEAR TORISHIMA IS
*IDC **19** 00:44:53.7*±*1.2, 30.57N*×*137.86E, h487km*±*10km,*
mb3.1/11, mbtmp4.0/16, Error ellipse: s-maj=22.8km
s-min=19.6km az=107.0
ISC 19 00:44:53.3±0.7**, 30.57N**±0.07**×138.11E**±0.09**, h500**km**, n35,**
σ1§**41**/45**, mb3.5**/11**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.91**	**29**	P	**P**	**00 46 04.0**	**+0.3**

48nm,0.3s,baz=279,slow=23,SNR=3.0

JHJ				S	**S**	**00 47 01.1**	**+0.1**

74nm,0.5s,baz=246,slow=22,SNR=2.8

JHJ2	**Mitsune**	**2.92**	**29**	P	**P**	**00 46 04.2**	**+0.6**
JHJ2	**Mitsune**	**2.92**	**29**	S	**S**	**00 47 01.6**	**+0.6**
JHJ2	**Mitsune**	**2.92**	**29**	*eP*	**P**	**00 46 04.1**	**+0.4**
JKN2	**Miekihoku**	**3.98**	**337**	P	**P**	**00 46 11.5**	**+0.1**
JKN2				*eS*	**S**	**00 47 12.9**	**-2.3**
JIE	**Ise**	**3.99**	**343**	P	**P**	**00 46 11.9**	**+0.3**
JIE				*eS*	**S**	**00 47 14.0**	**-1.5**
BSO3	**Boso 3**	**4.68**	**25**	*eP*	**P**	**00 46 17.1**	**+0.1**
BSO3				S	**S**	**00 47 23.1**	**-2.4**
BSO1	**Boso 1**	**4.74**	**30**	*eP*	**P**	**00 46 17.4**	**+0.2**
BSO1				*eS*	**S**	**00 47 23.7**	**-2.1**
JMN	**Monobe**	**4.78**	**312**	P	**P**	**00 46 18.2**	**-0.1**
INU	**Inuyama**	**4.86**	**349**	P	**P**	**00 46 20.0**	**+1.1**
CBIJ	**Chichi jima**	**4.97**	**133**	*eP*	**P**	**00 46 19.5**	**-0.6**
CBIJ				*eS*	**S**	**00 47 29.7**	**-1.2**
JCJ	**Chichijima**	**4.97**	**133**	S	**S**	**00 47 28.5**	**-2.4**

95nm,0.4s,baz=294,slow=22,SNR=10

JGF	**Kuroka**	**5.06**	**353**	P	**P**	**00 46 21.4**	**+0.7**
JTO	**Tosashimizu**	**5.07**	**298**	*eP*	**P**	**00 46 19.7**	**-1.2**
JAG	**Ashikaga**	**5.95**	**10**	P	**P**	**00 46 27.9**	**-1.1**
JAG				*eS*	**S**	**00 47 41.9**	**-5.4**
MJAR	**Matsushiro Arr**	**5.96**	**1**	P	**P**	**00 46 28.4**	**-0.7**

4.4nm,0.5s,baz=178,slow=9.5,SNR=13

MAJO	**Matsushiro**	**5.96**	**1**	P	**P**	**00 46 29.0**	**-0.1**
JNU	**Nakatsue**	**6.66**	**294**	P	**P**	**00 46 34.7**	**-1.4**

12nm,0.5s,baz=66,slow=1.4,SNR=12

JNU	**Nakatsue**	**6.66**	**294**	P	**P**	**00 46 34.9**	**-1.2**
JMM	**Marumori**	**7.61**	**16**	P	**P**	**00 46 46.6**	**+1.1**
JTM	**Tenmabayashi**	**10.47**	**12**	P	**P**	**00 47 17.6**	**+2.1**
KSRS	**Korea Array**	**10.89**	**312**	P	**P**	**00 47 18.7**	**-1.2**

1.8nm,0.4s,baz=120,slow=10,SNR=8.4

USRK	**Ussuriysk Ar.**	**14.45**	**342**	P	**P**	**00 47 57.8**	**+0.3**

12nm,0.5s,baz=149,slow=11,SNR=27

CMAR	**Chiang Mai Arr**	**37.44**	**260**	P	**P**	**00 51 22.9**	**-0.7**

1.1nm,0.3s,baz=65,slow=8.0,SNR=6.2
1.1nm,0.3s

ZALV	**Zalesovo Beam**	**44.53**	**317**	P	**P**	**00 52 18.6**	**-1.0**

0.3nm,0.4s,baz=92,slow=4.5,SNR=1.8

ZALV				PcP	**PcP**	**00 53 52.1**	**0.0**

0.3nm,0.3s,baz=88,slow=3.6,SNR=1.9
0.3nm,0.4s

MKAR	**Makanchi Array**	**45.53**	**307**	P	**P**	**00 52 27.2**	**-0.2**

0.4nm,0.3s,baz=94,slow=9.7,SNR=7.3

MKAR				PcP	**PcP**	**00 53 56.7**	**+0.9**

0.2nm,0.3s,baz=85,slow=4.5,SNR=4.5
0.4nm,0.3s

KURBB	**Kurchatov Arra**	**48.07**	**312**	P	**P**	**00 52 46.5**	**0.0**

1.4nm,0.5s,baz=91,slow=7.4,SNR=27
1.4nm,0.5s

WRA	**Warramunga Arr**	**50.35**	**185**	P	**P**	**00 53 04.9**	**+1.1**

0.4nm,0.6s,baz=1.7,slow=7.4,SNR=2.4
0.4nm,0.6s

BVAR	**Borovoye Array**	**53.08**	**316**	P	**P**	**00 53 23.4**	**+0.2**

1.1nm,0.4s,baz=95,slow=7.2,SNR=16

BVAR				PcP	**PcP**	**00 54 24.6**	**+1.1**

0.5nm,0.3s,baz=80,slow=3.5,SNR=5.0
1.1nm,0.4s

ARCES	**ARCESS Array B**	**69.08**	**340**	P	**P**	**00 55 09.8**	**+1.6**

0.9nm,0.4s,baz=62,slow=7.4,SNR=13
0.9nm,0.4s

FINES	**FINESS Array B**	**73.25**	**332**	P	**P**	**00 55 33.7**	**+1.0**

1.4nm,0.4s,baz=68,slow=5.0,SNR=27
1.4nm,0.4s

AKASG	**Malin Array Be**	**77.70**	**322**	P	**P**	**00 55 58.3**	**+0.5**

0.5nm,0.3s,baz=56,slow=4.8,SNR=6.0
0.5nm,0.3s

HFS	**Hagfors**	**78.81**	**335**	P	**P**	**00 56 04.6**	**+1.0**

1.4nm,0.4s,baz=55,slow=5.5,SNR=18
1.4nm,0.4s

NB2	**NORSAR Subarra**	**79.05**	**337**	P	**P**	**00 56 06.0**	**+1.1**

comp=Z,0.5nm,0.5s,baz=47,slow=5.1

NOA	**NORSAR Array B**	**79.05**	**337**	P	**P**	**00 56 06.1**	**+1.2**

comp=Z,0.5nm,0.5s,baz=54,slow=6.7,SNR=5.4
comp=Z,0.5nm,0.5s

---

*NEIC **19** 00:45:12.2*±*0.7, 19°19N*±*0.03*×*155°47W*±*0.02, h38km*±*3km,*
Error ellipse: s-maj=5.0km s-min=1.2km az=153.0
HVO 19 00:45:13.2±1.1**, 19°16N**±0.03**×155°46W**±0.02**, h36**km±2km**,**
ML2.9/40**, ML3.0**/42(NEIC)**, Error ellipse: s-maj=4.9km**
s-min=1.0km az=154.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.10**	**38**		Pn	00 45 18.9	-0.5
HPO	**Honuapo**	**0.11**	**231**		Pn	00 45 18.9	-5.7
HPO					Sn	00 45 22.0	-13
KHU	**Kahuku**	**0.17**	**301**		Pn	00 45 19.2	-3.6
KHU					Sn	00 45 23.6	-8.3
HLP	**Hilina Pali**	**0.20**	**47**		Pn	00 45 19.6	-2.4
HLP				Sn	Sn	00 45 24.3	-5.8
HLP				IAML		00 45 27.5	

comp=E,2μm,0.2s

HLP				IAML		00 45 27.9	

comp=N,2μm,0.2s

AIN	**Ainahou**	**0.21**	**1**		Pn	00 45 19.8	-2.1
AIN				Sn	Sn	00 45 24.6	-5.2
SDHHI	**Sand Hill**	**0.28**	**35**		Pn	00 45 20.0	-1.4
SDHHI					Sn	00 45 25.1	-3.4
WRMHI	**West Rim**	**0.29**	**32**		Pn	00 45 20.1	-1.4
WRMHI					Sn	00 45 25.0	-3.3
RIM	**Rim**	**0.29**	**37**		Pn	00 45 20.1	-1.3
RIM					Sn	00 45 25.7	-2.7
KKO	**Keanakako'i**	**0.30**	**38**		Pn	00 45 20.2	-1.2
KKO					Sn	00 45 25.3	-3.0
UWE	**Uwekahuna**	**0.30**	**32**		Pn	00 45 20.2	-1.3
UWE				Sn	Sn	00 45 25.7	-2.6
UWE				IAML		00 45 29.8	

comp=N,2μm,0.3s

OBL	**Observatory Le**	**0.31**	**33**		Pn	00 45 20.2	-1.2
OBL					Sn	00 45 25.9	-2.4
BYL	**Byron's Ledge**	**0.32**	**37**		Pn	00 45 20.4	-1.1
BYL				Sn	Sn	00 45 25.5	-2.7
BYL				IAML		00 45 25.9	

comp=E,805nm,0.6s

PUH	**Pauahi**	**0.32**	**47**		Pn	00 45 20.4	-1.1
PUH				Sn	Sn	00 45 25.2	-3.0
PUH				IAML		00 45 25.8	

comp=E,1μm,0.3s

PUH				IAML		00 45 25.9	

comp=N,810nm,0.2s

UWB	**Uwekahuna Bluf**	**0.32**	**33**		Pn	00 45 20.2	-1.3
UWB					Sn	00 45 25.9	-2.4
HATHI	**Halema'uma'u T**	**0.32**	**36**		Pn	00 45 20.4	-1.2
HATHI					Sn	00 45 25.5	-2.8
HATHI				IAML		00 45 26.1	

comp=E,1μm,0.3s

HATHI				IAML		00 45 26.1	

comp=N,976nm,0.7s

SBLHI	**Steaming Bluff**	**0.32**	**35**		Pn	00 45 20.3	-1.3
SBLHI					Sn	00 45 25.7	-2.6
MLH	**Mauna Loa**	**0.34**	**12**		Pn	00 45 20.9	-1.0
MLH				IAML		00 45 26.7	

comp=N,2μm,0.4s

MLH				IAML		00 45 26.7	

comp=E,1μm,0.2s

MLH	**Mauna Loa**	**0.34**	**12**		Sn	00 45 26.6	-2.1
MWH	**Mokuaweoweo**	**0.35**	**338**		Pn	00 45 20.9	-1.4
RSD	**Rainshed**	**0.35**	**30**		Pn	00 45 20.1	-1.7
KNHH	**Kane Nui o Ham**	**0.35**	**52**		Pn	00 45 20.8	-1.0
STCH	**Steam Cracks**	**0.39**	**55**		Pn	00 45 21.2	-0.9
STCH				IAML		00 45 27.2	

comp=E,1μm,0.1s

STCH	**Steam Cracks**	**0.39**	**55**		Sn	00 45 27.0	-1.9
NPOC	**North of Pu'u**	**0.41**	**55**		Pn	00 45 21.3	-1.1
NPOC					Sn	00 45 27.3	-1.9
JCUZ	**Jacuzzi**	**0.41**	**57**		Pn	00 45 21.5	-0.9
JCUZ					Sn	00 45 27.6	-1.6
ALEP	**Alea Permanent**	**0.42**	**336**		Pn	00 45 21.4	-1.5
ALEP					Sn	00 45 28.0	-1.9
HMH	**Humu'ula Sheep**	**0.44**	**357**		Pn	00 45 22.2	-1.0
HMH				IAML		00 45 29.4	

comp=E,969nm,0.1s

HMH	**Humu'ula Sheep**	**0.44**	**357**		Sn	00 45 28.7	-1.6
JOKA	**Jonika Flow**	**0.51**	**58**		Pn	00 45 22.5	-1.5
JOKA					Sn	00 45 29.6	-2.0
JOKA				IAML		00 45 29.9	

comp=E,662nm,0.4s

JOKA				IAML		00 45 31.3	

comp=N,858nm,0.2s

CPH	**Captain Cook**	**0.54**	**307**		Pn	00 45 22.6	-1.9
POHA	**Pohakuloa**	**0.60**	**354**		Sn	00 45 31.1	-3.0
POHA	**Pohakuloa**	**0.60**	**354**	Pn	Pn	00 45 23.6	-1.9
POHA				IAML		00 45 35.5	

comp=N,292nm,0.4s

POHA				IAML		00 45 37.5	

comp=N,382nm,0.4s

HUH	**Hualalai**	**0.63**	**326**		Pn	00 45 24.4	-1.6
HUH				IAML		00 45 36.0	

comp=E,550nm,0.2s

HUH				IAML		00 45 40.5	

comp=N,519nm,0.3s

HPAH	**Hawaii Prepara**	**0.89**	**346**		Sn	00 45 37.7	-3.4
HPAH	**Hawaii Prepara**	**0.89**	**346**		Pn	00 45 27.4	-1.9
MHA	**Mahukona**	**1.10**	**338**	Pn	Pn	00 45 30.3	-1.8

---

*SDD **19** 00:45:42.1*±*0.3, 17°27N*×*70°11W, h72km*±*23km, MD3.2,*
ML2.8, MW3.2
*OSPL **19** 00:46:19.5*±*2.3, 18°29N*×*71°31W, h40km*±*17km, ML1.8*
ISC 19 00:46:16.8±3.3**, 18°24N**±0.08**×71°1W**±0.2**, h35**km**, n7,**
σ1§**49**/10**, 4C, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PODR	**Polo**	**0.17**	**246**	*i* P	**Pn**	**00 46 23.6**	**0.0**
PODR				*e*S	**Sn**	**00 46 26.1**	**-2.2**
PODR	**Polo**	**0.17**	**246**	⇑*e*Sg	**Sn**	**00 46 26.1**	**-2.2**
PODR				IAML		00 46 26.3	

comp=N,664nm,0.1s

LODU1	**El Espartillar**	**0.36**	**289**	*i* P	**Pn**	**00 46 25.8**	**+0.3**
LODU1				*e*S	**Sn**	**00 46 30.7**	**-0.8**
LODU1				IAML		00 46 32.1	

comp=Z,54nm,0.2s

NEDR	**Neiba UASD**	**0.38**	**311**	⇑*e*Pg	Pn	00 46 11.6	-14
NEDR				⇑*e*Sg	**Sn**	**00 46 33.5**	**+1.6**
NEDR				IAML		00 46 34.6	

comp=N,35nm,0.5s

LOVI	**El Cajuil, Ovi**	**0.50**	**209**	*i* P	Pn	00 46 29.9	+2.4
LOVI				*e*S	**Sn**	**00 46 36.2**	**+1.4**
LOVI				IAML		00 46 42.6	

comp=Z,59nm,1.7s

LOBH	**Bahia de las A**	**0.62**	**233**	*i* P	**Pn**	**00 46 29.9**	**+0.8**
LOBH				*e*S	**Sn**	**00 46 37.4**	**-0.5**
LOBH				IAML		00 46 38.4	

comp=Z,58nm,1.1s

JIDR	**Jimani**	**0.74**	**290**	⇑*e*Sg	**Sn**	**00 46 40.4**	**-0.5**
JIDR				IAML		00 47 09.8	

comp=N,32nm,1.6s

---

*SOME **19** 01:45:01.9, 39°72N*×*73°90E, h5km*
*KRNET **19** 01:45:02.1*±*0.1, 39°70N*×*74°06E, mb3.6*
*NNC **19** 01:45:05.0*±*1.0, 39°77N*×*73°94E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=7.7km s-min=3.9km az=174.0
ISC 19 01:45:06.3±1.3**, 39°81N**±0.06**×73°94E**±0.03**, h10**km**, n43,**
σ1§**68**/68**, 26C-10D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.08**	**355**	⇑*i* P	**Pg**	**01 45 25.0**	**-2.1**
SALK				⇑*i*S	**Sb**	**01 45 41.7**	**+0.3**
ARSB	**Arslanbob**	**1.68**	**335**	⇑*i* P	**Pn**	**01 45 36.2**	**+0.3**
ARSB				⇑*i*S	**Sg**	**01 46 00.9**	**+0.5**
UCH	**Uchtor**	**2.46**	**10**	⇓*i* P	**Pn**	**01 45 47.0**	**+0.1**
UCH				⇓*i*S	**Sb**	**01 46 19.6**	**-1.8**
TRKS	**Terek-Say**	**2.74**	**310**	⇑*e*P	**Pn**	**01 45 50.4**	**0.0**
TRKS				⇑*e*S	**Sn**	**01 46 26.0**	**+2.3**
EKS2	**Erkin-Say**	**2.86**	**358**	⇓*i* P	**Pn**	**01 45 52.4**	**+0.4**
EKS2				⇓*i*S	**Sn**	**01 46 29.3**	**+2.8**
AAK	**Ala-Archa**	**2.86**	**8**	⇑Pg	**Pb**	**01 45 58.2**	**+0.7**

1.5nm,0.3s

AAK				⇑Lg	Lg	01 46 38.9	

39nm,1.0s

AAK	**Ala-Archa**	**2.86**	**8**	⇑*i* P	**Pn**	**01 45 52.3**	**+0.2**
AAK				⇑*i*S	**Sn**	**01 46 28.9**	**+2.2**
GAR	**Garm**	**2.92**	**255**	⇑*i* P	**Pn**	**01 45 52.8**	**-0.1**
GAR				⇑*i*S	**Sn**	**01 46 29.8**	**+1.7**
KBK	**Karagaybulak**	**2.95**	**15**	⇑*i* P	**Pn**	**01 45 53.6**	**+0.2**
KBK				⇑*i*S	**Sn**	**01 46 30.8**	**+1.9**
MRKS	**Merke**	**2.98**	**350**	Pg	**Pb**	**01 45 59.4**	**-0.2**

12nm,0.4s

MRKS				Lg	Lg	01 46 40.7	

58nm,0.6s

MRKS	**Merke**	**2.98**	**350**	*e*P	**Pb**	**01 45 59.4**	**-0.2**

12nm,0.3s

MRKS				*e*S	**Sg**	**01 46 40.7**	**-1.4**

70nm,0.4s

ULHL	**Ulahol**	**3.00**	**35**	⇑*i* P	**Pn**	**01 45 53.4**	**-0.7**
ULHL				⇑*i*S	**Sn**	**01 46 31.0**	**+0.8**
FRU1	**Bishkek**	**3.05**	**10**	⇑*i* P	**Pn**	**01 45 55.3**	**+0.7**
FRU1				⇑*i*S	**Sn**	**01 46 33.8**	**+2.6**
CHMS	**Chumysh**	**3.25**	**11**	⇑*i* P	**Pn**	**01 45 57.6**	**+0.3**
CHMS				⇑*i*S	**Sn**	**01 46 38.2**	**+2.1**
TKM2	**Tokmak 2**	**3.35**	**21**	⇓*i* P	**Pn**	**01 45 58.9**	**-0.1**
TKM2				⇓*i*S	**Sn**	**01 46 40.4**	**+1.5**
KDJ	**Kajisay**	**3.38**	**46**	⇓*i* P	**Pn**	**01 45 58.5**	**-0.8**
KDJ				⇓*i*S	**Sn**	**01 46 39.6**	**+0.1**
USP	**Ospenovka**	**3.48**	**7**	⇑*i* P	**Pn**	**01 46 00.9**	**+0.3**
USP				⇑*i*S	**Sn**	**01 46 44.1**	**+2.2**
TARG	**Taragay, Kyrgy**	**3.51**	**56**	⇑*i* P	**Pn**	**01 45 59.9**	**-1.4**
TARG				⇑*i*S	**Sn**	**01 46 42.2**	**-0.9**
KST	**Kastek**	**3.58**	**25**	Pg	**Pb**	**01 46 10.9**	**+1.2**

8.9nm,0.4s

KST				Lg	Lg	01 47 00.7	

38nm,0.6s

KST	**Kastek**	**3.58**	**25**	*e*P	**Pb**	**01 46 10.9**	**+1.2**

8.9nm,0.4s

KST				*e*S	**Sg**	**01 47 00.7**	**-0.4**

39nm,0.6s

SGDS	**Sogindy**	**3.68**	**8**	Pg	**Pb**	**01 46 12.2**	**+0.8**

11nm,0.4s

SGDS				Lg	Lg	01 47 02.8	

12nm,0.7s

DGS	**Degeres**	**3.70**	**21**	Pg	**Pb**	**01 46 13.0**	**+1.2**

9.7nm,0.6s

DGS				Lg	Lg	01 47 04.3	

25nm,0.6s

IUG	**Iuzhnay**	**3.77**	**310**	Pg	**Pb**	**01 46 13.6**	**+0.6**

14nm,0.2s

IUG				Lg	Lg	01 47 05.3	

96nm,0.7s

IZV	**Izvestkoviy**	**3.80**	**31**	Pg	**Pb**	**01 46 15.1**	**+1.5**

9.3nm,0.8s

IZV				Lg	Lg	01 47 08.4	

25nm,0.7s

IZV	**Izvestkoviy**	**3.80**	**31**	*e*P	**Pb**	**01 46 15.1**	**+1.5**

9.6nm,0.4s

IZV				*e*S	**Sg**	**01 47 08.4**	**0.0**

25nm,0.5s

MTBS	**Maitube**	**3.81**	**29**	Pg	**Pb**	**01 46 15.1**	**+1.4**

3.8nm,0.4s

MTBS				Lg	Lg	01 47 08.0	

15nm,0.6s

MTBS	**Maitube**	**3.81**	**29**	*e*P	**Pb**	**01 46 14.9**	**+1.2**

3.5nm,0.2s

MTBS				*e*S	**Sg**	**01 47 08.0**	**-0.7**

17nm,0.4s

TNSS	**Tian-Shan**	**3.94**	**34**	Pg	**Pb**	**01 46 17.3**	**+1.2**

2.1nm,0.2s

TNSS				Lg	Lg	01 47 11.4	

5.8nm,0.9s

TNSS	**Tian-Shan**	**3.94**	**34**	*e*P	**Pb**	**01 46 17.3**	**+1.2**

2.3nm,0.3s

| | | | | | |

18nm,0.8s,baz=348,slow=2.4,SNR=13
KSM Kuching 15.95 262 P Pn 02 01 27.3 +0.6
MTN Manton Dam 17.41 163 P P 02 01 43.1 -1.2
KNRA Kununurra 19.67 172 P P 02 02 08.7 -0.3
KNRA IAmb IAmb 02 02 37.0
comp=Z,17nm,1.1s
FITZ Fitzroy Crossi 21.91 181 P P 02 02 32.0 -0.9
FITZ Fitzroy Crossi 21.91 181 P P 02 02 32.5 -0.4
comp=Z,11nm,0.4s,baz=359,slow=8.5,SNR=36
comp=Z,11nm,0.4s
JOW Kunigami 22.86 5 P P 02 02 43.5 +0.9
JOW IAmb IAmb 02 02 44.5
comp=Z,42nm,1.2s
JOW Kunigami 22.86 5 P P 02 02 43.5 +0.9
comp=Z,16nm,0.6s,baz=193,slow=12,SNR=6.3
comp=Z,16nm,0.6s
PMG Port Moresby 24.83 122 LR LR 02 15 15.1
comp=Z,48nm,18.4s,baz=132,slow=42
WB0 Warramunga Arr 24.94 161 P P 02 03 01.5 -0.2
WB0 IAmb IAmb 02 03 43.8
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 25.08 161 P P 02 03 02.2 -0.8
comp=Z,2.7nm,0.7s,baz=343,slow=10,SNR=17
WRA PcP **PcP 02 06 33.0 -2.0**
comp=Z,0.8nm,0.6s,baz=332,slow=2.1,SNR=4.4
WRA S **S 02 07 23.1 +3.2**
comp=Z,2.6nm,1.0s,baz=344,slow=18,SNR=4.8
comp=Z,2.7nm,0.7s
WR8 Warramunga Arr 25.15 161 P P 02 03 03.7 +0.1
PSA00 Pilbara Seismi 26.09 193 P P 02 03 10.4 -1.7
AS31 Alice Springs 28.48 165 P P 02 03 32.3 -1.2
ASAR Alice Springs 28.48 165 P P 02 03 34.4 +0.9
ASAR Alice Springs 28.48 165 P P 02 03 32.5 -1.0
comp=Z,1.1nm,0.5s,baz=341,slow=7.0,SNR=23
ASAR PcP **PcP 02 06 41.6 -1.4**
comp=Z,1.5nm,0.6s,baz=340,slow=2.5,SNR=9.1
ASAR S S 02 08 05.0 -8.4
comp=Z,0.6nm,0.8s,baz=351,slow=21,SNR=3.0
comp=Z,1.1nm,0.5s
CMAR Chiang Mai Arr 30.21 301 P P 02 03 46.7 -2.2
comp=Z,1.7nm,0.3s,baz=110,slow=9.0,SNR=8.6
CMAR PcP **PcP 02 06 44.0 -3.5**
comp=Z,1.4nm,0.3s,baz=118,slow=2.9,SNR=4.1
comp=Z,1.7nm,0.3s
KSRS Korea Array 33.39 3 P P 02 04 16.6 +0.1
comp=Z,2.7nm,0.7s,baz=182,slow=10.0,SNR=12
comp=Z,2.7nm,0.7s
MORW Morawa 34.21 196 P P 02 04 21.8 -1.9
NWAO Narrogin (SRO) 37.62 192 P P 02 04 51.0 -1.8
BBOO Buckleboo 37.76 166 P P 02 04 53.5 -0.4
STKA Stephens Creek 38.56 159 P P 02 05 00.6 0.0
STKA Stephens Creek 38.56 159 P P 02 05 00.1 -0.6
comp=Z,3.1nm,0.6s,baz=326,slow=10,SNR=5.0
STKA PcP **PcP 02 07 09.6 -1.6**
comp=Z,2.4nm,0.6s,baz=6.7,slow=8.5,SNR=4.3
comp=Z,3.1nm,0.6s
SHL Shillong 39.24 307 P P 02 05 04.0 -2.7
BTO Baotou 39.27 341 *e*P P 02 05 12.8 +6.2
BTO pP pP 02 05 33.1 +2.4
BTO PP **PP 02 06 44.6 +5.8**
BTO S **S 02 11 08.1 +8.6**
BTO pmax pmax
comp=Z,28nm,0.5s
BTO pmax pmax
comp=Z,150nm,5.2s
BTO LR LR
comp=N,94nm,4.7s
BTO LR LR
comp=E,140nm,5.6s
BTO LR LR
comp=Z,160nm,8.6s
CN2 Changchun 39.70 359 *e*P P 02 05 17.1 +7.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USA0B Ussuriysk Arra 40.43 7 P P 02 05 16.0 0.0
USA0B IAmb IAmb 02 05 17.4
comp=Z,9.6nm,0.8s
USRK Ussuriysk Ar. 40.43 7 P P 02 05 16.0 +0.1
USRK Ussuriysk Ar. 40.43 7 P P 02 05 16.2 +0.3
comp=Z,8.2nm,0.8s,baz=194,slow=7.2,SNR=16
comp=Z,8.2nm,0.8s
MDJ Mudanjiang 40.62 4 P P 02 05 16.7 -0.8
MDJ IAmb IAmb 02 05 19.1
comp=Z,13nm,0.8s
MDJ Mudanjiang 40.62 4 P P 02 05 16.6 -1.0
MDJ pmax pmax
comp=Z,21nm,0.8s
XLT XiLinHaoTe 40.76 349 *e*P P 02 05 25.3 +6.4
XLT pP pP 02 05 48.3 +5.4
XLT sP sP 02 06 03.1 +8.2
XLT pmax pmax
comp=Z,7.0nm,0.5s
BNX BinXian 41.64 1 ⇑P P 02 05 24.9 -1.0
BNX pmax pmax
comp=Z,7.0nm,0.8s
EVN Everest 44.35 307 P P 02 05 47.8 -1.0
SONM Songino Array 46.90 342 P P 02 06 05.8 -2.1
comp=Z,1.8nm,0.9s,baz=160,slow=9.2,SNR=7.1
SONM PcP **PcP 02 07 37.0 -2.0**
comp=Z,1.9nm,0.6s,baz=152,slow=3.1,SNR=8.0
comp=Z,1.8nm,0.9s
PEA0B Petropavlovsk- 55.48 23 P P 02 07 11.9 +0.2
PETK Petropavlovsk- 55.48 23 P P 02 07 12.5 +0.7
comp=Z,2.4nm,0.7s,baz=178,slow=5.8,SNR=4.6
PETK PcP **PcP 02 08 09.6 -1.0**
comp=Z,1.5nm,0.8s,baz=210,slow=1.6,SNR=2.5
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 57.02 325 P P 02 07 20.6 -2.4
MKAR Makanchi Array 57.02 325 P P 02 07 20.3 -2.6
comp=Z,1.7nm,0.5s,baz=119,slow=8.2,SNR=24
MKAR PcP **PcP 02 08 14.8 -2.1**
comp=Z,6.2nm,0.7s,baz=121,slow=3.9,SNR=27
MKAR ScP **ScP 02 12 00.9 -5.9**
comp=Z,0.6nm,0.8s,baz=108,slow=5.7,SNR=3.8
comp=Z,1.7nm,0.5s
ZALV Zalesovo Beam 60.11 333 P P 02 07 40.8 -3.4
ZALV Zalesovo Beam 60.11 333 P P 02 07 40.6 -3.5
comp=Z,1.1nm,0.5s,baz=127,slow=3.9,SNR=6.7
ZALV PcP sP 02 08 25.4 +3.5
comp=Z,0.5nm,0.4s,baz=121,slow=4.3,SNR=4.1
comp=Z,1.1nm,0.5s
KURBB Kurchatov Arra 61.22 328 P P 02 07 48.9 -2.9
comp=Z,4.6nm,0.8s,baz=124,slow=6.2,SNR=23
KURBB PcP sP 02 08 29.4 -0.2
comp=Z,1.3nm,0.8s,baz=122,slow=3.4,SNR=4.9
comp=Z,4.6nm,0.8s
KURK Kurchatov 61.22 328 P P 02 07 48.8 -2.9
KURK IAmb IAmb 02 07 51.2
comp=Z,7.5nm,0.8s
LBZ Lake Benmore 62.22 146 P P 02 07 59.3 +0.7
BVAR Borovoye Array 66.79 327 P P 02 08 25.4 -2.9
comp=Z,4.3nm,1.0s,baz=132,slow=8.8,SNR=11
comp=Z,4.3nm,1.0s
TIXI Tiksi 67.64 1 P P 02 08 31.6 -1.6
TIXI IAmb IAmb 02 08 32.6
comp=Z,7.2nm,0.8s
ATKA Atka Island 68.68 35 P P 02 08 40.0 -0.1
AB31 Akbulak array 71.58 321 P P 02 08 55.0 -2.9
ABKAR Akbulak array 71.58 321 P P 02 08 54.6 -3.3
K13K Kusilvak Mount 76.86 27 P P 02 09 29.2 +1.0
K13K IAmb IAmb 02 09 30.1
comp=Z,6.8nm,1.0s
SDPT Sand Point 77.37 34 P P 02 09 31.1 -0.1
L14K Kuka Creek 77.60 28 P P 02 09 33.5 +1.1
baz=255
L15K Ungalak Mounta 78.24 28 P P 02 09 36.9 +1.0
baz=256
K15K Wolf Creek Mou 78.37 27 P P 02 09 36.5 -0.1
K15K IAmb IAmb 02 09 38.7
comp=Z,6.7nm,0.9s
K15K Wolf Creek Mou 78.37 27 P P 02 09 37.7 +1.1
baz=256
J16K Anvik River 79.02 26 P P 02 09 40.0 -0.2
J16K IAmb IAmb 02 09 42.2
comp=Z,7.5nm,0.9s
I17K Unalakleet 79.12 26 P P 02 09 41.9 +1.2
baz=257
D17K Noatak River 79.15 22 P P 02 09 41.4 +0.6
baz=254,SNR=5.3
L16K Owhat River 79.19 28 P P 02 09 41.5 +0.4
baz=258
M16K Timber Creek 79.29 29 P P 02 09 42.0 +0.3
M16K IAmb IAmb 02 09 43.5
comp=Z,11nm,1.1s
M16K Timber Creek 79.29 29 P P 02 09 43.0 +1.2
baz=259
E17K Hotham Inlet 79.45 22 P P 02 09 43.4 +1.0
baz=255
G17K Kiwalik Mounta 79.52 24 P P 02 09 43.5 +0.6
baz=256
H17K Granite Mounta 79.69 25 P P 02 09 44.8 +0.9
baz=257
J17K VABM Dome 79.72 26 P P 02 09 43.6 -0.4
L17K Donlin 79.82 28 P P 02 09 45.4 +0.8
baz=259
K17K Iditarod 79.92 27 P P 02 09 46.3 +1.2
baz=259
E18K Tukpahlearik C 80.00 22 P P 02 09 45.2 -0.2
baz=256
C18K Utukok River 80.09 21 P P 02 09 45.9 -0.1
C18K IAmb IAmb 02 10 12.4
comp=Z,6.4nm,1.2s
C18K Utukok River 80.09 21 P P 02 09 46.1 +0.1
baz=255
F18K Selawik 80.17 23 P P 02 09 46.4 0.0
baz=257
H18K Honhosa River 80.38 25 P P 02 09 47.4 -0.2
baz=259
G18K Tagagawik 80.41 24 P P 02 09 47.1 -0.6
baz=258
L18K Granite Mounta 80.57 28 P P 02 09 49.7 +1.1
baz=261
C19K Lookout Ridge 80.76 20 P P 02 09 50.2 +0.6
C19K IAmb IAmb 02 09 51.0
comp=Z,5.3nm,0.8s
C19K Lookout Ridge 80.76 20 P P 02 09 50.4 +0.9
baz=257
J18K Innoko River 80.77 26 P P 02 09 50.0 +0.3
baz=260
GCSA Galena City Sc 80.92 25 P P 02 09 51.0 +0.6
baz=260
F19K Shaleruckik Mo 80.95 23 P P 02 09 50.5 0.0
baz=259
G19K Purcell Mounta 81.09 24 P P 02 09 51.3 +0.1
baz=260,SNR=11
D19K Kuna River 81.15 21 P P 02 09 51.6 -0.1
baz=258,SNR=5.6
H19K Roundabout Mou 81.24 24 P P 02 09 52.7 +0.7
H19K IAmb IAmb 02 09 54.0
comp=Z,12nm,1.0s
H19K Roundabout Mou 81.24 24 P P 02 09 52.4 +0.3
baz=260,SNR=10
E19K Redstone River 81.28 22 P P 02 09 52.4 +0.1
baz=259,SNR=13
J19K Poorman 81.34 26 P P 02 09 53.1 +0.4
baz=261
D20K Etivluk River 81.74 21 P P 02 09 54.7 0.0
baz=260
F20K Avaraart Lake 81.78 23 P P 02 09 55.6 +0.7
F20K Avaraart Lake 81.78 23 P P 02 09 55.2 +0.3
baz=261
E20K Nigu River 81.81 22 P P 02 09 55.5 +0.3
baz=260,SNR=6.6
H20K Anotleneega Mo 81.88 24 P P 02 09 55.4 0.0
baz=262
L20K Farewell, AK 81.91 28 P P 02 09 56.5 +0.8
baz=263
I20K Naaghedeneel 81.95 25 P P 02 09 56.1 +0.3
baz=262
J20K Nowinta River 82.00 26 P P 02 09 56.0 -0.2
J20K IAmb IAmb 02 09 58.3
comp=Z,7.1nm,1.1s
J20K Nowinta River 82.00 26 P P 02 09 57.3 +1.2
baz=263,SNR=5.4
M20K Styx River 82.19 28 P P 02 09 58.6 +1.3
baz=264
G21K Allakaket 82.57 23 P P 02 09 59.9 +0.9
baz=263,SNR=7.1
B21K Ikpikpuk River 82.59 20 P P 02 10 00.0 +0.9
B21K IAmb IAmb 02 10 00.2
comp=Z,8.7nm,0.9s
B21K Ikpikpuk River 82.59 20 P P 02 09 59.9 +0.8
baz=261
E21K Killik River 82.65 22 P P 02 10 00.6 +1.1
baz=262
H21K Melozitna Rive 82.75 24 P P 02 10 00.8 +0.8
baz=264,SNR=7.3
CAST Castle Rocks 82.83 27 P P 02 10 00.4 -0.1
baz=265
I21K Tanana 83.05 25 P P 02 10 02.1 +0.6
baz=264,SNR=8.5
H22K Ishtalitna Cre 83.36 24 P P 02 10 04.0 +0.8
baz=265,SNR=5.5
BPAW Bear Paw Mtn. 83.37 26 P P 02 10 03.8 +0.6
BPAW IAmb IAmb 02 10 04.5
comp=Z,11nm,1.4s
BPAW Bear Paw Mtn. 83.37 26 P P 02 10 03.9 +0.6
baz=266
E22K Anaktuvuk Pass 83.41 22 P P 02 10 04.5 +1.1
baz=264
MLY Manley 83.56 25 P P 02 10 04.1 -0.1
baz=266,SNR=11
VNDA Vanda 83.72 173 P P 02 10 03.8 -0.9
VNDA Vanda 83.72 173 P P 02 10 03.9 -0.9
comp=Z,3.0nm,0.7s,baz=314,slow=6.8,SNR=13
comp=Z,3.0nm,0.7s
MAW Mawson 83.73 200 P P 02 10 03.9 -1.0
comp=Z,2.7nm,1.0s,baz=301,slow=5.9,SNR=4.1
comp=Z,2.7nm,1.0s
COLD Coldfoot 83.94 23 P P 02 10 06.0 -0.1
baz=266
G23K Bananza Creek 83.97 23 P P 02 10 06.0 -0.3
baz=266
H23K Yukon River 84.11 24 P P 02 10 07.1 +0.1
baz=267,SNR=7.2
I23K Minto, Yukon-K 84.15 25 P P 02 10 07.5 +0.4
baz=267,SNR=7.4
E23K Chandalar 84.22 22 P P 02 10 08.8 +1.2
E23K IAmb IAmb 02 10 09.6
comp=Z,9.0nm,0.8s
NEA2 Nenana 84.24 26 P P 02 10 07.6 -0.1
baz=267
TOLK Toolik Lake Re 84.28 21 P P 02 10 08.7 +0.9
baz=266
H24K Noodor Dome 84.80 24 P P 02 10 11.2 +0.7
baz=268
ILAR Eielson Array 85.18 25 P P 02 10 11.0 -1.4
ILAR Eielson Array 85.18 25 P P 02 10 10.3 -2.1
comp=Z,0.4nm,0.7s,baz=241,slow=5.0,SNR=9.6
comp=Z,0.4nm,0.7s
H25L Birch Creek 85.64 24 P P 02 10 14.6 0.0
baz=270
BMAR Burnt Mountain 86.13 23 P P 02 10 17.2 +0.1
J26L Joseph Creek 86.62 26 P P 02 10 18.4 -1.2
K27K Chicken 87.29 26 P P 02 10 23.3 +0.6
baz=274
I27K Kandik River 87.39 25 P P 02 10 23.0 -0.2
baz=274
L27K Beaver Creek, 87.46 27 P P 02 10 24.2 +0.6
baz=274
BCAR Beaver Creek A 87.48 27 P P 02 10 23.7 0.0
F28M Old Crow 87.92 22 P P 02 10 24.9 -0.8
baz=275
I28M Miner Creek 88.10 25 P P 02 10 26.9 +0.2
baz=275
G29M Pine Creek 88.71 23 P P 02 10 28.1 -1.4
G29M IAmb IAmb 02 10 30.3
comp=Z,4.9nm,0.8s
G29M Pine Creek 88.71 23 P P 02 10 29.2 -0.3
baz=277
M29M Somme Creek 89.06 28 P P 02 10 31.7 +0.4
M29M IAmb IAmb 02 10 32.4
comp=Z,2.6nm,0.9s
M29M Somme Creek 89.06 28 P P 02 10 31.3 +0.1
baz=277
L29M L29M 89.13 27 P P 02 10 32.0 +0.5
baz=277
EPYK Eagle Plains 89.30 24 P P 02 10 31.3 -0.9
baz=278
BRTR Keskin Array B 89.39 310 P P 02 10 29.1 -4.3
comp=Z,0.8nm,0.9s,baz=120,slow=5.2,SNR=4.0
comp=Z,0.8nm,0.9s
M30M Minto, Yukon 89.81 27 P P 02 10 34.6 -0.1
baz=278
ARCES ARCESS Array B 90.03 340 P P 02 10 32.3 -3.3
ARCES IAmb IAmb 02 10 34.1
comp=Z,8.9nm,0.9s
ARCES ARCESS Array B 90.03 340 P P 02 10 32.8 -2.7
comp=Z,9.5nm,0.8s,baz=79,slow=6.3,SNR=17
comp=Z,9.5nm,0.8s
SPITS Spitsbergen Ar 90.15 349 P P 02 10 33.9 -2.1
comp=Z,0.6nm,0.3s,baz=90,slow=5.8,SNR=8.4
comp=Z,0.6nm,0.3s
G31M Satah River 90.17 23 P P 02 10 35.0 -1.2
baz=280
FINES FINESS Array B 91.34 332 P P 02 10 38.6 -3.1
FINES FINESS Array B 91.34 332 P P 02 10 38.5 -3.3
comp=Z,4.4nm,0.9s,baz=57,slow=7.0,SNR=8.6
comp=Z,4.4nm,0.9s
QSPA South Pole Qui 93.85 180 P P 02 10 53.1 -0.3
QSPA IAmb IAmb 02 10 55.5
comp=Z,2.8nm,0.8s
QSPA South Pole Qui 93.85 180 P P 02 10 53.2 -0.1
comp=Z,2.3nm,0.8s,baz=294,slow=0.9,SNR=14
comp=Z,2.3nm,0.8s
IDI Anoyia 96.85 306 LR LR 03 02 47.2
comp=Z,33nm,20.1s,baz=299,slow=40
HFS Hagfors 97.53 332 P P 02 11 06.9 -3.3
comp=Z,1.9nm,0.8s,baz=70,slow=12,SNR=4.6
comp=Z,1.9nm,0.8s
NC303 NORSAR Array S 98.17 334 P P 02 11 09.2 -3.7
NB2 NORSAR Subarra 98.31 333 P P 02 11 10.0 -3.7
comp=Z,1.8nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 98.31 333 P P 02 11 10.4 -3.3
comp=Z,3.1nm,0.7s,baz=67,slow=4.5,SNR=13
comp=Z,3.1nm,0.7s
MD01 Midelt array s 120.81 312 PKPdf PKPdf 02 16 26.7 -2.0
TXAR Lajitas Array 121.97 52 PKP PKPdf 02 16 29.0 -2.0
comp=Z,0.4nm,0.8s,baz=70,slow=1.4,SNR=2.3
TORD Torodi Ar. Bea 122.25 288 PKP PKPdf 02 16 28.8 -2.9
comp=Z,0.6nm,0.3s,baz=36,slow=2.4,SNR=14
BOAB BOACO BROADBAND 144.49 62 PKPdf PKPab 02 17 11.8 +0.1
TRQA Tornquist 145.26 169 PKPdf PKPbc 02 17 12.0 -1.7
BO02 Sierra Bellavi 145.54 155 PKPdf PKPdf 02 17 13.7 -0.8
MT02 Curacav 146.69 153 PKPdf PKPdf 02 17 17.4 +1.0
CO02 Combarbal 148.47 151 PKPbc PKPdf 02 17 22.0 +2.4
CPUP Villa Florida 157.50 172 PKPab PKPab 02 18 03.8 -0.8
comp=Z,1.5nm,1.0s,baz=239,slow=1.8,SNR=4.5
LPAZ La Paz 161.41 132 PKP PKPdf 02 17 36.1 -2.0
comp=Z,1.1nm,1.0s,baz=223,slow=6.1,SNR=3.1

IDC 19 02:07:16.6±2.2, 6°80S×129°72E, h0km, mb3.7/1, mbtmp3.8/4, ML4.0/3, Error ellipse: s-maj=87.9km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.91**	**199**	Pn	Pn	02 10 08.6	+0.8
	0.8nm,0.3s,baz=23,slow=12,SNR=18						
FITZ				Sn	Sn	02 12 07.1	-14
	1.0nm,0.3s,baz=284,slow=10,SNR=5.8						
	2.1nm,0.3s						
WRA	**Warramunga Arr**	**13.81**	**162**	Pn	Pn	02 10 33.5	-0.2
	0.9nm,0.3s,baz=343,slow=14,SNR=14						
WRA				Sn	Sn	02 12 56.7	-11
	0.5nm,0.3s,baz=329,slow=24,SNR=4.8						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**17.24**	**167**	P	Pn	02 11 18.4	-0.6
	0.4nm,0.3s,baz=343,slow=12,SNR=9.9						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	02 18 17.1	0.0
	0.4nm,0.5s,baz=130,slow=7.8,SNR=4.6						
	0.4nm,0.5s						

IDC 19 02:11:45.9±1.0, 31°66S×179°95W, h259km±11km, mb3.7/4, mbtmp4.3/6, Error ellipse: s-maj=21.7km s-min=12.8km az=109.0

WEL 19 02:11:46.7±0.8, 32°S±9°×18°0E±2°0, h12km, M4.7/6, mB4.7/2, ML5.0/7, MLv4.7/6, Mw(mB)4.0/2, Error ellipse: s-maj=28.9km s-min=3.6km az=114.0, confirmed

ISC 19 02:11:45.1±0.8, 31°84S±0°09×179°8W±0°2, h250km, n25, σ2s06/41, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.04**	**33**	P	Pn	02 12 39.0	+1.0
GLKZ				S	S	02 13 18.7	-1.2
RAO	**Raoul Island**	**3.05**	**33**	P	Pn	02 12 39.1	+1.0
	67nm,0.3s,baz=118,slow=22,SNR=1.7						
RAO				S	S	02 13 21.2	+1.1
	111nm,0.3s,baz=96,slow=23,SNR=2.5						
RIZ	**Raoul Island**	**3.05**	**32**	P	Pn	02 12 38.5	+0.3
MXZ	**Matakaoa Point**	**5.92**	**195**	S	S	02 14 20.1	-1.5
WMGZ	**Waiomatatini S**	**6.14**	**193**	P	Pn	02 13 17.1	+2.3
WMGZ				S	S	02 14 24.8	-1.9
HAZ	**Te Kaha**	**6.23**	**198**	P	Pn	02 13 16.3	+0.4
HAZ				S	S	02 14 30.5	+1.9
PKGZ	**Pakihiroa**	**6.26**	**196**	P	Pn	02 13 15.6	-0.7
PKGZ				S	S	02 14 28.3	-1.2
RUGZ	**Raukumara Rang**	**6.45**	**198**	P	Pn	02 13 19.7	+0.8
RUGZ				S	S	02 14 31.1	-2.9
TWGZ	**Tauwhareparae**	**6.58**	**195**	P	Pn	02 13 22.3	+1.9
TWGZ				S	S	02 14 39.9	+3.2
CNGZ	**Carnagh Statio**	**6.82**	**193**	P	Pn	02 13 24.8	+1.4
CNGZ				S	S	02 14 35.5	-6.8
TKGZ	**Te Karaka**	**6.86**	**196**	P	Pn	02 13 24.0	+0.1
TKGZ				S	S	02 14 44.2	+1.2
URZ	**Urewera**	**6.88**	**201**	P	Pn	02 13 26.8	+2.6
	7.6nm,0.3s,baz=261,slow=4.7,SNR=17						
URZ				S	S	02 14 44.5	+0.8
	30nm,0.3s,baz=117,slow=23,SNR=15						
URZ	**Urewera**	**6.88**	**201**	P	Pn	02 13 26.0	+1.8
URZ				S	S	02 14 43.5	-0.2
RAGZ	**Rawiri**	**7.02**	**198**	P	Pn	02 13 26.1	+0.2
RAGZ				S	S	02 14 46.9	-0.1
RIGZ	**Rimuhau**	**7.13**	**196**	P	Pn	02 13 30.2	+2.8
RIGZ				S	S	02 14 50.7	+1.2
SNGZ	**Shannon Statio**	**7.31**	**198**	S	S	02 14 53.9	+0.4
MHGZ	**Mahia Peninsul**	**7.53**	**194**	P	Pn	02 13 31.9	-0.4
MHGZ				S	S	02 14 53.3	-5.3
ARHZ	**Aropaoanui**	**7.85**	**199**	P	Pn	02 13 36.1	-0.2
ARHZ				S	S	02 15 05.6	-0.4
NGZ	**Ngauruhoe**	**8.22**	**206**	P	Pn	02 13 42.9	+1.7
NGZ				S	S	02 15 14.8	0.0
ASAR	**Alice Springs**	**41.52**	**269**	P	P	02 19 07.7	-0.7
	0.6nm,0.3s,baz=104,slow=7.1,SNR=10						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**42.64**	**275**	P	P	02 19 16.5	-0.9
	1.2nm,0.3s,baz=113,slow=7.8,SNR=9.2						
	1.2nm,0.3s						
QSPA	**South Pole Qui**	**58.27**	**180**	P	P	02 21 16.0	+2.5
	6.1nm,0.7s,baz=349,slow=0.8,SNR=37						
	6.1nm,0.7s						
SNAA	**Sanae**	**76.75**	**179**	P	P	02 23 07.9	-0.6
	1.9nm,0.7s,baz=202,slow=11,SNR=3.8						
	1.9nm,0.7s						
FINES	**FINESS Array B**	**145.93**	**338**	PKPbc	**PKPdf**	02 30 52.1	-1.1
	2.4nm,0.5s,baz=48,slow=4.1,SNR=16						
HFS	**Hagfors**	**150.31**	**346**	PKPbc	**PKPbc**	02 31 03.5	-2.5
	2.3nm,0.9s,baz=158,slow=4.2,SNR=5.1						

NEIC 19 02:35:38.3±2.7, 56°19N±0°06×149°4W±0°1, h10km±2km, ML3.9/67, ML3.7(AEIC), Error ellipse: s-maj=15.2km s-min=3.6km az=126.0

IDC 19 02:35:40.4±1.1, 56°41N×149°33W, h0km, mb3.5/6, mbtmp3.5/11, ML3.3/5, MS3.3/34, Error ellipse: s-maj=27.1km s-min=16.5km az=35.0

AEIC 19 02:35:44.4±2.6, 56°20N±0°10×149°5W±0°1, h12km±8km, Error ellipse: s-maj=15.8km s-min=9.5km az=143.0

ISC 19 02:35:43.1±0.8, 56°26N±0°08×149°54W±0°06, h35km, n219, σ1s24/189, mb3.3/6, MS3.3/29, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.26**	**314**		Pn	02 36 17.1	-0.8
KDAK	**Kodiak Island**	**2.26**	**314**	Sn	Sn	02 36 43.3	-1.2
KDAK	**Kodiak Island**	**2.26**	**314**	Pn	Pn	02 36 17.4	-0.5
	4.6nm,0.3s,baz=51,slow=2.4,SNR=142						
KDAK				Sn	Sn	02 36 43.4	-1.1
	13nm,0.3s,baz=297,slow=17,SNR=9.9						
KDAK				LR	LR	02 37 24.7	
	comp=Z,221nm,20.4s,baz=172,slow=46						
	9.8nm,0.3s						
OHAK	**Old Harbor**	**2.28**	**297**	Pn	Pn	02 36 16.9	-1.3
OHAK				Sn	Sn	02 36 43.3	-1.7
OHAK	**Old Harbor**	**2.28**	**297**	P	Pn	02 36 17.3	-0.9
SII	**Sitkinak Islan**	**2.60**	**279**	Pn	Pn	02 36 21.5	-1.1
SII				Sn	Sn	02 36 52.3	-0.6
SII				IAML		02 36 59.9	
	comp=N,419nm,0.9s						
SII				IAML		02 37 00.7	
	comp=E,341nm,0.7s						
SII	**Sitkinak Islan**	**2.60**	**279**	P	Pn	02 36 21.8	-0.8
SYI	**Shuyak Island**	**2.82**	**328**	Pn	Pn	02 36 24.5	-1.1
SYI				Sn	Sn	02 36 58.1	-0.1
CNPM	**China Poot**	**3.40**	**345**	Pn	Pn	02 36 32.2	-1.4

CHIR **Chirikof Islan** 3.44 265 Pn **Pn** 02 36 32.7 -1.4
CHIR Sn **Sn** 02 37 11.4 -2.3
CHIR IAML 02 37 24.4
comp=E,147nm,1.3s
CHIR **Chirikof Islan** 3.44 265 P **Pn** 02 36 33.1 -1.0
Q19K **Cape Douglas,** 3.47 322 Pn **Pn** 02 36 34.6 0.0
KAHG **Katmai Hook Gl** 3.52 312 **Pn** 02 36 36.1 +0.8
BRLK **Bradley Lake** 3.59 349 Pn **Pn** 02 36 34.4 -1.8
BRLK IAML 02 37 24.9
comp=N,158nm,0.9s
BRLK IAML 02 37 26.0
comp=E,146nm,0.8s
HOM **Homer** 3.59 343 Pn **Pn** 02 36 35.1 -1.0
HOM IAML 02 37 40.9
comp=N,387nm,1.0s
MGLS **Mageik Landsli** 3.59 304 **Pn** 02 36 37.0 +0.7
Q23K **Middleton Isla** 3.61 27 Pn **Pn** 02 36 34.4 -2.0
Q23K IAML 02 37 39.7
comp=N,267nm,1.5s
Q23K IAML 02 37 49.9
comp=E,400nm,1.9s
CAHL **Cahill** 3.62 302 **Pn** 02 36 37.2 +0.6
KAKN **Katmai Knife C** 3.63 307 **Pn** 02 36 37.6 +0.8
ACHA **Angle Creek He** 3.70 304 Pn **Pn** 02 36 38.0 +0.2
KJL **Kejulik** 3.75 301 **Pn** 02 36 39.0 +0.6
ANCK **Angle Creek** 3.78 303 **Pn** 02 36 40.2 +1.3
KAHC **Katmai Hardscr** 3.80 311 **Pn** 02 36 40.0 +0.8
SEW **Seward** 3.86 1 Pn **Pn** 02 36 37.4 -2.4
P19K **Oil Pt** 3.93 332 Pn **Pn** 02 36 40.2 -0.7
P19K IAML 02 37 37.8
comp=N,270nm,0.6s
P19K IAML 02 37 44.8
comp=E,223nm,0.6s
PLK4 **Peulik 4** 3.98 293 Pn **Pn** 02 36 41.6 0.0
PLK4 IAML 02 37 39.9
comp=E,154nm,0.6s
PLK4 IAML 02 37 46.0
comp=N,161nm,0.8s
PLK2 **Peulik 2** 4.00 295 **Pn** 02 36 42.3 +0.4
PLK1 **Peulik 1** 4.16 295 **Pn** 02 36 44.4 +0.4
O22K **Cooper Landing** 4.24 359 Pn **Pn** 02 36 45.1 +0.1
SLKM **Skilak Lake** 4.28 355 Pn **Pn** 02 36 43.9 -1.8
SLKM IAML 02 37 38.9
comp=E,115nm,0.7s
SLKM IAML 02 37 43.0
comp=N,92nm,0.6s
P18K **Big Mountain,** 4.37 318 Pn **Pn** 02 36 46.3 -0.7
HIN **Hinchinbrook I** 4.45 20 Pn **Pn** 02 36 46.0 -2.0
HIN IAML 02 37 41.4
comp=N,147nm,1.0s
HIN IAML 02 37 44.4
comp=E,156nm,1.0s
KAIM **Kayak Island** 4.57 34 Pn **Pn** 02 36 48.5 -1.2
RDWB **Redoubt West** 4.58 339 **Pn** 02 36 48.6 -1.4
PWL **Port Wells** 4.66 7 Pn **Pn** 02 36 49.5 -1.4
PWL IAML 02 37 50.5
comp=N,108nm,0.8s
PWL IAML 02 37 52.0
comp=E,109nm,0.9s
NCT **North Crescent** 4.67 339 **Pn** 02 36 49.7 -1.4
O19K **Port Alsworth** 4.69 329 Pn **Pn** 02 36 50.2 -1.0
O18K **Koktuh Hills** 4.70 322 Pn **Pn** 02 36 50.6 -0.9
O18K IAML 02 37 46.6
comp=N,64nm,0.8s
EYAK **Cordova Ski Ar** 4.74 23 Pn **Pn** 02 36 50.1 -1.8
EYAK IAML 02 37 50.3
comp=E,93nm,0.8s
EYAK IAML 02 37 53.9
comp=N,117nm,0.9s
EYAK **Cordova Ski Ar** 4.74 23 P **Pn** 02 36 50.8 -1.2
FID **Port Fidalgo** 4.78 18 **Pn** 02 36 50.8 -1.7
FID **Port Fidalgo** 4.78 18 IAML 02 37 49.9
comp=E,84nm,0.9s
FID IAML 02 37 58.5
comp=N,60nm,0.8s
GLI **Glacier Island** 4.81 14 Pn **Pn** 02 36 51.8 -1.2
GLI IAML 02 37 56.0
comp=E,85nm,0.8s
GLI IAML 02 38 01.8
comp=N,56nm,0.7s
RC01 **Rabbit Creek A** 4.85 359 Pn **Pn** 02 36 52.5 -1.0
RC01 IAML 02 37 52.5
comp=N,66nm,0.7s
RC01 IAML 02 37 56.8
comp=E,67nm,0.8s
RAGM **Ragged Mountai** 4.87 30 **Pn** 02 36 52.3 -1.5
ANPB **Aniakchak Plen** 4.87 280 **Pn** 02 36 53.9 0.0
SUCK **Suckling Hills** 4.89 36 Pn **Pn** 02 36 53.1 -1.0
SUCK IAML 02 38 07.4
comp=E,120nm,1.4s
CHGN **Chignik** 4.95 274 Pn **Pn** 02 36 55.1 +0.3
CHGN IAML 02 37 56.1
comp=N,66nm,0.5s
CHGN IAML 02 37 58.2
comp=E,80nm,0.1s
HMT **Hamilton** 4.95 32 Pn **Pn** 02 36 53.4 -1.4
NICHA **Nichawak Mount** 4.96 34 **Pn** 02 36 53.8 -1.2
BERG **Berg Lake** 5.16 34 Pn **Pn** 02 36 55.1 -2.7
GRIN **Grindle Hills** 5.20 37 **Pn** 02 36 57.4 -0.9
KNK **Knik Glacier** 5.20 6 Pn **Pn** 02 36 58.4 +0.1
KNK IAML 02 38 09.3
comp=N,52nm,0.6s
KNK IAML 02 38 12.4
comp=E,51nm,0.7s
N19K **Bonanza Creek** 5.25 333 Pn **Pn** 02 36 57.9 -1.2
DIV **Divide** 5.26 20 Pn **Pn** 02 36 57.6 -1.7
DIV IAML 02 38 06.3
comp=N,48nm,0.7s
SNH **Sunshine Point** 5.29 39 Pn **Pn** 02 36 58.6 -1.0
SNH IAML 02 38 11.2
comp=E,117nm,1.2s
SNH IAML 02 38 24.8
comp=N,86nm,1.9s
PMR **Palmer** 5.35 2 Pn **Pn** 02 36 58.6 -1.8
PMR **Palmer** 5.35 2 P **Pn** 02 36 59.2 -1.2
VNHG **Veniaminof 1** 5.37 274 **Pn** 02 37 00.8 +0.1
BMRM **Bremner River** 5.38 27 **Pn** 02 36 59.5 -1.3
SPNN **North Nagishla** 5.38 344 **Pn** 02 36 60.0 -1.0
WAX **Waxell Ridge** 5.48 37 **Pn** 02 37 02.0 -0.2
GHO **Glory Hole Cre** 5.54 3 Pn **Pn** 02 37 01.5 -1.5
N18K **Kilae Creek** 5.54 326 Pn **Pn** 02 37 02.3 -0.8
KLU **Klutina** 5.57 18 Pn **Pn** 02 37 02.3 -1.2
MESA **MESA** 5.61 42 Pn **Pn** 02 37 04.1 0.0
M23K **Glacier View** 5.63 9 **Pn** 02 37 03.5 -0.7
O16K **Kokwok River B** 5.65 310 Pn **Pn** 02 37 05.2 +0.7
SCM **Sheep Creek Mo** 5.71 11 Pn **Pn** 02 37 04.9 -0.4
ISLE **Juniper Island** 5.77 38 Pn **Pn** 02 37 06.0 -0.2
YAH **Yahtse** 5.81 42 Pn **Pn** 02 37 04.8 -2.1
SKT **Skwentna** 5.83 351 Pn **Pn** 02 37 05.8 -1.2
N17K **Nushagak Hills** 5.87 320 Pn **Pn** 02 37 06.1 -1.4
CHNA **Chernabura Isl** 5.88 260 P **Pn** 02 37 07.2 -0.5
CNBA **Chernabura Isl** 5.88 260 Pn **Pn** 02 37 06.8 -0.9
RKAV **Rock Avalanche** 5.92 43 **Pn** 02 37 07.8 -0.6
N25K **Chitina, Valde** 5.94 23 Pn **Pn** 02 37 07.5 -1.1
GLB **Gilahina Butte** 5.99 27 Pn **Pn** 02 37 08.2 -1.0
KIAG **Kiagna River** 6.00 36 **Pn** 02 37 08.0 -1.4
SAMH **Samovar Hills** 6.04 46 **Pn** 02 37 08.7 -1.2
GRNC **Granite Creek** 6.06 39 Pn **Pn** 02 37 10.0 -0.4
M24K **Tolsona, Glenn** 6.12 15 Pn **Pn** 02 37 11.0 +0.1
MCARA **McCarthy VSAT** 6.15 31 Pn **Pn** 02 37 10.9 -0.5
M19K **Big River Lodg** 6.19 338 Pn **Pn** 02 37 11.1 -0.8
SDPT **Sand Point** 6.24 266 Pn **Pn** 02 37 12.8 +0.4
SDPT **Sand Point** 6.24 266 P **Pn** 02 37 12.6 +0.1
PCA **Pinnacle** 6.24 48 Pn **Pn** 02 37 11.1 -1.5
O15K **Ungalikthiuk R** 6.24 302 Pn **Pn** 02 37 13.6 +1.1
BARN **Barnard Glacie** 6.33 37 **Pn** 02 37 12.8 -1.2
PNL **Peninsula** 6.39 53 **Pn** 02 37 13.3 -1.3
PNL **Peninsula** 6.39 53 P **Pn** 02 37 13.3 -1.3
LOGN **Logan Glacier** 6.39 41 Pn **Pn** 02 37 13.4 -1.4
BCPM **Bancas Point** 6.42 51 Pn **Pn** 02 37 13.9 -1.2
L19K **White Mountain** 6.54 338 Pn **Pn** 02 37 13.7 -3.0
M17K **Holitna River** 6.58 325 Pn **Pn** 02 37 15.7 -1.6
O28M **Mount Upton** 6.66 43 Pn **Pn** 02 37 18.1 -0.5
PPLA **Purkeypile** 6.79 350 Pn **Pn** 02 37 20.8 +0.5
N15K **Kwethluk River** 6.81 309 Pn **Pn** 02 37 21.8 +1.3
M16K **Timber Creek** 6.85 318 Pn **Pn** 02 37 19.9 -1.1
L18K **Granite Mounta** 7.01 331 Pn **Pn** 02 37 21.3 -1.8
PAX **Paxson** 7.04 15 Pn **Pn** 02 37 23.2 -0.4
S12K **Black Hills** 7.05 271 Pn **Pn** 02 37 23.5 -0.2
O29M **Mount Kennedy** 7.06 50 Pn **Pn** 02 37 22.6 -1.3
P29M **Windy Craggy** 7.13 57 Pn **Pn** 02 37 23.4 -1.4
TRF **Thorofare Moun** 7.22 357 Pn **Pn** 02 37 25.4 -0.8
M27K **Edge Creek, AK** 7.26 29 Pn **Pn** 02 37 26.9 +0.2

CAST **Castle Rocks** 7.30 351 Pn **Pn** 02 37 26.7 -0.4
KTH **Kantishna Hill** 7.35 355 Pn **Pn** 02 37 27.1 -0.8
S31K **Pelican** 7.45 71 Pn **Pn** 02 37 25.6 -3.5
K20K **Telida** 7.48 344 Pn **Pn** 02 37 29.9 +0.4
L16K **Owhat River** 7.49 321 Pn **Pn** 02 37 29.2 -0.5
K24K **Donnelly Dome** 7.80 12 Pn **Pn** 02 37 34.4 +0.4
K17K **Iditarod** 7.86 329 Pn **Pn** 02 37 33.1 -1.6
L27K **Beaver Creek,** 7.86 27 Pn **Pn** 02 37 34.0 -0.7
RIDG **Independent Ri** 7.86 15 Pn **Pn** 02 37 35.0 +0.1
BCAR **Beaver Creek A** 7.87 27 Pn **Pn** 02 37 33.5 -1.5
SIT **Sitka** 7.88 78 P **Pn** 02 37 30.5 -4.5
BPAW **Bear Paw Mtn.** 7.90 355 Pn **Pn** 02 37 32.9 -2.4
DOT **Dot Lake** 7.90 18 Pn **Pn** 02 37 37.1 +1.7
FALS **False Pass** 8.00 266 Pn **Pn** 02 37 36.0 -0.7
J18K **Innoko River** 8.07 336 Pn **Pn** 02 37 36.4 -1.3
SKAG **Skagway** 8.23 61 P **Pn** 02 37 38.3 -1.5
J20K **Nowinta River** 8.27 346 Pn **Pn** 02 37 38.6 -1.7
WRH **Wood River Hil** 8.27 4 Pn **Pn** 02 37 39.0 -1.4
HDA **Harding Lake** 8.28 8 Pn **Pn** 02 37 41.1 +0.6
N30M **Aishikik Lake** 8.29 46 Pn **Pn** 02 37 40.1 -0.6
J19K **Poorman** 8.33 341 Pn **Pn** 02 37 38.8 -2.4
NEA2 **Nenana** 8.37 1 Pn **Pn** 02 37 39.6 -2.1
M29M **Somme Creek** 8.39 38 Pn **Pn** 02 37 41.8 -0.3
R32K **Eaglecrest** 8.39 70 Pn **Pn** 02 37 39.8 -2.3
CCB **Clear Creek Bu** 8.46 5 Pn **Pn** 02 37 42.4 -0.5
L14K **Kuka Creek** 8.51 312 Pn **Pn** 02 37 44.7 +1.1
K15K **Wolf Creek Mou** 8.61 320 Pn **Pn** 02 37 45.5 +0.5
J17K **VABM Dome** 8.61 330 Pn **Pn** 02 37 44.0 -1.1
J25K **Salcha River,** 8.63 12 Pn **Pn** 02 37 44.5 -0.9
IL31 8.64 8 Pn **Pn** 02 37 44.6 -0.8
ILAR **Eielson Array** 8.64 8 Pn **Pn** 02 37 45.2 -0.2
ILAR **Eielson Array** 8.64 8 Pn **Pn** 02 37 42.4 -3.1
comp=N,0.4nm,0.3s,baz=192,slow=13,SNR=20
ILAR Sn **Sn** 02 39 10.3 -11
baz=205,slow=13
ILAR LR **LR** 02 41 15.1
comp=N,128nm,19.5s,baz=102,slow=40
comp=N,0.8nm,0.5s
COLA **College** 8.68 5 Pn **Pn** 02 37 46.5 +0.5
COLA **College** 8.68 5 P **Pn** 02 37 46.0 0.0
J26L **Joseph Creek** 8.78 17 Pn **Pn** 02 37 46.4 -1.0
MLY **Manley** 8.82 357 Pn **Pn** 02 37 47.2 -0.8
L29M **L29M** 8.96 35 Pn **Pn** 02 37 49.2 -0.7
J16K **Anvik River** 8.97 326 Pn **Pn** 02 37 48.5 -1.5
I21K **Tanana** 9.03 353 Pn **Pn** 02 37 50.4 -0.3
P32M **Atlin** 9.05 62 Pn **Pn** 02 37 49.5 -1.7
M30M **Minto, Yukon** 9.06 40 Pn **Pn** 02 37 51.5 +0.2
PRP **Porcupine Dome** 9.49 10 Pn **Pn** 02 37 57.0 -0.3
AKUT **Akutan** 9.52 264 Pn **Pn** 02 37 56.5 -1.1
H21K **Melozitna Rive** 9.56 352 Pn **Pn** 02 37 58.3 +0.2
I26K **Coal Creek Min** 9.59 16 Pn **Pn** 02 37 58.6 +0.1
H23K **Yukon River** 9.60 360 Pn **Pn** 02 37 57.5 -1.1
K13K **Kusilvak Mount** 9.62 312 Pn **Pn** 02 37 59.5 +0.6
H24K **Noodor Dome** 9.64 4 Pn **Pn** 02 37 58.3 -0.9
K29M **Barlow Dome** 9.68 33 Pn **Pn** 02 37 59.6 -0.1
H19K **Roundabout Mou** 9.88 343 Pn **Pn** 02 38 03.1 +0.7
H18K **Honhosa River** 9.90 338 Pn **Pn** 02 38 02.0 -0.7
IMAR **Indian Mountai** 9.96 350 Pn **Pn** 02 38 03.0 -0.5
UNV **Unalaska Valle** 10.03 263 Pn **Pn** 02 38 02.5 -2.0
I28M **Miner Creek** 10.32 23 Pn **Pn** 02 38 09.1 +0.4
G21K **Alikatet** 10.46 351 Pn **Pn** 02 38 09.7 -0.7
G23K **Bananza Creek** 10.49 359 Pn **Pn** 02 38 09.8 -1.0
G24K **Hadweenzic Riv** 10.53 4 Pn **Pn** 02 38 10.9 -0.3
FYU **Fort Yukon** 10.54 9 Pn **Pn** 02 38 10.6 -0.8
J30M **Hart River** 10.57 33 Pn **Pn** 02 38 12.6 +0.7
H27K **Steamboat Moun** 10.71 18 Pn **Pn** 02 38 12.7 -1.1
DLBC **Dease Lake** 10.76 70 Pn **Pn** 02 38 12.4 -2.1
comp=N,0.3nm,0.3s,baz=260,slow=11,SNR=1.6
DLBC LR **LR** 02 41 48.5
comp=N,264nm,18.7s,baz=238,slow=35
comp=N,1.2nm,0.3s
F21K **Alatna River** 11.16 352 Pn **Pn** 02 38 19.2 -0.7
MMPY **Sheldon Lake,** 11.25 48 Pn **Pn** 02 38 20.4 -0.9
F24K **Squaw Lake** 11.33 3 Pn **Pn** 02 38 22.1 -0.1
BMAR **Burnt Mountain** 11.45 10 Pn **Pn** 02 38 23.5 -0.4
NIKH **Nikolski High** 11.66 262 Pn **Pn** 02 38 26.2 -0.6
E22K **Anaktuvuk Pass** 11.97 356 Pn **Pn** 02 38 31.1 +0.2
E18K **Tukpahlearik C** 12.33 340 Pn **Pn** 02 38 35.4 -0.5
D23K **Nanushuk River** 12.77 358 Pn **Pn** 02 38 42.6 +0.8
G31M **Satah River** 12.88 28 Pn **Pn** 02 38 44.6 +1.3
BBB **Bella Bella** 13.16 99 LR **LR** 02 42 41.5
comp=N,172nm,20.1s,baz=288,slow=32
C16K **Lisburne Hills** 14.05 335 Pn **Pn** 02 38 57.7 -1.6
INK **Inuvik** 14.13 25 Pn **Pn** 02 39 00.1 -0.3
comp=N,0.1nm,0.3s,baz=201,slow=20,SNR=3.8
INK LR **LR** 02 44 41.3
comp=N,112nm,18.1s,baz=252,slow=39
comp=N,2.3nm,0.9s
YKA **Yellowknife Ar** 18.67 56 P **Pn** 02 39 58.1 -0.2
comp=N,0.1nm,0.3s,baz=272,slow=11,SNR=4.2
YKA LR **LR** 02 47 02.7
comp=N,144nm,18.2s,baz=269,slow=37
comp=N,2.4nm,1.0s
NEW **Newport** 21.23 98 LR **LR** 02 47 13.8
comp=N,103nm,21.2s,baz=292,slow=33
SHEM **Shemya Is, Ala** 21.25 276 LR **LR** 02 48 27.7
comp=N,35nm,20.8s,baz=48,slow=36
YBH **Yreka Blue Hor** 22.63 119 LR **LR** 02 47 08.1
comp=N,7.3nm,21.1s,baz=292,slow=30
ELK **Elko** 27.16 110 LR **LR** 02 50 26.5
comp=N,81nm,18.2s,slow=33
NVAR **Mina Array Bea** 27.33 117 P **P** 02 41 25.3 +0.6
comp=N,0.1nm,0.4s,baz=314,slow=10,SNR=1.8
comp=N,0.1nm,0.4s
PDAR **Pinedale Array** 28.80 101 P P 02 41 41.0 +3.2
comp=N,0.1nm,0.6s,baz=326,slow=12,SNR=2.0
PDAR LR **LR** 02 52 39.1
comp=N,32nm,18.7s,baz=16,slow=36
comp=N,0.1nm,0.6s
SEY **Seymchan** 29.20 307 LR **LR** 02 54 12.7
comp=N,56nm,19.2s,baz=86,slow=38
PETK **Petropavlovsk-** 30.04 287 LR **LR** 02 53 48.7
comp=N,41nm,20.1s,baz=96,slow=36
MA2 **Magadan** 30.95 301 LR **LR** 02 54 14.4
comp=N,27nm,20.7s,baz=116,slow=36
PFO **Pinyon Flats O** 32.07 121 LR **LR** 02 51 59.7
comp=N,64nm,20.4s,baz=343,slow=31
TIXI **Tiksi** 35.62 327 LR **LR** 03 00 42.4
comp=N,26nm,18.4s,baz=178,slow=42
FRB **Frobisher Bay** 38.55 45 LR **LR** 02 59 11.7
comp=N,118nm,18.7s,baz=300,slow=37
YAK **Yakutsk** 39.29 313 LR **LR** 03 01 32.3
comp=N,30nm,18.2s,baz=233,slow=40
TXAR **Lajitas Array** 41.95 110 P **P** 02 43 31.4 +0.9
comp=N,0.1nm,0.3s,baz=352,slow=6.8,SNR=1.8
TXAR LR **LR** 02 59 10.0
comp=N,27nm,19.4s,baz=5.5,slow=34
comp=N,0.1nm,0.3s
SFJD **Kangerlussuaq** 43.19 35 LR **LR** 03 00 51.0
comp=N,34nm,19.9s,baz=1.5,slow=35
SCHQ **Schefferville** 44.12 56 LR **LR** 03 01 34.0
comp=N,54nm,18.2s,baz=316,slow=35
SADO **Sadowa** 44.29 74 LR **LR** 03 00 36.8
comp=N,45nm,19.6s,baz=296,slow=34
TKL **Tuckaleechee C** 48.08 86 LR **LR** 03 04 26.6
comp=N,129nm,19.1s,baz=336,slow=36
H11N2 **WAKE ISLAND Hy** 48.75 240 T T 03 37 37.7
baz=30,slow=76,SNR=10
H11N3 **WAKE ISLAND Hy** 48.75 240 T T 03 37 42.3
baz=30,slow=76,SNR=12
H11N1 **WAKE ISLAND Hy** 48.76 240 T T 03 37 37.8
baz=30,slow=76,SNR=9.9
USRK **Ussuriysk Ar.** 48.95 291 LR **LR** 03 04 50.8
comp=N,59nm,21.8s,baz=40,slow=36
H11S1 **WAKE ISLAND Hy** 49.89 239 T T 03 38 58.9
baz=29,slow=76,SNR=15
H11S2 **WAKE ISLAND Hy** 49.90 239 T T 03 39 10.6
baz=29,slow=76,SNR=16
H11S3 **WAKE ISLAND Hy** 49.91 239 T T 03 39 04.4
baz=29,slow=76,SNR=14
MJAR **Matsushiro Arr** 51.03 279 LR **LR** 03 07 29.1
comp=N,16nm,19.8s,baz=54,slow=37
BORG **Borgarnes** 53.02 25 LR **LR** 03 09 04.2
comp=N,28nm,18.3s,baz=289,slow=38
JCJ **Chichijima** 55.94 269 LR **LR** 03 06 15.9
comp=N,19nm,22.0s,baz=114,slow=33
JNU **Nakatsue** 57.59 282 LR **LR** 03 11 23.2
comp=N,31nm,19.3s,baz=33,slow=37
SONM **Songino Array** 58.54 310 P **P** 02 45 39.0 +3.1
comp=N,0.6nm,0.6s,baz=69,slow=8.4,SNR=3.8
comp=N,0.6nm,0.6s
FINES **FINESS Array B** 62.59 2 P **P** 02 46 03.6 +0.6
comp=N,3.9nm,1.1s,baz=345,slow=10,SNR=5.4
comp=N,3.9nm,1.1s
HFS **Hagfors** 63.19 9 LR **LR** 03 15 18.3
comp=N,26nm,19.3s,baz=353,slow=38
JOW **Kunigami** 63.87 280 LR **LR** 03 16 18.7
comp=N,18nm,19.5s,baz=284,slow=38
ARTI **Arti** 65.45 343 LR **LR** 03 18 20.6
comp=N,20nm,18.1s,baz=24,slow=39
BVAR **Borovoye Array** 66.24 335 LR **LR** 03 19 01.8
comp=N,19nm,20.0s,baz=195,slow=39
MKAR **Makanchi Array** 68.53 325 P **P** 02 46 42.2 +0.5
comp=N,0.2nm,0.3s,baz=40,slow=6.1,SNR=2.9
MKAR LR **LR** 03 18 06.6
comp=N,32nm,18.9s,baz=129,slow=37
comp=N,0.2nm,0.3s
PPT **Papeete** 73.54 180 LR **LR** 03 11 06.6
comp=N,54nm,21.6s,baz=6.0,slow=29
CMAR **Chiang Mai Arr** 86.17 298 LR **LR** 03 33 22.0
comp=N,13nm,18.2s,baz=35,slow=40
QSPA **South Pole Qui** 146.05 180 PKPbc **PKiKP** 02 55 22.6 +1.6
comp=N,1.5nm,0.9s,baz=341,slow=0.8,SNR=3.5

NEIC ***19*** *02:55:29.5±2.2, 14.0°N±0.1°×121.5°E±0.1°, h143km±6km, mb4.1/14, Error ellipse: s-maj=17.2km s-min=16.6km az=69.0*

IDC ***19*** *02:55:31.5±0.7, 13.84N×120.94E, h134km±4km, mb3.5/10, mbtmp3.9/10, Error ellipse: s-maj=31.8km s-min=15.9km az=62.0*

ISC 19 02:55:32.4±0.8, 13.94N±0.08×121.0E±0.1, h152km, n34, σ1$39/32, mb3.9/16, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.17**	**340**	P		**Pn**		**02 55 50.8**	**-2.2**
	918nm,0.3s,baz=243,slow=3.3,SNR=31								
TGY				S		**Sn**		**02 56 05.5**	**-3.2**
	1µm,0.5s,baz=159,slow=19,SNR=8.7								
TWG	**Pinlang**	**8.83**	**0**	Pn		Pn		02 57 33.9	-3.0
MYLDM	**Lahad Datu**	**9.05**	**196**	Pn		**Pn**		**02 57 38.5**	**-1.3**
KNMB	**Chin-men Tao**	**10.75**	**347**	Pn		**Pn**		**02 58 00.2**	**-2.1**
KSM	**Kuching**	**16.29**	**221**	Pn		**P**		**02 59 15.9**	**+3.1**
CM31	**Chiang Mai Arr**	**21.64**	**285**	P		**P**		**03 00 10.1**	**-0.9**
CM31				IAmb		IAmb		03 00 10.6	
	comp=Z,2.9nm,0.6s								
CMAR	**Chiang Mai Arr**	**21.64**	**285**			**P**		**03 00 09.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.64**	**285**	P		**P**		**03 00 10.8**	**-0.2**
	comp=Z,8.9nm,0.8s,baz=96,slow=7.9,SNR=43								
	comp=Z,8.3nm,0.8s								
CHTO	**Chiang Mai**	**21.70**	**286**	P		**P**		**03 00 10.8**	**-0.8**
CHTO				IAmb		IAmb		03 00 11.5	
	comp=Z,3.9nm,0.8s								
KSAR	**Wonju Array Be**	**24.20**	**13**	P		P		03 00 29.7	-5.1
KS19	**Wonju Array Si**	**24.25**	**13**	P		P		03 00 29.4	-5.9
KS19				IAmb		IAmb		03 00 30.0	
	comp=Z,10nm,0.7s								
SHL	**Shillong**	**29.67**	**297**	P		**P**		**03 01 23.1**	**-1.0**
EVN	**Everest**	**34.70**	**299**	P		**P**		**03 02 09.1**	**+0.6**
EVN				IAmb		IAmb		03 02 09.3	
	comp=Z,3.8nm,0.8s								
SONM	**Songino Array**	**35.91**	**343**	P		**P**		**03 02 19.8**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=156,slow=11,SNR=2.5								
	comp=Z,0.5nm,0.5s								
WRA	**Warramunga Arr**	**36.14**	**158**	P		**P**		**03 02 19.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=337,slow=8.7,SNR=1.4								
	comp=Z,0.3nm,0.6s								
ASAR	**Alice Springs**	**39.45**	**161**	P		**P**		**03 02 48.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=335,slow=7.6,SNR=4.9								
	comp=Z,0.3nm,0.3s								
MKAR	**Makanchi Array**	**46.01**	**323**	P		**P**		**03 03 41.2**	**+0.7**
MKAR	**Makanchi Array**	**46.01**	**323**	P		**P**		**03 03 42.3**	**+1.7**
	comp=Z,2.2nm,0.8s,baz=126,slow=9.2,SNR=17								
	comp=Z,2.2nm,0.8s								
NIL	**Nilore**	**47.42**	**303**	P		**P**		**03 03 51.3**	**-0.5**
NIL				IAmb		IAmb		03 03 51.5	
	comp=Z,3.8nm,1.1s								
PETK	**Petropavlovsk-**	**48.68**	**29**	P		**P**		**03 04 02.7**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=214,slow=10,SNR=1.9								
	comp=Z,1.1nm,0.7s								
ZALV	**Zalesovo Beam**	**48.98**	**332**	P		**P**		**03 04 02.0**	**-1.3**
ZALV	**Zalesovo Beam**	**48.98**	**332**	P		**P**		**03 04 04.4**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=138,slow=6.7,SNR=3.8								
	comp=Z,0.9nm,0.4s								
ARSB	**Arslanbob**	**49.71**	**313**	P		**P**		**03 04 08.9**	**-0.3**
KURK	**Kurchatov**	**50.15**	**326**	P		**P**		**03 04 13.6**	**+1.4**
KURBB	**Kurchatov Arra**	**50.15**	**326**	P		**P**		**03 04 13.9**	**+1.7**
	comp=Z,3.7nm,0.8s,baz=133,slow=7.7,SNR=24								
	comp=Z,3.7nm,0.8s								
GAR	**Garm**	**50.99**	**309**	P		**P**		**03 04 19.2**	**+0.3**
KBL	**Kabul**	**51.02**	**303**	P		**P**		**03 04 19.3**	**+0.1**
SIMJ	**Simiganj**	**51.90**	**308**	P		**P**		**03 04 26.4**	**+0.7**
SIMJ				IAmb		IAmb		03 04 26.6	
	comp=Z,1.9nm,0.8s								
KK31	**Karatay Array**	**52.01**	**314**	P		**P**		**03 04 26.7**	**+0.4**
KKAR	**Karatay Array**	**52.01**	**314**	P		**P**		**03 04 26.7**	**+0.4**
BVAR	**Borovoye Array**	**55.74**	**326**	P		**P**		**03 04 54.5**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=114,slow=7.2,SNR=5.0								
	comp=Z,0.9nm,0.6s								
AB31	**Akbulak array**	**60.74**	**319**	P		**P**		**03 05 27.8**	**-0.1**
ABKAR	**Akbulak array**	**60.74**	**319**	P		**P**		**03 05 27.9**	**0.0**
ARCES	**ARCESS Array B**	**78.96**	**339**	P		**P**		**03 07 19.6**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=57,slow=8.8,SNR=4.0								
	comp=Z,1.3nm,0.8s								

IDC ***19*** *02:57:38.1±2.8, 23.64S×179.76W, h551km±37km, mb3.3/5, mbtmp4.3/8, Error ellipse: s-maj=53.4km s-min=20.6km az=172.0*

NEIC ***19*** *02:57:38.0±1.1, 23.6S±0.2°×179.7W±0.1°, h554km±10km, mb4.2/11, Error ellipse: s-maj=26.1km s-min=9.4km az=149.0*

ISC 19 02:57:36.8±0.7, 23.6S±0.1°×179.7W±0.1°, h536km, n36, σ0$99/35, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.83**	**165**	P		**P**		**02 59 14.8**	**+1.7**
	148nm,0.3s,baz=75,slow=23,SNR=3.1								
MSVF	**Nonsavu**	**6.23**	**340**	P		**P**		**02 59 18.7**	**+1.6**
PINNC	**Pines Island,**	**11.89**	**272**	P		**P**		**03 00 15.3**	**+1.0**
DZM	**Mont Dzumac**	**12.89**	**274**	P		**P**		**03 00 26.9**	**+2.1**
	3.4nm,0.7s,baz=77,slow=16,SNR=5.0								
URZ	**Urewera**	**14.86**	**190**	P		**P**		**03 00 44.2**	**-0.6**
	4.6nm,0.5s,baz=262,slow=3.2,SNR=6.3								
BFZ	**Birch Farm**	**17.36**	**190**	P		**P**		**03 01 08.9**	**-0.4**
BFZ				IAmb		IAmb		03 01 09.0	
	comp=Z,17nm,0.9s								
TCW	**Tory Channel**	**18.26**	**195**	P		**P**		**03 01 18.2**	**+0.6**
QRZ	**Quartz Range**	**18.37**	**199**	P		**P**		**03 01 19.8**	**+1.2**
NNZ	**Nelson**	**18.49**	**197**	P		**P**		**03 01 19.1**	**-0.5**
TUWZ	**Tuamarina**	**18.55**	**195**	P		**P**		**03 01 19.9**	**-0.3**
EIDS	**Eidsvold**	**26.65**	**260**	P		**P**		**03 02 32.6**	**-0.3**
CTAO	**Charters Tower**	**31.77**	**270**	P		**P**		**03 03 17.7**	**+0.2**
STKA	**Stephens Creek**	**35.10**	**248**	P		**P**		**03 03 44.7**	**-0.7**
STKA	**Stephens Creek**	**35.10**	**248**	P		**P**		**03 03 45.2**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=89,slow=9.7,SNR=3.9								
	comp=Z,1.2nm,0.4s								
COEN	**Coen**	**36.37**	**279**	P		**P**		**03 03 56.1**	**+0.1**
BBOO	**Buckleboo**	**39.83**	**247**	P		**P**		**03 04 23.2**	**-0.8**
AS31	**Alice Springs**	**42.38**	**260**	P		**P**		**03 04 44.1**	**-0.3**
AS31				IAmb		IAmb		03 04 44.9	
	comp=Z,1.8nm,0.4s								
ASAR	**Alice Springs**	**42.38**	**260**	P		**P**		**03 04 43.8**	**-0.6**
ASAR	**Alice Springs**	**42.38**	**260**	P		**P**		**03 04 44.1**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=98,slow=7.2,SNR=39								
	comp=Z,2.9nm,0.4s								
WR8	**Warramunga Arr**	**42.57**	**266**	P		**P**		**03 04 44.9**	**-1.0**
WR8				IAmb		IAmb		03 04 45.4	
	comp=Z,3.9nm,0.4s								

comp=Z,10nm,1.4s
TXAR Lajitas Array 90.03 58 P **P** 03 09 41.1 +1.4
comp=Z,0.5nm,0.7s,baz=229,slow=3.0,SNR=4.8
comp=Z,0.5nm,0.7s
ILAR Eielson Array 91.69 13 P **P** 03 09 44.8 -1.6
comp=Z,0.3nm,0.8s,baz=210,slow=7.1,SNR=3.2
comp=Z,0.3nm,0.8s
HFS Hagfors 142.32 349 PKhKP PKPpre 03 16 03.3
comp=Z,1.4nm,0.3s,baz=64,slow=3.4,SNR=27
AKASG Malin Array Be 144.89 328 PKPbc **PKPdf** 03 16 11.6 -1.0
comp=Z,0.3nm,0.4s,baz=58,slow=2.9,SNR=4.4
BRTR Keskin Array B 147.64 308 PKPbc **PKPbc** 03 16 21.0 -0.4
comp=Z,0.6nm,0.8s,baz=108,slow=2.2,SNR=2.6
EKA Eskdalemuir Ar 148.22 4 PKPbc **PKPbc** 03 16 21.0 -1.1
comp=Z,1.1nm,0.7s,baz=3.3,slow=2.8,SNR=2.3

*TXNET **19** 03:10:31.3, 31.7N±0.7°×104.3W±1.0, h7km±1km, ML2.7/13, Error ellipse: s-maj=1.5km s-min=1.1km az=61.2, final*
NEIC 19 03:10:31.4±1.1, 31.647N±0.007°×104.32W±0.02, h5km±1km, mb_Lg2.6/40, ML2.6/66, 8C, Error ellipse: s-maj=3.0km s-min=2.4km az=295.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPB09	**Culberson Coun**	**0.13**	**6**	↑P	Pg	03 10 34.9	+0.8
TPB09				S	Sg	03 10 36.9	+1.0
TPB11	**China Draw**	**0.38**	**40**	↑P	Pg	03 10 39.0	+0.3
TPB11				S	Sg	03 10 43.9	+0.3
TPB13	**Reeves - Culbe**	**0.41**	**103**	S	Sg	03 10 46.2	+1.3
PECS	**Pecos**	**0.47**	**126**	Pg	Pg	03 10 41.0	+0.4
PECS				Sg	Sg	03 10 47.3	+0.5
PECS				IAML		03 10 47.6	
	395nm,0.4s						
PECS	**Pecos**	**0.47**	**126**	↑P	Pg	03 10 41.1	+0.5
PECS				S	Sg	03 10 47.4	+0.6
TPB12	**Southwest of T**	**0.53**	**144**	↑P	Pg	03 10 42.1	+0.5
TPB12				S	Sg	03 10 49.2	+0.7
TPB07	**Mentone**	**0.56**	**97**	P	Pb	03 10 43.2	-0.6
TPB07				S	Sb	03 10 50.8	-1.3
TPB10	**Southeast of T**	**0.60**	**127**	P	Pg	03 10 43.6	+0.6
TPB10				S	Sg	03 10 51.8	+0.9
CLNB	**Carlsbad**	**0.72**	**31**	Pg	Pg	03 10 44.7	-0.5
CLNB	**Carlsbad**	**0.72**	**31**	P	Pg	03 10 45.4	+0.1
CLNB				S	Sg	03 10 55.6	+0.9
LWM1	**Layne Water Mi**	**0.72**	**125**	P	Pg	03 10 45.8	+0.6
LWM1				S	Sb	03 10 55.7	-1.0
PCOS	**Crockett Middl**	**0.73**	**109**	S	Sg	03 10 55.9	+1.0
LWM2	**Layne Water Mi**	**0.73**	**121**	P	Pg	03 10 46.0	+0.6
LWM2				S	Sb	03 10 56.1	-0.9
TPB01	**Permian Basin**	**0.84**	**147**	↑P	Pg	03 10 47.2	-0.3
TPB01				S	Sg	03 10 58.0	-0.4
CLN7	**Carlsbad 7**	**0.88**	**29**	Pg	Pg	03 10 48.1	-0.2
CLN7	**Carlsbad 7**	**0.88**	**29**	P	Pg	03 10 48.1	-0.2
TPB03	**Saragosa**	**0.89**	**129**	P	Pg	03 10 48.6	+0.2
TPB03				S	Sg	03 11 00.5	+0.5
MNTX	**Cornudas Mount**	**0.91**	**274**	Pg	Pg	03 10 48.9	0.0
MNTX	**Cornudas Mount**	**0.91**	**274**	↑P	Pb	03 10 49.3	-0.4
MNTX				S	Sb	03 11 01.5	-0.6
TPB06	**Permian Basin**	**0.94**	**90**	S	Sg	03 11 02.2	+0.6
TPB04	**Verhalen**	**1.01**	**117**	S	Sb	03 11 04.8	-0.2
HTMS	**Hat Mesa**	**1.01**	**35**	Pg	Pg	03 10 50.5	-0.3
HTMS	**Hat Mesa**	**1.01**	**35**	P	Pg	03 10 50.5	-0.3
HTMS				S	Sg	03 11 04.4	+0.5
TPB27	**North of Pyote**	**1.01**	**94**	S	Sb	03 11 04.8	-0.4
VHRN	**Van Horn**	**1.03**	**214**	Pg	Pg	03 10 51.1	-0.1
VHRN				Sg	Sb	03 11 05.3	-0.4
VHRN				IAML		03 11 10.6	
	136nm,0.5s						
VHRN				IAML		03 11 11.2	
	123nm,0.5s						
VHRN	**Van Horn**	**1.03**	**214**	↑P	Pg	03 10 51.2	0.0
VHRN				S	Sb	03 11 06.3	+0.6
TPB16	**Coyonosa**	**1.05**	**119**	P	Pb	03 10 52.0	-0.1
TPB16				S	Sb	03 11 06.3	+0.1
NM01	**Eunice**	**1.05**	**48**	P	Pg	03 10 51.4	-0.2
NM01				S	Sg	03 11 06.4	+0.1
TPB05	**Hovey Rd**	**1.12**	**130**	P	Pg	03 10 52.6	-0.3
TPB05				S	Sg	03 11 07.3	-0.1
TPB15	**Southwest of C**	**1.14**	**112**	S	Sg	03 11 08.4	+0.3
MNHN	**Monahans**	**1.36**	**103**	Pg	Pn	03 10 56.6	-0.6
MNHN				Sg	Sb	03 11 15.2	-0.1
MNHN				IAML		03 11 18.6	
	101nm,0.3s						
MNHN				IAML		03 11 18.6	
	101nm,0.4s						
MNHN	**Monahans**	**1.36**	**103**	P	Pn	03 10 56.6	-0.5
MNHN				S	Sn	03 11 15.8	+0.1
ALPN	**Alpine**	**1.40**	**155**	Pg	Pn	03 10 56.8	-0.9
ALPN					Sb	03 11 15.2	-1.1
ALPN	**Alpine**	**1.40**	**155**	↑P	Pn	03 10 56.8	-0.9
ALPN				S	Sb	03 11 15.1	-1.2
TPB08	**Permian Basin**	**1.42**	**122**	S	Sn	03 11 17.9	+0.7
CPRX	**Cap Rock**	**1.43**	**15**	Pg	Pn	03 10 58.0	-0.2
CPRX	**Cap Rock**	**1.43**	**15**	P	Pn	03 10 58.3	+0.1
ODSA	**Odessa**	**1.58**	**72**	Pg	Pn	03 11 00.1	0.0
ODSA				Sg	Sn	03 11 20.4	-0.6
ODSA	**Odessa**	**1.58**	**72**	P	Pn	03 11 00.3	+0.2
ODSA				S	Sn	03 11 20.5	-0.5
TMB04	**Seminole**	**1.83**	**57**	P	Pb	03 11 04.7	-0.8
TMB04				S	Sb	03 11 29.2	+0.4
EPT	**El Paso**	**1.87**	**274**	Pn	Pn	03 11 03.8	-0.4
EPT				IAML		03 11 35.0	
	comp=N,44nm,0.5s						
EPT				IAML		03 11 36.6	
	comp=E,55nm,0.4s						
EPT	**El Paso**	**1.87**	**274**	S	Sg	03 11 31.6	+0.1
EPT	**El Paso**	**1.87**	**274**	P	Pb	03 11 06.1	0.0
TMB01	**Midkiff**	**1.91**	**89**	P	Pb	03 11 06.2	-0.5
TMB01				S	Sb	03 11 31.2	+0.4
TMB02	**Rankin**	**2.00**	**102**	P	Pb	03 11 07.1	-1.2
TMB02				S	Sb	03 11 33.2	-0.4
TMB06	**Greenwood**	**2.17**	**81**	S	Sb	03 11 37.6	-0.8
TMB05	**Klondike**	**2.30**	**64**	P	Pn	03 11 11.6	+1.5
TMB05				S	Sb	03 11 41.0	-1.3
TX31	**Lajitas Ar. Si**	**2.37**	**166**	Pn	Pn	03 11 12.2	+1.1
TX31	**Lajitas Ar. Si**	**2.37**	**166**	P	Pn	03 11 12.4	+1.3
TXAR	**Lajitas Array**	**2.37**	**166**	Pn	Pn	03 11 11.9	+0.8
SAND	**Sanderson**	**2.53**	**131**	Pn	Pn	03 11 14.2	+1.0
SAND	**Sanderson**	**2.53**	**131**	P	Pn	03 11 15.1	+1.9
MSTX	**Muleshoe**	**2.66**	**29**	Pn	Pn	03 11 16.5	+1.4
POST	**Post**	**2.77**	**59**	Pn	Pn	03 11 17.6	+1.0
POST				IAmb_Lg		03 12 04.6	
	comp=Z,24nm,0.9s						
OZNA	**Ozona**	**2.83**	**104**	Pn	Pn	03 11 17.2	-0.1
OZNA				IAmb_Lg		03 12 05.2	
	comp=Z,17nm,0.9s						
CRNM	**Carthage**	**3.07**	**319**	Pn	Pn	03 11 22.8	+2.0
121A	**Cookes Peak, D**	**3.07**	**288**	Pn	Pn	03 11 22.7	+1.9
121A				IAML		03 12 12.8	
	comp=N,21nm,0.5s						
121A				IAML		03 12 17.4	
	comp=E,14nm,0.3s						
BNM	**Barren Site**	**3.16**	**323**	Pn	Pn	03 11 24.5	+2.4
Y22A	**Socorro**	**3.19**	**316**	Pn	Pn	03 11 24.6	+2.2
SN07	**Snyder 07**	**3.24**	**63**	Pn	Pn	03 11 23.9	+1.0
SN07				IAmb_Lg		03 12 15.7	
	comp=Z,17nm,0.8s						
SBM	**South Baldy**	**3.35**	**315**	Pn	Pn	03 11 27.1	+2.3
DKNS	**Dickens**	**3.50**	**54**	Pn	Pn	03 11 28.7	+2.1
DKNS				IAmb_Lg		03 12 27.0	
	comp=Z,16nm,0.8s						
ANMO	**Albuquerque**	**3.75**	**332**	Pn	Pn	03 11 33.1	+3.0
DRIO	**Del Rio**	**3.88**	**124**	Pn	Pn	03 11 32.6	+0.7
AMTX	**Amarillo**	**3.91**	**34**	IAmb_Lg		03 12 46.0	
	comp=Z,17nm,0.8s						
APMT	**Aspermont**	**3.92**	**64**	Pn	Pn	03 11 33.3	+0.9
APMT				IAmb_Lg		03 12 38.4	
	comp=Z,18nm,0.7s						
JCT	**Junction City**	**4.04**	**106**	Pn	Pn	03 11 34.5	+0.4
ABTX	**Abilene, Hawle**	**4.08**	**75**	Pn	Pn	03 11 35.7	+1.1
ABTX				IAmb_Lg		03 12 48.0	
	comp=Z,13nm,0.7s						
319A	**Douglas**	**4.25**	**268**	Pn	Pn	03 11 40.0	+3.1
BRDY	**Brady**	**4.56**	**93**	Pn	Pn	03 11 42.1	+1.1
BRDY				IAmb_Lg		03 13 05.3	
	comp=Z,11nm,0.9s						
HNDO	**Hondo**	**4.83**	**115**	IAmb_Lg		03 13 06.5	
	comp=Z,16nm,0.9s						
RTBA	**Rita Blanca**	**4.96**	**15**	Pn	Pn	03 11 48.1	+1.4
RTBA				IAmb_Lg		03 13 19.4	
	comp=Z,15nm,1.1s						

PLPT	**Palo Pinto**	**5.22**	**76**	Pn	Pn	03 11 49.5	-0.6
WMOK	**Wichita Mounta**	**5.57**	**55**	Pn	Pn	03 11 56.2	+1.2
WMOK				IAmb_Lg		03 13 35.3	
	comp=Z,8.9nm,0.8s						
435B	**Jarrell**	**5.83**	**97**	IAmb_Lg		03 13 47.7	
	comp=Z,12nm,0.9s						
WHTX	**Lake Whitney,**	**5.85**	**85**	IAmb_Lg		03 13 50.0	
	comp=Z,8.2nm,0.8s						
FW06	**Azle**	**5.87**	**75**	IAmb_Lg		03 13 51.7	
	comp=Z,8.3nm,0.7s						
MVCO	**Mesa Verde**	**6.54**	**329**	Pn	Pn	03 12 08.7	+0.2

*OSPL **19** 03:11:05.9±0.4, 18.64N×72.04W, h28km±5km, ML2.0*
*SDD **19** 03:11:07.6±1.7, 18.47N×71.98W, h24km±9km, MD2.7, ML1.8, MW2.9*
ISC 19 03:11:06.1±1.2, 18.56N±0.08°×72.01W±0.05, h26km±9km, n7, σ1.907/13, 1C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.16**	**114**	↑*e*Pg	**Pb**	**03 11 11.5**	**+0.1**
JIDR				*e*Sg	**Sb**	**03 11 15.6**	**+0.7**
JIDR				IAML		03 11 16.2	
	comp=N,141nm,0.3s						
PAPH	**Port-au-Prince**	**0.28**	**263**	*i* P	**Pb**	**03 11 12.2**	**-0.7**
PAPH				*e*S	**Sb**	**03 11 17.1**	**-0.4**
PAPH				IAML		03 11 17.5	
	comp=Z,239nm,0.1s						
LODU1	**El Espartillar**	**0.55**	**112**	*i* P	**Pb**	**03 11 17.1**	**0.0**
LODU1				IAML		03 11 29.1	
	comp=Z,40nm,1.4s						
NEDR	**Neiba UASD**	**0.56**	**97**	*e*Pg	**Pb**	**03 11 17.3**	**-0.1**
NEDR				*e*Sg	**Sb**	**03 11 22.6**	**-2.5**
NEDR				IAML		03 11 23.2	
	comp=N,37nm,2.7s						
LOBH	**Bahia de las A**	**0.78**	**153**	*i* P	**Pb**	**03 11 20.8**	**-0.1**
LOBH				*e*S	**Sb**	**03 11 31.5**	**+0.4**
LOBH				IAML		03 11 32.9	
	comp=Z,45nm,1.9s						
PODR	**Polo**	**0.79**	**119**	*e*Pg	**Pb**	**03 11 20.0**	**-1.3**
PODR				*e*Sg	**Sb**	**03 11 31.5**	**-0.3**
PODR				IAML		03 12 08.6	
	comp=N,79nm,1.9s						
SDDR	**Presa de Saban**	**0.80**	**58**	*e*Pg	**Pn**	**03 11 22.7**	**+0.9**
SDDR				*e*Sg	**Sn**	**03 11 33.3**	**+0.3**
SDDR				IAML		03 11 51.5	
	comp=N,21nm,3.0s						

AUST 19 03:16:58.0±1.1, 18.5S±13.×12.0E±., h10km, mb4.3/2, ML2.6/2, ML3.3/4, Error ellipse: s-maj=31.8km s-min=6.9km az=152.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.87**	**83**	P	Pn	03 17 30.6	+0.4
AUBRM				S	Sn	03 17 54.2	+0.4
MBWA	**Marble Bar**	**2.98**	**190**	P	Pn	03 17 45.7	+0.3
MBWA				S	Sn	03 18 18.8	-2.4
FITZ	**Fitzroy Crossi**	**5.10**	**90**	P	Pn	03 18 14.4	-0.1
GIRL	**Giralia**	**7.18**	**231**	P	Pn	03 18 42.9	-0.3
	comp=Z,496µmcomp=Z,108nm,1.9s,comp=Z,0.4nm						
MEEK	**Meekatharra**	**8.53**	**190**	P	Pn	03 19 01.5	-0.2
	comp=Z,19nm,2.3s,comp=Z,0.1nm						
MEEK				S	Sn	03 20 30.3	-7.8

*SNET **19** 03:26:00.5±0.9, 16.43N×86.17W, h15km±999km, ML4.2*
*CATAC **19** 03:26:01.4±0.8, 17.N±6.×8.7W±., h13km±9km, M4.9/20, MLv4.9/20, Error ellipse: s-maj=14.1km s-min=5.2km az=22.1, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=0.33; Mθθ=1.36; Mφφ 1.69; Mrθ=0.36; Mθφ 1.39; Mφr 0.56; Fault plane solution: M0 2.18733×10^15 NP1: φs=157.46191°, δ83.94261°, λ-161.11309°. NP2: φs=65.39430°, δ71.22250°, λ-6.39930°. Principal axes: T 2.2880, Plg8.8006°, Azm290.0720°; N -0.2177, Plg70.1993°, Azm174.6039°; P -2.0704, Plg17.5916°, Azm22.8856°; confirmed*
*NEIC **19** 03:26:03.3±2.0, 16.43N±0.06°×86.92W±0.09°, h10km±2km, mb4.2/64 Error ellipse: s-maj=14.6km s-min=10.4km az=70.0*
*GCG **19** 03:26:04.2±2.5, 16.49N×86.84W, h35km±437km, MD4.2*
*IDC **19** 03:26:09.1±1.2, 16.87N×87.30W, h0km, mb3.6/6, mbtmp3.7/10, ML3.5/2, MS3.3/13, Error ellipse: s-maj=25.8km s-min=18.8km az=59.0*
ISC 19 03:26:05.0±0.5, 16.51N±0.03°×86.92W±0.03, h22km, n162, σ1.979/144, mb4.1/21, MS3.3/10, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZABA	**Izabal, Puerto**	**1.78**	**244**	P	**Pn**	**03 26 32.2**	**-2.3**
TGUH	**Tegucigalpa,Un**	**2.47**	**188**	Pn	**Pn**	**03 26 42.0**	**-2.0**
TGUH	**Tegucigalpa,Un**	**2.47**	**188**	P	**Pn**	**03 26 42.5**	**-1.5**
SARH	**Santa Rosa de**	**2.48**	**226**	*i* P	**Pn**	**03 26 42.8**	**-1.3**
SARH				*i* S	**Sb**	**03 27 19.3**	**+0.3**
PETF	**Flores**	**2.85**	**278**	Pn	**Pn**	**03 26 48.8**	**-0.4**
PETF	**Flores**	**2.85**	**278**	*i* P	**Pn**	**03 26 48.8**	**-0.4**
PETF				*i* S	**Sn**	**03 27 23.0**	**0.0**
PETF	**Flores**	**2.85**	**278**	P	**Pn**	**03 26 49.2**	**0.0**
OCON	**Estacion meteo**	**2.90**	**172**	P	**Pb**	**03 26 56.0**	**-0.1**
RCVN	**Varillal2**	**3.00**	**166**	P	**Pb**	**03 26 57.4**	**-0.4**
ESQI	**Esquipulas**	**3.04**	**231**	Pn	**Pn**	**03 26 50.8**	**-1.1**
ESQI	**Esquipulas**	**3.04**	**231**	*e*P	**Pb**	**03 26 56.2**	**-2.3**
ESQI				*e*S	**Sb**	**03 27 38.4**	**+3.2**
ESQI	**Esquipulas**	**3.04**	**231**	P	**Pb**	**03 26 59.5**	**+1.1**
ESQI	**Esquipulas**	**3.04**	**231**	S	**Sb**	**03 27 39.3**	**+4.1**
LLGN	**La Laguna**	**3.05**	**220**	P	**Pb**	**03 26 58.6**	**0.0**
RCPN	**Sur Rio San Ju**	**3.07**	**165**	P	**Pb**	**03 26 58.2**	**-0.9**
MTO3	**Monteristo**	**3.16**	**229**	Pn	**Pn**	**03 26 53.3**	**-0.3**
MTO3	**Montecristo**	**3.16**	**229**	*i* P	**Pn**	**03 26 52.3**	**-1.4**
MTO3	**Montecristo**	**3.16**	**229**	P	**Pn**	**03 26 52.2**	**-1.4**
SCLA	**Alcaldia de Sa**	**3.30**	**212**	P	**Pn**	**03 26 54.7**	**-0.7**
SCLA	**Alcaldia de Sa**	**3.30**	**212**	S	**Sb**	**03 27 44.7**	**+2.1**
PACA	**Pacayal**	**3.32**	**204**	P	**Pb**	**03 27 01.5**	**-1.7**
LCND	**La Caada**	**3.32**	**197**	*e*P	**Pn**	**03 26 54.5**	**-1.2**
LCND				IAML		03 27 51.8	
	comp=Z,443nm,0.4s						
LCND	**La Caada**	**3.32**	**197**	P	**Pb**	**03 27 00.5**	**-2.8**
CNCH	**Conchagua**	**3.34**	**196**	*e*P	**Pn**	**03 26 55.0**	**-1.0**
PAVA	**Las Pavas**	**3.40**	**215**	*e*P	**Pn**	**03 26 58.7**	**+1.9**
PAVA	**Las Pavas**	**3.40**	**215**	P	**Pb**	**03 27 04.3**	**-0.4**
TECO	**Alcaldia de Te**	**3.46**	**212**	P	**Pb**	**03 27 07.4**	**+1.8**
SIUN	**Universidad Ur**	**3.47**	**143**	Pn	**Pn**	**03 26 56.1**	**-1.7**
SIUN	**Universidad Ur**	**3.47**	**143**	P	**Pn**	**03 26 56.0**	**-1.7**
POTN	**Potosi Cosigui**	**3.54**	**189**	P	**Pb**	**03 27 05.1**	**-1.9**
CSGN	**Cosiguina Volc**	**3.57**	**190**	P	**Pb**	**03 27 06.1**	**-1.4**
UNIC	**Universidad Ca**	**3.58**	**226**	S	**Sb**	**03 27 49.8**	**-0.8**
PMON	**Piamonte**	**3.62**	**220**	P	**Pb**	**03 27 09.6**	**+1.2**
PMON	**Piamonte**	**3.62**	**220**	S	**Sb**	**03 27 57.9**	**+5.9**
MATN	**Matagalpa**	**3.69**	**165**	P	**Pb**	**03 27 07.4**	**-2.2**
MATN	**Matagalpa**	**3.69**	**165**	S	**Sb**	**03 27 53.5**	**-0.4**
RTR	**El Retiro**	**3.70**	**226**	*e*P	**Pn**	**03 27 05.0**	**+3.9**
SLOZ	**Alcaldia de Sa**	**3.71**	**229**	*e*P	**Pn**	**03 27 04.4**	**+3.3**
SLOZ	**Alcaldia de Sa**	**3.71**	**229**	P	Pb	03 27 05.7	-4.3
SLOZ	**Alcaldia de Sa**	**3.71**	**229**	S	**Sb**	**03 27 54.9**	**+0.4**
JAYA	**Jayaque - finc**	**3.75**	**221**	*e*P	**Pn**	**03 27 03.7**	**+2.0**
JAYA				*e*S	**Sb**	**03 27 54.2**	**-1.5**
JAYA				IAML		03 28 03.9	
	comp=Z,237nm,0.3s						
JAYA	**Jayaque - finc**	**3.75**	**221**	*i* S	**Sb**	**03 27 58.9**	**+3.1**
JAYA	**Jayaque - finc**	**3.75**	**221**	P	**Pb**	**03 27 11.0**	**+0.3**
JAYA	**Jayaque - finc**	**3.75**	**221**	S	**Sb**	**03 27 59.3**	**+3.6**
NUBE	**Las Nubes**	**3.79**	**227**	*e*P	**Pn**	**03 27 05.7**	**+3.5**
NUBE	**Las Nubes**	**3.79**	**227**	*i* P	**Pb**	**03 27 10.7**	**-0.6**
NUBE				*i* S	Sb	03 28 08.9	+12
NUBE	**Las Nubes**	**3.79**	**227**	P	**Pb**	**03 27 08.9**	**-2.4**
NUBE	**Las Nubes**	**3.79**	**227**	S	**Sb**	**03 27 59.2**	**+2.2**
CRIN	**San Cristobal**	**3.79**	**182**	Pn	**Pn**	**03 27 05.3**	**+3.1**
HERN	**Volcan Telica**	**3.88**	**179**	Pn	Pb	03 27 07.7	-5.1
PLRN	**Geotermica Pol**	**3.91**	**178**	S	**Sb**	**03 28 04.9**	**+4.7**
TEIG	**Tepich**	**3.91**	**341**	Pn	**Pn**	**03 27 04.3**	**+0.5**
TEIG	**Tepich**	**3.91**	**341**	Pn	**Pn**	**03 27 05.5**	**+1.8**
	baz=312,slow=24,SNR=80						
TEIG				Sn	**Sn**	**03 27 47.5**	**-1.5**
	baz=309,slow=24,SNR=29						
ROCN	**Rota Cerro Neg**	**3.97**	**178**	S	**Sb**	**03 28 08.5**	**+6.4**
CNGN	**Cerro Negro**	**4.00**	**177**	Pn	Pb	03 27 09.4	-5.4
CNGN	**Cerro Negro**	**4.00**	**177**	P	**Pb**	**03 27 15.2**	**+0.5**
CNGN	**Cerro Negro**	**4.00**	**177**	S	**Sb**	**03 28 06.4**	**+3.7**

FG16	**Alotenango, Sa**	**4.12**	**238**	*i* P	**Pn**	**03 27 08.3**	**+1.4**
QUIS	**Sacapulas**	**4.20**	**254**	*i* P	**Pn**	**03 27 07.5**	**-0.4**
QUIS				*i* S	**Sn**	**03 27 55.0**	**-1.3**
BILN	**Bilwi Airport**	**4.21**	**125**	P	**Pn**	**03 27 06.5**	**-1.4**
BOAB	**BOACO BROADBAN**	**4.22**	**163**	Pn	Pb	03 27 12.5	-6.0
BOAB	**BOACO BROADBAN**	**4.22**	**163**	P	**Pb**	**03 27 15.0**	**-3.5**
BOAB	**BOACO BROADBAN**	**4.22**	**163**	S	**Sb**	**03 28 09.0**	**-0.1**
COPN	**Copaltepe**	**4.32**	**176**	P	**Pb**	**03 27 23.2**	**+3.0**
MGAN	**Managua**	**4.39**	**171**	Pn	Pb	03 27 14.9	-6.6
HUEH	**Huehuetenango**	**4.57**	**256**	Pn	**Pn**	**03 27 10.9**	**-2.2**
SOKI	**Kika Raxquin**	**4.64**	**249**	*i* S	**Sn**	**03 28 09.7**	**+2.2**
SCIG	**Sabancuy**	**4.74**	**302**	*i* P	**Pn**	**03 27 13.2**	**-2.0**
SCIG	**Sabancuy**	**4.74**	**302**	P	**Pn**	**03 27 13.2**	**-2.0**
ACON	**Acoyapa**	**4.82**	**159**	Pn	Pn	03 27 20.8	+4.5
ESPN	**Las Esperanzas**	**4.99**	**149**	Pn	Pn	03 27 22.6	+4.1
CCIG	**Comitan**	**5.01**	**268**	Pn	**Pn**	**03 27 18.9**	**-0.2**
CCIG	**Comitan**	**5.01**	**268**	*i* P	**Pn**	**03 27 18.8**	**-0.4**
TGIG		**5.95**	**273**	*i* P	**Pn**	**03 27 31.6**	**-0.3**
PRVC	**Isla de Provid**	**6.21**	**119**	Pn	**Pn**	**03 27 33.1**	**-2.2**
JTS	**Las Juntas de**	**6.47**	**163**	Pn	**Pn**	**03 27 42.2**	**+3.1**
JTS	**Las Juntas de**	**6.47**	**163**	Pn	Pb	03 27 53.1	-3.9
	comp=Z,0.8nm,0.3s,baz=318,slow=11,SNR=3.6						
JTS				Sn	**Sb**	**03 29 16.5**	**+2.5**
	comp=Z,1.2nm,0.3s,baz=211,slow=17,SNR=3.7						
	comp=Z,2.9nm,0.3s						
CMIG	**Matias Romero**	**7.65**	**275**	Pn	**Pn**	**03 27 54.6**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=98,slow=8.9,SNR=8.8						
CMIG				Lg	Lg	03 30 02.1	
	comp=Z,0.6nm,0.3s,baz=135,slow=16,SNR=3.6						
	comp=Z,3.7nm,0.5s						
CAMR	**Camarioca**	**8.35**	**38**	Pn	**Pn**	**03 28 04.3**	**-0.4**
061Z	**Ochoppi**	**10.86**	**30**	Pn	**Pn**	**03 28 39.5**	**+0.3**
060A	**Indiantown**	**12.11**	**29**	Pn	**Pn**	**03 28 55.7**	**-0.5**
656A	**Willston**	**13.41**	**17**	Pn	**Pn**	**03 29 12.0**	**-2.1**
553A	**Crawfordville**	**13.80**	**9**	Pn	**Pn**	**03 29 20.4**	**+1.0**
456A	**Hilliard**	**14.84**	**17**	Pn	**Pn**	**03 29 31.9**	**-1.7**
352A	**Blakely**	**15.01**	**7**	Pn	**Pn**	**03 29 35.5**	**-0.4**
HBVL	**Hebbronville**	**15.13**	**316**	Pn	**Pn**	**03 29 37.0**	**-0.5**
250A	**Grady**	**15.41**	**2**	Pn	**Pn**	**03 29 41.9**	**+0.8**
152A	**Waverly Hall**	**16.21**	**7**	Pn	**Pn**	**03 29 51.0**	**-0.4**
154A	**Montrose**	**16.40**	**11**	P	**P**	**03 29 56.4**	**-0.1**
LRAL	**Lakeview Retre**	**16.45**	**360**	Pn	**Pn**	**03 29 54.1**	**-0.4**
833A	**Chaparral WMA,**	**16.45**	**318**	Pn	**Pn**	**03 29 51.9**	**-2.7**
ROSC	**El Rosal**	**16.95**	**132**	LR	LR	03 36 58.8	
	comp=Z,55nm,18.4s,baz=49,slow=37						
GOGA	**Godfrey**	**17.11**	**10**	P	**P**	**03 30 03.3**	**-1.1**
HNDO	**Hondo**	**17.22**	**321**	P	**Pn**	**03 30 04.5**	**+0.3**
Y52A	**Lilburn**	**17.47**	**8**	P	**P**	**03 30 08.6**	**+0.2**
DRIO	**Del Rio**	**17.98**	**318**	P	**Pn**	**03 30 12.4**	**-1.3**
DRIO				IAmb	IAmb	03 30 27.7	
	comp=Z,11nm,0.8s						
FPAL	**Fort Paine**	**17.99**	**3**	P	**P**	**03 30 15.0**	**+0.8**
OXF	**Oxford**	**18.06**	**353**	P	**P**	**03 30 15.8**	**+0.9**
OXF				IAmb	IAmb	03 30 37.5	
	comp=Z,26nm,1.4s						
WHTX	**Lake Whitney,**	**18.14**	**330**	P	**P**	**03 30 16.2**	**+0.4**
JCT	**Junction City**	**18.22**	**322**		**Pn**	**03 30 15.7**	**-1.0**
BRDY	**Brady**	**18.37**	**325**		**P**	**03 30 17.5**	**-0.8**
BRDY				IAmb	IAmb	03 30 35.3	
	comp=Z,7.1nm,0.6s						
JSC	**Jenkinsville**	**18.41**	**15**		**Pn**	**03 30 18.0**	**-0.8**
W52A	**Murphy**	**18.70**	**8**	P	**Pn**	**03 30 23.5**	**+1.1**
W52A				IAmb	IAmb	03 30 28.2	
	comp=Z,8.5nm,0.6s						
BG3	**Lake Jocassee**	**18.75**	**10**	P	**Pn**	**03 30 24.8**	**+1.8**
BG3				IAmb	IAmb	03 30 28.2	
	comp=Z,13nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVAR	Mina Array Bea	35.11	315	P	P	03 32 59.7	+2.6
	comp=Z,0.4nm,0.8s,baz=142,slow=4.1,SNR=3.7						
	comp=Z,0.4nm,0.8s						
MDP	Montagnes des	35.46	105	LR	LR	03 48 35.8	
	comp=Z,47nm,20.5s,baz=307,slow=38						
BOZ	Bozeman (W)	35.61	330	P	P	03 33 03.1	+1.9
BOZ				IAmb	IAmb	03 33 17.1	
	comp=Z,3.6nm,1.3s						
MCMT	McKenzie Canyo	35.67	328	P	P	03 33 02.8	+0.9
LPAZ	La Paz	37.49	149	P	P	03 33 29.5	+11
	comp=Z,0.5nm,0.7s,baz=344,slow=7.4,SNR=2.3						
LPAZ				LR	LR	03 48 56.3	
	comp=Z,36nm,21.5s,baz=9.0,slow=36						
	comp=Z,0.5nm,0.7s						
F10A	Beach Ranch, E	38.74	326	P	P	03 33 28.3	+0.6
F10A				IAmb	IAmb	03 33 40.1	
	comp=Z,3.5nm,0.8s						
NEW	Newport	40.17	329	LR	LR	03 53 44.6	
	comp=Z,46nm,18.6s,baz=136,slow=42						
SCHQ	Schefferville	41.27	18	P	P	03 33 54.3	+5.8
	comp=Z,1.8nm,0.7s,baz=200,slow=12,SNR=1.8						
SCHQ				LR	LR	03 51 36.3	
	comp=Z,42nm,18.8s,baz=196,slow=37						
	comp=Z,1.8nm,0.7s						
LON	Longmire	41.74	324	P	P	03 33 52.4	-0.2
LON				IAmb	IAmb	03 34 05.9	
	comp=Z,3.5nm,0.7s						
ILAR	Eielson Array	62.55	335	P	P	03 36 30.9	+4.0
	comp=Z,0.2nm,0.8s,baz=121,slow=8.5,SNR=4.1						
	comp=Z,0.2nm,0.8s						
KDAK	Kodiak Island	63.24	327	LR	LR	04 06 05.1	
	comp=Z,41nm,18.3s,baz=281,slow=38						
BORG	Borgarnes	64.83	26	LR	LR	04 05 42.1	
	comp=Z,28nm,18.5s,baz=278,slow=37						
NOA	NORSAR Array B	79.59	29	LR	LR	04 13 43.8	
	comp=Z,13nm,19.1s,baz=250,slow=36						

*NEIC **19** 03:44:17.9±2.1, 60.̊6S±0.̊1×25.̊2W±0.̊3, h10km±1km, mb5.2/62, Error ellipse: s-maj=23.4km s-min=17.5km az=60.0*

*IDC **19** 03:44:18.2±0.5, 60.̊63S×26.̊08W, h0km, mb4.6/14, mbtmp4.6/14, MS4.0/37, Error ellipse: s-maj=21.1km s-min=14.2km az=60.0*

*GCMT **19** 03:44:24.9±0.2, 60.̊92S±0.̊01×25.̊47W±0.̊03, h12km, MW5.0/115, Moment Tensor Solution. s23,c26; s115,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00±.08; $M_{\theta\theta}$2.71±.08; $M_{\phi\phi}$-0.70±.08; $M_{r\theta}$1.82±.25; $M_{\theta\phi}$2.05±.07; $M_{\phi r}$0.29±.28; Best double couple: $M_0$3.45800×10^{16} NP1:ϕ_s36.00000°, δ35.00000°, λ-133.00000°. NP2:ϕ_s265.00000°, δ65.00000°, λ-64.00000°. Principal axes: T 4.1810, Plg16.0000°, Azm336.0000°; N -1.4440, Plg23.0000°, Azm74.0000°; P -2.7340, Plg61.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **19** 03:44:27.8±1.6, 60.̊75S×26.̊12W, h83km, mb5.0/7 Error ellipse: s-maj=29.6km s-min=11.5km az=113.4*

ISC 19 03:44:18.9±0.3**, 60.̊61S**±0.̊07×**25.̊53W**±0.̊08**, h10**km**, n473, σ1ˢ12**/434**, mb5.1**/42**, MS4.1**/37**, 16C-4D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.65	312	Pn	Pn	03 46 31.7	+7.6
HOPE	Hope Point	8.65	312	P	Pn	03 46 31.7	+7.6
VNA1	Neumayer--Stat	12.28	152	⇑P	Pn	03 47 11.4	-2.1
	comp=Z,265nm,0.4s						
VNA1				⇑S	Sn	03 49 19.5	-11
VNA3	Neumayer Olymp	12.42	156	⇑P	Pn	03 47 12.3	-3.3
	comp=Z,722nm,0.7s						
VNA3				⇑S	Sn	03 49 23.5	-10
VNA2	Neumayer--Watz	12.68	152	⇑P	Pn	03 47 16.3	-2.7
	comp=Z,60nm,0.3s,baz=309,slow=17						
VNA2				⇓S	Sn	03 49 29.2	-11
	baz=312,slow=1.8						
SNAA	Sanae	14.27	150	⇑P	Pn	03 47 37.8	-2.9
	comp=Z,2μm,0.4s						
SNAA				⇑S	Sn	03 50 08.2	-11
	comp=E,160nm,0.4s						
SNAA	Sanae	14.27	150		Pn	03 47 37.9	-2.9
SNAA	Sanae	14.27	150	Pn	Pn	03 47 38.2	-2.5
	comp=E,25nm,0.3s,baz=309,slow=14,SNR=102						
SNAA				Sn	Sn	03 50 05.4	-13
	comp=E,6.5nm,0.3s,baz=282,slow=22,SNR=6.7						
SNAA				LR	LR	03 51 58.3	
	comp=E,1μm,20.6s,baz=254,slow=32						
SNAA	Sanae	14.27	150c	iP	Pn	03 47 37.7	-3.0
TROLL	Troll, Antarti	15.83	148	⇑P	Pn	03 48 00.8	-0.9
	comp=Z,3μm,0.8s						
BELA	Belgrano 2	17.60	186	P	Pn	03 48 23.4	-0.5
PMSA	Palmer Station	17.95	240	P	P	03 48 29.9	+1.2
PMSA	Palmer Station	17.95	240	P	P	03 48 30.0	+1.3
	comp=Z,9.1nm,0.4s,baz=88,slow=9.5,SNR=38						
PMSA				LR	LR	03 54 08.1	
	comp=Z,376nm,21.1s,baz=90,slow=33						
NVL	N'lazarevskaya	18.08	140	eP	P	03 48 32.0	+1.8
NVL				pmax	pmax		
	comp=Z,7.0nm,0.7s						
EFI	East Falkland	20.01	282	P	Pn	03 48 54.7	+1.5
EFI	East Falkland	20.01	282	⇓eP	Pn	03 48 54.1	+0.9
EFI				pmax	pmax		
	comp=Z,104nm,1.2s						
MG02	Cerro Sombrero	24.82	269	P	P	03 49 43.2	+2.3
MG03	Isla Dawson	24.82	266	P	P	03 49 41.4	+0.6
MG03				IAmb	IAmb	03 49 43.5	
	comp=Z,41nm,1.0s						
MG05	Puerto Natales	27.09	268	P	P	03 50 02.1	+0.7
MG05				IAmb	IAmb	03 50 40.2	
	comp=Z,65nm,1.9s						
GO09	Cerro Castillo	27.26	269	P	P	03 50 01.1	-1.9
SYO	Syowa Base	27.60	135	⇑epP	P	03 50 03.0	-2.8
SYO	Syowa Base	27.60	135	⇑epP	P	03 50 07.8	+2.0
QSPA	South Pole Qui	29.63	180	P	P	03 50 26.1	+2.0
QSPA				IAmb	IAmb	03 51 09.1	
	comp=Z,36nm,1.0s						
QSPA	South Pole Qui	29.63	180	P	P	03 50 26.2	+2.0
	comp=Z,15nm,0.9s,baz=209,slow=2.0,SNR=52						
QSPA				LR	LR	04 01 52.2	
	comp=Z,617nm,19.9s,baz=188,slow=36						
	comp=Z,15nm,0.9s						
AY03	Cochrane	30.03	275	P	P	03 50 29.4	+1.7
TRQA	Tornquist	32.09	298	P	P	03 50 45.4	-0.5
TRQA				IAmb	IAmb	03 50 46.6	
	comp=Z,26nm,0.8s						
TRQA	Tornquist	32.09	298	P	P	03 50 45.4	-0.5
TRQA				pmax	pmax		
	comp=Z,27nm,0.8s						
PLCA	Paso Flores	33.86	285	P	P	03 50 59.2	-2.2
PLCA	Paso Flores	33.86	285	P	P	03 50 59.2	-2.2
	comp=Z,2.3nm,0.8s,baz=143,slow=7.5,SNR=11						
PLCA				LR	LR	04 04 38.2	
	comp=Z,297nm,18.1s,baz=132,slow=36						
	comp=Z,2.3nm,0.8s						
PLCA	Paso Flores	33.86	285	eP	P	03 51 01.3	-0.1
PLTB	Pedras Altas	34.26	315	P	P	03 51 04.4	-0.5
PLTB	Pedras Altas	34.26	315	eP	P	03 51 04.7	-0.2
LR05	Currie	34.94	284	P	P	03 51 09.4	-1.3
LR05				IAmb	IAmb	03 52 24.3	
	comp=Z,27nm,1.2s						
CPSB	Cacapava Do Su	35.45	316	eP	P	03 51 15.5	+0.4
CNLB	Canela	35.59	320	eP	P	03 51 16.5	+0.1
MAW	Mawson	36.03	139	P	P	03 51 20.4	+0.7
	comp=Z,8.3nm,1.0s,baz=227,slow=7.5,SNR=12						
MAW				LR	LR	04 04 38.8	
	comp=Z,380nm,19.2s,baz=250,slow=34						
	comp=Z,8.3nm,1.0s						
BI02	San Fabin de	37.44	289	P	P	03 51 30.2	-1.9
ML02	Panimavida	38.24	289	P	P	03 51 37.3	-1.5
BI05	Punta Hualpn	38.27	287	P	P	03 51 38.4	-0.7
BI05				IAmb	IAmb	03 51 41.1	
	comp=Z,46nm,0.8s						
BO02	Sierra Bellavi	38.75	291	P	P	03 51 41.0	-2.2
BO01	Tunca	39.22	291	P	P	03 51 45.0	-2.0
BO01				IAmb	IAmb	03 51 59.5	
	comp=Z,29nm,0.8s						
LMEL	Las Melosas	39.27	292	P	P	03 51 48.5	+0.9
BO04	La Punta	39.33	292	P	P	03 51 47.6	-0.5
BO04				IAmb	IAmb	03 51 51.7	
	comp=Z,51nm,0.8s						
MT13	San Alfonso	39.39	292	P	P	03 51 48.7	0.0
MT08	Bocatoma Ro	39.52	293	P	P	03 51 50.1	+0.3
MT08				IAmb	IAmb	03 51 54.3	
	comp=Z,54nm,0.8s						
MT09	Talagante	39.68	292	P	P	03 51 49.7	-1.4
MT03	Universidad Ad	39.70	292	P	P	03 51 50.9	-0.3
MT01	Popeta	39.73	291	P	P	03 51 50.0	-1.3
MT01				IAmb	IAmb	03 51 54.0	
	comp=Z,46nm,0.7s						
MT16	CCHEN	39.76	292	P	P	03 51 51.8	+0.1
MAN01	Angra dos Reis	39.85	333	eP	P	03 51 53.4	+1.0
MT05	Renca	39.89	292	P	P	03 51 52.5	-0.3
PEL	Peldehue	40.07	292	P	P	03 51 54.3	0.0
PEL	Peldehue	40.07	292	P	P	03 51 54.3	0.0
PEL				pmax	pmax		
	comp=Z,131nm,0.8s						
MT02	Curacav	40.18	292	P	P	03 51 54.2	-0.9
MT02				IAmb	IAmb	03 51 58.2	
	comp=Z,48nm,0.9s						
DUB01	Friburgo-RJ	40.27	335	eP	P	03 51 56.0	+0.1
VA03	San Esteban	40.33	293	P	P	03 51 56.4	-0.1
CAM01	Campos-RJ	40.37	337	eP	P	03 51 57.3	+0.6
VAO	Valinhos	40.44	329	P	P	03 51 57.8	+0.4
VAO				IAmb	IAmb	03 52 03.8	
	comp=Z,92nm,1.9s						
VAO	Valinhos	40.44	329	eP	P	03 51 57.8	+0.4
ZON	Zonda	40.52	296	P	P	03 51 56.8	-1.2
ZON				IAmb	IAmb	03 52 01.1	
	comp=Z,31nm,0.8s						
ZON	Zonda	40.52	296	P	P	03 51 56.8	-1.2
ZON				pmax	pmax		
	comp=Z,31nm,0.8s						
CPUP	Villa Florida	40.53	313	P	P	03 51 57.8	-0.2
CPUP	Villa Florida	40.53	313	P	P	03 51 57.1	-0.9
	comp=Z,6.2nm,0.6s,baz=8.4,slow=6.9,SNR=38						
CPUP				LR	LR	04 06 56.2	
	comp=Z,61nm,21.9s,baz=18,slow=34						
	comp=Z,6.2nm,0.6s						
CPUP	Villa Florida	40.53	313	P	P	03 51 57.8	-0.2
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CPUP	Villa Florida	40.53	313	eP	P	03 51 57.8	-0.2
VA06	Catapilco	40.84	292	P	P	03 52 00.6	+0.1
LDASE	Londrina, Braz	41.22	323	eP	P	03 52 03.8	0.0
SJPY	San Joaquin	41.33	316	eP	P	03 52 04.0	-0.6
BSCB	Bom Sucesso	41.84	333	eP	P	03 52 09.0	+0.1
CO02	Combarbal	41.85	294	P	P	03 52 08.5	-0.5
CO03	El Pedregal	42.02	294	P	P	03 52 10.6	+0.2
CO03				IAmb	IAmb	03 52 13.9	
	comp=Z,29nm,0.8s						
VNDA	Vanda	42.05	182	P	P	03 52 11.2	+1.3
VNDA	Vanda	42.05	182	P	P	03 52 11.6	+1.7
	comp=Z,4.5nm,0.9s,baz=182,slow=5.3,SNR=21						
VNDA				LR	LR	04 09 30.1	
	comp=Z,159nm,18.1s,baz=174,slow=36						
	comp=Z,4.5nm,0.9s						
VNDA	Vanda	42.05	182	P	P	03 52 11.2	+1.3
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TRCB	Terra Rica	42.24	321	eP	P	03 52 12.4	+0.3
CO01	Juntas del Tor	42.49	296	P	P	03 52 14.9	+0.6
CO01				IAmb	IAmb	03 52 18.9	
	comp=Z,47nm,0.8s						
CO06	Fray Jorge	42.59	293	P	P	03 52 13.1	-1.8
CO06				IAmb	IAmb	03 52 17.9	
	comp=Z,33nm,0.9s						
GO04	Tololo Observa	42.64	295	P	P	03 52 16.4	+0.8
GO04				IAmb	IAmb	03 52 18.7	
	comp=Z,57nm,0.9s						
BB19B	Bebedouro	42.70	327	eP	P	03 52 15.8	0.0
AMBA	Amambai (Brazi	42.87	318	eP	P	03 52 16.9	-0.3
CO05	La Serena	43.05	294	P	P	03 52 18.8	+0.2
SJMB	Sao Joao De Ma	43.32	338	eP	P	03 52 20.1	-0.8
LCO	Las Campanas	43.59	296	P	P	03 52 22.1	-1.2
LCO				IAmb	IAmb	03 52 26.3	
	comp=Z,39nm,0.9s						
LCO	Las Campanas	43.59	296	P	P	03 52 22.1	-1.2
LCO				pmax	pmax		
	comp=Z,39nm,0.9s						
ABR01	Abrolhos, BA	43.62	342	eP	P	03 52 28.2	+4.9
DIAM	Diamantina, MG	44.21	335	eP	P	03 52 28.1	-0.1
AC04	Llanos de Chal	44.45	296	P	P	03 52 29.4	-0.4
PMNB	Patos De Minas	44.59	331	eP	P	03 52 31.1	-0.1
GO03	Copiapo	44.60	297	P	P	03 52 30.7	-0.5
GO03				IAmb	IAmb	03 52 33.6	
	comp=Z,25nm,0.8s						
RPRD	Ribas do Rio P	44.74	321	eP	P	03 52 31.9	-0.4
AC02	Maricunga	44.78	299	P	P	03 52 32.7	-0.5
AC02				IAmb	IAmb	03 52 36.7	
	comp=Z,24nm,0.9s						
AC06	Mina Casimiro	44.86	297	P	P	03 52 31.9	-1.3
AC06				IAmb	IAmb	03 52 36.2	
	comp=Z,33nm,0.9s						
MURT	Porto Murtinho	44.92	316	eP	P	03 52 32.8	-0.9
H04S2	CROZET ISLANDS	45.06	109	T	T	04 41 16.0	
	baz=223,slow=76,SNR=20						
H04S3	CROZET ISLANDS	45.07	109	T	T	04 41 24.7	
	baz=223,slow=76,SNR=15						
H04S1	CROZET ISLANDS	45.08	109	T	T	04 41 33.6	
	baz=223,slow=76,SNR=16						
GUA01	Guaratinga, BA	45.16	341	eP	P	03 52 35.8	+0.2
AQDB	Aquidauana	45.38	319	P	P	03 52 36.3	-1.0
AQDB				IAmb	IAmb	03 52 40.9	
	comp=Z,43nm,1.7s						
AQDB	Aquidauana	45.38	319	eP	P	03 52 36.6	-0.8
BDQN	Bodoquena, MS	45.76	317	eP	P	03 52 39.5	-0.8
AC01	Pan de Azucar	46.02	298	P	P	03 52 41.4	-1.0
AC01				IAmb	IAmb	03 52 46.0	
	comp=Z,40nm,1.2s						
CMC01	Camacan, BA	46.31	341	eP	P	03 52 45.0	+0.3
GO02	Mina Guanaco	46.44	300	P	P	03 52 45.2	-0.9
BOSA	Boshof	46.48	70	P	P	03 52 47.5	+1.4
	comp=Z,3.8nm,0.9s,baz=214,slow=9.4,SNR=6.4						
BOSA				LR	LR	04 07 49.9	
	comp=Z,206nm,19.5s,baz=197,slow=30						
	comp=Z,3.8nm,0.9s						
PB14	IPOC Station P	47.26	299	P	P	03 52 51.1	-1.4
JANB	Januaria	47.48	335	eP	P	03 52 53.3	-0.6
BDFB	Brasilia	47.76	330	P	P	03 52 56.2	0.0
BDFB	Brasilia	47.76	330	P	P	03 52 54.9	-1.2
	comp=Z,7.1nm,0.8s,baz=167,slow=6.2,SNR=13						
BDFB				LR	LR	04 10 41.5	
	comp=Z,230nm,20.3s,baz=149,slow=33						
	comp=Z,7.1nm,0.8s						
BDFB	Brasilia	47.76	330	P	P	03 52 56.2	0.0
BDFB				pmax	pmax		
	comp=Z,11nm,0.9s						
ARAG	Araguaiana, MT	48.70	325	eP	P	03 53 03.3	+0.1
SALV	Santo Antonio	49.66	321	eP	P	03 53 10.5	-0.1
LBTB	Lobatse	49.71	68	LR	LR	04 11 50.1	
	comp=Z,150nm,18.0s,baz=170,slow=33						
SDBA	SAO DESIDERIO	50.18	335	eP	P	03 53 14.3	-0.4
PTLB	Pontes e Lacer	51.21	317	P	P	03 53 21.8	-0.5
PTLB				IAmb	IAmb	03 53 23.1	
	comp=Z,22nm,0.9s						
PTLB	Pontes e Lacer	51.21	317	eP	P	03 53 22.0	-0.4
TSUM	Tsumeb	51.34	56	LR	LR	04 11 26.6	
	comp=Z,101nm,20.5s,baz=184,slow=32						
SIV	San Ignacio	51.37	314	LR	LR	04 12 49.8	
	comp=Z,132nm,21.9s,baz=152,slow=33						
SNDB	Serra Nova Dou	52.12	327	eP	P	03 53 28.8	-0.3
H10S2	ASCENSION HYDR	52.18	14	T	T	04 50 37.1	
	baz=33,slow=74,SNR=14						
H10S3	ASCENSION HYDR	52.19	14	T	T	04 50 33.0	
	baz=187,slow=74,SNR=8.8						
PB18	Visviri	53.13	304	P	P	03 53 37.2	0.0
PB18				IAmb	IAmb	03 54 03.6	
	comp=Z,28nm,1.1s						
H10N1	ASCENSION HYDR	53.30	14	T	T	04 51 45.8	
	baz=185						
H10N3	ASCENSION HYDR	53.30	14	T	T	04 51 56.1	
	baz=185,slow=74						
H10N2	ASCENSION HYDR	53.32	14	T	T	04 52 00.6	
	baz=185,slow=74						
LPAZ	La Paz	53.76	306	P	P	03 53 41.8	-0.1
LPAZ				IAmb	IAmb	03 53 45.8	
	comp=Z,18nm,1.1s						
LPAZ	La Paz	53.76	306	P	P	03 53 40.9	-1.1
	comp=Z,8.1nm,0.7s,baz=141,slow=5.1,SNR=28						
LPAZ				LR	LR	04 19 36.6	
	comp=Z,54nm,19.0s,baz=148,slow=40						
	comp=Z,8.1nm,0.7s						
LPAZ	La Paz	53.76	306	eP	P	03 53 41.9	-0.1
LPAZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPAZ	La Paz	53.76	306	eP	P	03 53 41.5	-0.4
VILB	Vilhena	53.90	317	P	P	03 53 41.3	-1.0
VILB	Vilhena	53.90	317	eP	P	03 53 41.2	-1.1
PDRB	Porto dos Gac	54.03	321	eP	P	03 53 42.1	-1.1
SMTB	Santa Maria do	54.20	333	eP	P	03 53 44.6	+0.1
CLDB	Colider	54.44	323	eP	P	03 53 45.1	-1.2
MATP	Matopo	55.00	68	LR	LR	04 13 09.2	
	comp=Z,84nm,19.9s,baz=158,slow=31						
RCBR	Riachuelo	55.21	347	LR	LR	04 12 46.2	
	comp=Z,66nm,20.9s,baz=218,slow=31						
PRPB	Parauapebas	57.32	331	eP	P	03 54 06.7	-0.2
NPGB	Novo Progresso	57.94	324	eP	P	03 54 10.4	-0.9
LSZ	Lusaka	59.37	65	LR	LR	04 16 53.6	
	comp=Z,263nm,18.0s,baz=178,slow=33						
ITTB	Itaituba	60.60	325	eP	P	03 54 28.8	-0.8
MAL2	Monte Alegre,	62.41	327	P	P	03 54 41.3	-0.6
CZSB	Cruzeiro do Su	63.35	306	eP	P	03 54 46.3	-1.9
TEFE	Tefe	64.22	316	eP	P	03 54 52.8	-1.0
OPO	Ambohidratompo	65.52	84	LR	LR	04 20 16.7	
	comp=Z,143nm,18.5s,baz=338,slow=33						
ATAH	Atahualpa	66.24	300	LR	LR	04 23 02.5	
	comp=Z,73nm,21.6s,baz=147,slow=35						
BOAV	Boa Vista	68.43	322	P	P	03 55 19.1	-1.6
BOAV				IAmb	IAmb	03 55 20.2	
	comp=Z,12nm,0.8s						
BOAV	Boa Vista	68.43	322	eP	P	03 55 19.6	-1.2
MDP	Montagnes des	68.86	331	LR	LR	04 23 15.4	
	comp=Z,155nm,20.4s,baz=160,slow=34						
DBIC	Dimbokro	69.02	22	P	P	03 55 26.9	+2.5
	comp=Z,7.8nm,0.9s,baz=217,slow=6.7,SNR=6.3						
DBIC				LR	LR	04 18 39.5	
	comp=Z,186nm,20.1s,baz=186,slow=30						
	comp=Z,7.8nm,0.9s						
OTAV	Otavalo	72.91	303	P	P	03 55 48.0	-0.6
OTAV				IAmb	IAmb	03 55 53.3	
	comp=Z,16nm,1.1s						
OTAV	Otavalo	72.91	303	P	P	03 55 48.1	-0.6
OTAV				pmax	pmax		
	comp=Z,16nm,1.1s						
OTAV	Otavalo	72.91	303	eP	P	03 55 46.1	-2.6
FLOC	Florencia	73.00	307	P	P	03 55 49.2	+0.4
FLOC				IAmb	IAmb	03 55 52.0	
	comp=Z,38nm,1.5s						
ROSC	El Rosal	75.47	309	P	P	03 56 03.5	0.0
	comp=Z,3.7nm,0.4s,baz=42,slow=19,SNR=4.1						
ROSC				LR	LR	04 29 20.5	
	comp=Z,126nm,22.0s,baz=147,slow=36						
	comp=Z,3.7nm,0.4s						
KMBO	Kilima Mbogo	75.96	66	LR	LR	04 26 04.1	
	comp=Z,134nm,19.2s,baz=136,slow=33						
RUSC	La Rusia	75.97	311	P	P	03 56 05.0	-1.4
RUSC				IAmb	IAmb	03 56 09.2	
	comp=Z,22nm,1.4s						
TORD	Torodi Ar. Bea	76.66	27	P	P	03 56 08.3	-1.4
TORD	Torodi Ar. Bea	76.66	27	P	P	03 56 12.9	+3.2
	comp=Z,25nm,0.9s,baz=193,slow=5.0,SNR=48						
TORD				LR	LR	04 24 37.3	
	comp=Z,117nm,19.3s,baz=152,slow=32						
	comp=Z,25nm,0.9s						
PCRV	Puerto La Cruz	77.05	320	LR	LR	04 30 20.2	
	comp=Z,102nm,21.5s,slow=36						
TKNZ	Takaka Hill	77.59	194	P	P	03 56 14.5	-0.3
SDV	Santo Domingo	77.84	314	LR	LR	04 31 25.6	
	comp=Z,226nm,20.8s,baz=114,slow=36						
URZ	Urewera	79.75	198	LR	LR	04 27 28.8	
	comp=Z,46nm,21.6s,baz=176,slow=32						
NWAO	Narrogin (SRO)	81.94	149	LR	LR	04 28 18.0	
	comp=Z,38nm,20.4s,baz=231,slow=32						
JTS	Las Juntas de	84.69	302	LR	LR	04 34 24.8	
	comp=Z,34nm,21.6s,baz=135,slow=36						
TBI	Tubuai	84.85	230	eLR	LR	04 23 34.2	
	comp=Z,310nm,26.5s						
SJG	San Juan	84.99	322	LR	LR	04 33 45.5	
	comp=Z,44nm,21.6s,baz=147,slow=35						
STKA	Stephens Creek	87.25	169	P	P	03 57 06.3	+0.9
	comp=Z,3.3nm,0.8s,baz=184,slow=13,SNR=3.3						
STKA				LR	LR	04 35 12.2	
	comp=Z,157nm,18.5s,baz=204,slow=35						
	comp=Z,3.3nm,0.8s						
RAO	Raoul Island	87.66	204	LR	LR	04 29 21.1	
	comp=Z,98nm,20.7s,baz=152,slow=31						
ATD	Arta Tunnel	89.69	66	LR	LR	04 36 48.9	
	comp=Z,5.5nm,18.1s,baz=201,slow=35						
PPT2	Papeete2	90.12	232	eLR	LR	04 26 05.2	
	comp=Z,133nm,24.5s						
PPT2				eLR	LR	04 26 10.2	
	comp=Z,58nm,23.0s						
PPT	Papeete	90.14	232	LR	LR	04 30 53.0	
	comp=Z,78nm,20.7s,baz=150,slow=31						
RAR	Rarotonga	90.47	222	LR	LR	04 33 53.3	
	comp=Z,35nm,18.5s,baz=203,slow=33						
TAOE	Nuku Hiva Isla	94.02	244	eLR	LR	04 27 47.6	
	comp=Z,166nm,25.9s						
ASAR	Alice Springs	94.38	161	P	P	03 57 39.2	+0.4
	comp=Z,1.4nm,0.6s,baz=182,slow=4.2,SNR=14						
ASAR				LR	LR	04 37 27.4	
	comp=Z,434nm,20.1s,baz=200,slow=34						
	comp=Z,1.4nm,0.6s						
MDT	Midelt	94.66	18	LR	LR	04 36 14.5	
	comp=Z,106nm,18.2s,baz=200,slow=33						
DZM	Mont Dzumac	97.05	191	eLR	LR	04 29 16.2	
	comp=Z,112nm,22.7s						
WRA	Warramunga Arr	98.09	161	P	P	03 57 55.6	-0.2
	comp=Z,1.1nm,1.0s,baz=188,slow=3.7,SNR=3.2						
WRA				LR	LR	04 39 42.5	
	comp=Z,331nm,20.1s,baz=212,slow=34						
	comp=Z,1.1nm,1.0s						
FITZ	Fitzroy Crossi	98.19	152	LR	LR	04 39 50.5	
	comp=Z,66nm,18.9s,baz=194,slow=34						
GNI	Garni	115.53	53	⇓iPKIKP	PKPdf	04 02 59.4	-1.0
ANN	Anapa	116.82	45	iPKIKP	PKPdf	04 03 00.3	-2.1
ANN				pmax	pmax		
	comp=Z,33nm,0.9s						
KIV	Kislovodsk	118.00	49	iPKIKP	PKPdf	04 03 04.9	0.0
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PFO	Pinyon Flats O	119.07	287	⇓iPKIKP	PKPdf	04 03 07.5	+0.1
CMAR	Chiang Mai Arr	122.60	112	PKP	PKiKP	04 03 15.9	+1.3
	comp=Z,1.0nm,0.3s,baz=205,slow=3.4,SNR=6.7						
CMAR	Chiang Mai Arr	122.60	112	ePKIKP	PKiKP	04 03 15.3	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	Pinedale Array	123.41	299	PKP	PKiKP	04 03 16.1	+0.3
	comp=Z,0.5nm,0.7s,baz=123,slow=5.5,SNR=4.0						
NVAR	Mina Array Bea	123.86	289	PKP	PKiKP	04 03 16.9	+0.1
	comp=Z,0.6nm,0.8s,baz=243,slow=2.1,SNR=4.3						
LOHW	Long Hollow	124.55	299	PKPdf	PKiKP	04 03 19.9	+1.9
NOA	NORSAR Array B	124.58	21	PKP	PKiKP	04 03 18.1	+0.9
	comp=Z,1.0nm,0.8s,baz=199,slow=1.7,SNR=3.6						
FINES	FINESS Array B	128.00	29	PKP	PKiKP	04 03 25.0	+1.0
	comp=Z,2.6nm,0.9s,baz=140,slow=3.1,SNR=5.9						
FINES	FINESS Array B	128.00	29	ePKIKP	PKiKP	04 03 26.0	+2.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKTO	Aktyubinsk	129.29	55	PKP	PKiKP	04 03 26.8	-0.2
	comp=Z,2.6nm,0.9s,baz=356,slow=3.3,SNR=4.9						
AAK	Ala-Archa	130.57	73	⇑iPKIKP	PKiKP	04 03 30.1	+0.1
PZH	PanZhiHua	130.83	110	PKP	PKPdf	04 03 28.8	-1.3
KLMR	Klimovskoe	131.04	36	ePKIKP	PKPdf	04 03 28.0	-1.2
KLMR				pmax	pmax		
	comp=Z,15nm,1.6s						
KIRV	Kirov	132.37	43	⇑iPKIKP	PKiKP	04 03 36.3	+3.5
ARCES	ARCESS Array B	134.84	23	PKP	PKiKP	04 03 38.5	+0.9
	comp=Z,1.8nm,0.7s,baz=222,slow=1.2,SNR=4.9						
ARCES				SKPbc	SKPab	04 07 09.2	-0.7
	comp=Z,1.0nm,0.6s,baz=162,slow=3.8,SNR=6.3						
BRVK	Borovoye	136.36	60	⇑iPKIKP	PKiKP	04 03 42.5	+1.4
BVAR	Borovoye Array	136.38	61	PKP	PKPdf	04 03 39.2	-0.2
	comp=Z,0.9nm,0.5s,baz=232,slow=3.5,SNR=4.7						
MK31	Makanchi Array	137.37	75	⇑iPKIKP	PKiKP	04 03 43.1	-0.4
MKAR	Makanchi Array	137.37	75	PKP	PKiKP	04 03 43.5	0.0
	comp=Z,1.0nm,0.9s,baz=241,slow=3.0,SNR=6.2						
MKAR				SKPbc	SKiKP	04 07 17.5	-1.7
	comp=Z,0.5nm,0.9s,baz=209,slow=1.5,SNR=2.5						
WMQ	Urumqi	137.82	82	ePKP	PKPdf	04 03 42.8	+0.3
KURBB	Kurchatov Arra	138.32	68	PKP	PKPdf	04 03 42.6	-0.5
	comp=Z,0.6nm,0.8s,baz=237,slow=2.9,SNR=4.8						
KURK	Kurchatov	138.43	68	PKIKP	PKPdf	04 03 42.6	-0.7
LZH	Lanzhou	139.78	104	ePKP	PKPdf	04 03 43.0	-3.5
YKA	Yellowknife Ar	140.06	314	PKP	PKPdf	04 03 45.4	-0.5
	comp=Z,1.9nm,0.8s,baz=115,slow=1.7,SNR=6.2						
XAN	Xi'an	140.49	111	ePKP	PKPdf	04 03 47.8	+0.1
SPITS	Spitsbergen Ar	140.85	13	PKP	PKPdf	04 03 45.7	-1.3
	comp=Z,4.4nm,1.0s,baz=294,slow=1.4,SNR=5.5						
TOAD	Toad River Com	141.84	304	P	PKPdf	04 03 49.2	-0.1
	baz=128						
U35K	Hyder	142.04	298	P	PKPdf	04 03 49.5	-0.1
	baz=129						
T35M	Bob Quinn	142.80	299	P	PKPdf	04 03 51.2	+0.1
	baz=128						

CRAG Craig 143.12 295 P PKPdf 04 03 51.0 -0.6
baz=128
NJ2 Nanjing 143.12 125 ePKP PKPbc 04 03 50.8 +1.5
WRAK Wrangell Islan 143.37 297 P PKPdf 04 03 52.4 +0.4
baz=128
ZALV Zalesovo Beam 143.42 68 PKP PKPdf 04 03 51.3 -0.9
comp=Z,1.8nm,0.6s,baz=220,slow=2.8,SNR=6.2
U33K Whale Pass 143.52 296 P PKPdf 04 03 52.3 +0.1
baz=128
DLBC Dease Lake 143.59 301 P PKPdf 04 03 51.9 -0.6
baz=126
S34M Telegraph Cree 143.74 300 P PKPdf 04 03 52.8 +0.2
baz=126
WTLY Watson Lake, Y 144.06 304 P PKPdf 04 03 53.1 -0.1
baz=125
R33M Jennings River 144.54 302 P PKPab 04 03 52.4 -0.3
baz=125
TGTN Hyland Airport 144.65 306 P PKPbc 04 03 53.5 +0.4
baz=124
Q32M Nakina River 144.84 300 P PKPab 04 03 53.9 0.0
baz=125
S32K Killisnoo 144.98 297 P PKPdf 04 03 54.7 -0.1
baz=126
SIT Sitka 145.06 296 P PKPbc 04 03 54.5 +0.1
baz=126
R32K Eaglecrest 145.42 298 P PKPdf 04 03 55.6 0.0
baz=125
P33M Teslin, Yukon 145.78 302 P PKPdf 04 03 56.0 -0.2
baz=123
P32M Atlin 145.81 301 P PKPdf 04 03 56.3 +0.1
baz=123
HNS HongShan 145.90 115 ⇑PKPbc PKPab 04 03 59.9 +1.7
HNS LR LR
comp=Z,130nm,14.9s
HNS LR LR
comp=Z,370nm,15.6s
HNS LR LR
comp=Z,230nm,16.5s
TIA Tai'an 145.98 119 PKPbc PKPab 04 03 59.5 +0.9
S31K Pelican 145.99 297 P PKPdf 04 03 56.6 +0.2
baz=124
BTO Baotou 146.31 106 ePKPbc PKPdf 04 03 51.5 -6.3
BTO PKPab PKPbc 04 03 55.6 -3.4
BTO pPKP sPKPdf 04 04 00.9 +0.3
BTO LR LR
comp=Z,250nm,6.5s
BTO LR LR
comp=Z,140nm,8.8s
BTO LR LR
comp=Z,230nm,6.3s
N32M Quiet Lake 146.39 303 P PKPdf 04 03 57.4 +0.2
baz=122
MMPY Sheldon Lake, 146.42 306 P PKPdf 04 03 57.5 +0.2
baz=121
SKAG Skagway 146.43 300 P PKPdf 04 03 57.7 +0.5
baz=123
PLBC Pleasant Camp 146.87 299 P PKPdf 04 03 58.7 +0.7
baz=122
WHY Whitehorse 146.88 302 P PKPdf 04 03 58.8 +0.7
baz=122
C36M Paulatuk 147.06 320 P PKPdf 04 03 58.5 +0.5
baz=116
HHC Hu-ho-hao-te 147.23 107 eP PKPdf 04 03 47.5 -12
M31M Drury Creek, Y 147.47 304 P PKPdf 04 03 59.5 +0.6
baz=120
P30M Million Dollar 147.48 300 P PKPdf 04 03 59.8 +0.7
baz=121
P29M Windy Craggy 147.56 299 P PKPdf 04 03 59.9 +0.7
baz=122
N31M Braeburn, Yuko 147.68 303 P PKPdf 04 03 60.0 +0.6
baz=120
HYT Haines Junctio 148.07 301 P PKPdf 04 04 00.5 +0.4
baz=120
N30M Aishikik Lake 148.21 302 P PKPdf 04 04 00.7 +0.5
baz=119
O29M Mount Kennedy 148.27 299 P PKPdf 04 04 01.0 +0.6
baz=120
PNL Peninsula 148.30 298 P PKPbc 04 04 03.7 -0.1
baz=121
A36M Sachs Harbour 148.49 324 PKiKP 04 04 05.2 -0.2
A36M Sachs Harbour 148.49 324 P PKPbc 04 04 04.2 +0.3
baz=111,SNR=9.5
YUK6 Outpost Mounta 148.50 301 P PKPbc 04 04 04.7 +0.1
baz=119
M30M Minto, Yukon 148.63 304 PKPbc 04 04 04.5 -0.2
M30M Minto, Yukon 148.63 304 P PKPbc 04 04 05.0 +0.4
baz=118,SNR=6.7
MAYO Mayo, Yukon 148.74 306 P PKPbc 04 04 05.4 +0.6
baz=117
YUK4 Talbot Arm 148.81 301 P PKPbc 04 04 05.5 +0.2
baz=119
PINM Pinnacle 148.89 298 P PKPbc 04 04 05.7 +0.3
baz=120
H31M Peel River 149.10 311 P PKPbc 04 04 05.9 +0.2
baz=114,SNR=14
O28M Mount Upton 149.19 299 PKPbc 04 04 06.5 +0.1
O28M Mount Upton 149.19 299 P PKiKP 04 04 07.2 -0.4
baz=119,SNR=6.9
M29M Somme Creek 149.25 303 PKPbc 04 04 06.5 +0.2
M29M Somme Creek 149.25 303 P PKiKP 04 04 07.3 -0.2
baz=117,SNR=10
J30M Hart River 149.34 308 PKPbc 04 04 06.8 +0.3
J30M Hart River 149.34 308 P PKiKP 04 04 07.5 -0.1
baz=115,SNR=7.7
L29M L29M 149.42 304 P PKiKP 04 04 07.8 +0.1
baz=116,SNR=22
K29M Barlow Dome 149.50 306 P PKiKP 04 04 08.0 +0.1
baz=116
G31M Satah River 149.53 313 P PKiKP 04 04 07.9 +0.2
baz=113,SNR=7.0
F31M Tsiigehtchic 149.54 314 P PKiKP 04 04 07.3 -0.4
baz=112,SNR=5.4
I30M Mount Dempster 149.63 309 P PKiKP 04 04 07.8 -0.3
baz=114,SNR=17
MESA MESA 149.67 298 P PKPbc 04 04 07.7 +0.2
baz=119
MOY Mondy 149.70 83 ePKiKP PKiKP 04 04 09.3 +0.6
MOY pmax pmax
comp=Z,17nm,1.4s
CTG Chitna Glacier 149.78 299 P PKiKP 04 04 08.5 -0.1
baz=118
YUK3 Moose Creek 149.78 301 P PKiKP 04 04 08.8 +0.1
baz=117
INK Inuvik 149.79 315 P PKiKP 04 04 08.3 +0.1
baz=111,SNR=9.3
SONM Songino Array 149.87 93 PKiKP 04 04 09.4 +0.2
SONM Songino Array 149.87 93 PKPbc PKiKP 04 04 09.7 +0.5
comp=Z,6.3nm,1.0s,baz=207,slow=3.3,SNR=20
ZAK Zakamensk 150.02 87 ePKiKP PKPbc 04 04 09.1 +0.6
ZAK pmax pmax
comp=Z,10.0nm,1.5s
J29N Klondike Camp 150.03 307 P PKiKP 04 04 08.8 -0.1
baz=114
EPYK Eagle Plains 150.22 311 P PKiKP 04 04 09.9 +0.6
baz=112,SNR=9.7
BGLC Bering Glacier 150.22 297 P PKiKP 04 04 09.5 +0.2
baz=118
BVCY Beaver Creek 150.24 302 P PKiKP 04 04 09.8 +0.4
baz=116,SNR=5.2
G30M tAoh Zraii Nji 150.26 312 P PKiKP 04 04 09.6 +0.3
baz=111,SNR=12
F30M Barrier River 150.33 313 P PKiKP 04 04 09.7 +0.3
baz=110,SNR=6.8
DAWY Dawson 150.34 306 P PKiKP 04 04 09.9 +0.3
baz=114,SNR=13
I29M Ogilvie Camp, 150.43 308 P PKiKP 04 04 10.1 +0.4
baz=113
CRQE Cirque 150.44 298 P PKiKP 04 04 10.5 +0.5
baz=117
KAIM Kayak Island 150.63 296 P PKiKP 04 04 10.2 0.0
baz=118
M27K Edge Creek, AK 150.64 302 P PKiKP 04 04 10.6 +0.2
baz=116,SNR=6.0
MCARA McCarthy VSAT 150.70 299 P PKiKP 04 04 10.4 +0.1
baz=116
H29M Whitestone 150.78 310 P PKiKP 04 04 10.6 +0.3
baz=111
G29M Pine Creek 150.90 311 P PKiKP 04 04 10.6 0.0
baz=110,SNR=14
L27K Beaver Creek, 150.92 303 P PKiKP 04 04 11.2 +0.4
baz=114,SNR=12
I28M Miner Creek 151.10 308 P PKiKP 04 04 11.6 +0.4
baz=112,SNR=6.8
M26K Nabesna, AK 151.13 301 P PKPbc 04 04 11.0 +0.2
baz=115
BMRM Bremner River 151.20 298 P PKPbc 04 04 11.2 +0.3
baz=116
E29M Blow River 151.34 314 P PKiKP 04 04 11.4 -0.1
baz=108
KSRS Korea Array 151.39 132 PKPbc PKiKP 04 04 12.6 +0.1
comp=Z,1.8nm,0.7s,baz=202,slow=2.2,SNR=8.7
K27K Chicken 151.41 305 P PKPbc 04 04 11.1 -0.1
baz=113
N25K Chitina, Valde 151.47 299 P PKPbc 04 04 10.9 -0.7
baz=115
EYAK Cordova Ski Ar 151.51 296 P PKPbc 04 04 11.8 +0.2
baz=116
L26K Log Cabin Wild 151.54 302 P PKiKP 04 04 12.4 +0.3
baz=114
I27K Kandik River 151.81 308 P PKPbc 04 04 11.7 -0.5
baz=110
F28M Old Crow 151.81 312 P PKiKP 04 04 12.6 +0.2
baz=108
D28M Stokes Point 151.91 316 P PKPbc 04 04 12.2 0.0
baz=105
E28M Babbage River 151.98 314 P PKiKP 04 04 13.0 +0.2
baz=106
H27K Steamboat Moun 151.99 309 PKPbc 04 04 12.4 -0.2
H27K Steamboat Moun 151.99 309 P PKiKP 04 04 14.3 +1.4
baz=109
P23K Montague Islan 152.00 295 P PKiKP 04 04 13.7 +0.7
baz=117
KLU Klutina 152.00 298 P PKiKP 04 04 14.2 +1.1
baz=115
HARP HAARP 152.04 300 P PKiKP 04 04 14.3 +1.2
baz=114
SCRK Sand Creek 152.17 304 P PKiKP 04 04 14.3 +0.9
baz=112
J26L Joseph Creek 152.19 305 P PKiKP 04 04 14.5 +1.0
baz=111
G27K Doyon Strip 152.22 310 P PKiKP 04 04 13.9 +0.6
baz=108
GLI Glacier Island 152.25 296 P PKiKP 04 04 14.2 +0.7
baz=115
I26K Coal Creek Min 152.31 307 P PKiKP 04 04 14.6 +1.1
baz=110
M24K Tolsona, Glenn 152.36 299 P PKiKP 04 04 14.5 +0.7
baz=114
PAX Paxson 152.40 301 P PKiKP 04 04 14.8 +0.9
baz=112
RIDG Independent Ri 152.44 303 P PKiKP 04 04 14.9 +1.0
baz=112
E27K Coleen River 152.60 313 P PKiKP 04 04 15.2 +1.1
baz=105
D27M Malcolm River 152.65 316 P PKiKP 04 04 15.1 +0.9
baz=104
SCM Sheep Creek Mo 152.75 298 P PKiKP 04 04 15.3 +0.6
baz=114
PWL Port Wells 152.79 296 P PKiKP 04 04 15.4 +0.7
baz=115
K24K Donnelly Dome 152.84 303 P PKiKP 04 04 15.9 +1.1
baz=111
M23K Glacier View 152.91 298 P PKiKP 04 04 16.0 +1.1
baz=113
J25K Salcha River, 152.96 305 P PKiKP 04 04 16.2 +1.2
baz=110
SEW Seward 152.97 294 P PKiKP 04 04 16.1 +1.1
baz=116
G26K Porcupine Rive 153.07 310 P PKiKP 04 04 16.1 +1.0
baz=106
KNK Knik Glacier 153.07 297 P PKiKP 04 04 15.9 +0.6
baz=114
O22K Cooper Landing 153.25 294 P PKiKP 04 04 16.8 +1.2
baz=115
PRP Porcupine Dome 153.31 307 PKPbc PKiKP 04 04 17.8 +2.0
PRP Porcupine Dome 153.31 307 P PKiKP 04 04 16.4 +0.6
baz=108
KDAK Kodiak Island 153.35 288 P PKiKP 04 04 16.8 +1.0
baz=118
F26K Sheenjek River 153.40 312 P PKiKP 04 04 16.3 +0.5
baz=112
OHAK Old Harbor 153.41 286 P PKiKP 04 04 16.7 +0.7
baz=119
PMR Palmer 153.44 297 P PKiKP 04 04 16.4 +0.5
baz=113
SII Sitkinak Islan 153.50 284 P PKiKP 04 04 17.1 +0.8
baz=120
RC01 Rabbit Creek A 153.51 296 P PKiKP 04 04 17.0 +0.8
baz=114
HDA Harding Lake 153.53 304 P PKiKP 04 04 17.2 +1.1
baz=105
ILAR Eielson Array 153.63 305 PKiKP 04 04 16.7 +0.4
ILAR Eielson Array 153.63 305 PKPbc PKiKP 04 04 17.4 +1.2
comp=Z,3.6nm,0.8s,baz=145,slow=0.5,SNR=33
ILAR Eielson Array 153.63 305 PKiKP PKiKP 04 04 16.7 +0.4
Q20K Shuyak Island 153.65 289 P PKiKP 04 04 17.3 +0.8
baz=117
H25L Birch Creek 153.65 308 P PKiKP 04 04 17.1 +0.9
baz=106
C27K Jago River 153.68 316 P PKiKP 04 04 17.2 +0.9
baz=101
HOM Homer 153.77 292 P PKiKP 04 04 17.6 +0.9
baz=116
MJAR Matsushiro Arr 153.77 149 PKPbc PKiKP 04 04 18.3 +0.8
comp=Z,1.2nm,0.6s,baz=150,slow=2.4,SNR=5.2
CHIR Chirikof Islan 153.82 282 P PKiKP 04 04 17.7 +0.8
baz=121
G25K Bearman Lake 153.90 309 P PKiKP 04 04 18.0 +1.3
baz=105
F25K Christian Rive 153.93 311 P PKiKP 04 04 18.4 +1.5
baz=104
M22K Willow 153.94 297 P PKiKP 04 04 18.6 +1.6
baz=112
POKR Poker Plat Res 153.96 305 P PKiKP 04 04 17.8 +0.8
baz=107
CCB Clear Creek Bu 153.96 304 PKPbc PKiKP 04 04 18.3 +1.4
CAPN Captain Cook N 154.01 294 P PKiKP 04 04 18.3 +1.2
baz=114
E25K Arctic Village 154.03 312 P PKiKP 04 04 18.2 +1.2
baz=103
COLA College 154.05 304 P PKiKP 04 04 18.5 +1.4
baz=108
SUA Susitna One 154.10 296 P PKiKP 04 04 18.8 +1.3
baz=112
R18K Karluk 154.13 286 P PKiKP 04 04 18.7 +1.3
baz=118
MCK McKinley 154.14 302 P PKiKP 04 04 19.3 +1.9
baz=109
C26K Camden Bay 154.15 316 P PKiKP 04 04 18.8 +1.7
baz=99
H24K Noodor Dome 154.34 307 P PKiKP 04 04 18.9 +1.1
baz=106
Q19K Cape Douglas, 154.37 289 P PKiKP 04 04 19.3 +1.3
baz=116
O20K Slope Mountain 154.40 292 P PKiKP 04 04 19.2 +1.1
baz=114
G24K Hadweenzic Riv 154.41 309 P PKiKP 04 04 19.3 +1.5
baz=104
NEA2 Nenana 154.47 303 P PKiKP 04 04 19.5 +1.5
baz=107
P19K Oil Pt 154.50 291 P PKiKP 04 04 19.9 +1.7
baz=115
D25K Kavik River 154.55 315 P PKiKP 04 04 19.5 +1.4
baz=100
TRF Thorofare Moun 154.62 301 P PKiKP 04 04 19.6 +1.1
baz=109
SKT Skwentna 154.65 297 P PKiKP 04 04 20.1 +1.6
baz=111
N20K Mount Spurr 154.66 295 P PKiKP 04 04 20.1 +1.5
baz=112
I23K Minto, Yukon-K 154.75 305 P PKiKP 04 04 20.6 +2.1
baz=106
F24K Squaw Lake 154.75 310 P PKiKP 04 04 20.5 +1.9
baz=102
Q18K Katmai Hardscr 154.89 288 P PKiKP 04 04 20.6 +1.4
baz=116
H23K Yukon River 155.00 306 P PKiKP 04 04 20.9 +1.8
baz=104
R17L Mt. Peulik Vol 155.06 285 P PKPdf 04 04 21.3 +11
baz=118
E24K Your Creek 155.09 312 P PKPdf 04 04 21.3 +11
baz=100
BPAW Bear Paw Mtn. 155.11 302 P PKPdf 04 04 21.8 +11
baz=107
CHNA Chernabura Isl 155.22 277 P PKPab 04 04 36.4 +0.4
baz=122
PPLA Purkeypile 155.25 299 P PKPab 04 04 36.0 -0.2
baz=109
MLY Manley 155.28 304 P PKPab 04 04 36.2 +0.1
baz=105
P18K Big Mountain, 155.31 290 P PKPab 04 04 36.4 0.0
baz=114
M20K Styx River 155.32 296 P PKPab 04 04 36.3 -0.1
baz=110
CAST Castle Rocks 155.37 300 P PKPab 04 04 36.9 +0.4
baz=108
D24K Happy Valley 155.39 314 P PKPab 04 04 36.3 -0.1
baz=98
G23K Bananza Creek 155.40 308 P PKPab 04 04 36.7 +0.1
baz=102
CHGN Chignik 155.41 281 P PKPab 04 04 36.5 -0.3
baz=120
C24K Franklin Bluff 155.42 315 P PKPab 04 04 36.3 -0.2
baz=97
O18K Koktuh Hills 155.49 291 P PKPab 04 04 36.5 -0.6
baz=114
E23K Chandalar 155.50 311 P PKPab 04 04 37.1 0.0
baz=100
N19K Bonanza Creek 155.53 293 P PKPab 04 04 36.8 -0.6
baz=112
COLD Coldfoot 155.57 309 P PKPab 04 04 37.3 0.0
baz=101
TOLK Toolik Lake Re 155.58 313 P PKPab 04 04 36.5 -0.8
baz=98
CHUM Lake Minchumin 155.61 301 P PKPab 04 04 37.7 +0.2
baz=107
R16K Pilot Point 155.61 284 P PKPab 04 04 37.9 +0.3
baz=117
Q16K King Salmon 155.67 287 P PKPab 04 04 39.6 +1.8
baz=116
H22K Ishtalitna Cre 155.75 306 P PKPab 04 04 39.6 +1.5
baz=103
P17K Kvichak River 155.79 288 P PKPab 04 04 39.8 +1.4
baz=114
I21K Tanana 155.82 304 P PKPab 04 04 38.8 +0.4
baz=104
CN2 Changchun 155.83 121 ePKP PKPdf 04 04 07.5 -4.6
L20K Farewell, AK 155.85 297 P PKPab 04 04 39.2 +0.5
baz=109
M19K Big River Lodg 155.88 296 P PKPab 04 04 40.0 +1.2
baz=110
SDPT Sand Point 155.93 278 P PKPab 04 04 40.2 +1.1
baz=121
S14K Fog Glacier 155.95 280 P PKPab 04 04 40.4 +1.1
baz=119
G22K Bettles 156.01 308 P PKPab 04 04 41.1 +1.9
baz=101
D23K Nanushuk River 156.02 313 P PKPab 04 04 41.1 +1.9
baz=97
C23K Itkillik River 156.09 316 P PKPab 04 04 41.5 +2.1
baz=95
N18K Kilae Creek 156.12 292 P PKPab 04 04 41.5 +1.6
baz=112
L19K White Mountain 156.18 296 P PKPab 04 04 41.6 +1.6
baz=109
K20K Telida 156.21 299 P PKPab 04 04 41.1 +1.0
baz=107
H21K Melozitna Rive 156.27 305 P PKPab 04 04 41.4 +1.1
baz=102
E22K Anaktuvuk Pass 156.33 311 P PKPab 04 04 41.5 +0.9
baz=98
O17K Koliganek Bris 156.33 289 P PKPab 04 04 41.5 +0.8
baz=113
F22K John River 156.37 310 P PKPab 04 04 41.9 +1.1
baz=99
M18K Stony River 156.38 294 P PKPab 04 04 42.1 +1.3
baz=110
P16K Nushagak River 156.45 287 P PKPab 04 04 42.2 +1.0
baz=114
J20K Nowitna River 156.47 301 P PKPab 04 04 42.5 +1.3
baz=105
N17K Nushagak Hills 156.66 291 P PKPab 04 04 42.5 +0.4
baz=111
G21K Allakaket 156.72 307 P PKPab 04 04 42.8 +0.5
baz=100
O16K Kokwok River B 156.73 289 P PKPab 04 04 43.1 +0.8
baz=113
D22K Ayikyak River 156.74 313 P PKPab 04 04 42.7 +0.4
baz=95
I20K Naaghedeneel 156.76 302 P PKPab 04 04 44.0 +1.6
baz=103
F21K Alatna River 156.83 309 P PKPab 04 04 43.6 +0.9
baz=98
S12K Black Hills 156.89 277 P PKPab 04 04 43.0 -0.2
baz=120
L18K Granite Mounta 157.01 295 P PKPab 04 04 44.1 +0.5
baz=108
J19K Poorman 157.04 300 P PKPab 04 04 43.6 0.0
baz=104
H20K Anotleneega Mo 157.08 304 P PKPab 04 04 44.5 +0.7
baz=101
B22K Teshekpuk Lake 157.08 317 P PKPab 04 04 44.5 +0.8
baz=91
M17K Holitna River 157.08 293 P PKPab 04 04 45.2 +1.3
baz=109
E21K Killik River 157.16 312 P PKPab 04 04 45.2 +1.1
baz=95
O15K Ungalikthiuk R 157.38 287 P PKPab 04 04 46.0 +0.8
baz=113
J18K Innoko River 157.38 298 P PKPab 04 04 45.9 +0.7
baz=105
B21K Ikpikpuk River 157.47 315 P PKPab 04 04 46.1 +0.8
baz=92
C21K Knifeblade Rid 157.51 314 P PKPab 04 04 46.8 +1.3
baz=93
A22K Sinclair Lake 157.60 318 P PKPab 04 04 47.0 +1.2
baz=88
M16K Timber Creek 157.65 292 P PKPab 04 04 48.2 +1.8
baz=109
F20K Avaraart Lake 157.67 308 P PKPab 04 04 47.1 +0.9
baz=97
L17K Donlin 157.70 295 P PKPab 04 04 48.1 +1.6
baz=107
H19K Roundabout Mou 157.73 304 P PKPab 04 04 48.0 +1.5
baz=100
K17K Iditarod 157.87 296 P PKPab 04 04 48.8 +1.5
baz=106
N15K Kwethluk River 157.88 289 P PKPab 04 04 48.8 +1.4
baz=111
E20K Nigu River 157.97 311 P PKPab 04 04 48.8 +1.1
baz=94
G19K Purcell Mounta 158.09 305 P PKPab 04 04 48.8 +0.7
baz=98
O14K Tigyukauivet M 158.09 286 P PKPab 04 04 49.1 +0.8
baz=112
UNV Unalaska Valle 158.09 270 P PKPab 04 04 49.6 +1.2
baz=124
L16K Owhat River 158.11 293 P PKPab 04 04 49.5 +1.2
baz=108
A21K Barrow 158.11 319 P PKPab 04 04 48.9 +0.9
baz=86
D20K Etivluk River 158.15 312 P PKPab 04 04 49.4 +1.1
baz=92
E19K Redstone River 158.30 309 P PKPab 04 04 49.4 +0.4
baz=95
M15K Kasigluk River 158.34 290 P PKPab 04 04 50.3 +0.9
baz=109
B20K Meade River 158.36 316 P PKPab 04 04 50.2 +1.1
baz=88
J17K VABM Dome 158.39 298 P PKPab 04 04 49.9 +0.4
baz=104
H18K Honhosa River 158.45 302 P PKPab 04 04 50.3 +0.5
baz=100
N14K Kuskokwak Cree 158.54 288 P PKPab 04 04 51.8 +1.6
baz=111
G18K Tagagawik 158.69 304 P PKPab 04 04 51.7 +0.9
baz=98
D19K Kuna River 158.69 312 P PKPab 04 04 52.0 +1.3
baz=91
NIKH Nikolski High 158.75 265 P PKPab 04 04 51.9 +0.6
baz=126
M14K Bethel 158.95 290 P PKPab 04 04 52.7 +0.7
baz=109
L15K Ungalak Mounta 159.01 292 P PKPab 04 04 52.2 0.0
baz=107
J16K Anvik River 159.03 297 P PKPab 04 04 52.1 -0.2
baz=103
H17K Granite Mounta 159.06 302 P PKPab 04 04 52.6 +0.2
baz=99
F18K Selawik 159.17 306 P PKPab 04 04 53.2 +0.4
baz=95
I17K Unalakleet 159.20 298 P PKPab 04 04 53.2 +0.2
baz=101
K15K Wolf Creek Mou 159.20 294 P PKPab 04 04 53.7 +0.6
baz=105
C19K Lookout Ridge 159.23 313 P PKPab 04 04 53.0 -0.1
baz=88
G17K Kiwalik Mounta 159.45 303 P PKPab 04 04 54.9 +0.8
baz=97
L14K Kuka Creek 159.46 291 P PKPab 04 04 54.9 +0.7
baz=107
M13K Dall Lake 159.49 288 P PKPab 04 04 55.0 +0.7
baz=109
E18K Tukpahlearik C 159.59 309 P PKPab 04 04 55.8 +1.2

baz=92
A19K **Wainwright** 159.68 317 P PKPab 04 04 56.0 +1.1
baz=84
C18K **Utukok River** 159.82 312 P PKPab 04 04 56.8 +1.2
baz=88
H16K **Elim** 160.00 300 P PKPab 04 04 58.1 +1.6
baz=98
B18K **Kokolik River** 160.01 314 P PKPab 04 04 57.3 +0.9
baz=86
E17K **Hotham Inlet** 160.06 307 P PKPab 04 04 58.0 +1.4
baz=92
J14K **Nanvaranak Lak** 160.22 294 P PKPab 04 04 58.6 +1.1
baz=103
K13K **Kusilvak Mount** 160.53 292 P PKPab 04 04 59.0 +0.2
baz=104
D17K **Noatak River** 160.55 309 P PKPab 04 04 58.7 -0.1
baz=89
C17K **DeLong Mountai** 160.56 312 P PKPab 04 04 59.3 +0.4
baz=87
G15K **Niukluk** 160.81 301 P PKPab 04 05 00.2 +0.3
baz=96
M11K **Mekoryuk** 160.82 287 P PKPab 04 05 00.9 +0.8
baz=108

TAP 19 03:48:00.5, 23.74N×121.50E, h8km, ML2.2, 2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.05**	**126**	*e*P	Pg	03 48 02.9	+0.6
TEGC				*i* S	Sg	03 48 04.2	+0.7
SHUL	**Shoufeng**	**0.08**	**52**	*i* P	Pg	03 48 03.3	+0.7
SHUL				*i* S	Sg	03 48 05.1	+1.0
EGFH	**Guangfu**	**0.09**	**222**	P	Pg	03 48 03.4	+0.6
EGFH				S	Sg	03 48 05.1	+0.7
ESL	**Shilin**	**0.09**	**323**	⇓*i* P	Pg	03 48 03.5	+0.6
ESL				*i* S	Sg	03 48 05.5	+1.0
WARBT	**Fenglin Townsh**	**0.10**	**258**	⇓*i* P	Pg	03 48 03.6	+0.7
WARBT				S	Sg	03 48 05.5	+0.8
TEYL	**Yanliau Villag**	**0.16**	**36**	P	Pg	03 48 05.8	+1.9
TEYL				S	Sg	03 48 09.9	+3.7
ETM	**Tongmen**	**0.23**	**359**	*i* P	Pg	03 48 05.8	+0.7
ETM				S	Sg	03 48 08.8	+0.7
HGSD	**Ruisui**	**0.25**	**195**	P	Pb	03 48 07.6	+0.3
EHYH	**Wanrong**	**0.28**	**209**	*e*P	Pb	03 48 07.4	-0.3
EHY	**Hungye**	**0.28**	**214**	*i* P	Pb	03 48 07.1	-0.6
VWDT	**VWDT**	**0.33**	**273**	P	Pb	03 48 08.4	-0.1
TWD	**Chiawan**	**0.35**	**15**	*e*P	Pg	03 48 08.2	+0.7
TWD				*e*S	Sg	03 48 13.3	+1.2
OWD	**Renai**	**0.36**	**306**	*i* P	Pb	03 48 08.8	-0.5
OWD				*i* S	Sg	03 48 13.8	+1.3
YULB	**Yu-li**	**0.39**	**208**	*e*P	Pb	03 48 09.5	-0.1
YULB				*e*S	Sb	03 48 15.2	-0.6
EYUL	**Yuli**	**0.42**	**203**	*e*P	Pg	03 48 08.8	+0.1
ECBN	**Changbin**	**0.42**	**185**	S	Sb	03 48 16.2	-0.5
TWF1	**Yuli**	**0.43**	**205**	*e*P	Pb	03 48 10.1	-0.1
WUSB	**Renai**	**0.43**	**306**	*i* P	Pb	03 48 10.3	-0.1
NACB	**Ninganchiao**	**0.44**	**12**	*e*P	Pg	03 48 09.6	+0.5
WHF	**Hehuan Shan**	**0.46**	**333**	P	Pb	03 48 10.3	-0.7
ETLH	**Xiulin Townshi**	**0.47**	**359**	*e*P	Pg	03 48 10.2	+0.6
ETLH				*e*S	Sg	03 48 16.6	+0.8
YHNB	**Yeheng**	**0.93**	**353**	*e*P	Pn	03 48 19.6	-0.4

*ISN **19** 04:00:21.1±0.4, 32.°93N×46.°28E, h8km±1km, ML2.7*
*TEH **19** 04:00:22.5, 32.°96N×46.°28E, h9km*
ISC 19 04:00:20.4±2.2, 32.°8N±0.°1×46.°31E±0.°05, h13km, n12, σ1°24/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.44**	**314**	*e*Pg	**Pg**	**04 00 28.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**04 00 33.0**	**-2.2**
IBDR				AML	AML	04 00 37.2	
	comp=N,445nm,0.3s						
IBDR				AML	AML	04 00 38.0	
	comp=E,464nm,0.6s						
ILBA	**Ilam Banvizeh**	**0.83**	**354**	Pg	**Pg**	**04 00 35.6**	**-0.9**
GLG1	**Gilan-e-Gharb**	**1.35**	**346**	Pg	**Pg**	**04 00 46.3**	**-0.1**
GLG1				Sg	**Sg**	**04 01 03.6**	**-0.5**
IGHG	**Ghaleghazi**	**1.54**	**8**	Pg	**Pg**	**04 00 50.8**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.59**	**22**	Pg	**Pg**	**04 00 51.3**	**+0.3**
BHD	**Baghdad**	**1.69**	**287**	*e*Pn	**Pb**	**04 00 52.0**	**+0.7**
BHD				*e*Sn	**Sg**	**04 01 14.2**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**1.80**	**341**	Pg	**Pg**	**04 00 54.8**	**-0.3**
IDHR	**Dehrash**	**1.90**	**2**	Pg	**Pg**	**04 00 55.8**	**-1.1**
IBZA	**Bozab**	**2.11**	**37**	Pn	**Pb**	**04 00 59.8**	**+1.2**
SNQR	**Sonqor, Kerman**	**2.33**	**28**	Pn	**Pb**	**04 01 02.8**	**+0.4**
IKRK	**Kirkuk**	**3.06**	**328**	*e*Pn	**Pn**	**04 01 10.0**	**+1.4**
IKRK				*e*Sn	**Sn**	**04 01 46.0**	**+0.9**
IKRK				AML	AML	04 01 51.6	
	comp=N,69nm,0.3s						
IKRK				AML	AML	04 02 08.7	
	comp=E,70nm,0.5s						
HAGD	**Aghdareh**	**3.10**	**49**	Pn	**Pb**	**04 01 13.2**	**-2.4**

*DJA **19** 04:00:27.2±0.2, 8.°S±3.°×107.°8E±.°, h81km±5km, M4.6/23, mB6.3/3, mb4.8/8, MLv4.4/23, Mw(mB)6.0/3, MwMwp8.8/1, Mwp8.2/1*
*IDC **19** 04:00:29.6±1.0, 7.°62S×108.°24E, h130km±9km, mb3.5/4, mbtmp3.9/5, Error ellipse: s-maj=58.5km s-min=17.8km az=55.0*
ISC 19 04:00:27.3±0.9, 7.°9S±0.°1×108.°12E±0.°05, h113km±8km, n32, σ1°06/44, mb3.7/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**0.99**	**54**	P	**Pn**	**04 00 47.9**	**-0.8**
KPJI				S	**Sn**	**04 01 04.6**	**-0.2**
CNJI	**Cibinong**	**1.15**	**302**	P	**Pn**	**04 00 49.8**	**-0.5**
CNJI				S	**Sn**	**04 01 06.2**	**-1.5**
LEM	**Lembang**	**1.19**	**335**	P	**Pn**	**04 00 51.7**	**+0.7**
	150nm,0.4s,baz=97,slow=18,SNR=12						
LEM				S	**Sn**	**04 01 10.8**	**+2.0**
	484nm,0.6s,baz=356,slow=21,SNR=6.6						
LEM	**Lembang**	**1.19**	**335**	P	**Pn**	**04 00 51.4**	**+0.4**
LEM				S	**Sn**	**04 01 09.2**	**+0.4**
SKJI	**Sukabumi**	**1.79**	**300**	P	**Pn**	**04 00 58.6**	**+0.7**
SKJI				S	**Sn**	**04 01 21.4**	**+0.2**
DBJI	**Dramaga**	**1.92**	**315**	P	**Pn**	**04 00 59.8**	**+0.4**
DBJI				S	**Sn**	**04 01 25.0**	**+1.1**
UGM	**Wanagama**	**2.38**	**90**	P	**Pn**	**04 01 04.9**	**-0.5**
UGM				S	**Sn**	**04 01 33.8**	**-0.8**
SMRI	**Semarang**	**2.46**	**70**	P	**Pn**	**04 01 06.9**	**+0.5**
SMRI				S	**Sn**	**04 01 37.7**	**+1.4**
CGJI	**Cibinong**	**2.73**	**298**	P	**Pn**	**04 01 09.8**	**-0.1**
WOJI	**Wonogiri, Jawa**	**2.78**	**89**	P	**Pn**	**04 01 10.4**	**-0.1**
WOJI				S	**Sn**	**04 01 43.0**	**-0.8**
PCJI	**Pacitan**	**3.04**	**95**	P	**Pn**	**04 01 14.1**	**+0.1**
PCJI				S	**Sn**	**04 01 49.0**	**-0.9**
NGJI	**Ngawi**	**3.36**	**81**	P	**Pn**	**04 01 19.8**	**+1.6**
NGJI				S	**Sn**	**04 01 58.7**	**+1.2**
TBJI	**Tambak Boyo**	**3.86**	**74**	P	**Pn**	**04 01 25.0**	**+0.2**
TBJI				S	**Sn**	**04 02 10.6**	**+1.2**
KASI	**Kota Agung**	**4.31**	**303**	P	**Pn**	**04 01 32.5**	**+1.6**
GRJI	**Gresik**	**4.44**	**77**	P	**Pn**	**04 01 32.2**	**-0.5**
GRJI				S	**Sn**	**04 02 23.9**	**+0.5**
MDSI	**Maura Dua**	**5.19**	**311**	P	**Pn**	**04 01 43.1**	**+0.3**
GMJI	**Gumukmas**	**5.29**	**94**	P	**Pn**	**04 01 44.4**	**+0.3**
	0.2nm43nm,0.9s						
GMJI				S	**Sn**	**04 02 44.6**	**+0.7**
	0.2nm43nm,0.9s						
JAGI	**Jajag, Banyuwa**	**6.00**	**96**	P	**Pn**	**04 01 55.0**	**+1.3**
	0.4nm76nm,0.7s						
MNAI	**Manna**	**6.23**	**304**	P	**Pn**	**04 01 57.4**	**+0.5**
	363nm,1.2s						
SRBI	**Singaraja**	**7.03**	**92**	P	**Pn**	**04 02 08.7**	**+1.0**
	0.4nm58nm,1.2s						
TWSI	**Taliwang, Sumb**	**8.71**	**96**	P	**Pn**	**04 02 29.6**	**-0.9**
	42nm,0.6s						
PPSI	**Pulau Pagai**	**9.56**	**302**	P	**Pn**	**04 02 43.4**	**+1.4**
PLAI	**Plampang**	**9.60**	**96**	P	**Pn**	**04 02 41.9**	**-0.7**
	77µm101nm,1.6s						
FITZ	**Fitzroy Crossi**	**19.83**	**122**	P	**Pn**	**04 04 50.9**	**-1.1**
	2.6nm,0.8s,baz=287,slow=7.8,SNR=8.4						
H08S2	**Diego Garcia H**	**35.29**	**268**	T	T	04 44 53.5	
	baz=94,slow=74						
H08S3	**Diego Garcia H**	**35.30**	**268**	T	T	04 44 54.3	
	baz=94,slow=74						
H08S1	**Diego Carcia H**	**35.31**	**268**	T	T	04 44 49.7	
	baz=94						
STKA	**Stephens Creek**	**39.21**	**132**	P	**P**	**04 07 46.3**	**+1.7**
	4.2nm,0.5s,baz=301,slow=10,SNR=9.2						
	4.2nm,0.5s						
SONM	**Songino Array**	**55.53**	**359**	P	**P**	**04 09 49.2**	**-1.7**
	0.5nm,0.5s,baz=173,slow=5.8,SNR=2.8						
SONM				PcP	**PcP**	**04 10 48.4**	**-1.1**
	0.7nm,0.3s,baz=174,slow=5.7,SNR=4.0						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.69**	**339**	P	**P**	**04 10 44.7**	**-1.9**
	0.3nm,0.4s,baz=152,slow=6.2,SNR=3.4						
KURBB				PcP	**PcP**	**04 11 21.8**	**-0.1**
	0.6nm,0.4s,baz=151,slow=3.7,SNR=5.7						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**82.08**	**180**	P	**P**	**04 12 37.0**	**+1.9**
	1.0nm,0.9s,baz=0.0,slow=2.0,SNR=2.1						
	1.0nm,0.9s						
TXAR	**Lajitas Array**	**143.32**	**50**	PKP	PKPbc	04 19 47.6	+1.0
	0.2nm,0.4s,baz=299,slow=1.8,SNR=10						

*IDC **19** 04:47:40.8±0.7, 62.°45N×175.°54E, h0km, mb3.9/19, mbtmp3.9/23, ML3.4/3, MS3.7/47, Error ellipse: s-maj=20.7km s-min=13.3km az=3.0*
*MOS **19** 04:47:41.7±1.7, 62.°40N×175.°66E, h12km, mb4.8/11, Error ellipse: s-maj=15.1km s-min=8.5km az=90.7*
*NERS **19** 04:47:41.8, 62.°54N×175.°69E, h0km*
*NEIC **19** 04:47:42.5±1.8, 62.°4N±0.°1×175.°5E±0.°1, h10km±1km, mb4.2/59, Error ellipse: s-maj=17.7km s-min=11.6km az=187.0*
ISC 19 04:47:42.9±0.4, 62.°43N±0.°05×175.°71E±0.°04, h10km, n430, σ1°10/397, mb4.2/41, MS3.8/44, 5C-8D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDR	**Anadyr'**	**2.45**	**18**	*e*P	**Pn**	**04 48 22.4**	**-0.5**
ANDR				*e*Pg	**Pb**	**04 48 24.1**	**-2.9**
ANDR				Pgmax		04 48 27.3	
	2µm,0.7s						
ANDR				*e*Sg	**Sb**	**04 48 56.7**	**-0.5**
ANDR				Sgmax		04 49 03.3	
	4µm,0.6s						
ANDR	**Anadyr'**	**2.45**	**18**	*e*P	**Pn**	**04 48 22.4**	**-0.5**
ANDR				*e*S	**Sb**	**04 48 56.7**	**-0.5**
PVDR	**Provideniya**	**5.36**	**63**	Pgmax		04 48 34.5	
	60nm,0.4s						
PVDR				*e*P	Pg	04 49 33.0	+7.5
PVDR				*e*S	Sg	04 51 01.3	+26
PVDR				Sgmax		04 51 23.1	
	170nm,1.0s						
GAMB	**Gambell**	**5.87**	**71**	Pn	**Pn**	**04 49 09.1**	**-0.8**
GAMB	**Gambell**	**5.87**	**71**	P	**Pn**	**04 49 10.1**	**+0.2**
	baz=262						
BILL	**Bilibino**	**6.88**	**329**	*e*P	**Pn**	**04 49 25.3**	**+1.6**
BILL				*e*S	Sb	04 50 56.6	-7.9
BILL				*e*Sg	Sg	04 51 17.0	-6.5
BILL				Sgmax		04 51 26.1	
	70nm,1.0s						
BILL	**Bilibino**	**6.88**	**329**	⇓*e*P	**Pn**	**04 49 24.4**	**+0.7**
TNA	**Tin City**	**7.84**	**59**	Pn	**Pn**	**04 49 36.5**	**-0.4**
TNA	**Tin City**	**7.84**	**59**	P	**Pn**	**04 49 36.8**	**-0.1**
	baz=254						
F14K	**Arctic Creek**	**8.47**	**61**	P	**Pn**	**04 49 45.0**	**-0.4**
	baz=257						
ANM	**Nome**	**8.72**	**67**	Pn	**Pn**	**04 49 49.1**	**+0.2**
ANM	**Nome**	**8.72**	**67**	P	**Pn**	**04 49 49.1**	**+0.2**
ANM	**Nome**	**8.72**	**67**	P	**Pn**	**04 49 49.6**	**+0.7**
	baz=265						
SPIA	**Saint Paul Isl**	**8.81**	**120**	P	**Pn**	**04 49 49.2**	**-1.0**
	baz=312						
M11K	**Mekoryuk**	**8.91**	**95**	Pn	**Pn**	**04 49 52.7**	**+1.3**
M11K	**Mekoryuk**	**8.91**	**95**	P	**Pn**	**04 49 51.2**	**-0.3**
	baz=291						
K13K	**Kusilvak Mount**	**9.19**	**84**	Pn	**Pn**	**04 49 55.4**	**+0.1**
K13K	**Kusilvak Mount**	**9.19**	**84**	P	**Pn**	**04 49 55.6**	**+0.2**
	baz=282						
F15K	**North Star Dit**	**9.20**	**60**	Pn	**Pn**	**04 49 55.4**	**0.0**
F15K	**North Star Dit**	**9.20**	**60**	P	**Pn**	**04 49 56.4**	**+0.9**
	baz=258						
G15K	**Niukluk**	**9.34**	**65**	P	**Pn**	**04 49 58.1**	**+0.8**
	baz=264						
J14K	**Nanvaranak Lak**	**9.56**	**79**	Pn	**Pn**	**04 49 59.6**	**-0.8**
J14K	**Nanaranak Lak**	**9.56**	**79**	P	**Pn**	**04 50 00.7**	**+0.2**
	baz=277						
SHEM	**Shemya Is, Ala**	**9.76**	**186**	LR	LR	04 53 54.9	
	comp=Z,330nm,20.9s,baz=80,slow=38						
C16K	**Lisburne Hills**	**9.82**	**45**	Pn	**Pn**	**04 50 03.7**	**-0.2**
C16K	**Lisburne Hills**	**9.82**	**45**	P	**Pn**	**04 50 04.1**	**+0.2**
	baz=243						
H16K	**Elim**	**10.07**	**68**	P	**Pn**	**04 50 08.4**	**+1.0**
	baz=268						
M13K	**Dall Lake**	**10.22**	**92**	Pn	**Pn**	**04 50 08.2**	**-1.2**
M13K	**Dall Lake**	**10.22**	**92**	P	**Pn**	**04 50 09.4**	**0.0**
	baz=290						
L14K	**Kuka Creek**	**10.25**	**86**	Pn	**Pn**	**04 50 10.8**	**+1.0**
L14K	**Kuka Creek**	**10.25**	**86**	P	**Pn**	**04 50 10.2**	**+0.4**
	baz=286,SNR=9.0						
D17K	**Noatak River**	**10.36**	**50**	P	**Pn**	**04 50 11.3**	**0.0**
	baz=250						
RDOG	**Red Dog Mine**	**10.55**	**48**	Pn	**Pn**	**04 50 14.5**	**+0.5**
K15K	**Wolf Creek Mou**	**10.56**	**81**	Pn	**Pn**	**04 50 14.1**	**0.0**
K15K	**Wolf Creek Mou**	**10.56**	**81**	P	**Pn**	**04 50 14.6**	**+0.5**
	baz=281						
C17K	**DeLong Mountai**	**10.63**	**46**	P	**Pn**	**04 50 15.5**	**+0.5**
	baz=246						
E17K	**Hotham Inlet**	**10.63**	**54**	P	**Pn**	**04 50 16.1**	**+1.0**
	baz=255						
L15K	**Ungalak Mounta**	**10.71**	**84**	P	**Pn**	**04 50 16.4**	**+0.2**
	baz=284						
SEY	**Seymchan**	**10.71**	**283**	Pn	**Pn**	**04 50 17.1**	**+0.9**
	0.1nm,0.3s,baz=94,slow=12,SNR=9.7						
SEY				Sn	**Sn**	**04 52 13.1**	**-3.0**
	baz=250,slow=20						
SEY				Lg	Lg	04 53 07.5	
	0.2nm,0.3s,baz=307,slow=20,SNR=3.9						
SEY				LR	LR	04 54 36.1	
	comp=Z,578nm,18.9s,baz=84,slow=39						
	4.2nm,0.8s						
SEY	**Seymchan**	**10.71**	**283**	*e*P	**Pn**	**04 50 18.8**	**+2.6**
SEY				Pmax		04 50 19.8	
	4.0nm,0.8s						
SEY				Sgmax		04 53 21.5	
	20nm,1.0s						
SEY				*e*Sg		04 53 21.6	
SEY	**Seymchan**	**10.71**	**283**	⇓*e*P	**Pn**	**04 50 17.5**	**+1.3**
I17K	**Unalakleet**	**10.75**	**72**	Pn	**Pn**	**04 50 15.6**	**-1.0**
I17K	**Unalakleet**	**10.75**	**72**	P	**Pn**	**04 50 17.9**	**+1.2**
	baz=273						
M14K	**Bethel**	**10.76**	**89**	Pn	**Pn**	**04 50 17.1**	**+0.3**
M14K	**Bethel**	**10.76**	**89**	P	**Pn**	**04 50 17.4**	**+0.6**
	baz=289						
G17K	**Kiwalik Mounta**	**10.81**	**63**	P	**Pn**	**04 50 18.7**	**+1.2**
	baz=265						
J16K	**Anvik River**	**10.84**	**75**	Pn	**Pn**	**04 50 17.2**	**-0.7**
J16K	**Anvik River**	**10.84**	**75**	P	**Pn**	**04 50 18.6**	**+0.7**
	baz=276						
H17K	**Granite Mounta**	**11.08**	**66**	Pn	**Pn**	**04 50 21.5**	**+0.3**
H17K	**Granite Mounta**	**11.08**	**66**	P	**Pn**	**04 50 21.5**	**+0.3**
	baz=268						
N14K	**Kuskokwak Cree**	**11.18**	**93**	P	**Pn**	**04 50 22.3**	**-0.2**
	baz=293						
E18K	**Tukpahlearik C**	**11.18**	**53**	Pn	**Pn**	**04 50 22.9**	**+0.4**
E18K	**Tukpahlearik C**	**11.18**	**53**	P	**Pn**	**04 50 23.5**	**+0.9**
	baz=255						
F18K	**Selawik**	**11.36**	**58**	P	**Pn**	**04 50 25.4**	**+0.4**
	baz=260						
C18K	**Utukok River**	**11.36**	**47**	Pn	**Pn**	**04 50 25.7**	**+0.6**
C18K	**Utukok River**	**11.36**	**47**	P	**Pn**	**04 50 25.9**	**+0.8**
	baz=248						
M15K	**Kasigluk River**	**11.37**	**88**	P	**Pn**	**04 50 25.3**	**+0.2**
	baz=289						
B18K	**Kokolik River**	**11.46**	**43**	P	**Pn**	**04 50 27.0**	**+0.7**
	baz=244						
J17K	**VABM Dome**	**11.51**	**74**	Pn	**Pn**	**04 50 27.3**	**+0.2**
J17K	**VABM Dome**	**11.51**	**74**	P	**Pn**	**04 50 27.8**	**+0.8**
	baz=277						
ATKA	**Atka Island**	**11.59**	**148**	Pn	**Pn**	**04 50 26.1**	**-2.1**
L16K	**Owhat River**	**11.64**	**82**	Pn	**Pn**	**04 50 29.6**	**+0.8**
L16K	**Owhat River**	**11.64**	**82**	P	**Pn**	**04 50 29.4**	**+0.6**
	baz=284						
O14K	**Tigyukauivet M**	**11.65**	**95**	P	**Pn**	**04 50 28.4**	**-0.6**
	baz=296						
G18K	**Tagagawik**	**11.67**	**61**	Pn	**Pn**	**04 50 28.7**	**-0.6**
G18K	**Tagagawik**	**11.67**	**61**	P	**Pn**	**04 50 30.0**	**+0.8**
	baz=265						
H18K	**Honhosa River**	**11.74**	**65**	Pn	**Pn**	**04 50 30.4**	**+0.2**
	baz=269						
H18K	**Honhosa River**	**11.74**	**65**	P	**Pn**	**04 50 30.8**	**+0.5**
	baz=269						
N15K	**Kwethluk River**	**11.83**	**90**	Pn	**Pn**	**04 50 34.5**	**+3.0**
N15K	**Kwethluk River**	**11.83**	**90**	P	**Pn**	**04 50 31.1**	**-0.3**
	baz=291						
K17K	**Iditarod**	**11.96**	**77**	Pn	**Pn**	**04 50 33.6**	**+0.5**
K17K	**Iditarod**	**11.96**	**77**	P	**Pn**	**04 50 33.4**	**+0.2**
	baz=280						
M16K	**Timber Creek**	**12.07**	**85**	Pn	**Pn**	**04 50 36.7**	**+2.0**
M16K	**Timber Creek**	**12.07**	**85**	P	**Pn**	**04 50 35.2**	**+0.5**
	baz=288						
C19K	**Lookout Ridge**	**12.07**	**46**	Pn	**Pn**	**04 50 35.9**	**+1.0**
C19K	**Lookout Ridge**	**12.07**	**46**	P	**Pn**	**04 50 35.3**	**+0.5**
	baz=249						
A19K	**Wainwright**	**12.08**	**40**	P	**Pn**	**04 50 34.5**	**-0.2**
	baz=242						
L17K	**Donlin**	**12.08**	**80**	P	**Pn**	**04 50 34.6**	**-0.2**
	baz=283						
F19K	**Shaleruckik Mo**	**12.14**	**57**	Pn	**Pn**	**04 50 36.2**	**+0.6**
F19K	**Shaleruckik Mo**	**12.14**	**57**	P	**Pn**	**04 50 36.8**	**+1.2**
	baz=261						
G19K	**Purcell Mounta**	**12.33**	**61**	Pn	**Pn**	**04 50 38.5**	**+0.3**
G19K	**Purcell Mounta**	**12.33**	**61**	P	**Pn**	**04 50 39.3**	**+1.1**
	baz=265						
N16K	**Nishlik Lake**	**12.33**	**88**	P	**Pn**	**04 50 38.9**	**+0.6**
	baz=290						
O15K	**Ungalikthiuk R**	**12.35**	**94**	P	**Pn**	**04 50 38.5**	**-0.1**
	baz=296						
GCSA	**Galena City Sc**	**12.38**	**67**	P	**Pn**	**04 50 39.8**	**+1.0**
	baz=272						
D19K	**Kuna River**	**12.38**	**49**	Pn	**Pn**	**04 50 39.1**	**+0.2**
D19K	**Kuna River**	**12.38**	**49**	P	**Pn**	**04 50 39.3**	**+0.3**
	baz=254						
MA2	**Magadan**	**12.40**	**268**	LR	LR	04 55 24.4	
	comp=Z,316nm,19.4s,baz=83,slow=38						
E19K	**Redstone River**	**12.45**	**54**	Pn	**Pn**	**04 50 41.9**	**+1.9**
E19K	**Redstone River**	**12.45**	**54**	P	**Pn**	**04 50 41.3**	**+1.4**
	baz=259,SNR=8.5						
J18K	**Innoko River**	**12.55**	**73**	P	**Pn**	**04 50 42.5**	**+1.1**
	baz=278,SNR=6.6						
H19K	**Roundabout Mou**	**12.56**	**63**	Pn	**Pn**	**04 50 40.8**	**-0.5**
H19K	**Roundabout Mou**	**12.56**	**63**	P	**Pn**	**04 50 42.9**	**+1.5**
	baz=269,SNR=9.7						
M17K	**Holitna River**	**12.66**	**83**	P	**Pn**	**04 50 43.6**	**+0.8**
	baz=286						
L18K	**Granite Mounta**	**12.79**	**79**	P	**Pn**	**04 50 45.8**	**+1.2**
	baz=283						
F20K	**Avaraart Lake**	**12.97**	**57**	P	**Pn**	**04 50 47.5**	**+0.6**
	baz=263						
D20K	**Etivluk River**	**12.97**	**49**	P	**Pn**	**04 50 48.3**	**+1.3**
	baz=255						
J19K	**Poorman**	**12.97**	**70**	P	**Pn**	**04 50 48.5**	**+1.4**
	baz=276						
O16K	**Kokwok River B**	**12.98**	**91**	P	**Pn**	**04 50 47.7**	**+0.6**
	baz=294						
E20K	**Nigu River**	**13.01**	**51**	P	**Pn**	**04 50 48.7**	**+1.1**
	baz=257						
N17K	**Nushagak Hills**	**13.05**	**86**	P	**Pn**	**04 50 48.8**	**+0.7**
	baz=290						
B20K	**Meade River**	**13.20**	**43**	P	**Pn**	**04 50 50.9**	**+0.8**
	baz=249						
H20K	**Anotleneega Mo**	**13.21**	**64**	P	**Pn**	**04 50 51.4**	**+1.1**
	baz=270,SNR=9.1						
S12K	**Black Hills**	**13.22**	**111**	P	**Pn**	**04 50 51.4**	**+0.9**
	baz=309						
P16K	**Nushagak River**	**13.27**	**93**	P	**Pn**	**04 50 51.3**	**+0.3**
	baz=296						
PETK	**Petropavlovsk-**	**13.35**	**234**	Pn	**Pn**	**04 50 51.8**	**-0.4**
	1.1nm,0.9s,baz=55,slow=10,SNR=1.5						
O17K	**Koliganek Bris**	**13.37**	**89**	P	**Pn**	**04 50 52.5**	**+0.1**
	baz=293						
M18K	**Stony River**	**13.38**	**81**	P	**Pn**	**04 50 53.0**	**+0.5**
	baz=286						
I20K	**Naaghedeneel**	**13.40**	**67**	P	**Pn**	**04 50 53.8**	**+0.9**
	baz=274						
J20K	**Nowinta River**	**13.60**	**69**	Pn	**Pn**	**04 50 56.7**	**+1.2**
J20K	**Nowinta River**	**13.60**	**69**	P	**Pn**	**04 50 56.0**	**+0.4**
	baz=276,SNR=6.8						
N18K	**Kilae Creek**	**13.60**	**85**	P	**Pn**	**04 50 56.6**	**+1.0**
	baz=290						
L19K	**White Mountain**	**13.64**	**78**	P	**Pn**	**04 50 57.1**	**+1.0**
	baz=284						
C21K	**Knifeblade Rid**	**13.73**	**48**	P	**Pn**	**04 50 58.3**	**+1.1**
	baz=255						
K20K	**Telida**	**13.75**	**73**	P	**Pn**	**04 50 58.6**	**+0.9**
	baz=280						
G21K	**Allakaket**	**13.80**	**59**	Pn	**Pn**	**04 50 59.2**	**+1.0**
G21K	**Allakaket**	**13.80**	**59**	P	**Pn**	**04 50 59.5**	**+1.2**
	baz=267,SNR=6.0						
E21K	**Killik River**	**13.85**	**51**	Pn	**Pn**	**04 51 00.4**	**+1.4**
E21K	**Killik River**	**13.85**	**51**	P	**Pn**	**04 51 00.0**	**+1.0**
	baz=259						
F21K	**Alatna River**	**13.86**	**56**	Pn	**Pn**	**04 51 00.8**	**+1.7**
F21K	**Alatna River**	**13.86**	**56**	P	**Pn**	**04 51 00.2**	**+1.1**
	baz=265,SNR=7.5						
B21K	**Ikpikpuk River**	**13.91**	**46**	P	**Pn**	**04 51 00.1**	**+0.3**
	baz=254						
P17K	**Kvichak River**	**13.91**	**91**	P	**Pn**	**04 51 00.0**	**+0.2**
	baz=295						
M19K	**Big River Lodg**	**13.92**	**79**	P	**Pn**	**04 51 01.0**	**+1.1**
	baz=285						
S14K	**Fog Glacier**	**13.97**	**105**	P	**Pn**	**04 51 01.2**	**+0.4**
	baz=306						
L20K	**Farewell, AK**	**14.01**	**76**	P	**Pn**	**04 51 02.

C23K	Itkillik River	15.31	47	P	Pn	04 51 19.6	+0.8
	baz=258						
O20K	Slope Mountain	15.33	85	P	Pn	04 51 19.5	+0.4
	baz=292						
Q19K	Cape Douglas,	15.33	89	P	Pn	04 51 18.8	-0.3
	baz=296						
TRF	Thorofare Moun	15.40	71	P	Pn	04 51 20.4	+0.3
	baz=282						
E23K	Chandalar	15.41	54	Pn	Pn	04 51 21.9	+1.8
E23K				IAmb	IAmb	04 51 55.4	
	comp=Z,18nm,1.3s						
E23K	Chandalar	15.41	54	P	Pn	04 51 21.1	+1.0
	baz=266						
H23K	Yukon River	15.41	62	Pn	Pn	04 51 21.1	+1.0
H23K	Yukon River	15.41	62	P	Pn	04 51 20.8	+0.7
	baz=274						
TOLK	Toolik Lake Re	15.48	51	P	Pn	04 51 21.4	+0.4
	baz=263						
I23K	Minto, Yukon-K	15.54	65	P	Pn	04 51 22.7	+1.0
	baz=276						
R18K	Karluk	15.61	95	P	Pn	04 51 22.4	-0.2
	baz=300						
CUT	Chulitna	15.65	75	P	Pn	04 51 23.5	+0.2
	baz=285						
SUA	Susitna One	15.71	79	P	Pn	04 51 24.3	+0.2
	baz=288						
NEA2	Nenana	15.73	67	P	Pn	04 51 25.3	+1.0
	baz=278						
CAPN	Captain Cook N	15.76	81	P	Pn	04 51 25.2	+0.6
	baz=290						
D24K	Happy Valley	15.82	50	P	Pn	04 51 25.8	+0.5
	baz=262						
E24K	Your Creek	15.83	54	IAmb	IAmb	04 51 34.4	
	comp=Z,15nm,0.8s						
E24K	Your Creek	15.83	54	P	Pn	04 51 26.3	+0.7
	baz=267						
MCK	McKinley	15.94	70	P	Pn	04 51 27.8	+0.8
	baz=281						
C24K	Franklin Bluff	15.95	48	P	Pn	04 51 27.7	+0.8
	baz=261						
HOM	Homer	15.95	85	P	Pn	04 51 27.7	+0.6
	baz=294						
CHIR	Chirikof Islan	16.03	101	P	Pn	04 51 27.8	-0.3
	baz=306						
F24K	Squaw Lake	16.04	56	IAmb	IAmb	04 51 36.5	
	comp=Z,11nm,0.7s						
F24K	Squaw Lake	16.04	56	P	Pn	04 51 29.2	+1.0
	baz=269						
Q20K	Shuyak Island	16.06	89	P	Pn	04 51 28.6	+0.1
	baz=297						
H24K	Noodor Dome	16.09	62	P	Pn	04 51 30.1	+1.1
	baz=275						
G24K	Hadweenzic Riv	16.20	59	Pn	Pn	04 51 31.9	+1.6
G24K	Hadweenzic Riv	16.20	59	P	Pn	04 51 31.3	+0.9
	baz=272,SNR=7.9						
COLA	College	16.21	65	⇓*e*P	Pn	04 51 32.1	+1.7
CCB	Clear Creek Bu	16.27	66	Pn	Pn	04 51 32.7	+1.6
SII	Sitkinak Islan	16.27	97	P	Pn	04 51 31.3	+0.1
	baz=304						
RC01	Rabbit Creek A	16.30	79	P	Pn	04 51 32.1	+0.6
	baz=290						
OHAK	Old Harbor	16.32	95	P	Pn	04 51 33.1	+1.2
	baz=301						
POKR	Poker Plat Res	16.36	64	P	Pn	04 51 33.3	+1.0
	baz=278						
KDAK	Kodiak Island	16.36	92	LR	LR	04 58 23.9	
	comp=Z,736nm,18.5s,baz=303,slow=39						
KDAK	Kodiak Island	16.36	92	P	Pn	04 51 33.6	+1.2
	baz=300						
PMR	Palmer	16.41	77	P	Pn	04 51 33.6	+0.7
	baz=288						
O22K	Cooper Landing	16.52	81	P	Pn	04 51 34.7	+0.4
	baz=292						
ILAR	Eielson Array	16.64	65		Pn	04 51 37.4	+1.5
ILAR	Eielson Array	16.64	65	Pn	Pn	04 51 32.8	-3.1
	comp=Z,0.1nm,0.3s,baz=254,slow=7.4,SNR=17						
ILAR				LR	LR	04 58 09.9	
	comp=Z,185nm,18.2s,baz=288,slow=38						
	comp=Z,0.3nm,0.9s						
ILAR	Eielson Array	16.64	65	P	Pn	04 51 37.4	+1.5
HDA	Harding Lake	16.67	67	P	P	04 51 40.0	+1.3
HDA				IAmb	IAmb	04 51 47.5	
	comp=Z,17nm,1.2s						
HDA	Harding Lake	16.67	67	P	Pn	04 51 37.2	+0.9
	baz=280						
D25K	Kavik River	16.70	49	Pn	Pn	04 51 37.4	+0.6
D25K				IAmb	IAmb	04 51 56.0	
	comp=Z,15nm,1.3s						
D25K	Kavik River	16.70	49	P	Pn	04 51 37.3	+0.6
	baz=264						
G25K	Bearman Lake	16.75	58	P	Pn	04 51 38.1	+0.9
	baz=273						
KNK	Knik Glacier	16.77	77	P	Pn	04 51 38.1	+0.5
	baz=289						
SEW	Seward	16.79	82	P	Pn	04 51 38.2	+0.4
	baz=293						
H25L	Birch Creek	16.89	60	P	Pn	04 51 40.1	+1.0
	baz=275						
F25K	Christian Rive	16.90	55		Pn	04 51 40.5	+1.3
F25K	Christian Rive	16.90	55	P	Pn	04 51 39.6	+0.4
	baz=271						
E25K	Arctic Village	16.93	54		Pn	04 51 41.5	+2.0
E25K	Arctic Village	16.93	54	P	Pn	04 51 39.9	+0.4
	baz=269						
M23K	Glacier View	16.98	76	P	Pn	04 51 40.8	+0.6
	baz=288						
PWL	Port Wells	17.02	79	P	Pn	04 51 40.9	+0.2
	baz=291						
PRP	Porcupine Dome	17.10	63	P	Pn	04 51 42.4	+0.6
	baz=278						
SCM	Sheep Creek Mo	17.14	75	P	Pn	04 51 42.5	+0.1
	baz=288						
C26K	Camden Bay	17.27	48	P	Pn	04 51 44.3	+0.5
	baz=264						
K24K	Donnelly Dome	17.30	68	P	Pn	04 51 44.5	+0.3
	baz=283						
J25K	Salcha River,	17.31	66	P	Pn	04 51 44.9	+0.6
	baz=281						
BMAR	Burnt Mountain	17.31	56		P	04 51 47.4	+1.6
F26K	Sheenjek River	17.47	55	P	Pn	04 51 46.6	+0.3
	baz=272						
GLI	Glacier Island	17.57	78	P	Pn	04 51 47.4	-0.3
	baz=291						
M24K	Tolsona, Glenn	17.58	74	P	Pn	04 51 48.0	+0.3
	baz=288						
PAX	Paxson	17.64	71	P	Pn	04 51 48.5	+0.1
	baz=286						
G26K	Porcupine Rive	17.65	58	P	Pn	04 51 49.0	+0.5
	baz=275						
C27K	Jago River	17.66	49	P	Pn	04 51 48.4	-0.2
	baz=266						
RIDG	Independent Ri	17.71	68	P	Pn	04 51 48.9	-0.4
	baz=284						
P23K	Montague Islan	17.77	81	P	Pn	04 51 49.7	-0.4
	baz=294						
KLU	Klutina	17.89	76	P	Pn	04 51 51.2	-0.4
	baz=290						
HARP	HAARP	17.94	73	P	Pn	04 51 52.1	-0.1
	baz=288						
SCRK	Sand Creek	18.03	67		Pn	04 51 54.3	+0.9
SCRK	Sand Creek	18.03	67	P	Pn	04 51 53.4	+0.1
	baz=284						
J26L	Joseph Creek	18.09	65	IAmb	IAmb	04 52 07.2	
	comp=Z,21nm,1.5s						
J26L	Joseph Creek	18.09	65	P	Pn	04 51 53.7	-0.4
	baz=282,SNR=7.0						
I26K	Coal Creek Min	18.11	63	P	Pn	04 51 54.2	0.0
	baz=280						
EYAK	Cordova Ski Ar	18.31	79	P	Pn	04 51 56.2	-0.5
	baz=293						
E27K	Coleen River	18.41	53	P	Pn	04 51 57.7	-0.2
	baz=273						
N25K	Chitina, Valde	18.45	75	P	Pn	04 51 57.8	-0.7
	baz=290						
G27K	Doyon Strip	18.50	58	IAmb	IAmb	04 52 05.7	
	comp=Z,12nm,1.2s						
G27K	Doyon Strip	18.50	58	P	P	04 51 59.0	+0.2
	baz=277,SNR=8.2						
L26K	Log Cabin Wild	18.55	70	P	P	04 51 59.2	-0.2
	baz=287						
D27M	Malcolm River	18.62	50	P	P	04 52 00.2	0.0
	baz=270						
H27K	Steamboat Moun	18.62	60	IAmb	IAmb	04 52 08.3	
	comp=Z,12nm,1.4s						
H27K	Steamboat Moun	18.62	60	P	P	04 51 59.8	-0.4
	baz=278						
BMRM	Bremner River	18.67	77	P	P	04 52 00.4	-0.4
	baz=292						
I27K	Kandik River	18.69	61	P	P	04 52 00.8	-0.2
	baz=280,SNR=10						
K27K	Chicken	18.83	66	P	P	04 52 02.1	-0.4
K27K	Chicken	18.83	66	P	P	04 52 02.5	0.0
	baz=284						
M26K	Nabesna, AK	18.90	72	P	P	04 52 03.4	+0.1
	baz=289						
F28M	Old Crow	19.10	55	P	Pn	04 52 07.4	+1.1
F28M	Old Crow	19.10	55	P	P	04 52 05.1	-0.3
	baz=276						
E28M	Babbage River	19.15	52	P	P	04 52 05.3	-0.7
	baz=273						
KAIM	Kayak Island	19.17	79	P	P	04 52 05.3	-0.9
	baz=295						
L27K	Beaver Creek,	19.21	69	P	P	04 52 06.4	-0.3
	baz=287						
MCARA	McCarthy VSAT	19.23	75	P	P	04 52 06.8	-0.1
	baz=291						
M27K	Edge Creek, AK	19.40	71	P	P	04 52 08.6	-0.3
	baz=289						
I28M	Miner Creek	19.41	62	IAmb	IAmb	04 52 42.5	
	comp=Z,14nm,1.5s						
I28M	Miner Creek	19.41	62	P	P	04 52 08.7	-0.2
	baz=282						
D28M	Stokes Point	19.41	50	P	P	04 52 08.4	-0.4
	baz=272						
CRQE	Cirque	19.44	76	P	P	04 52 08.7	-0.6
	baz=293						
BGLC	Bering Glacier	19.61	78	P	P	04 52 10.4	-0.5
	baz=295						
E29M	Blow River	19.77	52	P	P	04 52 12.2	-0.5
	baz=275						
BVCY	Beaver Creek	19.83	71	P	P	04 52 13.1	-0.3
	baz=290						
TIXI	Tiksi	19.89	317	P	P	04 52 13.9	+0.1
	comp=Z,0.2nm,0.3s,baz=107,slow=16,SNR=4.6						
TIXI				LR	LR	05 00 33.1	
	comp=Z,267nm,18.8s,baz=128,slow=39						
	comp=Z,2.5nm,0.6s						
TIXI	Tiksi	19.89	317	⇑*e*P	P	04 52 15.4	+1.5
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
H29M	Whitestone	19.89	59	P	P	04 52 14.2	+0.2
H29M				IAmb	IAmb	04 52 44.5	
	comp=Z,21nm,1.5s						
H29M	Whitestone	19.89	59	P	P	04 52 14.0	0.0
	baz=281						
G29M	Pine Creek	19.91	57	IAmb	IAmb	04 52 29.2	
	comp=Z,17nm,1.2s						
G29M	Pine Creek	19.91	57	P	P	04 52 14.1	-0.1
	baz=279						
DAWY	Dawson	19.96	65	P	P	04 52 14.4	-0.5
	baz=286						
I29M	Ogilvie Camp,	20.09	61	P	P	04 52 15.8	-0.5
	baz=283						
CTG	Chitna Glacier	20.15	75	P	P	04 52 17.1	+0.1
	baz=293						
MESA	MESA	20.19	77	P	P	04 52 17.1	-0.4
	baz=295						
YUK3	Moose Creek	20.23	72	P	P	04 52 18.0	0.0
	baz=291						
J29N	Klondike Camp	20.35	64	P	P	04 52 18.6	-0.6
	baz=286						
EPYK	Eagle Plains	20.52	58	IAmb	IAmb	04 52 27.7	
	comp=Z,20nm,1.2s						
EPYK	Eagle Plains	20.52	58	P	P	04 52 20.9	0.0
	baz=282						
G30M	tAoh Zraii Nji	20.59	56	IAmb	IAmb	04 52 30.2	
	comp=Z,14nm,1.0s						
G30M	tAoh Zraii Nji	20.59	56	P	P	04 52 21.4	-0.3
	baz=280						
F30M	Barrier River	20.66	54	P	P	04 52 23.1	+0.8
F30M				IAmb	IAmb	04 52 42.3	
	comp=Z,18nm,1.0s						
F30M	Barrier River	20.66	54	P	P	04 52 22.5	+0.2
	baz=279						
O28M	Mount Upton	20.74	75	P	P	04 52 23.3	-0.3
	baz=294						
L29M	L29M	20.79	68	P	P	04 52 23.9	0.0
	baz=289						
K29M	Barlow Dome	20.82	65	P	P	04 52 24.2	0.0
	baz=288						
M29M	Somme Creek	20.87	69	P	P	04 52 25.8	+1.0
M29M				IAmb	IAmb	04 52 33.8	
	comp=Z,7.0nm,1.1s						
M29M	Somme Creek	20.87	69	P	P	04 52 24.8	0.0
	baz=291						
I30M	Mount Dempster	20.91	61	P	P	04 52 25.7	+0.4
I30M				IAmb	IAmb	04 52 55.8	
	comp=Z,8.5nm,1.1s						
I30M	Mount Dempster	20.91	61	P	P	04 52 25.3	+0.1
	baz=285						
PINM	Pinnacle	21.00	76	P	P	04 52 25.9	-0.3
	baz=296						
J30M	Hart River	21.11	63	P	P	04 52 26.5	-0.8
	baz=286						
YAK	Yakutsk	21.11	290	P	P	04 52 27.3	+0.1
	comp=Z,22nm,0.4s,baz=58,slow=1.9,SNR=7.1						
YAK				LR	LR	05 01 18.7	
	comp=Z,521nm,19.3s,baz=70,slow=39						
	comp=Z,22nm,0.4s						
YUK4	Talbot Arm	21.20	72	P	P	04 52 27.9	-0.6
	baz=293						
G31M	Satah River	21.36	56	P	P	04 52 29.3	-0.5
	baz=282,SNR=11						
INK	Inuvik	21.39	52	P	P	04 52 29.7	-0.5
INK	Inuvik	21.39	52	P	P	04 52 30.0	-0.2
	comp=Z,6.5nm,0.8s,baz=296,slow=11,SNR=12						
	comp=Z,6.5nm,0.8s						
INK	Inuvik	21.39	52	P	P	04 52 30.0	-0.2
INK	Inuvik	21.39	52	P	P	04 52 29.1	-1.1
	baz=279,SNR=5.1						
F31M	Tsiigehtchic	21.46	55	P	P	04 52 30.2	-0.8
	baz=281						
YUK6	Outpost Mounta	21.49	73	P	P	04 52 30.6	-1.0
	baz=294						
M30M	Minto, Yukon	21.55	68	P	P	04 52 31.4	-0.6
	baz=291						
PNL	Peninsula	21.57	77	P	P	04 52 31.8	-0.5
	baz=297						
H31M	Peel River	21.59	59	P	P	04 52 32.4	0.0
H31M				IAmb	IAmb	04 52 49.9	
	comp=Z,16nm,1.2s						
H31M	Peel River	21.59	59	P	P	04 52 32.4	0.0
	baz=285						
O29M	Mount Kennedy	21.66	75	P	P	04 52 33.4	0.0
	baz=296						
N30M	Aishikik Lake	21.84	71	P	P	04 52 35.1	-0.1
	baz=294						
HYT	Haines Junctio	21.92	73	P	P	04 52 35.4	-0.7
	baz=295						
P29M	Windy Craggy	22.34	76	P	P	04 52 40.1	-0.4
	baz=297						
N31M	Braeburn, Yuko	22.41	71	P	P	04 52 40.6	-0.7
	baz=294						
P30M	Million Dollar	22.47	74	P	P	04 52 41.1	-0.8
	baz=296						
M31M	Drury Creek, Y	22.73	68	P	P	04 52 43.7	-0.9
	baz=293						
PLBC	Pleasant Camp	23.04	76	P	P	04 52 47.2	-0.6
	baz=298						
SKAG	Skagway	23.50	75	P	P	04 52 51.4	-1.1
	baz=298						
A36M	Sachs Harbour	23.70	42	P	P	04 52 53.1	-1.2
	baz=277						
N32M	Quiet Lake	23.73	70	P	P	04 52 53.2	-1.7
	baz=296						
S31K	Pelican	23.84	79	P	P	04 52 54.4	-1.4
	baz=301						
MMPY	Sheldon Lake,	23.90	66	P	P	04 52 57.2	+0.7
MMPY				IAmb	IAmb	04 53 38.8	
	comp=Z,7.8nm,1.3s						
MMPY	Sheldon Lake,	23.90	66	P	P	04 52 55.1	-1.4
	baz=294						
P32M	Atlin	24.16	74	P	P	04 52 57.6	-1.4
	baz=299						
YSS	Yuzhno-Sakhali	24.17	246	*e*P	P	04 52 57.8	-1.2
YSS				*e*S	S	04 57 15.0	-1.7
YSS				*e*SS	SnSn	04 58 01.1	+3.1
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS				MLR	MLR		
	comp=N,300nm,15.0s						
P33M	Teslin, Yukon	24.27	72	P	P	04 52 58.3	-1.6
	baz=298						
R32K	Eaglecrest	24.46	77	P	P	04 53 00.2	-1.4
	baz=301						
C36M	Paulatuk	24.56	48	P	P	04 53 01.0	-1.3
	baz=284						
SIT	Sitka	24.74	80	P	P	04 53 02.6	-1.4
	baz=303						
S32K	Killisnoo	24.86	79	P	P	04 53 03.5	-1.6
	baz=302						
Q32M	Nakina River	25.12	74	P	P	04 53 09.0	+1.3
Q32M	Nakina River	25.12	74	P	P	04 53 06.8	-1.0
	baz=300						
R33M	Jennings River	25.48	73	P	P	04 53 10.4	-0.6
	baz=300						
TGTN	Hyland Airport	25.64	67	P	P	04 53 11.4	-0.9
	baz=297						
S34M	Telegraph Cree	26.18	76	P	P	04 53 15.9	-1.2
	baz=302						
U33K	Whale Pass	26.27	80	P	P	04 53 16.7	-1.2
	baz=305						
DLBC	Dease Lake	26.40	74	LR	LR	05 05 02.3	
	comp=N,168nm,19.3s,baz=116,slow=39						
DLBC	Dease Lake	26.40	74	P	P	04 53 17.8	-1.4
	baz=302						
CRAG	Craig	26.65	81	P	P	04 53 19.9	-1.4
	baz=306						
WRGLY	Wrigley	26.89	61	P	P	04 53 22.6	-0.9
	baz=296						
T35M	Bob Quinn	27.09	77	P	P	04 53 24.2	-1.2
	baz=304						
V35K	Ketchikan	27.43	81	P	P	04 53 26.9	-1.5
	baz=307						
TOAD	Toad River Com	28.30	70	P	P	04 53 35.2	-1.0
	baz=303						
BBB	Bella Bella	31.02	83	LR	LR	05 07 03.0	
	comp=N,189nm,19.0s,baz=114,slow=37						
MJA0	Matsu Arr-Jizo	34.69	239	*e*P	P	04 54 35.4	+2.8
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAJO	Matsushiro	34.71	239	*ce*P	P	04 54 34.7	+2.0
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MJAR	Matsushiro Arr	34.71	239	P	P	04 54 30.7	-2.0
	comp=Z,1.7nm,0.6s,baz=17,slow=8.1,SNR=5.2						
MJAR				LR	LR	05 10 46.9	
	comp=Z,160nm,18.4s,baz=32,slow=40						
	comp=Z,1.7nm,0.6s						
ILON	Igloolik, Nuna	37.62	35	P	P	04 54 58.7	+1.5
D08A	Wollman Farm,	38.88	82	P	P	04 55 09.6	+1.6
D08A				IAmb	IAmb	04 55 13.2	
	comp=Z,4.5nm,0.9s						
SPITS	Spitsbergen Ar	39.07	353	P	P	04 55 10.6	+1.2
SPITS				pmax	pmax		
	comp=Z,31nm,1.4s						
J01E	Myrtle Point	39.49	90	P	P	04 55 14.9	+1.7
ULN	Ulaanbaatar	39.78	281	⇓*e*P	P	04 55 19.9	+4.1
ULN				pmax	pmax		
	comp=Z,3.0nm,1.5s						
SONM	Songino Array	40.11	282	P	P	04 55 17.7	-0.7
	comp=Z,0.3nm,0.4s,baz=53,slow=7.6,SNR=4.2						
SONM				LR	LR	05 12 55.7	
	comp=Z,395nm,18.2s,baz=51,slow=38						
	comp=Z,0.3nm,0.4s						
PINE	Pine Mountain	40.40	87	P	P	04 55 21.9	+0.9
PINE				IAmb	IAmb	04 55 27.0	
	comp=Z,5.8nm,1.0s						
F10A	Beach Ranch, E	40.46	82	P	P	04 55 23.0	+1.6
F10A				IAmb	IAmb	04 55 30.7	
	comp=Z,5.0nm,1.4s						
JNU	Nakatsue	40.68	245	LR	LR	05 12 32.5	
	comp=Z,100nm,18.7s,baz=62,slow=37						
YBH	Yreka Blue Hor	41.17	91	LR	LR	05 11 22.2	
	comp=Z,11nm,18.2s,baz=320,slow=34						
K05A	Summer Lake	41.24	88	P	P	04 55 28.3	+0.3
K05A				IAmb	IAmb	04 56 03.3	
	comp=Z,5.0nm,1.3s						
EGMT	Eagleton	42.33	74	P	P	04 55 36.8	+0.2
EGMT				IAmb	IAmb	04 55 44.5	
	comp=Z,7.8nm,1.3s						
ZALV	Zalesovo Beam	44.79	303	P	P	04 55 55.4	-0.9
	comp=Z,1.5nm,1.0s,baz=18,slow=6.2,SNR=4.5						
ZALV				LR	LR	05 15 57.6	
	comp=Z,94nm,20.1s,baz=19,slow=38						
	comp=Z,1.5nm,1.0s						
ZALV	Zalesovo Beam	44.79	303	*e*P	P	04 55 59.9	+3.6
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FRB	Frobisher Bay	45.34	34	LR	LR	05 16 45.2	
	comp=Z,126nm,20.8s,baz=326,slow=38						
ELK	Elko	45.42	85	LR	LR	05 15 00.1	
	comp=Z,116nm,18.2s,baz=334,slow=36						
NVAR	Mina Array Bea	45.84	90	P	P	04 56 04.8	-0.3
	comp=Z,0.5nm,0.8s,baz=284,slow=7.5,SNR=3.8						
	comp=Z,0.5nm,0.8s						
PDAR	Pinedale Array	46.44	79	P	P	04 56 09.9	+0.1
PDAR	Pinedale Array	46.44	79	P	P	04 56 10.3	+0.5
	comp=Z,0.8nm,0.9s,baz=330,slow=5.1,SNR=5.9						
PDAR				LR	LR	05 15 40.1	
	comp=Z,72nm,18.5s,baz=344,slow=36						
	comp=Z,0.8nm,0.9s						
SFJD	Kangerlussuaq	46.56	23	LR	LR	05 18 51.9	
	comp=Z,40nm,19.3s,baz=336,slow=40						
ARCES	ARCESS Array B	46.64	346	LR	LR	05 16 16.5	
	comp=Z,117nm,21.5s,baz=43,slow=37						
JMIC	Jan Mayen	46.83	2	LR	LR	05 14 24.3	
	comp=Z,30nm,20.6s,baz=218,slow=34						
JOW	Kunigami	47.26	244	LR	LR	05 17 12.0	
	comp=Z,52nm,19.7s,baz=80,slow=38						
MSU	Marysvale	48.62	84	P	P	04 56 27.9	+1.1
MSU	Marysvale	48.62	84	P	P	04 56 27.9	+1.1
CCUT	Cedar City	48.85	86	P	P	04 56 29.1	+0.6
KURK	Kurchatov	49.70	304	P	P	04 56 32.0	-2.5
KURK	Kurchatov	49.70	304	*de*P	P	04 56 33.4	-1.2
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HMU	Henry Mountain	49.75	83	P	P	04 56 36.0	+0.6
HMU				IAmb	IAmb	04 56 37.0	
	comp=Z,2.0nm,0.7s						
KURBB	Kurchatov Arra	49.81	304	P	P	04 56 34.5	-0.9
	comp=Z,1.4nm,0.5s,baz=39,slow=7.8,SNR=19						
KURBB				LR	LR	05 19 25.6	
	comp=Z,127nm,21.4s,baz=172,slow=38						
	comp=Z,1.4nm,0.5s						
PV01	Paradox Valley	50.59	82	P	P	04 56 42.2	+0.4
PV01				IAmb	IAmb	04 57 16.0	
	comp=Z,2.2nm,1.2s						
PFO	Pinyon Flats O	50.64	92	LR	LR	05 16 59.0	
	comp=Z,97nm,18.7s,baz=350,slow=35						
BVAR	Borovoye Array	50.87	311	P	P	04 56 41.8	-1.6
	comp=Z,0.8nm,0.6s,baz=48,slow=6.6,SNR=5.3						
BVAR				PcP	PcP	04 57 58.7	-1.1
	comp=Z,2.0nm,0.6s,baz=8.7,slow=1.9,SNR=4.5						
	comp=Z,0.8nm,0.6s						
BRVK	Borovoye	50.88	311	⇑*e*P	P	04 56 44.5	+1.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MKAR	Makanchi Array	51.39	299	P	P	04 56 45.6	-1.8
	comp=Z,0.4nm,0.5s,baz=36,slow=7.0,SNR=6.0						
MKAR				LR	LR	05 18 57.3	
	comp=Z,64nm,18.1s,baz=329,slow=37						
	comp=Z,0.4nm,0.5s						
ARTI	Arti	51.91	321	LR	LR	05 22 34.6	
	comp=Z,100nm,18.2s,baz=28,slow=40						
ARTI	Arti	51.91	321	*c i*P	P	04 56 50.6	-0.6
ARTI						04 58 08.6	
ARTI				S	S	05 04 11.5	-2.0
ARTI				SS	SS	05 07 45.7	-3.7
ARTI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BORG	Borgarnes	52.50	9	LR	LR	05 18 54.6	
	comp=Z,66nm,21.5s,baz=332,slow=36						
SCHQ	Schefferville	53.29	40	LR	LR	05 22 12.8	
	comp=Z,64nm,20.1s,baz=335,slow=39						
GUMO	Guam	53.48	218	LR	LR	05 17 17.7	
	comp=Z,42nm,21.2s,baz=64,slow=33						
ANMO	Albuquerque	54.18	82	LR	LR	05 20 16.7	
	comp=Z,118nm,18.7s,baz=74,slow=36						
FINES	FINESS Array B	54.31	343	P	P	04 57 06.7	-2.0
FINES	FINESS Array B	54.31	343	P	P	04 57 06.9	-1.9
	comp=Z,1.2nm,0.6s,baz=18,slow=6.8,SNR=5.2						
FINES				LR	LR	05 23 32.5	
	comp=Z,118nm,18.5s,baz=38,slow=40						
	comp=Z,1.2nm,0.6s						
FINES	FINESS Array B	54.31	343	*e*P	P	04 57 10.2	+1.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	56.29	351	LR	LR	05 21 33.1	
	comp=Z,18nm,19.1s,baz=20,slow=36						
SMWD	Samnorwood	56.89	77	P	P	04 57 30.7	+3.0

HFS	**Hagfors**	**56.99**	**349**	LR	LR	05 23 42.9		
	comp=Z,56nm,18.9s,baz=8.5,slow=38							
AKTO	**Aktyubinsk**	**57.17**	**318**	LR	LR	05 24 50.1		
	comp=Z,99nm,19.2s,baz=12,slow=39							
AB31	**Akbulak array**	**57.58**	**316**	P	**P**	**04 57 31.6**	**-0.7**	
AB31				IAmb	IAmb	04 57 32.7		
	comp=Z,2.0nm,0.8s							
ABKAR	**Akbulak array**	**57.58**	**316**	P	**P**	**04 57 31.3**	**-1.0**	
SADO	**Sadowa**	**57.68**	**54**	LR	LR	05 23 17.7		
	comp=Z,94nm,18.9s,baz=334,slow=37							
AAK	**Ala-Archa**	**57.95**	**301**	LR	LR	05 24 02.4		
	comp=Z,137nm,19.3s,baz=36,slow=38							
AAK	**Ala-Archa**	**57.95**	**301**	*e*P	**P**	**04 57 38.8**	**+3.6**	
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
VHRN	**Van Horn**	**58.33**	**84**	P	**P**	**04 57 39.0**	**+1.0**	
VHRN				IAmb	IAmb	04 57 43.5		
	comp=Z,5.5nm,1.5s							
OBN	**Obninsk**	**58.52**	**334**	LR	LR	05 26 47.2		
	comp=Z,70nm,18.5s,baz=102,slow=40							
KKAR	**Karatay Array**	**59.12**	**305**	P	**P**	**04 57 42.4**	**-0.7**	
KKAR	**Karatay Array**	**59.12**	**305**	P	**P**	**04 57 42.4**	**-0.7**	
PZH	**PanZhiHua**	**59.47**	**269**	P	**P**	**04 57 45.6**	**-0.3**	
TX31	**Lajitas Ar. Si**	**60.16**	**83**	P	**P**	**04 57 50.9**	**+0.3**	
TX31				IAmb	IAmb	04 57 54.4		
	comp=Z,4.4nm,1.4s							
TXAR	**Lajitas Array**	**60.16**	**83**	P	**P**	**04 57 50.8**	**+0.2**	
TXAR	**Lajitas Array**	**60.16**	**83**	P	**P**	**04 57 51.3**	**+0.7**	
	comp=Z,0.7nm,0.7s,baz=313,slow=4.7,SNR=10							
TXAR				LR	LR	05 24 02.3		
	comp=Z,68nm,18.0s,baz=340,slow=36							
	comp=Z,0.7nm,0.7s							
MNK	**Minsk**	**60.71**	**339**	*i* P	**P**	**04 57 54.9**	**+1.0**	
MNK				*i*		04 58 38.8		
MNK				*i*		05 00 08.6		
MNK				*i* PPP	PPP	05 01 32.0		
MNK				*i* S	**S**	**05 06 12.3**	**+2.2**	
MNK				*i*		05 07 45.8		
MNK				*i* SS	**SS**	**05 10 12.2**	**+4.6**	
MNK				*i* SSS	SSS	05 12 50.6		
MNK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MNK				pmax	pmax			
	comp=N,8.0nm,0.6s							
MNK				pmax	pmax			
	comp=E,12nm,0.8s							
MNK				MLR	MLR			
	comp=N,165nm,21.0s							
MNK				MLR	MLR			
	comp=Z,115nm,17.0s							
MNK				MLR	MLR			
	comp=E,175nm,22.0s							
JCT	**Junction City**	**60.97**	**79**	P	**P**	**04 57 56.0**	**-0.1**	
JCT	**Junction City**	**60.97**	**79**	P	**P**	**04 57 56.0**	**-0.1**	
JCT				pmax	pmax			
	comp=Z,6.0nm,0.7s							
DRIO	**Del Rio**	**61.49**	**81**	P	**P**	**04 57 58.7**	**-0.9**	
EKA	**Eskdalemuir Ar**	**62.58**	**359**	P	**P**	**04 58 05.4**	**-1.0**	
	comp=Z,2.4nm,0.9s,baz=7.4,slow=6.1,SNR=2.0							
	comp=Z,2.4nm,0.9s							
R55A	**Marlinton**	**62.84**	**59**	P	**P**	**04 58 09.3**	**+0.7**	
TKL	**Tuckaleechee C**	**63.61**	**63**	LR	LR	05 27 15.6		
	comp=Z,82nm,19.5s,baz=336,slow=37							
AKASG	**Malin Array Be**	**64.12**	**337**	P	**P**	**04 58 14.1**	**-2.6**	
	comp=Z,1.1nm,0.6s,baz=20,slow=6.5,SNR=4.7							
AKASG				LR	LR	05 29 51.1		
	comp=Z,112nm,18.2s,baz=18,slow=40							
	comp=Z,1.1nm,0.6s							
AKASG	**Malin Array Be**	**64.12**	**337**	*ce*P	**P**	**04 58 20.5**	**+3.7**	
KIV	**Kislovodsk**	**67.48**	**325**	*e*P	**P**	**04 58 39.0**	**+0.3**	
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,39nm,17.0s							
KBZ	**Khabaz**	**67.64**	**325**	P	**P**	**04 58 39.4**	**0.0**	
	comp=Z,6.8nm,1.0s,baz=277,slow=3.5,SNR=6.6							
	comp=Z,6.8nm,1.0s							
KBZ	**Khabaz**	**67.64**	**325**	*de*P	**P**	**04 58 39.8**	**+0.3**	
KBZ				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**67.69**	**267**	LR	LR	05 28 22.9		
	comp=Z,46nm,20.1s,baz=255,slow=36							
SHA1	**Shidzhatmaz**	**67.69**	**325**	*e*P	**P**	**04 58 42.6**	**+2.4**	
GERES	**GERESS Array B**	**68.15**	**347**	P	**P**	**04 58 41.2**	**-1.6**	
	comp=Z,0.3nm,0.6s,baz=51,slow=9.3,SNR=2.6							
GERES				LR	LR	05 30 13.8		
	comp=Z,46nm,20.3s,baz=12,slow=38							
	comp=Z,0.3nm,0.6s							
MLR	**Muntele Rosu**	**69.74**	**338**	LR	LR	05 32 36.8		
	comp=Z,65nm,19.7s,baz=52,slow=39							
GNI	**Garni**	**70.45**	**322**	LR	LR	05 34 13.9		
	comp=Z,53nm,18.1s,baz=234,slow=40							
HNR	**Honiara**	**72.68**	**196**	LR	LR	05 28 37.3		
	comp=Z,52nm,19.6s,baz=36,slow=34							
BRTR	**Keskin Array B**	**73.72**	**330**	P	**P**	**04 59 16.1**	**-0.7**	
	comp=Z,1.5nm,0.8s,baz=0.0,slow=3.7,SNR=5.1							
	comp=Z,1.5nm,0.8s							
BRTR	**Keskin Array B**	**73.72**	**330**	*e*P	**P**	**04 59 19.6**	**+2.8**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
PMG	**Port Moresby**	**74.95**	**209**	LR	LR	05 28 05.3		
	comp=Z,107nm,19.5s,baz=165,slow=32							
MTO3	**Montecristo**	**79.63**	**79**	P	**P**	**04 59 50.7**	**+0.1**	
MMAI	**Mount Meron Ar**	**79.68**	**327**	LR	LR	05 37 50.1		
	comp=Z,44nm,18.3s,baz=122,slow=38							
RAR	**Rarotonga**	**85.61**	**157**	LR	LR	05 30 26.0		
	comp=Z,49nm,20.0s,baz=264,slow=30							
WRA	**Warramunga Arr**	**88.37**	**218**	P	**P**	**05 00 33.4**	**-1.2**	
	comp=Z,0.3nm,0.5s,baz=15,slow=6.2,SNR=2.5							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**92.02**	**218**	P	**P**	**05 00 50.5**	**-1.1**	
	comp=Z,0.5nm,0.8s,baz=20,slow=4.4,SNR=3.7							
	comp=Z,0.5nm,0.8s							
PLCA	**Paso Flores**	**135.87**	**93**	PKPdf	**PKPdf**	**05 07 04.0**	**+1.0**	
PLCA	**Paso Flores**	**135.87**	**93**	PKIKP	**PKPdf**	**05 07 04.0**	**+1.0**	
QSPA	**South Pole Qui**	**152.21**	**180**	PKPbc	**PKPbc**	**05 07 36.4**	**-0.5**	
QSPA	**South Pole Qui**	**152.21**	**180**	PKPbc	**PKPbc**	**05 07 36.3**	**-0.7**	
	comp=Z,0.9nm,0.6s,baz=61,slow=0.5,SNR=13							

*IDC **19** 05:01:07.6±0.4, 13°.94N×144°.71E, h196km±3km, mb3.5/14, mbtmp4.1/14, Error ellipse: s-maj=18.7km s-min=12.9km az=81.0*
*NEIC **19** 05:01:08.9±1.1, 14°.00N±0°.10×144°.4E±0°.1, h191km±7km, mb4.4/19, Error ellipse: s-maj=21.5km s-min=12.2km az=112.0*
ISC 19 05:01:08.4±0.6, 14°.01N±0°.08×144°.6E±0°.1, h200km, n34, σ0s99/37, mb4.2/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.50**	**147**	P		**Pn**	**05 01 35.2**	**-0.3**
	848nm,0.3s,baz=293,slow=2.6,SNR=49							
GUMO				S		**Sn**	**05 01 55.2**	**-1.3**
	1µm,0.3s,baz=47,slow=23,SNR=42							
JOW	**Kunigami**	**19.88**	**312**	P		**Pn**	**05 05 26.6**	**-2.1**
	12nm,0.9s,baz=116,slow=12,SNR=4.1							
	12nm,0.9s							
FAKI	**Fak Fak**	**20.80**	**217**	P		**P**	**05 05 36.7**	**+2.2**
INU	**Inuyama**	**22.31**	**344**	P		**P**	**05 05 50.2**	**+0.7**
INU				IAmb		IAmb	05 05 52.7	
	comp=Z,14nm,0.8s							
JGF	**Kuroka**	**22.46**	**344**	P		**P**	**05 05 50.4**	**-0.5**
JGF				IAmb		IAmb	05 05 53.1	
	comp=Z,10nm,0.8s							
JNU	**Nakatsue**	**22.75**	**329**			**P**	**05 05 53.9**	**+0.4**
MJAR	**Matsushiro Arr**	**23.15**	**347**			**P**	**05 05 57.3**	**+0.2**
MJAR				IAmb		IAmb	05 05 59.1	
	comp=Z,8.3nm,0.9s							
MJAR	**Matsushiro Arr**	**23.15**	**347**	P		**P**	**05 05 57.1**	**+0.1**
	comp=Z,9.1nm,0.8s,baz=170,slow=9.5,SNR=20							
	comp=Z,9.1nm,0.8s							
MAJO	**Matsushiro**	**23.15**	**347**			**P**	**05 05 57.1**	**0.0**
MJB9	**Matsu-Tunnel**	**23.16**	**347**	P		**P**	**05 05 58.0**	**+0.8**
MJB9				IAmb		IAmb	05 06 00.2	
	comp=Z,19nm,0.8s							
KSRS	**Korea Array**	**27.66**	**331**	P		**P**	**05 06 38.0**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=148,slow=9.4,SNR=4.3							
	comp=Z,2.7nm,0.6s							
WB0	**Warramunga Arr**	**35.03**	**197**	P		**P**	**05 07 41.3**	**-0.9**
WB0				IAmb		IAmb	05 07 50.2	
	comp=Z,10nm,1.2s							
WR8	**Warramunga Arr**	**35.18**	**197**	P		**P**	**05 07 42.8**	**-0.7**
WRAB	**Tennant Creek**	**35.20**	**197**	P		**P**	**05 07 43.8**	**+0.1**
WRAB				IAmb		IAmb	05 07 46.3	
	comp=Z,22nm,1.4s							
WRA	**Warramunga Arr**	**35.22**	**197**	P		**P**	**05 07 42.9**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=17,slow=9.5,SNR=11							
WRA				pP		**pP**	**05 08 23.1**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=20,slow=9.5,SNR=2.6							
	comp=Z,1.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**36.98**	**211**	P		**P**	**05 07 58.7**	**0.0**
ASAR	**Alice Springs**	**38.88**	**196**	P		**P**	**05 08 13.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=16,slow=9.5,SNR=4.1							
ASAR				pP		**pP**	**05 08 54.0**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=19,slow=9.7,SNR=2.0							
	comp=Z,0.4nm,0.7s							
DZM	**Mont Dzumac**	**41.78**	**149**	P		**P**	**05 08 40.1**	**+1.6**
DZM				IAmb		IAmb	05 08 41.1	
	comp=Z,6.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**43.96**	**282**	P		**P**	**05 08 55.7**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=100,slow=8.1,SNR=2.3							
	comp=Z,1.0nm,0.3s							
SONM	**Songino Array**	**46.23**	**325**	P		**P**	**05 09 14.7**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=142,slow=7.4,SNR=5.6							
	comp=Z,1.0nm,0.6s							
BBOO	**Buckleboo**	**47.27**	**190**	P		**P**	**05 09 21.6**	**0.0**
MKAR	**Makanchi Array**	**61.00**	**316**	P		**P**	**05 11 01.7**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=90,slow=8.6,SNR=8.0							
	comp=Z,1.2nm,0.7s							
ZALV	**Zalesovo Beam**	**61.12**	**324**	P		**P**	**05 11 01.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=72,slow=9.3,SNR=2.0							
	comp=Z,0.4nm,0.5s							
KURK	**Kurchatov**	**64.09**	**320**			**P**	**05 11 21.5**	**+0.5**
KURK				IAmb		IAmb	05 11 22.3	
	comp=Z,5.6nm,1.1s							
KURBB	**Kurchatov Arra**	**64.13**	**320**	P		**P**	**05 11 21.8**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=103,slow=6.6,SNR=18							
KURBB				pP		**pP**	**05 12 07.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=104,slow=6.7,SNR=1.5							
	comp=Z,2.7nm,0.7s							
ILAR	**Eielson Array**	**68.31**	**25**	P		**P**	**05 11 45.7**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=250,slow=5.7,SNR=10.0							
	comp=Z,0.7nm,0.6s							
BVAR	**Borovoye Array**	**69.43**	**322**	P		**P**	**05 11 55.1**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=96,slow=7.5,SNR=9.1							
	comp=Z,1.9nm,0.5s							
YKA	**Yellowknife Ar**	**82.61**	**27**	P		**P**	**05 13 09.1**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=286,slow=5.8,SNR=3.6							
	comp=Z,1.0nm,0.8s							
PINE	**Pine Mountain**	**83.62**	**47**			**P**	**05 13 15.7**	**+0.9**
PINE				IAmb		IAmb	05 13 16.0	
	comp=Z,3.7nm,0.6s							
NVAR	**Mina Array Bea**	**86.87**	**51**	P		**P**	**05 13 31.3**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=264,slow=7.3,SNR=14							
	comp=Z,1.9nm,0.8s							
HLID	**Hailey**	**88.25**	**46**			**P**	**05 13 38.3**	**+0.9**
ELK	**Elko**	**88.50**	**48**			**P**	**05 13 39.8**	**+1.0**
ELK				IAmb		IAmb	05 13 40.8	
	comp=Z,4.0nm,1.0s							
TPNV	**Topopah Spring**	**88.84**	**52**	IAmb		IAmb	05 13 41.9	
	comp=Z,3.5nm,0.8s							
LPAZ	**La Paz**	**148.36**	**98**	PKPbc		**PKPbc**	**05 20 32.3**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=261,slow=3.0,SNR=1.8							

*MOS **19** 05:17:12.1, 43°.55N×45°.52E, h6km, MPVA3.9*
*NORS **19** 05:17:13.9, 43°.54N×45°.58E, h11km, MPVA3.9*
*TIF **19** 05:17:14.8, 43°.46N×45°.47E, h25km±2km*
*DRS **19** 05:17:15.4, 43°.43N×45°.22E, h30km*
ISC 19 05:17:14.1±0.7, 43°.57N±0°.03×45°.53E±0°.02, h11km±5km, n77, σ1s52/146, 8C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.60**	**285**	*e*PG		**Pg**	**05 17 25.3**	**-0.5**
TRKR				*e*S		**Sb**	**05 17 36.4**	**+1.3**
KMGR	**Komgaron**	**0.71**	**224**	*e*Pg		**Pg**	**05 17 28.1**	**+0.3**
KMGR				*e*Sg		**Sn**	**05 17 42.2**	**+1.2**
KMGR	**Komgaron**	**0.71**	**224**	*e*PG		**Pg**	**05 17 28.1**	**+0.3**
KMGR				*e*S		**Sn**	**05 17 42.2**	**+1.2**
BTKR	**Batakoyurt**	**0.75**	**255**	*e*Pg		**Pb**	**05 17 29.8**	**+0.7**
BTKR				*e*Sg		**Sb**	**05 17 41.8**	**+2.3**
BTKR	**Batakoyurt**	**0.75**	**255**	*e*PG		**Pb**	**05 17 29.0**	**-0.2**
BTKR				*e*S		**Sb**	**05 17 39.2**	**-0.2**
DVE	**Vedeno**	**0.75**	**145**	*e*PG		**Pg**	**05 17 26.8**	**-1.9**
DVE				*e*S		**Sg**	**05 17 37.8**	**-0.7**
VLKR	**Vladikavkaz**	**0.82**	**230**	*e*Pg		**Pg**	**05 17 29.7**	**-0.2**
VLKR				*e*Sg		**Sb**	**05 17 42.3**	**+1.0**
VLKR	**Vladikavkaz**	**0.82**	**230**	*e*PG		**Pg**	**05 17 29.7**	**-0.2**
VLKR				*e*S		**Sb**	**05 17 42.3**	**+1.0**
PRTR	**Priterechnaya**	**0.93**	**282**	*e*Pg		**Pb**	**05 17 32.6**	**+0.5**
PRTR				*e*Sg		**Sn**	**05 17 47.0**	**+0.7**
PRTR	**Priterechnaya**	**0.93**	**282**	*e*PG		**Pb**	**05 17 32.6**	**+0.5**
PRTR				*e*S		**Sn**	**05 17 47.0**	**+0.7**
DLMR	**Dylym**	**0.94**	**122**	*e*Pg		**Pn**	**05 17 33.8**	**+0.4**
DLMR				*e*Sg		**Sn**	**05 17 49.0**	**+2.2**
DLMR	**Dylym**	**0.94**	**122**	*e*PG		**Pn**	**05 17 33.8**	**+0.4**
DLMR				*e*S		**Sn**	**05 17 49.0**	**+2.2**
SHTL	**Shatili**	**0.96**	**197**	P		**Pg**	**05 17 30.9**	**-1.6**
SHTL				S		**Sg**	**05 17 45.5**	**+0.5**
SHTL	**Shatili**	**0.96**	**197**	*e*Pg		**Pg**	**05 17 30.9**	**-1.6**
SHTL				*e*Sg		**Sg**	**05 17 45.5**	**+0.5**
SHTL	**Shatili**	**0.96**	**197**	*e*PG		**Pg**	**05 17 30.9**	**-1.6**
SHTL				*e*S		**Sg**	**05 17 45.5**	**+0.5**
BTLR	**Botlikh**	**1.04**	**151**	*e*Pg		**Pg**	**05 17 33.9**	**-0.2**
BTLR				*e*Sg		**Sb**	**05 17 49.0**	**+1.2**
BTLR	**Botlikh**	**1.04**	**151**	*ce*PG		**Pg**	**05 17 32.6**	**-1.5**
STDR	**Stavd-Durt**	**1.09**	**260**	*e*Pg		**Pg**	**05 17 34.9**	**-0.2**
STDR				*e*Sg		**Sn**	**05 17 52.3**	**+1.9**
STDR	**Stavd-Durt**	**1.09**	**260**	*e*PG		**Pg**	**05 17 34.8**	**-0.2**
STDR				*e*S		**Sn**	**05 17 52.3**	**+1.9**
LACR	**Lac**	**1.17**	**231**	*e*Pg		**Pg**	**05 17 34.8**	**-1.8**
LACR				*e*Sg		**Sb**	**05 17 52.2**	**+0.6**
LACR	**Lac**	**1.17**	**231**	*e*PG		**Pg**	**05 17 34.8**	**-1.8**
LACR				*e*S		**Sb**	**05 17 52.2**	**+0.6**
KRNR	**Karanay**	**1.25**	**126**	*e*Pg		**Pb**	**05 17 37.9**	**+0.1**
KRNR				*e*Sg		**Sn**	**05 17 55.9**	**+1.4**
KRNR	**Karanay**	**1.25**	**126**	*e*PG		**Pb**	**05 17 37.8**	**+0.1**
KRNR				*e*S		**Sn**	**05 17 55.9**	**+1.4**
KRNR				pmax	pmax			
	comp=Z,46nm,0.5s							
UNCR	**Uncukul**	**1.26**	**132**	*e*Pg		**Pg**	**05 17 36.9**	**-1.4**
UNCR				*e*Sg		**Sb**	**05 17 54.7**	**+0.6**
UNCR	**Uncukul**	**1.26**	**132**	*e*PG		**Pg**	**05 17 36.9**	**-1.4**
UNCR				*e*S		**Sb**	**05 17 54.7**	**+0.6**
LSNR	**Lesken**	**1.28**	**257**	*e*Pg		**Pg**	**05 17 37.8**	**-0.9**
LSNR				*e*Sg		**Sn**	**05 17 56.9**	**+1.8**
LSNR	**Lesken**	**1.28**	**257**	*e*PG		**Pg**	**05 17 37.8**	**-0.9**
LSNR				*e*S		**Sn**	**05 17 56.9**	**+1.8**
HNZR	**Khunzah**	**1.33**	**139**	*i* PG		**Pg**	**05 17 38.8**	**-0.9**
HNZR				*e*S		**Sn**	**05 17 57.5**	**+0.9**
XNZR	**Khunzakh**	**1.34**	**140**	*i* Pg		**Pg**	**05 17 38.8**	**-1.1**
XNZR				*e*Sg		**Sb**	**05 17 57.5**	**+0.9**
GUDG	**Gudauri**	**1.35**	**215**	P		**Pg**	**05 17 37.7**	**-2.4**
GUDG				*e*Sg		**Sb**	**05 17 56.0**	**-1.7**
GUDG	**Gudauri**	**1.35**	**215**	*e*Pg		**Pg**	**05 17 37.7**	**-2.4**
GUDG				*e*Sg		**Sg**	**05 17 56.0**	**-1.7**
GUDG	**Gudauri**	**1.35**	**215**	*e*PG		**Pg**	**05 17 37.7**	**-2.4**
GUDG				*e*S		**Sg**	**05 17 55.9**	**-1.7**
BUJR	**Buynaksk**	**1.37**	**122**	*e*Pg		**Pg**	**05 17 39.8**	**-0.7**
BUJR				*e*Sg		**Sn**	**05 18 00.2**	**+2.8**
BUJR	**Buynaksk**	**1.37**	**122**	*e*PG		**Pg**	**05 17 39.8**	**-0.7**
BUJR				*e*S		**Sn**	**05 18 00.2**	**+2.8**
NCK	**Nalchik**	**1.41**	**268**	*e*Pg		**Pn**	**05 17 39.4**	**-0.3**
NCK				*e*Sg		**Sb**	**05 17 59.4**	**+0.9**
NCK	**Nalchik**	**1.41**	**268**	*e*PG		**Pn**	**05 17 39.4**	**-0.3**
NCK				*e*S		**Sb**	**05 17 59.4**	**+0.9**
ARKR	**Arakani**	**1.44**	**132**	*i* Pg		**Pn**	**05 17 40.6**	**+0.4**
ARKR				*e*Sg		**Sn**	**05 18 01.6**	**+2.4**
ARKR	**Arakani**	**1.44**	**132**	⇑*i* PG		**Pn**	**05 17 40.6**	**+0.4**
ARKR				*e*S		**Sn**	**05 18 01.6**	**+2.4**
ARKR				pmax	pmax			
	comp=Z,54nm,0.3s							
KBTC	**Kuba-Taba**	**1.56**	**280**	*e*Pg		**Pn**	**05 17 42.5**	**+0.6**
KBTC				*e*Sg		**Sg**	**05 18 04.0**	**-0.3**
KBTC	**Kuba-Taba**	**1.56**	**280**	*e*PG		**Pn**	**05 17 42.5**	**+0.6**
KBTC				*e*S		**Sg**	**05 18 04.0**	**-0.3**
MAK	**Makhachkala**	**1.56**	**112**	⇑*i* PG		**Pn**	**05 17 41.3**	**-0.5**
MAK				*e*S		**Sb**	**05 18 03.2**	**+0.4**
MAK				pmax	pmax			
	comp=Z,115nm,0.2s							
MAK				smax	smax			
	comp=E,508nm,0.4s							
MAK				smax	smax			
	comp=E,369nm,0.4s							
DIGR	**Digorskoe uzhe**	**1.58**	**245**	*e*PG		**Pn**	**05 17 41.5**	**-0.7**
DIGR				*e*S		**Sn**	**05 18 02.1**	**-0.6**
GNBR	**Gunib**	**1.58**	**138**	*e*Pg		**Pn**	**05 17 42.8**	**+0.7**
GNBR				*e*Sg		**Sg**	**05 18 05.6**	**+0.7**
GNBR	**Gunib**	**1.58**	**138**	*c i*PG		**Pn**	**05 17 42.9**	**+0.7**
GNBR				*e*S		**Sn**	**05 18 03.5**	**+0.9**
GNBR				pmax	pmax			
	comp=Z,80nm,0.8s							
GNBR				smax	smax			
	comp=Z,187nm,0.5s							
TLTR	**Tlyarata**	**1.58**	**157**	*e*Pg		**Pn**	**05 17 41.8**	**-0.5**
TLTR				*e*Sg		**Sn**	**05 18 03.3**	**+0.5**
TLTR	**Tlyarata**	**1.58**	**157**	*e*PG		**Pn**	**05 17 41.8**	**-0.5**
TLTR				*e*S		**Sn**	**05 18 03.3**	**+0.5**
GARIG	**Gari**	**1.79**	**238**	P		**Pn**	**05 17 45.5**	**+0.4**
GARIG				S		**Sn**	**05 18 08.6**	**+0.7**
KMKR	**Kumukh**	**1.84**	**141**	*e*PN		**Pn**	**05 17 46.5**	**+0.6**
KMKR				*e*S		**Sb**	**05 18 11.9**	**+0.8**
KMKR				pmax	pmax			
	comp=Z,14nm,0.1s							
KBZ	**Khabaz**	**1.92**	**276**	*e*Pg		**Pn**	**05 17 45.8**	**-0.9**
KBZ				*e*Sg		**Sn**	**05 18 12.0**	**+1.2**
KBZ	**Khabaz**	**1.92**	**276**	*e*PN		**Pn**	**05 17 45.8**	**-0.9**
NEUR	**Neytrino**	**2.09**	**262**	*e*Pg		Pn	05 17 39.8	-9.4
NEUR				*e*Sg		Sn	05 18 06.9	-8.4
NEUR	**Neytrino**	**2.09**	**262**	*e*PN		Pn	05 17 39.8	-9.4
URKR	**Urkarakh**	**2.09**	**132**	*e*Pg		**Pn**	**05 17 50.5**	**+1.3**
URKR				*e*Sg		**Sb**	**05 18 18.2**	**+0.1**
URKR	**Urkarakh**	**2.09**	**132**	*e*PN		**Pn**	**05 17 50.5**	**+1.3**
URKR				*e*S		**Sb**	**05 18 18.2**	**+0.1**
SHA1	**Shidzhatmaz**	**2.09**	**276**	*e*Pg		**Pn**	**05 17 48.3**	**-1.0**
SHA1				*e*Sg		**Sn**	**05 18 17.0**	**+1.5**
SHA1	**Shidzhatmaz**	**2.09**	**276**	*e*PN		**Pn**	**05 17 48.3**	**-1.0**
KIV	**Kislovodsk**	**2.10**	**282**	*e*Pg		**Pn**	**05 17 48.5**	**-0.8**
KIV				*e*Sg		**Sn**	**05 18 17.7**	**+2.3**
KIV	**Kislovodsk**	**2.10**	**282**	*e*PN		**Pn**	**05 17 48.5**	**-0.8**
KIV				*e*S		**Sn**	**05 18 17.7**	**+2.3**
DGRG	**David-gareji**	**2.12**	**183**	P		**Pn**	**05 17 51.0**	**+1.4**
DGRG	**David-gareji**	**2.12**	**183**	*e*PN		**Pn**	**05 17 50.9**	**+1.4**
TRLG	**Trialeti**	**2.29**	**208**	P		**Pn**	**05 17 52.3**	**+0.3**
TRLG	**Trialeti**	**2.29**	**208**	*e*PN		**Pn**	**05 17 52.2**	**+0.3**
GOF	**Gofitskoye**	**2.32**	**311**	*e*Pn		**Pn**	**05 17 53.4**	**+1.0**
GOF				*e*Sn		**Sn**	**05 18 23.2**	**+2.3**
GOF	**Gofitskoye**	**2.32**	**311**	*e*PN		**Pn**	**05 17 53.3**	**+1.0**
GOF				*e*S		**Sn**	**05 18 23.2**	**+2.3**
VSHL	**Vashlovani**	**2.43**	**164**	P		**Pn**	**05 17 55.8**	**+2.0**
AKH	**Akhalkalaki**	**2.63**	**216**	*e*Pn		**Pn**	**05 17 58.9**	**+2.2**
AKH				*e*Sn		**Sn**	**05 18 28.5**	**-0.3**
AKH	**Akhalkalaki**	**2.63**	**216**	*e*PN		**Pn**	**05 17 58.9**	**+2.2**
AKH				*e*S		**Sn**	**05 18 28.5**	**-0.3**
AKT	**Akhty**	**2.65**	**141**	*e*Pn		**Pn**	**05 17 57.0**	**+0.1**
AKT				*e*Sn		**Sn**	**05 18 31.1**	**+2.1**
AKT	**Akhty**	**2.65**	**141**	⇑*e*PN		**Pn**	**05 17 58.8**	**+2.0**
KSMR	**Kasumkent**	**2.75**	**135**	*e*Pn		**Pn**	**05 18 00.3**	**+2.1**
KSMR				*e*Sn		**Sn**	**05 18 33.4**	**+2.1**
KSMR	**Kasumkent**	**2.75**	**135**	*e*PN		**Pn**	**05 18 00.3**	**+2.1**
KSMR				*e*S		**Sn**	**05 18 33.4**	**+2.1**
GRYR	**Gornoye**	**3.26**	**281**	*e*PN		**Pg**	**05 18 14.4**	**-2.1**
GRYR		

ONTNC	Ouen Toro	4.43	199	P	Pn	05 22 32.8 -2.5
OUENC	Ouen Island, N	4.43	194	P	Pn	05 22 35.6 +0.3
OUENC	Ouen Island, N	4.43	194	S	Sn	05 23 29.2 +1.7
OUENC	Ouen Island, N	4.43	194	P	Pn	05 22 35.4 +0.1
OUENC	Ouen Island, N	4.43	194	P	Pn	05 22 32.5 -2.8
PINNC	Pines Island,	4.51	187	P	Pn	05 22 36.2 -0.2
PINNC	Pines Island,	4.51	187	S	Sn	05 23 29.9 +0.3

NEIC ***19*** *05:28:33.0±1.3, 18°.5N±0°.4×68°.94W±0°.07, h131km±14km, ML3.0/24, Md3.3/19(RSPR), Error ellipse: s-maj=55.1km s-min=7.9km az=185.0*
RSPR ***19*** *05:28:32.0, 18°.50N×68°.96W, h141km±1km, MD3.3/19*
OSPL ***19*** *05:28:33.4±2.7, 18°.45N×68°.93W, h155km±24km, ML2.8*
SDD ***19*** *05:28:33.5±2.7, 18°.52N×68°.91W, h146km±10km, MD3.5, ML3.1, MW3.3*

ISC 19 05:28:32.6±1.3, 18°.50N±0°.06×68°.94W±0°.03, h136km±7km, n77, σ0.95/107, 45C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.23**	**66**	↑*eP*	**Pn**	**05 28 51.1**	**-0.2**
HIDR	**Higuey Centro**	**0.23**	**66**	*eS*	**Sn**	**05 29 05.3**	**-0.1**
HIDR	**Higuey Centro**	**0.23**	**66**	↑*ePg*	**Pn**	**05 28 51.0**	**-0.3**
HIDR				↑*eSg*	**Sn**	**05 29 05.6**	**+0.2**
HIDR				IAML		05 29 07.2	
	comp=N,1μm,0.2s						
SADR	**Isla Saona**	**0.34**	**153**	↑*eP*	**Pn**	**05 28 51.2**	**-0.5**
SADR	**Isla Saona**	**0.34**	**153**	*eS*	**Sn**	**05 29 06.5**	**+0.5**
SADR	**Isla Saona**	**0.34**	**153**	↓*ePg*	**Pn**	**05 28 51.2**	**-0.5**
SADR				↑*ePg*	**Pn**	**05 28 51.4**	**-0.2**
SADR				↑*eSg*	**Sn**	**05 29 07.2**	**+1.1**
SADR				↑*eSg*	**Sn**	**05 29 07.2**	**+1.1**
SADR				IAML		05 29 08.1	
	comp=N,569nm,0.3s						
MIDR	**Miches**	**0.50**	**348**	↑*eP*	**Pn**	**05 28 52.0**	**-0.3**
MIDR	**Miches**	**0.50**	**348**	*eS*	**Sn**	**05 29 07.6**	**+0.3**
MIDR	**Miches**	**0.50**	**348**	↑*ePg*	**Pn**	**05 28 52.0**	**-0.3**
MIDR				↑*ePg*	**Pn**	**05 28 52.4**	**0.0**
MIDR				↑*eSg*	**Sn**	**05 29 07.7**	**+0.3**
MIDR				IAML		05 29 08.9	
	comp=N,244nm,0.2s						
DR12	**Loma Pena Alta**	**0.51**	**305**		**Pn**	**05 28 52.1**	**-0.4**
DR12				Sn	**Sn**	**05 29 07.8**	**+0.1**
HATOM	**Hato Mayor del**	**0.51**	**305**	↑*eP*	**Pn**	**05 28 52.1**	**-0.4**
HATOM				↑*eSg*	**Sn**	**05 29 07.0**	**-0.6**
HATOM				IAML		05 29 08.8	
	comp=N,414nm,0.3s						
PCDR	**Punta Cana, DR**	**0.53**	**88**	*e*Sg	**Sn**	**05 29 08.9**	**+1.3**
PCDR				IAML		05 29 10.9	
	comp=N,228nm,0.8s						
SMDR	**Samana, DR**	**0.82**	**343**	↑*eP*	**Pn**	**05 28 53.6**	**-1.0**
SMDR	**Samana, DR**	**0.82**	**343**	*eS*	**Sn**	**05 29 11.6**	**+0.3**
SMDR	**Samana, DR**	**0.82**	**343**	↑*ePg*	**Pn**	**05 28 53.6**	**-1.0**
SMDR				↑*eSg*	**Sn**	**05 29 11.4**	**0.0**
SMDR				IAML		05 29 18.5	
	comp=N,113nm,0.6s						
SDD	**Santo Domingo**	**0.93**	**268**	Pn	**Pn**	**05 28 54.6**	**-0.8**
SDD				Sn	**Sn**	**05 29 11.2**	**-1.5**
SDD	**Santo Domingo**	**0.93**	**268**	*eS*	**Sn**	**05 29 13.2**	**+0.5**
SDD	**Santo Domingo**	**0.93**	**268**	↑*ePg*	**Pn**	**05 28 56.4**	**+1.0**
SDD				↑*eSg*	**Sn**	**05 29 14.3**	**+1.6**
SDD				IAML		05 29 54.9	
	comp=N,36nm,2.6s						
DR08	**Loma La Naviza**	**1.13**	**295**	↑*eP*	**Pn**	**05 28 56.5**	**-0.8**
DR08				↓*eSg*	**Sn**	**05 29 15.9**	**-0.3**
DR08				IAML		05 29 16.7	
	comp=N,5μm,0.1s						
NADR	**Nagua**	**1.22**	**315**	↑*eSg*	**Sn**	**05 29 17.5**	**-0.1**
NADR				IAML		05 29 18.5	
	comp=N,388nm,0.3s						
BANI	**BANI**	**1.35**	**266**	Pn	**Pn**	**05 28 59.6**	**-0.1**
BANI				Sn	**Sn**	**05 29 20.1**	**-0.1**
BANI	**BANI**	**1.35**	**266**	↑*ePg*	**Pn**	**05 28 59.3**	**-0.4**
BANI				↑*eSg*	**Sn**	**05 29 21.0**	**+0.8**
BANI				IAML		05 29 24.7	
	comp=N,165nm,0.3s						
IDE	**Isla Desecheo**	**1.40**	**94**		**Pn**	**05 28 59.3**	**-0.7**
IDE	**Isla Desecheo**	**1.40**	**94**	↑*eP*	**Pn**	**05 28 59.3**	**-0.7**
AGPR	**Aguadilla, PR**	**1.73**	**91**		**Pn**	**05 29 04.5**	**+0.7**
AGPR					**Sn**	**05 29 27.1**	**-0.6**
AGPR				IAML		05 29 34.0	
	comp=E,125nm,0.7s						
AGPR				IAML		05 29 35.2	
	comp=N,81nm,0.5s						
AGPR	**Aguadilla, PR**	**1.73**	**91**	↑*eP*	**Pn**	**05 29 04.4**	**+0.6**
AGPR	**Aguadilla, PR**	**1.73**	**91**	*eS*	**Sn**	**05 29 28.2**	**+0.5**
AGPR	**Aguadilla, PR**	**1.73**	**91**	*i* P	**Pn**	**05 29 04.7**	**+0.9**
AGPR				*eS*	**Sn**	**05 29 27.7**	**0.0**
AGPR				IAML		05 29 33.5	
	comp=Z,58nm,1.1s						
AGPR	**Aguadilla, PR**	**1.73**	**91**	↑*ePg*	**Pn**	**05 29 04.5**	**+0.7**
AGPR				↑*eSg*	**Sn**	**05 29 26.9**	**-0.8**
AGPR				IAML		05 29 33.9	
	comp=N,140nm,0.3s						
LSP	**Las Mesas**	**1.79**	**100**		**Pn**	**05 29 04.3**	**-0.2**
LSP	**Las Mesas**	**1.79**	**100**	↑*eP*	**Pn**	**05 29 04.3**	**-0.2**
MLPR	**Magueyes Islan**	**1.88**	**106**	*eP*	**Pn**	**05 29 04.3**	**-1.1**
MLPR	**Magueyes Islan**	**1.88**	**106**	*eS*	**Sn**	**05 29 30.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.88**	**106**	↑*ePg*	**Pn**	**05 29 04.6**	**-0.8**
MLPR				↓*eSg*	**Sn**	**05 29 30.6**	**0.0**
MLPR				IAML		05 29 39.3	
	comp=N,13nm,0.5s						
SC01	**Santiago de lo**	**1.93**	**299**	Pn	**Pn**	**05 29 06.3**	**+0.2**
SC01				IAML		05 29 33.8	
	comp=N,112nm,0.4s						
SC01				IAML		05 29 34.0	
	comp=E,112nm,0.2s						
SC01	**Santiago de lo**	**1.93**	**299**	*i* P	**Pn**	**05 29 06.6**	**+0.5**
SC01				*eS*	**Sn**	**05 29 32.4**	**+0.7**
SC01				IAML		05 29 39.2	
	comp=Z,38nm,0.3s						
SC01	**Santiago de lo**	**1.93**	**299**	↑*ePg*	**Pn**	**05 29 06.6**	**+0.5**
SC01				↓*eSg*	**Sn**	**05 29 31.5**	**-0.2**
SC01				IAML		05 29 33.7	
	comp=N,107nm,0.5s						
AOPR	**Arecibo Observ**	**2.08**	**94**		**Pn**	**05 29 08.2**	**+0.3**
AOPR				Sn	**Sn**	**05 29 34.9**	**0.0**
AOPR	**Arecibo Observ**	**2.08**	**94**	↑*eP*	**Pn**	**05 29 08.1**	**+0.3**
AOPR	**Arecibo Observ**	**2.08**	**94**	*eS*	**Sn**	**05 29 36.4**	**+1.4**
AOPR	**Arecibo Observ**	**2.08**	**94**	↓*ePg*	**Pn**	**05 29 08.2**	**+0.3**
AOPR				IAML		05 29 40.6	
	comp=N,232nm,0.2s						
UUPR	**Utuado, UPR, P**	**2.12**	**96**		**Pn**	**05 29 08.9**	**+0.6**
UUPR					**Sn**	**05 29 36.0**	**+0.2**
UUPR	**Utuado, UPR, P**	**2.12**	**96**	↑*eP*	**Pn**	**05 29 09.0**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.12**	**96**	*eS*	**Sn**	**05 29 37.0**	**+1.2**
OBIP	**Obispado Ponce**	**2.26**	**101**		**Pn**	**05 29 10.0**	**-0.1**
OBIP					**Sn**	**05 29 38.5**	**-0.5**
OBIP				IAML		05 29 43.6	
	comp=E,36nm,0.5s						
OBIP	**Obispado Ponce**	**2.26**	**101**	↑*eP*	**Pn**	**05 29 10.1**	**0.0**
OBIP	**Obispado Ponce**	**2.26**	**101**	*eS*	**Sn**	**05 29 38.4**	**-0.5**
SDDR	**Presa de Saban**	**2.28**	**283**	Pn	**Pn**	**05 29 10.3**	**0.0**
SDDR				IAML		05 29 46.9	
	comp=E,35nm,0.6s						
SDDR	**Presa de Saban**	**2.28**	**283**	*i* P	**Pn**	**05 29 11.6**	**+1.2**
SDDR				*eS*	**Sn**	**05 29 39.9**	**+0.6**
SDDR				IAML		05 29 44.3	
	comp=Z,15nm,0.4s						
SDDR	**Presa de Saban**	**2.28**	**283**	↑*ePg*	**Pn**	**05 29 11.5**	**+1.2**
SDDR				IAML		05 29 42.1	
	comp=N,27nm,0.8s						
CELP	**Cerrillos**	**2.28**	**100**		**Pn**	**05 29 10.0**	**-0.4**
CELP					**Sn**	**05 29 39.5**	**+0.1**
CELP				IAML		05 29 45.3	
	comp=N,91nm,0.3s						
CELP				IAML		05 29 45.9	
	comp=E,53nm,0.4s						
CELP	**Cerrillos**	**2.28**	**100**	↑*eP*	**Pn**	**05 29 10.0**	**-0.4**
CELP	**Cerrillos**	**2.28**	**100**	*eS*	**Sn**	**05 29 40.5**	**+1.1**
CELP	**Cerrillos**	**2.28**	**100**	↑*ePg*	**Pn**	**05 29 09.9**	**-0.5**
CELP				IAML		05 29 45.2	
	comp=N,90nm,0.3s						
EMPR	**Esperanza - Ma**	**2.29**	**90**		**Pn**	**05 29 09.9**	**-0.5**
EMPR					**Sn**	**05 29 38.3**	**-1.1**
EMPR	**Esperanza - Ma**	**2.29**	**90**	↑*eP*	**Pn**	**05 29 11.4**	**+1.0**
EMPR	**Esperanza - Ma**	**2.29**	**90**	*eS*	**Sn**	**05 29 39.3**	**-0.2**
LUDR	**Luperon**	**2.36**	**306**	↑*eSg*	**Sn**	**05 29 40.4**	**-0.6**
LODU1	**El Espartillar**	**2.41**	**267**	*i* P	**Pn**	**05 29 11.6**	**-0.3**
LODU1				IAML		05 29 41.5	
	comp=Z,41nm,1.3s						
LODU1				*eS*	**Sn**	**05 29 42.7**	**+0.5**
REDR	**Restauracion**	**2.42**	**286**	↑*eSg*	**Sn**	**05 29 48.0**	**+5.6**
REDR				IAML		05 29 49.2	
	comp=N,86nm,0.1s						
ECPR	**Experimental S**	**2.45**	**94**	↑*eP*	**Pn**	**05 29 12.3**	**-0.2**
ECPR	**Experimental S**	**2.45**	**94**	*eS*	**Sn**	**05 29 43.7**	**+0.5**
LOPP1	**Punta Rusia, P**	**2.53**	**303**	*eS*	**Sn**	**05 29 42.2**	**-2.6**
LOBH	**Bahia de las A**	**2.64**	**257**	*i* P	**Pn**	**05 29 13.7**	**-1.2**
LOBH				*eS*	**Sn**	**05 29 44.8**	**-2.6**
LOBH				IAML		05 29 48.4	
	comp=Z,48nm,1.4s						
SJG	**San Juan**	**2.68**	**98**	*eS*	**Sn**	**05 29 48.9**	**+0.7**
GCPR	**Guaynabo City**	**2.72**	**93**		**Pn**	**05 29 14.8**	**-1.0**
GCPR				Sn	**Sn**	**05 29 48.3**	**-0.9**
GCPR	**Guaynabo City**	**2.72**	**93**	↑*eP*	**Pn**	**05 29 14.9**	**-1.0**
GCPR	**Guaynabo City**	**2.72**	**93**	*eS*	**Sn**	**05 29 49.9**	**+0.8**
IGPR	**InterUniversit**	**2.74**	**101**		**Pn**	**05 29 15.9**	**-0.2**
IGPR					**Sn**	**05 29 50.8**	**+1.1**
IGPR	**InterUniversit**	**2.74**	**101**	↑*eP*	**Pn**	**05 29 15.9**	**-0.2**
IGPR	**InterUniversit**	**2.74**	**101**	*eS*	**Sn**	**05 29 50.8**	**+1.1**
PDPR	**Patillas Dam,**	**2.81**	**99**	Pn	**Pn**	**05 29 16.5**	**-0.5**
PDPR				IAML		05 29 57.9	
	comp=N,41nm,0.3s						
PDPR				IAML		05 29 59.5	
	comp=E,30nm,0.2s						
PDPR	**Patillas Dam,**	**2.81**	**99**	↑*eP*	**Pn**	**05 29 17.4**	**+0.4**
PDPR	**Patillas Dam,**	**2.81**	**99**	*eS*	**Sn**	**05 29 51.6**	**+0.4**
HUMP	**Col San Antoni**	**2.96**	**96**		**Pn**	**05 29 17.4**	**-1.5**
HUMP				IAML		05 29 59.8	
	comp=E,66nm,0.2s						
HUMP				IAML		05 30 00.9	
	comp=N,56nm,0.2s						
HUMP	**Col San Antoni**	**2.96**	**96**	↑*eP*	**Pn**	**05 29 18.3**	**-0.6**
HUMP	**Col San Antoni**	**2.96**	**96**	*eS*	**Sn**	**05 29 55.5**	**+0.9**

NEIC ***19*** *05:37:43.4±1.5, 12°.35S±0°.05×75°.27W±0°.06, h10km±1km, mb4.7/90, Error ellipse: s-maj=10.5km s-min=7.2km az=48.0*
IDC ***19*** *05:37:44.9±2.2, 12°.32S×75°.32W, h24km±15km, mb3.8/17, mbtmp4.0/21, ML3.6/4, MS3.9/33, Error ellipse: s-maj=18.1km s-min=10.7km az=49.0*
VAO ***19*** *05:37:46.0±0.6, 12°.06S×74°.91W, h10km, mb4.5*

ISC 19 05:37:42.7±0.4, 12°.29S±0°.05×75°.22W±0°.06, h10km, n208, σ1.9/18/182, mb4.6/50, MS4.0/31, 1C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.61**	**281**		**Pn**	**05 38 11.3**	**0.0**
NNA					**Sn**	**05 38 30.3**	**-1.9**
NNA	**Nana**	**1.61**	**281**	Pg	**Pn**	**05 38 11.2**	**-0.1**
	70nm,0.3s,baz=112,slow=14,SNR=134						
NNA				Lg	Lg	05 38 35.1	
	127nm,0.3s,baz=53,slow=23,SNR=6.0						
CZSB	**Cruzeiro do Su**	**5.17**	**29**		**Pn**	**05 39 01.9**	**+1.7**
CZSB	**Cruzeiro do Su**	**5.17**	**29**	*eP*	**Pn**	**05 38 59.4**	**-0.9**
CZSB	**Cruzeiro do Su**	**5.17**	**29**	P	**Pn**	**05 39 02.5**	**+2.3**
	4μm9μm996nm,0.7s						
ATAH	**Atahualpa**	**6.00**	**328**	Pn	**Pn**	**05 39 14.1**	**+2.0**
	5.7nm,0.3s,baz=187,slow=7.7,SNR=29						
ATAH				Lg	Lg	05 40 56.5	
	3.4nm,0.3s,baz=30,slow=16,SNR=2.3						
	27nm,0.6s						
PB18	**Visviri**	**7.65**	**134**	Pn	**Pn**	**05 39 33.9**	**-0.9**
LPAZ	**La Paz**	**7.94**	**121**		**Pn**	**05 39 39.3**	**+0.5**
LPAZ	**La Paz**	**7.94**	**121**	Pn	**Pn**	**05 39 41.6**	**+2.8**
	0.2nm,0.3s,baz=320,slow=11,SNR=15						
LPAZ				Lg	Lg	05 41 59.8	
	3.8nm,0.3s,baz=189,slow=24,SNR=7.6						
LPAZ				LR	LR	05 43 36.9	
	comp=Z,1μm,18.1s,baz=305,slow=44						
	6.0nm,0.6s						
LPAZ	**La Paz**	**7.94**	**121**	*eP*	**Pn**	**05 39 39.5**	**+0.6**
PB16	**IPOC Station P**	**8.15**	**138**		**Pn**	**05 39 42.2**	**+0.5**
PB11	**IPOC Station P**	**9.15**	**145**		**Pn**	**05 39 55.5**	**+0.4**
TA02	**Huaiquique**	**9.32**	**149**	Pn	**Pn**	**05 39 57.5**	**+0.4**
GO01	**Chusmiza**	**9.35**	**142**		**Pn**	**05 39 57.7**	**-0.3**
TBTG	**Tabatinga, AM**	**9.62**	**34**		**Pn**	**05 40 01.9**	**+0.6**
TBTG	**Tabatinga, AM**	**9.62**	**34**	*eP*	**Pn**	**05 39 60.0**	**-1.4**
TBTG	**Tabatinga, AM**	**9.62**	**34**	P	**Pn**	**05 40 02.0**	**+0.6**
	3μm334nm,0.8s						
PB08	**IPOC Station P**	**9.74**	**144**		**Pn**	**05 40 03.0**	**-0.4**
PATCX	**Punta Patache**	**9.77**	**151**	Pn	**Pn**	**05 40 03.0**	**-0.5**
PB01	**IPOC Station P**	**10.29**	**148**	Pn	**Pn**	**05 40 09.9**	**-0.7**
PB02	**IPOC Station P**	**10.32**	**151**	Pn	**Pn**	**05 40 10.1**	**-1.0**
COHC	**Cochancay**	**10.55**	**337**		**Pn**	**05 40 16.1**	**+2.0**
COHC	**Cochancay**	**10.55**	**337**	P	**Pn**	**05 40 16.2**	**+2.1**
	715nm52nm,0.6s						
PB03	**IPOC Station P**	**11.02**	**152**	Pn	**Pn**	**05 40 21.3**	**+0.6**
PB09	**IPOC Station P**	**11.04**	**150**	Pn	**Pn**	**05 40 21.8**	**+0.8**
PB05	**IPOC Station P**	**11.54**	**156**	Pn	**Pn**	**05 40 27.4**	**-0.4**
PIAT	**Ana Teresita**	**11.62**	**345**	P	**Pn**	**05 40 28.9**	**-0.2**
	506nm53nm,0.9s						
PB06	**IPOC Station P**	**11.67**	**153**	Pn	**Pn**	**05 40 29.2**	**-0.4**
OTAV	**Otavalo**	**12.86**	**345**		**Pn**	**05 40 46.5**	**+0.4**
OTAV	**Otavalo**	**12.86**	**345**	*eP*	**Pn**	**05 40 47.4**	**+1.3**
TEFE	**Tefe**	**13.64**	**51**	*eP*	**Pn**	**05 40 54.6**	**-1.8**
FLOC	**Florencia**	**13.79**	**358**		**Pn**	**05 40 59.3**	**+0.8**
GO02	**Mina Guanaco**	**13.86**	**158**	Pn	**Pn**	**05 41 00.0**	**+0.4**
SIV	**San Ignacio**	**14.21**	**107**	Pn	**Pn**	**05 41 07.0**	**+2.8**
	0.1nm,0.3s,baz=294,slow=10,SNR=16						
SIV				Lg	Lg	05 45 00.7	
	0.3nm,0.3s,baz=29,slow=24,SNR=3.5						
SIV				LR	LR	05 47 18.2	
	comp=Z,478nm,21.8s,baz=296,slow=40						
	2.0nm,0.4s						
BBAC	**Balboa, Cauca**	**14.36**	**352**	P	**Pn**	**05 41 09.4**	**+2.9**
	45nm,1.1s						
MACC	**Macarena, Meta**	**14.41**	**6**	P	**Pn**	**05 41 06.8**	**-0.2**
	707nm54nm,0.7s						
SGC2	**Sao Gabriel da**	**14.58**	**35**	P	**Pn**	**05 41 05.8**	**-3.4**
	796nm34nm,0.8s						
VILB	**Vilhena**	**14.68**	**94**		**Pn**	**05 41 11.0**	**+0.4**
VILB	**Vilhena**	**14.68**	**94**	*eP*	**Pn**	**05 41 10.6**	**0.0**
AC02	**Maricunga**	**15.56**	**159**		**Pn**	**05 41 21.7**	**-1.0**
AC06	**Mina Casimiro**	**15.67**	**164**		**Pn**	**05 41 23.6**	**-0.1**
AC06				IAmb	IAmb	05 41 43.8	
	comp=Z,32nm,0.9s						
PTLB	**Pontes e Lacer**	**15.93**	**103**		**Pn**	**05 41 28.3**	**+1.1**
PTLB				IAmb	IAmb	05 41 42.2	
	comp=Z,49nm,0.9s						
PTLB	**Pontes e Lacer**	**15.93**	**103**	*eP*	**Pn**	**05 41 28.1**	**+0.9**
MACA	**Manacapuru-AM**	**17.02**	**59**		**Pn**	**05 41 38.5**	**-2.5**
MACA	**Manacapuru-AM**	**17.02**	**59**	*eP*	**Pn**	**05 41 38.1**	**-2.9**
ROSC	**El Rosal**	**17.05**	**3**	Pn	**Pn**	**05 41 41.2**	**-0.5**
ROSC				IAmb	IAmb	05 42 23.1	
	comp=Z,48nm,1.0s						
ROSC	**El Rosal**	**17.05**	**3**	P	**P**	**05 41 43.8**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=222,slow=17,SNR=7.4						
ROSC				Lg	Lg	05 46 44.3	
	comp=Z,1.3nm,0.3s,baz=256,slow=19,SNR=2.9						
	comp=Z,7.0nm,0.5s						
LCO	**Las Campanas**	**17.16**	**166**	Pn	**Pn**	**05 41 42.5**	**-0.5**
GUY2C	**Guyana, Caldas**	**17.40**	**360**	P	**P**	**05 41 51.6**	**+4.0**
	comp=Z,630nmcomp=Z,48nm,0.9s						
CBOC	**Ciudad Bolivar**	**18.06**	**357**	P	**P**	**05 41 59.8**	**+5.3**
	comp=Z,601nmcomp=Z,44nm,1.6s						
PDRB	**Porto dos Gac**	**18.11**	**90**	*eP*	**Pn**	**05 41 54.5**	**-0.1**
RUSC	**La Rusia**	**18.19**	**7**		**P**	**05 41 57.9**	**+1.6**
RUSC				IAmb	IAmb	05 42 19.1	
	comp=Z,104nm,1.2s						
GO04	**Tololo Observa**	**18.26**	**168**		**Pn**	**05 41 56.0**	**-0.5**
GO04				IAmb	IAmb	05 42 11.8	
	comp=Z,58nm,1.3s						
CO03	**El Pedregal**	**18.93**	**168**	P	**P**	**05 42 04.3**	**+0.4**
CO03				IAmb	IAmb	05 42 18.8	
	comp=Z,56nm,1.5s						
CLDB	**Colider**	**19.09**	**88**	*eP*	**P**	**05 42 04.7**	**-1.1**
CO02	**Combarbal**	**19.22**	**169**	P	**P**	**05 42 07.0**	**-0.2**
MURT	**Porto Murtinho**	**19.23**	**121**	*eP*	**Pn**	**05 42 08.2**	**0.0**
SALV	**Santo Antonio**	**19.28**	**103**	*eP*	**Pn**	**05 42 09.3**	**+0.5**
BDQN	**Bodoquena, MS**	**19.48**	**117**	*eP*	**P**	**05 42 09.5**	**-0.5**
PAMC	**Pamplona, Colo**	**19.67**	**7**	P	**Pn**	**05 42 14.6**	**+0.7**
ZON	**Zonda**	**20.09**	**164**	P	**P**	**05 42 16.7**	**+0.1**
NPGB	**Novo Progresso**	**20.26**	**77**	*eP*	**P**	**05 42 17.2**	**-1.4**
CFA	**Coronel Fontan**	**20.27**	**163**	P	**P**	**05 42 18.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=325,slow=8.4,SNR=5.5						
	comp=Z,1.4nm,0.8s						
AQDB	**Aquidauana**	**20.41**	**116**	P	**P**	**05 42 19.8**	**-0.3**
AQDB	**Aquidauana**	**20.41**	**116**	*eP*	**Pn**	**05 42 22.6**	**+0.4**
BOAV	**Boa Vista**	**20.65**	**46**		**P**	**05 42 22.1**	**-0.7**
BOAV				IAmb	IAmb	05 42 30.1	
	comp=Z,33nm,0.9s						
BOAV	**Boa Vista**	**20.65**	**46**	*eP*	**P**	**05 42 22.0**	**-0.7**
BOAV	**Boa Vista**	**20.65**	**46**	P	**P**	**05 42 22.1**	**-0.7**
	comp=Z,582nmcomp=Z,44nm,1.1s						
ITTB	**Itaituba**	**20.82**	**69**	*eP*	**P**	**05 42 23.4**	**-1.1**
VA03	**San Esteban**	**20.82**	**169**	P	**P**	**05 42 24.9**	**+0.4**
VA03				IAmb	IAmb	05 42 35.9	
	comp=Z,33nm,0.9s						
PEL	**Peldehue**	**21.16**	**169**	P	**P**	**05 42 27.8**	**-0.5**
PEL				IAmb	IAmb	05 42 45.6	
	comp=Z,92nm,1.5s						
MT05	**Renca**	**21.40**	**170**	P	**P**	**05 42 31.7**	**+0.9**
MT05				IAmb	IAmb	05 42 36.0	
	comp=Z,55nm,1.2s						
SDV	**Santo Domingo**	**21.53**	**12**		**P**	**05 42 33.0**	**+0.6**
SDV	**Santo Domingo**	**21.53**	**12**	P	**P**	**05 42 32.8**	**+0.4**
	comp=Z,12nm,0.3s,baz=185,slow=9.2,SNR=11						
SDV				Lg	Lg	05 49 06.9	
	comp=Z,3.3nm,0.3s,baz=326,slow=14,SNR=3.2						
SDV				LR	LR	05 53 01.8	
	comp=Z,520nm,19.8s,baz=216,slow=42						
	comp=Z,12nm,0.3s						
SDV	**Santo Domingo**	**21.53**	**12**	*eP*	**P**	**05 42 33.1**	**+0.6**
SDV	**Santo Domingo**	**21.53**	**12**	P	**P**	**05 42 33.2**	**+0.8**
	comp=Z,54nm,0.8s						
MT08	**Bocatoma Ro**	**21.59**	**168**	P	**P**	**05 42 33.5**	**+0.5**
MT08				IAmb	IAmb	05 42 44.9	
	comp=Z,37nm,1.2s						
MT09	**Talagante**	**21.73**	**170**		**P**	**05 42 34.2**	**-0.2**
MT09				IAmb	IAmb	05 42 45.1	
	comp=Z,24nm,0.9s						
MT01	**Popeta**	**21.78**	**171**	P	**P**	**05 42 34.6**	**-0.1**
MT13	**San Alfonso**	**21.82**	**169**	P	**P**	**05 42 36.0**	**+0.6**
MT13				IAmb	IAmb	05 42 51.9	
	comp=Z,29nm,1.0s						
CPUP	**Villa Florida**	**21.87**	**132**	P	**P**	**05 42 37.6**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=145,slow=11,SNR=3.9						
CPUP				LR	LR	05 52 35.5	
	comp=Z,69nm,18.6s,baz=173,slow=41						
	comp=Z,0.5nm,0.7s						
CPUP	**Villa Florida**	**21.87**	**132**	*eP*	**P**	**05 42 38.1**	**+2.2**
LMEL	**Las Melosas**	**21.94**	**169**	P	**P**	**05 42 37.6**	**+1.0**
LMEL				IAmb	IAmb	05 43 14.1	
	comp=Z,30nm,1.1s						
AMBA	**Amambai (Brazi**	**21.96**	**122**	*eP*	**P**	**05 42 39.3**	**+2.3**
BO04	**La Punta**	**22.00**	**170**	P	**P**	**05 42 37.5**	**+0.3**
BO04				IAmb	IAmb	05 42 53.3	
	comp=Z,22nm,1.1s						
ARGC	**Ariguani, Magd**	**22.03**	**3**	P	**P**	**05 42 39.4**	**+1.8**
	comp=Z,1μmcomp=Z,59nm,1.0s						
SJCC	**San Jacinto, C**	**22.05**	**0**	P	**P**	**05 42 40.1**	**+2.3**
SJPY	**San Joaquin**	**22.05**	**128**	*eP*	**P**	**05 42 41.1**	**+3.3**
RPRD	**Ribas do Rio P**	**22.18**	**114**	*eP*	**P**	**05 42 40.8**	**+1.6**
BRU2	**Volcan**	**22.23**	**340**	P	**P**	**05 42 40.0**	**+0.1**
BAUV	**El Baul**	**22.27**	**19**		**P**	**05 42 40.0**	**-0.2**
BO01	**Tunca**	**22.32**	**171**		**P**	**05 42 40.8**	**+0.2**
BO01				IAmb	IAmb	05 42 47.0	
	comp=Z,26nm,1.2s						
BO02	**Sierra Bellavi**	**22.76**	**171**	P	**P**	**05 42 46.1**	**+0.8**
ARAG	**Araguaiana, MT**	**22.96**	**101**	*eP*	**P**	**05 42 47.0**	**-0.6**
MAL2	**Monte Alegre,**	**23.22**	**66**		**P**	**05 42 49.9**	**-0.3**
MAL2				IAmb	IAmb	05 43 25.3	
	comp=Z,29nm,1.1s						
SNDB	**Serra Nova Dou**	**23.40**	**92**	*eP*	**P**	**05 42 50.9**	**-1.2

	comp=Z,7.4nm,0.9s						
SADO	**Sadowa**	**56.90**	**357**	LR	LR	06 13 17.1	
	comp=Z,28nm,21.9s,baz=180,slow=38						
SDCO	**Great Sand Dun**	**57.31**	**332**		**P**	**05 47 31.4**	**+0.2**
SDCO				IAmb	IAmb	05 47 43.0	
	comp=Z,7.1nm,1.1s						
LCMT	**Little Creek M**	**60.69**	**326**	P	**P**	**05 47 55.6**	**+1.0**
PSUT	**Pine Spring**	**62.13**	**326**	P	**P**	**05 48 04.3**	**-0.1**
SPR3	**Spring Creek 3**	**62.72**	**326**	P	**P**	**05 48 08.8**	**+0.3**
TCUT	**Toone Canyon**	**62.78**	**330**	P	**P**	**05 48 09.7**	**+0.9**
TCUT				IAmb	IAmb	05 48 20.5	
	comp=Z,8.3nm,1.0s						
E28A	**Huff**	**62.90**	**341**	P	**P**	**05 48 09.6**	**+0.4**
R11B	**Troy Canyon, C**	**62.95**	**325**		**P**	**05 48 10.8**	**+1.0**
PDAR	**Pinedale Array**	**63.18**	**332**	P	**P**	**05 48 11.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=140,slow=7.4,SNR=5.7						
PDAR				LR	LR	06 17 11.2	
	comp=Z,36nm,18.9s,baz=123,slow=38						
	comp=Z,0.6nm,0.8s						
HWUT	**Hardware Ranch**	**63.23**	**330**		**P**	**05 48 11.5**	**-0.1**
HWUT				IAmb	IAmb	05 48 18.6	
	comp=Z,4.3nm,0.9s						
TPH	**Tonopah**	**63.69**	**324**	P	**P**	**05 48 15.4**	**+0.7**
TAOE	**Nuku Hiva Isla**	**63.79**	**266**	*e*LR	LR	06 07 12.0	
	comp=Z,161nm,26.9s						
AHID	**Auburn Hatcher**	**63.89**	**331**	P	**P**	**05 48 16.0**	**0.0**
AHID				IAmb	IAmb	05 48 27.6	
	comp=Z,3.7nm,1.0s						
HVU	**Hansel Valley**	**63.95**	**330**	P	**P**	**05 48 16.2**	**-0.1**
HVU				IAmb	IAmb	05 48 30.6	
	comp=Z,8.3nm,1.3s						
ELK	**Elko**	**64.46**	**327**	P	**P**	**05 48 20.4**	**+0.6**
FXWY	**Fox Creek**	**64.53**	**332**	P	**P**	**05 48 20.7**	**+0.5**
FXWY				IAmb	IAmb	05 48 41.0	
	comp=Z,5.1nm,1.3s						
LHV	**Little Huntoon**	**64.55**	**323**	P	**P**	**05 48 21.3**	**+1.2**
LHV				IAmb	IAmb	05 48 32.9	
	comp=Z,4.7nm,0.9s						
NVAR	**Mina Array Bea**	**64.55**	**324**	P	**P**	**05 48 21.1**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=150,slow=7.2,SNR=11						
	comp=Z,0.9nm,0.7s						
ULM	**Lac du Bonnet**	**64.86**	**346**	P	**P**	**05 48 20.6**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=212,slow=2.6,SNR=5.4						
	comp=Z,1.3nm,0.5s						
SCHQ	**Schefferville**	**67.24**	**5**	LR	LR	06 17 49.9	
	comp=Z,116nm,22.0s,baz=204,slow=36						
NEW	**Newport**	**70.81**	**332**	LR	LR	06 22 32.9	
	comp=Z,54nm,18.1s,baz=124,slow=38						
TBI	**Tubuai**	**70.89**	**249**	*e*LR	LR	06 10 35.1	
	comp=Z,637nm,26.5s						
PPT2	**Papeete2**	**71.64**	**255**	*e*LR	LR	06 10 50.5	
	comp=Z,100nm,27.2s						
PPT2				*e*LR	LR	06 10 54.5	
	comp=Z,147nm,24.8s						
DBIC	**Dimbokro**	**72.44**	**79**	P	**P**	**05 49 10.4**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=226,slow=5.1,SNR=3.1						
DBIC				LR	LR	06 19 38.2	
	comp=Z,202nm,19.1s,baz=252,slow=35						
	comp=Z,4.2nm,0.9s						
SNAA	**Sanae**	**72.89**	**162**	P	**P**	**05 49 11.4**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=321,slow=14,SNR=3.6						
	comp=Z,2.3nm,0.7s						
FRB	**Frobisher Bay**	**75.98**	**3**	LR	LR	06 22 50.5	
	comp=Z,156nm,21.9s,baz=172,slow=36						
QSPA	**South Pole Qui**	**77.84**	**180**	P	**P**	**05 49 41.1**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=120,slow=2.0,SNR=5.4						
	comp=Z,1.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**80.35**	**74**	P	**P**	**05 49 53.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**80.35**	**74**	P	**P**	**05 49 53.7**	**-1.2**
	comp=Z,2.7nm,1.1s,baz=284,slow=3.9,SNR=6.5						
	comp=Z,2.7nm,1.1s						
YKA	**Yellowknife Ar**	**80.60**	**343**	P	**P**	**05 49 54.4**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=136,slow=4.9,SNR=4.8						
YKA				LR	LR	06 29 57.6	
	comp=Z,83nm,18.3s,baz=120,slow=39						
	comp=Z,1.9nm,0.9s						
MDT	**Midelt**	**80.85**	**54**	LR	LR	06 25 22.1	
	comp=Z,89nm,18.2s,baz=262,slow=35						
SFJD	**Kangerlussuaq**	**81.10**	**10**	LR	LR	06 27 42.9	
	comp=Z,56nm,19.6s,baz=194,slow=37						
DLBC	**Dease Lake**	**83.32**	**334**	LR	LR	06 29 26.9	
	comp=Z,42nm,19.2s,baz=32,slow=37						
ESDC	**Sonseca Array**	**83.81**	**47**	P	**P**	**05 50 13.5**	**+0.9**
ESDC	**Sonseca Array**	**83.81**	**47**	P	**P**	**05 50 13.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=272,slow=4.3,SNR=4.8						
ESDC				LR	LR	06 24 33.6	
	comp=Z,143nm,19.2s,baz=240,slow=34						
	comp=Z,0.9nm,0.8s						
VNDA	**Vanda**	**84.78**	**191**	P	**P**	**05 50 16.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=119,slow=2.6,SNR=3.6						
	comp=Z,0.6nm,0.8s						
SYO	**Syowa Base**	**87.16**	**161**	*e*P	**P**	**05 50 28.0**	**-0.7**
RES	**Resolute Bay**	**87.67**	**355**	LR	LR	06 33 31.7	
	comp=Z,51nm,18.4s,baz=46,slow=38						
SUMG	**Summit**	**88.04**	**10**	*i* P	P	05 50 40.0	+6.7
INK	**Inuvik**	**90.31**	**342**	LR	LR	06 36 08.9	
	comp=Z,67nm,18.2s,baz=112,slow=39						
BCAR	**Beaver Creek A**	**90.65**	**335**	P	**P**	**05 50 45.6**	**+0.3**
GLB	**Gilahina Butte**	**90.81**	**333**	P	**P**	**05 50 45.7**	**-0.4**
G29M	**Pine Creek**	**91.04**	**339**	P	**P**	**05 50 47.1**	**+0.1**
G29M				IAmb	IAmb	05 51 23.3	
	comp=Z,5.8nm,1.1s						
KLU	**Klutina**	**91.76**	**333**	P	**P**	**05 50 50.9**	**+0.4**
J26L	**Joseph Creek**	**91.98**	**336**	P	**P**	**05 50 51.7**	**+0.2**
J26L				IAmb	IAmb	05 50 57.2	
	comp=Z,6.4nm,1.5s						
SCM	**Sheep Creek Mo**	**92.51**	**333**	P	**P**	**05 50 54.4**	**+0.4**
J25K	**Salcha River,**	**92.74**	**336**	P	**P**	**05 50 55.8**	**+0.8**
ILAR	**Eielson Array**	**93.40**	**336**	P	**P**	**05 50 57.9**	**0.0**
ILAR	**Eielson Array**	**93.40**	**336**	P	**P**	**05 50 57.0**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=116,slow=4.1,SNR=4.4						
ILAR				LR	LR	06 37 04.9	
	comp=Z,50nm,20.4s,baz=48,slow=38						
	comp=Z,0.3nm,0.9s						
BRLK	**Bradley Lake**	**93.44**	**331**	P	**P**	**05 50 58.3**	**0.0**
F25K	**Christian Rive**	**94.00**	**339**	P	**P**	**05 51 02.4**	**+1.7**
F25K				IAmb	IAmb	05 51 44.5	
	comp=Z,5.5nm,1.4s						
Q19K	**Cape Douglas,**	**94.54**	**329**	P	**P**	**05 51 04.5**	**+1.2**
MAW	**Mawson**	**94.78**	**165**	LR	LR	06 32 38.8	
	comp=Z,58nm,20.1s,baz=214,slow=35						
BPAW	**Bear Paw Mtn.**	**94.85**	**335**	P	**P**	**05 51 04.8**	**+0.1**
N19K	**Bonanza Creek**	**95.46**	**331**	P	**P**	**05 51 09.3**	**+1.7**
DAVOX	**Davos/Dischmat**	**95.53**	**43**	LR	LR	06 32 39.2	
	comp=Z,126nm,18.9s,baz=260,slow=34						
IMAR	**Indian Mountai**	**96.52**	**336**	P	**P**	**05 51 11.7**	**-0.4**
NOA	**NORSAR Array B**	**98.93**	**29**	LR	LR	06 32 07.3	
	comp=Z,93nm,20.9s,baz=270,slow=33						
ZALV	**Zalesovo Beam**	**135.53**	**17**	PKP	**PKPdf**	**05 57 03.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=336,slow=3.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**136.18**	**24**	PKP	**PKPdf**	**05 57 04.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=320,slow=2.3,SNR=4.2						
SONM	**Songino Array**	**144.54**	**358**	PKP	PKPbc	05 57 18.8	+0.4
	comp=Z,1.7nm,0.9s,baz=333,slow=4.8,SNR=6.4						
KSRS	**Korea Array**	**147.49**	**324**	PKPbc	**PKPbc**	**05 57 27.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=29,slow=2.8,SNR=1.9						

*SEA **19** 05:40:25.4±0.8, 43.9°N±0.1°×126.0°W±0.2, h5km±2km, Error ellipse: s-maj=30.5km s-min=22.7km az=293.0*

NEIC 19 05:40:20.3±1.6, 43.70°N±0.05°×125.6°W±0.1, h10km±2km, ML2.3/58, ML2.7/13(SEA), Error ellipse: s-maj=14.5km s-min=8.7km az=271.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.22**	**132**		Pn	05 40 42.4	-1.1
KEBM				IAML		05 41 00.1	
	comp=N,54nm,0.4s						
KEBM				IAML		05 41 07.0	
	comp=E,97nm,0.5s						
J01E	**Myrtle Point**	**1.31**	**113**		Pn	05 40 43.4	-1.2
J01E				IAML		05 41 01.2	
	comp=N,83nm,0.2s						
I02E	**Swisshome, OR**	**1.31**	**71**	Pn	Pn	05 40 43.1	-1.6
I03D	**Drain, OR**	**1.61**	**89**	Pn	Pn	05 40 47.9	-0.9
I03D				IAML		05 41 09.3	
	comp=N,40nm,0.3s						
K02D	**Willamette Mer**	**1.71**	**125**	Pn	Pn	05 40 49.4	-0.9
KBO	**Bosley Butte**	**1.78**	**146**	Pn	Pn	05 40 52.0	+0.8
KBO				IAML		05 41 40.7	
	comp=N,43nm,2.0s						
COR	**Corvallis**	**1.86**	**61**	Pn	Pn	05 40 51.3	-0.9
COR				IAML		05 41 16.7	
	comp=N,21nm,0.6s						
COR				IAML		05 41 20.1	
	comp=N,29nm,2.0s						
BUCK	**Buck Mountain**	**1.93**	**74**	Pn	Pn	05 40 52.8	-0.5
BUCK				IAML		05 41 17.6	
	comp=N,21nm,0.3s						
BUCK				IAML		05 41 17.7	
	comp=E,26nm,0.5s						
HEBO	**Mount Hebo**	**2.00**	**40**	Pn	Pn	05 40 53.1	-1.1
HEBO				IAML		05 41 50.0	
	comp=N,36nm,2.3s						
L02F	**Cave Junction**	**2.15**	**136**	Pn	Pn	05 40 56.2	-0.1
H04D	**Lebanon**	**2.20**	**67**	Pn	Pn	05 40 56.5	-0.4
H04D				IAML		05 41 16.4	
	comp=N,21nm,2.4s						
H04D				IAML		05 41 26.9	
	comp=E,21nm,0.4s						
G03D	**McMinnville, O**	**2.24**	**47**	Pn	Pn	05 40 57.1	-0.3
G03D				IAML		05 41 09.9	
	comp=E,21nm,2.2s						
G03D				IAML		05 41 58.6	
	comp=N,17nm,2.5s						
KSXB	**Camp Six Broad**	**2.24**	**146**	Pn	Pn	05 40 58.9	+1.4
KSXB				IAML		05 42 05.0	
	comp=E,13nm,3.6s						
BBOR	**Butler Butte**	**2.26**	**110**	Pn	Pn	05 40 58.1	+0.3
J04A	**Umpqua Nationa**	**2.56**	**99**	Pn	Pn	05 41 03.0	+1.0
H04A	**Detroit Lake**	**2.63**	**67**	Pn	Pn	05 41 02.7	-0.1
H04A				IAML		05 41 36.5	
	comp=E,15nm,0.4s						
H04A				IAML		05 41 37.5	
	comp=N,18nm,0.4s						
F03A	**Seaside**	**2.66**	**32**	Pn	Pn	05 41 03.7	+0.6
G04A	**Mulino**	**2.68**	**55**	Pn	Pn	05 41 03.4	-0.1
L04D	**Klamath Falls**	**2.82**	**120**	Pn	Pn	05 41 07.2	+1.8
L04D				IAML		05 42 18.7	
	comp=E,11nm,2.6s						
L04D				IAML		05 42 29.1	
	comp=N,11nm,3.4s						
RADR	**Rader Ridge**	**3.00**	**24**	Pn	Pn	05 41 06.7	-1.2
J05D	**Fort Rock, OR**	**3.18**	**96**	Pn	Pn	05 41 10.8	+0.3
J05D				IAML		05 41 34.1	
	comp=E,8.4nm,3.9s						
J05D				IAML		05 42 34.8	
	comp=N,9.3nm,3.8s						
E03A	**Lebam**	**3.19**	**26**	Pn	Pn	05 41 09.1	-1.3
E03A				IAML		05 41 46.9	
	comp=N,13nm,0.5s						
MTMW	**Mount Mitchell**	**3.34**	**45**		Pn	05 41 12.5	-0.1
PINE	**Pine Mountain**	**3.36**	**87**	Pn	Pn	05 41 13.1	+0.1
PINE				IAML		05 41 43.1	
	comp=E,8.2nm,4.2s						
PINE				IAML		05 42 47.9	
	comp=N,5.6nm,4.0s						
B203	**Quarry, Mount**	**3.38**	**42**		Pn	05 41 13.3	+0.3
B203					Sn	05 41 52.4	-0.8
FL2	**Flat Top 2**	**3.39**	**41**		Pn	05 41 13.7	+0.3
SHW	**Mount Saint He**	**3.44**	**42**		Pn	05 41 14.4	+0.3
SWF2	**Southwest Flan**	**3.44**	**43**		Pn	05 41 14.3	+0.2
HSR	**South Ridge**	**3.45**	**43**		Pn	05 41 14.8	+0.6
ERK	**Elk Rock**	**3.47**	**40**		Pn	05 41 14.5	+0.1
STD	**Studebaker Rid**	**3.48**	**42**		Pn	05 41 14.8	+0.2
STD					Sn	05 41 55.2	-0.6
B201	**Coldwater, Mou**	**3.51**	**41**		Pn	05 41 14.8	-0.1
B201					Sn	05 41 54.9	-1.6
B202	**Windy Ridge, M**	**3.53**	**43**		Pn	05 41 15.2	+0.1
B202					Sn	05 41 56.1	-0.9
K05A	**Summer Lake**	**3.56**	**104**	Pn	Pn	05 41 15.0	-0.7
TDL	**Tradedollar La**	**3.56**	**41**		Pn	05 41 15.8	+0.1
F05D	**White Salmon**	**3.66**	**52**		Pn	05 41 17.3	+0.4
G06A	**Carlson Farm,**	**3.85**	**65**	Pn	Pn	05 41 18.1	-1.6
LON	**Longmire**	**4.05**	**40**		Pn	05 41 22.8	+0.4
LON	**Longmire**	**4.05**	**40**	Pn	Pn	05 41 22.3	-0.1
B941	**Kapowsin**	**4.05**	**35**		Pn	05 41 22.3	0.0
REMR	**Mount Rainier-**	**4.09**	**39**		Pn	05 41 23.6	+0.6
PANH	**Panhandle Gap,**	**4.21**	**40**		Pn	05 41 24.8	+0.1
D05A	**Enumclaw**	**4.31**	**35**	Pn	Pn	05 41 26.4	+0.6
MXC	**Moxie City**	**4.72**	**51**	Pn	Pn	05 41 32.2	+0.7
G08A	**Pilot Rock**	**4.99**	**69**	Pn	Pn	05 41 35.7	+0.3
BMO	**Blue Mountains**	**6.05**	**76**	Pn	Pn	05 41 50.1	+0.3
B08A	**Colville Reser**	**6.37**	**41**	Pn	Pn	05 41 53.8	-0.4

*BJI **19** 05:53:43.0, 1.41°S×128.38°E, h10km, mB4.9/10, mb4.6/55, Ms4.3/20, Ms7 4.1/22*

*NEIC **19** 05:53:47.5±2.0, 0.83°S±0.05°×128.33°E±0.06, h10km±1km, mb4.9/46, Error ellipse: s-maj=10.6km s-min=7.7km az=83.0*

*DJA **19** 05:53:48.9±0.2, 1.2°S±2.2°×128.8E±°, h10km, M5.0/37, mb5.2/37, mB5.5/17, MLv5.2/19, Mw(mB)5.0/17, MwMwp5.1/2, Mwp5.3/2*

*GCMT **19** 05:53:49.5±0.2, 0.80°S±0.01°×128.13°E±0.02, h18km±1km, MW4.8/91, Moment Tensor Solution. s28,c31; s91,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.81±.13; Mθθ2.05±.10; Mϕϕ-1.24±.09; Mrθ0.53±.19; Mθϕ1.57±.07; Mϕr0.52±.20; Best double couple: M0 2.38000×10^16 NP1:ϕs113.00000°, δ71.00000°, λ-3.00000°. NP2: ϕs205.00000°, δ87.00000°, λ-161.00000°. Principal axes: T 2.8110, Plg11.0000°, Azm337.0000°; N -0.8680, Plg71.0000°, Azm214.0000°; P -1.9480, Plg15.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **19** 05:53:52.3±2.0, 0.91°S×128.21°E, h48km±20km, mb4.0/18, mbtmp4.3/21, ML4.2/4, MS3.8/31 Error ellipse: s-maj=17.2km s-min=9.6km az=79.0*

ISC 19 05:53:48.8±0.4, 0.88°S±0.05°×128.27°E±0.05, h17km, n174, σ1°59/155, mb4.8/63, MS3.8/35, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.87**	**331**		**Pn**	**05 54 19.2**	**-0.8**
TNTI	**Ternate**	**1.87**	**331**	P	**Pn**	**05 54 19.1**	**-0.9**
TNTI				S	**Sn**	**05 54 43.4**	**+0.1**
MSAI	**Masohi**	**2.54**	**165**	P	**Pn**	**05 54 31.3**	**+2.1**
SANI	**Sanana**	**2.56**	**243**	P	**Pn**	**05 54 28.9**	**-0.6**
SANI	**Sanana**	**2.56**	**243**	P	**Pn**	**05 54 28.5**	**-1.0**
NLAI	**Namlea**	**2.62**	**206**	P	**Pn**	**05 54 30.9**	**+0.5**
AAI	**Ambon**	**2.79**	**182**	P	**Pn**	**05 54 34.2**	**+1.5**
SWI	**Sorong**	**2.99**	**90**	P	**Pn**	**05 54 35.4**	**0.0**
BNDI	**Bandanaira**	**3.97**	**156**	P	**Pn**	**05 54 51.5**	**+2.5**
FAKI	**Fak Fak**	**4.46**	**117**		**Pn**	**05 54 56.0**	**+0.2**
FAKI	**Fak Fak**	**4.46**	**117**	P	**Pn**	**05 54 56.4**	**+0.7**
FAKI	**Fak Fak**	**4.46**	**117**	P	**Pn**	**05 54 56.0**	**+0.2**
KMSI	**Kibinong**	**4.53**	**289**	P	**Pn**	**05 54 58.0**	**+1.4**
SGSI	**Sangihe**	**5.30**	**329**	P	**Pn**	**05 55 07.6**	**+0.4**
	3.4nm3µm616nm,0.7s						
LUWI	**Luwuk**	**5.50**	**268**		**Pn**	**05 55 10.2**	**+0.2**
LUWI	**Luwuk**	**5.50**	**268**	P	**Pn**	**05 55 10.5**	**+0.5**
LUWI	**Luwuk**	**5.50**	**268**	P	**Pn**	**05 55 10.1**	**+0.2**
	4.1nm5µm490nm,0.7s						
MRSI	**Marisa**	**6.47**	**282**	P	**Pn**	**05 55 27.0**	**+3.7**
	1.2nm2µm155nm,0.7s						
APSI	**Ampana**	**6.62**	**270**	P	**Pn**	**05 55 25.9**	**+0.5**
SAUI	**Saumlaki**	**7.68**	**157**	Pn	**Pn**	**05 55 39.5**	**-0.4**
SAUI	**Saumlaki**	**7.68**	**157**	P	**Pn**	**05 55 41.4**	**+1.5**
TOLI2	**Tolitoli**	**7.74**	**285**		**Pn**	**05 55 40.6**	**-0.2**
TOLI2	**Tolitoli**	**7.74**	**285**	P	**Pn**	**05 55 43.0**	**+2.2**
PCI	**Palu**	**8.43**	**270**	P	**Pn**	**05 55 52.9**	**+2.6**
	309nm,0.8s						
TTSI	**Tana Toraja**	**8.72**	**256**	P	**Pn**	**05 55 55.9**	**+1.7**
	2µm137nm,0.8s						
BNSI	**Bone**	**8.87**	**247**	P	**Pn**	**05 55 58.3**	**+2.0**
	898nm101nm,0.8s						
SPSI	**Sidrap Palu**	**9.03**	**250**	P	**Pn**	**05 56 00.5**	**+2.0**
	269nm,0.6s						
BKSI	**Bulukumba**	**9.26**	**241**	P	**Pn**	**05 56 05.1**	**+3.5**
BSSI	**Bau Bau, Buton**	**9.36**	**236**	P	**Pn**	**05 56 06.3**	**+3.3**
	2µm209nm,0.7s						
KAPI	**Kappang**	**9.45**	**244**		**Pn**	**05 56 07.2**	**+3.0**
KAPI	**Kappang**	**9.45**	**244**	P	**Pn**	**05 56 06.3**	**+2.2**
	5.6nm,0.3s,baz=66,slow=5.2,SNR=40						
KAPI				S	**Sn**	**05 57 49.8**	**-0.3**
	15nm,0.7s,baz=255,slow=23,SNR=1.7						
KAPI				LR	LR	05 59 45.7	
	comp=Z,838nm,19.0s,baz=82,slow=38						
SOEI	**Soe**	**9.68**	**204**	Pn	**Pn**	**05 56 08.2**	**+0.8**
MMRI	**Maumere**	**9.77**	**218**	Pn	**Pn**	**05 56 11.0**	**+2.3**
EDFI	**Ende, Flores**	**10.20**	**220**	P	**Pn**	**05 56 16.9**	**+2.2**
	48nm,0.9s						
MYLDM	**Lahad Datu**	**11.46**	**302**		**Pn**	**05 56 32.7**	**+0.8**
MYLDM	**Lahad Datu**	**11.46**	**302**	P	**Pn**	**05 56 34.7**	**+2.9**
DRS	**Darwin Rock St**	**11.77**	**167**	P	**Pn**	**05 56 35.8**	**-0.2**
MTN	**Manton Dam**	**12.22**	**167**		**Pn**	**05 56 41.5**	**-0.8**
MTN	**Manton Dam**	**12.22**	**167**	P	**Pn**	**05 56 40.7**	**-1.6**
	comp=Z,50nm,0.4s						
MTN	**Manton Dam**	**12.22**	**167**	P	**Pn**	**05 56 41.5**	**-0.8**
KDU	**Kakadu**	**12.45**	**161**	P	**Pn**	**05 56 41.1**	**-4.3**
JAY	**Jayapura**	**12.54**	**98**	P	**Pn**	**05 56 49.0**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=306,slow=17,SNR=2.1						
	comp=Z,7.4nm,0.9s						
KKM	**Kota Kinabalu**	**13.86**	**300**	Pn	**Pn**	**05 57 04.8**	**0.0**
KNRA	**Kununurra**	**14.71**	**178**		**Pn**	**05 57 14.5**	**-1.8**
KNRA	**Kununurra**	**14.71**	**178**	P	**Pn**	**05 57 13.2**	**-3.1**
SBUM	**Sibu**	**16.38**	**282**	Pn	**Pn**	**05 57 37.1**	**-1.1**
TGY	**Tagaytay City**	**16.56**	**334**	LR	LR	06 04 45.6	
	comp=Z,379nm,21.0s,baz=3.0,slow=39						
FITZ	**Fitzroy Crossi**	**17.31**	**188**		**Pn**	**05 57 50.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**17.31**	**188**	P	**Pn**	**05 57 49.3**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=44,slow=6.4,SNR=8.2						
FITZ				LR	LR	06 05 41.3	
	comp=Z,430nm,18.3s,baz=12,slow=41						
	comp=Z,13nm,0.9s						
KSM	**Kuching**	**18.11**	**277**	P	**Pn**	**05 57 59.8**	**0.0**
COEN	**Coen**	**19.66**	**132**		**P**	**05 58 16.9**	**-0.2**
COEN				IAmb	IAmb	05 58 23.6	
	comp=Z,152nm,1.6s						
COEN	**Coen**	**19.66**	**132**	P	**P**	**05 58 17.0**	**-0.1**
	comp=Z,50nm,1.5s						
COEN	**Coen**	**19.66**	**132**	P	**Pn**	**05 58 18.5**	**0.0**
WB0	**Warramunga Arr**	**19.71**	**163**	P	**P**	**05 58 16.0**	**-1.6**
WRAB	**Tennant Creek**	**19.85**	**163**		**P**	**05 58 18.0**	**-1.1**
WRAB				IAmb	IAmb	05 58 24.3	
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**19.86**	**163**	P	**P**	**05 58 17.3**	**-1.9**
WRA	**Warramunga Arr**	**19.86**	**163**	P	**P**	**05 58 17.8**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=348,slow=12,SNR=27						
WRA				S	S	06 01 51.5	-11
	comp=Z,2.3nm,0.7s,baz=338,slow=22,SNR=3.7						
WRA				LR	LR	06 06 19.1	
	comp=Z,433nm,19.2s,baz=5.0,slow=38						
	comp=Z,11nm,0.6s						
WR8	**Warramunga Arr**	**19.92**	**163**	P	**P**	**05 58 18.5**	**-1.3**
WR8				IAmb	IAmb	05 58 30.6	
	comp=Z,82nm,1.8s						
PMG	**Port Moresby**	**20.62**	**115**	P	**P**	**05 58 25.5**	**-2.0**
PMG	**Port Moresby**	**20.62**	**115**	P	**P**	**05 58 27.5**	**0.0**
	comp=Z,4.3nm,0.3s,baz=287,slow=14,SNR=1.5						
PMG				LR	LR	06 09 55.4	
	comp=Z,461nm,18.2s,baz=239,slow=47						
	comp=Z,4.3nm,0.3s						
LEM	**Lembang**	**21.43**	**253**	P	**P**	**05 58 34.6**	**-1.9**
	comp=Z,19nm,0.5s,baz=24,slow=20,SNR=1.5						
LEM				LR	LR	06 08 17.4	
	comp=Z,382nm,20.6s,baz=146,slow=40						
	comp=Z,19nm,0.5s						
GUMO	**Guam**	**21.85**	**48**	LR	LR	06 07 33.0	
	comp=Z,152nm,18.3s,baz=230,slow=37						
QIS	**Mount Isa**	**22.48**	**151**	P	**P**	**05 58 47.0**	**-0.6**
	comp=Z,72nm,1.6s						
MTSU	**Mount Surprise**	**23.29**	**138**	P	**P**	**05 58 56.3**	**+0.3**
	comp=Z,18nm,1.1s						
AS31	**Alice Springs**	**23.30**	**167**	P	**P**	**05 58 54.5**	**-1.5**
AS31				IAmb	IAmb	05 59 03.4	
	comp=Z,22nm,0.7s						
AS31	**Alice Springs**	**23.30**	**167**	P	**P**	**05 58 54.9**	**-1.1**
	comp=Z,33nm,0.8s						
ASAR	**Alice Springs**	**23.30**	**167**	P	**P**	**05 58 54.8**	**-1.3**
ASAR	**Alice Springs**	**23.30**	**167**	P	**P**	**05 58 54.6**	**-1.4**
	comp=Z,31nm,0.8s,baz=343,slow=9.3,SNR=76						
ASAR				S	**S**	**06 03 05.5**	**-2.6**
	comp=Z,13nm,1.1s,baz=348,slow=21,SNR=5.9						
ASAR				LR	LR	06 08 25.3	
	comp=Z,374nm,22.0s,baz=334,slow=38						
	comp=Z,31nm,0.8s						
DLV	**Lat**	**23.42**	**304**	P	**P**	**05 58 57.4**	**-0.1**
DLV				IAmb	IAmb	05 59 04.9	
	comp=Z,30nm,0.8s						
DSRI	**Dabo**	**23.69**	**271**	P	**P**	**05 59 03.0**	**+3.0**
	comp=Z,44nm,1.0s						
KASI	**Kota Agung**	**24.17**	**258**	P	**P**	**05 59 07.0**	**+2.5**
	comp=Z,52nm,0.9s						
MDSI	**Maura Dua**	**24.33**	**261**	P	**P**	**05 59 08.8**	**+2.9**
	comp=Z,7µmcomp=Z,1µmcomp=Z,134nm,0.9s						
**LWLI

MJAR LR LR 06 16 12.4
comp=Z,223nm,20.8s,baz=196,slow=35
comp=Z,4.0nm,0.8s
MJB9 Matsu-Tunnel 38.36 13 P P 06 01 09.5 +0.4
XAN Xi'an 39.20 334 P P 06 01 15.8 -0.4
XAN pmax pmax
comp=Z,33nm,1.1s
XAN LR LR
comp=Z,190nm,16.5s
XAN LR LR
comp=Z,250nm,19.9s
XAN LR LR
comp=Z,260nm,19.9s
CD2 Chengdu 39.27 326 P P 06 01 15.9 -0.9
CD2 S S 06 07 19.4 +2.4
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,350nm,14.1s
CD2 LR LR
comp=Z,320nm,14.5s
CD2 LR LR
comp=Z,250nm,11.2s
HNS HongShan 40.10 343 ⇑P P 06 01 25.5 +1.9
BJI Beijing 42.20 346 P P 06 01 45.0 +4.3
BJI pP sP 06 01 47.8 -0.3
BJI S S 06 08 11.3 +11
BJI pmax pmax
comp=Z,3.0nm,1.0s
BJI LR LR
comp=Z,51nm,16.8s
BJI LR LR
comp=Z,49nm,16.8s
BJI LR LR
comp=Z,75nm,23.6s
DZM Mont Dzumac 42.71 122 P P 06 01 43.6 -1.8
DZM IAmb IAmb 06 01 52.7
comp=Z,26nm,1.4s
DZM Mont Dzumac 42.71 122 eP P 06 01 47.5 +2.1
comp=Z,39nm,1.4s
DZM Mont Dzumac 42.71 122 eLR LR 06 13 32.5
comp=Z,277nm,27.9s
LZH Lanzhou 43.24 331 eP P 06 01 50.4 +0.9
LZH pP sP 06 01 55.9 -1.0
LZH sP pP 06 02 00.5 +5.6
LZH pmax pmax
comp=Z,16nm,1.3s
LZH LR LR
comp=Z,220nm,14.1s
LZH LR LR
comp=Z,190nm,14.8s
LZH LR LR
comp=Z,200nm,15.5s
SHL Shillong 43.90 309 P P 06 01 54.8 -0.3
HHC Hu-ho-hao-te 44.23 342 eP P 06 01 57.8 +0.5
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,86nm,4.3s
USRK Ussuriysk Ar. 45.00 4 P P 06 02 04.3 +1.0
comp=Z,4.6nm,0.9s,baz=175,slow=5.6,SNR=9.8
USRK LR LR 06 19 43.3
comp=Z,76nm,19.4s,baz=162,slow=34
comp=Z,4.6nm,0.9s
MDJ Mudanjiang 45.31 1 P P 06 02 05.4 -0.4
MDJ pmax pmax
comp=Z,9.0nm,1.5s
XLT XiLinHaoTe 45.89 348 eP P 06 02 11.4 +0.9
XLT pmax pmax
comp=Z,6.0nm,0.4s
BNX BinXian 46.42 359 ⇓P P 06 02 15.6 +1.1
BNX pmax pmax
comp=Z,4.0nm,0.9s
ASAJ Asahikawa 46.59 14 LR LR 06 21 02.7
comp=Z,163nm,20.5s,baz=172,slow=35
LSA Lhasa 46.67 314 P P 06 02 18.5 +1.2
LSA pmax pmax
comp=Z,7.0nm,0.5s
GTA Gaotai 47.82 330 eP P 06 02 25.9 +0.1
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=Z,200nm,14.9s
GTA LR LR
comp=Z,130nm,18.9s
GTA LR LR
comp=Z,220nm,19.6s
PALK Pallekele 48.13 281 LR LR 06 24 42.7
comp=Z,77nm,18.6s,baz=106,slow=38
GOMU GeErMu 48.25 323 P P 06 02 32.3 +2.9
GOMU pmax pmax
comp=Z,5.0nm,0.9s
HEH HeiHe 50.94 359 eP P 06 02 48.8 -0.4
HEH pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 51.95 342 P P 06 02 56.8 -0.2
SONM Songino Array 52.13 341 P P 06 02 58.3 0.0
SONM IAmb IAmb 06 03 05.3
comp=Z,19nm,1.7s
SONM Songino Array 52.13 341 P P 06 02 58.5 +0.2
comp=Z,2.0nm,0.7s,baz=163,slow=8.4,SNR=10
SONM LR LR 06 26 12.6
comp=Z,112nm,18.2s,baz=164,slow=37
comp=Z,2.0nm,0.7s
WMQ Urumqi 57.37 326 eP P 06 03 38.4 +2.1
WMQ LR LR
comp=Z,150nm,22.5s
PETK Petropavlovsk- 59.14 20 P P 06 03 49.1 +0.6
comp=Z,3.8nm,0.9s,baz=216,slow=7.1,SNR=4.1
PETK LR LR 06 28 16.7
comp=Z,61nm,20.1s,baz=193,slow=35
comp=Z,3.8nm,0.9s
MKAR Makanchi Array 62.20 326 P P 06 04 08.6 -0.9
comp=Z,2.3nm,0.7s,baz=121,slow=8.6,SNR=19
MKAR LR LR 06 33 39.2
comp=Z,62nm,19.4s,baz=104,slow=38
comp=Z,2.3nm,0.7s
KSH Kashi 62.40 316 P P 06 04 15.1 +4.0
KSH sP sP 06 04 22.6 +4.0
KSH pmax pmax
comp=Z,3.0nm,0.6s
MA2 Magadan 62.80 13 P P 06 04 14.4 +1.2
MA2 Magadan 62.80 13 LR LR 06 32 22.7
comp=Z,46nm,19.4s,baz=182,slow=37
ZAA0 Zalesovo Array 65.37 333 P P 06 04 28.7 -1.4
ZAA0 IAmb IAmb 06 04 36.2
comp=Z,5.9nm,0.9s
ZALV Zalesovo Beam 65.37 333 P P 06 04 28.5 -1.7
ZALV Zalesovo Beam 65.37 333 P P 06 04 28.7 -1.4
comp=Z,0.5nm,0.4s,baz=126,slow=7.5,SNR=4.7
comp=Z,0.5nm,0.4s
GAR Garm 66.18 314 P 06 04 35.5 -0.4
KURBB Kurchatov Arra 66.43 328 P P 06 04 35.4 -1.7
comp=Z,2.7nm,0.6s,baz=126,slow=5.8,SNR=16
comp=Z,2.7nm,0.6s
KURK Kurchatov 66.43 328 P P 06 04 35.8 -1.3
SIMJ Simiganj 67.00 313 P P 06 04 40.2 -1.0
SIMJ IAmb IAmb 06 05 04.2
comp=Z,6.6nm,1.0s
KK31 Karatay Array 67.64 318 P P 06 04 43.7 -1.4
KK31 IAmb IAmb 06 05 18.2
comp=Z,10nm,1.4s
KKAR Karatay Array 67.64 318 P P 06 04 43.5 -1.5
BVAR Borovoye Array 72.00 327 P P 06 05 09.8 -1.8
comp=Z,0.8nm,0.4s,baz=114,slow=3.7,SNR=3.8
comp=Z,0.8nm,0.4s
BRVK Borovoye 72.07 327 P P 06 05 10.6 -1.4
BRVK IAmb IAmb 06 05 27.3
comp=Z,7.7nm,1.1s
RAR Rarotonga 72.88 112 LR LR 06 35 19.8
comp=Z,30nm,21.5s,baz=266,slow=34
AB31 Akbulak array 76.68 321 P P 06 05 37.9 -1.0
ABKAR Akbulak array 76.68 321 P P 06 05 36.8 -2.1
AKTO Aktyubinsk 78.21 322 LR LR 06 43 24.2
comp=Z,45nm,20.9s,baz=62,slow=38
VNDA Vanda 78.69 173 P P 06 05 49.8 +0.2
comp=Z,0.8nm,0.8s,baz=315,slow=3.9,SNR=11
VNDA LR LR 06 40 31.4
comp=Z,83nm,18.6s,baz=322,slow=36
comp=Z,0.8nm,0.8s
MAW Mawson 80.01 201 P P 06 05 56.5 -0.4
comp=Z,1.2nm,0.8s,baz=27,slow=4.7,SNR=5.5
comp=Z,1.2nm,0.8s
PPT Papeete 82.25 108 LR LR 06 38 59.6
comp=Z,25nm,22.0s,baz=240,slow=33
PPT2 Papeete2 82.25 108 eLR LR 06 31 48.8
comp=Z,118nm,27.5s
PPT2 eLR LR 06 31 51.4
comp=Z,88nm,25.5s
J16K Anvik River 82.38 26 P P 06 06 08.8 -0.8
I17K Unalakleet 82.52 25 P P 06 06 09.5 -0.8
I17K IAmb IAmb 06 06 47.6
comp=Z,8.1nm,1.1s
TBI Tubuai 82.55 113 eLR LR 06 32 04.9
comp=Z,456nm,26.2s
J17K VABM Dome 83.07 26 P P 06 06 13.0 -0.2
J17K IAmb IAmb 06 06 30.7
comp=Z,9.1nm,0.9s
H17K Granite Mounta 83.16 24 P P 06 06 12.4 -1.2
H17K IAmb IAmb 06 06 34.7
comp=Z,9.2nm,1.0s
K17K Iditarod 83.23 26 P P 06 06 13.2 -0.9
N19K Bonanza Creek 84.55 29 P P 06 06 19.4 -1.6
G19K Purcell Mounta 84.62 23 P P 06 06 20.4 -0.7
G19K IAmb IAmb 06 06 42.2
comp=Z,6.9nm,0.9s
H19K Roundabout Mou 84.72 24 P P 06 06 20.8 -0.8
H19K IAmb IAmb 06 07 18.5
comp=Z,15nm,1.4s
KIRV Kirov 84.94 329 LR LR 06 45 04.8
comp=Z,82nm,21.0s,baz=312,slow=36
KDAK Kodiak Island 84.95 32 LR LR 06 41 56.6
comp=Z,74nm,20.6s,baz=236,slow=34
GNI Garni 85.61 310 LR LR 06 52 33.8
comp=Z,41nm,18.2s,baz=126,slow=41
I23K Minto, Yukon-K 87.57 25 P P 06 06 35.1 -0.6
I23K IAmb IAmb 06 07 05.3
comp=Z,12nm,1.5s
ILAR Eielson Array 88.58 25 P P 06 06 39.0 -1.5
comp=Z,0.7nm,0.9s,baz=255,slow=4.7,SNR=4.4
comp=Z,0.7nm,0.9s
QSPA South Pole Qui 89.06 180 P P 06 06 43.6 +0.7
comp=Z,2.7nm,1.0s,baz=8.4,slow=1.5,SNR=11
comp=Z,2.7nm,1.0s
TAOE Nuku Hiva Isla 91.43 99 eLR LR 06 36 10.3
comp=Z,173nm,28.5s
I28M Miner Creek 91.54 25 P P 06 06 54.6 +0.2
I28M IAmb IAmb 06 07 02.1
comp=Z,4.2nm,0.8s
BBB Bella Bella 99.03 37 LR LR 06 48 57.0
comp=Z,15nm,18.6s,baz=253,slow=33

*NEIC **19** 06:06:08.3±1.1, 59.7°S±0.1×27.8°W±0.2, h100km±7km, mb4.9/58, Error ellipse: s-maj=16.9km s-min=14.0km az=202.0*
*IDC **19** 06:06:10.0±0.6, 59.7°S×27.6°W, h124km±5km, mb4.2/11, mbtmp4.6/13, MS3.2/4, Error ellipse: s-maj=16.0km s-min=11.9km az=62.0*
*GCMT **19** 06:06:13.4±0.4, 60.03°S±0.04×27.42°W±0.09, h134km±7km, MW4.8/89, Moment Tensor Solution. s5,c5; s89,c99; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.14±.13; Mθθ=0.51±.27; Mφφ=0.63±.25; Mrθ=-1.37±.10; Mrφ=0.32±.22; Mθφ=-0.92±.10; Best double couple: Mo=1.93500×10¹⁶ NP1:ϕs=216.00000°, δ16.00000°, λ-107.00000°. NP2: ϕs=53.00000°, δ74.00000°, λ-85.00000°. Principal axes: T 1.7910, Plg29.0000°, Azm139.0000°; N 0.2890, Plg5.0000°, Azm232.0000°; P -2.0780, Plg60.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 06:06:09.4±0.5, 59.83S±0.06×27.68W±0.07, h122km±4km, h122km:pP-P, n334, σ1°95/348, mb4.8/35, 9C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
HOPE	**Hope Point**	**7.34**	**315**	Pn	**Pn**	**06 07 50.5**	**-3.4**
VNA1	**Neumayer--Stat**	**13.47**	**152**	⇑P	**Pn**	**06 09 17.2**	**+1.9**
VNA1				⇑S	**Sn**	**06 11 42.2**	**-1.4**
VNA3	**Neumayer Olymp**	**13.58**	**155**	⇑P	**Pn**	**06 09 16.9**	**+0.2**
VNA3	comp=Z,64nm,0.4s			⇑S	**Sn**	**06 11 40.6**	**-5.7**
VNA2	**Neumayer--Watz**	**13.87**	**152**	⇑P	**Pn**	**06 09 20.2**	**-0.3**
VNA2	comp=Z,34nm,0.6s,baz=291,slow=14			⇑S	**Sn**	**06 11 50.7**	**-2.4**
SNAA	**Sanae**	**15.48**	**150**	⇑P	**Pn**	**06 09 42.2**	**+1.4**
SNAA	baz=312,slow=6.1 comp=Z,958nm,0.6s			⇓S	**Sn**	**06 12 30.1**	**-1.9**
SNAA	**Sanae**	**15.48**	**150**		**Pn**	**06 09 42.3**	**+1.6**
SNAA	comp=Z,48nm,0.7s			IAmb	IAmb	06 09 47.1	
SNAA	**Sanae**	**15.48**	**150**	P	**Pn**	**06 09 42.7**	**+2.0**
SNAA	comp=Z,49nm,0.7s,baz=306,slow=9.9,SNR=28 comp=Z,6.6nm,0.5s,baz=305,slow=17,SNR=5.5			S	**Sn**	**06 12 26.3**	**-5.6**
TROLL	**Troll, Antarti**	**17.07**	**148**	⇑P	**P**	**06 10 01.5**	**+1.4**
PMSA	**Palmer Station**	**17.43**	**238**	P	**P**	**06 10 04.9**	**+0.9**
PMSA	**Palmer Station**	**17.43**	**238**	P	**P**	**06 10 05.2**	**+1.2**
BELA	**Belgrano 2**	**18.28**	**185**	P	**P**	**06 10 13.6**	**+0.4**
BELA	comp=Z,46nm,0.9s			IAmb	IAmb	06 10 16.8	
EFI	**East Falkland**	**18.80**	**282**	P	**P**	**06 10 18.7**	**-0.4**
EFI	comp=Z,207nm,1.4s			IAmb	IAmb	06 10 30.0	
MG02	**Cerro Sombrero**	**23.76**	**269**	P	**P**	**06 11 10.5**	**+0.2**
MG03	**Isla Dawson**	**23.81**	**266**	P	**P**	**06 11 11.1**	**+0.4**
MG03	comp=Z,37nm,1.1s			IAmb	IAmb	06 11 14.3	
GO10	**Punta Arenas**	**24.48**	**266**	P	**P**	**06 11 15.9**	**-0.9**
GO10	comp=Z,62nm,1.2s			IAmb	IAmb	06 11 22.3	
MG05	**Puerto Natales**	**26.05**	**268**	P	**P**	**06 11 30.3**	**-0.6**
GO09	**Cerro Castillo**	**26.21**	**269**	P	**P**	**06 11 31.1**	**-1.2**
AY03	**Cochrane**	**28.90**	**276**	P	**P**	**06 11 56.0**	**-0.3**
SYO	**Syowa Base**	**28.91**	**137**	⇑eP	**P**	**06 11 55.4**	**-0.8**
COYC	**Coyhaique**	**29.80**	**279**	P	**P**	**06 12 04.1**	**-0.3**
QSPA	**South Pole Qui**	**30.41**	**180**	P	**P**	**06 12 12.2**	**+2.4**
QSPA	comp=Z,22nm,1.2s			IAmb	IAmb	06 12 13.6	
QSPA	**South Pole Qui**	**30.41**	**180**	P	**P**	**06 12 12.5**	**+2.7**
QSPA	comp=Z,5.7nm,0.5s,baz=216,slow=2.4,SNR=57 comp=Z,97nm,18.5s,baz=198,slow=36 comp=Z,5.7nm,0.5s			LR	LR	06 24 14.2	
QSPA	**South Pole Qui**	**30.41**	**180**	P	**P**	**06 12 12.7**	**+2.9**
QSPA				pP	**pP**	**06 12 36.1**	**+0.5**
LL02	**Futaleuf**	**31.40**	**282**	P	**P**	**06 12 18.0**	**-0.5**
PLCA	**Paso Flores**	**32.62**	**286**	P	**P**	**06 12 28.8**	**-0.4**
PLCA	**Paso Flores**	**32.62**	**286**	P	**P**	**06 12 28.5**	**-0.8**
	comp=Z,6.4nm,0.7s,baz=145,slow=8.7,SNR=28 comp=Z,6.4nm,0.7s						
PLCA	**Paso Flores**	**32.62**	**286**	P	**P**	**06 12 28.9**	**-0.4**
PLCA				sP	**pwP**	**06 13 02.8**	**+4.2**
PLCA	**Paso Flores**	**32.62**	**286**	eP	**P**	**06 12 27.1**	**-2.1**
PLTB	**Pedras Altas**	**32.96**	**317**		**P**	**06 12 33.5**	**+1.2**
PLTB	**Pedras Altas**	**32.96**	**317**	eP	**P**	**06 12 33.4**	**+1.2**
LR05	**Currie**	**33.71**	**285**	P	**P**	**06 12 38.9**	**+0.2**
LR05	comp=Z,17nm,0.7s			IAmb	IAmb	06 12 39.4	
CPSB	**Cacapava Do Su**	**34.14**	**318**	eP	**P**	**06 12 43.8**	**+1.3**
CNLB	**Canela**	**34.32**	**322**	eP	**P**	**06 12 45.7**	**+1.6**
LR03	**Panguipulli**	**34.34**	**286**	P	**P**	**06 12 44.0**	**-0.1**
LR03	comp=Z,17nm,0.7s			IAmb	IAmb	06 12 44.7	
BI02	**San Fabin de**	**36.17**	**290**	P	**P**	**06 12 60.0**	**+0.1**
BI02	comp=Z,8.4nm,0.8s			IAmb	IAmb	06 13 31.8	
ITAB	**Concordia**	**36.65**	**322**	eP	**P**	**06 13 05.0**	**+1.0**
ML02	**Panimavida**	**36.97**	**291**	P	**P**	**06 13 05.8**	**-0.8**
ML02	comp=Z,14nm,0.7s			IAmb	IAmb	06 13 07.5	
BI05	**Punta Hualpn**	**37.02**	**288**	P	**P**	**06 13 07.0**	**0.0**
MAW	**Mawson**	**37.31**	**141**	P	**P**	**06 13 10.4**	**+1.3**
	comp=Z,7.0nm,0.8s,baz=242,slow=8.1,SNR=14 comp=Z,7.0nm,0.8s						
BO02	**Sierra Bellavi**	**37.46**	**292**	P	**P**	**06 13 10.3**	**-0.5**
BO02	comp=Z,15nm,0.8s			IAmb	IAmb	06 13 15.6	
BO01	**Tunca**	**37.93**	**292**		**P**	**06 13 13.9**	**-0.8**
BO01	comp=Z,17nm,0.9s			IAmb	IAmb	06 13 16.2	
BO04	**La Punta**	**38.04**	**293**	P	**P**	**06 13 15.6**	**-0.1**
BO04	comp=Z,29nm,1.0s			IAmb	IAmb	06 13 17.5	
MT03	**Universidad Ad**	**38.41**	**294**	P	**P**	**06 13 19.0**	**+0.2**
PARB	**Paraibuna**	**38.59**	**333**	eP	**P**	**06 13 22.4**	**+2.1**
MT05	**Renca**	**38.60**	**294**	P	**P**	**06 13 21.0**	**+0.6**
PEL	**Peldehue**	**38.78**	**294**	P	**P**	**06 13 22.2**	**+0.3**
PTGB	**Pitanga**	**38.99**	**323**	eP	**P**	**06 13 24.3**	**+0.6**
ZON	**Zonda**	**39.21**	**298**		**P**	**06 13 25.7**	**+0.2**
ZON	comp=Z,20nm,0.7s			IAmb	IAmb	06 13 26.7	
CPUP	**Villa Florida**	**39.22**	**315**	P	**P**	**06 13 26.2**	**+0.7**
CPUP	comp=Z,2.0nm,0.5s,baz=14,slow=7.5,SNR=18			LR	LR	06 30 44.6	
CPUP	**Villa Florida**	**39.22**	**315**	P	**P**	**06 13 25.7**	**+0.2**
CPUP	comp=Z,8.7nm,18.1s,baz=12,slow=38 comp=Z,2.0nm,0.5s			pP	**pP**	**06 13 47.9**	**-4.1**
CPUP				sP	**pwP**	**06 13 59.3**	**+3.7**
CPUP	**Villa Florida**	**39.22**	**315**	eP	**P**	**06 13 26.0**	**+0.5**
VAO	**Valinhos**	**39.23**	**331**	eP	**P**	**06 13 27.1**	**+1.4**
VA06	**Catapilco**	**39.55**	**294**	P	**P**	**06 13 28.2**	**0.0**
VA06	comp=Z,20nm,0.7s			IAmb	IAmb	06 13 30.7	
LDASE	**Londrina, Braz**	**39.96**	**325**	eP	**P**	**06 13 33.1**	**+1.4**
SJPY	**San Joaquin**	**40.02**	**318**	eP	**P**	**06 13 32.4**	**+0.2**
BSCB	**Bom Sucesso**	**40.66**	**335**	eP	**P**	**06 13 39.3**	**+1.8**
TRCB	**Terra Rica**	**40.97**	**324**	P	**P**	**06 13 40.5**	**+0.5**
TRCB	**Terra Rica**	**40.97**	**324**	eP	**P**	**06 13 40.9**	**+0.9**
CO01	**Juntas del Tor**	**41.18**	**297**	P	**P**	**06 13 43.5**	**+1.5**
CO01	comp=Z,31nm,0.9s			IAmb	IAmb	06 13 44.5	
BB19B	**Bebedouro**	**41.47**	**330**	eP	**P**	**06 13 45.0**	**+0.9**
AMBA	**Amambai (Brazi**	**41.58**	**320**	eP	**P**	**06 13 44.8**	**-0.2**
CO05	**La Serena**	**41.75**	**296**	P	**P**	**06 13 46.1**	**-0.1**
VNDA	**Vanda**	**42.78**	**183**	P	**P**	**06 13 55.9**	**+1.9**
VNDA	**Vanda**	**42.78**	**183**	P	**P**	**06 13 56.1**	**+2.0**
	comp=Z,3.3nm,0.6s,baz=181,slow=5.1,SNR=19 comp=Z,3.3nm,0.6s						
VNDA	**Vanda**	**42.78**	**183**	P	**P**	**06 13 56.0**	**+1.9**
VNDA				pP	**pP**	**06 14 20.0**	**-1.1**
AC04	**Llanos de Chal**	**43.14**	**298**	P	**P**	**06 13 57.5**	**0.0**
AC02	**Maricunga**	**43.46**	**301**		**P**	**06 14 00.9**	**+0.2**
AC02	comp=Z,22nm,0.9s			IAmb	IAmb	06 14 02.9	
RPRD	**Ribas do Rio P**	**43.47**	**323**	eP	**P**	**06 14 00.7**	**+0.5**
AC06	**Mina Casimiro**	**43.55**	**299**	P	**P**	**06 14 01.2**	**+0.4**
AC06	comp=Z,20nm,0.9s			IAmb	IAmb	06 14 02.3	
MURT	**Porto Murtinho**	**43.62**	**318**	eP	**P**	**06 14 01.3**	**-0.1**
CCD	**Concordia, Ant**	**43.99**	**170**	P	**P**	**06 14 05.0**	**+0.7**
CCD				pP	**pP**	**06 14 28.3**	**-3.1**
AQDB	**Aquidauana**	**44.09**	**321**		**P**	**06 14 04.4**	**-0.8**
AQDB	comp=Z,11nm,0.6s			IAmb	IAmb	06 14 06.7	
AQDB	**Aquidauana**	**44.09**	**321**	eP	**P**	**06 14 05.0**	**-0.2**
IPMB	**Ipameri, GO**	**44.35**	**331**	eP	**P**	**06 14 09.3**	**+1.9**
BDQN	**Bodoquena, MS**	**44.46**	**319**	eP	**P**	**06 14 07.9**	**-0.3**
GO02	**Mina Guanaco**	**45.12**	**301**		**P**	**06 14 14.0**	**+0.3**
GO02	comp=Z,28nm,0.8s			IAmb	IAmb	06 14 15.0	
BDFB	**Brasilia**	**46.56**	**333**	P	**P**	**06 14 26.5**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=159,slow=7.9,SNR=7.2 comp=Z,2.8nm,0.5s						
BOSA	**Boshof**	**47.24**	**73**	P	**P**	**06 14 31.3**	**+1.2**
	comp=Z,2.6nm,0.5s,baz=223,slow=6.8,SNR=11 comp=Z,2.6nm,0.5s						
ARAG	**Araguaiana, MT**	**47.46**	**328**	eP	**P**	**06 14 33.5**	**+1.9**
SALV	**Santo Antonio**	**48.39**	**323**	eP	**P**	**06 14 39.4**	**+0.6**
PTLB	**Pontes e Lacer**	**49.91**	**319**		**P**	**06 14 50.6**	**+0.2**
PTLB	**Pontes e Lacer**	**49.91**	**319**	eP	**P**	**06 14 50.7**	**+0.3**
SIV	**San Ignacio**	**50.07**	**316**	LR	LR	06 34 28.6	
	comp=Z,42nm,22.0s,baz=115,slow=34						
LBTB	**Lobatse**	**50.43**	**71**	P	**P**	**06 14 54.4**	**0.0**
LBTB	comp=Z,14nm,1.3s			IAmb	IAmb	06 15 06.5	
LBTB	**Lobatse**	**50.43**	**71**	P	**P**	**06 14 55.2**	**+0.8**
KGCAE	**Kacgae**	**50.69**	**66**	P	**P**	**06 14 57.3**	**+1.0**
SNDB	**Serra Nova Dou**	**50.89**	**330**	eP	**P**	**06 14 58.9**	**+1.1**
KDWAN	**Kaudwane**	**51.38**	**69**	P	**P**	**06 15 01.9**	**+0.4**
KDWAN	comp=Z,22nm,1.1s			IAmb	IAmb	06 15 03.5	
GRTLG	**Ghanzi**	**51.53**	**64**	P	**P**	**06 15 03.2**	**+0.6**
GRTLG	comp=Z,13nm,0.8s			IAmb	IAmb	06 15 04.5	
PB18	**Visviri**	**51.80**	**306**	P	**P**	**06 15 06.1**	**+0.9**
PB18	comp=Z,14nm,1.0s			IAmb	IAmb	06 15 07.3	
LPHEP	**Lephephe**	**51.96**	**70**	P	**P**	**06 15 06.9**	**+1.1**
LPHEP	comp=Z,9.6nm,0.8s			IAmb	IAmb	06 15 07.9	
LPAZ	**La Paz**	**52.43**	**308**	P	**P**	**06 15 10.2**	**+0.3**
LPAZ	comp=Z,5.6nm,0.6s			IAmb	IAmb	06 15 12.4	
LPAZ	**La Paz**	**52.43**	**308**	P	**P**	**06 15 10.4**	**+0.5**
LPAZ	comp=Z,5.4nm,0.5s,baz=126,slow=4.9,SNR=37 comp=Z,5.4nm,0.5s			LR	LR	06 37 42.8	
LPAZ	**La Paz**	**52.43**	**308**	P	**P**	**06 15 10.0**	**0.0**
LPAZ	**La Paz**	**52.43**	**308**	eP	**P**	**06 15 10.4**	**+0.5**
VILB	**Vilhena**	**52.60**	**319**	eP	**P**	**06 15 10.3**	**-0.2**
PDRB	**Porto dos Gac**	**52.75**	**323**	eP	**P**	**06 15 11.5**	**-0.1**
H10N1	**ASCENSION HYDR**	**52.82**	**16**	T	T	07 13 29.2	
	baz=193						
H10N3	**ASCENSION HYDR**	**52.82**	**16**	T	T	07 13 30.2	
	baz=193						
H10N2	**ASCENSION HYDR**	**52.84**	**16**	T	T	07 13 49.1	
	baz=193						
SMTB	**Santa Maria do**	**53.03**	**335**	eP	**P**	**06 15 14.1**	**+0.5**
CLDB	**Colider**	**53.17**	**325**	eP	**P**	**06 15 14.8**	**+0.1**
MREMI	**Moremi**	**53.39**	**71**	P	**P**	**06 15 17.2**	**+0.8**
PHDHD	**Phuduhudu**	**54.06**	**66**	P	**P**	**06 15 21.1**	**-0.2**
KSANE	**Kasane**	**56.43**	**66**	P	**P**	**06 15 39.0**	**+0.8**
KSANE	comp=Z,14nm,0.8s			IAmb	IAmb	06 15 40.0	
NPGB	**Novo Progresso**	**56.69**	**327**	eP	**P**	**06 15 39.8**	**-0.2**
ITTB	**Itaituba**	**59.35**	**327**	eP	**P**	**06 15 58.6**	**+0.1**
LSZ	**Lusaka**	**60.03**	**67**	P	**P**	**06 16 04.1**	**+0.8**
LSZ	comp=Z,8.7nm,0.7s			IAmb	IAmb	06 16 05.1	
LSZ	**Lusaka**	**60.03**	**67**	P	**P**	**06 16 03.5**	**+0.2**
FOMA	**Nahampoana Res**	**61.07**	**90**	P	**P**	**06 16 13.0**	**+2.9**
CZSB	**Cruzeiro do Su**	**62.02**	**307**	eP	**P**	**06 16 15.9**	**-0.7**
TEFE	**Tefe**	**62.91**	**318**	eP	**P**	**06 16 22.0**	**-0.5**
BOAV	**Boa Vista**	**67.16**	**324**		**P**	**06 16 49.0**	**-1.0**
BOAV	**Boa Vista**	**67.16**	**324**	eP	**P**	**06 16 48.9**	**-1.0**
DBIC	**Dimbokro**	**68.72**	**24**	P	**P**	**06 16 59.8**	**+0.1**
DBIC	**Dimbokro**	**68.72**	**24**	P	**P**	**06 16 59.9**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=203,slow=6.4,SNR=7.2 comp=Z,4.3nm,0.6s						
COHC	**Cochancay**	**69.48**	**303**	P	**P**	**06 17 05.2**	**+0.8**
OTAV	**Otavalo**	**71.59**	**305**		**P**	**06 17 17.7**	**-0.1**
OTAV	**Otavalo**	**71.59**	**305**	P	**P**	**06 17 17.5**	**-0.2**
OTAV	**Otavalo**	**71.59**	**305**	eP	**P**	**06 17 17.7**	**-0.1**
FLOC	**Florencia**	**71.68**	**309**	P	**P**	**06 17 17.4**	**-0.4**
RUSC	**La Rusia**	**74.65**	**313**		**P**	**06 17 34.5**	**-1.3**
RUSC	comp=Z,17nm,1.3s			IAmb	IAmb	06 17 36.3	
TORD	**Torodi Ar. Bea**	**76.48**	**29**	P	**P**	**06 17 46.2**	**+0.7**
TORD	comp=Z,10nm,0.7s			IAmb	IAmb	06 17 47.3	
TORD	**Torodi Ar. Bea**	**76.48**	**29**	P	**P**	**06 17 46.5**	**+0.9**
TORD	comp=Z,14nm,0.6s,baz=197,slow=5.6,SNR=112			pP	**pP**	**06 18 15.9**	**0.0**
	comp=Z,5.3nm,0.5s,baz=196,slow=5.0,SNR=3.4 comp=Z,14nm,0.6s						
MD01	**Midelt array s**	**94.28**	**19**	P	**P**	**06 19 15.7**	**+1.3**
ASAR	**Alice Springs**	**95.45**	**163**	P	**P**	**06 19 19.1**	**-1.0**
ASAR	comp=Z,0.8nm,0.8s,baz=179,slow=4.2,SNR=6.7			pP	**pP**	**06 19 50.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=184,slow=3.9,SNR=3.6 comp=Z,0.8nm,0.8s						
NVAR	**Mina Array Bea**	**122.58**	**291**	PKP	**PKPdf**	**06 24 49.8**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=109,slow=2.4,SNR=5.0						
HFS	**Hagfors**	**123.88**	**23**	PKP	**PKPdf**	**06 24 50.1**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=126,slow=2.0,SNR=1.1						
CMAR	**Chiang Mai Arr**	**123.89**	**113**	PKP	**PKiKP**	**06 24 53.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=231,slow=4.1,SNR=8.6						
NB2	**NORSAR Subarra**	**124.23**	**22**	PKPdf	**PKPdf**	**06 24 50.9**	**-1.1**
	comp=Z,2.0nm,1.1s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**124.23**	**22**	PKP	**PKPdf**	**06 24 51.6**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=190,slow=1.5,SNR=4.4						
FINES	**FINESS Array B**	**127.83**	**29**	PKP	**PKPdf**	**06 24 58.3**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=160,slow=6.1,SNR=6.6						
FINES				pPKP	**pPKPdf**	**06 25 32.5**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=134,slow=5.5,SNR=1.0						
ARCES	**ARCESS Array B**	**134.54**	**23**	PKP	**PKPdf**	**06 25 11.6**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=209,slow=3.7,SNR=12						

ARCES				SKPbc	**SKPbc**	**06 28 26.2**	**-3.5**	
	comp=Z,0.8nm,0.5s,baz=208,slow=2.3,SNR=9.2							
BVAR	**Borovoye Array**	**136.94**	**61**	PKP	**PKPdf**	**06 25 15.7**	**-0.6**	
	comp=Z,2.2nm,0.7s,baz=264,slow=1.5,SNR=7.3							
BVAR				SKPbc	**SKPbc**	**06 28 34.7**	**-2.9**	
	comp=Z,1.8nm,0.6s,baz=252,slow=3.0,SNR=8.1							
MAKZ	**Makanchi**	**138.07**	**75**	Pn	**Pdif**	**06 22 24.0**	**-5.0**	
	comp=Z,1.2nm,0.5s							
MAKZ				Lg	Lg	06 24 05.2		
	comp=Z,4.1nm,0.8s							
MK31	**Makanchi Array**	**138.21**	**76**	||Pn	**Pdif**	**06 22 21.4**	**-8.2**
	comp=Z,0.2nm,0.5s,baz=128,slow=15,SNR=4.6							
MK31				Lg	Lg	06 23 58.6		
	comp=Z,1.8nm,0.7s,baz=132,slow=28,SNR=5.1							
MKAR	**Makanchi Array**	**138.21**	**76**	SKPbc	**SKPbc**	**06 28 39.4**	**-2.1**	
	comp=Z,0.6nm,0.7s,baz=222,slow=1.6,SNR=5.2							
YKA	**Yellowknife Ar**	**138.75**	**315**	PKP	**PKPdf**	**06 25 18.4**	**-0.9**	
	comp=Z,0.3nm,0.5s,baz=131,slow=7.5,SNR=8.5							
KURBB	**Kurchatov Arra**	**139.03**	**69**	PKhKP	PKPpre	06 25 11.7		
	comp=Z,0.5nm,0.6s,baz=233,slow=3.5,SNR=5.4							
KURBB				PKP	**PKPdf**	**06 25 20.3**	**+0.1**	
	comp=Z,1.2nm,0.7s,baz=226,slow=2.5,SNR=7.8							
ZALV	**Zalesovo Beam**	**144.13**	**69**	PKP	**PKPab**	**06 25 26.9**	**-0.3**	
	comp=Z,6.6nm,0.7s,baz=250,slow=3.5,SNR=29							
ZALV				pPKP	**pPKPdf**	**06 26 00.9**	**-0.8**	
	comp=Z,1.3nm,0.4s,baz=211,slow=4.3,SNR=2.6							
P29M	**Windy Craggy**	**146.24**	**301**	P	**PKPdf**	**06 25 33.1**	**+0.4**	
	baz=121							
N31M	**Braeburn, Yuko**	**146.36**	**305**	P	**PKPbc**	**06 25 34.1**	**-0.3**	
	baz=120							
HYT	**Haines Junctio**	**146.75**	**303**	P	**PKPdf**	**06 25 34.5**	**+0.9**	
	baz=120							
N30M	**Aishikik Lake**	**146.89**	**304**	P	**PKPdf**	**06 25 34.9**	**+1.1**	
	baz=119							
O29M	**Mount Kennedy**	**146.95**	**301**	PKPdf	**PKPbc**	**06 25 35.6**	**-0.6**	
O29M	**Mount Kennedy**	**146.95**	**301**	P	**PKPdf**	**06 25 35.2**	**+1.2**	
	baz=120							
PNL	**Peninsula**	**146.98**	**300**	P	**PKPdf**	**06 25 34.7**	**+0.8**	
	baz=120							
YUK6	**Outpost Mounta**	**147.17**	**303**	P	**PKPdf**	**06 25 34.6**	**0.0**	
	baz=119							
A36M	**Sachs Harbour**	**147.24**	**325**		**PKPdf**	**06 25 35.4**	**+1.4**	
A36M	**Sachs Harbour**	**147.24**	**325**	P	**PKPdf**	**06 25 35.1**	**+1.1**	
	baz=112							
M30M	**Minto, Yukon**	**147.31**	**306**		**PKPbc**	**06 25 36.2**	**-0.8**	
M30M	**Minto, Yukon**	**147.31**	**306**	P	**PKPdf**	**06 25 35.5**	**+1.0**	
	baz=118							
MAYO	**Mayo, Yukon**	**147.41**	**308**	PKPdf	**PKPdf**	**06 25 35.8**	**+1.3**	
MAYO	**Mayo, Yukon**	**147.41**	**308**	P	**PKPbc**	**06 25 36.2**	**-1.1**	
	baz=117							
YUK4	**Talbot Arm**	**147.49**	**303**	P	**PKPdf**	**06 25 35.6**	**+0.7**	
	baz=118							
PINM	**Pinnacle**	**147.57**	**300**	P	**PKPdf**	**06 25 35.9**	**+0.9**	
	baz=120							
H31M	**Peel River**	**147.78**	**312**		**PKPdf**	**06 25 36.0**	**+0.9**	
H31M	**Peel River**	**147.78**	**312**	P	**PKPdf**	**06 25 36.5**	**+1.4**	
	baz=115							
O28M	**Mount Upton**	**147.87**	**302**	P	**PKPdf**	**06 25 36.3**	**+0.5**	
	baz=119							
M29M	**Somme Creek**	**147.93**	**305**	P	**PKPdf**	**06 25 36.7**	**+1.1**	
	baz=117							
J30M	**Hart River**	**148.02**	**309**	P	**PKPdf**	**06 25 36.6**	**+0.9**	
	baz=115							
L29M	**L29M**	**148.09**	**306**	P	**PKPdf**	**06 25 37.3**	**+1.6**	
	baz=116							
K29M	**Barlow Dome**	**148.17**	**308**	P	**PKPdf**	**06 25 37.8**	**+1.8**	
	baz=116							
G31M	**Satah River**	**148.21**	**314**	P	**PKPdf**	**06 25 37.1**	**+1.4**	
	baz=113,SNR=11							
F31M	**Tsiigehtchic**	**148.23**	**315**		**PKPdf**	**06 25 36.7**	**+1.0**	
F31M	**Tsiigehtchic**	**148.23**	**315**	P	**PKPdf**	**06 25 37.3**	**+1.6**	
	baz=113,SNR=6.3							
I30M	**Mount Dempster**	**148.31**	**311**	P	**PKPdf**	**06 25 38.2**	**+2.1**	
	baz=114							
MESA	**MESA**	**148.35**	**300**	P	**PKPdf**	**06 25 38.2**	**+1.7**	
	baz=118							
YUK3	**Moose Creek**	**148.46**	**303**	P	**PKPdf**	**06 25 38.2**	**+1.6**	
	baz=117							
CTG	**Chitna Glacier**	**148.46**	**301**	P	**PKPdf**	**06 25 38.3**	**+1.8**	
	baz=118							
INK	**Inuvik**	**148.48**	**317**	P	**PKPbc**	**06 25 38.3**	**-1.6**	
	baz=112,SNR=13							
EPYK	**Eagle Plains**	**148.90**	**312**	P	**PKPdf**	**06 25 39.1**	**+2.2**	
	baz=112							
BGLC	**Bering Glacier**	**148.91**	**299**	P	**PKPdf**	**06 25 39.0**	**+1.9**	
	baz=118							
BVCY	**Beaver Creek**	**148.91**	**304**	P	**PKPbc**	**06 25 39.6**	**-1.6**	
	baz=116							
G30M	**tAoh Zraii Nji**	**148.95**	**314**	P	**PKPbc**	**06 25 39.7**	**-1.5**	
	baz=112							
DAWY	**Dawson**	**149.01**	**307**	P	**PKPdf**	**06 25 39.1**	**+1.9**	
	baz=114							
F30M	**Barrier River**	**149.02**	**315**	P	**PKPbc**	**06 25 39.7**	**-1.6**	
	baz=111							
I29M	**Ogilvie Camp,**	**149.11**	**310**	P	**PKPdf**	**06 25 39.6**	**+2.3**	
	baz=113							
CRQE	**Cirque**	**149.12**	**300**	P	**PKPdf**	**06 25 39.9**	**+2.3**	
	baz=117							
M27K	**Edge Creek, AK**	**149.32**	**304**	P	**PKPbc**	**06 25 40.7**	**-1.6**	
	baz=115							
KAIM	**Kayak Island**	**149.32**	**298**	P	**PKPdf**	**06 25 40.3**	**+2.6**	
	baz=118							
MCARA	**McCarthy VSAT**	**149.38**	**301**	P	**PKPdf**	**06 25 40.3**	**+2.5**	
	baz=116							
H29M	**Whitestone**	**149.46**	**312**	P	**PKPdf**	**06 25 40.2**	**+2.4**	
	baz=112,SNR=17							
G29M	**Pine Creek**	**149.58**	**313**	P	**PKPbc**	**06 25 40.9**	**-1.8**	
	baz=111							
L27K	**Beaver Creek,**	**149.59**	**305**	P	**PKPbc**	**06 25 41.5**	**-1.3**	
	baz=114							
I28M	**Miner Creek**	**149.77**	**310**	P	**PKPdf**	**06 25 41.1**	**+2.7**	
	baz=112							
M26K	**Nabesna, AK**	**149.81**	**303**	P	**PKPdf**	**06 25 40.8**	**+2.3**	
	baz=115							
BMRM	**Bremner River**	**149.88**	**300**	P	**PKPdf**	**06 25 41.3**	**+2.6**	
	baz=116							
Q23K	**Middleton Isla**	**149.96**	**296**	P	**PKPdf**	**06 25 41.4**	**+2.7**	
	baz=118							
E29M	**Blow River**	**150.03**	**316**	P	**PKPbc**	**06 25 41.5**	**-2.3**	
	baz=108							
K27K	**Chicken**	**150.08**	**306**	P	**PKPdf**	**06 25 41.6**	**+2.8**	
	baz=113							
N25K	**Chitina, Valde**	**150.16**	**301**	P	**PKPbc**	**06 25 42.3**	**-2.1**	
	baz=115							
EYAK	**Cordova Ski Ar**	**150.20**	**299**	P	**PKPdf**	**06 25 41.9**	**+2.8**	
	baz=116							
L26K	**Log Cabin Wild**	**150.21**	**304**	P	**PKPdf**	**06 25 41.9**	**+2.8**	
	baz=114							
I27K	**Kandik River**	**150.48**	**310**	P	**PKPdf**	**06 25 42.3**	**+2.8**	
	baz=110							
F28M	**Old Crow**	**150.50**	**314**	P	**PKPbc**	**06 25 43.0**	**-1.9**	
	baz=108							
D28M	**Stokes Point**	**150.60**	**318**	P	**PKPbc**	**06 25 43.1**	**-2.0**	
	baz=106							
H27K	**Steamboat Moun**	**150.66**	**311**	P	**PKPbc**	**06 25 43.2**	**-2.2**	
	baz=109,SNR=19							
E28M	**Babbage River**	**150.67**	**316**	P	**PKPdf**	**06 25 42.6**	**+3.0**	
	baz=107							
KLU	**Klutina**	**150.68**	**300**	P	**PKPbc**	**06 25 43.3**	**-2.3**	
	baz=114							
P23K	**Montague Islan**	**150.69**	**297**	P	**PKPbc**	**06 25 43.1**	**-2.4**	
	baz=116							
HARP	**HAARP**	**150.72**	**302**	P	**PKPbc**	**06 25 43.1**	**-2.4**	
	baz=114							
SCRK	**Sand Creek**	**150.84**	**306**	P	**PKPbc**	**06 25 43.4**	**-2.5**	
	baz=112							
J26L	**Joseph Creek**	**150.86**	**307**	P	**PKPbc**	**06 25 43.8**	**-2.1**	
	baz=111							
G27K	**Doyon Strip**	**150.90**	**312**	P	**PKPbc**	**06 25 43.9**	**-2.0**	
	baz=108							
GLI	**Glacier Island**	**150.94**	**299**	P	**PKPbc**	**06 25 43.6**	**-2.5**	
	baz=115							
I26K	**Coal Creek Min**	**150.98**	**309**	P	**PKPbc**	**06 25 44.0**	**-2.1**	
	baz=110							
SONM	**Songino Array**	**150.98**	**94**	PKPbc	**PKPbc**	**06 25 46.7**	**-0.1**	
	comp=Z,7.2nm,0.6s,baz=224,slow=2.6,SNR=34							
SONM				pPKPbc	**pPKPbc**	**06 26 19.6**	**+0.6**	
	comp=Z,2.5nm,0.8s,baz=218,slow=2.1,SNR=4.3							
M24K	**Tolsona, Glenn**	**151.04**	**301**	P	**PKPdf**	**06 25 43.6**	**+3.2**	
	baz=113							
PAX	**Paxson**	**151.08**	**303**	P	**PKPdf**	**06 25 43.5**	**+2.9**	
	baz=112							
RIDG	**Independent Ri**	**151.11**	**305**	P	**PKPdf**	**06 25 43.3**	**+2.8**	
	baz=111							
E27K	**Coleen River**	**151.29**	**315**	P	**PKPdf**	**06 25 43.3**	**+2.7**	
	baz=106							
D27M	**Malcolm River**	**151.35**	**317**	P	**PKPdf**	**06 25 43.8**	**+3.1**	
	baz=104							
SCM	**Sheep Creek Mo**	**151.44**	**300**	P	**PKPdf**	**06 25 44.0**	**+2.9**	
	baz=113							
PWL	**Port Wells**	**151.48**	**298**	P	**PKPdf**	**06 25 44.1**	**+3.0**	
	baz=114							
K24K	**Donnelly Dome**	**151.52**	**305**	P	**PKPdf**	**06 25 44.6**	**+3.5**	
	baz=111							
J25K	**Salcha River,**	**151.63**	**307**	P	**PKPdf**	**06 25 44.7**	**+3.4**	
	baz=110							
SEW	**Seward**	**151.67**	**296**	P	**PKPbc**	**06 25 45.1**	**-2.6**	
	baz=115							
G26K	**Porcupine Rive**	**151.75**	**312**	P	**PKPbc**	**06 25 45.4**	**-2.4**	
	baz=106,SNR=6.8							
KNK	**Knik Glacier**	**151.76**	**299**	P	**PKPdf**	**06 25 44.9**	**+3.4**	
	baz=113							
O22K	**Cooper Landing**	**151.95**	**297**	P	**PKPdf**	**06 25 45.1**	**+3.4**	
	baz=114							
PRP	**Porcupine Dome**	**151.99**	**308**	P	**PKPdf**	**06 25 44.8**	**+2.9**	
	baz=108							
KDAK	**Kodiak Island**	**152.08**	**290**	P	**PKPdf**	**06 25 45.1**	**+3.1**	
	baz=118							
F26K	**Sheenjek River**	**152.08**	**313**	P	**PKPdf**	**06 25 45.2**	**+3.3**	
	baz=105,SNR=14							
PMR	**Palmer**	**152.13**	**299**	P	**PKPdf**	**06 25 45.3**	**+3.3**	
	baz=113							
OHAK	**Old Harbor**	**152.15**	**289**	P	**PKPdf**	**06 25 45.2**	**+3.0**	
	baz=118							
RC01	**Rabbit Creek A**	**152.20**	**298**	P	**PKPdf**	**06 25 45.5**	**+3.3**	
	baz=113							
HDA	**Harding Lake**	**152.21**	**306**	P	**PKPdf**	**06 25 45.4**	**+3.3**	
	baz=109							
SII	**Sitkinak Islan**	**152.26**	**287**	P	**PKPdf**	**06 25 45.7**	**+3.3**	
	baz=119							
ILAR	**Eielson Array**	**152.30**	**306**	PKPbc	**PKPbc**	**06 25 47.9**	**-1.2**	
	comp=Z,1.7nm,0.6s,baz=144,slow=0.1,SNR=28							
H25L	**Birch Creek**	**152.33**	**310**	P	**PKPdf**	**06 25 45.7**	**+3.5**	
	baz=108							
Q20K	**Shuyak Island**	**152.37**	**292**	P	**PKPdf**	**06 25 44.9**	**+2.5**	
	baz=116							
C27K	**Jago River**	**152.38**	**317**	P	**PKPdf**	**06 25 44.9**	**+2.7**	
	baz=102,SNR=7.2							
HOM	**Homer**	**152.48**	**294**	P	**PKPdf**	**06 25 45.6**	**+3.0**	
	baz=115							
G25K	**Bearman Lake**	**152.57**	**311**	P	**PKPdf**	**06 25 46.1**	**+3.6**	
	baz=105							
CHIR	**Chirikof Islan**	**152.59**	**285**	P	**PKPdf**	**06 25 46.1**	**+3.2**	
	baz=120							
F25K	**Christian Rive**	**152.61**	**313**	P	**PKPdf**	**06 25 45.8**	**+3.2**	
	baz=104,SNR=11							
POKR	**Poker Plat Res**	**152.63**	**307**	P	**PKPdf**	**06 25 46.1**	**+3.4**	
	baz=107							
CAPN	**Captain Cook N**	**152.71**	**297**	P	**PKPdf**	**06 25 46.7**	**+3.8**	
	baz=113							
E25K	**Arctic Village**	**152.71**	**314**	P	**PKPdf**	**06 25 46.5**	**+3.8**	
	baz=103							
COLA	**College**	**152.73**	**306**	P	**PKPbc**	**06 25 46.9**	**-3.0**	
	baz=108							
SUA	**Susitna One**	**152.80**	**298**	P	**PKPbc**	**06 25 47.1**	**-3.3**	
	baz=112							
MCK	**McKinley**	**152.81**	**304**	P	**PKPdf**	**06 25 46.8**	**+3.8**	
	baz=109							
C26K	**Camden Bay**	**152.84**	**318**	P	**PKPbc**	**06 25 47.2**	**-2.9**	
	baz=100							
R18K	**Karluk**	**152.87**	**289**	P	**PKPdf**	**06 25 47.1**	**+4.0**	
	baz=117							
CUT	**Chulitna**	**152.93**	**300**	P	**PKPdf**	**06 25 47.1**	**+4.0**	
	baz=111							
H24K	**Noodor Dome**	**153.02**	**308**	P	**PKPbc**	**06 25 47.6**	**-3.1**	
	baz=106							
G24K	**Hadweenzic Riv**	**153.09**	**310**	P	**PKPbc**	**06 25 47.4**	**-3.4**	
	baz=104							
Q19K	**Cape Douglas,**	**153.09**	**292**	P	**PKPdf**	**06 25 47.5**	**+3.9**	
	baz=115							
O20K	**Slope Mountain**	**153.10**	**295**	P	**PKPdf**	**06 25 46.9**	**+3.3**	
	baz=114							
NEA2	**Nenana**	**153.14**	**305**	P	**PKPbc**	**06 25 47.5**	**-3.4**	
	baz=107							
P19K	**Oil Pt**	**153.21**	**294**	P	**PKPdf**	**06 25 47.4**	**+3.7**	
	baz=114							
D25K	**Kavik River**	**153.24**	**316**	P	**PKPdf**	**06 25 47.2**	**+3.7**	
	baz=100							
TRF	**Thorofare Moun**	**153.29**	**303**	P	**PKPbc**	**06 25 48.2**	**-3.3**	
	baz=109							
SKT	**Skwentna**	**153.33**	**299**	P	**PKPbc**	**06 25 48.4**	**-3.1**	
	baz=111							
N20K	**Mount Spurr**	**153.35**	**297**	P	**PKPbc**	**06 25 48.7**	**-2.9**	
	baz=112							
SPCR	**Spurr Chakacha**	**153.35**	**297**	P	**PKPbc**	**06 25 48.5**	**-3.1**	
	baz=112							
I23K	**Minto, Yukon-K**	**153.42**	**307**	P	**PKPbc**	**06 25 49.1**	**-2.4**	
	baz=106							
F24K	**Squaw Lake**	**153.43**	**312**	P	**PKPbc**	**06 25 49.6**	**-1.9**	
	baz=102							
Q18K	**Katmai Hardscr**	**153.62**	**291**	P	**PKPbc**	**06 25 50.4**	**-1.9**	
	baz=115							
E24K	**Your Creek**	**153.77**	**313**	P	**PKPbc**	**06 25 49.1**	**-3.2**	
	baz=101							
BPAW	**Bear Paw Mtn.**	**153.79**	**304**	P	**PKPab**	**06 26 03.9**	**-2.2**	
	baz=107							
PPLA	**Purkeypile**	**153.93**	**301**	P	**PKPab**	**06 26 03.8**	**-3.1**	
	baz=109							
MLY	**Manley**	**153.95**	**306**	P	**PKPab**	**06 26 04.1**	**-2.6**	
	baz=105							
M20K	**Styx River**	**154.01**	**298**	P	**PKPab**	**06 26 04.6**	**-2.6**	
	baz=110							
CHNA	**Chernabura Isl**	**154.05**	**280**	P	**PKPab**	**06 26 06.5**	**-0.9**	
	baz=121							
CAST	**Castle Rocks**	**154.05**	**302**	P	**PKPab**	**06 26 05.5**	**-1.7**	
	baz=108							
G23K	**Bananza Creek**	**154.07**	**310**	P	**PKPab**	**06 26 06.6**	**-0.6**	
	baz=102							
D24K	**Happy Valley**	**154.08**	**316**	P	**PKPab**	**06 26 06.0**	**-1.1**	
	baz=98							
C24K	**Franklin Bluff**	**154.11**	**317**	P	**PKPab**	**06 26 06.6**	**-0.6**	
	baz=97							
E23K	**Chandalar**	**154.19**	**313**	P	**PKPab**	**06 26 07.1**	**-0.7**	
	baz=100							
CHGN	**Chignik**	**154.19**	**284**	P	**PKPab**	**06 26 07.2**	**-0.7**	
	baz=118							
O18K	**Koktuh Hills**	**154.21**	**293**	P	**PKPab**	**06 26 06.7**	**-1.3**	
	baz=113							
N19K	**Bonanza Creek**	**154.24**	**295**	P	**PKPab**	**06 26 07.4**	**-0.8**	
	baz=111							
COLD	**Coldfoot**	**154.25**	**311**	P	**PKPab**	**06 26 07.1**	**-0.8**	
	baz=101							
TOLK	**Toolik Lake Re**	**154.27**	**314**	P	**PKPab**	**06 26 07.5**	**-0.5**	
	baz=99							
R16K	**Pilot Point**	**154.37**	**287**	P	**PKPab**	**06 26 07.8**	**-0.8**	
	baz=116							
Q16K	**King Salmon**	**154.41**	**290**	P	**PKPab**	**06 26 08.0**	**-0.8**	
	baz=114							
I21K	**Tanana**	**154.50**	**306**	P	**PKPab**	**06 26 08.9**	**-0.1**	
	baz=104							
P17K	**Kvichak River**	**154.52**	**291**	P	**PKPab**	**06 26 08.5**	**-0.7**	
	baz=114							
M19K	**Big River Lodg**	**154.58**	**298**	P	**PKPab**	**06 26 08.5**	**-0.9**	
	baz=109							
G22K	**Bettles**	**154.69**	**310**	P	**PKPab**	**06 26 09.0**	**-0.7**	
	baz=101							
D23K	**Nanushuk River**	**154.71**	**315**	P	**PKPab**	**06 26 09.3**	**-0.6**	
	baz=97							
SDPT	**Sand Point**	**154.75**	**281**	P	**PKPab**	**06 26 09.5**	**-0.8**	
	baz=120							
C23K	**Itkillik River**	**154.79**	**317**	P	**PKPab**	**06 26 09.4**	**-0.7**	
	baz=96							
N18K	**Kilae Creek**	**154.83**	**295**	P	**PKPab**	**06 26 09.6**	**-1.0**	
	baz=111							
L19K	**White Mountain**	**154.87**	**298**	P	**PKPab**	**06 26 09.6**	**-1.1**	
	baz=108							
K20K	**Telida**	**154.89**	**301**	P	**PKPab**	**06 26 09.3**	**-1.4**	
	baz=106							
H21K	**Melozitna Rive**	**154.94**	**307**	P	**PKPab**	**06 26 09.5**	**-1.4**	
	baz=103							
E22K	**Anaktuvuk Pass**	**155.01**	**313**	P	**PKPab**	**06 26 10.1**	**-1.1**	
	baz=98							
O17K	**Koliganek Bris**	**155.05**	**292**	P	**PKPab**	**06 26 10.5**	**-1.0**	
	baz=112							
N17K	**Nushagak Hills**	**155.37**	**294**	P	**PKPab**	**06 26 11.3**	**-1.5**	
	baz=111							
G21K	**Allakaket**	**155.40**	**309**	P	**PKPab**	**06 26 10.8**	**-2.1**	
	baz=100							
D22K	**Ayikyak River**	**155.42**	**314**	P	**PKPab**	**06 26 11.4**	**-1.5**	
	baz=96							
I20K	**Naaghedeneel**	**155.44**	**304**	P	**PKPab**	**06 26 11.1**	**-1.9**	
	baz=103							
O16K	**Kokwok River B**	**155.46**	**291**	P	**PKPab**	**06 26 10.9**	**-2.3**	
	baz=112							
F21K	**Alatna River**	**155.50**	**310**	P	**PKPab**	**06 26 12.2**	**-1.1**	
	baz=99							
L18K	**Granite Mounta**	**155.70**	**298**	P	**PKPab**	**06 26 13.0**	**-1.2**	
	baz=107							
S12K	**Black Hills**	**155.71**	**280**	P	**PKPab**	**06 26 12.4**	**-2.1**	
	baz=118							
J19K	**Poorman**	**155.72**	**302**	P	**PKPab**	**06 26 12.5**	**-1.8**	
	baz=104							
H20K	**Anotleneega Mo**	**155.75**	**306**	P	**PKPab**	**06 26 13.0**	**-1.4**	
	baz=101							
B22K	**Teshekpuk Lake**	**155.78**	**318**	P	**PKPab**	**06 26 12.7**	**-1.7**	
	baz=92							
M17K	**Holitna River**	**155.79**	**296**	P	**PKPab**	**06 26 12.3**	**-2.3**	
	baz=109							
E21K	**Killik River**	**155.84**	**313**	P	**PKPab**	**06 26 12.9**	**-1.9**	
	baz=96							
FALS	**False Pass**	**155.97**	**278**	P	**PKPab**	**06 26 13.4**	**-2.1**	
	baz=120							
C21K	**Knifeblade Rid**	**156.20**	**315**	P	**PKPab**	**06 26 14.5**	**-1.8**	
	baz=93							
A22K	**Sinclair Lake**	**156.30**	**320**	P	**PKPab**	**06 26 15.3**	**-1.3**	
	baz=89							
M16K	**Timber Creek**	**156.36**	**294**	P	**PKPab**	**06 26 15.3**	**-1.9**	
	baz=109							
H19K	**Roundabout Mou**	**156.40**	**306**	P	**PKPab**	**06 26 15.9**	**-1.3**	
	baz=100							
GCSA	**Galena City Sc**	**156.43**	**304**	P	**PKPab**	**06 26 16.9**	**-0.3**	
	baz=102							
K17K	**Iditarod**	**156.56**	**298**	P	**PKPab**	**06 26 16.4**	**-1.5**	
	baz=105							
E20K	**Nigu River**	**156.65**	**313**	P	**PKPab**	**06 26 16.9**	**-1.4**	
	baz=94							
L16K	**Owhat River**	**156.81**	**296**	P	**PKPab**	**06 26 17.9**	**-1.1**	
	baz=107							
A21K	**Barrow**	**156.82**	**320**	P	**PKPab**	**06 26 17.7**	**-1.2**	
	baz=87							
D20K	**Etivluk River**	**156.83**	**314**	P	**PKPab**	**06 26 17.3**	**-1.7**	
	baz=93							
E19K	**Redstone River**	**156.98**	**311**	P	**PKPab**	**06 26 18.0**	**-1.7**	
	baz=95							
J17K	**VABM Dome**	**157.08**	**300**	P	**PKPab**	**06 26 18.9**	**-1.2**	
	baz=103							
H18K	**Honhosa River**	**157.12**	**304**	P	**PKPab**	**06 26 18.7**	**-1.6**	
	baz=100							
G18K	**Tagagawik**	**157.36**	**306**	P	**PKPab**	**06 26 20.6**	**-0.7**	
	baz=98							
D19K	**Kuna River**	**157.38**	**313**	P	**PKPab**	**06 26 20.8**	**-0.6**	
	baz=92							
M14K	**Bethel**	**157.67**	**292**	P	**PKPab**	**06 26 21.3**	**-1.5**	
	baz=108							
L15K	**Ungalak Mounta**	**157.72**	**295**	P	**PKPab**	**06 26 22.2**	**-0.7**	
	baz=106							
J16K	**Anvik River**	**157.72**	**299**	P	**PKPab**	**06 26 21.8**	**-1.2**	
	baz=102							
F18K	**Selawik**	**157.84**	**308**	P	**PKPab**	**06 26 22.4**	**-1.0**	
	baz=95							
K15K	**Wolf Creek Mou**	**157.90**	**296**	P	**PKPab**	**06 26 23.4**	**-0.4**	
	baz=104							
C19K	**Lookout Ridge**	**157.92**	**315**	P	**PKPab**	**06 26 22.8**	**-0.9**	
	baz=89							
G17K	**Kiwalik Mounta**	**158.13**	**305**	P	**PKPab**	**06 26 23.4**	**-1.2**	
	baz=97							
E18K	**Tukpahlearik C**	**158.27**	**310**	P	**PKPab**	**06 26 23.9**	**-1.3**	
	baz=92							
A19K	**Wainwright**	**158.38**	**318**	P	**PKPab**	**06 26 24.7**	**-0.9**	
	baz=85							
C18K	**Utukok River**	**158.51**	**314**	P	**PKPab**	**06 26 25.7**	**-0.6**	
	baz=89							
E17K	**Hotham Inlet**	**158.73**	**309**	P	**PKPab**	**06 26 27.0**	**-0.2**	
	baz=92							
D17K	**Noatak River**	**159.23**	**311**	P	**PKPab**	**06 26 28.2**	**-1.1**	
	baz=89							
K13K	**Kusilvak Mount**	**159.24**	**294**	P	**PKPab**	**06 26 28.7**	**-0.8**	
	baz=103							
C17K	**DeLong Mountai**	**159.24**	**313**	P	**PKPab**	**06 26 28.1**	**-1.3**	
	baz=87							

IDC ***19*** *06:21:54.9±1.9,3.57S×146.05E,h0km,mb3.9/8, mbtmp3.9/9,ML4.0/1,MS3.4/16,Error ellipse: s-maj=59.4km s-min=20.8km az=105.0*

ISC 19 06:21:58.8±1.7,3.6S±0.2×146.0E±0.3,h25km,n21, σ0.9**93/9,mb4.0/8,MS3.4/12,Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.43**	**281**	LR	LR	06 25 02.9	
	comp=Z,329nm,19.3s,baz=12,slow=34						
PMG	**Port Moresby**	**5.89**	**169**	LR	LR	06 25 26.4	
	comp=Z,174nm,18.2s,baz=356,slow=36						
HNR	**Honiara**	**14.99**	**113**	LR	LR	06 30 42.5	
	comp=Z,91nm,20.0s,baz=274,slow=35						
WRA	**Warramunga Arr**	**19.86**	**214**	P	**P**	**06 26 28.1**	**-0.1**
	0.5nm,0.3s,baz=37,slow=12,SNR=38						
WRA				LR	LR	06 35 18.9	
	comp=Z,162nm,18.6s,baz=47,slow=40 13nm,0.9s						
DAV	**Davao City (W)**	**23.00**	**297**	LR	LR	06 35 34.7	
	comp=Z,43nm,18.3s,baz=138,slow=36						
ASAR	**Alice Springs**	**23.

comp=N,30nm,0.2s
SKR eS Sn 06 28 23.2 -3.6
SKR A A 06 28 26.5
comp=N,150nm,0.6s
SKR A A 06 28 26.5
comp=N,120nm,0.6s
PAU Pauzhetka 4.18 28 eP Pn 06 27 58.1 -2.6
PAU AMB AMB 06 27 59.9
comp=N,10.0nm,0.3s
PAU eS Sn 06 28 44.5 -3.9
PAU A A 06 28 51.3
comp=N,120nm,0.3s
PAU A A 06 28 51.3
comp=N,70nm,0.3s
KUR Kuril'sk 4.75 239 PN Pn 06 28 07.8 -0.7
KUR S Sn 06 29 04.4 +2.0
KUR pmax pmax
comp=Z,62nm,0.7s
KUR smax smax
comp=N,104nm,0.5s
KUR smax smax
comp=E,71nm,0.5s
KUR Kuril'sk 4.75 239 eP Pn 06 28 07.3 -1.2
KUR AMB AMB 06 28 09.7
comp=E,60nm,0.6s
KUR eS Sn 06 29 01.1 -1.3
KUR A A 06 29 18.3
comp=E,100nm,0.5s
KUR A A 06 29 18.3
comp=E,70nm,0.5s
PETK Petropavlovsk- 5.88 25 P Pn 06 28 22.4 -1.4
comp=E,2.6nm,0.8s,baz=184,slow=12,SNR=5.4
PETK S Sn 06 29 30.6 +0.9
comp=E,1.7nm,0.6s,baz=184,slow=16,SNR=1.1
PET Petropavlovsk 6.10 30 eP Pn 06 28 24.0 -2.7
PET AMB AMB 06 28 29.3
comp=E,10.0nm,0.5s
SHO Shikotan 6.19 233 ePN Pn 06 28 25.9 -2.1
SHO /S Sn 06 29 34.7 -2.5
SHO smax smax
comp=E,48nm,0.5s
SHO smax smax
comp=N,47nm,0.4s
SHO Shikotan 6.19 233 eP Pn 06 28 25.9 -2.1
SHO AMB AMB 06 28 26.7
comp=N,20nm,0.3s
SHO eS Sn 06 29 33.7 -3.5
SHO A A 06 29 54.5
comp=N,50nm,0.4s
SHO A A 06 29 54.5
comp=N,50nm,0.4s
YUK Yuzh-Kuril'sk 6.62 238 eP Pn 06 28 31.2 -2.6
YUK AMB AMB 06 28 31.9
comp=N,30nm,0.4s
NMR Nemuro--Hokkai 7.12 234 eP Pn 06 28 36.1 -4.5
AKK Akkeshi 7.84 235 eP Pn 06 28 46.4 -4.0
JKA Kamikawa-asahi 8.53 248 eP Pn 06 29 00.4 +0.5
ASAJ Asahikawa 8.54 248 P Pn 06 29 00.4 +0.5
comp=N,10.0nm,0.8s,baz=71,slow=13,SNR=5.9
USRK Ussuriysk Ar. 15.46 264 P Pn 06 30 32.8 +1.2
comp=N,1.7nm,0.5s,baz=70,slow=13,SNR=5.7
MJAR Matsushiro Arr 16.03 231 P P 06 30 40.7 +0.4
comp=N,0.9nm,0.4s,baz=22,slow=8.6,SNR=5.2
KSRS Korea Array 21.47 251 P P 06 31 40.0 +0.5
comp=N,0.8nm,0.3s,baz=50,slow=10,SNR=5.2
comp=N,0.8nm,0.3s
H11N2 WAKE ISLAND Hy 30.04 154 T T 07 04 52.8
baz=342,slow=76,SNR=383
H11N1 WAKE ISLAND Hy 30.05 154 T T 07 04 54.4
baz=342,slow=76,SNR=517
H11N3 WAKE ISLAND Hy 30.05 154 T T 07 04 59.7
baz=342,slow=76,SNR=340
H11S1 WAKE ISLAND Hy 31.14 155 T T 07 06 33.3
baz=343,slow=76,SNR=1378
H11S3 WAKE ISLAND Hy 31.15 156 T T 07 06 36.9
baz=343,slow=76,SNR=1008
H11S2 WAKE ISLAND Hy 31.16 155 T T 07 06 23.8
baz=343,slow=76,SNR=834
ILAR Eielson Array 35.48 40 P P 06 33 46.5 +0.9
comp=N,0.3nm,0.9s,baz=273,slow=9.2,SNR=2.9
comp=N,0.3nm,0.9s
MKAR Makanchi Array 46.76 297 P P 06 35 17.5 -0.7
comp=N,0.6nm,0.7s,baz=70,slow=7.9,SNR=4.2
comp=N,0.6nm,0.7s
KURK Kurchatov 47.06 303 P P 06 35 21.2 +0.8
KURK Kurchatov 47.06 303 eP P 06 35 21.2 +0.8
KURBB Kurchatov Arra 47.15 303 P P 06 35 21.2 0.0
comp=N,1.7nm,0.5s,baz=69,slow=8.4,SNR=9.6
comp=N,1.7nm,0.5s
BVAR Borovoye Array 50.44 309 P P 06 35 45.2 -1.0
comp=N,0.8nm,0.5s,baz=60,slow=8.5,SNR=1.9
comp=N,0.8nm,0.5s
CMAR Chiang Mai Arr 52.97 256 P P 06 36 06.2 +0.7
comp=N,1.0nm,0.3s,baz=45,slow=8.1,SNR=5.7
comp=N,1.0nm,0.3s
NVAR Mina Array Bea 61.62 63 P P 06 37 07.3 +0.9
comp=N,0.3nm,0.6s,baz=317,slow=6.9,SNR=3.1
comp=N,0.3nm,0.6s
FINES FINESS Array B 63.20 335 P P 06 37 16.6 +0.4
comp=N,0.7nm,0.4s,baz=36,slow=7.7,SNR=12
comp=N,0.7nm,0.4s
PDAR Pinedale Array 63.83 55 P P 06 37 22.6 +1.7
comp=N,0.4nm,0.8s,baz=263,slow=1.2,SNR=4.1
comp=N,0.4nm,0.8s
HFS Hagfors 67.56 340 P P 06 37 45.9 +1.6
comp=N,0.8nm,0.3s,baz=45,slow=2.9,SNR=10
comp=N,0.8nm,0.3s
WRA Warramunga Arr 69.66 199 P P 06 37 57.9 +0.1
comp=N,0.3nm,0.6s,baz=8.7,slow=6.1,SNR=4.8
comp=N,0.3nm,0.6s
ASAR Alice Springs 73.35 199 P P 06 38 21.5 +1.5
comp=N,0.7nm,0.6s,baz=14,slow=6.3,SNR=8.0
comp=N,0.7nm,0.6s
TXAR Lajitas Array 76.66 61 P P 06 38 40.8 +1.6
comp=N,0.5nm,0.6s,baz=301,slow=4.2,SNR=9.6
comp=N,0.5nm,0.6s
H03N2 Juan Fernandez 138.40 89 T T 09 21 05.2
baz=309,slow=77,SNR=21
H03N1 Juan Fernandez 138.41 89 T T 09 21 06.9
baz=309,slow=77,SNR=10
H03N3 Juan Fernandez 138.41 89 T T 09 21 06.3
baz=309,slow=77,SNR=12
PLCA Paso Flores 147.94 94 PKPbc **PKPbc 06 46 33.3 +1.0**
comp=N,1.0nm,0.8s,baz=318,slow=9.4,SNR=2.9

*ASRS **19** 06:29:49.0±0.8,54.°13N×86.°41E,h0km,M2.4,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 06:29:52.2±2.9,54.°13N×86.°63E,h0km,mbtmp3.0/2, ML2.7/2,Error ellipse: s-maj=24.9km s-min=14.6km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=81,slow=315,SNR=2.1	**1.08**	**261**	I	I	06 36 20.0	
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=78,slow=17,SNR=11	**1.08**	**261**	Pg	Pg	06 30 12.3	-0.7
ZALV	1.6nm,0.3s,baz=80,slow=28,SNR=9.1			Lg	Lg	06 30 28.4	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=13,SNR=4.4 0.6nm,0.4s	**6.08**	**238**	Pn	Pn	06 31 23.7	+0.4
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=26,slow=14,SNR=7.8 0.3nm,0.3s	**7.85**	**202**	Pn	Pn	06 31 48.9	+1.3

IDC 19 06:32:23.5±1.6,51.°39N×81.°79E,h0km,mbtmp2.1/1, ML2.0/1,Error ellipse: s-maj=17.6km s-min=12.7km az=141.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=72,slow=18,SNR=4.7	**2.20**	**251**	Pg	Pb	06 33 02.8	-1.2
KURBB	0.1nm,0.3s,baz=72,slow=33,SNR=6.3			Lg	Lg	06 33 34.3	
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=220,slow=17,SNR=2.6	**3.16**	**35**	Pg	Pb	06 33 20.4	0.0
ZALV	0.2nm,0.3s,baz=210,slow=23,SNR=2.4			Lg	Lg	06 34 04.2	
I46RU	**ZALESOVO INFRA** baz=219,slow=317,SNR=4.0	**3.16**	**35**	I	I	06 53 30.0	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=0.2,slow=11,SNR=2.6	**4.61**	**176**	Pn	Pn	06 33 35.5	+1.1
MKAR				Lg	Lg	06 34 50.0	
	0.2nm,0.3s,baz=6.5,slow=28,SNR=4.2 0.1nm,0.3s						

*IDC **19** 06:35:34.7±3.4,53.°39N×87.°45E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=32.3km s-min=16.7km az=61.0*

ASRS 19 06:35:31.0±1.0,53.°45N×87.°46E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=107,slow=318,SNR=4.1	**1.65**	**289**	I	I	06 46 20.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=110,slow=14,SNR=9.9	**1.65**	**289**	Pg	Pg	06 36 04.7	+2.1
ZALV	1.0nm,0.3s,baz=111,slow=31,SNR=6.7			Lg	Lg	06 36 27.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=62,slow=14,SNR=2.9 0.5nm,0.4s	**6.20**	**246**	Pn	Pn	06 37 07.1	+3.5
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=22,slow=12,SNR=3.0 0.3nm,0.5s	**7.44**	**209**	Pn	Pn	06 37 25.3	+4.5

TAP 19 06:51:05.9,24.°09N×120.°89E,h26km,ML1.7,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCS	**Beigang Elemen**	**0.04**	**152**	*i* P	Pb	06 51 10.8	+0.4
WCS				eS	Sb	06 51 13.9	+0.6
DPDB	**Guoxing**	**0.07**	**151**	P	Pb	06 51 11.1	+0.5
DPDB				S	Sb	06 51 14.4	+0.7
WPL	**Puli Township**	**0.10**	**143**	*i* P	Pb	06 51 11.0	+0.3
WPL				*i* S	Sb	06 51 14.7	+0.8
TYC	**Yuchr**	**0.19**	**189**	eP	Pb	06 51 12.2	+0.6
TYC				eS	Sb	06 51 16.9	+1.6
WHP	**Taichung City**	**0.19**	**15**	*i* P	Pb	06 51 12.3	+0.7
WHP				S	Sb	06 51 16.5	+0.9
TCU	**Taichung**	**0.20**	**285**	P	Pb	06 51 12.2	+0.5
TCU				S	Sb	06 51 16.6	+1.0
SMLT	**Sun Moon Lake**	**0.21**	**178**	eP	Pb	06 51 12.6	+0.7
SMLT				S	Sb	06 51 17.1	+1.2
WUSB	**Renai**	**0.23**	**116**	eP	Pb	06 51 12.6	+0.5
WUSB				eS	Sb	06 51 16.9	+0.4
TWQ1	**Liyutan**	**0.28**	**337**	*i* P	Pb	06 51 13.4	+0.7
TWQ1				eS	Sb	06 51 18.1	+0.8
TDCB	**Techi**	**0.29**	**57**	P	Pb	06 51 13.4	+0.4
TDCB				eS	Sb	06 51 17.3	-0.5
OWD	**Renai**	**0.29**	**118**	*i* P	Pb	06 51 13.5	+0.5
OWD				eS	Sb	06 51 18.6	+0.7
TWT	**Tachien**	**0.30**	**58**	eP	Pb	06 51 13.7	+0.5
TWT				*i* S	Sb	06 51 18.5	+0.3
SSLB	**Suanglung**	**0.31**	**169**	P	Pb	06 51 13.7	+0.5
SSLB				eS	Sb	06 51 18.6	+0.4
NSY	**Sanyi**	**0.34**	**340**	eS	Sn	06 51 22.1	+0.7
WHF	**Hehuan Shan**	**0.35**	**81**	eP	Pn	06 51 14.9	-0.7
WHF				eS	Sb	06 51 20.6	+1.1
WHYT	**Xinyi Township**	**0.40**	**185**	P	Pb	06 51 14.9	+0.4
WHYT				*i* S	Sn	06 51 21.8	-0.9
VWDT	**VWDT**	**0.41**	**146**	P	Pb	06 51 15.1	+0.5
VWDT				S	Sb	06 51 21.5	+0.9
ETLH	**Xiulin Townshi**	**0.55**	**78**	P	Pb	06 51 16.8	-0.2
ETLH				eS	Sb	06 51 24.8	+0.1
NFF	**Wufeng Townshi**	**0.57**	**21**	*i* P	Pb	06 51 17.9	+0.4
NFF				*i* S	Sn	06 51 26.5	-0.6
WARBT	**Fenglin Townsh**	**0.59**	**129**	*i* P	Pb	06 51 17.8	+0.2
EGFH	**Guangfu**	**0.65**	**131**	*i* P	Pb	06 51 18.6	0.0
NACB	**Ninganchiao**	**0.65**	**83**	*i* P	Pb	06 51 18.6	0.0
NACB				S	Sb	06 51 27.2	-0.1
EHYH	**Wanrong**	**0.73**	**145**	*i* P	Pb	06 51 19.8	-0.1
LATG	**Datong**	**0.73**	**53**	eP	Pn	06 51 21.1	+0.5
LATG				S	Sb	06 51 30.1	+0.5
HGSD	**Ruisui**	**0.77**	**141**	eP	Pn	06 51 21.4	+0.3

*ASRS **19** 07:00:17.0±0.9,54.°23N×86.°38E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 07:00:21.8±3.0,54.°17N×86.°34E,h0km,mbtmp2.9/2, ML2.9/2,Error ellipse: s-maj=22.7km s-min=13.7km az=58.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=76,slow=316,SNR=3.1	**0.92**	**257**	I	I	07 06 40.0	
ZALV	**Zalesovo Beam** 2.0nm,0.3s,baz=74,slow=17,SNR=14	**0.92**	**257**	Pg	Pg	07 00 38.8	-0.7
ZALV	1.8nm,0.3s,baz=76,slow=33,SNR=7.0			Lg	Lg	07 00 52.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=14,SNR=4.2 0.5nm,0.3s	**5.95**	**237**	Pn	Pn	07 01 52.1	+1.0
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=24,slow=14,SNR=2.9 0.4nm,0.4s	**7.82**	**201**	Pn	Pn	07 02 17.6	+0.8

*RSNC **19** 07:05:32.0±0.0,10.°N±7.°×7.°0W±.°,h31km±14km,M2.3, mB3.9,mb3.2,ML2.1,Mw(mB)2.8*
*FUNV **19** 07:05:35.3,9.°94N×69.°59W,h5km,MW2.8*

ISC 19 07:05:30.4±1.9,9.°85N±0.°05×69.°70W±0.°03,h7km±15km, n16,σ2≥04/30,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.33**	**224**	P	Pn	07 05 54.8	-0.8
SDV				S	Sn	07 06 12.5	-1.1
BAUV	**El Baul**	**1.87**	**119**	eP	Pg	07 06 06.6	+0.4
BAUV				eS	Sb	07 06 29.6	+1.2
BENV	**Beln**	**2.07**	**87**	eP	Pb	07 06 09.1	+0.6
BENV				eS	Sb	07 06 34.1	-0.4
TACV	**Tcata**	**2.65**	**83**	eP	Pb	07 06 16.2	-2.0
TACV				eS	Sn	07 06 46.3	+0.3
MCQV	**Machiques**	**2.80**	**274**	eP	Pb	07 06 20.5	-0.3
MCQV				eS	Sb	07 06 55.7	+0.3
FUNV	**FUNVISIS**	**2.91**	**77**	eP	Pb	07 06 19.4	-3.4
FUNV				eS	Sn	07 06 53.4	+0.8
URIC	**Uribia, Colomb**	**2.91**	**310**	P	Pn	07 06 16.6	-0.6
URIC				S	Sn	07 06 51.3	-1.2
CAPV	**Capacho**	**3.25**	**233**	eP	Pb	07 06 28.0	-0.6
CAPV				eS	Sb	07 07 07.9	-0.6
CRJC	**Cerrejon, Guaj**	**3.34**	**291**	P	Pn	07 06 23.1	-0.1
CRJC				S	Sn	07 07 02.6	-0.6
CACV	**CAICARA DEL OR**	**3.86**	**126**	eS	Sb	07 07 27.5	+1.7
OCAC	**Ocana**	**3.92**	**246**	P	Pn	07 06 32.7	+1.5
OCAC				S	Sn	07 07 20.2	+2.7
ARGC	**Ariguani, Magd**	**4.48**	**271**	P	Pn	07 06 40.1	+1.3
ARGC				S	Sn	07 07 33.0	+1.8
PCRV	**Puerto La Cruz**	**5.00**	**86**	eP	Pn	07 06 48.4	+2.4
SJCC	**San Jacinto, C** 10nm,1.3s	**5.40**	**271**	P	Pn	07 06 53.0	+1.5
SJCC	10nm,1.3s			S	Sn	07 07 55.5	+1.5
ZARC	**Zaragoza, Cauc** 4.1nm,2.0s	**5.61**	**246**	P	Pn	07 06 54.2	-0.2
ZARC	4.1nm,2.0s			S	Sn	07 07 59.9	+0.8
PTBC	**PUERTO BERRIO,**	**5.74**	**235**	P	Pn	07 06 57.2	+1.0
PTBC				S	Sn	07 07 54.9	-7.5

*IDC **19** 07:08:09.8±0.8,3.°44S×119.°96E,h0km,mb3.9/9, mbtmp4.0/10,ML2.5/1,MS3.4/3,Error ellipse: s-maj=31.3km s-min=13.8km az=69.0*
*DJA **19** 07:08:12.8±0.2,4.°S±1.°×12.°0E±.°,h10km,M4.4/15,mb4.4/5, MLv4.5/15*

ISC 19 07:08:12.1±1.3,3.°52S±0.°03×119.°70E±0.°07,h10km±9km, n28,σ1≥52/35,mb4.0/11,MS3.1/3,1C,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPSI	**Sidrap Palu**	**0.45**	**171**	P	Pg	07 08 20.8	-0.2
SPSI				S	Sb	07 08 29.5	+0.5
TTSI	**Tana Toraja**	**0.48**	**15**	P	Pg	07 08 20.6	-1.0
TTSI				S	Sg	07 08 29.7	+1.7
BNSI	**Bone**	**0.97**	**155**	P	Pb	07 08 30.2	-0.8
BNSI				S	Sn	07 08 45.9	+0.3
KAPI	**Kappang** 261nm,0.3s,baz=356,slow=12,SNR=182	**1.49**	**178**	Pn	Pn	07 08 39.1	+0.1
KAPI				Sn	Sb	07 08 59.5	+0.6
	121nm,0.3s,baz=82,slow=21,SNR=12						
BKSI	**Bulukumba**	**1.84**	**167**	P	Pn	07 08 44.0	+0.2
BKSI				S	Sb	07 09 09.2	+0.1
BSSI	**Bau Bau, Buton**	**2.73**	**163**	P	Pn	07 08 58.2	+2.2
BSSI				S	Sn	07 09 31.6	+2.5
APSI	**Ampana**	**3.24**	**37**	P	Pn	07 09 04.5	+1.4
BBSI	**Bau Bau**	**3.47**	**124**	P	Pn	07 09 09.0	+2.8
LUWI	**Luwuk**	**3.93**	**51**	P	Pn	07 09 14.0	+1.4
MRSI	**Marisa**	**4.56**	**30**	P	Pn	07 09 22.2	+1.0
EDFI	**Ende, Flores** 17nm,1.0s	**5.56**	**159**	P	Pn	07 09 37.1	+2.0
EDFI	17nm,1.0s			S	Sn	07 10 41.4	+2.1
PLAI	**Plampang** 0.2nm56nm,1.2s	**5.61**	**200**	P	Pn	07 09 36.6	+0.9
PLAI	0.2nm56nm,1.2s			S	Sn	07 10 41.6	+1.3
TWSI	**Taliwang, Sumb**	**5.89**	**208**	P	Pn	07 09 39.8	+0.2
TWSI				S	Sn	07 10 49.3	+2.0
WBSI	**Waikabubak, Su**	**6.09**	**183**	P	Pn	07 09 43.4	+1.0
JAGI	**Jagag, Banyuwa**	**7.39**	**228**	P	Pn	07 10 01.0	+0.8
FITZ	**Fitzroy Crossi** baz=341,slow=14,SNR=1.1 1.9nm,0.8s	**15.62**	**159**	Pn	Pn	07 11 50.7	-1.8
JAY	**Jayapura** comp=Z,49nm,18.4s,baz=302,slow=42	**21.00**	**88**	LR	LR	07 22 50.5	
PSI	**Prapat** 2.8nm,0.4s,baz=100,slow=6.1,SNR=4.9	**21.69**	**287**	P	P	07 13 05.9	+2.4
PSI	comp=Z,204nm,18.4s,baz=309,slow=39 2.8nm,0.4s			LR	LR	07 22 25.3	
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=315,slow=11,SNR=6.9 1.2nm,0.8s	**21.69**	**140**	P	P	07 13 02.7	-0.7
ASAR	**Alice Springs** 2.2nm,0.6s,baz=326,slow=8.5,SNR=26 2.2nm,0.6s	**24.29**	**147**	P	P	07 13 29.0	-0.9
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=131,slow=9.0,SNR=4.4	**29.91**	**318**	P	P	07 14 20.9	+0.5
CMAR	comp=Z,47nm,18.8s,baz=135,slow=41 1.2nm,0.3s			LR	LR	07 28 30.3	
STKA	**Stephens Creek** 2.0nm,0.8s,baz=314,slow=9.4,SNR=3.1 2.0nm,0.8s	**34.92**	**146**	P	P	07 15 02.0	-2.2
KSRS	**Korea Array** 0.4nm,0.3s,baz=182,slow=9.8,SNR=4.9 0.4nm,0.3s	**41.47**	**10**	P	P	07 15 56.9	-2.4
BNX	**BinXian**	**49.52**	**7**	⇑P	P	07 17 04.1	+1.2
BNX	comp=Z,3.0nm,2.0s			pmax	pmax		
KSH	**Kashi**	**58.71**	**321**	P	P	07 18 16.3	+6.0
KSH	comp=Z,4.0nm,0.9s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,baz=134,slow=7.5,SNR=8.0 comp=Z,0.7nm,0.6s	**59.97**	**331**	P	P	07 18 17.5	-1.3
KURBB	**Kurchatov Arra** comp=Z,1.2nm,0.2s,baz=140,slow=5.8,SNR=1.9 comp=Z,1.2nm,0.2s	**64.43**	**332**	P	P	07 18 49.0	+0.5
VNDA	**Vanda** comp=Z,0.7nm,0.7s,baz=324,slow=6.6,SNR=7.1 comp=Z,0.7nm,0.7s	**77.27**	**171**	P	P	07 20 05.2	-1.0

*ASRS **19** 07:15:06.0±1.0,54.°37N×86.°65E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 07:15:08.7±3.6,54.°35N×86.°72E,h0km,mbtmp2.9/2, ML2.5/2,Error ellipse: s-maj=30.0km s-min=17.5km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=69,slow=317,SNR=3.3	**1.18**	**251**	I	I	07 22 30.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=69,slow=17,SNR=13	**1.18**	**251**	Pg	Pg	07 15 29.9	-1.4
ZALV	0.9nm,0.3s,baz=74,slow=29,SNR=5.9			Lg	Lg	07 15 48.0	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=51,slow=14,SNR=2.9 0.6nm,0.3s	**6.24**	**237**	Pn	Pn	07 16 42.5	+0.6
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=24,slow=14,SNR=2.7 0.2nm,0.3s	**8.07**	**202**	Pn	Pn	07 17 08.6	+1.6

*IDC **19** 07:15:30.9±2.0,59.°73N×153.°13W,h101km±32km,mb3.5/5, mbtmp3.8/7,Error ellipse: s-maj=34.3km s-min=17.4km az=120.0*
*NEIC **19** 07:15:32.0±0.7,59.°74N±0.°03×153.°18W±0.°06, h108km±4km,Error ellipse: s-maj=4.7km s-min=4.5km az=172.0*
*AEIC **19** 07:15:33.2±0.7,59.°72N±0.°03×153.°13W±0.°06, h100km±3km,ML3.1,ML3.2/180(NEIC),Error ellipse: s-maj=4.7km s-min=4.0km az=81.0*

ISC 19 07:15:31.7±0.8,59.°74N±0.°03×153.°15W±0.°03, h110km±5km,n204,σ0≥77/220,mb4.0/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.10**	**207**		Pn	07 15 46.8	0.0
P19K				Sn	Sn	07 15 58.2	0.0
P19K	comp=N,2μm,0.5s			IAML		07 15 58.8	
ILS	**Iliamna Low So**	**0.22**	**10**		Pn	07 15 47.1	-0.1
ILSW	**Iliamna Southw**	**0.24**	**0**		Pn	07 15 47.1	-0.3
ILSW					Sn	07 15 58.0	-1.1
IVE	**Iliamna Volcan**	**0.29**	**13**		Pn	07 15 47.2	-0.2
AU22	**Augustine Moun**	**0.39**	**196**		Pn	07 15 47.8	0.0
AGU	**Augustine-Summ**	**0.41**	**201**		Pn	07 15 48.1	+0.1
RED	**Redoubt Volcan**	**0.71**	**15**		Pn	07 15 50.1	0.0
RED				Sn	Sn	07 16 03.6	-0.5
RED	comp=E,541nm,0.5s			IAML		07 16 03.9	
RED	comp=N,242nm,0.5s			IAML		07 16 05.4	
RDSO	**Redoubt South**	**0.75**	**16**		Pn	07 15 50.6	0.0
RDSO					Sn	07 16 04.0	-0.8
Q19K	**Port Alsworth**	**0.75**	**308**		Pn	07 15 50.2	-0.1
Q19K				Sn	Sn	07 16 04.0	-0.5
HOM	**Homer**	**0.77**	**95**		Pn	07 15 51.0	+0.5
HOM				Sn	Sn	07 16 05.6	+0.9
RDWB	**Redoubt West**	**0.77**	**11**		Pn	07 15 50.7	0.0
NCT	**North Crescent**	**0.83**	**7**		Pn	07 15 51.3	0.0
NCT					Sn	07 16 05.5	-0.6
Q19K	**Cape Douglas,**	**0.85**	**198**		Pn	07 15 51.4	0.0
Q19K				Sn	Sn	07 16 05.9	-0.3
Q19K	comp=N,141nm,0.3s			IAML		07 16 09.9	
Q19K	comp=E,330nm,0.5s			IAML		07 16 10.6	
RDJH	**Redoubt Jeurge**	**0.87**	**11**		Pn	07 15 51.8	+0.1
DFR	**Drift River**	**0.89**	**15**		Pn	07 15 51.9	+0.1
CNPM	**China Poot**	**0.99**	**102**		Pn	07 15 52.8	0.0
CNPM				Sn	Sn	07 16 08.2	-0.5
CNPM	comp=N,798nm,0.5s			IAML		07 16 09.5	
CNPM	comp=E,558nm,0.5s			IAML		07 16 09.9	
Q18K	**Koktuh Hills**	**1.05**	**277**		Pn	07 15 53.1	-0.2
Q18K				Sn	Sn	07 16 08.9	-0.8
P18K	**Big Mountain,**	**1.12**	**253**		Pn	07 15 53.6	-0.5
P18K				Sn	Sn	07 16 09.9	-1.1
BRLK	**Bradley Lake**	**1.14**	**88**		Pn	07 15 54.3	-0.1
BRLK				Sn	Sn	07 16 11.2	-0.3
BRLK	comp=E,407nm,0.3s			IAML		07 16 12.7	
BRLK	comp=N,362nm,0.3s			IAML		07 16 14.9	
SYI	**Shuyak Island**	**1.20**	**161**		Pn	07 15 55.3	+0.4
SYI				Sn	Sn	07 16 12.9	+0.4
SYI	comp=E,570nm,0.4s			IAML		07 16 14.4	
SYI	comp=N,577nm,0.7s			IAML		07 16 14.5	
N19K	**Bonanza Creek**	**1.27**	**329**		Pn	07 15 55.9	+0.1
N19K				Sn	Sn	07 16 14.1	0.0
N19K	comp=E,84nm,0.5s			IAML		07 16 15.4	
CAPN	**Captain Cook N**	**1.43**	**43**	Pn	Pn	07 15 59.8	+2.2
KAHG	**Katmai Hook Gl**	**1.44**	**211**		Pn	07 15 58.1	+0.3

KAHC	Katmai Hardscr	1.45	222			Pn	07 15 58.1 +0.1
KAHC						Sn	07 16 17.1 -0.8
KARR	Katmai Rainbow	1.48	214			Pn	07 15 58.6 +0.4
CKL	Chakachamna La	1.52	15			Pn	07 15 59.2 +0.4
SPU	Mount Spurr	1.55	20			Pn	07 15 59.5 +0.5
SPWE	Spurr West	1.57	10			Pn	07 16 00.1 +0.8
SPBG	Spurr Blockage	1.57	14			Pn	07 16 00.0 +0.6
SPBG						Sn	07 16 20.7 +0.3
KAWH	Katmai	1.60	213			Pn	07 15 59.8 0.0
SPNN	North Nagishla	1.65	7			Pn	07 16 00.8 +0.4
SLKM	Skilak Lake	1.66	61			Pn	07 16 00.6 +0.3
SLKM					IAML		07 16 22.2
	comp=N,536nm,0.4s						
SLKM					IAML		07 16 22.4
	comp=E,296nm,0.2s						
SPCG	Spurr Capps Gl	1.66	19			Pn	07 16 00.9 +0.5
N18K	Kilae Creek	1.66	306			Pn	07 16 00.3 -0.1
KAKN	Katmai Knife C	1.75	215			Pn	07 16 01.8 +0.1
KABU	Katmai Buttres	1.84	218			Pn	07 16 03.2 +0.5
O22K	Cooper Landing	1.87	65			Pn	07 16 03.5 +0.6
STLK	Strandline Lak	1.88	20			Pn	07 16 04.2 +1.1
STLK					IAML		07 16 31.0
	comp=N,99nm,0.6s						
STLK					IAML		07 16 33.5
	comp=E,62nm,0.5s						
SEW	Seward	1.90	77			Pn	07 16 03.4 +0.2
SEW					IAML		07 16 27.4
	comp=N,149nm,0.3s						
SEW					IAML		07 16 27.7
	comp=E,208nm,0.3s						
ACHA	Angle Creek He	1.90	217			Pn	07 16 03.9 +0.4
ANCK	Angle Creek	1.97	219			Pn	07 16 04.7 +0.4
KDAK	Kodiak Island	1.98	171			Pn	07 16 03.8 -0.6
KDAK					IAML		07 16 30.2
	comp=E,165nm,0.3s						
KDAK					IAML		07 16 39.0
	comp=E,165nm,0.7s						
KDAK	Kodiak Island	1.98	171	P		Pn	07 16 03.7 -0.6
	comp=E,86nm,0.3s,baz=9.4,slow=10,SNR=422						
KDAK				S		Sn	07 16 28.1 -1.3
	comp=E,40nm,0.3s,baz=48,slow=4.0,SNR=16						
FIS	Fire Island	2.02	45	Pn		Pn	07 16 05.2 +0.3
FIS					IAML		07 16 38.5
	comp=E,377nm,0.5s						
FIS					IAML		07 16 47.7
	comp=N,370nm,0.5s						
CAHL	Cahill	2.03	214			Pn	07 16 05.6 +0.6
Q16K	King Salmon	2.10	241			Pn	07 16 06.1 +0.3
SUA	Susitna One	2.10	33	Pn		Pn	07 16 07.0 +1.1
SUA					IAML		07 16 35.6
	comp=E,126nm,0.3s						
KJL	Kejulik	2.11	218			Pn	07 16 06.8 +0.7
M20K	Styx River	2.15	0			Pn	07 16 07.2 +0.6
M20K					IAML		07 16 35.3
	comp=E,46nm,0.9s						
RC01	Rabbit Creek A	2.17	50	Pn		Pn	07 16 07.3 +0.6
N17K	Nushagak Hills	2.17	293			Pn	07 16 06.8 0.0
M18K	Stony River	2.20	324			Pn	07 16 07.0 -0.1
M19K	Big River Lodg	2.26	345			Pn	07 16 08.1 +0.2
SKT	Skwentna	2.38	19			Pn	07 16 09.9 +0.3
SKT					IAML		07 16 41.4
	comp=E,65nm,0.3s						
SKT					IAML		07 16 41.9
	comp=N,64nm,0.3s						
M22K	Willow	2.51	35			Pn	07 16 11.8 +0.8
O16K	Kokwok River B	2.52	269			Pn	07 16 11.8 +0.6
OHAK	Old Harbor	2.52	182			Pn	07 16 10.3 -1.1
OHAK	Old Harbor	2.52	182		IAML		07 16 42.3
	comp=E,36nm,0.3s						
OHAK					IAML		07 16 42.7
	comp=N,52nm,0.3s						
OHAK	Old Harbor	2.52	182	P		Pn	07 16 10.4 -0.9
P16K	Nushagak River	2.58	256	Pn		Pn	07 16 13.2 +1.2
PLK2	Peulik 2	2.58	221			Pn	07 16 12.9 +0.8
L19K	White Mountain	2.59	342			Pn	07 16 12.2 0.0
PLK3	Peulik 3	2.62	220			Pn	07 16 13.4 +0.7
PWL	Port Wells	2.65	63			Pn	07 16 12.8 -0.2
M17K	Holitna River	2.70	310			Pn	07 16 13.8 +0.2
M17K					IAML		07 17 08.4
	comp=N,22nm,0.5s						
PLK4	Peulik 4	2.70	220			Pn	07 16 14.6 +0.8
PLK4					IAML		07 16 50.8
	comp=N,27nm,0.3s						
PLK4					IAML		07 16 51.3
	comp=E,44nm,0.8s						
PMR	Palmer	2.71	45			Pn	07 16 14.4 +0.6
PMR					IAML		07 16 46.0
	comp=N,112nm,0.2s						
PMR					IAML		07 16 47.0
	comp=E,97nm,0.3s						
PMR	Palmer	2.71	45	P		Pn	07 16 14.3 +0.5
L20K	Farewell, AK	2.77	353			Pn	07 16 15.1 +0.5
KNK	Knik Glacier	2.86	52			Pn	07 16 16.2 +0.5
GHO	Glory Hole Cre	2.91	44	Pn		Pn	07 16 16.3 -0.2
P23K	Montague Islan	2.91	82	Pn		Pn	07 16 17.1 +0.7
P23K					IAML		07 16 52.4
	comp=E,162nm,0.3s						
P23K					IAML		07 16 52.8
	comp=N,160nm,0.3s						
CUT	Chulitna	3.02	26			Pn	07 16 18.7 +0.9
L18K	Granite Mounta	3.03	327			Pn	07 16 17.9 -0.1
M16K	Timber Creek	3.16	297			Pn	07 16 19.7 0.0
PPLA	Purkeypile	3.20	8			Pn	07 16 22.1 +1.8
PPLA					IAML		07 17 02.0
	comp=E,18nm,0.3s						
PPLA					IAML		07 17 02.9
	comp=N,24nm,0.6s						
GLI	Glacier Island	3.22	67			Pn	07 16 19.7 -0.8
GLI					IAML		07 16 56.4
	comp=N,126nm,0.6s						
SII	Sitkinak Islan	3.24	190			Pn	07 16 19.6 -1.1
SII					IAML		07 16 58.2
	comp=E,97nm,0.6s						
SII					IAML		07 16 58.5
	comp=N,70nm,0.3s						
SII	Sitkinak Islan	3.24	190	P		Pn	07 16 19.7 -1.1
M23K	Glacier View	3.36	50			Pn	07 16 21.7 -0.8
HIN	Hinchinbrook I	3.40	76			Pn	07 16 22.5 -0.4
HIN					IAML		07 17 01.9
	comp=N,67nm,0.4s						
HIN					IAML		07 17 05.3
	comp=E,67nm,0.4s						
O15K	Ungalikthiuk R	3.46	263			Pn	07 16 24.1 +0.5
Q23K	Middleton Isla	3.47	92	Pn		Pn	07 16 24.1 +0.3
Q23K					IAML		07 17 05.4
	comp=E,50nm,0.3s						
Q23K					IAML		07 17 06.3
	comp=N,49nm,0.3s						
FID	Port Fidalgo	3.48	70			Pn	07 16 22.9 -1.0
N15K	Kwethluk River	3.52	280	Pn		Pn	07 16 24.7 +0.2
N15K					IAML		07 17 44.4
	comp=E,12nm,1.0s						
SCM	Sheep Creek Mo	3.54	51			Pn	07 16 24.8 -0.1
SCM					IAML		07 17 08.3
	comp=N,64nm,0.4s						
SCM					IAML		07 17 08.5
	comp=E,84nm,0.5s						
K20K	Telida	3.66	353			Pn	07 16 26.7 +0.3
L16K	Owhat River	3.68	305			Pn	07 16 26.9 +0.3
CAST	Castle Rocks	3.73	7			Pn	07 16 27.2 -0.1
CAST					IAML		07 17 14.0
	comp=E,8.3nm,0.4s						
EYAK	Cordova Ski Ar	3.79	74			Pn	07 16 27.5 -0.5
EYAK					IAML		07 17 12.3
	comp=E,27nm,0.4s						
EYAK					IAML		07 17 12.9
	comp=N,42nm,0.6s						
EYAK	Cordova Ski Ar	3.79	74	P		Pn	07 16 28.3 +0.3
K17K	Iditarod	3.89	322			Pn	07 16 29.6 +0.1
DIV	Divide	3.91	66			Pn	07 16 30.0 +0.2
DIV					IAML		07 17 14.2
	comp=E,31nm,0.5s						
DIV					IAML		07 17 14.2
	comp=N,57nm,0.3s						
TRF	Thorofare Moun	3.97	19			Pn	07 16 30.9 +0.3
TRF					IAML		07 17 17.6
	comp=E,25nm,0.4s						
TRF					IAML		07 17 21.0
	comp=N,39nm,0.4s						
KLU	Klutina	3.97	61			Pn	07 16 30.1 -0.5
KTH	Kantishna Hill	3.97	15			Pn	07 16 30.6 0.0
KTH					IAML		07 17 16.6
	comp=N,16nm,0.5s						
KTH					IAML		07 17 52.0
	comp=E,24nm,0.9s						
J18K	Innoko River	4.11	337			Pn	07 16 32.3 -0.1
J18K					IAML		07 17 55.0
	comp=E,7.3nm,0.6s						
CHIR	Chirikof Islan	4.14	200			Pn	07 16 31.7 -1.2
M24K	Tolsona, Glenn	4.15	52	Pn		Pn	07 16 34.0 +1.0
M24K					IAML		07 17 23.6
	comp=N,60nm,0.5s						
O14K	Tigyukauivet M	4.17	267	Pn		Pn	07 16 33.8 +0.7
CHUM	Lake Minchumin	4.18	5			Pn	07 16 34.0 +0.7
RND	Reindeer	4.21	27			Pn	07 16 34.0 +0.2
RND					IAML		07 17 22.5
	comp=E,27nm,0.4s						
RND					IAML		07 17 39.6
	comp=N,18nm,0.7s						
KAIM	Kayak Island	4.41	84	Pn		Pn	07 16 36.4 0.0
KAIM					IAML		07 17 35.1
	comp=N,41nm,0.4s						
KAIM					IAML		07 17 35.3
	comp=E,56nm,0.5s						
BMRM	Bremner River	4.42	70			Pn	07 16 36.9 +0.4
BMRM					IAML		07 17 28.9
	comp=E,48nm,0.4s						
BMRM					IAML		07 17 47.3
	comp=N,49nm,0.8s						
J19K	Poorman	4.43	346			Pn	07 16 36.5 -0.1
J19K					IAML		07 17 18.1
	comp=N,5.8nm,1.3s						
MCK	McKinley	4.48	25			Pn	07 16 37.9 +0.5
MCK					IAML		07 17 32.0
	comp=E,19nm,0.4s						
MCK					IAML		07 17 33.6
	comp=N,18nm,0.6s						
J20K	Nowinta River	4.48	354			Pn	07 16 37.5 +0.2
J20K					IAML		07 18 19.5
	comp=E,7.3nm,0.7s						
BPAW	Bear Paw Mtn.	4.49	12			Pn	07 16 37.3 -0.2
BPAW	Bear Paw Mtn.	4.49	12		IAML		07 17 29.7
	comp=N,10nm,0.7s						
BPAW					IAML		07 17 36.8
	comp=E,9.6nm,0.4s						
HMT	Hamilton	4.50	79			Pn	07 16 37.8 +0.2
N25K	Chitina, Valde	4.60	62			Pn	07 16 39.9 +0.9
N25K					IAML		07 17 31.3
	comp=N,32nm,0.5s						
J17K	VABM Dome	4.64	325			Pn	07 16 39.1 -0.4
J17K					IAML		07 18 30.2
	comp=E,5.5nm,1.1s						
NICHA	Nichawak Mount	4.64	80			Pn	07 16 39.8 +0.2
SUCK	Suckling Hills	4.73	82			Pn	07 16 40.9 +0.2
SUCK	Suckling Hills	4.73	82		IAML		07 17 41.2
	comp=E,39nm,1.3s						
BWN	Browne	4.78	20	Pn		Pn	07 16 41.6 +0.3
BWN					IAML		07 18 00.7
	comp=N,14nm,0.4s						
BWN					IAML		07 18 01.1
	comp=E,17nm,0.5s						
BERG	Berg Lake	4.78	78	Pn		Pn	07 16 41.2 -0.2
K15K	Wolf Creek Mou	4.82	306	Pn		Pn	07 16 41.6 -0.3
WACK	Wrangell Chich	4.86	59			Pn	07 16 43.6 +0.9
GLB	Gilahina Butte	4.91	66			Pn	07 16 43.8 +0.6
GLB					IAML		07 17 40.3
	comp=N,38nm,0.9s						
GLB					IAML		07 17 52.4
	comp=E,15nm,0.4s						
PAX	Paxson	4.91	45			Pn	07 16 43.2 -0.1
PAX					IAML		07 17 40.0
	comp=N,19nm,0.5s						
PAX					IAML		07 17 40.5
	comp=E,23nm,0.6s						
GRIN	Grindle Hills	4.96	79			Pn	07 16 43.9 0.0
L14K	Kuka Creek	4.98	293	Pn		Pn	07 16 45.3 +1.3
VRDI	Verde Repeater	5.02	69			Pn	07 16 45.5 +0.7
VRDI					IAML		07 17 42.0
	comp=N,28nm,0.5s						
VRDI					IAML		07 17 42.5
	comp=E,18nm,0.4s						
J16K	Anvik River	5.04	318			Pn	07 16 45.1 +0.2
CRQM	Cirque	5.09	74			Pn	07 16 46.1 +0.4
I20K	Naaghedeneel	5.12	354			Pn	07 16 46.9 +1.0
I20K					IAML		07 17 27.6
	comp=E,11nm,0.5s						
I20K					IAML		07 18 19.2
	comp=N,18nm,1.1s						
SNH	Sunshine Point	5.20	81	Pn		Pn	07 16 47.1 0.0
SNH					IAML		07 17 48.5
	comp=N,26nm,0.4s						
SNH					IAML		07 17 49.2
	comp=E,26nm,0.4s						
WAX	Waxell Ridge	5.20	78			Pn	07 16 46.9 -0.3
NEA2	Nenana	5.23	20			Pn	07 16 47.4 -0.1
NEA2					IAML		07 17 45.5
	comp=N,7.6nm,0.8s						
NEA2					IAML		07 18 12.1
	comp=E,5.2nm,1.2s						
TGL	Tana Glacier	5.24	74			Pn	07 16 47.8 0.0
TGL					IAML		07 17 48.9
	comp=E,28nm,0.4s						
MCARA	McCarthy VSAT	5.26	67			Pn	07 16 48.5 +0.7
WRH	Wood River Hil	5.31	24			Pn	07 16 48.3 -0.2
WRH					IAML		07 17 49.6
	comp=N,7.0nm,0.5s						
WRH					IAML		07 17 49.9
	comp=E,9.2nm,0.6s						
GCSA	Galena City Sc	5.32	342			Pn	07 16 48.6 0.0
K24K	Donnelly Dome	5.37	37			Pn	07 16 50.0 +0.5
MLY	Manley	5.43	11	Pn		Pn	07 16 49.9 -0.3
ISLE	Juniper Island	5.46	76			Pn	07 16 51.2 +0.4
PTPK	Patty Peak	5.48	70			Pn	07 16 51.4 +0.3
I17K	Unalakleet	5.49	323	Pn		Pn	07 16 50.4 -0.5
I21K	Tanana	5.49	5			Pn	07 16 51.0 +0.1
KIAG	Kiagna River	5.49	73			Pn	07 16 51.6 +0.4
BALM	Baldy	5.51	72			Pn	07 16 51.9 +0.5
HDA	Harding Lake	5.52	29			Pn	07 16 51.1 -0.2
CCB	Clear Creek Bu	5.52	25			Pn	07 16 51.0 -0.4
BAGL	Bagley Icefiel	5.58	77			Pn	07 16 53.0 +0.8
M26K	Nabesna, AK	5.60	57			Pn	07 16 53.9 +1.4
RIDG	Independent Ri	5.62	41			Pn	07 16 53.8 +0.9
MESA	MESA	5.64	81			Pn	07 16 54.4 +1.2
I23K	Minto, Yukon-K	5.71	16			Pn	07 16 54.1 +0.3
COLA	College	5.71	23			Pn	07 16 53.8 -0.2
COLA	College	5.71	23	P		Pn	07 16 53.9 0.0
L26K	Log Cabin Wild	5.75	51	Pn		Pn	07 16 54.7 +0.2
YAH	Yahtse	5.75	79			Pn	07 16 55.2 +0.5
GRNC	Granite Creek	5.76	75			Pn	07 16 55.9 +1.0
IL3I		5.83	27			Pn	07 16 55.1 -0.4
ILAR	Eielson Array	5.83	27			Pn	07 16 54.4 -0.3
ILAR	Eielson Array	5.83	27	P		Pn	07 16 54.9 -0.7
	comp=E,6.9nm,0.5s,baz=216,slow=13,SNR=200						
ILAR				S		Sn	07 17 56.4 -4.7
	comp=E,3.3nm,0.5s,baz=217,slow=22,SNR=8.9						
DOT	Dot Lake	5.83	44			Pn	07 16 56.8 +1.2
BARN	Barnard Glacie	5.85	72			Pn	07 16 56.9 +0.9
H21K	Melozitna Rive	5.94	1			Pn	07 16 57.4 +0.3
RKAV	Rock Avalanche	5.95	79			Pn	07 16 58.5 +1.2
H18K	Honhosa River	5.95	338			Pn	07 16 56.8 -0.4
CTGM	Chitina Glacie	5.99	73			Pn	07 16 57.5 -0.5
H19K	Roundabout Mou	6.01	347			Pn	07 16 58.0 +0.1
POKR	Poker Plat Res	6.01	24			Pn	07 16 58.0 -0.1
CHNA	Chernabura Isl	6.03	218	P		Pn	07 16 57.5 -0.8
K13K	Kusilvak Mount	6.04	296	Pn		Pn	07 16 57.3 -1.2
TABL	Table Mountain	6.05	78	Pn		Pn	07 17 00.0 +1.3
M27K	Edge Creek, AK	6.07	60			Pn	07 17 00.2 +1.2
SCRK	Sand Creek	6.07	42			Pn	07 16 58.7 -0.2
H17K	Granite Mounta	6.09	332			Pn	07 16 59.2 +0.1
J25K	Salcha River,	6.09	33			Pn	07 16 59.2 0.0
LOGN	Logan Glacier	6.14	75			Pn	07 17 01.0 +1.1
IMAR	Indian Mountai	6.28	358			Pn	07 17 02.2 +0.6
H23K	Yukon River	6.33	14			Pn	07 17 02.6 +0.2
L27K	Beaver Creek,	6.37	54			Pn	07 17 04.6 +1.6
BCAR	Beaver Creek A	6.39	54	Pn		Pn	07 17 04.7 +1.5
PCA	Pinnacle	6.49	81			Pn	07 17 04.6 0.0
O28M	Mount Upton	6.53	75			Pn	07 17 06.3 +1.0
J26L	Joseph Creek	6.55	39			Pn	07 17 05.7 +0.3
H24K	Noodor Dome	6.58	19			Pn	07 17 05.9 +0.2
G18K	Tagagawik	6.67	340			Pn	07 17 07.1 +0.2
G19K	Purcell Mounta	6.67	346			Pn	07 17 06.9 -0.1
PRP	Porcupine Dome	6.78	28			Pn	07 17 08.4 -0.1
G21K	Allakaket	6.81	359			Pn	07 17 09.5 +0.7
BCPM	Bancas Point	6.81	82	Pn		Pn	07 17 10.3 +1.4
PNL	Peninsula	6.96	85	P		Pn	07 17 11.4 +0.5
G23K	Bananza Creek	7.14	10			Pn	07 17 13.8 +0.5
I26K	Coal Creek Min	7.24	35			Pn	07 17 14.9 +0.3
O29M	Mount Kennedy	7.32	79	Pn		Pn	07 17 16.5 +0.5
H25L	Birch Creek	7.35	24			Pn	07 17 15.8 -0.3
F19K	Shaleruckik Mo	7.42	346	Pn		Pn	07 17 17.1 +0.1
F20K	Avaraart Lake	7.43	352			Pn	07 17 17.6 +0.5
G24K	Hadweenzic Riv	7.44	18	Pn		Pn	07 17 16.9 -0.5
F21K	Alatna River	7.51	359			Pn	07 17 19.2 +0.8
SKAG	Skagway	9.04	84	P		Pn	07 17 40.8 +1.8
JIS	Juneau Island	9.79	90	P		Pn	07 17 51.2 +2.1
CRAG	Craig	11.54	103	P		Pn	07 18 16.7 +3.9
DLBC	Dease Lake	11.95	86	P		Pn	07 18 17.8 -0.5
	comp=E,0.7nm,0.4s,baz=224,slow=15,SNR=13						
DLBC				S		Sn	07 20 28.2 -1.2
	baz=264,slow=19						
KSRS	Korea Array	53.16	283	P		P	07 24 37.9 -0.1
	comp=E,0.7nm,0.4s,baz=39,slow=6.2,SNR=2.2						
	comp=E,0.7nm,0.4s						
SONM	Songino Array	54.88	306	P		P	07 24 51.8 +1.3
	comp=E,1.0nm,0.5s,baz=35,slow=8.9,SNR=4.0						
	comp=E,1.0nm,0.5s						
ZALV	Zalesovo Beam	57.54	324	P		P	07 25 09.6 +0.5
	comp=E,1.6nm,0.4s,baz=39,slow=7.2,SNR=6.8						
	comp=E,1.6nm,0.4s						
BVAR	Borovoye Array	62.27	332	P		P	07 25 41.0 -0.5
	comp=E,0.8nm,0.6s,baz=22,slow=8.3,SNR=4.3						
	comp=E,0.8nm,0.6s						
MKAR	Makanchi Array	64.59	321	P		P	07 25 56.4 -0.4
	comp=E,0.2nm,0.5s,baz=20,slow=7.2,SNR=2.4						
	comp=E,0.2nm,0.5s						

IDC ***19*** *07:28:42.5±0.8,40.45S×175.90E,h0km,mb4.2/5, mbtmp4.1/7,ML3.4/2,MS3.5/6,Error ellipse: s-maj=25.8km s-min=21.3km az=109.0*

NOU ***19*** *07:28:46.9,40.68S×176.08E,h42km,MLv4.5/21,North Island, New Zealand*

WEL ***19*** *07:28:47.2,40.55S×175.92E,h22km,ML4.3,Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^15 Nm; Mrr-0.92; Mθθ0.64; Mϕϕ0.28; Mrθ1.36; Mθϕ0.08; Mϕr1.81; Fault plane solution: M0 2.38000×10^15 NP1: ϕs219.00000°,δ81.00000°,λ-95.00000°. NP2:ϕs69.00000°, δ10.00000°,λ-60.00000°. Principal axes: T -2.5904, Plg36.0000°, Azm313.0000°; N 0.4276, Plg5.0000°, Azm219.0000°; P 2.1628, Plg54.0000°, Azm123.0000°; Stations used: TSZ PXZ WAZ NNZ OBLIQUE FAULTING*

WEL ***19*** *07:28:47.2±0.3,41.5S±2.5×17.6E±.5,h22km±2km,M4.3/100, ML4.7/27,MLv4.3/100 Error ellipse: s-maj=3.0km s-min=2.4km az=107.7,confirmed*

NEIC ***19*** *07:28:47.5±1.1,40.61S±0.04×175.95E±0.05,h30km±6km, mb4.3/9,Error ellipse: s-maj=6.7km s-min=5.5km az=150.0*

ISC 19 07:28:47.2±0.7, 40°56S±0.02×175°94E±0.02, h31km±4km, n208, σ0.97/224, mb4.3/9, MS3.5/5, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time m	s	Res ISC
				Op	ISC			
PRWZ	Pori Road	0.03	83	P	Pb	07 28	52.6	+0.2
PRWZ				S	Sb	07 28	56.3	+0.3
TRMS	Tiraumea	0.12	160	P	Pn	07 28	53.1	+0.2
TRMS				S	Sn	07 28	57.4	+1.0
POWZ	Post Office Ro	0.21	322	P	Pb	07 28	53.8	+0.1
POWZ				S	Sn	07 28	58.8	+0.2
TIWZ	Tintock	0.22	190	P	Pn	07 28	54.3	-0.1
TIWZ				S	Sn	07 28	59.4	+0.5
WDPS	Woodville Poli	0.23	347	P	Pb	07 28	54.1	+0.2
WDPS				S	Sn	07 28	58.9	0.0
BFZ	Birch Farm	0.27	118		Pb	07 28	54.7	+0.3
BFZ				Sg	Sn	07 29	00.2	+0.2
BFZ	Birch Farm	0.27	118	P	Pb	07 28	54.6	+0.3
BFZ	Birch Farm	0.27	118	S	Sn	07 29	00.8	+0.8
BFZ	Birch Farm	0.27	118	P	Pb	07 28	54.6	+0.3
BFZ				S	Sn	07 29	00.3	+0.2
MRZ	Mangatainoka R	0.29	249	Pg	Pb	07 28	54.9	+0.3
MRZ				Sg	Sb	07 29	00.3	+0.6
MRZ	Mangatainoka R	0.29	249	P	Pb	07 28	55.0	+0.3
MRZ				S	Sb	07 29	00.3	+0.6
DVHZ	Dannevirke	0.31	34	P	Pb	07 28	54.9	0.0
DVHZ				S	Sb	07 29	00.4	+0.2
CPWZ	Castlepoint	0.41	150	P	Pn	07 28	57.7	+0.9
CPWZ				S	Sn	07 29	06.1	+2.7
ANWZ	Angora Road	0.42	77	P	Pn	07 28	57.2	+0.1
ANWZ				S	Sn	07 29	04.6	+0.8
HOWZ	Holdsworth Sta	0.47	223	P	Pn	07 28	57.8	0.0
HOWZ				S	Sn	07 29	05.2	+0.2
TSZ	Takapari Road	0.50	2	P	Pn	07 28	58.0	-0.2
TSZ				S	Sn	07 29	05.3	-0.5
TMWZ	Te Maipa	0.55	184	P	Pn	07 28	59.3	+0.4
TMWZ				S	Sn	07 29	08.5	+1.5
OHWZ	Ohakea	0.59	306	P	Pn	07 29	00.5	+1.1
OHWZ				S	Sn	07 29	10.1	+2.1
PRHZ	Porangahau	0.61	62	P	Pn	07 29	00.4	+0.4
PRHZ				S	Sn	07 29	10.0	+1.6
WPHZ	Waipukurau	0.62	38	P	Pn	07 29	00.5	+0.6
WPHZ				S	Sn	07 29	10.6	+1.7
OGWZ	Otaki Gorge	0.64	246	P	Pn	07 29	00.6	+0.5
PNHZ	Pukenui	0.68	17	P	Pn	07 29	00.9	+0.3
PNHZ				S	Sn	07 29	11.0	+0.9
MTW	Mount Morrison	0.68	209	P	Pb	07 29	00.9	+0.2
MTW				S	Sn	07 29	11.5	+1.1
KIW	Kapiti Island	0.84	249	P	Pb	07 29	03.8	+0.5
KIW				S	Sn	07 29	15.4	+1.3
CAW	Cannon Point	0.86	230	P	Pb	07 29	03.6	0.0
TRWZ	Traveller	0.86	193	P	Pn	07 29	03.2	+0.1
PXZ	Pawanui	0.88	54	P	Pn	07 29	03.6	+0.2
PAWZ	Paruwai Farm	0.91	205	P	Pn	07 29	03.8	0.0
KRHZ	Kereru	0.97	20	P	Pb	07 29	05.3	-0.2
MSWZ	Moikau Station	1.00	211		Pn	07 29	04.7	-0.4
MSWZ	Moikau Station	1.00	211	P	Pn	07 29	04.9	-0.2
KAHZ	Kahuranaki	1.05	44	P	Pn	07 29	06.2	+0.4
WAZ	Wanganui	1.08	317	P	Pb	07 29	08.5	+1.1
PLWZ	Palliser	1.13	207	Pn	Pn	07 29	06.5	-0.5
PLWZ	Palliser	1.13	207	P	Pn	07 29	06.6	-0.4
WEL	Wellington	1.15	230

WHHZ	Waihua	1.79	34	P	Pn	07 29 16.6	+0.7
PREZ	Palmer Road	1.83	311	P	Pb	07 29 19.6	-0.4
MTHZ	Maungataniwha	1.84	23	P	Pn	07 29 16.7	0.0
WATZ	Wairara	1.85	355	P	Pn	07 29 18.0	+1.1
RAHZ	Arahi	1.86	29	P	Pn	07 29 16.9	0.0
WHTZ	Whakaora	1.89	0	P	Pn	07 29 18.7	+1.3
DREZ	Durham Road	1.91	315	P	Pb	07 29 20.1	-1.2
NEZ	North Egmont	1.91	312	P	Pb	07 29 20.3	-1.1
MHEZ	Mangahewa	1.93	319	P	Pb	07 29 22.8	+1.0
BSWZ	Blackbirch Sta	1.94	233		Pn	07 29 17.8	-0.2
BSWZ	Blackbirch Sta	1.94	233	P	Pn	07 29 17.7	-0.2
KHEZ	Kahui Hut	1.94	310	P	Pb	07 29 21.0	-1.0
KHEZ	Kahui Hut	1.94	310	P	Pb	07 29 21.2	-0.8
NMEZ	Namu Road	1.95	305	P	Pb	07 29 21.0	-1.1
ALRZ	Allen Road	2.02	9	P	Pn	07 29 19.4	+0.3
PKE	Pukeiti	2.03	312	P	Pb	07 29 21.9	-1.4
KNZ	Kokohu	2.04	42	P	Pn	07 29 18.5	-0.7
WPRZ	Whakapapatarin	2.04	5	P	Pn	07 29 19.9	+0.5
NBEZ	Newall Road No	2.05	308	P	Pb	07 29 22.3	-1.4
NNZ	Nelson	2.05	250	Pn	Pn	07 29 19.8	+0.3
NNZ	Nelson	2.05	250	P	Pn	07 29 19.9	+0.4
MHGZ	Mahia Peninsul	2.07	48	P	Pn	07 29 18.9	-0.8
KUTZ	Kaahu Road	2.07	358	P	Pn	07 29 20.7	+1.0
SNGZ	Shannon Statio	2.08	32	P	Pn	07 29 19.6	-0.3
PRRZ	Plateau Road	2.09	10	P	Pn	07 29 20.3	+0.3
RTZ	Ruatahuna	2.10	23	P	Pn	07 29 20.2	-0.1
MUGZ	Murupara	2.18	17	P	Pn	07 29 21.0	-0.2
HRRZ	Handcock Road	2.18	7	P	Pn	07 29 21.9	+0.6
HIZ	Hauiti	2.21	337		Pn	07 29 23.3	+1.7
HIZ	Hauiti	2.21	337	P	Pn	07 29 24.0	+2.3
HIZ	Hauiti	2.21	337	P	Pn	07 29 23.4	+1.7
GRRZ	Galatos Road	2.21	4	P	Pn	07 29 22.2	+0.5
PRGZ	Paritu Road	2.22	43	P	Pn	07 29 21.1	-0.7
TLZ	Tolley Road	2.25	352	P	Pn	07 29 23.0	+0.7
HSRZ	Hossack Road	2.26	6	P	Pn	07 29 23.0	+0.6
RRRZ	Republican Roa	2.26	12	P	Pn	07 29 22.4	0.0
TKNZ	Takaka Hill	2.31	257		Pn	07 29 23.7	+0.7
TKNZ	Takaka Hill	2.31	257	P	Pn	07 29 23.9	+0.8
HLRZ	Highlands Stat	2.33	8	P	Pn	07 29 24.6	+1.3
RIGZ	Rimuhau	2.33	38	P	Pn	07 29 22.6	-0.8
RAGZ	Rawiri	2.36	29	P	Pn	07 29 23.2	-0.6
TARZ	Mount Tarawera	2.36	11	P	Pn	07 29 24.1	+0.3
UTU	Utuhina	2.39	5	P	Pn	07 29 25.1	+1.0
MKRZ	Makatiti	2.45	10	P	Pn	07 29 26.5	+1.4
URZ	Urewera	2.47	22	Pn	Pn	07 29 24.3	-1.0
	7.8nm,0.3s,baz=249,slow=3.3,SNR=63						
URZ				Sn	Sn	07 29 52.7	-1.6
	30nm,0.3s,baz=236,slow=4.2,SNR=17						
	21nm,0.4s						
URZ	Urewera	2.47	22	P	Pn	07 29 24.2	-1.0
URZ	Urewera	2.47	22	P	Pn	07 29 24.3	-1.0
OMRZ	Omania	2.47	8	P	Pn	07 29 25.7	+0.4
EDRZ	Edgecumbe	2.53	15	P	Pn	07 29 25.6	-0.5
KARZ	Kaharoa	2.55	5	P	Pn	07 29 26.6	+0.3
MRNZ	Matariki Terra	2.55	250		Pn	07 29 26.7	+0.4
MRNZ	Matariki Terra	2.55	250	P	Pn	07 29 26.9	+0.5
TKGZ	Te Karaka	2.58	36	P	Pn	07 29 25.9	-0.9
THZ	Tophouse	2.59	241		Pn	07 29 26.6	-0.3
THZ	Tophouse	2.59	241	P	Pn	07 29 26.3	-0.6
KHZ	Kahutara	2.59	223		Pn	07 29 25.5	-1.4
KHZ	Kahutara	2.59	223	P	Pn	07 29 25.4	-1.4
KHZ	Kahutara	2.59	223	S	Sn	07 29 56.2	-1.0
KHZ	Kahutara	2.59	223	P	Pn	07 29 25.5	-1.4
QRZ	Quartz Range	2.60	263		Pn	07 29 27.5	+0.3
QRZ	Quartz Range	2.60	263	P	Pn	07 29 27.3	+0.1
QRZ	Quartz Range	2.60	263	P	Pn	07 29 27.2	+0.1
MARZ	Manawahe	2.63	13	P	Pn	07 29 27.4	-0.1
KMRZ	Kaimai	2.71	0	P	Pn	07 29 29.3	+0.7
CNGZ	Carnagh Statio	2.71	41	P	Pn	07 29 27.9	-0.7
OPRZ	Ohinepanea	2.75	10	P	Pn	07 29 29.3	+0.1
WHRZ	Whale Island	2.82	17	P	Pn	07 29 30.3	+0.2
TGRZ	Tauranga	2.84	5	P	Pn	07 29 30.7	+0.4
TOZ	Tahuroa Road	2.84	353	Pn	Pn	07 29 31.2	+0.9
TOZ	Tahuroa Road	2.84	353	P	Pn	07 29 31.3	+0.9
RUGZ	Raukumara Rang	2.92	28	P	Pn	07 29 30.4	-1.2
PUZ	Puketiti	3.07	37	P	Pn	07 29 31.8	-1.7
HAZ	Te Kaha	3.14	28	P	Pn	07 29 32.9	-1.7
PKGZ	Pakihiroa	3.16	32	P	Pn	07 29 33.3	-1.5
GVZ	Greta Valley S	3.24	221	P	Pn	07 29 34.3	-1.6
DSZ	Denniston Nort	3.34	248	P	Pn	07 29 36.8	-0.5
WMGZ	Waiomatatini S	3.34	36	P	Pn	07 29 35.9	-1.3
MXZ	Matakaoa Point	3.51	32	P	Pn	07 29 39.2	-0.4
MXZ	Matakaoa Point	3.51	32	S	Sn	07 30 21.2	+1.1
MXZ	Matakaoa Point	3.51	32	P	Pn	07 29 38.8	-0.8
LTZ	Lake Taylor	3.53	230	Pn	Pn	07 29 37.8	-2.1
LTZ	Lake Taylor	3.53	230	P	Pn	07 29 38.4	-1.5
AMCZ	Amberley	3.59	222	P	Pn	07 29 39.9	-0.7
AWAZ	Awhitu Peninsu	3.63	343	P	Pn	07 29 43.3	+2.0
KUZ	Kuaotunu	3.81	357	P	Pn	07 29 44.3	+0.6
WIAZ	Waiheke Island	3.81	350	P	Pn	07 29 44.8	+1.1
OKCZ	Okains Bay	3.82	213	P	Pn	07 29 41.7	-2.1
AKCZ	Akaroa Harbour	4.00	213	P	Pn	07 29 44.0	-2.3
OXZ	Oxford	4.01	225	Pn	Pn	07 29 44.3	-2.1
RPZ	Rata Peaks	4.81	227	Pn	Pn	07 29 55.7	-1.7
	1.6nm,0.3s,baz=204,slow=2.1,SNR=15						
RPZ				Sn	Sn	07 30 47.7	-4.4
	18nm,0.3s,baz=131,slow=21,SNR=31						
RPZ				LR	LR	07 32 25.3	
	comp=Z,646nm,19.9s,baz=142,slow=46						
	3.9nm,0.3s						
RPZ	Rata Peaks	4.81	227	P	Pn	07 29 55.7	-1.7
OUZ	Omahuta	5.64	340	P	Pn	07 30 10.4	+1.5
ODZ	Otahua Downs	5.94	219	P	Pn	07 30 09.9	-3.0
JCZ	Jackson Bay	6.36	234	P	Pn	07 30 19.3	+0.5
CTZ	Chatham Island	6.38	122	Pn	Pn	07 30 18.2	-0.8
CTZ	Chatham Island	6.38	122	P	Pn	07 30 17.9	-1.0
SYZ	Scrubby Hill	7.75	217	P	Pn	07 30 36.6	-1.1
DZM	Mont Dzumac	20.11	334	eP	P	07 33 19.6	+1.1
	19nm,1.1s						
DZM				eLR	LR	07 38 10.4	
	188nm,26.1s						
EIDS	Eidsvold	25.66	299	P	P	07 34 14.7	+0.5
EIDS				IAmb	IAmb	07 34 44.4	
	comp=Z,10nm,1.4s						
STKA	Stephens Creek	28.88	276	LR	LR	07 45 22.9	
	comp=Z,62nm,20.8s,baz=201,slow=35						
BBOO	Buckleboo	32.68	271	P	P	07 35 16.6	+0.1
TBI	Tubuai	33.73	70	eLR	LR	07 44 17.5	
	comp=Z,331nm,28.8s						
PPT2	Papeete2	37.48	63	eLR	LR	07 45 58.7	
	comp=Z,58nm,30.5s						
PPT2				eLR	LR	07 46 04.8	
	comp=Z,90nm,32.8s						
AS31	Alice Springs	38.98	283	P	P	07 36 10.5	-0.1
ASAR	Alice Springs	38.98	283	P	P	07 36 09.8	-0.9
ASAR	Alice Springs	38.98	283	P	P	07 36 10.4	-0.2
	comp=Z,3.2nm,0.5s,baz=128,slow=7.0,SNR=56						
ASAR				LR	LR	07 52 16.2	
	comp=Z,64nm,18.9s,baz=118,slow=36						
	comp=Z,3.2nm,0.5s						
COEN	Coen	38.99	303	P	P	07 36 11.3	+0.6
WR8	Warramunga Arr	40.80	288	P	P	07 36 25.2	-0.6
WR8				IAmb	IAmb	07 36 35.6	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	40.92	288	P	P	07 36 26.1	-0.7
WRA	Warramunga Arr	40.92	288	P	P	07 36 26.5	-0.3
	comp=Z,4.8nm,0.6s,baz=126,slow=8.1,SNR=39						
	comp=Z,4.8nm,0.6s						
WB0	Warramunga Arr	40.99	288	P	P	07 36 27.0	-0.3
WB0				IAmb	IAmb	07 36 36.5	
	comp=Z,5.8nm,0.8s						
FITZ	Fitzroy Crossi	48.48	282	P	P	07 37 27.0	0.0
FITZ				IAmb	IAmb	07 37 36.9	
	comp=Z,2.2nm,1.1s						
FITZ	Fitzroy Crossi	48.48	282	LR	LR	07 57 52.7	
	comp=Z,76nm,19.1s,baz=16,slow=36						
QSPA	South Pole Qui	49.57	180	P	P	07 37 36.4	+1.4
QSPA				IAmb	IAmb	07 37 55.8	
	comp=Z,4.9nm,1.1s						
QSPA	South Pole Qui	49.57	180	P	P	07 37 37.6	+2.7
	comp=Z,2.1nm,1.0s,baz=190,slow=1.3,SNR=5.1						
	comp=Z,2.1nm,1.0s						
TAOE	Nuku Hiva Isla	50.10	63	eLR	LR	07 51 55.4	
	comp=Z,245nm,29.5s						
PLCA	Paso Flores	79.05	135	P	P	07 40 48.9	+0.6
	comp=Z,1.9nm,1.1s,baz=244,slow=8.2,SNR=3.6						
	comp=Z,1.9nm,1.1s						
MJAR	Matsushiro Arr	84.19	330	LR	LR	08 16 20.9	
	comp=Z,9.5nm,20.0s,baz=184,slow=34						
KSRS	Korea Array	89.23	324	P	P	07 41 40.7	+1.1
	comp=Z,0.5nm,0.3s,baz=120,slow=5.0,SNR=4.6						
	comp=Z,0.5nm,0.3s						
PALK	Pallekele	98.65	272	LR	LR	08 26 45.1	
	comp=Z,51nm,18.2s,baz=220,slow=35						
MKAR	Makanchi Array	120.26	307	PKP	PKPdf	07 47 34.2	-0.3
	comp=Z,0.3nm,0.5s,baz=115,slow=1.3,SNR=3.9						
ARCES	ARCESS Array B	147.07	341	PKPbc	PKPdf	07 48 24.4	+0.9
	comp=Z,2.5nm,0.8s,baz=100,slow=1.4,SNR=10						
BRTR	Keskin Array B	151.31	281	PKPbc	PKPbc	07 48 35.5	-2.0
	comp=Z,0.5nm,0.8s,baz=145,slow=5.3,SNR=1.6						
FINES	FINESS Array B	152.21	329	PKPbc	PKPbc	07 48 37.0	-1.5
	comp=Z,1.4nm,0.9s,baz=90,slow=3.8,SNR=3.4						
TORD	Torodi Ar. Bea	152.23	192	PKPbc	PKPbc	07 48 40.4	+0.3
	comp=Z,0.2nm,0.4s,baz=155,slow=3.3,SNR=1.7						

DJA 19 07:32:43.5±0.7, 4°N±6°×12°6E±°, h136km±5km, M3.8/7, mB5.0/1, mb3.9/2, MLv3.7/7, Mw(mB)4.4/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	0.42	246	P	Pn	07 33 04.4	+1.6
SGSI				S	Sn	07 33 19.4	+1.9
LUWI	Luwuk	5.79	213	P	Pn	07 34 07.9	+0.6

IDC 19 07:47:58.5±1.3, 0°45N×122°99E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=152.5km s-min=22.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.12	152	P	P	07 53 06.8	+0.4
	0.8nm,0.4s,baz=330,slow=11,SNR=9.8						
	0.8nm,0.4s						
ASAR	Alice Springs	26.21	157	P	P	07 53 34.7	-0.5
	0.3nm,0.6s,baz=328,slow=8.2,SNR=4.5						
	0.3nm,0.6s						
SONM	Songino Array	49.35	345	P	P	07 56 49.6	-0.2
	0.5nm,0.4s,baz=156,slow=7.7,SNR=3.6						
	0.5nm,0.4s						
MKAR	Makanchi Array	58.23	328	P	P	07 57 54.8	+0.1
	0.4nm,0.4s,baz=129,slow=8.5,SNR=5.4						
	0.4nm,0.4s						

*TAP **19** 07:59:56.6, 24°.71N×122°.45E, h104km, ML3.1, D*
*JMA **19** 07:59:57.1±0.2, 25°.N±1°×122°.4E±0°.4, h100km±1km, MV2.0/10, NW OFF ISHIGAKIJIMA IS*

ISC 19 07:59:56.8±1.7, 24°.67N±0°.04×122°.44E±0°.03, h104km±9km, n66, σ0°75/119, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	EOS2	0.31	218	eP	Pn	08 00 12.4	+0.5
EOS2				eS	Sn	08 00 24.6	+1.5
EOS3	EOS3	0.39	197	P	Pn	08 00 13.0	+0.8
EOS3				eS	Sn	08 00 25.3	+1.6
JYNG	Yonagunijimaku	0.51	115	P	Pn	08 00 13.1	0.0
JYNG				S	Sn	08 00 24.9	-0.4
TWB1	Santiao Chiao	0.53	310	P	Pn	08 00 13.2	-0.1
TWB1				S	Sn	08 00 25.2	-0.5
TWC	Suao	0.54	264	P	Pn	08 00 13.1	-0.3
TWC				eS	Sn	08 00 25.0	-0.8
EOS4	EOS4	0.55	192	eP	Pn	08 00 13.2	+0.1
EOS4				eS	Sn	08 00 25.9	+0.7
YOJ	Yonaguni jima	0.56	111	i P	Pn	08 00 13.5	0.0
YOJ				i S	Sn	08 00 25.7	-0.3
YOJ	Yonaguni jima	0.56	111	eP	Pn	08 00 13.4	0.0
YOJ				S	Sn	08 00 25.4	-0.5
TIPB	Shuangxi	0.64	299	i P	Pn	08 00 14.1	-0.1
TIPB				S	Sn	08 00 26.2	-0.9
EWUT	Wuta	0.64	250	eP	Pn	08 00 14.4	+0.2
EWUT				eS	Sn	08 00 27.4	+0.3
SXI1	Grass Mountain	0.67	310	P	Pn	08 00 14.2	-0.3
SXI1				S	Sn	08 00 27.9	+0.1
ENA	Nanau	0.68	250	P	Pn	08 00 14.8	+0.3
ENA				eS	Sn	08 00 28.2	+0.5
TWE	Neicheng	0.71	275	i P	Pn	08 00 14.8	+0.1
TWE				eS	Sn	08 00 27.9	-0.2
EAHA	Aohua	0.72	242	eP	Pn	08 00 14.8	0.0
EAHA				eS	Sn	08 00 28.8	+0.4
FUSB	Fushanzhiwuyua	0.78	277	P	Pn	08 00 15.4	-0.1
FUSB				eS	Sn	08 00 28.3	-1.2
ENTT	Nioudou	0.80	268	P	Pn	08 00 16.0	+0.4
ENTT				eS	Sn	08 00 29.9	+0.3
LATG	Datong	0.84	261	P	Pn	08 00 16.2	+0.1
LATG				eS	Sn	08 00 30.9	+0.3
NWLT	Wulai	0.86	278	eP	Pn	08 00 16.0	-0.2
NWLT				eS	Sn	08 00 30.2	-0.6
ETL	Fush Village	0.90	236	eP	Pn	08 00 15.8	-0.8
NACB	Ninganchiao	0.91	238	P	Pn	08 00 16.4	-0.3
NACB				S	Sn	08 00 31.3	-0.4
YM01	YM01	0.93	301	P	Pn	08 00 16.7	-0.2
YM01				S	Sn	08 00 30.0	-1.0
YM08	YM08	0.93	304	eP	Pn	08 00 16.6	-0.3
YM08				eS	Sn	08 00 30.9	-1.2
ZUZH	Zhuzihu	0.95	301	eP	Pn	08 00 16.7	-0.4
ZUZH				eS	Sn	08 00 31.1	-1.3
TWD	Chiawan	0.97	233	eP	Pn	08 00 17.2	-0.1
TWD				S	Sn	08 00 32.1	-0.5
YHNB	Yeheng	0.97	270	i P	Pn	08 00 17.9	+0.5
YHNB				i S	Sn	08 00 32.8	0.0
ETLH	Xiulin Townshi	0.99	243	P	Pn	08 00 17.6	0.0
ETLH				eS	Sn	08 00 32.6	-0.6
NNSB	Datong	0.99	256	eP	Pn	08 00 17.9	+0.3
NNSB				eS	Sn	08 00 33.6	+0.3
TWS1	Kuangyinshan	1.03	295	eP	Pn	08 00 17.8	-0.1
TWS1				eS	Sn	08 00 33.1	-0.6
TEYL	Yanliau Villag	1.11	224	eP	Pn	08 00 18.6	-0.2
TEYL				eS	Sn	08 00 35.0	-0.2
ETM	Tongmen	1.11	231	P	Pn	08 00 18.7	-0.1
ETM				S	Sn	08 00 34.8	-0.6
KSHI	Guanxi Townshi	1.16	276	eP	Pn	08 00 19.7	+0.4
KSHI				eS	Sn	08 00 36.8	+0.5
FUSS	Fushou	1.17	249	eP	Pn	08 00 20.0	+0.3
FUSS				eS	Sn	08 00 36.5	-0.4
SHUL	Shoufeng	1.19	223	eP	Pn	08 00 19.8	+0.1
SHUL				eS	Sn	08 00 36.9	0.0
WHF	Hehuan Shan	1.19	244	P	Pn	08 00 20.2	0.0
WHF				eS	Sn	08 00 37.5	-0.2
NFF	Wufeng Townshi	1.21	269	eP	Pn	08 00 20.1	+0.2
NFF				eS	Sn	08 00 37.0	-0.4
IRIF	Iriomote-Funau	1.22	105	eS	Sn	08 00 37.4	-0.1
TWT	Tachien	1.22	251	eP	Pn	08 00 21.2	+0.9
TWT				eS	Sn	08 00 38.1	+0.2
TDCB	Techi	1.24	251	P	Pn	08 00 21.3	+0.9
TDCB				eS	Sn	08 00 38.3	+0.1
ESL	Shilin	1.25	228	eP	Pn	08 00 20.0	-0.4
ESL				eS	Sn	08 00 36.7	-1.5
TEGC	Jichi Village	1.26	221	eS	Sn	08 00 38.6	+0.3
LIOB	Emei	1.30	269	eP	Pn	08 00 21.4	+0.5
LIOB				eS	Sn	08 00 39.4	+0.2
NSTT	Nanjuang	1.31	269	eP	Pn	08 00 21.3	+0.2
NSTT				eS	Sn	08 00 39.4	0.0
WARBT	Fenglin Townsh	1.35	226	eP	Pn	08 00 20.8	-0.7
WARBT				eS	Sn	08 00 38.6	-1.7
OWD	Renai	1.35	239	eP	Pn	08 00 22.2	+0.4
OWD				eS	Sn	08 00 40.2	-0.4
EGFH	Guangfu	1.36	223	eS	Sn	08 00 39.4	-1.0
WUSB	Renai	1.38	241	i P	Pn	08 00 22.9	+0.9
WUSB				i S	Sn	08 00 41.3	+0.2
HATJ	Hateruma jima	1.38	116	eS	Sn	08 00 41.8	+0.9
WHP	Taichung City	1.42	254	eP	Pn	08 00 23.4	+1.0
WHP				eS	Sn	08 00 42.5	+0.7
JKRS	Kuro-shima	1.49	106	eP	Pn	08 00 23.8	+0.6
JKRS				eS	Sn	08 00 43.5	+0.3
HGSD	Ruisui	1.49	219	P	Pn	08 00 23.0	-0.3
HGSD				S	Sn	08 00 42.8	-0.5
VWDT	VWDT	1.50	233	P	Pn	08 00 23.8	+0.6
VWDT				S	Sn	08 00 43.4	+0.1
WCS	Beigang Elemen	1.52	247	eP	Pn	08 00 24.6	+1.0
WCS				eS	Sn	08 00 44.4	+0.6
NSY	Sanyi	1.55	261	eS	Sn	08 00 46.0	+1.4
JIJ	Ishigaki jima	1.58	101	eP	Pn	08 00 24.4	+0.1
SMLT	Sun Moon Lake	1.61	241	eP	Pn	08 00 25.9	+1.2
SMLT				eS	Sn	08 00 47.7	+1.7
SSLB	Suanglung	1.61	238	eP	Pn	08 00 25.5	+0.7
YULB	Yu-li	1.64	220	eP	Pn	08 00 24.5	-0.6
YULB				eS	Sn	08 00 45.1	-1.5
TWF1	Yuli	1.68	219	eP	Pn	08 00 25.3	-0.2
TWF1				eS	Sn	08 00 45.9	-1.4
WHYT	Xinyi Township	1.74	237	eS	Sn	08 00 50.2	+1.3
CHKH	Chenggong	1.75	213	eS	Sn	08 00 47.3	-1.7
FULB	Fuli	1.80	216	eP	Pn	08 00 27.3	+0.2
FULB				eS	Sn	08 00 50.2	+0.1
CHKT	Chengkung	1.84	212	eP	Pn	08 00 26.8	-0.8
CHKT				eS	Sn	08 00 49.3	-1.7
ALS	Alishan	1.89	233	eP	Pn	08 00 29.7	+1.3
ALS				eS	Sn	08 00 54.7	+2.2
ELDTW	Lidau	1.96	222	eS	Sn	08 00 53.8	-0.2
EDH	Donghe	1.98	212	eS	Sn	08 00 52.8	-1.4
LDUT	Ludao	2.17	204	eS	Sn	08 00 57.0	-1.6

*ASRS **19** 08:02:40.0±1.7, 53°.78N×91°.04E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 08:02:44.8±3.6, 53°.66N×90°.81E, h0km, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=33.4km s-min=25.2km az=27.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	3.56	277	I	I	08 25 00.0	
	0.1nm,1.1s,baz=92,slow=321,SNR=21						
ZALV	Zalesovo Beam	3.56	277	Pn	Pn	08 03 39.6	-1.7
	1.2nm,0.3s,baz=92,slow=14,SNR=11						
ZALV				Sn	Sn	08 04 22.0	-2.1
	0.3nm,0.3s,baz=89,slow=25,SNR=5.9						
ZALV				Lg	Lg	08 04 39.2	
	1.0nm,0.3s,baz=90,slow=32,SNR=5.5						
	1.7nm,0.3s						
KURBB	Kurchatov Arra	8.14	253	Pn	Pn	08 04 45.2	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=4.2						
KURBB				Sn	Sn	08 06 13.9	-2.9
	baz=62,slow=25,SNR=10						
KURBB				Lg	Lg	08 07 03.4	
	baz=60,slow=32,SNR=5.2						
	0.5nm,0.4s						
MKAR	Makanchi Array	8.77	222	Pn	Pn	08 04 53.1	+0.3
	0.1nm,0.3s,baz=38,slow=13,SNR=4.9						
MKAR				Lg	Lg	08 07 25.0	
	0.1nm,0.3s,baz=41,slow=27,SNR=5.8						
	0.2nm,0.4s						

*TRN **19** 08:27:59.7, 10°.32N×61°.93W, h13km, MD3.0, Gulf of Paria.*
*FUNV **19** 08:28:01.6, 10°.21N×61°.69W, h35km, MW3.1*

ISC 19 08:27:59.3±1.9, 10°.2N±0°.1×61°.8W±0°.1, h23km±16km, n9, σ1°27/15, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMG	Mucurapo Girls	0.56	32	eP	Pb	08 28 10.1	-0.4
PSMG				eS	Sb	08 28 17.1	-1.0
PSGH	Port of Spain	0.56	34	eP	Pb	08 28 10.3	-0.2
PSGH				eS	Sb	08 28 18.6	+0.4
DMDM	Guralp CMG5TDE	0.57	29	eP	Pb	08 28 10.2	-0.4
DMDM				eS	Sb	08 28 18.5	+0.1
TRN	Trinidad (W)	0.62	43	eP	Pb	08 28 11.6	+0.1
TRN				eS	Sn	08 28 21.0	-0.9
GRFF	Grenada Fort F	1.85	3	eS	Sn	08 28 52.1	-0.2
GRGR	Grenville	1.94	5	eP	Pn	08 28 31.6	+0.8
GRGR				eS	Sn	08 28 53.9	-0.6
PCRV	Puerto La Cruz	2.76	270	eP	Pn	08 28 44.1	+1.9
PCRV				eS	Sn	08 29 15.0	+0.1
CACV	CAICARA DEL OR	5.33	241	eP	Pn	08 29 13.3	-4.2
CACV				eS	Sn	08 30 05.5	-13
BAUV	El Baul	6.25	259	eP	Pn	08 29 30.9	+0.8
BAUV				eS	Sn	08 30 37.7	-3.2

*TRN **19** 08:40:13.7, 10°.07N×61°.43W, h71km, MD3.5, South Trinidad.*
*FUNV **19** 08:40:17.4, 10°.42N×61°.92W, h16km, MW3.4*

ISC 19 08:40:16.3±1.5, 10°.39N±0°.09×61°.99W±0°.06, h23km±18km, n9, σ1°69/16, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	Trinidad (W)	0.63	66	eP	Pb	08 40 28.0	-0.7
TRN				eS	Sb	08 40 37.2	+0.2
GRGR	Grenville	1.76	11	eP	Pn	08 40 46.5	+1.1
GRGR				eS	Sb	08 41 10.0	+0.4
GRSS	Sisters	1.93	11	eP	Pn	08 40 48.8	+1.2
GRSS				eS	Sb	08 41 14.5	+0.1
PCRV	Puerto La Cruz	2.62	266	eP	Pn	08 40 58.7	+1.6
PCRV				eS	Sn	08 41 29.1	+0.8
PCRV	Puerto La Cruz	2.62	266	eP	Pb	08 41 00.7	-1.9
PCRV				eS	Sb	08 41 37.0	+2.7
TACV	Tcata	4.97	268	eP	Pn	08 41 30.2	+0.7
T

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UDPR	**Udaipur**	**2.85**	**76**	*eP*	Pn	09 14 13.8	+0.5
UDPR				*eS*	Sn	09 14 48.3	+0.6
UDPR	comp=N,2μm,0.3s			IAML		09 14 48.9	
UDPR	comp=E,3μm,0.4s			IAML		09 14 48.9	
JASL	**Jaisalmer**	**3.01**	**4**	*eP*	Pn	09 14 16.2	+0.8
JASL				*eS*	Sn	09 14 53.8	+2.3
JASL	comp=N,5μm,0.2s			IAML		09 14 55.2	
JASL	comp=E,5μm,0.5s			IAML		09 14 55.3	
GUNA	**GUNA**	**6.11**	**82**	*eP*	Pn	09 15 00.7	+2.5
GUNA				*eS*	Sn	09 16 06.3	-2.0
GUNA	comp=N,300nm,0.4s			IAML		09 16 08.5	
GUNA	comp=E,245nm,0.4s			IAML		09 16 08.7	
POO	**Poona**	**6.12**	**151**	*eP*	Pn	09 14 58.8	+0.5
POO				*eS*	Sn	09 16 05.5	-2.9
POO	comp=N,172nm,0.5s			IAML		09 16 07.2	
POO	comp=E,189nm,0.3s			IAML		09 16 07.6	
BHPL	**Bhopal**	**6.22**	**95**	*eP*	Pn	09 15 00.8	+1.1
BHPL				*eS*	Sn	09 16 09.5	-1.5
BHPL	comp=N,142nm,0.4s			IAML		09 16 10.4	
BHPL	comp=E,110nm,0.2s			IAML		09 16 10.5	
JHNI	**Jhansi**	**7.31**	**76**	*eP*	Pn	09 15 14.8	+0.1
JHNI				*eS*	Sn	09 16 33.9	-3.8
JHNI	comp=N,228nm,0.2s			IAML		09 16 34.9	
JHNI	comp=E,88nm,0.2s			IAML		09 16 34.9	
NGP	**Nagpur**	**8.21**	**108**	*eP*	Pn	09 15 28.2	+1.2
NGP				*eS*	Sn	09 16 55.9	-4.0
NGP	comp=N,95nm,0.2s			IAML		09 16 56.8	
NGP	comp=E,68nm,0.2s			IAML		09 16 56.8	

DJA 19 09:14:57.7±1.0, 1°S±2°×12°8E±°, h20km±8km, M4.3/12, mB5.5/3, mb4.5/5, MLv4.1/12, Mw(mB)5.0/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.81**	**332**	P	Pn	09 15 28.5	+0.7
SANI	**Sanana**	**2.53**	**242**	P	Pn	09 15 36.3	-1.4
MSAI	**Masohi**	**2.59**	**164**	P	Pn	09 15 39.0	+0.5
MSAI				S	Sn	09 16 12.0	+2.6
NLAI	**Namlea**	**2.63**	**205**	P	Pn	09 15 38.6	-0.5
NLAI				S	Sn	09 16 10.2	-0.3
AAI	**Ambon**	**2.83**	**181**	P	Pn	09 15 42.5	+0.7
AAI				S	Sn	09 16 15.5	+0.2
SWI	**Sorong**	**3.04**	**90**	P	Pn	09 15 44.8	+0.1
SWI				S	Sn	09 16 20.7	+0.2
FAKI	**Fak Fak**	**4.53**	**117**	P	Pn	09 16 03.7	-1.4
LUWI	**Luwuk**	**5.45**	**268**	P	Pn	09 16 17.1	-0.8
	0.4nm46nm,0.9s						
APSI	**Ampana**	**6.57**	**269**	P	Pn	09 16 33.5	+0.2

*ASRS **19** 09:15:33.0±2.0, 53°.77N×90°.98E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 19 09:15:39.4±4.0, 53°.65N×90°.92E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=39.0km s-min=26.2km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.63**	**277**	I	I	09 38 00.0	
	0.1nm,0.9s,baz=92,slow=330,SNR=6.0						
ZALV	**Zalesovo Beam**	**3.63**	**277**	Pn	Pn	09 16 37.6	+0.7
	0.6nm,0.3s,baz=91,slow=14,SNR=6.1						
ZALV				Sn	Sn	09 17 20.9	+0.5
	0.3nm,0.3s,baz=107,slow=20,SNR=1.9						
ZALV				Lg	Lg	09 17 35.1	
	0.6nm,0.3s,baz=93,slow=32,SNR=5.3						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**8.21**	**253**	Pn	Pn	09 17 39.1	-0.6
KURBB	0.1nm,0.3s,baz=65,slow=15,SNR=4.6			Lg	Lg	09 20 00.8	
	baz=65,slow=31						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.81**	**222**	Pn	Pn	09 17 48.9	+0.8
MKAR	0.1nm,0.3s,baz=34,slow=15,SNR=6.6			Lg	Lg	09 20 19.1	
	baz=37,slow=32,SNR=1.8						
	0.5nm,0.7s						

*SOME **19** 09:36:00.2, 40°.70N×78°.68E, h10km*
*NNC **19** 09:36:01.4±1.3, 40°.75N×78°.69E, h30km±17km, mb4.1, mpv3.6, Error ellipse: s-maj=10.0km s-min=6.0km az=161.0*
*KRNET **19** 09:36:01.2±0.1, 41°.10N×79°.20E, mb3.8*

ISC 19 09:35:57.1±2.0, 40°.47N±0°.09×78°.82E±0°.06, h10km, n42, σ1s91/58, 12C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.47**	**329**	⇓*iP*	**Pn**	**09 36 23.8**	**-0.3**
TARG				⇓*iS*	**Sb**	**09 36 40.5**	**-3.3**
KDJ	**Kajisay**	**2.07**	**324**	⇑*iP*	**Pb**	**09 36 34.3**	**-0.6**
KDJ				⇑*iS*	**Sn**	**09 36 58.2**	**+0.2**
SATY	**Saty**	**2.61**	**353**	Pg	**Pg**	**09 36 45.0**	**-2.1**
SATY	57nm,0.5s			Lg	Lg	09 37 17.4	
	154nm,0.6s						
ULHL	**Ulahol**	**2.63**	**313**	P	**Pb**	**09 36 45.3**	**+0.8**
	SNR=48						
ULHL	**Ulahol**	**2.63**	**313**	⇑*eP*	**Pb**	**09 36 43.5**	**-0.9**
ULHL				⇑*iS*	**Sb**	**09 37 14.5**	**-2.4**
UZB	**Uzynbulak**	**2.68**	**3**	Pg	**Pb**	**09 36 45.9**	**+0.6**
UZB	17nm,0.5s			Lg	Lg	09 37 18.7	
	70nm,0.5s						
UZB	**Uzynbulak**	**2.68**	**3**	*eP*	**Pb**	**09 36 45.9**	**+0.6**
UZB	17nm,0.5s						
	70nm,0.5s			*eS*	**Sb**	**09 37 18.7**	**+0.4**
SHLS	**Shalkode**	**2.73**	**10**	Pg	**Pg**	**09 36 49.0**	**-0.4**
SHLS	56nm,0.4s			Lg	Lg	09 37 23.9	
	197nm,0.6s						
SHLS	**Shalkode**	**2.73**	**10**	*eP*	**Pg**	**09 36 49.0**	**-0.4**
SHLS	56nm,0.4s						
	197nm,0.6s			*eS*	**Sg**	**09 37 23.9**	**-0.9**
PDGK	**Podgornoye**	**2.90**	**10**	⇓Pg	**Pb**	**09 36 47.9**	**-1.1**
PDGK	11nm,0.5s			⇓Lg	Lg	09 37 25.2	
	120nm,0.6s						
TNSS	**Tian-Shan**	**2.92**	**332**	Pg	**Pg**	**09 36 51.3**	**-1.8**
TNSS	12nm,0.5s			Lg	Lg	09 37 27.7	
	16nm,0.6s						
TNSS	**Tian-Shan**	**2.92**	**332**	*eP*	**Pb**	**09 36 50.2**	**+0.7**
TNSS	12nm,0.5s						
	16nm,0.6s			*eS*	**Sb**	**09 37 26.2**	**+0.7**
KPKS	**Kokpek**	**3.00**	**358**	Pg	**Pb**	**09 36 51.2**	**+0.6**
KPKS	0.4nm,0.3s			Lg	Lg	09 37 27.7	
	193nm,0.5s						
MDOK	**Medeo**	**3.00**	**334**	Pg	**Pb**	**09 36 51.2**	**+0.5**
MDOK	48nm,0.6s			Lg	Lg	09 37 27.7	
	66nm,0.7s						
MTBS	**Maitube**	**3.20**	**327**	Pg	**Pb**	**09 36 54.8**	**+0.6**
MTBS	14nm,0.4s			Lg	Lg	09 37 33.5	
	48nm,0.5s						
MTBS	**Maitube**	**3.20**	**327**	*eP*	**Pb**	**09 36 54.8**	**+0.6**
MTBS	14nm,0.4s						
	48nm,0.5s			*eS*	**Sb**	**09 37 33.5**	**+0.3**
KST	**Kastek**	**3.34**	**321**	Pg	**Pb**	**09 36 58.1**	**+1.5**
KST	20nm,0.5s			Lg	Lg	09 37 39.8	
	50nm,0.4s						
KST	**Kastek**	**3.34**	**321**	*eP*	**Pb**	**09 36 58.1**	**+1.5**
KST	20nm,0.5s						
	50nm,0.4s			*eS*	**Sb**	**09 37 39.8**	**+2.4**
TKM2	**Tokmak 2**	**3.44**	**317**	P	**Pb**	**09 36 56.4**	**-1.8**
	SNR=7.5						
TKM2	**Tokmak 2**	**3.44**	**317**	⇓*eP*	**Pn**	**09 36 54.0**	**+3.1**
TKM2				⇓*iS*	**Sn**	**09 37 32.5**	**+0.7**
DGS	**Degeres**	**3.59**	**322**	Pg	**Pb**	**09 37 01.5**	**+0.9**
DGS	26nm,0.6s			Lg	Lg	09 37 46.2	
	23nm,0.8s						
KTBS	**Karatobe**	**3.61**	**335**	Pg	**Pb**	**09 37 01.8**	**+0.8**
KTBS	28nm,0.5s			Lg	Lg	09 37 45.8	
	56nm,0.5s						
KBK	**Karagaybulak**	**3.63**	**308**	P	**Pb**	**09 37 02.9**	**+1.4**
	SNR=12						
KBK	**Karagaybulak**	**3.63**	**308**	⇓*iP*	**Pb**	**09 36 57.9**	**-3.6**
KBK				⇓*iS*	**Sn**	**09 37 39.4**	**+2.8**
CHKK	**Chushkaly**	**3.65**	**339**	Pg	**Pb**	**09 37 02.3**	**+0.7**
CHKK	14nm,0.3s			Lg	Lg	09 37 47.1	
	150nm,0.6s						
CHKK	**Chushkaly**	**3.65**	**339**	*eP*	**Pb**	**09 37 02.4**	**+0.7**
CHKK	14nm,0.3s						
	150nm,0.6s			*eS*	**Sb**	**09 37 47.1**	**+1.1**
UCH	**Uchtor**	**3.69**	**300**	P	**Pg**	**09 37 05.2**	**-2.5**
	SNR=26						
UCH	**Uchtor**	**3.69**	**300**	⇓*iP*	**Pb**	**09 37 00.3**	**-2.3**
UCH				⇓*iS*	**Sb**	**09 37 43.3**	**-4.2**
ARXS	**Arharly**	**3.81**	**349**	Pg	**Pb**	**09 37 05.4**	**+0.9**
ARXS	7.7nm,0.5s			Lg	Lg	09 37 52.2	
	66nm,0.5s						
SALK	**Salom-Alik**	**3.82**	**278**	⇑*iP*	**Pb**	**09 37 05.4**	**+0.7**
SALK				⇑*iS*	**Sb**	**09 37 52.2**	**+1.1**
KUU	**Kurty**	**3.89**	**333**	Pg	**Pb**	**09 37 06.4**	**+0.6**
KUU	11nm,0.4s			Lg	Lg	09 37 53.5	
	44nm,0.6s						
KUU	**Kurty**	**3.89**	**333**	*eP*	**Pb**	**09 37 06.4**	**+0.6**
KUU	11nm,0.4s						
	44nm,0.6s			*eS*	**Sb**	**09 37 53.5**	**+0.7**
AAK	**Ala-Archa**	**3.90**	**305**	P	**Pg**	**09 37 09.6**	**-2.3**
	SNR=14						
AAK	**Ala-Archa**	**3.90**	**305**	⇓Pg	**Pb**	**09 37 08.1**	**+2.1**
AAK	11nm,0.6s			⇑Lg	Lg	09 37 56.3	
	42nm,1.2s						
AAK	**Ala-Archa**	**3.90**	**305**	⇑*iP*	**Pb**	**09 37 02.0**	**-4.1**
AAK				⇑*iS*	**Sn**	**09 37 46.6**	**+3.4**
CHMS	**Chumysh**	**3.96**	**311**	P	**Pn**	**09 36 57.6**	**-0.2**
	SNR=6.5						
USP	**Ospenovka**	**4.27**	**312**	P	**Pb**	**09 37 13.1**	**+0.9**
	SNR=8.9						
USP	**Ospenovka**	**4.27**	**312**	⇑*iP*	**Pn**	**09 37 05.9**	**+3.7**
USP				⇑*iS*	**Sn**	**09 37 53.2**	**+1.2**
EKS2	**Erkin-Say**	**4.37**	**302**	P	**Pg**	**09 37 17.7**	**-3.1**
	SNR=15						
MAKZ	**Makanchi**	**6.74**	**19**	Pn	**Pn**	**09 37 35.5**	**-0.6**
MAKZ	0.5nm,0.7s			Lg	Lg	09 39 25.3	
	3.1nm,0.9s						
KK31	**Karatay Array**	**6.74**	**296**	⇓Pg	**Pb**	**09 37 58.8**	**+4.4**
KK31	1.7nm,0.5s,baz=106,slow=16,SNR=6.2			Lg	Lg	09 39 30.9	
	2.4nm,0.6s,baz=110,slow=26,SNR=3.8						
MK31	**Makanchi Array**	**6.81**	**21**	⇑Pn	**Pn**	**09 37 35.8**	**-1.2**
MK31	0.3nm,0.5s,baz=184,slow=24,SNR=3.6			⇓Lg	Lg	09 39 26.4	
	1.8nm,0.6s						

WEL 19 09:36:08.7±1.1, 32°S±21°×17°8E±5°1, h343km±46km, M4.1/10, mB4.2/3, MLv4.2/10, Mw(mB)3.3/3, Error ellipse: s-maj=71.6km s-min=10.8km az=110.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.49**	**179**	P	Pn	09 37 33.8	+0.5
WMGZ				S	S	09 38 42.4	+0.6
PKGZ	**Pakihiroa**	**5.54**	**182**	P	Pn	09 37 32.3	-1.6
PKGZ				S	S	09 38 43.4	+0.5
RUGZ	**Raukumara Rang**	**5.66**	**185**	P	Pn	09 37 33.8	-1.5
RUGZ				S	S	09 38 46.2	+0.7
PUZ	**Puketiti**	**5.74**	**180**	P	Pn	09 37 34.9	-1.3
PUZ				S	S	09 38 46.5	-0.6
CNGZ	**Carnagh Statio**	**6.15**	**181**	P	Pn	09 37 42.7	+1.8
CNGZ				S	S	09 38 58.1	+2.4
RAGZ	**Rawiri**	**6.21**	**187**	P	Pn	09 37 42.9	+1.3
RAGZ				S	S	09 38 57.0	0.0
RIGZ	**Rimuhau**	**6.39**	**184**	P	Pn	09 37 44.1	+0.4
RIGZ				S	S	09 39 01.0	+0.3
MCHZ	**McNeill Hill**	**7.23**	**190**	P	Pn	09 37 55.0	+1.5
MCHZ				S	S	09 39 20.3	+1.6
KRHZ	**Kereru**	**7.47**	**192**	P	Pn	09 37 56.7	+0.3
KRHZ				S	S	09 39 26.3	+2.2
PNHZ	**Pukenui**	**7.77**	**192**	P	Pn	09 37 59.7	-0.2
PNHZ				S	S	09 39 30.8	+0.4
PXZ	**Pawanui**	**7.78**	**188**	P	Pn	09 38 00.0	0.0
PXZ				S	S	09 39 30.1	-0.6
WPHZ	**Waipukurau**	**7.87**	**191**	P	Pn	09 38 01.5	+0.4
WPHZ				S	S	09 39 32.8	0.0
TSZ	**Takapari Road**	**7.95**	**193**	P	Pn	09 38 02.1	0.0
TSZ				S	S	09 39 34.5	0.0
DVHZ	**Dannevirke**	**8.15**	**192**	P	Pn	09 38 03.8	-0.6
DVHZ				S	S	09 39 39.0	+0.3
ANWZ	**Angora Road**	**8.26**	**190**	P	Pn	09 38 05.8	+0.2
ANWZ				S	S	09 39 41.3	+0.3

STR 19 09:47:15.2±0.5, 46°N±2°×±°, h0km, MLv1.6/7, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OGSM	**Saint Maurice**	**0.30**	**108**	Pg	Pg	09 47 21.0	+0.1
OGSM				Sg	Sg	09 47 25.5	+0.7
OG35	**Corcelles**	**0.39**	**30**	Pg	Pg	09 47 23.0	+0.3
OG35				Sg	Sg	09 47 28.5	+0.7
OGMY	**Moye**	**0.45**	**67**	Pg	Pg	09 47 24.0	+0.1
OGMY				Sg	Sg	09 47 30.7	+0.9
GRN	**Grenoble**	**0.56**	**145**	Pg	Pg	09 47 26.2	+0.3
GRN				Sg	Sg	09 47 34.3	+1.1
SSB	**Saint Sauveur**	**0.68**	**231**	Pg	Pg	09 47 28.2	+0.1
SSB				Sg	Sg	09 47 37.5	+0.7

*IDC **19** 09:47:44.9±1.2, 32°.22N×139°.59E, h0km, mb3.6/3, mbtmp3.6/4, ML2.6/1, Error ellipse: s-maj=54.0km s-min=17.5km az=94.0*
*JMA **19** 09:47:50.5±0.2, 32°.7N±0°.3×14°0E±°, h61km±4km, MV3.7/38, E OFF HACHIJOJIMA ISLAND*

ISC 19 09:47:48.5±1.7, 32°.66N±0°.07×140°.7E±0°.1, h54km±15km, n24, σ1s11/29, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**0.77**	**256**	*eP*	**Pn**	**09 48 04.1**	**+0.8**
JAOM				*eS*	**Sn**	**09 48 14.5**	**+0.3**
JHCJ	**Hachijojimakas**	**0.83**	**300**	P	**Pn**	**09 48 04.5**	**+0.4**
JHCJ				*eS*	**Sn**	**09 48 14.1**	**-1.3**
JHJ2	**Mitsune**	**0.83**	**303**	P	**Pn**	**09 48 04.8**	**+0.7**
JHJ2				S	**Sn**	**09 48 15.0**	**-0.6**
JHJ	**Hachijo jima 2**	**0.86**	**303**	Pn	**Pn**	**09 48 04.8**	**+0.3**
JHJ	232nm,0.3s,baz=49,slow=20,SNR=264			Sn	**Sn**	**09 48 15.4**	**-0.8**
	2μm,0.3s,baz=316,slow=18,SNR=56						
JMKN	**Mikurajimanish**	**1.52**	**325**	P	**Pn**	**09 48 13.9**	**+0.6**
JMKN				S	**Sn**	**09 48 30.9**	**-1.0**
JMYK	**Miyake Tsubota**	**1.68**	**327**	S	**Sn**	**09 48 35.6**	**-0.1**
JKO	**Kozu shima**	**1.98**	**321**	P	**Pn**	**09 48 20.8**	**+1.2**
JKO				*eS*	**Sn**	**09 48 42.8**	**-0.4**
BSO1	**Boso 1**	**2.01**	**8**	*eP*	**Pn**	**09 48 20.2**	**+0.8**
BSO3	**Boso 3**	**2.14**	**357**	P	**Pn**	**09 48 22.6**	**+1.0**
BSO3				S	**Sn**	**09 48 45.5**	**-1.2**
JIM2	**Oshima 3**	**2.29**	**334**	P	**Pn**	**09 48 24.6**	**+0.8**
JIM2				*eS*	**Sn**	**09 48 49.3**	**-1.6**
BSO4	**Boso 4**	**2.34**	**354**	P	**Pn**	**09 48 25.6**	**+1.3**
JIZS	**Izushimoda**	**2.53**	**325**	*eP*	**Pn**	**09 48 28.6**	**+1.5**
JIZS				*eS*	**Sn**	**09 48 56.8**	**+0.1**
JOD2	**Odawara 2**	**2.91**	**334**	*eP*	**Pn**	**09 48 33.4**	**+1.2**
JOD2				*eS*	**Sn**	**09 49 04.1**	**-1.8**
JIE	**Ise**	**3.72**	**299**	*eP*	**Pn**	**09 48 44.6**	**+1.2**
MJAR	**Matsushiro Arr**	**4.37**	**333**	Pn	**Pn**	**09 48 54.7**	**+2.4**
	0.3nm,0.3s,baz=164,slow=14,SNR=7.1						
MJAR				Sn	**Sn**	**09 49 42.8**	**+0.9**
	0.2nm,0.3s,baz=162,slow=26,SNR=6.1						
	2.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**26.76**	**112**	T	T	10 22 16.5	
	baz=305,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**26.76**	**112**	T	T	10 22 18.4	
	baz=305,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**26.77**	**112**	T	T	10 22 18.8	
	baz=305,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**27.30**	**115**	T	T	10 22 58.0	
	baz=306,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**27.30**	**115**	T	T	10 22 57.3	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**27.32**	**115**	T	T	10 22 57.6	
	baz=306,slow=74,SNR=2.6						
MKAR	**Makanchi Array**	**46.03**	**306**	P	**P**	**09 56 06.0**	**-0.6**
	0.6nm,0.6s,baz=93,slow=8.8,SNR=3.0						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**52.65**	**187**	P	**P**	**09 56 56.9**	**-0.3**
	0.6nm,0.4s,baz=3.7,slow=7.4,SNR=13						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**56.38**	**187**	P	**P**	**09 57 23.9**	**-0.3**
	0.3nm,0.5s,baz=0.9,slow=6.0,SNR=9.5						
	0.3nm,0.5s						

HEL 19 10:04:43.5±0.1, 62°.09N×25°.69E, h0km, ML1.5, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAF	**Kangasniemi**	**0.29**	**84**	PG	Pg	10 04 49.0	-0.1
	baz=261						
KAF				SG	Sg	10 04 51.3	-1.6
KEF	**Keuruu**	**0.39**	**282**	PG	Pg	10 04 50.3	-0.7
KEF				SG	Sg	10 04 55.4	-0.7
FIA0	**FINESS Array S**	**0.67**	**164**	PG	Pg	10 04 55.5	-0.8
	baz=341						
FIA0				MSG		10 05 04.5	
	comp=Z,4.5nm,0.2s						
SUF	**Sumiainen**	**0.67**	**19**	PG	Pg	10 04 55.7	-0.7
	baz=194						
SUF				MSG		10 05 04.8	
	comp=Z,3.3nm,0.2s						
SUF				SG	Sg	10 05 04.9	-0.1
PVF	**Pernaja**	**1.55**	**177**	PN	Pn	10 05 12.0	-0.3
PVF				MSG		10 05 29.9	
	comp=Z,2.7nm,0.2s						
NIF	**Nilsia**	**1.63**	**36**	PG	Pn	10 05 13.3	-0.2
NIF				MSG		10 05 32.5	
	comp=Z,1.8nm,0.2s						
NIF				SN	Sn	10 05 34.9	-0.3
RUF	**Ruokolahti**	**1.69**	**112**	PG	Pb	10 05 15.2	-0.2
RUF				MSG		10 05 34.0	
	comp=Z,2.7nm,0.2s						
RUF				SN	Sn	10 05 36.2	-0.3
KPF	**Kankaanpaa**	**1.73**	**263**	PG	Pn	10 05 14.6	-0.1
KPF				MSG		10 05 35.1	
	comp=Z,4.0nm,0.2s						
KPF				SN	Sn	10 05 37.6	+0.2
VJF	**Virojoki**	**1.80**	**149**	MSG		10 05 36.9	
	comp=Z,3.0nm,0.2s						
VJF				SN	Sb	10 05 40.6	+0.4
MEF	**Metsahovi**	**1.98**	**199**	PG	Pn	10 05 19.2	+1.0
MEF				MSG		10 05 42.3	
	comp=Z,2.6nm,0.2s						
MEF				SG	Sb	10 05 45.6	+0.1
HEL5	**Espoo, Suvisaa**	**2.03**	**194**	MSG		10 05 43.6	
	comp=Z,2.9nm,0.2s						
HEL5				SG	Sb	10 05 47.3	+0.4
RAF	**Rauma**	**2.16**	**242**	PG	Pb	10 05 22.2	-1.2
RAF				MSG		10 05 47.5	
	comp=Z,3.7nm,0.2s						
RAF				SG	Sb	10 05 50.4	-0.3
TVF	**Tvarminne**	**2.54**	**209**	PG	Pb	10 05 28.2	-1.8
TVF				MSG		10 05 58.6	
	comp=Z,0.9nm,0.2s						
TVF				SG	Sb	10 06 01.6	-0.2
JOF	**Joensuu**	**2.74**	**70**	PG	Pb	10 05 32.1	-1.2
JOF				SG	Sb	10 06 06.6	-0.8
OBF4	**Vikkela, Lumij**	**2.75**	**355**	MSG		10 06 04.6	
	comp=Z,1.0nm,0.2s						
OBF4				SG	Sb	10 06 07.1	-0.6
RMF	**Romuvaara**	**2.88**	**40**	SN	Sn	10 06 04.2	-1.6
RMF				MSG		10 06 08.2	
	comp=Z,29nm,0.2s						
UMAU	**Umeaa**	**2.91**	**310**	SG	Sb	10 06 11.4	-0.9
KU1	**Kurvinen**	**3.89**	**24**	SN	Sn	10 06 28.5	-2.3
KU6	**Riekki**	**4.37**	**23**	SN	Sn	10 06 37.7	-4.7
ERTU	**Ertsjaerv**	**4.74**	**343**	SB	Sb	10 07 02.2	-2.6

*UPP **19** 10:05:53.6±2.7, 64°.49N×30°.96E, h0km, ML1.8, Presumed earthquake*
*HEL **19** 10:05:54.4±0.1, 64°.71N×30°.78E, h0km, ML1.7, Explosion*
*KOLA **19** 10:05:55.7, 64°.62N×31°.21E, h0km, ML2.0, Error ellipse: s-maj=56.1km s-min=13.2km az=160.0, Karelia*
*IDC **19** 10:05:57.1±2.5, 64°.76N×30°.14E, h0km, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=39.4km s-min=8.2km az=98.0*

ISC 19 10:05:53.7±1.0, 64°.71N±0°.03×30°.82E±0°.05, h0km, n32, σ1s37/44, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.62**	**219**	*eS*	**Sg**	**10 06 13.5**	**-0.1**
KU1	**Kurvinen**	**1.01**	**329**	*eP*	**Pg**	**10 06 12.5**	**-0.7**
KU1				*eS*	**Sg**	**10 06 25.3**	**-0.9**
KU6	**Riekki**	**1.38**	**344**	*eP*	**Pg**	**10 06 19.1**	**-1.1**
KU6				*eS*	**Sg**	**10 06 36.7**	**-1.4**
MSF	**Maaselka**	**1.42**	**329**	*eP*	**Pn**	**10 06 19.7**	**-1.1**
MSF				*eS*	**Sg**	**10 06 37.9**	**-1.5**
KU2	**Taivalkoski**	**1.49**	**314**	*eP*	**Pn**	**10 06 20.5**	**-1.2**
KU2				*eS*	**Sg**	**10 06 39.3**	**-2.1**
JOF	**Joensuu**	**1.81**	**173**	*eP*	**Pn**	**10 06 26.2**	**+0.2**
JOF				*eS*	**Sn**	**10 06 49.8**	**+0.1**
JOF				MSG		10 06 52.9	
	comp=Z,6.5nm,0.1s						
NIF	**Nilsia**	**1.87**	**226**	*eP*	**Pn**	**10 06 27.1**	**+0.2**
NIF				*eS*	**Sn**	**10 06 51.0**	**-0.2**
NIF				MSG		10 06 54.1	
	comp=Z,3.2nm,0.1s						
OUL	**Oulu**	**2.13**	**283**	*eP*	**Pn**	**10 06 31.1**	**+0.6**
OUL				*eS*	**Sn**	**10 06 57.6**	**0.0**
OUL				MSG		10 07 07.7	
	comp=Z,4.1nm,0.1s						
RANF	**Ranua**	**2.14**	**310**	SN	**Pn**	**10 06 31.3**	**+0.7**
RANF	**Ranua**	**2.14**	**310**	*e*PB	**Pn**	**10 06 31.3**	**+0.7**
RANF				*e*SB	**Sn**	**10 06 58.7**	**+0.8**
KVDA	**Kovda**	**2.17**	**22**	P	**Pn**	**10 06 31.2**	**+0.2**
KVDA				S	**Sb**	**10 07 01.7**	**+0.6**
APA	**Apatity**	**3.06**	**19**	S	**Sn**	**10 07 22.0**	**+1.4**
KALU	**Kalix**	**3.34**	**294**	P	**Pn**	**10 06 48.6**	**+1.4**
LVZ	**Lovozero**	**3.56**	**24**	S	**Sn**	**10 07 33.9**	**+1.0**
FINES	**FINESS Array B**	**3.92**	**216**	Pn	**Pn**	**10 06 55.5**	**+0.4**
	comp=Z,0.1nm,0.3s,ba

comp=Z,0.4nm,0.4s
VADS Vadso 5.47 355 S **Sn** **10 08 19.9 +0.1**
RATU Laukkuluspa 5.51 310 P **Pn** **10 07 18.6 +1.7**
KOVU Salmi 5.54 314 P **Pn** **10 07 19.1 +1.7**
SALU Saltoluokta 5.69 304 P **Pn** **10 07 20.1 +0.8**
NIKU Nikkaluokta 5.71 309 P **Pn** **10 07 20.6 +1.0**
I37NO I37NO 6.50 318 I I 10 43 50.0
baz=127,slow=318,SNR=3.1
FAUS Fauske 6.86 300 S **Sn** **10 08 55.8 +1.6**
HFS Hagfors 9.15 248 Pn **Pn** **10 08 04.8 -2.1**
comp=Z,0.1nm,0.3s,baz=54,slow=13,SNR=1.5
comp=Z,1.2nm,0.8s

*NEIC **19** 10:19:27.3±0.4, 19°.20N±0°.02×155°.49W±0°.03, h38km±1km, Error ellipse: s-maj=4.6km s-min=2.8km az=126.0*
HVO 19 10:19:28.2±0.9,**19°.16N**±0°.03×**155°.46W**±0°.03,**h35**km,
ML2.5/38,**ML2.6**/40(NEIC),**Error ellipse: s-maj=5.0km s-min=2.6km az=129.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**34**		Pn	10 19 33.9	-0.4
HPO	**Honuapo**	**0.12**	**235**		Pn	10 19 33.8	-3.4
HPO				Sn	Sn	10 19 36.9	-8.0
KHU	**Kahuku**	**0.18**	**301**		Pn	10 19 34.2	-2.4
HLP	**Hilina Pali**	**0.20**	**45**		Pn	10 19 34.5	-1.7
HLP					Sn	10 19 39.4	-3.5
HLP	**Hilina Pali**	**0.20**	**45**	IAML		10 19 40.9	
	comp=N,743nm,0.2s						
HLP				IAML		10 19 42.0	
	comp=E,731nm,0.5s						
AIN	**Ainahou**	**0.21**	**359**		Pn	10 19 34.7	-1.5
AIN					Sn	10 19 39.5	-3.3
AIN	**Ainahou**	**0.21**	**359**	IAML		10 19 39.7	
	comp=E,2µm,0.3s						
AIN				IAML		10 19 40.2	
	comp=N,1µm,0.4s						
SDHHI	**Sand Hill**	**0.28**	**33**		Pn	10 19 35.0	-1.3
SDHHI					Sn	10 19 40.1	-2.5
WRMHI	**West Rim**	**0.29**	**30**		Pn	10 19 35.1	-1.3
WRMHI					Sn	10 19 40.3	-2.3
RIM	**Rim**	**0.29**	**36**		Pn	10 19 35.1	-1.2
RIM					Sn	10 19 40.4	-2.2
KKO	**Keanakako'i**	**0.30**	**37**		Pn	10 19 35.2	-1.2
KKO					Sn	10 19 40.4	-2.3
UWE	**Uwekahuna**	**0.30**	**30**		Pn	10 19 35.2	-1.2
UWE					Sn	10 19 40.8	-2.0
UWE	**Uwekahuna**	**0.30**	**30**	IAML		10 19 44.7	
	comp=E,707nm,0.3s						
UWE				IAML		10 19 44.9	
	comp=N,770nm,0.3s						
OBL	**Observatory Le**	**0.31**	**32**		Pn	10 19 35.2	-1.2
PUH	**Pauahi**	**0.31**	**46**		Pn	10 19 35.3	-1.2
PUH					Sn	10 19 40.6	-2.1
PUH	**Pauahi**	**0.31**	**46**	IAML		10 19 40.8	
	comp=E,468nm,0.3s						
PUH				IAML		10 19 46.5	
	comp=N,345nm,0.6s						
BYL	**Byron's Ledge**	**0.31**	**36**		Pn	10 19 35.3	-1.2
BYL					Sn	10 19 40.7	-2.1
BYL	**Byron's Ledge**	**0.31**	**36**	IAML		10 19 45.9	
	comp=N,348nm,0.5s						
BYL				IAML		10 19 50.6	
	comp=E,392nm,0.4s						
UWB	**Uwekahuna Bluf**	**0.32**	**32**		Pn	10 19 35.2	-1.3
UWB					Sn	10 19 40.3	-2.5
SBLHI	**Steaming Bluff**	**0.32**	**33**		Pn	10 19 35.3	-1.3
SBLHI					Sn	10 19 40.6	-2.3
HATHI	**Halema'uma'u T**	**0.32**	**35**		Pn	10 19 35.3	-1.3
HATHI					Sn	10 19 40.8	-2.1
HATHI	**Halema'uma'u T**	**0.32**	**35**	IAML		10 19 41.1	
	comp=E,519nm,0.4s						
HATHI				IAML		10 19 41.1	
	comp=N,352nm,0.7s						
MLH	**Mauna Loa**	**0.34**	**11**		Pn	10 19 35.8	-1.1
MLH					Sn	10 19 41.3	-2.1
MLH	**Mauna Loa**	**0.34**	**11**	IAML		10 19 41.7	
	comp=N,552nm,0.4s						
MLH				IAML		10 19 41.7	
	comp=E,531nm,0.3s						
RSD	**Rainshed**	**0.35**	**29**		Pn	10 19 35.6	-1.3
RSD					Sn	10 19 41.0	-2.3
KNHH	**Kane Nui o Ham**	**0.35**	**50**		Pn	10 19 35.8	-1.1
MWH	**Mokuaweoweo**	**0.35**	**338**	Pn	Pn	10 19 35.8	-1.5
MWH	**Mokuaweoweo**	**0.35**	**338**		Sn	10 19 41.9	-2.2
STCH	**Steam Cracks**	**0.39**	**54**		Pn	10 19 36.1	-1.1
STCH					Sn	10 19 41.9	-1.9
STCH	**Steam Cracks**	**0.39**	**54**	IAML		10 19 42.6	
	comp=E,292nm,0.3s						
STCH				IAML		10 19 49.9	
	comp=N,192nm,0.5s						
NPOC	**North of Pu'u**	**0.40**	**54**		Pn	10 19 36.3	-1.2
NPOC					Sn	10 19 42.3	-1.8
JCUZ	**Jacuzzi**	**0.40**	**56**		Pn	10 19 36.5	-1.0
JCUZ					Sn	10 19 42.4	-1.7
ALEP	**Alea Permanent**	**0.42**	**335**		Pn	10 19 36.4	-1.7
HMH	**Humu'ula Sheep**	**0.45**	**357**		Pn	10 19 37.2	-1.1
HMH					Sn	10 19 44.0	-1.4
HMH	**Humu'ula Sheep**	**0.45**	**357**	IAML		10 19 44.1	
	comp=N,676nm,0.3s						
HMH				IAML		10 19 44.8	
	comp=E,457nm,0.3s						
JOKA	**Jonika Flow**	**0.51**	**57**		Pn	10 19 37.5	-1.5
JOKA					Sn	10 19 44.3	-2.2
JOKA	**Jonika Flow**	**0.51**	**57**	IAML		10 19 44.8	
	comp=E,277nm,0.4s						
JOKA				IAML		10 19 48.7	
	comp=N,304nm,0.3s						
CPH	**Captain Cook**	**0.55**	**307**		Pn	10 19 37.6	-2.0
POHA	**Pohakuloa**	**0.60**	**353**		Pn	10 19 38.6	-2.0
POHA					Sn	10 19 46.1	-3.1
HUH	**Hualalai**	**0.64**	**326**		Pn	10 19 39.4	-1.7
HUH					Sn	10 19 48.4	-1.7
HUH	**Hualalai**	**0.64**	**326**	IAML		10 19 52.1	
	comp=N,370nm,0.2s						
HUH				IAML		10 20 00.6	
	comp=E,288nm,0.3s						
HPAH	**Hawaii Prepara**	**0.90**	**345**		Pn	10 19 42.3	-2.1

*TRN **19** 10:45:30.8, 10°.46N×62°.72W, h24km, MD4.3, Gulf of Paria.*
*IDC **19** 10:45:30.5±0.7, 10°.94N×62°.66W, h0km, mb3.9/13, mbtmp4.0/16, ML3.4/3, MS3.2/14, Error ellipse: s-maj=19.9km s-min=16.3km az=142.0*
*FUNV **19** 10:45:31.5, 10°.58N×62°.68W, h4km, MW4.0*
*NEIC **19** 10:45:31.7±1.9, 10°.50N±0°.06×62°.69W±0°.08, h10km±1km, mb4.6/36, Error ellipse: s-maj=13.3km s-min=10.5km az=112.0*
ISC 19 10:45:30.7±1.3,**10°.57N**±0°.04×**62°.72W**±0°.03,**h9**km±9km,
n112,σ1§62/122,**mb4.5**/29,**MS3.1**/11,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.16**	**83**	*eP*	**Pb**	**10 45 51.8**	**-1.1**
DMDM				*eS*	**Sb**	**10 46 07.6**	**-0.4**
PSMG	**Mucurapo Girls**	**1.17**	**85**	*eP*	**Pb**	**10 45 51.7**	**-1.4**
PSMG				x	**Sb**	**10 46 08.8**	**+0.4**
PSKH	**Kent House, Po**	**1.18**	**84**	*eP*	**Pb**	**10 45 52.1**	**-1.2**
PSKH				x	**Sb**	**10 46 08.8**	**0.0**
PSQC	**Port of Spain**	**1.19**	**85**	*eP*	**Pb**	**10 45 52.6**	**-0.8**
PSQC				x	**Sb**	**10 46 08.1**	**-0.7**
PSNL	**Port of Spain**	**1.19**	**86**	*eP*	**Pb**	**10 45 52.5**	**-1.0**
PSNL				x	**Sb**	**10 46 09.1**	**+0.1**
PSGH	**Port of Spain**	**1.20**	**85**	*eP*	**Pb**	**10 45 52.1**	**-1.4**
PSGH				x	**Sb**	**10 46 08.9**	**-0.2**
TRN	**Trinidad (W)**	**1.30**	**86**	*eP*	**Pn**	**10 45 54.6**	**-0.4**
TRN				x	**Sb**	**10 46 11.1**	**-1.0**
GRFF	**Grenada Fort F**	**1.76**	**33**	*eP*	**Pn**	**10 46 01.8**	**+0.3**
GRFF				x	**Sb**	**10 46 25.2**	**-0.2**
GRGR	**Grenville**	**1.88**	**34**		**Pn**	**10 46 03.7**	**+0.7**
GRGR	**Grenville**	**1.88**	**34**	*eP*	**Pn**	**10 46 03.1**	**+0.1**
GRW	**Mount Saint Ca**	**1.89**	**33**	*eP*	**Pb**	**10 46 04.5**	**-1.0**
GRW				x	**Sg**	**10 46 33.1**	**+1.4**
PCRV	**Puerto La Cruz**	**1.93**	**259**	Pn	**Pg**	**10 46 07.3**	**-0.3**
	28nm,0.3s,baz=106,slow=2.9,SNR=470						
PCRV				Sn	**Sg**	**10 46 32.4**	**-0.2**
	82nm,0.3s,baz=21,slow=2.9,SNR=7.9						
	819nm,0.4s						
PCRV	**Puerto La Cruz**	**1.93**	**259**	*eP*	**Pn**	**10 46 04.5**	**+0.8**
PCRV				*eS*	**Sn**	**10 46 28.7**	**+0.6**
PCRV	**Puerto La Cruz**	**1.93**	**259**	*eP*	**Pn**	**10 46 02.7**	**-1.0**
PCRV				x	**Sg**	**10 46 32.4**	**-0.2**
GRSS	**Sisters**	**2.04**	**32**	*eP*	**Pn**	**10 46 06.4**	**+1.2**
GRSS				x	**Sb**	**10 46 33.2**	**-0.1**
GCMP	**Grenada, Carri**	**2.29**	**33**	*eP*	**Pn**	**10 46 09.9**	**+1.2**
GCMP				x	**Sn**	**10 46 38.5**	**+1.4**
SVB	**Belmont**	**3.05**	**28**	*eP*	**Pn**	**10 46 19.4**	**+0.2**
SVB				x	**Sn**	**10 46 57.5**	**+1.6**
SLBI	**Saint Lucia, B**	**3.84**	**26**	*eP*	**Pn**	**10 46 29.7**	**-0.2**
SLBI				x	**Sn**	**10 47 14.2**	**-1.0**
FUNV	**FUNVISIS**	**4.02**	**269**	*eP*	**Pn**	**10 46 33.4**	**+0.8**
FUNV				*eS*	**Sn**	**10 47 18.8**	**-1.2**
BIM	**Bigot**	**4.24**	**22**		**Pn**	**10 46 36.4**	**+0.7**
BIM	**Bigot**	**4.24**	**22**	*eP*	**Pn**	**10 46 35.4**	**-0.2**
BIM				x	**Sn**	**10 47 23.3**	**-2.0**
TACV	**Tcata**	**4.26**	**265**	*eP*	**Pn**	**10 46 36.4**	**+0.5**
TACV				*eS*	**Sn**	**10 47 24.4**	**-1.4**
MPOM	**Morne Pois Mar**	**4.26**	**25**		**Pn**	**10 46 36.5**	**+0.6**
FDF	**Fort de France**	**4.42**	**20**		**Pn**	**10 46 38.6**	**+0.6**
SVN	**Savane Anatole**	**4.51**	**19**		**Pn**	**10 46 41.0**	**+1.7**
SVN	**Savane Anatole**	**4.51**	**19**	*eP*	**Pn**	**10 46 40.0**	**+0.7**
SVN				x	**Sn**	**10 47 32.6**	**+0.6**
ILAM	**Ilet Lapin Mar**	**4.55**	**23**	*eP*	**Pn**	**10 46 40.6**	**+0.7**
ILAM				x	**Sn**	**10 47 29.9**	**-3.0**
CACV	**CAICARA DEL OR**	**4.81**	**232**	*eP*	**Pn**	**10 46 38.7**	**-4.7**
CACV				*eS*	Sn	10 47 28.4	-11
BENV	**Beln**	**4.84**	**263**	*eP*	**Pn**	**10 46 44.4**	**+0.5**
BENV				*eS*	**Sn**	**10 47 38.2**	**-1.9**
DLDT	**Laudat, Domini**	**4.92**	**16**	*eP*	**Pn**	**10 46 46.0**	**+1.0**
DSLB	**Salisbury**	**5.00**	**15**	*eP*	**Pn**	**10 46 45.5**	**-0.6**
DWS	**Wesley**	**5.16**	**15**	*eP*	**Pn**	**10 46 51.5**	**+3.4**
TBG	**Guadeloupe-3**	**5.36**	**11**	*eP*	**Pn**	**10 46 52.6**	**+1.7**
BAUV	**El Baul**	**5.49**	**253**		**Pn**	**10 46 52.5**	**-0.2**
BAUV	**El Baul**	**5.49**	**253**	*eP*	**Pn**	**10 46 52.7**	**0.0**
BAUV				*eS*	**Sn**	**10 47 52.9**	**-3.1**
BAUV	**El Baul**	**5.49**	**253**	*eP*	**Pn**	**10 46 51.6**	**-1.1**
MMLZ	**Guadeloupe Bro**	**5.54**	**11**	*eP*	**Pn**	**10 46 53.7**	**+0.3**
MMLZ				x	**Sn**	**10 47 56.2**	**-1.0**
CBE	**Ff, Capester**	**5.58**	**11**		**Pn**	**10 46 55.4**	**+1.4**
ATGZ	**Broadband at L**	**5.58**	**10**	*eP*	**Pn**	**10 46 54.4**	**+0.5**
ATGZ				x	**Sn**	**10 47 57.4**	**-0.8**
DHSZ	**Broadband at M**	**5.75**	**9**	*eP*	**Pn**	**10 46 56.5**	**+0.3**
DHSZ				x	**Sn**	**10 48 02.0**	**-0.3**
GDHS	**Morne Mazeau,**	**5.75**	**9**		**Pn**	**10 46 58.4**	**+2.1**
DSDZ	**La Diserade, G**	**5.93**	**16**	*eP*	**Pn**	**10 46 59.2**	**+0.4**
DSDZ				x	**Sn**	**10 48 06.4**	**-0.6**
GDSD	**La Dsirade Is**	**5.93**	**16**		**Pn**	**10 46 59.2**	**+0.3**
MLYT	**Lee's Yard**	**6.14**	**5**	*eP*	**Pn**	**10 47 02.8**	**+1.1**
MLYT				x	**Sn**	**10 48 05.7**	**-6.9**
MBWH		**6.16**	**5**	x	Sn	10 48 02.7	-10
MBFL	**Flemmings, Mon**	**6.17**	**5**	*eP*	**Pn**	**10 47 02.5**	**+0.5**
SKOC	**St. Kitts, UWI**	**6.69**	**360**	*eP*	**Pn**	**10 47 10.6**	**+1.4**
SKI	**Saint Kitts**	**6.73**	**360**	*eP*	**Pn**	**10 47 10.6**	**+0.9**
SDV	**Santo Domingo**	**7.98**	**259**	Pn	**Pn**	**10 47 29.6**	**+2.5**
	5.3nm,0.3s,baz=24,slow=8.7,SNR=3.5						
SDV				Sn	**Sn**	**10 48 53.5**	**-4.2**
	3.5nm,0.3s,baz=328,slow=11,SNR=5.0						
SDV				Lg	Lg	10 49 51.4	
	baz=326,slow=14						
	13nm,3s						
SJG	**San Juan**	**8.20**	**336**	LR	LR	10 50 45.5	
	comp=Z,53nm,18.7s,baz=142,slow=40						
BOAV	**Boa Vista**	**8.41**	**165**		**Pn**	**10 47 32.6**	**-0.2**
UUPR	**Utuado, UPR, P**	**8.57**	**334**		**Pn**	**10 47 35.1**	**+0.1**
AOPR	**Arecibo Observ**	**8.66**	**334**		**Pn**	**10 47 37.2**	**+0.8**
AGPR	**Aguadilla, PR**	**8.93**	**332**	Pn	**Pn**	**10 47 41.3**	**+1.4**
DR12	**Loma Pena Alta**	**10.40**	**323**		**Pn**	**10 48 02.1**	**+1.8**
BANI	**BANI**	**10.73**	**317**	Pn	**Pn**	**10 48 06.7**	**+1.9**
RUSC	**La Rusia**	**11.26**	**246**		**Pn**	**10 48 10.6**	**-1.8**
MDP	**Montagnes des**	**11.36**	**118**	Pn	**Pn**	**10 48 12.3**	**-1.1**
	0.7nm,0.3s,baz=304,slow=11,SNR=8.0						
MDP				Sn	Sn	10 50 07.4	-13
	1.5nm,0.3s,baz=63,slow=15,SNR=4.9						
MDP				LR	LR	10 53 05.8	
	comp=Z,83nm,20.9s,baz=276,slow=40						
SDDR	**Presa de Saban**	**11.77**	**316**		**Pn**	**10 48 20.0**	**+1.0**
ROSC	**El Rosal**	**12.82**	**245**	Pn	**Pn**	**10 48 37.0**	**+3.3**
	2.1nm,0.3s,baz=133,slow=23,SNR=2.1						
ROSC				Lg	Lg	10 52 28.4	
	1.5nm,0.3s,baz=232,slow=24,SNR=2.1						
ROSC				LR	LR	10 53 48.1	
	comp=Z,499nm,20.5s,baz=43,slow=38						
	7.1nm,0.4s						
FLOC	**Florencia**	**15.64**	**236**	P	**P**	**10 49 13.6**	**-2.2**
TBTG	**Tabatinga, AM**	**16.31**	**206**	P	**P**	**10 49 22.6**	**-0.5**
TBTG				IAmb	IAmb	10 49 25.9	
	comp=Z,27nm,0.6s						
CZSB	**Cruzeiro do Su**	**20.72**	**209**	P	**P**	**10 50 12.2**	**+0.6**
LCR2	**La Lucha 2**	**20.97**	**270**	P	Pn	10 50 16.3	-0.9
JTS	**Las Juntas de**	**21.87**	**271**	LR	LR	10 59 41.1	
	comp=Z,52nm,19.2s,baz=62,slow=39						
ATAH	**Atahualpa**	**23.51**	**222**	LR	LR	11 02 39.1	
	comp=Z,96nm,19.0s,baz=32,slow=43						
LPAZ	**La Paz**	**27.21**	**191**	P	**P**	**10 51 15.4**	**-0.4**
LPAZ	**La Paz**	**27.21**	**191**	P	**P**	**10 51 20.4**	**+4.6**
	comp=Z,2.1nm,0.7s,baz=5.9,slow=4.8,SNR=9.6						
LPAZ				LR	LR	11 04 21.6	
	comp=Z,38nm,19.6s,baz=324,slow=41						
	comp=Z,2.1nm,0.7s						
PB16	**IPOC Station P**	**29.49**	**193**	P	**P**	**10 51 35.9**	**-0.1**
PB16				IAmb	IAmb	10 51 41.7	
	comp=Z,5.9nm,0.6s						
BDFB	**Brasilia**	**29.84**	**151**	LR	LR	11 05 10.4	
	comp=Z,52nm,18.7s,baz=340,slow=39						
RCBR	**Riachuelo**	**31.28**	**120**	LR	LR	11 04 52.3	
	comp=Z,14nm,18.5s,baz=258,slow=37						
CMIG	**Matias Romero**	**31.87**	**285**	LR	LR	11 05 41.2	
	comp=Z,41nm,18.2s,baz=103,slow=38						
GO02	**Mina Guanaco**	**36.14**	**191**		**P**	**10 52 32.3**	**-1.4**
HBVL	**Hebbronville**	**37.60**	**301**		**P**	**10 52 47.7**	**+1.7**
833A	**Chaparral WMA,**	**38.62**	**302**	P	**P**	**10 52 56.2**	**+1.6**
833A				IAmb	IAmb	10 53 01.0	
	comp=Z,12nm,0.8s						
BRDY	**Brady**	**39.40**	**307**		**P**	**10 53 02.2**	**+1.2**
WMOK	**Wichita Mounta**	**40.72**	**312**	P	**P**	**10 53 16.4**	**+4.4**
SAND	**Sanderson**	**41.42**	**304**	P	**P**	**10 53 19.6**	**+1.7**
POST	**Post**	**42.05**	**308**		**P**	**10 53 23.1**	**+0.1**
POST				IAmb	IAmb	10 53 29.4	
	comp=Z,9.7nm,0.8s						
TXAR	**Lajitas Array**	**42.50**	**302**	P	**P**	**10 53 27.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=114,slow=9.0,SNR=6.9						
	comp=Z,0.9nm,0.8s						
HPIG		**43.56**	**298**		**P**	**10 53 36.2**	**+0.7**
VHRN	**Van Horn**	**44.03**	**304**	P	**P**	**10 53 39.8**	**+0.6**
RTBA	**Rita Blanca**	**44.36**	**312**	P	**P**	**10 53 44.2**	**+2.5**
RTBA				IAmb	IAmb	10 53 47.6	
	comp=Z,6.9nm,0.7s						
ANMO	**Albuquerque**	**46.57**	**309**	LR	LR	11 16 20.6	
	comp=Z,20nm,18.1s,baz=176,slow=40						
ULM	**Lac du Bonnet**	**48.08**	**332**	P	**P**	**10 54 09.7**	**-0.9**
	comp=Z,5.7nm,1.1s,baz=115,slow=7.7,SNR=6.7						
	comp=Z,5.7nm,1.1s						
PLCA	**Paso Flores**	**51.55**	**188**	P	**P**	**10 54 41.2**	**+4.0**
	comp=Z,2.3nm,1.0s,baz=22,slow=7.7,SNR=4.0						
PLCA				LR	LR	11 17 08.7	
	comp=Z,38nm,20.0s,baz=1.0,slow=37						
	comp=Z,2.3nm,1.0s						
PDAR	**Pinedale Array**	**51.79**	**317**	P	**P**	**10 54 38.1**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=116,slow=9.2,SNR=8.1						
PDAR				LR	LR	11 17 44.9	
	comp=Z,21nm,19.5s,baz=72,slow=38						
	comp=Z,0.6nm,0.7s						
YHL	**Hebgen Lake**	**53.71**	**319**		**P**	**10 54 54.6**	**+1.1**
YHL				IAmb	IAmb	10 55 01.0	
	comp=Z,3.3nm,0.6s						
NVAR	**Mina Array Bea**	**56.68**	**309**	P	**P**	**10 55 15.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=83,slow=6.3,SNR=9.4						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**62.95**	**81**	P	**P**	**10 55 58.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=290,slow=7.0,SNR=4.7						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**63.70**	**336**	P	**P**	**10 56 02.1**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=135,slow=11,SNR=9.1						
	comp=Z,1.1nm,0.7s						
NB2	**NORSAR Subarra**	**73.05**	**29**	P	P	10 57 07.1	+6.1
	comp=Z,0.7nm,0.6s,baz=262,slow=6.2						
NOA	**NORSAR Array B**	**73.05**	**29**	P	**P**	**10 57 00.8**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=263,slow=5.9,SNR=4.1						
NOA				LR	LR	11 25 27.4	
	comp=Z,8.4nm,19.2s,baz=290,slow=33						
	comp=Z,0.4nm,0.7s						
I30M	**Mount Dempster**	**73.63**	**335**	IAmb	IAmb	10 57 09.9	
	comp=Z,4.1nm,0.7s						
HFS	**Hagfors**	**74.14**	**30**	P	**P**	**10 57 07.5**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=259,slow=6.9,SNR=2.6						
	comp=Z,2.3nm,0.8s						
I29M	**Ogilvie Camp,**	**74.45**	**335**	IAmb	IAmb	10 57 13.8	
	comp=Z,3.5nm,0.7s						
DAWY	**Dawson**	**74.73**	**334**	P	**P**	**10 57 11.1**	**+0.3**
DAWY				IAmb	IAmb	10 57 17.3	
	comp=Z,3.2nm,0.6s						
I28M	**Miner Creek**	**75.14**	**335**	IAmb	IAmb	10 57 27.6	
	comp=Z,7.8nm,1.5s						
E28M	**Babbage River**	**75.42**	**338**	IAmb	IAmb	10 57 18.5	
	comp=Z,3.5nm,0.6s						
I26K	**Coal Creek Min**	**76.47**	**335**	IAmb	IAmb	10 57 25.1	
	comp=Z,3.1nm,0.6s						
J26L	**Joseph Creek**	**76.59**	**334**	IAmb	IAmb	10 57 27.1	
	comp=Z,2.5nm,0.6s						
SCRK	**Sand Creek**	**76.74**	**333**	P	**P**	**10 57 23.6**	**+1.2**
G26K	**Porcupine Rive**	**76.84**	**336**	IAmb	IAmb	10 57 28.1	
	comp=Z,3.0nm,0.6s						
PRP	**Porcupine Dome**	**77.47**	**335**	IAmb	IAmb	10 57 31.3	
	comp=Z,3.9nm,0.6s						
IL31		**78.03**	**334**	P	**P**	**10 57 30.1**	**+0.7**
ILAR	**Eielson Array**	**78.03**	**334**	P	**P**	**10 57 27.7**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=94,slow=4.9,SNR=11						
ILAR				LR	LR	11 34 31.4	
	comp=Z,34nm,18.5s,baz=264,slow=38						
	comp=Z,0.4nm,0.5s						
CCB	**Clear Creek Bu**	**78.42**	**334**	IAmb	IAmb	10 57 37.4	
	comp=Z,1.9nm,0.5s						
H24K	**Noodor Dome**	**78.45**	**335**	P	**P**	**10 57 33.7**	**+1.8**
H24K				IAmb	IAmb	10 57 36.8	
	comp=Z,2.5nm,0.6s						
FINES	**FINESS Array B**	**80.23**	**29**	P	**P**	**10 57 39.5**	**-2.1**
	comp=Z,6.2nm,1.1s,baz=262,slow=5.7,SNR=3.4						
	comp=Z,6.2nm,1.1s						
CAST	**Castle Rocks**	**80.35**	**333**	P	**P**	**10 57 40.9**	**-1.3**
CAST				IAmb	IAmb	10 57 46.5	
	comp=Z,3.1nm,0.6s						
BRTR	**Keskin Array B**	**88.17**	**50**	P	**P**	**10 58 23.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=270,slow=6.9,SNR=3.3						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**145.95**	**32**	PKPbc	**PKPab**	**11 05 12.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=327,slow=3.8,SNR=4.2						

*TAP **19** 11:08:23.7, 24°.46N×122°.67E, h83km, ML3.7, B*
*JMA **19** 11:08:23.9±0.1, 24°.41N±1°×122°.67E±0°.4, h81km±1km, MV2.6/15, NW OFF ISHIGAKIJIMA IS*
ISC 19 11:08:23.5±1.2,**24°.41N**±0°.03×**122°.67E**±0°.02,**h86**km±6km,
n135,σ1§02/227,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**81**	P	**Pn**	**11 08 36.2**	**0.0**
JYNG				S	**Sn**	**11 08 45.3**	**-0.4**
YOJ	**Yonaguni jima**	**0.31**	**81**	P	**Pn**	**11 08 36.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.31**	**81**	S	**Sn**	**11 08 45.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.31**	**81**	P	**Pn**	**11 08 36.5**	**0.0**
YOJ				S	**Sn**	**11 08 45.6**	**-0.6**
YOJ	**Yonaguni jima**	**0.31**	**81**	P	**Pn**	**11 08 36.5**	**0.0**
YOJ				S	**Sn**	**11 08 45.5**	**-0.8**
EOS3	**EOS3**	**0.35**	**249**	P	**Pn**	**11 08 37.4**	**+0.9**
EOS3				*eS*	**Sn**	**11 08 47.9**	**+1.7**
EOS2	**EOS2**	**0.40**	**271**	P	**Pn**	**11 08 37.5**	**+0.6**
EOS2				*eS*	**Sn**	**11 08 47.9**	**+1.0**
EOS4	**EOS4**	**0.43**	**228**	*eP*	**Pn**	**11 08 37.3**	**+0.4**
EOS4				*eS*	**Sn**	**11 08 47.8**	**+0.9**
ESAO	**Su ao**	**0.77**	**282**	*eP*	**Pn**	**11 08 40.3**	**-0.1**
ESAO				*eS*	**Sn**	**11 08 52.4**	**-0.6**
TWC	**Suao**	**0.77**	**285**	P	**Pn**	**11 08 40.2**	**-0.2**
TWC				*eS*	**Sn**	**11 08 52.2**	**-0.9**
EGS		**0.80**	**303**	*eP*	**Pn**	**11 08 40.7**	**0.0**
EWUT	**Wuta**	**0.81**	**272**	*eP*	**Pn**	**11 08 40.8**	**0.0**
EWUT				*eS*	**Sn**	**11 08 53.6**	**-0.2**
ENA	**Nanau**	**0.85**	**271**	P	**Pn**	**11 08 41.2**	**0.0**
ENA				*eS*	**Sn**	**11 08 54.6**	**+0.1**
EAHA	**Aohua**	**0.85**	**265**	*eP*	**Pn**	**11 08 41.3**	**0.0**
EAHA				*eS*	**Sn**	**11 08 54.7**	**+0.2**
NTC	**Toucheng**	**0.88**	**300**	*eP*	**Pn**	**11 08 41.7**	**+0.1**
ILA	**Ilan**	**0.91**	**293**	*eP

HGSD				eS		Sn	11 09 07.0	-0.6
WUSB	**Renai**		1.48 254	P		Pn	11 08 49.3	+0.4
JISG	**Ishigakijimahi**		1.50 83	P		Pn	11 08 49.2	+0.1
JISG				S		Sn	11 09 07.9	-0.6
EHYH	**Wanrong**		1.52 233	eP		Pn	11 08 49.7	+0.4
EHYH				eS		Sn	11 09 08.2	-0.7
LIOB	**Emei**		1.53 279	eP		Pn	11 08 50.2	+0.8
LIOB				eS		Sn	11 09 09.9	+0.8
EHY	**Hungye**		1.53 234	eP		Pn	11 08 49.3	-0.2
EHY				eS		Sn	11 09 07.8	-1.3
NSTT	**Nanjuang**		1.54 278	eP		Pn	11 08 50.0	+0.5
NSTT				eS		Sn	11 09 09.9	+0.6
VWDT	**VWDT**		1.54 245	P		Pn	11 08 50.1	+0.4
VWDT				S		Sn	11 09 09.3	-0.1
ECBN	**Changbin**		1.56 226	eP		Pn	11 08 50.0	+0.1
ECBN				eS		Sn	11 09 09.0	-0.8
WHP	**Taichung City**		1.58 265	P		Pn	11 08 51.5	+1.3
WHP				eS		Sn	11 09 11.6	+1.2
YULB	**Yu-li**		1.62 231	P		Pn	11 08 50.6	0.0
YULB	**Yu-li**		1.62 231	S		Sn	11 09 10.6	-0.5
YULB	**Yu-li**		1.62 231	P		Pn	11 08 50.5	-0.2
YULB				eS		Sn	11 09 09.8	-1.3
TWF1	**Yuli**		1.64 230	P		Pn	11 08 51.0	0.0
TWF1				eS		Sn	11 09 10.8	-0.9
WCS	**Beigang Elemen**		1.65 258	eP		Pn	11 08 51.8	+0.8
CHKH	**Chenggong**		1.69 224	eP		Pn	11 08 51.0	-0.5
CHKH				eS		Sn	11 09 10.7	-2.0
SSLB	**Suanglung**		1.69 249	P		Pn	11 08 52.1	+0.5
SSLB	**Suanglung**		1.69 249	S		Sn	11 09 12.3	-0.5
SSLB	**Suanglung**		1.69 249	eP		Pn	11 08 52.0	+0.5
SSLB				eS		Sn	11 09 12.3	-0.5
SMLT	**Sun Moon Lake**		1.70 252	eP		Pn	11 08 52.6	+0.8
SMLT				eS		Sn	11 09 14.4	+1.2
NMLH	**Miaoli**		1.72 275	eP		Pn	11 08 52.7	+0.8
NMLH				eS		Sn	11 09 14.1	+0.6
TYC	**Yuchr**		1.73 253	eP		Pn	11 08 53.1	+1.1
TYC				eS		Sn	11 09 14.8	+1.1
NSY	**Sanyi**		1.74 271	eP		Pn	11 08 54.0	+1.7
NSY				eS		Sn	11 09 15.8	+1.8
FULB	**Fuli**		1.75 227	eP		Pn	11 08 52.0	-0.3
FULB				eS		Sn	11 09 13.6	-0.6
CHKT	**Chengkung**		1.77 223	eS		Sn	11 09 12.7	-2.0
WHYT	**Xinyi Township**		1.81 247	eP		Pn	11 08 54.0	+0.9
WHYT				eS		Sn	11 09 17.1	+1.4
EHD	**Haiduan**		1.84 227	eP		Pn	11 08 53.4	-0.1
EHD				eS		Sn	11 09 15.3	-1.0
WDJ	**Dajia District**		1.85 268	eS		Sn	11 09 17.9	+1.3
JTJ	**Tarama**		1.86 83	P		Pn	11 08 54.3	+0.6
JTJ				eS		Sn	11 09 17.1	+0.3
ECS	**Chishang**		1.87 226	eP		Pn	11 08 54.5	+0.7
ECS				eS		Sn	11 09 17.7	+0.8
WJS	**Zhushan**		1.87 252	P		Pn	11 08 56.1	+2.2
WJS				S		Sn	11 09 19.2	+2.1
WNT	**Mingjian**		1.89 254	eP		Pn	11 08 55.5	+1.3
WNT				eS		Sn	11 09 19.7	+2.2
EDH	**Donghe**		1.90 221	eP		Pn	11 08 54.2	-0.1
EDH				eS		Sn	11 09 16.2	-1.6
ALS	**Alishan**		1.93 243	eP		Pn	11 08 56.5	+1.5
ALS				eS		Sn	11 09 21.5	+2.7
ELDTW	**Lidau**		1.94 232	P		Pn	11 08 55.3	+0.3
ELDTW				S		Sn	11 09 17.9	-1.0
WCHH	**Zhanghua**		1.96 261	eS		Sn	11 09 20.3	+1.3
CHN5	**Tsauling**		2.00 246	eS		Sn	11 09 22.0	+2.0
LDUT	**Ludao**		2.05 213	P		Pn	11 08 55.8	-0.5
LDUT				eS		Sn	11 09 19.5	-1.8
LONT	**Longtian**		2.06 224	P		Pn	11 08 56.5	+0.1
LONT				eS		Sn	11 09 21.1	-0.4
WDLH	**Douliu**		2.08 250	eP		Pn	11 08 58.4	+1.8
WDLH				eS		Sn	11 09 24.7	+2.8
WCKO	**Fanlu**		2.12 243	S		Sn	11 09 24.9	+1.8
STYH	**Taoyuan**		2.13 235	P		Pn	11 08 58.7	+1.4
STYH				S		Sn	11 09 23.6	+0.5
TWGBT	**Beinan**		2.16 223	P		Pn	11 08 57.9	+0.2
TWGBT	**Beinan**		2.16 223	S		Sn	11 09 22.3	-1.5
TWGBT	**Beinan**		2.16 223	*i* P		Pn	11 08 57.1	-0.5
TWGBT				S		Sn	11 09 22.6	-1.1
TWG	**Pinlang**		2.16 223	eP		Pn	11 08 57.7	-0.1
TWG				eS		Sn	11 09 22.4	-1.5
TPUB	**Ta-pu**		2.17 240	S		Sn	11 09 24.5	+0.3
TPUB	**Ta-pu**		2.17 240	eP		Pn	11 09 00.1	+2.2
TPUB				eS		Sn	11 09 26.0	+1.8
WTK	**Tuku**		2.21 251	eP		Pn	11 08 59.0	+0.7
WTK				eS		Sn	11 09 26.2	+1.3
TWK	**Hsinying**		2.30 241	eS		Sn	11 09 29.2	+1.9
CHN1	**Nanshi**		2.31 239	eP		Pn	11 09 01.5	+1.8
CHN1				eS		Sn	11 09 29.5	+2.0
WSF	**Szhu**		2.37 252	eS		Sn	11 09 30.2	+1.4
WSL	**Shuilin Townsh**		2.40 249	eS		Sn	11 09 31.1	+1.5
JMJ	**Miyako jima 2**		2.42 80	P		Pn	11 09 02.3	+1.2
JMJ	**Miyako jima 2**		2.42 80	S		Sn	11 09 30.3	+0.3
JMJ2	**Miyako jima3**		2.44 82	P		Pn	11 09 02.4	+1.0
JMJ2				S		Sn	11 09 30.4	-0.1
SSD	**Sandimen**		2.50 229	eP		Pn	11 09 03.8	+1.5
SSD				eS		Sn	11 09 33.2	+1.2
SCST	**Cishan**		2.51 233	eP		Pn	11 09 04.5	+2.2
SCST				eS		Sn	11 09 35.8	+3.6
LAY	**Lan-yu**		2.58 204	eP		Pn	11 09 02.4	-1.0
LAY				eS		Sn	11 09 30.6	-3.3
MASBT	**Mashibuluo**		2.59 227	P		Pn	11 09 04.4	+0.9
MASBT				eS		Sn	11 09 34.6	+0.4
LYUB	**Lan-yu**		2.60 203	eP		Pn	11 09 02.5	-1.1
TAWH	**Dawu Township**		2.63 219	eP		Pn	11 09 03.9	-0.1
TSCK	**Chigu Township**		2.68 243	eS		Sn	11 09 37.5	+1.1
SCZT	**Fangliau**		2.77 223	eP		Pn	11 09 07.5	+1.7
PNG	**Penghu**		2.97 254	eS		Sn	11 09 41.9	-1.4
PHUB	**P'eng-hu**		2.97 253	eP		Pn	11 09 08.4	-0.1
PHUB				eS		Sn	11 09 41.2	-2.2
WDGT	**Dungji**		2.99 248	eP		Pn	11 09 09.1	+0.3
VWUC	**VWUC**		2.99 282	eP		Pn	11 09 08.4	-0.4
VWUC				eS		Sn	11 09 41.0	-2.7
MATB	**Ma-tsu**		3.01 306	eP		Pn	11 09 08.5	-0.6
VCHM	**Qimei**		3.20 249	eP		Pn	11 09 12.4	+0.7
VCHM				eS		Sn	11 09 48.4	-0.5
PTMZ	**Houxiangcun**		3.29 282	eP		Pn	11 09 12.3	-0.5
PTMZ				eS		Sn	11 09 48.5	-2.5
KNMB	**Chin-men Tao**		3.90 272	eP		Pn	11 09 20.8	-0.4
AXDP	**Jialang**		4.30 277	eP		Pn	11 09 26.6	0.0
AXDP				eS		Sn	11 10 12.6	-3.0

*TEH **19** 11:09:26.7, 32°.94N×46°.21E, h12km±43km*
*ISN **19** 11:09:26.5±0.5, 32°.89N×46°.11E, h5km±2km, ML3.6*

ISC 19 11:09:27.9±1.2, **32°.93N**±0°.06×**46°.17E**±0°.04, **h10**km, **n26, σ0s84/31, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**		0.27 311	*e*Pg	**Pg**	11 09 32.0	-1.4
IBDR				e**Sg**	**Sg**	11 09 36.0	-1.1
IBDR				AML	AML	11 09 41.7	
	comp=E,6μm,0.5s						
GLG1	**Gilan-e-Gharb**		1.20 350	Pg	**Pb**	11 09 49.8	-1.0
GLG1				Sg	**Sg**	11 10 06.6	0.0
IGHG	**Ghaleghazi**		1.43 13	Pg	**Pn**	11 09 53.7	-0.5
IGHG				Sg	**Sg**	11 10 16.0	+1.9
KCHF	**Cheshme Sefid,**		1.52 28	Pg	**Pn**	11 09 54.9	-0.5
BHD	**Baghdad**		1.54 283	*e*Pn	**Pn**	11 09 56.0	+0.5
BHD				e**Sn**	**Sb**	11 10 17.0	+0.8
BHD				AML	AML	11 10 34.5	
	comp=E,924nm,0.3s						
KGS1	**Ghasr-e-Shirin**		1.64 343	Pg	**Pn**	11 09 57.5	+0.6
IDHR	**Dehrash**		1.77 6	Pg	**Pn**	11 09 59.2	+0.4
IDOB	**Doab**		1.88 62	Pn	**Pn**	11 10 00.1	-0.2
IBZA	**Bozab**		2.08 42	Pn	**Pn**	11 10 03.1	0.0
SNQR	**Sonqor, Kerman**		2.27 32	Pn	**Pn**	11 10 06.0	+0.2
BDRS	**Dareh Seyedi**		2.48 65	Pn	**Pn**	11 10 08.7	0.0
IKRK	**Kirkuk**		2.89 329	*e*Pn	**Pn**	11 10 15.0	+0.9
IKRK				e**Sn**	**Sn**	11 10 51.0	+2.1
IKRK				AML	AML	11 11 12.1	
	comp=N,241nm,0.2s						
IKRK				AML	AML	11 11 18.4	
	comp=E,370nm,0.4s						
HAGD	**Aghdareh**		3.11 52	Pn	**Pn**	11 10 17.3	+0.1
HGHA	**Hamedan- Ghaye**		3.38 40	Pn	**Pn**	11 10 21.2	+0.2
MAHB	**Mahabad**		3.84 354	Pn	**Pn**	11 10 28.0	+0.7
JHBN	**Jahan bin**		3.86 99	Pn	**Pn**	11 10 27.4	-0.2
QABG	**Abgarm-Qazvin**		3.95 45	Pn	**Pn**	11 10 29.0	+0.1
IQOM	**Qom**		4.50 64	Pn	**Pn**	11 10 36.0	-0.4
KLNJ	**Kolanjah**		4.99 111	Pn	**Pn**	11 10 43.7	+0.5
IVRN	**Varamin**		5.05 64	Pn	**Pn**	11 10 43.9	+0.1
KRSH	**Karshahi**		5.09 77	Pn	**Pn**	11 10 44.6	+0.2
ISFB	**Sefidab**		5.26 73	Pn	**Pn**	11 10 46.6	0.0
IRAM	**Ramesheh**		5.37 100	Pn	**Pn**	11 10 48.2	-0.2
IDMV	**Damavand**		5.52 60	Pn	**Pn**	11 10 50.4	-0.1
DSBU	**Dashti - Bushe**		6.32 135	Pn	**Pn**	11 11 02.3	+1.1
ANAR	**Anarak**		6.35 86	Pn	**Pn**	11 11 03.3	+1.6

*CATAC **19** 11:37:01.4±0.2, 12°.N×2°.8°8W±°, h38km±3km, M5.2/55, MLv5.2/55, Error ellipse: s-maj=3.9km s-min=1.4km az=28.6, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.39; Mθθ-0.51; Mϕϕ0.11; Mrθ1.16; Mθϕ0.04; Mϕr-1.03; Fault plane solution: M0 1.62010×10^16^ NP1: ϕs129.37753°, δ83.68313°, λ100.77671°. NP2: ϕs249.40794°, δ12.47271°, λ30.62683°. Principal axes: T 1.6694, Plg50.1942°, Azm51.2965°; N -0.1036, Plg10.7105°, Azm308.1778°; P -1.5658, Plg37.7790°, Azm209.7477°; confirmed*

*IDC **19** 11:37:01.5±0.5, 12°.82N×87°.31W, h73km±4km, mb4.1/17, mbtmp4.5/21, MS3.5/50 Error ellipse: s-maj=18.2km s-min=7.4km az=55.0*

*UCR **19** 11:37:01.5±1.4, 12°.56N×87°.64W, h79km, MB4.8(NEIC)*

*SNET **19** 11:37:02.9±2.4, 12°.64N×87°.70W, h60km, ML4.8*

*NEIC **19** 11:37:02.6±1.6, 12°.56N±0°.05×87°.57W±0°.06, h79km±5km, mb4.8/432, Error ellipse: s-maj=9.3km s-min=6.5km az=50.0*

*GCMT **19** 11:37:03.6±0.4, 12°.54N±0°.02×87°.59W±0°.02, h71km±4km, MW4.8/80, Moment Tensor Solution. s22,c23; s80,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.19±.12; Mθθ-1.14±.12; Mϕϕ1.33±.13; Mrθ1.26±.05; Mθϕ-0.86±.12; Mϕr-1.34±.06; Best double couple: M0 2.32100×10^16^ NP1: ϕs212.00000°, δ39.00000°, λ-3.00000°. NP2: ϕs304.00000°, δ88.00000°, λ-129.00000°. Principal axes: T 2.6310, Plg32.0000°, Azm66.0000°; N -0.6160, Plg39.0000°, Azm306.0000°; P -2.0110, Plg35.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*GCG **19** 11:37:04.8±1.5, 12°.65N×87°.92W, h58km±57km, MD5.1, ML5.0*

ISC 19 11:37:01.0±0.4, **12°.52N**±0°.03×**87°.69W**±0°.03, **h77**km±3km, **h77**km:**pP-P, n812,** σ1s**23**/651, **mb4.8**/218, **12C-32D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	0.47	16	⇓*e*P	**Pn**	11 37 13.6	-0.7
CSGN				e**S**	**Sn**	11 37 23.0	-0.3
CSGN	**Cosiguina Volc**	0.47	16	⇓P	**Pn**	11 37 13.2	-1.1
CSGN				e**S**	**Sn**	11 37 23.9	-0.2
POTN	**Potosi Cosigui**	0.51	21	⇑*e*P	**Pn**	11 37 14.0	-0.5
POTN				e**S**	**Sn**	11 37 24.3	-0.1
POTN	**Potosi Cosigui**	0.51	21	⇓P	**Pn**	11 37 13.8	-0.7
POTN				e**S**	**Sn**	11 37 24.5	0.0
CRIN	**San Cristobal**	0.65	74	Pn	**Pn**	11 37 15.9	0.0
CRIN					**Sn**	11 37 27.9	+0.8
CRIN	**San Cristobal**	0.65	74	⇑*e*P	**Pn**	11 37 16.1	+0.1
CRIN				e**S**	**Sn**	11 37 28.0	+0.9
CRIN	**San Cristobal**	0.65	74	⇓P	**Pn**	11 37 15.9	0.0
CRIN	**San Cristobal**	0.65	74	P	**Pn**	11 37 15.9	0.0
CRIN				S	**Sn**	11 37 27.6	+0.5
CNCH	**Conchagua**	0.76	350	S	**Sn**	11 37 29.6	+0.3
CNCH	**Conchagua**	0.76	350	⇓P	**Pn**	11 37 16.8	-0.4
LCND	**La Caada**	0.80	346	S	**Sn**	11 37 30.2	+0.3
LCND	**La Caada**	0.80	346	⇓P	**Pn**	11 37 17.4	-0.2
ALEN	**Leon**	0.81	95	⇓P	**Pn**	11 37 16.3	-1.3
ALEN	**Leon**	0.81	95	S	**Sn**	11 37 28.2	-1.7
HERN	**Volcan Telica**	0.85	84		**Pn**	11 37 17.5	-0.6
HERN					**Sn**	11 37 29.7	-1.1
PLRN	**Geotermica Pol**	0.91	86	⇓P	**Pn**	11 37 18.1	-0.6
PLRN				S	**Sn**	11 37 31.3	-0.6
ROCN	**Rota Cerro Neg**	0.93	90	⇓P	**Pn**	11 37 17.9	-1.0
ROCN				S	**Sn**	11 37 32.3	-0.1
CNGN	**Cerro Negro**	0.97	91		**Pn**	11 37 19.2	-0.3
CNGN					**Sn**	11 37 32.9	-0.5
CNGN	**Cerro Negro**	0.97	91	⇓*e*P	**Pn**	11 37 19.3	-0.3
CNGN				e**S**	**Sn**	11 37 32.9	-0.5
CNGN	**Cerro Negro**	0.97	91	⇓P	**Pn**	11 37 18.9	-0.7
CNGN	**Cerro Negro**	0.97	91	P	**Pn**	11 37 19.2	-0.3
CNGN				S	**Sn**	11 37 32.9	-0.5
CNRM	**Centro Naciona**	1.05	334	*e*P	**Pn**	11 37 20.5	0.0
CNRM				e**S**	**Sn**	11 37 36.5	+1.4
CNRM	**Centro Naciona**	1.05	334	⇓P	**Pn**	11 37 20.8	+0.3
BLLM	**Bellamira**	1.06	330	*e*P	**Pn**	11 37 21.0	0.0
CHOHN	**Orocuina**	1.08	29	S	**Sn**	11 37 37.2	+1.2
CHOHN	**Orocuina**	1.08	29	⇓P	**Pn**	11 37 21.1	+0.1
PACA	**Pacayal**	1.12	327	S	**Sn**	11 37 37.7	+0.9
PACA	**Pacayal**	1.12	327	P	**Pn**	11 37 21.5	0.0
COPN	**Copaltepe**	1.13	107	⇓*i*P	**Pn**	11 37 20.7	-0.7
COPN				e**S**	**Sn**	11 37 36.5	-0.3
COPN	**Copaltepe**	1.13	107	⇓P	**Pn**	11 37 20.2	-1.2
BC84	**Volcan Momotom**	1.13	96	P	**Pn**	11 37 21.3	-0.2
BC84	**Volcan Momotom**	1.13	96	S	**Sn**	11 37 36.6	-0.2
AESN	**El Sauce Leon**	1.18	72	S	**Sn**	11 37 38.1	+0.2
AESN	**El Sauce Leon**	1.18	72	P	**Pn**	11 37 22.0	-0.1
MOM2	**El Cardon**	1.18	94	⇓P	**Pn**	11 37 21.9	-0.2
MOM2				S	**Sn**	11 37 38.4	+0.4
AMTN	**Mateare**	1.27	103	P	**Pn**	11 37 22.7	-0.4
AMTN	**Mateare**	1.27	103	S	**Sn**	11 37 39.6	-0.2
APQ3	**Volcan Apoyequ**	1.32	101	⇓P	**Pn**	11 37 23.9	+0.1
APQ3				S	**Sn**	11 37 40.2	-0.8
CAHU	**Cacacuatique**	1.34	338	*e*P	**Pn**	11 37 24.7	+0.4
APQ2	**Apoyeque**	1.38	103	P	**Pn**	11 37 24.6	+0.1
APQ2				S	**Sn**	11 37 42.4	+0.1
PQSS	**Presa 15 de Se**	1.38	322	S	**Sn**	11 37 43.8	+1.3
PQSS	**Presa 15 de Se**	1.38	322	⇑P	**Pn**	11 37 25.1	+0.4
ABCN	**Banco Central**	1.41	106	P	**Pn**	11 37 25.1	+0.2
ABCN	**Banco Central**	1.41	106	S	**Sn**	11 37 42.9	-0.3
ALLN	**Telcor Managua**	1.43	105	P	**Pn**	11 37 25.4	+0.1
TISN	**Laguna Tiscapa**	1.44	105	⇓P	**Pn**	11 37 23.2	-2.2
USIM	**UNAN**	1.44	106		**Pn**	11 37 25.7	+0.3
USIM					**Sn**	11 37 44.0	0.0
UNAN	**Cigeo UNAN**	1.45	106	⇓P	**Pn**	11 37 25.4	-0.1
UNAN				S	**Sn**	11 37 43.7	-0.3
R4DEC	**Barrio San Lui**	1.46	105	⇑P	**Pn**	11 37 25.6	0.0
R4DEC	**Barrio San Lui**	1.46	105	S	**Sn**	11 37 44.2	-0.1
MGAN	**Managua**	1.46	105		**Pn**	11 37 25.5	-0.2
MGAN	**Managua**	1.46	105	*e*P	**Pn**	11 37 25.5	-0.2
MGAN				e**S**	**Sn**	11 37 44.3	0.0
MGAN	**Managua**	1.46	105	⇓P	**Pn**	11 37 25.6	-0.1
MGAN	**Managua**	1.46	105	P	**Pn**	11 37 25.3	-0.4
MGAN				S	**Sn**	11 37 43.5	-0.8
TECO	**Alcaldia de Te**	1.46	314	P	**Pn**	11 37 25.6	-0.1
TECO	**Alcaldia de Te**	1.46	314	S	**Sn**	11 37 43.1	-1.3
WILN	**Americas 2**	1.51	104	P	**Pn**	11 37 26.6	+0.3
WILN				S	**Sn**	11 37 45.6	+0.1
UESV	**Universidad de**	1.54	316	P	**Pn**	11 37 26.8	+0.1
UESV	**Universidad de**	1.54	316	S	**Sn**	11 37 46.4	+0.3
SCLA	**Alcaldia de Sa**	1.55	319	S	**Sn**	11 37 47.9	+1.5
SCLA	**Alcaldia de Sa**	1.55	319	⇓P	**Pn**	11 37 27.2	+0.3
TGUH	**Tegucigalpa,Un**	1.58	15		**Pn**	11 37 28.3	+0.9
TGUH	**Tegucigalpa,Un**	1.58	15	P	**Pn**	11 37 28.1	+0.8
TGUH	**Tegucigalpa,Un**	1.58	15	P	**Pn**	11 37 28.1	+0.8
TGUH				S	**Sn**	11 37 48.6	+1.3
SABN	**Sabanita**	1.60	110	P	**Pn**	11 37 26.2	-1.3
OCON	**Estacion meteo**	1.62	47	P	**Pn**	11 37 28.5	+0.7
OCON				S	**Sn**	11 37 49.6	+1.5
NANN	**Nandasmo**	1.64	111	S	**Sn**	11 37 49.3	+0.7
NANN	**Nandasmo**	1.64	111	⇑P	**Pn**	11 37 28.9	+0.8
YUSH	**Yuscaran**	1.65	30	P	**Pn**	11 37 29.0	+0.8
MARCA	**Marcala la Paz**	1.66	348	*i* P	**Pn**	11 37 29.2	+0.8
MARCA				*i* S	**Sn**	11 37 49.8	+0.7
MARCA	**Marcala la Paz**	1.66	348	P	**Pn**	11 37 29.2	+0.8
PAVA	**Las Pavas**	1.69	314	S	**Sn**	11 37 50.5	+0.6
PAVA	**Las Pavas**	1.69	314	⇓P	**Pn**	11 37 29.1	+0.3
MATN	**Matagalpa**	1.77	77	P	**Pn**	11 37 29.3	-0.5
MATN	**Matagalpa**	1.77	77	S	**Sn**	11 37 51.3	-0.5
RCVN	**Varillal2**	1.80	54	⇓P	**Pn**	11 37 31.4	+1.1
RCVN	**Varillal2**	1.80	54	S	**Sn**	11 37 53.6	+1.1
PANCS	**Alcalda de**	1.81	307	P	**Pn**	11 37 30.4	+0.1
PANCS	**Alcalda de**	1.81	307	S	**Sn**	11 37 51.8	-0.8
LOMA	**Loma Larga**	1.82	308	P	**Pn**	11 37 30.5	0.0
LOMA	**Loma Larga**	1.82	308	S	**Sn**	11 37 52.7	-0.3
INTHN	**La Esperanza I**	1.82	347	⇓P	**Pn**	11 37 31.7	+1.0
RCPN	**Sur Rio San Ju**	1.85	57	⇓P	**Pn**	11 37 30.9	0.0
UDBS	**Universidad Do**	1.85	310	S	**Sn**	11 37 53.9	+0.3
UDBS	**Universidad Do**	1.85	310	P	**Pn**	11 37 32.2	+1.3
LALI	**Alcalda de L**	1.85	301	*i* P	**Pn**	11 37 30.4	-0.5
LALI				*i* S	**Sn**	11 37 51.0	-2.5
LALI				IAML		11 37 54.9	
	comp=E,2μm,0.4s						
LALI	**Alcalda de L**	1.85	301	⇑P	**Pn**	11 37 30.3	-0.5
LALI	**Alcalda de L**	1.85	301	S	**Sn**	11 37 50.8	-2.7
UEES	**Universidad Ev**	1.92	308	⇓P	**Pn**	11 37 32.1	+0.4
BOQS	**Boqueron**	1.96	308	*e*P	**Pn**	11 37 32.7	+0.3
PMON	**Piamonte**	1.97	307	S	**Sn**	11 37 57.5	+0.9
PMON	**Piamonte**	1.97	307	⇑P	**Pn**	11 37 32.8	+0.3
BOAB	**BOACO BROADBAN**	.98	92		**Pn**	11 37 32.1	-0.2
BOAB	**BOACO BROADBAN**	.98	92	⇑P	**Pn**	11 37 32.4	-0.1
JAYA	**Jayaque - finc**	2.05	303	*e*P	**Pn**	11 37 33.4	-0.2
JAYA	**Jayaque - finc**	2.05	303	*i* P	**Pn**	11 37 33.3	-0.2
JAYA				*i* S	**Sn**	11 37 56.7	-1.7
JAYA	**Jayaque - finc**	2.05	303	⇑P	**Pn**	11 37 33.4	-0.2
JAYA	**Jayaque - finc**	2.05	303	S	**Sn**	11 37 57.8	-0.6
CEDA	**San Andres**	2.09	308	*e*P	**Pn**	11 37 34.7	+0.7
MORN	**Al O del Volca**	2.22	116	P	**Pn**	11 37 36.1	+0.3
CEVE	**Cerro Verde**	2.29	305	*e*P	**Pn**	11 37 37.6	+0.8
CEVE	**Cerro Verde**	2.29	305	⇓P	**Pn**	11 37 37.7	+0.8
NUBE	**Las Nubes**	2.45	304	⇑*i*P	**Pn**	11 37 39.4	+0.4
NUBE				*i* S	**Sn**	11 38 08.0	-0.2
NUBE	**Las Nubes**	2.45	304	⇑P	**Pn**	11 37 39.4	+0.4
SARH	**Santa Rosa de**	2.47	335	*i* P	**Pn**	11 37 41.0	+1.8
SARH	**Santa Rosa de**	2.47	335	⇓P	**Pn**	11 37 40.9	+1.8
MTO3	**Montecristo**	2.47	319		**Pn**	11 37 40.2	+0.8
MTO3	**Montecristo**	2.47	319	⇓*i*P	**Pn**	11 37 40.0	+0.7
MTO3	**Montecristo**	2.47	319	⇓P	**Pn**	11 37 40.0	+0.7
LCRUZ	**La Cruz**	2.48	125	*e*P	**Pn**	11 37 38.4	-0.8
LCRUZ				e**S**	**Sn**	11 38 06.7	-1.9
CARN	**Rivas**	2.51	122	*e*P	**Pn**	11 37 39.5	-0.1
CARN	**Rivas**	2.51	122	P	**Pn**	11 37 39.5	-0.1
ACON	**Acoyapa**	2.52	102		**Pn**	11 37 39.0	-0.8
ACON	**Acoyapa**	2.52	102	*e*P	**Pn**	11 37 39.0	-0.8
ACON	**Acoyapa**	2.52	102	P	**Pn**	11 37 39.0	-0.8
ACON	**Acoyapa**	2.52	102	P	**Pn**	11 37 39.0	-0.8
ACON				S	**Sn**	11 38 07.4	-2.2
SLOZ	**Alcaldia de Sa**	2.52	307	⇑P	**Pn**	11 37 40.6	+0.7
ESQI	**Esquipulas**	2.58	322		**Pn**	11 37 42.1	+1.4
**ESQ

CMIG Matias Romero 8.30 304 P **Pn** **11 39 00.8 +2.1**
comp=E,14nm,0.6s,baz=130,slow=7.2,SNR=46
CMIG S **Sn** **11 40 30.0 -0.9**
comp=E,17nm,0.4s,baz=75,slow=12,SNR=4.4
MTDJ Mount Denham 11.32 59 P **Pn** **11 39 42.7 +2.8**
comp=E,3µmcomp=E,358nm,0.8s
TLIG Tlapa 11.63 297 **Pn** **11 39 46.7 +2.4**
SJCC San Jacinto, C 12.55 101 P **Pn** **11 39 56.4 -0.3**
ROSC El Rosal 15.26 119 P **Pn** **11 40 32.2 -0.2**
comp=E,8.9nm,0.6s,baz=110,slow=6.3,SNR=10.0
ROSC LR LR 11 46 44.1
comp=E,80nm,20.7s,baz=58,slow=39
DWPF Disney Wildern 16.57 20 P **P** **11 40 49.4 -0.4**
COHC Cochancay 17.09 150 P **P** **11 40 56.6 +1.0**
SDV Santo Domingo 17.15 100 P **Pn** **11 40 55.8 -0.1**
SDV Santo Domingo 17.15 100 P **Pn** **11 40 54.5 -1.4**
comp=E,32nm,0.7s,baz=268,slow=5.5,SNR=8.9
SDV LR LR 11 48 16.5
comp=E,153nm,20.8s,baz=275,slow=40
SDV Santo Domingo 17.15 100 *eP* **Pn** **11 40 54.7 -1.3**
545A Edgard 17.63 352 P **Pn** **11 41 02.4 +0.9**
HBVL Hebbronville 17.76 326 P **Pn** **11 41 05.3 +2.2**
TIGA Tifton 19.20 11 **Pn** **11 41 21.9 +1.6**
BAUV El Baul 19.63 98 P **P** **11 41 22.9 -0.6**
UUPR Utuado, UPR, P 21.00 72 P **P** **11 41 37.8 -0.5**
SJG San Juan 21.50 72 P **P** **11 41 45.3 +1.7**
SJG San Juan 21.50 72 P **P** **11 41 44.7 +1.0**
comp=E,29nm,0.5s,baz=266,slow=7.0,SNR=14
ATAH Atahualpa 21.61 154 P **P** **11 41 48.4 +3.2**
comp=E,11nm,0.8s,baz=342,slow=6.8,SNR=8.4
ATAH LR LR 11 49 38.1
comp=E,78nm,21.3s,baz=335,slow=35
comp=E,11nm,0.8s
TXAR Lajitas Array 22.37 321 P **P** **11 41 53.8 +0.8**
TXAR Lajitas Array 22.37 321 P **P** **11 41 54.1 +1.1**
comp=E,14nm,0.8s,baz=138,slow=10,SNR=118
TXAR PcP **PcP** **11 45 46.9 +1.3**
comp=E,0.9nm,0.6s,baz=140,slow=4.3,SNR=5.2
TXAR ScP **ScP** **11 49 18.6 +2.2**
comp=E,1.7nm,0.7s,baz=143,slow=3.3,SNR=20
TXAR LR LR 11 51 39.8
comp=E,24nm,18.7s,baz=120,slow=39
comp=E,14nm,0.8s
PLPT Palo Pinto 22.42 336 IAmb IAmb 11 41 58.9
comp=Z,27nm,0.9s
Z35A Perchaven, San 22.48 339 IAmb IAmb 11 41 58.5
comp=Z,54nm,1.1s
UALR University of 22.55 350 IAmb IAmb 11 41 57.1
comp=Z,31nm,0.8s
MIAR Mount Ida 22.57 347 IAmb IAmb 11 42 17.2
comp=Z,33nm,0.8s
W50A Signal Mountai 22.68 5 IAmb IAmb 11 41 58.4
comp=Z,20nm,0.6s
PCRV Puerto La Cruz 22.72 94 P **P** **11 41 55.5 -1.3**
comp=Z,29nm,0.8s,baz=229,slow=5.9,SNR=16
PCRV LR LR 11 51 26.7
comp=Z,77nm,21.4s,slow=39
comp=Z,29nm,0.8s
W52A Murphy 22.73 8 IAmb IAmb 11 41 59.4
comp=Z,84nm,1.5s
ABTX Abilene, Hawle 22.81 333 IAmb IAmb 11 42 00.5
comp=Z,28nm,0.9s
PAULI Pauline 22.83 13 IAmb IAmb 11 42 00.4
comp=Z,43nm,0.7s
SGCY Sterling City 22.91 330 IAmb IAmb 11 42 01.2
comp=Z,43nm,0.9s
CPCT Cooper Cave 23.01 7 IAmb IAmb 11 42 02.2
comp=Z,24nm,0.8s
WHAR Wooly Hollow 23.05 350 IAmb IAmb 11 42 01.1
comp=Z,21nm,0.8s
X58A Rowland 23.21 18 IAmb IAmb 11 42 03.5
comp=Z,45nm,0.7s
TKL Tuckaleechee C 23.30 8 LR LR 11 52 29.4
comp=Z,100nm,18.9s,baz=189,slow=40
WTFS Witchita Falls 23.32 337 IAmb IAmb 11 42 05.0
comp=Z,38nm,0.8s
V53A Saluda 23.46 10 IAmb IAmb 11 42 11.4
comp=Z,38nm,0.8s
CLTN Cedars of Leba 23.50 3 IAmb IAmb 11 42 06.1
comp=Z,19nm,0.7s
FCAR Ozark Folk Cen 23.61 351 IAmb IAmb 11 42 06.0
comp=Z,18nm,0.7s
LCAR Lake Charles 23.65 353 IAmb IAmb 11 42 06.0
comp=Z,23nm,0.6s
ODSA Odessa 23.81 327 IAmb IAmb 11 42 08.6
comp=Z,34nm,1.0s
SLBS Sierra La Lagu 23.85 301 P **P** **11 42 11.3 +3.9**
SLBS IAmb IAmb 11 42 31.7
comp=Z,69nm,1.5s
V55A Taylorsville 23.95 13 IAmb IAmb 11 42 10.5
comp=Z,22nm,0.7s
POST Post 24.04 331 IAmb IAmb 11 42 31.7
comp=Z,49nm,1.0s
TZTN Tazewell 24.21 8 IAmb IAmb 11 42 14.3
comp=Z,31nm,0.8s
TBTG Tabatinga, AM 24.25 132 *eP* **P** **11 42 11.8 +0.9**
DKNS Dickens 24.26 332 IAmb IAmb 11 42 34.8
comp=Z,30nm,0.8s
PBMO Poplar Bluff 24.28 355 IAmb IAmb 11 42 12.7
comp=Z,33nm,0.7s
WMOK Wichita Mounta 24.30 337 IAmb IAmb 11 42 13.5
comp=Z,22nm,0.8s
HHAR Hobbs 24.32 348 IAmb IAmb 11 42 14.8
comp=Z,20nm,0.7s
U56A King 24.62 14 IAmb IAmb 11 42 18.1
comp=Z,34nm,0.7s
OK052 Battle Ridge R 24.77 342 IAmb IAmb 11 42 16.2
comp=Z,45nm,0.7s
OK029 Liberty Lake 24.79 341 IAmb IAmb 11 42 16.4
comp=Z,43nm,0.6s
CZSB Cruzeiro do Su 25.04 143 IAmb IAmb 11 42 24.0
comp=Z,57nm,0.9s
CZSB Cruzeiro do Su 25.04 143 *eP* **P** **11 42 18.4 +0.3**
S44A Carbondale 25.10 357 IAmb IAmb 11 42 20.5
comp=Z,28nm,0.8s
SIUC Southern Illin 25.12 357 IAmb IAmb 11 42 20.2
comp=Z,38nm,0.9s
S51A Beattyville 25.28 8 IAmb IAmb 11 42 39.9
comp=Z,25nm,0.9s
USIN University of 25.34 0 IAmb IAmb 11 42 21.5
comp=Z,26nm,0.6s
BLA Blacksburg 25.43 14 IAmb IAmb 11 42 24.0
comp=Z,25nm,0.8s
T57A Hurt 25.52 16 IAmb IAmb 11 42 24.5
comp=Z,31nm,0.9s
T35A Sooner Cattle 25.55 343 IAmb IAmb 11 42 27.2
comp=Z,26nm,0.8s
BLOK Blackwell 25.61 342 IAmb IAmb 11 42 27.1
comp=Z,16nm,0.7s
CCM Cathedral Cave 25.62 354 P **P** **11 42 22.9 -0.4**
CCM IAmb IAmb 11 42 23.9
comp=Z,25nm,0.8s
WCI Wyandotte Cave 25.63 3 P **P** **11 42 23.8 +0.5**
WCI IAmb IAmb 11 42 25.1
comp=Z,41nm,0.7s
R50A Paris 25.83 6 IAmb IAmb 11 42 44.9
comp=Z,42nm,1.5s
R40A Maddies Statio 25.98 352 IAmb IAmb 11 42 27.0
comp=Z,20nm,0.6s
T59A Double "B" Far 25.99 19 IAmb IAmb 11 42 28.7
comp=Z,43nm,1.3s
OLIL Olney 26.11 359 IAmb IAmb 11 42 29.0
comp=Z,31nm,0.9s
KAN01 Argonia South 26.14 342 IAmb IAmb 11 42 30.7
comp=Z,24nm,0.7s
KAN08 Anthony NE Sta 26.27 341 IAmb IAmb 11 42 32.0
comp=Z,25nm,0.6s
Q44A Meyer Farm, Va 26.30 358 IAmb IAmb 11 42 30.5
comp=Z,42nm,0.9s
R55A Marlinton 26.53 13 IAmb IAmb 11 42 35.2
comp=Z,25nm,0.8s
BLO Bloomington 26.56 2 IAmb IAmb 11 42 33.8
comp=Z,20nm,0.9s
P48A Milroy 26.91 4 IAmb IAmb 11 42 35.2
comp=Z,20nm,0.9s
RTBA Rita Blanca 27.39 333 IAmb IAmb 11 43 01.8
comp=Z,47nm,1.6s
Q56A Snyder Ridge, 27.47 14 IAmb IAmb 11 42 43.9
comp=Z,20nm,0.8s
P38A Dawn 27.48 350 IAmb IAmb 11 42 41.3
comp=Z,34nm,0.7s
R32A Long Quarter, 27.60 341 IAmb IAmb 11 42 42.0
comp=Z,17nm,0.6s
O49A Covington 27.71 6 IAmb IAmb 11 42 42.9
comp=Z,24nm,0.7s
O48B Farmland 27.72 4 IAmb IAmb 11 42 42.4
comp=Z,14nm,0.7s
SFIN Lafayette 27.75 1 IAmb IAmb 11 42 42.5
comp=Z,17nm,0.7s
TEFE Tefe 27.90 123 *eP* **P** **11 42 43.4 -0.6**
MCWV Mont Chateau 27.90 13 IAmb IAmb 11 42 45.5
comp=Z,24nm,0.6s
HDIL Hopedale 27.96 357 IAmb IAmb 11 42 45.2
comp=Z,24nm,0.9s
DUN6 Lazy B Ranch 27.97 319 IAmb IAmb 11 42 53.9
comp=Z,15nm,0.8s
O52A Adamsville 27.97 10 IAmb IAmb 11 42 45.8
comp=Z,32nm,0.8s
ANMO Albuquerque 28.07 326 P **P** **11 42 47.9 +2.4**
ANMO Albuquerque 28.07 326 LR LR 11 57 05.5
comp=Z,40nm,19.0s,baz=215,slow=43
N41A Harden Midland 28.21 355 IAmb IAmb 11 43 05.4
comp=Z,19nm,0.9s
CBKS Cedar Bluff 28.29 340 IAmb IAmb 11 42 49.7
comp=Z,17nm,0.8s
O54A Avella 28.30 12 IAmb IAmb 11 42 48.6
comp=Z,22nm,0.6s
N47A Urbana 28.30 3 IAmb IAmb 11 42 47.6
comp=Z,14nm,0.6s
SDMD Soldier's Deli 28.45 18 IAmb IAmb 11 42 50.6
comp=Z,11nm,0.6s
N38A Joes South For 28.58 351 IAmb IAmb 11 42 52.6
comp=Z,22nm,0.9s
BOAV Boa Vista 28.72 108 P **P** **11 42 49.5 -1.9**
BOAV Boa Vista 28.72 108 *eP* **P** **11 42 49.4 -1.9**
N53A Lisbon 28.81 11 IAmb IAmb 11 43 11.4
comp=Z,36nm,0.9s
BBSR BB Station 28.90 43 P **P** **11 42 54.1 +1.4**
MVL Millersville 29.14 18 IAmb IAmb 11 42 57.2
comp=Z,15nm,0.6s
SSPA Standing Stone 29.30 15 P **P** **11 42 56.8 +0.7**
SSPA IAmb IAmb 11 42 57.9
comp=Z,17nm,0.6s
L42A Oliver, Polo 29.42 357 IAmb IAmb 11 42 57.8
comp=Z,14nm,0.7s
KSCO Kaye Shedlock' 29.52 336 IAmb IAmb 11 43 01.6
comp=Z,17nm,0.9s
L40A Anamosa 29.59 355 IAmb IAmb 11 42 59.4
comp=Z,18nm,0.8s
N58A Sunbury 29.81 17 IAmb IAmb 11 43 02.9
comp=Z,19nm,0.8s
M57A Sunshine Farm, 30.16 16 IAmb IAmb 11 43 05.7
comp=Z,25nm,0.8s
KSPA Keystone Colle 30.75 18 IAmb IAmb 11 43 10.8
comp=Z,16nm,0.8s
MVCO Mesa Verde 30.85 326 IAmb IAmb 11 43 14.0
comp=Z,12nm,0.8s
BINY Binghamton 31.27 17 IAmb IAmb 11 43 15.4
comp=Z,23nm,0.8s
K57A Scipio Center 31.62 16 IAmb IAmb 11 43 36.1
comp=Z,21nm,0.9s
PV15 Paradox Valley 31.68 328 IAmb IAmb 11 43 23.1
comp=Z,10.0nm,0.9s
PV02 Paradox Valley 31.71 327 IAmb IAmb 11 43 40.4
comp=Z,30nm,1.4s
PV13 Radium Mtn., P 31.72 327 IAmb IAmb 11 43 21.1
comp=Z,13nm,0.7s
I37A Lemond, Waseca 31.76 352 IAmb IAmb 11 43 18.2
comp=Z,17nm,0.7s
PV03 Paradox Valley 31.81 327 IAmb IAmb 11 43 21.1
comp=Z,17nm,0.8s
PV05 Paradox Valley 31.81 327 IAmb IAmb 11 43 21.0
comp=Z,16nm,0.8s
PV07 Paradox Valley 31.84 328 IAmb IAmb 11 43 22.2
comp=Z,9.0nm,0.8s
PV16 Nyswonger Mesa 31.89 327 IAmb IAmb 11 43 21.8
comp=Z,17nm,0.8s
PV04 Paradox Valley 31.94 327 IAmb IAmb 11 43 22.4
comp=Z,20nm,0.8s
PV22 Blue Mesa, Par 31.98 328 IAmb IAmb 11 43 22.7
comp=Z,11nm,1.0s
PV14 Lion Creek, Pa 31.99 327 IAmb IAmb 11 43 23.0
comp=Z,14nm,0.9s
SAML Samuel 32.38 130 P **P** **11 43 23.1 -0.4**
SAML Samuel 32.38 130 *eP* **P** **11 43 23.1 -0.4**
L61B Northampton 32.55 21 IAmb IAmb 11 43 25.9
comp=Z,12nm,0.7s
HMU Henry Mountain 32.61 325 IAmb IAmb 11 43 35.4
comp=Z,11nm,0.9s
G40A Rib Lake 32.70 357 IAmb IAmb 11 43 26.2
comp=Z,15nm,1.0s
J59A Piesco 32.87 18 IAmb IAmb 11 43 28.9
comp=Z,32nm,1.4s
SADO Sawa 32.96 11 LR LR 11 58 10.6
comp=Z,100nm,18.7s,baz=156,slow=39
PKCU Pink Cliffs 33.17 323 IAmb IAmb 11 43 34.1
comp=Z,13nm,0.9s
SRU San Rafael Swe 33.33 327 IAmb IAmb 11 43 34.2
comp=Z,13nm,0.8s
COWI Conover 33.49 358 IAmb IAmb 11 43 32.7
comp=Z,13nm,0.8s
MTPU Mount Pierson' 33.50 324 IAmb IAmb 11 43 38.1
comp=Z,9.5nm,0.8s
P18A Preston Nutter 33.55 328 IAmb IAmb 11 43 36.9
comp=Z,14nm,0.9s
PFO Pinyon Flats O 33.59 313 LR LR 11 59 03.9
comp=Z,81nm,21.5s,baz=117,slow=39
TMUT Trail Mountain 33.83 326 IAmb IAmb 11 43 41.5
comp=Z,9.2nm,0.8s
LONY Lake Ozonia 33.90 17 IAmb IAmb 11 43 56.0
comp=Z,19nm,0.8s
E38A The Farm, Brul 34.13 355 IAmb IAmb 11 43 39.2
comp=Z,13nm,0.7s
K22A Casper 34.18 335 IAmb IAmb 11 44 02.2
comp=Z,11nm,1.0s
FRNY Flat Rock 34.39 18 IAmb IAmb 11 44 00.4
comp=Z,11nm,0.9s
RSSD Black Hills 34.48 339 P **P** **11 43 42.7 +1.0**
RSSD pP **pP** **11 44 01.2 +1.2**
BSUT Blindstream Ca 34.49 328 IAmb IAmb 11 43 44.6
comp=Z,12nm,0.9s
LPAZ La Paz 34.55 145 P **P** **11 43 43.5 +0.4**
LPAZ La Paz 34.55 145 P **P** **11 43 45.0 +1.9**
comp=Z,3.9nm,0.5s,baz=333,slow=5.7,SNR=16
LPAZ PcP **PcP** **11 46 17.7 +1.2**
comp=Z,2.6nm,0.8s,baz=349,slow=7.8,SNR=4.1
comp=Z,3.9nm,0.5s
LPAZ La Paz 34.55 145 *eP* **P** **11 43 43.0 -0.1**
MPU Maple Canyon 34.57 327 IAmb IAmb 11 43 45.6
comp=Z,17nm,0.9s
PSUT Pine Spring 34.81 323 IAmb IAmb 11 43 48.9
comp=Z,9.2nm,0.8s
JLU Jordanelle 34.90 328 IAmb IAmb 11 43 49.1
comp=Z,9.8nm,0.8s
CTU Camp Tracy 35.12 327 IAmb IAmb 11 43 49.7
comp=Z,11nm,0.9s
TCUT Toone Canyon 35.25 328 IAmb IAmb 11 43 56.8
comp=Z,15nm,0.8s
MDP Montagnes des 35.38 99 LR LR 11 59 42.0
comp=Z,68nm,19.7s,baz=277,slow=39
SPR3 Spring Creek 3 35.39 323 IAmb IAmb 11 43 52.2
comp=Z,6.6nm,0.8s
S11A Rachel 35.40 320 IAmb IAmb 11 43 54.5
comp=Z,11nm,0.9s
PB16 IPOC Station P 35.52 149 P **P** **11 43 54.0 +2.6**
PD31 Pinedale Array 35.60 332 IAmb IAmb 11 43 53.1
comp=Z,5.9nm,0.8s
PDAR Pinedale Array 35.60 332 P **P** **11 43 52.2 +0.9**
comp=Z,6.4nm,0.8s,baz=127,slow=9.6,SNR=65
PDAR PcP **PcP** **11 46 18.1 -0.6**
comp=Z,1.0nm,0.7s,baz=129,slow=4.3,SNR=4.3
PDAR ScP **ScP** **11 49 59.4 +1.3**
comp=Z,0.3nm,0.7s,baz=138,slow=4.0,SNR=3.6
PDAR LR LR 12 03 02.5
comp=Z,40nm,19.6s,baz=116,slow=44
comp=Z,6.4nm,0.8s
BGU Big Grassy Mou 35.97 326 IAmb IAmb 11 43 57.1
comp=Z,9.6nm,1.1s
HVU Hansel Valley 36.44 328 IAmb IAmb 11 44 01.8
comp=Z,14nm,0.9s
EMMW East Machias 36.45 25 P **P** **11 43 58.7 +0.4**
EMMW IAmb IAmb 11 44 00.4
comp=Z,24nm,1.2s
PB11 IPOC Station P 36.67 151 IAmb IAmb 11 44 09.8
comp=Z,14nm,0.8s
LOHW Long Hollow 36.73 332 IAmb IAmb 11 44 03.4
comp=Z,19nm,1.1s
GO01 Chusmiza 36.81 150 IAmb IAmb 11 44 10.8
comp=Z,10nm,0.6s
FXWY Fox Creek 36.95 331 IAmb IAmb 11 44 05.4
comp=Z,8.4nm,0.8s
ELK Elko 37.07 324 IAmb IAmb 11 44 07.2
comp=Z,7.4nm,0.8s
VILB Vilhena 37.20 132 P **P** **11 44 05.3 +0.1**
VILB Vilhena 37.20 132 *eP* **P** **11 44 05.0 -0.1**
RLMT Red Lodge 37.34 335 IAmb IAmb 11 44 07.9
comp=Z,11nm,0.7s
YMP Mirror Lake Pl 37.41 333 IAmb IAmb 11 44 18.7
comp=Z,9.5nm,0.8s
LAO LASA Array 37.47 339 IAmb IAmb 11 44 08.7
comp=Z,11nm,1.0s
YFT Old Faithful 37.49 332 IAmb IAmb 11 44 10.9
comp=Z,14nm,0.7s
NVAR Mina Array Bea 37.49 319 P **P** **11 44 08.6 +1.0**
NVAR Mina Array Bea 37.49 319 P **P** **11 44 09.3 +1.8**
comp=Z,4.8nm,0.8s,baz=133,slow=7.2,SNR=39
NVAR pP **pP** **11 44 27.1 +1.2**
comp=Z,1.9nm,0.7s,baz=127,slow=7.8,SNR=4.5
NVAR ScP **ScP** **11 50 06.8 +1.7**
comp=Z,2.2nm,0.7s,baz=135,slow=4.7,SNR=13
comp=Z,4.8nm,0.8s
LHV Little Huntoon 37.52 319 IAmb IAmb 11 44 11.6
comp=Z,8.3nm,0.8s
YNE Yellowstone No 37.56 334 IAmb IAmb 11 44 09.7
comp=Z,9.9nm,0.8s
NPGB Novo Progresso 37.56 119 *eP* **P** **11 44 07.9 -0.3**
YNR Norris Junctio 37.63 333 IAmb IAmb 11 44 11.7
comp=Z,7.1nm,0.7s
PB01 IPOC Station P 37.85 152 IAmb IAmb 11 44 14.7
comp=Z,14nm,1.2s
YHL Hebgen Lake 37.96 333 IAmb IAmb 11 44 16.2
comp=Z,11nm,0.8s
HAL Halifax 38.07 28 IAmb IAmb 11 44 13.9
comp=Z,18nm,0.9s
ULM Lac du Bonnet 38.21 352 P **P** **11 44 11.9 -1.3**
comp=Z,18nm,0.6s,baz=162,slow=9.6,SNR=33
ULM ScP **ScP** **11 50 05.7 -1.6**
comp=Z,2.4nm,0.6s,baz=232,slow=0.5,SNR=5.1
ULM LR LR 12 01 41.8
comp=Z,97nm,21.1s,baz=202,slow=39
comp=Z,18nm,0.6s
HLID Hailey 38.56 328 IAmb IAmb 11 44 19.8
comp=Z,6.0nm,0.8s
PB09 IPOC Station P 38.62 152 IAmb IAmb 11 44 22.1
comp=Z,17nm,0.9s
BOZ Bozeman (W) 38.73 333 IAmb IAmb 11 44 20.2
comp=Z,12nm,0.8s
PDRB Porto dos Gac 38.98 127 *eP* **P** **11 44 20.0 -0.1**
MPK Martis Peak 39.09 319 IAmb IAmb 11 44 28.0
comp=Z,10nm,0.9s
MFID Camas Ranch 39.19 327 IAmb IAmb 11 44 27.2
comp=Z,7.7nm,0.8s
CLDB Colider 39.29 125 *eP* **P** **11 44 22.6 0.0**
PTLB Pontes e Lacer 39.64 134 *eP* **P** **11 44 26.0 +0.6**
EGMT Eagleton 39.90 337 IAmb IAmb 11 44 50.9
comp=Z,11nm,0.8s
WVOR Wild Horse Val 40.10 324 IAmb IAmb 11 44 33.3
comp=Z,12nm,0.8s
PLID Pearl Lake 40.44 329 P **P** **11 44 32.5 +0.4**
PLID IAmb IAmb 11 44 34.4
comp=Z,12nm,0.9s
ICQ Pointe Anglais 40.55 20 **P** **11 44 32.1 -0.5**
MSO Missoula 40.71 332 IAmb IAmb 11 44 55.4
comp=Z,19nm,1.1s
F10A Beach Ranch, E 41.67 329 IAmb IAmb 11 44 45.1
comp=Z,16nm,0.9s
KMRM Mail Ridge 41.98 318 P **P** **11 44 46.1 +1.4**
KMRM IAmb IAmb 11 44 48.1
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 42.14 320 LR LR 12 03 57.4
comp=Z,8.0nm,21.9s,baz=127,slow=38
L04D Klamath Falls 42.16 321 IAmb IAmb 11 44 47.9
comp=Z,11nm,0.9s
PINE Pine Mountain 42.27 324 IAmb IAmb 11 44 49.3
comp=Z,15nm,0.9s
KHMM Horse Mountain 42.33 319 P **P** **11 44 49.1 +1.6**
KHMM IAmb IAmb 11 44 50.5
comp=Z,18nm,0.8s
KMPM Mount Pierce 42.35 318 P **P** **11 44 50.0 +2.3**
KMPM IAmb IAmb 11 44 51.4
comp=Z,15nm,0.8s
J04A Umpqua Nationa 42.63 322 IAmb IAmb 11 45 12.0
comp=Z,15nm,1.2s
AC02 Maricunga 43.08 155 P **P** **11 44 56.5 +2.4**
AC02 IAmb IAmb 11 45 17.6
comp=Z,14nm,1.1s
HAWA Hanford 43.14 328 IAmb IAmb 11 44 55.7
comp=Z,10nm,0.8s
NEW Newport 43.23 331 LR LR 12 05 21.2
comp=Z,61nm,21.8s,baz=126,slow=39
D08A Wollman Farm, 43.27 329 P **P** **11 44 55.6 +0.7**
D08A IAmb IAmb 11 44 56.7
comp=Z,18nm,0.8s
WAH2 Wahluke Slope 43.40 328 IAmb IAmb 11 44 57.6
comp=Z,22nm,1.0s
H04A Detroit Lake 43.52 324 IAmb IAmb 11 44 58.7
comp=Z,12nm,0.8s
SNDB Serra Nova Dou 43.55 123 *eP* **P** **11 44 58.4 +0.9**
FFC Flin Flon 43.58 348 P **P** **11 44 56.6 -0.6**
FFC IAmb IAmb 11 44 58.2
comp=Z,16nm,0.7s
I03D Drain, OR 43.63 322 IAmb IAmb 11 44 59.6
comp=Z,14nm,1.1s
J01E Myrtle Point 43.68 321 IAmb IAmb 11 45 01.5
comp=Z,16nm,0.8s
DRLN Deer Lake 44.29 28 **P** **11 45 02.8 -0.2**
DRLN IAmb IAmb 11 45 03.4
comp=Z,31nm,1.2s
B08A Colville Reser 44.35 330 IAmb IAmb 11 45 04.7
comp=Z,10nm,1.0s
G03D McMinnville, O 44.45 324 IAmb IAmb 11 45 06.4
comp=Z,24nm,0.9s
RPN Rapa Nui 44.66 208 LR LR 11 58 58.9
comp=Z,130nm,21.4s,baz=165,slow=29
BDQN Bodoquena, MS 44.72 137 *eP* **P** **11 45 06.3 -0.5**
D05A Enumclaw 44.94 327 IAmb IAmb 11 45 10.6
comp=Z,13nm,0.9s
MURT Porto Murtinho 45.01 139 *eP* **P** **11 45 08.7 -0.4**
SMTB Santa Maria do 45.16 116 *eP* **P** **11 45 10.0 -0.4**
ARAG Araguaiana, MT 45.24 127 *eP* **P** **11 45 10.6 -0.4**
SCHQ Schefferville 45.28 17 P **P** **11 45 10.0 -0.8**
SCHQ Schefferville 45.28 17 P **P** **11 45 10.0 -0.8**
comp=Z,53nm,0.6s,baz=208,slow=6.3,SNR=74
SCHQ LR LR 12 04 26.7
comp=Z,127nm,21.5s,baz=208,slow=37
AQDB Aquidauana 45.45 136 P **P** **11 45 12.2 -0.3**
AQDB IAmb IAmb 11 45 14.2
comp=Z,25nm,1.1s
AQDB Aquidauana 45.45 136 *eP* **P** **11 45 12.5 -0.1**
GNW Green Mountain 45.62 327 IAmb IAmb 11 45 14.2
comp=Z,9.4nm,0.8s
NLWA Neilton Lookou 46.08 326 IAmb IAmb 11 45 19.1
comp=Z,11nm,0.9s
RPRD Ribas do Rio P 46.83 134 *eP* **P** **11 45 23.5 +0.1**
AMBA Amambai (Brazi 47.61 138 *eP* **P** **11 45 29.4 0.0**
VA03 San Esteban 47.92 160 P **P** **11 45 32.7 +0.9**
BDFB Brasilia 48.21 124 P **P** **11 45 33.3 -1.0**
comp=Z,1.9nm,0.3s,baz=263,slow=12,SNR=4.6
BDFB PcP **PcP** **11 47 01.4 +0.8**
comp=Z,3.5nm,0.5s,baz=192,slow=5.9,SNR=4.0
comp=Z,1.9nm,0.3s
SJPY San Joaquin 48.37 141 *eP* **P** **11 45 35.0 -0.4**
CPUP Villa Florida 48.62 143 P **P** **11 45 36.8 -0.3**
comp=Z,1.9nm,0.6s,baz=194,slow=9.0,SNR=9.9
CPUP PcP **PcP** **11 47 02.9 +1.2**
comp=Z,1.6nm,0.8s,baz=154,slow=2.4,SNR=5.3
CPUP LR LR 12 06 29.9
comp=Z,24nm,20.2s,baz=194,slow=36
comp=Z,1.9nm,0.6s
CPUP Villa Florida 48.62 143 *eP* **P** **11 45 36.9 -0.3**
BO01 Tunca 49.25 162 IAmb IAmb 11 45 44.4
comp=Z,20nm,1.4s
BO02 Sierra Bellavi 49.72 162 IAmb IAmb 11 45 48.9
comp=Z,8.1nm,0.9s
BBB Bella Bella 51.13 329 LR LR 12 09 48.6
comp=Z,50nm,19.9s,baz=211,slow=38
BI02 San Fabin de 51.31 163 IAmb IAmb 11 46 01.6
comp=Z,6.6nm,0.9s
ITAB Concordia 52.47 139 *eP* **P** **11 46 05.9 -0.2**
FRB Frobisher Bay 52.90 11 LR LR 12 09 30.6
comp=Z,98nm,18.3s,baz=188,slow=37
YKAW1 Yellowknife Wh 53.44 345 IAmb IAmb 11 46 13.1
comp=Z,9.0nm,0.8s
YKA Yellowknife Ar 53.48 345 P **P** **11 46 13.1 0.0**
comp=Z,5.6nm,0.9s,baz=150,slow=8.5,SNR=13
YKA PcP **PcP** **11 47 19.2 +0.1**
comp=Z,1.8nm,0.7s,baz=145,slow=3.8,SNR=3.9
YKA ScP **ScP** **11 51 10.7 +0.5**
comp=Z,0.7nm,0.8s,baz=139,slow=4.1,SNR=4.0
YKA LR LR 12 10 58.9
comp=Z,46nm,20.0s,baz=132,slow=38
comp=Z,5.6nm,0.9s
YKAW3 Yellowknife Wh 53.54 345 IAmb IAmb 11 46 13.9

comp=Z,7.5nm,0.8s
CPSB **Cacapava Do Su** 53.93 143 *e*P P 11 46 16.4 -0.4
TOAD **Toad River Com** 54.09 337 P P 11 46 17.8 +0.2
baz=133
KOTAN **Kotaneelee Air** 54.54 339 P P 11 46 20.5 -0.4
baz=134
RCBR **Riachuelo** 54.61 106 LR LR 12 11 57.3
comp=Z,15nm,19.1s,baz=264,slow=39
V35K **Ketchikan** 54.64 331 P P 11 46 21.7 +0.1
baz=124
LIRD **Liard River Hi** 54.80 337 P P 11 46 23.3 +0.5
baz=132
PLTB **Pedras Altas** 54.83 144 *e*P P 11 46 23.7 +0.3
T35M **Bob Quinn** 54.96 333 P P 11 46 24.3 +0.3
baz=126
CMC01 **Camacan, BA** 55.14 119 *e*P P 11 46 25.5 -0.4
PLCA **Paso Flores** 55.31 164 P P 11 46 28.2 +1.4
PLCA IAmb IAmb 11 46 29.1
comp=Z,10.0nm,0.9s
PLCA **Paso Flores** 55.31 164 P P 11 46 28.3 +1.6
comp=Z,6.6nm,0.8s,baz=344,slow=6.9,SNR=21
PLCA pP pP 11 46 48.2 +2.0
comp=Z,4.2nm,0.8s,baz=338,slow=9.5,SNR=4.7
PLCA LR LR 12 04 30.5
comp=Z,28nm,18.6s,baz=22,slow=30
comp=Z,6.6nm,0.8s
PLCA **Paso Flores** 55.31 164 P P 11 46 27.9 +1.2
PLCA pP pP 11 46 48.5 +2.2
PLCA sP sP 11 46 56.6 +1.7
PLCA **Paso Flores** 55.31 164 *e*P P 11 46 28.4 +1.7
CRAG **Craig** 55.44 330 P P 11 46 27.8 +0.5
baz=122
WRAK **Wrangell Islan** 55.59 332 P P 11 46 28.0 -0.5
baz=124
DLBC **Dease Lake** 55.74 335 LR LR 12 13 36.4
comp=Z,87nm,19.1s,baz=76,slow=39
DLBC **Dease Lake** 55.74 335 P P 11 46 30.0 +0.3
baz=127
U33K **Whale Pass** 55.78 331 P P 11 46 30.1 +0.2
baz=123
S34M **Telegraph Cree** 55.90 334 P P 11 46 30.3 -0.4
baz=126
T33K **Petersburg** 56.09 332 P P 11 46 32.2 +0.2
baz=123
TAOE **Nuku Hiva Isla** 56.28 250 *e*LR LR 12 03 02.5
comp=Z,173nm,30.1s
WTLY **Watson Lake, Y** 56.29 337 IAmb IAmb 11 46 54.4
comp=Z,7.4nm,0.7s
WTLY **Watson Lake, Y** 56.29 337 P P 11 46 33.8 +0.4
baz=129
R33M **Jennings River** 56.71 335 P P 11 46 36.4 -0.2
baz=127
Q32M **Nakina River** 56.99 334 P P 11 46 39.1 +0.4
baz=125
TGTN **Hyland Airport** 57.01 338 P P 11 46 39.1 +0.5
baz=131
S32K **Killisnoo** 57.19 332 P P 11 46 40.1 +0.3
baz=122
SIT **Sitka** 57.32 331 P P 11 46 41.2 +0.5
baz=121
NUUK **Nuuk** 57.33 18 *i* P P 11 46 38.9 -1.8
R32K **Eaglecrest** 57.59 333 P P 11 46 43.4 +0.7
baz=122
P33M **Teslin, Yukon** 57.95 335 P P 11 46 45.6 +0.4
baz=125
P32M **Atlin** 57.97 334 P P 11 46 45.5 +0.2
baz=124
S31K **Pelican** 58.20 332 P P 11 46 47.6 +0.8
baz=120
SKAG **Skagway** 58.58 334 P P 11 46 50.0 +0.5
baz=122
N32M **Quiet Lake** 58.60 336 P P 11 46 50.7 +1.0
baz=125
MMPY **Sheldon Lake,** 58.79 338 IAmb IAmb 11 47 12.8
comp=Z,10nm,1.0s
MMPY **Sheldon Lake,** 58.79 338 P P 11 46 51.5 +0.5
baz=126
PLBC **Pleasant Camp** 59.03 333 P P 11 46 53.2 +0.6
baz=121
WHY **Whitehorse** 59.05 335 P P 11 46 53.9 +1.0
baz=123
COYC **Coyhaique** 59.52 167 P P 11 46 57.6 +1.5
COYC **Coyhaique** 59.52 167 P P 11 46 57.4 +1.3
COYC sP sP 11 47 25.6 +1.2
P30M **Million Dollar** 59.63 334 P P 11 46 58.1 +1.2
baz=121
SFJD **Kangerlussuaq** 59.71 16 LR LR 12 12 35.4
comp=Z,52nm,19.7s,baz=212,slow=36
M31M **Drury Creek, Y** 59.72 337 P P 11 46 57.7 +0.3
baz=124
P29M **Windy Craggy** 59.72 333 P P 11 46 57.5 +0.1
baz=120
N31M **Braeburn, Yuko** 59.87 336 P P 11 46 59.3 +0.8
baz=123
HYT **Haines Junctio** 60.23 334 P P 11 47 01.5 +0.5
baz=121
N30M **Aishikik Lake** 60.38 335 P P 11 47 02.9 +0.9
baz=121
O29M **Mount Kennedy** 60.42 334 P P 11 47 03.1 +0.7
baz=119
POIN **Pond Inlet** 60.43 3 P 11 47 02.0 0.0
PNL **Peninsula** 60.48 333 P P 11 47 03.4 +0.7
baz=118
YUK6 **Outpost Mounta** 60.65 334 P P 11 47 04.2 +0.1
baz=120
M30M **Minto, Yukon** 60.86 336 P P 11 47 05.7 +0.5
baz=122
YUK4 **Talbot Arm** 60.97 335 P P 11 47 06.2 +0.1
baz=120
PINM **Pinnacle** 61.06 333 P P 11 47 07.0 +0.3
baz=118
MAYO **Mayo, Yukon** 61.07 338 P P 11 47 06.6 +0.1
baz=124
C36M **Paulatuk** 61.29 346 P P 11 47 06.9 -1.0
baz=138
O28M **Mount Upton** 61.35 334 P P 11 47 07.3 -1.5
baz=118
M29M **Somme Creek** 61.45 336 IAmb IAmb 11 47 30.8
comp=Z,12nm,0.9s
M29M **Somme Creek** 61.45 336 P P 11 47 08.5 -0.8
baz=120
L29M **L29M** 61.66 337 P P 11 47 09.7 -0.9
baz=121
J30M **Hart River** 61.78 338 P P 11 47 11.0 -0.4
baz=124
H31M **Peel River** 61.80 340 P P 11 47 10.9 -0.5
baz=126
K29M **Barlow Dome** 61.81 337 P P 11 47 10.8 -0.9
baz=122
MESA **MESA** 61.85 333 P P 11 47 11.5 -0.6
baz=116
CTG **Chitna Glacier** 61.94 334 P P 11 47 11.9 -0.7
baz=117
YUK3 **Moose Creek** 61.94 335 P P 11 47 11.3 -1.4
baz=118
I30M **Mount Dempster** 62.16 339 P P 11 47 13.9 -0.1
I30M IAmb IAmb 11 47 34.8
comp=Z,7.9nm,0.9s
I30M **Mount Dempster** 62.16 339 P P 11 47 13.2 -0.8
baz=124,SNR=7.0
RES **Resolute Bay** 62.28 358 LR LR 12 14 49.7
comp=Z,52nm,21.7s,baz=357,slow=37
J29N **Klondike Camp** 62.40 338 P P 11 47 15.5 0.0
baz=122
BVCY **Beaver Creek** 62.41 335 P P 11 47 16.1 +0.5
baz=118
G31M **Satah River** 62.45 341 IAmb IAmb 11 47 36.3
comp=Z,9.4nm,0.8s
G31M **Satah River** 62.45 341 P P 11 47 16.3 +0.7
baz=127
F31M **Tsiigehtchic** 62.60 342 P P 11 47 17.1 +0.4
baz=128
CRQE **Cirque** 62.61 333 P P 11 47 17.3 +0.2
baz=115
DAWY **Dawson** 62.64 337 P P 11 47 17.2 +0.1
baz=120
M27K **Edge Creek, AK** 62.80 335 P P 11 47 18.0 -0.4
baz=117
MCARA **McCarthy VSAT** 62.85 334 P P 11 47 18.5 -0.1
baz=115
KAIM **Kayak Island** 62.87 332 P P 11 47 18.5 -0.2
baz=113
I29M **Ogilvie Camp,** 62.91 339 IAmb IAmb 11 47 21.5
comp=Z,7.2nm,0.7s
I29M **Ogilvie Camp,** 62.91 339 P P 11 47 18.6 -0.3
baz=122,SNR=11
EPYK **Eagle Plains** 62.92 340 IAmb IAmb 11 47 39.7
comp=Z,16nm,1.1s
EPYK **Eagle Plains** 62.92 340 P P 11 47 19.1 +0.2
baz=124
INK **Inuvik** 63.06 343 IAmb IAmb 11 47 41.7
comp=Z,12nm,1.1s
INK **Inuvik** 63.06 343 LR LR 12 17 55.9
comp=Z,36nm,19.3s,baz=82,slow=39
INK **Inuvik** 63.06 343 P P 11 47 19.5 -0.3
baz=128,SNR=8.4
BCAR **Beaver Creek A** 63.09 336 P P 11 47 20.0 -0.2
G30M **tAoh Zraii Nji** 63.10 341 P P 11 47 19.9 -0.2
baz=125
L27K **Beaver Creek,** 63.10 336 IAmb IAmb 11 47 41.2
comp=Z,7.7nm,0.9s
L27K **Beaver Creek,** 63.10 336 P P 11 47 19.8 -0.5
baz=117
M26K **Nabesna, AK** 63.29 335 P P 11 47 20.9 -0.6
baz=116
F30M **Barrier River** 63.33 341 IAmb IAmb 11 47 43.2
comp=Z,18nm,1.0s
F30M **Barrier River** 63.33 341 P P 11 47 21.2 -0.4
baz=125,SNR=6.0
BMRM **Bremner River** 63.38 333 P P 11 47 21.6 -0.5
baz=114
H29M **Whitestone** 63.39 339 IAmb IAmb 11 47 43.0
comp=Z,6.7nm,0.9s
H29M **Whitestone** 63.39 339 P P 11 47 21.9 -0.1
baz=122
A36M **Sachs Harbour** 63.54 348 IAmb IAmb 11 47 25.1
comp=Z,9.7nm,0.9s
A36M **Sachs Harbour** 63.54 348 P P 11 47 22.0 -0.9
baz=138
I28M **Miner Creek** 63.54 338 P P 11 47 22.8 -0.3
baz=120
Q23K **Middleton Isla** 63.59 331 P P 11 47 23.5 +0.2
baz=111
N25K **Chitina, Valde** 63.63 333 P P 11 47 24.2 +0.4
baz=114
G29M **Pine Creek** 63.65 340 P P 11 47 23.4 -0.4
G29M IAmb IAmb 11 47 45.3
comp=Z,16nm,0.9s
G29M **Pine Creek** 63.65 340 P P 11 47 23.5 -0.2
baz=123,SNR=6.4
K27K **Chicken** 63.65 336 P P 11 47 23.8 0.0
baz=118
L26K **Log Cabin Wild** 63.71 335 P P 11 47 24.5 +0.3
baz=116
EYAK **Cordova Ski Ar** 63.73 332 P P 11 47 24.7 +0.4
baz=112
KLU **Klutina** 64.17 333 P P 11 47 26.4 -0.9
baz=113
HARP **HAARP** 64.20 334 P P 11 47 26.6 -0.8
baz=114
I27K **Kandik River** 64.22 338 P P 11 47 27.1 -0.5
baz=119
DOT **Dot Lake** 64.27 336 IAmb IAmb 11 47 48.8
comp=Z,7.0nm,0.9s
P23K **Montague Islan** 64.29 331 P P 11 47 28.1 0.0
baz=110
SCRK **Sand Creek** 64.38 336 P P 11 47 28.6 -0.1
baz=116
E29M **Blow River** 64.43 342 P P 11 47 28.7 -0.1
baz=124
J26L **Joseph Creek** 64.44 337 P P 11 47 29.2 +0.1
baz=115
GLI **Glacier Island** 64.47 332 P P 11 47 29.3 +0.1
baz=111
H27K **Steamboat Moun** 64.50 339 IAmb IAmb 11 47 50.6
comp=Z,12nm,0.9s
H27K **Steamboat Moun** 64.50 339 P P 11 47 29.4 +0.1
baz=119,SNR=9.5
M24K **Tolsona, Glenn** 64.52 334 P P 11 47 29.0 -0.5
baz=113
PAX **Paxson** 64.56 335 P P 11 47 28.4 -1.5
baz=114
RIDG **Independent Ri** 64.62 336 P P 11 47 29.9 -0.3
baz=115
F28M **Old Crow** 64.64 340 IAmb IAmb 11 47 52.5
comp=Z,16nm,0.9s
F28M **Old Crow** 64.64 340 P P 11 47 29.5 -0.7
baz=121,SNR=9.7
I26K **Coal Creek Min** 64.65 337 IAmb IAmb 11 47 51.1
comp=Z,10.0nm,1.0s
I26K **Coal Creek Min** 64.65 337 P P 11 47 29.5 -0.8
baz=117
G27K **Doyon Strip** 64.83 339 P P 11 47 31.0 -0.5
baz=119
SCM **Sheep Creek Mo** 64.92 333 P P 11 47 31.0 -1.2
baz=111
PWL **Port Wells** 65.03 332 P P 11 47 31.8 -1.1
baz=110
K24K **Donnelly Dome** 65.03 335 P P 11 47 32.5 -0.3
baz=114
E28M **Babbage River** 65.05 341 P P 11 47 31.8 -1.0
baz=122
M23K **Glacier View** 65.08 333 P P 11 47 32.0 -1.2
baz=111
J25K **Salcha River,** 65.20 336 IAmb IAmb 11 47 54.8
comp=Z,7.0nm,0.9s
J25K **Salcha River,** 65.20 336 P P 11 47 32.1 -1.8
baz=114,SNR=5.3
D28M **Stokes Point** 65.20 342 P P 11 47 32.4 -1.3
baz=123
KNK **Knik Glacier** 65.27 332 P P 11 47 32.7 -1.7
baz=110
SEW **Seward** 65.30 331 P P 11 47 33.9 -0.6
baz=109
E27K **Coleen River** 65.49 341 P P 11 47 34.8 -1.0
baz=120
O22K **Cooper Landing** 65.55 331 P P 11 47 35.9 -0.2
baz=108
G26K **Porcupine Rive** 65.64 339 IAmb IAmb 11 47 58.1
comp=Z,20nm,1.6s
G26K **Porcupine Rive** 65.64 339 P P 11 47 35.3 -1.3
baz=117
PRP **Porcupine Dome** 65.64 337 P P 11 47 35.6 -1.2
baz=115,SNR=5.6
PMR **Palmer** 65.64 333 P P 11 47 35.0 -1.7
baz=110
HDA **Harding Lake** 65.74 336 P P 11 47 36.2 -1.2
baz=113
RC01 **Rabbit Creek A** 65.75 332 P P 11 47 36.1 -1.4
baz=109
D27M **Malcolm River** 65.83 342 P P 11 47 37.1 -0.8
baz=121
ILAR **Eielson Array** 65.86 336 P P 11 47 37.5 -0.6
ILAR **Eielson Array** 65.86 336 P P 11 47 37.4 -0.8
comp=Z,3.8nm,1.0s,baz=110,slow=4.8,SNR=14
ILAR pP pP 11 47 57.4 -0.8
comp=Z,4.5nm,1.0s,baz=113,slow=4.8,SNR=9.8
ILAR LR LR 12 19 37.3
comp=Z,42nm,18.6s,baz=94,slow=39
comp=Z,3.8nm,1.0s
H25L **Birch Creek** 66.06 338 P P 11 47 37.8 -1.6
baz=115,SNR=6.4
F26K **Sheenjek River** 66.10 340 P P 11 47 38.9 -0.8
baz=117,SNR=5.2
BMAR **Burnt Mountain** 66.13 339 P P 11 47 40.0 +0.2
M22K **Willow** 66.14 333 P P 11 47 39.9 0.0
baz=109
RND **Reindeer** 66.15 334 IAmb IAmb 11 48 00.9
comp=Z,17nm,0.9s
KDAK **Kodiak Island** 66.18 328 LR LR 12 19 20.6
comp=Z,41nm,18.9s,baz=96,slow=38
KDAK **Kodiak Island** 66.18 328 P P 11 47 40.3 +0.1
baz=105
POKR **Poker Flat Res** 66.21 336 P P 11 47 40.7 +0.3
baz=113
HOM **Homer** 66.21 330 P P 11 47 40.5 0.0
baz=106
COLA **College** 66.28 336 P P 11 47 40.3 -0.4
baz=112
COLA **College** 66.28 336 P P 11 47 40.1 -0.7
COLA pP pP 11 48 00.0 -0.8
MCK **McKinley** 66.30 335 P P 11 47 40.9 -0.1
baz=111
Q20K **Shuyak Island** 66.30 329 P P 11 47 40.5 -0.5
baz=105
CAPN **Captain Cook N** 66.31 331 P P 11 47 40.4 -0.6
baz=107
SUA **Susitna One** 66.33 332 P P 11 47 40.4 -1.0
baz=108
G25K **Bearman Lake** 66.38 338 P P 11 47 39.9 -1.5
baz=115,SNR=5.9
OHAK **Old Harbor** 66.41 327 P P 11 47 40.1 -1.6
baz=104
CUT **Chulitna** 66.42 333 P P 11 47 40.8 -0.9
baz=109
F25K **Christian Rive** 66.57 339 P P 11 47 41.3 -1.4
baz=115,SNR=6.0
SUMG **Summit** 66.58 14 P P 11 47 42.1 -0.9
SUMG IAmb IAmb 11 47 44.3
comp=Z,9.3nm,1.1s
SUMG **Summit** 66.58 14 *i* P P 11 47 41.0 -2.1
SUMG IAmb IAmb 11 47 44.5
comp=Z,10nm,1.1s
H24K **Noodor Dome** 66.66 337 P P 11 47 41.8 -1.5
baz=112
NEA2 **Nenana** 66.66 336 P P 11 47 42.6 -0.6
baz=111
SII **Sitkinak Islan** 66.73 326 P P 11 47 43.3 -0.5
baz=103
TRF **Thorofare Moun** 66.77 334 IAmb IAmb 11 48 07.6
comp=Z,7.5nm,0.8s
TRF **Thorofare Moun** 66.77 334 P P 11 47 43.2 -0.9
baz=109
E25K **Arctic Village** 66.77 340 P P 11 47 42.3 -1.7
baz=116
O20K **Slope Mountain** 66.81 330 P P 11 47 44.0 -0.4
baz=106
SKT **Skwentna** 66.84 333 P P 11 47 43.2 -1.3
baz=107
G24K **Hadweenzic Riv** 66.85 338 P P 11 47 43.7 -0.7
baz=113,SNR=6.9
C27K **Jago River** 66.86 342 P P 11 47 43.6 -0.9
baz=118
N20K **Mount Spurr** 66.92 332 P P 11 47 44.0 -1.1
baz=106
SPCR **Spurr Chakacha** 66.92 332 P P 11 47 44.4 -0.7
baz=106
I23K **Minto, Yukon-K** 66.98 336 P P 11 47 44.6 -0.6
baz=111,SNR=5.4
P19K **Oil Pt** 66.99 330 P P 11 47 44.4 -1.0
baz=105
Q19K **Cape Douglas,** 67.01 329 P P 11 47 44.7 -0.9
baz=104
R18K **Karluk** 67.10 327 P P 11 47 45.0 -1.1
baz=103
BPAW **Bear Paw Mtn.** 67.28 335 P P 11 47 45.7 -1.5
baz=109
H23K **Yukon River** 67.29 337 P P 11 47 46.3 -1.0
baz=111
F24K **Squaw Lake** 67.32 339 P P 11 47 46.4 -1.0
baz=113
CHIR **Chirikof Islan** 67.36 325 P P 11 47 46.4 -1.4
baz=101
C26K **Camden Bay** 67.37 342 P P 11 47 46.8 -0.8
baz=117
PPLA **Purkeypile** 67.41 333 P P 11 47 47.1 -1.2
baz=107
MLY **Manley** 67.48 336 P P 11 47 47.3 -1.3
baz=109,SNR=8.9
CAST **Castle Rocks** 67.52 334 P P 11 47 47.2 -1.6
baz=108
M20K **Styx River** 67.54 332 P P 11 47 47.9 -1.1
baz=106
D25K **Kavik River** 67.56 341 IAmb IAmb 11 48 10.6
comp=Z,17nm,0.9s
D25K **Kavik River** 67.56 341 P P 11 47 47.3 -1.6
baz=115
NEEM **North Greenlan** 67.56 8 *i* P P 11 47 47.5 -1.6
NEEM IAmb IAmb 11 47 49.8
comp=Z,11nm,0.9s
Q18K **Katmai Hardscr** 67.63 329 P P 11 47 48.9 -0.8
baz=103
O19K **Port Alsworth** 67.66 330 P P 11 47 48.8 -0.8
baz=104
E24K **Your Creek** 67.75 339 P P 11 47 49.4 -0.7
baz=113
CHUM **Lake Minchumin** 67.76 334 P P 11 47 49.4 -0.8
baz=107
G23K **Bananza Creek** 67.79 338 P P 11 47 49.0 -1.4
baz=111,SNR=6.8
N19K **Bonanza Creek** 67.89 331 P P 11 47 49.7 -1.4
baz=104
P18K **Big Mountain,** 67.91 329 P P 11 47 49.5 -1.8
baz=103
O18K **Koktuh Hills** 68.01 330 P P 11 47 50.4 -1.5
baz=103
PPT **Papeete** 68.02 245 LR LR 12 10 57.6
comp=Z,93nm,19.6s,baz=218,slow=30
H22K **Ishtalitna Cre** 68.02 337 P P 11 47 50.3 -1.6
baz=109
PPT2 **Papeete2** 68.02 245 *e*LR LR 12 08 22.5
comp=Z,234nm,29.2s
PPT2 *e*LR LR 12 08 23.6
comp=Z,202nm,31.5s
I21K **Tanana** 68.03 336 P P 11 47 50.4 -1.4
baz=108
COLD **Coldfoot** 68.04 338 IAmb IAmb 11 47 54.0
comp=Z,7.4nm,0.9s
COLD **Coldfoot** 68.04 338 P P 11 47 50.6 -1.3
baz=111,SNR=7.7
L20K **Farewell, AK** 68.04 333 P P 11 47 50.7 -1.4
baz=105
R17L **Mt. Peulik Vol** 68.12 327 P P 11 47 51.7 -0.9
baz=101
M19K **Big River Lodg** 68.12 332 P P 11 47 51.9 -0.7
baz=105
E23K **Chandalar** 68.14 339 IAmb IAmb 11 48 18.4
comp=Z,9.7nm,0.8s
E23K **Chandalar** 68.14 339 P P 11 47 51.4 -1.2
baz=112
D24K **Happy Valley** 68.29 340 P P 11 47 52.6 -0.9
baz=113
TOLK **Toolik Lake Re** 68.34 340 P P 11 47 53.5 -0.4
baz=112
K20K **Telida** 68.36 334 P P 11 47 53.6 -0.4
baz=106
L19K **White Mountain** 68.40 332 P P 11 47 53.2 -1.2
baz=104
G22K **Bettles** 68.42 338 P P 11 47 53.5 -0.7
baz=109
C24K **Franklin Bluff** 68.47 341 P P 11 47 53.2 -1.3
baz=113
P17K **Kvichak River** 68.47 329 P P 11 47 54.0 -0.7
baz=102
Q16K **King Salmon** 68.48 328 P P 11 47 53.9 -0.8
baz=101
H21K **Melozitna Rive** 68.50 336 P P 11 47 53.7 -1.1
baz=108
N18K **Kilae Creek** 68.53 331 P P 11 47 54.7 -0.3
baz=103
J20K **Nowinta River** 68.62 334 P P 11 47 54.6 -1.0
baz=106
M18K **Stony River** 68.68 331 P P 11 47 54.9 -1.1
baz=103
BORG **Borgarnes** 68.74 25 LR LR 12 17 04.8
comp=Z,20nm,21.2s,baz=297,slow=35
R16K **Pilot Point** 68.75 327 P P 11 47 55.6 -0.8
baz=100
D23K **Nanushuk River** 68.84 340 P P 11 47 55.8 -1.0
baz=111
F22K **John River** 68.86 338 P P 11 47 56.1 -0.9
baz=109
O17K **Koliganek Bris** 68.92 329 P P 11 47 56.6 -0.9
baz=101
I20K **Naaghedeneel** 68.93 335 IAmb IAmb 11 47 57.5
comp=Z,12nm,0.9s
I20K **Naaghedeneel** 68.93 335 P P 11 47 56.7 -0.7
baz=106
E22K **Anaktuvuk Pass** 68.94 339 P P 11 47 56.2 -1.3
baz=110
CHGN **Chignik** 68.99 326 P P 11 47 57.0 -1.0
baz=99
G21K **Allakaket** 69.04 337 P P 11 47 56.7 -1.5
baz=107
N17K **Nushagak Hills** 69.12 330 P P 11 47 57.6 -1.1
baz=102
C23K **Itkillik River** 69.13 341 P P 11 47 56.9 -1.8
baz=111
J19K **Poorman** 69.20 334 P P 11 47 58.3 -0.9
baz=104
F21K **Alatna River** 69.25 338 IAmb IAmb 11 48 01.2
comp=Z,9.4nm,0.8s
F21K **Alatna River** 69.25 338 P P 11 47 57.6 -1.8
baz=108,SNR=9.0
L18K **Granite Mounta** 69.25 332 P P 11 47 57.6 -1.9
baz=103
H20K **Anotleneega Mo** 69.28 336 P P 11 47 58.7 -1.0
baz=106
O16K **Kokwok River B** 69.38 329 P P 11 47 59.8 -0.5
baz=100
M17K **Holitna River** 69.42 331 P P 11 47 59.7 -0.9
baz=102
CHNA **Chernabura Isl** 69.43 324 P P 11 48 00.2 -0.5
baz=97

D22K	**Ayikyak River**	**69.49**	339	P	**P**	**11 48 00.3 -0.6**
	baz=109					
J18K	**Innoko River**	**69.54**	333	P	**P**	**11 48 00.5 -0.8**
	baz=103					
S14K	**Fog Glacier**	**69.61**	326	P	**P**	**11 47 59.8 -2.2**
	baz=98					
E21K	**Killik River**	**69.80**	339	P	**P**	**11 48 01.0 -1.9**
	baz=108					
N16K	**Nishlik Lake**	**69.88**	330	P	**P**	**11 48 01.6 -1.9**
	baz=100					
GCSA	**Galena City Sc**	**69.91**	335	P	**P**	**11 48 01.7 -1.8**
	baz=103					
H19K	**Roundabout Mou**	**69.92**	336	P	**P**	**11 48 01.7 -1.9**
	baz=104,SNR=6.9					
L17K	**Donlin**	**69.97**	332	P	**P**	**11 48 01.1 -2.8**
	baz=101					
SDPT	**Sand Point**	**70.00**	325	P	**P**	**11 48 02.3 -1.9**
	baz=97					
F20K	**Avaraart Lake**	**70.03**	337	P	**P**	**11 48 02.6 -1.7**
	baz=105					
M16K	**Timber Creek**	**70.07**	331	P	**P**	**11 48 02.4 -2.2**
	baz=100					
K17K	**Iditarod**	**70.08**	332	P	**P**	**11 48 03.3 -1.4**
	baz=101					
TBI	**Tubuai**	**70.14**	239	*e*LR	LR	12 09 29.7
	comp=Z,694nm,27.8s					
O15K	**Ungalikthiuk R**	**70.19**	329	P	**P**	**11 48 03.9 -1.4**
	baz=99					
B22K	**Teshekpuk Lake**	**70.21**	341	P	**P**	**11 48 02.8 -2.5**
	baz=109					
C21K	**Knifeblade Rid**	**70.29**	340	P	**P**	**11 48 04.4 -1.4**
	baz=107					
G19K	**Purcell Mounta**	**70.33**	336	P	**P**	**11 48 04.6 -1.5**
	baz=104					
B21K	**Ikpikpuk River**	**70.37**	340	P	**P**	**11 48 05.2 -1.0**
	baz=107					
L16K	**Owhat River**	**70.44**	331	P	**P**	**11 48 05.5 -1.2**
	baz=100					
N15K	**Kwethluk River**	**70.47**	330	P	**P**	**11 48 05.7 -1.4**
	baz=99					
E20K	**Nigu River**	**70.53**	338	P	**P**	**11 48 06.2 -1.1**
	baz=105					
J17K	**VABM Dome**	**70.57**	333	P	**P**	**11 48 06.6 -0.9**
	baz=101					
H18K	**Honhosa River**	**70.62**	335	P	**P**	**11 48 06.2 -1.6**
	baz=102					
E19K	**Redstone River**	**70.71**	337	P	**P**	**11 48 07.2 -1.2**
	baz=104					
F19K	**Shaleruckik Mo**	**70.76**	337	P	**P**	**11 48 07.3 -1.4**
	baz=103					
D20K	**Etivluk River**	**70.80**	339	IAmb	IAmb	11 48 09.8
	comp=Z,9.8nm,0.9s					
D20K	**Etivluk River**	**70.80**	339	P	**P**	**11 48 07.6 -1.3**
	baz=105					
M15K	**Kasigluk River**	**70.85**	330	P	**P**	**11 48 08.6 -0.7**
	baz=98					
G18K	**Tagagawik**	**70.90**	336	P	**P**	**11 48 08.6 -1.0**
	baz=102,SNR=6.8					
A22K	**Sinclair Lake**	**70.91**	341	P	**P**	**11 48 08.2 -1.2**
	baz=107					
O14K	**Tigyukauivet M**	**70.93**	329	P	**P**	**11 48 08.9 -0.9**
	baz=98					
S12K	**Black Hills**	**70.94**	325	P	**P**	**11 48 08.9 -1.1**
	baz=96					
H17K	**Granite Mounta**	**71.22**	335	P	**P**	**11 48 09.6 -1.9**
	baz=101					
J16K	**Anvik River**	**71.22**	333	P	**P**	**11 48 09.5 -2.1**
	baz=100					
N14K	**Kuskokwak Cree**	**71.23**	329	P	**P**	**11 48 10.0 -1.6**
	baz=97					
D19K	**Kuna River**	**71.28**	338	P	**P**	**11 48 10.0 -1.9**
	baz=104					
B20K	**Meade River**	**71.33**	340	IAmb	IAmb	11 48 34.5
	comp=Z,11nm,1.1s					
B20K	**Meade River**	**71.33**	340	P	**P**	**11 48 10.1 -1.9**
	baz=105					
I17K	**Unalakleet**	**71.36**	333	P	**P**	**11 48 10.4 -1.9**
	baz=100					
L15K	**Ungalak Mounta**	**71.38**	331	P	**P**	**11 48 10.6 -1.8**
	baz=98					
F18K	**Selawik**	**71.44**	336	P	**P**	**11 48 11.6 -1.1**
	baz=102					
M14K	**Bethel**	**71.47**	330	IAmb	IAmb	11 48 34.1
	comp=Z,12nm,0.8s					
M14K	**Bethel**	**71.47**	330	P	**P**	**11 48 11.8 -1.2**
	baz=97,SNR=6.5					
K15K	**Wolf Creek Mou**	**71.49**	332	P	**P**	**11 48 11.9 -1.3**
	baz=98					
G17K	**Kiwalik Mounta**	**71.63**	335	P	**P**	**11 48 12.5 -1.4**
	baz=100					
FALS	**False Pass**	**71.64**	324	P	**P**	**11 48 12.3 -1.8**
	baz=94					
L14K	**Kuka Creek**	**71.90**	331	P	**P**	**11 48 13.5 -2.1**
	baz=97					
C19K	**Lookout Ridge**	**71.94**	339	P	**P**	**11 48 14.2 -1.6**
	baz=102					
E18K	**Tukpahlearik C**	**71.97**	337	P	**P**	**11 48 14.8 -1.2**
	baz=101					
M13K	**Dall Lake**	**72.12**	330	P	**P**	**11 48 16.0 -0.9**
	baz=96					
H16K	**Elim**	**72.15**	334	P	**P**	**11 48 15.6 -1.5**
	baz=98					
E17K	**Hotham Inlet**	**72.37**	337	P	**P**	**11 48 17.6 -0.7**
	baz=100					
C18K	**Utukok River**	**72.42**	338	P	**P**	**11 48 17.7 -1.1**
	baz=101					
J14K	**Nanvaranak Lak**	**72.48**	332	IAmb	IAmb	11 48 20.5
	comp=Z,11nm,0.8s					
J14K	**Nanvaranak Lak**	**72.48**	332	P	**P**	**11 48 18.0 -1.0**
	baz=97					
A19K	**Wainwright**	**72.68**	340	P	**P**	**11 48 19.2 -0.9**
	baz=101					
B18K	**Kokolik River**	**72.77**	339	P	**P**	**11 48 20.0 -0.6**
	baz=100					
K13K	**Kusilvak Mount**	**72.90**	331	P	**P**	**11 48 20.3 -1.3**
	baz=95					
D17K	**Noatak River**	**72.95**	337	P	**P**	**11 48 20.9 -0.8**
	baz=99					
G15K	**Niukluk**	**72.96**	334	P	**P**	**11 48 21.0 -0.9**
	baz=97					
C17K	**DeLong Mountai**	**73.11**	338	P	**P**	**11 48 21.1 -1.6**
	baz=99					
F15K	**North Star Dit**	**73.30**	335	P	**P**	**11 48 23.0 -0.9**
	baz=96					
UNV	**Unalaska Valle**	**73.39**	323	P	**P**	**11 48 23.3 -1.3**
	baz=91					
ANM	**Nome**	**73.48**	334	P	**P**	**11 48 23.6 -1.3**
	baz=96					
M11K	**Mekoryuk**	**73.52**	329	P	**P**	**11 48 24.3 -1.0**
	baz=94					
C16K	**Lisburne Hills**	**73.88**	338	P	**P**	**11 48 26.2 -1.0**
	baz=97					
F14K	**Arctic Creek**	**73.97**	335	P	**P**	**11 48 26.8 -1.0**
	baz=95					
TNA	**Tin City**	**74.64**	335	P	**P**	**11 48 30.3 -1.3**
	baz=94					
NIKH	**Nikolski High**	**74.79**	322	P	**P**	**11 48 32.3 -0.5**
	baz=89					
P08K	**Saint George I**	**75.17**	326	P	**P**	**11 48 34.5 -0.3**
	baz=90					
SPIA	**Saint Paul Isl**	**75.55**	326	P	**P**	**11 48 36.7 -0.3**
	baz=89					
GAMB	**Gambell**	**76.21**	333	P	**P**	**11 48 40.5 -0.2**
	baz=90					
EKA	**Eskdalemuir Ar**	**76.70**	36	P	**P**	**11 48 41.0 -2.6**
	comp=Z,1.8nm,0.8s,baz=278,slow=6.5,SNR=2.2					
EKA				pP	**pP**	**11 49 01.2 -2.9**
	comp=Z,3.2nm,0.7s,baz=260,slow=5.0,SNR=4.8					
	comp=Z,1.8nm,0.8s					
ESDC	**Sonseca Array**	**77.33**	52	P	**P**	**11 48 45.4 -2.2**
	comp=Z,1.2nm,0.6s,baz=284,slow=5.3,SNR=7.1					
ESDC				pP	**pP**	**11 49 05.0 -3.2**
	comp=Z,0.7nm,0.7s,baz=283,slow=5.4,SNR=2.7					
ESDC				LR	LR	12 16 25.3
	comp=Z,60nm,21.9s,baz=286,slow=31					
	comp=Z,1.2nm,0.6s					
MDT	**Midelt**	**77.57**	59	LR	LR	12 17 44.8
	comp=Z,52nm,21.4s,baz=267,slow=32					
RAR	**Rarotonga**	**78.30**	245	LR	LR	12 17 49.1
	comp=Z,45nm,18.2s,baz=4.5,slow=31					
PMSA	**Palmer Station**	**79.12**	170	LR	LR	12 15 19.8
	comp=Z,52nm,19.8s,baz=96,slow=29					
ESPZ	**Base Esperanza**	**79.30**	166	P	**P**	**11 48 58.6 +1.0**
ESPZ				IAmb	IAmb	11 49 01.8
	comp=Z,21nm,1.4s					
SPITS	**Spitsbergen Ar**	**80.68**	12	LR	LR	12 25 59.7
	comp=Z,44nm,20.9s,baz=286,slow=37					
DBIC	**Dimbokro**	**81.61**	85	LR	LR	12 21 31.2
	comp=Z,59nm,20.6s,baz=300,slow=33					

NB2	**NORSAR Subarra**	**83.42**	29	P	**P**	**11 49 17.4 -2.4**
	comp=Z,4.6nm,1.1s,baz=286,slow=5.1					
NOA	**NORSAR Array B**	**83.42**	29	P	**P**	**11 49 18.1 -1.7**
	comp=Z,0.9nm,0.6s,baz=287,slow=4.9,SNR=4.4					
NOA				pP	**pP**	**11 49 38.2 -2.3**
	comp=Z,1.0nm,0.7s,baz=288,slow=5.0,SNR=3.5					
NOA				LR	LR	12 24 24.6
	comp=Z,13nm,21.1s,baz=285,slow=34					
	comp=Z,0.9nm,0.6s					
HFS	**Hagfors**	**84.83**	30	P	**P**	**11 49 25.4 -1.5**
	comp=Z,1.6nm,0.7s,baz=266,slow=4.3,SNR=1.9					
HFS				LR	LR	12 27 29.2
	comp=Z,17nm,18.9s,baz=316,slow=36					
	comp=Z,1.6nm,0.7s					
DAVOX	**Davos/Dischmat**	**86.10**	43	LR	LR	12 21 59.1
	comp=Z,52nm,21.5s,baz=260,slow=32					
ARCES	**ARCESS Array B**	**86.19**	19	P	**P**	**11 49 31.8 -1.7**
	comp=Z,0.8nm,0.7s,baz=297,slow=5.3,SNR=4.2					
ARCES				LR	LR	12 28 30.8
	comp=Z,28nm,18.7s,baz=282,slow=36					
	comp=Z,0.8nm,0.7s					
TORD	**Torodi Ar. Bea**	**86.62**	77	P	**P**	**11 49 33.5 -3.2**
	comp=Z,0.3nm,0.5s,baz=292,slow=4.5,SNR=2.4					
CLL	**Colln**	**86.91**	38	*e*pP	pP	11 49 59.0 +0.8
GERES	**GERESS Array B**	**88.03**	40	LR	LR	12 22 48.1
	comp=Z,47nm,19.9s,baz=284,slow=31					
VRAC	**Vranov**	**89.70**	39	LR	LR	12 24 27.6
	comp=Z,59nm,21.1s,baz=288,slow=32					
FINES	**FINESS Array B**	**90.01**	26	LR	LR	12 30 23.7
	comp=Z,19nm,20.2s,baz=1.5,slow=36					
VAE	**Valguarnera**	**91.86**	51	LR	LR	12 24 02.7
	comp=Z,99nm,20.3s,baz=314,slow=31					
TIXI	**Tiksi**	**92.53**	349	LR	LR	12 34 07.8
	comp=Z,21nm,21.6s,baz=32,slow=37					
PETK	**Petropavlovsk-**	**94.20**	327	LR	LR	12 33 41.3
	comp=Z,21nm,21.2s,baz=93,slow=36					
MA2	**Magadan**	**94.27**	334	LR	LR	12 37 26.0
	comp=Z,25nm,18.9s,baz=40,slow=38					
AKASG	**Malin Array Be**	**96.59**	35	LR	LR	12 29 43.1
	comp=Z,29nm,21.3s,baz=249,slow=33					
MLR	**Muntele Rosu**	**97.02**	40	LR	LR	12 28 47.0
	comp=Z,39nm,21.1s,baz=265,slow=32					
YAK	**Yakutsk**	**100.13**	343	LR	LR	12 41 51.6
	comp=Z,29nm,21.3s,baz=10.0,slow=39					
DZM	**Mont Dzumac**	**109.15**	251	*e*LR	LR	12 27 32.7
	comp=Z,69nm,24.6s					
ZALV	**Zalesovo Beam**	**113.48**	5	PP	**PP**	**11 56 18.5 -2.9**
	comp=Z,1.7nm,0.7s,baz=350,slow=7.3,SNR=5.2					
BOSA	**Boshof**	**115.94**	116	PKP	**PKPdf**	**11 55 35.6 -0.1**
	comp=Z,2.8nm,0.7s,baz=244,slow=5.3,SNR=6.7					
KURBB	**Kurchatov Arra**	**115.98**	10	PKP	**PKiKP**	**11 55 33.7 -1.3**
	comp=Z,0.2nm,0.3s,baz=346,slow=1.9,SNR=4.1					
KSRS	**Korea Array**	**120.08**	328	PKP	**PKPdf**	**11 55 43.5 +0.2**
	comp=Z,21nm,0.7s,baz=7.9,slow=1.5,SNR=13					
HHC	**Hu-ho-hao-te**	**123.98**	342	*e*P	**PKPdf**	**11 55 48.4 -2.5**
NJ2	**Nanjing**	**128.90**	331	*e*P	**PKPdf**	**11 56 00.8 +0.4**
NJ2				pmax	pmax	
	comp=Z,6.0nm,0.5s					
STKA	**Stephens Creek**	**130.93**	239	PKP	**PKiKP**	**11 56 07.1 +2.0**
	comp=Z,2.5nm,0.6s,baz=104,slow=1.3,SNR=6.2					
WRA	**Warramunga Arr**	**139.06**	254	PKhKP	PKPpre	11 56 14.4
	comp=Z,3.0nm,0.6s,baz=89,slow=2.1,SNR=6.0					
WRA				PKP	**PKiKP**	**11 56 22.1 +0.1**
	comp=Z,2.3nm,0.5s,baz=91,slow=2.1,SNR=4.7					
WRA				pPKP	pPKPdf	11 56 41.3 -0.2
	comp=Z,4.9nm,0.7s,baz=85,slow=1.4,SNR=11					
ASAR	**Alice Springs**	**139.08**	248	PKhKP	PKPpre	11 56 11.2
	comp=Z,0.8nm,0.7s,baz=98,slow=2.8,SNR=9.0					
ASAR				PKP	**PKiKP**	**11 56 21.5 -0.4**
	comp=Z,2.2nm,0.6s,baz=102,slow=1.9,SNR=36					
ASAR				pPKP	pPKPdf	11 56 41.1 -0.3
	comp=Z,3.3nm,0.7s,baz=99,slow=2.0,SNR=8.3					
PZH	**PanZhiHua**	**140.14**	347	PKP	**PKPdf**	**11 56 21.8 +0.1**
CMAR	**Chiang Mai Arr**	**148.53**	348	PKPbc	**PKPbc**	**11 56 39.2 -0.7**
	comp=Z,6.5nm,0.8s,baz=341,slow=3.5,SNR=26					

*AFAD **19** 11:40:23.2,41.22N×43.69E,h7km±3km,MW2.9*
*ISK **19** 11:40:24.3,41.23N×43.61E,h8km,ML2.1/3*
ISC 19 11:40:23.7±1.7, 41.21N±0.05×43.66E±0.08, h7km±12km, n9, o0°§41/18, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.24**	328	Pg	**Pg**	**11 40 28.7**	**+0.3**
AKH				Sg	**Sg**	**11 40 32.1**	**+0.4**
EPOS	**Posof**	**0.76**	293	P	**Pb**	**11 40 38.8**	**-0.6**
EPOS				S	**Sg**	**11 40 47.4**	**-0.8**
EPOS				*i* IAML		11 40 50.0	
	comp=N,56nm,0.3s						
AHAN	**Ardahan-Merkez**	**0.78**	267	P	**Pg**	**11 40 38.9**	**+0.2**
AHAN				S	**Sb**	**11 40 50.7**	**0.0**
AHAN				*i* IAML		11 40 53.0	
	comp=N,84nm,0.6s						
BOZK	**Kars-Merkez-Bo**	**0.81**	220	P	**Pb**	**11 40 40.3**	**+0.2**
BOZK				S	**Sb**	**11 40 51.9**	**+0.6**
BOZK				*i* IAML		11 40 52.0	
	comp=N,52nm,0.3s						
DIGO	**Kars**	**0.82**	195	P	**Pg**	**11 40 39.0**	**-0.5**
DIGO				S	**Sb**	**11 40 52.0**	**+0.2**
DIGO				*i* IAML		11 40 58.0	
	comp=N,103nm,0.3s						
GOLE	**Ardahan-G¶le**	**0.89**	246	P	**Pg**	**11 40 40.9**	**+0.3**
GOLE				S	**Sb**	**11 40 53.9**	**+0.2**
GOLE				*i* IAML		11 40 57.0	
	comp=E,96nm,0.3s						
SENK	**Senkaya-Erzuru**	**1.18**	237	Pn	**Pn**	**11 40 46.9**	**0.0**
SENK				Sn	**Sn**	**11 41 03.5**	**+0.1**
DDEM	**Demirkent**	**1.48**	258	P	**Pn**	**11 40 50.9**	**+0.1**
DDEM				S	**Sg**	**11 41 11.2**	**0.0**
DDEM				*i* IAML		11 41 14.0	
	comp=N,69nm,0.4s						
BCA	**Borcka**	**1.55**	279	Pn	**Pb**	**11 40 52.4**	**-0.4**
BCA				Sn	**Sb**	**11 41 12.8**	**+0.1**

RSNC 19 11:40:32.3±0.0, 7°N±1°, 73°W±°, h141km±1km, M2.9, mb3.6, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	196	P	Pn	11 40 51.4	-0.5
BARC				S	Sn	11 41 06.2	-0.5
BRJC	**Barrancabermej**	**0.64**	285	P	Pn	11 40 53.1	-0.3
BRJC				S	Sn	11 41 10.1	+0.6
PAMC	**Pamplona, Colo**	**0.67**	38	P	Pn	11 40 54.2	0.0
PAMC				S	Sn	11 41 10.9	0.0
RUSC	**La Rusia**	**0.91**	178	P	Pn	11 40 55.5	-0.6
RUSC				S	Sn	11 41 13.7	-0.4
PTBC	**PUERTO BERRIO,**	**1.35**	259	P	Pn	11 40 58.4	-1.3
PTBC				S	Sn	11 41 19.9	-0.6
OCAC	**Ocana**	**1.43**	352	P	Pn	11 40 59.5	-1.2
OCAC				S	Sn	11 41 21.1	-1.2
ZARC	**Zaragoza, Cauc**	**1.85**	292	P	Pn	11 41 04.3	-0.9
ZARC				S	Sn	11 41 30.3	-0.1
NORC	**Norcasia**	**2.13**	235	P	Pn	11 41 08.1	-0.5
NORC				S	Sn	11 41 36.2	-0.2
ROSC	**El Rosal**	**2.29**	211	P	Pn	11 41 12.1	+1.3
ROSC				S	Sn	11 41 41.9	+1.5
HELC	**Santa Helena**	**2.47**	256	P	Pn	11 41 12.5	-0.5
HELC				S	Sn	11 41 44.2	0.0
UREC	**San Jos de Ur**	**2.57**	291	P	Pn	11 41 12.1	-1.8
UREC				S	Sn	11 41 43.2	-2.7
GUY2C	**Guyana, Caldas**	**2.73**	235	P	Pn	11 41 17.5	+1.1
GUY2C				S	Sn	11 41 49.8	-0.5
VILC	**Villavicencio,**	**2.74**	192	P	Pn	11 41 16.7	+0.5
VILC				S	Sn	11 41 50.1	+0.1
NIZA	**Niza - Manizal**	**2.92**	233	P	Pn	11 41 17.7	-0.8
NIZA				S	Sn	11 41 54.3	+0.1
CBOC	**Ciudad Bolivar**	**3.02**	252	P	Pn	11 41 20.1	+0.3
CBOC				S	Sn	11 41 56.1	-0.4
DBBC	**Dabeiba**	**3.07**	274	P	Pn	11 41 19.6	-0.8
DBBC				S	Sn	11 41 54.9	-2.6
SDV	**Santo Domingo**	**3.21**	50	P	Pn	11 41 21.4	-0.9
ARGC	**Ariguani, Magd**	**3.23**	340	P	Pn	11 41 22.5	+0.2
ARGC				S	Sn	11 42 00.9	0.0
ANIL	**Santa Ana**	**3.24**	225	P	Pn	11 41 24.1	+1.4
ANIL				S	Sn	11 42 03.0	+1.5
PRAC	**Prado**	**3.54**	210	P	Pn	11 41 26.4	0.0
PRAC				S	Sn	11 42 07.9	-0.4
ORTC	**Ortega, Tolima**	**3.58**	216	P	Pn	11 41 26.8	0.0
ORTC				S	Sn	11 42 09.3	+0.2
APAC	**Apartado, Choc**	**3.60**	288	P	Pn	11 41 25.6	-1.5
APAC				S	Sn	11 42 09.0	-0.5
PLMC	**San Jos del P**	**3.67**	239	P	Pn	11 41 27.8	-0.3
PLMC				S	Sn	11 42 10.7	-0.7
SJCC	**San Jacinto, C**	**3.68**	327	P	Pn	11 41 25.5	-2.7
SJCC				S	Sn	11 42 07.3	-4.3
URMC	**La Uribe, Meta**	**3.75**	200	P	Pn	11 41 28.7	-0.5
URMC				S	Sn	11 42 13.1	-0.3
LCBC	**Los crdobas,**	**3.81**	303	P	Pn	11 41 29.1	-0.7
LCBC				S	Sn	11 42 14.2	-0.2
CRJC	**Cerrejon, Guaj**	**4.19**	3	P	Pn	11 41 31.8	-3.1
CRJC				S	Sn	11 42 19.1	-4.5
SMRC	**Santa Marta, M**	**4.46**	346	P	Pn	11 41 38.2	-0.2
SMRC				S	Sn	11 42 25.1	-4.8
MACC	**Macarena, Meta**	**4.69**	189	P	Pn	11 41 39.7	-1.8
MACC				S	Sn	11 42 31.9	-3.5
BETC	**Betania**	**4.71**	210	P	Pn	11 41 40.0	-1.8
BETC				S	Sn	11 42 34.5	-1.4
URIC	**Uribia, Colomb**	**4.99**	13	P	Pn	11 41 41.8	-3.6
URIC				S	Sn	11 42 38.9	-3.5
JAMC	**Jamundi, Valle**	**5.03**	225	P	Pn	11 41 46.5	+0.3
JAMC				S	Sn	11 42 44.5	+0.8

*SKO **19** 11:42:47.2,41.19N×19.79E,h0km,ML2.4*
*TIR **19** 11:42:48.1,41.20N×19.86E,h36km,Md2.7/8,Ml2.7/6*
*BEO **19** 11:42:49.1±0.6,41.23N±0.19°,93E,h10km±2km,ML2.4/11*
*PDG **19** 11:42:49.3±0.2,41.25N×19.49E,h18km,ML2.6/12,Error ellipse: s-maj=0.7km s-min=1.5km az=0.0*
ISC 19 11:42:49.2±1.1, 41.23N±0.02×19.86E±0.02, h20km±4km, n42, σ1°§05/79, 9C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.12**	1	*e*Pg	**Pg**	**11 42 53.5**	**+0.1**
OHR	**Ohrid**	**0.72**	99	*i* Pg	**Pb**	**11 43 01.5**	**-1.6**
OHR				*i* Sg	**Sb**	**11 43 11.3**	**-1.2**
OHR				*e*Lg	Lg	11 43 12.5	
	comp=E,80nm,0.4s						
OHR				*e*Lg	Lg	11 43 13.1	
	comp=N,106nm,0.7s						
PUK	**Puka**	**0.81**	2	P	**Pb**	**11 43 03.2**	**-1.6**
PUK				S	**Sn**	**11 43 17.1**	**-0.1**
PUK				AML	AML	11 43 18.3	
	comp=N,1.0nm,0.4s						
PUK				AMd		11 43 52.2	
ULC	**Ulcinj**	**0.87**	328	*i* Pg	**Pb**	**11 43 03.1**	**-2.6**
ULC				*i* Sg	**Sb**	**11 43 15.2**	**-1.7**
KBN	**Korca**	**0.93**	130	P	**Pb**	**11 43 05.5**	**-1.1**
KBN				S	**Sb**	**11 43 18.7**	**+0.1**
KBN				AML	AML	11 43 25.1	
	comp=N,0.5nm,0.7s						
KBN				AMd		11 44 05.8	
DRME	**Dracevica, Mon**	**1.08**	332	*i* Pg	**Pb**	**11 43 07.6**	**-1.7**
DRME				*i* Sg	**Sb**	**11 43 22.5**	**-0.5**
BCI	**Bajram Curri**	**1.15**	8	P	**Pn**	**11 43 10.2**	**0.0**
BCI				S	**Sg**	**11 43 26.9**	**+0.3**
BCI				AML	AML	11 43 33.9	
	comp=N,1.0nm,0.4s						
BCI				AMd		11 44 21.3	
NEST	**Nestorio**	**1.21**	132	P	**Pn**	**11 43 09.9**	**-1.4**
NEST				S	**Sn**	**11 43 27.8**	**+0.6**
NEST				AML	AML	11 43 33.6	
	comp=N,0.4nm,0.3s						
FNA	**Florina**	**1.23**	111	P	**Pn**	**11 43 11.2**	**-0.2**
FNA				S	**Sg**	**11 43 28.6**	**-0.6**
FNA				AMd		11 44 19.5	
FNA	**Florina**	**1.23**	111	*i* Pg	**Pn**	**11 43 10.2**	**-1.2**
FNA				*i* Sg	**Sg**	**11 43 28.6**	**-0.6**
PDG	**Podgorica**	**1.28**	340	*e*Pg	**Pb**	**11 43 12.4**	**-0.3**
PDG				*e*Sg	**Sg**	**11 43 31.0**	**+0.1**
PDG	**Podgorica**	**1.28**	340	*i* Pg	**Pn**	**11 43 11.7**	**-0.4**
PDG				*i* Sg	**Sg**	**11 43 30.6**	**-0.3**
BUM	**Brajici-Budva**	**1.29**	326	*i* Pg	**Pn**	**11 43 11.5**	**-0.8**
BUM				*i* Sg	**Sb**	**11 43 28.7**	**-0.4**
SRN	**Sarande**	**1.35**	175	P	**Pn**	**11 43 13.1**	**+0.1**
SRN				S	**Sb**	**11 43 31.9**	**+1.1**
SRN				AMd		11 44 30.3	
PVY	**Plav**	**1.37**	3	*i* Pg	**Pb**	**11 43 14.1**	**-0.1**
PVY				*i* Sg	**Sg**	**11 43 35.3**	**+1.7**
SKO	**Skopje**	**1.40**	57	*e*Pn	**Pn**	**11 43 13.9**	**+0.2**
SKO				*i* Sg	**Sb**	**11 43 32.0**	**0.0**
CEME	**Cevo**	**1.49**	332	*i* Pg	**Pn**	**11 43 15.0**	**0.0**
CEME				*i* Sg	**Sn**	**11 43 34.4**	**+0.4**
KEK	**Kerkira**	**1.52**	182	P	**Pb**	**11 43 16.3**	**-0.4**
KEK				S	**Sb**	**11 43 35.7**	**+0.2**
KEK				AMd		11 44 07.5	
SCTE	**Santa Cesarea**	**1.57**	223	P	**Pn**	**11 43 16.1**	**+0.1**
SCTE				S	**Sb**	**11 43 37.2**	**+0.2**
SCTE				AML	AML	11 43 42.7	
	comp=N,0.4nm,0.3s						
SCTE				AMd		11 44 07.9	
HCY	**Herceg Novi**	**1.59**	320	*i* Pg	**Pn**	**11 43 15.3**	**-1.0**
HCY				*i* Sg	**Sn**	**11 43 36.0**	**-0.3**
KOME	**Kolasin**	**1.64**	351	*i* Pn	**Pn**	**11 43 17.7**	**+0.6**
KOME				*i* Sn	**Sb**	**11 43 40.3**	**+1.1**
IVA	**Berane**	**1.64**	1	*i* Pn	**Pb**	**11 43 18.2**	**-0.7**
IVA				*i* Sn	**Sg**	**11 43 41.6**	**-0.7**
NKME	**Niksic**	**1.68**	337	*i* Pg	**Pn**	**11 43 17.7**	**+0.1**
NKME				*i* Sg	**Sb**	**11 43 39.6**	**-0.7**
IGT	**Igoumenitsa**	**1.73**	168	P	**Pn**	**11 43 18.6**	**+0.4**
IGT				S	**Sb**	**11 43 41.5**	**-0.2**
IGT				AMd		11 44 33.5	
BRY	**Bratogost**	**1.94**	330	*i* Pn	**Pn**	**11 43 19.7**	**-1.5**
BRY				*i* Sn	**

comp=N,592nm,0.6s
MPMC IAML 11 45 37.4
comp=E,689nm,0.5s
CCAC Calif City Air 0.56 217 Pg 11 45 31.4 -0.1
CCAC Sg 11 45 39.4 +0.6
QSM Queen of Sheba 0.70 58 Pg 11 45 33.9 -0.2
ISA Isabella, Lake 0.71 275 Pg 11 45 34.1 -0.3
GSC Goldstone, Bar 0.71 114 Pg 11 45 34.2 -0.2
GSC IAML 11 45 48.0
comp=N,319nm,0.4s
GSC IAML 11 45 48.5
comp=E,328nm,0.6s
TPO Tropico Hills 0.89 216 Pg 11 45 37.3 -0.4
TPO IAML 11 45 52.9
comp=E,506nm,0.8s
TPO IAML 11 45 55.8
comp=N,431nm,0.4s
CWC Cottonwood Cre 0.92 335 Pg 11 45 37.9 -0.5
CWC IAML 11 45 50.7
comp=N,347nm,0.2s
CWC IAML 11 45 55.3
comp=E,272nm,0.2s
GWY Greenwater Val 0.96 52 Pg 11 45 38.5 -0.5
GWY IAML 11 45 54.9
comp=E,392nm,0.3s
FURC Furnace Creek, 1.05 34 IAML 11 46 00.9
comp=E,389nm,0.5s
FURC IAML 11 46 02.2
comp=N,314nm,0.5s
SHOC Shoshone, Teco 1.12 74 Pg 11 45 41.7 -0.4
OSI Osito Audit: C 1.35 223 IAML 11 46 07.7
comp=E,165nm,0.7s
OSI IAML 11 46 09.2
comp=N,220nm,0.8s
BFSC Mount Baldy Ra 1.36 182 Pn 11 45 45.7 -0.9
BFSC IAML 11 46 07.1
comp=E,165nm,0.6s
BFSC IAML 11 46 07.0
comp=N,107nm,0.4s
MWC Mount Wilson 1.43 195 Pn 11 45 47.2 -0.4
MWC IAML 11 46 07.6
comp=E,144nm,0.4s
MWC IAML 11 46 10.0
comp=N,156nm,0.3s
MTPC Mountain Pass 1.67 93 Pn 11 45 49.5 -1.5
MTPC IAML 11 46 15.1
comp=E,79nm,0.2s
MTPC IAML 11 46 17.1
comp=N,61nm,0.3s
GMN Gold Mountain 1.72 9 Pn 11 45 51.0 -0.7
TPNV Topopah Spring 1.73 39 Pn 11 45 50.9 -0.9
TPNV IAML 11 46 18.3
comp=N,100nm,0.5s
TPNV IAML 11 46 20.4
comp=N,98nm,0.5s
DSP Deep Springs 1.79 351 Pn 11 45 51.9 -0.6
ELS Elsinore Mount 1.95 176 IAML 11 46 24.4
comp=E,44nm,0.3s
DANC Danby, Needles 2.06 117 Pn 11 45 54.4 -1.8
DANC IAML 11 46 31.3
comp=E,114nm,0.6s
BELC Belle Mtn. Jos 2.07 140 Pn 11 45 55.0 -1.5
BELC IAML 11 46 29.2
comp=E,88nm,0.4s
BELC IAML 11 46 37.8
comp=N,90nm,0.7s
MZP Montezuma Peak 2.10 5 Pn 11 45 56.6 -0.4
SHPR Sheep Range 2.17 65 Pn 11 45 57.5 -0.4
PMD Palm Desert 2.19 152 Pn 11 45 56.6 -1.5
PMD IAML 11 46 32.9
comp=N,34nm,0.5s
PMD IAML 11 46 33.2
comp=E,38nm,0.4s
PFO Pinyon Flats O 2.20 154 Pn 11 45 56.9 -1.3
V12A Nelson 2.24 86 Pn 11 45 57.2 -1.6
IRM Iron Mountain 2.48 125 Pn 11 45 59.9 -2.1
IRM IAML 11 46 42.7
comp=E,30nm,0.4s
IRM IAML 11 46 45.8
comp=N,28nm,0.7s
TPH Tonopah 2.49 7 Pn 11 46 01.9 -0.4
TPH IAML 11 46 45.8
comp=N,26nm,1.2s
BORC Borrego Spring 2.52 157 Pn 11 46 02.0 -0.6
BORC IAML 11 46 43.4
comp=E,47nm,0.7s
BORC IAML 11 46 46.5
comp=N,40nm,0.7s
S11A Rachel 2.53 36 Pn 11 46 02.4 -0.4
S11A IAML 11 46 50.5
comp=E,55nm,0.8s
S11A IAML 11 46 51.0
comp=N,46nm,0.7s
BC3 Big Chuckawall 2.63 137 Pn 11 46 02.5 -1.6
BC3 IAML 11 46 47.7
comp=E,33nm,0.5s
BC3 IAML 11 46 48.0
comp=N,43nm,0.7s
DPP Dos Picos Cty 2.65 168 Pn 11 46 03.6 -0.8
DPP IAML 11 46 51.6
comp=E,27nm,0.7s
PMPB Monarch Peak 2.67 284 Pn 11 46 04.0 -0.6
PMPB IAML 11 46 48.0
comp=N,56nm,0.6s
PMPB IAML 11 46 51.3
comp=E,60nm,0.6s
PRN Pahroc Range 2.73 48 Pn 11 46 05.1 -0.5
PRN IAML 11 46 57.3
comp=N,28nm,0.7s
PRN IAML 11 46 59.9
comp=E,36nm,0.7s
LHV Little Huntoon 2.74 345 Pn 11 46 05.9 +0.4
NVAR Mina Array Bea 2.88 349 Pn 11 46 07.6 -0.1
BBGB Big Mountain B 2.95 290 Pn 11 46 07.9 -0.6
BAR Barrett 3.01 165 IAML 11 46 55.6
comp=E,33nm,0.3s
BAR IAML 11 46 57.3
comp=N,21nm,0.5s
RYN Ryan 3.11 347 Pn Pn 11 46 11.1 +0.3
YUH Yuha Desert 3.26 154 Pn 11 46 12.6 -0.1
CBX Cerro Bola 3.37 166 Pn Pn 11 46 13.7 -0.6
ESJX Sierra Juarez 3.84 159 Pn Pn 11 46 20.5 -0.3
ESJX IAML 11 47 18.8
comp=N,8.4nm,4.9s
ESJX IAML 11 47 23.9
comp=E,9.4nm,1.1s
PSUT Pine Spring 4.19 45 Pn Pn 11 46 25.7 0.0
PSUT IAML 11 47 39.4
comp=E,8.1nm,1.1s
PSUT IAML 11 47 47.1
comp=N,6.3nm,1.3s

RHSSO 19 11:50:10.4±0.5, 44.86N×16.92E, h5km±3km, ML1.0/3, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
A051A	**Mrakovica**	**0.15**	**357**	*i* Pg		Pg	11 50 12.8	-0.6
A051A				*e*Sg		Sg	11 50 16.2	+0.8
BLY	**Banja Luka**	**0.22**	**121**	*i* Pg		Pg	11 50 14.3	-0.4
BLY				*e*Sg		Sg	11 50 18.4	+0.8
A050A	**Klekovaca**	**0.47**	**216**	*i* Pg		Pg	11 50 18.9	-0.6
A050A				*e*Sg		Sg	11 50 26.2	+0.6
MOSL	**Moslavina**	**0.76**	**351**	*e*Pg		Pg	11 50 24.3	-0.7
MOSL				*e*Sg		Sg	11 50 35.1	+0.3
KIJV	**Kijevo**	**0.93**	**203**	*e*Pg		Pg	11 50 27.4	-0.9
KIJV				*e*Sg		Sg	11 50 39.9	-0.5

*LJU **19** 11:50:43.8, 46.39N×15.07E, h0km, ML0.8, Confirmed Rockburst*

VIE 19 11:50:43.6±0.4, 46.38N×15.09E, h0km, mb1.2/4, ml1.4/4, 1D, Error ellipse: s-maj=3.6km s-min=1.8km az=12.0 21 km NW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
ZAVS	**Zavodnje**	**0.07**	**322**	*i* Pg		Pg	11 50 45.1	0.0
ZAVS					IAML		11 50 46.7	
comp=Z,147nm,0.2s								
SOKA	**Soboth**	**0.31**	**352**	*i* Pg		Pg	11 50 49.6	+0.1
comp=Z,5.0nm,0.3s								
SOKA				Sg		Sg	11 50 54.2	+0.7
comp=Z,7.5nm,0.4s								
OBKA	**Obir**	**0.40**	**290**	*e*Pg		Pg	11 50 51.7	+0.4
comp=Z,2.6nm,0.3s								
OBKA				Sg		Sg	11 50 57.7	+1.3
comp=Z,12nm,0.3s								
ARSA	**Arzberg**	**0.93**	**19**	*e*Pg		Pg	11 51 00.8	-0.5
comp=Z,2.9nm,0.2s								
ARSA				*e*Sg		Sb	11 51 15.0	-0.5
comp=Z,1.8nm,0.4s								

IDC 19 12:18:37.8±5.4, 5.42S×147.09E, h224km±58km, mb3.1/2, mbtmp3.7/4, Error ellipse: s-maj=100.3km s-min=26.2km az=131.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
PMG	**Port Moresby**	**3.96**	**179**	P		Pn	12 19 41.7	+1.7
9.7nm,0.4s,baz=0.0,slow=18,SNR=7.8								
PMG				S		S	12 20 29.0	-0.1
17nm,0.3s,baz=328,slow=13,SNR=6.1								
WRA	**Warramunga Arr**	**19.03**	**220**	P		P	12 22 42.7	-0.6
3.9nm,0.8s,baz=38,slow=12,SNR=12								
ASAR	**Alice Springs**	**22.15**	**214**	P		P	12 23 16.1	+0.6
1.0nm,0.5s,baz=49,slow=8.0,SNR=22								
1.0nm,0.5s								
ILAR	**Eielson Array**	**84.92**	**23**	P		P	12 30 46.8	-0.4
0.4nm,0.7s,baz=252,slow=4.4,SNR=5.9								
0.4nm,0.7s								

AFAD 19 12:25:45.0, 38.28N×38.09E, h7km±1km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
AKCD	**Akcadag**	**0.14**	**278**	P		Pg	12 25 48.1	+0.2
AKCD				S		Sg	12 25 51.0	+1.0
AKCD				*i* IAML			12 25 51.0	
comp=N,536nm,0.5s								
MAYA	**Malatya/Merkez**	**0.27**	**80**	P		Pg	12 25 50.5	+0.2
MAYA				S		Sg	12 25 54.8	+0.9
MAYA				*i* IAML			12 25 56.0	
comp=N,29nm,0.7s								

*TAP **19** 12:26:24.6, 24.73N×122.23E, h10km, ML3.6, C*
*JMA **19** 12:26:25.0±0.1, 24.7N±0.8×122.3E±0.3, h34km±3km, MV3.0/12, TAIWAN REGION*

ISC 19 12:26:23.4±0.9, 24.69N±0.02×122.32E±0.02, h17km±7km, n135, σ1.09/217, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
EOS2	**EOS2**	**0.28**	**197**	*i* P		Pn	12 26 31.6	-1.1
EOS2				*i* S		Sn	12 26 36.8	-1.6
EOS3	**EOS3**	**0.40**	**180**	*i* P		Pn	12 26 34.0	-0.3
EOS3				*i* S		Sn	12 26 40.8	-0.6
TWC	**Suao**	**0.44**	**260**	*i* P		Pg	12 26 32.0	-0.3
TWC				*e*S		Sg	12 26 36.8	-1.5
TWB1	**Santiao Chiao**	**0.44**	**317**	*i* P		Pg	12 26 32.3	-0.1
TWB1				*i* S		Sg	12 26 37.2	-1.2
ESAO	**Su ao**	**0.45**	**256**	*e*P		Pb	12 26 32.9	0.0
ESAO				S		Sg	12 26 37.2	-1.4
NTC	**Toucheng**	**0.48**	**291**	P		Pg	12 26 33.0	0.0
NTC				S		Sg	12 26 38.9	-0.6
ILA	**Ilan**	**0.53**	**279**	P		Pg	12 26 33.8	-0.2
ILA				*e*S		Sg	12 26 40.2	-0.8
TIPB	**Shuangxi**	**0.53**	**302**	*i* P		Pg	12 26 34.1	0.0
TIPB				S		Sb	12 26 42.0	+0.2
EWUT	**Wuta**	**0.55**	**244**	*e*P		Pb	12 26 34.5	-0.1
EOS4	**EOS4**	**0.56**	**180**	*e*P		Pn	12 26 36.8	+0.5
EOS4				S		Sn	12 26 45.6	+0.5
SXI1	**Grass Mountain**	**0.57**	**315**	P		Pg	12 26 35.2	+0.3
SXI1				*e*S		Sb	12 26 43.6	+0.6
ENA	**Nanau**	**0.59**	**244**	*e*P		Pb	12 26 35.1	-0.2
ENA				*e*S		Sb	12 26 43.8	+0.5
TWE	**Neicheng**	**0.59**	**274**	*i* P		Pb	12 26 34.8	-0.6
TWE				S		Sg	12 26 43.4	+0.2
JYNG	**Yonagunijimaku**	**0.61**	**112**	P		Pn	12 26 37.8	+0.3
JYNG				S		Sn	12 26 47.9	+1.0
NWF	**Wu-fen Shan**	**0.62**	**308**	*e*P		Pn	12 26 37.5	-0.1
NWF				S		Sg	12 26 45.1	+1.0
WFSB	**Wu-fen Shan**	**0.62**	**308**	*e*P		Pn	12 26 37.7	+0.1
WFSB				*e*S		Sg	12 26 45.6	+1.6
EAHA	**Aohua**	**0.64**	**236**	*i* P		Pg	12 26 36.6	+0.6
EAHA				*e*S		Sg	12 26 45.6	+1.1
YOJ	**Yonaguni jima**	**0.67**	**109**	P		Pn	12 26 38.5	+0.4
YOJ	**Yonaguni jima**	**0.67**	**109**	S		Sn	12 26 49.9	+1.7
YOJ	**Yonaguni jima**	**0.67**	**109**	*i* P		Pn	12 26 38.8	+0.7
YOJ				S		Sn	12 26 49.0	+0.8
YOJ	**Yonaguni jima**	**0.67**	**109**	P		Pn	12 26 38.8	+0.7
YOJ				*e*S		Sn	12 26 49.0	+0.8
FUSB	**Fushanzhiwuyua**	**0.67**	**276**	P		Pb	12 26 36.4	-0.4
FUSB				*e*S		Sb	12 26 44.7	-1.1
TNOU	**National Taiwa**	**0.68**	**313**	P		Pn	12 26 37.9	-0.4
TNOU				S		Sg	12 26 46.6	+0.8
ENTT	**Nioudou**	**0.69**	**266**	*i* P		Pb	12 26 36.5	-0.5
ENTT				S		Sb	12 26 46.2	0.0
TWA	**Mucha**	**0.73**	**294**	P		Pb	12 26 37.8	0.0
TWA				S		Sb	12 26 47.5	0.0
LATG	**Datong**	**0.74**	**258**	*e*P		Pn	12 26 38.5	-0.8
LATG				*e*S		Sg	12 26 48.8	+1.0
NWLT	**Wulai**	**0.75**	**277**	*i* P		Pb	12 26 37.7	-0.4
NWLT				S		Sb	12 26 46.6	-1.5
TATO	**Taipei**	**0.81**	**291**	P		Pg	12 26 39.6	+0.4
TATO	**Taipei**	**0.81**	**291**	S		Sb	12 26 49.9	+0.2
YM01	**YM01**	**0.82**	**304**	*i* P		Pn	12 26 40.2	-0.1
YM01				*e*S		Sn	12 26 51.7	+0.4
ETL	**Fush Village**	**0.82**	**231**	*e*P		Pg	12 26 39.6	+0.1
ETL				*e*S		Sn	12 26 52.2	0.0
YM08	**YM08**	**0.83**	**307**	*e*P		Pg	12 26 40.1	+0.5
YM08				S		Sg	12 26 51.0	+0.4
NACB	**Ninganchiao**	**0.83**	**233**	P		Pg	12 26 39.7	0.0
NACB	**Ninganchiao**	**0.83**	**233**	S		Sn	12 26 51.6	-0.8
NACB	**Ninganchiao**	**0.83**	**233**	*i* P		Pg	12 26 39.7	0.0
NACB				S		Sn	12 26 51.4	-1.0
ZUZH	**Zhuzihu**	**0.85**	**304**	P		Pn	12 26 40.6	-0.1
ZUZH				S		Sg	12 26 51.7	+0.5
YHNB	**Yeheng**	**0.86**	**269**	P		Pg	12 26 40.4	+0.2
YHNB	**Yeheng**	**0.86**	**269**	S		Sg	12 26 52.2	+0.6
YHNB	**Yeheng**	**0.86**	**269**	*i* P		Pb	12 26 39.8	-0.2
YHNB				*e*S		Sb	12 26 50.9	-0.4
TWY	**Chenhua**	**0.88**	**312**	*i* P		Pn	12 26 41.5	+0.4
TWY				S		Sg	12 26 52.9	+0.8
NNSB	**Datong**	**0.89**	**253**	*e*P		Pn	12 26 41.2	+0.2
NNSB				*e*S		Sg	12 26 53.1	+0.5
TWD	**Chiawan**	**0.90**	**228**	*e*P		Pn	12 26 41.5	+0.2
ETLH	**Xiulin Townshi**	**0.90**	**238**	*e*P		Pn	12 26 41.3	-0.1
ETLH				*e*S		Sg	12 26 53.1	+0.2
TWS1	**Kuangyinshan**	**0.92**	**297**	*i* P		Pn	12 26 42.0	+0.4
TWS1				*e*S		Sn	12 26 54.3	-0.1
NTST	**Danshui**	**0.92**	**301**	*e*P		Pg	12 26 42.3	+0.9
NTST				*e*S		Sn	12 26 55.3	+0.8
HWA	**Hwalien**	**0.96**	**223**	*e*P		Pg	12 26 44.9	+2.8
PCYT	**Pengchaiyu**	**0.97**	**347**	*i* P		Pn	12 26 42.2	0.0
PCYT				*e*S		Sg	12 26 55.5	+0.6
ETM	**Tongmen**	**1.04**	**227**	*e*P		Pg	12 26 43.9	+0.2
KSHI	**Guanxi Townshi**	**1.04**	**275**	*e*P		Pg	12 26 44.5	+0.8
KSHI				*e*S		Sg	12 26 57.9	+0.5
TEYL	**Yanliau Villag**	**1.05**	**219**	P		Pg	12 26 45.6	+1.9
NCUH	**Zhongli**	**1.07**	**285**	*e*P		Pg	12 26 45.1	+0.9
NCUH				*i* S		Sg	12 26 59.7	+1.5
FUSS	**Fushou**	**1.07**	**246**	*e*P		Pg	12 26 45.0	+0.7
FUSS				S		Sg	12 26 59.2	+0.8
NFF	**Wufeng Townshi**	**1.10**	**267**	*e*P		Pg	12 26 46.2	+1.5
NFF				S		Sg	12 26 59.9	+0.9
WHF	**Hehuan Shan**	**1.10**	**241**	*e*P		Pg	12 26 45.0	+0.1
WHF				*e*S		Sg	12 26 59.7	+0.3
TWT	**Tachien**	**1.13**	**248**	*e*P		Pg	12 26 46.0	+0.7
TWT				*e*S		Sg	12 27 00.7	+0.5
SHUL	**Shoufeng**	**1.13**	**218**	*e*P		Pg	12 26 47.1	+1.8
SHUL				*e*S		Sg	12 27 05.7	+5.6
TDCB	**Techi**	**1.14**	**248**	P		Pg	12 26 46.3	+0.7
TDCB				*e*S		Sn	12 26 59.7	-0.5
ESL	**Shilin**	**1.19**	**223**	*e*P		Pg	12 26 47.6	+1.2
ESL				*e*S		Sg	12 27 04.2	+2.3
LIOB	**Emei**	**1.19**	**268**	*e*P		Pg	12 26 47.4	+1.0
LIOB				*e*S		Sg	12 27 03.0	+1.0
NSTT	**Nanjuang**	**1.20**	**268**	*e*P		Pg	12 26 47.9	+1.2
NSTT				S		Sg	12 27 02.7	+0.3
TEGC	**Jichi Village**	**1.21**	**216**	*e*P		Pg	12 26 48.0	+1.2
SBCB	**Hsinchu**	**1.22**	**275**	*e*P		Pg	12 26 48.1	+1.1
SBCB				*e*S		Sg	12 27 04.5	+1.6
HSN	**Hsinchu**	**1.23**	**276**	*e*P		Pg	12 26 47.9	+0.6
HSN				S		Sg	12 27 03.6	+0.2
OWD	**Renai**	**1.27**	**235**	*e*P		Pg	12 26 48.3	+0.2
OWD				*e*S		Sg	12 27 04.4	-0.3
WARBT	**Fenglin Townsh**	**1.29**	**222**	*e*P		Pg	12 26 48.9	+0.6
WARBT				*e*S		Sg	12 27 07.7	+2.5
WUSB	**Renai**	**1.30**	**238**	*i* P		Pg	12 26 48.8	+0.2
WUSB				S		Sg	12 27 06.1	+0.6
EGFH	**Guangfu**	**1.30**	**219**	*e*P		Pg	12 26 48.5	0.0
WHP	**Taichung City**	**1.32**	**252**	*e*P		Pg	12 26 49.8	+0.9
WHP				S		Sg	12 27 06.5	+0.4
IRIF	**Iriomote-Funau**	**1.33**	**105**	P		Pg	12 26 48.4	-0.7
IRIF				*e*S		Sg	12 27 05.9	-0.6
NMLH	**Miaoli**	**1.40**	**264**	P		Pg	12 26 51.4	+0.9
NMLH				S		Sg	12 27 10.5	+1.8
VWDT	**VWDT**	**1.42**	**229**	P		Pg	12 26 51.7	+0.9
VWDT				*e*S		Sg	12 27 10.6	+1.2
WCS	**Beigang Elemen**	**1.43**	**244**	*e*P		Pg	12 26 51.8	+0.8
WCS				*e*S		Sg	12 27 09.8	+0.2
HGSD	**Ruisui**	**1.44**	**215**	*e*P		Pg	12 26 50.8	-0.5
NSY	**Sanyi**	**1.45**	**260**	*e*P		Pg	12 26 52.9	+1.5
NSY				*e*S		Sg	12 27 12.4	+2.2
TWQ1	**Liyutan**	**1.45**	**257**	*e*P		Pg	12 26 52.1	+0.7
TWQ1				*e*S		Sg	12 27 11.5	+1.2
EHYH	**Wanrong**	**1.48**	**217**	*e*P		Pg	12 26 52.0	-0.1
EHY	**Hungye**	**1.49**	**218**	*e*P		Pg	12 26 52.0	-0.1
HATJ	**Hateruma jima**	**1.49**	**115**	*e*P		Pg	12 26 51.3	-0.8
SMLT	**Sun Moon Lake**	**1.52**	**239**	*e*P		Pg	12 26 54.0	+1.2
SSLB	**Suanglung**	**1.54**	**235**	P		Pg	12 26 52.9	-0.1
SSLB	**Suanglung**	**1.54**	**235**	*e*P		Pg	12 26 52.3	-0.7
TYC	**Yuchr**	**1.55**	**240**	*e*P		Pg	12 26 54.7	+1.5
WDJ	**Dajia District**	**1.57**	**258**	*e*P		Pg	12 26 54.6	+1.0
WDJ				*e*S		Sg	12 27 15.8	+1.8
ECBN	**Changbin**	**1.58**	**210**	*e*P		Pb	12 26 52.2	0.0
YULB	**Yu-li**	**1.59**	**216**	P		Pb	12 26 52.7	+0.3
YULB	**Yu-li**	**1.59**	**216**	S		Sg	12 27 16.0	+1.2
YULB	**Yu-li**	**1.59**	**216**	*e*P		Pb	12 26 52.9	+0.4
YULB				*e*S		Sg	12 27 15.9	+1.2
JKRS	**Kuro-shima**	**1.60**	**106**	P		Pb	12 26 52.9	+0.3
JKRS				*e*S		Sg	12 27 13.7	-1.4
EYUL	**Yuli**	**1.62**	**215**	*e*P		Pg	12 26 54.0	-0.6
TWF1	**Yuli**	**1.62**	**215**	*e*P		Pg	12 26 54.2	-0.5
WHYT	**Xinyi Township**	**1.66**	**234**	*e*P		Pg	12 26 55.9	+0.4
WJS	**Zhushan**	**1.69**	**240**	*e*P		Pg	12 26 57.5	+1.6
WJS				*i* S		Sg	12 27 21.4	+3.5
JIJ	**Ishigaki jima**	**1.69**	**101**	P		Pb	12 26 54.1	0.0
WNT	**Mingjian**	**1.70**	**242**	*e*P		Pb	12 26 56.9	+0.9
CHKH	**Chenggong**	**1.71**	**210**	*e*P		Pb	12 26 54.5	+0.1
WCHH	**Zhanghua**	**1.72**	**250**	*e*P		Pb	12 26 56.4	-0.1
FULB	**Fuli**	**1.75**	**213**	*e*P		Pb	12 26 55.0	-0.2
CHKT	**Chengkung**	**1.81**	**209**	*e*P		Pb	12 26 55.8	-0.3
ALS	**Alishan**	**1.81**	**230**	*e*P		Pg	12 26 58.4	+0.1
JISG	**Ishigakijimahi**	**1.81**	**93**	*e*P		Pb	12 26 56.4	+0.2
EHD	**Haiduan**	**1.84**	**214**	*e*P		Pb	12 26 56.9	+0.3
EHD				*e*S		Sg	12 27 20.6	-2.1
CHN5	**Tsauling**	**1.85**	**234**	*e*P		Pg	12 26 59.8	+0.8
CHN5				*i* S		Sg	12 27 24.9	+1.8
WGK	**Gukeng**	**1.89**	**239**	*e*P		Pg	12 27 00.4	+0.6
WGK				*e*S		Sg	12 27 26.6	+2.3
WDLH	**Douliu**	**1.91**	**239**	*e*P		Pg	12 27 00.8	+0.8
WDLH				*e*S		Sg	12 27 26.8	+1.9
ELDTW	**Lidau**	**1.91**	**219**	*e*P		Pg	12 26 58.9	-1.2
EDH	**Donghe**	**1.94**	**209**	*e*P		Pb	12 26 57.6	-0.9
EDH				*e*S		Sb	12 27 21.5	-0.9
WCKO	**Fanlu**	**2.00**	**232**	*e*P		Pg	12 27 01.1	-0.8
WCKO				*e*S		Sg	12 27 28.4	+0.8
WTK	**Tuku**	**2.02**	**241**	*e*P		Pg	12 27 02.2	-0.2
WTK				*e*S		Sg	12 27 29.0	+0.4
CHN4	**Tsaushan**	**2.06**	**230**	*e*P		Pg	12 27 03.1	0.0
STYH	**Taoyuan**	**2.07**	**223**	*e*P		Pg	12 27 02.4	-0.8
STYH				S		Sg	12 27 28.5	-1.5
TPUB	**Ta-pu**	**2.07**	**229**	P		Pg	12 27 02.4	-0.9
TPUB	**Ta-pu**	**2.07**	**229**	*e*P		Pg	12 27 03.1	-0.2
TPUB				*e*S		Sg	12 27 31.3	+1.1
LONT	**Longtian**	**2.08**	**212**	*e*P		Pb	12 27 00.4	-0.4
CHY	**Chiayi**	**2.10**	**236**	*e*P		Pg	12 27 03.9	+0.2
CHY				*e*S		Sg	12 27 29.7	-1.3
WTP	**Ta-pu**	**2.12**	**228**	*e*P		Pg	12 27 02.7	-1.5
WTP				*e*S		Sg	12 27 32.5	+0.8
LDUT	**Ludao**	**2.15**	**201**	*e*P		Pn	12 26 59.2	+0.7
TWGBT	**Beinan**	**2.18**	**212**	P		Pb	12 27 01.5	-1.0
TWGBT	**Beinan**	**2.18**	**212**	*e*P		Pb	12 27 00.4	-2.1
TWG	**Pinlang**	**2.18**	**212**	*e*P		Pb	12 27 01.3	-1.2
TWG	**Hsinying**	**2.19**	**230**	*e*P		Pg	12 27 04.3	-0.5
CHN1	**Nanshi**	**2.22**	**228**	*e*P		Pb	12 27 04.1	+0.9
WSL	**Shuilin Townsh**	**2.24**	**239**	*e*P		Pb	12 27 04.0	+0.5
WSL				*e*S		Sg	12 27 33.6	-1.8
ECL	**Taimali**	**2.43**	**211**	*e*P		Pb	12 27 05.6	-1.1
SCST	**Cishan**	**2.45**	**223**	*e*P		Pb	12 27 07.8	+0.7
SCST				*e*S		Sg	12 27 40.7	-1.6
SSD	**Sandimen**	**2.48**	**219**	*e*P		Pb	12 27 07.0	-0.5
SSD				*e*S		Sb	12 27 39.1	+1.4
TSCK	**Chigu Township**	**2.56**	**234**	*e*P		Pb	12 27 08.4	-0.4
TSCK				*e*S		Sg	12 27 43.0	-2.6
MASBT	**Mashibuluo**	**2.58**	**217**	*e*P		Pb	12 27 08.4	-0.9
MASBT				*e*S		Sg	12 27 43.1	-3.3
MATB	**Ma-tsu**	**2.60**	**305**	*e*P		Pn	12 27 05.0	+0.3
MATB				*e*S		Sn	12 27 34.6	-1.3
VWUC	**VWUC**	**2.63**	**277**	*e*P		Pn	12 27 04.5	-0.6
LAY	**Lan-yu**	**2.73**	**195**	*e*P		Pn	12 27 07.8	+1.2
LAY				*e*S		Sn	12 27 39.8	+0.7
PHUB	**P'eng-hu**	**2.77**	**246**	*e*P		Pb	12 27 10.1	-2.4
PHUB				*e*S		Sb	12 27 45.4	-0.7
SCZT	**Fangliau**	**2.78**	**214**	*e*P		Pb	12 27 12.1	-0.6
PTMZ	**Houxiangcun**	**2.93**	**278**	*e*P		Pb	12 27 12.5	-2.7
XPSS	**Dashiqiu**	**2.95**	**320**	*e*P		Pn	12 27 09.4	0.0
AXDP	**Jialang**	**3.96**	**274**	*e*P		Pn	12 27 24.5	+1.1

*NORS **19** 12:26:54.2, 43.52N×45.04E, h8km, MPVA4.2*
*TIF **19** 12:26:54.7, 43.60N×45.02E, h30km±1km*
*MOS **19** 12:26:54.5, 43.55N×44.99E, h11km, MPVA4.2*
*DRS **19** 12:26:56.2, 43.43N×44.87E, h5km*

ISC 19 12:26:56.0±0.8, 43.56N±0.02×44.93E±0.02, h31km±6km, n86, σ2.46/158, 1C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
TRKR	**Terskaya**	**0.21**	**319**	P		Pn	12 27 02.1	-1.1
TRKR	**Terskaya**	**0.21**	**319**	*i* Pg		Pn	12 27 01.9	-1.2
TRKR				*e*Sg		Sb	12 27 06.5	-0.5
TRKR	**Terskaya**	**0.21**	**319**	*e*PG		Pn	12 27 02.0	-1.1
TRKR				*e*S		Sb	12 27 08.2	+1.2
BTKR	**Batakoyurt**	**0.34**	**236**	*e*Pg		Pn	12 27 04.0	-0.9
BTKR				*e*Sg		Sn	12 27 11.3	+0.6
BTKR	**Batakoyurt**	**0.34**	**236**	*e*PG

DVE				eS	**Sn**	12 27 31.5	+2.9
KBTC	**Kuba-Taba**	**1.13**	**284**	ePg	**Pb**	12 27 17.9	+0.8
KBTC				eSg	**Sn**	12 27 34.9	+4.6
KBTC	**Kuba-Taba**	**1.13**	**284**	ePG	**Pb**	12 27 17.9	+0.8
KBTC				eS	**Sn**	12 27 34.9	+4.6
GUDG	**Gudauri**	**1.15**	**197**	P	**Pn**	12 27 16.5	+0.4
GUDG				S	**Sn**	12 27 33.4	+2.5
GUDG	**Gudauri**	**1.15**	**197**	ePG	**Pn**	12 27 16.5	+0.4
GUDG				eS	**Sn**	12 27 33.3	+2.5
DIGR	**Digorskoe uzhe**	**1.19**	**237**	*i* PG	**Pb**	12 27 17.8	-0.3
DIGR				eS	**Sn**	12 27 35.0	+3.1
BTLR	**Botlikh**	**1.30**	**133**	ePg	**Pn**	12 27 18.6	+0.4
BTLR				eSg	**Sb**	12 27 36.6	+0.2
BTLR	**Botlikh**	**1.30**	**133**	ePG	**Pn**	12 27 18.8	+0.6
BTLR				eS	**Sb**	12 27 37.0	+0.6
DLMR	**Dylym**	**1.34**	**111**	ePG	**Pb**	12 27 20.8	+0.3
DLMR				eS	**Sb**	12 27 39.5	+2.3
DLMR				pmax	pmax		
	comp=Z,77nm,0.1s						
GARIG	**Gari**	**1.44**	**229**	P	**Pb**	12 27 21.1	-1.1
GARIG				S	**Sb**	12 27 42.6	+2.5
KBZ	**Khabaz**	**1.48**	**277**	ePg	**Pb**	12 27 22.3	-0.7
KBZ				eSg	**Sb**	12 27 43.4	+2.0
KBZ	**Khabaz**	**1.48**	**277**	ePG	**Pb**	12 27 22.3	-0.7
KBZ				eS	**Sb**	12 27 43.4	+2.0
UNCR	**Uncukul**	**1.61**	**121**	ePg	**Pn**	12 27 23.5	+1.2
UNCR				eSg	**Sb**	12 27 46.0	+1.0
UNCR	**Uncukul**	**1.61**	**121**	ePG	**Pn**	12 27 23.5	+1.2
UNCR				eS	**Sb**	12 27 46.0	+1.0
UNCR				pmax	pmax		
	comp=Z,130nm,0.4s						
KRNR	**Karanay**	**1.62**	**116**	ePG	**Pn**	12 27 24.0	+1.4
KRNR				eS	**Sb**	12 27 45.9	+0.4
HNZR	**Khunzah**	**1.65**	**127**	ePG	**Pb**	12 27 25.0	-0.9
HNZR				eSg	**Sb**	12 27 47.3	+0.9
NEUR	**Neytrino**	**1.65**	**260**	ePg	Pn	12 27 13.7	-9.4
NEUR				eSg	**Sn**	12 27 36.2	-7.0
NEUR	**Neytrino**	**1.65**	**260**	ePN	Pn	12 27 13.7	-9.3
XNZR	**Khunzakh**	**1.65**	**127**	ePg	**Pn**	12 27 24.6	+1.5
XNZR				eSg	**Sb**	12 27 47.0	+0.5
SHA1	**Shidzhatmaz**	**1.66**	**277**	ePg	**Pb**	12 27 24.9	-1.2
SHA1				eSg	**Sb**	12 27 49.1	+2.4
SHA1	**Shidzhatmaz**	**1.66**	**277**	*i* PN	**Pb**	12 27 24.5	-1.6
KIV	**Kislovodsk**	**1.67**	**284**	ePg	**Pb**	12 27 24.8	-1.4
KIV				eSg	**Sb**	12 27 47.8	+0.9
KIV	**Kislovodsk**	**1.67**	**284**	ePN	**Pb**	12 27 24.8	-1.4
KIV				eS	**Sb**	12 27 47.8	+0.9
ALIG	**Mtskhetisjvari**	**1.73**	**213**	S	**Sb**	12 27 50.0	+1.3
ALIG	**Mtskhetisjvari**	**1.73**	**213**	ePN	**Pb**	12 27 26.0	-1.2
ALIG				eS	**Sb**	12 27 49.9	+1.3
ALIG	**Mtskhetisjvari**	**1.73**	**213**	P	**Pb**	12 27 26.1	-1.2
BUJR	**Buynaksk**	**1.76**	**114**	ePg	**Pb**	12 27 26.9	-0.7
BUJR				eSg	**Sb**	12 27 51.7	+2.4
BUJR	**Buynaksk**	**1.76**	**114**	ePN	**Pb**	12 27 26.9	-0.7
BUJR				eS	**Sb**	12 27 51.7	+2.4
ARKR	**Arakani**	**1.79**	**122**	ePg	**Pn**	12 27 26.6	+1.7
ARKR				eSg	**Sb**	12 27 51.3	+1.0
ARKR	**Arakani**	**1.79**	**122**	ePN	**Pn**	12 27 26.6	+1.7
ARKR				eS	**Sb**	12 27 51.3	+1.0
ARKR				pmax	pmax		
	comp=Z,70nm,0.3s						
TLTR	**Tlyarata**	**1.79**	**144**	ePg	**Pn**	12 27 26.3	+1.3
TLTR				eSg	**Sb**	12 27 50.5	+0.1
TLTR	**Tlyarata**	**1.79**	**144**	ePN	**Pn**	12 27 26.3	+1.3
TLTR				eS	**Sb**	12 27 50.5	+0.1
TLTR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNBR	**Gunib**	**1.90**	**127**	ePg	**Pn**	12 27 28.3	+1.9
GNBR				eSg	**Sb**	12 27 54.1	+0.7
GNBR	**Gunib**	**1.90**	**127**	ePN	**Pb**	12 27 28.9	-1.2
GNBR				pmax	pmax		
	comp=Z,54nm,0.3s						
MAK	**Makhachkala**	**1.98**	**107**	⇓ *i* PN	**Pn**	12 27 28.8	+1.5
MAK				pmax	pmax		
	comp=Z,133nm,0.3s						
GOF	**Gofitskoye**	**2.02**	**319**	ePg	**Pb**	12 27 31.1	-0.9
GOF				eSg	**Sb**	12 28 00.8	+4.1
GOF	**Gofitskoye**	**2.02**	**319**	ePN	**Pb**	12 27 31.1	-0.9
GOF				eS	**Sb**	12 28 00.8	+4.1
TRLG	**Trialeti**	**2.11**	**197**	S	**Sb**	12 28 02.4	+2.7
TRLG	**Trialeti**	**2.11**	**197**	ePN	**Pb**	12 27 31.7	-2.0
TRLG				eS	**Sb**	12 28 02.3	+2.7
TRLG	**Trialeti**	**2.11**	**197**	P	**Pb**	12 27 31.7	-2.0
DGRG	**David-gareji**	**2.13**	**171**	P	**Pb**	12 27 32.4	-1.7
DGRG	**David-gareji**	**2.13**	**171**	ePN	**Pb**	12 27 32.3	-1.7
KMKR	**Kumukh**	**2.14**	**131**	ePg	**Pn**	12 27 32.3	+2.5
KMKR				eSg	**Sb**	12 28 01.4	+0.8
KMKR	**Kumukh**	**2.14**	**131**	ePN	**Pn**	12 27 32.3	+2.5
KMKR				eS	**Sb**	12 28 01.3	+0.8
KMKR				pmax	pmax		
	comp=Z,27nm,0.1s						
AKH	**Akhalkalaki**	**2.40**	**207**	ePn	**Pb**	12 27 36.0	-2.7
AKH				eSn	**Sb**	12 28 08.8	+0.9
AKH	**Akhalkalaki**	**2.40**	**207**	ePN	**Pb**	12 27 36.0	-2.7
AKH				eS	**Sb**	12 28 08.8	+0.9
URKR	**Urkarakh**	**2.43**	**124**	ePn	**Pn**	12 27 35.6	+1.9
URKR				eSn	**Sb**	12 28 07.1	-1.7
URKR	**Urkarakh**	**2.43**	**124**	ePN	**Pn**	12 27 35.6	+1.9
URKR				eS	**Sb**	12 28 07.0	-1.7
URKR				pmax	pmax		
	comp=Z,43nm,0.6s						
VSHL	**Vashlovani**	**2.57**	**154**	P	**Pn**	12 27 38.8	+3.2
GRYR	**Gornoye**	**2.83**	**283**	ePn	**Pb**	12 27 47.8	+1.9
GRYR				eSn	**Sb**	12 28 22.9	+2.8
GRYR	**Gornoye**	**2.83**	**283**	ePN	**Pb**	12 27 47.8	+1.9
GRYR				eS	**Sb**	12 28 22.9	+2.8
SEKA	**Sheki**	**2.89**	**144**	PN	**Pn**	12 27 42.6	+2.6
AKT	**Akhty**	**2.94**	**134**	ePn	**Pn**	12 27 42.6	+1.9
AKT				eSn	**Sn**	12 28 19.7	+4.8
AKT	**Akhty**	**2.94**	**134**	PN	**Pn**	12 27 43.3	+2.6
KSMR	**Kasumkent**	**3.07**	**129**	ePn	**Pn**	12 27 44.6	+2.2
KSMR				eSn	**Sn**	12 28 23.0	+4.9
KSMR	**Kasumkent**	**3.07**	**129**	ePN	**Pn**	12 27 44.6	+2.2
KSMR				eS	**Sn**	12 28 23.0	+4.9
KSMR				pmax	pmax		
	comp=Z,79nm,0.2s						
GANJ	**Ganja**	**3.09**	**160**	PN	**Pn**	12 27 46.6	+3.8
RPOR	**Krasnaya Polya**	**3.39**	**274**	ePn	**Pn**	12 27 50.3	+3.5
RPOR				eSn	**Sb**	12 28 31.2	-4.9
RPOR	**Krasnaya Polya**	**3.39**	**274**	ePN	**Pn**	12 27 50.3	+3.5
RPOR				eS	**Sb**	12 28 31.2	-4.9
GNI	**Garni**	**3.41**	**182**	*i* PN	**Pb**	12 27 52.3	-3.6
GUZR	**Guzeripl'**	**3.51**	**279**	ePn	**Pn**	12 27 51.5	+3.0
GUZR				eSn	**Sb**	12 28 33.9	-5.8
GUZR	**Guzeripl'**	**3.51**	**279**	ePN	**Pn**	12 27 51.5	+3.0
GUZR				eS	**Sb**	12 28 33.9	-5.8
AKTO	**Aktyubinsk**	**11.27**	**48**	⇑ **Pn**	**Pn**	12 29 34.1	-0.7
	comp=Z,0.4nm,0.4s						
AKTO				⇓Sn	**Sn**	12 31 32.1	-7.4
	comp=Z,1.6nm,0.6s						
AB31	**Akbulak array**	**11.82**	**56**	Pn	**Pn**	12 29 41.5	-0.8
	comp=Z,0.4nm,0.4s,baz=237,slow=11,SNR=20						
AB31				⇓Sn	**Sn**	12 31 47.6	-5.5
	comp=Z,0.6nm,0.3s,baz=242,slow=18,SNR=8.1						
MNK	**Minsk**	**15.60**	**321**	*i* P	**Pn**	12 30 32.2	-1.2
	comp=E,13nm,0.7s						
MNK				*i* P	**Pn**	12 30 32.2	-1.2
	comp=N,9.0nm,0.6s						
MNK				*i* P	**Pn**	12 30 32.2	-1.2
	comp=Z,5.0nm,0.5s,baz=127						
MNK				*i* PP	**PnPn**	12 30 40.5	-1.3
MNK				*i* PPP	PPP	12 30 48.2	
MNK				*i* S	**Sn**	12 33 26.1	+0.9
MNK				*i* SS	S	12 33 40.2	+0.4
MNK				*i* SSS	SSS	12 33 52.8	
MNK				*i* LQ	LQ	12 35 07.8	
MNK				*i* LR	LR	12 36 59.7	
MNK	**Minsk**	**15.60**	**321**	*i* P	**Pn**	12 30 32.2	-1.2
MNK				*i* S	**Sn**	12 33 26.0	+0.9
MNK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,13nm,0.7s						

*HEL **19** 12:30:00.3±0.1, 67.°94N×25.°89E, h0km, ML1.5, Suspected explosion*
*IDC **19** 12:30:02.0±3.9, 68.°02N×25.°83E, h0km, Error ellipse: s-maj=33.8km s-min=22.2km az=89.0*

*BER **19** 12:30:03.0±1.6, 67.°97N×25.°65E, h0km, ML1.2, Suspected explosion*
ISC 19 12:29:58.5±0.8, **67.°91N**±0.°02×**25.°87E**±0.°02, **h0**km, **n26, σ0s62/44, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEF	**Hetta**	**0.97**	**302**	*e*P	**Pb**	**12 30 17.6**	**-0.6**
HEF				eS	**Sg**	**12 30 29.6**	**0.0**
HEF	**Hetta**	**0.97**	**302**	PG	**Pb**	**12 30 17.6**	**-0.6**
HEF				MSG		12 30 29.6	
	comp=Z,3.5nm,0.2s						
HEF				SG	**Sg**	**12 30 30.2**	**+0.6**
KLF	**Kolari**	**1.00**	**228**	PG	**Pb**	**12 30 18.4**	**-0.2**
KLF				MSG		12 30 31.4	
	comp=Z,2.5nm,0.2s						
KLF				SG	**Sb**	**12 30 31.6**	**-0.7**
RAJF	**Raja-Jooseppi**	**1.08**	**57**	PB	**Pb**	**12 30 19.9**	**-0.1**
RAJF				SB	**Sg**	**12 30 33.3**	**+0.3**
RNF	**Rovaniemi**	**1.30**	**178**	PG	**Sn**	**12 30 24.5**	**+0.5**
RNF				SG	**Sn**	**12 30 42.3**	**+0.3**
PAJU	**Pajala**	**1.38**	**231**	PG	**Pb**	**12 30 25.9**	**+0.7**
PAJU				SB	**Sn**	**12 30 44.4**	**+0.3**
VRF	**Varrio**	**1.43**	**95**	PN	**Pb**	**12 30 27.1**	**+1.1**
VRF				MSG		12 30 43.1	
	comp=Z,3.6nm,0.2s						
VRF				SG	**Sn**	**12 30 45.0**	**-0.1**
LANU	**Lannavaara**	**1.47**	**277**	PG	**Pb**	**12 30 26.4**	**-0.2**
LANU				SG	**Sn**	**12 30 46.0**	**-0.1**
KTK1	**Kautokeino**	**1.48**	**320**	*e*P	**Pg**	**12 30 26.7**	**-0.1**
KTK1				*e*S	**Sg**	**12 30 45.9**	**0.0**
KTK1				IAML		12 30 49.7	
	comp=Z,5.4nm,0.4s						
KTK1	**Kautokeino**	**1.48**	**320**	PG	**Pb**	**12 30 26.7**	**-0.1**
KTK1				SG	**Sn**	**12 30 46.2**	**-0.1**
ARA0	**ARCESS Array S**	**1.64**	**356**	*e*P	**Pb**	**12 30 29.8**	**+0.1**
ARA0				eS	**Sn**	**12 30 50.4**	**0.0**
ARA0				IAML		12 30 54.6	
	comp=Z,4.4nm,0.2s						
ARA0	**ARCESS Array S**	**1.64**	**356**	PN	**Pb**	**12 30 29.8**	**+0.1**
ARA0				SN	**Sn**	**12 30 50.2**	**-0.2**
ARCES	**ARCESS Array B**	**1.64**	**356**	Pg	**Pb**	**12 30 29.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=173,slow=15,SNR=58						
ARCES				Lg	Lg	12 30 50.1	
	comp=Z,0.8nm,0.3s,baz=177,slow=25,SNR=17						
KEV	**Kevo**	**1.90**	**12**	PG	**Pb**	**12 30 34.0**	**-0.1**
	baz=192						
KEV				SG	**Sn**	**12 30 57.5**	**+0.7**
TOF	**Tornio**	**1.93**	**199**	PG	**Pg**	**12 30 35.8**	**+0.3**
	baz=22						
TOF				MSG		12 30 58.6	
	comp=Z,2.5nm,0.2s						
TOF				SG	**Sg**	**12 31 01.3**	**+0.8**
RANF	**Ranua**	**1.94**	**169**	PG	**Pg**	**12 30 35.5**	**-0.1**
	baz=352						
RANF				SG	**Sg**	**12 31 00.8**	**+0.2**
ERTU	**Ertsjaerv**	**1.97**	**228**	PG	**Pg**	**12 30 35.9**	**-0.4**
ERTU				SG	**Sg**	**12 31 02.8**	**+0.9**
KIF	**Kilpisjarvi**	**2.17**	**303**	*e*P	**Pg**	**12 30 38.8**	**+0.1**
KIF	**Kilpisjarvi**	**2.17**	**303**	PN	**Pn**	**12 30 35.8**	**0.0**
KIF				MSG		12 31 04.8	
	comp=Z,1.6nm,0.2s						
KIF				SG	**Sb**	**12 31 06.4**	**+0.4**
KALU	**Kalix**	**2.28**	**207**	SG	**Sg**	**12 31 11.4**	**-0.4**
MSF	**Maaselka**	**2.36**	**147**	PG	**Pg**	**12 30 42.7**	**-1.0**
MSF				SG	**Sg**	**12 31 13.5**	**-0.8**
KU2	**Taivalkoski**	**2.40**	**156**	PG	**Pg**	**12 30 43.4**	**-0.9**
KU2				SG	**Sg**	**12 31 14.9**	**-0.5**
KU6	**Riekki**	**2.46**	**138**	PG	**Pg**	**12 30 44.4**	**-1.3**
	baz=323						
KU6				MSG		12 31 13.6	
	comp=Z,3.4nm,0.2s						
KU6				SG	**Sg**	**12 31 16.6**	**-1.0**
I37NO	**I37NO**	**2.92**	**297**	I	I	12 47 10.0	
	comp=Z,0.9nm,0.9s,baz=107,slow=311,SNR=12						
LVZ	**Lovozero**	**3.32**	**86**	SN	**Sn**	**12 31 33.7**	**+1.9**
I26DE	**FREYUNG INFRAS**	**20.07**	**204**	I	I	14 34 20.0	
	baz=10,slow=324,SNR=2.0						

CATAC 19 12:37:24.2±0.2, **13.°N**±1.°×**8.°4W**±.°, **h1**km±1km, **M3.1**/13, **MLv3.1**/13, **2D, Error ellipse: s-maj=3.0km s-min=2.9km az=37.0, confirmed, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESPN	**Las Esperanzas**	**0.52**	**163**	P	Pg	12 37 34.9	+0.8
ESPN				S	Sg	12 37 41.9	+1.1
ACON	**Acoyapa**	**1.00**	**224**	P	Pg	12 37 42.5	-1.0
ACON	**Acoyapa**	**1.00**	**224**	S	Sg	12 37 55.8	-0.8
SIUN	**Universidad Ur**	**1.06**	**343**	P	Pg	12 37 44.6	-0.1
SIUN				S	Sg	12 37 58.6	+0.1
BOAB	**BOACO BROADBAN**	**1.21**	**259**	S	Sg	12 38 02.2	-0.8
BOAB	**BOACO BROADBAN**	**1.21**	**259**	P	Pg	12 37 46.6	-0.7
MATN	**Matagalpa**	**1.45**	**280**	S	Sg	12 38 09.1	-1.9
MATN	**Matagalpa**	**1.45**	**280**	⇓P	Pn	12 37 49.9	-1.8
MORN	**Al O del Volca**	**1.63**	**226**	P	Pn	12 37 53.7	-0.4
MORN				S	Sn	12 38 15.3	-0.4
BILN	**Bilwi Airport**	**1.71**	**38**	P	Pn	12 37 54.7	-0.5
BILN				S	Sb	12 38 18.5	0.0
WILN	**Americas 2**	**1.77**	**253**	S	Sb	12 38 20.2	-0.1
NANN	**Nandasmo**	**1.79**	**246**	S	Sb	12 38 20.8	-0.1
NANN	**Nandasmo**	**1.79**	**246**	P	Pn	12 37 55.5	-0.9
RCPN	**Sur Rio San Ju**	**1.80**	**298**	P	Pn	12 37 55.7	-0.9
CARN	**Rivas**	**1.82**	**215**	S	Sb	12 38 21.6	-0.2
RCVN	**Varillal2**	**1.91**	**298**	S	Sn	12 38 21.3	-1.6
RCVN	**Varillal2**	**1.91**	**298**	⇓P	Pn	12 37 57.6	-0.5
APQ3	**Volcan Apoyequ**	**1.91**	**258**	S	Sb	12 38 23.8	-0.6
COVE	**Coope Vega, Sa**	**1.96**	**178**	S	Sn	12 38 24.3	+0.5
MOM2	**El Cardon**	**2.00**	**263**	P	Pn	12 37 59.3	+0.2
MOM2				S	Sb	12 38 27.2	+0.4
COPN	**Copaltepe**	**2.15**	**257**	P	Pn	12 38 01.6	+0.4

*NEIC **19** 12:38:19.6±1.0, 55.°9N±0.°1×149.°1W±0.°2, h10km±2km, ML3.0/24, ML2.6(AEIC), Error ellipse: s-maj=22.1km s-min=14.1km az=143.0*
*AEIC **19** 12:38:25.6±0.9, 55.°9N±0.°1×149.°3W±0.°2, h10km±9km, Error ellipse: s-maj=21.3km s-min=12.0km az=140.0*
ISC 19 12:38:22.7±2.4, **56.°0N**±0.°1×**149.°2W**±0.°1, **h35**km, **n33, σ0s83/32, Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.59**	**301**		**Pn**	**12 39 02.2**	**+0.1**
OHAK					**Sn**	**12 39 30.5**	**-1.8**
OHAK	**Old Harbor**	**2.59**	**301**	P	**Pn**	**12 39 02.1**	**+0.1**
KDAK	**Kodiak Island**	**2.61**	**316**		**Pn**	**12 39 02.7**	**+0.4**
KDAK	**Kodiak Island**	**2.61**	**316**		**Sn**	**12 39 32.1**	**-0.6**
SII	**Sitkinak Islan**	**2.84**	**284**		**Pn**	**12 39 06.2**	**+0.6**
SII				IAML		12 40 07.9	
	comp=N,45nm,2.3s						
SII				IAML		12 40 38.1	
	comp=E,43nm,2.2s						
SII	**Sitkinak Islan**	**2.84**	**284**	P	**Pn**	**12 39 05.7**	**+0.1**
SYI	**Shuyak Island**	**3.17**	**328**		**Pn**	**12 39 09.9**	**-0.2**
SYI	**Shuyak Island**	**3.17**	**328**		**Sn**	**12 39 46.2**	**-0.5**
CHIR	**Chirikof Islan**	**3.62**	**271**		**Pn**	**12 39 16.1**	**0.0**
CHIR				IAML		12 40 55.7	
	comp=N,36nm,1.8s						
CHIR				IAML		12 41 05.5	
	comp=E,35nm,1.7s						
CHIR	**Chirikof Islan**	**3.62**	**271**	P	**Pn**	**12 39 16.2**	**0.0**
CNPM	**China Poot**	**3.74**	**344**	Pn	**Pn**	**12 39 18.2**	**+0.3**
CNPM				IAML		12 39 44.1	
	comp=N,16nm,2.5s						
CNPM				IAML		12 41 32.8	
	comp=E,17nm,2.7s						
Q19K	**Cape Douglas,**	**3.83**	**323**	Pn	**Pn**	**12 39 19.4**	**+0.3**
MGLS	**Mageik Landsli**	**3.92**	**306**		**Pn**	**12 39 21.3**	**+0.9**
CAHL	**Cahill**	**3.94**	**305**		**Pn**	**12 39 21.7**	**+1.0**
KAKN	**Katmai Knife C**	**3.96**	**309**		**Pn**	**12 39 22.2**	**+1.2**
KJL	**Kejulik**	**4.07**	**304**		**Pn**	**12 39 23.5**	**+1.0**
KAHC	**Katmai Hardscr**	**4.15**	**313**		**Pn**	**12 39 24.9**	**+1.3**
PLK3	**Peulik 3**	**4.25**	**297**		**Pn**	**12 39 25.8**	**+0.8**
PLK4	**Peulik 4**	**4.28**	**296**		**Pn**	**12 39 25.9**	**+0.6**
PLK4				IAML		12 40 25.0	
	comp=N,18nm,1.9s						
PLK4				IAML		12 41 28.2	
	comp=E,16nm,3.3s						
PLK2	**Peulik 2**	**4.31**	**298**		**Pn**	**12 39 26.7**	**+1.0**
PLK1	**Peulik 1**	**4.46**	**298**		**Pn**	**12 39 29.0**	**+1.3**
SLKM	**Skilak Lake**	**4.60**	**354**		**Pn**	**12 39 29.6**	**-0.1**
	comp=E,16nm,2.5s						
SLKM				IAML		12 41 53.7	
	comp=N,12nm,1.8s						
PLK5	**Peulik 5**	**4.67**	**299**		**Pn**	**12 39 31.8**	**+1.2**
HIN	**Hinchinbrook I**	**4.68**	**17**		**Pn**	**12 39 31.2**	**+0.4**
PWL	**Port Wells**	**4.94**	**5**		**Pn**	**12 39 34.3**	**-0.1**
PWL	**Port Wells**	**4.94**	**5**	IAML		12 40 46.8	
	comp=E,11nm,2.0s						
PWL				IAML		12 41 32.9	
	comp=N,15nm,1.4s						
CHGN	**Chignik**	**5.16**	**278**	Pn	**Pn**	**12 39 38.1**	**+0.7**
CHNA	**Chernabura Isl**	**6.02**	**264**	P	**Pn**	**12 39 49.4**	**+0.2**
CNBA	**Chernabura Isl**	**6.03**	**263**	Pn	**Pn**	**12 39 49.5**	**+0.2**
SDPT	**Sand Point**	**6.41**	**269**	Pn	**Pn**	**12 39 55.2**	**+0.8**
SDPT	**Sand Point**	**6.41**	**269**	P	**Pn**	**12 39 55.3**	**+0.8**
PNL	**Peninsula**	**6.43**	**51**	P	**Pn**	**12 39 56.4**	**+1.6**

*IDC **19** 12:46:52.1±0.8, 2.°18S×138.°85E, h0km, mb3.9/7, mbtmp3.9/8, ML3.6/1, MS3.1/2, Error ellipse: s-maj=29.2km s-min=20.2km az=70.0*
*DJA **19** 12:46:57.7±0.4, 2.°5S±4.°×13.°9E±.°, h26km±3km, M4.1/6, mb4.5/1, MLv4.0/6*
*NEIC **19** 12:46:57.5±1.5, 2.°59S±0.°02×139.°00E±0.°06, h35km±2km, mb4.3/18, Error ellipse: s-maj=11.4km s-min=3.7km az=284.0*
ISC 19 12:46:55.6±1.2, **2.°45S**±0.°07×**138.°92E**±0.°03, **h24**km±10km, **n42, σ1s66/47, mb4.2/16, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.50**	**335**	P	**Pn**	**12 47 07.0**	**-0.3**
SMPI				S	**Sb**	**12 47 14.1**	**+1.3**
GENI	**Genyem**	**1.25**	**97**	P	**Pb**	**12 47 19.3**	**+0.8**
GENI				S	**Sb**	**12 47 36.1**	**+1.9**
JAY	**Jayapura**	**1.78**	**92**	Pn	**Pn**	**12 47 24.9**	**+0.1**
	24nm,0.3s,baz=263,slow=8.7,SNR=104						
JAY				Sn	**Sb**	**12 47 47.5**	**-2.0**
	22nm,0.3s,baz=122,slow=20,SNR=9.9						
JAY				LR	LR	12 48 30.5	
	comp=Z,376nm,20.5s,baz=198,slow=52						
JAY	**Jayapura**	**1.78**	**92**	P	**Pn**	**12 47 25.5**	**+0.6**
JAY				S	**Sn**	**12 47 46.8**	**0.0**
SRPI	**Serui, Papua**	**2.74**	**282**	P	**Pb**	**12 47 41.2**	**-2.8**
SRPI				S	**Sb**	**12 48 14.4**	**-2.8**
BAKI	**Biak**	**3.08**	**294**	P	**Pn**	**12 47 45.2**	**+2.5**
BAKI				S	**Sn**	**12 48 21.9**	**+3.1**
FAKI	**Fak Fak**	**6.68**	**266**	Pn	**Pn**	**12 48 35.1**	**+2.7**
FAKI	**Fak Fak**	**6.68**	**266**	P	**Pn**	**12 48 35.9**	**+3.6**
MTN	**Manton Dam**	**12.89**	**216**	Pn	**Pn**	**12 49 57.9**	**+0.4**
KNRA	**Kununurra**	**16.52**	**217**	Pn	**Pn**	**12 50 44.3**	**-1.6**
KNRA				IAmb	IAmb	12 50 52.9	
	comp=Z,36nm,1.5s						
GUMO	**Guam**	**16.99**	**20**	LR	LR	12 57 17.6	
	comp=Z,34nm,18.5s,baz=242,slow=37						
WB0	**Warramunga Arr**	**17.77**	**194**		**Pn**	**12 51 00.8**	**-0.7**
WR8	**Warramunga Arr**	**17.93**	**194**	P	**P**	**12 51 04.2**	**+0.3**
WB2	**Warramunga Arr**	**17.95**	**194**	P	**Pn**	**12 51 03.4**	**-0.3**
WRA	**Warramunga Arr**	**17.95**	**194**	P	**P**	**12 51 07.2**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=15,slow=13,SNR=5.2						
WRA				LR	LR	12 59 21.5	
	comp=Z,111nm,20.8s,baz=284,slow=41						
	comp=Z,1.1nm,0.7s						
AS31	**Alice Springs**	**21.64**	**193**	P	**P**	**12 51 43.2**	**-1.1**
ASAR	**Alice Springs**	**21.65**	**193**	P	**P**	**12 51 43.2**	**-1.1**
ASAR	**Alice Springs**	**21.65**	**193**	P	**P**	**12 51 46.7**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=16,slow=10,SNR=7.0						
	comp=Z,0.4nm,0.6s						
CASY	**Casey**	**66.77**	**192**	P	**P**	**12 57 44.2**	**-0.5**
MK31	**Makanchi Array**	**69.71**	**322**	P	**P**	**12 58 04.3**	**+0.8**
MK31				IAmb	IAmb	12 58 06.6	
	comp=Z,2.9nm,1.2s						
MKAR	**Makanchi Array**	**69.71**	**322**	P	**P**	**12 58 04.1**	**+0.6**
MKAR	**Makanchi Array**	**69.71**	**322**	P	**P**	**12 58 00.8**	**-2.8**
	comp=Z,1.3nm,0.7s,baz=108,slow=7.8,SNR=13						
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**71.82**	**330**	P	**P**	**12 58 14.6**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=123,slow=5.3,SNR=3.0						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**73.64**	**325**	P	**P**	**12 58 26.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=113,slow=5.5,SNR=13						
	comp=Z,1.5n

NANN	**Nandasmo**	**1.77**	**246**	S	Sg	12 50 36.7	-0.1
RCPN	**Sur Rio San Ju**	**1.79**	**298**	⇑P	Pn	12 50 10.4	-1.6
RCVN	**Varillal2**	**1.90**	**299**	⇓P	Pn	12 50 12.9	-0.6
COVE	**Coope Vega, Sa**	**1.94**	**178**	⇓P	Pn	12 50 14.1	+0.1

CATAC 19 12:52:35.5±0.4,13°N±3°×8°4W±°, h3km±2km, M3.0/7, MLv3.0/7, 1C-1D, Error ellipse: s-maj=6.0km s-min=3.3km az=28.3, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPN	**Las Esperanzas**	**0.50**	**159**	P	Pg	12 52 46.0	+0.9
ESPN				S	Sg	12 52 52.9	+1.3
ACON	**Acoyapa**	**0.97**	**224**	S	Sg	12 53 06.4	-0.3
ACON	**Acoyapa**	**0.97**	**224**	⇓P	Pg	12 52 53.6	-0.5
BOAB	**BOACO BROADBAN**	**1.18**	**260**	S	Sg	12 53 13.5	+0.1
BOAB	**BOACO BROADBAN**	**1.18**	**260**	⇑P	Pg	12 52 57.8	-0.3
MATN	**Matagalpa**	**1.43**	**281**	S	Sg	12 53 20.6	-1.0
MATN	**Matagalpa**	**1.43**	**281**	P	Pn	12 53 00.9	-1.5
MORN	**Al O del Volca**	**1.59**	**226**	P	Pn	12 53 04.2	-0.4
NANN	**Nandasmo**	**1.76**	**246**	S	Sg	12 53 31.8	-0.3
RCVN	**Varillal2**	**1.90**	**299**	P	Pn	12 53 08.8	-0.2
RCVN	**Varillal2**	**1.90**	**299**	S	Sn	12 53 33.2	-0.3

*IDC **19** 13:03:03.9±1.1, 25°.31N×67°.68E, h0km, mb3.7/7, mbtmp3.7/7, ML1.1/1, MS3.2/3, Error ellipse: s-maj=30.5km s-min=24.4km az=135.0*

ISC 19 13:03:09.1±1.1, 25°.3N±0°.2×67°.6E±0°.1, h35km, n11, σ0s91/9, mb3.6/6, MS3.3/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.43**	**258**	Pn	**Pn**	**13 05 09.0**	**+0.3**
	baz=2.4,slow=24,SNR=2.2						
WSAR				Sn	**Sn**	**13 06 41.9**	**-0.8**
	baz=267,slow=24,SNR=1.4						
MKAR	**Makanchi Array**	**24.43**	**25**	P	**P**	**13 08 23.2**	**-1.2**
	0.6nm,0.6s,baz=204,slow=10,SNR=5.2						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**26.64**	**16**	P	**P**	**13 08 43.5**	**-0.8**
	1.0nm,0.8s,baz=210,slow=8.8,SNR=9.7						
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.84**	**97**	LR	LR	13 22 35.2	
	comp=Z,23nm,19.6s,baz=220,slow=39						
ZALV	**Zalesovo Beam**	**31.36**	**20**	P	**P**	**13 09 26.3**	**+0.2**
	0.5nm,0.5s,baz=207,slow=11,SNR=2.0						
	0.5nm,0.5s						
SONM	**Songino Array**	**37.87**	**43**	P	**P**	**13 10 23.3**	**+0.5**
	0.9nm,0.6s,baz=265,slow=8.4,SNR=1.9						
	0.9nm,0.6s						
HFS	**Hagfors**	**50.58**	**328**	LR	LR	13 36 30.5	
	comp=Z,28nm,18.1s,baz=140,slow=40						
USRK	**Ussuriysk Ar.**	**54.79**	**53**	LR	LR	13 37 55.7	
	comp=Z,36nm,21.1s,baz=315,slow=38						
TORD	**Torodi Ar. Bea**	**62.85**	**272**	P	**P**	**13 13 32.5**	**+0.6**
	0.7nm,0.7s,baz=64,slow=6.3,SNR=4.3						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**78.94**	**118**	P	**P**	**13 15 08.3**	**-1.1**
	0.5nm,0.7s,baz=306,slow=5.3,SNR=2.3						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**80.58**	**122**	P	**P**	**13 15 18.9**	**+0.5**
	0.6nm,0.8s,baz=308,slow=5.7,SNR=6.6						
	0.6nm,0.8s						

*IDC **19** 13:14:38.0±0.9, 44°.97N×79°.99E, h0km, mb3.9/2, mbtmp3.7/7, ML3.3/6, Error ellipse: s-maj=11.4km s-min=8.9km az=131.0*

*NNC **19** 13:14:41.2±0.6, 44°.98N×79°.87E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=6.2km s-min=4.3km az=120.0*

*SOME **19** 13:14:41.3, 44°.97N×79°.87E, h15km*

*MOS **19** 13:14:41.4±2.0, 45°.15N×79°.73E, h13km, mb4.5/5, Error ellipse: s-maj=10.2km s-min=6.1km az=82.7*

*NEIC **19** 13:14:43.4±1.3, 45°.05N±0°.07×79°.84E±0°.07, h16km±5km, mb4.5/8, Error ellipse: s-maj=10.7km s-min=5.8km az=151.0*

ISC 19 13:14:40.2±1.1, 45°.03N±0°.03×79°.92E±0°.02, h3km±7km, n110, σ2s00/148, mb4.6/13, 18C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**1.07**	**269**	P	**Pg**	**13 15 00.3**	**-0.4**
	45nm,0.3s						
TDK				S	**Sg**	**13 15 13.7**	**-0.9**
	598nm,0.2s						
TDK	**Taldyqorghan**	**1.07**	**269**	*e*P	**Pg**	**13 15 00.3**	**-0.4**
	45nm,0.3s						
TDK				*e*S	**Sg**	**13 15 13.7**	**-0.9**
	598nm,0.2s						
ARXS	**Arharly**	**1.70**	**242**	P	**Pn**	**13 15 11.9**	**+1.0**
	31nm,0.4s						
ARXS				S	**Sb**	**13 15 34.2**	**+0.2**
	245nm,0.4s						
PDGK	**Podgornoye**	**1.73**	**190**	⇑P	**Pn**	**13 15 11.4**	**+0.1**
	186nm,0.3s						
PDGK				⇑S	**Sn**	**13 15 33.8**	**-0.2**
	318nm,0.5s						
PDGK	**Podgornoye**	**1.73**	**190**	PN	**Pn**	**13 15 11.3**	**+0.1**
PDGK				S	**Sn**	**13 15 33.7**	**-0.2**
KPKS	**Kokpek**	**1.80**	**210**	P	**Pn**	**13 15 12.8**	**+0.6**
	1.7nm,0.4s						
KPKS				S	**Sn**	**13 15 36.0**	**+0.5**
	1μm,0.6s						
SHLS	**Shalkode**	**1.90**	**190**	P	**Pn**	**13 15 13.9**	**+0.2**
	367nm,0.4s						
SHLS				S	**Sn**	**13 15 38.0**	**-0.2**
	1μm,0.4s						
SHLS	**Shalkode**	**1.90**	**190**	*e*P	**Pn**	**13 15 13.9**	**+0.2**
	367nm,0.4s						
SHLS				*e*S	**Sn**	**13 15 38.0**	**-0.2**
	1μm,0.4s						
UZB	**Uzynbulak**	**1.99**	**199**	P	**Pn**	**13 15 16.0**	**+1.1**
	163nm,0.3s						
UZB				S	**Sn**	**13 15 41.3**	**+0.9**
	342nm,0.3s						
UZB	**Uzynbulak**	**1.99**	**199**	*e*P	**Pn**	**13 15 16.0**	**+1.1**
	163nm,0.3s						
UZB				*e*S	**Sn**	**13 15 41.3**	**+0.9**
	342nm,0.3s						
SATY	**Saty**	**2.25**	**209**	Pg	**Pb**	**13 15 21.1**	**-0.5**
	147nm,0.5s						
SATY				Lg	Lg	13 15 49.6	
	719nm,0.3s						
MAKZ	**Makanchi**	**2.29**	**38**	⇑Pn	**Pb**	**13 15 20.8**	**-1.3**
	8.3nm,0.2s						
MAKZ				⇑Lg	Lg	13 15 51.7	
	279nm,0.7s						
CHKK	**Chushkaly**	**2.41**	**242**	Pg	**Pb**	**13 15 23.5**	**-0.6**
	27nm,0.3s						
CHKK				Lg	Lg	13 15 54.2	
	203nm,0.3s						
CHKK	**Chushkaly**	**2.41**	**242**	*e*P	**Pb**	**13 15 23.5**	**-0.6**
	27nm,0.3s						
CHKK				*e*S	**Sb**	**13 15 53.6**	**-0.5**
	203nm,0.3s						
MK31	**Makanchi Array**	**2.42**	**42**	Pn	**Pb**	**13 15 23.3**	**-1.1**
MK31	**Makanchi Array**	**2.42**	**42**	⇑Pn	**Pb**	**13 15 23.6**	**-0.7**
	19nm,0.3s,baz=226,slow=8.8,SNR=728						
MK31				⇓Lg	Lg	13 15 54.8	
	126nm,0.5s,baz=217,slow=26,SNR=28						
MK31	**Makanchi Array**	**2.42**	**42**	*i* PN	**Pb**	**13 15 23.1**	**-1.3**
MKAR	**Makanchi Array**	**2.42**	**42**		**Pb**	**13 15 22.7**	**-1.6**
MKAR	**Makanchi Array**	**2.42**	**42**	Pg	**Pb**	**13 15 23.2**	**-1.1**
	20nm,0.3s,baz=220,slow=16,SNR=256						
MKAR				Lg	Lg	13 15 53.4	
	87nm,0.3s,baz=218,slow=25,SNR=34						
KTBS	**Karatobe**	**2.67**	**241**	Pg	**Pb**	**13 15 28.6**	**0.0**
	50nm,0.3s						
KTBS				Lg	Lg	13 16 02.7	
	224nm,0.5s						
PRZ	**Przheval'sk**	**2.77**	**204**		**Pn**	**13 15 27.5**	**+1.8**
PRZ	**Przheval'sk**	**2.77**	**204**	PN	**Pn**	**13 15 27.5**	**+1.8**
MDOK	**Medeo**	**2.79**	**229**	Pg	**Pb**	**13 15 31.3**	**+0.6**
	29nm,0.4s						
MDOK				Lg	Lg	13 16 07.0	
	114nm,0.5s						
KNDC	**Almaty**	**2.79**	**231**	⇓Pn	**Pb**	**13 15 30.0**	**-0.8**
	69nm,0.4s						
KNDC				⇓Sn	**Sb**	**13 16 06.1**	**+0.7**
	149nm,0.5s						
KNDC	**Almaty**	**2.79**	**231**	PN	**Pb**	**13 15 32.7**	**+1.9**
KNDC						13 16 06.0	
KUU	**Kurty**	**2.80**	**247**	Pg	**Pb**	**13 15 30.4**	**-0.5**
	13nm,0.3s						
KUU				Lg	Lg	13 16 05.4	
	229nm,0.4s						
KUU	**Kurty**	**2.80**	**247**	*e*P	**Pb**	**13 15 30.4**	**-0.5**
	13nm,0.3s						
KUU				*e*S	**Sb**	**13 16 05.4**	**-0.2**
	229nm,0.4s						
TNSS	**Tian-Shan**	**2.93**	**228**	Pg	**Pb**	**13 15 33.2**	**0.0**
	5.9nm,0.3s						
TNSS				Lg	Lg	13 16 10.2	
	29nm,0.4s						
TNSS	**Tian-Shan**	**2.93**	**228**	*e*P	**Pb**	**13 15 33.2**	**0.0**
	5.9nm,0.3s						
TNSS				*e*S	**Sb**	**13 16 10.2**	**+0.7**
	29nm,0.4s						
IZV	**Izvestkoviy**	**3.11**	**231**	Pg	**Pb**	**13 15 35.6**	**-0.6**
	19nm,0.5s						
IZV				Lg	Lg	13 16 14.7	
	148nm,0.6s						
IZV	**Izvestkoviy**	**3.11**	**231**	*e*P	**Pb**	**13 15 35.6**	**-0.6**
	19nm,0.5s						
IZV				*e*S	**Sb**	**13 16 14.7**	**+0.1**
	148nm,0.6s						
MTBS	**Maitube**	**3.15**	**234**	Pg	**Pb**	**13 15 37.2**	**+0.3**
	11nm,0.4s						
MTBS				Lg	Lg	13 16 17.0	
	226nm,0.4s						
MTBS	**Maitube**	**3.15**	**234**	*e*P	**Pb**	**13 15 37.2**	**+0.3**
	11nm,0.4s						
MTBS				*e*S	**Sb**	**13 16 17.0**	**+1.3**
	226nm,0.4s						
KST	**Kastek**	**3.48**	**236**	Pg	**Pb**	**13 15 44.2**	**+1.8**
	26nm,0.4s						
KST				Lg	Lg	13 16 28.2	
	48nm,0.7s						
KST	**Kastek**	**3.48**	**236**	*e*P	**Pb**	**13 15 43.4**	**+0.9**
	26nm,0.4s						
KST				*e*S	**Sb**	**13 16 27.5**	**+2.4**
	48nm,0.7s						
DGS	**Degeres**	**3.48**	**240**	Pg	**Pb**	**13 15 42.5**	**0.0**
	14nm,0.3s						
DGS				Lg	Lg	13 16 26.6	
	89nm,0.5s						
KDJ	**Kajisay**	**3.52**	**215**	Pn	**Pn**	**13 15 37.3**	**+1.4**
KDJ	**Kajisay**	**3.52**	**215**	PN	**Pn**	**13 15 37.3**	**+1.4**
TARG	**Taragay, Kyrgy**	**3.64**	**206**		**Pn**	**13 15 39.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**3.64**	**206**	PN	**Pn**	**13 15 39.2**	**+1.4**
SGDS	**Sogindy**	**4.11**	**249**	Pg	**Pb**	**13 15 55.7**	**+2.4**
	23nm,0.5s						
SGDS				Lg	Lg	13 16 48.6	
	22nm,0.7s						
BTLS	**Baital**	**4.16**	**272**	Pg	**Pg**	**13 15 58.8**	**-1.1**
	17nm,0.3s						
BTLS				Lg	Lg	13 16 54.0	
	21nm,1.0s						
BTLS	**Baital**	**4.16**	**272**	*e*P	**Pb**	**13 15 56.6**	**+2.6**
	17nm,0.3s						
BTLS				*e*S	**Sg**	**13 16 50.2**	**-3.6**
	21nm,1.0s						
ZSN	**Zaisan**	**4.20**	**53**	Pg	**Pg**	**13 16 00.4**	**-0.3**
	11nm,0.3s						
ZSN				Lg	Lg	13 16 56.7	
	66nm,0.4s						
ZSN	**Zaisan**	**4.20**	**53**	*e*P	**Pg**	**13 16 00.2**	**-0.5**
	11nm,0.3s						
ZSN				*e*S	**Sg**	**13 16 56.3**	**+1.3**
	66nm,0.4s						
AAK	**Ala-Archa**	**4.59**	**240**		**Pn**	**13 15 51.3**	**+0.6**
AAK	**Ala-Archa**	**4.59**	**240**	Pn	**Pn**	**13 15 50.5**	**-0.1**
	1.9nm,0.3s,baz=42,slow=8.1,SNR=6.2						
AAK				Lg	Lg	13 17 02.4	
	2.1nm,0.3s,baz=336,slow=20,SNR=6.5						
	2.8nm,0.5s						
AAK	**Ala-Archa**	**4.59**	**240**	⇑Pn	Pb	13 15 56.7	-4.8
	14nm,0.4s						
AAK				⇑Pg	**Pg**	**13 16 05.9**	**-2.3**
	54nm,0.4s						
AAK				⇑Lg	Lg	13 17 08.8	
	196nm,0.8s						
AAK	**Ala-Archa**	**4.59**	**240**	*i* PN	**Pn**	**13 15 55.1**	**+4.4**
MRKS	**Merke**	**5.35**	**247**	Pg	**Pb**	**13 16 17.7**	**+3.4**
	4.6nm,0.4s						
MRKS				Lg	Lg	13 17 26.4	
	20nm,0.9s						
MRKS	**Merke**	**5.35**	**247**	*e*P	**Pb**	**13 16 17.7**	**+3.4**
	4.6nm,0.4s						
MRKS				*e*S	**Sg**	**13 17 26.4**	**-5.5**
	20nm,0.9s						
KURBB	**Kurchatov Arra**	**5.67**	**351**	Pn	**Pn**	**13 16 03.9**	**-1.4**
	0.3nm,0.3s,baz=166,slow=12,SNR=10						
KURBB				Sn	**Sn**	**13 17 09.9**	**-0.9**
	0.9nm,0.3s,baz=176,slow=14,SNR=6.8						
KURBB				Lg	Lg	13 17 40.2	
	1.9nm,0.3s,baz=172,slow=30,SNR=5.7						
KURBB	**Kurchatov Arra**	**5.67**	**351**	⇑Pn	**Pn**	**13 16 07.3**	**+2.0**
	0.7nm,0.4s						
KURBB				⇑Pg	**Pg**	**13 16 26.5**	**-2.2**
	8.7nm,0.6s						
KURBB				⇓Lg	Lg	13 17 43.1	
	132nm,0.6s						
KURBB	**Kurchatov Arra**	**5.67**	**351**	PN	**Pn**	**13 16 07.2**	**+2.0**
KURBB						13 16 24.5	
WMQ	**Urumqi**	**5.70**	**100**	Pn	**Pn**	**13 16 10.4**	**+4.6**
WMQ				Sn	**Sn**	**13 17 07.8**	**-4.0**
WMQ				smax	smax		
	comp=N,50nm,1.1s						
WMQ				smax	smax		
	comp=E,36nm,1.1s						
KURK	**Kurchatov**	**5.75**	**352**		**Pn**	**13 16 07.5**	**+1.1**
KURK	**Kurchatov**	**5.75**	**352**	⇑Pn	**Pn**	**13 16 07.0**	**+0.6**
	comp=E,1.7nm,0.5s						
KURK				⇓Pg	Pg	13 16 25.7	-4.7
	comp=E,5.2nm,0.4s						
KURK				⇑Lg	Lg	13 17 46.7	
	comp=E,68nm,0.6s						
KURK	**Kurchatov**	**5.75**	**352**	*i* PN	**Pn**	**13 16 05.9**	**-0.5**
KSH	**Kashi**	**6.24**	**209**	Pn	**Pb**	**13 16 30.3**	**+0.8**
KSH				Sn	Sg	13 18 11.0	+10
KSH				smax	smax		
	comp=N,14nm,1.1s						
KSH				smax	smax		
	comp=E,29nm,1.0s						
ARSB	**Arslanbob**	**6.28**	**236**	Pn	**Pn**	**13 16 14.1**	**+0.3**
ARSB	**Arslanbob**	**6.28**	**236**	PN	**Pn**	**13 16 14.1**	**+0.3**
KK31	**Karatay Array**	**7.04**	**257**		**Pn**	**13 16 25.0**	**+0.8**
KK31	**Karatay Array**	**7.04**	**257**	⇓Pn	**Pn**	**13 16 28.2**	**+4.0**
	comp=E,1.1nm,0.3s,baz=68,slow=13,SNR=12						
KK31				⇓Lg	Lg	13 18 28.5	
	comp=E,18nm,0.7s,baz=69,slow=26,SNR=5.0						
KK31	**Karatay Array**	**7.04**	**257**	PN	**Pn**	**13 16 28.5**	**+4.3**
KKAR	**Karatay Array**	**7.04**	**257**		**Pn**	**13 16 25.5**	**+1.3**
KKAR	**Karatay Array**	**7.04**	**257**	PN	**Pn**	**13 16 25.5**	**+1.3**
GAR	**Garm**	**9.34**	**233**	Pn	**Pn**	**13 16 57.8**	**+2.0**
ZAA0	**Zalesovo Array**	**9.47**	**18**		**Pn**	**13 16 59.1**	**+1.7**
ZAA0	**Zalesovo Array**	**9.47**	**18**	⇑Pn	**Pn**	**13 17 01.6**	**+4.1**
	comp=E,0.7nm,0.6s						
ZAA0				⇓Sn	**Sn**	**13 18 45.4**	**+1.1**
	comp=E,1.6nm,0.5s						
ZAA0				⇓Lg	Lg	13 19 43.8	
	comp=E,2.3nm,1.0s						
ZALV	**Zalesovo Beam**	**9.47**	**18**		**Pn**	**13 16 58.8**	**+1.4**
ZALV	**Zalesovo Beam**	**9.47**	**18**	Pn	**Pn**	**13 16 55.4**	**-2.0**
	comp=E,0.7nm,0.3s,baz=205,slow=13,SNR=15						
ZALV				Sn	**Sn**	**13 18 43.6**	**-0.8**
	comp=E,2.0nm,0.3s,baz=205,slow=23,SNR=14						
ZALV				Lg	Lg	13 19 36.0	
	comp=E,0.8nm,0.3s,baz=202,slow=24,SNR=3.6						
	comp=E,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**9.47**	**18**	*i* P	**Pn**	**13 17 01.2**	**+3.8**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BVA0	**Borovoye Array**	**10.15**	**325**	⇓Pn	**Pn**	**13 17 10.2**	**+3.5**
	comp=Z,0.7nm,0.5s,baz=129,slow=12,SNR=8.1						
BVA0				⇑Sn	**Sn**	**13 19 09.0**	**+8.2**
	comp=Z,1.7nm,0.6s,baz=136,slow=25,SNR=4.4						
BVA0				⇑Lg	Lg	13 20 09.1	
	comp=Z,16nm,1.1s,baz=132,slow=29,SNR=3.7						
BVA0	**Borovoye Array**	**10.15**	**325**	*e*P	**Pn**	**13 17 07.5**	**+0.8**
BVA0						13 18 59.9	
BVAR	**Borovoye Array**	**10.15**	**325**	Pn	**Pn**	**13 17 05.8**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=9.1						
BVAR				Sn	**Sn**	**13 18 56.9**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=127,slow=24,SNR=5.8						
BVAR				Lg	Lg	13 20 00.4	
	comp=Z,0.1nm,0.3s,baz=127,slow=32,SNR=6.4						
	comp=Z,1.1nm,0.4s						
BRVK	**Borovoye**	**10.21**	**325**	Pn	**Pn**	**13 17 08.0**	**+0.5**
	comp=Z,1.8nm,0.5s						
BRVK				⇑Sn	**Sn**	**13 19 07.7**	**+5.2**
	comp=Z,2.9nm,0.4s						
BRVK				⇑Lg	Lg	13 20 10.0	
	comp=Z,13nm,0.7s						
BRVK	**Borovoye**	**10.21**	**325**	*i* P	**Pn**	**13 17 07.7**	**+0.1**
AB31	**Akbulak array**	**14.22**	**294**	Pn	**Pn**	**13 17 59.8**	**-2.6**
AB31	**Akbulak array**	**14.22**	**294**	*e*P	**Pn**	**13 18 01.1**	**-1.3**
ABKAR	**Akbulak array**	**14.22**	**294**	Pn	**Pn**	**13 17 59.5**	**-2.9**
AKTO	**Aktyubinsk**	**15.67**	**298**	Pn	**Pn**	**13 18 18.7**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=101,slow=5.2,SNR=1.3						
AKTO				Lg	Lg	13 22 58.1	
	comp=Z,0.2nm,0.3s,baz=52,slow=8.4,SNR=1.4						
	comp=Z,0.7nm,0.3s						
GTA	**Gaotai**	**15.76**	**104**	*e*P	**Pn**	**13 18 20.1**	**-3.1**
GTA				sP	P	13 18 27.5	+0.3
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARTI	**Arti**	**17.66**	**318**		**P**	**13 18 48.3**	**+0.3**
ARTI	**Arti**	**17.66**	**318**	P	**Pn**	**13 18 45.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=349,slow=19,SNR=1.2						
ARTI				Lg	Lg	13 23 58.6	
	comp=Z,0.3nm,0.3s,baz=256,slow=19,SNR=1.6						
	comp=Z,0.6nm,0.3s						
ARTI	**Arti**	**17.66**	**318**	P	**P**	**13 18 48.3**	**+0.3**
ARTI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BELG	**Belogornoye**	**22.40**	**301**	*i* P	**P**	**13 19 38.5**	**-1.0**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BTO	**Baotou**	**22.45**	**91**	*e*P	**P**	**13 19 39.8**	**-0.6**
BTO				PP	**PnPn**	**13 20 01.8**	**-1.3**
BTO				S	**S**	**13 23 45.5**	**-2.0**
BTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,120nm,3.8s						
BTO				LR	LR		
	comp=N,110nm,5.2s						
BTO				LR	LR		
	comp=E,110nm,5.6s						
BTO				LR	LR		
	comp=Z,160nm,5.2s						
HHC	**Hu-ho-hao-te**	**23.46**	**89**	*e*P	**P**	**13 19 52.1**	**+1.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,42nm,5.8s						
PZH	**PanZhiHua**	**25.47**	**129**	P	**P**	**13 20 12.3**	**+2.8**
SOC	**Sochi**	**28.60**	**282**	*e*P	**P**	**13 20 35.3**	**-2.2**
SOC				*e*PPP	PPP	13 21 44.5	
SOC				*e*S	**S**	**13 25 21.4**	**-4.9**
KOPT	**Kop Dagi**	**29.27**	**274**	P	**P**	**13 20 44.4**	**+0.6**
KOPT				IAmb	IAmb	13 21 12.1	
	comp=Z,8.4nm,0.6s						
NJ2	**Nanjing**	**32.78**	**100**	*e*P	**P**	**13 21 17.3**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
YAK	**Yakutsk**	**33.09**	**41**	P	**P**	**13 21 17.9**	**+1.1**
YAK	**Yakutsk**	**33.09**	**41**	P	**P**	**13 21 17.9**	**+1.1**
MNK	**Minsk**	**34.19**	**305**	*i* P	**P**	**13 21 25.4**	**-1.0**
	comp=E,6.0nm,0.5s						
MNK				*i* P	**P**	**13 21 25.4**	**-1.0**
	comp=N,12nm,0.8s						
MNK				*i* P	**P**	**13 21 25.4**	**-1.0**
	comp=Z,10.0nm,0.6s,baz=84						
MNK				*i* PP	**PnPn**	**13 22 38.8**	**-1.2**
MNK				*i* PPP	PPP	13 22 50.1	
MNK				*i* S	**S**	**13 26 50.4**	**-3.0**
MNK				*i* SS	**SnSn**	**13 28 58.7**	**-2.0**
MNK				*i* SSS	SSS	13 29 14.3	
MNK				*i* LQ	LQ	13 32 42.9	
MNK				*i* LR	LR	13 35 31.3	
MNK				*i* LRM	MLR	13 36 59.5	
	comp=Z,17nm,15.6s						
MNK				*i* LRM	MLR	13 37 01.4	
	comp=E,319nm,20.6s						
MNK				*i* LRM	MLR	13 37 02.4	
	comp=N,229nm,20.1s						
MNK	**Minsk**	**34.19**	**305**	*i* P	**P**	**13 21 25.4**	**-1.0**
MNK				*i*		13 22 38.7	
MNK				*i*		13 24 02.9	
MNK				*i* S	**S**	**13 26 50.3**	**-3.0**
MNK				*i* SS	**SnSn**	**13 28 58.7**	**-2.0**
MNK				*i*		13 31 48.6	
MNK				pmax	pmax		
	comp=E,6.0nm,0.5s						
MNK				pmax	pmax		
	comp=N,12nm,0.8s						
MNK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MNK				MLR	MLR		
	comp=Z,17nm,16.0s						
MNK				MLR	MLR		
	comp=E,319nm,21.0s						
MNK				MLR	MLR		
	comp=N,229nm,20.0s						
KBS	**Kingsbay**	**41.99**	**344**	P	**P**	**13 22 33.2**	**+1.2**
KBS				IAmb	IAmb	13 22 44.0	
	comp=Z,15nm,1.3s						
KBS	**Kingsbay**	**41.99**	**344**	P	**P**	**13 22 33.2**	**+1.2**
KBS				pmax	pmax		
	comp=Z,15nm,1.3s						
BILL	**Bilibino**	**47.91**	**30**	*i* P	**P**	**13 23 20.2**	**+1.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
H31M	**Peel River**	**66.36**	**15**	P	**P**	**13 25 30.9**	**+1.1**
H31M				IAmb	IAmb	13 26 08.6	
	comp=Z,9.7nm,1.5s						
S12K	**Black Hills**	**66.88**	**33**	P	**P**	**13 25 34.8**	**+1.6**
SCM	**Sheep Creek Mo**	**66.90**	**22**	P	**P**	**13 25 33.8**	**+0.4**
SCM	**Sheep Creek Mo**	**66.90**	**22**	P	**P**	**13 25 33.8**	**+0.4**
SCM				pmax	pmax		
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**81.43**	**129**	P	**P**	**13 26 56.9**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=333,slow=5.0,SNR=4.8						
	comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	**81.43**	**129**	*i* P	**P**	**13 27 00.0**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AS31	**Alice Springs**	**84.22**	**132**	P	**P**	**13 27 13.0**	**0.0**
AS31				IAmb	IAmb	13 27 45.6	
	comp=Z,0.9nm,1.1s						
ASAR	**Alice Springs**	**84.22**	**132**	P	**P**	**13 27 12.8**	**-0.2**
ASAR	**

	comp=Z,6.7nm,0.8s							
STKA	**Stephens Creek**	**41.47**	**242**	P	**P**	**13 48 00.5**	**0.0**	
STKA	**Stephens Creek**	**41.47**	**242**	P	**P**	**13 48 01.0**	**+0.5**	
	comp=Z,4.7nm,0.7s,baz=107,slow=14,SNR=5.5							
	comp=Z,4.7nm,0.7s							
INKA	**Innaminka**	**41.73**	**248**	P	**P**	**13 48 03.2**	**+0.6**	
BBOO	**Buckleboo**	**46.24**	**241**	P	**P**	**13 48 38.0**	**-0.4**	
BBOO				IAmb	IAmb	13 48 38.4		
	comp=Z,15nm,0.7s							
WR8	**Warramunga Arr**	**47.63**	**259**	P	**P**	**13 48 48.3**	**-1.0**	
WB0	**Warramunga Arr**	**47.75**	**259**	P	**P**	**13 48 49.5**	**-0.7**	
WRA	**Warramunga Arr**	**47.78**	**259**	P	**P**	**13 48 50.0**	**-0.5**	
	comp=Z,3.9nm,0.5s,baz=97,slow=7.2,SNR=36							
	comp=Z,3.9nm,0.5s							
AS31	**Alice Springs**	**47.88**	**254**	P	**P**	**13 48 51.1**	**0.0**	
AS31				IAmb	IAmb	13 48 52.0		
	comp=Z,9.9nm,0.5s							
ASAR	**Alice Springs**	**47.88**	**254**	P	**P**	**13 48 51.4**	**+0.2**	
ASAR	**Alice Springs**	**47.88**	**254**	P	**P**	**13 48 51.0**	**-0.2**	
	comp=Z,28nm,0.6s,baz=90,slow=9.2,SNR=547							
MTN	**Manton Dam**	**52.00**	**267**	P	**P**	**13 49 21.1**	**-1.0**	
MTN				IAmb	IAmb	13 49 25.1		
	comp=Z,10nm,1.1s							
KNRA	**Kununurra**	**53.67**	**263**	P	**P**	**13 49 34.1**	**-0.3**	
KNRA				IAmb	IAmb	13 50 08.6		
	comp=Z,14nm,1.3s							
FITZ	**Fitzroy Crossi**	**56.19**	**260**	P	**P**	**13 49 52.3**	**0.0**	
NVAR	**Mina Array Bea**	**77.19**	**42**	P	**P**	**13 52 05.1**	**+0.4**	
	comp=Z,0.6nm,0.8s,baz=242,slow=8.2,SNR=3.8							
	comp=Z,0.6nm,0.8s							
N25K	**Chitina, Valde**	**82.83**	**14**	P	**P**	**13 52 34.3**	**+0.2**	
N25K				IAmb	IAmb	13 52 54.6		
	comp=Z,5.5nm,1.2s							
TXAR	**Lajitas Array**	**83.28**	**56**	P	**P**	**13 52 38.6**	**+1.4**	
	comp=Z,0.1nm,0.4s,baz=255,slow=2.3,SNR=2.2							
	comp=Z,0.1nm,0.4s							
RND	**Reindeer**	**83.53**	**12**	P	**P**	**13 52 38.3**	**+0.7**	
RND				IAmb	IAmb	13 53 15.3		
	comp=Z,6.1nm,1.4s							
H19K	**Roundabout Mou**	**84.31**	**8**	P	**P**	**13 52 40.5**	**-0.9**	
CCB	**Clear Creek Bu**	**84.86**	**11**	P	**P**	**13 52 44.1**	**0.0**	
CCB				IAmb	IAmb	13 52 44.5		
	comp=Z,2.5nm,0.6s							
PDAR	**Pinedale Array**	**85.13**	**42**	P	**P**	**13 52 46.2**	**-0.1**	
	comp=Z,0.2nm,0.4s,baz=235,slow=5.1,SNR=4.2							
	comp=Z,0.2nm,0.4s							
IL31		**85.14**	**12**	P	**P**	**13 52 45.1**	**-0.5**	
ILAR	**Eielson Array**	**85.14**	**12**	P	**P**	**13 52 45.0**	**-0.6**	
ILAR	**Eielson Array**	**85.14**	**12**	P	**P**	**13 52 45.5**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=226,slow=5.9,SNR=7.4							
	comp=Z,0.6nm,0.6s							
J25K	**Salcha River,**	**85.31**	**12**	P	**P**	**13 52 46.4**	**-0.1**	
J25K				IAmb	IAmb	13 53 22.4		
	comp=Z,5.1nm,1.4s							
E19K	**Redstone River**	**86.07**	**7**	P	**P**	**13 52 49.3**	**-0.8**	
E19K				IAmb	IAmb	13 52 59.6		
	comp=Z,6.4nm,1.4s							
TOLK	**Toolik Lake Re**	**88.19**	**9**	P	**P**	**13 52 59.9**	**-0.4**	
TOLK				IAmb	IAmb	13 53 30.7		
	comp=Z,5.6nm,1.3s							
G31M	**Satah River**	**89.75**	**15**	P	**P**	**13 53 07.2**	**-0.3**	

*SJA **19** 13:49:16.6±0.7,29°.39S×70°.87W,h73$^{km}_{\pm 2}$,ML3.8, MW3.9*
*GUC **19** 13:49:16.6±0.9,29°.37S×70°.73W,h69$^{km}_{\pm 4}$,ML4.0*
*NEIC **19** 13:49:17.6±0.4,29°.38S±0°.04×70°.80W±0°.09,h76$^{km}_{\pm 6}$, mb4.2/2,ML4.0(GUC),Error ellipse: s-maj=11.1km s-min=6.3km az=91.0*

ISC 19 13:49:17.3±0.9,29°.36S±0°.02×70°.90W±0°.03,h77$^{km}_{\pm 6}$, n76,σ1°59/119,8C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.39**	**26**		**Pn**	**13 49 30.1**	**-0.1**
LCO	**Las Campanas**	**0.39**	**26**	*eP*	**Pn**	**13 49 29.8**	**-0.4**
LCO				*eS*	**Sn**	**13 49 39.4**	**-0.2**
LCO				IAML		13 49 40.1	
	comp=Z,71μm,0.2s						
LCO	**Las Campanas**	**0.39**	**26**	*eP*	**Pn**	**13 49 29.8**	**-0.4**
LCO				*eS*	**Sn**	**13 49 39.9**	**+0.3**
LCO				IAML		13 49 40.0	
	comp=Z,16μm,0.3s						
CO05	**La Serena**	**0.63**	**208**		**Pn**	**13 49 32.6**	**+0.6**
CO05	**La Serena**	**0.63**	**208**	*eP*	**Pn**	**13 49 32.8**	**+0.8**
CO05				*eS*	**Sn**	**13 49 44.1**	**+1.2**
CO05				IAML		13 49 45.8	
	comp=N,8μm,0.3s						
GO04	**Tololo Observa**	**0.81**	**174**		**Pn**	**13 49 34.2**	**-0.1**
GO04	**Tololo Observa**	**0.81**	**174**	*eP*	**Pn**	**13 49 34.2**	**-0.1**
GO04				*eS*	**Sn**	**13 49 47.3**	**+0.5**
GO04				IAML		13 49 52.3	
	comp=E,12μm,0.5s						
GO04	**Tololo Observa**	**0.81**	**174**	*eP*	**Pn**	**13 49 34.2**	**-0.1**
GO04				*eS*	**Sn**	**13 49 45.6**	**-1.2**
GO04				IAML		13 49 47.7	
	comp=Z,3μm,0.7s						
CO01	**Juntas del Tor**	**0.93**	**132**		**Pn**	**13 49 34.9**	**-0.7**
CO01	**Juntas del Tor**	**0.93**	**132**	*eP*	**Pn**	**13 49 34.9**	**-0.7**
CO01				*eS*	**Sn**	**13 49 47.8**	**-1.4**
CO01	**Juntas del Tor**	**0.93**	**132**	*eP*	Pn	13 49 29.6	-6.0
CO01				*eS*	**Sn**	**13 49 48.2**	**-1.0**
AC04	**Llanos de Chal**	**1.16**	**352**		**Pn**	**13 49 38.9**	**+0.7**
AC04	**Llanos de Chal**	**1.16**	**352**	*eP*	**Pn**	**13 49 38.9**	**+0.7**
AC04				*eS*	**Sn**	**13 49 55.4**	**+1.6**
AC04				IAML		13 49 59.8	
	comp=E,2μm,0.3s						
AC04	**Llanos de Chal**	**1.16**	**352**	*eP*	**Pn**	**13 49 38.7**	**+0.5**
AC04				*eS*	**Sn**	**13 49 55.4**	**+1.6**
AC04				IAML		13 50 01.5	
	comp=Z,858nm,0.3s						
CO06	**Fray Jorge**	**1.46**	**206**		**Pn**	**13 49 42.5**	**+0.5**
CO06	**Fray Jorge**	**1.46**	**206**	*eP*	**Pn**	**13 49 42.5**	**+0.5**
CO06				*eS*	**Sn**	**13 50 02.8**	**+2.3**
CO06				IAML		13 50 09.8	
	comp=E,2μm,0.2s						
AROD	**Rodeo**	**1.48**	**123**	*eP*	**Pn**	**13 49 43.3**	**+0.8**
AROD				*eS*	**Sn**	**13 50 02.5**	**+1.0**
CO03	**El Pedregal**	**1.48**	**173**		**Pn**	**13 49 42.5**	**+0.1**
CO03	**El Pedregal**	**1.48**	**173**	*eP*	**Pn**	**13 49 42.5**	**+0.1**
CO03				*eS*	**Sn**	**13 50 01.9**	**+0.6**
CO03				IAML		13 50 03.5	
	comp=E,3μm,0.2s						
CO03	**El Pedregal**	**1.48**	**173**	*eP*	**Pn**	**13 49 42.6**	**+0.2**
CO03				*eS*	**Sn**	**13 50 01.8**	**+0.5**
CO03				IAML		13 50 03.4	
	comp=Z,1μm,0.2s						
ACDV	**Cuesta del Vie**	**1.74**	**118**	*eP*	**Pn**	**13 49 46.5**	**+0.6**
ACDV				IAML	**Sn**	**13 50 09.5**	**+2.0**
	comp=Z,351nm,0.6s						
ACDV				*eS*	**Sn**	**13 50 09.5**	**+2.0**
CO02	**Combarbal**	**1.84**	**183**		**Pn**	**13 49 47.0**	**-0.1**
CO02	**Combarbal**	**1.84**	**183**	*eP*	**Pn**	**13 49 47.2**	**+0.1**
CO02				*eS*	**Sn**	**13 50 09.7**	**-0.1**
CO02				IAML		13 50 13.9	
	comp=E,4μm,0.3s						
CO02	**Combarbal**	**1.84**	**183**	*eP*	**Pn**	**13 49 47.2**	**+0.1**
CO02				*eS*	**Sn**	**13 50 10.5**	**+0.8**
CO02				IAML		13 50 12.2	
	comp=Z,1μm,0.3s						
GO03	**Copiapo**	**1.85**	**18**		**Pn**	**13 49 47.5**	**+0.2**
GO03	**Copiapo**	**1.85**	**18**	*eP*	**Pn**	**13 49 47.5**	**+0.2**
GO03				*eS*	**Sn**	**13 50 10.9**	**+0.9**
GO03				IAML		13 50 13.4	
	comp=N,1μm,0.3s						
GO03	**Copiapo**	**1.85**	**18**	*eP*	**Pn**	**13 49 47.9**	**+0.6**
GO03				*eS*	**Sn**	**13 50 11.7**	**+1.8**
GO03				IAML		13 50 12.6	
	comp=Z,916nm,0.3s						
ACCO	**Cerro Coronel**	**2.00**	**128**	*eP*	**Pn**	**13 49 50.8**	**+1.3**
ACCO				*eS*	**Sn**	**13 50 15.5**	**+1.5**
AC06	**Mina Casimiro**	**2.05**	**14**		**Pn**	**13 49 50.0**	**+0.2**
AC06	**Mina Casimiro**	**2.05**	**14**	*eP*	**Pn**	**13 49 50.1**	**+0.2**
AC06				*eS*	**Sn**	**13 50 15.1**	**+0.4**
AC06				IAML		13 50 19.5	
	comp=N,996nm,0.2s						
AGUA	**GUANDACOL**	**2.10**	**94**	*eP*	**Pn**	**13 49 51.8**	**+1.2**
AGUA				*eS*	**Sn**	**13 50 19.0**	**+3.0**
AGUA				IAML		13 50 19.8	
	comp=Z,329nm,0.5s						
VCA	**Vinchina**	**2.44**	**76**	*eP*	**Pn**	**13 49 57.3**	**+2.2**
VCA				*eS*	**Sn**	**13 50 22.7**	**-1.4**
VCA				IAML		13 50 34.4	
	comp=Z,419nm,0.2s						
RTLS	**Leoncito**	**2.79**	**151**	*eP*	**Pn**	**13 50 02.3**	**+2.2**
RTLS				*eS*	**Sn**	**13 50 30.9**	**-2.1**
RTLS				IAML		13 50 44.2	
	comp=Z,544nm,0.3s						
RTLL	**Cerro Villicun**	**2.87**	**134**	*eP*	**Pn**	**13 50 01.5**	**+0.6**
RTLL				*eS*	**Sn**	**13 50 35.3**	**+0.9**
RTLL				IAML		13 50 40.6	
	comp=Z,174nm,0.3s						
ZON	**Zonda**	**2.90**	**139**	Pn	**Pn**	**13 50 01.5**	**+0.2**
ZON	**Zonda**	**2.90**	**139**	*eP*	**Pn**	**13 50 03.4**	**+2.3**
ZON				*eS*	**Sn**	**13 50 43.9**	**+8.7**
AC02	**Maricunga**	**2.96**	**32**		**Pn**	**13 50 02.7**	**+0.2**
AC02	**Maricunga**	**2.96**	**32**	*eP*	**Pn**	**13 50 02.9**	**+0.3**
AC02				*eS*	**Sn**	**13 50 37.2**	**-0.1**
AC02				IAML		13 50 41.0	
	comp=E,442nm,0.5s						
AC02	**Maricunga**	**2.96**	**32**	*eP*	**Pn**	**13 50 03.0**	**+0.5**
AC02				*eS*	**Sn**	**13 50 39.1**	**+1.9**
AC02				IAML		13 50 40.5	
	comp=Z,222nm,0.3s						
CFA	**Coronel Fontan**	**3.21**	**135**	*eP*	**Pn**	**13 50 06.1**	**+0.6**
CFA				*eS*	**Sn**	**13 50 42.8**	**+0.2**
VA06	**Catapilco**	**3.21**	**186**		**Pn**	**13 50 05.5**	**+0.1**
AC01	**Pan de Azucar**	**3.21**	**5**		**Pn**	**13 50 04.3**	**-1.2**
AC01	**Pan de Azucar**	**3.21**	**5**	*eP*	**Pn**	**13 50 04.3**	**-1.2**
AC01				*eS*	**Sn**	**13 50 44.5**	**+1.9**
AC01				IAML		13 51 00.6	
	comp=Z,246nm,0.6s						
AVFE	**Valle Fertil**	**3.25**	**114**	*eP*	**Pn**	**13 50 06.2**	**+0.1**
AVFE				*eS*	**Sn**	**13 50 43.5**	**-0.3**
AVFE				IAML		13 50 47.8	
	comp=Z,156nm,0.3s						
VA03	**San Esteban**	**3.41**	**175**		**Pn**	**13 50 08.3**	**0.0**
VA03	**San Esteban**	**3.41**	**175**	*eP*	**Pn**	**13 50 09.2**	**+1.0**
VA03				*eS*	**Sn**	**13 50 47.3**	**-0.2**
VA03				IAML		13 50 56.8	
	comp=Z,360nm,0.7s						
ACLC	**CERRO LA CRUZ**	**3.44**	**92**	*eP*	**Pn**	**13 50 08.7**	**-0.1**
ACLC				*eS*	**Sn**	**13 50 49.7**	**+1.1**
AANI	**Anillaco**	**3.51**	**82**	*eP*	**Pn**	**13 50 05.9**	**-3.8**
AANI				IAML		13 51 03.9	
	comp=Z,358nm,1.4s						
PEL	**Peldehue**	**3.78**	**177**		**Pn**	**13 50 12.8**	**-0.4**
ARCO	**CERRO ARCO**	**3.86**	**155**	*eP*	**Pn**	**13 50 11.4**	**-3.0**
ARCO				*eS*	**Sn**	**13 51 02.4**	**+3.7**
ARCO				*eS*		13 51 06.1	
ARCO				IAML		13 51 07.7	
	comp=Z,135nm,0.6s						
MT02	**Curacav**	**3.89**	**183**		**Pn**	**13 50 14.2**	**-0.6**
MT02	**Curacav**	**3.89**	**183**	*eP*	**Pn**	**13 50 14.4**	**-0.3**
MT02				*eS*	**Sn**	**13 50 56.4**	**-2.8**
MT02				IAML		13 51 09.5	
	comp=Z,173nm,0.5s						
APLL	**PUNTA DE LOS L**	**3.93**	**106**	*eP*	**Pn**	**13 50 15.2**	**-0.2**
APLL				*eS*	**Sn**	**13 50 58.4**	**-1.9**
MT05	**Renca**	**4.02**	**178**		**Pn**	**13 50 16.5**	**0.0**
MT05	**Renca**	**4.02**	**178**	*eP*	**Pn**	**13 50 18.4**	**+1.8**
MT05				*eS*	**Sn**	**13 51 03.9**	**+1.4**
MT05				IAML		13 51 13.0	
	comp=Z,165nm,0.8s						
ACHE	**Chepes**	**4.08**	**117**	*eP*	**Pn**	**13 50 17.4**	**0.0**
ACHE				*eS*	**Sn**	**13 51 02.4**	**-1.7**
MT04	**Ro Olivares**	**4.08**	**171**	*eP*	**Pn**	**13 50 19.4**	**+1.9**
MT04				*eS*	**Sn**	**13 51 07.2**	**+2.9**
MT04				IAML		13 51 20.7	
	comp=Z,100nm,0.5s						
AAGR	**Agrelo**	**4.11**	**155**	*eP*	**Pn**	**13 50 20.5**	**+2.6**
AAGR				IAML		13 51 13.7	
	comp=Z,90nm,0.5s						
MT03	**Universidad Ad**	**4.13**	**176**		**Pn**	**13 50 18.0**	**-0.1**
MT08	**Bocatoma Ro**	**4.14**	**170**	Pn	**Pn**	**13 50 17.2**	**-1.2**
MT08	**Bocatoma Ro**	**4.14**	**170**	*eP*	**Pn**	**13 50 21.3**	**+2.9**
MT08				*eS*	**Sn**	**13 51 07.0**	**+1.4**
MT08				IAML		13 51 24.0	
	comp=Z,74nm,0.6s						
ACAN	**Cantantal**	**4.31**	**133**	*eP*	**Pn**	**13 50 19.9**	**-0.6**
ACAN				IAML		13 51 16.2	
	comp=Z,378nm,0.3s						
GO02	**Mina Guanaco**	**4.34**	**16**		**Pn**	**13 50 20.1**	**-1.1**
MT13	**San Alfonso**	**4.40**	**173**		**Pn**	**13 50 21.2**	**-0.6**
MT13	**San Alfonso**	**4.40**	**173**	*eP*	**Pn**	**13 50 23.2**	**+1.4**
MT13				*eS*	Sn	13 51 23.4	+12
MT13				IAML		13 51 32.4	
	comp=Z,115nm,0.4s						
MT09	**Talagante**	**4.40**	**181**		**Pn**	**13 50 21.3**	**-0.6**
MT01	**Popeta**	**4.50**	**184**	*eP*	**Pn**	**13 50 22.4**	**-0.7**
MT01				*eS*	**Sn**	**13 51 11.3**	**-2.8**
MT01				IAML		13 51 28.9	
	comp=Z,158nm,0.6s						
LMEL	**Las Melosas**	**4.51**	**173**	*eP*	**Pn**	**13 50 26.8**	**+3.4**
LMEL				*eS*	**Sn**	**13 51 14.4**	**-0.2**
LMEL				IAML		13 51 29.2	
	comp=Z,81nm,0.9s						
CYA	**Choya**	**4.56**	**80**	*eP*	**Pn**	**13 50 23.9**	**0.0**
CYA				*eS*	**Sn**	**13 51 15.2**	**-0.5**
CYA				IAML		13 51 18.2	
	comp=Z,48nm,0.6s						
PB14	**IPOC Station P**	**4.74**	**5**		**Pn**	**13 50 24.2**	**-2.3**
PB14	**IPOC Station P**	**4.74**	**5**	*eP*	**Pn**	**13 50 24.6**	**-1.9**
PB14				*eS*	Sn	13 51 38.1	+18
PB14				IAML		13 51 42.2	
	comp=Z,96nm,0.5s						
BO01	**Tunca**	**5.02**	**182**		**Pn**	**13 50 28.2**	**-1.9**
BO01	**Tunca**	**5.02**	**182**	*eP*	**Pn**	**13 50 30.1**	**0.0**
BO01				*eS*	**Sn**	**13 51 26.3**	**-0.5**
BO01				IAML		13 51 48.8	
	comp=Z,61nm,0.7s						
TRQA	**Tornquist**	**11.41**	**142**	Pn	**Pn**	**13 51 55.7**	**-1.6**
QSPA	**South Pole Qui**	**60.86**	**180**	P	**P**	**13 59 21.9**	**+0.3**
QSPA				IAmb	IAmb	13 59 37.9	
	comp=Z,4.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**81.71**	**70**	P	**P**	**14 01 26.9**	**-0.9**
TORD				IAmb	IAmb	14 01 49.2	
	comp=Z,2.7nm,1.5s						

CATAC 19 13:50:57.4±0.7,12°N±3°×8°6W±°,h7$^{km}_{\pm 4}$km,M2.8/15, MLv2.8/15,Error ellipse: s-maj=7.2km s-min=4.0km az=167.4,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGAN	**Managua**	**0.09**	**338**	P	Pg	13 50 59.9	+0.5
AERN	**Aeropuerto Man**	**0.09**	**31**	P	Pg	13 50 59.8	+0.3
AERN	**Aeropuerto Man**	**0.09**	**31**	S	Sg	13 51 02.3	+1.4
WILN	**Americas 2**	**0.10**	**16**	P	Pg	13 51 00.5	+0.9
WILN				S	Sg	13 51 02.9	+1.8
ALLN	**Telcor Managua**	**0.10**	**326**	S	Sg	13 51 02.8	+1.5
ALLN	**Telcor Managua**	**0.10**	**326**	P	Pg	13 51 00.3	+0.6
ABCN	**Banco Central**	**0.11**	**300**	P	Pg	13 51 00.5	+0.7
ABCN	**Banco Central**	**0.11**	**300**	S	Sg	13 51 02.9	+1.5
SABN	**Sabanita**	**0.12**	**155**	P	Pg	13 51 00.7	+0.7
SABN				S	Sg	13 51 17.1	+15
APQ2	**Apoyeque**	**0.17**	**320**	P	Pg	13 51 02.7	+1.9
APQ2				S	Sg	13 51 04.8	+1.6
BOAB	**BOACO BROADBAN**	**0.66**	**55**	P	Pg	13 51 10.1	+0.1
BOAB	**BOACO BROADBAN**	**0.66**	**55**	S	Sb	13 51 19.7	-0.9
BOAB	**BOACO BROADBAN**	**0.66**	**55**	P	Pn	13 51 19.9	+6.7
RCVN	**Varillal2**	**1.51**	**1**	P	Pn	13 51 24.9	-0.1
SIUN	**Universidad Ur**	**2.16**	**40**	P	Pn	13 51 32.8	-1.0

CATAC 19 13:51:07.0±0.9,12°N±3°×8°6W±°,h6$^{km}_{\pm 4}$km,M2.5/6, MLv2.5/6,Error ellipse: s-maj=11.6km s-min=4.4km az=57.6,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNAN	**Cigeo UNAN**	**0.09**	**316**	P	Pg	13 51 10.0	+1.0
UNAN				S	Sg	13 51 11.2	+0.9
UNAN	**Cigeo UNAN**	**0.09**	**316**	P	Pg	13 51 13.2	+4.3
UNAN				S	Sg	13 51 14.7	+4.4
AERN	**Aeropuerto Man**	**0.10**	**24**	P	Pg	13 51 13.5	+4.3
AERN	**Aeropuerto Man**	**0.10**	**24**	S	Sg	13 51 16.0	+5.2
MGAN	**Managua**	**0.10**	**340**	P	Pg	13 51 10.0	+0.8
MGAN	**Managua**	**0.10**	**340**	S	Sg	13 51 12.2	+1.4
MGAN	**Managua**	**0.10**	**340**	P	Pg	13 51 13.7	+4.5
MGAN	**Managua**	**0.10**	**340**	S	Sg	13 51 15.8	+5.0
R4DEC	**Barrio San Lui**	**0.10**	**339**	P	Pg	13 51 13.6	+4.3
R4DEC	**Barrio San Lui**	**0.10**	**339**	P	Pg	13 51 10.1	+0.8
R4DEC				S	Sg	13 51 12.1	+1.3
TISN	**Laguna Tiscapa**	**0.11**	**328**	P	Pg	13 51 10.0	+0.6
WILN	**Americas 2**	**0.11**	**11**	S	Sg	13 51 16.3	+5.3
WILN	**Americas 2**	**0.11**	**11**	P	Pg	13 51 14.4	+5.0
WILN				S	Sg	13 51 16.7	+5.7
WILN	**Americas 2**	**0.11**	**11**	P	Pg	13 51 14.1	+4.7
ABCN	**Banco Central**	**0.12**	**306**	S	Sg	13 51 16.4	+5.1
ABCN	**Banco Central**	**0.12**	**306**	S	Sg	13 51 16.5	+5.2
ABCN	**Banco Central**	**0.12**	**306**	P	Pg	13 51 13.2	+3.6
ALLN	**Telcor Managua**	**0.12**	**329**	S	Sg	13 51 16.3	+5.0
ALLN	**Telcor Managua**	**0.12**	**329**	S	Sg	13 51 16.5	+5.1
ALLN	**Telcor Managua**	**0.12**	**329**	P	Pg	13 51 14.1	+4.5
ALLN	**Telcor Managua**	**0.12**	**329**	P	Pg	13 51 13.9	+4.3
NANN	**Nandasmo**	**0.14**	**142**	S	Sg	13 51 18.3	+6.4
APQ2	**Apoyeque**	**0.18**	**323**	S	Sg	13 51 18.5	+5.3
APQ3	**Volcan Apoyequ**	**0.27**	**325**	S	Sb	13 51 21.2	+2.0
APQ3	**Volcan Apoyequ**	**0.27**	**325**	P	Pn	13 51 16.6	-0.9
NADN	**Granada**	**0.35**	**150**	S	Sg	13 51 19.5	+1.2
COPN	**Copaltepe**	**0.40**	**289**	P	Pn	13 51 18.5	-0.8
MOM2	**El Cardon**	**0.47**	**325**	P	Pg	13 51 15.6	-0.5
MOM2				S	Sg	13 51 22.8	+0.6
BOAB	**BOACO BROADBAN**	**0.66**	**53**	P	Pn	13 51 24.0	+1.0
BOAB				S	Sn	13 51 33.6	-0.1

*KRSC **19** 13:54:40.8±1.7,50°.74N×156°.64E,h108$^{km}_{\pm 12}$km,Ml4.0*
*MOS **19** 13:54:41.1±0.9,50°.87N×156°.27E,h128km,mb4.4/4,Error ellipse: s-maj=12.9km s-min=4.3km az=72.1*
*IDC **19** 13:54:43.9±1.0,51°.08N×156°.21E,h132$^{km}_{\pm 7}$km,mb3.5/19, mbtmp4.0/26,MS2.3/2,Error ellipse: s-maj=16.2km s-min=10.7km az=149.0*
*NEIC **19** 13:54:44.4±1.2,51°.08N±0°.09×156°.3E±0°.1,h135$^{km}_{\pm 6}$km, mb4.2/30,Error ellipse: s-maj=15.7km s-min=10.5km az=137.0*

ISC 19 13:54:42.0±0.6,50°.89N±0°.06×156°.33E±0°.06,h120$^{km}_{\pm 4}$km, n138,σ1°27/143,mb4.0/34,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.24**	**214**	*i* P	Pn	13 54 57.6	-1.1
SKR				*i* S	**Sn**	**13 55 09.3**	**-1.9**
SKR				pmax	pmax		
	comp=Z,1μm,0.3s						
SKR				smax	smax		
	comp=E,13μm,0.8s						
SKR				smax	smax		
	comp=N,15μm,0.8s						
SKR	**Severo-Kuril's**	**0.24**	**214**	*i* P	Pn	13 54 57.6	-1.1
SKR				*eS*	**Sn**	**13 55 09.2**	**-1.9**
PAU	**Pauzhetka**	**0.66**	**27**	PN	**Pn**	**13 55 00.3**	**-0.6**
PAU				S	**Sn**	**13 55 13.9**	**-1.3**
PAU	**Pauzhetka**	**0.66**	**27**	*i* P	**Pn**	**13 55 00.4**	**-0.6**
PAU				*eS*	**Sn**	**13 55 14.0**	**-1.3**
MIPR	**Malaya Ipel'ka**	**1.42**	**11**	PN	**Pn**	**13 55 08.5**	**+0.1**
MIPR	**Malaya Ipel'ka**	**1.42**	**11**	*eP*	**Pn**	**13 55 08.6**	**+0.1**
ASAK	**Asacha**	**1.79**	**32**	PN	**Pn**	**13 55 13.2**	**+0.3**
ASAK	**Asacha**	**1.79**	**32**	*eP*	**Pn**	**13 55 13.2**	**+0.3**
MTVR	**Mutnovka**	**1.97**	**35**	PN	**Pn**	**13 55 15.5**	**+0.4**
MTVR				S	**Sn**	**13 55 41.4**	**+0.9**
MTVR	**Mutnovka**	**1.97**	**35**	*eP*	**Pn**	**13 55 15.6**	**+0.4**
MTVR				*eS*	**Sn**	**13 55 41.5**	**+0.9**
GRL	**Gorelyy**	**1.99**	**32**	PN	**Pn**	**13 55 16.0**	**+0.7**
GRL	**Gorelyy**	**1.99**	**32**	*eP*	**Pn**	**13 55 16.1**	**+0.7**
RUS	**Russkaya**	**2.06**	**40**	PN	**Pn**	**13 55 15.5**	**-0.6**
RUS				S	**Sn**	**13 55 40.8**	**-1.4**
RUS	**Russkaya**	**2.06**	**40**	*eP*	**Pn**	**13 55 15.5**	**-0.6**
RUS				*eS*	**Sn**	**13 55 40.9**	**-1.4**
APC	**Apacha**	**2.11**	**14**	PN	**Pn**	**13 55 18.7**	**+2.0**
APC	**Apacha**	**2.11**	**14**	*eP*	**Pn**	**13 55 18.7**	**+2.0**
KRMR	**Karymshinskiy**	**2.24**	**29**	PN	**Pn**	**13 55 19.1**	**+0.7**
KRMR	**Karymshinskiy**	**2.24**	**29**	*eP*	**Pn**	**13 55 19.1**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.38**	**20**	Pn	**Pn**	**13 55 21.3**	**+1.1**
PEA0B	**Petropavlovsk-**	**2.38**	**20**	PN	**Pn**	**13 55 21.3**	**+1.1**
PETK	**Petropavlovsk-**	**2.38**	**20**	P	**Pn**	**13 55 20.6**	**+0.3**
	comp=N,30nm,0.4s,baz=180,slow=11,SNR=98						
PETK				LR	LR	13 56 10.4	
	comp=N,28nm,21.4s,baz=296,slow=39						
PET	**Petropavlovsk**	**2.58**	**33**		**Pn**	**13 55 22.9**	**+0.2**
PET	**Petropavlovsk**	**2.58**	**33**	*e*PN	**Pn**	**13 55 22.8**	**+0.2**
PET				*eS*	**Sn**	**13 55

comp=E,12nm,1.7s
MJB9 Matsu-Tunnel 19.34 229 P **P** **13 58 59.8 +1.8**
MJB9 lAmb lAmb 13 59 04.9
comp=Z,4.7nm,0.6s
MAJO Matsushiro 19.34 229 P **P** **13 58 59.1 +1.1**
MAJO Matsushiro 19.34 229 P **P** **13 58 59.1 +1.1**
MAJO pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 19.34 229 P **P** **13 58 59.4 +1.4**
comp=Z,2.1nm,0.5s,baz=21,slow=12,SNR=9.7
JGF Kuroka 20.51 229 P **P** **13 59 14.1 +3.5**
KSRS Korea Array 24.22 247 P **P** **13 59 48.7 +1.3**
comp=Z,0.8nm,0.6s,baz=47,slow=11,SNR=5.3
comp=Z,0.8nm,0.6s
J14K Nanvaranak Lak 24.50 46 P **P** **13 59 50.7 +1.0**
J14K lAmb lAmb 14 00 17.0
comp=Z,11nm,1.4s
F15K North Star Dit 24.76 38 P **P** **13 59 52.1 0.0**
F15K lAmb lAmb 13 59 56.7
comp=Z,8.1nm,1.4s
JNU Nakatsue 25.74 236 P **P** **14 00 02.1 +0.9**
C18K Utukok River 26.98 33 P **P** **14 00 11.7 -0.4**
E19K Redstone River 28.08 36 P **P** **14 00 21.8 -0.1**
B20K Meade River 28.77 31 P **P** **14 00 27.9 0.0**
B20K lAmb lAmb 14 00 50.4
comp=Z,7.2nm,1.1s
KDAK Kodiak Island 29.94 57 P **P** **14 00 38.6 +0.3**
comp=Z,2.7nm,0.8s,baz=286,slow=7.4,SNR=1.1
comp=Z,2.7nm,0.8s
D22K Ayikyak River 30.04 34 P **P** **14 00 39.6 +0.5**
D22K lAmb lAmb 14 00 42.8
comp=Z,7.1nm,1.3s
E22K Anaktuvuk Pass 30.23 36 P **P** **14 00 40.9 0.0**
E22K lAmb lAmb 14 01 07.9
comp=Z,5.2nm,1.5s
TOLK Toolik Lake Re 31.12 35 P **P** **14 00 48.9 +0.2**
TOLK lAmb lAmb 14 01 06.1
comp=Z,8.4nm,1.2s
G24K Hadweenzic Riv 31.77 39 P **P** **14 00 55.0 +0.6**
G24K lAmb lAmb 14 00 56.1
comp=Z,5.6nm,1.4s
ILAR Eielson Array 32.02 43 P **P** **14 00 56.7 +0.1**
comp=Z,0.5nm,0.7s,baz=266,slow=6.4,SNR=8.3
comp=Z,0.5nm,0.7s
SONM Songino Array 32.17 284 P **P** **14 00 58.8 +0.6**
comp=Z,0.5nm,0.4s,baz=79,slow=7.6,SNR=2.6
comp=Z,0.5nm,0.4s
DOT Dot Lake 33.33 44 P **P** **14 01 07.7 -0.4**
DOT lAmb lAmb 14 01 37.2
comp=Z,4.4nm,1.4s
H11S1 WAKE ISLAND Hy 33.34 162 T T 14 36 15.7
baz=348,slow=76,SNR=53
H11S3 WAKE ISLAND Hy 33.35 162 T T 14 36 13.6
baz=348,slow=76,SNR=45
H11S2 WAKE ISLAND Hy 33.36 162 T T 14 36 14.3
baz=348,slow=76,SNR=43
D27M Malcolm River 34.26 34 P **P** **14 01 16.2 +0.2**
F28M Old Crow 34.72 37 P **P** **14 01 20.0 0.0**
F28M lAmb lAmb 14 01 50.7
comp=Z,4.1nm,1.2s
ZALV Zalesovo Beam 42.02 303 P **pP** **14 02 19.1 -2.0**
comp=Z,0.2nm,0.3s,baz=16,slow=5.3,SNR=2.0
ZALV pP **pP** **14 02 49.6 +1.5**
comp=Z,0.5nm,0.5s,baz=64,slow=9.8,SNR=2.3
ZALV PcP **PcP** **14 04 13.9 +0.2**
comp=Z,0.7nm,0.4s,baz=94,slow=4.9,SNR=4.8
comp=Z,0.2nm,0.3s
KURK Kurchatov 46.92 302 P **P** **14 02 59.4 -0.6**
KURK lAmb lAmb 14 03 00.7
comp=Z,2.6nm,0.7s
KURK Kurchatov 46.92 302 P **P** **14 03 00.3 +0.2**
MKAR Makanchi Array 47.01 295 P **P** **14 03 00.0 -0.9**
comp=Z,0.6nm,0.4s,baz=62,slow=7.6,SNR=13
MKAR pP **pP** **14 03 30.5 +2.2**
comp=Z,0.7nm,0.7s,baz=57,slow=7.4,SNR=3.8
comp=Z,0.6nm,0.4s
KURBB Kurchatov Arra 47.02 302 P **P** **14 03 00.3 -0.5**
comp=Z,1.2nm,0.4s,baz=61,slow=7.4,SNR=2.7
comp=Z,1.2nm,0.4s
BVAR Borovoye Array 49.93 308 P **P** **14 03 23.1 0.0**
comp=Z,1.1nm,0.4s,baz=60,slow=8.8,SNR=6.4
BVAR pP **pP** **14 03 52.6 +1.8**
comp=Z,1.2nm,0.6s,baz=62,slow=8.8,SNR=4.8
BVAR PcP **PcP** **14 04 41.7 +0.2**
comp=Z,0.5nm,0.3s,baz=72,slow=5.0,SNR=3.7
comp=Z,1.1nm,0.4s
ARCES ARCESS Array B 54.64 341 P **P** **14 03 56.6 -1.0**
comp=Z,2.2nm,0.9s,baz=51,slow=9.6,SNR=2.3
comp=Z,2.2nm,0.9s
CMAR Chiang Mai Arr 55.42 256 P **P** **14 04 04.3 +0.3**
comp=Z,0.9nm,0.4s,baz=32,slow=6.7,SNR=8.2
comp=Z,0.9nm,0.4s
O03E Paynes Creek 55.46 67 P **P** **14 04 05.3 +1.2**
O03E lAmb lAmb 14 04 49.4
comp=Z,3.3nm,1.0s
KKAR Karatay Array 55.90 298 P **P** **14 04 06.7 -0.4**
KKAR Karatay Array 55.90 298 P **P** **14 04 06.7 -0.4**
AB31 Akbulak array 57.42 309 P **P** **14 04 17.3 -0.5**
ABKAR Akbulak array 57.42 309 P **P** **14 04 17.3 -0.4**
NVAR Mina Array Bea 58.72 66 P **P** **14 04 27.5 +0.3**
comp=Z,0.6nm,0.5s,baz=299,slow=6.9,SNR=6.0
comp=Z,0.6nm,0.5s
PDAR Pinedale Array 60.65 57 P **P** **14 04 40.9 +0.5**
comp=Z,0.7nm,0.6s,baz=312,slow=1.7,SNR=5.5
comp=Z,0.7nm,0.6s
FINES FINESS Array B 61.19 335 P **P** **14 04 41.8 -1.6**
comp=Z,2.6nm,0.9s,baz=22,slow=7.1,SNR=3.4
comp=Z,2.6nm,0.9s
NC204 NORSAR Array S 64.84 342 P **P** **14 05 07.3 -0.3**
NOA NORSAR Array B 64.97 342 P **P** **14 05 07.6 -0.9**
comp=Z,0.3nm,0.4s,baz=31,slow=5.7,SNR=1.5
comp=Z,0.3nm,0.4s
HFS Hagfors 65.30 340 P **P** **14 05 09.6 -0.9**
comp=Z,1.2nm,0.6s,baz=32,slow=8.7,SNR=6.1
comp=Z,1.2nm,0.6s
SCHQ Schefferville 68.66 25 P **P** **14 05 31.8 -0.1**
AKBB Malin Array Si 69.26 327 P **P** **14 05 34.7 -0.9**
AKBB lAmb lAmb 14 06 06.5
comp=Z,3.2nm,0.8s
AKBB Malin Array Si 69.26 327 P **P** **14 05 34.7 -0.9**
AKBB pmax pmax
comp=Z,3.0nm,0.8s
KIEV Kiev 69.27 327 P **P** **14 05 34.4 -1.3**
KIEV lAmb lAmb 14 06 06.5
comp=Z,2.9nm,0.8s
KIEV Kiev 69.27 327 P **P** **14 05 34.4 -1.3**
KIEV pmax pmax
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 72.78 348 P **P** **14 05 55.4 -1.4**
comp=Z,0.7nm,0.5s,baz=18,slow=4.5,SNR=4.4
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 73.67 64 P **P** **14 06 02.4 -0.3**
TXAR Lajitas Array 73.67 64 P **P** **14 06 03.6 +0.9**
comp=Z,0.7nm,0.5s,baz=298,slow=4.6,SNR=12
comp=Z,0.7nm,0.5s
AS31 Alice Springs 76.82 201 P **P** **14 06 21.6 +1.2**
ASAR Alice Springs 76.82 201 P **P** **14 06 21.6 +1.2**
comp=Z,0.4nm,0.5s,baz=13,slow=5.1,SNR=19
comp=Z,0.4nm,0.5s
ASAR Alice Springs 76.82 201 P **P** **14 06 21.7 +1.3**
RAYN Ar Rayn 84.24 300 P **P** **14 07 00.1 -0.2**
RAYN lAmb lAmb 14 07 09.3
comp=Z,8.0nm,1.5s
RAYN Ar Rayn 84.24 300 P **P** **14 07 00.1 -0.2**
RAYN pmax pmax
comp=Z,8.0nm,1.5s
ESDC Sonseca Array 88.18 345 P **P** **14 07 18.4 -0.9**
ESDC Sonseca Array 88.18 345 P **P** **14 07 17.7 -1.6**
comp=Z,1.2nm,0.8s,baz=9.1,slow=4.6,SNR=6.7
comp=Z,1.2nm,0.8s
PAB San Pablo 88.36 345 P **P** **14 07 19.4 -0.8**
PAB San Pablo 88.36 345 P **P** **14 07 19.4 -0.8**
PAB pmax pmax
comp=Z,12nm,1.4s
H03N2 Juan Fernandez 136.57 88 T T 16 44 53.6
baz=314,slow=77,SNR=5.3
H03N1 Juan Fernandez 136.58 88 T T 16 44 54.9
baz=314,slow=77,SNR=4.4
H03N3 Juan Fernandez 136.59 88 T T 16 44 58.0
baz=314,slow=77,SNR=5.0

CATAC 19 13:58:16.7±0.8,12°N±2°×8°6W±°,h7km±4km,M2.8/10, MLv2.8/10,Error ellipse: s-maj=7.0km s-min=3.5km az=50.0,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNAN	**Cigeo UNAN**	**0.06**	**327**	P	Pg	13 58 19.0	+0.5
UNAN				S	Sg	13 58 20.5	+0.8
MGAN	**Managua**	**0.09**	**353**	P	Pg	13 58 19.6	+0.7
MGAN	**Managua**	**0.09**	**353**	S	Sg	13 58 21.5	+1.2
ABCN	**Banco Central**	**0.10**	**311**	P	Pg	13 58 19.9	+1.0
ABCN	**Banco Central**	**0.10**	**311**	S	Sg	13 58 22.2	+1.7
ALLN	**Telcor Managua**	**0.10**	**339**	P	Pg	13 58 20.0	+0.9
WILN	**Americas 2**	**0.11**	**25**	P	Pg	13 58 20.1	+0.9
WILN				S	Sg	13 58 22.4	+1.5
NANN	**Nandasmo**	**0.16**	**137**	S	Sg	13 58 23.8	+1.4
NANN	**Nandasmo**	**0.16**	**137**	P	Pg	13 58 21.7	+1.6
NADN	**Granada**	**0.37**	**147**	P	Pg	13 58 23.9	0.0
COPN	**Copaltepe**	**0.37**	**289**	P	Pg	13 58 24.2	+0.3

CATAC 19 14:00:50.5±0.8,12°N±2°×8°6W±°,h8km±3km,M2.4/8, MLv2.4/8,Error ellipse: s-maj=5.7km s-min=3.8km az=50.6,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNAN	**Cigeo UNAN**	**0.07**	**319**	P	Pg	14 00 53.0	+0.6
UNAN				S	Sg	14 00 54.5	+0.8
MGAN	**Managua**	**0.09**	**347**	P	Pg	14 00 53.5	+0.9
MGAN	**Managua**	**0.09**	**347**	S	Sg	14 00 55.6	+1.5
R4DEC	**Barrio San Lui**	**0.09**	**347**	P	Pg	14 00 53.5	+0.8
R4DEC	**Barrio San Lui**	**0.09**	**347**	S	Sg	14 00 55.6	+1.4
ABCN	**Banco Central**	**0.10**	**306**	S	Sg	14 00 56.0	+1.5
ALLN	**Telcor Managua**	**0.10**	**334**	S	Sg	14 00 56.1	+1.5
WILN	**Americas 2**	**0.11**	**22**	P	Pg	14 00 53.9	+1.0
WILN				S	Sg	14 00 56.3	+1.6
NANN	**Nandasmo**	**0.16**	**140**	P	Pg	14 00 54.6	+0.7
NANN	**Nandasmo**	**0.16**	**140**	S	Sg	14 00 57.8	+1.7
BOAB	**BOACO BROADBAN**	**0.67**	**55**	P	Pg	14 01 03.8	+0.4
BOAB				S	Sb	14 01 13.2	-0.7

*IDC **19** 14:14:43.1±4.5,39.99N×24.32E,h0km,mb3.5/2, mbtmp3.5/5,ML3.8/3,MS2.6/3,Error ellipse: s-maj=66.1km s-min=20.1km az=66.0*
*ATH **19** 14:14:43.7,40.04N×24.23E,h21km±2km,ML3.3/25, Manual Solution by A.Plessa First location: 2019/08/19 14:15:54, This location: 2019/08/19 14:31:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*SOF **19** 14:14:44.2,40.20N±0.03×24.38E±0.02,h9km±4km, MD3.6/12*
*ISK **19** 14:14:44.9,40.22N×24.38E,h8km,ML3.4/15*
*THE **19** 14:14:44.2,40.0N±0.9×24.3E±0.9,h15km±2km,M3.1/42, MLh3.1/42*
*AFAD **19** 14:14:45.0,40.02N×24.45E,h28km±2km,ML3.3*
*BEO **19** 14:14:45.9±0.7,40.09N×24.19E,h15km±4km,ML3.3/13*

ISC 19 14:14:43.0±1.0,39.98N±0.02×24.27E±0.01,h11km±8km, n182,σ1§02/234,20C-13D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.42**	**328**	Pg	**Pg**	**14 14 51.6**	**+0.3**
OUR				Sg	**Sg**	**14 14 57.2**	**+0.4**
OUR	**Ouranopolis**	**0.42**	**328**	P	**Pg**	**14 14 51.6**	**+0.3**
OUR				S	**Sg**	**14 14 57.7**	**+0.9**
OUR	**Ouranopolis**	**0.42**	**328**	P	**Pg**	**14 14 51.6**	**+0.3**
OUR				S	**Sg**	**14 14 56.7**	**-0.1**
PLN1	**Chaniotis**	**0.54**	**272**	P	**Pb**	**14 14 54.0**	**-0.5**
PLN1				S	**Sg**	**14 15 01.2**	**+0.6**
LMN1	**MIRINA LIMNOU**	**0.61**	**100**	P	**Pn**	**14 14 57.5**	**-0.2**
LMN1				S	**Sn**	**14 15 05.9**	**-1.6**
EFSA	**Agios Efstrati**	**0.71**	**128**	P	**Pn**	**14 14 59.2**	**+0.2**
LIA	**Limnos Island**	**0.71**	**96**	P	**Pn**	**14 14 58.0**	**-0.9**
LIA				S	**Sn**	**14 15 08.9**	**-1.0**
LIA	**Limnos Island**	**0.71**	**96**	P	**Pn**	**14 14 57.9**	**-1.0**
LIA				S	**Sn**	**14 15 08.4**	**-1.5**
THAS	**Thassos island**	**0.71**	**29**	P	**Pg**	**14 14 56.7**	**-0.1**
THAS				S	**Sb**	**14 15 08.0**	**+0.7**
THAS	**Thassos island**	**0.71**	**29**	P	**Pg**	**14 14 56.7**	**-0.1**
THAS				S	**Sb**	**14 15 06.8**	**-0.5**
PLG	**Polygyros**	**0.74**	**302**	P	**Pg**	**14 14 57.2**	**-0.2**
PLG	**Polygyros**	**0.74**	**302**	P	**Pg**	**14 14 57.1**	**-0.2**
PLG				S	**Sg**	**14 15 06.3**	**-0.9**
AOS	**Alonnisos**	**0.86**	**201**	P	**Pn**	**14 15 00.5**	**-0.6**
AOS				S	**Sn**	**14 15 14.5**	**+0.8**
KVLA	**Kavala**	**0.96**	**5**	P	**Pg**	**14 15 01.4**	**-0.1**
KAVA	**Kavala**	**1.03**	**10**	P	**Pb**	**14 15 02.6**	**-0.3**
KAVA				S	**Sg**	**14 15 16.9**	**+0.5**
KAVA	**Kavala**	**1.03**	**10**	P	**Pb**	**14 15 02.5**	**-0.5**
NEO	**Neokhori**	**1.05**	**231**	P	**Pn**	**14 15 03.5**	**-0.2**
NEO				S	**Sn**	**14 15 18.7**	**+0.3**
NEO	**Neokhori**	**1.05**	**231**	P	**Pn**	**14 15 03.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.08**	**63**	P	**Pg**	**14 15 03.5**	**-0.3**
SMTH				S	**Sn**	**14 15 19.4**	**+0.2**
SMTH	**Samothraki Isl**	**1.08**	**63**	P	**Pb**	**14 15 03.2**	**-0.5**
HORT	**Hortiatis**	**1.09**	**305**	P	**Pb**	**14 15 03.2**	**-0.7**
HORT				S	**Sb**	**14 15 18.1**	**-0.1**
HORT	**Hortiatis**	**1.09**	**305**	P	**Pb**	**14 15 03.1**	**-0.8**
SOH	**Sokhos**	**1.09**	**320**	P	**Pb**	**14 15 03.8**	**-0.2**
SOH				S	**Sb**	**14 15 18.2**	**-0.1**
SOH	**Sokhos**	**1.09**	**320**	P	**Pb**	**14 15 03.7**	**-0.3**
SKY	**Skiros Island**	**1.12**	**169**	P	**Pn**	**14 15 05.4**	**+0.7**
XANC	**Avdira**	**1.12**	**27**	P	**Pb**	**14 15 03.7**	**-0.8**
THE	**Thessaloniki**	**1.19**	**304**	P	**Pn**	**14 15 05.3**	**-0.3**
THE				S	**Sb**	**14 15 21.0**	**-0.1**
THE	**Thessaloniki**	**1.19**	**304**	P	**Pn**	**14 15 05.3**	**-0.3**
SRS	**Serrai**	**1.25**	**336**	P	**Pn**	**14 15 06.0**	**-0.5**
SRS				S	**Sb**	**14 15 21.5**	**-1.2**
SRS	**Serrai**	**1.25**	**336**	*e*Pg	**Pn**	**14 15 06.3**	**-0.2**
SRS				*e*Sg	**Sb**	**14 15 21.5**	**-1.2**
SRS	**Serrai**	**1.25**	**336**	P	**Pn**	**14 15 05.8**	**-0.6**
GADA	**Gvkgeada**	**1.27**	**80**	Pn	**Pg**	**14 15 07.4**	**0.0**
GADA				Sn	**Sg**	**14 15 24.5**	**+0.7**
GADA	**Gvkgeada**	**1.27**	**80**	P	**Pg**	**14 15 06.7**	**-0.7**
GADA				S	**Sg**	**14 15 24.8**	**+1.0**
GOAD	**anakkale-G¶**	**1.27**	**81**	P	**Pg**	**14 15 06.8**	**-0.7**
GOAD				S	**Sg**	**14 15 26.1**	**+2.2**
GOAD				*i* IAML		14 15 27.0	
	comp=E,972nm,0.3s						
GOAD				*i* IAML		14 15 28.0	
	comp=N,961nm,0.3s						
KYMI	**Kymi, Euboea I**	**1.35**	**186**	P	**Pb**	**14 15 07.9**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.35**	**186**	P	**Pb**	**14 15 07.6**	**-0.8**
LIT	**Litokhoron**	**1.37**	**276**	P	**Pn**	**14 15 07.6**	**-0.6**
LIT				S	**Sn**	**14 15 25.4**	**-0.9**
LIT	**Litokhoron**	**1.37**	**276**	P	**Pn**	**14 15 07.6**	**-0.6**
BOZC	**Bozcaada**	**1.38**	**95**	P	**Pg**	**14 15 08.7**	**-0.7**
BOZC				S	**Sg**	**14 15 26.3**	**-1.1**
BOZC				*i* IAML		14 15 30.0	
	comp=N,1μm,0.4s						
BOZC				*i* IAML		14 15 30.0	
	comp=E,837nm,0.4s						
SIGR	**SIGRI**	**1.45**	**122**	Pn	**Pg**	**14 15 13.2**	**+2.4**
SIGR	**SIGRI**	**1.45**	**122**	P	**Pg**	**14 15 10.4**	**-0.3**
ECEA	**Canakkale, Ece**	**1.46**	**87**	P	**Pg**	**14 15 11.0**	**-0.1**
ECEA				S	**Sg**	**14 15 29.9**	**-0.2**
RDO	**Rodhopi**	**1.51**	**39**	Pn	**Pn**	**14 15 09.6**	**-0.5**
RDO	**Rodhopi**	**1.51**	**39**	P	**Pn**	**14 15 09.4**	**-0.7**
RDO	**Rodhopi**	**1.51**	**39**	P	**Pn**	**14 15 09.3**	**-0.7**
KOCA	**Canakkale, Ayv**	**1.52**	**108**	P	**Pb**	**14 15 10.8**	**-0.4**
KOCA				S	**Sg**	**14 15 30.2**	**-1.6**
KOCA				*i* IAML		14 15 35.0	
	comp=N,582nm,0.7s						
KOCA				*i* IAML		14 15 39.0	
	comp=E,418nm,0.4s						
ALEX	**Alexandroupoli**	**1.52**	**54**	P	**Pn**	**14 15 09.3**	**-0.9**
GPNR	**Gulpinar-Canak**	**1.53**	**109**	Pn	**Pg**	**14 15 13.9**	**+1.5**
ENZZ	**Sultanice-Enez**	**1.56**	**66**	Pn	**Pb**	**14 15 11.5**	**-0.4**
KNT	**Kendrikon**	**1.58**	**319**	P	**Pn**	**14 15 10.9**	**-0.1**
KNT	**Kendrikon**	**1.58**	**319**	P	**Pn**	**14 15 10.5**	**-0.5**
EZN	**Ezine**	**1.59**	**95**	Pn	**Pg**	**14 15 13.6**	**+0.1**
EZN				Sn	**Sg**	**14 15 35.3**	**+1.2**
EZN	**Ezine**	**1.59**	**95**	⇑P	**Pg**	**14 15 13.1**	**-0.4**
EZN				⇑S	**Sg**	**14 15 35.9**	**+1.9**
ATAL	**Atalanti**	**1.61**	**217**	P	**Pn**	**14 15 11.4**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**1.61**	**63**	P	**Pb**	**14 15 11.7**	**-1.2**
CAVK				S	**Sb**	**14 15 32.3**	**-0.9**
CAVK				*i* IAML		14 15 39.0	
	comp=E,377nm,0.3s						
CAVK				*i* IAML		14 15 43.0	
	comp=N,392nm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.61**	**63**	⇑P	**Pg**	**14 15 14.6**	**+0.6**
MMB	**Musomishta**	**1.61**	**346**	P	**Pn**	**14 15 11.3**	**-0.2**
MMB				S	**Sn**	**14 15 31.4**	**-0.9**
MMB	**Musomishta**	**1.61**	**346**	P	**Pn**	**14 15 11.6**	**0.0**
MMB				S	**Sn**	**14 15 31.5**	**-0.9**
CNKL	**anakkale-Mer**	**1.63**	**86**	P	**Pn**	**14 15 11.6**	**0.0**
CNKL				*i* IAML		14 15 37.0	
	comp=N,280nm,0.4s						
CNKL				*i* IAML		14 15 37.0	
	comp=E,343nm,0.4s						
CNKL				S	**Sg**	**14 15 37.2**	**+1.9**
EZNE	**Ezine-Canakkal**	**1.63**	**97**	Pn	**Pg**	**14 15 14.5**	**+0.3**
ALN	**Alexandroupoli**	**1.64**	**55**	Pn	**Pb**	**14 15 12.1**	**-1.1**
ALN	**Alexandroupoli**	**1.64**	**55**	P	**Pn**	**14 15 11.4**	**-0.3**
ALN				S	**Sn**	**14 15 32.0**	**-0.8**
ALN	**Alexandroupoli**	**1.64**	**55**	P	**Pn**	**14 15 11.2**	**-0.6**
LKR	**Lokris**	**1.66**	**217**	P	**Pn**	**14 15 12.1**	**+0.1**
LKR	**Lokris**	**1.66**	**217**	P	**Pn**	**14 15 11.9**	**-0.2**
COMU	**Canakkale**	**1.69**	**85**	Pn	**Pb**	**14 15 13.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.74**	**75**	Pn	**Pb**	**14 15 14.3**	**-0.7**
AXAR	**Agios Charalam**	**1.74**	**226**	P	**Pb**	**14 15 13.8**	**-1.3**
AXAR	**Agios Charalam**	**1.74**	**226**	P	**Pb**	**14 15 13.8**	**-1.3**
RZN	**Rozhen**	**1.75**	**12**	P	**Pn**	**14 15 12.9**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**1.77**	**97**	P	**Pn**	**14 15 14.2**	**-1.3**
BAYC				S	**Sb**	**14 15 36.1**	**-1.5**
BAYC				*i* IAML		14 15 42.0	
	comp=N,284nm,0.3s						
BAYC				*i* IAML		14 15 44.0	
	comp=E,386nm,0.3s						
AGG	**Agios Georgios**	**1.78**	**238**	P	**Pn**	**14 15 13.8**	**+0.1**
AGG				S	**Sb**	**14 15 36.9**	**-1.1**
THL	**Klokotos Trika**	**1.79**	**257**	P	**Pn**	**14 15 14.0**	**+0.1**
THL	**Klokotos Trika**	**1.79**	**257**	P	**Pn**	**14 15 13.8**	**-0.1**
KDZ	**Kurdzhali**	**1.84**	**26**	Pn	**Pn**	**14 15 14.3**	**-0.3**
KDZ	**Kurdzhali**	**1.84**	**26**	P	**Pn**	**14 15 14.2**	**-0.3**
KDZ	**Kurdzhali**	**1.84**	**26**	P	**Pn**	**14 15 14.4**	**-0.3**
ERIK	**Erikli-Kesan**	**1.85**	**67**	Pn	**Pn**	**14 15 15.2**	**+0.5**
VAY	**Valandovo**	**1.86**	**317**	*e*Pn	**Pb**	**14 15 17.3**	**+0.2**
VAY				*e*Sg	**Sg**	**14 15 44.5**	**+1.6**
STFN	**Stefani**	**1.89**	**198**	P	**Pn**	**14 15 15.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.92**	**240**	P	**Pn**	**14 15 16.3**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.92**	**240**	P	**Pn**	**14 15 16.4**	**+0.8**
DION	**Dionisos Attik**	**1.92**	**188**	P	**Pn**	**14 15 16.0**	**+0.3**
DION	**Dionisos Attik**	**1.92**	**188**	P	**Pn**	**14 15 16.0**	**+0.3**
VIL2	**Platees**	**1.93**	**204**	P	**Pn**	**14 15 16.0**	**+0.1**
KZN	**Kozani**	**1.94**	**280**	P	**Pn**	**14 15 16.4**	**+0.3**
KZN	**Kozani**	**1.94**	**280**	P	**Pn**	**14 15 15.8**	**-0.2**
KARY	**Karystos**	**1.95**	**176**	P	**Pn**	**14 15 16.5**	**+0.4**
VILL	**Villia**	**1.96**	**203**	P	**Pn**	**14 15 16.5**	**+0.2**
AYVA	**Ayvalik**	**1.98**	**109**	P	**Pg**	**14 15 19.8**	**-1.3**
PARN3	**Mandra,Attica,**	**2.00**	**198**	P	**Pn**	**14 15 16.4**	**-0.3**
KKB	**Krupnik**	**2.05**	**335**	P	**Pn**	**14 15 18.2**	**+0.7**
KKB				S	**Sn**	**14 15 42.7**	**-0.4**
KKB	**Krupnik**	**2.05**	**335**	P	**Pn**	**14 15 18.1**	**+0.7**
UKOP	**Uzunkopru-Edir**	**2.13**	**57**	Pn	**Pn**	**14 15 19.3**	**+0.7**
EVR	**Evrytania**	**2.18**	**242**	P	**Pn**	**14 15 20.0**	**+0.6**
EVR	**Evrytania**	**2.18**	**242**	P	**Pn**	**14 15 19.7**	**+0.3**
PLD	**Plovdiv**	**2.19**	**9**	Pn	**Pn**	**14 15 18.9**	**-0.5**
PLD	**Plovdiv**	**2.19**	**9**	P	**Pn**	**14 15 19.4**	**0.0**
PLD	**Plovdiv**	**2.19**	**9**	P	**Pn**	**14 15 19.7**	**+0.3**
PLD	**Plovdiv**	**2.19**	**9**	*e*Pn	**Pn**	**14 15 19.5**	**0.0**
PLD				*e*Sn	**Sn**	**14 15 44.7**	**-1.9**
LTK	**Loutraki**	**2.20**	**208**	P	**Pn**	**14 15 20.1**	**+0.5**
BUHA	**Balikesir, Bur**	**2.21**	**102**	P	**Pb**	**14 15 21.2**	**-1.9**
BUHA				S	**Sn**	**14 15 47.6**	**+0.5**
BUHA				*i* IAML		14 15 58.0	
	comp=N,358nm,0.9s						
BUHA				*i* IAML		14 15 58.0	
	comp=E,277nm,0.4s						
ANX	**Ano Chora**	**2.29**	**234**	P	**Pn**	**14 15 21.6**	**+0.8**
KALE	**Kalithea**	**2.29**	**227**	P	**Pn**	**14 15 21.4**	**+0.5**
SERG	**Sergoula**	**2.33**	**228**	P	**Pn**	**14 15 21.9**	**+0.6**
SERG	**Sergoula**	**2.33**	**228**	P	**Pn**	**14 15 21.6**	**+0.3**
FNA	**Florina**	**2.35**	**291**	P	**Pn**	**14 15 22.0**	**+0.3**
FNA	**Florina**	**2.35**	**291**	*e*Pn	**Pn**	**14 15 22.2**	**+0.5**
FNA				*e*Sn	**Sn**	**14 15 49.2**	**-1.4**
TETR	**Tetrakomo, Epi**	**2.40**	**256**	P	**Pn**	**14 15 22.9**	**+0.5**
EFP	**Efpalio**	**2.41**	**231**	P	**Pn**	**14 15 23.1**	**+0.8**
EFP	**Efpalio**	**2.41**	**231**	P	**Pn**	**14 15 22.9**	**+0.6**
MET2	**Kameni Chora,**	**2.48**	**198**	P	**Pn**	**14 15 23.7**	**+0.4**
NEST	**Nestorio**	**2.51**	**281**	P	**Pn**	**14 15 24.2**	**+0.4**
PVO	**Paravola**	**2.53**	**238**	P	**Pn**	**14 15 24.5**	**+0.5**
PGB	**Panagyurishte**	**2.53**	**358**	P	**Pn**	**14 15 24.5**	**+0.4**
GUR	**Goura**	**2.54**	**217**	P	**Pn**	**14 15 24.7**	**+0.4**
GUR	**Goura**	**2.54**	**217**	P	**Pn**	**14 15 24.5**	**+0.3**
KLV	**Kalavryta, Ach**	**2.54**	**221**	P	**Pn**	**14 15 25.1**	**+0.7**
KLV	**Kalavryta, Ach**	**2.54**	**221**	P	**Pn**	**14 15 24.5**	**+0.2**
PLNA	**Plana**	**2.57**	**346**	P	**Pn**	**14 15 25.5**	**+0.7**
PLNA				S	**Sn**	**14 15 55.7**	**-0.5**
EDRB	**Edirne**	**2.64**	**44**	Pn	**Pn**	**14 15 25.9**	**+0.3**
VTS	**Vitosha**	**2.75**	**344**	P	**Pn**	**14 15 27.6**	**+0.4**
VTS				S	**Sn**	**14 15 59.3**	**-1.2**
VTS	**Vitosha**	**2.75**	**344**	*e*Pn	**Pn**	**14 15 27.7**	**+0.5**
VTS				*e*Sn	**Sn**	**14 15 59.4**	**-1.1**
DRO	**Drossia**	**2.84**	**225**	P	**Pn**	**14 15 29.6**	**+1.2**
DRO	**Drossia**	**2.84**	**225**	P	**Pn**	**14 15 29.5**	**+1.2**
BOSS	**Bosilegrad**	**2.85**	**332**	*e*Pn	**Pn**	**14 15 29.5**	**+1.0**
BOSS				*e*Sn	**Sn**	**14 16 03.0**	**+0.1**
OHR	**Ohrid**	**2.88**	**294**	*e*Pn	**Pn**	**14 15 30.4**	**+1.6**
OHR				*e*Sg	**Sn**	**14 16 05.5**	**+1.9**
SKO	**Skopje**	**2.92**	**314**	*e*Pn	**Pn**	**14 15 29.7**	**+0.2**
BAND	**Balkesir-Ban**	**2.96**	**81**	⇑P	**Pb**	**14 15 32.3**	**-3.5**
BAND				⇓S	**Sb**	**14 16 10.

TESR	**Tescani**	**6.75**	**14**	⇑P		**Pn**	**14 16 23.3**	**+1.2**
BRTR	**Keskin Array B**	**7.21**	**89**	Pn		**Pn**	**14 16 29.9**	**+1.3**
	0.4nm,0.3s,baz=269,slow=12,SNR=6.7 0.8nm,0.4s							
MORH	**Mrgy, Hungar**	**7.47**	**328**	⇑P		**Pn**	**14 16 32.7**	**+0.9**
BURAR	**Bucovina Array**	**7.66**	**5**	⇓P		**Pn**	**14 16 35.8**	**+1.2**
MILM	**Milestii Mici**	**7.68**	**24**	⇑P		**Pn**	**14 16 35.0**	**+0.2**
	14nm,0.4s							
AKASG	**Malin Array Be**	**11.27**	**16**	Pn		**Pn**	**14 17 24.4**	**+0.4**
	1.1nm,0.3s,baz=194,slow=13,SNR=4.0							
AKASG				LR		LR	14 22 15.8	
	comp=Z,23nm,19.4s,baz=176,slow=40 0.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**12.47**	**308**	LR		LR	14 23 33.8	
	comp=Z,32nm,19.4s,baz=270,slow=42							
MKAR	**Makanchi Array**	**41.87**	**61**	P		**P**	**14 22 35.2**	**+2.1**
	0.2nm,0.5s,baz=281,slow=7.3,SNR=3.9 0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**42.31**	**50**	P		**P**	**14 22 38.5**	**+2.0**
	0.7nm,0.5s,baz=258,slow=7.4,SNR=4.1 0.7nm,0.5s							

CATAC 19 14:41:05.1±0.5, 12°N±2°×8°6W±°, h5km±2km, M2.7/11, MLv2.7/11, Error ellipse: s-maj=5.9km s-min=3.5km az=52.4, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNAN	**Cigeo UNAN**	**0.06**	**314**	P	Pg	14 41 07.1	+0.5
UNAN				S	Sg	14 41 08.5	+0.8
MGAN	**Managua**	**0.08**	**346**	P	Pg	14 41 07.3	+0.4
R4DEC	**Barrio San Lui**	**0.08**	**346**	P	Pg	14 41 07.4	+0.5
R4DEC	**Barrio San Lui**	**0.08**	**346**	S	Sg	14 41 09.2	+1.0
ABCN	**Banco Central**	**0.10**	**303**	P	Pg	14 41 08.0	+0.8
AERN	**Aeropuerto Man**	**0.10**	**38**	P	Pg	14 41 07.5	+0.3
AERN	**Aeropuerto Man**	**0.10**	**38**	S	Sg	14 41 10.0	+1.4
WILN	**Americas 2**	**0.10**	**24**	P	Pg	14 41 08.0	+0.8
WILN				S	Sg	14 41 09.5	+0.8
NANN	**Nandasmo**	**0.17**	**141**	S	Sg	14 41 12.2	+1.5
NANN	**Nandasmo**	**0.17**	**141**	P	Pg	14 41 09.0	+0.5
BOAB	**BOACO BROADBAN**	**0.67**	**55**	P	Pg	14 41 17.8	-0.2
MATN	**Matagalpa**	**0.90**	**19**	P	Pb	14 41 23.8	+0.5
MATN	**Matagalpa**	**0.90**	**19**	S	Sg	14 41 34.4	+0.2
ACON	**Acoyapa**	**1.04**	**95**	P	Pg	14 41 25.2	+0.2

*IDC **19** 14:41:22.4±0.7, 30°29N×94°72E, h0km, mb3.8/13, mbtmp3.7/16, ML3.3/2, MS3.5/2, Error ellipse: s-maj=32.1km s-min=14.8km az=54.0*

ISC 19 14:41:27.5±0.7, 30°3N±0°1×94°7E±0°2, h35km, n19, σ0°68/17, mb3.7/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.37**	**161**	Pn		**Pn**	**14 44 19.9**	**-1.2**
	0.3nm,0.4s,baz=332,slow=12,SNR=4.9							
MKAR	**Makanchi Array**	**19.11**	**333**	P		**P**	**14 45 46.8**	**-0.5**
	0.1nm,0.3s,baz=146,slow=13,SNR=6.9 0.9nm,0.8s							
SONM	**Songino Array**	**19.70**	**24**	P		**P**	**14 45 53.5**	**-0.4**
	0.1nm,0.3s,baz=217,slow=12,SNR=7.4 1.3nm,0.7s							
AAK	**Ala-Archa**	**20.37**	**313**	P		**P**	**14 46 00.5**	**-0.7**
	4.2nm,0.9s,baz=124,slow=11,SNR=6.5 4.2nm,0.9s							
KURBB	**Kurchatov Arra**	**23.68**	**334**	P		**P**	**14 46 35.6**	**-0.1**
	1.3nm,0.7s,baz=141,slow=11,SNR=8.3 1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**24.73**	**346**	P		**P**	**14 46 45.8**	**+0.4**
	1.3nm,0.7s,baz=170,slow=9.0,SNR=6.9 1.3nm,0.7s							
BVAR	**Borovoye Array**	**28.86**	**329**	P		**P**	**14 47 22.5**	**0.0**
	0.9nm,0.6s,baz=128,slow=9.6,SNR=5.7 0.9nm,0.6s							
BRTR	**Keskin Array B**	**50.07**	**298**	P		**P**	**14 50 19.4**	**+0.3**
	0.8nm,0.7s,baz=85,slow=3.0,SNR=4.2 0.8nm,0.7s							
AKASG	**Malin Array Be**	**52.03**	**313**	P		**P**	**14 50 32.5**	**-1.0**
	1.7nm,0.7s,baz=79,slow=7.0,SNR=6.7 1.7nm,0.7s							
ARCES	**ARCESS Array B**	**54.73**	**336**	LR		LR	15 15 04.1	
	comp=Z,32nm,19.2s,baz=95,slow=37							
MLR	**Muntele Rosu**	**54.78**	**307**	P		**P**	**14 50 53.6**	**-0.3**
	4.3nm,0.8s,baz=211,slow=9.7,SNR=3.8							
GERES	**GERESS Array B**	**62.25**	**312**	P		**P**	**14 51 45.8**	**0.0**
	0.2nm,0.3s,baz=69,slow=5.7,SNR=2.0 0.2nm,0.3s							
WRA	**Warramunga Arr**	**62.81**	**138**	P		**P**	**14 51 49.8**	**+0.1**
	0.7nm,0.9s,baz=326,slow=7.9,SNR=2.7 0.7nm,0.9s							
ASAR	**Alice Springs**	**65.50**	**140**	P		**P**	**14 52 07.8**	**+0.5**
	0.8nm,0.9s,baz=325,slow=6.3,SNR=9.9 0.8nm,0.9s							
ILAR	**Eielson Array**	**73.93**	**23**	P		**P**	**14 52 58.4**	**-0.4**
	0.5nm,0.9s,baz=306,slow=5.5,SNR=4.0 0.5nm,0.9s							
STKA	**Stephens Creek**	**76.13**	**140**	P		**P**	**14 53 13.1**	**+1.2**
	3.6nm,1.0s,baz=329,slow=5.9,SNR=2.9 3.6nm,1.0s							
ESDC	**Sonseca Array**	**77.41**	**309**	P		**P**	**14 53 19.8**	**+0.6**
	0.4nm,0.7s,baz=341,slow=3.0,SNR=2.2 0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**86.06**	**283**	P		**P**	**14 54 05.7**	**+0.6**
	1.0nm,0.9s,baz=34,slow=7.4,SNR=3.9 1.0nm,0.9s							
SCHQ	**Schefferville**	**93.77**	**349**	LR		LR	15 40 46.6	
	comp=Z,25nm,20.4s,baz=340,slow=38							

CATAC 19 15:05:58.0±0.6, 12°N±2°×8°6W±°, h6km±3km, M3.1/14, MLv3.1/14, Error ellipse: s-maj=5.8km s-min=3.2km az=51.0, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNAN	**Cigeo UNAN**	**0.06**	**311**	P	Pg	15 06 00.1	+0.5
UNAN				S	Sg	15 06 01.7	+0.9
MGAN	**Managua**	**0.08**	**343**	P	Pg	15 06 00.7	+0.8
MGAN	**Managua**	**0.08**	**343**	S	Sg	15 06 02.4	+1.2
TISN	**Laguna Tiscapa**	**0.08**	**328**	P	Pg	15 05 58.9	-1.0
WILN	**Americas 2**	**0.10**	**21**	P	Pg	15 06 01.1	+1.0
WILN				S	Sg	15 06 02.7	+1.1
ALLN	**Telcor Managua**	**0.10**	**329**	P	Pg	15 06 01.0	+0.9
ABCN	**Banco Central**	**0.10**	**301**	P	Pg	15 06 01.3	+1.1
SABN	**Sabanita**	**0.13**	**152**	P	Pg	15 06 00.4	-0.3
APQ2	**Apoyeque**	**0.16**	**322**	P	Pg	15 06 02.2	+1.0
NANN	**Nandasmo**	**0.17**	**143**	P	Pg	15 06 03.3	+2.0
NANN				S	Sg	15 06 05.0	+1.4
APQ3	**Volcan Apoyequ**	**0.25**	**325**	P	Pg	15 06 03.4	+0.6
NADN	**Granada**	**0.37**	**150**	P	Pg	15 06 05.6	+0.4
COPN	**Copaltepe**	**0.38**	**287**	P	Pg	15 06 05.4	+0.1
MOM2	**El Cardon**	**0.45**	**325**	P	Pb	15 06 07.6	-0.6
BOAB	**BOACO BROADBAN**	**0.66**	**55**	P	Pg	15 06 10.8	+0.1

CATAC 19 15:09:57.7±0.6, 12°N±4°×8°6W±°, h10km±4km, M2.8/11, MLv2.8/11, Error ellipse: s-maj=7.6km s-min=3.7km az=171.4, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNAN	**Cigeo UNAN**	**0.06**	**324**	P	Pg	15 10 00.3	+0.6
UNAN				S	Sg	15 10 02.0	+0.8
MGAN	**Managua**	**0.08**	**352**	P	Pg	15 10 00.9	+0.9
MGAN	**Managua**	**0.08**	**352**	S	Sg	15 10 03.2	+1.6
R4DEC	**Barrio San Lui**	**0.09**	**352**	P	Pg	15 10 00.9	+0.9
R4DEC	**Barrio San Lui**	**0.09**	**352**	S	Sg	15 10 03.2	+1.4
ABCN	**Banco Central**	**0.09**	**308**	P	Pg	15 10 00.7	+0.6
ABCN	**Banco Central**	**0.09**	**308**	S	Sg	15 10 03.8	+1.9
ALLN	**Telcor Managua**	**0.10**	**337**	P	Pg	15 10 01.3	+1.1
ALLN	**Telcor Managua**	**0.10**	**337**	S	Sg	15 10 03.5	+1.5
AERN	**Aeropuerto Man**	**0.10**	**40**	S	Sg	15 10 03.4	+1.3
WILN	**Americas 2**	**0.11**	**26**	P	Pg	15 10 01.3	+1.0
WILN				S	Sg	15 10 03.9	+1.7
SABN	**Sabanita**	**0.13**	**146**	P	Pg	15 10 00.7	0.0
APQ2	**Apoyeque**	**0.16**	**327**	S	Sg	15 10 05.6	+2.1
NANN	**Nandasmo**	**0.17**	**138**	P	Pg	15 10 02.3	+1.0
COPN	**Copaltepe**	**0.37**	**288**	P	Pg	15 10 05.6	+0.6
COPN				S	Sg	15 10 10.9	+1.0
BOAB	**BOACO BROADBAN**	**0.68**	**55**	P	Pb	15 10 11.2	-0.4
BOAB				S	Sb	15 10 20.8	-0.3

CATAC 19 15:27:32.8±0.6, 12°N±4°×8°8W±°, h32km±5km, M2.7/8,

MLv2.7/8, Error ellipse: s-maj=9.2km s-min=4.0km az=35.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.69**	**9**	P	Pb	15 27 46.9	+0.5
CSGN				S	Sn	15 27 56.8	+0.8
POTN	**Potosi Cosigui**	**0.72**	**13**	P	Pb	15 27 47.3	+0.3
POTN				S	Sn	15 27 57.6	+1.0
CRIN	**San Cristobal**	**0.73**	**56**	P	Pb	15 27 48.2	+1.0
CRIN	**San Cristobal**	**0.73**	**56**	S	Sn	15 27 59.7	+2.6
PLRN	**Geotermica Pol**	**0.93**	**72**	P	Pn	15 27 49.4	-0.2
PLRN				S	Sn	15 28 01.6	-0.2
CNCH	**Conchagua**	**0.99**	**351**	P	Pn	15 27 50.8	+0.2
CNCH	**Conchagua**	**0.99**	**351**	S	Sn	15 28 03.8	+0.3
LCND	**La Caada**	**1.03**	**348**	P	Pn	15 27 51.4	+0.4
COPN	**Copaltepe**	**1.06**	**96**	P	Pn	15 27 51.0	-0.5
COPN				S	Sn	15 28 05.4	+0.2
MOM2	**El Cardon**	**1.17**	**83**	P	Pb	15 27 53.7	-0.8
MOM2				S	Sb	15 28 08.8	-0.5
CHOHN	**Orocuina**	**1.28**	**23**	P	Pn	15 27 54.5	0.0
CHOHN	**Orocuina**	**1.28**	**23**	S	Sn	15 28 11.5	+0.8
RANC	**El Ranchito**	**1.28**	**332**	P	Pn	15 27 53.8	-0.8
RANC	**El Ranchito**	**1.28**	**332**	S	Sn	15 28 11.6	+0.9
PACA	**Pacayal**	**1.33**	**332**	S	Sn	15 28 12.7	+0.8
YUSH	**Yuscaran**	**1.84**	**26**	P	Pn	15 28 02.7	+0.5
YUSH	**Yuscaran**	**1.84**	**26**	S	Sn	15 28 24.8	+0.4

DJA 19 16:00:29.8±0.4, 7°S±17°×10°9E±°, h238km±6km, M3.9/13, mB5.4/1, mb4.4/5, MLv3.7/13, Mw(mB)4.8/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**0.46**	**173**	P	Pn	16 01 02.0	+0.8
LEM	**Lembang**	**1.24**	**272**	P	Pn	16 01 06.2	+0.9
CNJI	**Cibinong**	**1.78**	**256**	P	Pn	16 01 09.6	+0.3
UGM	**Wanagama**	**1.94**	**122**	P	Pn	16 01 11.3	+0.5
WOJI	**Wonogiri, Jawa**	**2.25**	**115**	P	Pn	16 01 14.2	+0.5
WOJI				S	S	16 01 48.1	0.0
PCJI	**Pacitan**	**2.64**	**120**	P	Pn	16 01 17.7	+0.1
PCJI				S	S	16 01 53.1	-2.2
CGJI	**Cibinong**	**3.17**	**274**	P	Pn	16 01 22.9	-0.5
KASI	**Kota Agung**	**4.55**	**287**	P	Pn	16 01 40.1	+0.4
GMJI	**Gumukmas**	**4.74**	**107**	P	Pn	16 01 41.8	-0.3
JAGI	**Jajag, Banyuwa**	**5.47**	**107**	P	Pn	16 01 50.7	-0.4
	0.2nm21nm,0.4s						
MNAI	**Manna**	**6.39**	**293**	P	Pn	16 02 02.9	+0.2
	140nm,0.9s						
MASI	**Maura Aman, Be**	**7.57**	**299**	P	Pn	16 02 17.3	-0.4

*SJA **19** 16:04:54.5±0.6, 20°56S×68°86W, h121km±3km, ML4.2, MW4.1*
*VAO **19** 16:04:55.9±1.1, 20°53S×68°73W, h124km, mb4.6*
*NEIC **19** 16:04:55.2±1.2, 20°59S±0°03×68°87W±0°08, h124km±8km, mb4.6/9, ML4.4(GUC), Error ellipse: s-maj=11.6km s-min=2.6km az=77.0*
*GUC **19** 16:04:56.6±0.8, 20°58S×68°84W, h112km±4km, ML4.4*
*IDC **19** 16:04:57.1±2.5, 20°55S×68°48W, h120km±21km, mb3.8/5, mbtmp4.2/8, MS2.5/1, Error ellipse: s-maj=28.1km s-min=19.8km az=86.0*

ISC 19 16:04:54.6±0.6, 20°58S±0°03×68°83W±0°05, h117km±6km, n107, σ1°64/130, mb4.6/5, 7C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.53**	**325**	Pn		**Pn**	**16 05 13.7**	**+0.8**
PB08	**IPOC Station P**	**0.53**	**325**	⇑*i*P		**Pn**	**16 05 13.8**	**+0.9**
PB08				*e*S		**Sn**	**16 05 27.2**	**+0.4**
PB08				IAML			16 05 28.0	
	comp=E,23μm,0.1s							
PB08	**IPOC Station P**	**0.53**	**325**	*e*P		**Pn**	**16 05 13.8**	**+0.8**
PB08				*e*S		**Sn**	**16 05 27.9**	**+1.1**
PB08				IAML			16 05 27.9	
	comp=Z,8μm,0.2s							
PB01	**IPOC Station P**	**0.77**	**233**	Pn		**Pn**	**16 05 15.1**	**+0.7**
PB01	**IPOC Station P**	**0.77**	**233**	⇓*i*P		**Pn**	**16 05 15.2**	**+0.7**
PB01				*e*S		**Sn**	**16 05 29.6**	**+0.3**
PB01				IAML			16 05 30.8	
	comp=E,37μm,0.2s							
PB01	**IPOC Station P**	**0.77**	**233**	*e*P		**Pn**	**16 05 15.1**	**+0.7**
PB01				*e*S		**Sn**	**16 05 29.9**	**+0.6**
GO01	**Chusmiza**	**0.97**	**339**	Pn		**Pn**	**16 05 17.5**	**+0.8**
GO01	**Chusmiza**	**0.97**	**339**	⇑*i*P		**Pn**	**16 05 17.6**	**+0.8**
GO01				*e*S		**Sn**	**16 05 33.9**	**+0.6**
GO01				IAML			16 05 35.1	
	comp=N,23μm,0.1s							
GO01	**Chusmiza**	**0.97**	**339**	*e*P		**Pn**	**16 05 17.5**	**+0.8**
GO01				IAML			16 05 38.1	
	comp=Z,4μm,0.4s							
HMBC	**Humberstone**	**1.04**	**287**	Pn		**Pn**	**16 05 17.4**	**+0.5**
HMBC	**Humberstone**	**1.04**	**287**	⇑*i*P		**Pn**	**16 05 17.4**	**+0.5**
HMBC				*e*S		**Sn**	**16 05 34.2**	**+0.4**
HMBC				IAML			16 05 34.9	
	comp=N,15μm,0.2s							
HMBC	**Humberstone**	**1.04**	**287**	*e*P		**Pn**	**16 05 17.4**	**+0.5**
HMBC				*e*S		**Sn**	**16 05 34.7**	**+0.9**
HMBC				IAML			16 05 36.0	
	comp=Z,5μm,0.2s							
PB11	**IPOC Station P**	**1.13**	**316**	Pn		**Pn**	**16 05 18.7**	**+0.8**
PB11	**IPOC Station P**	**1.13**	**316**	⇑*i*P		**Pn**	**16 05 18.8**	**+0.8**
PB11				*e*S		**Sn**	**16 05 36.1**	**+0.6**
PB11				IAML			16 05 37.1	
	comp=E,15μm,0.4s							
PB11	**IPOC Station P**	**1.13**	**316**	*e*P		**Pn**	**16 05 18.7**	**+0.8**
PB11				*e*S		**Sn**	**16 05 36.5**	**+0.9**
PB11				IAML			16 05 38.7	
	comp=Z,4μm,0.7s							
PB02	**IPOC Station P**	**1.24**	**233**	Pn		**Pn**	**16 05 19.9**	**+0.8**
PB02	**IPOC Station P**	**1.24**	**233**	*i* P		**Pn**	**16 05 19.8**	**+0.8**
PB02				IAML			16 05 40.1	
	comp=E,15μm,0.3s							
PB02	**IPOC Station P**	**1.24**	**233**	*e*P		**Pn**	**16 05 19.8**	**+0.8**
PB02				*e*S		**Sn**	**16 05 38.5**	**+1.0**
PB02				IAML			16 05 45.8	
	comp=Z,11μm,0.2s							
TA02	**Huaiquique**	**1.26**	**284**	*e*P		**Pn**	**16 05 19.8**	**+0.7**
TA02	**Huaiquique**	**1.26**	**284**	*e*P		**Pn**	**16 05 20.0**	**+0.9**
TA02				*e*S		**Sn**	**16 05 40.6**	**+2.9**
TA02				IAML			16 05 42.5	
	comp=Z,6μm,0.1s							
PATCX	**Punta Patache**	**1.26**	**259**			**Pn**	**16 05 20.0**	**+0.8**
PATCX	**Punta Patache**	**1.26**	**259**	⇑*i*P		**Pn**	**16 05 20.1**	**+0.8**
PATCX				*e*S		**Sn**	**16 05 38.5**	**+0.6**
PATCX				IAML			16 05 44.7	
	comp=N,9μm,0.2s							
PATCX	**Punta Patache**	**1.26**	**259**	*e*P		**Pn**	**16 05 20.1**	**+0.8**
PATCX				*e*S		**Sn**	**16 05 39.5**	**+1.6**
PATCX				IAML			16 05 40.5	
	comp=Z,3μm,0.2s							
TA01	**Diego Aracena**	**1.27**	**271**			**Pn**	**16 05 19.7**	**+0.6**
TA01	**Diego Aracena**	**1.27**	**271**	⇑*i*P		**Pn**	**16 05 19.8**	**+0.6**
TA01				*e*S		**Sn**	**16 05 37.9**	**0.0**
TA01				IAML			16 05 42.8	
	comp=N,7μm,0.1s							
TA01	**Diego Aracena**	**1.27**	**271**	*e*P		**Pn**	**16 05 19.8**	**+0.6**
TA01				*e*S		**Sn**	**16 05 39.0**	**+1.2**
TA01				IAML			16 05 41.5	
	comp=Z,2μm,0.3s							
PB09	**IPOC Station P**	**1.27**	**198**	Pn		**Pn**	**16 05 20.6**	**+1.2**
PB09	**IPOC Station P**	**1.27**	**198**	⇓*i*P		**Pn**	**16 05 20.8**	**+1.4**
PB09				*e*S		**Sn**	**16 05 39.8**	**+1.6**
PB09				IAML			16 05 42.2	
	comp=N,3μm,0.3s							
PB09	**IPOC Station P**	**1.27**	**198**	*e*P		**Pn**	**16 05 20.8**	**+1.4**
PB09				*e*S		**Sn**	**16 05 40.5**	**+2.2**
PB09				IAML			16 05 42.4	
	comp=Z,3μm,0.3s							
PB03	**IPOC Station P**	**1.69**	**210**	Pn		**Pn**	**16 05 25.2**	**+0.8**
PB03	**IPOC Station P**	**1.69**	**210**	*e*P		**Pn**	**16 05 25.2**	**+0.8**
PB03				IAML			16 05 53.3	
	comp=E,2μm,0.3s							
PB03	**IPOC Station P**	**1.69**	**210**	*e*P		**Pn**	**16 05 25.4**	**+1.1**
PB03				*e*S		**Sn**	**16 05 48.8**	**+1.8**
PB03				IAML			16 05 52.6	
	comp=Z,2μm,0.1s							
PB06	**IPOC Station P**	**2.22**	**198**	Pn		**Pn**	**16 05 31.9**	**+0.9**
PB06	**IPOC Station P**	**2.22**	**198**	*e*P		**Pn**	**16 05 31.7**	**+0.7**
PB06				IAML			16 06 08.2	
	comp=E,933nm,0.2s							
PB06	**IPOC Station P**	**2.22**	**198**	*e*P		**Pn**	**16 05 32.0**	**+1.1**
PB16	**IPOC Station P**	**2.33**	**344**			**Pn**	**16 05 34.4**	**+1.7**
PB16	**IPOC Station P**	**2.33**	**344**	⇑*i*P		**Pn**	**16 05 34.7**	**+2.1**
PB16				IAML			16 06 08.0	
	comp=N,771nm,0.5s							
PB16	**IPOC Station P**	**2.33**	**344**	*e*P		**Pn**	**16 05 34.7**	**+2.1**
PB16				*e*S		**Sn**	**16 06 04.5**	**+2.8**
PB16				IAML			16 06 10.6	
	comp=Z,531nm,0.4s							
AF01	**San Pedro de A**	**2.44**	**166**	Pn		**Pn**	**16 05 35.1**	**+1.3**
AF01	**San Pedro de A**	**2.44**	**166**	*e*P		**Pn**	**16 05 35.8**	**+2.0**
AF01				*e*S		Sn	16 05 47.3	-17
AF01				IAML			16 06 43.4	
	comp=Z,557nm,0.5s							
PB05	**IPOC Station P**	**2.59**	**209**			**Pn**	**16 05 36.2**	**+0.5**
PB05	**IPOC Station P**	**2.59**	**209**	*e*P		**Pn**	**16 05 36.5**	**+0.9**
PB05				*e*S		**Sn**	**16 06 03.0**	**-4.2**
PB05				IAML			16 06 33.0	
	comp=Z,453nm,0.8s							
AP01	**Chacalluta**	**2.62**	**327**	Pn		**Pn**	**16 05 36.0**	**+0.1**
AP01	**Chacalluta**	**2.62**	**327**	*e*P		**Pn**	**16 05 36.6**	**+0.7**
AP01				IAML			16 06 15.4	
	comp=Z,1μm,0.8s							
PB18	**Visviri**	**3.04**	**348**	*e*P		**Pn**	**16 05 46.1**	**+4.3**
PB10	**IPOC Station P**	**3.33**	**208**			**Pn**	**16 05 44.8**	**-0.3**
PB10	**IPOC Station P**	**3.33**	**208**	*e*P		**Pn**	**16 05 45.3**	**+0.1**
PB10				*e*S		**Sn**	**16 06 31.5**	**+7.3**
PB10				IAML			16 06 48.0	
	comp=Z,197nm,0.3s							
YJA	**Yavi**	**3.47**	**118**	*e*P		**Pn**	**16 05 50.5**	**+3.0**
PB14	**IPOC Station P**	**4.28**	**200**			**Pn**	**16 05 57.0**	**-1.1**
PB14	**IPOC Station P**	**4.28**	**200**	*e*P		**Pn**	**16 05 57.5**	**-0.7**
PB14				*e*S		**Sn**	**16 06 48.4**	**+1.0**
PB14				IAML			16 07 06.9	
	comp=Z,136nm,0.4s							
LPAZ	**La Paz**	**4.32**	**9**			**Pn**	**16 06 01.6**	**+2.6**
LPAZ	**La Paz**	**4.32**	**9**	P		**Pn**	**16 06 02.1**	**+3.1**
	comp=Z,37nm,0.4s,baz=172,slow=4.5,SNR=170							
LPAZ				S		**Sn**	**16 06 49.6**	**+0.7**
	comp=Z,16nm,0.7s,baz=215,slow=5.0,SNR=1.6							
LPAZ				LR		LR	16 08 17.5	
	comp=Z,59nm,18.7s,baz=205,slow=47							
LPAZ	**La Paz**	**4.32**	**9**	*e*P		**Pn**	**16 05 59.1**	**+0.1**
GO02	**Mina Guanaco**	**4.61**	**189**			**Pn**	**16 06 02.4**	**-0.2**
GO02	**Mina Guanaco**	**4.61**	**189**	*e*P		**Pn**	**16 06 02.5**	**-0.1**
GO02				*e*S		**Sn**	**16 06 55.6**	**+0.3**
GO02				IAML			16 07 22.4	
	comp=N,116nm,0.5s							
AZAP	**Zapla**	**5.03**	**137**	*e*P		**Pn**	**16 06 09.7**	**+1.5**
SLA	**San Lorenzo**	**5.14**	**144**	*e*P		**Pn**	**16 06 12.6**	**+3.0**
AC01	**Pan de Azucar**	**5.77**	**196**			**Pn**	**16 06 15.7**	**-2.3**
AC02	**Maricunga**	**6.23**	**182**	Pn		**Pn**	**16 06 24.5**	**-0.1**
AC06	**Mina Casimiro**	**6.89**	**191**			Pn	16 06 27.9	-5.1
GO03	**Copiapo**	**7.10**	**190**			**Pn**	**16 06 31.4**	**-4.5**
AC04	**Llanos de Chal**	**7.86**	**195**	Pn		**Pn**	**16 06 41.9**	**-4.3**
LCO	**Las Campanas**	**8.56**	**191**	Pn		**Pn**	**16 06 52.0**	**-3.9**
SIV	**San Ignacio**	**8.67**	**59**	P		**Pn**	**16 06 55.4**	**-1.8**
	comp=Z,8.9nm,0.4s,baz=246,slow=9.2,SNR=29							
SIV				S		**Sn**	**16 08 29.5**	**-3.8**
	comp=Z,1.6nm,0.5s,baz=316,slow=22,SNR=6.2							
CO03	**El Pedregal**	**10.35**	**189**			**Pn**	**16 07 15.5**	**-4.4**
CFA	**Coronel Fontan**	**10.99**	**177**	P		**Pn**	**16 07 26.5**	**-2.0**
	comp=Z,1.0nm,0.2s,baz=6.7,slow=17,SNR=5.1							
CFA				S		Sn	16 09 18.9	-11
	comp=Z,0.7nm,0.3s,baz=136,slow=21,SNR=1.9							
VILB	**Vilhena**	**11.21**	**49**			**Pn**	**16 07 31.2**	**-0.3**
VILB	**Vilhena**	**11.21**	**49**	*e*P		**Pn**	**16 07 30.7**	**-0.9**
BDQN	**Bodoquena, MS**	**11.32**	**91**	*e*P		**Pn**	**16 07 31.3**	**-1.7**
CPUP	**Villa Florida**	**12.00**	**121**	P		**Pn**	**16 07 40.8**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=160,slow=14,SNR=9.2							
AQDB	**Aquidauana**	**12.30**	**92**	*e*P		**Pn**	**16 07 44.6**	**-1.3**
SJPY	**San Joaquin**	**12.53**	**113**	*e*P		**Pn**	**16 07 48.1**	**-0.8**
MT02	**Curacav**	**12.79**	**189**	Pn		**Pn**	**16 07 51.5**	**-1.1**
AMBA	**Amambai (Brazi**	**13.07**	**103**	*e*P		**Pn**	**16 07 56.6**	**+0.7**
SALV	**Santo Antonio**	**13.32**	**72**	*e*P		**Pn**	**16 07 59.8**	**+0.6**
BO02	**Sierra Bellavi**	**14.26**	**187**	P		**Pn**	**16 08 12.7**	**+1.5**
H03N1	**Juan Fernandez**	**15.63**	**213**	P		**P**	**16 08 30.6**	**+0.8**
	baz=78,slow=74,SNR=3.8							
H03N2

0.1nm,0.3s,baz=38,slow=11,SNR=7.6
1.1nm,0.6s
ASAR Alice Springs 21.29 212 P P 16 16 47.2 +0.7
1.3nm,0.8s,baz=36,slow=12,SNR=5.2
1.3nm,0.8s
CMAR Chiang Mai Arr 52.14 299 P P 16 21 07.7 -0.2
0.6nm,0.5s,baz=131,slow=5.8,SNR=5.5
0.6nm,0.5s

YARS ***19*** *16:22:32.1,55˝.50N× 123˝.90E, h15km, mb5.6/1, ML1.9/6*
SKHL ***19*** *16:22:32.4±0.2,55˝.50N× 123˝.90E, h10km, mb3.5/2*
ISC 19 16:22:29.8±1.0,**55°56N**±0˝.03×**124°01E**±0˝.04,**h10**km,**n13,**
σ1§**97**/29,**Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLNS	**Chul'man**	**1.38**	**21**	*e*Pg	**Pg**	**16 22 59.3**	**+3.1**
	5.6nm,0.2s						
CLNS				*i* Sg	**Sg**	**16 23 18.5**	**+4.4**
	14nm,0.3s						
CLNS				*i* Sg	**Sg**	**16 23 18.5**	**+4.4**
	21nm,0.5s						
YKLR	**Yuktali**	**1.68**	**309**	*e*Pg	**Pg**	**16 23 01.9**	**-0.1**
	3.6nm,0.1s						
YKLR				*e*Sg	**Sg**	**16 23 24.7**	**+1.0**
	30nm,0.1s						
YKLR				*e*Sg	**Sg**	**16 23 24.7**	**+1.0**
	36nm,0.1s						
ZEA	**Zeya**	**2.62**	**133**	*e*Pg	**Pg**	**16 23 19.6**	**-0.4**
ZEA				*e*Sg	**Sg**	**16 23 54.7**	**+0.8**
	20nm,0.6s						
ZEA	**Zeya**	**2.62**	**133**	*e*Pg	**Pg**	**16 23 19.9**	**-0.1**
ZEA				AMB	AMB	16 23 22.2	
	10.0nm,0.2s						
ZEA				*e*Sg	**Sg**	**16 23 54.7**	**+0.8**
ZEA				A	A	16 23 57.0	
	20nm,0.2s						
KHN	**Khani**	**2.72**	**302**	*i* Pg	**Pb**	**16 23 18.8**	**+0.2**
	1.9nm,0.0s						
KHN				*i* Sg	**Sb**	**16 23 53.2**	**+1.1**
	10nm,0.0s						
KHN				*i* Sg	**Sb**	**16 23 53.2**	**+1.1**
	12nm,0.1s						
BMKR	**Bomnak**	**2.90**	**105**	*e*E		16 24 05.0	
BMKR	**Bomnak**	**2.90**	**105**	*e*Pg	**Pg**	**16 23 25.5**	**+0.1**
BMKR				AMB	AMB	16 23 26.2	
BMKR				*e*Sg	**Sg**	**16 24 04.1**	**+1.2**
BMKR				A	A	16 24 05.5	
	40nm,0.3s						
ALDR	**Aldan**	**3.16**	**13**	*e*Pg	**Pg**	**16 23 29.5**	**-0.7**
	7.0nm,0.5s						
ALDR				*e*Sg	**Sg**	**16 24 12.0**	**+0.9**
	27nm,0.1s						
ALDR				*e*Sg	**Sg**	**16 24 12.0**	**+0.9**
	25nm,0.2s						
OCTB	**Oktyabr'skiy**	**3.72**	**131**	*e*Sg	**Sg**	**16 24 27.7**	**-1.5**
OCTB				A	A	16 24 30.6	
	20nm,0.7s						
OLMR	**Olekminsk**	**5.19**	**340**	*i* Pg	**Pg**	**16 24 07.1**	**-2.0**
	0.5nm,0.5s						
OLMR				*i* Sg	**Sg**	**16 25 15.6**	**-0.6**
	2.6nm,0.5s						
OLMR				*i* Sg	**Sg**	**16 25 15.6**	**-0.6**
	1.9nm,0.8s						
EKMR	**Ekimchan**	**5.80**	**112**	*e*Sg	**Sg**	**16 25 34.6**	**-1.1**
EKMR				A	A	16 25 37.7	
TBGR	**Tabaga**	**6.93**	**23**	*i* Pg	**Pg**	**16 24 38.6**	**-3.8**
	0.6nm,0.7s						
TBGR				*i* Sg	**Sg**	**16 26 11.1**	**-0.9**
	2.3nm,0.6s						
TBGR				*i* Sg	**Sg**	**16 26 11.1**	**-0.9**
	1.1nm,0.6s						
YAK	**Yakutsk**	**7.13**	**22**	*i* Pg	**Pg**	**16 24 42.1**	**-4.0**
	7.4nm,0.3s						
YAK				*i* Sg	**Sg**	**16 26 17.3**	**-1.1**
	5.1nm,0.6s						
YAK				*i* Sg	**Sg**	**16 26 17.3**	**-1.1**
	6.4nm,0.7s						

IDC ***19*** *16:53:34.1±0.7,1˚.61N× 125˚.78E, h0km, mb4.0/11,*
mbtmp4.0/13, ML3.8/2, Error ellipse: s-maj=45.2km
s-min=13.1km az=68.0
DJA ***19*** *16:53:37.3±0.3,2˚N±3˚× 12˚6E±˚, h10km, M4.1/12, mb4.3/3,*
MLv4.0/12
NEIC ***19*** *16:53:38.1±1.6,1˚.69N±0˚.09× 126˚.0E±0˚.1, h27km±3km,*
mb4.4/18, Error ellipse: s-maj=21.8km s-min=10.8km
az=67.0
ISC 19 16:53:40.3±0.5,1°**84N**±0˝.06×**126°36E**±0˝.06,**h47**km,**n45,**
σ1§**53**/46,**mb4.2**/20,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.46**	**136**		**Pn**	**16 54 03.4**	**-0.9**
TNTI	**Ternate**	**1.46**	**136**	P	**Pn**	**16 54 03.2**	**-1.1**
SGSI	**Sangihe**	**2.01**	**336**	P	**Pn**	**16 54 09.9**	**-2.0**
KMSI	**Cibinong**	**2.69**	**242**	P	**Pn**	**16 54 22.6**	**+1.5**
SANI	**Sanana**	**3.88**	**185**	P	**Pn**	**16 54 37.3**	**-0.2**
LUWI	**Luwuk**	**4.59**	**231**	Pn	**Pn**	**16 54 49.4**	**+2.2**
LUWI	**Luwuk**	**4.59**	**231**	P	**Pn**	**16 54 48.1**	**+0.9**
MRSI	**Marisa**	**4.62**	**253**	P	**Pn**	**16 54 47.6**	**-0.1**
NLAI	**Namlea**	**5.10**	**172**	P	**Pn**	**16 54 54.9**	**+0.7**
	0.2nm41nm,0.6s						
TOLI2	**Tolitoli**	**5.62**	**263**	Pn	**Pn**	**16 55 00.1**	**-1.4**
JAY	**Jayapura**	**14.98**	**107**	Pn	**P**	**16 57 15.0**	**+1.1**
	0.3nm,0.3s,baz=245,slow=8.3,SNR=3.6						
	5.5nm,0.8s						
MTN	**Manton Dam**	**15.34**	**162**	Pn	**Pn**	**16 57 12.1**	**-1.8**
MTN				IAmb	IAmb	16 57 22.5	
	comp=Z,30nm,1.5s						
KNRA	**Kununurra**	**17.57**	**172**	P	**Pn**	**16 57 40.1**	**-1.7**
KNRA				IAmb	IAmb	16 57 44.7	
	comp=Z,34nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.82**	**182**	Pn	**P**	**16 58 05.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**19.82**	**182**	P	**P**	**16 58 03.9**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=18,slow=11,SNR=7.0						
	comp=Z,1.0nm,0.5s						
WB0	**Warramunga Arr**	**22.88**	**160**	P	**P**	**16 58 38.4**	**-1.7**
WB0				IAmb	IAmb	16 58 41.8	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**23.02**	**160**	P	**P**	**16 58 39.9**	**-1.6**
	comp=Z,5.3nm,0.4s,baz=337,slow=11,SNR=28						
	comp=Z,5.3nm,0.4s						
WR8	**Warramunga Arr**	**23.09**	**160**	P	**P**	**16 58 40.7**	**-1.5**
WR8				IAmb	IAmb	16 58 46.9	
	comp=Z,6.3nm,0.7s						
AS31	**Alice Springs**	**26.39**	**164**	P	**P**	**16 59 11.2**	**-1.4**
ASAR	**Alice Springs**	**26.39**	**164**	P	**P**	**16 59 11.1**	**-1.5**
ASAR	**Alice Springs**	**26.39**	**164**	P	**P**	**16 59 12.8**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=344,slow=8.0,SNR=65						
ASAR				PcP	**PcP**	**17 02 37.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=331,slow=1.1,SNR=4.9						
	comp=Z,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.55**	**303**	P	**P**	**16 59 56.3**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=110,slow=8.7,SNR=1.2						
	comp=Z,0.2nm,0.3s						
KSRS	**Korea Array**	**35.47**	**2**	P	**P**	**17 00 35.0**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=180,slow=10,SNR=5.1						
	comp=Z,1.1nm,0.8s						
BBOO	**Buckleboo**	**35.66**	**166**	P	**P**	**17 00 32.7**	**-1.3**
STKA	**Stephens Creek**	**36.52**	**158**	P	**P**	**17 00 41.2**	**-0.2**
STKA	**Stephens Creek**	**36.52**	**158**	P	**P**	**17 00 41.0**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=331,slow=7.3,SNR=4.4						
	comp=Z,2.1nm,0.6s						
XLT	**XiLinHaoTe**	**42.87**	**349**	*e*P	**P**	**17 01 37.6**	**+3.5**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DZM	**Mont Dzumac**	**45.78**	**124**	P	**P**	**17 01 59.6**	**+1.8**
DZM				IAmb	IAmb	17 02 35.2	
	comp=Z,7.0nm,1.1s						
ULN	**Ulaanbaatar**	**48.80**	**343**	P	**P**	**17 02 20.0**	**-0.9**
ULN				IAmb	IAmb	17 02 21.7	
	comp=Z,2.6nm,1.0s						
SONM	**Songino Array**	**48.97**	**342**	P	**P**	**17 02 22.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=167,slow=9.0,SNR=4.8						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**58.90**	**326**	P	**P**	**17 03 33.3**	**-1.3**
MKAR	**Makanchi Array**	**58.90**	**326**	P	**P**	**17 03 34.1**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=118,slow=7.3,SNR=21						
	comp=Z,2.3nm,0.4s						
ZALV	**Zalesovo Beam**	**62.10**	**334**	P	**P**	**17 03 55.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=107,slow=8.8,SNR=2.6						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.13**	**328**	P	**P**	**17 04 02.5**	**-0.7**
	comp=Z,2.6nm,0.5s,baz=129,slow=6.3,SNR=33						
	comp=Z,2.6nm,0.5s						
KURK	**Kurchatov**	**63.13**	**328**	P	**P**	**17 04 01.8**	**-1.4**
BVAR	**Borovoye Array**	**68.70**	**328**	P	**P**	**17 04 38.7**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=135,slow=9.0,SNR=13						
	comp=Z,1.2nm,0.5s						
BRVK	**Borovoye**	**68.77**	**328**	P	**P**	**17 04 39.5**	**0.0**
BRVK				IAmb	IAmb	17 04 42.1	
	comp=Z,1.5nm,0.8s						
TIXI	**Tiksi**	**69.72**	**1**	P	**P**	**17 04 45.3**	**+0.4**
TIXI				IAmb	IAmb	17 04 52.8	
	comp=Z,2.8nm,1.1s						
AB31	**Akbulak array**	**73.38**	**321**	P	**P**	**17 05 06.1**	**-1.3**
ABKAR	**Akbulak array**	**73.38**	**321**	P	**P**	**17 05 06.1**	**-1.3**
VNDA	**Vanda**	**81.61**	**173**	P	**P**	**17 05 53.2**	**+0.3**
VNDA	**Vanda**	**81.61**	**173**	P	**P**	**17 05 53.3**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=312,slow=6.2,SNR=9.3						
	comp=Z,0.7nm,0.7s						
C19K	**Lookout Ridge**	**82.63**	**20**	P	**P**	**17 06 00.6**	**+2.2**
C19K				IAmb	IAmb	17 06 01.7	
	comp=Z,6.5nm,1.0s						
J20K	**Nowinta River**	**83.77**	**26**	P	**P**	**17 06 06.8**	**+2.4**
J20K				IAmb	IAmb	17 06 46.7	
	comp=Z,5.1nm,1.4s						
B21K	**Ikpikpuk River**	**84.46**	**20**	P	**P**	**17 06 09.5**	**+1.8**

IGQ 19 16:57:50.2±0.3,**2˚S**±2˚×**8˚0W**±˚,**h22**km±2km,**MLv3.5**/23,
15C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC07	**Ecuador-Guayaq**	**0.26**	**117**	⇓P	Pn	16 57 58.3	-0.5
AC07				S	Sn	16 58 04.8	+0.6
AGUAY	**Guayaquil**	**0.27**	**95**	P	Pn	16 57 57.7	-1.1
AGUAY				S	Sn	16 58 03.8	-0.5
GYE3	**Ecuador-Guayaq**	**0.34**	**111**	P	Pn	16 57 58.7	-1.1
GYE3				S	Sn	16 58 05.2	-0.9
MORR	**Playas El Morr**	**0.62**	**191**	⇑P	Pn	16 58 03.8	+0.2
MILO	**Milagro-Astudi**	**0.71**	**110**	P	Pb	16 58 02.3	-1.5
PPLP	**Puerto Lpez**	**0.74**	**311**	P	Pb	16 58 04.3	0.0
PPLP	**Puerto Lpez**	**0.74**	**311**	⇑P	Pb	16 58 03.7	-0.6
SALI	**Salinas**	**0.79**	**259**	⇑P	Pn	16 58 06.1	+0.1
COHC	**Cochancay**	**1.06**	**114**	⇑P	Pn	16 58 07.0	-2.7
ISPT	**Isla de la Pla**	**1.15**	**312**	P	Pn	16 58 10.5	-0.4
JSCH	**Cashca Totoras**	**1.28**	**76**	⇑P	Pn	16 58 09.9	-3.2
CHSH	**Refugio Sur-Vo**	**1.45**	**68**	⇑P	Pn	16 58 13.4	-2.3
ARNL	**Arenillas**	**1.51**	**174**	P	Pn	16 58 15.4	-0.6
BPAT	**Tungurahua Vol**	**1.86**	**74**	⇑P	Pn	16 58 19.6	-1.6
BOSC	**San Juan Bosco**	**2.05**	**123**	P	Pn	16 58 24.6	+1.1
BRRN	**Barrancas-Volc**	**2.14**	**55**	P	Pn	16 58 25.2	+0.2
VCES	**Cotopaxi**	**2.20**	**56**	P	Pn	16 58 26.1	+0.3
BREF	**Cotopaxi Volca**	**2.23**	**53**	⇑P	Pn	16 58 27.2	+0.7
BVC2	**Cotopaxi Volca**	**2.26**	**53**	⇑P	Pn	16 58 27.1	+0.3
BTAM	**Cotopaxi Volca**	**2.27**	**54**	⇑P	Pn	16 58 26.8	0.0
MCRA	**Macar, Loja**	**2.34**	**174**	P	Pn	16 58 27.2	-0.2
TOMA	**Boca Toma-Volc**	**2.34**	**50**	P	Pn	16 58 27.7	-0.1
BV15	**Puerto Quito-O**	**2.39**	**25**	P	Pn	16 58 25.2	-2.9
GGPT	**Toaza - Volcan**	**2.40**	**42**	⇑P	Pn	16 58 27.8	-0.8
JUA2	**San Juan 2**	**2.42**	**42**	⇑P	Pn	16 58 28.1	-0.8
GGPC	**Guagua Pichinc**	**2.45**	**41**	⇑P	Pn	16 58 28.6	-0.8
YANA	**Yana**	**2.52**	**41**	⇑P	Pn	16 58 29.3	-0.9
PULU	**Pululahua**	**2.67**	**40**	P	Pn	16 58 32.3	+0.1
PAC1	**Pacto, Paraso**	**2.69**	**32**	P	Pn	16 58 30.0	-2.3
OTAV	**Otavalo**	**2.86**	**38**	⇑P	Pn	16 58 33.9	-1.0
CUSE	**Cuicocha Este**	**2.95**	**38**	P	Pn	16 58 36.9	+0.7
CUIC	**Cuicocha-Domo**	**2.97**	**39**	⇑P	Pn	16 58 36.3	-0.1
ZUMB	**Zumba**	**3.01**	**159**	P	Pn	16 58 37.3	+0.6
ANGU	**Angureal**	**3.02**	**47**	P	Pn	16 58 38.0	+0.6
IMBA	**Imbabura, San**	**3.06**	**41**	P	Pb	16 58 41.1	-3.0
URCU	**Urcuqui**	**3.14**	**39**	P	Pn	16 58 40.3	+1.5
YAHU	**Yahuarcocha**	**3.21**	**42**	P	Pn	16 58 43.0	+3.3
CHMA	**Chilma**	**3.59**	**37**	P	Pn	16 58 45.2	+0.3
CASC	**Dorado de Casc**	**3.60**	**53**	P	Pn	16 58 46.4	+1.6
CHL1	**Volcn Chiles**	**3.61**	**39**	P	Pn	16 58 47.9	+2.6
BONI	**La Bonita**	**3.65**	**48**	P	Pn	16 58 47.2	+1.6
TULM	**Tulcn-Chalpat**	**3.66**	**42**	P	Pn	16 58 43.9	-2.0
BBAC	**Balboa, Cauca**	**5.00**	**36**	P	Pn	16 59 05.4	+1.2

IDC ***19*** *17:14:10.7±0.6,8˚.32S× 119˚.89E, h146km±5km, mb3.6/12,*
mbtmp4.2/17, Error ellipse: s-maj=17.6km s-min=7.7km
az=62.0
DJA ***19*** *17:14:11.6±0.3,8˚S±2˚× 120˚E±˚, h133km±6km, M4.7/19,*
mB5.3/2, mb4.8/5, MLv4.7/19, Mw(mB)4.8/2
NEIC ***19*** *17:14:11.0±1.6,8˚.45S±0˚.09× 119˚.76E±0˚.09, h145km±10km,*
mb4.3/11, Error ellipse: s-maj=15.1km s-min=10.1km
az=222.0
ISC 19 17:14:11.0±0.4,**8°49S**±0˝.04×**119°83E**±0˝.05,**h150**km,**n92,**
σ1§**78**/106,**mb4.1**/15,**Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.23**	**201**	P	**Pn**	**17 14 37.1**	**-0.8**
WBSI				S	**Sn**	**17 14 56.7**	**-1.8**
WSI	**Waingapu**	**1.26**	**159**	P	**Pn**	**17 14 38.0**	**-0.1**
EDFI	**Ende, Flores**	**1.86**	**98**	P	**Pn**	**17 14 44.5**	**-0.1**
BASI	**Baing, Sumba**	**1.87**	**157**	P	**Pn**	**17 14 44.6**	**-0.1**
PLAI	**Plampang**	**2.06**	**260**	P	**Pn**	**17 14 46.3**	**-0.5**
PLAI	**Plampang**	**2.06**	**260**	P	**Pn**	**17 14 46.6**	**-0.2**
MMRI	**Maumere**	**2.39**	**94**	P	**Pn**	**17 14 50.4**	**-0.4**
MMRI				Sn	**Sn**	**17 15 20.9**	**-0.4**
MMRI	**Maumere**	**2.39**	**94**	P	**Pn**	**17 14 50.9**	**+0.2**
MMRI	**Maumere**	**2.39**	**94**	P	**Pn**	**17 14 50.9**	**+0.2**
BSSI	**Bau Bau, Buton**	**2.42**	**16**	P	**Pn**	**17 14 50.5**	**-0.7**
BKSI	**Bulukumba**	**3.16**	**5**	P	**Pn**	**17 15 00.9**	**+0.5**
BKSI				S	**Sn**	**17 15 38.5**	**-0.2**
KAPI	**Kappang**	**3.45**	**359**		**Pn**	**17 15 03.1**	**-1.1**
KAPI	**Kappang**	**3.45**	**359**	P	**Pn**	**17 15 03.3**	**-0.8**
	14nm,0.4s,baz=186,slow=9.2,SNR=10						
KAPI				S	**Sn**	**17 15 41.2**	**-4.2**
	21nm,0.5s,baz=196,slow=9.2,SNR=3.8						
BBSI	**Bau Bau**	**4.04**	**43**	P	**Pn**	**17 15 12.7**	**+0.9**
BNSI	**Bone**	**4.07**	**4**	P	**Pn**	**17 15 13.3**	**+1.1**
BATI	**Baumata**	**4.15**	**115**	P	**Pn**	**17 15 14.5**	**+1.2**
	175nm,0.4s,baz=303,slow=4.0,SNR=133						
BATI				S	**Sn**	**17 16 00.1**	**-1.6**
	318nm,0.4s,baz=303,slow=17,SNR=6.2						
BATI	**Baumata**	**4.15**	**115**	P	**Pn**	**17 15 15.0**	**+1.7**
SPSI	**Sidrap Palu**	**4.49**	**359**	P	**Pn**	**17 15 18.4**	**+0.6**
SOEI	**Soe**	**4.56**	**106**		**Pn**	**17 15 19.1**	**+0.4**
SOEI				Sn	**Sn**	**17 16 12.2**	**+0.8**
SOEI	**Soe**	**4.56**	**106**	P	**Pn**	**17 15 19.4**	**+0.7**
SOEI	**Soe**	**4.56**	**106**	P	**Pn**	**17 15 19.6**	**+0.9**
DNP	**Denpasar**	**4.57**	**267**	P	**Pn**	**17 15 19.0**	**+0.2**
SRBI	**Singaraja**	**4.59**	**275**	P	**Pn**	**17 15 18.6**	**-0.4**
TTSI	**Tana Toraja**	**5.41**	**360**	P	**Pn**	**17 15 32.5**	**+2.6**
JAGI	**Jajag, Banyuwa**	**5.62**	**270**		**Pn**	**17 15 29.3**	**-3.3**
JAGI	**Jajag, Banyuwa**	**5.62**	**270**	P	**Pn**	**17 15 29.7**	**-2.9**
JAGI	**Jajag, Banyuwa**	**5.62**	**270**	P	**Pn**	**17 15 31.3**	**-1.3**
	1.2nm9um101nm,0.9s						
GMJI	**Gumukmas**	**6.32**	**271**	P	**Pn**	**17 15 41.7**	**-0.3**
PCJI	**Pacitan**	**8.57**	**271**	P	**Pn**	**17 16 11.7**	**-0.3**
UGM	**Wanagama**	**9.23**	**273**	Pn	**Pn**	**17 16 19.4**	**-1.5**
UGM	**Wanagama**	**9.23**	**273**	P	**Pn**	**17 16 21.0**	**+0.1**
TOLI2	**Tolitoli**	**9.58**	**6**	P	**Pn**	**17 16 25.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.10**	**150**	Pn	**Pn**	**17 16 45.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.10**	**150**	P	**Pn**	**17 16 45.4**	**-0.1**
	37nm,0.8s,baz=340,slow=9.8,SNR=96						
FITZ				S	**Sn**	**17 18 41.9**	**-6.4**
	49nm,0.5s,baz=337,slow=13,SNR=11						
KNRA	**Kununurra**	**11.28**	**130**		**Pn**	**17 16 46.1**	**-1.8**
DRS	**Darwin Rock St**	**11.57**	**111**	P	**Pn**	**17 16 51.6**	**-0.1**
MTN	**Manton Dam**	**11.92**	**112**		**Pn**	**17 16 55.2**	**-1.1**
MTN				Sn	Sn	17 18 58.5	-10
MTN	**Manton Dam**	**11.92**	**112**	P	**Pn**	**17 16 55.1**	**-1.2**
BBJI	**Bungbulang**	**12.11**	**274**	P	**Pn**	**17 16 56.6**	**-2.2**
LEM	**Lembang**	**12.22**	**277**	P	**Pn**	**17 16 59.2**	**-1.2**
	21nm,0.4s,baz=70,slow=6.6,SNR=3.6						
MBWA	**Marble Bar**	**12.60**	**180**		**Pn**	**17 17 03.3**	**-1.7**
MBWA	**Marble Bar**	**12.60**	**180**	P	**Pn**	**17 17 05.4**	**+0.3**
PSA00	**Pilbara Seismi**	**13.01**	**180**		**Pn**	**17 17 09.6**	**-0.8**
PSA00	**Pilbara Seismi**	**13.01**	**180**	P	**Pn**	**17 17 10.7**	**+0.3**
KDU	**Kakadu**	**13.11**	**110**	P	**Pn**	**17 17 10.7**	**-1.0**
SBUM	**Sibu**	**13.25**	**325**		**P**	**17 17 17.4**	**-0.5**
FAKI	**Fak Fak**	**13.54**	**67**	Pn	**Pn**	**17 17 15.9**	**-1.3**
FAKI	**Fak Fak**	**13.54**	**67**	P	**Pn**	**17 17 15.8**	**-1.3**
MYLDM	**Lahad Datu**	**13.64**	**354**	Pn	**Pn**	**17 17 16.6**	**-1.8**
KKM	**Kota Kinabalu**	**14.88**	**346**	P	**Pn**	**17 17 36.2**	**+2.1**
MNAI	**Manna**	**17.26**	**283**	P	**Pn**	**17 18 04.0**	**+0.9**
WB0	**Warramunga Arr**	**18.01**	**130**	P	**P**	**17 18 11.8**	**+1.3**
WB0				IAmb	IAmb	17 18 28.0	
	comp=Z,9.0nm,0.8s						
WRA	**Warramunga Arr**	**18.08**	**131**		**P**	**17 18 12.4**	**+1.2**
WRA	**Warramunga Arr**	**18.08**	**131**	P	**P**	**17 18 12.5**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=306,slow=12,SNR=26						
WRA				S	**S**	**17 21 21.0**	**-10**
	comp=Z,12nm,0.9s,baz=306,slow=25,SNR=10						
WB2	**Warramunga Arr**	**18.09**	**131**	P	**P**	**17 18 12.4**	**+1.1**
WB2				IAmb	IAmb	17 18 23.9	
	comp=Z,25nm,1.3s						
MEEK	**Meekatharra**	**18.09**	**184**	P	**Pn**	**17 18 13.8**	**+0.9**
WR8	**Warramunga Arr**	**18.21**	**130**	P	**P**	**17 18 14.1**	**+1.5**
WR8				IAmb	IAmb	17 18 23.8	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**20.23**	**140**	P	**P**	**17 18 36.3**	**+1.6**
ASAR	**Alice Springs**	**20.23**	**140**		**P**	**17 18 37.0**	**+2.4**
ASAR	**Alice Springs**	**20.23**	**140**	P	**P**	**17 18 35.8**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=325,slow=12,SNR=53						
ASAR				S	**S**	**17 22 12.5**	**-1.1**
	comp=Z,5.3nm,0.8s,baz=323,slow=25,SNR=7.2						
ASAR				ScP	**ScP**	**17 26 04.6**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=327,slow=2.3,SNR=2.7						
	comp=Z,2.9nm,0.7s						
AS01	**Alice Springs**	**20.26**	**140**	P	**P**	**17 18 36.6**	**+1.7**
MORW	**Morawa**	**20.78**	**189**	P	**P**	**17 18 41.8**	**+1.5**
BLDU	**Ballidu**	**22.21**	**187**	P	**P**	**17 18 56.8**	**+1.5**
TGY	**Tagaytay City**	**22.47**	**3**	P	**P**	**17 18 58.0**	**0.0**
	comp=Z,144nm,0.7s,baz=167,slow=8.7,SNR=4.3						
QIS	**Mount Isa**	**22.56**	**124**	P	**P**	**17 19 00.5**	**+1.7**
KLBR	**Kellerberrin**	**23.07**	**185**	P	**P**	**17 19 05.1**	**+1.7**
DLV	**Lat**	**23.22**	**331**	P	**P**	**17 19 06.3**	**+1.2**
KULM	**Kulim**	**23.52**	**305**	P	**P**	**17 19 08.7**	**+1.0**
COEN	**Coen**	**23.52**	**105**	P	**P**	**17 19 09.3**	**+1.5**
COEN	**Coen**	**23.52**	**105**	P	**P**	**17 19 10.0**	**+2.2**
MTKN	**Mount Kenneth**	**23.63**	**189**	P	**P**	**17 19 10.3**	**+1.8**
NWAO	**Narrogin (SRO)**	**24.44**	**185**	P	**P**	**17 19 17.0**	**+1.1**
	comp=Z,6.2nm,1.0s,baz=5.7,slow=10,SNR=1.9						
	comp=Z,6.2nm,1.0s						
STKA	**Stephens Creek**	**30.84**	**142**	P	**P**	**17 20 15.2**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=313,slow=11,SNR=5.1						
	comp=Z,0.7nm,0.3s						
STKA	**Stephens Creek**	**30.84**	**142**	P	**P**	**17 20 14.6**	**+1.6**
KNMB	**Chin-men Tao**	**32.78**	**358**	P	**P**	**17 20 29.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**33.79**	**323**		**P**	**17 20 38.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**33.79**	**323**	P	**P**	**17 20 39.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=150,slow=6.2,SNR=13						
	comp=Z,1.6nm,0.8s						
CHTO	**Chiang Mai**	**34.06**	**323**		**P**	**17 20 41.9**	**+0.7**
CHTO				IAmb	IAmb	17 20 42.9	
	comp=Z,5.1nm,1.1s						
KSRS	**Korea Array**	**46.33**	**9**	P	**P**	**17 22 21.8**	**0.0**
	comp=Z,0.5nm,0.6s,baz=185,slow=8.0,SNR=2.9						
	comp=Z,0.5nm,0.6s						
GTA	**Gaotai**	**51.15**	**340**	*e*P	**P**	**17 23 00.1**	**+1.3**
GTA				sP	sP	17 23 45.3	-2.3
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SONM	**Songino Array**	**57.33**	**349**	P	**P**	**17 23 43.9**	**+0.6**
SONM				IAmb	IAmb	17 23 44.3	
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**57.33**	**349**	P	**P**	**17 23 42.7**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=173,slow=8.8,SNR=12						
	comp=Z,2.4nm,0.6s						
KBL	**Kabul**	**64.31**	**315**	P	**P**	**17 24 30.0**	**-0.9**
KBL				IAmb	IAmb

YM01				eS	Sn	17 23 26.0	-0.4	**PNG**	**Penghu**	**2.50**	**248**	*eP*	**Pn**	**17 23 37.8**	**-0.3**	**STKA**	**Stephens Creek**	**27.66**	**154**	P	**P**	**17 36 18.1**	**+0.7**
YM08	**YM08**	**0.77**	**325**	*eP*	**Pn**	17 23 15.0	-0.3	PNG				eS	**Sn**	17 24 06.0	-1.5		comp=Z,2.3nm,0.4s,baz=336,slow=9.2,SNR=10						
YM08				eS	Sn	17 23 25.5	-1.2	**PTMZ**	**Houxiangcun**	**2.73**	**281**	*eP*	**Pn**	17 23 40.9	-0.2		comp=Z,2.3nm,0.4s						
ZUZH	**Zhuzihu**	**0.78**	**322**	*eP*	**Pn**	17 23 15.3	0.0	PTMZ				eS	**Sn**	17 24 10.9	-2.2	**STKA**	**Stephens Creek**	**27.66**	**154**	P	**P**	**17 36 18.3**	**+0.9**
ZUZH				eS	Sn	17 23 26.3	-0.6	**JIRB**	**Irabujima**	**2.83**	**84**	*eP*	**Pn**	17 23 43.4	+0.9	**HTT**	**Hallett**	**27.99**	**160**	P	**P**	**17 36 20.9**	**+0.5**
ETM	**Tongmen**	**0.79**	**223**	*eP*	**Pn**	17 23 15.0	-0.4	**JIKM**	**Ikemajima**	**2.91**	**82**	*eS*	**Sn**	17 24 18.4	+1.0	**CMSA**	**Cobar Meteorol**	**29.37**	**147**	P	**P**	**17 36 33.5**	**+0.9**
ETM				eS	Sn	17 23 26.2	-0.8	**XPSS**	**Dashiqiu**	**2.92**	**325**	*eP*	**Pn**	17 23 44.0	+0.3	**KULM**	**Kulim**	**29.76**	**294**	P	**P**	**17 36 36.3**	**+0.1**
JYNG	**Yonagunijimaku**	**0.80**	**97**	P	**Pn**	17 23 15.7	+0.2	XPSS				S	**Sn**	17 24 16.4	-1.2	KULM					IAmb	IAmb	17 37 00.6		
JYNG				eS	Sn	17 23 27.4	+0.2	**JMJ2**	**Miyako jima3**	**2.96**	**86**	*eS*	**Sn**	17 24 19.3	+0.6		comp=Z,19nm,1.5s						
TEYL	**Yanliau Villag**	**0.81**	**213**	*eP*	**Pn**	17 23 15.3	-0.3	**KNMB**	**Chin-men Tao**	**3.36**	**269**	*eP*	**Pn**	17 23 49.1	-0.6	**ALEG**	**Aligegeo Malai**	**32.69**	**95**	P	**P**	**17 37 01.2**	**-0.7**
TEYL				eS	Sn	17 23 26.9	-0.5	KNMB				eS	**Sn**	17 24 25.4	-3.1	**JOW**	**Kunigami**	**33.95**	**1**	P	**P**	**17 37 11.7**	**-0.8**
TWS1	**Kuangyinshan**	**0.81**	**313**	*eP*	**Pn**	17 23 16.1	+0.4	**AXDP**	**Jialang**	**3.75**	**276**	*eP*	**Pn**	17 23 55.0	0.0		comp=Z,7.6nm,0.5s,baz=156,slow=20,SNR=1.4						
TWS1				eS	Sn	17 23 27.9	+0.4	AXDP				eS	**Sn**	17 24 35.1	-2.9		comp=Z,7.6nm,0.5s						
FUSS	**Fushou**	**0.82**	**249**	*eP*	**Pn**	17 23 16.1	+0.1									**CMAR**	**Chiang Mai Arr**	**38.22**	**312**	P	**P**	**17 37 48.8**	**-0.2**
FUSS				eS	Sn	17 23 28.1	+0.1										comp=Z,0.6nm,0.6s,baz=145,slow=7.6,SNR=5.2						
NTST	**Danshui**	**0.84**	**317**	*eP*	**Pn**	17 23 16.3	+0.3										comp=Z,0.6nm,0.6s						
NTST				eS	Sn	17 23 28.3	+0.2									**DZM**	**Mont Dzumac**	**40.10**	**116**	P	**P**	**17 38 05.6**	**+1.0**
TWY	**Chenhua**	**0.84**	**329**	*eP*	**Pn**	17 23 16.7	+0.6									DZM					IAmb	IAmb	17 38 38.1		
WHF	**Hehuan Shan**	**0.84**	**242**	⇓ *iP*	**Pn**	17 23 16.5	0.0										comp=Z,13nm,1.4s						
WHF				eS	Sn	17 23 28.4	-0.5									**KSRS**	**Korea Array**	**44.54**	**0**	P	**P**	**17 38 37.5**	**-2.5**
KSHI	**Guanxi Townshi**	**0.85**	**286**	*eP*	**Pn**	17 23 16.8	+0.6										comp=Z,0.8nm,0.5s,baz=179,slow=9.5,SNR=7.4						
KSHI				eS	Sn	17 23 29.9	+1.6										comp=Z,0.8nm,0.5s						
YOJ	**Yonaguni jima**	**0.85**	**96**	P	**Pn**	17 23 16.4	+0.2									**MAJO**	**Matsushiro**	**44.73**	**12**	P	**P**	**17 38 39.3**	**-2.2**
YOJ				S	Sn	17 23 28.4	0.0									**MJAR**	**Matsushiro Arr**	**44.73**	**12**	P	**P**	**17 38 38.9**	**-2.6**
YOJ	**Yonaguni jima**	**0.85**	**96**	P	**Pn**	17 23 16.5	+0.2										comp=Z,1.3nm,0.5s,baz=194,slow=7.9,SNR=5.3						
YOJ				S	Sn	17 23 28.7	+0.2										comp=Z,1.3nm,0.5s						
TWT	**Tachien**	**0.87**	**250**	*eP*	**Pn**	17 23 17.3	+0.7									**USRK**	**Ussuriysk Ar.**	**51.42**	**4**	P	**P**	**17 39 31.2**	**-1.3**
TWT				eS	Sn	17 23 29.4	+0.3										comp=Z,1.7nm,0.6s,baz=197,slow=5.7,SNR=4.1						
NFF	**Wufeng Townshi**	**0.88**	**276**	*eP*	**Pn**	17 23 17.1	+0.5										comp=Z,1.7nm,0.6s						
NFF				eS	Sn	17 23 29.5	+0.5									**ASAJ**	**Asahikawa**	**52.94**	**13**	P	**P**	**17 39 42.5**	**-1.2**
TDCB	**Techi**	**0.89**	**251**	⇓ P	**Pn**	17 23 17.3	+0.5										comp=Z,5.4nm,0.9s,baz=276,slow=9.2,SNR=1.5						
TDCB				eS	Sn	17 23 29.1	-0.3										comp=Z,5.4nm,0.9s						
SHUL	**Shoufeng**	**0.89**	**212**	*eP*	**Pn**	17 23 16.6	0.0									**SONM**	**Songino Array**	**58.05**	**343**	P	**P**	**17 40 20.1**	**-0.2**
SHUL				eS	Sn	17 23 29.8	+0.5										comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=2.6						
NCUH	**Zhongli**	**0.91**	**297**	⇓ *iP*	**Pn**	17 23 17.4	+0.4										comp=Z,0.3nm,0.4s						
NCUH				S	Sn	17 23 29.5	-0.2									**PETK**	**Petropavlovsk**	**65.35**	**19**	P	**P**	**17 41 05.4**	**-3.4**
ESL	**Shilin**	**0.94**	**219**	⇓ P	**Pn**	17 23 16.4	-0.8									**PETK**	**Petropavlovsk-**	**65.35**	**19**	P	**P**	**17 41 07.5**	**-1.3**
ESL				S	Sn	17 23 28.6	-1.7										comp=Z,1.4nm,0.6s,baz=146,slow=3.1,SNR=5.7						
TEGC	**Jichi Village**	**0.97**	**210**	P	**Pn**	17 23 17.6	0.0										comp=Z,1.4nm,0.6s						
TEGC				S	Sn	17 23 30.6	-0.4									**MKAR**	**Makanchi Array**	**67.26**	**328**	P	**P**	**17 41 20.1**	**-1.0**
LIOB	**Emei**	**0.97**	**276**	P	**Pn**	17 23 18.2	+0.5										comp=Z,0.4nm,0.5s,baz=122,slow=7.6,SNR=9.1						
LIOB				S	Sn	17 23 31.7	+0.7										comp=Z,0.4nm,0.5s						
NSTT	**Nanjuang**	**0.98**	**275**	P	**Pn**	17 23 18.3	+0.5									**ZALV**	**Zalesovo Beam**	**70.88**	**335**	P	**P**	**17 41 40.8**	**-2.3**
NSTT				S	Sn	17 23 31.7	+0.4										comp=Z,0.7nm,0.5s,baz=149,slow=7.1,SNR=4.6						
OWD	**Renai**	**1.01**	**234**	P	**Pn**	17 23 18.4	+0.1										comp=Z,0.7nm,0.5s						
OWD				eS	Sn	17 23 31.3	-0.9									**KURBB**	**Kurchatov Arra**	**71.61**	**329**	P	**P**	**17 41 46.1**	**-1.4**
WUSB	**Renai**	**1.04**	**238**	⇓ *iP*	**Pn**	17 23 19.0	+0.4										comp=Z,0.4nm,0.5s,baz=133,slow=5.0,SNR=6.3						
WUSB				S	Sn	17 23 32.5	-0.1										comp=Z,0.4nm,0.5s						
WARBT	**Fenglin Townsh**	**1.04**	**217**	⇓ *iP*	**Pn**	17 23 17.5	-1.1									**VNDA**	**Vanda**	**72.42**	**173**	P	**P**	**17 41 52.6**	**+0.7**
WARBT				S	Sn	17 23 30.5	-2.1									**VNDA**	**Vanda**	**72.42**	**173**	P	**P**	**17 41 52.0**	**0.0**
EGFH	**Guangfu**	**1.06**	**214**	*eP*	**Pn**	17 23 18.2	-0.5										comp=Z,0.3nm,0.6s,baz=319,slow=8.0,SNR=5.6						
EGFH				eS	Sn	17 23 31.7	-1.3										comp=Z,0.3nm,0.6s						
WHP	**Taichung City**	**1.07**	**256**	⇓ P	**Pn**	17 23 20.2	+1.3									**TIXI**	**Tiksi**	**78.81**	**0**	P	**P**	**17 42 26.9**	**-1.3**
WHP				S	Sn	17 23 34.1	+0.8									TIXI					IAmb	IAmb	17 42 27.1		
PCYT	**Pengchaiyu**	**1.07**	**360**	P	**Pn**	17 23 19.4	+0.4										comp=Z,2.3nm,0.5s						
VWDT	**VWDT**	**1.17**	**227**	⇓ P	**Pn**	17 23 20.4	+0.3									**QSPA**	**South Pole Qui**	**82.66**	**180**	P	**P**	**17 42 49.9**	**+0.9**
VWDT				S	Sn	17 23 35.0	-0.4									QSPA					IAmb	IAmb	17 43 27.0		
NMLH	**Miaoli**	**1.17**	**270**	*eP*	**Pn**	17 23 20.9	+0.7										comp=Z,9.2nm,1.4s						
NMLH				eS	Sn	17 23 36.0	+0.4									**QSPA**	**South Pole Qui**	**82.66**	**180**	P	**P**	**17 42 49.3**	**+0.3**
WCS	**Beigang Elemen**	**1.17**	**245**	P	**Pn**	17 23 21.2	+1.0										comp=Z,0.8nm,0.5s,baz=253,slow=3.4,SNR=13						
WCS				S	Sn	17 23 36.6	+1.0										comp=Z,0.8nm,0.5s						
TWQ1	**Liyutan**	**1.21**	**261**	*eP*	**Pn**	17 23 21.1	+0.5																
NSY	**Sanyi**	**1.21**	**264**	*eP*	**Pn**	17 23 21.7	+1.0																
HGSD	**Ruisui**	**1.21**	**210**	P	**Pn**	17 23 20.3	-0.4																
HGSD				S	Sn	17 23 35.5	-0.9																
EHYH	**Wanrong**	**1.25**	**213**	*eP*	**Pn**	17 23 20.4	-0.8																
EHYH				eS	Sn	17 23 35.1	-2.2																
EHY	**Hungye**	**1.25**	**214**	*eP*	**Pn**	17 23 20.2	-1.1																
EHY				eS	Sn	17 23 34.7	-2.6																
SMLT	**Sun Moon Lake**	**1.26**	**239**	*eP*	**Pn**	17 23 22.3	+0.7																
SMLT				eS	Sn	17 23 39.5	+1.6																
SSLB	**Suanglung**	**1.28**	**234**	P	**Pn**	17 23 21.9	+0.3																
SSLB				S	Sn	17 23 38.5	+0.5																
TYC	**Yuchr**	**1.29**	**240**	⇑ P	**Pn**	17 23 22.6	+0.9																
TYC				S	Sn	17 23 39.3	+1.1																
ECBN	**Changbin**	**1.35**	**205**	P	**Pn**	17 23 22.0	-0.6																
ECBN				S	Sn	17 23 37.9	-1.9																
YULB	**Yu-li**	**1.35**	**212**	*eP*	**Pn**	17 23 21.3	-1.4																
YULB				S	Sn	17 23 37.5	-2.4																
TWF1	**Yuli**	**1.39**	**211**	*eP*	**Pn**	17 23 21.8	-1.3																
TWF1				eS	Sn	17 23 38.4	-2.3																
WHYT	**Xinyi Township**	**1.40**	**233**	*eP*	**Pn**	17 23 24.8	+1.5																
WHYT				eS	Sn	17 23 42.9	+1.8																
WJS	**Zhushan**	**1.43**	**240**	*eP*	**Pn**	17 23 25.2	+1.6																
WJS				eS	Sn	17 23 43.7	+2.1																
WNT	**Mingjian**	**1.44**	**243**	*eP*	**Pn**	17 23 25.0	+1.3																
WNT				eS	Sn	17 23 43.7	+1.9																
WCHH	**Zhanghua**	**1.46**	**252**	*eP*	**Pn**	17 23 24.4	+0.4																
WCHH				eS	Sn	17 23 43.3	+0.9																
CHKH	**Chenggong**	**1.49**	**205**	*eP*	**Pn**	17 23 23.8	-0.6																
CHKH				eS	Sn	17 23 41.5	-1.5																
IRIF	**Iriomote-Funau**	**1.52**	**98**	P	**Pn**	17 23 24.9	+0.1																
IRIF				eS	Sn	17 23 43.3	-0.5																
FULB	**Fuli**	**1.52**	**208**	*eP*	**Pn**	17 23 24.7	-0.2																
FULB				eS	Sn	17 23 43.8	-0.1																
ALS	**Alishan**	**1.56**	**229**	*eP*	**Pn**	17 23 26.6	+1.0																
ALS				eS	Sn	17 23 46.4	+1.3																
CHKT	**Chengkung**	**1.58**	**204**	*eP*	**Pn**	17 23 24.6	-1.1																
CHKT				eS	Sn	17 23 42.3	-3.0																
CHN5	**Tsauling**	**1.59**	**234**	*eP*	**Pn**	17 23 27.2	+1.4																
CHN5				eS	Sn	17 23 47.9	+2.3																
EHD	**Haiduan**	**1.61**	**210**	*eP*	**Pn**	17 23 24.6	-1.4																
EHD				eS	Sn	17 23 43.2	-2.7																
WGK	**Gukeng**	**1.63**	**238**	*eP*	**Pn**	17 23 27.6	+1.3																
WGK				eS	Sn	17 23 48.8	+2.4																
WDL	**Douliou City**	**1.63**	**240**	*eP*	**Pn**	17 23 28.2	+1.9																
WDL				eS	Sn	17 23 48.3	+1.8																
ECS	**Chishang**	**1.65**	**209**	*eP*	**Pn**	17 23 27.3	+0.8																
WDLH	**Douliu**	**1.65**	**239**	*eP*	**Pn**	17 23 27.8	+1.3																
WDLH				eS	Sn	17 23 48.6	+1.8																
HATJ	**Hateruma jima**	**1.65**	**107**	S	**Sn**	17 23 47.2	+0.3																
ELDTW	**Lidau**	**1.67**	**216**	*eP*	**Pn**	17 23 26.2	-0.7																
ELDTW				eS	Sn	17 23 46.4	-1.0																
EDH	**Donghe**	**1.72**	**204**	*eP*	**Pn**	17 23 26.8	-0.7																
EDH				eS	Sn	17 23 46.4	-2.2																
WCKO	**Fanlu**	**1.74**	**231**	*eP*	**Pn**	17 23 28.7	+0.9																
WCKO				eS	Sn	17 23 50.9	+1.7																
WTK	**Tuku**	**1.77**	**241**	*eP*	**Pn**	17 23 28.9	+0.8																
WTK				eS	Sn	17 23 50.3	+0.7																
JKRS	**Kuro-shima**	**1.79**	**100**	P	**Pn**	17 23 27.0	+0.6																
JKRS				eS	Sn	17 23 50.3	+0.1																
CHN4	**Tsaushan**	**1.81**	**229**	*eP*	**Pn**	17 23 30.2	+1.5																
CHN4				eS	Sn	17 23 53.0	+2.4																
TPUB	**Ta-pu**	**1.82**	**227**	*eP*	**Pn**	17 23 29.9	+1.1																
TPUB				eS	Sn	17 23 52.8	+1.9																
STYH	**Taoyuan**	**1.82**	**221**	*eP*	**Pn**	17 23 30.2	+1.4																
STYH				eS	Sn	17 23 51.9	+1.0																
CHY	**Chiayi**	**1.84**	**236**	*eP*	**Pn**	17 23 30.1	+1.0																
CHY				eS	Sn	17 23 52.6	+1.2																
LONT	**Longtian**	**1.85**	**208**	*eP*	**Pn**	17 23 27.6	-1.6																
LONT				eS	Sn	17 23 49.7	-2.0																
WTP	**Ta-pu**	**1.86**	**226**	*eP*	**Pn**	17 23 30.7	+1.2																
WTP				eS	Sn	17 23 54.3	+2.1																
JIJ	**Ishigaki jima**	**1.89**	**95**	P	**Pn**	17 23 29.9	+0.1																
JIJ				S	Sn	17 23 51.9	-0.8																
WSF	**Szhu**	**1.92**	**242**	*eP*	**Pn**	17 23 30.9	+0.7																
WSF				eS	Sn	17 23 54.0	+0.5																
TWK	**Hsinying**	**1.94**	**229**	*eP*	**Pn**	17 23 31.5	+1.1																
TWK				eS	Sn	17 23 55.8	+2.0																
LDUT	**Ludao**	**1.95**	**197**	eS	**Sn**	17 23 50.7	-3.3																
TWGBT	**Beinan**	**1.95**	**208**	eS	**Sn**	17 23 51.2	-3.0																
CHN1	**Nanshi**	**1.96**	**227**	*eP*	**Pn**	17 23 31.6	+0.8																
CHN1				eS	Sn	17 23 56.5	+2.0																
WSL	**Shuilin Townsh**	**1.98**	**239**	*eP*	**Pn**	17 23 31.6	+0.7																
WSL				eS	Sn	17 23 55.9	+1.1																
TTN	**Taitung**	**1.98**	**206**	eS	**Sn**	17 23 54.5	-0.3																
JISG	**Ishigakijimahi**	**2.03**	**88**	P	**Pn**	17 23 31.9	+0.2																
JISG				eS	Sn	17 23 56.0	-0.1																
CHN8	**Yiju**	**2.09**	**235**	*eP*	**Pn**	17 23 33.7	+1.3																
CHN8				S	Sn	17 24 00.6	+3.3																
SCST	**Cishan**	**2.20**	**222**	*eP*	**Pn**	17 23 36.3	+2.3																
SCST				eS	Sn	17 24 03.4	+3.2																
MASBT	**Mashibuluo**	**2.34**	**215**	*eP*	**Pn**	17 23 38.0	+2.2																
MASBT				eS	Sn	17 24 05.6	+2.0																
JTJ	**Tarama**	**2.39**	**87**	P	**Pn**	17 23 37.5	+1.0																
VWUC	**VWUC**	**2.43**	**281**	*i* P	**Pn**	17 23 36.8	-0.2																
VWUC				eS	Sn	17 24 03.3	-2.4																
MATB	**Ma-tsu**	**2.50**	**310**	*eP*	**Pn**	17 23 38.0	-0.1																
MATB				eS	Sn	17 24 06.3	-1.2																

*IDC **19** 17:25:34.3±9.8,2°.07N×99°.57E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=559.4km s-min=30.0km az=55.0*
*DJA **19** 17:25:42.4±0.5, 1°.N±3°×9°9E±°, h40km±14km, M3.3/6, MLv3.3/6*
ISC 19 17:25:41.6±1.0,**1°.3N**±0°.1×**98°.76E**±0°.08,**h90**km,**n8,** σ1**°72**/10,**mb3.3/4**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.96**	**122**	P	**P**	**Pn**	**17 25 59.1**	**-1.8**
MNSI				S	S	**Sn**	**17 26 13.1**	**-2.2**
GSI	**Gunungsitoli**	**1.18**	**270**	P	**P**	**Pn**	**17 26 02.3**	**-1.1**
GSI				S	S	**Sn**	**17 26 18.6**	**-1.3**
KCSI	**Kotacane, Aceh**	**2.42**	**336**	P	**P**	**Pn**	**17 26 18.3**	**-1.0**
MLSI	**Meulaboh, Aceh**	**3.77**	**321**	P	**P**	**Pn**	**17 26 37.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**32.74**	**127**	P	**P**		**17 32 08.1**	**+2.0**
	2.3nm,0.9s,baz=284,slow=19,SNR=1.3							
	2.3nm,0.9s							
WRA	**Warramunga Arr**	**40.78**	**123**	P	**P**		**17 33 15.1**	**+0.8**
	0.5nm,0.9s,baz=302,slow=7.9,SNR=2.0							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**42.22**	**128**	P	**P**		**17 33 27.9**	**+1.8**
	0.4nm,1.0s,baz=302,slow=7.8,SNR=4.3							
	0.4nm,1.0s							
MKAR	**Makanchi Array**	**47.54**	**345**	P	**P**		**17 34 07.4**	**-0.5**
	0.1nm,0.3s,baz=158,slow=7.6,SNR=2.1							
	0.1nm,0.3s							

*NEIC **19** 17:30:49.5±1.2, 7°.16S±0°.08×127°.66E±0°.07, h217km±4km, mb4.4/17, Error ellipse: s-maj=12.0km s-min=10.2km az=153.0*
*DJA **19** 17:30:49.9±0.4, 7°.S±4°×12°.8E±°, h221km±10km, M4.5/15, mb4.5/12, mB4.8/6, MLv4.8/15, Mw(mB)4.1/6*
*IDC **19** 17:30:49.1±1.4, 7°.22S±127°.63E, h216km±14km, mb3.5/14, mbtmp4.2/19, Error ellipse: s-maj=14.8km s-min=10.2km az=76.0*
ISC 19 17:30:48.1±0.4,**7°.32S**±0°.04×**127°.70E**±0°.04,**h200**km,**n98,** σ1**°96**/103,**mb4.0**/19,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.63**	**101**	Pn	**P**	**Pn**	**17 31 48.0**	**+2.7**
SAUI	**Saumlaki**	**3.63**	**101**	P	**P**	**Pn**	**17 31 47.9**	**+2.7**
SAUI	**Saumlaki**	**3.63**	**101**	S	**S**	**Sn**	**17 32 33.9**	**+3.8**
SAUI	**Saumlaki**	**3.63**	**101**	P	**P**	**Pn**	**17 31 48.3**	**+3.0**
AAI	**Ambon**	**3.64**	**8**	P	**P**	**Pn**	**17 31 49.3**	**+3.9**
SOEI	**Soe**	**4.17**	**234**			**Pn**	**17 31 54.9**	**+2.7**
SOEI	**Soe**	**4.17**	**234**	P	**P**	**Pn**	**17 31 55.4**	**+3.2**
SOEI	**Soe**	**4.17**	**234**	S	**S**	**Sn**	**17 32 45.3**	**+2.8**
SOEI	**Soe**	**4.17**	**234**	P	**P**	**Pn**	**17 31 54.9**	**+2.7**
BATI	**Baumata**	**4.92**	**234**	P	**P**	**Pn**	**17 32 04.5**	**+3.0**
	939nm,0.5s,baz=93,slow=2.0,SNR=352							
BATI				S	**S**	**Sn**	**17 33 00.3**	**+0.9**
	666nm,0.4s,baz=317,slow=19,SNR=19							
BATI	**Baumata**	**4.92**	**234**	P	**P**	**Pn**	**17 32 04.3**	**+2.8**
BBSI	**Bau Bau**	**5.42**	**289**	P	**P**	**Pn**	**17 32 11.8**	**+4.0**
MMRI	**Maumere**	**5.57**	**256**	Pn	**P**	**Pn**	**17 32 10.9**	**+1.1**
MMRI	**Maumere**	**5.57**	**256**	P	**P**	**Pn**	**17 32 12.5**	**+2.7**
MMRI	**Maumere**	**5.57**	**256**	P	**P**	**Pn**	**17 32 11.8**	**+2.0**
	0.4nm1µm61nm,0.7s							
DRS	**Darwin Rock St**	**5.98**	**148**	P	**P**	**Pn**	**17 32 17.2**	**+2.1**
DRS	**Darwin Rock St**	**5.98**	**148**	S	**S**	**Sn**	**17 33 24.1**	**+0.1**
EDFI	**Ende, Flores**	**6.12**	**256**	P	**P**	**Pn**	**17 32 20.1**	**+3.0**
	0.2nm37nm,0.8s							
FAKI	**Fak Fak**	**6.29**	**46**	Pn	**P**	**Pn**	**17 32 19.4**	**+0.3**
FAKI	**Fak Fak**	**6.29**	**46**	P	**P**	**Pn**	**17 32 22.2**	**+3.0**
FAKI	**Fak Fak**	**6.29**	**46**	P	**P**	**Pn**	**17 32 20.0**	**+0.8**
	0.5nm53nm,1.3s							
MTN	**Manton Dam**	**6.45**	**149**			**Pn**	**17 32 23.0**	**+1.8**
MTN	**Manton Dam**	**6.45**	**149**	P	**P**	**Pn**	**17 32 23.4**	**+2.2**
KMPI	**Kaimana, Papua**	**6.99**	**59**	P	**P**	**Pn**	**17 32 29.2**	**+1.0**
KDU	**Kakadu**	**7.11**	**139**	P	**P**	**Pn**	**17 32 31.1**	**+1.4**
BSSI	**Bau Bau, Buton**	**7.26**	**279**	P	**P**	**Pn**	**17 32 35.5**	**+3.8**
SWI	**Sorong**	**7.33**	**29**	P	**P**	**Pn**	**17 32 33.6**	**+1.0**
	0.3nm2µm64nm,0.7s							
KNRA	**Kununurra**	**8.37**	**173**			**Pn**	**17 32 47.1**	**+0.9**
WBSI	**Waikabubak, Su**	**8.54**	**254**	P	**P**	**Pn**	**17 32 49.2**	**+0.7**
	52nm,0.9s							
RKPI	**Ransiki, Papua**	**8.65**	**49**	P	**P**	**Pn**	**17 32 51.0**	**+1.1**
PLAI	**Plampang**	**9.94**	**261**	P	**P**	**Pn**	**17 33 08.2**	**+1.6**
TOLI2	**Tolitoli**	**10.85**	**320**	P	**P**	**Pn**	**17 33 22.0**	**-3.0**
TOLI2	**Tolitoli**	**10.85**	**320**	S	**S**	**Sn**	**17 33 23.8**	**+3.9**
FITZ	**Fitzroy Crossi**	**10.90**	**190**			**Pn**	**17 33 18.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**10.90**	**190**	P	**P**	**Pn**	**17 33 19.1**	**+0.2**
	19nm,0.7s,baz=16,slow=10,SNR=62							
FITZ				S	**S**	**Sn**	**17 35 16.7**	**-4.0**
	19nm,0.5s,baz=323,slow=20,SNR=4.3							
FITZ	**Fitzroy Crossi**	**10.90**	**190**	P	**P**	**Pn**	**17 33 19.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**13.47**	**264**	Pn	**P**	**Pn**	**17 33 49.0**	**-2.6**
JAGI	**Jajag, Banyuwa**

ISC 19 17:37:34.5±1.9, 25°31'N±0'.05×128°26'E±0'.04, h25km±14km, n28, σ1°25/37, mb3.8/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**0.94**	**333**	P	**Pb**	**17 37 52.1**	**0.0**
JJT3				*e*S	**Sb**	**17 38 04.3**	**+0.2**
JNTH	**Nagotoyohara**	**1.22**	**350**	P	**Pn**	**17 37 55.8**	**-0.3**
JOW	**Kunigami**	**1.52**	**0**	Pn	**Pn**	**17 37 59.9**	**-0.2**
	44nm,0.3s,baz=187,slow=15,SNR=77						
JOW				Sn	**Sn**	**17 38 16.4**	**-2.7**
	92nm,0.3s,baz=112,slow=23,SNR=8.1						
JOW	**Kunigami**	**1.52**	**0**	P	**Pn**	**17 38 00.2**	**+0.1**
JAGN	**Aguni-jima**	**1.57**	**324**	P	**Pn**	**17 38 01.0**	**+0.1**
JKE	**Kume jima 2**	**1.67**	**308**	P	**Pn**	**17 38 01.8**	**-0.5**
JYRO	**Yoronjima**	**1.72**	**6**	P	**Pn**	**17 38 02.7**	**-0.2**
JYRO				*e*S	**Sn**	**17 38 22.4**	**-1.5**
JIH	**Iheya**	**1.74**	**351**	P	**Pn**	**17 38 03.6**	**+0.5**
JIH				*e*S	**Sn**	**17 38 24.5**	**0.0**
JOKE	**Okinoerabujima**	**2.06**	**8**	*e*P	**Pn**	**17 38 07.5**	**-0.2**
JOKE				*e*S	**Sn**	**17 38 31.2**	**-1.3**
JTK	**Tokunoshima**	**2.54**	**14**	*e*P	**Pn**	**17 38 14.2**	**0.0**
JOGS	**Gusukube**	**2.65**	**259**	*e*P	**Pn**	**17 38 15.7**	**0.0**
JOGS				*e*S	**Sn**	**17 38 45.1**	**-1.9**
JMZ	**Minamidaito 2**	**2.72**	**79**	P	**Pn**	**17 38 16.1**	**-0.6**
JMJ2	**Miyako jima3**	**2.72**	**259**	*e*P	**Pn**	**17 38 16.5**	**-0.2**
JMJ2				*e*S	**Sn**	**17 38 47.0**	**-1.9**
JIKM	**Ikemajima**	**2.76**	**263**	P	**Pn**	**17 38 17.1**	**-0.1**
JIKM				*e*S	**Sn**	**17 38 48.1**	**-1.7**
JKDJ	**Kitadaitoujima**	**2.81**	**76**	P	**Pn**	**17 38 17.4**	**-0.5**
JKDJ				*e*S	**Sn**	**17 38 48.3**	**-2.7**
JIRB	**Irabujima**	**2.84**	**261**	P	**Pn**	**17 38 18.0**	**-0.4**
JAMN	**Amaminishikomi**	**3.03**	**15**	*e*P	**Pn**	**17 38 21.3**	**+0.3**
JAMN				*e*S	**Sn**	**17 38 54.1**	**-2.4**
JNU	**Nakatsue**	**8.11**	**16**	Pn	**Pn**	**17 39 32.6**	**+1.8**
	0.2nm,0.3s,baz=216,slow=8.7,SNR=1.6						
JNU				Sn	**Sn**	**17 40 59.6**	**-2.1**
	0.2nm,0.3s,baz=221,slow=19,SNR=2.1						
	2.5nm,0.7s						
GUMO	**Guam**	**19.50**	**124**	LR	LR	17 48 16.8	
	comp=Z,18nm,20.7s,baz=257,slow=33						
SONM	**Songino Array**	**28.34**	**328**	P	**P**	**17 43 25.8**	**-0.8**
	0.2nm,0.4s,baz=140,slow=11,SNR=1.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**42.17**	**313**	P	**P**	**17 45 25.5**	**+0.3**
	0.6nm,0.5s,baz=97,slow=9.8,SNR=11						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**43.00**	**323**	P	**P**	**17 45 32.0**	**+0.3**
	0.7nm,0.5s,baz=112,slow=6.9,SNR=4.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**45.37**	**172**	P	**P**	**17 45 52.4**	**+1.3**
	1.3nm,0.6s,baz=354,slow=8.6,SNR=10						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.54**	**317**	P	**P**	**17 45 52.5**	**+0.4**
	0.7nm,0.7s,baz=104,slow=8.7,SNR=5.7						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**48.99**	**173**	P	**P**	**17 46 21.0**	**+1.7**
	0.9nm,0.7s,baz=1.7,slow=7.7,SNR=15						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**50.98**	**319**	P	**P**	**17 46 35.1**	**+1.0**
	1.1nm,0.6s,baz=80,slow=7.1,SNR=5.9						
	1.1nm,0.6s						
INK	**Inuvik**	**69.72**	**23**	LR	LR	18 24 07.0	
	comp=Z,19nm,18.5s,baz=34,slow=40						
FINES	**FINESS Array B**	**73.68**	**331**	P	**P**	**17 49 06.8**	**+0.9**
	1.1nm,0.7s,baz=111,slow=4.3,SNR=4.4						
	1.1nm,0.7s						

*JMA **19** 18:01:17.8±0.1, 24°.5N±0'.6×123°.6E±0'.2, h61km±1km, MV3.7/14, NW OFF ISHIGAKIJIMA IS*

*IDC **19** 18:01:18.9±7.3, 24°.62N×123°.70E, h87km±80km, mb3.3/6, mbtmp3.6/9, ML3.4/3, MS2.3/1, Error ellipse: s-maj=59.9km s-min=16.5km az=60.0*

ISC 19 18:01:17.0±0.8, 24°.45N±0'.06×123°.55E±0'.03, h70km±6km, n42, σ0°99/54, mb3.7/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.20**	**125**	*i* P	**Pn**	**18 01 27.6**	**+0.1**
IRIF				*e*S	**Sn**	**18 01 34.9**	**-0.4**
HATJ	**Hateruma jima**	**0.45**	**149**	*i* P	**Pn**	**18 01 30.0**	**+0.7**
HATJ				*e*S	**Sn**	**18 01 39.1**	**+0.7**
JKRS	**Kuro-shima**	**0.47**	**117**	*i* P	**Pn**	**18 01 30.1**	**+0.7**
JKRS				*e*S	**Sn**	**18 01 39.3**	**+0.8**
YOJ	**Yonaguni jima**	**0.49**	**272**	P	**Pn**	**18 01 30.2**	**+0.5**
YOJ	**Yonaguni jima**	**0.49**	**272**	S	**Sn**	**18 01 38.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.49**	**272**	P	**Pn**	**18 01 29.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.49**	**272**	S	**Sn**	**18 01 39.0**	**0.0**
YOJ	**Yonaguni jima**	**0.49**	**272**	*i* P	**Pn**	**18 01 30.0**	**+0.4**
YOJ				*e*S	**Sn**	**18 01 38.7**	**-0.3**
JIJ	**Ishigaki jima**	**0.55**	**99**	*i* P	**Pn**	**18 01 30.4**	**+0.2**
JIJ				S	**Sn**	**18 01 39.6**	**-0.3**
JYNG	**Yonagunijimaku**	**0.55**	**271**	*i* P	**Pn**	**18 01 30.6**	**+0.3**
JYNG				*e*S	**Sn**	**18 01 39.9**	**-0.2**
JISG	**Ishigakijimahi**	**0.70**	**78**	*i* P	**Pn**	**18 01 32.0**	**+0.1**
JISG				*e*S	**Sn**	**18 01 42.7**	**-0.2**
JTJ	**Tarama**	**1.06**	**79**	*i* P	**Pn**	**18 01 36.7**	**+0.5**
JTJ				*e*S	**Sn**	**18 01 51.1**	**+0.5**
JIRB	**Irabujima**	**1.52**	**75**	*i* P	**Pn**	**18 01 42.5**	**+0.3**
JIRB				*e*S	**Sn**	**18 02 01.4**	**+0.1**
JIKM	**Ikemajima**	**1.61**	**73**	P	**Pn**	**18 01 44.0**	**+0.6**
JIKM				*e*S	**Sn**	**18 02 03.5**	**+0.1**
JMJ2	**Miyako jima3**	**1.64**	**79**	P	**Pn**	**18 01 44.6**	**+0.8**
JMJ2				*e*S	**Sn**	**18 02 04.8**	**+0.7**
JOGS	**Gusukube**	**1.72**	**79**	P	**Pn**	**18 01 45.8**	**+1.0**
JOGS				*e*S	**Sn**	**18 02 06.6**	**+0.7**
NACB	**Ninganchiao**	**1.81**	**262**	P	**Pn**	**18 01 46.4**	**+0.4**
NACB	**Ninganchiao**	**1.81**	**262**	P	**Pn**	**18 01 46.2**	**+0.2**
TATO	**Taipei**	**1.95**	**286**	P	**Pn**	**18 01 49.8**	**+1.9**
TATO	**Taipei**	**1.95**	**286**	P	**Pn**	**18 01 49.3**	**+1.4**
YHNB	**Yeheng**	**1.99**	**277**	P	**Pn**	**18 01 50.0**	**+1.4**
YHNB	**Yeheng**	**1.99**	**277**	P	**Pn**	**18 01 49.6**	**+1.0**
YULB	**Yu-li**	**2.31**	**243**	P	**Pn**	**18 01 52.6**	**-0.3**
YULB	**Yu-li**	**2.31**	**243**	P	**Pn**	**18 01 52.5**	**-0.3**
YULB	**Yu-li**	**2.31**	**243**	S	**Sn**	**18 02 18.9**	**-1.5**
SSLB	**Suanglung**	**2.46**	**255**	P	**Pn**	**18 01 55.3**	**+0.4**
TWGBT	**Beinan**	**2.79**	**235**	P	**Pn**	**18 01 58.4**	**-0.9**
TWGBT	**Beinan**	**2.79**	**235**	S	**Sn**	**18 02 30.2**	**-1.7**
TWGBT	**Beinan**	**2.79**	**235**	P	**Pn**	**18 01 58.3**	**-1.0**
TPUB	**Ta-pu**	**2.91**	**247**	S	**Sn**	**18 02 36.5**	**+1.6**
TPUB	**Ta-pu**	**2.91**	**247**	P	**Pn**	**18 02 02.5**	**+1.5**
TPUB	**Ta-pu**	**2.91**	**247**	S	**Sn**	**18 02 36.4**	**+1.6**
JOW	**Kunigami**	**4.88**	**60**	P	**Pn**	**18 02 27.1**	**-0.7**
	4.4nm,0.3s,baz=155,slow=14,SNR=11						
JOW				S	**Sn**	**18 03 20.2**	**-2.8**
	12nm,0.2s,baz=220,slow=17,SNR=1.8						
	12nm,0.2s						
JNU	**Nakatsue**	**10.77**	**35**	P	**Pn**	**18 03 49.0**	**+0.7**
	0.2nm,0.3s,baz=205,slow=23,SNR=0.8						
	1.6nm,0.8s						
KSRS	**Korea Array**	**13.49**	**15**	P	**Pn**	**18 04 23.5**	**-1.8**
	0.2nm,0.3s,baz=197,slow=11,SNR=7.7						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**23.65**	**260**	LR	LR	18 15 54.2	
	comp=Z,6.8nm,20.3s,baz=215,slow=37						
MKAR	**Makanchi Array**	**39.67**	**315**	P	**P**	**18 08 41.1**	**-1.0**
	0.3nm,0.4s,baz=101,slow=8.7,SNR=6.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**41.22**	**326**	P	**P**	**18 08 55.9**	**+1.2**
	0.5nm,0.4s,baz=119,slow=8.4,SNR=2.4						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**43.31**	**319**	P	**P**	**18 09 10.8**	**-1.1**
	0.1nm,0.3s,baz=113,slow=9.2,SNR=2.0						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**45.36**	**166**	P	**P**	**18 09 29.4**	**+1.0**
	2.6nm,0.7s,baz=347,slow=8.7,SNR=9.8						
	2.6nm,0.7s						
BVAR	**Borovoye Array**	**48.85**	**320**	P	**P**	**18 09 55.0**	**-0.3**
	0.3nm,0.5s,baz=90,slow=7.2,SNR=2.4						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**48.87**	**167**	P	**P**	**18 09 57.3**	**+1.5**
	0.5nm,0.4s,baz=350,slow=7.2,SNR=21						
	0.5nm,0.4s						

*IDC **19** 18:02:54.5±0.6, 31°.03S×177°.37W, h0km, mb4.2/9, mbtmp4.3/11, ML3.5/2, MS3.6/19, Error ellipse: s-maj=19.6km s-min=17.2km az=75.0*

*NEIC **19** 18:02:56.6±1.6, 31°.06S±0'.09×177°.28W±0'.07, h10km±1km, mb4.6/48, Error ellipse: s-maj=17.6km s-min=5.1km az=214.0*

ISC 19 18:02:55.7±0.5, 31°.25S±0'.05×177°.38W±0'.08, h10km, n122, σ2°11/116, mb4.6/33, MS3.6/17, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.03**	**346**	P	**Pn**	**18 03 28.7**	**-1.3**
GLKZ				S	**Sn**	**18 03 52.8**	**-2.6**
RAO	**Raoul Island**	**2.04**	**347**		**Pn**	**18 03 29.1**	**-1.0**
RAO				Sn	**Sn**	**18 03 52.3**	**-3.4**
RAO	**Raoul Island**	**2.04**	**347**	Pn	**Pn**	**18 03 29.1**	**-1.0**
	329nm,0.3s,baz=95,slow=12,SNR=17						
RAO				Sn	**Sn**	**18 03 52.7**	**-3.0**
	382nm,0.3s,baz=90,slow=20,SNR=12						
RIZ	**Raoul Island**	**2.05**	**346**	P	**Pn**	**18 03 29.1**	**-1.1**
RIZ				S	**Sn**	**18 03 53.2**	**-2.6**
PKGZ	**Pakihiroa**	**7.59**	**208**	P	**Pn**	**18 04 43.6**	**-2.8**
PKGZ				S	**Sn**	**18 06 10.2**	**-2.3**
HAZ	**Te Kaha**	**7.62**	**210**	P	**Pn**	**18 04 44.2**	**-2.6**
HAZ				S	**Sn**	**18 06 12.4**	**-0.8**
PUZ	**Puketiti**	**7.70**	**207**	P	**Pn**	**18 04 44.0**	**-3.8**
PUZ				S	**Sn**	**18 06 14.4**	**-0.7**
RUGZ	**Raukumara Rang**	**7.84**	**210**	P	**Pn**	**18 04 46.7**	**-3.2**
RUGZ				S	**Sn**	**18 06 16.4**	**-2.4**
CNGZ	**Carnagh Statio**	**8.08**	**205**	P	**Pn**	**18 04 49.7**	**-3.4**
TKGZ	**Te Karaka**	**8.18**	**207**	P	Pn	18 04 49.8	-4.6
TKGZ				S	**Sn**	**18 06 24.4**	**-2.5**
URZ	**Urewera**	**8.34**	**211**	Pn	**Pn**	**18 04 53.1**	**-3.4**
	2.0nm,0.3s,baz=34,slow=7.3,SNR=14						
URZ				Sn	**Sn**	**18 06 27.5**	**-3.2**
	3.3nm,0.3s,baz=83,slow=22,SNR=7.7						
URZ	**Urewera**	**8.34**	**211**	P	**Pn**	**18 04 53.2**	**-3.3**
URZ				S	**Sn**	**18 06 27.3**	**-3.4**
RIGZ	**Rimuhau**	**8.44**	**207**	P	Pn	18 04 51.8	-6.3
RIGZ				S	**Sn**	**18 06 30.5**	**-2.9**
MKAZ	**Moumakai**	**8.50**	**225**	P	**Pn**	**18 05 01.3**	**+2.4**
OUZ	**Omahuta**	**8.54**	**240**	P	Pn	18 05 06.0	+6.7
SNGZ	**Shannon Statio**	**8.67**	**209**	P	**Pn**	**18 04 58.1**	**-3.2**
SNGZ				S	**Sn**	**18 06 32.9**	**-6.3**
RTZ	**Ruatahuna**	**8.69**	**211**	Pn	**Pn**	**18 04 58.9**	**-2.6**
RTZ	**Ruatahuna**	**8.69**	**211**	P	**Pn**	**18 04 58.6**	**-2.8**
RTZ				S	**Sn**	**18 06 36.5**	**-3.0**
RAHZ	**Arahi**	**8.89**	**209**	P	**Pn**	**18 05 03.5**	**-0.8**
RAHZ				S	**Sn**	**18 06 41.4**	**-3.1**
MTHZ	**Maungataniwha**	**8.94**	**210**	P	**Pn**	**18 05 02.5**	**-2.5**
MTHZ				S	**Sn**	**18 06 44.0**	**-1.8**
BKZ	**Black Stump Fm**	**9.36**	**211**	P	Pn	18 05 06.5	-4.1
BKZ				S	**Sn**	**18 06 51.6**	**-4.3**
HIZ	**Hauiti**	**9.65**	**219**	Pn	**Pn**	**18 05 16.2**	**+1.6**
HIZ	**Hauiti**	**9.65**	**219**	P	**Pn**	**18 05 17.7**	**+3.1**
KAHZ	**Kahuranaki**	**9.73**	**207**	P	Pn	18 05 09.4	-6.2
OTVZ	**Oturere**	**9.73**	**214**	P	Pn	18 05 11.2	-4.7
SNVZ	**South Ngauruho**	**9.76**	**214**	P	**Pn**	**18 05 14.8**	**-1.5**
SNVZ				S	**Sn**	**18 07 02.7**	**-3.4**
WNVZ	**Wahianoa**	**9.89**	**214**	P	**Pn**	**18 05 18.3**	**+0.2**
PNHZ	**Pukenui**	**10.10**	**209**	P	Pn	18 05 15.3	-5.5
PNHZ				S	**Sn**	**18 07 06.5**	**-7.7**
MSWZ	**Moikau Station**	**11.76**	**208**	Pn	**Pn**	**18 05 43.6**	**+0.2**
TUWZ	**Tuamarina**	**12.33**	**212**	Pn	**Pn**	**18 05 48.5**	**-2.8**
NNZ	**Nelson**	**12.43**	**214**	Pn	**Pn**	**18 05 49.3**	**-3.3**
QRZ	**Quartz Range**	**12.56**	**218**	Pn	**Pn**	**18 05 55.3**	**+0.9**
RPZ	**Rata Peaks**	**15.45**	**213**	Pn	Pn	18 06 26.2	-7.4
	2.3nm,0.3s,baz=41,slow=3.5,SNR=11						
RPZ				Sn	Sn	18 09 10.6	-14
	0.5nm,0.3s,baz=37,slow=20,SNR=1.5						
PINNC	**Pines Island,**	**16.02**	**299**	Pn	**Pn**	**18 06 41.5**	**+0.3**
DZM	**Mont Dzumac**	**17.09**	**298**		**Pn**	**18 06 54.6**	**-0.2**
DZM	**Mont Dzumac**	**17.09**	**298**	Pn	**Pn**	**18 06 53.3**	**-1.6**
	0.1nm,0.3s,baz=95,slow=16,SNR=4.8						
DZM				LR	LR	18 11 51.2	
	comp=Z,202nm,21.9s,baz=178,slow=32						
	4.3nm,1.0s						
EAZ	**Earnscleugh**	**17.41**	**213**	P	**Pn**	**18 06 55.3**	**-3.3**
RAR	**Rarotonga**	**18.66**	**62**	P	**P**	**18 07 11.8**	**-2.1**
	2.1nm,0.3s,baz=256,slow=12,SNR=2.4						
RAR				LR	LR	18 13 38.1	
	comp=Z,172nm,19.2s,baz=269,slow=35						
	20nm,0.8s						
ARMA	**Armidale**	**26.59**	**264**	P	**P**	**18 08 35.9**	**+1.7**
ARMA				IAmb	IAmb	18 08 54.0	
	comp=Z,35nm,1.5s						
EIDS	**Eidsvold**	**28.32**	**274**	P	**P**	**18 08 50.7**	**+1.0**
EIDS				IAmb	IAmb	18 08 53.9	
	comp=Z,22nm,1.4s						
PPT	**Papeete**	**28.65**	**68**	LR	LR	18 18 25.0	
	comp=Z,69nm,18.5s,baz=218,slow=33						
TAU	**Tasmania Unive**	**30.27**	**237**	P	**P**	**18 09 09.6**	**+2.9**
CTAO	**Charters Tower**	**34.47**	**280**	P	**P**	**18 09 45.8**	**+1.9**
CTAO				IAmb	IAmb	18 09 51.2	
	comp=Z,9.5nm,0.9s						
STKA	**Stephens Creek**	**34.82**	**258**		**P**	**18 09 48.7**	**+1.9**
STKA	**Stephens Creek**	**34.82**	**258**	P	**P**	**18 09 48.3**	**+1.5**
	comp=Z,4.4nm,0.6s,baz=94,slow=12,SNR=11						
STKA				LR	LR	18 24 24.9	
	comp=Z,94nm,18.1s,baz=123,slow=37						
	comp=Z,4.4nm,0.6s						
INKA	**Innaminka**	**36.46**	**265**	P	**P**	**18 10 03.0**	**+2.1**
INKA				IAmb	IAmb	18 10 04.8	
	comp=Z,9.3nm,1.1s						
BBOO	**Buckleboo**	**39.26**	**255**	P	**P**	**18 10 24.6**	**0.0**
PMG	**Port Moresby**	**39.45**	**296**	LR	LR	18 23 18.9	
	comp=Z,71nm,19.2s,baz=137,slow=31						
COEN	**Coen**	**40.02**	**286**	P	**P**	**18 10 31.6**	**+0.5**
COEN				IAmb	IAmb	18 10 53.0	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**43.60**	**268**	P	**P**	**18 11 00.3**	**-0.1**
ASAR	**Alice Springs**	**43.60**	**268**	P	**P**	**18 10 59.0**	**-1.3**
ASAR	**Alice Springs**	**43.60**	**268**	P	**P**	**18 11 00.4**	**0.0**
	comp=Z,5.2nm,0.8s,baz=104,slow=7.5,SNR=46						
ASAR				PcP	**PcP**	**18 12 48.3**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=112,slow=4.1,SNR=2.0						
	comp=Z,5.2nm,0.8s						
WR8	**Warramunga Arr**	**44.53**	**273**	P	**P**	**18 11 07.2**	**-0.6**
WRA	**Warramunga Arr**	**44.67**	**273**	P	**P**	**18 11 07.8**	**-1.1**
WRA	**Warramunga Arr**	**44.67**	**273**	P	**P**	**18 11 08.7**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=113,slow=7.7,SNR=26						
WRA				LR	LR	18 28 03.5	
	comp=Z,102nm,20.9s,baz=58,slow=34						
	comp=Z,3.0nm,0.6s						
WB0	**Warramunga Arr**	**44.70**	**273**	P	**P**	**18 11 09.0**	**-0.1**
WB0				IAmb	IAmb	18 11 10.1	
	comp=Z,7.4nm,0.9s						
VNDA	**Vanda**	**47.31**	**186**	P	**P**	**18 11 31.2**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=316,slow=3.7,SNR=2.7						
	comp=Z,0.6nm,0.9s						
MTN	**Manton Dam**	**50.65**	**279**	P	**P**	**18 11 55.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.90**	**270**	P	**P**	**18 12 12.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.90**	**270**	LR	LR	18 35 03.5	
	comp=Z,74nm,18.5s,baz=127,slow=36						
SAUI	**Saumlaki**	**53.04**	**285**		**P**	**18 12 13.5**	**+0.3**
GUMO	**Guam**	**57.46**	**315**	LR	LR	18 36 45.1	
	comp=Z,28nm,18.5s,baz=136,slow=35						
BATI	**Baumata**	**58.29**	**278**	LR	LR	18 39 13.1	
	comp=Z,164nm,18.3s,baz=211,slow=37						
RPN	**Rapa Nui**	**58.70**	**105**	LR	LR	18 33 18.1	
	comp=Z,57nm,20.0s,baz=212,slow=31						
QSPA	**South Pole Qui**	**58.87**	**180**		**P**	**18 12 57.5**	**+3.0**
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**18 12 57.6**	**+3.2**
	comp=Z,8.7nm,0.9s,baz=35,slow=1.4,SNR=40						
QSPA				LR	LR	18 35 24.1	
	comp=Z,30nm,19.4s,baz=300,slow=33						
	comp=Z,8.7nm,0.9s						
KAPI	**Kappang**	**64.29**	**280**	LR	LR	18 40 59.8	
	comp=Z,42nm,18.9s,baz=270,slow=36						
PMSA	**Palmer Station**	**71.27**	**155**	LR	LR	18 39 11.7	
	comp=Z,57nm,18.7s,baz=161,slow=30						
TGY	**Tagaytay City**	**74.39**	**298**	LR	LR	18 44 45.2	
	comp=Z,25nm,20.8s,baz=37,slow=34						
VNA3	**Neumayer Olymp**	**77.42**	**176**	⇑P	**P**	**18 14 51.1**	**+0.4**
	comp=Z,9.5nm,0.8s						
VNA2	**Neumayer--Watz**	**77.86**	**177**	⇑P	**P**	**18 14 53.6**	**+0.5**
	comp=Z,7.8nm,0.7s,baz=172,slow=5.3						
VNA1	**Neumayer--Stat**	**78.09**	**176**	⇑P	**P**	**18 14 55.4**	**+1.1**
	comp=Z,9.1nm,1.0s						
H03S2	**Juan Fernandez**	**79.55**	**123**	T	T	19 42 33.2	
	baz=235						
H03S1	**Juan Fernandez**	**79.56**	**123**	T	T	19 42 42.4	
	baz=235						
H03S3	**Juan Fernandez**	**79.57**	**123**	T	T	19 42 32.0	
	baz=235						
PLCA	**Paso Flores**	**81.54**	**133**	P	**P**	**18 15 13.2**	**-0.5**
PLCA	**Paso Flores**	**81.54**	**133**	P	**P**	**18 15 14.4**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=264,slow=4.4,SNR=5.8						
PLCA				LR	LR	18 44 42.3	
	comp=Z,31nm,18.2s,baz=189,slow=31						
	comp=Z,3.2nm,0.9s						
BI02	**San Fabin de**	**83.34**	**129**	P	**P**	**18 15 23.7**	**+0.5**
BI02				IAmb	IAmb	18 15 25.1	
	comp=Z,3.7nm,0.8s						
ASAJ	**Asahikawa**	**83.44**	**332**	LR	LR	18 52 27.9	
	comp=Z,18nm,18.5s,baz=294,slow=36						
LPIG	**La Paz**	**84.53**	**58**	LR	LR	18 45 34.0	
	comp=Z,64nm,18.9s,baz=220,slow=30						
BO02	**Sierra Bellavi**	**84.73**	**128**		**P**	**18 15 30.7**	**+0.5**
MT01	**Popeta**	**84.93**	**127**	P	**P**	**18 15 31.1**	**-0.1**
KSRS	**Korea Array**	**85.34**	**319**	P	**P**	**18 15 33.7**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=125,slow=6.8,SNR=4.5						
	comp=Z,0.8nm,0.6s						
TPO	**Tropico Hills**	**86.14**	**45**	P	**P**	**18 15 36.3**	**-0.7**
TPO				IAmb	IAmb	18 15 41.6	
	comp=Z,6.0nm,1.0s						
LRMC	**Laurel Mtn Rad**	**86.88**	**45**	P	**P**	**18 15 39.8**	**-1.0**
LRMC				IAmb	IAmb	18 16 12.3	
	comp=Z,3.4nm,0.8s						
BUCR	**Buckhorn Ranch**	**86.92**	**42**	P	**P**	**18 15 41.8**	**+0.9**
BUCR				IAmb	IAmb	18 15 42.7	
	comp=Z,3.5nm,1.1s						
BELC	**Belle Mtn. Jos**	**86.93**	**47**	P	**P**	**18 15 40.6**	**-0.4**
BELC				IAmb	IAmb	18 15 43.5	
	comp=Z,3.4nm,1.0s						
CMB	**Columbia Colle**	**87.03**	**42**	P	**P**	**18 15 41.4**	**0.0**
BC3	**Big Chuckawall**	**87.05**	**47**	P	**P**	**18 15 41.2**	**-0.4**
WSHM	**Spangler Hills**	**87.07**	**45**	P	**P**	**18 15 39.8**	**-1.8**
WSHM				IAmb	IAmb	18 15 43.8	
	comp=Z,3.4nm,1.0s						
CLC	**China Lake**	**87.15**	**45**	P	**P**	**18 15 42.3**	**+0.3**
CLC				IAmb	IAmb	18 15 44.8	
	comp=Z,5.4nm,1.0s						
O02D	**Mt. Diablo Mer**	**87.22**	**39**		**P**	**18 15 41.5**	**-0.8**
O02D				IAmb	IAmb	18 15 45.6	
	comp=Z,6.0nm,1.0s						
GSC	**Goldstone, Bar**	**87.29**	**45**	P	**P**	**18 15 42.8**	**+0.1**
NVAR	**Mina Array Bea**	**88.50**	**42**	P	**P**	**18 15 49.3**	**+0.7**
NVAR	**Mina Array Bea**	**88.50**	**42**	P	**P**	**18 15 49.7**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=220,slow=8.0,SNR=7.4						
	comp=Z,1.8nm,0.9s						
TPNV	**Topopah Spring**	**88.72**	**45**	P	**P**	**18 15 51.0**	**+1.4**
TPH	**Tonopah**	**88.89**	**43**	P	**P**	**18 15 51.4**	**+1.0**
TPH				IAmb	IAmb	18 15 52.4	
	comp=Z,2.8nm,0.9s						
W13A	**Hualapai Mount**	**88.97**	**47**	P	**P**	**18 15 50.8**	**-0.1**
X16A	**Lo Mia Camp, P**	**90.10**	**49**	P	**P**	**18 15 55.5**	**-0.7**
X16A				IAmb	IAmb	18 16 26.2	
	comp=Z,4.3nm,1.3s						
PINE	**Pine Mountain**	**90.75**	**37**	IAmb	IAmb	18 16 01.2	
	comp=Z,2.8nm,0.8s						
U15A	**North Rim**	**90.81**	**47**	IAmb	IAmb	18 16 02.4	
	comp=Z,4.1nm,1.0s						
TXAR	**Lajitas Array**	**92.40**	**57**	P	**P**	**18 16 07.0**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=241,slow=4.1,SNR=2.8						
	comp=Z,0.3nm,0.7s						
G08A	**Pilot Rock**	**92.81**	**37**		**P**	**18 16 07.7**	**-0.6**
G08A				IAmb	IAmb	18 16 11.6	
	comp=Z,2.8nm,1.0s						
MFID	**Camas Ranch**	**93.22**	**40**	IAmb	IAmb	18 16 12.0	
	comp=Z,3.5nm,0.8s						
ANMO	**Albuquerque**	**93.69**	**51**	LR	LR	18 50 59.2	
	comp=Z,39nm,19.3s,baz=309,slow=31	

JNSB	**Nemuroshibetsu**	**1.40**	**237**	*eP*	**Pn**	**18 27 58.4**	**-0.6**
JNSB				*eS*	**Sn**	**18 28 20.8**	**-0.8**
JNK	**Nakash**	**1.68**	**236**	*eP*	**Pn**	**18 28 02.2**	**+0.4**
JKHN	**Kushirohamanak**	**1.81**	**216**	P	**Pn**	**18 28 03.1**	**-0.1**
JKHN				*eS*	**Sn**	**18 28 29.1**	**-0.1**
AKK	**Akkeshi**	**2.00**	**221**	*eP*	**Pn**	**18 28 05.2**	**-0.1**
AKK				*eS*	**Sn**	**18 28 32.8**	**-0.2**
JTKR	**Abashiri--Toko**	**2.03**	**254**	*eP*	**Pn**	**18 28 05.1**	**-0.6**
JAK	**Akkeshi**	**2.08**	**223**	*eP*	**Pn**	**18 28 06.2**	**-0.1**
JAR	**Ashorobuto**	**2.41**	**240**	*eP*	**Pn**	**18 28 10.7**	**+0.6**
JOB	**Onbets**	**2.60**	**232**	*eP*	**Pn**	**18 28 13.1**	**+0.7**
JOB				*eS*	**Sn**	**18 28 46.2**	**+0.6**
JKK2	**Kamakawa 2**	**2.87**	**258**	*eP*	**Pn**	**18 28 16.1**	**+0.5**
JSE	**Soyaes**	**2.91**	**280**	*eS*	**Sn**	**18 28 52.8**	**+0.6**
JCH	**Churui**	**3.06**	**232**	*eP*	**Pn**	**18 28 18.2**	**+0.2**
JNBK	**Urakawa-nobuka**	**3.62**	**233**	*eP*	**Pn**	**18 28 24.6**	**-0.5**

IDC ***19*** *18:47:19.4±0.9, 16°.30S×173°.92W, h0km, mb3.9/7, mbtmp3.9/8, ML3.5/1, MS3.0/1, Error ellipse: s-maj=44.7km s-min=20.6km az=144.0*

NEIC ***19*** *18:47:27.9±0.9, 18°.6S±0°.2×174°.9W±0°.1, h151km±12km, mb4.2/28, Error ellipse: s-maj=34.1km s-min=6.2km az=202.0*

ISC 19 18:47:35.4±0.6,**17°.0S**±0°.1×**173°.80W**±0°.08,**h150**km,**n47,** σ1§**66**/41,**mb4.2**/19,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.23**	**120**		**Pn**	**18 48 37.4**	**-1.2**
NIUE				Sn	**Sn**	**18 49 24.5**	**-3.2**
FUTU	**Fugatoga**	**4.95**	**302**		**Pn**	**18 48 44.4**	**-3.8**
RAR	**Rarotonga**	**13.90**	**110**		**Pn**	**18 50 45.0**	**-1.1**
RAR	**Rarotonga**	**13.90**	**110**	Pn	**Pn**	**18 50 47.5**	**+1.4**
	2.9nm,0.3s,baz=272,slow=6.6,SNR=5.1						
SANVU	**Saraoutou**	**18.31**	**272**	P	P	18 51 19.3	-19
DZM	**Mont Dzumac**	**19.29**	**252**	P	**P**	**18 51 49.3**	**+0.3**
	0.1nm,0.3s,baz=80,slow=17,SNR=4.5						
	2.4nm,0.8s						
PPT	**Papeete**	**23.13**	**95**	LR	LR	18 59 41.2	
	comp=Z,31nm,18.6s,baz=270,slow=32						
H11S2	**WAKE ISLAND Hy**	**40.14**	**331**	T	T	19 36 47.1	
	baz=146,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**40.15**	**331**	T	T	19 36 48.6	
	baz=146,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	19 36 49.1	
	baz=146,slow=76,SNR=17						
WAKE	**Wake Island**	**40.85**	**331**	P	**P**	**18 55 00.1**	**-2.5**
PTCN	**Pitcairn Islan**	**41.43**	**109**	P	P	18 55 03.2	-4.2
STKA	**Stephens Creek**	**42.93**	**241**	P	**P**	**18 55 21.4**	**+1.9**
	3.7nm,1.0s,baz=67,slow=13,SNR=2.3						
	3.7nm,1.0s						
WRA	**Warramunga Arr**	**49.13**	**258**	P	**P**	**18 56 08.5**	**+0.3**
	0.2nm,0.3s,baz=94,slow=7.7,SNR=1.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**49.27**	**253**	P	**P**	**18 56 09.9**	**+0.6**
	1.7nm,0.6s,baz=88,slow=8.5,SNR=39						
	1.7nm,0.6s						
QSPA	**South Pole Qui**	**73.06**	**180**	P	P	18 58 56.0	+7.1
	0.7nm,0.6s,baz=338,slow=1.8,SNR=5.1						
	0.7nm,0.6s						
O02D	**Mt. Diablo Mer**	**74.05**	**38**	P	**P**	**18 58 57.3**	**+2.3**
O02D				IAmb	IAmb	18 58 58.8	
	comp=Z,12nm,1.5s						
KSXB	**Camp Six Broad**	**74.48**	**36**	P	**P**	**18 58 59.9**	**+2.4**
KSXB				IAmb	IAmb	18 59 02.1	
	comp=Z,9.3nm,1.3s						
YBH	**Yreka Blue Hor**	**75.09**	**37**	P	**P**	**18 59 03.5**	**+2.5**
YBH				IAmb	IAmb	18 59 04.2	
	comp=Z,5.1nm,1.1s						
RYN	**Ryan**	**75.73**	**42**	P	**P**	**18 59 05.0**	**+0.3**
NVAR	**Mina Array Bea**	**75.76**	**42**	P	**P**	**18 59 05.7**	**+0.7**
Y14A	**Wickenburg**	**76.89**	**48**	P	**P**	**18 59 14.0**	**+2.7**
J05D	**Fort Rock, OR**	**76.91**	**37**	P	**P**	**18 59 11.9**	**+0.6**
J05D				IAmb	IAmb	18 59 12.4	
	comp=Z,8.1nm,1.5s						
PRN	**Pahroc Range**	**77.31**	**44**	P	**P**	**18 59 15.8**	**+2.1**
PRN				IAmb	IAmb	18 59 17.4	
	comp=Z,5.2nm,0.9s						
PINE	**Pine Mountain**	**77.40**	**36**		**P**	**18 59 15.6**	**+1.6**
PINE				IAmb	IAmb	18 59 16.9	
	comp=Z,3.9nm,0.9s						
M14K	**Bethel**	**78.05**	**6**		**P**	**18 59 18.2**	**+1.2**
ILSW	**Iliamna Southw**	**78.51**	**10**	P	**P**	**18 59 19.9**	**+0.2**
M16K	**Timber Creek**	**78.65**	**7**		**P**	**18 59 21.9**	**+1.6**
U15A	**North Rim**	**78.67**	**46**	P	**P**	**18 59 24.0**	**+2.7**
M17K	**Holitna River**	**79.21**	**8**	P	**P**	**18 59 24.9**	**+1.6**
M17K				IAmb	IAmb	18 59 25.9	
	comp=Z,4.9nm,0.8s						
K15K	**Wolf Creek Mou**	**79.61**	**6**	P	**P**	**18 59 27.4**	**+1.9**
L18K	**Granite Mounta**	**80.10**	**8**	P	**P**	**18 59 29.6**	**+1.5**
STLK	**Strandline Lak**	**80.16**	**10**	P	**P**	**18 59 28.9**	**+0.3**
TXAR	**Lajitas Array**	**81.81**	**56**	P	**P**	**18 59 37.8**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=234,slow=4.3,SNR=5.2						
	comp=Z,0.8nm,1.1s						
PD31	**Pinedale Array**	**83.69**	**42**	P	**P**	**18 59 49.1**	**+1.4**
PDAR	**Pinedale Array**	**83.69**	**42**	P	**P**	**18 59 49.1**	**+1.4**
PDAR	**Pinedale Array**	**83.69**	**42**	P	**P**	**18 59 48.6**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=204,slow=3.3,SNR=8.5						
	comp=Z,1.7nm,0.9s						
ILAR	**Eielson Array**	**84.07**	**11**	P	**P**	**18 59 48.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=238,slow=6.5,SNR=6.6						
	comp=Z,0.5nm,0.5s						
IMAR	**Indian Mountai**	**84.09**	**8**	P	**P**	**18 59 49.9**	**+1.0**
J25K	**Salcha River,**	**84.22**	**12**	P	**P**	**18 59 50.5**	**+0.9**
J25K				IAmb	IAmb	18 59 51.7	
	comp=Z,6.4nm,1.4s						
G21K	**Allakaket**	**84.63**	**8**	P	**P**	**18 59 52.8**	**+1.3**
G21K				IAmb	IAmb	18 59 53.9	
	comp=Z,4.1nm,0.9s						
PRP	**Porcupine Dome**	**85.00**	**11**	P	**P**	**18 59 54.9**	**+1.3**
PRP				IAmb	IAmb	18 59 55.5	
	comp=Z,3.2nm,0.9s						
DAWY	**Dawson**	**85.05**	**14**	P	**P**	**18 59 54.7**	**+0.9**
DAWY				IAmb	IAmb	18 59 56.9	
	comp=Z,2.5nm,0.9s						
E19K	**Redstone River**	**85.08**	**6**	P	**P**	**18 59 54.8**	**+1.0**
E19K				IAmb	IAmb	18 59 56.2	
	comp=Z,3.6nm,0.8s						
BRTR	**Keskin Array B**	**147.12**	**319**	PKPbc	**PKiKP**	**19 07 03.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=130,slow=1.9,SNR=4.5						
GERES	**GERESS Array B**	**147.64**	**351**	PKPbc	**PKiKP**	**19 07 04.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=346,slow=2.8,SNR=5.5						
DAVOX	**Davos/Dischmat**	**150.14**	**355**	PKPbc	**PKiKP**	**19 07 10.4**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=41,slow=5.4,SNR=4.1						

IDC ***19*** *19:01:29.1±4.1, 24°.66S×179°.68E, h530km±43km, mb3.3/10, mbtmp4.2/11, Error ellipse: s-maj=24.9km s-min=18.1km az=72.0*

NEIC ***19*** *19:01:29.6±1.8, 24°.6S±0°.1×179°.6E±0°.2, h527km±8km, mb4.3/26, Error ellipse: s-maj=22.0km s-min=17.9km az=128.0*

ISC 19 19:01:27.0±0.5,**24°.76S**±0°.07×**179°.70E**±0°.08,**h507**km,**n88,** σ1§**49**/84,**mb4.1**/24,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.97**	**155**	P	**P**	**19 02 55.6**	**+1.7**
GLKZ				S	**S**	**19 04 04.5**	**-0.6**
MSVF	**Nonsavu**	**7.15**	**347**		**P**	**19 03 15.1**	**-0.1**
NIUE	**Niue**	**11.16**	**62**	P	P	19 04 01.7	+4.9
NIUE				S	**S**	**19 06 03.5**	**+3.3**
PINNC	**Pines Island,**	**11.43**	**278**	P	**P**	**19 04 01.6**	**+2.1**
OUZ	**Omahuta**	**11.69**	**205**	P	**P**	**19 04 04.7**	**+2.6**
WCZ	**Waipu Caves**	**12.06**	**201**	P	**P**	**19 04 08.7**	**+2.6**
KUZ	**Kuaotunu**	**12.43**	**195**	P	**P**	**19 04 11.2**	**+1.3**
DZM	**Mont Dzumac**	**12.46**	**280**		**P**	**19 04 11.7**	**+1.1**
DZM	**Mont Dzumac**	**12.46**	**280**	P	**P**	**19 04 12.3**	**+1.8**
	8.6nm,0.5s,baz=118,slow=13,SNR=7.0						
MXZ	**Matakaoa Point**	**12.82**	**185**	P	**P**	**19 04 15.7**	**+1.7**
HAZ	**Te Kaha**	**13.06**	**187**	P	**P**	**19 04 17.5**	**+0.9**
PKGZ	**Pakihiroa**	**13.14**	**186**	P	**P**	**19 04 19.3**	**+1.9**
RUGZ	**Raukumara Rang**	**13.28**	**187**	P	**P**	**19 04 21.8**	**+2.8**
PUZ	**Puketiti**	**13.33**	**185**	P	**P**	**19 04 20.9**	**+1.5**
TOZ	**Tahuroa Road**	**13.42**	**194**	P	P	19 04 24.7	+4.4
TOZ	**Tahuroa Road**	**13.42**	**194**	P	P	19 04 24.9	+4.6
KMRZ	**Kaimai**	**13.44**	**193**	P	P	19 04 24.2	+3.6
URZ	**Urewera**	**13.64**	**189**	P	**P**	**19 04 20.4**	**-2.3**
	24nm,0.5s,baz=347,slow=1.0,SNR=37						
URZ				S	**S**	**19 06 43.9**	**-3.6**
	12nm,0.5s,baz=37,slow=23,SNR=12						
URZ	**Urewera**	**13.64**	**189**	P	**P**	**19 04 21.9**	**-0.8**
CNGZ	**Carnagh Statio**	**13.75**	**185**	P	**P**	**19 04 26.2**	**+2.5**
RTZ	**Ruatahuna**	**14.01**	**189**	P	**P**	**19 04 29.7**	**+3.1**
HIZ	**Hauiti**	**14.32**	**196**	P	P	19 04 34.2	+4.4
KNZ	**Kokohu**	**14.33**	**186**	P	**P**	**19 04 30.4**	**+0.5**
BKZ	**Black Stump Fm**	**14.62**	**190**	P	**P**	**19 04 32.5**	**-0.5**
OTVZ	**Oturere**	**14.76**	**192**	P	**P**	**19 04 33.0**	**-1.7**
NGZ	**Ngauruhoe**	**14.79**	**193**	P	**P**	**19 04 36.1**	**+1.2**
VRZ	**Vera Road**	**14.92**	**195**	P	**P**	**19 04 38.6**	**+2.5**
PXZ	**Pawanui**	**15.42**	**188**	P	**P**	**19 04 40.0**	**-1.3**
TSZ	**Takapari Road**	**15.58**	**191**	P	**P**	**19 04 42.0**	**-1.0**
BFZ	**Birch Farm**	**16.14**	**189**	P	**P**	**19 04 47.3**	**-1.5**
MRZ	**Mangatainoka R**	**16.23**	**191**	P	**P**	**19 04 47.7**	**-2.1**
QRZ	**Quartz Range**	**17.11**	**199**	P	**P**	**19 04 57.9**	**-0.7**
NNZ	**Nelson**	**17.24**	**196**	P	**P**	**19 05 00.2**	**+0.4**
THZ	**Tophouse**	**17.88**	**197**	P	**P**	**19 05 04.8**	**-1.0**
DSZ	**Denniston Nort**	**18.17**	**199**	P	**P**	**19 05 07.9**	**-0.5**
KHZ	**Kahutara**	**18.34**	**195**	P	**P**	**19 05 08.6**	**-1.3**
GVZ	**Greta Valley S**	**18.98**	**195**	P	**P**	**19 05 14.3**	**-1.5**
LTZ	**Lake Taylor**	**19.00**	**197**	P	**P**	**19 05 16.0**	**0.0**
OXZ	**Oxford**	**19.56**	**197**	P	**P**	**19 05 21.7**	**+0.6**
WVZ	**Waitaha Valley**	**19.70**	**200**	P	**P**	**19 05 22.4**	**0.0**
RPZ	**Rata Peaks**	**20.20**	**198**	P	**P**	**19 05 24.8**	**-2.0**
	18nm,0.9s,baz=38,slow=12,SNR=1.8						
RPZ	**Rata Peaks**	**20.20**	**198**	P	**P**	**19 05 26.9**	**0.0**
ARMA	**Armidale**	**25.47**	**251**	P	**P**	**19 06 18.0**	**+3.6**
CAN	**Canberra**	**28.48**	**241**	P	**P**	**19 06 41.0**	**+0.2**
CTAO	**Charters Tower**	**31.21**	**272**	P	**P**	**19 07 06.0**	**+1.4**
CTAO				IAmb	IAmb	19 07 07.0	
	comp=Z,6.5nm,0.7s						
STKA	**Stephens Creek**	**34.15**	**249**	P	**P**	**19 07 30.8**	**+1.4**
STKA	**Stephens Creek**	**34.15**	**249**	P	**P**	**19 07 30.4**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=90,slow=10,SNR=10						
	comp=Z,1.6nm,0.4s						
INKA	**Innaminka**	**34.96**	**256**	P	**P**	**19 07 37.8**	**+1.6**
BBOO	**Buckleboo**	**38.86**	**248**	P	**P**	**19 08 08.2**	**-0.1**
AS31	**Alice Springs**	**41.63**	**262**	P	**P**	**19 08 31.0**	**+0.4**
ASAR	**Alice Springs**	**41.63**	**262**	P	**P**	**19 08 30.5**	**-0.2**
ASAR	**Alice Springs**	**41.63**	**262**	P	**P**	**19 08 30.9**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=94,slow=7.1,SNR=60						
ASAR				PcP	**PcP**	**19 10 15.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=78,slow=5.6,SNR=1.4						
	comp=Z,1.5nm,0.3s						
WR8	**Warramunga Arr**	**41.93**	**267**	P	**P**	**19 08 32.9**	**-0.1**
WR8				IAmb	IAmb	19 09 10.6	
	comp=Z,10.0nm,1.2s						
WB0	**Warramunga Arr**	**42.08**	**267**	P	**P**	**19 08 34.1**	**-0.1**
WB0				IAmb	IAmb	19 08 35.5	
	comp=Z,5.2nm,0.8s						
WRA	**Warramunga Arr**	**42.08**	**267**		**P**	**19 08 34.0**	**-0.2**
WRA	**Warramunga Arr**	**42.08**	**267**	P	**P**	**19 08 34.1**	**-0.2**
	comp=Z,4.7nm,0.4s,baz=100,slow=6.8,SNR=43						
	comp=Z,4.7nm,0.4s						
MTN	**Manton Dam**	**47.25**	**275**	P	**P**	**19 09 12.3**	**-1.8**
MTN				IAmb	IAmb	19 09 28.5	
	comp=Z,24nm,1.4s						
KNRA	**Kununurra**	**48.41**	**271**	P	**P**	**19 09 23.1**	**+0.3**
KNRA				IAmb	IAmb	19 09 24.3	
	comp=Z,25nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.49**	**266**	P	**P**	**19 09 38.1**	**-0.1**
VNDA	**Vanda**	**53.51**	**185**	P	**P**	**19 09 59.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=359,slow=8.1,SNR=5.2						
	comp=Z,0.3nm,0.5s						
MORW	**Morawa**	**56.33**	**251**	P	**P**	**19 10 19.4**	**-0.2**
MORW				IAmb	IAmb	19 10 56.5	
	comp=Z,36nm,1.5s						
QSPA	**South Pole Qui**	**65.33**	**180**	P	**P**	**19 11 19.8**	**+1.3**
QSPA	**South Pole Qui**	**65.33**	**180**	P	**P**	**19 11 19.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=122,slow=0.1,SNR=9.4						
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**72.44**	**326**	P	**P**	**19 12 00.6**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=139,slow=7.8,SNR=4.8						
	comp=Z,1.3nm,0.8s						
NIKH	**Nikolski High**	**78.04**	**7**	P	**P**	**19 12 32.4**	**0.0**
PETK	**Petropavlovsk-**	**79.86**	**347**	P	**P**	**19 12 41.9**	**-0.3**
	comp=Z,3.5nm,1.1s,baz=119,slow=8.7,SNR=5.2						
	comp=Z,3.5nm,1.1s						
O02D	**Mt. Diablo Mer**	**83.89**	**41**	P	**P**	**19 13 04.4**	**+1.3**
O02D				IAmb	IAmb	19 13 06.3	
	comp=Z,6.4nm,1.1s						
PLK4	**Peulik 4**	**84.50**	**13**	P	**P**	**19 13 06.0**	**+0.3**
PLK4				IAmb	IAmb	19 13 06.8	
	comp=Z,12nm,1.1s						
IRM	**Iron Mountain**	**85.18**	**49**	P	**P**	**19 13 10.1**	**+0.5**
NVAR	**Mina Array Bea**	**85.56**	**44**	P	**P**	**19 13 10.9**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=229,slow=9.6,SNR=3.7						
	comp=Z,0.8nm,0.7s						
PINE	**Pine Mountain**	**87.23**	**39**	P	**P**	**19 13 18.8**	**-0.5**
PINE				IAmb	IAmb	19 13 21.6	
	comp=Z,9.8nm,1.1s						
TUC	**Tucson**	**87.26**	**53**	P	**P**	**19 13 20.1**	**+0.5**
TUC				IAmb	IAmb	19 13 21.7	
	comp=Z,3.8nm,1.1s						
WVOR	**Wild Horse Val**	**87.74**	**41**	P	**P**	**19 13 22.1**	**+0.5**
WVOR				IAmb	IAmb	19 13 23.5	
	comp=Z,6.7nm,1.2s						
CRAI	**Chiangrai**	**89.14**	**293**	P	**P**	**19 13 25.2**	**-3.3**
CRAI				IAmb	IAmb	19 13 31.3	
	comp=Z,3.2nm,1.4s						
G08A	**Pilot Rock**	**89.27**	**38**	P	**P**	**19 13 29.4**	**+0.7**
G08A				IAmb	IAmb	19 13 30.5	
	comp=Z,4.1nm,1.2s						
J18K	**Innoko River**	**89.88**	**10**	P	**P**	**19 13 30.6**	**-0.3**
J18K				IAmb	IAmb	19 13 32.4	
	comp=Z,3.3nm,1.0s						
SEY	**Seymchan**	**90.04**	**348**	P	**P**	**19 13 31.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=150,slow=9.1,SNR=4.7						
	comp=Z,0.6nm,0.5s						
TXAR	**Lajitas Array**	**91.12**	**58**	P	**P**	**19 13 37.9**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=224,slow=7.9,SNR=9.7						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**120.89**	**318**	PKP	**PKPdf**	**19 19 19.9**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=111,slow=2.3,SNR=12						
ARCES	**ARCESS Array B**	**132.66**	**348**	PKP	**PKPdf**	**19 19 42.1**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=96,slow=2.4,SNR=5.0						
FINES	**FINESS Array B**	**139.16**	**341**	PKhKP	PKPpre	19 19 45.3	
	comp=Z,1.4nm,0.8s,baz=92,slow=4.2,SNR=4.3						
NB2	**NORSAR Subarra**	**142.88**	**351**	PKP	**PKPdf**	**19 19 58.6**	**-3.4**
	comp=Z,4.4nm,1.0s,baz=33,slow=2.7						
NOA	**NORSAR Array B**	**142.88**	**351**	PKhKP	PKPpre	19 19 58.2	
	comp=Z,1.3nm,0.6s,baz=16,slow=4.8,SNR=4.1						
HFS	**Hagfors**	**143.32**	**348**	PKP	PKPab	19 20 00.2	-0.6
	comp=Z,5.2nm,0.4s,baz=64,slow=3.4,SNR=57						
AKASG	**Malin Array Be**	**145.53**	**326**	PKPbc	**PKPdf**	**19 20 06.5**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=46,slow=4.1,SNR=6.0						
MMAI	**Mount Meron Ar**	**147.79**	**293**	PKPbc	**PKiKP**	**19 20 15.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=63,slow=7.6,SNR=4.5						
BRTR	**Keskin Array B**	**147.86**	**306**	PKPbc	**PKPbc**	**19 20 14.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=127,slow=3.3,SNR=4.1						
EKA	**Eskdalemuir Ar**	**149.38**	**3**	PKPbc	**PKPbc**	**19 20 17.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=339,slow=2.8,SNR=4.5						

NOU ***19*** *19:04:55.6, 18°.91S×175°.98W, h449km, mb4.4/25, Tonga Islands*

NEIC ***19*** *19:05:17.8±2.3, 20°.4S±0°.1×177°.7W±0°.1, h547km±7km, mb4.4/99, Error ellipse: s-maj=22.8km s-min=16.9km az=143.0*

IDC ***19*** *19:05:17.6±2.5, 20°.13S×177°.82W, h541km±27km, mb3.7/18, mbtmp4.6/19, Error ellipse: s-maj=15.0km s-min=12.5km az=115.0*

BGR ***19*** *19:05:18.1, 20°.23S×177°.84W, h548km, Ms4.1*

ISC 19 19:05:17.5±0.4,**20°.33S**±0°.08×**177°.77W**±0°.07,**h550**km, **n182,** σ1§**26**/148,**mb4.4**/68,**12C-3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.72**	**302**	P	**P**	**19 06 47.6**	**+2.4**
FUTU	**Fugatoga**	**6.00**	**357**	P	**P**	**19 06 56.5**	**+0.2**
NIUE	**Niue**	**7.49**	**82**	P	**P**	**19 07 10.8**	**+0.5**
PINNC	**Pines Island,**	**13.95**	**258**		**P**	**19 08 16.7**	**+0.5**
PINNC	**Pines Island,**	**13.95**	**258**	P	**P**	**19 08 17.0**	**+0.8**
OUENC	**Ouen Island, N**	**14.48**	**259**	P	**P**	**19 08 22.1**	**+0.4**
DZM	**Mont Dzumac**	**14.82**	**260**		**P**	**19 08 25.4**	**+0.1**
DZM	**Mont Dzumac**	**14.82**	**260**	P	**P**	**19 08 24.6**	**-0.8**
	17nm,0.5s,baz=87,slow=20,SNR=32						
DZM				S	**S**	**19 11 01.6**	**+1.6**
	6.8nm,1.0s,baz=139,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**14.82**	**260**	P	**P**	**19 08 25.5**	**+0.1**
ONTNC	**Ouen Toro**	**14.83**	**260**	P	**P**	**19 08 24.8**	**-0.5**
OUZ	**Omahuta**	**16.67**	**205**	P	**P**	**19 08 45.4**	**+2.3**
KUZ	**Kuaotunu**	**17.32**	**198**	P	**P**	**19 08 51.4**	**+2.4**
MXZ	**Matakaoa Point**	**17.51**	**190**	P	**P**	**19 08 50.2**	**-0.5**
MXZ	**Matakaoa Point**	**17.51**	**190**	P	**P**	**19 08 50.3**	**-0.4**
TOZ	**Tahuroa Road**	**18.30**	**197**	P	**P**	**19 08 59.6**	**+1.7**
URZ	**Urewera**	**18.41**	**193**	P	**P**	**19 08 57.6**	**-1.4**
	30nm,0.3s,baz=291,slow=2.8,SNR=48						
URZ				S	**S**	**19 11 53.5**	**-5.6**
	11nm,0.8s,baz=342,slow=20,SNR=3.5						
URZ	**Urewera**	**18.41**	**193**	P	**P**	**19 08 57.5**	**-1.5**
RTZ	**Ruatahuna**	**18.78**	**193**	P	**P**	**19 09 01.1**	**-1.4**
HIZ	**Hauiti**	**19.21**	**198**	P	**P**	**19 09 08.3**	**+2.0**
HIZ	**Hauiti**	**19.21**	**198**	P	**P**	**19 09 09.1**	**+2.8**
BKZ	**Black Stump Fm**	**19.42**	**194**	P	**P**	**19 09 06.6**	**-1.6**
BKZ				IAmb	IAmb	19 09 10.7	
	comp=Z,9.6nm,0.6s						
BKZ	**Black Stump Fm**	**19.42**	**194**	P	**P**	**19 09 06.9**	**-1.3**
BFZ	**Birch Farm**	**20.92**	**193**	P	**P**	**19 09 20.7**	**-1.1**
BFZ	**Birch Farm**	**20.92**	**193**	P	**P**	**19 09 21.0**	**-0.8**
MRZ	**Mangatainoka R**	**21.05**	**194**	P	**P**	**19 09 21.0**	**-1.9**
MSWZ	**Moikau Station**	**21.84**	**194**	P	**P**	**19 09 28.6**	**-1.5**
TCW	**Tory Channel**	**21.89**	**196**	P	**P**	**19 09 30.2**	**-0.2**
BHW	**Baring Head**	**21.93**	**195**	P	**P**	**19 09 29.0**	**-1.8**
PLWZ	**Palliser**	**21.99**	**194**	P	**P**	**19 09 30.9**	**-0.5**
QRZ	**Quartz Range**	**22.04**	**200**	P	**P**	**19 09 32.6**	**+0.8**
QRZ	**Quartz Range**	**22.04**	**200**	P	**P**	**19 09 32.6**	**+0.8**
KHZ	**Kahutara**	**23.21**	**196**	P	**P**	**19 09 41.8**	**-0.4**
RPZ	**Rata Peaks**	**25.12**	**199**	P	**P**	**19 09 58.1**	**-1.1**
	comp=Z,9.1nm,0.5s,baz=45,slow=5.1,SNR=8.1						
RPZ	**Rata Peaks**	**25.12**	**199**	P	**P**	**19 10 01.2**	**+2.0**
ODZ	**Otahua Downs**	**26.45**	**199**	P	**P**	**19 10 11.5**	**+0.7**
ARMA	**Armidale**	**29.34**	**244**	P	**P**	**19 10 37.8**	**+1.4**
CTAO	**Charters Tower**	**33.72**	**264**		**P**	**19 11 14.2**	**+0.4**
CTAO	**Charters Tower**	**33.72**	**264**	P	**P**	**19 11 14.5**	**+0.7**
MTSU	**Mount Surprise**	**35.81**	**267**	P	**P**	**19 11 31.8**	**+0.5**
TOO	**Toolangi**	**36.17**	**234**	P	**P**	**19 11 34.9**	**+0.8**
TOO				IAmb	IAmb	19 12 09.3	
	comp=Z,12nm,1.3s						
STKA	**Stephens Creek**	**38.06**	**244**		**P**	**19 11 50.1**	**+0.6**
STKA	**Stephens Creek**	**38.06**	**244**	P	**P**	**19 11 50.3**	**+0.8**
	comp=Z,12nm,0.5s,baz=94,slow=10,SNR=52						
	comp=Z,12nm,0.5s						
STKA	**Stephens Creek**	**38.06**	**244**	P	**P**	**19 11 50.5**	**+1.0**
QIS	**Mount Isa**	**39.86**	**262**	P	**P**	**19 12 04.3**	**+0.1**
HTT	**Hallett**	**40.50**	**242**	P	**P**	**19 12 09.8**	**+0.6**
BBOO	**Buckleboo**	**42.82**	**243**	P	**P**	**19 12 27.9**	**+0.5**
WR8	**Warramunga Arr**	**44.69**	**262**	P	**P**	**19 12 41.8**	**-0.3**
WR8				IAmb	IAmb	19 12 43.2	
	comp=Z,16nm,1.1s						
AS01	**Alice Springs**	**44.72**	**257**	P	**P**	**19 12 42.7**	**+0.3**
AS31	**Alice Springs**	**44.77**	**257**	P	**P**	**19 12 43.0**	**+0.2**
ASAR	**Alice Springs**	**44.77**	**257**		**P**	**19 12 42.6**	**-0.2**
ASAR	**Alice Springs**	**44.77**	**257**	P	**P**	**19 12 43.0**	**+0.3**
	comp=Z,20nm,0.7s,baz=93,slow=7.5,SNR=252						
ASAR				ScP	**ScP**	**19 17 15.6**	**+2.4**
	comp=Z,1.0nm,1.0

IL31		**88.10**	**13**	IAmb	IAmb	19 17 09.3	
	comp=Z,11nm,1.5s						
ILAR	**Eielson Array**	**88.10**	**13**	P	**P**	**19 17 08.3**	**-1.0**
ILAR	**Eielson Array**	**88.10**	**13**	P	**P**	**19 17 08.4**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=217,slow=5.3,SNR=15						
	comp=Z,3.6nm,0.9s						
M29M	**Somme Creek**	**88.17**	**17**	IAmb	IAmb	19 17 11.1	
	comp=Z,5.8nm,0.7s						
F19K	**Shaleruckik Mo**	**88.18**	**8**	IAmb	IAmb	19 17 10.1	
	comp=Z,3.7nm,0.8s						
J25K	**Salcha River,**	**88.28**	**13**	IAmb	IAmb	19 17 10.3	
	comp=Z,3.3nm,0.7s						
LOHW	**Long Hollow**	**88.44**	**42**	IAmb	IAmb	19 17 13.0	
	comp=Z,2.6nm,0.7s						
G21K	**Allakaket**	**88.48**	**9**	IAmb	IAmb	19 17 11.8	
	comp=Z,5.3nm,0.8s						
K27K	**Chicken**	**88.54**	**15**	IAmb	IAmb	19 17 12.8	
	comp=Z,3.8nm,0.8s						
J26L	**Joseph Creek**	**88.59**	**14**	IAmb	IAmb	19 17 13.0	
	comp=Z,8.1nm,0.9s						
F20K	**Avaraart Lake**	**88.66**	**8**	IAmb	IAmb	19 17 12.7	
	comp=Z,3.9nm,0.9s						
PD31	**Pinedale Array**	**88.69**	**43**	IAmb	IAmb	19 17 14.1	
	comp=Z,2.6nm,0.8s						
PDAR	**Pinedale Array**	**88.69**	**43**	P	**P**	**19 17 13.1**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=207,slow=3.2,SNR=15						
	comp=Z,1.6nm,0.6s						
YHL	**Hebgen Lake**	**88.71**	**41**	P	**P**	**19 17 15.5**	**+2.5**
YHL				IAmb	IAmb	19 17 15.6	
	comp=Z,5.0nm,0.9s						
M30M	**Minto, Yukon**	**88.74**	**18**	IAmb	IAmb	19 17 13.4	
	comp=Z,6.1nm,0.8s						
E19K	**Redstone River**	**88.84**	**8**	IAmb	IAmb	19 17 13.5	
	comp=Z,6.8nm,0.8s						
DAWY	**Dawson**	**89.23**	**16**	IAmb	IAmb	19 17 15.7	
	comp=Z,5.1nm,0.8s						
K29M	**Barlow Dome**	**89.55**	**17**	IAmb	IAmb	19 17 17.5	
	comp=Z,5.3nm,0.8s						
COLD	**Coldfoot**	**89.67**	**10**	IAmb	IAmb	19 17 18.2	
	comp=Z,5.5nm,1.0s						
D19K	**Kuna River**	**89.72**	**7**	IAmb	IAmb	19 17 17.5	
	comp=Z,6.8nm,0.9s						
E22K	**Anaktuvuk Pass**	**90.23**	**9**	IAmb	IAmb	19 17 20.0	
	comp=Z,5.5nm,1.1s						
CMAR	**Chiang Mai Arr**	**90.26**	**289**	P	**P**	**19 17 21.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=110,slow=2.9,SNR=8.6						
	comp=Z,0.8nm,0.5s						
I29M	**Ogilvie Camp,**	**90.56**	**15**	IAmb	IAmb	19 17 20.9	
	comp=Z,2.7nm,0.8s						
G26K	**Porcupine Rive**	**90.63**	**13**	IAmb	IAmb	19 17 23.1	
	comp=Z,3.9nm,0.9s						
HERN	**Volcan Telica**	**95.16**	**79**	IAmb	IAmb	19 18 20.9	
	comp=Z,392nm,1.0s						
ZALV	**Zalesovo Beam**	**110.49**	**321**	PKiKP	**PKiKP**	**19 22 45.8**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=63,slow=0.3,SNR=2.5						
MKAR	**Makanchi Array**	**111.23**	**313**	PKiKP	**PKiKP**	**19 22 47.6**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=108,slow=3.2,SNR=8.5						
BVAR	**Borovoye Array**	**119.08**	**320**	PKP	**PKiKP**	**19 23 02.9**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=122,slow=2.4,SNR=16						
ARCES	**ARCESS Array B**	**128.79**	**350**	PKP	**PKiKP**	**19 23 21.7**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=23,slow=1.6,SNR=5.3						
FINES	**FINESS Array B**	**135.67**	**344**	PKP	**PKPdf**	**19 23 32.9**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=106,slow=4.5,SNR=6.8						
HFS	**Hagfors**	**139.40**	**351**	PKhKP	PKPpre	19 23 34.5	
	comp=Z,1.6nm,0.5s,baz=56,slow=3.7,SNR=10.0						
AKASG	**Malin Array Be**	**142.97**	**331**	PKhKP	PKPpre	19 23 45.3	
	comp=Z,5.6nm,0.5s,baz=44,slow=4.3,SNR=54						
ARPR	**Arapgir-MALATY**	**143.79**	**309**		**PKPdf**	**19 23 50.3**	**-0.4**
EKA	**Eskdalemuir Ar**	**144.81**	**5**	PKP	**PKPab**	**19 23 51.5**	**-1.5**
	comp=Z,1.7nm,0.5s,baz=321,slow=1.2,SNR=3.4						
BR131	**Keskin Array S**	**146.88**	**313**		**PKPbc**	**19 23 57.4**	**-1.4**
BRTR	**Keskin Array B**	**146.88**	**313**		**PKPbc**	**19 23 57.0**	**-1.8**
BRTR	**Keskin Array B**	**146.88**	**313**	PKPbc	**PKPbc**	**19 23 58.3**	**-0.5**
	comp=Z,5.5nm,0.7s,baz=144,slow=5.6,SNR=12						
BUR08	**Bucovina Ar. S**	**147.00**	**331**		**PKiKP**	**19 23 59.0**	**-1.7**
BURAR	**Bucovina Array**	**147.02**	**331**		**PKPbc**	**19 23 57.1**	**-1.7**
ASSE	**Asse, Remlinge**	**147.58**	**350**	*e*PKPbc	**PKiKP**	**19 23 59.7**	**-1.8**
	baz=14,slow=2.4						
OSTC	**Ostas**	**147.87**	**343**↑	*e*PKP	**PKiKP**	**19 24 01.8**	**-0.5**
CHVC	**Chvalec**	**147.88**	**343**↑	*e*PKP	**PKiKP**	**19 24 01.8**	**-0.5**
MMAI	**Mount Meron Ar**	**147.91**	**300**	PKPbc	**PKiKP**	**19 24 02.3**	**-0.7**
	comp=Z,2.8nm,0.5s,baz=67,slow=4.6,SNR=10						
CLL	**Collm**	**147.94**	**347**	*e*PKPbc	**PKiKP**	**19 24 00.9**	**-1.4**
	baz=14,slow=2.4						
UPC	**Upice**	**147.97**	**343**↑	*e*PKP	**PKiKP**	**19 24 01.7**	**-0.7**
DPC	**Dobruska-Polom**	**148.03**	**343**↑	*e*PKP	**PKiKP**	**19 24 01.8**	**-0.8**
DPC				*e*PKPAB	**PKPab**	**19 24 06.8**	**+0.7**
KRLC	**Kraliky**	**148.14**	**342**↑	*e*PKP	**PKiKP**	**19 24 01.8**	**-1.1**
KRLC				*e*PKPAB	**PKPab**	**19 24 07.1**	**+0.5**
BRG	**Berggiesshubel**	**148.15**	**346**	*e*PKPbc	**PKiKP**	**19 24 02.6**	**-0.2**
	baz=14,slow=2.4						
NEUB	**Neuenburg**	**148.28**	**349**	*e*PKPbc	**PKiKP**	**19 24 01.9**	**-1.1**
	baz=14,slow=2.4						
PVCC	**Panska Ves**	**148.32**	**345**↑	*e*PKP	**PKiKP**	**19 24 02.5**	**-0.6**
PRA	**Prague**	**148.78**	**345**↑	*e*PKP	**PKiKP**	**19 24 03.5**	**-0.6**
KASTN	**Kahler Asten**	**148.80**	**352**	*e*PKPbc	**PKiKP**	**19 24 03.2**	**-0.9**
	baz=14,slow=2.4						
PRU	**Pruhonice**	**148.82**	**345**↑	*e*PKP	**PKiKP**	**19 24 03.5**	**-0.7**
MOX	**Moxa**	**148.85**	**348**	*e*PKPbc	**PKiKP**	**19 24 03.5**	**-0.8**
	baz=14,slow=2.4						
MOX				*e*L	L	20 19 12.2	
	comp=Z,24nm,19.3s						
PLN	**Plauen**	**148.90**	**348**	*e*PKPbc	**PKiKP**	**19 24 03.6**	**-0.7**
	baz=14,slow=2.4						
TANN	**Tannenbergstha**	**148.90**	**347**	*e*PKPbc	**PKiKP**	**19 24 03.6**	**-0.9**
	baz=14,slow=2.4						
TREC	**Trest**	**149.21**	**343**↑	*e*PKP	**PKiKP**	**19 24 04.4**	**-0.7**
MANZ	**Manzenberg**	**149.38**	**347**	*e*PKPbc	**PKiKP**	**19 24 04.8**	**-0.6**
	baz=14,slow=2.4						
ZVC	**Zvikov**	**149.42**	**345**↑	*e*PKP	**PKiKP**	**19 24 04.9**	**-0.6**
ZVC				*e*PKPAB	**PKPab**	**19 24 12.2**	**+0.4**
ROTZ	**Rotzenmuhle**	**149.57**	**347**	*e*PKPbc	**PKiKP**	**19 24 05.3**	**-0.4**
	baz=14,slow=2.4						
BTNL	**Ternell**	**149.65**	**355**	*d*PKP	**PKiKP**	**19 24 05.2**	**-0.7**
TNS	**Taunus Mts**	**149.76**	**352**	*e*PKPbc	**PKiKP**	**19 24 05.6**	**-0.6**
	baz=14,slow=2.4						
GRF	**Grafenberg Arr**	**149.83**	**348**	*e*PKPbc	**PKiKP**	**19 24 05.5**	**-0.8**
	baz=14,slow=2.4						
GRF				*e*L	L	20 15 36.9	
	comp=Z,32nm,18.1s						
KHC	**Kasperske Hory**	**149.86**	**345**↑	*e*PKP	**PKiKP**	**19 24 06.1**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**19 24 14.1**	**+0.4**
CKRC	**Cesky Krumlov**	**149.96**	**344**↑	*e*PKP	**PKiKP**	**19 24 06.4**	**-0.2**
BMRD	**Maredsous**	**150.02**	**357**	*d*PKP	**PKiKP**	**19 24 06.0**	**-0.6**
GEC2	**GERESS Array S**	**150.09**	**345**	*e*PKPbc	**PKiKP**	**19 24 06.1**	**-0.9**
	baz=14,slow=2.4						
GERES	**GERESS Array B**	**150.09**	**345**		**PKiKP**	**19 24 05.7**	**-1.3**
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc	**PKiKP**	**19 24 05.9**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=33,slow=3.2,SNR=15						
CONA	**Conrad Observa**	**150.34**	**341**	*i* PKP	**PKiKP**	**19 24 06.8**	**-0.7**
	comp=Z,3.8nm,0.6s						
RONA	**Rosalia, Austr**	**150.41**	**341**	*i* PKP	**PKiKP**	**19 24 07.1**	**-0.5**
	comp=Z,6.4nm,0.5s						
WLF	**Walferdange**	**150.56**	**355**	*d*PKP	**PKiKP**	**19 24 07.9**	**+0.1**
LESA	**Schwarzleotal**	**151.67**	**345**	*e*PKP	**PKiKP**	**19 24 09.5**	**-0.8**
	comp=Z,1.0nm,0.5s						
SOKA	**Soboth**	**151.71**	**341**	*i* PKP	**PKiKP**	**19 24 09.3**	**-1.1**
	comp=Z,3.2nm,1.4s						
KBA	**Koelnbreinsper**	**151.82**	**344**	*e*PKP	**PKiKP**	**19 24 10.3**	**-0.5**
	comp=Z,1.5nm,0.4s						
OBKA	**Obir**	**152.00**	**342**	*i* PKP	**PKiKP**	**19 24 11.3**	**+0.3**
	comp=Z,1.7nm,0.9s						
MYKA	**Terra Mystica**	**152.15**	**343**	*e*PKP	**PKiKP**	**19 24 10.2**	**-1.1**
	comp=Z,1.7nm,0.4s						
SQTA	**Sankt Quirin**	**152.19**	**347**	*e*PKP	**PKiKP**	**19 24 10.8**	**-0.7**
	comp=Z,1.7nm,0.5s						
ABTA	**Abfaltersbach**	**152.34**	**345**	*i* PKP	**PKiKP**	**19 24 10.8**	**-0.9**
	comp=Z,3.0nm,0.6s						
FETA	**Feichten**	**152.49**	**347**	*i* PKP	**PKPdf**	**19 24 04.8**	**+0.3**
	comp=Z,2.2nm,0.8s						

IDC ***19*** *19:17:43.1±2.1,30°92S×177°44W,h0km,mb3.7/4, mbtmp3.7/4,MS2.8/1,Error ellipse: s-maj=56.6km s-min=42.2km az=33.0,Kermadec Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.89**	**298**	LR	LR	19 26 28.6	
	comp=Z,34nm,20.4s,baz=188,slow=31						
STKA	**Stephens Creek**	**34.84**	**258**	P	P	19 24 36.0	0.0
	2.4nm,0.8s,baz=110,slow=9.1,SNR=2.7						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**43.57**	**267**	P	P	19 25 48.4	-0.7
	0.2nm,0.5s,baz=98,slow=7.6,SNR=5.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.60**	**272**	P	P	19 25 57.7	+0.4
	0.7nm,0.6s,baz=114,slow=7.8,SNR=1.1						
	0.7nm,0.6s						
QSPA	**South Pole Qui**	**59.19**	**180**	P	P	19 27 45.6	-0.1
	1.3nm,0.9s,baz=50,slow=1.2,SNR=2.2						
	1.3nm,0.9s						
FINES	**FINESS Array B**	**145.80**	**340**	PKPbc	PKPdf	19 37 22.7	-0.3
	2.9nm,1.0s,baz=63,slow=5.7,SNR=6.1						

SJA ***19*** *19:44:07.4±0.7,22°.25S×68°.83W,h124km±3km,ML3.4, MW3.5*
GUC ***19*** *19:44:09.6±0.8,22°.25S×68°.80W,h104km±6km,ML3.6*
ISC 19 19:44:08.8±1.5**,22°.25S**±0°.03×**68°.84W**±0°.07**, h115**km±10**km,n22,**σ0°.72/33,**5C,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.58**	**320**↑	*e*P	**Pn**	**19 44 26.9**	**-0.1**
PB09				*e*S	**Sn**	**19 44 40.3**	**-0.3**
PB09				IAML		19 44 43.0	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**0.58**	**320**	*i* P	**Pn**	**19 44 26.9**	**-0.1**
PB09				*i* S	**Sn**	**19 44 41.7**	**+1.0**
PB09				IAML		19 44 42.6	
	comp=Z,1μm,0.4s						
PB06	**IPOC Station P**	**0.81**	**236**↑	*e*P	**Pn**	**19 44 28.7**	**-0.2**
PB06				*e*S	**Sn**	**19 44 43.4**	**-0.5**
PB06				IAML		19 44 44.1	
	comp=N,2μm,0.3s						
PB03	**IPOC Station P**	**0.87**	**283**↑	*i* P	**Pn**	**19 44 29.3**	**-0.1**
PB03				*i* S	**Sn**	**19 44 44.3**	**-0.5**
PB03				IAML		19 44 46.2	
	comp=E,2μm,0.2s						
AF01	**San Pedro de A**	**0.93**	**139**	IAML		19 44 46.3	
	comp=N,3μm,0.3s						
AF01	**San Pedro de A**	**0.93**	**139**	*i* P	**Pn**	**19 44 29.9**	**-0.2**
AF01				*i* S	**Sn**	**19 44 47.1**	**+1.0**
AF01				IAML		19 44 58.1	
	comp=Z,1μm,0.5s						
PB01	**IPOC Station P**	**1.34**	**333**	*e*S	**Sn**	**19 44 52.3**	**-1.2**
PB01				IAML		19 44 54.1	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.34**	**333**	*i* P	**Pn**	**19 44 34.5**	**+0.3**
PB01				*i* S	**Sn**	**19 44 53.6**	**+0.1**
PB01				IAML		19 44 55.0	
	comp=Z,791nm,0.2s						
PB02	**IPOC Station P**	**1.35**	**313**↑	*e*P	**Pn**	**19 44 34.5**	**+0.2**
PB02				*e*S	**Sn**	**19 44 53.5**	**-0.1**
PB02				IAML		19 44 55.1	
	comp=N,1μm,0.4s						
PB05	**IPOC Station P**	**1.39**	**244**↑	*e*P	**Pn**	**19 44 34.8**	**-0.1**
PB05				*e*S	**Sn**	**19 44 54.1**	**-0.5**
PATCX	**Punta Patache**	**1.87**	**319**	*e*P	**Pn**	**19 44 40.3**	**-0.3**
PATCX				*e*S	**Sn**	**19 45 05.1**	**+0.4**
PATCX				IAML		19 45 10.1	
	comp=N,595nm,0.3s						
PB10	**IPOC Station P**	**2.02**	**231**	*i* P	**Pn**	**19 44 44.5**	**+2.2**
PB10				*i* S	**Sn**	**19 45 08.6**	**+0.7**
PB10				IAML		19 45 15.5	
	comp=Z,105nm,0.4s						
PB08	**IPOC Station P**	**2.12**	**352**	IAML		19 45 15.3	
	comp=N,255nm,0.3s						
PB08	**IPOC Station P**	**2.12**	**352**	*i* P	**Pn**	**19 44 44.9**	**+1.0**
PB08				*i* S	**Sn**	**19 45 11.0**	**+0.3**
PB08				IAML		19 45 14.9	
	comp=Z,105nm,0.2s						
HMBC	**Humberstone**	**2.19**	**333**	IAML		19 45 15.7	
	comp=E,623nm,0.2s						
HMBC	**Humberstone**	**2.19**	**333**	*i* P	**Pn**	**19 44 44.0**	**-0.6**
HMBC				*i* S	**Sn**	**19 45 11.9**	**-0.1**
HMBC				IAML		19 45 18.1	
	comp=Z,409nm,0.3s						
GO01	**Chusmiza**	**2.59**	**353**	*i* P	**Pn**	**19 44 50.4**	**+0.3**
GO01				IAML		19 45 25.5	
	comp=Z,102nm,0.6s						
PB11	**IPOC Station P**	**2.59**	**343**	*i* P	**Pn**	**19 44 49.6**	**-0.2**
PB11				*i* S	**Sn**	**19 45 21.1**	**-0.1**
PB11				IAML		19 45 27.6	
	comp=Z,135nm,0.4s						
PB14	**IPOC Station P**	**2.77**	**211**	*i* P	**Pn**	**19 44 53.1**	**+0.9**
PB14				*i* S	**Sn**	**19 45 25.4**	**-0.2**
PB14				IAML		19 45 36.7	
	comp=Z,72nm,0.3s						
GO02	**Mina Guanaco**	**2.98**	**193**	*i* P	**Pn**	**19 44 55.1**	**+0.1**
GO02				IAML		19 45 36.5	
	comp=Z,100nm,0.1s						
AC01	**Pan de Azucar**	**4.20**	**202**	*i* P	**Pn**	**19 45 09.3**	**-1.7**
AC01				IAML		19 46 13.4	
	comp=Z,24nm,0.6s						
AC02	**Maricunga**	**4.58**	**183**	*i* P	**Pn**	**19 45 16.0**	**-0.4**
AC02				IAML		19 46 13.8	
	comp=Z,14nm,0.7s						

IDC ***19*** *19:51:21.9±1.6,40°.88N×112°.79W,h0km,mbtmp2.4/1, ML3.6/1,Error ellipse: s-maj=32.5km s-min=5.4km az=160.0*
NEIC ***19*** *19:51:22.8±1.8,41°.14N±0°.04×112°.82W±0°.03,h0km±1km, ML1.9/30,Error ellipse: s-maj=8.2km s-min=2.4km az=29.0*
ISC 19 19:51:22.0±1.0**,41°.06N**±0°.04×**112°.80W**±0°.03**,h0km,n20,** σ1°31/20**,Utah**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.22**	**233**		**Pg**	**19 51 28.4**	**+2.2**
BGU				IAML		19 51 37.3	
	comp=E,159nm,0.7s						
HVU	**Hansel Valley**	**0.72**	**1**		**Pg**	**19 51 36.1**	**+0.2**
HVU				IAML		19 51 49.7	
	comp=E,68nm,0.4s						
DUG	**Dugway, Tooele**	**0.86**	**181**		**Pn**	**19 51 42.0**	**+0.5**
DUG				IAML		19 52 02.8	
	comp=E,36nm,0.5s						
CTU	**Camp Tracy**	**0.87**	**114**		**Pn**	**19 51 42.5**	**+0.8**
CTU				IAML		19 51 59.9	
	comp=E,41nm,0.4s						
CTU				IAML		19 52 04.0	
	comp=N,37nm,0.5s						
HWUT	**Hardware Ranch**	**1.08**	**59**		**Pb**	**19 51 44.7**	**+1.0**
HWUT				IAML		19 52 08.5	
	comp=N,24nm,0.5s						
BSUT	**Blindstream Ca**	**1.63**	**108**		**Pg**	**19 51 54.5**	**+1.2**
ELK	**Elko**	**1.88**	**261**		**Pn**	**19 51 56.4**	**+0.8**
ELK	**Elko**	**1.88**	**261**	Pg	**Pb**	**19 51 56.6**	**-0.6**
	comp=N,2.3nm,0.3s,baz=81,slow=11,SNR=36						
ELK				Lg	Lg	19 52 21.4	
	comp=N,3.0nm,0.3s,baz=332,slow=16,SNR=10						
AHID	**Auburn Hatcher**	**2.13**	**36**		**Pn**	**19 51 59.0**	**0.0**
AHID				IAML		19 52 34.4	
	comp=N,9.4nm,0.4s						
TMUT	**Trail Mountain**	**2.14**	**145**		**Pn**	**19 52 00.1**	**+0.8**
TMUT				IAML		19 52 43.2	
	comp=N,7.7nm,0.5s						
SPR3	**Spring Creek 3**	**2.37**	**210**		**Pb**	**19 52 05.5**	**-0.2**
SPR3				IAML		19 52 54.4	
	comp=N,4.9nm,0.7s						
SPR3				IAML		19 52 54.5	
	comp=E,5.5nm,0.5s						
SRU	**San Rafael Swe**	**2.61**	**137**		**Pb**	**19 52 08.3**	**-1.5**
SRU				IAML		19 52 41.7	
	comp=E,3.8nm,3.2s						
SRU				IAML		19 53 02.3	
	comp=N,3.4nm,0.5s						
PSUT	**Pine Spring**	**2.65**	**198**		**Pb**	**19 52 08.2**	**-2.2**
PSUT				IAML		19 52 50.6	
	comp=N,3.9nm,3.6s						
PSUT				IAML		19 52 58.0	
	comp=E,3.7nm,1.3s						
HLID	**Hailey**	**2.78**	**335**		**Pn**	**19 52 08.8**	**+0.9**
HLID				IAML		19 52 26.5	
	comp=E,3.4nm,3.6s						
PD31	**Pinedale Array**	**2.96**	**54**		**Pn**	**19 52 12.3**	**+1.8**
PDAR	**Pinedale Array**	**2.96**	**54**		**Pn**	**19 52 11.1**	**+0.6**
PDAR	**Pinedale Array**	**2.96**	**54**	Pn	**Pb**	**19 52 14.0**	**-1.8**
	comp=E,0.8nm,0.3s,baz=223,slow=11,SNR=6.7						
PDAR				Pg	**Pg**	**19 52 18.0**	**-0.8**
	comp=E,1.2nm,0.3s,baz=223,slow=14,SNR=15						
PDAR				Lg	Lg	19 52 58.2	
	comp=E,1.1nm,0.3s,baz=225,slow=21,SNR=8.1						
	comp=E,0.8nm,0.3s						
R11B	**Troy Canyon, C**	**3.45**	**219**		**Pg**	**19 52 27.8**	**-0.4**
R11B				IAML		19 53 20.9	
	comp=N,2.6nm,0.6s						
NVAR	**Mina Array Bea**	**4.99**	**240**	Pg	**Pb**	**19 52 48.3**	**-2.0**
	comp=N,0.1nm,0.3s,baz=51,slow=16,SNR=1.6						
I56US	**NEWPORT INFRAS**	**7.84**	**338**	I	I	20 35 50.0	
	comp=N,0.1nm,0.9s,baz=157,slow=316,SNR=5.4						

NEIC ***19*** *20:05:22.5±2.0,1°.66N±0°.10×126°.43E±0°.08,h45km±8km, mb4.5/28,Error ellipse: s-maj=15.5km s-min=9.4km az=210.0*
DJA ***19*** *20:05:22.0±0.2,2°N±2°×12°6E±°,h10km,M4.5/17, mb4.8/12,mB5.0/4,MLv4.5/17,Mw(mB)4.3/4*
IDC ***19*** *20:05:24.1±2.4,1°.70N×126°.41E,h73km±21km,mb3.8/20, mbtmp4.1/23,MS3.1/10,Error ellipse: s-maj=23.3km s-min=8.9km az=74.0*
ISC 19 20:05:21.8±0.4**,1°.73N**±0°.05×**126°.43E**±0°.06**,h47**km**,n94,** σ1°58/91**,mb4.3/33,MS3.0/8,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.34**	**135**		**Pn**	**20 05 44.7**	**+0.6**
SGSI	**Sangihe**	**2.14**	**335**	P	**Pn**	**20 05 57.1**	**+2.0**
SGSI				S	**Sn**	**20 06 23.9**	**+3.4**
KMSI	**Cibinong**	**2.70**	**245**	P	**Pn**	**20 06 04.5**	**+1.7**
KMSI				S	**Sn**	**20 06 37.0**	**+2.7**
SANI	**Sanana**	**3.78**	**187**	P	**Pn**	**20 06 17.6**	**0.0**
LUWI	**Luwuk**	**4.57**	**233**		**Pn**	**20 06 28.5**	**-0.1**
LUWI	**Luwuk**	**4.57**	**233**	P	**Pn**	**20 06 31.6**	**+3.1**
MRSI	**Marisa**	**4.65**	**255**	P	**Pn**	**20 06 32.2**	**+2.6**
NLAI	**Namlea**	**4.98**	**172**	P	**Pn**	**20 06 35.4**	**+1.3**
APSI	**Ampana**	**5.45**	**241**	P	**Pn**	**20 06 42.9**	**+2.3**
	3μm270nm,1.3s						
MSAI	**Masohi**	**5.63**	**154**	P	**Pn**	**20 06 47.4**	**+4.4**
	0.3nm77nm,0.8s						
AAI	**Ambon**	**5.66**	**162**	P	**Pn**	**20 06 46.0**	**+2.5**
	0.4nm92nm,1.1s						
TOLI2	**Tolitoli**	**5.68**	**264**		**Pn**	**20 06 44.0**	**+0.3**
BBSI	**Bau Bau**	**8.14**	**208**	P	**Pn**	**20 07 19.8**	**+2.3**
	1μm36nm,0.7s						
MYLDM	**Lahad Datu**	**8.62**	**294**		**Pn**	**20 07 25.8**	**+1.7**
SPSI	**Sidrap Palu**	**8.73**	**230**	P	**Pn**	**20 07 28.0**	**+2.4**
BNSI	**Bone**	**8.77**	**226**	P	**Pn**	**20 07 27.4**	**+1.2**
	26nm,0.7s						
BKSI	**Bulukumba**	**9.42**	**222**	P	**Pn**	**20 07 36.9**	**+1.9**
	20nm,0.4s						
KAPI	**Kappang**	**9.45**	**225**	P	**Pn**	**20 07 37.3**	**+1.9**
	9.1nm,0.4s,baz=52,slow=2.2,SNR=5.5						
KAPI				LR	LR	20 10 54.0	
	comp=Z,46nm,20.4s,baz=112,slow=35						
BSSI	**Bau Bau, Buton**	**9.81**	**217**	P	**Pn**	**20 07 42.7**	**+2.3**
KKM	**Kota Kinabalu**	**11.05**	**293**	Pn	**Pn**	**20 07 58.2**	**+0.7**
EDFI	**Ende, Flores**	**11.43**	**204**	P	**Pn**	**20 08 06.5**	**+3.9**
SOEI	**Soe**	**11.61**	**191**	P	Pn	20 08 13.3	+8.2
BATI	**Baumata**	**12.17**	**193**	P	Pn	20 08 17.6	+4.9
	7.0nm,0.5s,baz=96,slow=22,SNR=1.7						
BATI				LR	LR	20 14 25.3	
	comp=Z,145nm,18.2s,baz=1.0,slow=45						
SBUM	**Sibu**	**14.21**	**273**		**P**	**20 08 45.5**	**-1.3**
JAY	**Jayapura**	**14.88**	**106**	P	**Pn**	**20 08 52.6**	**+3.2**
	5.4nm,0.5s,baz=232,slow=6.2,SNR=8.6						
MTN	**Manton Dam**	**15.21**	**162**	Pn	**Pn**	**20 08 51.9**	**-1.9**
MTN				IAmb	IAmb	20 09 17.5	
	comp=Z,25nm,1.0s						
KDU	**Kakadu**	**15.53**	**157**	P	**P**	**20 09 01.4**	**0.0**
KSM	**Kuching**	**16.11**	**269**	P	**P**	**20 09 08.7**	**+0.7**
KSM				IAmb	IAmb	20 09 12.5	
	comp=Z,60nm,1.4s						
KNRA	**Kununurra**	**17.45**	**172**		**Pn**	**20 09 21.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.72**	**182**	P	**P**	**20 09 45.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**19.72**	**182**	P	**P**	**20 09 46.5**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=7.6,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**19.72**	**182**	P	**P**	**20 09 46.5**	**-1.0**
GUMO	**Guam**	**21.72**	**56**	LR	LR	20 18 30.3	
	comp=Z,26nm,18.2s,baz=251,slow=36						
WB0	**Warramunga Arr**	**22.75**	**160**	P	**P**	**20 10 19.5**	**-0.7**
WB0				IAmb	IAmb	20 10 21.5	
	comp=Z,18nm,0.8s						
COEN	**Coen**	**22.77**	**134**	P	**P**	**20 10 19.2**

ABKAR	**Akbulak array**	**73.50**	**321**	P	**P**	**20 16 48.6**	**-1.0**
VNDA	**Vanda**	**81.49**	**173**	P	**P**	**20 17 33.9**	**+0.2**
VNDA	**Vanda**	**81.49**	**173**	P	**P**	**20 17 33.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=320,slow=7.4,SNR=21						
	comp=Z,1.3nm,0.5s						
L18K	**Granite Mounta**	**82.37**	**27**	P	**P**	**20 17 41.2**	**+2.6**
L18K				IAmb	IAmb	20 17 41.9	
	comp=Z,3.7nm,0.8s						
J18K	**Innoko River**	**82.60**	**26**		**P**	**20 17 41.4**	**+1.5**
J18K				IAmb	IAmb	20 17 42.5	
	comp=Z,2.9nm,0.6s						
G19K	**Purcell Mounta**	**82.97**	**23**		**P**	**20 17 43.6**	**+2.0**
H19K	**Roundabout Mou**	**83.11**	**24**		**P**	**20 17 44.4**	**+2.0**
J19K	**Poorman**	**83.17**	**26**		**P**	**20 17 44.2**	**+1.4**
J19K				IAmb	IAmb	20 17 45.8	
	comp=Z,4.6nm,0.9s						
N19K	**Bonanza Creek**	**83.17**	**29**	IAmb	IAmb	20 17 46.5	
	comp=Z,5.8nm,0.8s						
E19K	**Redstone River**	**83.19**	**22**		**P**	**20 17 44.3**	**+1.5**
L19K	**White Mountain**	**83.21**	**28**		**P**	**20 17 44.6**	**+1.6**
L19K				IAmb	IAmb	20 17 46.1	
	comp=Z,4.2nm,0.9s						
D20K	**Etivluk River**	**83.67**	**21**	IAmb	IAmb	20 17 48.1	
	comp=Z,4.5nm,0.8s						
GEVA	**Gevas**	**83.72**	**308**		**P**	**20 17 46.1**	**-0.3**
GEVA				IAmb	IAmb	20 17 47.9	
	comp=Z,5.6nm,0.8s						
KDAK	**Kodiak Island**	**83.73**	**32**	LR	LR	20 48 55.2	
	comp=Z,26nm,20.7s,baz=235,slow=31						
M20K	**Styx River**	**83.97**	**28**	IAmb	IAmb	20 17 49.9	
	comp=Z,4.8nm,1.0s						
GURO	**Guroymak-BITLI**	**84.54**	**308**	P	**P**	**20 17 51.1**	**+0.7**
ILAR	**Eielson Array**	**87.03**	**25**	P	**P**	**20 18 01.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=259,slow=5.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						
MMAI	**Mount Meron Ar**	**89.93**	**303**	P	**P**	**20 18 16.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=74,slow=11,SNR=1.6						
	comp=Z,0.3nm,0.3s						
BRTR	**Keskin Array B**	**91.06**	**310**	P	**P**	**20 18 20.8**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=140,slow=9.5,SNR=1.8						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**92.21**	**340**	P	**P**	**20 18 24.8**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=74,slow=10,SNR=3.8						
	comp=Z,0.8nm,0.6s						
AKASG	**Malin Array Be**	**93.24**	**321**	P	**P**	**20 18 29.5**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=64,slow=2.2,SNR=1.1						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**93.44**	**332**	P	**P**	**20 18 30.6**	**-1.5**
	comp=Z,4.8nm,1.2s,baz=67,slow=5.0,SNR=5.3						
	comp=Z,4.8nm,1.2s						
MLR	**Muntele Rosu**	**96.12**	**316**	LR	LR	21 09 10.3	
	comp=Z,16nm,19.5s,baz=128,slow=40						
TORD	**Torodi Ar. Bea**	**123.23**	**287**	PKP	**PKPdf**	**20 24 14.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=89,slow=1.6,SNR=4.5						

*SNET **19** 20:24:26.4±2.4, 13°.88N×91°.50W, h16km, ML4.0*
*CATAC **19** 20:24:27.7±0.6, 14°.N±3°.×9°.1W±°, h21km±4km, M4.3/21, mb4.7/1, MLv4.2/21, Error ellipse: s-maj=8.1km s-min=3.3km az=33.6, confirmed*
*GCG **19** 20:24:28.0±1.5, 13°.88N×91°.45W, h35km±17km, MD4.0, ML3.8*

ISC 19 20:24:27.6±1.5, 13°.88N±0°.08×91°.48W±0°.06, h22km±6km, n56, σ0°71/70, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.68**	**342**	*eP*	**Pb**	**20 24 41.3**	**+0.5**
RTAL				*eS*	**Sb**	**20 24 49.2**	**-0.5**
RTAL	**Retalhuleu**	**0.68**	**342**	P	**Pb**	**20 24 41.2**	**+0.5**
RTAL				S	**Sb**	**20 24 50.6**	**+0.9**
ESSG	**Sabana Grande**	**0.81**	**51**	*iP*	**Pb**	**20 24 42.6**	**-0.4**
ESSG				*iS*	**Sb**	**20 24 53.7**	**+0.1**
ESSG				IAML		20 24 55.6	
	comp=E,2µm,0.2s						
SOKI	**Kika Raxquin**	**0.94**	**5**	*iP*	**Pb**	**20 24 45.0**	**-0.5**
SOKI				*iS*	**Sb**	**20 24 57.5**	**-0.1**
SOKI				IAML		20 25 01.0	
	comp=N,5µm,0.4s						
SMCA	**Catarina**	**1.13**	**330**	*eP*	**Pn**	**20 24 47.1**	**-1.0**
THIG		**1.27**	**324**	*iP*	**Pn**	**20 24 49.4**	**-0.7**
THIG				*iS*	**Sn**	**20 25 05.5**	**-1.1**
FAME	**Alcaldia de Sa**	**1.43**	**91**	P	**Pn**	**20 24 51.4**	**-0.8**
HUEH	**Huehuetenango**	**1.43**	**359**	*eP*	**Pn**	**20 24 52.9**	**+0.3**
HUEH				*eS*	**Sn**	**20 25 11.8**	**+1.0**
HUEH	**Huehuetenango**	**1.43**	**359**	*iP*	**Pn**	**20 24 52.8**	**+0.3**
HUEH	**Huehuetenango**	**1.43**	**359**	P	**Pn**	**20 24 52.8**	**+0.3**
QUIS	**Sacapulas**	**1.46**	**15**	*iP*	**Pn**	**20 24 53.3**	**+0.6**
QUIS				*iS*	**Sn**	**20 25 11.5**	**+0.2**
QUIS				IAML		20 25 15.9	
	comp=E,1µm,0.4s						
NUBE	**Las Nubes**	**1.65**	**89**	*eP*	**Pn**	**20 24 54.6**	**-0.9**
NUBE	**Las Nubes**	**1.65**	**89**	*eP*	**Pn**	**20 24 54.6**	**-0.9**
NUBE				*iS*	**Sn**	**20 25 14.2**	**-1.9**
NUBE	**Las Nubes**	**1.65**	**89**	P	**Pn**	**20 24 55.3**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.66**	**85**	*eP*	**Pn**	**20 24 55.0**	**-0.5**
SLOZ				*eS*	**Sn**	**20 25 15.6**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.66**	**85**	P	**Pn**	**20 24 55.4**	**-0.1**
LOAL	**Lomas de Alarc**	**1.66**	**86**	*eP*	**Pn**	**20 24 55.3**	**-0.2**
LOAL				*eS*	**Sn**	**20 25 15.3**	**-0.8**
LOAL	**Lomas de Alarc**	**1.66**	**86**	P	**Pn**	**20 24 55.3**	**-0.2**
LOAL	**Lomas de Alarc**	**1.66**	**86**	S	**Sn**	**20 25 16.5**	**+0.4**
RTR	**El Retiro**	**1.78**	**89**	*eP*	**Pn**	**20 24 57.2**	**-0.1**
CEVE	**Cerro Verde**	**1.81**	**91**	*eP*	**Pn**	**20 24 57.6**	**-0.1**
CEVE	**Cerro Verde**	**1.81**	**91**	P	**Pn**	**20 24 57.5**	**-0.1**
CEVE	**Cerro Verde**	**1.81**	**91**	S	**Sn**	**20 25 17.7**	**+0.6**
SBLS	**San Blas**	**1.81**	**91**	*eP*	**Pn**	**20 24 57.5**	**-0.2**
SNJE	**San Jose**	**1.82**	**90**	*eP*	**Pn**	**20 24 57.8**	**0.0**
JAYA	**Jayaque - finc**	**1.99**	**96**	*eP*	**Pn**	**20 24 59.3**	**-0.8**
JAYA				*eS*	**Sn**	**20 25 23.4**	**-1.1**
JAYA	**Jayaque - finc**	**1.99**	**96**	*iP*	**Pn**	**20 24 59.4**	**-0.8**
JAYA				*iS*	**Sn**	**20 25 22.5**	**-2.0**
JAYA	**Jayaque - finc**	**1.99**	**96**	P	**Pn**	**20 25 00.2**	**0.0**
PMON	**Piamonte**	**2.11**	**94**	*eP*	**Pn**	**20 25 01.7**	**-0.1**
PMON	**Piamonte**	**2.11**	**94**	P	**Pn**	**20 25 02.4**	**+0.6**
MTO3	**Montecristo**	**2.12**	**76**	*iP*	**Pn**	**20 25 01.1**	**-0.8**
MTO3	**Montecristo**	**2.12**	**76**	P	**Pn**	**20 25 01.2**	**-0.8**
LALI	**Alcalda de L**	**2.14**	**100**	*eP*	**Pn**	**20 25 01.5**	**-0.5**
BOQS	**Boqueron**	**2.15**	**94**	*eP*	**Pn**	**20 25 02.7**	**+0.3**
LOMA	**Loma Larga**	**2.26**	**96**	*eP*	**Pn**	**20 25 03.8**	**0.0**
LOMA	**Loma Larga**	**2.26**	**96**	P	**Pn**	**20 25 04.5**	**+0.6**
LFRS	**El Faro**	**2.37**	**96**	*eP*	**Pn**	**20 25 05.3**	**+0.1**
LFRS				*eS*	**Sn**	**20 25 33.7**	**-0.1**
CCIG	**Comitan**	**2.47**	**345**	*eP*	**Pn**	**20 25 07.3**	**+0.5**
CCIG				IAML		20 25 53.8	
	comp=N,251nm,0.7s						
CCIG	**Comitan**	**2.47**	**345**	P	**Pn**	**20 25 06.8**	**0.0**
PAVA	**Las Pavas**	**2.48**	**93**	*eP*	**Pn**	**20 25 07.4**	**+0.6**
SCLA	**Alcaldia de Sa**	**2.68**	**93**	*eP*	**Pn**	**20 25 09.8**	**+0.3**
TECA	**Tecapa**	**2.92**	**97**	*eP*	**Pn**	**20 25 13.8**	**+0.8**
PACA	**Pacayal**	**3.10**	**97**	P	**Pn**	**20 25 15.6**	**+0.2**
LCND	**La Caada**	**3.54**	**99**	*eP*	**Pn**	**20 25 21.8**	**+0.5**
LCND	**La Caada**	**3.54**	**99**	P	**Pn**	**20 25 22.2**	**+0.9**
CNCH	**Conchagua**	**3.60**	**99**	*eP*	**Pn**	**20 25 22.8**	**+0.6**
CNCH	**Conchagua**	**3.60**	**99**	P	**Pn**	**20 25 22.7**	**+0.4**
CNCH	**Conchagua**	**3.60**	**99**	S	**Sn**	**20 26 04.9**	**+0.8**
POTN	**Potosi Cosigui**	**3.97**	**102**	P	**Pn**	**20 25 27.6**	**+0.5**
POTN				S	**Sn**	**20 26 14.2**	**+1.1**
CHOHN	**Orocuina**	**4.22**	**95**	P	**Pn**	**20 25 31.5**	**+0.7**
CRIN	**San Cristobal**	**4.47**	**105**	P	**Pn**	**20 25 34.8**	**+0.6**
CRIN	**San Cristobal**	**4.47**	**105**	S	**Sn**	**20 26 27.6**	**+2.0**
YUSH	**Yuscaran**	**4.51**	**88**	P	**Pn**	**20 25 34.7**	**-0.1**
POLN	**Al Sur del Vol**	**4.71**	**104**	P	**Pn**	**20 25 37.6**	**+0.2**
COPN	**Copaltepe**	**5.06**	**109**	P	**Pn**	**20 25 41.6**	**-0.6**
SCIG	**Sabancuy**	**5.07**	**3**	P	**Pn**	**20 25 41.9**	**-0.4**

IDC 19 20:46:58.7±2.4, 1°.67N×126°.15E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=211.0km s-min=29.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.93**	**160**	P	P	20 52 04.5	-0.2
	0.6nm,0.4s,baz=338,slow=10,SNR=2.6						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.29**	**164**	P	P	20 52 36.2	0.0
	0.2nm,0.5s,baz=347,slow=9.9,SNR=4.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.92**	**326**	P	P	20 56 59.9	+0.1
	0.1nm,0.4s,baz=141,slow=6.3,SNR=2.0						
	0.1nm,0.4s						

*IDC **19** 20:49:17.9±1.6, 24°.58N×94°.84E, h0km, mb3.7/6, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=76.0km s-min=22.1km az=62.0*

ISC 19 20:49:19.5±1.3, 24°.6N±0°.2×94°.8E±0°.4, h10km, n7, σ1s18/7, mb3.8/6, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.24**	**147**	Pn	**Pn**	**20 51 06.2**	**+0.8**
	0.2nm,0.3s,baz=320,slow=14,SNR=6.0						
CMAR				Lg	Lg	20 53 03.1	
	baz=328,slow=24						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**24.29**	**339**	P	**P**	**20 54 38.6**	**+1.6**
	1.2nm,0.5s,baz=150,slow=9.3,SNR=19						
	1.2nm,0.5s						
SONM	**Songino Array**	**24.93**	**19**	P	**P**	**20 54 43.3**	**+0.3**
	0.2nm,0.4s,baz=206,slow=9.6,SNR=2.3						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**28.86**	**338**	P	**P**	**20 55 17.1**	**-0.9**
	0.2nm,0.5s,baz=144,slow=9.5,SNR=2.4						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**30.24**	**348**	P	**P**	**20 55 30.2**	**0.0**
	0.5nm,0.4s,baz=160,slow=7.1,SNR=2.6						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**58.54**	**328**	P	**P**	**20 59 16.1**	**+0.2**
	2.1nm,1.0s,baz=87,slow=7.1,SNR=1.9						
	2.1nm,1.0s						
WRA	**Warramunga Arr**	**58.67**	**135**	P	**P**	**20 59 16.2**	**-1.2**
	0.3nm,0.3s,baz=317,slow=7.2,SNR=2.4						
	0.3nm,0.3s						

*IDC **19** 20:58:07.4±0.5, 10°.44S×161°.45E, h76km±3km, mb4.0/21, mbtmp4.3/21, MS3.3/14, Error ellipse: s-maj=12.5km s-min=7.8km az=44.0*
*NOU **19** 20:58:09.3, 10°.43S×161°.49E, h50km, MLv5.1/25, Solomon Islands*
*NEIC **19** 20:58:09.4±1.1, 10°.4S±0°.1×161°.5E±0°.1, h80km±8km, mb4.8/154, Error ellipse: s-maj=20.8km s-min=12.2km az=221.0*

ISC 19 20:58:08.0±0.4, 10°.47S±0°.04×161°.47E±0°.04, h77km±3km, h77km:pP-P, n415, σ1s00/356, mb4.8/102, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.42**	**90**	P	**Pn**	**20 58 20.7**	**-0.1**
HURO	**Huro Makira**	**0.42**	**90**	P	**Sn**	**20 58 30.7**	**+0.5**
NGOA	**Tingoa Renbel**	**1.76**	**232**	P	**Pn**	**20 58 36.9**	**+0.3**
NGOA	**Tingoa Renbel**	**1.76**	**232**	S	**Sn**	**20 58 58.2**	**0.0**
HNR	**Honiara**	**1.82**	**304**	P	**Pn**	**20 58 38.0**	**+0.6**
	1µm,0.4s,baz=155,slow=8.3,SNR=54						
HNR				S	**Sn**	**20 58 59.0**	**-0.8**
	2µm,0.6s,baz=170,slow=9.8,SNR=9.8						
HNR				LR	LR	20 59 01.8	
	comp=Z,244nm,18.1s,baz=56,slow=30						
HNR	**Honiara**	**1.82**	**304**	P	**Pn**	**20 58 38.2**	**+0.8**
HNR	**Honiara**	**1.82**	**304**	S	**Sn**	**20 59 00.6**	**+0.8**
ALEG	**Aligegeo Malai**	**1.87**	**336**	P	**Pn**	**20 58 39.2**	**+1.2**
ALEG	**Aligegeo Malai**	**1.87**	**336**	S	**Sn**	**20 59 01.2**	**+0.3**
SAVO	**Savo Central**	**2.10**	**309**	P	**Pn**	**20 58 42.1**	**+1.0**
TATA	**Tatamba Isabel**	**2.64**	**321**	P	**Pn**	**20 58 49.8**	**+1.3**
LUES	**Luesalemba Tem**	**4.37**	**93**	P	**Pn**	**20 59 11.7**	**-0.3**
LUES	**Luesalemba Tem**	**4.37**	**93**	S	**Sn**	**21 00 01.2**	**-0.5**
SANVU	**Saraoutou**	**7.46**	**132**		**Pn**	**20 59 55.0**	**+0.8**
SANVU	**Saraoutou**	**7.46**	**132**	P	**Pn**	**20 59 55.2**	**+1.0**
SANVU	**Saraoutou**	**7.46**	**132**	S	**Sn**	**21 01 18.4**	**+1.1**
DVP	**Devils Point**	**9.72**	**139**	P	**Pn**	**21 00 27.0**	**+2.0**
KOUNC	**Koumac, New Ca**	**10.38**	**165**	P	**Pn**	**21 00 37.4**	**+3.3**
DZM	**Mont Dzumac**	**12.48**	**158**	P	**Pn**	**21 01 05.9**	**+3.2**
DZM	**Mont Dzumac**	**12.48**	**158**	*e*Pn	**Pn**	**21 01 02.5**	**-0.3**
	23nm,0.7s						
DZM				*e*Sn	**Sn**	**21 03 14.7**	**-5.4**
	22nm,0.7s						
DZM				*e*LR	LR	21 03 53.2	
	211nm,26.9s						
DZM	**Mont Dzumac**	**12.48**	**158**	P	**Pn**	**21 01 05.4**	**+2.7**
	11nm,0.4s,baz=29,slow=8.7,SNR=52						
DZM				S	**Sn**	**21 03 16.0**	**-4.1**
	15nm,0.6s,baz=265,slow=18,SNR=8.6						
DZM	**Mont Dzumac**	**12.48**	**158**	P	**Pn**	**21 01 06.0**	**+3.2**
ONTNC	**Ouen Toro**	**12.70**	**159**		**Pn**	**21 01 08.4**	**+2.8**
ONTNC	**Ouen Toro**	**12.70**	**159**	P	**Pn**	**21 01 08.6**	**+2.9**
OUENC	**Ouen Island, N**	**12.95**	**157**	P	**Pn**	**21 01 12.3**	**+3.4**
PMG	**Port Moresby**	**14.14**	**273**	LR	LR	21 06 12.0	
	comp=Z,206nm,21.4s,baz=139,slow=34						
JAY	**Jayapura**	**22.08**	**290**	P	**P**	**21 02 56.0**	**-0.9**
	3.9nm,0.6s,baz=90,slow=5.2,SNR=5.4						
	3.9nm,0.6s						
WR8	**Warramunga Arr**	**27.65**	**247**	P	**P**	**21 03 48.4**	**-0.3**
WB0	**Warramunga Arr**	**27.69**	**247**	P	**P**	**21 03 49.0**	**-0.1**
WRA	**Warramunga Arr**	**27.79**	**247**	P	**P**	**21 03 49.6**	**-0.4**
	2.6nm,0.8s,baz=76,slow=9.0,SNR=9.2						
WRA				pP	**pP**	**21 04 06.4**	**0.0**
	4.2nm,0.8s,baz=77,slow=9.5,SNR=6.0						
	2.6nm,0.8s						
STKA	**Stephens Creek**	**28.14**	**218**	P	**P**	**21 03 54.1**	**+1.1**
	2.1nm,0.9s,baz=43,slow=15,SNR=3.2						
STKA				LR	LR	21 14 04.8	
	comp=Z,93nm,20.8s,baz=24,slow=34						
	2.1nm,0.9s						
GUMO	**Guam**	**29.03**	**325**	LR	LR	21 14 56.6	
	comp=Z,33nm,20.8s,baz=132,slow=35						
ASAR	**Alice Springs**	**29.37**	**240**	P	**P**	**21 04 03.2**	**-0.8**
	0.9nm,0.6s,baz=66,slow=10.0,SNR=7.4						
ASAR				pP	**pP**	**21 04 20.0**	**-0.7**
	2.3nm,0.8s,baz=64,slow=10.0,SNR=8.3						
ASAR				LR	LR	21 15 15.2	
	comp=Z,86nm,19.4s,baz=89,slow=35						
	0.9nm,0.6s						
TOO	**Toolangi**	**30.58**	**205**	P	**P**	**21 04 16.7**	**+2.1**
BBOO	**Buckleboo**	**32.28**	**223**	P	**P**	**21 04 30.3**	**+0.8**
BATI	**Baumata**	**37.18**	**267**	LR	LR	21 21 01.0	
	comp=Z,131nm,18.4s,baz=224,slow=37						
DAV	**Davao City (W)**	**39.76**	**295**	LR	LR	21 23 00.8	
	comp=Z,17nm,18.1s,baz=156,slow=38						
KAPI	**Kappang**		**41.67 274**	LR	LR	21 24 41.4	
	comp=Z,37nm,18.1s,baz=294,slow=38						
JCJ	**Chichijima**		**41.77 334**	LR	LR	21 20 30.8	
	comp=Z,86nm,20.5s,baz=110,slow=32						
PPT2	**Papeete2**		**47.91 104**	*e*LR	LR	21 20 25.5	
	142nm,27.2s						
MJAR	**Matsushiro Arr**	**51.63**	**336**	P	**P**	**21 07 04.8**	**-2.1**
	1.0nm,0.4s,baz=171,slow=8.6,SNR=6.6						
MJAR				pP	**pP**	**21 07 24.9**	**-0.9**
	1.1nm,0.6s,baz=171,slow=9.0,SNR=2.8						
MJAR				LR	LR	21 27 58.5	
	comp=Z,13nm,20.6s,baz=180,slow=35						
	1.0nm,0.4s						
JNU	**Nakatsue**	**52.24**	**327**	LR	LR	21 27 09.5	
	comp=Z,19nm,21.5s,baz=160,slow=33						
ASAJ	**Asahikawa**	**56.97**	**344**	LR	LR	21 29 57.3	
	comp=Z,14nm,21.6s,baz=168,slow=34						
KSRS	**Korea Array**	**57.11**	**328**	P	**P**	**21 07 46.0**	**-0.5**
	3.3nm,1.1s,baz=137,slow=6.9,SNR=6.2						
KSRS				pP	**pP**	**21 08 05.2**	**-0.5**
	3.0nm,1.0s,baz=140,slow=8.1,SNR=3.6						
	3.3nm,1.1s						
DRV	**Dumont d'Urvil**	**57.98**	**190**	P	**P**	**21 07 51.5**	**-0.7**
DRV				pP	**pP**	**21 08 12.2**	**+1.7**
DRV				PcP	**PcP**	**21 08 43.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**60.63**	**336**	P	**P**	**21 08 10.9**	**+0.1**
	9.4nm,0.9s,baz=150,slow=7.3,SNR=10						
	9.4nm,0.9s						
PETK	**Petropavlovsk-**	**63.40**	**357**	P	**P**	**21 08 27.4**	**-1.8**
	3.1nm,0.9s,baz=186,slow=6.3,SNR=3.9						
PETK				pP	**pP**	**21 08 49.3**	**+0.6**
	3.8nm,1.0s,baz=107,slow=5.0,SNR=3.2						
	3.1nm,0.9s						
VNDA	**Vanda**	**67.04**	**180**	P	**P**	**21 08 53.1**	**+0.7**
	1.1nm,0.9s,baz=329,slow=6.9,SNR=6.6						
VNDA				pP	**pP**	**21 09 11.8**	**+0.5**
	1.8nm,0.8s,baz=339,slow=6.3,SNR=8.6						
	1.1nm,0.9s						
VNDA	**Vanda**	**67.04**	**180**	P	**P**	**21 08 53.4**	**+0.9**
VNDA				sP	**PcP**	**21 09 22.7**	**+2.5**
HEH	**HeiHe**	**67.38**	**337**	*e*P	**P**	**21 08 53.8**	**-1.1**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT	**XiLinHaoTe**	**68.00**	**326**	*e*P	**P**	**21 08 59.1**	**0.0**
XLT				sP	pP	21 09 05.4	-14
XLT				pmax	pmax		
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**68.05**	**295**	P	**P**	**21 08 59.1**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=126,slow=5.7,SNR=7.7						
	comp=Z,0.9nm,0.5s						
NIKH	**Nikolski High**	**68.09**	**19**	P	**P**	**21 08 59.7**	**+0.3**
	baz=212						
MA2	**Magadan**	**70.34**	**354**	LR	LR	21 38 48.4	
	comp=Z,14nm,20.1s,baz=350,slow=35						
P08K	**Saint George I**	**71.01**	**16**	P	**P**	**21 09 17.2**	**0.0**
	baz=210						
SPIA	**Saint Paul Isl**	**71.31**	**16**	P	**P**	**21 09 18.9**	**-0.1**
	baz=210						
FALS	**False Pass**	**71.46**	**21**	P	**P**	**21 09 20.2**	**+0.3**
	baz=217						
S12K	**Black Hills**	**72.61**	**21**	P	**P**	**21 09 26.9**	**+0.1**
	baz=218						
CHNA	**Chernabura Isl**	**72.82**	**22**	P	**P**	**21 09 28.4**	**+0.3**
	baz=220						
SDPT	**Sand Point**	**72.89**	**22**	P	**P**	**21 09 28.6**	**+0.1**
	baz=219						
S14K	**Fog Glacier**	**73.94**	**21**	P	**P**	**21 09 35.0**	**+0.2**
	baz=220						
CHIR	**Chirikof Islan**	**75.07**	**23**	P	**P**	**21 09 42.0**	**+0.7**
	baz=224						
M11K	**Mekoryuk**	**75.16**	**16**	P	**P**	**21 09 41.9**	**+0.3**
	baz=213						
ULN	**Ulaanbaatar**	**75.41**	**326**		**P**	**21 09 44.0**	**+0.4**
R16K	**Pilot Point**	**75.63**	**21**	P	**P**	**21 09 44.9**	**+0.6**
	baz=222						
GTA	**Gaotai**	**75.66**	**315**	*e*P	**P**	**21 09 46.3**	**+1.1**
GTA				pP	pP	21 10 06.4	+0.8
GTA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
O14K	**Tigyukauivet M**	**75.68**	**19**		**P**	**21 09 45.2**	**+0.6**
O14K	**Tigyukauivet M**	**75.68**	**19**	P	**P**	**21 09 45.1**	**+0.4**
	baz=218						
SONM	**Songino Array**	**75.76**	**325**		**P**	**21 09 45.6**	**0.0**
SONM	**Songino Array**	**75.76**	**325**	P	**P**	**21 09 45.6**	**0.0**
	comp=Z,6.2nm,0.8s,baz=143,slow=5.8,SNR=43						
SONM				pP	**pP**	**21 10 05.9**	**0.0**
	comp=Z,3.6nm,0.6s,baz=142,slow=5.9,SNR=7.9						
	comp=Z,6.2nm,0.8s						
M13K	**Dall Lake**	**75.98**	**17**	P	**P**	**21 09 47.3**	**+0.9**
M13K	**Dall Lake**	**75.98**	**17**	P	**P**	**21 09 47.0**	**+0.7**
	baz=216						
N14K	**Kuskokwak Cree**	**76.08**	**18**	P	**P**	**21 09 47.1**	**+0.2**
N14K				IAmb	IAmb	21 09 48.3	
	comp=Z,13nm,0.8s						
N14K	**Kuskokwak Cree**	**76.08**	**18**	P	**P**	**21 09 47.6**	**+0.7**
	baz=217						
O15K	**Ungalikthiuk R**	**76.08**	**19**	P	**P**	**21 09 45.3**	**-1.6**
O15K				IAmb	IAmb	21 12 00.3	
	comp=Z,21nm,1.4s						
O15K	**Ungalikthiuk R**	**76.08**	**19**	P	**P**	**21 09 47.5**	**+0.5**
	baz=219						
R17L	**Mt. Peulik Vol**	**76.11**	**22**	P	**P**	**21 09 47.5**	**+0.3**
	baz=223						
PLK4	**Peulik 4**	**76.11**	**22**		**P**	**21 09 47.8**	**+0.5**
SII	**Sitkinak Islan**	**76.16**	**23**	P	**P**	**21 09 48.1**	**+0.6**
	baz=225						
YAK	**Yakutsk**	**76.41**	**345**	P	**P**	**21 09 48.3**	**-0.5**
YAK	**Yakutsk**	**76.41**	**345**	LR	LR	21 41 04.6	
	comp=Z,17nm,21.4s,baz=202,slow=34						
P16K	**Nushagak River**	**76.58**	**20**	P	**P**	**21 09 49.5**	**-0.3**
P16K	**Nushagak River**	**76.58**	**20**	P	**P**	**21 09 49.8**	**0.0**
	baz=221						
M14K	**Bethel**	**76.66**	**17**		**P**	**21 09 51.0**	**+0.8**
M14K	**Bethel**	**76.66**	**17**	P	**P**	**21 09 50.8**	**+0.7**
	baz=217,SNR=5.8						
Q17K	**Contact Creek**	**76.75**	**22**	P	**P**	**21 09 50.6**	**-0.3**
	baz=223						
N15K	**Kwethluk River**	**76.77**	**19**		**P**	**21 09 51.4**	**+0.5**
N15K				IAmb	IAmb	21 09 53.9	
	comp=Z,11nm,0.8s						
N15K	**Kwethluk River**	**76.77**	**19**	P	**P**	**21 09 51.8**	**+0.9**
	baz=219						
R18K	**Karluk**	**76.78**	**23**	P	**P**	**21 09 51.2**	**+0.3**
	baz=225						
GAMB	**Gambell**	**76.81**	**12**	P	**P**	**21 09 51.0**	**+0.1**
	baz=207						
K13K	**Kusilvak Mount**	**76.87**	**16**	P	**P**	**21 09 52.0**	**+0.7**
K13K				IAmb	IAmb	21 09 53.0	
	comp=Z,7.8nm,0.8s						
K13K	**Kusilvak Mount**	**76.87**	**16**	P	**P**	**21 09 52.3**	**+0.9**
	baz=214,SNR=5.4						
ACHA	**Angle Creek He**	**76.92**	**22**	P	**P**	**21 09 51.8**	**0.0**
L14K	**Kuka Creek**	**76.93**	**17**		**P**	**21 09 51.6**	**0.0**
L14K	**Kuka Creek**	**76.93**	**17**	P	**P**	**21 09 52.5**	**+0.9**
	baz=216						
O16K	**Kokwok River B**	**76.97**	**20**	P	**P**	**21 09 52.2**	**+0.

K17K	**Iditarod**	79.29	18	IAmb	IAmb	21 10 06.8
	comp=Z,11nm,0.9s					
K17K	**Iditarod**	79.29	18	P	**P**	**21 10 05.8 +1.0**
	baz=220,SNR=5.3					
HOM	**Homer**	79.29	22	P	**P**	**21 10 05.3 +0.5**
	baz=227					
CNPM	**China Poot**	79.36	22	IAmb	IAmb	21 10 06.8
	comp=Z,14nm,0.9s					
L18K	**Granite Mounta**	79.40	19	P	**P**	**21 10 06.7 +1.3**
	baz=222,SNR=20					
F14K	**Arctic Creek**	79.43	13	P	**P**	**21 10 05.8 +0.4**
	baz=212					
I17K	**Unalakleet**	79.52	16	P	**P**	**21 10 07.0 +1.1**
	baz=218					
QSPA	**South Pole Qui**	79.53	180	P	**P**	
	comp=Z,1.8nm,0.8s,baz=79,slow=0.2,SNR=9.9					
QSPA				pP	**pP**	**21 10 26.8 +0.5**
	comp=Z,2.6nm,0.7s,baz=110,slow=2.7,SNR=5.4					
	comp=Z,1.8nm,0.8s					
G15K	**Niukluk**	79.56	14	P	**P**	**21 10 06.6 +0.4**
	baz=214					
J17K	**VABM Dome**	79.58	17	IAmb	IAmb	21 10 08.3
	comp=Z,9.4nm,0.7s					
J17K	**VABM Dome**	79.58	17	P	**P**	**21 10 07.6 +1.2**
	baz=220,SNR=7.3					
H16K	**Elim**	79.71	15	P	**P**	**21 10 07.2 +0.2**
	baz=216					
M19K	**Big River Lodg**	79.91	20		**P**	**21 10 08.8 +0.7**
M19K	**Big River Lodg**	79.91	20	P	**P**	**21 10 09.6 +1.4**
	baz=224,SNR=28					
L19K	**White Mountain**	79.96	19	P	**P**	**21 10 09.0 +0.6**
	baz=224,SNR=19					
F15K	**North Star Dit**	80.01	14	P	**P**	**21 10 09.1 +0.5**
	baz=214					
N20K	**Mount Spurr**	80.15	21	P	**P**	**21 10 08.8 -0.8**
	baz=226					
G16K	**Koyuk River**	80.30	15	P	**P**	**21 10 10.1 0.0**
	baz=216					
M20K	**Styx River**	80.31	20	P	**P**	**21 10 10.8 +0.3**
	baz=225,SNR=5.7					
J18K	**Innoko River**	80.33	18	P	**P**	**21 10 10.9 +0.6**
	baz=222,SNR=7.2					
SLKM	**Skilak Lake**	80.39	22	IAmb	IAmb	21 10 12.4
	comp=Z,12nm,0.9s					
SEW	**Seward**	80.41	23	P	**P**	**21 10 11.4 +0.5**
	baz=229					
L20K	**Farewell, AK**	80.49	19	P	**P**	**21 10 12.2 +0.9**
	baz=224,SNR=14					
H17K	**Granite Mounta**	80.56	16	P	**P**	**21 10 12.1 +0.6**
	baz=218					
G17K	**Kiwalik Mounta**	80.81	15	P	**P**	**21 10 13.4 +0.5**
	baz=218					
SUA	**Susitna One**	80.85	21	P	**P**	**21 10 13.1 -0.2**
	baz=228					
SKT	**Skwentna**	80.93	20	P	**P**	**21 10 13.3 -0.3**
	baz=227					
RC01	**Rabbit Creek A**	80.96	22	P	**P**	**21 10 14.0 +0.2**
	baz=228					
J19K	**Poorman**	81.05	18	P	**P**	**21 10 15.1 +0.9**
	baz=223					
K20K	**Telida**	81.06	19	IAmb	IAmb	21 10 16.2
	comp=Z,9.4nm,0.8s					
K20K	**Telida**	81.06	19	P	**P**	**21 10 15.0 +0.7**
	baz=224,SNR=9.5					
P23K	**Montague Islan**	81.13	23	P	**P**	**21 10 15.3 +0.6**
	baz=231					
H18K	**Honhosa River**	81.14	16	P	**P**	**21 10 15.2 +0.6**
	baz=220					
Q23K	**Middleton Isla**	81.19	24	P	**P**	**21 10 15.9 +0.9**
	baz=232					
GCSA	**Galena City Sc**	81.24	17	P	**P**	**21 10 15.6 +0.4**
	baz=221					
M22K	**Willow**	81.27	21	P	**P**	**21 10 15.9 +0.6**
	baz=228					
PWL	**Port Wells**	81.33	22	P	**P**	**21 10 16.1 +0.3**
	baz=230					
PPLA	**Purkeypile**	81.34	20	P	**P**	**21 10 16.6 +0.6**
	baz=226					
F17K	**Baldwin Pennin**	81.41	14	P	**P**	**21 10 16.5 +0.5**
	baz=217					
PMR	**Palmer**	81.51	22	P	**P**	**21 10 17.1 +0.4**
	baz=229					
J20K	**Nowinta River**	81.63	18	IAmb	IAmb	21 10 19.2
	comp=Z,10nm,0.9s					
J20K	**Nowinta River**	81.63	18	P	**P**	**21 10 18.0 +0.8**
	baz=224,SNR=11					
G18K	**Tagagawik**	81.64	15	P	**P**	**21 10 17.4 +0.1**
	baz=220					
KNK	**Knik Glacier**	81.64	22	P	**P**	**21 10 17.1 -0.3**
	baz=230					
CAST	**Castle Rocks**	81.74	19	P	**P**	**21 10 17.7 -0.2**
	baz=226,SNR=28					
E17K	**Hotham Inlet**	81.79	14	P	**P**	**21 10 18.8 +0.8**
	baz=216					
GLI	**Glacier Island**	81.81	23	P	**P**	**21 10 18.7 +0.4**
	baz=231					
F18K	**Selawik**	81.93	15	P	**P**	**21 10 19.2 +0.5**
	baz=219					
H19K	**Roundabout Mou**	81.95	16	P	**P**	**21 10 19.4 +0.5**
	baz=222					
I20K	**Naaghedeneel**	81.98	17	IAmb	IAmb	21 10 21.2
	comp=Z,11nm,0.9s					
I20K	**Naaghedeneel**	81.98	17	P	**P**	**21 10 19.4 +0.4**
	baz=224					
CHUM	**Lake Minchumin**	81.99	19	P	**P**	**21 10 19.3 +0.2**
	baz=226					
D17K	**Noatak River**	82.01	13	P	**P**	**21 10 18.7 -0.5**
	baz=215					
C16K	**Lisburne Hills**	82.01	12	P	**P**	**21 10 19.1 0.0**
	baz=213					
EYAK	**Cordova Ski Ar**	82.12	23	P	**P**	**21 10 20.2 +0.3**
	baz=232					
M23K	**Glacier View**	82.15	22	P	**P**	**21 10 20.7 +0.6**
	baz=230					
KTH	**Kantishna Hill**	82.21	19	IAmb	IAmb	21 10 21.1
	comp=Z,12nm,0.8s					
G19K	**Purcell Mounta**	82.24	16	IAmb	IAmb	21 10 22.1
	comp=Z,13nm,1.2s					
G19K	**Purcell Mounta**	82.24	16	P	**P**	**21 10 20.4 0.0**
	baz=221,SNR=6.8					
KAIM	**Kayak Island**	82.27	24	P	**P**	**21 10 21.3 +0.6**
	baz=234					
PALK	**Pallekele**	82.31	279	LR	LR	21 52 39.4
	comp=Z,73nm,18.0s,baz=226,slow=40					
SCM	**Sheep Creek Mo**	82.32	22	P	**P**	**21 10 21.7 +0.6**
	baz=231					
TRF	**Thorofare Moun**	82.35	20	IAmb	IAmb	21 10 21.6
	comp=Z,4.4nm,0.7s					
TRF	**Thorofare Moun**	82.35	20	P	**P**	**21 10 20.3 -1.0**
	baz=228,SNR=5.4					
E18K	**Tukpahlearik C**	82.35	14	P	**P**	**21 10 21.5 +0.6**
	baz=218					
H20K	**Anotleneega Mo**	82.37	17	P	**P**	**21 10 22.0 +0.9**
	baz=223,SNR=9.8					
BPAW	**Bear Paw Mtn.**	82.56	19	P	**P**	**21 10 21.8 -0.4**
	baz=227					
F19K	**Shaleruckik Mo**	82.59	15	P	**P**	**21 10 21.9 -0.3**
	baz=220					
C17K	**DeLong Mountai**	82.63	12	P	**P**	**21 10 22.2 -0.3**
	baz=215					
KLU	**Klutina**	82.63	23	P	**P**	**21 10 23.2 +0.6**
	baz=232					
BMRM	**Bremner River**	82.82	23	P	**P**	**21 10 24.9 +1.2**
	baz=233					
M24K	**Toisona, Glenn**	82.92	22	P	**P**	**21 10 25.4 +1.3**
	baz=232,SNR=5.5					
MCK	**McKinley**	82.99	20	P	**P**	**21 10 24.2 -0.2**
	baz=229,SNR=11					
I21K	**Tanana**	83.00	18	IAmb	IAmb	21 10 26.1
	comp=Z,8.8nm,0.8s					
I21K	**Tanana**	83.00	18	P	**P**	**21 10 25.3 +0.9**
	baz=226,SNR=11					
IMAR	**Indian Mountai**	83.05	17	P	**P**	**21 10 24.5 -0.1**
H21K	**Melozitna Rive**	83.09	17	P	**P**	**21 10 25.5 +0.6**
	baz=225					
C18K	**Utukok River**	83.20	13	P	**P**	**21 10 25.7 +0.2**
	baz=217					
E19K	**Redstone River**	83.20	15	IAmb	IAmb	21 10 27.1
	comp=Z,9.3nm,0.8s					
E19K	**Redstone River**	83.20	15	P	**P**	**21 10 26.1 +0.7**
	baz=221					
N25K	**Chitina, Valde**	83.21	23	IAmb	IAmb	21 10 28.4
	comp=Z,11nm,0.8s					
N25K	**Chitina, Valde**	83.21	23	P	**P**	**21 10 26.1 +0.5**
	baz=233,SNR=9.4					
CRQM	**Cirque**	83.28	24	IAmb	IAmb	21 10 29.5
	comp=Z,13nm,0.8s					
MLY	**Manley**	83.28	18	IAmb	IAmb	21 10 27.0
	comp=Z,8.3nm,0.7s					
MLY	**Manley**	83.28	18	P	**P**	**21 10 26.1 +0.2**
	baz=227,SNR=17					
F20K	**Avaraart Lake**	83.28	16	P	**P**	**21 10 26.5 +0.7**
	baz=222					
CRQE	**Cirque**	83.29	24	P	**P**	**21 10 26.7 +0.6**
	baz=235,SNR=6.7					
TGL	**Tana Glacier**	83.40	24	IAmb	IAmb	21 10 28.7
	comp=Z,8.3nm,0.8s					
GLB	**Gilahina Butte**	83.41	23	IAmb	IAmb	21 10 28.1
	comp=Z,9.2nm,0.8s					
VRDI	**Verde Repeater**	83.43	24	IAmb	IAmb	21 10 29.1
	comp=Z,7.7nm,0.7s					
MESA	**MESA**	83.43	25	P	**P**	**21 10 27.9 +0.9**
	baz=236					
HARP	**HAARP**	83.48	22	P	**P**	**21 10 27.0 0.0**
	baz=233					
G21K	**Allakaket**	83.50	17	P	**P**	**21 10 27.5 +0.6**
	baz=224					
ISLE	**Juniper Island**	83.51	24	IAmb	IAmb	21 10 29.9
	comp=Z,9.9nm,0.8s					
NEA2	**Nenana**	83.51	19	IAmb	IAmb	21 10 27.5
	comp=Z,9.3nm,0.9s					
NEA2	**Nenana**	83.51	19	P	**P**	**21 10 26.7 -0.3**
	baz=229,SNR=7.7					
B18K	**Kokolik River**	83.64	12	P	**P**	**21 10 27.9 +0.3**
	baz=216					
MAW	**Mawson**	83.67	202	P	**P**	**21 10 26.8 -1.1**
	comp=Z,2.0nm,0.5s,baz=55,slow=14,SNR=2.0					
MAW				pP	**pP**	**21 10 47.5 +0.1**
	comp=Z,15nm,0.8s,baz=77,slow=18,SNR=12					
	comp=Z,2.0nm,0.5s					
H22K	**Ishtalitna Cre**	83.67	18	P	**P**	**21 10 28.1 +0.2**
	baz=226,SNR=8.1					
MCARA	**McArthy VSAT**	83.69	24	IAmb	IAmb	21 10 42.0
	comp=Z,9.6nm,0.8s					
MCARA	**McCarthy VSAT**	83.69	24	P	**P**	**21 10 27.9 -0.2**
	baz=235					
PAX	**Paxson**	83.71	22	P	**P**	**21 10 28.9 +0.7**
	baz=232					
WRH	**Wood River Hil**	83.75	20	IAmb	IAmb	21 10 28.7
	comp=Z,6.7nm,0.7s					
D19K	**Kuna River**	83.78	14	P	**P**	**21 10 28.7 +0.3**
	baz=220					
I23K	**Minto, Yukon-K**	83.79	19	IAmb	IAmb	21 13 07.7
	comp=Z,16nm,1.7s					
I23K	**Minto, Yukon-K**	83.79	19	P	**P**	**21 10 28.2 -0.2**
	baz=228,SNR=6.4					
GRNC	**Granite Creek**	83.82	24	IAmb	IAmb	21 10 30.6
	comp=Z,6.9nm,0.6s					
C19K	**Lookout Ridge**	83.92	13	IAmb	IAmb	21 10 30.7
	comp=Z,12nm,1.2s					
C19K	**Lookout Ridge**	83.92	13	P	**P**	**21 10 29.7 +0.7**
	baz=218					
F21K	**Alatna River**	84.01	16	P	**P**	**21 10 29.9 +0.4**
	baz=224					
BARN	**Barnard Glacie**	84.04	24	IAmb	IAmb	21 10 31.9
	comp=Z,6.4nm,0.7s					
E20K	**Nigu River**	84.07	15	P	**P**	**21 10 30.5 +0.6**
	baz=222					
PINM	**Pinnacle**	84.09	25	P	**P**	**21 10 30.9 +0.7**
	baz=237					
COLA	**College**	84.09	19	P	**P**	**21 10 30.4 +0.5**
	baz=230					
HDA	**Harding Lake**	84.09	20	IAmb	IAmb	21 10 30.9
	comp=Z,10nm,0.8s					
HDA	**Harding Lake**	84.09	20	P	**P**	**21 10 30.0 0.0**
	baz=231,SNR=9.9					
K24K	**Donnelly Dome**	84.12	21	P	**P**	**21 10 30.8 +0.6**
	baz=232					
CTG	**Chitna Glacier**	84.12	24	P	**P**	**21 10 31.3 +0.9**
	baz=236,SNR=6.7					
CTGM	**Chitina Glacie**	84.12	24	IAmb	IAmb	21 10 31.9
	comp=Z,12nm,0.8s					
LOGN	**Logan Glacier**	84.18	25	IAmb	IAmb	21 10 32.6
	comp=Z,17nm,1.2s					
H23K	**Yukon River**	84.18	18	IAmb	IAmb	21 10 31.9
	comp=Z,8.4nm,0.9s					
H23K	**Yukon River**	84.18	18	P	**P**	**21 10 30.9 +0.5**
	baz=228,SNR=7.1					
PNL	**Peninsula**	84.23	26	P	**P**	**21 10 31.5 +0.7**
	baz=238					
M26K	**Nabesna, AK**	84.29	23		**P**	**21 10 31.5 +0.4**
M26K				IAmb	IAmb	21 10 32.8
	comp=Z,9.1nm,0.7s					
M26K	**Nabesna, AK**	84.29	23	P	**P**	**21 10 32.0 +0.8**
	baz=235,SNR=7.3					
D20K	**Etivluk River**	84.31	14	P	**P**	**21 10 31.5 +0.5**
	baz=221					
ILAR	**Eielson Array**	84.35	20	P	**P**	**21 10 31.1 -0.2**
ILAR	**Eielson Array**	84.35	20	P	**P**	**21 10 30.4 -0.8**
	comp=Z,4.5nm,1.0s,baz=258,slow=5.0,SNR=19					
ILAR				pP	**pP**	**21 10 51.9 +0.1**
	comp=Z,1.6nm,1.0s,baz=248,slow=4.1,SNR=3.3					
	comp=Z,4.5nm,1.0s					
G22K	**Bettles**	84.35	17	P	**P**	**21 10 31.9 +0.7**
	baz=226,SNR=5.3					
POKR	**Poker Plat Res**	84.39	19	P	**P**	**21 10 32.3 +0.8**
	baz=230					
RIDG	**Independent Ri**	84.41	21	IAmb	IAmb	21 10 33.0
	comp=Z,10nm,1.1s					
RIDG	**Independent Ri**	84.41	21	P	**P**	**21 10 32.5 +0.8**
	baz=233,SNR=5.2					
A19K	**Wainwright**	84.47	12	P	**P**	**21 10 32.4 +0.6**
	baz=217					
O28M	**Mount Upton**	84.48	25	P	**P**	**21 10 33.3 +0.8**
	baz=237,SNR=10					
L26K	**Log Cabin Wild**	84.52	22	P	**P**	**21 10 33.4 +1.2**
	baz=234					
DOT	**Dot Lake**	84.63	21	IAmb	IAmb	21 10 34.2
	comp=Z,9.1nm,0.7s					
G23K	**Bananza Creek**	84.64	17	P	**P**	**21 10 33.5 +0.7**
	baz=228					
M27K	**Edge Creek, AK**	84.69	23	P	**P**	**21 10 34.5 +1.2**
	baz=236,SNR=11					
H24K	**Noodor Dome**	84.71	19	P	**P**	**21 10 34.3 +1.1**
	baz=230					
J25K	**Salcha River,**	84.76	20	P	**P**	**21 10 33.9 +0.4**
	baz=232,SNR=10					
E21K	**Killik River**	84.76	15	IAmb	IAmb	21 10 34.9
	comp=Z,11nm,1.4s					
E21K	**Killik River**	84.76	15	P	**P**	**21 10 33.5 +0.2**
	baz=224					
SIT	**Sitka**	84.77	29	P	**P**	**21 10 35.5 +1.9**
	baz=242					
S31K	**Pelican**	84.78	28	P	**P**	**21 10 35.2 +1.7**
	baz=241					
SCRK	**Sand Creek**	84.85	21	IAmb	IAmb	21 10 35.6
	comp=Z,6.4nm,0.7s					
SCRK	**Sand Creek**	84.85	21	P	**P**	**21 10 34.5 +0.5**
	baz=234,SNR=11					
O29M	**Mount Kennedy**	84.91	26	P	**P**	**21 10 35.4 +1.0**
	baz=239					
YUK3	**Moose Creek**	84.92	24	P	**P**	**21 10 35.2 +0.7**
	baz=237,SNR=6.4					
P29M	**Windy Craggy**	84.93	26	P	**P**	**21 10 35.7 +1.3**
	baz=240					
COLD	**Coldfoot**	84.93	17	P	**P**	**21 10 35.1 +0.9**
	baz=228					
C21K	**Knifeblade Rid**	85.08	14	P	**P**	**21 10 35.9 +1.0**
	baz=223					
E22K	**Anaktuvuk Pass**	85.11	16	P	**P**	**21 10 35.9 +0.8**
	baz=226					
L27K	**Beaver Creek,**	85.11	22	IAmb	IAmb	21 10 37.4
	comp=Z,18nm,1.4s					
L27K	**Beaver Creek,**	85.11	22	P	**P**	**21 10 36.1 +0.9**
	baz=236,SNR=8.9					
BVCY	**Beaver Creek**	85.12	23	P	**P**	**21 10 36.4 +1.2**
	baz=237,SNR=5.5					
BCAR	**Beaver Creek A**	85.13	22		**P**	**21 10 35.7 +0.4**
CRAG	**Craig**	85.14	31	P	**P**	**21 10 35.6 +0.2**
	baz=244					
B20K	**Meade River**	85.16	13	P	**P**	**21 10 35.7 +0.5**
	baz=221					
PRP	**Porcupine Dome**	85.26	20	P	**P**	**21 10 36.5 +0.5**
	baz=232					
J26L	**Joseph Creek**	85.31	21	IAmb	IAmb	21 13 48.6
	comp=Z,3.4nm,0.4s					
J26L	**Joseph Creek**	85.31	21	P	**P**	**21 10 37.0 +0.7**
	baz=234					
S32K	**Killisnoo**	85.33	29	P	**P**	**21 10 37.0 +0.7**
	baz=242					
YUK6	**Outpost Mounta**	85.33	25	P	**P**	**21 10 37.5 +0.9**
	baz=239					
G24K	**Hadweenzic Riv**	85.39	18		**P**	**21 10 37.2 +0.7**
G24K	**Hadweenzic Riv**	85.39	18	P	**P**	**21 10 37.1 +0.6**
	baz=230,SNR=8.0					
D22K	**Ayikyak River**	85.41	15	IAmb	IAmb	21 10 38.5
	comp=Z,5.4nm,0.7s					
D22K	**Ayikyak River**	85.41	15	P	**P**	**21 10 37.1 +0.5**
	baz=225					
YUK4	**Talbot Arm**	85.42	25	P	**P**	**21 10 38.5 +1.4**
	baz=239,SNR=14					
U33K	**Whale Pass**	85.43	31	P	**P**	**21 10 38.6 +1.8**
	baz=244					
PLBC	**Pleasant Camp**	85.45	27	P	**P**	**21 10 37.8 +0.9**
	baz=241					
B21K	**Ikpikpuk River**	85.46	14	P	**P**	**21 10 37.4 +0.7**
	baz=223					
P30M	**Million Dollar**	85.51	26	P	**P**	**21 10 37.3 0.0**
	baz=240					
K27K	**Chicken**	85.57	22	IAmb	IAmb	21 10 40.9
	comp=Z,13nm,1.2s					
K27K	**Chicken**	85.57	22	P	**P**	**21 10 38.6 +1.2**
	baz=235					
H25L	**Birch Creek**	85.63	19	P	**P**	**21 10 38.9 +1.2**
	baz=232					
HYT	**Haines Junctio**	85.63	25		**P**	**21 10 38.8 +0.8**
HYT	**Haines Junctio**	85.63	25	P	**P**	**21 10 39.2 +1.2**
	baz=240,SNR=5.6					
E23K	**Chandalar**	85.66	17	IAmb	IAmb	21 10 42.5
	comp=Z,13nm,1.7s					
E23K	**Chandalar**	85.66	17	P	**P**	**21 10 39.4 +1.5**
	baz=228					
R32K	**Eaglecrest**	85.73	28	P	**P**	**21 10 38.8 +0.5**
	baz=242,SNR=7.9					
F24K	**Squaw Lake**	85.80	17	P	**P**	**21 10 38.5 -0.1**
	baz=230					
G25K	**Bearman Lake**	85.86	18	P	**P**	**21 10 39.5 +0.7**
	baz=231					
I26K	**Coal Creek Min**	85.93	20	IAmb	IAmb	21 10 41.2
	comp=Z,14nm,1.8s					
I26K	**Coal Creek Min**	85.93	20	P	**P**	**21 10 40.2 +1.0**
	baz=234					
WRAK	**Wrangell Islan**	85.95	31	P	**P**	**21 10 40.8 +1.4**
	baz=244					
D23K	**Nanushuk River**	85.99	16	P	**P**	**21 10 39.4 0.0**
	baz=227					
E24K	**Your Creek**	85.99	17	P	**P**	**21 10 39.9 +0.4**
	baz=229					
O02D	**Mt. Diablo Mer**	86.01	48		**P**	**21 10 41.8 +1.6**
TOLK	**Toolik Lake Re**	86.06	16	P	**P**	**21 10 39.8 0.0**
	baz=226					
M29M	**Somme Creek**	86.07	24	P	**P**	**21 10 40.3 +0.2**
	baz=239					
N30M	**Aishikik Lake**	86.13	25	P	**P**	**21 10 41.4 +1.1**
	baz=240					
B22K	**Teshekpuk Lake**	86.27	14	P	**P**	**21 10 41.4 +0.7**
	baz=224					
A21K	**Barrow**	86.28	12	P	**P**	**21 10 41.6 +0.9**
	baz=221					
A22K	**Sinclair Lake**	86.39	13	P	**P**	**21 10 42.4 +1.1**
	baz=223					
F25K	**Christian Rive**	86.51	18	P	**P**	**21 10 43.1 +1.1**
	baz=232					
YBH	**Yreka Blue Hor**	86.52	47		**P**	**21 10 42.7 -0.1**
L29M	**L29M**	86.55	23	IAmb	IAmb	21 10 44.6
	comp=Z,10.0nm,0.9s					
L29M	**L29M**	86.55	23	P	**P**	**21 10 43.5 +1.2**
	baz=239,SNR=9.4					
DAWY	**Dawson**	86.57	22	IAmb	IAmb	21 10 44.6
	comp=Z,10nm,1.1s					
DAWY	**Dawson**	86.57	22	P	**P**	**21 10 43.6 +1.1**
	baz=238,SNR=7.9					
C23K	**Itkillik River**	86.60	15	P	**P**	**21 10 43.1 +0.7**
	baz=227					
D24K	**Happy Valley**	86.61	16	P	**P**	**21 10 43.4 +1.0**
	baz=229					
I27K	**Kandik River**	86.63	20	P	**P**	**21 10 43.8 +1.1**
	baz=236,SNR=8.1					
WHY	**Whitehorse**	86.68	26	P	**P**	**21 10 43.8 +0.7**
	baz=242					
N31M	**Braeburn, Yuko**	86.69	25	IAmb	IAmb	21 10 45.1
	comp=Z,7.0nm,0.8s					
N31M	**Braeburn, Yuko**	86.69	25	P	**P**	**21 10 44.2 +1.2**
	baz=241,SNR=5.1					
G26K	**Porcupine Rive**	86.69	19	IAmb	IAmb	21 10 45.3
	comp=Z,6.5nm,0.8s					
G26K	**Porcupine Rive**	86.69	19	P	**P**	**21 10 44.1 +1.2**
	baz=234,SNR=8.1					
P32M	**Atlin**	86.70	27	P	**P**	**21 10 44.2 +1.1**
	baz=243					
M30M	**Minto, Yukon**	86.81	24	IAmb	IAmb	21 10 45.5
	comp=Z,6.1nm,0.7s					
M30M	**Minto, Yukon**	86.81	24	P	**P**	**21 10 44.2 +0.6**
	baz=240,SNR=10.0					
E25K	**Arctic Village**	86.86	17	P	**P**	**21 10 44.5 +0.8**
	baz=232					
H27K	**Steamboat Moun**	87.01	20	P	**P**	**21 10 45.9 +1.3**
	baz=236,SNR=5.0					
C24K	**Franklin Bluff**	87.02	15	P	**P**	**21 10 45.4 +1.1**
	baz=229					
F26K	**Sheenjek River**	87.03	18	P	**P**	**21 10 45.1 +0.6**
	baz=233					
Q32M	**Nakina River**	87.09	28	P	**P**	**21 10 45.1 -0.2**
	baz=244					
I28M	**Miner Creek**	87.12	21	IAmb	IAmb	21 10 46.7
	comp=Z,4.1nm,0.6s					
I28M	**Miner Creek**	87.12	21	P	**P**	**21 10 46.0 +0.8**
	baz=237,SNR=6.7					
K29M	**Barlow Dome**	87.16	23	P	**P**	**21 10 46.5 +1.1**
	baz=240,SNR=5.8					
S34M	**Telegraph Cree**	87.18	30	P	**P**	**21 10 45.4 0.0**
	baz=245					
J29N	**Klondike Camp**	87.22	22	P	**P**	**21 10 47.0 +1.4**
	baz=239					
T35M	**Bob Quinn**	87.23	31	P	**P**	**21 10 46.0 +0.2**
	baz=246					
G27K	**Doyon Strip**	87.30	19	P	**P**	**21 10 47.0 +1.1**
	baz=236,SNR=5.4					
P33M	**Teslin, Yukon**	87.38	27	P	**P**	**21 10 46.5 0.0**
	baz=244					
D25K	**Kavik River**	87.39	16	P	**P**	**21 10 46.4 +0.1**
	baz=231					
M31M	**Drury Creek, Y**	87.61	25	P	**P**	**21 10 48.7 +1.2**
	baz=242					
I29M	**Ogilvie Camp,**	87.66	21	IAmb	IAmb	21 10 49.3
	comp=Z,10.0nm,0.8s					
I29M	**Ogilvie Camp,**	87.66	21	P	**P**	**21 10 48.8 +1.2**
	baz=239,SNR=13					
N32M	**Quiet Lake**	87.69	26	P	**P**	**21 10 48.5 +0.6**
	baz=244					
R33M	**Jennings River**	87.88	28	P	**P**	**21 10 50.1 +1.2**
	baz=246					
DLBC	**Dease Lake**	87.93	29	P	**P**	**21 10 50.4 +1.3**
	baz=246					
J30M	**Hart River**	87.98	22	IAmb	IAmb	21 10 51.3
	comp=Z,13nm,1.8s					
J30M	**Hart River**	87.98	22	P	**P**	**21 10 50.2 +0.8**
	baz=241					
J05D	**Fort Rock, OR**	88.01	45		**P**	**21 10 50.8 +0.8**
J05D				IAmb	IAmb	21 10 52.8
	comp=Z,9.2nm,0.9s					
H29M	**Whitestone**	88.08	21	P	**P**	**21 10 50.6 +1.0**
	baz=239					
K05A	**Summer Lake**	88.10	46	IAmb	IAmb	21 10 53.4
	comp=Z,8.0nm,1.0s					
E27K	**Coleen River**	88.10	18	P	**P**	**21 10 50.9 +1.2**
	baz=236					
C26K	**Camden Bay**	88.16	16	P	**P**	**21 10 50.5 +0.7**
	baz=232					
I30M	**Mount Dempster**	88.28	22	IAmb	IAmb	21 10 52.1
	comp=Z,4.6nm,0.7s					
I30M	**Mount Dempster**	88.28	22	P	**P**	**21 10 51.3 +0.6**
	baz=240,SNR=10					
C27K	**Jago River**	88.31	17	P	**P**	**21 10 51.7 +1.1**
	baz=234					
F28M	**Old Crow**	88.32	19	P	**P**	**21 10 51.9 +1.1**
	baz=237					
PINE	**Pine Mountain**	88.36	45	IAmb	IAmb	21 10 54.5
	comp=Z,

	comp=Z,2.4nm,0.7s							
E28M	**Babbage River**	**88.97**	**18**	P		**P**	**21 10 54.6**	**+0.9**
	baz=238							
MMPY	**Sheldon Lake,**	**89.10**	**25**	P		**P**	**21 10 55.5**	**+1.0**
	baz=245							
G30M	**tAoh Zraii Nji**	**89.21**	**20**	P		**P**	**21 10 55.5**	**+0.6**
	baz=241							
H31M	**Peel River**	**89.31**	**22**	IAmb		IAmb	21 10 57.3	
	comp=Z,6.1nm,0.8s							
H31M	**Peel River**	**89.31**	**22**	P		**P**	**21 10 56.0**	**+0.6**
	baz=242,SNR=5.1							
E29M	**Blow River**	**89.37**	**19**	P		**P**	**21 10 56.0**	**+0.4**
	baz=239							
QSM	**Queen of Sheba**	**89.42**	**53**	IAmb		IAmb	21 10 58.6	
	comp=Z,6.1nm,0.9s							
D28M	**Stokes Point**	**89.60**	**18**	P		**P**	**21 10 56.8**	**+0.2**
	baz=238							
WVOR	**Wild Horse Val**	**89.63**	**47**	IAmb		IAmb	21 11 00.7	
	comp=Z,10nm,1.2s							
F30M	**Barrier River**	**89.67**	**20**	P		**P**	**21 10 57.9**	**+0.9**
	baz=241							
BELC	**Belle Mtn. Jos**	**89.67**	**55**	IAmb		IAmb	21 11 00.2	
	comp=Z,6.2nm,1.0s							
WCT	**Wildcat Mounta**	**89.80**	**53**	IAmb		IAmb	21 11 00.6	
	comp=Z,6.6nm,1.0s							
G31M	**Satah River**	**89.86**	**21**	P		**P**	**21 10 59.0**	**+1.1**
	baz=242							
J08A	**Circle Bar Ran**	**89.97**	**46**	IAmb		IAmb	21 11 01.9	
	comp=Z,9.5nm,1.1s							
TPNV	**Topopah Spring**	**90.12**	**53**	IAmb		IAmb	21 11 02.2	
	comp=Z,5.8nm,0.8s							
MKAR	**Makanchi Array**	**90.25**	**318**	P		**P**	**21 10 59.3**	**-1.0**
MKAR	**Makanchi Array**	**90.25**	**318**	P		**P**	**21 10 58.9**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=90,slow=6.6,SNR=24							
MKAR				pP		**pP**	**21 11 19.4**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=100,slow=5.5,SNR=4.6							
	comp=Z,0.9nm,0.3s							
F31M	**Tsiigehtchic**	**90.28**	**20**	P		**P**	**21 11 00.8**	**+1.0**
	baz=243							
ZALV	**Zalesovo Beam**	**90.65**	**325**	P		**P**	**21 10 60.0**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=72,slow=4.8,SNR=3.6							
ZALV				pP		**pP**	**21 11 21.1**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=111,slow=7.9,SNR=1.6							
	comp=Z,0.4nm,0.3s							
ELK	**Elko**	**91.72**	**49**	IAmb		IAmb	21 11 09.7	
	comp=Z,5.7nm,1.1s							
NEW	**Newport**	**92.07**	**41**	IAmb		IAmb	21 11 10.1	
	comp=Z,4.9nm,0.9s							
PLID	**Pearl Lake**	**92.11**	**45**	IAmb		IAmb	21 11 10.6	
	comp=Z,4.3nm,0.8s							
HLID	**Hailey**	**92.90**	**46**	IAmb		IAmb	21 11 16.4	
	comp=Z,4.2nm,0.9s							
KURBB	**Kurchatov Arra**	**93.56**	**321**	P		**P**	**21 11 13.5**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=105,slow=3.4,SNR=9.2							
KURBB				pP		**pP**	**21 11 34.3**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=116,slow=3.7,SNR=3.9							
	comp=Z,1.4nm,0.8s							
C36M	**Paulatuk**	**94.32**	**20**	P		**P**	**21 11 19.0**	**+0.5**
	baz=252							
A36M	**Sachs Harbour**	**94.79**	**17**	P		**P**	**21 11 21.0**	**+0.5**
	baz=251							
PDAR	**Pinedale Array**	**96.26**	**48**	P		**P**	**21 11 28.7**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=236,slow=1.6,SNR=4.6							
	comp=Z,0.2nm,0.4s							
YKA	**Yellowknife Ar**	**96.40**	**28**	P		**P**	**21 11 27.3**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=352,slow=30,SNR=7.3							
	comp=Z,1.5nm,0.8s							
BVAR	**Borovoye Array**	**98.92**	**322**	P		**P**	**21 11 37.5**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=85,slow=4.8,SNR=4.4							
BVAR				pP		**pP**	**21 11 58.8**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=107,slow=9.5,SNR=2.8							
	comp=Z,0.6nm,0.5s							
ESDC	**Sonseca Array**	**148.16**	**338**	PKPbc		**PKPdf**	**21 17 41.8**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=40,slow=1.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**160.03**	**280**	PKPab		**PKPab**	**21 18 38.1**	**-1.3**
	comp=Z,1.3nm,1.1s,baz=98,slow=4.5,SNR=4.0							

AUST 19 21:01:06.5±0.6, 18°S±7°×12°0E±°, h10km, mb4.6/3, ML3.1/2, ML3.5/3, Error ellipse: s-maj=17.3km s-min=5.4km az=141.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.92**	**76**	P	Pn	21 01 38.0	-1.2
AUBRM				S	Sb	21 02 05.4	-0.2
MBWA	**Marble Bar**	**2.76**	**191**	P	Pn	21 01 51.2	+0.4
MBWA				S	Sn	21 02 24.5	+0.3
FITZ	**Fitzroy Crossi**	**5.11**	**87**	P	Pn	21 02 22.1	-1.0
GIRL	**Giralia**	**7.04**	**232**	P	Pn	21 02 49.6	-0.1
	comp=Z,416µmcomp=Z,111nm,2.3s,comp=Z,0.3nm						
GIRL				S	Sn	21 04 05.0	-4.8
MEEK	**Meekatharra**	**8.31**	**190**	P	Pn	21 03 07.7	+0.6
MEEK	**Meekatharra**	**8.31**	**190**	S	Sn	21 04 36.4	-4.7
CVQOZ	**Cooralya Stati**	**8.31**	**223**	P	Pn	21 03 07.4	+0.3
	comp=Z,222nm,1.9s,comp=Z,1.0nm						
KNRA	**Kununurra**	**8.57**	**73**	P	Pn	21 03 10.9	+0.2
	comp=Z,0.1nmcomp=Z,16nm,1.7s						
NWAO	**Narrogin (SRO)**	**14.69**	**190**	P	Pn	21 04 35.4	+0.9

*IDC **19** 21:19:05.7±0.8, 25°47N×142°26E, h0km, mb3.9/14, mbtmp3.9/16, ML3.1/2, Error ellipse: s-maj=32.5km s-min=16.2km az=79.0*

ISC 19 21:19:11.0±0.9, 25°47N±0°09×142°1E±0°2, h35km, n25, σ1§28/22, mb3.9/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.62**	**3**	Pn	**Pn**	**21 19 36.7**	**-0.5**
	239nm,0.3s,baz=212,slow=2.6,SNR=153						
JCJ				Sn	**Sn**	**21 20 00.2**	**+3.4**
	56nm,0.3s,baz=270,slow=20,SNR=4.1						
MJAR	**Matsushiro Arr**	**11.53**	**344**	Pn	**Pn**	**21 21 49.8**	**-3.3**
	baz=155,slow=14,SNR=4.2						
	0.4nm,0.4s						
KSRS	**Korea Array**	**16.98**	**318**	P	**P**	**21 23 07.8**	**+0.4**
	0.2nm,0.3s,baz=128,slow=11,SNR=5.5						
	1.1nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**23.58**	**99**	T	T	21 47 48.2	
	baz=291,slow=74,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**23.58**	**99**	T	T	21 47 55.6	
	baz=291,slow=74,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**23.59**	**99**	T	T	21 47 51.9	
	baz=291,slow=74,SNR=3.9						
H11S3	**WAKE ISLAND Hy**	**23.81**	**102**	T	T	21 48 05.5	
	baz=292,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**23.82**	**102**	T	T	21 48 06.0	
	baz=292,slow=75,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**23.83**	**102**	T	T	21 48 06.9	
	baz=292,slow=75,SNR=7.1						
SONM	**Songino Array**	**35.85**	**318**	P	**P**	**21 26 07.7**	**+0.2**
	0.6nm,0.4s,baz=117,slow=8.1,SNR=6.3						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**45.76**	**190**	P	**P**	**21 27 30.4**	**+1.2**
	0.6nm,0.3s,baz=7.7,slow=8.1,SNR=5.7						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**49.48**	**190**	P	**P**	**21 27 57.1**	**-1.0**
	0.2nm,0.6s,baz=11,slow=8.8,SNR=4.3						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**50.67**	**320**	P	**P**	**21 28 06.9**	**+0.1**
	0.6nm,0.4s,baz=110,slow=8.1,SNR=3.6						
ZALV				PcP	**PcP**	**21 29 24.4**	**+0.6**
	0.7nm,0.6s,baz=114,slow=1.7,SNR=4.0						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**51.46**	**311**	P	**P**	**21 28 13.8**	**+0.9**
	0.7nm,0.5s,baz=92,slow=8.9,SNR=14						
MKAR				PcP	**PcP**	**21 29 28.0**	**+1.1**
	0.3nm,0.6s,baz=72,slow=4.7,SNR=2.5						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**54.13**	**315**	P	**P**	**21 28 33.4**	**+0.9**
	3.4nm,0.5s,baz=91,slow=8.1,SNR=59						
	3.4nm,0.5s						
ILAR	**Eielson Array**	**59.18**	**28**	P	**P**	**21 29 07.4**	**-0.7**
	0.3nm,0.8s,baz=270,slow=8.4,SNR=2.2						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**59.19**	**318**	P	**P**	**21 29 09.5**	**+1.1**
	3.3nm,0.5s,baz=88,slow=7.2,SNR=35						
	3.3nm,0.5s						
ARCES	**ARCESS Array B**	**75.05**	**341**	P	**P**	**21 30 48.4**	**-0.3**
	2.0nm,0.9s,baz=58,slow=5.5,SNR=3.6						
	2.0nm,0.9s						
FINES	**FINESS Array B**	**79.37**	**334**	P	**P**	**21 31 13.3**	**+0.2**
	1.8nm,0.5s,baz=58,slow=5.2,SNR=22						
	1.8nm,0.5s						
HFS	**Hagfors**	**84.89**	**337**	P	**P**	**21 31 41.4**	**-0.7**
	1.1nm,0.6s,baz=60,slow=9.0,SNR=5.1						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**85.09**	**338**	P	**P**	**21 31 43.1**	**0.0**
	0.3nm,0.4s,baz=45,slow=5.0,SNR=1.8						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**87.05**	**313**	P	**P**	**21 31 53.1**	**-0.2**
	0.5nm,0.8s,baz=48,slow=2.1,SNR=2.1						
	0.5nm,0.8s						
GERES	**GERESS Array B**	**92.86**	**329**	P	**P**	**21 32 20.7**	**+0.4**
	0.1nm,0.3s,baz=32,slow=5.2,SNR=2.2						
	0.1nm,0.3s						
PLCA	**Paso Flores**	**148.91**	**127**	PKPbc	**PKPbc**	**21 38 55.0**	**-0.3**
	0.9nm,0.7s,baz=262,slow=1.0,SNR=3.2						
LPAZ	**La Paz**	**150.37**	**78**	PKPbc	**PKPbc**	**21 39 00.6**	**+0.4**
	0.9nm,0.7s,baz=297,slow=2.3,SNR=3.8						

*IDC **19** 21:21:45.4±0.8, 31°.84S×57°.03E, h0km, mb3.9/9, mbtmp4.0/10, ML4.8/1, MS3.6/12, Error ellipse: s-maj=31.0km s-min=22.4km az=64.0*

*NEIC **19** 21:21:48.4±0.9, 32°.0S±0°.1×56°.8E±0°.2, h10km±1km, mb4.7/5, Error ellipse: s-maj=33.0km s-min=4.6km az=229.0*

ISC 19 21:21:48.5±0.7, 31°.8S±0°.1×56°.9E±0°.1, h19km, n46, σ1§08/26, mb4.0/9, MS3.5/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.07**	**306**	Pn	**Pn**	**21 24 26.4**	**+0.6**
VOI	**Vohitsoka**	**13.37**	**315**	Pn	**Pn**	**21 24 57.6**	**+0.3**
H04N2	**CROZET ISLANDS**	**14.83**	**194**	T	T	21 40 25.2	
	baz=18,slow=76,SNR=668						
H04N1	**CROZET ISLANDS**	**14.83**	**194**	T	T	21 40 25.3	
	baz=18,slow=76,SNR=212						
H04N3	**CROZET ISLANDS**	**14.85**	**194**	T	T	21 40 24.2	
	baz=18,slow=76,SNR=258						
ABPO	**Ambohimpanom**	**15.45**	**323**	Pn	**Pn**	**21 25 27.1**	**+1.5**
ABPO				IAmb	IAmb	21 25 28.6	
	comp=Z,14nm,0.5s						
OPO	**Ambohidratompo**	**15.84**	**324**	Pn	**Pn**	**21 25 32.1**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=150,slow=14,SNR=20						
OPO				Sn	**Sn**	**21 28 23.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=198,slow=20,SNR=2.0						
	comp=Z,12nm,0.5s						
BOSA	**Boshof**	**27.46**	**268**	LR	LR	21 36 20.0	
	comp=Z,60nm,18.1s,baz=114,slow=32						
MATP	**Matopo**	**27.81**	**287**	LR	LR	21 36 57.3	
	comp=Z,116nm,20.6s,baz=82,slow=33						
H08S1	**Diego Garcia H**	**28.12**	**34**	T	T	21 56 54.5	
	baz=207,slow=75,SNR=10						
H08S2	**Diego Garcia H**	**28.13**	**34**	T	T	21 56 55.6	
	baz=207,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**28.14**	**34**	T	T	21 56 57.8	
	baz=207,slow=75,SNR=42						
LBTB	**Lobatse**	**28.27**	**276**	LR	LR	21 36 36.9	
	comp=Z,68nm,19.8s,baz=100,slow=31						
KDWAN	**Kaudwane**	**29.68**	**278**	P	**P**	**21 27 53.1**	**-0.2**
KDWAN				IAmb	IAmb	21 28 36.3	
	comp=Z,20nm,1.4s						
LSZ	**Lusaka**	**30.90**	**296**	LR	LR	21 38 23.3	
	comp=Z,88nm,22.0s,baz=138,slow=32						
LKGWB	**Lokgwabe**	**32.31**	**275**	P	P	21 28 11.4	-5.2
TSUM	**Tsumeb**	**37.43**	**280**	LR	LR	21 43 30.0	
	comp=Z,106nm,18.3s,baz=116,slow=35						
H01W2	**Cape Leeuwin H**	**47.36**	**110**	T	T	22 20 55.8	
	baz=256,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**47.37**	**110**	T	T	22 20 52.6	
	baz=256,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**47.38**	**110**	T	T	22 20 47.2	
	baz=256,slow=75,SNR=12						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**21 31 42.1**	**+0.1**
QSPA				IAmb	IAmb	21 31 47.9	
	comp=Z,8.7nm,1.1s						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**21 31 42.5**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=267,slow=1.8,SNR=18						
	comp=Z,3.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**64.25**	**45**	P	**P**	**21 32 21.6**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=219,slow=6.8,SNR=19						
CMAR				LR	LR	21 55 25.9	
	comp=Z,34nm,20.5s,baz=245,slow=32						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**67.37**	**105**	P	**P**	**21 32 43.2**	**+0.4**
ASAR	**Alice Springs**	**67.37**	**105**	P	**P**	**21 32 40.7**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=245,slow=6.9,SNR=5.4						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**69.22**	**301**	P	**P**	**21 32 53.8**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=141,slow=7.1,SNR=2.9						
	comp=Z,0.7nm,0.9s						
WRA	**Warramunga Arr**	**69.40**	**101**	P	**P**	**21 32 55.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=242,slow=6.0,SNR=5.1						
	comp=Z,0.7nm,0.5s						
DBIC	**Dimbokro**	**70.14**	**292**	LR	LR	22 00 53.7	
	comp=Z,35nm,20.5s,baz=157,slow=33						
BRTR	**Keskin Array B**	**74.40**	**342**	P	**P**	**21 33 25.2**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=175,slow=6.7,SNR=7.1						
	comp=Z,1.3nm,0.9s						
VAE	**Valguarnera**	**79.55**	**327**	LR	LR	22 10 50.8	
	comp=Z,57nm,18.3s,baz=136,slow=37						
AB31	**Akdalk array**	**80.78**	**2**	P	**P**	**21 34 02.7**	**+2.4**
ABKAR	**Akbulak array**	**80.78**	**2**	P	**P**	**21 34 00.4**	**+0.1**
MKAR	**Makanchi Array**	**81.56**	**17**	P	**P**	**21 34 05.1**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=202,slow=6.1,SNR=4.3						
	comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**84.31**	**14**	P	**P**	**21 34 19.3**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=205,slow=6.0,SNR=2.2						
	comp=Z,0.6nm,0.9s						
BVAR	**Borovoye Array**	**85.33**	**8**	P	**P**	**21 34 24.9**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=189,slow=5.4,SNR=5.5						
	comp=Z,1.1nm,0.8s						
MDT	**Midelt**	**86.62**	**312**	LR	LR	22 13 45.2	
	comp=Z,44nm,18.1s,baz=135,slow=36						
URZ	**Urewera**	**90.78**	**137**	LR	LR	22 07 40.5	
	comp=Z,69nm,20.0s,baz=235,slow=30						
JNU	**Nakatsue**	**95.09**	**54**	LR	LR	22 18 51.8	
	comp=Z,24nm,18.1s,baz=261,slow=36						
NOA	**NORSAR Array B**	**99.74**	**339**	LR	LR	22 17 57.9	
	comp=Z,8.5nm,21.6s,baz=125,slow=34						
ILAR	**Eielson Array**	**143.92**	**17**	PKP	**PKPdf**	**21 41 22.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=316,slow=2.5,SNR=2.1						
J26L	**Joseph Creek**	**144.93**	**15**		**PKPbc**	**21 41 22.9**	**+0.1**
H31M	**Peel River**	**145.33**	**8**		**PKiKP**	**21 41 26.8**	**-1.3**
J30M	**Hart River**	**146.23**	**10**	PKPdf	**PKPbc**	**21 41 26.9**	**-0.1**
BCAR	**Beaver Creek A**	**146.58**	**15**	PKPdf	**PKPbc**	**21 41 27.3**	**-0.6**
M29M	**Somme Creek**	**147.83**	**13**		**PKPbc**	**21 41 32.2**	**+0.7**
YKA	**Yellowknife Ar**	**148.85**	**352**	PKPbc	**PKPbc**	**21 41 33.2**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=20,slow=3.2,SNR=6.6						

*UCR **19** 21:25:49.0±1.1, 11°.00N×85°.22W, h212km±4km, MW4.3*

*IDC **19** 21:25:49.6±0.5, 11°.15N×85°.01W, h195km±12km, mb3.3/7, mbtmp3.8/8, Error ellipse: s-maj=38.3km s-min=22.9km az=29.0*

*NEIC **19** 21:25:51.0±2.5, 10°.98N±0°.06×85°.20W±0°.08, h194km±2km, mb4.4/34, Error ellipse: s-maj=11.7km s-min=7.0km az=61.0*

*CATAC **19** 21:25:50.9±0.4, 11°.N±3°×8°.5W±°, h202km±2km, M4.0/24, MLv4.0/24, Error ellipse: s-maj=7.7km s-min=2.9km az=48.4, confirmed*

ISC 19 21:25:50.2±0.6, 10°.96N±0°.04×85°.15W±0°.05, h204km±5km, n178, σ1§16/199, mb4.4/22, 54C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMAR	**Armenia, Volca**	**0.15**	**165**	eP	**Pn**	**21 26 17.6**	**+0.5**
PEJA	**Penjamo Buenos**	**0.17**	**248**	eP	**Pn**	**21 26 17.6**	**+0.5**
BUAI	**Buenos Aires**	**0.19**	**245**	eP	**Pn**	**21 26 17.6**	**+0.4**
MESS	**Mesas**	**0.22**	**190**	eP	**Pn**	**21 26 17.6**	**+0.4**
MESS				eS	**S**	**21 26 39.2**	**+0.8**
VRLE	**La Escondida,**	**0.27**	**231**	eP	**Pn**	**21 26 17.6**	**+0.2**
GPS2	**Hotel Rincn d**	**0.28**	**224**	eP	**Pn**	**21 26 17.6**	**+0.2**
GPS2				eS	**S**	**21 26 39.3**	**+0.8**
MOTZ	**Rio Naranjo**	**0.28**	**163**	eP	**Pn**	**21 26 17.9**	**+0.5**
COLC	**Colonia**	**0.29**	**190**	eP	**Pn**	**21 26 17.7**	**+0.3**
CUI	**Cuipilapa**	**0.30**	**182**	eP	**Pn**	**21 26 17.9**	**+0.5**
CUI				eS	**S**	**21 26 39.0**	**+0.3**
TENO	**El Achiote**	**0.31**	**145**	eP	**Pn**	**21 26 18.2**	**+0.7**
LAPC	**Finca la Perla**	**0.33**	**235**	eP	**Pn**	**21 26 17.3**	**-0.1**
TIMP	**Tierras Morena**	**0.40**	**160**	eP	**Pn**	**21 26 18.2**	**+0.5**
TIMP				eS	**S**	**21 26 39.2**	**+0.1**
TIMP				eS	S	21 26 39.4	+0.3
CARN	**Rivas**	**0.43**	**302**	eP	**Pn**	**21 26 18.1**	**+0.6**
CARN				eS	**S**	**21 26 39.2**	**+0.2**
CARN	**Rivas**	**0.43**	**302**	P	**Pn**	**21 26 18.2**	**+0.6**
CARN				S	**S**	**21 26 39.6**	**+0.7**
LCHIL	**Los Chiles**	**0.44**	**80**	eP	**Pn**	**21 26 18.2**	**+0.6**
BAGA	**Bagaces**	**0.44**	**194**	eP	**Pn**	**21 26 17.9**	**+0.2**
LCRUZ	**La Cruz**	**0.48**	**284**	eP	**Pn**	**21 26 18.1**	**+0.2**
INVE	**Universidad In**	**0.49**	**169**	eP	**Pn**	**21 26 18.4**	**+0.5**
INVE				eS	**S**	**21 26 39.6**	**+0.1**
ELI1	**Hacienda Flor**	**0.50**	**232**	eP	**Pn**	**21 26 18.1**	**+0.3**
ELI1	**Hacienda Flor**	**0.50**	**232**	P	**Pn**	**21 26 18.2**	**+0.3**
ELI1	**Hacienda Flor**	**0.50**	**232**	S	**S**	**21 26 39.6**	**+0.3**
TILA	**Tilaran**	**0.52**	**160**	eP	**Pn**	**21 26 18.6**	**+0.5**
CNAS	**Canas**	**0.53**	**173**	eP	**Pn**	**21 26 19.5**	**+1.5**
ALIBA	**Liberia Airpor**	**0.53**	**227**	eP	**Pn**	**21 26 18.3**	**+0.3**
CHIK	**Chiripa**	**0.57**	**155**	eP	**Pn**	**21 26 19.1**	**+0.8**
TABAC	**Tabacon**	**0.59**	**140**	eP	**Pn**	**21 26 19.3**	**+0.9**
REZ	**Monterrey de S**	**0.62**	**134**	eP	**Pn**	**21 26 19.3**	**+0.9**
CEDE	**Laguna Cedeo**	**0.64**	**137**	eP	**Pn**	**21 26 19.6**	**+1.1**
ARE1	**Arenal 1**	**0.65**	**139**	eP	**Pn**	**21 26 19.7**	**+1.1**
VARE2	**V. Arenal**	**0.65**	**139**	eP	**Pn**	**21 26 19.7**	**+1.1**
CASO	**Castillo**	**0.66**	**142**	eP	**Pn**	**21 26 19.6**	**+0.9**
VACR	**Volcan Arenal**	**0.67**	**136**	eP	**Pn**	**21 26 19.7**	**+1.1**
FORC	**Fortuna**	**0.68**	**136**	eP	**Pn**	**21 26 19.7**	**+1.0**
JTS	**Las Juntas de**	**0.69**	**163**		**Pn**	**21 26 19.1**	**+0.3**
JTS				Sn	**S**	**21 26 40.2**	**-0.8**
JTS	**Las Juntas de**	**0.69**	**163**	P	**Pn**	**21 26 19.1**	**+0.3**
	1µm,0.3s,baz=3.6,slow=15,SNR=860						
JTS				LR	LR	21 26 35.2	
	comp=Z,76nm,19.8s,baz=206,slow=53						
JTS				S	**S**	**21 26 40.5**	**-0.4**
	904nm,0.2s,baz=343,slow=19,SNR=20						
JTS	**Las Juntas de**	**0.69**	**163**	eP	**Pn**	**21 26 19.1**	**+0.3**
JTS	**Las Juntas de**	**0.69**	**163**	P	**Pn**	**21 26 19.1**	**+0.3**
JTS				S	**S**	**21 26 40.9**	**0.0**
JUNT	**Juntas**	**0.70**	**164**	eP	**Pn**	**21 26 19.1**	**+0.3**
MTEVE	**Monteverde**	**0.71**	**153**	eP	**Pn**	**21 26 19.6**	**+0.6**
MORN	**Al O del Volca**	**0.76**	**320**	P	**Pn**	**21 26 19.7**	**+0.6**
COVE	**Coope Vega, Sa**	**0.78**	**108**	P	**Pn**	**21 26 19.5**	**+0.4**
COVE	**Coope Vega, Sa**	**0.78**	**108**	S	**S**	**21 26 42.3**	**+0.9**
SOCE	**Pocosol**	**0.78**	**137**	Pn	**Pn**	**21 26 19.9**	**+0.7**
SOCE	**Pocosol**	**0.78**	**137**	eP	**Pn**	**21 26 19.8**	**+0.7**
SOCE	**Pocosol**	**0.78**	**137**	P	**Pn**	**21 26 19.8**	**+0.6**
SACU	**Santa Cruz**	**0.81**	**212**	eP	**Pn**	**21 26 19.6**	**+0.2**
NICO	**Nicoya**	**0.87**	**199**	eP	**Pn**	**21 26 19.9**	**+0.2**
JUD3	**Juan Diaz 3**	**0.87**	**206**	eP	**Pn**	**21 26 20.0**	**+0.2**
QUEU	**Ciudad Quesada**	**0.95**	**132**	eP	**Pn**	**21 26 21.0**	**+0.8**
NYURE	**Nandayure**	**0.96**	**186**	eP	**Pn**	**21 26 20.6**	**+0.3**
VPL2	**V. Platanar**	**1.00**	**130**	eP	**Pn**	**21 26 21.6**	**+0.9**
ACON	**Acoyapa**	**1.00**	**359**	Pn	**Pn**	**21 26 20.4**	**-0.1**
ACON				Sn	**S**	**21 26 43.8**	**-0.2**
ACON	**Acoyapa**	**1.00**	**359**	eP	**Pn**	**21 26 20.6**	**+0.1**
ACON	**Acoyapa**	**1.00**	**359**	P	**Pn**	**21 26 20.6**	**+0.1**
ACON	**Acoyapa**	**1.00**	**359**	S	**S**	**21 26 44.0**	**0.0**
VPL1	**V. Platanar**	**1.04**	**132**	eP	**Pn**	**21 26 21.7**	**+0.6**
ARZA	**Esparza**	**1.07**	**154**	eP	**Pn**	**21 26 21.6**	**+0.6**
ARTO	**Ro Cuarto**	**1.11**	**123**	eP	**Pn**	**21 26 21.8**	**+0.5**
INDI	**Punta indio, G**	**1.14**	**198**	P	**Pn**	**21 26 21.6**	**+0.2**
INDI	**Punta indio, G**	**1.14**	**198**	S	**S**	**21 26 46.3**	**+0.7**
PALD	**Palmares**	**1.14**	**142**	eP	**Pn**	**21 26 22.0**	**+0.4**
NADN	**Granada**	**1.17**	**312**	eP	**Pn**	**21 26 21.7**	**+0.1**
NADN	**Granada**	**1.17**	**312**	P	**Pn**	**21 26 21.8**	**+0.1**
NADN				S	**S**	**21 26 47.0**	**+1.1**
SARCI	**Sarchi**	**1.17**	**137**	eP	**Pn**	**21 26 22.7**	**+0.8**
VPS5	**V. Poas**	**1.19**	**130**	eP	**Pn**	**21 26 22.8**	**+0.6**
VPS8	**V Poas**	**1.19**	**131**	eP	**Pn**	**21 26 23.1**	**+0.9**
OROT	**Orotina**	**1.21**	**149**	eP	**Pn**	**21 26 22.6**	**+0.6**
ATEO	**Atenas**	**1.23**	**142**	eP	**Pn**	**21 26 22.8**	**+0.5**
NANN	**

CPCT	**Cooper Cave**	**24.39**	**1**	P	**P**	**21 30 50.8**	**+1.1**
CPCT				IAmb	IAmb	21 30 54.0	
	comp=Z,11nm,0.8s						
V53A	**Saluda**	**24.69**	**5**	P	**P**	**21 30 51.9**	**-0.7**
MIAR	**Mount Ida**	**24.71**	**343**	P	**P**	**21 30 53.0**	**+0.4**
MIAR				IAmb	IAmb	21 30 55.1	
	comp=Z,5.2nm,0.7s						
WHAR	**Wooly Hollow**	**25.08**	**346**	P	**P**	**21 30 55.8**	**-0.2**
WHAR				IAmb	IAmb	21 30 56.5	
	comp=Z,5.2nm,0.6s						
TXAR	**Lajitas Array**	**25.16**	**319**	P	**P**	**21 30 56.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=141,slow=7.5,SNR=3.8						
	comp=Z,0.2nm,0.4s						
S51A	**Beattyville**	**26.60**	**3**	P	**P**	**21 31 09.6**	**-0.1**
S51A				IAmb	IAmb	21 31 11.1	
	comp=Z,4.8nm,0.7s						
CCM	**Cathedral Cave**	**27.53**	**350**	P	**P**	**21 31 17.6**	**-0.3**
CCM				IAmb	IAmb	21 31 18.0	
	comp=Z,5.2nm,0.7s						
Q51A	**Peebles**	**28.00**	**3**	P	**P**	**21 31 22.2**	**+0.2**
P52A	**Corning**	**28.68**	**5**	P	**P**	**21 31 28.1**	**0.0**
P52A				IAmb	IAmb	21 31 29.1	
	comp=Z,8.8nm,0.7s						
O48B	**Farmland**	**29.18**	**360**	P	**P**	**21 31 31.6**	**-1.0**
ACSO	**Alum Creek Sta**	**29.22**	**3**	P	**P**	**21 31 32.9**	**+0.1**
N49A	**Columbus Grove**	**29.86**	**1**	P	**P**	**21 31 38.1**	**-0.4**
N49A				IAmb	IAmb	21 31 38.7	
	comp=Z,7.7nm,0.6s						
SSPA	**Standing Stone**	**30.25**	**11**	P	**P**	**21 31 42.8**	**+0.9**
SSPA				IAmb	IAmb	21 31 44.4	
	comp=Z,4.9nm,1.0s						
M57A	**Sunshine Farm,**	**31.07**	**12**	P	**P**	**21 31 50.1**	**+0.9**
M57A				IAmb	IAmb	21 31 50.6	
	comp=Z,5.1nm,0.6s						
H43A	**Windswept, Lux**	**33.47**	**357**	P	**P**	**21 32 09.3**	**-0.7**
F33A	**5 Mile Ranch,**	**36.04**	**347**	P	**P**	**21 32 30.5**	**-1.4**
F33A				IAmb	IAmb	21 32 30.9	
	comp=Z,7.3nm,0.5s						
G62A	**West of Eustis**	**36.37**	**18**	P	**P**	**21 32 35.2**	**+0.4**
PDAR	**Pinedale Array**	**38.16**	**330**	P	**P**	**21 32 49.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=144,slow=7.2,SNR=3.3						
	comp=Z,0.3nm,0.7s						
EPLO	**Experimental L**	**39.25**	**351**	P	**P**	**21 32 57.0**	**-1.8**
EPLO				IAmb	IAmb	21 33 20.9	
	comp=Z,9.3nm,1.1s						
ULM	**Lac du Bonnet**	**40.16**	**349**	P	**P**	**21 33 04.6**	**-1.7**
	comp=Z,3.5nm,0.6s,baz=165,slow=12,SNR=5.3						
	comp=Z,3.5nm,0.6s						
NVAR	**Mina Array Bea**	**40.30**	**318**	P	**P**	**21 33 08.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=103,slow=5.5,SNR=5.4						
	comp=Z,0.6nm,0.5s						
SCHQ	**Schefferville**	**46.10**	**15**	P	**P**	**21 33 52.2**	**-1.6**
SCHQ				IAmb	IAmb	21 33 52.7	
	comp=Z,7.1nm,0.5s						
SCHQ	**Schefferville**	**46.10**	**15**	P	**P**	**21 33 52.3**	**-1.4**
	comp=Z,6.4nm,0.4s,baz=216,slow=12,SNR=13						
	comp=Z,6.4nm,0.4s						
H27K	**Steamboat Moun**	**66.85**	**338**	P	**P**	**21 36 19.5**	**-0.4**
ILAR	**Eielson Array**	**68.29**	**336**	P	**P**	**21 36 28.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=126,slow=9.1,SNR=2.3						
	comp=Z,0.3nm,0.6s						
G21K	**Allakaket**	**71.44**	**337**	P	**P**	**21 36 47.9**	**-0.2**
ESDC	**Sonseca Array**	**76.34**	**52**	P	**P**	**21 37 16.3**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=267,slow=5.7,SNR=3.9						
	comp=Z,1.1nm,1.1s						
BURAR	**Bucovina Array**	**95.29**	**40**	P	**P**	**21 38 53.8**	**+2.6**
KSRS	**Korea Array**	**122.72**	**329**	PKP	**PKPdf**	**21 44 21.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=6.4,slow=1.9,SNR=2.9						
ASAR	**Alice Springs**	**140.76**	**246**	PKPdf	**PKPdf**	**21 44 56.9**	**+0.5**
ASAR	**Alice Springs**	**140.76**	**246**	PKPkP	PKPpre	21 44 49.6	
	comp=Z,0.4nm,0.7s,baz=102,slow=3.3,SNR=2.1						
ASAR				PKP	**PKPdf**	**21 44 57.1**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=103,slow=2.0,SNR=5.0						
WRA	**Warramunga Arr**	**140.98**	**252**	PKhKP	PKPpre	21 44 51.0	
	comp=Z,0.5nm,0.6s,baz=93,slow=2.4,SNR=1.7						
WRA				PKP	**PKPdf**	**21 44 57.3**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=91,slow=2.2,SNR=1.7						
CMAR	**Chiang Mai Arr**	**150.49**	**352**	PKPbc	**PKPbc**	**21 45 18.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=15,slow=3.8,SNR=1.8						

*IPEC **19** 21:37:35.1±0.3,51.55N×16.17E,h1km,ML2.4/6, Error ellipse: s-maj=3.1km s-min=1.5km az=71.0*
*DNK **19** 21:37:35.6±1.3,51.43N×16.22E,h36km±49km,ML1.9*
*PRU **19** 21:37:36.5,51.51N×16.15E,h0km*
*IDC **19** 21:37:37.0±1.2,51.43N×16.12E,h0km, mbtmp3.3/4, ML1.9/2, Error ellipse: s-maj=21.1km s-min=9.7km az=133.0*
*VIE **19** 21:37:36.1±1.2,51.47N×16.46E,h0km,mb2.4/7,ml2.7/8, Error ellipse: s-maj=9.8km s-min=6.5km az=44.0 57 km NW of Wroclaw Suspected Mining induced.*

ISC 19 21:37:34.1±0.8,51.61N±0.03×16.21E±0.03,h0km,n39, σ1§37/74,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**176**	*e*Pg	**Pg**	**21 37 48.8**	**0.0**
KSP				*e*Sg	**Sg**	**21 37 58.1**	**-0.7**
CHVC	**Chvalec**	**1.03**	**186**	*e*PG	**Pg**	**21 37 53.6**	**-0.2**
CHVC				*e*SG	**Sg**	**21 38 05.9**	**-1.2**
	40nm,0.5s						
OSTC	**Ostas**	**1.06**	**180**	*e*PG	**Pg**	**21 37 54.3**	**0.0**
OSTC				*e*SG	**Sg**	**21 38 07.3**	**-0.7**
	51nm,0.4s						
UPC	**Upice**	**1.11**	**187**	*e*PG	**Pg**	**21 37 54.8**	**-0.6**
UPC				*e*SG	**Sg**	**21 38 10.2**	**+0.4**
	60nm,0.3s						
DPC	**Dobruska-Polom**	**1.27**	**177**	*e*PG	**Pg**	**21 37 57.4**	**-0.9**
DPC				*e*SG	**Sg**	**21 38 14.3**	**-0.4**
	46nm,0.9s						
PIVO	**Bartosovice**	**1.44**	**171**	*e*Pg	**Pn**	**21 38 00.9**	**-0.6**
	baz=350						
PIVO				*e*Sg	**Sg**	**21 38 18.6**	**-1.8**
	44nm,0.2s,baz=350						
PVCC	**Panska Ves**	**1.50**	**224**	*e*PG	**Pn**	**21 38 02.2**	**0.0**
PVCC				*e*SG	**Sg**	**21 38 20.9**	**-1.3**
	78nm,0.2s						
KRLC	**Kraliky**	**1.58**	**167**	*e*SG	**Sn**	**21 38 24.0**	**-0.5**
	43nm,0.4s						
BRG	**Berggiesshubel**	**1.61**	**243**	Pg	**Pg**	**21 38 05.2**	**+0.4**
BRG				Sg	**Sg**	**21 38 25.6**	**-0.1**
BRG				Amp		21 38 26.6	
	comp=Z,59nm,0.4s						
RICC	**Richard**	**1.71**	**232**	*e*PG	**Pb**	**21 38 05.8**	**-0.5**
RICC				*e*SG	**Sn**	**21 38 27.3**	**-0.3**
	comp=Z,51nm,0.3s						
RYBC	**Ceska Rybna**	**1.81**	**183**	*e*Pn	**Pn**	**21 38 06.2**	**-0.3**
	baz=2.1						
RYBC				*e*Sg	**Sn**	**21 38 29.4**	**-0.7**
	comp=Z,33nm,0.2s,baz=2.1						
PRA	**Prague**	**1.91**	**217**	*e*PG	**Pn**	**21 38 07.3**	**-0.6**
PRA				*e*SG	**Sb**	**21 38 33.8**	**-0.4**
	comp=Z,21nm,0.5s						
PRU	**Pruhonice**	**1.94**	**214**	*e*PG	**Pn**	**21 38 09.2**	**+0.9**
PRU				*e*SG	**Sn**	**21 38 33.4**	**+0.1**
	comp=Z,32nm,0.3s						
MORC	**Moravsky Berou**	**2.02**	**155**	*e*SG	**Sb**	**21 38 37.0**	**-0.4**
	comp=Z,32nm,0.4s,baz=334						
CLL	**Collm**	**2.03**	**263**	*e*Pn	**Pn**	**21 38 09.0**	**-0.5**
CLL				*e*Pg	**Pb**	**21 38 12.0**	**+0.2**
CLL				*ex*	x	21 38 15.0	
CLL				*e*Sg	**Sb**	**21 38 38.0**	**+0.4**
	comp=Z,33nm,0.8s						
OKC	**Ostrava-Krasne**	**2.16**	**145**	*e*SG	**Sb**	**21 38 42.1**	**+0.8**
	comp=Z,40nm,0.6s						
VRAC	**Vranov**	**2.32**	**174**	*e*Pn	**Pn**	**21 38 13.6**	**+0.1**
	baz=353						
VRAC				*e*Sg	**Sb**	**21 38 45.9**	**0.0**
	comp=Z,17nm,0.4s,baz=353						
ZVC	**Zvikov**	**2.53**	**211**	*e*PG	**Pg**	**21 38 21.8**	**-0.7**
ZVC				*e*SG	**Sb**	**21 38 52.8**	**+0.9**
	comp=Z,20nm,0.6s						
KRUC	**Moravsky**	**2.56**	**177**	*e*Sg	**Sb**	**21 38 53.2**	**+0.5**
	comp=Z,10nm,0.3s,baz=357						
JAVC	**Velka Javorina**	**2.91**	**161**	*e*Pn	**Pn**	**21 38 21.8**	**+0.1**
	baz=341						
JAVC	**Velka Javorina**	**2.91**	**161**	*e*PN	**Pn**	**21 38 21.9**	**+0.2**
KHC	**Kasperske Hory**	**3.00**	**215**	*e*PN	**Pn**	**21 38 22.9**	**0.0**
KHC				*e*PG	**Pb**	**21 38 28.3**	**-0.1**
KHC				*e*SN	**Sn**	**21 38 58.3**	**-1.3**
KHC				*e*SG	**Sg**	**21 39 09.3**	**-1.1**
	comp=Z,13nm,0.5s						
CKRC	**Cesky Krumlov**	**3.05**	**204**	*e*PN	**Pn**	**21 38 23.7**	**+0.1**
CKRC				*e*PG	**Pb**	**21 38 30.3**	**+1.1**
CKRC				*e*SG	**Sb**	**21 39 09.0**	**+2.0**
	comp=Z,17nm,0.6s						
GERES	**GERESS Array B**	**3.21**	**211**	Pn	**Pn**	**21 38 26.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=12						
GERES				Pg	**Pb**	**21 38 32.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=31,slow=16,SNR=30						
GERES				Sn	**Sn**	**21 39 03.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=28,slow=29,SNR=5.6						
GERES				Lg	Lg	21 39 12.6	
	comp=Z,0.4nm,0.3s,baz=28,slow=27,SNR=9.7						
	comp=Z,0.8nm,0.4s						
MODS	**Modra-Piesok**	**3.31**	**168**	*e*PG	**Pb**	**21 38 33.4**	**-0.3**
MODS				*e*SG	**Sb**	**21 39 15.5**	**+1.0**
CONA	**Conrad Observa**	**3.69**	**184**	*i* Pn	**Pn**	**21 38 33.1**	**+0.7**
	comp=Z,0.5nm,0.3s						
CONA				*i* Sn	**Sn**	**21 39 15.9**	**-0.8**
	comp=Z,12nm,0.5s						
RONA	**Rosalia, Austr**	**3.92**	**179**	*i* Pn	**Pn**	**21 38 36.8**	**+1.3**
	comp=Z,0.2nm,0.2s						
RONA				*i* Sn	**Sn**	**21 39 21.8**	**-0.3**
	comp=Z,2.2nm,0.4s						
MOA	**Molln**	**3.97**	**199**	*e*Pn	**Pn**	**21 38 36.5**	**+0.3**
BIOA	**Bad Ischl, Aus**	**4.27**	**204**	*i* Pn	**Pn**	**21 38 40.5**	**+0.2**
	comp=Z,2.4nm,0.3s						
BIOA				*e*Sg	**Sg**	**21 39 52.3**	**+1.3**
	comp=Z,19nm,0.5s						
ARSA	**Arzberg**	**4.39**	**186**	*i* Pn	**Pn**	**21 38 42.5**	**+0.6**
	comp=Z,0.6nm,0.3s						
ARSA				*e*Sg	**Sg**	**21 39 50.4**	**-4.5**
	comp=Z,10nm,0.7s						
BLEU	**Blekinge**	**4.71**	**357**	*i* P	**Pn**	**21 38 47.8**	**+1.5**
BLEU				*e*S	**Sn**	**21 39 39.9**	**-1.6**
BLEU				IAML		21 39 45.7	
	comp=Z,0.5nm,0.4s						
LESA	**Schwarzleotal**	**4.78**	**210**	*e*Pn	**Pn**	**21 38 49.1**	**+1.7**
	comp=Z,0.8nm,0.3s						
LESA				Sg	**Sg**	**21 40 03.1**	**-4.5**
	comp=Z,1.7nm,0.3s						
BJUU	**Bjuv**	**4.85**	**338**	*i* P	**Pn**	**21 38 48.4**	**+0.1**
BJUU				*i* S	**Sn**	**21 39 43.4**	**-1.7**
KBA	**Koelnbreinsper**	**4.91**	**204**	*i* Pn	**Pn**	**21 38 49.5**	**+0.3**
	comp=Z,0.5nm,0.3s						
KBA				*e*Sg	**Sg**	**21 40 08.0**	**-3.7**
	comp=Z,2.9nm,0.5s						
DEL	**Delary**	**5.06**	**345**	*e*	**Pn**	**21 38 47.7**	**-3.4**
	baz=161,slow=11						
DEL				*i* P	**Pn**	**21 38 52.0**	**+0.9**
DEL				*i* S	**Sn**	**21 39 46.8**	**-3.4**
DEL				IAML		21 39 51.4	
	comp=Z,0.5nm,0.4s						
WTTA	**Wattenberg**	**5.28**	**216**	*i* Pn	**Pn**	**21 38 55.2**	**+0.9**
	comp=Z,1.5nm,0.5s						
WTTA				Sg	**Sg**	**21 40 21.1**	**-2.3**
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**8.23**	**91**	Pn	**Pn**	**21 39 33.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=284,slow=12,SNR=1.9						
AKASG				Lg	Lg	21 41 59.9	
	comp=Z,0.3nm,0.3s,baz=299,slow=1.0,SNR=1.6						
FINES	**FINESS Array B**	**11.24**	**25**	Pn	**Pn**	**21 40 17.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=1.7						
	comp=Z,1.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**12.12**	**295**	Pn	**Pn**	**21 40 30.0**	**+2.2**
	comp=Z,2.6nm,0.9s,baz=104,slow=17,SNR=2.9						

*NEIC **19** 21:45:17±0.8,35.84N±0.01×96.60W±0.01,h7km±2km, Error ellipse: s-maj=1.6km s-min=1.5km az=68.0*

NEIC 19 21:45:16.9±0.8,35.833N±0.007×96.60W±0.01,h5km±1km, mb_Lg2.5/37,ML2.5/27,ML2.7/28,Error ellipse: s-maj=2.6km s-min=1.8km az=88.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**0.08**	**83**		Pg	21 45 19.3	+0.6
DEOK				Sg	Sg	21 45 20.9	+0.9
DEOK				IAML		21 45 21.1	
	comp=N,7μm,0.4s						
OK052	**Battle Ridge R**	**0.23**	**314**	Pg	Pg	21 45 21.8	+0.3
OK052				Sg	Sg	21 45 25.2	+0.7
OK052				IAML		21 45 27.1	
	comp=N,2μm,0.3s						
QUOK	**Quay**	**0.35**	**345**	Pg	Pg	21 45 24.0	+0.3
QUOK				Sg	Sg	21 45 29.0	+0.6
QUOK				IAML		21 45 30.8	
	comp=E,900nm,0.3s						
TUL3	**Leonard**	**0.66**	**83**	Pg	Pg	21 45 29.7	+0.1
TUL3				Sg	Sg	21 45 38.7	+0.5
OK029	**Liberty Lake**	**0.70**	**267**	Pg	Pg	21 45 30.2	-0.1
OK029				Sg	Sg	21 45 39.9	+0.5
OK029				IAML		21 45 40.3	
	comp=E,189nm,0.4s						
OKCFA	**Oklahoma City**	**0.81**	**239**		Pg	21 45 32.3	-0.2
OKCFA					Sg	21 45 43.6	+0.7
BLOK	**Blackwell**	**1.05**	**332**	Pg	Pg	21 45 50.5	-0.6
BLOK				Sg	Sg	21 45 50.6	-0.2
T35A	**Sooner Cattle**	**1.08**	**4**	Pg	Pg	21 45 37.1	-0.7
T35A				Sg	Sg	21 45 51.9	+0.1
T35A				IAML		21 45 52.5	
	comp=E,206nm,0.1s						
T35A				IAML		21 45 52.7	
	comp=E,146nm,0.2s						
CROK	**Carrier**	**1.31**	**301**		Pn	21 45 41.2	-0.7
CROK					Sb	21 45 59.0	0.0
CROK				IAML		21 46 04.6	
	comp=E,171nm,0.3s						
RLO	**Rose Lookout**	**1.32**	**75**		Pn	21 45 41.5	-0.5
RLO					Sg	21 45 59.3	-0.1
KAN14	**Manchester OK**	**1.57**	**316**		Pn	21 45 45.6	0.0
KAN01	**Argonia South**	**1.62**	**325**	IAmb_Lg		21 46 08.0	
	comp=Z,16nm,0.9s						
CSTR	**Hydro, Custer**	**1.71**	**264**		Pn	21 45 47.8	+0.4
OK038	**West end E0370**	**1.85**	**291**	Pn	Pn	21 45 49.9	+0.5
LOOK	**Love County**	**1.90**	**195**	Pn	Pn	21 45 51.0	+1.0
NOKA	**Waynoka**	**2.05**	**294**	Pn	Pn	21 45 52.9	+0.8
NOKA				IAmb_Lg		21 46 21.8	
	comp=Z,15nm,0.9s						
WMOK	**Wichita Mounta**	**2.09**	**239**	Pn	Pn	21 45 53.4	+0.7
HHAR	**Hobbs**	**2.20**	**77**	Pn	Pn	21 45 55.0	+0.8
WTFS	**Witchita Falls**	**2.57**	**217**	Pn	Pn	21 45 59.1	-0.1
MIAR	**Mount Ida**	**2.79**	**117**	Pn	Pn	21 46 03.2	+1.0
SMWD	**Samgrowood**	**3.06**	**257**	Pn	Pn	21 46 05.5	-0.5
X40A	**Basin Creek Fa**	**3.36**	**112**	IAmb_Lg		21 47 10.0	
	comp=Z,6.9nm,0.8s						
WHAR	**Wooly Hollow**	**3.56**	**98**	Pn	Pn	21 46 12.6	-0.2
FCAR	**Ozark Folk Cen**	**3.63**	**88**	Pn	Pn	21 46 14.8	+1.0
MGMO	**Mountain Grove**	**3.73**	**68**	Pn	Pn	21 46 15.6	+0.4
MGMO				IAmb_Lg		21 47 18.6	
	comp=Z,13nm,0.7s						
CBKS	**Cedar Bluff**	**3.89**	**321**	IAmb_Lg		21 47 25.8	
	comp=Z,8.2nm,0.8s						
R40A	**Maddies Statio**	**4.24**	**53**	Pn	Pn	21 46 22.5	+0.3
R40A				IAmb_Lg		21 47 37.3	
	comp=Z,8.2nm,0.8s						
LCAR	**Lake Charles**	**4.42**	**85**	IAmb_Lg		21 47 38.0	
	comp=Z,5.9nm,0.8s						
SN07	**Snyder 07**	**4.48**	**234**	IAmb_Lg		21 47 41.2	
	comp=Z,6.4nm,0.8s						
P38A	**Dawn**	**4.50**	**32**	IAmb_Lg		21 47 40.3	
	comp=Z,7.6nm,0.9s						
CCM	**Cathedral Cave**	**4.83**	**61**	IAmb_Lg		21 47 50.9	
	comp=Z,8.5nm,0.7s						
PBMO	**Poplar Bluff**	**5.07**	**77**	IAmb_Lg		21 47 58.1	
	comp=Z,14nm,0.8s						
N35A	**Tabor**	**5.08**	**8**	IAmb_Lg		21 47 57.7	
	comp=Z,8.9nm,0.8s						
P40A	**Paris**	**5.16**	**43**	IAmb_Lg		21 48 05.3	
	comp=Z,6.8nm,0.8s						
FVM	**French Village**	**5.39**	**65**	IAmb_Lg		21 48 11.6	
	comp=Z,12nm,0.9s						
T25A	**Trinidad**	**6.43**	**284**	IAmb_Lg		21 48 48.6	
	comp=Z,3.2nm,0.8s						
Q44A	**Meyer Farm, Va**	**6.77**	**61**	IAmb_Lg		21 48 55.8	
	comp=Z,11nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.77**	**54**	IAmb_Lg		21 48 56.5	
	comp=Z,7.5nm,0.8s						
OLIL	**Olney**	**7.37**	**64**	IAmb_Lg		21 49 28.9	
	comp=Z,8.5nm,0.8s						

*IDC **19** 21:46:43.4±1.7,21.63N×143.11E,h291km±16km, mb3.1/12, mbtmp4.0/16, Error ellipse: s-maj=21.6km s-min=12.3km az=82.0*
*JMA **19** 21:46:47.0±0.4,22.2N×14.3E, h307km, MV4.4/21, MARIANA ISLANDS REGION*

ISC 19 21:46:45.5±0.8,21.71N±0.08×143.1E±0.2,h311km,n27, σ1§18/32,mb3.4/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.97**	**351**	*e*S	**S**	**21 49 03.4**	**-2.1**
CBIJ	**Chichi jima**	**5.43**	**352**	*e*P	**Pn**	**21 48 08.2**	**-0.1**
CBIJ				S	**S**	**21 49 12.8**	**-2.2**
JCJ	**Chichijima**	**5.43**	**352**	P	**Pn**	**21 48 07.2**	**-1.0**
	47nm,0.4s,baz=162,slow=20,SNR=12						
JCJ				S	**S**	**21 49 12.5**	**-2.5**
	124nm,0.4s,baz=270,slow=20,SNR=14						
JHJ	**Hachijo jima 2**	**11.74**	**346**	P	**Pn**	**21 49 24.2**	**-0.3**
	24nm,0.3s,baz=120,slow=16,SNR=2.5						
BSO1	**Boso 1**	**13.03**	**352**	*e*P	**Pn**	**21 49 40.6**	**+1.1**
BSO3	**Boso 3**	**13.24**	**351**	*e*P	**P**	**21 49 42.5**	**+0.3**
BSO4	**Boso 4**	**13.45**	**350**	P	**P**	**21 49 45.5**	**+0.8**
JIE	**Ise**	**13.82**	**337**	*e*P	**Pn**	**21 49 51.3**	**+1.7**
JOD2	**Odawara 2**	**13.95**	**346**	*e*P	**Pn**	**21 49 52.3**	**+1.2**
JNY	**Yasuok**	**14.35**	**343**	*e*P	**Pn**	**21 49 57.5**	**+1.7**
JAG	**Ashikaga**	**15.00**	**349**	P	**P**	**21 50 02.6**	**+0.7**
MJAR	**Matsushiro Arr**	**15.38**	**345**	P	**P**	**21 50 05.7**	**-0.3**
	2.4nm,0.5s,baz=163,slow=9.2,SNR=11						
JNU	**Nakatsue**	**15.68**	**319**	P	**P**	**21 50 10.7**	**+1.3**
	3.5nm,0.7s,baz=96,slow=10,SNR=2.2						
KSRS	**Korea Array**	**20.44**	**323**	P	**P**	**21 51 00.7**	**+0.7**
	0.8nm,0.5s,baz=142,slow=8.9,SNR=2.8						
	0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.47**	**274**	P	**P**	**21 54 01.9**	**-1.1**
	0.6nm,0.6s,baz=94,slow=7.7,SNR=5.5						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**42.26**	**192**	P	**P**	**21 54 08.5**	**-0.7**
	1.5nm,0.6s,baz=12,slow=8.0,SNR=15						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**45.97**	**192**	P	**P**	**21 54 37.5**	**-1.0**
	0.4nm,0.5s,baz=16,slow=11,SNR=10						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**21 55 39.6**	**+0.6**
	0.5nm,0.6s,baz=103,slow=11,SNR=2.4						
ZALV				PcP	**PcP**	**21 56 39.2**	**-0.1**
	0.7nm,0.5s,baz=108,slow=4.7,SNR=4.7						
	0.5nm,0.6s						
MKAR	**Makanti Array**	**54.61**	**313**	P	**P**	**21 55 43.4**	**+0.8**
	0.3nm,0.6s,baz=89,slow=9.5,SNR=3.0						
MKAR				PcP	**PcP**	**21 56 41.6**	**+0.3**
	0.7nm,0.8s,baz=84,slow=5.9,SNR=4.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**57.44**	**317**	P	**P**	**21 56 03.0**	**+0.6**
	0.8nm,0.5s,baz=93,slow=7.5,SNR=8.8						
KURBB				PcP	**PcP**	**21 56 52.4**	**+0.2**
	0.5nm,0.8s,baz=97,slow=5.0,SNR=2.2						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**62.08**	**27**	P	**P**	**21 56 33.8**	**+0.3**
	0.5nm,0.8s,baz=251,slow=2.8,SNR=2.7						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**62.59**	**319**	P	**P**	**21 56 37.9**	**+0.8**
	1.5nm,0.4s,baz=89,slow=7.8,SNR=15						
	1.5nm,0.4s						
ARCES	**ARCESS Array B**	**78.88**	**341**	P	**P**	**21 58 15.0**	**+0.8**
	1.3nm,0.8s,baz=56,slow=5.6,SNR=3.8						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**83.13**	**334**	P	**P**	**21 58 36.1**	**-0.5**
	2.2nm,0.8s,baz=53,slow=4.5,SNR=11						
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**83.22**	**51**	P	**P**	**21 58 39.4**	**+1.5**
	0.5nm,0.7s,baz=284,slow=5.3,SNR=2.9						
	0.5nm,0.7s						
PLCA	**Paso Flores**	**145.84**	**131**	PKPbc	**PKPbc**	**22 05 48.4**	**-0.3**
	1.9nm,0.6s,baz=274,slow=1.1,SNR=6.5						
LPAZ	**La Paz**	**150.05**	**85**	PKPbc	**PKPbc**	**22 05 59.1**	**-2.0**
	1.3nm,0.6s,baz=304,slow=3.6,SNR=5.2						

*IDC **19** 21:51:31.9±4.7,23.22S×179.92W,h517km±53km, mb3.4/5, mbtmp4.3/7, Error ellipse: s-maj=38.1km s-min=25.9km az=16.0*
*NEIC **19** 21:51:36.9±1.2,23.2S±0.1×179.98E±0.09,h577km±12km, mb4.3/16, Error ellipse: s-maj=20.2km s-min=8.4km az=149.0*

ISC 19 21:51:34.4±0.8,23.37S±0.10×180.0W±0.1,h550km,n36, σ1§78/35,mb4.2/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.91**	**341**	P	**P**	**21 53 11.6**	**-0.8**
RAO	**Raoul Island**	**6.14**	**163**	P	**P**	21 53 20.9	+6.8
PINNC	**Pines Island,**	**11.62**	**271**	P	**P**	**21 54 11.6**	**+2.6**
DZM	**Mont Dzumac**	**12.61**	**273**	P	**P**	**21 54 18.8**	**-0.6**
	3.4nm,0.7s,baz=90,slow=17,SNR=5.9						
TOZ	**Tahuroa Road**	**14.84**	**194**	P	**P**	**21 54 46.3**	**+4.4**
URZ	**Urewera**	**15.05**	**189**	P	**P**	**21 54 42.2**	**-2.0**

CBIJ	**Chichi jima**	**1.75**	**310**	P		**Pn**	**22 02 14.0**	**+0.3**
CBIJ				*e*S		**Sn**	**22 02 37.8**	**+3.1**
JCJ	**Chichijima**	**1.75**	**310**	Pn		**Pn**	**22 02 13.9**	**+0.3**
	comp=E,305nm,0.3s,baz=108,slow=20,SNR=97							
JCJ				Sn		**Sn**	**22 02 36.9**	**+2.1**
	comp=E,131nm,0.3s,baz=73,slow=19,SNR=4.0							
BSO3	**Boso 3**	**9.22**	**343**	*e*P		Pn	22 04 00.3	+4.3
MJAR	**Matsushiro Arr**	**11.53**	**337**	Pn		**Pn**	**22 04 27.6**	**-0.2**
	comp=E,0.1nm,0.3s,baz=154,slow=12,SNR=2.5							
KSRS	**Korea Array**	**17.61**	**314**	P		**P**	**22 05 48.9**	**-0.1**
	comp=E,0.2nm,0.3s,baz=126,slow=12,SNR=2.6							
	comp=E,1.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**22.25**	**101**	T		T	22 30 23.7	
	baz=290,slow=75,SNR=6.5							
H11N1	**WAKE ISLAND Hy**	**22.25**	**101**	T		T	22 30 29.9	
	baz=290,slow=75,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**22.27**	**101**	T		T	22 30 25.4	
	baz=290,slow=75,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**22.53**	**105**	T		T	22 30 54.3	
	baz=293							
H11S1	**WAKE ISLAND Hy**	**22.53**	**105**	T		T	22 30 49.6	
	baz=293							
H11S2	**WAKE ISLAND Hy**	**22.54**	**105**	T		T	22 30 59.2	
	baz=293							
SONM	**Songino Array**	**36.46**	**317**	P		**P**	**22 08 46.1**	**-1.3**
	comp=E,0.5nm,0.4s,baz=118,slow=7.7,SNR=3.8							
	comp=E,0.5nm,0.4s							
WRA	**Warramunga Arr**	**46.54**	**192**	P		P	22 10 13.3	+3.3
	comp=E,0.9nm,0.6s,baz=10,slow=8.4,SNR=5.3							
	comp=E,0.9nm,0.6s							
ASAR	**Alice Springs**	**50.25**	**192**	P		**P**	**22 10 40.4**	**+1.9**
	comp=E,0.5nm,1.0s,baz=14,slow=12,SNR=1.8							
	comp=E,0.5nm,1.0s							
ZALV	**Zalesovo Beam**	**51.22**	**320**	P		**P**	**22 10 44.2**	**-1.3**
	comp=E,0.5nm,0.6s,baz=96,slow=5.8,SNR=2.1							
ZALV				PcP		**PcP**	**22 12 00.8**	**+0.3**
	comp=E,0.4nm,0.5s,baz=85,slow=3.2,SNR=2.3							
	comp=E,0.5nm,0.6s							
MKAR	**Makanchi Array**	**52.23**	**310**	P		**P**	**22 10 52.3**	**-1.0**
	comp=E,0.5nm,0.5s,baz=89,slow=9.1,SNR=8.3							
MKAR				PcP		**PcP**	**22 12 05.2**	**+0.7**
	comp=E,0.3nm,0.7s,baz=90,slow=3.5,SNR=1.8							
	comp=E,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**54.79**	**315**	P		**P**	**22 11 10.6**	**-1.3**
	comp=E,2.4nm,0.5s,baz=91,slow=8.1,SNR=16							
	comp=E,2.4nm,0.5s							
BVAR	**Borovoye Array**	**59.78**	**318**	P		**P**	**22 11 46.7**	**-0.5**
	comp=E,2.5nm,0.5s,baz=90,slow=7.3,SNR=16							
	comp=E,2.5nm,0.5s							
FINES	**FINESS Array B**	**79.54**	**334**	P		P	22 13 50.6	+1.9
	comp=E,1.1nm,0.5s,baz=68,slow=5.9,SNR=16							
	comp=E,1.1nm,0.5s							

NNC ***19*** *22:03:12.8±1.0, 42.°39N×70.°59E, h15km±22km, mb2.7, mpv2.8, Error ellipse: s-maj=6.1km s-min=4.6km az=163.0*
KRNET ***19*** *22:03:13.3±0.1, 42.°33N×70.°20E, mb2.5*
SOME ***19*** *22:03:13.0, 42.°40N×70.°68E, h5km*
ISU ***19*** *22:03:33, 41.°56N×70.°24E, h5km*

ISC 19 22:03:10.8±1.7, 42.°45N±0.°04×70.°61E±0.°04, h5km±14km, n19, σ1°19/32, 14C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**0.53**	**235**	P	**Pn**	**22 03 23.4**	**-1.6**
	75nm,0.1s						
IUG				S	**Sb**	**22 03 31.6**	**+1.2**
	118nm,0.2s						
PSK	**Pskem**	**0.55**	**199**	P	Pn	22 03 41.2	+16
PSK				S	Sn	22 03 47.8	+13
KK31	**Karatay Array**	**0.66**	**354**	⇓P	**Pn**	**22 03 27.4**	**+0.6**
	1.1nm,0.3s,baz=174,slow=18,SNR=152						
KK31				⇑S	**Sn**	**22 03 37.8**	**+0.2**
	6.2nm,0.2s,baz=179,slow=31,SNR=6.3						
BRLS	**Borolday**	**0.82**	**316**	P	**Pn**	**22 03 28.8**	**-0.1**
	4.7nm,0.1s						
BRLS				S	**Sn**	**22 03 40.4**	**-1.1**
	36nm,0.2s						
BRLS	**Borolday**	**0.82**	**316**	*e*P	**Pn**	**22 03 28.8**	**-0.1**
	4.7nm,0.1s						
BRLS				*e*S	**Sn**	**22 03 40.4**	**-1.1**
	36nm,0.2s						
CHRV	**Charvak**	**0.94**	**212**	P	Pn	22 03 38.2	+7.5
CHRV				S	**Sb**	**22 03 42.3**	**-0.1**
TGS	**TashGRES**	**1.31**	**219**	S	**Sn**	**22 03 57.2**	**+3.7**
MRKS	**Merke**	**1.95**	**80**	Pg	**Pg**	**22 03 48.7**	**+0.5**
	4.3nm,0.5s						
MRKS				Lg	Lg	22 04 14.2	
	15nm,0.4s						
MRKS	**Merke**	**1.95**	**80**	*e*P	**Pg**	**22 03 48.7**	**+0.5**
	4.3nm,0.5s						
MRKS				*e*S	**Sg**	**22 04 14.2**	**+0.7**
	15nm,0.4s						
ARSB	**Arslanbob**	**2.09**	**122**	⇑*e*P	**Pg**	**22 03 50.7**	**-0.2**
ARSB				⇑*e*S	**Sg**	**22 04 18.1**	**+0.1**
EKS2	**Erkin-Say**	**2.35**	**84**	⇑*e*P	**Pg**	**22 03 55.8**	**+0.1**
EKS2				⇑*e*S	**Sg**	**22 04 26.7**	**+0.5**
SALK	**Salom-Alik**	**2.87**	**122**	⇑*e*P	**Pg**	**22 04 01.5**	**-1.0**
SALK				⇑*e*S	**Sb**	**22 04 36.7**	**-1.2**
AAK	**Ala-Archa**	**2.87**	**85**	⇑Pg	**Pg**	**22 04 05.4**	**-0.4**
	0.4nm,0.5s						
AAK				⇓Lg	Lg	22 04 42.1	
	2.4nm,1.1s						
AAK	**Ala-Archa**	**2.87**	**85**	⇓*e*P	**Pb**	**22 04 03.1**	**+0.5**
AAK				⇓*e*S	**Sb**	**22 04 39.4**	**+1.3**
UCH	**Uchtor**	**2.90**	**93**	⇑*e*P	**Pb**	**22 04 03.4**	**+0.2**
UCH				⇑*e*S	**Sb**	**22 04 40.1**	**+1.0**
USP	**Ospenovka**	**2.97**	**73**	⇑*e*P	**Pb**	**22 04 04.6**	**+0.4**
USP				⇑*e*S	**Sb**	**22 04 42.0**	**+1.2**
CHMS	**Chumysh**	**3.10**	**78**	⇓*e*P	**Pb**	**22 04 06.2**	**-0.1**
CHMS				⇓*e*S	**Sb**	**22 04 44.8**	**+0.4**
KBK	**Karagaybulak**	**3.21**	**85**	⇑*e*P	**Pb**	**22 04 07.8**	**-0.5**
KBK				⇑*e*S	**Sb**	**22 04 47.5**	**-0.3**
TKM2	**Tokmak 2**	**3.71**	**81**	⇓*i*P	**Pb**	**22 04 14.7**	**-2.1**
TKM2				⇓*e*S	**Sb**	**22 04 59.6**	**-2.5**

IDC ***19*** *22:05:22.2±17.0, 32.°99N×46.°26E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=323.8km s-min=44.3km az=16.0*
ISN ***19*** *22:05:23.9±0.7, 33.°31N×46.°32E, h13km±5km, ML3.2*
TEH ***19*** *22:05:25.3, 33.°39N×46.°32E, h8km±35km*

ISC 19 22:05:26.6±0.8, 33.°33N±0.°05×46.°22E±0.°04, h19km, n38, σ1°32/41, mb3.6/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.30**	**357**	Pg	**Pb**	**22 05 30.5**	**-2.9**
IBDR	**Badra**	**0.33**	**229**	*e*Pg	**Pg**	**22 05 32.0**	**-1.7**
IBDR				*e*Sg	**Sg**	**22 05 37.0**	**-1.5**
IBDR				AML	AML	22 05 55.4	
	comp=E,2μm,0.4s						
IBDR				AML	AML	22 05 56.6	
	comp=N,1μm,0.4s						
GLG1	**Gilan-e-Gharb**	**0.83**	**342**	Pg	**Pb**	**22 05 40.8**	**-1.7**
IGHG	**Ghaleghazi**	**1.04**	**16**	Pg	**Pb**	**22 05 44.5**	**-1.7**
KCHF	**Cheshme Sefid,**	**1.17**	**35**	Pg	**Pb**	**22 05 45.7**	**-2.6**
KGS1	**Ghasr-e-Shirin**	**1.29**	**336**	Pg	**Pn**	**22 05 50.2**	**+0.6**
IDHR	**Dehrash**	**1.38**	**6**	Pg	**Pn**	**22 05 50.6**	**-0.5**
BHD	**Baghdad**	**1.55**	**268**	*e*Pn	**Pn**	**22 05 54.0**	**+0.9**
BHD				*e*Sn	**Sb**	**22 06 16.0**	**+2.2**
IDOB	**Doab**	**1.69**	**74**	Pg	**Pn**	**22 05 56.6**	**+1.1**
IBZA	**Bozab**	**1.77**	**50**	Pg	**Pn**	**22 05 57.3**	**+0.7**
SNQR	**Songor, Kerman**	**1.92**	**37**	Pn	**Pn**	**22 05 59.9**	**+1.3**
BDRS	**Dareh Seyedi**	**2.30**	**73**	Pn	**Pn**	**22 06 04.7**	**+0.9**
IKRK	**Kirkuk**	**2.59**	**324**	*e*Pn	**Pn**	**22 06 08.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**22 06 41.0**	**+2.5**
IKRK				AML	AML	22 06 53.2	
	comp=E,169nm,0.5s						
IKRK				AML	AML	22 07 00.1	
	comp=N,156nm,0.8s						
HAGD	**Aghdareh**	**2.84**	**58**	Pn	**Pn**	**22 06 11.6**	**+0.4**
HGHA	**Hamedan- Ghaye**	**3.06**	**45**	Pn	**Pn**	**22 06 14.9**	**+0.7**
QABG	**Abgarm-Qazvin**	**3.65**	**48**	Pn	**Pn**	**22 06 23.1**	**+0.7**
JHBN	**Jahan bin**	**3.90**	**105**	Pn	**Pn**	**22 06 26.7**	**+0.9**
IPIR	**Pirpir**	**3.97**	**98**	Pn	**Pn**	**22 06 27.9**	**+1.1**
ZNGN	**Zangian**	**4.08**	**106**	Pn	**Pn**	**22 06 29.5**	**+1.1**
QAMS	**Qamsar**	**4.34**	**83**	Pn	**Pn**	**22 06 33.0**	**+1.2**
IBRJ	**Brojen**	**4.48**	**107**	Pn	**Pn**	**22 06 34.5**	**+0.7**
IGZV	**Ghazvin**	**4.48**	**46**	Pn	**Pn**	**22 06 34.2**	**+0.4**
IKLH	**Kolahrood**	**4.48**	**89**	Pn	**Pn**	**22 06 35.1**	**+1.3**
ISRB	**Sarab**	**4.64**	**14**	Pn	**Pn**	**22 06 37.3**	**+1.3**
IVRN	**Varamin**	**4.86**	**68**	Pn	**Pn**	**22 06 39.8**	**+1.0**
ISHB	**Shabestar**	**4.97**	**354**	Pn	**Pn**	**22 06 41.9**	**+1.4**
KRSH	**Karshahi**	**4.97**	**81**	Pn	**Pn**	**22 06 41.3**	**+0.8**
IGAR	**Gharneh**	**4.98**	**99**	Pn	**Pn**	**22 06 41.3**	**+0.6**
KLNJ	**Kolanjah**	**5.11**	**115**	Pn	**Pn**	**22 06 43.8**	**+1.4**
IZEF	**Zefreh**	**5.14**	**93**	Pn	**Pn**	**22 06 43.8**	**+0.9**
IDMV	**Damavand**	**5.30**	**63**	Pn	**Pn**	**22 06 46.0**	**+0.9**
IRAM	**Ramesheh**	**5.41**	**105**	Pn	**Pn**	**22 06 47.5**	**+0.9**
IFIR	**Firoozkooh**	**5.87**	**65**	Pn	**Pn**	**22 06 53.6**	**+0.8**
AKASG	**Malin Array Be**	**21.38**	**329**	P	**P**	**22 10 14.4**	**+1.5**
	comp=N,0.2nm,0.4s,baz=126,slow=12,SNR=1.5						
	comp=N,0.2nm,0.4s						
BVAR	**Borovoye Array**	**26.20**	**34**	P	**P**	**22 11 00.9**	**+0.9**
	comp=N,1.2nm,0.7s,baz=232,slow=7.1,SNR=5.4						
	comp=N,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**29.27**	**44**	P	**P**	**22 11 28.7**	**+1.2**
	comp=N,0.5nm,0.7s,baz=249,slow=7.9,SNR=2.5						
	comp=N,0.5nm,0.7s						
MKAR	**Makanchi Array**	**30.42**	**53**	P	**P**	**22 11 37.5**	**-0.3**
	comp=N,0.4nm,0.4s,baz=256,slow=9.0,SNR=7.6						
	comp=N,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**34.12**	**41**	P	**P**	**22 12 10.4**	**+0.4**
	comp=N,0.6nm,0.3s,baz=249,slow=9.6,SNR=4.3						
	comp=N,0.6nm,0.3s						

UCR ***19*** *22:12:03.8±0.9, 11.°63N×86.°61W, h69km±9km, MW3.9*
CATAC ***19*** *22:12:04.0±0.3, 12.°N±2.°×87.°W±.°, h36km±3km, M3.9/26, MLv3.9/26, Error ellipse: s-maj=5.1km s-min=3.1km az=44.9, confirmed*

ISC 19 22:12:04.1±1.3, 11.°54N±0.°05×86.°71W±0.°05, h49km±21km, n53, σ0°59/69, 14C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.64**	**10**	*e*P	**Pn**	**22 12 16.5**	**-0.6**
COPN	**Copaltepe**	**0.64**	**10**	⇓P	**Pn**	**22 12 16.7**	**-0.4**
SABN	**Sabanita**	**0.67**	**52**	⇓P	**Pn**	**22 12 16.6**	**-0.9**
SABN				S	**Sn**	**22 12 27.2**	**0.0**
NADN	**Granada**	**0.69**	**73**	*e*P	**Pn**	**22 12 17.6**	**-0.1**
NADN				*e*S	**Sn**	**22 12 27.4**	**-0.2**
NADN	**Granada**	**0.69**	**73**	⇓P	**Pn**	**22 12 17.7**	**+0.1**
NADN				S	**Sn**	**22 12 28.1**	**+0.6**
NANN	**Nandasmo**	**0.70**	**55**	S	**Sn**	**22 12 28.4**	**+0.7**
NANN	**Nandasmo**	**0.70**	**55**	⇓P	**Pn**	**22 12 18.7**	**+1.0**
UNAN	**Cigeo UNAN**	**0.71**	**37**	⇑P	**Pn**	**22 12 18.3**	**+0.4**
UNAN				S	**Sn**	**22 12 28.4**	**+0.5**
TISN	**Laguna Tiscapa**	**0.73**	**36**	⇑P	**Pn**	**22 12 17.5**	**-0.8**
AMTN	**Mateare**	**0.74**	**21**	⇓P	**Pn**	**22 12 18.2**	**-0.1**
AMTN	**Mateare**	**0.74**	**21**	S	**Sn**	**22 12 29.2**	**+0.6**
ALLN	**Telcor Managua**	**0.74**	**35**	⇑P	**Pn**	**22 12 18.2**	**-0.1**
ALLN	**Telcor Managua**	**0.74**	**35**	S	**Sn**	**22 12 28.8**	**+0.1**
APQ2	**Apoyeque**	**0.75**	**30**	P	**Pn**	**22 12 18.4**	**-0.1**
APQ2				S	**Sn**	**22 12 28.8**	**-0.1**
MGAN	**Managua**	**0.75**	**37**	*e*P	**Pn**	**22 12 18.4**	**0.0**
MGAN				*e*S	**Sn**	**22 12 28.8**	**-0.1**
MGAN	**Managua**	**0.75**	**37**	S	**Sn**	**22 12 29.4**	**+0.5**
MGAN	**Managua**	**0.75**	**37**	⇑P	**Pn**	**22 12 18.8**	**+0.4**
APQ3	**Volcan Apoyequ**	**0.80**	**24**	⇓P	**Pn**	**22 12 19.6**	**+0.5**
APQ3				S	**Sn**	**22 12 30.0**	**0.0**
WILN	**Americas 2**	**0.80**	**40**	⇓P	**Pn**	**22 12 19.1**	**0.0**
WILN				S	**Sn**	**22 12 30.6**	**+0.6**
BC84	**Volcan Momotom**	**0.86**	**11**	⇑P	**Pn**	**22 12 19.7**	**-0.3**
BC84	**Volcan Momotom**	**0.86**	**11**	S	**Sn**	**22 12 30.3**	**-1.2**
MOM2	**El Cardon**	**0.92**	**14**	⇓P	**Pn**	**22 12 20.8**	**+0.1**
MOM2				S	**Sn**	**22 12 33.2**	**+0.4**
ALEN	**Leon**	**0.92**	**350**	⇓P	**Pn**	**22 12 20.4**	**-0.4**
ALEN	**Leon**	**0.92**	**350**	S	**Sn**	**22 12 31.8**	**-1.2**
CNGN	**Cerro Negro**	**0.95**	**0**	*e*P	**Pn**	**22 12 20.8**	**-0.4**
CNGN	**Cerro Negro**	**0.95**	**0**	S	**Sn**	**22 12 34.0**	**+0.3**
CNGN	**Cerro Negro**	**0.95**	**0**	⇑P	**Pn**	**22 12 21.0**	**-0.2**
ILCN	**San Idelfonso**	**1.03**	**0**	P	**Pn**	**22 12 22.1**	**-0.1**
ILCN				S	**Sn**	**22 12 35.3**	**-0.2**
PLRN	**Geotermica Pol**	**1.04**	**357**	P	**Pn**	**22 12 22.4**	**0.0**
PLRN				S	**Sn**	**22 12 35.2**	**-0.6**
MORN	**Al O del Volca**	**1.04**	**90**	⇑P	**Pn**	**22 12 22.6**	**+0.2**
MORN				S	**Sn**	**22 12 36.6**	**+0.8**
LCRUZ	**La Cruz**	**1.15**	**113**	*e*P	**Pn**	**22 12 23.5**	**-0.4**
LCRUZ				*e*S	**Sn**	**22 12 38.9**	**+0.4**
CRIN	**San Cristobal**	**1.20**	**344**	*e*P	**Pn**	**22 12 24.2**	**-0.3**
CRIN	**San Cristobal**	**1.20**	**344**	S	**Sn**	**22 12 40.0**	**+0.2**
CRIN	**San Cristobal**	**1.20**	**344**	⇑P	**Pn**	**22 12 24.6**	**0.0**
CARN	**Rivas**	**1.21**	**107**	*e*P	**Pn**	**22 12 24.6**	**-0.1**
CARN				*e*S	**Sn**	**22 12 40.6**	**+0.6**
BOAB	**BOACO BROADBAN**	**1.36**	**48**	S	**Sn**	**22 12 44.5**	**+0.9**
BOAB	**BOACO BROADBAN**	**1.36**	**48**	⇑P	**Pn**	**22 12 27.2**	**+0.5**
LAPC	**Finca la Perla**	**1.47**	**122**	*e*P	**Pn**	**22 12 28.0**	**-0.2**
ACON	**Acoyapa**	**1.56**	**74**	*e*P	**Pn**	**22 12 27.9**	**-1.5**
ACON				*e*S	**Sn**	**22 12 47.3**	**-1.2**
ACON	**Acoyapa**	**1.56**	**74**	⇑P	**Pn**	**22 12 29.2**	**-0.2**
MATN	**Matagalpa**	**1.58**	**29**	⇑P	**Pn**	**22 12 29.6**	**-0.2**
MATN	**Matagalpa**	**1.58**	**29**	S	**Sn**	**22 12 47.9**	**-1.1**
CSGN	**Cosiguina Volc**	**1.65**	**330**	*e*P	**Pn**	**22 12 30.3**	**-0.4**
CSGN	**Cosiguina Volc**	**1.65**	**330**	⇓P	**Pn**	**22 12 30.4**	**-0.4**
CSGN				S	**Sn**	**22 12 50.9**	**+0.1**
VMAR	**Armenia, Volca**	**1.72**	**115**	*e*P	**Pn**	**22 12 32.0**	**+0.3**
INDI	**Punta indio, G**	**2.04**	**144**	S	**Sn**	**22 12 59.1**	**-1.2**
INDI	**Punta indio, G**	**2.04**	**144**	P	**Pn**	**22 12 36.3**	**+0.3**
CNCH	**Conchagua**	**2.04**	**328**	⇑P	**Pn**	**22 12 36.1**	**-0.1**
CNCH	**Conchagua**	**2.04**	**328**	S	**Sn**	**22 13 01.3**	**+0.8**
RCPN	**Sur Rio San Ju**	**2.06**	**17**	P	**Pn**	**22 12 36.1**	**-0.3**
RCPN	**Varillal2**	**2.09**	**11**	⇑P	**Pn**	**22 12 37.0**	**+0.8**
PACA	**Pacayal**	**2.48**	**321**	⇑P	**Pn**	**22 12 42.6**	**+0.4**
PACA	**Pacayal**	**2.48**	**321**	S	**Sn**	**22 13 12.6**	**+1.3**

SJA ***19*** *22:36:55.5±0.7, 22.°06S×67.°36W, h208km±5km, ML3.5, MW3.5*
GUC ***19*** *22:36:59.0±0.8, 22.°09S×67.°71W, h222km±11km, ML3.8*
SCB ***19*** *22:36:59.2±1.3, 22.°11S×67.°45W, h164km±10km, ML3.6/5, MW3.3, Error ellipse: s-maj=4.3km s-min=3.1km az=0.0*

ISC 19 22:36:57.2±1.6, 22.°09S±0.°04×67.°44W±0.°04, h195km±13km, n59, σ1°33/83, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.70**	**279**	*e*P	**Pn**	**22 37 33.8**	**+1.2**
PB09				*e*S	**Sn**	**22 38 01.5**	**+1.5**
PB09	**IPOC Station P**	**1.70**	**279**	*e*P	**Pn**	**22 37 33.5**	**+1.0**
PB09				*e*S	**Sn**	**22 38 00.9**	**+0.9**
PB09				IAML		22 38 04.7	
	comp=Z,106nm,0.2s						
PB09	**IPOC Station P**	**1.70**	**279**	Pg	**Pn**	**22 37 33.6**	**+1.0**
YJA	**Yavi**	**1.78**	**93**	*e*P	**Pn**	**22 37 31.8**	**-1.8**
YJA				*e*S	**Sn**	**22 38 01.4**	**-0.5**
YJA	**Yavi**	**1.78**	**93**	Pg	**Pn**	**22 37 34.4**	**+0.7**
MOCB	**Mochara**	**1.87**	**64**	Pg	**Pn**	**22 37 34.9**	**+0.4**
MOCB				Sg	**Sn**	**22 38 01.7**	**-1.7**
MOCB				IAML		22 38 10.2	
	comp=Z,189nm,0.6s						
PB06	**IPOC Station P**	**2.07**	**252**	*e*P	**Pn**	**22 37 36.9**	**+0.6**
PB06				*e*S	**Sn**	**22 38 06.5**	**-0.1**
PB06				IAML		22 38 08.3	
	comp=E,513nm,0.1s						
PB06	**IPOC Station P**	**2.07**	**252**	*e*P	**Pn**	**22 37 37.1**	**+0.8**
PB06				*e*S	**Sn**	**22 38 07.6**	**+0.9**
PB06				IAML		22 38 08.1	
	comp=Z,188nm,0.2s						
PB03	**IPOC Station P**	**2.15**	**271**	*e*P	**Pn**	**22 37 37.8**	**+0.6**
PB03				*e*S	**Sn**	**22 38 07.0**	**-1.1**
PB03				IAML		22 38 08.5	
	comp=E,346nm,0.1s						
PB03	**IPOC Station P**	**2.15**	**271**	*e*P	**Pn**	**22 37 37.5**	**+0.3**
PB03				*e*S	**Sn**	**22 38 07.4**	**-0.8**
PB03				IAML		22 38 09.1	
	comp=Z,299nm,0.1s						
PB03	**IPOC Station P**	**2.15**	**271**	Pg	**Pn**	**22 37 38.0**	**+0.9**
PB01	**IPOC Station P**	**2.17**	**298**	*e*P	**Pn**	**22 37 37.9**	**+0.5**
PB01				IAML		22 38 09.6	
	comp=E,499nm,0.2s						
PB01	**IPOC Station P**	**2.17**	**298**	*e*P	**Pn**	**22 37 37.7**	**+0.4**
PB01				*e*S	**Sn**	**22 38 08.4**	**-0.1**
PB01				IAML		22 38 09.2	
	comp=Z,258nm,0.2s						
PB01	**IPOC Station P**	**2.17**	**298**	Pg	**Pn**	**22 37 38.2**	**+0.9**
PB01				Sg	**Sn**	**22 38 07.0**	**-1.5**
PB01				IAML		22 38 08.9	
	comp=Z,272nm,0.3s						
SALTA		**2.35**	**155**	*e*P	Pn	22 37 30.4	-9.3
SALTA				*e*P		22 37 39.1	
PB02	**IPOC Station P**	**2.41**	**288**	*e*P	**Pn**	**22 37 40.6**	**+0.7**
PB02				*e*S	**Sn**	**22 38 11.8**	**-1.4**
PB02				IAML		22 38 12.8	
	comp=E,731nm,0.1s						
PB02	**IPOC Station P**	**2.41**	**288**	*e*P	**Pn**	**22 37 40.4**	**+0.4**
PB02				*e*S	**Sn**	**22 38 12.1**	**-1.1**
PB02				IAML		22 38 13.8	
	comp=Z,538nm,0.2s						
PB02	**IPOC Station P**	**2.41**	**288**	Pg	**Pn**	**22 37 40.7**	**+0.7**
PB02				Sg	**Sn**	**22 38 12.0**	**-1.2**
PB02				IAML		22 38 12.7	
	comp=Z,312nm,0.3s						
PB08	**IPOC Station P**	**2.52**	**320**	*i*P	**Pn**	**22 37 43.0**	**+1.6**
PB08				IAML		22 38 19.6	
	comp=E,116nm,0.2s						
PB08	**IPOC Station P**	**2.52**	**320**	*e*P	**Pn**	**22 37 43.0**	**+1.6**
PB08				*e*S	**Sn**	**22 38 16.9**	**+1.1**
PB08				IAML		22 38 20.2	
	comp=Z,71nm,0.3s						
PB08	**IPOC Station P**	**2.52**	**320**	Pg	**Pn**	**22 37 43.1**	**+1.6**
PB05	**IPOC Station P**	**2.67**	**253**	*e*P	**Pn**	**22 37 43.5**	**+0.6**
PB05				IAML		22 38 18.9	
	comp=E,91nm,0.2s						
PB05	**IPOC Station P**	**2.67**	**253**	*e*P	**Pn**	**22 37 43.0**	**+0.1**
PB05				*e*S	**Sn**	**22 38 17.1**	**-1.3**
PB05				IAML		22 38 18.8	
	comp=Z,74nm,0.3s						
PB05	**IPOC Station P**	**2.67**	**253**	Pg	**Pn**	**22 37 43.7**	**+0.8**
PATCX	**Punta Patache**	**2.83**	**296**	*i*P	**Pn**	**22 37 45.0**	**+0.3**
PATCX				IAML		22 38 22.9	
	comp=E,397nm,0.3s						
PATCX	**Punta Patache**	**2.83**	**296**	*e*P	**Pn**	**22 37 45.2**	**+0.5**
PATCX				*e*S	**Sn**	**22 38 20.6**	**-1.1**
PATCX				IAML		22 38 25.6	
	comp=Z,151nm,0.3s						
HMBC	**Humberstone**	**2.91**	**308**	⇓*i*P	**Pn**	**22 37 45.7**	**0.0**
HMBC				IAML		22 38 23.4	
	comp=N,344nm,0.2s						
HMBC	**Humberstone**	**2.91**	**308**	*e*P	**Pn**	**22 37 45.8**	**0.0**
HMBC				*e*S	**Sn**	**22 38 22.2**	**-1.4**
HMBC				IAML		22 38 23.3	
	comp=Z,249nm,0.2s						
HMBC	**Humberstone**	**2.91**	**308**	Pg	**Pn**	**22 37 46.0**	**+0.3**
GO01	**Chusmiza**	**2.92**	**325**	*i*P	**Pn**	**22 37 47.2**	**+1.1**
GO01	**Chusmiza**	**2.92**	**325**	*e*P	**Pn**	**22 37 47.7**	**+1.5**
GO01				IAML		22 38 28.9	
	comp=Z,76nm,0.3s						
GO01	**Chusmiza**	**2.92**	**325**	Pg	**Pn**	**22 37 47.3**	**+1.1**
TA01	**Diego Aracena**	**2.97**	**300**	*e*P	**Pn**	**22 37 46.4**	**+0.1**
TA01	**Diego Aracena**	**2.97**	**300**	*e*P	**Pn**	**22 37 45.9**	**-0.4**
TA01				IAML		22 38 25.3	
	comp=Z,64nm,0.3s						
AZAP	**Zapla**	**3.05**	**135**	*e*P	**Pn**	**22 37 48.1**	**+0.7**
PB11	**IPOC Station P**	**3.11**	**318**	*e*P	**Pn**	**22 37 48.2**	**+0.1**
PB11	**IPOC Station P**	**3.11**	**318**	*e*P	**Pn**	**22 37 48.3**	**+0.2**
PB11				*e*S	**Sn**	**22 38 26.4**	**-1.4**
PB11				IAML		22 38 30.6	
	comp=Z,125nm,0.2s						
PB11	**IPOC Station P**	**3.11**	**318**	Pg	**Pn**	**22 37 48.5**	**+0.4**
PB11				Sg	**Sn**	**22 38 26.5**	**-1.4**
PB11				IAML		22 38 27.0	
	comp=Z,171nm,0.3s						
SLA	**San Lorenzo**	**3.17**	**146**	*e*P	**Pn**	**22 37 50.2**	**+1.4**
PB10	**IPOC Station P**	**

	comp=N,26nm,1.0s								
LOHW					IAML			22 52 51.6	
	comp=N,25nm,1.8s								
SNOW	**Snow King Moun**	**3.98**	**267**		Pn		**Pn**	**22 51 40.5**	**+1.1**
SNOW					IAML			22 53 01.7	
	comp=N,37nm,2.2s								
SNOW					IAML			22 53 04.2	
	comp=N,52nm,1.1s								
ISCO	**Idaho Springs**	**4.00**	**184**		Pn		**Pn**	**22 51 40.5**	**+0.8**
ISCO					IAML			22 53 31.0	
	comp=N,37nm,3.9s								
ISCO					IAML			22 53 48.2	
	comp=N,41nm,4.1s								
FXWY	**Fox Creek**	**4.16**	**270**		Pn		**Pn**	**22 51 42.0**	**+0.1**
O20A	**White River Ci**	**4.27**	**212**		Pn		**Pn**	**22 51 43.9**	**+0.6**
O20A					IAML			22 53 07.3	
	comp=N,49nm,1.0s								
O20A					IAML			22 53 45.7	
	comp=N,48nm,3.7s								
YHL	**Hebgen Lake**	**4.36**	**286**		Pn		**Pn**	**22 51 45.7**	**+1.1**
YHL					IAML			22 53 28.3	
	comp=N,34nm,1.2s								
YHL					IAML			22 53 33.9	
	comp=E,29nm,0.8s								
HWUT	**Hardware Ranch**	**5.12**	**247**		Pn		**Pn**	**22 51 55.4**	**+0.4**
HWUT					IAML			22 53 32.0	
	comp=E,26nm,1.2s								
HWUT					IAML			22 53 32.5	
	comp=E,24nm,0.7s								
BSUT	**Blindstream Ca**	**5.21**	**233**		Pn		**Pn**	**22 51 57.0**	**+0.5**
BSUT					IAML			22 53 28.1	
	comp=N,14nm,1.3s								
BSUT					IAML			22 53 45.6	
	comp=E,17nm,2.2s								
TCUT	**Toone Canyon**	**5.26**	**242**		Pn		**Pn**	**22 51 54.9**	**-2.1**
P18A	**Preston Nutter**	**5.58**	**223**		Pn		**Pn**	**22 52 01.9**	**+0.5**
PV22	**Blue Mesa, Par**	**5.88**	**208**		Pn		**Pn**	**22 52 06.0**	**+0.5**
PV21	**Cone Mtn., Par**	**5.92**	**209**		Pn		**Pn**	**22 52 04.8**	**-1.3**
P17A	**Butcher Ranch,**	**5.94**	**225**		Pn		**Pn**	**22 52 07.1**	**+0.8**
PV23	**Carpenter Rid**	**6.03**	**209**		Pn		**Pn**	**22 52 09.8**	**+2.1**
PV19	**Paradox Valley**	**6.11**	**209**		Pn		**Pn**	**22 52 08.8**	**+0.1**
SRU	**San Rafael Swe**	**6.11**	**222**		Pn		**Pn**	**22 52 07.0**	**-1.6**
PV20	**West Nyswonger**	**6.12**	**208**		Pn		**Pn**	**22 52 07.7**	**-1.0**
PV11	**David Mesa, Pa**	**6.12**	**207**		Pn		**Pn**	**22 52 07.5**	**-1.2**
PV16	**Nyswonger Mesa**	**6.12**	**208**		Pn		**Pn**	**22 52 08.4**	**-0.5**
PV19	**Morning Glory**	**6.15**	**208**		Pn		**Pn**	**22 52 08.8**	**-0.3**
PV01	**Paradox Valley**	**6.18**	**205**		Pn		**Pn**	**22 52 10.2**	**+0.7**
PV18	**Skein Mesa, Pa**	**6.18**	**207**		Pn		**Pn**	**22 52 10.4**	**+0.8**
ECSD	**EROS Data Cent**	**6.28**	**88**		Pn		**Pn**	**22 52 11.3**	**+0.5**
BPMT	**Black Pine Rid**	**6.35**	**297**		Pn		**Pn**	**22 52 10.9**	**-1.0**
T25A	**Trinidad**	**6.68**	**174**		Pn		**Pn**	**22 52 16.0**	**-0.5**
MSU	**Marysvale**	**7.41**	**227**		Pn		**Pn**	**22 52 25.5**	**-0.9**
RTBA	**Rita Blanca**	**7.60**	**164**		Pn		**Pn**	**22 52 26.6**	**-2.5**
ELK	**Elko**	**7.98**	**251**		Pn		**Pn**	**22 52 38.2**	**+3.9**
	comp=E,0.1nm,0.3s,baz=40,slow=16,SNR=2.0								
ELK					Lg		Lg	22 54 50.7	
	comp=E,0.1nm,0.3s,baz=217,slow=18,SNR=1.3								
	comp=E,0.4nm,0.5s								
I10CA	**LAC DU BONNET**	**9.00**	**41**		I		I	23 50 00.0	
	baz=226,slow=322,SNR=4.0								
ULM	**Lac du Bonnet**	**9.11**	**42**		Pn		**Pn**	**22 52 51.6**	**+2.1**
	comp=E,0.5nm,0.3s,baz=227,slow=9.5,SNR=5.4								
ULM					Lg		Lg	22 55 26.8	
	comp=E,0.4nm,0.3s,baz=147,slow=21,SNR=2.2								
	comp=E,2.0nm,0.8s								
I56US	**NEWPORT INFRAS**	**9.37**	**303**		I		I	23 44 20.0	
	baz=117,slow=319,SNR=4.9								

*IDC **19** 22:57:25.6±1.1,32.˚68N×46.˚27E,h0km,mb3.8/12, mbtmp3.9/17,ML3.2/5,MS3.0/11,Error ellipse: s-maj=21.5km s-min=13.0km az=173.0*
*ISN **19** 22:57:26.8±0.8,32.˚89N×46.˚24E,h5km±3km,ML3.7*
*TEH **19** 22:57:26.6,32.˚94N×46.˚24E,h9km±22km*
*OMAN **19** 22:57:30.2±1.7,32.˚63N×46.˚31E,h10km,mb4.0/12,Error ellipse: s-maj=17.4km s-min=11.6km az=132.0*
*THR **19** 22:57:31.1±0.0,33.˚17N×46.˚30E,h10km±4km,ML4.0*
ISC 19 22:57:27.2±0.5,32.˚83N±0.˚04×46.˚27E±0.˚04,h10km,n114, σ1§92/113,mb3.8/10,MS2.8/5,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.40**	**315**	*e*Pg	**Pg**	**22 57 34.0**	**-1.1**
IBDR				*e*Sg	**Sg**	**22 57 39.0**	**-1.4**
IBDR				AML	AML	22 57 43.0	
	comp=E,7μm,0.6s						
IBDR				AML	AML	22 57 47.0	
	comp=N,6μm,0.4s						
ILBA	**Ilam Banvizeh**	**0.80**	**356**	Pg	**Pg**	**22 57 40.3**	**-2.3**
ILBA	**Ilam Banvizeh**	**0.80**	**356**	*e*PgA		22 57 40.0	
ILBA				IAML		22 58 06.5	
	comp=Z,6.2nm,1.0s						
GLG1	**Gilan-e-Gharb**	**1.31**	**347**	Pg	**Pn**	**22 57 50.8**	**-0.9**
IGHG	**Ghaleghazi**	**1.52**	**9**	Pg	**Pn**	**22 57 54.7**	**0.0**
KCHF	**Cheshme Sefid,**	**1.58**	**24**	Pg	**Pn**	**22 57 56.3**	**+0.8**
BHD	**Baghdad**	**1.64**	**286**	*e*Pn	**Pb**	**22 57 58.0**	**+0.4**
BHD				*e*Sn	**Sg**	**22 58 20.0**	**-0.1**
BHD				AML	AML	22 58 26.3	
	comp=E,1μm,0.6s						
KGS1	**Ghasr-e-Shirin**	**1.77**	**342**	Pg	**Pn**	**22 57 58.9**	**+1.0**
IDOB	**Doab**	**1.86**	**59**	Pn	**Pn**	**22 58 01.2**	**+1.8**
IDHR	**Dehrash**	**1.87**	**3**	Pg	**Pn**	**22 58 00.2**	**+0.7**
IBZA	**Bozab**	**2.11**	**39**	Pn	**Pn**	**22 58 04.4**	**+1.6**
SNQR	**Sonqor, Kerman**	**2.32**	**29**	Pn	**Pn**	**22 58 07.3**	**+1.6**
BDRS	**Dareh Seyedi**	**2.46**	**62**	Pn	**Pn**	**22 58 09.6**	**+2.0**
AHWZ	**Ahwaz**	**2.51**	**126**	Pn	**Pb**	**22 58 11.9**	**-0.5**
IKRK	**Kirkuk**	**3.02**	**329**	*e*Pn	**Pn**	**22 58 16.0**	**+0.8**
IKRK				*e*Sn	**Sn**	**22 58 53.0**	**+1.6**
IKRK				AML	AML	22 59 05.1	
	comp=N,348nm,0.5s						
IKRK				AML	AML	22 59 08.8	
	comp=E,476nm,0.9s						
HAGD	**Aghdareh**	**3.11**	**49**	Pn	**Pn**	**22 58 18.2**	**+1.6**
KHMZ	**Khomeyn**	**3.22**	**73**	*e*Pn	**Pb**	**22 58 22.4**	**-2.3**
KHMZ				IAML		22 59 22.4	
	comp=Z,0.4nm,1.0s						
HGHA	**Hamedan- Ghaye**	**3.41**	**38**	Pn	**Pn**	**22 58 22.5**	**+1.8**
SRSL	**SARDASHT**	**3.44**	**349**	*e*PnA		22 58 22.3	
SRSL				IAML		22 59 26.8	
	comp=Z,1.0nm,1.0s						
ASAO	**Ashtian**	**3.57**	**60**	*e*Pn	**Pn**	**22 58 26.2**	**+3.2**
ASAO				IAML		22 59 42.8	
	comp=Z,0.6nm,1.0s						
JHBN	**Jahan bin**	**3.76**	**98**	Pn	**Pn**	**22 58 28.5**	**+2.9**
KBD	**Kabd**	**3.84**	**161**	P	**Pn**	**22 58 30.1**	**+3.7**
IPIR	**Pirpir**	**3.90**	**91**	Pn	**Pn**	**22 58 30.6**	**+3.1**
ZNGN	**Zangian**	**3.94**	**99**	Pn	**Pn**	**22 58 30.5**	**+2.4**
MAHB	**Mahabad**	**3.96**	**353**	Pn	**Pn**	**22 58 28.9**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.97**	**43**	Pn	**Pn**	**22 58 30.6**	**+2.2**
ZNJK	**Zanjan**	**4.32**	**27**	*e*PnA		22 58 35.2	
ZNJK				IAML		22 59 47.4	
	comp=Z,0.1nm,1.0s						
IBRJ	**Brojen**	**4.32**	**101**	Pn	**Pn**	**22 58 36.4**	**+3.0**
QAMS	**Qamsar**	**4.39**	**77**	Pn	**Pn**	**22 58 37.3**	**+3.1**
IQOM	**Qom**	**4.47**	**62**	Pn	**Pn**	**22 58 37.0**	**+1.6**
IKLH	**Kolahrood**	**4.49**	**82**	Pn	**Pn**	**22 58 38.2**	**+2.7**
GHVR	**GHOM**	**4.50**	**67**	*e*Pn	**Pn**	**22 58 39.1**	**+3.5**
GHVR				IAML		23 00 00.5	
	comp=Z,0.5nm,1.0s						
IGZV	**Ghazvin**	**4.82**	**41**	Pn	**Pn**	**22 58 41.3**	**+1.3**
IAZR	**Azarshahr**	**4.84**	**357**	Pn	**Pn**	**22 58 41.3**	**+0.8**
KLNJ	**Kolanjah**	**4.88**	**110**	Pn	**Pn**	**22 58 43.9**	**+2.9**
THKV	**Tehran--Karaj**	**4.90**	**50**	*e*Pn	**Pn**	**22 58 44.6**	**+3.4**
THKV				IAML		23 00 18.2	
	comp=Z,0.2nm,1.0s						
IVRN	**Varamin**	**5.03**	**63**	Pn	**Pn**	**22 58 45.2**	**+2.4**
KRSH	**Karshahi**	**5.04**	**75**	Pn	**Pn**	**22 58 45.1**	**+2.1**
CHTH	**Charan**	**5.06**	**51**	*e*Pn	**Pn**	**22 58 45.8**	**+2.4**
CHTH				IAML		23 00 21.1	
	comp=Z,0.1nm,1.0s						
IZEF	**Zefreh**	**5.10**	**88**	Pn	**Pn**	**22 58 46.8**	**+2.8**
ISRB	**Sarab**	**5.11**	**13**	Pn	**Pn**	**22 58 45.1**	**+0.9**
IRAM	**Ramesheh**	**5.28**	**99**	Pn	**Pn**	**22 58 49.0**	**+2.7**
DAMV	**Damavand**	**5.49**	**58**	*e*Pn	**Pn**	**22 58 51.7**	**+2.4**
DAMV				IAML		23 00 27.3	
	comp=Z,0.0nm,1.0s						
IDMV	**Damavand**	**5.51**	**59**	Pn	**Pn**	**22 58 51.5**	**+1.9**
IHRS	**Heris**	**5.51**	**6**	Pn	**Pn**	**22 58 50.9**	**+1.3**
GAS1	**Astara - Iran**	**5.93**	**20**	Pn	**Pn**	**22 58 56.4**	**+1.3**
IFIR	**Firoozkooh**	**6.06**	**61**	Pn	**Pn**	**22 58 59.2**	**+2.0**
GRMI	**Germi**	**6.11**	**12**	Pn	**Pn**	**22 58 58.9**	**+1.1**
GRMI	**Germi**	**6.11**	**12**	*e*PnA		22 58 59.7	
GRMI				IAML		23 00 09.8	
	comp=Z,0.1nm,1.0s						
DSBU	**Dashti - Bushe**	**6.19**	**135**	Pn	**Pn**	**22 59 02.0**	**+3.2**
ANAR	**Anarak**	**6.28**	**85**	Pn	**Pn**	**22 59 02.6**	**+2.5**
ICHK	**Chekchek**	**6.90**	**93**	Pn	**Pn**	**22 59 10.7**	**+2.0**
GNI	**Garni**	**7.41**	**351**	Pn	**Pn**	**22 59 20.3**	**+4.7**
	comp=Z,0.3nm,0.3s,baz=187,slow=18,SNR=1.1						
GNI				Lg	Lg	23 01 27.9	
	comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=4.1						
GNI				LR	LR	23 02 34.4	
	comp=Z,87nm,22.0s,baz=163,slow=41						
	comp=Z,1.0nm,0.4s						
ASF	**Jabal al Asfar**	**7.94**	**268**	Pn	**Pn**	**22 59 21.8**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=111,slow=15,SNR=5.4						
ASF				Sn	**Sn**	**23 00 48.0**	**-4.8**
	comp=Z,2.5nm,0.3s,baz=79,slow=19,SNR=8.4						
ASF				Lg	Lg	23 01 40.2	
	comp=Z,0.8nm,0.3s,baz=68,slow=18,SNR=2.1						
ASF				LR	LR	23 03 23.1	
	comp=Z,57nm,18.7s,baz=153,slow=45						
	comp=Z,2.1nm,0.4s						
SMRA	**Abu-Samra**	**8.99**	**152**	P	**Pn**	**22 59 39.7**	**+2.5**
SMRA				S	**Sn**	**23 01 19.2**	**+0.7**
MMAI	**Mount Meron Ar**	**9.13**	**274**	Pn	**Pn**	**22 59 38.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=101,slow=15,SNR=2.2						
MMAI				Sn	**Sn**	**23 01 23.1**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=94,slow=20,SNR=1.8						
MMAI				Lg	Lg	23 02 19.0	
	comp=Z,0.9nm,0.3s,baz=109,slow=34,SNR=2.1						
	comp=Z,1.8nm,0.8s						
RAYN	**Ar Rayn**	**9.30**	**184**	P	**Pn**	**22 59 42.1**	**+0.7**
RAYN				S	**Sn**	**23 01 26.2**	**+0.1**
RAYN	**Ar Rayn**	**9.30**	**184**	Pn	**Pn**	**22 59 41.9**	**+0.4**
EIL	**Elat**	**10.18**	**255**	LR	LR	23 04 56.7	
	comp=Z,71nm,18.3s,baz=123,slow=44						
SHME	**Shamm**	**10.94**	**126**	P	**Pn**	**23 00 05.4**	**+1.5**
SHME	**Shamm**	**10.94**	**126**	Pn	**Pn**	**23 00 05.1**	**+1.2**
KBZ	**Khabaz**	**11.20**	**347**	LR	LR	23 05 22.2	
	comp=Z,39nm,20.1s,baz=191,slow=42						
AJN	**Ajban**	**11.24**	**135**	P	**Pn**		
	SNR=7.3						
AJN				S	**Sn**	**23 02 12.5**	**-1.2**
AJN	**Ajban**	**11.24**	**135**	Pn	**Pn**	**23 00 10.1**	**+2.1**
MZWR	**Madinat Zayed**	**11.25**	**142**	P	**Pn**	**23 00 09.8**	**+1.7**
NAZ	**Nazwa, Dubai**	**11.34**	**131**	P	**Pn**	**23 00 11.2**	**+1.8**
ASUD	**Al Ashush, Dub**	**11.40**	**134**	P	**Pn**	**23 00 11.9**	**+1.8**
	SNR=12						
ASUD	**Al Ashush, Dub**	**11.40**	**134**	Pn	**Pn**	**23 00 11.3**	**+1.2**
MASF	**Masafi**	**11.40**	**128**	P	**Pn**	**23 00 11.4**	**+1.2**
MSFE	**Esma-Masafi**	**11.41**	**128**	Pn	**Pn**	**23 00 09.8**	**-0.6**
KVAR	**Kislovodsk Arr**	**11.46**	**347**	LR	LR	23 05 36.2	
	comp=Z,42nm,18.9s,baz=46,slow=42						
FAQ	**Al Faqa, Dubai**	**11.47**	**132**	P	**Pn**	**23 00 14.5**	**+3.3**
MDH	**Madha**	**11.54**	**128**	P	**Pn**	**23 00 12.9**	**+0.8**
MDH	**Madha**	**11.54**	**128**	Pn	**Pn**	**23 00 13.1**	**+1.0**
MZR	**Muzera**	**11.68**	**145**	P	**Pn**	**23 00 15.3**	**+1.3**
UOSS	**Minazif**	**11.72**	**130**	P	**Pn**	**23 00 15.6**	**+1.0**
UOSS	**Minazif**	**11.72**	**130**	Pn	**Pn**	**23 00 14.7**	**+0.1**
HATD	**Hatta, Dubai**	**11.76**	**130**	P	**Pn**	**23 00 16.0**	**+0.9**
HATD	**Hatta, Dubai**	**11.76**	**130**	Pn	**Pn**	**23 00 15.9**	**+0.9**
ASHO	**Ashiyiah**	**11.81**	**131**	P	**Pn**	**23 00 16.9**	**+1.1**
ASHO	**Ashiyiah**	**11.81**	**131**	Pn	**Pn**	**23 00 16.6**	**+0.7**
ALNE	**Al Ain**	**12.08**	**134**	P	**Pn**	**23 00 21.0**	**+1.6**
	SNR=7.3						
SOHO	**SOHO**	**12.51**	**131**	P	**Pn**	**23 00 26.4**	**+1.1**
SOHO	**SOHO**	**12.51**	**131**	Pn	**Pn**	**23 00 25.2**	**-0.1**
UMZA	**Um Al Zommool**	**12.78**	**140**	P	**Pn**	**23 00 31.0**	**+1.9**
ARQ	**Araqi**	**13.08**	**134**	P	**Pn**	**23 00 34.5**	**+1.3**
SMDO	**Samad**	**14.24**	**130**	P	**Pn**	**23 00 50.0**	**+0.9**
WSAR	**Wadi Sarin**	**14.50**	**128**	Pn	**Pn**	**23 00 51.3**	**-1.2**
	baz=308,slow=19,SNR=1.9						
WSAR				Sn	**Sn**	**23 03 26.3**	**-7.0**
	baz=287,slow=19,SNR=1.8						
JMDO	**Jabal Madar**	**14.77**	**132**	P	**Pn**	**23 00 56.6**	**+0.3**
MHTO	**MHTO**	**15.73**	**136**	P	**Pn**	**23 01 08.8**	**-0.2**
JLN	**Jalan Bani Buh**	**15.77**	**129**	P	**Pn**	**23 01 10.1**	**+0.6**
DOK	**Doka**	**15.82**	**152**	P	**Pn**	**23 01 08.9**	**-1.1**
WHFO	**Wadi Hawf**	**16.31**	**154**	P	**Pn**	**23 01 16.2**	**-0.3**
DQM	**DQM**	**16.33**	**139**	P	**Pn**	**23 01 16.4**	**-0.3**
ABTO	**Aybut**	**16.66**	**156**	P	**Pn**	**23 01 19.9**	**-1.1**
RBK	**Rabkut**	**16.86**	**153**	P	**Pn**	**23 01 23.8**	**+0.4**
DMTO	**DMTO**	**16.96**	**150**	P	**Pn**	**23 01 24.3**	**-0.4**
IDI	**Anoyia**	**17.88**	**284**	P	**P**	**23 01 36.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=75,slow=16,SNR=3.1						
	comp=Z,19nm,1.0s						
BELG	**Belogornoye**	**19.58**	**2**	LR	LR	23 11 57.6	
	comp=Z,350nm,21.3s,baz=94,slow=44						
AKTO	**Aktyubinsk**	**19.62**	**23**	P	**P**	**23 01 56.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=4.2						
	comp=Z,2.4nm,0.6s						
MLR	**Muntele Rosu**	**20.14**	**315**	P	Pn	23 02 03.1	-0.3
	comp=Z,0.9nm,0.7s,baz=150,slow=16						
	comp=Z,0.9nm,0.7s						
AKASG	**Malin Array Be**	**21.83**	**330**	P	**P**	**23 02 20.6**	**+1.1**
	comp=Z,0.2nm,0.2s,baz=137,slow=12,SNR=4.8						
AKASG				LR	LR	23 12 37.9	
	comp=Z,26nm,18.7s,baz=140,slow=42						
	comp=Z,0.2nm,0.2s						
AAK	**Ala-Archa**	**24.28**	**58**	LR	LR	23 14 17.5	
	comp=Z,43nm,19.1s,baz=225,slow=42						
ARTI	**Arti**	**25.01**	**16**	P	**P**	**23 02 52.6**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=197,slow=9.0,SNR=3.2						
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**26.60**	**33**	P	**P**	**23 03 05.7**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=228,slow=6.9,SNR=9.9						
BVAR				PcP	**PcP**	**23 06 29.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=233,slow=0.7,SNR=3.9						
BVAR				LR	LR	23 15 29.8	
	comp=Z,26nm,20.1s,baz=203,slow=41						
	comp=Z,1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**29.61**	**43**	P	**P**	**23 03 33.7**	**+1.2**
	comp=Z,1.4nm,0.2s,baz=248,slow=7.8,SNR=4.4						
	comp=Z,1.4nm,0.2s						
MKAR	**Makanchi Array**	**30.70**	**52**	P	**P**	**23 03 43.0**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=256,slow=6.4,SNR=13						
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**34.47**	**41**	P	**P**	**23 04 17.2**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=247,slow=11,SNR=5.4						
ZALV				LR	LR	23 20 51.4	
	comp=Z,18nm,18.9s,baz=206,slow=41						
	comp=Z,0.9nm,0.7s						
HFS	**Hagfors**	**34.69**	**332**	P	**P**	**23 04 16.7**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=123,slow=7.6,SNR=2.4						
	comp=Z,1.9nm,0.8s						
NOA	**NORSAR Array B**	**36.22**	**332**	LR	LR	23 20 51.8	
	comp=Z,15nm,20.9s,baz=120,slow=39						
ARCES	**ARCESS Array B**	**38.56**	**348**	P	**P**	**23 04 49.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=153,slow=8.5,SNR=2.1						
	comp=Z,1.4nm,0.8s						
ESDC	**Sonseca Array**	**40.64**	**294**	P	**P**	**23 05 08.2**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=78,slow=9.6,SNR=4.8						
	comp=Z,0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**45.07**	**255**	P	**P**	**23 05 43.0**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=56,slow=7.6,SNR=3.7						
	comp=Z,0.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**49.13**	**93**	P	**P**	**23 06 15.5**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=300,slow=8.2,SNR=4.2						
	comp=Z,1.8nm,0.3s						

*CATAC **19** 23:12:32.9±0.8,15˚N±4˚×9˚3W±˚,h20km±5km,M3.9/12, MLv3.9/12,Error ellipse: s-maj=11.6km s-min=4.5km az=37.9,confirmed*
*GCG **19** 23:12:34.4±1.3,15.˚04N×93.˚11W,h36km±238km,MD4.2, ML3.5*
*MEX **19** 23:12:34.8±1.4,14.˚99N×93.˚14W,h66km±14km,MD4.2*
ISC 19 23:12:33.4±1.2,14.˚97N±0.˚05×93.˚20W±0.˚03,h50km±24km, n43,σ1§66/61,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.73**	**358**	*e*P	**Pn**	**23 12 48.3**	**+0.7**
PCIG				*e*S	**Sn**	**23 12 58.9**	**+1.1**
THIG		**0.90**	**94**	*e*P	**Pn**	**23 12 49.3**	**-0.6**
THIG				*e*S	**Sn**	**23 13 01.1**	**-0.8**
THIG		**0.90**	**94**	*i*P	**Pn**	**23 12 49.3**	**-0.6**
THIG				*i*S	**Sn**	**23 13 01.2**	**-0.7**
THIG				IAML		23 13 02.7	
	comp=N,3μm,0.3s						
SMCA	**Catarina**	**1.09**	**96**	*i*P	Pn	23 12 51.4	-1.0
SMCA				*i*S	**Sn**	**23 13 05.2**	**-1.3**
SMCA				IAML		23 13 06.6	
	comp=N,1μm,0.1s						
RTAL	**Retalhuleu**	**1.52**	**107**	*e*P	**Pn**	**23 12 57.4**	**-0.9**
RTAL				*e*S	**Sn**	**23 13 15.8**	**-1.1**
RTAL	**Retalhuleu**	**1.52**	**107**	S	**Sn**	**23 13 17.5**	**+0.5**
RTAL	**Retalhuleu**	**1.52**	**107**	P	**Pn**	**23 12 57.9**	**-0.3**
CCIG	**Comitan**	**1.66**	**38**	*e*P	**Pn**	**23 13 01.1**	**+0.8**
CCIG				*e*S	**Sn**	**23 13 18.1**	**-2.3**
CCIG	**Comitan**	**1.66**	**38**	*i*P	**Pn**	**23 13 01.1**	**+0.8**
CCIG				IAML		23 13 24.7	
	comp=N,287nm,0.4s						
CCIG	**Comitan**	**1.66**	**38**	P	**Pn**	**23 13 01.5**	**+1.2**
HUEH	**Huehuetenango**	**1.67**	**78**	*e*S	**Sn**	**23 13 22.2**	**+1.2**
HUEH	**Huehuetenango**	**1.67**	**78**	P	**Pn**	**23 13 00.6**	**0.0**
HUEH	**Huehuetenango**	**1.67**	**78**	S	**Sn**	**23 13 21.8**	**+0.9**
SOKI	**Kika Raxquin**	**1.74**	**95**	*i*P	**Pn**	**23 13 02.7**	**+1.0**
TGIG		**1.80**	**2**	*e*P	**Pn**	**23 13 02.2**	**+0.1**
TGIG				*e*S	**Sn**	**23 13 22.1**	**-1.7**
TGIG		**1.80**	**2**	*i*P	**Pn**	**23 13 02.2**	**+0.1**
TGIG				*i*S	**Sn**	**23 13 23.6**	**-0.2**
TGIG				IAML		23 13 28.2	
	comp=N,282nm,0.2s						
CMIG	**Matias Romero**	**2.66**	**323**	*e*P	**Pn**	**23 13 14.7**	**+0.8**
CMIG				*e*S	**Sn**	**23 13 40.5**	**-4.4**
HUIG	**Huatulco**	**2.92**	**286**	*e*P	**Pn**	**23 13 17.1**	**-0.3**
HUIG				*e*S	Sn	23 13 45.7	-5.5
HUIG	**Huatulco**	**2.92**	**286**	*i*P	**Pn**	**23 13 19.4**	**+2.0**
TUIG	**Tuzandepetl**	**3.26**	**339**	P	**Pn**	**23 13 23.5**	**+1.3**
FAME	**Alcaldia de Sa**	**3.28**	**110**	P	**Pn**	**23 13 22.4**	**0.0**
SLOZ	**Alcaldia de Sa**	**3.44**	**105**	P	**Pn**	**23 13 24.8**	**+0.2**
NUBE	**Las Nubes**	**3.48**	**107**	*i*P	**Pn**	**23 13 26.3**	**+1.1**
NUBE	**Las Nubes**	**3.48**	**107**	P	**Pn**	**23 13 25.6**	**+0.4**
NUBE	**Las Nubes**	**3.48**	**107**	S	**Sn**	**23 14 06.3**	**+1.1**
CEVE	**Cerro Verde**	**3.65**	**108**	S	**Sn**	**23 14 10.8**	**+1.3**
CEVE	**Cerro Verde**	**3.65**	**108**	P	**Pn**	**23 13 29.2**	**+1.6**
NEUV	**Arroyo Zacate**	**3.70**	**318**	*e*P	**Pn**	**23 13 28.8**	**+0.7**
NEUV				*e*S	**Sn**	**23 14 11.0**	**+0.6**
PETF	**Flores**	**3.74**	**58**	*e*P	**Pn**	**23 13 28.0**	**-0.7**
PETF				*e*S	Sn	23 14 06.3	-5.3
PETF	**Flores**	**3.74**	**58**	*i*P	**Pn**	**23 13 28.8**	**+0.1**
PETF	**Flores**	**3.74**	**58**	P	**Pn**	**23 13 28.9**	**+0.2**
JAYA	**Jayaque - finc**	**3.86**	**109**	*i*P	**Pn**	**23 13 31.6**	**+1.0**
PEIG	**Puerto Escondi**	**3.94**	**286**	*e*P	**Pn**	**23 13 31.6**	**+0.2**
PEIG				*e*S	**Sn**	**23 14 12.8**	**-3.7**
VHO	**Vista Hermosa**	**3.99**	**302**	*e*P	**Pn**	**23 13 32.6**	**+0.3**
VHO				*e*S	**Sn**	**23 14 16.1**	**-1.9**
SCIG	**Sabancuy**	**4.42**	**26**	*e*P	**Pn**	**23 13 39.7**	**+1.8**
SCIG				*e*S	**Sn**	**23 14 25.7**	**-2.3**
YOIG	**Yosondua**	**4.58**	**295**	*e*P	**Pn**	**23 13 42.7**	**+2.2**
YOIG				*e*S	**Sn**	**23 14 36.3**	**+3.6**
TOIG	**Toxpalan**	**4.84**	**310**	*e*P	**Pn**	**23 13 45.7**	**+1.8**
TOIG				*e*S	**Sn**	**23 14 36.2**	**-2.5**
TXIG	**Tlaxiaco**	**4.94**	**298**	*e*P	**Pn**	**23 13 47.8**	**+2.4**
TXIG				*i*S	**Sn**	**23 14 41.3**	**-0.2**

comp=N,10nm,1.0s

NICHA	**Nichawak Mount**	**5.18**	**36**		Pn	00 05 31.2	-2.0
BERG	**Berg Lake**	**5.38**	**36**		Pn	00 05 33.6	-2.4
BERG	**Berg Lake**	**5.38**	**36**	IAML		00 08 28.8	
	comp=E,14nm,1.2s						
GRIN	**Grindle Hills**	**5.43**	**38**		Pn	00 05 34.5	-2.1
BMRM	**Bremner River**	**5.58**	**28**		Pn	00 05 36.7	-2.1
GHO	**Glory Hole Cre**	**5.65**	**5**		Pn	00 05 38.9	-0.8
KLU	**Klutina**	**5.74**	**20**		Pn	00 05 39.7	-1.3
N25K	**Chitina, Valde**	**6.13**	**25**		Pn	00 05 44.5	-1.8
GLB	**Gilahina Butte**	**6.19**	**29**		Pn	00 05 44.9	-2.2
KIAG	**Kiagna River**	**6.22**	**37**		Pn	00 05 45.0	-2.7
MCARA	**McCarthy VSAT**	**6.36**	**32**		Pn	00 05 47.3	-2.1
PTPK	**Patty Peak**	**6.38**	**35**		Pn	00 05 47.7	-2.1
PCA	**Pinnacle**	**6.49**	**49**		Pn	00 05 48.8	-2.5
PNL	**Peninsula**	**6.65**	**54**		Pn	00 05 50.1	-3.2
BCPM	**Bancas Point**	**6.68**	**51**		Pn	00 05 50.8	-3.0
S12K	**Black Hills**	**6.79**	**271**		Pn	00 05 55.4	0.0
O28M	**Mount Upton**	**6.91**	**44**		Pn	00 05 54.8	-2.4

*NEIC **20** 00:25:25.9±1.1,47.42N±0.03×113.08W±0.03,h23km±8km, ML3.3/57,ML3.7/24(BUT),Error ellipse: s-maj=4.0km s-min=2.1km az=208.0*
*BUT **20** 00:25:26.9±0.9,47.40N±0.02×113.10W±0.02,h18km±8km, Error ellipse: s-maj=2.8km s-min=1.7km az=159.0*
ISC 20 00:25:25.8±0.9,**47.45N**±0.03×**113.06W**±0.03,**h15**km,**n71,** σ1§**25**/64,**Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLMT	**Seeley Lake**	**0.36**	**235**		**Pg**	**00 25 33.6**	**+0.4**
OVMT	**Ovando**	**0.39**	**173**		**Pg**	**00 25 34.0**	**+0.3**
CHMT	**Chamberlain Mo**	**0.55**	**194**		**Pg**	**00 25 36.7**	**0.0**
SWMT	**Swartz Lake**	**0.64**	**276**		**Pg**	**00 25 38.6**	**+0.2**
PCMT	**Pistol Creek**	**0.70**	**251**		**Pg**	**00 25 39.3**	**-0.1**
LYMT	**Lyon Mountain**	**0.71**	**132**	Pg	**Pb**	**00 25 39.8**	**-0.2**
LYMT				Sg	**Sg**	**00 25 48.6**	**-0.5**
YBMT	**Yellow Bay**	**0.77**	**303**		**Pb**	**00 25 41.4**	**+0.5**
BEMT	**Mount Belmont**	**0.86**	**144**		**Pg**	**00 25 42.4**	**-0.1**
MSO	**Missoula**	**0.86**	**224**		**Pb**	**00 25 42.0**	**-0.5**
MSO				Sg	**Sb**	**00 25 52.3**	**-1.5**
MSO				IAML		00 25 54.3	
	1µm,0.2s						
MSO				IAML		00 25 57.1	
	836nm,0.3s						
JTMT	**Jette**	**0.88**	**290**		**Pb**	**00 25 43.0**	**+0.2**
FBMT	**Ferry Basin**	**0.92**	**268**		**Pb**	**00 25 43.4**	**-0.2**
ALMT	**Alberton, Mont**	**1.03**	**247**		**Pb**	**00 25 45.2**	**-0.2**
BPMT	**Black Pine Rid**	**1.04**	**195**		**Pb**	**00 25 45.2**	**-0.5**
BLMT	**Blacktail Moun**	**1.04**	**303**		**Pg**	**00 25 46.2**	**+0.2**
HRY	**Holter Researc**	**1.12**	**131**	Pn	**Pg**	**00 25 47.2**	**-0.2**
NDMT	**Ninemile Divid**	**1.19**	**262**		**Pn**	**00 25 48.1**	**0.0**
BSMT	**Bassoo Peak**	**1.23**	**290**		**Pb**	**00 25 49.4**	**+0.5**
VCMT	**Victor**	**1.27**	**218**		**Pn**	**00 25 49.1**	**+0.1**
BHMT	**Big Hole Peak**	**1.34**	**277**		**Pb**	**00 25 51.2**	**+0.4**
MKMT	**Mink Peak**	**1.44**	**257**		**Pn**	**00 25 51.9**	**+0.4**
BUT	**Butte**	**1.47**	**166**		**Pn**	**00 25 52.4**	**+0.4**
LRM	**Limekiln Ridge**	**1.68**	**165**		**Pn**	**00 25 55.1**	**+0.3**
HBMT	**Mount Humbug**	**1.68**	**169**		**Pn**	**00 25 55.1**	**+0.2**
SXM	**Sixmile**	**1.82**	**135**		**Pb**	**00 25 57.7**	**-1.1**
LDM	**Libby Dam**	**1.82**	**304**		**Pb**	**00 25 58.0**	**-0.8**
MKRVA	**Milk River, Al**	**1.90**	**26**		**Pb**	**00 25 59.6**	**-0.6**
HSPGA	**Hill Springs,**	**1.95**	**349**		**Pg**	**00 26 02.1**	**-1.2**
BOZ	**Bozeman (W)**	**2.10**	**151**		**Pn**	**00 26 00.9**	**+0.4**
BOZ				IAML		00 26 32.7	
	187nm,0.3s						
BOZ				IAML		00 26 34.9	
	218nm,0.2s						
DLMT	**Dillon**	**2.11**	**171**		**Pn**	**00 26 01.0**	**+0.4**
DLMT				IAML		00 26 33.6	
	176nm,0.3s						
EGMT	**Eagleton**	**2.31**	**74**		**Pn**	**00 26 04.2**	**+0.9**
BGMT	**Barton Gulch**	**2.32**	**162**		**Pn**	**00 26 04.0**	**+0.4**
BZMT	**Bozeman Pass**	**2.38**	**138**		**Pn**	**00 26 05.5**	**+1.1**
MSMT	**Mission Creek**	**2.61**	**133**		**Pn**	**00 26 08.8**	**+1.2**
MCMT	**McKenzie Canyo**	**2.62**	**177**		**Pn**	**00 26 08.0**	**+0.2**
QLMT	**Earthquake Lak**	**2.85**	**156**		**Pn**	**00 26 11.6**	**+0.7**
NEW	**Newport**	**2.85**	**288**		**Pn**	**00 26 11.2**	**+0.4**
NEW	**Newport**	**2.85**	**288**	IAML		00 26 57.3	
	144nm,0.6s						
NEW				IAML		00 26 58.5	
	82nm,0.6s						
GCMT	**Greycliff**	**2.87**	**124**	Pn	**Pn**	**00 26 07.1**	**-4.0**
TPMT	**Tepee Creek**	**2.89**	**160**		**Pn**	**00 26 12.4**	**+1.0**
MOMT	**Monida**	**2.89**	**170**		**Pn**	**00 26 12.1**	**+0.6**
YHL	**Hebgen Lake**	**2.91**	**153**		**Pn**	**00 26 12.8**	**+1.1**
YHL				IAML		00 27 02.3	
	comp=E,180nm,0.9s						
YHL				IAML		00 27 04.2	
	comp=N,144nm,0.9s						
YMV	**Mammoth Vault**	**2.97**	**145**		**Pn**	**00 26 13.6**	**+1.0**
YHB	**Horse Butte**	**2.99**	**154**		**Pn**	**00 26 13.6**	**+0.7**
YHB				IAML		00 27 03.1	
	comp=N,89nm,0.4s						
YHB				IAML		00 27 03.7	
	comp=E,102nm,0.5s						
YPDC	**Denny Creek**	**3.02**	**154**		**Pn**	**00 26 14.3**	**+1.1**
YMC	**Maple Creek**	**3.04**	**151**		**Pn**	**00 26 14.7**	**+1.2**
YHH	**Holmes Hill**	**3.07**	**149**		**Pn**	**00 26 15.1**	**+1.1**
CMI	**Centennial Mou**	**3.09**	**161**		**Pn**	**00 26 15.0**	**+0.8**
PLID	**Pearl Lake**	**3.12**	**222**		**Pn**	**00 26 14.9**	**+0.3**
PLID				IAML		00 27 08.9	
	comp=E,151nm,0.7s						
PLID				IAML		00 27 11.0	
	comp=E,104nm,0.8s						
YPWB	**West Boundary**	**3.15**	**154**		**Pn**	**00 26 16.4**	**+1.3**
YNM	**Yellowstone No**	**3.18**	**148**	IAML		00 27 07.0	
	comp=E,98nm,0.2s						
YNM				IAML		00 27 10.8	
	comp=N,111nm,0.0s						
YPM	**Purple Mountai**	**3.18**	**151**		**Pn**	**00 26 16.6**	**+1.1**
YNR	**Norris Junctio**	**3.19**	**148**		**Pn**	**00 26 15.3**	**-0.4**
YNR				IAML		00 27 07.4	
	comp=E,51nm,0.2s						
YFT	**Old Faithful**	**3.37**	**152**		**Pn**	**00 26 17.7**	**-0.4**
YLT	**Little Thumb C**	**3.47**	**149**		**Pn**	**00 26 22.5**	**+3.1**
RLMT	**Red Lodge**	**3.51**	**130**		**Pn**	**00 26 22.5**	**+2.5**
RLMT	**Red Lodge**	**3.51**	**130**	IAML		00 27 17.0	
	comp=E,106nm,0.6s						
RLMT				IAML		00 27 23.3	
	comp=E,95nm,0.5s						
MCID	**Moose Creek**	**3.51**	**157**		**Pn**	**00 26 21.5**	**+1.5**
LNOR	**Lincton Mounta**	**3.93**	**248**	IAML		00 27 13.9	
	comp=E,29nm,0.4s						
LNOR				IAML		00 27 35.0	
	comp=N,33nm,0.9s						
BMO	**Blue Mountains**	**3.93**	**230**		**Pn**	**00 26 26.4**	**+0.8**
BMO	**Blue Mountains**	**3.93**	**230**	IAML		00 27 30.7	
	comp=N,35nm,0.3s						
BMO				IAML		00 27 34.0	
	comp=N,32nm,0.8s						
HLID	**Hailey**	**4.00**	**194**		**Pn**	**00 26 26.9**	**+0.2**
FXWY	**Fox Creek**	**4.07**	**159**		**Pn**	**00 26 30.0**	**+2.3**
LOHW	**Long Hollow**	**4.21**	**155**		**Pn**	**00 26 32.0**	**+2.4**
TPAW	**Teton Pass**	**4.23**	**159**		**Pn**	**00 26 33.5**	**+3.6**
TPAW	**Teton Pass**	**4.23**	**159**	IAML		00 27 44.5	
	comp=N,32nm,0.5s						
YPT	**Yellepit**	**4.29**	**253**	IAML		00 27 44.1	
	comp=N,27nm,0.7s						
YPT				IAML		00 27 55.9	
	comp=E,22nm,0.9s						
B08A	**Colville Reser**	**4.32**	**285**	IAML		00 27 42.4	
	comp=N,59nm,0.9s						
B08A				IAML		00 27 45.4	
	comp=E,32nm,0.6s						
MFID	**Camas Ranch**	**4.48**	**207**		**Pn**	**00 26 33.4**	**+0.2**
HAWA	**Hanford**	**4.56**	**259**	IAML		00 27 54.1	
	comp=E,28nm,1.1s						
HAWA				IAML		00 28 02.5	
	comp=E,24nm,0.6s						
LAO	**LASA Array**	**4.74**	**97**		**Pn**	**00 26 39.2**	**+2.5**
DGMT	**Dagmar**	**6.04**	**77**		**Pn**	**00 26 57.1**	**+2.5**

*NOU **20** 00:52:55.8,38.77S×175.48E,h175km,ML3.5/12,North Island, New Zealand*
*WEL **20** 00:52:57.9±1.2,39.35S±8.5×17.16E±.1°,h162km±9km,M2.5/13, ML2.3/6,MLv2.5/13,Error ellipse: s-maj=10.3km s-min=8.8km az=175.3,confirmed*
ISC 20 00:52:53.9±2.0,**38.69S**±0.07×**175.55E**±0.06, **h192**km±12km,**n40,** σ1§**38**/46,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATZ	**Wairara**	**0.14**	**96**	P	**Pn**	**00 53 20.1**	**+0.8**
RATZ	**Rangitukua**	**0.24**	**135**	P	**Pn**	**00 53 20.4**	**+1.0**
KUTZ	**Kaahu Road**	**0.29**	**46**	P	**Pn**	**00 53 20.4**	**+0.8**
KATZ	**Kakaramea**	**0.30**	**159**	P	**Pn**	**00 53 20.8**	**+1.1**
TLZ	**Tolley Road**	**0.36**	**358**	P	**Pn**	**00 53 20.6**	**+0.8**
KRVZ	**Karewarewa**	**0.41**	**170**	P	**Pn**	**00 53 21.3**	**+1.3**
WTVZ	**West Tongariro**	**0.42**	**176**	P	**Pn**	**00 53 21.4**	**+1.4**
NGZ	**Ngauruhoe**	**0.48**	**176**	P	**Pn**	**00 53 20.9**	**+0.7**
COVZ	**Chateau Observ**	**0.51**	**181**	P	**Pn**	**00 53 21.6**	**+1.4**
HIZ	**Hauiti**	**0.57**	**288**	P	**Pn**	**00 53 21.4**	**+1.0**
HIZ	**Hauiti**	**0.57**	**288**	P	**Pn**	**00 53 21.7**	**+1.3**
TUVZ	**Tukino**	**0.58**	**172**	P	**Pn**	**00 53 20.8**	**+1.6**
TUVZ				S	**Sn**	**00 53 41.3**	**-0.2**
WHVZ	**Whangaehu Hut**	**0.59**	**177**	P	**Pn**	**00 53 22.2**	**+1.4**
WHVZ				S	**Sn**	**00 53 38.6**	**-3.1**
TRVZ	**Turoa**	**0.61**	**180**	P	**Pn**	**00 53 22.3**	**+1.5**
VRZ	**Vera Road**	**0.76**	**235**	P	**Pn**	**00 53 23.0**	**+1.7**
VRZ				S	**Sn**	**00 53 43.0**	**+0.5**
BKZ	**Black Stump Fm**	**0.87**	**123**	P	**Pn**	**00 53 23.1**	**+1.1**
BKZ	**Black Stump Fm**	**0.87**	**123**	S	**Sn**	**00 53 43.0**	**-0.9**
BKZ	**Black Stump Fm**	**0.87**	**123**	P	**Pn**	**00 53 23.2**	**+1.1**
BKZ				S	**Sn**	**00 53 42.2**	**-1.7**
TOZ	**Tahuroa Road**	**0.96**	**358**	P	**Pn**	**00 53 23.5**	**+0.9**
RTZ	**Ruatahuna**	**1.12**	**87**	P	**Pn**	**00 53 24.8**	**+1.0**
RTZ				S	**Sn**	**00 53 45.0**	**-1.9**
WAZ	**Wanganui**	**1.15**	**202**	P	**Pn**	**00 53 26.1**	**+2.1**
URZ	**Urewera**	**1.30**	**71**	P	**Pn**	**00 53 25.7**	**+0.6**
URZ	**Urewera**	**1.30**	**71**	P	**Pn**	**00 53 25.9**	**+0.7**
TSZ	**Takapari Road**	**1.40**	**167**	P	**Pn**	**00 53 27.6**	**+1.6**
PXZ	**Pawanui**	**1.68**	**143**	P	**Pn**	**00 53 30.3**	**+1.8**
PXZ				S	**Sn**	**00 53 54.7**	**-0.9**
KNZ	**Kokohu**	**1.69**	**102**	P	**Pn**	**00 53 30.2**	**+1.6**
KUZ	**Kuaotunu**	**1.95**	**4**	P	**Pn**	**00 53 32.6**	**+1.3**
MRZ	**Mangatainoka R**	**1.97**	**179**	P	**Pn**	**00 53 32.8**	**+1.4**
HAZ	**Te Kaha**	**1.99**	**63**	P	**Pn**	**00 53 31.9**	**+0.2**
BFZ	**Birch Farm**	**2.06**	**165**	P	**Pn**	**00 53 33.8**	**+1.4**
BFZ	**Birch Farm**	**2.06**	**165**	P	**Sn**	**00 54 01.4**	**-1.1**
BFZ	**Birch Farm**	**2.06**	**165**	P	**Pn**	**00 53 33.8**	**+1.4**
PUZ	**Puketiti**	**2.21**	**75**	P	**Pn**	**00 53 35.2**	**+1.0**
MXZ	**Matakaoa Point**	**2.45**	**63**	P	**Pn**	**00 53 38.1**	**+1.4**
MXZ	**Matakaoa Point**	**2.45**	**63**	P	**Pn**	**00 53 38.0**	**+1.3**
QRZ	**Quartz Range**	**3.16**	**227**	P	**Pn**	**00 53 45.2**	**+0.2**
QRZ	**Quartz Range**	**3.16**	**227**	S	**Sn**	**00 54 23.7**	**-1.3**
KHZ	**Kahutara**	**4.02**	**202**	P	**Pn**	**00 53 56.4**	**+0.8**
KHZ	**Kahutara**	**4.02**	**202**	S	**Sn**	**00 54 41.8**	**-2.3**
ODZ	**Otahua Downs**	**7.33**	**208**	P	**Pn**	**00 54 38.3**	**+0.1**

*JMA **20** 00:54:45.5±0.5,23.3N×123.3E±.1°,h50km,MV2.7/11,FAR S OFF ISHIGAKIJIMA*
*TAP **20** 00:54:47.2,22.91N×122.62E,h81km±1km,ML2.9,D*
ISC 20 00:54:41.2±1.3,**22.94N**±0.04×**122.80E**±0.03,**h18**km±4km, **n43,** σ0§**97**/79,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**1.25**	**340**	*e*P	**Pg**	**00 55 07.1**	**+1.7**
EOS4				*e*S	**Sg**	**00 55 23.4**	**+1.7**
LDUT	**Ludao**	**1.25**	**258**	*e*P	**Pg**	**00 55 07.8**	**+2.3**
LDUT				*e*S	**Sn**	**00 55 20.5**	**+0.2**
CHKH	**Chenggong**	**1.31**	**281**	P	**Pg**	**00 55 07.5**	**+1.0**
CHKH				S	**Sg**	**00 55 25.6**	**-1.3**
HGSD	**Ruisui**	**1.38**	**294**	P	**Pg**	**00 55 08.7**	**+0.9**
HGSD				S	**Sg**	**00 55 25.1**	**-0.7**
EDH	**Donghe**	**1.38**	**271**	*e*P	**Pg**	**00 55 08.7**	**+0.9**
EDH				*e*S	**Sg**	**00 55 24.6**	**-1.1**
EOS3	**EOS3**	**1.41**	**342**	*e*P	**Pg**	**00 55 10.3**	**+1.9**
FULB	**Fuli**	**1.41**	**281**	P	**Pg**	**00 55 08.6**	**+0.2**
FULB				S	**Sg**	**00 55 25.3**	**-1.4**
SHUL	**Shoufeng**	**1.41**	**307**	P	**Pg**	**00 55 09.7**	**+1.2**
SHUL				S	**Sg**	**00 55 26.7**	**-0.2**
TWF1	**Yuli**	**1.44**	**287**	P	**Pg**	**00 55 09.5**	**+0.5**
HATJ	**Hateruma jima**	**1.44**	**40**	*e*P	**Pg**	**00 55 10.2**	**+1.1**
HATJ				S	**Sg**	**00 55 27.6**	**-0.3**
YULB	**Yu-li**	**1.45**	**288**	*e*P	**Pg**	**00 55 10.1**	**+0.8**
YULB				*e*S	**Sg**	**00 55 28.2**	**+0.1**
LYUB	**Lan-yu**	**1.46**	**230**	*e*P	**Pg**	**00 55 09.3**	**-0.1**
LYUB				*e*S	**Sn**	**00 55 25.3**	**0.0**
EHD	**Haiduan**	**1.48**	**278**	*e*P	**Pg**	**00 55 10.3**	**+0.5**
WARBT	**Fenglin Townsh**	**1.51**	**301**	*e*P	**Pg**	**00 55 10.4**	**+0.1**
WARBT				*e*S	**Sg**	**00 55 28.7**	**-1.3**
ESL	**Shilin**	**1.52**	**305**	*e*P	**Pg**	**00 55 10.9**	**+0.3**
EOS2	**EOS2**	**1.56**	**341**	*e*P	**Pg**	**00 55 12.4**	**+1.2**
EOS2				*e*S	**Sg**	**00 55 32.8**	**+1.2**
ETM	**Tongmen**	**1.57**	**311**	*e*P	**Pg**	**00 55 11.6**	**+0.1**
ETM				*e*S	**Sb**	**00 55 29.9**	**+0.5**
TWGBT	**Beinan**	**1.59**	**266**	*e*P	**Pg**	**00 55 12.3**	**+0.5**
TWGBT				*e*S	**Sg**	**00 55 31.3**	**-1.3**
TWG	**Pinlang**	**1.60**	**266**	*e*P	**Pg**	**00 55 12.7**	**+0.7**
TWG				*e*S	**Sb**	**00 55 30.6**	**+0.6**
IRIF	**Iriomote-Funau**	**1.63**	**32**	*e*P	**Pg**	**00 55 13.1**	**+0.5**
IRIF				*e*S	**Sb**	**00 55 32.0**	**+1.1**
NACB	**Ninganchiao**	**1.65**	**318**	P	**Pg**	**00 55 12.5**	**-0.4**
NACB				S	**Sb**	**00 55 31.8**	**+0.3**
JKRS	**Kuro-shima**	**1.70**	**41**	*e*P	**Pg**	**00 55 14.1**	**+0.1**
JKRS				*e*S	**Sb**	**00 55 33.8**	**+0.7**
VWDT	**VWDT**	**1.72**	**298**	*e*P	**Pg**	**00 55 14.9**	**+0.5**
VWDT				*e*S	**Sb**	**00 55 34.5**	**+0.9**
ETLH	**Xiulin Townshi**	**1.74**	**316**	P	**Pg**	**00 55 14.3**	**-0.5**
ETLH				S	**Sb**	**00 55 35.2**	**+0.8**
ENA	**Nanau**	**1.77**	**327**	P	**Pg**	**00 55 15.7**	**+0.5**
ENA				*e*S	**Sg**	**00 55 36.6**	**-1.6**
OWD	**Renai**	**1.80**	**304**	P	**Pg**	**00 55 15.3**	**-0.5**
OWD				S	**Sb**	**00 55 35.9**	**-0.1**
WHF	**Hehuan Shan**	**1.85**	**311**	P	**Pg**	**00 55 16.1**	**-0.7**
WHF				S	**Sb**	**00 55 38.1**	**+0.5**
WUSB	**Renai**	**1.86**	**304**	*e*P	**Pg**	**00 55 16.5**	**-0.5**
WUSB				*e*S	**Sb**	**00 55 37.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.88**	**41**	*e*P	**Pb**	**00 55 15.9**	**+1.0**
JIJ				*e*S	**Sb**	**00 55 37.7**	**-0.4**
NNSB	**Datong**	**1.97**	**319**	P	**Pg**	**00 55 18.1**	**-1.0**
NNSB				S	**Sb**	**00 55 40.8**	**0.0**
LATG	**Datong**	**1.97**	**324**	P	**Pg**	**00 55 17.9**	**-1.1**
TPUB	**Ta-pu**	**2.03**	**281**	*e*P	**Pg**	**00 55 19.5**	**-0.7**
TPUB				*e*S	**Sg**	**00 55 44.6**	**-1.9**
ENTT	**Nioudou**	**2.03**	**327**	*e*P	**Pg**	**00 55 19.5**	**-0.8**
WTP	**Ta-pu**	**2.03**	**279**	*e*P	**Pg**	**00 55 19.9**	**-0.3**
WTP				*e*S	**Sb**	**00 55 44.3**	**+1.7**
CHN4	**Tsaushan**	**2.07**	**282**	*e*P	**Pg**	**00 55 21.3**	**+0.3**
FUSB	**Fushanzhiwuyua**	**2.12**	**329**	*e*P	**Pg**	**00 55 21.5**	**-0.5**
FUSB				*e*S	**Sb**	**00 55 45.9**	**+0.7**
JISG	**Ishigakijimahi**	**2.15**	**40**	*e*P	**Pb**	**00 55 19.1**	**-0.5**
JISG				*e*S	**Sb**	**00 55 44.3**	**-1.5**
WHP	**Taichung City**	**2.16**	**308**	*e*P	**Pg**	**00 55 22.8**	**+0.1**
WHP				*e*S	**Sb**	**00 55 46.7**	**+0.5**
YHNB	**Yeheng**	**2.16**	**323**	*e*P	**Pg**	**00 55 21.3**	**-1.4**
YHNB				*e*S	**Sb**	**00 55 44.3**	**-1.9**
NWLT	**Wulai**	**2.18**	**327**	*e*P	**Pg**	**00 55 22.7**	**-0.4**
NWLT				*e*S	**Sb**	**00 55 46.6**	**-0.1**
TIPB	**Shuangxi**	**2.21**	**336**	*e*P	**Pg**	**00 55 22.6**	**-1.0**
TIPB				*e*S	**Sb**	**00 55 48.0**	**+0.4**
SXI1	**Grass Mountain**	**2.30**	**339**	*e*P	**Pb**	**00 55 22.8**	**+0.6**
SXI1				*e*S	**Sb**	**00 55 49.3**	**-1.1**
JTJ	**Tarama**	**2.43**	**46**	*e*P	**Pb**	**00 55 24.0**	**-0.4**
JTJ				*e*S	**Sb**	**00 55 52.0**	**-2.0**

*IDC **20** 00:55:44.6±0.7,33.59N×86.95E,h0km,mb3.8/14, mbtmp3.9/17,ML3.6/2,MS3.1/12,Error ellipse: s-maj=26.9km s-min=15.4km az=52.0*
*MOS **20** 00:55:44.2±0.8,33.66N×86.98E,h12km,mb4.3/10,Error ellipse: s-maj=12.3km s-min=6.8km az=120.6*
*NEIC **20** 00:55:47.4±0.8,33.76N±0.10×86.92E±0.03,h10km±2km, mb4.1/12,Error ellipse: s-maj=17.0km s-min=4.3km az=173.0*
*NDI **20** 00:55:52.6±0.5,33.74N×86.92E,h10km,ML4.0,MW4.1, mb4.1(NEIC)*
ISC 20 00:55:47.2±0.4,**33.76N**±0.05×**86.84E**±0.06,**h10**km,**n79,** σ1§**43**/73,**mb4.0**/15,**MS3.2**/10,**5C,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.46**	**137**	Pn	**Pn**	**00 57 09.3**	**+0.2**
LSA				Sn	**Pb**	**00 57 23.8**	**+0.8**
LSA				smax	smax		
	comp=N,32nm,0.8s						
EVN	**Everest**	**5.79**	**180**		**Pn**	**00 57 13.5**	**-0.1**

GTK	**Tadong**	**6.60**	**166**	*e*P	**Pn**	**00 57 28.6**	**+4.2**
GTK				*e*S	**Sn**	**00 58 39.1**	**-0.7**
GTK				IAML		00 58 39.7	
	comp=E,46nm,0.8s						
GTK				IAML		00 58 42.1	
	comp=N,46nm,0.7s						
GOMU	**GeErMu**	**6.98**	**67**	P	**Pn**	**00 57 30.4**	**+0.6**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRCI	**Bahraich**	**7.66**	**218**	*e*S	**Sn**	**00 59 05.5**	**-0.1**
BRCI				IAML		00 59 07.0	
	comp=E,206nm,0.3s						
BRCI				IAML		00 59 07.1	
	comp=N,166nm,0.2s						
SHBG	**Sahibganj**	**8.54**	**175**	*e*P	**Pn**	**00 57 55.3**	**+4.4**
ITAN	**ITANAGAR**	**8.87**	**136**	*e*P	**Pn**	**00 57 59.5**	**+4.1**
WMQ	**Urumqi**	**10.07**	**4**	*e*P	**Pn**	**00 58 15.3**	**+3.4**
NIL	**Nilore**	**11.32**	**273**		**Pn**	**00 58 29.8**	**+0.8**
NIL	**Nilore**	**11.32**	**273**	P	**Pn**	**00 58 29.8**	**+0.8**
GTA	**Gaotai**	**11.85**	**58**	*e*P	**Pn**	**00 58 36.6**	**+0.3**
GTA				pP		00 58 39.9	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				LR	LR		
	comp=N,280nm,11.6s						
GTA				LR	LR		
	comp=E,130nm,12.4s						
GTA				LR	LR		
	comp=Z,160nm,7.3s						
AAK	**Ala-Archa**	**13.13**	**316**	LR	LR	01 04 34.4	
	comp=Z,53nm,19.5s,baz=132,slow=40						
AAK	**Ala-Archa**	**13.13**	**316**	*i* P	**Pn**	**00 58 56.6**	**+2.7**
ARSB	**Arslanbob**	**13.33**	**309**	Pn	**Pn**	**00 58 57.5**	**+1.0**
ARSB	**Arslanbob**	**13.33**	**309**	P	**Pn**	**00 58 57.6**	**+1.0**
MK31	**Makanchi Array**	**13.47**	**346**	*ce*P	**Pn**	**00 59 00.4**	**+2.1**
MKAR	**Makanchi Array**	**13.47**	**346**		**Pn**	**00 58 57.8**	**-0.5**
MKAR	**Makanchi Array**	**13.47**	**346**	Pn	**Pn**	**00 58 59.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=155,slow=16,SNR=18						
MKAR				LR	LR	01 04 10.9	
	comp=Z,28nm,18.5s,baz=186,slow=37						
	comp=Z,4.1nm,0.8s						
GAR	**Garm**	**14.30**	**296**		**Pn**	**00 59 10.3**	**+0.5**
KBL	**Kabul**	**14.76**	**278**		**Pn**	**00 59 15.9**	**-0.3**
KBL	**Kabul**	**14.76**	**278**	P	**Pn**	**00 59 15.9**	**-0.3**
SIMJ	**Simiganj**	**15.20**	**294**		**Pn**	**00 59 22.8**	**+0.8**
SIMJ				IAmb	IAmb	00 59 36.5	
	comp=Z,8.5nm,0.9s						
KK31	**Karatay Array**	**15.81**	**311**	Pn	**Pn**	**00 59 30.6**	**+0.8**
KK31	**Karatay Array**	**15.81**	**311**	P	**Pn**	**00 59 30.6**	**+0.8**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KKAR	**Karatay Array**	**15.81**	**311**		**Pn**	**00 59 30.0**	**+0.1**
KKAR	**Karatay Array**	**15.81**	**311**	P	**Pn**	**00 59 30.0**	**+0.1**
KURBB	**Kurchatov Arra**	**17.92**	**343**	P	**Pn**	**00 59 56.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=157,slow=11,SNR=8.7						
	comp=Z,1.5nm,0.2s						
KURK	**Kurchatov**	**17.98**	**343**		**Pn**	**00 59 55.9**	**-1.2**
KURK	**Kurchatov**	**17.98**	**343**	*ce*P	**Pn**	**00 59 56.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
XAN	**Xi'an**	**18.33**	**83**	*e*P	**P**	**01 00 02.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**18.69**	**142**	P	**P**	**01 00 02.2**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=323,slow=12,SNR=6.4						
CMAR				LR	LR	01 06 41.1	
	comp=Z,22nm,21.2s,baz=310,slow=36						
ZAA0	**Zalesovo Array**	**20.23**	**357**	P	**P**	**01 00 22.3**	**0.0**
ZAA0				IAmb	IAmb	01 00 24.3	
	comp=Z,9.2nm,1.2s						
ZALV	**Zalesovo Beam**	**20.23**	**357**	P	**P**	**01 00 22.5**	**+0.3**
ZALV	**Zalesovo Beam**	**20.23**	**357**	P	**P**	**

HFS	**Hagfors**	**53.15**	**323**	P	**P**	**01 05 04.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=57,slow=5.5,SNR=5.1						
	comp=Z,1.4nm,0.7s						
NB2	**NORSAR Subarra**	**54.28**	**324**	P	**P**	**01 05 13.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=82,slow=7.4						
NOA	**NORSAR Array B**	**54.28**	**324**	P	**P**	**01 05 13.1**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=100,slow=7.2,SNR=4.0						
NOA				LR	LR	01 31 48.0	
	comp=Z,16nm,21.1s,baz=105,slow=40						
	comp=Z,2.1nm,0.9s						
GERES	**GERESS Array B**	**54.91**	**309**	P	**P**	**01 05 18.8**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=70,slow=5.8,SNR=11						
	comp=Z,1.4nm,0.8s						
ESDC	**Sonseca Array**	**69.96**	**305**	P	**P**	**01 06 58.8**	**0.0**
	comp=Z,0.5nm,0.9s,baz=55,slow=6.2,SNR=2.3						
	comp=Z,0.5nm,0.9s						
WRA	**Warramunga Arr**	**70.00**	**132**	P	**P**	**01 06 57.4**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=326,slow=6.7,SNR=4.3						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**72.57**	**135**	P	**P**	**01 07 12.8**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=319,slow=5.9,SNR=7.4						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**73.23**	**21**	P	**P**	**01 07 16.9**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=281,slow=5.4,SNR=3.4						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.83**	**278**	P	**P**	**01 07 50.1**	**-0.7**
	comp=Z,1.3nm,1.1s,baz=41,slow=4.9,SNR=5.1						
	comp=Z,1.3nm,1.1s						
QSPA	**South Pole Qui**	**123.55**	**180**	PKP	**PKPdf**	**01 14 43.1**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=257,slow=1.5,SNR=6.5						
CPUP	**Villa Florida**	**148.23**	**274**	PKPbc	**PKPdf**	**01 15 32.0**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=145,slow=0.3,SNR=6.6						

*IDC **20** 01:08:20.6±2.6,54°.69N×165°.07E,h0km,mb3.8/5, mbtmp3.8/6,ML2.9/1,MS3.4/2,Error ellipse: s-maj=71.3km s-min=24.5km az=154.0*
*NEIC **20** 01:08:22.1±0.8,54°.6N±0°.1×165°.2E±0°.1,h10km±1km, mb4.3/22,Error ellipse: s-maj=19.7km s-min=11.5km az=333.0*
*KRSC **20** 01:08:24.2±1.0,54°.87N×164°.68E,h47km±22km,Ml4.3*
*MOS **20** 01:08:24.7±0.5,54°.86N×164°.94E,h43km,mb4.3/2,Error ellipse: s-maj=8.0km s-min=6.2km az=151.4*

ISC 20 01:08:25.0±0.6,54°.83N±0°.06×164°.90E±0°.04,h34km,n122,
σ1s67/126,mb4.2/15,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.72**	**59**	PN	**Pb**	**01 08 40.0**	**+0.8**
BKI				S	**Sn**	**01 08 50.6**	**+2.0**
BKI	**Bering**	**0.72**	**59**	*eP*	**Pb**	**01 08 40.0**	**+0.8**
BKI				*eS*	**Sn**	**01 08 50.6**	**+2.0**
KBTR	**Krutoberegovo**	**1.82**	**320**	PN	**Pn**	**01 08 51.5**	**-2.3**
KBTR	**Krutoberegovo**	**1.82**	**320**	*eP*	**Pn**	**01 08 51.6**	**-2.3**
MKZ	**Mys Kozlova**	**1.86**	**263**	PN	**Pn**	**01 08 54.4**	**0.0**
MKZ				S	**Sn**	**01 09 14.3**	**-2.4**
MKZ	**Mys Kozlova**	**1.86**	**263**	*eP*	**Pn**	**01 08 54.4**	**0.0**
MKZ				*eS*	**Sn**	**01 09 14.4**	**-2.4**
SMKR	**Semkarok**	**2.62**	**313**	PN	**Pn**	**01 09 05.6**	**+0.7**
SMKR	**Semkarok**	**2.62**	**313**	*eP*	**Pn**	**01 09 05.6**	**+0.7**
TUMD	**Tumrok D**	**2.62**	**280**	PN	**Pn**	**01 09 05.2**	**+0.4**
TUMD				S	**Sn**	**01 09 33.4**	**-2.0**
TUMD	**Tumrok D**	**2.62**	**280**	*eP*	**Pn**	**01 09 05.2**	**+0.4**
TUMD				*eS*	**Sn**	**01 09 33.5**	**-2.0**
ZLN	**Zelenaya**	**2.62**	**299**	PN	**Pn**	**01 09 05.8**	**+0.9**
ZLN	**Zelenaya**	**2.62**	**299**	*eP*	**Pn**	**01 09 05.9**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**2.64**	**297**	PN	**Pn**	**01 09 06.0**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.64**	**297**	*eP*	**Pn**	**01 09 06.0**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.75**	**296**	PN	**Pn**	**01 09 08.0**	**+1.2**
BZWR	**Bezymyannyi-We**	**2.75**	**296**	*eP*	**Pn**	**01 09 08.1**	**+1.2**
KMNR	**Kamenistaya**	**2.82**	**291**	PN	**Pn**	**01 09 08.8**	**+1.1**
KMNR	**Kamenistaya**	**2.82**	**291**	*eP*	**Pn**	**01 09 08.8**	**+1.1**
KIRR	**Kirishev**	**2.83**	**295**	PN	**Pn**	**01 09 09.4**	**+1.5**
KIRR	**Kirishev**	**2.83**	**295**	*eP*	**Pn**	**01 09 09.4**	**+1.5**
KLY	**Klyuchi**	**2.83**	**303**	PN	**Pn**	**01 09 06.9**	**-0.8**
KLY	**Klyuchi**	**2.83**	**303**	*eP*	**Pn**	**01 09 06.9**	**-0.8**
KPT	**Kopyto**	**2.90**	**295**	PN	**Pn**	**01 09 10.4**	**+1.6**
KPT	**Kopyto**	**2.90**	**295**	*eP*	**Pn**	**01 09 10.4**	**+1.6**
KOZ	**Kozyrevsk**	**3.11**	**295**	PN	**Pn**	**01 09 13.4**	**+1.8**
KOZ	**Kozyrevsk**	**3.11**	**295**	*eP*	**Pn**	**01 09 13.5**	**+1.8**
KII	**Karymskiy**	**3.28**	**258**	PN	**Pn**	**01 09 15.2**	**+1.2**
KII	**Karymskiy**	**3.28**	**258**	*eP*	**Pn**	**01 09 15.3**	**+1.2**
SRDR	**Sredinnyy**	**3.30**	**299**	PN	**Pn**	**01 09 15.6**	**+1.4**
SRDR	**Sredinnyy**	**3.30**	**299**	*eP*	**Pn**	**01 09 15.6**	**+1.4**
SPN	**Mys Shipunski**	**3.36**	**241**	PN	**Pn**	**01 09 16.1**	**+1.1**
SPN	**Mys Shipunski**	**3.36**	**241**	*eP*	**Pn**	**01 09 16.2**	**+1.1**
SPN				*eS*	**Sn**	**01 09 52.3**	**-1.5**
NLC	**Nalytchevo**	**3.68**	**245**	PN	**Pn**	**01 09 20.7**	**+1.4**
NLC	**Nalytchevo**	**3.68**	**245**	*eP*	**Pn**	**01 09 20.7**	**+1.4**
NLC				*eS*	**Sn**	**01 10 00.9**	**-0.5**
ESO	**Esso**	**3.70**	**290**	PN	**Pn**	**01 09 20.7**	**+1.0**
ESO	**Esso**	**3.70**	**290**	*eP*	**Pn**	**01 09 20.7**	**+1.0**
SDLR	**Sedlovina**	**3.87**	**249**	PN	**Pn**	**01 09 23.7**	**+1.6**
SDLR	**Sedlovina**	**3.87**	**249**	*eP*	**Pn**	**01 09 23.8**	**+1.6**
SMAR	**Somma**	**3.92**	**249**	PN	**Pn**	**01 09 24.7**	**+1.8**
SMAR	**Somma**	**3.92**	**249**	*eP*	**Pn**	**01 09 24.8**	**+1.8**
KRER	**Koryakskii**	**3.93**	**250**	PN	**Pn**	**01 09 25.4**	**+2.3**
KRER	**Koryakskii**	**3.93**	**250**	*eP*	**Pn**	**01 09 25.5**	**+2.3**
UGLR	**Uglovaya**	**3.94**	**248**	PN	**Pn**	**01 09 25.2**	**+2.2**
UGLR	**Uglovaya**	**3.94**	**248**	*eP*	**Pn**	**01 09 25.3**	**+2.2**
AVH	**Avacha**	**3.96**	**249**	PN	**Pn**	**01 09 25.4**	**+2.1**
AVH	**Avacha**	**3.96**	**249**	*eP*	**Pn**	**01 09 25.4**	**+2.1**
KRX	**Arik**	**3.96**	**251**	PN	**Pn**	**01 09 25.2**	**+1.8**
KRX	**Arik**	**3.96**	**251**	*eP*	**Pn**	**01 09 25.3**	**+1.8**
KOK	**Koryaka**	**4.00**	**250**	PN	**Pn**	**01 09 25.8**	**+1.9**
KOK	**Koryaka**	**4.00**	**250**	*eP*	**Pn**	**01 09 25.8**	**+1.9**
DALK	**Dalny**	**4.06**	**246**	PN	**Pn**	**01 09 26.0**	**+1.5**
DALK	**Dalny**	**4.06**	**246**	*eP*	**Pn**	**01 09 26.1**	**+1.5**
PET	**Petropavlovsk**	**4.11**	**246**	Pn	**Pn**	**01 09 25.5**	**+0.2**
PET	**Petropavlovsk**	**4.11**	**246**	*e*PN	**Pn**	**01 09 25.9**	**+0.5**
PET				pmax	pmax		
	comp=Z,17nm,0.3s						
PET	**Petropavlovsk**	**4.11**	**246**	*eP*	**Pn**	**01 09 27.2**	**+1.9**
PET				*eS*	**Sn**	**01 10 11.9**	**-0.3**
GNL	**Ganaly**	**4.24**	**257**	PN	**Pn**	**01 09 29.4**	**+2.3**
GNL	**Ganaly**	**4.24**	**257**	*eP*	**Pn**	**01 09 29.5**	**+2.3**
KRMR	**Karymshinskiy**	**4.48**	**246**	PN	**Pn**	**01 09 32.3**	**+1.9**
KRMR	**Karymshinskiy**	**4.48**	**246**	*eP*	**Pn**	**01 09 32.4**	**+1.9**
KRMR				*eS*	**Sn**	**01 10 21.3**	**-0.1**
RUS	**Russkaya**	**4.50**	**240**	PN	**Pn**	**01 09 32.4**	**+1.8**
RUS	**Russkaya**	**4.50**	**240**	*eP*	**Pn**	**01 09 32.4**	**+1.8**
RUS				*eS*	**Sn**	**01 10 20.9**	**-0.8**
PEA0B	**Petropavlovsk-**	**4.59**	**251**	Pn	**Pn**	**01 09 33.1**	**+1.2**
PEA0B	**Petropavlovsk-**	**4.59**	**251**	PN	**Pn**	**01 09 33.2**	**+1.2**
PETK	**Petropavlovsk-**	**4.59**	**251**	Pn	**Pn**	**01 09 32.1**	**+0.2**
PETK	**Petropavlovsk-**	**4.59**	**251**	Pn	**Pn**	**01 09 33.7**	**+1.8**
	comp=Z,2.7nm,0.3s,baz=69,slow=17,SNR=30						
PETK				Sn	**Sn**	**01 10 24.7**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=80,slow=40,SNR=6.1						
	comp=Z,4.6nm,0.3s						
MTVR	**Mutnovka**	**4.64**	**242**	PN	**Pn**	**01 09 34.9**	**+2.2**
MTVR	**Mutnovka**	**4.64**	**242**	*eP*	**Pn**	**01 09 34.9**	**+2.2**
MTVR				*eS*	**Sn**	**01 10 24.3**	**-1.0**
GRL	**Gorelyy**	**4.66**	**243**	PN	**Pn**	**01 09 36.1**	**+3.2**
GRL	**Gorelyy**	**4.66**	**243**	*eP*	**Pn**	**01 09 36.2**	**+3.2**
ASAK	**Asacha**	**4.84**	**242**	PN	**Pn**	**01 09 36.9**	**+1.5**
ASAK	**Asacha**	**4.84**	**242**	*eP*	**Pn**	**01 09 37.0**	**+1.5**
APC	**Apacha**	**4.96**	**250**	PN	**Pn**	**01 09 39.8**	**+2.8**
APC	**Apacha**	**4.96**	**250**	*eP*	**Pn**	**01 09 39.8**	**+2.8**
MIPR	**Malaya Ipel'ka**	**5.49**	**245**	PN	**Pn**	**01 09 46.9**	**+2.7**
MIPR	**Malaya Ipel'ka**	**5.49**	**245**	*eP*	**Pn**	**01 09 46.9**	**+2.7**
TILK	**Tilichiki**	**5.67**	**6**	PN	**Pn**	**01 09 48.2**	**+1.6**
TILK	**Tilichiki**	**5.67**	**6**	*eP*	**Pn**	**01 09 48.2**	**+1.6**
KIWB	**Kanaga Island**	**11.13**	**98**	Pn	**Pn**	**01 10 57.4**	**-4.2**
GSTR	**Great Sitkin T**	**11.67**	**96**	Pn	**Pn**	**01 11 06.0**	**-3.0**
M11K	**Mekoryuk**	**16.36**	**58**	Pn	**P**	**01 12 11.5**	**-2.8**
M11K				IAmb	IAmb	01 12 21.6	
	comp=Z,17nm,0.9s						
G16K	**Koyuk River**	**19.19**	**44**		**Pn**	**01 12 47.0**	**+0.5**
ERM	**Erimo**	**19.20**	**237**	P	**P**	**01 12 45.2**	**-0.5**
ERM				IAmb	IAmb	01 13 26.2	
	comp=Z,43nm,1.2s						
ERM	**Erimo**	**19.20**	**237**	P	**P**	**01 12 45.2**	**-0.5**
ERM				pmax	pmax		
	comp=Z,43nm,1.2s						
YAK	**Yakutsk**	**19.58**	**306**	LR	LR	01 20 12.6	
	comp=Z,58nm,19.8s,baz=174,slow=36						
J19K	**Poorman**	**21.72**	**49**	P	**P**	01 13 17.8	+4.9
CHIR	**Chirikof Islan**	**22.28**	**71**	P	**P**	**01 13 18.1**	**-0.8**
B20K	**Meade River**	**22.66**	**33**	P	**P**	**01 13 25.4**	**+2.6**
B20K				IAmb	IAmb	01 13 55.0	
	comp=Z,14nm,1.4s						

IMAR	**Indian Mountai**	**22.79**	**44**	P	**P**	**01 13 25.1**	**+0.8**
E21K	**Killik River**	**23.23**	**38**	P	**P**	**01 13 29.1**	**+0.4**
B21K	**Ikpikpuk River**	**23.35**	**35**	P	**P**	**01 13 31.7**	**+1.8**
B21K				IAmb	IAmb	01 13 32.9	
	comp=Z,7.7nm,1.4s						
E22K	**Anaktuvuk Pass**	**23.93**	**39**	P	**P**	**01 13 37.5**	**+1.9**
E22K				IAmb	IAmb	01 13 59.2	
	comp=Z,6.0nm,1.4s						
FIS	**Fire Island**	**24.20**	**57**	P	**P**	**01 13 38.8**	**+0.8**
FIS				IAmb	IAmb	01 13 42.9	
	comp=Z,14nm,0.7s						
BWN	**Browne**	**24.43**	**49**	P	**P**	**01 13 41.2**	**+1.1**
D23K	**Nanushuk River**	**24.52**	**38**	P	**P**	**01 13 42.0**	**+1.2**
D23K				IAmb	IAmb	01 13 47.4	
	comp=Z,5.1nm,1.2s						
CCB	**Clear Creek Bu**	**25.16**	**48**	P	**P**	**01 13 47.3**	**+0.7**
SCM	**Sheep Creek Mo**	**25.51**	**55**	P	**P**	**01 13 50.4**	**+0.4**
SCM				IAmb	IAmb	01 14 14.0	
	comp=Z,15nm,1.4s						
SCM	**Sheep Creek Mo**	**25.51**	**55**	P	**P**	**01 13 50.4**	**+0.4**
SCM				pmax	pmax		
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**25.55**	**48**	P	**P**	**01 13 50.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=269,slow=9.0,SNR=4.4						
	comp=Z,0.5nm,0.7s						
DOT	**Dot Lake**	**26.84**	**50**	P	**P**	**01 14 03.4**	**+1.5**
G29M	**Pine Creek**	**29.13**	**43**	P	**P**	**01 14 23.9**	**+1.7**
G29M				IAmb	IAmb	01 14 33.4	
	comp=Z,11nm,1.5s						
K29M	**Barlow Dome**	**29.70**	**49**	P	**P**	**01 14 27.9**	**+0.4**
K29M				IAmb	IAmb	01 14 33.5	
	comp=Z,6.1nm,1.4s						
KSRS	**Korea Array**	**30.49**	**251**	P	**P**	**01 14 35.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=42,slow=10,SNR=1.6						
	comp=Z,0.9nm,0.5s						
KSRS	**Korea Array**	**30.49**	**251**	P	**P**	**01 14 35.0**	**+0.5**
SIT	**Sitka**	**32.62**	**61**	P	**P**	**01 14 52.1**	**-0.9**
SIT	**Sitka**	**32.62**	**61**	P	**P**	**01 14 52.1**	**-0.9**
C36M	**Paulatuk**	**33.97**	**37**	P	**P**	**01 15 06.1**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**35.08**	**177**	T	T	01 53 40.7	
	baz=359,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**35.09**	**177**	T	T	01 53 42.4	
	baz=359,slow=76,SNR=37						
H11N1	**WAKE ISLAND Hy**	**35.09**	**177**	T	T	01 53 48.0	
	baz=359,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**36.29**	**177**	T	T	01 55 18.9	
	baz=359						
H11S3	**WAKE ISLAND Hy**	**36.30**	**177**	T	T	01 55 22.7	
	baz=359						
H11S2	**WAKE ISLAND Hy**	**36.30**	**177**	T	T	01 55 24.7	
	baz=359						
JOHN	**Johnston Islan**	**42.83**	**143**	P	**P**	**01 16 17.1**	**-2.4**
KURK	**Kurchatov**	**49.19**	**303**	P	**P**	**01 17 11.0**	**+1.6**
KURK				IAmb	IAmb	01 17 11.9	
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**49.19**	**303**	P	**P**	**01 17 11.0**	**+1.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**49.30**	**303**	P	**P**	**01 17 12.2**	**+2.0**
	comp=Z,0.9nm,0.2s,baz=54,slow=8.1,SNR=4.5						
	comp=Z,0.9nm,0.2s						
MKAR	**Makanchi Array**	**49.92**	**297**	P	**P**	**01 17 15.9**	**+0.8**
MKAR	**Makanchi Array**	**49.92**	**297**	P	**P**	**01 17 16.7**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=59,slow=7.9,SNR=3.7						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**51.50**	**310**	P	**P**	**01 17 28.5**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=46,slow=6.2,SNR=3.5						
	comp=Z,0.8nm,0.5s						
AB31	**Akbulak array**	**58.78**	**312**	P	**P**	**01 18 22.0**	**+2.7**
AB31				IAmb	IAmb	01 18 23.4	
	comp=Z,4.4nm,1.5s						
ABKAR	**Akbulak array**	**58.78**	**312**	P	**P**	**01 18 21.6**	**+2.3**
PSI	**Prapat**	**74.05**	**252**	LR	LR	01 53 28.7	
	comp=Z,50nm,20.1s,baz=244,slow=36						

*MOS **20** 01:08:51.3±0.9,30°.34N×94°.91E,h12km,mb4.8/30,Error ellipse: s-maj=9.2km s-min=4.6km az=126.4*
*IDC **20** 01:08:51.5±0.6,30°.34N×94°.87E,h0km,mb4.2/22, mbtmp4.2/25,ML4.1/3,Error ellipse: s-maj=22.1km s-min=12.9km az=48.0*
*NDI **20** 01:08:52.2±0.6,30°.41N×94°.76E,h10km,ML4.3,MW4.4, mb4.6(NEIC)*
*NEIC **20** 01:08:53.9±1.1,30°.4N±0°.1×94°.8E±0°.1,h10km±1km, mb4.6/83,Error ellipse: s-maj=18.9km s-min=14.3km az=196.0*
*BJI **20** 01:08:55.2,30°.39N×94°.87E,h31km,mB4.5/6,mb4.5/34, ML3.7/5,Ms3.6/3,Ms7 3.5/4*
*BGR **20** 01:09:02.0,30°.94N×94°.68E,h33km,mb4.7,Ms3.2*

ISC 20 01:08:54.9±0.4,30°.26N±0°.05×94°.79E±0°.04,h23km,n453,
σ0s95/444,mb4.5/123,24C-16D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIRO	**ZIRO**	**2.84**	**197**	*eP*	**Pn**	**01 09 39.9**	**+0.9**
LSA	**Lhasa**	**3.21**	**261**	Pn	**Pn**	**01 09 46.9**	**+2.6**
LSA				Sn	**Sb**	**01 10 30.8**	**+0.5**
LSA				LR	LR		
	comp=Z,390nm,4.9s						
ITAN	**ITANAGAR**	**3.24**	**197**	*eP*	**Pn**	**01 09 45.1**	**+0.8**
ITAN				IAML		01 10 17.6	
	comp=E,2µm,3.4s						
ITAN				*eS*	**Sn**	**01 10 24.6**	**+2.4**
TEZP	**TEZPUR**	**4.03**	**206**	*eP*	**Pn**	**01 09 55.6**	**+0.4**
TEZP				*eS*	**Sn**	**01 10 41.9**	**+0.2**
KOHI	**KOHIMA**	**4.56**	**188**	*eP*	**Pn**	**01 10 03.2**	**+0.5**
GUWA	**GUWAHATI**	**4.88**	**215**	*eP*	**Pn**	**01 10 07.2**	**+0.2**
GUWA				*eS*	**Sn**	**01 11 01.9**	**-0.9**
SHL	**Shillong**	**5.33**	**210**		**Pn**	**01 10 15.1**	**+1.8**
SHL	**Shillong**	**5.33**	**210**	*eP*	**Pn**	**01 10 12.7**	**-0.6**
SHL				*eS*	**Sn**	**01 11 11.0**	**-3.1**
SHL				IAML		01 11 54.2	
	comp=E,286nm,3.4s						
SHL				IAML		01 11 56.0	
	comp=N,1µm,1.1s						
SHL	**Shillong**	**5.33**	**210**	P	**Pn**	**01 10 15.1**	**+1.8**
GOMU	**GeErMu**	**5.93**	**0**	Pn	**Pn**	**01 10 20.8**	**-0.8**
GOMU				Sn	**Sn**	**01 11 27.5**	**-1.5**
GOMU				LR	LR		
	comp=N,190nm,4.7s						
GOMU				LR	LR		
	comp=N,200nm,4.2s						
GOMU				LR	LR		
	comp=N,130nm,4.1s						
GTK	**Tadong**	**6.17**	**243**	*eP*	**Pn**	**01 10 23.7**	**-1.1**
GTK				*eS*	**Sn**	**01 11 30.8**	**-3.9**
AZL	**Aizawl**	**6.76**	**197**	*eP*	**Pn**	**01 10 33.0**	**+0.2**
PZH	**PanZhiHua**	**7.17**	**120**	Pn	**Pn**	**01 10 36.8**	**-1.7**
PZH				Sn	**Sn**	**01 11 59.6**	**+0.2**
PZH				LR	LR		
	comp=N,170nm,5.1s						
PZH				LR	LR		
	comp=N,140nm,5.9s						
PZH				LR	LR		
	comp=N,160nm,6.5s						
EVN	**Everest**	**7.34**	**254**		**Pn**	**01 10 42.2**	**+0.9**
LZH	**Lanzhou**	**9.56**	**50**	*eP*	**Pn**	**01 11 11.4**	**+0.2**
LZH				sP		01 11 25.6	
LZH				pmax	pmax		
	comp=N,20nm,1.2s						
GTA	**Gaotai**	**10.02**	**23**	*eP*	**Pn**	**01 11 16.6**	**-0.9**
GTA				sP		01 11 25.4	
GTA				pmax	pmax		
	comp=N,4.0nm,0.8s						
GYA	**Guiyang**	**11.12**	**107**	P	**Pn**	**01 11 33.8**	**+1.2**
GYA				pmax	pmax		
	comp=N,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.34**	**161**	Pn	**Pn**	**01 11 49.5**	**+0.2**
	comp=N,0.7nm,0.3s,baz=333,slow=13,SNR=10.0						
	comp=N,1.0nm,0.3s						
WMQ	**Urumqi**	**14.67**	**339**	*eP*	**Pn**	**01 12 23.1**	**+2.1**
BTO	**Baotou**	**16.12**	**46**	*eP*	**P**	**01 12 42.3**	**-1.0**
BTO				pP	**pP**	**01 12 50.3**	**-0.5**
BTO				sP	**sP**	**01 12 52.5**	**-1.4**
BTO				PP	**PnPn**	**01 12 55.6**	**+6.6**
BTO				S	**Sn**	**01 15 40.4**	**+2.1**
BTO				pmax	pmax		
	comp=N,31nm,0.7s						
BTO				pmax	pmax		
	comp=N,130nm,3.8s						
BTO				LR	LR		
	comp=N,140nm,6.1s						
BTO				LR	LR		
	comp=N,150nm,6.1s						
BTO				LR	LR		
	comp=N,130nm,5.9s						
WHN	**Wuhan**	**16.88**	**84**	P	**Pn**	**01 12 48.6**	**-1.1**
HHC	**Hu-ho-hao-te**	**17.23**	**48**	*eP*	**P**	**01 12 55.6**	**0.0**
HHC				pmax	pmax		
	comp=N,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=N,77nm,4.5s						
TARG	**Taragay, Kyrgy**	**17.85**	**314**	P	**Pn**	**01 13 01.3**	**-0.9**
TARG	**Taragay, Kyrgy**	**17.85**	**314**	P	**Pn**	**01 13 01.3**	**-0.9**
TARG				pmax	pmax		
	comp=Z,29nm,1.2s						
PRZ	**Przheval'sk**	**17.94**	**317**	P	**Pn**	**01 13 02.7**	**-0.3**
PRZ				IAmb	IAmb	01 13 07.7	
	comp=Z,45nm,0.8s						
PRZ	**Przheval'sk**	**17.94**	**317**	P	**Pn**	**01 13 02.7**	**-0.3**
PRZ				pmax	pmax		
	comp=Z,45nm,0.8s						
KSH	**Kashi**	**17.96**	**306**	P	**P**	**01 13 06.0**	**+2.3**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NIL	**Nilore**	**18.59**	**286**		**P**	**01 13 09.8**	**-0.6**
NIL	**Nilore**	**18.59**	**286**	P	**P**	**01 13 09.8**	**-0.6**
NIL				pmax	pmax		
	comp=Z,19nm,0.9s						
MK31	**Makanchi Array**	**19.15**	**333**	*ce*P	**P**	**01 13 16.2**	**-0.3**
MKAR	**Makanchi Array**	**19.15**	**333**		**P**	**01 13 15.0**	**-1.5**
MKAR	**Makanchi Array**	**19.15**	**333**	P	**P**	**01 13 15.2**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=142,slow=14,SNR=27						
	comp=Z,5.3nm,0.7s						
BOOM	**Boomskoye usch**	**19.43**	**314**	P	P	01 13 11.8	-8.0
BOOM	**Boomskoye usch**	**19.43**	**314**	P	P	01 13 11.8	-8.0
BOOM				pmax	pmax		
	comp=Z,16nm,1.1s						
SONM	**Songino Array**	**19.69**	**24**		**P**	**01 13 21.7**	**-0.9**
SONM	**Songino Array**	**19.69**	**24**	P	**P**	**01 13 21.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=14						
	comp=Z,4.1nm,0.8s						
ULN	**Ulaanbaatar**	**19.95**	**25**		**P**	**01 13 24.4**	**-1.0**
ULN	**Ulaanbaatar**	**19.95**	**25**	*i* P	**P**	**01 13 24.1**	**-1.3**
BJT	**Baijiatuau**	**19.97**	**55**	P	**P**	**01 13 23.9**	**-1.6**
BJT	**Baijiatuau**	**19.97**	**55**	P	**P**	**01 13 23.9**	**-1.6**
BJT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AAK	**Ala-Archa**	**20.41**	**313**	P	**P**	**01 13 30.2**	**-0.4**
AAK	**Ala-Archa**	**20.41**	**313**	P	**P**	**01 13 30.4**	**-0.1**
	comp=Z,14nm,1.1s,baz=125,slow=13,SNR=11						
	comp=Z,14nm,1.1s						
AAK	**Ala-Archa**	**20.41**	**313**	*ce*P	**P**	**01 13 30.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,25nm,1.3s						
ARSB	**Arslanbob**	**20.80**	**308**	P	**P**	**01 13 34.2**	**-0.5**
ARSB	**Arslanbob**	**20.80**	**308**	P	**P**	**01 13 34.2**	**-0.5**
ARSB				pmax	pmax		
	comp=Z,14nm,1.1s						
ZAK	**Zakamensk**	**21.09**	**15**	*eP*	**P**	**01 13 36.6**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XLT	**XiLinHaoTe**	**21.69**	**45**	*eP*	**P**	**01 13 43.4**	**-0.8**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GAR	**Garm**	**21.90**	**300**		**P**	**01 13 45.3**	**-1.2**
KBL	**Kabul**	**22.13**	**288**		**P**	**01 13 47.7**	**-1.4**
KBL	**Kabul**	**22.13**	**288**	P	**P**	**01 13 47.7**	**-1.4**
KBL				pmax	pmax		
	comp=Z,40nm,1.0s						
SIMJ	**Simiganj**	**22.80**	**298**		**P**	**01 13 54.6**	**-1.6**
KK31	**Karatay Array**	**23.22**	**310**	P	**P**	**01 14 00.1**	**-0.2**
KK31	**Karatay Array**	**23.22**	**310**	P	**P**	**01 14 00.1**	**-0.2**
KK31				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURBB	**Kurchatov Arra**	**23.71**	**334**	P	**P**	**01 14 03.8**	**-1.2**

KIV Kislovodsk 43.06 303 eP P 01 16 53.0 -0.1
KIV pmax pmax
comp=Z,9.0nm,1.1s
SHA1 Shidzhatmaz 43.08 303 i P P 01 16 51.5 -1.9
GURO Guroymak-BITLI 43.80 296 P P 01 16 59.4 +0.2
GURO IAmb IAmb 01 17 01.9
comp=Z,6.9nm,0.9s
VRH Novokhopyorsk 44.21 314 eP P 01 17 01.0 -1.1
VRH pmax pmax
comp=Z,10.0nm,0.8s
MARD Mardin 44.93 294 P 01 17 07.8 -0.4
MARD IAmb IAmb 01 17 10.1
comp=Z,8.0nm,1.0s
TIXI Tiksi 45.37 14 P P 01 17 09.2 -1.8
comp=Z,1.0nm,0.3s,baz=246,slow=5.5,SNR=7.6
comp=Z,1.0nm,0.3s
TIXI Tiksi 45.37 14 i P P 01 17 09.8 -1.2
TIXI pmax pmax
comp=Z,4.0nm,0.8s
VORD Divnogorie 45.71 313 eP P 01 17 12.6 -1.4
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 45.81 314 eP P 01 17 13.2 -1.6
VSR pmax pmax
comp=Z,9.0nm,1.0s
VORR Voronezh 45.83 314 eP P 01 17 12.4 -2.5
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 46.10 316 eP P 01 17 15.8 -1.2
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 47.28 327 eP P 01 17 24.6 -1.5
KLMR e 01 19 15.9
KLMR pmax pmax
comp=Z,12nm,0.9s
OBN Obninsk 47.77 319⇑ iP P 01 17 30.8 +0.8
OBN *PP pP 01 17 39.0 +0.8
OBN pmax pmax
comp=Z,3.0nm,0.4s
OBN MLR MLR
comp=Z,23nm,20.0s
BNN Bunyan 48.57 297 P 01 17 36.4 -0.2
BNN IAmb IAmb 01 17 38.7
comp=Z,6.2nm,0.9s
SIM Simferopol' 49.16 305 eP P 01 17 41.6 +0.6
SIM pmax pmax
comp=Z,11nm,0.8s
KIRS Kirsehir-Merke 50.01 298 ⇑P P 01 17 48.9 +1.2
BR131 Keskin Array S 50.13 298 P 01 17 48.3 -0.2
BR131 Keskin Array S 50.13 298 P P 01 17 48.3 -0.2
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 50.13 298 P P 01 17 48.1 -0.5
BRTR Keskin Array B 50.13 298 P P 01 17 49.2 +0.7
comp=Z,2.1nm,0.8s,baz=103,slow=6.2,SNR=14
comp=Z,2.1nm,0.8s
BRTR Keskin Array B 50.13 298 ceP P 01 17 48.7 +0.1
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR104 Keskin Array S 50.13 298 P P 01 17 47.7 -0.9
comp=Z,2.5nm,1.0s
BR106 Keskin Array S 50.14 298 P P 01 17 47.9 -0.8
comp=Z,2.8nm,0.9s
BR105 Keskin Array S 50.14 298 P P 01 17 48.5 -0.2
comp=Z,3.3nm,0.9s
ANTO Ankara 50.75 299 P P 01 17 53.0 -0.1
ANTO Ankara 50.75 299 ⇑P P 01 17 54.6 +1.4
ANTO Ankara 50.75 299 P P 01 17 54.6 +1.4
ANTO Ankara 50.75 299 P P 01 17 53.7 +0.5
comp=Z,3.6nm,1.0s
MDUB Mudurnu 51.85 300 P P 01 18 00.9 -0.6
PURM Purcari 51.98 307 P P 01 18 02.2 0.0
comp=Z,22nm,1.0s
BAL3X Bal3x, Balta 52.03 309 P P 01 18 02.1 -0.5
SAHE Sakarya_HENDEK 52.05 300 ⇑P P 01 18 02.9 +0.1
AK09 Malin Array Si 52.05 313 P P 01 18 01.7 -0.9
AK08 Malin Array Si 52.07 313 P P 01 18 01.7 -1.1
AK10 Malin Array Si 52.07 313 P P 01 18 01.7 -1.1
AK03 Malin Array Si 52.08 313 P P 01 18 01.9 -1.0
AKASG Malin Array Be 52.08 313 P P 01 18 02.6 -0.3
comp=Z,7.2nm,0.8s,baz=81,slow=6.7,SNR=19
comp=Z,7.2nm,0.8s
AKASG Malin Array Be 52.08 313 c iP P 01 18 02.7 -0.2
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKBB Malin Array Si 52.08 313 P 01 18 02.4 -0.5
AKBB IAmb IAmb 01 18 03.9
comp=Z,9.4nm,0.9s
AKBB Malin Array Si 52.08 313 ceP P 01 18 02.6 -0.3
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 52.08 313 P P 01 18 02.0 -0.9
AK01 Malin Array Si 52.09 313 P P 01 18 01.9 -1.0
KIEV Kiev 52.09 313 P 01 18 01.5 -1.4
KIEV IAmb IAmb 01 18 03.9
comp=Z,8.5nm,0.9s
KIEV Kiev 52.09 313 ⇓P P 01 18 03.0 0.0
KIEV Kiev 52.09 313 P P 01 18 02.9 0.0
KIEV Kiev 52.09 313 P P 01 18 02.0 -1.0
comp=Z,43nm,0.9s
AK02 Malin Array Si 52.10 313 P P 01 18 02.0 -1.0
SORM Soroca 52.85 310 ⇓P P 01 18 08.4 -0.3
SORM Soroca 52.85 310 P P 01 18 08.3 -0.3
SORM Soroca 52.85 310 P P 01 18 07.5 -1.1
comp=Z,6.0nm,1.1s
JURR Jurilovca 52.89 305 ⇓P P 01 18 09.2 +0.3
MI28 Mi28,Pidlybu 53.05 313 P P 01 18 09.9 -0.2
LUBAR Lubar, Ukraine 53.08 312 P P 01 18 08.9 -1.4
CFR Carcaliu 53.35 306 ⇓P P 01 18 12.4 +0.1
CFR Carcaliu 53.35 306 P P 01 18 12.4 +0.1
HARR Harsova 53.56 305 ⇓P P 01 18 14.6 +0.6
HARR Harsova 53.56 305 P P 01 18 14.5 +0.6
ICOR Ion Corvin 53.74 305 ⇓P P 01 18 16.3 +1.1
FINES FINESS Array B 53.80 326 P P 01 18 15.6 +0.2
comp=Z,1.7nm,0.5s,baz=88,slow=8.3,SNR=19
comp=Z,1.7nm,0.5s
RNPP9 Sopachiv 54.13 314 P P 01 18 17.1 -0.9
RNPP5 Staryi Chortor 54.15 314 P P 01 18 16.9 -1.2
RNPP8 Varash 54.16 314 P P 01 18 17.0 -1.2
RNPP1 Kostyukhnivka 54.22 314 P P 01 18 17.6 -1.0
VRI Vrincioaia 54.23 307 ⇑P P 01 18 19.1 +0.3
VRI Vrincioaia 54.23 307 P P 01 18 19.1 +0.3
VRI Vrincioaia 54.23 307 P P 01 18 17.8 -1.0
comp=Z,7.0nm,1.2s
PLOR5 Plostina Array 54.28 307 P P 01 18 19.9 +0.7
comp=Z,16nm,1.0s
PLOR Plostina 54.29 307 ⇑P P 01 18 20.5 +1.2
PLOR Plostina 54.29 307 P P 01 18 20.5 +1.2
ISR Istrita 54.47 306 ⇓P P 01 18 20.8 +0.1
ISR Istrita 54.47 306 P P 01 18 20.8 +0.1
COVR Voineasa-Covas 54.60 307 ⇓P P 01 18 22.4 +0.9
MLR Muntele Rosu 54.83 307 P 01 18 22.7 -0.6
MLR Muntele Rosu 54.83 307 ⇓P P 01 18 24.7 +1.3
MLR Muntele Rosu 54.83 307 P P 01 18 24.6 +1.3
MLR Muntele Rosu 54.83 307 P P 01 18 23.4 +0.1
comp=Z,14nm,1.0s
OZUR 54.85 307 ⇓P P 01 18 24.3 +0.9
BURAR Bucovina Array 55.01 309 ⇑P P 01 18 24.3 -0.2
BURAR Bucovina Array 55.01 309 P P 01 18 24.3 -0.2
BILL Bilibino 55.40 26 i P P 01 18 26.0 -0.9
BILL pmax pmax
comp=Z,5.0nm,1.0s
SUW Suwalki 55.54 317 P P 01 18 28.1 0.0
SUW Suwalki 55.54 317 P P 01 18 28.1 0.0
EZN Ezine 55.64 300 P P 01 18 28.4 -0.7
comp=Z,9.1nm,1.7s
ARCR ARCALIA 55.67 309 ⇓P P 01 18 29.6 +0.4
ARR Arges 55.76 307 ⇓P P 01 18 30.8 +0.8
LOT Lotru 56.35 307 ⇑P P 01 18 35.2 +1.0
KWP Kalwaria Pacla 56.36 312 P P 01 18 33.5 -0.6
KWP pmax pmax
comp=Z,24nm,1.4s
KWP Kalwaria Pacla 56.36 312 P P 01 18 33.2 -0.9
comp=Z,24nm,1.4s
MARR Marisel-Cluj 56.57 308 ⇑P P 01 18 36.5 +0.7
KOLS Kolonicke sedl 56.75 311 eP P 01 18 37.5 +0.6
KOLS pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 56.75 311 eP P 01 18 37.5 +0.6
DRGR 56.83 309 ⇑P P 01 18 38.0 +0.4
DRGR 56.83 309 P P 01 18 37.9 +0.4
SURR Surduc 57.42 308 ⇑P P 01 18 42.6 +0.9
SIRR Siria 57.64 308 ⇓P P 01 18 44.3 +1.1
BOVS Bovan 58.16 305 ⇑P P 01 18 46.9 0.0

STEB Steborice 59.45 313 eP P 01 18 59.5 +3.7
KBN Korca 59.56 302 P P 01 18 56.1 -0.7
KBN pmax pmax
comp=Z,11nm,1.2s
MORC Moravsky Berou 59.63 313 eP P 01 18 57.3 +0.2
MORC Moravsky Berou 59.63 313 ⇓P P 01 18 57.9 +0.7
MORC Moravsky Berou 59.63 313 P P 01 18 57.8 +0.7
MORH Mrgy, Hungar 59.69 309 ⇑P P 01 18 57.4 -0.1
MORH Mrgy, Hungar 59.69 309 P P 01 18 56.8 -0.7
comp=Z,3.3nm,1.3s
JAVC Velka Javorina 59.75 312 eP P 01 18 59.4 +1.5
HFS Hagfors 59.93 325 P P 01 18 59.3 +0.4
comp=Z,3.9nm,0.8s,baz=76,slow=12,SNR=4.7
comp=Z,3.9nm,0.8s
KRLC Kraliky 60.05 313 eP P 01 19 00.2 +0.2
KRLC Kraliky 60.05 313 eP P 01 19 00.2 +0.2
MODS Modra-Piesok 60.11 311 eP P 01 19 03.1 +2.7
MODS pmax pmax
comp=Z,3.0nm,0.6s
MODS Modra-Piesok 60.11 311 eP P 01 19 03.1 +2.7
PDG Podgorica 60.20 304 P P 01 19 00.4 -0.6
PDG Podgorica 60.20 304 ⇓P P 01 19 00.9 -0.1
DPC Dobruska-Polom 60.28 314 eP P 01 19 02.4 +0.9
DPC Dobruska-Polom 60.28 314 eP P 01 19 02.4 +0.9
DPC Dobruska-Polom 60.28 314 P P 01 19 01.7 +0.2
comp=Z,3.6nm,2.5s
VRAC Vranov 60.34 312 eP P 01 19 02.7 +0.8
CHVC Chvalec 60.40 314 eP P 01 19 03.6 +1.3
CHVC Chvalec 60.40 314 eP P 01 19 03.6 +1.3
KRUC Moravsky 60.52 312 eP P 01 19 04.0 +0.9
RONA Rosalia, Austr 60.91 311 i P P 01 19 06.0 +0.2
comp=Z,1.8nm,0.7s
NB2 NORSAR Subarra 60.98 326 P P 01 19 05.3 -0.8
comp=Z,1.4nm,0.6s,baz=80,slow=6.9
NOA NORSAR Array B 60.98 326 P P 01 19 05.9 -0.2
comp=Z,2.8nm,0.8s,baz=79,slow=6.7,SNR=10
comp=Z,2.8nm,0.8s
CONA Conrad Observa 61.13 311 i P P 01 19 07.8 +0.4
comp=Z,4.1nm,0.7s
CKRC Cesky Krumlov 61.91 312 eP P 01 19 13.4 +0.8
CKRC Cesky Krumlov 61.91 312 eP P 01 19 13.4 +0.8
SOKA Soboth 62.00 310 i P P 01 19 13.4 +0.1
comp=Z,2.8nm,0.8s
MOA Molln 62.19 311 i P P 01 19 15.0 +0.5
comp=Z,1.6nm,0.6s
GEC2 GERESS Array S 62.30 313 P 01 19 15.4 +0.1
GEC2 IAmb IAmb 01 19 16.7
comp=Z,3.7nm,0.9s
GEC2 GERESS Array S 62.30 313 eP P 01 19 16.0 +0.7
comp=Z,3.8nm,0.9s,baz=78,slow=5.8
GERES GERESS Array B 62.30 313 P P 01 19 15.8 +0.5
comp=Z,1.6nm,0.7s,baz=63,slow=6.3,SNR=19
comp=Z,1.6nm,0.7s
KHC Kasperske Hory 62.30 313 ceP P 01 19 16.4 +1.2
KHC pmax pmax
comp=Z,7.0nm,2.5s
KHC Kasperske Hory 62.30 313 eP P 01 19 15.9 +0.7
OBKA Obir 62.37 310 eP P 01 19 14.8 -0.9
comp=Z,2.6nm,1.4s
BIOA Bad Ischl, Aus 62.64 311 i P P 01 19 17.7 +0.2
comp=Z,2.6nm,1.0s
WET Wettzell 62.74 313 eP P 01 19 18.9 +0.8
comp=Z,2.8nm,0.9s,baz=78,slow=5.8
WRA Warramunga Arr 62.76 139 P P 01 19 18.7 +0.1
comp=Z,1.9nm,0.8s,baz=331,slow=7.1,SNR=6.7
comp=Z,1.9nm,0.9s
ROTZ Rotzenmuhle 62.99 314 eP P 01 19 20.8 +1.0
comp=Z,0.9nm,0.9s,baz=78,slow=5.8
KBA Koelnbreinsper 63.00 311 i P P 01 19 19.8 -0.3
comp=Z,4.1nm,1.7s
MOX Moxa 63.12 315 eL L 01 52 03.3
comp=Z,20nm,18.3s
LESA Schwarzleotal 63.34 311 i P P 01 19 22.5 +0.2
comp=Z,4.3nm,0.9s
CUC Castrocucco 63.38 302 P P 01 19 21.4 -1.2
NRDL Niedersach Rie 63.53 317 eP P 01 19 24.7 +1.5
comp=Z,5.9nm,1.1s,baz=78,slow=5.8
CLZ Clausthal 63.55 316 eP P 01 19 24.2 +0.7
comp=Z,7.0nm,1.0s,baz=78,slow=5.8
GRF Grafenberg Arr 63.63 314 eP P 01 19 25.4 +1.4
comp=Z,3.0nm,0.7s,baz=78,slow=5.8
GRF eL L 01 48 24.7
comp=Z,11nm,19.9s
ABTA Abfaltersbach 63.65 310 i P P 01 19 23.3 -1.0
comp=Z,2.2nm,0.8s
STAL STALIGIAL 63.66 310 P P 01 19 22.9 -1.4
STAL IAmb IAmb 01 19 24.9
comp=Z,5.3nm,1.0s
CEL Celeste 63.88 301 P 01 19 24.9 -1.0
CEL Celeste 63.88 301 P P 01 19 24.9 -1.0
comp=Z,19nm,0.9s
GTTG Gottingen 63.88 316 eP P 01 19 26.7 +1.1
comp=Z,7.2nm,0.8s,baz=78,slow=5.8
FUR Furstenfeldbru 64.03 312 eP P 01 19 27.8 +1.0
comp=Z,18nm,1.0s,baz=78,slow=5.8
WTTA Wattenberg 64.07 311 i P P 01 19 27.0 -0.2
comp=Z,2.5nm,1.0s
WATA Walderalm 64.08 311 i P P 01 19 27.6 +0.3
comp=Z,1.6nm,0.8s
INTR Introdacqua 64.12 305 P 01 19 27.4 -0.1
INTR IAmb IAmb 01 19 28.7
comp=Z,5.7nm,1.0s
CAMP Campotosto 64.31 306 P P 01 19 28.4 -0.4
CAMP IAmb IAmb 01 19 29.9
comp=Z,5.2nm,0.9s
SQTA Sankt Quirin 64.36 311 i P P 01 19 28.2 -0.8
comp=Z,2.7nm,0.7s
MOTA Moosalm 64.39 311 i P P 01 19 29.5 +0.3
comp=Z,5.0nm,1.0s
NRCA Norcia 64.42 306 P P 01 19 29.5 0.0
NRCA IAmb IAmb 01 19 32.3
comp=Z,3.8nm,0.9s
RETA Reutte 64.57 312 i P P 01 19 29.4 -0.9
comp=Z,3.8nm,0.8s
FETA Feichten 64.73 311 i P P 01 19 31.1 -0.3
comp=Z,5.4nm,1.1s
DAVA Damuels 65.20 312 i P P 01 19 34.0 -0.5
comp=Z,2.1nm,0.6s
ASAR Alice Springs 65.45 141 P P 01 19 36.7 +0.5
comp=Z,2.3nm,0.8s,baz=319,slow=6.4,SNR=13
comp=Z,2.3nm,0.8s
TUE Stuetta 65.81 311 P 01 19 37.4 -1.2
TUE IAmb IAmb 01 19 47.1
comp=Z,3.8nm,0.9s
TUE Stuetta 65.81 311 P P 01 19 37.3 -1.2
comp=Z,19nm,0.9s
BFO Black Forest 65.86 313 eP P 01 19 38.3 -0.3
comp=Z,7.3nm,1.1s,baz=78,slow=5.8
C18K Utukok River 67.06 23 P P 01 19 45.6 -0.4
baz=294
ANM Nome 67.15 28 P P 01 19 46.8 +0.3
baz=292
E17K Hotham Inlet 67.49 24 P P 01 19 48.1 -0.5
baz=294
G15K Niukluk 67.51 27 P P 01 19 48.4 -0.4
baz=293
B20K Meade River 67.75 21 P P 01 19 51.1 +0.9
baz=297
G16K Koyuk River 68.00 26 P P 01 19 52.2 +0.4
baz=295
D19K Kuna River 68.15 22 P P 01 19 52.5 -0.2
baz=297
P08K Saint George I 68.25 36 P P 01 19 53.4 -0.1
baz=292
H16K Elim 68.36 27 P P 01 19 54.7 +0.6
baz=295
F18K Selawik 68.47 24 P P 01 19 54.7 0.0
baz=296
K13K Kusilvak Mount 68.48 30 P P 01 19 55.5 +0.6
baz=294
D20K Etivluk River 68.53 22 P P 01 19 55.9 +0.7
baz=298
J14K Nanvaranak Lak 68.62 29 P P 01 19 55.4 -0.3
baz=295
B21K Ikpikpuk River 68.72 21 P P 01 19 56.1 -0.2
baz=300
E20K Nigu River 68.89 22 P P 01 19 56.7 -0.7
baz=299
C21K Knifeblade Rid 68.90 21 P P 01 19 57.4 0.0
baz=300
F19K Shaleruckik Mo 69.03 24 P P 01 19 58.5 +0.2
baz=298
H17K Granite Mounta 69.12 26 IAmb IAmb 01 20 00.6
comp=Z,4.9nm,0.9s
H17K Granite Mounta 69.12 26 P P 01 19 59.3 +0.4
baz=297
G18K Tagagawik 69.15 25 P P 01 19 57.6 -1.5
baz=298
I17K Unalakleet 69.29 27 P P 01 19 59.5 -0.4
baz=296
E21K Killik River 69.51 22 P P 01 20 01.0 -0.3
baz=301
L14K Kuka Creek 69.59 30 P P 01 20 01.7 0.0
baz=296
J16K Anvik River 69.60 28 P P 01 20 02.4 +0.5
baz=297
G19K Purcell Mounta 69.60 24 P P 01 20 02.1 +0.3
baz=299
H18K Honhosa River 69.61 26 P P 01 20 01.9 0.0
baz=298
F20K Avaraart Lake 69.64 23 P P 01 20 01.9 -0.1
baz=300
K15K Wolf Creek Mou 69.66 29 P P 01 20 01.7 -0.6
baz=296
KEST Kesra 69.67 300 P P 01 20 03.5 +0.6
comp=Z,4.5nm,0.9s,baz=101,slow=3.3,SNR=4.4
comp=Z,4.5nm,0.9s
D22K Ayikyak River 69.69 21 P P 01 20 02.5 +0.1
baz=302
M13K Dall Lake 69.69 31 P P 01 20 03.0 +0.5
baz=296
C23K Itkillik River 69.80 20 P P 01 20 03.3 +0.4
baz=303
L15K Ungalak Mounta 69.95 30 P P 01 20 04.4 +0.4
baz=297
NIKH Nikolski High 70.04 40 P P 01 20 04.9 +0.2
baz=294
H19K Roundabout Mou 70.13 25 P P 01 20 05.2 +0.2
baz=300
J17K VABM Dome 70.16 27 P P 01 20 05.5 +0.2
baz=298
M14K Bethel 70.16 31 P P 01 20 05.5 +0.2
baz=297
D23K Nanushuk River 70.25 20 P P 01 20 06.0 +0.2
baz=303
F21K Alatna River 70.30 23 P P 01 20 06.1 0.0
baz=302
E22K Anaktuvuk Pass 70.36 21 P P 01 20 06.2 -0.3
baz=303
F22K John River 70.58 22 P P 01 20 08.1 +0.3
baz=302
N14K Kuskokwak Cree 70.66 31 P P 01 20 07.3 -1.1
baz=297
G21K Allakaket 70.67 23 P P 01 20 07.8 -0.6
baz=302
D24K Happy Valley 70.70 20 P P 01 20 08.4 -0.1
baz=305
H20K Anotleneega Mo 70.72 24 P P 01 20 08.3 -0.4
baz=301
M15K Kasigluk River 70.75 30 P P 01 20 08.5 -0.4
baz=298
TOLK Toolik Lake Re 70.77 20 IAmb IAmb 01 20 10.5
comp=Z,4.3nm,0.8s
TOLK Toolik Lake Re 70.77 20 P P 01 20 08.9 -0.1
baz=304
K17K Iditarod 70.79 28 P 01 20 09.3 +0.1
K17K Iditarod 70.79 28 P P 01 20 09.6 +0.5
baz=299,SNR=5.1
J18K Innoko River 71.06 27 IAmb IAmb 01 20 12.1
comp=Z,4.1nm,0.9s
J18K Innoko River 71.06 27 P P 01 20 11.0 +0.2
baz=300,SNR=5.1
L17K Donlin 71.08 28 P P 01 20 11.3 +0.3
baz=299
E23K Chandalar 71.09 21 P P 01 20 10.8 -0.2
baz=304
G22K Bettles 71.12 22 P P 01 20 11.6 +0.6
baz=303
J19K Poorman 71.21 26 IAmb IAmb 01 20 14.0
comp=Z,4.8nm,1.1s
J19K Poorman 71.21 26 P P 01 20 12.1 +0.4
baz=301
I20K Naaghedeneel 71.22 25 P P 01 20 11.1 -0.6
baz=301
N15K Kwethluk River 71.25 31 P P 01 20 11.8 -0.2
baz=298
D25K Kavik River 71.31 19 P P 01 20 12.9 +0.6
baz=307
M16K Timber Creek 71.34 30 P P 01 20 12.8 +0.2
baz=299
C26K Camden Bay 71.35 18 P P 01 20 12.9 +0.5
baz=308
H21K Melozitna River 71.36 24 P P 01 20 13.7 +1.1
baz=302
COLD Coldfoot 71.37 22 P P 01 20 13.6 +1.0
baz=304
E24K Your Creek 71.43 21 IAmb IAmb 01 20 14.7
comp=Z,4.3nm,0.8s
E24K Your Creek 71.43 21 P P 01 20 14.0 +1.0
baz=306
J20K Nowinta River 71.67 26 IAmb IAmb 01 20 16.3
comp=Z,3.1nm,0.8s
J20K Nowinta River 71.67 26 P P 01 20 14.9 +0.5
baz=302
N16K Nishlik Lake 71.69 30 P P 01 20 15.2 +0.6
baz=299
L18K Granite Mounta 71.69 28 P P 01 20 14.3 -0.4
baz=300
G23K Bananza Creek 71.72 22 P P 01 20 15.2 +0.4
baz=305
M17K Holitna River 71.79 29 P P 01 20 15.7 +0.5
baz=300
O15K Ungalikthiuk R 71.85 31 P P 01 20 15.5 -0.1
baz=299
C27K Jago River 71.86 18 P P 01 20 16.1 +0.5
baz=309
I21K Tanana 71.91 24 P P 01 20 16.2 +0.3
baz=303
F24K Squaw Lake 71.94 21 P P 01 20 16.6 +0.5
baz=306
K20K Telida 72.13 26 P P 01 20 18.2 +0.9
baz=302
E25K Arctic Village 72.28 20 P P 01 20 19.2 +1.1
baz=308
N17K Nushagak Hills 72.34 30 P P 01 20 18.7 +0.2
baz=300
H23K Yukon River 72.39 23 P P 01 20 19.0 +0.2
baz=305
O16K Kokwok River B 72.42 31 P P 01 20 19.0 0.0
baz=300
M18K Stony River 72.42 28 P P 01 20 19.8 +0.8
baz=301
MLY Manley 72.43 24 IAmb IAmb 01 20 20.6
comp=Z,3.5nm,0.9s
MLY Manley 72.43 24 P P 01 20 20.1 +1.0
baz=304
L19K White Mountain 72.45 27 IAmb IAmb 01 20 21.1
comp=Z,4.4nm,1.0s
L19K White Mountain 72.45 27 P P 01 20 20.3 +1.1
baz=302
G24K Hadweenzic Riv 72.55 22 P P 01 20 20.0 +0.3
baz=307
F25K Christian Rive 72.58 20 IAmb IAmb 01 20 21.6
comp=Z,5.0nm,1.1s
F25K Christian Rive 72.58 20 P P 01 20 21.0 +1.1
baz=308
L20K Farewell, AK 72.68 27 P P 01 20 21.7 +1.1
baz=302
O17K Koliganek Bris 72.76 30 P P 01 20 21.4 +0.3
baz=301
M19K Big River Lodg 72.78 28 P P 01 20 21.8 +0.6
baz=302
N18K Kilae Creek 72.81 29 P P 01 20 22.2 +0.9
baz=301
I23K Minto, Yukon-K 72.84 23 P P 01 20 22.2 +0.8
baz=306
CAST Castle Rocks 72.85 26 IAmb IAmb 01 20 23.4
comp=Z,5.3nm,1.0s
CAST Castle Rocks 72.85 26 P P 01 20 22.5 +0.9
baz=304
D27M Malcolm River 72.85 18 P P 01 20 22.3 +0.8
baz=312
BPAW Bear Paw Mtn. 72.87 25 P P 01 20 22.2 +0.5
baz=304
H24K Noodor Dome 72.94 22 P P 01 20 22.5 +0.4
baz=307
G25K Bearman Lake 72.95 21 P P 01 20 22.8 +0.8
baz=308
F26K Sheenjek River 72.97 20 P P 01 20 22.2 0.0
baz=309
BMAR Burnt Mountain 73.00 20 P P 01 20 23.1 +0.7
PPLA Purkeypile 73.10 26 P P 01 20 23.6 +0.3
baz=304
NEA2 Nenana 73.27 24 IAmb IAmb 01 20 25.2
comp=Z,3.8nm,0.8s

NEA2	**Nenana** baz=306	73.27	24	P	P	01 20 24.4	+0.4
M20K	**Styx River** baz=303	73.30	27	P	P	01 20 24.7	+0.4
N19K	**Bonanza Creek** baz=302	73.33	29	P	P	01 20 25.0	+0.5
D28M	**Stokes Point** baz=314	73.38	17	P	P	01 20 25.5	+1.0
E27K	**Coleen River** baz=311	73.38	19	P	P	01 20 25.1	+0.5
TRF	**Thorofare Moun** baz=305	73.50	25	P	P	01 20 26.3	+0.8
POKR	**Poker Plat Res** baz=307	73.52	23	P	P	01 20 25.3	-0.1
G26K	**Porcupine Rive** baz=310	73.55	21	P	P	01 20 26.5	+0.9
E28M	**Babbage River** comp=Z,4.4nm,0.9s	73.67	18	IAmb	IAmb	01 20 27.5	
E28M	**Babbage River** baz=313	73.67	18	P	P	01 20 26.9	+0.6
SKT	**Skwentna** baz=304	73.87	27	P	P	01 20 27.3	-0.3
PRP	**Porcupine Dome** comp=Z,3.4nm,0.9s	73.91	22	IAmb	IAmb	01 20 29.6	
PRP	**Porcupine Dome** baz=309,SNR=7.7	73.91	22	P	P	01 20 28.7	+0.8
ILAR	**Eielson Array** comp=Z,1.8nm,0.9s,baz=289,slow=5.2,SNR=16 comp=Z,1.8nm,0.9s	73.92	23	P	P	01 20 27.4	-0.3
CHNA	**Chernabura Isl** baz=300	74.09	35	P	P	01 20 30.0	+1.0
F28M	**Old Crow** comp=Z,4.8nm,0.9s	74.25	19	IAmb	IAmb	01 20 31.9	
F28M	**Old Crow** baz=313	74.25	19	P	P	01 20 31.0	+1.3
E29M	**Blow River** comp=Z,4.4nm,1.0s	74.25	18	IAmb	IAmb	01 20 31.4	
E29M	**Blow River** baz=314	74.25	18	P	P	01 20 30.1	+0.4
G27K	**Doyon Strip** baz=312,SNR=5.7	74.28	20	P	P	01 20 31.1	+1.1
A36M	**Sachs Harbour** baz=325	74.31	12	P	P	01 20 29.9	0.0
SUA	**Susitna One** baz=305	74.47	27	P	P	01 20 31.1	-0.1
J25K	**Salcha River,** baz=309	74.53	23	P	P	01 20 30.5	-0.9
H27K	**Steamboat Moun** comp=Z,6.5nm,0.8s	74.70	20	IAmb	IAmb	01 20 34.4	
H27K	**Steamboat Moun** baz=312,SNR=9.4	74.70	20	P	P	01 20 33.5	+1.1
I26K	**Coal Creek Min** comp=Z,4.0nm,1.0s	74.81	22	IAmb	IAmb	01 20 34.0	
I26K	**Coal Creek Min** baz=311	74.81	22	P	P	01 20 33.0	+0.1
K24K	**Donnelly Dome** baz=309	74.90	24	P	P	01 20 33.3	-0.3
PMR	**Palmer** baz=307	75.02	26	P	P	01 20 34.4	+0.1
RC01	**Rabbit Creek A** baz=306	75.09	27	P	P	01 20 34.8	+0.1
I27K	**Kandik River** baz=312,SNR=7.5	75.10	21	P	P	01 20 35.9	+1.2
J26L	**Joseph Creek** baz=310	75.20	22	P	P	01 20 35.1	-0.2
G29M	**Pine Creek** baz=315	75.26	19	P	P	01 20 35.1	-0.4
RIDG	**Independent Ri** baz=310	75.26	23	P	P	01 20 35.7	0.0
F30M	**Barrier River** baz=316	75.37	18	P	P	01 20 36.1	-0.1
KNK	**Knik Glacier** baz=307	75.39	26	P	P	01 20 35.8	-0.7
SCRK	**Sand Creek** comp=Z,5.4nm,0.9s	75.40	23	IAmb	IAmb	01 20 37.4	
SCRK	**Sand Creek** baz=310,SNR=7.4	75.40	23	P	P	01 20 36.5	-0.1
INK	**Inuvik** comp=Z,4.8nm,1.1s	75.44	17	IAmb	IAmb	01 20 37.6	
INK	**Inuvik** baz=318	75.44	17	P	P	01 20 36.3	-0.1
PAX	**Paxson** baz=309	75.53	24	P	P	01 20 37.4	+0.1
SCM	**Sheep Creek Mo** baz=308	75.56	26	P	P	01 20 37.6	+0.1
H29M	**Whitestone** baz=314	75.65	20	P	P	01 20 38.0	+0.2
G30M	**tAoh Zraii Nji** baz=316,SNR=7.9	75.71	18	P	P	01 20 38.5	+0.4
I28M	**Miner Creek** comp=Z,7.8nm,1.5s	75.72	21	IAmb	IAmb	01 20 42.9	
I28M	**Miner Creek** baz=313	75.72	21	P	P	01 20 38.2	-0.1
KDAK	**Kodiak Island** baz=305	75.82	31	P	P	01 20 39.4	+0.5
OHAK	**Old Harbor** baz=304	75.82	31	P	P	01 20 39.9	+1.0
M24K	**Tolsona, Glenn** baz=309	75.82	25	P	P	01 20 39.4	+0.5
K27K	**Chicken** baz=312	76.00	22	P	P	01 20 40.4	+0.6
EPYK	**Eagle Plains** baz=316	76.01	19	P	P	01 20 39.9	0.0
STKA	**Stephens Creek** comp=Z,1.8nm,0.8s,baz=330,slow=15,SNR=2.1 comp=Z,1.8nm,0.8s	76.09	140	P	P	01 20 41.0	+0.3
G31M	**Satah River** comp=Z,4.7nm,0.8s	76.28	18	IAmb	IAmb	01 20 42.1	
G31M	**Satah River** baz=318	76.28	18	P	P	01 20 41.9	+0.6
KLU	**Klutina** baz=309	76.30	26	P	P	01 20 42.3	+0.6
N25K	**Chitina, Valde** baz=310	76.72	25	P	P	01 20 44.4	+0.3
L27K	**Beaver Creek,** comp=Z,3.5nm,0.9s	76.73	23	IAmb	IAmb	01 20 46.2	
L27K	**Beaver Creek,** baz=312	76.73	23	P	P	01 20 44.9	+0.8
BCAR	**Beaver Creek A**	76.74	23	P	P	01 20 44.7	+0.6
DAWY	**Dawson** baz=314	76.84	21	P	P	01 20 45.1	+0.4
I30M	**Mount Dempster** comp=Z,5.0nm,0.9s	76.94	20	IAmb	IAmb	01 20 46.1	
I30M	**Mount Dempster** baz=316,SNR=6.4	76.94	20	P	P	01 20 44.8	-0.5
H31M	**Peel River** comp=Z,6.3nm,1.0s	77.09	19	IAmb	IAmb	01 20 47.0	
H31M	**Peel River** baz=318,SNR=5.3	77.09	19	P	P	01 20 46.3	+0.3
BMRM	**Bremner River** baz=310	77.13	26	P	P	01 20 46.4	+0.1
M27K	**Edge Creek, AK** baz=312	77.19	24	P	P	01 20 47.1	+0.3
J30M	**Hart River** baz=316	77.42	20	P	P	01 20 47.9	-0.2
ESDC	**Sonseca Array** comp=Z,1.7nm,1.1s,baz=60,slow=7.8,SNR=5.9 comp=Z,1.7nm,1.1s	77.46	309	P	P	01 20 49.0	+0.4
BVCY	**Beaver Creek** baz=313	77.50	23	P	P	01 20 49.2	+0.8
K29M	**Barlow Dome** comp=Z,4.7nm,0.9s	77.59	21	IAmb	IAmb	01 20 50.5	
K29M	**Barlow Dome** baz=316,SNR=6.5	77.59	21	P	P	01 20 49.9	+0.9
ILULI	**Ilulissat**	77.73	348	P	P	01 20 49.6	+0.2
ILULI	**Ilulissat**	77.73	348	P	P	01 20 49.6	+0.2
ILULI	comp=Z,16nm,0.7s			pmax	pmax		
L29M	**L29M** baz=315	77.92	22	P	P	01 20 51.5	+0.7
YUK3	**Moose Creek** baz=314	78.08	24	P	P	01 20 52.1	+0.2
M29M	**Somme Creek** baz=315	78.28	22	P	P	01 20 53.8	+0.9
PINM	**Pinnacle** baz=314	79.31	25	P	P	01 20 58.7	+0.3
YUK6	**Outpost Mounta** baz=315	79.38	23	P	P	01 20 59.1	+0.1
N30M	**Aishikik Lake** baz=316	79.44	23	P	P	01 20 59.7	+0.6
HYT	**Haines Junctio** baz=316	79.76	23	P	P	01 21 01.3	+0.3
M31M	**Drury Creek, Y** baz=318	79.76	21	P	P	01 21 01.4	+0.5
N31M	**Braeburn, Yuko** baz=317	79.85	22	P	P	01 21 01.9	+0.6
MMPY	**Sheldon Lake,** baz=321	80.39	20	P	P	01 21 04.8	+0.6
P30M	**Million Dollar** baz=317	80.46	23	P	P	01 21 05.1	+0.5
PLBC	**Pleasant Camp** baz=317	81.15	24	P	P	01 21 08.7	+0.5
SKAG	**Skagway** baz=318	81.50	23	P	P	01 21 10.6	+0.5
P32M	**Atlin** baz=319	81.95	23	P	P	01 21 13.3	+0.7
S31K	**Pelican** baz=317	82.30	25	P	P	01 21 15.0	+0.7
R32K	**Eaglecrest** baz=319	82.67	24	P	P	01 21 17.3	+1.0
R33M	**Jennings River** baz=322	83.00	22	P	P	01 21 18.6	+0.4
DLBC	**Dease Lake** baz=322	84.06	22	P	P	01 21 24.0	+0.4
S34M	**Telegraph Cree** baz=321	84.11	23	P	P	01 21 24.3	+0.6
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.9s,baz=9.7,slow=5.6,SNR=3.8 comp=Z,0.9nm,0.9s	84.61	13	P	P	01 21 26.0	-0.1
U33K	**Whale Pass** baz=320	84.81	25	P	P	01 21 27.8	+0.5
T35M	**Bob Quinn** baz=322	85.14	23	P	P	01 21 29.6	+0.7
V35K	**Ketchikan** baz=321	85.96	25	P	P	01 21 33.7	+0.7
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,1.0s,baz=54,slow=5.1,SNR=3.9 comp=Z,2.3nm,1.0s	86.11	283	P	P	01 21 34.4	-0.1

UPA ***20*** *01:09:42.5±1.6,5.79N×79.27W,h1km±31km,MW4.5*
RSNC ***20*** *01:09:43.8±0.0,6.1N±2.7×7.9W±.1,h31km±8km,M2.7,ML2.4*
ISC 20 01:09:37.6±1.6,5.86N±0.04×79.07W±0.04,h5km±13km, n28,σ1°93/50,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**1.69**	**78**	P			**Pn**	**01 10 08.6**	**+0.8**
SOLC				S			**Sn**	**01 10 26.4**	**-3.4**
PTAC	**Punta Ardita,**	**1.79**	**44**	P			**Pg**	**01 10 12.4**	**+0.6**
PTAC				S			**Sn**	**01 10 30.5**	**-1.7**
ACHO3	**Achotines, Los**	**1.89**	**325**	*eP*			**Pg**	**01 10 13.5**	**-0.4**
ACHO3				*eS*			**Sg**	**01 10 38.0**	**-0.5**
PIZC	**Pizarro, Choco**	**1.92**	**118**	P			**Pn**	**01 10 11.4**	**+0.5**
PIZC				S			**Sn**	**01 10 32.4**	**-3.1**
AZU	**Azuero**	**2.26**	**328**	*eP*			**Pb**	**01 10 19.8**	**+0.8**
AZU				*eS*			**Sb**	**01 10 47.5**	**+0.3**
AZU	**Azuero**	**2.26**	**328**	P			**Pb**	**01 10 19.7**	**+0.8**
AZU				S			**Sb**	**01 10 47.6**	**+0.3**
CACAO	**El Cacao, Vera**	**2.31**	**310**	*eP*			**Pb**	**01 10 19.4**	**-0.4**
CACAO				*eS*			**Sb**	**01 10 48.2**	**-0.6**
CACAO	**El Cacao, Vera**	**2.31**	**310**	P			**Pb**	**01 10 19.2**	**-0.6**
CACAO				S			**Sb**	**01 10 47.4**	**-1.3**
CHIT3	**Chitre**	**2.48**	**327**	*eP*			**Pb**	**01 10 22.7**	**+0.1**
CHIT3				*eS*			**Sb**	**01 10 53.3**	**-0.2**
GMAL	**Guarumal, Vera**	**2.86**	**311**	*eP*			**Pb**	**01 10 28.7**	**-0.5**
GMAL				*eS*			**Sb**	**01 11 02.2**	**-2.4**
PLMC	**San Jos del P**	**2.93**	**109**	P			**Pn**	**01 10 26.4**	**+1.5**
GR1C	**Gorgona, Isla**	**2.98**	**162**	P			**Pn**	**01 10 27.7**	**+2.1**
CBOC	**Ciudad Bolivar**	**3.04**	**90**	P			**Pn**	**01 10 27.8**	**+1.3**
CBOC				S			**Sn**	**01 11 00.2**	**-3.2**
DBBC	**Dabeiba**	**3.06**	**68**	P			**Pb**	**01 10 31.0**	**-1.6**
DBBC				S			**Sn**	**01 11 05.8**	**+2.0**
CHOR3	**La Chorrera**	**3.10**	**347**	*eP*			**Pb**	**01 10 31.4**	**-1.8**
CHOR3				*eS*			**Sb**	**01 11 10.3**	**-0.9**
UPA	**Univ. de Panam**	**3.13**	**351**	*eP*			**Pb**	**01 10 32.8**	**-1.0**
UPA				*eS*			**Sb**	**01 11 10.7**	**-1.7**
ZANG	**Zanguenga, Cho**	**3.17**	**346**	*eP*			**Pb**	**01 10 34.0**	**-0.5**
ZANG				*eS*			**Sb**	**01 11 14.4**	**+0.9**
CAPC	**Capurgana**	**3.24**	**32**	P			**Pn**	**01 10 31.7**	**+2.6**
CAPC				S			**Sn**	**01 11 08.9**	**+0.8**
YOTC	**Yotoco, Valle**	**3.29**	**124**	P			**Pn**	**01 10 30.7**	**+0.7**
YOTC				S			**Sn**	**01 11 06.4**	**-3.2**
BCIP	**Isla Barro Col**	**3.37**	**347**	*eP*			**Pb**	**01 10 36.4**	**-1.5**
BCIP				*eS*			**Sb**	**01 11 17.8**	**-1.4**
BCIP	**Isla Barro Col**	**3.37**	**347**	P			**Pb**	**01 10 35.8**	**-2.1**
BCIP				S			**Sb**	**01 11 17.6**	**-1.6**
HELC	**Santa Helena**	**3.53**	**85**	P			**Pn**	**01 10 35.8**	**+2.3**
HELC				S			**Sn**	**01 11 18.2**	**+2.3**
JAMC	**Jamundi, Valle**	**3.55**	**138**	P			**Pn**	**01 10 34.2**	**+0.6**
GUY2C	**Guyana, Caldas**	**3.74**	**100**	P			**Pn**	**01 10 40.6**	**+4.2**
ANIL	**Santa Ana**	**3.89**	**110**	P			**Pn**	**01 10 41.1**	**+2.7**
BBAC	**Balboa, Cauca**	**4.22**	**155**	P			**Pn**	**01 10 45.1**	**+2.2**
ORTC	**Ortega, Tolima**	**4.27**	**117**	P			**Pn**	**01 10 47.0**	**+0.6**
ORTC				S			**Sn**	**01 11 33.7**	**0.0**
PRAC	**Prado**	**4.68**	**117**	P			**Pn**	**01 10 52.9**	**+3.9**
PRAC				S			**Sn**	**01 11 45.7**	**+1.9**

IDC ***20*** *01:20:08.4±8.8,17.86S×169.48E,h154km±89km,mb3.4/2, mbtmp3.9/3,Error ellipse: s-maj=136.3km s-min=67.8km az=145.0*
NOU ***20*** *01:20:19.1,18.99S×169.26E,h210km,MLv3.9/10, Vanuatu Islands*
ISC 20 01:20:14.0±1.8,18.9S±0.1×169.8E±0.2,h250km,n12, σ3°19/13,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.83**	**214**	P			**Pn**	**01 20 47.9**	**-0.3**
INH	**Isangel**	**0.83**	**214**	S			**S**	**01 21 11.9**	**-3.2**
DVP	**Devils Point**	**1.87**	**307**	S			**S**	**01 21 23.4**	**-4.6**
PINNC	**Pines Island,**	**4.32**	**210**	P			**Pn**	**01 21 20.7**	**-0.9**
PINNC	**Pines Island,**	**4.32**	**210**	S			**S**	**01 22 09.7**	**-5.7**
DZM	**Mont Dzumac** 8.1nm,0.3s,baz=35,slow=19,SNR=26	**4.46**	**224**	P			**Pn**	**01 21 21.9**	**-1.6**
DZM	0.6nm,0.6s 3.6nm,0.3s,baz=27,slow=16,SNR=1.0			S			**S**	**01 22 22.7**	**+4.0**
DZM	**Mont Dzumac**	**4.46**	**224**	P			**Pn**	**01 21 22.1**	**-1.3**
OUENC	**Ouen Island, N**	**4.48**	**217**	P			**Pn**	**01 21 22.5**	**-1.0**
ONTNC	**Ouen Toro**	**4.63**	**222**	P			**Pn**	**01 21 24.4**	**-0.9**
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=102,slow=8.3,SNR=2.0 0.6nm,0.6s	**33.40**	**262**	P			**P**	**01 26 31.2**	**+1.7**
ASAR	**Alice Springs** 1.3nm,0.5s,baz=81,slow=8.9,SNR=19 1.3nm,0.5s	**33.70**	**255**	P			**P**	**01 26 34.9**	**+2.8**
GERES	**GERESS Array B** 0.3nm,0.5s,baz=38,slow=6.2,SNR=3.5	**144.38**	**333**	PKP			**PKiKP**	**01 39 26.2**	**+2.0**

TRN ***20*** *03:03:16.8,10.90N×62.16W,h87km,MD2.8,North of the Paria peninsula.*
FUNV ***20*** *03:03:17.4,10.91N×62.22W,h61km,MW2.9*
ISC 20 03:03:14.4±2.9,10.85N±0.08×62.2W±0.1,h100km±37km, n10,σ1°50/17,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.69**	**102**	*eP*			**Pn**	**03 03 32.2**	**+0.5**
DMDM				*eS*			**Sn**	**03 03 44.1**	**-0.7**
PSMG	**Mucurapo Girls**	**0.72**	**104**	*eP*			**Pn**	**03 03 33.2**	**+1.2**
PSNL	**Port of Spain**	**0.74**	**105**	*eP*			**Pn**	**03 03 32.4**	**+0.2**
TRN	**Trinidad (W)**	**0.85**	**103**	*eP*			**Pn**	**03 03 34.6**	**+1.3**
TRN				*eS*			**Sn**	**03 03 46.2**	**-1.1**
GRFF	**Grenada Fort F**	**1.29**	**22**	*eP*			**Pn**	**03 03 39.9**	**+1.6**
GRFF				*eS*			**Sn**	**03 03 54.5**	**-1.7**
GRGR	**Grenville**	**1.40**	**24**	*eP*			**Pn**	**03 03 39.9**	**+0.4**
GRGR				*eS*			**Sn**	**03 03 58.0**	**-0.5**
GRSS	**Sisters**	**1.57**	**23**	*eP*			**Pn**	**03 03 42.7**	**+1.1**
GRSS				*eS*			**Sn**	**03 04 01.6**	**-0.6**
GCMP	**Grenada, Carri**	**1.81**	**26**	*eP*			**Pn**	**03 03 44.7**	**+0.1**
GCMP				*eS*			**Sn**	**03 04 07.0**	**-0.6**
PCRV	**Puerto La Cruz**	**2.45**	**254**	*eP*			**Pn**	**03 03 55.0**	**+2.1**
BAUV	**El Baul**	**6.02**	**252**	*eP*			**Pn**	**03 04 42.0**	**+1.0**
BAUV				*eS*			**Sn**	**03 05 45.4**	**-3.3**

IDC ***20*** *03:19:28.6±1.3,29.30S×176.79W,h0km,mb3.9/3, mbtmp3.9/3,MS3.4/2,Error ellipse: s-maj=40.2km s-min=21.9km az=10.0*
ISC 20 03:19:33.4±1.3,29.92S±0.09×177.1W±0.2,h24km,n17, σ1°80/10,mb4.0/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 472nm,0.3s,baz=90,slow=20,SNR=51	**0.96**	**314**	Pn			**Pb**	**03 19 51.0**	**-0.3**
RAO	2µm,0.3s,baz=62,slow=23,SNR=13			S			**Sn**	**03 20 05.6**	**+1.4**
URZ	**Urewera**	**9.59**	**208**	Pn			**Pn**	**03 21 48.5**	**-1.4**
URZ	0.1nm,0.3s,baz=63,slow=4.5,SNR=1.4			Sn			**Sn**	**03 23 36.7**	**-0.2**
DZM	**Mont Dzumac** 0.8nm,0.3s,baz=60,slow=20,SNR=6.1 comp=Z,92nm,18.7s,baz=88,slow=34	**16.70**	**294**	LR		LR		03 29 00.2	
ASAR	**Alice Springs** 0.3nm,0.3s,baz=105,slow=7.0,SNR=5.9 0.3nm,0.3s	**43.89**	**266**	P			**P**	**03 27 39.0**	**+0.7**
ASAR	comp=Z,57nm,18.1s,baz=274,slow=35			LR		LR		03 45 22.9	
WRA	**Warramunga Arr** 1.8nm,0.5s,baz=109,slow=7.6,SNR=12 1.8nm,0.5s	**44.84**	**271**	P			**P**	**03 27 45.9**	**0.0**
QSPA	**South Pole Qui** 0.8nm,0.7s,baz=27,slow=1.4,SNR=6.3 0.8nm,0.7s	**60.19**	**180**	P			**P**	**03 29 42.4**	**+3.2**
H03S2	**Juan Fernandez** baz=243	**80.10**	**123**	T			T	05 01 14.8	
H03S1	**Juan Fernandez** baz=243	**80.11**	**123**	T			T	05 01 07.9	
H03S3	**Juan Fernandez** baz=243	**80.12**	**123**	T			T	05 01 15.8	
H10S3	**ASCENSION HYDR** baz=16	**137.83**	**154**	T			T	06 14 17.0	
H10S2	**ASCENSION HYDR** baz=204	**137.83**	**154**	T			T	06 14 24.1	
H10N3	**ASCENSION HYDR** baz=202	**138.91**	**153**	T			T	06 15 36.8	
H10N1	**ASCENSION HYDR** baz=202	**138.91**	**153**	T			T	06 15 34.2	
H10N2	**ASCENSION HYDR** baz=202	**138.93**	**153**	T			T	06 15 38.0	
FINES	**FINESS Array B** 2.0nm,0.8s,baz=35,slow=3.4,SNR=6.8	**144.95**	**341**	PKP			**PKPab**	**03 39 06.8**	**-0.3**
HFS	**Hagfors** 2.7nm,1.0s,baz=38,slow=9.5,SNR=2.0	**148.92**	**350**	PKPbc			**PKPbc**	**03 39 17.0**	**-1.5**
AKASG	**Malin Array Be** 0.9nm,0.6s,baz=52,slow=1.5,SNR=4.5	**151.37**	**324**	PKPbc			**PKPbc**	**03 39 22.4**	**-2.3**

TAP 20 03:43:18.8,23.73N×121.51E,h2km,ML2.4,1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.04**	**131**	*i* P			Pg	03 43 20.3	+0.8
TEGC				S			Sg	03 43 21.6	+1.6
SHUL	**Shoufeng**	**0.07**	**42**	*i* P			Pg	03 43 21.0	+0.8
SHUL				S			Sg	03 43 23.1	+1.9
EGFH	**Guangfu**	**0.10**	**230**	*i* P			Pg	03 43 21.5	+0.7
EGFH				S			Sg	03 43 23.5	+1.5
ESL	**Shilin**	**0.11**	**319**	*i* P			Pg	03 43 21.6	+0.7
ESL				*eS*			Sg	03 43 23.6	+1.3
WARBT	**Fenglin Townsh**	**0.11**	**262**	*i* P			Pg	03 43 21.7	+0.7
WARBT				S			Sg	03 43 24.4	+0.9
TEYL	**Yanliau Villag**	**0.16**	**31**	*eP*			Pg	03 43 23.5	+1.7
TEYL				*i* S			Sg	03 43 27.8	+3.9
ETM	**Tongmen**	**0.23**	**356**	*i* P			Pg	03 43 23.8	+0.5
ETM				S			Sg	03 43 27.2	+0.9
HGSD	**Ruisui**	**0.25**	**198**	P			Pb	03 43 25.2	-0.9
HGSD				S			Sb	03 43 30.1	-0.9
HWA	**Hwalien**	**0.26**	**20**	*eP*			Pb	03 43 25.6	-0.6
HWA				*eS*			Sb	03 43 30.9	-0.3
VWDT	**VWDT**	**0.34**	**274**	*eP*			Pb	03 43 26.5	-1.0
VWDT				*eS*			Sg	03 43 30.6	+0.9
TWD	**Chiawan**	**0.35**	**13**	*eP*			Pg	03 43 26.2	+0.6
TWD				*eS*			Sg	03 43 30.9	+0.7
OWD	**Renai**	**0.38**	**306**	*i* P			Pg	03 43 26.9	+0.8
OWD				S			Sg	03 43 32.5	+1.6
YULB	**Yu-li**	**0.39**	**210**	P			Pb	03 43 27.4	-1.1
YULB	**Yu-li**	**0.39**	**210**	P			Pg	03 43 27.4	+1.1
YULB				*eS*			Sb	03 43 34.1	-0.9
ECBN	**Changbin**	**0.42**	**187**	P			Pb	03 43 28.6	-0.4
ECBN				S			Sb	03 43 35.2	-0.5
EYUL	**Yuli**	**0.42**	**205**	*eP*			Pn	03 43 30.6	-1.4
TWF1	**Yuli**	**0.43**	**207**	*eP*			Pg	03 43 27.4	+0.5
TWF1				*eS*			Sb	03 43 34.8	-1.2
ETL	**Fush Village**	**0.44**	**14**	P			Pb	03 43 28.8	-0.5
ETL				S			Sb	03 43 35.3	-1.0
WUSB	**Renai**	**0.44**	**306**	*i* P			Pb	03 43 28.4	-1.0
WUSB				S			Sb	03 43 34.9	-1.7
NACB	**Ninganchiao**	**0.45**	**10**	P			Pg	03 43 27.4	0.0
NACB	**Ninganchiao**	**0.45**	**10**	S			Sg	03 43 34.6	+1.4
NACB	**Ninganchiao**	**0.45**	**10**	*eP*			Pg	03 43 27.5	+0.2
NACB				S			Sb	03 43 35.0	-1.6
WHF	**Hehuan Shan**	**0.47**	**331**	*i* P			Pg	03 43 28.4	+0.6
WHF				*eS*			Sg	03 43 35.0	+1.1
ETLH	**Xiulin Townshi**	**0.47**	**357**	*eP*			Pg	03 43 28.3	+0.4
ETLH				*eS*			Sb	03 43 35.8	-1.6
SSLB	**Suanglung**	**0.51**	**276**	P			Pg	03 43 29.4	+0.8
SSLB	**Suanglung**	**0.51**	**276**	S			Pg	03 43 35.5	+0.2
SSLB	**Suanglung**	**0.51**	**276**	P			Pg	03 43 29.6	+1.0
SSLB				*eS*			Sb	03 43 37.2	-1.3
CHKH	**Chenggong**	**0.55**	**191**	*eP*			Pb	03 43 30.7	-0.5
CHKH				*eS*			Sb	03 43 39.4	-0.1
FUSS	**Fushou**	**0.57**	**335**	P			Pb	03 43 30.8	-0.8
FUSS				*eS*			Sg	03 43 38.6	+1.5
FULB	**Fuli**	**0.57**	**200**	*eP*			Pn	03 43 32.8	-1.2
FULB				*eS*			Sn	03 43 42.2	-1.8
WPL	**Puli Township**	**0.58**	**299**	*eP*			Pb	03 43 32.1	+0.4
WPL				*eS*			Sb	03 43 40.2	-0.2
SMLT	**Sun Moon Lake**	**0.58**	**285**	*eP*			Pb	03 43 31.7	-0.1
SMLT				*eS*			Sb	03 43 40.7	+0.2
WHYT	**Xinyi Township**	**0.60**	**267**	*eP*			Pb	03 43 32.6	+0.4
WHYT				*eS*			Sb	03 43 40.8	-0.4
DPDB	**Guoxing**	**0.61**	**299**	P			Pb	03 43 31.8	-0.5
DPDB				S			Sb	03 43 40.7	-1.2
EHP	**Heping Village**	**0.61**	**20**	*eP*			Pb	03 43 32.7	+0.4
TYC	**Yuchr**	**0.62**	**286**	*eP*			Pb	03 43 32.4	0.0
TYC				*eS*			Sb	03 43 42.6	+1.0
WCS	**Beigang Elemen**	**0.64**	**301**	P			Pb	03 43 32.3	-0.4
WCS				*eS*			Sb	03 43 41.7	-0.4
CHKT	**Chengkung**	**0.65**	**192**	P			Pb	03 43 33.5	+0.7
CHKT				S			Sn	03 43 44.1	-1.7
EHD	**Haiduan**	**0.65**	**206**	P			Pb	03 43 32.3	-0.5
EHD				*eS*			Sb	03 43 41.9	-0.4
ALS	**Alishan**	**0.68**	**251**	*eP*			Pb	03 43 33.4	-0.2
ALS				*eS*			Sb	03 43 43.1	-0.6
NNSB	**Datong**	**0.70**	**350**	*eP*			Sg	03 43 32.9	+0.6
NNSB				*eS*			Sg	03 43 41.8	+0.4
WHP	**Taichung City**	**0.75**	**317**	⇓P			Pb	03 43 34.3	-0.3
WHP				*eS*			Sb	03 43 45.7	+0.4
WNT	**Mingjian**	**0.77**	**281**	*eP*			Pn	03 43 36.2	-0.6
WNT				*eS*			Sb	03 43 47.4	+1.5
EDH	**Donghe**	**0.78**	**194**	P			Pb	03 43 36.0	+0.2
EDH				S			Sb	03 43 47.2	+1.1
LATG	**Datong**	**0.80**	**1**	*eP*			Pb	03 43 35.8	+0.3
LATG				S			Sb	03 43 47.7	+0.9
WCKO	**Fanlu**	**0.88**	**251**	*eP*			Pb	03 43 37.1	+0.3
WCKO				*eS*			Sn	03 43 51.2	-0.5
ENTT	**Nioudou**	**0

n46,σ0ˢ80/85,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.29**	**188**	*i* P	**Pb**	**03 43 45.3**	**-0.2**
EOS2				*e*S	**Sb**	**03 43 50.7**	**+0.6**
EGS		**0.34**	**293**	P	**Pg**	**03 43 45.0**	**-0.7**
EGS				S	**Sb**	**03 43 51.2**	**-0.4**
TWB1	**Santiao Chiao**	**0.40**	**319**	*e*P	**Pg**	**03 43 45.8**	**-0.8**
TWB1				*e*S	**Sg**	**03 43 51.2**	**-0.9**
TWC	**Suao**	**0.40**	**256**	*e*P	**Pg**	**03 43 46.2**	**-0.6**
TWC				S	**Sg**	**03 43 52.0**	**-0.2**
ESAO	**Su ao**	**0.41**	**251**	*e*P	**Pb**	**03 43 47.9**	**+0.2**
ESAO				*e*S	**Sg**	**03 43 52.2**	**-0.4**
EOS3	**EOS3**	**0.42**	**175**	*i* P	**Pb**	**03 43 47.8**	**0.0**
EOS3				S	**Sb**	**03 43 54.4**	**+0.6**
ILA	**Ilan**	**0.48**	**277**	*e*S	**Sn**	**03 43 57.3**	**-1.9**
TIPB	**Shuangxi**	**0.48**	**303**	P	**Pg**	**03 43 47.9**	**-0.5**
EWUT	**Wuta**	**0.52**	**240**	*e*P	**Pb**	**03 43 49.2**	**-0.4**
EWUT				*e*S	**Sb**	**03 43 56.8**	**-0.2**
SXI1	**Grass Mountain**	**0.53**	**317**	*e*P	**Pb**	**03 43 50.4**	**+0.7**
SXI1				S	**Sb**	**03 43 58.5**	**+1.3**
TWE	**Neicheng**	**0.55**	**271**	P	**Pb**	**03 43 48.6**	**-1.4**
TWE				*i* S	**Sb**	**03 43 58.2**	**+0.4**
ENA	**Nanau**	**0.56**	**240**	P	**Pg**	**03 43 50.1**	**+0.3**
ENA				S	**Sb**	**03 43 58.2**	**+0.2**
NWF	**Wu-fen Shan**	**0.58**	**309**	P	**Pn**	**03 43 51.3**	**-1.0**
NWF				*i* S	**Sg**	**03 43 59.6**	**+1.9**
WFSB	**Wu-fen Shan**	**0.58**	**309**	*e*P	**Pn**	**03 43 51.5**	**-0.8**
WFSB				*i* S	**Sn**	**03 43 59.8**	**-1.7**
EOS4	**EOS4**	**0.59**	**176**	*e*P	**Pg**	**03 43 50.7**	**+0.7**
EOS4				S	**Sg**	**03 43 59.0**	**+1.2**
EAHA	**Aohua**	**0.62**	**232**	P	**Pg**	**03 43 51.3**	**+0.5**
EAHA				S	**Sg**	**03 43 60.0**	**+1.0**
FUSB	**Fushanzhiwuyua**	**0.63**	**275**	*i* P	**Pb**	**03 43 50.4**	**-1.0**
FUSB				*e*S	**Sg**	**03 44 00.0**	**+0.7**
TNOU	**National Taiwa**	**0.63**	**314**	P	**Pg**	**03 43 51.9**	**+0.9**
TNOU				S	**Sg**	**03 44 00.8**	**+1.3**
ENTT	**Nioudou**	**0.65**	**264**	*i* P	**Pb**	**03 43 51.0**	**-0.7**
ENTT				*e*S	**Sg**	**03 44 00.8**	**+0.7**
JYNG	**Yonagunijimaku**	**0.66**	**113**	*e*P	**Pb**	**03 43 51.6**	**-0.2**
JYNG				*e*S	**Sb**	**03 44 01.0**	**+0.1**
TWA	**Mucha**	**0.68**	**293**	P	**Pg**	**03 43 52.7**	**+0.7**
TWA				*e*S	**Sg**	**03 44 01.7**	**+0.6**
LATG	**Datong**	**0.70**	**256**	*e*P	**Pg**	**03 43 52.8**	**+0.3**
LATG				S	**Sg**	**03 44 02.8**	**+1.0**
NWLT	**Wulai**	**0.71**	**276**	P	**Pb**	**03 43 52.3**	**-0.4**
NWLT				*e*S	**Sg**	**03 44 01.9**	**+0.1**
YOJ	**Yonaguni jima**	**0.71**	**110**	P	**Pb**	**03 43 51.8**	**-1.0**
YOJ	**Yonaguni jima**	**0.71**	**110**	*i* P	**Pb**	**03 43 52.6**	**-0.2**
YOJ				*e*S	**Sb**	**03 44 02.1**	**-0.2**
YOJ	**Yonaguni jima**	**0.71**	**110**	*e*P	**Pb**	**03 43 52.5**	**-0.2**
YOJ				*e*S	**Sb**	**03 44 01.9**	**-0.5**
YM01	**YM01**	**0.78**	**304**	*i* P	**Pn**	**03 43 54.5**	**-0.6**
YM01				S	**Sn**	**03 44 05.7**	**-0.7**
YM08	**YM08**	**0.78**	**308**	*e*P	**Pg**	**03 43 54.4**	**+0.5**
YM08				*e*S	**Sb**	**03 44 04.2**	**-0.3**
ZUZH	**Zhuzihu**	**0.80**	**304**	P	**Pg**	**03 43 54.8**	**+0.5**
ZUZH				*e*S	**Sn**	**03 44 07.8**	**+0.6**
NACB	**Ninganchiao**	**0.82**	**229**	P	**Pb**	**03 43 54.3**	**-0.2**
NACB				*e*S	**Sg**	**03 44 05.7**	**+0.3**
YHNB	**Yeheng**	**0.82**	**267**	*i* P	**Pb**	**03 43 54.5**	**-0.2**
YHNB				S	**Sg**	**03 44 06.2**	**+0.7**
TWY	**Chenhua**	**0.83**	**313**	*e*P	**Pn**	**03 43 55.4**	**-0.4**
TWY				*i* S	**Sn**	**03 44 07.3**	**-0.6**
NNSB	**Datong**	**0.86**	**251**	*e*P	**Pn**	**03 43 56.4**	**0.0**
NNSB				*e*S	**Sg**	**03 44 07.1**	**+0.4**
TWS1	**Kuangyinshan**	**0.87**	**297**	P	**Pn**	**03 43 56.3**	**-0.1**
TWS1				S	**Sn**	**03 44 08.0**	**-0.8**
NTST	**Danshui**	**0.88**	**301**	*e*P	**Pn**	**03 43 57.0**	**+0.6**
ETLH	**Xiulin Townshi**	**0.88**	**235**	⇓P	**Pb**	**03 43 55.3**	**-0.4**
ETLH				S	**Sn**	**03 44 07.8**	**-1.3**
PCYT	**Pengchaiyu**	**0.93**	**349**	*e*P	**Pg**	**03 43 58.0**	**+1.3**
PCYT				*e*S	**Sn**	**03 44 10.9**	**+0.6**
KSHI	**Guanxi Townshi**	**1.00**	**274**	*e*P	**Pg**	**03 43 59.3**	**+1.3**
KSHI				*e*S	**Sn**	**03 44 13.0**	**+1.0**
NCUH	**Zhongli**	**1.02**	**285**	*i* P	**Pb**	**03 43 57.3**	**-0.8**
NCUH				*i* S	**Sg**	**03 44 12.4**	**+0.6**
ETM	**Tongmen**	**1.03**	**224**	P	**Pb**	**03 43 57.9**	**-0.3**
ETM				S	**Sn**	**03 44 11.8**	**-0.9**
NFF	**Wufeng Townshi**	**1.06**	**266**	*e*P	**Pg**	**03 44 00.1**	**+1.0**
NFF				*i* S	**Sg**	**03 44 14.2**	**+1.3**
WHF	**Hehuan Shan**	**1.08**	**239**	P	**Pb**	**03 43 59.0**	**-0.3**
WHF				S	**Sg**	**03 44 13.6**	**-0.2**
LIOB	**Emei**	**1.15**	**267**	*e*P	**Pg**	**03 44 02.1**	**+1.3**
LIOB				S	**Sg**	**03 44 17.2**	**+1.3**
IRIF	**Iriomote-Funau**	**1.38**	**105**	*e*S	**Sn**	**03 44 20.7**	**-0.6**
JKRS	**Kuro-shima**	**1.65**	**106**	*e*P	**Pn**	**03 44 06.7**	**-0.3**
JJJ	**Ishigaki jima**	**1.73**	**101**	*e*S	**Sn**	**03 44 29.1**	**-1.0**

ROM 20 03:59:44.7±0.1,41°.714N±0°.003×14°.201E±0°.004,
h11km,ML1.6/48,3C-1D,Error ellipse: s-maj=0.3km
s-min=0.3km az=194.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNI2	**Rionero Sannit**	**0.04**	**252**	⇓P	Pg	03 59 47.2	+0.4
RNI2				S	Sg	03 59 48.9	+0.6
RNI2				AML	AML		
	comp=E,8230μm,0.4s						
RNI2				AML	AML		
	comp=N,7775μm,0.4s						
RNI2				AML	AML		
	comp=E,9120μm,0.4s						
RNI2				AML	AML		
	comp=N,8525μm,0.4s						
RNI2				AML	AML		
	comp=E,7970μm,0.1s						
RNI2				AML	AML		
	comp=E,8708μm,0.1s						
RNI2				AML	AML		
	comp=N,7340μm,0.1s						
RNI2				AML	AML		
	comp=N,7997μm,0.1s						
MIDA	**Miranda**	**0.08**	**151**	⇑P	Pg	03 59 47.5	+0.3
MIDA				S	Sg	03 59 49.1	0.0
MIDA				AML	AML		
	comp=N,1515μm,1.4s						
MIDA				AML	AML		
	comp=E,1680μm,0.7s						
MIDA				AML	AML		
	comp=N,1585μm,1.5s						
MIDA				AML	AML		
	comp=E,1490μm,1.5s						
MIDA				AML	AML		
	comp=N,1497μm,0.1s						
MIDA				AML	AML		
	comp=E,1344μm,0.1s						
MIDA				AML	AML		
	comp=E,1448μm,0.1s						
MIDA				AML	AML		
	comp=N,1258μm,0.1s						
CERA	**Filignano**	**0.18**	**230**	⇑P	Pg	03 59 49.1	+0.5
CERA				S	Sg	03 59 52.7	+1.4
CERA				AML	AML		
	comp=E,194μm,0.6s						
CERA				AML	AML		
	comp=N,202μm,0.6s						
CERA				AML	AML		
	comp=E,192μm,0.3s						
CERA				AML	AML		
	comp=E,193μm,0.6s						
CERA				AML	AML		
	comp=N,203μm,0.6s						
CERA				AML	AML		
	comp=N,212μm,0.6s						
CERA				AML	AML		
	comp=E,175μm,0.5s						
CERA				AML	AML		
	comp=N,194μm,0.2s						
CERA				AML	AML		
	comp=E,193μm,0.6s						
CERA				AML	AML		
	comp=N,203μm,0.2s						
CERA				AML	AML		
	comp=E,193μm,0.3s						
TRIV	**Trivento**	**0.27**	**79**	P	Pb	03 59 51.1	-0.5
TRIV				S	Sb	03 59 55.3	-0.8
TRIV				AML	AML		
	comp=E,152μm,0.3s						
TRIV				AML	AML		
	comp=N,155μm,0.5s						
TRIV				AML	AML		
	comp=N,155μm,0.5s						
TRIV				AML	AML		
	comp=E,144μm,0.4s						
TRIV				AML	AML		
	comp=E,152μm,1.7s						
TRIV				AML	AML		
	comp=E,144μm,1.6s						
TRIV				AML	AML		
	comp=N,146μm,0.4s						
OPI	**Opi**	**0.28**	**283**	P	Pg	03 59 50.9	+0.4
OPI				S	Sb	03 59 55.7	-1.0
VAGA	**Valle Agricola**	**0.30**	**175**	⇑P	Pg	03 59 51.1	+0.4
VAGA				S	Sb	03 59 56.3	-0.8
VAGA				AML	AML		
	comp=E,162μm,0.2s						
VAGA				AML	AML		
	comp=N,206μm,0.2s						
VAGA				AML	AML		
	comp=E,183μm,0.2s						
VAGA				AML	AML		
	comp=N,222μm,1.6s						
VAGA				AML	AML		
	comp=N,218μm,0.2s						
VAGA				AML	AML		
	comp=E,163μm,0.2s						
VAGA				AML	AML		
	comp=N,206μm,0.2s						
VAGA				AML	AML		
	comp=E,183μm,0.2s						
LPEL	**Lama dei Pelig**	**0.33**	**358**	P	Pg	03 59 51.8	+0.5
LPEL				S	Sg	03 59 56.9	+1.0
LPEL				AML	AML		
	comp=E,303μm,0.1s						
LPEL				AML	AML		
	comp=N,348μm,0.2s						
LPEL				AML	AML		
	comp=N,367μm,0.4s						
LPEL				AML	AML		
	comp=E,383μm,0.1s						
LPEL				AML	AML		
	comp=E,383μm,0.1s						
LPEL				AML	AML		
	comp=E,303μm,0.1s						
LPEL				AML	AML		
	comp=N,346μm,0.2s						
LPEL				AML	AML		
	comp=N,348μm,0.2s						
BSSO	**Busso**	**0.34**	**120**	P	Pb	03 59 52.2	-0.5
BSSO				AML	AML		
	comp=E,116μm,0.3s						
BSSO				AML	AML		
	comp=N,103μm,0.4s						
BSSO				AML	AML		
	comp=E,45μm,0.5s						
BSSO				AML	AML		
	comp=N,37μm,0.8s						
BSSO				AML	AML		
	comp=E,116μm,0.3s						
BSSO				AML	AML		
	comp=N,31μm,0.4s						
BSSO				AML	AML		
	comp=E,45μm,0.5s						
BSSO				AML	AML		
	comp=N,103μm,0.4s						
SGG	**Gregorio Mates**	**0.35**	**158**	P	Pg	03 59 52.0	+0.3
SGG				S	Sb	03 59 57.7	-0.9
SGG				AML	AML		
	comp=E,96μm,0.7s						
SGG				AML	AML		
	comp=N,112μm,0.5s						
SGG				AML	AML		
	comp=E,73μm,0.2s						
SGG				AML	AML		
	comp=N,104μm,0.3s						
SGG				AML	AML		
	comp=E,151μm,0.7s						
SGG				AML	AML		
	comp=N,156μm,0.8s						
SGG				AML	AML		
	comp=E,151μm,1.3s						
SGG				AML	AML		
	comp=N,104μm,1.7s						
POFI	**Posta Fibreno**	**0.37**	**271**	P	Pg	03 59 52.3	+0.3
POFI				S	Sb	03 59 58.2	-0.8
POFI				AML	AML		
	comp=E,53μm,0.5s						
POFI				AML	AML		
	comp=N,83μm,0.5s						
POFI				AML	AML		
	comp=E,40μm,0.4s						
POFI				AML	AML		
	comp=N,83μm,0.5s						
POFI				AML	AML		
	comp=E,91μm,0.4s						
POFI				AML	AML		
	comp=N,145μm,0.6s						
MCI	**Monte Cassino**	**0.37**	**231**	P	Pg	03 59 52.1	+0.1
MCI				S	Sb	03 59 58.4	-0.7
MCI				AML	AML		
	comp=E,232μm,0.2s						
MCI				AML	AML		
	comp=N,151μm,0.2s						
MCI				AML	AML		
	comp=N,151μm,0.2s						
INTR	**Introdacqua**	**0.37**	**323**	P	Pg	03 59 52.4	+0.4
INTR				S	Sb	03 59 58.3	-0.9
INTR				AML	AML		
	comp=E,168μm,0.1s						
INTR				AML	AML		
	comp=N,290μm,0.5s						
INTR				AML	AML		
	comp=E,167μm,0.1s						
INTR				AML	AML		
	comp=E,240μm,0.1s						
INTR				AML	AML		
	comp=N,199μm,0.1s						
INTR				AML	AML		
	comp=N,211μm,0.2s						
SULP	**Sulmona Polizi**	**0.42**	**331**	P	Pg	03 59 53.2	+0.1
PTRJ	**Pietraroja**	**0.43**	**145**	P	Pg	03 59 53.1	0.0
FRES	**Fresagrandinar**	**0.44**	**53**	P	Pb	03 59 53.9	-0.5
FRES				S	Sb	04 00 00.2	-0.8
FRES				AML	AML		
	comp=E,364μm,1.0s						
FRES				AML	AML		
	comp=N,169μm,1.0s						
FRES				AML	AML		
	comp=E,364μm,1.0s						
FRES				AML	AML		
	comp=N,167μm,1.1s						
VVLD	**Villa Vallelon**	**0.46**	**290**	P	Pg	03 59 53.7	0.0
VVLD				S	Sg	04 00 00.6	+0.8
VVLD				AML	AML		
	comp=E,124μm,0.9s						
VVLD				AML	AML		
	comp=N,106μm,0.6s						
VVLD				AML	AML		
	comp=E,90μm,0.3s						
VVLD				AML	AML		
	comp=N,83μm,0.2s						
VVLD				AML	AML		
	comp=E,149μm,0.6s						
VVLD				AML	AML		
	comp=N,143μm,0.8s						
VVLD				AML	AML		
	comp=N,143μm,1.2s						
LRP	**Arpino**	**0.47**	**262**	P	Pg	03 59 53.9	+0.1
LRP				S	Sb	04 00 01.1	-0.7
LRP				AML	AML		
	comp=E,42μm,0.3s						
LRP				AML	AML		
	comp=N,36μm,0.3s						
LRP				AML	AML		
	comp=N,36μm,1.7s						
LRP				AML	AML		
	comp=E,42μm,1.7s						
SACR	**S. Croce Del S**	**0.49**	**130**	P	Pg	03 59 54.7	+0.4
T0110	**Collepietro**	**0.60**	**329**	P	Pg	03 59 56.4	0.0
T0110				AML	AML		
	comp=E,130μm,0.9s						
T0110				AML	AML		
	comp=N,77μm,0.2s						
T0110				AML	AML		
	comp=E,111μm,0.2s						
T0110				AML	AML		
	comp=N,77μm,0.2s						
FAGN	**Fagnano**	**0.72**	**320**	P	Pg	03 59 58.2	-0.4
FAGN				AML	AML		
	comp=E,102μm,0.5s						
FAGN				AML	AML		
	comp=N,78μm,0.3s						
FAGN				AML	AML		
	comp=N,78μm,0.3s						
FAGN				AML	AML		
	comp=E,102μm,0.5s						
VCEL	**Villa Celiera**	**0.73**	**339**	P	Pg	03 59 58.7	-0.1
VCEL				AML	AML		
	comp=E,91μm,1.2s						
VCEL				AML	AML		
	comp=N,81μm,0.2s						
VCEL				AML	AML		
	comp=E,86μm,0.4s						
VCEL				AML	AML		
	comp=N,81μm,0.2s						

ROM 20 04:00:10.3±0.1,41°.663N±0°.004×15°.915E±0°.005,
h19km,ML2.0/24,1D,Error ellipse: s-maj=0.4km
s-min=0.3km az=240.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.05**	**355**	⇓P	Pg	04 00 14.2	+0.3
MSAG				S	Sg	04 00 16.7	+0.4
MSAG				AML	AML		
	comp=N,2950μm,0.2s						
MSAG				AML	AML		
	comp=E,854μm,0.1s						
MSAG				AML	AML		
	comp=N,1285μm,0.2s						
MSAG				AML	AML		
	comp=E,2020μm,0.1s						
SGRT	**San Giovanni R**	**0.16**	**305**	P	Pg	04 00 15.1	+0.2
SGRT				S	Sg	04 00 18.3	+0.3
SGRT				AML	AML		
	comp=N,802μm,0.6s						
SGRT				AML	AML		
	comp=E,1064μm,0.2s						
SGRT				AML	AML		
	comp=N,802μm,1.4s						
APRC	**Apricena**	**0.29**	**289**	P	Pg	04 00 16.8	0.0
APRC				S	Sb	04 00 21.6	+0.2
MELA	**Melanico ??? S**	**0.59**	**274**	P	Pg	04 00 22.1	0.0
MELA				AML	AML		
	comp=E,368μm,0.5s						
MELA				AML	AML		
	comp=N,160μm,0.3s						
MRVN	**Minervino Murg**	**0.64**	**161**	P	Pb	04 00 22.5	-0.3
MRVN				S	Sg	04 00 31.7	+0.2
MRVN				AML	AML		
	comp=E,79μm,0.6s						
MRVN				AML	AML		
	comp=N,95μm,0.2s						
SGTA	**Sant Agata di**	**0.67**	**218**	P	Pb	04 00 23.2	-0.2
SGTA				S	Sg	04 00 33.0	+0.5
PALZ	**Palazzo San Ge**	**0.72**	**177**	P	Pb	04 00 24.0	-0.2
PALZ				AML	AML		
	comp=N,102μm,1.4s						
PALZ				AML	AML		
	comp=N,102μm,0.6s						
PALZ				AML	AML		
	comp=E,58μm,0.5s						
VULT	**Monte Vulture**	**0.74**	**198**	P	Pg	04 00 24.8	-0.1
VULT				S	Sg	04 00 35.0	+0.2
ACER	**Acerenza**	**0.88**	**179**	P	Pb	04 00 27.1	+0.2
ACER				S	Sg	04 00 39.2	+0.2
ACER				AML	AML		
	comp=N,113μm,1.1s						
ACER				AML	AML		
	comp=N,113μm,0.9s						
ACER				AML	AML		
	comp=E,89μm,0.4s						
SNAL	**S. Angelo Dei**	**0.91**	**216**	P	Pb	04 00 27.2	-0.3
SNAL				S	Sg	04 00 40.1	0.0
SNAL				AML	AML		
	comp=E,62μm,0.7s						
SNAL				AML	AML		
	comp=N,56μm,0.7s						
SNAL				AML	AML		
	comp=N,56μm,1.3s						
SNAL				AML	AML		
	comp=E,62μm,0.7s						
AMUR	**Altamura**	**0.92**	**145**	P	Pb	04 00 27.1	-0.4
AMUR				S	Sg	04 00 39.9	-0.3
AMUR				AML	AML		
	comp=E,106μm,0.2s						
AMUR				AML	AML		
	comp=N,92μm,0.3s						
MRLC	**Muro Lucano**	**0.96**	**200**	P	Pb	04 00 28.5	+0.2
MCRV	**Calabrutti - M**	**1.04**	**213**	P	Pb	04 00 29.9	+0.1
MIGL	**Miglionico**	**1.13**	**159**	P	Pn	04 00 30.7	-0.4
MIGL				AML	AML		
	comp=N,134μm,1.2s						
MIGL				AML	AML		
	comp=N,134μm,0.8s						
MIGL				AML	AML		
	comp=E,114μm,0.3s						
PTRP	**Pietrapertosa**	**1.15**	**174**	P	Pb	04 00 31.7	+0.1
PTRP				AML	AML		
	comp=N,50μm,0.4s						
PTRP				AML	AML		
	comp=E,41μm,1.0s						
NOCI	**Noci**	**1.23**	**135**	P	Pn	04 00 32.5	0.0
NOCI				AML	AML		
	comp=N,67μm,0.1s						
NOCI				AML	AML		
	comp=E,61μm,0.1s						
LTRZ	**Laterza**	**1.26**	**147**	P	Pn	04 00 33.1	+0.2

*SDD **20** 04:01:47.5±1.6,20°.29N×73°.16W,h82km±31km,MD3.7,*
ML3.1,MW3.6
*SSNC **20** 04:01:51.3±2.0,20°.03N×73°.03W,h5km±8km,MD3.3,*
ML2.6,MW2.2
*OSPL **20** 04:01:51.8±1.5,20°.08N×72°.98W,h5km±14km,ML2.6*
ISC 20 04:01:48.4±3.2,20°.10N±0°.06×73°.01W±0°.03,h7km±23km,
n27,σ1ˢ15/51,10C,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.15**	**274**	*e*P	**Pn**	**04 02 11.9**	**+1.0**
MASC				*e*S	**Sn**	**04 02 27.2**	**+0.3**
MASC				IAML		04 02 30.0	
	comp=N,104nm,0.1s						
MASC				IAML		04 02 30.1	
	comp=E,78nm,0.1s						
MASC	**Masc**	**1.15**	**274**	*i* P	**Pn**	**04 02 12.2**	**+1.3**
MASC				*e*S	**Sn**	**04 02 28.9**	**+2.1**
MASC				IAML		04 02 30.0	
	comp=Z,118nm,0.2s						
MCDR	**Montecristi**	**1.29**	**99**	*i* P	**Pn**	**04 02 12.7**	**-0.2**
MCDR				⇑*e*S	**Sn**	**04 02 31.7**	**+1.3**
MCDR				IAML		04 02 39.0	
	comp=N,216nm,0.5s						
QMBU	**Quimbuelo**	**1.69**	**274**	*e*P	**Pn**	**04 02 19.2**	**+0.8**
QMBU				*e*S	**Sn**	**04 02 40.4**	**0.0**
QMBU				IAML		04 02 43.5	
	comp=E,113nm,0.3s						
QMBU				IAML		04 02 45.9	
	comp=N,87nm,0.2s						
PAPH	**Port-au-Prince**	**1.71**	**157**	*e*P	**Pn**	**04 02 18.7**	**+0.1**
PAPH				*e*S	**Sn**	**04 02 39.7**	**-1.0**
PAPH				IAML		04 02 43.7	
	comp=N,29nm,0.3s						
PAPH				IAML		04 02 48.3	
	comp=E,45nm,0.2s						
PAPH	**Port-au-Prince**	**1.71**	**157**	*i* P	**Pn**	**04 02 19.2**	**+0.6**
LOPP1	**Punta Rusia, P**	**1.72**	**98**	*i* P	**Pn**	**04 02 19.9**	**+1.1**
LOPP1				IAML		04 02 53.0	
	comp=Z,66nm,0.5s						
NMDO	**Nuevo Mundo**	**1.91**	**284**	*e*P	**Pb**	**04 02 23.7**	**+0.2**
NMDO				*e*S	**Sb**	**04 02 47.7**	**+0.2**
NMDO				IAML		04 02 53.3	
	comp=E,29nm,0.2s						
NMDO				IAML		04 02 53.8	
	comp=N,26nm,0.3s						
MOAC	**Moa**	**1.91**	**287**	*e*P	**Pb**	**04 02 23.0**	**-0.6**
MOAC				*e*S	**Sb**	**04 02 47.0**	**-0.7**
MOAC				IAML		04 02 53.6	
	comp=N,29nm,0.1s						

MOAC				IAML			04 02 54.1	
	comp=E,34nm,0.1s							
JIDR	**Jimani**	**1.94**	**145**	*i* P	**Pn**	**04 02 22.8**	**+1.0**	
JIDR				⇑*e*Sg	**Sb**	**04 02 48.2**	**-0.3**	
JIDR				IAML		04 02 48.8		
	comp=N,67nm,0.3s							
LUDR	**Luperon**	**1.95**	**96**	*i* P	**Pn**	**04 02 21.0**	**-0.9**	
LUDR				⇑*e*Sg	**Sn**	**04 02 47.4**	**+0.7**	
SDDR	**Presa de Saban**	**1.97**	**124**	*e*P	**Pn**	**04 02 23.6**	**+1.3**	
SDDR				*e*S	**Sn**	**04 02 47.8**	**+0.5**	
SDDR				IAML		04 02 53.2		
	comp=N,64nm,0.7s							
SDDR				IAML		04 02 54.1		
	comp=N,45nm,0.3s							
SDDR	**Presa de Saban**	**1.97**	**124**	*i* P	**Pn**	**04 02 23.3**	**+1.1**	
SDDR				*e*S	**Sn**	**04 02 47.4**	**+0.2**	
SDDR				IAML		04 02 57.2		
	comp=Z,51nm,0.7s							
GTBY	**Guantanamo Bay**	**1.98**	**265**	*e*P	**Pn**	**04 02 23.6**	**+1.2**	
GTBY				*e*S	**Sb**	**04 02 48.9**	**-0.8**	
GTBY				IAML		04 02 51.0		
	comp=Z,13nm,0.2s							
GTBY				IAML		04 02 51.6		
	comp=Z,19nm,0.3s							
GTBY	**Guantanamo Bay**	**1.98**	**265**	*i* P	**Pb**	**04 02 24.7**	**-0.1**	
GTBY				*e*S	**Sn**	**04 02 48.1**	**+0.6**	
GTBY				IAML		04 02 57.8		
	comp=Z,38nm,3.0s							
NEDR	**Neiba UASD**	**2.20**	**137**	*i* P	**Pn**	**04 02 25.2**	**-0.2**	
NEDR				⇑*e*Sg	**Sb**	**04 02 55.0**	**-1.1**	
NEDR				IAML		04 03 02.9		
	comp=N,57nm,0.5s							
LODU1	**El Espartillar**	**2.27**	**140**	*i* P	**Pn**	**04 02 28.4**	**+2.1**	
SODR	**Sosua Marina B**	**2.32**	**98**⇑	*e*Pg	**Pn**	**04 02 27.8**	**+0.8**	
SODR				⇑*e*Sg	**Sn**	**04 02 56.6**	**+0.9**	
SODR				IAML		04 03 11.0		
	comp=N,161nm,2.5s							
PODR	**Polo**	**2.52**	**139**	*i* P	**Pn**	**04 02 30.9**	**+0.8**	
PODR				⇑*e*Sg	**Sn**	**04 03 02.7**	**+1.5**	
PODR				IAML		04 03 22.7		
	comp=N,52nm,1.1s							
PINC	**Pinares de May**	**2.64**	**279**	*e*P	**Pn**	**04 02 32.5**	**+1.1**	
PINC				*e*S	**Sn**	**04 03 03.4**	**-0.2**	
PINC				IAML		04 03 04.5		
	comp=N,12nm,0.1s							
PINC				IAML		04 03 05.3		
	comp=E,7.9nm,0.1s							
MARVS	**Santiago de Cu**	**2.72**	**268**	*e*P	**Pn**	**04 02 32.4**	**-0.1**	
MARVS				*e*S	**Sn**	**04 03 06.9**	**+1.3**	
MARVS				IAML		04 03 10.4		
	comp=E,13nm,0.3s							
MARVS				IAML		04 03 11.1		
	comp=N,14nm,0.7s							
HLGC	**Holguin**	**2.96**	**286**	*e*P	**Pn**	**04 02 38.1**	**+2.2**	
HLGC				*e*S	**Sb**	**04 03 15.9**	**-2.1**	
HLGC				IAML		04 03 20.0		
	comp=E,6.3nm,0.8s							
HLGC				IAML		04 03 20.4		
	comp=N,13nm,1.3s							
BANI	**BANI**	**3.03**	**124**	*i* P	**Pn**	**04 02 38.2**	**+1.3**	
BANI				⇑*e*Sg	**Sn**	**04 03 13.5**	**0.0**	
BANI				IAML		04 03 31.6		
	comp=N,114nm,1.1s							
HATOM	**Hato Mayor del**	**3.67**	**110**	*i* P	**Pn**	**04 02 46.1**	**+0.5**	
HATOM				⇑*e*Sg	**Sn**	**04 03 28.1**	**-1.0**	
HATOM				IAML		04 03 40.1		
	comp=N,20nm,0.3s							
LMGC	**Las Mercedes**	**3.75**	**270**	*e*P	**Pn**	**04 02 47.0**	**+0.3**	
LMGC				*e*S	**Sn**	**04 03 29.9**	**-1.3**	
LMGC				IAML		04 03 30.3		
	comp=E,138nm,0.1s							
LMGC				IAML		04 03 30.4		
	comp=N,161nm,0.1s							
MIDR	**Miches**	**3.90**	**106**	*i* P	**Pn**	**04 02 47.9**	**-0.8**	
MIDR				⇑*e*Sg	**Sn**	**04 03 34.2**	**-0.6**	
MIDR				IAML		04 03 54.5		
	comp=N,12nm,1.5s							
PILO	**Pilon**	**4.14**	**268**	*e*P	**Pn**	**04 02 52.7**	**+0.6**	
PILO				*e*S	**Sn**	**04 03 37.2**	**-3.6**	
PILO				IAML		04 03 41.0		
	comp=E,17nm,1.1s							
PILO				IAML		04 03 41.6		
	comp=N,44nm,1.1s							

*CATAC **20** 04:20:43.3±0.5,9°N±5″×8°4W±″, h32km±3km, M3.2/6, MLv3.2/6, Error ellipse: s-maj=13.1km s-min=4.4km az=43.7, confirmed*
*UPA **20** 04:20:43.3±1.4,9°.34N×83°.59W, h2km±483km, ML3.1, MW3.0*
*UCR **20** 04:20:43.7±0.9,9°.16N×83°.81W, h52km±3km, MW3.6*
ISC 20 04:20:41.4±0.9,**9°.09N**±0°.05×**83°.88W**±0°.04,**h13**km,**n66,**
σ1⇑17/82,19C-3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.23**	**87**	S	**Sb**	**04 20 57.1**	**+5.6**
OCHAL	**Ojochal**	**0.23**	**87**	P	Pb	04 20 51.3	+3.8
EDPE	**Pejibaye, P**	**0.31**	**76**⇓	*e*P	**Pb**	**04 20 52.0**	**+3.1**
EDPE				*e*S	**Sb**	**04 20 58.5**	**+4.6**
PANP	**Palmar Norte**	**0.43**	**107**	*e*P	**Pn**	**04 20 53.5**	**+0.1**
PANP				*e*S	**Sn**	**04 21 01.8**	**+0.7**
LLNJ	**Naranjito**	**0.44**	**330**	*e*P	**Pn**	**04 20 53.7**	**+0.1**
LLNJ				*e*S	**Sn**	**04 21 01.8**	**+0.4**
QUEP	**Quepos**	**0.45**	**320**	P	**Pn**	**04 20 54.2**	**+0.6**
QUEP	**Quepos**	**0.45**	**320**	S	**Sn**	**04 21 01.5**	**0.0**
SAJE	**San Jernim**	**0.45**	**55**⇓	*e*P	**Pn**	**04 20 52.9**	**-0.8**
SVQ2	**Quepos**	**0.45**	**320**	*e*P	**Pn**	**04 20 53.8**	**+0.2**
SVQ2				*e*S	**Sn**	**04 21 01.4**	**-0.1**
FIMO	**Fila Mora**	**0.53**	**100**	*e*P	**Pn**	**04 20 54.9**	**+0.1**
FIMO				*e*S	**Sn**	**04 21 03.9**	**+0.3**
BURE	**Buenos Aires**	**0.54**	**81**	*e*P	**Pn**	**04 20 54.0**	**-0.8**
BURE				*e*S	**Sn**	**04 21 02.3**	**-1.5**
PIEC	**Cerro El Cedra**	**0.54**	**352**⇓	*e*P	**Pn**	**04 20 54.7**	**-0.4**
PIEC				*e*S	**Sn**	**04 21 03.6**	**-0.6**
RAZU	**San Marcos de**	**0.59**	**346**⇑	*e*P	**Pn**	**04 20 55.4**	**-0.3**
RAZU				*e*S	**Sn**	**04 21 04.6**	**-0.6**
PITB	**Pirrs, San**	**0.59**	**346**	*e*P	**Pn**	**04 20 55.3**	**-0.5**
PICV	**PH. Pirrs**	**0.62**	**330**⇑	*e*P	**Pn**	**04 20 56.0**	**-0.1**
PICV				*e*S	**Sn**	**04 21 06.0**	**0.0**
PAR1A	**Puntarenas Pro**	**0.63**	**324**⇑	*e*P	**Pn**	**04 20 56.5**	**+0.4**
LCR2	**La Lucha 2**	**0.66**	**349**⇑	*e*P	**Pn**	**04 20 56.1**	**-0.6**
LCR2	**La Lucha 2**	**0.66**	**349**	P	**Pn**	**04 20 56.1**	**-0.6**
LCR2	**La Lucha 2**	**0.66**	**349**	S	**Sn**	**04 21 05.8**	**-1.4**
REPA	**Paraso**	**0.74**	**1**	*e*P	**Pn**	**04 20 57.0**	**-0.7**
ACOS	**Acosta**	**0.76**	**338**⇑	*e*P	**Pn**	**04 20 57.4**	**-0.6**
VINA	**Juan Vinas**	**0.81**	**9**	*e*P	**Pn**	**04 20 58.0**	**-0.8**
EDAD	**Golfito**	**0.82**	**121**	*e*P	**Pn**	**04 20 58.3**	**-0.5**
FITO	**Golfito**	**0.85**	**123**	*e*P	**Pn**	**04 20 58.6**	**-0.5**
LUJA	**Lujan**	**0.86**	**347**⇑	*e*P	**Pn**	**04 20 58.9**	**-0.4**
ECI	**Escuela Centro**	**0.86**	**346**⇑	*e*P	**Pn**	**04 20 59.1**	**-0.4**
SJS3	**Mercedes San J**	**0.86**	**348**	*e*P	**Pn**	**04 20 59.2**	**-0.3**
PURI	**Puriscal**	**0.87**	**331**⇑	*e*P	**Pn**	**04 20 59.4**	**-0.1**
RAFA	**San Farael, Vo**	**0.87**	**4**⇑	*e*P	**Pn**	**04 20 58.9**	**-0.8**
LUPE	**Guadalupe**	**0.88**	**348**	*e*P	**Pn**	**04 20 59.2**	**-0.4**
CORON	**Coronado**	**0.89**	**352**	*e*P	**Pn**	**04 20 59.7**	**-0.1**
VICA	**Volcano Irazu**	**0.89**	**2**	*e*P	**Pn**	**04 20 59.3**	**-0.8**
DOMI	**Santo Domingo**	**0.92**	**347**⇑	*e*P	**Pn**	**04 21 00.1**	**-0.1**
CVTQ	**Turrialba Volc**	**0.92**	**7**⇑	*e*P	**Pn**	**04 20 59.8**	**-0.7**
CVTV	**Tajo**	**0.92**	**8**⇑	*e*P	**Pn**	**04 20 59.7**	**-0.8**
VTR0	**Volcan Turrial**	**0.93**	**7**	*e*P	**Pn**	**04 20 59.9**	**-0.7**
CVIMO	**Finca Echandi**	**0.94**	**356**⇑	*e*P	**Pn**	**04 21 00.1**	**-0.4**
CVTR	**Volcan Turrial**	**0.94**	**7**	*e*P	**Pn**	**04 20 59.9**	**-0.8**
BELE	**Belen**	**0.94**	**341**⇑	*e*P	**Pn**	**04 21 00.1**	**-0.3**
HDC	**Heredia**	**0.94**	**346**	*e*P	**Pn**	**04 21 00.1**	**-0.4**
HEME	**Heredia, Merce**	**0.94**	**344**⇑	*e*P	**Pn**	**04 21 01.4**	**+0.9**
RESJ	**San Isidro (Tu**	**0.97**	**14**	*e*P	**Pn**	**04 21 00.2**	**-0.6**
ALCO	**Alturas Coton,**	**1.04**	**97**⇑	*e*P	**Pn**	**04 21 01.1**	**-0.8**
CEUA	**Cerro Uatsi, L**	**1.07**	**60**	*e*P	**Pn**	**04 21 02.5**	**+0.4**
VERH	**Veragua Rainfo**	**1.07**	**39**	*e*P	**Pn**	**04 21 01.6**	**-0.7**
CDITO	**Canoas**	**1.11**	**117**	P	**Pg**	**04 21 03.2**	**+0.2**
CDITO	**Canoas**	**1.11**	**117**	S	**Sn**	**04 21 17.6**	**-0.4**
VPS8	**V Poas**	**1.14**	**342**⇑	*e*P	**Pn**	**04 21 03.5**	**0.0**
SRA1	**San Ramn**	**1.16**	**329**	*e*P	**Pn**	**04 21 02.3**	**-0.3**
BRU2	**Volcan**	**1.21**	**104**	*e*P	**Pg**	**04 21 03.9**	**-0.8**
BRU2				*e*S	**Sn**	**04 21 19.4**	**-1.2**
BRU2	**Volcan**	**1.21**	**104**	*e*P	**Pg**	**04 21 03.7**	**-1.0**
BRU2	**Volcan**	**1.21**	**104**	P	**Pg**	**04 21 04.0**	**-0.7**
BC3P	**Paso Ancho**	**1.28**	**102**	*e*P	**Pn**	**04 21 04.4**	**-0.9**
BC3P				AMP		04 21 05.6	
	comp=Z,263nm,0.1s						
BC3P				*e*S	**Sg**	**04 21 21.7**	**-1.2**
VPL2	**V. Platanar**	**1.31**	**338**	*e*P	**Pb**	**04 21 05.5**	**-0.5**
PTPM	**Petroterminale**	**1.32**	**132**	*e*P	**Pg**	**04 21 07.2**	**+0.4**
PTPM				*e*S	**Sg**	**04 21 26.9**	**+2.8**
BANCO	**falda S V. Bar**	**1.38**	**105**⇑	*e*P	**Pn**	**04 21 06.0**	**-0.6**
PTAR3	**Potrerillos Ar**	**1.42**	**106**	*e*P	**Pg**	**04 21 07.8**	**-0.9**
PTAR3				*e*S	**Sg**	**04 21 25.6**	**-1.6**
LNBQ3	**Los Naranjos,**	**1.45**	**102**	*e*P	**Pn**	**04 21 06.8**	**-0.7**
LNBQ3				*e*S	**Sb**	**04 21 25.7**	**-1.1**
BQSF3	**Alto Boquete,**	**1.47**	**103**	*e*P	**Pb**	**04 21 07.6**	**-1.1**
BQSF3				*e*S	**Sn**	**04 21 24.9**	**-1.9**
SOCE	**Pocosol**	**1.48**	**331**	*e*P	**Pb**	**04 21 08.4**	**-0.5**
DVD	**David**	**1.55**	**115**	*e*P	**Pg**	**04 21 10.2**	**-1.1**
DVD				*e*S	**Sb**	**04 21 29.1**	**-0.5**
PEDE3	**Pedregal, Chir**	**1.60**	**116**	*e*P	**Pb**	**04 21 10.6**	**-0.3**
PEDE3				AMP		04 21 10.6	
	comp=Z,434nm,0.1s						
PEDE3				*e*S	**Sb**	**04 21 30.8**	**-0.2**
ARE1	**Arenal 1**	**1.60**	**329**	*e*P	**Pb**	**04 21 10.8**	**-0.1**
CEDE	**Laguna Cedeo**	**1.61**	**330**	*e*P	**Pb**	**04 21 10.7**	**-0.5**
PBNVO	**Pueblo Nuevo,**	**1.68**	**97**	*e*P	**Pn**	**04 21 10.1**	**-0.4**
RBALA	**Bur**	**1.71**	**97**⇑	*e*P	**Pn**	**04 21 10.5**	**-0.6**

*JMA **20** 04:33:23.1±0.1,25°.1N×122°.7E±0°.4, h98km±1km, MV3.0/14, NW OFF ISHIGAKIJIMA IS*
*TAP **20** 04:33:23.3,24°.67N×122°.76E, h95km, ML4.0, C*
ISC 20 04:33:23.1±1.3,**24°.67N**±0°.03×**122°.77E**±0°.03,**h96**km±6km,
n159,σ1⇑21/271,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.27**	**143**	*i* P	**Pn**	**04 33 37.3**	**+0.3**
JYNG				*e*S	**Sn**	**04 33 47.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.30**	**133**	P	**Pn**	**04 33 36.5**	**-0.6**
YOJ	**Yonaguni jima**	**0.30**	**133**	P	**Pn**	**04 33 37.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.30**	**133**	*i* P	**Pn**	**04 33 37.5**	**+0.3**
YOJ				*e*S	**Sn**	**04 33 46.6**	**-1.0**
YOJ	**Yonaguni jima**	**0.30**	**133**	P	**Pn**	**04 33 37.5**	**+0.3**
YOJ				*e*S	**Sn**	**04 33 48.4**	**+0.8**
EOS2	**EOS2**	**0.55**	**243**	*i* P	**Pn**	**04 33 39.2**	**+0.7**
EOS2				S	**Sn**	**04 33 51.4**	**+1.2**
EOS3	**EOS3**	**0.56**	**228**	*i* P	**Pn**	**04 33 39.5**	**+0.8**
EOS3				*i* S	**Sn**	**04 33 51.9**	**+1.6**
EOS4	**EOS4**	**0.68**	**217**	P	**Pn**	**04 33 40.1**	**+0.6**
EOS4				*e*S	**Sn**	**04 33 52.9**	**+1.2**
EGS		**0.78**	**283**	P	**Pn**	**04 33 41.7**	**+0.9**
EGS				S	**Sn**	**04 33 54.6**	**+0.4**
TWB1	**Santiao Chiao**	**0.79**	**296**	*e*P	**Pn**	**04 33 41.2**	**+0.3**
TWB1				*e*S	**Sn**	**04 33 50.6**	**-3.6**
TWC	**Suao**	**0.84**	**266**	*i* P	**Pn**	**04 33 41.4**	**0.0**
TWC				*e*S	**Sn**	**04 33 54.2**	**-1.0**
ESAO	**Su ao**	**0.85**	**264**	*i* P	**Pn**	**04 33 41.6**	**+0.1**
ESAO				*e*S	**Sn**	**04 33 54.8**	**-0.6**
TIPB	**Shuangxi**	**0.91**	**290**	*i* P	**Pn**	**04 33 42.7**	**+0.5**
TIPB				*i* S	**Sn**	**04 33 56.2**	**-0.3**
SXI1	**Grass Mountain**	**0.92**	**298**	*e*P	**Pn**	**04 33 42.8**	**+0.4**
SXI1				*e*S	**Sn**	**04 33 55.2**	**-1.6**
EWUT	**Wuta**	**0.93**	**257**	*e*P	**Pn**	**04 33 42.9**	**+0.5**
EWUT				*i* S	**Sn**	**04 33 56.5**	**-0.3**
ILA	**Ilan**	**0.93**	**276**	*e*P	**Pn**	**04 33 42.1**	**-0.3**
ILA				*e*S	**Sn**	**04 33 56.8**	**-0.2**
IRIF	**Iriomote-Funau**	**0.94**	**110**	P	**Pn**	**04 33 42.8**	**+0.4**
IRIF				S	**Sn**	**04 33 57.4**	**+0.4**
ENA	**Nanau**	**0.97**	**256**	*e*P	**Pn**	**04 33 43.4**	**+0.6**
ENA				*e*S	**Sn**	**04 33 58.6**	**+1.0**
NWF	**Wu-fen Shan**	**0.98**	**294**	*e*P	**Pn**	**04 33 43.7**	**+0.6**
NWF				*e*S	**Sn**	**04 33 56.4**	**-1.7**
WFSB	**Wu-fen Shan**	**0.98**	**294**	*e*P	**Pn**	**04 33 43.8**	**+0.8**
WFSB				*e*S	**Sn**	**04 33 55.8**	**-2.2**
EAHA	**Aohua**	**1.00**	**251**	*e*P	**Pn**	**04 33 43.5**	**+0.4**
EAHA				S	**Sn**	**04 33 58.3**	**+0.2**
TWE	**Neicheng**	**1.00**	**273**	*i* P	**Pn**	**04 33 43.6**	**+0.4**
TWE				*i* S	**Sn**	**04 33 58.1**	**-0.2**
TNOU	**National Taiwa**	**1.02**	**298**	*e*P	**Pn**	**04 33 43.6**	**+0.2**
TNOU				*e*S	**Sn**	**04 33 59.6**	**+0.9**
FUSB	**Fushanzhiwuyua**	**1.08**	**275**	P	**Pn**	**04 33 44.8**	**+0.7**
FUSB				*e*S	**Sn**	**04 34 00.0**	**+0.1**
ENTT	**Nioudou**	**1.09**	**269**	*i* P	**Pn**	**04 33 45.1**	**+0.8**
ENTT				*e*S	**Sn**	**04 33 59.9**	**+0.7**
TWA	**Mucha**	**1.12**	**286**	P	**Pn**	**04 33 45.4**	**+0.8**
TWA				*e*S	**Sn**	**04 33 56.9**	**-3.9**
HATJ	**Hateruma jima**	**1.12**	**122**	P	**Pn**	**04 33 45.2**	**+0.7**
HATJ				*e*S	**Sn**	**04 34 02.0**	**+1.3**
LATG	**Datong**	**1.14**	**264**	*i* P	**Pn**	**04 33 45.5**	**+0.7**
LATG				S	**Sn**	**04 34 01.5**	**+0.3**
PCYT	**Pengchaiyu**	**1.15**	**327**	*i* P	**Pn**	**04 33 45.9**	**+1.0**
PCYT				*e*S	**Sn**	**04 34 00.4**	**-0.9**
NWLT	**Wulai**	**1.16**	**276**	*e*P	**Pn**	**04 33 45.5**	**+0.6**
NWLT				*e*S	**Sn**	**04 34 01.5**	**0.0**
ETL	**Fush Village**	**1.16**	**244**	*e*P	**Pn**	**04 33 45.0**	**0.0**
ETL				S	**Sn**	**04 34 00.9**	**-0.7**
NACB	**Ninganchiao**	**1.18**	**246**	P	**Pn**	**04 33 45.1**	**-0.1**
NACB	**Ninganchiao**	**1.18**	**246**	S	**Sn**	**04 34 00.6**	**-1.3**
NACB	**Ninganchiao**	**1.18**	**246**	P	**Pn**	**04 33 45.0**	**-0.1**
NACB	**Ninganchiao**	**1.18**	**246**	P	**Pn**	**04 33 45.1**	**-0.1**
NACB				*i* S	**Sn**	**04 34 00.7**	**-1.1**
YM01	**YM01**	**1.19**	**294**	*e*P	**Pn**	**04 33 46.2**	**+0.8**
YM01				*e*S	**Sn**	**04 33 59.9**	**-2.3**
YM08	**YM08**	**1.19**	**296**	P	**Pn**	**04 33 45.7**	**+0.3**
YM08				*e*S	**Sn**	**04 34 00.2**	**-1.9**
TATO	**Taipei**	**1.20**	**285**	P	**Pn**	**04 33 45.5**	**0.0**
TATO	**Taipei**	**1.20**	**285**	S	**Sn**	**04 34 02.5**	**+0.1**
JKRS	**Kuro-shima**	**1.21**	**110**	P	**Pn**	**04 33 46.3**	**+0.8**
JKRS				S	**Sn**	**04 34 03.3**	**+0.8**
ZUZH	**Zhuzihu**	**1.22**	**294**	*e*P	**Pn**	**04 33 46.4**	**+0.7**
ZUZH				*e*S	**Sn**	**04 34 00.3**	**-2.5**
TWD	**Chiawan**	**1.22**	**242**	*e*P	**Pn**	**04 33 45.5**	**-0.2**
TWD				*i* S	**Sn**	**04 34 01.6**	**-1.1**
TWY	**Chenhua**	**1.22**	**300**	P	**Pn**	**04 33 46.6**	**+0.9**
TWY				*e*S	**Sn**	**04 33 59.8**	**-2.9**
ETLH	**Xiulin Townshi**	**1.26**	**249**	*e*P	**Pn**	**04 33 46.4**	**+0.2**
ETLH				S	**Sn**	**04 34 03.0**	**-0.7**
HWA	**Hwalien**	**1.26**	**237**	*e*P	**Pn**	**04 33 46.8**	**+0.6**
HWA				S	**Sn**	**04 34 03.4**	**-0.3**
YHNB	**Yeheng**	**1.27**	**270**	P	**Pn**	**04 33 47.2**	**+0.9**
YHNB	**Yeheng**	**1.27**	**270**	P	**Pn**	**04 33 47.2**	**+0.9**
YHNB	**Yeheng**	**1.27**	**270**	S	**Sn**	**04 34 04.0**	**+0.1**
YHNB	**Yeheng**	**1.27**	**270**	*i* P	**Pn**	**04 33 47.1**	**+0.9**
YHNB				*i* S	**Sn**	**04 34 04.2**	**+0.3**
NNSB	**Datong**	**1.28**	**260**	*e*P	**Pn**	**04 33 47.0**	**+0.4**
NNSB				*i* S	**Sn**	**04 34 04.6**	**+0.3**
JIJ	**Ishigaki jima**	**1.29**	**103**	*e*P	**Pn**	**04 33 46.7**	**+0.2**
JIJ				S	**Sn**	**04 34 03.9**	**-0.3**
NTST	**Danshui**	**1.30**	**293**	*e*P	**Pn**	**04 33 45.6**	**-1.0**
NTST				*e*S	**Sn**	**04 34 01.3**	**-3.0**
TEYL	**Yanliau Villag**	**1.33**	**234**	*e*P	**Pn**	**04 33 47.0**	**0.0**
TEYL				*e*S	**Sn**	**04 34 04.5**	**-0.6**
ETM	**Tongmen**	**1.36**	**239**	*e*P	**Pn**	**04 33 47.1**	**-0.3**
ETM				S	**Sn**	**04 34 04.8**	**-0.9**
JISG	**Ishigakijimahi**	**1.41**	**93**	*e*S	**Sn**	**04 34 07.2**	**+0.4**
SHUL	**Shoufeng**	**1.41**	**232**	*i* P	**Pn**	**04 33 48.0**	**+0.1**
SHUL				*i* S	**Sn**	**04 34 06.9**	**-0.7**
FUSS	**Fushou**	**1.45**	**254**	*e*P	**Pn**	**04 33 49.3**	**+0.5**
FUSS				*e*S	**Sn**	**04 34 08.7**	**+0.6**
KSHI	**Guanxi Townshi**	**1.45**	**275**	*e*P	**Pn**	**04 33 49.6**	**+1.1**
KSHI				*e*S	**Sn**	**04 34 08.5**	**+0.7**
WHF	**Hehuan Shan**	**1.47**	**250**	P	**Pn**	**04 33 49.3**	**+0.2**
WHF				*e*S	**Sn**	**04 34 07.7**	**-1.0**
NCUH	**Zhongli**	**1.47**	**282**	P	**Pn**	**04 33 48.8**	**+0.1**
NCUH				*e*S	**Sn**	**04 34 07.5**	**-0.6**
TEGC	**Jichi Village**	**1.47**	**230**	*i* P	**Pn**	**04 33 49.0**	**+0.2**
TEGC				*i* S	**Sn**	**04 34 07.4**	**-0.7**
ESL	**Shilin**	**1.48**	**235**	*e*P	**Pn**	**04 33 48.6**	**-0.3**
ESL				*e*S	**Sn**	**04 34 07.7**	**-0.8**
NFF	**Wufeng Townshi**	**1.50**	**269**	*i* P	**Pn**	**04 33 49.9**	**+0.7**
NFF				*e*S	**Sn**	**04 34 08.9**	**-0.1**
TWT	**Tachien**	**1.51**	**255**	*e*P	**Pn**	**04 33 50.6**	**+1.3**
TWT				*e*S	**Sn**	**04 34 10.8**	**+1.5**
TDCB	**Techi**	**1.52**	**255**	*e*P	**Pn**	**04 33 50.5**	**+1.0**
TDCB				*i* S	**Sn**	**04 34 09.1**	**-0.5**
EGFH	**Guangfu**	**1.58**	**231**	*e*P	**Pn**	**04 33 50.0**	**-0.1**
EGFH				*e*S	**Sn**	**04 34 09.3**	**-1.2**
WARBT	**Fenglin Townsh**	**1.58**	**233**	*i* P	**Pn**	**04 33 49.6**	**-0.5**
WARBT				S	**Sn**	**04 34 08.9**	**-1.6**
LIOB	**Emei**	**1.59**	**270**	*i* P	**Pn**	**04 33 51.1**	**+0.8**
LIOB				S	**Sn**	**04 34 11.1**	**+0.1**
NSTT	**Nanjuang**	**1.61**	**269**	*e*P	**Pn**	**04 33 51.1**	**+0.7**
NSTT				S	**Sn**	**04 34 11.2**	**0.0**
OWD	**Renai**	**1.62**	**244**	*e*P	**Pn**	**04 33 51.1**	**+0.4**
OWD				S	**Sn**	**04 34 10.5**	**-1.2**
SBCB	**Hsinchu**	**1.63**	**275**	P	**Pn**	**04 33 51.2**	**+0.5**
SBCB				*e*S	**Sn**	**04 34 12.6**	**+0.9**
HSN	**Hsinchu**	**1.64**	**275**	*e*S	**Sn**	**04 34 11.5**	**-0.5**
WUSB	**Renai**	**1.65**	**246**	*i* P	**Pn**	**04 33 51.7**	**+0.6**
WUSB				S	**Sn**	**04 34 11.7**	**-0.7**
HGSD	**Ruisui**	**1.70**	**227**	*e*P	**Pn**	**04 33 51.5**	**-0.1**
HGSD				*i* S	**Sn**	**04 34 12.3**	**-0.9**
WHP	**Taichung City**	**1.71**	**257**	*e*P	**Pn**	**04 33 53.6**	**+1.8**
WHP				S	**Sn**	**04 34 14.4**	**+0.8**
VWDT	**VWDT**	**1.74**	**239**	*i* P	**Pn**	**04 33 52.7**	**+0.6**
VWDT				S	**Sn**	**04 34 13.8**	**-0.4**
JTJ	**Tarama**	**1.76**	**90**	*e*P	**Pn**	**04 33 53.2**	**+0.9**
JTJ				*e*S	**Sn**	**04 34 14.8**	**+0.1**
WCS	**Beigang Elemen**	**1.80**	**251**	*e*P	**Pn**	**04 33 54.2**	**+1.3**
WCS				*e*S	**Sn**	**04 34 16.9**	**+1.3**
ECBN	**Changbin**	**1.81**	**222**	*e*P	**Pn**	**04 33 53.1**	**+0.1**
ECBN				S	**Sn**	**04 34 14.2**	**-1.4**
NMLH	**Miaoli**	**1.81**	**266**	*e*P	**Pn**	**04 33 53.8**	**+0.8**
NMLH				*e*S	**Sn**	**04 34 15.8**	**0.0**
NSY	**Sanyi**	**1.84**	**263**	P	**Pn**	**04 33 55.0**	**+1.6**
NSY				S	**Sn**	**04 34 18.0**	**+1.4**
YULB	**Yu-li**	**1.85**	**227**	P	**Pn**	**04 33 53.1**	**-0.4**
YULB	**Yu-li**	**1.85**	**227**	S	**Sn**	**04 34 15.0**	**-1.8**
YULB	**Yu-li**	**1.85**	**227**	P	**Pn**	**04 33 52.8**	**-0.8**
YULB	**Yu-li**	**1.85**	**227**	S	**Sn**	**04 34 14.7**	**-2.0**
YULB	**Yu-li**	**1.85**	**227**	*i* P	**Pn**	**04 33 53.1**	**-0.4**
YULB				*i* S	**Sn**	**04 34 15.3**	**-1.4**
EYUL	**Yuli**	**1.87**	**226**	P	**Pn**	**04 33 54.1**	**+0.3**
EYUL				*e*S	**Sn**	**04 34 17.8**	**+0.6**
SSLB	**Suanglung**	**1.87**	**243**	P	**Pn**	**04 33 54.2**	**+0.3**
SSLB	**Suanglung**	**1.87**	**243**	S	**Sn**	**04 34 17.0**	**-0.3**
SSLB	**Suanglung**	**1.87**	**243**	P	**Pn**	**04 33 54.4**	**+0.5**
SSLB	**Suanglung**	**1.87**	**243**	S	**Sn**	**04 34 16.5**	**-0.8**
SSLB	**Suanglung**	**1.87**	**243**	P	**Pn**	**04 33 54.3**	**+0.5**
SSLB				S	**Sn**	**04 34 17.3**	**-0.1**
SMLT	**Sun Moon Lake**	**1.88**	**246**	*e*P	**Pn**	**04 33 55.1**	**+1.1**
SMLT				*e*S	**Sn**	**04 34 18.9**	**+1.4**
TWF1	**Yuli**	**1.88**	**226**	*i* P	**Pn**	**04 33 53.6**	**-0.3**
TWF1				S	**Sn**	**04 34 16.5**	**-0.9**
TYC	**Yuchr**	**1.90**	**247**	*e*P	**Pn**	**04 33 55.

ISC 20 04:37:09.0±0.9, 37.83N±0.02×29.75E±0.02, h10km±6km, n173, σ1838/187, mb4.1/18, MS3.3/9, 20C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.18**	**230**	P	**Pg**	**04 37 12.3**	**-0.6**
INCE				*i* IAML		04 37 16.0	
	comp=N,9μm,0.5s						
INCE				S	**Sg**	**04 37 16.4**	**+0.8**
INCE				*i* IAML		04 37 19.0	
	comp=E,5μm,0.5s						
BASM	**Basmaki-Afyon**	**0.26**	**69**	Pg	**Pg**	**04 37 13.9**	**-0.4**
BRDR	**BURDUR-Merkez**	**0.28**	**118**	P	**Pg**	**04 37 14.8**	**+0.1**
BRDR				S	**Sg**	**04 37 20.1**	**+1.6**
BRDR				*i* IAML		04 37 23.0	
	comp=N,1μm,0.4s						
BRDR				*i* IAML		04 37 23.0	
	comp=E,1μm,0.4s						
APMY	**Acipayam-Deniz**	**0.50**	**225**	P	**Pg**	**04 37 17.9**	**-0.9**
APMY				Sg	**Sg**	**04 37 26.0**	**+0.6**
KHL	**Karahalli**	**0.53**	**340**	Pg	**Pg**	**04 37 18.6**	**-0.7**
KHL				Sg	**Sg**	**04 37 26.3**	**0.0**
KZIL	**AFYON_Kizioren**	**0.53**	**36**	P	**Pg**	**04 37 19.2**	**-0.2**
KZIL				*i* IAML		04 37 32.0	
	comp=N,9μm,0.6s						
KZIL				*i* IAML		04 37 33.0	
	comp=E,4μm,0.4s						
PASA	**Karahalli, USA**	**0.56**	**338**	P	**Pg**	**04 37 19.1**	**-0.9**
PASA				S	**Sg**	**04 37 27.0**	**-0.3**
PASA				*i* IAML		04 37 33.0	
	comp=N,8μm,0.6s						
PASA				*i* IAML		04 37 33.0	
	comp=E,7μm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.60**	**251**	P	**Pg**	**04 37 19.7**	**-0.9**
DNIZ				S	**Sg**	**04 37 28.8**	**+0.3**
DNIZ				*i* IAML		04 37 32.0	
	comp=E,10μm,0.5s						
DNIZ				*i* IAML		04 37 33.0	
	comp=N,9μm,0.4s						
GOLH	**Golhisar**	**0.61**	**194**	P	**Pg**	**04 37 20.4**	**-0.4**
GOLH				S	**Sb**	**04 37 31.5**	**+1.0**
GOLH				*i* IAML		04 37 33.0	
	comp=N,8μm,0.3s						
GOLH				*i* IAML		04 37 34.0	
	comp=E,8μm,0.8s						
ISP	**Isparta**	**0.61**	**90**	Pg	**Pb**	**04 37 20.9**	**-1.0**
ISP	**Isparta**	**0.61**	**90** *ce* P		**Pb**	**04 37 20.6**	**-1.3**
ISP				pmax	pmax		
	comp=Z,975nm,0.6s						
ISP	**Isparta**	**0.61**	**90**	P	**Pb**	**04 37 21.0**	**-0.9**
ISP				S	**Sb**	**04 37 30.0**	**-0.6**
TAVA	**DENIZLI_Tavas**	**0.76**	**242**	P	**Pg**	**04 37 22.6**	**-1.0**
TAVA				S	**Sg**	**04 37 33.8**	**+0.4**
TAVA				*i* IAML		04 37 40.0	
	comp=Z,1μm,0.4s						
TAVA				*i* IAML		04 37 43.0	
	comp=Z,1μm,0.8s						
CAEL	**Denizli, Camel**	**0.78**	**206**	P	**Pb**	**04 37 24.8**	**0.0**
DNZT	**Denizli-Tavas-**	**0.79**	**227**	P	**Pg**	**04 37 23.2**	**-1.1**
DNZT				*i* IAML		04 37 35.0	
	comp=Z,1μm,0.5s						
DNZT				S	**Sg**	**04 37 35.5**	**+0.7**
DNZT				*i* IAML		04 37 42.0	
	comp=Z,3μm,0.5s						
BUCA	**Burdur, Bucak-**	**0.81**	**127**	P	**Pb**	**04 37 25.0**	**-0.3**
BUCA				S	**Sn**	**04 37 39.4**	**+0.6**
BUCA				*i* IAML		04 37 42.0	
	comp=Z,2μm,0.4s						
BUCA				*i* IAML		04 37 43.0	
	comp=Z,2μm,0.7s						
CAME	**Cameli-Denizli**	**0.95**	**202**	Pg	**Pg**	**04 37 27.1**	**-0.2**
KNIK	**Mula-Seydike**	**0.99**	**188**	P	**Pg**	**04 37 27.4**	**-0.7**
KNIK				*i* IAML		04 37 47.0	
	comp=Z,1μm,0.6s						
KNIK				*i* IAML		04 37 52.0	
	comp=Z,2μm,0.6s						
KULA	**Kula-Manisa**	**1.10**	**309**	Pg	**Pg**	**04 37 29.3**	**-0.9**
SDAG	**Sultandagi-AFY**	**1.11**	**56**	Pn	**Pb**	**04 37 30.0**	**-0.3**
NAZL	**Nazilli-Aydin**	**1.16**	**277**	Pn	**Pg**	**04 37 30.4**	**-0.9**
ANTB	**Antalya**	**1.17**	**142**	Pn	**Pn**	**04 37 31.6**	**+0.1**
GEDZ	**Gediz**	**1.25**	**348**	Pn	**Pg**	**04 37 32.1**	**-0.8**
SHAP	**Saphane-Kutahy**	**1.26**	**341**	Pn	**Pg**	**04 37 32.5**	**-0.8**
SHAP				Sn	**Sb**	**04 37 50.5**	**+1.1**
KEMT	**Kemer-ANTALYA**	**1.38**	**152**	Pn	**Pg**	**04 37 34.8**	**-0.7**
SMAA	**Simav-Kutahya**	**1.41**	**335**	Pn	**Pn**	**04 37 34.5**	**-0.3**
SEYD	**Seydisehir-KON**	**1.71**	**104**	Pn	**Pn**	**04 37 39.5**	**+0.5**
ARG	**Arkhangelos**	**2.07**	**219**	P	**Pn**	**04 37 44.0**	**+0.2**
BAND	**Balkesir-Ban**	**2.83**	**334**	⇑S	**Sn**	**04 38 32.2**	**+3.7**
ANTO	**Ankara**	**3.13**	**48**	⇑P	**Pn**	**04 37 59.7**	**+1.2**
ANTO	**Ankara**	**3.13**	**48**	P	**Pn**	**04 37 59.7**	**+1.2**
SAHE	**Sakarya_HENDEK**	**3.14**	**15**	⇑P	**Pn**	**04 37 59.5**	**+0.9**
EZN	**Ezine**	**3.34**	**308**	⇑P	**Pn**	**04 38 01.2**	**-0.1**
EZN	**Ezine**	**3.34**	**308**	P	**Pn**	**04 38 01.1**	**-0.1**
KIRS	**Kirsehir-Merke**	**3.52**	**67**	⇑P	**Pn**	**04 38 05.3**	**+1.4**
BRTR	**Keskin Array B**	**3.58**	**57**	Pn	**Pn**	**04 38 05.5**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=233,slow=14,SNR=60						
BRTR				Sn	**Sn**	**04 38 47.6**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=241,slow=17,SNR=4.6						
BRTR				LR	LR	04 39 58.5	
	comp=Z,227nm,18.8s,baz=215,slow=48						
	comp=Z,24nm,0.7s						
BRTR	**Keskin Array B**	**3.58**	**57**	*i* P	**Pn**	**04 38 05.5**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,18nm,0.5s						
BR131	**Keskin Array S**	**3.58**	**57**	*i* P	**Pn**	**04 38 05.3**	**+0.5**
CTYL	**Yalikoy Yolu**	**3.81**	**343**	⇑P	**Pn**	**04 38 08.5**	**+0.7**
CAVK	**Edirne/Enez-Ca**	**3.99**	**317**	⇑P	**Pn**	**04 38 11.2**	**+0.9**
CSS	**Mathiatis**	**4.06**	**134**	P	**Pn**	**04 38 11.3**	**0.0**
CSS	**Mathiatis**	**4.06**	**134**	S	**Sn**	**04 38 59.1**	**+0.2**
NPS	**Neapolis**	**4.20**	**234**	P	**Pn**	**04 38 14.0**	**+0.8**
IDI	**Anoyia**	**4.66**	**239**	Pn	**Pn**	**04 38 20.2**	**+0.7**
	comp=Z,50nm,0.6s,baz=59,slow=14,SNR=25						
IDI				Sn	**Sn**	**04 39 15.0**	**+1.3**
	comp=Z,4.4nm,0.3s,baz=342,slow=16,SNR=1.7						
CIDE	**Kastamonu/Cide**	**4.74**	**30**	⇑P	**Pn**	**04 38 21.9**	**+1.4**
RZN	**Rozhen**	**5.46**	**317**	P	**Pn**	**04 38 32.2**	**+1.6**
PLD	**Plovdiv**	**5.78**	**320**	P	**Pn**	**04 38 35.3**	**+0.5**
SOH	**Sokhos**	**5.79**	**303**	P	**Pn**	**04 38 36.2**	**+1.2**
ELND	**Elena**	**5.89**	**331**	⇑P	**Pn**	**04 38 36.8**	**+0.4**
MMB	**Musomishta**	**5.93**	**311**	P	**Pn**	**04 38 40.7**	**+3.7**
SZH	**Strazhitsa**	**6.14**	**333**	P	**Pn**	**04 38 41.9**	**+2.1**
KNT	**Kendrikon**	**6.26**	**304**	P	**Pn**	**04 38 44.4**	**+3.0**
KNT				pmax	pmax		
	comp=Z,14nm,0.6s						
KKB	**Krupnik**	**6.48**	**310**	P	**Pn**	**04 38 48.0**	**+3.5**
MMA0B	**Mount Meron ar**	**6.66**	**134**	P	**Pn**	**04 38 47.3**	**+0.3**
MMA0B	**Mount Meron ar**	**6.66**	**134**	S	**Sn**	**04 40 03.4**	**+0.4**
MMAI	**Mount Meron Ar**	**6.66**	**134**	Pn	**Pn**	**04 38 47.9**	**+0.9**
	comp=Z,7.4nm,0.3s,baz=313,slow=14,SNR=40						
MMAI				Sn	**Sn**	**04 40 03.3**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=306,slow=28,SNR=2.2						
GEM	**Giv'at Ha'Em**	**6.67**	**132**	P	**Pn**	**04 38 47.4**	**+0.4**
GEM	**Giv'at Ha'Em**	**6.67**	**132**	S	**Sn**	**04 40 03.2**	**+0.1**
NATI	**Neve Ativ**	**6.67**	**131**	P	**Pn**	**04 38 47.8**	**+0.7**
NATI	**Neve Ativ**	**6.67**	**131**	S	**Sn**	**04 40 03.7**	**+0.4**
KZN	**Kozani**	**6.68**	**294**	P	**Pn**	**04 38 51.0**	**+3.7**
TIRR	**Tirgusor**	**6.70**	**352**	⇑P	**Pn**	**04 38 47.6**	**+0.1**
TIRR	**Tirgusor**	**6.70**	**352**	P	**Pn**	**04 38 47.5**	**+0.1**
PLVB	**Pleven**	**6.79**	**327**	⇑P	**Pn**	**04 38 49.4**	**+0.8**
SLTI	**Sal'it**	**7.06**	**141**	P	**Pn**	**04 38 52.1**	**-0.4**
SLTI	**Sal'it**	**7.06**	**141**	S	**Sn**	**04 40 13.2**	**+0.3**
TPGR	**Topolog**	**7.09**	**352**	⇓P	**Pn**	**04 38 53.1**	**+0.2**
MMLI	**Mount Malkishu**	**7.11**	**137**	P	**Pn**	**04 38 53.3**	**+0.3**
MMLI	**Mount Malkishu**	**7.11**	**137**	S	**Sn**	**04 40 14.2**	**+0.3**
FNA	**Florina**	**7.13**	**297**	P	**Pn**	**04 38 56.0**	**+2.5**
FNA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HMDT	**Nahal Hemdat**	**7.30**	**138**	P	**Pn**	**04 38 56.1**	**+0.3**
HMDT	**Nahal Hemdat**	**7.30**	**138**	S	**Sn**	**04 40 19.4**	**+0.7**
SEV	**Sevastopol'**	**7.33**	**23**	*eP*	**Pn**	**04 38 56.9**	**+0.8**
SEV	**Sevastopol'**	**7.33**	**23**	*eP*	**Pn**	**04 38 56.9**	**+0.8**
SEV				Pm		04 38 58.3	
	comp=Z,9.0nm,0.3s						
SEV	**Sevastopol'**	**7.33**	**23**	Sm		04 40 34.9	
	comp=N,2.0nm,0.3s						
CFR	**Carcaliu**	**7.44**	**351**	⇑P	**Pn**	**04 38 57.8**	**+0.2**
CFR	**Carcaliu**	**7.44**	**351**	P	**Pn**	**04 38 57.8**	**+0.2**
DSI	**Dead Sea**	**7.77**	**142**	P	**Pn**	**04 39 02.3**	**+0.1**
DSI	**Dead Sea**	**7.77**	**142**	S	**Sn**	**04 40 30.7**	**+0.4**
YTIR	**Yattir**	**7.82**	**144**	P	**Pn**	**04 39 03.2**	**+0.2**
YTIR	**Yattir**	**7.82**	**144**	S	**Sn**	**04 40 32.2**	**+0.6**
SIM	**Simferopol'**	**7.83**	**23**	*eP*	**Pn**	**04 39 04.8**	**+1.8**
SIM				pmax	pmax		
	comp=Z,20nm,0.7s						
KZIT	**Kziot**	**7.90**	**150**	P	**Pn**	**04 39 04.3**	**+0.4**
KZIT	**Kziot**	**7.90**	**150**	S	**Sn**	**04 40 33.2**	**-0.2**
MSBI	**Mazada**	**7.97**	**143**	P	**Pn**	**04 39 05.3**	**+0.4**
MSBI	**Mazada**	**7.97**	**143**	S	**Sn**	**04 40 34.7**	**-0.5**
DNZ2	**Donuzlav2**	**7.97**	**18**	*eP*	**Pn**	**04 39 06.6**	**+1.7**
DNZ2				Pm		04 39 06.9	
	comp=Z,9.0nm,0.3s						
DNZ2				*eS*	**Sn**	**04 40 37.0**	**+1.9**
DNZ2				Sm		04 40 41.9	
	comp=N,3.0nm,0.4s						
DNZ2				Sm		04 40 41.9	
	comp=E,9.0nm,0.5s						
GHAJ	**Ghor Haditha**	**8.08**	**142**	P	**Pn**	**04 39 06.8**	**+0.4**
GHAJ	**Ghor Haditha**	**8.08**	**142**	S	**Sn**	**04 40 37.4**	**-0.4**
ASF	**Jabal al Asfar**	**8.13**	**132**	Pn	**Pn**	**04 39 09.0**	**+1.7**
	comp=E,1.6nm,0.3s,baz=348,slow=14,SNR=6.4						
ASF				Sn	**Sn**	**04 40 42.5**	**+3.2**
	comp=E,0.2nm,0.3s,baz=323,slow=20,SNR=1.1						
	comp=E,3.7nm,0.4s						
MLR	**Muntele Rosu**	**8.17**	**341**	Pn	**Pn**	**04 39 07.9**	**+0.1**
	comp=E,0.5nm,0.3s,baz=221,slow=7.9,SNR=6.0						
MLR				LR	LR	04 42 30.6	
	comp=E,55nm,22.0s,baz=170,slow=40						
	comp=E,4.1nm,0.8s						
MLR	**Muntele Rosu**	**8.17**	**341**	⇑P	**Pn**	**04 39 09.1**	**+1.3**
MLR	**Muntele Rosu**	**8.17**	**341**	P	**Pn**	**04 39 09.0**	**+1.3**
VRI	**Vrincioaia**	**8.34**	**345**	P	**Pn**	**04 39 11.1**	**+1.1**
VRI				pmax	pmax		
	comp=Z,27nm,1.0s						
VOIR		**8.38**	**337**	⇑P	**Pn**	**04 39 11.3**	**+0.7**
VOIR		**8.38**	**337**	P	**Pn**	**04 39 11.2**	**+0.7**
PRNI	**Paran**	**8.63**	**148**	P	**Pn**	**04 39 14.1**	**0.0**
PRNI	**Paran**	**8.63**	**148**	S	**Sn**	**04 40 52.2**	**+0.7**
KRMI	**Paran Flat**	**8.73**	**150**	P	**Pn**	**04 39 15.6**	**+0.3**
KRMI	**Paran Flat**	**8.73**	**150**	S	**Sn**	**04 40 53.7**	**-0.1**
MBRI	**Mt Berech**	**9.09**	**150**	P	**Pn**	**04 39 20.5**	**+0.2**
MBRI	**Mt Berech**	**9.09**	**150**	S	**Sn**	**04 41 02.7**	**-0.1**
EIL	**Elat**	**9.21**	**150**	Pn	**Pn**	**04 39 21.5**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=345,slow=16,SNR=13						
EIL				Sn	**Sn**	**04 41 01.2**	**-4.6**
	comp=Z,1.0nm,0.3s,baz=49,slow=15,SNR=3.2						
	comp=Z,13nm,0.6s						
EIL	**Elat**	**9.21**	**150**	P	**Pn**	**04 39 21.9**	**-0.1**
EIL	**Elat**	**9.21**	**150**	S	**Sn**	**04 41 05.5**	**-0.3**
SOC	**Sochi**	**9.50**	**50**	*eP*	**Pn**	**04 39 24.3**	**-1.6**
SOC				*e*		04 41 13.4	
SOC				MLR	MLR		
	comp=Z,77nm,15.0s						
BZS	**Buzias**	**9.87**	**325**	P	**Pn**	**04 39 31.8**	**+0.9**
BZS				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KIV	**Kislovodsk**	**11.54**	**54**	*eP*	**Pn**	**04 39 55.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,30nm,13.0s						
KBZ	**Khabaz**	**11.58**	**55**	Pn	**Pn**	**04 39 56.8**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=238,slow=7.7,SNR=3.6						
	comp=Z,1.8nm,0.8s						
KBZ	**Khabaz**	**11.58**	**55**	*i* P	**Pn**	**04 39 56.6**	**+2.4**
MORH	**Mrgy, Hungar**	**11.76**	**319**	⇑P	**Pn**	**04 39 58.2**	**+1.5**
VAE	**Valguarnera**	**12.16**	**273**	Pn	**Pn**	**04 40 04.0**	**+1.6**
	comp=Z,5.2nm,0.3s,baz=97,slow=7.1,SNR=4.3						
	comp=Z,16nm,0.4s						
AKASG	**Malin Array Be**	**12.88**	**359**	LR	LR	04 45 55.6	
	comp=Z,88nm,19.2s,baz=171,slow=41						
RONA	**Rosalia, Austr**	**13.95**	**319**	*eP*n	**Pn**	**04 40 26.3**	**-0.4**
	comp=Z,3.9nm,0.9s						
SOKA	**Soboth**	**14.02**	**314**	*i* Pn	**Pn**	**04 40 27.5**	**-0.2**
	comp=Z,3.1nm,1.3s						
ARSA	**Arzberg**	**14.07**	**316**	*i* Pn	**Pn**	**04 40 30.1**	**+1.7**
	comp=Z,3.3nm,0.9s						
CONA	**Conrad Observa**	**14.32**	**319**	*i* Pn	**Pn**	**04 40 33.7**	**+1.9**
	comp=Z,2.4nm,0.9s						
MAK	**Makhachkala**	**14.46**	**64**	*eP*	**Pn**	**04 40 30.5**	**-3.2**
MAK				*eS*	**Sn**	**04 43 10.5**	**-3.6**
MAK				pmax	pmax		
	comp=Z,121nm,1.0s						
MAK				MLR	MLR		
	comp=Z,94nm,16.0s						
VORD	**Divnogorie**	**14.78**	**24**	*eP*	**Pn**	**04 40 38.5**	**+0.5**
VORD				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MYKA	**Terra Mystica**	**14.80**	**312**	*ePn*	**Pn**	**04 40 39.2**	**+0.7**
	comp=Z,2.1nm,0.8s						
VRAC	**Vranov**	**14.89**	**325**	LR	LR	04 47 13.0	
	comp=Z,60nm,18.6s,baz=150,slow=41						
VSR	**Storozhevoye**	**14.96**	**23**	*eP*	**Pn**	**04 40 39.0**	**-1.4**
VSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOA	**Molln**	**15.12**	**316**	*i* Pn	**P**	**04 40 46.4**	**-1.4**
	comp=Z,2.4nm,0.7s						
BIOA	**Bad Ischl, Aus**	**15.37**	**315**	*i* Pn	**P**	**04 40 49.8**	**-0.8**
	comp=Z,2.6nm,0.4s						
LESA	**Schwarzleonl**	**15.78**	**313**	*i* Pn	**Pn**	**04 40 50.6**	**-0.7**
	comp=Z,1.8nm,0.6s						
GEC2	**GERESS Array S**	**16.01**	**319**	P	**P**	**04 40 57.9**	**0.0**
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.8s						
GERES	**GERESS Array B**	**16.01**	**319**	Pn	**Pn**	**04 40 55.9**	**+1.5**
	baz=125,slow=10,SNR=8.0						
	comp=Z,1.0nm,0.9s						
KHC	**Kasperske Hory**	**16.25**	**319**	*i* P	**Pn**	**04 40 58.6**	**+1.2**
KHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WTTA	**Wattenberg**	**16.31**	**311**	*i* Pn	**P**	**04 41 01.4**	**+0.2**
	comp=Z,7.7nm,1.2s						
WATA	**Walderalm**	**16.38**	**311**	*i* Pn	**Pn**	**04 41 01.0**	**+1.8**
	comp=Z,16nm,1.5s						
KEST	**Kesra**	**16.48**	**269**	Pn	**Pn**	**04 41 02.5**	**+2.1**
	baz=40,slow=14						
SQTA	**Sankt Quirin**	**16.55**	**310**	*i* Pn	**Pn**	**04 41 02.9**	**+1.7**
	comp=Z,1.9nm,0.7s						
WET	**Wettzell**	**16.63**	**318**	P	**P**	**04 41 08.0**	**+3.4**
WET				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MOTA	**Moosalm**	**16.67**	**311**	*i* Pn	**Pn**	**04 41 04.5**	**+1.7**
	comp=Z,6.2nm,1.0s						
FETA	**Feichten**	**16.75**	**309**	*i* Pn	**P**	**04 41 06.7**	**+0.7**
	comp=Z,4.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**17.17**	**308**	P	**Pn**	**04 41 07.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=110,slow=15,SNR=1.5						
DAVOX				LR	LR	04 48 50.0	
	comp=Z,59nm,19.9s,baz=110,slow=41						
	comp=Z,0.5nm,0.4s						
NACGM	**Naroch**	**17.20**	**354**	*eP*	**Pn**	**04 41 08.7**	**-0.5**
BRG	**Berggiesshubel**	**17.21**	**324**	*eP*	**P**	**04 41 16.4**	**+5.4**
BRG				Amp		04 41 19.3	
	comp=Z,3.6nm,0.9s						
DAVA	**Damuels**	**17.38**	**309**	*ePn*	**P**	**04 41 13.6**	**+0.5**
	comp=Z,3.7nm,0.7s						
OBN	**Obninsk**	**17.90**	**13**	⇓*eP*	**P**	**04 41 19.0**	**+0.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,44nm,16.0s						
BELG	**Belogornoye**	**19.19**	**35**	P	**P**	**04 41 31.8**	**-0.9**
	comp=Z,8.1nm,0.8s,baz=222,slow=18,SNR=6.2						
BELG	**Belogornoye**	**19.19**	**35**	*i* P	**Pn**	**04 41 34.6**	**+1.0**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ECH	**Echery**	**19.44**	**309**	P	**Pn**	**04 41 37.3**	**+0.5**
ECH				pmax	pmax		
	comp=Z,12nm,0.9s						
FINES	**FINESS Array B**	**23.75**	**356**	P	**P**	**04 42 20.0**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=159,slow=16,SNR=13						
FINES				LR	LR	04 53 18.7	
	comp=Z,18nm,18.2s,baz=58,slow=41						
	comp=Z,1.9nm,0.5s						
FINES	**FINESS Array B**	**23.75**	**356**	P	**P**	**04 42 20.0**	**-1.2**
KLMR	**Klimovskoe**	**23.86**	**12**	*eP*	**P**	**04 42 21.3**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HFS	**Hagfors**	**24.55**	**341**	P	**P**	**04 42 27.8**	**-0.9**
	comp=Z,7.6nm,0.7s,baz=158,slow=8.8,SNR=11						
HFS				LR	LR	04 52 37.8	
	comp=Z,34nm,20.5s,baz=146,slow=38						
	comp=Z,7.6nm,0.7s						
NB2	**NORSAR Subarra**	**25.99**	**339**	P	**P**	**04 42 41.8**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=144,slow=10						
NOA	**NORSAR Array B**	**25.99**	**339**	P	**P**	**04 42 40.2**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=144,slow=9.4,SNR=8.8						
NOA				LR	LR	04 55 24.8	
	comp=Z,34nm,19.7s,baz=140,slow=42						
	comp=Z,2.3nm,0.8s						
ESDC	**Sonseca Array**	**26.27**	**285**	P	**P**	**04 42 43.5**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=78,slow=10,SNR=10						
	comp=Z,1.8nm,0.9s						
ARTI	**Arti**	**26.61**	**37**	P	**P**	**04 42 48.4**	**+1.0**
ARTI						04 43 24.8	
ARTI				S	**S**	**04 47 25.1**	**+3.1**
ARTI				SS	**SnSn**	**04 48 27.7**	**+3.5**
BRVK	**Borovoye**	**31.77**	**48**	*i* P	**P**	**04 43 35.0**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**31.82**	**48**	P	**P**	**04 43 33.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=246,slow=6.0,SNR=2.0						
	comp=Z,0.4nm,0.4s						
ARCES	**ARCESS Array B**	**31.85**	**357**	P	**P**	**04 43 31.9**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=169,slow=8.6,SNR=5.2						
ARCES				LR	LR	04 57 15.7	
	comp=Z,56nm,18.7s,baz=254,slow=38						
	comp=Z,1.6nm,0.7s						
AAK	**Ala-Archa**	**34.19**	**68** *ce* P		**P**	**04 43 55.0**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**35.04**	**233**	P	**P**	**04 44 01.9**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=36,slow=9.6,SNR=19						
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**36.57**	**54**	P	**P**	**04 44 14.9**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=277,slow=8.8,SNR=14						
	comp=Z,2.4nm,0.3s						
KURK	**Kurchatov**	**36.63**	**53** *ce* P		**P**	**04 44 16.2**	**+0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MAKZ	**Makanchi**	**39.01**	**60**	P	**P**	**04 44 38.9**	**+3.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**39.23**	**60** *ce* P		**P**	**04 44 37.9**	**+0.5**
MKAR	**Makanchi Array**	**39.23**	**60**	P	**P**	**04 44 37.3**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=282,slow=6.7,SNR=28						
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**40.48**	**48**	P	**P**	**04 44 47.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=274,slow=9.1,SNR=6.0						
ZALV				LR	LR	05 06 29.6	
	comp=Z,25nm,18.5s,baz=230,slow=44						
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**40.48**	**48**	*i* P	**P**	**04 44 47.5**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DBIC	**Dimbokro**	**44.12**	**234**	P	**P**	**04 45 17.0**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=66,slow=7.1,SNR=4.6						
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**44.12**	**234**	P	**P**	**04 45 17.0**	**-0.8**
LSZ	**Lusaka**	**52.84**	**182**	LR	LR	05 10 30.0	
	comp=Z,311nm,18.2s,baz=216,slow=38						
ULN	**Ulaanbaatar**	**55.34**	**53**	*i* P	**P**	**04 46 42.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FRB	**Frobisher Bay**	**60.25**	**330**	LR	LR	05 17 15.2	
	comp=Z,30nm,19.6s,baz=104,slow=40						
CMAR	**Chiang Mai Arr**	**62.67**	**87**	P	**P**	**04 47 33.0**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=309,slow=7.8,SNR=5.1						
	comp=Z,1.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**62.67**	**87** *ce* P		**P**	**04 47 35.2**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**71.46**	**27**	LR	LR	05 25 18.2	
	comp=Z,34nm,18.4s,baz=272,slow=40						
PCRV	**Puerto La Cruz**	**87.27**	**281**	LR	LR	05 22 43.3	
	comp=Z,123nm,22.0s,slow=31						
PDAR	**Pinedale Array**	**91.66**	**331**	P	**P**	**04 50 15.3**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=72,slow=6.4,SNR=3.7						
	comp=Z,0.2nm,0.7s						

**GCMT 20 04:47:40.0±0.3, 28.15S±0.05×13.30W±0.03, h17km±1km, MW4.8/91, Moment Tensor Solution. s17,c18; s91,c112; Duration: 0 Moment tensor: Scale 10^{16} Nm; $M

comp=N,168nm,0.5s
NPOC North of Pu'u 0.41 55 Pn 04 57 59.7 -1.3
NPOC Sn 04 58 05.6 -1.9
JCUZ Jacuzzi 0.41 57 Sn 04 58 05.9 -1.6
ALEP Alea Permanent 0.42 336 Pn 04 57 59.7 -1.7
ALEP Sn 04 58 06.2 -2.0
HMH Humu'ula Sheep 0.44 357 Pn 04 58 00.6 -1.1
HMH Sn 04 58 07.0 -1.7
HMH Humu'ula Sheep 0.44 357 IAML 04 58 07.5
comp=N,485nm,0.3s
HMH IAML 04 58 07.7
comp=E,359nm,0.7s
JOKA Jonika Flow 0.51 58 Pn 04 58 00.9 -1.6
JOKA Sn 04 58 08.0 -2.0
JOKA Jonika Flow 0.51 58 IAML 04 58 09.3
comp=E,172nm,0.5s
JOKA IAML 04 58 09.7
comp=N,300nm,0.6s
POHA Pohakuloa 0.60 354 Pn 04 58 01.9 -1.9
POHA Sn 04 58 09.4 -3.0
POHA Pohakuloa 0.60 354 IAML 04 58 15.9
comp=N,156nm,0.4s
HUH Hualalai 0.63 326 Pn 04 58 02.7 -1.6
HUH Hualalai 0.63 326 IAML 04 58 17.3
comp=N,254nm,0.2s
HUH IAML 04 58 26.1
comp=E,207nm,0.4s
HPAH Hawaii Prepara 0.89 346 Sn 04 58 15.8 -3.8

*AEIC **20** 05:04:50.9±0.6,54°.3N±0°.3×165°.0W±0°.3,h198km±6km, Error ellipse: s-maj=46.8km s-min=7.5km az=151.0*
NEIC 20 05:04:50.5±0.5,54°.4N±0°.3×165°.2W±0°.2,h194km±3km, ML2.6/16,ML2.3(AEIC),Error ellipse: s-maj=41.7km s-min=7.6km az=152.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEBT	**Westdahl Beart**	**0.28**	**55**		Pn	05 05 17.3	+1.0
WEBT					Sn	05 05 36.6	+0.3
AKUT	**Akutan**	**0.47**	**231**		Pn	05 05 17.1	+0.3
AHB	**Akutan Harbor**	**0.51**	**231**		Pn	05 05 17.2	+0.1
AKBBA	**Akutan Broad B**	**0.57**	**234**		Pn	05 05 17.3	0.0
LVA	**Lava Point**	**0.59**	**243**		Pn	05 05 17.1	-0.2
LVA	**Lava Point**	**0.59**	**243**	IAML		05 05 50.2	
LVA	comp=E,53nm,1.2s			IAML		05 05 55.7	
	comp=N,64nm,1.1s						
ZRO	**Akutan Zero**	**0.60**	**235**		Pn	05 05 17.3	-0.1
AKMO	**Akutan Morgan**	**0.61**	**236**		Pn	05 05 17.4	0.0
UNV	**Unalaska Valle**	**0.99**	**234**		Pn	05 05 19.5	-0.1
UNV					Sn	05 05 43.6	+1.5
MTBL	**Makushin Table**	**1.01**	**243**		Pn	05 05 19.4	-0.4
FALS	**False Pass**	**1.09**	**66**		Sn	05 05 44.7	+1.4
FALS	**False Pass**	**1.09**	**66**	Pn	Pn	05 05 19.6	-0.7
MREP	**Makushin Rep't**	**1.13**	**237**		Pn	05 05 20.8	0.0
MGOD	**Makushin Gods**	**1.20**	**239**		Pn	05 05 21.2	0.0
MAPS	**Pakushin South**	**1.23**	**240**		Pn	05 05 21.2	-0.3
DT1	**Dutton Round H**	**1.79**	**67**		Pn	05 05 26.4	-0.1
DT1					Sn	05 05 54.0	-0.4
OKTU	**Okmok Mt. Tuli**	**2.01**	**240**		Pn	05 05 28.6	-0.2
DOL	**Dolgoi Island**	**2.03**	**68**		Pn	05 05 28.7	-0.2
OKSP	**Okmok Steeple**	**2.21**	**239**		Pn	05 05 30.5	-0.4
NIKH	**Nikolski High**	**2.65**	**238**		Pn	05 05 35.6	-0.1
NIKH	**Nikolski High**	**2.65**	**238**	IAML		05 06 52.2	
NIKH	comp=N,20nm,1.2s			IAML		05 07 04.2	
	comp=E,20nm,1.0s						
SDPT	**Sand Point**	**2.85**	**69**		Pn	05 05 37.9	0.0
SDPT	**Sand Point**	**2.85**	**69**	IAML		05 06 16.1	
SDPT	comp=E,13nm,0.6s			IAML		05 07 46.9	
	comp=N,14nm,1.1s						
CNBA	**Chernabura Isl**	**3.25**	**81**		Pn	05 05 42.7	-0.1
CNBA	**Chernabura Isl**	**3.25**	**81**	IAML		05 06 29.4	
CNBA	comp=E,4.9nm,0.5s			IAML		05 06 32.8	
	comp=N,6.0nm,1.1s						
CHGN	**Chignik**	**4.27**	**61**	Pn	Pn	05 05 56.1	+0.7

*TEH **20** 05:26:14.8,32°.93N×46°.18E,h9km±49km*
*ISN **20** 05:26:18.8±0.7,33°.16N×46°.20E,h11km±3km, ML3.3*
ISC 20 05:26:17.7±1.1,33°.04N±0°.06×46°.26E±0°.04,h10km,n22, σ0s80/25,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.28**	**284**	*e*Pg	**Pg**	**05 26 24.0**	**+0.6**
IBDR				*e*Sg	**Sg**	**05 26 27.0**	**-0.3**
IBDR	comp=E,3μm,0.5s			AML	AML	05 26 29.6	
ILBA	**Ilam Banvizeh**	**0.58**	**356**	Pg	**Pg**	**05 26 28.1**	**-1.0**
GLG1	**Gilan-e-Gharb**	**1.11**	**345**	Pg	**Pn**	**05 26 38.8**	**-0.6**
IGHG	**Ghaleghazi**	**1.31**	**11**	Pg	**Pg**	**05 26 42.6**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.39**	**28**	Pg	**Pb**	**05 26 43.9**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**1.56**	**339**	Pg	**Pb**	**05 26 45.6**	**-1.2**
BHD	**Baghdad**	**1.59**	**279**	*e*Pn	**Pg**	**05 26 48.0**	**-0.2**
BHD				*e*Sn	**Sg**	**05 27 09.0**	**+0.1**
BHD	comp=E,586nm,0.4s			AML	AML	05 27 16.8	
IDHR	**Dehrash**	**1.66**	**4**	Pg	**Pb**	**05 26 47.9**	**-0.6**
IDOB	**Doab**	**1.77**	**65**	Pn	**Pn**	**05 26 49.6**	**+1.0**
IBZA	**Bozab**	**1.95**	**43**	Pn	**Pn**	**05 26 52.3**	**+1.1**
SNQR	**Sonqor, Kerman**	**2.14**	**32**	Pn	**Pn**	**05 26 55.1**	**+1.4**
BDRS	**Dareh Seyedi**	**2.37**	**67**	Pn	**Pn**	**05 26 57.4**	**+0.5**
IKRK	**Kirkuk**	**2.84**	**326**	*e*Pn	**Pn**	**05 27 04.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**05 27 38.0**	**+0.6**
IKRK	comp=N,205nm,0.4s			AML	AML	05 27 54.5	
IKRK	comp=E,141nm,0.8s			AML	AML	05 28 07.3	
HAGD	**Aghdareh**	**2.98**	**53**	Pn	**Pn**	**05 27 05.9**	**+0.6**
HGHA	**Hamedan- Ghaye**	**3.25**	**41**	Pn	**Pn**	**05 27 10.3**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.83**	**45**	Pn	**Pn**	**05 27 18.3**	**+1.4**
IPIR	**Pirpir**	**3.92**	**94**	Pn	**Pn**	**05 27 18.1**	**-0.1**
IKLH	**Kolahrood**	**4.47**	**85**	Pn	**Pn**	**05 27 26.1**	**+0.3**
KLNJ	**Kolanjah**	**4.96**	**113**	Pn	**Pn**	**05 27 32.4**	**-0.3**
KRSH	**Karshahi**	**5.00**	**78**	Pn	**Pn**	**05 27 33.2**	**+0.3**
IZEF	**Zefreh**	**5.11**	**90**	Pn	**Pn**	**05 27 34.8**	**+0.3**
IDMV	**Damavand**	**5.41**	**61**	Pn	**Pn**	**05 27 39.3**	**+0.7**

*IDC **20** 05:43:22.2±21.0,17°.92S×178°.22W,h550km±244km, mb3.1/6,mbtmp4.0/6,Error ellipse: s-maj=77.9km s-min=31.9km az=71.0*
ISC 20 05:43:24.6±1.2,18°.0S±0°.2×178°.3W±0°.2,h579km,n6, σ0s45/6,mb3.6/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.71**	**241**	P	**P**	**05 50 00.0**	**-0.1**
	2.6nm,0.5s,baz=83,slow=8.1,SNR=4.1 2.6nm,0.5s						
WRA	**Warramunga Arr**	**44.74**	**260**	P	**P**	**05 50 47.1**	**-0.5**
	1.3nm,0.5s,baz=96,slow=6.8,SNR=16 1.3nm,0.5s						
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**	**05 50 49.0**	**+0.2**
	8.7nm,0.6s,baz=88,slow=8.5,SNR=91 8.7nm,0.6s						
QSPA	**South Pole Qui**	**72.11**	**180**	P	**P**	**05 53 51.1**	**+0.2**
	0.8nm,0.6s,baz=49,slow=4.8,SNR=6.6 0.8nm,0.6s						
KSRS	**Korea Array**	**74.81**	**318**	P	**P**	**05 54 06.9**	**+0.4**
	0.5nm,0.3s,baz=125,slow=4.5,SNR=2.1 0.5nm,0.3s						
TXAR	**Lajitas Array**	**85.92**	**58**	P	**P**	**05 55 04.2**	**-0.3**
	0.1nm,0.6s,baz=232,slow=4.5,SNR=2.0 0.1nm,0.6s						

CATAC 20 05:47:55.2±1.2,12°.N±3°.×8°.6W±°.,h12km±5km,M2.3/5, MLv2.3/5,Error ellipse: s-maj=7.7km s-min=4.1km az=51.4,confirmed,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNAN	**Cigeo UNAN**	**0.07**	**318**	P	Pg	05 47 58.8	+1.1
UNAN				S	Sg	05 48 00.4	+0.9
MGAN	**Managua**	**0.09**	**346**	S	Sg	05 48 01.4	+1.6
R4DEC	**Barrio San Lui**	**0.09**	**346**	S	Sg	05 48 01.4	+1.5
ABCN	**Banco Central**	**0.10**	**306**	S	Sg	05 48 01.8	+1.7
WILN	**Americas 2**	**0.10**	**21**	P	Pg	05 47 58.5	+0.4
WILN				S	Sg	05 48 02.2	+2.0
NANN	**Nandasmo**	**0.16**	**140**	P	Pg	05 47 59.2	+0.3
NANN	**Nandasmo**	**0.16**	**140**	S	Sg	05 48 03.8	+2.3

IDC 20 05:59:49.2±3.0,54°.21N×86°.40E,h0km,mbtmp2.5/2, ML1.5/2,Error ellipse: s-maj=22.9km s-min=12.9km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**255**	I	I	06 06 00.0	
	baz=73,slow=323,SNR=1.4						
ZALV	**Zalesovo Beam**	**0.96**	**255**	Pg	Pg	06 00 06.7	-1.0
	0.9nm,0.3s,baz=70,slow=17,SNR=10						
ZALV				Lg	Lg	06 00 21.8	
	1.3nm,0.3s,baz=76,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**6.00**	**236**	Pn	Pn	06 01 19.5	+0.3
	baz=52,slow=14,SNR=1.7 0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.87**	**201**	Pn	Pn	06 01 46.5	+1.6
	baz=24,slow=14,SNR=1.2 0.2nm,0.6s						

IDC 20 06:00:04.5±2.7,3°.82S×130°.04E,h0km,mb3.6/2, mbtmp3.8/4,ML3.8/2,Error ellipse: s-maj=139.4km s-min=29.4km az=74.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.83**	**197**	Pn	Pn	06 03 34.6	-1.0
	0.2nm,0.3s,baz=18,slow=6.4,SNR=1.2 1.7nm,0.5s						
WRA	**Warramunga Arr**	**16.56**	**166**	Pn	Pn	06 03 59.5	+1.2
	0.4nm,0.3s,baz=351,slow=12,SNR=9.1						
WRA				Sn	Sn	06 06 51.4	-12
	0.2nm,0.3s,baz=353,slow=24,SNR=1.8 1.9nm,0.7s						
ASAR	**Alice Springs**	**20.08**	**170**	P	P	06 04 39.5	-0.2
	2.5nm,0.5s,baz=348,slow=10,SNR=22 2.5nm,0.5s						
MKAR	**Makanchi Array**	**65.62**	**326**	P	P	06 10 50.5	0.0
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.3 0.1nm,0.4s						

*NEIC **20** 06:19:58.8±2.5,19°.9S±0°.1×173°.11W±0°.08,h10km±1km, mb4.9/24,Error ellipse: s-maj=22.3km s-min=12.2km az=2.0*
*IDC **20** 06:19:59.5±0.6,20°.10S×173°.65W,h0km,mb4.2/14, mbtmp4.2/15,ML4.4/1,MS4.2/46,Error ellipse: s-maj=24.9km s-min=17.2km az=123.0*
*GCMT **20** 06:20:04.8±0.3,20°.19S±0°.03×173°.18W±0°.02,h18km, MW4.9/98,Moment Tensor Solution. s37,c42; s98,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.84±.14; $M_{\theta\theta}$-0.74±.09; $M_{\phi\phi}$-2.09±.09; $M_{r\theta}$1.26±.23; $M_{r\phi}$-1.01±.05; $M_{\theta\phi}$0.79±.19; Best double couple: $M_0$3.10500×10^{16} NP1:ϕ_s198.00000°,δ33.00000°,λ70.00000°. NP2: ϕ_s41.00000°,δ59.00000°,λ102.00000°. Principal axes: T 3.2790, Plg73.0000°, Azm342.0000°; N -0.3420, Plg11.0000°, Azm214.0000°; P -2.9310, Plg13.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 06:19:59.5±0.4,20°.0S±0°.1×173°.29W±0°.06,h10km,n104, σ2s43/69,mb4.7/24,MS4.2/45,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.30**	**75**	Pn	**Pn**	**06 20 48.8**	**-2.5**
MSVF	**Nonsavu**	**8.50**	**284**		**Pn**	**06 22 05.3**	**+2.4**
RAR	**Rarotonga**	**12.71**	**98**	Pn	**Pn**	**06 22 58.3**	**-2.2**
RAR	**Rarotonga**	**12.71**	**98**	Pn	**Pn**	**06 22 57.6**	**-2.9**
	3.8nm,0.3s,baz=246,slow=6.6,SNR=12						
RAR				Sn	Sn	06 25 08.4	-14
	1.9nm,0.3s,baz=356,slow=19,SNR=2.3						
RAR				LR	LR	06 27 49.6	
	comp=Z,1μm,18.0s,baz=280,slow=36						
PINNC	**Pines Island,**	**18.14**	**258**		**P**	**06 24 13.4**	**+1.4**
DZM	**Mont Dzumac**	**19.03**	**260**		**P**	**06 24 23.1**	**+1.1**
DZM	**Mont Dzumac**	**19.03**	**260**	*e*P	**P**	**06 24 22.5**	**+0.5**
DZM	55nm,0.9s			*e*S	**Sn**	**06 27 49.1**	**-6.9**
	243nm,22.8s						
DZM				*e*LR	LR	06 28 49.7	
	888nm,21.1s						
DZM	**Mont Dzumac**	**19.03**	**260**	P	**P**	**06 24 22.3**	**+0.3**
	6.3nm,0.6s,baz=101,slow=15,SNR=9.9						
URZ	**Urewera**	**20.02**	**203**	P	**P**	**06 24 33.2**	**+0.7**
	1.0nm,0.3s,baz=0.0,slow=9.1,SNR=1.6						
URZ				S	S	06 28 02.2	-15
	7.9nm,0.9s,baz=24,slow=20,SNR=1.6 3.6nm,0.4s						
TBI	**Tubuai**	**22.39**	**103**	*e*S	**S**	**06 29 06.2**	**+1.9**
	3μm,26.2s						
TBI				*e*LR	LR	06 30 11.0	
	4μm,34.0s						
PPT2	**Papeete2**	**22.57**	**88**	*e*P	**P**	**06 25 01.2**	**+0.9**
PPT2	86nm,25.5s			*e*S	**S**	**06 29 05.8**	**-2.1**
	1μm,25.2s						
PPT2				*e*LR	LR	06 30 13.3	
	958nm,27.2s						
PPT2				*e*LR	LR	06 30 21.6	
	418nm,22.5s						
PPT	**Papeete**	**22.57**	**88**	LR	LR	06 32 04.3	
	comp=Z,736nm,18.9s,baz=256,slow=32						
MRZ	**Mangatainoka R**	**22.70**	**202**	P	**P**	**06 25 02.9**	**+1.6**
MRZ				IAmb	IAmb	06 25 28.4	
	comp=Z,32nm,1.2s						
HNR	**Honiara**	**27.89**	**288**	LR	LR	06 35 38.5	
	comp=Z,280nm,18.3s,baz=117,slow=34						
EIDS	**Eidsvold**	**33.24**	**254**	P	**P**	**06 26 36.3**	**-0.8**
EIDS				IAmb	IAmb	06 26 37.7	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**33.28**	**245**	P	**P**	**06 26 37.3**	**-0.1**
ARMA				IAmb	IAmb	06 26 53.7	
	comp=Z,21nm,1.4s						
TAOE	**Nuku Hiva Isla**	**33.88**	**76**	*e*LR	LR	06 35 23.3	
	comp=Z,456nm,22.4s						
CAN	**Canberra**	**36.49**	**237**	P	**P**	**06 27 04.4**	**-0.7**
CAN				IAmb	IAmb	06 27 19.8	
	comp=Z,18nm,1.1s						
CTAO	**Charters Tower**	**37.94**	**263**	P	**P**	**06 27 16.3**	**-1.3**
CTAO				IAmb	IAmb	06 27 19.6	
	comp=Z,28nm,1.4s						
PMG	**Port Moresby**	**39.58**	**280**	LR	LR	06 42 53.6	
	comp=Z,408nm,19.3s,baz=130,slow=35						
TOO	**Toolangi**	**39.79**	**235**	P	**P**	**06 27 32.7**	**-0.2**
COEN	**Coen**	**41.98**	**271**	P	**P**	**06 27 49.4**	**-1.8**
COEN				IAmb	IAmb	06 28 13.6	
	comp=Z,29nm,1.3s						
STKA	**Stephens Creek**	**41.99**	**244**	P	**P**	**06 27 51.0**	**-0.1**
STKA	**Stephens Creek**	**41.99**	**244**	P	**P**	**06 27 49.2**	**-1.9**
	comp=Z,3.2nm,0.9s,baz=97,slow=13,SNR=4.1						
STKA				LR	LR	06 44 03.7	
	comp=Z,348nm,18.1s,baz=62,slow=35 comp=Z,3.2nm,0.9s						
BBOO	**Buckleboo**	**46.73**	**243**	P	**P**	**06 28 27.6**	**-1.4**
JAY	**Jayapura**	**48.13**	**285**	LR	LR	06 48 55.5	
	comp=Z,178nm,18.1s,baz=174,slow=36						
WR8	**Warramunga Arr**	**48.90**	**261**	P	**P**	**06 28 45.2**	**-0.8**
WR8				IAmb	IAmb	06 28 53.6	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**48.94**	**256**	P	**P**	**06 28 46.5**	**+0.2**
ASAR	**Alice Springs**	**48.94**	**256**	P	**P**	**06 28 45.6**	**-0.7**
ASAR	**Alice Springs**	**48.94**	**256**	P	**P**	**06 28 44.6**	**-1.7**
	comp=Z,2.4nm,0.4s,baz=94,slow=8.1,SNR=46						
ASAR				PcP	**PcP**	**06 30 11.8**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=96,slow=3.9,SNR=4.8						
ASAR				LR	LR	06 48 28.3	
	comp=Z,429nm,19.0s,baz=105,slow=35 comp=Z,2.4nm,0.4s						
WB0	**Warramunga Arr**	**49.03**	**261**	P	**P**	**06 28 45.7**	**-1.4**
WB0				IAmb	IAmb	06 28 50.5	
	comp=Z,25nm,1.4s						
WRA	**Warramunga Arr**	**49.05**	**261**		**P**	**06 28 46.2**	**-1.0**
WRA	**Warramunga Arr**	**49.05**	**261**	P	**P**	**06 28 45.4**	**-1.8**
	comp=Z,3.1nm,0.4s,baz=99,slow=8.4,SNR=24						
WRA				PcP	**PcP**	**06 30 12.4**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=104,slow=2.9,SNR=2.2						
WRA				LR	LR	06 48 15.4	
	comp=Z,258nm,19.0s,baz=109,slow=35 comp=Z,3.1nm,0.4s						
GUMO	**Guam**	**52.99**	**306**	LR	LR	06 50 53.7	
	comp=Z,75nm,18.4s,baz=149,slow=35						
MTN	**Manton Dam**	**53.59**	**269**	P	**P**	**06 29 19.8**	**-1.5**
KNRA	**Kununurra**	**55.11**	**264**	P	**P**	**06 29 32.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**57.48**	**261**	P	**P**	**06 29 49.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**57.48**	**261**	LR	LR	06 53 17.2	
	comp=Z,192nm,18.6s,baz=98,slow=35						
RPN	**Rapa Nui**	**58.52**	**110**	LR	LR	06 49 37.9	
	comp=Z,357nm,20.2s,baz=249,slow=30						
SBA	**Scott Base**	**58.71**	**185**		**P**	**06 29 57.9**	**+1.0**
SBA				IAmb	IAmb	06 30 04.6	
	comp=Z,7.0nm,0.9s						
VNDA	**Vanda**	**58.85**	**186**	P	**P**	**06 29 58.8**	**+0.9**
VNDA				IAmb	IAmb	06 30 21.0	
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**58.85**	**186**	P	**P**	**06 29 57.9**	**0.0**
	comp=Z,1.8nm,1.0s,baz=7.1,slow=5.6,SNR=7.1						
VNDA				LR	LR	06 50 34.0	
	comp=Z,116nm,19.9s,baz=4.5,slow=31 comp=Z,1.8nm,1.0s						
SOEI	**Soe**	**60.92**	**270**	P	**P**	**06 30 12.4**	**-0.9**
BATI	**Baumata**	**61.35**	**269**	LR	LR	06 57 23.3	
	comp=Z,360nm,18.9s,baz=134,slow=37						
JCJ	**Chichijima**	**63.66**	**316**	LR	LR	06 54 14.3	
	comp=Z,142nm,20.5s,baz=62,slow=32						
MORW	**Morawa**	**64.10**	**247**	P	**P**	**06 30 35.3**	**+1.0**
MORW				IAmb	IAmb	06 31 01.2	
	comp=Z,13nm,1.2s						
QSPA	**South Pole Qui**	**70.08**	**180**	P	**P**	**06 31 11.9**	**+0.2**
QSPA				IAmb	IAmb	06 31 18.5	
	comp=Z,9.2nm,1.1s						
QSPA	**South Pole Qui**	**70.08**	**180**	P	**P**	**06 31 12.4**	**+0.7**
	comp=Z,6.6nm,1.2s,baz=46,slow=2.4,SNR=6.0 comp=Z,6.6nm,1.2s						
MJAR	**Matsushiro Arr**	**72.52**	**321**	P	**P**	**06 31 27.1**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=134,slow=5.7,SNR=5.3						
MJAR				LR	LR	06 58 25.4	
	comp=Z,106nm,21.1s,baz=138,slow=32 comp=Z,1.1nm,0.5s						
SHEM	**Shemya Is, Ala**	**73.24**	**352**	LR	LR	06 58 21.2	
	comp=Z,210nm,20.9s,baz=112,slow=31						
JNU	**Nakatsue**	**75.02**	**314**	LR	LR	07 02 23.8	
	comp=Z,57nm,18.8s,baz=140,slow=34						
LPIG	**La Paz**	**75.38**	**57**	LR	LR	06 59 56.6	
	comp=Z,294nm,18.2s,baz=205,slow=32						
ASAJ	**Asahikawa**	**75.49**	**329**	LR	LR	06 58 22.3	
	comp=Z,76nm,21.3s,baz=170,slow=30						
PFO	**Pinyon Flats O**	**75.98**	**46**	LR	LR	07 01 11.3	
	comp=Z,143nm,18.3s,baz=223,slow=32						
PETK	**Petropavlovsk-**	**77.01**	**343**	P	**P**	**06 31 53.4**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=111,slow=8.1,SNR=4.6						
PETK				LR	LR	07 02 31.7	
	comp=Z,79nm,20.1s,baz=152,slow=33 comp=Z,2.9nm,0.8s						
YBH	**Yreka Blue Hor**	**77.19**	**36**	LR	LR	07 00 09.6	
	comp=Z,17nm,18.6s,baz=240,slow=31						
LEM	**Lemband**	**77.48**	**267**	LR	LR	07 04 51.2	
	comp=Z,101nm,21.3s,baz=177,slow=35						
NVAR	**Mina Array Bea**	**77.67**	**41**	P	P	06 32 00.7	+4.0
	comp=Z,1.6nm,1.0s,baz=232,slow=8.5,SNR=8.2 comp=Z,1.6nm,1.0s						
KDAK	**Kodiak Island**	**79.38**	**11**	LR	LR	07 01 23.0	
	comp=Z,172nm,21.4s,baz=202,slow=31						
KSRS	**Korea Array**	**79.51**	**316**	P	**P**	**06 32 07.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=116,slow=5.7,SNR=5.2 comp=Z,0.7nm,0.3s						
PMSA	**Palmer Station**	**79.97**	**156**	LR	LR	07 04 01.0	
	comp=Z,152nm,18.1s,baz=251,slow=33						
USRK	**Ussuriysk Ar.**	**81.11**	**324**	LR	LR	07 03 41.7	
	comp=Z,269nm,20.1s,baz=134,slow=32						
ILSW	**Iliamna Southw**	**81.36**	**10**	P	**P**	**06 32 13.2**	**-2.9**
BBB	**Bella Bella**	**81.93**	**26**	LR	LR	07 04 39.3	
	comp=Z,102nm,18.1s,baz=242,slow=33						
H03S2	**Juan Fernandez**	**82.60**	**123**	T	T	08 05 01.1	
	baz=249						
H03S1	**Juan Fernandez**	**82.61**	**123**	T	T	08 05 09.8	
	baz=249						
H03S3	**Juan Fernandez**	**82.61**	**123**	T	T	08 05 14.0	
	baz=249						
TXAR	**Lajitas Array**	**83.09**	**56**	P	**P**	**06 32 28.6**	**+2.7**
	comp=Z,1.1nm,1.1s,baz=210,slow=7.2,SNR=6.7						
TXAR				LR	LR	07 02 59.5	
	comp=Z,86nm,19.0s,baz=244,slow=31 comp=Z,1.1nm,1.1s						
MAW	**Mawson**	**83.50**	**199**	P	**P**	**06 32 27.2**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=119,slow=10,SNR=1.4						
MAW				LR	LR	07 09 23.4	
	comp=Z,316nm,18.6s,baz=110,slow=36 comp=Z,1.3nm,0.8s						
ANMO	**Albuquerque**	**83.67**	**49**	LR	LR	07 04 52.0	
	comp=Z,159nm,18.5s,baz=338,slow=32						
NEW	**Newport**	**84.43**	**34**	LR	LR	07 06 31.4	
	comp=Z,398nm,18.0s,baz=229,slow=33						
MA2	**Magadan**	**84.55**	**343**	LR	LR	07 11 07.2	
	comp=Z,89nm,18.5s,baz=136,slow=36						
CMIG	**Matias Romero**	**85.32**	**70**	LR	LR	07 02 37.5	
	comp=Z,195nm,19.4s,baz=261,slow=30						
PDAR	**Pinedale Array**	**85.61**	**41**	P	**P**	**06 32 40.5**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=186,slow=1.5,SNR=5.7						
PDAR				LR	LR	07 07 44.3	
	comp=Z,76nm,18.3s,baz=232,slow=33 comp=Z,0.5nm,0.8s						
DLBC	**Dease Lake**	**85.92**	**21**	LR	LR	07 05 43.7	
	comp=Z,86nm,19.1s,baz=206,slow=32						
ILAR	**Eielson Array**	**86.91**	**11**	P	**P**	**06 32 47.0**	**+2.9**
	comp=Z,1.6nm,1.1s,baz=206,slow=5.2,SNR=4.6						
ILAR				LR	LR	07 09 47.5	
	comp=Z,67nm,18.5s,baz=178,slow=34 comp=Z,1.6nm,1.1s						
SYO	**Syowa Base**	**88.14**	**191**	*e*PcP	**PcP**	**06 32 51.0**	**-1.0**
PSI	**Prapat**	**88.87**	**273**	LR	LR	07 13 14.4	
	comp=Z,104nm,18.1s,baz=181,slow=36						
NNA	**Nana**	**91.90**	**103**	LR	LR	07 06 06.8	
	comp=Z,113nm,18.9s,baz=181,slow=30						
JTS	**Las Juntas de**	**91.92**	**80**	LR	LR	07 08 49.9	
	comp=Z,124nm,18.1s,baz=269,slow=32						
ATAH	**Atahualpa**	**92.16**	**98**	LR	LR	07 07 15.2	
	comp=Z,223nm,18.1s,baz=238,slow=31						
INK	**Ilnuvik**	**92.68**	**14**	LR	LR	07 11 33.1	
	comp=Z,91nm,18.3s,baz=260,slow=33						
YAK	**Yakutsk**	**93.35**	**337**	LR	LR	07 11 52.3	
	comp=Z,63nm,19.5s,baz=177,slow=33						
CMAR	**Chiang Mai Arr**	**94.14**	**288**	P	**P**	**06 33 19.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=111,slow=3.5,SNR=5.5						
CMAR				LR	LR	07 13 12.1	
	comp=Z,29nm,21.1s,baz=110,slow=34 comp

*IDC **20** 06:41:51.2±3.9, 7°.52S×126°.96E, h162km±35km, mb3.6/8, mbtmp4.2/12, Error ellipse: s-maj=40.5km s-min=14.4km az=61.0*

*NEIC **20** 06:41:53.9±1.8, 7°.69S±0°.08×126°.92E±0°.07, h181km±9km, mb4.2/10, Error ellipse: s-maj=12.1km s-min=9.0km az=164.0*

*DJA **20** 06:41:56.5±1.1, 8°.S±8°×12°.7E±°, h178km±9km, M4.5/7, mb4.4/1, MLv4.5/7*

ISC 20 06:41:53.1±0.6, **7°.70S**±0°.06×**126°.89E**±0°.05, **h179**km, **n47**, σ1ᵗ**70**/58, **mb3.9**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.30**	**232**			**Pn**	**06 42 46.7**	**+1.2**
SOEI				Sn		**Sn**	**06 43 26.8**	**+0.4**
SOEI	**Soe**	**3.30**	**232**	P		**Pn**	**06 42 47.1**	**+1.6**
SOEI				S		**Sn**	**06 43 25.3**	**-1.1**
BATI	**Baumata**	**4.04**	**232**	P		**Pn**	**06 42 56.2**	**+1.5**
	244nm,0.4s,baz=121,slow=1.7,SNR=18							
BATI				S		**Sn**	**06 43 44.2**	**+1.1**
	183nm,0.5s,baz=65,slow=22,SNR=10							
BATI	**Baumata**	**4.04**	**232**	P		**Pn**	**06 42 56.4**	**+1.6**
BATI				S		**Sn**	**06 43 44.0**	**+0.9**
SAUI	**Saumlaki**	**4.38**	**94**	P		**Pn**	**06 42 58.5**	**-0.5**
SAUI				Sn		**Sn**	**06 43 51.9**	**+1.2**
EDFI	**Ende, Flores**	**5.25**	**258**	P		**Pn**	**06 43 11.3**	**+0.9**
EDFI				S		**Sn**	**06 44 09.0**	**-2.1**
DRS	**Darwin Rock St**	**6.14**	**140**	P		**Pn**	**06 43 24.5**	**+2.6**
MTN	**Manton Dam**	**6.60**	**141**			**Pn**	**06 43 30.5**	**+2.5**
MTN				Sn		**Sn**	**06 44 42.5**	**-0.4**
MTN	**Manton Dam**	**6.60**	**141**	P		**Pn**	**06 43 30.7**	**+2.7**
WSI	**Waingapu**	**6.80**	**253**	P		**Pn**	**06 43 29.8**	**-0.9**
FAKI	**Fak Fak**	**7.14**	**49**	Pn		**Pn**	**06 43 34.7**	**-0.5**
KDU	**Kakadu**	**7.40**	**132**	P		**Pn**	**06 43 40.1**	**+1.6**
WBSI	**Waikabubak, Su**	**7.66**	**255**	P		**Pn**	**06 43 41.7**	**-0.3**
LUWI	**Luwuk**	**7.78**	**328**	Pn		**Pn**	**06 43 45.5**	**+1.9**
KNRA	**Kununurra**	**8.14**	**167**			**Pn**	**06 43 49.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**10.41**	**187**	Pn		**Pn**	**06 44 17.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.41**	**187**	P		**Pn**	**06 44 17.1**	**-0.9**
	7.3nm,0.3s,baz=13,slow=11,SNR=88							
FITZ				S		**Sn**	**06 46 09.7**	**-4.1**
	14nm,0.3s,baz=336,slow=24,SNR=6.4							
WB0	**Warramunga Arr**	**14.03**	**150**	Pn		**Pn**	**06 45 04.8**	**+0.5**
WRA	**Warramunga Arr**	**14.15**	**150**			**Pn**	**06 45 06.3**	**+0.5**
WRA	**Warramunga Arr**	**14.15**	**150**	P		**Pn**	**06 45 05.4**	**-0.4**
	1.0nm,0.4s,baz=322,slow=13,SNR=12							
WRA				S		**Sn**	**06 47 37.5**	**-6.1**
	5.5nm,0.6s,baz=336,slow=22,SNR=14							
WR8	**Warramunga Arr**	**14.24**	**150**	Pn		**Pn**	**06 45 06.1**	**-0.8**
MBWA	**Marble Bar**	**15.06**	**207**	P		**Pn**	**06 45 18.1**	**+1.1**
MBWA	**Marble Bar**	**15.06**	**207**	P		**P**	**06 45 20.0**	**+1.9**
PSA00	**Pilbara Seismi**	**15.38**	**205**	P		**Pn**	**06 45 22.8**	**+1.9**
PSA00				IAmb		IAmb	06 46 05.4	
	comp=Z,27nm,1.2s							
PSA00	**Pilbara Seismi**	**15.38**	**205**	P		**P**	**06 45 23.8**	**+2.2**
COEN	**Coen**	**17.16**	**113**	P		**P**	**06 45 39.2**	**-2.1**
AS31	**Alice Springs**	**17.24**	**158**	P		**P**	**06 45 42.2**	**0.0**
ASAR	**Alice Springs**	**17.24**	**158**	P		**P**	**06 45 42.2**	**0.0**
ASAR	**Alice Springs**	**17.24**	**158**	P		**Pn**	**06 45 44.4**	**+1.0**
	comp=Z,8.0nm,0.5s,baz=337,slow=12,SNR=94							
ASAR				S		**S**	**06 48 51.5**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=315,slow=20,SNR=5.0							
AS01	**Alice Springs**	**17.26**	**158**	P		**Pn**	**06 45 47.1**	**+3.5**
QIS	**Mount Isa**	**17.74**	**137**	P		**Pn**	**06 45 49.9**	**+0.6**
GIRL	**Giralia**	**19.21**	**218**	P		**P**	**06 46 02.4**	**-1.1**
MEEK	**Meekatharra**	**20.41**	**202**	P		**P**	**06 46 18.6**	**+2.2**
MORW	**Morawa**	**23.59**	**204**	P		**P**	**06 46 48.3**	**+0.7**
MORW				IAmb		IAmb	06 47 22.3	
	comp=Z,16nm,1.4s							
CMAR	**Chiang Mai Arr**	**37.89**	**314**	P		**P**	**06 48 52.5**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=144,slow=7.0,SNR=8.5							
	comp=Z,0.9nm,0.3s							
SONM	**Songino Array**	**58.19**	**344**	P		**P**	**06 51 28.8**	**+0.4**
SONM	**Songino Array**	**58.19**	**344**	P		**P**	**06 51 27.3**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=165,slow=6.0,SNR=2.6							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**67.16**	**328**	P		**P**	**06 52 25.5**	**-2.2**
	comp=Z,0.8nm,0.5s,baz=127,slow=7.4,SNR=7.9							
	comp=Z,0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**70.88**	**335**	P		**P**	**06 52 49.6**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=111,slow=8.1,SNR=6.4							
	comp=Z,1.1nm,0.3s							
KURBB	**Kurchatov Arra**	**71.53**	**330**	P		**P**	**06 52 54.2**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=132,slow=5.3,SNR=9.7							
	comp=Z,1.7nm,0.5s							
KURK	**Kurchatov**	**71.54**	**330**	P		**P**	**06 52 53.1**	**-1.3**
KURK				IAmb		IAmb	06 52 55.7	
	comp=Z,2.5nm,0.6s							
VNDA	**Vanda**	**72.14**	**172**	P		**P**	**06 52 58.5**	**+0.9**
VNDA				IAmb		IAmb	06 53 02.4	
	comp=Z,3.7nm,1.4s							
VNDA	**Vanda**	**72.14**	**172**	P		**P**	**06 52 58.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=319,slow=8.2,SNR=2.7							
	comp=Z,0.2nm,0.4s							
BVAR	**Borovoye Array**	**77.04**	**329**	P		**P**	**06 53 25.7**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=145,slow=5.4,SNR=6.7							
	comp=Z,0.8nm,0.4s							
QSPA	**South Pole Qui**	**82.28**	**180**	P		**P**	**06 53 55.6**	**+1.2**
QSPA				IAmb		IAmb	06 54 02.9	
	comp=Z,3.2nm,1.2s							
QSPA	**South Pole Qui**	**82.28**	**180**	P		**P**	**06 53 55.9**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=309,slow=1.8,SNR=3.0							
	comp=Z,1.0nm,0.7s							
LPAZ	**La Paz**	**151.91**	**148**	PKPbc		**PKPbc**	**07 01 28.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=225,slow=4.3,SNR=6.9							
LPAZ				PKPab		**PKPab**	**07 01 39.0**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=215,slow=6.2,SNR=3.7							

*IDC **20** 06:54:56.6±0.5, 4°.19S×36°.83E, h0km, mb4.1/17, mbtmp4.1/21, ML4.4/2, MS3.9/13, Error ellipse: s-maj=22.2km s-min=11.9km az=97.0*

*GCMT **20** 06:54:57.9±0.4, 4°.20S±0°.04×36°.62E±0°.03, h24km±1km, MW4.9/66, Moment Tensor Solution. s29,c31; s66,c84; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.78±.18; Mθθ=0.73±.11; Mθφ=2.04±.12; Mrθ=0.09±.16; Mφφ=-0.43±.07; Mrφ=0.81±.14; Best double couple: M₀2.60000×10¹⁶ NP1:ϕs=339.00000°, δ57.00000°, λ=-98.00000°. NP2: ϕs=169.00000°, δ54.00000°, λ=-84.00000°. Principal axes: T 2.2820, Plg8.0000°, Azm255.0000°; N 0.6300, Plg5.0000°, Azm346.0000°; P -2.9190, Plg80.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 06:54:58.9±1.9, 4°.22S±0°.07×36°.87E±0°.08, h10km±1km, mb4.8/30 Error ellipse: s-maj=14.5km s-min=11.0km az=121.0*

ISC 20 06:54:57.8±0.4, **4°.30S**±0°.04×**36°.74E**±0°.07, **h10**km, **n101**, σ2ᵗ**18**/87, **mb4.6**/33, **MS3.9**/15, **2C, Tanzania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KIBK	**Kibwezi**	**2.34**	**34**	Pn		**Pn**	**06 55 35.5**	**-1.0**
I32KE	**NAIROBI INFRAS**	**3.04**	**2**	Pn		**Pn**	**06 55 46.4**	**+0.2**
	baz=179,slow=28							
I32KE				I		I	07 08 20.0	
	baz=184,slow=328,SNR=1.1							
KMBO	**Kilima Mbogo**	**3.19**	**9**	Pn		**Pn**	**06 55 46.8**	**-1.6**
	70nm,0.3s,baz=208,slow=16,SNR=157							
KMBO				Pg		**Pb**	**06 55 51.4**	**-3.4**
	254nm,0.3s,baz=215,slow=18,SNR=99							
KMBO				Sn		**Sn**	**06 56 26.0**	**-0.7**
	416nm,0.3s,baz=250,slow=15,SNR=7.6							
	407nm,0.4s							
MBAR	**Mbarara**	**7.04**	**301**	Pn		**Pn**	**06 56 40.5**	**-0.6**
LODK	**Lodwar**	**7.80**	**350**	Pn		**Pn**	**06 56 51.7**	**+0.2**
LSZ	**Lusaka**	**13.78**	**217**	Pn		**Pn**	**06 58 15.0**	**+1.5**
LSZ	**Lusaka**	**13.78**	**217**	Pn		**Pn**	**06 58 14.0**	**+0.6**
	3.6nm,0.3s,baz=38,slow=13,SNR=57							
LSZ				Sn		**Sn**	**07 00 41.6**	**-5.2**
	3.4nm,0.3s,baz=356,slow=15,SNR=3.0							
LSZ				Lg		Lg	07 02 03.8	
	4.5nm,0.3s,baz=106,slow=17,SNR=8.8							
LSZ				LR		LR	07 03 38.6	
	comp=Z,859nm,19.4s,baz=62,slow=38							
LSZ	**Lusaka**	**13.78**	**217**	*i* P		Pn	06 58 05.9	-7.6
LSZ				*i* S		**Sn**	**07 00 38.8**	**-7.9**
KRI	**Karoi**	**14.28**	**209**	*i* P		**Pn**	**06 58 18.9**	**-1.5**
KRI				*i* S		**Sn**	**07 01 02.4**	**+3.3**
ATD	**Arta Tunnel**	**16.86**	**21**	Pn		**Pn**	**06 58 53.0**	**-1.2**
	0.3nm,0.3s,baz=199,slow=6.9,SNR=5.3							
ATD				Lg		Lg	07 03 34.2	
	0.1nm,0.3s,baz=130,slow=20,SNR=4.6							
OPO	**Ambohidratompo**	**17.47**	**145**	P		**Pn**	**06 59 02.4**	**+0.4**
	2.6nm,0.6s,baz=300,slow=16,SNR=3.2							
OPO				S		**Sn**	**07 02 10.4**	**-6.4**
	3.2nm,0.6s,baz=255,slow=19,SNR=1.8							
KSANE	**Kasane**	**17.57**	**219**	IAML			07 04 25.9	
	comp=N,292nm,1.1s							
KSANE	**Kasane**	**17.57**	**219**	Pn		**P**	**06 59 04.5**	**+0.3**
KSANE	**Kasane**	**17.57**	**219**	*i* P		**P**	**06 59 06.6**	**+2.5**
BLWY	**Bulawayo**	**17.62**	**206**	*i* P		**Pn**	**06 58 59.1**	**-4.7**
BLWY				*i* S		**Sn**	**07 02 17.8**	**-2.5**
ABPO	**Ambohimpanom**	**17.85**	**146**			**P**	**06 59 08.8**	**+1.4**
MATP	**Matopo**	**17.92**	**206**	P		**P**	**06 59 08.9**	**+0.9**
	comp=N,0.7nm,0.3s,baz=16,slow=13,SNR=12							
MATP				Lg		Lg	07 04 12.7	
	comp=N,0.5nm,0.3s,baz=304,slow=23,SNR=3.8							
MATP				LR		LR	07 06 27.6	
	comp=N,501nm,21.4s,baz=34,slow=38							
	comp=N,4.9nm,0.6s							
BROLN	**Tlhalogang**	**19.04**	**208**	IAML			07 05 07.3	
	comp=E,186nm,1.7s							
BROLN	**Tlhalogang**	**19.04**	**208**	*i* P		P	06 59 09.7	-11
MUSN	**Musina, Limpop**	**19.08**	**200**	*i* P		**P**	**06 59 16.4**	**-4.4**
PHDHD	**Phuduhudu**	**19.77**	**216**	Pn		**Pn**	**06 59 32.2**	**+2.4**
MOPA	**Mopani**	**19.79**	**195**	*i* P		**P**	**06 59 25.1**	**-3.3**
MOPA				*i* S		**S**	**07 03 11.1**	**-0.4**
MREMI	**Moremi**	**20.27**	**206**	P		**P**	**06 59 34.9**	**+1.1**
MREMI				IAmb		IAmb	06 59 44.5	
	comp=E,37nm,1.0s							
GMARE	**Gumare**	**20.67**	**222**			Pn	06 59 43.0	+2.6
GMARE				IAmb		IAmb	06 59 48.4	
	comp=Z,44nm,1.2s							
CKGRV	**CKGRV**	**21.16**	**215**	IAML			07 06 27.2	
	comp=E,297nm,1.2s							
CKGRV	**CKGRV**	**21.16**	**215**	*i* P		P	06 59 34.8	-8.6
LPHEP	**Lephephe**	**21.67**	**208**	P		**P**	**06 59 50.4**	**+1.5**
LPHEP				IAmb		IAmb	07 00 12.6	
	comp=Z,30nm,1.1s							
KDWAN	**Kaudwane**	**22.27**	**210**	P		**P**	**06 59 55.9**	**+0.6**
GRTLG	**Ghanzi**	**22.69**	**220**			**P**	**07 00 02.4**	**+2.5**
GRTLG				IAmb		IAmb	07 00 18.5	
	comp=Z,31nm,0.9s							
KGCAE	**Kacgae**	**23.19**	**216**	IAML			07 07 39.0	
	comp=E,211nm,1.2s							
KGCAE	**Kacgae**	**23.19**	**216**	P		**P**	**07 00 07.8**	**+2.7**
KGCAE				IAmb		IAmb	07 00 13.2	
	comp=Z,36nm,1.1s							
KGCAE	**Kacgae**	**23.19**	**216**	*i* P		P	06 59 58.0	-7.1
LBTB	**Lobatse**	**23.21**	**206**	P		**P**	**07 00 07.6**	**+2.3**
LBTB				IAmb		IAmb	07 00 27.6	
	comp=Z,26nm,1.0s							
LBTB	**Lobatse**	**23.21**	**206**	LR		LR	07 09 29.5	
	comp=Z,322nm,18.6s,baz=29,slow=37							
LBTB	**Lobatse**	**23.21**	**206**	*i* P		**P**	**06 59 59.9**	**-5.3**
TSUM	**Tsumeb**	**23.85**	**230**	P		**P**	**07 00 13.7**	**+2.0**
TSUM				IAmb		IAmb	07 00 20.3	
	comp=Z,33nm,1.5s							
TSUM	**Tsumeb**	**23.85**	**230**	LR		LR	07 09 48.6	
	comp=Z,438nm,19.7s,baz=328,slow=37							
KOOLE	**Kule**	**24.52**	**219**	P		**P**	**07 00 19.4**	**+1.6**
LKGWB	**Lokgwabe**	**24.74**	**216**	P		**P**	**07 00 19.3**	**-0.4**
PHPEN	**Phepeng**	**24.92**	**211**	P		**P**	**07 00 23.1**	**+1.7**
BOSA	**Boshof**	**26.53**	**203**	P		**P**	**07 00 36.9**	**+1.0**
BOSA				IAmb		IAmb	07 01 07.5	
	comp=Z,42nm,1.3s							
BOSA	**Boshof**	**26.53**	**203**	P		**P**	**07 00 36.5**	**+0.6**
	comp=Z,8.6nm,0.8s,baz=24,slow=9.1,SNR=9.5							
BOSA				Lg		Lg	07 08 41.4	
	comp=Z,0.2nm,0.3s,baz=115,slow=19,SNR=3.1							
	comp=Z,8.6nm,0.8s							
BOSA	**Boshof**	**26.53**	**203**	*i* P		**P**	**07 00 31.2**	**-4.8**
TORD	**Torodi Ar. Bea**	**38.88**	**297**	P		**P**	**07 02 24.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**38.88**	**297**	P		**P**	**07 02 23.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=110,slow=8.6,SNR=4.7							
	comp=Z,0.8nm,0.6s							
GEVA	**Gevas**	**42.80**	**7**	P		**P**	**07 02 55.8**	**-0.2**
DBIC	**Dimbokro**	**42.93**	**284**	LR		LR	07 21 27.0	
	comp=Z,164nm,18.5s,baz=113,slow=37							
GNI	**Garni**	**44.84**	**9**	LR		LR	07 21 22.9	
	comp=Z,102nm,20.2s,baz=192,slow=36							
VAE	**Valguarnera**	**46.47**	**335**	LR		LR	07 23 02.2	
	comp=Z,128nm,18.9s,baz=132,slow=36							
KEST	**Kesra**	**47.39**	**329**	LR		LR	07 24 17.2	
	comp=Z,123nm,18.3s,baz=297,slow=37							
KBZ	**Khabaz**	**48.13**	**6**	LR		LR	07 24 39.7	
	comp=Z,104nm,18.1s,baz=167,slow=37							
SIMJ	**Simiganj**	**52.13**	**32**	P		**P**	**07 04 08.0**	**-0.7**
SIMJ				IAmb		IAmb	07 04 15.7	
	comp=Z,15nm,1.2s							
CHGR	**Chuyangaron**	**52.21**	**32**	P		**P**	**07 04 09.8**	**+0.7**
BURAR	**Bucovina Array**	**52.68**	**350**	P		**P**	**07 04 12.4**	**-0.1**
BUR08	**Bucovina Ar. S**	**52.72**	**350**	P		**P**	**07 04 12.8**	**0.0**
GAR	**Garm**	**53.08**	**33**	P		**P**	**07 04 13.8**	**-1.8**
KK31	**Karatay Array**	**56.19**	**29**	P		**P**	**07 04 37.2**	**-0.9**
KK31				IAmb		IAmb	07 04 45.7	
	comp=Z,22nm,1.5s							
KKAR	**Karatay Array**	**56.19**	**29**	P		**P**	**07 04 37.5**	**-0.5**
KSH	**Kashi**	**56.61**	**36**	P		**P**	**07 04 42.9**	**+1.6**
KSH				pmax		pmax		
	comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**56.62**	**342**	P		**P**	**07 04 40.7**	**-0.4**
GERES	**GERESS Array B**	**56.62**	**342**	P		**P**	**07 04 41.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=161,slow=8.5,SNR=5.5							
	comp=Z,0.3nm,0.4s							
AB31	**Akbulak array**	**57.03**	**18**	P		**P**	**07 04 43.3**	**-0.5**
ABKAR	**Akbulak array**	**57.03**	**18**	P		**P**	**07 04 43.1**	**-0.7**
AKTO	**Aktyubinsk**	**57.52**	**16**	LR		LR	07 33 16.1	
	comp=Z,108nm,19.7s,baz=86,slow=40							
ESDC	**Sonseca Array**	**57.59**	**323**	P		**P**	**07 04 48.8**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=144,slow=5.1,SNR=6.4							
	comp=Z,1.8nm,1.0s							
AAK	**Ala-Archa**	**57.89**	**32**	P		**P**	**07 04 50.6**	**+0.3**
EVN	**Everest**	**57.90**	**53**	P		**P**	**07 04 49.6**	**-1.5**
EVN				IAmb		IAmb	07 04 56.5	
	comp=Z,5.4nm,0.8s							
ARTI	**Arti**	**63.03**	**13**	P		**P**	**07 05 23.9**	**-1.0**
BVAR	**Borovoye Array**	**63.76**	**22**	P		**P**	**07 05 29.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=207,slow=1.7,SNR=6.8							
	comp=Z,1.2nm,0.5s							
SYO	**Syowa Base**	**64.63**	**179**	*e*P		**P**	**07 05 38.6**	**+3.3**
SYO	**Syowa Base**	**64.63**	**179**	*e*pP		pP	07 05 41.2	+2.3
MAKZ	**Makanchi**	**64.65**	**33**	P		**P**	**07 05 35.1**	**-0.7**
MAKZ				IAmb		IAmb	07 05 42.4	
	comp=Z,6.4nm,1.2s							
MK31	**Makanchi Array**	**64.81**	**33**	P		**P**	**07 05 35.4**	**-1.4**
MK31				IAmb		IAmb	07 05 43.3	
	comp=Z,4.6nm,1.1s							
MKAR	**Makanchi Array**	**64.81**	**33**	P		**P**	**07 05 35.9**	**-1.0**
MKAR	**Makanchi Array**	**64.81**	**33**	P		**P**	**07 05 36.1**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=222,slow=6.6,SNR=7.5							
MKAR				LR		LR	07 36 56.4	
	comp=Z,57nm,18.8s,baz=78,slow=39							
	comp=Z,0.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**65.29**	**68**	P		**P**	**07 05 40.9**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=253,slow=7.7,SNR=6.1							
	comp=Z,1.4nm,0.3s							
KURBB	**Kurchatov Arra**	**65.41**	**28**	P		**P**	**07 05 39.6**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=230,slow=6.8,SNR=8.7							
	comp=Z,0.8nm,0.9s							
KURK	**Kurchatov**	**65.51**	**28**	P		**P**	**07 05 41.7**	**+0.4**
KURK				IAmb		IAmb	07 05 47.1	
	comp=Z,12nm,1.5s							
MAW	**Mawson**	**65.67**	**169**	P		**P**	**07 05 43.4**	**+1.3**
	comp=Z,4.0nm,0.9s,baz=358,slow=4.0,SNR=6.7							
	comp=Z,4.0nm,0.9s							
WMQ	**Urumqi**	**66.22**	**38**	*e*P		**P**	**07 05 46.6**	**+0.5**
WMQ				pmax		pmax		
	comp=Z,28nm,0.9s							
WMQ				LR		LR		
	comp=Z,360nm,19.9s							
HFS	**Hagfors**	**66.75**	**348**	P		**P**	**07 05 48.4**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=167,slow=7.2,SNR=4.7							
	comp=Z,2.4nm,0.8s							
NOA	**NORSAR Array B**	**68.11**	**347**	P		**P**	**07 05 58.4**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=154,slow=5.7,SNR=5.4							
	comp=Z,1.3nm,0.9s							
ZALV	**Zalesovo Beam**	**70.50**	**28**	P		**P**	**07 06 11.4**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=223,slow=5.7,SNR=4.9							
	comp=Z,0.7nm,0.5s							
SNAA	**Sanae**	**71.71**	**192**	P		**P**	**07 06 20.9**	**+1.1**
	comp=Z,1.7nm,1.0s,baz=79,slow=6.5,SNR=5.1							
	comp=Z,1.7nm,1.0s							
GTA	**Gaotai**	**72.38**	**46**	*e*P		**P**	**07 06 28.4**	**+3.9**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GTA				LR		LR		
	comp=N,140nm,15.3s							
GTA				LR		LR		
	comp=E,140nm,17.1s							
GTA				LR		LR		
	comp=Z,87nm,13.5s							
LZH	**Lanzhou**	**74.30**	**51**	*e*P		P	07 06 21.5	-14
LZH				sP		pP	07 06 28.8	-11
LZH				pmax		pmax		
	comp=Z,15nm,1.3s							
LZH				LR		LR		
	comp=N,180nm,16.2s							
LZH				LR		LR		
	comp=E,200nm,18.6s							
QIZ	**Qiongzhong**	**75.52**	**69**	P		P	07 06 48.3	+5.2
QIZ				S		**S**	**07 16 27.6**	**+3.4**
QIZ				LR		LR		
	comp=N,210nm,14.7s							
QIZ				LR		LR		
	comp=E,220nm,15.9s							
QIZ				LR		LR		
	comp=Z,190nm,14.1s							
HHC	**Hu-ho-hao-te**	**81.40**	**48**	*e*P		**P**	**07 07 16.6**	**+1.3**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,100nm,5.5s							
NJ2	**Nanjing**	**85.59**	**58**	*e*P		**P**	**07 07 37.4**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							
QSPA	**South Pole Qui**	**85.75**	**180**	P		**P**	**07 07 38.9**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=247,slow=4.0,SNR=6.7							
	comp=Z,2.4nm,0.9s							
PMSA	**Palmer Station**	**90.73**	**205**	LR		LR	07 45 29.1	
	comp=Z,93nm,18.8s,baz=106,slow=33							
CPUP	**Villa Florida**	**91.76**	**244**	LR		LR	07 47 24.5	
	comp=Z,17nm,18.1s,baz=5.0,slow=34							
VNDA	**Vanda**	**92.98**	**170**	P		**P**	**07 08 13.4**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=247,slow=8.6,SNR=2.1							
	comp=Z,0.3nm,0.4s							
ASAR	**Alice Springs**	**94.83**	**114**	P		**P**	**07 08 20.4**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=264,slow=4.3,SNR=2.1							
	comp=Z,0.6nm,1.0s							
WRA	**Warramunga Arr**	**95.67**	**110**	P		**P**	**07 08 23.9**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=288,slow=3.4,SNR=3.0							
	comp=Z,0.9nm,0.9s							
ILAR	**Eielson Array**	**119.59**	**2**	PKP		**PKPdf**	**07 13 47.3**	**-0.4**
	comp=Z,0.8nm,1.1s,baz=13,slow=1.2,SNR=3.6							
PDAR	**Pinedale Array**	**131.40**	**327**	PKPdf		**PKPdf**	**07 14 11.1**	**-0.1**
PDAR	**Pinedale Array**	**131.40**	**327**	PKP		**PKiKP**	**07 14 12.4**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=6.6,slow=3.3,SNR=4.1							
TXAR	**Lajitas Array**	**135.02**	**308**	PKP		**PKiKP**	**07 14 20.3**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=135,slow=4.6,SNR=1.3							
NVAR	**Mina Array Bea**	**139.13**	**330**	PKP		**PKPdf**	**07 14 24.2**	**-1.6**
	comp=Z,0.8nm,1.0s,baz=79,slow=7.7,SNR=3.5							
PPT2	**Papeete2**	**157.37**	**164**	*e*LR		LR	08 07 44.7	
	comp=Z,122nm,26.5s							
PPT2				*e*LR		LR	08 07 54.9	
	comp=Z,35nm,26.5s							

*ASRS **20** 06:59:25.0±1.2, 54°.15N×86°.45E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 06:59:27.4±3.0, **54°.14N**×**86°.51E**, **h0**km, **mbtmp2.9**/2, **ML2.6**/2, **Error ellipse: s-maj=24.0km s-min=14.0km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**260**	I		I	07 06 00.0	
	baz=78,slow=315,SNR=2.4							
ZALV	**Zalesovo Beam**	**1.01**	**260**	Pg		Pg	06 59 45.9	-0.9
	1.0nm,0.3s,baz=74,slow=17,SNR=15							
ZALV				Lg		Lg	07 00 01.3	

comp=Z,1.7nm,0.9s,baz=201,slow=7.4,SNR=2.3
comp=Z,1.7nm,0.9s

MK31 Makanchi Array 53.45 325 P **P** **07 22 21.9 -0.7**
MK31 IAmb IAmb 07 22 26.1
comp=Z,2.3nm,0.8s

MKAR Makanchi Array 53.45 325 P **P** **07 22 22.2 -0.5**
MKAR Makanchi Array 53.45 325 P **P** **07 22 21.7 -0.9**
comp=Z,2.6nm,0.8s,baz=126,slow=7.2,SNR=20
comp=Z,2.6nm,0.8s

ZAA0 Zalesovo Array 56.45 333 P **P** **07 22 42.2 -2.0**
ZALV Zalesovo Beam 56.45 333 P **P** **07 22 43.4 -0.8**
ZALV Zalesovo Beam 56.45 333 P **P** **07 22 43.5 -0.6**
comp=Z,0.7nm,0.3s,baz=116,slow=6.6,SNR=4.5
comp=Z,0.7nm,0.3s

ARSB Arslanbob 56.89 315 P **P** **07 22 48.1 +0.3**
KURBB Kurchatov Array 57.62 327 P **P** **07 22 51.1 -1.4**
comp=Z,2.8nm,0.8s,baz=130,slow=5.9,SNR=12
comp=Z,2.8nm,0.8s

KURK Kurchatov 57.62 327 P **P** **07 22 53.5 +1.0**
KURK IAmb IAmb 07 22 55.3
comp=Z,5.6nm,0.9s

GAR Garm 58.03 312 **P** **07 22 55.7 -0.1**
KK31 Karatay Array 59.24 316 P **P** **07 23 05.2 +1.2**
KK31 IAmb IAmb 07 23 25.0
comp=Z,5.2nm,1.3s

KKAR Karatay Array 59.24 316 P **P** **07 23 04.7 +0.7**
BVAR Borovoye Array 63.20 327 P **P** **07 23 29.3 -1.4**
comp=Z,2.3nm,0.8s,baz=124,slow=7.7,SNR=9.0
comp=Z,2.3nm,0.8s

BRVK Borovoye 63.27 327 P **P** **07 23 32.5 +1.4**
BRVK IAmb IAmb 07 23 33.2
comp=Z,3.7nm,0.8s

AB31 Akbulak array 68.09 320 P **P** **07 24 03.5 +1.2**
AB31 IAmb IAmb 07 24 09.3
comp=Z,2.0nm,1.0s

ABKAR Akbulak array 68.09 320 P **P** **07 24 03.4 +1.1**
E19K Redstone River 78.59 23 P **P** **07 25 04.1 +0.3**
E19K IAmb IAmb 07 25 07.0
comp=Z,6.7nm,1.2s

MLY Manley 81.00 25 P **P** **07 25 18.2 +1.2**
MLY IAmb IAmb 07 25 22.6
comp=Z,2.8nm,0.9s

ILAR Eielson Array 82.64 26 P **P** **07 25 25.6 0.0**
comp=Z,0.4nm,0.7s,baz=264,slow=4.9,SNR=8.4
comp=Z,0.4nm,0.7s

BMAR Burnt Mountain 83.46 23 P **P** **07 25 32.0 +2.1**
BCAR Beaver Creek A 85.01 27 P **P** **07 25 39.7 +1.8**
ARCES ARCESS Array B 86.35 340 LR LR 08 07 46.6
comp=Z,40nm,18.6s,baz=98,slow=38
SPITS Spitsbergen Ar 86.52 349 LR LR 08 09 29.6
comp=Z,38nm,18.6s,baz=78,slow=39
INK Inuvik 87.47 21 LR LR 08 08 11.1
comp=Z,17nm,19.9s,baz=48,slow=38
FINES FINESS Array B 87.69 332 LR LR 08 07 21.3
comp=Z,59nm,19.9s,baz=52,slow=37
HFS Hagfors 93.88 332 LR LR 08 10 24.0
comp=Z,44nm,20.7s,baz=78,slow=37

GCG ***20*** *07:28:01.8±1.3, 15.°84N×93.°95W, h36km±999km, MD4.2, ML3.2*
MEX ***20*** *07:28:04.0±1.1, 15.°98N×93.°77W, h93km±18km, MD4.1*
ISC 20 07:28:01.6±1.4, 15.°89N±0.°05×93.°89W±0.°03, h85km±16km, n17, σ1°85/32, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.67**	**106**	*e*P	**Pn**	**07 28 17.9**	**+0.7**
PCIG				*e*S	**Sn**	**07 28 30.2**	**+1.2**
TGIG		**1.15**	**40**	*e*P	**Pn**	**07 28 23.4**	**+0.7**
TGIG				*e*S	**Sn**	**07 28 37.1**	**-1.4**
TGIG		**1.15**	**40**	*i*P	**Pn**	**07 28 23.1**	**+0.4**
TGIG				*i*S	**Sn**	**07 28 38.7**	**+0.1**
TGIG				IAML		07 28 39.3	
	comp=E,305nm,0.2s						
CCIG	**Comitan**	**1.73**	**77**	*e*P	**Pn**	**07 28 30.5**	**+0.3**
CCIG				*i*S	**Sn**	**07 28 49.5**	**-2.4**
CCIG	**Comitan**	**1.73**	**77**	*i*P	**Pn**	**07 28 30.8**	**+0.6**
CCIG				IAML		07 28 57.5	
	comp=N,274nm,0.4s						
THIG		**1.84**	**122**	*e*P	**Pn**	**07 28 32.1**	**+0.6**
THIG				*i*S	**Sn**	**07 28 54.5**	**+0.2**
THIG		**1.84**	**122**	*i*P	**Pn**	**07 28 32.1**	**+0.6**
THIG				*i*S	**Sn**	**07 28 54.5**	**+0.2**
THIG				IAML		07 28 56.4	
	comp=E,573nm,0.4s						
SMCA	**Catarina**	**2.03**	**120**	*i*P	**Pn**	**07 28 34.2**	**+0.2**
SMCA				IAML		07 29 00.5	
	comp=E,76nm,0.1s						
HUIG	**Huatulco**	**2.14**	**267**	*e*P	**Pn**	**07 28 34.9**	**-0.6**
HUIG				*e*S	**Sn**	**07 28 59.4**	**-2.0**
HUIG	**Huatulco**	**2.14**	**267**	*i*P	**Pn**	**07 28 34.5**	**-1.0**
HUIG				*i*S	**Sn**	**07 28 59.2**	**-2.2**
HUIG				IAML		07 29 01.4	
	comp=E,152nm,0.2s						
NEUV	**Arroyo Zacate**	**2.58**	**315**	*e*P	**Pn**	**07 28 42.6**	**+1.3**
NEUV				*e*S	**Sn**	**07 29 07.6**	**-4.2**
VHO	**Vista Hermosa**	**2.98**	**294**	*e*P	**Pn**	**07 28 50.8**	**+3.9**
VHO				*i*S	**Sn**	**07 29 18.7**	**-3.0**
PEIG	**Puerto Escondi**	**3.14**	**272**	*i*P	**Pn**	**07 28 48.5**	**-0.4**
PEIG				*e*S	**Sn**	**07 29 23.7**	**-1.7**
YOIG	**Yosondua**	**3.64**	**286**	*e*P	**Pn**	**07 28 58.5**	**+2.5**
YOIG				*i*S	**Sn**	**07 29 38.1**	**+0.1**
TOIG	**Toxpalan**	**3.75**	**306**	*e*P	**Pn**	**07 29 00.4**	**+3.1**
TOIG				*i*S	**Sn**	**07 29 41.1**	**+0.7**
TXIG	**Tlaxiaco**	**3.96**	**291**	*e*P	**Pn**	**07 29 03.0**	**+2.7**
TXIG				*i*S	**Sn**	**07 29 45.6**	**-0.2**
SCIG	**Sabancuy**	**4.00**	**40**	*i*P	**Pn**	**07 29 00.5**	**0.0**
SCIG				*i*S	**Sn**	**07 29 44.4**	**-1.9**

AEIC ***20*** *07:36:53.4±0.8, 52.°9N±0.°2×169.°6W±0.°2, h153km±3km, Error ellipse: s-maj=38.9km s-min=8.1km az=154.0*
NEIC 20 07:36:53.4±0.7, 53.°2N±0.°2×169.°8W±0.°2, h145km±12km, ML2.7/12, ML2.5(AEIC), Error ellipse: s-maj=37.2km s-min=8.4km az=157.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLES	**Cleveland East**	**0.42**	**190**	Pn	Pn	07 37 13.7	-0.2
CLES				IAML		07 37 24.6	
	comp=E,143nm,1.7s						
CLES				Sn	Sn	07 37 29.5	+0.2
CLCO	**Concord Point,**	**0.45**	**176**		Pn	07 37 14.1	+0.1
NIKH	**Nikolski High**	**0.62**	**115**		Pn	07 37 14.2	-0.7
NIKH					Sn	07 37 30.2	-0.9
NIKH				IAML		07 37 30.8	
	comp=N,83nm,0.9s						
OKSP	**Okmok Steeple**	**0.90**	**88**		Pn	07 37 16.7	-0.2
OKRE	**Okmok R'deer P**	**1.01**	**73**		Pn	07 37 17.6	-0.3
MAPS	**Pakushin South**	**1.79**	**70**		Pn	07 37 25.8	0.0
MAPS					Sn	07 37 50.5	-0.1
MGOD	**Makushin Gods**	**1.82**	**71**		Pn	07 37 26.2	0.0
MGOD					Sn	07 37 52.4	+1.0
MREP	**Makushin Rep't**	**1.90**	**71**		Pn	07 37 27.5	+0.4
MTBL	**Makushin Table**	**1.99**	**67**		Pn	07 37 28.4	+0.2
UNV	**Unalaska Valle**	**2.05**	**71**		Pn	07 37 28.9	+0.1
UNV	**Unalaska Valle**	**2.05**	**71**		Sn	07 37 56.4	+0.5
AKMO	**Akutan Morgan**	**2.40**	**68**		Pn	07 37 32.9	-0.1
LVA	**Lava Point**	**2.41**	**66**	Pn	Pn	07 37 33.5	+0.3
LVA				IAML		07 38 21.3	
	comp=E,35nm,1.5s						
ZRO	**Akutan Zero**	**2.42**	**68**		Pn	07 37 33.4	+0.1
ZRO					Sn	07 38 05.8	+1.8
AHB	**Akutan Harbor**	**2.52**	**68**		Pn	07 37 34.8	+0.3
AKUT	**Akutan**	**2.55**	**68**	Pn	Pn	07 37 35.1	+0.3
AKUT				IAML		07 38 02.5	
	comp=E,17nm,3.1s						
AKUT				IAML		07 38 23.3	
	comp=N,23nm,3.1s						
ATKA	**Atka Island**	**2.88**	**251**		Pn	07 37 38.9	-0.1
ATKA				IAML		07 39 43.4	
	comp=N,37nm,2.8s						
WEBT	**Westdahl Beart**	**3.27**	**63**		Pn	07 37 44.4	+0.4
GSIG	**Igitkin Island**	**3.95**	**254**		Pn	07 37 52.4	-0.4
DT1	**Dutton Round H**	**4.79**	**64**		Pn	07 38 03.9	+0.1
DT1					Sn	07 38 56.8	-1.9
DOL	**Dolgoi Island**	**5.03**	**64**		Sn	07 39 03.0	-1.4
SDPT	**Sand Point**	**5.84**	**65**	Pn	Pn	07 38 17.4	-0.4
CNBA	**Chernabura Isl**	**6.21**	**71**		Pn	07 38 21.5	-1.3
CHGN	**Chignik**	**7.25**	**60**	Pn	Pn	07 38 35.5	-1.2
PLK4	**Peulik 4**	**8.80**	**55**	Pn	Pn	07 38 57.6	+0.1
I17K	**Unalakleet**	**11.67**	**20**	Pn	Pn	07 39 33.6	-1.6

BJI ***20*** *08:20:18.0,27.°84N×130.°34E, h10km, mB5.0/38, mb4.7/74, Ms4.8/82, Ms7 4.8/78*
IDC ***20*** *08:20:20.8±0.5, 28.°11N×130.°01E, h0km, mb4.6/27, mbtmp4.7/33, ML4.5/7, MS4.4/71, Error ellipse: s-maj=13.0km s-min=11.5km az=99.0*
NEIC ***20*** *08:20:23.0±1.3, 27.°92N±0.°04×130.°03E±0.°07, h10km±1km, mb5.2/226, Error ellipse: s-maj=11.4km s-min=4.1km az=66.0*
MOS ***20*** *08:20:22.0±1.3, 28.°01N×130.°06E, h16km, mb5.2/42, MS5.0/11, Error ellipse: s-maj=7.9km s-min=4.5km az=107.6*
NIED ***20*** *08:20:24.2, 28.°0N±0.°8×130.°2E±0.°7, h46km±1km, MD4.9/25, MV4.9/25, NEAR AMAMI-OSHIMA ISLAND*
JMA ***20*** *08:20:24.2±0.1, 28.°0N±0.°8×130.°2E±0.°7, h46km±1km, MD4.9/25, MV4.9/25, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt III J1 at NEAR AMAMI-OSHIMA ISLAND.
GCMT ***20*** *08:20:25.0±0.2, 28.°08N±0.°01×130.°13E±0.°01, h19km±1km, MW5.0/114, Moment Tensor Solution. s45,c59; s114,c166; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.09±.14; Mθθ-2.10±.10; Mϕϕ4.20±.12; Mrθ0.85±.24; Mθϕ-0.31±.09; Mϕr3.12±.32; Best double couple: M=4.66500×10¹⁶ NP1:ϕs322.00000°, δ32.00000°, λ-144.00000°. NP2:ϕs200.00000°, δ72.00000°, λ-64.00000°. Principal axes: T 5.4850, Plg22.0000°, Azm270.0000°; N -1.6310, Plg25.0000°, Azm11.0000°; P -3.8440, Plg55.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***20*** *08:20:28.6, 28.°70N×130.°90E, h33km, mb5.1, Ms4.9*
ISC 20 08:20:24.9±0.5, 28.°00N±0.°03×130.°16E±0.°03, h26km±2km, h25km:pP-P, n856, σ1°51/755, mb5.1/221, MS4.5/94, 32C-26D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.35**	**333**	P	**Pb**	**08 20 33.4**	**+0.6**
JZK				S	**Sb**	**08 20 40.4**	**+2.1**
JZK	**Kikaishima**	**0.35**	**333**	A	A	08 20 33.4	
	comp=N,906nm,1.4s,comp=E,958nm,0.7s						
JAM	**Amami Oshima**	**0.64**	**310**	P	**Pb**	**08 20 37.3**	**-0.2**
JAM				S	**Sb**	**08 20 46.2**	**+0.2**
JAM	**Amami Oshima**	**0.64**	**310**	A	A	08 20 37.3	
	comp=N,160nm,3.6s,comp=E,369nm,1.8s						
JTK	**Tokunoshima**	**1.09**	**259**	P	**Pn**	**08 20 44.5**	**0.0**
JTK				S	**Sn**	**08 20 58.7**	**-0.1**
JTK	**Tokunoshima**	**1.09**	**259**	A	A	08 20 44.5	
	comp=N,47nm,2.7s,comp=E,29nm,1.4s						
JTAJ	**Takarajima**	**1.42**	**324**	P	**Pn**	**08 20 48.1**	**-1.0**
JTAJ				*e*S	**Sn**	**08 21 05.5**	**-1.6**
JTAJ	**Takarajima**	**1.42**	**324**	A	A	08 20 48.1	
	comp=N,39nm,2.4s,comp=E,67nm,2.2s						
JOKE	**Okinoerabujima**	**1.54**	**246**	P	**Pn**	**08 20 50.9**	**0.0**
JOKE	**Okinoerabujima**	**1.54**	**246**	A	A	08 20 50.9	
	comp=N,23nm,3.7s,comp=E,19nm,4.7s						
JYRO	**Yoronjima**	**1.80**	**238**	*i*P	**Pn**	**08 20 54.5**	**+0.2**
JYRO	**Yoronjima**	**1.80**	**238**	A	A	08 20 54.5	
	comp=N,21nm,3.0s,comp=E,14nm,3.2s						
JNN	**Nakanoshima**	**1.85**	**352**	P	**Pn**	**08 20 54.2**	**-0.9**
JNN	**Nakanoshima**	**1.85**	**352**	A	A	08 20 54.2	
	comp=N,29nm,1.1s,comp=E,34nm,2.2s						
JOW	**Kunigami**	**2.04**	**236**	Pn	**Pn**	**08 20 57.7**	**+0.1**
	comp=E,792nm,0.3s,baz=96,slow=18,SNR=606						
JOW				Sn	**Sn**	**08 21 23.3**	**+1.1**
	comp=E,582nm,0.3s,baz=160,slow=28,SNR=10						
	comp=E,1μm,0.3s						
JOW	**Kunigami**	**2.04**	**236**	P	**Pn**	**08 20 57.4**	**-0.2**
JOW	**Kunigami**	**2.04**	**236**	P	**Pn**	**08 20 57.4**	**-0.2**
JOW	**Kunigami**	**2.04**	**236**	A	A	08 20 57.4	
	comp=N,18nm,6.3s,comp=E,15nm,3.5s						
JIH	**Iheya**	**2.17**	**244**	P	**Pn**	**08 20 59.3**	**-0.1**
JIH	**Iheya**	**2.17**	**244**	A	A	08 20 59.3	
	comp=N,15nm,2.0s,comp=E,15nm,1.9s						
JYAK	**Yakushimahirau**	**2.25**	**8**	P	**Pn**	**08 20 59.8**	**-0.8**
JYAK				S	**Sn**	**08 21 26.3**	**-1.3**
JYAK	**Yakushimahirau**	**2.25**	**8**	A	A	08 20 59.8	
	comp=N,9.0nm,8.4s,comp=E,11nm,2.0s						
JKDJ	**Kitadaitoujima**	**2.28**	**153**	P	**Pn**	**08 21 00.4**	**-0.5**
JKDJ				S	**Sn**	**08 21 27.1**	**-1.1**
JKDJ	**Kitadaitoujima**	**2.28**	**153**	A	A	08 21 00.4	
	comp=N,18nm,1.5s,comp=E,22nm,2.2s						
JMZ	**Minamidaito 2**	**2.37**	**156**		**Pn**	**08 21 01.3**	**-0.9**
JMZ	**Minamidaito 2**	**2.37**	**156**	P	**Pn**	**08 21 03.5**	**+1.3**
JMZ	**Minamidaito 2**	**2.37**	**156**	P	**Pn**	**08 21 02.0**	**-0.2**
JMZ				S	**Sn**	**08 21 29.1**	**-1.3**
JMZ	**Minamidaito 2**	**2.37**	**156**	A	A	08 21 02.0	
	comp=N,16nm,2.9s,comp=E,23nm,3.6s						
JNTH	**Nagotoyohara**	**2.40**	**233**	P	**Pn**	**08 21 02.6**	**-0.1**
JNTH	**Nagotoyohara**	**2.40**	**233**	A	A	08 21 02.6	
	comp=N,11nm,4.6s,comp=E,12nm,5.6s						
JKC	**Kuchinoerabu**	**2.46**	**1**	P	**Pn**	**08 21 02.7**	**-0.7**
JKC	**Kuchinoerabu**	**2.46**	**1**	A	A	08 21 02.7	
	comp=N,7.0nm,5.9s,comp=E,12nm,4.7s						
JMTN	**Minamitane**	**2.48**	**15**	P	**Pn**	**08 21 02.8**	**-0.9**
JMTN				S	**Sn**	**08 21 31.7**	**-1.4**
JMTN	**Minamitane**	**2.48**	**15**	A	A	08 21 02.8	
	comp=N,10.0nm,2.6s,comp=E,22nm,2.4s						
JTN	**Tanegashima 3**	**2.74**	**15**	P	**Pn**	**08 21 06.5**	**-0.9**
JTN				S	**Sn**	**08 21 37.9**	**-1.8**
JTN	**Tanegashima 3**	**2.74**	**15**	A	A	08 21 06.5	
	comp=N,10.0nm,2.8s,comp=E,14nm,4.2s						
JJT3	**Tamagusuku3**	**2.81**	**229**	P	**Pn**	**08 21 08.2**	**0.0**
JJT3	**Tamagusuku3**	**2.81**	**229**	A	A	08 21 08.2	
	comp=N,41nm,7.3s,comp=E,32nm,3.6s						
JAGN	**Aguni-jima**	**2.95**	**242**	P	**Pn**	**08 21 09.8**	**-0.3**
JAGN	**Aguni-jima**	**2.95**	**242**	A	A	08 21 09.8	
	comp=N,17nm,2.4s,comp=E,11nm,4.7s						
JTSR	**Tashiro 2**	**3.23**	**12**	A	A	08 21 13.4	
	comp=N,6.0nm,5.3s,comp=E,7.0nm,7.2s						
JKE	**Kume jima 2**	**3.43**	**242**	P	**Pn**	**08 21 16.1**	**-0.7**
JKE	**Kume jima 2**	**3.43**	**242**	A	A	08 21 16.1	
	comp=N,4.0nm,4.2s,comp=E,5.0nm,5.7s						
JNAR	**Kushima--Naru**	**3.65**	**15**	A	A	08 21 19.3	
	comp=N,7.0nm,5.3s,comp=E,6.0nm,4.4s						
JNKG	**Nichinankitago**	**3.80**	**16**	A	A	08 21 21.4	
	comp=N,6.0nm,6.5s,comp=E,6.0nm,3.1s						
JNU	**Nakatsue**	**5.14**	**7**	Pn	**Pn**	**08 21 41.2**	**+0.8**
JNU	**Nakatsue**	**5.14**	**7**	Pn	**Pn**	**08 21 39.9**	**-0.5**
	comp=E,20nm,0.3s,baz=250,slow=2.2,SNR=162						
JNU				Sn	**Sn**	**08 22 36.6**	**-2.3**
	comp=E,19nm,0.3s,baz=206,slow=17,SNR=3.9						
	comp=E,218nm,0.6s						
JTU	**Tsushima**	**6.54**	**354**	P	**Pn**	**08 22 01.5**	**+2.0**
JMN	**Monobe**	**6.55**	**28**		**Pn**	**08 21 58.8**	**-0.8**
JMN	**Monobe**	**6.55**	**28**	P	**Pn**	**08 21 59.7**	**+0.1**
YOJ	**Yonaguni jima**	**7.32**	**243**		**Pn**	**08 22 07.8**	**-2.4**
YOJ	**Yonaguni jima**	**7.32**	**243**	P	**Pn**	**08 22 07.8**	**-2.4**
TATO	**Taipei**	**8.33**	**251**	Pn	**Pn**	**08 22 21.2**	**-2.9**
SSE	**Sheshan**	**8.40**	**294**	P	**Pn**	**08 22 22.6**	**-2.4**
SSE				S	**Sn**	**08 23 55.9**	**-3.1**
SSE				pmax	pmax		
	comp=E,45nm,1.3s						
SSE				pmax	pmax		
	comp=E,360nm,7.3s						
SSE				LR	LR		
	comp=E,1μm,15.4s						
SSE				LR	LR		
	comp=E,2μm,15.5s						
YHNB	**Yeheng**	**8.54**	**249**		**Pn**	**08 22 26.4**	**-0.7**
YHNB	**Yeheng**	**8.54**	**249**	P	**Pn**	**08 22 27.5**	**+0.4**
NACB	**Ninganchiao**	**8.59**	**246**		**Pn**	**08 22 25.1**	**-2.6**
NACB	**Ninganchiao**	**8.59**	**246**	P	**Pn**	**08 22 24.6**	**-3.0**
TJN	**Taejon**	**8.68**	**345**	Pn	**Pn**	**08 22 30.1**	**+1.2**
TJN	**Taejon**	**8.68**	**345**	P	**Pn**	**08 22 30.1**	**+1.2**
YULB	**Yu-li**	**9.21**	**242**	Pn	Pn	08 22 31.6	-4.7
YULB	**Yu-li**	**9.21**	**242**	P	Pn	08 22 31.6	-4.6
SSLB	**Suanglung**	**9.29**	**245**		**Pn**	**08 22 34.0**	**-3.2**
SSLB	**Suanglung**	**9.29**	**245**	P	**Pn**	**08 22 34.6**	**-2.7**
INU	**Inuyama**	**9.37**	**37**		**Pn**	**08 22 38.4**	**0.0**
INU	**Inuyama**	**9.37**	**37**	P	**Pn**	**08 22 41.1**	**+2.8**
JSG	**Sagara**	**9.56**	**44**	Pn	**Pn**	**08 22 41.5**	**+0.6**
KSAR	**Wonju Array Be**	**9.61**	**349**		**Pn**	**08 22 43.0**	**+1.4**
KSAR	**Wonju Array Be**	**9.61**	**349**	P	**Pn**	**08 22 43.0**	**+1.4**
KSRS	**Korea Array**	**9.61**	**349**	Pn	**Pn**	**08 22 42.9**	**+1.2**
	comp=E,0.7nm,0.3s,baz=170,slow=13,SNR=27						
TWG	**Pinlang**	**9.69**	**240**	Pn	Pn	08 22 37.6	-5.3

JHJ Hachijo jima 2 9.74 56 Pn **Pn** **08 22 44.9 +1.4**
comp=E,49nm,0.3s,baz=233,slow=20,SNR=8.1
JHJ Sn **Sn** **08 24 33.3 +1.3**
baz=110,slow=21
comp=E,92nm,0.3s

JGF Kuroka 9.74 37 **Pn** **08 22 44.2 +0.7**
JGF Kuroka 9.74 37 P **Pn** **08 22 45.1 +1.6**
JHJ2 Mitsune 9.76 56 **Pn** **08 22 45.1 +1.4**
JHJ2 Mitsune 9.76 56 P **Pn** **08 22 45.3 +1.6**
TPUB Ta-pu 9.78 244 Pn **Pn** **08 22 40.9 -3.2**
TPUB Ta-pu 9.78 244 P **Pn** **08 22 42.8 -1.3**
NJ2 Nanjing 10.59 295 ⇑P **Pn** **08 22 56.6 +1.5**
NJ2 sP 08 23 02.6
NJ2 S **Sn** **08 24 57.9 +5.0**
NJ2 pmax pmax
comp=E,44nm,2.0s
NJ2 pmax pmax
comp=E,400nm,6.2s
NJ2 LR LR
comp=E,4μm,13.7s
NJ2 LR LR
comp=E,3μm,12.3s
NJ2 LR LR
comp=E,5μm,14.2s
JCJ Chichijima 10.71 92 **Pn** **08 22 56.9 +0.2**
JCJ Chichijima 10.71 92 Pn **Pn** **08 22 57.0 +0.2**
comp=E,32nm,0.3s,baz=26,slow=22,SNR=35
JCJ Sn **Sn** **08 24 53.4 -2.5**
comp=E,3.6nm,0.3s,baz=288,slow=23,SNR=1.8
JCJ LR LR 08 26 35.8
comp=E,3μm,18.3s,baz=288,slow=35
comp=E,85nm,0.4s
JCJ Chichijima 10.71 92 P **Pn** **08 22 57.7 +0.9**
QZH Quanzhou 10.80 256 P **Pn** **08 22 57.0 -0.9**
QZH S **Sn** **08 24 59.6 +1.6**
QZH LR LR
comp=E,3μm,13.1s
QZH LR LR
comp=E,4μm,13.9s
QZH LR LR
comp=E,5μm,14.4s
MAJO Matsushiro 10.90 37 **Pn** **08 23 00.9 +1.6**
MAJO Matsushiro 10.90 37 P **Pn** **08 23 01.2 +1.8**
MAJO Matsushiro 10.90 37 P **Pn** **08 23 00.9 +1.6**
MJAR Matsushiro Arr 10.90 37 **Pn** **08 23 00.3 +0.9**
MJAR Matsushiro Arr 10.90 37 Pn **Pn** **08 22 59.9 +0.6**
comp=E,0.4nm,0.3s,baz=218,slow=7.5,SNR=22
comp=E,4.5nm,0.5s
MJAR Matsushiro Arr 10.90 37 P **Pn** **08 23 00.3 +0.9**
MJB9 Matsu-Tunnel 10.90 37 **Pn** **08 23 01.9 +2.5**
DL2 Dalian 12.99 329 P **Pn** **08 23 27.3 -0.6**
DL2 S **Sn** **08 25 52.4 +0.8**
DL2 pmax pmax
comp=E,45nm,1.0s
DL2 pmax pmax
comp=E,910nm,5.0s
DL2 LR LR
comp=E,4μm,14.2s
DL2 LR LR
comp=E,3μm,15.2s
DL2 LR LR
comp=E,5μm,14.7s
JMM Marumori 13.28 39 Pn **Pn** **08 23 32.4 +0.6**
JMM Marumori 13.28 39 P **Pn** **08 23 34.0 +2.2**
TIA Tai'an 13.74 310 P **Pn** **08 23 39.6 +1.5**
TIA S Sn 08 26 19.5 +10
TIA pmax pmax
comp=E,11nm,1.2s
TIA LR LR
comp=E,3μm,16.7s
TIA LR LR
comp=E,3μm,18.8s
TIA LR LR
comp=E,5μm,17.0s
WHN Wuhan 14.03 284 P **Pn** **08 23 41.0 -1.1**
WHN pP **P** **08 23 49.8 +0.1**
WHN S Sn 08 26 27.3 +10
WHN LR LR
comp=E,3μm,14.2s
WHN LR LR
comp=E,10μm,12.6s
WHN LR LR
comp=E,14μm,14.8s
CNSH ChangSha 15.21 275 P **Pn** **08 23 51.4 -6.6**
CNSH S **Sn** **08 26 39.6 -6.1**
CNSH LR LR
comp=N,1μm,15.1s
CNSH LR LR
comp=E,2μm,18.8s
CNSH LR LR
comp=E,2μm,18.0s
HNS HongShan 16.01 310 ⇑P **Pn** **08 24 08.4 0.0**
HNS S **Sn** **08 27 07.5 +2.3**
HNS pmax pmax
comp=Z,29nm,1.3s
HNS LR LR
comp=E,2μm,17.3s
HNS LR LR
comp=E,3μm,17.5s
HNS LR LR
comp=E,4μm,18.4s
CN2 Changchun 16.22 348 P **Pn** **08 24 12.8 +1.8**
CN2 PP **sP** **08 24 26.0 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=E,2μm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
CN2 LR LR
comp=Z,2μm,18.0s
USA0B Ussuriysk Arra 16.23 5⇑*e*P **Pn** **08 24 12.8 +1.6**
USRK Ussuriysk Ar. 16.23 5 P **P** **08 24 14.4 +0.4**
USRK Ussuriysk Ar. 16.23 5 Pn **Pn** **08 24 10.1 -1.1**
comp=Z,0.4nm,0.3s,baz=152,slow=8.6,SNR=7.2
USRK LR LR 08 30 17.9
comp=Z,948nm,21.7s,baz=179,slow=37
USRK Ussuriysk Ar. 16.23 5 P **P** **08 24 14.5 +0.4**
LYN LuoYang 16.46 298 P **Pn** **08 24 13.8 -0.4**
LYN S **S** **08 27 22.8 -4.9**
LYN pmax pmax
comp=Z,49nm,1.5s
LYN pmax pmax
comp=Z,670nm,3.9s
LYN LR LR
comp=Z,3μm,13.1s
LYN LR LR
comp=Z,3μm,16.1s
LYN LR LR
comp=Z,5μm,13.7s
BJT Baijiatuan 16.66 320 Pn **Pn** **08 24 16.4 -0.2**
BJT Baijiatuan 16.66 320 P **Pn** **08 24 16.4 -0.2**
BJT pmax pmax
comp=Z,62nm,1.5s
BJI Beijing 16.66 320 P **Pn** **08 24 16.8 +0.1**
BJI pP **P** **08 24 21.8 +2.9**
BJI sP **pP** **08 24 23.3 -2.3**
BJI S **S** **08 27 31.5 -0.2**
BJI pmax pmax
comp=Z,8.0nm,1.8s
BJI pmax pmax
comp=Z,150nm,3.6s
BJI LR LR
comp=Z,770nm,17.7s
BJI LR LR
comp=Z,560nm,18.5s
BJI LR LR
comp=Z,1μm,15.7s
ERM Erimo 17.55 34 P **P** **08 24 28.9 +0.3**
ERM Erimo 17.55 34⇓*e*P **Pn** **08 24 27.0 -0.7**
ERM pmax pmax
comp=Z,64nm,1.9s
TIY Taiyuan 17.74 308 P **P** **08 24 32.8 +1.9**
TIY S **Sn** **08 27 48.5 +1.3**
TIY pmax pmax
comp=Z,42nm,0.5s
TIY pmax pmax
comp=Z,460nm,4.4s
TIY LR LR
comp=Z,1μm,17.0s
TIY LR LR
comp=Z,3μm,16.4s
TIY LR LR
comp=Z,4μm,16.7s
TEY Ternei 17.77 15⇑*e*P P 08 24 42.0 +11
TEY pmax pmax

comp=N,10.0nm,1.6s
TEY pmax pmax
comp=Z,20nm,1.6s
BNX BinXian 17.84 354 ⇓P **Pn** **08 24 31.3 0.0**
BNX sP **P** **08 24 36.1 +4.2**
BNX S **Sn** **08 27 50.9 +1.5**
BNX sS **S** **08 28 02.3 +6.6**
BNX PcS **PcS** **08 32 44.0 +0.5**
BNX pmax pmax
comp=Z,7.0nm,1.6s
BNX pmax pmax
comp=Z,48nm,3.9s
BNX LR LR
comp=Z,280nm,11.9s
BNX LR LR
comp=Z,190nm,9.8s
BNX LR LR
comp=Z,290nm,14.0s
ASAJ Asahikawa 18.93 29 P **P** **08 24 42.3 -1.6**
comp=Z,1.3nm,0.3s,baz=138,slow=3.7,SNR=8.4
comp=Z,7.4nm,0.7s
XAN Xi'an 19.16 294 ⇑P **P** **08 24 45.8 -0.7**
XAN S **Sn** **08 28 21.8 +0.3**
XAN SS **SnSn** **08 28 43.8 +8.2**
XAN pmax pmax
comp=Z,170nm,0.6s
XAN pmax pmax
comp=Z,480nm,3.6s
XAN LR LR
comp=Z,2µm,14.4s
XAN LR LR
comp=Z,2µm,13.6s
XAN LR LR
comp=Z,2µm,16.5s
XLT XiLinHaoTe 19.49 328 *e*P **P** **08 24 49.4 -0.7**
XLT sP pP 08 24 57.4 +0.6
XLT PP **sP** **08 25 04.9 +4.9**
XLT S **S** **08 28 29.1 +0.2**
XLT SS Sn 08 28 49.3 +20
XLT pmax pmax
comp=Z,13nm,1.0s
XLT LR LR
comp=Z,2µm,15.4s
XLT LR LR
comp=Z,3µm,15.4s
GUMO Guam 19.84 133 P **P** **08 24 54.3 +0.3**
GUMO Guam 19.84 133 P **Pn** **08 24 56.4 +0.7**
comp=Z,162nm,1.0s,baz=208,slow=6.6,SNR=6.7
GUMO LR LR 08 31 29.5
comp=Z,1µm,18.8s,baz=332,slow=33
comp=Z,162nm,1.0s
HHC Hu-ho-hao-te 19.94 315 *e*P **P** **08 24 54.1 -0.9**
HHC pP Pn 08 24 58.1 +1.3
HHC S **S** **08 28 35.0 -3.2**
HHC SS Sn 08 29 00.3 +20
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,150nm,4.6s
HHC LR LR
comp=Z,1µm,18.0s
HHC LR LR
comp=Z,1µm,16.8s
HHC LR LR
comp=Z,2µm,16.8s
QIZ Qiongzhong 20.63 249 P **P** **08 25 04.0 +1.4**
QIZ S Sn 08 28 57.0 -0.2
QIZ pmax pmax
comp=Z,42nm,1.9s
QIZ LR LR
comp=Z,2µm,20.0s
QIZ LR LR
comp=Z,1µm,18.1s
QIZ LR LR
comp=Z,2µm,19.8s
BTO Baotou 20.79 312 *e*P Pn 08 25 07.0 +0.2
BTO pP pP 08 25 10.9 -0.2
BTO sP sP 08 25 13.6 -0.7
BTO PP **PnPn** **08 25 27.6 +4.7**
BTO S Sn 08 29 02.4 +1.5
BTO SS **SnSn** **08 29 24.0 +8.2**
BTO pmax pmax
comp=Z,310nm,3.8s
BTO LR LR
comp=Z,3µm,16.1s
BTO LR LR
comp=Z,3µm,13.1s
BTO LR LR
comp=Z,4µm,17.1s
GYA Guiyang 20.94 271 ⇓P **P** **08 25 06.4 +0.3**
GYA pP Pn 08 25 09.8 +1.1
GYA S **S** **08 28 56.0 -2.4**
GYA pmax pmax
comp=Z,61nm,0.9s
GYA LR LR
comp=Z,2µm,17.1s
GYA LR LR
comp=Z,3µm,16.3s
GYA LR LR
comp=Z,3µm,21.1s
DAV Davao City (W) 21.26 193 LR LR 08 33 08.5
comp=Z,905nm,21.7s,baz=11,slow=36
YSS Yuzhno-Sakhali 21.35 24 **P** **08 25 10.8 +0.7**
YSS Yuzhno-Sakhali 21.35 24 *e*P **P** **08 25 13.4 +3.3**
YSS *e*S **S** **08 29 09.1 +3.2**
YSS pmax pmax
comp=Z,600nm,3.6s
YSS pmax pmax
comp=N,400nm,3.4s
YSS pmax pmax
comp=E,300nm,3.2s
YSS pmax pmax
comp=Z,130nm,1.1s
YSS smax smax
comp=N,300nm,4.4s
YSS smax smax
comp=E,200nm,4.5s
HEH HeiHe 22.32 355 *e*P **P** **08 25 17.8 -2.7**
HEH pP **pP** **08 25 26.8 -0.4**
HEH S **S** **08 29 24.0 -0.5**
HEH pmax pmax
comp=E,6.0nm,0.9s
HEH LR LR
comp=E,970nm,14.0s
HEH LR LR
comp=E,680nm,13.8s
HEH LR LR
comp=E,1µm,12.9s
CD2 Chengdu 23.15 284 P **P** **08 25 26.4 -3.1**
CD2 pP pP 08 25 31.5 -4.9
CD2 S **S** **08 29 37.0 -2.6**
CD2 sS pS 08 29 44.3 -3.0
CD2 pmax pmax
comp=E,130nm,0.7s
CD2 LR LR
comp=E,2µm,11.3s
CD2 LR LR
comp=E,6µm,13.9s
CD2 LR LR
comp=E,6µm,14.0s
LZH Lanzhou 23.67 297 *e*P **P** **08 25 32.5 -2.2**
LZH sP pP 08 25 43.8 +2.2
LZH S **S** **08 29 46.3 -1.8**
LZH SS **SnSn** **08 30 37.4 +11**
LZH pmax pmax
comp=E,50nm,1.3s
LZH pmax pmax
comp=E,310nm,4.4s
LZH LR LR
comp=E,2µm,13.7s
LZH LR LR
comp=E,1µm,13.4s
LZH LR LR
comp=E,1µm,13.4s
SGSI Sangihe 24.58 191 P **P** **08 25 44.8 +1.8**
KMI Kunming 24.67 270 ⇑P **P** **08 25 43.8 -0.3**
KMI S **S** **08 30 01.4 -3.1**
KMI pmax pmax
comp=E,93nm,1.7s
KMI LR LR
comp=E,1µm,14.5s
KMI LR LR
comp=E,2µm,15.6s
KMI LR LR
comp=E,2µm,20.5s
TYV Tymovskoe 24.72 19 *e*P **P** **08 25 46.2 +2.2**
TYV *e*S **S** **08 30 09.7 +5.3**
TYV pmax pmax
comp=Z,100nm,2.8s
TYV pmax pmax
comp=Z,15nm,1.1s
TYV smax smax
comp=N,100nm,3.4s
TYV smax smax
comp=E,100nm,3.4s
SLVN Son La 24.73 260 **P** **08 25 45.6 +1.1**
SLVN IAmb IAmb 08 25 48.2
comp=Z,45nm,0.8s
PZH PanZhiHua 25.28 273 P **P** **08 25 48.6 -0.9**
PZH S **S** **08 30 11.8 -2.3**
PZH sS **pS** **08 30 17.8 -4.3**
PZH pmax pmax
comp=Z,60nm,1.4s
PZH pmax pmax
comp=Z,150nm,4.7s
PZH LR LR
comp=Z,1µm,20.6s
PZH LR LR
comp=Z,2µm,18.8s
PZH LR LR
comp=Z,3µm,19.2s
ZEA Zeya 25.80 356 *e*P **P** **08 25 53.8 0.0**
ZEA pmax pmax
comp=Z,100nm,3.9s
ZEA pmax pmax
comp=Z,300nm,0.7s
ZEA MLR MLR
comp=Z,300nm,14.0s
ULN Ulaanbaatar 26.76 324 P **P** **08 26 02.3 -0.4**
ULN Ulaanbaatar 26.76 324 *de*P **P** **08 26 02.4 -0.3**
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 27.08 323 **P** **08 26 06.8 +1.2**
SONM Songino Array 27.08 323 P **P** **08 26 04.2 -1.4**
comp=Z,0.5nm,0.3s,baz=133,slow=10,SNR=5.9
SONM LR LR 08 38 21.5
comp=Z,1µm,19.6s,baz=128,slow=40
comp=Z,0.5nm,0.3s
SONM Songino Array 27.08 323 P **P** **08 26 06.8 +1.2**
SONM pmax pmax
comp=Z,18nm,1.3s
GTA Gaotai 27.56 302 *e*P **P** **08 26 08.8 -1.2**
GTA pP pP 08 26 12.1 -5.1
GTA PcP **PcP** **08 29 28.4 +0.9**
GTA S **S** **08 30 53.4 +3.5**
GTA SS **SnSn** **08 32 07.0 +5.5**
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,170nm,10.1s
GTA LR LR
comp=Z,2µm,16.4s
GTA LR LR
comp=Z,3µm,18.2s
GTA LR LR
comp=Z,5µm,17.8s
TNCH TengChong 28.42 271 P **P** **08 26 17.4 -0.5**
TNCH pP pP 08 26 21.3 -3.8
TNCH sP pwP 08 26 24.8 -0.3
TNCH PP **PnPn** **08 27 09.0 +1.6**
TNCH S **S** **08 31 05.5 +1.7**
TNCH sS sS 08 31 19.3 +3.4
TNCH pmax pmax
comp=Z,89nm,1.4s
TNCH LR LR
comp=Z,930nm,9.7s
TNCH LR LR
comp=Z,3µm,15.9s
TNCH LR LR
comp=Z,5µm,16.6s
SKR Severo-Kuril's 29.99 34 *e*P P 08 26 26.4 -4.9
SKR *e*S **S** **08 31 20.1 -7.5**
SKR MLR MLR
comp=Z,800nm,19.0s
CHTO Chiang Mai 30.00 259 **P** **08 26 30.6 -1.1**
CHTO Chiang Mai 30.00 259 P **P** **08 26 30.6 -1.1**
CHTO pmax pmax
comp=Z,50nm,0.7s
CM31 Chiang Mai Arr 30.14 258 P **P** **08 26 31.7 -1.2**
CM31 IAmb IAmb 08 26 47.9
comp=Z,65nm,1.4s
CMAR Chiang Mai Arr 30.14 258 **P** **08 26 32.1 -0.8**
CMAR Chiang Mai Arr 30.14 258 P **P** **08 26 32.4 -0.6**
comp=Z,9.7nm,0.7s,baz=56,slow=7.2,SNR=41
CMAR LR LR 08 39 52.7
comp=Z,748nm,18.4s,baz=70,slow=39
comp=Z,9.7nm,0.7s
CMAR Chiang Mai Arr 30.14 258 *i* P **P** **08 26 34.0 +1.0**
CMAR pmax pmax
comp=Z,9.0nm,0.6s
GOMU GeErMu 30.90 294 P **P** **08 26 39.1 -0.9**
GOMU sP pP 08 26 44.0 -3.2
GOMU PcP **PcP** **08 29 36.8 +0.5**
GOMU S **S** **08 31 44.8 +1.8**
GOMU pmax pmax
comp=Z,9.0nm,1.0s
GOMU LR LR
comp=Z,290nm,21.7s
GOMU LR LR
comp=Z,470nm,16.3s
GOMU LR LR
comp=Z,580nm,16.9s
SMPI Sarmi 30.93 163 P **P** **08 26 42.1 +2.2**
comp=Z,36nm,1.6s
JAY Jayapura 31.99 160 LR LR 08 38 00.7
comp=Z,805nm,19.0s,baz=4.5,slow=33
PETK Petropavlovsk- 32.30 31 P **P** **08 26 51.4 -0.2**
comp=Z,1.2nm,0.7s,baz=237,slow=6.7,SNR=7.2
PETK LR LR 08 41 05.6
comp=Z,652nm,19.5s,baz=219,slow=39
comp=Z,1.2nm,0.7s
YAK Yakutsk 34.03 360 LR LR 08 41 04.9
comp=Z,318nm,20.2s,baz=177,slow=37
YAK Yakutsk 34.03 360 *e*P **P** **08 27 06.7 +0.1**
YAK *e**PP **pP** **08 27 10.2 -3.7**
YAK *e* 08 28 19.5
YAK *e*S **S** **08 32 29.2 -1.1**
YAK *e**SS **pS** **08 32 36.1 -2.3**
YAK *e*SS **SnSn** **08 34 32.0 -6.1**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,12nm,0.4s
YAK smax smax
comp=E,27nm,1.3s
YAK smax smax
comp=N,6.0nm,0.6s
YAK MLR MLR
comp=Z,535nm,15.0s
YAK MLR MLR
comp=N,344nm,14.0s
YAK MLR MLR
comp=E,125nm,12.0s
LSA Lhasa 34.10 282 P **P** **08 27 07.3 -0.9**
LSA LR LR
comp=E,640nm,20.1s
LSA LR LR
comp=E,1µm,22.9s
KAPI Kappang 34.32 199 LR LR 08 42 23.4
comp=E,163nm,20.0s,baz=12,slow=38
H11N2 WAKE ISLAND Hy 34.49 96 T T 09 03 44.6
baz=290,slow=75,SNR=51
H11N1 WAKE ISLAND Hy 34.49 96 T T 09 03 44.7
baz=290,slow=75,SNR=51
H11N3 WAKE ISLAND Hy 34.51 96 T T 09 03 45.7
baz=290,slow=75,SNR=44
MA2 Magadan 34.59 18 LR LR 08 41 32.5
comp=E,164nm,20.8s,baz=212,slow=37
H11S3 WAKE ISLAND Hy 34.76 98 T T 09 04 14.0
baz=292,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 34.77 98 T T 09 04 11.1
baz=292,slow=75,SNR=21
H11S2 WAKE ISLAND Hy 34.78 98 T T 09 04 15.5
baz=292,slow=75,SNR=20
BRDH Bariadhala 35.11 270 LR LR 08 43 10.6
comp=E,950nm,21.4s,baz=120,slow=39
WMQ Urumqi 37.40 306 *e*P **P** **08 27 35.5 -0.4**
WMQ LR LR
comp=E,1µm,16.7s
WMQ LR LR
comp=E,2µm,14.9s
WMQ LR LR
comp=E,2µm,14.9s
SEY Seymchan 37.84 16 LR LR 08 43 51.1
comp=E,554nm,21.2s,baz=206,slow=37
SEY Seymchan 37.84 16 *e*P **P** **08 27 37.9 -1.3**
SEY pmax pmax
comp=Z,17nm,1.1s
SOEI Soe 37.96 189 P **P** **08 27 42.8 +2.0**
EVN Everest 38.12 280 **P** **08 27 41.1 -1.7**
PSI Prapat 38.93 236 LR LR 08 43 53.6
comp=Z,242nm,19.5s,baz=32,slow=36
MTN Manton Dam 40.61 179 P **P** **08 28 02.0 -0.8**
MTN IAmb IAmb 08 28 16.9
comp=Z,76nm,1.4s
PMG Port Moresby 40.66 154 **P** **08 28 02.9 -0.3**
PMG IAmb IAmb 08 28 05.5
comp=Z,42nm,1.1s
PMG Port Moresby 40.66 154 LR LR 08 42 57.4
comp=Z,655nm,19.8s,baz=322,slow=33
PMG Port Moresby 40.66 154 *d i*P **P** **08 28 04.1 +0.8**
PMG pmax pmax
comp=Z,40nm,1.1s
KPJI Karang Pucung 40.68 213 P **P** **08 28 04.4 +1.0**
comp=Z,81nm,1.2s
SHEM Shemya Is, Ala 40.72 40 LR LR 08 46 03.0
comp=Z,193nm,20.4s,baz=300,slow=38
MK31 Makanchi Array 41.68 310 *de*P **P** **08 28 09.3 -2.1**
MKAR Makanchi Array 41.68 310 **P** **08 28 09.4 -2.0**
MKAR Makanchi Array 41.68 310 P **P** **08 28 09.0 -2.4**
comp=Z,2.7nm,0.6s,baz=93,slow=10,SNR=25
MKAR PcP **PcP** **08 30 08.0 +0.1**
comp=Z,3.5nm,0.8s,baz=86,slow=5.1,SNR=5.7
MKAR LR LR 08 47 32.5
comp=Z,1µm,18.7s,baz=94,slow=39
comp=Z,2.7nm,0.6s
MKAR Makanchi Array 41.68 310 P **P** **08 28 09.4 -2.0**
ZALV Zalesovo Beam 41.92 321 **P** **08 28 11.9 -1.3**
ZALV Zalesovo Beam 41.92 321 P **P** **08 28 10.5 -2.7**
comp=Z,2.8nm,0.5s,baz=108,slow=9.1,SNR=9.3
ZALV PcP **PcP** **08 30 07.9 -0.5**
comp=Z,6.7nm,0.9s,baz=108,slow=4.8,SNR=7.4
ZALV LR LR 08 47 14.5
comp=Z,380nm,22.0s,baz=109,slow=39
comp=Z,2.8nm,0.5s
ZALV Zalesovo Beam 41.92 321 *i* P **P** **08 28 11.0 -2.2**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
TIXI Tiksi 43.70 359 **P** **08 28 27.1 -0.3**
TIXI Tiksi 43.70 359 LR LR 08 48 52.7
comp=Z,425nm,18.6s,baz=188,slow=39
TIXI Tiksi 43.70 359 ⇑*e*P **P** **08 28 27.2 -0.2**
TIXI pmax pmax
comp=Z,21nm,1.7s
TARG Taragay, Kyrgy 44.44 302 P **P** **08 28 32.8 -1.5**
TARG Taragay, Kyrgy 44.44 302 P **P** **08 28 32.8 -1.5**
TARG pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 44.75 315 **P** **08 28 34.0 -2.1**
KURK Kurchatov 44.75 315 *de*P **P** **08 28 34.5 -1.6**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURBB Kurchatov Arra 44.79 315 P **P** **08 28 33.9 -2.6**
comp=Z,2.9nm,0.5s,baz=101,slow=8.9,SNR=21
KURBB PcP **PcP** **08 30 17.6 -0.6**
comp=Z,0.5nm,0.3s,baz=105,slow=3.5,SNR=4.7
KURBB LR LR 08 49 13.3
comp=Z,2µm,18.8s,baz=138,slow=39
comp=Z,2.9nm,0.5s
KDJ Kajisay 44.91 303 **P** **08 28 36.7 -1.1**
KDJ Kajisay 44.91 303 P **P** **08 28 36.7 -1.1**
KDJ pmax pmax
comp=Z,15nm,1.4s
BILL Bilibino 45.46 18 ⇑*e*P **P** **08 28 41.8 +0.3**
BILL pmax pmax
comp=Z,4.0nm,1.0s
KSH Kashi 45.87 299 P **P** **08 28 47.8 +2.4**
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH LR LR
comp=Z,1µm,17.9s
KSH LR LR
comp=Z,1µm,14.4s
KSH LR LR
comp=Z,1µm,14.9s
FITZ Fitzroy Crossi 46.03 186 P **P** **08 28 45.4 -1.1**
FITZ Fitzroy Crossi 46.03 186 LR LR 08 47 04.2
comp=Z,209nm,20.6s,baz=9.0,slow=35
AAK Ala-Archa 46.90 303 LR LR 08 51 38.8
comp=Z,1µm,19.1s,baz=76,slow=40
AAK Ala-Archa 46.90 303 ⇑*e*P **P** **08 28 52.7 -0.8**
AAK pmax pmax
comp=Z,2.0nm,0.9s
HNR Honiara 47.07 138 LR LR 08 46 20.6
comp=Z,202nm,21.6s,baz=334,slow=33
WRAB Tennant Creek 47.82 175 P **P** **08 29 01.0 +0.5**
WRAB IAmb IAmb 08 29 11.9
comp=Z,25nm,1.1s
WRAB Tennant Creek 47.82 175 *d i*P **P** **08 29 01.1 +0.6**
WRAB pmax pmax
comp=Z,21nm,1.0s
WRA Warramunga Arr 47.83 175 **P** **08 28 59.1 -1.5**
WRA Warramunga Arr 47.83 175 P **P** **08 29 00.7 +0.1**
comp=Z,8.1nm,0.8s,baz=354,slow=8.4,SNR=41
WRA LR LR 08 47 41.3
comp=Z,287nm,21.8s,baz=6.5,slow=34
comp=Z,8.1nm,0.8s
HYB Hyderabad 48.45 269 *e*P **P** **08 29 04.8 -0.8**
NIL Nilore 48.67 291 P **P** **08 29 06.4 -0.8**
NIL Nilore 48.67 291 P **P** **08 29 06.4 -0.8**
NIL pmax pmax
comp=Z,64nm,1.6s
KK31 Karatay Array 49.81 304 IAmb IAmb 08 29 16.8
comp=Z,33nm,1.7s
KKAR Karatay Array 49.81 304 **P** **08 29 14.5 -1.2**
KKAR Karatay Array 49.81 304 P **P** **08 29 14.5 -1.2**
BVAR Borovoye Array 50.12 317 P **P** **08 29 16.0 -1.9**
comp=Z,6.6nm,0.5s,baz=86,slow=9.0,SNR=28
BVAR PcP **PcP** **08 30 36.6 -0.5**
comp=Z,8.9nm,0.8s,baz=92,slow=4.5,SNR=6.8
BVAR LR LR 08 52 34.3
comp=Z,2µm,18.1s,baz=95,slow=39
comp=Z,6.6nm,0.5s
BRVK Borovoye 50.19 317 **P** **08 29 17.6 -0.8**
BRVK Borovoye 50.19 317 *de*P **P** **08 29 17.3 -1.1**
BRVK pmax pmax
comp=Z,11nm,1.3s
CTAO Charters Tower 50.28 160 P **P** **08 29 20.9 +1.6**
CTAO pmax pmax
comp=Z,13nm,1.8s
PSA00 Pilbara Seismi 50.28 193 P **P** **08 29 18.6 -0.7**
PSA00 Pilbara Seismi 50.28 193 P **P** **08 29 19.0 -0.3**
PSA00 IAmb IAmb 08 29 21.2
comp=Z,54nm,1.4s
SPIA Saint Paul Isl 50.55 37 P **P** **08 29 21.3 +0.3**
baz=261
P08K Saint George I 50.85 38 P **P** **08 29 23.3 0.0**
baz=262
NIKH Nikolski High 50.86 43 P **P** **08 29 24.5 +1.1**
baz=266
PALK Pallekele 51.02 256 LR LR 08 51 34.4
comp=Z,656nm,21.9s,baz=62,slow=37
SIMJ Simiganj 51.35 299 **P** **08 29 26.8 -0.7**
SIMJ IAmb IAmb 08 29 28.6
comp=Z,25nm,1.2s
ASAR Alice Springs 51.49 176 P **P** **08 29 27.3 -1.2**
ASAR Alice Springs 51.49 176 P **P** **08 29 28.7 +0.2**
comp=Z,5.0nm,0.9s,baz=6.6,slow=14,SNR=48
ASAR PcP **PcP** **08 30 42.5 0.0**
comp=Z,3.4nm,1.0s,baz=348,slow=3.9,SNR=2.1
ASAR LR LR 08 51 43.4
comp=Z,166nm,19.8s,baz=319,slow=36
comp=Z,5.0nm,0.9s
KBL Kabul 51.96 293 P **P** **08 29 30.2 -2.1**
KBL IAmb IAmb 08 29 44.2
comp=Z,51nm,1.2s
KBL Kabul 51.96 293 P **P** **08 29 30.2 -2.1**
KBL pmax pmax
comp=Z,51nm,1.2s
M11K Mekoryuk 53.11 34 P **P** **08 29 40.1 +0.1**
baz=262
TNA Tin City 53.29 27 P **P** **08 29 42.1 +0.9**
baz=257
F14K Arctic Creek 53.92 28 P **P** **08 29 46.0 0.0**
baz=258
K13K Kusilvak Mount 54.06 32 P **P** **08 29 47.2 +0.2**
baz=262

ANM	Nome baz=260	54.14	29	P		P	08 29 48.1	+0.5
FALS	False Pass baz=269	54.16	41	P		P	08 29 48.1	+0.3
M13K	Dall Lake baz=265	54.52	34	P		P	08 29 51.0	+0.7
F15K	North Star Dit comp=Z,18nm,0.9s	54.65	27	IAmb		IAmb	08 30 03.4	
F15K	North Star Dit baz=260	54.65	27	P		P	08 29 51.8	+0.6
J14K	Nanvaranak Lak baz=263	54.67	31	P		P	08 29 51.8	+0.4
G15K	Niukluk baz=261	54.78	28	P		P	08 29 52.7	+0.5
C16K	Lisburne Hills baz=257	54.89	24	P		P	08 29 52.9	0.0
L14K	Kuka Creek baz=265	54.93	33	P		P	08 29 54.1	+0.8
S12K	Black Hills baz=269	54.95	40	P		P	08 29 54.2	+0.6
M14K	Bethel comp=Z,15nm,0.9s	55.23	34	IAmb		IAmb	08 30 06.3	
M14K	Bethel baz=266,SNR=5.3	55.23	34	P		P	08 29 56.2	+0.7
N14K	Kuskokwak Cree baz=267	55.31	35	P		P	08 29 56.5	+0.4
H16K	Elim baz=263	55.49	29	P		P	08 29 57.7	+0.4
O14K	Tigyukauivet M baz=268	55.49	35	P		P	08 29 57.9	+0.5
L15K	Ungalak Mounta baz=266	55.53	33	P		P	08 29 58.2	+0.5
G16K	Koyuk River baz=262	55.54	28	P		P	08 29 57.9	+0.3
K15K	Wolf Creek Mou baz=265	55.56	32	P		P	08 29 58.3	+0.4
D17K	Noatak River baz=260	55.61	25	P		P	08 29 58.8	+0.6
C17K	DeLong Mountai baz=259	55.72	24	P		P	08 29 59.0	+0.1
RDOG	Red Dog Mine baz=260	55.74	25	P		P	08 29 59.6	+0.5
M15K	Kasigluk River baz=267	55.85	34	P		P	08 30 00.5	+0.6
E17K	Hotham Inlet baz=262	55.99	26	P		P	08 30 01.5	+0.6
J16K	Anvik River baz=265	56.07	31	P		P	08 30 02.0	+0.5
I17K	Unalakleet baz=265	56.08	30	P		P	08 30 02.4	+0.9
N15K	Kwethluk River	56.12	34			P	08 30 02.4	+0.5
N15K	comp=Z,15nm,0.9s			IAmb		IAmb	08 30 13.2	
N15K	Kwethluk River baz=268,SNR=5.9	56.12	34	P		P	08 30 02.2	+0.3
O15K	Ungalikthiuk R baz=269	56.23	36	P		P	08 30 03.2	+0.5
G17K	Kiwalik Mounta baz=264	56.26	28	P		P	08 30 03.6	+0.8
S14K	Fog Glacier baz=271	56.36	39	P		P	08 30 04.1	+0.2
B18K	Kokolik River baz=260	56.37	23	P		P	08 30 04.5	+0.9
CHNA	Chernabura Isl baz=272	56.38	41	P		P	08 30 04.3	+0.5
C18K	Utukok River comp=Z,26nm,1.5s	56.47	24	IAmb		IAmb	08 30 16.1	
C18K	Utukok River baz=261	56.47	24	P		P	08 30 04.8	+0.5
L16K	Owhat River baz=267	56.49	33	P		P	08 30 04.5	0.0
E18K	Tukpahlearik C baz=263	56.51	26	P		P	08 30 04.8	+0.2
H17K	Granite Mounta comp=Z,51nm,1.9s	56.51	29	IAmb		IAmb	08 30 17.2	
H17K	Granite Mounta baz=265	56.51	29	P		P	08 30 05.2	+0.5
ABKAR	Akbulak array	56.71	312	P		P	08 30 04.6	-1.7
M16K	Timber Creek baz=268	56.71	33	P		P	08 30 06.2	0.0
A19K	Wainwright baz=260	56.76	22	P		P	08 30 07.3	+1.0
J17K	VABM Dome comp=Z,53nm,1.8s	56.76	31	IAmb		IAmb	08 30 08.5	
J17K	VABM Dome baz=267,SNR=7.8	56.76	31	P		P	08 30 07.4	+1.0
F18K	Selawik baz=264,SNR=7.8	56.78	27	P		P	08 30 07.0	+0.5
N16K	Nishlik Lake baz=269,SNR=5.5	56.79	34	P		P	08 30 07.3	+0.6
CHGN	Chignik baz=272	57.00	39	P		P	08 30 08.4	+0.3
L17K	Donlin baz=268,SNR=5.6	57.06	32	P		P	08 30 09.1	+0.5
K17K	Iditarod baz=268,SNR=6.9	57.08	31	P		P	08 30 08.9	+0.2
C19K	Lookout Ridge baz=262	57.11	24	P		P	08 30 09.3	+0.4
O16K	Kokwok River B baz=270	57.12	35	P		P	08 30 09.4	+0.4
G18K	Tagagawik comp=Z,21nm,1.1s	57.12	28	IAmb		IAmb	08 30 20.2	
G18K	Tagagawik baz=265,SNR=5.9	57.12	28	P		P	08 30 09.3	+0.3
P16K	Nushagak River baz=270	57.17	36	P		P	08 30 10.3	+1.0
ARTI	Arti	57.18	321	P		P	08 30 08.9	-0.7
ARTI	Arti comp=Z,893nm,19.7s,baz=88,slow=39	57.18	321	LR		LR	08 57 20.8	
ARTI	Arti	57.18	321	*d* iP		P	08 30 09.2	-0.3
ARTI							08 31 03.0	
ARTI							08 32 11.6	
ARTI				S		S	08 38 06.3	+2.9
ARTI				SS		SS	08 41 52.8	+0.7
ARTI	comp=Z,6.0nm,0.8s			pmax		pmax		
ARTI	comp=Z,2μm,16.0s			MLR		MLR		
H18K	Honhosa River baz=266	57.19	28	P		P	08 30 09.7	+0.3
M17K	Holitna River comp=Z,23nm,1.1s	57.45	33	IAmb		IAmb	08 30 23.2	
M17K	Holitna River baz=269,SNR=6.6	57.45	33	P		P	08 30 11.6	+0.3
F19K	Shaleruckik Mo baz=266	57.55	26	P		P	08 30 12.8	+0.9
D19K	Kuna River baz=264	57.57	25	P		P	08 30 12.6	+0.5
N17K	Nushagak Hills comp=Z,19nm,1.2s	57.57	34	IAmb		IAmb	08 30 43.4	
N17K	Nushagak Hills baz=270	57.57	34	P		P	08 30 12.7	+0.5
O17K	Koliganek Bris baz=271	57.62	35	P		P	08 30 13.1	+0.5
G19K	Purcell Mounta baz=267	57.78	27	P		P	08 30 13.9	+0.3
GCSA	Galena City Sc baz=268	57.79	29	P		P	08 30 14.2	+0.6
E19K	Redstone River baz=266	57.81	26	P		P	08 30 14.2	+0.4
L18K	Granite Mounta baz=270,SNR=9.3	57.82	32	P		P	08 30 14.6	+0.7
J18K	Innoko River baz=269	57.83	31	P		P	08 30 14.8	+0.8
AKTO	Aktyubinsk comp=Z,989nm,20.2s,baz=60,slow=38	57.83	314	LR		LR	08 57 09.2	
Q16K	King Salmon baz=272	57.87	36	P		P	08 30 14.6	+0.3
P17K	Kvichak River baz=272	57.97	36	P		P	08 30 15.7	+0.7
H19K	Roundabout Mou comp=Z,25nm,1.1s	58.01	28	IAmb		IAmb	08 30 26.8	
H19K	Roundabout Mou baz=268,SNR=11	58.01	28	P		P	08 30 15.8	+0.7
B20K	Meade River baz=264	58.06	23	P		P	08 30 15.8	+0.4
R17L	Mt. Peulik Vol baz=273	58.07	37	P		P	08 30 16.6	+0.9
D20K	Etivluk River comp=Z,30nm,1.2s	58.14	24	IAmb		IAmb	08 30 27.5	
D20K	Etivluk River baz=266,SNR=8.3	58.14	24	P		P	08 30 16.8	+0.7
N18K	Kilae Creek baz=271	58.21	34	P		P	08 30 17.5	+0.8
M18K	Stony River baz=271	58.23	33	P		P	08 30 17.7	+0.9
E20K	Nigu River baz=266	58.26	25	P		P	08 30 17.2	+0.2
Q17K	Contact Creek baz=273	58.29	37	P		P	08 30 17.2	-0.3
J19K	Poorman comp=Z,18nm,1.1s	58.32	30	IAmb		IAmb	08 30 28.7	
J19K	Poorman baz=269,SNR=7.5	58.32	30	P		P	08 30 17.6	+0.2
F20K	Avaraart Lake baz=267	58.37	26	P		P	08 30 17.2	-0.5
O18K	Koktuh Hills baz=272,SNR=5.1	58.57	35	P		P	08 30 19.6	+0.3
P18K	Big Mountain,	58.58	35	P		P	08 30 20.1	+0.7
P18K	comp=Z,52nm,1.9s			IAmb		IAmb	08 30 30.5	
P18K	Big Mountain, baz=273	58.58	35	P		P	08 30 19.5	+0.2
CHIR	Chirikof Islan baz=274	58.59	40	P		P	08 30 18.5	-0.9
H20K	Anotleneega Mo baz=269	58.66	28	P		P	08 30 19.4	-0.4
L19K	White Mountain baz=271,SNR=7.7	58.68	32	P		P	08 30 20.0	0.0
Q18K	Katmai Hardscr baz=273	58.73	36	P		P	08 30 20.4	-0.2
I20K	Naaghedeneel baz=270,SNR=8.6	58.82	29	P		P	08 30 21.1	+0.2
C21K	Knifeblade Rid baz=267	58.83	24	P		P	08 30 21.1	+0.2
A22K	Sinclair Lake baz=266	58.88	22	P		P	08 30 21.4	+0.3
N19K	Bonanza Creek baz=272	58.90	34	P		P	08 30 22.0	+0.5
M19K	Big River Lodg	58.90	32	P		P	08 30 22.6	+1.0
M19K	Big River Lodg baz=272	58.90	32	P		P	08 30 22.3	+0.8
B21K	Ikpikpuk River comp=Z,39nm,1.4s	58.91	23	IAmb		IAmb	08 30 33.1	
B21K	Ikpikpuk River baz=267	58.91	23	P		P	08 30 22.4	+1.0
J20K	Nowinta River comp=Z,28nm,1.2s	58.97	30	IAmb		IAmb	08 30 33.8	
J20K	Nowinta River baz=271,SNR=9.4	58.97	30	P		P	08 30 22.4	+0.5
O19K	Port Alsworth baz=273	59.00	34	P		P	08 30 22.2	0.0
K20K	Telida comp=Z,20nm,1.1s	59.02	31	IAmb		IAmb	08 30 34.2	
K20K	Telida baz=271,SNR=11	59.02	31	P		P	08 30 23.0	+0.7
E21K	Killik River baz=268	59.09	25	P		P	08 30 23.3	+0.6
R18K	Karluk baz=274	59.10	37	P		P	08 30 23.1	+0.3
L20K	Farewell, AK baz=272,SNR=11	59.12	32	P		P	08 30 23.4	+0.3
IMAR	Indian Mountai	59.13	28	P		P	08 30 23.5	+0.5
G21K	Allakaket comp=Z,14nm,1.1s	59.23	27	IAmb		IAmb	08 30 35.4	
G21K	Allakaket baz=270	59.23	27	P		P	08 30 24.5	+0.8
F21K	Alatna River baz=269	59.25	26	P		P	08 30 23.8	0.0
SII	Sitkinak Islan baz=275	59.33	39	P		P	08 30 23.9	-0.6
B22K	Teshekpuk Lake baz=268	59.36	22	P		P	08 30 25.1	+0.6
M20K	Styx River baz=273,SNR=8.6	59.50	32	P		P	08 30 26.4	+0.7
H21K	Melozitna River comp=Z,23nm,1.1s	59.52	28	IAmb		IAmb	08 30 37.5	
H21K	Melozitna Rive baz=271,SNR=8.1	59.52	28	P		P	08 30 26.6	+0.8
D22K	Ayikyak River	59.57	24			P	08 30 27.2	+1.1
D22K	Ayikyak River baz=269,SNR=12	59.57	24	P		P	08 30 26.9	+0.8
P19K	Oil Pt baz=274	59.58	35	P		P	08 30 26.2	-0.1
F22K	John River baz=270	59.75	26	P		P	08 30 27.9	+0.6
OHAK	Old Harbor baz=276	59.76	38	P		P	08 30 28.0	+0.6
CHUM	Lake Minchumin baz=272	59.78	30	P		P	08 30 28.3	+0.7
O20K	Slope Mountain baz=274	59.86	34	P		P	08 30 28.8	+0.6
I21K	Tanana	59.88	28	P		P	08 30 29.2	+1.1
I21K	comp=Z,27nm,1.1s			IAmb		IAmb	08 30 40.2	
I21K	Tanana baz=272,SNR=10	59.88	28	P		P	08 30 28.8	+0.6
PPLA	Purkeypile comp=Z,20nm,1.0s	59.89	31	IAmb		IAmb	08 30 41.7	
PPLA	Purkeypile baz=273,SNR=7.8	59.89	31	P		P	08 30 28.7	+0.3
E22K	Anaktuvuk Pass baz=270,SNR=14	59.89	25	P		P	08 30 28.5	+0.2
CAST	Castle Rocks	59.91	31			P	08 30 29.5	+1.0
CAST	comp=Z,19nm,1.0s			IAmb		IAmb	08 30 40.0	
CAST	Castle Rocks baz=273,SNR=16	59.91	31	P		P	08 30 28.7	+0.2
N20K	Mount Spurr baz=274	59.98	33	P		P	08 30 29.7	+0.7
SPCR	Spurr Chakacha baz=274	59.98	33	P		P	08 30 29.2	+0.1
G22K	Bettles baz=271	60.02	26	P		P	08 30 29.2	+0.1
SPU	Mount Spurr	60.06	33	P		P	08 30 30.5	+1.0
SPU	comp=Z,17nm,1.1s			IAmb		IAmb	08 30 40.6	
KDAK	Kodiak Island comp=Z,20nm,1.1s	60.08	37	P		P	08 30 29.9	+0.2
KDAK				IAmb		IAmb	08 30 40.1	
KDAK	Kodiak Island comp=Z,20nm,1.1s	60.08	37	P		P	08 30 29.9	+0.2
KDAK				pmax		pmax		
KDAK	Kodiak Island baz=276	60.08	37	P		P	08 30 29.6	0.0
Q20K	Shuyak Island baz=275	60.10	36	P		P	08 30 29.2	-0.6
H22K	Ishtalitna Cre baz=272,SNR=19	60.11	28	P		P	08 30 30.1	+0.3
STLK	Stranline Lak	60.14	33	P		P	08 30 30.7	+0.6
SKT	Skwentna comp=Z,12nm,1.0s	60.25	32	IAmb		IAmb	08 30 41.4	
SKT	Skwentna baz=274,SNR=6.9	60.25	32	P		P	08 30 30.7	-0.1
D23K	Nanushuk River	60.30	24	P		P	08 30 32.5	+1.5
D23K	comp=Z,31nm,1.2s			IAmb		IAmb	08 30 43.1	
D23K	Nanushuk River baz=271	60.30	24	P		P	08 30 30.7	-0.3
C23K	Itkillik River comp=Z,35nm,1.3s	60.31	23	IAmb		IAmb	08 30 43.5	
C23K	Itkillik River baz=270	60.31	23	P		P	08 30 30.6	-0.5
BPAW	Bear Paw Mtn. comp=Z,12nm,1.1s	60.36	30	IAmb		IAmb	08 30 43.0	
BPAW	Bear Paw Mtn. baz=273	60.36	30	P		P	08 30 31.2	-0.3
MLY	Manley comp=Z,18nm,1.1s	60.41	29	IAmb		IAmb	08 30 43.6	
MLY	Manley baz=273,SNR=7.4	60.41	29	P		P	08 30 31.7	-0.2
COLD	Coldfoot baz=272	60.52	26	P		P	08 30 32.6	0.0
CAPN	Captain Cook N baz=275	60.53	34	P		P	08 30 33.0	+0.4
STKA	Stephens Creek	60.53	169	P		P	08 30 32.5	-0.5
STKA	Stephens Creek comp=Z,8.2nm,1.1s,baz=333,slow=9.0,SNR=5.4	60.53	169	P		P	08 30 33.0	0.0
STKA				LR		LR	08 56 03.4	
STKA	Stephens Creek comp=Z,166nm,21.6s,baz=5.7,slow=35 comp=Z,8.2nm,1.1s	60.53	169	*e*P		P	08 30 34.0	+1.0
G23K	Bananza Creek comp=Z,16nm,1.1s	60.62	27	IAmb		IAmb	08 30 45.0	
G23K	Bananza Creek baz=273,SNR=6.7	60.62	27	P		P	08 30 33.8	+0.5
SUA	Susitna One baz=275,SNR=22	60.66	33	P		P	08 30 33.8	+0.1
TOLK	Toolik Lake Re baz=272	60.71	24	P		P	08 30 34.3	+0.4
TRF	Thorofare Moun baz=274	60.71	30	P		P	08 30 34.4	+0.3
E23K	Chandalar baz=272,SNR=21	60.71	25	P		P	08 30 34.5	+0.5
BRLK	Bradley Lake comp=Z,16nm,1.1s	60.76	35	IAmb		IAmb	08 30 54.6	
CUT	Chulitna comp=Z,22nm,0.9s	60.80	32	IAmb		IAmb	08 30 46.7	
CUT	Chulitna baz=275	60.80	32	P		P	08 30 34.8	+0.3
H23K	Yukon River comp=Z,27nm,1.1s	60.86	28	IAmb		IAmb	08 30 47.2	
H23K	Yukon River baz=274,SNR=16	60.86	28	P		P	08 30 36.1	+1.1
DZM	Mont Dzumac comp=Z,34nm,36.0s	60.88	141	*e*P		P	08 30 37.0	+1.4
DZM	comp=Z,86nm,26.3s			*e*S		S	08 38 52.6	+0.5
DZM	comp=Z,61nm,26.4s			*e*SS		SS	08 42 49.5	-2.5
DZM	comp=Z,252nm,31.6s			*e*LQ		LQ	08 45 59.7	
DZM	comp=Z,504nm,25.4s			*e*LR		LR	08 48 31.7	
DZM	Mont Dzumac comp=Z,237nm,20.6s,baz=11,slow=34	60.88	141	LR		LR	08 54 34.9	
M22K	Willow baz=276,SNR=7.4	60.93	32	P		P	08 30 35.8	+0.3
D24K	Happy Valley baz=273,SNR=12	60.96	24	P		P	08 30 36.0	+0.5
C24K	Franklin Bluff baz=272,SNR=8.9	60.98	23	P		P	08 30 36.1	+0.5
I23K	Minto, Yukon-K comp=Z,15nm,1.1s	60.99	28	IAmb		IAmb	08 30 50.0	
I23K	Minto, Yukon-K baz=274	60.99	28	P		P	08 30 36.2	+0.5
E24K	Your Creek baz=274,SNR=7.8	61.14	25	P		P	08 30 37.5	+0.6
NEA2	Nenana baz=275,SNR=9.0	61.15	29	P		P	08 30 37.2	+0.3
RC01	Rabbit Creek A baz=276	61.19	33	P		P	08 30 37.8	+0.7
O22K	Cooper Landing baz=277	61.26	34	P		P	08 30 38.2	+0.6
MCK	McKinley baz=276,SNR=9.1	61.29	30	P		P	08 30 38.2	+0.3
F24K	Squaw Lake comp=Z,8.7nm,0.8s	61.40	26	IAmb		IAmb	08 30 44.2	
F24K	Squaw Lake baz=274,SNR=13	61.40	26	P		P	08 30 39.4	+0.8
PMR	Palmer comp=Z,21nm,1.1s	61.42	33	IAmb		IAmb	08 30 49.1	
PMR	Palmer baz=276,SNR=5.6	61.42	33	P		P	08 30 38.4	-0.3
SEW	Seward baz=277,SNR=6.7	61.44	34	P		P	08 30 39.0	+0.1
GHO	Glory Hole Cre comp=Z,20nm,0.9s	61.50	32	IAmb		IAmb	08 30 51.6	
H24K	Noodor Dome comp=Z,10nm,1.1s	61.55	28	IAmb		IAmb	08 30 51.6	
H24K	Noodor Dome baz=275,SNR=9.8	61.55	28	P		P	08 30 40.6	+1.0
G24K	Hadweenzic Riv baz=275,SNR=11	61.63	27	P		P	08 30 40.7	+0.6
COLA	College	61.65	29	P		P	08 30 41.3	+1.1
COLA	comp=Z,10nm,0.8s			IAmb		IAmb	08 30 53.6	
COLA	College	61.65	29	*ce*P		P	08 30 41.0	+0.8
COLA	comp=Z,6.0nm,0.6s			pmax		pmax		
COLA	College baz=276	61.65	29	P		P	08 30 40.4	+0.3
KNK	Knik Glacier baz=277,SNR=6.3	61.76	33	P		P	08 30 41.1	+0.1
POKR	Poker Plat Res baz=276	61.80	28	P		P	08 30 41.8	+0.6
KIRV	Kirov comp=Z,1μm,18.6s,baz=82,slow=39	61.81	324	LR		LR	09 00 32.6	
KIRV	Kirov	61.81	324	*de*P		P	08 30 41.1	-0.3
D25K	Kavik River comp=Z,17nm,1.1s	61.82	24	IAmb		IAmb	08 30 58.2	
D25K	Kavik River baz=275,SNR=8.4	61.82	24	P		P	08 30 41.8	+0.4
PWL	Port Wells baz=278	61.89	33	P		P	08 30 41.8	-0.2
M23K	Glacier View baz=278	62.06	32	P		P	08 30 43.3	+0.2
ILAR	Eielson Array comp=Z,2.6nm,0.7s,baz=265,slow=5.9,SNR=31	62.07	29	P		P	08 30 41.8	-1.3
ILAR	comp=Z,163nm,18.4s,baz=276,slow=38 comp=Z,2.6nm,0.7s			LR		LR	09 00 00.7	
HDA	Harding Lake comp=Z,23nm,1.0s	62.09	29	IAmb		IAmb	08 30 53.3	
HDA	Harding Lake baz=277,SNR=13	62.09	29	P		P	08 30 43.0	-0.2
G25K	Bearman Lake baz=276,SNR=7.2	62.17	26	P		P	08 30 44.7	+1.1
E25K	Arctic Village baz=276,SNR=6.8	62.23	25	P		P	08 30 45.1	+1.0
SCM	Sheep Creek Mo baz=278,SNR=6.3	62.24	32	P		P	08 30 44.6	+0.2
F25K	Christian Rive comp=Z,11nm,0.9s	62.25	26	IAmb		IAmb	08 31 01.5	
F25K	Christian Rive baz=276,SNR=12	62.25	26	P		P	08 30 45.0	+0.6
C26K	Camden Bay baz=276	62.27	23	P		P	08 30 44.1	-0.2
H25L	Birch Creek baz=277,SNR=7.4	62.34	27	P		P	08 30 45.5	+0.7
P23K	Montague Islan baz=279	62.47	34	P		P	08 30 45.7	-0.1
GLI	Glacier Island baz=279	62.49	33	P		P	08 30 45.5	-0.5
PRP	Porcupine Dome comp=Z,12nm,1.0s	62.55	28	IAmb		IAmb	08 30 58.2	
PRP	Porcupine Dome baz=278,SNR=13	62.55	28	P		P	08 30 46.6	+0.1
K24K	Donnelly Dome comp=Z,13nm,0.9s	62.67	30	IAmb		IAmb	08 30 57.6	
K24K	Donnelly Dome baz=278,SNR=6.0	62.67	30	P		P	08 30 47.1	-0.1
BMAR	Burnt Mountain	62.68	26	P		P	08 30 48.6	+1.4
C27K	Jago River baz=277	62.72	23	P		P	08 30 47.9	+0.5
J25K	Salcha River, baz=278	62.74	29	P		P	08 30 47.5	-0.1
M24K	Tolsona, Glenn baz=279	62.74	32	P		P	08 30 48.5	+0.8
F26K	Sheenjek River comp=Z,28nm,1.1s	62.81	25	IAmb		IAmb	08 31 00.5	
F26K	Sheenjek River baz=278,SNR=16	62.81	25	P		P	08 30 48.9	+0.9
PAX	Paxson comp=Z,12nm,1.1s	62.93	31	IAmb		IAmb	08 30 59.4	
PAX	Paxson baz=279,SNR=7.7	62.93	31	P		P	08 30 49.8	+0.8
KLU	Klutina baz=279	62.96	32	P		P	08 30 49.2	+0.1
G26K	Porcupine Rive comp=Z,16nm,1.1s	63.05	26	IAmb		IAmb	08 31 01.9	
G26K	Porcupine Rive baz=278,SNR=6.6	63.05	26	P		P	08 30 50.4	+0.8
DIV	Divide comp=Z,23nm,1.1s	63.09	33	IAmb		IAmb	08 31 01.1	
Q23K	Middleton Isla baz=280	63.09	35	P		P	08 30 50.9	+0.9
RIDG	Independent Ri comp=Z,21nm,1.2s	63.09	30	IAmb		IAmb	08 31 01.4	
RIDG	Independent Ri baz=279	63.09	30	P		P	08 30 49.9	-0.1
HARP	HAARP baz=279	63.17	31	P		P	08 30 51.2	+0.7
EYAK	Cordova Ski Ar baz=280	63.20	33	P		P	08 30 50.5	-0.1
SCRK	Sand Creek baz=280,SNR=19	63.43	29	P		P	08 30 52.2	-0.1
J26L	Joseph Creek comp=Z,16nm,0.9s	63.52	29	IAmb		IAmb	08 31 07.6	
J26L	Joseph Creek baz=280,SNR=16	63.52	29	P		P	08 30 52.6	-0.3
I26K	Coal Creek Min baz=280	63.56	28	P		P	08 30 52.9	0.0
N25K	Chitina, Valde baz=280	63.56	32	P		P	08 30 53.2	+0.1
BMRM	Bremner River baz=281,SNR=7.3	63.67	33	P		P	08 30 54.2	+0.3
E27K	Coleen River comp=Z,14nm,1.1s	63.69	25	IAmb		IAmb	08 31 06.0	
E27K	Coleen River baz=280,SNR=9.4	63.69	25	P		P	08 30 54.7	+0.9
MENT	Mentasta comp=Z,14nm,0.8s	63.73	31	IAmb		IAmb	08 31 12.0	
D27M	Malcolm River	63.74	23	IAmb		IAmb	08 31 06.2	

	comp=Z,13nm,1.0s								
D27M	**Malcolm River**	**63.74**	**23**	P	**P**	**08 30 54.3 +0.2**			
	baz=280								
L26K	**Log Cabin Wild**	**63.88**	**30**	IAmb	IAmb	08 31 06.1			
	comp=Z,17nm,1.1s								
L26K	**Log Cabin Wild**	**63.88**	**30**	P	**P**	**08 30 55.7 +0.5**			
	baz=281,SNR=8.4								
G27K	**Doyon Strip**	**63.90**	**26**	P	**P**	**08 30 56.5 +1.2**			
	baz=280								
BELG	**Belogornoye**	**63.93**	**317**	LR	LR	09 00 58.6			
	comp=Z,1µm,18.1s,baz=94,slow=38								
KAIM	**Kayak Island**	**63.96**	**34**	P	**P**	**08 30 56.1 +0.4**			
	baz=281								
GLB	**Gilahina Butte**	**63.96**	**32**	IAmb	IAmb	08 31 07.0			
	comp=Z,16nm,1.1s								
H27K	**Steamboat Moun**	**64.06**	**27**	P	**P**	**08 30 57.2 +0.8**			
	baz=281,SNR=5.0								
I27K	**Kandik River**	**64.14**	**27**	P	**P**	**08 30 58.0 +1.2**			
	baz=281,SNR=14								
M26K	**Nabesna, AK**	**64.16**	**31**	P	**P**	**08 30 58.0 +0.9**			
	baz=281,SNR=10								
K27K	**Chicken**	**64.25**	**29**	P	**P**	**08 30 58.5 +1.0**			
	baz=281								
MCARA	**McCarthy VSAT**	**64.35**	**32**	P	**P**	**08 30 59.4 +1.1**			
MCARA				IAmb	IAmb	08 31 10.3			
	comp=Z,15nm,0.9s								
MCARA	**McCarthy VSAT**	**64.35**	**32**	P	**P**	**08 30 58.4 +0.2**			
	baz=282								
E28M	**Babbage River**	**64.36**	**24**	IAmb	IAmb	08 31 10.4			
	comp=Z,13nm,1.0s								
E28M	**Babbage River**	**64.36**	**24**	P	**P**	**08 30 58.9 +0.7**			
	baz=281,SNR=11								
F28M	**Old Crow**	**64.44**	**25**	IAmb	IAmb	08 31 19.0			
	comp=Z,18nm,1.1s								
F28M	**Old Crow**	**64.44**	**25**	P	**P**	**08 30 59.8 +1.1**			
	baz=282,SNR=7.3								
CRQE	**Cirque**	**64.44**	**33**	P	**P**	**08 30 59.4 +0.3**			
	baz=282,SNR=5.3								
L27K	**Beaver Creek,**	**64.55**	**30**	IAmb	IAmb	08 31 10.7			
	comp=Z,15nm,1.1s								
L27K	**Beaver Creek,**	**64.55**	**30**	P	**P**	**08 31 00.1 +0.5**			
	baz=282,SNR=6.7								
BCAR	**Beaver Creek A**	**64.57**	**30**		**P**	**08 31 00.7 +1.0**			
M27K	**Edge Creek, AK**	**64.68**	**31**	P	**P**	**08 31 00.9 +0.3**			
	baz=282,SNR=6.0								
I28M	**Miner Creek**	**64.86**	**27**	IAmb	IAmb	08 31 13.6			
	comp=Z,29nm,1.2s								
I28M	**Miner Creek**	**64.86**	**27**	P	**P**	**08 31 02.3 +0.6**			
	baz=282,SNR=11								
MSVF	**Nonsavu**	**64.93**	**129**	P	**P**	**08 31 03.0 +0.3**			
MSVF	**Nonsavu**	**64.93**	**129**	*i* P	**P**	**08 31 04.9 +2.2**			
MSVF				pmax	pmax				
	comp=Z,23nm,1.2s								
E29M	**Blow River**	**65.00**	**24**	IAmb	IAmb	08 31 22.3			
	comp=Z,14nm,1.2s								
E29M	**Blow River**	**65.00**	**24**	P	**P**	**08 31 03.1 +0.8**			
	baz=283								
MESA	**MESA**	**65.12**	**33**	P	**P**	**08 31 03.3 -0.2**			
	baz=283								
BVCY	**Beaver Creek**	**65.13**	**31**	P	**P**	**08 31 04.3 +0.9**			
	baz=283								
CTG	**Chitna Glacier**	**65.23**	**32**	P	**P**	**08 31 04.7 +0.5**			
	baz=283								
G29M	**Pine Creek**	**65.29**	**26**	IAmb	IAmb	08 31 16.5			
	comp=Z,22nm,1.1s								
G29M	**Pine Creek**	**65.29**	**26**	P	**P**	**08 31 04.6 +0.3**			
	baz=283,SNR=5.3								
H29M	**Whitestone**	**65.31**	**26**	IAmb	IAmb	08 31 37.0			
	comp=Z,29nm,1.4s								
H29M	**Whitestone**	**65.31**	**26**	P	**P**	**08 31 05.4 +1.0**			
	baz=283								
DAWY	**Dawson**	**65.40**	**29**	P	**P**	**08 31 05.3 +0.2**			
	baz=284								
YUK3	**Moose Creek**	**65.46**	**32**	P	**P**	**08 31 06.1 +0.3**			
	baz=284,SNR=6.7								
I29M	**Ogilvie Camp,**	**65.54**	**27**	P	**P**	**08 31 06.1 +0.1**			
	baz=284								
J29N	**Klondike Camp**	**65.80**	**28**	P	**P**	**08 31 07.8 +0.1**			
	baz=284								
O28M	**Mount Upton**	**65.83**	**33**	P	**P**	**08 31 08.4 +0.2**			
	baz=284,SNR=8.3								
YUK8	**Steele Glacier**	**65.90**	**32**	P	**P**	**08 31 08.8 +0.2**			
	baz=284								
EPYK	**Eagle Plains**	**65.92**	**26**	P	**P**	**08 31 09.5 +1.0**			
	baz=285								
F30M	**Barrier River**	**65.96**	**25**	IAmb	IAmb	08 31 20.5			
	comp=Z,28nm,1.4s								
F30M	**Barrier River**	**65.96**	**25**	P	**P**	**08 31 09.3 +0.8**			
	baz=285								
G30M	**tAoh Zraii Nji**	**65.96**	**25**	P	**P**	**08 31 09.1 +0.5**			
	baz=285,SNR=8.3								
PINM	**Pinnacle**	**65.97**	**33**	P	**P**	**08 31 09.5 +0.6**			
	baz=285,SNR=5.7								
L29M	**L29M**	**66.18**	**30**	IAmb	IAmb	08 31 22.4			
	comp=Z,19nm,1.0s								
L29M	**L29M**	**66.18**	**30**	P	**P**	**08 31 11.1 +1.0**			
	baz=285,SNR=8.9								
M29M	**Somme Creek**	**66.20**	**31**	IAmb	IAmb	08 31 22.5			
	comp=Z,14nm,1.1s								
M29M	**Somme Creek**	**66.20**	**31**	P	**P**	**08 31 11.4 +1.0**			
	baz=285,SNR=7.0								
K29M	**Barlow Dome**	**66.25**	**29**	IAmb	IAmb	08 31 22.5			
	comp=Z,12nm,1.1s								
K29M	**Barlow Dome**	**66.25**	**29**	P	**P**	**08 31 11.4 +0.7**			
	baz=285								
KLMR	**Klimovskoe**	**66.27**	**328**	*e*P	**P**	**08 31 08.4 -2.3**			
KLMR				*e*		08 31 39.2			
KLMR				S	**S**	**08 39 55.6 -2.6**			
KLMR				pmax	pmax				
	comp=Z,44nm,1.5s								
KLMR				MLR	MLR				
	comp=Z,1µm,15.0s								
I30M	**Mount Dempster**	**66.36**	**27**	P	**P**	**08 31 12.2 +0.8**			
	baz=286,SNR=7.2								
YUK4	**Talbot Arm**	**66.41**	**32**	P	**P**	**08 31 12.3 +0.5**			
	baz=285,SNR=6.0								
MAK	**Makhachkala**	**66.41**	**307**	*e*P	P	08 31 06.1 -5.8			
MAK				*e*S	**S**	**08 39 53.5 -7.0**			
MAK				*e*SS	**SS**	**08 44 12.9 -4.0**			
MAK				pmax	pmax				
	comp=Z,265nm,1.6s								
PNL	**Peninsula**	**66.49**	**34**	P	**P**	**08 31 13.0 +0.9**			
	baz=285								
J30M	**Hart River**	**66.56**	**28**	P	**P**	**08 31 12.9 +0.3**			
	baz=286								
INK	**Inuvik**	**66.59**	**24**	IAmb	IAmb	08 31 24.5			
	comp=Z,17nm,1.4s								
INK	**Inuvik**	**66.59**	**24**	LR	LR	09 04 55.8			
	comp=Z,127nm,18.2s,baz=280,slow=40								
INK	**Inuvik**	**66.59**	**24**	P	**P**	**08 31 12.8 +0.2**			
	baz=287								
YUK6	**Outpost Mounta**	**66.65**	**32**	P	**P**	**08 31 13.8 +0.4**			
	baz=286,SNR=5.7								
AKT	**Akhty**	**66.69**	**306**	*e*P	**P**	**08 31 13.1 -0.8**			
AKT				*e*		08 31 41.5			
AKT				pmax	pmax				
	comp=Z,20nm,1.4s								
AKT				MLR	MLR				
	comp=Z,654nm,20.0s								
G31M	**Satah River**	**66.71**	**25**	P	**P**	**08 31 14.3 +0.9**			
	baz=287								
O29M	**Mount Kennedy**	**66.72**	**33**	P	**P**	**08 31 14.2 +0.4**			
	baz=286								
F31M	**Tsiigehtchic**	**66.76**	**25**	IAmb	IAmb	08 31 40.6			
	comp=Z,16nm,1.2s								
F31M	**Tsiigehtchic**	**66.76**	**25**	P	**P**	**08 31 13.8 +0.1**			
	baz=287								
M30M	**Minto, Yukon**	**66.91**	**30**	P	**P**	**08 31 15.5 +0.6**			
	baz=286,SNR=5.3								
APA	**Apatity**	**66.96**	**336**	*e*P	**P**	**08 31 13.3 -1.7**			
APA				*e*		08 31 39.7			
APA				MLR	MLR				
	comp=Z,464nm,18.2s								
H31M	**Peel River**	**67.01**	**26**	IAmb	IAmb	08 31 31.1			
	comp=Z,14nm,0.9s								
H31M	**Peel River**	**67.01**	**26**	P	**P**	**08 31 16.0 +0.7**			
	baz=287								
MAYO	**Mayo, Yukon**	**67.02**	**29**	P	**P**	**08 31 15.8 +0.4**			
	baz=287								
HYT	**Haines Junctio**	**67.08**	**32**	IAmb	IAmb	08 31 27.9			
	comp=Z,15nm,1.0s								
HYT	**Haines Junctio**	**67.08**	**32**	P	**P**	**08 31 16.5 +0.4**			
	baz=286,SNR=7.6								
N30M	**Aishikik Lake**	**67.09**	**31**	P	**P**	**08 31 16.6 +0.6**			
	baz=287								
P29M	**Windy Craggy**	**67.31**	**33**	IAmb	IAmb	08 31 29.4			
	comp=Z,21nm,1.1s								
P29M	**Windy Craggy**	**67.31**	**33**	P	**P**	**08 31 17.9 +0.5**			
	baz=287,SNR=7.0								
SPITS	**Spitsbergen Ar**	**67.45**	**348**	P	**P**	**08 31 16.5 -1.5**			
	comp=Z,22nm,1.0s,baz=122,slow=16,SNR=5.0								
SPITS				LR	LR	09 05 56.4			
	comp=Z,194nm,18.5s,baz=40,slow=41								
	comp=Z,22nm,1.0s								
P30M	**Million Dollar**	**67.54**	**33**	P	**P**	**08 31 19.4 +0.5**			
	baz=287								
N31M	**Braeburn, Yuko**	**67.69**	**31**	IAmb	IAmb	08 31 31.7			
	comp=Z,21nm,1.1s								
N31M	**Braeburn, Yuko**	**67.69**	**31**	P	**P**	**08 31 20.6 +0.9**			
	baz=288								
KBS	**Kingsbay**	**67.83**	**349**	*e*P	**P**	**08 31 19.5 -0.8**			
A36M	**Sachs Harbour**	**68.01**	**19**	P	**P**	**08 31 22.1 +0.6**			
	baz=293								
PLBC	**Pleasant Camp**	**68.03**	**33**	P	**P**	**08 31 22.3 +0.5**			
	baz=288								
M31M	**Drury Creek, Y**	**68.09**	**30**	P	**P**	**08 31 23.2 +0.9**			
	baz=288								
WHY	**Whitehorse**	**68.36**	**32**	IAmb	IAmb	08 31 35.9			
	comp=Z,20nm,1.0s								
WHY	**Whitehorse**	**68.36**	**32**	P	**P**	**08 31 24.7 +0.6**			
	baz=289								
SKAG	**Skagway**	**68.53**	**33**	P	**P**	**08 31 25.5 +0.5**			
	baz=289								
S31K	**Pelican**	**68.57**	**35**	P	**P**	**08 31 25.6 +0.4**			
	baz=289								
MOS	**Moscow**	**68.71**	**323**	*e*P	**P**	**08 31 24.6 -1.6**			
MOS				*e*		08 40 28.5			
MOS				pmax	pmax				
	comp=Z,40nm,0.7s								
ARCES	**ARCESS Array B**	**68.99**	**339**	P	**P**	**08 31 26.2 -1.6**			
	comp=Z,3.5nm,0.7s,baz=69,slow=8.1,SNR=12								
ARCES				LR	LR	09 07 07.5			
	comp=Z,345nm,18.9s,baz=46,slow=41								
	comp=Z,3.5nm,0.7s								
N32M	**Quiet Lake**	**69.03**	**31**	P	**P**	**08 31 28.2 0.0**			
	baz=290								
GNI	**Garni**	**69.26**	**305**	LR	LR	09 06 05.8			
	comp=Z,353nm,18.8s,baz=60,slow=40								
GNI	**Garni**	**69.26**	**305**	*de*P	**P**	**08 31 31.0 +0.9**			
GNI				pmax	pmax				
	comp=Z,17nm,1.3s								
P32M	**Atlin**	**69.27**	**33**	P	**P**	**08 31 30.0 +0.4**			
	baz=290								
R32K	**Eaglecrest**	**69.32**	**34**	P	**P**	**08 31 30.3 +0.4**			
	baz=290								
MMPY	**Sheldon Lake,**	**69.32**	**29**	P	**P**	**08 31 30.0 0.0**			
	baz=291								
SIT	**Sitka**	**69.33**	**36**	P	**P**	**08 31 29.4 -0.5**			
	baz=290								
JOF	**Joensuu**	**69.33**	**331**	*e*P	**P**	**08 31 29.3 -0.6**			
KBZ	**Khabaz**	**69.37**	**309**	P	**P**	**08 31 30.2 -0.3**			
	comp=Z,6.5nm,0.7s,baz=80,slow=4.3,SNR=13								
KBZ				LR	LR	09 05 57.2			
	comp=Z,343nm,19.2s,baz=68,slow=40								
	comp=Z,6.5nm,0.7s								
KBZ	**Khabaz**	**69.37**	**309**	*de*P	**P**	**08 31 30.8 +0.3**			
C36M	**Paulatuk**	**69.43**	**21**	P	**P**	**08 31 29.9 -0.5**			
	baz=295								
KIV	**Kislovodsk**	**69.44**	**310**	*e*P	**P**	**08 31 31.3 +0.2**			
KIV				pmax	pmax				
	comp=Z,18nm,1.0s								
KIV	**Kislovodsk**	**69.44**	**310**	P	**P**	**08 31 31.5 +0.4**			
	comp=Z,368nmcomp=Z,16nm,1.1s								
P33M	**Teslin, Yukon**	**69.48**	**32**	IAmb	IAmb	08 31 42.7			
	comp=Z,14nm,1.1s								
P33M	**Teslin, Yukon**	**69.48**	**32**	P	**P**	**08 31 31.1 +0.1**			
	baz=290,SNR=5.5								
OBN	**Obninsk**	**69.49**	**322**	P	**P**	**08 31 30.7 -0.3**			
OBN	**Obninsk**	**69.49**	**322**	LR	LR	09 04 50.9			
	comp=Z,919nm,18.3s,baz=20,slow=38								
OBN	**Obninsk**	**69.49**	**322**	*e*P	**P**	**08 31 30.4 -0.6**			
OBN				*e**PP	**pP**	**08 31 39.1 +0.5**			
OBN				*e*		08 31 53.7			
OBN				*i* S	**S**	**08 40 38.4 +1.6**			
OBN				*i*		08 41 21.4			
OBN				pmax	pmax				
	comp=Z,31nm,1.7s								
OBN				MLR	MLR				
	comp=Z,891nm,17.0s								
SHA1	**Shidzhatmaz**	**69.53**	**309**	*de*P	**P**	**08 31 32.0 +0.2**			
S32K	**Killisnoo**	**69.57**	**35**	P	**P**	**08 31 31.8 +0.4**			
	baz=290								
KTK1	**Kautokeino**	**69.94**	**338**	*e*P	**P**	**08 31 32.8 -0.8**			
Q32M	**Nakina River**	**70.18**	**33**	P	**P**	**08 31 35.4 -0.1**			
	baz=291								
ERBR	**Yeremizino-Bor**	**70.32**	**312**	*e*P	**P**	**08 31 37.9 +1.6**			
ERBR				pmax	pmax				
	comp=Z,24nm,0.5s								
ERBR				MLR	MLR				
	comp=Z,834nm,20.0s								
R33M	**Jennings River**	**70.64**	**32**	P	**P**	**08 31 38.4 +0.1**			
	baz=292								
U33K	**Whale Pass**	**70.80**	**36**	P	**P**	**08 31 39.2 +0.2**			
	baz=292								
CRAG	**Craig**	**71.04**	**37**	P	**P**	**08 31 40.8 +0.3**			
	baz=292								
TGTN	**Hyland Airport**	**71.04**	**30**	P	**P**	**08 31 40.5 0.0**			
	baz=294								
WRAK	**Wrangell Islan**	**71.09**	**36**	P	**P**	**08 31 41.4 +0.6**			
	baz=292								
GEVA	**Gevas**	**71.12**	**304**	IAmb	IAmb	08 31 43.8			
	comp=Z,21nm,0.9s								
S34M	**Telegraph Cree**	**71.13**	**34**	P	**P**	**08 31 41.1 +0.1**			
	baz=293								
DLBC	**Dease Lake**	**71.47**	**33**	LR	LR	09 03 46.6			
	comp=Z,68nm,22.0s,baz=274,slow=36								
DLBC	**Dease Lake**	**71.47**	**33**	P	**P**	**08 31 43.6 +0.4**			
	baz=293								
SOC	**Sochi**	**71.59**	**310**	*e*P	**P**	**08 31 41.7 -2.3**			
SOC				*e*		08 34 18.9			
SOC				*e*PPP	PPP	08 36 03.3			
SOC				*e*S	**S**	**08 41 00.9 -0.8**			
SOC				*e*SS	**SS**	**08 45 37.0 +0.3**			
V35K	**Ketchikan**	**71.89**	**37**	P	**P**	**08 31 45.1 -0.5**			
	baz=293								
T35M	**Bob Quinn**	**71.94**	**35**	P	**P**	**08 31 45.7 -0.3**			
	baz=294								
SJUU	**Sjulsmark**	**72.11**	**335**	*e*P	**P**	**08 31 47.1 +0.3**			
FIA1	**FINESS Array B**	**72.17**	**331**		**P**	**08 31 46.7 -0.5**			
FINES	**FINESS Array B**	**72.17**	**331**		**P**	**08 31 46.8 -0.4**			
FINES	**FINESS Array B**	**72.17**	**331**	P	**P**	**08 31 46.1 -1.1**			
	comp=Z,14nm,0.6s,baz=69,slow=5.6,SNR=63								
FINES				LR	LR	09 06 57.8			
	comp=Z,514nm,19.5s,baz=64,slow=39								
	comp=Z,14nm,0.6s								
FINES	**FINESS Array B**	**72.17**	**331**	P	**P**	**08 31 46.8 -0.4**			
KOPT	**Kop Dagi**	**72.35**	**306**	IAmb	IAmb	08 32 11.4			
	comp=Z,15nm,0.8s								
ANN	**Anapa**	**72.66**	**312**	*e*P	**P**	**08 31 50.0 -0.4**			
ANN				*e*S	**S**	**08 41 12.3 -1.7**			
ANN				pmax	pmax				
	comp=Z,46nm,1.2s								
ANN				MLR	MLR				
	comp=Z,642nm,21.0s								
LIRD	**Liard River Hi**	**72.91**	**31**	P	**P**	**08 31 51.7 0.0**			
	baz=296								
STEI	**Steigen**	**73.05**	**339**	*e*P	**P**	**08 31 51.3 -0.9**			
ARBE	**Arbavere**	**73.09**	**329**	*e*P	**P**	**08 31 52.2 -0.5**			
MARD	**Mardin**	**73.17**	**304**		**P**	**08 31 53.4 -0.4**			
VSU	**Vasula**	**73.18**	**328**	*de*P	**P**	**08 31 52.3 -0.9**			
VSU				pmax	pmax				
	comp=Z,22nm,1.0s								
VSU	**Vasula**	**73.18**	**328**	*e*P	**P**	**08 31 52.8 -0.4**			
FAUS	**Fauske**	**73.33**	**339**	*e*P	**P**	**08 31 54.0 0.0**			
MEF	**Metsahovi**	**73.46**	**330**	*e*P	**P**	**08 31 54.5 -0.3**			
LOF	**Lofoten**	**73.47**	**340**	*e*P	**P**	**08 31 54.4 -0.4**			
RES	**Resolute Bay**	**73.49**	**11**	LR	LR	09 08 45.3			
	comp=Z,130nm,18.2s,baz=356,slow=40								
KOTAN	**Kotcheelee Air**	**73.51**	**30**	P	**P**	**08 31 55.5 +0.3**			
	baz=296								
TOAD	**Toad River Com**	**73.56**	**32**	P	**P**	**08 31 56.2 +0.7**			
	baz=297								
RAF	**Rauma**	**74.22**	**331**	*e*P	**P**	**08 31 59.1 -0.1**			
MOR8	**Moi Rana**	**74.29**	**338**	*e*P	**P**	**08 31 57.9 -1.8**			
MNK	**Minsk**	**74.35**	**324**	*i* P	**P**	**08 32 00.1 -0.2**			
	comp=E,16nm,0.8s								
MNK				*i* P	**P**	**08 32 00.1 -0.2**			
	comp=N,13nm,0.9s								
MNK				*i* P	**P**	**08 32 00.1 -0.2**			
	comp=Z,20nm,0.7s,baz=64								
MNK				*i* PcP	**PcP**	**08 32 14.5 -0.4**			
MNK				*i* PP	**PP**	**08 34 45.8 -0.2**			
MNK				*i* PPP	PPP	08 36 31.1			
MNK				*i* S	**S**	**08 41 37.4 +4.5**			
MNK				*i* PS	**PnS**	**08 42 09.0 +0.6**			
MNK				*i* SS	SS	08 45 29.1 -49			
MNK				*i* LQ	LQ	08 59 31.6			
MNK				*i* LR	LR	09 05 23.8			
MNK				*i* LRM	MLR	09 07 41.2			
	comp=N,274nm,14.9s								
MNK				*i* LRM	MLR	09 08 25.1			
	comp=Z,712nm,15.4s								
MNK				*i* LRM	MLR	09 08 30.4			
	comp=E,508nm,16.2s								
MNK	**Minsk**	**74.35**	**324**	*i* P	**P**	**08 32 00.0 -0.2**			
MNK				*i*		08 32 14.5			
MNK				*i*		08 34 45.8			
MNK				*i* PPP	PPP	08 36 31.1			
MNK				*i* S	**S**	**08 41 37.3 +4.5**			
MNK				*i* PS	**PnS**	**08 42 08.9 +0.6**			
MNK				pmax	pmax				
	comp=N,13nm,0.9s								
MNK				pmax	pmax				
	comp=E,16nm,0.8s								
MNK				pmax	pmax				
	comp=Z,20nm,0.7s								
MNK				MLR	MLR				
	comp=N,274nm,15.0s								
MNK				MLR	MLR				
	comp=Z,712nm,15.0s								
MNK				MLR	MLR				
	comp=E,508nm,16.0s								
VAGH	**Vaagaholmen**	**74.35**	**338**	*e*P	**P**	**08 32 01.5 +1.5**			
STOK	**Stokkvaagen**	**74.67**	**338**	*e*P	**P**	**08 32 02.2 +0.4**			
LEIR	**Leirfjorden**	**74.76**	**338**	*e*P	**P**	**08 32 01.4 -0.9**			
NEEM	**North Greenlan**	**74.80**	**0**	*e*P	**P**	**08 32 01.5 -1.3**			
RAYN	**Ar Rayn**	**74.87**	**289**		**P**	**08 32 03.2 -0.7**			
RAYN				IAmb	IAmb	08 32 15.9			
	comp=Z,37nm,1.4s								
RAYN	**Ar Rayn**	**74.87**	**289**	P	**P**	**08 32 04.2 +0.3**			
BBB	**Bella Bella**	**75.09**	**39**	LR	LR	09 02 37.3			
	comp=Z,66nm,21.8s,baz=288,slow=34								
AK03	**Malin Array Si**	**75.29**	**320**	P	**P**	**08 32 05.2 -0.5**			
AKASG	**Malin Array Be**	**75.30**	**320**	P	**P**	**08 32 04.3 -1.5**			
	comp=Z,10nm,0.5s,baz=60,slow=6.2,SNR=47								
AKASG				LR	LR	09 08 23.9			
	comp=Z,750nm,18.5s,baz=63,slow=38								
	comp=Z,10nm,0.5s								
AKBB	**Malin Array Si**	**75.30**	**320**	IAmb	IAmb	08 32 07.1			
	comp=Z,24nm,0.8s								
AKBB	**Malin Array Si**	**75.30**	**320**	*de*P	**P**	**08 32 05.4 -0.4**			
AKBB	**Malin Array Si**	**75.30**	**320**	P	**P**	**08 32 05.4 -0.4**			
AK09	**Malin Array Si**	**75.30**	**320**	P	**P**	**08 32 05.5 -0.3**			
AK01	**Malin Array Si**	**75.31**	**320**	P	**P**	**08 32 05.5 -0.3**			
AK08	**Malin Array Si**	**75.31**	**320**	P	**P**	**08 32 05.4 -0.4**			
KIEV	**Kiev**	**75.31**	**320**		**P**	**08 32 05.4 -0.4**			
KIEV				IAmb	IAmb	08 32 07.1			
	comp=Z,22nm,0.8s								
KIEV	**Kiev**	**75.31**	**320**	⇑P	**P**	**08 32 05.8 -0.1**			
KIEV	**Kiev**	**75.31**	**320**	P	**P**	**08 32 05.7 -0.1**			
KIEV	**Kiev**	**75.31**	**320**	P	**P**	**08 32 05.7 -0.1**			
	comp=Z,125nm,0.7s								
AK04	**Malin Array Si**	**75.32**	**320**	P	**P**	**08 32 05.2 -0.7**			
AK23	**Malin Array Si**	**75.33**	**320**	P	**P**	**08 32 05.7 -0.2**			
AK02	**Malin Array Si**	**75.33**	**320**	P	**P**	**08 32 05.7 -0.2**			
AK10	**Malin Array Si**	**75.33**	**320**	P	**P**	**08 32 05.7 -0.2**			
AK11	**Malin Array Si**	**75.34**	**320**	P	**P**	**08 32 05.8 -0.2**			
AK05	**Malin Array Si**	**75.35**	**320**	P	**P**	**08 32 05.8 -0.2**			
AK15	**Malin Array Si**	**75.36**	**320**	P	**P**	**08 32 05.9 -0.2**			
RAO	**Raoul Island**	**75.55**	**135**	LR	LR	08 58 41.4			
	comp=Z,260nm,21.8s,baz=308,slow=30								
PABE	**Paberze**	**75.89**	**326**	*e*P	**P**	**08 32 09.0 0.0**			
NSS	**Namsos**	**76.09**	**337**	*e*P	**P**	**08 32 09.3 -0.7**			
BNN	**Bunyan**	**76.12**	**307**	IAmb	IAmb	08 32 13.2			
	comp=Z,27nm,1.3s								
YKA	**Yellowknife Ar**	**76.20**	**26**	P	**P**	**08 32 11.1 +0.4**			
	comp=Z,3.4nm,0.8s,baz=308,slow=5.6,SNR=11								
YKA				LR	LR	09 08 04.8			
	comp=Z,79nm,19.3s,baz=304,slow=38								
	comp=Z,3.4nm,0.8s								
UPP	**Uppsala**	**76.58**	**331**	*e*P	**P**	**08 32 12.9 +0.1**			
PBUR	**Paburge**	**76.63**	**327**	*e*P	**P**	**08 32 13.6 +0.3**			
RNPP9	**Sopachiv**	**76.84**	**321**	P	**P**	**08 32 14.4 -0.1**			
RNPP5	**Staryi Chortor**	**76.93**	**321**	P	**P**	**08 32 14.7 -0.3**			
SUW	**Suwalki**	**77.02**	**325**	*e*P	**P**	**08 32 17.0 +1.5**			
SUW	**Suwalki**	**77.02**	**325**	P	**P**	**08 32 16.0 +0.5**			
SUW				pmax	pmax				
	comp=Z,80nm,1.0s								
BR131	**Keskin Array S**	**77.30**	**308**	IAmb	IAmb	08 32 30.4			
	comp=Z,16nm,1.1s								
BR131	**Keskin Array S**	**77.30**	**308**	*c i* P	**P**	**08 32 17.5 0.0**			
BRTR	**Keskin Array B**	**77.30**	**308**	P	**P**	**08 32 17.8 +0.2**			
	comp=Z,4.9nm,0.7s,baz=113,slow=4.3,SNR=18								
BRTR				LR	LR	09 11 40.6			
	comp=Z,224nm,20.5s,baz=34,slow=40								
	comp=Z,4.9nm,0.7s	

VOIR 80.25 316 P **P** 08 32 34.3 +0.7
STHS **Stebnicka Huta** 80.42 321 *e*P P 08 32 44.7 +10
STHS pmax pmax
comp=Z,17nm,1.4s
STHS **Stebnicka Huta** 80.42 321 *e*P **P** 08 32 44.7 +10
BSD **Bornholm Skovb** 80.47 328 *e*P **P** 08 32 34.3 -0.1
ARR **Arges** 80.54 316 ⇑P **P** 08 32 34.8 -0.3
MARR **Marisel-Cluj** 80.78 318 ⇑P **P** 08 32 37.0 +0.6
EIL **Elat** 80.78 299 LR LR 09 16 44.7
comp=Z,104nm,18.0s,baz=66,slow=42
NIE **Niedzica** 80.94 322 P **P** 08 32 38.6 +1.5
NIE pmax pmax
comp=Z,9.0nm,1.1s
ELND **Elena** 80.98 314 ⇓P **P** 08 32 38.1 +0.6
LOT **Lotru** 81.02 317 ⇑P **P** 08 32 37.7 0.0
LANS **Liptovska Anna** 81.54 322 *e*P **P** 08 32 41.9 +1.6
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS **Liptovska Anna** 81.54 322 *e*P **P** 08 32 41.9 +1.6
SURR **Surduc** 81.85 318 ⇓P **P** 08 32 42.5 +0.5
OKC **Ostrava-Krasne** 81.88 323 AMS AMS 09 12 10.0
comp=Z,600nm,18.5s
PSZ **Piszkesteto** 81.98 320 ⇑P **P** 08 32 43.3 +0.6
PSZ **Piszkesteto** 81.98 320 P **P** 08 32 43.3 +0.6
STEB **Steborice** 82.02 323 *e*P **P** 08 32 43.5 +0.7
RDO **Rodhopi** 82.09 312 IAmb IAmb 08 32 55.6
comp=Z,23nm,1.2s
HERR **Herculane** 82.13 317 ⇑P **P** 08 32 43.8 +0.3
MORC **Moravsky Berou** 82.23 323 IAmb IAmb 08 32 56.8
comp=Z,12nm,1.0s
MORC **Moravsky Berou** 82.23 323 *e*P **P** 08 32 44.2 +0.2
MORC **Moravsky Berou** 82.23 323 ⇓P **P** 08 32 44.9 +0.9
MORC **Moravsky Berou** 82.23 323 P **P** 08 32 44.9 +0.9
VYHS **Vyhne** 82.25 321 *e*P **P** 08 32 45.2 +1.1
VYHS pmax pmax
comp=Z,24nm,1.1s
VYHS **Vyhne** 82.25 321 *e*P **P** 08 32 45.2 +1.1
KSP **Ksiaz** 82.28 324 *e*P **P** 08 32 45.0 +0.8
KSP **Ksiaz** 82.28 324 P **P** 08 32 45.4 +1.3
KSP pmax pmax
comp=Z,20nm,0.9s
MAUC **Maruska** 82.31 322 AMS AMS 09 12 30.0
comp=Z,1μm,19.5s
ATD **Arta Tunnel** 82.33 279 LR LR 09 11 03.2
comp=Z,6.7nm,18.8s,baz=59,slow=37
KRLC **Kraliky** 82.47 323 *e*P **P** 08 32 46.2 +1.0
KRLC MLR MLR
comp=Z,700nm,16.1s
KRLC **Kraliky** 82.47 323 *e*P **P** 08 32 46.2 +1.0
KRLC AMS AMS 09 12 30.0
comp=Z,700nm,16.1s
OSTC **Ostas** 82.48 324 AMS AMS 09 12 50.0
comp=Z,800nm,16.2s
DPC **Dobruska-Polom** 82.55 324 *e*P **P** 08 32 47.0 +1.4
DPC MLR MLR
comp=Z,700nm,15.6s
DPC **Dobruska-Polom** 82.55 324 *e*P **P** 08 32 47.0 +1.4
DPC AMS AMS 09 12 40.0
comp=Z,700nm,15.6s
CHVC **Chvalec** 82.55 324 AMS AMS 09 12 50.0
comp=Z,800nm,14.5s
MDVR **Moldovita** 82.61 317 ⇓P **P** 08 32 46.4 +0.4
UPC **Upice** 82.62 324 AMS AMS 09 13 00.0
comp=Z,900nm,16.1s
JAVC **Velka Javorina** 82.69 322 *e*P **P** 08 32 48.0 +1.6
D08A **Wollman Farm,** 82.83 40 IAmb IAmb 08 32 58.6
comp=Z,12nm,0.9s
VRAC **Vranov** 83.01 323 LR LR 09 13 25.7
comp=Z,639nm,18.9s,baz=64,slow=38
VRAC **Vranov** 83.01 323 *e*P **P** 08 32 48.8 +0.8
VRAC **Vranov** 83.01 323 P **P** 08 32 49.1 +1.1
VRAC pmax pmax
comp=Z,18nm,1.2s
NEW **Newport** 83.15 38 LR LR 09 14 38.0
comp=Z,53nm,18.1s,baz=310,slow=39
MODS **Modra-Piesok** 83.18 322 *e*P **P** 08 32 47.6 -1.3
MODS pmax pmax
comp=Z,51nm,1.3s
MODS **Modra-Piesok** 83.18 322 *e*P **P** 08 32 47.6 -1.3
BOVS **Bovan** 83.23 316 ⇑P **P** 08 32 49.9 +0.7
KRUC **Moravsky** 83.26 323 *e*P **P** 08 32 50.4 +1.1
PVCC **Panska Ves** 83.35 325 P **P** 08 32 51.1 +1.4
PVCC pmax pmax
comp=Z,15nm,1.1s
PVCC **Panska Ves** 83.35 325 AMS AMS 09 13 30.0
comp=Z,800nm,16.7s
BRG **Berggiesshubel** 83.46 325 P **P** 08 32 52.0 +1.7
BRG pmax pmax
comp=Z,12nm,1.6s
BRG **Berggiesshubel** 83.46 325 *e*P **P** 08 32 51.8 +1.5
comp=Z,3.2nm,0.7s,baz=50,slow=5.0
BRG **Berggiesshubel** 83.46 325 Amp 08 32 52.9
comp=Z,4.5nm,0.9s
BRG **Berggiesshubel** 83.46 325 Amp 08 33 04.2
comp=Z,6.9nm,1.0s
BRG **Berggiesshubel** 83.46 325 S **SKSac** 08 43 13.0 +1.9
BRG **Berggiesshubel** 83.46 325 *e*P **P** 08 32 52.2 +1.9
BRG **Berggiesshubel** 83.46 325 P P 08 33 01.0 +11
RAR **Rarotonga** 83.50 118 LR LR 09 00 29.8
comp=Z,139nm,21.9s,baz=294,slow=29
J05D **Fort Rock, OR** 83.51 44 IAmb IAmb 08 33 02.9
comp=Z,14nm,1.0s
RICC **Richard** 83.58 325 AMS AMS 09 13 40.0
comp=Z,800nm,16.9s
MORH **Mrgy, Hungar** 83.63 319 ⇓P **P** 08 32 51.6 +0.4
CLL **Collm** 83.67 326 *i* P **P** 08 32 51.8 +0.5
CLL *i* 08 33 00.3
CLL *e*S **S** 08 43 14.0 +1.8
CLL pmax pmax
comp=Z,17nm,0.7s
CLL **Collm** 83.67 326 *e*P **P** 08 32 51.9 +0.5
comp=Z,16nm,0.7s,baz=50,slow=5.0
CLL *e*L L 09 14 01.3
comp=Z,298nm,19.1s
CLL **Collm** 83.67 326 *i* P **P** 08 32 51.8 +0.5
comp=Z,17nm,0.7s
CLL *i* x x 08 33 00.3
CLL *e*S **S** 08 43 14.0 +1.8
CLL *e*SS **SS** 08 48 42.0 +4.0
PRU **Pruhonice** 83.69 324 *e*SKS **S** 08 43 12.4 0.0
PRU AMS AMS 09 13 30.0
comp=Z,800nm,16.1s
PRA **Prague** 83.70 324 AMS AMS 09 13 30.0
comp=Z,800nm,15.5s
G08A **Pilot Rock** 83.78 42 **P** 08 32 53.4 +1.2
FLTG **Flechtingen** 83.90 327 *e*P **P** 08 32 52.7 +0.3
comp=Z,17nm,0.9s,baz=50,slow=5.0
RONA **Rosalia, Austr** 84.10 322 *i* P **P** 08 32 54.9 +1.2
comp=Z,4.3nm,0.9s
O02D **Mt. Diablo Mer** 84.18 47 IAmb IAmb 08 33 06.3
comp=Z,18nm,1.3s
ZVC **Zvikov** 84.20 324 *e*P **P** 08 32 55.0 +0.9
ZVC AMS AMS 09 13 50.0
comp=Z,800nm,15.8s
CONA **Conrad Observa** 84.21 322 *i* pP **P** 08 32 55.4 +1.2
comp=Z,8.8nm,1.2s,SNR=9.8
ASSE **Asse, Remlinge** 84.29 327 *e*P **P** 08 32 55.1 +0.7
comp=Z,13nm,1.1s,baz=50,slow=5.0
NEUB **Neuenburg** 84.34 326 *e*P **P** 08 32 55.6 +0.9
comp=Z,15nm,0.7s,baz=50,slow=5.0
TANN **Tannenbergstha** 84.49 325 *e*P **P** 08 32 56.2 +0.6
comp=Z,4.8nm,0.9s,baz=50,slow=5.0
CKRC **Cesky Krumlov** 84.51 323 *e*P **P** 08 32 56.6 +0.9
CKRC MLR MLR
comp=Z,700nm,17.8s
CKRC **Cesky Krumlov** 84.51 323 *e*P **P** 08 32 56.6 +0.9
CKRC AMS AMS 09 14 00.0
comp=Z,700nm,17.8s
RETH **Rethem/Aller,** 84.52 328 *e*P **P** 08 32 56.3 +0.8
comp=Z,20nm,1.1s,baz=50,slow=5.0
PLN **Plauen** 84.60 325 *e*P **P** 08 32 56.8 +0.7
comp=Z,2.4nm,0.9s,baz=50,slow=5.0
CLZ **Clausthal** 84.62 327 *e*P **P** 08 32 57.4 +1.1
comp=Z,32nm,1.0s,baz=50,slow=5.0
KHC **Kasperske Hory** 84.71 324 *c i*P **P** 08 32 57.2 +0.5
KHC pmax pmax
comp=Z,16nm,1.7s
KHC **Kasperske Hory** 84.71 324 *e*P **P** 08 32 57.5 +0.8
KHC *e*SKS **SKSac** 08 43 17.8 -1.5
KHC AMS AMS 09 14 10.0
comp=Z,800nm,16.0s
MOX **Moxa** 84.77 326 P **P** 08 32 57.4 +0.4
MOX pmax pmax
comp=Z,10.0nm,1.7s
MOX **Moxa** 84.77 326 *e*P **P** 08 32 57.4 +0.4
comp=Z,16nm,1.3s,baz=50,slow=5.0
MOX *e*L L 09 14 44.7
comp=Z,402nm,18.9s
ARSA **Arzberg** 84.79 322 *i* P **P** 08 32 58.1 +1.0
comp=Z,9.0nm,1.4s
GEC2 **GERESS Array S** 84.81 324 P **P** 08 32 58.2 +0.9
GEC2 pmax pmax
comp=Z,9.0nm,2.2s
GEC2 **GERESS Array S** 84.81 324 *e*P **P** 08 32 57.9 +0.6
comp=Z,7.0nm,0.8s,baz=50,slow=5.0
GEC2 *e*L L 09 14 22.7
comp=Z,709nm,18.7s
GERES **GERESS Array B** 84.81 324 P **P** 08 32 57.4 0.0
comp=Z,5.1nm,0.8s,baz=36,slow=5.0,SNR=31
GERES LR LR 09 14 42.1
comp=Z,803nm,18.1s,baz=60,slow=38
comp=Z,5.1nm,0.8s
BORG **Borgarnes** 84.92 348 LR LR 09 14 38.8
comp=Z,49nm,19.2s,baz=55,slow=38
MANZ **Manzenberg** 84.94 325 *e*P **P** 08 32 58.6 +0.8
comp=Z,1.3nm,0.9s,baz=50,slow=5.0
FNA **Florina** 84.97 314 IAmb IAmb 08 33 00.2
comp=Z,9.2nm,0.8s
GTTG **Gottingen** 85.00 327 *e*P **P** 08 32 59.0 +0.9
comp=Z,21nm,0.9s,baz=50,slow=5.0
ROTZ **Rotzenmuhle** 85.02 325 *e*P **P** 08 32 59.3 +1.1
comp=Z,6.5nm,1.3s,baz=50,slow=5.0
WET **Wettzell** 85.06 324 *e*L L 09 14 32.1
comp=Z,579nm,18.1s
MOA **Molln** 85.12 323 *i* PcP **P** 08 33 00.2 +1.4
comp=Z,13nm,1.0s,SNR=7.0
J08A **Circle Bar Ran** 85.16 43 IAmb IAmb 08 33 11.2
comp=Z,14nm,1.0s
SFJD **Kangerlussuaq** 85.30 0 LR LR 09 13 59.6
comp=Z,102nm,18.3s,baz=346,slow=38
PDG **Podgorica** 85.39 316 ⇑P **P** 08 33 01.0 +0.8
SOKA **Soboth** 85.40 321 *i* P **P** 08 33 01.1 +0.8
comp=Z,24nm,1.5s,SNR=17
UBBA **Unterbreizbach** 85.45 327 *e*P **P** 08 33 00.9 +0.7
comp=Z,18nm,1.2s,baz=50,slow=5.0
IDI **Anoyia** 85.52 308 LR LR 09 14 55.0
comp=Z,136nm,21.4s,baz=68,slow=38
IBBN **Ibbenburen** 85.54 329 *e*P **P** 08 33 01.2 +0.5
comp=Z,32nm,0.8s,baz=50,slow=5.0
BIOA **Bad Ischl, Aus** 85.55 323 *i* PcP **P** 08 33 02.5 +1.6
comp=Z,5.0nm,0.6s
GRF **Grafenberg Arr** 85.57 325 *e*P **P** 08 33 01.6 +0.6
comp=Z,20nm,0.9s,baz=50,slow=5.0
GRF *e*L L 09 12 46.6
comp=Z,231nm,21.6s
LEGS **Legarje** 85.68 321 *i* P **P** 08 33 01.9 +0.4
OBKA **Obir** 85.77 321 *i* PcP **P** 08 33 03.1 +1.0
comp=Z,9.3nm,1.0s
RJOB **Jochberg** 85.97 323 *e*P **P** 08 33 04.1 +1.0
comp=Z,18nm,1.0s,baz=50,slow=5.0
KBA **Koelnbreinsper** 86.08 322 *i* P **P** 08 33 04.2 +0.5
comp=Z,8.3nm,1.0s
CRNS **Crni Vrh** 86.19 321 *i* P **P** 08 33 04.4 +0.3
MYKA **Terra Mystica** 86.19 322 *i* P **P** 08 33 04.0 -0.2
comp=Z,3.7nm,0.7s
VOJS **Vojsko** 86.43 321 *i* P **P** 08 33 05.2 -0.2
FUR **Furstenfeldbru** 86.50 324 *e*L L 09 15 52.6
comp=Z,615nm,18.0s
TNS **Taunus Mts** 86.60 327 *e*L L 09 17 01.4
comp=Z,737nm,18.0s
MFID **Camas Ranch** 86.70 42 IAmb IAmb 08 33 18.9
comp=Z,14nm,1.3s
ABTA **Abfaltersbach** 86.74 322 *i* P **P** 08 33 07.2 +0.3
comp=Z,3.9nm,0.6s,SNR=9.6
WATA **Walderalm** 86.87 323 *i* PcP **PcP** 08 33 09.5 -0.3
comp=Z,5.7nm,0.8s
WTTA **Wattenberg** 86.88 323 P **P** 08 33 08.6 +0.9
WTTA pmax pmax
comp=Z,18nm,1.3s
WTTA **Wattenberg** 86.88 323 *i* PcP **PcP** 08 33 09.5 -0.5
comp=Z,17nm,1.2s,SNR=5.9
MOTA **Moosalm** 87.11 323 *i* PcP **P** 08 33 09.4 +0.6
comp=Z,9.6nm,0.8s
SQTA **Sankt Quirin** 87.14 323 *i* PcP **P** 08 33 09.8 +0.9
comp=Z,3.9nm,0.5s
RETA **Reutte** 87.20 324 *i* pP **P** 08 33 11.8 +2.7
comp=Z,10nm,1.3s
EGMT **Eagleton** 87.22 36 IAmb IAmb 08 33 20.7
comp=Z,14nm,1.0s
FRB **Frobisher Bay** 87.38 8 LR LR 09 17 29.3
comp=Z,156nm,18.3s,baz=323,slow=39
FETA **Feichten** 87.52 323 *i* pP **P** 08 33 13.9 +3.2
comp=Z,5.4nm,0.7s
CTI **Castel Tesino** 87.64 322 IAmb IAmb 08 33 14.0
comp=Z,14nm,0.8s
DAVA **Damuels** 87.79 324 *i* pP **P** 08 33 15.6 +3.5
comp=Z,9.7nm,0.6s
EKA **Eskdalmuir Ar** 87.90 335 P **P** 08 33 11.0 -1.2
comp=Z,0.5nm,0.3s,baz=48,slow=4.6,SNR=5.9
comp=Z,0.5nm,0.3s
BFO **Black Forest** 87.90 325 *e*L L 09 16 27.4
comp=Z,260nm,20.3s
NVAR **Mina Array Bea** 88.05 47 **P** 08 33 14.0 +0.5
NVAR **Mina Array Bea** 88.05 47 P **P** 08 33 14.3 +0.7
comp=Z,1.3nm,0.7s,baz=294,slow=4.5,SNR=13
comp=Z,1.3nm,0.7s
DAVOX **Davos/Dischmat** 88.12 324 LR LR 09 16 49.1
comp=Z,737nm,18.4s,baz=58,slow=38
YHL **Hebgen Lake** 88.48 39 IAmb IAmb 08 33 27.9
comp=Z,9.6nm,1.1s
TUE **Stuetta** 88.60 324 IAmb IAmb 08 33 19.9
comp=Z,13nm,0.9s
ELK **Elko** 88.63 44 LR LR 09 07 55.7
comp=Z,73nm,21.7s,baz=320,slow=32
PPT **Papeete** 89.86 110 LR LR 09 08 39.5
comp=Z,88nm,20.1s,baz=319,slow=32
PPT2 **Papeete2** 89.87 110 *e*P **P** 08 33 22.8 +0.7
comp=Z,50nm,26.5s
PPT2 **Papeete2** 89.87 110 *e*S **S** 08 44 16.7 +3.4
comp=Z,64nm,34.2s
PPT2 *e*SS **SS** 08 50 02.0 -10
comp=Z,43nm,26.2s
PPT2 *e*LQ LQ 08 57 57.5
comp=Z,71nm,24.2s
PPT2 *e*LR LR 09 01 52.4
comp=Z,213nm,23.8s
PPT2 *e*LR LR 09 01 57.2
comp=Z,247nm,27.0s
CEL **Celeste** 89.89 314 IAmb IAmb 08 33 26.4
comp=Z,16nm,0.8s
HWUT **Hardware Ranch** 90.30 41 IAmb IAmb 08 33 36.4
comp=Z,15nm,1.1s
PDAR **Pinedale Array** 90.71 39 P **P** 08 33 26.1 +0.2
comp=Z,1.2nm,0.8s,baz=20,slow=1.3,SNR=13
comp=Z,1.2nm,0.8s
VAE **Valguarnera** 91.30 314 LR LR 09 21 46.5
comp=Z,203nm,18.3s,baz=130,slow=40
PFO **Pinyon Flats O** 92.04 50 LR LR 09 06 59.1
comp=Z,72nm,21.8s,baz=262,slow=30
ULM **Lac du Bonnet** 92.07 28 P **P** 08 33 31.4 -0.4
comp=Z,5.8nm,0.9s,baz=330,slow=6.0,SNR=6.2
comp=Z,5.8nm,0.9s
MTPU **Mount Pierson** 92.15 44 IAmb IAmb 08 33 45.6
comp=Z,7.9nm,1.1s
TBI **Tubuai** 92.77 115 *e*S **S** 08 44 43.1 +3.9
comp=Z,495nm,27.2s
TBI **Tubuai** 92.77 115 *e*LQ LQ 08 59 02.0
comp=Z,1μm,29.8s
TBI *e*LR LR 09 03 18.4
comp=Z,1μm,23.5s
KMBO **Kilima Mbogo** 93.09 270 LR LR 09 17 27.7
comp=Z,170nm,19.6s,baz=100,slow=37
TAOE **Nuku Hiva Isla** 93.83 98 *e*LR LR 09 03 49.4
comp=Z,240nm,24.6s
PV18 **Skein Mesa, Pa** 94.02 43 IAmb IAmb 08 33 53.4
comp=Z,15nm,1.0s
WUAZ **Wupatki** 94.23 46 **P** 08 33 42.8 +0.5
WUAZ IAmb IAmb 08 33 54.5
comp=Z,11nm,1.1s
KEST **Kesra** 95.56 315 LR LR 09 20 54.6
comp=Z,181nm,20.4s,baz=9.7,slow=38
SCHQ **Schefferville** 96.22 10 LR LR 09 21 59.2
comp=Z,134nm,18.2s,baz=302,slow=38
TXAR **Lajitas Array** 103.19 46 Pdiff **Pdif** 08 34 22.4 -0.1
comp=Z,0.1nm,0.7s,baz=325,slow=4.4,SNR=2.2
TORD **Torodi Ar. Bea** 115.48 302 PKP **PKiKP** 08 39 04.7 -0.7
comp=Z,0.2nm,0.4s,baz=21,slow=2.3,SNR=2.0
SYO **Syowa Base** 116.03 204 ⇓*e*Pdiff **Pdif** 08 35 20.8 +2.4
QSPA **South Pole Qui** 117.77 180 PKP **PKPdf** 08 39 07.9 -0.4
comp=Z,1.6nm,1.2s,baz=342,slow=3.2,SNR=3.1

*IDC **20** 08:25:37.9±3.2, 53°.46N×87°.45E, h0km, mbtmp2.6/2,*
ML2.4/2, Error ellipse: s-maj=30.8km s-min=16.4km az=60.0
ASRS 20 08:25:35.0±0.6, 53°.39N×87°.45E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.66**	**291**	Pg	Pg	08 26 08.2	+1.4
	0.8nm,0.3s,baz=107,slow=12,SNR=7.6						
ZALV				Lg	Lg	08 26 29.4	
	1.2nm,0.3s,baz=104,slow=29,SNR=6.2						
I46RU	**ZALESOVO INFRA**	**1.66**	**291**	I	I	08 36 20.0	
	baz=107,slow=319,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.17**	**247**	Pn	Pn	08 27 10.9	+3.7
	baz=59,slow=14,SNR=1.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.39**	**209**	Pn	Pn	08 27 29.0	+5.0
	0.1nm,0.3s,baz=28,slow=11,SNR=4.3						
	0.2nm,0.4s						

*IDC **20** 08:30:31.4±1.8, 1°.03N×126°.36E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=193.9km s-min=21.9km az=66.0*
*DJA **20** 08:30:38.1±0.8, 1°.N±5°×12°.8E±°, h102km±6km, M3.6/5, MLv3.6/5*
ISC 20 08:30:39.4±1.3, 0°.77N±0°.09×127°.3E±0°.2, h100km, n7, σ0°.45/6, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.11**	**87**	P	**Pn**	**08 30 53.4**	**0.0**
TNTI				S	**Sn**	**08 31 04.3**	**+0.5**
SANI	**Sanana**	**3.07**	**204**	P	**Pn**	**08 31 26.3**	**+0.1**
SGSI	**Sangihe**	**3.38**	**329**	P	**Pn**	**08 31 30.5**	**+0.3**
WRA	**Warramunga Arr**	**21.72**	**162**	P	P	08 35 29.6	+6.9
	0.4nm,0.3s,baz=338,slow=11,SNR=5.5						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**25.13**	**166**	P	P	08 36 03.3	+8.0
	0.4nm,0.5s,baz=345,slow=10,SNR=9.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**60.28**	**326**	P	**P**	**08 40 37.1**	**-0.4**
	0.4nm,0.4s,baz=133,slow=8.4,SNR=4.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**64.51**	**328**	P	**P**	**08 41 05.2**	**-0.4**
	0.9nm,0.6s,baz=126,slow=6.6,SNR=6.4						
	0.9nm,0.6s						

*LDG **20** 08:30:57.5±0.1, 45°.10N×5°.75E, h10km, Md1.6/2, Ml2.0/5, Error ellipse: s-maj=1.4km s-min=0.9km az=54.0*
STR 20 08:30:57.6±0.3, 45°.N±2°×°±°, h8km, MLv1.3/6, LOCSAT earthModelID alpes_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRN	**Grenoble**	**0.14**	**356**	Pg	Pg	08 31 00.7	-0.1
GRN				Sg	Sg	08 31 03.1	+0.1
ORIF	**Oris-en-Rattie**	**0.20**	**154**	*e*Pg	Pg	08 31 01.7	0.0
ORIF				*e*Sg	Sg	08 31 04.4	-0.1
	73nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.20**	**154**	Pg	Pg	08 31 01.7	0.0
ORIF				Sg	Sg	08 31 04.6	+0.1
OGSM	**Saint Maurice**	**0.51**	**355**	Pg	Pg	08 31 07.6	0.0
OGSM				Sg	Sg	08 31 14.2	-0.1
OGMY	**Moye**	**0.79**	**7**	Pg	Pg	08 31 12.5	-0.3
LPL	**La Plagne**	**0.80**	**58**	*e*Pg	Pg	08 31 13.3	+0.2
LPL				*e*Sg	Sg	08 31 23.7	+0.1
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**0.81**	**253**	*e*Pg	Pg	08 31 12.7	-0.5
VIVF				*e*Sg	Sg	08 31 23.1	-0.6
	2.5nm,0.2s						
MBDF	**Montbardon**	**0.81**	**117**	*e*Pg	Pg	08 31 13.2	0.0
MBDF				*e*Sg	Sg	08 31 23.9	+0.1
	1.1nm,0.2s						
CREF	**Crivoux**	**0.82**	**131**	Pg	Pg	08 31 13.3	-0.2
CREF				Sg	Sg	08 31 24.3	0.0
RSL	**Roselend**	**0.85**	**46**	Pg	Pg	08 31 13.9	-0.1
OGAG	**Argentiere**	**0.85**	**139**	Pg	Pg	08 31 10.0	-4.1
OGAG				Sg	Sg	08 31 18.7	-6.4
SSB	**Saint Sauveur**	**0.88**	**282**	Pg	Pg	08 31 14.1	-0.5
SSB				Sg	Sg	08 31 26.2	+0.2
OG35	**Corcelles**	**0.95**	**352**	Pg	Pg	08 31 15.5	-0.4
OG35				Sg	Sb	08 31 29.1	-0.2
SURF	**Saint Ours**	**0.97**	**129**	Pg	Pg	08 31 16.3	-0.1
SURF				Sg	Sg	08 31 29.2	+0.3
JAUF	**Jausiers**	**0.97**	**133**	Pg	Pg	08 31 16.2	-0.1
JAUF				Sg	Sg	08 31 29.4	+0.4
CABF	**La Chapelle**	**1.53**	**9**	*e*Pg	Pn	08 31 25.4	0.0
CABF				*e*Sg	Sb	08 31 46.3	+0.4
	0.7nm,0.2s						
SMF	**Signal de Mont**	**2.05**	**320**	*e*Sg	Sb	08 32 00.9	+0.3
	2.0nm,0.2s						
SSF	**Saint Saulge**	**2.51**	**322**	*e*Sg	Sb	08 32 15.8	+1.8
	0.7nm,0.2s						
LOR	**Lormes**	**2.54**	**329**	*e*Sg	Sb	08 32 16.9	+2.0
	2.2nm,0.4s						

*ASRS **20** 08:34:00.0±1.0, 54°.35N×86°.71E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 20 08:34:01.4±3.4, 54°.44N×86°.77E, h0km, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=28.4km s-min=18.7km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**247**	I	I	08 41 50.0	
	baz=68,slow=317,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.25**	**247**	Pg	Pg	08 34 24.3	-0.9
	0.6nm,0.3s,baz=66,slow=18,SNR=7.4						
ZALV				Lg	Lg	08 34 42.5	
	0.7nm,0.3s,baz=63,slow=27,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.32**	**236**	Pn	Pn	08 35 36.1	+0.5
	baz=53,slow=14,SNR=4.9						
KURBB				Lg	Lg	08 37 19.9	
	0.1nm,0.3s,baz=53,slow=32,SNR=2.6						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**8.17**	**202**	Pn	Pn	08 36 02.5	+1.4
	0.1nm,0.3s,baz=17,slow=8.0,SNR=2.1						
MKAR				Lg	Lg	08 38 15.1	
	baz=21,slow=32,SNR=1.0						
	0.1nm,0.4s						

*ASRS **20** 08:36:52.0±1.4, 54°.63N×86°.56E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 20 08:36:51.5±3.3, 54°.74N×86°.70E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.5km s-min=19.3km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.35**	**235**	I	I	08 45 00.0	
	baz=55,slow=321,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.36**	**235**	Pg	Pg	08 37 15.4	-2.0
	0.7nm,0.3s,baz=49,slow=17,SNR=15						
ZALV				Lg	Lg	08 37 34.6	
	2.3nm,0.3s,baz=54,slow=27,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.45**	**234**	Pn	Pn	08 38 28.6	+1.0
	0.1nm,0.3s,baz=51,slow=14,SNR=2.4						
KURBB				Sn	Sn	08 39 41.6	-0.3
	0.1nm,0.3s,baz=54,slow=31,SNR=2.6						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.43**	**201**	Pn	Pn	08 38 55.8	+1.1
	0.1nm,0.3s,baz=23,slow=14,SNR=5.8						
	0.2nm,0.4s						

*SJA **20** 08:37:57.8±0.7, 22°.04S×68°.68W, h123km±3km, ML3.4, MW3.5*
*GUC **20** 08:37:58.0±0.8, 22°.04S×68°.69W, h121km±4km, ML3.6*
ISC 20 08:37:58.6±1.3, 22°.07S±0°.03×68°.68W±0°.04, h122km±9km, n36, σ1°.42/63, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.58**	**297**	⇑*i*P	**Pn**	**08 38 17.2**	**-0.3**
PB09				*e*S	**Sn**	**08 38 31.8**	**0.0**
PB09	**IPOC Station P**	**0.58**	**297**	*e*P	**Pn**	**08 38 17.0**	**-0.5**
PB09				*e*S	**Sn**	**08 38 31.8**	**0.0**
PB09				IAML		08 38 32.3	

comp=Z,1μm,0.2s
PB03 IPOC Station P 0.99 271 ⇑ iP Pn 08 38 20.9 0.0
PB03 eS Sn 08 38 37.7 -0.1
PB03 IAML 08 38 39.7
comp=E,1μm,0.2s
PB03 IPOC Station P 0.99 271 eP Pn 08 38 20.8 0.0
PB03 eS Sn 08 38 38.1 +0.4
PB03 IAML 08 38 39.4
comp=Z,692nm,0.2s
AF01 San Pedro de A 1.00 152 ⇓ iP Pn 08 38 20.9 -0.2
AF01 eS Sn 08 38 38.2 +0.1
AF01 San Pedro de A 1.00 152 eP Pn 08 38 21.3 +0.2
AF01 eS Sn 08 38 28.3 -10
AF01 IAML 08 39 01.1
comp=Z,583nm,1.2s
PB06 IPOC Station P 1.04 232 i P Pn 08 38 21.8 +0.4
PB06 eS Sn 08 38 39.3 +0.7
PB06 IAML 08 38 40.9
comp=N,2μm,0.3s
PB06 IPOC Station P 1.04 232 eP Pn 08 38 21.8 +0.4
PB06 eS Sn 08 38 40.2 +1.6
PB06 IAML 08 38 41.3
comp=Z,869nm,0.9s
PB01 IPOC Station P 1.26 323 ⇑ iP Pn 08 38 22.9 -0.7
PB01 eS Sn 08 38 42.5 -0.1
PB01 IAML 08 38 44.5
comp=E,1μm,0.2s
PB01 IPOC Station P 1.26 323 eP Pn 08 38 23.1 -0.6
PB01 eS Sn 08 38 42.8 +0.2
PB01 IAML 08 38 44.5
comp=Z,548nm,0.2s
PB02 IPOC Station P 1.35 303 ⇑ iP Pn 08 38 24.3 -0.3
PB02 eS Sn 08 38 43.9 -0.4
PB02 IAML 08 38 46.0
comp=N,967nm,0.2s
PB02 IPOC Station P 1.35 303 eP Pn 08 38 24.3 -0.3
PB02 eS Sn 08 38 44.1 -0.2
PB02 IAML 08 38 46.6
comp=Z,943nm,0.4s
PB05 IPOC Station P 1.61 241 eP Pn 08 38 28.1 +0.5
PB05 eS Sn 08 38 51.3 +1.8
PB05 IAML 08 38 56.5
comp=E,464nm,0.2s
PB05 IPOC Station P 1.61 241 eP Pn 08 38 28.0 +0.5
PB05 eS Sn 08 38 45.2 -4.3
PB05 IAML 08 38 58.3
comp=Z,392nm,0.4s
PATCX Punta Patache 1.85 312 eP Pn 08 38 30.2 -0.1
PATCX eS Sn 08 38 54.9 +0.3
PATCX IAML 08 39 01.8
comp=N,571nm,0.2s
PATCX Punta Patache 1.85 312 eP Pn 08 38 30.3 -0.1
PATCX eS Sn 08 38 52.7 -1.9
PATCX IAML 08 39 02.0
comp=Z,357nm,0.3s
PB08 IPOC Station P 1.96 347 eP Pn 08 38 32.5 +0.3
PB08 eS Sn 08 38 58.8 +1.1
PB08 IAML 08 39 00.2
comp=N,328nm,0.2s
PB08 IPOC Station P 1.96 347 eP Pn 08 38 32.4 +0.3
PB08 eS Sn 08 38 59.3 +1.6
PB08 IAML 08 39 01.9
comp=Z,159nm,0.6s
TA01 Diego Aracena 2.04 317 eP Pn 08 38 32.1 -0.6
TA01 eS Sn 08 38 58.3 -0.5
TA01 IAML 08 38 59.9
comp=N,608nm,0.5s
TA01 Diego Aracena 2.04 317 eP Pn 08 38 32.7 0.0
TA01 eS Sn 08 39 59.0 +0.2
TA01 IAML 08 39 00.7
comp=Z,267nm,0.6s
PB10 IPOC Station P 2.25 230 eP Pn 08 38 38.1 +2.9
PB10 IPOC Station P 2.25 230 eP Pn 08 38 36.1 +0.9
PB10 eS Sn 08 39 02.2 -1.2
PB10 IAML 08 39 14.0
comp=Z,101nm,0.7s
GO01 Chusmiza 2.43 349 eP Pn 08 38 38.3 +0.3
GO01 eS Sn 08 39 09.2 +0.9
GO01 Chusmiza 2.43 349 eP Pn 08 38 38.5 +0.4
GO01 eS Sn 08 39 10.0 +1.7
GO01 IAML 08 39 11.2
comp=Z,101nm,0.3s
PB11 IPOC Station P 2.47 338 eP Pn 08 38 37.4 -0.8
PB11 eS Sn 08 39 07.7 -0.9
PB11 IPOC Station P 2.47 338 eP Pn 08 38 37.5 -0.8
PB11 eS Sn 08 39 08.2 -0.4
PB11 IAML 08 39 18.7
comp=Z,175nm,0.3s
YJA Yavi 2.94 93 eP Pn 08 38 45.7 +1.1
YJA eS Sn 08 39 16.4 -3.5
PB14 IPOC Station P 3.00 212 eP Pn 08 38 46.5 +1.3
PB14 eS Sn 08 39 14.7 -6.5
PB14 IAML 08 39 34.0
comp=E,108nm,0.5s
PB14 IPOC Station P 3.00 212 eP Pn 08 38 45.8 +0.6
PB14 eS Sn 08 39 21.9 +0.7
PB14 IAML 08 39 34.8
comp=Z,98nm,0.2s
SALTA 3.04 135 eP Pn 08 38 34.7 -11
SALTA eP 08 38 49.0
GO02 Mina Guanaco 3.19 195 eP Pn 08 38 48.7 +0.9
GO02 Mina Guanaco 3.19 195 eP Pn 08 38 48.2 +0.4
GO02 eS Sn 08 39 15.5 -10
GO02 IAML 08 40 00.3
comp=Z,146nm,0.7s
PB16 IPOC Station P 3.79 348 eP Pn 08 38 56.6 +0.7
PB16 IPOC Station P 3.79 348 eP Pn 08 38 56.4 +0.4
PB16 eS Sn 08 39 38.7 -1.6
PB16 IAML 08 39 54.4
comp=Z,33nm,0.6s
FSA Cafayete 4.72 149 eP Pn 08 39 09.4 +1.4
AC02 Maricunga 4.77 185 eP Pn 08 39 09.8 +0.9
AC02 eS Sn 08 40 14.0 +11
AC02 IAML 08 40 42.6
comp=Z,14nm,0.6s

*IDC **20** 08:39:20.6±3.1,54˚14N×87˚12E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=25.5km s-min=16.4km az=66.0*

ASRS 20 08:39:19.0±1.1, 54°22N×87°08E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**259**			I	I	08 48 00.0	
	baz=79,slow=325,SNR=1.5								
ZALV	**Zalesovo Beam**	**1.36**	**259**	Pg		Pn		08 39 45.2	0.0
	0.9nm,0.3s,baz=78,slow=16,SNR=6.0								
ZALV				Lg		Lg		08 40 04.0	
	1.6nm,0.3s,baz=79,slow=34,SNR=5.4								
KURBB	**Kurchatov Arra**	**6.35**	**239**	Pn		Pn		08 40 56.7	+3.0
	0.1nm,0.3s,baz=54,slow=14,SNR=4.1								
KURBB				Sn		Sn		08 42 08.2	+1.3
	baz=53,slow=25,SNR=1.5								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**8.04**	**204**	Pn		Pn		08 41 19.1	+2.2
	0.1nm,0.3s,baz=28,slow=14,SNR=2.3								
MKAR				Sn		Sn		08 42 45.3	-3.1
	0.2nm,0.3s,baz=18,slow=29,SNR=5.8								
MKAR				Lg		Lg		08 43 35.4	
	baz=23,slow=30								
	0.1nm,0.3s								

IDC 20 08:42:34.8±1.7, 54°61N×83°78E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=16.0km s-min=10.0km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**137**			I	I	08 48 50.0	
	baz=317,slow=307,SNR=2.1								
ZALV	**Zalesovo Beam**	**0.90**	**137**	Pg		Pg		08 42 51.1	-1.0
	1.7nm,0.3s,baz=322,slow=16,SNR=12								
ZALV				Lg		Lg		08 43 05.8	
	5.6nm,0.3s,baz=316,slow=29,SNR=24								
KURBB	**Kurchatov Arra**	**5.11**	**221**	Pn		Pn		08 43 53.2	+0.5
	0.2nm,0.3s,baz=38,slow=13,SNR=8.1								
	0.9nm,0.2s								
MKAR	**Makanchi Array**	**7.88**	**187**	Pn		Pn		08 44 30.0	-0.7
	0.1nm,0.3s,baz=13,slow=13,SNR=1.9								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**8.08**	**264**	Pn		Pn		08 44 32.7	-0.7
	baz=78,slow=14,SNR=2.2								
	0.5nm,0.4s								

*RSNC **20** 08:45:19.4±0.0,5˚N±1˚×7˚6W±˚, h111km±2km, M2.9, mb3.8, ML2.6*
*CATAC **20** 08:45:20.7±0.8,5˚N±4˚×7˚6W±˚, h84km±14km, M3.0/7, MLv3.0/7, Error ellipse: s-maj=20.4km s-min=7.3km az=98.8, confirmed*

ISC 20 08:45:19.0±1.3, 4°84N±0°03×76°27W±0°03, h111km±8km, n33, σ0898/56, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.07**	**352**			P	Pn	08 45 33.9	-0.5
PLMC						S	Sn	08 45 46.0	+0.1
YOTC	**Yotoco, Valle**	**0.85**	**185**			P	Pn	08 45 38.8	-0.2
YOTC						S	Sn	08 45 54.0	0.0
GUY2C	**Guyana, Caldas**	**0.98**	**67**			P	Pn	08 45 40.6	0.0
GUY2C						S	Sn	08 45 56.6	-0.2
CBOC	**Ciudad Bolivar**	**1.05**	**14**			P	Pn	08 45 40.8	-0.2
CBOC						S	Sn	08 45 57.8	+0.2
PIZC	**Pizarro, Choco**	**1.09**	**277**			P	Pn	08 45 42.1	+0.9
PIZC						S	Sn	08 45 59.7	+1.8
ORTC	**Ortega, Tolima**	**1.38**	**132**			P	Pn	08 45 44.0	-0.5
ORTC						S	Sn	08 46 02.8	-1.0
HELC	**Santa Helena**	**1.53**	**29**			P	Pn	08 45 46.7	0.0
HELC	**Santa Helena**	**1.53**	**29**			P	Pn	08 45 46.3	-0.3
HELC						S	Sn	08 46 06.4	-1.2
NORC	**Norcasia**	**1.57**	**63**			P	Pn	08 45 46.9	+0.1
NORC						S	Sn	08 46 07.9	0.0
JAMC	**Jamundi, Valle**	**1.66**	**194**			P	Pn	08 45 48.1	0.0
JAMC						S	Sn	08 46 10.9	+0.7
PRAC	**Prado**	**1.78**	**129**			P	Pn	08 45 48.2	-1.1
PRAC	**Prado**	**1.78**	**129**			P	Pn	08 45 49.1	-0.2
PRAC						S	Sn	08 46 11.8	-0.6
SOLC	**Bahia Solano**	**1.78**	**321**			P	Pn	08 45 49.1	-0.2
SOLC						S	Sn	08 46 12.0	-0.4
ROSC	**El Rosal**	**1.95**	**90**			P	Pn	08 45 53.2	+1.5
ROSC						S	Sn	08 46 19.5	+2.8
DBBC	**Dabeiba**	**2.16**	**2**			P	Pn	08 45 53.3	-0.9
DBBC						S	Sn	08 46 23.5	+2.4
CVER	**Cruz Verde, Cu**	**2.22**	**98**			P	Pn	08 45 56.6	+1.4
POPC	**Popayan, Colom**	**2.32**	**190**			P	Pn	08 45 56.8	+0.4
POPC						S	Sn	08 46 24.5	-0.5
URMC	**La Uribe, Meta**	**2.46**	**130**			P	Pn	08 45 57.6	-0.5
URMC						S	Sn	08 46 26.6	-1.5
PTBC	**PUERTO BERRIO,**	**2.47**	**47**			P	Pn	08 45 57.9	-0.2
PTBC						S	Sn	08 46 27.2	-1.0
VILC	**Villavicencio,**	**2.67**	**106**			P	Pn	08 46 02.4	+1.6
GARC	**Garzon, Huila**	**2.75**	**163**			P	Pn	08 46 01.5	-0.5
GARC						S	Sn	08 46 34.3	-0.7
PTAC	**Punta Ardita,**	**2.75**	**326**			P	Pn	08 46 01.5	-0.3
PTAC						S	Sn	08 46 33.0	-1.7
BBAC	**Balboa, Cauca**	**2.96**	**199**			P	Pn	08 46 05.7	+0.9
BBAC						S	Sn	08 46 41.2	+1.2
UREC	**San Jos de Ur**	**2.98**	**14**			P	Pn	08 46 06.5	+1.7
UREC						S	Sn	08 46 40.7	+0.5
ZARC	**Zaragoza, Cauc**	**2.99**	**28**			P	Pn	08 46 05.9	+1.0
ZARC						S	Sn	08 46 39.7	-0.5
BRJC	**Barrancabermej**	**3.29**	**50**			P	Pn	08 46 08.1	-0.8
BRJC						S	Sn	08 46 46.1	-1.3
FLOC	**Florencia**	**3.29**	**169**			P	Pn	08 46 09.0	0.0
FLOC	**Florencia**	**3.29**	**169**			P	Pn	08 46 08.7	-0.3
BARC	**Barichara**	**3.54**	**60**			P	Pn	08 46 13.0	+0.7
BARC						S	Sn	08 46 53.9	+0.3
MACC	**Macarena, Meta**	**3.61**	**138**			P	Pn	08 46 12.1	-1.1
AZU	**Azuero**	**4.94**	**307**			P	Pn	08 46 30.5	-0.5
CACAO	**El Cacao, Vera**	**5.20**	**299**			P	Pn	08 46 33.7	-0.8
	18nm,1.2s								
BCIP	**Isla Barro Col**	**5.57**	**321**			P	Pn	08 46 39.0	-0.5

*SDD **20** 08:55:19.8±1.9, 18˚25N×71˚15W, h58km±16km, MD3.0, ML2.1, MW2.7*
*OSPL **20** 08:55:23.5±0.5, 18˚32N×71˚40W, h27km±3km, ML1.9*

ISC 20 08:55:18.3±2.1, 18°32N±0°09×71°22W±0°08, h64km±14km, n8, σ2s31/14, 7C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.17**	**202**		*i*	P	Pn	08 55 31.1	+2.8
PODR					*e*	S	Sn	08 55 35.1	-0.5
PODR	**Polo**	**0.17**	**202**	⇑	*e*	Pg	Pn	08 55 28.8	+0.5
PODR				⇑	*e*	Sg	Sn	08 55 34.0	-1.6
PODR					IAML			08 55 41.9	
	comp=N,36nm,0.2s								
LODU1	**El Espartillar**	**0.25**	**278**		*i*	P	Pn	08 55 28.0	-0.5
LODU1					*e*	S	Sn	08 55 30.9	-5.0
LODU1					IAML			08 55 34.1	
	comp=Z,343nm,0.2s								
NEDR	**Neiba UASD**	**0.25**	**310**	⇑	*e*	Pg	Pn	08 55 31.0	+2.5
NEDR				⇑	*e*	Sg	Sn	08 55 37.7	+1.8
NEDR					IAML			08 55 38.6	
	comp=N,112nm,0.1s								
LOBH	**Bahia de las A**	**0.61**	**222**		*i*	P	Pn	08 55 32.9	+1.2
LOBH					*e*	S	Sn	08 55 40.3	-1.3
LOBH					IAML			08 55 45.6	
	comp=Z,54nm,2.3s								
JIDR	**Jimani**	**0.63**	**286**	⇑	*e*	Pg	Pn	08 55 33.1	+1.2
JIDR				⇑	*e*	Sg	Sn	08 55 40.9	-1.1
JIDR					IAML			08 55 43.7	
	comp=N,30nm,1.6s								
REDR	**Restauracion**	**0.86**	**349**		*i*	P	Pn	08 55 44.0	+9.3
REDR					*i*	S	Sn	08 56 01.0	+14
NADR	**Nagua**	**1.65**	**51**	⇑	*e*	Pg	Pn	08 55 45.6	+0.5
NADR				⇑	*e*	Sg	Sn	08 56 03.7	-1.6
NADR					IAML			08 56 08.4	
	comp=N,91nm,1.1s								

*SNET **20** 09:16:47.2±0.8, 14˚35N×90˚36W, h217km, ML2.9, ML3.0*
*GCG **20** 09:16:47.2±0.9, 14˚52N×90˚32W, h217km±10km, MD4.0, MW3.4*
*CATAC **20** 09:16:49.1±0.8, 14˚N±9˚×9˚0W±˚, h205km±5km, M2.9/8, MLv2.9/8, Error ellipse: s-maj=20.7km s-min=10.4km az=18.3, confirmed*

ISC 20 09:16:49.8±1.2, 14°48N±0°08×90°31W±0°06, h200km, n39, σ0871/42, 3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.28**	**224**		*i*	P	Pn	09 17 17.3	+0.8
ESSG	**Sabana Grande**	**0.52**	**260**		*i*	P	Pn	09 17 16.9	-0.2
FAME	**Alcaldia de Sa**	**0.69**	**156**			P	Pn	09 17 17.3	-0.5
LOAL	**Lomas de Alarc**	**0.70**	**133**			P	Pn	09 17 17.9	0.0
LOAL	**Lomas de Alarc**	**0.70**	**133**			S	Sn	09 17 41.0	+1.5
NUBE	**Las Nubes**	**0.77**	**138**	⇓	*i*	P	Pn	09 17 17.6	-0.8
NUBE					*e*	S	Sn	09 17 40.6	+0.2
NUBE	**Las Nubes**	**0.77**	**138**		*e*	P	Pn	09 17 18.0	-0.3
NUBE	**Las Nubes**	**0.77**	**138**			P	Pn	09 17 18.1	-0.3
NUBE	**Las Nubes**	**0.77**	**138**			S	Sn	09 17 41.4	+1.0
RTR	**El Retiro**	**0.86**	**132**		*e*	P	Pn	09 17 18.9	0.0
SNJE	**San Jose**	**0.91**	**132**	⇓	*i*	P	Pn	09 17 19.0	-0.3
SNJE					*e*	P		09 17 19.2	
MTO3	**Montecristo**	**0.92**	**95**		*i*	P	Pn	09 17 19.1	-0.2
MTO3					IAML			09 17 19.4	
	comp=Z,43nm,0.3s								
MTO3	**Montecristo**	**0.92**	**95**		*i*	P	Pn	09 17 19.2	-0.2
MTO3	**Montecristo**	**0.92**	**95**			P	Pn	09 17 19.0	-0.2
CEVE	**Cerro Verde**	**0.92**	**134**		*e*	P	Pn	09 17 19.3	-0.1
CEVE	**Cerro Verde**	**0.92**	**134**			P	Pn	09 17 19.1	-0.3
CEVE	**Cerro Verde**	**0.92**	**134**			S	Sn	09 17 42.1	-0.1
ESQI	**Esquipulas**	**0.94**	**85**	⇓	*e*	P	Pn	09 17 19.4	+0.1
ESQI	**Esquipulas**	**0.94**	**85**			P	Pn	09 17 19.4	+0.1
ESQI	**Esquipulas**	**0.94**	**85**			S	Sn	09 17 43.7	+1.7
QUIS	**Sacapulas**	**1.11**	**317**		*i*	P	Pn	09 17 21.0	+0.5
SOKI	**Kika Raxquin**	**1.12**	**288**		*i*	P	Pn	09 17 21.3	+0.4
JAYA	**Jayaque - finc**	**1.17**	**134**		*e*	P	Pn	09 17 20.6	-0.4
JAYA					IAML			09 17 21.1	
	comp=Z,104nm,0.3s								
JAYA	**Jayaque - finc**	**1.17**	**134**		*i*	P	Pn	09 17 20.5	-0.4
JAYA					*i*	S	Sn	09 17 46.6	+1.5
JAYA	**Jayaque - finc**	**1.17**	**134**			P	Pn	09 17 20.5	-0.4
JAYA	**Jayaque - finc**	**1.17**	**134**			S	Sn	09 17 43.7	-1.4
PMON	**Piamonte**	**1.23**	**128**		*e*	P	Pn	09 17 20.8	-0.5
PMON	**Piamonte**	**1.23**	**128**			P	Pn	09 17 21.1	-0.3
PMON	**Piamonte**	**1.23**	**128**			S	Sn	09 17 45.3	-0.4
RTAL	**Retalhuleu**	**1.35**	**272**		*e*	P	Pn	09 17 21.8	-0.4
RTAL					*e*	S	Sn	09 17 48.6	+1.3
HUEH	**Huehuetenango**	**1.43**	**306**		*i*	P	Pn	09 17 23.2	+0.1
SARH	**Santa Rosa de**	**1.52**	**79**		*i*	P	Pn	09 17 24.0	+0.2
PAVA	**Las Pavas**	**1.53**	**120**		*i*	P	Pn	09 17 23.5	-0.5
PAVA					IAML			09 17 24.1	
	comp=Z,84nm,0.3s								
PAVA	**Las Pavas**	**1.53**	**120**		P		Pn	09 17 23.4	-0.5
PAVA	**Las Pavas**	**1.53**	**120**		S		Sn	09 17 49.7	-0.6
SMCA	**Catarina**	**1.75**	**283**		*i*	P	Pn	09 17 24.8	-1.1
PETF	**Flores**	**2.46**	**10**		*i*	S	Sn	09 18 06.6	-0.7
CCIG	**Comitan**	**2.52**	**316**		*i*	P	Pn	09 17 33.7	-0.4
TGIG		**3.55**	**311**		*i*	P	Pn	09 17 44.9	-1.1

*IDC **20** 09:22:59.5±1.4,0˚54N×126˚43E, h0km, mb4.0/6, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=113.6km s-min=18.1km az=69.0*
*DJA **20** 09:23:03.0±0.4,0˚N±4˚×12˚6E±˚, h10km, M3.9/7, MLv3.9/7*

ISC 20 09:23:05.8±0.9, 0°37N±0°09×126°49E±0°06, h47km, n11, σ1§17/13, mb4.0/6, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.97**	**65**			P	Pn	09 23 22.6	-0.5
TNTI						S	Sn	09 23 36.2	+0.5
KMSI	**Cibinong**	**2.52**	**275**			P	Pn	09 23 43.5	-0.8
KMSI						S	Sn	09 24 15.3	+1.5
SGSI	**Sangihe**	**3.44**	**344**			P	Pn	09 23 57.6	+0.7
LUWI	**Luwuk**	**3.97**	**249**			P	Pn	09 24 03.7	-0.6
FITZ	**Fitzroy Crossi**	**18.37**	**183**			P	P	09 27 16.8	0.0
	0.1nm,0.3s,baz=12,slow=14,SNR=1.9								
	3.7nm,0.9s								
WRA	**Warramunga Arr**	**21.60**	**160**			P	P	09 27 52.3	+0.4
	1.9nm,0.5s,baz=339,slow=11,SNR=13								
	1.9nm,0.5s								
ASAR	**Alice Springs**	**24.95**	**164**			P	P	09 28 27.4	+2.3
	3.5nm,0.8s,baz=339,slow=9.7,SNR=24								
	3.5nm,0.8s								
MKAR	**Makanchi Array**	**60.19**	**326**			P	P	09 33 08.5	-0.5
	0.9nm,0.4s,baz=125,slow=8.8,SNR=9.9								
	0.9nm,0.4s								
ZALV	**Zalesovo Beam**	**63.47**	**334**			P	P	09 33 29.4	-1.5
	0.5nm,0.4s,baz=148,slow=7.0,SNR=2.1								
	0.5nm,0.4s								
KURBB	**Kurchatov Arra**	**64.44**	**328**			P	P	09 33 36.1	-1.2
	0.5nm,0.4s,baz=130,slow=6.1,SNR=4.4								
	0.5nm,0.4s								
AKTO	**Aktyubinsk**	**76.14**	**322**			P	P	09 34 48.6	-0.3
	1.5nm,0.6s,baz=112,slow=6.6,SNR=4.7								
	1.5nm,0.6s								

ASRS 20 09:23:08.0±1.4, 53°70N×86°78E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*ASRS **20** 09:23:42.0±1.1,54˚31N×86˚79E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 09:23:42.9±2.9, 54°31N×86°90E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=23.7km s-min=17.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**255**			I	I	09 31 59.8	
	baz=71,slow=317,SNR=3.4								
ZALV	**Zalesovo Beam**	**1.28**	**255**	Pn		Pg		09 24 06.0	-1.4
	1.7nm,0.3s,baz=69,slow=16,SNR=7.7								
ZALV				Lg		Lg		09 24 24.5	
	2.8nm,0.3s,baz=76,slow=27,SNR=8.3								
KURBB	**Kurchatov Arra**	**6.31**	**238**	Pn		Pn		09 25 18.8	+1.7
	0.1nm,0.3s,baz=54,slow=14,SNR=6.4								
KURBB				Sn		Sn		09 26 27.2	-2.6
	baz=52,slow=27,SNR=1.6								
KURBB				Lg		Lg		09 27 06.2	
	0.1nm,0.3s,baz=53,slow=30,SNR=5.8								
	0.7nm,0.3s								
MKAR	**Makanchi Array**	**8.07**	**203**	Pn		Pn		09 25 42.5	+1.2
	0.3nm,0.3s,baz=35,slow=13,SNR=5.4								
MKAR				Lg		Lg		09 27 57.1	
	baz=25,slow=32,SNR=2.0								
	0.3nm,0.3s								

*IDC **20** 09:29:45.3±3.0,53˚58N×87˚71E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=24.7km s-min=16.0km az=55.0*

ASRS 20 09:29:42.0±1.2, 53°55N×87°62E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**285**			I	I	09 40 57.4	
	0.1nm,0.8s,baz=101,slow=323,SNR=9.2								
ZALV	**Zalesovo Beam**	**1.71**	**285**	Pg		Pg		09 30 17.2	+2.4
	1.0nm,0.3s,baz=102,slow=19,SNR=9.8								
ZALV				Lg		Lg		09 30 41.4	
	2.0nm,0.3s,baz=100,slow=34,SNR=14								
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn		Pn		09 31 20.9	+4.6
	0.1nm,0.3s,baz=61,slow=14,SNR=3.2								
KURBB				Sn		Sn		09 32 32.7	+3.5
	baz=52,slow=31,SNR=1.1								
KURBB				Lg		Lg		09 33 07.9	
	baz=61,slow=31,SNR=7.3								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**7.58**	**209**	Pn		Pn		09 31 39.0	+5.3
	0.2nm,0.3s,baz=32,slow=13,SNR=5.6								
MKAR				Lg		Lg		09 33 48.9	
	0.1nm,0.3s,baz=23,slow=30,SNR=6.5								
	0.3nm,0.3s								

ASRS 20 09:30:11.0±0.6, 54°06N×86°47E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*MOS **20** 09:34:52.8±1.0,36˚20N×31˚21E, h61km, mb4.7/30, Error ellipse: s-maj=5.0km s-min=2.9km az=105.0*
*MCSM **20** 09:34:52.7±0.5,36˚N±4˚×3˚1E±˚, h33km±5km, mb4.6, mB5.2, MLv4.5, Mw(mB)4.6*
*AFAD **20** 09:34:52.9, 36˚27N×31˚28E, h36km±1km, MW4.3*
*NIC **20** 09:34:53.5, 36˚11N×31˚24E, h38km±38km, Ml4.4/10*
*ISK **20** 09:34:53.0, 36˚16N×31˚19E, h25km, ML4.6/36*
*HLW **20** 09:34:53.2, 36˚15N×31˚23E, h28km±3km, Md4.6, Ml4.7*
*IDC **20** 09:34:54.2±1.1,36˚24N×31˚24E, h61km±11km, mb4.1/27, mbtmp4.4/42, MS3.4/31, Error ellipse: s-maj=9.7km s-min=8.3km az=46.0*
*MED_RC **20** 09:34:54.0±0.3,36˚05N×31˚07E, h66km±4km, MW4.6/21, Moment Tensor Solution. Mantle waves: s21,c27; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr0.28±.06; Mθθ-0.67±.05; Mφφ0.39±.05; Mrθ0.00±.03; Mθφ0.66±.07; Mrφ0.27±.02; Best double couple: M0.90000×10^16 NP1:φs73.00000°,δ69.00000°, λ14.00000°. NP2:φs338.00000°,δ77.00000°,λ158.00000°. Principal axes: T 0.8100, Plg25.0000°, Azm294.0000°; N 0.1800, Plg65.0000°, Azm128.0000°; P -0.9900, Plg5.0000°, Azm26.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*GII **20** 09:34:54.3±0.0,36˚046N×0˚003×31˚212E±0˚001, h40km, Mws4.5, confirmed*
*NEIC **20** 09:34:55.0±1.7,36˚21N±0˚06×31˚15E±0˚05, h59km±7km, mb4.5/108, Mwr4.4/10, Error ellipse: s-maj=9.7km s-min=4.4km az=207.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-1.31; Mθθ-2.15; Mφφ3.46; Mrθ3.08; Mθφ3.61; Mφr-0.57; Fault plane solution: M05.65000×10^15 NP1:φs346.40000°,δ60.38000°, λ-160.70000°.

*GRAL **20** 09:34:58.5☉0.2,36°06'N×31°32'E,h79^{km},r773^{km},MD4.5*
ISC 20 09:34:54.0☉0.7,**36°16'N**☉0°03'×**31°23'E**☉0°03,**h58**^{km},**6**^{km},
n640,σ1**ꝉ47**/666,**mb4.5**/92,**MS3.5**/25,**46C-19D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVG	**Manavgat-Antal**	**0.65**	**13**	Pg	**Pn**	**09 35 06.4**	**-1.1**
MNVG				Sg	**Sn**	**09 35 16.8**	**-0.5**
KEMT	**Kemer-ANTALYA**	**0.70**	**309**	Pg	**Pn**	**09 35 07.0**	**-1.2**
AKUM	**Antalya-Kumluc**	**0.73**	**283**	P	**Pn**	**09 35 08.0**	**-0.6**
AKUM				S	**Sn**	**09 35 21.7**	**+2.5**
ANTB	**Antalya**	**0.87**	**328**	Pg	**Pn**	**09 35 09.9**	**-0.4**
ANTB				Sg	**Sn**	**09 35 21.9**	**-0.4**
DEMR	**Demre-Antalya**	**1.07**	**274**	Pg	**Pn**	**09 35 12.6**	**-0.4**
HDMB	**Hadim**	**1.29**	**51**	Pn	**Pn**	**09 35 16.4**	**+0.3**
SEYD	**Seydisehir-KON**	**1.33**	**21**	Pn	**Pn**	**09 35 16.7**	**+0.2**
SEYD				Sn	**Sn**	**09 35 34.1**	**+0.7**
KSL	**Kastellorizon**	**1.33**	**270**	P	**Pn**	**09 35 16.5**	**+0.1**
KSL				S	**Sn**	**09 35 33.2**	**0.0**
SEDI	**Konya, Seydise**	**1.35**	**18**	P	**Pn**	**09 35 16.5**	**-0.3**
SEDI				S	**Sn**	**09 35 33.1**	**-0.7**
BOZY	**Bozyazi-Mersin**	**1.41**	**92**	Pn	**Pn**	**09 35 17.6**	**+0.1**
AKMS	**Akamas**	**1.46**	**141⇑**	*eP*	**Pn**	**09 35 17.7**	**-0.4**
AKMS				S	**Sn**	**09 35 35.5**	**-0.7**
AKMS				AML	AML	09 35 50.4	
	20nm,1.0s						
AKMS				AML	AML	09 35 50.5	
	20nm,0.7s						
KNIK	**Mula-Seydike**	**1.50**	**297**	P	**Pn**	**09 35 20.1**	**+1.3**
KNIK				S	**Sn**	**09 35 40.2**	**+2.8**
ALFC	**Alefka**	**1.50**	**132⇑**	*iP*	**Pn**	**09 35 17.9**	**-0.9**
ALFC				S	**Sn**	**09 35 35.5**	**-1.8**
ALFC				AML	AML	09 35 48.6	
	16nm,0.5s						
ALFC				AML	AML	09 35 50.0	
	16nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.52**	**90**	Pn	**Pn**	**09 35 19.5**	**+0.5**
CAME	**Cameli-Denizli**	**1.74**	**297**	Pn	**Pn**	**09 35 22.7**	**+0.7**
ISP	**Isparta**	**1.75**	**341**	Pn	**Pn**	**09 35 22.3**	**+0.1**
ISP	**Isparta**	**1.75**	**341**	Pn	**Pn**	**09 35 22.0**	**-0.2**
ISP	**Isparta**	**1.75**	**341**	*de*P	**Pn**	**09 35 21.6**	**-0.6**
ISP				pmax	pmax		
	comp=Z,695nm,0.8s						
ISP	**Isparta**	**1.75**	**341**	P	**Pn**	**09 35 23.3**	**+1.1**
ISP	**Isparta**	**1.75**	**341**	S	**Sn**	**09 35 45.8**	**+2.4**
YORU	**Yoruktepe-Mers**	**1.76**	**90**	Pn	**Pn**	**09 35 23.3**	**+1.1**
YORU				Sn	**Sn**	**09 35 45.6**	**+2.0**
NATA	**Nata**	**1.76**	**141**	P	**Pn**	**09 35 25.1**	**+2.8**
NATA				S	Sn	09 35 53.3	+10
NATA				AML	AML	09 36 02.2	
	comp=Z,72nm,0.9s						
NATA				AML	AML	09 36 07.5	
	comp=Z,79nm,0.8s						
OREN	**Orenkoy-Mersin**	**1.80**	**88**	Pn	**Pn**	**09 35 23.5**	**+0.7**
TROD	**Troodos**	**1.80**	**132⇑**	*iP*	**Pn**	**09 35 22.2**	**-0.8**
TROD				S	**Sn**	**09 35 43.7**	**-1.2**
TROD				AML	AML	09 36 07.0	
	comp=Z,10.0nm,0.7s						
TROD				AML	AML	09 36 08.3	
	comp=Z,8.6nm,0.9s						
CAEL	**Denizli, Camel**	**1.81**	**302**	P	**Pn**	**09 35 24.1**	**+1.1**
AKK1	**Akkuyu-Mersin**	**1.87**	**90**	Pn	**Pn**	**09 35 24.8**	**+1.1**
GULN	**MERSIN_Gulnar**	**1.87**	**89**	P	**Pn**	**09 35 24.2**	**+0.5**
TEPK	**Tepekoy-MERSIN**	**1.87**	**87**	Pn	**Pn**	**09 35 24.9**	**+1.1**
XYLS	**Xyliatos**	**1.87**	**127⇑**	*iP*	**Pn**	**09 35 22.8**	**-1.0**
XYLS				S	**Sn**	**09 35 44.7**	**-1.7**
XYLS				AML	AML	09 35 57.8	
	comp=Z,7.1nm,0.4s						
XYLS				AML	AML	09 35 58.2	
	comp=Z,8.1nm,0.6s						
BECE	**Buyukeceli-Mer**	**1.89**	**90**	Pn	**Pn**	**09 35 25.2**	**+1.3**
KRMN	**Karaman**	**1.92**	**58**	Pn	**Pn**	**09 35 25.5**	**+1.0**
YESI	**Yesilovacik-Me**	**1.95**	**88**	Pn	**Pn**	**09 35 26.0**	**+1.2**
DOGA	**KONYA_Doganhis**	**1.97**	**10**	P	**Pn**	**09 35 24.6**	**-0.6**
DOGA				S	**Sn**	**09 35 49.3**	**+0.4**
TISA	**Tisan-Mersin**	**1.98**	**89**	Pn	**Pn**	**09 35 26.5**	**+1.3**
BASM	**Basmaki-Afyon**	**1.99**	**332**	Pn	**Pn**	**09 35 26.0**	**+0.6**
APOL	**The Sanctuary**	**2.00**	**138**	P	**Pn**	**09 35 28.3**	**+2.8**
APOL				S	Sn	09 35 58.8	+9.5
APOL				AML	AML	09 36 09.9	
	comp=Z,11nm,0.6s						
APOL				AML	AML	09 36 16.5	
	comp=Z,8.4nm,1.0s						
APMY	**Acipayam-Deniz**	**2.02**	**311**	Pn	**Pn**	**09 35 26.7**	**+0.8**
KEBE	**Keben-Mersin**	**2.02**	**81**	Pn	**Pn**	**09 35 27.1**	**+1.2**
INCE	**Denizli-Bozkur**	**2.03**	**320**	P	**Pn**	**09 35 27.3**	**+1.3**
ATHAL	**Athalassa**	**2.04**	**119⇑**	*iP*	**Pn**	**09 35 25.4**	**-0.5**
ATHAL				S	**Sn**	**09 35 53.5**	**+3.2**
ATHAL				AML	AML	09 36 02.6	
	comp=Z,22nm,0.8s						
ATHAL				AML	AML	09 36 15.0	
	comp=Z,17nm,1.4s						
CSS	**Mathiatis**	**2.09**	**124**		**Pn**	**09 35 25.5**	**-1.2**
CSS	**Mathiatis**	**2.09**	**124⇑**	*iP*	**Pn**	**09 35 25.5**	**-1.2**
CSS				S	**Sn**	**09 35 53.8**	**+2.2**
CSS				AML	AML	09 36 06.0	
	comp=Z,6.5nm,0.8s						
CSS				AML	AML	09 36 11.1	
	comp=Z,5.2nm,1.3s						
CSS	**Mathiatis**	**2.09**	**124**	Pn	**Pn**	**09 35 26.6**	**-0.1**
CSS	**Mathiatis**	**2.09**	**124**	P	**Pn**	**09 35 26.1**	**-0.7**
CSS	**Mathiatis**	**2.09**	**124**	S	**Sn**	**09 35 51.3**	**-0.3**
DNZT	**Denizli-Tavas-**	**2.09**	**303**	P	**Pn**	**09 35 27.7**	**+0.9**
DNZT				P		09 35 27.8	
ASGA	**Asgata**	**2.15**	**129**	P	**Pn**	**09 35 27.1**	**-0.3**
ASGA				S	**Sn**	**09 35 59.8**	**+6.9**
ASGA				AML	AML	09 36 11.9	
	comp=Z,6.7nm,0.7s						
ASGA				AML	AML	09 36 12.3	
	comp=Z,7.4nm,0.7s						
AFYN	**Afyon-Dinar-K**	**2.18**	**345**	P	**Pn**	**09 35 27.2**	**-0.9**
SILI	**Silifke-Mersin**	**2.19**	**84**	Pn	**Pn**	**09 35 29.4**	**+1.4**
SLFK	**Silifke-Mersin**	**2.21**	**83**	Pn	**Pn**	**09 35 29.7**	**+1.4**
LADK	**Ladik-KONYA**	**2.23**	**24**	Pn	**Pn**	**09 35 29.6**	**+0.9**
LADK				Sn	**Sn**	**09 35 55.9**	**+0.8**
MVOU	**Mavrovouni**	**2.27**	**120⇑**	*iP*	**Pn**	**09 35 27.8**	**-1.3**
DNIZ	**Denizli-Tavas-**	**2.28**	**310**	P	**Pn**	**09 35 30.2**	**+0.7**
DNIZ				S	**Sn**	**09 36 00.8**	**+4.3**
SDAG	**Sultandagi-AFY**	**2.29**	**354**	Pn	**Pn**	**09 35 30.2**	**+0.7**
UCKU	**Afyonkarahisar**	**2.47**	**4**	P	**Pn**	**09 35 31.8**	**-0.2**
ARG	**Arkhangelos**	**2.51**	**272**	Pn	**Pn**	**09 35 32.3**	**-0.2**
ARG	**Arkhangelos**	**2.51**	**272**		**Pn**	**09 35 32.2**	**-0.2**
ARG	**Arkhangelos**	**2.51**	**272**	P	**Pn**	**09 35 32.2**	**-0.2**
ARG	**Arkhangelos**	**2.51**	**272**	P	**Pn**	**09 35 32.2**	**-0.2**
ARG				S	**Sn**	**09 36 01.8**	**-0.1**
PARAL	**Paralimni**	**2.57**	**116**	P	**Pn**	**09 35 34.8**	**+1.5**
PARAL				S	**Sn**	**09 36 10.7**	**+7.4**
PARAL				AML	AML	09 36 19.9	
	comp=Z,7.1nm,1.1s						
KURO	**Afyon-Bolvadin**	**2.58**	**355**	P	**Pn**	**09 35 32.1**	**-1.3**
MULA	**Mugla, Merkez-**	**2.58**	**296**	P	**Pn**	**09 35 33.8**	**+0.3**
BNAZ	**Uak-Banaz**	**2.73**	**337**	P	**Pn**	**09 35 35.6**	**+0.1**
BYAT	**Afyon-Bayat**	**2.79**	**356**	P	**Pn**	**09 35 36.4**	**+0.1**
ESEN	**Aydn-Nazilli**	**2.83**	**306**	P	**Pn**	**09 35 36.9**	**+0.1**
NAZL	**Nazilli-Aydin**	**2.96**	**308**	Pn	**Pn**	**09 35 38.8**	**+0.2**
DAT	**Datca**	**3.00**	**282**	Pn	**Pn**	**09 35 40.2**	**+1.0**
KIRA	**zmir-Kiraz**	**3.04**	**313**	P	**Pn**	**09 35 38.8**	**-0.9**
YAZI	**Mula-Dat§a-**	**3.09**	**281**	P	**Pn**	**09 35 39.8**	**-0.5**
KULA	**Kula-Manisa**	**3.11**	**320**	Pn	**Pn**	**09 35 40.9**	**+0.1**
MANT	**Manisa**	**3.15**	**318**		**Pn**	**09 35 41.7**	**+0.3**
CIFT	**Cifteler, Eski**	**3.19**	**358**	Pn	**Pn**	**09 35 41.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**3.21**	**305**	Pn	**Pn**	**09 35 41.7**	**-0.4**
GEDZ	**Gediz**	**3.22**	**334**	Pn	**Pn**	**09 35 43.3**	**+1.1**
ODEM	**Odemis-Izmir**	**3.29**	**311**	Pn	**Pn**	**09 35 43.1**	**0.0**
KARP	**Karpathos**	**3.36**	**261**		**Pn**	**09 35 44.4**	**+0.3**
KARP	**Karpathos**	**3.36**	**261**	P	**Pn**	**09 35 44.4**	**+0.3**
KARP				S	**Sn**	**09 36 20.6**	**-2.2**
SMAA	**Simav-Kutahya**	**3.43**	**329**	Pn	**Pn**	**09 35 46.3**	**+1.2**
DDIM	**Aydin, Didim**	**3.45**	**293**	P	**Pn**	**09 35 44.9**	**-0.4**
EMET	**Ktahya-Emet**	**3.55**	**335**	P	**Pn**	**09 35 46.0**	**-0.6**
KIRS	**Kirsehir-Merke**	**3.65**	**35**	⇓P	**Pn**	**09 35 49.0**	**+0.8**
ANTO	**Ankara**	**3.90**	**18**		**Pn**	**09 35 52.2**	**+0.7**
ANTO	**Ankara**	**3.90**	**18**	⇑P	**Pn**	**09 35 52.1**	**+0.6**
ANTO	**Ankara**	**3.90**	**18**	P	**Pn**	**09 35 52.2**	**+0.7**
ANTO	**Ankara**	**3.90**	**18**	Pn	**Pn**	**09 35 50.7**	**-0.8**
DGB	**zmir**	**3.95**	**300**	P	**Pn**	**09 35 51.2**	**-0.9**
BR104	**Keskin Array S**	**4.02**	**28**	P	**Pn**	**09 35 53.3**	**+0.1**
BR105	**Keskin Array S**	**4.02**	**27**	Pn	**Pn**	**09 35 52.9**	**-0.3**
BR106	**Keskin Array S**	**4.03**	**27**	P	**Pn**	**09 35 53.5**	**+0.1**
BR131	**Keskin Array S**	**4.03**	**27**		**Pn**	**09 35 53.5**	**+0.1**
BR131	**Keskin Array S**	**4.03**	**27**	*d*iP	**Pn**	**09 35 53.3**	**-0.1**
BRTR	**Keskin Array B**	**4.03**	**27**	P	**Pn**	**09 35 53.4**	**+0.1**
	comp=Z,54nm,0.5s,baz=201,slow=15,SNR=164						
BRTR				S	**Sn**	**09 36 39.1**	**-0.3**
	comp=Z,111nm,0.6s,baz=204,slow=24,SNR=12						
BRTR				LR	LR	09 37 49.5	
	comp=Z,635nm,20.2s,baz=176,slow=44						
BHL	**Bhannes**	**4.27**	**121**	*e*P	**Pn**	**09 35 57.9**	**+1.3**
HWQ	**Hawqa**	**4.29**	**115**	*e*P	**Pn**	**09 35 58.2**	**+1.2**
MDUB	**Mudurnu**	**4.30**	**360**		**Pn**	**09 35 58.0**	**+1.0**
DQRL	**Deir Qamar**	**4.33**	**123**	*e*P	**Pn**	**09 35 58.5**	**+1.1**
BEIL	**Beino**	**4.36**	**110**	*e*P	**Pn**	**09 35 59.1**	**+1.3**
ZAHL	**Zahle**	**4.46**	**120**	*e*P	**Pn**	**09 36 00.4**	**+1.1**
HNTI	**Hanita**	**4.47**	**132**	P	**Pn**	**09 35 59.3**	**0.0**
HNTI	**Hanita**	**4.47**	**132**	S	**Sn**	**09 36 49.4**	**-0.7**
QRWL	**Qaraoun**	**4.50**	**124**	*e*P	**Pn**	**09 36 00.7**	**+1.0**
BNN	**Bunyan**	**4.55**	**52**	Pn	**Pn**	**09 36 03.2**	**+2.8**
RCY	**Rachaya**	**4.63**	**124**	*e*P	**Pn**	**09 36 02.6**	**+1.0**
RCY				*e*S	**Sn**	**09 36 49.9**	**-4.2**
FKH	**Fakeheh**	**4.65**	**113**	*e*P	**Pn**	**09 36 03.0**	**+1.1**
SHBL	**Chebaa**	**4.66**	**126**	*e*P	**Pn**	**09 36 02.8**	**+0.8**
SHBL				*e*S	**Sn**	**09 36 50.5**	**-4.3**
MMA0B	**Mount Meron ar**	**4.66**	**131**	P	**Pn**	**09 36 01.3**	**-0.6**
MMA0B	**Mount Meron ar**	**4.66**	**131**	S	**Sn**	**09 36 54.1**	**-0.6**
MMAI	**Mount Meron Ar**	**4.66**	**131**	P	**Pn**	**09 36 02.5**	**+0.6**
	comp=Z,19nm,0.3s,baz=306,slow=13,SNR=38						
MMAI				S	**Sn**	**09 36 55.3**	**+0.6**
	comp=Z,27nm,0.4s,baz=318,slow=26,SNR=7.2						
APE	**Apeiranthos**	**4.67**	**283⇑**	*e*P	**Pn**	**09 35 58.2**	**-3.9**
SAHE	**Sakarya_HENDEK**	**4.69**	**357**	⇓P	**Pn**	**09 36 03.1**	**+0.8**
GEM	**Giv'at Ha'Em**	**4.69**	**128**	P	**Pn**	**09 36 02.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**4.69**	**128**	S	**Sn**	**09 36 54.9**	**-0.5**
OFRI	**`Ofer**	**4.70**	**138**	P	**Pn**	**09 36 02.6**	**+0.1**
OFRI	**`Ofer**	**4.70**	**138**	S	**Sn**	**09 36 54.9**	**-0.9**
NATI	**Neve Ativ**	**4.71**	**127**	P	**Pn**	**09 36 02.8**	**+0.4**
NATI	**Neve Ativ**	**4.71**	**127**	S	**Sn**	**09 36 55.1**	**-0.6**
BLGI	**Bet Lehem HaGe**	**4.73**	**135**	P	**Pn**	**09 36 02.3**	**-0.5**
BLGI	**Bet Lehem HaGe**	**4.73**	**135**	S	**Sn**	**09 36 56.4**	**-0.1**
BAND	**Balkesir-Ban**	**4.86**	**330**	⇓P	**Pn**	**09 36 05.2**	**+0.7**
GAZ	**Gaziantep**	**4.91**	**76**		**Pn**	**09 36 07.3**	**+1.9**
SLTI	**Sal'it**	**5.03**	**140**	P	**Pn**	**09 36 07.4**	**+0.4**
SLTI	**Sal'it**	**5.03**	**140**	S	**Sn**	**09 37 02.4**	**-1.3**
MMLI	**Mount Malkishu**	**5.08**	**136**	P	**Pn**	**09 36 07.6**	**-0.1**
MMLI	**Mount Malkishu**	**5.08**	**136**	S	**Sn**	**09 37 03.9**	**-1.2**
IDI	**Anoyia**	**5.23**	**262**		**Pn**	**09 36 08.8**	**-0.9**
IDI	**Anoyia**	**5.23**	**262**	P	**Pn**	**09 36 09.5**	**-0.2**
	comp=Z,97nm,0.4s,baz=81,slow=12,SNR=74						
IDI				S	**Sn**	**09 37 06.7**	**-2.1**
	comp=Z,188nm,0.3s,baz=321,slow=16,SNR=7.7						
HMDT	**Nahal Hemdat**	**5.28**	**136**	P	**Pn**	**09 36 10.9**	**+0.5**
HMDT	**Nahal Hemdat**	**5.28**	**136**	S	**Sn**	**09 37 09.2**	**-0.7**
EZN	**Ezine**	**5.33**	**315**	⇑P	**Pn**	**09 36 11.6**	**+0.6**
EZN	**Ezine**	**5.33**	**315**	P	**Pn**	**09 36 11.5**	**+0.6**
KLYT	**Kilyos**	**5.36**	**342**	⇑P	**Pn**	**09 36 12.5**	**+1.1**
UJAP	**Al Uja**	**5.48**	**139**	P	**Pn**	**09 36 12.6**	**-0.4**
UJAP	**Al Uja**	**5.48**	**139**	S	**Sn**	**09 37 13.7**	**-1.0**
AMAZ	**Amatzia**	**5.54**	**145**	P	**Pn**	**09 36 12.6**	**-1.4**
AMAZ	**Amatzia**	**5.54**	**145**	S	**Sn**	**09 37 15.3**	**-1.1**
DSI	**Dead Sea**	**5.74**	**142**	P	**Pn**	**09 36 15.6**	**-1.0**
DSI	**Dead Sea**	**5.74**	**142**	S	**Sn**	**09 37 20.2**	**-0.9**
YTIR	**Yattir**	**5.78**	**145**	P	**Pn**	**09 36 17.6**	**+0.3**
YTIR	**Yattir**	**5.78**	**145**	S	**Sn**	**09 37 21.9**	**-0.3**
CTYL	**Yalikoy Yolu**	**5.78**	**337**	⇑P	**Pn**	**09 36 18.7**	**+1.6**
MATC	**Matruh**	**5.85**	**216**	P	**Pn**	**09 36 17.8**	**-0.3**
TOKA	**Tokat**	**5.86**	**43**		**Pn**	**09 36 22.1**	**+3.8**
CIDE	**Kastamonu/Cide**	**5.87**	**13**	⇑P	**Pn**	**09 36 18.9**	**+0.6**
KZIT	**Kziot**	**5.87**	**152**	P	**Pn**	**09 36 18.1**	**-0.4**
KZIT	**Kziot**	**5.87**	**152**	S	**Sn**	**09 37 22.9**	**-1.5**
MDBI	**Mazsada**	**5.94**	**143**	P	**Pn**	**09 36 19.1**	**-0.2**
MDBI	**Mazsada**	**5.94**	**143**	S	**Sn**	**09 37 24.9**	**-1.0**
MSBI	**Mazada**	**5.94**	**143**	P	**Pn**	**09 36 19.4**	**+0.1**
MSBI	**Mazada**	**5.94**	**143**	S	**Sn**	**09 37 24.4**	**-1.5**
CAVK	**Edirne/Enez-Ca**	**6.02**	**320**	⇑P	**Pn**	**09 36 20.7**	**+0.3**
GHAJ	**Ghor Haditha**	**6.04**	**142**		**Pn**	**09 36 20.4**	**+1.6**
GHAJ	**Ghor Haditha**	**6.04**	**142**	P	**Pn**	**09 36 20.6**	**-0.2**
GHAJ	**Ghor Haditha**	**6.04**	**142**	S	**Sn**	**09 37 27.4**	**-1.2**
ASF	**Jabal al Asfar**	**6.16**	**129**	P	**Pn**	**09 36 23.2**	**+0.7**
	comp=Z,4.9nm,0.3s,baz=330,slow=7.9,SNR=24						
ASF				S	**Sn**	**09 37 33.8**	**+2.3**
	comp=Z,36nm,0.8s,baz=351,slow=18,SNR=3.0						
BZK	**Bozkurt**	**6.18**	**20**		**Pn**	**09 36 22.2**	**-0.4**
BZK	**Bozkurt**	**6.18**	**20**	⇑P	**Pn**	**09 36 24.0**	**+1.5**
PHSR	**Pinarhisar**	**6.18**	**333**	⇑P	**Pn**	**09 36 23.4**	**+0.8**
ALN	**Alexandroupoli**	**6.23**	**321**		**Pn**	**09 36 22.1**	**-1.3**
ALN	**Alexandroupoli**	**6.23**	**321**	P	**Pn**	**09 36 22.1**	**-1.3**
HHAG	**Hagoal**	**6.24**	**173**	P	**Pn**	**09 36 23.8**	**+0.3**
KOT	**Kottamia**	**6.24**	**175**	P	**Pn**	**09 36 23.4**	**-0.2**
ARPR	**Arapgir-MALATY**	**6.35**	**60**	Pn	**Pn**	**09 36 26.2**	**+1.0**
ZFRI	**Zfri**	**6.50**	**148**	P	**Pn**	**09 36 26.9**	**-0.1**
ZFRI	**Zfri**	**6.50**	**148**	S	**Sn**	**09 37 37.9**	**-1.8**
HNAT	**Natroun**	**6.53**	**185**	P	**Pn**	**09 36 27.9**	**+0.3**
PRNI	**Paran**	**6.60**	**150**	P	**Pn**	**09 36 28.6**	**+0.1**
PRNI	**Paran**	**6.60**	**150**	S	**Sn**	**09 37 40.9**	**-1.4**
RDO	**Rodhopi**	**6.68**	**320**		**Pn**	**09 36 29.8**	**+0.3**
KRMI	**Paran Flat**	**6.70**	**153**	P	**Pn**	**09 36 29.1**	**-0.8**
KRMI	**Paran Flat**	**6.70**	**153**	S	**Sn**	**09 37 43.7**	**-1.2**
SLUM	**Salum**	**6.84**	**229**	P	**Pn**	**09 36 31.3**	**-0.4**
HRFI	**Mount Harif**	**6.89**	**151**	P	**Pn**	**09 36 32.4**	**-0.1**
HRFI	**Mount Harif**	**6.89**	**151**	S	**Sn**	**09 37 48.2**	**-1.4**
MBRI	**Mt Berech**	**7.07**	**153**	P	**Pn**	**09 36 34.9**	**0.0**
MBRI	**Mt Berech**	**7.07**	**153**	S	**Sn**	**09 37 53.2**	**-0.6**
RYAN	**Fayoum**	**7.11**	**187**	P	**Pn**	**09 36 35.8**	**+0.4**
KDZ	**Kurdzhali**	**7.13**	**322**	P	**Pn**	**09 36 35.5**	**-0.2**
EIL	**Elat**	**7.19**	**153**	P	**Pn**	**09 36 36.8**	**+0.3**
	comp=Z,68nm,0.9s,baz=336,slow=6.4,SNR=34						
EIL				S	**Sn**	**09 37 53.5**	**-3.3**
	comp=Z,53nm,0.5s,baz=70,slow=20,SNR=7.1						
EIL	**Elat**	**7.19**	**153**	P	**Pn**	**09 36 35.9**	**-0.7**
EIL	**Elat**	**7.19**	**153**	S	**Sn**	**09 37 55.2**	**-1.6**
JMB	**Yambol**	**7.29**	**331**	P	**Pn**	**09 36 38.9**	**+1.0**
JMB				S	**Sn**	**09 38 00.0**	**+0.8**
DIM	**Dimitrovgrad**	**7.33**	**325**	P	**Pn**	**09 36 39.3**	**+0.9**
RZN	**Rozhen**	**7.49**	**319**	P	**Pn**	**09 36 40.6**	**-0.1**
NBNS	**Bani Suef**	**7.52**	**180**	P	**Pn**	**09 36 41.1**	**0.0**
ITM	**Ithomi**	**7.54**	**280**		**Pn**	**09 36 41.2**	**-0.1**
PRD	**Provadia**	**7.58**	**338**	P	**Pn**	**09 36 42.5**	**+0.7**
PRD				S	**Sn**	**09 38 06.8**	**+0.5**
SOH	**Sokhos**	**7.73**	**309**	P	**Pn**	**09 36 45.5**	**+1.6**
SOH				pmax	pmax		
	comp=Z,25nm,1.3s						
MARD	**Mardin**	**7.75**	**79**		**Pn**	**09 36 46.1**	**+1.7**
SRS	**Serrai**	**7.76**	**312**	P	**Pn**	**09 36 44.0**	**-0.2**
SRS				pmax	pmax		
	comp=Z,40nm,1.1s						
PLD	**Plovdiv**	**7.81**	**322**	P	**Pn**	**09 36 45.6**	**+0.6**
ELND	**Elena**	**7.92**	**330**	⇑P	**Pn**	**09 36 48.1**	**+1.6**
MMB	**Musomishta**	**7.93**	**315**	P	**Pn**	**09 36 48.3**	**+1.6**
TR2	**Tor 2**	**8.04**	**164**	P	**Pn**	**09 36 47.9**	**-0.2**
KNT	**Kendrikon**	**8.21**	**310**	P	**Pn**	**09 36 52.4**	**+2.0**
KNT				pmax	pmax		
	comp=Z,35nm,0.9s						
RAZG	**Razgrad**	**8.23**	**335**	⇑P	**Pn**	**09 36 52.7**	**+1.9**
KOPT	**Kop Dagi**	**8.26**	**59**		**Pn**	**09 36 52.1**	**+0.7**
SWA2		**8.44**	**217**	P	**Pn**	**09 36 52.2**	**-1.4**
TAMRE	**El Minia**	**8.46**	**182**	P	**Pn**	**09 36 54.1**	**+0.2**
KKB	**Krupnik**	**8.48**	**314**	P	**Pn**	**09 36 56.8**	**+2.7**
KKB	**Krupnik**	**8.48**	**314**	P	**Pn**	**09 36 56.4**	**+2.3**
TIRR	**Tirgusor**	**8.56**	**346**		**Pn**	**09 36 55.0**	**-0.2**
TIRR	**Tirgusor**	**8.56**	**346**	P	**Pn**	**09 36 55.0**	**-0.2**
SEV	**Sevastopol'**	**8.58**	**12**	*e*P	**Pn**	**09 36 55.4**	**0.0**
SEV				*e*S	**Sn**	**09 38 28.2**	**-2.4**
SEV	**Sevastopol'**	**8.58**	**12**	*e*P	**Pn**	**09 36 55.4**	**0.0**
SEV				Pm		09 36 58.8	
	comp=Z,9.0nm,0.6s						
SEV				*e*S	**Sn**	**09 38 28.2**	**-2.4**
SEV				Sm		09 38 34.8	
	comp=E,14nm,0.6s						
YAL	**Yalta**	**8.61**	**14**	*e*P	**Pn**	**09 36 56.3**	**+0.5**
YAL				*e*S	**Sn**	**09 38 30.3**	**-1.1**
YAL	**Yalta**	**8.61**	**14**	*e*P	**Pn**	**09 36 56.3**	**+0.5**
YAL				Pm		09 36 58.2	
	comp=Z,23nm,0.5s						
YAL				*e*S	**Sn**	**09 38 30.3**	**-1.1**
YAL				Sm		09 38 34.5	
	comp=E,21nm,0.4s						
YAL				Sm		09 38 34.6	
	comp=N,4.0nm,0.4s						
TLBR	**Topalu**	**8.72**	**345**	⇑P	**Pn**	**09 36 58.1**	**+0.8**
PLVB	**Pleven**	**8.82**	**327**	⇑P	**Pn**	**09 37 00.0**	**+1.2**
HARR	**Harsova**	**8.88**	**345**	⇑P	**Pn**	**09 36 59.7**	**+0.1**
HARR	**Harsova**	**8.88**	**345**	P	**Pn**	**09 36 59.6**	**+0.1**
VTS	**Vitosha**	**8.93**	**319**	P	**Pn**	**09 37 01.7**	**+1.2**
TPGR	**Topolog**	**8.94**	**347**	⇑P	**Pn**	**09 37 00.4**	**0.0**
FNA	**Florina**	**9.00**	**304**		**Pn**	**09 37 01.3**	**0.0**
FNA	**Florina**	**9.00**	**304**	P	**Pn**	**09 37 01.3**	**0.0**
SIM	**Simferopol'**	**9.05**	**13**	*e*P	**Pn**	**09 37 04.5**	**+2.7**
SIM				*e*S	**Sn**	**09 38 47.3**	**+5.2**
SIM				pmax	pmax		
	comp=Z,26nm,0.7s						
SIM				smax	smax		
	comp=N,91nm,1.1s						
SUDU	**Sudak**	**9.18**	**17**	*e*P	**Pn**	**09 37 03.5**	**-0.1**
SUDU				*e*S	**Sn**	**09 38 42.2**	**-3.1**
SUDU	**Sudak**	**9.18**	**17**	*e*P	**Pn**	**09 37 03.5**	**-0.1**
SUDU				Pm		09 37 06.0	
	comp=Z,37nm,0.7s						
SUDU				*e*S	**Sn**	**09 38 42.2**	**-3.1**
SUDU				Sm		09 38 50.4	
	comp=N,31nm,0.5s						
SUDU				Sm		09 38 50.5	
	comp=E,12nm,0.4s						
MPEP	**Malo Peshtene**	**9.21**	**324**	P	**Pn**	**09 37 06.7**	**+2.6**
TARU	**Tarkhankut**	**9.26**	**6**	*e*S	**Sn**	**09 38 44.4**	**-2.9**
TARU				Sm		09 38 46.9	
	comp=N,20nm,0.5s						
TARU				Sm		09 38 47.0	
	comp=E,4.0nm,0.6s						
CFR	**Carcaliu**	**9.31**	**346**	⇓P	**Pn**	**09 37 06.2**	**+0.8**
CFR	**Carcaliu**	**9.31**	**346**	P	**Pn**	**09 37 06.2**	**+0.8**
DNZ2	**Donuzlav2**	**9.32**	**9**	*e*S	**Sn**	**09 38 45.4**	**-3.5**
DNZ2				Sm		09 38 54.6	
	comp=N,9.0nm,0.6s						
DNZ2				Sm		09 38 54.7	
	comp=E,19nm,0

AQU L'Aquila 15.12 300 P **P** **09 38 27.4 -0.7**
AQU pmax pmax
comp=Z,55nm,1.2s
CAMP Campotosto 15.17 300 Pn **Pn** **09 38 23.5 -1.3**
CAMP IAmb IAmb 09 38 28.8
comp=Z,24nm,1.0s
VYHS Vyhne 15.33 327 *e*P **P** **09 38 30.6 +0.3**
VYHS pmax pmax
comp=Z,28nm,1.6s
VYHS Vyhne 15.33 327 *e*P **P** **09 38 30.6 +0.3**
GUMA Gualdo di Mace 15.40 302 Pn **Pn** **09 38 26.4 -1.3**
GUMA IAmb IAmb 09 38 52.4
comp=Z,28nm,1.0s
NIE Niedzica 15.46 332 *e*P **P** **09 38 31.6 -0.2**
NIE Niedzica 15.46 332 P **P** **09 38 32.4 +0.6**
NIE pmax pmax
comp=Z,7.0nm,1.1s
NRCA Norcia 15.48 301 Pn **Pn** **09 38 27.0 -1.7**
NRCA IAmb IAmb 09 38 34.0
comp=Z,57nm,0.9s
RNPP5 Staryi Chortor 15.54 347 P **Pn** **09 38 29.9 +0.6**
FDMO Fiordimonte 15.56 302 Pn **Pn** **09 38 28.8 -1.0**
FDMO IAmb IAmb 09 38 34.3
comp=Z,26nm,0.9s
LANS Liptovska Anna 15.57 330 *e*P **P** **09 38 35.0 +2.0**
LANS pmax pmax
comp=Z,24nm,0.9s
LANS Liptovska Anna 15.57 330 *e*P **P** **09 38 35.0 +2.0**
RNPP8 Varash 15.65 347 P **Pn** **09 38 31.0 +0.3**
RNPP9 Sopachiv 15.72 348 P **Pn** **09 38 30.6 -1.0**
CESX Cesi 15.78 300 Pn **Pn** **09 38 31.5 -0.9**
CESX IAmb IAmb 09 38 38.5
comp=Z,26nm,1.1s
SOP Sopron 15.83 321 P **P** **09 38 37.2 +1.3**
SOP pmax pmax
comp=Z,12nm,0.9s
VORD Divnogorie 15.89 19 *e*P **Pn** **09 38 31.4 -2.4**
VORD pmax pmax
comp=Z,20nm,1.0s
MODS Modra-Piesok 15.95 324 *e*P **Pn** **09 38 33.9 -0.7**
MODS pmax pmax
comp=Z,52nm,1.1s
MODS Modra-Piesok 15.95 324 *e*P **Pn** **09 38 33.9 -0.7**
RONA Rosalia, Austr 15.98 321 *e*Pn **P** **09 38 37.1 -0.5**
comp=Z,8.7nm,1.1s
SOKA Soboth 16.03 316 *i* Pn **P** **09 38 38.3 +0.2**
comp=Z,7.9nm,0.8s,SNR=6.7
VSR Storozhevoye 16.09 18 *e*P **Pn** **09 38 33.7 -2.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ARSA Arzberg 16.10 318 Pn **Pn** **09 38 35.3 -1.2**
ARSA Arzberg 16.10 318 *e*Pn **P** **09 38 39.4 +0.6**
comp=Z,10.0nm,0.8s,SNR=5.1
JAVC Velka Javorina 16.12 326 *e*P **P** **09 38 39.9 +0.8**
OBKA Obir 16.21 315 *i* Pn **P** **09 38 41.2 +1.0**
comp=Z,12nm,0.8s
TRI Trieste 16.25 311 Pn **Pn** **09 38 38.3 -0.1**
TRI Trieste 16.25 311 P **Pn** **09 38 38.3 -0.1**
TRI pmax pmax
comp=Z,9.0nm,0.8s
CONA Conrad Observa 16.35 321 *i* Pn **P** **09 38 42.5 +0.8**
comp=Z,3.9nm,0.9s
MAUC Maruska 16.43 328 *e*P **P** **09 38 44.5 +2.0**
SABO M.te Sabotino 16.49 312 **P** **09 38 43.1 -0.1**
OKC Ostrava-Krasne 16.65 329 P **P** **09 38 46.3 +1.4**
OKC pmax pmax
comp=Z,36nm,1.2s
MYKA Terra Mystica 16.80 314 *i* Pn **P** **09 38 47.6 +0.9**
comp=Z,8.2nm,0.8s
VRH Novokhopyorsk 16.81 23 *e*P **Pn** **09 38 44.8 -0.5**
VRH pmax pmax
comp=Z,20nm,1.0s
KRUC Moravsky 16.85 324 *e*P **P** **09 38 47.9 +0.7**
KRUC Moravsky 16.85 324 P **P** **09 38 48.1 +0.9**
KRUC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 16.86 328 **P** **09 38 49.0 +1.8**
MORC Moravsky Berou 16.86 328 *e*P **P** **09 38 48.7 +1.4**
MORC Moravsky Berou 16.86 328 P **P** **09 38 49.0 +1.8**
MORC pmax pmax
comp=Z,10.0nm,1.2s
VRAC Vranov 16.93 325 P **P** **09 38 48.1 0.0**
comp=Z,6.1nm,0.8s,baz=122,slow=10,SNR=6.9
VRAC Vranov 16.93 325 *e*P **P** **09 38 49.1 +1.0**
OSSC Osservatorio P 16.99 302 **P** **09 38 49.3 +0.5**
CASP Castiglione de 17.04 299 **P** **09 38 50.1 +0.8**
STAL STALIGIAL 17.16 312 **P** **09 38 50.4 -0.3**
KBA Koelnbreinsper 17.21 315 P **P** **09 38 52.6 +1.2**
KBA pmax pmax
comp=Z,30nm,1.2s
KBA Koelnbreinsper 17.21 315 *i* Pn **P** **09 38 52.5 +1.1**
comp=Z,6.9nm,0.7s
LPSR Galich'ya Gora 17.31 16 *e*P **Pn** **09 38 50.7 -0.8**
LPSR pmax pmax
comp=Z,30nm,1.0s
BIOA Bad Ischl, Aus 17.39 317 *e*Pn **P** **09 38 54.3 +1.1**
comp=Z,6.0nm,0.9s
KRLC Kraliky 17.41 327 *e*P **P** **09 38 55.7 +2.4**
KRLC Kraliky 17.41 327 *e*P **P** **09 38 55.7 +2.4**
ZCCA Zocca 17.46 304 **Pn** **09 38 51.5 -1.9**
ZCCA IAmb IAmb 09 39 01.1
comp=Z,35nm,1.1s
ABTA Abfaltersbach 17.52 313 *i* Pn **P** **09 38 55.2 +0.5**
comp=Z,7.2nm,0.9s
VSL Villasalto 17.57 287 P **Pn** **09 38 54.4 -0.5**
RAYN Ar Rayn 17.64 132 P **P** **09 38 57.8 +1.7**
CTI Castel Tesino 17.71 310 P **P** **09 38 57.2 +0.4**
CTI Castel Tesino 17.71 310 P **P** **09 38 57.2 +0.4**
CTI pmax pmax
comp=Z,18nm,1.0s
CKRC Cesky Krumlov 17.72 321 *e*P **P** **09 38 59.1 +2.4**
CKRC Cesky Krumlov 17.72 321 *e*P **P** **09 38 59.1 +2.4**
KEST Kesra 17.73 275 P **P** **09 38 58.8 +1.8**
KEST IAmb IAmb 09 39 00.9
comp=Z,75nm,1.1s
KEST Kesra 17.73 275 P **P** **09 38 57.3 +0.3**
comp=Z,53nm,1.1s,baz=95,slow=5.8,SNR=22
DPC Dobruska-Polom 17.81 327 P **P** **09 38 59.1 +1.3**
DPC pmax pmax
comp=Z,14nm,1.0s
DPC Dobruska-Polom 17.81 327 *e*P **P** **09 39 00.1 +2.3**
DPC Dobruska-Polom 17.81 327 P **P** **09 38 58.0 +0.2**
comp=Z,14nm,1.1s
GEC2 GERESS Array S 18.05 320 **Pn** **09 39 00.9 +0.3**
GEC2 GERESS Array S 18.05 320 *e*P **Pn** **09 39 01.0 +0.3**
comp=Z,15nm,1.0s,baz=126,slow=11
GERES GERESS Array B 18.05 320 P **Pn** **09 39 00.8 +0.2**
GERES GERESS Array B 18.05 320 P **Pn** **09 39 00.6 -0.1**
comp=Z,6.4nm,0.8s,baz=125,slow=12,SNR=18
GERES LR LR 09 46 07.6
comp=Z,46nm,18.8s,baz=159,slow=37
GERES GERESS Array B 18.05 320 P **Pn** **09 39 00.8 +0.2**
PRMA PARMA 18.05 305 P **Pn** **09 39 01.4 +0.8**
UPC Upice 18.06 327 *e*P **Pn** **09 39 02.1 +1.4**
UPC Upice 18.06 327 *e*P **Pn** **09 39 02.1 +1.4**
CHVC Chvalec 18.10 328 *e*P **Pn** **09 39 02.5 +1.3**
CHVC Chvalec 18.10 328 *e*P **Pn** **09 39 02.5 +1.3**
ZVC Zvikov 18.17 322 *e*P **Pn** **09 39 03.9 +1.8**
KSP Ksiaz 18.19 328 P **Pn** **09 39 03.9 +1.7**
KSP pmax pmax
comp=Z,41nm,1.1s
KHC Kasperske Hory 18.29 321 *e*P **P** **09 39 03.1 +0.1**
KHC Kasperske Hory 18.29 321 *e*P **P** **09 39 03.1 +0.1**
KHC Kasperske Hory 18.29 321 P **P** **09 39 02.6 -0.4**
comp=Z,8.3nm,1.2s
WTTA Wattenberg 18.30 313 P **Pn** **09 39 04.6 +0.7**
WTTA pmax pmax
comp=Z,25nm,1.0s
WTTA Wattenberg 18.30 313 *i* Pn **Pn** **09 39 04.5 +0.6**
comp=Z,14nm,1.0s
PGF Pioggiola 18.31 297 P **P** **09 39 03.5 +0.1**
PGF pmax pmax
comp=Z,12nm,1.1s
PRU Pruhonice 18.37 324 P **P** **09 39 03.7 -0.1**
PRU pmax pmax
comp=Z,11nm,1.1s
WATA Walderalm 18.38 313 *e*Pn **Pn** **09 39 05.2 +0.5**
comp=Z,8.7nm,0.7s
MNK Minsk 18.49 354 *i* P **Pn** **09 39 05.3 -0.5**
comp=E,16nm,0.7s
MNK *i* P **Pn** **09 39 05.3 -0.5**
comp=N,5.0nm,0.6s
MNK *i* P **Pn** **09 39 05.3 -0.5**
comp=Z,11nm,0.7s,baz=171
MNK *i* S **S** **09 42 31.6 -1.1**
MNK *i* SS **SnSn** **09 42 59.8 +14**
MNK *i* LR LR 09 45 39.8
MNK *i* LRM MLR 09 46 17.1
comp=N,38nm,13.3s
MNK *i* LRM MLR 09 47 05.9
comp=Z,51nm,14.1s
MNK *i* LRM MLR 09 47 10.7
comp=E,17nm,11.6s
MNK Minsk 18.49 354 *i* P **Pn** **09 39 05.2 -0.5**
MNK *i* S **S** **09 42 31.6 -1.1**
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK MLR MLR
comp=N,38nm,13.0s
MNK MLR MLR
comp=Z,51nm,14.0s
MNK MLR MLR
comp=E,17nm,12.0s
SQTA Sankt Quirin 18.54 313 *e*Pn **Pn** **09 39 06.9 +0.3**
comp=E,8.7nm,0.8s
WET Wettzell 18.66 320 P **P** **09 39 07.5 +0.4**
WET pmax pmax
comp=Z,20nm,1.0s
WET Wettzell 18.66 320 *e*P **Pn** **09 39 07.7 -0.3**
comp=Z,20nm,1.0s,baz=126,slow=11
MOTA Moosalm 18.66 313 *i* Pn **P** **09 39 07.5 +0.3**
comp=Z,13nm,1.0s,SNR=7.5
PVCC Panska Ves 18.72 325 P **Pn** **09 39 09.7 +1.0**
FETA Feichten 18.73 312 *i* Pn **Pn** **09 39 09.6 +0.7**
comp=Z,28nm,1.0s,SNR=15
FUORN Ofenpass-Fuorn 18.83 310 **Pn** **09 39 10.2 -0.1**
RETA Reutte 18.93 313 *i* Pn **P** **09 39 10.4 +0.3**
comp=Z,11nm,0.9s,SNR=7.8
NACGM Naroch 18.99 352 *e*P **Pn** **09 39 12.6 +0.7**
comp=Z,20nm,0.8s,baz=169
DAVOX Davos/Dischmat 19.14 310 P **P** **09 39 12.5 -0.1**
comp=Z,19nm,0.9s,baz=126,slow=11,SNR=20
DAVOX LR LR 09 48 12.0
comp=Z,91nm,20.0s,baz=82,slow=42
BRG Berggiesshubel 19.25 325 P **Pn** **09 39 14.3 -0.7**
BRG pmax pmax
comp=Z,14nm,1.2s
BRG Berggiesshubel 19.25 325 *e*P **Pn** **09 39 15.0 0.0**
BRG Amp 09 39 16.5
comp=Z,10nm,1.0s
GRC1 Grafenberg Arr 19.30 318 P **Pn** **09 39 14.9 -0.7**
GRC1 pmax pmax
comp=Z,128nm,0.9s
OBN Obninsk 19.30 9 P **P** **09 39 12.7 -1.3**
comp=Z,17nm,0.4s,baz=153,slow=23,SNR=5.2
OBN Obninsk 19.30 9‖ *e*P **Pn** **09 39 15.1 -0.5**
OBN *e*S **S** **09 42 43.6 -5.7**
OBN pmax pmax
comp=Z,38nm,1.7s
OBN MLR MLR
comp=Z,65nm,19.0s
TUE Stuetta 19.34 309 P **P** **09 39 13.8 -0.9**
DAVA Damuels 19.36 312 *i* Pn **P** **09 39 15.1 +0.2**
comp=Z,21nm,0.7s,SNR=12
ROTZ Rotzenmuhle 19.38 320 *e*P **P** **09 39 15.5 +0.5**
comp=Z,7.0nm,1.1s,baz=126,slow=11
GRB1 Grafenberg Arr 19.45 319 P **P** **09 39 16.3 +0.6**
GRB1 pmax pmax
comp=Z,47nm,1.2s
MANZ Manzenberg 19.57 321 *e*P **P** **09 39 17.6 +0.6**
comp=Z,6.9nm,0.9s,baz=126,slow=11
TANN Tannbergstha 19.66 322 *e*P **P** **09 39 18.3 +0.2**
comp=Z,13nm,1.0s,baz=126,slow=11
GRA1 Grafenberg Arr 19.85 319 P **P** **09 39 20.1 0.0**
GRA1 IAmb IAmb 09 39 20.9
comp=Z,26nm,1.0s
GRF Grafenberg Arr 19.85 319 P **P** **09 39 20.1 0.0**
GRF pmax pmax
comp=Z,26nm,1.0s
GRF Grafenberg Arr 19.85 319 *e*P **P** **09 39 20.1 0.0**
comp=Z,24nm,1.0s,baz=126,slow=11
GRF *e*L L 09 47 25.3
comp=Z,66nm,18.8s
GRFO Grafenberg 19.85 319 P **P** **09 39 20.2 +0.1**
GRFO IAmb IAmb 09 39 20.8
comp=Z,23nm,1.0s
GRFO Grafenberg 19.85 319 P **P** **09 39 20.2 +0.1**
GRFO pmax pmax
comp=Z,23nm,1.0s
BELG Belogornoye 19.95 30 P **P** **09 39 20.1 -1.0**
comp=Z,20nm,0.7s,baz=260,slow=6.1,SNR=6.9
CLL Collm 19.98 325 P **P** **09 39 21.7 +0.3**
CLL Collm 19.98 325 *i* P **P** **09 39 21.6 +0.1**
CLL *e*S **Sn** **09 43 06.0 -1.5**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 19.98 325 P **P** **09 39 21.1 -0.4**
comp=Z,11nm,1.5s
CLL pP **pP** **09 39 29.8 -3.8**
comp=Z,11nm,1.5s
CLL Collm 19.98 325 *e*P **P** **09 39 21.5 0.0**
comp=Z,12nm,1.1s,baz=126,slow=11
CLL Collm 19.98 325 *i* P **P** **09 39 21.6 +0.1**
comp=Z,9.0nm,0.9s
CLL *i* x x 09 39 29.4
CLL *e*x x 09 39 48.0
CLL *i* x x 09 41 07.3
CLL *e*S **Sn** **09 43 07.0 -0.5**
CLL LmV 09 48 00.0
comp=Z,100nm,19.0s
MOS Moscow 20.06 11 *e*P P 09 39 12.0 -10
MOX Moxa 20.22 322 P **P** **09 39 25.2 +1.1**
MOX pmax pmax
comp=Z,35nm,1.3s
MOX Moxa 20.22 322 *e*P **P** **09 39 24.9 +0.8**
comp=Z,27nm,0.9s,baz=126,slow=11
MOX *e*L L 09 49 18.2
comp=Z,56nm,21.0s
SLE Schleitheim 20.42 312 P **P** **09 39 25.8 -0.5**
SLE pmax pmax
comp=Z,20nm,1.0s
STU Stuttgart 20.48 315 **P** **09 39 26.9 0.0**
STU Stuttgart 20.48 315 P **P** **09 39 26.9 0.0**
STU pmax pmax
comp=Z,52nm,0.9s
STU Stuttgart 20.48 315 *e*P **P** **09 39 27.0 0.0**
comp=Z,117nm,0.8s,baz=126,slow=11
SENIN Lac Senin/Sane 20.60 307 **P** **09 39 28.1 -0.4**
SENIN IAmb IAmb 09 39 33.3
comp=Z,32nm,0.8s
BFO Black Forest 20.77 313 **P** **09 39 29.7 -0.4**
BFO IAmb IAmb 09 39 33.3
comp=Z,19nm,0.6s
BFO Black Forest 20.77 313 P **P** **09 39 29.7 -0.4**
BFO pmax pmax
comp=Z,19nm,0.6s
BFO Black Forest 20.77 313 *e*P **P** **09 39 30.1 +0.1**
comp=Z,15nm,0.7s,baz=126,slow=11
ORIF Oris-en-Rattie 21.09 302 P **P** **09 39 33.5 -0.1**
ORIF pmax pmax
comp=Z,15nm,1.3s
ECH Echery 21.42 312 **P** **09 39 36.1 -0.9**
ECH IAmb IAmb 09 39 39.7
comp=Z,27nm,1.1s
ECH Echery 21.42 312 P **P** **09 39 36.1 -0.9**
ECH pmax pmax
comp=Z,27nm,1.1s
CLZ Clausthal 21.58 323 *e*P **P** **09 39 37.6 -1.1**
comp=Z,8.1nm,0.8s,baz=126,slow=11
GTTG Gottingen 21.60 322 *e*P **P** **09 39 38.6 -0.2**
comp=Z,26nm,1.1s,baz=126,slow=11
TNS Taunus Mts 21.64 318 *e*P **P** **09 39 38.4 -1.0**
comp=Z,7.9nm,0.6s,baz=126,slow=11
SSB Saint Sauveur 22.10 303 P **P** **09 39 43.4 -1.0**
SSB IAmb IAmb 09 39 49.2
comp=Z,18nm,1.4s
SSB Saint Sauveur 22.10 303 P **P** **09 39 43.4 -1.0**
SSB pmax pmax
comp=Z,18nm,1.4s
VSU Vasula 22.51 354‖ *e*P **P** **09 39 49.0 +0.5**
VSU pmax pmax
comp=Z,15nm,1.0s
WLF Walferdange 22.66 314 P **P** **09 39 48.8 -1.5**
WLF IAmb IAmb 09 39 51.5
comp=Z,14nm,0.9s
WLF Walferdange 22.66 314 P **P** **09 39 48.8 -1.5**
WLF pmax pmax
comp=Z,14nm,0.9s
WLF Walferdange 22.66 314 *e*P **P** **09 39 50.0 -0.3**
comp=Z,18nm,1.1s,baz=126,slow=11
LOR Lormes 23.13 307 P **P** **09 39 54.1 -1.0**
LOR pmax pmax
comp=Z,15nm,1.1s
BEBN Eben Emael 23.46 317 *d*P **P** **09 39 59.4 +1.3**
BCLA Clavier 23.49 315 *d*P **P** **09 39 58.7 +0.2**
comp=Z,9.4nm,1.1s
DOU Dourbes 23.75 314 *d*P **P** **09 39 59.9 -1.0**
comp=Z,7.6nm,0.9s
AKTO Aktyubinsk 23.99 45 P **P** **09 40 02.2 -0.8**
comp=Z,8.6nm,0.8s,baz=241,slow=11,SNR=3.6
comp=Z,8.6nm,0.8s
CLF Chambon-Foret 24.40 308 **P** **09 40 06.0 -0.7**
CLF IAmb IAmb 09 40 07.5
comp=Z,22nm,0.8s
AB31 Akbulak array 24.65 49 **P** **09 40 09.3 +0.2**
ABKAR Akbulak array 24.65 49 **P** **09 40 09.2 +0.1**
KLMR Klimovskoe 25.27 10 *e*P **P** **09 40 12.3 -2.2**
KLMR *e* 09 40 47.7
KLMR pmax pmax
comp=Z,29nm,1.4s
KIRV Kirov 25.42 22 P **P** **09 40 14.2 -1.7**
comp=Z,15nm,0.5s,baz=217,slow=5.1,SNR=6.7
comp=Z,15nm,0.5s
KIRV Kirov 25.42 22*d*e**P** **09 40 18.9 +3.0**
FINES FINESS Array B 25.51 354 P **P** **09 40 15.8 -0.8**
FINES FINESS Array B 25.51 354 P **P** **09 40 15.4 -1.3**
comp=Z,3.8nm,0.6s,baz=156,slow=13,SNR=16
FINES LR LR 09 51 28.4
comp=Z,48nm,21.0s,baz=228,slow=39
comp=Z,3.8nm,0.6s
FINES FINESS Array B 25.51 354 P **P** **09 40 15.9 -0.8**
FIA1 FINESS Array S 25.51 354 P **P** **09 40 15.4 -1.3**
TAM Tamanrasset 25.95 246 **P** **09 40 23.2 +1.9**
TAM Tamanrasset 25.95 246 P **P** **09 40 23.2 +1.9**
HFS Hagfors 26.52 340 P **P** **09 40 24.8 -1.0**
comp=Z,3.3nm,0.7s,baz=141,slow=9.6,SNR=6.0
HFS LR LR 09 52 58.9
comp=Z,120nm,19.3s,baz=160,slow=41
comp=Z,3.3nm,0.7s
ARTI Arti 27.29 34 **P** **09 40 33.0 +0.1**
ARTI Arti 27.29 34 P **P** **09 40 31.8 -1.0**
comp=Z,7.0nm,0.7s,baz=224,slow=6.1,SNR=11
ARTI LR LR 09 52 27.3
comp=Z,47nm,21.6s,baz=233,slow=39
comp=Z,7.0nm,0.7s
ARTI Arti 27.29 34*d i*P **P** **09 40 36.7 +3.9**
ARTI 09 41 19.4
ARTI SS SS 09 46 27.6 -37
ARTI pmax pmax
comp=Z,19nm,0.8s
ESBB Sonseca Array 27.87 288 P **P** **09 40 38.3 0.0**
ESBB IAmb IAmb 09 40 39.9
comp=Z,13nm,0.8s
ESDC Sonseca Array 27.88 288 **P** **09 40 38.6 +0.3**
ESDC Sonseca Array 27.88 288 P **P** **09 40 38.1 -0.2**
comp=Z,10nm,0.8s,baz=79,slow=9.1,SNR=56
ESDC LR LR 09 53 05.8
comp=Z,47nm,18.7s,baz=78,slow=39
comp=Z,10nm,0.8s
NB201 NORSAR Array S 27.94 339 P **P** **09 40 38.3 -0.4**
NB201 IAmb IAmb 09 41 04.8
comp=Z,15nm,1.1s
NB2 NORSAR Subarra 27.96 339 P **P** **09 40 37.4 -1.4**
comp=Z,2.5nm,0.9s,baz=142,slow=9.3
NB2 NORSAR Subarra 27.96 339 P **P** **09 40 44.5 +5.7**
NOA NORSAR Array B 27.96 339 P **P** **09 40 37.4 -1.4**
comp=Z,1.1nm,0.6s,baz=142,slow=8.4,SNR=5.6
NOA LR LR 09 54 02.3
comp=Z,70nm,19.2s,baz=130,slow=41
comp=Z,1.1nm,0.6s
PAB San Pablo 28.18 288 P **P** **09 40 41.2 +0.1**
PAB IAmb IAmb 09 40 42.6
comp=Z,13nm,1.1s
PAB San Pablo 28.18 288 P **P** **09 40 41.2 +0.1**
PAB pmax pmax
comp=Z,13nm,1.1s
MD01 Midelt array s 29.73 274 P **P** **09 40 54.2 -0.7**
MD31 MD31 29.73 274 P **P** **09 40 54.2 -0.7**
MD31 IAmb IAmb 09 40 57.9
comp=Z,14nm,1.2s
PBRG Braganca 29.88 293 *e*P **P** **09 40 56.1 +0.1**
PBRG *i* IAmb IAmb 09 40 57.3
comp=Z,24nm,1.1s
SIMJ Simiganj 29.97 74 P **P** **09 40 56.8 -0.3**
CHGR Chuyangaron 30.09 74 P **P** **09 41 00.1 +2.1**
CHGR Chuyangaron 30.09 74 P **P** **09 41 00.1 +2.1**
CHGR pmax pmax
comp=Z,13nm,0.6s
MVO Moncorvo 30.12 291 *e*P **P** **09 40 58.6 +0.4**
MVO *i* IAmb IAmb 09 41 01.3
comp=Z,30nm,2.0s
EKA Eskdalemuir Ar 30.26 320 P **P** **09 40 57.3 -1.9**
comp=Z,3.3nm,0.8s,baz=111,slow=9.2,SNR=5.7
comp=Z,3.3nm,0.8s
PBAR Barrancos 30.42 285 *e*P **P** **09 41 01.2 +0.4**
PMRV Marv??o 30.54 288 *e*P **P** **09 41 02.5 +0.6**
PMRV *i* IAmb IAmb 09 41 03.0
comp=Z,24nm,1.1s
PCBR Castelo Branco 30.56 289 *e*P **P** **09 41 02.8 +0.7**
MTE Manteigas 30.56 290 P **P** **09 41 02.3 +0.1**
MTE Manteigas 30.56 290 *e*P **P** **09 41 02.6 +0.5**
PVRL Vila Real 30.63 292 *e*P **P** **09 41 03.3 +0.6**
POLO Lamas de Olo 30.68 292 *e*P **P** **09 41 03.8 +0.6**
PESTR Estremoz 30.76 287 P **P** **09 41 04.1 +0.3**
PESTR Estremoz 30.76 287 *e*P **P** **09 41 04.1 +0.3**
PESTR *i* IAmb IAmb 09 41 04.8
comp=Z,37nm,1.1s
PVIS Viseu 30.80 291 *e*P **P** **09 41 04.2 0.0**
KK31 Karatay Array 30.82 65 **P** **09 41 05.5 +1.1**
KK31 IAmb IAmb 09 41 06.4
comp=Z,5.5nm,0.7s
KK31 Karatay Array 30.82 65 P **P** **09 41 05.5 +1.1**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 30.82 65 **P** **09 41 05.2 +0.9**
KKAR Karatay Array 30.82 65 P **P** **09 41 05.2 +0.9**
GAR Garm 30.95 73 P **P** **09 41 05.7 +0.1**
GAR IAmb IAmb 09 41 23.4
comp=Z,18nm,1.2s
PGAV Gavieira, Arco 31.01 293 *e*P **P** **09 41 07.0 +0.9**
PVAQ Vaqueiros 31.07 284 P **P** **09 41 06.9 +0.3**
PVAQ Vaqueiros 31.07 284 *e*P **P** **09 41 06.9 +0.3**
PBEJ Beja 31.09 285 *e*P **P** **09 41 07.3 +0.6**
PBEJ *i* IAmb IAmb 09 41 08.9
comp=Z,36nm,1.4s
PSARD Sardoal 31.11 288 *e*P **P** **09 41 07.7 +0.8**
EVO Evora 31.13 286 *e*P **P** **09 41 07.6 +0.6**
PMTG Montargil 31.22 287 *e*P **P** **09 41 08.2 +0.3**
PBDV Barranco-do-Ve 31.27 284 *e*P **P** **09 41 08.9 +0.6**
PCVE Castro Verde 31.29 285 *e*P **P** **09 41 09.0 +0.5**
PCAS Casmilo, Conde 31.32 289 *e*P **P** **09 41 09.7 +0.9**
MESJ Messejana 31.39 285 *e*P **P** **09 41 09.8 +0.3**
MESJ IAmb IAmb 09 41 11.0
comp=Z,25nm,0.9s
MESJ Messejana 31.39 285 P **P** **09 41 09.7 +0.3**
MESJ Messejana 31.39 285 *e*P **P** **09 41 10.0 +0.6**
MESJ Messejana 31.39 285 P **P** **09 41 09.7 +0.3**
MESJ pmax pmax
comp=Z,31nm,1.1s
PARRA Arraiolos 31.89 287 *e*P P 09 41 07.1 -6.6
BRVK Borovoye 32.03 46‖ *e*P **P** **09 41 16.4 +1.5**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 32.09 46 P **P** **09 41 15.8 +0.4**
comp=Z,1.0nm,0.3s,baz=238,slow=4.9,SNR=4.5
BVAR LR LR 09 56 16.9
comp=Z,58nm,20.7s,baz=227,slow=40
comp=Z,1.0nm,0.3s
ARSB Arslanbob 32.74 68 **P** **09 41 21.7 +0.4**
ARSB Arslanbob 32.74 68 P **P** **09 41 21.7 +0.4**
ARSB pmax pmax
comp=Z,20nm,1.4s
ARCES ARCESS Array B 33.58 356 P **P** **09 41 27.1 -1.1**
comp=Z,2.8nm,0.7s,baz=177,slow=8.7,SNR=15
ARCES LR LR 09 56 54.3
comp=Z,47nm,19.7s,baz=186,slow=39
comp=Z,2.8nm,0.7s
AAK Ala-Archa 33.76 66 P **P** **09 41 31.8 +1.6**
AAK IAmb IAmb 09 41 32.6
comp=Z,5.1nm,0.6s
AAK Ala-Archa 33.76 66 P **P** **09 41 31.7 +1.4**
comp=Z,4.1nm,0.5s,baz=51,slow=20,SNR=3.7

AAK LR LR 09 57 32.5
comp=Z,84nm,19.6s,baz=289,slow=40
comp=Z,4.1nm,0.5s
AAK Ala-Archa 33.76 66 *ce* P P **09 41 31.9 +1.6**
AAK pmax pmax
comp=Z,3.0nm,0.6s
TORD Torodi Ar. Bea 35.05 237 P P **09 41 42.3 +0.9**
comp=Z,3.5nm,0.9s,baz=31,slow=10.0,SNR=17
comp=Z,3.5nm,0.9s
KDJ Kajisay 35.79 66 P **09 41 49.6 +1.8**
KDJ IAmb IAmb 09 41 50.8
comp=Z,4.2nm,0.7s
KDJ Kajisay 35.79 66 P P **09 41 49.6 +1.8**
KDJ pmax pmax
comp=Z,4.0nm,0.7s
TARG Taragay, Kyrgy 36.30 67 P P **09 41 52.7 +0.3**
TARG IAmb IAmb 09 42 27.3
comp=Z,4.4nm,0.9s
TARG Taragay, Kyrgy 36.30 67 P P **09 41 52.7 +0.3**
TARG pmax pmax
comp=Z,4.0nm,0.9s
KURBB Kurchatov Arra 36.63 52 P P **09 41 53.0 -1.7**
comp=Z,5.8nm,0.7s,baz=272,slow=8.9,SNR=42
comp=Z,5.8nm,0.7s
KURK Kurchatov 36.70 52 P **09 41 55.7 +0.5**
KURK IAmb IAmb 09 41 57.6
comp=Z,5.3nm,0.7s
KURK Kurchatov 36.70 52 *ce* P P **09 41 55.6 +0.5**
KURK pmax pmax
comp=Z,5.0nm,0.7s
MAKZ Makanchi 38.86 58 P P **09 42 14.1 +0.6**
MAKZ Makanchi 38.86 58 P P **09 42 14.1 +0.6**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 39.08 58 ‖ *e* P P **09 42 15.2 -0.1**
MKAR Makanchi Array 39.08 58 P **09 42 15.9 +0.6**
MKAR Makanchi Array 39.08 58 P P **09 42 15.4 +0.1**
comp=Z,2.5nm,0.7s,baz=272,slow=7.8,SNR=15
MKAR LR LR 10 00 18.3
comp=Z,62nm,20.9s,baz=259,slow=39
comp=Z,2.5nm,0.7s
MKAR Makanchi Array 39.08 58 P P **09 42 16.0 +0.6**
ZAA0 Zalesovo Array 40.73 47 P P **09 42 28.5 -0.4**
ZAA0 IAmb IAmb 09 42 29.8
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 40.73 47 P **09 42 28.5 -0.4**
ZALV Zalesovo Beam 40.73 47 P P **09 42 28.3 -0.6**
comp=Z,3.6nm,0.5s,baz=259,slow=9.2,SNR=14
ZALV LR LR 10 01 55.4
comp=Z,46nm,21.1s,baz=243,slow=40
comp=Z,3.6nm,0.5s
BORG Borgarnes 42.12 329 LR LR 10 02 33.2
comp=Z,36nm,18.0s,baz=120,slow=39
SPB2 Spitsbergen Ar 42.59 356 P P **09 42 44.6 +0.8**
SPITS Spitsbergen Ar 42.59 356 P P **09 42 43.7 -0.2**
comp=Z,14nm,0.9s,baz=140,slow=12,SNR=5.1
comp=Z,14nm,0.9s
SPITS Spitsbergen Ar 42.59 356 P P **09 42 44.6 +0.7**
SPITS pmax pmax
comp=Z,47nm,1.3s
WMQ Urumqi 43.20 62 *e* P P **09 42 51.1 +1.8**
WMQ pmax pmax
comp=Z,59nm,0.7s
WMQ LR LR
comp=Z,2μm,21.5s
DBIC Dimbokro 44.16 237 LR LR 10 05 05.2
comp=Z,51nm,18.0s,baz=43,slow=41
EVN Everest 47.27 83 P P **09 43 22.8 +0.4**
SUMG Summit 49.84 338 P P **09 43 41.5 +0.2**
SUMG IAmb IAmb 09 43 47.0
comp=Z,6.6nm,1.1s
SUMG Summit 49.84 338 P P **09 43 41.5 +0.2**
SUMG pmax pmax
comp=Z,7.0nm,1.1s
GOMU GeErMu 50.46 70 P P **09 43 44.3 -2.1**
GOMU pmax pmax
comp=Z,5.0nm,0.7s
NRS Narsarsuaq 52.81 324 P P **09 44 02.1 -1.0**
NRS Narsarsuaq 52.81 324 P P **09 44 02.1 -1.0**
NRS pmax pmax
comp=Z,35nm,0.8s
SFJD Kangerlussuaq 54.17 331 LR LR 10 09 15.5
comp=Z,44nm,18.8s,baz=88,slow=38
SONM Songino Array 54.99 53 P P **09 44 20.3 +0.9**
SONM Songino Array 54.99 53 P P **09 44 19.8 +0.4**
comp=Z,1.3nm,0.5s,baz=292,slow=8.4,SNR=5.3
SONM LR LR 10 10 43.8
comp=Z,60nm,20.6s,baz=297,slow=39
comp=Z,1.3nm,0.5s
SONM Songino Array 54.99 53 P P **09 44 20.3 +0.9**
SONM pmax pmax
comp=Z,2.0nm,1.2s
BOD Bodaibo 56.58 40 *e* P P **09 44 29.3 -1.1**
BOD pmax pmax
comp=Z,11nm,0.6s
LZH Lanzhou 57.29 67 *e* P P **09 44 36.3 +0.3**
LZH pP pwP 09 44 53.5 -0.5
LZH pmax pmax
comp=Z,14nm,1.3s
TIXI Tiksi 58.45 22 P **09 44 43.2 -0.1**
TIXI IAmb IAmb 09 44 43.7
comp=Z,4.4nm,0.6s
TIXI Tiksi 58.45 22 P P **09 44 43.2 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
HHC Hu-ho-hao-te 60.93 59 *e* P P **09 45 03.3 +2.2**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,71nm,5.4s
CMAR Chiang Mai Arr 61.56 87 P P **09 45 04.7 -0.8**
comp=Z,1.6nm,0.7s,baz=295,slow=7.8,SNR=8.1
comp=Z,1.6nm,0.7s
CMAR Chiang Mai Arr 61.56 87 *i* P P **09 45 06.0 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
XAN Xi'an 61.93 67 P P **09 45 08.3 +0.5**
XAN pmax pmax
comp=Z,11nm,0.8s
YAK Yakutsk 62.48 32 LR LR 10 15 27.2
comp=Z,33nm,19.9s,baz=261,slow=39
ENH Enshi 64.08 70 P P **09 45 22.6 +0.5**
ILON Igloolik, Nuna 64.08 339 P P **09 45 21.0 -0.4**
SCHQ Schefferville 65.57 321 P P **09 45 30.5 -0.9**
SCHQ IAmb IAmb 09 45 57.4
comp=Z,6.9nm,0.9s
SCHQ Schefferville 65.57 321 P P **09 45 29.9 -1.6**
comp=Z,4.0nm,0.8s,baz=119,slow=2.9,SNR=4.0
comp=Z,4.0nm,0.8s
GBN Guysborough 67.06 310 P P **09 45 42.0 +0.9**
HAL Halifax 68.73 310 P P **09 45 52.1 +0.7**
HAL Halifax 68.73 310 P P **09 45 52.2 +0.7**
HAL pmax pmax
comp=Z,29nm,1.4s
CN2 Changchun 68.77 51 P P **09 45 54.8 +3.0**
LMN Caledonia Moun 68.86 312 P P **09 45 52.3 0.0**
BATG Bathurst New B 68.88 314 P P **09 45 53.0 +0.5**
GGN Saint George 70.46 312 P P **09 46 02.5 +0.4**
GGN IAmb IAmb 09 46 04.4
comp=Z,9.3nm,1.0s
SEY Seymchan 70.67 25 P P **09 46 03.0 -0.1**
comp=Z,3.9nm,0.6s,baz=302,slow=8.2,SNR=16
comp=Z,3.9nm,0.6s
SEY Seymchan 70.67 25 *e* P P **09 46 03.1 -0.1**
SEY pmax pmax
comp=Z,6.0nm,1.4s
D62A Allapoint, All 70.72 315 P P **09 46 04.3 +0.5**
D62A IAmb IAmb 09 46 05.0
comp=Z,9.9nm,0.9s
A36M Sachs Harbour 70.88 352 P P **09 46 04.4 +0.1**
EMMW East Machias 71.05 312 P P **09 46 05.9 +0.1**
E62A Clayton Lake 71.24 314 P P **09 46 06.9 -0.1**
E62A IAmb IAmb 09 46 09.0
comp=Z,12nm,1.1s
MA2 Magadan 72.38 28 P P **09 46 14.1 +0.6**
MA2 IAmb IAmb 09 46 21.0
comp=Z,6.2nm,0.8s
MA2 Magadan 72.38 28 P P **09 46 13.4 -0.1**
comp=Z,5.9nm,0.9s,baz=359,slow=5.3,SNR=3.7
MA2 LR LR 10 21 16.2
comp=Z,32nm,18.3s,baz=294,slow=38
comp=Z,5.9nm,0.9s
MA2 Magadan 72.38 28 P P **09 46 14.1 +0.6**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
USA0B Ussuriysk Arra 72.57 48 P P **09 46 14.7 -0.2**
USA0B IAmb IAmb 09 46 22.9
comp=Z,4.2nm,0.9s
USA0B Ussuriysk Arra 72.57 48 P P **09 46 14.7 -0.2**
USA0B pmax pmax
comp=Z,4.0nm,0.9s
USRK Ussuriysk Ar. 72.57 48 P P **09 46 14.3 -0.6**
comp=Z,2.9nm,0.6s,baz=270,slow=10,SNR=6.1
USRK LR LR 10 21 20.4
comp=Z,43nm,20.4s,baz=1.8,slow=38
comp=Z,2.9nm,0.6s
C36M Paulatuk 73.23 351 P P **09 46 18.4 0.0**
KSAR Wonju Array Be 73.68 55 P P **09 46 21.6 0.0**
KSAR Wonju Array Be 73.68 55 P P **09 46 21.6 0.0**
KSRS Korea Array 73.70 55 P P **09 46 21.0 -0.7**
comp=Z,2.0nm,0.7s,baz=307,slow=5.1,SNR=8.2
comp=Z,2.0nm,0.7s
KSRS Korea Array 73.70 55 P P **09 46 21.0 -0.7**
B20K Meade River 73.96 3 P P **09 46 23.9 +1.3**
LBNH Lisbon 73.97 313 P P **09 46 23.3 +0.1**
LBNH IAmb IAmb 09 46 24.8
comp=Z,7.6nm,0.9s
LBNH Lisbon 73.97 313 P P **09 46 23.3 +0.1**
LBNH pmax pmax
comp=Z,8.0nm,1.0s
TRQ Mont Tremblant 74.34 316 P P **09 46 25.8 +0.4**
TRQ IAmb IAmb 09 46 43.0
comp=Z,7.6nm,1.2s
E29M Blow River 75.44 356 P P **09 46 31.4 +0.1**
E29M IAmb IAmb 09 46 32.4
comp=Z,5.0nm,0.7s
F30M Barrier River 76.08 355 IAmb IAmb 09 47 03.5
comp=Z,6.1nm,1.1s
E23K Chandalar 76.09 0 P P **09 46 36.3 +1.2**
F28M Old Crow 76.32 357 P P **09 46 36.5 +0.1**
F25K Christian Rive 76.53 359 P **09 46 38.7 +1.1**
F24K Squaw Lake 76.64 360 IAmb IAmb 09 46 40.5
comp=Z,5.0nm,0.9s
G31M Satah River 76.64 354 P P **09 46 37.7 -0.3**
G31M IAmb IAmb 09 46 38.6
comp=Z,6.3nm,0.7s
BMAR Burnt Mountain 76.68 358 P P **09 46 39.6 +1.2**
G29M Pine Creek 76.92 356 IAmb IAmb 09 46 40.4
comp=Z,4.5nm,0.7s
L59A Walton 77.02 313 P P **09 46 41.3 +0.5**
G26K Porcupine Rive 77.14 358 IAmb IAmb 09 46 42.9
comp=Z,4.5nm,0.8s
G27K Doyon Strip 77.21 357 IAmb IAmb 09 46 42.9
comp=Z,3.9nm,0.7s
H29M Whitestone 77.63 356 IAmb IAmb 09 46 45.5
comp=Z,5.4nm,0.7s
H27K Steamboat Moun 77.78 357 IAmb IAmb 09 46 46.2
comp=Z,4.3nm,0.7s
SADO Sadowa 77.78 317 LR LR 10 21 27.2
comp=Z,25nm,19.1s,baz=116,slow=36
YKA Yellowknife Ar 77.91 345 P P **09 46 44.9 -0.4**
comp=Z,2.0nm,0.7s,baz=25,slow=5.4,SNR=7.8
comp=Z,2.0nm,0.7s
JNU Nakatsue 78.13 58 LR LR 10 24 25.5
comp=Z,22nm,19.0s,baz=295,slow=38
H23K Yukon River 78.34 0 P P **09 46 48.7 +1.1**
H23K IAmb IAmb 09 46 54.0
comp=Z,5.2nm,1.2s
I30M Mount Dempster 78.48 355 IAmb IAmb 09 46 49.2
comp=Z,4.5nm,0.7s
I28M Miner Creek 78.48 356 IAmb IAmb 09 46 49.1
comp=Z,2.5nm,0.7s
ASAJ Asahikawa 78.74 43 LR LR 10 25 41.6
comp=Z,30nm,18.4s,baz=344,slow=39
J30M Hart River 79.12 355 IAmb IAmb 09 46 53.3
comp=Z,5.8nm,0.7s
ILAR Eielson Array 79.39 359 P P **09 46 53.0 -0.4**
comp=Z,0.6nm,0.7s,baz=355,slow=5.5,SNR=8.8
comp=Z,0.6nm,0.7s
ILAR Eielson Array 79.39 359 P P **09 46 53.0 -0.4**
J20K Nowinta River 79.90 2 P P **09 46 57.0 +0.9**
J20K IAmb IAmb 09 46 57.8
comp=Z,8.8nm,1.5s
SCRK Sand Creek 80.12 358 P **09 46 59.0 +1.4**
PAOC Oil Creek Stat 80.15 315 P P **09 46 58.2 +0.3**
PAOC IAmb IAmb 09 46 58.7
comp=Z,9.9nm,1.0s
MMPY Sheldon Lake, 80.55 352 P P **09 47 01.4 +1.6**
MJAR Matsushiro Arr 80.91 51 P P **09 47 01.6 -0.5**
MJAR Matsushiro Arr 80.91 51 P P **09 47 01.7 -0.5**
comp=Z,0.6nm,0.7s,baz=304,slow=4.6,SNR=3.5
MJAR LR LR 10 25 14.0
comp=Z,41nm,19.2s,baz=278,slow=37
comp=Z,0.6nm,0.7s
BCAR Beaver Creek A 80.95 357 P P **09 47 02.8 +0.9**
N25K Chitina, Valde 82.52 358 P P **09 47 10.8 +0.7**
VRDI Verde Repeater 82.86 357 P P **09 47 12.8 +0.7**
VRDI IAmb IAmb 09 47 13.8
comp=Z,3.1nm,0.6s
BMRM Bremner River 83.16 358 P P **09 47 13.7 +0.2**
BMRM IAmb IAmb 09 47 57.4
comp=Z,9.7nm,1.3s
TKL Tuckaleechee C 86.42 312 LR LR 10 26 17.8
comp=Z,28nm,18.1s,baz=62,slow=36
OHAK Old Harbor 86.89 2 P P **09 47 32.0 -0.2**
PDAR Pinedale Array 93.68 332 P P **09 48 03.1 -1.4**
comp=Z,0.3nm,0.7s,baz=76,slow=7.8,SNR=3.9
PDAR LR LR 10 34 22.5
comp=Z,14nm,20.1s,baz=27,slow=38
comp=Z,0.3nm,0.7s
ANMO Albuquerque 99.01 326 LR LR 10 33 38.7
comp=Z,30nm,21.3s,baz=126,slow=36
QSPA South Pole Qui 126.01 180 PKP **PKiKP 09 53 50.1 +1.1**
comp=Z,1.9nm,0.7s,baz=262,slow=0.9,SNR=14

IDC 20 09:35:22.4±9.0, 5°82S×153°48E, h0km, mb3.7/3, mbtmp3.7/3, MS3.0/2, Error ellipse: s-maj=278.0km s-min=41.5km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.21**	**240**	LR	LR	09 39 59.9	
	comp=Z,73nm,18.5s,baz=158,slow=38						
DZM	**Mont Dzumac**	**20.45**	**143**	LR	LR	09 46 00.7	
	comp=Z,64nm,19.0s,baz=136,slow=31						
WRA	**Warramunga Arr**	**23.31**	**231**	P	P	09 40 32.2	0.0
	3.3nm,0.8s,baz=63,slow=10,SNR=18						
	3.3nm,0.8s						
ASAR	**Alice Springs**	**25.88**	**225**	P	P	09 40 56.2	+0.1
	0.9nm,0.8s,baz=56,slow=9.8,SNR=6.9						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**81.54**	**319**	P	P	09 47 42.0	0.0
	0.4nm,0.6s,baz=106,slow=6.0,SNR=1.5						
	0.4nm,0.6s						

*IDC **20** 09:39:39.1±3.5, 54°.30N×87°.33E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=31.0km s-min=19.3km az=46.0*

ASRS 20 09:39:39.0±1.1, 54°.24N×87°.03E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.33**	**258**	I	I	09 48 40.0	
	baz=76,slow=325,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.33**	**258**	Pg	Pb	09 40 06.0	+1.1
	1.4nm,0.3s,baz=78,slow=16,SNR=9.1						
ZALV				Lg	Lg	09 40 28.0	
	3.4nm,0.3s,baz=77,slow=29,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.33**	**239**	Pn	Pn	09 41 16.1	+2.6
	0.1nm,0.3s,baz=55,slow=14,SNR=4.4						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**8.04**	**204**	Pn	Pn	09 41 40.6	+3.6
	0.2nm,0.3s,baz=26,slow=14,SNR=5.2						
	0.2nm,0.3s						

*NEIC **20** 09:39:42.5±1.8, 35°.12N±0°.02×95°.35W±0°.02, h5km±1km, mb_Lg2.5/43, ML2.7/5, ML2.8/6, Error ellipse: s-maj=3.6km s-min=2.9km az=142.0*

NEIC 20 09:39:42.6±2.0, 35°.13N×0°.02×95°.35W±0°.02, h5km±1km, Error ellipse: s-maj=3.6km s-min=2.9km az=142.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.86**	**335**		Pg	09 39 59.1	+0.1
TUL3					Sg	09 40 10.6	+0.4
TUL3				IAML		09 40 10.8	
	181nm,0.3s						
RLO	**Rose Lookout**	**1.06**	**14**		Pg	09 40 03.0	-0.1
RLO					Sg	09 40 17.3	+0.4
RLO				IAML		09 40 22.4	
	comp=E,249nm,0.2s						
RLO				IAML		09 40 23.8	
	comp=N,257nm,0.2s						
DEOK	**Depew**	**1.18**	**307**		Pg	09 40 05.0	-0.1
DEOK					Sg	09 40 20.5	+0.1
DEOK				IAML		09 40 20.8	
	comp=E,199nm,0.1s						
OK052	**Battle Ridge R**	**1.46**	**306**		Pn	09 40 09.8	0.0
OK052					Sn	09 40 29.4	+0.2
QUOK	**Quay**	**1.52**	**314**		Pn	09 40 10.4	0.0
QUOK					Sg	09 40 31.2	-0.1
U38A	**Gravette**	**1.52**	**31**		Pn	09 40 10.7	+0.2
U38A					Sb	09 40 31.2	+0.2
MIAR	**Mount Ida**	**1.57**	**111**		Pn	09 40 11.4	+0.2
HHAR	**Hobbs**	**1.62**	**45**		Pn	09 40 12.5	+0.6
OKCSW	**OKLAHOMA CITY**	**1.73**	**280**		Pb	09 40 14.3	-0.6
OKCSW				IAmb_Lg		09 40 42.2	
	comp=Z,34nm,0.8s						
OKCFA	**Oklahoma City**	**1.74**	**280**		Pb	09 40 14.8	-0.3
OK029	**Liberty Lake**	**1.84**	**292**		Pb	09 40 16.0	-0.8
LOOK	**Love County**	**1.89**	**234**		Pn	09 40 15.2	-0.4
Z38A	**Mt. Pleasant**	**1.89**	**171**		Pb	09 40 16.7	-0.9
Z38A				IAmb_Lg		09 40 45.2	
	comp=Z,32nm,0.9s						
T35A	**Sooner Cattle**	**2.01**	**332**		Pn	09 40 18.3	+1.0
X40A	**Basin Creek Fa**	**2.17**	**107**	Pn	Pb	09 40 21.9	-0.5
X40A				IAmb_Lg		09 40 55.3	
	comp=Z,19nm,0.9s						
BLOK	**Blackwell**	**2.22**	**318**	Pn	Pn	09 40 20.1	-0.1
WLAR	**White Oak Lake**	**2.34**	**127**	Pn	Pn	09 40 20.5	-1.3
WLAR				IAmb_Lg		09 40 54.5	
	comp=Z,13nm,0.8s						
Z35A	**Perchaven, San**	**2.39**	**222**	Pn	Pn	09 40 22.0	-0.5
TREL	**Terrell**	**2.47**	**195**	Pn	Pn	09 40 22.4	-1.2
TREL				IAmb_Lg		09 41 03.8	
	comp=Z,20nm,0.9s						
UALR	**University of**	**2.50**	**97**	Pn	Pn	09 40 23.9	0.0
UALR				IAmb_Lg		09 41 07.2	
	comp=Z,12nm,1.0s						
WHAR	**Wooly Hollow**	**2.51**	**86**		Pb	09 40 26.7	-1.5
CROK	**Carrier**	**2.54**	**303**	Pn	Pn	09 40 23.4	-1.2
FCAR	**Ozark Folk Cen**	**2.74**	**73**	Pn	Pn	09 40 28.2	+1.0
WMOK	**Wichita Mounta**	**2.85**	**263**	Pn	Pn	09 40 27.1	-1.7
OK038	**West end E0370**	**3.07**	**297**	Pn	Pn	09 40 30.6	-1.2
OK038				IAmb_Lg		09 41 18.1	
	comp=Z,14nm,0.9s						
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		09 41 30.0	
	comp=Z,11nm,1.0s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		09 41 56.1	
	comp=Z,8.1nm,0.7s						
SMWD	**Samnorwood**	**4.01**	**271**	IAmb_Lg		09 41 56.1	
	comp=Z,9.3nm,0.9s						
R32A	**Long Quarter,**	**4.25**	**322**	IAmb_Lg		09 42 00.9	
	comp=Z,9.1nm,0.9s						
PBMO	**Poplar Bluff**	**4.32**	**66**	IAmb_Lg		09 42 01.2	
	comp=Z,13nm,0.8s						
P38A	**Dawn**	**4.71**	**17**	IAmb_Lg		09 42 12.5	
	comp=Z,7.3nm,0.8s						
CBKS	**Cedar Bluff**	**5.08**	**318**	IAmb_Lg		09 42 36.3	
	comp=Z,6.4nm,0.7s						
CGM3	**Cape Girardeau**	**5.08**	**63**	IAmb_Lg		09 42 32.0	
	comp=Z,6.7nm,0.9s						
P40A	**Paris**	**5.12**	**30**	IAmb_Lg		09 42 33.1	
	comp=Z,7.3nm,0.7s						
T47A	**Sharon Grove**	**6.93**	**72**	IAmb_Lg		09 43 27.3	
	comp=Z,4.0nm,0.8s						
KSCO	**Kaye Shedlock'**	**6.99**	**306**	IAmb_Lg		09 43 38.6	
	comp=Z,6.1nm,0.8s						
SFIN	**Lafayette**	**8.37**	**49**	IAmb_Lg		09 44 12.8	
	comp=Z,4.4nm,0.8s						
JFWS	**Jewell Farm**	**8.72**	**26**	IAmb_Lg		09 44 25.6	
	comp=Z,6.5nm,0.9s						

ASRS 20 09:40:17.0±0.9, 54°.03N×86°.53E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*NEIC **20** 09:44:03.5±1.3, 35°.12N±0°.02×95°.36W±0°.02, h5km±1km, mb_Lg2.1/11, ML2.5/6, ML2.5/5, Error ellipse: s-maj=3.4km s-min=2.9km az=137.0*

NEIC 20 09:44:03.4±1.4, 35°.14N±0°.02×95°.36W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.7km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUL3	**Leonard**	**0.85**	**336**		Pg	09 44 19.7	0.0
TUL3					Sg	09 44 31.2	+0.5
TUL3				IAML		09 44 31.4	
	91nm,0.3s						
RLO	**Rose Lookout**	**1.06**	**15**		Pg	09 44 23.5	-0.3
RLO					Sg	09 44 37.8	+0.2
RLO				IAML		09 44 43.0	
	comp=E,124nm,0.2s						
RLO				IAML		09 44 44.3	
	comp=N,150nm,0.2s						
DEOK	**Depew**	**1.17**	**308**		Pg	09 44 25.6	-0.2
DEOK					Sg	09 44 41.1	+0.2
DEOK				IAML		09 44 41.3	
	comp=E,110nm,0.2s						
OK052	**Battle Ridge R**	**1.45**	**306**		Pn	09 44 30.4	0.0
OK052					Sg	09 44 50.1	-0.1
QUOK	**Quay**	**1.51**	**314**		Pn	09 44 31.3	+0.1
QUOK					Sg	09 44 51.9	0.0
U38A	**Gravette**	**1.52**	**31**		Pn	09 44 31.4	+0.1
U38A					Sb	09 44 51.7	-0.1
MIAR	**Mount Ida**	**1.58**	**111**		Pn	09 44 32.6	+0.5
MIAR					Sb	09 44 53.5	0.0
HHAR	**Hobbs**	**1.62**	**45**		Pn	09 44 32.4	-0.4
HHAR					Sb	09 44 54.8	0.0
ADOK	**Arcadia Dam**	**1.72**	**288**		Pn	09 44 33.0	-1.1
Z38A	**Mt. Pleasant**	**1.90**	**170**	Pn	Pn	09 44 35.7	-0.8
T35A	**Sooner Cattle**	**2.00**	**333**	Pn	Pn	09 44 36.6	-1.4
X40A	**Basin Creek Fa**	**2.18**	**107**	Pn	Pn	09 44 38.6	-1.7
X40A				IAmb_Lg		09 45 15.8	
	comp=Z,7.0nm,0.9s						
WLAR	**White Oak Lake**	**2.35**	**127**	Pn	Pn	09 44 41.7	-1.0
WHAR	**Wooly Hollow**	**2.52**	**86**	Pn	Pn	09 44 44.6	-0.5
FCAR	**Ozark Folk Cen**	**2.75**	**73**	Pn	Pn	09 44 48.0	-0.1
WMOK	**Wichita Mounta**	**2.84**	**263**	Pn	Pn	09 44 47.0	-2.5
MGMO	**Mountain Grove**	**3.21**	**50**	IAmb_Lg		09 45 52.4	
	comp=Z,9.0nm,1.1s						
R40A	**Maddies Statio**	**4.01**	**37**	IAmb_Lg		09 46 17.9	
	comp=Z,3.3nm,0.7s						
PBMO	**Poplar Bluff**	**4.32**	**66**	IAmb_Lg		09 46 19.9	
	comp=Z,6.1nm,0.7s						
CCM	**Cathedral Cave**	**4.41**	**47**	IAmb_Lg		09 46 24.6	
	comp=Z,3.2nm,0.9s						
Y45A	**Yeager Farm, C**	**4.97**	**103**	IAmb_Lg		09 46 40.4	
	comp=Z,5.0nm,0.9s						

*ASRS **20** 09:45:40.0±0.7, 54°.66N×83°.63E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 09:45:40.5±2.3, 54°.63N×83°.70E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=18.5km s-min=11.1km az=169.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**135**	I	I	09 51 20.0	
	baz=317,slow=317,SNR=4.0						
ZALV	**Zalesovo Beam**	**0.95**	**135**	Pg	Pg	09 45 58.3	-0.3
	1.3nm,0.3s,baz=317,slow=15,SNR=6.9						
ZALV				Lg	Lg	09 46 12.0	
	6.5nm,0.3s,baz=317,slow=28,SNR=18						
KURBB	**Kurchatov Arra**	**5.10**	**220**	Pn	Pn	09 46 57.9	-0.1
	0.1nm,0.3s,baz=40,slow=14,SNR=6.0						
KURBB				Lg	Lg	09 48 20.3	
	0.1nm,0.3s,baz=41,slow=28,SNR=6.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.89**	**187**	Pn	Pn	09 47 37.3	+0.8
	baz=7.4,slow=12,SNR=1.7						
MKAR				Lg	Lg	09 49 51.4	
	0.1nm,0.3s,baz=2.9,slow=26,SNR=3.8						
	0.3nm,0.5s						

IDC 20 09:48:28.6±3.0, 1°49'S×136°09'E, h0^km, mb3.5/2, mbtmp3.5/3, ML3.5/1, MS3.7/1, Error ellipse: s-maj=123.9km s-min=29.4km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**185**	P	P	09 52 46.0	+0.4
	0.1nm,0.3s,baz=6.7,slow=11,SNR=2.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**22.14**	**185**	P	P	09 53 25.3	-0.8
	1.3nm,0.6s,baz=10.0,slow=11,SNR=18						
	1.3nm,0.6s						
KLR	**Kul'dur**	**50.66**	**356**	LR	LR	10 17 55.7	
	comp=Z,70nm,18.1s,baz=207,slow=35						
MKAR	**Makanchi Array**	**67.24**	**323**	P	P	09 59 25.3	+0.4
	0.3nm,0.6s,baz=124,slow=7.7,SNR=3.7						
	0.3nm,0.6s						

*IDC **20** 09:55:45.2±3.4, 54°.53N×87°.22E, h0^km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=29.6km s-min=21.9km az=33.0*

ASRS 20 09:55:47.0±0.8, 54°.39N×86°.83E, h0^km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**250**	I	I	10 04 10.0	
	baz=68,slow=318,SNR=6.0						
ZALV	**Zalesovo Beam**	**1.26**	**250**	Pg	Pn	09 56 12.7	+0.8
	1.9nm,0.3s,baz=68,slow=16,SNR=11						
ZALV				Lg	Lg	09 56 34.2	
	1.8nm,0.3s,baz=69,slow=25,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.32**	**237**	Pn	Pn	09 57 22.9	+1.6
	0.1nm,0.3s,baz=53,slow=14,SNR=7.8						
KURBB				Lg	Lg	09 59 14.6	
	0.1nm,0.3s,baz=48,slow=31,SNR=2.2						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	09 57 49.4	+3.2
	0.1nm,0.3s,baz=18,slow=13,SNR=2.5						
	0.1nm,0.2s						

*ASRS **20** 10:00:21.0±0.9, 53°.55N×87°.62E, h0^km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 20 10:00:20.8±3.3, 53°.55N×87°.92E, h0^km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=27.2km s-min=18.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**283**	I	I	10 11 30.0	
	0.1nm,0.9s,baz=101,slow=320,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.88**	**283**	Pg	Pn	10 00 54.6	+0.4
	0.4nm,0.3s,baz=102,slow=14,SNR=6.3						
ZALV				Lg	Lg	10 01 20.6	
	0.7nm,0.3s,baz=97,slow=22,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	10 01 58.5	+1.0
	baz=61,slow=14,SNR=2.2						
KURBB				Sn	Sn	10 03 11.4	-0.7
	baz=99,slow=19						
KURBB				Lg	Lg	10 03 47.5	
	baz=65,slow=30,SNR=2.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	10 02 14.6	+0.9
	0.1nm,0.3s,baz=9.9,slow=18,SNR=2.2						
MKAR				Lg	Lg	10 04 23.9	
	0.1nm,0.3s,baz=23,slow=35,SNR=3.1						
	0.1nm,0.4s						

ASRS 20 10:05:58.0±2.0, 53°.83N×91°.09E, h0^km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*HEL **20** 10:06:10.6±0.3, 67°.62N×20°.73E, h0^km, ML1.7, Explosion*
*UPP **20** 10:06:11.9±0.0, 67°.65N×21°.04E, h0^km, ML1.6, Unknown Suspected explosion*
*IDC **20** 10:06:12.7±2.3, 67°.68N×21°.12E, h0^km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=36.7km s-min=14.2km az=107.0*

ISC 20 10:06:12.1±0.8, 67°.64N±0°.02×21°.05E±0°.02, h0^km, n34, σ1s07/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.41**	**117**	P	**Pg**	**10 06 19.9**	**-0.1**
MASU				S	**Sg**	**10 06 25.4**	**+0.2**
KUA	**Kurravaara**	**0.41**	**320**	P	**Pg**	**10 06 19.8**	**-0.3**
KUA				S	**Sg**	**10 06 25.5**	**+0.1**
LANU	**Lannavaara**	**0.54**	**41**	P	**Pg**	**10 06 22.2**	**-0.3**
LANU				S	**Sg**	**10 06 29.6**	**+0.1**
LANU	**Lannavaara**	**0.54**	**41**	PG	**Pg**	**10 06 22.3**	**-0.3**
LANU				SG	**Sg**	**10 06 31.0**	**+1.4**
DUNU	**Dundret**	**0.56**	**200**	P	**Pg**	**10 06 22.7**	**0.0**
DUNU				S	**Sg**	**10 06 30.3**	**+0.4**
RATU	**Laukkuluspa**	**0.58**	**289**	P	**Pg**	**10 06 22.8**	**-0.5**
KOVU	**Salmi**	**0.67**	**331**	P	**Pg**	**10 06 24.6**	**-0.4**
NIKU	**Nikkaluokta**	**0.80**	**287**	P	**Pg**	**10 06 26.7**	**-0.7**
SALU	**Saltoluokta**	**1.01**	**256**	P	**Pg**	**10 06 30.7**	**-0.8**
SALU	**Saltoluokta**	**1.01**	**256**	*eP*	**Pg**	**10 06 30.5**	**-1.0**
PAJU	**Pajala**	**1.01**	**127**	P	**Pg**	**10 06 30.7**	**-0.8**
PAJU	**Pajala**	**1.01**	**127**	PG	**Pg**	**10 06 30.5**	**-1.0**
	baz=304						
PAJU				SB	**Sb**	**10 06 45.6**	**-0.8**
ERTU	**Ertsjaerv**	**1.18**	**157**	P	**Pg**	**10 06 33.6**	**-1.1**
ERTU	**Ertsjaerv**	**1.18**	**157**	PN	**Pg**	**10 06 33.8**	**-0.9**
ERTU				SN	**Sg**	**10 06 50.2**	**+0.2**
KLF	**Kolari**	**1.20**	**109**	PG	**Pg**	**10 06 34.1**	**-0.9**
KLF				MSG		10 06 50.0	
	comp=Z,4.0nm,0.2s						
KLF				SB	**Sb**	**10 06 51.4**	**-0.2**
HEF	**Hetta**	**1.25**	**51**	PG	**Pg**	**10 06 34.7**	**-1.3**
	baz=233						
HEF				MSG		10 06 51.6	
	comp=Z,4.6nm,0.2s						
HEF				SG	**Sg**	**10 06 52.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.37**	**356**	*eP*	**Pg**	**10 06 37.5**	**-0.9**
KIF	**Kilpisjarvi**	**1.37**	**356**	PN	**Pg**	**10 06 37.5**	**-0.9**
KIF				MSG		10 06 53.6	
	comp=Z,15nm,0.2s						
KIF				SN	**Sn**	**10 06 57.7**	**+0.4**
HARU	**Harads**	**1.48**	**181**	P	**Pn**	**10 06 39.4**	**-0.6**
KTK1	**Kautokeino**	**1.60**	**30**	PN	**Pn**	**10 06 41.8**	**+0.2**
KTK1				SN	**Sg**	**10 07 04.7**	**+1.3**
I37NO	**I37NO**	**1.70**	**329**	I	I	10 17 15.0	
	baz=146,slow=320,SNR=3.6						
KALU	**Kalix**	**2.01**	**152**	PG	**Pn**	**10 06 48.1**	**+0.8**
	baz=326						
KALU				SG	**Sb**	**10 07 14.7**	**-0.3**
TOF	**Tornio**	**2.03**	**139**	PG	**Pn**	**10 06 48.6**	**+1.1**
TOF				MSG		10 07 13.1	
	comp=Z,3.4nm,0.2s						
TOF				SG	**Sb**	**10 07 15.8**	**+0.1**
RNF	**Rovaniemi**	**2.20**	**116**	PG	**Pn**	**10 06 51.3**	**+1.5**
RNF				SG	**Sb**	**10 07 21.0**	**+0.5**
ARA0	**ARCESS Array S**	**2.51**	**39**	PB	**Pn**	**10 06 54.8**	**+0.7**
ARA0				SB	**Sb**	**10 07 27.8**	**-1.6**
ARCES	**ARCESS Array B**	**2.51**	**39**	Pn	**Pn**	**10 06 54.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=218,slow=14,SNR=22						
ARCES				Sn	**Sn**	**10 07 26.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=221,slow=23,SNR=16						
	comp=Z,1.3nm,0.5s						
RANF	**Ranua**	**2.80**	**123**	PB	**Pb**	**10 07 01.2**	**-1.7**
RANF				SG	**Sb**	**10 07 38.2**	**+0.6**
RAJF	**Raja-Jooseppi**	**2.85**	**70**	PG	**Pb**	**10 07 03.1**	**-0.7**
RAJF				SB	**Sb**	**10 07 39.0**	**-0.3**
KEV	**Kevo**	**3.04**	**43**	PB	**Pn**	**10 07 02.3**	**+0.9**
	baz=231						
KEV				SN	**Sn**	**10 07 39.4**	**+1.0**
VRF	**Varrio**	**3.27**	**84**	SG	**Sb**	**10 07 52.6**	**+1.4**
OLKF	**Oulanka, Finla**	**3.54**	**108**	SG	**Sg**	**10 08 02.6**	**-3.0**
MSF	**Maaselka**	**3.61**	**115**	PB	**Pn**	**10 07 12.2**	**+2.9**
UMAU	**Umeaa**	**3.78**	**182**	SB	**Sn**	**10 07 58.5**	**+1.9**
FINES	**FINESS Array B**	**6.59**	**158**	Pn	**Pn**	**10 07 51.7**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=343,slow=9.1,SNR=2.1						
	comp=Z,1.8nm,0.8s						

*NNC **20** 10:06:18.8±6.9, 53°.59N×90°.67E, h0^km, mb3.5, mpv3.2, Error ellipse: s-maj=50.5km s-min=37.2km az=57.0, Suspected Mining explosion.*

ASRS 20 10:06:12.0±2.0, 53°.80N×91°.07E, h0^km, M3.2, 6C-3D, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.70**	**275**	⇑Pg	Pb	10 07 19.7	+1.4
	1.4nm,0.7s						
ZAA0				⇑Lg	Lg	10 08 12.9	
	5.4nm,0.8s						
KURK	**Kurchatov**	**8.24**	**253**	⇓Pn	Pn	10 08 18.4	+5.7
	1.7nm,0.6s						
KURK				⇑Sn	Sn	10 09 48.2	+1.9
	4.3nm,0.7s						
KURK				⇑Lg	Lg	10 10 32.6	
	7.8nm,0.8s						
KURBB	**Kurchatov Arra**	**8.33**	**253**	⇓Sn	Sn	10 09 49.6	+1.0
	28nm,0.8s						
KURBB				⇑Lg	Lg	10 10 37.3	
	24nm,0.8s						
MK31	**Makanchi Array**	**8.98**	**222**	Pn	Pn	10 08 27.3	+4.4
	1.3nm,0.7s,baz=50,slow=14,SNR=4.1						
MK31				⇑Sn	Sn	10 10 02.1	-2.6
	2.1nm,0.7s						
MK31				⇓Lg	Lg	10 10 51.7	
	5.4nm,0.9s,baz=39,slow=31,SNR=5.3						

*IDC **20** 10:33:32.9±1.0, 52°.66N×168°.53W, h0^km, mb3.9/18, mbtmp4.0/20, ML3.5/2, MS3.3/5, Error ellipse: s-maj=29.7km s-min=14.1km az=176.0*
*AEIC **20** 10:33:35.6±1.7, 52°.27N±0°.05×168°.33W±0°.07, h11^km±4^km, Error ellipse: s-maj=6.9km s-min=6.1km az=180.0*
*NEIC **20** 10:33:37.5±1.8, 52°.51N±0°.04×168°.49W±0°.06, h32^km±6^km, mb3.8/73, ML3.5/22, ML3.2(AEIC), Error ellipse: s-maj=7.3km s-min=4.2km az=145.0*

ISC 20 10:33:34.5±1.9, 52°.48N±0°.07×168°.42W±0°.04, h14^km±11^km, n192, σ0s95/189, mb4.0/26, MS3.3/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.56**	**332**		**Pn**	**10 33 49.5**	**+1.4**
NIKH					**Sn**	**10 33 56.6**	**-0.7**
NIKH				IAML		10 34 05.2	
	comp=N,1μm,0.6s						
NIKH				IAML		10 34 09.5	
	comp=E,990nm,0.7s						
NIKH	**Nikolski High**	**0.56**	**332**	P	**Pn**	**10 33 49.5**	**+1.4**
NIKH	**Nikolski High**	**0.56**	**332**	S	**Sn**	**10 34 01.2**	**+3.9**
OKSP	**Okmok Steepe**	**0.78**	**6**		**Pn**	**10 33 52.9**	**+1.8**
CLCO	**Concord Point,**	**0.85**	**292**		**Pn**	**10 33 53.1**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**0.94**	**14**		**Pn**	**10 33 55.1**	**+1.8**
CLES	**Cleveland East**	**0.96**	**292**		**Pn**	**10 33 55.0**	**+1.3**
CLES					**Sg**	**10 34 05.4**	**-0.3**
CLES				IAML		10 34 18.6	
	comp=N,2μm,0.5s						
CLES				IAML		10 34 19.6	
	comp=E,1μm,0.4s						
OKNC	**Okmok New Cone**	**1.00**	**10**		**Pn**	**10 33 56.4**	**+2.3**
MAPS	**Pakushin South**	**1.60**	**33**		**Pb**	**10 34 03.8**	**-0.1**
MAPS					**Sg**	**10 34 26.2**	**+0.2**
MGOD	**Makushin Gods**	**1.61**	**35**		**Pb**	**10 34 04.1**	**0.0**
MGOD					**Sg**	**10 34 26.7**	**+0.2**
MREP	**Makushin Rep't**	**1.67**	**36**		**Pb**	**10 34 04.7**	**-0.4**
UNV	**Unalaska Valle**	**1.79**	**39**		**Pn**	**10 34 06.0**	**+1.1**
UNV				Sn	**Sn**	**10 34 28.4**	**+0.9**
UNV	**Unalaska Valle**	**1.79**	**39**	P	**Pn**	**10 34 06.2**	**+1.2**
MTBL	**Makushin Table**	**1.82**	**34**		**Pb**	**10 34 07.3**	**-0.4**
AKMO	**Akutan Morgan**	**2.17**	**41**		**Pn**	**10 34 11.8**	**+1.6**
AKRB	**Akutan Reef Bi**	**2.17**	**39**		**Pb**	**10 34 12.6**	**-1.0**
LVA	**Lava Point**	**2.21**	**39**		**Pn**	**10 34 12.7**	**+1.9**
LVA				Sn	**Sn**	**10 34 37.2**	**-0.8**
LVA				IAML		10 34 52.1	
	comp=E,228nm,1.1s						
LVA				IAML		10 35 01.4	
	comp=N,326nm,0.8s						
AKGG	**Akutan Green G**	**2.26**	**39**		**Pn**	**10 34 13.2**	**+1.8**
AKUT	**Akutan**	**2.30**	**43**		**Pn**	**10 34 13.0**	**+1.1**
AKUT	**Akutan**	**2.30**	**43**	S	**Sb**	**10 34 43.3**	**-0.6**
WEBT	**Westdahl Beart**	**3.04**	**44**		**Pn**	**10 34 23.4**	**+1.2**
ATKA	**Atka Island**	**3.56**	**268**		**Pn**	**10 34 30.6**	**+1.4**
ATKA					**Sn**	**10 35 11.9**	**+0.9**
ATKA				IAML		10 35 37.4	
	comp=N,54nm,1.0s						
ATKA	**Atka Island**	**3.56**	**268**	P	**Pn**	**10 34 30.1**	**+0.9**
ATKA	**Atka Island**	**3.56**	**268**	S	**Sn**	**10 35 12.5**	**+1.5**
FALS	**False Pass**	**3.81**	**49**	Pn	**Pn**	**10 34 34.2**	**+1.5**
DT1	**Dutton Round H**	**4.49**	**52**		**Pn**	**10 34 43.7**	**+1.6**
DT1					**Sn**	**10 35 34.4**	**+0.3**
GSIG	**Igitkin Island**	**4.64**	**267**		**Pn**	**10 34 44.4**	**+0.2**
GSIG					**Sn**	**10 35 38.0**	**+0.2**
GSTR	**Great Sitkin T**	**4.71**	**268**	Pn	**Pn**	**10 34 44.5**	**-0.5**
GSMY	**Great Sitkin M**	**4.71**	**268**		**Pn**	**10 34 45.7**	**+0.5**
GSCK	**Great Sitkin C**	**4.78**	**267**		**Pn**	**10 34 46.9**	**+0.8**
SPIA	**Saint Paul Isl**	**4.83**	**348**	Pn	**Pn**	**10 34 47.0**	**+0.4**
SPIA				IAML		10 36 06.8	
	comp=N,83nm,0.9s						
ETKA	**Kagalaska Isla**	**4.96**	**266**		**Pn**	**10 34 49.3**	**+0.8**
ADAG	**Mount Adagdak**	**5.06**	**268**		**Pn**	**10 34 50.8**	**+1.0**
ADK	**Adak**	**5.12**	**267**	Pn	**Pn**	**10 34 51.9**	**+1.2**
ADK				IAML		10 35 54.3	
	comp=N,39nm,1.1s						
ADK				IAML		10 36 15.1	
	comp=N,34nm,1.2s						
ADK	**Adak**	**5.12**	**267**	P	**Pn**	**10 34 51.8**	**+1.1**
ADK	**Adak**	**5.12**	**267**	S	**Sn**	**10 35 50.8**	**+1.2**
KIWB	**Kanaga Island**	**5.41**	**267**	Pn	**Pn**	**10 34 55.9**	**+1.2**
KIWB				IAML		10 36 20.2	
	comp=N,48nm,1.1s						
KIWB				IAML		10 36 36.8	
	comp=E,43nm,0.7s						
KIMD	**Kanaga Island**	**5.48**	**266**		**Pn**	**10 34 56.3**	**+0.6**
SDPT	**Sand Point**	**5.50**	**55**	Pn	**Pn**	**10 34 57.3**	**+1.4**
SDPT	**Sand Point**	**5.50**	**55**	P	**Pn**	**10 34 56.7**	**+0.7**
SDPT	**Sand Point**	**5.50**	**55**	S	**Sn**	**10 35 59.2**	**+0.2**
CNBA	**Chernabura Isl**	**5.75**	**62**		**Pn**	**10 34 59.1**	**-0.2**
CHNA	**Chernabura Isl**	**5.75**	**62**	P	**Pn**	**10 34 59.0**	**-0.4**
GAKI	**Gareloi-Kavalg**	**6.49**	**266**		**Pn**	**10 35 09.8**	**+0.3**
CHGN	**Chignik**	**6.98**	**53**	Pn	**Pn**	**10 35 17.8**	**+1.5**
AMKA	**Amchitka**	**7.67**	**267**	Pn	**Pn**	**10 35 27.0**	**+1.2**
O14K	**Tigyukauivet M**	**7.89**	**28**	Pn	**Pn**	**10 35 29.8**	**+1.2**
O15K	**Ungalikthiuk R**	**8.27**	**32**	Pn	**Pn**	**10 35 35.5**	**+1.6**
N14K	**Kuskokwak Cree**	**8.35**	**24**	Pn	**Pn**	**10 35 36.8**	**+1.9**
PLK4	**Peulik 4**	**8.63**	**48**		**Pn**	**10 35 39.6**	**+0.6**
N15K	**Kwethluk River**	**8.98**	**28**	Pn	**Pn**	**10 35 44.4**	**+0.7**
M14K	**Bethel**	**9.02**	**21**	Pn	**Pn**	**10 35 44.3**	**+0.2**
O16K	**Kokwok River B**	**9.17**	**35**	Pn	**Pn**	**10 35 47.0**	**+0.8**
ACHA	**Angle Creek He**	**9.40**	**47**	Pn	**Pn**	**10 35 50.1**	**+0.5**
L14K	**Kuka Creek**	**9.42**	**17**	Pn	**Pn**	**10 35 49.5**	**-0.1**
OHAK	**Old Harbor**	**9.93**	**55**	Pn	**Pn**	**10 35 56.5**	**-0.1**
M16K	**Timber Creek**	**10.01**	**27**	Pn	**Pn**	**10 35 56.9**	**-0.8**
N17K	**Nushagak Hills**	**10.16**	**33**	Pn	**Pn**	**10 36 00.7**	**+0.8**
O18K	**Koktuh Hills**	**10.42**	**40**	Pn	**Pn**	**10 36 03.9**	**+0.5**
L16K	**Owhat River**	**10.45**	**24**	Pn	**Pn**	**10 36 03.7**	**0.0**
KDAK	**Kodiak Island**	**10.50**	**53**	Pn	**Pn**	**10 36 04.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=254,slow=7.2,SNR=19						
K15K	**Wolf Creek Mou**	**10.51**	**18**	Pn	**Pn**	**10 36 04.8**	**+0.3**
Q19K	**Cape Douglas,**	**10.53**	**46**	Pn	**Pn**	**10 36 05.4**	**+0.5**
SHEM	**Shemya Is, Ala**	**10.64**	**278**	Pn	**Pn**	**10 36 04.2**	**-2.2**
	comp=E,1.8nm,0.3s,baz=90,slow=18,SNR=1.4						
	comp=E,53nm,1.0s						
M17K	**Holitna River**	**10.75**	**29**	Pn	**Pn**	**10 36 08.8**	**+0.9**
SYI	**Shuyak Island**	**10.95**	**50**	Pn	**Pn**	**10 36 11.4**	**+0.9**
N19K	**Bonanza Creek**	**11.32**	**37**	Pn	**Pn**	**10 36 16.2**	**+0.5**
K17K	**Iditarod**	**11.59**	**24**	Pn	**Pn**	**10 36 19.5**	**+0.2**
L18K	**Granite Mounta**	**11.62**	**28**	Pn	**Pn**	**10 36 20.9**	**+1.2**
CNPM	**China Poot**	**11.90**	**47**	Pn	**Pn**	**10 36 24.7**	**+1.1**
SLKM	**Skilak Lake**	**12.84**	**44**	Pn	**Pn**	**10 36 37.6**	**+1.2**
SEW	**Seward**	**12.97**	**46**	Pn	**Pn**	**10 36 37.9**	**-0.3**
O22K	**Cooper Landing**	**13.04**	**45**	Pn	**Pn**	**10 36 39.9**	**+0.8**
SUA	**Susitna One**	**13.14**	**40**	Pn	**Pn**	**10 36 42.0**	**+1.3**
RC01	**Rabbit Creek A**	**13.34**	**42**	Pn	**Pn**	**10 36 45.3**	**+2.0**
PPLA	**Purkeypile**	**13.53**	**33**	Pn	**Pn**	**10 36 45.8**	**-0.1**
PWL	**Port Wells**	**13.82**	**45**	Pn	**Pn**	**10 36 49.1**	**-0.7**
CAST	**Castle Rocks**	**13.93**	**32**	Pn	**Pn**	**10 36 52.7**	**+1.5**
HIN	**Hinchinbrook I**	**14.43**	**48**	Pn	**Pn**	**10 36 57.4**	**-0.7**
FID	**Port Fidalgo**	**14.58**	**47**	Pn	**Pn**	**10 36 59.8**	**-0.4**
SCM	**Sheep Creek Mo**	**14.72**	**42**	Pn	**Pn**	**10 37 01.8**	**-0.3**
KLU	**Klutina**	**15.15**	**45**	Pn	**Pn**	**10 37 07.4**	**-0.5**
KLU				IAmb	IAmb	10 37 07.6	
	comp=Z,11nm,1.0s						
M24K	**Tolsona, Glenn**	**15.33**	**42**	Pn	**Pn**	**10 37 09.6**	**-0.6**
M24K				IAmb	IAmb	10 37 19.9	
	comp=Z,10nm,0.8s						
HMT	**Hamilton**	**15.44**	**50**	Pn	**Pn**	**10 37 11.5**	**-0.1**
BMRM	**Bremner River**	**15.51**	**47**	Pn	**Pn**	**10 37 12.8**	**+0.2**
BMRM				IAmb	IAmb	10 37 41.0	
	comp=Z,6.3nm,1.0s						
N25K	**Chitina, Valde**	**15.77**	**45**	Pn	**Pn**	**10 37 14.7**	**-1.3**
G21K	**Allakaket**	**15.91**	**22**	Pn	**Pn**	**10 37 17.5**	**-0.2**
I23K	**Minto, Yukon-K**	**15.99**	**30**	Pn	**Pn**	**10 37 19.8**	**+1.2**
I23K				IAmb	IAmb	10 37 22.9	
	comp=Z,5.0nm,1.1s						
PAX	**Paxson**	**16.04**	**40**	Pn	**Pn**	**10 37 19.7**	**+0.2**
GLB	**Gilahina Butte**	**16.05**	**46**	Pn	**Pn**	**10 37 19.7**	**+0.1**
CRQM	**Cirque**	**16.10**	**49**	Pn	**Pn**	**10 37 20.7**	**+0.3**
CRQM				IAmb	IAmb	10 37 28.1	
	comp=Z,10.0nm,0.9s						
VRDI	**Verde Repeater**	**16.13**	**47**	Pn	**Pn**	**10 37 20.5**	**-0.2**
WAX	**Waxell Ridge**	**16.14**	**50**	Pn	**Pn**	**10 37 22.1**	**+1.4**
CCB	**Clear Creek Bu**	**16.15**	**33**	Pn	**Pn**	**10 37 20.7**	**0.0**
COLA	**College**	**16.28**	**32**	Pn	**Pn**	**10 37 22.9**	**+0.5**
COLA				IAmb	IAmb	10 37 24.4	
	comp=Z,5.5nm,0.9s						
H23K	**Yukon River**	**16.41**	**28**	Pn	**Pn**	**10 37 25.5**	**+1.4**
H23K				IAmb	IAmb	10 37 29.2	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**16.54**	**34**	Pn	**Pn**	**10 37 24.4**	**-1.3**
	baz=235,slow=9.6,SNR=9.6						
	comp=Z,0.9nm,0.9s						
YAH	**Yahtse**	**16.64**	**51**	Pn	**Pn**	**10 37 28.3**	**+1.0**
YAH				IAmb	IAmb	10 37 34.1	
	comp=Z,13nm,0.9s						
MENT	**Mentasta**	**16.73**	**42**	Pn	**Pn**	**10 37 29.4**	**+1.2**
GRNC	**Granite Creek**	**16.74**	**50**	Pn	**Pn**	**10 37 28.6**	**0.0**
GRNC				IAmb	IAmb	10 37 34.4	
	comp=Z,14nm,1.0s						
M26K	**Nabesna, AK**	**16.79**	**44**	Pn	**Pn**	**10 37 28.6**	**-0.4**
M26K				IAmb	IAmb	10 37 33.0	
	comp=Z,14nm,1.4s						
H24K	**Noodor Dome**	**16.91**	**30**	Pn	**Pn**	**10 37 31.3**	**+0.8**
H24K				IAmb	IAmb	10 37 40.1	
	comp=Z,11nm,1.5s						
L26K	**Log Cabin Wild**	**16.92**	**42**	Pn	**Pn**	**10 37 31.5**	**+0.9**
DOT	**Dot Lake**	**16.93**	**39**	Pn	**Pn**	**10 37 30.8**	**+0.1**
J25K	**Salcha River,**	**16.97**	**35**	Pn	**Pn**	**10 37 31.5**	**+0.3**
J25K				IAmb	IAmb	10 37 32.7	
	comp=Z,5.9nm,1.1s						
SCRK	**Sand Creek**	**17.13**	**38**	Pn	**Pn**	**10 37 33.6**	**+0.3**
D20K	**Etivluk River**	**17.23**	**15**	Pn	**Pn**	**10 37 35.0**	**+0.5**
D20K				IAmb	IAmb	10 38 17.9	
	comp=Z,6.8nm,1.2s						
BCPM	**Bancas Point**	**17.55**	**53**		**P**	**10 37 39.8**	**+0.3**
L27K	**Beaver Creek,**	**17.56**	**43**		**Pn**	**10 37 39.2**	**+0.6**
J26L	**Joseph Creek**	**17.56**	**37**		**Pn**	**10 37 39.2**	**+0.6**
J26L				IAmb	IAmb	10 37 40.9	
	comp=Z,5.2nm,0.8s						
G24K	**Hadweenzic Riv**	**17.62**	**28**		**P**	**10 37 40.7**	**+0.4**
K27K	**Chicken**	**17.89**	**39**		**Pn**	**10 37 43.1**	**+0.5**
D22K	**Ayikyak River**	**18.06**	**18**		**Pn**	**10 37 44.1**	**-0.7**
D22K				IAmb	IAmb	10 38 24.0	
	comp=Z,8.5nm,1.3s						
I26K	**Coal Creek Min**	**18.14**	**35**		**Pn**	**10 37 45.2**	**-0.4**
F25K	**Christian Rive**	**18.76**	**27**	P	**Pn**	**10 37 53.3**	**0.0**
M29M	**Somme Creek**	**18.77**	**46**	P	**Pn**	**10 37 54.3**	**+0.8**
M29M				IAmb	IAmb	10 38 28.9	
	comp=Z,5.1nm,1.1s						
HYT	**Haines Junctio**	**18.78**	**51**	P	**Pn**	**10 37 54.2**	**+0.6**
HYT				IAmb	IAmb	10 38 13.3	
	comp=Z,7.5nm,1.0s						
BMAR	**Burnt Mountain**	**18.95**	**29**	P	**Pn**	**10 37 55.6**	**-0.1**
DAWY	**Dawson**	**18.97**	**41**	P	**Pn**	**10 37 56.0**	**+0.2**
DAWY				IAmb	IAmb	10 37 58.6	
	comp=Z,6.4nm,1.2s						
N30M	**Aishikik Lake**	**19.12**	**50**	P	**P**	**10 37 57.6**	**+0.7**
L29M	**L29M**	**19.13**	**44**	P	**P**	**10 37 57.6**	**+0.7**
L29M				IAmb	IAmb	10 38 00.2	
	comp=Z,4.4nm,1.0s						
E25K	**Arctic Village**	**19.14**	**26**	P	**Pn**	**10 37 58.1**	**+0.2**
E25K				IAmb	IAmb	10 38 01.1	
	comp=Z,4.0nm,0.8s						
H27K	**Steamboat Moun**	**19.21**	**34**	P	**P**	**10 37 57.5**	**-0.2**
H27K				IAmb	IAmb	10 38 00.3	
	comp=Z,5.2nm,1.1s						
C23K	**Itkillik River**	**19.27**	**19**	P	**Pn**	**10 37 59.5**	**+0.2**
C23K				IAmb	IAmb	10 38 23.4	
	comp=Z,

comp=Z,0.6nm,0.7s
MJAR Matsushiro Arr 40.28 268 P **P** **10 41 10.8 -0.2**
comp=Z,2.4nm,0.9s,baz=32,slow=7.5,SNR=4.0
comp=Z,2.4nm,0.9s
MAJO Matsushiro 40.28 268 P **P** **10 41 09.3 -1.7**
MJB9 Matsu-Tunnel 40.28 268 P **P** **10 41 09.9 -1.1**
O20A White River Ci 42.17 82 P **P** **10 41 27.5 +0.8**
PV01 Paradox Valley 43.22 85 P **P** **10 41 36.2 +0.9**
PV01 IAmb IAmb 10 41 47.8
comp=Z,1.7nm,0.8s
KSRS Korea Array 45.97 277 P **P** **10 41 57.2 +0.3**
comp=Z,2.3nm,0.8s,baz=52,slow=7.3,SNR=11
comp=Z,2.3nm,0.8s
ANMO Albuquerque 46.58 87 LR LR 10 59 49.9
comp=Z,29nm,18.7s,baz=90,slow=34
SONM Songino Array 51.74 301 P **P** **10 42 41.4 +0.1**
comp=Z,0.6nm,0.5s,baz=39,slow=9.7,SNR=5.4
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 52.16 90 P **P** **10 42 45.1 +0.5**
TXAR Lajitas Array 52.16 90 P **P** **10 42 44.5 -0.1**
comp=Z,0.5nm,0.8s,baz=317,slow=7.7,SNR=3.8
comp=Z,0.5nm,0.8s
SADO Sadowa 55.89 59 LR LR 11 08 07.2
comp=Z,23nm,18.7s,baz=124,slow=37
ZALV Zalesovo Beam 57.73 318 LR LR 11 09 42.6
comp=Z,32nm,18.1s,baz=57,slow=38
ARCES ARCESS Array B 57.87 354 P **P** **10 43 23.1 -2.1**
comp=Z,1.1nm,0.7s,baz=7.0,slow=8.2,SNR=1.0
comp=Z,1.1nm,0.7s
KURBB Kurchatov Arra 62.79 319 P **P** **10 43 58.8 -0.2**
comp=Z,0.4nm,0.5s,baz=43,slow=7.8,SNR=5.4
comp=Z,0.4nm,0.5s
BVAR Borovoye Array 63.95 325 P **P** **10 44 06.9 +0.1**
comp=Z,1.1nm,0.5s,baz=54,slow=7.5,SNR=7.0
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 64.15 314 P **P** **10 44 08.3 +0.1**
MKAR Makanchi Array 64.15 314 P **P** **10 44 07.6 -0.6**
comp=Z,0.9nm,0.7s,baz=46,slow=7.0,SNR=7.5
comp=Z,0.9nm,0.7s
ARTI Arti 64.87 333 P **P** **10 44 10.8 -1.9**
comp=Z,1.8nm,0.4s,baz=345,slow=12,SNR=2.2
comp=Z,1.8nm,0.4s
FINES FINESS Array B 65.84 352 P **P** **10 44 19.1 +0.2**
FINES FINESS Array B 65.84 352 P **P** **10 44 18.1 -0.7**
comp=Z,2.6nm,0.8s,baz=8.9,slow=7.4,SNR=5.1
comp=Z,2.6nm,0.8s
HFS Hagfors 67.73 359 P **P** **10 44 30.1 -0.9**
comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=4.6
comp=Z,1.4nm,0.5s
AB31 Akbulak array 70.65 329 P **P** **10 44 49.8 +0.6**
ABKAR Akbulak array 70.65 329 P **P** **10 44 49.7 +0.5**
KK31 Karatay Array 72.09 319 P **P** **10 44 58.2 +0.1**
KK31 IAmb IAmb 10 44 58.5
comp=Z,1.5nm,0.8s
KKAR Karatay Array 72.09 319 P **P** **10 44 58.2 +0.1**
ARSB Arslanbob 72.55 316 P **P** **10 45 00.9 -0.1**
AKASG Malin Array Be 76.12 349 P **P** **10 45 20.7 -0.7**
comp=Z,0.9nm,0.5s,baz=17,slow=6.4,SNR=5.2
comp=Z,0.9nm,0.5s
CHGR Chuyangaron 76.39 317 P **P** **10 45 23.6 +0.3**
SIMJ Simiganj 76.45 317 P **P** **10 45 22.8 -0.9**
CMAR Chiang Mai Arr 77.16 283 P **P** **10 45 27.7 -0.1**
comp=Z,2.0nm,0.8s,baz=41,slow=7.3,SNR=8.4
comp=Z,2.0nm,0.8s
BURAR Bucovina Array 79.61 351 P **P** **10 45 41.2 +0.2**
BURAR IAmb IAmb 10 45 42.3
comp=Z,1.2nm,1.1s
ESDC Sonseca Array 87.23 12 P **P** **10 46 20.8 +0.4**
comp=Z,1.0nm,0.7s,baz=347,slow=5.5,SNR=5.5
comp=Z,1.0nm,0.7s

DJA 20 10:34:57.2±0.4, 0°S±3°×12°3E±°, h122km±6km, M3.9/11, mb3.9/3, MLv4.0/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.93**	**190**	P	Pn	10 35 19.4	+0.6
LUWI				S	Sn	10 35 36.2	+1.1
MRSI	**Marisa**	**1.16**	**301**	P	Pn	10 35 21.1	+0.1
MRSI				S	Sn	10 35 38.9	-0.2
KMSI	**Cibinong**	**1.25**	**56**	P	Pn	10 35 23.2	+1.3
KMSI				S	Sn	10 35 41.4	+0.7
APSI	**Ampana**	**1.51**	**239**	P	Pn	10 35 26.5	+1.6
SANI	**Sanana**	**3.60**	**122**	P	Pn	10 35 49.2	-2.3
TTSI	**Tana Toraja**	**4.26**	**227**	P	Pn	10 36 00.8	+0.5
SPSI	**Sidrap Palu**	**4.96**	**220**	P	Pn	10 36 09.7	0.0
BNSI	**Bone**	**5.11**	**214**	P	Pn	10 36 11.8	+0.1
	0.1nm20nm,0.7s						
BKSI	**Bulukumba**	**5.88**	**209**	P	Pn	10 36 21.3	-0.8

---

*TEH **20** 10:42:49.7, 32°.93N×46°.28E, h10km±150km*
*ISN **20** 10:42:50.6±0.9, 32°.84N×46°.06E, h0km±5km, ML2.7*
ISC 20 10:42:50.9±1.8, 33°.0N±0°.1×46°.20E±0°.06, h10km, n11, σ1°23/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.27**	**304**	*e*Pg	**Pg**	**10 42 56.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**10 43 01.0**	**+0.9**
IBDR				AML	AML	10 43 17.3	
	comp=E,330nm,0.9s						
IBDR				AML	AML	10 43 19.3	
	comp=N,222nm,0.4s						
ILBA	**Ilam Banvizeh**	**0.67**	**1**	Pg	**Pg**	**10 43 02.3**	**-1.5**
GLG1	**Gilan-e-Gharb**	**1.18**	**348**	Pg	**Pn**	**10 43 13.8**	**+0.3**
IGHG	**Ghaleghazi**	**1.40**	**13**	Pg	**Pn**	**10 43 17.5**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.49**	**28**	Sg	**Sn**	**10 43 39.9**	**+2.4**
BHD	**Baghdad**	**1.56**	**282**	*e*Pn	**Pg**	**10 43 20.0**	**-0.8**
BHD				*e*Sn	**Sg**	**10 43 42.0**	**+1.0**
IDHR	**Dehrash**	**1.75**	**5**	Pg	**Pn**	**10 43 22.6**	**+1.2**
IBZA	**Bozab**	**2.05**	**42**	Pn	**Pn**	**10 43 26.7**	**+1.1**
SNQR	**Sonqor, Kerman**	**2.24**	**32**	Pn	**Pn**	**10 43 28.6**	**+0.4**
BDRS	**Dareh Seyedi**	**2.45**	**65**	Pn	**Pn**	**10 43 31.1**	**-0.1**
IKRK	**Kirkuk**	**2.88**	**328**	*e*Pn	**Pb**	**10 43 41.0**	**-1.4**
IKRK				*e*Sn	**Sb**	**10 44 17.0**	**-0.7**
IKRK				AML	AML	10 44 30.2	
	comp=E,98nm,0.4s						
IKRK				AML	AML	10 44 39.2	
	comp=N,140nm,0.3s						

---

*NEIC **20** 10:46:30.5±0.8, 7°.27S±0°.10×155°.25E±0°.04, h10km±1km, mb4.6/17, Error ellipse: s-maj=17.4km s-min=4.9km az=198.0*
*IDC **20** 10:46:31.7±0.7, 7°.03S×154°.82E, h0km, mb4.1/15, mbtmp4.1/16, ML2.1/1, MS3.2/4, Error ellipse: s-maj=26.8km s-min=15.9km az=117.0*
ISC 20 10:46:36.9±0.6, 7°.17S±0°.09×154°.92E±0°.10, h41km, n44, σ1°61/44, mb4.3/24, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.04**	**317**	Pn	**Pn**	**10 47 35.9**	**-0.4**
HNR	**Honiara**	**5.45**	**115**	Pn	Pn	10 47 46.9	-8.8
HNR	**Honiara**	**5.45**	**115**	LR	LR	10 50 00.7	
	comp=Z,212nm,19.0s,baz=242,slow=37						
PMG	**Port Moresby**	**8.00**	**253**	Pn	**Pn**	**10 48 30.2**	**-0.5**
PMG	**Port Moresby**	**8.00**	**253**	Pn	**Pn**	**10 48 30.0**	**-0.7**
	1.4nm,0.3s,baz=20,slow=14,SNR=6.4						
PMG				Sn	**Sn**	**10 50 01.5**	**+1.6**
	1.1nm,0.3s,baz=45,slow=14,SNR=6.3						
PMG				LR	LR	10 51 16.6	
	comp=Z,123nm,21.8s,baz=21,slow=36						
	13nm,0.7s						
COEN	**Coen**	**13.37**	**239**	Pn	**Pn**	**10 49 43.1**	**-1.1**
WR0	**Warramunga Arr**	**23.53**	**236**	P	**P**	**10 51 42.2**	**-1.4**
WR8	**Warramunga Arr**	**23.53**	**235**	P	**P**	**10 51 42.6**	**-1.1**
WR8				IAmb	IAmb	10 52 06.3	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**23.66**	**236**	P	**P**	**10 51 43.0**	**-1.8**
WRA	**Warramunga Arr**	**23.66**	**236**	P	**P**	**10 51 43.8**	**-1.0**
	comp=Z,7.2nm,0.9s,baz=61,slow=9.7,SNR=15						
WRA				PcP	**PcP**	**10 55 30.4**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=60,slow=2.5,SNR=2.1						
	comp=Z,7.2nm,0.9s						
MTN	**Manton Dam**	**24.09**	**255**	P	**P**	**10 51 48.4**	**-0.5**
INKA	**Innaminka**	**24.48**	**212**	P	**P**	**10 51 50.0**	**-2.2**
INKA				IAmb	IAmb	10 51 54.0	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**26.00**	**229**	P	**P**	**10 52 04.2**	**-2.1**
ASAR	**Alice Springs**	**26.00**	**229**	P	**P**	**10 52 04.1**	**-2.1**
ASAR	**Alice Springs**	**26.00**	**229**	P	**P**	**10 52 05.9**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=58,slow=9.1,SNR=13						
ASAR				LR	LR	11 01 32.5	
	comp=Z,76nm,19.0s,baz=264,slow=35						
	comp=Z,2.3nm,0.8s						
KNRA	**Kununurra**	**26.97**	**249**	P	**P**	**10 52 13.6**	**-1.4**
STKA	**Stephens Creek**	**27.55**	**205**	P	**P**	**10 52 17.8**	**-2.1**
STKA	**Stephens Creek**	**27.55**	**205**	P	**P**	**10 52 21.4**	**+1.4**
	comp=Z,7.0nm,0.8s,baz=18,slow=12,SNR=7.4						
	comp=Z,7.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.52**	**246**	P	**P**	**10 52 44.5**	**-2.0**
FITZ	**Fitzroy Crossi**	**30.52**	**246**	P	**P**	**10 52 47.7**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=84,slow=12,SNR=1.5						
	comp=Z,3.7nm,0.9s						
KSRS	**Korea Array**	**51.06**	**332**	P	**P**	**10 55 34.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=147,slow=7.2,SNR=4.1						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**60.09**	**2**	P	**P**	**10 56 40.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=185,slow=6.7,SNR=1.7						
	comp=Z,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.80**	**296**	P	**P**	**10 56 47.9**	**+2.6**
	comp=Z,1.5nm,0.6s,baz=112,slow=7.2,SNR=5.2						
SONM	**Songino Array**	**69.45**	**327**	P	**P**	**10 57 41.6**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=134,slow=7.7,SNR=4.8						
	comp=Z,0.8nm,0.4s						
VNDA	**Vanda**	**70.41**	**178**	P	**P**	**10 57 47.8**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=318,slow=5.9,SNR=3.7						
	comp=Z,0.6nm,0.8s						
O14K	**Tigyukauivet M**	**74.84**	**22**	P	**P**	**10 58 10.8**	**-2.0**
O14K				IAmb	IAmb	10 58 23.3	
	comp=Z,11nm,1.2s						
N15K	**Kwethluk River**	**75.91**	**21**	P	**P**	**10 58 17.5**	**-1.5**
N15K				IAmb	IAmb	10 58 21.1	
	comp=Z,11nm,1.4s						
OHAK	**Old Harbor**	**76.71**	**26**	P	**P**	**10 58 21.3**	**-2.3**
M16K	**Timber Creek**	**76.90**	**21**	P	**P**	**10 58 21.8**	**-2.8**
M16K				IAmb	IAmb	10 58 33.8	
	comp=Z,6.4nm,1.1s						
N17K	**Nushagak Hills**	**77.22**	**22**	P	**P**	**10 58 24.2**	**-2.2**
N17K				IAmb	IAmb	10 58 28.5	
	comp=Z,7.3nm,1.4s						
QSPA	**South Pole Qui**	**82.80**	**180**	P	**P**	**10 58 54.1**	**-2.7**
QSPA				IAmb	IAmb	10 59 30.0	
	comp=Z,8.8nm,1.3s						
QSPA	**South Pole Qui**	**82.80**	**180**	P	**P**	**10 58 59.1**	**+2.4**
	comp=Z,1.8nm,0.8s,baz=337,slow=5.9,SNR=8.1						
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**83.49**	**319**	P	**P**	**10 58 60.0**	**-0.5**
MKAR	**Makanchi Array**	**83.49**	**319**	P	**P**	**10 59 01.1**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=100,slow=5.7,SNR=9.2						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**10 58 60.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=239,slow=5.0,SNR=19						
ILAR				LR	LR	11 29 05.8	
	comp=Z,18nm,21.1s,baz=188,slow=31						
	comp=Z,0.6nm,0.5s						
ZAA0	**Zalesovo Array**	**84.29**	**326**	P	**P**	**10 59 03.4**	**-0.9**
ZAA0				IAmb	IAmb	10 59 38.7	
	comp=Z,4.5nm,1.3s						
ZALV	**Zalesovo Beam**	**84.29**	**326**	P	**P**	**10 59 04.0**	**-0.3**
ZALV	**Zalesovo Beam**	**84.29**	**326**	P	**P**	**10 59 03.3**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=102,slow=6.3,SNR=3.0						
	comp=Z,0.6nm,0.4s						
BCAR	**Beaver Creek A**	**84.68**	**24**	P	**P**	**10 59 03.8**	**-2.4**
D25K	**Kavik River**	**86.15**	**18**	P	**P**	**10 59 11.8**	**-1.6**
D25K				IAmb	IAmb	10 59 18.0	
	comp=Z,5.9nm,1.4s						
NVAR	**Mina Array Bea**	**91.89**	**52**	P	**P**	**10 59 43.2**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=267,slow=4.0,SNR=5.0						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**92.39**	**323**	P	**P**	**10 59 43.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=129,slow=4.6,SNR=2.8						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	**P**	**11 00 02.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=266,slow=4.9,SNR=3.5						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**153.00**	**285**	PKPbc	**PKiKP**	**11 06 31.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=34,slow=3.2,SNR=3.9						

---

*TAP **20** 10:52:13.3, 24°.85N×122°.24E, h113km, ML4.1, C*
*JMA **20** 10:52:13.4±0.2, 24°.8N±0°.9×122°.2E±0°.4, h114km±1km, MV3.3/17, TAIWAN REGION*
ISC 20 10:52:13.3±1.2, 24°.84N±0°.03×122°.21E±0°.02, h115km±5km, n155, σ1°101/295, 34C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.25**	**272**	*i* P	**Pn**	**10 52 29.5**	**+0.1**
EGS				*e*S	**Sn**	**10 52 41.6**	**+0.1**
TWB1	**Santiao Chiao**	**0.26**	**311**	⇑*i*P	**Pn**	**10 52 29.5**	**0.0**
TWB1				*i* S	**Sn**	**10 52 41.2**	**-0.5**
NTC	**Toucheng**	**0.34**	**273**	*i* P	**Pn**	**10 52 30.0**	**+0.1**
NTC				*e*S	**Sn**	**10 52 42.2**	**0.0**
TIPB	**Shuangxi**	**0.37**	**291**	⇑*i*P	**Pn**	**10 52 30.1**	**+0.1**
TIPB				*e*S	**Sn**	**10 52 41.4**	**-1.2**
SXI1	**Grass Mountain**	**0.40**	**310**	⇑*i*P	**Pn**	**10 52 30.1**	**-0.1**
SXI1				*i* S	**Sn**	**10 52 42.8**	**-0.1**
TWC	**Suao**	**0.40**	**235**	⇑*i*P	**Pn**	**10 52 30.0**	**-0.1**
TWC				*i* S	**Sn**	**10 52 41.6**	**-1.1**
EOS2	**EOS2**	**0.42**	**177**	*e*P	**Pn**	**10 52 30.7**	**+0.6**
EOS2				*e*S	**Sn**	**10 52 43.3**	**+0.7**
ESAO	**Su ao**	**0.42**	**232**	⇑*i*P	**Pn**	**10 52 30.1**	**-0.1**
ESAO				*i* S	**Sn**	**10 52 41.8**	**-1.2**
ILA	**Ilan**	**0.42**	**260**	*i* P	**Pn**	**10 52 30.0**	**-0.3**
ILA				*i* S	**Sn**	**10 52 42.8**	**-0.1**
NWF	**Wu-fen Shan**	**0.45**	**301**	⇑*i*P	**Pn**	**10 52 30.7**	**+0.1**
NWF				*i* S	**Sn**	**10 52 43.3**	**-0.2**
WFSB	**Wu-fen Shan**	**0.45**	**301**	⇑*i*P	**Pn**	**10 52 30.6**	**+0.2**
WFSB				*i* S	**Sn**	**10 52 43.3**	**0.0**
TNOU	**National Taiwa**	**0.50**	**308**	⇑*i*P	**Pn**	**10 52 30.7**	**0.0**
TNOU				*i* S	**Sn**	**10 52 43.5**	**-0.3**
TWE	**Neicheng**	**0.51**	**257**	*i* P	**Pn**	**10 52 31.0**	**+0.2**
TWE				*e*S	**Sn**	**10 52 44.5**	**+0.7**
EWUT	**Wuta**	**0.55**	**225**	⇑*i*P	**Pn**	**10 52 31.4**	**+0.4**
EWUT				*i* S	**Sn**	**10 52 44.2**	**-0.2**
EOS3	**EOS3**	**0.56**	**170**	*e*P	**Pn**	**10 52 31.9**	**+1.0**
EOS3				*e*S	**Sn**	**10 52 45.3**	**+1.2**
FUSB	**Fushanzhiwuyua**	**0.57**	**262**	⇑*i*P	**Pn**	**10 52 31.3**	**0.0**
FUSB				*i* S	**Sn**	**10 52 45.3**	**+0.5**
TWA	**Mucha**	**0.58**	**284**	⇑*i*P	**Pn**	**10 52 31.2**	**-0.1**
TWA				*i* S	**Sn**	**10 52 43.9**	**-0.9**
ENA	**Nanau**	**0.59**	**226**	⇑*i*P	**Pn**	**10 52 31.7**	**+0.3**
ENA				*i* S	**Sn**	**10 52 45.0**	**+0.2**
ENTT	**Nioudou**	**0.61**	**252**	*i* P	**Pn**	**10 52 32.0**	**+0.5**
ENTT				*i* S	**Sn**	**10 52 46.6**	**+1.3**
NWLT	**Wulai**	**0.64**	**265**	⇑*i*P	**Pn**	**10 52 31.7**	**-0.1**
NWLT				*i* S	**Sn**	**10 52 45.6**	**0.0**
YM01	**YM01**	**0.66**	**298**	⇑*i*P	**Pn**	**10 52 31.9**	**0.0**
YM01				*i* S	**Sn**	**10 52 45.0**	**-0.8**
YM08	**YM08**	**0.66**	**302**	⇑*i*P	**Pn**	**10 52 31.7**	**-0.2**
YM08				*i* S	**Sn**	**10 52 44.9**	**-1.0**
EAHA	**Aohua**	**0.66**	**220**	⇑*i*P	**Pn**	**10 52 31.9**	**+0.1**
EAHA				*i* S	**Sn**	**10 52 46.2**	**+0.4**
TATO	**Taipei**	**0.67**	**282**	P	**Pn**	**10 52 31.9**	**0.0**
TATO	**Taipei**	**0.67**	**282**	S	**Sn**	**10 52 46.5**	**+0.6**
TATO	**Taipei**	**0.67**	**282**	*i* P	**Pn**	**10 52 31.7**	**-0.2**
TATO				*e*S	**Sn**	**10 52 44.9**	**-1.0**
ZUZH	**Zhuzihu**	**0.68**	**298**	⇑*i*P	**Pn**	**10 52 31.9**	**-0.1**
ZUZH				*i* S	**Sn**	**10 52 45.2**	**-1.0**
LATG	**Datong**	**0.69**	**244**	⇑*i*P	**Pn**	**10 52 32.9**	**+0.7**
LATG				*i* S	**Sn**	**10 52 47.4**	**+1.0**
TWY	**Chenhua**	**0.70**	**309**	⇑*i*P	**Pn**	**10 52 32.5**	**+0.3**
TWY				*i* S	**Sn**	**10 52 46.4**	**0.0**
NSM	**Shimen**	**0.72**	**309**	P	**Pn**	**10 52 32.9**	**+0.6**
NSM				*e*S	**Sn**	**10 52 48.2**	**+1.6**
EOS4	**EOS4**	**0.72**	**172**	*e*P	**Pn**	**10 52 32.4**	**+0.4**
EOS4				*e*S	**Sn**	**10 52 45.9**	**0.0**
NTST	**Danshui**	**0.76**	**296**	*i* P	**Pn**	**10 52 32.9**	**+0.2**
NTST				*i* S	**Sn**	**10 52 46.9**	**-0.3**
TWS1	**Kuangyinshan**	**0.76**	**290**	*i* P	**Pn**	**10 52 32.9**	**+0.2**
TWS1				*i* S	**Sn**	**10 52 48.7**	**+1.4**
JYNG	**Yonagunijimaku**	**0.77**	**120**	*i* P	**Pn**	**10 52 32.8**	**0.0**
JYNG				*i* S	**Sn**	**10 52 46.8**	**-0.6**
YHNB	**Yeheng**	**0.77**	**258**	P	**Pn**	**10 52 33.1**	**+0.2**
YHNB	**Yeheng**	**0.77**	**258**	S	**Sn**	**10 52 47.6**	**0.0**
YHNB	**Yeheng**	**0.77**	**258**	⇑*i*P	**Pn**	**10 52 33.2**	**+0.4**
YHNB				*i* S	**Sn**	**10 52 47.3**	**-0.3**
PCYT	**Pengchaiyu**	**0.80**	**351**	⇑*i*P	**Pn**	**10 52 33.4**	**+0.3**
PCYT				*e*S	**Sn**	**10 52 46.0**	**-1.9**
YOJ	**Yonaguni jima**	**0.82**	**117**	P	**Pn**	**10 52 32.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.82**	**117**	⇑*i*P	**Pn**	**10 52 33.2**	**0.0**
YOJ				*i* S	**Sn**	**10 52 47.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.82**	**117**	P	**Pn**	**10 52 33.2**	**0.0**
YOJ				S	**Sn**	**10 52 47.6**	**-0.6**
NNSB	**Datong**	**0.85**	**242**	⇑*i*P	**Pn**	**10 52 34.3**	**+0.7**
NNSB				*i* S	**Sn**	**10 52 49.1**	**+0.1**
ETL	**Fush Village**	**0.86**	**218**	*i* P	**Pn**	**10 52 33.6**	**0.0**
ETL				*i* S	**Sn**	**10 52 48.9**	**0.0**
NACB	**Ninganchiao**	**0.86**	**220**	P	**Pn**	**10 52 33.4**	**-0.2**
NACB	**Ninganchiao**	**0.86**	**220**	S	**Sn**	**10 52 48.9**	**0.0**
NACB	**Ninganchiao**	**0.86**	**220**	⇑*i*P	**Pn**	**10 52 33.5**	**-0.2**
NACB				*i* S	**Sn**	**10 52 48.3**	**-0.6**
ETLH	**Xiulin Townshi**	**0.91**	**227**	*i* P	**Pn**	**10 52 34.4**	**+0.2**
ETLH				*i* S	**Sn**	**10 52 50.0**	**+0.1**
NCU	**National Centr**	**0.94**	**278**	*e*P	**Pn**	**10 52 30.6**	**-3.7**
NCU				*e*S	**Sn**	**10 52 46.7**	**-3.4**
TWD	**Chiawan**	**0.94**	**217**	*i* P	**Pn**	**10 52 34.4**	**+0.1**
TWD				*i* S	**Sn**	**10 52 49.8**	**-0.3**
NCUH	**Zhongli**	**0.94**	**278**	*i* P	**Pn**	**10 52 34.8**	**+0.5**
NCUH				*i* S	**Sn**	**10 52 50.8**	**+0.6**
KSHI	**Guanxi Townshi**	**0.94**	**267**	*i* P	**Pn**	**10 52 35.0**	**+0.7**
KSHI				*i* S	**Sn**	**10 52 51.0**	**+0.9**
NFF	**Wufeng Townshi**	**1.01**	**259**	*i* P	**Pn**	**10 52 34.8**	**-0.3**
NFF				*i* S	**Sn**	**10 52 51.2**	**-0.4**
HWA	**Hwalien**	**1.02**	**213**	*i* P	**Pn**	**10 52 35.5**	**+0.4**
HWA				*i* S	**Sn**	**10 52 52.8**	**+1.2**
FUSS	**Fushou**	**1.06**	**236**	*i* P	**Pn**	**10 52 36.7**	**+0.9**
FUSS				*i* S	**Sn**	**10 52 53.1**	**+0.4**
ETM	**Tongmen**	**1.08**	**217**	*i* P	**Pn**	**10 52 35.6**	**-0.3**
ETM				S	**Sn**	**10 52 52.1**	**-0.7**
LIOB	**Emei**	**1.10**	**260**	*i* P	**Pn**	**10 52 36.5**	**+0.5**
LIOB				*i* S	**Sn**	**10 52 52.5**	**-0.6**
WHF	**Hehuan Shan**	**1.10**	**231**	⇑*i*P	**Pn**	**10 52 36.8**	**+0.4**
WHF				*i* S	**Sn**	**10 52 54.1**	**+0.2**
TWT	**Tachien**	**1.10**	**238**	*i* P	**Pn**	**10 52 37.5**	**+1.2**
TWT				*i* S	**Sn**	**10 52 54.2**	**+0.7**
SBCB	**Hsinchu**	**1.11**	**268**	⇑*i*P	**Pn**	**10 52 36.7**	**+0.6**
SBCB				*i* S	**Sn**	**10 52 53.2**	**0.0**
TEYL	**Yanliau Villag**	**1.11**	**210**	*i* P	**Pn**	**10 52 36.1**	**0.0**
TEYL				S	**Sn**	**10 52 52.8**	**-0.5**
NSTT	**Nanjuang**	**1.12**	**260**	⇑*i*P	**Pn**	**10 52 36.5**	**+0.4**
NSTT				*i* S	**Sn**	**10 52 53.0**	**-0.3**
TDCB	**Techi**	**1.12**	**239**	⇑*i*P	**Pn**	**10 52 37.3**	**+1.0**
TDCB				*i* S	**Sn**	**10 52 53.9**	**+0.3**
HSN	**Hsinchu**	**1.12**	**268**	*i* P	**Pn**	**10 52 36.4**	**+0.2**
HSN				*i* S	**Sn**	**10 52 53.1**	**-0.4**
SHUL	**Shoufeng**	**1.20**	**210**	⇑*i*P	**Pn**	**10 52 37.2**	**+0.2**
SHUL				*i* S	**Sn**	**10 52 55.2**	**+0.3**
ESL	**Shilin**	**1.24**	**215**	*i* P	**Pn**	**10 52 36.8**	**-0.7**
ESL				*i* S	**Sn**	**10 52 54.7**	**-1.1**
WHP	**Taichung City**	**1.28**	**244**	⇑*i*P	**Pn**	**10 52 39.0**	**+1.1**
WHP				*i* S	**Sn**	**10 52 56.8**	**+0.1**
TEGC	**Jichi Village**	**1.28**	**209**	*i* P	**Pn**	**10 52 38.2**	**+0.3**
TEGC				*i* S	**Sn**	**10 52 57.1**	**+0.7**
OWD	**Renai**	**1.29**	**227**	*i* P	**Pn**	**10 52 38.7**	**+0.6**
OWD				*i* S	**Sn**	**10 52 57.2**	**+0.3**
WUSB	**Renai**	**1.30**	**230**	⇑*i*P	**Pn**	**10 52 39.2**	**+0.9**
WUSB				*i* S	**Sn**	**10 52 57.9**	**+0.7**
NMLH	**Miaoli**	**1.32**	**257**	*i* P	**Pn**	**10 52 38.9**	**+0.5**
NMLH				*i* S	**Sn**	**10 52 57.2**	**-0.2**
WARBT	**Fenglin Townsh**	**1.34**	**214**	⇑*i*P	**Pn**	**10 52 37.9**	**-0.8**
WARBT				*i* S	**Sn**	**10 52 56.2**	**-1.7**
EGFH	**Guangfu**	**1.36**	**212**	*i* P	**Pn**	**10 52 38.6**	**-0.2**
EGFH				*i* S	**Sn**	**10 52 57.1**	**-1.2**
NSY	**Sanyi**	**1.38**	**253**	⇑*i*P	**Pn**	**10 52 40.3**	**+1.3**
NSY				*i* S	**Sn**	**10 52 59.7**	**+1.0**
WCS	**Beigang Elemen**	**1.41**	**237**	*i* P	**Pn**	**10 52 40.4**	**+1.0**
WCS				*i* S	**Sn**	**10 53 00.4**	**+1.2**
VWDT	**VWDT**	**1.45**	**222**	⇑*i*P	**Pn**	**10 52 40.8**	**+0.9**
VWDT				*i* S	**Sn**	**10 53 00.2**	**+0.2**
IRIF	**Iriomote-Funau**	**1.47**	**110**	*i* P	**Pn**	**10 52 39.8**	**-0.3**
IRIF				*e*S	**Sn**	**10 53 00.3**	**+0.2**
WDJ	**Dajia District**	**1.51**	**251**	*i* P	**Pn**	**

LDUT	**Ludao**	**2.26 198**	*i*	P		**Pn**	**10 52 49.2**	**-0.6**
LDUT			*i*	S		**Sn**	**10 53 16.2**	**-1.6**
TWGBT	**Beinan**	**2.26 207**		P		**Pn**	**10 52 51.0**	**+1.1**
TWGBT	**Beinan**	**2.26 207**		S		**Sn**	**10 53 17.2**	**-0.7**
TWGBT	**Beinan**	**2.26 207**	*i*	P		**Pn**	**10 52 48.8**	**-1.1**
TWGBT			*i*	S		**Sn**	**10 53 16.6**	**-1.3**
TWG	**Pinlang**	**2.26 208**	*i*	P		**Pn**	**10 52 48.9**	**-1.0**
TWG			*i*	S		**Sn**	**10 53 16.7**	**-1.2**
JTJ	**Tarama**	**2.28 94**		P		**Pn**	**10 52 50.6**	**+0.6**
JTJ				S		**Sn**	**10 53 19.0**	**+0.8**
ICHU	**Yijhu**	**2.29 231**		P		**Pn**	**10 52 51.4**	**+1.1**
ICHU			*e*	S		**Sn**	**10 53 20.1**	**+1.5**
MATB	**Ma-tsu**	**2.43 303**	*i*	P		**Pn**	**10 52 51.7**	**-0.2**
MATB			*e*	S		**Sn**	**10 53 20.2**	**-1.4**
SCST	**Cishan**	**2.50 219**	*i*	P		**Pn**	**10 52 53.8**	**+0.9**
SCST			*i*	S		**Sn**	**10 53 26.1**	**+2.0**
TSCK	**Chigu Township**	**2.57 230**	*i*	P		**Pn**	**10 52 54.5**	**+0.6**
TSCK			*i*	S		**Sn**	**10 53 25.3**	**+0.4**
MASBT	**Mashibuluo**	**2.64 213**	*i*	P		**Pn**	**10 52 55.7**	**+0.9**
MASBT			*i*	S		**Sn**	**10 53 27.9**	**+1.2**
JIRB	**Irabujima**	**2.69 90**	*eP*	P		**Pn**	**10 52 56.4**	**+1.0**
JIRB			*eS*	S		**Sn**	**10 53 28.6**	**+0.8**
PNG	**Penghu**	**2.73 243**	*i*	P		**Pn**	**10 52 55.4**	**-0.6**
PNG			*i*	S		**Sn**	**10 53 26.5**	**-2.3**
PHUB	**P'eng-hu**	**2.74 242**	*i*	P		**Pn**	**10 52 55.7**	**-0.4**
PHUB			*i*	S		**Sn**	**10 53 26.6**	**-2.4**
JIKM	**Ikemajima**	**2.76 88**	*eP*	P		**Pn**	**10 52 57.5**	**+1.2**
JIKM			*eS*	S		**Sn**	**10 53 30.4**	**+1.0**
XPSS	**Dashiqiu**	**2.77 319**	*i*	P		**Pn**	**10 52 55.6**	**-0.8**
XPSS			*eS*	S		**Sn**	**10 53 31.3**	**+1.9**
WDGT	**Dungji**	**2.81 237**	*i*	P		**Pn**	**10 52 56.9**	**-0.1**
WDGT			*i*	S		**Sn**	**10 53 28.1**	**-2.5**
PTMZ	**Houxiangcun**	**2.81 275**	*i*	P		**Pn**	**10 52 57.0**	**0.0**
PTMZ			*i*	S		**Sn**	**10 53 28.7**	**-1.8**
LAY	**Lan-yu**	**2.85 192**	*i*	P		**Pn**	**10 52 57.0**	**-0.6**
LAY			*i*	S		**Sn**	**10 53 28.5**	**-3.1**
SCZT	**Fangliau**	**2.85 211**	*i*	P		**Pn**	**10 52 58.2**	**+0.6**
SCZT				S		**Sn**	**10 53 31.8**	**+0.2**
LYUB	**Lan-yu**	**2.88 192**	*i*	P		**Pn**	**10 52 56.9**	**-1.1**
LYUB			*i*	S		**Sn**	**10 53 28.9**	**-3.4**
JOGS	**Gusukube**	**2.91 91**	*eP*	P		**Pn**	**10 53 00.0**	**+1.8**
VCHM	**Qimei**	**3.01 238**	*i*	P		**Pn**	**10 52 59.4**	**-0.2**
VCHM			*i*	S		**Sn**	**10 53 33.9**	**-1.5**
MHZQ	**Yeshan**	**3.13 294**	*i*	P		**Pn**	**10 53 01.4**	**+0.2**
MHZQ			*eS*	S		**Sn**	**10 53 38.5**	**+0.3**
KNM	**Kinmen**	**3.46 264**	*eP*	P		**Pn**	**10 53 06.8**	**+1.3**
KNM			*eS*	S		**Sn**	**10 53 50.0**	**+4.0**
KNMB	**Chin-men Tao**	**3.50 265**	*eP*	P		**Pn**	**10 53 05.9**	**-0.1**
KNMB			*eS*	S		**Sn**	**10 53 45.9**	**-0.9**
AXDP	**Jialang**	**3.85 272**	*i*	P		**Pn**	**10 53 10.3**	**-0.4**
AXDP			*i*	S		**Sn**	**10 53 53.1**	**-2.1**
ZPLA	**Ao Xicun**	**4.16 258**	*eP*	P		**Pn**	**10 53 15.2**	**+0.3**
ZPLA			*eS*	S		**Sn**	**10 54 01.4**	**-1.3**

*IDC **20** 10:53:38.4±0.7,0.30N×126.05E,h0km,mb4.2/11, mbtmp4.1/12,ML3.4/1,MS3.2/2,Error ellipse: s-maj=43.9km s-min=15.1km az=72.0*
*DJA **20** 10:53:41.5±0.2,1.1N±3.3×12.6E±.1,h10km,M4.0/12,mb4.3/4, MLv3.9/12*
ISC 20 10:53:44.8±0.7,**0.40N**±0.07×**126.39E**±0.05,**h47**km,**n21,** σ1**36**/22,**mb4.2**/11,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.04**	**69**	P		**Pn**	**Pn**	**10 54 01.2**	**-1.8**
TNTI				S		**Sn**	**Sn**	**10 54 16.8**	**+0.3**
KMSI	**Cibinong**	**2.41**	**274**	P		**Pn**	**Pn**	**10 54 19.9**	**-1.9**
KMSI				S		**Sn**	**Sn**	**10 54 50.3**	**+0.2**
SANI	**Sanana**	**2.47**	**189**	P		**Pn**	**Pn**	**10 54 23.0**	**+0.4**
LUWI	**Luwuk**	**3.89**	**248**	P		**Pn**	**Pn**	**10 54 41.3**	**-0.8**
TTSI	**Tana Toraja** 0.1nm24nm,0.9s	**7.41**	**242**	P		**Pn**	**Pn**	**10 55 29.8**	**-0.6**
BNSI	**Bone** 27nm,1.7s	**7.88**	**233**	P		**Pn**	**Pn**	**10 55 37.0**	**+0.1**
SPSI	**Sidrap Palu**	**7.91**	**237**	P		**Pn**	**Pn**	**10 55 37.1**	**-0.2**
JAY	**Jayapura** comp=Z,136nm,20.6s,baz=264,slow=42	**14.60**	**102**	LR		LR	LR	11 04 01.2	
TGY	**Tagaytay City** comp=Z,61nm,19.3s,baz=288,slow=43	**14.64**	**339**	LR		LR	LR	11 04 11.4	
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=360,slow=13,SNR=1.5 2.5nm,0.8s	**18.40**	**182**	Pn		**P**	**P**	**10 57 51.9**	**-4.2**
WRA	**Warramunga Arr** 3.8nm,0.5s,baz=339,slow=11,SNR=21 3.8nm,0.5s	**21.67**	**159**	P		**P**	**P**	**10 58 30.9**	**-0.7**
ASAR	**Alice Springs** 7.3nm,0.8s,baz=348,slow=12,SNR=38	**25.02**	**164**	P		**P**	**P**	**10 59 05.0**	**+0.5**
ASAR	0.9nm,1.2s,baz=345,slow=1.4,SNR=1.9 7.3nm,0.8s			PcP		**PcP**	**PcP**	**11 02 39.5**	**+0.8**
STKA	**Stephens Creek** 5.1nm,1.0s,baz=345,slow=12,SNR=3.7 5.1nm,1.0s	**35.19**	**157**	P		**P**	**P**	**11 00 34.3**	**-0.1**
MJAR	**Matsushiro Arr** 0.7nm,0.5s,baz=196,slow=8.0,SNR=2.0 0.7nm,0.5s	**37.59**	**16**	P		**P**	**P**	**11 00 56.5**	**+1.6**
SONM	**Songino Array** 0.4nm,0.6s,baz=181,slow=6.9,SNR=2.2 0.4nm,0.6s	**50.34**	**343**	P		**P**	**P**	**11 02 38.2**	**+1.1**
PETK	**Petropavlovsk-** 2.3nm,0.8s,baz=190,slow=4.7,SNR=8.0 2.3nm,0.8s	**58.62**	**22**	P		**P**	**P**	**11 03 38.4**	**+1.4**
MKAR	**Makanchi Array** 0.8nm,0.4s,baz=120,slow=7.9,SNR=12 0.8nm,0.4s	**60.10**	**327**	P		**P**	**P**	**11 03 46.8**	**-0.6**
KURBB	**Kurchatov Arra** 1.1nm,0.5s,baz=130,slow=5.9,SNR=11 1.1nm,0.5s	**64.36**	**328**	P		**P**	**P**	**11 04 15.1**	**-0.6**
BVAR	**Borovoye Array** 0.5nm,0.4s,baz=141,slow=9.3,SNR=5.0 0.5nm,0.4s	**69.92**	**328**	P		**P**	**P**	**11 04 50.8**	**-0.2**
AKTO	**Aktyubinsk** 2.5nm,0.8s,baz=106,slow=7.6,SNR=6.2 2.5nm,0.8s	**76.05**	**322**	P		**P**	**P**	**11 05 28.1**	**+0.8**
KIRV	**Kirov** 8.3nm,0.5s,baz=72,slow=4.2,SNR=2.6 8.3nm,0.5s	**82.88**	**329**	P		**P**	**P**	**11 06 03.3**	**-0.9**

*KOLA **20** 10:55:09.0,67.68N×34.22E,h0km,ML2.5,Error ellipse: s-maj=4.0km s-min=1.6km az=130.0,Khibiny, mines Koashva, Nyurkpakh*
*IDC **20** 10:55:12.0±2.8,67.74N×33.58E,h0km,mbtmp3.2/2, ML2.3/2,Error ellipse: s-maj=31.8km s-min=11.0km az=73.0*
ISC 20 10:55:07.6±0.9,**67.66N**±0.04×**34.06E**±0.05,**h0**km,**n13,** σ1**06**/23,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.27**	**250**	P		**Pb**	**Pb**	**10 55 14.7**	**-0.6**
APA				S		**Sb**	**Sb**	**10 55 19.3**	**-1.1**
LVZ	**Lovozero**	**0.33**	**43**	P		**Pg**	**Pg**	**10 55 13.8**	**0.0**
LVZ				S		**Sg**	**Sg**	**10 55 18.1**	**+0.1**
APA0	**Apatity Array**	**0.41**	**262**	P		**Pb**	**Pb**	**10 55 16.9**	**-0.9**
APA0				S		**Sb**	**Sb**	**10 55 24.6**	**0.0**
KVDA	**Kovda**	**1.08**	**206**	P		**Pb**	**Pb**	**10 55 28.9**	**-0.2**
KVDA				S		**Sb**	**Sb**	**10 55 43.8**	**0.0**
TERR	**Teriberka**	**1.59**	**14**	P		**Pn**	**Pn**	**10 55 36.9**	**-0.1**
TERR				S		**Sn**	**Sn**	**10 55 56.6**	**-1.6**
VADS	**Vadso**	**3.00**	**328**	P		**Pn**	**Pn**	**10 55 57.5**	**+1.2**
VADS				S		**Sn**	**Sn**	**10 56 33.1**	**+0.3**
VADS	**Vadso**	**3.00**	**328**	*eP*		**Pn**	**Pn**	**10 55 57.6**	**+1.3**
ARA0	**ARCESS Array S**	**3.66**	**305**	*eP*		**Pn**	**Pn**	**10 56 06.8**	**+1.4**
ARCES	**ARCESS Array B** 0.8nm,0.3s,baz=119,slow=14,SNR=138	**3.66**	**305**	Pn		**Pn**	**Pn**	**10 56 06.7**	**+1.4**
ARCES	1.5nm,0.3s,baz=120,slow=16,SNR=7.7			Pg		**Pb**	**Pb**	**10 56 13.9**	**+0.9**
ARCES	0.8nm,0.3s,baz=116,slow=24,SNR=5.1			Sn		**Sn**	**Sn**	**10 56 48.0**	**-1.1**
ARCES	2.0nm,0.3s,baz=119,slow=27,SNR=2.2 1.9nm,0.2s			Lg		Lg	Lg	10 56 59.3	
ARCES	**ARCESS Array B**	**3.66**	**305**	P		**Pn**	**Pn**	**10 56 06.5**	**+1.2**
ARCES				S		**Sn**	**Sn**	**10 56 49.0**	**-0.1**
I37NO	**I37NO**	**5.89**	**291**	I		I	I	11 31 15.0	
	baz=96,slow=324,SNR=4.2								
FINES	**FINESS Array B** 0.1nm,0.3s,baz=22,slow=15,SNR=5.1	**7.12**	**213**	Pn		**Pn**	**Pn**	**10 56 54.1**	**+1.2**
FINES	0.2nm,0.3s,baz=30,slow=22,SNR=2.0			Sn		**Sn**	**Sn**	**10 58 14.7**	**+0.2**
FINES	0.3nm,0.3s,baz=28,slow=27,SNR=1.9 2.4nm,1.0s			Lg		Lg	Lg	10 58 50.6	
FAUS	**Fauske**	**7.20**	**276**	P		**Pn**	**Pn**	**10 56 54.5**	**+0.6**
FAUS				S		**Sn**	**Sn**	**10 58 13.9**	**-2.3**

*IDC **20** 10:59:23.1±0.9,28.11S×13.16W,h0km,mb4.0/7, mbtmp4.0/7,MS4.1/43,Error ellipse: s-maj=34.2km s-min=23.2km az=107.0*
*NEIC **20** 10:59:25.9±1.5,28.1S±0.1×13.2W±0.1,h10km±1km, mb4.8/14,Error ellipse: s-maj=27.9km s-min=4.9km az=317.0*
*GCMT **20** 10:59:26.9±0.2,28.21S±0.02×13.24W±0.01,h12km, MW4.9/111,Moment Tensor Solution. s37,c37; s111,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.79±.07; Mθθ-0.09±.07; Mϕϕ2.88±.06; Mrθ-0.13±.32; Mθϕ-0.64±.06; Mϕr0.57±.23; Best double couple: M₀2.96100×10¹⁶ NP1:ϕs348.00000°,δ39.00000°, λ-90.00000°. NP2:ϕs168.00000°,δ51.00000°, λ-90.00000°. Principal axes: T 3.0720, Plg6.0000°, Azm258.0000°; N -0.2210, Plg0.0000°, Azm168.0000°; P -2.8490, Plg84.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 10:59:24.6±0.6,**28.1S**±0.1×**13.2W**±0.1,**h10**km,**n69,** σ0**90**/25,**mb4.5**/11,**MS4.1**/44,**Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR** comp=Z,702nm,18.2s,baz=326,slow=33	**19.05**	**356**	T		T	T	11 23 20.8	
H10S3	**ASCENSION HYDR** baz=176,slow=74,SNR=16	**19.06**	**356**	T		T	T	11 23 19.7	
H10N1	**ASCENSION HYDR** baz=177	**20.15**	**356**	T		T	T	11 24 50.4	
H10N3	**ASCENSION HYDR** baz=177	**20.15**	**356**	T		T	T	11 24 46.6	
H10N2	**ASCENSION HYDR** baz=177	**20.16**	**356**	T		T	T	11 24 51.7	
TSUM	**Tsumeb** comp=Z,702nm,18.2s,baz=326,slow=33	**29.49**	**79**	LR		LR	LR	11 15 29.5	
RCBR	**Riachuelo** comp=Z,99nm,20.9s,baz=103,slow=31	**30.87**	**312**	LR		LR	LR	11 15 10.5	
BOSA	**Boshof**	**33.76**	**100**	P		**P**	**P**	**11 06 06.0**	**-0.7**
BOSA	comp=Z,20nm,1.4s			IAmb		IAmb	IAmb	11 06 20.1	
BOSA	**Boshof** comp=Z,1.9nm,0.7s,baz=253,slow=11,SNR=1.4	**33.76**	**100**	P		**P**	**P**	**11 06 05.0**	**-1.7**
BOSA	comp=Z,730nm,18.3s,baz=254,slow=33 comp=Z,1.9nm,0.7s			LR		LR	LR	11 17 46.0	
LBTB	**Lobatse** comp=Z,500nm,21.5s,baz=246,slow=32	**34.75**	**94**	LR		LR	LR	11 17 49.9	
LPHEP	**Lephephe**	**35.40**	**91**	P		**P**	**P**	**11 06 21.1**	**+0.2**
LPHEP	comp=Z,32nm,1.4s			IAmb		IAmb	IAmb	11 06 22.2	
DBIC	**Dimbokro**	**35.46**	**14**	P		**P**	**P**	**11 06 20.3**	**-0.9**
DBIC	comp=Z,15nm,1.4s			IAmb		IAmb	IAmb	11 06 40.5	
DBIC	**Dimbokro** comp=Z,140nm,18.1s,baz=196,slow=31	**35.46**	**14**	LR		LR	LR	11 17 46.1	
MATP	**Matopo** comp=Z,879nm,19.8s,baz=242,slow=33	**38.63**	**88**	LR		LR	LR	11 20 40.1	
CPUP	**Vila Florida** comp=Z,133nm,21.6s,baz=328,slow=32	**39.13**	**262**	LR		LR	LR	11 20 13.4	
LSZ	**Lusaka** comp=Z,782nm,18.2s,baz=228,slow=34	**40.33**	**80**	LR		LR	LR	11 22 26.9	
TRQA	**Tornquist**	**41.67**	**243**	P		**P**	**P**	**11 07 13.2**	**-0.2**
TRQA	comp=Z,14nm,1.4s			IAmb		IAmb	IAmb	11 07 21.5	
TORD	**Torodi Ar. Bea**	**43.44**	**21**	P		**P**	**P**	**11 07 28.1**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.6s,baz=203,slow=8.6,SNR=5.6	**43.44**	**21**	P		**P**	**P**	**11 07 27.7**	**-0.1**
TORD	comp=Z,481nm,21.5s,baz=165,slow=31 comp=Z,0.8nm,0.6s			LR		LR	LR	11 21 48.0	
SNAA	**Sanae** comp=Z,2.7nm,1.1s,baz=342,slow=11,SNR=4.9	**44.03**	**175**	P		**P**	**P**	**11 07 31.2**	**-0.9**
SNAA	comp=Z,118nm,19.4s,baz=69,slow=30 comp=Z,2.7nm,1.1s			LR		LR	LR	11 21 21.5	
ESPZ	**Base Esperanza**	**45.16**	**206**	P		**P**	**P**	**11 07 40.7**	**-0.5**
SIV	**San Ignacio** comp=Z,521nm,20.4s,baz=121,slow=33	**45.71**	**275**	LR		LR	LR	11 24 30.5	
PMSA	**Palmer Station** comp=Z,166nm,18.5s,baz=61,slow=32	**48.55**	**206**	LR		LR	LR	11 25 12.0	
MDP	**Montagnes des** comp=Z,206nm,21.9s,baz=168,slow=33	**50.32**	**305**	LR		LR	LR	11 27 08.7	
LPAZ	**La Paz** comp=Z,0.7nm,0.7s,baz=97,slow=8.0,SNR=3.8	**51.82**	**271**	P		**P**	**P**	**11 08 33.4**	**-0.5**
LPAZ	comp=Z,251nm,19.6s,baz=106,slow=35 comp=Z,0.7nm,0.7s			LR		LR	LR	11 29 25.9	
KMBO	**Kilima Mbogo** comp=Z,402nm,18.6s,baz=272,slow=34	**55.13**	**70**	LR		LR	LR	11 30 52.8	
MAW	**Mawson** comp=Z,84nm,19.0s,baz=310,slow=31	**59.09**	**154**	LR		LR	LR	11 29 37.0	
MDT	**Midelt** comp=Z,160nm,19.4s,baz=198,slow=33	**61.09**	**8**	LR		LR	LR	11 33 19.8	
NNA	**Nana** comp=Z,248nm,19.1s,baz=125,slow=35	**61.28**	**271**	LR		LR	LR	11 35 24.9	
QSPA	**South Pole Qui**	**62.16**	**180**	P		**P**	**P**	**11 09 47.6**	**+1.7**
QSPA	comp=Z,12nm,1.2s			IAmb		IAmb	IAmb	11 09 55.2	
QSPA	**South Pole Qui** comp=Z,2.2nm,0.9s,baz=125,slow=1.3,SNR=4.3	**62.16**	**180**	P		**P**	**P**	**11 09 46.0**	**+0.1**
QSPA	comp=Z,99nm,18.9s,baz=212,slow=33 comp=Z,2.2nm,0.9s			LR		LR	LR	11 33 53.0	
PCRV	**Puerto La Cruz** comp=Z,471nm,19.0s,slow=34	**62.60**	**300**	LR		LR	LR	11 35 21.4	
SDV	**Santo Domingo** comp=Z,283nm,18.4s,baz=103,slow=35	**66.53**	**295**	LR		LR	LR	11 38 05.0	
KEST	**Kesra** comp=Z,314nm,19.8s,baz=258,slow=34	**66.92**	**20**	LR		LR	LR	11 37 08.5	
ATD	**Arta Tunnel**	**67.00**	**62**	P		**P**	**P**	**11 10 17.9**	**-0.2**
ATD	**Arta Tunnel** comp=Z,5.0nm,18.2s,baz=192,slow=36	**67.00**	**62**	LR		LR	LR	11 39 04.6	
ROSC	**El Rosal** comp=Z,346nm,18.4s,baz=177,slow=36	**67.28**	**289**	LR		LR	LR	11 39 56.0	
ESDC	**Sonseca Array** comp=Z,111nm,18.4s,baz=150,slow=34	**67.94**	**8**	LR		LR	LR	11 38 15.5	
SJG	**San Juan** comp=Z,116nm,19.3s,baz=139,slow=36	**68.79**	**305**	LR		LR	LR	11 40 22.3	
VAE	**Valguarnera** comp=Z,139nm,21.4s,baz=146,slow=32	**70.16**	**23**	LR		LR	LR	11 37 18.1	
EIL	**Elat** comp=Z,110nm,20.6s,baz=249,slow=33	**73.58**	**43**	LR		LR	LR	11 40 16.2	
SBA	**Scott Base**	**74.33**	**180**	P		**P**	**P**	**11 11 03.2**	**+1.5**
SBA	comp=Z,11nm,1.2s			IAmb		IAmb	IAmb	11 11 10.6	
VNDA	**Vanda**	**74.62**	**179**	P		**P**	**P**	**11 11 04.5**	**+1.0**
VNDA	comp=Z,9.3nm,1.4s			IAmb		IAmb	IAmb	11 11 11.6	
VNDA	**Vanda** comp=Z,2.2nm,1.2s,baz=200,slow=5.7,SNR=5.2 comp=Z,2.2nm,1.2s	**74.62**	**179**	P		**P**	**P**	**11 11 04.0**	**+0.5**
MMAI	**Mount Meron Ar** comp=Z,96nm,22.0s,baz=192,slow=33	**76.28**	**40**	LR		LR	LR	11 41 24.8	
ASF	**Jabal al Asfar** comp=Z,100nm,21.3s,baz=333,slow=34	**76.54**	**42**	LR		LR	LR	11 42 18.3	
DAVOX	**Davos/Dischmat** comp=Z,73nm,20.4s,baz=258,slow=34	**77.36**	**16**	LR		LR	LR	11 43 44.6	
JTS	**Las Juntas de** comp=Z,262nm,20.0s,baz=116,slow=35	**79.09**	**288**	LR		LR	LR	11 46 03.0	
BRTR	**Keskin Array B** comp=Z,1.3nm,0.7s,baz=207,slow=7.0,SNR=4.9 comp=Z,1.3nm,0.7s	**80.31**	**35**	P		**P**	**P**	**11 11 36.6**	**+0.7**
MLR	**Muntele Rosu**	**81.41**	**27**	P		**P**	**P**	**11 11 43.1**	**+1.5**
MLR	comp=Z,23nm,1.5s			IAmb		IAmb	IAmb	11 11 44.9	
MLR	**Muntele Rosu** comp=Z,56nm,21.2s,baz=201,slow=35	**81.41**	**27**	LR		LR	LR	11 46 23.6	
VRAC	**Vranov** comp=Z,130nm,19.3s,baz=217,slow=35	**81.48**	**19**	LR		LR	LR	11 46 41.0	
RPN	**Rapa Nui** comp=Z,112nm,18.4s,baz=150,slow=33	**82.64**	**243**	LR		LR	LR	11 44 24.9	
BURAR	**Bucovina Array**	**82.89**	**25**	P		**P**	**P**	**11 11 50.4**	**+1.1**
BUR08	**Bucovina Ar. S**	**82.91**	**25**	P		**P**	**P**	**11 11 50.3**	**+0.9**
HFS	**Hagfors** comp=Z,58nm,21.2s,baz=204,slow=34	**90.61**	**13**	LR		LR	LR	11 51 28.5	
CMIG	**Matias Romero** comp=Z,112nm,20.9s,baz=130,slow=35	**90.83**	**289**	LR		LR	LR	11 52 46.1	
NOA	**NORSAR Array B** comp=Z,39nm,20.9s,baz=205,slow=35	**90.98**	**12**	LR		LR	LR	11 52 03.6	
TKL	**Tuckaleechee C** comp=Z,30nm,20.1s,baz=154,slow=31	**91.84**	**310**	LR		LR	LR	11 46 11.1	
BORG	**Borgarnes** comp=Z,31nm,18.1s,baz=167,slow=32	**92.72**	**357**	LR		LR	LR	11 48 03.9	
SADO	**Sadowa** comp=Z,39nm,20.1s,baz=128,slow=31	**94.12**	**319**	LR		LR	LR	11 47 32.2	
SCHQ	**Schefferville** comp=Z,50nm,18.5s,baz=119,slow=32	**94.50**	**332**	LR		LR	LR	11 49 46.2	
PALK	**Pallekele** comp=Z,296nm,18.9s,baz=221,slow=33	**96.81**	**85**	LR		LR	LR	11 52 20.1	
SFJD	**Kangerlussuaq** comp=Z,56nm,21.7s,baz=136,slow=29	**98.89**	**346**	LR		LR	LR	11 47 52.2	
INCN	**Inchon**	**145.17**	**64**	PKPbc		**PKPbc**	**PKPbc**	**11 19 01.6**	**-0.5**
MHA	**Mahukona**	**145.17**	**265**	PKPbc		**PKPbc**	**PKPbc**	**11 19 02.2**	**-0.3**
MDJ	**Mudanjiang**	**146.13**	**51**	PKPdf		**PKPbc**	**PKPbc**	**11 19 04.7**	**-0.2**
KSAR	**Wonju Array Be**	**146.16**	**64**	PKPdf		**PKPbc**	**PKPbc**	**11 19 04.8**	**-0.4**
KSRS	**Korea Array** comp=Z,2.0nm,0.8s,baz=284,slow=4.9,SNR=8.2	**146.19**	**64**	PKPbc		**PKPbc**	**PKPbc**	**11 19 05.5**	**+0.2**

*IDC **20** 11:15:28.4±0.9,0.68N×126.85E,h0km,mb3.9/8, mbtmp3.9/8,Error ellipse: s-maj=71.7km s-min=18.7km az=68.0*
*DJA **20** 11:15:32.7±0.3,1.1N±4.1×12.6E±.1,h10km,M3.6/8,MLv3.6/8*
ISC 20 11:15:35.2±0.8,**0.54N**±0.09×**126.39E**±0.06,**h47**km,**n12,** σ1**23**/13,**mb3.9**/8,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.00**	**77**	P		**Pn**	**Pn**	**11 15 52.6**	**-0.3**
TNTI				S		**Sn**	**Sn**	**11 16 07.7**	**+1.7**
KMSI	**Cibinong**	**2.41**	**271**	P		**Pn**	**Pn**	**11 16 11.5**	**-0.6**
SANI	**Sanana**	**2.60**	**189**	P		**Pn**	**Pn**	**11 16 15.2**	**+0.4**
LUWI	**Luwuk**	**3.94**	**247**	P		**Pn**	**Pn**	**11 16 33.9**	**+0.7**
WRA	**Warramunga Arr** 2.2nm,0.5s,baz=339,slow=11,SNR=14 2.2nm,0.5s	**21.79**	**159**	P		**P**	**P**	**11 20 21.2**	**-2.2**
ASAR	**Alice Springs** 5.3nm,0.8s,baz=349,slow=13,SNR=32 5.3nm,0.8s	**25.14**	**164**	P		**P**	**P**	**11 20 56.1**	**0.0**
SONM	**Songino Array** 0.4nm,0.5s,baz=142,slow=7.3,SNR=1.5 0.4nm,0.5s	**50.21**	**343**	P		**P**	**P**	**11 24 26.7**	**+0.2**
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=120,slow=7.2,SNR=6.8 0.9nm,0.6s	**59.99**	**326**	P		**P**	**P**	**11 25 37.2**	**+0.2**
KURBB	**Kurchatov Arra** 1.0nm,0.6s,baz=130,slow=6.3,SNR=7.5 1.0nm,0.6s	**64.24**	**328**	P		**P**	**P**	**11 26 06.0**	**+0.6**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=172,slow=4.4,SNR=4.0 0.4nm,0.3s	**69.81**	**328**	P		**P**	**P**	**11 26 42.5**	**+1.8**
AKTO	**Aktyubinsk** 1.9nm,0.7s,baz=109,slow=5.9,SNR=4.7 1.9nm,0.7s	**75.94**	**322**	P		**P**	**P**	**11 27 17.6**	**+0.4**
ILAR	**Eielson Array** 0.1nm,0.5s,baz=263,slow=8.7,SNR=4.8 0.1nm,0.5s	**88.11**	**25**	P		**P**	**P**	**11 28 19.1**	**-1.6**

*IDC **20** 11:16:49.3±0.5,28.31S×177.80W,h104km±4km,mb4.1/18, mbtmp4.4/21,MS3.7/10,Error ellipse: s-maj=13.3km s-min=9.3km az=92.0*
*GCMT **20** 11:16:50.7±0.3,28.35S±0.02×177.64W±0.02, h113km±3km,MW4.9/90,Moment Tensor Solution. s34,c37; s90,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.51±.14; Mθθ-0.25±.20; Mϕϕ0.75±.19; Mrθ-1.09±.09; Mθϕ0.68±.19; Mϕr-2.86±.08; Best double couple: M₀3.16700×10¹⁶ NP1:ϕs225.00000°,δ8.00000°, λ-66.00000°. NP2:ϕs20.00000°,δ83.00000°,λ-93.00000°. Principal axes: T 3.4530, Plg38.0000°, Azm113.0000°; N -0.5720, Plg3.0000°, Azm21.0000°; P -2.8810, Plg52.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 11:16:50.7±1.2,28.39S±0.05×177.9W±0.1,h111km±6km, mb4.7/67 Error ellipse: s-maj=16.0km s-min=7.5km az=98.0*
ISC 20 11:16:50.0±0.5,**28.54S**±0.05×**177.94W**±0.07, **h109**km±4km,**h109**km:**pP-P,n157,** σ1**90**/154,**mb4.7**/58, **5C-5D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.71**	**179**	P		**Pn**	**Pn**	**11 17 10.3**	**+2.0**
RIZ				S		**Sn**	**Sn**	**11 17 26.1**	**+4.0**
RAO	**Raoul Island** 10μm,0.3s,baz=70,slow=3.8,SNR=297	**0.71**	**179**	P		**Pn**	**Pn**	**11 17 10.2**	**+1.9**
RAO	10μm,0.3s,baz=264,slow=24,SNR=43			S		**Sn**	**Sn**	**11 17 24.9**	**+2.8**
GLKZ	**Green Lake**	**0.72**	**179**	P		**Pn**	**Pn**	**11 17 10.2**	**+1.8**
GLKZ				S		**Sn**	**Sn**	**11 17 27.4**	**+5.1**
MXZ	**Matakaoa Point**	**9.54**	**198**	P		**Pn**	**Pn**	11 18 59.3	-4.9
MXZ				S		**Sn**	**Sn**	**11 20 46.8**	**-2.6**
WMGZ	**Waiomatatini S**	**9.75**	**197**	P		**Pn**	**Pn**	11 19 01.1	-5.9
WMGZ				S		**Sn**	**Sn**	**11 20 50.4**	**-4.2**
HAZ	**Te Kaha**	**9.87**	**200**	P		**Pn**	**Pn**	11 19 03.5	-5.2
HAZ				S		**Sn**	**Sn**	**11 20 55.8**	**-1.7**
PKGZ	**Pakihiroa**	**9.88**	**199**	P		**Pn**	**Pn**

	comp=Z,38nm,1.4s							
TOO	**Toolangi**	**31.79**	**244**	P	**P**	**11 23 05.2**	**+1.2**
TOO				IAmb	IAmb	11 23 40.4	
	comp=Z,12nm,1.3s							
CTAO	**Charters Tower**	**33.60**	**276**	P	**P**	**11 23 21.4**	**+1.4**
STKA	**Stephens Creek**	**34.99**	**254**	P	**P**	**11 23 33.7**	**+1.8**
STKA	**Stephens Creek**	**34.99**	**254**	P	**P**	**11 23 34.1**	**+2.2**
	comp=Z,3.7nm,0.3s,baz=96,slow=11,SNR=17							
	comp=Z,3.7nm,0.3s							
INKA	**Innaminka**	**36.31**	**261**	P	**P**	**11 23 44.3**	**+1.1**
COEN	**Coen**	**38.85**	**284**	P	**P**	**11 24 04.9**	**+0.2**
BBOO	**Buckleboo**	**39.56**	**252**	P	**P**	**11 24 11.2**	**+0.7**
AS31	**Alice Springs**	**43.29**	**265**	P	**P**	**11 24 41.6**	**+0.5**
ASAR	**Alice Springs**	**43.29**	**265**	P	**P**	**11 24 41.0**	**-0.1**
ASAR	**Alice Springs**	**43.29**	**265**	P	**P**	**11 24 42.1**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=98,slow=7.2,SNR=28							
ASAR				pP	**pwP**	**11 25 07.8**	**-0.8**
	comp=Z,5.9nm,0.8s,baz=110,slow=8.2,SNR=9.0							
ASAR				PcP	**PcP**	**11 26 27.7**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=100,slow=4.0,SNR=5.2							
ASAR				ScP	**ScP**	**11 30 10.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=100,slow=4.2,SNR=4.7							
	comp=Z,1.7nm,0.4s							
WR8	**Warramunga Arr**	**43.97**	**270**	P	**P**	**11 24 46.7**	**+0.1**
WR8				IAmb	IAmb	11 25 14.6	
	comp=Z,16nm,1.1s							
WRA	**Warramunga Arr**	**44.11**	**270**		**P**	**11 24 47.8**	**+0.1**
WRA	**Warramunga Arr**	**44.11**	**270**	P	**P**	**11 24 47.4**	**-0.3**
	comp=Z,4.6nm,0.3s,baz=108,slow=7.7,SNR=52							
WRA				pP	**pwP**	**11 25 14.3**	**-1.1**
	comp=Z,7.8nm,0.9s,baz=108,slow=8.0,SNR=4.7							
WRA				PcP	**PcP**	**11 26 30.6**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=113,slow=2.9,SNR=2.1							
WRA				ScP	**ScP**	**11 30 13.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=101,slow=3.9,SNR=3.6							
	comp=Z,4.6nm,0.3s							
WB0	**Warramunga Arr**	**44.13**	**270**	P	**P**	**11 24 47.9**	**+0.1**
WB0				IAmb	IAmb	11 25 15.9	
	comp=Z,16nm,1.2s							
JAY	**Jayapura**	**47.12**	**296**	P	**P**	**11 25 11.2**	**-0.2**
	comp=Z,3.8nm,0.6s,baz=167,slow=7.9,SNR=5.4							
JAY				LR	LR	11 41 55.9		
	comp=Z,112nm,22.0s,baz=214,slow=32							
	comp=Z,3.8nm,0.6s							
SBA	**Scott Base**	**49.89**	**184**		**P**	**11 25 33.9**	**+2.1**
SBA				IAmb	IAmb	11 25 38.3		
	comp=Z,20nm,1.2s							
VNDA	**Vanda**	**49.95**	**186**	P	**P**	**11 25 33.7**	**+1.5**
VNDA	**Vanda**	**49.95**	**186**	P	**P**	**11 25 35.5**	**+3.2**
	comp=Z,0.8nm,0.5s,baz=7.5,slow=7.0,SNR=11							
VNDA				ScP	**ScP**	**11 30 38.1**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=4.7,slow=4.7,SNR=2.5							
	comp=Z,0.8nm,0.5s							
KNRA	**Kununurra**	**50.64**	**273**	P	**P**	**11 25 38.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.44**	**268**	P	**P**	**11 25 51.7**	**0.0**
FITZ	**Fitzroy Crossi**	**52.44**	**268**	P	**P**	**11 25 52.1**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=100,slow=6.8,SNR=17							
	comp=Z,2.9nm,0.4s							
GUMO	**Guam**	**55.21**	**314**	LR	LR	11 48 07.2		
	comp=Z,41nm,19.8s,baz=182,slow=34							
PSA00	**Pilbara Seismi**	**56.26**	**262**	P	**P**	**11 26 19.5**	**+0.2**
PSA00				IAmb	IAmb	11 26 24.7		
	comp=Z,12nm,1.0s							
CASY	**Casey**	**56.81**	**207**	P	**P**	**11 26 23.0**	**+0.4**
MORW	**Morawa**	**57.13**	**252**	P	**P**	**11 26 24.6**	**-0.8**
MORW				IAmb	IAmb	11 27 02.8		
	comp=Z,16nm,1.2s							
GIRL	**Giralia**	**60.74**	**259**	P	**P**	**11 26 51.2**	**+0.7**
QSPA	**South Pole Qui**	**61.57**	**180**	P	**P**	**11 26 57.5**	**+2.0**
QSPA				IAmb	IAmb	11 26 59.3		
	comp=Z,8.6nm,0.7s							
QSPA	**South Pole Qui**	**61.57**	**180**	P	**P**	**11 26 58.1**	**+2.6**
	comp=Z,6.6nm,0.6s,baz=49,slow=1.0,SNR=46							
	comp=Z,6.6nm,0.6s							
BELA	**Belgrano 2**	**71.62**	**172**	P	**P**	**11 28 00.0**	**+1.0**
PMSA	**Palmer Station**	**73.94**	**156**	LR	LR	11 55 26.5		
	comp=Z,45nm,18.6s,baz=242,slow=31							
MAW	**Mawson**	**74.07**	**200**	P	**P**	**11 28 14.4**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=144,slow=8.7,SNR=15							
	comp=Z,2.8nm,0.6s							
KSM	**Kuching**	**74.73**	**280**	P	**P**	**11 28 18.7**	**+0.3**
KSM				IAmb	IAmb	11 28 40.1		
	comp=Z,29nm,1.4s							
INU	**Inuyama**	**76.44**	**323**		**P**	**11 28 27.9**	**+0.4**
INU				IAmb	IAmb	11 28 28.4		
	comp=Z,31nm,1.4s							
JGF	**Kuroka**	**76.45**	**324**	P	**P**	**11 28 27.4**	**-0.3**
MJAR	**Matsushiro Arr**	**76.75**	**325**		**P**	**11 28 29.4**	**+0.1**
MJAR				IAmb	IAmb	11 28 29.7		
	comp=Z,13nm,1.4s							
MJAR	**Matsushiro Arr**	**76.75**	**325**	P	**P**	**11 28 28.1**	**-1.2**
	comp=Z,3.6nm,0.4s,baz=149,slow=5.0,SNR=16							
	comp=Z,3.6nm,0.4s							
MAJO	**Matsushiro**	**76.75**	**325**	IAmb	IAmb	11 28 29.2		
	comp=Z,22nm,1.4s							
MAJO				P	**P**	**11 28 29.5**	**+0.1**
MJB9	**Matsu-Tunnel**	**76.75**	**325**	P	**P**	**11 28 29.9**	**+0.6**
MJB9				IAmb	IAmb	11 28 30.2		
	comp=Z,23nm,1.4s							
MG03	**Isla Dawson**	**76.92**	**145**	P	**P**	**11 28 30.6**	**+0.5**
MG03				IAmb	IAmb	11 28 54.8		
	comp=Z,28nm,1.4s							
YOJ	**Yonaguni jima**	**77.49**	**307**	P	**P**	**11 28 33.7**	**0.0**
JNU	**Nakatsue**	**78.21**	**318**		**P**	**11 28 37.2**	**-0.4**
SSLB	**Suanglung**	**78.53**	**305**	P	**P**	**11 28 38.2**	**-1.4**
SSLB				IAmb	IAmb	11 28 38.7		
	comp=Z,10nm,0.6s							
TROLL	**Troll, Antarti**	**79.73**	**180**	⇑P	**P**	**11 28 46.1**	**+0.6**
	comp=Z,329nm,0.6s							
TROLL				⇓pP	**pwP**	**11 29 13.8**	**+0.8**
SNAA	**Sanae**	**80.01**	**178**	⇑P	**P**	**11 28 46.9**	**-0.1**
	comp=Z,53nm,0.7s							
SNAA				⇓pP	**pP**	**11 29 14.6**	**+0.1**
SNAA	**Sanae**	**80.01**	**178**	P	**P**	**11 28 47.8**	**+0.8**
SNAA	**Sanae**	**80.01**	**178**	P	**P**	**11 28 47.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=193,slow=6.0,SNR=8.4							
SNAA				pP	**pP**	**11 29 13.2**	**-1.3**
	comp=Z,5.2nm,1.0s,baz=196,slow=4.7,SNR=5.6							
	comp=Z,1.5nm,0.5s							
VNA3	**Neumayer Olymp**	**80.15**	**176**	⇑P	**P**	**11 28 48.0**	**+0.3**
	comp=Z,10nm,0.7s							
VNA3				⇓pP	**pP**	**11 29 15.1**	**-0.1**
VNA2	**Neumayer--Watz**	**80.59**	**177**	⇑P	**P**	**11 28 47.5**	**-2.5**
	comp=Z,5.7nm,0.4s,baz=188,slow=3.6							
VNA1	**Neumayer--Stat**	**80.82**	**177**	⇑P	**P**	**11 28 52.0**	**+0.9**
	comp=Z,6.2nm,0.6s							
VNA1				⇓pP	**pP**	**11 29 19.3**	**+0.5**
H03S2	**Juan Fernandez**	**81.45**	**124**	T	T	12 57 07.1		
	baz=242,slow=74,SNR=12							
H03S1	**Juan Fernandez**	**81.46**	**124**	T	T	12 57 08.2		
	baz=242,slow=74,SNR=15							
H03S3	**Juan Fernandez**	**81.47**	**124**	T	T	12 57 07.2		
	baz=242,slow=74,SNR=15							
H03N3	**Juan Fernandez**	**81.63**	**123**	T	T	12 57 19.0		
	baz=233,slow=77,SNR=4.4							
H03N2	**Juan Fernandez**	**81.63**	**123**	T	T	12 57 20.1		
	baz=233,slow=77,SNR=10							
H03N1	**Juan Fernandez**	**81.65**	**123**	T	T	12 57 18.7		
	baz=233,slow=77,SNR=5.1							
KSRS	**Korea Array**	**82.97**	**319**	P	**P**	**11 29 02.2**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=142,slow=6.2,SNR=12							
	comp=Z,1.6nm,0.6s							
KSAR	**Wonju Array Be**	**82.98**	**319**	P	**P**	**11 29 02.7**	**-0.2**
PEA0B	**Petropavlovsk-**	**84.03**	**346**	P	**P**	**11 29 08.1**	**+0.2**
PETK	**Petropavlovsk-**	**84.03**	**346**	P	**P**	**11 29 07.5**	**-0.4**
PETK	**Petropavlovsk-**	**84.03**	**346**	P	**P**	**11 29 06.5**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=102,slow=7.9,SNR=18							
	comp=Z,2.4nm,0.5s							
IPM	**Ipoh**	**84.27**	**278**	P	**P**	**11 29 09.7**	**-0.4**
IPM				IAmb	IAmb	11 29 11.2		
	comp=Z,12nm,0.9s							
RPSI	**Rantau Prapat**	**85.25**	**276**	P	**P**	**11 29 14.4**	**-0.5**
CMB	**Columbia Colle**	**85.34**	**42**		**P**	**11 29 14.4**	**-0.5**
O02D	**Mt. Diablo Mer**	**85.42**	**39**		**P**	**11 29 15.3**	**0.0**
O02D				IAmb	IAmb	11 29 48.8		
	comp=Z,6.8nm,1.1s							
BI02	**San Fabin de**	**85.43**	**129**	P	**P**	**11 29 15.8**	**+0.1**
BELC	**Belle Mtn. Jos**	**85.45**	**47**	P	**P**	**11 29 14.8**	**-0.9**
WSHM	**Spangler Hills**	**85.51**	**45**	P	**P**	**11 29 15.8**	**0.0**
WSHM				IAmb	IAmb	11 29 21.9		
	comp=Z,4.2nm,0.6s							
CCCA	**Chr Cany lake**	**85.55**	**45**	P	**P**	**11 29 15.4**	**-0.6**
CCCA				IAmb	IAmb	11 29 26.9		
	comp=Z,8.7nm,0.9s							
CLC	**China Lake**	**85.58**	**45**	P	**P**	**11 29 15.5**	**-0.7**
AFDM	**Forest Hills D**	**85.61**	**41**	P	**P**	**11 29 16.7**	**+0.5**
USA0B	**Ussuriysk Arra**	**85.64**	**326**	P	**P**	**11 29 16.1**	**-0.1**
USA0B				IAmb	IAmb	11 29 18.2		
	comp=Z,20nm,1.2s							
USRK	**Ussuriysk Ar.**	**85.64**	**326**		**P**	**11 29 16.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**85.64**	**326**	P	**P**	**11 29 16.1**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=132,slow=2.8,SNR=14							
	comp=Z,3.3nm,0.6s							
IRM	**Iron Mountain**	**86.10**	**48**	P	**P**	**11 29 18.3**	**-0.4**
IRM				IAmb	IAmb	11 29 47.6		
	comp=Z,6.2nm,1.1s							
WAKR	**Walker**	**86.22**	**42**	P	**P**	**11 29 19.2**	**-0.2**
WAKR				IAmb	IAmb	11 29 22.6		
	comp=Z,7.6nm,1.4s							
NVAR	**Mina Array Bea**	**86.84**	**43**	P	**P**	**11 29 21.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=222,slow=7.6,SNR=10							
NVAR				pP	**pP**	**11 29 49.8**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=224,slow=8.4,SNR=4.7							
	comp=Z,1.1nm,0.7s							
MDJ	**Mudanjiang**	**87.12**	**325**	P	**P**	**11 29 23.5**	**+0.1**
MDJ				pmax	pmax			
	comp=Z,14nm,1.3s							
TPH	**Tonopah**	**87.26**	**44**	P	**P**	**11 29 23.9**	**-0.6**
TPH				IAmb	IAmb	11 29 27.2		
	comp=Z,6.0nm,1.2s							
X16A	**Lo Mia Camp, P**	**88.70**	**49**	P	**P**	**11 29 30.4**	**-1.0**
TIA	**Tai'an**	**88.75**	**313**	P	**P**	**11 29 32.0**	**+0.7**
TIA				pmax	pmax			
	comp=Z,16nm,1.3s							
BNX	**BinXian**	**89.01**	**325**	⇓P	**P**	**11 29 32.6**	**+0.3**
BNX				pmax	pmax			
	comp=Z,10.0nm,1.5s							
U15A	**North Rim**	**89.33**	**47**	IAmb	IAmb	11 30 03.5		
	comp=Z,3.6nm,0.9s							
O18K	**Koktuh Hills**	**90.04**	**11**	IAmb	IAmb	11 29 37.1		
	comp=Z,4.8nm,0.7s							
GNW	**Green Mountain**	**90.51**	**34**	P	**P**	**11 29 39.0**	**-0.2**
GNW				IAmb	IAmb	11 29 41.6		
	comp=Z,5.2nm,1.1s							
ILSW	**Illamna Southw**	**90.53**	**12**	P	**P**	**11 29 37.9**	**-1.3**
ILSW				IAmb	IAmb	11 29 39.2		
	comp=Z,5.7nm,0.8s							
LYN	**LuoYang**	**90.86**	**309**	P	**P**	**11 29 42.3**	**+1.0**
LYN				pmax	pmax			
	comp=Z,14nm,1.0s							
G08A	**Pilot Rock**	**90.95**	**37**	P	**P**	**11 29 40.4**	**-1.2**
G08A				IAmb	IAmb	11 30 18.2		
	comp=Z,4.5nm,1.0s							
TXAR	**Lajitas Array**	**91.34**	**57**	P	**P**	**11 29 42.6**	**-1.2**
	comp=Z,0.9nm,1.2s,baz=237,slow=5.2,SNR=4.2							
TXAR				pP	**pP**	**11 30 09.8**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=217,slow=4.6,SNR=5.2							
	comp=Z,0.9nm,1.2s							
TMUT	**Trail Mountain**	**91.72**	**45**	IAmb	IAmb	11 30 14.2		
	comp=Z,2.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**92.84**	**289**	P	**P**	**11 29 49.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**92.84**	**289**	P	**P**	**11 29 51.2**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=117,slow=4.6,SNR=5.7							
	comp=Z,0.9nm,0.5s							
XAN	**Xi'an**	**93.03**	**307**	P	**P**	**11 29 52.0**	**+0.6**
XAN				pP	sP	11 30 23.9	-6.8	
XAN				pmax	pmax			
	comp=Z,10.0nm,1.4s							
NEW	**Newport**	**93.84**	**36**	LR	LR	12 03 12.6		
	comp=Z,33nm,21.5s,baz=110,slow=30							
O29M	**Mount Kennedy**	**94.21**	**18**	IAmb	IAmb	11 29 55.9		
	comp=Z,4.6nm,0.8s							
PZH	**PanZhiHua**	**94.49**	**298**	P	**P**	**11 29 59.4**	**+1.0**
PDAR	**Pinedale Array**	**94.75**	**43**	P	**P**	**11 29 57.9**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=225,slow=4.9,SNR=2.5							
	comp=Z,0.2nm,0.5s							
ATAH	**Atahualpa**	**94.94**	**101**	LR	LR	12 04 04.8		
	comp=Z,30nm,19.7s,baz=295,slow=30							
HHC	**Hu-ho-hao-te**	**94.98**	**314**	*e*P	**P**	**11 30 01.8**	**+1.6**
HHC				pmax	pmax			
	comp=Z,15nm,0.6s							
HHC				pmax	pmax			
	comp=Z,58nm,5.0s							
DLBC	**Dease Lake**	**95.39**	**23**	LR	LR	12 06 12.6		
	comp=Z,44nm,21.5s,baz=21,slow=31							
ILAR	**Eielson Array**	**96.10**	**13**	P	**P**	**11 30 01.9**	**-2.7**
	comp=Z,0.4nm,0.7s,baz=199,slow=5.1,SNR=5.8							
	comp=Z,0.4nm,0.7s							
J26L	**Joseph Creek**	**96.55**	**14**	P	**P**	**11 30 06.0**	**-0.8**
J26L				IAmb	IAmb	11 30 07.3		
	comp=Z,2.3nm,0.8s							
JTS	**Las Juntas de**	**97.44**	**82**	LR	LR	12 06 46.3		
	comp=Z,25nm,18.3s,baz=247,slow=31							
MKAR	**Makanchi Array**	**116.61**	**311**	PKP	**PKPdf**	**11 35 20.2**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=184,slow=0.8,SNR=15							
ZALV	**Zalesovo Beam**	**116.67**	**319**	PKP	**PKPdf**	**11 35 19.9**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=108,slow=4.7,SNR=2.1							
BOSA	**Boshof**	**118.99**	**203**	PKP	**PKPdf**	**11 35 26.8**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=138,slow=4.2,SNR=4.6							
KURBB	**Kurchatov Arra**	**119.83**	**314**	PKP	**PKPdf**	**11 35 25.7**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=116,slow=1.8,SNR=16							
BVAR	**Borovoye Array**	**125.10**	**317**	PKP	**PKPdf**	**11 35 36.9**	**-0.2**
	comp=Z,4.4nm,0.4s,baz=99,slow=1.6,SNR=19							
SPITS	**Spitsbergen Ar**	**129.85**	**356**	PKP	**PKPdf**	**11 35 44.2**	**-1.4**
	comp=Z,18nm,1.1s,baz=68,slow=8.2,SNR=5.3							
AKTO	**Aktyubinsk**	**132.87**	**314**	PKP	**PKPdf**	**11 35 52.9**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=129,slow=4.1,SNR=5.5							
ARCES	**ARCESS Array B**	**136.78**	**348**	PKP	**PKiKP**	**11 36 00.2**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=102,slow=2.2,SNR=16							
H10S3	**ASCENSION HYDR**	**139.38**	**154**	T	T	14 12 05.5		
H10S2	**ASCENSION HYDR**	**139.38**	**154**	T	T	14 12 26.5		
H10N3	**ASCENSION HYDR**	**140.46**	**154**	T	T	14 13 24.7		
	baz=203,slow=75,SNR=16							
H10N1	**ASCENSION HYDR**	**140.46**	**154**	T	T	14 13 24.6		
	baz=203,slow=75,SNR=15							
H10N2	**ASCENSION HYDR**	**140.48**	**154**	T	T	14 13 26.2		
	baz=203,slow=75,SNR=13							
FINES	**FINESS Array B**	**143.41**	**341**	PKhKP	PKPpre	11 36 06.2		
	comp=Z,2.4nm,0.4s,baz=51,slow=3.4,SNR=27							
KBZ	**Khabaz**	**144.09**	**306**	PKP	**PKPab**	**11 36 10.7**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=120,slow=2.0,SNR=2.7							
GEVA	**Gevas**	**144.67**	**297**		**PKPab**	**11 36 13.3**	**+0.2**
NB2	**NORSAR Subarra**	**146.92**	**352**	PKP	**PKPdf**	**11 36 17.6**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**146.92**	**352**	PKPbc	**PKPdf**	**11 36 17.3**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=14,slow=4.5,SNR=10							
HFS	**Hagfors**	**147.43**	**349**	PKPbc	**PKPdf**	**11 36 18.2**	**+0.4**
	comp=Z,4.4nm,0.3s,baz=49,slow=3.1,SNR=30							
AKASG	**Malin Array Be**	**149.83**	**325**	PKPbc	**PKPbc**	**11 36 25.7**	**-1.2**
	comp=Z,5.5nm,0.4s,baz=47,slow=3.2,SNR=40							
MMAI	**Mount Meron Ar**	**151.08**	**287**	PKPbc	**PKiKP**	**11 36 31.3**	**+0.2**
	comp=Z,9.3nm,0.5s,baz=76,slow=6.1,SNR=15							
BRTR	**Keskin Array B**	**151.72**	**302**	PKPbc	**PKPbc**	**11 36 31.9**	**-0.1**
	comp=Z,4.3nm,0.5s,baz=141,slow=4.5,SNR=17							
EKA	**Eskdalemuir Ar**	**152.96**	**7**	PKPbc	**PKPbc**	**11 36 33.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=9.1,slow=3.1,SNR=3.5							
EKA				PKPab	**PKPab**	**11 36 43.6**	**-2.0**
	comp=Z,1.5nm,0.7s,baz=356,slow=3.2,SNR=4.8							
GERES	**GERESS Array B**	**157.83**	**339**	PKPab	**PKPab**	**11 37 05.8**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=42,slow=3.1,SNR=6.2							
TORD	**Torodi Ar. Bea**	**164.68**	**179**	PKP	**PKPdf**	**11 36 42.4**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=234,slow=5.0,SNR=8.1							
TORD				PKPab	**PKPab**	**11 37 39.0**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=171,slow=2.5,SNR=8.2							

BJI 20 11:17:01.0, 18.52N×109.40E, h12km, mB4.5/4, mb4.1/8, ML4.2/3, Ms4.0/3, Ms7 3.7/5, 2C, Hainan Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIZ	**Qiongzhong**	**0.66**	**40**	⇑*i*Pg	Pg	11 17 14.0	+0.2
QIZ				Sg	Sg	11 17 22.8	+0.3
QIZ				smax	smax		
	comp=N,8μm,0.3s						
QIZ				smax	smax		
	comp=E,6μm,0.4s						
GULI	**GuiLin**	**6.80**	**7**	Pg	Pb	11 18 57.8	-1.3
GULI				Sg	Sb	11 20 28.9	+8.6
GULI				smax	smax		
	comp=N,79nm,0.9s						
GULI				smax	smax		
	comp=E,150nm,1.0s						
GULI				LR	LR		
	comp=Z,380nm,9.5s						
XAN	**Xi'an**	**15.46**	**359**	*e*P	Pn	11 20 34.8	-4.2
XAN				S	Sn	11 23 20.8	-10
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				smax	smax		
	comp=N,12nm,1.2s						
XAN				smax	smax		
	comp=E,11nm,1.4s						
XAN				LR	LR		
	comp=N,130nm,8.9s						
XAN				LR	LR		
	comp=E,150nm,8.9s						
XAN				LR	LR		
	comp=Z,150nm,10.0s						
BTO	**Baotou**	**22.02**	**1**	*e*P	P	11 21 56.4	+1.0
BTO				S	S	11 26 00.8	+2.6
BTO				pmax	pmax		
	comp=Z,12nm,0.5s						
BTO				pmax	pmax		
	comp=Z,71nm,4.2s						
BTO				LR	LR		
	comp=Z,130nm,5.5s						
BTO				LR	LR		
	comp=Z,74nm,5.6s						
BTO				LR	LR		
	comp=Z,160nm,5.4s						
BNX	**BinXian**	**30.98**	**25**	⇑P	P	11 23 20.0	+1.8
BNX				pmax	pmax		
	comp=Z,3.0nm,0.9s						

*SOME **20** 11:25:40.2, 39.07N×74.97E, h10km*
*IDC **20** 11:25:42.0±2.4, 39.08N×75.19E, h0km, mb3.6/2, mbtmp3.5/8, ML2.8/5, MS3.3/3, Error ellipse: s-maj=27.9km s-min=26.0km az=47.0*
*NNC **20** 11:25:43.6±1.9, 39.18N×74.85E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=14.5km s-min=8.9km az=174.0*

ISC 20 11:25:43.1±1.3, 39.21N±0.09×74.97E±0.05, h10km, n31, σ2.566/37, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**3.44**	**354**	Pn	**Pb**	**11 26 40.8**	**-3.5**
	2.2nm,0.3s,baz=160,slow=8.7,SNR=12						
AAK				Lg	Lg	11 27 35.4	
	2.5nm,0.3s,baz=18,slow=10,SNR=4.9						
AAK				LR	LR	11 28 16.7	
	comp=Z,119nm,18.5s,baz=146,slow=43						
	11nm,0.5s						
AAK	**Ala-Archa**	**3.44**	**354**	⇑Pn	**Pb**	**11 26 41.5**	**-2.8**
	15nm,0.6s						
AAK				⇓Lg	Lg	11 27 29.6	
	16nm,0.7s						
MRKS	**Merke**	**3.77**	**340**	*e*P	**Pb**	**11 26 52.0**	**+2.2**
	16nm,0.4s						
MRKS				*e*S	**Sg**	**11 27 43.9**	**-0.2**
	22nm,0.5s						
KST	**Kastek**	**3.90**	**11**	Pg	**Pg**	**11 26 56.6**	**-1.3**
	11nm,0.6s						
KST				Lg	Lg	11 27 52.0	
	53nm,0.7s						
KST	**Kastek**	**3.90**	**11**	*e*P	**Pg**	**11 26 55.7**	**-2.1**
	7.0nm,0.5s						
KST				*e*S	**Sg**	**11 27 49.7**	**+1.3**
	77nm,0.7s						
DGS	**Degeres**	**4.07**	**8**	Pg	**Pg**	**11 26 59.8**	**-1.3**
	18nm,0.6s						
DGS				Lg	Lg	11 27 57.5	
	38nm,0.8s						
TNSS	**Tian-Shan**	**4.10**	**21**	Pg	**Pg**	**11 26 59.6**	**-2.1**
	5.4nm,0.6s						
TNSS				Lg	Lg	11 27 57.0	
	13nm,1.0s						
TNSS	**Tian-Shan**	**4.10**	**21**	*e*P	**Pg**	**11 26 59.6**	**-2.1**
	5.4nm,0.6s						
TNSS				*e*S	**Sg**	**11 27 57.0**	**+2.1**
	13nm,1.0s						
SGDS	**Sogindy**	**4.24**	**357**	Pg	**Pg**	**11 27 02.0**	**-2.4**
SGDS				Lg	Lg	11 28 01.2	
SATY	**Saty**	**4.64**	**33**	Pg	**Pg**	**11 27 08.6**	**-3.4**
	12nm,0.8s						
SATY				Lg	Lg	11 28 12.7	
	48nm,1.1s						
KTBS	**Karatobe**	**4.68**	**15**	Pg	**Pg**	**11 27 09.9**	**-2.8**
	12nm,0.7s						
KTBS				Lg	Lg	11 28 14.3	
	47nm,0.7s						
UZB	**Uzynbulak**	**4.98**	**37**	Pg	**Pg**	**11 27 14.2**	**-4.3**
	9.0nm,0.9s						
UZB				Lg	Lg	11 28 22.4	
	42nm,1.1s						
UZB	**Uzynbulak**	**4.98**	**37**	*e*P	**Pg**	**11 27 14.2**	**-4.3**
	9.0nm,0.9s						
UZB				*e*S	**Sg**	**11 28 22.4**	**-0.6**
	42nm,1.1s						
KPKS	**K

mB5.5/30,mb5.1/68,MLv5.6/19,Mw(mB)4.9/30, MwMwp5.5/1,Mwp5.7/1
*GCMT **20** 11:35:22.3±0.3, 7.46S±0.02, 129.06E±0.03, h128km±5km, MW4.9/76, Moment Tensor Solution. s10,c11; s76,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.75±.11; $M_{\theta\theta}$-2.35±.11; $M_{\phi\phi}$1.60±.12; $M_{r\theta}$0.74±.08; $M_{\theta\phi}$1.38±.16; $M_{r\phi}$0.97±.08; Best double couple: M_o2.77800×10^{16} NP1:ϕs329.00000°,δ63.00000°,λ162.00000°. NP2: ϕs67.00000°,δ74.00000°,λ28.00000°. Principal axes: T 2.7190, Plg31.0000°, Azm290.0000°; N 0.1180, Plg58.0000°, Azm94.0000°; P -2.8370, Plg7.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 11:35:19.9±0.4, 7.37S±0.04×129.12E±0.04, h134km±3km, h135km:pP-P,n332,σ1936/344,mb4.9/94,4C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.24**	**106**		**Pn**	**11 35 57.5**	**+0.4**
SAUI				Sn	**Sn**	**11 36 26.3**	**+0.8**
SAUI	**Saumlaki**	**2.24**	**106**	P	**Pn**	**11 35 57.7**	**+0.7**
SAUI	**Saumlaki**	**2.24**	**106**	P	**Pn**	**11 35 57.4**	**+0.4**
SAUI				S	**Sn**	**11 36 26.0**	**+0.4**
BNDI	**Bandanaira**	**2.94**	**15**	P	**Pn**	**11 36 06.3**	**+0.5**
BNDI	**Bandanaira**	**2.94**	**15**	P	**Pn**	**11 36 06.5**	**+0.7**
AAI	**Ambon**	**3.78**	**346**	P	**Pn**	**11 36 17.9**	**+1.1**
MSAI	**Masohi**	**4.00**	**357**	P	**Pn**	**11 36 21.2**	**+1.4**
NLAI	**Namlea**	**4.57**	**334**	P	**Pn**	**11 36 29.3**	**+2.0**
DRS	**Darwin Rock St**	**5.32**	**161**	P	**Pn**	**11 36 36.7**	**-0.7**
DRS	**Darwin Rock St**	**5.32**	**161**	S	**Sn**	**11 37 36.6**	**-1.2**
SOEI	**Soe**	**5.35**	**243**		**Pn**	**11 36 38.7**	**+0.8**
SOEI	**Soe**	**5.35**	**243**	P	**Pn**	**11 36 39.0**	**+1.1**
SOEI	**Soe**	**5.35**	**243**	S	**Sn**	**11 37 40.6**	**+2.0**
SOEI	**Soe**	**5.35**	**243**	P	**Pn**	**11 36 39.0**	**+1.1**
	12nm6μm609nm,0.9s						
FAKI	**Fak Fak**	**5.41**	**35**		**Pn**	**11 36 36.5**	**-2.1**
FAKI	**Fak Fak**	**5.41**	**35**	P	**Pn**	**11 36 36.4**	**-2.1**
MTN	**Manton Dam**	**5.79**	**160**	P	**Pn**	**11 36 42.8**	**-0.8**
	comp=Z,1μm,0.5s						
MTN	**Manton Dam**	**5.79**	**160**	Pn	**Pn**	**11 36 43.4**	**-0.2**
MTN	**Manton Dam**	**5.79**	**160**	P	**Pn**	**11 36 42.8**	**-0.8**
MTN	**Manton Dam**	**5.79**	**160**	S	**Sn**	**11 37 46.6**	**-2.3**
KMPI	**Kaimana, Papua**	**5.87**	**51**	P	**Pn**	**11 36 43.1**	**-1.5**
	comp=Z,15μmcomp=Z,584nm,0.7s						
BATI	**Baumata**	**6.08**	**242**	P	**Pn**	**11 36 48.2**	**+0.7**
	comp=Z,259nm,0.3s,baz=83,slow=2.7,SNR=46						
BATI				S	**Sn**	**11 37 52.9**	**-3.2**
	comp=Z,1μm,0.7s,baz=88,slow=22,SNR=27						
BATI	**Baumata**	**6.08**	**242**	P	**Pn**	**11 36 48.4**	**+0.8**
	comp=Z,7.7nmcomp=Z,6μmcomp=Z,544nm,0.7s						
KDU	**Kakadu**	**6.23**	**148**	P	**Pn**	**11 36 48.4**	**-1.1**
	comp=Z,350nm,0.5s						
KDU	**Kakadu**	**6.23**	**148**	P	**Pn**	**11 36 48.3**	**-1.1**
BBSI	**Bau Bau**	**6.77**	**286**	P	**Pn**	**11 36 59.6**	**+2.8**
	comp=Z,1.5nmcomp=Z,7μmcomp=Z,462nm,1.7s						
SWI	**Sorong**	**6.81**	**18**	P	**Pn**	**11 36 55.8**	**-1.5**
	comp=Z,2.9nmcomp=Z,4μmcomp=Z,277nm,0.8s						
MMRI	**Maumere**	**6.93**	**259**		**Pn**	**11 37 00.2**	**+1.3**
MMRI	**Maumere**	**6.93**	**259**	P	**Pn**	**11 37 00.1**	**+1.1**
MMRI	**Maumere**	**6.93**	**259**	P	**Pn**	**11 37 00.0**	**+1.1**
	comp=Z,1.0nmcomp=Z,224nm,0.9s						
KDI	**Kendari**	**7.30**	**297**	P	**Pn**	**11 37 05.4**	**+1.4**
EDFI	**Ende, Flores**	**7.48**	**259**	P	**Pn**	**11 37 07.7**	**+1.2**
	comp=Z,0.4nmcomp=Z,106nm,0.7s						
RKPI	**Ransiki, Papua**	**7.70**	**41**	P	**Pn**	**11 37 07.6**	**-1.7**
KNRA	**Kununurra**	**8.26**	**182**	P	**Pn**	**11 37 15.3**	**-1.5**
	comp=Z,1μm,0.9s						
KNRA	**Kununurra**	**8.26**	**182**		**Pn**	**11 37 15.1**	**-1.7**
TNTI	**Ternate**	**8.28**	**348**		**Pn**	**11 37 16.4**	**-0.7**
TNTI	**Ternate**	**8.28**	**348**	P	**Pn**	**11 37 17.0**	**-0.1**
TNTI	**Ternate**	**8.28**	**348**	P	**Pn**	**11 37 15.5**	**-1.6**
	comp=Z,87nm,1.0s						
BSSI	**Bau Bau, Buton**	**8.66**	**278**	P	**Pn**	**11 37 23.7**	**+1.5**
	comp=Z,190nm,1.3s						
BASI	**Baing, Sumba**	**8.90**	**251**	P	**Pn**	**11 37 25.4**	**-0.1**
	comp=Z,272nm,0.8s						
LUWI	**Luwuk**	**8.92**	**315**	Pn	**Pn**	**11 37 23.7**	**-2.0**
SRPI	**Serui, Papua**	**8.96**	**53**	P	**Pn**	**11 37 25.2**	**-1.0**
	comp=Z,97nm,0.4s						
WSI	**Waingapu**	**9.02**	**255**	P	**Pn**	**11 37 25.8**	**-1.2**
BKSI	**Bulukumba**	**9.17**	**282**	P	**Pn**	**11 37 30.8**	**+1.7**
	comp=Z,2μmcomp=Z,124nm,1.2s						
BAKI	**Biak**	**9.29**	**49**	P	**Pn**	**11 37 31.2**	**+0.6**
KMSI	**Cibinong**	**9.41**	**327**	P	**Pn**	**11 37 32.8**	**+0.5**
	comp=Z,5μmcomp=Z,264nm,1.1s						
BNSI	**Bone**	**9.44**	**288**	P	**Pn**	**11 37 34.4**	**+1.7**
	comp=Z,2μmcomp=Z,186nm,1.1s						
KAPI	**Kappang**	**9.60**	**284**		**Pn**	**11 37 34.4**	**-0.5**
KAPI	**Kappang**	**9.60**	**284**	P	**Pn**	**11 37 35.3**	**+0.4**
	comp=Z,46nm,0.9s,baz=94,slow=9.8,SNR=7.2						
KAPI				LR	LR	11 41 33.3	
	comp=Z,102nm,18.7s,baz=111,slow=39						
KAPI	**Kappang**	**9.60**	**284**	P	**Pn**	**11 37 35.8**	**+0.9**
WBSI	**Waikabubak, Su**	**9.88**	**256**	P	**Pn**	**11 37 38.4**	**-0.3**
	comp=Z,3μmcomp=Z,298nm,0.7s						
SPSI	**Sidrap Palu**	**9.90**	**289**	P	**Pn**	**11 37 40.6**	**+1.7**
	comp=Z,2μmcomp=Z,132nm,1.2s						
MRSI	**Marisa**	**10.59**	**317**	P	**Pn**	**11 37 49.6**	**+1.6**
	comp=Z,3μmcomp=Z,279nm,0.7s						
SMPI	**Sarmi**	**10.95**	**61**	P	**Pn**	**11 37 52.2**	**-0.7**
	comp=Z,55nm,1.4s						
FITZ	**Fitzroy Crossi**	**11.19**	**197**	P	**Pn**	**11 37 52.6**	**-3.4**
FITZ	**Fitzroy Crossi**	**11.19**	**197**		**Pn**	**11 37 52.5**	**-3.4**
FITZ	**Fitzroy Crossi**	**11.19**	**197**	P	**Pn**	**11 37 52.8**	**-3.1**
	comp=Z,96nm,0.9s,baz=50,slow=3.8,SNR=3.1						
FITZ				S	**Sn**	**11 39 51.0**	**-8.4**
	comp=Z,244nm,0.8s,baz=54,slow=9.5,SNR=5.4						
FITZ				LR	LR	11 43 39.4	
	comp=Z,312nm,19.6s,baz=20,slow=44						
MMPI	**Merauke**	**11.21**	**96**	P	**Pn**	**11 37 55.1**	**-1.2**
PLAI	**Plampang**	**11.32**	**262**	P	**Pn**	**11 37 58.0**	**+0.2**
PLAI	**Plampang**	**11.32**	**262**	P	**Pn**	**11 37 56.2**	**-1.6**
	comp=Z,2μmcomp=Z,147nm,0.7s						
TOLI2	**Tolitoli**	**11.84**	**315**	Pn	**Pn**	**11 38 03.4**	**-1.3**
TOLI2	**Tolitoli**	**11.84**	**315**	P	**Pn**	**11 38 05.9**	**+1.3**
GENI	**Genyem**	**11.98**	**67**	P	**Pn**	**11 38 08.7**	**+2.2**
TWSI	**Taliwang, Sumb**	**12.19**	**263**	P	**Pn**	**11 38 09.0**	**-0.2**
	comp=Z,64nm,0.7s						
JAY	**Jayapura**	**12.51**	**68**	P	Pn	11 38 08.2	-5.1
	comp=Z,9.8nm,0.4s,baz=223,slow=9.2,SNR=15						
JAY				S	Sn	11 40 20.2	-11
	comp=Z,15nm,0.5s,baz=335,slow=21,SNR=1.7						
JAY	**Jayapura**	**12.51**	**68**	P	**Pn**	**11 38 13.3**	**-0.1**
WB0	**Warramunga Arr**	**13.34**	**158**	Pn	**Pn**	**11 38 20.5**	**-3.6**
WRAB	**Tennant Creek**	**13.48**	**158**		**Pn**	**11 38 22.0**	**-3.8**
WRA	**Warramunga Arr**	**13.48**	**158**	Pn	**Pn**	**11 38 22.2**	**-3.7**
WRA	**Warramunga Arr**	**13.48**	**158**	P	**Pn**	**11 38 22.4**	**-3.5**
	comp=Z,161nm,0.5s,baz=339,slow=13,SNR=177						
WRA				S	Sn	11 40 43.6	-11
	comp=Z,417nm,0.7s,baz=337,slow=22,SNR=14						
WR8	**Warramunga Arr**	**13.55**	**158**	Pn	**Pn**	**11 38 22.8**	**-4.0**
JAGI	**Jajag, Banyuwa**	**14.87**	**265**		**Pn**	**11 38 43.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**14.87**	**265**	P	**Pn**	**11 38 43.4**	**-0.1**
	comp=Z,89nm,0.7s						
KMMI	**Kalianget**	**15.04**	**270**	P	**P**	**11 38 48.3**	**+0.6**
	comp=Z,92nm,0.8s						
COEN	**Coen**	**15.28**	**117**	P	**Pn**	**11 38 47.1**	**-1.5**
	comp=Z,61nm,0.8s						
COEN	**Coen**	**15.28**	**117**		**Pn**	**11 38 46.9**	**-1.7**
COEN	**Coen**	**15.28**	**117**	P	**Pn**	**11 38 49.2**	**+0.6**
GMJI	**Gumukmas**	**15.56**	**266**	P	**Pn**	**11 38 51.2**	**-0.9**
MYLDM	**Lahad Datu**	**16.36**	**319**		**Pn**	**11 39 00.3**	**-1.7**
MYLDM	**Lahad Datu**	**16.36**	**319**	P	**P**	**11 39 04.7**	**+2.3**
MBWA	**Marble Bar**	**16.44**	**213**	P	**Pn**	**11 39 02.1**	**-0.8**
	comp=Z,47nm,0.7s						
MBWA	**Marble Bar**	**16.44**	**213**	Pn	**Pn**	**11 39 02.4**	**-0.5**
MBWA	**Marble Bar**	**16.44**	**213**	P	**Pn**	**11 39 03.0**	**+0.2**
GRJI	**Gresik**	**16.52**	**271**	P	**P**	**11 39 04.8**	**+0.7**
	comp=Z,198nm,0.7s						
QIS	**Mount Isa**	**16.58**	**143**	P	**Pn**	**11 39 03.5**	**-1.1**
	comp=Z,64nm,0.5s						
QIS	**Mount Isa**	**16.58**	**143**	P	**Pn**	**11 39 03.9**	**-0.7**
PSAC2	**Pilbara Seismi**	**16.68**	**211**	P	**Pn**	**11 39 05.1**	**-0.7**
	comp=Z,150nm,0.8s						
PSA00	**Pilbara Seismi**	**16.72**	**211**	P	**Pn**	**11 39 05.4**	**-0.8**
	comp=Z,187nm,0.8s						
PSA00	**Pilbara Seismi**	**16.72**	**211**		**Pn**	**11 39 05.7**	**-0.5**
PSA00	**Pilbara Seismi**	**16.72**	**211**		**Pn**	**11 39 05.4**	**-0.8**
PSA00	**Pilbara Seismi**	**16.72**	**211**	P	**Pn**	**11 39 06.2**	**-0.1**
AS31	**Alice Springs**	**16.84**	**165**	P	**P**	**11 39 06.2**	**-1.4**
	comp=Z,57nm,0.6s						
AS31	**Alice Springs**	**16.84**	**165**	P	**P**	**11 39 06.1**	**-1.6**
ASAR	**Alice Springs**	**16.84**	**165**	P	**P**	**11 39 06.3**	**-1.3**
ASAR	**Alice Springs**	**16.84**	**165**	P	**P**	**11 39 07.2**	**-0.4**
	comp=Z,83nm,0.6s,baz=336,slow=7.9,SNR=272						
ASAR				S	Sn	11 42 04.0	-12
	comp=Z,92nm,0.8s,baz=352,slow=27,SNR=6.8						
AS01	**Alice Springs**	**16.85**	**165**	P	**P**	**11 39 07.3**	**-0.4**
TBJI	**Tambak Boyo**	**17.15**	**271**	P	**Pn**	**11 39 15.6**	**+4.1**
	comp=Z,320nm,1.3s						
WRKA	**Warakurna**	**17.58**	**182**	P	**P**	**11 39 15.5**	**-0.3**
	comp=Z,65nm,0.6s						
PCJI	**Pacitan**	**17.80**	**266**	P	**P**	**11 39 15.8**	**-2.4**
	comp=Z,113nm,1.1s						
PMG	**Port Moresby**	**17.96**	**98**	P	**P**	**11 39 17.7**	**-2.2**
	comp=Z,9.1nm,0.8s,baz=274,slow=16,SNR=17						
PMG				LR	LR	11 46 16.0	
	comp=Z,180nm,21.9s,baz=245,slow=37						
PMG	**Port Moresby**	**17.96**	**98**	P	**Pn**	**11 39 22.5**	**+1.3**
PMG	**Port Moresby**	**17.96**	**98**	P	**Pn**	**11 39 22.0**	**+0.8**
WOJI	**Wonogiri, Jawa**	**18.04**	**267**	P	**P**	**11 39 19.3**	**-1.6**
	comp=Z,109nm,1.6s						
MTSU	**Mount Surprise**	**18.26**	**127**	P	**Pn**	**11 39 25.3**	**+0.4**
	comp=Z,66nm,0.7s						
MTSU	**Mount Surprise**	**18.26**	**127**	P	**Pn**	**11 39 24.4**	**-0.4**
UGM	**Wanagama**	**18.44**	**267**	P	**P**	**11 39 25.9**	**+0.6**
	comp=Z,98nm,1.7s						
KKM	**Kota Kinabalu**	**18.53**	**316**	P	**P**	**11 39 25.5**	**-0.9**
KKM	**Kota Kinabalu**	**18.53**	**316**	P	**Pn**	**11 39 28.0**	**-0.1**
SBUM	**Sibu**	**19.48**	**299**	P	**P**	**11 39 36.6**	**0.0**
SBUM	**Sibu**	**19.48**	**299**	P	**Pn**	**11 39 39.6**	**+0.4**
KPJI	**Karang Pucung**	**20.02**	**269**	P	**P**	**11 39 41.3**	**-1.1**
	comp=Z,63nm,0.7s						
KSM	**Kuching**	**20.72**	**294**	P	**P**	**11 39 48.7**	**-1.2**
KSM	**Kuching**	**20.72**	**294**	P	**P**	**11 39 51.6**	**+1.7**
CTAO	**Charters Tower**	**20.87**	**129**	P	**P**	**11 39 52.7**	**+1.2**
BBJI	**Bungbulang**	**21.29**	**268**	P	**P**	**11 39 56.2**	**+0.1**
LEM	**Lembang**	**21.34**	**270**	P	**P**	**11 39 56.0**	**-0.7**
	comp=Z,32nm,0.6s,baz=41,slow=10,SNR=5.4						
	comp=Z,32nm,0.6s						
MEEK	**Meekatharra**	**21.61**	**206**	P	**P**	**11 39 59.6**	**+0.2**
	comp=Z,67nm,0.8s						
MEEK	**Meekatharra**	**21.61**	**206**	P	**P**	**11 40 00.5**	**+1.2**
TPI	**Tanjungpandan**	**21.86**	**281**	P	**P**	**11 40 02.2**	**+0.1**
	comp=Z,55nm,0.8s						
TGY	**Tagaytay City**	**22.83**	**339**	P	**P**	**11 40 10.4**	**-1.2**
	comp=Z,113nm,0.3s,baz=129,slow=14,SNR=2.1						
QLP	**Quilpie**	**23.91**	**145**	P	**P**	**11 40 22.5**	**+1.1**
	comp=Z,574nm,0.8s						
QLP	**Quilpie**	**23.91**	**145**	P	**P**	**11 40 22.7**	**+1.3**
MORW	**Morawa**	**24.86**	**208**	P	**P**	**11 40 30.6**	**+0.5**
	comp=Z,70nm,0.9s						
MORW	**Morawa**	**24.86**	**208**	P	**P**	**11 40 31.3**	**+1.3**
MORW					IAmb	IAmb	11 40 33.6
	comp=Z,48nm,0.8s						
MORW	**Morawa**	**24.86**	**208**	P	**P**	**11 40 31.3**	**+1.3**
BLDU	**Ballidu**	**25.88**	**205**	P	**P**	**11 40 40.1**	**+0.8**
	comp=Z,33nm,0.9s						
BLDU	**Ballidu**	**25.88**	**205**	P	**P**	**11 40 40.2**	**+0.9**
BBOO	**Buckleboo**	**26.12**	**167**	P	**P**	**11 40 41.9**	**+0.5**
	comp=Z,40nm,2.2s						
BBOO	**Buckleboo**	**26.12**	**167**	P	**P**	**11 40 42.2**	**+0.8**
BBOO					IAmb	IAmb	11 41 28.3
	comp=Z,35nm,0.8s						
BBOO	**Buckleboo**	**26.12**	**167**	P	**P**	**11 40 42.4**	**+1.0**
MNAI	**Manna**	**26.20**	**275**	P	**P**	**11 40 43.7**	**+1.4**
WHYH	**Whyalla**	**26.71**	**164**	P	**P**	**11 40 48.0**	**+1.3**
STKA	**Stephens Creek**	**27.01**	**156**	P	**P**	**11 40 50.3**	**+1.0**
	comp=Z,186nm,0.7s						
STKA	**Stephens Creek**	**27.01**	**156**		**P**	**11 40 50.4**	**+1.0**
STKA	**Stephens Creek**	**27.01**	**156**	P	**P**	**11 40 49.9**	**+0.5**
	comp=Z,18nm,0.5s,baz=330,slow=9.7,SNR=43						
	comp=Z,18nm,0.5s						
STKA	**Stephens Creek**	**27.01**	**156**	P	**P**	**11 40 50.6**	**+1.2**
MUN	**Mundaring**	**27.28**	**204**	P	**P**	**11 40 52.8**	**+1.0**
	comp=Z,23nm,0.8s						
HTT	**Hallett**	**27.47**	**162**	P	**P**	**11 40 54.1**	**+0.6**
	comp=Z,13nm,0.8s						
HTT	**Hallett**	**27.47**	**162**	P	**P**	**11 40 55.1**	**+1.5**
NWAO	**Narrogin (SRO)**	**27.72**	**202**	P	**P**	**11 40 56.7**	**+1.0**
	comp=Z,52nm,0.9s						
NWAO	**Narrogin (SRO)**	**27.72**	**202**	P	**P**	**11 40 55.5**	**-0.1**
NWAO					IAmb	IAmb	11 41 40.0
	comp=Z,35nm,0.8s						
NWAO	**Narrogin (SRO)**	**27.72**	**202**	P	**P**	**11 40 55.9**	**+0.2**
CMSA	**Cobar Meteorol**	**28.59**	**149**	P	**P**	**11 41 04.3**	**+0.9**
	comp=Z,108nm,0.8s						
CMSA	**Cobar Meteorol**	**28.59**	**149**	P	**P**	**11 41 05.2**	**+1.8**
IPM	**Ipoh**	**30.41**	**292**	P	**P**	**11 41 19.5**	**-0.3**
IPM					IAmb	IAmb	11 41 23.3
	comp=Z,17nm,0.7s						
IPM	**Ipoh**	**30.41**	**292**	P	**P**	**11 41 20.7**	**+0.9**
HNR	**Honiara**	**30.56**	**96**	LR	LR	11 52 56.7	
	comp=Z,139nm,21.6s,baz=294,slow=35						
KULM	**Kulim**	**31.07**	**293**	P	**P**	**11 41 24.8**	**-0.7**
KULM					IAmb	IAmb	11 41 27.5
	comp=Z,21nm,0.9s						
KULM	**Kulim**	**31.07**	**293**	P	**P**	**11 41 27.0**	**+1.5**
ARMA	**Armidale**	**31.16**	**140**	P	**P**	**11 41 26.9**	**+0.6**
	comp=Z,17nm,0.9s						
ARMA	**Armidale**	**31.16**	**140**	P	**P**	**11 41 27.2**	**+0.9**
ARMA					IAmb	IAmb	11 41 29.4
	comp=Z,18nm,1.1s						
ARPS	**Mount Arapiles**	**31.48**	**160**	P	**P**	**11 41 29.7**	**+0.9**
	comp=Z,37nm,1.4s						
PSI	**Prapat**	**31.78**	**287**	P	**P**	**11 41 31.8**	**-0.2**
YNG	**Young**	**32.16**	**149**	P	**P**	**11 41 36.0**	**+1.1**
	comp=Z,58nm,0.9s						
GSI	**Gunungsitoli**	**32.63**	**284**	P	**P**	**11 41 37.8**	**-1.5**
GSI	**Gunungsitoli**	**32.63**	**284**	P	**P**	**11 41 40.6**	**+1.4**
CAN	**Canberra**	**33.27**	**150**	P	**P**	**11 41 44.4**	**-0.2**
	comp=Z,59nm,0.9s						
CAN	**Canberra**	**33.27**	**150**	P	**P**	**11 41 46.0**	**+1.4**
CAN	**Canberra**	**33.27**	**150**	P	**P**	**11 41 46.6**	**+2.1**
CAN				pP	**pP**	**11 42 17.6**	**+4.3**
CAN				sP	**sP**	**11 42 29.2**	**+0.7**
SRIT	**Nakonsritamara**	**33.43**	**298**	P	**P**	**11 41 47.8**	**+1.7**
CNB	**Canberra Magne**	**33.45**	**149**	P	**P**	**11 41 46.1**	**-0.1**
	comp=Z,24nm,1.4s						
TOO	**Toolangi**	**33.54**	**156**	P	**P**	**11 41 47.2**	**+0.3**
	comp=Z,20nm,2.4s						
TOO	**Toolangi**	**33.54**	**156**	P	**P**	**11 41 49.7**	**+2.8**
TOO					IAmb	IAmb	11 41 50.7
	comp=Z,17nm,1.1s						
JOW	**Kunigami**	**34.01**	**359**	P	**P**	**11 41 51.4**	**+0.4**
JOW					IAmb	IAmb	11 42 08.9
	comp=Z,35nm,1.0s						
JOW	**Kunigami**	**34.01**	**359**	P	**P**	**11 41 50.2**	**-0.8**
	comp=Z,13nm,0.8s,baz=198,slow=13,SNR=4.5						
	comp=Z,13nm,0.8s						
JCJ	**Chichijima**	**36.53**	**20**	P	**P**	**11 42 10.8**	**-1.8**
	comp=Z,14nm,0.5s,baz=157,slow=13,SNR=4.6						
	comp=Z,14nm,0.5s						
SLVN	**Son La**	**37.77**	**320**	P	**P**	**11 42 24.3**	**+1.1**
SLVN					IAmb	IAmb	11 42 24.7
	comp=Z,25nm,0.8s						
SLVN	**Son La**	**37.77**	**320**	P	**P**	**11 42 24.5**	**+1.3**
DZM	**Mont Dzumac**	**38.81**	**116**	P	**P**	**11 42 33.8**	**+1.8**
DZM					IAmb	IAmb	11 43 01.7
	comp=Z,31nm,1.5s						
CM31	**Chiang Mai Arr**	**39.31**	**311**	P	**P**	**11 42 36.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**39.31**	**311**		**P**	**11 42 35.8**	**-0.3**
CMAR						**PcP**	**11 44 43.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**39.31**	**311**	P	**P**	**11 42 35.6**	**-0.4**
	comp=Z,12nm,0.7s,baz=139,slow=7.0,SNR=77						
CMAR				PcP	**PcP**	**11 44 43.1**	**+0.9**
	comp=Z,4.4nm,0.7s,baz=170,slow=2.7,SNR=9.7						
CMAR				ScP	**ScP**	**11 48 19.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=133,slow=4.2,SNR=6.4						
	comp=Z,12nm,0.7s						
CHTO	**Chiang Mai**	**39.53**	**312**		**P**	**11 42 37.9**	**0.0**
CHTO					IAmb	IAmb	11 42 39.0
	comp=Z,22nm,0.8s						
CHTO	**Chiang Mai**	**39.53**	**312**	P	**P**	**11 42 37.9**	**0.0**
CHTO	**Chiang Mai**	**39.53**	**312**	P	**P**	**11 42 37.5**	**-0.4**
CHTO				pP	**pP**	**11 43 06.2**	**-0.4**
WHN	**Wuhan**	**40.27**	**340**	P	**P**	**11 42 43.9**	**+0.1**
WHN					pmax	pmax	
	comp=Z,68nm,1.1s						
JNU	**Nakatsue**	**40.30**	**2**	P	**P**	**11 42 42.9**	**-1.2**
	comp=Z,7.9nm,0.9s,baz=225,slow=2.9,SNR=4.1						
	comp=Z,7.9nm,0.9s						
NJ2	**Nanjing**	**40.41**	**346**	*e*P	**P**	**11 42 46.0**	**+1.1**
NJ2					pmax	pmax	
	comp=Z,15nm,0.7s						
KMI	**Kunming**	**41.27**	**322**	P	**P**	**11 42 52.8**	**+0.4**
KMI					pmax	pmax	
	comp=Z,30nm,1.0s						
KMI				LR	LR		
	comp=Z,160nm,18.0s						
KMI				LR	LR		
	comp=Z,110nm,16.8s						
KMI				LR	LR		
	comp=Z,180nm,17.8s						
PZH	**PanZhiHua**	**42.89**	**323**	P	**P**	**11 43 07.8**	**+2.4**
TJN	**Taejon**	**43.55**	**358**	P	**P**	**11 43 09.1**	**-1.2**
TJN	**Taejon**	**43.55**	**358**	P	**P**	**11 43 11.2**	**+0.9**
MAJO	**Matsushiro**	**44.51**	**10**	P	**P**	**11 43 16.5**	**-1.6**
MAJO	**Matsushiro**	**44.51**	**10**	P	**P**	**11 43 15.3**	**-2.8**
MAJO				pP	**pP**	**11 43 47.2**	**-0.3**
MJAR	**Matsushiro Arr**	**44.51**	**10**	P	**P**	**11 43 16.4**	**-1.7**
MJAR	**Matsushiro Arr**	**44.51**	**10**	P	**P**	**11 43 15.8**	**-2.2**
	comp=Z,5.8nm,0.7s,baz=185,slow=9.2,SNR=16						
	comp=Z,5.8nm,0.7s						
MJB9	**Matsu-Tunnel**	**44.51**	**10**	P	**P**	**11 43 17.2**	**-0.9**
LYN	**LuoYang**	**44.57**	**340**	P	**P**	**11 43 17.9**	**-0.7**
LYN					pmax	pmax	
	comp=Z,24nm,0.5s						
KSAR	**Wonju Array Be**	**44.60**	**359**	P	**P**	**11 43 18.7**	**0.0**
KSRS	**Korea Array**	**44.61**	**359**	P	**P**	**11 43 18.4**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=176,slow=10.0,SNR=22						
KSRS				PcP	**PcP**	**11 44 59.7**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=178,slow=3.3,SNR=7.5						
KSRS				ScP	**ScP**	**11 48 39.5**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=182,slow=3.2,SNR=7.1						
	comp=Z,3.8nm,0.7s						
KS19	**Wonju Array Si**	**44.66**	**359**	P	**P**	**11 43 19.0**	**-0.2**
CD2	**Chengdu**	**45.16**	**329**	P	**P**	**11 43 22.3**	**-1.0**
CD2					pmax	pmax	
	comp=Z,40nm,0.5s						
XAN	**Xi'an**	**45.42**	**336**	P	**P**	**11 43 23.8**	**-1.5**
XAN				PcP	**PcP**	**11 45 03.1**	**+0.8**
XAN					pmax	pmax	
	comp=Z,22nm,1.0s						
HNS	**HongShan**	**46.53**	**344**	⇑P	**P**	**11 43 33.8**	**-0.1**
HNS					LR	LR	
	comp=Z,130nm,19.4s						
HNS					LR	LR	
	comp=Z,170nm,20.4s						
BJT	**Baijiatuao**	**48.65**	**347**	P	**P**	**11 43 49.8**	**-0.4**
BJI	**Beijing**	**48.67**	**347**	P	**P**	**11 43 49.4**	**-0.9**
BJI				PcP	**PcP**	**11 45 14.3**	**+0.7**
BJI					pmax	pmax	
	comp=Z,6.0nm,0.9s						
SHL	**Shillong**	**48.81**	**313**		**P**	**11 43 51.5**	**-0.5**
LZH	**Lanzhou**	**49.33**	**333**	*e*P	**P**	**11 43 55.6**	**-0.1**
LZH				pP	pP	11 44 24.6	-1.0
LZH				PcP	**PcP**	**11 45 17.3**	**+0.9**
LZH				pmax	pmax		
	comp=Z,53nm,1.3s						
LZH				LR	LR		
	comp=Z,140nm,14.8s						
LZH				LR	LR		
	comp=Z,160nm,14.8s						
LZH				LR	LR		
	comp=Z,200nm,14.4s						
HHC	**Hu-ho-hao-te**	**50.63**	**343**	*e*P	**P**	**11 44 08.8**	**+3.4**
HHC					pmax	pmax	
	comp=Z,11nm,0.7s						
HHC					pm

YAK	Yakutsk	69.20	0	P		P	11 46 11.3	-0.3
YAK	Yakutsk	69.20	0	P		P	11 46 10.8	-0.8
YAK				PcP		PcP	11 46 34.3	-0.2
TKM2	Tokmak 2	69.72	321	P		P	11 46 15.8	+0.3
	SNR=29							
UCH	Uchtor	70.04	320	P		P	11 46 18.7	+0.8
	SNR=29							
AAK	Ala-Archa	70.27	320	P		P	11 46 19.7	+0.9
AAK				IAmb		IAmb	11 46 21.0	
	comp=Z,17nm,0.7s							
AAK	Ala-Archa	70.27	320	P		P	11 46 19.4	+0.5
	SNR=12							
AAK	Ala-Archa	70.27	320	P		P	11 46 19.4	+0.5
AAK				pP		pP	11 46 51.8	+0.9
KBL	Kabul	70.34	311	P		P	11 46 19.3	-0.3
KBL				IAmb		IAmb	11 46 20.3	
	comp=Z,12nm,0.8s							
USP	Ospenovka	70.58	321	P		P	11 46 20.9	+0.3
	SNR=24							
ARSB	Arslanbob	70.59	318	P		P	11 46 21.6	+0.7
SGDS	Sogindy	70.60	321	eP		P	11 46 20.7	-0.1
EKS2	Erkin-Say	70.73	320	P		P	11 46 22.8	+1.1
	SNR=19							
GAR	Garm	71.31	315	P		P	11 46 25.1	-0.1
ZAA0	Zalesovo Array	71.53	334	P		P	11 46 24.9	-1.1
ZALV	Zalesovo Beam	71.53	334	P		P	11 46 24.8	-1.3
ZALV	Zalesovo Beam	71.53	334	P		P	11 46 24.9	-1.1
	comp=Z,7.1nm,0.5s,baz=127,slow=5.2,SNR=29							
	comp=Z,7.1nm,0.5s							
BTLS	Baital	71.78	322	eP		P	11 46 27.6	-0.2
CHGR	Chuyangaron	71.98	315	P		P	11 46 29.0	-0.2
SIMJ	Simiganj	72.08	314			P	11 46 29.7	-0.2
SIMJ				IAmb		IAmb	11 46 32.0	
	comp=Z,24nm,1.0s							
VNDA	Vanda	72.19	173	P		P	11 46 30.5	+0.9
VNDA	Vanda	72.19	173	P		P	11 46 30.6	+1.0
	comp=Z,1.6nm,0.8s,baz=316,slow=6.0,SNR=8.9							
	comp=Z,1.6nm,0.8s							
KURBB	Kurchatov Arra	72.37	329	P		P	11 46 30.7	-0.4
	comp=Z,18nm,0.6s,baz=131,slow=5.1,SNR=119							
	comp=Z,18nm,0.6s							
KURK	Kurchatov	72.38	329	P		P	11 46 30.7	-0.4
KURK				IAmb		IAmb	11 46 32.7	
	comp=Z,23nm,0.7s							
DZA	Taraz	72.42	319	eP		P	11 46 31.9	+0.3
IUG	Iuzhnay	72.92	318	eP		P	11 46 34.8	0.0
	comp=Z,11nm,0.5s							
KK31	Karatay Array	73.05	319	P		P	11 46 36.0	+0.7
KKAR	Karatay Array	73.05	319			P	11 46 35.0	-0.3
CHM	Chimkent	73.28	318	eP		P	11 46 36.8	+0.1
	comp=Z,14nm,0.7s							
BRLS	Borolday	73.45	319	eP		P	11 46 37.6	-0.1
	comp=Z,14nm,0.7s							
MAW	Mawson	74.29	201	P		P	11 46 43.8	+1.7
	comp=Z,1.4nm,1.6s							
MAW	Mawson	74.29	201	P		P	11 46 43.6	+1.6
	comp=Z,2.4nm,0.6s,baz=90,slow=4.9,SNR=13							
	comp=Z,2.4nm,0.6s							
BRZS	Berezniki	75.13	326	eP		P	11 46 47.8	+0.5
BVAR	Borovoye Array	77.91	328	P		P	11 47 02.2	-0.6
	comp=Z,2.8nm,0.5s,baz=130,slow=8.0,SNR=13							
	comp=Z,2.8nm,0.5s							
BRVK	Borovoye	77.99	328	P		P	11 47 03.0	-0.2
TIXI	Tiksi	78.86	360	P		P	11 47 07.4	-0.2
TIXI				IAmb		IAmb	11 47 07.7	
	comp=Z,18nm,0.6s							
VOI	Vohitsoka	80.20	249	P		P	11 47 17.2	+1.1
SPIA	Saint Paul Isl	80.91	29	P		P	11 47 19.9	+0.9
P08K	Saint George I	80.97	29	P		P	11 47 19.2	-0.1
UNV	Unalaska Valle	81.29	33	P		P	11 47 21.2	+0.2
LVA	Lava Point	81.67	33	P		P	11 47 23.0	-0.1
LVA				IAmb		IAmb	11 47 48.1	
	comp=Z,39nm,1.1s							
AKUT	Akutan	81.80	33	P		P	11 47 24.1	+0.4
AB31	Akbulak array	82.26	322			P	11 47 25.8	-0.4
ABKAR	Akbulak array	82.26	322	P		P	11 47 25.8	-0.4
QSPA	South Pole Qui	82.61	180	P		P	11 47 29.9	+1.9
QSPA	South Pole Qui	82.61	180	P		P	11 47 29.2	+1.3
	comp=Z,4.0nm,0.7s,baz=274,slow=0.6,SNR=27							
	comp=Z,4.0nm,0.7s							
FALS	False Pass	83.35	33	P		P	11 47 31.7	0.0
FALS				IAmb		IAmb	11 47 31.9	
	comp=Z,31nm,1.1s							
ARTI	Arti	85.64	328	P		P	11 47 41.9	-1.3
ARTI				IAmb		IAmb	11 47 45.2	
	comp=Z,14nm,0.5s							
L14K	Kuka Creek	86.22	27	P		P	11 47 46.3	+0.4
L14K				IAmb		IAmb	11 47 47.1	
	comp=Z,9.9nm,0.8s							
M14K	Bethel	86.32	27	P		P	11 47 47.2	+0.8
M14K				IAmb		IAmb	11 47 47.9	
	comp=Z,17nm,0.7s							
RAYN	Ar Rayn	87.10	294			P	11 47 51.1	-0.1
RAYN				IAmb		IAmb	11 47 51.8	
	comp=Z,17nm,0.7s							
J16K	Anvik River	87.85	25	IAmb		IAmb	11 47 56.0	
	comp=Z,8.8nm,0.8s							
J17K	VABM Dome	88.53	25	IAmb		IAmb	11 48 00.2	
	comp=Z,21nm,1.5s							
K17K	Iditarod	88.64	26	IAmb		IAmb	11 47 58.9	
	comp=Z,6.7nm,0.8s							
C19K	Lookout Ridge	90.28	20	IAmb		IAmb	11 48 06.1	
	comp=Z,14nm,1.1s							
KMBO	Kilima Mbogo	91.71	269	P		P	11 48 13.8	+0.5
	comp=Z,1.9nm,0.4s,baz=188,slow=6.8,SNR=4.6							
	comp=Z,1.9nm,0.4s							
RND	Reindeer	92.98	27	IAmb		IAmb	11 48 17.2	
	comp=Z,7.5nm,0.6s							
TROLL	Troll, Antarti	93.59	194	⇑P		P	11 48 22.4	+1.8
	comp=Z,87nm,0.6s							
ILAR	Eielson Array	94.05	25	P		P	11 48 20.3	-2.3
	comp=Z,1.2nm,0.8s,baz=256,slow=4.7,SNR=3.0							
ILAR				PKKPbc		PKKPdf	12 05 23.2	-2.6
	comp=Z,0.4nm,0.7s,baz=29,slow=2.1,SNR=4.4							
	comp=Z,1.2nm,0.8s							
BELA	Belgrano 2	94.40	183			P	11 48 24.4	+0.4
BELA				IAmb		IAmb	11 48 25.3	
	comp=Z,3.3nm,0.6s							
PAX	Paxson	94.42	27	IAmb		IAmb	11 48 25.5	
	comp=Z,4.5nm,1.1s							
SNAA	Sanae	95.10	194	⇑P		P	11 48 27.9	+0.4
	comp=Z,18nm,0.5s							
SNAA	Sanae	95.10	194	P		P	11 48 28.7	+1.2
	comp=Z,1.6nm,0.9s,baz=90,slow=2.0,SNR=4.5							
	comp=Z,1.6nm,0.9s							
K27K	Chicken	96.05	26	P		P	11 48 32.1	+0.4
K27K				IAmb		IAmb	11 48 33.3	
	comp=Z,5.1nm,0.8s							
L27K	Beaver Creek,	96.09	27			P	11 48 32.4	+0.4
L27K				IAmb		IAmb	11 48 33.0	
	comp=Z,4.1nm,0.9s							
BCAR	Beaver Creek A	96.11	27			P	11 48 32.3	+0.3
DAWY	Dawson	97.23	26	P		P	11 48 37.0	-0.1
DAWY				IAmb		IAmb	11 48 38.4	
	comp=Z,4.2nm,1.1s							
ARCES	ARCESS Array B	101.62	340	P		Pdif	11 48 55.0	-1.5
	comp=Z,1.9nm,0.5s,baz=76,slow=5.8,SNR=16							
ARCES				PKKPbc		PKKPbc	12 05 03.1	-3.2
	comp=Z,2.8nm,1.0s,baz=222,slow=1.2,SNR=3.7							
SPITS	Spitsbergen Ar	101.76	349	P		Pdif	11 48 55.9	-1.2
	comp=Z,17nm,1.0s,baz=48,slow=11,SNR=2.8							
KECS	Kecovo	107.82	319	ePDIFF		Pdif	11 49 27.8	+3.2
VYHS	Vyhne	108.90	319	ePP		PP	11 54 01.0	-1.6
MODS	Modra-Piesok	109.94	319	ePDIFF		Pdif	11 49 36.9	+2.8
NVAR	Mina Array Bea	112.21	52	PKiKP		PKiKP	11 53 39.1	-1.3
	comp=Z,0.3nm,0.7s,baz=337,slow=2.6,SNR=4.0							
NVAR				PKKPbc		PKKPbc	12 04 33.6	+1.0
	comp=Z,0.4nm,0.7s,baz=81,slow=3.9,SNR=4.0							
DAVOX	Davos/Dischmat	115.19	318	PKP		PKiKP	11 53 44.9	-0.8
	comp=Z,2.1nm,0.4s,baz=300,slow=2.1,SNR=5.1							
PDAR	Pinedale Array	117.77	45	PKP		PKiKP	11 53 51.0	+0.1
	comp=Z,0.6nm,0.6s,baz=238,slow=1.8,SNR=7.2							
PDAR				PKKPbc		PKKPbc	12 04 12.8	-0.9
	comp=Z,0.4nm,0.6s,baz=89,slow=3.1,SNR=3.6							
KEST	Kesra	118.35	307	PKP		PKiKP	11 53 52.4	+0.3
	comp=Z,4.5nm,0.7s,baz=27,slow=2.3,SNR=4.2							
EKA	Eskdalemuir Ar	119.07	331	PKP		PKPdf	11 53 52.5	-0.2
	comp=Z,0.6nm,0.4s,baz=30,slow=2.4,SNR=7.1							
ULM	Lac du Bonnet	123.23	33	PKP		PKPdf	11 54 00.3	-0.5
	comp=Z,0.8nm,0.5s,baz=349,slow=6.3,SNR=3.1							
TXAR	Lajitas Array	125.87	59	PKP		PKiKP	11 54 07.4	+0.3
	comp=Z,0.6nm,0.7s,baz=218,slow=1.4,SNR=8.8							
ESDC	Sonseca Array	127.15	315	PKP		PKiKP	11 54 09.2	-0.1
	comp=Z,3.2nm,1.2s,baz=352,slow=3.2,SNR=7.5							
ESDC				PP		PP	11 56 08.5	-0.5
	comp=Z,1.0nm,0.8s,baz=74,slow=8.6,SNR=5.2							
TORD	Torodi Ar. Bea	128.02	281	PKP		PKPdf	11 54 10.9	-0.1
	comp=Z,3.2nm,0.7s,baz=55,slow=2.7,SNR=19							
MTE	Manteigas	129.29	317	etx		tx	11 57 23.5	
PVIS	Viseu	129.37	318	etx		tx	11 57 23.0	
PMRV	Marv??o	129.64	316	etx		tx	11 57 23.6	
PBAR	Barrancos	129.96	315	etx		tx	11 57 25.3	
PESTR	Estremoz	130.04	316	etx		tx	11 57 25.6	
PSARD	Sardoal	130.09	317	etx		tx	11 57 25.8	
MDT	Midelt	130.25	307	PKP		PKiKP	11 54 15.9	+0.1
	comp=Z,3.0nm,0.6s,baz=147,slow=1.2,SNR=4.2							
PMTG	Montargil	130.38	316	etx		tx	11 57 25.9	
EVO	Evora	130.48	315	etx		tx	11 57 27.4	
PBEJ	Beja	130.61	315	etx		tx	11 57 28.3	
PVAQ	Vaqueiros	130.79	314	etx		tx	11 57 28.4	
PCVE	Castro Verde	130.91	314	etx		tx	11 57 28.9	
MESJ	Messejana	130.95	315	etx		tx	11 57 28.9	
SCHQ	Schefferville	130.97	12	PKP		PKiKP	11 54 16.5	0.0
	comp=Z,2.8nm,0.6s,baz=233,slow=10,SNR=2.2							
PBDV	Barranco-do-Ve	131.01	314	etx		tx	11 57 29.9	
PARRA	Arraiolos	131.06	316	etx		tx	11 57 26.9	
DBIC	Dimbokro	134.33	272	PKP		PKiKP	11 54 24.0	-0.4
	comp=Z,3.9nm,0.7s,baz=73,slow=0.5,SNR=4.1							
DBIC				SKPbc		SKPbc	11 57 38.8	-1.7
	comp=Z,6.6nm,0.9s,baz=99,slow=4.2,SNR=5.1							
CPUP	Villa Florida	145.92	170	PKPbc		PKPab	11 54 44.9	-0.2
	comp=Z,2.7nm,0.9s,baz=157,slow=0.6,SNR=15							
CPUP				SKPbc		SKPbc	11 58 11.2	-0.1
	comp=Z,1.7nm,0.9s,baz=243,slow=4.5,SNR=5.9							
LPAZ	La Paz	150.94	144	PKP		PKPdf	11 54 51.6	-1.2
	comp=Z,1.3nm,0.8s,baz=90,slow=3.0,SNR=3.6							
LPAZ				PKPbc		PKiKP	11 55 00.1	+1.0
	comp=Z,2.9nm,0.4s,baz=96,slow=1.5,SNR=14							

IDC 20 11:36:29.8±999.0, 34.°40N×108.°95E, h0km, Error ellipse: s-maj=913.9km s-min=230.2km az=162.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	SONGINO INFRAS	13.53	353	I	I	12 57 51.8	
	baz=171,slow=326,SNR=1.7						
I46RU	ZALESOVO INFRA	25.89	326	I	I	14 17 15.2	
	baz=126,slow=325,SNR=1.7						
I31KZ	AKTYUBINSK INF	40.03	309	I	I	15 37 02.0	
	baz=93,slow=321,SNR=1.3						

*TRN **20** 11:36:55.7, 9.°27N×62.°92W, h100km, MD3.6, Venezuela.*
*FUNV **20** 11:36:58.9, 9.°33N×63.°10W, h33km, MW3.6*

ISC 20 11:36:55.1±1.7, 9.°2N±0.°1×63.°03W±0.°05, h35km, n15, σ1§93/26, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCRV	Puerto La Cruz	1.84	300	eP	Pn	11 37 25.4	+1.1
PCRV				eS	Sn	11 37 44.4	-2.0
PCRV	Puerto La Cruz	1.84	300	eP	Pn	11 37 27.2	+2.9
PCRV				eS	Sn	11 37 51.0	+4.6
PSNL	Port of Spain	2.04	47	eS	Sn	11 37 50.7	-0.7
PSGH	Port of Spain	2.05	47	eS	Sn	11 37 51.1	-0.5
PSKH	Kent House, Po	2.05	46	eP	Pn	11 37 28.3	+1.1
PSKH				eS	Sn	11 37 51.7	0.0
TRN	Trinidad (W)	2.12	49	eP	Pn	11 37 29.0	+0.8
TRN				eS	Sn	11 37 53.3	+0.1
TBH	Brigand Hill	2.29	57	eP	Pn	11 37 31.8	+1.3
TBH				eS	Sn	11 37 57.1	-0.4
GRGR	Grenville	3.17	25	eP	Pn	11 37 42.4	-0.1
GRGR				eS	Sn	11 38 16.9	-2.3
GRW	Mount Saint Ca	3.19	25	eP	Pn	11 37 44.3	+1.3
GRW				eS	Sn	11 38 19.2	-0.6
GRSS	Sisters	3.34	24	eP	Pn	11 37 45.2	+0.3
GRSS				eS	Sn	11 38 22.3	-1.0
GCMP	Grenada, Carri	3.58	26	eP	Pn	11 37 47.5	-0.8
GCMP				eS	Sn	11 38 27.7	-1.7
CACV	CAICARA DEL OR	3.86	245	eP	Pn	11 37 48.6	-3.5
CACV				eS	Sn	11 38 25.8	-10
TACV	Tcata	4.04	283	eP	Pn	11 37 55.8	+1.2
TACV				eS	Sn	11 38 37.9	-3.0
BENV	Beln	4.57	279	eP	Pn	11 38 03.7	+1.9
BENV				eS	Sn	11 38 49.9	-3.9
BAUV	El Baul	4.96	267	eP	Pn	11 38 07.8	+0.6
BAUV				eS	Sn	11 39 01.1	-2.4

*ISK **20** 11:48:14.9, 36.°15N×31.°15E, h16km, ML3.2/33*
*AFAD **20** 11:48:15.0, 36.°25N×31.°28E, h38km±5km, ML3.2*
*NIC **20** 11:48:16.1, 36.°15N×31.°26E, h34km±32km, Ml3.4/10*

ISC 20 11:48:16.3±1.1, 36.°10N±0.°03×31.°23E±0.°02, h29km±12km, n57, σ1§15/78, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	Antalya-Kumluc	0.75	287	P	Pb	11 48 31.1	+0.2
AKUM				S	Sn	11 48 44.2	+2.8
AKUM				*i* IAML		11 48 48.0	
	comp=N,896nm,0.3s						
AKUM				*i* IAML		11 48 49.0	
	comp=E,1μm,0.4s						
ALAN	Alanya-ANTALYA	0.79	55	Pg	Pb	11 48 30.8	-0.7
GAZI	Gazipasa	0.89	81	P	Pn	11 48 32.5	-0.4
GAZI				S	Sb	11 48 44.8	+0.1
GAZI				*i* IAML		11 48 45.0	
	comp=N,1μm,0.5s						
GAZI				*i* IAML		11 48 45.0	
	comp=E,574nm,0.5s						
ANTB	Antalya	0.92	330	Pg	Pn	11 48 31.9	-1.4
ANTB				Sg	Sb	11 48 44.1	-1.5
DEMR	Demre-Antalya	1.08	277	Pg	Pn	11 48 34.9	-0.6
HDMB	Hadim	1.33	49	Pn	Pn	11 48 39.1	0.0
KSL	Kastellorizon	1.33	273	P	Pn	11 48 39.1	+0.1
KSL				S	Sn	11 48 56.5	+0.7
SEYD	Seydisehir-KON	1.39	20	Pn	Pn	11 48 39.8	-0.1
AKMS	Akamas	1.41	140	P	Pn	11 48 40.3	+0.3
AKMS				S	Sn	11 48 58.2	+0.6
AKMS				AML	AML	11 49 07.6	
	2.2nm,0.3s						
AKMS				AML	AML	11 49 11.2	
	2.0nm,0.4s						
SEDI	Konya, Seydise	1.41	17	P	Pn	11 48 39.9	-0.3
SEDI				S	Sn	11 48 57.8	-0.1
SEDI				*i* IAML		11 48 59.0	
	comp=E,508nm,0.5s						
SEDI				*i* IAML		11 49 02.0	
	comp=N,324nm,0.4s						
BOZY	Bozyazi-Mersin	1.41	89	Pn	Pb	11 48 41.7	-0.3
ERMK	Ermenek	1.46	68	P	Pn	11 48 41.2	+0.2
ERMK				S	Sb	11 49 03.5	+2.3
ERMK				*i* IAML		11 49 08.0	
	comp=E,455nm,0.4s						
ERMK				*i* IAML		11 49 14.0	
	comp=N,318nm,0.5s						
ALFC	Alefka	1.46	130	⇓*i*P	Pn	11 48 40.6	-0.2
ALFC				S	Sn	11 48 57.4	-1.6
ALFC				AML	AML	11 49 09.2	
	1.7nm,0.3s						
ALFC				AML	AML	11 49 09.2	
	2.3nm,0.3s						
TEKE	Tekeli-Mersin	1.52	88	Pn	Pn	11 48 42.4	+0.8
KNIK	Mula-Seydike	1.53	300	P	Pb	11 48 43.4	-0.7
KNIK				S	Sb	11 49 04.7	+1.6
KNIK				*i* IAML		11 49 05.0	
	comp=N,264nm,0.4s						
IZZE	Mula-Seydike	1.66	282	P	Pn	11 48 44.1	+0.7
IZZE				S	Sn	11 49 04.0	+0.3
IZZE				*i* IAML		11 49 05.0	
	comp=E,305nm,0.4s						
IZZE				*i* IAML		11 49 06.0	
	comp=N,296nm,0.4s						
NATA	Nata	1.71	140	P	Pb	11 48 48.7	+1.5
NATA				S	Sb	11 49 15.1	+6.8
NATA				AML	AML	11 49 26.1	
	5.1nm,0.5s						
NATA				AML	AML	11 49 28.2	
	2.5nm,0.6s						
YORU	Yoruktepe-Mers	1.76	88	Pn	Pn	11 48 46.6	+1.7
TROD	Troodos	1.76	130	⇑eP	Pn	11 48 45.1	0.0
TROD				S	Sn	11 49 06.2	-0.5
TROD				AML	AML	11 49 23.7	
	0.9nm,0.4s						
TROD				AML	AML	11 49 25.3	
	1.0nm,0.8s						
CAME	Cameli-Denizli	1.77	299	Pn	Pn	11 48 44.6	-0.5
KKBE	Karaman, Kazim	1.77	50	P	Pn	11 48 46.3	+1.2
KKBE				S	Sb	11 49 09.2	-0.8
KKBE				*i* IAML		11 49 11.0	
	comp=E,222nm,0.6s						
KKBE				*i* IAML		11 49 12.0	
	comp=N,211nm,0.4s						
OREN	Orenkoy-Mersin	1.81	86	Pn	Pn	11 48 47.3	+1.8
ISP	Isparta	1.81	342	Pn	Pn	11 48 45.3	-0.4
TEVE	Tevekalti-Mers	1.82	79	Pn	Pn	11 48 47.2	+1.5
XYLS	Xyliatos	1.84	126	⇓*i*P	Pn	11 48 45.7	-0.3
XYLS				S	Sn	11 49 06.3	-2.0
XYLS				AML	AML	11 49 08.0	
	0.9nm,0.2s						
XYLS				AML	AML	11 49 12.0	
	0.8nm,0.2s						
AKK1	Akkuyu-Mersin	1.87	88	Pn	Pn	11 48 48.3	+1.9
GULN	MERSIN_Gulnar	1.87	87	P	Pn	11 48 46.3	-0.1
GULN				S	Sb	11 49 12.1	-0.7
TEPK	Tepekoy-MERSIN	1.88	86	Pn	Pn	11 48 48.2	+1.7
BECE	Buyukeceli-Mer	1.89	88	Pn	Pn	11 48 48.4	+1.8
KRMN	Karaman	1.95	56	Pn	Pn	11 48 48.7	+1.1
YESI	Yesilovacik-Me	1.95	87	Pn	Pn	11 48 49.3	+1.8
TISA	Tisan-Mersin	1.98	88	Pn	Pn	11 48 49.9	+2.0
KARG	Kargicak-Mersi	2.01	86	Pn	Pn	11 48 49.9	+1.6
ATHAL	Athalassa	2.01	118	P	Pn	11 48 47.6	-0.7
ATHAL				S	Sn	11 49 12.7	+0.2
ATHAL				AML	AML	11 49 24.8	
	1.6nm,0.6s						
ATHAL				AML	AML	11 49 35.5	
	1.1nm,0.5s						
DOGA	KONYA_Doganhis	2.03	10	P	Pn	11 48 49.2	+0.5
DOGA				S	Sn	11 49 13.8	+0.6
DOGA				*i* IAML		11 49 14.0	
	comp=N,444nm,0.5s						
DOGA				*i* IAML		11 49 15.0	
	comp=E,243nm,0.4s						
KEBE	Keben-Mersin	2.04	80	Pn	Pn	11 48 50.6	+1.9
BASM	Basmaki-Afyon	2.04	333	Pn	Pn	11 48 48.7	-0.2
CSS	Mathiatis	2.06	123	P	Pn	11 48 48.6	-0.4
CSS				S	Sn	11 49 12.3	-1.3
CSS				AML	AML	11 49 30.3	
	0.6nm,0.6s						
CSS				AML	AML	11 49 31.9	
	0.5nm,0.9s						
APMY	Acipayam-Deniz	2.07	312	Pn	Pn	11 48 48.7	-0.5
ASGA	Asgata	2.11	128	P	Pb	11 48 52.4	-1.4
ASGA				S	Sb	11 49 21.7	+2.1
ASGA				AML	AML	11 49 29.2	
	0.5nm,0.6s						
ASGA				AML	AML	11 49 33.0	
	0.5nm,0.7s						
YVAC	Isparta, Yalva	2.16	0	P	Pn	11 48 50.7	+0.1
YVAC				S	Sn	11 49 16.5	0.0
YVAC				*i* IAML		11 49 18.0	
	comp=E,128nm,0.4s						
YVAC				*i* IAML		11 49 19.0	
	comp=N,113nm,0.6s						
SILI	Silifke-Mersin	2.19	82	Pn	Pn	11 48 52.9	+2.1
SLFK	Silifke-Mersin	2.21	82	Pn	Pn	11 48 52.9	+1.8
MVOU	Mavrovouni	2.24	118	P	Pn	11 48 50.7	-0.7
MVOU				S	Sn	11 49 16.2	-1.9
MVOU				AML	AML	11 49 31.1	
	0.5nm,0.4s						
MVOU				AML	AML	11 49 31.8	
	0.5nm,0.7s						
AFYN	Afyon-Dinar-K	2.24	345	P	Pn	11 48 50.1	-1.5
AFYN				S	Sn	11 49 18.6	+0.2
AFYN				*i* IAML		11 49 22.0	
	comp=E,230nm,0.8s						
AFYN				*i* IAML		11 49 23.0	
	comp=N,141nm,0.7s						
LADK	Ladik-KONYA	2.28	23	Pn	Pn	11 48 53.0	+0.8
SDAG	Sultandagi-AFY	2.35	354	Pn	Pn	11 48 53.1	+0.1
ARG	Arkhangelos	2.52	273	Pn	Pn	11 48 54.9	-0.4
ARG	Arkhangelos	2.52	273	P	Pn	11 48 55.1	-0.2
PARAL	Paralimni	2.54	115	P	Pb	11 48 59.7	-1.6
PARAL				S	Sb	11 49 35.5	+3.3
PARAL				AML	AML	11 49 45.3	
	0.4nm,0.9s						
PARAL				AML	AML	11 49 45.5	
	0.4nm,0.8s						
NAZL	Nazilli-Aydin	3.00	309	Pn	Pn	11 49 02.1	+0.2
DAT	Datca	3.01	283	Pn	Pn	11 49 02.5	+0.3
KULA	Kula-Manisa	3.16	320	Pn	Pn	11 49 04.4	+0.2
AYDB	Zeytinkoy-Aydi	3.25	306	Pn	Pn	11 49 04.7	-0.7
CIFT	Cifteler, Eski	3.26	358	Pn	Pn	11 49 05.3	-0.2
ODEM	Odemis-Izmir	3.33	312	Pn	Pn	11 49 06.0	-0.5
KARP	Karpathos	3.35	262	P	Pn	11 49 06.2	-0.6

IDC 20 11:57:28.8±5.1, 25.°40S×176.°47W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=134.2km s-min=41.5km az=42.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	44.97	261	P	P	12 05 46.5	+0.4
	0.8nm,0.7s,baz=89,slow=6.7,SNR=15						
ASAR				PcP	PcP	12 07 28.0	+0.5
	0.5nm,0.9s,baz=97,slow=3.9,SNR=3.4						
	0.8nm,0.7s						
WRA	Warramunga Arr	45.52	266	P	P	12 05 49.2	-1.2
	0.9nm,0.5s,baz=105,slow=7.8,SNR=8.5						
	0.9nm,0.5s						
VNDA	Vanda	53.19	186	P	P	12 06 47.8	-0.4
	0.3nm

*SOME **20** 12:23:03.7, 40˚.78N×80˚.08E, h10km*
*NNC **20** 12:23:05.5±2.6, 40˚.77N×79˚.86E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=28.2km s-min=16.8km az=77.0*
*KRNET **20** 12:23:07.5±0.1, 40˚.99N×80˚.07E, mb2.6*

ISC 20 12:23:10.0±3.0, 41˚.0N±0˚.1×79˚.9E±0˚.1, h10km, n12, σ1§80/19, 5C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.78**	**297**	⇑	*eP*	**Pb**	**12 23 41.8**	**-1.2**
TARG				⇑	*eS*	**Sg**	**12 24 06.9**	**-0.3**
PRZ	**Przheval'sk**	**1.91**	**324**	⇑	*eP*	**Pb**	**12 23 43.4**	**-1.7**
PRZ				⇑	*eS*	**Sb**	**12 24 09.6**	**+0.4**
SHLS	**Shalkode**	**2.24**	**351**	Pg		**Pb**	**12 23 49.6**	**-1.0**
	5.4nm,0.2s							
SHLS				Lg		Lg	12 24 23.1	
	25nm,0.7s							
SHLS	**Shalkode**	**2.24**	**351**	*eP*		**Pb**	**12 23 47.9**	**-2.7**
	7.5nm,0.2s							
SHLS				*eS*		**Sb**	**12 24 19.6**	**+1.2**
	12nm,0.4s							
UZB	**Uzynbulak**	**2.30**	**343**	Pg		**Pb**	**12 23 49.7**	**-2.0**
	2.1nm,0.3s							
UZB				Lg		Lg	12 24 23.1	
	8.0nm,0.6s							
UZB	**Uzynbulak**	**2.30**	**343**	*eP*		**Pb**	**12 23 49.7**	**-2.0**
	2.1nm,0.3s							
UZB				*eS*		**Sg**	**12 24 23.1**	**-0.9**
	8.0nm,0.6s							
KDJ	**Kajisay**	**2.38**	**301**	⇓	*eP*	**Pb**	**12 23 50.0**	**-3.0**
KDJ				⇓	*eS*	**Sb**	**12 24 21.1**	**-1.4**
SATY	**Saty**	**2.40**	**332**	Pg		**Pb**	**12 23 52.4**	**-0.9**
	4.1nm,0.4s							
SATY				Lg		Lg	12 24 27.6	
	11nm,0.4s							
PDGK	**Podgornoye**	**2.40**	**352**	⇓	Pg	**Pb**	**12 23 52.6**	**-0.9**
	1.6nm,0.4s							
PDGK				⇑	Lg	Lg	12 24 26.1	
	12nm,0.6s							
KPKS	**Kokpek**	**2.68**	**340**	Pg		**Pb**	**12 23 56.3**	**-1.8**
	0.3nm,0.2s							
KPKS				Lg		Lg	12 24 34.3	
	15nm,0.4s							
ULHL	**Ulahol**	**3.05**	**296**	⇓	*eP*	**Pn**	**12 23 59.7**	**+1.1**
ULHL				⇓	*eS*	**Sn**	**12 24 37.8**	**+2.5**
TKM2	**Tokmak 2**	**3.78**	**303**	⇓	*eP*	**Pn**	**12 24 09.8**	**+1.2**
TKM2				⇓	*eS*	**Sn**	**12 24 55.2**	**+1.9**

*SJA **20** 12:23:41.3±0.8, 22˚.26S×66˚.42W, h249km±7km, ML4.7, MW4.4*
*VAO **20** 12:23:41.9±0.5, 22˚.28S×66˚.47W, h230km, mb5.0*
*NEIC **20** 12:23:42.6±1.8, 22˚.33S±0˚.06×66˚.40W±0˚.08, h226km±7km, mb4.4/91, ML4.4(GUC), Error ellipse: s-maj=11.0km s-min=9.4km az=86.0*
*GUC **20** 12:23:43.9±0.7, 22˚.27S×66˚.50W, h230km±8km, ML4.4*
*IDC **20** 12:23:44.1±1.1, 22˚.13S×66˚.08W, h233km±9km, mb3.8/13, mbtmp4.4/17, Error ellipse: s-maj=17.0km s-min=9.9km az=61.0*

ISC 20 12:23:42.6±0.5, 22˚.30S±0˚.03×66˚.44W±0˚.04, h230km±5km, n275, σ1§48/296, mb4.4/57, 14C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.87**	**82**	⇑	*iP*	**Pn**	**12 24 16.3**	**+0.9**
YJA					*eS*	**S**	**12 24 40.5**	**-0.3**
YJA	**Yavi**	**0.87**	**82**		*eP*	**Pn**	**12 24 16.4**	**+1.1**
YJA					*eS*	**S**	**12 24 42.2**	**+1.4**
AF01	**San Pedro de A**	**1.73**	**248**			**Pn**	**12 24 23.1**	**+1.7**
AF01					Sn	**S**	**12 24 54.6**	**+3.1**
AF01	**San Pedro de A**	**1.73**	**248**	⇑	*iP*	**Pn**	**12 24 23.0**	**+1.7**
AF01					*eS*	**S**	**12 24 54.1**	**+2.5**
AF01					IAML		12 25 22.3	
	comp=N,900nm,0.3s							
AF01	**San Pedro de A**	**1.73**	**248**		*eP*	**Pn**	**12 24 22.7**	**+1.3**
SALTA		**1.92**	**177**	⇓	*eP*	**Pn**	**12 24 24.4**	**+1.2**
SALTA					*eS*	**S**	**12 24 56.4**	**+1.4**
SALTA		**1.92**	**177**		*eP*	**Pn**	**12 24 24.5**	**+1.2**
AZAP	**Zapla**	**2.29**	**147**		*eP*	**Pn**	**12 24 27.1**	**+0.5**
AZAP					*eS*	**S**	**12 24 56.2**	**-4.9**
SLA	**San Lorenzo**	**2.56**	**161**	⇓	*eP*	**Pn**	**12 24 30.5**	**+1.3**
SLA	**San Lorenzo**	**2.56**	**161**		*eP*	**Pn**	**12 24 30.5**	**+1.3**
PB09	**IPOC Station P**	**2.65**	**280**			**Pn**	**12 24 31.3**	**+1.0**
PB09					Sn	**S**	**12 25 07.4**	**0.0**
PB09	**IPOC Station P**	**2.65**	**280**	⇑	*iP*	**Pn**	**12 24 31.1**	**+0.9**
PB09					IAML		12 25 10.6	
	comp=E,954nm,0.8s							
PB09	**IPOC Station P**	**2.65**	**280**		*eP*	**Pn**	**12 24 31.2**	**+1.0**
PB09					*eS*	**S**	**12 25 09.2**	**+1.7**
ALOL	**LOMAS DE OLMED**	**2.72**	**124**		*eP*	**Pn**	**12 24 31.3**	**+0.5**
PB06	**IPOC Station P**	**2.92**	**262**			**Pn**	**12 24 33.2**	**0.0**
PB06					Sn	**S**	**12 25 11.5**	**-1.4**
PB06	**IPOC Station P**	**2.92**	**262**	⇑	*iP*	**Pn**	**12 24 33.1**	**0.0**
PB06	**IPOC Station P**	**2.92**	**262**		*eP*	**Pn**	**12 24 33.3**	**0.0**
PB06					*eS*	**S**	**12 25 13.5**	**+0.6**
PB06					IAML		12 25 18.8	
	comp=Z,866nm,0.3s							
PB03	**IPOC Station P**	**3.08**	**274**			**Pn**	**12 24 35.1**	**+0.1**
PB03	**IPOC Station P**	**3.08**	**274**	⇑	*iP*	**Pn**	**12 24 35.0**	**-0.1**
PB03	**IPOC Station P**	**3.08**	**274**		*eP*	**Pn**	**12 24 35.1**	**+0.1**
PB03					*eS*	**S**	**12 25 14.8**	**-1.2**
PB03					IAML		12 25 18.0	
	comp=Z,2μm,0.4s							
PB01	**IPOC Station P**	**3.10**	**293**			**Pn**	**12 24 35.6**	**+0.5**
PB01	**IPOC Station P**	**3.10**	**293**	⇑	*iP*	**Pn**	**12 24 35.4**	**+0.3**
PB01	**IPOC Station P**	**3.10**	**293**		*eP*	**Pn**	**12 24 35.4**	**+0.3**
PB01					*eS*	**S**	**12 25 16.1**	**-0.2**
PB01					IAML		12 25 17.4	
	comp=Z,922nm,0.2s							
PB08	**IPOC Station P**	**3.32**	**310**			**Pn**	**12 24 39.3**	**+1.3**
PB02	**IPOC Station P**	**3.36**	**286**			**Pn**	**12 24 38.2**	**+0.1**
PB02	**IPOC Station P**	**3.36**	**286**	⇑	*iP*	**Pn**	**12 24 38.0**	**-0.1**
PB02	**IPOC Station P**	**3.36**	**286**		*eP*	**Pn**	**12 24 38.3**	**+0.2**
PB02					*eS*	**S**	**12 25 20.4**	**-1.2**
PB05	**IPOC Station P**	**3.52**	**260**			**Pn**	**12 24 39.8**	**-0.2**
PB05	**IPOC Station P**	**3.52**	**260**	⇑	*iP*	**Pn**	**12 24 39.6**	**-0.4**
PB05					*i S*	**S**	**12 25 22.3**	**-2.8**
PB05	**IPOC Station P**	**3.52**	**260**		*eP*	**Pn**	**12 24 39.9**	**-0.1**
PB05					*eS*	**S**	**12 25 23.1**	**-1.9**
PB05					IAML		12 25 24.2	
	comp=Z,1μm,0.6s							
GO01	**Chusmiza**	**3.67**	**315**			**Pn**	**12 24 43.0**	**+0.7**
GO01	**Chusmiza**	**3.67**	**315**	⇑	*iP*	**Pn**	**12 24 42.9**	**+0.7**
GO01	**Chusmiza**	**3.67**	**315**		*eP*	**Pn**	**12 24 43.0**	**+0.7**
GO01					*eS*	**S**	**12 25 30.9**	**+1.9**
GO01					IAML		12 25 33.3	
	comp=Z,635nm,0.2s							
PATCX	**Punta Patache**	**3.76**	**292**			**Pn**	**12 24 42.6**	**-0.2**
PATCX	**Punta Patache**	**3.76**	**292**	⇑	*iP*	**Pn**	**12 24 42.5**	**-0.2**
PATCX	**Punta Patache**	**3.76**	**292**		*eP*	**Pn**	**12 24 42.6**	**-0.2**
PATCX					*eS*	**S**	**12 25 28.3**	**-1.8**
PATCX					IAML		12 25 30.1	
	comp=Z,705nm,0.3s							
HMBC	**Humberstone**	**3.79**	**301**			**Pn**	**12 24 42.8**	**-0.4**
FSA	**Cafayete**	**3.81**	**174**		*eP*	**Pn**	**12 24 44.8**	**+1.3**
TA01	**Diego Aracena**	**3.89**	**296**			**Pn**	**12 24 43.0**	**-0.5**
TA01	**Diego Aracena**	**3.89**	**296**		*eP*	**Pn**	**12 24 43.0**	**-1.2**
TA01					*eS*	**S**	**12 25 30.3**	**-2.5**
TA01					IAML		12 25 33.8	
	comp=Z,527nm,0.3s							
PB11	**IPOC Station P**	**3.93**	**310**			**Pn**	**12 24 44.9**	**0.0**
PB11	**IPOC Station P**	**3.93**	**310**		*eP*	**Pn**	**12 24 44.8**	**-0.1**
PB11					*eS*	**S**	**12 25 32.2**	**-1.7**
PB11					IAML		12 25 34.5	
	comp=Z,1μm,0.3s							
PB10	**IPOC Station P**	**3.98**	**252**			**Pn**	**12 24 45.4**	**+0.1**
PB10	**IPOC Station P**	**3.98**	**252**		*eP*	**Pn**	**12 24 45.2**	**-0.1**
PB10					*eS*	**S**	**12 25 31.8**	**-2.9**
PB10					IAML		12 25 34.2	
	comp=Z,752nm,0.3s							
TA02	**Huaiquique**	**3.99**	**300**			**Pn**	**12 24 44.7**	**-0.8**
GO02	**Mina Guanaco**	**4.05**	**225**			**Pn**	**12 24 46.5**	**-0.1**
GO02	**Mina Guanaco**	**4.05**	**225**		*eP*	**Pn**	**12 24 46.0**	**-0.5**
GO02					*eS*	**S**	**12 25 35.7**	**-1.2**
PB14	**IPOC Station P**	**4.31**	**237**			**Pn**	**12 24 49.4**	**-0.2**
PB14	**IPOC Station P**	**4.31**	**237**		*eP*	**Pn**	**12 24 49.5**	**-0.2**
PB14					*eS*	**S**	**12 25 39.2**	**-3.3**
PB14					IAML		12 25 42.6	
	comp=Z,1μm,0.2s							
PB16	**IPOC Station P**	**4.88**	**323**			**Pn**	**12 24 58.3**	**+1.3**
PB16	**IPOC Station P**	**4.88**	**323**		*eP*	**Pn**	**12 24 52.3**	**-4.7**
PB16					*eS*	**S**	**12 25 57.6**	**+1.9**
PB16					IAML		12 26 00.2	
	comp=Z,351nm,0.6s							
AC02	**Maricunga**	**5.13**	**208**			**Pn**	**12 24 59.8**	**-0.2**
AC02	**Maricunga**	**5.13**	**208**		*eS*	**S**	**12 25 57.0**	**-4.2**
AP01	**Chacalluta**	**5.36**	**316**			**Pn**	**12 25 02.2**	**-0.1**
AP01	**Chacalluta**	**5.36**	**316**		*eP*	**Pn**	**12 25 02.0**	**-0.3**
AP01					*eS*	**S**	**12 26 01.1**	**-4.4**
AC01	**Pan de Azucar**	**5.39**	**224**			**Pn**	**12 25 01.4**	**-1.3**
AC01	**Pan de Azucar**	**5.39**	**224**		*eP*	**Pn**	**12 25 01.3**	**-1.3**
AC01					*eS*	**S**	**12 26 02.5**	**-3.8**
AC01					IAML		12 26 04.0	
	comp=Z,402nm,0.1s							
PB18	**Visviri**	**5.49**	**328**			**Pn**	**12 25 06.5**	**+1.9**
AC06	**Mina Casimiro**	**6.16**	**214**			**Pn**	**12 25 11.1**	**-1.4**
LPAZ	**La Paz**	**6.19**	**345**			**Pn**	**12 25 14.3**	**+0.8**
LPAZ	**La Paz**	**6.19**	**345**		P	**Pn**	**12 25 14.6**	**+1.1**
	comp=Z,62nm,0.4s,baz=153,slow=4.3,SNR=166							
LPAZ					S	**S**	**12 26 25.6**	**-0.1**
	comp=Z,66nm,0.8s,baz=297,slow=19,SNR=9.4							
LPAZ	**La Paz**	**6.19**	**345**		*eS*	**S**	**12 26 24.7**	**-1.0**
GO03	**Copiapo**	**6.29**	**212**			**Pn**	**12 25 12.5**	**-1.6**
AC04	**Llanos de Chal**	**7.22**	**215**			**Pn**	**12 25 24.1**	**-1.8**
LCO	**Las Campanas**	**7.71**	**209**			**Pn**	**12 25 30.0**	**-2.4**
SIV	**San Ignacio**	**8.07**	**40**		P	**Pn**	**12 25 35.4**	**-1.6**
	comp=Z,90nm,0.5s,baz=216,slow=13,SNR=236							
SIV					S	S	12 26 55.2	-13
	comp=Z,6.7nm,0.6s,baz=216,slow=18,SNR=3.4							
CO01	**Juntas del Tor**	**8.32**	**202**			**Pn**	**12 25 40.8**	**+0.6**
CO05	**La Serena**	**8.72**	**209**		Pn	**Pn**	**12 25 42.8**	**-2.3**
GO04	**Tololo Observa**	**8.76**	**206**			**Pn**	**12 25 43.6**	**-2.3**
BDQN	**Bodoquena, MS**	**9.22**	**80**		*eP*	**Pn**	**12 25 50.5**	**-1.0**
CPUP	**Villa Florida**	**9.22**	**118**			**Pn**	**12 25 50.5**	**-1.0**
CPUP	**Villa Florida**	**9.22**	**118**		P	**Pn**	**12 25 49.4**	**-2.2**
	comp=Z,1.2nm,0.7s,baz=139,slow=12,SNR=5.9							
CPUP	**Villa Florida**	**9.22**	**118**		*eP*	**Pn**	**12 25 49.7**	**-1.9**
CO03	**El Pedregal**	**9.31**	**203**			**Pn**	**12 25 50.9**	**-1.9**
CFA	**Coronel Fontan**	**9.40**	**169**		P	**Pn**	**12 25 52.2**	**-1.7**
	comp=Z,3.3nm,0.2s,baz=10,slow=15,SNR=52							
CFA					S	S	12 27 30.9	-8.8
	comp=Z,9.6nm,0.4s,baz=47,slow=23,SNR=12							
ZON	**Zonda**	**9.42**	**192**		Pn	**Pn**	**12 25 54.4**	**+0.3**
CO06	**Fray Jorge**	**9.55**	**208**		Pn	**Pn**	**12 25 53.6**	**-2.0**
PTLB	**Pontes e Lacer**	**9.71**	**47**			**Pn**	**12 25 56.7**	**-1.1**
PTLB	**Pontes e Lacer**	**9.71**	**47**		*eP*	**Pn**	**12 25 56.4**	**-1.4**
CO02	**Combarbal**	**9.76**	**204**			**Pn**	**12 25 57.2**	**-1.2**
SJPY	**San Joaquin**	**9.85**	**108**		*eP*	**Pn**	**12 25 58.6**	**-1.0**
AQDB	**Aquidauana**	**10.17**	**82**			**Pn**	**12 26 04.2**	**+0.5**
AQDB	**Aquidauana**	**10.17**	**82**		*eP*	**Pn**	**12 26 03.9**	**+0.2**
AMBA	**Amambai (Brazi**	**10.60**	**96**		*eP*	**Pn**	**12 26 09.1**	**0.0**
VILB	**Vilhena**	**11.04**	**34**			**Pn**	**12 26 15.9**	**+1.1**
VILB	**Vilhena**	**11.04**	**34**		*eP*	**Pn**	**12 26 14.2**	**-0.5**
VA03	**San Esteban**	**11.04**	**198**			**Pn**	**12 26 15.2**	**+0.5**
VA06	**Catapilco**	**11.09**	**202**			**Pn**	**12 26 14.8**	**-0.4**
PEL	**Peldehue**	**11.43**	**198**			**Pn**	**12 26 18.4**	**-1.2**
MT08	**Bocatoma Ro**	**11.54**	**195**			**Pn**	**12 26 20.8**	**-0.4**
MT16	**CCHEN**	**11.65**	**197**		Pn	**Pn**	**12 26 22.4**	**0.0**
MT02	**Curacav**	**11.68**	**200**			**Pn**	**12 26 21.9**	**-0.8**
MT03	**Universidad Ad**	**11.71**	**197**			**Pn**	**12 26 23.5**	**+0.3**
MT13	**San Alfonso**	**11.89**	**196**			**Pn**	**12 26 24.0**	**-1.4**
LMEL	**Las Melosas**	**11.97**	**195**			**Pn**	**12 26 26.6**	**+0.1**
SALV	**Santo Antonio**	**11.98**	**60**		*eP*	**Pn**	**12 26 25.9**	**-0.7**
RPRD	**Ribas do Rio P**	**12.01**	**84**		*eP*	**Pn**	**12 26 26.3**	**-0.6**
MT09	**Talagante**	**12.11**	**198**			**Pn**	**12 26 27.2**	**-1.0**
BO04	**La Punta**	**12.21**	**197**			**Pn**	**12 26 28.3**	**-1.0**
MT01	**Popeta**	**12.27**	**199**			**Pn**	**12 26 28.9**	**-1.1**
BO01	**Tunca**	**12.72**	**198**			**Pn**	**12 26 35.2**	**-0.4**
TRCB	**Terra Rica**	**12.77**	**95**			**Pn**	**12 26 35.9**	**-0.6**
TRCB	**Terra Rica**	**12.77**	**95**		*eP*	**Pn**	**12 26 36.3**	**-0.1**
BO02	**Sierra Bellavi**	**13.01**	**196**			**Pn**	**12 26 38.3**	**-1.1**
C2SB	**Chapadao do Su**	**13.22**	**77**		*eP*	**Pn**	**12 26 41.8**	**-0.2**
PTGB	**Pitanga**	**13.41**	**103**		*eP*	**Pn**	**12 26 45.0**	**+0.7**
SAML	**Samuel**	**13.64**	**14**			**Pn**	**12 26 46.1**	**-1.1**
SAML	**Samuel**	**13.64**	**14**		*eP*	**Pn**	**12 26 46.6**	**-0.6**
ITAB	**Concordia**	**13.89**	**114**		P	**Pn**	**12 26 50.6**	**+0.5**
ITAB	**Concordia**	**13.89**	**114**		*eP*	**Pn**	**12 26 49.0**	**-1.2**
ML02	**Panimavida**	**14.10**	**197**		P	**Pn**	**12 26 52.5**	**-0.1**
PDRB	**Porto dos Gac**	**14.11**	**43**		*eP*	**Pn**	**12 26 52.3**	**-0.6**
CPSB	**Cacapava Do Su**	**14.17**	**127**		*eP*	**Pn**	**12 26 53.8**	**+0.2**
LDASE	**Londrina, Braz**	**14.17**	**97**		*eP*	**Pn**	**12 26 53.3**	**-0.4**
NNA	**Nana**	**14.28**	**314**		P	**Pn**	**12 26 54.9**	**-0.1**
	comp=Z,6.3nm,0.4s,baz=134,slow=7.5,SNR=4.3							
NNA					S	**S**	**12 29 27.0**	**-6.1**
	comp=Z,5.4nm,0.5s,baz=58,slow=22,SNR=1.3							
PLTB	**Pedras Altas**	**14.81**	**132**			**Pn**	**12 27 00.5**	**-0.8**
PLTB	**Pedras Altas**	**14.81**	**132**		*eP*	**Pn**	**12 27 00.3**	**-1.0**
BI02	**San Fabin de**	**14.91**	**195**		P	**Pn**	**12 27 01.9**	**-0.6**
ITRB	**Iturama**	**15.24**	**83**		*eP*	**Pn**	**12 27 06.3**	**-0.3**
CLDB	**Colider**	**15.26**	**44**		*eP*	**Pn**	**12 27 06.4**	**-0.5**
ARAG	**Araguaiana, MT**	**15.30**	**67**		*eP*	**P**	**12 27 06.7**	**-0.4**
BI05	**Punta Hualpn**	**15.54**	**201**		P	**P**	**12 27 09.0**	**-0.5**
FRTB	**Fartura**	**15.60**	**97**		*eP*	**P**	**12 27 10.3**	**-0.1**
H03N1	**Juan Fernandez**	**15.63**	**222**		P	**Pn**	**12 27 17.0**	**+6.1**
	baz=112,slow=16,SNR=13							
H03N2	**Juan Fernandez**	**15.64**	**222**		P	Pn	12 27 18.6	+7.6
	baz=112,slow=16,SNR=6.3							
H03N3	**Juan Fernandez**	**15.64**	**222**		P	**Pn**	**12 27 18.0**	**+6.9**
	baz=112,slow=16,SNR=17							
CNLB	**Canela**	**15.67**	**120**		*eP*	**P**	**12 27 10.8**	**-0.4**
CZSB	**Cruzeiro do Su**	**15.70**	**336**		*eP*	**P**	**12 27 10.6**	**-0.9**
H03S3	**Juan Fernandez**	**15.89**	**221**		P	**Pn**	**12 27 18.9**	**+5.0**
	baz=13,slow=20,SNR=8.9							
H03S1	**Juan Fernandez**	**15.90**	**221**		P	**Pn**	**12 27 18.7**	**+4.7**
	baz=13,slow=20,SNR=5.6							
H03S2	**Juan Fernandez**	**15.90**	**221**		P	**Pn**	**12 27 19.2**	**+5.0**
	baz=13,slow=20,SNR=5.1							
TRQA	**Tornquist**	**16.16**	**167**			**P**	**12 27 16.2**	**-0.2**
MAJ01	**Sao Joao Batis**	**16.61**	**111**		*eP*	**P**	**12 27 21.2**	**-0.2**
BB19B	**Bebedouro**	**16.70**	**89**		*eP*	**P**	**12 27 22.2**	**-0.3**
RCLB	**Rio Claro- Sao**	**17.49**	**94**		*eP*	**P**	**12 27 31.2**	**0.0**
SPB	**Sao Paulo**	**17.56**	**98**		P	**P**	**12 27 31.3**	**-0.5**
SPB	**Sao Paulo**	**17.56**	**98**		*eP*	**P**	**12 27 32.1**	**+0.3**
IPMB	**Ipameri, GO**	**17.64**	**79**		*eP*	**P**	**12 27 32.9**	**+0.1**
PET01	**Itanhaem-SP**	**17.72**	**100**		*eP*	**P**	**12 27 34.3**	**+0.7**
SNDB	**Serra Nova Dou**	**17.73**	**57**		*eP*	**P**	**12 27 33.0**	**-0.7**
VAO	**Valinhos**	**17.99**	**96**			**P**	**12 27 36.3**	**-0.3**
VAO	**Valinhos**	**17.99**	**96**		*eP*	**P**	**12 27 36.1**	**-0.4**
LR03	**Panguipulli**	**17.99**	**195**		P	**P**	**12 27 36.6**	**+0.3**
LR05	**Currie**	**18.49**	**194**		P	**P**	**12 27 41.9**	**+0.3**
NPGB	**Novo Progresso**	**18.55**	**37**		*eP*	**P**	**12 27 41.0**	**-1.7**
BDFB	**Brasilia**	**18.63**	**72**		P	**P**	**12 27 43.7**	**0.0**
ATAH	**Atahualpa**	**18.98**	**321**		P	**Pn**	**12 27 50.2**	**-1.0**
	comp=Z,5.7nm,0.8s,baz=161,slow=9.6,SNR=5.1							
PMNB	**Patos De Minas**	**19.11**	**82**		*eP*	**P**	**12 27 48.2**	**-0.6**
LL03	**Petrohue**	**19.44**	**194**		P	**P**	**12 27 52.2**	**+0.3**
BSCB	**Bom Sucesso**	**20.18**	**90**		*eP*	**P**	**12 28 00.4**	**+0.3**
ITTB	**Itaituba**	**20.63**	**32**		*eP*	**P**	**12 28 02.9**	**-2.0**
LL01	**San Ignacio de**	**20.63**	**193**		P	**P**	**12 28 04.6**	**-0.1**
LL01					IAML	IAmb	12 28 09.4	
	comp=Z,14nm,0.9s							
MAN01	**Angra dos Reis**	**20.76**	**96**		*eP*	**P**	**12 28 06.0**	**-0.3**
VAS01	**Vassouras-RJ**	**21.28**	**94**		*eP*	**P**	**12 28 11.4**	**-0.2**
LL07	**Hotel Espejo d**	**21.30**	**194**		P	**P**	**12 28 10.5**	**-0.9**
LL02	**Futaleuf**	**21.31**	**191**		P	**P**	**12 28 11.0**	**-0.6**
LL02					IAML	IAmb	12 28 13.4	
	comp=Z,18nm,1.1s							
DIAM	**Diamantina, MG**	**21.72**	**84**		*eP*	**P**	**12 28 15.6**	**-0.4**
JANB	**Januaria**	**22.15**	**75**		*eP*	**P**	**12 28 18.8**	**-1.2**
DUB01	**Friburgo-RJ**	**22.28**	**94**		*eP*	**P**	**12 28 20.1**	**-1.0**
SMTB	**Santa Maria do**	**22.51**	**57**		*eP*	**P**	**12 28 22.0**	**-1.2**
PRPB	**Parauapebas**	**22.69**	**48**		*eP*	**P**	**12 28 23.1**	**-1.7**
SDBA	**SAO DESIDERIO**	**22.76**	**68**		*eP*	**P**	**12 28 23.8**	**-1.7**
CAM01	**Campos-RJ**	**22.97**	**94**		*eP*	**P**	**12 28 26.4**	**-0.9**
MAL2	**Monte Alegre,**	**23.42**	**32**		P	**P**	**12 28 31.1**	**-0.3**
COYC	**Coyhaique**	**23.67**	**190**		P	**P**	**12 28 31.8**	**-1.5**
COYC					IAML	IAmb	12 28 52.2	
	comp=Z,11nm,1.0s							
SJMB	**Sao Joao De Ma**	**23.92**	**86**		*eP*	**P**	**12 28 35.0**	**-0.9**
BOAV	**Boa Vista**	**25.22**	**14**		P	**P**	**12 28 46.7**	**-1.0**
BOAV					IAML	IAmb	12 28 47.9	
	comp=Z,15nm,1.2s							
BOAV	**Boa Vista**	**25.22**	**14**		*eP*	**P**	**12 28 47.1**	**-0.5**
FLOC	**Florencia**	**25.39**	**338**		P	**P**	**12 28 49.1**	**-0.2**
FLOC					IAML	IAmb	12 28 50.4	
	comp=Z,9.9nm,0.7s							
GUA01	**Guaratinga, BA**	**25.73**	**82**		*eP*	**P**	**12 28 51.1**	**-1.2**
CMC01	**Camacan, BA**	**26.37**	**80**		*eP*	**P**	**12 28 56.5**	**-1.5**
RUSC	**La Rusia**	**28.77**	**346**		P	**P**	**12 29 19.9**	**+0.1**
RUSC					IAML	IAmb	12 29 21.9	
	comp=Z,18nm,1.4s							
NBPB	**Pedra_Branca-C**	**30.84**	**61**		*eP*	**P**	**12 29 36.2**	**-1.5**
BAUV	**El Baul**	**31.09**	**357**		P	**P**	**12 29 39.2**	**-0.5**
NBAN	**Anadia - AL**	**31.53**	**71**		*eP*	**P**	**12 29 41.9**	**-1.8**
NBCL	**Cascavel-CE**	**32.65**	**61**		*eP*	**P**	**12 29 51.8**	**-1.6**
RCBR	**Riachuelo**	**33.74**	**66**		P	**P**	**12 30 02.7**	**-0.1**
RCBR	**Riachuelo**	**33.74**	**66**		*eP*	**P**	**12 30 02.9**	**+0.1**
FDF	**Fort de France**	**37.17**	**8**		P	**P**	**12 30 31.3**	**-0.6**
MTO3	**Montecristo**	**42.84**	**326**		P	**P**	**12 31 18.6**	**0.0**
MTO3					IAML	IAmb	12 31 22.4	
	comp=Z,9.8nm,0.5s							
BELA	**Belgrano 2**	**57.65**	**172**		P	**P**	**12 33 09.2**	**+0.8**
GOGA	**Godfrey**	**57.73**	**343**		P	**P**	**12 33 09.8**	**+0.3**
GOGA					IAML	IAmb	12 33 21.8	
	comp=Z,11nm,1.5s							
VNA3	**Neumayer Olymp**	**58.59**	**162**	⇑	P	**P**	**12 33 16.3**	**+1.3**
	comp=Z,5.4nm,0.8s							
VNA1	**Neumayer--Stat**	**58.77**	**161**	⇑	P	**P**	**12 33 18.5**	**+2.3**
	comp=Z,12nm,1.1s							
V55A	**Taylorsville**	**59.51**	**346**		P	**P**	**12 33 22.8**	**+1.0**
V55A					IAML	IAmb	12 33 23.3	
	comp=Z,9.3nm,0.8s							
833A	**Chaparral WMA,**	**59.54**	**326**		P	**P**	**12 33 23.2**	**+1.2**
V53A	**Saluda**	**59.71**	**345**		P	**P**	**12 33 23.3**	**+0.2**
X48A	**Hartselle**	**59.74**	**340**			**P**	**12 33 23.7**	**+0.3**
X48A					IAML	IAmb	12 33 24.2	
	comp=Z,8.5nm,0.7s							
W50A	**Signal Mountai**	**59.92**	**342**		P	**P**	**12 33 24.7**	**+0.1**
W50A					IAML	IAmb	12 33 25.1	
	comp=Z,4.7nm,0.7s							
TKL	**Tuckaleechee C**	**59.94**	**344**		P	**P**	**12 33 24.6**	**-0.1**
TKL					IAML	IAmb	12 33 25.4	
	comp=Z,5.8nm,0.8s							
SWET	**Sewanee**	**60.12**	**342**		P	**P**	**12 33 25.9**	**-0.1**
SWET					IAML	IAmb	12 33 26.6	
	comp=Z,9.4nm,0.8s							
U54A	**Nelsons Funny**	**60.28**	**346**			**P**	**12 33 27.6**	**+0.6**
HNDO	**Hondo**	**60.

comp=Z,1.6nm,0.9s,baz=152,slow=5.9,SNR=11
comp=Z,1.6nm,0.9s

MCMT	**McKenzie Canyo**	**79.09**	**328**	P		**P**		**12 35 24.0**	**+2.3**
DLMT	**Dillon**	**79.36**	**329**	P		**P**		**12 35 25.1**	**+2.0**
PBDV	**Barranco-do-Ve**	**80.87**	**44**	*eP*		**P**		**12 35 31.0**	**-0.2**
PCVE	**Castro Verde**	**81.03**	**43**	*eP*		**P**		**12 35 33.2**	**+1.2**
BOSA	**Boshof**	**81.05**	**117**	P		**P**		**12 35 31.8**	**-0.7**

comp=Z,2.8nm,0.7s,baz=271,slow=3.8,SNR=5.2
comp=Z,2.8nm,0.7s

MESJ	**Messejana**	**81.05**	**43**	*eP*		**P**		**12 35 33.0**	**+1.0**
PARRA	**Arraiolos**	**81.13**	**42**	*eP*		P		12 35 37.5	+5.1
PMTG	**Montargil**	**81.78**	**42**	*eP*		**P**		**12 35 36.7**	**+0.9**
PBAR	**Barrancos**	**81.99**	**43**	*eP*		**P**		**12 35 36.8**	**-0.1**
PCBR	**Castelo Branco**	**82.71**	**42**	*eP*		**P**		**12 35 41.2**	**+0.5**
MAW	**Mawson**	**82.89**	**163**	P		**P**		**12 35 42.3**	**+1.1**

comp=Z,1.0nm,0.7s,baz=216,slow=4.9,SNR=6.5
comp=Z,1.0nm,0.7s

MTE	**Manteigas**	**83.01**	**41**	*eP*		**P**		**12 35 42.6**	**+0.4**
MVO	**Moncorvo**	**83.78**	**41**	*eP*		**P**		**12 35 47.1**	**+0.9**
PBRG	**Braganca**	**84.33**	**40**	*eP*		**P**		**12 35 49.9**	**+1.0**
ESDC	**Sonseca Array**	**84.82**	**43**	P		**P**		**12 35 51.4**	**0.0**

comp=Z,7.6nm,1.0s,baz=244,slow=4.8,SNR=28
comp=Z,7.6nm,1.0s

YKA	**Yellowknife Ar**	**92.72**	**340**	P		**P**		**12 36 29.1**	**+1.1**

comp=Z,1.6nm,0.7s,baz=133,slow=3.9,SNR=9.6
comp=Z,1.6nm,0.7s

ASAR	**Alice Springs**	**130.21**	**205**	PKP		**PKiKP**		**12 42 26.6**	**-0.4**

comp=Z,1.4nm,0.8s,baz=159,slow=2.6,SNR=9.2

ASAR				SKPbc		**SKPab**		**12 45 27.6**	**+0.2**

comp=Z,1.0nm,0.7s,baz=149,slow=3.5,SNR=11

WRA	**Warramunga Arr**	**133.36**	**207**	PKP		**PKiKP**		**12 42 32.9**	**-0.5**

comp=Z,0.6nm,0.6s,baz=165,slow=1.6,SNR=7.2

WRA				SKPbc		**SKPbc**		**12 45 39.4**	**+0.7**

comp=Z,2.4nm,0.8s,baz=153,slow=2.9,SNR=11

BVAR	**Borovoye Array**	**135.13**	**36**	PKP		**PKiKP**		**12 42 36.0**	**+0.1**

comp=Z,0.5nm,0.5s,baz=270,slow=1.4,SNR=2.9

KURBB	**Kurchatov Arra**	**140.71**	**35**	PKP		**PKPdf**		**12 42 44.5**	**-0.1**

comp=Z,0.4nm,0.3s,baz=299,slow=2.2,SNR=5.0

ZALV	**Zalesovo Beam**	**141.66**	**27**	PKhKP	PKPpre			12 42 42.6	

comp=Z,1.0nm,0.6s,baz=299,slow=3.1,SNR=3.7

ZALV				PKP		**PKPdf**		**12 42 47.2**	**+0.9**

comp=Z,0.8nm,0.5s,baz=309,slow=3.9,SNR=4.2

ZALV				SKPbc		**SKPbc**		**12 46 00.9**	**-0.7**

comp=Z,1.0nm,0.6s,baz=298,slow=3.2,SNR=6.4

MKAR	**Makanchi Array**	**144.89**	**38**	PKP		**PKPdf**		**12 42 52.9**	**+0.7**

comp=Z,5.9nm,0.6s,baz=312,slow=4.0,SNR=61

MKAR				SKPbc		**SKiKP**		**12 46 10.2**	**-0.1**

comp=Z,0.9nm,0.7s,baz=287,slow=2.9,SNR=5.4

SONM	**Songino Array**	**153.88**	**11**	PKP		**PKPdf**		**12 43 06.9**	**+0.4**

comp=Z,0.3nm,0.3s,baz=343,slow=1.5,SNR=2.2

CMAR	**Chiang Mai Arr**	**165.77**	**103**	PKPab		**PKPab**		**12 44 21.4**	**+0.1**

comp=Z,0.9nm,0.7s,baz=242,slow=4.5,SNR=6.0

IDC 20 12:28:55.3±2.3, 5.°44S×129.°28E, *h*0km, mb3.4/1, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=89.8km s-min=29.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**13.08**	**195**	Pn		Pn	12 32 04.4		+1.9

0.6nm,0.3s,baz=27,slow=11,SNR=15

FITZ				Sn		Sn	12 34 19.8		-9.0

0.2nm,0.3s,baz=200,slow=22,SNR=1.4
5.2nm,1.0s

WRA	**Warramunga Arr**	**15.23**	**162**	Pn		Pn	12 32 33.4		+1.4

0.3nm,0.3s,baz=339,slow=14,SNR=5.8

WRA				Sn		Sn	12 35 11.1		-10

0.7nm,0.3s,baz=332,slow=22,SNR=7.1
0.3nm,0.3s

ASAR	**Alice Springs**	**18.66**	**167**	P		P	12 33 13.3		-1.7

0.3nm,0.3s,baz=348,slow=11,SNR=26

ASAR				S		Sn	12 36 26.8		-18

0.6nm,0.7s,baz=350,slow=26,SNR=6.1
1.5nm,0.6s

MKAR	**Makanchi Array**	**66.53**	**327**	P		P	12 39 47.2		+0.1

0.2nm,0.4s,baz=121,slow=7.2,SNR=2.5
0.2nm,0.4s

*HEL **20** 12:45:53.2±0.2, 68.°16N×32.°96E, *h*0km, ML1.5, Explosion*
*KOLA **20** 12:45:53.4, 68.°11N×32.°97E, *h*0km, ML2.3, Error ellipse: s-maj=2.7km s-min=1.8km az=90.0, Olenegorsk City, Mines*
*IDC **20** 12:45:56.5±2.8, 68.°22N×32.°52E, *h*0km, mbtmp2.9/2, ML1.5/1, Error ellipse: s-maj=34.5km s-min=13.5km az=57.0*

ISC 20 12:45:50.5±0.8, 68.°12N±0.°03×32.°68E±0.°03, *h*0km, n23, σ1s69/36, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
APA0	**Apatity Array**	**0.53**	**167**	P		**Pb**	**12 46 01.9**		**-0.7**
APA0				S		**Sb**	**12 46 09.3**		**-1.4**
APA	**Apatity**	**0.61**	**153**	P		**Pb**	**12 46 03.6**		**-0.5**
APA				S		**Sg**	**12 46 11.0**		**+0.8**
LVZ	**Lovozero**	**0.77**	**105**	P		**Pg**	**12 46 05.5**		**+0.2**
LVZ				S		**Sg**	**12 46 14.0**		**-1.3**
LVZ	**Lovozero**	**0.77**	**105**	*eP*		**Pg**	**12 46 05.6**		**+0.2**
VRF	**Varrio**	**1.22**	**254**	*eP*		**Pn**	**12 46 17.2**		**+2.4**
VRF				*eS*		**Sn**	**12 46 34.0**		**+2.1**
VRF				MSG			12 46 35.0		

comp=Z,4.4nm,0.1s

TERR	**Teriberka**	**1.41**	**38**	P		**Pb**	**12 46 17.4**		**-0.2**
TERR				S		**Sb**	**12 46 35.4**		**-0.7**
KVDA	**Kovda**	**1.43**	**177**	P		**Pb**	**12 46 18.5**		**+0.5**
KVDA				S		**Sn**	**12 46 37.8**		**+0.6**
RAJF	**Raja-Jooseppi**	**1.66**	**285**	*eP*		**Pg**	**12 46 25.0**		**+2.6**
RAJF				*eS*		**Sg**	**12 46 47.1**		**+3.2**
OLKF	**Oulanka, Finla**	**2.21**	**217**	*eP*		**Pg**	**12 46 33.0**		**+0.2**
OLKF				*eS*		**Sg**	**12 47 03.3**		**+1.9**
OLKF				MSG			12 47 05.5		

comp=Z,1.7nm,0.1s

VADS	**Vadso**	**2.34**	**331**	P		**Pb**	**12 46 32.7**		**-0.8**
VADS				S		**Sg**	**12 47 04.0**		**-1.6**
KU6	**Riekki**	**2.37**	**209**	*eP*		**Pg**	**12 46 35.8**		**0.0**
SGF	**Sodankyl**	**2.44**	**257**	*eP*		**Pb**	**12 46 34.8**		**-0.3**
SGF				MSG			12 47 11.9		

comp=Z,1.7nm,0.1s

MSF	**Maaselka**	**2.63**	**215**	*e*PB		**Pg**	**12 46 40.5**		**-0.5**
MSF				*e*SB		**Sg**	**12 47 15.3**		**+0.3**
KU1	**Kurvinen**	**2.84**	**207**	*e*PB		**Pg**	**12 46 43.8**		**-1.2**
ARCES	**ARCESS Array B**	**2.97**	**302**	Pn		**Pb**	**12 46 42.9**		**-1.4**

comp=Z,0.1nm,0.3s,baz=117,slow=14,SNR=16

ARCES				Sn		**Sb**	**12 47 18.9**		**-2.2**

comp=Z,0.2nm,0.3s,baz=119,slow=27,SNR=2.0

ARCES				Lg		Lg	12 47 26.8		

comp=Z,0.7nm,0.3s,baz=113,slow=24,SNR=9.1
comp=Z,3.3nm,0.9s

ARCES	**ARCESS Array B**	**2.97**	**302**	P		**Pb**	**12 46 42.8**		**-1.4**
ARCES				S		**Sb**	**12 47 18.9**		**-2.1**
RNF	**Rovaniemi**	**2.99**	**243**	*eP*		**Pb**	**12 46 42.9**		**-1.7**
RNF				*eS*		**Sb**	**12 47 20.0**		**-1.5**
RANF	**Ranua**	**3.12**	**230**	*eP*		**Pb**	**12 46 44.3**		**-2.6**
RANF				*eS*		**Sb**	**12 47 23.4**		**-2.1**
HEF	**Hetta**	**3.37**	**279**	*eP*		**Pb**	**12 46 48.0**		**-3.0**
HEF				*eS*		**Sb**	**12 47 28.8**		**-3.7**
KLF	**Kolari**	**3.44**	**259**	*eS*		**Sb**	**12 47 33.8**		**-0.7**
I37NO	**I37NO**	**5.24**	**287**	I		I	13 18 00.0		

baz=93,slow=323,SNR=2.3

FAUS	**Fauske**	**6.64**	**272**	S		**Sn**	**12 48 45.4**		**-0.1**
FINES	**FINESS Array B**	**7.26**	**206**	Pn		Pn	12 47 43.1		+5.4

comp=Z,1.6nm,0.9s,baz=30,slow=14,SNR=0.9

JMA 20 12:50:56.6±0.1, 24.°4N±0.°8×123.°5E±0.°2, *h*11km±2km, MV1.3/9, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
IRIF	**Iriomote-Funau**	**0.26**	**114**	*i* P		Pg	12 51 02.0		0.0
YOJ	**Yonaguni jima**	**0.42**	**273**	*e*P		Pg	12 51 05.0		+0.1
JYNG	**Yonagunijimaku**	**0.48**	**271**	*e*P		Pg	12 51 06.0		0.0
JYNG				*e*S		Sg	12 51 12.7		+0.4
HATJ	**Hateruma jima**	**0.49**	**141**	*e*S		Sg	12 51 12.9		+0.2
JKRS	**Kuro-shima**	**0.53**	**112**	P		Pg	12 51 07.0		0.0
JIJ	**Ishigaki jima**	**0.62**	**97**	*e*P		Pg	12 51 08.3		-0.4
JIJ				*e*S		Sg	12 51 17.0		+0.2
JISG	**Ishigakijimahi**	**0.78**	**79**	*e*P		Pg	12 51 11.8		+0.1
JISG				*e*S		Sb	12 51 22.9		+0.1
JTJ	**Tarama**	**1.14**	**80**	*e*S		Sn	12 51 34.4		+0.2

*BGR **20** 12:52:15.4, 26.°39N×133.°18E, *h*33km, mb5.4, Ms5.3*
*MOS **20** 12:52:20.6±0.9, 28.°04N×130.°82E, *h*13km, mb5.6/75, MS4.8/17, Error ellipse: s-maj=7.3km s-min=4.2km az=97.8*
*IDC **20** 12:52:20.4±0.4, 28.°09N×130.°81E, *h*0km, mb5.1/34, mbtmp5.1/43, ML4.7/8, MS4.7/23, Error ellipse: s-maj=12.3km s-min=9.7km az=77.0*
*BJI **20** 12:52:20.8, 27.°99N×130.°90E, *h*20km, mB5.3/61, mb4.9/84, Ms5.2/96, Ms7 5.0/93*
*NIED **20** 12:52:22.5, 28.°04N×130.°92E, *h*75km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; M_{rr}=7.41; $M_{\theta\theta}$=1.71; $M_{\phi\phi}$=5.71; $M_{r\theta}$=0.68; $M_{\theta\phi}$=0.95; $M_{\phi r}$=1.57; Fault plane solution: M_0=6.88000×10^16^ NP1:φs11.00000°, δ38.00000°, λ-93.00000°. NP2:φs195.00000°, δ52.00000°, λ-88.00000°.*
*NEIC **20** 12:52:22.0±1.4, 27.°97N±0.°05×130.°84E±0.°06, *h*10km±1km, mb5.5/593, Mww5.4/39 Error ellipse: s-maj=8.5km s-min=7.9km az=62.0*
*JMA **20** 12:52:22.5±0.1, 28.°0N±0.°3×130.°9E±0.°5, *h*75km±1km, MD5.0/43, MW5.4/43, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.
*NEIC **20** 12:52:22.5, 27.°95N×130.°88E, *h*18km*
*NEIC **20** 12:52:22.5, 27.°75N×130.°88E, *h*18km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^17^Nm; M_{rr}=1.18; $M_{\theta\theta}$=0.14; $M_{\phi\phi}$ 1.03; $M_{r\theta}$=-0.79; $M_{\theta\phi}$=0.55; $M_{\phi r}$=-0.22; Fault plane solution: M_0=1.49000×10^17^ NP1: φs184.74000°, δ37.27000°, λ-127.18000°. NP2: φs48.36000°, δ61.15000°, λ-65.31000°. Principal axes: T 1.4217, Plg13.0000°, Azm121.0000°; N 0.1219, Plg21.0000°, Azm216.0000°; P -1.5435, Plg65.0000°, Azm2.0000°;*
*GCMT **20** 12:52:26.0±0.2, 28.°05N±0.°01×130.°86E±0.°01, *h*12km, MW5.4/97, Moment Tensor Solution. s75,c124; s97,c179; Duration: 1s2 Moment tensor: Scale 10^17^Nm; M_{rr}=1.02±.02; $M_{\theta\theta}$ 0.09±.02; $M_{\phi\phi}$ 0.92±.02; $M_{r\theta}$ 0.25±.06; $M_{\theta\phi}$ 0.57±.02; $M_{\phi r}$ 1.07±.05; Best double couple: $M_0$1.57100×10^17^ NP1:φs40.00000°, δ24.00000°, λ-68.00000°. NP2:φs196.00000°, δ68.00000°, λ-99.00000°. Principal axes: T 1.6500, Plg22.0000°, Azm294.0000°; N -0.1620, Plg9.0000°, Azm200.0000°; P -1.4930, Plg66.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 12:52:23.5±0.3, 28.°03N±0.°02×130.°89E±0.°03, *h*19km±1km, *h*19km:pP-P, n1375, σ1s41/1339, mb5.5/445, MS5.1/51, 52C-48D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JZK	**Kikaishima**	**0.86**	**289**	*i* P		**Pb**	**12 52 39.9**		**+0.1**
JZK				*e*S		**Sn**	**12 52 53.0**		**+0.4**
JZK	**Kikaishima**	**0.86**	**289**	A		A	12 52 39.9		

comp=N,270nm,4.8s,comp=E,468nm,3.7s

JAM	**Amami Oshima**	**1.20**	**289**	*i* P		**Pn**	**12 52 44.2**		**-1.0**
JAM				S		**Sn**	**12 53 00.9**		**0.0**
JAM	**Amami Oshima**	**1.20**	**289**	A		A	12 52 44.2		

comp=N,102nm,1.4s,comp=E,90nm,1.0s

JTK	**Tokunoshima**	**1.73**	**262**	*i* P		**Pn**	**12 52 51.8**		**-0.8**
JTK	**Tokunoshima**	**1.73**	**262**	A		A	12 52 51.8		

comp=N,25nm,1.5s,comp=E,20nm,4.3s

JTAJ	**Takarajima**	**1.86**	**307**	*i* P		**Pn**	**12 52 52.8**		**-1.5**
JTAJ				S		**Sn**	**12 53 16.8**		**-0.5**
JTAJ	**Takarajima**	**1.86**	**307**	A		A	12 52 52.8		

comp=N,54nm,3.2s,comp=E,29nm,3.3s

JNN	**Nakanoshima**	**2.01**	**334**	*i* P		**Pn**	**12 52 55.0**		**-1.4**
JNN				*e*S		**Sn**	**12 53 19.4**		**-1.7**
JNN	**Nakanoshima**	**2.01**	**334**	A		A	12 52 55.0		

comp=N,59nm,1.8s,comp=E,101nm,1.6s

JKDJ	**Kitadaitoujima**	**2.11**	**170**	P		**Pn**	**12 52 56.5**		**-1.2**
JKDJ				S		**Sn**	**12 53 21.2**		**-2.2**
JKDJ	**Kitadaitoujima**	**2.11**	**170**	A		A	12 52 56.5		

comp=N,62nm,4.9s,comp=E,61nm,6.7s

JOKE	**Okinoerabujima**	**2.16**	**253**	*i* P		**Pn**	**12 52 57.5**		**-1.0**
JOKE				*e*S		**Sn**	**12 53 23.1**		**-1.7**
JOKE	**Okinoerabujima**	**2.16**	**253**	A		A	12 52 57.5		

comp=N,22nm,9.8s,comp=E,20nm,3.8s

JMZ	**Minamidaito 2**	**2.22**	**172**			**Pn**	**12 52 57.3**		**-2.0**
JMZ					Sn	**Sn**	**12 53 24.1**		**-2.2**
JMZ	**Minamidaito 2**	**2.22**	**172**	P		**Pn**	**12 52 59.7**		**+0.4**
JMZ	**Minamidaito 2**	**2.22**	**172**	P		**Pn**	**12 52 58.1**		**-1.2**
JMZ				S		**Sn**	**12 53 23.5**		**-2.8**
JMZ	**Minamidaito 2**	**2.22**	**172**	A		A	12 52 58.1		

comp=N,60nm,9.2s,comp=E,63nm,4.7s

JYAK	**Yakushimahirau**	**2.22**	**351**	*i* P		**Pn**	**12 52 58.0**		**-1.4**
JYAK				*e*S		**Sn**	**12 53 23.1**		**-3.2**
JYAK	**Yakushimahirau**	**2.22**	**351**	A		A	12 52 58.0		

comp=N,40nm,1.3s,comp=E,30nm,1.7s

JMTN	**Minamitane**	**2.36**	**0**	*i* P		**Pn**	**12 52 59.7**		**-1.5**
JMTN				*e*S		**Sn**	**12 53 26.9**		**-2.7**
JMTN	**Minamitane**	**2.36**	**0**	A		A	12 52 59.7		

comp=N,17nm,1.0s,comp=E,18nm,1.6s

JYRO	**Yoronjima**	**2.39**	**246**	*i* P		**Pn**	**12 53 00.6**		**-1.0**
JYRO				S		**Sn**	**12 53 28.5**		**-1.9**
JYRO	**Yoronjima**	**2.39**	**246**	A		A	12 53 00.6		

comp=N,14nm,4.4s,comp=E,16nm,5.6s

JKC	**Kuchinoerabu**	**2.50**	**346**	P		**Pn**	**12 53 02.2**		**-0.8**
JKC				*e*S		**Sn**	**12 53 31.6**		**-1.4**
JKC	**Kuchinoerabu**	**2.50**	**346**	A		A	12 53 02.2		

comp=N,17nm,6.5s,comp=E,11nm,3.2s

JTN	**Tanegashima 3**	**2.61**	**2**	P		**Pn**	**12 53 03.0**		**-1.7**
JTN				*e*S		**Sn**	**12 53 33.5**		**-2.4**
JTN	**Tanegashima 3**	**2.61**	**2**	A		A	12 53 03.0		

comp=N,13nm,3.0s,comp=E,18nm,1.3s

JOW	**Kunigami**	**2.62**	**243**			**Pn**	**12 53 03.5**		**-1.2**
JOW					Sn	**Sn**	**12 53 33.5**		**-2.4**
JOW	**Kunigami**	**2.62**	**243**	Pn		**Pn**	**12 53 03.5**		**-1.2**

comp=E,320nm,0.3s,baz=133,slow=28,SNR=500

JOW					Sn	**Sn**	**12 53 32.0**		**-3.9**

comp=E,270nm,0.3s,baz=62,slow=18,SNR=10.0
comp=E,828nm,0.3s

JOW	**Kunigami**	**2.62**	**243**	P		**Pn**	**12 53 04.1**		**-0.6**
JOW	**Kunigami**	**2.62**	**243**	*i* P		**Pn**	**12 53 03.5**		**-1.2**
JOW				*e*S		**Sn**	**12 53 33.7**		**-2.3**
JOW	**Kunigami**	**2.62**	**243**	A		A	12 53 03.5		

comp=N,14nm,6.3s,comp=E,11nm,11.7s

JIH	**Iheya**	**2.78**	**250**	*i* P		**Pn**	**12 53 05.9**		**-1.1**
JIH				S		**Sn**	**12 53 37.4**		**-2.6**
JIH	**Iheya**	**2.78**	**250**	A		A	12 53 05.9		

comp=N,14nm,5.1s,comp=E,17nm,1.1s

JNTH	**Nagotoyohara**	**2.97**	**240**	*i* P		**Pn**	**12 53 08.2**		**-1.3**
JNTH				*e*S		**Sn**	**12 53 42.4**		**-2.2**
JNTH	**Nagotoyohara**	**2.97**	**240**	A		A	12 53 08.2		

comp=N,8.0nm,2.9s,comp=E,8.0nm,8.5s

JTSR	**Tashiro 2**	**3.12**	**0**	P		**Pn**	**12 53 10.7**		**-1.1**
JTSR	**Tashiro 2**	**3.12**	**0**	A		A	12 53 10.7		

comp=N,12nm,1.1s,comp=E,20nm,1.4s

JJT3	**Tamagusuku3**	**3.35**	**237**	P		**Pn**	**12 53 14.1**		**-0.7**
JJT3	**Tamagusuku3**	**3.35**	**237**	A		A	12 53 14.1		

comp=N,23nm,3.8s,comp=E,33nm,4.7s

JSU	**Suzuyama**	**3.48**	**354**	*e*P		**Pn**	**12 53 14.9**		**-1.8**
JNAR	**Kushima--Naru**	**3.50**	**5**	*e*P		**Pn**	**12 53 15.8**		**-1.0**
JNAR				*e*S		**Sn**	**12 53 55.2**		**-2.6**
JNAR	**Kushima--Naru**	**3.50**	**5**	A		A	12 53 15.8		

comp=N,13nm,1.4s,comp=E,11nm,2.0s

JAGN	**Aguni-jima**	**3.55**	**247**	*e*P		**Pn**	**12 53 15.9**		**-1.7**
JAGN				*e*S		**Sn**	**12 53 56.1**		**-3.0**
JAGN	**Aguni-jima**	**3.55**	**247**	A		A	12 53 15.9		

comp=N,11nm,4.8s,comp=E,17nm,9.4s

JNKG	**Nichinankitago**	**3.64**	**7**	P		**Pn**	**12 53 17.9**		**-0.9**
JNKG				*e*S		**Sn**	**12 53 59.7**		**-1.6**
JNKG	**Nichinankitago**	**3.64**	**7**	A		A	12 53 17.9		

comp=N,11nm,1.6s,comp=E,12nm,1.4s

JSJ	**Shimokoshiki**	**3.77**	**345**	*e*P		**Pn**	**12 53 18.9**		**-1.8**
JSJ				S		**Sn**	**12 54 01.9**		**-2.7**
JTZ	**Takazaki**	**3.86**	**2**	A		A	12 53 20.6		

comp=N,5.0nm,2.3s,comp=E,11nm,4.1s

JKE	**Kume jima 2**	**4.03**	**246**	P		**Pn**	**12 53 22.4**		**-1.9**
JKE				S		**Sn**	**12 54 08.9**		**-2.0**
JKE	**Kume jima 2**	**4.03**	**246**	A		A	12 53 22.4		

comp=N,7.0nm,8.1s,comp=E,8.0nm,11.5s

JHD	**Hondo**	**4.47**	**352**	A		A	12 53 29.1		

comp=N,3.0nm,3.6s,comp=E,4.0nm,6.7s

JIU3	**Izumi3**	**4.50**	**359**	A		A	12 53 29.6		

comp=N,5.0nm,0.6s,comp=E,5.0nm,0.6s

JUS	**Usuki**	**5.07**	**8**	A		A	12 53 37.5		

comp=N,4.0nm,1.3s,comp=E,3.0nm,1.9s

JNU	**Nakatsue**	**5.07**	**360**			**Pn**	**12 53 37.8**		**-0.7**
JNU	**Nakatsue**	**5.07**	**360**	Pn		**Pn**	**12 53 37.5**		**-1.0**

comp=E,78nm,0.3s,baz=224,slow=7.3,SNR=155

JNU					Sn	**Sn**	**12 54 33.5**		**-3.2**

comp=E,56nm,0.3s,baz=317,slow=23,SNR=14
comp=E,326nm,0.4s

JNU	**Nakatsue**	**5.07**	**360**	P		**Pn**	**12 53 37.8**		**-0.7**
JNU	**Nakatsue**	**5.07**	**360**	S		**Sn**	**12 54 34.7**		**-2.0**
JMN	**Monobe**	**6.23**	**24**			**Pn**	**12 53 53.9**		**-0.6**
JMN	**Monobe**	**6.23**	**24**	P		**Pn**	**12 53 53.9**		**-0.6**
JTU	**Tsushima**	**6.60**	**349**	P		**Pn**	**12 53 59.6**		**+0.2**
YOJ	**Yonaguni jima**	**7.92**	**245**			**Pn**	**12 54 15.4**		**-2.2**
YOJ	**Yonaguni jima**	**7.92**	**245**	P		**Pn**	**12 54 14.5**		**-3.1**
YOJ	**Yonaguni jima**	**7.92**	**245**	P		**Pn**	**12 54 15.4**		**-2.2**
TJN	**Taejon**	**8.84**	**341**	Pn		**Pn**	**12 54 29.6**		**-0.7**
TJN	**Taejon**	**8.84**	**341**	P		**Pn**	**12 54 31.4**		**+1.2**
TJN	**Taejon**	**8.84**	**341**	‖ *e*P		**Pn**	**12 54 31.3**		**+1.1**
TATO	**Taipei**	**8.96**	**252**	Pn		**Pn**	**12 54 30.8**		**-1.1**
TATO	**Taipei**	**8.96**	**252**	P		**Pn**	**12 54 34.1**		**+2.2**
TATO				S		**Sn**	**12 56 12.3**		**0.0**
INU	**Inuyama**	**8.97**	**34**			**Pn**	**12 54 32.0**		**0.0**
INU	**Inuyama**	**8.97**	**34**	P		**Pn**	**12 54 32.5**		**+0.5**
SSE	**Sheshan**	**8.98**	**292**	P		**Pn**	**12 54 31.8**		**-0.4**
SSE				S		**Sn**	**12 56 13.3**		**+0.4**
SSE				pmax		pmax			

comp=E,52nm,1.3s

SSE				pmax		pmax			

VLA					pmax	pmax			
	comp=Z,33nm,1.1s								
CNSH	**ChangSha**	**15.85**	**275**		P	**Pn**	**12 56 03.8**	**-1.8**	
CNSH					S	**Sn**	**12 59 02.3**	**+1.4**	
CNSH					LR	LR			
	comp=Z,2µm,12.0s								
CNSH					LR	LR			
	comp=Z,2µm,16.3s								
CNSH					LR	LR			
	comp=Z,3µm,15.7s								
USA0B	**Ussuriysk Arra**	**16.16**	**3**		Pn	**Pn**	**12 56 08.7**	**-0.7**	
USA0B	**Ussuriysk Arra**	**16.16**	**3**	‖	*eP*	**Pn**	**12 56 10.9**	**+1.4**	
USRK	**Ussuriysk Ar.**	**16.16**	**3**		Pn	**Pn**	**12 56 09.1**	**-0.4**	
USRK	**Ussuriysk Ar.**	**16.16**	**3**		Pn	**P**	**12 56 12.3**	**-0.3**	
	comp=Z,2.0nm,0.3s,baz=179,slow=9.3,SNR=48								
USRK					LR	LR	13 02 40.4		
	comp=Z,2µm,18.9s,baz=177,slow=38								
USRK	**Ussuriysk Ar.**	**16.16**	**3**		P	**Pn**	**12 56 09.1**	**-0.4**	
HKPS	**Hong Kong Po S**	**16.21**	**253**		P	**Pn**	**12 56 10.1**	**-0.1**	
CN2	**Changchun**	**16.34**	**346**		P	**P**	**12 56 13.4**	**-1.1**	
CN2					PP	**pwP**	**12 56 27.1**	**+2.7**	
CN2					S	**Sn**	**12 59 14.8**	**+2.4**	
CN2					pmax	pmax			
	comp=Z,150nm,1.0s								
CN2					LR	LR			
	comp=Z,5µm,14.0s								
CN2					LR	LR			
	comp=Z,2µm,14.0s								
CN2					LR	LR			
	comp=Z,6µm,14.0s								
HNS	**HongShan**	**16.50**	**309**	⇑	P	**Pn**	**12 56 13.9**	**+0.1**	
HNS					pmax	pmax			
	comp=Z,1µm,5.2s								
HNS					LR	LR			
	comp=Z,3µm,16.3s								
HNS					LR	LR			
	comp=Z,6µm,15.9s								
HNS					LR	LR			
	comp=Z,6µm,16.5s								
MDJ	**Mudanjiang**	**16.58**	**357**		Pn	**Pn**	**12 56 13.7**	**-1.2**	
MDJ	**Mudanjiang**	**16.58**	**357**		P	**Pn**	**12 56 15.8**	**+0.9**	
MDJ					S	**S**	**12 59 25.1**	**-4.7**	
MDJ					SS	**SnSn**	**12 59 40.8**	**+9.0**	
MDJ					pmax	pmax			
	comp=Z,24nm,1.4s								
MDJ					pmax	pmax			
	comp=Z,790nm,7.9s								
MDJ					LR	LR			
	comp=Z,3µm,13.4s								
MDJ					LR	LR			
	comp=Z,2µm,12.4s								
MDJ					LR	LR			
	comp=Z,4µm,16.1s								
TGY	**Tagaytay City**	**16.67**	**216**		Pn	**Pn**	**12 56 16.2**	**0.0**	
	comp=Z,119nm,0.3s,baz=72,slow=9.6,SNR=3.1								
TGY					LR	LR	13 02 23.6		
	comp=Z,835nm,19.9s,baz=10,slow=36								
LYN	**LuoYang**	**17.02**	**297**	⇑	P	**Pn**	**12 56 19.4**	**-1.1**	
LYN					pP	P	12 56 21.8	-0.5	
LYN					sP	pP	12 56 25.6	-0.7	
LYN					PP	**pwP**	**12 56 34.8**	**+2.4**	
LYN					S	**Sn**	**12 59 30.6**	**+1.3**	
LYN					SS	**SnSn**	**12 59 43.4**	**+0.8**	
LYN					pmax	pmax			
	comp=Z,74nm,1.2s								
LYN					pmax	pmax			
	comp=Z,3µm,10.4s								
LYN					LR	LR			
	comp=Z,5µm,10.7s								
LYN					LR	LR			
	comp=Z,15µm,12.1s								
LYN					LR	LR			
	comp=Z,20µm,12.4s								
BJT	**Baijiatuau**	**17.06**	**318**		Pn	**Pn**	**12 56 19.2**	**-1.7**	
BJT	**Baijiatuau**	**17.06**	**318**		P	**Pn**	**12 56 19.2**	**-1.7**	
BJT					pmax	pmax			
	comp=Z,119nm,1.2s								
BJI	**Beijing**	**17.07**	**318**		P	**Pn**	**12 56 20.9**	**-0.1**	
BJI					pP	**pP**	**12 56 25.3**	**-1.4**	
BJI					sP	**sP**	**12 56 26.8**	**-1.9**	
BJI					S	**Sn**	**12 59 34.1**	**+3.9**	
BJI					pmax	pmax			
	comp=Z,24nm,1.0s								
BJI					LR	LR			
	comp=Z,3µm,13.9s								
BJI					LR	LR			
	comp=Z,2µm,13.0s								
BJI					LR	LR			
	comp=Z,3µm,12.9s								
ERM	**Erimo**	**17.16**	**32**		Pn	**Pn**	**12 56 22.4**	**+0.2**	
ERM	**Erimo**	**17.16**	**32**	⇑	*eP*	**P**	**12 56 24.1**	**+0.4**	
ERM					pmax	pmax			
	comp=Z,39nm,1.2s								
TEY	**Ternei**	**17.57**	**14**		*eP*	**P**	**12 56 28.7**	**+0.5**	
TEY							12 59 43.3		
BNX	**BinXian**	**17.89**	**352**	⇑	P	**P**	**12 56 32.0**	**+0.3**	
BNX					pP	**pP**	**12 56 35.3**	**-0.5**	
BNX					S	**S**	**12 59 53.8**	**-2.6**	
BNX					pmax	pmax			
	comp=Z,17nm,1.2s								
BNX					pmax	pmax			
	comp=Z,220nm,3.1s								
BNX					LR	LR			
	comp=Z,2µm,12.0s								
BNX					LR	LR			
	comp=Z,1µm,13.7s								
BNX					LR	LR			
	comp=Z,2µm,13.3s								
TIY	**Taiyuan**	**18.24**	**307**		*eP*	**P**	**12 56 37.6**	**+1.9**	
TIY					S	**Sn**	**12 59 59.3**	**+0.6**	
TIY					pmax	pmax			
	comp=Z,91nm,0.6s								
TIY					pmax	pmax			
	comp=Z,1µm,4.5s								
TIY					LR	LR			
	comp=Z,4µm,15.5s								
TIY					LR	LR			
	comp=Z,4µm,18.6s								
TIY					LR	LR			
	comp=Z,7µm,15.6s								
GULI	**GuiLin**	**18.55**	**266**		P	**P**	**12 56 34.8**	**-4.3**	
GULI					pP	**sP**	**12 56 46.4**	**+0.9**	
GULI					S	**Sn**	**13 00 02.4**	**-3.9**	
GULI					pmax	pmax			
	comp=Z,50nm,1.1s								
GULI					LR	LR			
	comp=Z,5µm,17.7s								
GULI					LR	LR			
	comp=Z,2µm,17.4s								
GULI					LR	LR			
	comp=Z,5µm,10.9s								
ASAJ	**Asahikawa**	**18.60**	**27**		P	**P**	**12 56 38.7**	**-0.9**	
	comp=Z,1.7nm,0.3s,baz=229,slow=8.1,SNR=15								
ASAJ					LR	LR	13 03 39.9		
	comp=Z,2µm,20.7s,baz=234,slow=37								
	comp=Z,14nm,0.7s								
ASAJ	**Asahikawa**	**18.60**	**27**		P	**P**	**12 56 39.3**	**-0.3**	
ASAJ					pmax	pmax			
	comp=Z,47nm,1.0s								
JKA	**Kamikawa-asahi**	**18.60**	**27**		P	**P**	**12 56 39.3**	**-0.2**	
ENH	**Enshi**	**18.83**	**282**		P	**P**	**12 56 41.1**	**-1.1**	
GUMO	**Guam**	**19.39**	**135**		P	**P**	**12 56 48.4**	**-0.1**	
GUMO					IAmb	IAmb	12 56 56.2		
	comp=Z,536nm,1.6s								
GUMO	**Guam**	**19.39**	**135**		P	**Pn**	**12 56 49.1**	**-0.6**	
	comp=Z,3.7nm,0.3s,baz=202,slow=13,SNR=5.9								
GUMO					LR	LR	13 02 53.1		
	comp=Z,717nm,19.5s,baz=338,slow=32								
	comp=Z,36nm,0.8s								
GUMO	**Guam**	**19.39**	**135**		P	**Pn**	**12 56 52.0**	**+2.4**	
XAN	**Xi'an**	**19.74**	**293**	⇑	P	**P**	**12 56 51.0**	**-1.2**	
XAN					S	**S**	**13 00 32.3**	**-1.7**	
XAN					SS	**SnSn**	**13 00 57.8**	**+8.4**	
XAN					pmax	pmax			
	comp=Z,480nm,0.9s								
XAN					pmax	pmax			
	comp=Z,2µm,7.7s								
XAN					LR	LR			
	comp=Z,3µm,12.9s								
XAN					LR	LR			
	comp=Z,3µm,11.0s								
XAN					LR	LR			
	comp=Z,3µm,10.7s								
XLT	**XiLinHaoTe**	**19.81**	**327**		*eP*	**P**	**12 56 53.3**	**+0.4**	
XLT					S	**S**	**13 00 31.0**	**-4.3**	
XLT					pmax	pmax			
	comp=Z,30nm,0.8s								
XLT					pmax	pmax			
	comp=Z,410nm,3.6s								
XLT					LR	LR			
	comp=Z,3µm,15.3s								
XLT					LR	LR			
	comp=Z,4µm,14.8s								
HHC	**Hu-ho-hao-te**	**20.38**	**314**		*eP*	**P**	**12 56 59.5**	**+0.3**	
HHC					pP	pP	12 57 02.8	-0.5	
HHC					sP	sP	12 57 05.8	+0.6	
HHC					PP	**PnPn**	**12 57 22.4**	**+6.1**	
HHC					S	**S**	**13 00 46.5**	**-0.3**	
HHC					SS	**SnSn**	**13 01 12.8**	**+7.7**	
HHC					pmax	pmax			
	comp=Z,32nm,1.0s								
HHC					pmax	pmax			
	comp=Z,620nm,3.9s								
HHC					LR	LR			
	comp=Z,2µm,13.6s								
HHC					LR	LR			
	comp=Z,3µm,14.3s								
HHC					LR	LR			
	comp=Z,4µm,14.3s								
YSS	**Yuzhno-Sakhali**	**21.06**	**23**			**P**	**12 57 07.1**	**+0.8**	
YSS					IAmb	IAmb	12 57 20.3		
	comp=Z,246nm,1.2s								
YSS	**Yuzhno-Sakhali**	**21.06**	**23**		P	**P**	**12 57 08.5**	**+2.2**	
YSS	**Yuzhno-Sakhali**	**21.06**	**23**	*d*	*iP*	**P**	**12 57 06.3**	**0.0**	
YSS					*eS*	**S**	**13 00 59.0**	**-0.9**	
YSS					pmax	pmax			
	comp=Z,900nm,2.5s								
YSS					pmax	pmax			
	comp=N,500nm,2.7s								
YSS					pmax	pmax			
	comp=E,400nm,2.3s								
YSS					pmax	pmax			
	comp=Z,130nm,0.9s								
YSS					MLR	MLR			
	comp=N,1µm,15.0s								
YSS					MLR	MLR			
	comp=Z,2µm,15.0s								
QIZ	**Qiongzhong**	**21.25**	**250**		P	**P**	**12 57 06.9**	**-1.8**	
QIZ	**Qiongzhong**	**21.25**	**250**		P	**P**	**12 57 09.5**	**+0.8**	
QIZ					S	**S**	**13 01 06.8**	**+2.6**	
QIZ					pmax	pmax			
	comp=Z,62nm,1.2s								
QIZ					pmax	pmax			
	comp=Z,670nm,10.8s								
QIZ					LR	LR			
	comp=Z,1µm,15.8s								
QIZ					LR	LR			
	comp=Z,2µm,18.0s								
QIZ					LR	LR			
	comp=Z,2µm,15.4s								
BTO	**Baotou**	**21.25**	**312**		*eP*	**P**	**12 57 08.8**	**+0.2**	
BTO					pP	**pP**	**12 57 13.0**	**+0.3**	
BTO					sP	**sP**	**12 57 15.3**	**+0.6**	
BTO					PP	**PnPn**	**12 57 29.3**	**+1.0**	
BTO					S	**S**	**13 01 05.1**	**+1.0**	
BTO					SS	**SnSn**	**13 01 30.4**	**+3.8**	
BTO					pmax	pmax			
	comp=Z,21nm,0.7s								
BTO					pmax	pmax			
	comp=Z,2µm,4.5s								
BTO					LR	LR			
	comp=Z,3µm,17.7s								
BTO					LR	LR			
	comp=Z,3µm,14.3s								
BTO					LR	LR			
	comp=Z,7µm,14.9s								
GYA	**Guiyang**	**21.59**	**271**		P	**P**	**12 57 12.3**	**-0.1**	
GYA					S	**S**	**13 01 08.3**	**-2.7**	
GYA					pmax	pmax			
	comp=Z,29nm,1.2s								
GYA					LR	LR			
	comp=Z,5µm,15.8s								
KUR	**Kuril'sk**	**21.84**	**34**		*eP*	**P**	**12 57 14.9**	**+0.2**	
KUR							12 57 36.1		
KUR					S	**S**	**13 01 18.4**	**+3.1**	
KUR					pmax	pmax			
	comp=Z,448nm,1.5s								
KUR					pmax	pmax			
	comp=Z,2µm,6.0s								
KUR					MLR	MLR			
	comp=Z,2µm,18.0s								
HEH	**HeiHe**	**22.35**	**354**		*eP*	**P**	**12 57 18.8**	**-1.4**	
HEH					PcP	**PcP**	**13 01 16.3**	**+1.3**	
HEH					S	**S**	**13 01 24.1**	**-0.8**	
HEH					pmax	pmax			
	comp=Z,21nm,0.7s								
HEH					pmax	pmax			
	comp=Z,600nm,7.1s								
HEH					LR	LR			
	comp=Z,2µm,10.9s								
HEH					LR	LR			
	comp=Z,2µm,11.2s								
HEH					LR	LR			
	comp=Z,3µm,12.0s								
UGL	**Uglegorsk**	**22.71**	**19**		*eP*	**P**	**12 57 25.8**	**+1.8**	
UGL					pmax	pmax			
	comp=Z,240nm,1.2s								
HIA	**Hailar**	**22.87**	**341**		P	**P**	**12 57 25.4**	**-0.4**	
HIA	**Hailar**	**22.87**	**341**		P	**P**	**12 57 25.4**	**-0.4**	
HIA					pmax	pmax			
	comp=Z,25nm,1.1s								
GRNR	**Gornyy**	**23.09**	**9**	⇑	*iP*	**P**	**12 57 26.4**	**-1.6**	
GRNR					pmax	pmax			
	comp=Z,5.0nm,1.3s								
GRNR					MLR	MLR			
	comp=N,2µm,15.0s								
GRNR					MLR	MLR			
	comp=E,1µm,15.0s								
GRNR					MLR	MLR			
	comp=Z,2µm,15.0s								
CD2	**Chengdu**	**23.78**	**284**		P	**P**	**12 57 32.6**	**-2.4**	
CD2					pP	pP	12 57 37.3	-1.9	
CD2					sP	sP	12 57 39.0	-2.4	
CD2					S	**S**	**13 01 46.3**	**-3.4**	
CD2					sS	pS	13 01 55.8	+0.9	
CD2					pmax	pmax			
	comp=Z,50nm,0.9s								
CD2					pmax	pmax			
	comp=Z,430nm,4.7s								
CD2					LR	LR			
	comp=Z,7µm,12.3s								
CD2					LR	LR			
	comp=Z,8µm,11.9s								
CD2					LR	LR			
	comp=Z,10µm,12.2s								
LZH	**Lanzhou**	**24.23**	**296**		*eP*	**P**	**12 57 37.5**	**-1.9**	
LZH					sP	sP	12 57 46.6	+1.0	
LZH					PcP	**PcP**	**13 01 21.9**	**+2.4**	
LZH					S	**S**	**13 01 52.6**	**-4.5**	
LZH					pmax	pmax			
	comp=Z,39nm,1.3s								
LZH					pmax	pmax			
	comp=Z,540nm,5.4s								
LZH					LR	LR			
	comp=Z,4µm,12.7s								
LZH					LR	LR			
	comp=Z,6µm,12.7s								
LZH					LR	LR			
	comp=Z,9µm,12.4s								
TYV	**Tymovskoe**	**24.48**	**18**		*eP*	**P**	**12 57 43.4**	**+2.1**	
TYV					*eS*	**S**	**13 02 06.2**	**+5.7**	
TYV					pmax	pmax			
	comp=Z,33nm,1.3s								
TYV					pmax	pmax			
	comp=Z,500nm,6.4s								
TYV					smax	smax			
	comp=N,700nm,6.8s								
TYV					smax	smax			
	comp=E,600nm,6.8s								
TYV					MLR	MLR			
	comp=Z,1µm,15.0s								
SGSI	**Sangihe**	**24.75**	**193**		P	**P**	**12 57 45.0**	**+1.1**	
KMI	**Kunming**	**25.32**	**270**	⇑	P	**P**	**12 57 49.4**	**0.0**	
KMI					S	**S**	**13 02 14.6**	**-0.3**	
KMI					pmax	pmax			
	comp=Z,78nm,1.2s								
KMI					pmax	pmax			
	comp=Z,310nm,4.5s								
KMI					LR	LR			
	comp=Z,4µm,12.6s								
KMI					LR	LR			
	comp=Z,3µm,12.9s								
KMI					LR	LR			
	comp=Z,3µm,12.6s								
SLVN	**Son La**	**25.38**	**261**			**P**	**12 57 48.7**	**-1.0**	
SLVN	**Son La**	**25.38**	**261**		P	**P**	**12 57 50.7**	**+0.9**	
MYLDM	**Lahad Datu**	**25.60**	**210**			**P**	**12 57 50.0**	**-1.7**	
MYLDM	**Lahad Datu**	**25.60**	**210**		P	**P**	**12 57 53.6**	**+1.9**	
ZEA	**Zeya**	**25.82**	**355**		*eP*	**P**	**12 57 52.3**	**-1.1**	
ZEA					*e*		12 57 54.1		
ZEA					*eS*	**S**	**13 02 18.2**	**-3.6**	
ZEA					pmax	pmax			
	comp=N,50nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,120nm,1.1s								
ZEA					pmax	pmax			
	comp=N,200nm,4.1s								
ZEA					pmax	pmax			
	comp=Z,500nm,4.6s								
ZEA					smax	smax			
	comp=E,400nm,15.7s								
ZEA					MLR	MLR			
	comp=E,400nm,11.0s								
ZEA					MLR	MLR			
	comp=N,700nm,15.0s								
ZEA					MLR	MLR			
	comp=Z,700nm,15.0s								
PZH	**PanZhiHua**	**25.93**	**273**		P	**P**	**12 57 55.8**	**+1.0**	
PZH					PP	**PnPn**	**12 58 33.8**	**+1.4**	
PZH					S	**S**	**13 02 20.8**	**-3.6**	
PZH					pmax	pmax			
	comp=Z,40nm,1.3s								
PZH					pmax	pmax			
	comp=Z,420nm,7.1s								
PZH					LR	LR			
	comp=Z,3µm,19.1s								
PZH					LR	LR			
	comp=Z,2µm,19.6s								
PZH					LR	LR			
	comp=Z,3µm,22.6s								
NKL	**Nikolayevsk**	**26.12**	**13**		*eP*	**P**	**12 57 56.3**	**+0.2**	
NKL					pmax	pmax			
	comp=N,116nm,1.1s								
NKL					pmax	pmax			
	comp=E,126nm,1.1s								
NKL					pmax	pmax			
	comp=Z,189nm,1.1s								
NKL					MLR	MLR			
	comp=N,2µm,14.0s								
NKL					MLR	MLR			
	comp=E,9µm,14.0s								
NKL					MLR	MLR			
	comp=Z,6µm,13.0s								
ULN	**Ulaanbaatar**	**27.11**	**323**			**P**	**12 58 04.3**	**-1.0**	
ULN	**Ulaanbaatar**	**27.11**	**323**		P	**P**	**12 58 05.0**	**-0.4**	
ULN					P	**P**	**12 58 05.0**	**-0.4**	
ULN					S	**S**	**13 02 40.2**	**-2.5**	
ULN					S	**S**	**13 02 40.2**	**-2.5**	
ULN	**Ulaanbaatar**	**27.11**	**323**	*ce*	P	**P**	**12 58 04.9**	**-0.4**	
ULN					pmax	pmax			
	comp=Z,12nm,0.7s								
CIT	**Chita**	**27.25**	**336**		*eP*	**P**	**12 58 07.8**	**+1.4**	
CIT					*e*		12 58 15.4		
CIT					*e*		12 58 51.4		
CIT					*e*		13 01 26.8		
TNTI	**Ternate**	**27.32**	**188**		P	**P**	**12 58 09.7**	**+2.5**	
SONM	**Songino Array**	**27.45**	**323**			**P**	**12 58 07.3**	**-1.0**	
SONM	**Songino Array**	**27.45**	**323**		P	**P**	**12 58 07.7**	**-0.6**	
	comp=Z,8.8nm,0.9s,baz=140,slow=9.8,SNR=21								
SONM					PcP	**PcP**	**13 01 27.5**	**+0.9**	
	comp=Z,1.5nm,0.4s,baz=149,slow=2.3,SNR=6.4								
SONM					LR	LR	13 10 50.7		
	comp=Z,2µm,18.9s,baz=127,slow=41								
	comp=Z,8.8nm,0.9s								
GTA	**Gaotai**	**28.10**	**302**		*eP*	**P**	**12 58 13.8**	**-0.4**	
GTA					pP	pP	12 58 18.8	+0.4	
GTA					PP	**PnPn**	**12 58 59.8**	**-2.1**	
GTA					S	**S**	**13 03 02.4**	**+4.1**	
GTA					PcS	**PcS**	**13 05 11.6**	**+1.0**	
GTA					pmax	pmax			
	comp=Z,6.0nm,0.8s								
GTA					pmax	pmax			
	comp=Z,310nm,8.7s								
GTA					LR	LR			
	comp=Z,5µm,13.5s								
GTA					LR	LR			
	comp=Z,4µm,15.6s								
GTA					LR	LR			
	comp=Z,8µm,14.2s								
TOLI2	**Tolitoli**	**28.46**	**202**			**P**	**12 58 16.5**	**-1.0**	
TOLI2	**Tolitoli**	**28.46**	**202**		P	**P**	**12 58 19.4**	**+1.9**	
TNCH	**TengChong**	**29.07**	**272**		P	P	12 58 28.5	+5.4	
TNCH					pP	pwP	12 58 31.8	-2.0	
TNCH					sP	sP	12 58 33.8	+4.3	
TNCH					PcP	**PcP**	**13 01 31.3**	**+0.2**	
TNCH					S	**S**	**13 03 05.8**	**-8.2**	
TNCH					sS	pS	13 03 13.9	-5.1	
TNCH					pmax	pmax			
	comp=Z,85nm,2.3s								
TNCH					LR	LR			
	comp=N,2µm,14.2s								
TNCH					LR	LR			
	comp=E,3µm,13.8s								
TNCH					LR	LR			
	comp=Z,6µm,14.2s								
SKR	**Severo-Kuril's**	**29.61**	**33**	‖	*eP*	**P**	**12 58 28.2**	**+0.9**	
ZAK	**Zakamensk**	**30.61**	**324**		*eP*	**P**	**12 58 35.8**	**-0.6**	
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.5s								
CHTO	**Chiang Mai**	**30.64**	**260**			**P**	**12 58 35.8**	**-1.1**	
CHTO						**PcP**	**13 01 35.4**	**+0.5**	
CHTO	**Chiang Mai**	**30.64**	**260**		P	**P**	**12 58 37.3**	**+0.5**	
CHTO					S	**S**	**13 03 39.9**	**+1.4**	
CHTO	**Chiang Mai**	**30.64**	**260**		P	**P**	**12 58 37.5**	**+0.7**	
CHTO	**Chiang Mai**	**30.64**	**260**		P	**P**	**12 58 36.9**	**+0.1**	
CHTO					pmax	pmax			
	comp=Z,23nm,0.7s								
CM31	**Chiang Mai Arr**	**30.79**	**259**		P	**P**	**12 58 36.0**	**-2.1**	
CM31	**Chiang Mai Arr**	**30.79**	**259**		P	**P**	**12 58 39.8**	**+1.7**	
CM31					S	**S**	**13 03 45.0**	**+4.4**	
CMAR	**Chiang Mai Arr**	**30.79**	**259**		P	**P**	**12 58 36.4**	**-1.6**	
CMAR						**PcP**	**13 01 36.3**	**+0.9**	
CMAR	**Chiang Mai Arr**	**30.79**	**259**		P	**P**	**12 58 38.0**	**-0.1**	
	comp=Z,3.7nm,0.7s,baz=53,slow=7.0,SNR=13								
CMAR					PcP	**PcP**	**13 01 36.1**	**+0.8**	
	comp=Z,10nm,0.8s,baz=37,slow=1.3,SNR=19								
CMAR					LR	LR	13 12 12.6		
	comp=Z,1µm,18.8s,baz=70,slow=39								
	comp=Z,3.7nm,0.7s								
CMAR	**Chiang Mai Arr**	**30.79**	**259**	*i*	P	**P**	**12 58 38.7**	**+0.6**	
CMAR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
IRK	**Irkutsk**	**31.28**	**328**		*eP*	**P**	**12 58 40.9**	**-1.2**	
IRK					*e*		13 01 34.3		
IRK					pmax	pmax			
	comp=Z,36nm,1.9s								
GOMU	**GeErMu**	**31.48**	**294**		P	**P**	**12 58 43.9**	**-0.6**	
GOMU					pP	pP	12 58 48.3	-0.5	
GOMU					PcP	**PcP**	**13 01 38.8**	**+1.4**	
GOMU					S	**S**	**13 03 52.8**	**+0.8**	
GOMU					pmax	pmax			
	comp=Z,11nm,1.1s								
GOMU					pmax	pmax			
	comp=Z,250nm,6.4s								
GOMU					LR	LR			
	comp=Z,2µm,11.7s								
GOMU					LR	LR			
	comp=Z,1µm,13.0s								
GOMU					LR	LR			
	comp=Z,2µm,12.4s								
JAY	**Jayapura**	**31.80**	**161**		PcP	**PcP**	**13 01 38.3**	**+0.2**	
	comp=Z,10.0nm,0.8s,baz=317,slow=6.0,SNR=4.8								
PEA0B	**Petropavlovsk-**	**31.93**	**31**		P	**P**	**12 58 48.8**	**+0.9**	
PEA0B	**Petropavlovsk-**	**31.93**	**31**	*ce*	P	**P**	**12 58 48.7**	**+0.9**	
PETK	**Petropavlovsk-**	**31.93**	**31**		P	**P**	**12 58 48.4**	**+0.6**	
PETK	**Petropavlovsk-**	**31.93**	**31**		P	**P**	**12 58 48.2**	**+0.4**	
	comp=Z,24nm,1.0s,baz=212,slow=5.3,SNR=19								
PETK					LR	LR	13 12 46.6		
	comp=Z,1µm,18.2s,baz=218,slow=38								
	comp=Z,24nm,1.0s								
PETK	**Petropavlovsk-**	**31.93**	**31**		P	**P**	**12 58 48.4**	**+0.6**	
PET	**Petropavlovsk**	**32.32**	**32**		P	**P**	**12 58 51.8**	**+0.6**	
MOY	**Mondy**	**32.54**	**325**		*eP*	**P**	**12 58 53.3**	**0.0**	
MOY					pmax	pmax			
	comp=Z,23nm,2.7s								
KSM	**Kuching**	**32.94**	**220**		P	**P**	**12 58 56.8**	**-0.2**	
KSM	**Kuching**	**32.94**	**220**		P	**P**	**12 58 57.7**	**+0.7**	

PATS Pohnpei 33.44 124 P **P** **12 59 02.8 +1.4**
H11N2 WAKE ISLAND Hy 33.85 96 T T 13 34 43.2
baz=290,slow=75,SNR=4.9
H11N1 WAKE ISLAND Hy 33.85 96 T T 13 34 46.2
baz=290,slow=75,SNR=6.9
H11N3 WAKE ISLAND Hy 33.86 96 T T 13 34 55.6
baz=290,slow=75,SNR=6.3
YAK Yakutsk 34.01 359 **P** **12 59 05.0 -0.8**
YAK Yakutsk 34.01 359 *e*P **P** **12 59 04.6 -1.2**
YAK *e**PP **pP** **12 59 09.7 -0.6**
YAK *e* 13 00 14.9
YAK *e* 13 01 43.9
YAK *e*S **S** **13 04 28.9 -1.0**
YAK *e**SS **sS** **13 04 38.8 +1.8**
YAK *e*SS **SnSn** **13 06 30.2 -6.8**
YAK *e*SSS SSS 13 07 03.8
YAK pmax pmax
comp=Z,83nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,42nm,1.1s
YAK pmax pmax
comp=Z,60nm,1.9s
YAK pmax pmax
comp=N,55nm,1.9s
YAK pmax pmax
comp=E,81nm,3.3s
YAK smax smax
comp=N,227nm,3.3s
YAK smax smax
comp=E,97nm,2.3s
YAK MLR MLR
comp=Z,1µm,15.0s
YAK MLR MLR
comp=N,1µm,15.0s
YAK MLR MLR
comp=E,338nm,15.0s
MA2 Magadan 34.36 18 **P** **12 59 09.4 +0.5**
MA2 **PcP** **13 01 45.0 +0.6**
MA2 Magadan 34.36 18 P **P** **12 59 10.1 +1.2**
MA2 Magadan 34.36 18*de*P **P** **12 59 08.7 -0.2**
MA2 pmax pmax
comp=Z,57nm,1.3s
MA2 Magadan 34.36 18 P **P** **12 59 08.5 -0.4**
comp=Z,620nmcomp=Z,49nm,1.4s
LSA Lhasa 34.73 282 P **P** **12 59 09.5 -3.5**
LSA pmax pmax
comp=Z,5.0nm,0.4s
LSA LR LR
comp=Z,930nm,19.0s
LSA LR LR
comp=Z,3µm,12.2s
SHL Shillong 34.81 275 P **P** **12 59 12.1 -1.3**
SHL IAmb IAmb 12 59 26.2
comp=Z,52nm,0.8s
SHL Shillong 34.81 275 P **P** **12 59 13.5 +0.1**
SNR=17
SHL Shillong 34.81 275 P **P** **12 59 12.1 -1.3**
SHL pmax pmax
comp=Z,51nm,0.8s
SRIT Nakonsritamara 35.27 243 P **P** **12 59 15.6 -1.6**
SRIT IAmb IAmb 12 59 37.9
comp=Z,63nm,0.8s
SRIT Nakonsritamara 35.27 243 P **P** **12 59 18.2 +1.0**
KULM Kulim 36.55 237 P **P** **12 59 27.0 -1.3**
KULM Kulim 36.55 237 P **P** **12 59 29.2 +0.9**
IPM Ipoh 36.82 236 P **P** **12 59 28.8 -1.7**
IPM Ipoh 36.82 236 P **P** **12 59 31.9 +1.4**
MMRI Maumere 37.40 194 P **P** **12 59 34.8 -0.6**
MMRI IAmb IAmb 12 59 37.2
comp=Z,83nm,1.2s
SEY Seymchan 37.63 16⇑ *e*P **P** **12 59 36.2 -0.6**
SEY pmax pmax
comp=Z,50nm,1.7s
EDFI Ende, Flores 37.63 195 P **P** **12 59 36.7 -0.8**
comp=Z,27nm,1.2s
WMQ Urumqi 37.91 306 *e*P **P** **12 59 38.5 -1.1**
WMQ S **S** **13 05 31.8 +1.6**
WMQ SS **SnSn** **13 08 08.8 -3.1**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ LR LR
comp=Z,3µm,14.9s
WMQ LR LR
comp=Z,3µm,14.9s
WMQ LR LR
comp=Z,2µm,16.1s
SOEI Soe 38.11 191 **P** **12 59 40.8 -0.7**
SOEI Soe 38.11 191 P **P** **12 59 43.5 +2.0**
BATI Baumata 38.65 191 P **P** **12 59 44.3 -1.7**
comp=Z,62nm,0.8s,baz=285,slow=1.9,SNR=7.5
comp=Z,62nm,0.8s
BATI Baumata 38.65 191 P **P** **12 59 45.3 -0.7**
comp=Z,74nm,1.3s
EVN Everest 38.76 281 **P** **12 59 46.9 -0.6**
PLAI Plampang 38.78 201 P **P** **12 59 48.0 +1.0**
PLAI Plampang 38.78 201 P **P** **12 59 48.0 +1.0**
comp=Z,57nm,1.3s
PSI Prapat 39.49 236 P **P** **12 59 54.8 +1.6**
KCSI Kotacane, Aceh 39.87 238 P **P** **12 59 56.3 +0.1**
comp=Z,16nm,1.0s
NGJI Ngawi 39.89 211 P **P** **12 59 58.9 +2.6**
SMY Shemya 40.27 40 P **P** **13 00 00.3 +1.3**
SMY IAmb IAmb 13 00 48.7
comp=Z,108nm,1.0s
SMY Shemya 40.27 40 P **P** **13 00 00.4 +1.3**
SMY pmax pmax
comp=Z,108nm,1.0s
PMG Port Moresby 40.41 155⇓ *e*P **P** **13 00 00.8 +0.2**
PMG pmax pmax
comp=Z,37nm,1.5s
MTN Manton Dam 40.63 180 P **P** **13 00 02.4 0.0**
comp=Z,89nm,1.1s
MTN Manton Dam 40.63 180 P **P** **13 00 01.8 -0.6**
MTN IAmb IAmb 13 00 08.6
comp=Z,110nm,1.2s
MTN Manton Dam 40.63 180 P **P** **13 00 05.3 +2.9**
PPI Padang Panjang 40.71 231 P **P** **13 00 04.2 +1.0**
comp=Z,45nm,1.2s
KPJI Karang Pucung 41.07 214 P **P** **13 00 06.9 +0.9**
MDSI Maura Dua 41.33 223 P **P** **13 00 09.0 +0.8**
comp=Z,1µmcomp=Z,42nm,1.1s
GSI Gunungsitoli 41.49 236 P **P** **13 00 07.6 -2.0**
GSI IAmb IAmb 13 00 33.2
comp=Z,157nm,1.4s
DBJI Dramaga 41.54 218 P **P** **13 00 12.7 +2.7**
MNAI Manna 41.98 224 P **P** **13 00 12.7 -0.8**
MK31 Makanchi Array 42.16 310*ce*P **P** **13 00 16.7 +2.0**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 42.16 310 P **P** **13 00 12.9 -1.8**
comp=Z,7.9nm,0.6s,baz=92,slow=11,SNR=28
MKAR PcP **PcP** **13 02 10.1 +1.2**
comp=Z,8.8nm,0.8s,baz=100,slow=4.3,SNR=7.3
MKAR LR LR 13 19 55.3
comp=Z,2µm,18.6s,baz=71,slow=39
comp=Z,7.9nm,0.6s
MKAR Makanchi Array 42.16 310 *i* P **P** **13 00 14.3 -0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
ZAA0 Zalesovo Array 42.30 321 **P** **13 00 14.7 -1.1**
ZALV Zalesovo Beam 42.30 321 P **P** **13 00 14.6 -1.2**
comp=Z,8.6nm,0.4s,baz=107,slow=9.2,SNR=47
ZALV PcP **PcP** **13 02 09.6 +0.4**
comp=Z,11nm,0.9s,baz=113,slow=3.5,SNR=7.9
ZALV LR LR 13 19 35.3
comp=Z,412nm,19.6s,baz=114,slow=39
comp=Z,8.6nm,0.4s
MAKZ Makanchi 42.37 310 P **P** **13 00 16.2 -0.3**
MAKZ Makanchi 42.37 310 P **P** **13 00 16.6 +0.1**
COEN Coen 43.40 163 P **P** **13 00 24.2 -0.8**
KNRA Kununurra 43.50 183 P **P** **13 00 25.7 -0.1**
comp=Z,87nm,0.9s
KNRA Kununurra 43.50 183 P **P** **13 00 25.3 -0.5**
KNRA IAmb IAmb 13 00 32.4
comp=Z,69nm,0.9s
TIXI Tiksi 43.67 359 P **P** **13 00 27.0 +0.3**
TIXI Tiksi 43.67 359 LR LR 13 19 58.1
comp=Z,1µm,18.8s,baz=188,slow=38
TIXI Tiksi 43.67 359⇑ *e*P **P** **13 00 26.8 +0.2**
TIXI pmax pmax
comp=Z,48nm,1.3s
PDGK Podgornoye 43.77 304 P **P** **13 00 26.3 -1.7**
UZB Uzynbulak 44.11 304 *e*P **P** **13 00 30.9 +0.2**
UZB Uzynbulak 44.11 304 *e*P **P** **13 00 31.0 +0.2**
PRZ Przheval'sk 44.54 303 P **P** **13 00 33.3 -1.0**
PRZ Przheval'sk 44.54 303 P **P** **13 00 33.3 -1.0**
PRZ pmax pmax
comp=Z,50nm,1.4s
SATY Saty 44.55 304 *e*P **P** **13 00 34.6 +0.4**
SATY Saty 44.55 304 *e*P **P** **13 00 34.7 +0.4**
TARG Taragay, Kyrgy 44.97 302 P **P** **13 00 37.5 -0.5**
TARG Taragay, Kyrgy 44.97 302 P **P** **13 00 37.5 -0.5**
TARG pmax pmax
comp=Z,20nm,0.9s
ARXS Arharly 45.02 306 *e*P **P** **13 00 37.1 -0.8**
KURK Kurchatov 45.19 315 P **P** **13 00 38.9 -0.1**
KURK Kurchatov 45.19 315 P **P** **13 00 38.5 -0.5**
KURK P **P** **13 00 38.5 -0.5**
KURK S **S** **13 07 17.7 -0.1**
KURK S **S** **13 07 17.7 -0.1**
KURK Kurchatov 45.19 315*ce*P **P** **13 00 37.3 -1.7**
KURK pmax pmax
comp=Z,28nm,0.8s
BILL Bilibino 45.23 18 P **P** **13 00 40.2 +1.1**
BILL IAmb IAmb 13 00 52.1
comp=Z,92nm,1.3s
BILL Bilibino 45.23 18*d i*P **P** **13 00 39.4 +0.3**
BILL pmax pmax
comp=Z,42nm,1.1s
KURBB Kurchatov Arra 45.23 315 P **P** **13 00 38.5 -0.9**
comp=Z,14nm,0.5s,baz=102,slow=8.6,SNR=42
KURBB PcP **PcP** **13 02 19.9 +0.7**
comp=Z,6.1nm,0.8s,baz=100,slow=3.8,SNR=7.1
comp=Z,14nm,0.5s
KURBB Kurchatov Arra 45.23 315 P **P** **13 00 39.1 -0.3**
KDJ Kajisay 45.44 303 P **P** **13 00 40.9 -0.6**
KDJ Kajisay 45.44 303 P **P** **13 00 40.9 -0.6**
KDJ pmax pmax
comp=Z,24nm,1.1s
MDOK Medeo 45.55 304 *e*P **P** **13 00 42.6 +0.4**
MDOK Medeo 45.55 304 *e*P **P** **13 00 42.6 +0.4**
FITZ Fitzroy Crossi 46.14 187 P **P** **13 00 46.9 +0.1**
comp=Z,10nm,1.1s
FITZ Fitzroy Crossi 46.14 187 P **P** **13 00 47.0 +0.1**
FITZ Fitzroy Crossi 46.14 187 P **P** **13 00 46.4 -0.4**
comp=Z,28nm,0.9s,baz=39,slow=5.7,SNR=12
comp=Z,28nm,0.9s
FITZ Fitzroy Crossi 46.14 187 P **P** **13 00 48.5 +1.7**
KSH Kashi 46.43 299 P **P** **13 00 53.4 +4.2**
KSH PcP **PcP** **13 02 27.4 +3.6**
KSH PP **PP** **13 02 43.8 +5.6**
KSH S **S** **13 07 42.9 +6.7**
KSH pmax pmax
comp=Z,7.0nm,1.4s
KSH pmax pmax
comp=Z,190nm,8.8s
KSH LR LR
comp=Z,2µm,15.9s
KSH LR LR
comp=Z,2µm,14.3s
KSH LR LR
comp=Z,3µm,14.6s
ATKA Atka Island 47.06 43 P **P** **13 00 53.8 +0.1**
ATKA IAmb IAmb 13 00 54.2
comp=Z,44nm,0.8s
SGDS Sogindy 47.32 305 *e*P **P** **13 00 56.4 +0.4**
AAK Ala-Archa 47.43 303 P **P** **13 00 56.9 -0.1**
AAK Ala-Archa 47.43 303 LR LR 13 24 02.0
comp=Z,2µm,18.2s,baz=73,slow=40
AAK Ala-Archa 47.43 303 P **P** **13 00 57.5 +0.5**
AAK Ala-Archa 47.43 303*ce*P **P** **13 00 59.3 +2.3**
AAK pmax pmax
comp=Z,7.0nm,1.0s
WB0 Warramunga Arr 47.64 176 P **P** **13 00 57.6 -1.0**
MTSU Mount Surprise 47.70 163 P **P** **13 01 00.5 +1.4**
comp=Z,17nm,1.4s
MTSU Mount Surprise 47.70 163 P **P** **13 01 02.3 +3.2**
BTLS Baital 47.74 307 *e*P **P** **13 00 59.6 +0.4**
BTLS pmax pmax
comp=Z,10.0nm,1.2s
BTLS Baital 47.74 307 *e*P **P** **13 00 59.6 +0.4**
comp=Z,10nm,1.2s
WRAB Tennant Creek 47.80 176 **P** **13 00 58.8 -1.0**
WRAB IAmb IAmb 13 01 02.1
comp=Z,64nm,1.0s
WRAB Tennant Creek 47.80 176⇑ *e*P **P** **13 00 59.6 -0.2**
WRAB pmax pmax
comp=Z,51nm,0.9s
WRA Warramunga Arr 47.81 176 P **P** **13 00 58.9 -1.0**
WRA Warramunga Arr 47.81 176 P **P** **13 01 00.1 +0.2**
comp=Z,45nm,0.9s,baz=351,slow=7.9,SNR=5.1
comp=Z,45nm,0.9s
WR8 Warramunga Arr 47.83 175 P **P** **13 00 59.0 -1.0**
WR0 Warramunga Arr 47.84 175 P **P** **13 00 59.8 -0.3**
BRZS Berezniki 48.88 313 *e*P **P** **13 01 08.7 +0.8**
BRZS Berezniki 48.88 313 *e*P **P** **13 01 08.8 +0.8**
QIS Mount Isa 49.03 169 P **P** **13 01 09.2 -0.2**
comp=Z,40nm,1.1s
QIS Mount Isa 49.03 169 P **P** **13 01 12.0 +2.7**
HYB Hyderabad 49.10 269 *e*P **P** **13 01 09.3 -0.8**
HYB *es*P **pP** **13 01 13.6 -1.0**
HYB *e*PcP **PcP** **13 02 32.9 -0.6**
HYB *e*S **S** **13 08 14.9 +0.5**
NIL Nilore 49.27 292 P **P** **13 01 10.4 -0.7**
NIL IAmb IAmb 13 01 24.4
comp=Z,111nm,1.9s
NIL Nilore 49.27 292 P **P** **13 01 13.1 +1.9**
NIL Nilore 49.27 292 P **P** **13 01 10.4 -0.7**
NIL pmax pmax
comp=Z,111nm,1.9s
CLES Cleveland East 49.75 43 P **P** **13 01 14.3 -0.2**
MBWA Marble Bar 50.08 194 P **P** **13 01 17.5 +0.2**
MBWA IAmb IAmb 13 01 19.4
comp=Z,66nm,1.3s
CTAO Charters Tower 50.09 161 **P** **13 01 17.9 +0.5**
CTAO Charters Tower 50.09 161 P **P** **13 01 19.9 +2.5**
CTAO Charters Tower 50.09 161 P **P** **13 01 17.9 +0.5**
CTAO pmax pmax
comp=Z,41nm,1.1s
SPIA Saint Paul Isl 50.13 37 P **P** **13 01 16.0 -1.3**
baz=260
KK31 Karatay Array 50.33 304 **P** **13 01 18.4 -0.7**
KK31 Karatay Array 50.33 304 *i* P **P** **13 01 19.9 +0.8**
KKAR Karatay Array 50.33 304 **P** **13 01 18.3 -0.8**
KKAR Karatay Array 50.33 304 P **P** **13 01 18.3 -0.8**
P08K Saint George I 50.42 38 P **P** **13 01 18.3 -1.2**
baz=261
PSAC1 Pilbara Seismi 50.42 193 P **P** **13 01 19.7 -0.2**
comp=Z,81nm,1.1s
PSA00 Pilbara Seismi 50.46 193 P **P** **13 01 19.4 -0.7**
PSA00 Pilbara Seismi 50.46 193 P **P** **13 01 22.4 +2.3**
BVA0 Borovoye Array 50.54 317 *i* P **P** **13 01 21.3 +0.8**
BVAR Borovoye Array 50.54 317 P **P** **13 01 20.1 -0.4**
comp=Z,34nm,0.8s,baz=92,slow=12,SNR=79
BVAR PcP **PcP** **13 02 37.4 -0.8**
comp=Z,24nm,0.8s,baz=82,slow=4.5,SNR=6.7
BVAR LR LR 13 25 05.0
comp=Z,1µm,18.9s,baz=102,slow=39
comp=Z,34nm,0.8s
BRVK Borovoye 50.61 317 **P** **13 01 20.8 -0.2**
BRVK IAmb IAmb 13 01 35.6
comp=Z,105nm,1.3s
BRVK Borovoye 50.61 317 P **P** **13 01 19.6 -1.4**
BRVK S **S** **13 08 36.3 +1.7**
BRVK Borovoye 50.61 317*de*P **P** **13 01 20.4 -0.6**
BRVK pmax pmax
comp=Z,59nm,1.0s
IUG Iuzhnay 50.75 303 *e*P **P** **13 01 22.9 +0.5**
IUG pmax pmax
comp=Z,15nm,0.8s
IUG Iuzhnay 50.75 303 *e*P **P** **13 01 22.9 +0.5**
comp=Z,15nm,0.8s
BRLS Borolday 50.83 304 *e*P **P** **13 01 24.4 +1.5**
BRLS Borolday 50.83 304 *e*P **P** **13 01 24.4 +1.5**
GAR Garm 50.84 299 P **P** **13 01 22.1 -1.1**
GAMB Gambell 50.92 29 P **P** **13 01 21.8 -1.3**
baz=254
AS15 Alice Springs 51.45 176 P **P** **13 01 27.9 +0.3**
comp=Z,39nm,0.9s
AS31 Alice Springs 51.48 176 P **P** **13 01 27.9 +0.1**
ASAR Alice Springs 51.48 176 P **P** **13 01 28.2 +0.4**
comp=Z,33nm,0.8s,baz=5.2,slow=8.1,SNR=70
comp=Z,33nm,0.8s
AS01 Alice Springs 51.48 176 P **P** **13 01 28.8 +1.0**
CHGR Chuyangaron 51.79 299 P **P** **13 01 30.7 +0.5**
CHGR IAmb IAmb 13 03 02.7
comp=Z,44nm,1.0s
CHGR Chuyangaron 51.79 299 P **P** **13 01 30.7 +0.5**
CHGR pmax pmax
comp=Z,44nm,1.0s
UNV Unalaska Valle 51.86 42 P **P** **13 01 29.0 -1.3**
baz=266
SIMJ Simiganj 51.90 299 **P** **13 01 30.3 -0.9**
KBL Kabul 52.54 294 **P** **13 01 35.6 -0.4**
KBL Kabul 52.54 294 P **P** **13 01 37.2 +1.2**
SNR=16
KBL P **P** **13 01 37.2 +1.2**
SNR=16
KBL S **S** **13 08 59.2 -3.1**
KBL S **S** **13 08 59.2 -3.1**
KBL Kabul 52.54 294 P **P** **13 01 35.6 -0.4**
KBL pmax pmax
comp=Z,55nm,1.4s
M11K Mekoryuk 52.72 34 P **P** **13 01 35.9 -0.7**
baz=262
WRKA Warakurna 52.82 183 P **P** **13 01 38.0 +0.2**
comp=Z,26nm,1.1s
TNA Tin City 52.96 27 P **P** **13 01 37.9 -0.4**
baz=256
F14K Arctic Creek 53.59 27 P **P** **13 01 42.7 -0.3**
baz=258
K13K Kusilvak Mount 53.69 32 P **P** **13 01 44.2 +0.4**
K13K IAmb IAmb 13 01 46.3
comp=Z,99nm,1.6s
K13K Kusilvak Mount 53.69 32 P **P** **13 01 43.6 -0.1**
baz=262
FALS False Pass 53.71 41 P **P** **13 01 44.5 +0.5**
baz=268
ANM Nome 53.80 29 P **P** **13 01 44.7 +0.1**
baz=259
M13K Dall Lake 54.13 34 P **P** **13 01 47.2 +0.3**
baz=264,SNR=5.3
J14K Nanvaranak Lak 54.31 31 IAmb IAmb 13 01 50.8
comp=Z,74nm,1.6s
J14K Nanvaranak Lak 54.31 31 P **P** **13 01 47.3 -0.9**
baz=262
F15K North Star Dit 54.32 27 IAmb IAmb 13 01 51.1
comp=Z,65nm,0.9s
F15K North Star Dit 54.32 27 P **P** **13 01 47.7 -0.6**
baz=259,SNR=12
G15K Niukluk 54.44 28 P **P** **13 01 48.7 -0.4**
baz=260
S12K Black Hills 54.51 40 P **P** **13 01 49.3 -0.6**
baz=269
L14K Kuka Creek 54.55 33 IAmb IAmb 13 01 53.0
comp=Z,84nm,1.2s
L14K Kuka Creek 54.55 33 P **P** **13 01 49.7 -0.3**
baz=264,SNR=18
C16K Lisburne Hills 54.59 24 IAmb IAmb 13 01 52.4
comp=Z,69nm,1.0s
C16K Lisburne Hills 54.59 24 P **P** **13 01 49.2 -1.0**
baz=257,SNR=7.1
M14K Bethel 54.84 34 IAmb IAmb 13 01 54.8
comp=Z,54nm,0.9s
M14K Bethel 54.84 34 P **P** **13 01 51.7 -0.4**
baz=265,SNR=19
N14K Kuskokwak Cree 54.91 35 IAmb IAmb 13 01 55.1
comp=Z,48nm,1.0s
N14K Kuskokwak Cree 54.91 35 P **P** **13 01 52.2 -0.4**
baz=266
O14K Tigyukauivet M 55.09 35 P **P** **13 01 54.0 0.0**
O14K Tigyukauivet M 55.09 35 P **P** **13 01 53.4 -0.6**
baz=267
H16K Elim 55.15 29 P **P** **13 01 53.7 -0.6**
baz=262
L15K Ungalak Mounta 55.15 33 P **P** **13 01 53.7 -0.6**
baz=265
K15K Wolf Creek Mou 55.19 32 P **P** **13 01 54.0 -0.7**
baz=264,SNR=6.5
G16K Koyuk River 55.20 28 P **P** **13 01 53.4 -1.4**
baz=262
D17K Noatak River 55.30 25 P **P** **13 01 55.5 +0.1**
baz=259,SNR=17
SDPT Sand Point 55.41 40 P **P** **13 01 54.8 -1.6**
baz=270
C17K DeLong Mountai 55.42 24 P **P** **13 01 56.6 +0.4**
baz=259
RDOG Red Dog Mine 55.44 25 P **P** **13 01 56.7 +0.4**
baz=259,SNR=6.3
M15K Kasigluk River 55.46 34 P **P** **13 01 56.0 -0.7**
baz=266,SNR=13
MEEK Meekatharra 55.62 193 P **P** **13 01 58.5 +0.3**
comp=Z,22nm,1.2s
MEEK Meekatharra 55.62 193 P **P** **13 01 59.2 +1.0**
E17K Hotham Inlet 55.68 26 P **P** **13 01 58.0 -0.1**
baz=261,SNR=10
J16K Anvik River 55.71 31 P **P** **13 01 58.2 -0.2**
baz=265,SNR=5.2
I17K Unalakleet 55.73 30 IAmb IAmb 13 02 01.3
comp=Z,56nm,1.3s
I17K Unalakleet 55.73 30 P **P** **13 01 58.2 -0.3**
baz=264
N15K Kwethluk River 55.73 34 IAmb IAmb 13 02 01.0
comp=Z,48nm,0.9s
N15K Kwethluk River 55.73 34 P **P** **13 01 58.8 +0.2**
baz=267,SNR=15
QLP Quilpie 55.80 166 P **P** **13 01 58.6 -0.8**
comp=Z,33nm,1.5s
QLP Quilpie 55.80 166 P **P** **13 02 01.5 +2.1**
F17K Baldwin Pennin 55.81 27 IAmb IAmb 13 02 01.7
comp=Z,53nm,0.8s
F17K Baldwin Pennin 55.81 27 P **P** **13 01 58.4 -0.6**
baz=262
O15K Ungalikthiuk R 55.82 36 P **P** **13 01 59.1 -0.1**
O15K IAmb IAmb 13 02 01.5
comp=Z,56nm,1.0s
O15K Ungalikthiuk R 55.82 36 P **P** **13 01 58.9 -0.4**
baz=268,SNR=11
G17K Kiwalik Mounta 55.92 28 P **P** **13 02 00.3 +0.4**
baz=263,SNR=10
CHNA Chernabura Isl 55.93 41 P **P** **13 02 02.0 +2.0**
CHNA Chernabura Isl 55.93 41 P **P** **13 01 59.6 -0.5**
baz=271
CNBA Chernabura Isl 55.93 41 P **P** **13 01 59.8 -0.3**
S14K Fog Glacier 55.93 39 P **P** **13 02 00.2 0.0**
baz=270
B18K Kokolik River 56.08 23 P **P** **13 02 01.2 +0.3**
baz=259,SNR=12
L16K Owhat River 56.11 33 P **P** **13 02 01.6 +0.4**
baz=267,SNR=11
C18K Utkok River 56.17 24 IAmb IAmb 13 02 03.9
comp=Z,68nm,0.9s
C18K Utukok River 56.17 24 P **P** **13 02 01.7 +0.1**
baz=260,SNR=32
H17K Granite Mounta 56.17 29 P **P** **13 02 01.8 +0.1**
H17K Granite Mounta 56.17 29 P **P** **13 02 01.2 -0.5**
baz=264,SNR=8.2
E18K Tukpahlearik C 56.20 26 IAmb IAmb 13 02 04.7
comp=Z,47nm,1.0s
E18K Tukpahlearik C 56.20 26 P **P** **13 02 01.7 -0.1**
baz=262
INKA Innaminka 56.26 169 P **P** **13 02 02.7 0.0**
SVE Sverdlovsk 56.31 322 *e*P **P** **13 02 03.0 +0.2**
SVE *e*S **S** **13 09 51.1 -0.7**
SVE pmax pmax
comp=Z,67nm,1.0s
M16K Timber Creek 56.32 33 P **P** **13 02 02.5 -0.4**
baz=268,SNR=13
N16K Nishlik Lake 56.40 34 P **P** **13 02 03.2 -0.2**
baz=268,SNR=23
J17K VABM Dome 56.40 31 IAmb IAmb 13 02 06.1
comp=Z,42nm,1.0s
J17K VABM Dome 56.40 31 P **P** **13 02 03.1 -0.2**
baz=266,SNR=17
F18K Selawik 56.46 27 P **P** **13 02 03.5 -0.2**
baz=263,SNR=31
A19K Wainwright 56.48 22 P **P** **13 02 03.8 0.0**
baz=260
EIDS Eidsvold 56.54 158 P **P** **13 02 05.0 +0.3**
comp=Z,24nm,1.5s
EIDS Eidsvold 56.54 158 P **P** **13 02 04.2 -0.5**
EIDS Eidsvold 56.54 158 P **P** **13 02 07.4 +2.7**
CHGN Chignik 56.56 39 P **P** **13 02 04.4 -0.2**
CHGN Chignik 56.56 39 P **P** **13 02 03.4 -1.1**
baz=271
L17K Donlin 56.69 32 P **P** **13 02 05.6 +0.2**
baz=267,SNR=24
K17K Iditarod 56.71 31 P **P** **13 02 05.7 +0.2**
K17K IAmb IAmb 13 02 08.3
comp=Z,37nm,0.9s
K17K Iditarod 56.71 31 P **P** **13 02 05.2 -0.3**
baz=267
O16K Kokwok River B 56.72 35 P **P** **13 02 05.7 +0.1**
O16K IAmb IAmb 13 02 08.0

	comp=Z,43nm,1.1s								
O16K	**Kokwok River B**	56.72	35	P	P	13 02 05.5	-0.2		
	baz=269,SNR=16								
P16K	**Nushagak River**	56.76	36	P	P	13 02 05.7	-0.3		
	baz=270								
G18K	**Tagagawik**	56.79	28	P	P	13 02 07.0	+0.9		
G18K				IAmb	IAmb	13 02 08.4			
	comp=Z,65nm,1.1s								
G18K	**Tagagawik**	56.79	28	P	P	13 02 05.5	-0.6		
	baz=265,SNR=35								
C19K	**Lookout Ridge**	56.81	24	P	P	13 02 06.7	+0.4		
C19K				IAmb	IAmb	13 02 09.1			
	comp=Z,58nm,1.0s								
C19K	**Lookout Ridge**	56.81	24	P	P	13 02 06.2	-0.1		
	baz=262,SNR=24								
H18K	**Honhosa River**	56.84	28	IAmb	IAmb	13 02 08.8			
	comp=Z,53nm,1.3s								
H18K	**Honhosa River**	56.84	28	P	P	13 02 06.5	0.0		
	baz=265								
M17K	**Holitna River**	57.07	33	IAmb	IAmb	13 02 11.1			
	comp=Z,62nm,1.0s								
M17K	**Holitna River**	57.07	33	P	P	13 02 08.3	+0.2		
	baz=269,SNR=30								
AB31	**Akbulak array**	57.16	313	P	P	13 02 08.9	0.0		
AB31				IAmb	IAmb	13 02 11.2			
	comp=Z,42nm,0.8s								
AB31	**Akbulak array**	57.16	313	*i* P	P	13 02 08.6	-0.4		
ABKAR	**Akbulak array**	57.16	313	P	P	13 02 08.8	-0.2		
N17K	**Nushagak Hills**	57.18	34	IAmb	IAmb	13 02 11.8			
	comp=Z,54nm,1.1s								
N17K	**Nushagak Hills**	57.18	34	P	P	13 02 09.0	+0.1		
	baz=270,SNR=24								
O17K	**Koliganek Bris**	57.22	35	P	P	13 02 09.6	+0.4		
	baz=270,SNR=6.6								
F19K	**Shaleruckik Mo**	57.23	26	P	P	13 02 10.4	+1.3		
F19K				IAmb	IAmb	13 02 11.2			
	comp=Z,64nm,1.5s								
F19K	**Shaleruckik Mo**	57.23	26	P	P	13 02 09.2	+0.1		
	baz=265,SNR=19								
D19K	**Kuna River**	57.27	24	P	P	13 02 09.5	+0.1		
	baz=264								
L18K	**Granite Mounta**	57.44	32	P	P	13 02 11.3	+0.6		
	baz=269,SNR=25								
G19K	**Purcell Mounta**	57.45	27	P	P	13 02 11.5	+0.8		
G19K	**Purcell Mounta**	57.45	27	P	P	13 02 11.3	+0.6		
	baz=266,SNR=22								
GCSA	**Galena City Sc**	57.45	29	P	P	13 02 10.2	-0.5		
	baz=267,SNR=6.2								
Q16K	**King Salmon**	57.46	36	P	P	13 02 10.4	-0.5		
	baz=271,SNR=7.6								
J18K	**Innoko River**	57.47	31	P	P	13 02 11.3	+0.4		
J18K	**Innoko River**	57.47	31	P	P	13 02 10.7	-0.3		
	baz=268,SNR=13								
E19K	**Redstone River**	57.49	26	P	P	13 02 11.0	-0.1		
	baz=265								
P17K	**Kvichak River**	57.56	36	P	P	13 02 11.2	-0.4		
	baz=271,SNR=13								
ARTI	**Arti**	57.57	321	P	P	13 02 11.2	-0.6		
ARTI	**Arti**	57.57	321	P	P	13 02 11.1	-0.6		
	comp=Z,40nm,0.5s,baz=98,slow=3.7,SNR=51								
ARTI				LR	LR	13 29 40.5			
	comp=Z,451nm,20.9s,baz=80,slow=39								
	comp=Z,40nm,0.5s								
ARTI	**Arti**	57.57	321	*c i* P	P	13 02 10.9	-0.8		
ARTI						13 03 02.0			
ARTI						13 04 16.6			
ARTI				S	S	13 10 10.9	+2.4		
ARTI				SS	SS	13 13 58.2	+0.1		
ARTI				pmax	pmax				
	comp=Z,35nm,0.5s								
ARTI				MLR	MLR				
	comp=Z,1µm,15.0s								
R17L	**Mt. Peulik Vol**	57.65	37	P	P	13 02 11.3	-0.9		
	baz=272								
PLK4	**Peulik 4**	57.65	37	P	P	13 02 12.4	0.0		
H19K	**Roundabout Mou**	57.67	28	IAmb	IAmb	13 02 14.9			
	comp=Z,69nm,1.1s								
H19K	**Roundabout Mou**	57.67	28	P	P	13 02 12.3	+0.1		
	baz=267,SNR=32								
B20K	**Meade River**	57.78	23	IAmb	IAmb	13 02 15.4			
	comp=Z,48nm,0.8s								
B20K	**Meade River**	57.78	23	P	P	13 02 13.0	0.0		
	baz=263,SNR=9.4								
N18K	**Kilae Creek**	57.82	34	P	P	13 02 12.9	-0.6		
	baz=270,SNR=13								
D20K	**Etivluk River**	57.84	24	P	P	13 02 13.3	-0.2		
	baz=265								
M18K	**Stony River**	57.85	33	P	P	13 02 13.1	-0.5		
	baz=270,SNR=20								
Q17K	**Contact Creek**	57.88	37	P	P	13 02 12.8	-1.2		
	baz=272								
E20K	**Nigu River**	57.95	25	P	P	13 02 13.9	-0.5		
	baz=265								
J19K	**Poorman**	57.97	30	IAmb	IAmb	13 02 16.8			
	comp=Z,44nm,1.0s								
J19K	**Poorman**	57.97	30	P	P	13 02 13.9	-0.5		
	baz=269,SNR=38								
F20K	**Avaraart Lake**	58.05	26	P	P	13 02 15.1	+0.2		
	baz=267,SNR=12								
CHIR	**Chirikof Islan**	58.15	40	P	P	13 02 15.3	-0.5		
	baz=274								
O18K	**Koktuh Hills**	58.18	35	IAmb	IAmb	13 02 18.7			
	comp=Z,58nm,1.2s								
O18K	**Koktuh Hills**	58.18	35	P	P	13 02 16.3	+0.3		
	baz=272,SNR=20								
P18K	**Big Mountain,**	58.18	35	P	P	13 02 17.2	+1.2		
P18K				IAmb	IAmb	13 02 18.1			
	comp=Z,72nm,1.4s								
P18K	**Big Mountain,**	58.18	35	P	P	13 02 16.0	0.0		
	baz=272,SNR=15								
AKTO	**Aktyubinsk**	58.27	314	P	P	13 02 16.7	-0.1		
	comp=Z,16nm,0.7s,baz=94,slow=6.2,SNR=33								
AKTO				LR	LR	13 29 21.1			
	comp=Z,2µm,20.8s,baz=72,slow=38								
	comp=Z,16nm,0.7s								
AKTO	**Aktyubinsk**	58.27	314	P	P	13 02 16.9	+0.1		
L19K	**White Mountain**	58.30	32	P	P	13 02 16.8	0.0		
L19K	**White Mountain**	58.30	32	P	P	13 02 17.4	+0.6		
	baz=270,SNR=26								
Q18K	**Katmai Hardscr**	58.32	36	P	P	13 02 16.8	-0.4		
	baz=272,SNR=6.6								
H20K	**Anotleneega Mo**	58.32	28	P	P	13 02 16.4	-0.5		
	baz=268,SNR=14								
I20K	**Naaghedeneel**	58.48	29	P	P	13 02 18.3	+0.4		
	baz=269,SNR=33								
N19K	**Bonanza Creek**	58.51	34	P	P	13 02 18.3	-0.1		
	baz=272,SNR=12								
M19K	**Big River Lodg**	58.53	32	P	P	13 02 18.5	+0.1		
	baz=271								
MORW	**Morawa**	58.53	195	P	P	13 02 18.5	-0.2		
	comp=Z,21nm,1.1s								
MORW	**Morawa**	58.53	195	P	P	13 02 18.2	-0.5		
MORW	**Morawa**	58.53	195	P	P	13 02 20.6	+1.9		
C21K	**Knifeblade Rid**	58.53	24	P	P	13 02 17.6	-0.7		
	baz=266,SNR=40								
A22K	**Sinclair Lake**	58.61	22	P	P	13 02 19.4	+0.6		
	baz=265								
O19K	**Port Alsworth**	58.61	34	IAmb	IAmb	13 02 21.4			
	comp=Z,46nm,1.1s								
O19K	**Port Alsworth**	58.61	34	P	P	13 02 19.3	+0.4		
	baz=272,SNR=6.1								
J20K	**Nowinta River**	58.62	30	IAmb	IAmb	13 02 21.8			
	comp=Z,53nm,0.9s								
J20K	**Nowinta River**	58.62	30	P	P	13 02 18.7	-0.2		
	baz=270,SNR=38								
B21K	**Ikpikpuk River**	58.62	23	P	P	13 02 19.0	+0.1		
	baz=266,SNR=39								
K20K	**Telida**	58.66	31	IAmb	IAmb	13 02 22.2			
	comp=Z,52nm,0.8s								
K20K	**Telida**	58.66	31	P	P	13 02 19.5	+0.3		
	baz=270								
R18K	**Karluk**	58.68	37	P	P	13 02 17.6	-1.8		
	baz=274								
L20K	**Farewell, AK**	58.76	32	P	P	13 02 20.8	+0.8		
	baz=271,SNR=21								
E21K	**Killik River**	58.79	25	P	P	13 02 19.7	-0.4		
	baz=267,SNR=57								
IMAR	**Indian Mountai**	58.80	28	P	P	13 02 19.9	-0.3		
SII	**Sitkinak Islan**	58.90	39	P	P	13 02 21.9	+0.9		
SII	**Sitkinak Islan**	58.90	39	P	P	13 02 23.0	+2.0		
SII	**Sitkinak Islan**	58.90	39	P	P	13 02 21.2	+0.2		
	baz=274,SNR=11								
G21K	**Allakaket**	58.91	27	P	P	13 02 21.4	+0.4		
G21K				IAmb	IAmb	13 02 23.6			
	comp=Z,55nm,1.2s								
G21K	**Allakaket**	58.91	27	P	P	13 02 21.5	+0.6		
	baz=269								

F21K	**Alatna River**	58.93	26	P	P	13 02 22.1	+1.0		
F21K	**Alatna River**	58.93	26	P	P	13 02 21.6	+0.5		
	baz=269,SNR=13								
Q19K	**Cape Douglas,**	59.02	36	P	P	13 02 20.2	-1.6		
	baz=274								
B22K	**Teshekpuk Lake**	59.08	22	P	P	13 02 22.0	0.0		
	baz=267,SNR=5.4								
M20K	**Styx River**	59.12	32	P	P	13 02 22.5	-0.1		
	baz=272								
P19K	**Oil Pt**	59.18	35	P	P	13 02 22.2	-0.8		
	baz=273								
H21K	**Melozitna Rive**	59.19	28	IAmb	IAmb	13 02 25.8			
	comp=Z,64nm,1.1s								
H21K	**Melozitna Rive**	59.19	28	P	P	13 02 22.9	0.0		
	baz=270,SNR=52								
D22K	**Ayikyak River**	59.27	24	P	P	13 02 23.7	+0.2		
	baz=268,SNR=66								
OHAK	**Old Harbor**	59.33	38	IAmb	IAmb	13 02 25.3			
	comp=Z,37nm,0.9s								
OHAK	**Old Harbor**	59.33	38	P	P	13 02 24.8	+0.8		
OHAK	**Old Harbor**	59.33	38	P	P	13 02 22.5	-1.5		
	baz=275,SNR=6.9								
RED	**Redoubt Volcan**	59.37	34	IAmb	IAmb	13 02 26.0			
	comp=Z,34nm,1.0s								
CHUM	**Lake Minchumin**	59.43	30	P	P	13 02 25.0	+0.4		
	baz=272,SNR=9.1								
F22K	**John River**	59.44	26	P	P	13 02 24.9	+0.3		
	baz=270,SNR=66								
O20K	**Slope Mountain**	59.46	34	P	P	13 02 24.8	-0.2		
	baz=274								
PPLA	**Purkeypile**	59.52	31	IAmb	IAmb	13 02 28.1			
	comp=Z,41nm,0.8s								
PPLA	**Purkeypile**	59.52	31	P	P	13 02 25.9	+0.4		
	baz=272,SNR=22								
I21K	**Tanana**	59.54	29	P	P	13 02 25.5	+0.2		
	baz=271,SNR=42								
CAST	**Castle Rocks**	59.55	31	IAmb	IAmb	13 02 28.1			
	comp=Z,49nm,0.9s								
CAST	**Castle Rocks**	59.55	31	P	P	13 02 25.4	-0.1		
	baz=272,SNR=64								
E22K	**Anaktuvuk Pass**	59.58	25	P	P	13 02 25.9	+0.3		
	baz=270,SNR=84								
N20K	**Mount Spurr**	59.60	33	P	P	13 02 25.1	-0.8		
	baz=273,SNR=9.2								
SPCR	**Spurr Chakacha**	59.60	33	P	P	13 02 25.4	-0.5		
	baz=273,SNR=8.1								
KDAK	**Kodiak Island**	59.66	37	P	P	13 02 25.6	-0.7		
KDAK	**Kodiak Island**	59.66	37	*ce* P	P	13 02 25.4	-0.8		
KDAK				pmax	pmax				
	comp=Z,95nm,1.0s								
KDAK	**Kodiak Island**	59.66	37	P	P	13 02 25.2	-1.0		
	baz=275								
SPU	**Mount Spurr**	59.67	33	P	P	13 02 26.8	+0.4		
SPU				IAmb	IAmb	13 02 29.2			
	comp=Z,34nm,1.0s								
Q20K	**Shuyak Island**	59.69	36	P	P	13 02 25.3	-1.1		
	baz=275,SNR=8.6								
SYI	**Shuyak Island**	59.69	36	P	P	13 02 27.1	+0.7		
G22K	**Bettles**	59.70	26	P	P	13 02 25.4	-1.0		
	baz=271								
STLK	**Strandline Lak**	59.76	33	P	P	13 02 26.6	-0.4		
STLK				IAmb	IAmb	13 02 59.3			
	comp=Z,18nm,0.4s								
H22K	**Ishtalitna Cre**	59.77	28	P	P	13 02 26.6	-0.4		
	baz=271,SNR=68								
BLDU	**Ballidu**	59.87	194	P	P	13 02 28.0	0.0		
	comp=Z,31nm,2.0s								
BLDU	**Ballidu**	59.87	194	P	P	13 02 29.2	+1.3		
SKT	**Skwentna**	59.87	32	P	P	13 02 27.1	-0.6		
SKT				IAmb	IAmb	13 02 29.4			
	comp=Z,30nm,1.0s								
SKT	**Skwentna**	59.87	32	P	P	13 02 27.0	-0.7		
	baz=274,SNR=27								
HOM	**Homer**	59.99	35	P	P	13 02 28.2	-0.2		
	baz=275								
D23K	**Nanushuk River**	60.00	24	P	P	13 02 28.8	+0.4		
	baz=270,SNR=53								
BPAW	**Bear Paw Mtn.**	60.01	30	IAmb	IAmb	13 02 31.1			
	comp=Z,52nm,1.2s								
BPAW	**Bear Paw Mtn.**	60.01	30	P	P	13 02 28.7	+0.1		
	baz=273,SNR=28								
C23K	**Itkillik River**	60.02	23	P	P	13 02 29.1	+0.5		
	baz=270,SNR=26								
KTH	**Kantishna Hill**	60.06	30	IAmb	IAmb	13 02 31.4			
	comp=Z,66nm,1.4s								
MLY	**Manley**	60.07	29	IAmb	IAmb	13 02 31.8			
	comp=Z,41nm,1.0s								
MLY	**Manley**	60.07	29	P	P	13 02 28.1	-0.9		
	baz=272,SNR=50								
COLD	**Coldfoot**	60.21	26	IAmb	IAmb	13 02 32.7			
	comp=Z,62nm,1.6s								
COLD	**Coldfoot**	60.21	26	P	P	13 02 29.7	-0.2		
	baz=272,SNR=16								
SUA	**Susitna One**	60.28	33	IAmb	IAmb	13 02 33.2			
	comp=Z,50nm,0.8s								
SUA	**Susitna One**	60.28	33	P	P	13 02 30.5	-0.2		
	baz=274,SNR=22								
G23K	**Bananza Creek**	60.30	27	IAmb	IAmb	13 02 33.3			
	comp=Z,54nm,1.1s								
G23K	**Bananza Creek**	60.30	27	P	P	13 02 30.8	+0.3		
	baz=272,SNR=39								
TRF	**Thorofare Moun**	60.35	30	P	P	13 02 30.2	-1.0		
	baz=274,SNR=10								
BRLK	**Bradley Lake**	60.36	35	P	P	13 02 32.0	+0.9		
BRLK				IAmb	IAmb	13 02 33.6			
	comp=Z,51nm,1.1s								
E23K	**Chandalar**	60.41	25	P	P	13 02 31.7	+0.3		
E23K	**Chandalar**	60.41	25	P	P	13 02 32.0	+0.6		
	baz=272,SNR=54								
TOLK	**Toolik Lake Re**	60.41	24	P	P	13 02 32.7	+1.4		
TOLK	**Toolik Lake Re**	60.41	24	P	P	13 02 32.3	+1.0		
	baz=271,SNR=15								
CUT	**Chulitna**	60.44	32	P	P	13 02 31.2	-0.3		
	baz=274,SNR=11								
STKA	**Stephens Creek**	60.44	170	P	P	13 02 32.1	+0.3		
	comp=Z,96nm,1.0s								
STKA	**Stephens Creek**	60.44	170	P	P	13 02 32.2	+0.4		
STKA	**Stephens Creek**	60.44	170	P	P	13 02 32.7	+0.9		
	comp=Z,11nm,0.8s,baz=354,slow=6.3,SNR=10								
	comp=Z,11nm,0.8s								
STKA	**Stephens Creek**	60.44	170	P	P	13 02 33.6	+1.8		
STKA	**Stephens Creek**	60.44	170	‖ *e* P	P	13 02 32.4	+0.6		
DZM	**Mont Dzumac**	60.50	142	P	P	13 02 33.8	+1.3		
	comp=Z,4.8nm,0.4s,baz=286,slow=8.6,SNR=9.3								
	comp=Z,4.8nm,0.4s								
H23K	**Yukon River**	60.53	28	P	P	13 02 32.6	+0.5		
	baz=273,SNR=98								
M22K	**Willow**	60.56	32	P	P	13 02 31.4	-0.9		
	baz=275,SNR=37								
SLKM	**Skilak Lake**	60.62	34	IAmb	IAmb	13 02 34.1			
	comp=Z,53nm,1.2s								
I23K	**Minto, Yukon-K**	60.65	28	IAmb	IAmb	13 02 35.6			
	comp=Z,38nm,1.1s								
I23K	**Minto, Yukon-K**	60.65	28	P	P	13 02 33.4	+0.6		
	baz=274,SNR=25								
D24K	**Happy Valley**	60.66	24	P	P	13 02 33.5	+0.5		
	baz=272,SNR=24								
C24K	**Franklin Bluff**	60.69	23	P	P	13 02 33.5	+0.4		
	baz=272,SNR=62								
RC01	**Rabbit Creek A**	60.80	33	IAmb	IAmb	13 02 36.2			
	comp=Z,46nm,1.0s								
RC01	**Rabbit Creek A**	60.80	33	P	P	13 02 33.6	-0.5		
	baz=276,SNR=17								
NEA2	**Nenana**	60.81	29	P	P	13 02 33.7	-0.3		
	baz=274,SNR=78								
E24K	**Your Creek**	60.83	25	P	P	13 02 33.8	-0.4		
	baz=273,SNR=12								
O22K	**Cooper Landing**	60.87	34	P	P	13 02 34.2	-0.3		
O22K				IAmb	IAmb	13 02 55.1			
	comp=Z,40nm,0.8s								
O22K	**Cooper Landing**	60.87	34	P	P	13 02 33.6	-0.9		
	baz=276								
CMSA	**Cobar Meteorol**	60.90	166	P	P	13 02 36.0	+1.0		
	comp=Z,36nm,1.6s								
CMSA	**Cobar Meteorol**	60.90	166	P	P	13 02 37.5	+2.6		
MCK	**McKinley**	60.94	30	P	P	13 02 34.3	-0.6		
	baz=275,SNR=52								
PMR	**Palmer**	61.04	33	IAmb	IAmb	13 02 37.0			
	comp=Z,48nm,1.1s								
PMR	**Palmer**	61.04	33	P	P	13 02 38.0	+2.4		
PMR	**Palmer**	61.04	33	P	P	13 02 34.5	-1.1		
	baz=276,SNR=26								
SEW	**Seward**	61.04	34	P	P	13 02 35.6	-0.1		
	baz=276,SNR=20								
F24K	**Squaw Lake**	61.09	26	IAmb	IAmb	13 02 38.8			
	comp=Z,47nm,0.8s								
F24K	**Squaw Lake**	61.09	26	P	P	13 02 35.5	-0.4		
	baz=274,SNR=46								

GHO	**Glory Hole Cre**	61.12	32	IAmb	IAmb	13 02 39.0			
	comp=Z,40nm,1.0s								
H24K	**Noodor Dome**	61.21	28	IAmb	IAmb	13 02 39.9			
	comp=Z,55nm,1.1s								
H24K	**Noodor Dome**	61.21	28	P	P	13 02 36.6	-0.2		
	baz=274,SNR=44								
WRH	**Wood River Hil**	61.24	29	IAmb	IAmb	13 02 40.0			
	comp=Z,31nm,1.1s								
COLA	**College**	61.31	29	P	P	13 02 37.7	+0.4		
COLA				IAmb	IAmb	13 02 39.9			
	comp=Z,19nm,0.7s								
COLA	**College**	61.31	29	P	P	13 02 39.4	+2.0		
COLA	**College**	61.31	29	*ce* P	P	13 02 37.2	-0.2		
COLA				pmax	pmax				
	comp=Z,16nm,0.8s								
COLA	**College**	61.31	29	P	P	13 02 37.3	0.0		
	baz=275								
G24K	**Hadweenzic Riv**	61.31	27	P	P	13 02 37.9	+0.4		
	baz=274,SNR=57								
CCB	**Clear Creek Bu**	61.35	29	IAmb	IAmb	13 02 40.4			
	comp=Z,44nm,1.6s								
KNK	**Knik Glacier**	61.38	33	IAmb	IAmb	13 02 39.8			
	comp=Z,49nm,0.9s								
KNK	**Knik Glacier**	61.38	33	P	P	13 02 37.3	-0.7		
	baz=276,SNR=20								
ARMA	**Armidale**	61.41	160	P	P	13 02 39.0	+0.5		
	comp=Z,20nm,1.2s								
ARMA	**Armidale**	61.41	160	P	P	13 02 38.8	+0.2		
ARMA				IAmb	IAmb	13 02 48.0			
	comp=Z,101nm,2.0s								
POKR	**Poker Plat Res**	61.46	28	P	P	13 02 38.3	-0.2		
	baz=275,SNR=15								
PWL	**Port Wells**	61.51	33	IAmb	IAmb	13 02 40.3			
	comp=Z,47nm,1.0s								
PWL	**Port Wells**	61.51	33	P	P	13 02 38.1	-0.7		
	baz=277,SNR=15								
D25K	**Kavik River**	61.53	24	P	P	13 02 38.7	-0.2		
	baz=274,SNR=19								
HTT	**Hallett**	61.60	172	P	P	13 02 40.0	+0.3		
	comp=Z,7.3nm,1.7s								
M23K	**Glacier View**	61.69	32	P	P	13 02 39.2	-0.8		
	baz=277,SNR=18								
ILAR	**Eielson Array**	61.73	29	P	P	13 02 38.7	-1.6		
ILAR	**Eielson Array**	61.73	29	P	P	13 02 38.9	-1.4		
	comp=Z,10nm,0.8s,baz=277,slow=5.3,SNR=52								
	comp=Z,10nm,0.8s								
HDA	**Harding Lake**	61.74	29	P	P	13 02 39.2	-1.1		
	baz=276,SNR=72								
G25K	**Bearman Lake**	61.85	27	P	P	13 02 41.0	0.0		
	baz=276,SNR=50								
SCM	**Sheep Creek Mo**	61.87	32	P	P	13 02 41.4	0.0		
	baz=277,SNR=24								
E25K	**Arctic Village**	61.92	25	IAmb	IAmb	13 02 44.7			
	comp=Z,54nm,1.0s								
E25K	**Arctic Village**	61.92	25	P	P	13 02 42.1	+0.5		
	baz=275,SNR=26								
F25K	**Christian Rive**	61.94	26	P	P	13 02 41.4	-0.3		
	baz=276,SNR=63								
C26K	**Camden Bay**	61.99	23	P	P	13 02 41.6	-0.3		
	baz=275								
H25L	**Birch Creek**	62.01	27	P	P	13 02 42.0	-0.1		
	baz=276,SNR=62								
P23K	**Montague Islan**	62.08	34	IAmb	IAmb	13 02 44.7			
	comp=Z,46nm,1.0s								
P23K	**Montague Islan**	62.08	34	P	P	13 02 41.0	-1.6		
	baz=278,SNR=5.8								
GLI	**Glacier Island**	62.10	33	IAmb	IAmb	13 02 44.5			
	comp=Z,29nm,0.8s								
GLI	**Glacier Island**	62.10	33	P	P	13 02 41.0	-1.9		
	baz=278,SNR=6.2								
KIRV	**Kirov**	62.17	324	*ce* P	P	13 02 42.5	-0.7		
PRP	**Porcupine Dome**	62.22	28	IAmb	IAmb	13 02 46.5			
	comp=Z,51nm,1.0s								
PRP	**Porcupine Dome**	62.22	28	P	P	13 02 41.8	-1.9		
	baz=277,SNR=66								
K24K	**Donnelly Dome**	62.32	30	IAmb	IAmb	13 02 45.9			
	comp=Z,43nm,0.9s								
K24K	**Donnelly Dome**	62.32	30	P	P	13 02 42.9	-1.4		
	baz=278,SNR=9.0								
BMAR	**Burnt Mountain**	62.37	26	P	P	13 02 45.3	+0.8		
M24K	**Tolsona, Glenn**	62.37	32	IAmb	IAmb	13 02 48.4			
	comp=Z,45nm,0.8s								
M24K	**Tolsona, Glenn**	62.37	32	P	P	13 02 45.0	+0.2		
	baz=278,SNR=17								
J25K	**Salcha River,**	62.39	29	P	P	13 02 43.2	-1.6		
	baz=277,SNR=13								
FID	**Port Fidalgo**	62.42	33	IAmb	IAmb	13 02 46.7			
	comp=Z,34nm,0.9s								
C27K	**Jago River**	62.44	23	P	P	13 02 45.6	+0.6		
	baz=276,SNR=28								
HIN	**Hinchinbrook I**	62.47	34	IAmb	IAmb	13 02 47.3			
	comp=Z,34nm,0.9s								
F26K	**Sheenjek River**	62.50	25	P	P	13 02 46.2	+0.8		
	baz=277,SNR=97								
PAX	**Paxson**	62.57	31	IAmb	IAmb	13 02 48.1			
	comp=Z,40nm,1.2s								
PAX	**Paxson**	62.57	31	P	P	13 02 45.3	-0.8		
	baz=278,SNR=28								
KLU	**Klutina**	62.58	32	IAmb	IAmb	13 02 48.2			
	comp=Z,32nm,1.1s								
KLU	**Klutina**	62.58	32	P	P	13 02 46.0	-0.1		
	baz=279,SNR=24		

baz=281
MCARA **McCarthy VSAT** 63.97 32 P P 13 02 55.2 0.0
MCARA IAmb IAmb 13 02 57.7
comp=Z,48nm,1.0s
MCARA **McCarthy VSAT** 63.97 32 P P 13 02 54.6 -0.6
baz=281,SNR=17
CRQE **Cirque** 64.06 33 P P 13 02 55.3 -0.7
baz=281,SNR=20
E28M **Babbage River** 64.07 24 P P 13 02 56.0 +0.3
baz=281,SNR=51
BGLC **Bering Glacier** 64.09 34 P P 13 02 55.3 -0.7
baz=281
F28M **Old Crow** 64.13 25 P P 13 02 57.0 +0.8
baz=281,SNR=54
YNG **Young** 64.17 164 P P 13 02 57.6 +0.9
comp=Z,35nm,1.2s
JLN **Jalan Bani Buh** 64.18 282 P P 13 02 58.2 +0.9
JLN S S 13 11 36.2 +2.3
TGL **Tana Glacier** 64.19 33 IAmb IAmb 13 02 58.8
comp=Z,49nm,0.9s
L27K **Beaver Creek,** 64.19 30 IAmb IAmb 13 02 59.4
comp=Z,32nm,1.0s
L27K **Beaver Creek,** 64.19 30 P P 13 02 56.6 -0.1
baz=281,SNR=37
BCAR **Beaver Creek A** 64.21 30 P P 13 02 56.6 -0.2
D28M **Stokes Point** 64.21 23 P P 13 02 55.8 -0.9
baz=281
WAX **Waxell Ridge** 64.24 33 IAmb IAmb 13 02 59.3
comp=Z,36nm,1.0s
SNH **Sunshine Point** 64.30 34 IAmb IAmb 13 02 60.0
comp=Z,38nm,0.9s
M27K **Edge Creek, AK** 64.31 31 IAmb IAmb 13 02 60.0
comp=Z,42nm,0.9s
M27K **Edge Creek, AK** 64.31 31 P P 13 02 57.0 -0.7
baz=282,SNR=32
BELG **Belogornoye** 64.34 318*d iP* P 13 02 57.8 0.0
BELG pmax pmax
comp=Z,13nm,0.9s
WBK **Wadi Bani Khal** 64.39 283 P P 13 02 59.4 +0.7
WBK P P 13 02 59.4 +0.7
WBK S S 13 11 39.3 +2.8
WBK S S 13 11 39.3 +2.8
MSVF **Nonsavu** 64.45 129 P P 13 02 59.6 +0.6
MSVF IAmb IAmb 13 03 03.8
comp=Z,44nm,1.4s
MSVF **Nonsavu** 64.45 129 P P 13 03 02.1 +3.1
MSVF **Nonsavu** 64.45 129↑↑ *eP* P 13 02 59.8 +0.8
MSVF pmax pmax
comp=Z,8.0nm,0.9s
ISLE **Juniper Island** 64.45 33 P P 13 02 58.0 -0.6
ISLE IAmb IAmb 13 03 00.4
comp=Z,35nm,1.0s
WSAR **Wadi Sarin** 64.46 284 P P 13 02 59.7 +0.6
I28M **Miner Creek** 64.53 28 P P 13 02 59.2 +0.2
baz=282,SNR=113
BARN **Barnard Glacie** 64.68 33 P P 13 02 59.9 -0.2
E29M **Blow River** 64.70 24 IAmb IAmb 13 03 02.6
comp=Z,32nm,0.9s
E29M **Blow River** 64.70 24 P P 13 03 00.1 +0.2
baz=282,SNR=20
MESA **MESA** 64.73 34 IAmb IAmb 13 03 02.9
comp=Z,58nm,1.3s
MESA **MESA** 64.73 34 P P 13 03 00.1 -0.4
baz=282,SNR=5.8
BVCY **Beaver Creek** 64.76 31 P P 13 02 59.9 -0.5
baz=282,SNR=16
BIDO **Bidbid** 64.79 284 P P 13 03 01.6 +0.3
CTG **Chitna Glacier** 64.86 33 P P 13 02 59.6 -1.6
baz=283,SNR=16
CTGM **Chitina Glacie** 64.86 33 IAmb IAmb 13 03 03.5
comp=Z,43nm,1.2s
G29M **Pine Creek** 64.97 26 P P 13 03 01.4 -0.3
baz=283,SNR=40
H29M **Whitestone** 64.99 27 P P 13 03 01.6 -0.2
baz=283,SNR=33
SMDO **Samad** 65.02 284 P P 13 03 03.4 +0.5
SNR=6.3
SMDO S S 13 11 46.7 +2.2
DAWY **Dawson** 65.05 29 IAmb IAmb 13 03 04.5
comp=Z,29nm,1.0s
DAWY **Dawson** 65.05 29 P P 13 03 02.3 -0.1
baz=283,SNR=37
TABL **Table Mountain** 65.07 33 IAmb IAmb 13 03 04.7
comp=Z,33nm,1.1s
YUK3 **Moose Creek** 65.09 32 P P 13 03 02.7 -0.2
baz=283,SNR=65
I29M **Ogilvie Camp,** 65.21 27 P P 13 03 03.2 -0.1
baz=283
JMDO **Jabal Madar** 65.23 283 P P 13 03 04.8 +0.7
O28M **Mount Upton** 65.45 33 IAmb IAmb 13 03 07.7
comp=Z,40nm,0.9s
O28M **Mount Upton** 65.45 33 P P 13 03 05.2 0.0
baz=284,SNR=29
J29N **Klondike Camp** 65.46 28 P P 13 03 04.7 -0.3
baz=284
YUK8 **Steele Glacier** 65.53 32 P P 13 03 06.2 +0.5
baz=284,SNR=20
PINM **Pinnacle** 65.58 33 P P 13 03 05.3 -0.5
baz=284,SNR=11
SHME **Shamm** 65.58 288 P P 13 03 05.5 -0.9
SHME S S 13 11 53.4 +2.3
EPYK **Eagle Plains** 65.61 26 P P 13 03 04.7 -1.2
baz=284,SNR=53
G30M **tAoh Zraii Nji** 65.65 26 P P 13 03 04.8 -1.3
baz=284,SNR=52
F30M **Barrier River** 65.66 25 P P 13 03 05.2 -0.9
baz=284,SNR=32
L29M **L29M** 65.83 30 P P 13 03 07.0 -0.3
baz=284,SNR=93
M29M **Somme Creek** 65.84 31 IAmb IAmb 13 03 10.7
comp=Z,57nm,1.1s
M29M **Somme Creek** 65.84 31 P P 13 03 07.1 -0.4
baz=284,SNR=54
MHTO **MHTO** 65.86 282 P P 13 03 08.1 0.0
SNR=8.7
BSY **Bisya** 65.87 284 P P 13 03 09.1 +0.8
K29M **Barlow Dome** 65.91 29 IAmb IAmb 13 03 10.7
comp=Z,52nm,1.0s
K29M **Barlow Dome** 65.91 29 P P 13 03 07.2 -0.8
baz=284,SNR=79
SOHO **SOHO** 65.93 286 P P 13 03 09.5 +0.9
HATD **Hatta, Dubai** 66.02 286 P P 13 03 11.8 +2.6
HATD P P 13 03 11.8 +2.6
HATD S S 13 11 57.0 +0.5
HATD S S 13 11 57.0 +0.5
I30M **Mount Dempster** 66.03 27 P P 13 03 08.5 -0.2
baz=285,SNR=56
YUK4 **Talbot Arm** 66.03 32 P P 13 03 08.3 -0.6
baz=285,SNR=19
PNL **Peninsula** 66.10 34 P P 13 03 11.2 +2.0
PNL **Peninsula** 66.10 34 P P 13 03 08.8 -0.4
baz=285,SNR=10
ASHO **Ashiyiah** 66.14 286 P P 13 03 11.5 +1.5
ASHO P P 13 03 11.5 +1.5
J30M **Hart River** 66.22 28 IAmb IAmb 13 03 12.6
comp=Z,25nm,0.9s
J30M **Hart River** 66.22 28 P P 13 03 09.3 -0.7
baz=285,SNR=33
ARQ **Araqi** 66.23 285 P P 13 03 09.7 -0.9
ARQ P P 13 03 09.7 -0.9
YUK6 **Outpost Mounta** 66.27 32 P P 13 03 09.8 -0.7
baz=285,SNR=16
INK **Inuvik** 66.30 24 IAmb IAmb 13 03 12.2
comp=Z,31nm,0.6s
INK **Inuvik** 66.30 24 P P 13 03 09.6 -0.5
baz=286,SNR=37
O29M **Mount Kennedy** 66.34 33 IAmb IAmb 13 03 19.0
comp=Z,41nm,1.1s
O29M **Mount Kennedy** 66.34 33 P P 13 03 09.7 -1.1
baz=285,SNR=23
BRAT **Ballarat** 66.38 169 P P 13 03 12.7 +1.8
G31M **Satah River** 66.41 25 IAmb IAmb 13 03 12.6
comp=Z,24nm,0.8s
G31M **Satah River** 66.41 25 P P 13 03 10.2 -0.7
baz=286,SNR=14
F31M **Tsiigehtchic** 66.46 25 IAmb IAmb 13 03 13.0
comp=Z,39nm,1.1s
F31M **Tsiigehtchic** 66.46 25 P P 13 03 11.2 -0.1
baz=286,SNR=16
FAQ **Al Faqa, Dubai** 66.51 286 P P 13 03 13.5 +1.2
FAQ P P 13 03 13.5 +1.2
FAQ S S 13 12 03.8 +1.4
FAQ S S 13 12 03.8 +1.4
M30M **Minto, Yukon** 66.56 30 IAmb IAmb 13 03 15.0
comp=Z,36nm,1.1s
M30M **Minto, Yukon** 66.56 30 P P 13 03 11.5 -0.6
baz=286,SNR=28
KLMR **Klimovskoe** 66.59 328 *eP* P 13 03 10.3 -1.9
KLMR *e* 13 03 39.2
KLMR *e* 13 05 39.2
KLMR S S 13 12 00.8 -1.4
KLMR SS SS 13 16 20.4 +1.5
KLMR pmax pmax
comp=Z,160nm,1.4s
ALNE **Al Ain** 66.62 286 P P 13 03 14.2 +1.1
SNR=9.3
ALNE P P 13 03 14.2 +1.1
SNR=9.3
ALNE S S 13 12 05.5 +1.7
ALNE S S 13 12 05.5 +1.7
LVZ **Lovozero** 66.65 336 P P 13 03 12.9 +0.4
LVZ IAmb IAmb 13 03 24.4
comp=Z,33nm,1.1s
LVZ **Lovozero** 66.65 336 *ceP* P 13 03 10.3 -2.2
LVZ pmax pmax
comp=Z,33nm,1.9s
MAYO **Mayo, Yukon** 66.67 29 P P 13 03 13.2 +0.5
MAYO **Mayo, Yukon** 66.67 29 P P 13 03 12.6 -0.1
baz=286,SNR=16
H31M **Peel River** 66.69 27 P P 13 03 12.1 -0.7
baz=286,SNR=38
HYT **Haines Junctio** 66.71 32 IAmb IAmb 13 03 16.0
comp=Z,49nm,1.0s
HYT **Haines Junctio** 66.71 32 P P 13 03 12.7 -0.5
baz=286,SNR=49
N30M **Aishikik Lake** 66.73 31 IAmb IAmb 13 03 16.0
comp=Z,41nm,1.1s
N30M **Aishikik Lake** 66.73 31 P P 13 03 12.6 -0.6
baz=286,SNR=31
MAK **Makhachkala** 66.91 308 *c iP* P 13 03 10.8 -3.7
MAK *e* 13 05 36.9
MAK *e* PPP PPP 13 07 13.5
MAK *e* S S 13 12 02.5 -4.1
MAK *e* SS SS 13 16 21.2 -3.4
MAK pmax pmax
comp=Z,221nm,1.4s
P29M **Windy Craggy** 66.93 34 IAmb IAmb 13 03 17.4
comp=Z,37nm,0.8s
P29M **Windy Craggy** 66.93 34 P P 13 03 13.5 -1.0
baz=286,SNR=18
P30M **Million Dollar** 67.16 33 P P 13 03 15.5 -0.4
baz=287,SNR=24
AKT **Akhty** 67.20 306 *eP* P 13 03 14.2 -2.4
AKT *e* 13 03 40.2
AKT pmax pmax
comp=Z,84nm,1.1s
AKT MLR MLR
comp=Z,1μm,17.0s
APA **Apatity** 67.20 336 *eP* P 13 03 14.6 -1.4
APA *e* 13 03 39.5
APA *eS* S 13 12 06.3 -3.0
N31M **Braeburn, Yuko** 67.32 31 P P 13 03 16.6 -0.4
baz=287,SNR=35
SPA0 **Spitsbergen Ar** 67.55 348 *eP* P 13 03 18.8 +0.7
SPITS **Spitsbergen Ar** 67.55 348 P P 13 03 18.5 +0.4
comp=Z,20nm,0.8s,baz=82,slow=8.5,SNR=26
comp=Z,20nm,0.8s
UMZA **Um Al Zommool** 67.62 285 P P 13 03 19.7 +0.3
UMZA P P 13 03 19.7 +0.3
PLBC **Pleasant Camp** 67.65 33 P P 13 03 18.5 -0.5
baz=287,SNR=22
M31M **Drury Creek, Y** 67.74 30 P P 13 03 19.5 0.0
M31M IAmb IAmb 13 03 22.0
comp=Z,41nm,1.1s
M31M **Drury Creek, Y** 67.74 30 P P 13 03 19.3 -0.2
baz=288
A36M **Sachs Harbour** 67.76 19 P P 13 03 19.7 +0.3
A36M **Sachs Harbour** 67.76 19 P P 13 03 18.5 -0.9
baz=292,SNR=7.5
KBS **Kingsbay** 67.92 349 *ceP* P 13 03 21.4 +1.1
KBS pmax pmax
comp=Z,23nm,1.0s
KBS **Kingsbay** 67.92 349 *eP* P 13 03 21.7 +1.4
WHY **Whitehorse** 67.99 32 P P 13 03 21.5 +0.3
WHY **Whitehorse** 67.99 32 P P 13 03 20.3 -1.0
baz=288,SNR=28
SKAG **Skagway** 68.15 33 IAmb IAmb 13 03 24.9
comp=Z,43nm,1.0s
SKAG **Skagway** 68.15 33 P P 13 03 24.3 +2.2
SKAG **Skagway** 68.15 33 P P 13 03 21.5 -0.6
baz=288,SNR=7.1
S31K **Pelican** 68.17 35 P P 13 03 21.6 -0.6
baz=288,SNR=7.6
VRH **Novokhopyorsk** 68.19 317 *eP* P 13 03 20.9 -1.6
VRH pmax pmax
comp=Z,40nm,0.9s
KEV **Kevo** 68.63 339 P P 13 03 25.1 +0.2
KEV IAmb IAmb 13 03 38.5
comp=Z,58nm,1.1s
KEV **Kevo** 68.63 339 P P 13 03 25.1 +0.2
KEV pmax pmax
comp=Z,58nm,1.1s
BESE **Bessie Mountai** 68.66 34 P P 13 03 25.9 +0.5
BESE IAmb IAmb 13 03 28.0
comp=Z,32nm,1.1s
N32M **Quiet Lake** 68.66 31 P P 13 03 24.3 -1.1
baz=289
P32M **Atlin** 68.89 33 P P 13 03 26.9 +0.1
P32M **Atlin** 68.89 33 P P 13 03 25.7 -1.1
baz=289,SNR=8.6
SIT **Sitka** 68.92 36 IAmb IAmb 13 03 29.8
comp=Z,42nm,1.1s
SIT **Sitka** 68.92 36 P P 13 03 30.0 +3.1
SIT **Sitka** 68.92 36 P P 13 03 27.1 +0.2
baz=289,SNR=5.2
R32K **Eaglecrest** 68.93 34 IAmb IAmb 13 03 29.9
comp=Z,27nm,1.0s
R32K **Eaglecrest** 68.93 34 P P 13 03 26.8 -0.2
baz=289,SNR=6.8
MZR **Muzera** 68.95 286 P P 13 03 29.2 +1.4
MZR P P 13 03 29.2 +1.4
MMPY **Sheldon Lake,** 68.98 29 P P 13 03 27.8 +0.5
MMPY IAmb IAmb 13 03 30.2
comp=Z,47nm,1.2s
MMPY **Sheldon Lake,** 68.98 29 P P 13 03 26.4 -0.9
baz=290,SNR=35
JIS **Juneau Island** 69.00 34 P P 13 03 30.0 +2.6
MOS **Moscow** 69.08 323 *eP* P 13 03 26.5 -1.4
MOS *e* 13 03 50.8
MOS *e* 13 05 57.5
MOS *eS* S 13 12 29.6 -2.5
MOS pmax pmax
comp=Z,73nm,0.8s
MOS MLR MLR
comp=Z,1μm,16.0s
P33M **Teslin, Yukon** 69.10 32 P P 13 03 29.3 +1.1
P33M IAmb IAmb 13 03 31.5
comp=Z,54nm,1.2s
P33M **Teslin, Yukon** 69.10 32 P P 13 03 27.8 -0.4
baz=290,SNR=16
C36M **Paulatuk** 69.16 22 P P 13 03 29.4 +1.2
C36M **Paulatuk** 69.16 22 P P 13 03 27.7 -0.5
baz=294,SNR=14
S32K **Killisnoo** 69.17 35 P P 13 03 28.5 +0.1
S32K **Killisnoo** 69.17 35 P P 13 03 27.6 -0.8
ARA0 **ARCESS Array S** 69.20 339 *eP* P 13 03 27.8 -0.7
ARCES **ARCESS Array B** 69.20 339 P P 13 03 28.3 -0.2
ARCES **ARCESS Array B** 69.20 339 P P 13 03 28.1 -0.4
comp=Z,12nm,0.9s,baz=68,slow=7.3,SNR=32
comp=Z,12nm,0.9s
ARCES **ARCESS Array B** 69.20 339 P P 13 03 28.3 -0.2
ARCES pmax pmax
comp=Z,124nm,1.9s
GOF **Gofitskoye** 69.31 311 *ceP* P 13 03 30.3 +0.7
LPSR **Galich'ya Gora** 69.39 319 *eP* P 13 03 28.9 -1.0
LPSR pmax pmax
comp=Z,30nm,0.9s
VORR **Voronezh** 69.53 318 *eP* P 13 03 28.9 -2.0
VORR pmax pmax
comp=Z,50nm,1.0s
JOF **Joensuu** 69.61 331 *eP* P 13 03 29.9 -1.2
VSR **Storozhevoye** 69.71 318 *eP* P 13 03 30.4 -1.6
VSR pmax pmax
comp=Z,30nm,1.0s
VORD **Divnogorie** 69.72 318 *eP* P 13 03 30.6 -1.4
VORD pmax pmax
comp=Z,20nm,1.0s
GNI **Garni** 69.77 305 S S 13 12 40.8 -0.5
GNI **Garni** 69.77 305 *deP* P 13 03 34.6 +1.8
GNI pmax pmax
comp=Z,28nm,1.2s
Q32M **Nakina River** 69.80 33 P P 13 03 32.5 -0.1
Q32M **Nakina River** 69.80 33 P P 13 03 32.0 -0.6
baz=291,SNR=6.1
KBZ **Khabaz** 69.85 309 P P 13 03 33.3 +0.3
comp=Z,67nm,0.9s,baz=114,slow=2.9,SNR=69
KBZ LR LR 13 36 06.8
comp=Z,390nm,18.3s,baz=44,slow=38
comp=Z,67nm,0.9s
KBZ **Khabaz** 69.85 309 *c iP* P 13 03 33.1 +0.2
KBZ pmax pmax
comp=Z,86nm,1.0s
OBN **Obninsk** 69.86 322 LR LR 13 37 08.1
comp=Z,510nm,19.1s,baz=22,slow=38
OBN **Obninsk** 69.86 322 *d iP* P 13 03 33.4 +0.7
OBN *i* *PP pP 13 03 35.5 -1.9
OBN *i* *SP sP 13 03 37.3 -1.8
OBN *e* 13 03 55.1
OBN pmax pmax
comp=Z,34nm,1.1s
OBN MLR MLR
comp=Z,1μm,16.0s
KIV **Kislovodsk** 69.92 310 P P 13 03 32.6 -0.9
KIV **Kislovodsk** 69.92 310 P P 13 03 33.8 +0.3
KIV P P 13 03 33.8 +0.3
KIV S S 13 12 43.4 +0.7
KIV S S 13 12 43.4 +0.7
KIV **Kislovodsk** 69.92 310 ⇑⇑ P P 13 03 34.7 +1.2
KIV **Kislovodsk** 69.92 310 *eP* P 13 03 31.7 -1.8
KIV *eS* S 13 12 42.5 -0.2
KIV pmax pmax
comp=Z,16nm,3.6s
KIV pmax pmax
comp=Z,103nm,1.1s
KIV **Kislovodsk** 69.92 310 P P 13 03 33.7 +0.2
comp=Z,1μmcomp=Z,143nm,1.4s
SHMA **Al-Shehemyia** 70.00 289 S S 13 12 43.9 0.0
DOK **Doka** 70.10 281 P P 13 03 37.0 +2.1
KTK1 **Kautokeino** 70.15 339 *eP* P 13 03 34.7 +0.3
TRNA **Turayna** 70.21 288 P P 13 03 36.9 +1.4
TRNA S S 13 12 46.4 0.0
T33K **Petersburg** 70.22 36 P P 13 03 34.9 0.0
baz=291
R33M **Jennings River** 70.27 33 P P 13 03 35.4 -0.1
R33M **Jennings River** 70.27 33 P P 13 03 34.4 -1.0
baz=292,SNR=12
SAKB **Bahrain** 70.31 290 P P 13 03 36.5 +0.4
SAKB S S 13 12 46.7 -0.8
U33K **Whale Pass** 70.39 36 P P 13 03 35.3 -0.7
baz=291
SMRA **Abu-Samra** 70.53 288 P P 13 03 38.1 +0.7
SMRA S S 13 12 49.1 -1.1
CRAG **Craig** 70.62 37 P P 13 03 37.3 -0.1
baz=291
WRAK **Wrangell Islan** 70.68 36 P P 13 03 37.7 0.0
baz=292
TGTN **Hyland Airport** 70.69 30 P P 13 03 38.1 +0.2
baz=293,SNR=24
WHFO **Wadi Hawf** 70.70 280 P P 13 03 39.5 +0.9
S34M **Telegraph Cree** 70.74 34 P P 13 03 38.8 +0.6
baz=292
ERBR **Yeremizino-Bor** 70.78 312 *eP* P 13 03 39.8 +1.2
ERBR *e**PP pP 13 03 42.9 -0.4
ERBR *eS* S 13 12 52.8 +0.3
ERBR pmax pmax
comp=Z,84nm,1.1s
ERBR MLR MLR
comp=Z,1μm,19.0s
JETT **Jettan, Norway** 70.79 340 *eP* P 13 03 39.2 +0.9
WTLY **Watson Lake, Y** 71.01 31 IAmb IAmb 13 03 42.5
comp=Z,43nm,1.0s
WTLY **Watson Lake, Y** 71.01 31 P P 13 03 40.3 +0.5
baz=293,SNR=17
DLBC **Dease Lake** 71.08 33 P P 13 03 39.7 -0.6
baz=293,SNR=7.1
ABTO **Aybut** 71.34 280 P P 13 03 43.8 +1.3
V35K **Ketchikan** 71.47 37 P P 13 03 41.6 -1.0
baz=292
T35M **Bob Quinn** 71.54 35 IAmb IAmb 13 03 51.3
comp=Z,74nm,1.8s
T35M **Bob Quinn** 71.54 35 P P 13 03 42.9 -0.1
baz=293,SNR=6.4
GEVA **Gevas** 71.64 304 IAmb IAmb 13 03 47.1
comp=Z,30nm,0.7s
VSLR **Vesyoloye** 71.89 310 *ceP* P 13 03 46.7 +1.3
VSLR pmax pmax
comp=Z,102nm,1.0s
WRGLY **Wrigley** 72.01 27 IAmb IAmb 13 03 48.2
comp=Z,41nm,1.0s
WRGLY **Wrigley** 72.01 27 P P 13 03 45.8 +0.1
baz=296,SNR=8.7
SOC **Sochi** 72.06 310 *eP* P 13 03 44.1 -2.3
SOC *e* 13 06 26.1
SOC *e*PPP PPP 13 08 04.1
SOC *eS* S 13 13 04.4 -2.9
SOC *eSS* SS 13 17 39.8 -4.1
SOC *e*SSS SSS 13 20 49.9
SOC pmax pmax
comp=Z,53nm,0.6s
GURO **Guroymak-BITLI** 72.31 305 IAmb IAmb 13 04 02.6
comp=Z,36nm,1.0s
SJUU **Sjulsmark** 72.35 336 *eP* P 13 03 47.0 -0.7
FIA1 **FINESS Array S** 72.46 331 P P 13 03 48.3 -0.1
FINES **FINESS Array B** 72.46 331 P P 13 03 47.9 -0.5
FINES **FINESS Array B** 72.46 331 P P 13 03 47.4 -1.0
comp=Z,12nm,0.5s,baz=69,slow=5.3,SNR=68
comp=Z,12nm,0.5s
FINES **FINESS Array B** 72.46 331 *i P* P 13 03 47.2 -1.2
FINES pmax pmax
comp=Z,12nm,0.5s
LIRD **Liard River Hi** 72.54 31 P P 13 03 49.1 +0.1
baz=296,SNR=13
KEF **Keuruu** 72.64 332 *eP* P 13 03 48.2 -1.3
KOPT **Kop Dagi** 72.86 307 P P 13 03 50.0 -1.5
ANN **Anapa** 73.12 312 *eP* P 13 03 53.4 +0.7
ANN *e**PP pP 13 03 56.5 -0.9
ANN *e* 13 04 04.8
ANN *eS* S 13 13 19.6 +0.2
ANN pmax pmax
comp=Z,120nm,0.9s
ANN MLR MLR
comp=Z,1μm,21.0s
KOTAN **Kotaneelee Air** 73.16 30 P P 13 03 52.6 0.0
baz=297
TOAD **Toad River Com** 73.19 32 P P 13 03 53.2 +0.3
baz=296,SNR=9.8
STEI **Steigen** 73.25 339 *eP* P 13 03 52.5 -0.5
RES **Resolute Bay** 73.33 11 P P 13 03 53.0 -0.4
RES IAmb IAmb 13 03 55.6
comp=Z,40nm,0.8s
RES **Resolute Bay** 73.33 11 P P 13 03 53.0 -0.4
RES pmax pmax
comp=Z,40nm,0.9s
ARBE **Arbavere** 73.40 329 *eP* P 13 03 54.2 +0.2
VSU **Vasula** 73.50 328 *deP* P 13 03 54.5 -0.1
VSU pmax pmax
comp=Z,162nm,2.5s
VSU **Vasula** 73.50 328 *eP* P 13 03 53.5 -1.1
FAUS **Fauske** 73.54 339 *eP* P 13 03 54.8 +0.1
LOF **Lofoten** 73.66 340 *eP* P 13 03 56.6 +1.2
MARD **Mardin** 73.69 304 P P 13 03 55.2 -1.2
MARD IAmb IAmb 13 03 59.0
comp=Z,44nm,0.7s
MEF **Metsahovi** 73.75 330 *eP* P 13 03 56.0 -0.1
DAG **Danmarks Havn** 73.77 353 *i P* P 13 03 56.0 +0.1
DAG IAmb IAmb 13 03 58.4
comp=Z,26nm,1.0s
RAF **Rauma** 74.50 331 *eP* P 13 04 00.8 +0.4
MOR8 **Moi Rana** 74.50 338 *eP* P 13 03 58.2 -2.2
MNK **Minsk** 74.71 324 *i P* P 13 04 03.0 +1.2
comp=E,11nm,0.8s
MNK *i P* P 13 04 03.0 +1.2
comp=N,15nm,0.9s
MNK *i P* P 13 04 03.0 +1.2
comp=Z,35nm,0.7s,baz=63
MNK *i* PcP PcP 13 04 14.4 -1.5
MNK *i* PP PP 13 06 51.8 +3.3
MNK *i* PPP PPP 13 08 41.6
MNK *i* S S 13 13 38.9 +2.0
MNK *i* PS pS 13 13 41.7 -1.2
MNK *i* SS SS 13 19 12.8 +49
MNK *i* LQ LQ 13 31 00.0
MNK *i* LR LR 13 38 44.5
MNK *i* LRM MLR 13 40 59.5
comp=E,916nm,15.5s

MNK Minsk 74.71 324 *d* iP **P** **13 04 03.0 +1.2**
NEEM North Greenlan 74.76 0 *i* P **P** **13 04 01.8 -0.3**
NEEM IAmb IAmb 13 04 03.8
comp=Z,47nm,0.8s
STOK Stokkvaagen 74.88 338 *eP* **P** **13 04 02.6 +0.1**
TULEG Thule 74.96 5 P **P** **13 04 02.5 -0.3**
TULEG IAmb IAmb 13 04 04.5
comp=Z,56nm,1.0s
TULEG Thule 74.96 5 *i* P **P** **13 04 01.5 -1.4**
TULEG IAmb IAmb 13 04 04.3
comp=Z,54nm,1.0s
LEIR Leirfjorden 74.98 338 *eP* **P** **13 04 03.4 +0.3**
SIM Simferopol' 75.22 313 *eP* **P** **13 04 06.6 +1.7**
SIM *eS* **S** **13 13 39.0 -4.0**
SIM pmax pmax
comp=Z,53nm,0.7s
RAYN Ar Rayn 75.48 289 P **P** **13 04 05.6 -1.3**
RAYN IAmb IAmb 13 04 22.0
comp=Z,59nm,1.2s
RAYN Ar Rayn 75.48 289 P **P** **13 04 07.2 +0.4**
RAYN S **S** **13 13 46.6 -0.1**
RAYN Ar Rayn 75.48 289 P **P** **13 04 08.0 +1.1**
AK03 Malin Array Si 75.68 320 P **P** **13 04 06.7 -0.8**
AKASG Malin Array Be 75.69 320 P **P** **13 04 06.8 -0.7**
AKASG Malin Array Be 75.69 320 P **P** **13 04 06.3 -1.2**
comp=Z,32nm,1.1s,baz=54,slow=5.9,SNR=58
AKASG LR LR 13 38 10.9
comp=Z,532nm,20.8s,baz=60,slow=36
comp=Z,32nm,1.1s
AKASG Malin Array Be 75.69 320 P **P** **13 04 06.8 -0.7**
AKASG pmax pmax
comp=Z,108nm,1.3s
AKBB Malin Array Si 75.69 320 IAmb IAmb 13 04 20.3
comp=Z,62nm,1.1s
AKBB Malin Array Si 75.69 320 *d* iP **P** **13 04 07.6 +0.1**
AK09 Malin Array Si 75.70 320 P **P** **13 04 07.6 +0.1**
AK01 Malin Array Si 75.70 320 P **P** **13 04 07.6 0.0**
AK08 Malin Array Si 75.70 320 P **P** **13 04 07.6 0.0**
KIEV Kiev 75.70 320 P **P** **13 04 06.3 -1.3**
KIEV IAmb IAmb 13 04 20.3
comp=Z,62nm,1.2s
KIEV Kiev 75.70 320 ⇑P **P** **13 04 08.1 +0.5**
KIEV Kiev 75.70 320 P **P** **13 04 08.0 +0.5**
KIEV Kiev 75.70 320 P **P** **13 04 06.8 -0.8**
comp=Z,3μmcomp=Z,137nm,0.9s
AK04 Malin Array Si 75.72 320 P **P** **13 04 06.9 -0.7**
AK02 Malin Array Si 75.72 320 P **P** **13 04 07.1 -0.6**
AK10 Malin Array Si 75.72 320 P **P** **13 04 07.7 0.0**
AK11 Malin Array Si 75.73 320 P **P** **13 04 07.8 0.0**
AK05 Malin Array Si 75.74 320 P **P** **13 04 07.6 -0.2**
AK15 Malin Array Si 75.75 320 P **P** **13 04 07.7 -0.2**
AK12 Malin Array Si 75.76 320 P **P** **13 04 07.7 -0.2**
AK06 Malin Array Si 75.76 320 P **P** **13 04 07.7 -0.2**
AK21 Malin Array Si 75.76 320 P **P** **13 04 07.6 -0.3**
YKAW3 Yellowknife Wh 75.85 26 P **P** **13 04 08.1 -0.1**
YKAW3 IAmb IAmb 13 04 10.5
comp=Z,32nm,1.0s
YKA Yellowknife Ar 75.89 26 P **P** **13 04 07.8 -0.6**
comp=Z,14nm,0.8s,baz=307,slow=5.9,SNR=43
comp=Z,14nm,0.8s
YKAW1 Yellowknife Wh 75.94 26 P **P** **13 04 08.7 0.0**
YKAW1 IAmb IAmb 13 04 11.0
comp=Z,35nm,0.9s
PABE Paberze 76.23 326 *eP* **P** **13 04 10.8 +0.3**
NSS Namsos 76.31 337 *eP* **P** **13 04 11.1 +0.3**
GAZ Gaziantep 76.35 305 IAmb IAmb 13 04 14.6
comp=Z,43nm,1.0s
BZK Bozkurt 76.56 310 IAmb IAmb 13 04 22.4
comp=Z,52nm,1.0s
BZK Bozkurt 76.56 310 ⇓P **P** **13 04 13.6 +0.9**
BNN Bunyan 76.62 307 IAmb IAmb 13 04 27.2
comp=Z,54nm,1.2s
UPP Uppsala 76.86 332 *eP* **P** **13 04 13.1 -0.9**
RNPP9 Sopachiv 77.22 322 P **P** **13 04 16.4 +0.2**
RNPP8 Varash 77.28 322 P **P** **13 04 16.0 -0.5**
RNPP5 Staryi Chortor 77.31 322 P **P** **13 04 16.2 -0.5**
SUW Suwalki 77.37 325 *eP* **P** **13 04 17.7 +0.8**
SUW Suwalki 77.37 325 *eP* **P** **13 04 17.3 +0.4**
SORM Soroca 77.38 318 ⇓P **P** **13 04 17.7 +0.6**
SORM Soroca 77.38 318 P **P** **13 04 17.7 +0.6**
SORM Soroca 77.38 318 P **P** **13 04 16.2 -0.9**
comp=Z,691nmcomp=Z,36nm,1.1s
KULLO Kullorsuaq 77.51 2 *i* P **P** **13 04 16.8 -0.6**
KULLO IAmb IAmb 13 04 18.7
comp=Z,29nm,0.9s
OZB Mount Ozzard 77.62 41 P **P** **13 04 18.6 +0.1**
KIS Kishinev 77.63 317 *eP* **P** **13 04 19.0 +0.5**
comp=Z,9.0nm,0.9s
KIS *eL* L 13 40 35.0
KIS LRM MLR 13 42 24.0
comp=Z,400nm,15.0s
KIS Kishinev 77.63 317 *eP* **P** **13 04 19.0 +0.5**
KIS pmax pmax
comp=Z,9.0nm,0.9s
KIS MLR MLR
comp=Z,400nm,15.0s
MILM Milestii Mici 77.67 317 *eP* **P** **13 04 18.0 -0.7**
comp=Z,80nm,1.4s
MILM *eS* **S** **13 14 02.0 -7.7**
MILM *eL* L 13 36 58.0
MILM LRM MLR 13 42 26.0
comp=Z,1μm,15.0s
MILM Milestii Mici 77.67 317 ⇓P **P** **13 04 19.2 +0.5**
MILM Milestii Mici 77.67 317 P **P** **13 04 19.2 +0.5**
BR131 Keskin Array S 77.79 308 P **P** **13 04 19.0 -0.8**
BR131 IAmb IAmb 13 04 34.0
comp=Z,54nm,1.0s
BR131 Keskin Array S 77.79 308 P **P** **13 04 20.0 +0.2**
SNR=22
BR131 P **P** **13 04 20.0 +0.2**
SNR=22
BR131 S **S** **13 14 11.8 +0.2**
BR131 S **S** **13 14 11.8 +0.2**
BR131 Keskin Array S 77.79 308 *de* P **P** **13 04 20.6 +0.8**
BRTR Keskin Array B 77.79 308 P **P** **13 04 19.3 -0.5**
BRTR Keskin Array B 77.79 308 P **P** **13 04 19.5 -0.3**
comp=Z,21nm,0.9s,baz=96,slow=5.0,SNR=51
comp=Z,21nm,0.9s
BR104 Keskin Array S 77.79 308 P **P** **13 04 20.0 +0.2**
comp=Z,320nmcomp=Z,39nm,1.2s
BR106 Keskin Array S 77.80 309 P **P** **13 04 20.0 +0.2**
comp=Z,313nmcomp=Z,39nm,1.2s
BR105 Keskin Array S 77.81 308 P **P** **13 04 20.1 +0.2**
comp=Z,374nmcomp=Z,47nm,1.1s
KIRS Kirsehir-Merke 77.86 308 ⇓P **P** **13 04 21.3 +1.2**
IASR Iasi 78.29 317 ⇓P **P** **13 04 22.5 +0.2**
ANTO Ankara 78.31 309 P **P** **13 04 22.5 0.0**
ANTO IAmb IAmb 13 04 36.9
comp=Z,45nm,1.1s
ANTO Ankara 78.31 309 S **S** **13 14 18.1 +1.1**
ANTO Ankara 78.31 309 ⇓P **P** **13 04 23.4 +0.8**
ANTO Ankara 78.31 309 P **P** **13 04 23.3 +0.8**
ANTO Ankara 78.31 309 P **P** **13 04 22.8 +0.2**
HFS Hagfors 78.31 333 P **P** **13 04 20.9 -1.2**
comp=Z,10nm,0.5s,baz=89,slow=6.2,SNR=38
comp=Z,10nm,0.5s
VASR Vaslui 78.42 317 ⇓P **P** **13 04 23.9 +0.9**
CLRS Cowichan Lake 78.47 41 P **P** **13 04 22.3 -0.9**
TLCR 78.48 315 ⇓P **P** **13 04 24.6 +1.3**
TLCR 78.48 315 P **P** **13 04 24.5 +1.3**
NC405 NORSAR Array S 78.50 334 P **P** **13 04 22.1 -1.1**
NC405 IAmb IAmb 13 04 24.3
comp=Z,41nm,0.6s
NC303 NORSAR Array S 78.56 335 P **P** **13 04 22.4 -1.0**
JURR Jurilovca 78.64 315 ⇓P **P** **13 04 25.6 +1.5**
C03A Quillayute Air 78.65 42 P **P** **13 04 23.9 -0.2**
C03A IAmb IAmb 13 04 28.4
comp=Z,72nm,1.2s
NB201 NORSAR Array S 78.70 334 P **P** **13 04 23.5 -0.7**
NB2 NORSAR Subarra 78.73 334 P **P** **13 04 23.0 -1.4**
comp=Z,15nm,0.6s,baz=50,slow=5.6
NB2 NORSAR Subarra 78.73 334 P **P** **13 04 23.0 -1.4**
baz=50,slow=5.6
NOA NORSAR Array B 78.73 334 P **P** **13 04 23.0 -1.4**
comp=Z,7.7nm,0.5s,baz=50,slow=5.4,SNR=39
comp=Z,7.7nm,0.5s
NC204 NORSAR Array S 78.76 335 P **P** **13 04 23.2 -1.4**
NC204 IAmb IAmb 13 04 25.8
comp=Z,64nm,1.4s
NC602 NORSAR Array S 78.80 334 P **P** **13 04 24.6 -0.1**
NC602 IAmb IAmb 13 04 36.1
comp=Z,103nm,1.9s
NC602 NORSAR Array S 78.80 334 *eP* **P** **13 04 23.7 -1.1**
LLLB Lillooet 78.84 38 P **P** **13 04 25.3 +0.1**

TPGR Topolog 78.88 315 ⇑P **P** **13 04 26.0 +0.5**
CFR Carcaliu 78.90 315 ⇑P **P** **13 04 26.3 +0.7**
CFR Carcaliu 78.90 315 P **P** **13 04 26.3 +0.7**
NBO00 NORSAR Array S 78.90 335 P **P** **13 04 25.0 -0.4**
NBO00 IAmb IAmb 13 04 36.9
comp=Z,70nm,1.6s
RTZ Ruatahuna 79.06 145 P **P** **13 04 26.2 -0.3**
TIRR Tirgusor 79.07 315 P **P** **13 04 26.6 0.0**
TIRR Tirgusor 79.07 315 ⇑P **P** **13 04 27.8 +1.2**
TIRR Tirgusor 79.07 315 P **P** **13 04 27.8 +1.2**
MOL Molde 79.09 337 *eP* **P** **13 04 27.2 +1.0**
MDUB Mudurnu 79.12 310 P **P** **13 04 26.1 -0.9**
MDUB IAmb IAmb 13 04 41.6
comp=Z,63nm,1.1s
TESR Tescani 79.17 317 ⇑P **P** **13 04 28.2 +1.1**
PANC Panciu 79.18 316 ⇓P **P** **13 04 28.9 +1.8**
B04A Port Angeles 79.21 41 P **P** **13 04 27.8 +0.6**
HARR Harsova 79.27 315 ⇑P **P** **13 04 28.8 +1.2**
HARR Harsova 79.27 315 P **P** **13 04 28.8 +1.2**
NLWA Neilton Lookou 79.33 42 P **P** **13 04 29.3 +1.3**
NLWA IAmb IAmb 13 04 31.2
comp=Z,59nm,1.2s
A04D Lummi Island 79.34 40 P **P** **13 04 28.5 +0.6**
A04D IAmb IAmb 13 04 30.7
comp=Z,45nm,1.1s
SUMG Summit 79.39 357 P **P** **13 04 28.3 0.0**
SUMG Summit 79.39 357 P **P** **13 04 28.3 0.0**
SUMG pmax pmax
comp=Z,89nm,1.0s
SUMG Summit 79.39 357 *i* P **P** **13 04 28.1 -0.2**
SUMG IAmb IAmb 13 04 30.7
comp=Z,91nm,1.0s
ONER Baraj Valea Uz 79.41 317 ⇑P **P** **13 04 29.2 +0.7**
VRI Vrincioaia 79.44 316 ⇑P **P** **13 04 29.7 +1.1**
VRI Vrincioaia 79.44 316 P **P** **13 04 29.7 +1.1**
BUR08 Bucovina Ar. S 79.47 319 P **P** **13 04 29.0 +0.2**
BURAR Bucovina Array 79.47 319 P **P** **13 04 28.6 -0.3**
BURAR Bucovina Array 79.47 319 ⇑P **P** **13 04 30.6 +1.7**
BURAR Bucovina Array 79.47 319 P **P** **13 04 30.5 +1.7**
MMAI Mont Meteron Ar 79.48 302 P **P** **13 04 28.1 -1.1**
comp=Z,4.6nm,0.6s,baz=57,slow=9.1,SNR=8.3
MMAI LR LR 13 44 04.2
comp=Z,336nm,20.3s,baz=284,slow=39
comp=Z,4.6nm,0.6s
PLOR Plostina 79.49 316 ⇓P **P** **13 04 30.0 +1.0**
PLOR Plostina 79.49 316 P **P** **13 04 29.9 +1.0**
BISRR Bisoca 79.61 316 ⇓P **P** **13 04 30.9 +1.4**
OSL Oslo 79.61 334 *eP* **P** **13 04 29.6 +0.4**
ICOR Ion Corvin 79.62 315 ⇓P **P** **13 04 31.3 +1.7**
BEL Belsk 79.74 324 *eP* **P** **13 04 31.6 +1.5**
COVR Voineasa-Covas 79.77 317 ⇓P **P** **13 04 31.4 +1.0**
TURR Turia 79.78 317 ⇓P **P** **13 04 30.8 +0.4**
RADR Rader Ridge 79.86 43 IAmb IAmb 13 04 34.0
comp=Z,57nm,1.2s
SCO Scoresbysund 79.86 351 *i* P **P** **13 04 30.3 -0.1**
SCO IAmb IAmb 13 04 32.8
comp=Z,48nm,1.0s
OZUR 79.89 317 ⇑P **P** **13 04 32.1 +1.0**
E03A Lebam 79.93 42 IAmb IAmb 13 04 34.1
comp=Z,48nm,1.1s
ILON Igloolik, Nuna 80.00 11 IAmb IAmb 13 04 32.7
comp=Z,61nm,0.9s
SKAR Skarslia 80.06 335 *eP* **P** **13 04 31.3 -0.4**
MLR Muntele Rosu 80.10 316 LR LR 13 43 40.2
comp=Z,886nm,19.2s,baz=31,slow=38
MLR Muntele Rosu 80.10 316 ⇓P **P** **13 04 34.0 +1.7**
MLR Muntele Rosu 80.10 316 P **P** **13 04 34.0 +1.7**
GHAJ Ghor Haditha 80.12 300 IAmb IAmb 13 04 47.4
comp=Z,113nm,1.4s
CSS Mathiatis 80.14 304 P **P** **13 04 31.2 -1.5**
DOPR Dopca 80.20 317 ⇓P **P** **13 04 34.2 +1.5**
F03A Seaside 80.25 43 P **P** **13 04 33.1 +0.2**
F03A IAmb IAmb 13 04 36.7
comp=Z,96nm,1.2s
KOLS Kolonicke sedl 80.48 321 *eP* P 13 04 39.8 +5.6
KOLS pmax pmax
comp=Z,11nm,0.7s
KOLS Kolonicke sedl 80.48 321 *eP* P 13 04 39.8 +5.6
D05A Enumclaw 80.54 41 P **P** **13 04 35.1 +0.7**
D05A IAmb IAmb 13 04 37.6
comp=Z,64nm,1.2s
VOIR 80.67 317 ⇑P **P** **13 04 36.4 +1.0**
VOIR 80.67 317 P **P** **13 04 36.3 +1.0**
BSD Bornholm Skovb 80.78 328 *eP* **P** **13 04 35.4 -0.2**
LON Longmire 80.87 42 P **P** **13 04 36.3 0.0**
LON Longmire 80.87 42 P **P** **13 04 36.3 0.0**
LON pmax pmax
comp=Z,17nm,1.1s
BLKN Baker Lake 80.93 19 P **P** **13 04 36.9 +0.7**
BLKN IAmb IAmb 13 04 37.9
comp=Z,54nm,1.2s
ARR Arges 80.96 317 ⇑P **P** **13 04 37.2 +0.4**
COR Corvallis 81.08 44 P **P** **13 04 37.0 -0.4**
COR Corvallis 81.08 44 P **P** **13 04 37.0 -0.4**
COR pmax pmax
comp=Z,101nm,1.1s
MARR Marisel-Cluj 81.19 318 ⇓P **P** **13 04 39.5 +1.4**
LTY Liberty 81.27 41 P **P** **13 04 38.0 -0.4**
G04A Mulino 81.27 43 P **P** **13 04 38.0 -0.4**
G04A IAmb IAmb 13 04 41.2
comp=Z,42nm,0.9s
NIE Niedzica 81.31 322 *eP* **P** **13 04 40.6 +2.0**
DRGR 81.36 319 ⇑P **P** **13 04 40.3 +1.3**
DRGR 81.36 319 P **P** **13 04 40.3 +1.3**
SAATT Saattut 81.42 1 *i* P **P** **13 04 38.3 -0.4**
SAATT IAmb IAmb 13 04 40.5
comp=Z,14nm,0.8s
ELND Elena 81.43 314 ⇓P **P** **13 04 39.7 +0.4**
B08A Colville Reser 81.44 39 IAmb IAmb 13 04 41.7
comp=Z,44nm,1.1s
LOT Lotru 81.44 317 ⇓P **P** **13 04 40.9 +1.4**
H04D Lebanon 81.46 44 IAmb IAmb 13 04 59.7
comp=Z,67nm,1.5s
I03D Drain, OR 81.51 45 P **P** **13 04 40.5 +0.8**
I03D IAmb IAmb 13 04 42.8
comp=Z,71nm,1.0s
KBO Bosley Butte 81.70 47 IAmb IAmb 13 04 44.7
comp=Z,84nm,1.3s
H04A Detroit Lake 81.72 44 P **P** **13 04 41.0 +0.1**
H04A IAmb IAmb 13 04 43.3
comp=Z,40nm,1.2s
K02D Willamette Mer 81.82 46 IAmb IAmb 13 04 44.8
comp=Z,49nm,1.1s
MXC Moxie City 81.85 41 IAmb IAmb 13 04 44.2
comp=Z,39nm,1.0s
GZR Gura Zlata 82.06 317 ⇓P **P** **13 04 43.6 +0.9**
GZR Gura Zlata 82.06 317 P **P** **13 04 43.6 +0.9**
E07A Sunnyside 82.11 41 IAmb IAmb 13 04 45.7
comp=Z,57nm,1.2s
KSXB Camp Six Broad 82.12 47 P **P** **13 04 42.8 -0.3**
KSXB IAmb IAmb 13 04 46.8
comp=Z,64nm,1.2s
L02F Cane Junction 82.17 46 P **P** **13 04 42.4 -0.8**
WAH2 Wahluke Slope 82.17 41 P **P** **13 04 42.5 -0.6**
WAH2 IAmb IAmb 13 04 45.7
comp=Z,36nm,0.8s
OKC Ostrava-Krasne 82.24 323 *e* SKS **S** **13 14 57.7 -0.2**
OKC AMS AMS 13 45 10.0
comp=Z,1μm,15.8s
SURR Surduc 82.26 318 ⇑P **P** **13 04 44.2 +0.6**
BBOR Butler Butte 82.34 45 IAmb IAmb 13 04 47.1
comp=Z,41nm,1.2s
G06A Carlson Farm, 82.36 43 IAmb IAmb 13 04 47.0
comp=Z,81nm,1.5s
PSZ Piszkesteto 82.36 321 ⇑P **P** **13 04 44.4 +0.2**
PSZ Piszkesteto 82.36 321 P **P** **13 04 44.4 +0.2**
PSZ Piszkesteto 82.36 321 *eP* **P** **13 04 43.9 -0.4**
KRPM Rodgers 82.37 47 IAmb IAmb 13 04 47.6
comp=Z,53nm,1.1s
D08A Wollman Farm, 82.38 40 P **P** **13 04 44.4 +0.1**
D08A IAmb IAmb 13 04 46.7
comp=Z,48nm,1.0s
STEB Steborice 82.39 323 *eP* **P** **13 04 46.2 +2.0**
HAWA Hanford 82.39 41 IAmb IAmb 13 04 47.0
comp=Z,41nm,1.1s
I05D Terrebonne, OR 82.41 44 P **P** **13 04 44.4 -0.2**
I05D IAmb IAmb 13 04 47.2
comp=Z,37nm,0.9s
F07A Phinny Hill Vi 82.43 42 IAmb IAmb 13 04 47.4
comp=Z,46nm,1.1s
MUD Monsted U'grnd 82.48 332 *i* P P 13 04 38.0 -6.5
JCC Jacoby Creek, 82.54 48 IAmb IAmb 13 04 48.2
comp=Z,53nm,1.1s
RDO Rodhopi 82.55 313 P **P** **13 04 44.4 -0.8**

RDO IAmb IAmb 13 04 58.6
comp=Z,44nm,1.3s
MORC Moravsky Berou 82.60 323 IAmb IAmb 13 04 59.5
comp=Z,106nm,1.9s
MORC Moravsky Berou 82.60 323 *eP* **P** **13 04 47.0 +1.6**
MORC Moravsky Berou 82.60 323 ⇑P **P** **13 04 46.7 +1.2**
MORC Moravsky Berou 82.60 323 P **P** **13 04 46.6 +1.2**
E08A Dider Farm, El 82.61 41 IAmb IAmb 13 04 48.1
comp=Z,34nm,1.0s
VYHS Vyhne 82.63 322 *eP* **P** **13 04 46.0 +0.5**
VYHS pmax pmax
comp=Z,22nm,1.0s
VYHS Vyhne 82.63 322 *eP* **P** **13 04 46.0 +0.5**
KSP Ksiaz 82.63 324 *eP* **P** **13 04 47.0 +1.6**
KMPM Mount Pierce 82.68 48 IAmb IAmb 13 04 49.1
comp=Z,35nm,1.0s
MAUC Maruska 82.68 323 AMS AMS 13 45 30.0
KHMM Horse Mountain 82.70 47 IAmb IAmb 13 04 49.3
comp=Z,37nm,1.1s
NEW Newport 82.72 39 IAmb IAmb 13 04 48.4
comp=Z,30nm,1.0s
KRLC Kraliky 82.83 324 *eP* **P** **13 04 48.1 +1.5**
KRLC Kraliky 82.83 324 *eP* **P** **13 04 48.1 +1.5**
OSTC Ostas 82.84 324 AMS AMS 13 45 50.0
comp=Z,2μm,15.0s
CHVC Chvalec 82.90 324 *eP* **P** **13 04 49.2 +2.3**
CHVC MLR MLR
comp=Z,2μm,15.2s
CHVC Chvalec 82.90 324 *eP* **P** **13 04 49.2 +2.3**
CHVC AMS AMS 13 46 00.0
comp=Z,2μm,15.2s
DPC Dobruska-Polom 82.91 324 *eP* **P** **13 04 49.1 +2.1**
DPC *e* 13 15 04.5
DPC MLR MLR
comp=Z,1μm,14.1s
DPC Dobruska-Polom 82.91 324 *eP* **P** **13 04 49.1 +2.1**
DPC *e* SKS **S** **13 15 04.5 -0.3**
DPC AMS AMS 13 48 40.0
comp=Z,1μm,14.1s
RUE Ruedersdorf 82.91 327 *eL* L 13 46 08.2
comp=Z,2μm,19.2s
YPT Yellepit 82.91 41 P **P** **13 04 47.7 +0.7**
YPT IAmb IAmb 13 04 49.9
comp=Z,47nm,1.0s
YBH Yreka Blue Hor 82.92 46 IAmb IAmb 13 04 50.2
comp=Z,32nm,1.1s
L04D Klamath Falls 82.93 46 P **P** **13 04 46.7 -0.7**
GDH Godhavn 82.95 2 *i* P **P** **13 04 47.2 +0.5**
GDH IAmb IAmb 13 04 48.0
comp=Z,21nm,0.7s
UPC Upice 82.97 324 *eP* **P** **13 04 48.9 +1.6**
UPC MLR MLR
comp=Z,2μm,15.9s
UPC Upice 82.97 324 *eP* **P** **13 04 48.9 +1.6**
UPC AMS AMS 13 45 50.0
comp=Z,2μm,15.9s
ILULI Ilulissat 83.03 1 IAmb IAmb 13 04 49.0
comp=Z,50nm,1.1s
ILULI Ilulissat 83.03 1 *i* P **P** **13 04 46.7 -0.5**
ILULI IAmb IAmb 13 04 48.7
comp=Z,52nm,1.1s
BANR Banloc 83.05 318 ⇑P **P** **13 04 48.2 +0.5**
KMRM Mail Ridge 83.05 48 IAmb IAmb 13 04 50.9
comp=Z,28nm,1.0s
JAVC Velka Javorina 83.06 322 *eP* **P** **13 04 50.4 +2.6**
G08A Pilot Rock 83.33 42 P **P** **13 04 48.9 -0.5**
G08A IAmb IAmb 13 04 52.1
comp=Z,44nm,1.4s
VRAC Vranov 83.37 323 *eP* **P** **13 04 51.1 +1.7**
VRAC Vranov 83.37 323 ⇓P **P** **13 04 50.2 +0.8**
VRAC Vranov 83.37 323 P **P** **13 04 50.2 +0.8**
LNOR Lincton Mounta 83.40 41 P **P** **13 04 49.2 -0.4**
LNOR IAmb IAmb 13 04 52.6
comp=Z,56nm,1.5s
M03C McCloud 83.54 47 P **P** **13 04 50.4 -0.1**
K05A Summer Lake 83.54 45 P **P** **13 04 50.5 -0.2**
MODS Modra-Piesok 83.55 322 *eP* **P** **13 04 48.9 -1.4**
MODS pmax pmax
comp=Z,130nm,1.2s
MODS Modra-Piesok 83.55 322 *eP* **P** **13 04 48.9 -1.4**
KRUC Moravsky 83.62 323 *eP* **P** **13 04 52.3 +1.7**
BOVS Bovan 83.65 316 ⇑P **P** **13 04 52.0 +1.1**
O02D Mt. Diablo Mer 83.68 48 P **P** **13 04 50.0 -1.2**
O02D IAmb IAmb 13 04 54.2
comp=Z,44nm,1.1s
PVCC Panska Ves 83.70 325 *eP* **P** **13 04 52.9 +1.9**
PVCC MLR MLR
comp=Z,1μm,14.2s
PVCC Panska Ves 83.70 325 *eP* **P** **13 04 52.9 +1.9**
PVCC AMS AMS 13 46 30.0
comp=Z,1μm,14.2s
GORT1 Trebel 83.77 328 *eP* **P** **13 04 52.9 +1.7**
comp=Z,78nm,1.1s,baz=50,slow=4.7
BRG Berggiesshubel 83.81 325 *eP* **P** **13 04 53.8 +2.3**
comp=Z,24nm,1.0s,baz=50,slow=4.7
BRG Berggiesshubel 83.81 325 *eP* **P** **13 04 52.7 +1.1**
BRG Amp 13 04 55.0
comp=Z,24nm,1.0s
BRG Berggiesshubel 83.81 325 S **S** **13 15 15.0 +1.3**
BRG Berggiesshubel 83.81 325 SS SS 13 20 40.0 -0.1
RICC Richard 83.93 325 *eP* **P** **13 04 53.8 +1.6**
RICC AMS AMS 13 46 50.0
comp=Z,1μm,14.8s
F10A Beach Ranch, E 83.95 41 P **P** **13 04 52.0 -0.6**
TREC Trest 83.97 324 AMS AMS 13 46 20.0
comp=Z,1μm,16.5s
CLL Collm 84.01 326 P **P** **13 04 52.0 -0.6**
CLL Collm 84.01 326 P **P** **13 04 52.0 -0.6**
CLL pmax pmax
comp=Z,47nm,0.7s
CLL Collm 84.01 326 *eP* **P** **13 04 53.8 +1.3**
comp=Z,46nm,0.7s,baz=50,slow=4.7
CLL *eL* L 13 46 57.7
comp=Z,2μm,18.1s
CLL Collm 84.01 326 *eP* **P** **13 04 52.0 -0.6**
CLL *i* Pmax 13 04 54.0
comp=Z,49nm,0.8s
CLL *i* x x 13 04 58.3
CLL *i* x x 13 05 02.6
CLL *eS* **S** **13 15 16.0 +0.3**
CLL *e*SS SS 13 20 24.0 -19
CLL Lm MLR 13 46 00.0
comp=Z,2μm,18.1s
MORH Mrgy, Hungar 84.03 320 ⇑P **P** **13 04 53.6 +0.9**
PRU Pruhonice 84.04 324 *eP* **P** **13 04 54.5 +1.7**
PRU *e* 13 15 15.5
PRU MLR MLR
comp=Z,1μm,14.5s
PRU Pruhonice 84.04 324 *eP* **P** **13 04 54.5 +1.7**
PRU *e* SKS **SKSac** **13 15 15.5 +0.4**
PRU AMS AMS 13 48 00.0
comp=Z,1μm,14.5s
PRA Prague 84.05 325 AMS AMS 13 48 10.0
comp=Z,1μm,14.9s
HATC Hat Creek Radi 84.20 47 P **P** **13 04 52.7 -1.2**
FLTG Flechtingen 84.22 328 *eP* **P** **13 04 54.6 +1.0**
comp=Z,57nm,0.9s,baz=50,slow=4.7
O03E Paynes Creek 84.26 47 P **P** **13 04 54.8 +0.6**
KARP Karpathos 84.29 307 P **P** **13 04 53.9 -0.5**
VAY Valandovo 84.36 314 *i* P **P** **13 04 55.4 +0.8**
GDXM Geysers 84.39 49 IAmb IAmb 13 04 58.5
comp=Z,42nm,1.4s
RONA Rosalia, Austr 84.48 322 *i* pP **P** **13 04 57.4 +2.3**
comp=Z,26nm,1.3s,SNR=11
BMO Blue Mountains 84.54 42 P **P** **13 04 55.2 -0.4**
BMO IAmb IAmb 13 04 58.2
comp=Z,47nm,1.1s
BMO Blue Mountains 84.54 42 P **P** **13 04 55.2 -0.4**
BMO pmax pmax
comp=Z,47nm,1.2s
ZVC Zvikov 84.56 324 *eP* **P** **13 04 57.3 +1.9**
ZVC AMS AMS 13 47 00.0
comp=Z,2μm,15.2s
JTMT Jette 84.58 38 P **P** **13 04 55.7 0.0**
CONA Conrad Observa 84.58 322 *i* pP **P** **13 04 56.8 +1.1**
comp=Z,62nm,1.2s,SNR=32
MNRC McLaughlin Min 84.58 49 P **P** **13 04 55.7 -0.2**
ASSE Asse, Remlinge 84.61 328 *eP* **P** **13 04 56.8 +1.3**
comp=Z,143nm,1.9s,baz=50,slow=4.7
NRDL Niedersach Rie 84.64 328 *eP* **P** **13 04 57.0 +1.4**
comp=Z,28nm,1.1s,baz=50,slow=4.7
NEUB Neuenburg 84.67 326 *eP* **P** **13 04 57.4 +1.5**
comp=Z,42nm,0.8s,baz=50,slow=4.7
J08A Circle Bar Ran 84.69 43 P **P** **13 04 56.3 -0.1**
SKO Skopje 84.72 315 *i* P **P** **13 04 58.1 +1.7**

RETH	Rethem/Aller,	84.83	329	eP		P		13 04 57.7	+1.1
	comp=Z,36nm,1.1s,baz=50,slow=4.7								
TANN	Tannenbergstha	84.83	326	eP		P		13 04 57.7	+0.9
	comp=Z,38nm,1.6s,baz=50,slow=4.7								
ORV	Oroville	84.85	48	P		P		13 04 56.6	-0.4
ORV				IAmb		IAmb		13 04 58.9	
	comp=Z,30nm,1.1s								
ORV	Oroville	84.85	48	P		P		13 04 56.7	-0.4
ORV				pmax		pmax			
	comp=Z,31nm,1.1s								
CVS	Carmenet Viney	84.86	49	P		P		13 04 57.9	+0.8
CVS				IAmb		IAmb		13 04 59.3	
	comp=Z,44nm,1.1s								
CKRC	Cesky Krumlov	84.87	324	eP		P		13 04 58.2	+1.2
CKRC				e				13 15 20.4	
CKRC				MLR		MLR			
	comp=Z,1µm,15.8s								
CKRC	Cesky Krumlov	84.87	324	eP		P		13 04 58.2	+1.2
CKRC				eSKS		SKSac		13 15 20.4	-0.1
CKRC				AMS		AMS		13 47 10.0	
	comp=Z,1µm,15.8s								
PLN	Plauen	84.94	326	eP		P		13 04 58.5	+1.2
	comp=Z,5.3nm,1.1s,baz=50,slow=4.7								
CLZ	Clausthal	84.94	328	eP		P		13 04 58.9	+1.5
	comp=Z,49nm,0.8s,baz=50,slow=4.7								
KHC	Kasperske Hory	85.06	324	eP		P		13 04 59.8	+1.8
KHC				e				13 15 22.6	
KHC				MLR		MLR			
	comp=Z,2µm,14.9s								
KHC	Kasperske Hory	85.06	324	eP		P		13 04 59.8	+1.8
KHC				eSKS		SKSac		13 15 22.6	+0.8
KHC				AMS		AMS		13 47 20.0	
	comp=Z,2µm,14.9s								
WVOR	Wild Horse Val	85.10	44	P		P		13 04 57.8	-0.7
WVOR				IAmb		IAmb		13 05 01.3	
	comp=Z,46nm,1.1s								
WVOR	Wild Horse Val	85.10	44	P		P		13 04 57.8	-0.7
WVOR				pmax		pmax			
	comp=Z,46nm,1.1s								
MOX	Moxa	85.11	326	eP		P		13 04 59.2	+1.1
	comp=Z,11nm,1.1s,baz=50,slow=4.7								
MOX				eL		L		13 46 40.8	
	comp=Z,909nm,20.3s								
ARSA	Arzberg	85.17	322	P		P		13 04 58.7	+0.2
ARSA	Arzberg	85.17	322	i PcP		PcP		13 05 00.6	-1.1
	comp=Z,29nm,1.4s,SNR=12								
PLID	Pearl Lake	85.17	41	P		P		13 04 59.2	+0.3
PLID				IAmb		IAmb		13 05 01.0	
	comp=Z,54nm,1.8s								
GEC2	GERESS Array S	85.17	324	eP		P		13 04 59.9	+1.3
	comp=Z,15nm,1.1s,baz=50,slow=4.7								
GEC2				eL		L		13 45 49.8	
	comp=Z,670nm,18.8s								
GERES	GERESS Array B	85.17	324	P		P		13 04 58.0	-0.7
GERES	GERESS Array B	85.17	324	P		P		13 04 58.5	-0.2
	comp=Z,3.2nm,0.6s,baz=45,slow=4.2,SNR=24								
	comp=Z,3.2nm,0.6s								
SFJD	Kangerlussuaq	85.26	1	P		P		13 04 58.0	-0.5
SFJD	Kangerlussuaq	85.26	1	P		P		13 04 58.0	-0.5
SFJD				pmax		pmax			
	comp=Z,66nm,1.0s								
SFJD	Kangerlussuaq	85.26	1	i P		P		13 04 58.2	-0.3
SFJD				IAmb		IAmb		13 04 60.0	
	comp=Z,68nm,1.0s								
MSO	Missoula	85.31	39	P		P		13 04 59.7	+0.3
MSO				IAmb		IAmb		13 05 02.3	
	comp=Z,43nm,1.4s								
GTTG	Gottingen	85.33	327	eP		P		13 05 00.7	+1.5
	comp=Z,33nm,0.9s,baz=50,slow=4.7								
ROTZ	Rotzenmuhle	85.37	325	eP		P		13 05 00.9	+1.4
	comp=Z,2.6nm,0.9s,baz=50,slow=4.7								
FNA	Florina	85.41	314	P		P		13 05 00.4	+0.5
FNA	Florina	85.41	314	P		P		13 05 00.4	+0.5
FNA				pmax		pmax			
	comp=Z,16nm,1.2s								
WET	Wettzell	85.42	324	eL		L		13 49 05.0	
	comp=Z,1µm,18.1s								
MOA	Molln	85.48	323	i P		P		13 05 00.6	+0.4
	comp=Z,24nm,1.2s,SNR=7.7								
AFDM	Forest Hills D	85.52	48	IAmb		IAmb		13 05 02.6	
	comp=Z,37nm,1.2s								
OHR	Ohrid	85.60	315	i P		P		13 05 02.4	+1.6
SOKA	Soboth	85.78	322	i P		P		13 05 01.9	+0.2
	comp=Z,35nm,1.1s,SNR=22								
PDG	Podgorica	85.82	316	IAmb		IAmb		13 05 15.2	
	comp=Z,55nm,1.2s								
PDG	Podgorica	85.82	316	⇓P		P		13 05 02.5	+0.7
IBBN	Ibbenburen	85.85	329	eP		P		13 05 02.7	+0.9
	comp=Z,55nm,0.8s,baz=50,slow=4.7								
GRF	Grafenberg Arr	85.91	326	eL		L		13 49 31.6	
	comp=Z,730nm,18.4s								
GRFO	Grafenberg	85.91	326	P		P		13 05 01.6	-0.6
GRFO				IAmb		IAmb		13 05 13.8	
	comp=Z,28nm,1.0s								
GRFO	Grafenberg	85.91	326	P		P		13 05 01.6	-0.6
GRFO				pmax		pmax			
	comp=Z,28nm,1.0s								
FFC	Flin Flon	85.91	28	P		P		13 05 00.8	-1.2
FFC				IAmb		IAmb		13 05 04.1	
	comp=Z,36nm,1.1s								
FFC	Flin Flon	85.91	28	P		P		13 05 00.9	-1.2
FFC				pmax		pmax			
	comp=Z,36nm,1.2s								
BIOA	Bad Ischl, Aus	85.92	323	i PcP		P		13 05 03.4	+1.1
	comp=Z,20nm,1.2s								
PAHR	Pah Rah Range	86.14	47	IAmb		IAmb		13 05 06.1	
	comp=Z,45nm,0.9s								
OBKA	Obir	86.15	322	i PcP		P		13 05 04.3	+0.8
	comp=Z,5.2nm,0.6s,SNR=8.1								
KASTN	Kahler Asten	86.28	328	eP		P		13 05 05.0	+1.0
	comp=Z,16nm,1.1s,baz=50,slow=4.7								
RJOB	Jochberg	86.33	323	eP		P		13 05 05.7	+1.3
	comp=Z,18nm,0.9s,baz=50,slow=4.7								
CMB	Columbia Colle	86.40	49	IAmb		IAmb		13 05 07.1	
	comp=Z,35nm,0.9s								
KBA	Koelnbreinsper	86.45	323	i PcP		P		13 05 05.6	+0.5
	comp=Z,2.9nm,0.6s								
HRY	Holter Researc	86.53	38	P		P		13 05 05.7	+0.2
MYKA	Terra Mystica	86.57	322	i PcP		P		13 05 06.2	+0.6
	comp=Z,3.9nm,0.5s								
LESA	Schwarzleotal	86.59	323	i P		P		13 05 05.9	+0.2
	comp=Z,6.5nm,0.5s,SNR=12								
LRM	Limekiln Ridge	86.74	39	P		P		13 05 06.6	-0.1
BBGB	Big Mountain B	86.75	50	IAmb		IAmb		13 05 09.4	
	comp=Z,41nm,1.0s								
WAKR	Walker	86.77	48	P		P		13 05 06.6	-0.3
WAKR				IAmb		IAmb		13 05 09.6	
	comp=Z,28nm,1.0s								
FUR	Furstenfeldbru	86.86	324	eL		L		13 48 55.6	
	comp=Z,1µm,19.0s								
TNS	Taunus Mts	86.92	327	eL		L		13 48 38.9	
	comp=Z,1µm,18.5s								
HLID	Hailey	86.99	41	IAmb		IAmb		13 05 11.0	
	comp=Z,34nm,1.0s								
SABO	M.te Sabotino	86.99	322	IAmb		IAmb		13 05 25.5	
	comp=Z,41nm,1.2s								
ABTA	Abfaltersbach	87.11	323	i P		P		13 05 07.9	-0.3
	comp=Z,9.3nm,0.7s,SNR=7.8								
PMPB	Monarch Peak	87.11	50	P		P		13 05 08.4	+0.1
PMPB				IAmb		IAmb		13 05 10.9	
	comp=Z,30nm,1.0s								
WATA	Walderalm	87.23	324	i pP		pP		13 05 13.3	-0.3
	comp=Z,7.4nm,0.7s								
WTTA	Wattenberg	87.24	323	i PcP		PcP		13 05 10.1	-1.0
	comp=Z,11nm,1.2s								
RYN	Ryan	87.29	47	P		P		13 05 08.6	-0.8
RYN				IAmb		IAmb		13 05 12.1	
	comp=Z,35nm,1.1s								
STAL	STALIGIAL	87.30	322	P		P		13 05 08.5	-0.6
STAL				IAmb		IAmb		13 05 29.1	
	comp=Z,19nm,0.8s								
BOZ	Bozeman (W)	87.33	39	IAmb		IAmb		13 05 12.1	
	comp=Z,28nm,1.1s								
MOTA	Moosalm	87.47	324	i PcP		P		13 05 10.5	+0.5
	comp=Z,9.4nm,1.1s								
SQTA	Sankt Quirin	87.50	324	i PcP		P		13 05 10.6	+0.5
	comp=Z,3.4nm,0.6s								
NVAR	Mina Array Bea	87.55	47	P		P		13 05 09.8	-0.8
NVAR	Mina Array Bea	87.55	47	P		P		13 05 10.9	+0.3
	comp=Z,7.6nm,0.8s,baz=288,slow=4.1,SNR=58								
	comp=Z,7.6nm,0.8s								
RETA	Reutte	87.56	324	i PcP		P		13 05 11.3	+1.0
	comp=Z,4.8nm,1.0s								
BTNL	Ternell	87.77	328	dP		P		13 05 11.9	+0.6
FETA	Feichten	87.88	324	i PcP		P		13 05 12.5	+0.5
	comp=Z,3.5nm,0.7s								
BHOU	Houvegnez	87.99	328	dP		P		13 05 12.1	-0.2
Q09A	Carvers	88.04	46	P		P		13 05 12.8	-0.2
Q09A				IAmb		IAmb		13 05 16.5	
	comp=Z,47nm,1.3s								
NUUK	Nuuk	88.08	1	i P		P		13 05 10.8	-1.6
NUUK				IAmb		IAmb		13 05 13.9	
	comp=Z,36nm,1.0s								
YHB	Horse Butte	88.10	39	P		P		13 05 12.2	-1.0
EKA	Eskdalemuir Ar	88.14	336	P		P		13 05 12.0	-0.8
	comp=Z,6.6nm,0.5s,baz=51,slow=4.7,SNR=14								
	comp=Z,2.6nm,0.5s								
DAVA	Damuels	88.14	324	i PcP		P		13 05 13.9	+0.6
	comp=Z,6.3nm,0.6s								
ELK	Elko	88.16	44	P		P		13 05 12.7	-0.9
ELK				IAmb		IAmb		13 05 16.7	
	comp=Z,26nm,1.1s								
ELK	Elko	88.16	44	P		P		13 05 12.7	-0.9
ELK				pmax		pmax			
	comp=Z,26nm,1.2s								
BFO	Black Forest	88.24	326	P		P		13 05 12.5	-1.1
BFO	Black Forest	88.24	326	P		P		13 05 12.5	-1.1
BFO				pmax		pmax			
	comp=Z,23nm,1.4s								
BFO	Black Forest	88.24	326	eP		P		13 05 13.4	-0.2
	comp=Z,17nm,1.3s,baz=50,slow=4.7								
BFO				eL		L		13 49 34.3	
	comp=Z,830nm,18.7s								
BCLA	Clavier	88.27	329	dP		P		13 05 13.4	-0.1
	comp=Z,8.6nm,1.0s								
YHH	Holmes Hill	88.27	39	P		P		13 05 13.1	-1.0
SGRT	San Giovanni R	88.33	317	P		P		13 05 12.8	-1.4
SGRT				IAmb		IAmb		13 05 15.7	
	comp=Z,22nm,0.9s								
DSP	Deep Springs	88.36	48	IAmb		IAmb		13 05 17.4	
	comp=Z,55nm,1.7s								
FUORN	Ofenpass-Fuorn	88.38	324	IAmb		IAmb		13 05 16.2	
	comp=Z,19nm,0.8s								
BGES	Gesves	88.39	329	dP		P		13 05 14.8	+0.7
WLF	Walferdange	88.39	328	IAmb		IAmb		13 05 16.4	
	comp=Z,27nm,0.9s								
WLF	Walferdange	88.39	328	dP		P		13 05 15.5	+1.3
	comp=Z,19nm,1.0s								
WLF	Walferdange	88.39	328	eP		P		13 05 15.4	+1.3
	comp=Z,29nm,0.9s,baz=50,slow=4.7								
TPH	Tonopah	88.45	47	IAmb		IAmb		13 05 18.5	
	comp=Z,45nm,1.3s								
VES	Vestal, Richgr	88.48	50	P		P		13 05 15.0	+0.1
VES				IAmb		IAmb		13 05 17.3	
	comp=Z,28nm,1.0s								
RCHB	Rochefort	88.48	328	dP		P		13 05 13.9	-0.6
	comp=Z,19nm,0.9s								
MZP	Montezuma Peak	88.56	47	P		P		13 05 14.6	-0.9
BMRD	Maredsous	88.59	329	dP		P		13 05 14.1	-1.0
	comp=Z,13nm,0.9s								
YNE	Yellowstone No	88.59	38	P		P		13 05 16.0	+0.5
YMP	Mirror Lake Pl	88.68	39	IAmb		IAmb		13 05 19.7	
	comp=Z,55nm,1.3s								
DOU	Dourbes	88.82	329	dP		P		13 05 16.9	+0.7
	comp=Z,9.6nm,1.2s								
RLMT	Red Lodge	88.92	38	P		P		13 05 16.6	-0.5
TUE	Stuetta	88.95	324	P		P		13 05 15.9	-1.3
HVU	Hansel Valley	89.02	42	IAmb		IAmb		13 05 20.9	
	comp=Z,33nm,1.0s								
TPAW	Teton Pass	89.03	40	IAmb		IAmb		13 05 21.1	
	comp=Z,28nm,1.1s								
NRCA	Norcia	89.22	319	IAmb		IAmb		13 05 36.9	
	comp=Z,25nm,1.1s								
MURB	Monte Urbino	89.29	320	IAmb		IAmb		13 05 39.3	
	comp=Z,32nm,1.1s								
DGMT	Dagmar	89.30	33	P		P		13 05 18.9	+0.4
R11B	Troy Canyon, C	89.34	46	P		P		13 05 17.4	-1.7
BGU	Big Grassy Mou	89.39	43	IAmb		IAmb		13 05 22.5	
	comp=Z,27nm,1.2s								
CLC	China Lake	89.49	49	IAmb		IAmb		13 08 05.5	
	comp=Z,16nm,0.4s								
LAO	LASA Array	89.50	35	P		P		13 05 19.1	-0.4
WCT	Wildcat Mounta	89.57	48	P		P		13 05 19.7	-0.4
FURC	Furnace Creek,	89.61	48	IAmb		IAmb		13 05 22.9	
	comp=Z,62nm,1.8s								
S11A	Rachel	89.65	47	P		P		13 05 20.8	+0.2
S11A				IAmb		IAmb		13 05 34.7	
	comp=Z,35nm,1.3s								
WSHM	Spangler Hills	89.68	49	P		P		13 05 19.9	-0.7
SPR3	Spring Creek 3	89.75	45	IAmb		IAmb		13 05 24.5	
	comp=Z,45nm,1.8s								
QSM	Queen of Sheba	89.89	49	P		P		13 05 21.6	0.0
DUG	Dugway, Tooele	89.97	43	P		P		13 05 21.1	-0.9
DUG				IAmb		IAmb		13 05 25.2	
	comp=Z,30nm,1.1s								
DUG	Dugway, Tooele	89.97	43	P		P		13 05 21.1	-0.9
DUG				pmax		pmax			
	comp=Z,30nm,1.1s								
PRN	Pahroc Range	90.24	47	P		P		13 05 23.9	+0.6
TCUT	Toone Canyon	90.24	42	P		P		13 05 22.1	-1.2
TCUT				IAmb		IAmb		13 05 26.5	
	comp=Z,46nm,1.1s								
PD31	Pinedale Array	90.27	40	P		P		13 05 23.3	-0.2
PD31				IAmb		IAmb		13 05 25.8	
	comp=Z,26nm,1.1s								
PDAR	Pinedale Array	90.27	40	P		P		13 05 23.3	-0.2
	comp=Z,11nm,0.9s,baz=310,slow=1.7,SNR=48								
	comp=Z,11nm,0.9s								
PSUT	Pine Spring	90.33	45	P		P		13 05 24.2	+0.4
JLU	Jordanelle	90.54	42	IAmb		IAmb		13 05 27.9	
	comp=Z,41nm,1.3s								
SHPR	Sheep Range	90.70	47	P		P		13 05 25.4	0.0
MPU	Maple Canyon	90.79	43	P		P		13 05 26.0	+0.1
MPU				IAmb		IAmb		13 05 29.0	
	comp=Z,34nm,1.1s								
BSUT	Blindstream Ca	90.99	42	IAmb		IAmb		13 05 30.4	
	comp=Z,27nm,1.2s								
IVI	Ivigtut	91.08	360	i P		P		13 05 25.1	-1.3
TCRU	Three Creeks R	91.16	44	IAmb		IAmb		13 05 31.1	
	comp=Z,35nm,1.3s								
TMUT	Trail Mountain	91.49	43	IAmb		IAmb		13 05 32.4	
	comp=Z,31nm,1.5s								
PFO	Pinyon Flats O	91.52	50	P		P		13 05 29.4	+0.2
PFO	Pinyon Flats O	91.52	50	P		P		13 05 29.5	+0.2
PFO				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PMD	Palm Desert	91.55	50	P		P		13 05 29.3	0.0
BELC	Belle Mtn. Jos	91.61	50	P		P		13 05 29.5	-0.2
BELC				IAmb		IAmb		13 05 33.0	
	comp=Z,35nm,1.9s								
LCMT	Little Creek M	91.63	46	P		P		13 05 30.2	+0.4
LCMT				IAmb		IAmb		13 05 32.9	
	comp=Z,20nm,1.0s								
DANC	Danby, Needles	91.65	49	IAmb		IAmb		13 05 34.0	
	comp=Z,26nm,1.2s								
MTPU	Mount Pierson	91.67	45	IAmb		IAmb		13 05 33.8	
	comp=Z,26nm,1.0s								
ULM	Lac du Bonnet	91.73	28	P		P		13 05 29.2	-0.5
	comp=Z,8.7nm,1.0s,baz=323,slow=3.6,SNR=9.2								
	comp=Z,8.7nm,1.0s								
Q16A	Castle Valley	91.75	44	IAmb		IAmb		13 05 33.7	
	comp=Z,37nm,1.1s								
P18A	Preston Nutter	91.87	43	P		P		13 05 31.4	+0.4
KNB	Kanab	91.90	46	P		P		13 05 31.2	+0.2
KNB	Kanab	91.90	46	P		P		13 05 31.2	+0.2
KNB				pmax		pmax			
	comp=Z,42nm,1.0s								
RAFF	Raffo Rosso	91.92	314	P		P		13 05 30.2	-0.7
PKCU	Pink Cliffs	91.96	45	IAmb		IAmb		13 05 35.1	
	comp=Z,41nm,1.4s								
K22A	Casper	92.04	38	IAmb		IAmb		13 05 33.8	
	comp=Z,56nm,1.8s								
RSSD	Black Hills	92.38	36	P		P		13 05 34.0	+0.8
RSSD				IAmb		IAmb		13 05 35.6	
	comp=Z,54nm,1.6s								
RSSD	Black Hills	92.38	36	P		P		13 05 34.0	+0.8
RSSD				pmax		pmax			
	comp=Z,54nm,1.7s								
U15A	North Rim	92.59	46	P		P		13 05 34.5	+0.1
U15A				IAmb		IAmb		13 05 38.7	
	comp=Z,23nm,1.0s								
O20A	White River Ci	92.72	41	IAmb		IAmb		13 05 37.5	
	comp=Z,36nm,1.2s								
BLYC	Blythe	92.75	49	IAmb		IAmb		13 05 37.7	
	comp=Z,20nm,0.9s								
ESJX	Sierra Juarez	92.80	51	IAmb		IAmb		13 05 38.2	
	comp=Z,20nm,1.0s								
GLA	Glamis	92.95	50	P		P		13 05 36.0	+0.2
GLA				IAmb		IAmb		13 05 38.7	
	comp=Z,22nm,1.0s								
GLA	Glamis	92.95	50	P		P		13 05 36.0	+0.2
GLA				pmax		pmax			
	comp=Z,22nm,1.0s								
HAYD	Hayden	93.04	40	IAmb		IAmb		13 05 39.4	
	comp=Z,29nm,1.2s								
EPLO	Experimental L	93.06	27	P		P		13 05 35.3	-0.7
EPLO				IAmb		IAmb		13 05 37.6	
	comp=Z,24nm,1.2s								
VTX	Valle De La Tr	93.27	52	IAmb		IAmb		13 05 40.2	
	comp=Z,22nm,1.0s								
PV22	Blue Mesa, Par	93.44	43	IAmb		IAmb		13 05 41.2	
	comp=Z,44nm,1.3s								
PV19	Morning Glory	93.46	43	P		P		13 05 38.4	+0.1
PV17	East Wray Mesa	93.50	43	P		P		13 05 38.0	-0.4
PV16	Nyswonger Mesa	93.50	43	P		P		13 05 37.4	-1.1
PV11	David Mesa, Pa	93.54	43	P		P		13 05 37.3	-1.3
PV07	Paradox Valley	93.58	43	IAmb		IAmb		13 05 41.8	
	comp=Z,38nm,1.5s								
KIBK	Kibwezi	93.60	269	P		P		13 05 38.2	-0.9
Y14A	Wickenburg	93.64	48	IAmb		IAmb		13 05 41.8	
	comp=Z,22nm,0.9s								
PV13	Radium Mtn., P	93.66	43	IAmb		IAmb		13 05 42.1	
	comp=Z,31nm,1.0s								
PV02	Paradox Valley	93.68	43	P		P		13 05 38.7	-0.7
KMBO	Kilima Mbogo	93.74	271	P		P		13 05 40.1	+0.1
	comp=Z,1.4nm,0.3s,baz=48,slow=14,SNR=1.4								
	comp=Z,1.4nm,0.3s								
PV15	Paradox Valley	93.75	43	P		P		13 05 38.1	-1.5
PV15				IAmb		IAmb		13 05 42.6	
	comp=Z,30nm,1.2s								
PV01	Paradox Valley	93.83	43	P		P		13 05 39.6	-0.3
PV01				IAmb		IAmb		13 05 42.9	
	comp=Z,34nm,1.1s								
113A	Mohawk Valley,	93.84	50	IAmb		IAmb		13 05 42.5	
	comp=Z,16nm,0.9s								
X16A	Lo Mia Camp, P	94.38	47	IAmb		IAmb		13 05 45.8	
	comp=Z,20nm,1.0s								
MVCO	Mesa Verde	94.47	44	IAmb		IAmb		13 05 46.6	
	comp=Z,26nm,1.4s								
PIX	Pinacate	94.77	51	IAmb		IAmb		13 05 46.9	
	comp=Z,21nm,1.2s								
F33A	5 Mile Ranch,	94.92	31	IAmb		IAmb		13 05 46.6	
	comp=Z,28nm,1.4s								
214A	Organ Pipe Nat	94.97	50	IAmb		IAmb		13 05 48.1	
	comp=Z,22nm,1.1s								
KEST	Kesra	96.00	316	P		P		13 05 49.3	-0.5
	comp=Z,2.2nm,0.6s,baz=7.1,slow=5.0,SNR=2.8								
	comp=Z,2.2nm,0.6s								
SCHQ	Schefferville	96.08	10	P		P		13 05 49.6	-0.1
	comp=Z,6.6nm,0.8s,baz=12,slow=6.7,SNR=4.4								
	comp=Z,6.6nm,0.8s								
TUC	Tucson	96.11	49	P		P		13 05 49.9	-0.5
TUC				IAmb		IAmb		13 05 53.5	
	comp=Z,18nm,1.2s								
TUC	Tucson	96.11	49	P		P		13 05 49.9	-0.5
TUC				pmax		pmax			
	comp=Z,18nm,1.3s								
ANMO	Albuquerque	97.19	44	P		P		13 05 54.4	-1.0
ANMO	Albuquerque	97.19	44	P		P		13 05 54.4	-1.0
ANMO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
SBM	South Baldy	97.38	45	P		P		13 05 54.7	-1.8
Y22D	IRIS PASSCAL I	97.48	45	P		P		13 05 55.5	-1.1
	baz=311								
121A	Cookes Peak, D	97.93	47	P		P		13 05 57.2	-1.5
121A				IAmb		IAmb		13 06 01.9	
	comp=Z,13nm,1.4s								
ESDC	Sonseca Array	100.60	326	P		Pdif		13 06 10.0	-0.3
	comp=Z,1.7nm,0.9s,baz=36,slow=4.2,SNR=7.5								
TXAR	Lajitas Array	102.69	47	P		Pdif		13 06 20.7	+0.8
	comp=Z,2.1nm,0.8s,baz=282,slow=2.4,SNR=12								
TORD	Torodi Ar. Bea	116.01	303			PKiKP		13 11 05.9	0.0
TORD	Torodi Ar. Bea	116.01	303	PKP		PKPdf		13 11 04.6	-1.3
	comp=Z,3.8nm,0.9s,baz=23,slow=2.9,SNR=15								
TORD				PKKPbc		PKKPbc		13 21 36.9	+1.2
	comp=Z,1.3nm,0.9s,baz=271,slow=2.7,SNR=5.3								
QSPA	South Pole Qui	117.80	180			PKiKP		13 11 08.2	+0.3
QSPA	South Pole Qui	117.80	180	PKP		PKiKP		13 11 07.9	0.0
	comp=Z,2.9nm,0.8s,baz=248,slow=0.8,SNR=9.4								
DBIC	Dimbokro	125.10	302	PKP		PKPdf		13 11 22.9	-0.5
	comp=Z,11nm,0.8s,baz=331,slow=1.1,SNR=11								
SNAA	Sanae	129.56	197	PKP		PKPdf		13 11 30.0	-0.3
	comp=Z,2.9nm,1.1s,baz=152,slow=3.8,SNR=4.4								
BELA	Belgrano 2	129.63	184			PKiKP		13 11 30.7	-0.3
RUSC	La Rusia	139.10	38			PKPdf		13 11 50.6	+0.1
ESPZ	Base Esperanza	144.26	174			PKPbc		13 11 56.5	+0.8
BOAV	Boa Vista	147.82	22	PKPdf		PKPdf		13 12 02.2	-2.9
BOAV	Boa Vista	147.82	22	eP		PKPdf		13 12 02.5	-2.6
NNA	Nana	149.55	64			PKPbc		13 12 12.2	-0.2
NNA	Nana	149.55	64	PKP2		PKPbc		13 12 12.2	-0.2
CZSB	Cruzeiro do Su	149.91	52			PKPdf		13 12 10.6	+2.1

ARMA					IAmb	IAmb	13 01 52.4	
	comp=Z,16nm,1.3s							
FITZ	**Fitzroy Crossi**	**25.84**	**240**	P	**P**		**13 01 36.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.84**	**240**	P	**P**		**13 01 36.4**	**-0.4**
	comp=Z,7.2nm,0.3s,baz=68,slow=6.8,SNR=23							
	comp=Z,7.2nm,0.3s							
BBOO	**Buckleboo**	**29.42**	**203**	P	**P**		**13 02 07.7**	**-0.9**
PSA00	**Pilbara Seismi**	**32.24**	**238**	P	**P**		**13 02 32.8**	**-0.9**
PSA00				IAmb	IAmb		13 02 40.5	
	comp=Z,9.0nm,1.2s							
JNU	**Nakatsue**	**42.38**	**337**	P	**P**		**13 03 59.9**	**+0.8**
JNU				IAmb	IAmb		13 04 14.7	
	comp=Z,21nm,1.3s							
KSRS	**Korea Array**	**47.33**	**337**	P	**P**		**13 04 38.9**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=152,slow=8.1,SNR=10							
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**78.63**	**320**	P	**P**		**13 08 05.3**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=134,slow=6.2,SNR=2.2							
	comp=Z,0.3nm,0.6s							
MAW	**Mawson**	**83.16**	**203**	P	**P**		**13 08 28.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=117,slow=4.5,SNR=1.0							
	comp=Z,0.9nm,0.8s							
QSPA	**South Pole Qui**	**84.13**	**180**	P	**P**		**13 08 35.1**	**+0.8**
QSPA				IAmb	IAmb		13 08 50.9	
	comp=Z,5.9nm,1.5s							
QSPA	**South Pole Qui**	**84.13**	**180**	P	**P**		**13 08 34.5**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=68,slow=5.4,SNR=2.0							
	comp=Z,1.2nm,1.0s							
TXAR	**Lajitas Array**	**107.96**	**61**	Pdiff	**Pdif**		**13 10 23.8**	**-0.7**
	comp=Z,0.7nm,1.1s,baz=294,slow=4.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**146.95**	**285**	PKPbc	**PKPdf**		**13 15 43.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=32,slow=3.5,SNR=1.6							

*TRN **20** 13:02:49.5, 10˚.32N×62˚.78W, h16km, MD3.4, Gulf of Paria.*

*FUNV **20** 13:02:52.3, 10˚.46N×62˚.72W, h22km, MW3.6*

ISC 20 13:02:48.3±2.3, 10˚.12N±0˚.09×62˚.63W±0˚.09, h117km±28km, n17, σ1s70/30, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**1.21**	**61**	*e*P	**Pn**	**13 03 12.5**	**+0.4**
DMDM				*e*S	**Sn**	**13 03 29.5**	**-0.8**
PSMG	**Mucurapo Girls**	**1.21**	**63**	*e*P	**Pn**	**13 03 12.9**	**+0.7**
PSMG				*e*S	**Sn**	**13 03 30.2**	**-0.2**
PSQC	**Port of Spain**	**1.22**	**63**	*e*S	**Sn**	**13 03 30.3**	**-0.2**
PSKH	**Kent House, Po**	**1.22**	**63**	*e*P	**Pn**	**13 03 12.9**	**+0.5**
PSKH				*e*S	**Sn**	**13 03 30.2**	**-0.4**
TRN	**Trinidad (W)**	**1.31**	**66**	*e*P	**Pn**	**13 03 14.9**	**+1.6**
TRN				*e*S	**Sn**	**13 03 33.0**	**+0.6**
TBH	**Brigand Hill**	**1.58**	**77**	x	x	13 03 23.4	
PCRV	**Puerto La Cruz**	**1.98**	**272**	*e*P	**Pn**	**13 03 22.3**	**+1.0**
GRFF	**Grenada Fort F**	**2.11**	**24**	*e*P	**Pn**	**13 03 23.0**	**0.0**
GRFF				*e*S	**Sn**	**13 03 47.4**	**-2.2**
GRGR	**Grenville**	**2.22**	**25**	*e*P	**Pn**	**13 03 24.4**	**+0.1**
GRGR				*e*S	**Sn**	**13 03 51.0**	**-1.1**
GRW	**Mount Saint Ca**	**2.24**	**25**	*e*P	**Pn**	**13 03 24.7**	**0.0**
GRW				*e*S	**Sn**	**13 03 51.2**	**-1.4**
GRSS	**Sisters**	**2.38**	**25**	*e*P	**Pn**	**13 03 27.2**	**+0.7**
GRSS				*e*S	**Sn**	**13 03 53.1**	**-2.7**
GCMP	**Grenada, Carri**	**2.63**	**26**	*e*P	**Pn**	**13 03 31.5**	**+1.8**
GCMP				*e*S	**Sn**	**13 04 00.8**	**-0.8**
TACV	**Tcata**	**4.33**	**271**	*e*P	**Pn**	**13 03 54.4**	**+2.1**
TACV				*e*S	**Sn**	**13 04 41.0**	**-1.0**
CACV	**CAICARA DEL OR**	**4.62**	**237**	*e*P	**Pn**	**13 03 55.8**	**-0.3**
CACV				*e*S	**Sn**	**13 04 43.9**	**-5.0**
BENV	**Beln**	**4.90**	**269**	*e*P	**Pn**	**13 04 02.0**	**+2.1**
BENV				*e*S	**Sn**	**13 04 53.9**	**-1.7**
BAUV	**El Baul**	**5.47**	**258**	*e*P	**Pn**	**13 04 10.2**	**+2.7**
BAUV				*e*S	**Sn**	**13 05 08.6**	**-0.6**
BAUV	**El Baul**	**5.47**	**258**	*e*P	**Pn**	**13 04 09.4**	**+1.9**
BAUV				*e*S	**Sn**	**13 05 09.3**	**+0.1**

*MOS **20** 13:03:50.9±0.9, 11˚.30S×166˚.27E, h44km, mb5.8/53, MS5.6/26, Error ellipse: s-maj=8.5km s-min=7.3km az=40.8*

*IDC **20** 13:03:51.0±1.7, 11˚.35S×166˚.37E, h29km±11km, mb5.3/29, mbtmp5.5/32, ML3.1/1, MS5.4/58, Error ellipse: s-maj=11.9km s-min=11.8km az=156.0*

*NEIC **20** 13:03:52, 11˚.21S×166˚.19E, h40km, Moment Tensor Solution. Duration: 4s4 Moment tensor: Scale 10^{18}Nm; M_{rr}1.33; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-1.20; $M_{r\theta}$0.05; $M_{\theta\phi}$0.16; $M_{\phi r}$0.12; Fault plane solution: $M_0$1.28000×10^{18} NP1: ϕ_s169.11000°, δ42.67000°, λ85.99000°. NP2: ϕ_s354.56000°, δ47.46000°, λ93.69000°. Principal axes: T 1.3337, Plg86.0000°, Azm311.0000°; N -0.1085, Plg3.0000°, Azm172.0000°; P -1.2253, Plg2.0000°, Azm82.0000°;*

*NEIC **20** 13:03:52.6±2.0, 11˚.37S±0˚.07×166˚.29E±0˚.07, h37km±1km, mb5.6/567, Ms_20 5.8/1080, Mwb6.0/40, Mww6.0/22 Error ellipse: s-maj=12.4km s-min=11.1km az=43.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.17; $M_{\theta\theta}$0.20; $M_{\phi\phi}$-1.37; $M_{r\theta}$0.18; $M_{\theta\phi}$0.31; $M_{\phi r}$0.15; Fault plane solution: $M_0$1.34000×10^{18} NP1: ϕ_s1.05000°, δ48.75000°, λ106.42000°. NP2: ϕ_s156.97000°, δ43.85000°, λ72.14000°. Principal axes: T 1.2164, Plg77.0000°, Azm338.0000°; N 0.2186, Plg12.0000°, Azm170.0000°; P -1.4350, Plg3.0000°, Azm80.0000°;*

*NEIC **20** 13:03:52, 11˚.41S×166˚.29E, h40km*

*NEIC **20** 13:03:53, 11˚.35S×166˚.32E, h42km*

*IPGP **20** 13:03:54.0, 11˚.41S×166˚.29E, h46km, Mw6.1, Fault plane solution: NP1: ϕ_s179.00000°, δ41.00000°, λ99.00000°. NP2: ϕ_s348.00000°, δ49.00000°, λ82.00000°.*

*BJI **20** 13:03:54.8, 10˚.65S×166˚.03E, h45km, mB6.0/54, mb5.6/94, Ms5.7/97, Ms7 5.6/95*

*NOU **20** 13:03:55.2, 11˚.30S×166˚.22E, h54km, ML5.8/143, Santa Cruz Islands*

*GCMT **20** 13:03:57.6±0.1, 11˚.46S×165˚.97E, h47km, MW6.1/162, Moment Tensor Solution. s162,c351; s160,c531; Duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}1.59±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$-1.55±.01; $M_{r\theta}$-0.07±.01; $M_{\theta\phi}$0.38±.01; $M_{\phi r}$0.15±.01; Best double couple: $M_0$1.62300×10^{18} NP1: ϕ_s168.00000°, δ42.00000°, λ92.00000°. NP2: ϕ_s346.00000°, δ48.00000°, λ89.00000°. Principal axes: T 1.5990, Plg87.0000°, Azm236.0000°; N 0.0440, Plg1.0000°, Azm347.0000°; P -1.6470, Plg3.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 20 13:03:52.9±0.3, 11˚.35S±0˚.03×166˚.32E±0˚.03, h46km±2km, h47km:pP-P, n1944, σ1s44/1400, mb5.6/454, MS5.8/618, 93C-40D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**0.79**	**329**	P	**Pn**	**13 04 08.9**	**+1.2**
SANVU	**Saraoutou**	**4.17**	**168**		**Pn**	**13 04 55.0**	**+1.0**
SANVU	**Saraoutou**	**4.17**	**168**	P	**Pn**	**13 04 56.9**	**+2.9**
SANVU	**Saraoutou**	**4.17**	**168**	S	**Sn**	**13 05 45.6**	**+4.2**
SANVU	**Saraoutou**	**4.17**	**168**	⇑P	**Pn**	**13 04 54.8**	**+0.8**
HURO	**Huro Makira**	**4.43**	**281**	P	**Pn**	**13 04 57.3**	**-0.2**
HURO	**Huro Makira**	**4.43**	**281**	S	**Sn**	**13 05 48.1**	**+0.2**
VLAKA	**Lakatoro**	**4.85**	**167**	P	**Pn**	**13 05 07.2**	**+3.8**
ALEG	**Aligegeo Malai**	**6.11**	**294**	P	**Pn**	**13 05 21.9**	**+1.2**
ALEG	**Aligegeo Malai**	**6.11**	**294**	S	**Sn**	**13 06 29.8**	**+0.5**
NGOA	**Tingoa Renbel**	**6.14**	**267**	P	**Pn**	**13 05 20.0**	**-1.1**
HNR	**Honiara**	**6.55**	**286**	Pn	**Pn**	**13 05 27.7**	**+1.0**
HNR	**Honiara**	**6.55**	**286**	Pn	**Pn**	**13 05 27.2**	**+0.4**
	3μm,0.6s,baz=152,slow=5.2,SNR=126						
HNR				Sn	**Sn**	**13 06 42.7**	**+2.4**
	356nm,0.3s,baz=60,slow=21,SNR=4.0						
HNR				LR	LR	13 08 21.0	
	comp=Z,93μm,19.6s,baz=118,slow=41						
HNR	**Honiara**	**6.55**	**286**	P	**Pn**	**13 05 28.3**	**+1.6**
HNR	**Honiara**	**6.55**	**286**	S	**Sn**	**13 06 40.8**	**+0.6**
HNR	**Honiara**	**6.55**	**286**	P	**Pn**	**13 05 27.7**	**+1.0**
HNR	**Honiara**	**6.55**	**286**	⇑P	**Pn**	**13 05 28.0**	**+1.3**
DVP	**Devils Point**	**6.59**	**164**	P	**Pn**	**13 05 31.1**	**+3.8**
SAVO	**Savo Central**	**6.77**	**288**	P	**Pn**	**13 05 31.1**	**+1.4**
SAVO	**Savo Central**	**6.77**	**288**	S	**Sn**	**13 06 46.0**	**+0.5**
TATA	**Tatamba Isabel**	**7.06**	**294**	P	**Pn**	**13 05 35.0**	**+1.3**
INH	**Isangel**	**8.64**	**161**	P	**Pn**	**13 05 58.2**	**+2.9**
KOUNC	**Koumac, New Ca**	**9.36**	**192**	P	**Pn**	**13 06 08.0**	**+2.8**
KOUNC	**Koumac, New Ca**	**9.36**	**192**	⇑P	**Pn**	**13 06 07.5**	**+2.3**
DZM	**Mont Dzumac**	**10.67**	**179**		**Pn**	**13 06 23.7**	**+0.5**
DZM	**Mont Dzumac**	**10.67**	**179**	*e*P	**Pn**	**13 06 24.4**	**+1.2**
	608nm,1.1s						
DZM				*e*S	**Sn**	**13 08 25.8**	**+4.5**
	1μm,1.1s						
DZM				*e*LR	LR	13 08 49.4	
	96μm,24.2s						
DZM	**Mont Dzumac**	**10.67**	**179**	Pn	**Pn**	**13 06 23.6**	**+0.4**
	55nm,0.5s,baz=22,slow=9.3,SNR=70						
DZM				Sn	**Sn**	**13 08 14.3**	**-7.1**
	baz=73,slow=19						
DZM				LR	LR	13 09 15.1	
	comp=Z,8μm,21.9s,baz=14,slow=30						
DZM	**Mont Dzumac**	**10.67**	**179**	P	**Pn**	**13 06 26.3**	**+3.1**
DZM	**Mont Dzumac**	**10.67**	**179**	⇑P	**Pn**	**13 06 24.4**	**+1.2**
OUENC	**Ouen Island, N**	**11.02**	**177**	P	**Pn**	**13 06 31.2**	**+3.2**
PINNC	**Pines Island,**	**11.26**	**175**		**Pn**	**13 06 32.3**	**+1.1**
PINNC	**Pines Island,**	**11.26**	**175**	P	**Pn**	**13 06 34.7**	**+3.5**
FUNA	**Funafuti**	**12.99**	**79**		**Pn**	**13 06 54.8**	**-0.1**
FUNA	**Funafuti**	**12.99**	**79**	P	**Pn**	**13 06 57.8**	**+2.9**
MSVF	**Nonsavu**	**13.01**	**121**		**P**	**13 07 00.3**	**-4.2**
MSVF	**Nonsavu**	**13.01**	**121**	P	**Pn**	**13 06 59.7**	**+4.5**
MSVF	**Nonsavu**	**13.01**	**121**	*de*P	**Pn**	**13 06 57.1**	**+1.9**
MSVF				MLR	MLR		
	comp=Z,46μm,15.0s						
MSVF	**Nonsavu**	**13.01**	**121**	⇓P	**P**	**13 07 01.0**	**-3.5**
TARA	**Tarawa**	**14.22**	**28**	Pn	**Pn**	**13 07 11.9**	**+0.2**
FUTU	**Fugatoga**	**15.45**	**103**	P	**P**	**13 07 32.4**	**+0.7**
FUTU	**Fugatoga**	**15.45**	**103**	P	**P**	**13 07 31.6**	**0.0**
RABL	**Rabaul**	**15.72**	**296**	Pn	**Pn**	**13 07 31.6**	**+0.2**
RABL	**Rabaul**	**15.72**	**296**	⇓P	**Pn**	**13 07 30.6**	**-0.7**
PMG	**Port Moresby**	**18.95**	**274**	Pn	**Pn**	**13 08 11.1**	**-0.2**
PMG	**Port Moresby**	**18.95**	**274**	P	**Pn**	**13 08 11.9**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=84,slow=10,SNR=7.2						
	comp=Z,26nm,0.8s						
PMG	**Port Moresby**	**18.95**	**274**	P	**Pn**	**13 08 11.1**	**-0.2**
PMG	**Port Moresby**	**18.95**	**274**	P	**Pn**	**13 08 12.0**	**+0.6**
PMG	**Port Moresby**	**18.95**	**274**	*di*P	**Pn**	**13 08 11.2**	**-0.2**
PMG				pmax	pmax		
	comp=Z,25nm,1.0s						
PMG				MLR	MLR		
	comp=Z,19μm,17.0s						
PMG	**Port Moresby**	**18.95**	**274**	⇓P	**Pn**	**13 08 11.2**	**-0.1**
GD1S	**Gladstone Soft**	**19.03**	**227**	P	**Pn**	**13 08 14.3**	**+2.1**
PATS	**Pohnpei**	**19.74**	**336**	P	**Pn**	**13 08 20.4**	**-0.3**
	comp=Z,0.0nmcomp=Z,2μm,1.1s						
PATS	**Pohnpei**	**19.74**	**336**	P	**Pn**	**13 08 21.0**	**+0.3**
EIDS	**Eidsvold**	**20.07**	**224**	P	Pn	13 08 24.5	0.0
	comp=Z,0.0nmcomp=Z,243nm,1.0s						
EIDS	**Eidsvold**	**20.07**	**224**	P	**P**	**13 08 23.2**	**+0.8**
EIDS	**Eidsvold**	**20.07**	**224**	P	Pn	13 08 24.4	-0.1
EIDS	**Eidsvold**	**20.07**	**224**	⇑P	Pn	13 08 23.9	-0.6
GC1S	**Gold Coast 1 S**	**20.59**	**214**	P	Pn	13 08 30.4	-0.3
MANU	**Manus Island**	**20.95**	**295**	P	**P**	**13 08 31.9**	**-0.2**
MANU	**Manus Island**	**20.95**	**295**	⇑P	Pn	13 08 33.8	-1.4
CTAO	**Charters Tower**	**21.16**	**243**	P	**P**	**13 08 34.4**	**0.0**
CTAO				IAmb	IAmb	13 08 54.8	
	comp=Z,360nm,1.2s						
CTAO	**Charters Tower**	**21.16**	**243**	P	**P**	**13 08 35.6**	**+1.2**
CTAO	**Charters Tower**	**21.16**	**243**	P	**P**	**13 08 34.4**	**0.0**
CTAO				pmax	pmax		
	comp=Z,360nm,1.2s						
LHI	**Lord Howe Isla**	**21.17**	**197**	P	**P**	**13 08 30.6**	**-3.6**
LHI	**Lord Howe Isla**	**21.17**	**197**	⇓P	**P**	**13 08 35.8**	**+1.6**
MTSU	**Mount Surprise**	**22.31**	**250**	P	**P**	**13 08 46.9**	**+0.1**
	comp=Z,247nm,0.9s						
MTSU	**Mount Surprise**	**22.31**	**250**	P	**P**	**13 08 47.6**	**+0.9**
RMQ	**Roma**	**22.38**	**225**	P	**P**	**13 08 48.4**	**+1.1**
	comp=Z,186nm,1.4s						
RMQ	**Roma**	**22.38**	**225**	P	**P**	**13 08 50.3**	**+2.9**
COEN	**Coen**	**22.73**	**261**	P	**P**	**13 08 51.7**	**+0.5**
	comp=Z,0.0nmcomp=Z,312nm,1.3s						
COEN	**Coen**	**22.73**	**261**	P	**P**	**13 08 50.5**	**-0.7**
COEN				IAMs_20	IAMs_20	13 15 41.7	
	comp=Z,28μm,21.0s						
COEN	**Coen**	**22.73**	**261**	P	**P**	**13 08 52.3**	**+1.1**
COEN	**Coen**	**22.73**	**261**	⇑P	**P**	**13 08 53.3**	**+2.1**
RAO	**Raoul Island**	**23.10**	**143**	LR	LR	13 16 17.8	
	comp=Z,9μm,18.2s,baz=318,slow=32						
GLKZ	**Green Lake**	**23.11**	**143**	P	**P**	**13 08 56.0**	**+1.2**
ARMA	**Armidale**	**23.38**	**214**	P	**P**	**13 08 57.8**	**+0.2**
	comp=Z,0.0nmcomp=Z,394nm,1.7s						
ARMA	**Armidale**	**23.38**	**214**	P	**P**	**13 08 57.2**	**-0.4**
ARMA				IAmb	IAmb	13 09 17.3	
	comp=Z,379nm,1.1s						
ARMA				IAMs_20	IAMs_20	13 16 40.2	
	comp=Z,30μm,19.0s						
ARMA	**Armidale**	**23.38**	**214**	P	**P**	**13 08 58.8**	**+1.2**
ARMA	**Armidale**	**23.38**	**214**	⇑P	**P**	**13 08 58.4**	**+0.8**
NIUE	**Niue**	**24.15**	**111**	P	**P**	**13 09 05.0**	**+0.2**
NIUE	**Niue**	**24.15**	**111**	P	**P**	**13 09 08.8**	**+4.0**
NIUE	**Niue**	**24.15**	**111**	P	**P**	**13 09 08.5**	**+3.6**
NIUE	**Niue**	**24.15**	**111**	⇓P	**P**	**13 09 07.5**	**+2.7**
OUZ	**Omahuta**	**24.67**	**166**	IAMs_20	IAMs_20	13 17 32.1	
	comp=Z,25μm,20.0s						
OUZ	**Omahuta**	**24.67**	**166**	P	**P**	**13 09 11.2**	**+1.8**
OUZ	**Omahuta**	**24.67**	**166**	⇓P	**P**	**13 09 11.1**	**+1.8**
NTLH	**Newcastle Hard**	**25.31**	**210**	P	**P**	**13 09 16.9**	**+1.7**
WCZ	**Waipu Caves**	**25.54**	**165**	P	**P**	**13 09 19.0**	**+1.8**
QLP	**Quilpie**	**25.74**	**231**	P	**P**	**13 09 18.4**	**-0.9**
	comp=Z,0.0nmcomp=Z,177nm,1.2s						
QLP	**Quilpie**	**25.74**	**231**	P	**P**	**13 09 20.5**	**+1.3**
QLP	**Quilpie**	**25.74**	**231**	⇑P	**P**	**13 09 19.4**	**+0.2**
MGCD	**Mangrove Creek**	**25.85**	**210**	P	**P**	**13 09 21.0**	**+0.9**
	comp=Z,199nm,1.1s						
MGCD	**Mangrove Creek**	**25.85**	**210**	P	**P**	**13 09 22.0**	**+1.8**
RIV	**Riverview**	**26.33**	**209**	P	**P**	**13 09 25.2**	**+0.7**
	comp=Z,499nm,1.0s						
RIV	**Riverview**	**26.33**	**209**	P	**P**	**13 09 27.3**	**+2.8**
RIV	**Riverview**	**26.33**	**209**	P	**P**	**13 09 26.1**	**+1.6**
RIV				pmax	pmax		
	comp=Z,499nm,1.0s						
RIV	**Riverview**	**26.33**	**209**	⇑P	**P**	**13 09 26.4**	**+1.9**
SYDH	**Sydney Hard Ro**	**26.48**	**210**	P	**P**	**13 09 27.3**	**+1.5**
KUZ	**Kuaotunu**	**26.67**	**163**	P	**P**	**13 09 31.3**	**+3.8**
JAY	**Jayapura**	**26.88**	**287**	P	**P**	**13 09 30.8**	**+1.1**
	comp=Z,48nm,0.8s,baz=143,slow=2.9,SNR=24						
JAY				LR	LR	13 21 35.0	
	comp=Z,12μm,18.1s,baz=82,slow=40						
	comp=Z,48nm,0.8s						
JAY	**Jayapura**	**26.88**	**287**	P	**P**	**13 09 30.2**	**+0.5**
	comp=Z,3μmcomp=Z,112nm,0.8s						
QIS	**Mount Isa**	**27.24**	**247**	P	**P**	**13 09 32.5**	**-0.3**
	comp=Z,0.0nmcomp=Z,76nm,1.1s						
QIS	**Mount Isa**	**27.24**	**247**	P	**P**	**13 09 33.0**	**+0.2**
GENI	**Genyem**	**27.35**	**287**	P	**P**	**13 09 34.6**	**+0.7**
GENI	**Genyem**	**27.35**	**287**	P	**P**	**13 09 36.4**	**+2.5**
TOZ	**Tahuroa Road**	**27.54**	**164**	P	**P**	**13 09 35.8**	**+0.6**
TOZ				IAMs_20	IAMs_20	13 18 46.0	
	comp=Z,22μm,22.0s						
TOZ	**Tahuroa Road**	**27.54**	**164**	P	**P**	**13 09 36.3**	**+1.1**
CMSA	**Cobar Meteorol**	**27.70**	**220**	P	**P**	**13 09 36.2**	**-0.6**
	comp=Z,0.0nmcomp=Z,161nm,1.2s						
YNG	**Young**	**28.10**	**213**	P	**P**	**13 09 40.4**	**0.0**
	comp=Z,83nm,1.5s						
HIZ	**Hauiti**	**28.11**	**166**	IAMs_20	IAMs_20	13 19 18.1	
	comp=Z,22μm,21.0s						
HIZ	**Hauiti**	**28.11**	**166**	P	**P**	**13 09 41.9**	**+1.6**
OMRZ	**Omania**	**28.13**	**163**	P	**P**	**13 09 44.5**	**+3.9**
HAZ	**Te Kaha**	**28.24**	**161**	P	**P**	**13 09 41.2**	**-0.3**
RUGZ	**Raukumara Rang**	**28.39**	**161**	P	**P**	**13 09 44.3**	**+1.3**
CNB	**Canberra Magne**	**28.40**	**210**	P	**P**	**13 09 43.8**	**+0.6**
	comp=Z,0.0nmcomp=Z,142nm,1.0s						
PKGZ	**Pakihiroa**	**28.43**	**160**	P	**P**	**13 09 42.0**	**-1.3**
URZ	**Urewera**	**28.49**	**162**	LR	LR	13 19 12.4	
	comp=Z,22μm,21.9s,baz=336,slow=32						
URZ	**Urewera**	**28.49**	**162**	P	**P**	**13 09 44.2**	**+0.5**
URZ	**Urewera**	**28.49**	**162**	P	**P**	**13 09 44.3**	**+0.6**
URZ	**Urewera**	**28.49**	**162**	⇓P	**P**	**13 09 44.2**	**+0.5**
WMGZ	**Waiomatatini S**	**28.50**	**160**	P	**P**	**13 09 44.2**	**+0.3**
CAN	**Canberra**	**28.59**	**211**	P	**P**	**13 09 44.9**	**+0.2**
	comp=Z,0.0nmcomp=Z,72nm,1.0s						
CAN	**Canberra**	**28.59**	**211**	P	**P**	**13 09 45.0**	**+0.2**
CAN	**Canberra**	**28.59**	**211**	P	**P**	**13 09 45.0**	**+0.2**
CAN				pmax	pmax		
	comp=Z,87nm,1.0s						
VRZ	**Vera Road**	**28.67**	**166**	P	**P**	**13 09 46.6**	**+1.3**
RATZ	**Rangitukua**	**28.67**	**165**	P	**P**	**13 09 47.3**	**+1.8**
PUZ	**Puketiti**	**28.68**	**160**	P	**P**	**13 09 46.5**	**+1.0**
RTZ	**Ruatahuna**	**28.78**	**162**	P	**P**	**13 09 45.7**	**-0.7**
RTZ				IAmb	IAmb	13 10 20.6	
	comp=Z,210nm,1.3s						
RTZ				IAMs_20	IAMs_20	13 19 00.9	
	comp=Z,23μm,22.0s						
RITZ	**Rihia Road**	**28.80**	**164**	P	**P**	**13 09 49.5**	**+3.0**
MRHZ	**Matea Rd**	**28.82**	**164**	P	**P**	**13 09 47.6**	**+0.9**
WTVZ	**West Tongariro**	**28.86**	**165**	P	**P**	**13 09 48.6**	**+1.4**
TKGZ	**Te Karaka**	**28.88**	**161**	P	**P**	**13 09 46.5**	**-0.7**
TMVZ	**Te Maari**	**28.89**	**165**	P	**P**	**13 09 50.1**	**+2.7**
ETVZ	**East Tongariro**	**28.91**	**165**	P	**P**	**13 09 51.1**	**+3.4**
OTVZ	**Oturere**	**28.93**	**165**	P	**P**	**13 09 50.4**	**+2.6**
SMPI	**Sarmi**	**28.93**	**287**	P	**P**	**13 09 48.3**	**+0.4**
	comp=Z,5μmcomp=Z,433nm,1.4s						
COVZ	**Chateau Observ**	**28.93**	**165**	P	**P**	**13 09 49.8**	**+2.0**
SNVZ	**South Ngauruho**	**28.94**	**165**	P	**P**	**13 09 47.5**	**-0.5**
MTHZ	**Maungataniwha**	**28.95**	**163**	P	**P**	**13 09 48.9**	**+0.9**
FWVZ	**Far West T-bar**	**28.98**	**165**	P	**P**	**13 09 49.9**	**+1.4**
WHVZ	**Whangaehu Hut**	**29.02**	**165**	P	**P**	**13 09 50.3**	**+1.6**
CNGZ	**Carnagh Statio**	**29.04**	**161**	P	**P**	**13 09 49.0**	**+0.4**
SNGZ	**Shannon Statio**	**29.04**	**162**	P	**P**	**13 09 48.6**	**-0.1**
WNVZ	**Wahianoa**	**29.06**	**165**	P	**P**	**13 09 51.6**	**+2.5**
RAHZ	**Arahi**	**29.09**	**163**	P	**P**	**13 09 49.4**	**+0.4**
RIGZ	**Rimuhau**	**29.10**	**161**	P	**P**	**13 09 49.7**	**+0.5**
BKZ	**Black Stump Fm**	**29.15**	**164**	IAmb	IAmb	13 10 18.3	
	comp=Z,75nm,0.8s						
BKZ				IAMs_20	IAMs_20	13 19 38.7	
	comp=Z,24μm,22.0s						
BKZ	**Black Stump Fm**	**29.15**	**164**	P	**P**	**13 09 50.7**	**+1.0**
BKZ	**Black Stump Fm**	**29.15**	**164**	P	**P**	**13 09 49.7**	**+0.1**
NMHZ	**Naumai**	**29.17**	**163**	P	**P**	**13 09 51.1**	**+1.2**
MOVZ	**Moawhango**	**29.18**	**165**	P	**P**	**13 09 50.6**	**+0.7**
WHHZ	**Waihua**	**29.28**	**162**	P	**P**	**13 09 51.4**	**+0.6**
WAZ	**Wanganui**	**29.32**	**166**	P	**P**	**13 09 53.3**	**+2.1**
KNZ	**Kokohu**	**29.36**	**162**	P	**P**	**13 09 51.3**	**-0.2**
KWHZ	**Kaweka Forest**	**29.37**	**164**	P	**P**	**13 09 52.0**	**+0.4**
ARHZ	**Aropaoanui**	**29.38**	**163**	P	**P**	**13 09 52.1**	**+0.4**
MCHZ	**McNeill Hill**	**29.46**	**164**	P	**P**	**13 09 53.1**	**+0.6**
KRHZ	**Kereru**	**29.56**	**164**	P	**P**	**13 09 53.4**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**29.65**	**1**	T	T	13 40 35.0	
	baz=181,slow=76,SNR=172						
H11S3	**WAKE ISLAND Hy**	**29.65**	**1**	T	T	13 40 38.3	
	baz=181,slow=76,SNR=128						
H11S1	**WAKE ISLAND Hy**	**29.67**	**1**	T	T	13 40 32.5	
	baz=181,slow=76,SNR=148						
KAHZ	**Kahuranaki**	**29.84**	**164**	P	**P**	**13 09 55.7**	**-0.1**
TSZ	**Takapari Road**	**29.84**	**165**	P	**P**	**13 09 55.8**	**0.0**
QRZ	**Quartz Range**	**29.87**	**171**	P	**P**	**13 09 57.4**	**+1.4**
MILA	**Mila**	**29.90**	**208**	⇓P	**P**	**13 09 57.4**	**+1.0**
PXZ	**Pawanui**	**30.06**	**164**	P	**P**	**13 09 57.5**	**-0.2**
MRZ	**Mangatainoka R**	**30.32**	**166**	IAmb	IAmb	13 10 50.8	
	comp=Z,82nm,1.0s						
MRZ	**Mangatainoka R**	**30.32**	**166**	P	**P**	**13 09 59.2**	**-0.8**
NNZ	**Nelson**	**30.40**	**169**	P	**P**	**13 10 02.8**	**+2.2**
BFZ	**Birch Farm**	**30.50**	**165**	IAmb	IAmb	13 10 31.8	
	comp=Z,93nm,0.8s						
BFZ				IAMs_20	IAMs_20	13 21 06.5	
	comp=Z,26μm,21.0s						
BFZ	**Birch Farm**	**30.50**	**165**

WKZ Wanaka 33.44 177 P **P** **13 10 28.6 +1.2**
ARPS Mount Arapiles 33.58 217 P **P** **13 10 26.3 -2.3**
comp=Z,48nm,1.6s
GLAD Gladstone 33.64 205 P **P** **13 10 29.9 +0.8**
ODZ Otahua Downs 33.78 174 P **P** **13 10 31.3 +1.0**
ODZ Otahua Downs 33.78 174 P **P** **13 10 29.9 -0.4**
ODZ Otahua Downs 33.78 174 ⇑P **P** **13 10 30.1 -0.2**
EAZ Earnscleugh 33.86 176 P **P** **13 10 31.2 +0.2**
RAR Rarotonga 33.92 111 LR LR 13 21 36.6
comp=Z,10µm,21.5s,baz=272,slow=32
MLZ Mavora Lakes 33.94 178 IAmb IAmb 13 11 02.0
comp=Z,135nm,1.2s
MLZ IAMs_20 IAMs_20 13 23 23.1
comp=Z,16µm,20.0s
MLZ Mavora Lakes 33.94 178 P **P** **13 10 31.8 +0.1**
DCZ Deep Cove 34.01 179 P **P** **13 10 32.4 +0.2**
WHYH Whyalla 34.07 226 P **P** **13 10 33.8 +0.8**
CORO Coronation Par 34.39 206 P **P** **13 10 37.1 +1.5**
MTN Manton Dam 34.43 264 P **P** **13 10 35.7 -0.5**
comp=Z,0.0nmcomp=Z,92nm,1.3s
MTN Manton Dam 34.43 264 IAmb IAmb 13 10 41.4
comp=Z,95nm,1.0s
MTN IAMs_20 IAMs_20 13 22 52.6
comp=Z,14µm,21.0s
MTN Manton Dam 34.43 264 P **P** **13 10 36.9 +0.6**
MTN Manton Dam 34.43 264 ⇓P **P** **13 10 36.5 +0.2**
GHSS Government Hou 34.43 223 P **P** **13 10 37.7 +1.6**
WHZ Wether Hill Ro 34.46 178 IAMs_20 IAMs_20 13 23 39.9
comp=Z,13µm,19.0s
WHZ Wether Hill Ro 34.46 178 P **P** **13 10 35.7 -0.4**
TUZ Tuapeka 34.61 176 P **P** **13 10 37.2 -0.2**
HHSZ Highcliff Hill 34.61 175 P **P** **13 10 39.0 +1.5**
DRS Darwin Rock St 34.67 265 P **P** **13 10 38.9 +0.6**
FAKI Fak Fak 34.80 281 IAMs_20 IAMs_20 13 25 54.9
comp=Z,14µm,21.0s
BBOO Buckleboo 35.04 228 P **P** **13 10 40.7 -0.7**
comp=Z,0.0nmcomp=Z,86nm,0.8s
BBOO Buckleboo 35.04 228 IAMs_20 IAMs_20 13 24 48.2
comp=Z,13µm,18.0s
BBOO Buckleboo 35.04 228 P **P** **13 10 41.8 +0.4**
SYZ Scrubby Hill 35.16 177 P **P** **13 10 43.0 +0.9**
MOO Moorlands 35.19 205 P **P** **13 10 43.1 +0.6**
APZ The Paps 35.40 178 P **P** **13 10 43.4 -0.8**
SWI Sorong 36.34 284 P **P** **13 10 54.9 +2.2**
comp=Z,161nm,1.2s
SWI Sorong 36.34 284 P **P** **13 10 53.1 +0.4**
BNDI Bandanaira 36.67 278 P **P** **13 10 56.2 +0.7**
BNDI Bandanaira 36.67 278 P **P** 13 11 11.8 +16
JOHN Johnston Islan 36.72 41 IAMs_20 IAMs_20 13 22 22.3
comp=Z,13µm,22.0s
KNRA Kununurra 36.74 259 P **P** **13 10 55.2 -0.9**
comp=Z,0.0nmcomp=Z,198nm,0.9s
WRKA Warakurna 38.46 244 P **P** **13 11 09.6 -1.1**
comp=Z,0.0nmcomp=Z,63nm,1.1s
NLAI Namlea 39.69 279 P **P** **13 11 22.9 +1.9**
comp=Z,7µmcomp=Z,411nm,1.2s
FITZ Fitzroy Crossi 39.85 255 P **P** **13 11 21.8 -0.4**
comp=Z,43nm,1.0s
FITZ Fitzroy Crossi 39.85 255 P **P** **13 11 22.1 -0.2**
comp=Z,64nm,0.7s,baz=97,slow=6.7,SNR=118
FITZ PcP **PcP** **13 13 28.1 +0.5**
comp=Z,69nm,0.8s,baz=92,slow=4.1,SNR=5.6
FITZ LR LR 13 27 18.3
comp=Z,20µm,19.8s,baz=80,slow=35
comp=Z,64nm,0.7s
FITZ Fitzroy Crossi 39.85 255 P **P** **13 11 22.2 -0.1**
FITZ Fitzroy Crossi 39.85 255 ⇑P **P** **13 11 21.8 -0.4**
TNTI Ternate 40.54 285 P **P** **13 11 28.6 +0.6**
TNTI Ternate 40.54 285 P **P** 13 11 40.9 +13
SANI Sanana 41.06 280 P **P** **13 11 31.4 -0.9**
SANI Sanana 41.06 280 P **P** **13 11 33.2 +0.9**
SANI Sanana 41.06 280 P **P** **13 11 35.0 +2.7**
comp=Z,9µmcomp=Z,4µmcomp=Z,275nm,1.7s
SOEI Soe 41.35 268 P **P** **13 11 34.0 -0.9**
SOEI Soe 41.35 268 P **P** **13 11 34.7 -0.2**
SOEI Soe 41.35 268 P **P** **13 11 35.6 +0.8**
SOEI Soe 41.35 268 P **P** **13 11 36.2 +1.4**
comp=Z,14µmcomp=Z,4µmcomp=Z,233nm,1.2s
SOEI Soe 41.35 268 ⇑P **P** **13 11 35.2 +0.4**
BATI Baumata 41.90 267 P **P** **13 11 40.2 +1.0**
comp=Z,151nm,0.8s,baz=163,slow=1.8,SNR=23
BATI LR LR 13 28 58.2
comp=Z,11µm,21.3s,baz=130,slow=36
comp=Z,151nm,0.8s
BATI Baumata 41.90 267 P **P** **13 11 40.9 +1.7**
comp=Z,10µmcomp=Z,4µmcomp=Z,443nm,1.2s
MIDW Midway 42.38 22 IAMs_20 IAMs_20 13 25 05.1
comp=Z,14µm,22.0s
PAE Paea 43.08 104 *e*PKP1 **P** **13 11 47.7 -1.0**
comp=Z,81nm,1.5s
PAE Paea 43.08 104 *e*PP **PP** **13 13 25.0 -4.4**
comp=Z,294nm,24.7s
PAE *e*S **S** **13 18 14.1 +2.4**
comp=Z,659nm,23.6s
PAE *e*SS **SS** **13 21 25.7 +0.3**
comp=Z,1µm,25.7s
PAE *e*LR LR 13 23 45.8
comp=Z,4µm,26.1s
PPT Papeete 43.08 104 P **P** **13 11 50.2 +1.5**
comp=Z,45nm,0.7s,baz=78,slow=7.2,SNR=8.2
PPT LR LR 13 26 31.8
comp=Z,5µm,19.2s,baz=266,slow=32
comp=Z,45nm,0.7s
PPT2 Papeete2 43.08 104 *e*P **P** **13 11 49.5 +0.7**
comp=Z,164nm,1.5s
PPT2 Papeete2 43.08 104 *e*PP **PP** **13 13 28.7 -0.8**
comp=Z,2µm,26.5s
PPT2 *e*S **S** **13 18 06.3 -5.6**
comp=Z,6µm,27.2s
PPT2 *e*SS **SS** **13 21 21.8 -3.8**
comp=Z,9µm,30.8s
PPT2 *e*LQ LQ 13 22 02.5
comp=Z,22µm,31.8s
PPT2 *e*LR LR 13 23 50.2
comp=Z,20µm,31.5s
PPT2 *e*LR LR 13 23 51.7
comp=Z,30µm,29.0s
PPTF Pamatai, Papee 43.09 104 P **P** **13 11 51.6 +2.7**
SGSI Sangihe 43.24 288 P **P** **13 11 52.0 +1.9**
TVO Taravao 43.39 104 *e*P **P** **13 11 52.5 +1.2**
comp=Z,107nm,1.4s
TVO *e*S **S** **13 18 23.4 +6.9**
comp=Z,509nm,22.7s
TVO *e*SS **SS** **13 21 34.5 +2.8**
comp=Z,2µm,28.1s
TVO *e*LR LR 13 23 52.5
comp=Z,3µm,26.0s
MMRI Maumere 43.47 269 P **P** **13 11 50.6 -1.3**
MMRI Maumere 43.47 269 P **P** **13 11 52.5 +0.5**
MMRI Maumere 43.47 269 P **P** **13 11 52.1 +0.1**
MMRI Maumere 43.47 269 ⇑P **P** **13 11 51.2 -0.7**
BBSI Bau Bau 43.63 274 P **P** **13 11 56.1 +2.8**
comp=Z,16µmcomp=Z,7µmcomp=Z,609nm,1.4s
TBI Tubuai 43.70 112 *e*PKP2 **P** **13 11 55.2 +1.6**
comp=Z,8µm,27.8s
TBI Tubuai 43.70 112 *e*PP **PP** **13 13 36.3 +0.3**
comp=Z,5µm,27.2s
TBI *e*S **S** **13 18 18.5 -2.2**
comp=Z,18µm,27.8s
TBI *e*SS **SS** **13 21 31.9 -5.5**
comp=Z,34µm,33.2s
TBI *e*LQ LQ 13 22 11.3
comp=Z,80µm,31.0s
TBI *e*LR LR 13 24 06.3
comp=Z,155µm,28.8s
TBI *e*LR LR 13 24 07.9
comp=Z,34µm,29.8s
KMSI Cibinong 43.71 283 P **P** **13 11 54.9 +1.1**
EDFI Ende, Flores 43.99 269 P **P** **13 11 55.6 -0.7**
comp=Z,11µmcomp=Z,3µmcomp=Z,139nm,1.2s
LUWI Luwuk 44.42 280 P **P** **13 11 56.7 -2.9**
LUWI Luwuk 44.42 280 P **P** **13 11 59.2 -0.4**
LUWI Luwuk 44.42 280 P **P** **13 12 00.3 +0.7**
LUWI Luwuk 44.42 280 P **P** **13 12 00.7 +1.1**
comp=Z,12µmcomp=Z,5µmcomp=Z,493nm,1.4s
LUWI Luwuk 44.42 280 ⇑P **P** **13 12 00.0 +0.4**
DAV Davao City (W) 44.48 292 LR LR 13 30 50.5
comp=Z,3µm,19.7s,baz=100,slow=36
PMOR Pomariorio Ree 44.67 100 *e*P **P** **13 12 04.7 +3.2**
comp=Z,789nm,1.6s
PMOR *e*S **S** **13 18 38.3 +3.3**
comp=Z,3µm,26.9s
PMOR *e*SS **ScS** **13 21 55.8 -0.1**
comp=Z,9µm,27.4s
PMOR *e*LR LR 13 24 26.0
comp=Z,22µm,22.9s

JCJ Chichijima 44.82 329 LR LR 13 28 13.5
comp=Z,5µm,21.9s,baz=152,slow=33
BASI Baing, Sumba 44.92 267 P P 13 12 20.9 +17
VAH Vaihoa 44.92 100 *e*P **P** **13 12 07.0 +3.5**
comp=Z,198nm,1.5s
VAH Vaihoa 44.92 100 *e*LR LR 13 24 38.0
comp=Z,9µm,23.8s
WSI Waingapu 45.25 268 P P 13 12 21.2 +15
APSI Ampana 45.54 280 P **P** **13 12 12.6 +4.1**
comp=Z,6µmcomp=Z,467nm,1.4s
BSSI Bau Bau, Buton 45.55 273 P P 13 12 14.5 +5.9
PSA00 Pilbara Seismi 45.57 251 P **P** **13 12 08.8 +0.2**
comp=Z,135nm,0.9s
PSA00 Pilbara Seismi 45.57 251 P **P** **13 12 09.0 +0.4**
PSA00 Pilbara Seismi 45.57 251 P **P** **13 12 08.2 -0.4**
PSA00 IAmb IAmb 13 12 24.1
comp=Z,122nm,1.2s
PSA00 Pilbara Seismi 45.57 251 P **P** **13 12 09.4 +0.8**
MRSI Marisa 45.63 282 P **P** **13 12 13.9 +4.7**
comp=Z,9µmcomp=Z,2µmcomp=Z,142nm,1.1s
MBWA Marble Bar 45.64 252 P **P** **13 12 09.3 +0.1**
comp=Z,0.0nmcomp=Z,159nm,1.0s
MBWA Marble Bar 45.64 252 P **P** **13 12 09.3 +0.1**
MBWA Marble Bar 45.64 252 IAMs_20 IAMs_20 13 30 57.4
comp=Z,10µm,19.0s
MBWA Marble Bar 45.64 252 P **P** **13 12 09.9 +0.7**
MBWA Marble Bar 45.64 252 ⇑P **P** **13 12 09.6 +0.4**
MBWA Marble Bar 45.64 252 P **P** **13 12 09.5 +0.4**
MBWA pP **pP** **13 12 19.1 -2.2**
MBWA PcP **PcP** **13 13 47.0 0.0**
BKSI Bulukumba 46.06 274 P **P** **13 12 16.6 +4.0**
comp=Z,9µmcomp=Z,2µmcomp=Z,115nm,1.2s
WBSI Waikabubak, Su 46.14 267 P P 13 12 19.8 +6.5
BNSI Bone 46.25 275 P **P** **13 12 15.3 +1.2**
KAPI Kappang 46.48 274 P **P** **13 12 15.9 0.0**
KAPI Kappang 46.48 274 P **P** **13 12 16.4 +0.6**
comp=Z,29nm,0.7s,baz=111,slow=3.7,SNR=7.8
KAPI LR LR 13 35 07.0
comp=Z,1µm,19.1s,baz=99,slow=40
comp=Z,29nm,0.7s
KAPI Kappang 46.48 274 P **P** **13 12 16.5 +0.6**
KAPI Kappang 46.48 274 ⇑P **P** **13 12 16.4 +0.6**
KAPI Kappang 46.48 274 P **P** **13 12 16.4 +0.6**
KAPI pP **pP** **13 12 26.4 -1.7**
KAPI PcP **PcP** **13 13 51.2 +1.2**
SPSI Sidrap Palu 46.67 275 P **P** **13 12 17.7 +0.4**
comp=Z,2µmcomp=Z,187nm,1.4s
TTSI Tana Toraja 46.81 277 P P 13 12 25.4 +6.9
TOLI2 Tolitoli 46.92 282 P **P** **13 12 18.7 -0.7**
TOLI2 Tolitoli 46.92 282 P **P** **13 12 19.0 -0.3**
PCI Palu 47.29 279 P **P** **13 12 24.3 +2.0**
MEEK Meekatharra 47.33 244 P **P** **13 12 22.4 0.0**
comp=Z,0.0nmcomp=Z,334nm,0.8s
MEEK Meekatharra 47.33 244 P **P** **13 12 22.9 +0.5**
PLAI Plampang 47.82 268 P **P** **13 12 27.3 +1.0**
PLAI Plampang 47.82 268 P **P** **13 12 27.6 +1.3**
comp=Z,10µmcomp=Z,5µmcomp=Z,463nm,1.7s
KIP Kipapa 47.82 47 P **P** **13 12 28.1 +2.0**
KIP Kipapa 47.82 47 P **P** **13 12 28.9 +2.7**
KIP Kipapa 47.82 47 P **P** **13 12 29.1 +2.9**
KIP Kipapa 47.82 47 ⇑*e*P **P** **13 12 28.4 +2.2**
KIP pmax pmax
comp=Z,153nm,0.9s
KIP Kipapa 47.82 47 P **P** **13 12 25.6 -0.5**
KIP pP **pP** **13 12 35.5 -3.3**
AIN Ainahou 48.47 51 IAMs_20 IAMs_20 13 27 46.8
comp=Z,9µm,22.0s
HLP Hilina Pali 48.54 51 IAMs_20 IAMs_20 13 27 59.6
comp=Z,10µm,22.0s
HMH Humu'ula Sheep 48.59 51 IAMs_20 IAMs_20 13 28 12.8
comp=Z,8µm,20.0s
MLH Mauna Loa 48.60 51 IAMs_20 IAMs_20 13 27 50.1
comp=Z,9µm,22.0s
UWE Uwekahuna 48.63 51 IAMs_20 IAMs_20 13 27 49.9
comp=Z,10µm,22.0s
POHA Pohakuloa 48.64 51 P **P** **13 12 34.1 +1.3**
POHA Pohakuloa 48.64 51 IAMs_20 IAMs_20 13 28 14.2
comp=Z,9µm,21.0s
POHA Pohakuloa 48.64 51 P **P** **13 12 35.0 +2.2**
POHA Pohakuloa 48.64 51 ⇑P **P** **13 12 35.8 +3.0**
BYL Byron's Ledge 48.65 51 IAMs_20 IAMs_20 13 27 53.4
comp=Z,9µm,22.0s
HATHI Halema'uma'u T 48.65 51 IAMs_20 IAMs_20 13 28 02.5
comp=Z,9µm,22.0s
PUH Pauahi 48.66 51 IAMs_20 IAMs_20 13 28 01.7
comp=Z,9µm,22.0s
KNHH Kane Nui o Ham 48.70 51 P **P** **13 12 34.3 +1.2**
JOKA Jonika Flow 48.86 52 IAMs_20 IAMs_20 13 28 18.9
comp=Z,9µm,22.0s
BLDU Ballidu 49.70 239 P **P** **13 12 39.8 -0.8**
comp=Z,78nm,1.0s
BLDU Ballidu 49.70 239 P **P** **13 12 40.5 0.0**
NWAO Narrogin (SRO) 49.77 236 P **P** **13 12 40.4 -0.7**
NWAO Narrogin (SRO) 49.77 236 LR LR 13 33 41.5
comp=Z,26µm,19.9s,baz=76,slow=36
NWAO Narrogin (SRO) 49.77 236 P **P** **13 12 41.7 +0.7**
NWAO Narrogin (SRO) 49.77 236 P **P** **13 12 40.4 -0.7**
NWAO pmax pmax
comp=Z,144nm,0.8s
NWAO MLR MLR
comp=Z,26µm,20.0s
NWAO Narrogin (SRO) 49.77 236 P **P** **13 12 40.9 -0.2**
NWAO pP **pP** **13 12 51.0 -2.2**
SMKI Samarinda 49.95 279 P **P** **13 12 46.5 +3.8**
MORW Morawa 49.98 242 P **P** **13 12 42.4 -0.4**
comp=Z,0.0nmcomp=Z,189nm,1.0s
MORW Morawa 49.98 242 P **P** **13 12 43.4 +0.7**
MYLDM Lahad Datu 50.34 287 P **P** **13 12 46.5 +1.0**
MYLDM Lahad Datu 50.34 287 P **P** **13 12 46.3 +0.7**
MYLDM Lahad Datu 50.34 287 ⇑P **P** **13 12 47.6 +2.0**
DNP Denpasar 50.35 268 P P 13 13 01.3 +16
RKGY Rocky Gully 50.39 234 P **P** **13 12 45.7 -0.1**
comp=Z,225nm,0.9s
MUN Mundaring 50.40 238 P **P** **13 12 45.4 -0.5**
comp=Z,0.0nmcomp=Z,204nm,1.1s
MUN Mundaring 50.40 238 P **P** **13 12 46.3 +0.5**
MUN Mundaring 50.40 238 P **P** **13 12 46.0 +0.2**
SRBI Singaraja 50.43 269 P P 13 13 00.9 +15
MTKN Mount Kenneth 50.75 238 P **P** **13 12 50.1 +1.7**
comp=Z,286nm,0.7s
MTKN Mount Kenneth 50.75 238 P **P** **13 12 48.8 +0.3**
JHJ2 Mitsune 50.93 331 P **P** **13 12 51.0 +1.3**
JHJ2 Mitsune 50.93 331 P **P** **13 12 49.9 +0.3**
JHJ Hachijo jima 2 50.95 331 LR LR 13 32 40.1
comp=Z,2µm,20.6s,baz=140,slow=34
JAGI Jajag, Banyuwa 51.42 268 P **P** **13 12 54.6 +0.8**
JAGI Jajag, Banyuwa 51.42 268 P **P** **13 12 53.2 -0.6**
comp=Z,11µmcomp=Z,6µmcomp=Z,471nm,1.2s
JAGI Jajag, Banyuwa 51.42 268 ⇑P **P** **13 12 52.5 -1.3**
TGY Tagaytay City 51.61 298 P **P** **13 12 56.4 +1.2**
comp=Z,193nm,0.3s,baz=249,slow=3.6,SNR=4.8
TGY LR LR 13 32 40.6
comp=Z,7µm,21.7s,baz=136,slow=34
comp=Z,193nm,0.3s
KMMI Caliaget 51.80 270 P P 13 13 12.4 +16
GMJI Gumukmas 52.14 268 P **P** **13 13 02.8 +3.7**
comp=Z,194nm,1.1s
TAOE Nuku Hiva Isla 52.70 93 *e*PKP1 **P** **13 13 00.5 -2.9**
comp=Z,2µm,26.7s
TAOE *e*S **S** **13 20 25.7 -2.7**
comp=Z,3µm,26.4s
TAOE *e*SS **SS** **13 24 02.5 -5.1**
comp=Z,3µm,30.7s
TAOE *e*LQ LQ 13 25 59.0
comp=Z,3µm,24.4s
TAOE *e*LR LR 13 28 15.8
comp=Z,12µm,27.3s
H01W1 Cape Leeuwin H 52.72 235 P **P** **13 13 04.4 +1.6**
baz=104,slow=6.1,SNR=10
H01W3 Cape Leeuwin H 52.73 235 P **P** **13 13 04.5 +1.6**
baz=104,slow=6.1,SNR=12
H01W2 Cape Leeuwin H 52.73 235 P **P** **13 13 04.6 +1.6**
baz=104,slow=6.1,SNR=7.6
KKM Kota Kinabalu 52.77 287 P **P** **13 13 04.6 +0.7**
JOW Kunigami 52.96 316 LR LR 13 35 12.0
comp=Z,4µm,19.3s,baz=132,slow=36
JOW Kunigami 52.96 316 P **P** **13 13 05.7 +0.7**
JOW Kunigami 52.96 316 P **P** **13 13 06.2 +1.3**
JSG Sagara 52.98 331 P **P** **13 13 05.4 +0.5**
JSG Sagara 52.98 331 P **P** **13 13 06.2 +1.3**
JSG Sagara 52.98 331 ⇑P **P** **13 13 06.2 +1.3**
JOD2 Odawara 2 53.04 332 P **P** **13 13 04.3 -1.1**
JYT Yasato 53.35 334 P **P** **13 13 07.8 +0.2**
JIE Ise 53.48 329 P **P** **13 13 08.6 0.0**
JRY Ryogami san 53.75 332 P **P** **13 13 10.3 -0.3**

INU Inuyama 54.09 330 P **P** **13 13 12.9 -0.1**
INU IAmb IAmb 13 13 16.0
comp=Z,80nm,1.2s
INU Inuyama 54.09 330 P **P** **13 13 13.8 +0.8**
INU Inuyama 54.09 330 ⇑P **P** **13 13 13.0 -0.1**
INU Inuyama 54.09 330 P **P** **13 13 13.0 -0.1**
JGF Kuroka 54.13 331 IAmb IAmb 13 13 17.6
comp=Z,55nm,0.8s
JGF Kuroka 54.13 331 P **P** **13 13 13.9 +0.5**
JGF Kuroka 54.13 331 P **P** **13 13 13.1 -0.3**
NGJI Ngawi 54.21 269 P P 13 13 31.7 +17
PCJI Pacitan 54.37 268 P **P** **13 13 16.0 +0.5**
comp=Z,657nm,1.6s
JMN Monobe 54.43 327 P **P** **13 13 16.6 +1.0**
JMN Monobe 54.43 327 P **P** **13 13 16.0 +0.4**
JMM Marumori 54.48 335 IAmb IAmb 13 13 17.6
comp=Z,56nm,0.8s
JMM Marumori 54.48 335 P **P** **13 13 16.8 +0.9**
MJAR Matsushiro Arr 54.50 332 P **P** **13 13 14.6 -1.5**
MJAR IAmb IAmb 13 13 16.6
comp=Z,47nm,0.8s
MJAR Matsushiro Arr 54.50 332 P **P** **13 13 15.2 -0.9**
comp=Z,64nm,1.0s,baz=164,slow=8.4,SNR=48
MJAR LR LR 13 34 23.7
comp=Z,3µm,21.6s,baz=138,slow=34
comp=Z,64nm,1.0s
MAJO Matsushiro 54.50 332 P **P** **13 13 15.0 -1.0**
MAJO IAmb IAmb 13 13 16.6
comp=Z,65nm,0.8s
MAJO Matsushiro 54.50 332 P **P** **13 13 16.0 0.0**
MAJO Matsushiro 54.50 332 *ce*P **P** **13 13 15.5 -0.5**
MAJO pmax pmax
comp=Z,61nm,0.7s
MAJO Matsushiro 54.50 332 ⇑P **P** **13 13 15.6 -0.5**
MAJO Matsushiro 54.50 332 P **P** **13 13 15.5 -0.5**
MAJO sP **pP** **13 13 30.0 +1.4**
MAT Matsushiro 54.50 332 P **P** **13 13 15.3 -0.7**
MJB9 Matsu-Tunnel 54.50 332 IAmb IAmb 13 13 17.5
comp=Z,64nm,0.8s
JGN Niukaw 54.65 331 P **P** **13 13 16.6 -0.6**
WOJI Wonogiri, Jawa 54.67 268 P P 13 13 33.1 +15
JWT Wachi 54.84 329 P **P** **13 13 18.6 +0.1**
JAD Aida 55.20 328 P **P** **13 13 21.3 +0.1**
SMRI Semarang 55.26 269 P **P** **13 13 22.8 +0.8**
SMRI Semarang 55.26 269 P P 13 13 38.6 +17
YOJ Yonaguni jima 55.26 310 P **P** **13 13 22.7 +0.9**
SBUM Sibu 55.51 281 P **P** **13 13 25.1 +1.3**
JYA Atsumi 55.55 335 P **P** **13 13 24.2 +0.6**
STKI Sintang 55.63 278 P **P** **13 13 25.9 +1.2**
comp=Z,11µmcomp=Z,214nm,1.0s
JNU Nakatsue 55.65 324 IAmb IAmb 13 13 26.1
comp=Z,85nm,1.0s
JNU Nakatsue 55.65 324 LR LR 13 35 00.9
comp=Z,2µm,21.1s,baz=141,slow=34
JNU Nakatsue 55.65 324 P **P** **13 13 24.7 +0.2**
JNU Nakatsue 55.65 324 P **P** **13 13 24.3 -0.2**
JOM Ohasama 55.66 337 P **P** **13 13 24.4 0.0**
JSD Sado 55.71 333 P **P** **13 13 25.2 +0.5**
JSD Sado 55.71 333 P **P** **13 13 24.8 +0.1**
JHS Saijyo 55.80 327 P **P** **13 13 25.5 0.0**
TWGBT Beinan 55.82 308 P **P** **13 13 26.9 +1.1**
YULB Yu-li 55.97 308 IAmb IAmb 13 13 46.4
comp=Z,79nm,1.0s
YULB Yu-li 55.97 308 P **P** **13 13 27.9 +1.0**
NACB Ninganchiao 56.17 309 P **P** **13 13 29.0 +0.7**
TPUB Ta-pu 56.43 308 P **P** **13 13 30.8 +0.6**
SSLB Suanglung 56.44 309 IAmb IAmb 13 13 58.7
comp=Z,144nm,1.4s
SSLB Suanglung 56.44 309 P **P** **13 13 29.8 -0.5**
YHNB Yeheng 56.61 310 IAmb IAmb 13 13 32.7
comp=Z,81nm,0.8s
YHNB Yeheng 56.61 310 P **P** **13 13 32.2 +0.7**
KPJI Karang Pucung 56.70 269 P P 13 13 44.8 +13
JTM Tenmabayashi 56.89 337 P **P** **13 13 34.1 +1.1**
RKT Rikitea 56.95 110 *e*P **P** **13 13 35.1 +1.2**
comp=Z,5µm,30.2s
RKT Rikitea 56.95 110 *e*PP **PP** **13 15 42.5 +1.6**
comp=Z,3µm,35.0s
RKT *e*S **S** **13 21 26.2 +1.1**
comp=Z,9µm,29.2s
RKT *e*SS **SS** **13 25 14.0 -0.2**
comp=Z,9µm,34.8s
RKT *e*LQ LQ 13 27 49.4
comp=Z,34µm,33.0s
RKT *e*LR LR 13 30 14.2
comp=Z,88µm,27.2s
KSM Kuching 57.11 279 P **P** **13 13 35.8 +0.6**
ERM Erimo 57.21 340 P **P** **13 13 35.7 +0.4**
ERM IAmb IAmb 13 13 55.0
comp=Z,38nm,0.8s
ERM Erimo 57.21 340 IAMs_20 IAMs_20 13 32 39.9
comp=Z,9µm,22.0s
ERM Erimo 57.21 340 *c i*P **P** **13 13 36.2 +0.9**
ERM pmax pmax
comp=Z,27nm,0.8s
ERM Erimo 57.21 340 P **P** **13 13 36.0 +0.7**
ERM sP **pP** **13 13 49.9 +2.0**
JCJI Jatiwangi 57.48 270 P P 13 13 54.7 +17
BBJI Bungbulang 57.94 268 P **P** **13 13 42.2 +1.1**
DRV Dumont d'Urvil 58.03 192 P **P** **13 13 40.3 -0.4**
LEM Lembang 58.07 269 P **P** **13 13 43.3 +1.2**
comp=Z,127nm,0.6s,baz=56,slow=5.8,SNR=20
LEM LR LR 13 41 42.7
comp=Z,2µm,18.0s,baz=97,slow=39
comp=Z,127nm,0.6s
KUR Kuril'sk 58.73 345 P **P** **13 13 44.6 -1.3**
KUR S S 13 22 00.7 +13
KUR MLR MLR
comp=N,3µm,18.0s
KUR MLR MLR
comp=Z,2µm,18.0s
TPI Tanjungpandan 58.76 274 P **P** **13 13 49.4 +2.7**
comp=Z,2µmcomp=Z,146nm,1.5s
JSH Shimam 58.87 338 P **P** **13 13 47.0 0.0**
QZH Quanzhou 58.88 308 P **P** **13 13 45.6 -1.7**
QZH S **S** **13 21 46.6 -3.5**
QZH pmax pmax
comp=Z,700nm,4.3s
QZH LR LR
comp=Z,2µm,18.9s
QZH LR LR
comp=Z,3µm,19.2s
QZH LR LR
comp=Z,4µm,21.6s
JMP Maruseppu 58.92 341 P **P** **13 13 47.2 0.0**
DBJI Dramaga 58.96 269 P **P** **13 13 50.1 +1.9**
comp=Z,11µmcomp=Z,153nm,1.0s
SKJI Sukabumi 59.08 269 P P 13 14 07.1 +18
JKA Kamikawa-asahi 59.26 340 IAMs_20 IAMs_20 13 34 15.3
comp=Z,7µm,22.0s
ASAJ Asahikawa 59.26 340 LR LR 13 34 49.7
comp=Z,6µm,21.7s,baz=174,slow=31
ASAJ Asahikawa 59.26 340 P **P** **13 13 50.3 +0.7**
CGJI Cibinong 59.99 269 P **P** **13 13 55.0 -0.2**
comp=Z,4µmcomp=Z,250nm,1.5s
TJN Taejon 60.00 324 P **P** **13 13 55.6 +0.8**
TJN Taejon 60.00 324 *c i*P **P** **13 13 54.5 -0.3**
KSRS Korea Array 60.44 325 P **P** **13 13 58.1 +0.3**
comp=Z,17nm,0.7s,baz=137,slow=7.2,SNR=96
KSRS LR LR 13 38 21.1
comp=Z,1162µm,20.2s,baz=140,slow=34
comp=Z,17nm,0.7s
KSAR Wonju Array Be 60.46 325 P **P** **13 13 57.8 -0.1**
KSAR Wonju Array Be 60.46 325 P **P** **13 13 57.8 -0.1**
SSE Sheshan 60.46 316 P **P** **13 13 58.5 +0.4**
SSE pmax pmax
comp=Z,54nm,0.9s
SSE pmax pmax
comp=Z,660nm,9.4s
SSE LR LR
comp=Z,780nm,21.5s
SSE LR LR
comp=Z,990nm,22.6s
KS19 Wonju Array Si 60.51 325 IAmb IAmb 13 14 35.2
comp=Z,82nm,1.6s
HKPS Hong Kong Po S 61.10 303 P **P** **13 14 03.0 +0.3**
HKPS Hong Kong Po S 61.10 303 P **P** **13 14 03.2 +0.6**
INCN Inchon 61.19 325 P **P** **13 14 02.7 -0.3**
INCN IAmb IAmb 13 14 20.1
comp=Z,105nm,1.6s
INCN Inchon 61.19 325 P **P** **13 14 03.9 +0.9**
INCN Inchon 61.19 325 P **P** **13 14 02.7 -0.3**
INCN pmax pmax
comp=Z,105nm,1.6s
KASI Kota Agung 61.34 270 P **P** **13 14 06.9 +2.4**

comp=Z,79nm,1.2s
YSS Yuzhno-Sakhali 61.74 342 P **P** **13 14 07.1 +0.6**
YSS IAMs_20 IAMs_20 13 36 53.1
comp=Z,5μm,20.0s
YSS Yuzhno-Sakhali 61.74 342 P **P** **13 14 07.9 +1.4**
YSS Yuzhno-Sakhali 61.74 342 *αe*P **P** **13 14 07.3 +0.8**
YSS *e*S **S** **13 22 26.0 0.0**
YSS pmax pmax
comp=Z,120nm,1.0s
YSS pmax pmax
comp=Z,900nm,4.6s
YSS Yuzhno-Sakhali 61.74 342 P **P** **13 14 07.2 +0.8**
YSS pP **pP** **13 14 17.4 -1.8**
MDSI Maura Dua 61.83 271 P **P** **13 14 07.6 -0.2**
DLV Lat 61.92 290 P **P** **13 14 09.3 +0.8**
HJU Haeju 62.09 324 P **P** **13 14 08.8 -0.2**
TEY Ternei 62.22 337⇓ *e*P **P** **13 14 09.2 -0.5**
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=E,10.0nm,0.9s
SKR Severo-Kuril's 62.41 353 *e*P **P** **13 14 09.5 -1.3**
SKR *e*S **S** **13 22 26.5 -7.7**
SKR pmax pmax
comp=Z,1μm,12.4s
HHU Hamhung 62.43 327 P **P** **13 14 10.7 -0.5**
HHU S **S** **13 22 37.8 +2.9**
HHU AmB
comp=Z,483nm,2.9s
HHU AMS AMS
comp=Z,2μm,21.7s
MSHR Mys Shultsa 62.59 331 *c i*P **P** **13 14 12.5 +0.3**
MSHR pmax pmax
comp=Z,27nm,0.8s
TPRI Tanjung Pinang 62.59 277 P **P** **13 14 14.0 +1.1**
comp=Z,138nm,0.8s
LHSI Lahat 62.60 272 P **P** **13 14 14.0 +1.1**
NJ2 Nanjing 62.63 315 ⇑P **P** **13 14 13.5 +0.8**
NJ2 pP **sP** **13 14 29.8 -0.8**
NJ2 pmax pmax
comp=Z,120nm,0.6s
NJ2 pmax pmax
comp=Z,1μm,10.2s
NJ2 LR LR
comp=Z,3μm,24.6s
NJ2 LR LR
comp=Z,3μm,22.7s
NJ2 LR LR
comp=Z,6μm,22.1s
VLA Vladivostok 62.67 332 *d i*P **P** **13 14 13.4 +0.7**
VLA pmax pmax
comp=Z,44nm,0.9s
PYAG Pyongyang 62.78 325 P **P** **13 14 13.9 +0.4**
PYAG S **S** **13 22 42.6 +3.3**
PYAG AmB
comp=Z,522nm,1.6s
PSTR Posyet 62.81 331 *c i*P **P** **13 14 14.1 +0.4**
QIZ Qiongzhong 63.32 298 IAMs_20 IAMs_20 13 38 10.3
comp=Z,6μm,22.0s
QIZ Qiongzhong 63.32 298 P **P** **13 14 18.9 +1.3**
QIZ sP **sP** **13 14 34.5 -0.5**
QIZ S **S** **13 22 48.5 +1.6**
QIZ pmax pmax
comp=Z,44nm,0.8s
QIZ LR LR
comp=Z,2μm,23.5s
QIZ LR LR
comp=Z,4μm,23.1s
QIZ LR LR
comp=Z,7μm,23.0s
USA0B Ussuriysk Arra 63.47 333 *c i*P **P** **13 14 18.4 +0.4**
USRK Ussuriysk Ar. 63.47 333 P **P** **13 14 18.2 +0.1**
USRK Ussuriysk Ar. 63.47 333 P **P** **13 14 18.9 +0.8**
comp=Z,96nm,1.0s,baz=137,slow=6.6,SNR=73
USRK LR LR 13 39 18.1
comp=Z,1μm,20.7s,baz=145,slow=34
comp=Z,96nm,1.0s
KSI Kapahiang 63.54 272 P **P** **13 14 22.5 +3.2**
UGL Uglegorsk 63.85 342 *e*P **P** **13 14 21.6 +1.2**
UGL pmax pmax
comp=Z,200nm,0.9s
MASI Maura Aman, Be 63.98 272 P P 13 14 39.0 +17
SHEM Shemya Is, Ala 64.17 5 LR LR 13 36 21.4
comp=Z,4μm,21.5s,baz=173,slow=30
SMY Shemya 64.17 5 IAMs_20 IAMs_20 13 35 48.7
comp=Z,5μm,22.0s
PET Petropavlovsk 64.45 355 P **P** **13 14 24.6 +0.3**
PET IAmb IAmb 13 14 26.7
comp=Z,48nm,1.0s
PET IAMs_20 IAMs_20 13 37 30.1
comp=Z,5μm,22.0s
PET Petropavlovsk 64.45 355 *e*P **P** **13 14 24.2 -0.1**
PET *e*S **S** **13 23 01.6 +2.1**
PET pmax pmax
comp=Z,55nm,1.1s
KIWB Kanaga Island 64.54 11 P **P** **13 14 26.1 +1.2**
KIWB IAmb IAmb 13 15 08.5
comp=Z,77nm,0.9s
PEA0B Petropavlovsk- 64.62 354 IAmb IAmb 13 14 28.2
comp=Z,132nm,1.4s
PEA0B Petropavlovsk- 64.62 354 *c i*P **P** **13 14 25.9 +0.5**
PETK Petropavlovsk- 64.62 354 P **P** **13 14 25.3 -0.1**
PETK Petropavlovsk- 64.62 354 P **P** **13 14 25.9 +0.5**
comp=Z,33nm,0.8s,baz=159,slow=7.3,SNR=35
PETK LR LR 13 37 39.3
comp=Z,3μm,20.8s,baz=163,slow=31
comp=Z,33nm,0.8s
PETK Petropavlovsk- 64.62 354 P **P** **13 14 26.0 +0.5**
ADK Adak 64.66 12 IAMs_20 IAMs_20 13 35 50.8
comp=Z,7μm,22.0s
MDJ Mudanjiang 64.88 332 P **P** **13 14 27.8 +0.5**
MDJ S **S** **13 23 07.4 +2.1**
MDJ pmax pmax
comp=Z,77nm,0.9s
MDJ LR LR
comp=Z,2μm,23.0s
MDJ LR LR
comp=Z,2μm,24.1s
MDJ LR LR
comp=Z,5μm,19.5s
WHN Wuhan 65.01 311 ⇑P **P** **13 14 28.5 0.0**
WHN pmax pmax
comp=Z,80nm,0.8s
WHN LR LR
comp=Z,10μm,21.5s
WHN LR LR
comp=Z,4μm,19.9s
WHN LR LR
comp=Z,27μm,27.1s
DL2 Dalian 65.06 323⇑ *i*P **P** **13 14 29.1 +0.5**
DL2 pmax pmax
comp=Z,160nm,0.9s
DL2 pmax pmax
comp=Z,2μm,8.7s
DL2 LR LR
comp=Z,3μm,20.8s
DL2 LR LR
comp=Z,3μm,20.8s
DL2 LR LR
comp=Z,5μm,23.6s
TYV Tymovskoe 65.29 344 *e*P **P** **13 14 28.5 -1.3**
TYV *e*S **S** **13 23 07.1 -2.9**
TYV pmax pmax
comp=Z,11nm,0.8s
TYV pmax pmax
comp=Z,400nm,6.0s
TYV smax smax
comp=E,200nm,8.5s
ATKA Atka Island 65.48 13 IAMs_20 IAMs_20 13 36 56.8
comp=Z,6μm,21.0s
GULI GuiLin 65.55 305 P **P** **13 14 28.6 -3.4**
GULI pP **pP** **13 14 40.8 -4.0**
GULI S **S** **13 23 13.3 -0.9**
GULI pmax pmax
comp=Z,98nm,1.0s
GULI LR LR
comp=Z,2μm,22.4s
GULI LR LR
comp=Z,2μm,22.6s
GULI LR LR
comp=Z,4μm,23.1s
BKNI Bangkinang 65.86 275 P **P** **13 14 33.4 -0.9**
BKNI Bangkinang 65.86 275 P **P** **13 14 34.1 -0.2**
BKNI Bangkinang 65.86 275 P **P** **13 14 36.1 +1.8**

BKNI Bangkinang 65.86 275 P **P** **13 14 35.3 +1.0**
SNY Shenyang 65.89 326 ⇓P **P** **13 14 34.4 +0.5**
SNY pmax pmax
comp=Z,19nm,0.6s
SNY pmax pmax
comp=Z,290nm,4.2s
SNY LR LR
comp=Z,1μm,22.0s
SNY LR LR
comp=Z,1μm,22.0s
SNY LR LR
comp=Z,3μm,24.0s
PDSI Padang 66.17 274 P **P** **13 14 37.5 +1.2**
comp=Z,1μmcomp=Z,56nm,0.7s
VNDA Vanda 66.20 181 P **P** **13 14 35.0 -0.4**
VNDA IAmb IAmb 13 14 37.1
comp=Z,90nm,1.2s
VNDA Vanda 66.20 181 P **P** **13 14 35.4 0.0**
comp=Z,29nm,0.8s,baz=357,slow=7.0,SNR=94
VNDA LR LR 13 39 33.7
comp=Z,3μm,21.2s,baz=0.0,slow=32
comp=Z,29nm,0.8s
TIA Tai'an 66.22 318 P **P** **13 14 35.8 -0.3**
TIA pmax pmax
comp=Z,33nm,0.8s
TIA LR LR
comp=Z,2μm,26.6s
TIA LR LR
comp=Z,4μm,27.0s
TIA LR LR
comp=Z,8μm,26.1s
CN2 Changchun 66.29 329 P **P** **13 14 36.6 +0.2**
CN2 sP sP 13 14 54.8 +0.5
CN2 S **S** **13 23 21.9 -0.6**
CN2 pmax pmax
comp=Z,80nm,1.1s
CN2 LR LR
comp=Z,1μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
CN2 LR LR
comp=Z,4μm,22.0s
CASY Casey 66.31 201 P **P** **13 14 35.8 -0.4**
CASY Casey 66.31 201 P **P** **13 14 35.9 -0.4**
PPI Padang Panjang 66.32 275 P **P** **13 14 38.0 +0.7**
comp=Z,3μmcomp=Z,163nm,0.8s
SBA Scott Base 66.50 180 P **P** **13 14 37.7 +0.4**
SBA Scott Base 66.50 180 P **P** **13 14 37.7 +0.4**
SBA pmax pmax
comp=Z,110nm,1.1s
SBA Scott Base 66.50 180 P **P** **13 14 38.2 +0.9**
BNX BinXian 66.74 331 ⇑P **P** **13 14 39.5 +0.2**
BNX pP **pP** **13 14 51.6 -0.5**
BNX sP **sP** **13 14 55.8 -1.3**
BNX PcP **PcP** **13 15 07.8 -0.2**
BNX S **S** **13 23 30.4 +2.5**
BNX pmax pmax
comp=Z,49nm,0.6s
BNX LR LR
comp=Z,490nm,17.3s
BNX LR LR
comp=Z,670nm,17.5s
BNX LR LR
comp=Z,1μm,19.5s
IPM Ipoh 66.83 280 P **P** **13 14 40.4 -0.1**
IPM Ipoh 66.83 280 P **P** **13 14 41.4 +0.9**
GRNR Gornyy 67.12 340⇑ *i*P **P** **13 14 42.7 +1.1**
GRNR pmax pmax
comp=N,10.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,0.9s
MNSI Mandailing Nat 67.39 276 P **P** **13 14 43.6 -0.4**
KULM Kulim 67.39 281 P **P** **13 14 44.7 +0.6**
NIKH Nikolski High 67.50 16 P **P** **13 14 45.4 +1.5**
NIKH Nikolski High 67.50 16 P **P** **13 14 43.1 -0.8**
baz=206
CCD Concordia, Ant 68.02 191 P **P** **13 14 47.2 -0.2**
CCD sP **pP** **13 15 01.4 +1.1**
LYN LuoYang 68.46 314⇑ *i*P **P** **13 14 50.8 +0.4**
LYN pP sP 13 15 05.9 -2.4
LYN sP pP 13 15 08.8 +5.6
LYN S **S** **13 23 48.9 -0.1**
LYN pmax pmax
comp=Z,250nm,0.8s
LYN pmax pmax
comp=Z,2μm,10.0s
LYN LR LR
comp=Z,3μm,23.5s
LYN LR LR
comp=Z,5μm,23.3s
LYN LR LR
comp=Z,11μm,24.1s
PSI Prapat 68.47 278 P **P** **13 14 50.7 -0.3**
HNS HongShan 68.48 318 ⇑P **P** **13 14 51.0 +0.6**
HNS pP **sP** **13 15 06.9 -1.4**
HNS S **S** **13 23 50.5 +1.4**
HNS pmax pmax
comp=Z,57nm,1.1s
HNS LR LR
comp=Z,2μm,20.4s
HNS LR LR
comp=Z,2μm,21.2s
HNS LR LR
comp=Z,6μm,24.8s
UNV Unalaska Valle 68.93 17 P **P** **13 14 53.4 +0.6**
UNV Unalaska Valle 68.93 17 P **P** **13 14 52.7 -0.1**
baz=209
TSI Tuntungan 68.98 278 P **P** **13 14 54.1 +0.1**
GYA Guiyang 69.05 304 ⇑P **P** **13 14 55.1 +0.7**
GYA pP pP 13 15 07.5 +0.2
GYA S **S** **13 24 00.0 +3.4**
GYA pmax pmax
comp=Z,65nm,0.8s
GYA LR LR
comp=Z,2μm,22.5s
GYA LR LR
comp=Z,1μm,19.4s
GYA LR LR
comp=Z,3μm,23.6s
BJI Beijing 69.07 321 P **P** **13 14 54.3 +0.3**
BJI pP **pP** **13 15 06.3 -0.6**
BJI sP **pwP** **13 15 10.3 +1.4**
BJI S **S** **13 23 55.9 0.0**
BJI pmax pmax
comp=Z,26nm,0.8s
BJI pmax pmax
comp=Z,590nm,6.8s
BJI LR LR
comp=Z,1μm,22.0s
BJI LR LR
comp=Z,890nm,22.9s
BJI LR LR
comp=Z,3μm,23.9s
SRIT Nakonsritamara 69.25 284 P **P** **13 14 57.5 +1.8**
LVA Lava Point 69.34 17 IAmb IAmb 13 15 08.8
comp=Z,40nm,0.6s
SLVN Son La 69.35 298 P **P** **13 14 56.5 +0.3**
SLVN IAmb IAmb 13 15 14.2
comp=Z,90nm,1.3s
SLVN Son La 69.35 298 P **P** **13 14 57.5 +1.3**
AKUT Akutan 69.39 17 P **P** **13 14 55.3 -0.4**
AKUT Akutan 69.39 17 P **P** **13 14 58.3 +2.6**
GSI Gunungsitoli 69.45 276 P **P** **13 14 56.8 -0.2**
GSI Gunungsitoli 69.45 276 P **P** **13 14 57.9 +0.9**
GSI Gunungsitoli 69.45 276 P **P** **13 14 57.5 +0.5**
KCSI Kotacane, Aceh 69.76 278 P **P** **13 14 57.8 -1.1**
comp=Z,2μmcomp=Z,86nm,0.7s
HEH HeiHe 70.12 335 *e*P **P** **13 15 00.5 +0.2**
HEH pmax pmax
comp=Z,78nm,0.9s
HEH LR LR
comp=Z,2μm,22.2s
HEH LR LR
comp=Z,2μm,22.4s
HEH LR LR
comp=Z,3μm,21.3s
TIY Taiyuan 70.16 317 *e*P **P** **13 15 01.9 +1.0**
TIY pmax pmax
comp=Z,56nm,0.9s
TIY pmax pmax
comp=Z,870nm,4.3s
TIY LR LR
comp=Z,2μm,28.2s
TIY LR LR
comp=Z,2μm,25.7s

TIY LR LR
comp=Z,5μm,27.1s
P08K Saint George I 70.60 14 IAMs_20 IAMs_20 13 39 53.2
comp=Z,7μm,22.0s
P08K Saint George I 70.60 14 P **P** **13 15 01.8 -1.2**
baz=205
FALS False Pass 70.71 18 IAmb IAmb 13 15 31.9
comp=Z,42nm,0.8s
FALS False Pass 70.71 18 P **P** **13 15 03.4 -0.3**
FALS False Pass 70.71 18 P **P** **13 15 02.3 -1.4**
baz=212
XAN Xi'an 70.74 312 P **P** **13 15 05.3 +0.8**
XAN pP pP 13 15 18.0 +0.6
XAN S **S** **13 24 17.3 +1.4**
XAN pmax pmax
comp=Z,160nm,0.8s
XAN LR LR
comp=Z,3μm,22.3s
XAN LR LR
comp=Z,4μm,24.4s
XAN LR LR
comp=Z,8μm,24.7s
SPIA Saint Paul Isl 70.96 13 IAMs_20 IAMs_20 13 40 52.8
comp=Z,4μm,20.0s
SPIA Saint Paul Isl 70.96 13 P **P** **13 15 04.6 -0.6**
baz=204
MLSI Meulaboh, Aceh 71.25 278 P **P** **13 15 08.0 0.0**
comp=Z,4μmcomp=Z,250nm,0.9s
XLT XiLinHaoTe 71.44 324 *e*P **P** **13 15 09.0 +0.4**
XLT sP sP 13 15 25.6 -0.9
XLT S **S** **13 24 22.6 -1.1**
XLT SKS **SKSac** **13 25 01.9 -6.2**
XLT pmax pmax
comp=Z,120nm,0.8s
XLT pmax pmax
comp=Z,1μm,3.5s
XLT LR LR
comp=Z,150nm,18.2s
XLT LR LR
comp=Z,970nm,19.2s
XLT LR LR
comp=Z,2μm,20.0s
KMI Kunming 71.76 301 ⇑P **P** **13 15 12.6 +1.5**
KMI pP sP 13 15 28.5 -0.6
KMI S **S** **13 24 22.5 -5.9**
KMI pmax pmax
comp=Z,69nm,1.6s
KMI pmax pmax
comp=Z,1μm,3.6s
KMI LR LR
comp=Z,680nm,21.3s
KMI LR LR
comp=Z,4μm,24.3s
KMI LR LR
comp=Z,5μm,25.5s
MA2 Magadan 71.78 352 P **P** **13 15 09.1 -1.1**
MA2 IAMs_20 IAMs_20 13 40 24.4
comp=Z,6μm,22.0s
MA2 Magadan 71.78 352 LR LR 13 41 31.6
comp=Z,5μm,22.0s,baz=172,slow=32
MA2 Magadan 71.78 352 P **P** **13 15 09.9 -0.3**
MA2 Magadan 71.78 352 *c i*P **P** **13 15 09.4 -0.8**
MA2 pmax pmax
comp=Z,24nm,0.9s
MA2 Magadan 71.78 352 P **P** **13 15 09.6 -0.6**
comp=Z,47nm,1.1s
MA2 Magadan 71.78 352 P **P** **13 15 09.8 -0.4**
S12K Black Hills 71.84 18 IAmb IAmb 13 15 13.7
comp=Z,70nm,0.7s
S12K Black Hills 71.84 18 P **P** **13 15 09.8 -0.8**
baz=213
CNBA Chernabura Isl 71.90 20 IAmb IAmb 13 15 30.0
comp=Z,143nm,1.9s
CNBA IAMs_20 IAMs_20 13 39 48.9
comp=Z,5μm,21.0s
CHNA Chernabura Isl 71.91 20 P **P** **13 15 10.0 -1.0**
baz=215
SDPT Sand Point 72.05 19 P **P** **13 15 10.8 -0.9**
SDPT Sand Point 72.05 19 P **P** **13 15 13.6 +1.8**
SDPT Sand Point 72.05 19 P **P** **13 15 11.0 -0.8**
baz=214
CRAI Chiangrai 72.05 296 IAMs_20 IAMs_20 13 43 26.8
comp=Z,6μm,21.0s
HHC Hu-ho-hao-te 72.43 319 *e*P **P** **13 15 15.3 +0.7**
HHC pP pwP 13 15 29.0 -0.5
HHC PP **PP** **13 17 56.3 0.0**
HHC S **S** **13 24 37.1 +1.9**
HHC pmax pmax
comp=Z,47nm,1.1s
HHC pmax pmax
comp=Z,790nm,5.5s
HHC LR LR
comp=Z,3μm,21.4s
HHC LR LR
comp=Z,4μm,22.2s
HHC LR LR
comp=Z,9μm,21.4s
CM31 Chiang Mai Arr 72.75 293 IAmb IAmb 13 15 20.4
comp=Z,78nm,1.0s
CMAR Chiang Mai Arr 72.75 293 P **P** **13 15 17.5 +0.6**
CMAR Chiang Mai Arr 72.75 293 P **P** **13 15 17.9 +1.1**
comp=Z,39nm,0.9s,baz=116,slow=4.3,SNR=134
CMAR LR LR 13 44 48.6
comp=Z,1μm,21.7s,baz=100,slow=34
comp=Z,39nm,0.9s
CMAR Chiang Mai Arr 72.75 293 P **P** **13 15 18.0 +1.1**
ZEA Zeya 72.84 337 *eP* **P** **13 15 17.7 +1.1**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,70nm,0.8s
ZEA pmax pmax
comp=Z,700nm,4.9s
CHTO Chiang Mai 72.86 294 P **P** **13 15 17.7 +0.2**
CHTO IAmb IAmb 13 15 37.6
comp=Z,94nm,1.2s
CHTO Chiang Mai 72.86 294 P **P** **13 15 18.4 +0.9**
CHTO Chiang Mai 72.86 294 P **P** **13 15 17.7 +0.2**
CHTO pmax pmax
comp=Z,94nm,1.2s
PZH PanZhiHua 73.11 302 P **P** **13 15 19.5 +0.5**
PZH S **S** **13 24 38.5 -5.2**
PZH SKS **SKSac** **13 25 18.3 -3.3**
PZH pmax pmax
comp=Z,70nm,1.0s
PZH pmax pmax
comp=Z,610nm,8.3s
PZH LR LR
comp=Z,1μm,19.8s
PZH LR LR
comp=Z,3μm,22.8s
PZH LR LR
comp=Z,4μm,22.2s
S14K Fog Glacier 73.11 19 P **P** **13 15 17.3 -1.0**
baz=215
CD2 Chengdu 73.23 307 P **P** **13 15 20.3 +0.8**
CD2 pP pP 13 15 33.1 +0.6
CD2 sP sP 13 15 38.5 +0.9
CD2 PP **PP** **13 18 02.4 -0.9**
CD2 S **S** **13 24 46.0 +1.3**
CD2 sS sS 13 25 07.3 +1.7
CD2 pmax pmax
comp=Z,170nm,0.9s
CD2 pmax pmax
comp=Z,2μm,2.8s
CD2 LR LR
comp=Z,2μm,22.4s
CD2 LR LR
comp=Z,5μm,22.0s
CD2 LR LR
comp=Z,6μm,24.1s
BTO Baotou 73.29 319 *eP* **P** **13 15 21.6 +1.9**
BTO pP **PcP** **13 15 34.9 -1.0**
BTO sP **sP** **13 15 37.6 -0.1**
BTO PP **PP** **13 18 07.0 +3.4**
BTO S **SKiKP** **13 24 48.3 +0.7**
BTO pmax pmax
comp=Z,43nm,0.8s
BTO pmax pmax
comp=Z,670nm,4.8s
BTO LR LR
comp=Z,3μm,20.2s
BTO LR LR
comp=Z,4μm,18.8s

BTO LR LR
comp=Z,5µm,20.8s
CHGN Chignik 73.50 20 IAmb IAmb 13 15 23.1
comp=Z,36nm,0.6s
CHGN IAMs_20 IAMs_20 13 40 38.9
comp=Z,4µm,21.0s
CHGN Chignik 73.50 20 P P 13 15 19.7 -0.7
baz=216
CHIR Chirikof Islan 74.07 21 IAMs_20 IAMs_20 13 40 27.0
comp=Z,6µm,22.0s
CHIR Chirikof Islan 74.07 21 P P 13 15 22.8 -1.0
baz=219
CMBY CAMPBELL BAY 74.29 281 eP P 13 15 22.7 -3.3
CMBY IAmb IAmb 13 15 29.5
comp=Z,124nm,2.3s
M11K Mekoryuk 74.78 14 IAMs_20 IAMs_20 13 42 31.6
comp=Z,5µm,22.0s
M11K Mekoryuk 74.78 14 P P 13 15 26.1 -1.7
baz=208
R16K Pilot Point 74.79 19 P P 13 15 26.7 -1.2
baz=217
SEY Seymchan 74.83 353 LR LR 13 43 44.1
comp=Z,7µm,21.9s,baz=168,slow=32
SEY Seymchan 74.83 353 ceP P 13 15 28.2 +0.1
SEY pmax pmax
comp=Z,12nm,0.9s
O14K Tigyukauivet M 75.07 17 P P 13 15 28.9 -0.6
baz=213
SII Sitkinak Islan 75.15 21 IAMs_20 IAMs_20 13 41 32.7
comp=Z,7µm,22.0s
SII Sitkinak Islan 75.15 21 P P 13 15 32.0 +1.9
SII Sitkinak Islan 75.15 21 P P 13 15 29.9 -0.2
baz=220
R17L Mt. Peulik Vol 75.24 20 P P 13 15 30.7 +0.2
baz=218,SNR=28
PLK4 Peulik 4 75.24 20 IAmb IAmb 13 15 35.9
comp=Z,57nm,0.7s
PLK4 IAMs_20 IAMs_20 13 41 43.9
comp=Z,4µm,22.0s
TNCH TengChong 75.29 300 ⇑P P 13 15 32.8 +1.0
TNCH PcP PcP 13 15 45.6 +0.6
TNCH PP PP 13 18 19.3 -1.8
TNCH S S 13 25 12.1 +3.8
TNCH SKS SKSac 13 25 36.0 -2.1
TNCH pmax pmax
comp=Z,2µm,3.2s
TNCH LR LR
comp=Z,1µm,24.2s
TNCH LR LR
comp=Z,1µm,27.9s
TNCH LR LR
comp=Z,3µm,25.2s
LZH Lanzhou 75.38 312 ⇑P P 13 15 33.5 +1.5
LZH pP sP 13 15 49.3 -0.8
LZH sP PcP 13 15 52.1 +7.0
LZH S S 13 25 09.8 +1.0
LZH SKS SKSac 13 25 36.3 -2.0
LZH pmax pmax
comp=Z,160nm,1.3s
LZH pmax pmax
comp=Z,2µm,4.1s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,4µm,17.2s
LZH LR LR
comp=Z,7µm,16.5s
O15K Ungalikthiuk R 75.41 17 P P 13 15 30.9 -0.6
baz=214,SNR=9.2
M13K Dall Lake 75.50 15 IAmb IAmb 13 15 51.0
comp=Z,74nm,1.2s
M13K IAMs_20 IAMs_20 13 42 23.7
comp=Z,5µm,22.0s
M13K Dall Lake 75.50 15 P P 13 15 31.2 -0.7
baz=211
N14K Kuskokwak Cree 75.52 16 IAmb IAmb 13 16 07.7
comp=Z,60nm,0.9s
N14K IAMs_20 IAMs_20 13 42 24.2
comp=Z,5µm,22.0s
N14K Kuskokwak Cree 75.52 16 P P 13 15 31.5 -0.5
baz=212,SNR=7.7
R18K Karluk 75.83 21 P P 13 15 33.5 -0.4
baz=220
P16K Nushagak River 75.84 18 P P 13 15 33.7 -0.2
baz=216,SNR=9.6
Q17K Contact Creek 75.89 20 P P 13 15 33.9 -0.5
baz=218
Q16K King Salmon 75.97 19 P P 13 15 34.1 -0.6
baz=217,SNR=20
OHAK Old Harbor 75.98 21 IAMs_20 IAMs_20 13 42 09.5
comp=Z,5µm,21.0s
OHAK Old Harbor 75.98 21 P P 13 15 35.7 +1.0
OHAK Old Harbor 75.98 21 P P 13 15 33.0 -1.7
baz=221,SNR=12
M14K Bethel 76.15 15 IAmb IAmb 13 15 38.2
comp=Z,74nm,1.0s
M14K IAMs_20 IAMs_20 13 42 08.8
comp=Z,5µm,22.0s
M14K Bethel 76.15 15 P P 13 15 35.1 -0.5
baz=212,SNR=30
N15K Kwethluk River 76.16 17 IAmb IAmb 13 15 38.7
comp=Z,71nm,0.9s
N15K IAMs_20 IAMs_20 13 44 28.2
comp=Z,4µm,21.0s
N15K Kwethluk River 76.16 17 P P 13 15 36.3 +0.5
baz=214,SNR=28
O16K Kokwok River B 76.27 18 P P 13 15 35.4 -0.9
baz=216,SNR=12
M15K Kasigluk River 76.44 16 P P 13 15 37.4 +0.1
baz=213,SNR=21
P17K Kvichak River 76.45 19 P P 13 15 37.0 -0.4
baz=218,SNR=13
L14K Kuka Creek 76.47 15 IAmb IAmb 13 16 06.0
comp=Z,93nm,1.3s
L14K IAMs_20 IAMs_20 13 43 15.3
comp=Z,4µm,21.0s
L14K Kuka Creek 76.47 15 P P 13 15 38.2 +0.8
baz=211,SNR=14
Q18K Katmai Hardscr 76.48 20 P P 13 15 37.5 -0.2
baz=219,SNR=75
K13K Kusilvak Mount 76.50 14 IAMs_20 IAMs_20 13 44 07.2
comp=Z,4µm,20.0s
K13K Kusilvak Mount 76.50 14 P P 13 15 38.0 +0.4
baz=209,SNR=6.5
KDAK Kodiak Island 76.65 21 P P 13 15 38.8 +0.2
KDAK Kodiak Island 76.65 21 IAMs_20 IAMs_20 13 42 29.3
comp=Z,7µm,22.0s
KDAK Kodiak Island 76.65 21 LR LR 13 43 02.5
comp=Z,6µm,21.8s,baz=212,slow=31
KDAK Kodiak Island 76.65 21c iP P 13 15 38.5 0.0
KDAK pmax pmax
comp=Z,43nm,0.9s
KDAK Kodiak Island 76.65 21 P P 13 15 38.3 -0.2
baz=221
O17K Koliganek Bris 76.71 18 P P 13 15 38.5 -0.3
baz=217,SNR=46
GAMB Gambell 76.76 10 IAMs_20 IAMs_20 13 42 48.1
comp=Z,6µm,22.0s
GAMB Gambell 76.76 10 P P 13 15 38.5 -0.6
baz=202
DGPR DIGLIPUR 76.78 287 eP P 13 15 39.9 -0.3
DGPR IAmb IAmb 13 15 44.6
comp=Z,165nm,2.4s
N16K Nishlik Lake 76.79 17 P P 13 15 40.7 +1.4
baz=215,SNR=55
P18K Big Mountain, 76.99 19 IAMs_20 IAMs_20 13 42 50.3
comp=Z,4µm,22.0s
P18K Big Mountain, 76.99 19 P P 13 15 40.2 -0.3
baz=219,SNR=134
L15K Ungalak Mounta 77.06 15 P P 13 15 40.6 -0.1
baz=212,SNR=22
Q19K Cape Douglas, 77.15 20 IAMs_20 IAMs_20 13 42 34.6
comp=Z,6µm,22.0s
Q19K Cape Douglas, 77.15 20 P P 13 15 41.5 0.0
baz=220,SNR=38
M16K Timber Creek 77.18 17 IAMs_20 IAMs_20 13 45 09.2
comp=Z,3µm,20.0s
M16K Timber Creek 77.18 17 P P 13 15 42.8 +1.3
baz=215,SNR=79
N17K Nushagak Hills 77.29 18 P P 13 15 42.8 +0.7
baz=217,SNR=21
Q20K Shuyak Island 77.34 21 P P 13 15 43.2 +0.9
baz=222,SNR=6.7
SYI Shuyak Island 77.34 21 IAmb IAmb 13 15 57.9
comp=Z,44nm,0.9s
SYI IAMs_20 IAMs_20 13 42 58.5
comp=Z,6µm,21.0s

O18K Koktuh Hills 77.36 19 IAmb IAmb 13 15 49.5
comp=Z,32nm,0.6s
O18K IAMs_20 IAMs_20 13 43 37.0
comp=Z,4µm,22.0s
O18K Koktuh Hills 77.36 19 P P 13 15 42.5 0.0
baz=219,SNR=28
J14K Nanvaranak Lak 77.47 14 IAMs_20 IAMs_20 13 44 37.7
comp=Z,4µm,21.0s
J14K Nanvaranak Lak 77.47 14 P P 13 15 44.1 +1.1
baz=210
K15K Wolf Creek Mou 77.57 15 IAmb IAmb 13 16 12.6
comp=Z,101nm,1.1s
K15K IAMs_20 IAMs_20 13 43 38.3
comp=Z,5µm,22.0s
K15K Wolf Creek Mou 77.57 15 P P 13 15 44.8 +1.2
baz=212,SNR=24
L16K Owhat River 77.61 16 IAMs_20 IAMs_20 13 43 04.5
comp=Z,4µm,22.0s
L16K Owhat River 77.61 16 P P 13 15 44.7 +0.8
baz=214,SNR=25
CIT Chita 77.70 330 eP P 13 15 45.0 +0.3
CIT e 13 16 01.8
CIT pmax pmax
comp=Z,277nm,1.7s
N18K Kilae Creek 77.80 18 P P 13 15 45.5 +0.5
baz=218,SNR=25
P19K Oil Pt 77.84 20 IAMs_20 IAMs_20 13 43 07.8
comp=Z,4µm,21.0s
P19K Oil Pt 77.84 20 P P 13 15 45.1 -0.2
baz=221,SNR=23
O19K Port Alsworth 77.91 19 IAmb IAmb 13 15 53.6
comp=Z,64nm,1.1s
O19K Port Alsworth 77.91 19 P P 13 15 45.4 -0.1
baz=219,SNR=12
M17K Holitna River 77.92 17 IAmb IAmb 13 15 53.1
comp=Z,63nm,0.8s
M17K Holitna River 77.92 17 P P 13 15 47.2 +1.6
baz=216,SNR=40
ILSW Iliamna Southw 78.12 20 IAmb IAmb 13 15 48.4
comp=Z,77nm,0.9s
L17K Donlin 78.28 16 P P 13 15 48.8 +1.2
baz=215,SNR=47
N19K Bonanza Creek 78.33 18 IAMs_20 IAMs_20 13 43 54.8
comp=Z,5µm,22.0s
N19K Bonanza Creek 78.33 18 P P 13 15 47.9 -0.2
baz=219,SNR=21
O20K Slope Mountain 78.37 20 P P 13 15 47.5 -0.7
baz=221,SNR=11
HOM Homer 78.38 20 IAMs_20 IAMs_20 13 43 21.9
comp=Z,7µm,22.0s
HOM Homer 78.38 20 P P 13 15 48.7 +0.5
baz=222,SNR=15
CNPM China Poot 78.42 21 IAmb IAmb 13 16 21.9
comp=Z,74nm,1.1s
M18K Stony River 78.46 17 P P 13 15 49.6 +1.0
baz=218,SNR=58
YAK Yakutsk 78.54 343 P P 13 15 48.9 -0.1
YAK Yakutsk 78.54 343 IAMs_20 IAMs_20 13 50 35.9
comp=Z,3µm,20.0s
YAK Yakutsk 78.54 343 LR LR 13 46 30.4
comp=Z,3µm,21.8s,baz=145,slow=33
YAK Yakutsk 78.54 343c iP P 13 15 48.9 -0.1
YAK e*PP sP 13 16 07.2 0.0
YAK eS S 13 25 41.1 -0.7
YAK e*SS ScS 13 26 08.9 +3.0
YAK pmax pmax
comp=Z,80nm,0.9s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,13nm,1.1s
YAK smax smax
comp=N,100nm,4.1s
YAK smax smax
comp=E,68nm,3.0s
J16K Anvik River 78.63 15 IAmb IAmb 13 15 52.9
comp=Z,87nm,0.9s
J16K IAMs_20 IAMs_20 13 44 21.5
comp=Z,3µm,21.0s
J16K Anvik River 78.63 15 P P 13 15 50.7 +1.2
baz=213,SNR=39
QSPA South Pole Qui 78.66 180 P P 13 15 50.6 +0.7
comp=Z,160nm,0.9s,baz=4.0,slow=1.2,SNR=420
QSPA PKKPbc PKKPbc 13 34 44.7 -3.3
comp=Z,2.2nm,0.9s,baz=295,slow=5.0,SNR=4.5
QSPA LR LR 13 46 56.3
comp=Z,3µm,21.3s,baz=25,slow=33
comp=Z,160nm,0.9s
ANM Nome 78.66 12 IAMs_20 IAMs_20 13 46 14.2
comp=Z,4µm,20.0s
ANM Nome 78.66 12 P P 13 15 50.6 +1.0
baz=208
K17K Iditarod 78.75 16 IAmb IAmb 13 15 55.7
comp=Z,71nm,0.8s
K17K IAMs_20 IAMs_20 13 44 24.7
comp=Z,5µm,22.0s
K17K Iditarod 78.75 16 P P 13 15 51.7 +1.5
baz=215
L18K Granite Mounta 78.79 17 IAmb IAmb 13 15 53.7
comp=Z,107nm,0.9s
L18K Granite Mounta 78.79 17 P P 13 15 51.9 +1.5
baz=217,SNR=89
ULN Ulaanbaatar 78.88 324 P P 13 15 51.5 +0.1
ULN IAmb IAmb 13 15 54.4
comp=Z,112nm,1.1s
ULN Ulaanbaatar 78.88 324c iP P 13 15 52.2 +0.8
ULN pmax pmax
comp=Z,95nm,1.1s
TNA Tin City 79.06 11 IAMs_20 IAMs_20 13 43 56.7
comp=Z,4µm,22.0s
TNA Tin City 79.06 11 P P 13 15 52.1 +0.4
baz=206
J17K VABM Dome 79.11 15 IAmb IAmb 13 15 57.2
comp=Z,58nm,0.8s
J17K IAMs_20 IAMs_20 13 44 35.1
comp=Z,5µm,22.0s
J17K VABM Dome 79.11 15 P P 13 15 53.5 +1.4
baz=214,SNR=44
I17K Unalakleet 79.12 14 IAmb IAmb 13 16 12.0
comp=Z,165nm,1.8s
I17K IAMs_20 IAMs_20 13 44 14.3
comp=Z,4µm,22.0s
I17K Unalakleet 79.12 14 P P 13 15 53.5 +1.3
baz=213,SNR=7.2
IMP Imphal 79.15 298 eP P 13 15 53.1 -0.2
IMP IAmb IAmb 13 15 57.5
comp=Z,197nm,3.0s
IMP eS S 13 25 50.0 -0.1
BILL Bilibino 79.18 360 P P 13 15 52.4 -0.1
BILL IAmb IAmb 13 15 54.7
comp=Z,51nm,0.9s
BILL Bilibino 79.18 360c iP P 13 15 52.3 -0.1
BILL pmax pmax
comp=Z,46nm,0.9s
M19K Big River Lodg 79.21 18 IAmb IAmb 13 15 58.4
comp=Z,58nm,0.8s
M19K Big River Lodg 79.21 18 P P 13 15 53.7 +1.0
baz=219,SNR=76
SONM Songino Array 79.24 324 P P 13 15 53.4 +0.1
SONM IAmb IAmb 13 15 56.1
comp=Z,51nm,1.0s
SONM Songino Array 79.24 324 P P 13 15 53.9 +0.5
comp=Z,40nm,0.9s,baz=138,slow=5.2,SNR=95
SONM LR LR 13 51 02.1
comp=Z,1µm,19.6s,baz=114,slow=36
comp=Z,40nm,0.9s
F14K Arctic Creek 79.28 11 P P 13 15 53.6 +0.6
baz=207
KOHI KOHIMA 79.29 299 eP P 13 15 53.8 -0.4
KOHI IAmb IAmb 13 15 58.5
comp=Z,272nm,2.7s
KOHI eS S 13 25 47.9 -3.7
L19K White Mountain 79.29 17 IAmb IAmb 13 15 58.4
comp=Z,81nm,0.7s
L19K White Mountain 79.29 17 P P 13 15 54.2 +1.0
baz=219,SNR=114
G15K Niukluk 79.32 12 P P 13 15 53.3 +0.1
baz=210
N20K Mount Spurr 79.35 19 P P 13 15 52.4 -1.2
baz=221
SPCR Spurr Chakacha 79.35 19 P P 13 15 52.5 -1.1
baz=221
CAPN Captain Cook N 79.37 20 P P 13 15 53.9 +0.3
baz=222
H16K Elim 79.40 13 P P 13 15 53.7 +0.1
baz=211
SEW Seward 79.46 21 IAmb IAmb 13 15 58.8
comp=Z,44nm,0.8s

SEW IAMs_20 IAMs_20 13 44 41.6
comp=Z,4µm,22.0s
SEW Seward 79.46 21 P P 13 15 54.0 -0.1
baz=224,SNR=23
JORH JORHAT 79.48 300 eP P 13 15 56.5 +1.5
JORH IAmb IAmb 13 16 00.2
comp=Z,174nm,2.3s
JORH eS S 13 25 53.3 0.0
M20K Styx River 79.58 18 IAMs_20 IAMs_20 13 44 45.6
comp=Z,5µm,22.0s
M20K Styx River 79.58 18 P P 13 15 55.1 +0.3
baz=220,SNR=44
O22K Cooper Landing 79.64 20 P P 13 15 55.6 +0.6
baz=224,SNR=24
GTA Gaotai 79.67 314 P P 13 15 57.4 +1.5
GTA pP pP 13 16 08.3 -0.7
GTA S S 13 25 58.8 +3.7
GTA pmax pmax
comp=Z,110nm,0.9s
GTA pmax pmax
comp=Z,2µm,8.0s
GTA LR LR
comp=Z,2µm,21.1s
GTA LR LR
comp=Z,2µm,22.9s
GTA LR LR
comp=Z,5µm,21.1s
J18K Innoko River 79.78 16 IAMs_20 IAMs_20 13 44 56.0
comp=Z,5µm,22.0s
J18K Innoko River 79.78 16 P P 13 15 56.5 +0.7
baz=217,SNR=57
L20K Farewell, AK 79.81 18 P P 13 15 56.7 +0.7
baz=220,SNR=58
F15K North Star Dit 79.82 12 IAMs_20 IAMs_20 13 46 17.7
comp=Z,3µm,20.0s
F15K North Star Dit 79.82 12 P P 13 15 56.2 +0.3
baz=209
AZL Aizawl 79.92 297 eP P 13 15 57.5 -0.1
AZL IAmb IAmb 13 16 02.5
comp=Z,252nm,2.7s
AZL eS S 13 25 55.8 -2.4
RPN Rapa Nui 79.93 116 LR LR 13 44 48.0
comp=Z,3µm,20.1s,baz=275,slow=31
SUA Susitna One 80.02 19 IAmb IAmb 13 16 02.4
comp=Z,38nm,0.6s
SUA IAMs_20 IAMs_20 13 44 42.2
comp=Z,4µm,22.0s
SUA Susitna One 80.02 19 P P 13 15 56.7 -0.5
baz=223,SNR=26
G16K Koyuk River 80.02 13 IAMs_20 IAMs_20 13 48 14.2
comp=Z,4µm,20.0s
G16K Koyuk River 80.02 13 P P 13 15 57.1 +0.1
baz=211
ZIRO ZIRO 80.07 301 eP P 13 15 59.5 +1.1
ZIRO IAmb IAmb 13 16 04.2
comp=Z,192nm,2.3s
RC01 Rabbit Creek A 80.08 20 P P 13 15 57.6 +0.2
baz=224,SNR=22
Q23K Middleton Isla 80.11 22 P P 13 15 56.8 -0.8
baz=227
P23K Montague Islan 80.11 22 IAmb IAmb 13 16 15.4
comp=Z,153nm,1.9s
P23K Montague Islan 80.11 22 P P 13 15 56.8 -0.8
baz=226
SKT Skwentna 80.15 19 IAMs_20 IAMs_20 13 44 51.7
comp=Z,4µm,21.0s
SKT Skwentna 80.15 19 P P 13 15 56.4 -1.5
baz=222
H17K Granite Mounta 80.19 14 IAMs_20 IAMs_20 13 44 56.5
comp=Z,4µm,22.0s
H17K Granite Mounta 80.19 14 P P 13 15 58.4 +0.5
baz=214,SNR=23
PWL Port Wells 80.39 21 IAmb IAmb 13 16 03.1
comp=Z,75nm,0.7s
PWL IAMs_20 IAMs_20 13 45 21.2
comp=Z,3µm,21.0s
PWL Port Wells 80.39 21 P P 13 15 59.2 +0.1
baz=225,SNR=38
M22K Willow 80.43 19 IAmb IAmb 13 16 21.5
comp=Z,108nm,1.1s
M22K IAMs_20 IAMs_20 13 44 54.3
comp=Z,6µm,22.0s
M22K Willow 80.43 19 P P 13 15 58.7 -0.6
baz=223,SNR=26
K20K Telida 80.43 17 IAmb IAmb 13 16 40.0
comp=Z,90nm,1.5s
K20K Telida 80.43 17 P P 13 16 00.1 +0.7
baz=219
G17K Kiwalik Mounta 80.49 13 P P 13 16 00.0 +0.5
baz=213,SNR=15
J19K Poorman 80.50 16 IAMs_20 IAMs_20 13 47 03.0
comp=Z,4µm,21.0s
J19K Poorman 80.50 16 P P 13 16 00.7 +1.0
baz=218,SNR=38
BRDH Bariadhala 80.54 295 LR LR 13 50 50.5
comp=Z,1µm,21.9s,baz=150,slow=35
PPLA Purkeypile 80.63 18 P P 13 15 59.7 -0.8
baz=221
PMR Palmer 80.64 20 IAmb IAmb 13 16 05.9
comp=Z,33nm,0.6s
PMR Palmer 80.64 20 P P 13 16 00.9 +0.5
PMR Palmer 80.64 20 P P 13 16 00.6 +0.2
baz=224,SNR=31
TEZP TEZPUR 80.68 300 eP P 13 16 01.5 +0.1
TEZP IAmb IAmb 13 16 06.2
comp=Z,194nm,2.3s
TEZP eS S 13 26 05.6 -0.3
HIN Hinchinbrook I 80.72 22 IAmb IAmb 13 16 08.9
comp=Z,63nm,1.0s
H18K Honhosa River 80.74 14 IAMs_20 IAMs_20 13 45 26.1
comp=Z,5µm,22.0s
H18K Honhosa River 80.74 14 P P 13 16 00.8 -0.1
baz=215
KNK Knik Glacier 80.74 20 IAmb IAmb 13 16 07.8
comp=Z,47nm,0.7s
KNK IAMs_20 IAMs_20 13 45 58.4
comp=Z,6µm,21.0s
KNK Knik Glacier 80.74 20 P P 13 16 01.5 +0.5
baz=225,SNR=27
GCSA Galena City Sc 80.77 15 P P 13 16 01.8 +0.8
baz=216,SNR=20
GLI Glacier Island 80.84 21 IAmb IAmb 13 16 05.0
comp=Z,54nm,0.7s
GLI IAMs_20 IAMs_20 13 45 28.0
comp=Z,6µm,21.0s
GLI Glacier Island 80.84 21 P P 13 16 01.7 +0.2
baz=226,SNR=19
CUT Chulitna 80.86 19 IAmb IAmb 13 16 07.7
comp=Z,51nm,0.6s
CUT Chulitna 80.86 19 P P 13 16 01.3 -0.3
baz=223,SNR=11
FID Port Fidalgo 80.97 21 IAmb IAmb 13 16 11.1
comp=Z,56nm,0.8s
J20K Nowinta River 81.05 16 IAmb IAmb 13 16 07.1
comp=Z,46nm,0.8s
J20K IAMs_20 IAMs_20 13 45 58.4
comp=Z,4µm,22.0s
J20K Nowinta River 81.05 16 P P 13 16 03.2 +0.6
baz=219,SNR=75
CAST Castle Rocks 81.06 18 IAmb IAmb 13 16 07.8
comp=Z,68nm,0.7s
CAST Castle Rocks 81.06 18 P P 13 16 02.1 -0.6
baz=221,SNR=124
EYAK Cordova Ski Ar 81.09 22 P P 13 16 03.6 +0.8
EYAK Cordova Ski Ar 81.09 22 P P 13 16 03.2 +0.3
baz=227,SNR=18
F17K Baldwin Pennin 81.16 13 IAMs_20 IAMs_20 13 46 08.2
comp=Z,4µm,22.0s
F17K Baldwin Pennin 81.16 13 P P 13 16 03.4 +0.4
baz=212
SHL Shillong 81.16 298 eP P 13 16 04.8 +0.5
SHL IAmb IAmb 13 16 08.8
comp=Z,130nm,2.0s
SHL eS S 13 26 13.7 +2.4
KAIM Kayak Island 81.17 23 IAMs_20 IAMs_20 13 46 30.9
comp=Z,5µm,20.0s
KAIM Kayak Island 81.17 23 P P 13 16 04.2 +0.9
baz=229,SNR=52
AGT Agartala 81.22 296 eP P 13 16 06.5 +2.2
AGT IAmb IAmb 13 16 10.2
comp=Z,226nm,2.7s
M23K Glacier View 81.26 20 P P 13 16 04.1 +0.3
baz=225,SNR=33
G18K Tagagawik 81.28 14 IAMs_20 IAMs_20 13 45 31.4
comp=Z,3µm,22.0s
G18K Tagagawik 81.28 14 P P 13 16 04.3 +0.6
baz=215,SNR=21
CHUM Lake Minchumin 81.34 17 P P 13 16 04.1 -0.1

baz=221
SCM Sheep Creek Mo 81.42 20 IAMs_20 IAMs_20 13 46 50.3
comp=Z,4µm,21.0s
SCM Sheep Creek Mo 81.42 20 P **P** **13 16 05.5 +0.8**
baz=226,SNR=76
I20K Naaghedeneel 81.44 16 IAmb IAmb 13 16 10.0
comp=Z,86nm,0.9s
I20K IAMs_20 IAMs_20 13 45 45.8
comp=Z,3µm,22.0s
I20K Naaghedeneel 81.44 16 P **P** **13 16 05.9 +1.3**
baz=219,SNR=32
HMT Hamilton 81.50 22 IAmb IAmb 13 16 09.8
comp=Z,57nm,0.8s
HMT IAMs_20 IAMs_20 13 46 32.5
comp=Z,5µm,20.0s
KTH Kantishna Hill 81.51 18 IAMs_20 IAMs_20 13 45 36.6
comp=Z,4µm,22.0s
H19K Roundabout Mou 81.51 15 IAMs_20 IAMs_20 13 46 00.6
comp=Z,5µm,22.0s
H19K Roundabout Mou 81.51 15 P **P** **13 16 05.9 +0.9**
baz=217,SNR=16
E17K Hotham Inlet 81.58 12 P **P** **13 16 06.4 +1.0**
baz=212,SNR=43
TRF Thorofare Moun 81.62 18 IAMs_20 IAMs_20 13 46 00.7
comp=Z,5µm,22.0s
TRF Thorofare Moun 81.62 18 P **P** **13 16 05.1 -0.8**
baz=223,SNR=41
F18K Selawik 81.64 13 P **P** **13 16 06.3 +0.7**
baz=214,SNR=28
KLU Klutina 81.67 21 IAmb IAmb 13 16 14.8
comp=Z,43nm,0.8s
KLU Klutina 81.67 21 P **P** **13 16 06.6 +0.6**
baz=227,SNR=51
BGLC Bering Glacier 81.73 23 P **P** **13 16 06.7 +0.5**
baz=230
BERG Berg Lake 81.75 23 IAMs_20 IAMs_20 13 47 00.1
comp=Z,5µm,20.0s
BMRM Bremner River 81.79 22 IAmb IAmb 13 16 13.2
comp=Z,48nm,0.8s
BMRM Bremner River 81.79 22 P **P** **13 16 07.0 +0.4**
baz=228,SNR=36
G19K Purcell Mounta 81.85 14 IAmb IAmb 13 16 39.6
comp=Z,43nm,0.9s
G19K Purcell Mounta 81.85 14 P **P** **13 16 07.8 +1.0**
baz=216,SNR=29
D17K Noatak River 81.86 11 P **P** **13 16 07.7 +0.9**
baz=210,SNR=9.5
H20K Anotleneega Mo 81.88 15 P **P** **13 16 07.9 +0.9**
baz=218,SNR=34
BPAW Bear Paw Mtn. 81.89 18 P **P** **13 16 06.3 -0.8**
baz=222
SNH Sunshine Point 81.94 23 IAmb IAmb 13 16 10.5
comp=Z,59nm,1.0s
C16K Lisburne Hills 81.95 10 IAMs_20 IAMs_20 13 46 22.2
comp=Z,4µm,22.0s
C16K Lisburne Hills 81.95 10 P **P** **13 16 07.5 +0.3**
baz=208
M24K Tolsona, Glenn 82.00 20 P **P** **13 16 08.9 +1.2**
baz=227,SNR=53
RND Reindeer 82.04 19 IAmb IAmb 13 16 12.5
comp=Z,50nm,0.8s
FARB Farallon Islan 82.04 49 IAMs_20 IAMs_20 13 43 43.2
comp=Z,6µm,22.0s
E18K Tukpahlearik C 82.12 12 IAMs_20 IAMs_20 13 46 04.7
comp=Z,5µm,22.0s
E18K Tukpahlearik C 82.12 12 P **P** **13 16 09.4 +1.2**
baz=213
GOMU GeErMu 82.14 309 P **P** **13 16 10.6 +1.1**
GOMU pP pP 13 16 22.8 +0.2
GOMU sP sP 13 16 27.1 -0.5
GOMU S **S** **13 26 23.1 +1.6**
GOMU pmax pmax
comp=Z,58nm,0.8s
GOMU LR LR
comp=Z,1µm,23.2s
GOMU LR LR
comp=Z,2µm,22.8s
GOMU LR LR
comp=Z,4µm,21.4s
CRQM Cirque 82.20 22 IAmb IAmb 13 16 11.4
comp=Z,76nm,1.0s
CRQM IAMs_20 IAMs_20 13 47 15.3
comp=Z,4µm,20.0s
RDOG Red Dog Mine 82.20 11 IAmb IAmb 13 16 13.8
comp=Z,40nm,0.8s
RDOG IAMs_20 IAMs_20 13 46 09.9
comp=Z,4µm,22.0s
RDOG Red Dog Mine 82.20 11 P **P** **13 16 09.3 +0.7**
baz=210,SNR=8.1
CRQE Cirque 82.21 23 P **P** **13 16 09.3 +0.4**
baz=230,SNR=35
N25K Chitina, Valde 82.22 21 P **P** **13 16 09.6 +0.7**
baz=229,SNR=103
KMPM Mount Pierce 82.22 46 IAmb IAmb 13 16 20.0
comp=Z,89nm,1.2s
MCK McKinley 82.25 18 IAmb IAmb 13 16 15.2
comp=Z,38nm,0.8s
MCK IAMs_20 IAMs_20 13 48 49.1
comp=Z,3µm,20.0s
MCK McKinley 82.25 18 P **P** **13 16 08.6 -0.3**
baz=224,SNR=24
F19K Shaleruckik Mo 82.25 14 IAmb IAmb 13 16 11.4
comp=Z,44nm,1.0s
F19K Shaleruckik Mo 82.25 14 P **P** **13 16 09.5 +0.7**
baz=215,SNR=43
ZAK Zakamensk 82.27 325 *eP* **P** **13 16 08.6 -0.9**
ZAK pmax pmax
comp=Z,58nm,1.2s
MESA MESA 82.28 23 P **P** **13 16 09.9 +0.5**
baz=231,SNR=11
MCCM Marconi Confer 82.29 49 IAmb IAmb 13 16 14.5
comp=Z,60nm,0.8s
MCCM IAMs_20 IAMs_20 13 44 00.7
comp=Z,5µm,21.0s
TGL Tana Glacier 82.31 23 IAMs_20 IAMs_20 13 47 08.0
comp=Z,5µm,20.0s
KCPM Cahto Peak 82.34 47 IAmb IAmb 13 16 15.5
comp=Z,58nm,0.8s
VRDI Verde Repeater 82.39 22 IAMs_20 IAMs_20 13 45 14.9
comp=Z,5µm,22.0s
GLB Gilahina Butte 82.39 22 IAmb IAmb 13 16 14.2
comp=Z,52nm,0.8s
ISLE Juniper Island 82.40 23 IAmb IAmb 13 16 12.3
comp=Z,76nm,1.0s
BWN Browne 82.40 18 IAMs_20 IAMs_20 13 46 57.6
comp=Z,6µm,21.0s
I21K Tanana 82.42 16 IAmb IAmb 13 16 13.6
comp=Z,44nm,0.8s
I21K Tanana 82.42 16 P **P** **13 16 10.4 +0.6**
baz=221,SNR=47
KMRM Mail Ridge 82.44 47 IAmb IAmb 13 16 37.9
comp=Z,100nm,1.2s
KMRM IAMs_20 IAMs_20 13 45 42.4
comp=Z,3µm,20.0s
HOPS Hopland Field 82.45 48 IAmb IAmb 13 16 29.2
comp=Z,81nm,1.2s
C17K DeLong Mountai 82.52 11 P **P** **13 16 11.1 +0.9**
baz=210,SNR=14
HARP HAARP 82.55 21 P **P** **13 16 11.3 +0.7**
baz=228,SNR=30
H21K Melozitna Rive 82.56 16 IAMs_20 IAMs_20 13 48 36.3
comp=Z,4µm,21.0s
H21K Melozitna Rive 82.56 16 P **P** **13 16 11.4 +0.9**
baz=220,SNR=33
IMAR Indian Mountai 82.56 15 P **P** **13 16 10.7 +0.2**
KRPM Rodgers 82.57 46 IAmb IAmb 13 16 32.6
comp=Z,72nm,1.1s
GDXM Geysers 82.59 48 IAMs_20 IAMs_20 13 45 24.6
comp=Z,5µm,20.0s
IRK Irkutsk 82.62 327 *eP* **P** **13 16 08.6 -2.5**
IRK pmax pmax
comp=Z,123nm,3.3s
DIB Dawson Inlet, 82.64 32 IAmb IAmb 13 16 46.6
comp=Z,83nm,1.3s
MCARA McCarthy VSAT 82.64 22 IAmb IAmb 13 16 33.7
comp=Z,46nm,0.9s
MCARA IAMs_20 IAMs_20 13 45 11.8
comp=Z,6µm,22.0s
MCARA McCarthy VSAT 82.64 22 P **P** **13 16 11.7 +0.7**
baz=230,SNR=17
MLY Manley 82.66 17 P **P** **13 16 11.0 -0.1**
baz=222,SNR=23
KHMM Horse Mountain 82.67 46 IAmb IAmb 13 16 31.0
comp=Z,50nm,1.0s
CVS Carmenet Viney 82.67 49 IAMs_20 IAMs_20 13 44 23.9
comp=Z,5µm,21.0s
GRNC Granite Creek 82.70 23 IAmb IAmb 13 16 15.5
comp=Z,43nm,0.8s

KRMB Red Mountain 82.79 45 IAmb IAmb 13 16 54.8
comp=Z,71nm,1.4s
HULI Fort Hunter Li 82.80 51 IAMs_20 IAMs_20 13 45 21.2
comp=Z,5µm,20.0s
KBO Bosley Butte 82.83 45 IAmb IAmb 13 16 41.4
comp=Z,68nm,1.3s
NEA2 Nenana 82.83 18 IAMs_20 IAMs_20 13 46 37.4
comp=Z,5µm,22.0s
NEA2 Nenana 82.83 18 P **P** **13 16 11.3 -0.6**
baz=224,SNR=29
PAX Paxson 82.83 20 P **P** **13 16 12.0 -0.1**
baz=227,SNR=30
MNRC McLaughlin Min 82.87 48 IAMs_20 IAMs_20 13 45 33.1
comp=Z,4µm,21.0s
E19K Redstone River 82.89 13 IAMs_20 IAMs_20 13 49 54.9
comp=Z,3µm,20.0s
E19K Redstone River 82.89 13 P **P** **13 16 13.0 +0.8**
baz=216
PINM Pinnacle 82.90 24 P **P** **13 16 12.5 +0.1**
baz=232,SNR=25
F20K Avaraart Lake 82.91 14 IAMs_20 IAMs_20 13 46 55.5
comp=Z,5µm,22.0s
F20K Avaraart Lake 82.91 14 P **P** **13 16 13.2 +1.0**
baz=217,SNR=29
BARN Barnard Glacier 82.95 23 IAmb IAmb 13 16 17.4
comp=Z,67nm,0.8s
BARN IAMs_20 IAMs_20 13 47 36.8
comp=Z,5µm,20.0s
RAMR Ramage Ranch 82.95 52 IAMs_20 IAMs_20 13 44 01.3
comp=Z,5µm,22.0s
PNL Peninsula 82.98 25 P **P** **13 16 13.7 +0.8**
PNL Peninsula 82.98 25 P **P** **13 16 12.8 0.0**
baz=233,SNR=6.1
LSA Lhasa 82.99 302 P **P** **13 16 14.3 +0.1**
LSA S **S** **13 26 32.8 +2.2**
LSA LR LR
comp=Z,740nm,25.9s
LSA LR LR
comp=Z,3µm,24.8s
KEBM Edson Butte 83.00 44 IAMs_20 IAMs_20 13 44 10.3
comp=Z,4µm,22.0s
CTG Chitna Glacier 83.01 23 P **P** **13 16 13.5 +0.4**
baz=231,SNR=80
CTGM Chitina Glacie 83.01 23 IAMs_20 IAMs_20 13 47 08.4
comp=Z,5µm,20.0s
G21K Allakaket 83.04 15 IAMs_20 IAMs_20 13 46 57.9
comp=Z,5µm,22.0s
G21K Allakaket 83.04 15 P **P** **13 16 13.7 +0.7**
baz=220
WRH Wood River Hil 83.04 18 IAMs_20 IAMs_20 13 47 13.0
comp=Z,3µm,21.0s
C18K Utukok River 83.05 11 IAmb IAmb 13 16 20.2
comp=Z,40nm,0.8s
C18K IAMs_20 IAMs_20 13 46 48.0
comp=Z,4µm,22.0s
C18K Utukok River 83.05 11 P **P** **13 16 13.7 +0.7**
baz=212,SNR=19
LOGN Logan Glacier 83.05 23 IAMs_20 IAMs_20 13 46 58.5
comp=Z,5µm,20.0s
BCPM Bancas Point 83.06 24 IAmb IAmb 13 16 17.6
comp=Z,36nm,0.8s
O02D Mt. Diablo Mer 83.08 47 IAmb IAmb 13 16 19.5
comp=Z,51nm,0.8s
H22K Ishtalitna Cre 83.12 16 P **P** **13 16 14.2 +0.7**
baz=222,SNR=51
BBGB Big Mountain B 83.13 51 IAmb IAmb 13 16 37.5
comp=Z,81nm,0.9s
I23K Minto, Yukon-K 83.14 17 P **P** **13 16 12.9 -0.6**
baz=224,SNR=28
PMPB Monarch Peak 83.19 51 IAmb IAmb 13 16 39.6
comp=Z,57nm,1.1s
L02F Cave Junction 83.24 45 IAMs_20 IAMs_20 13 47 01.7
comp=Z,3µm,20.0s
CCB Clear Creek Bu 83.25 18 IAmb IAmb 13 16 17.6
comp=Z,60nm,0.7s
CCB IAMs_20 IAMs_20 13 47 18.6
comp=Z,3µm,22.0s
SIT Sitka 83.25 28 P **P** **13 16 14.6 +0.3**
baz=237
K24K Donnelly Dome 83.30 19 P **P** **13 16 14.9 +0.5**
baz=227,SNR=79
M26K Nabesna, AK 83.31 21 P **P** **13 16 15.1 +0.6**
baz=230,SNR=111
O28M Mount Upton 83.33 23 P **P** **13 16 15.6 +0.6**
baz=232,SNR=48
S31K Pelican 83.34 27 IAmb IAmb 13 16 19.1
comp=Z,32nm,0.8s
S31K IAMs_20 IAMs_20 13 45 15.5
comp=Z,5µm,21.0s
S31K Pelican 83.34 27 P **P** **13 16 15.0 +0.4**
baz=236,SNR=15
HDA Harding Lake 83.34 19 IAMs_20 IAMs_20 13 46 37.2
comp=Z,5µm,22.0s
HDA Harding Lake 83.34 19 P **P** **13 16 14.6 0.0**
baz=226,SNR=221
J01E Myrtle Point 83.39 44 IAmb IAmb 13 16 35.3
comp=Z,45nm,0.9s
J01E IAMs_20 IAMs_20 13 44 21.4
comp=Z,5µm,22.0s
K02D Willamette Mer 83.39 44 IAmb IAmb 13 16 43.3
comp=Z,44nm,1.0s
K02D IAMs_20 IAMs_20 13 44 22.6
comp=Z,3µm,22.0s
COLA College 83.39 18 P **P** **13 16 14.0 -0.8**
COLA College 83.39 18 IAMs_20 IAMs_20 13 47 35.4
comp=Z,5µm,21.0s
COLA College 83.39 18 P **P** **13 16 14.5 -0.3**
COLA College 83.39 18 P **P** **13 16 14.0 -0.8**
COLA pmax pmax
comp=Z,136nm,0.8s
COLA College 83.39 18 P **P** **13 16 14.5 -0.3**
baz=225
MENT Mentasta 83.41 21 IAmb IAmb 13 16 19.6
comp=Z,59nm,0.8s
MENT IAMs_20 IAMs_20 13 46 30.0
comp=Z,6µm,22.0s
MENT Mentasta 83.41 21 P **P** **13 16 16.1 +1.1**
CAL Calcutta 83.45 294 *eP* **P** **13 16 16.4 +0.4**
CAL IAmb IAmb 13 16 22.0
comp=Z,140nm,2.0s
COBR COOCHBEHAR 83.45 298 *eP* **P** **13 16 16.7 +0.7**
COBR IAmb IAmb 13 16 20.6
comp=Z,279nm,2.8s
COBR *eS* **S** **13 26 32.9 -1.5**
CRAG Craig 83.46 30 IAMs_20 IAMs_20 13 45 05.8
comp=Z,4µm,22.0s
D19K Kuna River 83.54 12 IAMs_20 IAMs_20 13 48 07.2
comp=Z,5µm,21.0s
D19K Kuna River 83.54 12 P **P** **13 16 16.4 +0.8**
baz=215
B18K Kokolik River 83.54 11 P **P** **13 16 16.2 +0.8**
baz=211,SNR=7.5
RIDG Independent Ri 83.56 20 IAMs_20 IAMs_20 13 46 46.9
comp=Z,6µm,22.0s
RIDG Independent Ri 83.56 20 P **P** **13 16 16.0 +0.2**
baz=228,SNR=51
H23K Yukon River 83.58 17 IAmb IAmb 13 16 20.4
comp=Z,44nm,0.8s
H23K Yukon River 83.58 17 P **P** **13 16 16.2 +0.3**
baz=223,SNR=76
F21K Alatna River 83.59 15 IAmb IAmb 13 16 21.3
comp=Z,30nm,0.8s
F21K Alatna River 83.59 15 P **P** **13 16 16.4 +0.6**
baz=220,SNR=22
L26K Log Cabin Wild 83.59 21 P **P** **13 16 16.4 +0.4**
baz=229,SNR=45
IL31 83.62 18 IAmb IAmb 13 16 19.7
comp=Z,32nm,0.7s
ILAR Eielson Array 83.62 18 P **P** **13 16 15.2 -0.8**
ILAR Eielson Array 83.62 18 P **P** **13 16 16.4 +0.4**
comp=Z,27nm,0.7s,baz=259,slow=5.7,SNR=182
ILAR PKKPbc **PKKPbc** **13 34 32.8 -4.1**
comp=Z,0.7nm,0.6s,baz=354,slow=2.5,SNR=12
ILAR LR LR 13 53 35.7
comp=Z,1µm,18.0s,baz=214,slow=36
comp=Z,27nm,0.7s
P29M Windy Craggy 83.64 25 IAmb IAmb 13 16 20.8
comp=Z,33nm,0.8s
P29M Windy Craggy 83.64 25 P **P** **13 16 16.7 +0.4**
baz=235,SNR=23
M27K Edge Creek, AK 83.69 22 IAmb IAmb 13 16 19.4
comp=Z,72nm,1.0s
M27K Edge Creek, AK 83.69 22 P **P** **13 16 17.4 +0.8**
baz=231,SNR=72
O29M Mount Kennedy 83.69 24 P **P** **13 16 16.7 +0.1**
baz=234,SNR=11
POKR Poker Plat Res 83.69 18 IAmb IAmb 13 16 19.6
comp=Z,49nm,0.7s

POKR IAMs_20 IAMs_20 13 47 43.3
comp=Z,5µm,21.0s
POKR Poker Plat Res 83.69 18 P **P** **13 16 15.8 -0.5**
baz=225,SNR=17
YBH Yreka Blue Hor 83.70 45 LR LR 13 46 47.2
comp=Z,166nm,20.9s,baz=259,slow=31
C19K Lookout Ridge 83.75 12 IAmb IAmb 13 16 21.8
comp=Z,63nm,0.8s
C19K IAMs_20 IAMs_20 13 47 44.6
comp=Z,4µm,21.0s
C19K Lookout Ridge 83.75 12 P **P** **13 16 17.7 +1.1**
baz=214,SNR=41
E20K Nigu River 83.77 13 P **P** **13 16 17.6 +0.8**
baz=217
ORV Oroville 83.79 48 IAmb IAmb 13 16 35.8
comp=Z,42nm,1.1s
U33K Whale Pass 83.79 29 IAmb IAmb 13 16 21.0
comp=Z,45nm,0.8s
U33K Whale Pass 83.79 29 P **P** **13 16 17.5 +0.5**
baz=239
I02E Swisshome, OR 83.80 43 IAmb IAmb 13 16 22.6
comp=Z,41nm,0.8s
I02E IAMs_20 IAMs_20 13 44 34.3
comp=Z,3µm,22.0s
YUK8 Steele Glacier 83.81 23 P **P** **13 16 18.0 +0.7**
baz=233,SNR=75
HOLB Holberg 83.81 36 IAmb IAmb 13 16 46.8
comp=Z,56nm,1.0s
S32K Killisnoo 83.82 28 IAmb IAmb 13 16 48.0
comp=Z,70nm,1.4s
S32K Killisnoo 83.82 28 P **P** **13 16 16.9 -0.3**
baz=238,SNR=6.2
YUK3 Moose Creek 83.84 23 P **P** **13 16 17.9 +0.4**
baz=232,SNR=48
G22K Bettles 83.86 15 P **P** **13 16 17.9 +0.7**
baz=221
AFDM Forest Hills D 83.97 48 IAmb IAmb 13 16 45.5
comp=Z,39nm,0.9s
I03D Drain, OR 83.98 43 IAmb IAmb 13 16 36.8
comp=Z,64nm,1.4s
I03D IAMs_20 IAMs_20 13 44 52.1
comp=Z,4µm,22.0s
J25K Salcha River, 83.98 19 P **P** **13 16 18.2 +0.3**
baz=227,SNR=260
WELL Weller Preserv 83.99 49 IAMs_20 IAMs_20 13 44 42.6
comp=Z,5µm,22.0s
SCRK Sand Creek 84.00 20 IAMs_20 IAMs_20 13 46 26.6
comp=Z,4µm,22.0s
SCRK Sand Creek 84.00 20 P **P** **13 16 18.7 +0.6**
baz=229,SNR=262
D20K Etivluk River 84.04 13 IAMs_20 IAMs_20 13 49 14.4
comp=Z,3µm,20.0s
D20K Etivluk River 84.04 13 P **P** **13 16 19.0 +0.9**
baz=216
H24K Noodor Dome 84.07 17 IAMs_20 IAMs_20 13 47 29.3
comp=Z,5µm,22.0s
H24K Noodor Dome 84.07 17 P **P** **13 16 18.0 -0.4**
baz=225
BVCY Beaver Creek 84.09 22 P **P** **13 16 19.3 +0.8**
baz=232,SNR=28
G23K Bananza Creek 84.10 16 IAmb IAmb 13 16 23.6
comp=Z,41nm,0.8s
G23K IAMs_20 IAMs_20 13 48 35.1
comp=Z,5µm,21.0s
G23K Bananza Creek 84.10 16 P **P** **13 16 19.4 +0.9**
baz=223,SNR=61
PLBC Pleasant Camp 84.12 26 P **P** **13 16 18.4 -0.3**
baz=236,SNR=44
F22K John River 84.13 15 P **P** **13 16 18.7 +0.1**
baz=221,SNR=25
V35K Ketchikan 84.14 30 IAmb IAmb 13 16 23.1
comp=Z,44nm,0.8s
V35K IAMs_20 IAMs_20 13 45 03.6
comp=Z,4µm,22.0s
V35K Ketchikan 84.14 30 P **P** **13 16 18.9 +0.1**
baz=240
MOY Mondy 84.14 325 *eP* **P** **13 16 19.2 +0.1**
MOY pmax pmax
comp=Z,149nm,3.7s
L27K Beaver Creek, 84.15 21 IAmb IAmb 13 16 23.6
comp=Z,51nm,0.8s
L27K Beaver Creek, 84.15 21 P **P** **13 16 19.2 +0.4**
baz=231,SNR=138
YUK6 Outpost Mounta 84.15 24 P **P** **13 16 19.2 0.0**
baz=234,SNR=19
BCAR Beaver Creek A 84.17 21 P **P** **13 16 18.6 -0.3**
T33K Petersburg 84.23 29 P **P** **13 16 19.5 +0.3**
baz=239
P30M Million Dollar 84.25 25 P **P** **13 16 19.2 -0.2**
baz=235
R32K Eaglecrest 84.28 27 IAMs_20 IAMs_20 13 45 22.1
comp=Z,5µm,22.0s
R32K Eaglecrest 84.28 27 P **P** **13 16 20.0 +0.5**
baz=238
HEBO Mount Hebo 84.28 42 IAMs_20 IAMs_20 13 45 38.9
comp=Z,4µm,22.0s
YUK4 Talbot Arm 84.28 23 P **P** **13 16 20.8 +1.1**
baz=234,SNR=84
BESE Bessie Mountai 84.29 27 IAmb IAmb 13 16 50.5
comp=Z,79nm,1.4s
BESE IAMs_20 IAMs_20 13 45 32.5
comp=Z,5µm,22.0s
OSI Osito Audit: C 84.29 53 IAMs_20 IAMs_20 13 44 58.8
comp=Z,5µm,22.0s
WRAK Wrangell Islan 84.32 29 IAmb IAmb 13 16 23.6
comp=Z,41nm,0.7s
WRAK Wrangell Islan 84.32 29 P **P** **13 16 19.9 +0.2**
baz=240,SNR=9.5
JIS Juneau Island 84.34 27 P **P** **13 16 21.8 +2.1**
COR Corvallis 84.34 43 IAMs_20 IAMs_20 13 46 04.6
comp=Z,3µm,21.0s
VES Vestal, Richgr 84.39 52 IAmb IAmb 13 16 38.6
comp=Z,60nm,1.1s
VES IAMs_20 IAMs_20 13 45 07.3
comp=Z,3µm,21.0s
A19K Wainwright 84.39 11 P **P** **13 16 20.5 +0.8**
baz=212
BUCK Buck Mountain 84.41 43 IAmb IAmb 13 16 51.9
comp=Z,67nm,1.2s
BUCK IAMs_20 IAMs_20 13 45 04.4
comp=Z,4µm,22.0s
E21K Killik River 84.42 14 IAmb IAmb 13 16 24.9
comp=Z,30nm,0.7s
E21K IAMs_20 IAMs_20 13 47 54.5
comp=Z,3µm,21.0s
E21K Killik River 84.42 14 P **P** **13 16 20.9 +0.8**
baz=219,SNR=41
HYT Haines Junctio 84.43 24 IAmb IAmb 13 16 24.9
comp=Z,44nm,0.8s
HYT Haines Junctio 84.43 24 P **P** **13 16 20.2 -0.2**
baz=235,SNR=80
COLD Coldfoot 84.43 16 P **P** **13 16 20.7 +0.6**
baz=223,SNR=17
GTK Tadong 84.47 299 *eP* **P** **13 16 22.7 +1.3**
GTK IAmb IAmb 13 16 26.8
comp=Z,152nm,3.0s
GTK *eS* **SKSac** **13 26 44.4 +2.4**
J26L Joseph Creek 84.49 19 IAmb IAmb 13 16 50.6
comp=Z,47nm,1.0s
J26L IAMs_20 IAMs_20 13 46 55.5
comp=Z,4µm,22.0s
J26L Joseph Creek 84.49 19 P **P** **13 16 21.3 +0.8**
baz=229,SNR=60
BBB Bella Bella 84.50 34 LR LR 13 46 27.8
comp=Z,4µm,21.2s,baz=268,slow=30
PRP Porcupine Dome 84.55 18 P **P** **13 16 20.4 -0.5**
baz=227
SKAG Skagway 84.56 26 IAmb IAmb 13 16 59.3
comp=Z,57nm,1.2s
SKAG IAMs_20 IAMs_20 13 46 25.7
comp=Z,5µm,21.0s
SKAG Skagway 84.56 26 P **P** **13 16 22.4 +1.5**
SKAG Skagway 84.56 26 P **P** **13 16 21.6 +0.8**
baz=237,SNR=13
PASC Pasadena Art C 84.58 54 IAMs_20 IAMs_20 13 44 56.5
comp=Z,4µm,22.0s
G03D McMinnville, O 84.60 42 IAMs_20 IAMs_20 13 45 59.4
comp=Z,5µm,21.0s
J04A Umpqua Nationa 84.65 44 IAmb IAmb 13 16 54.4
comp=Z,65nm,0.9s
J04A IAMs_20 IAMs_20 13 45 02.0
comp=Z,4µm,22.0s
MAW Mawson 84.66 202 P **P** **13 16 20.6 -0.7**
comp=Z,0.0nmcomp=Z,7.5nm,1.6s
MAW Mawson 84.66 202 P **P** **13 16 20.9 -0.4**
comp=Z,10nm,0.7s,baz=108,slow=6.1,SNR=28
MAW LR LR 13 48 17.7
comp=Z,3µm,21.9s,baz=97,slow=32

comp=Z,10nm,0.7s
F03A Seaside **84.67 41** IAMs_20 IAMs_20 13 46 02.4
comp=Z,4μm,21.0s
K04D Chiloquin, OR **84.68 45** IAmb IAmb 13 16 48.8
comp=Z,58nm,0.8s
K27K Chicken **84.68 20** IAMs_20 IAMs_20 13 47 52.6
comp=Z,4μm,21.0s
K27K Chicken **84.68 20** P **P** **13 16 22.5 +1.1**
baz=230
H04D Lebanon **84.69 43** IAmb IAmb 13 16 49.8
comp=Z,44nm,0.9s
MWC Mount Wilson **84.70 54** IAmb IAmb 13 16 40.6
comp=Z,62nm,1.1s
MWC IAMs_20 IAMs_20 13 44 59.6
comp=Z,4μm,22.0s
E22K Anaktuvuk Pass **84.70 15** P **P** **13 16 22.2 +0.8**
baz=221,SNR=23
RADR Rader Ridge **84.71 41** IAMs_20 IAMs_20 13 45 54.2
comp=Z,4μm,20.0s
SHBG Sahibganj **84.73 297** *e*P **P** **13 16 23.1 +0.6**
SHBG IAmb IAmb 13 16 27.7
comp=Z,147nm,2.9s
SHBG *e*S **SKSac** **13 26 42.4 -1.0**
TPO Tropico Hills **84.76 53** IAmb IAmb 13 16 41.2
comp=Z,69nm,1.2s
TPO IAMs_20 IAMs_20 13 47 27.2
comp=Z,4μm,19.0s
C21K Knifeblade Rid **84.80 13** P **P** **13 16 23.2 +1.3**
baz=218,SNR=19
G24K Hadweenzic Riv **84.80 17** IAmb IAmb 13 16 26.9
comp=Z,55nm,0.8s
G24K IAMs_20 IAMs_20 13 48 15.5
comp=Z,4μm,22.0s
G24K Hadweenzic Riv **84.80 17** P **P** **13 16 22.3 +0.4**
baz=225,SNR=82
ISA Isabella, Lake **84.81 52** IAmb IAmb 13 16 41.3
comp=Z,47nm,1.2s
ISA IAMs_20 IAMs_20 13 46 02.4
comp=Z,5μm,21.0s
C03A Quillayute Air **84.81 39** IAmb IAmb 13 16 52.7
comp=Z,79nm,1.3s
C03A IAMs_20 IAMs_20 13 45 19.0
comp=Z,3μm,22.0s
E03A Lebam **84.91 41** IAMs_20 IAMs_20 13 45 39.5
comp=Z,4μm,21.0s
N30M Aishikik Lake **84.96 24** P **P** **13 16 23.6 +0.6**
baz=235,SNR=22
H25L Birch Creek **84.97 18** P **P** **13 16 21.6 -1.2**
baz=227,SNR=15
B20K Meade River **84.98 12** IAMs_20 IAMs_20 13 48 12.1
comp=Z,5μm,22.0s
B20K Meade River **84.98 12** P **P** **13 16 23.3 +0.6**
baz=216,SNR=15
M29M Somme Creek **85.00 23** IAMs_20 IAMs_20 13 48 34.0
comp=Z,5μm,20.0s
M29M Somme Creek **85.00 23** P **P** **13 16 23.5 +0.3**
baz=234,SNR=24
TJX Tijuana **85.00 56** IAMs_20 IAMs_20 13 45 07.6
comp=Z,5μm,22.0s
BFSC Mount Baldy Ra **85.02 54** IAmb IAmb 13 16 33.4
comp=Z,41nm,1.2s
BFSC IAMs_20 IAMs_20 13 47 23.1
comp=Z,3μm,20.0s
ELS Elsinore Mount **85.03 54** IAmb IAmb 13 16 55.5
comp=Z,101nm,1.9s
ELS IAMs_20 IAMs_20 13 45 41.4
comp=Z,3μm,20.0s
NLWA Neilton Lookou **85.03 40** IAMs_20 IAMs_20 13 48 36.8
comp=Z,3μm,20.0s
D22K Ayikyak River **85.06 14** IAMs_20 IAMs_20 13 49 40.4
comp=Z,4μm,21.0s
D22K Ayikyak River **85.06 14** P **P** **13 16 24.1 +0.8**
baz=220,SNR=25
CPE Camp Elliot **85.07 55** IAMs_20 IAMs_20 13 45 10.5
comp=Z,6μm,22.0s
F04D Rainier, OR **85.09 41** IAMs_20 IAMs_20 13 46 26.3
comp=Z,4μm,21.0s
I26K Coal Creek Min **85.15 19** P **P** **13 16 23.9 +0.2**
baz=229
CBB Campbell River **85.16 37** IAmb IAmb 13 16 28.5
comp=Z,38nm,0.7s
BWNR Bhubaneshwar **85.17 292** *e*P **P** **13 16 25.7 +0.9**
BWNR IAmb IAmb 13 16 30.2
comp=Z,167nm,2.4s
BWNR *e*S **SKSac** **13 26 49.2 +2.9**
E23K Chandalar **85.20 15** IAmb IAmb 13 16 55.5
comp=Z,34nm,1.0s
E23K IAMs_20 IAMs_20 13 48 08.0
comp=Z,3μm,22.0s
E23K Chandalar **85.20 15** P **P** **13 16 24.3 +0.3**
baz=223,SNR=24
B21K Ikpikpuk River **85.20 13** IAMs_20 IAMs_20 13 49 32.0
comp=Z,4μm,20.0s
B21K Ikpikpuk River **85.20 13** P **P** **13 16 25.1 +1.2**
baz=218,SNR=19
U35K Hyder **85.21 30** IAMs_20 IAMs_20 13 45 57.9
comp=Z,4μm,21.0s
U35K Hyder **85.21 30** P **P** **13 16 24.3 +0.1**
baz=242
DPP Dos Picos Cty **85.23 55** IAMs_20 IAMs_20 13 45 14.7
comp=Z,6μm,22.0s
G25K Bearman Lake **85.23 17** P **P** **13 16 24.6 +0.5**
baz=227,SNR=51
F24K Squaw Lake **85.26 16** IAmb IAmb 13 16 30.8
comp=Z,27nm,0.7s
F24K IAMs_20 IAMs_20 13 51 09.8
comp=Z,3μm,20.0s
F24K Squaw Lake **85.26 16** P **P** **13 16 25.2 +0.9**
baz=225,SNR=52
J05D Fort Rock, OR **85.27 44** IAmb IAmb 13 16 53.0
comp=Z,51nm,1.0s
J05D IAMs_20 IAMs_20 13 45 22.2
comp=Z,4μm,22.0s
P32M Atlin **85.33 26** IAMs_20 IAMs_20 13 47 28.9
comp=Z,4μm,20.0s
P32M Atlin **85.33 26** P **P** **13 16 25.3 +0.5**
baz=238,SNR=15
FYU Fort Yukon **85.35 17** IAmb IAmb 13 16 43.7
comp=Z,43nm,1.3s
FYU IAMs_20 IAMs_20 13 49 06.1
comp=Z,3μm,21.0s
LRMC Laurel Mtn Rad **85.37 53** IAmb IAmb 13 16 45.5
comp=Z,39nm,1.1s
LRMC IAMs_20 IAMs_20 13 46 18.1
comp=Z,5μm,21.0s
PAHR Pah Rah Range **85.39 48** IAmb IAmb 13 17 07.4
comp=Z,80nm,1.5s
WHY Whitehorse **85.40 25** IAmb IAmb 13 16 28.9
comp=Z,23nm,0.7s
WHY Whitehorse **85.40 25** P **P** **13 16 24.6 -0.7**
baz=237,SNR=13
CLRS Cowichan Lake **85.42 38** IAmb IAmb 13 16 52.6
comp=Z,33nm,0.9s
N31M Braeburn, Yuko **85.49 24** IAmb IAmb 13 16 30.1
comp=Z,34nm,0.8s
N31M Braeburn, Yuko **85.49 24** P **P** **13 16 25.6 0.0**
baz=236,SNR=30
E24K Your Creek **85.50 16** IAMs_20 IAMs_20 13 49 52.1
comp=Z,5μm,20.0s
E24K Your Creek **85.50 16** P **P** **13 16 26.4 +0.9**
baz=224,SNR=14
L29M L29M **85.52 22** IAmb IAmb 13 16 29.4
comp=Z,28nm,0.8s
L29M IAMs_20 IAMs_20 13 49 11.7
comp=Z,5μm,20.0s
L29M L29M **85.52 22** P **P** **13 16 25.9 +0.2**
baz=234,SNR=37
CLC China Lake **85.53 52** IAmb IAmb 13 16 45.0
comp=Z,49nm,1.0s
CLC IAMs_20 IAMs_20 13 45 30.6
comp=Z,5μm,22.0s
WSHM Spangler Hills **85.55 53** IAmb IAmb 13 16 45.1
comp=Z,46nm,1.2s
WSHM IAMs_20 IAMs_20 13 46 35.1
comp=Z,5μm,20.0s
I05D Terrebonne, OR **85.56 43** IAmb IAmb 13 16 53.5
comp=Z,36nm,1.0s
I05D IAMs_20 IAMs_20 13 45 42.0
comp=Z,3μm,22.0s
LHV Little Huntoon **85.58 50** IAmb IAmb 13 16 45.4
comp=Z,38nm,1.1s
D23K Nanushuk River **85.60 14** IAmb IAmb 13 16 29.6
comp=Z,56nm,1.0s
D23K Nanushuk River **85.60 14** P **P** **13 16 27.1 +1.2**
baz=222,SNR=32
T35M Bob Quinn **85.61 29** P **P** **13 16 26.5 +0.2**
baz=242
CCCA Chr Cany lake **85.63 53** IAMs_20 IAMs_20 13 46 26.2
comp=Z,5μm,21.0s
DAWY Dawson **85.63 21** IAmb IAmb 13 16 30.3
comp=Z,34nm,0.8s
DAWY Dawson **85.63 21** P **P** **13 16 26.7 +0.5**
baz=233,SNR=60
TOLK Toolik Lake Re **85.63 15** IAMs_20 IAMs_20 13 48 21.6
comp=Z,5μm,22.0s
TOLK Toolik Lake Re **85.63 15** P **P** **13 16 26.7 +0.5**
baz=223,SNR=18
S34M Telegraph Cree **85.64 28** IAmb IAmb 13 16 31.1
comp=Z,28nm,0.8s
S34M Telegraph Cree **85.64 28** P **P** **13 16 26.2 -0.1**
baz=241,SNR=18
Q32M Nakina River **85.64 27** IAMs_20 IAMs_20 13 46 26.2
comp=Z,4μm,22.0s
Q32M Nakina River **85.64 27** P **P** **13 16 27.0 +0.4**
baz=240
PINE Pine Mountain **85.64 44** IAmb IAmb 13 16 54.3
comp=Z,60nm,1.2s
PINE IAMs_20 IAMs_20 13 46 08.1
comp=Z,4μm,22.0s
M30M Minto, Yukon **85.71 23** P **P** **13 16 25.8 -0.9**
baz=235,SNR=30
DSP Deep Springs **85.71 51** IAmb IAmb 13 16 32.5
comp=Z,32nm,0.8s
BORC Borrego Spring **85.73 55** IAmb IAmb 13 16 32.2
comp=Z,28nm,0.8s
BORC IAMs_20 IAMs_20 13 45 29.9
comp=Z,6μm,22.0s
GNW Green Mountain **85.75 40** IAmb IAmb 13 16 32.0
comp=Z,25nm,0.8s
GNW IAMs_20 IAMs_20 13 48 59.9
comp=Z,4μm,20.0s
ESJX Sierra Juarez **85.76 56** IAmb IAmb 13 16 56.1
comp=Z,51nm,1.3s
PGC Sidney **85.77 39** IAmb IAmb 13 16 52.1
comp=Z,42nm,1.2s
NVAR Mina Array Bea **85.78 50** P **P** **13 16 27.7 -0.1**
NVAR Mina Array Bea **85.78 50** P **P** **13 16 28.4 +0.6**
comp=Z,10nm,0.7s,baz=239,slow=6.9,SNR=60
NVAR PKKP **PKKPdf** **13 34 23.3 -0.6**
comp=Z,0.5nm,0.7s,baz=64,slow=6.8,SNR=4.1
comp=Z,10nm,0.7s
PFO Pinyon Flats O **85.79 55** P **P** **13 16 27.9 +0.1**
PFO IAmb IAmb 13 16 32.5
comp=Z,94nm,1.9s
PFO Pinyon Flats O **85.79 55** IAMs_20 IAMs_20 13 46 36.5
comp=Z,5μm,21.0s
PFO Pinyon Flats O **85.79 55** LR LR 13 46 37.5
comp=Z,5μm,21.3s,baz=270,slow=30
PFO Pinyon Flats O **85.79 55** *ce*P **P** **13 16 28.6 +0.8**
PFO pmax pmax
comp=Z,14nm,0.9s
I27K Kandik River **85.83 19** P **P** **13 16 27.8 +0.5**
baz=231,SNR=47
PMD Palm Desert **85.87 55** IAMs_20 IAMs_20 13 46 39.6
comp=Z,5μm,21.0s
F25K Christian Rive **85.94 17** IAmb IAmb 13 16 31.1
comp=Z,37nm,1.1s
F25K IAMs_20 IAMs_20 13 48 37.5
comp=Z,6μm,22.0s
F25K Christian Rive **85.94 17** P **P** **13 16 29.1 +1.4**
baz=227,SNR=39
BOK Bokaro **85.94 295** *e*P **P** **13 16 29.4 +0.8**
BOK IAmb IAmb 13 16 33.8
comp=Z,141nm,2.2s
BOK *e*S **SKSac** **13 26 52.1 +0.9**
GSC Goldstone, Bar **86.00 53** IAmb IAmb 13 17 00.4
comp=Z,42nm,1.4s
GSC IAMs_20 IAMs_20 13 45 29.0
comp=Z,4μm,22.0s
B22K Teshekpuk Lake **86.02 13** IAMs_20 IAMs_20 13 50 50.7
comp=Z,4μm,21.0s
B22K Teshekpuk Lake **86.02 13** P **P** **13 16 28.6 +0.7**
baz=219,SNR=5.4
G26K Porcupine Rive **86.04 18** IAMs_20 IAMs_20 13 51 25.3
comp=Z,3μm,20.0s
G26K Porcupine Rive **86.04 18** P **P** **13 16 29.4 +1.3**
baz=229,SNR=190
P33M Teslin, Yukon **86.04 26** IAMs_20 IAMs_20 13 46 17.6
comp=Z,4μm,21.0s
P33M Teslin, Yukon **86.04 26** P **P** **13 16 27.9 -0.4**
baz=239
SALN Salton City **86.08 55** IAMs_20 IAMs_20 13 45 28.2
comp=Z,6μm,22.0s
LON Longmire **86.10 41** IAMs_20 IAMs_20 13 48 21.2
comp=Z,3μm,20.0s
D05A Enumclaw **86.15 40** IAMs_20 IAMs_20 13 46 40.3
comp=Z,3μm,21.0s
K29M Barlow Dome **86.17 22** IAMs_20 IAMs_20 13 51 09.8
comp=Z,3μm,20.0s
K29M Barlow Dome **86.17 22** P **P** **13 16 29.3 +0.3**
baz=235,SNR=27
D24K Happy Valley **86.19 15** IAmb IAmb 13 16 57.7
comp=Z,36nm,1.1s
D24K IAMs_20 IAMs_20 13 48 28.4
comp=Z,6μm,22.0s
D24K Happy Valley **86.19 15** P **P** **13 16 29.8 +0.9**
baz=224,SNR=14
A22K Sinclair Lake **86.22 12** P **P** **13 16 29.4 +0.6**
baz=218
A04D Lummi Island **86.26 39** IAMs_20 IAMs_20 13 45 42.1
comp=Z,4μm,22.0s
H27K Steamboat Moun **86.26 19** IAmb IAmb 13 17 00.2
comp=Z,60nm,1.2s
H27K Steamboat Moun **86.26 19** P **P** **13 16 30.1 +0.8**
baz=231,SNR=35
C23K Itkillik River **86.27 14** IAmb IAmb 13 16 32.6
comp=Z,62nm,1.0s
C23K IAMs_20 IAMs_20 13 48 42.2
comp=Z,5μm,22.0s
C23K Itkillik River **86.27 14** P **P** **13 16 30.5 +1.3**
baz=222,SNR=22
BELC Belle Mtn. Jos **86.27 54** IAmb IAmb 13 16 48.7
comp=Z,48nm,1.0s
BELC IAMs_20 IAMs_20 13 46 00.0
comp=Z,5μm,22.0s
J29N Klondike Camp **86.27 21** P **P** **13 16 29.7 +0.2**
baz=234
I28M Miner Creek **86.29 20** IAmb IAmb 13 16 33.7
comp=Z,29nm,0.7s
I28M Miner Creek **86.29 20** P **P** **13 16 29.1 -0.4**
baz=232,SNR=56
FURC Furnace Creek, **86.29 52** IAmb IAmb 13 16 48.6
comp=Z,64nm,1.2s
FURC IAMs_20 IAMs_20 13 48 02.5
comp=Z,5μm,20.0s
KNTI KHUNTI **86.30 294** *e*P **P** **13 16 30.4 -0.1**
KNTI IAmb IAmb 13 16 34.5
comp=Z,143nm,2.6s
KNTI *e*S **SKSac** **13 26 56.7 +3.1**
E25K Arctic Village **86.32 16** IAmb IAmb 13 16 49.1
comp=Z,46nm,1.3s
E25K IAMs_20 IAMs_20 13 49 15.6
comp=Z,4μm,22.0s
E25K Arctic Village **86.32 16** P **P** **13 16 30.7 +1.2**
baz=227,SNR=22
G06A Carlson Farm, **86.34 43** IAmb IAmb 13 16 48.2
comp=Z,60nm,1.6s
G06A IAMs_20 IAMs_20 13 46 03.5
comp=Z,3μm,22.0s
CPBX Cerro Prieto **86.39 56** IAMs_20 IAMs_20 13 45 47.4
comp=Z,5μm,22.0s
DLBC Dease Lake **86.40 28** LR LR 13 47 13.6
comp=Z,2μm,21.6s,baz=231,slow=30
DLBC Dease Lake **86.40 28** P **P** **13 16 29.7 -0.5**
baz=242,SNR=8.6
N32M Quiet Lake **86.41 25** P **P** **13 16 29.8 -0.4**
baz=239
F26K Sheenjek River **86.43 17** P **P** **13 16 30.9 +0.8**
baz=228,SNR=19
M31M Drury Creek, Y **86.44 24** P **P** **13 16 29.6 -0.6**
baz=238
R33M Jennings River **86.44 27** IAMs_20 IAMs_20 13 47 01.3
comp=Z,4μm,22.0s
R33M Jennings River **86.44 27** P **P** **13 16 30.5 +0.1**
baz=241
TPH Tonopah **86.49 50** IAmb IAmb 13 16 49.6
comp=Z,45nm,1.4s
TIXI Tiksi **86.49 349** P **P** **13 16 29.5 -0.7**
TIXI IAmb IAmb 13 16 32.0
comp=Z,37nm,1.1s
TIXI Tiksi **86.49 349** LR LR 13 50 49.4
comp=Z,2μm,21.8s,baz=140,slow=33
TIXI Tiksi **86.49 349** ⇑*i*P **P** **13 16 29.6 -0.7**
TIXI pmax pmax
comp=Z,41nm,1.0s
SHOC Shoshone, Teco **86.58 53** IAmb IAmb 13 17 03.1
comp=Z,33nm,1.0s
SHOC IAMs_20 IAMs_20 13 47 07.3
comp=Z,3μm,21.0s
G27K Doyon Strip **86.59 18** IAMs_20 IAMs_20 13 48 38.8
comp=Z,5μm,22.0s
G27K Doyon Strip **86.59 18** P **P** **13 16 31.2 +0.3**
baz=231,SNR=51
BC3 Big Chuckawall **86.61 55** IAMs_20 IAMs_20 13 47 02.1
comp=Z,4μm,21.0s
MAYO Mayo, Yukon **86.62 22** IAMs_20 IAMs_20 13 50 05.9
comp=Z,5μm,21.0s
MAYO Mayo, Yukon **86.62 22** P **P** **13 16 31.0 -0.1**
baz=236,SNR=8.9
C24K Franklin Bluff **86.64 14** P **P** **13 16 32.3 +1.3**
baz=224,SNR=28
GAYA Gaya **86.76 296** *e*P **P** **13 16 32.8 +0.2**
GAYA IAmb IAmb 13 16 37.0
comp=Z,149nm,2.0s
I29M Ogilvie Camp, **86.78 20** P **P** **13 16 31.8 0.0**
baz=234
WVOR Wild Horse Val **86.79 46** IAmb IAmb 13 17 01.0
comp=Z,50nm,1.2s
WVOR Wild Horse Val **86.79 46** P **P** **13 16 33.3 +0.8**
TPNV Topopah Spring **86.90 52** IAmb IAmb 13 16 52.9
comp=Z,97nm,1.7s
D25K Kavik River **86.93 15** IAmb IAmb 13 16 37.2
comp=Z,28nm,0.8s
D25K IAMs_20 IAMs_20 13 50 27.9
comp=Z,5μm,21.0s
D25K Kavik River **86.93 15** P **P** **13 16 33.1 +0.6**
baz=226,SNR=17
DANC Danby, Needles **86.94 54** IAmb IAmb 13 16 51.9
comp=Z,46nm,1.2s
DANC IAMs_20 IAMs_20 13 55 04.7
comp=Z,3μm,18.0s
GLA Glamis **86.95 56** IAmb IAmb 13 16 52.5
comp=Z,50nm,0.9s
GLA IAMs_20 IAMs_20 13 46 18.2
comp=Z,5μm,22.0s
IRM Iron Mountain **86.99 54** IAmb IAmb 13 16 52.3
comp=Z,54nm,1.1s
IRM IAMs_20 IAMs_20 13 46 10.2
comp=Z,5μm,22.0s
J30M Hart River **87.01 21** IAMs_20 IAMs_20 13 48 27.2
comp=Z,5μm,22.0s
J30M Hart River **87.01 21** P **P** **13 16 33.5 +0.4**
baz=236,SNR=8.0
MXC Moxie City **87.02 41** IAMs_20 IAMs_20 13 48 30.3
comp=Z,3μm,20.0s
F07A Phinny Hill Vi **87.03 42** IAMs_20 IAMs_20 13 47 38.7
comp=Z,3μm,21.0s
MTPC Mountain Pass **87.03 53** IAMs_20 IAMs_20 13 47 07.2
comp=Z,3μm,21.0s
PALK Pallekele **87.15 278** LR LR 13 58 53.7
comp=Z,1μm,19.6s,baz=113,slow=38
PALK Pallekele **87.15 278**⇑ *e*P **P** **13 16 34.8 0.0**
PALK pmax pmax
comp=Z,86nm,1.4s
PALK MLR MLR
comp=Z,2μm,19.0s
J08A Circle Bar Ran **87.19 45** IAmb IAmb 13 17 01.6
comp=Z,30nm,0.9s
STMR SITAMARHI **87.19 298** *e*P **P** **13 16 35.8 +1.1**
STMR IAmb IAmb 13 16 39.9
comp=Z,138nm,2.3s
H29M Whitestone **87.27 20** P **P** **13 16 34.0 -0.1**
baz=234,SNR=13
E07A Sunnyside **87.30 42** IAmb IAmb 13 16 39.6
comp=Z,26nm,0.8s
JHSG JHARSUGUGA **87.35 293** *e*P **P** **13 16 34.1 -1.4**
JHSG IAmb IAmb 13 16 39.0
comp=Z,145nm,2.0s
JHSG *e*S **SKSac** **13 26 55.3 -4.6**
I30M Mount Dempster **87.36 21** IAmb IAmb 13 16 38.9
comp=Z,22nm,0.8s
I30M Mount Dempster **87.36 21** P **P** **13 16 33.8 -1.0**
baz=236,SNR=38
BLYC Blythe **87.38 55** IAmb IAmb 13 17 07.3
comp=Z,75nm,1.4s
BLYC IAMs_20 IAMs_20 13 46 20.5
comp=Z,4μm,22.0s
LLLB Lillooet **87.44 37** IAmb IAmb 13 17 10.6
comp=Z,59nm,1.6s
HAWA Hanford **87.46 42** IAMs_20 IAMs_20 13 48 02.9
comp=Z,3μm,21.0s
G08A Pilot Rock **87.48 43** IAmb IAmb 13 17 03.9
comp=Z,40nm,1.1s
E27K Coleen River **87.48 17** IAmb IAmb 13 16 40.2
comp=Z,35nm,0.8s
E27K Coleen River **87.48 17** P **P** **13 16 35.2 0.0**
baz=231,SNR=54
MALK Mahakanadarawa **87.53 279** P **P** **13 16 36.5 -0.1**
WAH2 Wahluke Slope **87.55 41** IAmb IAmb 13 17 04.1
comp=Z,27nm,0.9s
WAH2 IAMs_20 IAMs_20 13 48 06.5
comp=Z,3μm,21.0s
NEE2 Needles Airpor **87.58 54** IAMs_20 IAMs_20 13 55 14.6
comp=Z,3μm,18.0s
F28M Old Crow **87.63 18** IAMs_20 IAMs_20 13 49 32.5
comp=Z,5μm,22.0s
F28M Old Crow **87.63 18** P **P** **13 16 36.5 +0.6**
baz=232,SNR=24
SRIG Santa Rosalia **87.67 62** IAMs_20 IAMs_20 13 48 21.3
comp=Z,4μm,20.0s
PIX Pinacate **87.68 57** IAmb IAmb 13 16 55.4
comp=Z,31nm,1.1s
C26K Camden Bay **87.72 15** P **P** **13 16 37.8 +1.6**
baz=228
YPT Yellepit **87.72 42** IAMs_20 IAMs_20 13 47 59.9
comp=Z,3μm,21.0s
113A Mohawk Valley, **87.74 56** IAmb IAmb 13 17 09.0
comp=Z,49nm,1.4s
WTLY Watson Lake, Y **87.75 27** P **P** **13 16 36.1 -0.5**
baz=243
G29M Pine Creek **87.79 19** IAmb IAmb 13 16 40.9
comp=Z,32nm,0.8s
G29M IAMs_20 IAMs_20 13 50 02.6
comp=Z,5μm,21.0s
G29M Pine Creek **87.79 19** P **P** **13 16 37.5 +0.9**
baz=234,SNR=31
E08A Dider Farm, El **87.80 42** IAmb IAmb 13 17 18.0
comp=Z,44nm,1.2s
E08A IAMs_20 IAMs_20 13 48 13.9
comp=Z,3μm,21.0s
R11B Troy Canyon, C **87.80 50** IAmb IAmb 13 17 09.2
comp=Z,45nm,1.5s
C27K Jago River **87.83 16** IAmb IAmb 13 16 41.6
comp=Z,23nm,0.7s
C27K IAMs_20 IAMs_20 13 49 55.6
comp=Z,4μm,22.0s
C27K Jago River **87.83 16** P **P** **13 16 37.9 +1.1**
baz=229,SNR=19
EPYK Eagle Plains **87.90 20** IAmb IAmb 13 16 42.9
comp=Z,29nm,0.7s
EPYK IAMs_20 IAMs_20 13 50 13.6
comp=Z,3μm,21.0s
EPYK Eagle Plains **87.90 20** P **P** **13 16 36.9 -0.3**
baz=235,SNR=33
MMPY Sheldon Lake, **87.90 24** P **P** **13 16 36.3 -1.0**
baz=240,SNR=7.2
PRN Pahroc Range **87.95 51** IAmb IAmb 13 16 57.1
comp=Z,56nm,1.3s
D08A Wollman Farm, **88.07 41** IAmb IAmb 13 16 57.9
comp=Z,26nm,1.0s
W13A Hualapai Mount **88.24 54** IAmb IAmb 13 16 58.5
comp=Z,34nm,1.1s
D27M Malcolm River **88.33 16** IAmb IAmb 13 16 45.1
comp=Z,40nm,0.8s
D27M Malcolm River **88.33 16** P **P** **13 16 40.2 +0.9**
baz=231,SNR=47
E28M Babbage River **88.34 17** P **P** **13 16 39.5 +0.3**
baz=233,SNR=20
H31M Peel River **88.39 21** IAmb IAmb 13 17 16.8
comp=Z,33nm,1.3s
H31M Peel River **88.39 21** P **P** **13 16 39.5 0.0**
baz=238
G30M tAoh Zraii Nji **88.41 19** IAmb IAmb 13 17 10.5
comp=Z,37nm,1.0s
G30M IAMs_20 IAMs_20 13 48 38.0
comp=Z,3μm,22.0s
G30M tAoh Zraii Nji **88.41 19** P **P** **13 16 39.6 0.0**
baz=236,SNR=29
BMO Blue Mountains **88.45 44** IAmb IAmb 13 17 03.1
comp=Z,99nm,1.9s
BMO IAMs_20 IAMs_20 13 47 36.4
comp=Z,5μm,22.0s
LPIG La Paz **88.62 65** LR LR 13 48 15.9
comp=Z,2μm,21.8s,baz=254,slow=30

TGTN	**Hyland Airport** baz=243	**88.62**	**26**	P	**P**	**13 16 40.4**	**-0.4**
LIRD	**Liard River Hi** baz=245	**88.66**	**28**	P	**P**	**13 16 40.0**	**-1.0**
E29M	**Blow River** comp=Z,4µm,22.0s	**88.70**	**18**	IAMs_20	IAMs_20	13 50 05.6	
E29M	**Blow River** baz=234,SNR=7.3	**88.70**	**18**	P	**P**	**13 16 40.6**	**-0.3**
ELK	**Elko** comp=Z,79nm,1.8s	**88.72**	**48**	IAmb	IAmb	13 17 02.5	
ELK	comp=Z,4µm,22.0s			IAMs_20	IAMs_20	13 47 33.8	
ELK	**Elko** comp=Z,3µm,21.2s,baz=249,slow=30	**88.72**	**48**	LR	LR	13 49 00.7	
ELK	**Elko**	**88.72**	**48**	P	**P**	**13 16 42.7**	**+0.7**
MDRS	**Chennai**	**88.77**	**283**	*e*P	**P**	**13 16 43.5**	**+1.1**
MDRS	comp=Z,181nm,2.6s			IAmb	IAmb	13 16 47.1	
GKPR	**Gorakhpur**	**88.79**	**297**	*e*P	**P**	**13 16 42.4**	**+0.2**
GKPR	comp=Z,165nm,2.6s			IAmb	IAmb	13 16 46.8	
GKPR				*e*S	**S**	**13 27 25.9**	**-0.5**
TOAD	**Toad River Com** baz=246	**88.83**	**29**	P	**P**	**13 16 40.7**	**-1.1**
F10A	**Beach Ranch, E** comp=Z,64nm,1.2s	**88.84**	**43**	IAmb	IAmb	13 17 05.9	
SLBS	**Sierra La Lagu**	**88.85**	**66**	P	**P**	**13 16 42.0**	**-0.7**
SLBS	comp=Z,61nm,1.6s			IAmb	IAmb	13 17 11.8	
SLBS	**Sierra La Lagu** comp=Z,3µm,22.0s	**88.85**	**66**	IAMs_20	IAMs_20	13 46 37.7	
F30M	**Barrier River** comp=Z,4µm,22.0s	**88.90**	**19**	IAMs_20	IAMs_20	13 49 31.1	
F30M	**Barrier River** baz=236	**88.90**	**19**	P	**P**	**13 16 41.4**	**-0.5**
D28M	**Stokes Point** baz=233	**89.01**	**17**	P	**P**	**13 16 41.9**	**-0.4**
G31M	**Satah River** comp=Z,4µm,21.0s	**89.02**	**20**	IAMs_20	IAMs_20	13 50 46.2	
G31M	**Satah River** baz=238	**89.02**	**20**	P	**P**	**13 16 41.7**	**-0.7**
VJD	**Vijayawada**	**89.10**	**287**	*e*P	**P**	**13 16 46.4**	**+2.5**
VJD	comp=Z,156nm,2.2s			IAmb	IAmb	13 16 54.7	
PSUT	**Pine Spring** comp=Z,28nm,0.9s	**89.16**	**51**	IAmb	IAmb	13 17 03.9	
HSIG	comp=Z,5µm,22.0s	**89.17**	**60**	IAMs_20	IAMs_20	13 47 14.2	
LCMT	**Little Creek M** comp=Z,36nm,1.1s	**89.24**	**52**	IAmb	IAmb	13 17 16.2	
PLID	**Pearl Lake** comp=Z,95nm,1.9s	**89.41**	**44**	IAmb	IAmb	13 17 07.4	
PLID	comp=Z,5µm,22.0s			IAMs_20	IAMs_20	13 48 04.7	
F31M	**Tsiigehtchic** baz=238	**89.47**	**20**	P	**P**	**13 16 43.1**	**-1.4**
SZCU	**Shurtz Canyon** comp=Z,74nm,1.4s	**89.51**	**52**	IAmb	IAmb	13 17 17.8	
NEW	**Newport** comp=Z,3µm,22.0s	**89.60**	**41**	IAMs_20	IAMs_20	13 48 57.6	
NEW	**Newport** comp=Z,3µm,21.8s,baz=258,slow=30	**89.60**	**41**	LR	LR	13 49 09.1	
NEW	**Newport**	**89.60**	**41**	P	**P**	**13 16 45.9**	**+0.2**
WMQ	**Urumqi**	**89.71**	**315**	⇑P	**P**	**13 16 46.8**	**+0.5**
WMQ				pP	pwP	13 17 02.8	+1.0
WMQ				S	**S**	**13 27 34.3**	**-0.2**
WMQ	comp=Z,52nm,0.9s			pmax	pmax		
WMQ	comp=Z,850nm,18.1s			LR	LR		
WMQ	comp=Z,2µm,22.1s			LR	LR		
WMQ	comp=Z,4µm,24.9s			LR	LR		
U15A	**North Rim** comp=Z,41nm,0.7s	**89.83**	**53**	IAmb	IAmb	13 16 52.4	
ALBI	**Allahabad**	**89.90**	**296**	*e*P	**P**	**13 16 46.0**	**-1.5**
ALBI	comp=Z,131nm,2.4s			IAmb	IAmb	13 16 49.0	
KOTAN	**Kotaneelee Air** baz=247	**89.90**	**28**	P	**P**	**13 16 45.1**	**-1.7**
INK	**Inuvik** comp=Z,2µm,21.9s,baz=220,slow=31	**90.00**	**19**	LR	LR	13 50 48.8	
INK	**Inuvik** baz=238	**90.00**	**19**	P	**P**	**13 16 46.0**	**-0.9**
X16A	**Lo Mia Camp, P** comp=Z,27nm,1.0s	**90.03**	**55**	IAmb	IAmb	13 17 08.5	
TUC	**Tucson**	**90.07**	**57**	P	**P**	**13 16 48.6**	**+0.3**
TUC	**Tucson**	**90.07**	**57**	P	**P**	**13 16 48.6**	**+0.3**
TUC	comp=Z,30nm,1.3s			pmax	pmax		
MTPU	**Mount Pierson** comp=Z,33nm,1.0s	**90.31**	**51**	IAmb	IAmb	13 17 10.9	
WUAZ	**Wupatki** comp=Z,4µm,22.0s	**90.34**	**54**	IAMs_20	IAMs_20	13 48 17.7	
DUG	**Dugway, Tooele** comp=Z,5µm,22.0s	**90.36**	**49**	IAMs_20	IAMs_20	13 48 39.2	
BGU	**Big Grassy Mou** comp=Z,22nm,0.9s	**90.39**	**48**	IAmb	IAmb	13 17 09.4	
BRCI	**Bahraich**	**90.58**	**298**	*e*P	**P**	**13 16 46.7**	**-3.9**
BRCI	comp=Z,109nm,2.0s			IAmb	IAmb	13 16 53.4	
LKN	**LUCKNOW**	**91.02**	**297**	*e*P	**P**	**13 16 51.9**	**-0.8**
LKN	comp=Z,169nm,2.4s			IAmb	IAmb	13 16 55.0	
319A	**Douglas** comp=Z,53nm,1.2s	**91.11**	**58**	IAmb	IAmb	13 17 25.3	
HYB	**Hyderabad**	**91.24**	**287**	*e*P	**P**	**13 16 53.9**	**-0.1**
HYB				*e*pP	**pP**	**13 17 05.8**	**-1.5**
HYB				*e*PP	**PP**	**13 20 31.0**	**-0.8**
HYB				*e*SKSac	**SKSac**	**13 27 22.5**	**-0.6**
X18A	**Snowflake** comp=Z,26nm,1.1s	**91.25**	**55**	IAmb	IAmb	13 17 25.8	
CTU	**Camp Tracy** comp=Z,32nm,1.0s	**91.27**	**49**	IAmb	IAmb	13 17 13.4	
TMUT	**Trail Mountain** comp=Z,24nm,0.9s	**91.35**	**50**	IAmb	IAmb	13 17 27.9	
WRGLY	**Wrigley** baz=247	**91.37**	**25**	P	**P**	**13 16 52.3**	**-1.1**
HMU	**Henry Mountain** comp=Z,70nm,1.8s	**91.39**	**52**	IAmb	IAmb	13 17 14.9	
W18A	**Petrified Fore** comp=Z,25nm,1.0s	**91.55**	**55**	IAmb	IAmb	13 17 34.9	
HWUT	**Hardware Ranch** comp=Z,20nm,1.0s	**91.62**	**48**	IAmb	IAmb	13 17 35.1	
HWUT	comp=Z,3µm,21.0s			IAMs_20	IAMs_20	13 51 11.5	
TCUT	**Toone Canyon** comp=Z,36nm,1.1s	**91.62**	**49**	IAmb	IAmb	13 17 28.1	
SYO	**Syowa Base**	**91.66**	**197**‖	*e*P	**P**	**13 16 53.2**	**-1.6**
SYO	**Syowa Base**	**91.66**	**197**‖	*i*PcP	**PcP**	**13 16 55.6**	**-0.1**
SYO	**Syowa Base**	**91.66**	**197**‖	*i*sP	sP	13 17 11.8	-1.5
SYO	**Syowa Base**	**91.66**	**197**⇑	*i*PP	PP	13 20 36.4	+3.2
DLMT	**Dillon** comp=Z,4µm,22.0s	**91.80**	**44**	IAMs_20	IAMs_20	13 49 45.0	
BSUT	**Blindstream Ca** comp=Z,22nm,1.0s	**91.97**	**49**	IAmb	IAmb	13 17 35.5	
LGTI	**Lohaghat**	**92.12**	**299**	*e*P	**P**	**13 16 57.7**	**-0.1**
LGTI	comp=Z,126nm,2.3s			IAmb	IAmb	13 17 02.2	
LGTI				*e*S	**SKSac**	**13 27 23.6**	**-3.9**
PTH	**Pithoragarh**	**92.17**	**300**	*e*P	**P**	**13 16 57.7**	**-0.5**
PTH	comp=Z,169nm,2.2s			IAmb	IAmb	13 17 01.1	
PTH				*e*S	**SKSac**	**13 27 25.6**	**-2.6**
AHID	**Auburn Hatcher** comp=Z,32nm,1.5s	**92.23**	**47**	IAmb	IAmb	13 17 42.8	
AHID	comp=Z,3µm,22.0s			IAMs_20	IAMs_20	13 50 42.5	
BOZ	**Bozeman (W)** comp=Z,27nm,1.2s	**92.52**	**44**	IAmb	IAmb	13 17 37.1	
BOZ	comp=Z,4µm,22.0s			IAMs_20	IAMs_20	13 50 05.9	
ZSN	**Zaisan**	**92.56**	**318**	*e*P	**P**	**13 16 59.5**	**+0.1**
ZSN	comp=Z,43nm,1.5s			pmax	pmax		
ZSN	**Zaisan** comp=Z,43nm,1.5s	**92.56**	**318**	*e*P	**P**	**13 16 59.6**	**+0.1**
121A	**Cookes Peak, D** comp=Z,16nm,0.7s	**92.59**	**58**	IAmb	IAmb	13 17 05.1	
YHB	**Horse Butte** comp=Z,22nm,1.0s	**92.62**	**45**	IAmb	IAmb	13 17 20.2	
YHL	**Hebgen Lake** comp=Z,23nm,1.0s	**92.65**	**45**	IAmb	IAmb	13 17 20.5	
PV05	**Paradox Valley** comp=Z,2µm,19.0s	**92.69**	**52**	IAMs_20	IAMs_20	13 55 31.9	
LOHW	**Long Hollow**	**92.78**	**46**	IAmb	IAmb	13 17 37.5	
PV10	**Paradox Valley** comp=Z,54nm,1.9s	**92.80**	**52**	IAmb	IAmb	13 17 22.5	
PV10	comp=Z,24nm,0.9s			IAMs_20	IAMs_20	13 50 20.3	
PV19	**Morning Glory** comp=Z,4µm,22.0s	**92.83**	**52**	IAmb	IAmb	13 17 38.9	
PV19	comp=Z,29nm,1.0s			IAMs_20	IAMs_20	13 58 08.5	
PV17	**East Wray Mesa** comp=Z,4µm,19.0s	**92.84**	**52**	IAMs_20	IAMs_20	13 59 00.8	
PV20	**West Nyswonger** comp=Z,2µm,19.0s	**92.85**	**52**	IAMs_20	IAMs_20	13 50 35.0	
PV16	**Nyswonger Mesa** comp=Z,4µm,21.0s	**92.88**	**52**	IAmb	IAmb	13 17 22.0	
PV21	**Cone Mtn., Par** comp=Z,49nm,1.8s	**92.89**	**51**	IAmb	IAmb	13 17 12.6	
PV04	**Paradox Valley** comp=Z,13nm,0.7s	**92.90**	**52**	IAmb	IAmb	13 17 28.2	
PV04	comp=Z,50nm,1.6s			IAMs_20	IAMs_20	13 50 14.6	
PV11	**David Mesa, Pa** comp=Z,5µm,22.0s	**92.91**	**52**	IAmb	IAmb	13 17 28.1	
PV11	comp=Z,32nm,1.3s			IAMs_20	IAMs_20	13 50 00.7	
PV03	**Paradox Valley** comp=Z,4µm,22.0s	**92.92**	**52**	IAMs_20	IAMs_20	13 59 04.0	
PV13	**Radium Mtn., P** comp=Z,3µm,19.0s	**92.92**	**52**	IAmb	IAmb	13 17 24.3	
PV13	comp=Z,45nm,2.0s			IAMs_20	IAMs_20	13 58 55.0	
JOSI	**Joshimath** comp=Z,3µm,18.0s	**92.93**	**300**	*e*P	**P**	**13 17 00.7**	**-1.0**
JOSI	comp=Z,175nm,2.6s			IAmb	IAmb	13 17 05.0	
JOSI				*e*S	**SKSac**	**13 27 30.0**	**-2.4**
PV12	**Saucer Basin,** comp=Z,35nm,1.1s	**92.97**	**52**	IAmb	IAmb	13 17 28.3	
PV12	comp=Z,4µm,19.0s			IAMs_20	IAMs_20	13 58 14.3	
MVCO	**Mesa Verde** comp=Z,3µm,18.0s	**92.97**	**53**	IAMs_20	IAMs_20	13 58 32.6	
PV22	**Blue Mesa, Par** comp=Z,18nm,0.7s	**93.02**	**51**	IAmb	IAmb	13 17 07.6	
PV01	**Paradox Valley** comp=Z,36nm,1.8s	**93.11**	**52**	IAmb	IAmb	13 17 32.0	
PV01	comp=Z,3µm,19.0s			IAMs_20	IAMs_20	13 59 09.0	
PV07	**Paradox Valley** comp=Z,4µm,22.0s	**93.11**	**52**	IAMs_20	IAMs_20	13 50 32.1	
PV15	**Paradox Valley** comp=Z,3µm,22.0s	**93.22**	**52**	IAMs_20	IAMs_20	13 50 11.9	
TKRD	**Thakurdwara** comp=Z,189nm,2.3s	**93.26**	**299**	*e*P	**P**	**13 17 01.1**	**-1.9**
TKRD				IAmb	IAmb	13 17 06.2	
LATR	**Latur** comp=Z,194nm,2.9s	**93.30**	**288**	*e*P	**P**	**13 17 01.5**	**-1.8**
LATR				IAmb	IAmb	13 17 05.1	
AKL	**Akola**	**93.30**	**290**	*e*P	**P**	**13 17 01.5**	**-1.9**
AKL	comp=Z,101nm,2.2s			IAmb	IAmb	13 17 05.2	
AKL				*e*S	**SKSac**	**13 27 35.5**	**+1.1**
HPIG	comp=Z,3µm,21.0s	**93.31**	**63**	IAMs_20	IAMs_20	13 50 23.8	
PDAR	**Pinedale Array**	**93.34**	**47**	P	**P**	**13 17 03.4**	**0.0**
PDAR	**Pinedale Array**	**93.34**	**47**	P	**P**	**13 17 04.6**	**+1.2**
PDAR	comp=Z,4.7nm,0.8s,baz=222,slow=2.0,SNR=18			PKKP	**PKKPdf**	**13 34 10.4**	**-0.4**
PDAR	comp=Z,1.5nm,0.7s,baz=88,slow=5.0,SNR=9.6			LR	LR	13 52 30.9	
C36M	comp=Z,1µm,21.1s,baz=243,slow=31 **Paulatuk** comp=Z,4.7nm,0.8s	**93.53**	**19**	IAmb	IAmb	13 17 19.6	
C36M	comp=Z,45nm,1.6s			IAMs_20	IAMs_20	13 54 22.3	
C36M	comp=Z,3µm,20.0s **Paulatuk** baz=247	**93.53**	**19**	P	**P**	**13 17 04.2**	**+1.0**
Y22A	**Socorro** comp=Z,5µm,20.0s	**93.55**	**56**	IAMs_20	IAMs_20	13 50 55.8	
Y22D	**IRIS PASSCAL I** comp=Z,5µm,21.0s	**93.61**	**56**	IAMs_20	IAMs_20	13 50 06.4	
Y22D	**IRIS PASSCAL I** baz=259	**93.61**	**56**	P	**P**	**13 17 05.1**	**+0.4**
AGRA	**Agra**	**93.68**	**297**	*e*P	**P**	**13 17 03.2**	**-1.8**
AGRA	comp=Z,122nm,2.2s			IAmb	IAmb	13 17 06.0	
AGRA				*e*S	**SKSac**	**13 27 36.2**	**-0.1**
O20A	**White River Ci** comp=Z,68nm,1.8s	**93.77**	**50**	IAmb	IAmb	13 17 51.9	
UGON	**Onchagaon**	**93.91**	**298**	*e*P	**P**	**13 17 03.8**	**-2.2**
UGON	comp=Z,120nm,2.7s			IAmb	IAmb	13 17 07.2	
RLMT	**Red Lodge** comp=Z,3µm,22.0s	**94.04**	**45**	IAMs_20	IAMs_20	13 51 08.2	
ASOR	**Ausora**	**94.11**	**298**	*e*P	**P**	**13 17 05.8**	**-1.2**
ASOR	comp=Z,126nm,2.8s			IAmb	IAmb	13 17 08.4	
ASOR				*e*S	**SKSac**	**13 27 40.2**	**+1.7**
MK31	**Makanchi Array**	**94.13**	**317**	*c i*P	**P**	**13 17 06.6**	**0.0**
MKAR	**Makanchi Array**	**94.13**	**317**	P	**P**	**13 17 06.6**	**0.0**
MKAR	**Makanchi Array** comp=Z,84nm,0.8s,baz=97,slow=6.1,SNR=354	**94.13**	**317**	P	**P**	**13 17 06.8**	**+0.1**
MKAR	comp=Z,1.3nm,0.7s,baz=32,slow=0.7,SNR=4.4			PKiKP	**PKiKP**	**13 21 49.8**	**-0.9**
MKAR	comp=Z,1.7nm,0.7s,baz=300,slow=2.7,SNR=13			PKKP	**PKKPdf**	**13 34 06.6**	**-2.6**
MKAR	comp=Z,442nm,21.3s,baz=138,slow=36			LR	LR	13 59 31.1	
ZAA0	comp=Z,84nm,0.8s **Zalesovo Array** comp=Z,37nm,0.9s	**94.13**	**324**	IAmb	IAmb	13 17 07.5	
ZALV	**Zalesovo Beam**	**94.13**	**324**	P	**P**	**13 17 05.2**	**-1.2**
ZALV	**Zalesovo Beam** comp=Z,38nm,0.8s,baz=112,slow=4.5,SNR=124	**94.13**	**324**	P	**P**	**13 17 05.3**	**-1.1**
ZALV	comp=Z,1.1nm,0.5s,baz=308,slow=2.9,SNR=5.2			PKKP	**PKKPdf**	**13 34 09.6**	**+0.2**
ZALV	comp=Z,1µm,20.4s,baz=88,slow=35			LR	LR	13 58 37.1	
ANMO	comp=Z,38nm,0.8s **Albuquerque**	**94.15**	**55**	P	**P**	**13 17 07.7**	**+0.5**
ANMO	**Albuquerque** comp=Z,3µm,21.0s	**94.15**	**55**	IAMs_20	IAMs_20	13 51 19.7	
ANMO	**Albuquerque** comp=Z,4µm,21.2s,baz=3.5,slow=30	**94.15**	**55**	LR	LR	13 51 41.4	
ANMO	**Albuquerque**	**94.15**	**55**‖	*e*P	**P**	**13 17 08.2**	**+0.9**
ANMO	comp=Z,4.0nm,0.7s			pmax	pmax		
KLP	**Kalpa** comp=Z,170nm,2.3s	**94.22**	**301**	*e*P	**P**	**13 17 05.4**	**-2.4**
KLP				IAmb	IAmb	13 17 09.8	
KLP				*e*S	**SKSac**	**13 27 35.9**	**-3.9**
A36M	**Sachs Harbour** comp=Z,3µm,22.0s	**94.22**	**17**	IAMs_20	IAMs_20	13 54 03.5	
A36M	**Sachs Harbour** baz=246	**94.22**	**17**	P	**P**	**13 17 05.6**	**-0.8**
EGMT	**Eagleton** comp=Z,29nm,0.9s	**94.31**	**42**	IAmb	IAmb	13 17 26.8	
S22A	**4UR Ranch, Cre** comp=Z,3µm,18.0s	**94.38**	**53**	IAMs_20	IAMs_20	13 59 30.7	
JMIU	**JAMIA UNIVERSI**	**94.50**	**298**	*e*P	**P**	**13 17 07.2**	**-1.6**
JMIU	comp=Z,133nm,2.2s			IAmb	IAmb	13 17 11.6	
LDR	**Lodi Road** comp=Z,271nm,2.3s	**94.56**	**298**	*e*P	**P**	**13 17 06.9**	**-2.1**
LDR				IAmb	IAmb	13 17 11.9	
HAYD	**Hayden** comp=Z,4µm,22.0s	**94.58**	**50**	IAMs_20	IAMs_20	13 51 30.6	
NDI	**New Delhi** comp=Z,102nm,2.6s	**94.58**	**298**	*e*P	**P**	**13 17 07.3**	**-1.8**
NDI				IAmb	IAmb	13 17 09.8	
NPLP	**NPLP New Delhi** comp=Z,117nm,2.9s	**94.61**	**298**	*e*P	**P**	**13 17 08.1**	**-1.2**
NPLP				IAmb	IAmb	13 17 10.5	
NPLP				*e*S	**SKSac**	**13 27 37.9**	**-3.4**
AYAN	**Aya Nagar**	**94.62**	**298**	*e*P	**P**	**13 17 07.1**	**-2.2**
AYAN	comp=Z,190nm,2.4s			IAmb	IAmb	13 17 10.0	
BHGR	**Bahadurgarh** comp=Z,192nm,2.2s	**94.82**	**298**	*e*P	**P**	**13 17 09.2**	**-1.0**
BHGR				IAmb	IAmb	13 17 13.0	
BHGR				*e*S	**SKSac**	**13 27 42.3**	**0.0**
GNR	**GANAUR** comp=Z,142nm,2.6s	**94.83**	**299**	*e*P	**P**	**13 17 09.4**	**-0.9**
GNR				IAmb	IAmb	13 17 12.6	
YKA	**Yellowknife Ar** comp=Z,5.0nm,0.7s,baz=266,slow=4.5,SNR=24	**94.98**	**27**	P	**P**	**13 17 09.1**	**-1.1**
YKA				LR	LR	13 52 51.9	
YKAW3	comp=Z,2µm,21.8s,baz=263,slow=31 **Yellowknife Wh** comp=Z,28nm,1.6s	**94.99**	**27**	IAmb	IAmb	13 17 48.4	
YKAW1	**Yellowknife Wh** comp=Z,8.0nm,0.7s	**95.03**	**27**	IAmb	IAmb	13 17 13.1	
SMLA	**Simla**	**95.06**	**301**	*e*P	**P**	**13 17 08.6**	**-2.6**
SMLA	comp=Z,148nm,2.0s			IAmb	IAmb	13 17 12.8	
SMLA				*e*S	**SKSac**	**13 27 42.6**	**-0.8**
JHJR	**Jhajjar**	**95.06**	**298**	*e*P	**P**	**13 17 09.7**	**-1.6**
JHJR	comp=Z,162nm,2.4s			IAmb	IAmb	13 17 14.6	
JHJR				*e*S	**SKSac**	**13 27 48.4**	**+4.7**
KUDL	**Kundal**	**95.12**	**298**	*e*P	**P**	**13 17 10.4**	**-1.2**
KUDL	comp=Z,146nm,2.9s			IAmb	IAmb	13 17 13.7	
PMSA	**Palmer Station** comp=Z,3µm,21.0s	**95.25**	**161**	IAMs_20	IAMs_20	13 54 53.9	
PMSA	**Palmer Station** comp=Z,2µm,20.0s,baz=220,slow=32	**95.25**	**161**	LR	LR	13 55 15.8	
PMSA	**Palmer Station**	**95.25**	**161**	*e*P	**P**	**13 17 11.5**	**+0.1**
KAD	**Karad**	**95.32**	**287**	*e*P	**P**	**13 17 09.6**	**-3.2**
KAD	comp=Z,155nm,2.6s			IAmb	IAmb	13 17 14.4	
SHLS	**Shalkode**	**95.39**	**313**	*e*P	**P**	**13 17 11.1**	**-1.5**
SHLS	comp=Z,18nm,1.2s			pmax	pmax		
SHLS	**Shalkode** comp=Z,18nm,1.2s	**95.39**	**313**	*e*P	**P**	**13 17 11.2**	**-1.5**
SDCO	**Great Sand Dun** comp=Z,4µm,22.0s	**95.42**	**53**	IAMs_20	IAMs_20	13 52 10.1	
TXAR	**Lajitas Array**	**95.47**	**61**	P	**P**	**13 17 13.0**	**-0.3**
TXAR	**Lajitas Array** comp=Z,2.4nm,0.7s,baz=225,slow=4.4,SNR=20	**95.47**	**61**	P	**P**	**13 17 13.4**	**+0.1**
TXAR	comp=Z,1.5nm,1.0s,baz=232,slow=6.2,SNR=4.0			PP	**PP**	**13 21 06.3**	**+1.5**
TXAR	comp=Z,1.2nm,0.6s,baz=107,slow=4.3,SNR=15			PKKP	**PKKPdf**	**13 34 06.2**	**-0.1**
TXAR	comp=Z,3µm,20.8s,baz=253,slow=31			LR	LR	13 52 29.9	
ISCO	comp=Z,2.4nm,0.7s **Idaho Springs**	**95.69**	**51**	P	**P**	**13 17 17.6**	**+3.3**
UZB	**Uzynbulak**	**95.70**	**313**	*e*P	**P**	**13 17 13.8**	**-0.3**
UZB	comp=Z,23nm,1.1s			*e*S	**SKSac**	**13 27 45.3**	**-1.5**
UZB				pmax	pmax		
UZB	**Uzynbulak** comp=Z,23nm,1.1s	**95.70**	**313**	*e*P	**P**	**13 17 13.9**	**-0.3**
UZB				*e*S	**SKSac**	**13 27 45.3**	**-1.5**
Q24A	**Divide** comp=Z,3µm,22.0s	**95.90**	**52**	IAMs_20	IAMs_20	13 52 25.8	
DHRM	**DHARAMSHALA**	**95.98**	**302**	*e*P	**P**	**13 17 15.9**	**+0.2**
DHRM	comp=Z,177nm,2.2s			IAmb	IAmb	13 17 18.8	
DHRM				*e*S	**SKSac**	**13 27 50.7**	**+1.9**
PRZ	**Przheval'sk** comp=Z,40nm,1.1s	**96.04**	**312**	IAmb	IAmb	13 17 18.6	
MOIG	**Morelia** comp=Z,3µm,22.0s	**96.06**	**71**	IAMs_20	IAMs_20	13 50 19.7	
SATY	**Saty**	**96.13**	**313**	*e*P	**P**	**13 17 15.8**	**-0.2**
SATY				*e*S	**SKSac**	**13 27 47.7**	**-1.3**
SATY	comp=Z,26nm,1.5s			pmax	pmax		
SATY	**Saty** comp=Z,26nm,1.5s	**96.13**	**313**	*e*P	**P**	**13 17 15.8**	**-0.2**
SATY				*e*S	**SKSac**	**13 27 47.7**	**-1.3**
TROLL	**Troll, Antarti** comp=Z,485nm,0.6s	**96.14**	**185**	⇑P	**P**	**13 17 14.1**	**-1.5**
T25A	**Trinidad** comp=Z,3µm,20.0s	**96.17**	**53**	IAMs_20	IAMs_20	13 54 11.1	
TLWR	**Talawar**	**96.22**	**301**	*e*P	**P**	**13 17 12.3**	**-4.2**
TLWR	comp=Z,131nm,2.6s			IAmb	IAmb	13 17 18.4	
TARG	**Taragay, Kyrgy** comp=Z,19nm,1.0s	**96.35**	**311**	IAmb	IAmb	13 17 23.4	
LAO	**LASA Array** comp=Z,3µm,21.0s	**96.42**	**44**	IAMs_20	IAMs_20	13 52 40.1	
TDK	**Taldyqorghan**	**96.46**	**314**	*e*P	**P**	**13 17 17.1**	**-0.2**
TDK	comp=Z,25nm,1.0s			pmax	pmax		
TDK	comp=Z,992nm,18.0s			MLR	MLR		
TDK	**Taldyqorghan** comp=Z,25nm,1.0s	**96.46**	**314**	*e*P	**P**	**13 17 17.2**	**-0.2**
TDK	comp=Z,992nm,18.3s			LR	LR	14 02 02.7	
ARXS	**Arharly**	**96.74**	**314**	*e*P	**P**	**13 17 18.3**	**-0.4**
SNAA	**Sanae** comp=Z,110nm,0.6s	**96.85**	**183**	⇑P	**P**	**13 17 16.7**	**-2.0**
SNAA	**Sanae**	**96.85**	**183**	P	**P**	**13 17 16.3**	**-2.4**
SNAA	comp=Z,28nm,1.4s			IAmb	IAmb	13 17 33.5	
SNAA	comp=Z,3µm,19.0s			IAMs_20	IAMs_20	14 02 11.5	
SNAA	**Sanae** comp=Z,3.9nm,0.8s,baz=212,slow=8.1,SNR=15	**96.85**	**183**	P	**P**	**13 17 17.6**	**-1.1**
SNAA	comp=Z,1µm,19.1s,baz=136,slow=35			LR	LR	14 00 30.7	
SNAA	comp=Z,3.9nm,0.8s **Sanae**	**96.85**	**183**	*ce*P	**P**	**13 17 16.9**	**-1.8**
SNAA	comp=Z,12nm,1.6s			pmax	pmax		
SNAA	comp=Z,2µm,17.0s			MLR	MLR		
UDPR	**Udaipur**	**96.98**	**294**	*e*P	**P**	**13 17 17.3**	**-2.9**
UDPR	comp=Z,119nm,2.0s			IAmb	IAmb	13 17 23.4	
MDOK	**Medeo**	**97.13**	**312**	*e*P	**P**	**13 17 20.1**	**-0.5**
MDOK				*e*S	**SKSac**	**13 27 52.5**	**-1.7**
MDOK	**Medeo**	**97.13**	**312**	*e*P	**P**	**13 17 20.1**	**-0.5**
MDOK				*e*S	**SKSac**	**13 27 52.6**	**-1.7**
MDOK				LR	LR	14 02 33.7	
KURK	**Kurchatov**	**97.23**	**320**	P	**P**	**13 17 19.1**	**-1.5**
KURK	comp=Z,33nm,1.4s			IAmb	IAmb	13 17 37.7	
KURK	**Kurchatov** comp=Z,3µm,22.0s	**97.23**	**320**	IAMs_20	IAMs_20	13 59 45.5	
KURK	**Kurchatov**	**97.23**	**320**	*c i*P	**P**	**13 17 19.5**	**-1.1**
KURK	comp=Z,16nm,1.4s			pmax	pmax		
AAA	**Alma-Ata**	**97.23**	**313**	*e*P	**P**	**13 17 20.7**	**-0.2**
AAA	comp=Z,13nm,0.6s			pmax	pmax		
AAA	**Alma-Ata** comp=Z,13nm,0.6s	**97.23**	**313**	*e*P	**P**	**13 17 20.8**	**-0.2**
AAA				LR	LR	14 02 38.6	
KURBB	**Kurchatov Arra** comp=Z,4.1nm,0.7s,baz=100,slow=3.9,SNR=60	**97.27**	**320**	P	**P**	**13 17 19.8**	**-1.1**
KURBB	comp=Z,3.3nm,1.0s,baz=101,slow=7.5,SNR=4.5			PP	**PP**	**13 21 15.9**	**-2.0**
KURBB	comp=Z,2µm,18.2s,baz=116,slow=37			LR	LR	14 03 41.5	
KSH	comp=Z,2.4nm,0.7s **Kashi**	**97.38**	**309**	P	Pdif	13 17 23.3	+1.4
KSH				sP	sP	13 17 41.3	+1.3
KSH	comp=Z,14nm,0.9s			pmax	pmax		
KSH	comp=Z,2µm,21.6s			LR	LR		
KSH	comp=Z,1µm,22.1s			LR	LR		
KSH	comp=Z,2µm,24.0s			LR	LR		
VNA3	**Neumayer Olymp** comp=Z,7.0nm,0.8s	**97.56**	**181**	⇑P	**P**	**13 17 19.5**	**-2.3**
ULHL	**Ulahol** SNR=5.9	**97.58**	**311**	P	Pdif	13 17 23.3	+0.5
KUU	**Kurty**	**97.75**	**313**	*e*P	**P**	**13 17 23.0**	**-0.2**
KUU	comp=Z,15nm,1.0s			pmax	pmax		
KUU	comp=Z,874nm,18.0s			MLR	MLR		
KUU	**Kurty** comp=Z,15nm,1.0s	**97.75**	**313**	*e*P	**P**	**13 17 23.1**	**-0.2**
KUU	comp=Z,874nm,17.6s			LR	LR	14 02 58.1	
VNA2	**Neumayer--Watz** comp=Z,12nm,0.7s,baz=222,slow=4.2	**97.81**	**182**	⇑P	Pdif	13 17 23.2	+0.2
KSCO	**Kaye Shedlock'** comp=Z,3µm,22.0s	**97.85**	**52**	IAMs_20	IAMs_20	13 53 26.4	
AMTX	**Amarillo** comp=

TLIG	Tlapa	98.16	74	IAMs_20	IAMs_20	13 50 58.6					
	comp=Z,3µm,22.0s										
ESPZ	Base Esperanza	98.44	162	IAMs_20	IAMs_20	13 57 31.1					
	comp=Z,2µm,20.0s										
NIL	Nilore	98.72	303	P	P	13 17 26.5	-1.3				
NIL				IAmb	IAmb	13 17 46.9					
	comp=Z,28nm,1.4s										
NIL	Nilore	98.72	303	P	P	13 17 26.5	-1.3				
NIL				pmax	pmax						
	comp=Z,28nm,1.4s										
NIL				MLR	MLR						
	comp=Z,1µm,22.0s										
UCH	Uchtor	98.85	311	P	Pdif	13 17 29.0	+0.3				
	SNR=9.5										
AAK	Ala-Archa	98.92	312	P	P	13 17 28.0	-0.7				
AAK	Ala-Archa	98.92	312	LR	LR	14 05 48.3					
	comp=Z,542nm,18.1s,baz=78,slow=38										
AAK	Ala-Archa	98.92	312	P	Pdif	13 17 28.9	+0.2				
	SNR=5.7										
AAK	Ala-Archa	98.92	312⇑	*e*P	P	13 17 28.3	-0.3				
AAK				pmax	pmax						
	comp=Z,9.0nm,0.9s										
AAK				MLR	MLR						
	comp=Z,2µm,22.0s										
SGDS	Sogindy	98.92	313	*e*P	P	13 17 28.0	-0.5				
USP	Ospenovka	98.99	312	P	P	13 17 28.5	-0.3				
	SNR=8.1										
APMT	Aspermont	99.08	58	IAmb	IAmb	13 17 58.2					
	comp=Z,31nm,1.9s										
MG03	Isla Dawson	99.26	150	IAMs_20	IAMs_20	13 54 42.8					
	comp=Z,2µm,20.0s										
EKS2	Erkin-Say	99.44	312	P	Pdif	13 17 31.0	0.0				
	SNR=5.6										
BTLS	Baital	99.52	314	*e*P	Pdif	13 17 30.5	-0.5				
BTLS	Baital	99.52	314	*e*P	Pdif	13 17 30.6	-0.5				
MG01	Puerto William	99.99	152	IAMs_20	IAMs_20	13 54 43.0					
	comp=Z,2µm,21.0s										
E28A	Huff	100.18	44	IAMs_20	IAMs_20	13 56 20.7					
	comp=Z,3µm,21.0s										
735A	Kenedy	100.47	63	IAMs_20	IAMs_20	13 53 35.5					
	comp=Z,3µm,22.0s										
OK038	West end E0370	100.58	55	IAMs_20	IAMs_20	13 54 44.1					
	comp=Z,4µm,22.0s										
WHTX	Lake Whitney,	101.15	59	IAMs_20	IAMs_20	13 55 42.2					
	comp=Z,3µm,20.0s										
SUSD	Miller	101.20	47	IAMs_20	IAMs_20	13 57 29.8					
	comp=Z,2µm,20.0s										
BGNE	Belgrade	101.53	50	IAMs_20	IAMs_20	13 55 30.7					
	comp=Z,4µm,22.0s										
IUG	Iuzhnay	102.16	311	*e*P	Pdif	13 17 42.5	-0.5				
IUG	Iuzhnay	102.16	311	*e*P	Pdif	13 17 42.6	-0.5				
HKT	Hockley	102.31	62	IAMs_20	IAMs_20	13 56 34.1					
	comp=Z,3µm,21.0s										
BRLS	Borolday	102.36	312	*e*P	Pdif	13 17 44.0	+0.2				
BRLS	Borolday	102.36	312	*e*P	Pdif	13 17 44.0	+0.2				
T35A	Sooner Cattle	102.41	55	IAMs_20	IAMs_20	13 57 24.4					
	comp=Z,4µm,21.0s										
KSU1	Kansas State U	102.51	52	IAMs_20	IAMs_20	13 57 35.3					
	comp=Z,3µm,21.0s										
BVAR	Borovoye Array	102.53	322	P	Pdif	13 17 43.7	-0.6				
	comp=Z,9.9nm,0.9s,baz=96,slow=6.0,SNR=39										
BVAR				PKiKP	PKiKP	13 22 05.0	-0.4				
	comp=Z,3.8nm,0.7s,baz=81,slow=1.6,SNR=4.9										
BRVK	Borovoye	102.60	322	IAMs_20	IAMs_20	14 02 38.3					
	comp=Z,3µm,22.0s										
BRVK	Borovoye	102.60	322	*ce*P	Pdif	13 17 43.7	-0.8				
BRVK				pmax	pmax						
	comp=Z,8.0nm,1.0s										
BRVK				MLR	MLR						
	comp=Z,6µm,24.0s										
ECSD	EROS Data Cent	102.83	48	IAMs_20	IAMs_20	13 58 55.0					
	comp=Z,2µm,20.0s										
GO07	Milladeo Hill,	103.07	139	IAMs_20	IAMs_20	13 54 17.8					
	comp=Z,4µm,21.0s										
F33A	5 Mile Ranch,	103.17	45	IAMs_20	IAMs_20	13 56 56.9					
	comp=Z,4µm,22.0s										
LL07	Hotel Espejo d	103.33	139	IAMs_20	IAMs_20	13 54 14.6					
	comp=Z,3µm,22.0s										
Z38A	Mt. Pleasant	103.35	58	IAMs_20	IAMs_20	14 03 59.4					
	comp=Z,3µm,18.0s										
NATX	Nacogdoches	103.49	60	IAMs_20	IAMs_20	13 55 49.3					
	comp=Z,4µm,22.0s										
ULM	Lac du Bonnet	103.61	41	Pdiff	Pdif	13 17 49.3	+0.2				
	comp=Z,2.6nm,0.9s,baz=310,slow=9.1,SNR=3.0										
ULM				PKKPbc	PKKPbc	13 33 40.9	-2.3				
	comp=Z,2.2nm,0.5s,baz=59,slow=3.5,SNR=6.1										
LL02	Futaleuf	104.18	140	IAMs_20	IAMs_20	13 54 56.1					
	comp=Z,3µm,22.0s										
LL01	San Ignacio de	104.23	139	IAMs_20	IAMs_20	13 54 18.7					
	comp=Z,3µm,22.0s										
HUEH	Huehuetenango	104.53	77	IAMs_20	IAMs_20	13 56 09.3					
	comp=Z,3µm,20.0s										
441A	DeRidder	104.66	61	IAMs_20	IAMs_20	13 59 20.4					
	comp=Z,3µm,20.0s										
P38A	Dawn	104.93	52	IAMs_20	IAMs_20	14 03 38.8					
	comp=Z,3µm,19.0s										
WLAR	White Oak Lake	104.94	58	IAMs_20	IAMs_20	13 58 24.6					
	comp=Z,3µm,21.0s										
I37A	Lemond, Waseca	105.16	47	IAMs_20	IAMs_20	14 00 34.8					
	comp=Z,2µm,20.0s										
X40A	Basin Creek Fa	105.22	57	IAMs_20	IAMs_20	13 59 44.0					
	comp=Z,4µm,20.0s										
LR05	Currie	105.58	137	IAMs_20	IAMs_20	13 56 19.4					
	comp=Z,2µm,22.0s										
SPMN	Marine on St.	105.61	46	IAMs_20	IAMs_20	13 59 43.4					
	comp=Z,3µm,21.0s										
LR03	Panguipulli	105.64	137	IAMs_20	IAMs_20	13 55 47.3					
	comp=Z,3µm,21.0s										
FCAR	Ozark Folk Cen	105.88	56	IAMs_20	IAMs_20	14 03 37.2					
	comp=Z,2µm,19.0s										
CCAR	Cane Creek	106.07	58	IAMs_20	IAMs_20	13 59 29.4					
	comp=Z,4µm,21.0s										
P40A	Paris	106.07	52	IAMs_20	IAMs_20	13 59 56.1					
	comp=Z,4µm,21.0s										
MTO3	Monteristo	106.46	78	IAMs_20	IAMs_20	13 55 12.4					
	comp=Z,4µm,22.0s										
EFI	East Falkland	106.47	153	IAMs_20	IAMs_20	13 58 01.2					
	comp=Z,2µm,22.0s										
EYMN	Ely	106.49	43	IAMs_20	IAMs_20	14 00 37.5					
	comp=Z,2µm,21.0s										
LCAR	Lake Charles	106.67	56	IAMs_20	IAMs_20	14 12 04.2					
	comp=Z,2µm,18.0s										
VBMS	Vicksburg	107.03	60	IAMs_20	IAMs_20	13 58 21.1					
	comp=Z,4µm,22.0s										
G40A	Rib Lake	107.44	46	IAMs_20	IAMs_20	14 00 37.0					
	comp=Z,2µm,20.0s										
JFWS	Jewell Farm	107.45	49	IAMs_20	IAMs_20	14 07 08.7					
	comp=Z,2µm,18.0s										
PEBM	Pemiscott Bayo	107.72	56	IAMs_20	IAMs_20	13 58 41.9					
	comp=Z,4µm,22.0s										
PARMO	Parma	107.82	55	IAMs_20	IAMs_20	14 06 26.5					
	comp=Z,3µm,18.0s										
346A	Big Creek Wild	107.89	61	IAMs_20	IAMs_20	13 59 40.9					
	comp=Z,2µm,21.0s										
Y45A	Yeager Farm, C	107.92	58	IAMs_20	IAMs_20	14 01 36.4					
	comp=Z,2µm,21.0s										
OXF	Oxford	108.05	57	IAMs_20	IAMs_20	14 01 03.8					
	comp=Z,3µm,20.0s										
COWI	Conover	108.16	45	IAMs_20	IAMs_20	14 00 07.9					
	comp=Z,4µm,22.0s										
TEIG	Tepich	108.17	72	IAMs_20	IAMs_20	13 57 42.6					
	comp=Z,2µm,22.0s										
GLAT	Glass	108.19	55	IAMs_20	IAMs_20	14 01 03.3					
	comp=Z,3µm,20.0s										
HICK	Hickman	108.24	55	IAMs_20	IAMs_20	13 59 22.6					
	comp=Z,2µm,22.0s										
TGUH	Tegucigalpa,Un	108.42	79	IAMs_20	IAMs_20	13 57 22.4					
	comp=Z,3µm,21.0s										
HERN	Volcan Telica	108.65	80	IAMs_20	IAMs_20	13 55 33.8					
	comp=Z,2µm,22.0s										
K43A	Burlington	108.87	49	IAMs_20	IAMs_20	14 05 32.9					
	comp=Z,3µm,19.0s										
F42A	Maple Grove Fa	108.88	45	IAMs_20	IAMs_20	14 02 51.9					
	comp=Z,3µm,20.0s										
BO01	Tunca	109.08	133	IAMs_20	IAMs_20	13 58 32.4					
	comp=Z,3µm,21.0s										
OLIL	Olney	109.13	53	IAMs_20	IAMs_20	14 00 36.6					
	comp=Z,4µm,22.0s										
H43A	Windswept, Lux	109.20	47	IAMs_20	IAMs_20	14 01 14.0					
	comp=Z,3µm,22.0s										
MT01	Popeta	109.22	132	IAMs_20	IAMs_20	13 58 44.1					
	comp=Z,2µm,21.0s										
ARTI	Arti	109.29	326	IAMs_20	IAMs_20	14 11 08.6					
	comp=Z,2µm,21.0s										
VA01	Torpederas	109.33	131	IAMs_20	IAMs_20	13 58 04.3					
	comp=Z,2µm,21.0s										
MT09	Talagante	109.45	132	IAMs_20	IAMs_20	13 58 31.2					
	comp=Z,2µm,20.0s										
MT02	Curacav	109.59	131	IAMs_20	IAMs_20	13 58 25.0					
	comp=Z,2µm,21.0s										
BO04	La Punta	109.62	132	IAMs_20	IAMs_20	13 59 40.8					
	comp=Z,2µm,21.0s										
P46A	Rosedale	109.81	52	IAMs_20	IAMs_20	14 02 30.3					
	comp=Z,3µm,20.0s										
MT05	Renca	109.82	132	IAMs_20	IAMs_20	13 58 42.0					
	comp=Z,2µm,21.0s										
BRAL	Brewton	109.95	61	IAMs_20	IAMs_20	14 01 49.7					
	comp=Z,2µm,22.0s										
LMEL	Las Melosas	109.99	132	IAMs_20	IAMs_20	13 59 52.3					
	comp=Z,3µm,22.0s										
X48A	Hartselle	110.00	57	IAMs_20	IAMs_20	14 00 08.9					
	comp=Z,3µm,22.0s										
JTS	Las Juntas de	110.15	83	IAMs_20	IAMs_20	13 58 04.4					
	comp=Z,2µm,21.0s										
VA03	San Esteban	110.26	131	IAMs_20	IAMs_20	13 58 47.8					
	comp=Z,2µm,21.0s										
MT08	Bocatoma Ro	110.32	132	IAMs_20	IAMs_20	13 59 00.5					
	comp=Z,2µm,20.0s										
BLO	Bloomington	110.35	52	IAMs_20	IAMs_20	14 03 54.9					
	comp=Z,4µm,20.0s										
Y49A	Blount Mountai	110.52	58	IAMs_20	IAMs_20	14 03 11.8					
	comp=Z,3µm,20.0s										
CLTN	Cedars of Leba	110.58	56	IAMs_20	IAMs_20	14 01 32.0					
	comp=Z,2µm,21.0s										
250A	Grady	110.63	60	IAMs_20	IAMs_20	14 01 38.7					
	comp=Z,2µm,22.0s										
HDC	Heredia	110.93	84	IAMs_20	IAMs_20	13 58 30.0					
	comp=Z,2µm,21.0s										
451A	Vernon	111.06	62	IAMs_20	IAMs_20	14 04 16.1					
	comp=Z,2µm,20.0s										
FPAL	Fort Paine	111.19	57	IAMs_20	IAMs_20	14 01 07.2					
	comp=Z,2µm,22.0s										
P48A	Milroy	111.19	52	IAMs_20	IAMs_20	14 04 11.9					
	comp=Z,3µm,20.0s										
O48B	Farmland	111.36	51	IAMs_20	IAMs_20	14 04 53.3					
	comp=Z,2µm,20.0s										
J47A	Sunmer	111.41	48	IAMs_20	IAMs_20	14 05 27.5					
	comp=Z,2µm,20.0s										
GLMI	Grayling	111.42	46	IAMs_20	IAMs_20	14 01 59.4					
	comp=Z,3µm,22.0s										
E46A	Sault Ste Mari	111.48	45	IAMs_20	IAMs_20	14 04 33.0					
	comp=Z,3µm,20.0s										
T50A	Nancy	111.75	55	IAMs_20	IAMs_20	14 03 34.0					
	comp=Z,3µm,20.0s										
LCO	Las Campanas	111.92	128	IAMs_20	IAMs_20	13 59 35.1					
	comp=Z,2µm,21.0s										
O49A	Covington	111.99	51	IAMs_20	IAMs_20	14 01 56.1					
	comp=Z,3µm,22.0s										
CPCT	Cooper Cave	112.06	56	IAMs_20	IAMs_20	14 02 26.3					
	comp=Z,4µm,21.0s										
BILN	Bilwi Airport	112.17	79	IAMs_20	IAMs_20	13 59 26.0					
	comp=Z,992nm,21.0s										
553A	Crawfordville	112.19	62	IAMs_20	IAMs_20	14 06 40.1					
	comp=Z,2µm,20.0s										
ZON	Zonda	112.24	131	IAMs_20	IAMs_20	14 00 00.1					
	comp=Z,2µm,21.0s										
W52A	Murphy	112.56	57	IAMs_20	IAMs_20	14 01 27.5					
	comp=Z,3µm,21.0s										
I49A	Point Hope	112.79	47	IAMs_20	IAMs_20	14 02 54.0					
	comp=Z,3µm,22.0s										
TZTN	Tazewell	112.81	55	IAMs_20	IAMs_20	14 03 05.0					
	comp=Z,3µm,21.0s										
ABPO	Ambohimpanom	112.82	244	IAMs_20	IAMs_20	14 05 03.3					
	comp=Z,4µm,22.0s										
GOGA	Godfrey	112.99	58	IAMs_20	IAMs_20	14 04 55.0					
	comp=Z,3µm,20.0s										
ACSO	Alum Creek Sta	113.02	51	IAMs_20	IAMs_20	14 04 47.2					
	comp=Z,3µm,20.0s										
K50A	Casco	113.06	48	IAMs_20	IAMs_20	14 08 55.0					
	comp=Z,3µm,18.0s										
NNA	Nana	113.13	108	IAMs_20	IAMs_20	13 59 27.8					
	comp=Z,3µm,21.0s										
TRQA	Tornquist	113.27	140	IAMs_20	IAMs_20	14 00 26.1					
	comp=Z,2µm,22.0s										
AC01	Pan de Azucar	113.29	125	IAMs_20	IAMs_20	14 01 38.0					
	comp=Z,2µm,20.0s										
PB14	IPOC Station P	114.12	124	IAMs_20	IAMs_20	14 01 26.1					
	comp=Z,2µm,20.0s										
AC02	Maricunga	114.15	126	IAMs_20	IAMs_20	14 00 03.6					
	comp=Z,2µm,21.0s										
BJO1	Bjornoya	114.22	351	*e*PP	PP	13 23 23.1	+1.1				
BJO1				*e*PS	PS	13 33 01.3	+1.0				
GO02	Mina Guanaco	114.55	124	IAMs_20	IAMs_20	14 02 34.2					
	comp=Z,2µm,21.0s										
N53A	Lisbon	114.59	50	IAMs_20	IAMs_20	14 03 27.0					
	comp=Z,3µm,22.0s										
CAMR	Camarioca	114.77	70	IAMs_20	IAMs_20	14 11 06.7					
	comp=Z,2µm,19.0s										
BUKO	Buck Lake	115.00	45	IAMs_20	IAMs_20	14 04 15.4					
	comp=Z,2µm,22.0s										
ERPA	Erie	115.07	49	IAMs_20	IAMs_20	14 04 06.5					
	comp=Z,2µm,21.0s										
257A	Skidaway Islan	115.09	60	IAMs_20	IAMs_20	13 03 46.7					
	comp=Z,2µm,21.0s										
PAMR	Moraine State	115.14	50	IAMs_20	IAMs_20	14 04 06.3					
	comp=Z,3µm,21.0s										
MCWV	Mont Chateau	115.48	51	IAMs_20	IAMs_20	14 10 26.4					
	comp=Z,2µm,20.0s										
060A	Indiantown	115.76	65	IAMs_20	IAMs_20	14 06 41.8					
	comp=Z,2µm,21.0s										
W57A	Gilead	115.78	56	IAMs_20	IAMs_20	14 04 01.7					
	comp=Z,3µm,22.0s										
PATCX	Punta Patache	115.95	120	IAMs_20	IAMs_20	14 03 14.1					
	comp=Z,2µm,19.0s										
PB02	IPOC Station P	115.96	120	IAMs_20	IAMs_20	14 02 40.3					
	comp=Z,2µm,20.0s										
TA01	Diego Aracena	116.03	120	IAMs_20	IAMs_20	14 00 14.3					
	comp=Z,3µm,22.0s										
PB09	IPOC Station P	116.31	121	IAMs_20	IAMs_20	14 01 26.4					
	comp=Z,2µm,22.0s										
HMBC	Humberstone	116.40	119	IAMs_20	IAMs_20	14 00 34.1					
	comp=Z,3µm,22.0s										
DELO	Deloro Mine	116.41	46	IAMs_20	IAMs_20	14 06 02.6					
	comp=Z,2µm,22.0s										
PB01	IPOC Station P	116.42	120	IAMs_20	IAMs_20	14 02 53.5					
	comp=Z,2µm,20.0s										
MMNY	Mt. Morris Dam	116.51	48	IAMs_20	IAMs_20	14 11 26.4					
	comp=Z,2µm,19.0s										
ARA0	ARCESS Array S	116.76	346	*e*PKPdf	PKPdf	13 22 31.2	-0.4				
ARA0				*e*PP	PP	13 23 41.2	+1.2				
ARA0				*e*SP	SP	13 33 19.8	+2.9				
ARCES	ARCESS Array B	116.76	346	PKP	PKPdf	13 22 30.9	-0.7				
	comp=Z,16nm,0.6s,baz=78,slow=1.9,SNR=62										
ARCES				PKKPbc	PKKPbc	13 33 01.2	+0.3				
	comp=Z,3.6nm,0.9s,baz=254,slow=0.9,SNR=4.0										
AP01	Chacalluta	116.78	117	IAMs_20	IAMs_20	14 00 44.4					
	comp=Z,3µm,22.0s										
PB11	IPOC Station P	116.81	119	IAMs_20	IAMs_20	14 01 07.0					
	comp=Z,3µm,21.0s										
PECO	Prince Edward	116.96	46	IAMs_20	IAMs_20	14 05 34.2					
	comp=Z,3µm,20.0s										
SUMG	Summit	117.04	8	PP	PP	13 23 38.8	-3.5				
SUMG	Summit	117.04	8	IAMs_20	IAMs_20	14 15 24.7					
	comp=Z,2µm,20.0s										
SUMG	Summit	117.04	8	*i* P	PKPdf	13 22 31.5	-1.1				
PB08	IPOC Station P	117.09	120	PP	PP	13 23 40.2	-3.9				
PB08	IPOC Station P	117.09	120	IAMs_20	IAMs_20	14 01 08.2					
	comp=Z,3µm,22.0s										
GO01	Chusmiza	117.25	119	IAMs_20	IAMs_20	14 01 09.5					
	comp=Z,3µm,22.0s										
KLMR	Klimovskoe	117.26	334	*e*PKIKP	PKPdf	13 22 30.3	-2.5				
KLMR				*e*		13 33 21.9					
KLMR				pmax	pmax						
	comp=Z,7.0nm,0.7s										
ILULI	Ilulissat	117.43	14	IAMs_20	IAMs_20	14 11 45.1					
	comp=Z,2µm,21.0s										
K57A	Scipio Center	117.52	48	IAMs_20	IAMs_20	14 06 00.1					
	comp=Z,3µm,22.0s										
PB16	IPOC Station P	117.52	118	IAMs_20	IAMs_20	14 01 11.0					
	comp=Z,2µm,21.0s										
KTK1	Kautokeino	117.70	346	*e*PKPdf	PKPdf	13 22 32.4	-1.1				
KTK1				*e*PP	PP	13 23 46.9	+0.4				
KTK1				*e*PS	PKKPdf	13 33 34.3	+8.7				
SDMD	Soldier's Deli	117.81	51	IAMs_20	IAMs_20	14 08 26.3					
	comp=Z,2µm,20.0s										
JETT	Jettan, Norway	117.93	347	*e*PKPdf	PKPdf	13 22 33.4	-0.5				
JETT				IVmB_BB		13 22 46.7					
	comp=Z,381nm,2.3s										
JETT				*e*SP	SP	13 33 27.9	+0.5				
BINY	Binghamton	118.00	48	IAMs_20	IAMs_20	14 07 02.7					
	comp=Z,3µm,21.0s										
TRO	Tromso	118.19	348	*e*PKPdf	PKPdf	13 22 33.8	-0.5				
V61A	Roper	118.49	55	IAMs_20	IAMs_20	14 05 57.5					
	comp=Z,2µm,21.0s										
LONY	Lake Ozonia	118.51	45	IAMs_20	IAMs_20	14 06 49.0					
	comp=Z,3µm,22.0s										
MAK	Makhachkala	118.67	313	*i* P	Pdif	13 18 54.3	-1.9				
MAK				*i*		13 22 33.4					
MAK				*e*		13 22 51.5					
MAK				*e*		13 23 50.1					
MAK				*e*PPP	PPP	13 26 25.5					
MAK				*e*		13 29 27.6					
MAK				pmax	pmax						
	comp=Z,140nm,0.9s										
WUPA	West Chester U	118.67	51	IAMs_20	IAMs_20	14 06 03.0					
	comp=Z,2µm,22.0s										
L59A	Walton	118.69	48	IAMs_20	IAMs_20	14 07 13.2					
	comp=Z,3µm,20.0s										
AKT	Akhty	118.79	311	*i* PKIKP	PKPdf	13 22 36.4	-0.1				
AKT				*e*		13 23 52.9					
AKT				pmax	pmax						
	comp=Z,15nm,0.9s										
AKT				MLR	MLR						
	comp=Z,3µm,23.0s										
SFJD	Kangerlussuaq	119.19	16	IAMs_20	IAMs_20	14 07 55.9					
	comp=Z,3µm,21.0s										
CHIV	Chivirico	119.27	73	IAMs_20	IAMs_20	14 03 48.0					
	comp=Z,1µm,22.0s										
P61A	Hammonton	119.33	51	IAMs_20	IAMs_20	14 11 58.5					
	comp=Z,2µm,20.0s										
LPAZ	La Paz	119.54	116	PKP	PKPdf	13 22 38.9	-0.4				
	comp=Z,2.5nm,0.6s,baz=229,slow=5.9,SNR=9.8										
LPAZ				PKKPbc	PKKPbc	13 32 50.3	-0.1				
	comp=Z,5.5nm,0.8s,baz=57,slow=5.4,SNR=10										
VT1	Waterbury	119.85	45	IAMs_20	IAMs_20	14 08 51.9					
	comp=Z,3µm,20.0s										
SCHQ	Schefferville	119.98	32	PKKPbc	PKKPbc	13 32 47.4	-1.6				
	comp=Z,7.3nm,0.7s,baz=112,slow=3.2,SNR=7.9										
WSPT	Westport, CT	120.15	49	IAMs_20	IAMs_20	14 06 48.8					
	comp=Z,3µm,22.0s										
VRH	Novokhopyorsk	120.15	323	*e*PKIKP	PKPdf	13 22 37.1	-1.5				
VRH				pmax	pmax						
	comp=Z,20nm,0.8s										
VRH				MLR	MLR						
	comp=Z,2µm,23.0s										
HNH	Hanover	120.33	46	IAMs_20	IAMs_20	14 09 47.5					
	comp=Z,2µm,21.0s										
STEI	Steigen	120.36	348	*e*P	PKPdf	13 22 37.9	-0.7				
STEI				*e*PP	PP	13 24 06.0	+1.3				
LBNH	Lisbon	120.45	45	IAMs_20	IAMs_20	14 09 29.6					
	comp=Z,3µm,20.0s										
SCO	Scoresbysund	120.68	3	IAMs_20	IAMs_20	14 12 37.7					
	comp=Z,3µm,22.0s										
FAUS	Fauske	120.81	347	*e*PKPdf	PKPdf	13 22 38.5	-0.9				
FAUS				IVmB_BB		13 22 54.9					
	comp=Z,482nm,3.9s										
FAUS				*e*PP	PP	13 24 11.7	+3.8				
FAUS				*e*SS	SS	13 40 39.1	+4.3				
UCCT

ANN MLR MLR
comp=N,3µm,21.0s
ANN MLR MLR
comp=Z,2µm,23.0s
BOSA Boshof 125.28 223 PKP **PKPdf 13 22 49.5 +0.1**
comp=Z,11nm,0.8s,baz=136,slow=3.3,SNR=14
MNK Minsk 125.93 331 *i* PKiKP **PKiKP 13 22 50.4 +0.3**
comp=E,17nm,0.9s
MNK *i* PKiKP **PKiKP 13 22 50.4 +0.3**
comp=N,14nm,0.8s
MNK *i* PKiKP **PKiKP 13 22 50.4 +0.3**
comp=Z,28nm,0.7s,baz=54
MNK *i* PP **PP 13 24 42.5 -0.2**
MNK *i* SKP 13 26 14.3
MNK *i* PKS 13 26 26.4
MNK *i* PPP PPP 13 27 44.9
MNK *i* SKS SKKSac 13 30 45.4 -52
MNK *i* SS **SS 13 41 44.9 +4.4**
MNK *i* LRM MLR 14 16 46.9
comp=N,1µm,17.7s
MNK *i* LRM MLR 14 16 51.8
comp=Z,2µm,17.5s
MNK *i* LRM MLR 14 17 06.5
comp=E,1µm,19.0s
MNK Minsk 125.93 331 *i* PKiKP **PKiKP 13 22 50.3 +0.3**
MNK *i* 13 24 42.5
MNK *i* SS SS 13 41 44.8 +4.4
MNK pmax pmax
comp=E,17nm,0.9s
MNK pmax pmax
comp=Z,28nm,0.7s
MNK pmax pmax
comp=N,14nm,0.8s
MNK MLR MLR
comp=N,1µm,18.0s
MNK MLR MLR
comp=Z,2µm,17.0s
MNK MLR MLR
comp=E,1µm,19.0s
BORG Borgarnes 126.41 4 *i* PKiKP **PKiKP 13 22 53.7 +3.0**
MOL Molde 126.63 348 *e*PKPdf **PKiKP 13 22 51.0 -0.2**
MOL IVmB_BB 13 22 55.8
comp=Z,1µm,4.2s
MOL *e*PP **PP 13 24 49.8 +2.8**
MOL *e*SP SP 13 34 45.8 +1.3
SAML Samuel 126.80 110 *e*P **PKPdf 13 22 52.2 -0.3**
KIBK Kibwezi 126.80 258 IAMs_20 IAMs_20 14 14 27.1
comp=Z,3µm,20.0s
NB2 NORSAR Subarra127.14 345 PKPdf **PKPdf 13 22 51.3 -0.5**
comp=Z,10nm,0.9s,baz=31,slow=1.9
NB2 NORSAR Subarra127.14 345 PKiKP **PKPdf 13 22 49.9 -1.9**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra127.14 345 PKPdf **PKPdf 13 22 51.3 -0.5**
baz=31,slow=1.9
NOA NORSAR Array B127.14 345 PKP **PKPdf 13 22 51.1 -0.7**
comp=Z,9.3nm,0.7s,baz=32,slow=2.0,SNR=36
TEFE Tefe 127.21 103 *e*P **PKPdf 13 22 53.4 +0.1**
HFS Hagfors 127.24 343 PKP **PKPdf 13 22 51.6 -0.3**
comp=Z,14nm,0.8s,baz=153,slow=1.3,SNR=17
SIM Simferopol' 127.26 319 *i* PKiKP **PKiKP 13 22 53.2 +0.2**
SIM *e* 13 24 52.0
SIM pmax pmax
comp=Z,19nm,0.8s
SIM pmax pmax
comp=Z,150nm,8.6s
NC602 NORSAR Array S 127.31 345 *e*P **PKPdf 13 22 52.0 -0.1**
NC602 IVmB_BB 13 23 00.4
comp=Z,735nm,3.7s
NORES NORESS Array B 127.31 345 PKiKP **PKPdf 13 22 50.6 -1.5**
NORES pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 127.42 327 PKP **PKPdf 13 22 52.4 -0.2**
comp=Z,5.0nm,0.7s,baz=50,slow=2.2,SNR=16
AKBB Malin Array Si 127.42 327 IAMs_20 IAMs_20 14 21 42.9
comp=Z,3µm,21.0s
AK01 Malin Array Si 127.43 327 PKP **PKPdf 13 22 51.9 -0.7**
KIEV Kiev 127.43 327 IAMs_20 IAMs_20 14 21 42.9
comp=Z,2µm,20.0s
AK09 Malin Array Si 127.44 327 PKP **PKPdf 13 22 51.9 -0.7**
AK04 Malin Array Si 127.44 327 PKP **PKPdf 13 22 51.9 -0.7**
AK08 Malin Array Si 127.44 327 PKP **PKPdf 13 22 51.9 -0.7**
AK02 Malin Array Si 127.45 327 PKP **PKPdf 13 22 51.9 -0.8**
AK10 Malin Array Si 127.46 327 PKP **PKPdf 13 22 51.9 -0.8**
AK11 Malin Array Si 127.46 327 PKP **PKPdf 13 22 51.9 -0.8**
AK05 Malin Array Si 127.48 327 PKP **PKPdf 13 22 52.0 -0.7**
AK21 Malin Array Si 127.48 327 PKP **PKPdf 13 22 52.0 -0.7**
AK15 Malin Array Si 127.48 327 PKP **PKPdf 13 22 52.0 -0.7**
AK12 Malin Array Si 127.49 327 PKP **PKPdf 13 22 52.0 -0.7**
AK18 Malin Array Si 127.49 327 PKP **PKPdf 13 22 52.0 -0.7**
AK06 Malin Array Si 127.50 327 PKP **PKPdf 13 22 52.0 -0.8**
AK16 Malin Array Si 127.50 327 PKP **PKPdf 13 22 52.0 -0.8**
PTLB Pontes e Lacer 127.71 120 *e*P **PKPdf 13 22 53.8 -0.3**
KMBO Kilima Mbogo 127.89 260 PKP **PKiKP 13 22 55.4 -0.2**
comp=Z,4.8nm,0.2s,baz=86,slow=1.8,SNR=10
VILB Vilhena 127.90 116 IAMs_20 IAMs_20 14 08 24.2
comp=Z,3µm,22.0s
VILB Vilhena 127.90 116 *e*P **PKPdf 13 22 54.6 0.0**
FOO Floro 128.01 349 *e*PP **PP 13 24 57.6 +1.6**
SUW Suwalki 128.38 333 *e*PKPdf **PKiKP 13 22 55.2 +0.2**
SUW *e*L L 14 18 10.4
comp=Z,5µm,23.3s
FURI Furi 128.46 272 IAMs_20 IAMs_20 14 17 16.7
comp=Z,2µm,20.0s
SUE Sulen 128.56 349 *e*PP **PP 13 25 02.0 +2.3**
LUBAR Lubar, Ukraine 128.64 327 PKP **PKPdf 13 22 53.8 -1.2**
RNPP9 Sopachiv 128.74 329 PKP **PKPdf 13 22 55.3 +0.2**
KONO Kongsberg 128.75 345 IAMs_20 IAMs_20 14 19 02.0
comp=Z,2µm,22.0s
KONO Kongsberg 128.75 345 *e*PKPdf **PKPdf 13 22 55.2 +0.3**
KONO *e*PP **PP 13 25 02.3 +1.4**
BBSR BB Station 128.77 58 IAMs_20 IAMs_20 14 13 00.8
comp=Z,2µm,22.0s
RNPP8 Varash 128.81 329 PKP **PKPdf 13 22 55.0 -0.2**
RNPP5 Staryi Chortor 128.86 329 PKP **PKPdf 13 22 55.1 -0.2**
SJG San Juan 128.94 76 PKP **PKiKP 13 22 58.4 +1.3**
comp=Z,8.2nm,0.3s,baz=260,slow=6.1,SNR=4.7
ASK Askoy 129.00 348 *e*PP **PP 13 25 04.2 +1.7**
BER Bergen 129.06 348 *e*PP **PP 13 25 08.2 +5.3**
ODD1 Odda 129.22 347 *e*P **PKiKP 13 22 56.3 -0.3**
CIDE Kastamonu/Cide 129.27 315 ⇑P **PKPdf 13 22 56.6 +0.2**
SORM Soroca 129.28 325 ⇑P **PKPdf 13 22 56.3 +0.1**
SORM Soroca 129.28 325 ⇑PKiKP **PKPdf 13 22 56.3 +0.1**
SORM Soroca 129.28 325 PKP **PKPdf 13 22 56.0 -0.2**
BRTR Keskin Array B 129.58 313 PKP **PKPdf 13 22 57.1 -0.1**
comp=Z,3.9nm,0.8s,baz=134,slow=3.6,SNR=12
BRTR PP **PP 13 25 09.0 +1.3**
comp=Z,3.3nm,0.9s,baz=112,slow=5.5,SNR=4.5
KIRS Kirsehir-Merke 129.59 312 ⇑P **PKPdf 13 22 53.2 -4.1**
BR104 Keskin Array S 129.59 313 PKP **PKPdf 13 22 56.8 -0.5**
BR106 Keskin Array S 129.59 313 PKP **PKPdf 13 22 56.8 -0.5**
MILM Milestii Mici 129.65 323 *e*PDIF **Pdif 13 19 51.0 +6.0**
MILM Milestii Mici 129.65 323 *e*PP PP 13 25 06.0 -1.5
MILM Milestii Mici 129.65 323 *i* P **Pdif 13 19 51.0 +6.0**
MILM *e* 13 25 06.0
BLEU Blekinge 129.65 339 *e*P **PKPdf 13 22 55.4 -1.3**
BLS5 Blasjo 129.70 347 *e*PKPdf **PKiKP 13 23 00.2 +2.7**
BLS5 *e*PP **PP 13 25 10.1 +2.9**
ONAU Onsala 130.03 342 *e*P **PKiKP 13 22 57.9 -0.3**
FABU Falkenberg 130.11 341 *e*P **PKiKP 13 22 58.4 0.0**
KMY Karmoy 130.15 347 *e*PKPdf **PKPdf 13 22 57.9 +0.3**
KMY *e*PP **PP 13 25 11.7 +1.6**
KMY *e*SKPdf **SKPbc 13 26 22.4 +5.6**
DEL Delary 130.18 340 *i* P **PKPdf 13 22 58.0 +0.3**
DEL *e* 13 25 06.8
MMAI Mount Meron Ar 130.22 304 PKP **PKiKP 13 22 59.9 +0.4**
comp=Z,9.0nm,0.7s,baz=55,slow=4.5,SNR=12
MMAI SKPbc **SKPbc 13 26 18.8 +0.7**
comp=Z,1.5nm,0.5s,baz=92,slow=7.5,SNR=4.6
HOMB Homborsund 130.23 345 *e*PKPdf **PKPdf 13 22 55.1 -2.5**
HOMB *e*PP **PP 13 25 07.5 -3.1**
HOMB *e*SKPdf **SKPdf 13 26 25.2 -4.2**
SALV Santo Antonio 130.38 122 *e*P **PKPdf 13 22 59.5 +0.2**
BJUU Bjuv 130.78 341 *e*P **PKiKP 13 22 59.5 -0.1**
LODK Lodwar 130.79 265 IAMs_20 IAMs_20 14 15 22.4
comp=Z,3µm,22.0s
TPGR Topolog 130.92 321 ⇑P **PKiKP 13 23 01.0 +0.6**
CFR Carcaliu 130.93 321 ⇑P **PKPdf 13 22 58.5 -0.9**
CFR Carcaliu 130.93 321 ⇑PKiKP **PKPdf 13 22 58.5 -0.9**
KGCAE Kacgae 131.11 226 PKPpre 13 22 49.2
TIRR Tirgusor 131.12 320 IAMs_20 IAMs_20 14 26 31.2
comp=Z,2µm,22.0s
MFTR Murfatlar 131.25 320 ⇓P **PKiKP 13 23 01.4 +0.4**
HARR Harsova 131.30 321 ⇓P **PKiKP 13 23 01.1 0.0**
HARR Harsova 131.30 321 ⇓PKiKP **PKiKP 13 23 01.1 0.0**
TLBR Topalu 131.30 321 ⇓P **PKiKP 13 23 02.5 +1.4**
BURAR Bucovina Array 131.33 326 ⇑P **PKiKP 13 23 01.8 +0.5**
BURAR Bucovina Array 131.33 326 ⇑PKiKP **PKiKP 13 23 01.8 +0.5**
CSS Mathiatis 131.36 307 IAMs_20 IAMs_20 14 27 29.8
comp=Z,2µm,21.0s
PDRB Porto dos Gac 131.53 117 *e*P **PKPdf 13 23 01.1 -0.5**
SABA Saba 131.71 77 IAMs_20 IAMs_20 14 11 29.1
comp=Z,2µm,21.0s
SMRT St. Maarten 131.87 76 IAMs_20 IAMs_20 14 16 46.2
comp=Z,1µm,20.0s
RGN Rugen 131.91 339 IAMs_20 IAMs_20 14 19 35.8
comp=Z,2µm,22.0s
SEUS St. Eustatius 131.96 77 IAMs_20 IAMs_20 14 11 13.8
comp=Z,2µm,21.0s
SPB Sao Paulo 132.09 137 IAMs_20 IAMs_20 14 11 24.9
comp=Z,2µm,21.0s
MLR Muntele Rosu 132.09 323 IAMs_20 IAMs_20 14 25 23.8
comp=Z,2µm,21.0s
MLR Muntele Rosu 132.09 323 ⇓P **PKPdf 13 23 01.6 -0.2**
MLR Muntele Rosu 132.09 323 ⇓PKiKP **PKPdf 13 23 01.6 -0.2**
KOLS Kolonicke sedl 132.10 329 *e*PKiKP **PKiKP 13 23 02.4 -0.3**
KOLS Kolonicke sedl 132.10 329 *e*PKP **PKiKP 13 23 02.4 -0.3**
CLDB Colider 132.68 116 *e*P **PKPdf 13 23 02.7 -1.0**
BOAV Boa Vista 132.71 97 *e*P **PKPdf 13 23 03.1 -0.7**
NIE Niedzica 132.78 330 *e*PKPdf **PKiKP 13 23 04.5 +0.5**
NIE *e*PP **PP 13 25 26.9 -0.7**
NIE *e*L L 14 19 07.1
comp=Z,2µm,24.6s
VAO Valinhos 132.80 136 IAMs_20 IAMs_20 14 11 58.7
comp=Z,2µm,22.0s
ARR Arges 132.93 323 ⇓P **PKiKP 13 23 04.3 -0.2**
MARR Marisel-Cluj 133.04 326 ⇑P **PKPdf 13 23 02.6 -0.9**
GDHS Morne Mazeau, 133.13 78 IAMs_20 IAMs_20 14 18 49.6
comp=Z,1µm,21.0s
DRGR 133.19 326 ⇑P **PKPdf 13 23 04.3 +0.5**
DRGR 133.19 326 ⇑PKiKP **PKPdf 13 23 04.3 +0.5**
LANS Liptovska Anna 133.36 330 *e*PKiKP **PKiKP 13 23 04.8 -0.4**
LANS Liptovska Anna 133.36 330 *e*PKP **PKiKP 13 23 04.8 -0.4**
LOT Lotru 133.39 324 ⇑P **PKPdf 13 23 04.5 +0.2**
ABD La Joyeuse, An 133.39 78 IAMs_20 IAMs_20 14 14 53.7
comp=Z,1µm,21.0s
ELND Elena 133.47 320 ⇑P **PKPdf 13 23 04.4 0.0**
OKC Ostrava-Krasne 133.51 332 *e*PKiKP **PKPdf 13 23 03.9 -0.3**
OKC MLR MLR
comp=Z,3µm,24.3s
OKC Ostrava-Krasne 133.51 332 *e*PKPDF **PKPdf 13 23 03.9 -0.3**
OKC AMS AMS 14 18 00.0
comp=Z,3µm,24.3s
MAGL Barre de l'ile 133.59 79 IAMs_20 IAMs_20 14 12 31.9
comp=Z,1µm,19.0s
KSP Ksiaz 133.61 334 *e*PKPdf **PKiKP 13 23 05.5 -0.2**
KSP *e*L L 14 20 46.0
SVN Savane Anatole 133.68 80 IAMs_20 IAMs_20 14 11 30.4
comp=Z,2µm,22.0s
FDF Fort de France 133.69 80 IAMs_20 IAMs_20 14 11 30.7
comp=Z,2µm,22.0s
BIM Bigot 133.76 81 IAMs_20 IAMs_20 14 13 01.6
comp=Z,2µm,22.0s
MORC Moravsky Berou 133.83 332 IAMs_20 IAMs_20 14 23 27.1
comp=Z,3µm,22.0s
MORC Moravsky Berou 133.83 332 *e*PKP **PKPdf 13 23 04.4 -0.4**
MORC *e*PP **PP 13 25 35.1 +0.9**
MORC Moravsky Berou 133.83 332 ⇓P **PKPdf 13 23 04.5 -0.4**
MORC Moravsky Berou 133.83 332 ⇓PKiKP **PKPdf 13 23 04.5 -0.4**
OSTC Ostas 133.86 334 *e*PKiKP **PKPdf 13 23 02.9 -2.0**
OSTC MLR MLR
comp=Z,4µm,22.3s
OSTC Ostas 133.86 334 *e*PKPDF **PKPdf 13 23 02.9 -2.0**
OSTC AMS AMS 14 20 30.0
comp=Z,4µm,22.3s
GORT1 Trebel 133.87 339 *e*PKPdf **PKiKP 13 23 05.6 -0.4**
baz=37,slow=1.3
CHVC Chvalec 133.90 334 *e*PKiKP **PKPdf 13 23 03.9 -1.1**
CHVC MLR MLR
comp=Z,3µm,22.9s
CHVC Chvalec 133.90 334 *e*PKPDF **PKPdf 13 23 03.9 -1.1**
CHVC AMS AMS 14 20 40.0
comp=Z,3µm,22.9s
ILAM Ilet Lapin Mar 133.96 80 IAMs_20 IAMs_20 14 11 51.7
comp=Z,2µm,20.0s
KRLC Kraliky 133.96 333 AMS AMS 14 21 30.0
comp=Z,4µm,23.0s
DPC Dobruska-Polom 133.96 334 *e*PKiKP **PKPdf 13 23 04.4 -0.7**
DPC MLR MLR
comp=Z,4µm,23.3s
DPC Dobruska-Polom 133.96 334 *e*PKPDF **PKPdf 13 23 04.4 -0.7**
DPC AMS AMS 14 21 40.0
comp=Z,4µm,23.3s
PSZ Piszkesteto 133.97 329 ⇑P **PKPdf 13 23 05.0 -0.2**
PSZ Piszkesteto 133.97 329 ⇑PKiKP **PKPdf 13 23 05.0 -0.2**
UPC Upice 133.98 334 *e*PKiKP **PKPdf 13 23 02.9 -2.2**
UPC MLR MLR
comp=Z,3µm,21.9s
UPC Upice 133.98 334 *e*PKPDF **PKPdf 13 23 02.9 -2.2**
UPC AMS AMS 14 20 30.0
comp=Z,3µm,21.9s
GZR Gura Zlata 133.99 324 ⇑P **PKPdf 13 23 04.5 -0.8**
GZR Gura Zlata 133.99 324 ⇑PKiKP **PKPdf 13 23 04.5 -0.8**
PLVB Pleven 134.02 321 ⇑P **PKPdf 13 23 01.9 -3.5**
SIRR Siria 134.09 326 ⇓P **PKPdf 13 23 05.8 +0.4**
VYHS Vyhne 134.11 330 *e*PKiKP **PKPdf 13 23 06.0 +0.6**
VYHS Vyhne 134.11 330 *e*PKP **PKPdf 13 23 06.0 +0.6**
SURR Surduc 134.14 325 ⇑P **PKPdf 13 23 05.2 -0.4**
MBAR Mbarara 134.30 258 IAMs_20 IAMs_20 14 18 09.4
comp=Z,2µm,21.0s
JAVC Velka Javorina 134.42 331 *e*PKP **PKiKP 13 23 07.3 -0.1**
FLTG Flechtingen 134.44 339 *e*PKPdf **PKPdf 13 23 06.1 +0.3**
baz=37,slow=1.3
BZS Buzias 134.51 325 ⇓P **PKPdf 13 23 05.9 -0.3**
BZS Buzias 134.51 325 ⇓PKiKP **PKPdf 13 23 05.9 -0.3**
BRG Berggiesshubel 134.57 336 *e*PKPdf **PKiKP 13 23 07.6 +0.1**
baz=37,slow=1.3
BRG Berggiesshubel 134.57 336 *e*PKP **PKiKP 13 23 07.7 +0.2**
BRG Amp 13 23 09.4
comp=Z,12nm,0.9s
BRG Berggiesshubel 134.57 336 PP PP 13 25 42.0 +3.3
PVCC Panska Ves 134.58 335 AMS AMS 14 16 10.0
comp=Z,3µm,26.4s
RDO Rodhopi 134.58 318 IAMs_20 IAMs_20 14 28 35.3
comp=Z,1µm,21.0s
VRAC Vranov 134.60 332 *e*PKP **PKPdf 13 23 05.4 -0.9**
VRAC *e*PP **PP 13 25 36.5 -2.5**
CLL Collm 134.60 337 IAMs_20 IAMs_20 14 23 05.2
comp=Z,2µm,21.0s
CLL Collm 134.60 337 *i* PKiKP **PKPdf 13 23 06.5 +0.3**
CLL *e* 13 25 41.0
CLL pmax pmax
comp=Z,12nm,0.8s
CLL MLR MLR
comp=Z,2µm,20.4s
CLL Collm 134.60 337 *e*PKPdf **PKPdf 13 23 06.6 +0.3**
baz=37,slow=1.3
CLL *e*L L 14 23 15.7
comp=Z,2µm,21.9s
NPGB Novo Progresso 134.68 112 *e*P **PKiKP 13 23 08.3 -0.6**
NRDL Niedersach Rie 134.70 340 *e*PKPdf **PKiKP 13 23 07.1 -0.6**
baz=37,slow=1.3
RICC Richard 134.76 335 AMS AMS 14 23 40.0
comp=Z,2µm,21.5s
ASSE Asse, Remlinge 134.80 339 *e*PKPdf **PKPdf 13 23 07.0 +0.5**
baz=37,slow=1.3
KRUC Moravsky 134.87 332 *e*PKP **PKPdf 13 23 06.6 -0.2**
KRUC *e*PP **PP 13 25 38.9 -1.8**
MODS Modra-Piesok 134.94 331 *e*PKiKP **PKPdf 13 23 04.2 -2.8**
MODS Modra-Piesok 134.94 331 *e*PKP **PKPdf 13 23 04.2 -2.8**
MDVR Moldovita 134.96 324 ⇑P **PKPdf 13 23 04.9 -2.3**
PRA Prague 134.98 335 AMS AMS 14 21 00.0
comp=Z,3µm,22.4s
PRU Pruhonice 135.00 334 *e*PP **PP 13 25 39.4 -2.1**
PRU AMS AMS 14 21 10.0
comp=Z,3µm,24.4s
TREC Trest 135.10 333 *e*PKiKP **PKPdf 13 23 05.9 -1.3**
TREC MLR MLR
comp=Z,4µm,22.3s
TREC Trest 135.10 333 *e*PKPDF **PKPdf 13 23 05.9 -1.3**
TREC AMS AMS 14 22 20.0
comp=Z,4µm,22.3s
CLZ Clausthal 135.15 339 *e*PKPdf **PKPdf 13 23 07.4 +0.1**
baz=37,slow=1.3
BBGH Gun Hill 135.17 83 IAMs_20 IAMs_20 14 16 16.9
comp=Z,2µm,22.0s
ITTB Itaituba 135.34 108 *e*P **PKPdf 13 23 08.3 -0.4**
EKA Eskdalemuir Ar 135.34 351 PKhKP PKPpre 13 22 54.6
comp=Z,1.3nm,0.8s,baz=35,slow=3.1,SNR=2.2
EKA PKP **PKPdf 13 23 07.4 0.0**
comp=Z,3.2nm,0.7s,baz=12,slow=1.2,SNR=7.8
EKA SKPbc **SKPab 13 26 38.1 -0.9**
comp=Z,2.8nm,0.9s,baz=33,slow=2.7,SNR=2.5
EKA Eskdalemuir Ar 135.34 351 PKiKP **PKPdf 13 23 06.9 -0.6**
ESK Eskdalemuir 135.37 351 IAMs_20 IAMs_20 14 25 41.8
comp=Z,2µm,22.0s
TANN Tannenbergstha 135.52 336 *e*PKPdf **PKPdf 13 23 08.0 -0.1**
baz=37,slow=1.3
ZVC Zvikov 135.56 334 AMS AMS 14 21 40.0
comp=Z,4µm,24.2s
PLN Plauen 135.58 337 *e*PKPdf **PKPdf 13 23 08.4 +0.3**
baz=37,slow=1.3
BOVS Bovan 135.64 323 ⇑P PKPpre 13 23 05.0
MOX Moxa 135.66 337 *e*PKPdf **PKPdf 13 23 08.5 +0.2**
baz=37,slow=1.3
MOX *e*L L 14 23 52.4
comp=Z,2µm,22.0s
MORH Mrgy, Hungar 135.74 328 ⇓P **PKPdf 13 23 08.4 -0.1**
RONA Rosalia, Austr 135.89 331 *i* PKP **PKPdf 13 23 08.8 0.0**
comp=Z,6.5nm,0.9s
RONA *i* SKP **SKPab 13 26 41.2 -0.5**
comp=Z,9.0nm,1.1s
CONA Conrad Observa 135.93 332 *i* PKP **PKPdf 13 23 09.2 +0.3**
comp=Z,6.8nm,0.7s
CONA *i* SKP **SKPab 13 26 38.7 -3.3**
comp=Z,7.3nm,1.0s
CKRC Cesky Krumlov 135.98 333 *e*PKiKP PKPpre 13 23 04.9
CKRC MLR MLR
comp=Z,3µm,24.0s
CKRC Cesky Krumlov 135.98 333 *e*PKPDF PKPpre 13 23 04.9
CKRC AMS AMS 14 18 00.0
comp=Z,3µm,24.0s
MANZ Manzenberg 136.00 336 *e*PKPdf **PKPdf 13 23 08.6 -0.3**
baz=37,slow=1.3
KHC Kasperske Hory 136.06 334 *e*PKiKP PKPpre 13 23 06.8
KHC *e* 13 25 48.0
KHC MLR MLR
comp=Z,4µm,25.2s
KHC Kasperske Hory 136.06 334 *e*PKPDF PKPpre 13 23 06.8
KHC *e*PP **PP 13 25 48.0 -0.2**
KHC AMS AMS 14 22 00.0
comp=Z,4µm,25.2s
GEC2 GERESS Array S 136.22 334 PKPpre 13 23 02.4
GEC2 IAMs_20 IAMs_20 14 25 30.2
comp=Z,2µm,22.0s
GEC2 GERESS Array S 136.22 334 *e*PKPdf **PKPdf 13 23 09.5 0.0**
baz=37,slow=1.3
GEC2 *e*L L 14 23 27.4
comp=Z,2µm,21.9s
GERES GERESS Array B 136.22 334 PKPpre 13 23 01.9
GERES GERESS Array B 136.22 334 PKhKP PKPpre 13 22 56.7
comp=Z,1.3nm,0.6s,baz=64,slow=3.1,SNR=8.9
GERES PKP **PKPdf 13 23 10.1 +0.6**
comp=Z,9.0nm,0.7s,baz=52,slow=2.2,SNR=28
GERES SKPbc **SKPbc 13 26 39.5 +1.6**
comp=Z,0.9nm,0.7s,baz=7.4,slow=3.2,SNR=1.5
WET Wettzell 136.34 335 *e*L L 14 24 60.0
comp=Z,4µm,21.9s
KASTN Kahler Asten 136.35 340 *e*PKPdf **PKPdf 13 23 09.9 +0.3**
baz=37,slow=1.3
ARSA Arzberg 136.58 331 *e*PKP **PKPdf 13 23 09.8 -0.3**
comp=Z,2.4nm,0.8s
ARSA *i* SKP **SKPab 13 26 44.3 -0.5**
comp=Z,5.5nm,1.0s
GRA1 Grafenberg Arr 136.58 337 IAMs_20 IAMs_20 14 27 13.5
comp=Z,2µm,21.0s
GRF Grafenberg Arr 136.58 337 *e*PKPdf **PKPdf 13 23 08.4 -1.6**
baz=37,slow=1.3
GRF *e*L L 14 27 13.4
comp=Z,2µm,20.5s
GRFO Grafenberg 136.58 337 IAMs_20 IAMs_20 14 27 12.5
comp=Z,2µm,20.0s
MOA Molln 136.72 333 *e*PKP **PKPdf 13 23 09.1 -1.2**
comp=Z,5.2nm,0.8s
MOA *e*SKP **SKPab 13 26 45.1 -0.2**
comp=Z,4.6nm,0.4s
BIOA Bad Ischl, Aus 137.12 333 *i* PKP **PKPdf 13 23 11.3 +0.2**
comp=Z,2.6nm,0.5s
BIOA *e*SKP **SKPab 13 26 47.1 -0.1**
comp=Z,11nm,1.4s
TNS Taunus Mts 137.17 339 *e*PKPdf **PKPdf 13 23 10.9 -0.2**
baz=37,slow=1.3
TNS *e*L L 14 24 55.5
comp=Z,2µm,22.0s
SOKA Soboth 137.22 331 *i* PKP **PKPdf 13 23 10.8 -0.5**
comp=Z,4.5nm,0.9s
SOKA *i* SKP **SKPab 13 26 44.8 -2.9**
comp=Z,8.8nm,1.2s
OBKA Obir 137.57 331 *i* PKiKP **PKiKP 13 23 15.1 +1.1**
comp=Z,5.4nm,0.9s
OBKA *e*SKP **SKPab 13 26 46.6 -2.6**
comp=Z,4.1nm,0.8s
MAL2 Monte Alegre, 137.60 106 IAMs_20 IAMs_20 14 16 28.0
comp=Z,1µm,20.0s
BTNL Ternell 137.63 341 *d*PKPdf **PKPdf 13 23 12.4 +0.5**
MEM Membach 137.65 341 *d*PKPdf **PKPdf 13 23 12.1 +0.2**
KBA Koelnbreinsper 137.71 333 *e*PKP **PKPdf 13 23 13.0 +0.6**
comp=Z,7.3nm,0.4s
KBA *i* SKP **SKPab 13 26 48.9 -1.0**
comp=Z,10nm,1.0s
LESA Schwarzleotal 137.75 333 *i* PKP **PKPdf 13 23 11.8 -0.5**
comp=Z,9.9nm,0.7s
LESA *e*SKP **SKPab 13 26 49.9 -0.1**
comp=Z,11nm,1.1s
FUR Furstenfeldbru 137.77 335 *e*L L 14 25 16.0
comp=Z,2µm,21.6s
PDG Podgorica 137.80 323 IAMs_20 IAMs_20 14 27 17.7
comp=Z,2µm,22.0s
DSB Dublin 137.80 353 PP PP 13 25 57.6 -1.0
MYKA Terra Mystica 137.91 332 *i* PKP **PKPdf 13 23 11.5 -1.1**
comp=Z,8.1nm,0.9s
MYKA *i* SKP **SKPab 13 26 50.0 -0.7**
comp=Z,7.1nm,1.1s
LJU Ljubljana 137.92 331 *e*PKPdf **PKPdf 13 23 12.5 0.0**
UCC Uccle 137.97 343 IAMs_20 IAMs_20 14 23 31.0
comp=Z,2µm,21.0s
CRNS Crni Vrh 138.02 331 *i* PKPdf **PKPdf 13 23 11.5 -1.3**
BCLA Clavier 138.03 342 *d*PKPdf **PKPdf 13 23 12.5 -0.1**
VOJS Vojsko 138.24 331 *e*PKPdf **PKPdf 13 23 12.4 -0.9**
RCHB Rochefort 138.28 342 *d*PKPdf **PKPdf 13 23 13.5 +0.4**
BMRD Maredsous 138.29 342 *d*PKPdf **PKPdf 13 23 13.3 +0.3**
WATA Walderalm 138.29 334 *i* PKiKP **PKiKP 13 23 14.7 -0.8**
comp=Z,13nm,0.7s
WATA *e*SKP **SKPab 13 26 52.0 -0.5**
comp=Z,14nm,1.3s
WTTA Wattenberg 138.32 334 *i* PKP **PKPdf 13 23 13.6 +0.2**
comp=Z,11nm,0.8s
WTTA *i* SKP **SKPab 13 26 51.0 -1.7**
comp=Z,16nm,1.1s
ABTA Abfaltersbach 138.34 333 *i* PKP **PKPdf 13 23 12.6 -0.8**
comp=Z,12nm,0.7s
ABTA *e*SKP **SKPab 13 26 51.8 -0.9**
comp=Z,7.2nm,1.0s
SABO M.te Sabotino 138.41 331 PKPpre 13 23 04.1
WLF Walferdange 138.42 341 IAMs_20 IAMs_20 14 25 03.0
comp=Z,2µm,21.0s
MOTA Moosalm 138.49 335 *i* PKP **PKPdf 13 23 13.4 -0.4**
comp=Z,19nm,0.8s
MOTA *i* SKP **SKPab 13 26 51.8 -1.5**
comp=Z,18nm,1.3s
RETA Reutte 138.52 335 *i* PKP **PKPdf 13 23 13.5 -0.2**
comp=Z,5.2nm,1.0s
RETA *i* SKP **SKPab 13 26 50.3 -3.1**
comp=Z,14nm,1.6s
DOU Dourbes 138.53 342 *d*PKPdf **PKPdf 13 23 13.0 -0.6**
TRI Trieste 138.53 331 IAMs_20 IAMs_20 14 25 10.5
comp=Z,3µm,22.0s
SQTA Sankt Quirin 138.54 334 *i* PKiKP **PKPdf 13 23 14.7 +0.9**
comp=Z,11nm,1.1s
SQTA *e*SKP **SKPab 13 26 52.8 -0.7**
comp=Z,10nm,0.8s
STAL STALIGIAL 138.62 332 PKPpre 13 23 06.2
STAL IAMs_20 IAMs_20 14 29 43.7
comp=Z,2µm,20.0s
BFO Black Forest 138.79 338 *e*L L 14 21 21.9
comp=Z,999nm,21.9s
FETA Feichten 138.90 335 *i* PKP **PKPdf 13 23 14.6 +0.1**
comp=Z,10nm,0.9s
FETA *e*SKP 13 26 52.4
comp=Z,14nm,1.2s
DAVA Damuels 139.04 335 *i* PKP **PKPdf 13 23 11.1 -3.7**
comp=Z,6.7nm,0.9s
DAVA *e*SKP 13 26 54.0
comp=Z,11nm,1.2s
ECH Echery 139.32 339 PKPpre 13 23 07.2
ECH IAMs_20 IAMs_20 14 27 44.8

comp=Z,2µm,20.0s
ECH Echery 139.32 339 PKHKP PKPpre 13 23 07.2
FUORN Ofenpass-Fuorn 139.41 335 PKPpre 13 23 07.9
FUORN IAMs_20 IAMs_20 14 30 48.6
comp=Z,2µm,21.0s
SCTE Santa Cesarea 139.69 321 IAMs_20 IAMs_20 14 30 40.0
comp=Z,2µm,22.0s
TUE Stuetta 139.91 335 PKPpre 13 23 09.4
PRPB Parauapebas 140.05 114 *e*P **PKPdf** **13 23 16.3 -1.1**
SGRT San Giovanni R 140.25 325 PKPpre 13 23 10.7
GUMA Gualdo di Mace 140.65 328 IAMs_20 IAMs_20 14 30 40.9
comp=Z,2µm,22.0s
SMTB Santa Maria do 140.75 119 *e*P **PKPdf** **13 23 18.7 +0.1**
SENIN Lac Senin/Sane 140.82 337 IAMs_20 IAMs_20 14 28 12.6
comp=Z,2µm,21.0s
PRMA PARMA 140.85 333 IAMs_20 IAMs_20 14 26 46.7
comp=Z,2µm,21.0s
ZCCA Zocca 140.86 332 PKPpre 13 23 13.1
NRCA Norcia 140.93 328 PKPpre 13 23 11.1
CAMP Campotosto 140.99 328 IAMs_20 IAMs_20 14 32 51.8
comp=Z,2µm,20.0s
CLF Chambon-Foret 141.07 343 IAMs_20 IAMs_20 14 33 20.9
comp=Z,2µm,21.0s
TIP Timpagrande 141.28 321 IAMs_20 IAMs_20 14 30 32.1
comp=Z,2µm,21.0s
CUC Castrocucco 141.34 323 IAMs_20 IAMs_20 14 29 41.7
comp=Z,2µm,22.0s
OSSC Osservatorio P 141.36 331 PKPpre 13 23 12.8
OSSC IAMs_20 IAMs_20 14 30 59.4
comp=Z,2µm,22.0s
CESX Cesi 141.37 328 IAMs_20 IAMs_20 14 32 03.7
comp=Z,2µm,21.0s
PAOL Paolisi 141.39 325 IAMs_20 IAMs_20 14 27 30.7
comp=Z,2µm,22.0s
BNI Bardonecchia 142.15 336 IAMs_20 IAMs_20 14 31 29.0
comp=Z,2µm,20.0s
CEL Celeste 142.37 320 PKPpre 13 23 16.6
CEL IAMs_20 IAMs_20 14 33 21.1
comp=Z,1µm,22.0s
SSB Saint Sauveur 142.76 339 IAMs_20 IAMs_20 14 33 51.9
comp=Z,1µm,22.0s
WDD Wied Dalam 144.71 318 **PKPab** **13 23 23.0 -0.8**
VSL Villasalto 145.29 328 **PKPbc** **13 23 25.5 -0.2**
EJON La Jonquera 145.81 338 PKP **PKPdf** **13 23 25.7 -1.0**
CEST Esterri de Car 146.25 340 IAMs_20 IAMs_20 14 33 08.2
comp=Z,2µm,22.0s
KEST Kesra 148.00 323 IAMs_20 IAMs_20 14 39 30.7
comp=Z,2µm,21.0s
KEST Kesra 148.00 323 PKPbc **PKPbc** **13 23 34.2 +0.4**
comp=Z,77nm,0.9s,baz=6.2,slow=0.1,SNR=57
CMAH Djebel Manchou 148.45 326 P **PKPbc** **13 23 34.9 -0.1**
ECAL Calabor 148.92 350 PKP **PKPbc** **13 23 35.1 -0.9**
CKFL Kef-Lekhel 148.99 327 P **PKPbc** **13 23 36.6 +0.2**
PBRG Braganca 149.05 350 *e*PKP **PKPbc** **13 23 35.4 -0.9**
PGAV Gavieira, Arco 149.13 352 *e*PKP **PKPbc** **13 23 36.5 -0.1**
PGAV *e*PP **PP** **13 27 13.1 +6.2**
PGAV *e*SS SS 13 46 22.0 +7.2
PGAV *e*LR LR 14 15 52.6
PGAV *i* IAMs_20 IAMs_20 14 31 11.2
comp=Z,2µm,20.0s
DFRA Djebel Bou Aff 149.33 328 P **PKiKP** **13 23 38.3 -0.1**
PCAB Cabril 149.35 352 *e*PKP **PKPbc** **13 23 36.5 -0.5**
EIBI Ibiza 149.36 337 PKP **PKPbc** **13 23 36.0 -1.1**
CTEI Djebel Teioual 149.41 327 P **PKPbc** **13 23 38.0 +0.5**
POLO Lamas de Olo 149.64 351 *e*PKP **PKPbc** **13 23 38.0 +0.1**
ECHE Chera 149.69 340 PKP **PKPbc** **13 23 36.0 -2.0**
UCM Universidad Co 149.71 344 PKP **PKPdf** **13 23 35.1 +1.8**
MVO Moncorvo 149.73 350 *e*PKP **PKPbc** **13 23 38.0 -0.1**
MVO *e*PP PP 13 27 19.8 +9.5
MVO *e*SS SS 13 46 19.2 -2.2
MVO *e*LR LR 14 15 31.1
MVO *i* IAMs_20 IAMs_20 14 31 48.4
comp=Z,2µm,22.0s
PVRL Vila Real 149.73 351 *e*PKP **PKiKP** **13 23 38.6 -0.4**
PVIS Viseu 150.30 351 *e*PKP **PKPbc** **13 23 39.6 +0.2**
ESBB Sonseca Array 150.50 345 IAMs_20 IAMs_20 14 33 10.3
comp=Z,2µm,22.0s
ESDC Sonseca Array 150.50 345 PKP **PKPdf** **13 23 34.8 +0.2**
comp=Z,19nm,0.8s,baz=8.2,slow=2.7,SNR=16
ESDC PKPbc **PKPbc** **13 23 40.2 +0.2**
comp=Z,19nm,0.8s,baz=3.6,slow=4.2,SNR=48
MTE Manteigas 150.56 350 IAMs_20 IAMs_20 14 34 11.7
comp=Z,2µm,22.0s
MTE Manteigas 150.56 350 *e*PKP **PKPbc** **13 23 40.1 +0.1**
MTE *e*PP **PP** **13 27 19.0 +3.9**
MTE *e*SS SS 13 46 35.4 +4.7
MTE *e*LQ LQ 14 15 51.7
MTE *e*LR LR 14 17 59.9
MTE *i* IAMs_20 IAMs_20 14 34 43.0
comp=Z,2µm,20.0s
PAB San Pablo 150.72 345 IAMs_20 IAMs_20 14 33 10.2
comp=Z,2µm,22.0s
PAB San Pablo 150.72 345 ‖PKIKP **PKPbc** **13 23 40.7 +0.2**
COI Coimbra 150.88 352 IAMs_20 IAMs_20 14 30 39.2
comp=Z,2µm,22.0s
COI Coimbra 150.88 352 *e*PKP **PKiKP** **13 23 41.2 -0.1**
NBCL Cascavel-CE 151.03 121 *e*P **PKPdf** **13 23 36.0 -0.1**
PCAS Casmilo, Conde 151.04 352 *e*PKP **PKPbc** **13 23 40.1 -1.0**
PCBR Castelo Branco 151.09 350 *e*PKP **PKiKP** **13 23 41.6 -0.2**
PSARD Sardoal 151.44 351 *e*PKP **PKPbc** **13 23 42.2 +0.2**
PMRV Marv??o 151.48 350 *e*PKP **PKPbc** **13 23 42.4 +0.2**
PMRV *e*PP **PP** **13 27 20.7 +0.4**
PMRV *e*SS SS 13 46 41.5 +0.8
PMRV *e*LR LR 14 19 55.1
PMRV *i* IAMs_20 IAMs_20 14 33 07.1
comp=Z,2µm,22.0s
CART Cartagena 151.50 339 IAMs_20 IAMs_20 14 33 39.2
comp=Z,1µm,20.0s
PMTG Montargil 151.97 351 *e*PKP **PKPbc** **13 23 43.1 -0.2**
PESTR Estremoz 152.06 350 *e*PKP **PKPbc** **13 23 42.3 -1.2**
RCBR Riachuelo 152.07 127 IAMs_20 IAMs_20 14 24 16.9
comp=Z,2µm,21.0s
RCBR Riachuelo 152.07 127 *e*P **PKPdf** **13 23 36.8 -0.9**
PMAFR Mafra 152.23 353 *e*PKP **PKPbc** **13 23 43.7 -0.2**
PARRA Arraiolos 152.33 352 *e*PKP **PKPbc** **13 23 43.6 -0.5**
LIS Lisbon 152.44 352 *e*PKPdf **PKPdf** **13 23 37.2 -0.3**
LIS *e*PP **PP** **13 27 27.6 +1.9**
LIS IAMs_20 IAMs_20 14 32 25.4
comp=Z,3µm,30.2s
LIS Lisbon 152.44 352 *e*PKIKP **PKPdf** **13 23 37.2 -0.3**
LIS *e* 13 27 27.6
PBAR Barrancos 152.63 349 *e*PKP **PKPdf** **13 23 38.5 +0.8**
PBEJ Beja 152.93 350 *e*PKP **PKPdf** **13 23 39.2 +1.0**
MESJ Messejana 153.17 350 *e*PKPdf **PKPdf** **13 23 38.2 -0.4**
MESJ *e*PP **PP** **13 27 31.8 +1.9**
MESJ IAMs_20 IAMs_20 14 32 57.8
comp=Z,3µm,21.9s
MESJ Messejana 153.17 350 *e*PKP **PKPdf** **13 23 39.7 +1.2**
MESJ Messejana 153.17 350 *e*PKIKP **PKPdf** **13 23 38.2 -0.4**
MESJ *e* 13 27 31.8
PCVE Castro Verde 153.34 350 *e*PKP **PKPbc** **13 23 39.3 +0.5**
PVAQ Vaqueiros 153.50 349 *e*PKP **PKPbc** **13 23 44.2 -2.5**
PVAQ *e*PP **PP** **13 27 37.6 +5.9**
PVAQ *e*SS SS 13 47 11.4 +8.4
PVAQ *e*LR LR 14 18 06.3
PVAQ *i* IAMs_20 IAMs_20 14 34 17.0
comp=Z,3µm,22.0s
PTEO Sao Teotonio 153.53 351 *e*PKP **PKPdf** **13 23 39.5 +0.5**
PBDV Barranco-do-Ve 153.70 350 *e*PKP **PKPdf** **13 23 40.6 +1.3**
MORF Marmelete 153.76 351 *e*PKPdf **PKPdf** **13 23 39.1 -0.4**
MORF *e*PP **PP** **13 27 35.2 +1.9**
MORF IAMs_20 IAMs_20 14 29 24.6
comp=Z,2µm,28.8s
MORF Marmelete 153.76 351 IAMs_20 IAMs_20 14 33 11.5
comp=Z,2µm,21.0s
MORF Marmelete 153.76 351 *e*PKP **PKiKP** **13 23 47.7 +0.3**
MORF Marmelete 153.76 351 *e*PKIKP **PKPdf** **13 23 39.1 -0.4**
MORF *e* 13 27 35.2
PFVI Vila Bisbo 153.96 351 *e*PKP **PKiKP** **13 23 48.6 +0.8**
PMOZ Porto Moniz, M 158.38 8 *e*PP **PP** **13 28 02.6 +3.6**
PMOZ *e*SS SS 13 48 10.3 +15
PMOZ *e*LR LR 14 19 13.5
PMOZ *i* IAMs_20 IAMs_20 14 27 58.4
comp=Z,2µm,20.0s
PMAR Madeira 158.51 7 *e*PKP **PKPdf** **13 23 44.5 -1.6**
TORD Torodi Ar. Bea 164.87 278 PKP **PKPdf** **13 23 52.1 -0.8**
comp=Z,10nm,1.0s,baz=6.5,slow=2.1,SNR=25
TORD PKPab **PKPab** **13 24 49.4 +0.3**
comp=Z,17nm,1.1s,baz=68,slow=5.9,SNR=9.2
DBIC Dimbokro 170.13 243 PKP **PKPdf** **13 23 55.7 -1.0**
comp=Z,11nm,1.1s,baz=116,slow=2.5,SNR=4.5
DBIC PKPab **PKPab** **13 25 12.7 +0.3**
comp=Z,18nm,0.7s,baz=150,slow=4.9,SNR=20

PRU 20 13:17:20.7, 50.20N×18.65E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STEB	**Steborice**	**0.62**	**245**	*e*PG	Pg	13 17 31.5	-1.2
STEB				*e*SG	Sg	13 17 41.4	+0.7
MORC	**Moravsky Berou**	**0.83**	**240**	*e*PG	Pg	13 17 34.6	-2.0
MORC				*e*SG	Sg	13 17 47.1	-0.3
MAUC	**Maruska**	**0.99**	**213**	*e*SG	Sg	13 17 52.4	-0.1
LANS	**Liptovska Anna**	**1.18**	**153**	*e*PG	Pg	13 17 38.9	-4.3
LANS				*e*SG	Sg	13 17 54.6	-3.9
LANS				*e*LG	Lg	13 17 57.2	
KRLC	**Kraliky**	**1.21**	**265**	*e*SG	Sg	13 17 59.0	-0.5
	3.4nm,0.5s						
DPC	**Dobruska-Polom**	**1.50**	**277**	*e*PG	Pn	13 17 48.0	-0.9
DPC				*e*SG	Sg	13 18 07.9	-1.0
OSTC	**Ostas**	**1.60**	**284**	*e*SG	Sg	13 18 12.1	+0.1
VRAC	**Vranov**	**1.60**	**237**	*e*SG	Sn	13 18 10.6	-1.1
VYHS	**Vyhne**	**1.71**	**176**	*e*PG	Pn	13 17 47.9	-3.9
VYHS				*e*SG	Sn	13 18 12.5	-1.9
KRUC	**Moravsky**	**1.86**	**233**	*e*SG	Sb	13 18 18.9	-0.3
KHC	**Kasperske Hory**	**3.46**	**254**	*e*SG	Sg	13 19 10.4	-1.5

*CNRM **20** 13:23:07.8, 35.53N×3.81W, h15km, ML2.0*
*MDD **20** 13:23:08.3±0.9, 35.47N×3.81W, h14km±7km, mb_Lg2.6/7, Error ellipse: s-maj=6.6km s-min=5.3km az=45.0*
*SFS **20** 13:23:09.1, 35.43N×3.78W, h36km, ML2.5/7, ML2.3/7, MLv2.2/7*

ISC 20 13:23:06.2±1.4, 35.51N±0.02×3.81W±0.03, h3km±11km, n35, σ0.90/48, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.31**	**200**	P	**Pb**	**13 23 14.5**	**0.0**
PALE	**Palemas**	**0.31**	**200**	S	**Sb**	**13 23 19.3**	**-0.6**
GOG	**Mont Gurugu**	**0.73**	**113**	P	**Pb**	**13 23 21.7**	**+0.1**
GOG	**Mont Gurugu**	**0.73**	**113**	S	**Sb**	**13 23 32.1**	**+0.1**
WMELI	**Melilla**	**0.73**	**105**	Pg	**Pb**	**13 23 21.9**	**+0.3**
WMELI				Sg	**Sb**	**13 23 30.6**	**-1.4**
EMEL	**Melilla**	**0.73**	**106**	Pg	**Pb**	**13 23 22.2**	**+0.6**
EMEL				Sg	**Sb**	**13 23 30.9**	**-1.2**
EMEL				*i* lVmb_Lg		13 23 33.8	
EMLI	**Melilla**	**0.73**	**106**	Pg	**Pb**	**13 23 22.2**	**+0.5**
EMLI				Sg	**Sb**	**13 23 30.7**	**-1.5**
EALB	**Alboran**	**0.77**	**56**	Pg	**Pb**	**13 23 23.0**	**+0.7**
EALB				Sg	**Sb**	**13 23 33.5**	**+0.4**
EALB	**Alboran**	**0.77**	**56**	Pg	**Pb**	**13 23 22.9**	**+0.7**
EALB				Sg	**Sb**	**13 23 32.9**	**-0.2**
EALB				*i* lVmb_Lg		13 23 35.5	
AKLM	**AKL**	**1.00**	**182**	P	**Pn**	**13 23 27.2**	**-0.1**
AKLM	**AKL**	**1.00**	**182**	S	**Sb**	**13 23 39.2**	**-0.7**
SMIR	**Smir Dam**	**1.29**	**278**	P	**Pg**	**13 23 31.5**	**+0.5**
SMIR	**Smir Dam**	**1.29**	**278**	S	**Sn**	**13 23 49.9**	**+0.9**
CEU	**Ceuta**	**1.33**	**288**	Pg	**Pn**	**13 23 31.0**	**-0.7**
ECEU	**Ceuta**	**1.33**	**287**	Pg	**Pn**	**13 23 31.4**	**-0.4**
ECEU				Sg	**Sg**	**13 23 47.7**	**-1.3**
ECEU	**Ceuta**	**1.33**	**287**	Pn	**Pn**	**13 23 31.4**	**-0.4**
ECEU				Sn	**Sg**	**13 23 47.7**	**-1.3**
ECEU				*i* lVmb_Lg		13 23 50.4	
TAF	**Taforalt**	**1.34**	**121**	P	**Pn**	**13 23 32.8**	**+0.8**
TAF	**Taforalt**	**1.34**	**121**	S	**Sn**	**13 23 51.5**	**+1.1**
EMAL	**Malaga-Limoner**	**1.35**	**338**	Pn	**Pn**	**13 23 31.8**	**-0.2**
EMAL				Sg	**Sg**	**13 23 49.5**	**-0.1**
ELGU	**Los Guajares,**	**1.36**	**6**	Pn	**Pn**	**13 23 32.6**	**+0.3**
ELGU				Sn	**Sg**	**13 23 48.9**	**-1.2**
ELGU	**Los Guajares,**	**1.36**	**6**	Pn	**Pn**	**13 23 32.6**	**+0.3**
ELGU				Sn	**Sg**	**13 23 50.2**	**0.0**
ELGU				*i* lVmb_Lg		13 23 55.0	
JBK	**JBK**	**1.56**	**138**	P	**Pn**	**13 23 34.1**	**-1.0**
JBK	**JBK**	**1.56**	**138**	S	**Sn**	**13 23 55.2**	**-0.7**
EGOR	**Sierra Gorda,**	**1.62**	**352**	Pn	**Pn**	**13 23 35.2**	**-0.7**
EGOR				*i* lVmb_Lg		13 23 53.2	
EGOR				Sn	**Sn**	**13 23 56.1**	**-1.3**
EQUE	**Quentar**	**1.72**	**10**	Sn	**Sn**	**13 23 58.7**	**-1.1**
EQUE				*i* lVmb_Lg		13 24 03.2	
LCRM	**LCR**	**2.01**	**206**	P	**Pb**	**13 23 44.1**	**+0.5**
LCRM	**LCR**	**2.01**	**206**	S	**Sg**	**13 24 10.6**	**-0.3**
MD31	**MD31**	**2.75**	**197**	P	**Pn**	**13 23 51.8**	**+0.5**
MD31	**MD31**	**2.75**	**197**	S	**Sn**	**13 24 25.5**	**+0.4**
MDT	**Midelt**	**2.77**	**194**	P	**Pn**	**13 23 51.9**	**+0.2**
MDT	**Midelt**	**2.77**	**194**	S	**Sn**	**13 24 26.6**	**+0.9**
PVAQ	**Vaqueiros**	**3.67**	**302**	*e*P	**Pn**	**13 24 04.6**	**+0.6**
PVAQ				*e*S	**Sn**	**13 24 47.0**	**-0.8**
PVAQ				IAML		13 24 53.0	
PVAQ				IAML		13 24 54.9	
PVAQ				IAML		13 25 01.0	
PBAR	**Barrancos**	**3.71**	**317**	*e*P	**Pn**	**13 24 06.0**	**+1.5**
PBAR				*e*S	**Sn**	**13 24 48.9**	**+0.1**
PBAR				IAML		13 24 51.7	
PBAR				IAML		13 24 54.2	
PCVE	**Castro Verde**	**4.01**	**303**	*e*P	**Pn**	**13 24 11.4**	**+2.8**
PCVE				*e*S	**Sn**	**13 24 55.2**	**-0.9**
PARRA	**Arraiolos**	**5.32**	**310**	*e*P	Pn	13 24 20.9	-5.7
PARRA				*e*S	Sn	13 25 12.0	-16

*IDC **20** 13:30:44.1±0.7, 7.90N×38.05W, h0km, mb4.2/11, mbtmp4.1/13, ML3.5/2, MS5.0/3, Error ellipse: s-maj=23.6km s-min=17.8km az=144.0*
*NEIC **20** 13:30:46.6±1.9, 7.8N±0.1×38.0W±0.1, h10km±1km, mb4.7/25, Error ellipse: s-maj=19.3km s-min=16.9km az=152.0*

ISC 20 13:30:46.9±0.4, 7.83N±0.07×38.04W±0.08, h16km, n64, σ1.21/58, mb4.6/20, MS5.0/3, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.73**	**171**	Pn	**Pn**	**13 33 59.9**	**-1.3**
RCBR	**Riachuelo**	**13.73**	**171**	Pn	**Pn**	**13 34 00.4**	**-0.7**
	0.4nm,0.3s,baz=355,slow=19,SNR=6.7						
RCBR				Sn	Sn	13 36 19.5	-14
	0.1nm,0.3s,baz=336,slow=20,SNR=2.1						
	2.3nm,0.6s						
MDP	**Montagnes des**	**14.76**	**260**	Pn	**Pn**	**13 34 14.0**	**-1.2**
	0.1nm,0.3s,baz=79,slow=8.7,SNR=3.7						
	2.4nm,0.7s						
SMTB	**Santa Maria do**	**19.11**	**210**	*e*P	**P**	**13 35 07.5**	**-1.9**
SDBA	**SAO DESIDERIO**	**21.23**	**199**	*e*P	**P**	**13 35 32.0**	**-0.4**
ITTB	**Itaituba**	**21.41**	**236**	*e*P	**P**	**13 35 32.9**	**-1.4**
NPGB	**Novo Progresso**	**22.72**	**230**	*e*P	**P**	**13 35 48.5**	**+0.1**
BOAV	**Boa Vista**	**23.02**	**258**		**P**	**13 35 50.4**	**-1.2**
BOAV				IAmb	IAmb	13 35 52.1	
	comp=Z,22nm,1.0s						
BOAV	**Boa Vista**	**23.02**	**258**	*e*P	**P**	**13 35 51.0**	**-0.6**
CMC01	**Camacan, BA**	**23.08**	**184**	*e*P	**P**	**13 35 52.8**	**+0.7**
JANB	**Januaria**	**23.57**	**195**	*e*P	**P**	**13 35 57.8**	**+0.7**
SNDB	**Serra Nova Dou**	**23.68**	**214**	*e*P	**P**	**13 35 58.2**	**+0.1**
SJMB	**Sao Joao De Ma**	**26.54**	**187**	*e*P	**P**	**13 36 27.4**	**+3.2**
DIAM	**Diamantina, MG**	**26.55**	**192**	*e*P	**P**	**13 36 27.1**	**+2.8**
ARAG	**Araguaiana, MT**	**27.07**	**210**	*e*P	**P**	**13 36 30.0**	**+1.0**
H10N3	**ASCENSION HYDR**	**28.16**	**123**	T	T	14 05 50.2	
	baz=303,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**28.17**	**123**	T	T	14 05 50.6	
	baz=303,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**	**28.18**	**123**	T	T	14 05 51.8	
	baz=303,slow=75,SNR=18						
SAML	**Samuel**	**30.09**	**237**	P	**P**	**13 36 55.1**	**-0.8**
SAML				IAmb	IAmb	13 36 57.3	
	comp=Z,6.1nm,0.8s						
SAML	**Samuel**	**30.09**	**237**	*e*P	**P**	**13 36 56.5**	**+0.6**
DBIC	**Dimbokro**	**32.94**	**90**	P	**P**	**13 37 19.9**	**-1.2**
DBIC	**Dimbokro**	**32.94**	**90**	P	**P**	**13 37 20.4**	**-0.6**
	comp=Z,9.9nm,0.9s,baz=303,slow=9.7,SNR=6.5						
	comp=Z,9.9nm,0.9s						
BDQN	**Bodoquena, MS**	**33.59**	**213**	*e*P	**P**	**13 37 27.8**	**+1.2**
MAJ01	**Sao Joao Batis**	**36.59**	**196**	*e*P	**P**	**13 37 55.9**	**+3.4**
LPAZ	**La Paz**	**38.22**	**231**	P	**P**	**13 38 07.1**	**0.0**
LPAZ				IAmb	IAmb	13 38 08.6	
	comp=Z,8.9nm,0.8s						
LPAZ	**La Paz**	**38.22**	**231**	P	**P**	**13 38 07.8**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=36,slow=5.6,SNR=13						
	comp=Z,7.1nm,0.7s						
LPAZ	**La Paz**	**38.22**	**231**	*e*P	**P**	**13 38 07.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**39.40**	**79**	P	**P**	**13 38 15.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**39.40**	**79**	P	**P**	**13 38 16.0**	**-0.4**
	comp=Z,7.2nm,1.0s,baz=283,slow=7.9,SNR=18						
	comp=Z,7.2nm,1.0s						
MD01	**Midelt array s**	**39.63**	**46**	P	**P**	**13 38 19.7**	**+1.4**
ESDC	**Sonseca Array**	**44.00**	**39**	P	**P**	**13 38 54.4**	**+0.6**
	comp=Z,1.5nm,1.2s,baz=221,slow=7.9,SNR=4.1						
	comp=Z,1.5nm,1.2s						
JTS	**Las Juntas de**	**46.36**	**277**	LR	LR	13 58 26.1	
	comp=Z,2µm,20.6s,baz=288,slow=36						
CFA	**Coronel Fontan**	**48.69**	**215**	LR	LR	14 00 20.6	
	comp=Z,856nm,21.2s,baz=214,slow=36						
BO02	**Sierra Bellavi**	**52.48**	**214**	P	**P**	**13 39 58.7**	**-0.6**
BO02				IAmb	IAmb	13 39 59.9	
	comp=Z,14nm,1.5s						
BI02	**San Fabin de**	**54.13**	**213**	P	**P**	**13 40 10.6**	**-0.8**
BI02				IAmb	IAmb	13 40 13.6	
	comp=Z,9.3nm,1.3s						
PSZ	**Piszkesteto**	**63.01**	**40**	P	**P**	**13 41 14.3**	**+1.0**
PSZ				IAmb	IAmb	13 41 15.2	
	comp=Z,5.7nm,1.1s						
SCO	**Scoresbysund**	**63.42**	**6**	P	**P**	**13 41 16.4**	**+0.9**
ULM	**Lac du Bonnet**	**63.74**	**323**	P	**P**	**13 41 16.9**	**-1.1**
	comp=Z,3.1nm,0.8s,baz=129,slow=8.6,SNR=3.8						
	comp=Z,3.1nm,0.8s						
NOA	**NORSAR Array B**	**64.35**	**24**	P	**P**	**13 41 20.4**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=236,slow=12,SNR=3.3						
	comp=Z,0.8nm,0.8s						
SUMG	**Summit**	**64.69**	**360**	P	**P**	**13 41 24.4**	**+0.1**
SUMG				IAmb	IAmb	13 41 26.0	
	comp=Z,5.1nm,0.9s						
HFS	**Hagfors**	**64.90**	**26**	P	**P**	**13 41 23.4**	**-2.0**
	comp=Z,3.6nm,0.9s,baz=247,slow=7.4,SNR=3.0						
	comp=Z,3.6nm,0.9s						
TXAR	**Lajitas Array**	**64.97**	**299**	P	**P**	**13 41 26.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=84,slow=6.0,SNR=3.1						
	comp=Z,0.2nm,0.6s						
MLR	**Muntele Rosu**	**66.31**	**44**	P	**P**	**13 41 35.5**	**+0.6**
BURAR	**Bucovina Array**	**66.34**	**41**	P	**P**	**13 41 35.9**	**+0.8**
KIEV	**Kiev**	**69.63**	**39**	P	**P**	**13 41 55.2**	**-0.3**
AKASG	**Malin Array Be**	**69.64**	**39**	P	**P**	**13 41 55.0**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=260,slow=5.6,SNR=6.4						
	comp=Z,1.2nm,0.8s						
BOSA	**Boshof**	**70.92**	**124**	P	**P**	**13 42 02.0**	**-1.9**
BRTR	**Keskin Array B**	**70.96**	**51**	P	**P**	**13 42 04.2**	**0.0**
BRTR	**Keskin Array B**	**70.96**	**51**	P	**P**	**13 42 04.7**	**+0.5**
	comp=Z,2.2nm,1.1s,baz=253,slow=8.5,SNR=5.0						
	comp=Z,2.2nm,1.1s						
YNE	**Yellowstone No**	**71.76**	**315**	P	**P**	**13 42 09.7**	**+0.7**
LOHW	**Long Hollow**	**72.02**	**313**	P	**P**	**13 42 11.3**	**+0.8**
HWUT	**Hardware Ranch**	**72.53**	**311**	P	**P**	**13 42 13.7**	**+0.1**
HWUT				IAmb	IAmb	13 42 16.3	
	comp=Z,6.2nm,0.9s						
YHB	**Horse Butte**	**72.57**	**314**	P	**P**	**13 42 14.3**	**+0.5**
YHB				IAmb	IAmb	13 42 17.4	
	comp=Z,6.6nm,0.9s						
LODK	**Lodwar**	**73.11**	**89**	P	**P**	**13 42 18.4**	**+1.0**
LODK				IAmb	IAmb	13 42 20.2	
	comp=Z,8.2nm,1.5s						
BGU	**Big Grassy Mou**	**73.57**	**310**	P	**P**	**13 42 20.4**	**+0.6**
OVMT	**Ovando**	**74.06**	**317**	P	**P**	**13 42 22.3**	**-0.2**
KBZ	**Khabaz**	**78.10**	**47**	LR	LR	14 18 03.6	
	comp=Z,1µm,20.6s,baz=58,slow=36						
H04D	**Lebanon**	**80.79**	**314**	P	**P**	**13 42 58.5**	**-1.4**
SNAA	**Sanae**	**82.66**	**169**	P	**P**	**13 43 07.2**	**-2.0**
SNAA				IAmb	IAmb	13 43 09.6	
	comp=Z,7.5nm,1.4s						
SNAA	**Sanae**	**82.66**	**169**	P	**P**	**13 43 09.0**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=313,slow=7.9,SNR=8.6						
	comp=Z,2.0nm,0.8s						
F31M	**Tsiigehtchic**	**85.02**	**337**	P	**P**	**13 43 22.3**	**+0.9**
M31M	**Drury Creek, Y**	**86.09**	**332**	P	**P**	**13 43 28.3**	**+1.4**
M31M				IAmb	IAmb	13 43 29.5	
	comp=Z,4.4nm,0.9s						
ABKAR	**Akbulak array**	**89.31**	**40**	P	**P**	**13 43 43.8**	**+1.2**
ASAR	**Alice Springs**	**162.46**	**155**	PKPab	**PKPab**	**13 51 35.9**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=202,slow=3.9,SNR=5.1						

*MDD **20** 13:32:27.7±0.7, 44.24N×7.44W, h0km, mb_Lg2.9/27, Error ellipse: s-maj=6.5km s-min=3.1km az=154.0*
*LDG **20** 13:32:28.6±0.2, 44.45N×7.55W, h20km, Ml3.0/15, Error ellipse: s-maj=5.4km s-min=2.9km az=117.0*
*INMG **20** 13:32:30.3±1.1, 44.22N×7.78W, h8km, ML2.1, Error ellipse: s-maj=6.7km s-min=5.2km az=66.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar Cantabrico*

ISC 20 13:32:23.5±1.2, 44.51N±0.04×7.51W±0.05, h10km, n33, σ2.79/62, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**1.22**	**167**	Pn	**Pn**	**13 32 48.1**	**+1.4**
EPON				Sn	**Sb**	**13 33 01.6**	**-0.8**
EPON				*i* lVmb_Lg		13 33 04.6	
EAGO	**Agolada(Pontev**	**1.76**	**194**	Pn	**Pn**	**13 32 55.1**	**+0.9**
EAGO				Sn	**Sn**	**13 33 13.8**	**-2.8**
EAGO				*i* lVmb_Lg		13 33 16.9	
EMAZ	**Mazaricos**	**1.89**	**215**	Pn	**Pn**	**13 32 56.6**	**+0.7**
EMAZ				Sn	**Sn**	**13 33 16.2**	**-3.6**
EMAZ				*i* lVmb_Lg		13 33 17.2	
EARI	**Arriondas**	**2.06**	**125**	Pn	**Pn**	**13 33 01.0**	**+2.8**
EARI				Sn	**Sn**	**13 33 24.1**	**+0.1**
EARI				*i* lVmb_Lg		13 33 27.0	
EZAM	**Zamans**	**2.52**	**200**	Pn	**Pn**	**13 33 05.4**	**+0.9**
EZAM				Sn	**Sn**	**13 33 32.5**	**-2.7**
EZAM				*i* lVmb_Lg		13 33 33.9	
PGAV	**Gavieira, Arco**	**2.61**	**193**	*e*Pn	**Pn**	**13 33 06.6**	**+0.8**
PGAV				*e*Sn	**Sn**	**13 33 34.5**	**-3.1**
PGAV				*e*Sg	**Sb**	**13 33 45.8**	**+3.3

MFF					*e*Sn		**Sn**	13 34 47.3	-3.3
	1.6nm,0.2s								
MFF					*e*Sn		Sb	13 34 49.3	-19
	3.6nm,0.3s								
EPF	**Esparros**	**5.88**	**102**		*e*Sn		**Sn**	**13 34 53.4**	**-4.7**
	2.5nm,0.2s								
FLN	**La Foliniere**	**6.44**	**46**		*e*Sn		**Sn**	**13 35 08.5**	**-3.3**
	1.0nm,0.2s								
RJF	**Les Rejaudoux**	**6.46**	**80**		*e*Sn		**Sn**	**13 35 08.3**	**-4.1**
	1.7nm,0.2s								
LDF	**La Druitiere**	**6.53**	**49**		*e*Pn		**Pn**	**13 34 02.7**	**+3.2**
LDF					*e*Sn		**Sn**	**13 35 10.6**	**-3.4**
	0.6nm,0.2s								
CAF	**Calviac**	**6.83**	**83**		*e*Pn		**Pn**	**13 34 06.7**	**+2.9**
CAF					*e*Sn		**Sn**	**13 35 16.7**	**-5.0**
	1.5nm,0.2s								
TCF	**Toulx Ste Croi**	**7.07**	**72**		*e*Pn		**Pn**	**13 34 08.7**	**+1.6**
TCF					*e*Sn		**Sn**	**13 35 22.2**	**-5.3**
	2.2nm,0.2s								
MTLF	**Montolieu**	**7.12**	**96**		*e*Pn		**Pn**	**13 34 10.1**	**+2.3**
MTLF					*e*Sn		**Sn**	**13 35 23.2**	**-5.5**
	3.9nm,0.3s								
AVF	**Avril sur Loir**	**7.95**	**70**		*e*Pn		**Pn**	**13 34 22.2**	**+3.2**

*BYKL **20** 13:49:10.6±0.3,51°.24N×98°.16E*
*ASRS **20** 13:49:12.2±0.7,52°.N±3°×9°.8E±°, h8km,MLh3.8/6,Error ellipse: s-maj=7.5km s-min=5.9km az=127.6,confirmed*
ISC 20 13:49:08.9±0.9,51°.19N±0°.05×98°.18E±0°.02,h10km,n39, σ3s98/66,1C-4D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.69**	**36**	⇓*i*	Pg		**Pb**	**13 49 40.7**	**+0.5**
	14nm,0.5s								
ORL				⇓*i*	Pg		**Pb**	**13 49 40.7**	**+0.5**
	15nm,0.5s								
ORL				⇓*i*	Pg		**Pb**	**13 49 40.7**	**+0.5**
	22nm,0.5s								
ORL					*e*Sg		**Sb**	**13 50 02.4**	**+0.9**
ORL					Pmax				
	70nm,0.3s								
ORL					Smax				
	288nm,0.8s								
MOY	**Mondy**	**1.82**	**74**	⇑*i*	Pg		**Pb**	**13 49 43.7**	**+1.2**
MOY					*e*Sg		**Sb**	**13 50 07.4**	**+2.0**
MOY					Pmax				
	80nm,0.6s								
MOY					Smax				
	630nm,0.9s								
KZLR	**Kyzyl**	**2.39**	**284**		Pg		**Pb**	**13 49 52.1**	**+0.1**
KZLR					Sg		**Sb**	**13 50 23.1**	**+1.6**
KZLR	**Kyzyl**	**2.39**	**284**		*e*Pg		**Pb**	**13 49 53.3**	**+1.3**
KZLR					*e*Sg		**Sb**	**13 50 23.7**	**+2.2**
ARS	**Arshan**	**2.75**	**73**		*e*Pn		**Pn**	**13 49 56.4**	**+3.3**
ARS					*e*Pg		**Pb**	**13 50 00.4**	**+2.2**
ARS					*e*Sg		**Sb**	**13 50 36.1**	**+4.2**
ARS					Pmax				
	4.0nm,0.8s								
ARS					Smax				
	105nm,1.2s								
ARDR	**Aradan**	**3.26**	**297**		Pn		**Pn**	**13 50 03.3**	**+3.2**
ARDR					Pg		**Pb**	**13 50 09.8**	**+3.0**
ARDR					Sg		**Sb**	**13 50 50.5**	**+3.9**
ARDR	**Aradan**	**3.26**	**297**		*e*Pn		**Pn**	**13 50 02.8**	**+2.7**
ARDR					*e*Pg		**Pb**	**13 50 09.0**	**+2.2**
ARDR					*e*Sg		**Sb**	**13 50 50.6**	**+4.1**
ZAK	**Zakamensk**	**3.34**	**102**	⇓*i*	Pn		**Pn**	**13 50 04.2**	**+3.0**
ZAK					*e*Pg		**Pb**	**13 50 10.3**	**+2.1**
ZAK					*e*Sg		**Sb**	**13 50 54.7**	**+5.8**
ZAK					Pmax				
	24nm,0.4s								
ZAK					Smax				
	208nm,1.3s								
TLY	**Talaya**	**3.46**	**80**		*e*Pn		**Pn**	**13 50 05.3**	**+2.5**
TLY					*e*Pg		**Pb**	**13 50 12.0**	**+1.8**
TLY					*e*Sg		**Sb**	**13 50 57.5**	**+5.3**
TLY					Pmax				
	10.0nm,0.7s								
TLY					Smax				
	77nm,1.1s								
IRK	**Irkutsk**	**3.93**	**72**		*e*Sg		**Sg**	**13 51 12.1**	**-3.0**
IRK					Smax				
	317nm,0.5s								
IVK	**Ivanovka**	**3.94**	**79**		*e*Pn		**Pn**	**13 50 12.7**	**+3.2**
IVK					*e*Pg		**Pb**	**13 50 21.1**	**+2.6**
IVK					*e*Sg		**Sg**	**13 51 13.2**	**-2.3**
IVK					Pmax				
	11nm,0.6s								
IVK					Smax				
	99nm,0.8s								
LSTR	**Listvyanka**	**4.21**	**78**		*e*Pg		**Pb**	**13 50 25.5**	**+2.5**
LSTR					*e*Sg		**Sb**	**13 51 20.1**	**+6.2**
LSTR					Pmax				
	2.0nm,0.5s								
LSTR					Smax				
	62nm,1.4s								
MINR	**Mina**	**4.43**	**329**		Pg		**Pb**	**13 50 28.3**	**+1.6**
MINR					Sg		**Sb**	**13 51 25.2**	**+5.1**
MINR	**Mina**	**4.43**	**329**		*e*Pg		**Pb**	**13 50 30.7**	**+4.0**
MINR					*e*Sg		**Sg**	**13 51 28.5**	**-2.4**
CERR	**Cheremushki**	**4.50**	**294**		Sg		**Sg**	**13 51 30.0**	**-3.2**
BGT	**Bolshoye Golou**	**4.58**	**76**		*e*Pn		**Pn**	**13 50 20.5**	**+2.2**
BGT					*e*Pg		**Pb**	**13 50 33.0**	**+3.6**
BGT					*e*Sg		**Sb**	**13 51 31.9**	**+7.2**
BGT					Pmax				
	8.0nm,0.4s								
BGT					Smax				
	91nm,0.7s								
DJO	**Djoy, Khakassi**	**4.59**	**293**		Pg		**Pb**	**13 50 31.7**	**+2.2**
DJO					Sg		**Sg**	**13 51 34.4**	**-1.8**
TEL	**Teeli**	**5.03**	**271**		Pn		**Pn**	**13 50 25.1**	**+0.7**
TEL					Pg		**Pb**	**13 50 39.1**	**+2.1**
TEL					Sg		**Sb**	**13 51 43.7**	**+6.1**
VEH	**Verkhnyaya Baz**	**5.26**	**296**		Pn		**Pn**	**13 50 29.9**	**+2.3**
VEH					Pg		**Pb**	**13 50 43.2**	**+2.3**
VEH					Sg		**Sg**	**13 51 53.8**	**-3.7**
TRG	**Tyrgan**	**5.29**	**70**		*e*Pn		**Pn**	**13 50 29.8**	**+1.8**
TRG					*e*Pg		**Pb**	**13 50 45.1**	**+3.7**
TRG					*e*Sg		**Sg**	**13 51 54.4**	**-4.2**
TRG					Pmax				
	2.0nm,0.3s								
TRG					Smax				
	76nm,1.0s								
HRMR	**Khuramsha**	**5.51**	**82**		*e*Pg		**Pb**	**13 50 49.4**	**+4.2**
HRMR					*e*			13 50 52.5	
HRMR					*e*Sg		**Sg**	**13 52 01.0**	**-4.7**
HRMR					max				
	22nm,1.3s								
HRMR					Smax				
	69nm,1.4s								
ZRHB	**Zarechye**	**5.72**	**73**		*e*Sg		**Sg**	**13 52 07.9**	**-4.7**
ZRHB					Smax				
	316nm,1.6s								
GZLN	**Zheleznogorsk**	**5.82**	**335**		Pg		**Pb**	**13 50 54.8**	**+4.3**
GZLN					Sg		**Sg**	**13 52 08.4**	**-7.2**
UUDB	**Ulan-Yde**	**5.96**	**80**		*e*Sg		**Sg**	**13 52 14.8**	**-5.3**
UUDB					Smax				
	52nm,1.8s								
OGRR	**Ongureny**	**6.26**	**63**		*e*Pg		**Pb**	**13 51 02.2**	**+4.2**
OGRR					*e*Sg		**Sg**	**13 52 23.4**	**-6.4**
OGRR					Pmax				
	4.0nm,0.5s								
OGRR					Smax				
	58nm,1.2s								
KELR	**Kotokel**	**6.32**	**72**		*e*Sg		**Sg**	**13 52 25.7**	**-5.9**
CUR	**Chagan-Uzun**	**6.35**	**264**		Sg		**Sg**	**13 52 26.6**	**-5.9**
GORB	**Goryachinsk**	**6.48**	**70**		*e*Sg		**Sg**	**13 52 30.3**	**-6.6**
ULGR	**Ulagan, Altay**	**6.49**	**269**		Sg		**Sg**	**13 52 31.0**	**-6.1**
YALR	**Yailyu, Altay**	**6.63**	**279**		Sg		**Sg**	**13 52 36.5**	**-5.0**
ULN	**Ulaanbaatar**	**6.66**	**116**		*e*Pg		Pb	13 51 11.4	+6.5
ULN					*e*Sg		**Sg**	**13 52 38.5**	**-4.2**
ULN					Pmax				
	1.0nm,0.2s								
ULN					Smax				
	35nm,1.9s								
AKAR	**Aktash**	**6.76**	**267**		Sg		Sb	13 52 37.5	+10
ARTR	**Artybash**	**6.83**	**279**		Sg		Sb	13 52 39.2	+10
SYVR	**Suvo**	**7.64**	**67**		*e*Sg		Sg	13 53 05.8	-8.1
SYVR					Smax				
	43nm,1.8s								
NIZB	**Nizh Angarsk**	**8.18**	**51**		*e*Sg		**Sg**	**13 53 23.5**	**-7.8**
NIZB					Smax				
	70nm,1.9s								

YLYR	**Ulyunkhan**	**8.65**	**60**		*e*Pn		Pn	13 51 26.8	+13
YLYR					*e*Pg		Pg	13 51 45.8	-8.6
YLYR					*e*Sg		Sg	13 53 36.8	-9.5
YLYR					Smax				
	39nm,1.7s								
KMO	**Kumora**	**9.06**	**54**		*e*Pn		**Pn**	**13 51 22.5**	**+2.8**
KMO					*e*Pg			13 51 53.6	
KMO					*e*Sg		Sn	13 53 50.0	+48
KMO					Pmax				
	2.0nm,0.4s								
KMO					Smax				
	40nm,1.4s								
KPC	**Khapcheranga**	**9.18**	**94**		*e*Sg		Sn	13 53 56.2	+51
KPC					Smax				
	24nm,1.4s								
UKT	**Uakit**	**10.19**	**59**		*e*Sg		Sn	13 54 25.2	+56
UKT					Smax				
	16nm,1.9s								

*IDC **20** 13:52:59.0±3.2,4°.38S×133°.87E,h0km,mb3.5/1, mbtmp3.7/4,ML3.7/3,Error ellipse: s-maj=129.3km s-min=30.0km az=82.0*
*DJA **20** 13:53:03.7±0.6,4°.S±4°×13°.4E±°,h24km±5km,M4.3/12, mB5.5/1,mb4.5/6,MLv4.2/12,Mw(mB)4.9/1*
ISC 20 13:52:55.9±0.9,4°.32S±0°.06×134°.22E±0°.08,h21km,n14, σ2s76/17,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.83**	**322**			P	**Pn**	**13 53 13.3**	**+0.9**
KMPI						S	**Sb**	**13 53 21.0**	**-1.4**
FAKI	**Fak Fak**	**2.41**	**305**			P	**Pn**	**13 53 36.0**	**+1.9**
RKPI	**Ransiki, Papua**	**2.79**	**359**			P	**Pb**	**13 53 43.7**	**-1.3**
SRPI	**Serui, Papua**	**3.16**	**40**			P	**Pb**	**13 53 52.4**	**+1.1**
BAKI	**Biak**	**3.63**	**31**			P	**Pb**	**13 53 58.6**	**-0.8**
BNDI	**Bandanaira**	**4.31**	**267**			P	**Pn**	**13 54 03.4**	**+3.2**
SWI	**Sorong**	**4.53**	**319**			P	**Pn**	**13 54 03.8**	**+0.5**
SMPI	**Sarmi**	**5.04**	**63**			P	**Pb**	**13 54 21.7**	**-1.8**
MSAI	**Masohi**	**5.37**	**280**			P	**Pn**	**13 54 15.2**	**+0.4**
AAI	**Ambon**	**6.04**	**276**			P	**Pn**	**13 54 26.6**	**+2.5**
	0.4nm64nm,0.8s								
WRA	**Warramunga Arr**	**15.53**	**180**			Pn	**P**	**13 56 38.3**	**+0.3**
	0.2nm,0.3s,baz=355,slow=13,SNR=5.9								
WRA						Sn	**Sn**	**13 59 23.2**	**-2.1**
	0.1nm,0.3s,baz=360,slow=23,SNR=4.1								
	1.2nm,0.8s								
FITZ	**Fitzroy Crossi**	**16.06**	**211**			Pn	**P**	**13 56 43.8**	**-0.1**
	0.3nm,0.3s,baz=29,slow=10.0,SNR=16								
FITZ						Sn	**Sn**	**13 59 31.4**	**-6.9**
	0.2nm,0.3s,baz=134,slow=21,SNR=3.2								
	1.9nm,0.4s								
ASAR	**Alice Springs**	**19.24**	**181**			P	**Pn**	**13 57 24.4**	**+4.4**
	0.4nm,0.3s,baz=4.4,slow=11,SNR=68								
ASAR						S	**Sn**	**14 00 53.0**	**-2.2**
	0.6nm,0.9s,baz=358,slow=25,SNR=2.7								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**68.40**	**324**			P	P	14 04 01.7	+5.6
	0.3nm,0.6s,baz=115,slow=7.8,SNR=4.2								
	0.3nm,0.6s								

IDC 20 14:02:05.0±2.4,0°.15N×121°.45E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=218.5km s-min=27.2km az=68.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**148**			P	P	14 07 17.7	-0.3
	1.1nm,0.7s,baz=325,slow=11,SNR=8.2								
	1.1nm,0.7s								
ASAR	**Alice Springs**	**26.58**	**154**			P	P	14 07 45.3	+0.2
	0.3nm,0.8s,baz=315,slow=7.8,SNR=6.4								
	0.3nm,0.8s								
SONM	**Songino Array**	**49.27**	**347**			P	P	14 10 55.5	-0.1
	0.3nm,0.4s,baz=168,slow=7.4,SNR=3.8								
	0.3nm,0.4s								

*IDC **20** 14:12:32.7±1.4,34°.82N×25°.80E,h0km,mb3.7/5, mbtmp3.7/8,ML3.6/3,Error ellipse: s-maj=28.3km s-min=10.6km az=19.0*
*ATH **20** 14:12:33.1,34°.87N±25°.84E,h12km±2km,ML3.3/6, Manual Solution by A.Plessa First location: 2019/08/20 14:13:43, This location: 2019/08/20 14:38:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 0 km*
*THE **20** 14:12:34.3,35°.N±3°×2°.6E±°,h0km±1km,M3.2/11, MLh3.2/11*
ISC 20 14:12:33.9±1.4,34°.91N±0°.06×25°.84E±0°.03,h5km±9km, n37,σ0s85/48,mb3.6/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.37**	**56**			P	**Pg**	**14 12 41.1**	**0.0**
ZKR						S	**Sg**	**14 12 46.9**	**+0.9**
ZKR	**Zakros**	**0.37**	**56**			P	**Pg**	**14 12 40.9**	**-0.1**
ZKR						S	**Sg**	**14 12 46.7**	**+0.7**
NPS	**Neapolis**	**0.40**	**332**			P	**Pg**	**14 12 41.4**	**-0.1**
NPS						S	**Sg**	**14 12 47.8**	**+0.9**
NPS	**Neapolis**	**0.40**	**332**			P	**Pg**	**14 12 41.4**	**-0.1**
NPS						S	**Sg**	**14 12 47.7**	**+0.9**
IACM	**Heraklion**	**0.74**	**302**			P	**Pb**	**14 12 48.6**	**-0.7**
IACM						S	**Sb**	**14 13 00.1**	**+0.4**
IACM	**Heraklion**	**0.74**	**302**			P	**Pg**	**14 12 48.1**	**-0.1**
IACM						S	**Sg**	**14 12 57.7**	**-0.1**
IDI	**Anoyia**	**0.86**	**296**			P	**Pg**	**14 12 49.9**	**-0.5**
IDI						S	**Sb**	**14 13 03.0**	**-0.4**
IDI	**Anoyia**	**0.86**	**296**			Pg	**Pg**	**14 12 49.9**	**-0.5**
	26nm,0.3s,baz=117,slow=14,SNR=122								
IDI						Lg	Lg	14 13 02.3	
	154nm,0.3s,baz=200,slow=21,SNR=25								
IDI	**Anoyia**	**0.86**	**296**			P	**Pg**	**14 12 49.4**	**-1.0**
IDI						S	**Sg**	**14 13 02.2**	**+0.5**
TMBK	**Timbaki Herakl**	**0.90**	**281**			P	**Pb**	**14 12 51.3**	**-0.6**
TMBK						S	**Sb**	**14 13 04.9**	**+0.8**
TMBK	**Timbaki Herakl**	**0.90**	**281**			P	**Pg**	**14 12 50.9**	**-0.1**
PRNS	**Prines Rethymn**	**1.19**	**293**			P	**Pb**	**14 12 56.5**	**-0.4**
PRNS						S	**Sn**	**14 13 15.4**	**+1.8**
PRNS	**Prines Rethymn**	**1.19**	**293**			P	**Pb**	**14 12 56.4**	**-0.4**
KARP	**Karpathos**	**1.26**	**59**			P	**Pg**	**14 12 57.5**	**-0.5**
KARP	**Karpathos**	**1.26**	**59**			P	**Pg**	**14 12 56.7**	**-1.3**
GVD	**Gavdhos**	**1.44**	**268**			P	**Pb**	**14 13 01.8**	**+0.6**
GVD						S	**Sn**	**14 13 22.3**	**+2.3**
GVD	**Gavdhos**	**1.44**	**268**			P	**Pn**	**14 12 59.9**	**-0.7**
THERA	**Ancient Thera,**	**1.48**	**349**			P	**Pn**	**14 13 00.6**	**-0.7**
THR6	**Thira Island,**	**1.49**	**346**			P	**Pn**	**14 13 01.4**	**+0.1**
THR3	**Thira Island,**	**1.54**	**347**			P	**Pb**	**14 13 02.9**	**+0.1**
THR5	**Thira Island,**	**1.56**	**345**			P	**Pn**	**14 13 01.7**	**-0.6**
SAP3	**Santorini-Thir**	**1.57**	**345**			P	**Pb**	**14 13 03.3**	**-0.2**
MHLO	**Agia Marina, M**	**2.13**	**327**			P	**Pn**	**14 13 09.1**	**-1.0**
ARG	**Arkhangelos**	**2.28**	**54**			P	**Pn**	**14 13 12.9**	**+0.8**
ANKY	**Antikythira Is**	**2.28**	**295**			P	**Pn**	**14 13 13.4**	**+1.2**
ANKY	**Antikythira Is**	**2.28**	**295**			P	**Pn**	**14 13 13.0**	**+0.7**
SMG	**Samos**	**2.91**	**16**			P	**Pn**	**14 13 20.6**	**-0.3**
VLI	**Veliai**	**2.97**	**308**			P	**Pn**	**14 13 21.8**	**+0.1**
VLI	**Veliai**	**2.97**	**308**			P	**Pn**	**14 13 20.6**	**-1.0**
MMAI	**Mount Meron Ar**	**8.17**	**101**			Pn	**Pn**	**14 14 34.3**	**+1.1**
	1.1nm,0.3s,baz=274,slow=14,SNR=1.9								
	0.5nm,0.3s								
VAE	**Valguarnera**	**9.59**	**289**			Pn	**Pn**	**14 14 50.6**	**-2.0**
	3.4nm,0.3s,baz=72,slow=13,SNR=2.2								
	9.9nm,0.4s								
AKASG	**Malin Array Be**	**15.97**	**8**			Pn	**Pn**	**14 16 19.0**	**-0.2**
	0.9nm,0.3s,baz=197,slow=11,SNR=4.4								
	0.6nm,0.6s								
EKA	**Eskdalemuir Ar**	**28.57**	**325**			P	**P**	**14 18 30.4**	**-0.1**
	0.3nm,0.4s,baz=132,slow=9.4,SNR=2.0								
	0.3nm,0.4s								
TORD	**Torodi Ar. Bea**	**30.76**	**231**			P	**P**	**14 18 49.3**	**-1.0**
	0.6nm,1.0s,baz=34,slow=9.2,SNR=2.8								
	0.6nm,1.0s								
KURBB	**Kurchatov Arra**	**40.85**	**51**			P	**P**	**14 20 16.1**	**-0.4**
	0.7nm,0.3s,baz=277,slow=8.5,SNR=1.6								
	0.7nm,0.3s								
MKAR	**Makanchi Array**	**43.45**	**56**			P	**P**	**14 20 38.4**	**+0.6**
	0.7nm,0.6s,baz=278,slow=7.4,SNR=5.7								
	0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**44.78**	**46**			P	**P**	**14 20 47.5**	**-0.8**
	0.4nm,0.5s,baz=254,slow=8.4,SNR=2.1								
	0.4nm,0.5s								

*IDC **20** 14:12:58.7±1.1,7°.89N×37°.97W,h0km,mb4.1/6, mbtmp4.1/6,Error ellipse: s-maj=39.4km s-min=22.0km az=160.0*
*NEIC **20** 14:12:59.1±1.6,7°.68N±0°.09×37°.4W±0°.2,h10km±1km, mb4.5/12,Error ellipse: s-maj=27.1km s-min=14.5km az=85.0*
ISC 20 14:13:00.2±0.6,7°.7N±0°.1×37°.82W±0°.10,h10km,n22, σ1s18/19,mb4.4/10,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.56**	**172**			Pn	**Pn**	**14 16 11.9**	**-0.9**
SACV	**Santiago Islan**	**15.69**	**61**			P	**Pn**	**14 16 39.3**	**-2.4**
BOAV	**Boa Vista**	**23.21**	**258**				**P**	**14 18 06.4**	**-1.3**
BOAV						IAmb	IAmb	14 18 08.7	
	comp=Z,12nm,1.3s								
SVN	**Savane Anatole**	**23.96**	**289**			P	**P**	**14 18 16.2**	**+1.1**
GDHS	**Morne Mazeau,**	**24.91**	**292**			P	**P**	**14 18 25.5**	**+1.8**
BDFB	**Brasilia**	**25.28**	**204**			P	**P**	**14 18 27.6**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=40,slow=7.9,SNR=3.1								
	comp=Z,2.4nm,0.5s								
H10N3	**ASCENSION HYDR**	**27.90**	**123**			T	T	14 48 30.0	
	baz=303,slow=75,SNR=10								
H10N2	**ASCENSION HYDR**	**27.90**	**123**			T	T	14 48 42.2	
	baz=303,slow=75,SNR=10								
H10N1	**ASCENSION HYDR**	**27.92**	**123**			T	T	14 48 38.5	
	baz=303,slow=75,SNR=12								
SAML	**Samuel**	**30.20**	**237**				**P**	**14 19 11.0**	**-0.2**
DBIC	**Dimbokro**	**32.72**	**90**			P	**P**	**14 19 34.2**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=296,slow=7.8,SNR=3.4								
	comp=Z,4.9nm,0.8s								
LPAZ	**La Paz**	**38.31**	**231**			P	**P**	**14 20 22.4**	**+0.4**
LPAZ	**La Paz**	**38.31**	**231**			P	**P**	**14 20 22.6**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=52,slow=6.2,SNR=15								
	comp=Z,4.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**39.20**	**79**			P	**P**	**14 20 30.1**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=278,slow=9.0,SNR=11								
	comp=Z,1.9nm,0.6s								
Q56A	**Snyder Ridge,**	**48.50**	**317**			P	**P**	**14 21 44.2**	**+0.8**
Q56A						IAmb	IAmb	14 21 44.3	
	comp=Z,12nm,1.4s								
BI02	**San Fabin de**	**54.13**	**213**			P	**P**	**14 22 25.2**	**-0.5**
BI02						IAmb	IAmb	14 22 26.6	
	comp=Z,6.1nm,0.8s								
TXAR	**Lajitas Array**	**65.24**	**299**			P	**P**	**14 23 40.9**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=78,slow=6.0,SNR=4.2								
	comp=Z,0.3nm,0.7s								
HWUT	**Hardware Ranch**	**72.79**	**311**			P	**P**	**14 24 28.5**	**-0.9**
HWUT						IAmb	IAmb	14 24 29.6	
	comp=Z,3.2nm,0.8s								
214A	**Organ Pipe Nat**	**73.25**	**301**			P	**P**	**14 24 32.3**	**+0.1**
DLMT	**Dillon**	**73.88**	**315**			P	**P**	**14 24 35.1**	**-0.6**
DLMT						IAmb	IAmb	14 24 37.0	
	comp=Z,5.8nm,1.2s								
OVMT	**Ovando**	**74.32**	**317**			P	**P**	**14 24 37.8**	**-0.5**
SNAA	**Sanae**	**82.48**	**169**			P	**P**	**14 25 23.9**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=306,slow=5.3,SNR=5.7								
	comp=Z,1.8nm,0.9s								

*IDC **20** 14:31:28.9±1.9,11°.14S×123°.54E,h56km±23km,mb3.5/1, mbtmp3.9/4,ML3.8/3,Error ellipse: s-maj=53.9km s-min=11.5km az=75.0*
*DJA **20** 14:31:29.4±1.2,11°.S±14°×12°.3E±°,h10km,M3.7/7, MLv3.7/7*
ISC 20 14:31:27.2±0.9,11°.15S±0°.07×123°.40E±0°.09,h35km,n15, σ2s02/15,South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.97**	**15**			P	**Pn**	**14 31 45.2**	**+0.7**
	727nm,0.4s,baz=207,slow=3.2,SNR=154								
BATI						LR	LR	14 31 51.8	
	comp=Z,148nm,20.2s,baz=180,slow=24								
BATI						S	**Sn**	**14 31 59.4**	**+2.4**
	380nm,0.3s,baz=260,slow=15,SNR=11								
BATI	**Baumata**	**0.97**	**15**			P	**Pn**	**14 31 44.3**	**-0.1**
SOEI	**Soe**	**1.63**	**32**			P	Pn	14 31 56.1	+2.6
MMRI	**Maumere**	**2.75**	**335**			P	**Pn**	**14 32 07.4**	**-1.5**
EDFI	**Ende, Flores**	**2.92**	**325**			P	**Pn**	**14 32 09.8**	**-1.5**
BASI	**Baing, Sumba**	**2.92**	**288**			P	**Pn**	**14 32 11.9**	**+0.6**
WBSI	**Waikabubak, Su**	**4.22**	**290**			P	**Pn**	**14 32 28.4**	**-0.7**
PLAI	**Plampang**	**6.00**	**292**			P	**Pn**	**14 32 52.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**7.24**	**163**			P	**Pn**	**14 33 13.1**	**+2.5**
	1.5nm,0.3s,baz=9.4,slow=14,SNR=28								
FITZ						S	**Sn**	**14 34 33.0**	**+1.4**
	11nm,0.7s,baz=154,slow=19,SNR=8.3								
	2.9nm,0.3s								
WRA	**Warramunga Arr**	**13.69**	**131**			P	**Pn**	**14 34 39.2**	**+0.3**
	0.4nm,0.3s,baz=308,slow=14,SNR=9.5								
WRA						S	**Sn**	**14 37 05.1**	**-4.7**
	1.4nm,0.7s,baz=305,slow=23,SNR=6.2								
	1.8nm,0.7s								
ASAR	**Alice Springs**	**15.97**	**143**			P	**Pn**	**14 35 10.5**	**+1.1**
	0.4nm,0.3s,baz=318,slow=12,SNR=37								
ASAR						S	**Sn**	**14 38 03.9**	**-1.5**
	1.5nm,0.9s

DGS					Lg	Lg	15 01 04.5	
	3.3nm,0.6s							
GAR	**Garm**	**3.05**	**210**	⇑*eP*		**Pn**	**15 00 19.5**	**+0.5**
GAR				⇑*eS*		**Sn**	**15 00 55.1**	**-1.0**
KST	**Kastek**	**3.06**	**62**	Pg		**Pb**	**15 00 26.1**	**+1.2**
	1.0nm,0.3s							
KST				Lg	Lg		15 01 07.0	
	5.0nm,0.4s							
KST	**Kastek**	**3.06**	**62**	*eP*		**Pb**	**15 00 26.1**	**+1.2**
	1.0nm,0.3s							
KST				*eS*		**Sg**	**15 01 07.0**	**-1.1**
	5.0nm,0.4s							
KTBS	**Karatobe**	**3.84**	**56**	Pg		**Pb**	**15 00 39.5**	**+1.4**
	0.6nm,0.2s							
KTBS				Lg	Lg		15 01 29.9	
	3.0nm,0.5s							

IDC 20 15:05:29.6±6.5, 16°21S×13°89W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=325.9km s-min=112.3km az=105.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.24**	**354**		T	T	15 14 41.2	
	baz=176,slow=74,SNR=29							
H10S3	**ASCENSION HYDR**	**7.25**	**354**		T	T	15 14 43.1	
	baz=44,slow=74,SNR=26							
H10N1	**ASCENSION HYDR**	**8.33**	**356**		T	T	15 16 20.6	
	baz=179							
H10N3	**ASCENSION HYDR**	**8.34**	**356**		T	T	15 16 09.7	
	baz=179,SNR=6.9							
H10N2	**ASCENSION HYDR**	**8.35**	**356**		T	T	15 16 21.5	
	baz=179							
DBIC	**Dimbokro**	**24.42**	**22**	P		P	15 10 51.7	+1.5
	3.1nm,0.8s,baz=225,slow=2.9,SNR=3.1							
	3.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**32.98**	**29**	P		P	15 12 05.3	-1.3
	1.7nm,0.6s,baz=211,slow=9.0,SNR=9.7							
	1.7nm,0.6s							
BRTR	**Keskin Array B**	**71.11**	**37**	P		P	15 16 51.2	+1.0
	1.0nm,0.7s,baz=216,slow=7.1,SNR=4.0							
	1.0nm,0.7s							
AKASG	**Malin Array Be**	**76.59**	**27**	P		P	15 17 21.3	-0.5
	0.5nm,0.5s,baz=224,slow=5.1,SNR=7.4							
	0.5nm,0.5s							

*IDC **20** 15:07:44.5±0.7, 38°50N×139°46E, h0km, mb3.6/11, mbtmp3.7/15, ML3.1/4, MS2.3/1, Error ellipse: s-maj=20.2km s-min=15.3km az=99.0*
*JMA **20** 15:07:46.5±0.1, 38°6N±0°2×139°4E±0°3, h11km, MD3.9/40, MV4.0/40, OFF N NIIGATA PREF .*
JMA Felt II J1 at OFF N NIIGATA PREF .

ISC 20 15:07:46.4±0.8, 38°52N±0°04×139°44E±0°04, h12km±5km, n37, σ0°93/33, mb3.7/11, 9D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.16**	**249**	*eP*		**Pg**	**15 07 49.9**	**-0.3**
JAW				*eS*		**Sg**	**15 07 52.4**	**-0.4**
JAW	**Awa shima**	**0.16**	**249**	A		A	15 07 49.9	
	comp=N,30nm,1.1s,comp=E,42nm,0.5s							
JYA	**Atsumi**	**0.23**	**70**	⇓*eP*		**Pb**	**15 07 51.8**	**-0.7**
JYA				⇓*eS*		**Sb**	**15 07 55.6**	**+1.0**
JYA	**Atsumi**	**0.23**	**70**	A		A	15 07 51.8	
	comp=N,77nm,0.3s,comp=E,53nm,0.6s							
JYS	**Shirataka**	**0.57**	**121**	⇓*iP*		**Pb**	**15 07 58.2**	**-0.1**
JYS				⇓S		**Sb**	**15 08 06.8**	**+0.3**
JYS	**Shirataka**	**0.57**	**121**	A		A	15 07 58.2	
	comp=N,10.0nm,2.4s,comp=E,9.0nm,0.8s							
JYYZ	**Yamagatayuza**	**0.63**	**37**	*iP*		**Pb**	**15 07 59.5**	**+0.2**
JYYZ	**Yamagatayuza**	**0.63**	**37**	A		A	15 07 59.5	
	comp=N,9.0nm,6.9s,comp=E,7.0nm,1.7s							
JNS	**Sasagawa**	**0.70**	**188**	*iP*		**Pg**	**15 08 00.1**	**+0.1**
JNS				S		**Sg**	**15 08 09.8**	**+0.5**
JNS	**Sasagawa**	**0.70**	**188**	A		A	15 08 00.1	
	comp=N,2.0nm,0.2s,comp=E,4.0nm,0.6s							
JYAR	**Yonezawaarcadi**	**0.82**	**137**	A		A	15 08 02.9	
	comp=N,7.0nm,0.5s,comp=E,8.0nm,0.4s							
JYK	**Kaneyama**	**0.82**	**60**	⇓*iP*		**Pb**	**15 08 02.2**	**-0.4**
JYK				⇓*eS*		**Sb**	**15 08 13.0**	**-0.7**
JYK	**Kaneyama**	**0.82**	**60**	A		A	15 08 02.2	
	comp=N,3.0nm,1.4s,comp=E,4.0nm,0.3s							
JOU	**Okura**	**0.97**	**98**	⇓*iP*		**Pn**	**15 08 05.2**	**-0.7**
JOU				⇓S		**Sn**	**15 08 18.8**	**-0.8**
JOU	**Okura**	**0.97**	**98**	A		A	15 08 05.2	
	comp=N,5.0nm,0.6s,comp=E,5.0nm,0.7s							
JSD	**Sado**	**1.04**	**243**	⇓*iP*		**Pb**	**15 08 04.9**	**-1.5**
JIZZ	**Izumozaki**	**1.14**	**211**	A		A	15 08 07.8	
	comp=N,11nm,1.2s,comp=E,5.0nm,1.0s							
JOFO	**Osakifurukawao**	**1.16**	**85**	A		A	15 08 08.5	
	comp=N,11nm,1.1s,comp=E,14nm,0.6s							
JYW	**Yuwa**	**1.19**	**30**	A		A	15 08 08.3	
	comp=N,8.0nm,1.0s,comp=E,7.0nm,1.2s							
JMM	**Marumori**	**1.25**	**121**	A		A	15 08 10.1	
	comp=N,5.0nm,0.3s,comp=E,5.0nm,0.4s							
JRG	**Rokugo**	**1.28**	**46**	A		A	15 08 10.1	
	comp=N,4.0nm,0.8s,comp=E,6.0nm,0.5s							
JOG3	**Oga3**	**1.43**	**349**	A		A	15 08 12.0	
	comp=N,4.0nm,1.5s,comp=E,3.0nm,1.1s							
MJAR	**Matsushiro Arr**	**2.20**	**207**	Pn		**Pn**	**15 08 23.4**	**+0.6**
	comp=E,1.3nm,0.3s,baz=14,slow=15,SNR=47							
MJAR				Sn		**Sn**	**15 08 51.1**	**+1.2**
	comp=E,5.5nm,0.3s,baz=19,slow=34,SNR=14							
MJAR				LR		LR	15 08 56.4	
	comp=E,66nm,20.7s,baz=15,slow=33							
	comp=E,22nm,0.3s							
ASAJ	**Asahikawa**	**6.08**	**22**	Pn		**Pn**	**15 09 17.0**	**+1.0**
	comp=E,0.3nm,0.3s,baz=207,slow=16,SNR=2.5							
	comp=E,7.6nm,1.0s							
USRK	**Ussuriysk Ar.**	**7.98**	**318**	Pn		**Pn**	**15 09 40.7**	**-1.4**
	comp=E,0.3nm,0.3s,baz=125,slow=14,SNR=3.0							
	comp=E,2.0nm,0.6s							
KSRS	**Korea Array**	**9.16**	**267**	Pn		**Pn**	**15 09 59.5**	**+1.3**
	comp=E,1.5nm,0.3s,baz=80,slow=14,SNR=34							
KSRS				Sn		**Sn**	**15 11 42.8**	**+1.6**
	comp=E,0.3nm,0.3s,baz=75,slow=24,SNR=3.9							
	comp=E,4.8nm,0.4s							
SONM	**Songino Array**	**25.67**	**302**	P		**P**	**15 13 14.5**	**-1.7**
	comp=E,0.4nm,0.4s,baz=112,slow=11,SNR=1.3							
	comp=E,0.4nm,0.4s							
MKAR	**Makanchi Array**	**42.02**	**300**	P		**P**	**15 15 38.1**	**+0.6**
	comp=E,0.1nm,0.5s,baz=92,slow=8.9,SNR=1.6							
	comp=E,0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**43.86**	**307**	P		**P**	**15 15 52.7**	**+0.3**
	comp=E,0.3nm,0.5s,baz=84,slow=8.1,SNR=4.7							
	comp=E,0.3nm,0.5s							
BVAR	**Borovoye Array**	**48.42**	**311**	P		**P**	**15 16 29.0**	**+0.8**
	comp=E,0.4nm,0.5s,baz=75,slow=11,SNR=2.1							
BVAR				PcP		**PcP**	**15 17 54.5**	**+0.1**
	comp=E,0.4nm,0.5s,baz=90,slow=2.9,SNR=1.9							
	comp=E,0.4nm,0.5s							
ILAR	**Eielson Array**	**49.09**	**33**	P		**P**	**15 16 33.1**	**-0.1**
	comp=E,0.7nm,0.7s,baz=275,slow=7.2,SNR=12							
	comp=E,0.7nm,0.7s							
WRA	**Warramunga Arr**	**58.34**	**186**	P		**P**	**15 17 41.1**	**-0.3**
	comp=E,1.2nm,0.6s,baz=2.5,slow=7.3,SNR=13							
WRA				PcP		**PcP**	**15 18 32.5**	**+0.2**
	comp=E,0.5nm,0.7s,baz=4.2,slow=3.9,SNR=1.9							
	comp=E,1.2nm,0.6s							
ASAR	**Alice Springs**	**62.07**	**186**	P		**P**	**15 18 06.3**	**-0.6**
	comp=E,0.4nm,0.6s,baz=2.8,slow=8.2,SNR=7.8							
	comp=E,0.4nm,0.6s							
HFS	**Hagfors**	**72.09**	**335**	P		**P**	**15 19 10.1**	**-0.1**
	comp=E,1.0nm,0.7s,baz=35,slow=5.3,SNR=4.7							
	comp=E,1.0nm,0.7s							
NOA	**NORSAR Array B**	**72.21**	**336**	P		**P**	**15 19 12.1**	**+1.2**
	comp=E,0.9nm,0.8s,baz=38,slow=6.1,SNR=3.1							
	comp=E,0.9nm,0.8s							
NVAR	**Mina Array Bea**	**75.34**	**52**	P		**P**	**15 19 31.0**	**+1.1**
	comp=E,0.5nm,0.7s,baz=314,slow=6.4,SNR=2.9							
	comp=E,0.5nm,0.7s							
TXAR	**Lajitas Array**	**90.43**	**51**	P		**P**	**15 20 46.4**	**-1.7**
	comp=E,0.2nm,0.5s,baz=316,slow=1.9,SNR=2.2							
	comp=E,0.2nm,0.5s							

*IDC **20** 15:11:26.2±2.3, 1°11N×99°12E, h0km, mb3.5/7, mbtmp3.5/8, ML3.9/1, Error ellipse: s-maj=82.7km s-min=21.2km az=60.0*
*DJA **20** 15:11:37.2±0.3, 1°N±2°×9°9E±°, h58km±7km, M3.7/14, MLv3.7/14*

ISC 20 15:11:35.9±0.8, 1°17N±0°06×98°84E±0°06, h86km, n20, σ1°13/20, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.83**	**116**	P		**Pn**	**15 11 53.3**	**-0.1**
MNSI				S		**Sn**	**15 12 06.3**	**-0.2**
GSI	**Gunungsitoli**	**1.27**	**276**	P		**Pn**	**15 11 58.8**	**+0.2**
GSI				S		**Sn**	**15 12 15.3**	**-0.3**
PBSI	**Pulau Batu**	**1.33**	**205**	P		**Pn**	**15 11 59.3**	**-0.1**
PBSI				S		**Sn**	**15 12 16.7**	**-0.4**
PPI	**Padang Panjang**	**2.24**	**136**	P		**Pn**	**15 12 12.1**	**+0.9**
SISI	**Saibi**	**2.49**	**174**	P		**Pn**	**15 12 14.8**	**+0.3**
KCSI	**Kotacane, Aceh**	**2.57**	**336**	P		**Pn**	**15 12 15.8**	**+0.2**
PDSI	**Padang**	**2.63**	**142**	P		**Pn**	**15 12 17.1**	**+0.7**
MLSI	**Meulaboh, Aceh**	**3.92**	**322**	P		**Pn**	**15 12 34.2**	**+0.3**
PPSI	**Pulau Pagai**	**4.07**	**163**	P		**Pn**	**15 12 37.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**17.18**	**0**	P		**Pn**	**15 15 29.4**	**-1.3**
	0.1nm,0.3s,baz=178,slow=12,SNR=1.5							
	0.3nm,0.3s							
H08S2	**Diego Garcia H**	**27.69**	**251**	T		T	15 44 51.9	
	baz=72,slow=75,SNR=5.9							
H08S3	**Diego Garcia H**	**27.70**	**251**	T		T	15 44 51.7	
	baz=72,slow=75,SNR=15							
H08S1	**Diego Carcia H**	**27.71**	**251**	T		T	15 44 51.8	
	baz=72,slow=75,SNR=11							
WRA	**Warramunga Arr**	**40.64**	**123**	P		**P**	**15 19 05.9**	**-2.0**
	0.6nm,0.7s,baz=298,slow=8.2,SNR=5.5							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**42.08**	**128**	P		**P**	**15 19 18.3**	**-1.4**
	0.3nm,0.9s,baz=302,slow=7.8,SNR=5.7							
	0.3nm,0.9s							
KSRS	**Korea Array**	**44.97**	**33**	P		**P**	**15 19 41.7**	**-0.9**
	0.6nm,0.6s,baz=212,slow=7.0,SNR=2.5							
	0.6nm,0.6s							
SONM	**Songino Array**	**46.95**	**7**	P		**P**	**15 19 59.2**	**+1.0**
	0.5nm,0.5s,baz=192,slow=10,SNR=3.0							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**47.69**	**345**	P		**P**	**15 20 04.6**	**+0.8**
	0.2nm,0.3s,baz=155,slow=8.0,SNR=2.6							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**52.21**	**344**	P		**P**	**15 20 39.9**	**+2.0**
	0.2nm,0.5s,baz=172,slow=7.8,SNR=2.0							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**53.87**	**350**	P		**P**	**15 20 52.1**	**+2.1**
	0.5nm,0.4s,baz=165,slow=6.6,SNR=3.0							
	0.5nm,0.4s							

IDC 20 15:21:00.9±70.0, 16°89S×177°78W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1288.0km s-min=175.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.65**	**240**	P		P	15 28 35.6	+0.9
	3.6nm,1.1s,baz=85,slow=15,SNR=4.5							
	3.6nm,1.1s							
WRA	**Warramunga Arr**	**45.41**	**258**	P		P	15 29 20.9	-0.9
	0.3nm,0.3s,baz=95,slow=8.3,SNR=6.9							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**45.65**	**253**	P		P	15 29 23.4	-0.2
	3.4nm,0.6s,baz=98,slow=7.8,SNR=71							
	3.4nm,0.6s							

*SJA **20** 15:23:39.6±0.8, 21°07S×68°91W, h125km±4km, ML4.4, MW4.1*
*NEIC **20** 15:23:41.3±1.0, 21°06S±0°05×68°92W±0°07, h114km±4km, mb4.5/21, ML4.3(GUC), Error ellipse: s-maj=9.5km s-min=6.6km az=78.0*
*GUC **20** 15:23:41.8±0.8, 21°08S×68°90W, h114km±3km, ML4.3*
*IDC **20** 15:23:42.7±0.7, 20°91S×68°49W, h120km±5km, mb3.7/9, mbtmp4.1/11, Error ellipse: s-maj=24.3km s-min=14.3km az=77.0*
*VAO **20** 15:23:42.0±1.1, 20°94S×68°76W, h116km±7km, mb4.5*

ISC 20 15:23:41.0±0.5, 21°06S±0°03×68°84W±0°04, h116km±4km, n130, σ1°44/164, mb4.3/17, 5C-9D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.60**	**272**			**Pn**	**15 23 58.7**	**-0.6**
PB01				Sn		**Sn**	**15 24 11.7**	**-1.3**
PB01	**IPOC Station P**	**0.60**	**272**	⇓*iP*		**Pn**	**15 23 58.8**	**-0.6**
PB01				*i* S		**Sn**	**15 24 11.9**	**-1.2**
PB01				IAML			15 24 12.7	
	comp=E,21μm,0.1s							
PB01	**IPOC Station P**	**0.60**	**272**	*eP*		**Pn**	**15 23 58.7**	**-0.6**
PB01				*eS*		**Sn**	**15 24 12.1**	**-0.9**
PB01				IAML			15 24 12.8	
	comp=Z,10μm,0.2s							
PB09	**IPOC Station P**	**0.82**	**207**			**Pn**	**15 24 01.2**	**+0.1**
PB09	**IPOC Station P**	**0.82**	**207**	⇑*iP*		**Pn**	**15 24 01.3**	**+0.1**
PB09				*i* S		**Sn**	**15 24 16.4**	**0.0**
PB09				IAML			15 24 19.3	
	comp=E,5μm,0.3s							
PB09	**IPOC Station P**	**0.82**	**207**	*eP*		**Pn**	**15 24 00.6**	**-0.6**
PB09				*eS*		**Sn**	**15 24 17.1**	**+0.7**
PB09				IAML			15 24 19.2	
	comp=Z,5μm,0.9s							
PB08	**IPOC Station P**	**0.96**	**342**			**Pn**	**15 24 02.8**	**0.0**
PB08	**IPOC Station P**	**0.96**	**342**	⇓*iP*		**Pn**	**15 24 03.0**	**+0.3**
PB08				*i* S		**Sn**	**15 24 19.6**	**+0.5**
PB08	**IPOC Station P**	**0.96**	**342**	*eP*		**Pn**	**15 24 03.0**	**+0.3**
PB08				*eS*		**Sn**	**15 24 19.8**	**+0.7**
PB02	**IPOC Station P**	**1.02**	**255**			**Pn**	**15 24 02.0**	**-1.0**
PB02	**IPOC Station P**	**1.02**	**255**	⇑*iP*		**Pn**	**15 24 02.7**	**-0.2**
PB02				*i* S		**Sn**	**15 24 18.6**	**-0.9**
PB02	**IPOC Station P**	**1.02**	**255**	*eP*		**Pn**	**15 24 02.7**	**-0.2**
PB02				*eS*		**Sn**	**15 24 19.2**	**-0.4**
PATCX	**Punta Patache**	**1.25**	**281**			**Pn**	**15 24 05.2**	**-0.2**
PATCX	**Punta Patache**	**1.25**	**281**	⇓*iP*		**Pn**	**15 24 05.2**	**-0.2**
PATCX				*i* S		**Sn**	**15 24 23.2**	**-0.7**
PATCX				IAML			15 24 24.1	
	comp=E,16μm,0.7s							
PATCX	**Punta Patache**	**1.25**	**281**	*eP*		**Pn**	**15 24 05.1**	**-0.2**
PATCX				*eS*		**Sn**	**15 24 24.1**	**+0.2**
PATCX				IAML			15 24 25.0	
	comp=Z,6μm,0.3s							
HMBC	**Humberstone**	**1.25**	**308**			**Pn**	**15 24 04.7**	**-0.8**
HMBC	**Humberstone**	**1.25**	**308**	⇓*iP*		**Pn**	**15 24 05.0**	**-0.5**
HMBC				*i* S		**Sn**	**15 24 23.0**	**-1.0**
HMBC				IAML			15 24 24.2	
	comp=N,9μm,0.4s							
HMBC	**Humberstone**	**1.25**	**308**	*eP*		**Pn**	**15 24 05.0**	**-0.5**
HMBC				*eS*		**Sn**	**15 24 23.3**	**-0.7**
HMBC				IAML			15 24 24.3	
	comp=Z,8μm,0.2s							
PB03	**IPOC Station P**	**1.30**	**221**			**Pn**	**15 24 05.7**	**-0.3**
PB03	**IPOC Station P**	**1.30**	**221**	⇑*iP*		**Pn**	**15 24 05.8**	**-0.3**
PB03				*i* S		**Sn**	**15 24 24.4**	**-0.6**
PB03				IAML			15 24 26.4	
	comp=E,5μm,0.3s							
PB03	**IPOC Station P**	**1.30**	**221**	*eP*		**Pn**	**15 24 05.8**	**-0.3**
PB03				*eS*		**Sn**	**15 24 25.2**	**+0.2**
PB03				IAML			15 24 27.4	
	comp=Z,5μm,0.2s							
TA01	**Diego Aracena**	**1.35**	**291**			**Pn**	**15 24 05.8**	**-0.6**
TA01	**Diego Aracena**	**1.35**	**291**	⇓*iP*		**Pn**	**15 24 05.8**	**-0.6**
TA01				*i* S		**Sn**	**15 24 24.6**	**-1.1**
TA01				IAML			15 24 25.2	
	comp=E,11μm,0.2s							
GO01	**Chusmiza**	**1.42**	**347**			**Pn**	**15 24 07.9**	**0.0**
GO01	**Chusmiza**	**1.42**	**347**	⇓*iP*		**Pn**	**15 24 08.0**	**+0.2**
GO01				*i* S		**Sn**	**15 24 29.0**	**+0.9**
GO01				IAML			15 24 30.8	
	comp=E,4μm,0.2s							
TA02	**Huaiquique**	**1.44**	**303**			**Pn**	**15 24 06.8**	**-0.7**
TA02	**Huaiquique**	**1.44**	**303**	⇑*iP*		**Pn**	**15 24 07.0**	**-0.5**
TA02				*i* S		**Sn**	**15 24 26.9**	**-0.7**
TA02				IAML			15 24 27.8	
	comp=N,10μm,0.2s							
PB11	**IPOC Station P**	**1.50**	**329**			**Pn**	**15 24 07.9**	**-0.5**
PB11	**IPOC Station P**	**1.50**	**329**	⇓*iP*		**Pn**	**15 24 08.1**	**-0.3**
PB11				*i* S		**Sn**	**15 24 29.1**	**0.0**
PB11				IAML			15 24 30.2	
	comp=N,5μm,0.3s							
PB11	**IPOC Station P**	**1.50**	**329**	*eP*		**Pn**	**15 24 08.1**	**-0.3**
PB11				*eS*		**Sn**	**15 24 29.2**	**+0.1**
PB11				IAML			15 24 30.9	
	comp=Z,2μm,0.3s							
PB06	**IPOC Station P**	**1.77**	**202**			**Pn**	**15 24 11.3**	**-0.3**
PB06	**IPOC Station P**	**1.77**	**202**	⇑*iP*		**Pn**	**15 24 11.7**	**0.0**
PB06				*i* S		**Sn**	**15 24 34.9**	**-0.1**
PB06				IAML			15 24 35.4	
	comp=E,3μm,0.4s							
PB06	**IPOC Station P**	**1.77**	**202**	*eP*		**Pn**	**15 24 11.8**	**+0.1**
PB06				*eS*		**Sn**	**15 24 29.7**	**-5.3**
PB06				IAML			15 24 41.0	
	comp=Z,2μm,0.3s							
AF01	**San Pedro de A**	**1.98**	**162**			**Pn**	**15 24 15.7**	**+1.4**
PB05	**IPOC Station P**	**2.19**	**215**			**Pn**	**15 24 16.2**	**-0.6**
PB05	**IPOC Station P**	**2.19**	**215**	⇓*iP*		**Pn**	**15 24 15.7**	**-1.0**
PB05				IAML			15 24 51.5	
	comp=E,937nm,0.3s							
PB05	**IPOC Station P**	**2.19**	**215**	*eP*		**Pn**	**15 24 16.0**	**-0.7**
PB05				*eS*		**Sn**	**15 24 41.1**	**-3.0**
PB16	**IPOC Station P**	**2.78**	**347**			**Pn**	**15 24 25.2**	**+0.2**
PB16	**IPOC Station P**	**2.78**	**347**	⇓*iP*		**Pn**	**15 24 25.6**	**+0.6**
PB16	**IPOC Station P**	**2.78**	**347**	*eP*		**Pn**	**15 24 25.6**	**+0.6**
PB16				*eS*		**Sn**	**15 25 01.3**	**+2.7**
PB10	**IPOC Station P**	**2.91**	**213**			**Pn**	**15 24 25.0**	**-1.0**
PB10	**IPOC Station P**	**2.91**	**213**	*eP*		**Pn**	**15 24 25.1**	**-0.9**
PB10				*eS*		Sn	15 24 47.2	-13
AP01	**Chacalluta**	**3.03**	**332**	Pn		**Pn**	**15 24 26.4**	**-1.1**
YJA	**Yavi**	**3.29**	**110**	*eP*		**Pn**	**15 24 34.0**	**+2.6**
YJA				*eS*		**Sn**	**15 25 09.8**	**-0.4**
PB14	**IPOC Station P**	**3.83**	**202**			**Pn**	**15 24 36.7**	**-1.8**
PB14	**IPOC Station P**	**3.83**	**202**	*eP*		**Pn**	**15 24 36.9**	**-1.7**
PB14				*eS*		**Sn**	**15 25 21.2**	**-1.7**
GO02	**Mina Guanaco**	**4.14**	**189**			**Pn**	**15 24 41.3**	**-1.2**
AZAP	**Zapla**	**4.70**	**133**	*eP*		**Pn**	**15 24 38.2**	**-12**
LPAZ	**La Paz**	**4.79**	**8**	Pn		**Pn**	**15 24 52.5**	**+0.7**
LPAZ	**La Paz**	**4.79**	**8**	P		**Pn**	**15 24 52.9**	**+1.2**
	comp=E,7.2nm,0.3s,baz=187,slow=2.3,SNR=23							
LPAZ				S		**Sn**	**15 25 38.4**	**-8.3**
	comp=E,6.6nm,0.5s,baz=174,slow=13,SNR=3.8							
LPAZ	**La Paz**	**4.79**	**8**	*eP*		**Pn**	**15 24 51.2**	**-0.6**
ALOL	**LOMAS DE OLMED**	**5.26**	**122**	*eP*		**Pn**	**15 24 58.0**	**+0.5**
AC01	**Pan de Azucar**	**5.31**	**197**			**Pn**	**15 24 55.8**	**-2.4**
AC02	**Maricunga**	**5.75**	**183**			**Pn**	**15 25 03.7**	**-0.9**
AC06	**Mina Casimiro**	**6.42**	**192**			**Pn**	**15 25 10.2**	**-2.9**
SIV	**San Ignacio**	**8.93**	**57**	P		**Pn**	**15 25 44.5**	**-2.6**
	comp=E,35nm,0.4s,baz=242,slow=12,SNR=157							
PTLB	**Pontes e Lacer**	**10.78**	**60**			**Pn**	**15 26 09.9**	**-2.2**
PTLB	**Pontes e Lacer**	**10.78**	**60**	*eP*		**Pn**	**15 26 10.4**	**-1.7**
BDQN	**Bodoquena, MS**	**11.33**	**89**	*eP*		**Pn**	**15 26 16.4**	**-3.2**
VILB	**Vilhena**	**11.54**	**47**			**Pn**	**15 26 20.5**	**-1.9**
VILB	**Vilhena**	**11.54**	**47**	*eP*		**Pn**	**15 26 21.3**	**-1.1**
AQDB	**Aquidauana**	**12.31**	**90**	*eP*		**Pn**	**15 26 33.0**	**+0.5**
SAML	**Samuel**	**13.22**	**25**			**Pn**	**15 26 42.5**	**-1.9**
SAML	**Samuel**	**13.22**	**25**	*eP*		**Pn**	**15 26 43.4**	**-1.0**
SALV	**Santo Antonio**	**13.48**	**70**	*eP*		**Pn**	**15 26 47.2**	**-0.6**
CZSB	**Cruzeiro do Su**	**13.77**	**344**	*eP*		**Pn**	**15 26 51.0**	**-0.5**
RPRD	**Ribas do Rio P**	**14.18**	**90**	*eP*		**Pn**	**15 26 57.5**	**+0.8**
PDRB	**Porto dos Gac**	**14.94**	**53**	*eP*		**Pn**	**15 27 06.4**	**0.0**
TRCB	**Terra Rica**	**15.14**	**100**	P		**P**	**15 27 11.3**	**0.0**
TRCB	**Terra Rica**	**15.14**	**100**	*eP*		**Pn**	**15 27 09.6**	**+0.6**
H03N1	**Juan Fernandez**	**15.23**	**214**	P		**Pn**	**15 27 10.1**	**+0.6**
	baz=109,slow=15,SNR=8.6							
H03N2	**Juan Fernandez**	**15.24**	**214**	P		**P**	**15 27 10.3**	**-1.6**
	baz=109,slow=15,SNR=7.7							
H03N3	**Juan Fernandez**	**15.24**	**214**	P		**Pn**	**15 27 10.0**	**+0.1**
	baz=109,slow=15,SNR=10							
H03S3	**Juan Fernandez**	**15.53**	**213**	P		**Pn**	**15 27 10.8**	**-2.6**
	baz=200,slow=74,SNR=5.9							
H03S3				S		**S**	**15 30 15.1**	**+2.9**
H03S1	**Juan Fernandez**	**15.54**	**213**	P		**Pn**	**15 27 10.6**	**-2.9**
	baz=200,slow=74,SNR=4.3							
H03S1				S		**S**	**15 30 14.8**	**+2.4**
H03S2	**Juan Fernandez**	**15.54**	**213**	P		**Pn**	**15 27 10.8**	**-2.7**
	baz=200,slow=74,SNR=7.5							
H03S2				S		**S**	**15 30 15.2**	**+2.8**
BI02	**San Fabin de**	**15.69**	**187**	Pn		**Pn**	**15 27 12.7**	**-3.0**
PTGB	**Pitanga**	**15.88**	**106**	*eP*		**P**	**15 27 19.6**	**+0.1**
CLDB	**Colider**	**16.11**	**53**	*eP*		**Pn**	**15 27 20.5**	**-0.5**
LDASE	**Londrina, Braz**	**16.58**	**

comp=Z,0.8nm,0.7s,baz=56,slow=3.9,SNR=1.4
WRA Warramunga Arr 133.36 211 PKP **PKiKP 15 42 44.7 -0.8**
comp=Z,0.5nm,0.6s,baz=139,slow=1.7,SNR=2.1
KURBB Kurchatov Arra 140.94 33 PKP **PKiKP 15 42 59.0 -0.9**
comp=Z,0.2nm,0.5s,baz=311,slow=2.7,SNR=2.4
ZALV Zalesovo Beam 141.53 25 PKP **PKPdf 15 42 58.3 +0.1**
comp=Z,0.6nm,0.5s,baz=343,slow=1.5,SNR=4.2
MKAR Makanchi Array 145.24 36 PKP **PKPab 15 43 06.2 +1.0**
comp=Z,2.0nm,0.7s,baz=324,slow=3.1,SNR=20
MKAR pPKP **pPKPdf 15 43 37.6 -0.3**
comp=Z,2.9nm,0.8s,baz=302,slow=3.8,SNR=11
SONM Songino Array 153.01 7 PKPbc **PKiKP 15 43 25.6 +0.5**
comp=Z,0.3nm,0.4s,baz=354,slow=1.4,SNR=1.4

---

*IDC **20** 15:47:20.6±0.6, 3˚.23N×84˚.24W, h0km, mb4.3/16, mbtmp4.3/20, ML3.5/4, MS3.9/42, Error ellipse: s-maj=24.8km s-min=13.0km az=58.0*
*NEIC **20** 15:47:23.4±2.0, 3˚.14N±0˚.07×84˚.26W±0˚.07, h10km±1km, mb4.7/312, Error ellipse: s-maj=12.7km s-min=11.3km az=260.0*
*CATAC **20** 15:47:25.5±1.1, 3˚.7N±11˚×8˚.4W±1˚.1, h10km, M5.5/13, mb5.7/13, mB5.8/12, MLv5.5/6, Mw(mB)5.4/12, MwMwp6.2/2, Mwp6.2/2, Error ellipse: s-maj=31.8km s-min=8.4km az=46.4, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=2.17; Mθθ 1.12; Mφφ 1.05; Mrθ 1.35; Mθφ 1.46; Mφr=0.94; Fault plane solution: M◎2.89006×10^16 NP1:φs19.81737°, δ48.20699°, λ-132.03358°. NP2:φs253.34236°, δ56.37434°, λ-53.16485°. Principal axes: T 2.5688, Plg4.5699°, Azm318.1744°; N 0.5604, Plg29.9471°, Azm50.8137°; P -3.1292, Plg59.6342°, Azm220.3336°; confirmed*
*UCR **20** 15:47:25.8±1.0, 3˚.45N×83˚.91W, h10km, MW4.2, MB4.7(NEIC)*
*GCMT **20** 15:47:26.4±0.3, 3˚.11N±0˚.01×84˚.28W±0˚.02, h20km±1km, MW5.0/102, Moment Tensor Solution. s31,c35; s102,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.07±.18; Mθθ 1.75±.14; Mφφ -0.67±.17; Mrθ -0.20±.23; Mθφ 3.70±.11; Mφr=0.26±.26; Best double couple: M◎3.90400×10^16 NP1:φs279.00000°, δ86.00000°, λ1.00000°. NP2:φs189.00000°, δ89.00000°, λ176.00000°. Principal axes: T 4.4500, Plg3.0000°, Azm144.0000°; N -1.0840, Plg86.0000°, Azm0.0000°; P -3.3580, Plg2.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 15:47:26.2±0.4, 3˚.16N±0˚.05×84˚.24W±0˚.07, h42km, n373, σ1ϑ45/217, mb4.7/153, MS4.0/38, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**2.76**	**72**	P		**Pn**	**15 48 05.4**	**-2.6**
CACAO	**El Cacao, Vera**	**5.35**	**39**	P		**Pn**	**15 48 42.2**	**-1.4**
	103nm,1.2s							
GMAL	**Guarumal, Vera**	**5.46**	**33**	P		**Pn**	**15 48 44.5**	**-0.7**
BANCO	**falda S V. Bar**	**5.78**	**17**	*eP*		**Pn**	**15 48 47.0**	**-2.6**
BRU2	**Volcan**	**5.80**	**15**			**Pn**	**15 48 48.8**	**-1.2**
PPLP	**Puerto Lpez**	**5.82**	**143**	P		**Pn**	**15 48 46.4**	**-3.7**
	57nm,1.3s							
FIMO	**Fila Mora**	**5.86**	**9**	*eP*		**Pn**	**15 48 48.5**	**-2.1**
ALCO	**Alturas Coton,**	**5.92**	**14**	*eP*		**Pn**	**15 48 49.7**	**-1.9**
OCHAL	**Ojochal**	**5.92**	**6**	P		**Pn**	**15 48 49.7**	**-1.8**
AZU	**Azuero**	**6.06**	**40**	P		**Pn**	**15 48 54.1**	**+0.7**
	825nm71nm,0.8s							
GR1C	**Gorgona, Isla**	**6.07**	**91**	P		**Pn**	**15 48 53.5**	**0.0**
PAC1	**Pacto, Paraso**	**6.16**	**118**	P		**Pn**	**15 48 53.2**	**-1.7**
	11µm526nm,0.7s							
SAJE	**San Jernim**	**6.18**	**7**	*eP*		**Pn**	**15 48 52.5**	**-2.8**
SAJE				*eS*		**Sn**	**15 50 01.3**	**-3.5**
PAR1A	**Puntarenas Pro**	**6.39**	**360**	*eP*		**Pn**	**15 48 55.6**	**-2.3**
PIEC	**Cerro El Cedra**	**6.42**	**3**	*eP*		**Pn**	**15 48 55.6**	**-3.0**
CBL1	**Cabuya**	**6.44**	**353**	*eP*		**Pn**	**15 48 56.7**	**-1.8**
OTAV	**Otavalo**	**6.48**	**117**			**Pn**	**15 48 57.7**	**-1.8**
OTAV	**Otavalo**	**6.48**	**117**	P		**Pn**	**15 48 57.9**	**-1.6**
OTAV				S		Pn	15 49 07.4	+7.9
OTAV	**Otavalo**	**6.48**	**117**	*eP*		**Pn**	**15 48 57.2**	**-2.3**
OTAV	**Otavalo**	**6.48**	**117**	P		**Pn**	**15 48 57.9**	**-1.6**
	5µm925nm85nm,0.7s							
LCR2	**La Lucha 2**	**6.54**	**2**			**Pn**	**15 48 57.4**	**-2.7**
LCR2	**La Lucha 2**	**6.54**	**2**	*eP*		**Pn**	**15 48 56.9**	**-3.2**
LCR2	**La Lucha 2**	**6.54**	**2**	P		**Pn**	**15 48 57.4**	**-2.7**
LCR2				S		**Pn**	**15 48 59.3**	**-0.8**
ACOS	**Acosta**	**6.59**	**1**	*eP*		**Pn**	**15 48 59.3**	**-1.5**
REPA	**Paraso**	**6.63**	**3**	*eP*		**Pn**	**15 49 00.3**	**-1.0**
JCR1	**Jicaral**	**6.70**	**353**	*eP*		**Pn**	**15 48 60.0**	**-2.2**
RAFA	**San Farael, Vo**	**6.76**	**4**	*eP*		**Pn**	**15 49 01.9**	**-1.4**
INDI	**Punta indio, G**	**6.78**	**349**	P		**Pn**	**15 48 59.9**	**-3.3**
INDI				S		**Pn**	**15 49 02.0**	**-1.2**
VICA	**Volcano Irazu**	**6.79**	**3**	*eP*		**Pn**	**15 49 02.0**	**-1.7**
HDC	**Heredia**	**6.79**	**1**			**Pn**	**15 49 01.7**	**-1.9**
HDC	**Heredia**	**6.79**	**1**	*eP*		**Pn**	**15 49 02.4**	**-1.2**
HDC	**Heredia**	**6.79**	**1**	*eP*		**Pn**	**15 49 02.9**	**-0.6**
VTCV	**VTCV, Calle Va**	**6.79**	**4**	*eP*		**Pn**	**15 49 02.3**	**-1.3**
VTCV				*eS*		**Sn**	**15 50 18.1**	**-1.7**
CVTQ	**Turrialba Volc**	**6.81**	**4**	*eP*		**Pn**	**15 49 02.9**	**-1.1**
CVTV	**Tajo**	**6.81**	**4**	*eP*		**Pn**	**15 49 02.8**	**-1.2**
CVIMO	**Finca Echandi**	**6.82**	**2**	*eP*		**Pn**	**15 49 02.7**	**-1.4**
VTR0	**Volcan Turrial**	**6.83**	**4**	*eP*		**Pn**	**15 49 03.0**	**-1.3**
CVTR	**Volcan Turrial**	**6.83**	**4**	*eP*		**Pn**	**15 49 02.2**	**-2.1**
RESJ	**San Isidro (Tu**	**6.85**	**5**	*eP*		**Pn**	**15 49 02.7**	**-1.6**
BBAC	**Balboa, Cauca**	**7.08**	**99**	P		**Pn**	**15 49 07.0**	**-0.6**
	694nm45nm,0.8s							
JTS	**Las Juntas de**	**7.12**	**354**			**Pn**	**15 49 06.6**	**-1.3**
JTS	**Las Juntas de**	**7.12**	**354**	Pn		**Pn**	**15 49 06.9**	**-0.9**
	191nm,0.3s,baz=135,slow=8.6,SNR=344							
JTS				Sn		**Sn**	**15 50 24.2**	**-3.3**
	baz=107,slow=20							
JTS	**Las Juntas de**	**7.12**	**354**	P		**Pn**	**15 49 06.7**	**-1.2**
	10µm791nm,0.5s							
PAYG	**Puerto Ayora**	**7.14**	**238**	Pn		**Pn**	**15 49 07.6**	**-0.7**
SOCE	**Pocosol**	**7.18**	**357**			**Pn**	**15 49 08.3**	**-0.6**
SOCE	**Pocosol**	**7.18**	**357**	P		**Pn**	**15 49 08.7**	**-0.1**
SOCE				S		**Pn**	**15 49 10.8**	**+2.0**
BONI	**La Bonita**	**7.23**	**112**	P		**Pn**	**15 49 10.5**	**+0.8**
	4µm499nm,1.0s							
CHIK	**Chiripa**	**7.26**	**355**	*eP*		**Pn**	**15 49 09.1**	**-0.9**
VARE2	**V. Arenal**	**7.26**	**356**	*eP*		**Pn**	**15 49 09.4**	**-0.6**
VARE2				*eS*		**Sn**	**15 50 30.7**	**-0.6**
PIAT	**Ana Tenorio**	**7.27**	**125**	P		**Pn**	**15 49 09.8**	**-0.5**
	74nm,0.8s							
CEDE	**Laguna Cedeo**	**7.29**	**356**	*eP*		**Pn**	**15 49 09.7**	**-0.6**
TABAC	**Tabacon**	**7.31**	**356**	*eP*		**Pn**	**15 49 10.4**	**-0.2**
TABAC				*eS*		**Sn**	**15 50 31.9**	**-0.4**
INVE	**Universidad In**	**7.31**	**354**	*eP*		**Pn**	**15 49 09.8**	**-0.8**
BAGA	**Bagaces**	**7.39**	**352**	*eP*		**Pn**	**15 49 11.2**	**-0.4**
BCIP	**Isla Barro Col**	**7.40**	**36**	P		**Pn**	**15 49 13.6**	**+1.9**
	75nm,1.3s							
TIMP	**Tierras Morena**	**7.41**	**354**	*eP*		**Pn**	**15 49 11.5**	**-0.5**
CRUC	**La Cruz**	**7.46**	**102**	P		**Pn**	**15 49 14.0**	**+1.2**
COHC	**Cochancay**	**7.49**	**138**	Pn		**Pn**	**15 49 11.0**	**-2.0**
COHC	**Cochancay**	**7.49**	**138**	P		**Pn**	**15 49 10.8**	**-2.2**
	685nm50nm,1.4s							
ALIBA	**Liberia Airpor**	**7.49**	**350**	*eP*		**Pn**	**15 49 12.7**	**-0.4**
CUI	**Cuipilapa**	**7.50**	**353**	*eP*		**Pn**	**15 49 12.7**	**-0.5**
COVE	**Coope Vega, Sa**	**7.51**	**359**	P		**Pn**	**15 49 13.1**	**-0.1**
COVE	**Coope Vega, Sa**	**7.51**	**359**	S		**Pn**	**15 49 15.5**	**+2.3**
COLC	**Colonia**	**7.51**	**353**	*eP*		**Pn**	**15 49 10.1**	**-3.3**
MOTZ	**Rio Naranjo**	**7.52**	**354**	*eP*		**Pn**	**15 49 12.8**	**-0.6**
TENO	**El Achiote**	**7.53**	**354**	*eP*		**Pn**	**15 49 11.8**	**-1.8**
PTAC	**Punta Ardita,**	**7.53**	**58**	P		**Pn**	**15 49 15.5**	**+1.9**
	111nm,1.1s							
ELI1	**Hacienda Flor**	**7.55**	**350**	P		**Pn**	**15 49 13.3**	**-0.4**
JAMC	**Jamundi, Valle**	**7.56**	**89**	P		**Pn**	**15 49 14.2**	**+0.1**
	623nm68nm,0.8s							
POPC	**Popayan, Colom**	**7.58**	**94**	P		**Pn**	**15 49 15.0**	**+0.5**
	396nm30nm,1.0s							
MESS	**Mesas**	**7.59**	**353**	*eP*		**Pn**	**15 49 13.8**	**-0.5**
LAPC	**Finca la Perla**	**7.65**	**351**	*eP*		**Pn**	**15 49 14.2**	**-1.0**
VMAR	**Armenia, Volca**	**7.65**	**354**	*eP*		**Pn**	**15 49 14.7**	**-0.5**
VRLE	**La Escondida,**	**7.66**	**352**	*eP*		**Pn**	**15 49 14.2**	**-1.2**
YOTC	**Yotoco, Valle**	**7.92**	**84**	P		**Pn**	**15 49 18.7**	**-0.4**
	522nm51nm,0.7s							
PLMC	**San Jos del P**	**8.13**	**77**	P		**Pn**	**15 49 22.5**	**+0.7**
	155nm,0.9s							
MORN	**Al O del Volca**	**8.45**	**351**	P		**Pn**	**15 49 26.4**	**+0.3**
MORN				S		Pn	15 49 34.0	+7.9
CBOC	**Ciudad Bolivar**	**8.63**	**72**	P		**Pn**	**15 49 30.1**	**+1.3**
	1µm119nm,0.9s							
FLOC	**Florencia**	**8.72**	**100**			**Pn**	**15 49 29.6**	**-0.4**
CAPC	**Capurgana**	**8.75**	**51**	P		**Pn**	**15 49 31.5**	**+1.3**
	4µm1µm117nm,0.9s							
ACON	**Acoyapa**	**8.80**	**354**			**Pn**	**15 49 29.3**	**-1.6**
ACON	**Acoyapa**	**8.80**	**354**	*eP*		**Pn**	**15 49 29.9**	**-1.1**
ACON	**Acoyapa**	**8.80**	**354**	P		**Pn**	**15 49 30.1**	**-0.9**
ACON	**Acoyapa**	**8.80**	**354**	S		Pn	15 49 38.0	+7.1
ACON	**Acoyapa**	**8.80**	**354**	P		**Pn**	**15 49 30.0**	**-0.9**
	1µm167nm,0.9s							
DBBC	**Dabeiba**	**8.87**	**64**	P		**Pn**	**15 49 34.1**	**+2.1**
NANN	**Nandasmo**	**8.91**	**348**	P		**Pn**	**15 49 34.4**	**+1.8**
SABN	**Sabanita**	**8.94**	**348**	P		**Pn**	**15 49 32.1**	**-0.8**
APAC	**Apartado, Choc**	**8.96**	**58**	P		Pn	15 49 38.2	+5.0
CRUN	**El Crucero**	**9.00**	**347**	P		Pn	15 49 23.7	-10
ORTC	**Ortega, Tolima**	**9.01**	**85**	P		**Pn**	**15 49 36.2**	**+2.3**
	1µm173nm,1.1s							
GUY2C	**Guyana, Caldas**	**9.09**	**77**	P		**Pn**	**15 49 37.6**	**+2.3**
	1µm129nm,1.1s							
UNAN	**Cigeo UNAN**	**9.11**	**347**	P		**Pn**	**15 49 36.1**	**+0.8**
MGAN	**Managua**	**9.14**	**348**			**Pn**	**15 49 35.2**	**-0.5**
MGAN	**Managua**	**9.14**	**348**	P		**Pn**	**15 49 36.3**	**+0.6**
	7µm439nm,0.9s							
HELC	**Santa Helena**	**9.19**	**71**	P		**Pn**	**15 49 39.2**	**+2.6**
	1µm97nm,1.3s							
COPN	**Copaltepe**	**9.26**	**346**	P		**Pn**	**15 49 37.3**	**+0.1**
BOAB	**BOACO BROADBAN**	**9.33**	**351**			**Pn**	**15 49 37.3**	**-1.0**
PRAC	**Prado**	**9.36**	**86**	P		**Pn**	**15 49 41.1**	**+2.5**
	867nm75nm,1.0s							
MOM2	**El Cardon**	**9.48**	**347**	P		**Pn**	**15 49 41.7**	**+1.5**
MOM2				S		Pn	15 49 47.3	+7.1
CNGN	**Cerro Negro**	**9.59**	**345**			**Pn**	**15 49 42.1**	**+0.3**
ILCN	**San Idelfonso**	**9.66**	**346**	P		**Pn**	**15 49 43.9**	**+1.1**
HERN	**Volcan Telica**	**9.73**	**345**			**Pn**	**15 49 44.1**	**+0.4**
CRIN	**San Cristobal**	**9.87**	**344**			**Pn**	**15 49 45.9**	**+0.1**
CRIN	**San Cristobal**	**9.87**	**344**	*eP*		**Pn**	**15 49 47.9**	**+2.1**
ROSC	**El Rosal**	**10.04**	**80**			**Pn**	**15 49 48.3**	**0.0**
ROSC	**El Rosal**	**10.04**	**80**	Pn		**Pn**	**15 49 48.0**	**-0.3**
	2.0nm,0.3s,baz=261,slow=19,SNR=20							
ROSC				LR		LR	15 52 20.6	
	comp=Z,232nm,21.3s,baz=242,slow=30							
	42nm,0.8s							
ZARC	**Zaragoza, Cauc**	**10.28**	**65**	P		**Pn**	**15 49 54.0**	**+2.7**
	1µm114nm,1.6s							
CSGN	**Cosiguina Volc**	**10.29**	**342**	*eP*		**Pn**	**15 49 52.8**	**+1.4**
POTN	**Potosi Cosigui**	**10.29**	**342**	*eP*		**Pn**	**15 49 52.6**	**+1.2**
PTBC	**PUERTO BERRIO,**	**10.31**	**71**	P		Pn	15 49 55.5	+3.8
	1µm132nm,0.8s							
MACC	**Macarena, Meta**	**10.43**	**95**	P		**Pn**	**15 49 54.4**	**+1.0**
	603nm71nm,1.1s							
VILC	**Villavicencio,**	**10.57**	**85**	P		Pn	15 50 00.1	+4.7
SJCC	**San Jacinto, C**	**11.21**	**53**	P		**Pn**	**15 50 07.2**	**+3.1**
	2µm170nm,1.5s							
TGUH	**Tegucigalpa,Un**	**11.23**	**345**			**Pn**	**15 50 04.6**	**+0.2**
RUSC	**La Rusia**	**11.45**	**76**			**Pn**	**15 50 08.3**	**+0.6**
BARC	**Barichara**	**11.53**	**72**	P		Pn	15 50 12.5	+3.9
ATAH	**Atahualpa**	**11.78**	**150**	Pn		**Pn**	**15 50 11.9**	**-0.2**
	0.3nm,0.3s,baz=313,slow=19,SNR=4.7							
ATAH				LR		LR	15 54 35.4	
	comp=Z,2µm,18.9s,baz=332,slow=37							
	2.6nm,0.6s							
ARGC	**Ariguani, Magd**	**11.95**	**56**	P		**Pn**	**15 50 17.1**	**+3.0**
	1µm94nm,1.6s							
OCAC	**Ocana**	**11.98**	**65**	P		**Pn**	**15 50 16.6**	**+2.0**
PAMC	**Pamplona, Colo**	**12.22**	**70**	P		**Pn**	**15 50 21.4**	**+3.2**
MTO3	**Montecristo**	**12.25**	**336**			**Pn**	**15 50 18.3**	**-0.2**
CZSB	**Cruzeiro do Su**	**15.80**	**133**			**Pn**	**15 51 04.0**	**-1.9**
CZSB				IAmb		IAmb	15 51 13.1	
	comp=Z,43nm,1.0s							
CZSB	**Cruzeiro do Su**	**15.80**	**133**	*eP*		**Pn**	**15 51 03.6**	**-2.3**
TBTG	**Tabatinga, AM**	**16.08**	**117**	*eP*		**Pn**	**15 51 08.5**	**-0.9**
NNA	**Nana**	**16.75**	**154**	Pn		**P**	**15 51 18.4**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=329,slow=15,SNR=4.7							
NNA				LR		LR	15 57 16.4	
	comp=Z,342nm,21.0s,baz=316,slow=36							
	comp=Z,14nm,0.8s							
BAUV	**El Baul**	**17.10**	**70**			**Pn**	**15 51 21.2**	**-1.0**
CMIG	**Matias Romero**	**17.34**	**324**	P		**Pn**	**15 51 24.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=133,slow=9.2,SNR=8.8							
CMIG				LR		LR	15 56 47.8	
	comp=Z,980nm,21.0s,baz=160,slow=33							
	comp=Z,9.7nm,0.9s							
TEIG	**Tepich**	**17.41**	**347**			**P**	**15 51 26.4**	**-0.6**
TEIG				IAmb		IAmb	15 51 35.3	
	comp=Z,46nm,0.9s							
TEIG	**Tepich**	**17.41**	**347**	P		**Pn**	**15 51 21.4**	**-4.7**
	comp=Z,0.1nm,0.5s,baz=129,slow=20,SNR=3.1							
TLIG	**Tlapa**	**20.06**	**317**	P		Pn	15 51 57.8	-0.4
PCRV	**Puerto La Cruz**	**20.67**	**69**	P		**P**	**15 52 03.0**	**+0.2**
	comp=Z,50nm,0.8s,baz=251,slow=8.6,SNR=15							
PCRV				LR		LR	16 01 24.7	
	comp=Z,343nm,18.3s,slow=41							
	comp=Z,50nm,0.8s							
TEFE	**Tefe**	**20.69**	**109**	*eP*		**P**	**15 52 02.6**	**-0.4**
SC01	**Santiago de lo**	**20.87**	**38**			Pn	15 52 09.0	+1.3
DR12	**Loma Pena Alta**	**21.27**	**42**			**P**	**15 52 10.6**	**+1.3**
OBIP	**Obispado Ponce**	**22.75**	**48**	P		**P**	**15 52 25.8**	**+0.8**
CELP	**Cerrillos**	**22.79**	**48**			**P**	**15 52 26.2**	**+0.8**
AOPR	**Arecibo Observ**	**22.83**	**47**	P		**P**	**15 52 26.6**	**+0.7**
SJG	**San Juan**	**23.13**	**49**	P		**P**	**15 52 29.6**	**+0.7**
SJG	**San Juan**	**23.13**	**49**	LR		LR	16 02 11.7	
	comp=Z,127nm,18.1s,baz=290,slow=39							
PDPR	**Patillas Dam,**	**23.17**	**49**			**P**	**15 52 30.4**	**+1.1**
BOAV	**Boa Vista**	**23.70**	**91**			**P**	**15 52 35.5**	**+1.0**
BOAV				IAmb		IAmb	15 52 43.3	
	comp=Z,20nm,1.0s							
BOAV	**Boa Vista**	**23.70**	**91**	*eP*		**P**	**15 52 33.0**	**-1.5**
SAML	**Samuel**	**24.20**	**120**			**P**	**15 52 38.8**	**-0.3**
SAML				IAmb		IAmb	15 52 40.5	
	comp=Z,29nm,1.4s							
SAML	**Samuel**	**24.20**	**120**	*eP*		**P**	**15 52 38.5**	**-0.6**
MACA	**Manacapuru-AM**	**24.37**	**105**	*eP*		**P**	**15 52 40.0**	**-0.6**
LPAZ	**La Paz**	**25.04**	**141**	P		**P**	**15 52 47.8**	**+0.3**
LPAZ	**La Paz**	**25.04**	**141**	P		**P**	**15 52 48.1**	**+0.7**
	comp=Z,8.6nm,1.1s,baz=310,slow=5.9,SNR=11							
LPAZ				LR		LR	16 04 15.4	
	comp=Z,598nm,18.9s,baz=300,slow=40							
	comp=Z,8.6nm,1.1s							
LPAZ	**La Paz**	**25.04**	**141**	*eP*		**P**	**15 52 46.1**	**-1.4**
GDSD	**La Dsirade Is**	**26.27**	**59**			**P**	**15 52 58.5**	**+0.6**
HBVL	**Hebbronville**	**27.49**	**331**			**P**	**15 53 09.9**	**+1.2**
833A	**Chaparral WMA,**	**28.89**	**332**	P		**P**	**15 53 22.6**	**+1.4**
833A				IAmb		IAmb	15 53 23.9	
	comp=Z,17nm,1.0s							
152A	**Waverly Hall**	**29.36**	**359**	P		**P**	**15 53 25.6**	**+0.3**
152A				IAmb		IAmb	15 53 26.7	
	comp=Z,16nm,0.9s							
ITTB	**Itaituba**	**29.45**	**105**	*eP*		**P**	**15 53 25.9**	**-0.5**
SIV	**San Ignacio**	**29.79**	**130**	LR		LR	16 05 35.0	
	comp=Z,1µm,20.8s,baz=314,slow=37							
HNDO	**Hondo**	**29.86**	**333**	IAmb		IAmb	15 53 31.7	
	comp=Z,11nm,1.1s							
GOGA	**Godfrey**	**30.10**	**1**	P		**P**	**15 53 32.1**	**+0.2**
GOGA				IAmb		IAmb	15 53 33.2	
	comp=Z,15nm,1.1s							
H06E1	**SOCORRO T-PHAS**	**30.37**	**303**	T		T	16 25 24.7	
	SNR=13							
DRIO	**Del Rio**	**30.39**	**331**	IAmb		IAmb	15 54 12.9	
	comp=Z,8.8nm,0.7s							
Y52A	**Lilburn**	**30.54**	**0**	IAmb		IAmb	15 53 37.7	
	comp=Z,12nm,0.9s							
NPGB	**Novo Progresso**	**30.56**	**109**	*eP*		**P**	**15 53 35.7**	**-0.5**
Y49A	**Blount Mountai**	**30.61**	**356**	IAmb		IAmb	15 53 37.4	
	comp=Z,7.2nm,0.8s							
JCT	**Junction City**	**30.90**	**333**	IAmb		IAmb	15 53 41.3	
	comp=Z,23nm,1.4s							
HODGE	**Hodges**	**30.96**	**3**	IAmb		IAmb	15 53 40.8	
	comp=Z,11nm,0.8s							
PTLB	**Pontes e Lacer**	**30.97**	**127**			**P**	**15 53 39.3**	**-0.6**
PTLB	**Pontes e Lacer**	**30.97**	**127**	*eP*		**P**	**15 53 39.2**	**-0.6**
PDRB	**Porto dos Gac**	**31.05**	**119**	*eP*		**P**	**15 53 40.0**	**-0.6**
JSC	**Jenkinsville**	**31.09**	**5**	IAmb		IAmb	15 53 41.8	
	comp=Z,7.3nm,0.8s							
X48A	**Hartselle**	**31.24**	**356**	IAmb		IAmb	15 53 43.5	
	comp=Z,8.1nm,0.8s							
CLDB	**Colider**	**31.56**	**117**	*eP*		**P**	**15 53 44.4**	**-0.6**
MDP	**Montagnes des**	**31.57**	**85**	LR		LR	16 06 38.1	
	comp=Z,84nm,18.4s,baz=299,slow=37							
W52A	**Murphy**	**31.77**	**0**	IAmb		IAmb	15 53 48.2	
	comp=Z,13nm,0.9s							
OZNA	**Ozona**	**31.88**	**332**	IAmb		IAmb	15 53 49.9	
	comp=Z,14nm,1.1s							
W50A	**Signal Mountai**	**31.89**	**358**	IAmb		IAmb	15 53 48.8	
	comp=Z,7.3nm,0.8s							
TXAR	**Lajitas Array**	**31.90**	**327**	P		**P**	**15 53 48.6**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=134,slow=6.9,SNR=10							
TXAR				PcP		**PcP**	**15 56 38.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=132,slow=3.3,SNR=3.8							
TXAR				LR		LR	16 05 58.3	
	comp=Z,168nm,21.4s,baz=120,slow=35							
	comp=Z,0.9nm,0.7s							
SWET	**Sewanee**	**31.93**	**357**	IAmb		IAmb	15 53 49.0	
	comp=Z,10nm,1.0s							
W57A	**Gilead**	**32.07**	**7**	IAmb		IAmb	15 53 50.7	
	comp=Z,13nm,1.0s							
TKL	**Tuckaleechee C**	**32.34**	**1**	IAmb		IAmb	15 53 52.9	
	comp=Z,13nm,1.0s							
TKL	**Tuckaleechee C**	**32.34**	**1**	LR		LR	16 06 26.0	
	comp=Z,257nm,20.5s,baz=190,slow=36							
V53A	**Saluda**	**32.37**	**2**	IAmb		IAmb	15 53 53.4	
	comp=Z,6.8nm,0.9s							
MIAR	**Mount Ida**	**32.41**	**346**	IAmb		IAmb	15 53 53.2	
	comp=Z,6.3nm,0.8s							
LPIG	**La Paz**	**32.66**	**312**	LR		LR	16 04 27.1	
	comp=Z,84nm,20.7s,baz=125,slow=32							
CLTN	**Cedars of Leba**	**32.82**	**357**	IAmb		IAmb	15 53 56.9	
	comp=Z,11nm,1.2s							
WHAR	**Wooly Hollow**	**32.83**	**348**	IAmb		IAmb	15 53 56.9	
	comp=Z,12nm,1.0s							
U49A	**Red Boiling Sp**	**33.22**	**358**	IAmb		IAmb	15 54 00.3	
	comp=Z,13nm,1.0s							
U54A	**Nelsons Funny**	**33.27**	**4**			**P**	**15 53 59.9**	**+0.1**
PECS	**Pecos**	**33.61**	**329**	IAmb		IAmb	15 54 04.9	
	comp=Z,7.1nm,1.0s							
T50A	**Nancy**	**33.70**	**359**	IAmb		IAmb	15 54 04.4	
	comp=Z,15nm,1.2s							
VHRN	**Van Horn**	**33.75**	**327**	IAmb		IAmb	15 54 06.1	
	comp=Z,15nm,1.1s							
T47A	**Sharon Grove**	**33.76**	**356**	IAmb		IAmb	15 54 04.8	
	comp=Z,17nm,1.1s							
POST	**Post**	**33.85**	**333**	IAmb		IAmb	15 54 07.8	
	comp=Z,15nm,1.0s							
HHAR	**Hobbs**	**34.15**	**346**	IAmb		IAmb	15 54 08.3	
	comp=Z,16nm,1.4s							
U38A	**Gravette**	**34.41**	**345**	IAmb		IAmb	15 54 10.5	
	comp=Z,11nm,0.9s							
R50A	**Paris**	**34.95**	**360**	IAmb		IAmb	15 54 15.2	
	comp=Z,12nm,1.0s							
R49A	**Shelbyville**	**34.97**	**359**	IAmb		IAmb	15 54 15.2	
	comp=Z,16nm,1.1s							
R55A	**Marlinton**	**35.16**	**6**	IAmb		IAmb	15 54 17.6	
	comp=Z,9.9nm,0.9s							
MSTX	**Muleshoe**	**35.19**	**333**	IAmb		IAmb	15 54 18.1	
	comp=Z,20nm,1.3s							
CCM	**Cathedral Cave**	**35.31**	**350**			**P**	**15 54 16.7**	**-0.7**
R40A	**Maddies Statio**	**35.72**	**349**	IAmb		IAmb	15 54 21.8	
	comp=Z,10nm,1.0s							
Q54A	**Cox Mills**	**35.79**	**5**	IAmb		IAmb	15 54

P17A	**Butcher Ranch,** comp=Z,16nm,1.1s	**43.42**	**330**	IAmb	IAmb	15 55 27.2		
JANB	**Januaria**	**43.48**	**116**	*eP*	**P**	**15 55 25.2**	**-0.7**	
G62A	**West of Eustis**	**43.58**	**14**		**P**	**15 55 27.3**	**+1.1**	
G62A	comp=Z,16nm,1.1s			IAmb	IAmb	15 55 35.4		
PSUT	**Pine Spring** comp=Z,8.3nm,0.9s	**44.37**	**326**	IAmb	IAmb	15 55 42.5		
RSSD	**Black Hills**	**44.38**	**340**		**P**	**15 55 33.8**	**+0.9**	
RSSD	comp=Z,9.5nm,0.9s			IAmb	IAmb	15 55 35.3		
S11A	**Rachel** comp=Z,12nm,1.0s	**44.84**	**324**	IAmb	IAmb	15 55 41.0		
CTU	**Camp Tracy** comp=Z,13nm,1.1s	**44.85**	**330**	IAmb	IAmb	15 55 38.6		
SPR3	**Spring Creek 3** comp=Z,9.4nm,0.9s	**44.96**	**326**	IAmb	IAmb	15 55 46.6		
PD31	**Pinedale Array** comp=Z,7.1nm,1.1s	**45.43**	**334**	IAmb	IAmb	15 55 42.6		
PDAR	**Pinedale Array**	**45.43**	**334**	P	**P**	**15 55 40.8**	**-0.5**	
PDAR	**Pinedale Array** comp=Z,4.4nm,0.9s,baz=147,slow=8.9,SNR=19	**45.43**	**334**	P	**P**	**15 55 41.4**	**+0.1**	
PDAR	comp=Z,317nm,19.7s,baz=144,slow=38 comp=Z,4.4nm,0.9s			LR	LR	16 15 50.3		
BGU	**Big Grassy Mou** comp=Z,11nm,0.9s	**45.66**	**329**	IAmb	IAmb	15 55 45.0		
TPH	**Tonopah** comp=Z,6.0nm,0.9s	**46.00**	**323**	IAmb	IAmb	15 55 55.5		
HVU	**Hansel Valley** comp=Z,10nm,0.9s	**46.17**	**330**	IAmb	IAmb	15 55 56.2		
TPAW	**Teton Pass** comp=Z,13nm,1.1s	**46.63**	**333**	IAmb	IAmb	15 55 53.6		
ELK	**Elko** comp=Z,6.6nm,0.8s	**46.69**	**327**	IAmb	IAmb	15 56 00.8		
NVAR	**Mina Array Bea** comp=Z,5.0nm,0.7s,baz=118,slow=5.6,SNR=26	**46.87**	**323**	P	**P**	**15 55 53.5**	**+0.8**	
NVAR	comp=Z,0.5nm,0.6s,baz=104,slow=3.7,SNR=1.5 comp=Z,5.0nm,0.7s			PcP	**PcP**	**15 57 26.4**	**+1.2**	
LHV	**Little Huntoon** comp=Z,8.1nm,1.1s	**46.88**	**323**	IAmb	IAmb	15 56 06.8		
RLMT	**Red Lodge** comp=Z,6.1nm,1.0s	**47.21**	**336**	IAmb	IAmb	15 56 01.7		
YNE	**Yellowstone No** comp=Z,3.3nm,1.0s	**47.43**	**335**	IAmb	IAmb	15 56 00.9		
ULM	**Lac du Bonnet** comp=Z,37nm,1.0s,baz=162,slow=9.5,SNR=23 comp=Z,37nm,1.0s	**47.94**	**350**	P	**P**	**15 56 00.5**	**0.0**	
GUA01	**Guaratinga, BA**	**48.08**	**116**	*eP*	**P**	**15 56 01.4**	**-0.7**	
HLID	**Hailey** comp=Z,7.7nm,1.1s	**48.31**	**331**	IAmb	IAmb	15 56 05.6		
MFID	**Camas Ranch** comp=Z,9.0nm,1.1s	**48.90**	**330**	IAmb	IAmb	15 56 10.2		
RCBR	**Riachuelo** comp=Z,156nm,18.7s,baz=277,slow=37	**49.10**	**100**	LR	LR	16 17 37.7		
PLID	**Pearl Lake** comp=Z,8.8nm,1.0s	**50.20**	**331**	IAmb	IAmb	15 56 19.1		
MSO	**Missoula** comp=Z,7.4nm,0.9s	**50.55**	**334**	IAmb	IAmb	15 56 22.2		
K05A	**Summer Lake** comp=Z,6.9nm,0.9s	**51.15**	**326**	IAmb	IAmb	15 56 34.5		
F10A	**Beach Ranch, E** comp=Z,12nm,1.1s	**51.44**	**331**	IAmb	IAmb	15 56 30.6		
L04D	**Klamath Falls** comp=Z,10nm,0.9s	**51.63**	**324**	IAmb	IAmb	15 56 30.0		
KHMM	**Horse Mountain** comp=Z,10.0nm,1.0s	**51.68**	**322**	IAmb	IAmb	15 56 31.6		
J05D	**Fort Rock, OR** comp=Z,9.3nm,0.9s	**51.70**	**326**	IAmb	IAmb	15 56 31.1		
J04A	**Umpqua Nationa** comp=Z,12nm,1.0s	**52.16**	**325**	IAmb	IAmb	15 56 41.4		
KRMB	**Red Mountain** comp=Z,12nm,1.0s	**52.17**	**323**	IAmb	IAmb	15 56 34.7		
KSXB	**Camp Six Broad** comp=Z,17nm,1.2s	**52.33**	**323**	IAmb	IAmb	15 56 39.0		
I05D	**Terrebonne, OR** comp=Z,18nm,1.4s	**52.44**	**327**	IAmb	IAmb	15 56 36.8		
NEW	**Newport** comp=Z,165nm,21.3s,baz=148,slow=36	**53.05**	**333**	LR	LR	16 19 08.1		
SCHQ	**Schefferville** comp=Z,9.0nm,0.9s,baz=204,slow=4.1,SNR=4.3	**53.42**	**12**	P	**P**	**15 56 41.2**	**-0.5**	
SCHQ	comp=Z,67nm,19.4s,baz=184,slow=36 comp=Z,9.0nm,0.9s			LR	LR	16 19 45.9		
USHA	**Ushuaia** comp=Z,724nm,20.8s,baz=294,slow=29	**59.26**	**169**	LR	LR	16 15 52.4		
BBB	**Bella Bella** comp=Z,44nm,19.1s,baz=176,slow=37	**60.90**	**331**	LR	LR	16 24 43.1		
YKA	**Yellowknife Ar** comp=Z,1.3nm,0.7s,baz=141,slow=6.0,SNR=9.8	**63.35**	**345**	P	**P**	**15 57 50.5**	**-0.4**	
YKA	comp=Z,140nm,18.8s,baz=133,slow=38 comp=Z,1.3nm,0.7s			LR	LR	16 27 56.4		
DLBC	**Dease Lake** comp=Z,144nm,19.2s,baz=115,slow=38	**65.61**	**336**	LR	LR	16 28 23.6		
PPT	**Papeete** comp=Z,283nm,19.9s,baz=94,slow=29	**67.60**	**250**	LR	LR	16 20 08.7		
PPT2	**Papeete2** comp=Z,492nm,26.8s	**67.61**	**250**	*e*LR	LR	16 18 38.1		
PPT2	comp=Z,345nm,29.5s			*e*LR	LR	16 18 44.8		
SFJD	**Kangerlussuaq** comp=Z,72nm,20.0s,baz=219,slow=36	**67.84**	**14**	LR	LR	16 28 18.2		
TBI	**Tubuai** comp=Z,2µm,28.2s	**68.71**	**244**	*e*LR	LR	16 19 06.7		
M30M	**Minto, Yukon** comp=Z,6.1nm,1.1s	**70.75**	**337**	IAmb	IAmb	15 58 39.8		
M29M	**Somme Creek** comp=Z,6.6nm,0.8s	**71.33**	**337**	IAmb	IAmb	15 58 43.9		
L29M	**L29M** comp=Z,8.0nm,1.2s	**71.55**	**337**	IAmb	IAmb	15 58 55.6		
K29M	**Barlow Dome**	**71.71**	**338**	P	**P**	**15 58 44.4**	**+0.6**	
RES	**Resolute Bay** comp=Z,91nm,18.8s,baz=110,slow=36	**71.72**	**357**	LR	LR	16 30 46.6		
I30M	**Mount Dempster** comp=Z,4.5nm,0.8s	**72.06**	**340**	IAmb	IAmb	15 58 47.5		
G31M	**Satah River** comp=Z,6.4nm,0.8s	**72.35**	**342**	IAmb	IAmb	15 58 49.3		
M27K	**Edge Creek, AK**	**72.68**	**336**	P	**P**	**15 58 50.2**	**+0.6**	
M27K	comp=Z,4.9nm,1.0s			IAmb	IAmb	15 58 51.8		
MCARA	**McCarthy VSAT**	**72.71**	**334**	P	**P**	**15 58 50.8**	**+1.1**	
MCARA	comp=Z,7.2nm,0.8s			IAmb	IAmb	15 58 52.3		
HMT	**Hamilton** comp=Z,10.0nm,1.0s	**72.80**	**333**	IAmb	IAmb	15 58 59.1		
VRDI	**Verde Repeater** comp=Z,4.1nm,0.8s	**72.83**	**334**	IAmb	IAmb	15 58 52.7		
INK	**Inuvik** comp=Z,108nm,20.6s,baz=128,slow=37	**72.96**	**343**	LR	LR	16 32 49.0		
BCAR	**Beaver Creek A**	**72.97**	**336**	P	**P**	**15 58 52.2**	**+0.9**	
L27K	**Beaver Creek,** comp=Z,8.8nm,1.2s	**72.99**	**336**	IAmb	IAmb	15 58 53.7		
GLB	**Gilahina Butte** comp=Z,5.3nm,1.0s	**73.08**	**334**	IAmb	IAmb	15 59 06.6		
M26K	**Nabesna, AK** comp=Z,9.2nm,1.4s	**73.16**	**335**	IAmb	IAmb	15 58 56.9		
BMRM	**Bremner River** comp=Z,9.4nm,0.9s	**73.22**	**334**	IAmb	IAmb	15 58 55.1		
F30M	**Barrier River** comp=Z,9.1nm,0.8s	**73.23**	**342**	IAmb	IAmb	15 58 54.7		
I28M	**Miner Creek** comp=Z,8.3nm,1.5s	**73.44**	**339**	IAmb	IAmb	15 59 28.8		
G29M	**Pine Creek** comp=Z,7.3nm,0.8s	**73.56**	**341**	IAmb	IAmb	15 58 56.2		
L26K	**Log Cabin Wild** comp=Z,5.9nm,0.9s	**73.59**	**336**	IAmb	IAmb	15 58 58.7		
DOT	**Dot Lake** comp=Z,6.4nm,0.8s	**74.15**	**336**	IAmb	IAmb	15 59 00.1		
J26L	**Joseph Creek** comp=Z,6.9nm,0.8s	**74.34**	**337**	IAmb	IAmb	15 59 01.5		
SUMG	**Summit**	**74.81**	**13**	P	**P**	**15 59 02.7**	**+0.4**	
SUMG	comp=Z,9.0nm,0.8s			IAmb	IAmb	15 59 05.4		
SUMG	**Summit**	**74.81**	**13**	*i* P	**P**	**15 59 02.0**	**-0.3**	
KNK	**Knik Glacier** comp=Z,9.4nm,1.0s	**75.11**	**333**	IAmb	IAmb	15 59 18.8		
HDA	**Harding Lake** comp=Z,5.9nm,0.8s	**75.63**	**337**	IAmb	IAmb	15 59 07.9		
ILAR	**Eielson Array**	**75.75**	**337**	P	**P**	**15 59 07.3**	**0.0**	
ILAR	**Eielson Array** comp=Z,2.2nm,0.8s,baz=114,slow=6.0,SNR=19	**75.75**	**337**	P	**P**	**15 59 07.5**	**+0.1**	
ILAR	comp=Z,1.6nm,1.1s,baz=110,slow=7.7,SNR=6.6			PP	**PP**	**16 01 58.5**	**+1.0**	
ILAR	comp=Z,222nm,19.9s,baz=99,slow=37 comp=Z,2.2nm,0.8s			LR	LR	16 34 25.1		
BORG	**Borgarnes** comp=Z,82nm,21.8s,baz=253,slow=31	**75.85**	**23**	LR	LR	16 26 49.3		
KDAK	**Kodiak Island** comp=Z,64nm,19.0s,baz=138,slow=35	**75.89**	**329**	LR	LR	16 31 43.8		
RND	**Reindeer** comp=Z,7.7nm,0.8s	**76.02**	**335**	IAmb	IAmb	15 59 10.8		
MCK	**McKinley** comp=Z,16nm,1.5s	**76.17**	**336**	IAmb	IAmb	15 59 18.9		
NEA2	**Nenana** comp=Z,5.6nm,1.0s	**76.55**	**336**	IAmb	IAmb	15 59 15.0		
H24K	**Noodor Dome** comp=Z,8.5nm,1.2s	**76.56**	**338**	IAmb	IAmb	15 59 13.8		
SKT	**Skwentna** comp=Z,7.3nm,1.2s	**76.68**	**333**	IAmb	IAmb	15 59 14.2		
G24K	**Hadweenzic Riv** comp=Z,6.5nm,1.2s	**76.75**	**339**	IAmb	IAmb	15 59 23.1		
CAST	**Castle Rocks** comp=Z,12nm,1.4s	**77.39**	**335**	IAmb	IAmb	15 59 17.7		
I21K	**Tanana** comp=Z,6.2nm,1.0s	**77.92**	**336**	IAmb	IAmb	15 59 20.8		
COLD	**Coldfoot** comp=Z,4.8nm,0.9s	**77.94**	**339**	IAmb	IAmb	15 59 24.1		
E23K	**Chandalar** comp=Z,4.9nm,0.9s	**78.04**	**340**	IAmb	IAmb	15 59 29.7		
K20K	**Telida** comp=Z,6.0nm,1.0s	**78.22**	**334**	IAmb	IAmb	15 59 35.2		
N18K	**Kilae Creek** comp=Z,5.9nm,0.8s	**78.32**	**332**	IAmb	IAmb	15 59 24.9		
DBIC	**Dimbokro** comp=Z,68nm,20.1s,baz=338,slow=34	**79.11**	**84**	LR	LR	16 31 56.7		
MDT	**Midelt** comp=Z,44nm,21.7s,baz=252,slow=32	**79.58**	**57**	LR	LR	16 29 07.4		
ESDC	**Sonseca Array** comp=Z,1.2nm,0.9s,baz=257,slow=5.7,SNR=6.9 comp=Z,1.2nm,0.9s	**80.50**	**50**	P	**P**	**15 59 33.5**	**-0.8**	
EKA	**Eskdalemuir Ar** comp=Z,3.0nm,0.7s,baz=254,slow=5.6,SNR=8.6 comp=Z,3.0nm,0.7s	**82.33**	**35**	P	**P**	**15 59 43.2**	**-0.3**	
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.4s,baz=273,slow=2.7,SNR=3.6 comp=Z,0.3nm,0.4s	**85.34**	**77**	P	**P**	**16 00 01.5**	**+1.8**	
NOA	**NORSAR Array B** comp=Z,27nm,21.8s,baz=290,slow=33	**89.90**	**29**	LR	LR	16 36 06.6		
SNAA	**Sanae** comp=Z,1.1nm,1.1s,baz=274,slow=14,SNR=8.2 comp=Z,1.1nm,1.1s	**90.27**	**162**	P	**P**	**16 00 22.1**	**-0.2**	
DAVOX	**Davos/Dischmat** comp=Z,31nm,18.6s,baz=257,slow=34	**90.54**	**43**	LR	LR	16 39 13.8		
HFS	**Hagfors** comp=Z,27nm,21.5s,baz=266,slow=32	**91.23**	**30**	LR	LR	16 36 11.0		
CLL	**Collm**	**92.08**	**39**	*i* P	**P**	**16 00 34.4**	**+3.4**	
CLL				*e*(PP)		16 04 18.0		
GERES	**GERESS Array B** comp=Z,0.4nm,0.8s,baz=270,slow=14,SNR=2.1	**92.87**	**41**	P	**P**	**16 00 36.3**	**+1.4**	
GERES	comp=Z,34nm,20.5s,baz=318,slow=32 comp=Z,0.4nm,0.8s			LR	LR	16 37 20.5		
QSPA	**South Pole Qui** comp=Z,3.2nm,0.9s,baz=132,slow=1.7,SNR=10	**93.19**	**180**	P	**P**	**16 00 38.1**	**+2.1**	
QSPA	comp=Z,81nm,18.1s,baz=99,slow=32 comp=Z,3.2nm,0.9s			LR	LR	16 37 29.8		
VRAC	**Vranov** comp=Z,55nm,22.0s,baz=290,slow=32	**94.67**	**40**	LR	LR	16 37 05.1		
VAE	**Valguarnera** comp=Z,42nm,18.4s,baz=320,slow=37	**94.95**	**52**	LR	LR	16 45 38.0		
FINES	**FINESS Array B** comp=Z,31nm,21.5s,baz=284,slow=33	**96.81**	**27**	LR	LR	16 40 38.5		
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.7s,baz=337,slow=2.3,SNR=5.2	**124.42**	**13**	PKP	**PKPdf**	**16 06 19.5**	**-1.4**	
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=40,slow=2.5,SNR=1.7	**128.37**	**351**	PKP	**PKiKP**	**16 06 30.7**	**+1.4**	
MKAR	**Makanchi Array** comp=Z,0.5nm,0.9s,baz=355,slow=3.3,SNR=3.0	**128.85**	**12**	PKP	**PKiKP**	**16 06 29.8**	**-0.4**	
KSRS	**Korea Array** comp=Z,1.3nm,0.7s,baz=15,slow=1.2,SNR=5.8	**129.75**	**327**	PKP	**PKPdf**	**16 06 30.9**	**-0.5**	
HHC	**Hu-ho-hao-te**	**133.88**	**343**	*e*P	**PKPdf**	**16 06 35.8**	**-3.5**	
ASAR	**Alice Springs** comp=Z,0.5nm,0.7s,baz=110,slow=1.8,SNR=7.2	**137.89**	**238**	PKP	**PKPdf**	**16 06 46.8**	**-0.4**	
NJ2	**Nanjing**	**138.68**	**330**	*e*P	**PKiKP**	**16 06 49.3**	**-1.2**	
NJ2	comp=Z,8.0nm,1.4s			pmax	pmax			
WRA	**Warramunga Arr** comp=Z,1.1nm,0.8s,baz=103,slow=2.2,SNR=5.4	**138.84**	**243**	PKP	**PKiKP**	**16 06 49.7**	**-1.5**	
PZH	**PanZhiHua**	**149.94**	**349**	PKPbc	**PKPdf**	**16 07 08.5**	**+0.3**	
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=17,slow=3.5,SNR=5.4	**158.29**	**352**	PKPab	**PKPab**	**16 07 52.8**	**-1.1**	

*IDC **20** 16:04:34.4±0.8,22.78N×123.85E,h0km,mb3.9/13, mbtmp4.0/17,ML4.0/4, Error ellipse: s-maj=20.5km s-min=16.1km az=98.0*

*BJI **20** 16:04:35.8,22.88N×123.79E,h9km,mB4.5/8,mb4.3/28, ML3.9/3,Ms3.9/4,Ms7 3.6/3*

*NEIC **20** 16:04:36.7±1.6,22.79N±0.06×123.77E±0.08,h10km±1km, mb4.5/20,Error ellipse: s-maj=13.7km s-min=7.6km az=303.0*

*NIED **20** 16:04:38.3,22.84N×123.86E,h64km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr=0.67; Mθθ1.98; Mφφ-1.31; Mrθ0.17; Mθφ-0.93; Mφr-0.21; Fault plane solution: Mo1.91000×10¹⁵ NP1:φs60.00000°, δ80.00000°,λ-176.00000°. NP2:φs329.00000°, δ86.00000°,λ-10.00000°.*

*JMA **20** 16:04:38.3±0.4,23.1N±2.2×12.4E±.1,h64km,MD4.2/17, MV4.4/17,FAR S OFF ISHIGAKIJIMA*

ISC 20 16:04:38.1±0.5,22.77N±0.05×123.85E±0.04,h25km,n91, σ1s53/99,mb4.2/25,1D,Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.29**	**358**	P		**Pn**	**Pn**	**16 04 59.8**	**-0.7**
HATJ				S		**Sn**	**Sn**	**16 05 14.8**	**-2.1**
HATJ	**Hateruma jima** comp=N,6.0nm,0.4s,comp=E,17nm,0.8s	**1.29**	**358**	A		A	A	16 04 59.8	
JKRS	**Kuro-shima**	**1.47**	**6**	P		**Pn**	**Pn**	**16 05 02.2**	**-0.8**
JKRS				*e*S		**Sn**	**Sn**	**16 05 20.1**	**-1.4**
JKRS	**Kuro-shima** comp=N,6.0nm,0.7s,comp=E,10.0nm,0.4s	**1.47**	**6**	A		A	A	16 05 02.2	
IRIF	**Iriomote-Funau**	**1.57**	**356**	P		**Pn**	**Pn**	**16 05 03.9**	**-0.4**
IRIF				S		**Sn**	**Sn**	**16 05 21.6**	**-2.2**
IRIF	**Iriomote-Funau** comp=N,8.0nm,0.4s,comp=E,6.0nm,0.3s	**1.57**	**356**	A		A	A	16 05 03.9	
JIJ	**Ishigaki jima**	**1.61**	**9**	P		**Pn**	**Pn**	**16 05 04.0**	**-1.0**
JIJ				S		**Sn**	**Sn**	**16 05 22.1**	**-2.8**
YOJ	**Yonaguni jima**	**1.86**	**336**			**Pn**	**Pn**	**16 05 08.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.86**	**336**	P		**Pn**	**Pn**	**16 05 07.8**	**-0.5**
YOJ	**Yonaguni jima**	**1.86**	**336**	P		**Pn**	**Pn**	**16 05 08.2**	**-0.1**
YOJ				*e*S		**Sn**	**Sn**	**16 05 28.7**	**-2.3**
JISG	**Ishigakijimahi**	**1.86**	**13**	P		**Pn**	**Pn**	**16 05 07.2**	**-1.1**
JISG				*e*S		**Sn**	**Sn**	**16 05 29.1**	**-2.0**
JYNG	**Yonagunijimaku**	**1.87**	**334**	P		**Pn**	**Pn**	**16 05 08.2**	**-0.3**
JYNG				*e*S		**Sn**	**Sn**	**16 05 29.0**	**-2.3**
JTJ	**Tarama**	**2.02**	**23**	P		**Pn**	**Pn**	**16 05 09.7**	**-0.9**
JTJ				S		**Sn**	**Sn**	**16 05 34.0**	**-1.1**
JIRB	**Irabujima**	**2.38**	**30**	P		**Pn**	**Pn**	**16 05 14.3**	**-1.3**
JIRB				*e*S		**Sn**	**Sn**	**16 05 41.9**	**-2.1**
YULB	**Yu-li**	**2.43**	**285**			**Pn**	**Pn**	**16 05 14.4**	**-1.8**
YULB	**Yu-li**	**2.43**	**285**	P		**Pn**	**Pn**	**16 05 14.4**	**-1.8**
JOGS	**Gusukube**	**2.44**	**35**	*e*P		**Pn**	**Pn**	**16 05 15.8**	**-0.6**
JOGS				S		**Sn**	**Sn**	**16 05 44.3**	**-1.2**
JIKM	**Ikemajima**	**2.50**	**30**	*e*P		**Pn**	**Pn**	**16 05 16.1**	**-1.0**
JIKM				*e*S		**Sn**	**Sn**	**16 05 45.2**	**-1.6**
NACB	**Ninganchiao**	**2.50**	**305**			**Pn**	**Pn**	**16 05 15.5**	**-1.7**
NACB	**Ninganchiao**	**2.50**	**305**	P		**Pn**	**Pn**	**16 05 15.5**	**-1.7**
TWGBT	**Beinan**	**2.56**	**272**	P		**Pn**	**Pn**	**16 05 16.4**	**-1.6**
TWG	**Pinlang**	**2.56**	**272**			**Pn**	**Pn**	**16 05 16.1**	**-2.0**
SSLB	**Suanglung**	**2.85**	**291**			**Pn**	**Pn**	**16 05 20.7**	**-1.4**
SSLB	**Suanglung**	**2.85**	**291**	P		**Pn**	**Pn**	**16 05 21.1**	**-0.9**
YHNB	**Yeheng**	**2.96**	**310**			**Pn**	**Pn**	**16 05 23.2**	**-0.4**
YHNB	**Yeheng**	**2.96**	**310**	P		**Pn**	**Pn**	**16 05 23.4**	**-0.1**
TPUB	**Ta-pu**	**3.02**	**281**			**Pn**	**Pn**	**16 05 24.3**	**0.0**
TATO	**Taipei**	**3.08**	**316**			**Pn**	**Pn**	**16 05 25.4**	**+0.1**
TATO	**Taipei**	**3.08**	**316**	P		**Pn**	**Pn**	**16 05 25.8**	**+0.6**
QZH	**Quanzhou**	**5.28**	**295**	Pn		**Pn**	**Pn**	**16 05 54.9**	**-0.5**
QZH				Sn		**Sn**	**Sn**	**16 06 51.3**	**-4.1**
QZH	comp=E,91nm,0.7s			smax		smax	smax		
QZH	comp=E,78nm,0.7s			smax		smax	smax		
KNMB	**Chin-men Tao**	**5.29**	**290**				**Pn**	**16 05 54.7**	**-0.8**
JOW	**Kunigami** comp=E,21nm,0.3s,baz=222,slow=11,SNR=45	**5.71**	**44**	Pn		**Pn**	**Pn**	**16 05 59.2**	**-2.0**
JOW	comp=E,4.0nm,0.3s,baz=248,slow=19,SNR=6.5			Sn		**Sn**	**Sn**	**16 06 59.6**	**-6.3**
JOW	**Kunigami**	**5.71**	**44**	P		**Pn**	**Pn**	**16 05 59.2**	**-2.0**
TGY	**Tagaytay City** comp=E,35nm,0.3s,baz=90,slow=3.0,SNR=4.9	**9.05**	**198**	Pn		**Pn**	**Pn**	**16 06 48.5**	**+1.2**
NJ2	**Nanjing**	**10.26**	**335**	*e*P		**Pn**	**Pn**	**16 07 04.0**	**+0.3**
NJ2	comp=E,9.0nm,0.9s			pmax		pmax			
JNU	**Nakatsue** comp=E,0.6nm,0.3s,baz=200,slow=6.2,SNR=6.5 comp=E,2.6nm,0.5s	**12.04**	**29**	Pn		**Pn**	**Pn**	**16 07 26.7**	**-1.5**
JNU	**Nakatsue**	**12.04**	**29**	P		**Pn**	**Pn**	**16 07 26.6**	**-1.5**
KSAR	**Wonju Array Be**	**15.04**	**12**			**Pn**	**Pn**	**16 08 08.9**	**0.0**
KSRS	**Korea Array** comp=E,0.4nm,0.3s,baz=195,slow=13,SNR=25 comp=E,8.6nm,1.0s	**15.05**	**13**	Pn		**Pn**	**Pn**	**16 08 08.4**	**-0.7**
INU	**Inuyama**	**17.00**	**40**				**P**	**16 08 36.9**	**+1.0**
INU	comp=Z,41nm,0.7s			IAmb		IAmb	IAmb	16 08 39.0	
XAN	**Xi'an**	**17.26**	**314**	P		**P**	**P**	**16 08 41.0**	**+2.2**
XAN	comp=Z,8.0nm,1.1s			pmax		pmax	pmax		
JGF	**Kuroka**	**17.37**	**40**				**P**	**16 08 41.7**	**+1.7**
JGF	comp=Z,38nm,0.8s			IAmb		IAmb	IAmb	16 08 43.4	
MAJO	**Matsushiro**	**18.52**	**39**	P		**Pn**	**Pn**	**16 08 53.4**	**+0.5**
MAJO	comp=Z,30nm,0.8s			IAmb		IAmb	IAmb	16 08 55.8	
MJAR	**Matsushiro Arr** comp=Z,0.4nm,0.3s,baz=229,slow=9.7,SNR=66 comp=Z,25nm,0.8s	**18.52**	**39**	P		**Pn**	**Pn**	**16 08 54.3**	**+1.4**
MJB9	**Matsu-Tunnel**	**18.52**	**39**				**Pn**	**16 08 53.7**	**+0.7**
MJB9	comp=Z,30nm,0.8s			IAmb		IAmb	IAmb	16 08 56.8	
PZH	**PanZhiHua**	**20.43**	**285**	P		Pn	Pn	16 09 15.5	-0.5
HHC	**Hu-ho-hao-te**	**20.80**	**333**	*e*P		Pn	Pn	16 09 19.5	-0.6
HHC	comp=Z,15nm,0.6s			pmax		pmax			
HHC	comp=Z,78nm,5.0s			pmax		pmax			
BTO	**Baotou**	**21.28**	**330**	*e*P		**P**	**P**	**16 09 25.8**	**+3.0**
BTO	comp=Z,16nm,0.5s			pmax		pmax			
BTO	comp=Z,83nm,3.9s			pmax		pmax			
BTO	comp=Z,120nm,6.5s			LR		LR			
BTO	comp=Z,140nm,5.3s			LR		LR			
BTO	comp=Z,180nm,9.2s			LR		LR			
LZH	**Lanzhou**	**21.85**	**312**	*e*P		**P**	**P**	**16 09 32.6**	**+3.6**
LZH				sP		sP	sP	16 09 39.3	+2.7
LZH				SS		Sn	Sn	16 14 04.6	+25
LZH	comp=Z,13nm,1.3s			pmax		pmax			
LZH	comp=Z,110nm,12.7s			LR		LR			
LZH	comp=Z,100nm,12.4s			LR		LR			
LZH	comp=Z,120nm,12.0s			LR		LR			
USRK	**Ussuriysk Ar.** comp=Z,2.5nm,0.6s,baz=199,slow=7.4,SNR=8.3 comp=Z,2.5nm,0.6s	**22.41**	**15**	P		**P**	**P**	**16 09 34.6**	**-0.1**
BNX	**BinXian**	**23.10**	**6**	⇓P		**P**	**P**	**16 09 40.8**	**-1.2**
BNX	comp=Z,4.0nm,1.1s			pmax		pmax	pmax		
JTM	**Tenmabayashi**	**23.10**	**35**	P		**P**	**P**	**16 09 41.8**	**-0.2**
TNCH	**TengChong**	**23.26**	**281**	*e*P		**P**	**P**	**16 09 43.8**	**-0.2**
TNCH				pP		pP	pP	16 09 45.6	-3.7
TNCH	comp=Z,7.0nm,0.4s			pmax		pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=90,slow=8.6,SNR=5.6 comp=Z,0.5nm,0.3s	**23.69**	**264**	P		**P**	**P**	**16 09 48.9**	**+0.8**
ERM	**Erimo**	**25.08**	**36**	P		**P**	**P**	**16 10 01.6**	**+1.1**
JKA	**Kamikawa-asahi**	**26.30**	**31**	P		**P**	**P**	**16 10 13.6**	**+1.9**
GTA	**Gaotai**	**26.32**	**315**	*e*P		**P**	**P**	**16 10 13.0**	**+1.0**
GTA				sP		sP	sP	16 10 20.0	+0.2
GTA	comp=Z,3.0nm,0.9s			pmax		pmax	pmax		
SONM	**Songino Array** comp=Z,0.7nm,0.5s,baz=159,slow=8.8,SNR=3.2 comp=Z,0.7nm,0.5s	**28.65**	**335**	P		**P**	**P**	**16 10 32.8**	**-0.1**
MNAI	**Manna**	**33.82**	**220**	P		**P**	**P**	**16 11 17.4**	**-1.1**
WMQ	**Urumqi**	**36.40**	**314**	*e*P		**P**	**P**	**16 11 42.4**	**+1.8**
PETK	**Petropavlovsk-**	**39.72**	**32**	P		**P**	**P**	**16 12 08.9**	**+0.5**
PETK	**Petropavlovsk-** comp=Z,2.5nm,0.9s,baz=234,slow=4.8,SNR=2.0 comp=Z,2.5nm,0.8s	**39.72**	**32**	P		**P**	**P**	**16 12 08.2**	**-0.2**
MKAR	**Makanchi Array**	**41.05**	**316**			**P**	**P**	**16 12 19.6**	**+0.1**
MKAR	**Makanchi Array** comp=Z,3.3nm,0.6s,baz=108,slow=9.9,SNR=40 comp=Z,3.3nm,0.6s	**41.05**	**316**	P		**P**	**P**	**16 12 20.2**	**+0.7**
ZAA0	**Zalesovo Array**	**42.76**	**327**				**P**	**16 12 33.1**	**-0.2**
ZALV	**Zalesovo Beam**	**42.76**	**327**				**P**	**16 12 32.8**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,3.2nm,0.5s,baz=119,slow=8.3,SNR=17 comp=Z,3.2nm,0.5s	**42.76**	**327**	P			**P**	**16 12 33.3**	**0.0**
KDJ	**Kajisay**	**43.26**	**308**	P		**P**	**P**	**16 12 38.5**	**+0.7**
WB0	**Warramunga Arr**	**43.51**	**166**	P		**P**	**P**	**16 12 39.7**	**0.0**
WB0				IAmb		IAmb	IAmb	16 13 19.5	
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=344,slow=8.5,SNR=1.9 comp=Z,0.5nm,0.7s	**43.67**	**166**	P		**P**	**P**	**16 12 40.2**	**-0.8**
WR8	**Warramunga Arr**	**43.72**	**165**	P		**P**	**P**	**16 12 41.5**	**+0.1**
WR8

RAO			Sn	**Sn**	**16 20 19.3**	**-1.7**
	904nm,0.3s,baz=128,slow=19,SNR=10						
URZ	**Urewera**	**9.08 207**	Pn	**Pn**	**16 21 56.0**	**-2.4**
	0.2nm,0.3s,baz=83,slow=18,SNR=2.3						
URZ			Sn	**Sn**	**16 23 38.2**	**-1.2**
	0.9nm,0.3s,baz=76,slow=19,SNR=7.2						
	34nm,1.1s						
FUTU	**Fugatoga**	**15.88 358**	Pn	**Pn**	**16 23 30.1**	**-0.8**
CTAO	**Charters Tower**	**34.07 279**	P	**P**	**16 26 30.6**	**-0.6**
STKA	**Stephens Creek**	**34.80 257**	P	**P**	**16 26 40.1**	**+2.7**
	1.4nm,0.3s,baz=72,slow=16,SNR=3.4						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**43.41 267**	P	**P**	**16 27 49.9**	**+0.4**
ASAR	**Alice Springs**	**43.41 267**	P	**P**	**16 27 50.7**	**+1.2**
	0.8nm,0.4s,baz=110,slow=8.1,SNR=18						
	0.8nm,0.4s						
WR8	**Warramunga Arr**	**44.24 272**	P	**P**	**16 27 57.2**	**+0.9**
WR8			IAmb	IAmb	16 28 31.8		
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**44.39 272**	P	**P**	**16 27 58.2**	**+0.8**
WRA	**Warramunga Arr**	**44.39 272**	P	**P**	**16 27 58.4**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=112,slow=8.3,SNR=11						
	comp=Z,1.5nm,0.3s						
WB0	**Warramunga Arr**	**44.41 272**	P	**P**	**16 27 58.5**	**+0.9**
WB0			IAmb	IAmb	16 28 35.5		
	comp=Z,12nm,1.2s						
SNAA	**Sanae**	**78.29 178**	P	**P**	**16 31 47.3**	**+1.3**
SNAA			IAmb	IAmb	16 32 16.0		
	comp=Z,4.9nm,1.5s						
H03S2	**Juan Fernandez**	**80.30 123**	T	T	18 01 27.8		
	baz=239,slow=74,SNR=7.0						
H03S1	**Juan Fernandez**	**80.31 123**	T	T	18 01 29.8		
	baz=239,slow=74,SNR=6.6						
H03S3	**Juan Fernandez**	**80.31 123**	T	T	18 01 27.3		
	baz=239,slow=74,SNR=7.9						
H10N3	**ASCENSION HYDR**	**38.81 154**	T	T	19 15 06.0		
	baz=203,slow=75,SNR=5.5						
H10N1	**ASCENSION HYDR**	**38.81 154**	T	T	19 14 55.2		
	baz=203,slow=75,SNR=5.1						
H10N2	**ASCENSION HYDR**	**38.83 154**	T	T	19 15 00.7		
	baz=203,slow=75,SNR=5.5						
FINES	**FINESS Array B**	**145.11 340**	PKPbc	**PKPab**	**16 39 22.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=46,slow=4.0,SNR=8.1						

UPA ***20*** *16:21:02.7±2.6,9.29N×83.87W,h30km±31km*
UCR ***20*** *16:21:04.5±1.1,9.22N×83.78W,h61km±3km, MW4.5, Fault plane solution: NP1:ϕs281.34000°, δ75.06000°, λ-84.82000°.*
CATAC ***20*** *16:21:05.1±0.3,9°N±3°×8°4W±°, h34km±2km, M4.3/12, MLv4.3/12, Error ellipse: s-maj=8.2km s-min=3.2km az=38.9, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.51; Mθθ0.97; Mϕϕ-1.48; Mrθ1.76; Mθϕ1.07; Mϕr-0.65; Fault plane solution: M₀2.52184×10¹⁵ NP1: ϕs118.48114°, δ82.20343°, λ49.54460°. NP2:ϕs19.44207°, δ41.07262°, λ168.08423°. Principal axes: T 2.5535, Plg38.9760°, Azm352.3114°; N -0.0645, Plg40.0053°, Azm125.0797°; P -2.4889, Plg25.9221°, Azm239.1540°; confirmed*

ISC 20 16:21:05.5±1.2,9°20N±0°03×83°79W±0°03, h49km±6km, n115, σ0s87/138, 4C-26D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.17**	**125**	P	Pn	**16 21 13.3**	**-0.3**
OCHAL	**Ojochal**	**0.17**	**125**	S	Sn	**16 21 20.4**	**+1.0**
EDPE	**Pejibaye, P**	**0.22**	**100**	*eS*	**Sn**	**16 21 20.9**	**+0.9**
EDPE	**Pejibaye, P**	**0.22**	**100**	*eP*	**Pn**	**16 21 13.4**	**-0.5**
PANP	**Palmar Norte**	**0.40**	**126**↑	*eP*	**Pn**	**16 21 15.2**	**-0.4**
PANP				*eS*	**Sn**	**16 21 23.9**	**+1.1**
LLNJ	**Naranjito**	**0.41**	**312**	*eP*	**Pn**	**16 21 15.2**	**-0.5**
LLNJ				*eS*	**Sn**	**16 21 24.0**	**+1.0**
QUEP	**Quepos**	**0.44**	**302**	*eP*	**Pn**	**16 21 15.0**	**-1.0**
QUEP	**Quepos**	**0.44**	**302**	S	**Sn**	**16 21 24.2**	**+0.7**
QUEP	**Quepos**	**0.44**	**302**	P	**Pn**	**16 21 15.4**	**-0.6**
SVQ2	**Quepos**	**0.44**	**302**	*eP*	**Pn**	**16 21 15.1**	**-0.9**
BURE	**Buenos Aires**	**0.45**	**93**↓	*eP*	**Pn**	**16 21 15.2**	**-0.9**
PIEC	**Cerro El Cedra**	**0.46**	**339**↓	*eP*	**Pn**	**16 21 15.8**	**-0.7**
FIMO	**Fila Mora**	**0.48**	**115**	*eP*	**Pn**	**16 21 16.3**	**-0.3**
RAZU	**San Marcos de**	**0.51**	**333**↓	*eP*	**Pn**	**16 21 16.4**	**-0.8**
RAZU				*eS*	**Sn**	**16 21 25.7**	**+0.3**
PITB	**Pirrs, San**	**0.52**	**333**↓	*eP*	**Pn**	**16 21 16.4**	**-0.8**
PITB				*eS*	**Sn**	**16 21 25.4**	**-0.1**
LCR2	**La Lucha 2**	**0.58**	**339**↓	*eP*	**Pn**	**16 21 16.9**	**-1.1**
LCR2				*eS*	**Sn**	**16 21 26.3**	**-0.6**
LCR2	**La Lucha 2**	**0.58**	**339**	P	**Pn**	**16 21 17.1**	**-0.9**
PICV	**PH. Pirrs**	**0.59**	**317**↓	*eP*	**Pn**	**16 21 17.2**	**-0.7**
PICV				*eS*	**Sn**	**16 21 27.1**	**+0.3**
PAR1A	**Puntarenas Pro**	**0.61**	**311**	*eP*	**Pn**	**16 21 17.7**	**-0.3**
PAR1A				*eS*	**Sn**	**16 21 28.7**	**+1.7**
REPA	**Paraso**	**0.63**	**353**↓	*eP*	**Pn**	**16 21 17.7**	**-0.9**
REPA				*eS*	**Sn**	**16 21 27.8**	**-0.1**
TAGO	**Cartago**	**0.68**	**349**	*eP*	**Pn**	**16 21 18.5**	**-0.7**
ACOS	**Acosta**	**0.70**	**328**	*eP*	**Pn**	**16 21 18.4**	**-1.0**
TURIB	**Turrialba**	**0.71**	**8**	*eP*	**Pn**	**16 21 18.6**	**-0.9**
PCAYA	**Pacayas**	**0.72**	**358**	*eP*	**Pn**	**16 21 18.8**	**-0.9**
PCAYA				*eS*	**Sn**	**16 21 29.4**	**-0.5**
TRIO	**Tres Rios**	**0.73**	**344**↓	*eP*	**Pn**	**16 21 18.9**	**-0.9**
TRIO				*eS*	**Sn**	**16 21 30.0**	**-0.2**
AMPA	**Desamparados**	**0.74**	**339**	*eP*	**Pn**	**16 21 19.0**	**-1.0**
VERB	**Verbena**	**0.75**	**7**	*eP*	**Pn**	**16 21 19.2**	**-0.8**
RAFA	**San Farael, Vo**	**0.76**	**358**↓	*eP*	**Pn**	**16 21 19.4**	**-0.9**
RAFA				*eS*	**Sn**	**16 21 30.7**	**-0.3**
LUJA	**Lujan**	**0.78**	**339**↓	*eP*	**Pn**	**16 21 19.6**	**-0.9**
ECI	**Escuela Centro**	**0.78**	**341**↓	*eP*	**Pn**	**16 21 19.8**	**-0.7**
ECI				*eS*	**Sn**	**16 21 31.6**	**+0.3**
SJS3	**Mercedes San J**	**0.78**	**341**	*eP*	**Pn**	**16 21 19.9**	**-0.6**
CENT	**San Jose**	**0.78**	**339**	*eP*	**Pn**	**16 21 19.7**	**-0.8**
VTCV	**VTCV, Calle Va**	**0.78**	**4**↓	*eP*	**Pn**	**16 21 19.7**	**-0.9**
VICA	**Volcano Irazu**	**0.79**	**356**↓	*iP*	**Pn**	**16 21 19.8**	**-1.0**
LUPE	**Guadalupe**	**0.79**	**341**	*eP*	**Pn**	**16 21 20.0**	**-0.6**
CORON	**Coronado**	**0.80**	**345**↓	*eP*	**Pn**	**16 21 20.4**	**-0.4**
CORON				*eS*	**Sn**	**16 21 32.4**	**+0.6**
CVTQ	**Turrialba Volc**	**0.80**	**2**↓	*eP*	**Pn**	**16 21 20.2**	**-0.8**
CVTV	**Tajo**	**0.80**	**3**↓	*eP*	**Pn**	**16 21 20.2**	**-0.8**
VTR0	**Volcan Turrial**	**0.82**	**2**↓	*eP*	**Pn**	**16 21 20.3**	**-0.9**
CVTR	**Volcan Turrial**	**0.82**	**2**↓	*eP*	**Pn**	**16 21 20.2**	**-1.0**
PURI	**Puriscal**	**0.83**	**322**	*eP*	**Pn**	**16 21 20.5**	**-0.6**
SANTA	**Santa Ana**	**0.83**	**332**	*eP*	**Pn**	**16 21 20.1**	**-1.0**
DOMI	**Santo Domingo**	**0.83**	**339**	*eP*	**Pn**	**16 21 20.7**	**-0.5**
CVIMO	**Finca Echandi**	**0.84**	**350**	*eP*	**Pn**	**16 21 20.6**	**-0.7**
CVIMO				*eS*	**Sn**	**16 21 32.9**	**+0.2**
RESJ	**San Isidro (Tu**	**0.84**	**10**↓	*eP*	**Pn**	**16 21 20.6**	**-0.6**
FITO	**Golfito**	**0.85**	**132**	*eP*	**Pn**	**16 21 20.2**	**-1.0**
HDC	**Heredia**	**0.86**	**338**	*eP*	**Pn**	**16 21 20.9**	**-0.6**
HEME	**Heredia, Merce**	**0.86**	**337**↓	*eP*	**Pn**	**16 21 22.1**	**+0.5**
BELE	**Belen**	**0.87**	**333**↓	*eP*	**Pn**	**16 21 20.8**	**-0.8**
BELE				*eS*	**Sn**	**16 21 32.9**	**-0.4**
BITO	**Garabito Jaco**	**0.92**	**297**	*eP*	**Pn**	**16 21 21.3**	**-0.9**
RVLA	**Villa Bonita**	**0.93**	**12**	*eP*	**Pn**	**16 21 21.6**	**-0.7**
VERH	**Veragua Rainfo**	**0.94**	**39**↓	*eP*	**Pn**	**16 21 21.5**	**-0.9**
VERH				*eS*	**Sn**	**16 21 34.6**	**-0.2**
IRES	**Siquirres**	**0.94**	**17**↓	*eP*	**Pn**	**16 21 22.2**	**-0.2**
IRES				*eS*	**Sn**	**16 21 35.5**	**+0.7**
CEUA	**Cerro Uatsi, L**	**0.94**	**63**↓	*eP*	**Pn**	**16 21 22.8**	**+0.3**
ATEO	**Atenas**	**0.97**	**323**	*eP*	**Pn**	**16 21 22.2**	**-0.8**
ALCO	**Alturas Coton,**	**0.97**	**104**↓	*eP*	**Pn**	**16 21 22.0**	**-1.1**
ALCO				*eS*	**Sn**	**16 21 35.8**	**-0.2**
NELY	**Ciudad Neily**	**0.99**	**123**	*eP*	**Pn**	**16 21 22.7**	**-0.5**
PILE	**Guapiles**	**1.01**	**0**	*eP*	**Pn**	**16 21 23.3**	**-0.2**
VPS8	**V Poas**	**1.07**	**335**↓	*eP*	**Pn**	**16 21 24.2**	**-0.4**
VPS5	**V. Poas**	**1.08**	**336**	*eP*	**Pn**	**16 21 24.1**	**-0.6**
CDITO	**Canoas**	**1.10**	**124**	P	**Pn**	**16 21 24.2**	**-0.3**
CDITO	**Canoas**	**1.10**	**124**	S	**Sn**	**16 21 39.8**	**+1.2**
BRU2	**Volcan**	**1.16**	**110**	*eP*	**Pn**	**16 21 25.2**	**-0.3**
BRU2				*eS*	**Sn**	**16 21 39.7**	**-0.6**
BRU2	**Volcan**	**1.16**	**110**	*eP*	**Pn**	**16 21 25.1**	**-0.4**
BRU2				*eS*	**Sn**	**16 21 40.2**	**-0.1**
BRU2	**Volcan**	**1.16**	**110**	P	**Pn**	**16 21 24.9**	**-0.6**
CARI	**Cariari**	**1.16**	**3**	*eP*	**Pn**	**16 21 25.3**	**-0.1**
VPL1	**V. Platanar**	**1.20**	**332**	*eP*	**Pn**	**16 21 25.4**	**-0.7**
ARTO	**Ro Cuarto**	**1.22**	**340**	*eP*	**Pn**	**16 21 26.2**	**0.0**
BC3P	**Paso Ancho**	**1.22**	**108**	*eP*	**Pn**	**16 21 25.5**	**-1.0**
BC3P				*eS*	**Sn**	**16 21 41.9**	**-0.1**
SARA	**Sarapiqu**	**1.27**	**350**	*eP*	**Pn**	**16 21 26.6**	**-0.3**
CBL1	**Cabuya**	**1.34**	**287**	*eP*	**Pn**	**16 21 26.0**	**-1.9**
PTPA	**Petro Terminal**	**1.34**	**137**	*eP*	**Pn**	**16 21 27.9**	**0.0**
JEFFS	**S de V. Baru**	**1.35**	**113**	*eP*	**Pn**	**16 21 27.4**	**-0.6**
BQTLY	**Boquete Panama**	**1.38**	**108**	*eP*	**Pn**	**16 21 28.1**	**-0.4**
BQSF3	**Alto Boquete,**	**1.41**	**109**	*eP*	**Pn**	**16 21 28.1**	**-0.9**
BQSF3				*eS*	**Sn**	**16 21 48.5**	**+2.0**
SOCE	**Pocosol**	**1.44**	**325**	*eP*	**Pn**	**16 21 28.9**	**-0.3**
SOCE	**Pocosol**	**1.44**	**325**	P	**Pn**	**16 21 29.6**	**+0.4**
SOCE	**Pocosol**	**1.44**	**325**	S	**Sn**	**16 21 48.9**	**+1.9**
JCR1	**Jicaral**	**1.46**	**297**	*eP*	**Pn**	**16 21 27.6**	**-1.9**
DVD	**David**	**1.52**	**120**	*eP*	**Pn**	**16 21 29.3**	**-1.1**
DVD				*eS*	**Sn**	**16 21 49.0**	**0.0**
CASO	**Castillo**	**1.54**	**323**	*eP*	**Pn**	**16 21 31.1**	**+0.5**
ARE1	**Arenal 1**	**1.56**	**324**‖	*eP*	**Pn**	**16 21 31.1**	**+0.2**
VARE2	**V. Arenal**	**1.56**	**324**‖	*eP*	**Pn**	**16 21 31.1**	**+0.2**
CEDE	**Laguna Cedeo**	**1.57**	**325**	*eP*	**Pn**	**16 21 31.2**	**+0.2**
JTS	**Las Juntas de**	**1.58**	**314**	*eP*	**Pn**	**16 21 30.2**	**-1.0**
REZ	**Monterrey de S**	**1.60**	**326**	*eP*	**Pn**	**16 21 31.6**	**+0.2**
PBNVO	**Pueblo Nuevo,**	**1.61**	**101**	*eP*	**Pn**	**16 21 30.4**	**-1.0**
GUAL3	**Gualaca, Chiri**	**1.61**	**114**	*eP*	**Pn**	**16 21 32.4**	**+0.8**
GUAL3				*eS*	**Sn**	**16 21 52.9**	**+1.6**
COVE	**Coope Vega, Sa**	**1.63**	**338**	P	**Pn**	**16 21 31.2**	**-0.6**
CHGR2	**Aguacate**	**1.65**	**99**	*eP*	Pn	16 21 17.8	-14
CHGR2				*eS*	**Sn**	**16 21 51.2**	**-0.8**
RBALA	**Bur**	**1.65**	**101**	*eP*	**Pn**	**16 21 30.8**	**-1.2**
CHIK	**Chiripa**	**1.66**	**318**	*eP*	**Pn**	**16 21 32.5**	**+0.2**
INVE	**Universidad In**	**1.79**	**315**	*eP*	**Pn**	**16 21 33.9**	**-0.1**
INDI	**Punta indio, G**	**1.82**	**292**	P	**Pn**	**16 21 33.1**	**-1.3**
INDI	**Punta indio, G**	**1.82**	**292**	S	**Sn**	**16 21 53.8**	**-2.4**
TIMP	**Tierras Morena**	**1.83**	**319**	*eP*	**Pn**	**16 21 34.6**	**-0.1**
TENO	**El Achiote**	**1.90**	**322**	*eP*	**Pn**	**16 21 35.5**	**-0.1**
BAGA	**Bagaces**	**1.96**	**312**	*eP*	**Pn**	**16 21 38.2**	**+1.8**
CUI	**Cuipilapa**	**1.99**	**317**	*eP*	**Pn**	**16 21 36.5**	**-0.3**
KKNTU	**Kakint²**	**1.99**	**100**	*eP*	**Pn**	**16 21 36.6**	**-0.1**
COLC	**Colonia**	**2.02**	**316**	*eP*	**Pn**	**16 21 37.7**	**+0.6**
ELI1	**Hacienda Flor**	**2.26**	**310**	P	**Pn**	**16 21 42.0**	**+1.6**
ELI1	**Hacienda Flor**	**2.26**	**310**	S	**Sn**	**16 22 09.2**	**+2.2**
GMAL	**Guarumal, Vera**	**2.90**	**119**	*eP*	**Pn**	**16 21 45.8**	**-3.5**
GMAL				*eS*	**Sn**	**16 22 23.0**	**0.0**
MORN	**Al O del Volca**	**2.97**	**322**	P	**Pn**	**16 21 51.1**	**+0.9**
ESPN	**Las Esperanzas**	**3.02**	**350**‖	*eP*	**Pn**	**16 21 50.0**	**-0.9**
ESPN	**Las Esperanzas**	**3.02**	**350**	P	**Pn**	**16 21 50.7**	**-0.2**
ESPN	**Las Esperanzas**	**3.02**	**350**	S	**Sn**	**16 22 28.0**	**+2.2**
ACON	**Acoyapa**	**3.07**	**334**	*eP*	**Pn**	**16 21 50.5**	**-1.1**
ACON	**Acoyapa**	**3.07**	**334**	P	**Pn**	**16 21 50.5**	**-1.1**
ACON	**Acoyapa**	**3.07**	**334**	S	**Sn**	**16 22 27.8**	**+0.7**
CHIT3	**Chitre**	**3.55**	**110**	*eP*	**Pn**	**16 21 58.9**	**+0.7**
AZU	**Azuero**	**3.75**	**112**	*eP*	**Pn**	**16 21 59.4**	**-1.5**
AZU				*eS*	Sn	16 22 56.4	+13
BCIP	**Isla Barro Col**	**3.90**	**90**	*eP*	**Pn**	**16 22 02.6**	**-0.3**
FRIJ	**El Hiral**	**4.01**	**89**	*eP*	Pn	16 21 55.5	-9.0

NEIC ***20*** *16:36:42.7±1.5, 18°.1S±0°.1×177°.9W±0°.2, h600km±9km, mb4.5/19, Error ellipse: s-maj=22.6km s-min=17.7km az=119.0*
IDC ***20*** *16:36:49.1±7.6, 17°.86S×178°.71W, h630km±97km, mb3.0/10, mbtmp4.0/10, Error ellipse: s-maj=36.0km s-min=23.8km az=102.0*

ISC 20 16:36:43.9±0.6, 17°.9S±0°.1×178°.4W±0°.1, h579km, n35, σ1s78/34, mb4.2/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.38**	**273**		**P**	**16 38 06.0**	**+2.2**
FUTU	**Fugatoga**	**3.62**	**4**	P	**P**	**16 38 07.4**	**+2.1**
NIUE	**Niue**	**8.13**	**99**	P	P	16 38 38.6	-5.2
FUNA	**Funafuti**	**9.64**	**346**	P	**P**	**16 38 59.5**	**+0.7**
INZ	**Inchbonnie**	**26.17**	**197**	P	**P**	**16 41 30.5**	**-2.7**
FOZ	**Fox Glacier**	**27.39**	**199**	P	**P**	**16 41 39.9**	**-4.0**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**16 43 19.6**	**+1.0**
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**16 43 19.8**	**+1.2**
	2.9nm,0.4s,baz=78,slow=9.3,SNR=7.8						
	2.9nm,0.4s						
INKA	**Innaminka**	**38.73**	**248**	P	**P**	**16 43 20.9**	**+1.3**
BBOO	**Buckleboo**	**43.39**	**241**	P	**P**	**16 43 57.0**	**+0.6**
BBOO				IAmb	IAmb	16 44 08.6	
	comp=Z,33nm,1.5s						
WR8	**Warramunga Arr**	**44.47**	**260**	P	**P**	**16 44 04.4**	**-0.5**
WR8				IAmb	IAmb	16 44 23.5	
	comp=Z,19nm,1.4s						
WB0	**Warramunga Arr**	**44.59**	**260**	P	**P**	**16 44 05.4**	**-0.4**
WB0				IAmb	IAmb	16 44 16.5	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**16 44 05.1**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=94,slow=7.4,SNR=22						
	comp=Z,1.9nm,0.5s						
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**16 44 07.2**	**-0.1**
AS31				IAmb	IAmb	16 44 08.6	
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**16 44 06.9**	**-0.4**
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**16 44 07.6**	**+0.3**
	comp=Z,14nm,0.6s,baz=92,slow=7.9,SNR=243						
ASAR				PcP	**PcP**	**16 45 37.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=92,slow=4.8,SNR=2.2						
	comp=Z,14nm,0.6s						
MTN	**Manton Dam**	**48.80**	**268**	P	**P**	**16 44 37.5**	**0.0**
MTN				IAmb	IAmb	16 45 02.6	
	comp=Z,57nm,1.4s						
KNRA	**Kununurra**	**50.48**	**264**	P	**P**	**16 44 50.0**	**+0.1**
KNRA				IAmb	IAmb	16 45 24.2	
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**16 45 08.8**	**+0.7**
PSA00	**Pilbara Seismi**	**57.90**	**255**	P	**P**	**16 45 41.5**	**-0.4**
MBWA	**Marble Bar**	**58.06**	**256**	P	**P**	**16 45 42.9**	**-0.1**
MBWA				IAmb	IAmb	16 46 22.9	
	comp=Z,35nm,1.4s						
VNDA	**Vanda**	**60.41**	**185**	P	**P**	**16 45 59.0**	**+1.3**
	comp=Z,0.5nm,1.0s,baz=3.6,slow=5.7,SNR=1.8						
	comp=Z,0.5nm,1.0s						
KIWB	**Kanaga Island**	**69.50**	**1**	P	**P**	**16 46 52.4**	**-2.5**
KIWB				IAmb	IAmb	16 47 07.0	
	comp=Z,68nm,1.3s						
ADK	**Adak**	**69.54**	**1**	P	**P**	**16 46 52.9**	**-2.2**
NIKH	**Nikolski High**	**71.10**	**6**	P	**P**	**16 47 01.2**	**-3.1**
NIKH				IAmb	IAmb	16 47 42.9	
	comp=Z,47nm,1.2s						
QSPA	**South Pole Qui**	**72.11**	**180**	P	P	16 47 06.1	-4.2
QSPA	**South Pole Qui**	**72.11**	**180**	P	**P**	**16 47 12.2**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=25,slow=1.8,SNR=6.5						
	comp=Z,1.4nm,0.9s						
CHGN	**Chignik**	**75.85**	**11**	P	**P**	**16 47 28.5**	**-2.7**
CHGN				IAmb	IAmb	16 47 33.1	
	comp=Z,22nm,1.4s						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**16 47 52.9**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=237,slow=4.3,SNR=4.3						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**16 48 22.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=213,slow=6.5,SNR=2.1						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**16 48 26.9**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=244,slow=3.4,SNR=8.2						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**16 48 31.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=248,slow=4.6,SNR=1.6						
	comp=Z,0.3nm,0.3s						
BMAR	**Burnt Mountain**	**88.69**	**12**	P	**P**	**16 48 33.4**	**-2.4**
SNAA	**Sanae**	**90.57**	**179**	P	**P**	**16 48 41.7**	**-3.0**
SNAA				IAmb	IAmb	16 48 58.5	
	comp=Z,4.5nm,1.5s						
SNAA	**Sanae**	**90.57**	**179**	P	**P**	**16 48 44.2**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=184,slow=16,SNR=1.6						
	comp=Z,0.7nm,0.9s						

WEL ***20*** *16:41:47.6±0.9,36°S±9°×17°8E±1°.1, h237km±12km, M3.6/12, ML3.6/15, MLv3.6/12, Error ellipse: s-maj=16.7km s-min=8.6km az=121.2, confirmed*
IDC ***20*** *16:41:47.0±6.8,35°.83S×178°.20E, h246km±31km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=101.4km s-min=27.0km az=52.0*

ISC 20 16:41:46.4±1.6, 35°.8S±0°.1×178°.3E±0°.1, h246km±10km, n40, σ0s78/63, mb3.2/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.80**	**179**	P	**Pn**	**16 42 26.9**	**+0.1**
MXZ				S	**S**	**16 42 57.9**	**-0.7**
HAZ	**Te Kaha**	**2.03**	**191**	P	**Pn**	**16 42 28.8**	**0.0**
HAZ				S	**S**	**16 43 01.2**	**-1.1**
WMGZ	**Waiomatatini S**	**2.06**	**176**	P	**Pn**	**16 42 29.6**	**+0.5**
WMGZ				S	**S**	**16 43 03.1**	**+0.3**
PKGZ	**Pakihiroa**	**2.11**	**184**	P	**Pn**	**16 42 29.8**	**+0.3**
RUGZ	**Raukumara Rang**	**2.25**	**192**	P	**Pn**	**16 42 30.5**	**-0.5**
RUGZ				S	**S**	**16 43 05.0**	**-1.3**
PUZ	**Puketiti**	**2.31**	**180**	P	**Pn**	**16 42 31.6**	**+0.1**
PUZ				S	**S**	**16 43 06.2**	**-0.8**
TWGZ	**Tauwhareparae**	**2.42**	**185**	P	**Pn**	**16 42 33.4**	**+0.8**
TWGZ				S	**S**	**16 43 09.8**	**+0.6**
OPRZ	**Ohinepanea**	**2.49**	**213**	P	**Pn**	**16 42 35.1**	**+1.9**
URZ	**Urewera**	**2.66**	**200**	P	**Pn**	**16 42 34.9**	**0.0**
	30nm,0.3s,baz=25,slow=17,SNR=282						
URZ				S	**S**	**16 43 12.6**	**-0.7**
	8.1nm,0.3s,baz=12,slow=7.4,SNR=7.0						
URZ	**Urewera**	**2.66**	**200**	P	**Pn**	**16 42 35.1**	**+0.1**
URZ				S	**S**	**16 43 14.4**	**+1.1**
TKGZ	**Te Karaka**	**2.69**	**187**	P	**Pn**	**16 42 35.7**	**+0.3**
TKGZ				S	**S**	**16 43 14.2**	**+0.1**
CNGZ	**Carnagh Statio**	**2.72**	**181**	P	**Pn**	**16 42 36.5**	**+0.9**
RAGZ	**Rawiri**	**2.81**	**193**	P	**Pn**	**16 42 37.3**	**+0.7**
MKAZ	**Moumakai**	**2.83**	**241**	P	**Pn**	**16 42 35.2**	**-1.5**
TOZ	**Tahuroa Road**	**2.96**	**227**	P	**Pn**	**16 42 39.0**	**+0.9**
MUGZ	**Murupara**	**2.96**	**203**	P	**Pn**	**16 42 38.7**	**+0.5**
RIGZ	**Rimuhau**	**2.97**	**187**	P	**Pn**	**16 42 38.5**	**+0.2**
RIGZ				S	**S**	**16 43 19.2**	**-0.2**
SNGZ	**Shannon Statio**	**3.10**	**193**	P	**Pn**	**16 42 40.0**	**+0.3**
SNGZ				S	**S**	**16 43 23.2**	**+1.2**
PRGZ	**Paritu Road**	**3.17**	**185**	P	**Pn**	**16 42 40.6**	**+0.1**
PRGZ				S	**S**	**16 43 23.2**	**-0.2**
ALRZ	**Allen Road**	**3.19**	**208**	P	**Pn**	**16 42 41.3**	**+0.7**
RAHZ	**Arahi**	**3.29**	**196**	P	**Pn**	**16 42 42.1**	**+0.3**
MTHZ	**Maungataniwha**	**3.29**	**200**	P	**Pn**	**16 42 42.0**	**+0.2**
MTHZ				S	**S**	**16 43 24.5**	**-1.2**
KNZ	**Kokohu**	**3.29**	**188**	P	**Pn**	**16 42 41.6**	**-0.2**
KNZ				S	**S**	**16 43 24.3**	**-1.3**
KUTZ	**Kaahu Road**	**3.34**	**215**	P	**Pn**	**16 42 44.3**	**+1.9**
MHGZ	**Mahia Peninsul**	**3.40**	**184**	P	**Pn**	**16 42 43.5**	**+0.4**
MRHZ	**Matea Rd**	**3.40**	**205**	P	**Pn**	**16 42 43.0**	**-0.1**
MRHZ				S	**S**	**16 43 28.1**	**0.0**
WHHZ	**Waihua**	**3.41**	**193**	P	**Pn**	**16 42 43.5**	**+0.4**
WHHZ				S	**S**	**16 43 28.5**	**+0.4**
NMHZ	**Naumai**	**3.52**	**199**	P	**Pn**	**16 42 45.2**	**+0.7**
NMHZ				S	**S**	**16 43 31.8**	**+1.1**
ARHZ	**Aropaoanui**	**3.64**	**196**	P	**Pn**	**16 42 45.9**	**+0.2**
ARHZ				S	**S**	**16 43 32.3**	**-0.6**
BKZ	**Black Stump Fm**	**3.68**	**202**	P	**Pn**	**16 42 45.7**	**-0.5**
BKZ				S	**S**	**16 43 33.2**	**-0.6**
MCHZ	**McNe

comp=N,8μm,0.4s
PB09 IPOC Station P 1.60 15 *i* P **Pn** **17 05 14.1 +1.1**
PB09 *i* S **Sn** **17 05 34.4 +1.4**
PB09 IAML 17 05 43.1
comp=Z,5μm,0.5s
GO02 Mina Guanaco 1.81 177 **Pn** **17 05 16.4 +0.6**
GO02 Mina Guanaco 1.81 177⇑ *i* P **Pn** **17 05 16.5 +0.7**
GO02 *e*S **Sn** **17 05 39.6 +1.6**
GO02 Mina Guanaco 1.81 177⇓ *i* P **Pn** **17 05 18.7 +2.8**
GO02 IAML 17 05 46.3
comp=Z,2μm,0.4s
PB02 IPOC Station P 2.03 355 **Pn** **17 05 19.6 +1.0**
PB02 Sn **Sn** **17 05 42.4 -0.8**
PB02 IPOC Station P 2.03 355⇑ *i* P **Pn** **17 05 20.1 +1.4**
PB02 IAML 17 05 54.2
comp=E,5μm,0.4s
PB02 IPOC Station P 2.03 355⇓ *i* P **Pn** **17 05 20.4 +1.7**
PB02 *i* S **Sn** **17 05 45.6 +2.5**
PB02 IAML 17 05 51.9
comp=Z,3μm,0.4s
PB01 IPOC Station P 2.31 5 **Pn** **17 05 23.9 +1.5**
PB01 Sn **Sn** **17 05 52.5 +2.7**
PB01 IPOC Station P 2.31 5 *e*P **Pn** **17 05 24.0 +1.5**
PB01 IAML 17 05 58.1
comp=E,3μm,0.3s
PB01 IPOC Station P 2.31 5 *i* P **Pn** **17 05 23.9 +1.5**
PB01 *i* S **Sn** **17 05 52.0 +2.2**
PB01 IAML 17 06 01.6
comp=Z,1μm,0.7s
PATCX Punta Patache 2.55 350 **Pn** **17 05 26.1 +0.3**
PATCX Sn **Sn** **17 05 56.9 +1.1**
PATCX Punta Patache 2.55 350 *e*P **Pn** **17 05 26.3 +0.6**
PATCX IAML 17 06 08.2
comp=E,2μm,0.3s
PATCX Punta Patache 2.55 350 *i* P **Pn** **17 05 27.4 +1.6**
PATCX IAML 17 06 08.0
comp=Z,1μm,0.5s
TA01 Diego Aracena 2.81 351 **Pn** **17 05 29.2 +0.1**
TA01 Diego Aracena 2.81 351 *e*P **Pn** **17 05 29.2 +0.1**
TA01 Diego Aracena 2.81 351 *i* P **Pn** **17 05 30.9 +1.7**
TA01 IAML 17 06 14.4
comp=Z,1μm,0.7s
AC01 Pan de Azucar 2.90 196 **Pn** **17 05 29.4 -0.9**
AC01 Pan de Azucar 2.90 196 *e*P **Pn** **17 05 29.7 -0.7**
AC01 IAML 17 06 13.6
comp=N,1μm,0.5s
AC01 Pan de Azucar 2.90 196 *i* P **Pn** **17 05 33.1 +2.7**
AC01 IAML 17 06 17.2
comp=Z,837nm,0.6s
HMBC Humberstone 3.06 357 **Pn** **17 05 33.0 +0.4**
HMBC Humberstone 3.06 357 *e*P **Pn** **17 05 33.1 +0.4**
HMBC Humberstone 3.06 357 *i* P **Pn** **17 05 34.3 +1.6**
HMBC IAML 17 06 35.2
comp=Z,1μm,0.5s
TA02 Huaiquique 3.09 352 **Pn** **17 05 33.1 +0.1**
TA02 Huaiquique 3.09 352 *e*P **Pn** **17 05 33.1 +0.1**
TA02 Huaiquique 3.09 352 *i* P **Pn** **17 05 37.6 +4.6**
TA02 IAML 17 06 31.5
comp=Z,562nm,0.6s
PB08 IPOC Station P 3.23 9 **Pn** **17 05 36.6 +1.3**
PB08 IPOC Station P 3.23 9 *e*P **Pn** **17 05 36.6 +1.3**
PB08 IAML 17 06 36.1
comp=E,607nm,0.7s
PB08 IPOC Station P 3.23 9 *i* P **Pn** **17 05 36.9 +1.7**
PB08 IAML 17 06 31.6
comp=Z,346nm,0.5s
AC02 Maricunga 3.51 172 **Pn** **17 05 40.4 +1.3**
AC02 Maricunga 3.51 172 *i* P **Pn** **17 05 40.7 +1.6**
AC02 IAML 17 06 42.1
comp=Z,792nm,0.6s
PB11 IPOC Station P 3.57 1 **Pn** **17 05 39.7 0.0**
PB11 IPOC Station P 3.57 1 *e*P **Pn** **17 05 39.7 0.0**
PB11 IPOC Station P 3.57 1 *i* P **Pn** **17 05 42.0 +2.3**
PB11 IAML 17 06 48.0
comp=Z,425nm,0.4s
GO01 Chusmiza 3.69 7 **Pn** **17 05 42.8 +1.1**
AC06 Mina Casimiro 4.03 188 **Pn** **17 05 44.6 -1.2**
GO03 Copiapo 4.25 186 **Pn** **17 05 47.6 -1.2**
AC04 Llanos de Chal 4.99 194 Pn **Pn** **17 05 56.9 -2.0**
AP01 Chacalluta 4.99 353 Pn **Pn** **17 05 58.5 -0.4**
PB16 IPOC Station P 5.00 2 **Pn** **17 06 00.3 +0.8**
LCO Las Campanas 5.71 189 **Pn** **17 06 06.8 -2.1**
PB18 Visviri 5.74 2 Pn **Pn** **17 06 11.8 +2.1**
CO01 Juntas del Tor 6.61 183 **Pn** **17 06 19.9 -1.3**
LPAZ La Paz 7.18 12 Pn **17 06 23.2 -6.2**
LPAZ La Paz 7.18 12 P **Pn** **17 06 30.4 +1.0**
comp=Z,2.2nm,0.4s,baz=198,slow=7.5,SNR=6.7
LPAZ LR LR 17 09 23.5
comp=Z,28nm,20.9s,baz=201,slow=39
LPAZ La Paz 7.18 12 *e*P **Pn** **17 06 30.0 +0.6**
CO06 Fray Jorge 7.50 193 Pn **Pn** **17 06 29.4 -3.7**
CO03 El Pedregal 7.51 187 Pn **Pn** **17 06 29.6 -3.8**
CO02 Combarbal 7.91 188 **Pn** **17 06 34.6 -4.3**
ZON Zonda 8.21 174 Pn 17 06 37.5 -5.5
CFA Coronel Fontan 8.32 171 P **Pn** **17 06 43.1 -1.4**
comp=Z,2.1nm,0.3s,baz=351,slow=15,SNR=8.0
CFA S **Sn** **17 08 19.2 +2.3**
comp=Z,10nm,0.5s,baz=264,slow=19,SNR=6.5
VA03 San Esteban 9.41 184 Pn **Pn** **17 06 55.3 -4.1**
VA01 Torpederas 9.79 190 Pn Pn 17 06 59.5 -4.8
MT02 Curacav 9.95 187 Pn 17 07 02.0 -4.7
MT08 Bocatoma Ro 10.06 182 Pn **Pn** **17 07 04.4 -4.0**
MT13 San Alfonso 10.37 183 Pn **Pn** **17 07 08.0 -4.5**
MT09 Talagante 10.45 186 Pn **Pn** **17 07 09.3 -4.3**
LMEL Las Melosas 10.47 182 **Pn** **17 07 09.4 -4.5**
MT01 Popeta 10.56 187 Pn **Pn** **17 07 10.6 -4.4**
BO04 La Punta 10.63 184 **Pn** **17 07 11.7 -4.2**
SIV San Ignacio 10.93 50 P **Pn** **17 07 19.3 -0.9**
comp=Z,10nm,0.6s,baz=229,slow=13,SNR=61
SIV S **Sn** **17 09 14.5 -6.4**
comp=Z,6.7nm,1.0s,baz=255,slow=19,SNR=7.4
BO01 Tunca 11.07 186 Pn **Pn** **17 07 17.6 -4.3**
BO02 Sierra Bellavi 11.44 185 Pn **Pn** **17 07 23.3 -3.7**
BDQN Bodoquena, MS 12.36 79 *e*P **Pn** **17 07 41.2 +1.6**
PTLB Pontes e Lacer 12.69 54 **Pn** **17 07 43.2 -0.9**
PTLB Pontes e Lacer 12.69 54 *e*P **Pn** **17 07 44.2 +0.2**
BI02 San Fabin de 13.34 186 **Pn** **17 07 48.9 -3.9**
TRQA Tornquist 16.08 157 **Pn** **17 08 26.1 -2.1**
TRQA IAmb IAmb 17 08 56.1
comp=Z,6.3nm,0.8s
CPSB Cacapava Do Su 16.11 119 *e*P **Pn** **17 08 28.0 -0.6**
PTGB Pitanga 16.17 98 *e*P **P** **17 08 30.5 -1.0**
CLDB Colider 18.16 49 *e*P **Pn** **17 08 53.3 -0.7**
CLDB *e*pP **pP** **17 09 09.0 +0.6**
ITRB Iturama 18.35 82 *e*P **Pn** **17 08 55.3 -1.0**
ITRB *e*pP **pP** **17 09 11.6 +0.8**
ARAG Araguaiana, MT 18.48 69 *e*P **P** **17 08 56.5 -0.4**
FRTB Fartura 18.49 94 *e*P **P** **17 08 56.5 -0.6**
LL01 San Ignacio de 19.11 186 P **P** **17 09 03.5 -0.1**
LL01 IAmb IAmb 17 09 32.1
comp=Z,15nm,1.2s
IPMB Ipameri, GO 20.79 79 *e*P **P** **17 09 21.6 -0.6**
SNDB Serra Nova Dou 20.84 60 *e*P **P** **17 09 22.4 -0.3**
VAO Valinhos 20.90 94 *e*P **P** **17 09 23.0 -0.4**
NPGB Novo Progresso 21.28 43 *e*P **P** **17 09 26.4 -0.9**
NPGB *e*pP **pP** **17 09 45.4 +2.7**
SNAA Sanae 60.78 161 P **P** **17 14 51.0 +0.2**
SNAA IAmb IAmb 17 15 10.0
comp=Z,3.5nm,0.9s
SNAA Sanae 60.78 161 P **P** **17 14 51.5 +0.7**
comp=Z,0.8nm,0.9s,baz=267,slow=11,SNR=1.9
SNAA pP **pP** **17 15 09.4 -0.2**
comp=Z,1.9nm,0.7s,baz=260,slow=8.7,SNR=5.8
comp=Z,0.8nm,0.9s
TXAR Lajitas Array 61.74 326 P **P** **17 14 58.9 +1.0**
comp=Z,0.3nm,0.6s,baz=142,slow=5.4,SNR=4.4
comp=Z,0.3nm,0.6s
QSPA South Pole Qui 66.85 180 P **P** **17 15 31.8 +0.9**
QSPA IAmb IAmb 17 16 03.7
comp=Z,1.4nm,0.7s
QSPA South Pole Qui 66.85 180 P **P** **17 15 33.0 +2.2**
comp=Z,2.0nm,0.5s,baz=129,slow=5.2,SNR=23
QSPA pP **pP** **17 15 50.6 +1.0**
comp=Z,1.2nm,0.7s,baz=124,slow=0.7,SNR=2.8
comp=Z,2.0nm,0.5s
DBIC Dimbokro 69.96 73 P **P** **17 15 51.0 +0.1**
DBIC Dimbokro 69.96 73 P **P** **17 15 51.5 +0.6**
comp=Z,2.6nm,0.8s,baz=260,slow=11,SNR=1.6
comp=Z,2.6nm,0.8s
VNDA Vanda 74.91 190 P P 17 16 14.3 -5.1
PDAR Pinedale Array 75.36 331 P **P** **17 16 24.3 +1.7**
comp=Z,0.3nm,0.3s,baz=124,slow=3.7,SNR=1.6
comp=Z,0.3nm,0.3s
NVAR Mina Array Bea 76.51 323 P **P** **17 16 31.6 +2.3**
comp=Z,0.4nm,0.6s,baz=149,slow=6.1,SNR=1.7
comp=Z,0.4nm,0.6s
ELK Elko 76.54 326 LR LR 17 49 21.2
comp=Z,61nm,20.9s,baz=240,slow=35
TORD Torodi Ar. Bea 78.66 70 P **P** **17 16 41.7 +0.2**
comp=Z,0.9nm,0.5s,baz=249,slow=4.6,SNR=5.7
TORD pP **pP** **17 17 00.2 -0.8**
comp=Z,3.9nm,0.7s,baz=242,slow=6.2,SNR=15
comp=Z,0.9nm,0.5s
MAW Mawson 82.77 163 P **P** **17 17 03.0 +0.5**
comp=Z,1.4nm,0.6s,baz=229,slow=6.4,SNR=8.1
MAW pP **pP** **17 17 22.5 +0.4**
comp=Z,1.9nm,0.8s,baz=240,slow=8.1,SNR=3.2
comp=Z,1.4nm,0.6s
H11S2 WAKE ISLAND Hyl 27.36 276 T T 19 43 41.4
baz=105,slow=75,SNR=24
H11S1 WAKE ISLAND Hyl 27.38 276 T T 19 43 44.3
baz=105,slow=75,SNR=22
H11S3 WAKE ISLAND Hyl 27.38 276 T T 19 43 47.5
baz=105,slow=75,SNR=25
H11N3 WAKE ISLAND Hyl 27.50 278 T T 19 43 45.7
baz=105
H11N2 WAKE ISLAND Hyl 27.51 278 T T 19 43 58.7
baz=105
H11N1 WAKE ISLAND Hyl 27.51 278 T T 19 43 46.5
baz=105
ASAR Alice Springs 127.94 208 PKP **PKPdf** **17 23 45.3 +0.3**
comp=Z,0.6nm,0.7s,baz=138,slow=2.5,SNR=7.6
WRA Warramunga Arr 131.00 211 PKP **PKPdf** **17 23 51.2 +0.3**
comp=Z,0.5nm,1.0s,baz=141,slow=1.9,SNR=1.7
KURBB Kurchatov Arra 143.28 34 PKP **PKPdf** **17 24 11.4 -1.1**
comp=Z,0.5nm,0.3s,baz=306,slow=3.1,SNR=1.3
ZALV Zalesovo Beam 143.93 26 PKP **PKPdf** **17 24 13.8 +0.3**
comp=Z,0.5nm,0.4s,baz=316,slow=4.0,SNR=5.6
ZALV pPKP **pPKPdf** **17 24 33.4 -0.8**
comp=Z,0.8nm,0.6s,baz=298,slow=3.1,SNR=2.3
MKAR Makanchi Array 147.55 37 PKPbc **PKPbc** **17 24 22.1 -0.6**
comp=Z,1.3nm,0.7s,baz=315,slow=2.5,SNR=13
MKAR pPKPbc **pPKPbc** **17 24 42.5 -0.6**
comp=Z,0.9nm,0.6s,baz=322,slow=3.1,SNR=5.7

IDC 20 17:24:52.2±4.0, 47.58N×92.77W, h0km, mbtmp2.5/1, ML0.8/1, Error ellipse: s-maj=74.3km s-min=27.0km az=54.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.37**	**324**	Pn	Pn	17 25 44.2	-1.8
	0.1nm,0.3s,baz=137,slow=9.6,SNR=4.1						
ULM				Pg	Pb	17 25 52.9	+0.2
	0.1nm,0.3s,baz=144,slow=17,SNR=3.7						
ULM				Sn	Sn	17 26 24.9	-1.8
	0.4nm,0.3s,baz=120,slow=14,SNR=2.1						
ULM				Lg	Lg	17 26 35.5	
	0.8nm,0.3s,baz=134,slow=9.4,SNR=11						
	2.2nm,0.9s						
I10CA	**LAC DU BONNET**	**3.39**	**322**	I	I	17 46 00.0	
	baz=140,slow=325,SNR=9.7						
I56US	**NEWPORT INFRASI**	**6.33**	**281**	I	I	19 08 20.0	
	baz=85,slow=313,SNR=1.4						

*SJA **20** 17:33:42.4±0.8, 31.92S×71.31W, h73km±3km, ML4.1, MW4.0*
*NEIC **20** 17:33:44.4, 31.93S×71.23W, h71km*
*GUC **20** 17:33:44.5±0.8, 31.93S×71.13W, h76km±4km, ML4.1*
*IDC **20** 17:33:44.8±1.0, 31.78S×71.14W, h76km±6km, mb4.0/4, mbtmp4.2/6, Error ellipse: s-maj=49.5km s-min=18.2km az=101.0*
*NEIC **20** 17:33:44.4±1.0, 31.93S±0.03×71.24W±0.09, h71km±4km, mb4.5/9, Mwr3.8/24, ML4.1(GUC), Error ellipse: s-maj=10.6km s-min=4.4km az=90.0, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=5.91; Mθθ=1.05; Mϕϕ=4.86; Mrθ=-1.36; Mθϕ=3.27; Mϕr=1.25; Fault plane solution: M0=6.63000×10^14 NP1:ϕs=46.78000°, δ=45.79000°, λ=-65.08000°. NP2:ϕs=193.10000°, δ=49.45000°, λ=-113.42000°. Principal axes: T 6.7583, Plg=2.0000°, Azm=299.0000°; N -0.2593, Plg=18.0000°, Azm=209.0000°; P -6.4990, Plg=72.0000°, Azm=35.0000°:*

ISC 20 17:33:43.5±0.5, 31.89S±0.02×71.24W±0.04, h71km±4km, h71km:pP-P,n146,σ1s81/202, mb4.5/7, 11C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.67**	**184**		**Pn**	**17 33 59.0**	**+0.8**
VA06				Sn	**Sn**	**17 34 10.0**	**+1.1**
VA06	**Catapilco**	**0.67**	**184**⇓	*i* P	**Pn**	**17 33 59.2**	**+1.0**
VA06				*i* S	**Sn**	**17 34 10.3**	**+1.4**
VA06				IAML		17 34 11.3	
	comp=N,19μm,0.5s						
CO02	**Combarbal**	**0.71**	**17**		**Pn**	**17 33 59.7**	**+0.9**
CO02				Sn	**Sn**	**17 34 11.2**	**+1.2**
CO02	**Combarbal**	**0.71**	**17**⇓	*i* P	**Pn**	**17 33 59.9**	**+1.2**
CO02				*i* S	**Sn**	**17 34 11.7**	**+1.7**
CO02				IAML		17 34 12.3	
	comp=N,28μm,0.2s						
CO02	**Combarbal**	**0.71**	**17**	*e*P	**Pn**	**17 33 59.6**	**+0.9**
CO02				*e*S	**Sn**	**17 34 11.9**	**+1.9**
CO02				IAML		17 34 15.1	
	comp=Z,6μm,0.5s						
VA03	**San Esteban**	**1.05**	**146**		**Pn**	**17 34 02.6**	**-0.1**
VA03				Sn	**Sn**	**17 34 16.1**	**-1.0**
VA03	**San Esteban**	**1.05**	**146**⇑	*i* P	**Pn**	**17 34 02.6**	**-0.1**
VA03				*i* S	**Sn**	**17 34 17.1**	**0.0**
VA03				IAML		17 34 18.4	
	comp=E,21μm,0.1s						
VA03	**San Esteban**	**1.05**	**146**	*e*P	**Pn**	**17 34 02.7**	**-0.1**
VA03				*e*S	**Sn**	**17 34 17.1**	**+0.1**
VA03				IAML		17 34 18.7	
	comp=Z,8μm,0.2s						
ROCH	**El Roble**	**1.10**	**170**	*e*P		17 34 03.6	
ROCH				⇓ *i* P	**Pn**	**17 34 03.5**	**0.0**
ROCH				*i* S	**Sn**	**17 34 18.6**	**+0.3**
ROCH				*i* S	**Sn**	**17 34 18.6**	**+0.3**
ROCH				IAML		17 34 23.0	
	comp=N,3μm,0.3s						
ROCH				IAML		17 34 23.0	
	comp=N,7μm,0.3s						
ROC1	**El Roble**	**1.10**	**170**	*e*P	**Pn**	**17 34 03.5**	**-0.1**
ROC1				*e*S	**Sn**	**17 34 15.4**	**-3.1**
CO03	**El Pedregal**	**1.15**	**24**		**Pn**	**17 34 05.2**	**+1.3**
CO03				Sn	**Sn**	**17 34 20.2**	**+0.9**
CO03	**El Pedregal**	**1.15**	**24**⇓	*i* P	**Pn**	**17 34 05.3**	**+1.3**
CO03				*e*S	**Sn**	**17 34 21.0**	**+1.7**
CO03				IAML		17 34 22.8	
	comp=E,12μm,0.1s						
CO03	**El Pedregal**	**1.15**	**24**	*e*P	**Pn**	**17 34 04.6**	**+0.6**
CO03				*e*S	**Sn**	**17 34 21.5**	**+2.2**
CO03				IAML		17 34 22.8	
	comp=Z,4μm,0.1s						
VA01	**Torpederas**	**1.18**	**197**		**Pn**	**17 34 04.9**	**+0.7**
VA01	**Torpederas**	**1.18**	**197**	*e*P	**Pn**	**17 34 05.0**	**+0.7**
VA01				IAML		17 34 26.6	
	comp=E,4μm,0.2s						
VA01	**Torpederas**	**1.18**	**197**	*e*P	**Pn**	**17 34 05.4**	**+1.1**
VA01				*e*S	**Sn**	**17 34 19.0**	**-0.8**
VA01				IAML		17 34 25.3	
	comp=Z,1μm,0.3s						
CO06	**Fray Jorge**	**1.26**	**344**		**Pn**	**17 34 07.5**	**+2.2**
CO06	**Fray Jorge**	**1.26**	**344**⇑	*i* P	**Pn**	**17 34 07.5**	**+2.2**
CO06				*e*S	**Sn**	**17 34 25.0**	**+3.3**
CO06				IAML		17 34 30.1	
	comp=N,5μm,0.2s						
PEL	**Peldehue**	**1.33**	**160**		**Pn**	**17 34 06.1**	**-0.3**
PEL	**Peldehue**	**1.33**	**160**	*e*P	**Pn**	**17 34 06.5**	**+0.2**
PEL				*i* S	**Sn**	**17 34 23.1**	**-0.5**
PEL				IAML		17 34 24.4	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.33**	**160**	*e*P	Pn	17 34 01.4	-5.0
PEL				*e*S	**Sn**	**17 34 23.9**	**+0.3**
PEL				IAML		17 34 30.9	
	comp=Z,2μm,0.2s						
MT02	**Curacav**	**1.37**	**176**		**Pn**	**17 34 07.1**	**+0.4**
MT02				Sn	**Sn**	**17 34 23.8**	**-0.5**
MT02	**Curacav**	**1.37**	**176**	*e*P	**Pn**	**17 34 07.2**	**+0.4**
MT02				*i* S	**Sn**	**17 34 24.3**	**0.0**
MT02				IAML		17 34 25.6	
	comp=E,3μm,0.2s						
MT02	**Curacav**	**1.37**	**176**	*e*P	**Pn**	**17 34 06.5**	**-0.2**
MT02				*e*S	**Sn**	**17 34 24.6**	**+0.3**
MT02				IAML		17 34 26.4	
	comp=Z,3μm,0.3s						
MT10	**Hacienda Santa**	**1.50**	**157**⇑	*i* P	**Pn**	**17 34 08.9**	**+0.3**
MT10				*i* S	**Sn**	**17 34 27.8**	**+0.2**
MT10				IAML		17 34 29.6	
	comp=E,6μm,0.4s						
MT05	**Renca**	**1.56**	**164**		**Pn**	**17 34 09.4**	**+0.1**
MT05				Sn	**Sn**	**17 34 28.5**	**-0.2**
MT05	**Renca**	**1.56**	**164**	*e*P	**Pn**	**17 34 09.8**	**+0.5**
MT05				*i* S	**Sn**	**17 34 28.8**	**+0.1**
MT05				IAML		17 34 33.8	
	comp=E,5μm,0.3s						
MT05	**Renca**	**1.56**	**164**	*e*P	**Pn**	**17 34 09.8**	**+0.5**
MT05				*e*S	**Sn**	**17 34 31.2**	**+2.4**
MT05				IAML		17 34 34.0	
	comp=Z,2μm,0.7s						
MT14	**Cerro Cal¡n**	**1.61**	**159**	*e*P	**Pn**	**17 34 10.7**	**+0.6**
MT14				*i* S	**Sn**	**17 34 30.7**	**+0.6**
MT14				IAML		17 34 33.7	
	comp=E,4μm,0.3s						
FCH	**Farellones**	**1.64**	**151**⇑	*i* P	**Pn**	**17 34 11.2**	**+0.5**
FCH				*i* S	**Sn**	**17 34 31.7**	**+0.5**
FCH				IAML		17 34 35.6	
	comp=N,2μm,0.2s						
MT16	**CCHEN**	**1.65**	**159**		**Pn**	**17 34 11.1**	**+0.6**
MT16				Sn	**Sn**	**17 34 30.6**	**-0.3**
MT16	**CCHEN**	**1.65**	**159**	*e*P	**Pn**	**17 34 11.1**	**+0.6**
MT16				IAML		17 34 33.4	
	comp=N,2μm,0.8s						
RTLS	**Leoncito**	**1.66**	**87**	*e*P	**Pn**	**17 34 11.7**	**+0.9**
RTLS				*e*S	**Sn**	**17 34 34.4**	**+2.9**
RTLS				IAML		17 34 39.0	
	comp=Z,2μm,0.3s						
MT03	**Universidad Ad**	**1.71**	**159**		**Pn**	**17 34 11.8**	**+0.4**
MT03				Sn	**Sn**	**17 34 32.2**	**-0.3**
MT03	**Universidad Ad**	**1.71**	**159**	*e*P	**Pn**	**17 34 12.3**	**+0.9**
MT03				*e*S	**Sn**	**17 34 33.5**	**+0.9**
MT03				IAML		17 34 37.1	
	comp=Z,2μm,0.2s						
GO04	**Tololo Observa**	**1.75**	**13**		**Pn**	**17 34 13.5**	**+1.4**
GO04	**Tololo Observa**	**1.75**	**13**	*e*P	**Pn**	**17 34 13.4**	**+1.4**
GO04				*i* S	**Sn**	**17 34 35.7**	**+2.0**
GO04	**Tololo Observa**	**1.75**	**13**	*e*P	Pn	17 33 56.8	-15
GO04				IAML		17 34 38.2	
	comp=Z,3μm,0.3s						
MT04	**Ro Olivares**	**1.77**	**149**	*e*P	**Pn**	**17 34 13.5**	**+1.1**
MT04				*e*S	**Sn**	**17 34 35.4**	**+1.2**
MT04				IAML		17 34 37.7	
	comp=Z,2μm,0.2s						
MT15	**Las Vizcachas**	**1.81**	**160**	*e*P	**Pn**	**17 34 13.2**	**+0.5**
MT15				*i* S	**Sn**	**17 34 35.6**	**+0.7**
MT08	**Bocatoma Ro**	**1.86**	**147**		**Pn**	**17 34 14.7**	**+1.1**
MT08	**Bocatoma Ro**	**1.86**	**147**⇑	*i* P	**Pn**	**17 34 15.0**	**+1.5**
MT08				*i* S	**Sn**	**17 34 38.2**	**+1.9**
MT08				IAML		17 34 45.8	
	comp=N,2μm,0.3s						
MT08	**Bocatoma Ro**	**1.86**	**147**	*e*P	**Pn**	**17 34 15.1**	**+1.5**
MT08				*e*S	**Sn**	**17 34 38.7**	**+2.4**
MT08				IAML		17 34 40.9	
	comp=Z,2μm,0.7s						
MT09	**Talagante**	**1.89**	**174**		**Pn**	**17 34 14.3**	**+0.5**
MT09				Sn	**Sn**	**17 34 37.4**	**+0.5**
MT09	**Talagante**	**1.89**	**174**⇑	*i* P	**Pn**	**17 34 14.5**	**+0.6**
MT09				*i* S	**Sn**	**17 34 37.6**	**+0.7**
MT09				IAML		17 34 39.2	
	comp=E,3μm,0.3s						
MT12	**Pirque**	**1.93**	**163**	*e*P	**Pn**	**17 34 14.7**	**+0.5**
MT12				*i* S	**Sn**	**17 34 37.9**	**+0.3**
MT12				IAML		17 34 43.4	
	comp=E,3μm,0.2s						
CO05	**La Serena**	**1.96**	**0**		**Pn**	**17 34 16.3**	**+1.6**
MT01	**Popeta**	**1.97**	**180**		**Pn**	**17 34 15.1**	**+0.4**
MT01	**Popeta**	**1.97**	**180**	*e*P	**Pn**	**17 34 14.8**	**+0.1**
MT01				*e*S	**Sn**	**17 34 42.6**	**+4.1**
MT01				IAML		17 34 44.0	
	comp=Z,852nm,0.1s						
MT13	**San Alfonso**	**2.02**	**157**		**Pn**	**17 34 16.2**	**+0.7**
MT13	**San Alfonso**	**2.02**	**157**	*e*P	**Pn**	**17 34 16.8**	**+1.3**
MT13	**San Alfonso**	**2.02**	**157**	*e*P	**Pn**	**17 34 16.8**	**+1.3**
MT13				*e*S	**Sn**	**17 34 41.2**	**+1.4**
MT13				IAML		17 34 45.3	
	comp=Z,1μm,0.2s						
LMEL	**Las Melosas**	**2.14**	**156**		**Pn**	**17 34 17.8**	**+0.7**
LMEL	**Las Melosas**	**2.14**	**156**	*e*P	**Pn**	**17 34 18.2**	**+1.0**
LMEL				IAML		17 34 51.0	
	comp=N,5μm,0.1s						
LMEL	**Las Melosas**	**2.14**	**156**	*e*P	**Pn**	**17 34 18.5**	**+1.4**
LMEL				*e*S	**Sn**	**17 34 44.9**	**+2.1**
LMEL				IAML		17 34 45.8	
	comp=Z,2μm,0.6s						
CO01	**Juntas del Tor**	**2.15**	**28**		**Pn**	**17 34 19.0**	**+1.7**
CO01	**Juntas del Tor**	**2.15**	**28**	*e*P	**Pn**	**17 34 19.6**	**+2.2**
CO01				*e*S	**Sn**	**17 34 45.6**	**+2.5**
ASAL	**Salagasta**	**2.15**	**110**	*e*P	**Pn**	**17 34 19.1**	**+1.8**
ASAL				*e*S	**Sn**	**17 34 49.7**	**+6.6**
BO04	**La Punta**	**2.16**	**166**		**Pn**	**17 34 17.7**	**+0.4**
ARCO	**CERRO ARCO**	**2.17**	**117**	*e*P	**Pn**	**17 34 19.7**	**+2.1**
ARCO				*e*S	Sn	17 34 52.2	+8.5
ARCO				IAML		17 34 52.9	
	comp=Z,665nm,0.3s						
ZON	**Zonda**	**2.21**	**82**		**Pn**	**17 34 19.3**	**+1.3**
ZON	**Zonda**	**2.21**	**82**	*e*P	**Pn**	**17 34 19.2**	**+1.2**
ZON				*e*S	**Sn**	**17 34 47.4**	**+3.0**
ZON				IAML		17 34 53.8	
	comp=Z,483nm,0.5s						
ACCO	**Cerro Coronel**	**2.27**	**56**	*e*P	**Pn**	**17 34 21.5**	**+2.4**
ACCO				*e*S	**Sn**	**17 34 51.6**	**+5.3**
AROD	**Rodeo**	**2.29**	**42**	*e*P	**Pn**	**17 34 22.5**	**+3.1**
SJA	**San Juan**	**2.31**	**82**	*e*P	Pn	17 34 05.5	-14
SJA				*e*S	**Sn**	**17 34 50.0**	**+3.1**
SJA				IAML		17 34 52.4	
	comp=Z,397nm,0.3s						
AAGR	**Agrelo**	**2.36**	**121**	*e*P	**Pn**	**17 34 22.4**	**+2.3**
AAGR				*e*P		17 34 22.5	
AAGR				*e*S	Sn	17 34 56.3	+8.2
AAGR				IAML		17 34 58.4	
	comp=Z,587nm,2.5s						
RTLL	**Cerro Villicun**	**2.42**	**77**	*e*P	**Pn**	**17 34 22.3**	**+1.4**
RTLL				*e*S	**Sn**	**17 34 52.0**	**+2.4**
RTLL				IAML		17 34 58.4	
	comp=Z,989nm,0.3s						
BO01	**Tunca**	**2.50**	**177**		**Pn**	**17 34 22.2**	**+0.4**
BO01	**Tunca**	**2.50**	**177**	*e*P	**Pn**	**17 34 21.8**	**-0.1**
BO01				*e*S	**Sn**	**17 34 55.0**	**+3.7**
BO01				IAML		17 34 58.4	
	comp=Z,454nm,0.3s						
ACDV	**Cuesta del Vie**	**2.50**	**47**	*e*P	**Pn**	**17 34 24.5**	**+2.5**
ACDV				*e*S	Sn	17 35 02.6	+11
ACDV				IAML		17 35 03.4	
	comp=Z,334nm,0.4s						
CFA	**Coronel Fontan**	**2.57**	**84**	*e*P	**Pn**	**17 34 23.9**	**+0.9**
CFA				*e*S	**Sn**	**17 34 55.8**	**+2.6**
CFA				IAML		17 35 02.9	
	comp=Z,419nm,0.4s						
AVIZ	**Vizcacheras**	**2.79**	**125**	*e*P	**Pn**	**17 34 27.7**	**+1.8**
LCO	**Las Campanas**	**2.91**	**9**		**Pn**	**17 34 29.1**	**+1.4**
LCO	**Las Campanas**	**2.91**	**9**	*e*P	**Pn**	**17 34 29.2**	**+1.5**
LCO				*e*S	**Sn**	**17 34 56.9**	**-4.7**
LCO				IAML		17 35 12.6	

RFA	**San Rafael**	**3.69**	**142**	*eP*		**Pn**	**17 34 39.0**	**+0.8**
RFA				*eS*		Sn	17 35 35.2	+15
ML02	**Panimavida**	**3.87**	**182**			**Pn**	**17 34 39.9**	**-0.6**
ACHE	**Chepes**	**3.98**	**81**	*eP*		**Pn**	**17 34 42.2**	**+0.1**
ACHE				*eS*		**Sn**	**17 35 23.4**	**-4.1**
VCA	**Vinchina**	**4.09**	**41**	*eP*		**Pn**	**17 34 46.3**	**+2.5**
VCA				*eS*		**Sn**	**17 35 32.3**	**+1.8**
VCA				IAML			17 35 45.9	
	comp=Z,486nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.31**	**71**	*eP*		**Pn**	**17 34 47.1**	**+0.5**
APLL				*eS*		Sn	17 35 26.5	-9.0
GO03	**Copiapo**	**4.37**	**12**			**Pn**	**17 34 48.4**	**+0.9**
GO03	**Copiapo**	**4.37**	**12**	*eP*		**Pn**	**17 34 48.6**	**+1.2**
GO03				*eS*		Sn	17 35 53.5	+16
GO03				IAML			17 36 03.9	
	comp=Z,195nm,0.5s							
ACLC	**CERRO LA CRUZ**	**4.44**	**57**	*eP*		**Pn**	**17 34 49.6**	**+1.1**
ACLC				*eS*		**Sn**	**17 35 33.5**	**-5.4**
ACLC				IAML			17 35 48.2	
	comp=Z,166nm,0.6s							
AC06	**Mina Casimiro**	**4.58**	**10**			**Pn**	**17 34 50.9**	**+0.6**
MRA	**San Martin**	**4.71**	**98**	*eP*		**Pn**	**17 34 51.6**	**-0.6**
MRA				*eS*		Sn	17 35 35.5	-10
MRA				IAML			17 35 48.8	
	comp=Z,172nm,0.6s							
BI02	**San Fabin de**	**4.76**	**180**			**Pn**	**17 34 52.8**	**0.0**
BI02	**San Fabin de**	**4.76**	**180**	*eP*		**Pn**	**17 34 53.2**	**+0.4**
BI02				IAML			17 36 08.2	
	comp=Z,84nm,0.8s							
BI05	**Punta Hualpn**	**5.11**	**198**			**Pn**	**17 34 56.7**	**-0.7**
BI05	**Punta Hualpn**	**5.11**	**198**	*eP*		**Pn**	**17 34 56.8**	**-0.7**
BI05				IAML			17 36 30.2	
	comp=Z,45nm,0.6s							
AC02	**Maricunga**	**5.36**	**21**			**Pn**	**17 35 01.9**	**+0.4**
AC01	**Pan de Azucar**	**5.75**	**6**	Pn		**Pn**	**17 35 05.1**	**-1.2**
H03N1	**Juan Fernandez**	**6.65**	**255**	P		**Pn**	**17 35 21.4**	**+3.1**
	baz=13,slow=27,SNR=13							
H03N1				T		T	17 42 04.7	
	baz=85,slow=73,SNR=1602							
H03N3	**Juan Fernandez**	**6.67**	**254**	P		**Pn**	**17 35 21.6**	**+3.1**
	baz=13,slow=27,SNR=15							
H03N3				T		T	17 42 04.7	
	baz=85,slow=73,SNR=1270							
H03N2	**Juan Fernandez**	**6.67**	**255**	P		**Pn**	**17 35 21.7**	**+3.2**
	baz=13,slow=27,SNR=14							
H03N2				T		T	17 42 05.0	
	baz=85,slow=73,SNR=1363							
H03S3	**Juan Fernandez**	**6.74**	**251**	P		**Pn**	**17 35 21.9**	**+2.5**
H03S3				T		T	17 42 06.6	
	baz=72,slow=78,SNR=51							
H03S1	**Juan Fernandez**	**6.74**	**251**	P		**Pn**	**17 35 21.7**	**+2.2**
H03S1				T		T	17 42 01.1	
	baz=72,slow=78,SNR=52							
H03S2	**Juan Fernandez**	**6.75**	**251**	P		**Pn**	**17 35 21.0**	**+1.3**
	SNR=6.4							
H03S2				T		T	17 42 01.3	
	baz=72,slow=78,SNR=48							
GO02	**Mina Guanaco**	**6.86**	**13**			**Pn**	**17 35 20.1**	**-1.6**
LC02	**Puerto Saavedr**	**7.11**	**194**	Pn		**Pn**	**17 35 23.0**	**-1.7**
PB14	**IPOC Station P**	**7.27**	**6**	Pn		**Pn**	**17 35 25.6**	**-1.9**
PB05	**IPOC Station P**	**9.05**	**6**	Pn		**Pn**	**17 35 50.2**	**-1.3**
LL05	**Los Muermos**	**9.66**	**190**	Pn		**Pn**	**17 35 56.9**	**-2.8**
TRQA	**Tornquist**	**9.77**	**132**			**Pn**	**17 35 59.0**	**-2.2**
PB03	**IPOC Station P**	**9.89**	**8**	Pn		**Pn**	**17 36 02.0**	**-1.1**
PB09	**IPOC Station P**	**10.21**	**11**	Pn		Pn	17 36 03.1	-4.3
PB08	**IPOC Station P**	**11.85**	**10**	Pn		**Pn**	**17 36 28.6**	**-1.3**
CPUP	**Villa Florida**	**13.36**	**69**	P		**Pn**	**17 36 45.8**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=252,slow=19,SNR=3.3							
CPUP				S		**Sn**	**17 39 09.8**	**-7.0**
	comp=Z,0.5nm,0.4s,baz=221,slow=19,SNR=1.5							
PLTB	**Pedras Altas**	**15.00**	**94**	Pn		**Pn**	**17 37 08.1**	**-3.3**
LPAZ	**La Paz**	**15.79**	**11**	Pn		**Pn**	**17 37 16.7**	**-5.5**
LPAZ	**La Paz**	**15.79**	**11**	P		**Pn**	**17 37 22.1**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=189,slow=6.8,SNR=4.3							
SIV	**San Ignacio**	**18.33**	**33**	P		**P**	**17 37 51.2**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=208,slow=13,SNR=14							
BELA	**Belgrano 2**	**48.84**	**170**	P		**P**	**17 42 22.4**	**+1.2**
BELA				IAmb		IAmb	17 42 23.9	
	comp=Z,6.8nm,1.4s							
BELA				PcP		**PcP**	**17 43 45.6**	**+0.9**
VNA3	**Neumayer Olymp**	**51.06**	**159**	⇑P		**P**	**17 42 39.0**	**+0.9**
	comp=Z,3.7nm,0.6s							
VNA3				⇑sP		**sP**	**17 43 05.4**	**+0.7**
VNA2	**Neumayer--Watz**	**51.70**	**158**	⇑P		**P**	**17 42 43.8**	**+0.9**
	comp=Z,8.9nm,0.6s,baz=290,slow=8.9							
VNA2				⇑sP		**sP**	**17 43 08.4**	**-1.1**
	baz=139,slow=9.0							
SNAA	**Sanae**	**53.29**	**158**	⇓P		**P**	**17 42 55.3**	**+0.6**
	comp=Z,113nm,0.6s							
SNAA				⇑sP		**sP**	**17 43 21.9**	**+0.6**
SNAA	**Sanae**	**53.29**	**158**	P		**P**	**17 42 55.3**	**+0.6**
SNAA				IAmb		IAmb	17 42 56.2	
	comp=Z,4.2nm,0.6s							
SNAA				PcP		**PcP**	**17 44 01.4**	**0.0**
SNAA	**Sanae**	**53.29**	**158**	P		**P**	**17 42 55.3**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=274,slow=8.0,SNR=32							
SNAA				pP		**pP**	**17 43 16.6**	**+3.5**
	comp=Z,1.2nm,0.8s,baz=313,slow=5.2,SNR=2.1							
	comp=Z,3.8nm,0.6s							
TROLL	**Troll, Antarti**	**55.00**	**159**	⇓P		**P**	**17 43 08.0**	**+0.8**
	comp=Z,164nm,0.5s							
QSPA	**South Pole Qui**	**58.34**	**180**	P		**P**	**17 43 32.9**	**+1.9**
QSPA				IAmb		IAmb	17 44 09.0	
	comp=Z,7.8nm,1.4s							
QSPA	**South Pole Qui**	**58.34**	**180**	P		**P**	**17 43 33.1**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=147,slow=3.5,SNR=7.5							
QSPA				pP		**pP**	**17 43 51.3**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=317,slow=0.6,SNR=2.4							
	comp=Z,1.5nm,0.8s							
DBIC	**Dimbokro**	**73.87**	**71**	P		**P**	**17 45 10.2**	**-0.8**
DBIC	**Dimbokro**	**73.87**	**71**	P		**P**	**17 45 10.5**	**-0.5**
	comp=Z,5.7nm,1.0s,baz=231,slow=3.7,SNR=1.7							
	comp=Z,5.7nm,1.0s							
SUR	**Sutherland**	**75.26**	**119**	P		**P**	**17 45 20.3**	**+1.1**
LBTB	**Lobatse**	**82.58**	**115**	P		**P**	**17 45 58.8**	**-0.5**
LBTB				IAmb		IAmb	17 46 36.4	
	comp=Z,4.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**82.86**	**70**	P		**P**	**17 46 00.6**	**0.0**
TORD	**Torodi Ar. Bea**	**82.86**	**70**	P		**P**	**17 46 00.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=262,slow=2.9,SNR=14							
	comp=Z,1.6nm,0.6s							
HOPS	**Hopland Field**	**85.40**	**322**	P		**P**	**17 46 15.0**	**+2.1**
ASAR	**Alice Springs**	**119.75**	**207**	PKP		**PKPdf**	**17 52 25.6**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=151,slow=2.1,SNR=1.9							
WRA	**Warramunga Arr**	**122.93**	**209**	PKP		**PKPdf**	**17 52 32.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=150,slow=1.8,SNR=2.2							
H11S2	**WAKE ISLAND Hyl**	**26.45**	**270**	T		T	20 12 01.7	
	baz=117,slow=75,SNR=7.8							
H11S1	**WAKE ISLAND Hyl**	**26.47**	**270**	T		T	20 11 52.4	
	baz=117,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hyl**	**26.47**	**270**	T		T	20 11 55.1	
	baz=117,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hyl**	**26.81**	**272**	T		T	20 12 18.1	
	baz=116,slow=75,SNR=11							
H11N1	**WAKE ISLAND Hyl**	**26.83**	**272**	T		T	20 12 19.9	
	baz=116,slow=75,SNR=6.8							
H11N2	**WAKE ISLAND Hyl**	**26.83**	**272**	T		T	20 12 21.5	
	baz=116,slow=75,SNR=20							
BVAR	**Borovoye Array**	**145.27**	**41**	PKPbc		**PKPab**	**17 53 13.3**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=296,slow=3.7,SNR=4.6							
BVAR				pPKPbc		pPKPab	17 53 33.5	+0.9
	comp=Z,0.8nm,0.5s,baz=280,slow=2.6,SNR=4.1							
KURBB	**Kurchatov Arra**	**150.86**	**41**	PKPbc		**PKiKP**	**17 53 28.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=302,slow=3.1,SNR=12							
ZALV	**Zalesovo Beam**	**152.08**	**31**	PKPbc		**PKPbc**	**17 53 30.3**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=310,slow=3.4,SNR=14							
ZALV				pPKPbc		**pPKPbc**	**17 53 50.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=296,slow=3.4,SNR=3.8							
MKAR	**Makanchi Array**	**154.85**	**46**	PKPab		**PKPab**	**17 53 52.2**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=297,slow=3.1,SNR=5.4							
MKAR				pPKPab		**pPKPab**	**17 54 11.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=301,slow=3.5,SNR=3.5							

IDC 20 18:10:39.2±3.9, 0°27N×98°86E, h0km, mb3.4/3, mbtmp3.4/4, ML4.3/1, Error ellipse: s-maj=158.9km s-min=25.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.08**	**0**	P	P	18 14 53.6	+1.2
	0.4nm,0.3s,baz=185,slow=7.7,SNR=1.5						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**40.13**	**122**	P	P	18 18 16.5	-0.8
	0.8nm,0.6s,baz=297,slow=7.9,SNR=7.0						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**41.51**	**127**	P		P	18 18 29.2	+0.7
	0.2nm,0.7s,baz=300,slow=8.0,SNR=6.8							
	0.2nm,0.7s							
MKAR	**Makanchi Array**	**48.56**	**345**	P		P	18 19 23.4	-0.9
	0.2nm,0.4s,baz=168,slow=7.0,SNR=4.1							
	0.2nm,0.4s							

*IDC **20** 18:31:37.9±0.6, 16°.91N×147°.14E, h0km, mb4.3/24, mbtmp4.3/27, ML4.6/3, MS3.4/18, Error ellipse: s-maj=19.7km s-min=12.6km az=94.0*
*MOS **20** 18:31:42.8±0.8, 16°.90N×147°.01E, h45km, mb4.8/15, Error ellipse: s-maj=12.5km s-min=6.8km az=103.3*
*NEIC **20** 18:31:45.0±1.2, 16°.91N±0°.07×147°.0E±0°.1, h44km±6km, mb4.8/214, Error ellipse: s-maj=17.4km s-min=10.0km az=101.0*

ISC 20 18:31:44.9±0.8, 16°92N±0°.05×146°97E±0°.09, h48km±6km, n477, σ0°75/387, mb4.8/145, MS3.5/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.88**	**212**		**Pn**	**18 32 42.5**	**+0.4**
GUMO				Sn	**Sn**	**18 33 25.2**	**-1.2**
GUMO	**Guam**	**3.88**	**212**	Pn	**Pn**	**18 32 41.7**	**-0.4**
	54nm,0.3s,baz=355,slow=1.0,SNR=42						
GUMO				Sn	**Sn**	**18 33 26.8**	**+0.4**
	48nm,0.3s,baz=17,slow=19,SNR=7.6						
GUMO				LR	LR	18 34 17.3	
	comp=Z,296nm,18.1s,baz=54,slow=40						
	95nm,0.3s						
GUMO	**Guam**	**3.88**	**212**	P	**Pn**	**18 32 42.5**	**+0.4**
GUMO						18 33 25.2	
JCJ	**Chichijima**	**11.06**	**337**	Pn	**Pn**	**18 34 18.7**	**-1.7**
JCJ	**Chichijima**	**11.06**	**337**	Pn	**Pn**	**18 34 19.6**	**-0.8**
	8.6nm,0.3s,baz=108,slow=20,SNR=9.8						
JCJ				Sn	**Sn**	**18 36 18.9**	**-3.8**
	5.3nm,0.3s,baz=191,slow=19,SNR=7.1						
	16nm,0.3s						
JHJ2	**Mitsune**	**17.37**	**340**		**Pn**	**18 35 43.8**	**-0.1**
JHJ	**Hachijo jima 2**	**17.39**	**339**	P	**Pn**	**18 35 42.5**	**-1.6**
	4.3nm,0.3s,baz=198,slow=20,SNR=1.0						
	76nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**18.85**	**82**	T	T	18 55 19.1	
	baz=267						
H11S1	**WAKE ISLAND Hy**	**18.86**	**82**	T	T	18 55 18.1	
	baz=267						
H11S2	**WAKE ISLAND Hy**	**18.87**	**82**	T	T	18 55 19.5	
	baz=267						
H11N1	**WAKE ISLAND Hy**	**19.11**	**79**	T	T	18 55 28.2	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**19.12**	**79**	T	T	18 55 44.6	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**19.13**	**79**	T	T	18 55 32.8	
	baz=266						
JOW	**Kugani**	**19.94**	**303**	LR	LR	18 43 15.7	
	comp=Z,218nm,19.8s,baz=72,slow=35						
JAY	**Jayapura**	**20.27**	**198**	P	**P**	**18 36 16.7**	**0.0**
	5.8nm,0.8s,baz=40,slow=11,SNR=4.9						
	5.8nm,0.8s						
INU	**Inuyama**	**20.39**	**336**		**P**	**18 36 18.0**	**+0.2**
JGF	**Kuroka**	**20.49**	**337**		**P**	**18 36 18.6**	**-0.3**
JGF				IAmb	IAmb	18 36 24.4	
	comp=Z,25nm,0.7s						
MJAR	**Matsushiro Arr**	**21.04**	**340**		**P**	**18 36 24.8**	**+0.1**
MJAR	**Matsushiro Arr**	**21.04**	**340**	P	**P**	**18 36 25.3**	**+0.6**
	comp=Z,6.4nm,0.6s,baz=171,slow=10,SNR=35						
MJAR				S	**S**	**18 40 15.7**	**-0.7**
	comp=Z,3.3nm,1.0s,baz=138,slow=14,SNR=6.2						
	comp=Z,6.4nm,0.6s						
MAJO	**Matsushiro**	**21.04**	**340**	P	**P**	**18 36 24.8**	**0.0**
MAJO	**Matsushiro**	**21.04**	**340**	P	**P**	**18 36 24.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,31nm,1.1s						
MJB9	**Matsu-Tunnel**	**21.04**	**340**		**P**	**18 36 24.6**	**-0.2**
JMM	**Marumori**	**21.57**	**347**	P	**P**	**18 36 29.1**	**-1.3**
JMM				IAmb	IAmb	18 36 47.4	
	comp=Z,66nm,1.6s						
JNU	**Nakatsue**	**21.70**	**321**	P	**P**	**18 36 33.3**	**+1.4**
JNU	**Nakatsue**	**21.70**	**321**	P	**P**	**18 36 32.6**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=135,slow=11,SNR=1.3						
	comp=Z,2.7nm,0.7s						
DAV	**Davao City (W)**	**23.07**	**247**	LR	LR	18 44 11.0	
	comp=Z,74nm,21.4s,baz=98,slow=32						
JTM	**Tenmabayashi**	**24.33**	**349**	P	**P**	**18 36 59.1**	**+1.0**
YHNB	**Yeheng**	**25.11**	**292**	P	**P**	**18 37 06.1**	**+0.6**
YHNB				IAmb	IAmb	18 37 09.1	
	comp=Z,18nm,0.8s						
ERM	**Erimo**	**25.23**	**353**	P	**P**	**18 37 07.9**	**+1.7**
ERM				IAmb	IAmb	18 37 11.0	
	comp=Z,40nm,1.4s						
ERM	**Erimo**	**25.23**	**353**	P	**P**	**18 37 07.9**	**+1.7**
ERM				pmax	pmax		
	comp=Z,40nm,1.4s						
PMG	**Port Moresby**	**26.15**	**180**	P	**P**	**18 37 14.5**	**-0.4**
PMG				IAmb	IAmb	18 37 32.9	
	comp=Z,22nm,0.9s						
PMG	**Port Moresby**	**26.15**	**180**	P	**P**	**18 37 14.5**	**-0.4**
PMG				pmax	pmax		
	comp=Z,22nm,0.9s						
KSRS	**Korea Array**	**26.46**	**324**	P	**P**	**18 37 17.0**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=145,slow=9.3,SNR=9.3						
	comp=Z,1.5nm,0.5s						
KS19	**Wonju Array Si**	**26.53**	**324**	P	**P**	**18 37 18.6**	**+0.5**
KS19				IAmb	IAmb	18 37 41.3	
	comp=Z,60nm,1.9s						
JKA	**Kamikawa-asahi**	**27.37**	**353**	P	**P**	**18 37 25.7**	**+0.1**
ASAJ	**Asahikawa**	**27.37**	**353**	P	**P**	**18 37 25.7**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,142nm,2.0s						
HNR	**Honiara**	**29.16**	**153**	LR	LR	18 48 32.8	
	comp=Z,92nm,20.3s,baz=237,slow=35						
NJ2	**Nanjing**	**29.58**	**306**	*eP*	**P**	**18 37 45.6**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YSS	**Yuzhno-Sakhali**	**30.16**	**354**	P	**P**	**18 37 51.1**	**+0.8**
YSS				IAmb	IAmb	18 37 59.5	
	comp=Z,40nm,1.5s						
YSS	**Yuzhno-Sakhali**	**30.16**	**354**	*i* P	**P**	**18 37 51.1**	**+0.8**
HEH	**HeiHe**	**36.80**	**339**	*eP*	**P**	**18 38 48.4**	**+0.4**
HEH				PcP	**PcP**	**18 41 09.8**	**+0.5**
PETK	**Petropavlovsk-**	**37.08**	**11**	P	**P**	**18 38 50.6**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=188,slow=6.9,SNR=1.2						
PETK				LR	LR	18 52 11.3	
	comp=Z,35nm,21.0s,baz=235,slow=33						
	comp=Z,1.7nm,1.1s						
XAN	**Xi'an**	**38.09**	**304**	*eP*	**P**	**18 38 56.3**	**-2.9**
XAN				LR	LR		
	comp=N,120nm,13.1s						
XAN				LR	LR		
	comp=E,170nm,15.8s						
XAN				LR	LR		
	comp=Z,190nm,16.5s						
WB0	**Warramunga Arr**	**38.49**	**199**	P	**P**	**18 39 01.3**	**-1.3**
WB0				IAmb	IAmb	18 39 39.7	
	comp=Z,16nm,1.3s						
WR8	**Warramunga Arr**	**38.63**	**199**	P	**P**	**18 39 02.6**	**-1.2**
WRA	**Warramunga Arr**	**38.67**	**199**	P	**P**	**18 39 03.2**	**-1.0**
	comp=Z,4.4nm,0.8s,baz=24,slow=9.0,SNR=16						
WRA				PcP	**PcP**	**18 41 15.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=17,slow=3.4,SNR=5.3						
	comp=Z,4.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**38.71**	**315**	*eP*	**P**	**18 39 06.5**	**+2.0**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,58nm,4.6s						
FITZ	**Fitzroy Crossi**	**40.64**	**212**	P	**P**	**18 39 20.4**	**-0.2**
AS31	**Alice Springs**	**42.30**	**198**	P	**P**	**18 39 33.7**	**-0.5**
ASAR	**Alice Springs**	**42.31**	**198**	P	**P**	**18 39 33.7**	**-0.5**
ASAR	**Alice Springs**	**42.31**	**198**	P	**P**	**18 39 33.3**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=23,slow=8.5,SNR=18						
ASAR				PcP	**PcP**	**18 41 27.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=23,slow=2.8,SNR=7.3						
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**42.31**	**198**	P	**P**	**18 39 33.7**	**-0.5**
PZH	**PanZhiHua**	**42.90**	**291**	P	**P**	**18 39 41.3**	**+2.1**
DZM	**Mont Dzumac**	**43.19**	**153**	*e*LR	LR	18 51 40.3	
	comp=Z,116nm,22.8s						
SONM	**Songino Array**	**45.29**	**322**	P	**P**	**18 39 57.0**	**-1.0**
SONM	**Songino Array**	**45.29**	**322**	P	**P**	**18 39 58.4**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=124,slow=6.3,SNR=6.7						
SONM				LR	LR	19 00 03.2	
	comp=Z,59nm,18.2s,baz=148,slow=38						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**45.68**	**279**	P	**P**	**18 40 03.8**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=80,slow=5.6,SNR=5.8						
CMAR				LR	LR	19 00 50.7	
	comp=Z,27nm,18.0s,baz=220,slow=38						
	comp=Z,1.1nm,0.6s						
TNCH	**TengChong**	**45.76**	**289**	*eP*	**P**	**18 40 04.0**	**+1.8**
TNCH				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SEY	**Seymchan**	**46.12**	**3**	*eP*	P	18 40 09.6	+5.4
SEY				pmax	pmax		
	comp=Z,4.0nm,1.4s						
YAK	**Yakutsk**	**46.69**	**349**	P	**P**	**18 40 07.7**	**-0.9**
YAK				IAmb	IAmb	18 40 25.7	
	comp=Z,14nm,0.7s						
YAK	**Yakutsk**	**46.69**	**349**	*eP*	**P**	**18 40 07.7**	**-0.9**
YAK	**Yakutsk**	**46.69**	**349**	P	**P**	**18 40 08.9**	**+0.3**
YAK				pP	**pP**	**18 40 20.4**	**+0.1**
NIKH	**Nikolski High**	**49.79**	**33**	P	**P**	**18 40 32.2**	**-0.6**
	baz=241						
BBOO	**Buckleboo**	**50.53**	**192**	P	**P**	**18 40 37.7**	**-0.8**
GSI	**Gunungsitoli**	**50.99**	**258**	P	**P**	**18 40 42.5**	**+0.1**
SPIA	**Saint Paul Isl**	**51.30**	**28**	P	**P**	**18 40 44.0**	**0.0**
	baz=236						
P08K	**Saint George I**	**51.31**	**29**	P	**P**	**18 40 44.4**	**+0.3**
	baz=237						
UNV	**Unalaska Valle**	**51.45**	**33**	P	**P**	**18 40 44.6**	**-0.6**
	baz=242						
LVA	**Lava Point**	**51.84**	**33**	P	**P**	**18 40 47.5**	**-0.7**
TOO	**Toolangi**	**54.21**	**181**	P	**P**	**18 41 05.2**	**-0.6**
TOO	**Toolangi**	**54.21**	**181**	P	**P**	**18 41 05.2**	**-0.6**
TOO				pmax	pmax		
	comp=Z,43nm,1.7s						
S12K	**Black Hills**	**54.58**	**33**	P	**P**	**18 41 07.8**	**-0.4**
	baz=246						
M11K	**Mekoryuk**	**54.81**	**26**	P	**P**	**18 41 09.3**	**-0.5**
	baz=239						
SDPT	**Sand Point**	**55.26**	**33**	P	**P**	**18 41 13.2**	**+0.1**
	baz=248						
CHNA	**Chernabura Isl**	**55.54**	**34**	P	**P**	**18 41 15.2**	**0.0**
	baz=249						
M13K	**Dall Lake**	**56.05**	**27**	P	**P**	**18 41 19.6**	**+0.9**
	baz=242						
S14K	**Fog Glacier**	**56.10**	**33**	P	**P**	**18 41 19.3**	**+0.1**
	baz=248						
K13K	**Kusilvak Mount**	**56.25**	**25**	P	**P**	**18 41 20.7**	**+0.5**
K13K	**Kusilvak Mount**	**56.25**	**25**	P	**P**	**18 41 20.8**	**+0.7**
	baz=239						
WMQ	**Urumqi**	**56.39**	**312**	*eP*	**P**	**18 41 24.6**	**+3.0**
O14K	**Tigyukauivet M**	**56.46**	**29**	P	**P**	**18 41 21.3**	**-0.4**
	baz=244						
N14K	**Kuskokwak Cree**	**56.56**	**28**	P	**P**	**18 41 22.9**	**+0.5**
	baz=244						
L14K	**Kuka Creek**	**56.78**	**26**	P	**P**	**18 41 23.9**	**0.0**
	baz=242						
M14K	**Bethel**	**56.82**	**27**	P	**P**	**18 41 23.9**	**-0.2**
M14K				IAmb	IAmb	18 41 25.9	
	comp=Z,13nm,0.9s						
M14K	**Bethel**	**56.82**	**27**	P	**P**	**18 41 24.3**	**+0.2**
	baz=243						
O15K	**Ungalikthiuk R**	**57.10**	**29**	P	**P**	**18 41 25.8**	**-0.4**
	baz=246						
J14K	**Nanvaranak Lak**	**57.11**	**25**	P	**P**	**18 41 26.3**	**+0.1**
	baz=240						
M15K	**Kasigluk River**	**57.35**	**28**	P	**P**	**18 41 27.3**	**-0.6**
	baz=244						
ANM	**Nome**	**57.37**	**22**	P	**P**	**18 41 27.8**	**-0.2**
	baz=237						
N15K	**Kwethluk River**	**57.39**	**28**	P	**P**	**18 41 28.3**	**0.0**
	baz=245						
L15K	**Ungalak Mounta**	**57.45**	**26**	P	**P**	**18 41 27.9**	**-0.7**
	baz=243						
K15K	**Wolf Creek Mou**	**57.71**	**26**	P	**P**	**18 41 31.0**	**+0.5**
	baz=242						
CHIR	**Chirikof Islan**	**58.01**	**34**	P	**P**	**18 41 31.9**	**-0.7**
	baz=252						
G15K	**Niukluk**	**58.08**	**22**	P	**P**	**18 41 32.7**	**-0.2**
	baz=238						
O16K	**Kokwok River B**	**58.08**	**29**	P	**P**	**18 41 33.0**	**-0.1**
	baz=247						
N16K	**Nishlik Lake**	**58.12**	**28**	P	**P**	**18 41 33.3**	**-0.1**
	baz=246						
R17L	**Mt. Peulik Vol**	**58.22**	**32**	P	**P**	**18 41 33.8**	**-0.3**
	baz=250						
F15K	**North Star Dit**	**58.24**	**21**	P	**P**	**18 41 34.5**	**+0.3**
	baz=237						
M16K	**Timber Creek**	**58.26**	**28**		**P**	**18 41 34.3**	**-0.1**
M16K				IAmb	IAmb	18 41 35.6	
	comp=Z,9.3nm

ZALV **Zalesovo Beam** 60.16 323 P P 18 41 46.5 -1.1
ZALV **Zalesovo Beam** 60.16 323 P P 18 41 47.4 -0.1
comp=Z,2.0nm,0.6s,baz=112,slow=7.7,SNR=8.2
comp=Z,2.0nm,0.6s
KDAK **Kodiak Island** 60.19 32 LR LR 19 04 38.8
comp=Z,11nm,22.0s,baz=229,slow=33
KDAK **Kodiak Island** 60.19 32 P P 18 41 47.6 -0.1
baz=254
N19K **Bonanza Creek** 60.20 29 IAmb IAmb 18 41 49.4
comp=Z,6.2nm,0.7s
N19K **Bonanza Creek** 60.20 29 P P 18 41 48.1 +0.2
baz=250,SNR=6.0
J18K **Innoko River** 60.21 26 P P 18 41 48.1 +0.3
baz=246
C17K **DeLong Mountai** 60.23 19 P P 18 41 48.2 +0.3
baz=237
H18K **Honhosa River** 60.26 23 P P 18 41 48.3 +0.2
baz=244,SNR=5.2
P19K **Oil Pt** 60.42 30 P P 18 41 48.6 -0.8
baz=252,SNR=5.2
F18K **Selawik** 60.45 22 P P 18 41 49.6 +0.3
baz=242
G18K **Tagagawik** 60.48 23 IAmb IAmb 18 41 51.0
comp=Z,11nm,0.9s
G18K **Tagagawik** 60.48 23 P P 18 41 49.4 -0.2
baz=243,SNR=9.2
L19K **White Mountain** 60.52 27 P 18 41 50.2 +0.3
L19K **White Mountain** 60.52 27 P P 18 41 49.8 -0.1
baz=249
E18K **Tukpahlearik C** 60.52 21 P P 18 41 49.8 0.0
baz=241
Q20K **Shuyak Island** 60.52 32 P P 18 41 49.3 -0.6
baz=253
MK31 **Makanchi Array** 60.57 315 P P 18 41 50.9 +0.3
MK31 **Makanchi Array** 60.57 315 P P 18 41 50.9 +0.3
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 60.57 315 P P 18 41 51.1 +0.6
comp=Z,0.8nm,0.4s,baz=87,slow=8.6,SNR=19
comp=Z,0.8nm,0.4s
M19K **Big River Lodg** 60.62 28 P P 18 41 50.3 -0.4
baz=250
MAKZ **Makanchi** 60.78 315 P P 18 41 52.5 +0.4
MAKZ **Makanchi** 60.78 315 P P 18 41 52.5 +0.4
MAKZ pmax pmax
comp=Z,8.0nm,1.5s
MAKZ **Makanchi** 60.78 315 P P 18 41 52.8 +0.8
MAKZ pP pP 18 42 05.1 +0.8
O20K **Slope Mountain** 60.84 30 P P 18 41 51.5 -0.8
baz=252
J19K **Poorman** 60.86 25 P 18 41 52.6 +0.3
J19K IAmb IAmb 18 41 53.7
comp=Z,9.7nm,0.9s
J19K **Poorman** 60.86 25 P P 18 41 52.6 +0.3
baz=247,SNR=7.1
C18K **Utukok River** 60.94 19 P P 18 41 52.8 0.0
baz=239
L20K **Farewell, AK** 61.05 27 P P 18 41 53.1 -0.4
baz=250
B18K **Kokolik River** 61.12 18 P P 18 41 54.9 +1.1
baz=238
H19K **Roundabout Mou** 61.15 23 IAmb IAmb 18 41 55.8
comp=Z,11nm,0.8s
H19K **Roundabout Mou** 61.15 23 P P 18 41 54.8 +0.7
baz=246,SNR=8.8
G19K **Purcell Mounta** 61.17 23 P P 18 41 54.8 +0.6
baz=245,SNR=9.3
M20K **Styx River** 61.18 28 P P 18 41 55.3 +0.8
baz=251,SNR=5.9
F19K **Shaleruckik Mo** 61.22 22 P P 18 41 55.0 +0.4
baz=244
K20K **Telida** 61.27 26 IAmb IAmb 18 41 56.8
comp=Z,7.5nm,0.8s
K20K **Telida** 61.27 26 P P 18 41 55.8 +0.8
baz=249,SNR=6.3
J20K **Nowinta River** 61.53 25 P 18 41 57.5 +0.7
J20K **Nowinta River** 61.53 25 P P 18 41 57.9 +1.1
baz=249,SNR=13
BRLK **Bradley Lake** 61.59 31 IAmb IAmb 18 41 57.0
comp=Z,8.1nm,0.7s
I20K **Naaghedeneel** 61.63 25 P P 18 41 58.5 +1.2
baz=248,SNR=6.3
C19K **Lookout Ridge** 61.67 19 P P 18 41 58.2 +0.5
baz=241,SNR=6.0
E19K **Redstone River** 61.69 21 P P 18 41 58.2 +0.5
E19K IAmb IAmb 18 41 59.4
comp=Z,5.9nm,0.8s
E19K **Redstone River** 61.69 21 P P 18 41 58.1 +0.4
baz=244
H20K **Anotleneega Mo** 61.74 24 P P 18 41 59.0 +0.9
baz=247,SNR=14
D19K **Kuna River** 61.86 20 IAmb IAmb 18 42 00.4
comp=Z,8.6nm,0.9s
D19K **Kuna River** 61.86 20 P P 18 41 59.2 +0.3
baz=243
PPLA **Purkeypile** 61.92 27 P P 18 41 59.7 +0.2
baz=251
SKT **Skwentna** 61.92 28 P P 18 41 58.8 -0.7
baz=252,SNR=5.2
RTZ **Ruatahuna** 61.99 154 P P 18 41 57.9 -2.3
F20K **Avaraart Lake** 62.04 22 IAmb IAmb 18 42 01.9
comp=Z,6.0nm,0.7s
F20K **Avaraart Lake** 62.04 22 P P 18 42 01.0 +0.9
baz=246,SNR=8.0
SLKM **Skilak Lake** 62.11 30 IAmb IAmb 18 42 00.8
comp=Z,7.0nm,0.6s
SUA **Susitna One** 62.13 29 P P 18 42 01.1 +0.1
baz=253
CAST **Castle Rocks** 62.13 26 P P 18 42 01.2 +0.4
baz=251,SNR=17
QRZ **Quartz Range** 62.16 158 P P 18 42 00.4 -0.7
CHUM **Lake Minchumin** 62.19 26 P P 18 42 01.9 +0.7
baz=251
IMAR **Indian Mountai** 62.35 23 P P 18 42 02.1 -0.1
SEW **Seward** 62.38 30 P P 18 41 01.7 -0.7
baz=255
E20K **Nigu River** 62.39 21 P P 18 42 03.2 +0.7
baz=245,SNR=8.6
D20K **Etivluk River** 62.45 20 P 18 42 03.1 +0.2
D20K **Etivluk River** 62.45 20 P P 18 42 03.5 +0.7
baz=244,SNR=10
RC01 **Rabbit Creek A** 62.50 29 P P 18 42 02.7 -0.6
baz=254
M22K **Willow** 62.50 29 P P 18 42 03.0 -0.2
baz=254
H21K **Melozitna Rive** 62.60 24 P P 18 42 04.8 +0.9
baz=249,SNR=18
G21K **Allakaket** 62.64 23 P P 18 42 04.9 +0.7
baz=248
I21K **Tanana** 62.76 25 P P 18 42 05.5 +0.6
baz=250,SNR=17
BPAW **Bear Paw Mtn.** 62.81 26 P P 18 42 05.7 +0.3
baz=252,SNR=15
B20K **Meade River** 62.85 19 P P 18 42 06.5 +1.0
baz=243
TRF **Thorofare Moun** 62.91 27 P 18 42 05.3 -0.9
TRF IAmb IAmb 18 42 06.6
comp=Z,12nm,1.0s
TRF **Thorofare Moun** 62.91 27 P P 18 42 05.7 -0.5
baz=253,SNR=10
F21K **Alatna River** 62.92 22 P P 18 42 06.2 +0.2
baz=248
GHO **Glory Hole Cre** 63.05 29 IAmb IAmb 18 42 07.5
comp=Z,5.9nm,0.9s
PWL **Port Wells** 63.10 30 P P 18 42 06.8 -0.4
PWL **Port Wells** 63.10 30 P P 18 42 06.9 -0.4
baz=256,SNR=10
KNK **Knik Glacier** 63.18 29 IAmb IAmb 18 42 08.5
comp=Z,8.1nm,0.7s
KNK **Knik Glacier** 63.18 29 P P 18 42 07.6 -0.2
baz=256
MLY **Manley** 63.21 25 P P 18 42 08.5 +0.6
baz=252,SNR=20
E21K **Killik River** 63.22 21 P P 18 42 08.3 +0.3
baz=247
H22K **Ishtalitna Cre** 63.23 24 P P 18 42 08.4 +0.2
baz=251
C21K **Knifeblade Rid** 63.23 20 P P 18 42 08.8 +0.8
baz=246
P23K **Montague Islan** 63.35 31 P P 18 42 08.1 -0.9
baz=257
KURK **Kurchatov** 63.40 319 P P 18 42 09.1 -0.3
KURK **Kurchatov** 63.40 319 P P 18 42 09.9 +0.5
KURK **Kurchatov** 63.40 319 P P 18 42 09.5 0.0
KURK PcP PcP 18 42 46.5 +0.5
KURBB **Kurchatov Arra** 63.45 319 P P 18 42 09.9 +0.1
comp=Z,2.3nm,0.4s,baz=97,slow=7.1,SNR=26
comp=Z,2.3nm,0.4s
B21K **Ikpikpuk River** 63.48 19 P P 18 42 10.2 +0.5
baz=246
F22K **John River** 63.49 22 P P 18 42 10.2 +0.4
baz=249
RND **Reindeer** 63.52 27 IAmb IAmb 18 42 10.9
comp=Z,7.7nm,0.7s
MCK **McKinley** 63.57 27 P P 18 42 10.7 +0.3
baz=254
M23K **Glacier View** 63.61 29 P P 18 42 10.6 -0.1
baz=256
GLI **Glacier Island** 63.69 30 P P 18 42 10.9 -0.4
baz=257
NEA2 **Nenana** 63.76 26 IAmb IAmb 18 42 13.3
comp=Z,4.9nm,0.6s
I23K **Minto, Yukon-K** 63.80 25 IAmb IAmb 18 42 13.3
comp=Z,7.6nm,0.7s
I23K **Minto, Yukon-K** 63.80 25 P P 18 42 12.3 +0.5
baz=253,SNR=5.4
SCM **Sheep Creek Mo** 63.80 29 P P 18 42 12.2 +0.2
baz=256,SNR=13
D22K **Ayikyak River** 63.82 21 IAmb IAmb 18 42 13.6
comp=Z,8.8nm,0.7s
D22K **Ayikyak River** 63.82 21 P P 18 42 13.0 +1.0
baz=248,SNR=7.9
E22K **Anaktuvuk Pass** 63.85 21 IAmb IAmb 18 42 13.9
comp=Z,8.8nm,0.8s
E22K **Anaktuvuk Pass** 63.85 21 P P 18 42 13.0 +0.8
baz=249,SNR=8.0
H23K **Yukon River** 63.93 24 IAmb IAmb 18 42 14.3
comp=Z,7.6nm,0.8s
H23K **Yukon River** 63.93 24 P P 18 42 13.0 +0.3
baz=252,SNR=7.3
G23K **Bananza Creek** 64.02 23 P 18 42 13.7 +0.4
G23K IAmb IAmb 18 42 15.1
comp=Z,5.1nm,0.8s
G23K **Bananza Creek** 64.02 23 P P 18 42 14.1 +0.8
baz=252,SNR=7.4
COLD **Coldfoot** 64.12 23 IAmb IAmb 18 42 15.7
comp=Z,5.4nm,0.7s
COLD **Coldfoot** 64.12 23 P P 18 42 14.7 +0.8
baz=251,SNR=6.0
WRH **Wood River Hil** 64.13 26 IAmb IAmb 18 42 14.2
comp=Z,9.2nm,0.7s
EYAK **Cordova Ski Ar** 64.27 30 P P 18 42 15.3 +0.3
baz=258
KLU **Klutina** 64.38 29 P P 18 42 15.8 0.0
baz=258,SNR=5.9
M24K **Tolsona, Glenn** 64.39 29 P P 18 42 16.2 +0.3
baz=257
RAR **Rarotonga** 64.51 124 LR LR 19 05 39.1
comp=Z,26nm,21.0s,baz=255,slow=32
D23K **Nanushuk River** 64.53 21 IAmb IAmb 18 42 18.9
comp=Z,8.6nm,0.9s
D23K **Nanushuk River** 64.53 21 P P 18 42 16.8 +0.2
baz=250,SNR=7.0
POKR **Poker Plat Res** 64.57 25 P P 18 42 16.3 -0.6
baz=255
H24K **Noodor Dome** 64.59 24 P 18 42 17.1 0.0
H24K **Noodor Dome** 64.59 24 P P 18 42 17.0 -0.1
baz=254,SNR=11
HDA **Harding Lake** 64.59 26 IAmb IAmb 18 42 16.8
comp=Z,7.4nm,0.9s
HDA **Harding Lake** 64.59 26 P P 18 42 15.8 -1.2
baz=256,SNR=9.0
E23K **Chandalar** 64.60 22 IAmb IAmb 18 42 19.3
comp=Z,16nm,1.1s
E23K **Chandalar** 64.60 22 P P 18 42 17.4 +0.3
baz=251,SNR=12
IL31 64.71 26 IAmb IAmb 18 42 17.6
comp=Z,13nm,1.1s
ILAR **Eielson Array** 64.71 26 P P 18 42 16.2 -1.6
ILAR **Eielson Array** 64.71 26 P P 18 42 16.6 -1.2
comp=Z,3.5nm,0.4s,baz=251,slow=6.1,SNR=37
comp=Z,3.5nm,0.4s
TOLK **Toolik Lake Re** 64.80 21 IAmb IAmb 18 42 20.2
comp=Z,14nm,1.2s
TOLK **Toolik Lake Re** 64.80 21 P P 18 42 19.2 +0.8
baz=251
KAIM **Kayak Island** 64.81 31 P P 18 42 18.4 -0.2
baz=260
C23K **Itkillik River** 64.85 20 P P 18 42 19.7 +1.1
baz=250
KSH **Kashi** 64.89 306 P P 18 42 23.3 +3.7
KSH pP pP 18 42 34.3 +2.3
KSH pmax pmax
comp=Z,2.0nm,0.6s
PAX **Paxson** 64.90 28 IAmb IAmb 18 42 20.1
comp=Z,7.0nm,0.7s
PAX **Paxson** 64.90 28 P P 18 42 19.1 -0.1
baz=258,SNR=9.9
BMRM **Bremner River** 64.90 30 P P 18 42 19.1 -0.1
baz=259
HARP **HAARP** 64.92 28 P P 18 42 19.4 +0.1
baz=258,SNR=5.1
K24K **Donnelly Dome** 64.95 27 P P 18 42 19.0 -0.4
baz=257
G24K **Hadweenzic Riv** 64.98 24 IAmb IAmb 18 42 21.3
comp=Z,5.4nm,0.8s
G24K **Hadweenzic Riv** 64.98 24 P P 18 42 20.4 +0.9
baz=254,SNR=6.5
E24K **Your Creek** 65.00 22 P P 18 42 19.9 +0.2
E24K IAmb IAmb 18 42 21.5
comp=Z,7.2nm,0.8s
E24K **Your Creek** 65.00 22 P P 18 42 20.5 +0.8
baz=252,SNR=10
N25K **Chitina, Valde** 65.03 29 P P 18 42 20.3 +0.2
baz=259
F24K **Squaw Lake** 65.06 23 IAmb IAmb 18 42 22.1
comp=Z,7.2nm,0.8s
F24K **Squaw Lake** 65.06 23 P P 18 42 21.2 +1.1
baz=253,SNR=8.5
D24K **Happy Valley** 65.22 21 P P 18 42 22.2 +1.2
baz=252,SNR=8.0
J25K **Salcha River,** 65.31 26 IAmb IAmb 18 42 21.4
comp=Z,4.4nm,0.6s
J25K **Salcha River,** 65.31 26 P P 18 42 21.6 -0.1
baz=257,SNR=8.9
RIDG **Independent Ri** 65.34 27 IAmb IAmb 18 42 22.9
comp=Z,11nm,1.0s
RIDG **Independent Ri** 65.34 27 P P 18 42 22.0 0.0
baz=258
GLB **Gilahina Butte** 65.37 30 P 18 42 22.3 +0.1
GLB IAmb IAmb 18 42 23.4
comp=Z,6.4nm,1.0s
C24K **Franklin Bluff** 65.44 20 IAmb IAmb 18 42 24.2
comp=Z,8.5nm,0.9s
C24K **Franklin Bluff** 65.44 20 P P 18 42 23.6 +1.1
baz=252
PRP **Porcupine Dome** 65.45 25 P P 18 42 23.0 +0.2
baz=256
H25L **Birch Creek** 65.51 24 P P 18 42 23.4 +0.4
baz=256,SNR=13
G25K **Bearman Lake** 65.53 24 P P 18 42 24.0 +1.0
baz=255
CRQE **Cirque** 65.59 30 P P 18 42 23.4 -0.4
baz=261,SNR=5.6
DOT **Dot Lake** 65.66 27 IAmb IAmb 18 42 24.8
comp=Z,10.0nm,0.7s
MCARA **McCarthy VSAT** 65.73 30 IAmb IAmb 18 42 25.6
comp=Z,8.5nm,0.9s
MCARA **McCarthy VSAT** 65.73 30 P P 18 42 24.5 0.0
baz=261
SCRK **Sand Creek** 65.76 27 IAmb IAmb 18 42 25.5
comp=Z,12nm,1.2s
SCRK **Sand Creek** 65.76 27 P P 18 42 24.5 -0.3
baz=259,SNR=10.0
L26K **Log Cabin Wild** 65.86 28 IAmb IAmb 18 42 26.5
comp=Z,5.0nm,0.8s
L26K **Log Cabin Wild** 65.86 28 P P 18 42 25.8 +0.4
baz=260,SNR=6.5
F25K **Christian Rive** 65.91 23 P 18 42 26.0 +0.4
F25K IAmb IAmb 18 42 27.8
comp=Z,7.7nm,0.8s
F25K **Christian Rive** 65.91 23 P P 18 42 27.5 +1.9
baz=255,SNR=8.7
M26K **Nabesna, AK** 65.91 29 P P 18 42 26.0 +0.3
baz=260
AAK **Ala-Archa** 65.93 310 LR LR 19 13 14.9
comp=Z,52nm,18.5s,baz=178,slow=38
J26L **Joseph Creek** 66.04 26 P P 18 42 26.2 -0.3
baz=259,SNR=17
E25K **Arctic Village** 66.07 22 P P 18 42 27.4 +0.8
baz=255
MESA **MESA** 66.07 31 P P 18 42 27.2 +0.3
baz=262
D25K **Kavik River** 66.11 21 IAmb IAmb 18 42 28.6
comp=Z,8.8nm,0.8s
D25K **Kavik River** 66.11 21 P P 18 42 27.5 +0.7
baz=254,SNR=7.5
GRNC **Granite Creek** 66.24 31 IAmb IAmb 18 42 29.1
comp=Z,7.1nm,0.8s
BMAR **Burnt Mountain** 66.27 23 P P 18 42 28.3 +0.5
I26K **Coal Creek Min** 66.37 26 IAmb IAmb 18 42 29.8
comp=Z,19nm,1.9s
I26K **Coal Creek Min** 66.37 26 P P 18 42 27.9 -0.6
baz=259
M27K **Edge Creek, AK** 66.42 29 P P 18 42 29.0 -0.1
baz=261
G26K **Porcupine Rive** 66.46 24 IAmb IAmb 18 42 32.1
comp=Z,9.1nm,0.8s
G26K **Porcupine Rive** 66.46 24 P P 18 42 30.1 +1.1
baz=257,SNR=12
CTG **Chitna Glacier** 66.47 30 P P 18 42 29.7 +0.3
baz=262,SNR=5.2
CTGM **Chitina Glacie** 66.48 30 IAmb IAmb 18 42 30.9
comp=Z,7.5nm,0.9s
F26K **Sheenjek River** 66.49 23 IAmb IAmb 18 42 31.1
comp=Z,5.4nm,0.7s
F26K **Sheenjek River** 66.49 23 P P 18 42 30.6 +1.3
baz=257,SNR=7.2
L27K **Beaver Creek,** 66.55 28 IAmb IAmb 18 42 30.8
comp=Z,4.8nm,0.7s
L27K PcP PcP 18 42 59.3 +0.5
L27K **Beaver Creek,** 66.55 28 P P 18 42 29.8 0.0
baz=261,SNR=11
BCAR **Beaver Creek A** 66.57 28 P 18 42 29.5 -0.4
BCAR PcP PcP 18 42 59.6 +0.6
K27K **Chicken** 66.60 27 IAmb IAmb 18 42 31.7
comp=Z,8.9nm,1.1s
LOGN **Logan Glacier** 66.62 31 IAmb IAmb 18 42 31.6
comp=Z,8.4nm,0.9s
C26K **Camden Bay** 66.76 20 P P 18 42 32.0 +1.1
baz=255
BVCY **Beaver Creek** 66.90 29 P P 18 42 32.4 +0.4
baz=262
PINM **Pinnacle** 66.90 31 P P 18 42 32.0 -0.1
baz=264
YUK3 **Moose Creek** 67.00 30 P P 18 42 32.8 -0.1
baz=263
O28M **Mount Upton** 67.01 31 IAmb IAmb 18 42 34.5
comp=Z,7.7nm,0.8s
O28M PcP PcP 18 43 03.9 +2.8
O28M **Mount Upton** 67.01 31 P P 18 42 32.7 -0.3
baz=263,SNR=5.1
I27K **Kandik River** 67.06 25 P P 18 42 33.4 +0.4
baz=260,SNR=5.5
C27K **Jago River** 67.09 21 P P 18 42 34.3 +1.3
baz=256
H27K **Steamboat Moun** 67.20 25 IAmb IAmb 18 42 35.4
comp=Z,7.7nm,0.8s
H27K **Steamboat Moun** 67.20 25 P P 18 42 34.6 +0.7
baz=260,SNR=11
G27K **Doyon Strip** 67.26 24 P P 18 42 34.9 +0.8
baz=260,SNR=5.5
YUK8 **Steele Glacier** 67.27 30 P P 18 42 35.3 +0.7
baz=264
PNL **Peninsula** 67.29 32 P P 18 42 34.8 +0.3
baz=265
NIL **Nilore** 67.46 300 P 18 42 36.4 +0.3
NIL IAmb IAmb 18 42 38.8
comp=Z,7.8nm,0.7s
NIL **Nilore** 67.46 300 P P 18 42 36.4 +0.3
NIL pmax pmax
comp=Z,8.0nm,0.7s
E27K **Coleen River** 67.53 23 P P 18 42 36.1 +0.2
baz=259
I28M **Miner Creek** 67.73 26 IAmb IAmb 18 42 38.4
comp=Z,6.0nm,0.9s
I28M **Miner Creek** 67.73 26 P P 18 42 37.7 +0.4
baz=262,SNR=8.1
O29M **Mount Kennedy** 67.76 31 IAmb IAmb 18 42 39.5
comp=Z,8.6nm,0.8s
O29M **Mount Kennedy** 67.76 31 P P 18 42 37.5 -0.1
baz=265,SNR=5.3
DAWY **Dawson** 67.77 27 P P 18 42 38.1 +0.6
baz=263
YUK4 **Talbot Arm** 67.82 30 P P 18 42 38.6 +0.6
baz=265,SNR=8.9
YUK6 **Outpost Mounta** 67.92 31 P P 18 42 38.9 +0.2
baz=265
D27M **Malcolm River** 67.96 21 P P 18 42 38.9 +0.3
baz=259
M29M **Somme Creek** 68.01 29 IAmb IAmb 18 42 40.9
comp=Z,7.1nm,0.8s
M29M **Somme Creek** 68.01 29 P P 18 42 39.3 +0.2
baz=264,SNR=8.7
F28M **Old Crow** 68.08 23 P P 18 42 39.5 +0.2
baz=261
P29M **Windy Craggy** 68.13 32 IAmb IAmb 18 42 41.5
comp=Z,7.1nm,0.8s
P29M **Windy Craggy** 68.13 32 P P 18 42 40.2 +0.4
baz=266
L29M **L29M** 68.23 28 IAmb IAmb 18 42 42.3
comp=Z,11nm,0.8s
L29M **L29M** 68.23 28 P P 18 42 41.2 +0.8
baz=264,SNR=16
HYT **Haines Junctio** 68.33 31 P 18 42 41.8 +0.7
HYT IAmb IAmb 18 42 43.0
comp=Z,12nm,0.8s
HYT **Haines Junctio** 68.33 31 P P 18 42 41.9 +0.8
baz=260,SNR=12
E28M **Babbage River** 68.36 22 P P 18 42 42.2 +1.2
baz=261
H29M **Whitestone** 68.47 25 IAmb IAmb 18 42 43.2
comp=Z,5.9nm,0.8s
H29M **Whitestone** 68.47 25 P P 18 42 42.2 +0.4
baz=263,SNR=6.6
TRKS **Terek-Say** 68.47 309 P P 18 42 42.7 +0.2
TRKS pmax pmax
comp=Z,1.0nm,0.9s
P30M **Million Dollar** 68.55 31 P P 18 42 43.5 +1.0
baz=267
K29M **Barlow Dome** 68.57 27 IAmb IAmb 18 42 44.3
comp=Z,9.4nm,0.9s
K29M **Barlow Dome** 68.57 27 P P 18 42 42.6 0.0
baz=265,SNR=10
N30M **Aishikik Lake** 68.57 30 IAmb IAmb 18 42 44.3
comp=Z,6.3nm,0.8s
N30M **Aishikik Lake** 68.57 30 P P 18 42 43.2 +0.6
baz=266,SNR=7.1
BVAR **Borovoye Array** 68.61 321 P P 18 42 43.2 +0.3
comp=Z,3.6nm,0.4s,baz=98,slow=7.9,SNR=40
comp=Z,3.6nm,0.4s
BRVK **Borovoye** 68.68 321 P 18 42 43.4 +0.1
BRVK **Borovoye** 68.68 321 P P 18 42 43.4 +0.1
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK **Borovoye** 68.68 321 P P 18 42 43.6 +0.3
BRVK pP pP 18 42 57.0 +1.3
G29M **Pine Creek** 68.69 24 P P 18 42 43.8 +0.7
baz=263,SNR=5.3
M30M **Minto, Yukon** 68.79 29 IAmb IAmb 18 42 45.6
comp=Z,12nm,1.6s
M30M **Minto, Yukon** 68.79 29 P P 18 42 44.4 +0.5
baz=266
PLBC **Pleasant Camp** 68.81 32 P P 18 42 44.3 +0.3
baz=267,SNR=5.8
KKAR **Karatay Array** 68.84 310 P 18 42 44.6 +0.1
KKAR **Karatay Array** 68.84 310 P P 18 42 44.6 +0.1
EPYK **Eagle Plains** 69.15 25 IAmb IAmb 18 42 47.4
comp=Z,13nm,1.1s
EPYK **Eagle Plains** 69.15 25 P P 18 42 46.3 +0.2
baz=264,SNR=6.1
J30M **Hart River** 69.15 27 P P 18 42 46.7 +0.5
baz=265,SNR=6.9
I30M **Mount Dempster** 69.18 26 P P 18 42 46.5 +0.1
baz=265,SNR=5.5
N31M **Braeburn, Yuko** 69.20 30 IAmb IAmb 18 42 48.3
comp=Z,9.4nm,0.8s
N31M **Braeburn, Yuko** 69.20 30 P P 18 42 47.2 +0.7
baz=267
SIT **Sitka** 69.29 35 P P 18 42 46.7 -0.3
baz=269
G30M **tAoh Zraii Nji** 69.40 24 P P 18 42 47.8 +0.2
baz=265
WHY **Whitehorse** 69.60 31 P P 18 42 49.6 +0.5
baz=268
F30M **Barrier River** 69.63 23 IAmb IAmb 18 42 50.7
comp=Z,19nm,1.1s
F30M **Barrier River** 69.63 23 P P 18 42 49.7 +0.8
baz=265,SNR=7.0
S32K **Killisnoo** 69.70 34 P P 18 42 49.6 +0.1
baz=270
R32K **Eaglecrest** 69.74 34 P P 18 42 49.5 -0.3
baz=269

H31M	**Peel River**	**70.07**	**25**	IAmb	IAmb	18 42 53.6
	comp=Z,9.4nm,0.9s					
H31M	**Peel River**	**70.07**	**25**	P	**P**	**18 42 51.5 -0.2**
	baz=267,SNR=7.8					
G31M	**Satah River**	**70.16**	**24**	IAmb	IAmb	18 42 53.4
	comp=Z,9.5nm,0.9s					
G31M	**Satah River**	**70.16**	**24**	P	**P**	**18 42 52.3 +0.2**
	baz=266,SNR=6.8					
P32M	**Atlin**	**70.17**	**32**	P	**P**	**18 42 52.0 -0.5**
	baz=270					
CHGR	**Chuyangaron**	**70.24**	**306**	IAmb	IAmb	18 42 55.2
	comp=Z,12nm,0.7s					
CHGR	**Chuyangaron**	**70.24**	**306**	P	**P**	**18 42 54.5 +1.2**
SIMJ	**Simiganj**	**70.35**	**306**		**P**	**18 42 53.7 -0.4**
SIMJ	**Simiganj**	**70.35**	**306**	P	**P**	**18 42 54.1 0.0**
F31M	**Tsiigehtchic**	**70.40**	**24**	IAmb	IAmb	18 42 55.0
	comp=Z,6.9nm,0.8s					
F31M	**Tsiigehtchic**	**70.40**	**24**	P	**P**	**18 42 54.2 +0.6**
	baz=267					
N32M	**Quiet Lake**	**70.49**	**30**	IAmb	IAmb	18 42 55.9
	comp=Z,9.5nm,0.8s					
N32M	**Quiet Lake**	**70.49**	**30**	P	**P**	**18 42 54.6 +0.2**
	baz=270,SNR=5.1					
U33K	**Whale Pass**	**70.52**	**36**	P	**P**	**18 42 54.8 +0.3**
	baz=271					
INK	**Inuvik**	**70.53**	**23**	IAmb	IAmb	18 42 55.3
	comp=Z,9.4nm,1.1s					
INK	**Inuvik**	**70.53**	**23**	P	**P**	**18 42 54.3 -0.1**
INK				pmax	pmax	
	comp=Z,8.0nm,1.0s					
INK	**Inuvik**	**70.53**	**23**	P	**P**	**18 42 55.2 +0.8**
	baz=267					
P33M	**Teslin, Yukon**	**70.62**	**31**	P	**P**	**18 42 55.3 0.0**
	baz=270					
KBL	**Kabul**	**70.82**	**301**	P	**P**	
KBL				pmax	pmax	**18 42 57.7 +0.6**
	comp=Z,5.0nm,0.9s					
Q32M	**Nakina River**	**70.92**	**33**	P	**P**	**18 42 57.4 +0.2**
	baz=271					
WRAK	**Wrangell Islan**	**70.94**	**35**	P	**P**	**18 42 57.4 +0.3**
	baz=272					
PPT	**Papeete**	**71.25**	**116**	LR	LR	19 08 41.3
	comp=Z,54nm,20.9s,baz=316,slow=31					
PPT2	**Papeete2**	**71.26**	**116**	*e*LR	LR	19 04 34.2
PPT2	comp=Z,101nm,28.0s			*e*LR	LR	19 04 37.6
	comp=Z,55nm,22.5s					
MMPY	**Sheldon Lake,**	**71.35**	**29**	P	**P**	**18 42 59.5 -0.1**
	baz=271					
S34M	**Telegraph Cree**	**71.55**	**34**	P	**P**	**18 43 01.0 +0.3**
	baz=272					
R33M	**Jennings River**	**71.57**	**32**	P	**P**	**18 43 01.3 +0.2**
	baz=272					
T35M	**Bob Quinn**	**72.07**	**35**	P	**P**	**18 43 04.1 +0.1**
	baz=273					
DLBC	**Dease Lake**	**72.10**	**33**	P	**P**	**18 43 04.0 -0.2**
	baz=273					
WTLY	**Watson Lake, Y**	**72.63**	**31**	P	**P**	**18 43 07.9 +0.6**
	baz=274					
TGTN	**Hyland Airport**	**72.80**	**30**	P	**P**	**18 43 08.8 +0.5**
	baz=274					
BBB	**Bella Bella**	**73.73**	**40**	LR	LR	19 09 20.7
	comp=Z,36nm,20.3s,baz=240,slow=31					
TBI	**Tubuai**	**73.88**	**121**	*e*LR	LR	19 05 50.4
	comp=Z,197nm,33.0s					
C36M	**Paulatuk**	**73.95**	**22**	IAmb	IAmb	18 43 15.6
	comp=Z,15nm,1.1s					
TOAD	**Toad River Com**	**74.56**	**33**	P	**P**	**18 43 19.2 +0.6**
	baz=277					
KOTAN	**Kotaneelee Air**	**75.00**	**31**	P	**P**	**18 43 21.7 +0.6**
	baz=278					
ARTI	**Arti**	**75.32**	**325**		**P**	**18 43 22.7 -0.3**
ARTI	**Arti**	**75.32**	**325**	*e*P	**P**	**18 43 22.7 -0.3**
AKTO	**Aktyubinsk**	**76.50**	**319**	LR	LR	19 19 10.1
	comp=Z,24nm,18.8s,baz=106,slow=37					
YKAW3	**Yellowknife Wh**	**78.97**	**28**	IAmb	IAmb	18 43 44.2
	comp=Z,8.8nm,0.7s					
YKA	**Yellowknife Ar**	**78.99**	**28**	P	**P**	**18 43 43.4 -0.1**
	comp=Z,5.0nm,0.8s,baz=292,slow=5.9,SNR=26					
	comp=Z,5.0nm,0.8s					
YKAW1	**Yellowknife Wh**	**79.05**	**28**	IAmb	IAmb	18 43 44.3
	comp=Z,6.6nm,0.7s					
O02D	**Mt. Diablo Mer**	**79.47**	**51**	P	**P**	**18 43 46.5 -0.1**
J05D	**Fort Rock, OR**	**79.88**	**48**	IAmb	IAmb	18 43 50.3
	comp=Z,8.9nm,1.0s					
PINE	**Pine Mountain**	**79.97**	**47**	IAmb	IAmb	18 43 50.9
	comp=Z,14nm,0.9s					
SPITS	**Spitsbergen Ar**	**81.11**	**351**	P	**P**	**18 43 56.0 +1.4**
	comp=Z,4.7nm,0.8s,baz=113,slow=6.5,SNR=1.2					
	comp=Z,4.7nm,0.8s					
NEW	**Newport**	**81.41**	**42**	LR	LR	19 22 17.8
	comp=Z,31nm,18.3s,baz=325,slow=37					
NEW	**Newport**	**81.41**	**42**	P	**P**	**18 43 56.8 -0.1**
NEW				pmax	pmax	
	comp=Z,7.0nm,1.0s					
J08A	**Circle Bar Ran**	**81.81**	**47**	IAmb	IAmb	18 44 00.3
	comp=Z,8.1nm,1.0s					
WVOR	**Wild Horse Val**	**81.94**	**48**	P	**P**	**18 44 00.3 +0.4**
WVOR				pmax	pmax	
	comp=Z,7.0nm,1.9s					
BMO	**Blue Mountains**	**82.22**	**46**		**P**	**18 44 00.7 -0.6**
BMO	**Blue Mountains**	**82.22**	**46**	P	**P**	**18 44 00.7 -0.6**
BMO				pmax	pmax	
	comp=Z,7.0nm,1.2s					
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**18 44 05.8 -1.2**
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**18 44 06.7 -0.3**
	comp=Z,2.4nm,0.9s,baz=266,slow=6.6,SNR=10					
	comp=Z,2.4nm,0.9s					
MFID	**Camas Ranch**	**83.65**	**47**	IAmb	IAmb	18 44 09.7
	comp=Z,7.4nm,1.1s					
ARCES	**ARCESS Array B**	**84.55**	**342**	P	**P**	**18 44 13.2 +0.6**
	comp=Z,7.1nm,0.7s,baz=70,slow=7.4,SNR=30					
	comp=Z,7.1nm,0.7s					
ELK	**Elko**	**84.87**	**49**		**P**	**18 44 14.8 -0.3**
ELK	**Elko**	**84.87**	**49**	LR	LR	19 15 00.9
	comp=Z,20nm,21.0s,baz=291,slow=31					
ELK	**Elko**	**84.87**	**49**	P	**P**	**18 44 14.8 -0.3**
ELK				pmax	pmax	
	comp=Z,4.0nm,1.0s					
WCT	**Wildcat Mounta**	**85.02**	**53**	IAmb	IAmb	18 44 37.7
	comp=Z,17nm,2.0s					
MSF	**Maaselka**	**85.43**	**339**	P	**P**	**18 44 17.3 +0.2**
MSF				pmax	pmax	
	comp=Z,17nm,1.6s					
SGF	**Sodankyl**	**85.43**	**341**	P	**P**	**18 44 17.3 +0.2**
SGF				pmax	pmax	
	comp=Z,17nm,0.8s					
TKX	**Tecate**	**86.30**	**57**	P	**P**	**18 44 23.4 +1.2**
HVU	**Hansel Valley**	**86.30**	**48**	IAmb	IAmb	18 44 23.4
	comp=Z,5.9nm,1.1s					
PSUT	**Pine Spring**	**86.58**	**51**	IAmb	IAmb	18 44 24.5
	comp=Z,6.1nm,1.1s					
DUG	**Dugway, Tooele**	**86.80**	**49**	IAmb	IAmb	18 44 25.6
	comp=Z,7.6nm,1.2s					
DUG	**Dugway, Tooele**	**86.80**	**49**	P	**P**	**18 44 23.8 -0.8**
DUG				pmax	pmax	
	comp=Z,7.0nm,1.3s					
YMP	**Mirror Lake Pl**	**87.08**	**44**	IAmb	IAmb	18 44 28.4
	comp=Z,9.2nm,0.9s					
AHID	**Auburn Hatcher**	**87.14**	**46**	IAmb	IAmb	18 44 27.2
	comp=Z,6.1nm,0.9s					
HWUT	**Hardware Ranch**	**87.21**	**47**	IAmb	IAmb	18 44 27.4
	comp=Z,6.0nm,1.1s					
KNB	**Kanab**	**87.85**	**52**	IAmb	IAmb	18 44 31.3
	comp=Z,5.1nm,1.1s					
PDAR	**Pinedale Array**	**88.20**	**46**	P	**P**	**18 44 30.8 -0.5**
	comp=Z,0.5nm,0.7s,baz=295,slow=5.6,SNR=2.3					
	comp=Z,0.5nm,0.7s					
KBZ	**Khabaz**	**88.26**	**315**	P	**P**	**18 44 30.8 -0.5**
	comp=Z,1.8nm,0.8s,baz=152,slow=7.7,SNR=2.5					
	comp=Z,1.8nm,0.8s					
U15A	**North Rim**	**88.44**	**52**	IAmb	IAmb	18 44 34.1
	comp=Z,4.5nm,1.1s					
SRU	**San Rafael Swe**	**88.83**	**49**	IAmb	IAmb	18 45 39.1
	comp=Z,3.8nm,0.7s					
FINES	**FINESS Array B**	**89.00**	**336**	P	**P**	**18 44 33.9 -0.6**
	comp=Z,1.5nm,0.4s,baz=63,slow=4.8,SNR=21					
	comp=Z,1.5nm,0.4s					
PV23	**Carpenter Ridg**	**90.17**	**50**	P	**P**	**18 44 40.4 -0.3**
PV16	**Nyswonger Mesa**	**90.29**	**50**	IAmb	IAmb	18 48 09.7
	comp=Z,5.5nm,1.0s					
PV03	**Paradox Valley**	**90.36**	**50**	P	**P**	**18 44 40.5 -1.1**
PV03				IAmb	IAmb	18 44 41.5
	comp=Z,11nm,1.6s					
PV12	**Saucer Basin,**	**90.37**	**50**	P	**P**	**18 44 41.5 -0.2**
PV01	**Paradox Valley**	**90.61**	**50**	P	**P**	**18 44 42.2 -0.5**
LPIG	**La Paz**	**94.31**	**63**	LR	LR	19 17 37.4
	comp=Z,29nm,21.1s,baz=55,slow=29					
HFS	**Hagfors**	**94.48**	**339**	P	**P**	**18 44 59.0 -0.8**
	comp=Z,0.9nm,0.5s,baz=29,slow=3.3,SNR=4.8					
	comp=Z,0.9nm,0.5s					
HFS	**Hagfors**	**94.48**	**339**	P	**P**	**18 44 59.0 -0.8**
NOA	**NORSAR Array B**	**94.65**	**340**	P	**P**	**18 44 59.8 -0.9**
	comp=Z,0.8nm,0.7s,baz=46,slow=4.7,SNR=3.8					
NOA				LR	LR	19 33 13.0
	comp=Z,10nm,18.9s,baz=300,slow=39					
	comp=Z,0.8nm,0.7s					
BRTR	**Keskin Array B**	**96.22**	**315**	P	**P**	**18 45 08.0 -0.4**
	comp=Z,0.4nm,0.6s,baz=72,slow=1.8,SNR=2.4					
	comp=Z,0.4nm,0.6s					
TXAR	**Lajitas Array**	**97.83**	**56**	LR	LR	19 29 34.6
	comp=Z,15nm,18.2s,baz=256,slow=36					
TORD	**Torodi Ar. Bea**	**134.51**	**309**	PKP	**PKiKP**	**18 50 59.8 -0.5**
	comp=Z,0.4nm,0.5s,baz=11,slow=2.9,SNR=3.5					
DBIC	**Dimbokro**	**143.60**	**308**	PKP	**PKPdf**	**18 51 13.7 -1.8**
	comp=Z,4.2nm,0.8s,baz=69,slow=3.1,SNR=5.5					
LPAZ	**La Paz**	**146.38**	**94**	PKPbc	**PKPbc**	**18 51 22.2 0.0**
	comp=Z,2.6nm,0.7s,baz=296,slow=3.6,SNR=7.6					

*GCG **20** 18:32:30.4±1.8, 15°.76N×90°.21W, h2km±10km, MD4.1, ML3.4*
*CATAC **20** 18:32:31.9±0.3, 16°N±2°×9°0W±°, h6km±2km, M3.5/12, MLv3.5/12, Error ellipse: s-maj=3.8km s-min=3.4km az=175.7, confirmed*
ISC 20 18:32:31.9±0.9, **15°.76N**±0°.04×**90°.17W**±0°.03, **h10**km, **n26, σ1s68/27, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
AVCB	**Coban**	**0.37**	**219**	*e*S		**Sg**	**18 32 41.7**	**-2.6**
AVCB					IAML		18 32 48.5	
	comp=E,19μm,0.5s							
QUIS	**Sacapulas**	**1.01**	**242**	*i* S		**Sg**	**18 33 02.6**	**-1.9**
QUIS					IAML		18 33 07.0	
	comp=N,1μm,0.3s							
PETF	**Flores**	**1.18**	**14**	*i* P		**Pb**	**18 32 53.0**	**-1.4**
PETF				*i* S		**Sb**	**18 33 09.5**	**-0.3**
PETF					IAML		18 33 12.8	
	comp=N,1μm,0.5s							
PETF	**Flores**	**1.18**	**14**	P		**Pb**	**18 32 53.3**	**-1.2**
HUEH	**Huehuetenango**	**1.36**	**251**	*i* S		**Sb**	**18 33 15.5**	**+0.3**
HUEH					IAML		18 33 16.9	
	comp=N,1μm,0.4s							
HUEH	**Huehuetenango**	**1.36**	**251**	S		**Sb**	**18 33 16.4**	**+1.2**
HUEH	**Huehuetenango**	**1.36**	**251**	P		**Pn**	**18 32 56.4**	**-0.8**
ESQI	**Esquipulas**	**1.44**	**146**	P		**Pn**	**18 32 57.7**	**-0.4**
ESQI	**Esquipulas**	**1.44**	**146**	S		**Sn**	**18 33 19.4**	**+2.3**
ESSG	**Sabana Grande**	**1.51**	**205**	*i* P		**Pn**	**18 32 58.3**	**-0.8**
SOKI	**Kika Raxquin**	**1.52**	**232**	*i* P		Pn	18 32 58.1	-1.3
SOKI				*i* S		**Sn**	**18 33 20.0**	**+0.5**
SOKI					IAML		18 33 26.5	
	comp=N,704nm,0.9s							
IZABA	**Izabal, Puerto**	**1.52**	**91**	P		Pn	18 32 57.2	-1.9
MTO3	**Montecristo**	**1.56**	**150**	*e*P		**Pn**	**18 32 59.2**	**-0.8**
MTO3	**Montecristo**	**1.56**	**150**	S		**Sn**	**18 33 21.6**	**+1.2**
MTO3	**Montecristo**	**1.56**	**150**	P		**Pn**	**18 32 59.0**	**-0.9**
SARH	**Santa Rosa de**	**1.67**	**126**	*e*P		Pn	18 32 59.5	-1.9
SARH				*i* S		**Sn**	**18 33 23.1**	**+0.3**
SARH	**Santa Rosa de**	**1.67**	**126**	S		**Sn**	**18 33 25.0**	**+2.1**
SARH	**Santa Rosa de**	**1.67**	**126**	P		**Pn**	**18 33 01.6**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.77**	**168**	P		**Pn**	**18 33 03.1**	**+0.6**
NUBE	**Las Nubes**	**1.89**	**169**	*e*P		**Pn**	**18 33 03.9**	**-0.5**
NUBE				*i* S		**Sn**	**18 33 31.5**	**+3.3**
NUBE	**Las Nubes**	**1.89**	**169**	P		**Pn**	**18 33 04.0**	**-0.3**
CCIG	**Comitan**	**1.96**	**286**	*i* S		**Sn**	**18 33 32.6**	**+2.3**
CCIG					IAML		18 33 39.3	
	comp=E,156nm,0.5s							
CCIG	**Comitan**	**1.96**	**286**	S		**Sn**	**18 33 33.5**	**+3.3**
CCIG	**Comitan**	**1.96**	**286**	P		**Pn**	**18 33 06.5**	**+1.1**
CEVE	**Cerro Verde**	**1.99**	**165**	P		**Pn**	**18 33 07.6**	**+1.7**
MARCA	**Marcala la Paz**	**2.60**	**127**	*e*S		**Sn**	**18 33 48.6**	**+2.6**

*NEIC **20** 18:37:09.4±2.0, 45°.87N±0°.03×106°.71W±0°.04, h0km±1km, ML2.9/36, Error ellipse: s-maj=5.2km s-min=4.3km az=130.0*
*IDC **20** 18:37:10.3±1.7, 45°.74N×106°.54W, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=63.4km s-min=10.1km az=135.0*
ISC 20 18:37:10.5±0.9, **45°.91N**±0°.04×**106°.63W**±0°.05, **h0**km, **n62, σ0s86/68, Montana**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
LAO	**LASA Array**	**0.83**	**20**			**Pb**	**18 37 28.0**	**+0.2**
LAO					Sg	**Sg**	**18 37 36.6**	**-0.4**
LAO					IAML		18 37 42.6	
	289nm,0.5s							
RLMT	**Red Lodge**	**2.01**	**248**			**Pn**	**18 37 46.9**	**+0.9**
RLMT						**Sn**	**18 38 13.1**	**+1.1**
RLMT					IAML		18 38 15.7	
	157nm,0.5s							
RLMT					IAML		18 38 16.9	
	100nm,0.4s							
YNE	**Yellowstone No**	**2.54**	**250**			**Pn**	**18 37 53.7**	**+0.5**
YNE						**Sn**	**18 38 23.8**	**-1.3**
RSSD	**Black Hills**	**2.57**	**133**			**Pn**	**18 37 54.1**	**+0.5**
RSSD						**Sb**	**18 38 29.1**	**-0.7**
RSSD					IAML		18 38 40.2	
	46nm,0.5s							
RSSD					IAML		18 38 43.7	
	49nm,0.6s							
YMP	**Mirror Lake Pl**	**2.75**	**246**			**Pn**	**18 37 55.9**	**-0.2**
YMP						**Sn**	**18 38 30.7**	**+0.5**
EGMT	**Eagleton**	**3.00**	**316**			**Pn**	**18 38 00.4**	**+1.0**
DGMT	**Dagmar**	**3.05**	**32**			**Pn**	**18 38 00.1**	**+0.1**
DGMT						**Sb**	**18 38 44.0**	**+0.5**
YNR	**Norris Junctio**	**3.10**	**249**			**Pn**	**18 38 00.7**	**-0.1**
YNR					IAML		18 38 46.5	
	comp=E,32nm,0.5s							
YNR					IAML		18 38 55.8	
	comp=N,37nm,0.5s							
YHH	**Holmes Hill**	**3.18**	**251**			**Pn**	**18 38 00.6**	**-1.4**
K22A	**Casper**	**3.26**	**179**			**Pn**	**18 38 02.6**	**-0.5**
K22A					IAML		18 38 59.8	
	comp=N,27nm,0.4s							
K22A					IAML		18 39 00.8	
	comp=N,28nm,0.5s							
YHL	**Hebgen Lake**	**3.38**	**253**			**Pn**	**18 38 05.2**	**+0.4**
YHL					IAML		18 39 02.3	
	comp=N,27nm,0.7s							
YHL					IAML		18 39 06.5	
	comp=E,40nm,0.6s							
YHB	**Horse Butte**	**3.42**	**252**			**Pn**	**18 38 05.0**	**-0.3**
YHB					IAML		18 39 07.1	
	comp=N,19nm,0.6s							
BOZ	**Bozeman (W)**	**3.51**	**267**			**Pn**	**18 38 06.9**	**+0.4**
QLMT	**Earthquake Lak**	**3.55**	**254**			**Pn**	**18 38 05.9**	**-1.2**
LOHW	**Long Hollow**	**3.65**	**232**			**Pn**	**18 38 08.5**	**+0.1**
HRY	**Holter Researc**	**3.69**	**284**			**Pn**	**18 38 09.8**	**+0.9**
PD31	**Pinedale Array**	**3.78**	**215**			**Pn**	**18 38 11.3**	**+1.0**
PDAR	**Pinedale Array**	**3.78**	**215**			**Pn**	**18 38 12.4**	**+2.1**
PDAR	**Pinedale Array**	**3.78**	**215**	Pn		**Pn**	**18 38 11.9**	**+1.7**
	comp=N,0.5nm,0.3s,baz=42,slow=14,SNR=7.3							
PDAR				Pg		**Pb**	**18 38 18.5**	**+0.2**
	comp=N,3.0nm,0.3s,baz=41,slow=18,SNR=29							
PDAR				Lg		Lg	18 39 05.8	
	comp=N,2.7nm,0.3s,baz=45,slow=30,SNR=3.1							
	comp=N,0.7nm,0.5s							
BW06	**Boulder Array**	**3.78**	**215**	Pn		**Pn**	**18 38 11.9**	**+1.6**
BW06					IAML		18 39 12.7	
	comp=N,21nm,0.6s							
TPAW	**Teton Pass**	**3.92**	**233**			**Pn**	**18 38 15.0**	**+2.9**
LYMT	**Lyon Mountain**	**4.05**	**287**			**Pn**	**18 38 14.4**	**+0.5**
LRM	**Limekiln Ridge**	**4.07**	**271**			**Pn**	**18 38 13.9**	**-0.3**
DLMT	**Dillon**	**4.22**	**265**			**Pn**	**18 38 16.4**	**+0.2**
DLMT					IAML		18 39 30.6	
	comp=N,12nm,0.7s							
DLMT					IAML		18 39 34.7	
	comp=N,16nm,0.6s							
AHID	**Auburn Hatcher**	**4.49**	**227**	Pn		**Pn**	**18 38 21.2**	**+1.2**
AHID					IAML		18 39 38.7	
	comp=N,8.3nm,0.8s							
MCMT	**McKenzie Canyo**	**4.51**	**258**			**Pn**	**18 38 20.6**	**+0.3**
OVMT	**Ovando**	**4.54**	**287**			**Pn**	**18 38 20.4**	**-0.3**
BPMT	**Black Pine Rid**	**4.76**	**279**	Pn		**Pn**	**18 38 23.7**	**0.0**
MSO	**Missoula**	**5.14**	**283**	Pn		**Pn**	**18 38 28.7**	**-0.1**
MSO					IAML		18 39 59.5	
	comp=N,11nm,0.7s							
MSO					IAML		18 40 02.3	
	comp=N,10nm,0.7s							
JTMT	**Jette**	**5.56**	**292**	Pn		**Pn**	**18 38 34.4**	**-0.2**
HWUT	**Hardware Ranch**	**5.59**	**221**	Pn		**Pn**	**18 38 35.7**	**+0.6**
O20A	**White River Ci**	**5.89**	**192**	Pn		**Pn**	**18 38 39.4**	**+0.2**
BSUT	**Blindstream Ca**	**6.16**	**211**	Pn		**Pn**	**18 38 43.0**	**-0.1**
PLID	**Pearl Lake**	**6.64**	**266**	Pn		**Pn**	**18 38 50.8**	**+1.4**
P18A	**Preston Nutter**	**6.82**	**204**			**Pn**	**18 38 53.5**	**+1.4**
P17A	**Butcher Ranch,**	**7.11**	**207**	Pn		**Pn**	**18 38 56.8**	**+0.8**
SRU	**San Rafael Swe**	**7.38**	**204**	Pn		**Pn**	**18 38 59.1**	**-0.5**
F10A	**Beach Ranch, E**	**7.39**	**274**	Pn		**Pn**	**18 38 58.8**	**-0.9**
NEW	**Newport**	**7.54**	**292**	Pn		**Pn**	**18 39 01.3**	**-0.4**
I56US	**NEWPORT INFRAS**	**7.54**	**292**	I		I	19 20 10.0	
	baz=106,slow=318,SNR=2.7							
PV22	**Blue Mesa, Par**	**7.54**	**193**	Pn		**Pn**	**18 39 01.6**	**-0.3**
PV21	**Cone Mtn., Par**	**7.55**	**194**	Pn		**Pn**	**18 39 02.5**	**+0.5**
PV07	**Paradox Valley**	**7.62**	**192**			**Pn**	**18 39 03.4**	**+0.5**
PV23	**Carpenter Ridg**	**7.66**	**194**	Pn		**Pn**	**18 39 04.3**	**+0.7**
PV15	**Paradox Valley**	**7.69**	**191**	Pn		**Pn**	**18 39 04.7**	**+0.7**
PV04	**Paradox Valley**	**7.70**	**193**	Pn		**Pn**	**18 39 04.7**	**+0.6**
PV10	**Paradox Valley**	**7.74**	**194**	Pn		**Pn**	**18 39 05.9**	**+1.2**
PV14	**Lion Creek, Pa**	**7.74**	**194**	Pn		**Pn**	**18 39 04.8**	**+0.2**
PV12	**Saucer Basin,**	**7.76**	**193**	Pn		**Pn**	**18 39 05.3**	**+0.4**
PV20	**West Nyswonger**	**7.76**	**194**	Pn		**Pn**	**18 39 04.2**	**-0.7**
PV16	**Nyswonger Mesa**	**7.78**	**193**			**Pn**	**18 39 05.5**	**+0.3**
PV11	**David Mesa, Pa**	**7.79**	**193**			**Pn**	**18 39 05.5**	**+0.2**
PV19	**Morning Glory**	**7.80**	**194**	Pn		**Pn**	**18 39 05.2**	**-0.2**
PV03	**Paradox Valley**	**7.83**	**193**			**Pn**	**18 39 05.6**	**-0.2**
PV18	**Skein Mesa, Pa**	**7.85**	**193**	Pn		**Pn**	**18 39 05.9**	**-0.2**
PV02	**Paradox Valley**	**7.86**	**192**			**Pn**	**18 39 06.0**	**-0.3**
PV01	**Paradox Valley**	**7.91**	**191**			**Pn**	**18 39 06.0**	**-0.9**
PV13	**Radium Mtn., P**	**7.92**	**193**	Pn		**Pn**	**18 39 06.6**	**-0.4**
PV05	**Paradox Valley**	**8.04**	**194**	Pn		**Pn**	**18 39 07.1**	**-1.7**
ULM	**Lac du Bonnet**	**8.41**	**55**	Pn		**Pn**	**18 39 13.0**	**-0.5**
	comp=N,0.2nm,0.3s,baz=250,slow=13,SNR=1.7							
ULM				Lg		Lg	18 41 28.1	
	comp=N,0.5nm,0.3s,baz=338,slow=16,SNR=3.0							
	comp=N,1.6nm,0.6s							
HMU	**Henry Mountain**	**8.54**	**202**			**Pn**	**18 39 14.9**	**-0.7**
HAWA	**Hanford**	**8.97**	**278**	Pn		**Pn**	**18 39 20.7**	**-0.5**

*NOU **20** 19:06:14.6, 37°.55S×176°.67E, h178km, ML3.7/13, North Island, New Zealand*
*WEL **20** 19:06:16.5±0.6, 37°S±4°×17°7E±°, h157km±5km, M3.1/33, MLv3.1/33, Error ellipse: s-maj=5.2km s-min=4.7km az=41.8, confirmed*
ISC 20 19:06:13.2±1.8, **37°.47S**±0°.05×**176°.77E**±0°.05, **h189**km±10km, **n86,** σ1s**24**/106, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
OPRZ	**Ohinepanea**	**0.41**	**205**	P		**Pn**	**19 06 38.7**	**+0.1**
OPRZ				S		**Sn**	**19 06 57.7**	**-0.7**
TGRZ	**Tauranga**	**0.48**	**238**	P		**Pn**	**19 06 39.2**	**+0.3**
MARZ	**Manawahe**	**0.52**	**189**	P		**Pn**	**19 06 39.5**	**+0.5**
MARZ				S		**Sn**	**19 06 59.0**	**-0.2**
OMRZ	**Omania**	**0.71**	**207**	P		**Pn**	**19 06 40.3**	**+0.3**
KMRZ	**Kaimai**	**0.76**	**240**	P		**Pn**	**19 06 40.9**	**+0.6**
URZ	**Urewera**	**0.83**	**161**	P		**Pn**	**19 06 40.5**	**-0.1**
URZ	**Urewera**	**0.83**	**161**	S		**Sn**	**19 07 01.3**	**-0.7**
URZ	**Urewera**	**0.83**	**161**	P		**Pn**	**19 06 40.8**	**+0.2**
URZ				S		**Sn**	**19 07 00.8**	**-1.2**
HAZ	**Te Kaha**	**0.85**	**110**	P		**Pn**	**19 06 41.0**	**+0.3**
HAZ				S		**Sn**	**19 07 00.8**	**-1.3**
RUGZ	**Raukumara Rang**	**0.87**	**125**	P		**Pn**	**19 06 40.8**	**-0.2**
RUGZ				S		**Sn**	**19 06 59.9**	**-2.7**
RRRZ	**Republican Roa**	**0.89**	**193**	P		**Pn**	**19 06 42.2**	**+1.2**
MUGZ	**Murupara**	**1.00**	**180**	P		**Pn**	**19 06 42.9**	**+1.1**
MUGZ				S		**Sn**	**19 07 03.4**	**-0.7**
GRRZ	**Galatos Road**	**1.02**	**211**	P		**Pn**	**19 06 43.0**	**+1.0**
TOZ	**Tahuroa Road**	**1.04**	**255**	P		**Pn**	**19 06 42.8**	**+0.8**
PKGZ	**Pakihiroa**	**1.11**	**111**	P		**Pn**	**19 06 43.6**	**+1.0**
KUZ	**Kuaotunu**	**1.11**	**311**	P		**Pn**	**19 06 42.5**	**-0.1**
KUZ	**Kuaotunu**	**1.11**	**311**	P		**Pn**	**19 06 42.6**	**-0.1**
RAGZ	**Rawiri**	**1.14**	**154**	P		**Pn**	**19 06 44.6**	**+1.7**
RAGZ				S		**Sn**	**19 07 05.5**	**-0.6**
RTZ	**Ruatahuna**	**1.15**	**172**	P		**Pn**	**19 06 44.0**	**+1.1**
RTZ				S		**Sn**	**19 07 05.6**	**-0.6**
TWGZ	**Tauwhareparae**	**1.19**	**127**	P		**Pn**	**19 06 44.8**	**+1.6**

*CATAC **20** 19:25:31.5±0.9, 12°N×3°×8°8W±°, h27km±10km, M3.9/23, MLv3.9/23, Error ellipse: s-maj=7.2km s-min=4.7km az=24.6, confirmed*

*UCR **20** 19:25:33.9±1.2, 12°22N×86°91W, h131km±16km, MW4.5*

ISC 20 19:25:33.2±1.4, 11°56N±0°08×87°56W±0°07, h58km±41km, n61, σ1§39/72, 9C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.13**	**57**	⇓*i*P	**Pn**	**19 25 51.6**	**-1.4**
COPN				*e*S	**Sn**	**19 26 09.4**	**+1.8**
COPN	**Copaltepe**	**1.13**	**57**	⇓P	**Pn**	**19 25 51.6**	**-1.4**
PACN	**Al O del Volca**	**1.20**	**39**	⇑P	**Pn**	**19 25 52.8**	**-1.0**
PACN				S	**Sn**	**19 26 10.4**	**+1.1**
CRIN	**San Cristobal**	**1.24**	**24**	*e*P	**Pn**	**19 25 53.6**	**-0.8**
CRIN	**San Cristobal**	**1.24**	**24**	S	**Sn**	**19 26 09.8**	**-0.4**
CRIN	**San Cristobal**	**1.24**	**24**	⇑P	**Pn**	**19 25 53.8**	**-0.6**
ROCN	**Rota Cerro Neg**	**1.24**	**40**	⇑P	**Pn**	**19 25 53.4**	**-1.0**
ROCN				S	**Sn**	**19 26 10.9**	**+0.6**
CNGA	**Al SSO del Vol**	**1.25**	**42**	⇑P	**Pn**	**19 25 53.4**	**-1.1**
CNGN	**Cerro Negro**	**1.26**	**42**	⇓P	**Pn**	**19 25 53.3**	**-1.3**
PLRN	**Geotermica Pol**	**1.28**	**37**	P	**Pn**	**19 25 53.8**	**-1.1**
PLRN				S	**Sn**	**19 26 11.0**	**-0.1**
POLN	**Al Sur del Vol**	**1.30**	**34**	⇑P	**Pn**	**19 25 54.3**	**-0.9**
POLN				S	**Sn**	**19 26 12.4**	**+0.6**
CRUN	**El Crucero**	**1.31**	**71**	P	**Pn**	**19 25 55.5**	**+0.1**
MOM2	**El Cardon**	**1.37**	**50**	P	**Pn**	**19 25 54.8**	**-1.3**
UNAN	**Cigeo UNAN**	**1.38**	**67**	P	**Pn**	**19 25 56.0**	**-0.2**
UNAN				S	**Sn**	**19 26 15.8**	**+2.3**
CSGN	**Cosiguina Volc**	**1.40**	**0**	*e*P	**Pn**	**19 25 56.1**	**-0.6**
CSGN				*e*S	**Sn**	**19 26 14.1**	**-0.1**
CSGN	**Cosiguina Volc**	**1.40**	**0**	⇑P	**Pn**	**19 25 56.5**	**-0.1**
CSGN				S	**Sn**	**19 26 14.8**	**+0.5**
SABN	**Sabanita**	**1.43**	**74**	P	**Pn**	**19 25 57.3**	**+0.4**
POTN	**Potosi Cosigui**	**1.43**	**2**	*e*P	**Pn**	**19 25 56.9**	**0.0**
POTN				*e*S	**Sn**	**19 26 14.4**	**-0.2**
POTN	**Potosi Cosigui**	**1.43**	**2**	P	**Pn**	**19 25 56.9**	**0.0**
POTN				S	**Sn**	**19 26 14.9**	**+0.2**
MASN	**Masaya**	**1.45**	**73**	⇑P	**Pn**	**19 25 58.3**	**+1.2**
NANN	**Nandasmo**	**1.46**	**75**	⇑P	**Pn**	**19 25 56.7**	**-0.7**
WILN	**Americas 2**	**1.47**	**66**	P	**Pn**	**19 25 56.1**	**-1.4**
CNCH	**Conchagua**	**1.72**	**351**	P	**Pn**	**19 26 01.0**	**0.0**
LCND	**La Caada**	**1.76**	**350**	P	**Pn**	**19 26 01.5**	**+0.1**
JAPN	**Al SSO del Vol**	**1.85**	**91**	*e*P	**Pn**	**19 26 01.4**	**-1.1**
JAPN	**Al SSO del Vol**	**1.85**	**91**	P	**Pn**	**19 26 02.1**	**-0.5**
MORN	**Al O del Volca**	**1.88**	**90**	P	**Pn**	**19 26 01.3**	**-1.7**
LCRUZ	**La Cruz**	**1.96**	**104**	*e*P	**Pn**	**19 26 05.8**	**+1.7**
BOAB	**BOACO BROADBAN**	**2.05**	**64**	P	**Pn**	**19 26 04.2**	**-1.2**
PEJA	**Penjamo Buenos**	**2.31**	**107**	*e*P	**Pn**	**19 26 11.6**	**+2.7**
ACON	**Acoyapa**	**2.37**	**80**	P	**Pn**	**19 26 09.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**2.41**	**332**	P	**Pn**	**19 26 11.2**	**+0.9**
RCVN	**Varillal2**	**2.41**	**34**	P	**Pn**	**19 26 10.6**	**+0.2**
RCVN	**Varillal2**	**2.41**	**34**	S	**Sn**	**19 26 40.5**	**+1.6**
RCPN	**Sur Rio San Ju**	**2.42**	**36**	P	**Pn**	**19 26 10.2**	**-0.3**
MESS	**Mesas**	**2.46**	**109**	*e*P	**Pn**	**19 26 10.0**	**-1.1**
VMAR	**Armenia, Volca**	**2.52**	**107**	*e*P	**Pn**	**19 26 10.2**	**-1.6**
NICO	**Nicoya**	**2.52**	**124**	*e*P	Pn	19 26 17.2	+5.5
MOTZ	**Rio Naranjo**	**2.60**	**109**	*e*P	**Pn**	**19 26 13.2**	**+0.4**
INDI	**Punta indio, G**	**2.64**	**130**	P	**Pn**	**19 26 11.2**	**-2.1**
TENO	**El Achiote**	**2.68**	**108**	*e*P	**Pn**	**19 26 13.0**	**-1.0**
INVE	**Universidad In**	**2.68**	**114**	*e*P	**Pn**	**19 26 15.2**	**+1.2**
TIMP	**Tierras Morena**	**2.68**	**111**	*e*P	**Pn**	**19 26 12.6**	**-1.5**
TILA	**Tilaran**	**2.77**	**113**	*e*P	**Pn**	**19 26 19.7**	**+4.4**
CHIK	**Chiripa**	**2.83**	**113**	*e*P	**Pn**	**19 26 20.5**	**+4.4**
JTS	**Las Juntas de**	**2.86**	**116**	*e*P	**Pn**	**19 26 15.6**	**-0.9**
TABAC	**Tabacon**	**2.94**	**111**	*e*P	**Pn**	**19 26 20.3**	**+2.7**
ARE1	**Arenal 1**	**3.00**	**111**	*e*P	**Pn**	**19 26 18.3**	**-0.1**
VARE2	**V. Arenal**	**3.00**	**111**	*e*P	**Pn**	**19 26 18.3**	**-0.1**
CEDE	**Laguna Cedeo**	**3.00**	**111**	*e*P	**Pn**	**19 26 19.3**	**+0.9**
NUBE	**Las Nubes**	**3.17**	**317**	P	**Pn**	**19 26 21.4**	**+0.5**
NUBE	**Las Nubes**	**3.17**	**317**	S	**Sn**	**19 26 57.0**	**-0.7**
ACOS	**Acosta**	**3.77**	**117**	*e*P	**Pn**	**19 26 29.9**	**+0.8**
PICV	**PH. Pirrs**	**3.83**	**120**	⇑*i*P	**Pn**	**19 26 30.7**	**+1.0**
PICV				*e*S	**Sn**	**19 27 12.9**	**-0.7**
LCR2	**La Lucha 2**	**3.94**	**117**	*e*P	**Pn**	**19 26 31.7**	**+0.3**
PIEC	**Cerro El Cedra**	**4.04**	**118**	*e*P	**Pn**	**19 26 33.3**	**+0.5**
VTCV	**VTCV, Calle Va**	**4.08**	**112**	*e*P	**Pn**	**19 26 35.6**	**+2.3**
SAJE	**San Jernim**	**4.56**	**119**	*e*P	**Pn**	**19 26 39.9**	**+0.1**
EDPE	**Pejibaye, P**	**4.60**	**121**	*e*P	**Pn**	**19 26 40.8**	**+0.6**
ALCO	**Alturas Coton,**	**5.33**	**119**	*e*P	**Pn**	**19 26 50.0**	**-0.4**
ALCO				*e*S	**Sn**	**19 27 47.7**	**-3.0**
BCIP	**Isla Barro Col**	**7.97**	**107**	*e*P	**Pn**	**19 27 24.3**	**-2.1**

IDC 20 19:28:09.6±1.5, 49°14S×127°43E, h0km, mb3.7/3, mbtmp3.7/3, MS3.3/1, Error ellipse: s-maj=89.6km s-min=28.9km az=84.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.28**	**321**	T	T	19 48 44.3	
	baz=152,slow=74,SNR=40						
H01W2	**Cape Leeuwin H**	**17.28**	**321**	T	T	19 48 42.1	
	baz=152,slow=74,SNR=31						
H01W3	**Cape Leeuwin H**	**17.30**	**321**	T	T	19 48 39.3	
	baz=152,slow=74,SNR=32						
ASAR	**Alice Springs**	**25.93**	**14**	P	P	19 33 43.6	+0.1
	0.8nm,0.7s,baz=193,slow=10.0,SNR=7.9						
ASAR				LR	LR	19 42 57.5	
	comp=Z,65nm,21.6s,baz=210,slow=34 0.8nm,0.7s						
VNDA	**Vanda**	**31.36**	**166**	P	P	19 34 31.4	+0.1
	0.7nm,0.9s,baz=297,slow=7.5,SNR=4.5 0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.91**	**332**	P	P	19 39 34.6	+0.1
	0.7nm,0.5s,baz=186,slow=5.6,SNR=4.1 0.7nm,0.5s						
YKA	**Yellowknife Ar**	**144.19**	**44**	PKP	PKPbc	19 47 45.0	+0.8
	0.7nm,0.6s,baz=274,slow=3.6,SNR=6.4						

NEIC 20 19:50:19.5±1.7, 41°48N±0°02×77°35W±0°02, h0km±2km, mb_Lg2.3/37, ML1.8/18, Error ellipse: s-maj=3.1km s-min=2.9km az=172.0, Pennsylvania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
M57A	**Sunshine Farm,**	**0.22**	**131**		Pg	19 50 24.0	+0.2
M57A				IAML		19 50 28.8	
	305nm,0.3s						
L56A	**Greenwood**	**0.67**	**347**		Pg	19 50 32.5	+0.1
L56A				IAML		19 50 48.6	
	40nm,0.8s						
N58A	**Sunbury**	**0.80**	**143**		Pg	19 50 33.9	-0.9
N58A				IAML		19 50 57.4	
	28nm,1.5s						
N58A				IAML		19 50 58.3	
	25nm,1.4s						
SSPA	**Standing Stone**	**0.94**	**206**	Pg	Pg	19 50 37.1	-0.4
KSPA	**Keystone Colle**	**1.19**	**86**		Pg	19 50 41.6	-0.7
BINY	**Binghamton**	**1.25**	**54**	Pg	Pg	19 50 42.2	-1.2
BINY				IAML		19 51 11.3	
	26nm,1.0s						
BINY				IAML		19 51 12.2	
	26nm,0.9s						
MMNY	**Mt. Morris Dam**	**1.31**	**342**		Pg	19 50 43.5	-1.2
K57A	**Scipio Center**	**1.39**	**26**		Pg	19 50 44.6	-1.7
MVL	**Millersville**	**1.67**	**153**		Pn	19 50 49.9	0.0
MVL				IAmb_Lg		19 51 14.9	
	comp=Z,17nm,1.0s						
PAOC	**Oil Creek Stat**	**1.75**	**272**		Pn	19 50 50.4	-0.7
PAOC				IAmb_Lg		19 51 17.9	
	comp=Z,12nm,0.8s						
J55A	**Hilton**	**1.81**	**349**		Pn	19 50 49.3	-2.7
J55A				IAmb_Lg		19 51 20.8	
	comp=Z,26nm,1.1s						
L59A	**Walton**	**1.86**	**67**		Pn	19 50 51.3	-1.4
L59A				IAmb_Lg		19 51 23.7	
	comp=Z,25nm,1.0s						
MEDO	**Medina**	**1.87**	**334**		Pn	19 50 50.7	-2.1
MEDO				IAmb_Lg		19 51 21.0	
	comp=Z,13nm,0.7s						
WUPA	**West Chester U**	**2.04**	**139**		Pn	19 50 53.6	-1.4
P57A	**Homestead Farm**	**2.06**	**194**	Pn	Pn	19 50 54.1	-1.3
ERPA	**Erie**	**2.07**	**289**	IAmb_Lg		19 51 28.1	
	comp=Z,8.5nm,0.7s						
SDMD	**Soldier's Deli**	**2.11**	**169**		Pn	19 50 54.2	-1.8
PAMR	**Moraine State**	**2.14**	**256**	Pn	Pn	19 50 55.7	-0.8
J57A	**Williamstown**	**2.17**	**27**		Pn	19 50 56.5	-0.5
BRNJ	**Basking Ridge**	**2.25**	**110**	Pn	Pn	19 50 57.2	-0.8
BRNJ				IAmb_Lg		19 51 31.8	
	comp=Z,15nm,1.1s						
PECO	**Prince Edward**	**2.46**	**6**		Pn	19 50 59.4	-1.5
O54A	**Avella**	**2.64**	**241**		Pn	19 51 00.7	-2.6
PAL	**Palisades**	**2.64**	**99**	Pn	Pn	19 51 01.8	-1.6
N53A	**Lisbon**	**2.72**	**257**	IAmb_Lg		19 51 46.7	
	comp=Z,7.7nm,0.9s						
Q56A	**Snyder Ridge,**	**2.81**	**211**		Pn	19 51 01.4	-4.3
J59A	**Piesco**	**2.89**	**46**	Pn	Pn	19 51 03.6	-3.3
J59A				IAmb_Lg		19 51 56.7	
	comp=Z,6.7nm,0.7s						
DELO	**Deloro Mine**	**3.04**	**356**		Pn	19 51 06.2	-2.7
DELO				IAmb_Lg		19 51 59.4	
	comp=Z,7.1nm,0.8s						
WSPT	**Westport, CT**	**3.04**	**95**	IAmb_Lg		19 51 54.4	
	comp=Z,8.6nm,0.7s						
NCB	**Newcomb**	**3.39**	**42**	Pn	Pn	19 51 10.8	-2.9
NCB				IAmb_Lg		19 52 10.6	
	comp=Z,5.1nm,0.7s						
R58B	**Mineral**	**3.54**	**187**	Pn	Pn	19 51 13.5	-2.2
Q54A	**Coxs Mills**	**3.65**	**228**		Pn	19 51 13.2	-4.1
Q54A				IAmb_Lg		19 52 24.1	
	comp=Z,13nm,0.8s						
LONY	**Lake Ozonia**	**3.73**	**32**		Pn	19 51 12.8	-5.6
R55A	**Marlinton**	**3.84**	**215**	Pn	Pn	19 51 16.6	-3.3
K62A	**Royalston**	**3.99**	**71**	Pn	Pn	19 51 17.4	-4.5
J61A	**Chester**	**4.01**	**61**	IAmb_Lg		19 52 27.9	
	comp=Z,6.5nm,0.8s						
P52A	**Corning**	**4.08**	**245**	IAmb_Lg		19 52 27.6	
	comp=Z,9.0nm,1.0s						
BUKO	**Buck Lake**	**4.23**	**340**	IAmb_Lg		19 52 36.6	
	comp=Z,5.8nm,1.0s						
FRNY	**Flat Rock**	**4.34**	**38**	Pn	Pn	19 51 22.7	-3.9
Q52A	**Bidwell**	**4.53**	**238**	IAmb_Lg		19 52 46.9	
	comp=Z,5.3nm,0.8s						
T57A	**Hurt**	**4.71**	**199**	IAmb_Lg		19 52 45.4	
	comp=Z,9.2nm,1.0s						
Q51A	**Peebles**	**5.20**	**244**	IAmb_Lg		19 53 03.6	
	comp=Z,8.4nm,0.9s						

*IDC **20** 19:52:54.9±3.0, 18°77N×145°88E, h0km, mb3.7/7, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=82.0km s-min=35.6km az=9.0*

ISC 20 19:53:11.1±2.5, 19°5N±0°4×145°9E±0°3, h100km, n11, σ0§80/8, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Art**	**18.29**	**340**	P	**Pn**	**19 57 18.4**	**+0.2**
	0.1nm,0.3s,baz=154,slow=9.5,SNR=4.8 0.8nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**19.70**	**89**	T	T	20 18 27.1	
	baz=274,slow=75,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**19.71**	**89**	T	T	20 18 27.1	
	baz=274,slow=75,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**19.71**	**89**	T	T	20 18 27.6	
	baz=274,slow=75,SNR=5.7						
KSRS	**Korea Array**	**23.80**	**323**	P	**P**	**19 58 15.2**	**+0.6**
	0.8nm,0.8s,baz=148,slow=9.7,SNR=5.0 0.8nm,0.8s						
MKAR	**Makanchi Array**	**58.05**	**314**	P	**P**	**20 02 53.9**	**+0.1**
	0.3nm,0.8s,baz=90,slow=5.8,SNR=2.2 0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**60.86**	**318**	P	**P**	**20 03 12.0**	**-1.0**
	0.3nm,0.6s,baz=91,slow=7.8,SNR=7.1 0.3nm,0.6s						
ILAR	**Eielson Array**	**62.87**	**26**	P	**P**	**20 03 25.7**	**-0.5**
	0.7nm,0.7s,baz=266,slow=5.8,SNR=6.7 0.7nm,0.7s						
BVAR	**Borovoye Array**	**65.99**	**320**	P	**P**	**20 03 47.0**	**+0.2**
	0.5nm,0.3s,baz=95,slow=8.6,SNR=7.3 0.5nm,0.3s						
NVAR	**Mina Array Bea**	**82.52**	**52**	P	**P**	**20 05 24.1**	**+0.8**
	0.5nm,0.8s,baz=270,slow=5.3,SNR=2.6 0.5nm,0.8s						
FINES	**FINESS Array B**	**86.25**	**335**	P	**P**	**20 05 40.4**	**-1.0**
	0.6nm,0.5s,baz=66,slow=6.6,SNR=8.0 0.6nm,0.5s						

AUST 20 19:53:22.6±1.1, 18°S±11°×12°0E±°, h10km, mb3.8/3, ML2.8/2, ML3.4/3, Error ellipse: s-maj=29.1km s-min=8.7km az=145.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.82**	**79**	P	Pb	19 53 55.1	-0.9
MBWA	**Marble Bar**	**2.90**	**192**	P	Pn	19 54 10.1	+1.2
PSA00	**Pilbara Seismi**	**3.29**	**188**	P	Pn	19 54 14.9	+0.8
FITZ	**Fitzroy Crossi**	**5.03**	**88**	P	Pn	19 54 37.3	-0.9
MEEK	**Meekatharra**	**8.45**	**191**	P	Pn	19 55 24.7	-0.4
	comp=Z,0.1nmcomp=Z,15nm,2.5s						
CVQOZ	**Cooralya Stati**	**8.46**	**223**	P	Pn	19 55 24.1	-1.0
	comp=Z,234nm,1.3s,comp=Z,0.8nm						
WRKA	**Warakurna**	**9.97**	**134**	P	Pn	19 55 44.8	-1.2
	comp=Z,3.1nm,1.4s,comp=Z,0.0nm						
MORW	**Morawa**	**11.42**	**199**	P	Pn	19 56 03.1	-2.7
BLDU	**Ballidu**	**12.70**	**194**	P	Pn	19 56 21.2	-2.0

*IDC **20** 20:06:12.2±1.2, 6°75S×106°33E, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/9, Error ellipse: s-maj=41.8km s-min=17.1km az=33.0*

*DJA **20** 20:06:15.4±0.2, 7°S±2°×107°7E±°, h10km, M4.4/18, mb4.8/6, MLv4.2/18*

ISC 20 20:06:14.8±0.7, 6°77S±0°04×106°51E±0°04, h10km, n45, σ1§54/32, mb3.6/6, MS3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.24**	**168**	P	**Pg**	**20 06 20.0**	**+0.2**
SKJI				S	**Sg**	**20 06 24.0**	**+0.8**
DBJI	**Dramaga**	**0.32**	**49**	P	**Pg**	**20 06 21.0**	**-0.3**
DBJI				S	**Sg**	**20 06 26.5**	**+0.9**
SBJI	**Serang**	**0.74**	**330**	P	**Pg**	**20 06 29.4**	**+0.2**
CGJI	**Cibinong**	**0.82**	**281**	P	**Pg**	**20 06 30.6**	**-0.1**
CNJI	**Cibinong**	**0.82**	**131**	P	**Pg**	**20 06 29.5**	**-1.2**
LEM	**Lembang**	**1.11**	**93**	Pn	**Pn**	**20 06 37.1**	**+0.5**
	75nm,0.3s,baz=230,slow=9.4,SNR=38						
LEM				Sn	**Sn**	**20 06 55.7**	**+3.7**
	122nm,0.3s,baz=319,slow=20,SNR=12						
LEM	**Lembang**	**1.11**	**93**	P	**Pb**	**20 06 36.1**	**-0.1**
JCJI	**Jatiwangi**	**1.77**	**81**	P	**Pn**	**20 06 44.5**	**-1.1**
BLSI	**Bandar Lampung**	**1.87**	**318**	P	**Pn**	**20 06 47.1**	**+0.1**
KASI	**Kota Agung**	**2.35**	**302**	P	**Pn**	**20 06 54.5**	**+1.0**
KPJI	**Karang Pucung**	**2.47**	**103**	P	**Pn**	**20 06 57.0**	**+1.8**
KLI	**Kotabumi**	**2.50**	**319**	P	**Pn**	**20 06 57.4**	**+1.8**
LWLI	**Liwa**	**2.99**	**305**	P	**Pn**	**20 07 04.9**	**+2.4**
MDSI	**Maura Dua**	**3.24**	**314**	P	**Pn**	**20 07 07.5**	**+1.7**
UGM	**Wanagama**	**4.14**	**106**	P	**Pn**	**20 07 20.1**	**+1.8**
TPI	**Tanjungpandan**	**4.15**	**16**	P	**Pn**	**20 07 18.5**	**+0.2**
MNAI	**Manna**	**4.27**	**304**	P	**Pn**	**20 07 22.6**	**+2.7**
PCJI	**Pacitan**	**4.84**	**107**	P	**Pn**	**20 07 29.1**	**+1.2**
MASI	**Diaura Aman, Be**	**5.57**	**310**	P	**Pn**	**20 07 40.6**	**+2.7**
	89nm,1.4s						
KRJI	**Kerinci**	**6.84**	**313**	P	**Pn**	**20 07 56.7**	**+1.2**
	108nm,1.2s						
JAGI	**Jajag, Banyuwa**	**7.77**	**103**	P	**Pn**	**20 08 08.2**	**+0.1**
GSI	**Gunungsitoli**	**11.99**	**312**	P	**Pn**	**20 09 05.7**	**-0.2**
PSI	**Prapat**	**12.15**	**321**	LR	LR	20 14 45.5	
	comp=Z,485nm,18.2s,baz=131,slow=43						
CMAR	**Chiang Mai Arr**	**26.15**	**344**	P	**P**	**20 11 48.8**	**-0.7**
	0.4nm,0.5s,baz=177,slow=9.7,SNR=4.1						
CMAR				LR	LR	20 22 01.7	
	comp=Z,46nm,18.8s,baz=170,slow=36 0.4nm,0.5s						
H01W3	**Cape Leeuwin H**	**28.85**	**167**	T	T	20 43 11.4	
	baz=344,slow=76,SNR=4.4						
H01W1	**Cape Leeuwin H**	**28.86**	**167**	T	T	20 42 52.2	
	baz=344,slow=76,SNR=5.4						
H01W2	**Cape Leeuwin H**	**28.86**	**167**	T	T	20 43 12.5	
	baz=344,slow=76,SNR=4.4						
WRA	**Warrnunga Arr**	**30.02**	**119**	P	**P**	**20 12 24.2**	**+0.1**
	0.6nm,0.7s,baz=297,slow=9.9,SNR=2.4 0.6nm,0.7s						
ASAR	**Alice Springs**	**31.22**	**126**	P	**P**	**20 12 35.7**	**+0.9**
	0.9nm,0.8s,baz=305,slow=9.2,SNR=5.1 0.9nm,0.8s						
BRDH	**Bariadhala**	**32.68**	**334**	LR	LR	20 28 44.3	
	comp=Z,148nm,19.9s,baz=181,slow=42						
H08S2	**Diego Garcia H**	**33.75**	**266**	T	T	20 48 41.3	
	baz=92,slow=75,SNR=6.3						
H08S3	**Diego Garcia H**	**33.76**	**266**	T	T	20 48 58.0	
	baz=92,slow=75,SNR=22						
H08S1	**Diego Carcia H**	**33.77**	**266**	T	T	20 48 32.4	
	baz=92,slow=75,SNR=8.8						
STKA	**Stephens Creek**	**41.16**	**132**	P	**P**	**20 13 59.7**	**+0.1**
	4.0nm,0.8s,baz=307,slow=8.4,SNR=6.1 4.0nm,0.8s						
AAK	**Ala-Archa**	**57.15**	**332**	LR	LR	20 45 12.5	
	comp=Z,45nm,18.0s,baz=174,slow=41						
MKAR	**Makanchi Array**	**57.50**	**340**	P	**P**	**20 16 02.6**	**-1.7**
	0.2nm,0.5s,baz=167,slow=7.1,SNR=1.7						
MKAR				LR	LR	20 43 02.1	
	comp=Z,59nm,21.6s,baz=167,slow=38 0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.12**	**220**	T	T	21 22 56.8	
	baz=67,slow=74,SNR=30						
H04N1	**CROZET ISLANDS**	**61.13**	**220**	T	T	21 22 56.7	
	baz=67,slow=74,SNR=49						
H04N3	**CROZET ISLANDS**	**61.13**	**220**	T	T	21 22 27.2	
	baz=67,slow=74,SNR=25						
ZALV	**Zalesovo Beam**	**63.19**	**346**	LR	LR	20 45 15.7	
	comp=Z,29nm,18.5s,baz=140,slow=37						
ARTI	**Arti**	**74.25**	**335**	LR	LR	20 56 18.0	
	comp=Z,25nm,18.3s,baz=152,slow=40						
BRTR	**Keskin Array B**	**81.31**	**312**	P	**P**	**20 18 29.0**	**-2.9**
	0.6nm,0.7s,baz=139,slow=5.9,SNR=4.6 0.6nm,0.7s						
ARCES	**ARCESS Array B**	**93.15**	**340**	LR	LR	21 05 14.0	
	comp=Z,25nm,18.0s,baz=125,slow=38						
SPITS	**Spitsbergen Ar**	**96.61**	**348**	LR	LR	21 08 52.8	
	comp=Z,35nm,19.7s,baz=116,slow=39						
TXAR	**Lajitas Array**	**143.78**	**48**	PKP	**PKPdf**	**20 25 51.4**	**+0.2**
	0.2nm,0.8s,baz=167,slow=2.1,SNR=3.5						

*MOS **20** 20:13:49.8±0.4, 56°21N×164°38E, h16km, mb3.7/1, Error ellipse: s-maj=12.3km s-min=6.8km az=135.7*

*KRSC **20** 20:13:50.9±0.9, 55°99N×164°18E, h15km±18km, ML4.1*

*IDC **20** 20:13:54.5±1.9, 55°00N×164°73E, h0km, mb3.5/3, mbtmp3.7/5, ML3.1/2, MS3.1/1, Error ellipse: s-maj=67.1km s-min=22.5km az=145.0*

ISC 20 20:13:50.0±1.3, 56°21N±0°07×164°42E±0°05, h16km, n66, σ1§48/67, mb3.3/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.90**	**270**	PN	**Pb**	**20 14 05.8**	**-1.3**
KBTR	**Krutoberegovo**	**0.90**	**270**	*i* P	**Pb**	**20 14 05.9**	**-1.3**
KBG	**Krutoberegovo**	**0.96**	**273**	PN	**Pb**	**20 14 06.8**	**-1.4**
KBG	**Krutoberegovo**	**0.96**	**273**	*i* P	**Pb**	**20 14 06.8**	**-1.4**
BKI	**Bering**	**1.34**	**138**	PN	**Pn**	**20 14 14.2**	**+0.3**
BKI				S	**Sn**	**20 14 30.7**	**-0.7**
BKI	**Bering**	**1.34**	**138**	*i* P	**Pn**	**20 14 14.3**	**+0.3**
BKI				*e*S	**Sn**	**20 14 30.7**	**-0.7**
SMKR	**Semkarok**	**1.68**	**284**	PN	**Pn**	**20 14 18.7**	**-0.1**
SMKR				S	**Sn**	**20 14 39.6**	**-0.5**
SMKR	**Semkarok**	**1.68**	**284**	*e*P	**Pn**	**20 14 18.8**	**-0.1**
SMKR				*e*S	**Sn**	**20 14 39.6**	**-0.5**
ZLN	**Zelenaya**	**2.04**	**266**	PN	**Pn**	**20 14 24.5**	**+0.9**
ZLN	**Zelenaya**	**2.04**	**266**	*e*P	**Pn**	**20 14 24.6**	**+0.9**
CIRR	**Tsirk**	**2.06**	**269**	PN	**Pn**	**20 14 25.0**	**+1.0**
CIRR	**Tsirk**	**2.06**	**269**	*e*P	**Pn**	**20 14 25.1**	**+1.0**
KLY	**Klyuchi**	**2.10**	**274**	PN	**Pn**	**20 14 23.5**	**-1.0**
KLY				S	**Sn**	**20 14 47.7**	**-2.6**
KLY	**Klyuchi**	**2.10**	**274**	*e*P	**Pn**	**20 14 23.5**	**-1.0**
KLY				*e*S	**Sn**	**20 14 47.8**	**-2.6**
BZWR	**Bezymyannyi-We**	**2.21**	**265**	PN	**Pn**	**20 14 26.1**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.21**	**265**	*e*P	**Pn**	**20 14 26.2**	**-0.1**
MKZ	**Mys Kozlova**	**2.26**	**224**	PN	**Pn**	**20 14 26.3**	**-0.3**
MKZ	**Mys Kozlova**	**2.26**	**224**	*e*P	**Pn**	**20 14 26.3**	**-0.3**
KIRR	**Kirishev**	**2.30**	**265**	PN	**Pn**	**20 14 28.3**	**+1.0**
KIRR	**Kirishev**	**2.30**	**265**	*e*P	**Pn**	**20 14 28.4**	**+1.0**
KPT	**Kopyto**	**2.37**	**266**	PN	**Pn**	**20 14 29.5**	**+1.3**
KPT	**Kopyto**	**2.37**	**266**	*e*P	**Pn**	**20 14 29.6**	**+1.3**
KMNR	**Kamenistaya**	**2.40**	**261**	PN	**Pn**	**20 14 29.5**	**+0.9**
KMNR	**Kamenistaya**	**2.40**	**261**	*e*P	**Pn**	**20 14 29.6**	**+0.9**
TUMD	**Tumrok D**	**2.49**	**248**	PN	**Pn**	**20 14 30.2**	**+0.

KARP	**Karpathos**	**0.77**	**212**	Pg		**Pg**	**20 15 03.4**	**-0.2**
KARP				Sg		**Sg**	**20 15 14.9**	**+1.3**
KARP	**Karpathos**	**0.77**	**212**	P		**Pg**	**20 15 03.8**	**+0.1**
KARP				S		**Sb**	**20 15 15.9**	**+0.3**
KARP	**Karpathos**	**0.77**	**212**	P		**Pg**	**20 15 02.9**	**-0.8**
YKAV	**Yalikavak-Bodr**	**0.97**	**342**	Pg		**Pg**	**20 15 07.3**	**-0.1**
YKAV				Sg		**Sb**	**20 15 21.4**	**+0.1**
MULA	**Mugla, Merkez-**	**1.18**	**27**	P		**Pn**	**20 15 12.3**	**+0.1**
MULA				S		**Sg**	**20 15 25.6**	**-1.1**
SABU	**Mula-Dalaman**	**1.22**	**59**	P		**Pg**	**20 15 11.2**	**-1.0**
SABU				S		**Sg**	**20 15 26.2**	**-1.9**
IZZE	**Mula-Seydike**	**1.28**	**79**	P		**Pn**	**20 15 12.5**	**-1.1**
IZZE				S		**Sn**	**20 15 31.5**	**+0.3**
IZZE				*i* IAML			20 15 40.0	
	comp=N,248nm,0.4s							
CAME	**Cameli-Denizli**	**1.51**	**60**	Pn		**Pn**	**20 15 16.5**	**-0.3**
DNZT	**Denizli-Tavas-**	**1.53**	**45**	P		**Pn**	**20 15 17.1**	**+0.1**
DNZT				S		**Sn**	**20 15 37.3**	**-0.2**
KSL	**Kastellorizon**	**1.56**	**91**	P		**Pn**	**20 15 17.3**	**0.0**
KSL				S		**Sg**	**20 15 39.0**	**+0.2**
ZKR	**Zakros**	**1.60**	**228**	Pn		**Pn**	**20 15 17.9**	**0.0**
ZKR				Sn		**Sb**	**20 15 39.8**	**+0.3**
ZKR	**Zakros**	**1.60**	**228**	P		**Pn**	**20 15 16.6**	**-1.3**
TAVA	**DENIZLI_Tavas**	**1.61**	**38**	P		**Pn**	**20 15 18.7**	**+0.5**
TAVA				S		**Sn**	**20 15 38.6**	**-0.9**
CAEL	**Denizli, Camel**	**1.62**	**55**	P		**Pg**	**20 15 19.9**	**0.0**
CAEL				S		**Sg**	**20 15 42.0**	**+1.0**
CAEL				*i* IAML			20 15 47.0	
	comp=N,136nm,0.5s							
CAEL				*i* IAML			20 15 50.0	
	comp=E,184nm,0.6s							
SMG	**Samos**	**1.64**	**337**	P		**Pn**	**20 15 18.6**	**+0.2**
SMG				S		**Sg**	**20 15 41.9**	**+0.4**
SMG	**Samos**	**1.64**	**337**	P		**Pn**	**20 15 16.3**	**-2.2**
KNIK	**Mula-Seydike**	**1.67**	**67**	P		**Pb**	**20 15 20.4**	**+0.2**
KNIK				S		**Sg**	**20 15 42.6**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**6**	Pn		**Pn**	**20 15 19.9**	**-0.2**
APMY	**Acipayam-Deniz**	**1.83**	**46**	Pn		**Pn**	**20 15 21.7**	**+0.6**
NAZL	**Nazilli-Aydin**	**1.83**	**16**	Pn		**Pn**	**20 15 20.9**	**-0.2**
GOLH	**Golhisar**	**1.84**	**55**	P		**Pn**	**20 15 22.3**	**+0.9**
GOLH				S		**Sg**	**20 15 48.0**	**-0.1**
GOLH				*i* IAML			20 15 51.0	
	comp=N,135nm,0.4s							
GOLH				*i* IAML			20 15 51.0	
	comp=E,98nm,0.5s							
ODEM	**Odemis-Izmir**	**2.10**	**9**	Pn		**Pn**	**20 15 24.9**	**+0.1**
INCE	**Denizli-Bozkur**	**2.15**	**45**	P		**Pn**	**20 15 26.8**	**+1.3**
INCE				S		**Sb**	**20 15 56.3**	**+0.9**
INCE				*i* IAML			20 15 58.0	
	comp=N,110nm,0.5s							
BLCB	**Balcova**	**2.23**	**347**	Pn		**Pn**	**20 15 26.8**	**+0.2**
KULA	**Kula-Manisa**	**2.44**	**19**	Pn		**Pn**	**20 15 29.8**	**+0.3**
GORD	**Gordes-Manisa**	**2.73**	**8**	Pn		**Pn**	**20 15 34.0**	**+0.5**

IDC 20 20:21:37.4±8.4, 4°.17N×94°.23E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=411.9km s-min=24.6km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**24.66**	**242**	T	T	20 53 12.7	
	baz=62						
H08S3	**Diego Garcia H**	**24.66**	**242**	T	T	20 53 20.2	
	baz=62						
H08S1	**Diego Carcia H**	**24.68**	**242**	T	T	20 53 17.1	
	baz=62						
MKAR	**Makanchi Array**	**43.70**	**348**	P	P	20 29 44.7	+0.4
	0.2nm,0.3s,baz=161,slow=8.1,SNR=7.8 0.2nm,0.3s						
WRA	**Warramunga Arr**	**46.12**	**123**	P	P	20 30 03.5	-0.4
	0.2nm,0.3s,baz=301,slow=8.1,SNR=1.2 0.2nm,0.3s						
ASAR	**Alice Springs**	**47.54**	**127**	P	P	20 30 15.1	+0.1
	0.4nm,0.9s,baz=300,slow=8.5,SNR=1.8 0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**48.14**	**347**	P	P	20 30 18.7	-0.5
	0.3nm,0.4s,baz=149,slow=7.8,SNR=3.1 0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**50.22**	**353**	P	P	20 30 34.6	-0.5
	0.4nm,0.4s,baz=173,slow=12,SNR=2.2 0.4nm,0.4s						
H04N2	**CROZET ISLANDS**	**62.63**	**212**	T	T	21 40 37.8	
	baz=49						
H04N1	**CROZET ISLANDS**	**62.64**	**212**	T	T	21 40 46.2	
	baz=49						
H04N3	**CROZET ISLANDS**	**62.65**	**212**	T	T	21 40 42.5	
	baz=49						

DJA 20 20:28:55.6±0.2, 7°S±2°×107°E±°, h10km, M4.0/17, mB5.7/1, mb4.5/1, MLv3.8/17, Mw(mB)5.2/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.21**	**176**	P	Pg	20 29 00.5	+0.4
SKJI				S	Sg	20 29 04.0	+0.9
DBJI	**Dramaga**	**0.31**	**42**	P	Pg	20 29 01.5	-0.4
DBJI				S	Sg	20 29 06.8	+0.7
CNJI	**Cibinong**	**0.78**	**131**	P	Pg	20 29 10.1	-0.6
SBJI	**Serang**	**0.78**	**329**	P	Pg	20 29 09.5	-1.2
CGJI	**Cibinong**	**0.86**	**282**	P	Pg	20 29 11.1	-1.1
LEM	**Lembang**	**1.07**	**92**	P	Pn	20 29 17.2	+0.4
BLSI	**Bandar Lampung**	**1.91**	**318**	P	Pn	20 29 28.3	0.0
KASI	**Kota Agung**	**2.39**	**302**	P	Pn	20 29 35.0	+0.2
KPJI	**Karang Pucung**	**2.43**	**103**	P	Pn	20 29 36.5	+1.1
KLI	**Kotabumi**	**2.54**	**319**	P	Pn	20 29 38.7	+1.7
LWLI	**Liwa**	**3.03**	**305**	P	Pn	20 29 44.5	+0.7
MDSI	**Maura Dua**	**3.28**	**314**	P	Pn	20 29 48.0	+0.9
TPI	**Tanjungpandan**	**4.16**	**16**	P	Pn	20 29 59.4	+0.2
LHSI	**Lahat**	**4.21**	**314**	P	Pn	20 30 00.3	+0.5
PCJI	**Pacitan**	**4.80**	**107**	P	Pn	20 30 07.9	-0.2
KSI	**Kapahiang**	**5.02**	**308**	P	Pn	20 30 10.7	-0.4
KMMI	**Kalianget**	**7.38**	**92**	P	Pn	20 30 42.1	-1.4

*NEIC **20** 20:33:49.7±1.7, 41°.11N±0°.04×112°.79W±0°.04, h0km±1km, ML1.9/34, Error ellipse: s-maj=8.0km s-min=4.6km az=208.0*
*IDC **20** 20:33:53.0±1.8, 41°.09N×112°.65W, h0km, mbtmp1.8/1, ML2.7/1, Error ellipse: s-maj=107.7km s-min=11.1km az=146.0*
ISC 20 20:33:50.3±1.0, 41°.11N±0°.03×112°.81W±0°.04, h0km, n22, σ0s93/22, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.25**	**223**		**Pg**	**20 33 55.5**	**+0.5**
BGU				IAML		20 34 03.5	
	comp=E,189nm,0.4s						
HVU	**Hansel Valley**	**0.67**	**2**		**Pg**	**20 34 03.5**	**+0.2**
HVU				IAML		20 34 20.5	
	comp=E,56nm,0.4s						
HVU				IAML		20 34 21.0	
	comp=N,91nm,0.4s						
CTU	**Camp Tracy**	**0.90**	**117**		**Pb**	**20 34 09.2**	**+0.2**
CTU				IAML		20 34 27.4	
	comp=E,34nm,0.6s						
DUG	**Dugway, Tooele**	**0.91**	**180**		**Pg**	**20 34 08.2**	**+0.5**
DUG				IAML		20 34 25.1	
	comp=E,34nm,0.5s						
DUG				IAML		20 34 30.0	
	comp=E,60nm,0.5s						
TCUT	**Toone Canyon**	**1.06**	**89**		**Pn**	**20 34 12.8**	**+0.2**
HWUT	**Hardware Ranch**	**1.06**	**61**		**Pb**	**20 34 11.7**	**0.0**
HWUT				IAML		20 34 36.4	
	comp=E,27nm,0.4s						
JLU	**Jordanelle**	**1.15**	**116**		**Pn**	**20 34 14.0**	**+0.1**
BSUT	**Blindstream Ca**	**1.65**	**109**		**Pb**	**20 34 21.7**	**-0.2**
ELK	**Elko**	**1.88**	**260**		**Pn**	**20 34 23.9**	**+0.1**
ELK				IAML		20 34 54.4	
	comp=E,8.8nm,0.4s						
AHID	**Auburn Hatcher**	**2.09**	**37**		**Pn**	**20 34 26.9**	**+0.1**
TMUT	**Trail Mountain**	**2.18**	**145**		**Pn**	**20 34 28.1**	**-0.1**
TMUT				IAML		20 35 10.2	
	comp=N,10nm,0.7s						
TMUT				IAML		20 35 11.4	
	comp=E,11nm,0.6s						
SPR3	**Spring Creek 3**	**2.41**	**210**		**Pn**	**20 34 31.9**	**+0.7**
SPR3				IAML		20 35 15.2	
	comp=N,5.8nm,0.8s						
SPR3				IAML		20 35 23.2	
	comp=E,5.8nm,1.2s						

PSUT	**Pine Spring**	**2.69**	**198**			**Pn**	**20 34 35.5**	**+0.4**
PSUT					IAML		20 35 31.1	
	comp=E,5.5nm,0.6s							
PSUT					IAML		20 35 52.1	
	comp=N,4.7nm,2.8s							
HLID	**Hailey**	**2.73**	**335**			**Pn**	**20 34 36.0**	**+0.4**
HLID					IAML		20 35 22.9	
	comp=N,4.1nm,0.7s							
HLID					IAML		20 35 39.4	
	comp=N,4.7nm,4.3s							
PD31	**Pinedale Array**	**2.94**	**55**			**Pn**	**20 34 38.3**	**-0.1**
PDAR	**Pinedale Array**	**2.94**	**55**			**Pn**	**20 34 39.5**	**+1.1**
PDAR	**Pinedale Array**	**2.94**	**55**	Pn		**Pn**	**20 34 40.2**	**+1.7**
	comp=N,0.1nm,0.3s,baz=236,slow=10,SNR=2.3							
PDAR				Pg		**Pg**	**20 34 45.5**	**-1.2**
	comp=N,1.0nm,0.3s,baz=238,slow=15,SNR=12							
PDAR				Lg		Lg	20 35 24.8	
	comp=N,1.3nm,0.3s,baz=231,slow=25,SNR=8.2 comp=N,0.2nm,0.3s							
MFID	**Camas Ranch**	**3.22**	**317**	Pn		**Pn**	**20 34 43.2**	**+1.0**
MFID					IAML		20 35 36.4	
	comp=N,5.1nm,0.9s							
R11B	**Troy Canyon, C**	**3.49**	**219**			**Pn**	**20 34 47.2**	**+1.2**
R11B					IAML		20 35 49.4	
	comp=N,3.2nm,0.5s							
MCMT	**McKenzie Canyo**	**3.72**	**360**			**Pn**	**20 34 50.0**	**+0.8**
NVAR	**Mina Array Bea**	**5.01**	**240**	Pg		**Pg**	**20 35 23.7**	**-2.5**
	comp=N,0.3nm,0.3s,baz=52,slow=17,SNR=3.6							
NVAR				Lg		Lg	20 36 30.1	
	comp=N,0.4nm,0.3s,baz=58,slow=29,SNR=5.2							
I56US	**NEWPORT INFRAS**	**7.79**	**338**	I		I	21 20 00.0	
	comp=N,0.2nm,1.3s,baz=162,slow=308,SNR=5.6							

*TAP **20** 20:39:13.0, 23°.73N×121°.51E, h6km, ML3.6, B*
*JMA **20** 20:39:12.9±0.1, 23°.7N±0°.5×12°2E±°, h4km, MV3.1/13, TAIWAN REGION*
ISC 20 20:39:13.3±0.8, 23°.71N±0°.01×121°.58E±0°.02, h9km±4km, n138, σ0s74/230, 3C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03**	**265**	⇑*i*P	**Pg**	**20 39 14.8**	**-0.2**
TEGC				S	**Sg**	**20 39 16.5**	**+0.2**
SHUL	**Shoufeng**	**0.08**	**351**	⇑*i*P	**Pg**	**20 39 15.5**	**0.0**
SHUL				S	**Sg**	**20 39 17.6**	**+0.5**
EGFH	**Guangfu**	**0.14**	**253**	*e*P	**Pg**	**20 39 15.8**	**-0.7**
EGFH				*e*S	**Sg**	**20 39 17.3**	**-1.4**
TEYL	**Yanliau Villag**	**0.16**	**7**	*e*P	**Pg**	**20 39 18.0**	**+1.3**
TEYL				*e*S	**Sg**	**20 39 22.1**	**+3.1**
ESL	**Shilin**	**0.17**	**308**	⇓*i*P	**Pg**	**20 39 15.7**	**-1.2**
ESL				S	**Sg**	**20 39 17.5**	**-1.8**
WARBT	**Fenglin Townsh**	**0.17**	**272**	⇓*i*P	**Pg**	**20 39 15.7**	**-1.3**
WARBT				S	**Sg**	**20 39 17.7**	**-1.8**
HGSD	**Ruisui**	**0.26**	**213**	*e*P	**Pb**	**20 39 19.6**	**-0.5**
HGSD				*e*S	**Sg**	**20 39 23.1**	**+1.1**
ETM	**Tongmen**	**0.26**	**343**	⇓*i*P	**Pg**	**20 39 18.0**	**-0.6**
ETM				*e*S	**Sg**	**20 39 21.2**	**-1.0**
HWA	**Hwalien**	**0.27**	**6**	*e*P	**Pb**	**20 39 19.4**	**-0.8**
HWA				S	**Sb**	**20 39 23.8**	**-1.0**
EHYH	**Wanrong**	**0.30**	**224**	*e*P	**Pg**	**20 39 19.1**	**-0.2**
EHYH				*e*S	**Sg**	**20 39 24.6**	**+1.2**
EHY	**Hungye**	**0.31**	**229**	⇓P	**Pg**	**20 39 19.0**	**-0.4**
EHY				*e*S	**Sg**	**20 39 23.4**	**-0.3**
TWD	**Chiawan**	**0.37**	**3**	⇑P	**Pg**	**20 39 20.4**	**-0.1**
TWD				*e*S	**Sg**	**20 39 25.6**	**+0.2**
YULB	**Yu-li**	**0.41**	**219**	P	**Pg**	**20 39 21.6**	**+0.3**
YULB	**Yu-li**	**0.41**	**219**	*e*P	**Pg**	**20 39 21.2**	**0.0**
YULB				*e*S	**Sg**	**20 39 26.7**	**+0.1**
ECBN	**Changbin**	**0.41**	**196**	*e*P	**Pb**	**20 39 22.5**	**-0.1**
ECBN				*e*S	**Sg**	**20 39 27.3**	**+0.6**
EYUL	**Yuli**	**0.43**	**213**	*e*P	**Pb**	**20 39 22.6**	**-0.4**
EYUL				*e*S	**Sg**	**20 39 28.3**	**+0.8**
OWD	**Renai**	**0.44**	**303**	⇓P	**Pg**	**20 39 20.9**	**-1.0**
OWD				*e*S	**Sg**	**20 39 26.6**	**-1.1**
TWF1	**Yuli**	**0.44**	**216**	*e*P	**Pg**	**20 39 22.2**	**+0.3**
TWF1				*e*S	**Sb**	**20 39 28.8**	**-1.1**
ETL	**Fush Village**	**0.45**	**5**	*e*P	**Pg**	**20 39 21.9**	**-0.1**
NACB	**Ninganchiao**	**0.46**	**2**	P	**Pg**	**20 39 21.8**	**-0.4**
NACB	**Ninganchiao**	**0.46**	**2**	S	**Sg**	**20 39 27.9**	**-0.5**
NACB	**Ninganchiao**	**0.46**	**2**	⇓P	**Pg**	**20 39 21.9**	**-0.4**
NACB				*e*S	**Sg**	**20 39 28.8**	**+0.4**
ETLH	**Xiulin Townshi**	**0.50**	**350**	⇓P	**Pg**	**20 39 22.5**	**-0.5**
ETLH				*e*S	**Sb**	**20 39 30.8**	**-0.9**
WUSB	**Renai**	**0.50**	**304**	⇓P	**Pg**	**20 39 22.4**	**-0.7**
WUSB				*e*S	**Sg**	**20 39 28.6**	**-1.2**
WHF	**Hehuan Shan**	**0.52**	**327**	⇓*i*P	**Pg**	**20 39 22.5**	**-0.9**
CHKH	**Chenggong**	**0.54**	**198**	*e*P	**Pb**	**20 39 25.6**	**+0.6**
FULB	**Fuli**	**0.57**	**207**	*e*P	**Pb**	**20 39 25.7**	**+0.3**
FULB				*e*S	**Sg**	**20 39 32.5**	**+0.5**
SSLB	**Suanglung**	**0.57**	**278**	P	**Pg**	**20 39 23.4**	**-1.0**
SSLB	**Suanglung**	**0.57**	**278**	S	**Sg**	**20 39 31.2**	**-0.8**
SSLB	**Suanglung**	**0.57**	**278**	⇓*i*P	**Pg**	**20 39 23.5**	**-1.0**
SSLB				*e*S	**Sg**	**20 39 30.5**	**-1.5**
FUSS	**Fushou**	**0.61**	**330**	⇓P	**Pg**	**20 39 24.7**	**-0.6**
FUSS				*e*S	**Sb**	**20 39 34.6**	**-0.6**
EAHA	**Aohua**	**0.63**	**14**	*i* P	**Pg**	**20 39 25.4**	**-0.1**
EAHA				*e*S	**Sb**	**20 39 35.2**	**-0.2**
CHKT	**Chengkung**	**0.64**	**198**	P	**Pb**	**20 39 26.6**	**0.0**
CHKT				*e*S	**Sb**	**20 39 36.5**	**+0.9**
SMLT	**Sun Moon Lake**	**0.64**	**286**	*e*P	**Pg**	**20 39 25.1**	**-0.6**
SMLT				S	**Sg**	**20 39 34.7**	**+0.6**
TWT	**Tachien**	**0.65**	**326**	*e*P	**Pg**	**20 39 25.7**	**-0.2**
TWT				*e*S	**Sg**	**20 39 35.0**	**+0.5**
EHD	**Haiduan**	**0.66**	**211**	*e*P	**Pg**	**20 39 25.5**	**-0.4**
EHD				*e*S	**Sg**	**20 39 34.7**	**+0.2**
TDCB	**Techi**	**0.66**	**325**	*i* P	**Pg**	**20 39 25.5**	**-0.6**
TDCB				*e*S	**Sg**	**20 39 33.1**	**-1.7**
WHYT	**Xinyi Township**	**0.66**	**269**	*e*P	**Pg**	**20 39 26.0**	**-0.1**
WHYT				*e*S	**Sg**	**20 39 34.2**	**-0.6**
ECS	**Chishang**	**0.70**	**208**	*e*P	**Pb**	**20 39 26.9**	**-0.7**
ECS				*e*S	**Sg**	**20 39 36.5**	**+0.7**
WCS	**Beigang Elemen**	**0.70**	**300**	P	**Pg**	**20 39 26.6**	**-0.2**
WCS				*e*S	**Sg**	**20 39 36.3**	**+0.4**
ENA	**Nanau**	**0.73**	**12**	P	**Pg**	**20 39 27.2**	**-0.2**
ENA				*e*S	**Sb**	**20 39 38.5**	**+0.3**
ELDTW	**Lidau**	**0.73**	**225**	*e*P	**Pg**	**20 39 26.9**	**-0.5**
ELDTW				*e*S	**Sg**	**20 39 37.4**	**+0.4**
ALS	**Alishan**	**0.73**	**254**	*e*P	**Pg**	**20 39 27.5**	**0.0**
ALS				*i* S	**Sg**	**20 39 37.4**	**+0.3**
NNSB	**Datong**	**0.73**	**346**	⇓P	**Pg**	**20 39 27.0**	**-0.5**
NNSB				*e*S	**Sb**	**20 39 38.4**	**-0.1**
EWUT	**Wuta**	**0.75**	**14**	*e*P	**Pg**	**20 39 27.6**	**-0.3**
EWUT				*e*S	**Sb**	**20 39 39.2**	**+0.3**
EDH	**Donghe**	**0.78**	**199**	*e*P	**Pb**	**20 39 28.4**	**-0.5**
WJS	**Zhushan**	**0.79**	**278**	*e*P	**Pb**	**20 39 29.2**	**+0.2**
WJS				*e*S	**Sb**	**20 39 40.3**	**+0.5**
EOS4	**EOS4**	**0.79**	**59**	*e*P	**Pb**	**20 39 28.9**	**0.0**
WHP	**Taichung City**	**0.81**	**314**	*e*P	**Pg**	**20 39 28.6**	**-0.3**
WHP				*e*S	**Sg**	**20 39 39.1**	**-0.3**
LATG	**Datong**	**0.82**	**357**	*e*P	**Pb**	**20 39 29.0**	**-0.7**
LATG				*e*S	**Sb**	**20 39 41.1**	**+0.1**
CHN5	**Tsauling**	**0.83**	**262**	*e*P	**Pb**	**20 39 29.8**	**-0.1**
CHN5				*e*S	**Sg**	**20 39 39.7**	**-0.4**
WNT	**Mingjian**	**0.83**	**282**	*e*P	**Pb**	**20 39 30.3**	**+0.4**
WNT				*e*S	**Sb**	**20 39 41.7**	**+0.5**
EOS3	**EOS3**	**0.89**	**50**	*e*P	**Pn**	**20 39 32.4**	**+0.6**
ESAO	**Su ao**	**0.89**	**16**	*e*P	**Pb**	**20 39 30.5**	**-0.4**
ESAO				*e*S	**Sb**	**20 39 43.2**	**+0.2**
LONT	**Longtian**	**0.90**	**207**	*e*P	**Pb**	**20 39 30.6**	**-0.4**
STYH	**Taoyuan**	**0.91**	**234**	*e*P	**Pg**	**20 39 30.5**	**-0.3**
ENTT	**Nioudou**	**0.92**	**359**	P	**Pb**	**20 39 31.1**	**-0.3**
ENTT				*e*S	**Sb**	**20 39 43.6**	**-0.3**
EOS2	**EOS2**	**0.93**	**40**	*e*P	**Pn**	**20 39 32.1**	**-0.1**
TWC	**Suao**	**0.93**	**16**	*e*P	**Pb**	**20 39 31.3**	**-0.2**
TWC				*e*S	**Sb**	**20 39 43.9**	**0.0**
WGK	**Gukeng**	**0.93**	**269**	*e*P	**Pb**	**20 39 31.8**	**+0.3**
WGK				*e*S	**Sb**	**20 39 44.8**	**+0.8**
TCU	**Taichung**	**0.93**	**298**	*e*P	**Pb**	**20 39 32.2**	**+0.6**
TCU				*e*S	**Sb**	**20 39 44.8**	**+0.8**
WCKO	**Fanlu**	**0.93**	**253**	*e*P	**Pg**	**20 39 31.1**	**-0.1**
WCKO				*e*S	**Sg**	**20 39 43.0**	**-0.3**
WDL	**Douliou City**	**0.95**	**270**	*e*P	**Pb**	**20 39 32.0**	**+0.1**
WDLH	**Douliu**	**0.95**	**269**	P	**Pb**	**20 39 32.4**	**+0.4**
WDLH				*e*S	**Sn**	**20 39 46.6**	**+0.1**
TPUB	**Ta-pu**	**0.96**	**245**	P	**Pb**	**20 39 32.5**	**+0.4**
TPUB	**Ta-pu**	**0.96**	**245**	*e*P	**Pb**	**20 39 32.5**	**+0.4**
CHN4	**Tsaushan**	**0.97**	**249**	*e*P	**Pb**	**20 39 32.3**	**0.0**
CHN4				*e*S	**Sg**	**20 39 44.9**	**+0.3**
YHNB	**Yeheng**	**0.97**	**349**	P	**Pb**	**20 39 31.9**	**-0.4**
YHNB	**Yeheng**	**0.97**	**349**	S	**Sg**	**20 39 44.5**	**-0.1**

YHNB	**Yeheng**	**0.97**	**349**	*e*P		**Pg**	**20 39 31.7**	**-0.2**
YHNB				*e*S		**Sb**	**20 39 44.8**	**-0.5**
WTP	**Ta-pu**	**1.00**	**243**	*e*P		**Pb**	**20 39 32.9**	**+0.2**
WTP				*e*S		**Sb**	**20 39 46.2**	**+0.2**
TWGBT	**Beinan**	**1.00**	**207**	P		**Pb**	**20 39 33.0**	**+0.3**
TWGBT	**Beinan**	**1.00**	**207**	*e*P		**Pg**	**20 39 32.0**	**-0.5**
TWGBT				*e*S		**Sb**	**20 39 46.0**	**0.0**
TWG	**Pinlang**	**1.00**	**208**	*e*P		**Pg**	**20 39 30.6**	**-1.9**
TWG				*e*S		**Sb**	**20 39 45.8**	**-0.2**
WCHH	**Zhanghua**	**1.00**	**292**	*e*P		**Pb**	**20 39 32.7**	**0.0**
WCHH				*e*S		**Sg**	**20 39 45.2**	**-0.3**
NFF	**Wufeng Townshi**	**1.01**	**336**	*e*P		**Pb**	**20 39 32.7**	**-0.2**
NFF				*e*S		**Sb**	**20 39 46.6**	**+0.3**
TWE	**Neicheng**	**1.01**	**5**	*e*P		**Pb**	**20 39 32.8**	**-0.1**
TWE				*e*S		**Sb**	**20 39 47.2**	**+0.9**
CHN2	**Minshiung**	**1.03**	**260**	*e*P		**Pb**	**20 39 33.5**	**+0.3**
CHN2				*e*S		**Sn**	**20 39 48.4**	**+0.1**
TTN	**Taitung**	**1.03**	**203**	*e*P		**Pg**	**20 39 32.4**	**-0.7**
TTN				*e*S		**Sb**	**20 39 47.4**	**+0.5**
LDUT	**Ludao**	**1.04**	**185**	*e*P		**Pg**	**20 39 32.6**	**-0.6**
LDUT				*e*S		**Sg**	**20 39 46.6**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.04**	**1**	*e*P		**Pb**	**20 39 33.2**	**-0.3**
FUSB				*e*S		**Sb**	**20 39 47.6**	**+0.2**
NSTT	**Nanjuang**	**1.05**	**330**	*e*P		**Pb**	**20 39 34.0**	**+0.3**
NSTT				S		**Sb**	**20 39 48.1**	**+0.5**
ILA	**Ilan**	**1.06**	**8**	*e*P		**Pn**	**20 39 34.1**	**-0.1**
ILA				*e*S		**Sb**	**20 39 48.4**	**+0.6**
LIOB	**Emei**	**1.06**	**331**	*e*P		**Pb**	**20 39 33.9**	**+0.1**
NWLT	**Wulai**	**1.06**	**356**	*e*P		**Pb**	**20 39 33.5**	**-0.4**
NWLT				*i* S		**Sb**	**20 39 47.8**	**-0.1**
WDJ	**Dajia District**	**1.06**	**307**	*e*P		**Pn**	**20 39 34.4**	**+0.1**
WDJ				*e*S		**Sg**	**20 39 47.9**	**+0.3**
CHY	**Chiayi**	**1.08**	**259**	*e*P		**Pb**	**20 39 34.2**	**+0.2**
CHY				*e*S		**Sb**	**20 39 49.2**	**+1.0**
WTK	**Tuku**	**1.09**	**269**	*e*P		**Pn**	**20 39 35.2**	**+0.5**
WTK				*e*S		**Sg**	**20 39 48.5**	**+0.1**
NMLH	**Miaoli**	**1.09**	**319**	*e*P		**Pb**	**20 39 34.6**	**+0.3**
NMLH				*e*S		**Sn**	**20 39 50.2**	**+0.3**
TWK	**Hsinying**	**1.09**	**246**	P		**Pg**	**20 39 34.1**	**-0.1**
TWK				*e*S		**Sb**	**20 39 49.5**	**+0.8**
CHN1	**Nanshi**	**1.10**	**242**	*e*P		**Pb**	**20 39 34.8**	**+0.4**
CHN1				*e*S		**Sb**	**20 39 49.6**	**+0.8**
SNST	**Tainan City**	**1.10**	**244**	*e*P		**Pb**	**20 39 34.7**	**+0.1**
SNST				*e*S		**Sn**	**20 39 50.4**	**+0.2**
KSHI	**Guanxi Townshi**	**1.12**	**341**	*e*P		**Pn**	**20 39 35.8**	**+0.7**
KSHI				*e*S		**Sb**	**20 39 49.6**	**+0.1**
EGS		**1.17**	**16**	*e*P		**Pn**	**20 39 36.1**	**+0.3**
WTCT	**Ta-ch'eng**	**1.20**	**278**	*e*P		**Pg**	**20 39 34.9**	**-1.3**
WTCT				*e*S		**Sb**	**20 39 52.2**	**+0.6**
HSN	**Hsinchu**	**1.22**	**333**	*e*P		**Pn**	**20 39 37.9**	**+1.5**
HSN				*e*S		**Sn**	**20 39 53.9**	**+0.8**
WSF	**Szhu**	**1.24**	**267**	*e*P		**Pg**	**20 39 36.7**	**-0.4**
WSF				*e*S		**Sb**	**20 39 53.8**	**+0.8**
ECL	**Taimali**	**1.25**	**207**	*e*P		**Pn**	**20 39 37.4**	**+0.6**
WSL	**Shuilin Townsh**	**1.25**	**262**	*e*P		**Pg**	**20 39 36.9**	**-0.4**
WSL				S		**Sn**	**20 39 55.5**	**+1.7**
TATO	**Taipei**	**1.26**	**356**	P		**Pn**	**20 39 37.5**	**+0.5**
TWA	**Mucha**	**1.26**	**0**	*e*P		**Pn**	**20 39 37.6**	**+0.5**
TWA				*e*S		**Sb**	**20 39 53.9**	**+0.3**
TIPB	**Shuangxi**	**1.27**

DGZ	**Jazzator, Alta**	**3.94**	**44**	Pn	**Pb**	**21 29 02.2**	**-3.8**
DGZ				Pg	**Pg**	**21 29 14.8**	**+2.4**
DGZ				S	**Sn**	**21 29 47.6**	**+5.1**
DGZ				Sg	**Sg**	**21 30 03.9**	**+0.4**
SEM	**Semipalatinsk**	**4.01**	**331**	Pg	Pg	21 29 20.3	+6.5
	2.6nm,0.2s						
SEM				Lg	Lg	21 30 19.4	
	14nm,0.3s						
SEM	**Semipalatinsk**	**4.01**	**331**	*e*P	**Pg**	**21 29 13.8**	**-0.1**
	1.6nm,0.2s						
SEM				*e*S	**Sg**	**21 30 07.9**	**+2.1**
	4.1nm,0.1s						
UKR	**Ust'-Kan**	**4.14**	**14**	Pn	**Pb**	**21 29 07.1**	**-2.3**
UKR				S	**Sb**	**21 29 56.3**	**-2.8**
UKR				Sg	**Sg**	**21 30 11.2**	**+1.3**
AKAR	**Aktash**	**4.47**	**39**	Pn	**Pb**	**21 29 10.5**	**-4.5**
AKAR				Pg	**Pg**	**21 29 23.2**	**+0.7**
AKAR				S	**Sn**	**21 29 56.9**	**+1.4**
AKAR				Sg	**Sg**	**21 30 21.0**	**+0.6**
PDGK	**Podgornoye**	**4.47**	**218**	⇑Pg	**Pb**	**21 29 15.7**	**+0.7**
	1.8nm,0.7s						
PDGK				⇑Lg	Lg	21 30 13.2	
	12nm,0.7s						
SHLS	**Shalkode**	**4.62**	**217**	Pg	**Pb**	**21 29 15.4**	**-2.2**
	1.2nm,0.2s						
SHLS				Lg	Lg	21 30 11.3	
	6.9nm,0.3s						
SHLS	**Shalkode**	**4.62**	**217**	*e*P	**Pb**	**21 29 15.4**	**-2.2**
	1.2nm,0.2s						
SHLS				*e*S	**Sb**	**21 30 11.3**	**-1.7**
	6.9nm,0.3s						
CUR	**Chagan-Uzun**	**4.65**	**45**	Pg	**Pg**	**21 29 24.1**	**-1.9**
CUR				S	**Sb**	**21 30 09.6**	**-4.2**
CUR				Sg	**Sg**	**21 30 27.0**	**+0.8**
ELDR	**Elanda**	**4.69**	**22**	Pg	**Pg**	**21 29 25.6**	**-1.1**
ELDR				S	**Sn**	**21 30 05.8**	**+5.1**
ELDR				Sg	**Sg**	**21 30 29.0**	**+1.7**
ULGR	**Ulagan, Altay**	**4.84**	**38**	Pg	**Pg**	**21 29 29.4**	**-0.3**
ULGR				Sg	**Sg**	**21 30 32.3**	**0.0**
KURK	**Kurchatov**	**4.87**	**323**	Pg	**Pg**	**21 29 29.0**	**-1.2**
KURK				Sg	**Sg**	**21 30 35.8**	**+2.6**
SATY	**Saty**	**5.17**	**223**	Pg	**Pb**	**21 29 29.6**	**+2.6**
	0.6nm,0.1s						
SATY				Lg	Lg	21 30 35.3	
	6.0nm,0.3s						
ARTR	**Artybash**	**5.54**	**27**	Sg	**Sg**	**21 30 57.8**	**+2.9**
YALR	**Yailyu, Altay**	**5.62**	**29**	Sg	**Sg**	**21 30 59.0**	**+1.6**
TEL	**Teeli**	**6.14**	**46**	Sg	**Sg**	**21 31 14.1**	**0.0**

*JMA **20** 23:04:08.5±0.4, 44˚N±2˚×14˚8E±˚, h19km, MV3.5/10, SE OFF ETOROFU*
*SKHL **20** 23:04:13.2±0.2, 44˚.00N×148˚.10E, h60km±5km, mb4.1/3*
ISC 20 23:04:09.7±3.5, **43˚.9N**±0˚.2×**148˚.3E**±0˚.2, **h71**km±45km, **n7, σ1§53/13, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.03**	**271**	*i* P	**Pn**	**23 04 30.1**	**+1.5**
SHO				AMB	AMB	23 04 31.8	
	50nm,0.2s						
SHO				*e*S	**Sn**	**23 04 42.0**	**-0.7**
SHO				A	A	23 04 45.8	
	260nm,0.3s						
SHO				A	A	23 04 45.8	
	170nm,0.3s						
KUR	**Kuril'sk**	**1.40**	**349**	*e*P	**Pn**	**23 04 33.9**	**+0.6**
KUR				AMB	AMB	23 04 34.2	
	40nm,0.2s						
KUR				*e*S	**Sn**	**23 04 49.7**	**-1.4**
KUR				A	A	23 04 53.6	
	130nm,0.3s						
KUR				A	A	23 04 53.6	
	120nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.74**	**277**	*e*P	**Pn**	**23 04 39.2**	**+1.4**
YUK				AMB	AMB	23 04 40.6	
	50nm,0.2s						
YUK				*e*S	**Sn**	**23 04 58.4**	**-0.7**
YUK				A	A	23 04 59.3	
	110nm,0.3s						
YUK				A	A	23 04 59.3	
	280nm,0.3s						
NEM2	**Nemuro 2**	**1.89**	**256**	*e*P	**Pn**	**23 04 38.7**	**-1.2**
NEM2				*e*S	**Sn**	**23 05 01.2**	**-1.6**
NMR	**Nemuro--Hokkai**	**1.90**	**256**	*e*P	**Pn**	**23 04 41.0**	**+1.0**
NMR				*e*S	**Sn**	**23 05 01.8**	**-1.2**
JKHN	**Kushirohamanak**	**2.38**	**252**	*e*P	**Pn**	**23 04 45.1**	**-1.4**
AKK	**Akkeshi**	**2.63**	**252**	*e*P	**Pn**	**23 04 52.0**	**+2.2**
AKK				*e*S	**Sn**	**23 05 21.0**	**+0.4**

*ISK **20** 23:06:15.5, 40˚.10N×32˚.68E, h5km, ML2.7/13*
*AFAD **20** 23:06:15.9, 40˚.15N×32˚.70E, h7km±4km, ML2.4*
ISC 20 23:06:15.9±1.1, **40˚.13N**±0˚.02×**32˚.71E**±0˚.02, **h3**km±10km, **n26, σ0§67/42, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.26**	**166**	Pg	**Pg**	**23 06 21.2**	**+0.2**
ANTO				Sg	**Sg**	**23 06 26.0**	**+1.6**
CMDR	**Camlidere-ANKA**	**0.41**	**334**	P	**Pg**	**23 06 23.9**	**0.0**
CMDR				S	**Sg**	**23 06 29.1**	**-0.2**
CMDR				*i* IAML		23 06 32.0	
	comp=N,431nm,0.3s						
GOKD	**Ankara-Kalecik**	**0.59**	**95**	P	**Pg**	**23 06 27.2**	**0.0**
GOKD				S	**Sb**	**23 06 36.0**	**-1.7**
POLA	**Polatl-ANKAR**	**0.60**	**225**	Pg	**Pg**	**23 06 27.3**	**-0.1**
ELDT	**Eldivan**	**0.66**	**56**	P	**Pg**	**23 06 28.6**	**0.0**
ELDT				S	**Sg**	**23 06 37.3**	**+0.2**
ELDT				*i* IAML		23 06 39.0	
	comp=E,172nm,0.2s						
ELDT				*i* IAML		23 06 41.0	
	comp=N,193nm,0.6s						
KIBS	**BOLU**	**0.72**	**294**	P	**Pg**	**23 06 29.9**	**+0.2**
KIBS				S	**Sg**	**23 06 39.2**	**0.0**
AFSR	**Afar-Bala (An**	**0.73**	**158**	Pg	**Pb**	**23 06 30.5**	**-0.9**
AFSR				Sg	**Sb**	**23 06 41.9**	**+0.1**
DERS	**Karabk-Eskip**	**0.74**	**350**	P	**Pg**	**23 06 30.3**	**+0.2**
DERS				S	**Sg**	**23 06 40.6**	**+0.9**
KESK	**Krkkale-Ke**	**0.83**	**126**	P	**Pg**	**23 06 31.5**	**-0.3**
KESK				S	**Sb**	**23 06 45.2**	**+0.6**
YUVA	**Yuva-Kibriscik**	**0.83**	**289**	Pg	**Pb**	**23 06 32.5**	**-0.5**
BCAM	**Yenicaga**	**0.85**	**325**	P	**Pg**	**23 06 31.9**	**-0.4**
BCAM				S	**Sn**	**23 06 49.0**	**+1.0**
BCAM				*i* IAML		23 06 49.0	
	comp=N,165nm,0.2s						
BCAM				*i* IAML		23 06 49.0	
	comp=E,120nm,0.3s						
BOLU	**Bolu-Merkez-Mu**	**1.03**	**310**	P	**Pg**	**23 06 35.5**	**-0.2**
BOLU				S	**Sn**	**23 06 52.2**	**-0.1**
BOLU				*i* IAML		23 06 54.0	
	comp=E,142nm,0.8s						
BOLU				*i* IAML		23 06 55.0	
	comp=N,103nm,0.5s						
YENC	**ankr-Yen**	**1.03**	**57**	P	**Pg**	**23 06 35.7**	**+0.1**
YENC				S	**Sb**	**23 06 50.5**	**+0.1**
YENC				*i* IAML		23 07 01.0	
	comp=N,118nm,0.5s						
KAMT	**Kaman**	**1.08**	**134**	Pg	**Pg**	**23 06 36.4**	**-0.2**
KBUK	**KARABUK-Merkez**	**1.11**	**357**	P	**Pg**	**23 06 37.0**	**-0.3**
KBUK				S	**Sg**	**23 06 51.6**	**-0.1**
DEVR	**Zonguldak/Devr**	**1.16**	**331**	P	**Pg**	**23 06 37.3**	**-0.9**
MDUB	**Mudurnu**	**1.21**	**287**	Pn	**Pn**	**23 06 39.6**	**-0.2**
MDUB				Sn	**Sn**	**23 06 57.2**	**+0.4**
PELI	**Kastamonı-Ara**	**1.26**	**21**	P	**Pg**	**23 06 40.1**	**0.0**
PELI				S	**Sn**	**23 06 59.4**	**+1.4**
BTAS	**Taskesti**	**1.38**	**289**	P	**Pn**	**23 06 41.9**	**-0.2**
BTAS				S	**Sn**	**23 07 01.5**	**+0.5**
BTAS				*i* IAML		23 07 04.0	
	comp=E,92nm,0.7s						
BTAS				*i* IAML		23 07 05.0	
	comp=N,91nm,1.0s						
CIFT	**Cifteler, Eski**	**1.48**	**240**	Pn	**Pg**	**23 06 44.5**	**+0.1**
GULT	**Gulveren**	**1.71**	**281**	Pn	**Pb**	**23 06 47.5**	**-0.5**
KURC	**Kurucasile-Bar**	**1.72**	**1**	Pn	**Pg**	**23 06 48.2**	**0.0**
KURC				Sn	**Sg**	**23 07 12.1**	**+0.9**
KOZK	**Kozakli-Nevseh**	**1.90**	**118**	Pn	**Pb**	**23 06 50.4**	**-0.9**
LADK	**Ladik-KONYA**	**1.94**	**188**	Pn	**Pb**	**23 06 50.8**	**-1.2**
YOZ	**Yozgat**	**2.06**	**103**	Pn	**Pb**	**23 06 53.2**	**-0.9**
SDAG	**Sultandagi-AFY**	**2.19**	**220**	Pn	**Pn**	**23 06 53.9**	**+0.6**

*SLM **20** 23:16:25.9±0.6, 36˚.478N±0˚.007×89˚.54W±0˚.01, h9km±1km,*

Error ellipse: s-maj=1.4km s-min=1.0km az=89.0
NEIC 20 23:16:26.3±0.6, **36˚.479N**±0˚.007×**89˚.54W**±0˚.01, **h11**km±2km, **mb_Lg2.2**/36, **ML2.6**/28, **Md2.5**/43(SLM), **Error ellipse: s-maj=1.1km s-min=1.0km az=65.0, New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALK	**Watson Lake**	**0.06**	**1**		Pg	23 16 28.2	-0.4
PENMO	**Penman**	**0.07**	**247**		Pg	23 16 28.3	-0.4
PENMO					Sg	23 16 30.3	-0.2
PPLM	**Point Pleasant**	**0.08**	**203**		Pg	23 16 28.4	-0.5
PPLM					Sg	23 16 30.5	-0.1
NMEM	**New Madrid Sch**	**0.10**	**340**		Pg	23 16 28.8	-0.2
NMEM					Sg	23 16 31.2	+0.1
NMMO	**New Madrid**	**0.11**	**356**		Pg	23 16 29.0	-0.2
NMMO					Sg	23 16 31.4	+0.2
MARMO	**Marston**	**0.11**	**297**		Pg	23 16 29.0	-0.3
MARMO					Sg	23 16 31.4	0.0
POBM	**Portage Bay**	**0.12**	**234**		Pg	23 16 28.9	-0.4
POBM					Sg	23 16 31.5	0.0
WYBT	**Wynnburg**	**0.14**	**164**		Pg	23 16 29.2	-0.3
WYBT					Sg	23 16 31.9	+0.1
PVMO	**Portageville**	**0.14**	**243**		Pg	23 16 29.3	-0.4
PVMO				Sg	Sg	23 16 32.0	-0.1
PGVM	**Portageville**	**0.15**	**263**		Pg	23 16 29.5	-0.3
PGVM					Sg	23 16 32.4	+0.2
CATM	**Catron**	**0.16**	**328**		Pg	23 16 29.8	-0.2
CATM					Sg	23 16 32.7	+0.3
SJMO	**Saint John's B**	**0.16**	**20**		Pg	23 16 29.8	-0.2
SJMO					Sg	23 16 32.8	+0.3
FLPT	**Flippin**	**0.19**	**111**		Pg	23 16 30.2	-0.2
KEWM	**Kewanee**	**0.22**	**350**		Pg	23 16 30.8	-0.2
KEWM					Sg	23 16 34.4	+0.2
WADM	**Wardell**	**0.23**	**241**		Pg	23 16 30.8	-0.4
WADM					Sg	23 16 34.8	+0.4
HENM	**Henderson Moun**	**0.24**	**14**		Pg	23 16 31.1	-0.3
HENM					Sg	23 16 35.1	+0.3
PARMO	**Parma**	**0.25**	**318**	Pg	Pg	23 16 31.3	-0.2
PARMO				Sg	Sg	23 16 35.1	+0.1
PARMO				IAML		23 16 35.6	
	comp=N,981nm,0.4s						
HICK	**Hickman**	**0.26**	**76**	Pg	Pg	23 16 31.3	-0.3
HICK				Sg	Sg	23 16 35.1	-0.2
HICK				IAML		23 16 36.4	
	comp=E,1µm,0.3s						
COKM	**Charter Oak**	**0.27**	**327**		Pg	23 16 31.7	-0.2
COKM					Sg	23 16 36.1	+0.4
EPRM	**East Prairie**	**0.28**	**32**		Pg	23 16 31.7	-0.3
EPRM					Sg	23 16 36.2	+0.3
TOPM	**Tallapoosa**	**0.28**	**280**		Pg	23 16 31.8	-0.3
TOPM					Sg	23 16 36.2	+0.3
GLAT	**Glass**	**0.29**	**135**	Pg	Pg	23 16 32.0	-0.3
GLAT				Sg	Sg	23 16 36.2	-0.1
GLAT				IAML		23 16 36.8	
	comp=E,733nm,0.2s						
GLAT				IAML		23 16 37.1	
	comp=N,1µm,0.1s						
MATM	**Matthews**	**0.30**	**351**		Pg	23 16 32.1	-0.3
MATM					Sg	23 16 36.7	+0.3
MIST	**Miston**	**0.31**	**174**		Pg	23 16 32.3	-0.3
DWDM	**Dogwood**	**0.32**	**7**		Pg	23 16 32.5	-0.3
MLDM	**Malden**	**0.34**	**296**		Pg	23 16 32.8	-0.3
BRGM	**Braggadocio**	**0.37**	**223**		Pg	23 16 33.4	-0.3
BRGM					Sg	23 16 39.3	+0.6
LNXT	**Lenox**	**0.38**	**174**	Pg	Pg	23 16 33.6	-0.3
LNXT				Sg	Sg	23 16 39.2	+0.3
LNXT				IAML		23 16 39.9	
	comp=E,618nm,0.4s						
LNXT				IAML		23 16 43.4	
	comp=N,538nm,0.2s						
CHRM	**Charleston**	**0.40**	**21**		Pg	23 16 33.9	-0.4
BETM	**Bethany**	**0.44**	**288**		Pg	23 16 34.6	-0.3
PEBM	**Pemiscott Bayo**	**0.45**	**215**	Pg	Pg	23 16 34.6	-0.5
PEBM				IAML		23 16 46.9	
	comp=E,393nm,0.6s						
FMKY	**Fulgham**	**0.54**	**70**		Pg	23 16 36.4	-0.5
UTMT	**University of**	**0.56**	**104**		Sg	23 16 37.0	-7.7
UTMT	**University of**	**0.56**	**104**	Pg	Pg	23 16 36.6	-0.7
UTMT				IAML		23 16 51.1	
	comp=N,101nm,0.4s						
UTMT				IAML		23 16 56.7	
	comp=E,121nm,0.6s						
HALT	**Halls**	**0.59**	**164**	Pg	Pg	23 16 37.3	-0.5
GNAR	**Gosnell**	**0.64**	**217**	Pg	Pg	23 16 38.2	-0.5
GNAR				IAML		23 16 53.7	
	comp=N,445nm,0.4s						
PBMO	**Poplar Bluff**	**0.77**	**293**	Pg	Pg	23 16 40.4	-0.9
PBMO				Sg	Sg	23 16 50.3	-1.0
CGM3	**Cape Girardeau**	**0.82**	**354**	Pg	Pg	23 16 41.2	-1.0
CGM3				Sg	Sg	23 16 51.9	-1.0
CGM3				IAML		23 16 52.8	
	comp=N,173nm,0.2s						
CGM3				IAML		23 16 53.9	
	comp=E,226nm,0.1s						
T45A	**Paducah**	**0.90**	**53**	Pg	Pg	23 16 42.8	-0.9
T45A				Sg	Sg	23 16 54.7	-0.7
T45A				IAML		23 16 56.8	
	comp=E,196nm,0.3s						
T45A				IAML		23 17 01.0	
	comp=E,149nm,0.4s						
LPAR	**Lepanto**	**1.07**	**215**		Pb	23 16 45.3	-1.5
SFTN	**Shelby Forest**	**1.18**	**199**		Pb	23 16 47.9	-0.8
SIUC	**Southern Illin**	**1.26**	**12**	Pn	Pn	23 16 49.2	-0.6
SIUC				IAML		23 17 08.0	
	comp=E,109nm,0.1s						
SIUC				IAML		23 17 11.5	
	comp=N,127nm,0.1s						
HBAR	**Harrisburg**	**1.29**	**225**	Pn	Pn	23 16 49.2	-1.0
EBZ	**Ebenezer Churc**	**1.34**	**173**		Pn	23 16 50.6	-0.3
LCAR	**Lake Charles**	**1.36**	**253**	Pn	Pn	23 16 50.4	-0.8
LCAR				IAmb_Lg		23 17 11.6	
	comp=Z,24nm,0.8s						
MET	**Memphis--Engin**	**1.39**	**193**		Pg	23 16 53.5	+0.4
FVM	**French Village**	**1.66**	**335**	Pn	Pn	23 16 55.2	-0.1
PLAL	**Pickwick Lake**	**1.91**	**141**	Pn	Pn	23 16 58.0	-0.8
PWLA	**Pickwick Lake**	**1.92**	**141**		Pn	23 16 58.3	-0.6
T47A	**Sharon Grove**	**2.02**	**75**	Pn	Pn	23 17 00.0	-0.3
CCM	**Cathedral Cave**	**2.08**	**320**		Pn	23 17 02.0	+0.9
CCM	**Cathedral Cave**	**2.08**	**320**	Pn	Pn	23 17 01.8	+0.8
USIN	**University of**	**2.11**	**45**		Pb	23 17 05.3	+0.8
USIN	**University of**	**2.11**	**45**	IAmb_Lg		23 17 34.8	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**2.17**	**255**	Pn	Pn	23 17 02.5	+0.2
FCAR				IAmb_Lg		23 17 36.5	
	comp=Z,12nm,0.8s						
MGMO	**Mountain Grove**	**2.29**	**288**	Pn	Pn	23 17 04.8	+0.9
MGMO				IAmb_Lg		23 17 41.7	
	comp=Z,10.0nm,0.9s						
V48A	**Smith Brothers**	**2.32**	**108**	Pn	Pn	23 17 04.3	-0.1
Q44A	**Meyer Farm, Va**	**2.46**	**10**	Pn	Pn	23 17 06.3	0.0
Q44A				IAmb_Lg		23 17 45.9	
	comp=Z,8.1nm,0.8s						
WHAR	**Wooly Hollow**	**2.52**	**243**	Pn	Pn	23 17 07.2	0.0
WHAR				IAmb_Lg		23 17 52.2	
	comp=Z,11nm,0.9s						
OLIL	**Olney**	**2.53**	**27**	Pn	Pn	23 17 07.8	+0.6
OLIL				IAmb_Lg		23 17 50.5	
	comp=Z,7.0nm,0.8s						
Y45A	**Yeager Farm, C**	**2.61**	**180**	Pn	Pn	23 17 06.9	-1.4
Y45A				IAmb_Lg		23 17 50.0	
	comp=Z,6.8nm,0.7s						
CLTN	**Cedars of Leba**	**2.62**	**98**	Pn	Pn	23 17 08.5	-0.1
R40A	**Maddies Statio**	**2.83**	**311**	Pn	Pn	23 17 11.1	-0.2
X48A	**Hartselle**	**2.87**	**134**	Pn	Pn	23 17 11.6	-0.4
U49A	**Red Boiling Sp**	**3.03**	**88**	Pn	Pn	23 17 14.0	-0.2
WCI	**Wyandotte Cave**	**3.12**	**55**	Pn	Pn	23 17 14.4	-1.0
WCI				IAmb_Lg		23 18 05.0	
	comp=Z,8.9nm,0.8s						
SWET	**Sewanee**	**3.19**	**112**	Pn	Pn	23 17 16.1	-0.4
X40A	**Basin Creek Fa**	**3.34**	**234**	Pn	Pn	23 17 18.0	-0.4
Z47A	**Carrollton**	**3.49**	**159**	Pn	Pn	23 17 19.1	-1.3
Z47A				IAmb_Lg		23 18 20.1	
	comp=Z,6.8nm,0.8s						
P40A	**Paris**	**3.63**	**328**	IAmb_Lg		23 18 25.0	
	comp=Z,5.8nm,0.7s						
P46A	**Rosedale**	**3.64**	**30**	Pn	Pn	23 17 22.9	+0.5
Y49A	**Blount Mountai**	**3.66**	**135**	Pn	Pn	23 17 22.4	-0.5
Y49A				IAmb_Lg		23 18 26.8	
	comp=Z,5.0nm,0.8s						
W50A	**Signal Mountai**	**3.67**	**109**	Pn	Pn	23 17 24.3	+1.4
FPAL	**Fort Paine**	**3.75**	**120**	Pn	Pn	23 17 25.6	+1.6
MIAR	**Mount Ida**	**3.81**	**241**	Pn	Pn	23 17 23.2	-1.7
LRAL	**Lakeview Retre**	**4.03**	**148**	IAmb_Lg		23 18 32.8	
	comp=Z,5.3nm,0.8s						
HDIL	**Hopedale**	**4.08**	**3**	IAmb_Lg		23 18 46.9	
	comp=Z,7.0nm,0.8s						
P38A	**Dawn**	**4.45**	**316**	IAmb_Lg		23 18 54.5	
	comp=Z,5.0nm,0.7s						
TKL	**Tuckaleechee C**	**4.75**	**98**	Pn	Pn	23 17 37.8	+0.1
TKL				IAmb_Lg		23 18 56.3	
	comp=Z,3.9nm,0.8s						
W52A	**Murphy**	**4.77**	**105**	IAmb_Lg		23 19 06.8	
	comp=Z,5.7nm,1.2s						
Q51A	**Peebles**	**5.53**	**61**	Pn	Pn	23 17 48.5	0.0
U54A	**Nelsons Funny**	**6.22**	**87**	IAmb_Lg		23 19 54.2	
	comp=Z,4.7nm,0.8s						

*SJA **20** 23:21:12.7±0.7, 24˚.15S×67˚.12W, h191km±4km, ML4.4, MW4.3*
*VAO **20** 23:21:12.2±1.3, 24˚.37S×67˚.73W, h260km±10km, mb4.4*
*NEIC **20** 23:21:13.1±2.2, 24˚.19S±0˚.07×67˚.12W±0˚.10, h180km±10km, mb4.3/11, ML4.6(GUC), Error ellipse: s-maj=13.4km s-min=9.2km az=110.0*
*GUC **20** 23:21:13.9±0.8, 24˚.22S×67˚.19W, h177km±10km, ML4.6*
*IDC **20** 23:21:13.3±1.9, 24˚.13S×66˚.91W, h170km±17km, mb3.6/7, mbtmp4.1/12, Error ellipse: s-maj=20.2km s-min=14.5km az=92.0*
ISC 20 23:21:12.9±0.6, **24˚.16S**±0˚.04×**67˚.15W**±0˚.03, **h183**km±6km, **n142, σ1§45/169, mb4.0/11, 9C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.74**	**95**	⇓*i* P	**Pn**	**23 21 41.0**	**+1.0**
SALTA		**0.74**	**95**	*e*P	**Pn**	**23 21 40.9**	**+1.0**
SALTA				*e*S	**Sn**	**23 22 01.8**	**+1.1**
AF01	**San Pedro de A**	**1.53**	**321**		**Pn**	**23 21 47.8**	**+2.0**
AF01	**San Pedro de A**	**1.53**	**321**	*e*P	**Pn**	**23 21 47.9**	**+2.0**
AF01	**San Pedro de A**	**1.53**	**321**	*e*P	**Pn**	**23 21 47.9**	**+2.0**
AF01				*e*S	**Sn**	**23 22 13.7**	**+2.5**
SLA	**San Lorenzo**	**1.60**	**111**	⇓*i* P	**Pn**	**23 21 47.6**	**+1.2**
SLA	**San Lorenzo**	**1.60**	**111**	*e*P	**Pn**	**23 21 47.6**	**+1.2**
SLA				*e*S	**Sn**	**23 22 12.8**	**+0.6**
AZAP	**Zapla**	**1.90**	**92**	*e*P	**Pn**	**23 21 50.3**	**+0.8**
AZAP				*e*S	**Sn**	**23 22 18.1**	**+0.3**
FSA	**Cafayete**	**2.22**	**152**	*e*P	**Pn**	**23 21 53.7**	**+0.9**
FSA				*e*S	**Sn**	**23 22 23.7**	**-0.2**
GO02	**Mina Guanaco**	**2.44**	**245**	Pn	**Pn**	**23 21 56.7**	**+1.2**
GO02	**Mina Guanaco**	**2.44**	**245**	⇓*e*P	**Pn**	**23 21 56.5**	**+1.0**
GO02				IAML		23 22 30.2	
	comp=N,4µm,0.2s						
GO02	**Mina Guanaco**	**2.44**	**245**	*e*P	**Pn**	**23 21 56.7**	**+1.2**
GO02				*e*S	**Sn**	**23 22 29.1**	**+0.6**
YJA	**Yavi**	**2.48**	**38**	*e*P	**Pn**	**23 21 57.4**	**+1.3**
YJA				*e*S	**Sn**	**23 22 30.0**	**+0.4**
PB06	**IPOC Station P**	**2.65**	**302**	Pn	**Pn**	**23 21 59.2**	**+1.4**
PB06	**IPOC Station P**	**2.65**	**302**	⇑*e*P	**Pn**	**23 21 59.3**	**+1.4**
PB06				*e*S	**Sn**	**23 22 32.5**	**-0.2**
PB06				IAML		23 22 34.0	
	comp=E,3µm,0.2s						
PB06	**IPOC Station P**	**2.65**	**302**	*e*P	**Pn**	**23 21 59.3**	**+1.4**
PB06				*e*S	**Sn**	**23 22 32.9**	**+0.2**
PB06				IAML		23 22 35.6	
	comp=Z,1µm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.91**	**84**	*e*P	**Pn**	**23 22 01.7**	**+0.9**
PB14	**IPOC Station P**	**3.01**	**260**	Pn	**Pn**	**23 22 02.8**	**+0.6**
PB14	**IPOC Station P**	**3.01**	**260**	⇑*e*P	**Pn**	**23 22 02.8**	**+0.6**
PB14	**IPOC Station P**	**3.01**	**260**	*e*P	**Pn**	**23 22 02.3**	**+0.2**
PB14				*e*S	**Sn**	**23 22 40.1**	**-0.3**
PB09	**IPOC Station P**	**3.04**	**320**		**Pn**	**23 22 04.2**	**+1.7**
PB09	**IPOC Station P**	**3.04**	**320**	⇑*e*P	**Pn**	**23 22 04.1**	**+1.6**
PB09				*i* S	**Sn**	**23 22 42.1**	**+1.1**
PB09				IAML		23 22 44.3	
	comp=N,2µm,0.4s						
PB09	**IPOC Station P**	**3.04**	**320**	*e*P	**Pn**	**23 22 04.2**	**+1.7**
PB09				*e*S	**Sn**	**23 22 40.9**	**-0.2**
PB09				IAML		23 22 42.8	
	comp=Z,1µm,0.5s						
AHML	**Horco Molle**	**3.09**	**148**	*e*P	**Pn**	**23 22 03.6**	**+0.7**
AHML				*e*S	**Sn**	**23 22 35.5**	**-6.5**
PB05	**IPOC Station P**	**3.09**	**294**	Pn	**Pn**	**23 22 03.7**	**+0.7**
PB05	**IPOC Station P**	**3.09**	**294**	⇑*e*P	**Pn**	**23 22 03.9**	**+0.8**
PB05				*e*S	**Sn**	**23 22 40.6**	**-1.4**
PB05				IAML		23 22 42.5	
	comp=E,723nm,0.3s						
PB05	**IPOC Station P**	**3.09**	**294**	*e*P	**Pn**	**23 22 03.8**	**+0.8**
PB05				*e*S	**Sn**	**23 22 41.6**	**-0.3**
PB05				IAML		23 22 45.7	
	comp=Z,417nm,0.3s						
PB10	**IPOC Station P**	**3.19**	**281**	Pn	**Pn**	**23 22 04.8**	**+0.8**
PB10	**IPOC Station P**	**3.19**	**281**	⇑*e*P	**Pn**	**23 22 05.1**	**+1.1**
PB10				*e*S	**Sn**	**23 22 42.5**	**-1.3**
PB10				IAML		23 22 46.2	
	comp=N,508nm,0.4s						
PB10				IAML		23 22 47.1	
	comp=E,511nm,0.4s						
PB10	**IPOC Station P**	**3.19**	**281**	*e*P	**Pn**	**23 22 05.1**	**+1.1**
PB10				*e*S	**Sn**	**23 22 44.3**	**+0.5**

PB18	**Visviri**	**6.89**	**341**	Pn		**Pn**		23 22 53.1	+1.0	
CO03	**El Pedregal**	**7.36**	**205**	Pn		**Pn**		23 22 56.2	-1.8	
CFA	**Coronel Fontan**	**7.48**	**187**	P		**Pn**		23 22 59.0	-0.5	
	comp=Z,1.9nm,0.3s,baz=334,slow=11,SNR=48									
CFA				S		**Sn**		23 24 18.0	-5.8	
	comp=Z,3.6nm,0.3s,baz=294,slow=20,SNR=5.0									
ZON	**Zonda**	**7.49**	**190**	Pn		**Pn**		23 22 59.2	-0.3	
CO06	**Fray Jorge**	**7.62**	**211**	Pn		**Pn**		23 22 59.8	-1.4	
CO02	**Combarbal**	**7.81**	**205**	Pn		**Pn**		23 23 02.4	-1.4	
LPAZ	**La Paz**	**7.88**	**353**	Pn		**Pn**		23 23 05.8	+0.5	
LPAZ	**La Paz**	**7.88**	**353**	P		**Pn**		23 23 06.7	+1.3	
	comp=Z,16nm,0.4s,baz=163,slow=8.0,SNR=137									
LPAZ				S		**Sn**		23 24 30.3	-4.0	
	comp=Z,2.1nm,0.5s,baz=179,slow=7.3,SNR=1.6									
LPAZ	**La Paz**	**7.88**	**353**	*eP*		**Pn**		23 23 06.2	+0.8	
CPUP	**Villa Florida**	**9.15**	**106**	P		**Pn**		23 23 19.8	-1.5	
	comp=Z,1.0nm,0.8s,baz=265,slow=11,SNR=6.7									
MT02	**Curacav**	**9.72**	**200**	Pn		**Pn**		23 23 27.6	-1.1	
SIV	**San Ignacio**	**9.92**	**36**	P		**Pn**		23 23 30.1	-1.5	
	comp=Z,5.6nm,0.3s,baz=232,slow=7.8,SNR=42									
SIV				S		Sn		23 25 09.7	-13	
	comp=Z,1.9nm,0.6s,baz=216,slow=16,SNR=3.1									
MT13	**San Alfonso**	**9.94**	**195**	Pn		**Pn**		23 23 31.2	-0.5	
MT09	**Talagante**	**10.16**	**198**	Pn		**Pn**		23 23 32.9	-1.7	
BO04	**La Punta**	**10.26**	**196**	Pn		**Pn**		23 23 33.3	-2.5	
MT01	**Popeta**	**10.32**	**199**	Pn		**Pn**		23 23 34.5	-2.1	
BO02	**Sierra Bellavi**	**11.06**	**196**	Pn		**Pn**		23 23 45.2	-1.0	
PTLB	**Pontes e Lacer**	**11.48**	**42**	Pn		**Pn**		23 23 52.5	+0.8	
PTLB	**Pontes e Lacer**	**11.48**	**42**	*eP*		**P**		23 23 55.4	-2.5	
ML02	**Panimavida**	**12.14**	**197**	Pn		**Pn**		23 23 58.9	-1.1	
VILB	**Vilhena**	**12.94**	**32**	Pn		**Pn**		23 24 11.6	+1.3	
VILB	**Vilhena**	**12.94**	**32**	*eP*		**P**		23 24 13.8	-0.3	
BI02	**San Fabin de**	**12.96**	**195**	Pn		**Pn**		23 24 09.0	-1.5	
RPRD	**Ribas do Rio P**	**12.97**	**76**	*eP*		**P**		23 24 15.4	+0.9	
TRCB	**Terra Rica**	**13.39**	**87**	P		**P**		23 24 19.5	+0.4	
TRCB	**Terra Rica**	**13.39**	**87**	*eP*		**P**		23 24 19.8	+0.6	
SALV	**Santo Antonio**	**13.53**	**55**	*eP*		**P**		23 24 21.6	+0.9	
CPSB	**Cacapava Do Su**	**13.68**	**120**	*eP*		**P**		23 24 20.9	-1.4	
PTGB	**Pitanga**	**13.75**	**95**	*eP*		**P**		23 24 24.3	+1.1	
ITAB	**Concordia**	**13.88**	**106**			**P**		23 24 23.8	-0.7	
PLTB	**Pedras Altas**	**14.16**	**125**	Pn		**Pn**		23 24 23.7	-1.8	
C2SB	**Chapadao do Su**	**14.36**	**71**	*eP*		**P**		23 24 29.3	-0.6	
TRQA	**Tornquist**	**14.54**	**164**	Pn		**Pn**		23 24 28.6	-1.6	
CNLB	**Canela**	**15.43**	**113**	*eP*		**Pn**		23 24 39.3	-2.0	
PDRB	**Porto dos Gac**	**15.92**	**40**	*eP*		**Pn**		23 24 46.6	-0.7	
ITRB	**Iturama**	**16.19**	**77**	*eP*		**Pn**		23 24 51.4	+0.9	
ARAG	**Araguaiana, MT**	**16.68**	**63**	*eP*		**Pn**		23 24 56.6	+0.3	
CLDB	**Colider**	**17.06**	**41**	*eP*		**P**		23 24 59.0	-0.8	
RCLB	**Rio Claro- Sao**	**18.10**	**88**	*eP*		**P**		23 25 10.8	-0.3	
VAO	**Valinhos**	**18.54**	**91**	P		**P**		23 25 15.3	-0.6	
VAO				IAmb		IAmb		23 25 16.7		
	comp=Z,52nm,0.9s									
VAO	**Valinhos**	**18.54**	**91**	*eP*		**P**		23 25 15.5	-0.4	
LL01	**San Ignacio de**	**18.69**	**192**	P		**P**		23 25 17.0	-0.3	
LL01				IAmb		IAmb		23 25 19.7		
	comp=Z,13nm,1.1s									
IPMB	**Ipameri, GO**	**18.70**	**74**	*eP*		**P**		23 25 17.6	-0.1	
SNDB	**Serra Nova Dou**	**19.31**	**54**	*eP*		**P**		23 25 23.7	-0.5	
GO07	**Milladeo Hill,**	**19.66**	**194**	P		**P**		23 25 28.4	+0.7	
BDFB	**Brasilia**	**19.87**	**68**	P		**P**		23 25 30.3	0.0	
BDFB	**Brasilia**	**19.87**	**68**	P		**P**		23 25 29.8	-0.5	
	comp=Z,42nm,0.6s,baz=244,slow=10,SNR=64									
PMNB	**Patos De Minas**	**20.07**	**78**	*eP*		**P**		23 25 31.7	-0.8	
NPGB	**Novo Progresso**	**20.43**	**36**	*eP*		**P**		23 25 34.3	-1.9	
ITTB	**Itaituba**	**22.54**	**31**	*eP*		**P**		23 25 55.2	-2.5	
JANB	**Januaria**	**23.31**	**71**	*eP*		**P**		23 26 02.8	-1.9	
SMTB	**Santa Maria do**	**24.09**	**54**	*eP*		**P**		23 26 11.3	-0.5	
SDBA	**SAO DESIDERIO**	**24.09**	**65**	*eP*		**P**		23 26 11.1	-0.8	
MAL2	**Monte Alegre,**	**25.33**	**32**	P		**P**		23 26 23.5	+0.5	
MAL2				IAmb		IAmb		23 26 25.6		
	comp=Z,7.6nm,0.8s									
BOAV	**Boa Vista**	**27.17**	**15**	P		**P**		23 26 39.4	-0.1	
RCBR	**Riachuelo**	**35.11**	**64**	P		**P**		23 27 48.7	-0.4	
RCBR				IAmb		IAmb		23 28 15.5		
	comp=Z,18nm,1.1s									
VNA3	**Neumayer Olymp**	**57.05**	**161**	⇓P		**P**		23 30 41.0	+1.6	
	comp=Z,1.4nm,0.6s									
VNA1	**Neumayer--Stat**	**57.25**	**160**	⇑P		**P**		23 30 42.3	+1.6	
	comp=Z,1.1nm,0.4s									
SNAA	**Sanae**	**59.25**	**161**	⇓P		**P**		23 30 56.1	+1.4	
	comp=Z,25nm,0.7s									
SNAA	**Sanae**	**59.25**	**161**	P		**P**		23 30 56.1	+1.4	
SNAA	**Sanae**	**59.25**	**161**	P		**P**		23 30 56.3	+1.6	
	comp=Z,1.3nm,0.8s,baz=286,slow=10,SNR=8.5									
	comp=Z,1.3nm,0.8s									
TROLL	**Troll, Antarti**	**60.96**	**161**	⇓P		**P**		23 31 08.1	+1.7	
	comp=Z,48nm,0.4s									
TXAR	**Lajitas Array**	**63.73**	**325**	P		**P**		23 31 27.2	+2.0	
	comp=Z,0.3nm,0.7s,baz=153,slow=6.6,SNR=3.9									
	comp=Z,0.3nm,0.7s									
QSPA	**South Pole Qui**	**66.05**	**180**	P		**P**		23 31 42.9	+3.1	
QSPA				IAmb		IAmb		23 32 00.6		
	comp=Z,2.3nm,1.1s									
QSPA	**South Pole Qui**	**66.05**	**180**	P		**P**		23 31 42.5	+2.7	
	comp=Z,1.3nm,0.6s,baz=146,slow=1.2,SNR=11									
	comp=Z,1.3nm,0.6s									
DBIC	**Dimbokro**	**67.98**	**72**	P		**P**		23 31 52.4	-0.2	
	comp=Z,3.7nm,0.8s,baz=270,slow=7.0,SNR=1.8									
	comp=Z,3.7nm,0.8s									
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P		**P**		23 32 44.1	-0.4	
TORD				IAmb		IAmb		23 32 46.1		
	comp=Z,2.0nm,0.7s									
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P		**P**		23 32 44.6	+0.1	
	comp=Z,2.4nm,0.6s,baz=236,slow=5.5,SNR=34									
	comp=Z,2.4nm,0.6s									
PDAR	**Pinedale Array**	**77.21**	**329**	P		**P**		23 32 48.7	+1.9	
	comp=Z,0.2nm,0.5s,baz=147,slow=8.5,SNR=2.4									
	comp=Z,0.2nm,0.5s									
BOSA	**Boshof**	**80.78**	**117**	P		**P**		23 33 07.0	+0.5	
	comp=Z,2.8nm,0.4s,baz=264,slow=3.1,SNR=19									
	comp=Z,2.8nm,0.4s									
ZALV	**Zalesovo Beam**	**143.59**	**28**	PKP		**PKPdf**		23 40 25.4	0.0	
	comp=Z,0.7nm,0.5s,baz=315,slow=0.8,SNR=4.5									
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc		**PKPab**		23 40 35.0	+0.2	
	comp=Z,1.5nm,0.6s,baz=318,slow=2.9,SNR=12									

NEIC ***20*** *23:46:56.3±1.1,35.518N±0.007×117.41W±0.01, h10km±3km, Error ellipse: s-maj=1.5km s-min=1.4km az=213.0*

PAS 20 23:46:56.8±1.1,35.518N±0.007×117.41W±0.01, h8km±5km, ML3.3/279, ML3.0/98(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=99.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCCA	**Chr Cany lake**	**0.04**	**80**	Pg	Pg	23 46 58.7	+0.2
CCCA				Sg	Sg	23 47 00.3	+0.5
CCCA				IAML		23 47 00.7	
	comp=N,18μm,0.3s						
WSHM	**Spangler Hills**	**0.10**	**321**	Pg	Pg	23 46 59.3	-0.1
WSHM				Sg	Sg	23 47 01.1	0.0
LRMC	**Laurel Mtn Rad**	**0.22**	**260**	Pg	Pg	23 47 01.2	-0.1
LRMC				Sg	Sg	23 47 04.7	+0.3
LRMC				IAML		23 47 05.6	
	comp=E,6μm,0.3s						
SRTC	**Snort**	**0.32**	**302**		Pg	23 47 03.4	+0.1
SRTC					Sg	23 47 08.8	+1.2
CLC	**China Lake**	**0.33**	**333**	Pg	Pg	23 47 03.1	-0.3
CLC				Sg	Sg	23 47 07.9	0.0
CLC				IAML		23 47 08.1	
	comp=N,1μm,0.2s						
CLC				IAML		23 47 08.3	
	comp=E,2μm,0.4s						
TOW	**Tower One**	**0.41**	**316**		Pg	23 47 04.9	+0.1
TOW					Sg	23 47 11.3	+1.1
DTP	**Desert Tortois**	**0.43**	**235**		Pg	23 47 04.9	-0.4
DTP					Sg	23 47 10.8	-0.2
WNMM	**Nine Mile Cany**	**0.52**	**309**		Pg	23 47 06.5	-0.3
WNMM					Sg	23 47 13.9	+0.4
GSC	**Goldstone, Bar**	**0.54**	**113**	Pg	Pg	23 47 06.9	-0.4
GSC				Sg	Sg	23 47 14.1	-0.3
GSC				IAML		23 47 14.7	
	comp=N,664nm,0.4s						
GSC				IAML		23 47 16.2	
	comp=E,1μm,0.4s						
WVPM	**Volcano Peak E**	**0.54**	**323**		Pg	23 47 07.0	-0.4
WVPM					Sg	23 47 14.4	-0.1
MPMC	**Manual Prospec**	**0.54**	**353**	Pg	Pg	23 47 06.7	-0.7
MPMC				Sg	Sg	23 47 14.2	-0.4
JRC2	**Joshua Ridge**	**0.56**	**325**		Pg	23 47 07.4	-0.4
JRC2					Sg	23 47 15.1	-0.1
WCSM	**Coso Springs S**	**0.58**	**331**		Pg	23 47 07.7	-0.4
WCSM					Sg	23 47 15.5	-0.3
WBSM	**Bird Springs**	**0.59**	**272**		Pg	23 47 07.8	-0.5
WBSM					Sg	23 47 16.1	0.0
CCAC	**Calif City Air**	**0.61**	**234**		Pg	23 47 08.3	-0.3
CCAC					Sg	23 47 16.6	-0.1
WRVM	**Rose V. Centra**	**0.62**	**322**		Pg	23 47 07.8	-1.1
WRVM					Sg	23 47 16.7	-0.4
QSM	**Queen of Sheba**	**0.63**	**45**		Sg	23 47 17.1	-0.1
HYS	**Haystack Butte**	**0.67**	**191**		Pg	23 47 09.0	-0.6
HYS					Sg	23 47 18.0	-0.3
MFS	**McCloud Flat S**	**0.70**	**329**		Pg	23 47 09.9	-0.4
MFS					Sg	23 47 19.6	+0.2
WORM	**Onyx Ranch**	**0.70**	**285**		Pg	23 47 09.6	-0.7
WORM					Sg	23 47 18.6	-0.8
RRX	**Edison Barstow**	**0.73**	**152**		Pg	23 47 10.5	-0.3
RRX					Sg	23 47 20.1	-0.1
WHFM	**Hanning Flat**	**0.78**	**283**		Pg	23 47 11.1	-0.8
WHFM					Sg	23 47 21.3	-0.8
EDW2	**Edwards Air Fo**	**0.79**	**217**		Pg	23 47 11.3	-0.8
EDW2					Sg	23 47 22.4	-0.1
ISA	**Isabella, Lake**	**0.88**	**280**	Pg	Pg	23 47 12.8	-0.9
ISA				Sg	Sg	23 47 23.9	-1.2
ISA				IAML		23 47 25.1	
	comp=E,741nm,0.3s						
ISA				IAML		23 47 25.8	
	comp=N,434nm,0.3s						
SBB	**Saddle Back Bu**	**0.89**	**202**		Pg	23 47 13.2	-0.8
SBB					Sg	23 47 24.7	-0.9
GWY	**Greenwater Val**	**0.90**	**42**		Sg	23 47 25.4	-0.4
TPO	**Tropico Hills**	**0.92**	**227**	Pg	Pg	23 47 14.0	-0.5
TPO				Sg	Sg	23 47 26.7	+0.1
TPO				IAML		23 47 29.2	
	comp=N,761nm,0.6s						
TPO				IAML		23 47 30.8	
	comp=E,721nm,0.8s						
VTV	**Victorville**	**0.96**	**176**		Pg	23 47 14.5	-0.7
VTV					Sb	23 47 28.7	+0.3
WASM	**Alta Sierra Ca**	**0.96**	**284**		Pg	23 47 14.3	-0.9
ADO	**Adelanto Recei**	**0.96**	**181**		Pg	23 47 14.8	-0.6
SHOC	**Shoshone, Teco**	**1.00**	**67**	Pg	Pg	23 47 15.3	-0.8
SHOC				Sg	Sg	23 47 28.9	-0.2
FURC	**Furnace Creek,**	**1.05**	**25**	Pg	Pg	23 47 16.2	-0.8
FURC				Sg	Sb	23 47 30.9	-0.1
FURC				IAML		23 47 36.3	
	comp=N,582nm,0.5s						
FURC				IAML		23 47 36.7	
	comp=E,617nm,0.5s						
CWC	**Cottonwood Cre**	**1.07**	**330**	Pg	Pg	23 47 16.5	-0.9
CWC				Sg	Sg	23 47 30.9	-0.3
CGO	**Cerro Gordo**	**1.08**	**343**		Pg	23 47 16.4	-1.1
TEJ	**El Tejon**	**1.08**	**255**		Pg	23 47 16.3	-1.3
ALPC	**Antelope**	**1.10**	**222**		Pn	23 47 32.6	+14
LRRC	**Littlerock Res**	**1.11**	**207**		Pg	23 47 17.2	-0.9
HOLC	**Holcomb Ridge**	**1.11**	**199**		Pg	23 47 17.3	-0.9
HEC	**Hector,Ludlow**	**1.12**	**128**		Pg	23 47 17.3	-1.0
DSCC	**Desert Studies**	**1.13**	**109**		Sb	23 47 33.5	0.0
LEOC	**Leona Valley**	**1.15**	**220**		Pg	23 47 17.8	-1.0
LEOC					Sb	23 47 34.4	-0.4
JNH	**Juniper Hills**	**1.16**	**203**		Pg	23 47 18.1	-0.9
TUQ	**Turquoise Moun**	**1.22**	**93**		Pb	23 47 18.4	-1.7
TUQ					Sg	23 47 35.5	-0.5
SIL	**Silver Peak**	**1.26**	**157**		Pn	23 47 20.1	-0.8
CHFC	**Chilao Flat St**	**1.28**	**203**		Pn	23 47 20.0	-1.2
BFSC	**Mount Baldy Ra**	**1.29**	**189**		Pn	23 47 19.9	-1.4
BFSC				IAML		23 47 39.2	
	comp=N,175nm,0.5s						
BFSC				IAML		23 47 39.4	
	comp=E,186nm,0.5s						
SPG2	**Springville 2**	**1.29**	**302**		Sb	23 47 37.0	-1.2
AMDNV	**Amargosa**	**1.31**	**44**		Pn	23 47 19.7	-1.6
SSD	**San Sevaine**	**1.31**	**183**		Pn	23 47 19.9	-0.4
SSK	**Sunset Peak**	**1.32**	**190**		Pn	23 47 20.7	-1.0
MWC	**Mount Wilson**	**1.40**	**203**		Pn	23 47 21.8	-1.0
MWC				IAML		23 47 43.4	
	comp=E,330nm,0.5s						
MWC				IAML		23 47 47.3	
	comp=N,337nm,0.5s						
VES	**Vestal, Richgr**	**1.40**	**284**		Pn	23 47 21.6	-1.0
VES				IAML		23 47 41.3	
	comp=E,196nm,0.5s						
VES				IAML		23 47 43.0	
	comp=N,338nm,0.7s						
OSI	**Osito Audit: C**	**1.40**	**230**	Pn	Pn	23 47 22.9	+0.3
OSI				IAML		23 47 42.9	
	comp=E,432nm,0.5s						
OSI				IAML		23 47 44.6	
	comp=N,353nm,0.5s						
SVD	**Seven Oaks Dam**	**1.43**	**169**		Pn	23 47 23.2	+0.1
PSRC	**Puddingstone R**	**1.46**	**193**		Pb	23 47 23.8	-0.4
DECC	**Green Verdugo**	**1.47**	**211**		Pg	23 47 24.7	-0.3
PASC	**Pasadena Art C**	**1.49**	**206**		Pn	23 47 23.0	-0.8
PASC				IAML		23 47 46.2	
	comp=E,169nm,0.3s						
PASC				IAML		23 47 46.5	
	comp=N,169nm,0.5s						
SGV	**South Grapevin**	**1.49**	**12**		Pn	23 47 23.0	-1.0
GTM	**Goat Mountain**	**1.50**	**144**		Pb	23 47 24.8	-0.1
MTPC	**Mountain Pass**	**1.52**	**91**	Pn	Pn	23 47 22.5	-1.9
GVRC	**Garvey Reservo**	**1.58**	**202**		Pg	23 47 26.7	-0.3
GMRC	**Granite Mounta**	**1.61**	**116**		Pn	23 47 23.4	-2.2
TIN	**Tinemaha, Big**	**1.67**	**337**	Pn	Pn	23 47 25.8	-0.6
TIN				IAML		23 47 57.3	
	comp=E,166nm,1.0s						
TIN				IAML		23 48 02.1	
	comp=N,117nm,0.8s						
BLAC	**Blackrock camp**	**1.67**	**149**		Pn	23 47 25.6	-0.9
LCH	**Last Change Ra**	**1.72**	**354**		Pn	23 47 26.8	-0.4
TPC	**Twentynine Pal**	**1.80**	**141**		Pn	23 47 27.4	-0.8
HMTC	**Hemet**	**1.84**	**169**		Pn	23 47 27.8	-0.8
ELS	**Elsinore Mount**	**1.87**	**180**	Pn	Pn	23 47 28.0	-1.1
POB	**Polly Butte**	**1.87**	**167**		Pn	23 47 28.4	-0.8
POB					Sn	23 47 51.6	-1.4
DANC	**Danby, Needles**	**1.88**	**117**	Pn	Pn	23 47 27.2	-2.1
DANC				IAML		23 47 58.6	
	comp=E,274nm,0.4s						
DGR	**Domenigoni Val**	**1.89**	**170**		Pn	23 47 28.6	-0.8
BELC	**Belle Mtn. Jos**	**1.91**	**142**	Pn	Pn	23 47 28.2	-1.6
BELC				IAML		23 47 59.1	
	comp=E,132nm,0.4s						
BELC				IAML		23 48 01.4	
	comp=N,119nm,0.7s						
BACC	**Bachelor Mtn.**	**1.93**	**171**		Pn	23 47 28.9	-0.9
CRY	**Cary Ranch**	**2.03**	**164**		Pn	23 47 30.8	-0.6
PMD	**Palm Desert**	**2.05**	**155**	Pn	Pn	23 47 30.0	-1.6
PMD				IAML		23 48 01.7	
	comp=E,92nm,0.5s						
PMD				IAML		23 48 03.4	
	comp=N,92nm,0.6s						
PFO	**Pinyon Flats O**	**2.06**	**157**	Pn	Pn	23 47 30.4	-1.3
FRD	**Ford Ranch, An**	**2.13**	**161**		Pn	23 47 31.9	-0.8
FRD	**Ford Ranch, An**	**2.13**	**161**		Pn	23 47 31.8	-0.9
IRM	**Iron Mountain**	**2.31**	**125**	Pn	Pn	23 47 32.9	-2.2
IRM				IAML		23 48 10.9	
	comp=E,131nm,0.5s						
IRM				IAML		23 48 11.3	
	comp=N,67nm,0.5s						
BORC	**Borrego Spring**	**2.39**	**160**	Pn	Pn	23 47 35.2	-1.0
BORC				IAML		23 48 13.4	
	comp=E,58nm,0.7s						
BORC				IAML		23 48 14.7	
	comp=N,64nm,0.6s						
BC3	**Big Chuckawall**	**2.46**	**138**	Pn	Pn	23 47 35.6	-1.8
BC3				IAML		23 48 19.9	
	comp=E,68nm,0.6s						
BC3				IAML		23 48 21.4	
	comp=N,101nm,0.8s						
DPP	**Dos Picos Cty**	**2.54**	**171**	Pn	Pn	23 47 37.3	-1.1
DPP				IAML		23 48 17.0	
	comp=E,60nm,0.5s						
W13A	**Hualapai Mount**	**2.92**	**97**	Pn	Pn	23 47 42.2	-1.5
YUH	**Yuha Desert**	**3.12**	**156**	Pn	Pn	23 47 44.7	-1.5
BBGB	**Big Mountain B**	**3.12**	**291**	Pn	Pn	23 47 45.6	-0.8
BBGB				IAML		23 48 40.7	
	comp=N,82nm,0.6s						
CBX	**Cerro Bola**	**3.26**	**169**	Pn	Pn	23 47 47.6	-0.6
CBX				IAML		23 48 45.2	
	comp=N,66nm,0.9s						
GLA	**Glamis**	**3.26**	**138**	Pn	Pn	23 47 48.0	-0.3
ESJX	**Sierra Juarez**	**3.71**	**160**	Pn	Pn	23 47 53.8	-0.8
ESJX				IAML		23 49 57.0	
	comp=E,21nm,0.1s						
ESJX				IAML		23 50 00.2	
	comp=N,18nm,0.1s						
Y14A	**Wickenburg**	**3.96**	**112**	Pn	Pn	23 47 56.1	-1.7
Y14A				IAML		23 49 05.6	
	comp=E,26nm,0.5s						
Y14A				IAML		23 49 05.7	
	comp=N,34nm,0.5s						
U15A	**North Rim**	**4.25**	**76**	Pn	Pn	23 48 01.8	-0.3
X16A	**Lo Mia Camp, P**	**5.03**	**101**	Pn	Pn	23 48 12.7	+0.1
214A	**Organ Pipe Nat**	**5.23**	**132**	Pn	Pn	23 48 12.5	-2.7
214A				IAML		23 49 56.3	
	comp=E,6.4nm,1.2s						
214A				IAML		23 49 58.0	
	comp=N,6.1nm,1.5s						
ELK	**Elko**	**5.49**	**18**	Pn	Pn	23 48 20.3	+1.2

BJI ***21*** *00:02:55.7,5.73N×126.98E,h149km,mB4.9/22,mb5.3/83*
MOS ***21*** *00:02:57.0±0.9,5.97N×126.83E,h140km,mb5.1/66, Error ellipse: s-maj=8.7km s-min=4.3km az=113.0*
NEIC ***21*** *00:02:58.5±1.6,5.97N±0.07×126.96E±0.09,h134km±5km, mb5.1/275, Error ellipse: s-maj=13.6km s-min=8.3km az=64.0*
GCMT ***21*** *00:02:58.5±0.3,6.01N±0.02×126.97E±0.02,h133km±3km, MW4.8/91,Moment Tensor Solution. s30,c38; s91,c121; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.94±.10; Mθθ-0.11±.14; Mϕϕ-0.83±.16; Mre1.60±.07; Mθϕ-0.46±.12; Mϕr1.23±.07; Best double couple: M₀2.25300×10¹⁶ NP1:ϕs186.00000°,δ16.00000°,λ48.00000°. NP2: ϕs49.00000°,δ78.00000°,λ101.00000°. Principal axes: T 2.2880, Plg56.0000°, Azm333.0000°; N -0.0700, Plg11.0000°, Azm227.0000°; P -2.2180, Plg32.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***21*** *00:02:58.9±0.3,6.7N±2.2×12.7E±.7,h132km±3km,M5.0/43, mb5.1/43,mB5.4/19,MLv5.6/13,Mw(mB)4.8/19*
IDC ***21*** *00:02:59.4±0.9,5.94N×126.90E,h148km±6km,mb4.7/28, mbtmp5.1/31,MS3.3/19,Error ellipse: s-maj=14.7km s-min=7.2km az=76.0*

ISC 21 00:02:58.8±0.3,5.97N±0.03×126.95E±0.05,h142km±2km, h142km:pP-P,n848,σ1s05/780,mb5.1/248,51C-31D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.74**	**309**		**Pn**	**00 03 30.1**	**-0.4**
DAV	**Davao City (W)**	**1.74**	**309**	P	**Pn**	**00 03 30.9**	**+0.4**
	7μm,0.4s,baz=61,slow=0.2,SNR=80						
DAV				S	**Sn**	**00 03 56.4**	**+1.6**
	4μm,0.5s,baz=93,slow=16,SNR=6.7						
DAV				LR	LR	00 04 19.5	
	comp=Z,2μm,20.1s,baz=204,slow=46						
DAV	**Davao City (W)**	**1.74**	**309**	P	**Pn**	**00 03 30.7**	**+0.2**
DAV	**Davao City (W)**	**1.74**	**309**	P	**Pn**	**00 03 26.0**	**-4.5**
SGSI	**Sangihe**	**2.67**	**212**	P	**Pn**	**00 03 40.5**	**-1.2**
TNTI	**Ternate**	**5.18**	**175**	Pn	**Pn**	**00 04 13.6**	**-1.0**
TNTI	**Ternate**	**5.18**	**175**	P	**Pn**	**00 04 14.6**	**+0.1**
TNTI	**Ternate**	**5.18**	**175**	S	**Sn**	**00 05 13.1**	**-0.5**
TNTI	**Ternate**	**5.18**	**175**	P	**Pn**	**00 04 13.9**	**-0.6**
	3.4nm3μm286nm,0.8s						
KMSI	**Cibinong**	**6.12**	**209**	P	Pn	00 04 37.7	+11
MRSI	**Marisa**	**7.40**	**223**	P	**Pn**	**00 04 44.0**	**-0.2**
TOLI2	**Tolitoli**	**7.82**	**232**	Pn	**Pn**	**00 04 48.3**	**-1.5**
TOLI2	**Tolitoli**	**7.82**	**232**	P	**Pn**	**00 04 49.1**	**-0.7**
SANI	**Sanana**	**8.02**	**187**	P	**Pn**	**00 04 49.0**	**-3.6**
	1.2nm2μm103nm,0.7s						
SWI	**Sorong**	**8.04**	**147**	P	**Pn**	**00 04 52.3**	**-0.5**
	0.6nm2μm115nm,0.9s						
LUWI	**Luwuk**	**8.12**	**211**	Pn	**Pn**	**00 04 53.8**	**0.0**
LUWI	**Luwuk**	**8.12**	**211**	P	**Pn**	**00 04 54.7**	**+0.9**
LUWI	**Luwuk**	**8.12**	**211**	S	**Sn**	**00 06 26.1**	**+1.9**
LUWI	**Luwuk**	**8.12**	**211**	P	**Pn**	**00 04 54.5**	**+0.7**
	1

QIZ LR LR
comp=N,190nm,11.0s
QIZ LR LR
comp=E,210nm,8.6s
QIZ LR LR
comp=Z,190nm,15.8s
KNRA Kununurra 21.58 175 P **P** **00 07 37.5 +0.1**
PMBI Palembang 23.84 249 P **P** **00 07 59.9 +0.7**
FITZ Fitzroy Crossi 23.95 183 P **P** **00 07 59.8 -0.2**
FITZ Fitzroy Crossi 23.95 183 P **P** **00 08 00.3 +0.3**
COEN Coen 25.52 141 P **P** **00 08 13.1 -1.3**
COEN Coen 25.52 141 P **P** **00 08 13.4 -1.0**
JCJ Chichijima 25.53 33 P **P** **00 08 12.3 -2.1**
JCJ Chichijima 25.53 33 P **P** **00 08 13.0 -1.3**
CNSH ChangSha 25.78 331 P **P** **00 08 16.6 0.0**
WB0 Warramunga Arr 26.60 164 P **P** **00 08 23.7 -0.4**
WB0 IAmb IAmb 00 09 03.3
comp=Z,44nm,0.8s
WRAB Tennant Creek 26.75 164 P **P** **00 08 25.1 -0.2**
WRAB IAmb IAmb 00 09 01.2
comp=Z,36nm,0.7s
WRAB Tennant Creek 26.75 164 *ce*P **P** **00 08 24.9 -0.5**
WRAB pmax pmax
comp=Z,23nm,0.9s
WRA Warramunga Arr 26.76 164 P **P** **00 08 23.4 -2.0**
WRA Warramunga Arr 26.76 164 P **P** **00 08 24.8 -0.7**
comp=Z,20nm,0.6s,baz=345,slow=10,SNR=64
WRA S **S** **00 12 49.8 -1.1**
comp=Z,1.5nm,0.7s,baz=340,slow=15,SNR=2.9
WRA ScP **ScP** **00 15 11.8 -0.3**
comp=Z,9.3nm,0.8s,baz=342,slow=3.4,SNR=18
WRA LR LR 00 20 51.4
comp=Z,73nm,18.2s,baz=285,slow=40
comp=Z,20nm,0.6s
WRA Warramunga Arr 26.76 164 *i* P **P** **00 08 24.7 -0.7**
WRA pmax pmax
comp=Z,27nm,0.5s
WR8 Warramunga Arr 26.81 164 P **P** **00 08 25.2 -0.7**
WR8 IAmb IAmb 00 08 52.7
comp=Z,48nm,0.8s
NJ2 Nanjing 27.03 345 ⇓P **P** **00 08 28.8 +1.1**
NJ2 pmax pmax
comp=Z,23nm,0.7s
SLVN Son La 27.04 307 P **P** **00 08 27.2 -0.8**
WHN Wuhan 27.16 336 ⇓P **P** **00 08 30.3 +1.4**
WHN S **S** **00 13 01.5 +4.4**
WHN pmax pmax
comp=Z,140nm,0.9s
PPI Padang Panjang 27.26 257 P **P** **00 08 28.9 -1.1**
comp=Z,48nm,0.9s
JNU Nakatsue 27.26 7 P **P** **00 08 29.4 -0.5**
JNU IAmb IAmb 00 08 30.8
comp=Z,31nm,0.7s
JNU Nakatsue 27.26 7 P **P** **00 08 30.5 +0.7**
MBWA Marble Bar 27.87 195 P **P** **00 08 35.8 +0.5**
GYA Guiyang 28.10 319 P **P** **00 08 37.9 +0.4**
GYA pmax pmax
comp=Z,20nm,1.3s
PSA00 Pilbara Seismi 28.24 194 P **P** **00 08 38.2 -0.4**
PSA00 IAmb IAmb 00 08 39.5
comp=Z,28nm,1.1s
PSA00 Pilbara Seismi 28.24 194 P **P** **00 08 39.2 +0.6**
JMN Monobe 28.36 12 P **P** **00 08 39.8 +0.2**
JMN IAmb IAmb 00 08 41.9
comp=Z,29nm,0.6s
JTU Tsushima 28.51 4 P **P** **00 08 43.2 +2.4**
QIS Mount Isa 29.15 155 P **P** **00 08 47.5 +0.8**
CM31 Chiang Mai Arr 29.99 297 P **P** **00 08 54.7 +0.5**
CMAR Chiang Mai Arr 29.99 297 P **P** **00 08 54.4 +0.2**
CMAR Chiang Mai Arr 29.99 297 P **P** **00 08 53.8 -0.4**
comp=Z,3.8nm,0.6s,baz=101,slow=7.3,SNR=20
CMAR PcP **PcP** **00 11 54.3 +1.0**
comp=Z,1.0nm,0.3s,baz=103,slow=2.5,SNR=1.4
CMAR ScP **ScP** **00 15 22.6 +0.3**
comp=Z,9.1nm,0.9s,baz=127,slow=1.9,SNR=29
comp=Z,3.8nm,0.6s
CMAR Chiang Mai Arr 29.99 297 *i* P **P** **00 08 54.7 +0.5**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
KMI Kunming 30.00 312 ⇑P **P** **00 08 55.3 +0.8**
KMI pmax pmax
comp=Z,110nm,0.8s
CHTO Chiang Mai 30.12 298 P **P** **00 08 55.3 0.0**
CHTO Chiang Mai 30.12 298 P **P** **00 08 55.5 +0.2**
CHTO Chiang Mai 30.12 298 P **P** **00 08 55.3 0.0**
CHTO pmax pmax
comp=Z,12nm,0.7s
AS31 Alice Springs 30.23 167 P **P** **00 08 55.5 -0.7**
ASAR Alice Springs 30.23 167 P **P** **00 08 55.5 -0.7**
ASAR Alice Springs 30.23 167 P **P** **00 08 56.0 -0.2**
comp=Z,8.6nm,0.4s,baz=356,slow=8.0,SNR=126
ASAR PcP **PcP** **00 11 54.2 +0.5**
comp=Z,2.2nm,0.6s,baz=339,slow=3.1,SNR=3.4
ASAR S **S** **00 13 44.5 -0.9**
comp=Z,2.0nm,1.0s,baz=351,slow=17,SNR=3.3
ASAR ScP **ScP** **00 15 23.1 +0.1**
comp=Z,9.0nm,0.9s,baz=352,slow=3.1,SNR=20
ASAR LR LR 00 23 25.8
comp=Z,77nm,18.9s,baz=282,slow=41
comp=Z,8.6nm,0.4s
AS01 Alice Springs 30.24 167 P **P** **00 08 56.2 -0.1**
TJN Taejon 30.27 1 ⇑*e*P **P** **00 08 55.9 -0.4**
INU Inuyama 30.68 16 P **P** **00 09 00.8 +0.8**
INU Inuyama 30.68 16 P **P** **00 09 00.4 +0.4**
INU pP **pP** **00 09 28.5 +0.5**
JGF Kuroka 31.01 17 IAmb IAmb 00 09 04.7
comp=Z,20nm,0.6s
JGF Kuroka 31.01 17 P **P** **00 09 03.7 +0.7**
KSRS Korea Array 31.35 1 P **P** **00 09 06.0 +0.2**
comp=Z,5.4nm,0.4s,baz=179,slow=10,SNR=25
KSRS PcP **PcP** **00 11 56.9 +0.5**
comp=Z,2.2nm,0.8s,baz=184,slow=2.9,SNR=4.4
KSRS LR LR 00 21 01.7
comp=Z,17μm,21.6s,baz=165,slow=34
comp=Z,5.4nm,0.4s
TIA Tai'an 31.42 345 P **P** **00 09 07.3 +0.8**
TIA pmax pmax
comp=Z,52nm,0.7s
LYN LuoYang 31.43 337 P **P** **00 09 07.4 +0.7**
LYN pmax pmax
comp=Z,59nm,1.0s
LYN pmax pmax
comp=Z,120nm,6.9s
PZH PanZhiHua 31.54 313 P **P** **00 09 08.0 +0.2**
PZH pmax pmax
comp=Z,60nm,1.0s
MAJO Matsushiro 32.13 17 P **P** **00 09 11.7 -1.0**
MAJO IAmb IAmb 00 09 13.0
comp=Z,13nm,0.7s
MAJO Matsushiro 32.13 17 *ce*P **P** **00 09 11.8 -1.0**
MAJO pmax pmax
comp=Z,12nm,0.7s
MJAR Matsushiro Arr 32.13 17 P **P** **00 09 12.4 -0.4**
MJAR Matsushiro Arr 32.13 17 P **P** **00 09 12.2 -0.5**
comp=Z,7.4nm,0.6s,baz=187,slow=8.8,SNR=18
MJAR PcP **PcP** **00 11 58.5 -0.1**
comp=Z,1.4nm,0.3s,baz=175,slow=2.5,SNR=4.8
MJAR ScP **ScP** **00 15 29.8 +0.7**
comp=Z,0.4nm,0.3s,baz=202,slow=3.4,SNR=4.2
comp=Z,7.4nm,0.6s
MJAR Matsushiro Arr 32.13 17 P **P** **00 09 12.4 -0.4**
MJAR pmax pmax
comp=Z,4.0nm,0.6s
MJB9 Matsu-Tunnel 32.13 17 IAmb IAmb 00 09 14.0
comp=Z,13nm,0.7s
XAN Xi'an 32.54 331 ⇑P **P** **00 09 16.3 -0.2**
XAN pP pP 00 09 47.8 +1.2
XAN S **S** **00 14 23.9 +2.5**
XAN pmax pmax
comp=Z,200nm,0.7s
XAN pmax pmax
comp=Z,120nm,4.2s
CD2 Chengdu 33.00 322 P **P** **00 09 20.1 -0.4**
CD2 pP pP 00 09 50.5 -0.6
CD2 S **S** **00 14 29.8 +1.2**
CD2 pmax pmax
comp=Z,260nm,1.3s
CD2 LR LR
comp=Z,280nm,10.0s
CD2 LR LR
comp=Z,310nm,9.5s
CD2 LR LR
comp=Z,320nm,9.0s
DL2 Dalian 33.14 352 P **P** **00 09 22.5 +1.0**
DL2 pmax pmax
comp=Z,66nm,0.8s
TNCH TengChong 33.17 308 P **P** **00 09 21.6 -0.6**
TNCH pP pP 00 09 53.3 +0.4
TNCH sP sP 00 10 12.8 +3.5
TNCH S **S** **00 14 27.8 -3.9**
TNCH sS sS 00 15 22.8 -0.7
TNCH pmax pmax
comp=Z,120nm,1.7s
TNCH LR LR
comp=Z,210nm,5.0s
TNCH LR LR
comp=Z,170nm,4.7s
TNCH LR LR
comp=Z,130nm,9.9s
HNS HongShan 33.22 342 ⇑P **P** **00 09 22.0 -0.2**
HNS pmax pmax
comp=Z,210nm,0.9s
MEEK Meekatharra 33.40 194 P **P** **00 09 24.0 0.0**
JSD Sado 33.54 16 P **P** **00 09 25.6 +0.6**
JMM Marumori 34.16 20 P **P** **00 09 31.0 +0.7**
TIY Taiyuan 34.25 339 *e*P **P** **00 09 31.9 +0.7**
TIY pmax pmax
comp=Z,40nm,0.8s
BJT Baijiatuan 35.26 346 P **P** **00 09 39.8 0.0**
BJT Baijiatuan 35.26 346 P **P** **00 09 39.8 0.0**
BJT pmax pmax
comp=Z,83nm,0.7s
BJT Baijiatuan 35.26 346 P **P** **00 09 40.0 +0.2**
BJT sP **sP** **00 10 24.8 -0.7**
BJI Beijing 35.28 346 P **P** **00 09 40.5 +0.6**
BJI pmax pmax
comp=Z,58nm,0.9s
BJI pmax pmax
comp=Z,67nm,4.0s
HNR Honiara 36.27 115 LR LR 00 23 53.3
comp=Z,43nm,19.9s,baz=288,slow=34
MORW Morawa 36.38 196 P **P** **00 09 49.6 +0.1**
QLP Quilpie 36.44 153 P **P** **00 09 50.2 +0.2**
MSHR Mys Shultsa 36.65 5 *ce*P **P** **00 09 53.2 +1.7**
MSHR pmax pmax
comp=Z,36nm,0.6s
PSTR Posyet 36.69 5 *c i*P **P** **00 09 53.4 +1.5**
LZH Lanzhou 36.71 328 *e*P **P** **00 09 53.1 +0.7**
LZH pP pP 00 10 22.9 +0.1
LZH sP sP 00 10 40.4 +1.6
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,280nm,4.0s
LZH LR LR
comp=Z,190nm,13.7s
LZH LR LR
comp=Z,180nm,13.7s
LZH LR LR
comp=Z,170nm,13.4s
JTM Tenmabayashi 36.90 18 P **P** **00 09 54.3 +0.6**
VLA Vladivostok 37.26 6 *ce*P **P** **00 09 58.0 +1.4**
VLA pmax pmax
comp=Z,56nm,0.9s
HHC Hu-ho-hao-te 37.36 341 ⇓*i*P **P** **00 09 59.0 +1.2**
HHC pmax pmax
comp=Z,55nm,1.0s
HHC pmax pmax
comp=Z,59nm,5.1s
BLDU Ballidu 37.67 195 P **P** **00 10 00.4 0.0**
BTO Baotou 37.68 339 *e*P **P** **00 10 01.5 +1.1**
BTO pP **pP** **00 10 31.9 +1.3**
BTO S **S** **00 15 42.6 +2.6**
BTO pmax pmax
comp=Z,21nm,0.6s
BTO pmax pmax
comp=Z,250nm,5.2s
BTO LR LR
comp=Z,170nm,5.8s
BTO LR LR
comp=Z,160nm,5.1s
BTO LR LR
comp=Z,100nm,5.5s
CN2 Changchun 37.70 358 P **P** **00 10 00.0 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
USA0B Ussuriysk Arra 38.33 6 IAmb IAmb 00 10 07.7
comp=Z,20nm,0.6s
USA0B Ussuriysk Arra 38.33 6 *d i*P **P** **00 10 06.5 +0.8**
USRK Ussuriysk Ar. 38.33 6 *i*P **P** **00 10 05.9 +0.2**
USRK Ussuriysk Ar. 38.33 6 P **P** **00 10 06.6 +0.9**
comp=Z,22nm,0.6s,baz=181,slow=8.1,SNR=34
comp=Z,22nm,0.6s
MDJ Mudanjiang 38.56 3 P **P** **00 10 08.9 +1.3**
MDJ pmax pmax
comp=Z,93nm,0.9s
MDJ Mudanjiang 38.56 3 P **P** **00 10 07.4 -0.2**
MDJ pP **pP** **00 10 36.5 -0.8**
MDJ sP **sP** **00 10 52.6 +0.1**
ERM Erimo 38.68 19 P **P** **00 10 10.7 +2.1**
JEM Erimo 38.68 19 P **P** **00 10 10.6 +2.0**
XLT XiLinHaoTe 38.97 347 *e*P **P** **00 10 11.8 +0.7**
XLT pmax pmax
comp=Z,40nm,0.7s
XLT pmax pmax
comp=Z,88nm,4.2s
MUN Mundaring 39.10 195 P **P** **00 10 13.1 +0.8**
BBOO Buckleboo 39.53 168 P **P** **00 10 16.3 +0.5**
BNX BinXian 39.62 1 ⇓P **P** **00 10 16.3 -0.1**
BNX pmax pmax
comp=Z,23nm,0.7s
NWAO Narrogin (SRO) 39.77 193 P **P** **00 10 17.3 -0.5**
NWAO Narrogin (SRO) 39.77 193 P **P** **00 10 18.7 +0.9**
NWAO Narrogin (SRO) 39.77 193 P **P** **00 10 18.4 +0.6**
NWAO Narrogin (SRO) 39.77 193 P **P** **00 10 17.3 -0.5**
NWAO pmax pmax
comp=Z,63nm,0.6s
NWAO Narrogin (SRO) 39.77 193 P **P** **00 10 18.4 +0.6**
WHYH Whyalla 40.08 166 P **P** **00 10 20.7 +0.4**
STKA Stephens Creek 40.15 161 P **P** **00 10 19.8 -1.1**
STKA Stephens Creek 40.15 161 P **P** **00 10 21.1 +0.2**
comp=Z,52nm,0.8s,baz=338,slow=8.2,SNR=65
STKA PP **PP** **00 11 55.9 -0.4**
comp=Z,17nm,0.9s,baz=312,slow=5.8,SNR=3.7
STKA ScP **ScP** **00 15 58.8 +0.2**
comp=Z,4.3nm,0.9s,baz=4.6,slow=7.2,SNR=3.2
comp=Z,52nm,0.8s
STKA Stephens Creek 40.15 161 P **P** **00 10 21.4 +0.5**
STKA Stephens Creek 40.15 161 *de*P **P** **00 10 21.0 +0.1**
ASAJ Asahikawa 40.40 17 LR LR 00 29 08.4
comp=Z,40nm,19.4s,baz=188,slow=39
ASAJ Asahikawa 40.40 17 P **P** **00 10 23.6 +0.7**
ASAJ pmax pmax
comp=Z,45nm,0.7s
JKA Kamikawa-asahi 40.40 17 P **P** **00 10 23.6 +0.7**
H11S3 WAKE ISLAND Hy 40.68 69 T T 00 55 01.1
baz=258,slow=70,SNR=23
H11S1 WAKE ISLAND Hy 40.69 69 T T 00 54 44.6
baz=258,slow=70,SNR=16
H11S2 WAKE ISLAND Hy 40.69 69 T T 00 54 47.1
baz=258,slow=70,SNR=16
HTT Hallett 40.80 165 P **P** **00 10 26.7 +0.4**
H11N1 WAKE ISLAND Hy 41.15 67 T T 00 55 18.5
baz=265,slow=74,SNR=26
H11N2 WAKE ISLAND Hy 41.16 67 T T 00 55 17.9
baz=265,slow=74,SNR=14
LSA Lhasa 41.16 309 P **P** **00 10 29.4 -0.5**
LSA pmax pmax
comp=Z,26nm,0.8s
H11N3 WAKE ISLAND Hy 41.16 67 T T 00 55 36.8
baz=265,slow=74,SNR=20
GTA Gaotai 41.31 328 ⇑P **P** **00 10 31.9 +1.3**
GTA pP pP 00 11 00.3 -1.1
GTA PcP **PcP** **00 12 30.3 +3.8**
GTA ScP **ScP** **00 16 03.8 +0.5**
GTA pmax pmax
comp=Z,97nm,0.9s
CMSA Cobar Meteorol 41.37 155 P **P** **00 10 31.9 +0.9**
YUK Yuzh-Kuril'sk 41.39 21 *de*P **P** **00 10 32.6 +1.6**
GOMU GeErMu 42.09 320 P **P** **00 10 37.1 -0.2**
GOMU pP pP 00 11 08.4 -0.1
GOMU sP sP 00 11 24.8 +0.3
GOMU pmax pmax
comp=Z,19nm,1.2s
YSS Yuzhno-Sakhali 43.04 16 P **P** **00 10 45.0 +0.7**
YSS Yuzhno-Sakhali 43.04 16 *e*P **P** **00 10 45.2 +0.9**
YSS pmax pmax
comp=Z,100nm,3.4s
YSS pmax pmax
comp=Z,40nm,0.8s
ARMA Armidale 43.23 148 P **P** **00 10 46.6 +0.5**
ARMA Armidale 43.23 148 P **P** **00 10 46.3 +0.1**
HIA Hailar 43.58 353 P **P** **00 10 49.1 +0.5**
HIA Hailar 43.58 353 P **P** **00 10 49.1 +0.5**
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 43.58 353 P **P** **00 10 48.9 +0.3**
HIA pP **pP** **00 11 18.6 -0.1**
HIA sP **sP** **00 11 33.5 -0.6**
EVN Everest 43.87 305 P **P** **00 10 51.6 -0.4**
HEH HeiHe 44.14 0 *e*P **P** **00 10 52.3 -0.7**
HEH pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 45.08 341 P **P** **00 11 01.4 +0.7**
ULN Ulaanbaatar 45.08 341 *c i*P **P** **00 11 00.9 +0.2**
ULN pmax pmax
comp=Z,90nm,0.9s
ULN Ulaanbaatar 45.08 341 P **P** **00 11 01.4 +0.7**
SONM Songino Array 45.26 341 P **P** **00 11 02.5 +0.4**
SONM IAmb IAmb 00 11 04.3
comp=Z,37nm,1.0s
SONM Songino Array 45.26 341 P **P** **00 11 02.7 +0.5**
comp=Z,28nm,0.9s,baz=159,slow=8.6,SNR=111
SONM PcP **PcP** **00 12 40.1 +0.5**
comp=Z,4.4nm,0.8s,baz=166,slow=3.9,SNR=4.0
SONM ScP **ScP** **00 16 18.4 -0.8**
comp=Z,0.3nm,0.4s,baz=164,slow=4.6,SNR=3.8
SONM LR LR 00 31 31.9
comp=Z,35nm,18.9s,baz=192,slow=38
comp=Z,28nm,0.9s
TYV Tymovskoe 46.63 14 *e*P **P** **00 11 14.0 +1.4**
TYV pmax pmax
comp=Z,10.0nm,1.0s
TYV pmax pmax
comp=Z,100nm,7.4s
ZEA Zeya 47.62 0 *e*P **P** **00 11 20.2 -0.1**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.9s
DZM Mont Dzumac 47.67 127 *e*LR LR 00 24 56.2
comp=Z,258nm,35.0s
ZAK Zakamensk 48.50 340 *e*P **P** **00 11 26.9 -0.3**
ZAK *e* 00 12 50.7
ZAK pmax pmax
comp=Z,10.0nm,1.1s
ZAK pmax pmax
comp=Z,6.0nm,1.0s
HYB Hyderabad 48.60 288 *e*P **P** **00 11 28.9 +0.5**
HYB *es*P **sP** **00 12 14.3 -1.5**
HYB *e*S **S** **00 18 24.9 +5.1**
IRK Irkutsk 49.77 342 *e*P **P** **00 11 36.8 0.0**
IRK pmax pmax
comp=Z,60nm,1.9s
MOY Mondy 50.37 339 *e*P **P** **00 11 42.2 +0.8**
MOY pmax pmax
comp=Z,30nm,1.7s
CORO Coronation Par 50.69 160 P **P** **00 11 44.1 +0.4**
WMQ Urumqi 51.04 324 *e*P **P** **00 11 48.4 +1.9**
BOD Bodaibo 52.70 351 *e*P **P** **00 11 58.4 0.0**
BOD pmax pmax
comp=Z,36nm,1.2s
PEA0B Petropavlovsk- 53.29 23 *ce*P **P** **00 12 03.7 +0.8**
PETK Petropavlovsk- 53.29 23 P **P** **00 12 03.1 +0.2**
PETK Petropavlovsk- 53.29 23 P **P** **00 12 03.9 +1.0**
comp=Z,43nm,0.7s,baz=197,slow=4.7,SNR=73
comp=Z,43nm,0.7s
PET Petropavlovsk 53.60 23 P **P** **00 12 04.1 -1.0**
PET Petropavlovsk 53.60 23 *ce*P **P** **00 12 05.7 +0.6**
PET pmax pmax
comp=Z,41nm,0.9s
PET Petropavlovsk 53.60 23 P **P** **00 12 05.0 -0.1**
comp=Z,62nm,0.7s
PET Petropavlovsk 53.60 23 P **P** **00 12 04.8 -0.3**
PET pP **pP** **00 12 35.8 +0.6**
ZSN Zaisan 54.77 326 *e*P **P** **00 12 13.9 +0.2**
ZSN Zaisan 54.77 326 *e*P **P** **00 12 13.9 +0.2**
SHLS Shalkode 55.78 319 *e*P **P** **00 12 19.3 -1.9**
SHLS pmax pmax
comp=Z,26nm,0.9s
SHLS Shalkode 55.78 319 *e*P **P** **00 12 19.4 -1.9**
comp=Z,26nm,0.9s
PDGK Podgornoye 55.85 319 P **P** **00 12 21.2 -0.5**
MK31 Makanchi Array 55.86 324 P **P** **00 12 21.8 +0.3**
MK31 Makanchi Array 55.86 324 *i* P **P** **00 12 21.6 0.0**
MK31 pmax pmax
comp=Z,49nm,0.7s
MKAR Makanchi Array 55.86 324 P **P** **00 12 21.6 0.0**
MKAR Makanchi Array 55.86 324 P **P** **00 12 22.1 +0.6**
comp=Z,50nm,0.6s,baz=117,slow=7.7,SNR=4.9
MKAR PcP **PcP** **00 13 18.8 +0.1**
comp=Z,6.4nm,0.7s,baz=104,slow=3.9,SNR=4.0
MKAR ScP **ScP** **00 17 03.6 -0.9**
comp=Z,6.4nm,0.8s,baz=116,slow=5.5,SNR=15
comp=Z,50nm,0.6s
YAK Yakutsk 55.98 2 *d i*P **P** **00 12 22.0 -0.1**
YAK Yakutsk 55.98 2 *d i*P **P** **00 12 22.4 +0.4**
YAK *e**PP **pP** **00 12 55.1 +1.8**
YAK *e* 00 13 16.0
YAK *e* 00 14 28.7
YAK *e*PPP PPP 00 15 44.2
YAK *e*S **S** **00 20 00.3 +1.4**
YAK *e* 00 21 56.4
YAK *e*SS **SS** **00 23 49.8 +2.8**
YAK pmax pmax
comp=Z,228nm,1.0s
YAK pmax pmax
comp=N,36nm,1.0s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,190nm,6.3s
YAK pmax pmax
comp=N,113nm,6.9s
YAK pmax pmax
comp=E,94nm,4.6s
YAK smax smax
comp=E,92nm,6.1s
YAK smax smax
comp=N,90nm,4.9s
YAK Yakutsk 55.98 2 P **P** **00 12 22.0 -0.1**
MAKZ Makanchi 56.05 324 P **P** **00 12 23.1 +0.2**
MAKZ Makanchi 56.05 324 P **P** **00 12 22.7 -0.2**
UZB Uzynbulak 56.07 319 *c i*P **P** **00 12 23.3 0.0**
UZB pmax pmax
comp=Z,19nm,0.6s
UZB Uzynbulak 56.07 319 ⇑*i*P **P** **00 12 23.3 0.0**
comp=Z,19nm,0.6s
SATY Saty 56.43 319 *e*P **P** **00 12 25.9 +0.1**
SATY pmax pmax
comp=Z,31nm,1.1s
SATY Saty 56.43 319 *e*P **P** **00 12 25.9 +0.1**
comp=Z,31nm,1.1s
MA2 Magadan 56.49 14 P **P** **00 12 26.2 +0.4**
MA2 Magadan 56.49 14 LR LR 00 38 02.1
comp=Z,16nm,19.4s,baz=185,slow=37
MA2 Magadan 56.49 14 *d i*P **P** **00 12 26.8 +1.0**
MA2 pmax pmax
comp=Z,29nm,0.7s
MA2 Magadan 56.49 14 P **P** **00 12 26.5 +0.7**
comp=Z,51nm,0.7s
MA2 Magadan 56.49 14 P **P** **00 12 25.5 -0.3**
MA2 pP **pP** **00 12 56.7 +0.1**
KSH Kashi 56.64 314 P **P** **00 12 28.8 +1.5**
KSH pmax pmax
comp=Z,35nm,0.9s
NIL Nilore 56.75 307 **P** **00 12 27.7 -0.5**
NIL Nilore 56.75 307 P **P** **00 12 27.7 -0.5**
NIL pmax pmax
comp=Z,81nm,0.8s
TDK Taldyqorghan 57.31 321 *c i*P **P** **00 12 32.1 +0.2**
TDK pmax pmax
comp=Z,19nm,0.7s
TDK Taldyqorghan 57.31 321 ⇑*i*P **P** **00 12 32.1 +0.2**
comp=Z,19nm,0.7s
MDOK Medeo 57.37 318 *e*P **P** **00 12 32.5 +0.1**
MDOK Medeo 57.37 318 *e*P **P** **00 12 32.6 +0.1**
TNSS Tian-Shan 57.38 318 *e*P **P** **00 12 32.5 -0.3**
TNSS Tian-Shan 57.38 318 *e*P **P** **00 12 32.6 -0.3**
AAA Alma-Ata 57.48 318 *e*P **P** **00 12 33.3 +0.2**
AAA pmax pmax
comp=Z,20nm,0.7s

AAA	**Alma-Ata**	**57.48**	318	*e*P		**P**		**00 12 33.3**	**+0.2**
	comp=Z,20nm,0.7s									
ULHL	**Ulahol**	**57.52**	317	P		**P**		**00 12 34.1**	**+0.4**
	SNR=6.2									
CHKK	**Chushkaly**	**57.71**	319	*e*P		**P**		**00 12 34.5**	**-0.1**
CHKK	**Chushkaly**	**57.71**	319	*e*P		**P**		**00 12 34.6**	**-0.1**
KUU	**Kurty**	**58.15**	319	*e*P		**P**		**00 12 37.7**	**0.0**
KUU					pmax	pmax				
	comp=Z,28nm,1.2s									
KUU	**Kurty**	**58.15**	319	*e*P		**P**		**00 12 37.7**	**0.0**
	comp=Z,28nm,1.2s									
TKM2	**Tokmak 2**	**58.23**	318	P		**P**		**00 12 38.9**	**+0.3**
	SNR=12									
KBK	**Karagaybulak**	**58.57**	317	P		**P**		**00 12 41.5**	**+0.6**
	SNR=14									
UCH	**Uchtor**	**58.70**	316	P		**P**		**00 12 41.9**	**-0.2**
	SNR=63									
ZALV	**Zalesovo Beam**	**58.71**	332	P		**P**		**00 12 40.5**	**-0.8**
ZALV	**Zalesovo Beam**	**58.71**	332	P		**P**		**00 12 40.9**	**-0.5**
	comp=Z,59nm,0.9s,baz=116,slow=6.8,SNR=126									
ZALV					LR	LR		00 39 23.3		
	comp=Z,22nm,18.7s,baz=179,slow=37									
	comp=Z,59nm,0.9s									
CHMS	**Chumysh**	**58.83**	317	P		**P**		**00 12 42.5**	**0.0**
	SNR=13									
AAK	**Ala-Archa**	**58.87**	317	P		**P**		**00 12 42.5**	**-0.4**
AAK					IAmb	IAmb		00 12 46.3		
	comp=Z,10.0nm,0.8s									
AAK	**Ala-Archa**	**58.87**	317	LR		LR		00 40 54.8		
	comp=Z,36nm,18.2s,baz=163,slow=39									
AAK	**Ala-Archa**	**58.87**	317	P		**P**		**00 12 43.5**	**+0.5**
	SNR=9.2									
AAK	**Ala-Archa**	**58.87**	317*c*	*i*P		**P**		**00 12 43.1**	**+0.2**
AAK					pmax	pmax				
	comp=Z,11nm,0.9s									
SGDS	**Sogindy**	**59.10**	318⇑	*i*P		**P**		**00 12 44.1**	**-0.3**
USP	**Ospenovka**	**59.11**	318	P		**P**		**00 12 44.6**	**+0.1**
	SNR=47									
EKS2	**Erkin-Say**	**59.36**	317	P		**P**		**00 12 46.8**	**+0.5**
	SNR=65									
SEY	**Seymchan**	**59.82**	13	*e*P		**P**		**00 12 49.0**	**+0.2**
SEY					pmax	pmax				
	comp=Z,13nm,0.8s									
KURK	**Kurchatov**	**59.99**	327	P		**P**		**00 12 50.4**	**+0.1**
KURK	**Kurchatov**	**59.99**	327*c*	*i*P		**P**		**00 12 50.3**	**+0.1**
KURK					pmax	pmax				
	comp=Z,120nm,0.7s									
KURK	**Kurchatov**	**59.99**	327	P		**P**		**00 12 50.3**	**+0.1**
KURK				pP		**pP**		**00 13 21.5**	**-1.8**
KURBB	**Kurchatov Arra**	**59.99**	327	P		**P**		**00 12 50.3**	**+0.1**
	comp=Z,84nm,0.8s,baz=125,slow=6.0,SNR=433									
KURBB					PP	**PP**		**00 15 04.3**	**+0.2**
	comp=Z,3.6nm,1.1s,baz=128,slow=9.8,SNR=4.7									
KURBB					ScP	**ScP**		**00 17 21.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=114,slow=4.1,SNR=3.5									
	comp=Z,84nm,0.8s									
KURBB	**Kurchatov Arra**	**59.99**	327	P		**P**		**00 12 50.2**	**0.0**
BTLS	**Baital**	**60.12**	319*c*	*i*P		**P**		**00 12 50.9**	**-0.3**
BTLS					pmax	pmax				
	comp=Z,13nm,0.7s									
BTLS	**Baital**	**60.12**	319⇑	*i*P		**P**		**00 12 50.9**	**-0.3**
	comp=Z,13nm,0.7s									
KBL	**Kabul**	**60.36**	306			**P**		**00 12 52.7**	**-0.7**
KBL	**Kabul**	**60.36**	306	P		**P**		**00 12 52.7**	**-0.7**
KBL					pmax	pmax				
	comp=Z,35nm,0.8s									
DZA	**Taraz**	**61.13**	316	*e*P		**P**		**00 12 58.1**	**0.0**
DZA					pmax	pmax				
	comp=Z,18nm,0.7s									
DZA	**Taraz**	**61.13**	316	*e*P		**P**		**00 12 58.1**	**0.0**
	comp=Z,18nm,0.7s									
CHGR	**Chuyangaron**	**61.35**	311	P		**P**		**00 12 59.4**	**-0.5**
SIMJ	**Simiganj**	**61.47**	311	P		**P**		**00 12 59.9**	**-0.8**
SIMJ					IAmb	IAmb		00 13 01.2		
	comp=Z,17nm,0.7s									
SIMJ	**Simiganj**	**61.47**	311	P		**P**		**00 12 60.0**	**-0.8**
SIMJ				pP		**pP**		**00 13 31.5**	**-2.6**
KK31	**Karatay Array**	**61.76**	316	*i*P		**P**		**00 13 02.2**	**-0.2**
KKAR	**Karatay Array**	**61.76**	316			**P**		**00 13 01.6**	**-0.8**
KKAR	**Karatay Array**	**61.76**	316	P		**P**		**00 13 01.6**	**-0.8**
IUG	**Iuzhnay**	**61.78**	315	*e*P		**P**		**00 13 02.5**	**-0.1**
IUG					pmax	pmax				
	comp=Z,23nm,0.7s									
IUG	**Iuzhnay**	**61.78**	315	*e*P		**P**		**00 13 02.6**	**-0.1**
	comp=Z,23nm,0.7s									
CHM	**Chimkent**	**62.14**	315	*e*P		**P**		**00 13 04.9**	**0.0**
CHM					pmax	pmax				
	comp=Z,10.0nm,0.5s									
CHM	**Chimkent**	**62.14**	315	*e*P		**P**		**00 13 05.0**	**0.0**
	comp=Z,9.8nm,0.5s									
BRLS	**Borolday**	**62.20**	316*c*	*i*P		**P**		**00 13 05.4**	**0.0**
BRLS					pmax	pmax				
	comp=Z,21nm,0.7s									
BRLS	**Borolday**	**62.20**	316⇑	*i*P		**P**		**00 13 05.4**	**0.0**
	comp=Z,21nm,0.7s									
BRZS	**Berezniki**	**63.01**	324*c*	*i*P		**P**		**00 13 10.7**	**+0.2**
BRZS	**Berezniki**	**63.01**	324⇑	*i*P		**P**		**00 13 10.7**	**+0.2**
BVA0	**Borovoye Array**	**65.58**	326	*i*P		**P**		**00 13 27.2**	**0.0**
BVAR	**Borovoye Array**	**65.58**	326	P		**P**		**00 13 27.2**	**0.0**
	comp=Z,90nm,0.8s,baz=117,slow=8.5,SNR=412									
BVAR					LR	LR		00 43 49.4		
	comp=Z,27nm,18.8s,baz=156,slow=37									
	comp=Z,90nm,0.8s									
TIXI	**Tiksi**	**65.61**	1	P		**P**		**00 13 27.1**	**0.0**
TIXI	**Tiksi**	**65.61**	1	LR		LR		00 43 03.2		
	comp=Z,19nm,20.6s,baz=194,slow=37									
TIXI	**Tiksi**	**65.61**	1*c*	*i*P		**P**		**00 13 27.4**	**+0.3**
TIXI					pmax	pmax				
	comp=Z,33nm,0.9s									
TIXI	**Tiksi**	**65.61**	1	P		**P**		**00 13 26.9**	**-0.1**
BRVK	**Borovoye**	**65.65**	326	P		**P**		**00 13 27.3**	**-0.3**
BRVK	**Borovoye**	**65.65**	326*c*	*i*P		**P**		**00 13 27.6**	**-0.1**
BRVK					pmax	pmax				
	comp=Z,110nm,0.9s									
BRVK	**Borovoye**	**65.65**	326	P		**P**		**00 13 27.9**	**+0.2**
ATKA	**Atka Island**	**66.55**	35	P		**P**		**00 13 34.0**	**+0.6**
BILL	**Bilibino**	**67.35**	15*de*	P		**P**		**00 13 38.3**	**+0.1**
BILL					pmax	pmax				
	comp=Z,9.0nm,0.9s									
NIKH	**Nikolski High**	**69.87**	35	P		**P**		**00 13 54.8**	**+0.7**
NIKH	**Nikolski High**	**69.87**	35	P		**P**		**00 13 54.1**	**0.0**
	baz=252									
SPIA	**Saint Paul Isl**	**70.48**	31	P		**P**		**00 13 58.0**	**+0.3**
	baz=250									
AB31	**Akbulak array**	**70.57**	320	*i*P		**P**		**00 13 57.9**	**-0.5**
ABKAR	**Akbulak array**	**70.57**	320	P		**P**		**00 13 57.7**	**-0.7**
UNV	**Unalaska Valle**	**71.47**	35	IAmb		IAmb		00 14 05.0		
	comp=Z,28nm,0.7s									
UNV	**Unalaska Valle**	**71.47**	35	P		**P**		**00 14 03.8**	**0.0**
	baz=254									
AKUT	**Akutan**	**71.97**	35	P		**P**		**00 14 07.6**	**+0.9**
AKTO	**Aktyubinsk**	**72.06**	321	LR		LR		00 50 34.0		
	comp=Z,34nm,18.7s,baz=236,slow=40									
AKTO	**Aktyubinsk**	**72.06**	321	P		**P**		**00 14 06.8**	**-0.6**
SVE	**Sverdlovsk**	**72.18**	328*d*	*i*P		**P**		**00 14 08.1**	**+0.1**
SVE					pmax	pmax				
	comp=Z,112nm,1.0s									
CASY	**Casey**	**73.05**	187	P		**P**		**00 14 13.4**	**+0.6**
ARTI	**Arti**	**73.26**	327	P		**P**		**00 14 13.3**	**-1.1**
ARTI	**Arti**	**73.26**	327*c*	*i*P		**P**		**00 14 13.6**	**-0.7**
ARTI								00 14 28.1		
ARTI					*PP	**pP**		**00 14 46.8**	**-1.6**
ARTI								00 16 59.0		
ARTI					S	**S**		**00 23 31.3**	**+0.3**
ARTI					SS	**SS**		**00 28 08.9**	**-6.7**
ARTI					pmax	pmax				
	comp=Z,61nm,1.0s									
FALS	**False Pass**	**73.48**	34	P		**P**		**00 14 15.7**	**+0.1**
	baz=256									
M11K	**Mekoryuk**	**73.51**	28	P		**P**		**00 14 14.9**	**-0.8**
	baz=252									
S12K	**Black Hills**	**74.42**	34	P		**P**		**00 14 20.9**	**-0.2**
	baz=258									
TNA	**Tin City**	**74.46**	23	P		**P**		**00 14 21.2**	**+0.1**
	baz=250									
K13K	**Kusilvak Mount**	**74.68**	27	IAmb		IAmb		00 14 25.0		
	comp=Z,27nm,0.8s									
K13K	**Kusilvak Mount**	**74.68**	27	P		**P**		**00 14 23.5**	**+1.0**
	baz=254,SNR=8.8									
M13K	**Dall Lake**	**74.88**	29	P		**P**		**00 14 24.2**	**+0.6**
	baz=255									
F14K	**Arctic Creek**	**75.05**	23	P		**P**		**00 14 25.3**	**+0.8**
	baz=251									
ANM	**Nome**	**75.15**	24	P		**P**		**00 14 25.1**	**0.0**
	baz=252									
SDPT	**Sand Point**	**75.23**	34	P		**P**		**00 14 25.6**	**-0.1**
	baz=259									
J14K	**Nanvaranak Lak**	**75.40**	26	P		**P**		**00 14 26.7**	**+0.2**
	baz=254									
L14K	**Kuka Creek**	**75.43**	28			**P**		**00 14 27.4**	**+0.6**
L14K					IAmb	IAmb		00 14 29.3		
	comp=Z,27nm,0.8s									
L14K	**Kuka Creek**	**75.43**	28	P		**P**		**00 14 27.2**	**+0.5**
	baz=255,SNR=11									
N14K	**Kuskokwak Cree**	**75.56**	30	P		**P**		**00 14 28.4**	**+0.8**
	baz=257,SNR=7.4									
O14K	**Tigyukauivet M**	**75.62**	30	P		**P**		**00 14 28.1**	**+0.3**
	baz=257									
M14K	**Bethel**	**75.62**	29	P		**P**		**00 14 28.5**	**+0.7**
	baz=256,SNR=14									
CHNA	**Chernabura Isl**	**75.64**	35	P		**P**		**00 14 28.7**	**+0.6**
CHNA	**Chernabura Isl**	**75.64**	35	P		**P**		**00 14 27.5**	**-0.6**
	baz=260									
F15K	**North Star Dit**	**75.79**	23	P		**P**		**00 14 28.9**	**+0.1**
	baz=252									
G15K	**Niukluk**	**75.82**	24	P		**P**		**00 14 29.5**	**+0.6**
	baz=253									
S14K	**Fog Glacier**	**75.92**	33	P		**P**		**00 14 29.6**	**-0.3**
	baz=260									
L15K	**Ungalak Mounta**	**76.07**	28	P		**P**		**00 14 31.3**	**+0.9**
	baz=256,SNR=5.9									
K15K	**Wolf Creek Mou**	**76.19**	27	P		**P**		**00 14 32.1**	**+1.0**
	baz=256,SNR=7.2									
M15K	**Kasigluk River**	**76.22**	29	P		**P**		**00 14 32.1**	**+0.8**
	baz=257,SNR=12									
C16K	**Lisburne Hills**	**76.33**	21	P		**P**		**00 14 32.6**	**+0.9**
	baz=251									
O15K	**Ungalikthiuk R**	**76.33**	30	P		**P**		**00 14 32.4**	**+0.5**
	baz=258									
N15K	**Kwethluk River**	**76.40**	29	IAmb		IAmb		00 14 34.6		
	comp=Z,31nm,1.0s									
N15K	**Kwethluk River**	**76.40**	29	P		**P**		**00 14 33.0**	**+0.6**
	baz=258,SNR=7.6									
H16K	**Elim**	**76.47**	25	P		**P**		**00 14 32.9**	**+0.3**
	baz=255									
CHGN	**Chignik**	**76.55**	34	IAmb		IAmb		00 14 34.2		
	comp=Z,22nm,1.0s									
CHGN	**Chignik**	**76.55**	34	P		**P**		**00 14 33.8**	**+0.6**
	baz=260									
G16K	**Koyuk River**	**76.62**	24	P		**P**		**00 14 33.7**	**+0.3**
	baz=255									
J16K	**Anvik River**	**76.84**	26	IAmb		IAmb		00 14 36.9		
	comp=Z,16nm,0.8s									
J16K	**Anvik River**	**76.84**	26	P		**P**		**00 14 35.6**	**+0.9**
	baz=257,SNR=8.0									
I17K	**Unalakleet**	**76.94**	26	IAmb		IAmb		00 14 37.5		
	comp=Z,23nm,0.8s									
I17K	**Unalakleet**	**76.94**	26	P		**P**		**00 14 36.5**	**+1.3**
	baz=257,SNR=5.8									
D17K	**Noatak River**	**76.97**	22	P		**P**		**00 14 36.4**	**+1.0**
	baz=254,SNR=18									
L16K	**Owhat River**	**77.01**	28	IAmb		IAmb		00 14 37.5		
	comp=Z,21nm,0.7s									
L16K	**Owhat River**	**77.01**	28	P		**P**		**00 14 36.0**	**+0.3**
	baz=258,SNR=17									
N16K	**Nishlik Lake**	**77.10**	29	P		**P**		**00 14 37.1**	**+0.8**
	baz=259,SNR=11									
M16K	**Timber Creek**	**77.12**	29	IAmb		IAmb		00 14 38.6		
	comp=Z,25nm,0.7s									
M16K	**Timber Creek**	**77.12**	29	P		**P**		**00 14 37.1**	**+0.7**
	baz=259,SNR=9.7									
RDOG	**Red Dog Mine**	**77.13**	21	P		**P**		**00 14 36.9**	**+0.6**
	baz=254									
C17K	**DeLong Mountai**	**77.16**	21	P		**P**		**00 14 36.8**	**+0.3**
	baz=253									
P16K	**Nushagak River**	**77.23**	31	P		**P**		**00 14 37.6**	**+0.6**
	baz=260									
E17K	**Hotham Inlet**	**77.27**	22	P		**P**		**00 14 37.8**	**+0.8**
	baz=255,SNR=10									
O16K	**Kokwok River B**	**77.28**	30	IAmb		IAmb		00 14 38.9		
	comp=Z,19nm,0.7s									
O16K	**Kokwok River B**	**77.28**	30	P		**P**		**00 14 37.5**	**+0.3**
	baz=260,SNR=8.3									
F17K	**Baldwin Pennin**	**77.32**	23	P		**P**		**00 14 38.1**	**+0.7**
	baz=256									
G17K	**Kiwalik Mounta**	**77.33**	24	P		**P**		**00 14 38.1**	**+0.7**
	baz=256,SNR=6.1									
H17K	**Granite Mounta**	**77.51**	25	P		**P**		**00 14 39.2**	**+0.8**
	baz=257,SNR=8.5									
J17K	**VABM Dome**	**77.53**	26	P		**P**		**00 14 38.9**	**+0.3**
J17K					IAmb	IAmb		00 14 40.8		
	comp=Z,21nm,0.8s									
J17K	**VABM Dome**	**77.53**	26	P		**P**		**00 14 39.8**	**+1.2**
	baz=258,SNR=14									
L17K	**Donlin**	**77.64**	28	P		**P**		**00 14 40.4**	**+1.2**
	baz=259,SNR=19									
K17K	**Iditarod**	**77.75**	27	IAmb		IAmb		00 14 42.6		
	comp=Z,33nm,0.9s									
K17K	**Iditarod**	**77.75**	27	P		**P**		**00 14 40.9**	**+1.1**
	baz=259,SNR=14									
O17K	**Koliganek Bris**	**77.81**	30	P		**P**		**00 14 40.6**	**+0.5**
	baz=261,SNR=6.9									
E18K	**Tukpahlearik C**	**77.81**	22	IAmb		IAmb		00 14 42.5		
	comp=Z,32nm,0.7s									
E18K	**Tukpahlearik C**	**77.81**	22	P		**P**		**00 14 41.0**	**+1.0**
	baz=256,SNR=19									
Q16K	**King Salmon**	**77.86**	31	P		**P**		**00 14 40.8**	**+0.4**
	baz=261									
R17L	**Mt. Peulik Vol**	**77.86**	32	P		**P**		**00 14 40.4**	**-0.2**
	baz=262,SNR=8.1									
PLK4	**Peulik 4**	**77.87**	32	IAmb		IAmb		00 14 41.7		
	comp=Z,35nm,0.8s									
B18K	**Kokolik River**	**77.88**	20	P		**P**		**00 14 41.3**	**+0.9**
	baz=254,SNR=7.0									
N17K	**Nushagak Hills**	**77.88**	29	P		**P**		**00 14 41.8**	**+1.2**
	baz=261,SNR=6.2									
C18K	**Utukok River**	**77.91**	21	P		**P**		**00 14 41.1**	**+0.4**
	baz=255,SNR=8.9									
M17K	**Holitna River**	**77.91**	28	IAmb		IAmb		00 14 43.1		
	comp=Z,22nm,0.9s									
M17K	**Holitna River**	**77.91**	28	P		**P**		**00 14 41.4**	**+0.6**
	baz=260,SNR=9.2									
F18K	**Selawik**	**77.98**	23	P		**P**		**00 14 41.4**	**+0.4**
	baz=257,SNR=11									
AKT	**Akhty**	**77.99**	311	*e*P		**P**		**00 14 41.4**	**-0.4**
AKT				*e*				00 14 49.0		
AKT				*e**PP		**pwP**		**00 15 18.3**	**-1.9**
AKT					pmax	pmax				
	comp=Z,55nm,0.8s									
CHIR	**Chirikof Islan**	**78.03**	34	P		**P**		**00 14 42.6**	**+1.1**
P17K	**Kvichak River**	**78.05**	31	P		**P**		**00 14 42.7**	**+1.2**
	baz=262,SNR=6.3									
H18K	**Honhosa River**	**78.19**	25	P		**P**		**00 14 42.8**	**+0.5**
	baz=258,SNR=5.3									
Q17K	**Contact Creek**	**78.20**	32	P		**P**		**00 14 41.7**	**-0.8**
	baz=262									
G18K	**Tagagawik**	**78.23**	24	P		**P**		**00 14 42.9**	**+0.4**
	baz=258,SNR=5.4									
A19K	**Wainwright**	**78.35**	19	P		**P**		**00 14 43.1**	**+0.1**
	baz=255									
L18K	**Granite Mounta**	**78.40**	28	IAmb		IAmb		00 14 46.0		
	comp=Z,18nm,0.8s									
L18K	**Granite Mounta**	**78.40**	28	P		**P**		**00 14 44.0**	**+0.6**
	baz=261,SNR=19									
KIRV	**Kirov**	**78.43**	329*c*	*i*P		**P**		**00 14 43.1**	**-0.5**
ACHA	**Angle Creek He**	**78.49**	32	P		**P**		**00 14 43.0**	**-1.1**
N18K	**Kilae Creek**	**78.54**	29	P		**P**		**00 14 44.9**	**+0.7**
	baz=262,SNR=6.3									
C19K	**Lookout Ridge**	**78.58**	21	IAmb		IAmb		00 14 46.6		
	comp=Z,27nm,0.7s									
C19K	**Lookout Ridge**	**78.58**	21	P		**P**		**00 14 45.2**	**+0.9**
	baz=257,SNR=15									
J18K	**Innoko River**	**78.59**	26	P		**P**		**00 14 45.0**	**+0.6**
	baz=260,SNR=11									
M18K	**Stony River**	**78.69**	29	P		**P**		**00 14 45.5**	**+0.5**
	baz=262,SNR=15									
P18K	**Big Mountain,**	**78.69**	31	P		**P**		**00 14 45.5**	**+0.3**
	baz=262,SNR=6.0									
Q18K	**Katmai Hardscr**	**78.71**	31	P		**P**		**00 14 44.7**	**-0.7**
	baz=263,SNR=8.3									
F19K	**Shaleruckik Mo**	**78.76**	23	P		**P**		**00 14 45.3**	**0.0**
	baz=259									
O18K	**Koktuh Hills**	**78.76**	30	IAmb		IAmb		00 14 47.7		
	comp=Z,36nm,0.7s									
O18K	**Koktuh Hills**	**78.76**	30	P		**P**		**00 14 46.2**	**+0.7**
	baz=262,SNR=22									
BELG	**Belogornoye**	**78.78**	322*ce*	P		**P**		**00 14 45.2**	**-0.4**
BELG					pmax	pmax				
	comp=Z,17nm,0.9s									
R18K	**Karluk**	**78.88**	33	P		**P**		**00 14 45.6**	**-0.4**
	baz=264									
G19K	**Purcell Mounta**	**78.90**	24	IAmb		IAmb		00 14 48.3		
	comp=Z,22nm,0.9s									
G19K	**Purcell Mounta**	**78.90**	24	P		**P**		**00 14 46.3**	**+0.2**
	baz=260,SNR=15									
SII	**Sitkinak Islan**	**78.91**	34	P		**P**		**00 14 47.6**	**+1.2**
SII	**Sitkinak Islan**	**78.91**	34	P		**P**		**00 14 47.1**	**+0.7**
	baz=264									
D19K	**Kuna River**	**78.97**	21	IAmb		IAmb		00 14 48.2		
	comp=Z,20nm,0.7s									
D19K	**Kuna River**	**78.97**	21	P		**P**		**00 14 47.0**	**+0.5**
	baz=258,SNR=12									
H19K	**Roundabout Mou**	**79.05**	24	P		**P**		**00 14 47.9**	**+1.0**
H19K					IAmb	IAmb		00 14 49.5		
	comp=Z,29nm,0.8s									
H19K	**Roundabout Mou**	**79.05**	24	P		**P**		**00 14 47.8**	**+0.9**
	baz=260,SNR=23									
E19K	**Redstone River**	**79.09**	22	IAmb		IAmb		00 14 49.6		
	comp=Z,28nm,0.9s									
E19K	**Redstone River**	**79.09**	22	P		**P**		**00 14 47.8**	**+0.7**
	baz=259,SNR=24									
J19K	**Poorman**	**79.16**	26	P		**P**		**00 14 48.3**	**+0.8**
	baz=261,SNR=9.6									
L19K	**White Mountain**	**79.24**	28	P		**P**		**00 14 48.9**	**+0.8**
	baz=262,SNR=11									
N19K	**Bonanza Creek**	**79.24**	29	IAmb		IAmb		00 14 50.2		
	comp=Z,17nm,0.8s									
N19K	**Bonanza Creek**	**79.24**	29	P		**P**		**00 14 48.8**	**+0.6**
	baz=263,SNR=16									
O19K	**Port Alsworth**	**79.25**	30	P		**P**		**00 14 48.6**	**+0.6**
	baz=263									
M19K	**Big River Lodg**	**79.42**	28	P		**P**		**00 14 50.0**	**+0.9**
	baz=263,SNR=7.1									
Q19K	**Cape Douglas,**	**79.45**	31	P		**P**		**00 14 48.5**	**-0.8**
	baz=264,SNR=6.0									
OHAK	**Old Harbor**	**79.47**	33	IAmb		IAmb		00 14 50.7		
	comp=Z,19nm,0.7s									
OHAK	**Old Harbor**	**79.47**	33	P		**P**		**00 14 50.1**	**+0.8**
OHAK	**Old Harbor**	**79.47**	33	P		**P**		**00 14 49.9**	**+0.6**
	baz=265,SNR=9.3									
D20K	**Etivluk River**	**79.55**	21	IAmb		IAmb		00 14 52.0		
	comp=Z,40nm,1.1s									
D20K	**Etivluk River**	**79.55**	21	P		**P**		**00 14 50.1**	**+0.5**
	baz=260,SNR=26									
F20K	**Avaraart Lake**	**79.60**	23	P		**P**		**00 14 50.4**	**+0.6**
	baz=261									
B20K	**Meade River**	**79.61**	20	IAmb		IAmb		00 14 51.8		
	comp=Z,25nm,0.7s									
B20K	**Meade River**	**79.61**	20	P		**P**		**00 14 50.7**	**+0.9**
	baz=259									
E20K	**Nigu River**	**79.63**	22	P		**P**		**00 14 50.5**	**+0.5**
	baz=260,SNR=27									
H20K	**Anotleneega Mo**	**79.69**	25	P		**P**		**00 14 51.2**	**+0.8**
	baz=262,SNR=25									
L20K	**Farewell, AK**	**79.73**	28	P		**P**		**00 14 51.4**	**+0.7**
	baz=263,SNR=11									
P19K	**Oil Pt**	**79.73**	31	P		**P**		**00 14 51.4**	**+0.7**
	baz=264									
K20K	**Telida**	**79.75**	27	IAmb		IAmb		00 14 53.6		
	comp=Z,29nm,1.3s									
K20K	**Telida**	**79.75**	27	P		**P**		**00 14 51.2**	**+0.4**
	baz=263,SNR=15									
I20K	**Naaghedeneel**	**79.76**	25	P		**P**		**00 14 51.4**	**+0.7**
	baz=262									
ILSW	**Iliamna Southw**	**79.81**	30	IAmb		IAmb		00 14 55.9		
	comp=Z,18nm,0.4s									
RAYN	**Ar Rayn**	**79.81**	293	P		**P**		**00 14 51.0**	**-1.0**
RAYN					IAmb	IAmb		00 14 52.2		
	comp=Z,38nm,0.7s									
RAYN	**Ar Rayn**	**79.81**	293	P		**P**		**00 14 51.2**	**-0.8**
J20K	**Nowinta River**	**79.82**	26	IAmb		IAmb		00 14 53.2		
	comp=Z,15nm,0.7s									
J20K	**Nowinta River**	**79.82**	26	P		**P**		**00 14 51.7**	**+0.6**
	baz=263,SNR=14									
KDAK	**Kodiak Island**	**79.90**	32	P		**P**		**00 14 51.4**	**-0.2**
KDAK	**Kodiak Island**	**79.90**	32	LR		LR		00 44 47.9		
	comp=Z,19nm,21.7s,baz=272,slow=31									
KDAK	**Kodiak Island**	**79.90**	32*de*	P		**P**		**00 14 52.3**	**+0.7**
KDAK					pmax	pmax				
	comp=Z,28nm,0.8s									
KDAK	**Kodiak Island**	**79.90**	32	P		**P**		**00 14 51.9**	**+0.3**
	baz=265									
M20K	**Styx River**	**80.01**	28	IAmb		IAmb		00 14 54.8		
	comp=Z,27nm,0.8s									
M20K	**Styx River**	**80.01**	28	P		**P**		**00 14 53.2**	**+0.9**
	baz=264									
Q20K	**Shuyak Island**	**80.07**	32	P		**P**		**00 14 52.3**	**-0.2**
	baz=265,SNR=11									
SYI	**Shuyak Island**	**80.07**	32	IAmb

baz=266,SNR=63
CUT Chulitna 81.40 28 P P 00 14 58.5 -1.0
baz=266
M22K Willow 81.43 29 P P 00 14 59.5 -0.1
baz=267,SNR=5.2
TRF Thorofare Moun 81.45 27 P 00 14 59.4 -0.6
TRF IAmb IAmb 00 15 01.4
comp=Z,29nm,0.8s
TRF Thorofare Moun 81.45 27 P P 00 15 00.0 0.0
baz=266,SNR=29
GOF Gofitskoye 81.50 315 ceP P 00 15 00.6 +0.1
GEVA Gevas 81.54 308 IAmb IAmb 00 15 02.7
comp=Z,42nm,0.9s
O22K Cooper Landing 81.55 30 P P 00 15 00.3 0.0
baz=267
RC01 Rabbit Creek A 81.57 29 IAmb IAmb 00 15 01.1
comp=Z,20nm,0.6s
RC01 Rabbit Creek A 81.57 29 P P 00 14 59.7 -0.8
baz=267,SNR=11
KBZ Khabaz 81.61 313 P P 00 15 00.7 -0.2
comp=Z,8.1nm,1.0s,baz=115,slow=5.7,SNR=15
KBZ LR LR 00 56 31.2
comp=Z,28nm,18.6s,baz=128,slow=39
comp=Z,8.1nm,1.0s
KBZ Khabaz 81.61 313 ceP P 00 15 00.8 -0.2
KBZ pmax pmax
comp=Z,13nm,1.1s
SEW Seward 81.67 30 IAmb IAmb 00 15 01.9
comp=Z,22nm,0.8s
SEW Seward 81.67 30 P P 00 15 00.5 -0.5
baz=267
D23K Nanushuk River 81.72 21 IAmb IAmb 00 15 04.0
comp=Z,31nm,0.8s
D23K Nanushuk River 81.72 21 P P 00 15 02.2 +1.1
baz=265,SNR=22
COLD Coldfoot 81.76 23 IAmb IAmb 00 15 04.0
comp=Z,37nm,0.8s
COLD Coldfoot 81.76 23 P P 00 15 02.1 +0.8
baz=266,SNR=12
KIV Kislovodsk 81.76 313 P P 00 15 01.5 -0.4
KIV IAmb IAmb 00 15 03.3
comp=Z,20nm,0.8s
KIV Kislovodsk 81.76 313 ⇑P P 00 15 01.6 -0.4
KIV Kislovodsk 81.76 313 eP P 00 15 01.9 -0.1
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 81.76 313 P P 00 15 01.6 -0.4
comp=Z,23nm,1.3s
G23K Bananza Creek 81.79 24 IAmb IAmb 00 15 04.3
comp=Z,26nm,0.8s
G23K Bananza Creek 81.79 24 P P 00 15 02.4 +0.8
baz=266,SNR=42
C23K Itkillik River 81.82 20 P P 00 15 02.3 +0.7
baz=265,SNR=35
PMR Palmer 81.89 29 IAmb IAmb 00 15 03.2
comp=Z,29nm,0.8s
PMR Palmer 81.89 29 P P 00 15 01.7 -0.4
baz=268,SNR=8.1
H23K Yukon River 81.93 24 IAmb IAmb 00 15 04.5
comp=Z,32nm,0.7s
H23K Yukon River 81.93 24 P P 00 15 02.9 +0.6
baz=266,SNR=28
I23K Minto, Yukon-K 81.96 25 P P 00 15 02.6 +0.2
I23K IAmb IAmb 00 15 04.3
comp=Z,20nm,0.7s
I23K Minto, Yukon-K 81.96 25 P P 00 15 02.8 +0.3
baz=267,SNR=17
E23K Chandalar 82.04 22 IAmb IAmb 00 15 05.4
comp=Z,25nm,0.8s
E23K Chandalar 82.04 22 P P 00 15 03.7 +0.8
baz=266,SNR=28
NEA2 Nenana 82.06 26 IAmb IAmb 00 15 05.1
comp=Z,29nm,0.8s
NEA2 Nenana 82.06 26 P P 00 15 02.5 -0.4
baz=267,SNR=29
MCK McKinley 82.08 27 P P 00 15 02.9 -0.2
baz=267,SNR=32
TOLK Toolik Lake Re 82.10 22 IAmb IAmb 00 15 05.7
comp=Z,31nm,0.8s
TOLK Toolik Lake Re 82.10 22 P P 00 15 03.7 +0.6
baz=266,SNR=21
RND Reindeer 82.10 27 IAmb IAmb 00 15 03.9
comp=Z,21nm,0.8s
KNK Knik Glacier 82.20 29 IAmb IAmb 00 15 05.2
comp=Z,33nm,0.7s
KNK Knik Glacier 82.20 29 P P 00 15 03.2 -0.6
baz=268,SNR=16
PWL Port Wells 82.25 29 P P 00 15 03.6 -0.4
baz=268,SNR=42
ABPO Ambohimpanom 82.27 250 P P 00 15 04.5 -0.7
ABPO IAmb IAmb 00 15 34.2
comp=Z,50nm,1.8s
ABPO Ambohimpanom 82.27 250 P P 00 15 04.5 -0.7
ABPO pmax pmax
comp=Z,50nm,1.8s
GURO Guroymak-BITLI 82.34 308 P P 00 15 05.7 +0.6
VRH Novokhopyorsk 82.39 321 eP P 00 15 02.4 -2.5
VRH pmax pmax
comp=Z,30nm,0.9s
D24K Happy Valley 82.40 21 P P 00 15 05.7 +1.0
baz=267,SNR=24
E24K Your Creek 82.47 22 P P 00 15 05.1 0.0
baz=267
C24K Franklin Bluff 82.48 20 IAmb IAmb 00 15 06.9
comp=Z,24nm,0.7s
C24K Franklin Bluff 82.48 20 P P 00 15 05.1 +0.1
baz=267,SNR=11
WRH Wood River Hil 82.48 26 IAmb IAmb 00 15 06.5
comp=Z,24nm,1.0s
M23K Glacier View 82.57 29 P P 00 15 05.9 +0.2
baz=269,SNR=20
COLA College 82.59 25 P P 00 15 04.6 -1.1
COLA College 82.59 25 diP P 00 15 05.7 0.0
COLA pmax pmax
comp=Z,17nm,0.8s
COLA College 82.59 25 P P 00 15 06.1 +0.4
baz=268
CCB Clear Creek Bu 82.61 26 IAmb IAmb 00 15 06.9
comp=Z,17nm,0.9s
H24K Noodor Dome 82.61 24 IAmb IAmb 00 15 09.0
comp=Z,38nm,0.8s
H24K Noodor Dome 82.61 24 P P 00 15 06.5 +0.6
baz=268,SNR=68
F24K Squaw Lake 82.67 23 IAmb IAmb 00 15 09.1
comp=Z,18nm,0.8s
F24K Squaw Lake 82.67 23 P P 00 15 06.9 +0.8
baz=268,SNR=24
P23K Montague Islan 82.69 30 IAmb IAmb 00 15 08.3
comp=Z,36nm,0.8s
P23K Montague Islan 82.69 30 P P 00 15 06.2 -0.1
baz=269,SNR=7.8
SCM Sheep Creek Mo 82.75 28 IAmb IAmb 00 15 08.7
comp=Z,38nm,1.1s
SCM Sheep Creek Mo 82.75 28 P P 00 15 06.5 -0.3
baz=269,SNR=21
POKR Poker Plat Res 82.78 25 P P 00 15 06.6 -0.1
baz=268
G24K Hadweenzic Riv 82.80 24 IAmb IAmb 00 15 09.7
comp=Z,42nm,1.0s
G24K Hadweenzic Riv 82.80 24 P P 00 15 07.7 +0.9
baz=268,SNR=40
GLI Glacier Island 82.85 29 P P 00 15 06.6 -0.5
baz=269,SNR=10
HDA Harding Lake 82.97 26 IAmb IAmb 00 15 08.3
comp=Z,28nm,0.7s
HDA Harding Lake 82.97 26 P P 00 15 06.7 -1.0
baz=269,SNR=33
IL31 83.00 26 IAmb IAmb 00 15 08.4
comp=Z,13nm,0.7s
ILAR Eielson Array 83.00 26 P P 00 15 05.8 -2.0
ILAR Eielson Array 83.00 26 P P 00 15 07.5 -0.3
comp=Z,11nm,0.8s,baz=233,slow=5.5,SNR=86
comp=Z,11nm,0.8s
VOI Vohitsoka 83.13 247 P P 00 15 08.6 -1.0
VOI IAmb IAmb 00 15 09.7
comp=Z,29nm,0.9s
HIN Hinchinbrook I 83.14 30 IAmb IAmb 00 15 10.2
comp=Z,29nm,0.8s
FID Port Fidalgo 83.16 30 IAmb IAmb 00 15 10.0
comp=Z,32nm,0.8s
D25K Kavik River 83.28 21 IAmb IAmb 00 15 11.7
comp=Z,28nm,1.0s
D25K Kavik River 83.28 21 P P 00 15 09.8 +0.5
baz=269,SNR=18
M24K Tolsona, Glenn 83.30 28 P P 00 15 10.0 +0.5
baz=270,SNR=11
G25K Bearman Lake 83.35 24 P P 00 15 10.8 +1.2
baz=270,SNR=17

MARD Mardin 83.38 307 IAmb IAmb 00 15 12.5
comp=Z,24nm,0.7s
KLU Klutina 83.42 29 IAmb IAmb 00 15 11.7
comp=Z,25nm,0.6s
KLU Klutina 83.42 29 P P 00 15 10.3 +0.2
baz=270,SNR=21
H25L Birch Creek 83.46 24 P P 00 15 11.3 +1.1
baz=270,SNR=54
K24K Donnelly Dome 83.48 27 P P 00 15 10.2 -0.2
baz=270,SNR=12
KOPT Kop Dagi 83.48 310 P 00 15 12.2 +1.0
KOPT IAmb IAmb 00 15 16.0
comp=Z,20nm,0.8s
EYAK Cordova Ski Ar 83.52 30 P P 00 15 11.0 +0.4
baz=271
F25K Christian Rive 83.53 23 IAmb IAmb 00 15 13.1
comp=Z,18nm,0.8s
F25K Christian Rive 83.53 23 P P 00 15 11.3 +0.7
baz=270,SNR=28
E25K Arctic Village 83.56 22 IAmb IAmb 00 15 13.7
comp=Z,39nm,1.1s
E25K Arctic Village 83.56 22 P P 00 15 11.3 +0.6
baz=270,SNR=36
KLMR Klimovskoe 83.57 331 eP P 00 15 08.9 -1.9
KLMR pmax pmax
comp=Z,84nm,0.9s
PRP Porcupine Dome 83.58 25 P P 00 15 09.9 -1.1
baz=270,SNR=19
PAX Paxson 83.62 27 IAmb IAmb 00 15 12.7
comp=Z,15nm,0.9s
PAX Paxson 83.62 27 P P 00 15 10.7 -0.5
baz=271,SNR=17
J25K Salcha River, 83.65 26 IAmb IAmb 00 15 11.8
comp=Z,16nm,0.8s
J25K Salcha River, 83.65 26 P P 00 15 10.7 -0.6
baz=270,SNR=28
VSLR Vesyoloye 83.69 313 deP P 00 15 11.8 -0.1
VSLR pmax pmax
comp=Z,34nm,1.0s
FYU Fort Yukon 83.70 24 IAmb IAmb 00 15 13.8
comp=Z,38nm,0.9s
HARP HAARP 83.78 28 P P 00 15 12.4 +0.5
baz=271
C26K Camden Bay 83.80 20 P P 00 15 12.3 +0.5
baz=270
RIDG Independent Ri 83.89 27 IAmb IAmb 00 15 14.1
comp=Z,37nm,1.0s
RIDG Independent Ri 83.89 27 P P 00 15 12.3 -0.2
baz=271,SNR=28
SOC Sochi 83.92 313 eP P 00 15 11.2 -1.8
SOC e 00 18 26.0
SOC ePPP PPP 00 20 18.4
SOC eS SKSac 00 25 18.8 -4.1
SOC eSS SS 00 30 49.9 -6.1
SOC eSSS SSS 00 34 20.3
SOC pmax pmax
comp=Z,7.0nm,0.6s
VORD Divnogorie 83.93 321 eP P 00 15 09.6 -3.2
VORD pmax pmax
comp=Z,20nm,1.0s
BMAR Burnt Mountain 83.94 23 P P 00 15 13.7 +1.0
VORR Voronezh 83.96 321 eP P 00 15 10.9 -2.1
VORR pmax pmax
comp=Z,40nm,1.0s
VSR Storozhevoye 84.00 321 eP P 00 15 09.4 -3.8
VSR pmax pmax
comp=Z,20nm,1.0s
N25K Chitina, Valde 84.06 29 IAmb IAmb 00 15 15.2
comp=Z,20nm,0.8s
N25K Chitina, Valde 84.06 29 P P 00 15 13.7 +0.3
baz=272,SNR=16
BMRM Bremner River 84.07 29 P P 00 15 13.6 +0.2
baz=272,SNR=26
LPSR Galich'ya Gora 84.10 322 eP P 00 15 11.1 -2.5
LPSR pmax pmax
comp=Z,50nm,1.0s
F26K Sheenjek River 84.11 23 IAmb IAmb 00 15 15.9
comp=Z,16nm,0.8s
F26K Sheenjek River 84.11 23 P P 00 15 14.0 +0.5
baz=271,SNR=21
KAIM Kayak Island 84.19 30 P P 00 15 14.7 +0.7
baz=272,SNR=5.4
C27K Jago River 84.22 21 IAmb IAmb 00 15 16.8
comp=Z,40nm,0.9s
C27K Jago River 84.22 21 P P 00 15 15.3 +1.4
baz=272,SNR=31
DOT Dot Lake 84.25 27 P P 00 15 14.2 0.0
HMT Hamilton 84.26 30 IAmb IAmb 00 15 16.1
comp=Z,27nm,0.8s
G26K Porcupine Rive 84.26 23 IAmb IAmb 00 15 17.2
comp=Z,27nm,0.9s
G26K Porcupine Rive 84.26 23 P P 00 15 15.1 +0.9
baz=272,SNR=29
SCRK Sand Creek 84.27 26 P P 00 15 14.1 -0.4
baz=272,SNR=16
MENT Mentasta 84.42 27 IAmb IAmb 00 15 17.3
comp=Z,15nm,0.8s
J26L Joseph Creek 84.44 26 IAmb IAmb 00 15 16.9
comp=Z,19nm,0.8s
J26L Joseph Creek 84.44 26 P P 00 15 15.0 -0.3
baz=272,SNR=31
I26K Coal Creek Min 84.58 25 IAmb IAmb 00 15 17.4
comp=Z,23nm,0.8s
I26K Coal Creek Min 84.58 25 P P 00 15 15.5 -0.3
baz=272
L26K Log Cabin Wild 84.59 27 P P 00 15 16.8 +0.7
baz=272,SNR=10
VRDI Verde Repeater 84.62 29 IAmb IAmb 00 15 18.3
comp=Z,26nm,0.7s
MOS Moscow 84.73 325 eP P 00 15 15.8 -1.0
MOS pmax pmax
comp=Z,67nm,0.9s
M26K Nabesna, AK 84.78 28 P P 00 15 17.3 +0.3
baz=273,SNR=7.0
CRQE Cirque 84.82 30 P P 00 15 17.3 0.0
baz=273,SNR=15
MCARA McCarthy VSAT 84.82 29 P P 00 15 17.8 +0.7
MCARA IAmb IAmb 00 15 29.6
comp=Z,22nm,0.8s
MCARA McCarthy VSAT 84.82 29 P P 00 15 17.8 +0.7
baz=273,SNR=8.4
TGL Tana Glacier 84.95 30 IAmb IAmb 00 15 20.1
comp=Z,33nm,0.8s
E27K Coleen River 85.05 22 IAmb IAmb 00 15 20.8
comp=Z,18nm,0.7s
E27K Coleen River 85.05 22 P P 00 15 18.8 +0.6
baz=274,SNR=24
K27K Chicken 85.11 26 IAmb IAmb 00 15 21.6
comp=Z,30nm,1.2s
K27K Chicken 85.11 26 P P 00 15 18.9 +0.3
baz=274
G27K Doyon Strip 85.11 23 P P 00 15 19.2 +0.7
baz=274,SNR=12
ISLE Juniper Island 85.20 30 IAmb IAmb 00 15 21.4
comp=Z,24nm,0.7s
H27K Steamboat Moun 85.20 24 IAmb IAmb 00 15 21.9
comp=Z,14nm,0.8s
H27K Steamboat Moun 85.20 24 P P 00 15 19.4 +0.4
baz=274,SNR=21
D27M Malcolm River 85.20 21 IAmb IAmb 00 15 21.8
comp=Z,16nm,0.8s
D27M Malcolm River 85.20 21 P P 00 15 19.3 +0.3
baz=274,SNR=12
I27K Kandik River 85.20 25 P P 00 15 19.7 +0.7
baz=274,SNR=41
L27K Beaver Creek, 85.28 27 P P 00 15 19.5 0.0
baz=274,SNR=12
BCAR Beaver Creek A 85.30 27 P P 00 15 19.4 -0.2
M27K Edge Creek, AK 85.31 28 P P 00 15 20.1 +0.4
baz=274,SNR=7.5
OBN Obninsk 85.36 325 P P 00 15 19.0 -0.9
OBN Obninsk 85.36 325 ⇑P P 00 15 19.4 -0.5
OBN Obninsk 85.36 325 ciP P 00 15 19.2 -0.7
OBN e*PP pP 00 15 54.5 -0.2
OBN i *SP sP 00 16 11.9 +2.6
OBN ePPP PPP 00 20 31.4
OBN eS SKSac 00 25 28.2 -3.4
OBN e 00 26 40.6
OBN eSSS SSS 00 34 45.7
OBN pmax pmax
comp=Z,96nm,1.3s
OBN MLR MLR
comp=Z,27nm,18.0s
OBN Obninsk 85.36 325 P P 00 15 19.2 -0.7
comp=Z,719nmcomp=Z,72nm,1.3s
LVZ Lovozero 85.38 338 P P 00 15 19.5 -0.3
LVZ Lovozero 85.38 338 ⇑eP P 00 15 19.5 -0.3

LVZ pmax pmax
comp=Z,47nm,1.7s
MESA MESA 85.42 30 IAmb IAmb 00 15 23.2
comp=Z,39nm,1.3s
MESA MESA 85.42 30 P P 00 15 20.8 +0.4
baz=274
GRNC Granite Creek 85.48 30 IAmb IAmb 00 15 23.2
comp=Z,23nm,0.8s
BARN Barnard Glacie 85.50 29 IAmb IAmb 00 15 23.4
comp=Z,22nm,0.8s
YAH Yahtse 85.51 30 IAmb IAmb 00 15 23.7
comp=Z,28nm,1.1s
PPT2 Papeete2 85.60 108 eLR LR 00 42 28.8
comp=Z,98nm,30.5s
PPT2 eLR LR 00 42 33.0
comp=Z,61nm,28.0s
VNDA Vanda 85.61 173 P P 00 15 21.3 +0.6
VNDA Vanda 85.61 173 P P 00 15 21.0 +0.4
comp=Z,4.2nm,0.9s,baz=312,slow=5.9,SNR=21
VNDA LR LR 00 51 16.6
comp=Z,35nm,20.7s,baz=308,slow=34
comp=Z,4.2nm,0.9s
VNDA Vanda 85.61 173 P P 00 15 21.3 +0.6
VNDA pmax pmax
comp=Z,4.0nm,0.9s
CTG Chitna Glacier 85.66 29 P P 00 15 22.0 +0.4
baz=274,SNR=14
F28M Old Crow 85.74 23 IAmb IAmb 00 15 24.1
comp=Z,26nm,0.8s
F28M Old Crow 85.74 23 P P 00 15 22.2 +0.5
baz=275,SNR=27
BVCY Beaver Creek 85.77 28 P P 00 15 22.4 +0.5
baz=275
E28M Babbage River 85.77 22 P P 00 15 21.9 +0.1
baz=275,SNR=12
APA Apatity 85.88 337 eP P 00 15 19.5 -2.8
APA e 00 18 44.1
APA eS SKSac 00 25 37.9 +3.5
APA pmax pmax
APA comp=Z,18nm,1.0s MLR MLR
comp=Z,322nm,3.2s
I28M Miner Creek 85.91 25 IAmb IAmb 00 15 25.2
comp=Z,30nm,0.8s
I28M Miner Creek 85.91 25 P P 00 15 23.2 +0.6
baz=275,SNR=51
MAW Mawson 85.92 200 P P 00 15 22.7 +0.4
comp=Z,1.7nm,0.8s,baz=35,slow=8.1,SNR=4.3
YUK3 Moose Creek 86.02 28 P P 00 15 24.1 +0.7
baz=275
O28M Mount Upton 86.24 29 P P 00 15 24.8 +0.2
baz=275,SNR=7.9
PCA Pinnacle 86.27 30 IAmb IAmb 00 15 27.8
comp=Z,19nm,1.0s
PINM Pinnacle 86.27 30 P P 00 15 25.2 +0.8
baz=275
DAWY Dawson 86.28 26 P P 00 15 24.4 0.0
baz=276,SNR=5.7
YUK8 Steele Glacier 86.39 29 P P 00 15 25.1 -0.2
baz=276
E29M Blow River 86.40 22 P P 00 15 24.8 0.0
baz=277
H29M Whitestone 86.47 24 P 00 15 26.1 +0.9
H29M Whitestone 86.47 24 P P 00 15 26.1 +0.9
baz=277,SNR=9.1
G29M Pine Creek 86.53 23 IAmb IAmb 00 15 27.5
comp=Z,24nm,0.8s
G29M Pine Creek 86.53 23 P P 00 15 25.8 +0.3
baz=277,SNR=22
TOKA Tokat 86.54 310 IAmb IAmb 00 15 27.7
comp=Z,22nm,1.2s
I29M Ogilvie Camp, 86.60 25 P P 00 15 26.4 +0.6
baz=277,SNR=9.2
YKU2 Yakutat 86.62 31 P P 00 15 27.0 +1.0
PNL Peninsula 86.74 30 P P 00 15 27.0 +0.3
baz=276
M29M Somme Creek 86.88 28 P P 00 15 27.9 +0.5
baz=277,SNR=8.7
YUK4 Talbot Arm 86.92 29 P P 00 15 27.7 0.0
baz=277
L29M L29M 86.95 27 P P 00 15 27.8 +0.1
baz=277,SNR=9.3
O29M Mount Kennedy 87.08 30 P P 00 15 28.3 -0.1
baz=277
YUK6 Outpost Mounta 87.11 29 P P 00 15 29.0 +0.3
baz=277
EPYK Eagle Plains 87.12 24 IAmb IAmb 00 15 32.1
comp=Z,12nm,0.8s
EPYK Eagle Plains 87.12 24 P P 00 15 28.7 +0.4
baz=278,SNR=7.3
K29M Barlow Dome 87.13 26 P P 00 15 28.7 +0.1
baz=278,SNR=5.7
BNN Bunyan 87.16 309 IAmb IAmb 00 15 31.3
comp=Z,18nm,1.0s
G30M tAoh Zraii Nji 87.22 23 P P 00 15 28.7 -0.2
baz=279,SNR=7.5
F30M Barrier River 87.29 22 P P 00 15 28.6 -0.6
baz=279,SNR=8.2
I30M Mount Dempster 87.42 25 P P 00 15 30.1 +0.1
baz=279
HYT Haines Junctio 87.54 29 P 00 15 31.1 +0.5
HYT Haines Junctio 87.54 29 P P 00 15 30.6 -0.1
baz=278
J30M Hart River 87.54 25 P P 00 15 30.4 -0.2
baz=279
P29M Windy Craggy 87.58 30 P P 00 15 30.5 -0.2
baz=278
M30M Minto, Yukon 87.63 27 P P 00 15 31.3 +0.3
baz=278,SNR=5.2
N30M Aishikik Lake 87.65 29 P P 00 15 31.3 +0.2
baz=278
SIM Simferopol' 87.83 315 eP P 00 15 31.4 -0.8
SIM pmax pmax
comp=Z,18nm,1.0s
P30M Million Dollar 87.91 30 P P 00 15 32.3 0.0
baz=278
G31M Satah River 87.99 23 P P 00 15 32.0 -0.5
baz=280,SNR=7.4
INK Inuvik 88.01 22 P 00 15 32.0 -0.5
INK Inuvik 88.01 22 P P 00 15 32.0 -0.5
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 88.01 22 P P 00 15 31.7 -0.8
baz=281,SNR=6.7
MMAI Mount Meron Ar 88.08 303 P P 00 15 33.8 +0.1
comp=Z,2.5nm,0.5s,baz=76,slow=7.8,SNR=12
comp=Z,2.5nm,0.5s
F31M Tsiigehtchic 88.10 22 IAmb IAmb 00 15 33.2
comp=Z,12nm,0.8s
F31M Tsiigehtchic 88.10 22 P P 00 15 32.1 -0.8
baz=281,SNR=5.2
GHAJ Ghor Haditha 88.11 301 IAmb IAmb 00 15 35.3
comp=Z,31nm,1.1s
H31M Peel River 88.16 24 P P 00 15 33.9 +0.5
baz=280
N31M Braeburn, Yuko 88.27 28 P P 00 15 34.4 +0.4
baz=279
PLBC Pleasant Camp 88.30 30 P P 00 15 34.9 +0.8
baz=279
SPITS Spitsbergen Ar 88.34 349 P P 00 15 33.2 -0.7
comp=Z,16nm,0.8s,baz=84,slow=7.6,SNR=18
comp=Z,16nm,0.8s
ARCES ARCESS Array B 88.43 340 P P 00 15 33.2 -1.3
ARCES ARCESS Array B 88.43 340 P P 00 15 33.5 -1.0
comp=Z,18nm,0.7s,baz=82,slow=6.0,SNR=69
comp=Z,18nm,0.7s
KIRS Kirsehir-Merke 88.62 309 ⇑P P 00 15 35.5 -0.7
BR104 Keskin Array S 88.77 310 P P 00 15 35.3 -1.6
comp=Z,60nmcomp=Z,7.3nm,0.8s
BR131 Keskin Array S 88.77 310 diP P 00 15 35.8 -1.2
BRTR Keskin Array B 88.77 310 P P 00 15 36.0 -1.0
comp=Z,4.6nm,0.8s,baz=100,slow=5.0,SNR=23
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 88.77 310 iP P 00 15 35.7 -1.2
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BR106 Keskin Array S 88.78 310 P P 00 15 35.4 -1.6
comp=Z,50nmcomp=Z,7.7nm,0.9s
BR105 Keskin Array S 88.78 310 P P 00 15 35.4 -1.6
comp=Z,50nmcomp=Z,8.8nm,0.9s
WHY Whitehorse 88.84 29 IAmb IAmb 00 15 38.5
comp=Z,25nm,1.4s
WHY Whitehorse 88.84 29 P P 00 15 37.0 +0.3
baz=280,SNR=5.6
KIBK Kibwezi 89.15 268 P P 00 15 38.8 -0.3
KIBK IAmb IAmb 00 15 40.4
comp=Z,8.7nm,0.8s
SIT Sitka 89.23 33 P P 00 15 38.6 +0.1

baz=280
ANTO Ankara 89.40 310 P P 00 15 37.9 -1.9
comp=Z,5.3nm,0.8s
R32K Eaglecrest 89.44 32 P P 00 15 40.2 +0.7
baz=280
S32K Killisnoo 89.56 32 P P 00 15 41.0 +1.0
baz=280
CSS Mathiatis 89.58 305 IAmb IAmb 00 15 42.5
comp=Z,10nm,0.7s
CSS Mathiatis 89.58 305 P P 00 15 38.9 -1.7
comp=Z,16nm,0.9s
P32M Atlin 89.61 30 P P 00 15 40.3 0.0
baz=281
N32M Quiet Lake 89.61 29 IAmb IAmb 00 15 41.9
comp=Z,14nm,0.9s
N32M Quiet Lake 89.61 29 P P 00 15 40.7 +0.4
baz=282
A36M Sachs Harbour 89.80 17 P P 00 15 41.5 +0.6
baz=289
KMBO Kilima Mbogo 89.81 269 P P 00 15 41.5 -1.0
comp=Z,2.7nm,0.5s,baz=84,slow=5.5,SNR=7.0
comp=Z,2.7nm,0.5s
KMBO Kilima Mbogo 89.81 269 *i* P P 00 15 43.0 +0.6
KMBO pmax pmax
comp=Z,3.0nm,0.5s
P33M Teslin, Yukon 89.93 29 P P 00 15 42.2 +0.4
baz=282
FINES FINESS Array B 89.97 332 P P 00 15 40.8 -1.0
comp=Z,4.1nm,0.5s,baz=72,slow=4.7,SNR=48
comp=Z,4.1nm,0.5s
FINES FINESS Array B 89.97 332 *i* P P 00 15 40.7 -1.1
FINES pmax pmax
comp=Z,4.0nm,0.5s
MMPY Sheldon Lake, 90.14 27 P P 00 15 42.8 +0.1
baz=283
VSU Vasula 90.27 329 *ce* P P 00 15 40.9 -2.4
VSU pmax pmax
comp=Z,37nm,1.7s
AK09 Malin Array Si 90.28 321 P P 00 15 41.7 -1.8
AK08 Malin Array Si 90.29 321 P P 00 15 41.6 -2.0
AKASG Malin Array Be 90.30 321 P P 00 15 43.0 -0.6
AKASG IAmb IAmb 00 15 44.5
comp=Z,11nm,1.1s
AKASG Malin Array Be 90.30 321 P P 00 15 42.4 -1.2
comp=Z,4.6nm,0.7s,baz=72,slow=4.0,SNR=20
comp=Z,4.6nm,0.7s
AKASG Malin Array Be 90.30 321 *i* P P 00 15 42.4 -1.2
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 90.30 321 IAmb IAmb 00 15 44.1
comp=Z,14nm,1.1s
AKBB Malin Array Si 90.30 321 *de* P P 00 15 42.6 -1.0
AKBB Malin Array Si 90.30 321 P P 00 15 41.5 -2.1
KIEV Kiev 90.31 321 P 00 15 41.9 -1.8
KIEV IAmb IAmb 00 15 44.2
comp=Z,11nm,1.1s
KIEV Kiev 90.31 321 ⇓P P 00 15 42.5 -1.2
KIEV Kiev 90.31 321 P P 00 15 42.4 -1.2
KIEV Kiev 90.31 321 P P 00 15 41.5 -2.2
MNK Minsk 90.43 325 *i* P P 00 15 43.2 -0.9
MNK *i* *PP **pwP** 00 16 21.6 -2.1
MNK *i* 00 19 21.5
MNK *i* PPP PPP 00 21 17.9
MNK *i* S **SKSac** 00 25 59.6 -2.5
MNK *i* SS **SS** 00 32 31.0 +0.8
MNK *i* SSS SSS 00 36 09.4
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK pmax pmax
comp=Z,18nm,0.8s
MNK pmax pmax
comp=E,16nm,1.1s
R33M Jennings River 91.02 30 P P 00 15 47.2 +0.2
baz=283
C36M Paulatuk 91.04 20 P P 00 15 46.7 0.0
baz=290
SORM Soroca 91.31 319 ⇓P P 00 15 47.4 -0.9
SORM Soroca 91.31 319 P P 00 15 47.4 -0.9
TLCR 91.52 316 ⇓P P 00 15 49.0 -0.3
TLCR 91.52 316 P P 00 15 49.0 -0.3
V35K Ketchikan 91.60 34 P P 00 15 49.7 +0.2
baz=283
DLBC Dease Lake 91.72 31 LR LR 01 02 58.7
comp=E,12nm,18.2s,baz=20,slow=39
DLBC Dease Lake 91.72 31 P P 00 15 49.9 -0.3
baz=284
TGTN Hyland Airport 91.77 28 P P 00 15 51.1 +0.7
baz=286
TPGR Topolog 91.85 315 ⇓P P 00 15 50.5 -0.5
T35M Bob Quinn 91.96 32 P P 00 15 52.3 +1.0
baz=284
CFR Carcaliu 91.99 316 ⇓P P 00 15 51.0 -0.6
CFR Carcaliu 91.99 316 P P 00 15 50.9 -0.6
KALB Balgarevo 92.11 314 ⇑P P 00 15 51.2 -1.0
HARR Harsova 92.22 315 ⇓P P 00 15 52.4 -0.2
HARR Harsova 92.22 315 P P 00 15 52.4 -0.2
RNPP9 Sopachiv 92.23 322 P P 00 15 51.6 -0.9
RNPP8 Varash 92.27 322 P P 00 15 51.4 -1.3
RNPP5 Staryi Chortor 92.27 322 P P 00 15 51.4 -1.3
TESR Tescani 92.75 317 ⇑P P 00 15 54.2 -0.9
VRI Vrincioaia 92.83 316 ⇑P P 00 15 54.9 -0.6
VRI Vrincioaia 92.83 316 P P 00 15 54.9 -0.6
PLOR Plostina 92.89 316 ⇑P P 00 15 55.4 -0.4
PLOR Plostina 92.89 316 P P 00 15 55.3 -0.4
BISRR Bisoca 92.91 316 ⇑P P 00 15 55.8 -0.1
NEHR Nehoiu 93.22 316 ⇑P P 00 15 56.7 -0.6
SUW Suwalki 93.23 325 *eP* P 00 15 56.1 -1.0
TURR Turia 93.28 317 ⇓P P 00 15 57.3 -0.3
MLR Muntele Rosu 93.44 316 IAmb IAmb 00 15 59.0
comp=Z,16nm,1.5s
MLR Muntele Rosu 93.44 316 ⇓P P 00 15 58.2 -0.3
MLR Muntele Rosu 93.44 316 P P 00 15 58.2 -0.3
BURAR Bucovina Array 93.48 318 P 00 15 57.6 -1.0
BURAR Bucovina Array 93.48 318 ⇓P P 00 15 58.2 -0.4
BURAR Bucovina Array 93.48 318 P P 00 15 58.2 -0.4
ELND Elena 94.02 314 ⇓P P 00 15 60.0 -1.1
HUMR Humele 94.32 315 ⇓P P 00 16 01.1 -1.2
ARR Arges 94.37 316 ⇑P P 00 16 01.9 -0.8
SYO Syowa Base 94.58 201 ⇑ *e* PcP **PcP** 00 16 05.8 +2.6
PLVB Pleven 94.82 314 ⇑P P 00 16 04.1 -0.6
KOLS Kolonicke sedl 95.08 320 *eP* P 00 16 06.1 +0.4
KOLS Kolonicke sedl 95.08 320 *eP* P 00 16 06.1 +0.4
DRGR 95.33 318 ⇓P P 00 16 06.5 -0.6
DRGR 95.33 318 P P 00 16 06.4 -0.6
STHS Stebnicka Huta 95.60 321 *eP* P 00 16 08.9 +0.8
STHS Stebnicka Huta 95.60 321 *eP* P 00 16 08.9 +0.8
QSPA South Pole Qui 95.86 180 P P 00 16 09.0 0.0
comp=Z,2.6nm,0.9s,baz=298,slow=1.7,SNR=8.4
comp=Z,2.6nm,0.9s
SURR Surduc 95.99 317 ⇑P P 00 16 08.4 -1.5
HFS Hagfors 96.15 332 P P 00 16 08.9 -1.4
comp=Z,7.3nm,0.7s,baz=108,slow=4.8,SNR=23
comp=Z,7.3nm,0.7s
SIRR Siria 96.17 318 ⇓P P 00 16 09.4 -1.4
MDVR Moldovita 96.52 316 ⇓P P 00 16 11.6 -0.8
NB2 NORSAR Subarra 96.89 334 P P 00 16 11.7 -2.0
comp=Z,6.7nm,1.0s,baz=65,slow=4.6
NB2 NORSAR Subarra 96.89 334 P P 00 16 16.7 +3.0
NOA NORSAR Array B 96.89 334 P P 00 16 11.8 -1.9
comp=Z,2.8nm,0.8s,baz=65,slow=4.5,SNR=8.7
NOA LR LR 01 07 49.0
comp=Z,6.8nm,18.6s,baz=100,slow=40
comp=Z,2.8nm,0.8s
YKA Yellowknife Ar 97.38 24 P P 00 16 15.3 -0.5
comp=Z,1.3nm,0.6s,baz=303,slow=5.4,SNR=4.2
comp=Z,1.3nm,0.6s
YKA Yellowknife Ar 97.38 24 *i* P P 00 16 15.8 0.0
YKA pmax pmax
comp=Z,1.0nm,0.7s
MORC Moravsky Berou 97.79 322 *eP* P 00 16 17.2 -0.8
JAVC Velka Javorina 98.00 321 *eP* Pdif 00 16 20.1 +1.0
MORH Mrgy, Hungar 98.19 318 ⇓P P 00 16 18.8 -1.0
VRAC Vranov 98.53 322 *eP* P 00 16 21.1 -0.2
KRUC Moravsky 98.73 321 *eP* Pdif 00 16 22.8 +0.6
BRG Berggiesshubel 99.58 324 *eP* **Pdif** 00 16 27.1 +1.2
BRG Amp 00 16 29.3
comp=Z,4.6nm,0.9s
CLL Collm 99.96 324 *i* P **Pdif** 00 16 27.6 0.0
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL Collm 99.96 324 *i* Pdif **Pdif** 00 16 27.6 0.0
comp=Z,9.0nm,1.3s
CLL *e* PP **PP** 00 20 34.0 0.0
KHC Kasperske Hory 100.44 322 *ce* P **Pdif** 00 16 29.6 -0.3
KHC pmax pmax
comp=Z,2.0nm,1.1s
GERES GERESS Array B 100.47 322 P **Pdif** 00 16 29.2 -0.9
comp=Z,1.4nm,0.9s,baz=58,slow=5.0,SNR=10
SNAA Sanae 107.42 195 PKKPbc PKKPbc 00 32 24.2 -2.6
comp=Z,1.1nm,0.9s,baz=285,slow=3.6,SNR=4.6
SNAA PKKP **PKKPab** 00 32 37.3 -1.8
comp=Z,1.0nm,0.8s,baz=299,slow=4.0,SNR=8.0
PDAR Pinedale Array 109.53 41 PKKP 00 32 29.5
comp=Z,0.5nm,0.7s,baz=125,slow=5.1,SNR=5.7
ESDC Sonseca Array 115.91 320 PKP **PKPdf** 00 21 24.7 -0.5
comp=Z,0.4nm,0.8s,baz=35,slow=1.5,SNR=2.2
ESDC PP **PP** 00 22 30.2 -0.3
comp=Z,0.8nm,0.9s,baz=47,slow=5.2,SNR=4.2
TXAR Lajitas Array 120.05 51 pPKP pPKPdf 00 22 11.1 +1.0
comp=Z,0.6nm,0.7s,baz=8.7,slow=3.0,SNR=3.6
TORD Torodi Ar. Bea 122.40 290 **PKPdf** 00 21 37.2 -1.0
TORD Torodi Ar. Bea 122.40 290 PKP **PKPdf** 00 21 37.4 -0.8
comp=Z,3.3nm,0.8s,baz=35,slow=3.4,SNR=16
TORD pPKP **pPKPdf** 00 22 14.4 -0.6
comp=Z,1.0nm,0.7s,baz=39,slow=2.1,SNR=2.9
U38A Gravette 122.76 39 **PKPdf** 00 21 38.3 -0.1
R40A Maddies Statio 122.86 36 **PKPdf** 00 21 38.2 -0.2
FVM French Village 124.15 35 **PKPdf** 00 21 40.5 -0.5
FVM French Village 124.15 35 PKIKP **PKPdf** 00 21 40.5 -0.5
MIAR Mount Ida 124.46 41 **PKiKP** 00 21 42.6 +0.6
MIAR Mount Ida 124.46 41 PKIKP **PKiKP** 00 21 42.6 +0.6
SSPA Standing Stone 128.31 24 **PKiKP** 00 21 49.6 +0.1
TKL Tuckaleechee C 129.52 33 PKP **PKiKP** 00 21 52.3 +0.2
comp=Z,2.4nm,0.4s,baz=108,slow=3.2,SNR=5.5
TKL SKPbc SKPab 00 24 59.8 +0.2
comp=Z,7.1nm,0.9s,baz=301,slow=6.7,SNR=10
DBIC Dimbokro 130.29 284 SKPbc **SKPab** 00 25 03.0 -0.5
comp=Z,8.8nm,0.8s,baz=127,slow=6.1,SNR=10
GO09 Cerro Castillo 132.08 164 PKPpre 00 21 43.8
JTS Las Juntas de 144.36 63 PKPdf **PKPdf** 00 22 18.6 -0.6
JTS Las Juntas de 144.36 63 PKIKP **PKPdf** 00 22 18.6 -0.6
CFA Coronel Fontan 150.80 153 PKPbc **PKPbc** 00 22 35.3 +0.2
comp=Z,1.2nm,0.5s,baz=234,slow=2.0,SNR=7.4
CFA pPKPbc **pPKPbc** 00 23 10.7 -0.6
comp=Z,2.7nm,0.6s,baz=264,slow=5.1,SNR=3.4

*NEIC **21** 00:30:09.7±1.1,35°.725N±0°.008×117°.564W±0°.009, h6km±1km, Error ellipse: s-maj=1.1km s-min=1.1km az=157.0*
PAS 21 00:30:10.3±1.3, 35°.715N±0°.007×117°.574W±0°.008, h5km±1km, ML3.4/303, ML3.3/104(NEIC), Error ellipse: s-maj=1.0km s-min=0.9km az=173.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.10**	**349**	Pg	Pg	00 30 12.7	+0.2
CLC				Sg	Sg	00 30 14.5	+0.5
CLC				IAML		00 30 14.7	
	comp=N,27μm,0.5s						
WSHM	**Spangler Hills**	**0.13**	**150**	Pg	Pg	00 30 13.0	0.0
WSHM				Sg	Sg	00 30 15.4	+0.6
SRTC	**Snort**	**0.14**	**261**		Pg	00 30 16.9	+3.7
TOW	**Tower One**	**0.18**	**301**		Pg	00 30 17.8	+4.0
LRMC	**Laurel Mtn Rad**	**0.25**	**201**	Pg	Pg	00 30 15.2	+0.1
LRMC				Sg	Sg	00 30 18.8	+0.3
LRMC				IAML		00 30 19.9	
	comp=N,7μm,0.2s						
LRMC				IAML		00 30 20.1	
	comp=E,7μm,0.2s						
CCCA	**Chr Cany lake**	**0.26**	**138**	Pg	Pg	00 30 15.7	+0.5
CCCA				Sg	Sg	00 30 19.8	+1.2
WNMM	**Nine Mile Cany**	**0.30**	**295**		Pg	00 30 16.1	+0.1
WNMM					Sg	00 30 20.6	+0.6
WVPM	**Volcano Peak E**	**0.31**	**320**		Pg	00 30 16.2	0.0
WVPM					Sg	00 30 20.7	+0.3
JRC2	**Joshua Ridge**	**0.33**	**324**		Pg	00 30 16.8	+0.1
JRC2					Sg	00 30 21.4	+0.3
WCSM	**Coso Springs S**	**0.35**	**333**		Pg	00 30 17.0	-0.1
WCSM					Sg	00 30 21.9	+0.2
MPMC	**Manual Prospec**	**0.35**	**11**	Pg	Pg	00 30 16.9	-0.3
MPMC				Sg	Sg	00 30 21.8	+0.1
MPMC				IAML		00 30 22.4	
	comp=E,2μm,0.6s						
MPMC				IAML		00 30 22.5	
	comp=N,2μm,0.5s						
WRVM	**Rose V. Centra**	**0.39**	**319**		Pg	00 30 17.7	-0.2
WRVM					Sg	00 30 23.0	0.0
MFS	**McCloud Flat S**	**0.46**	**330**		Pg	00 30 19.1	-0.1
MFS					Sg	00 30 25.6	+0.3
WBSM	**Bird Springs**	**0.49**	**249**		Pg	00 30 19.6	-0.1
WBSM					Sg	00 30 26.5	+0.3
DTP	**Desert Tortois**	**0.50**	**206**		Pg	00 30 19.6	-0.3
DTP					Sg	00 30 26.5	+0.2
WORM	**Onyx Ranch**	**0.55**	**268**		Pg	00 30 20.4	-0.3
WORM					Sg	00 30 27.6	-0.3
WHFM	**Hanning Flat**	**0.63**	**269**		Pg	00 30 22.1	-0.3
WHFM					Sg	00 30 30.4	-0.2
CCAC	**Calif City Air**	**0.67**	**213**		Pg	00 30 22.8	-0.3
CCAC					Sg	00 30 32.1	+0.3
ISA	**Isabella, Lake**	**0.73**	**266**	Pg	Pg	00 30 23.8	-0.6
ISA				Sg	Sg	00 30 33.5	-0.5
ISA				IAML		00 30 34.4	
	comp=N,978nm,0.3s						
ISA				IAML		00 30 34.4	
	comp=E,1μm,0.5s						
GSC	**Goldstone, Bar**	**0.75**	**123**	Pg	Pg	00 30 24.1	-0.5
GSC				Sg	Sg	00 30 34.2	-0.2
GSC				IAML		00 30 34.9	
	comp=N,2μm,0.3s						
WASM	**Alta Sierra Ca**	**0.80**	**272**		Pg	00 30 25.3	-0.4
WASM					Sg	00 30 35.9	-0.1
CWC	**Cottonwood Cre**	**0.83**	**331**	Pg	Pg	00 30 25.7	-0.6
CWC				Sg	Sg	00 30 37.0	-0.1
HYS	**Haystack Butte**	**0.85**	**180**		Pg	00 30 25.9	-0.7
CGO	**Cerro Gordo**	**0.85**	**348**		Pg	00 30 26.0	-0.7
GWY	**Greenwater Val**	**0.87**	**57**		Pg	00 30 38.1	-0.3
EDW2	**Edwards Air Fo**	**0.90**	**203**		Pg	00 30 26.7	-0.8
FURC	**Furnace Creek,**	**0.95**	**37**	Pg	Pg	00 30 28.0	-0.4
FURC				Sg	Sg	00 30 40.8	+0.1
FURC				IAML		00 30 51.7	
	comp=N,1μm,0.6s						
RRX	**Edison Barstow**	**0.96**	**150**		Pg	00 30 28.3	-0.5
TPO	**Tropico Hills**	**0.99**	**213**	Pg	Pg	00 30 28.5	-0.8
TPO				Sg	Sg	00 30 41.9	-0.3
TPO				IAML		00 30 47.9	
	comp=N,843nm,0.4s						
TPO				IAML		00 30 48.4	
	comp=E,992nm,0.9s						
TEJ	**El Tejon**	**1.03**	**242**		Pg	00 30 28.8	-1.3
TEJ					Sg	00 30 42.9	-0.5
SBB	**Saddle Back Bu**	**1.04**	**191**		Pg	00 30 29.4	-0.9
SBB					Sb	00 30 44.8	-0.1
SHOC	**Shoshone, Teco**	**1.07**	**80**	Pg	Pg	00 30 29.8	-1.0
SHOC				Sg	Sb	00 30 45.3	-0.3
SPG2	**Springville 2**	**1.08**	**297**		Pg	00 30 30.1	-1.0
VTV	**Victorville**	**1.17**	**170**		Sb	00 30 48.6	+0.1
TJR	**Tejon Ranch**	**1.18**	**235**		Sg	00 30 47.2	-0.9
THC	**Tehachapi Micr**	**1.20**	**228**		Pg	00 30 32.1	-1.2
VES	**Vestal, Richgr**	**1.23**	**276**	Pg	Pg	00 30 32.9	-1.0
VES				Sg	Sg	00 30 49.3	-0.6
VES				IAML		00 30 54.2	
	comp=E,660nm,0.5s						
VES				IAML		00 30 57.0	
	comp=N,456nm,0.9s						
LEOC	**Leona Valley**	**1.24**	**209**		Pg	00 30 32.8	-1.2
LRRC	**Littlerock Res**	**1.24**	**198**		Pg	00 30 32.9	-1.2
LRRC					Sn	00 30 51.1	-0.3
HOLC	**Holcomb Ridge**	**1.27**	**190**		Pg	00 30 33.3	-1.4
AMDNV	**Amargosa**	**1.28**	**55**		Pn	00 30 33.0	-1.8
AMDNV					Sg	00 30 51.4	0.0
JNH	**Juniper Hills**	**1.30**	**194**		Pg	00 30 33.8	-1.5
DSCC	**Desert Studies**	**1.33**	**115**		Sg	00 30 52.8	-0.2
SGV	**South Grapevin**	**1.34**	**19**		Pn	00 30 34.5	-1.3
SGV					Sg	00 30 53.0	-0.3
HEC	**Hector,Ludlow**	**1.34**	**131**		Sg	00 30 52.9	-0.6
TUQ	**Turquoise Moun**	**1.37**	**101**		Pn	00 30 34.3	-2.0
TUQ					Sg	00 30 54.4	-0.1
CHFC	**Chilao Flat St**	**1.43**	**195**		Pn	00 30 35.5	-1.6
CHFC					Sg	00 30 56.1	0.0
TIN	**Tinemaha, Big**	**1.44**	**339**		Pn	00 30 36.8	-0.4
TIN				IAML		00 31 04.2	
	comp=E,425nm,0.7s						
TIN				IAML		00 31 08.7	
	comp=N,310nm,0.7s						
OSI	**Osito Audit: C**	**1.45**	**221**		Pn	00 30 37.0	-0.2
OSI				IAML		00 30 59.6	
	comp=N,304nm,0.9s						
OSI				IAML		00 31 01.2	
	comp=E,368nm,0.7s						
BFSC	**Mount Baldy Ra**	**1.47**	**183**		Pn	00 30 36.1	-1.5
SIL	**Silver Peak**	**1.50**	**156**		Pn	00 30 38.0	0.0
SSK	**Sunset Peak**	**1.50**	**184**		Pn	00 30 36.9	-1.2
SS2	**San Sevaine**	**1.50**	**178**		Pn	00 30 37.0	-0.9
LCH	**Last Change Ra**	**1.52**	**358**		Pn	00 30 37.3	-0.9
MWC	**Mount Wilson**	**1.54**	**195**		Pn	00 30 37.5	-1.1
MWC				IAML		00 31 02.2	
	comp=N,401nm,0.5s						
MWC				IAML		00 31 03.3	
	comp=E,351nm,0.5s						
BBRC	**Big Bear Solar**	**1.54**	**160**		Sg	00 30 59.9	-0.1
VOG	**Valley Oaks Go**	**1.59**	**293**		Sn	00 31 00.1	+0.2
GMN	**Gold Mountain**	**1.60**	**9**		Pn	00 30 38.6	-0.9
OAT	**Oat Mountain**	**1.61**	**212**		Pn	00 30 39.4	-0.1
PASC	**Pasadena Art C**	**1.62**	**198**		Sg	00 31 02.2	-0.1
PASC	**Pasadena Art C**	**1.62**	**198**		Pn	00 30 38.3	-1.2
PASC				IAML		00 31 05.9	
	comp=E,252nm,0.6s						
PASC				IAML		00 31 06.3	
	comp=N,198nm,0.5s						
PSRC	**Puddingstone R**	**1.63**	**187**		Pn	00 30 39.2	-0.5
MTPC	**Mountain Pass**	**1.66**	**97**		Pn	00 30 38.3	-1.9
MTPC				IAML		00 31 05.0	
	comp=N,217nm,0.3s						
MTPC				IAML		00 31 05.1	
	comp=E,238nm,0.4s						
DSP	**Deep Springs**	**1.68**	**349**		Pn	00 30 39.6	-0.7
DJJ	**Donna J Jenkin**	**1.76**	**205**		Pn	00 30 40.4	-1.1
MTUM	**Tungsten Hills**	**1.82**	**334**		Pb	00 30 44.1	-0.1
GMRC	**Granite Mounta**	**1.82**	**120**		Pn	00 30 39.9	-2.5
BLAC	**Blackrock camp**	**1.91**	**149**		Pn	00 30 42.5	-1.1
TPC	**Twentynine Pal**	**2.04**	**142**		Pn	00 30 44.0	-1.3
ELS	**Elsinore Mount**	**2.07**	**177**	Pn	Pn	00 30 44.5	-1.3
POB	**Polly Butte**	**2.09**	**165**		Pn	00 30 45.2	-0.9
MURC	**Murrieta**	**2.13**	**171**		Pb	00 30 49.7	+0.3
BELC	**Belle Mtn. Jos**	**2.15**	**142**	Pn	Pn	00 30 45.5	-1.4
BELC				IAML		00 31 21.6	
	comp=N,194nm,0.7s						
BELC				IAML		00 31 27.9	
	comp=E,164nm,0.6s						
MDPB	**Devils Postpil**	**2.26**	**328**	Pn	Pn	00 30 48.2	-0.4
MDPB				IAML		00 31 25.9	
	comp=E,118nm,0.5s						
PMD	**Palm Desert**	**2.29**	**154**	Pn	Pn	00 30 46.9	-1.8
PFO	**Pinyon Flats O**	**2.29**	**156**	Pn	Pn	00 30 47.4	-1.4
NEE2	**Needles Airpor**	**2.60**	**110**	Pn	Pn	00 30 50.5	-2.4
NEE2				IAML		00 31 33.6	
	comp=E,246nm,0.5s						
BC3	**Big Chuckawall**	**2.70**	**139**	Pn	Pn	00 30 52.1	-2.4
BC3				IAML		00 31 43.8	
	comp=N,112nm,0.5s						
BC3				IAML		00 31 44.9	
	comp=E,101nm,1.0s						
DPP	**Dos Picos Cty**	**2.76**	**169**	Pn	Pn	00 30 54.2	-1.1
DPP				IAML		00 31 24.7	
	comp=N,55nm,0.1s						
NVAR	**Mina Array Bea**	**2.77**	**348**	Pn	Pn	00 30 54.5	-1.1
BBGB	**Big Mountain B**	**2.93**	**288**	Pn	Pn	00 30 57.9	+0.2
W13A	**Hualapai Mount**	**3.08**	**100**	Pn	Pn	00 30 57.7	-2.0
YUH	**Yuha Desert**	**3.35**	**155**	Pn	Pn	00 31 01.4	-1.9
CBX	**Cerro Bola**	**3.48**	**167**	Pn	Pn	00 31 04.2	-0.9
CBX				IAML		00 32 07.5	
	comp=N,85nm,0.7s						
GLA	**Glamis**	**3.50**	**139**	Pn	Pn	00 31 04.3	-1.1
GLA				IAML		00 32 07.1	
	comp=E,111nm,0.6s						
GLA				IAML		00 32 10.4	
	comp=N,87nm,0.8s						
ESJX	**Sierra Juarez**	**3.94**	**159**	Pn	Pn	00 31 10.5	-1.1
ESJX				IAML		00 32 03.1	
	comp=N,34nm,0.1s						
ESJX				IAML		00 32 06.0	
	comp=E,40nm,0.1s						
Y14A	**Wickenburg**	**4.16**	**114**	Pn	Pn	00 31 12.3	-2.1
Y14A				IAML		00 32 24.5	
	comp=E,48nm,0.4s						
Y14A				IAML		00 32 25.0	
	comp=N,69nm,0.4s						
113A	**Mohawk Valley,**	**4.31**	**132**	Pn	Pn	00 31 15.6	-0.9
113A				IAML		00 32 30.0	
	comp=E,16nm,0.7s						
U15A	**North Rim**	**4.34**	**79**	Pn	Pn	00 31 16.8	-0.4
U15A				IAML		00 32 34.8	
	comp=E,17nm,0.9s						
U15A				IAML		00 32 43.4	
	comp=N,16nm,0.9s						
WUAZ	**Wupatki**	**5.05**	**90**	Pn	Pn	00 31 26.4	-0.5
WUAZ				IAML		00 32 54.3	
	comp=N,15nm,0.5s						
WUAZ				IAML		00 32 54.5	
	comp=N,12nm,0.5s						
X16A	**Lo Mia Camp, P**	**5.19**	**103**	Pn	Pn	00 31 27.7	-1.1
ELK	**Elko**	**5.35**	**19**	Pn	Pn	00 31 29.9	-1.1
ELK				IAML		00 33 01.7	
	comp=N,12nm,0.7s						
ELK				IAML		00 33 01.7	
	comp=N,7.9nm,0.6s						
214A	**Organ Pipe Nat**	**5.46**	**132**	Pn	Pn	00 31 31.3	-1.0
X18A	**Snowflake**	**6.36**	**99**	Pn	Pn	00 31 43.6	-1.2
MVCO	**Mesa Verde**	**7.46**	**76**	Pn	Pn	00 31 58.2	-1.9

*SJA **21** 00:33:00.4±0.8, 19°.45S×69°.68W, h16km±3km, ML3.5, MW3.4*
*GUC **21** 00:33:02.9±0.8, 19°.46S×69°.62W, h17km±5km, ML3.5*
ISC 21 00:33:01.7±1.1, 19°.45S±0°.02×69°.67W±0°.04, h16km±8km, n31, σ1°.902/48, 5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.31**	**178**	*eP*	**Pg**	**00 33 09.0**	**+0.6**
PB11				*eS*	**Sg**	**00 33 14.0**	**+1.2**
PB11				IAML		00 33 14.6	
	comp=E,23μm,0.2s						
PB11	**IPOC Station P**	**0.31**	**178**	*eP*	**Pg**	**00 33 08.8**	**+0.5**
PB11				IAML		00 33 14.8	
	comp=Z,8μm,0.2s						
GO01	**Chusmiza**	**0.50**	**116**	*eP*	**Pg**	**00 33 11.8**	**0.0**
GO01				*eS*	**Sb**	**00 33 19.1**	**-0.6**
GO01				IAML		00 33 20.7	
	comp=N,17μm,0.1s						
GO01	**Chusmiza**	**0.50**	**116**	*eP*	**Pg**	**00 33 11.8**	**0.0**
GO01				*eS*	**Sb**	**00 33 19.4**	**-0.3**
GO01				IAML		00 33 19.8	
	comp=Z,4μm,0.2s						
PB08	**IPOC Station P**	**0.84**	**145**	⇓*iP*	**Pb**	**00 33 17.4**	**-0.8**
PB08				*eS*	**Sb**	**00 33 28.5**	**-1.0**
PB08				IAML		00 33 29.2	
	comp=E,2μm,0.1s						
PB08	**IPOC Station P**	**0.84**	**145**	*eP*	**Pb**	**00 33 17.3**	**-1.0**
HMBC	**Humberstone**	**0.85**	**194**	⇓*iP*	**Pb**	**00 33 17.2**	**-1.0**
HMBC				*eS*	**Sb**	**00 33 28.8**	**-0.6**
HMBC				IAML		00 33 29.8	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**0.85**	**194**	*eP*	**Pb**	**00 33 17.2**	**-1.0**
HMBC				IAML		00 33 30.8	
	comp=Z,1μm,0.1s						
TA02	**Huaiquique**	**0.93**	**208**	*eP*	**Pb**	**00 33 18.7**	**-0.7**
TA02	**Huaiquique**	**0.93**	**208**	*eP*	**Pb**	**00 33 18.0**	**-1.4**
TA02				*eS*	**Sb**	**00 33 32.6**	**+1.1**
TA02				IAML		00 33 33.9	
	comp=Z,2μm,0.1s						
PB16	**IPOC Station P**	**1.12**	**8**	⇓*iP*	**Pb**	**00 33 22.6**	**-0.4**
PB16				*eS*	**Sb**	**00 33 37.6**	**0.0**
PB16	**IPOC Station P**	**1.12**	**8**	*eP*	**Pb**	**00 33 21.9**	**-1.1**
PB16				*eS*	**Sb**	**00 33 38.0**	**+0.4**
PB16				IAML		00 33 38.5	
	comp=

PATCX				IAML		00 33 47.3	
	comp=E,1μm,0.2s						
PATCX	**Punta Patache**	**1.44**	**198**	*eP*	**Pn**	**00 33 26.8**	**-0.5**
PATCX				*eS*	**Sn**	**00 33 46.9**	**+1.0**
PATCX				IAML		00 33 47.5	
	comp=Z,531nm,0.2s						
PB01	**IPOC Station P**	**1.59**	**174**	*eP*	**Pn**	**00 33 29.1**	**-0.3**
PB01				IAML		00 33 52.7	
	comp=N,856nm,0.1s						
PB01	**IPOC Station P**	**1.59**	**174**	*eP*	**Pn**	**00 33 29.3**	**-0.1**
PB01				IAML		00 33 53.1	
	comp=Z,530nm,0.2s						
PB02	**IPOC Station P**	**1.87**	**186**	*eP*	**Pn**	**00 33 33.5**	**+0.2**
PB02				IAML		00 34 02.4	
	comp=E,937nm,0.3s						
PB02	**IPOC Station P**	**1.87**	**186**	*eP*	**Pn**	**00 33 33.7**	**+0.4**
PB02				*eS*	**Sb**	**00 33 59.0**	**0.0**
PB02				IAML		00 34 04.3	
	comp=Z,727nm,0.3s						
PB09	**IPOC Station P**	**2.37**	**170**	*eP*	**Pn**	**00 33 41.7**	**+1.5**
PB09				IAML		00 34 26.7	
	comp=E,206nm,0.2s						
PB09	**IPOC Station P**	**2.37**	**170**	*eP*	**Pn**	**00 33 41.6**	**+1.5**
PB09				*eS*	**Sb**	**00 34 13.7**	**+0.5**
PB09				IAML		00 34 22.6	
	comp=Z,292nm,0.5s						
PB03	**IPOC Station P**	**2.59**	**182**	*eP*	**Pn**	**00 33 44.4**	**+1.2**
PB03	**IPOC Station P**	**2.59**	**182**	*eP*	**Pn**	**00 33 44.3**	**+1.2**
PB03				*eS*	**Sn**	**00 34 17.4**	**+3.1**
PB03				IAML		00 34 24.1	
	comp=Z,212nm,0.6s						
PB06	**IPOC Station P**	**3.24**	**178**	*eP*	**Pn**	**00 33 53.2**	**+1.1**
PB06	**IPOC Station P**	**3.24**	**178**	*eP*	**Pn**	**00 33 53.7**	**+1.5**
PB06				*eS*	**Sg**	**00 34 43.7**	**-2.2**
PB06				IAML		00 34 45.3	
	comp=Z,112nm,0.3s						
PB05	**IPOC Station P**	**3.42**	**188**	*eP*	**Pn**	**00 33 54.2**	**-0.3**
PB05				IAML		00 34 56.5	
	comp=E,72nm,0.4s						
PB05	**IPOC Station P**	**3.42**	**188**	*eP*	**Pn**	**00 33 54.6**	**0.0**
PB05				*eS*	**Sb**	**00 34 41.7**	**-1.8**
PB05				IAML		00 34 56.8	
	comp=Z,51nm,0.6s						
PB10	**IPOC Station P**	**4.13**	**191**	*eP*	**Pn**	**00 34 04.4**	**+0.2**

IDC 21 01:02:54.3±6.2, 7°59S×128°65E, h206km±65km, mb3.1/2, mbtmp3.6/5, MS3.6/1, Error ellipse: s-maj=62.6km s-min=30.3km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.85**	**195**	P	Pn	01 05 25.1	+0.6
	1.4nm,0.3s,baz=13,slow=4.2,SNR=1.4						
FITZ				S	S	01 07 23.4	-2.5
	4.5nm,0.9s,baz=16,slow=18,SNR=7.2						
WRA	**Warramunga Arr**	**13.46**	**156**	P	Pn	01 05 57.2	-0.2
	0.8nm,0.5s,baz=338,slow=11,SNR=4.8						
WRA				S	S	01 08 24.1	-3.0
	1.2nm,0.5s,baz=341,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**16.76**	**163**	P	P	01 06 36.6	+0.3
	0.5nm,0.5s,baz=340,slow=9.4,SNR=9.3						
ASAR				S	S	01 09 42.9	+2.0
	0.3nm,0.3s,baz=333,slow=14,SNR=1.4						
JHJ	**Hachijo jima 2**	**41.84**	**14**	LR	LR	01 27 12.2	
	comp=Z,68nm,18.6s,baz=104,slow=35						
MKAR	**Makanchi Array**	**67.99**	**328**	P	P	01 13 31.5	+0.3
	0.4nm,0.4s,baz=124,slow=8.1,SNR=5.5						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	P	01 13 57.0	-0.3
	0.4nm,0.5s,baz=128,slow=5.3,SNR=5.1						
	0.4nm,0.5s						

IDC 21 01:19:31.3±1.6, 23°.63S×175°.43W, h0km, mb4.1/8, mbtmp4.1/8, MS3.6/9, Error ellipse: s-maj=73.4km s-min=27.3km az=156.0

ISC 21 01:19:31.8±0.9, 24°.05S±0°.2×175°.4W±0°.2, h10km, n21, σ1§19/14, mb4.2/8, MS3.6/7, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.65**	**82**	Pn	Pn	01 22 52.0	-7.3
	2.1nm,0.3s,baz=265,slow=11,SNR=3.5						
RAR				Sn	Sn	01 25 18.7	-23
	0.7nm,0.3s,baz=217,slow=20,SNR=1.4						
RAR				LR	LR	01 28 55.4	
	comp=Z,166nm,18.7s,baz=264,slow=38						
URZ	**Urewera**	**15.60**	**203**	Sn	**Sn**	**01 26 03.7**	**-1.0**
	0.4nm,0.3s,baz=359,slow=16,SNR=1.4						
DZM	**Mont Dzumac**	**16.87**	**273**	LR	LR	01 28 56.9	
	comp=Z,148nm,19.1s,baz=17,slow=34						
PPT	**Papeete**	**24.91**	**80**	LR	LR	01 33 39.1	
	comp=Z,115nm,18.3s,baz=210,slow=34						
HNR	**Honiara**	**27.67**	**297**	LR	LR	01 35 05.4	
	comp=Z,82nm,19.0s,baz=158,slow=34						
ASAR	**Alice Springs**	**46.21**	**260**	P	**P**	**01 27 58.1**	**+0.7**
	2.3nm,1.0s,baz=91,slow=8.3,SNR=9.0						
ASAR				LR	LR	01 47 25.6	
	comp=Z,156nm,18.1s,baz=35,slow=36						
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**46.64**	**265**	P	**P**	**01 28 00.4**	**-0.4**
	3.0nm,0.9s,baz=99,slow=8.1,SNR=7.8						
	3.0nm,0.9s						
LPIG	**La Paz**	**79.14**	**58**	LR	LR	02 00 07.5	
	comp=Z,65nm,18.1s,baz=208,slow=31						
PETK	**Petropavlovsk-**	**80.28**	**344**	P	**P**	**01 31 41.1**	**-1.5**
	2.8nm,0.8s,baz=162,slow=5.2,SNR=2.6						
PETK				LR	LR	02 00 46.6	
	comp=Z,22nm,21.1s,baz=169,slow=31						
	2.8nm,0.8s						
KSRS	**Korea Array**	**81.12**	**318**	P	**P**	**01 31 47.1**	**-0.4**
	0.6nm,0.7s,baz=142,slow=4.2,SNR=1.5						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**81.93**	**42**	P	**P**	**01 31 50.8**	**-1.3**
	0.2nm,0.4s,baz=241,slow=7.2,SNR=3.9						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**83.23**	**325**	P	**P**	**01 31 58.2**	**-0.1**
	4.2nm,0.9s,baz=138,slow=7.0,SNR=5.4						
	4.2nm,0.9s						
ELK	**Elko**	**85.22**	**41**	LR	LR	02 09 30.6	
	comp=Z,38nm,18.1s,baz=276,slow=35						
TXAR	**Lajitas Array**	**86.92**	**56**	P	**P**	**01 32 19.2**	**+1.8**
	0.3nm,0.7s,baz=228,slow=5.7,SNR=1.5						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**89.86**	**42**	LR	LR	02 08 02.4	
	comp=Z,20nm,18.6s,baz=299,slow=32						
CMAR	**Chiang Mai Arr**	**93.57**	**288**	P	**P**	**01 32 50.7**	**+2.0**
	2.9nm,0.8s,baz=130,slow=3.1,SNR=17						
	2.9nm,0.8s						
KURBB	**Kurchatov Arra**	**118.27**	**316**	PKP	**PKPdf**	**01 38 18.4**	**-0.7**
	0.2nm,0.7s,baz=95,slow=2.2,SNR=1.9						
AKASG	**Malin Array Be**	**147.25**	**331**	PKPbc	**PKPbc**	**01 39 14.3**	**-1.0**
	0.9nm,0.6s,baz=44,slow=3.6,SNR=6.5						
BRTR	**Keskin Array B**	**150.98**	**310**	PKPbc	**PKPbc**	**01 39 25.1**	**-0.2**
	0.9nm,0.8s,baz=14,slow=0.6,SNR=5.0						
MMAI	**Mount Meron Ar**	**151.61**	**295**	PKPbc	**PKiKP**	**01 39 28.3**	**+1.0**
	0.3nm,0.3s,baz=101,slow=7.5,SNR=2.2						
GERES	**GERESS Array B**	**154.20**	**346**	PKPbc	**PKiKP**	**01 39 31.9**	**-0.2**
	0.1nm,0.4s,baz=19,slow=3.8,SNR=1.9						

IDC 21 01:28:47.6±1.3, 5°.60S×147°.45E, h161km±12km, mb3.8/10, mbtmp4.4/14, Error ellipse: s-maj=20.7km s-min=10.2km az=94.0

NEIC 21 01:28:49.7±1.4, 5°.63S±0°.07×147°.48E±0°.09, h170km±6km, mb4.0/30, Error ellipse: s-maj=13.1km s-min=10.0km az=84.0

ISC 21 01:28:48.9±0.5, 5°65S±0°.06×147°47E±0°.07, h170km, n62, σ1§22/65, mb4.0/24, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.58**	**358**	Pn	**Pn**	**01 29 45.6**	**+1.1**
PMG	**Port Moresby**	**3.75**	**185**	Pn	**Pn**	**01 29 46.2**	**-0.3**
PMG	**Port Moresby**	**3.75**	**185**	P	**Pn**	**01 29 46.4**	**-0.1**
	82nm,0.3s,baz=341,slow=11,SNR=58						
PMG				S	**Sn**	**01 30 29.3**	**-2.2**
	221nm,0.5s,baz=327,slow=20,SNR=14						
RABL	**Rabaul**	**4.89**	**73**	Pn	**Pn**	**01 30 00.7**	**-0.7**
JAY	**Jayapura**	**7.43**	**294**	P	**Pn**	**01 30 34.2**	**-0.6**
	9.4nm,0.7s,baz=136,slow=18,SNR=7.5						
COEN	**Coen**	**9.28**	**207**	Pn	**Pn**	**01 31 00.5**	**+1.3**
HNR	**Honiara**	**12.93**	**108**	Pn	**Pn**	**01 31 46.5**	**0.0**
HNR	**Honiara**	**12.93**	**108**	P	**Pn**	**01 31 48.0**	**+1.4**
	94nm,0.4s,baz=254,slow=15,SNR=2.6						

MTN	**Manton Dam**	**17.63**	**245**	P	**P**	**01 32 43.4**	**+0.5**
WB0	**Warramunga Arr**	**18.94**	**221**	P	**P**	**01 32 58.2**	**+1.0**
WR8	**Warramunga Arr**	**19.01**	**220**	P	**P**	**01 32 58.8**	**+0.9**
WRAB	**Tennant Creek**	**19.09**	**221**	P	**P**	**01 32 58.5**	**-0.3**
WRA	**Warramunga Arr**	**19.11**	**221**	P	**P**	**01 32 57.9**	**-1.0**
WRA	**Warramunga Arr**	**19.11**	**221**	P	**P**	**01 33 00.0**	**+1.1**
	14nm,0.4s,baz=52,slow=12,SNR=70						
WRA				S	**S**	**01 36 22.8**	**-3.9**
	1.1nm,0.7s,baz=45,slow=18,SNR=4.8						
EIDS	**Eidsvold**	**19.91**	**170**	P	**P**	**01 33 08.8**	**+1.3**
EIDS				IAmb	IAmb	01 33 14.9	
	comp=Z,5.3nm,0.8s						
KNRA	**Kununurra**	**20.89**	**240**	P	**P**	**01 33 17.4**	**-0.7**
KNRA				IAmb	IAmb	01 33 23.2	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	**22.17**	**215**	P	**P**	**01 33 32.4**	**+1.0**
ASAR	**Alice Springs**	**22.17**	**215**	P	**P**	**01 33 32.2**	**+0.8**
ASAR	**Alice Springs**	**22.17**	**215**	P	**P**	**01 33 32.5**	**+1.1**
	comp=Z,17nm,0.5s,baz=48,slow=8.5,SNR=163						
ASAR				S	**S**	**01 37 24.4**	**+1.1**
	comp=Z,4.2nm,1.0s,baz=31,slow=13,SNR=9.7						
	comp=Z,17nm,0.5s						
INKA	**Innaminka**	**22.89**	**195**	P	**P**	**01 33 39.0**	**+1.1**
INKA				IAmb	IAmb	01 33 39.9	
	comp=Z,7.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.65**	**238**	P	**P**	**01 33 54.1**	**+0.1**
FITZ				IAmb	IAmb	01 33 58.0	
	comp=Z,3.4nm,0.8s						
BBOO	**Buckleboo**	**29.05**	**200**	P	**P**	**01 34 33.8**	**+0.6**
CAN	**Canberra**	**29.56**	**177**	P	**P**	**01 34 38.1**	**+0.2**
CAN				IAmb	IAmb	01 34 41.1	
	comp=Z,2.6nm,0.9s						
MBWA	**Marble Bar**	**30.99**	**238**	P	**P**	**01 34 50.5**	**-0.1**
PSA00	**Pilbara Seismi**	**31.08**	**237**	P	**P**	**01 34 51.0**	**-0.3**
PSA00				IAmb	IAmb	01 34 51.8	
	comp=Z,3.8nm,0.8s						
YHNB	**Yeheng**	**39.42**	**321**	P	**P**	**01 36 02.8**	**+0.3**
MJAR	**Matsushiro Arr**	**42.85**	**349**	P	**P**	**01 36 29.6**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=165,slow=8.6,SNR=4.5						
	comp=Z,0.9nm,0.3s						
PZH	**PanZhiHua**	**54.61**	**308**	P	**P**	**01 38 03.1**	**+2.8**
HHC	**Hu-ho-hao-te**	**56.78**	**328**	*eP*	**P**	**01 38 18.5**	**+3.0**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,47nm,5.9s						
SONM	**Songino Array**	**64.33**	**331**	P	**P**	**01 39 07.5**	**+1.0**
SONM				IAmb	IAmb	01 39 08.8	
	comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**64.33**	**331**	P	**P**	**01 39 06.3**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=140,slow=5.5,SNR=8.1						
	comp=Z,1.8nm,0.7s						
EVN	**Everest**	**67.30**	**303**	P	**P**	**01 39 26.6**	**+0.1**
EVN				IAmb	IAmb	01 39 27.6	
	comp=Z,3.5nm,0.6s						
VNDA	**Vanda**	**72.23**	**177**	P	**P**	**01 39 55.5**	**+0.5**
VNDA	**Vanda**	**72.23**	**177**	P	**P**	**01 39 55.4**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=335,slow=7.2,SNR=15						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**77.53**	**320**	P	**P**	**01 40 24.9**	**-1.0**
MKAR	**Makanchi Array**	**77.53**	**320**	P	**P**	**01 40 25.4**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=99,slow=8.2,SNR=12						
	comp=Z,1.1nm,0.5s						
ZAA0	**Zalesovo Array**	**78.97**	**328**	P	**P**	**01 40 32.4**	**-1.2**
ZAA0				IAmb	IAmb	01 40 32.7	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**78.97**	**328**	P	**P**	**01 40 32.4**	**-1.2**
ZALV	**Zalesovo Beam**	**78.97**	**328**	P	**P**	**01 40 32.1**	**-1.5**
	comp=Z,2.3nm,0.4s,baz=124,slow=6.1,SNR=9.4						
	comp=Z,2.3nm,0.4s						
KURBB	**Kurchatov Arra**	**81.23**	**323**	P	**P**	**01 40 44.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=116,slow=4.2,SNR=6.1						
	comp=Z,0.4nm,0.5s						
G18K	**Tagagawik**	**81.27**	**20**	P	**P**	**01 40 46.3**	**+0.6**
G18K				IAmb	IAmb	01 41 12.2	
	comp=Z,2.9nm,1.1s						
CAST	**Castle Rocks**	**82.33**	**23**	P	**P**	**01 40 51.8**	**+0.5**
E19K	**Redstone River**	**82.63**	**19**	P	**P**	**01 40 53.5**	**+0.7**
E19K				IAmb	IAmb	01 40 58.3	
	comp=Z,2.4nm,0.9s						
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**01 41 02.4**	**+0.8**
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**01 41 02.2**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=330,slow=4.3,SNR=12						
	comp=Z,1.4nm,0.5s						
KKAR	**Karatay Array**	**84.38**	**314**	P	**P**	**01 41 01.4**	**-0.9**
ILAR	**Eielson Array**	**84.97**	**23**	P	**P**	**01 41 04.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=262,slow=5.0,SNR=7.9						
	comp=Z,0.7nm,0.7s						
J25K	**Salcha River,**	**85.51**	**23**	P	**P**	**01 41 08.1**	**+0.6**
J25K				IAmb	IAmb	01 41 08.9	
	comp=Z,1.3nm,0.8s						
J26L	**Joseph Creek**	**86.19**	**24**	P	**P**	**01 41 11.5**	**+0.6**
BVAR	**Borovoye Array**	**86.76**	**324**	P	**P**	**01 41 11.9**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=101,slow=6.0,SNR=4.8						
	comp=Z,0.9nm,0.5s						
BMAR	**Burnt Mountain**	**86.90**	**21**	P	**P**	**01 41 15.7**	**+1.4**
H27K	**Steamboat Moun**	**87.59**	**23**	P	**P**	**01 41 18.2**	**+0.6**
L29M	**L29M**	**88.02**	**26**	P	**P**	**01 41 20.9**	**+1.3**
L29M				IAmb	IAmb	01 41 22.0	
	comp=Z,1.0nm,0.7s						
K29M	**Barlow Dome**	**88.48**	**25**	P	**P**	**01 41 22.9**	**+1.0**
J30M	**Hart River**	**89.18**	**25**	P	**P**	**01 41 25.9**	**+0.8**
J30M				IAmb	IAmb	01 41 29.3	
	comp=Z,1.5nm,1.1s						
H31M	**Peel River**	**90.29**	**24**	P	**P**	**01 41 31.2**	**+1.1**
H31M				IAmb	IAmb	01 41 40.7	
	comp=Z,1.8nm,1.1s						
G31M	**Satah River**	**90.57**	**23**	P	**P**	**01 41 31.9**	**+0.5**
G31M				IAmb	IAmb	01 41 32.7	
	comp=Z,1.6nm,0.9s						
ABKAR	**Akbulak array**	**92.62**	**319**	P	**P**	**01 41 38.8**	**-2.5**
GERES	**GERESS Array B**	**121.88**	**326**	PKP	**PKPdf**	**01 47 22.1**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=11,slow=1.0,SNR=2.2						
EKA	**Eskdalemuir Ar**	**125.16**	**340**	PKP	**PKPdf**	**01 47 27.8**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=69,slow=2.4,SNR=3.6						
BAUV	**El Baul**	**144.63**	**83**		**PKPab**	**01 48 03.6**	**-1.9**
TORD	**Torodi Ar. Bea**	**145.46**	**285**	PKPbc	**PKPdf**	**01 48 07.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=50,slow=4.1,SNR=31						

IDC 21 01:35:27.3±0.8, 24°.20N×124°.91E, h0km, mb3.8/14, mbtmp3.8/17, ML3.3/3, MS3.3/5, Error ellipse: s-maj=28.0km s-min=18.3km az=68.0

NEIC 21 01:35:31.3±2.4, 24°.2N±0°.1×125°.2E±0°.1, h27km±6km, mb4.5/18, Error ellipse: s-maj=17.1km s-min=15.0km az=154.0

JMA 21 01:35:31.1±0.1, 24°.3N±0°.8×125°.3E±0°.4, h43km±2km, MV3.7/12, NEAR MIYAKOJIMA ISLAND

ISC 21 01:35:30.5±1.7, 24°22N±0°07×125°23E±0°05, h24km±10km, n69, σ1§03/71, mb4.1/24, MS3.4/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.57**	**17**	*eP*	**Pb**	**01 35 41.8**	**-0.1**
JOGS				*eS*	**Sb**	**01 35 49.9**	**+0.4**
JIRB	**Irabujima**	**0.61**	**355**	P	**Pb**	**01 35 42.3**	**-0.3**
JIRB				*eS*	**Sb**	**01 35 50.5**	**-0.3**
JTJ	**Tarama**	**0.64**	**312**	P	**Pb**	**01 35 43.3**	**+0.3**
JTJ				*eS*	**Sb**	**01 35 52.2**	**+0.6**
JIKM	**Ikemajima**	**0.71**	**2**	P	**Pb**	**01 35 43.9**	**-0.3**
JIKM				*eS*	**Sb**	**01 35 52.6**	**-0.9**
JISG	**Ishigakijimahi**	**0.91**	**294**	*eP*	**Pn**	**01 35 47.4**	**-0.5**
JISG				*eS*	**Sb**	**01 35 59.4**	**0.0**
JIJ	**Ishigaki jima**	**1.00**	**279**	*eP*	**Pn**	**01 35 49.2**	**+0.1**
JKRS	**Kuro-shima**	**1.11**	**271**	*eP*	**Pn**	**01 35 50.9**	**+0.3**
JKRS				*eS*	**Sb**	**01 36 05.6**	**+0.4**
HATJ	**Hateruma jima**	**1.31**	**263**	*eP*	**Pb**	**01 35 54.0**	**-0.4**
HATJ				*eS*	**Sb**	**01 36 10.6**	**-0.2**
IRIF	**Iriomote-Funau**	**1.37**	**275**	*eP*	**Pn**	**01 35 54.7**	**+0.5**
YOJ	**Yonaguni jima**	**2.04**	**277**		**Pn**	**01 36 03.6**	**+0.3**
YOJ	**Yonaguni jima**	**2.04**	**277**	*eP*	**Pn**	**01 36 04.0**	**+0.7**
JYNG	**Yonagunijimaku**	**2.09**	**277**	*eP*	**Pn**	**01 36 05.1**	**+1.0**
JKE	**Kume jima 2**	**2.53**	**34**	*eP*	**Pn**	**01 36 09.6**	**-0.5**
NACB	**Ninganchiao**	**3.32**	**270**	Pn	**Pn**	**01 36 20.8**	**-0.2**
YHNB	**Yeheng**	**3.54**	**278**	Pn	**Pn**	**01 36 25.4**	**+1.3**
YULB	**Yu-li**	**3.69**	**258**	Pn	**Pn**	**01 36 25.2**	**-0.9**
JOW	**Kunigami**	**3.79**	**46**	Pn	**Pn**	**01 36 28.2**	**+0.7**
	2.4nm,0.3s,baz=250,slow=15,SNR=5.4						
JOW				Sn	**Sn**	**01 37 11.2**	**-0.2**
	1.3nm,0.3s,baz=328,slow=28,SNR=1.6						
	7.5nm,0.4s						
SSLB	**Suanglung**	**3.93**	**265**	Pn	**Pn**	**01 36 30.3**	**+0.9**
TWG	**Pinlang**	**4.06**	**251**	Pn	**Pn**	**01 36 29.5**	**-1.6**

TPUB	**Ta-pu**	**4.31**	**259**	Pn	**Pn**	**01 36 35.7**	**+1.1**
JNU	**Nakatsue**	**10.16**	**28**	Sn	**Sn**	**01 39 48.6**	**+0.3**
	0.4nm,0.3s,baz=225,slow=16,SNR=3.3						
KSRS	**Korea Array**	**13.40**	**9**	Pn	**Pn**	**01 38 39.7**	**+0.5**
	0.3nm,0.3s,baz=195,slow=12,SNR=2.1						
	0.5nm,0.4s						
MJAR	**Matsushiro Arr**	**16.61**	**39**	Pn	**P**	**01 39 24.7**	**+0.7**
	0.1nm,0.3s,baz=226,slow=10.0,SNR=8.6						
	2.9nm,0.6s						
DAV	**Davao City (W)**	**17.05**	**179**	LR	LR	01 45 11.2	
	comp=Z,37nm,20.9s,baz=110,slow=34						
SONM	**Songino Array**	**27.92**	**332**	P	**P**	**01 41 17.2**	**-1.6**
	0.4nm,0.4s,baz=140,slow=7.1,SNR=2.4						
SONM				LR	LR	01 52 59.2	
	comp=Z,65nm,19.1s,baz=204,slow=38						
	0.4nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**38.80**	**88**	T	T	02 24 16.5	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**38.80**	**88**	T	T	02 24 16.9	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**38.81**	**88**	T	T	02 24 16.8	
	baz=283						
MKAR	**Makanchi Array**	**40.92**	**314**	P	**P**	**01 43 09.6**	**-1.3**
MKAR	**Makanchi Array**	**40.92**	**314**	P	**P**	**01 43 10.1**	**-0.9**
	2.0nm,0.5s,baz=101,slow=10,SNR=24						
	2.0nm,0.5s						
ZAA0	**Zalesovo Array**	**42.27**	**325**	P	**P**	**01 43 19.7**	**-2.2**
ZALV	**Zalesovo Beam**	**42.27**	**325**	P	**P**	**01 43 19.8**	**-2.1**
ZALV	**Zalesovo Beam**	**42.27**	**325**	P	**P**	**01 43 20.0**	**-1.9**
	0.9nm,0.4s,baz=113,slow=8.7,SNR=6.5						
ZALV				LR	LR	02 00 21.6	
	comp=Z,29nm,18.9s,baz=139,slow=36						
	0.9nm,0.4s						
TARG	**Taragay, Kyrgy**	**42.87**	**306**	P	**P**	**01 43 27.7**	**+0.2**
KURK	**Kurchatov**	**44.47**	**319**	P	**P**	**01 43 38.5**	**-1.2**
KURBB	**Kurchatov Arra**	**44.49**	**319**	P	**P**	**01 43 38.6**	**-1.2**
	1.3nm,0.6s,baz=108,slow=8.7,SNR=12						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**44.78**	**168**	P	**P**	**01 43 42.7**	**+0.2**
	0.8nm,0.4s,baz=348,slow=8.9,SNR=5.6						
	0.8nm,0.4s						
WR8	**Warramunga Arr**	**44.82**	**168**	P	**P**	**01 43 42.6**	**-0.1**
WR8				IAmb	IAmb	01 43 44.0	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**48.34**	**169**	P	**P**	**01 44 11.1**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=354,slow=7.9,SNR=6.3						
	comp=Z,0.5nm,0.5s						
KKAR	**Karatay Array**	**48.40**	**307**	P	**P**	**01 44 11.2**	**+0.6**
BVAR	**Borovoye Array**	**50.01**	**320**	P	**P**	**01 44 22.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=117,slow=8.3,SNR=7.6						
	comp=Z,1.2nm,0.6s						
AB31	**Akbulak array**	**56.06**	**314**	P	**P**	**01 45 07.2**	**-0.3**
ABKAR	**Akbulak array**	**56.06**	**314**	P	**P**	**01 45 07.3**	**-0.2**
ARTI	**Arti**	**57.41**	**323**	LR	LR	02 09 27.1	
	comp=Z,34nm,18.4s,baz=130,slow=36						
C18K	**Utukok River**	**61.70**	**24**	P	**P**	**01 45 47.6**	**+1.1**
C18K				IAmb	IAmb	01 46 02.5	
	comp=Z,7.8nm,1.4s						
KIRV	**Kirov**	**62.31**	**325**	LR	LR	02 15 49.7	
	comp=Z,58nm,19.0s,baz=145,slow=39						
G18K	**Tagagawik**	**62.49**	**27**	P	**P**	**01 45 53.3**	**+1.5**
G18K				IAmb	IAmb	01 46 04.1	
	comp=Z,6.6nm,1.4s						
D19K	**Kuna River**	**62.82**	**24**	P	**P**	**01 45 53.9**	**0.0**
E19K	**Redstone River**	**63.11**	**25**	P	**P**	**01 45 56.2**	**+0.4**
E19K				IAmb	IAmb	01 46 08.4	
	comp=Z,4.8nm,1.1s						
H19K	**Roundabout Mou**	**63.40**	**27**	P	**P**	**01 46 00.2**	**+2.5**
G21K	**Allakaket**	**64.58**	**26**	P	**P**	**01 46 07.6**	**+2.1**
G21K				IAmb	IAmb	01 46 26.2	
	comp=Z,5.5nm,1.4s						
BPAW	**Bear Paw Mtn.**	**65.81**	**29**		**P**	**01 46 15.3**	**+1.8**
BPAW				IAmb	IAmb	01 46 32.2	
	comp=Z,4.1nm,1.4s						
SUA	**Susitna One**	**66.21**	**31**	P	**P**	**01 46 15.5**	**-0.8**
ILAR	**Eielson Array**	**67.48**	**28**	P	**P**	**01 46 27.0**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=274,slow=7.9,SNR=4.6						
	comp=Z,0.2nm,0.6s		

ALEN	**Leon**	**0.92**	**5**	S	Sb	02 14 06.8	+0.3
ALEN	**Leon**	**0.92**	**5**	P	Pn	02 13 53.4	-0.8
R4DEC	**Barrio San Lui**	**0.92**	**49**	S	Sb	02 14 06.5	0.0
R4DEC	**Barrio San Lui**	**0.92**	**49**	P	Pn	02 13 53.8	-0.3
APQ3	**Volcan Apoyequ**	**0.93**	**38**	P	Pn	02 13 54.1	-0.2
APQ3				S	Sb	02 14 08.4	+1.7
WILN	**Americas 2**	**0.97**	**50**	P	Pn	02 13 54.7	-0.1
WILN				S	Sb	02 14 09.9	+1.9
CNGA	**Al SSO del Vol**	**0.98**	**14**	P	Pn	02 13 55.0	-0.1
CNGA				S	Sn	02 14 08.1	+0.1
CNGN	**Cerro Negro**	**0.99**	**15**	P	Pn	02 13 55.1	-0.1
CNGN	**Cerro Negro**	**0.99**	**15**	S	Sb	02 14 09.3	+0.8
ROCN	**Rota Cerro Neg**	**1.00**	**12**	P	Pn	02 13 54.6	-0.7
ROCN				S	Sn	02 14 08.3	0.0
MOM2	**El Cardon**	**1.00**	**27**	P	Pn	02 13 55.4	+0.1
MOM2				S	Sb	02 14 09.7	+0.8
PLRN	**Geotermica Pol**	**1.05**	**10**	P	Pn	02 13 54.9	-1.2
PLRN				S	Sn	02 14 09.0	-0.8
POLN	**Al Sur del Vol**	**1.11**	**7**	P	Pn	02 13 57.1	+0.3
POLN				S	Sn	02 14 11.5	+0.3
CRIN	**San Cristobal**	**1.16**	**355**	P	Pn	02 13 57.4	-0.2
JAPN	**Al SSO del Vol**	**1.25**	**90**	P	Pn	02 13 58.8	+0.1
MORN	**Al O del Volca**	**1.28**	**90**	P	Pn	02 13 59.1	-0.1
OMEN	**Al SSO del Vol**	**1.30**	**91**	P	Pn	02 13 59.6	+0.2
CARN	**Rivas**	**1.45**	**104**	P	Pn	02 14 01.9	+0.5
CSGN	**Cosiguina Volc**	**1.55**	**338**	P	Pn	02 14 03.3	+0.4
CSGN				S	Sn	02 14 22.5	+0.5
POTN	**Potosi Cosigui**	**1.55**	**340**	P	Pn	02 14 02.8	0.0
POTN				S	Sn	02 14 21.9	-0.1
BOAB	**BOACO BROADBAN**	**1.55**	**54**	P	Pn	02 14 01.8	-1.0
BOAB	**BOACO BROADBAN**	**1.55**	**54**	S	Sn	02 14 22.4	+0.4
MATN	**Matagalpa**	**1.71**	**36**	P	Pn	02 14 04.6	-0.5
MATN	**Matagalpa**	**1.71**	**36**	S	Sn	02 14 26.0	-0.1
ACON	**Acoyapa**	**1.79**	**76**	P	Pn	02 14 05.5	-0.7
CNCH	**Conchagua**	**1.93**	**334**	P	Pn	02 14 08.2	+0.1
CNCH	**Conchagua**	**1.93**	**334**	S	Sn	02 14 32.4	+0.8
CHOHN	**Orocuina**	**1.94**	**354**	P	Pn	02 14 08.8	+0.5
LCND	**La Caada**	**1.98**	**333**	P	Pn	02 14 08.7	-0.1
RCPN	**Sur Rio San Ju**	**2.15**	**23**	P	Pn	02 14 11.0	-0.1
RCVN	**Varillal2**	**2.16**	**20**	P	Pn	02 14 11.9	+0.5
RCVN	**Varillal2**	**2.16**	**20**	S	Sn	02 14 37.7	+0.3
PACA	**Pacayal**	**2.34**	**325**	P	Pn	02 14 14.9	+1.1
YUSH	**Yuscaran**	**2.40**	**3**	P	Pn	02 14 15.3	+0.6

*IDC **21** 02:38:47.2±2.7,5.°69S×146.°66E,h64km±24km,mb3.4/5, mbtmp3.7/8,ML3.0/3, Error ellipse: s-maj=29.8km s-min=18.4km az=74.0*

ISC 21 02:38:43.4±0.8,5.°52S±0.°09×147.°1E±0.°1,h35km,n10, σ2°03/11,mb3.5/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.87**	**178**	P		**P**	**Pn**	**02 39 42.7**	**+2.2**
	16nm,0.3s,baz=337,slow=6.5,SNR=17								
PMG				S			**Sn**	**02 40 25.5**	**+0.8**
	60nm,0.6s,baz=307,slow=20,SNR=5.6								
	28nm,0.3s								
JAY	**Jayapura**	**7.00**	**295**	P		**P**	**Pn**	**02 40 24.0**	**+0.5**
	0.3nm,0.3s,baz=180,slow=20,SNR=1.4								
	4.9nm,0.9s								
HNR	**Honiara**	**13.37**	**108**	P		**P**	**P**	**02 41 58.0**	**-1.8**
	93nm,0.4s,baz=238,slow=9.5,SNR=3.9								
WRA	**Warramunga Arr**	**18.93**	**220**	P		**P**	**P**	**02 42 58.7**	**-2.9**
	0.2nm,0.3s,baz=42,slow=12,SNR=4.9								
	0.9nm,0.7s								
ASAR	**Alice Springs**	**22.05**	**214**	P		**P**	**P**	**02 43 32.0**	**-3.3**
	0.7nm,0.6s,baz=41,slow=7.8,SNR=11								
	0.7nm,0.6s								
VNDA	**Vanda**	**72.39**	**177**	P		**P**	**P**	**02 50 06.0**	**+0.5**
	0.3nm,0.6s,baz=338,slow=11,SNR=2.4								
	0.3nm,0.6s								
MKAR	**Makanchi Array**	**77.16**	**320**	P		**P**	**P**	**02 50 34.4**	**+0.7**
	0.4nm,0.8s,baz=110,slow=6.3,SNR=2.6								
	0.4nm,0.8s								
QSPA	**South Pole Qui**	**84.45**	**180**	P		**P**	**P**	**02 51 12.5**	**+0.1**
	1.3nm,0.8s,baz=30,slow=0.6,SNR=4.1								
	1.3nm,0.8s								
ILAR	**Eielson Array**	**85.02**	**23**	P		**P**	**P**	**02 51 16.5**	**+1.4**
	0.5nm,0.6s,baz=260,slow=5.0,SNR=8.2								
	0.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**145.02**	**285**	PKP		**PKPbc**	**02 58 16.1**	**-1.4**
	0.7nm,0.8s,baz=53,slow=4.5,SNR=3.7								

*BJI **21** 03:35:20.8,42.°14N×143.°21E,h22km, mB4.5/3,mb4.5/27*
*MOS **21** 03:35:23.5±0.8,42.°36N×143.°07E,h29km,mb4.7/15,Error ellipse: s-maj=7.9km s-min=5.9km az=82.9*
*SKHL **21** 03:35:24.7±0.3,42.°20N×143.°10E,h47km±6km,mb5.1/6*
*JMA **21** 03:35:25.3±0.1,42.°4N±0.°4×143.°1E±0.°5,h26km±1km, MD4.3/20,MV4.3/20,HIDAKA MOUNTAINS REGION*
JMA Felt II J1 at HIDAKA MOUNTAINS REGION .
*NIED **21** 03:35:25.3,42.°39N×143.°06E,h26km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr=1.57; Mθθ 0.19; Mφφ 1.38; Mrθ 0.57; Mθφ 0.10; Mφr-0.48; Fault plane solution: M0 1.63000×10^15^ NP1: φs199.00000°,δ39.00000°,λ-64.00000°. NP2: φs347.00000°,δ56.00000°,λ-109.00000°.*
*NEIC **21** 03:35:25.1±0.8,42.°42N±0.°07×143.°1E±0.°2,h24km±6km, mb4.5/48 Error ellipse: s-maj=18.0km s-min=9.8km az=91.0*
*IDC **21** 03:35:27.5±1.6,42.°37N×143.°07E,h49km±12km,mb3.9/25, mbtmp4.2/30,ML3.6/5,MS3.3/18,Error ellipse: s-maj=14.6km s-min=10.2km az=109.0*

ISC 21 03:35:25.4±0.7,42.°38N±0.°03×143.°11E±0.°03,h31km±5km, n211,σ1°38/207,mb4.4/64,MS3.4/13,6C-18D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTHR	**Tokachihiroo**	**0.17**	**120**	⇓*i*	P		**Pb**	**03 35 31.0**	**-0.4**
JTHR				⇓*e*	S		**Sb**	**03 35 34.9**	**-0.5**
JTHR	**Tokachihiroo**	**0.17**	**120**	A		A	A	03 35 31.0	
	comp=N,71nm,0.3s,comp=E,102nm,0.3s								
JNBK	**Urakawa-nobuka**	**0.28**	**250**	⇓	P		**Pb**	**03 35 31.6**	**-1.0**
JNBK				⇓*e*	S		**Sb**	**03 35 36.7**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.28**	**250**	A		A	A	03 35 31.6	
	comp=N,201nm,0.6s,comp=E,206nm,0.9s								
JCH	**Churui**	**0.30**	**38**	⇓	P		**Pb**	**03 35 32.6**	**-0.4**
JCH				⇓*e*	S		**Sb**	**03 35 38.2**	**0.0**
JCH	**Churui**	**0.30**	**38**	A		A	A	03 35 32.6	
	comp=N,32nm,0.4s,comp=E,45nm,0.8s								
JEM	**Erimo**	**0.36**	**174**	⇓	P		**Pb**	**03 35 33.0**	**-0.7**
JEM	**Erimo**	**0.36**	**174**	A		A	A	03 35 33.0	
	comp=N,29nm,0.6s,comp=E,18nm,0.8s								
ERM	**Erimo**	**0.36**	**174**				**Pb**	**03 35 33.2**	**-0.5**
ERM					Sg		**Sb**	**03 35 39.6**	**+0.1**
ERM	**Erimo**	**0.36**	**174**	*d*	*i* P	N	**Pb**	**03 35 33.1**	**-0.7**
ERM					pmax		pmax		
	comp=Z,2μm,0.6s								
JSHD	**Hidakashinhida**	**0.48**	**274**	P			**Pb**	**03 35 34.6**	**-0.9**
JSHD				*e*	S		**Sb**	**03 35 42.1**	**-0.3**
JSHD	**Hidakashinhida**	**0.48**	**274**	A		A	A	03 35 34.6	
	comp=N,52nm,0.7s,comp=E,70nm,1.6s								
JBT2	**Biratori 2**	**0.68**	**307**	P			**Pb**	**03 35 37.0**	**-1.8**
JBT2	**Biratori 2**	**0.68**	**307**	A		A	A	03 35 37.0	
	comp=N,7.0nm,0.4s,comp=E,7.0nm,3.1s								
JOB	**Onbets**	**0.75**	**45**	P			**Pb**	**03 35 39.9**	**-0.1**
JOB				*e*	S		**Sn**	**03 35 51.0**	**+0.9**
JOB	**Onbets**	**0.75**	**45**	A		A	A	03 35 39.9	
	comp=N,25nm,0.6s,comp=E,15nm,1.3s								
JFR	**Furan**	**0.87**	**335**	*e*	P		**Pn**	**03 35 39.0**	**-2.5**
JAR	**Ashorobuto**	**1.04**	**28**	P			**Pn**	**03 35 43.0**	**-0.8**
JAR	**Ashorobuto**	**1.04**	**28**	A		A	A	03 35 43.0	
	comp=N,5.0nm,1.3s,comp=E,6.0nm,0.4s								
JEW	**Eniwo**	**1.31**	**291**	A			A	03 35 47.7	
	comp=N,12nm,0.7s,comp=E,29nm,0.8s								
AKK	**Akkeshi**	**1.43**	**63**	*i*	P		**Pn**	**03 35 48.3**	**-0.8**
AKK					*e*	S	**Sn**	**03 36 05.8**	**-1.1**
JISS	**Ishikarishitsu**	**1.53**	**306**	A		A	A	03 35 51.1	
	comp=N,9.0nm,1.0s,comp=E,7.0nm,0.6s								
JKB	**Kayabe**	**1.62**	**253**	A		A	A	03 35 52.5	
	comp=N,6.0nm,0.6s,comp=E,13nm,0.9s								
JAHD	**Aomorihigashid**	**1.73**	**231**	A		A	A	03 35 54.3	
	comp=N,21nm,1.1s,comp=E,16nm,0.5s								
JKA	**Kamikawa-asahi**	**1.78**	**348**				**Pn**	**03 35 53.5**	**-0.5**
JKA	**Kamikawa-asahi**	**1.78**	**348**	*e*	P		**Pn**	**03 35 54.3**	**+0.4**
ASAJ	**Asahikawa**	**1.78**	**348**	P			**Pn**	**03 35 54.3**	**+0.4**
	comp=E,67nm,0.3s,baz=205,slow=9.7,SNR=131								
ASAJ					S		**Sb**	**03 36 17.9**	**-1.3**
	comp=E,510nm,0.6s,baz=156,slow=20,SNR=9.0								
ASAJ					LR		LR	03 37 04.1	
	comp=E,230nm,19.5s,baz=174,slow=54								
NMR	**Nemuro--Hokkai**	**2.17**	**62**	⇓	*i* P	N	**Pn**	**03 35 57.7**	**-1.6**
NMR					*i* S		**Sn**	**03 36 22.5**	**-2.5**
NMR	**Nemuro--Hokkai**	**2.17**	**62**	*e*	P		**Pn**	**03 35 57.9**	**-1.4**
NMR					*i* S		**Sn**	**03 36 22.8**	**-2.2**
JTM	**Tenmabayashi**	**2.20**	**225**				**Pn**	**03 36 00.5**	**+0.7**
GLVR	**Golovnino**	**2.23**	**52**	⇑	*i* P	N	**Pn**	**03 36 00.5**	**+0.4**
GLVR					*i* S		**Sn**	**03 36 26.7**	**+0.1**
GLVR					pmax		pmax		
	comp=Z,318nm,0.2s								
GLVR					smax		smax		
	comp=E,2μm,0.3s								
GLVR					smax		smax		
	comp=N,1μm,0.4s								
GLVR	**Golovnino**	**2.23**	**52**	*i*	P		**Pn**	**03 36 00.5**	**+0.4**
GLVR					AMB		AMB	03 36 00.8	
	comp=N,320nm,0.2s								
GLVR				*i*	S		**Sn**	**03 36 26.7**	**+0.1**
GLVR					A		A	03 36 28.7	
	comp=N,1μm,0.4s								
GLVR					A		A	03 36 28.7	
	comp=N,2μm,0.4s								
RUSJ	**Misakicho**	**2.33**	**41**	⇑	*i* P	N	**Pn**	**03 36 02.3**	**+0.8**
RUSJ					*i* S		**Sb**	**03 36 32.4**	**-2.6**
JSI2	**Shiura 2**	**2.41**	**238**		A		A	03 36 04.1	
	comp=N,4.0nm,0.8s,comp=E,4.0nm,0.8s								
YUK	**Yuzh-Kuril'sk**	**2.61**	**50**	*d*	*i* P	N	**Pn**	**03 36 06.0**	**+0.6**
YUK					*i* S		**Sn**	**03 36 36.6**	**+0.7**
YUK					pmax		pmax		
	comp=E,180nm,0.2s								
YUK					pmax		pmax		
	comp=Z,408nm,0.2s								
YUK					smax		smax		
	comp=N,737nm,0.3s								
YUK					smax		smax		
	comp=E,1μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**2.61**	**50**	*i*	P		**Pn**	**03 36 05.9**	**+0.6**
YUK					AMB		AMB	03 36 08.5	
	comp=E,410nm,0.2s								
YUK				*i*	S		**Sn**	**03 36 37.1**	**+1.2**
YUK					A		A	03 36 38.2	
	comp=E,740nm,0.4s								
YUK					A		A	03 36 38.2	
	comp=E,1μm,0.4s								
SHO	**Shikotan**	**3.11**	**60**	*e*	PN		**Pn**	**03 36 13.4**	**+1.2**
SHO					*i* S		**Sn**	**03 36 48.9**	**+0.7**
SHO					pmax		pmax		
	comp=Z,57nm,0.2s								
SHO					smax		smax		
	comp=N,122nm,0.3s								
SHO					smax		smax		
	comp=E,621nm,0.3s								
SHO	**Shikotan**	**3.11**	**60**	*e*	P		**Pn**	**03 36 12.9**	**+0.7**
SHO					AMB		AMB	03 36 15.7	
	comp=E,80nm,0.2s								
SHO					*e*	S	**Sn**	**03 36 48.9**	**+0.7**
SHO					A		A	03 36 50.8	
	comp=E,120nm,0.3s								
SHO					A		A	03 36 50.8	
	comp=E,620nm,0.3s								
KUR	**Kuril'sk**	**4.47**	**49**	*ce*	PN		**Pn**	**03 36 31.9**	**+0.9**
KUR					*e*	S	**Sn**	**03 37 23.4**	**+1.5**
KUR					pmax		pmax		
	comp=Z,161nm,0.9s								
KUR					pmax		pmax		
	comp=E,91nm,0.3s								
KUR					pmax		pmax		
	comp=N,53nm,0.4s								
KUR					smax		smax		
	comp=N,175nm,0.6s								
KUR					smax		smax		
	comp=E,179nm,0.6s								
KUR	**Kuril'sk**	**4.47**	**49**	*e*	P		**Pn**	**03 36 31.9**	**+0.9**
KUR					AMB		AMB	03 36 39.0	
	comp=E,160nm,0.6s								
KUR					*e*	S	**Sn**	**03 37 22.9**	**+1.0**
KUR					A		A	03 37 32.9	
	comp=E,180nm,0.6s								
KUR					A		A	03 37 32.9	
	comp=E,180nm,0.6s								
YSS	**Yuzhno-Sakhali**	**4.58**	**357**	*e*	PN		**Pn**	**03 36 31.4**	**-1.1**
YSS					pmax		pmax		
	comp=Z,30nm,0.8s								
YSS					MLR		MLR		
	comp=Z,300nm,14.0s								
YSS					MLR		MLR		
	comp=N,200nm,15.0s								
YSS	**Yuzhno-Sakhali**	**4.58**	**357**	*e*	P		**Pn**	**03 36 33.4**	**+0.9**
YSS					AMB		AMB	03 36 38.7	
	comp=N,60nm,0.3s								
YSS					*e*	S	**Sn**	**03 37 25.1**	**+0.5**
JMM	**Marumori**	**4.84**	**202**				**Pn**	**03 36 35.8**	**-0.3**
TEY	**Ternei**	**5.41**	**302**	*e*	PN		**Pn**	**03 36 46.6**	**+2.8**
TEY	**Ternei**	**5.41**	**302**	*e*	P		**Pn**	**03 36 45.9**	**+2.1**
MJB9	**Matsu-Tunnel**	**6.95**	**215**				**Pn**	**03 37 05.8**	**+0.8**
MAJO	**Matsushiro**	**6.95**	**215**				**Pn**	**03 37 05.7**	**+0.7**
MAJO	**Matsushiro**	**6.95**	**215**	*de*	PN		**Pn**	**03 37 05.8**	**+0.8**
MJAR	**Matsushiro Arr**	**6.95**	**215**				**Pn**	**03 37 05.8**	**+0.8**
MJAR	**Matsushiro Arr**	**6.95**	**215**	P			**Pn**	**03 37 06.3**	**+1.3**
	comp=N,0.6nm,0.3s,baz=29,slow=13,SNR=18								
MJAR					S		**Sn**	**03 38 28.3**	**+5.4**
	comp=N,1.1nm,0.3s,baz=38,slow=14,SNR=0.8								
MJAR					LR		LR	03 40 17.6	
	comp=N,305nm,19.8s,baz=44,slow=42								
	comp=N,9.4nm,0.5s								
JGF	**Kuroka**	**8.11**	**215**				**Pn**	**03 37 21.8**	**+0.8**
USA0B	**Ussuriysk Arra**	**8.31**	**286**	⇑	*e*	PN	**Pn**	**03 37 24.8**	**+1.1**
USRK	**Ussuriysk Ar.**	**8.31**	**286**	P			**Pn**	**03 37 25.9**	**+2.3**
	comp=N,0.6nm,0.3s,baz=89,slow=15,SNR=8.7								
USRK					LR		LR	03 40 35.4	
	comp=N,141nm,20.3s,baz=162,slow=37								
	comp=N,2.9nm,0.5s								
INU	**Inuyama**	**8.47**	**216**				**Pn**	**03 37 27.2**	**+1.4**
TYV	**Tymovskoe**	**8.50**	**358**	*e*	PN		**Pn**	**03 37 29.7**	**+3.6**
TYV					pmax		pmax		
	comp=Z,4.0nm,1.0s								
TYV					pmax		pmax		
	comp=Z,100nm,3.1s								
TYV	**Tymovskoe**	**8.50**	**358**	*e*	P		**Pn**	**03 37 29.7**	**+3.6**
JHJ	**Hachijo jima 2**	**9.61**	**197**	P			**Pn**	**03 37 39.4**	**-2.1**
	comp=Z,57nm,0.5s,baz=334,slow=24,SNR=6.7								
JHJ					S		**Sn**	**03 39 20.8**	**-7.5**
	comp=Z,136nm,0.9s,baz=66,slow=20,SNR=2.5								
MDJ	**Mudanjiang**	**10.07**	**287**	P			**Pn**	**03 37 46.5**	**-1.3**
MDJ					pmax		pmax		
	comp=Z,9.0nm,1.8s								
NKL	**Nikolayevsk**	**10.90**	**352**	*e*	P		**Pn**	**03 37 58.7**	**-0.4**
OKH	**Okha**	**11.18**	**359**	*e*	P		**Pn**	**03 38 05.7**	**+2.8**
SKR	**Severo-Kuril's**	**12.21**	**43**	*e*	P		**Pn**	**03 38 17.7**	**+0.8**
SKR					AMB		AMB	03 38 19.2	
	comp=Z,20nm,0.6s								
KSRS	**Korea Array**	**12.65**	**252**	P			**Pn**	**03 38 24.9**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=63,slow=13,SNR=17								
	comp=Z,5.2nm,0.9s								
CN2	**Changchun**	**12.99**	**282**	P			**Pn**	**03 38 31.3**	**+3.6**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
JNU	**Nakatsue**	**13.36**	**230**	P			**Pn**	**03 38 33.7**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=42,slow=3.5,SNR=4.6								
JNU					LR		LR	03 44 25.7	
	comp=Z,50nm,20.4s,baz=41,slow=40								
	comp=Z,5.6nm,0.7s								
HEH	**HeiHe**	**13.39**	**311**	*e*	P		**Pn**	**03 38 37.3**	**+4.3**
PETK	**Petropavlovsk-**	**14.52**	**37**	P			**Pn**	**03 38 48.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=219,slow=8.2,SNR=9.1								
PETK					LR		LR	03 44 24.7	
	comp=Z,56nm,19.0s,baz=225,slow=37								
	comp=Z,1.4nm,0.5s								
JCJ	**Chichijima**	**15.26**	**183**	P			**Pn**	**03 38 56.0**	**-2.6**
	comp=Z,15nm,0.5s,baz=283,slow=9.4,SNR=4.6								
ZEA	**Zeya**	**15.50**	**323**	*e*	P		**P**	**03 39 05.1**	**-0.5**
ZEA	**Zeya**	**15.50**	**323**	*e*	P		**Pn**	**03 39 01.5**	**0.0**
MA2	**Magadan**	**17.86**	**13**	LR			LR	03 46 49.0	
	comp=Z,34nm,19.2s,baz=174,slow=38								
JOW	**Kunigami**	**19.69**	**223**	LR			LR	03 47 54.3	
	comp=Z,96nm,20.3s,baz=114,slow=38								
TIA	**Tai'an**	**20.99**	**262**	P			**P**	**03 40 03.8**	**-2.2**
TIA					pmax		pmax		
	comp=Z,12nm,0.7s								
SEY	**Seymchan**	**21.30**	**12**	P			**P**	**03 40 07.4**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=200,slow=7.1,SNR=8.7								
SEY	**Seymchan**	**21.30**	**12**	*e*	P		**P**	**03 40 05.8**	**-3.3**
SEY					pmax		pmax		
	comp=Z,8.0nm,0.7s								
NJ2	**Nanjing**	**21.82**	**250**	*e*	P		**P**	**03 40 16.9**	**+2.0**
NJ2					pmax		pmax		
	comp=Z,7.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**23.57**	**277**	*e*	P		**P**	**03 40 33.1**	**-0.1**
HHC					pmax		pmax		
	comp=Z,14nm,0.7s								
ULN	**Ulaanbaatar**	**25.86**	**295**	⇑	*e*	P	**P**	**03 40 54.0**	**-0.2**
ULN					pmax		pmax		
	comp=Z,5.0nm,1.0s								
ULN	**Ulaanbaatar**	**25.86**	**295**	*e*	P		**P**	**03 40 54.0**	**-0.2**
SONM	**Songino Array**	**26.31**	**295**	P			**P**	**03 40 58.2**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=93,slow=9.1,SNR=21								
	comp=Z,4.4nm,0.8s								
XAN	**Xi'an**	**27.98**	**264**	P			**P**	**03 41 13.3**	**+0.1**
XAN					pmax		pmax		
	comp=Z,7.0nm,0.7s								
TIXI	**Tiksi**	**30.18**	**351**	LR			LR	03 54 48.9	
	comp=Z,31nm,18.1s,baz=198,slow=38								
H11N2	**WAKE ISLAND Hy**	**30.22**	**131**	T			T	04 13 15.3	
	baz=324,slow=75,SNR=440								
H11N1	**WAKE ISLAND Hy**	**30.23**	**131**	T			T	04 13 03.5	
	baz=324,slow=75,SNR=278								
H11N3	**WAKE ISLAND Hy**	**30.24**	**131**	T			T	04 13 02.7	
	baz=324,slow=75,SNR=242								
H11S1	**WAKE ISLAND Hy**	**31.10**	**133**	T			T	04 14 06.0	
	baz=325,slow=76,SNR=348								
H11S3	**WAKE ISLAND Hy**	**31.11**	**133**	T			T	04 14 06.9	
	baz=325,slow=76,SNR=196								
H11S2	**WAKE ISLAND Hy**	**31.12**	**133**	T			T	04 14 12.5	
	baz=325,slow=76,SNR=181								
GTA	**Gaotai**	**32.60**	**280**	P			**P**	**03 41 54.6**	**+0.5**
GTA					pP		pP	03 41 57.3	-6.1
GTA					pmax		pmax		
	comp=Z,14nm,0.7s								
PZH	**PanZhiHua**	**37.21**	**258**	P			**P**	**03 42 35.8**	**+1.8**
DAV	**Davao City (W)**	**38.43**	**209**	LR			LR	03 58 34.4	
	comp=Z,38nm,21.4s,baz=216,slow=36								
G18K	**Tagagawik**	**39.42**	**33**				**P**	**03 42 51.4**	**-0.6**
G18K					IAmb		IAmb	03 42 59.3	
	comp=Z,5.4nm,0.8s								
ZAA0	**Zalesovo Array**	**39.48**	**308**				**P**	**03 42 52.7**	**+0.1**
ZAA0					IAmb		IAmb	03 42 53.2	
	comp=Z,4.6nm,0.7s								
ZAA0					PcP		**PcP**	**03 44 60.0**	**+0.2**
ZALV	**Zalesovo Beam**	**39.48**	**308**		P		**P**	**03 42 52.5**	**0.0**
	comp=Z,4.1nm,0.7s,baz=90,slow=8.2,SNR=19								
ZALV					PcP		**PcP**	**03 45 00.4**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=81,slow=2.1,SNR=9.6								
	comp=Z,4.1nm,0.7s								
WMQ	**Urumqi**	**39.84**	**292**	*e*	P		**P**	**03 42 58.1**	**+2.3**
WMQ					pmax		pmax		
	comp=Z,120nm,0.7s								
E19K	**Redstone River**	**40.19**	**31**	P			**P**	**03 42 58.7**	**+0.4**
H19K	**Roundabout Mou**	**40.29**	**34**	P			**P**	**03 42 59.4**	**+0.3**
H19K					IAmb		IAmb	03 43 07.4	
	comp=Z,6.9nm,0.8s								
J19K	**Poorman**	**40.56**	**36**				**P**	**03 43 02.0**	**+0.6**
D20K	**Etivluk River**	**40.60**	**29**	P			**P**	**03 43 01.1**	**-0.6**
D20K					IAmb		IAmb	03 43 08.6	
	comp=Z,5.9nm,0.6s								
J20K	**Nowinta River**	**41.21**	**36**				**P**	**03 43 07.5**	**+0.7**
J20K					IAmb		IAmb	03 43 15.1	
	comp=Z,6.0nm,0.8s								
G21K	**Allakaket**	**41.56**	**33**	P			**P**	**03 43 10.0**	**+0.3**
CAST	**Castle Rocks**	**42.13**	**37**				**P**	**03 43 14.9**	**+0.5**
CAST					IAmb		IAmb	03 43 23.0	
	comp=Z,6.4nm,0.9s								
E22K	**Anaktuvuk Pass**	**42.30**	**30**				**P**	**03 43 15.4**	**-0.4**
E22K					IAmb		IAmb	03 43 22.9	
	comp=Z,6.8nm,0.6s								
MK31	**Makanchi Array**	**42.59**	**298**	*de*	P		**P**	**03 43 18.0**	**-0.4**
MKAR	**Makanchi Array**	**42.59**	**298**				**P**	**03 43 18.3**	**0.0**
MKAR	**Makanchi Array**	**42.59**	**298**	P			**P**	**03 43 18.1**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=82,slow=9.4,SNR=43								
MKAR					PcP		**PcP**	**03 45 10.5**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=48,slow=1.8,SNR=3.8								
	comp=Z,7.4nm,0.8s								
MKAR	**Makanchi Array**	**42.59**	**298**	*i*	P		**P**	**03 43

G31M	**Satah River**	**49.11**	**31**	P		**P**	**03 44 09.7**	**+0.3**
G31M				IAmb		IAmb	03 44 24.4	
	comp=Z,5.9nm,1.3s							
AAK	**Ala-Archa**	**49.26**	**295**	*e*P		**P**	**03 44 10.8**	**-0.3**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
AAK	**Ala-Archa**	**49.26**	**295**	*e*P		**P**	**03 44 10.8**	**-0.3**
HYT	**Haines Junctio**	**49.29**	**39**			**P**	**03 44 12.0**	**+1.0**
H31M	**Peel River**	**49.35**	**33**			**P**	**03 44 11.7**	**+0.4**
P29M	**Windy Craggy**	**49.52**	**41**	P		**P**	**03 44 14.6**	**+1.9**
ARSB	**Arslanbob**	**50.84**	**294**			**P**	**03 44 23.4**	**+0.3**
ARSB	**Arslanbob**	**50.84**	**294**	P		**P**	**03 44 23.4**	**+0.3**
ARSB				pmax		pmax		
	comp=Z,13nm,0.9s							
KK31	**Karatay Array**	**51.72**	**297**			**P**	**03 44 29.1**	**-0.3**
KK31	**Karatay Array**	**51.72**	**297**	P		**P**	**03 44 29.2**	**-0.3**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**51.72**	**297**	P		**P**	**03 44 28.8**	**-0.7**
KKAR	**Karatay Array**	**51.72**	**297**	P		**P**	**03 44 28.8**	**-0.7**
ARTI	**Arti**	**53.42**	**316**			**P**	**03 44 41.9**	**+0.1**
ARTI	**Arti**	**53.42**	**316**	LR		LR	04 09 41.8	
	comp=Z,45nm,18.1s,baz=168,slow=38							
ARTI	**Arti**	**53.42**	**316**	*d* P		**P**	**03 44 41.5**	**-0.3**
ARTI							03 45 45.4	
ARTI							03 46 38.5	
ARTI				S		**S**	**03 52 14.1**	**+2.4**
ARTI				SS		**SS**	**03 55 44.1**	**-7.3**
ARTI				pmax		pmax		
	comp=Z,12nm,0.7s							
CHGR	**Chuyangaron**	**54.68**	**293**	P		**P**	**03 44 51.1**	**-0.3**
CHGR	**Chuyangaron**	**54.68**	**293**	P		**P**	**03 44 51.1**	**-0.3**
CHGR				pmax		pmax		
	comp=Z,14nm,0.7s							
SIMJ	**Simiganj**	**54.78**	**293**			**P**	**03 44 51.8**	**-0.5**
SIMJ				IAmb		IAmb	03 44 52.4	
	comp=Z,6.0nm,0.9s							
SPITS	**Spitsbergen Ar**	**55.55**	**348**	P		**P**	**03 44 56.2**	**-0.8**
	comp=Z,12nm,1.0s,baz=72,slow=4.7,SNR=1.7							
	comp=Z,12nm,1.0s							
AB31	**Akbulak array**	**55.59**	**308**			**P**	**03 44 57.9**	**+0.2**
ABKAR	**Akbulak array**	**55.59**	**308**			**P**	**03 44 57.8**	**0.0**
YKA	**Yellowknife Ar**	**58.57**	**32**	P		**P**	**03 45 18.8**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=310,slow=5.9,SNR=5.1							
	comp=Z,0.8nm,0.8s							
YKA	**Yellowknife Ar**	**58.57**	**32**	*i* P		**P**	**03 45 19.2**	**+0.7**
ARCES	**ARCESS Array B**	**59.48**	**339**	P		**P**	**03 45 24.4**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=17,slow=8.9,SNR=5.2							
	comp=Z,1.1nm,0.7s							
WRA	**Warramunga Arr**	**62.53**	**189**	P		**P**	**03 45 45.3**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=3.8,slow=6.8,SNR=9.8							
	comp=Z,1.9nm,0.7s							
FINES	**FINESS Array B**	**64.72**	**332**	P		**P**	**03 45 59.5**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=44,slow=7.9,SNR=26							
	comp=Z,1.8nm,0.5s							
SUMG	**Summit**	**65.34**	**1**			**P**	**03 46 04.7**	**+0.3**
SUMG	**Summit**	**65.34**	**1**	P		**P**	**03 46 04.7**	**+0.3**
SUMG				pmax		pmax		
	comp=Z,5.0nm,0.9s							
NEW	**Newport**	**65.44**	**46**	LR		LR	04 14 09.9	
	comp=Z,17nm,18.0s,baz=311,slow=36							
ASAR	**Alice Springs**	**66.26**	**189**	P		**P**	**03 46 10.7**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=21,slow=7.0,SNR=5.2							
	comp=Z,0.9nm,0.8s							
AKT	**Akhty**	**66.99**	**306**	*e*P		**P**	**03 46 15.0**	**-0.1**
KIV	**Kislovodsk**	**68.43**	**310**	*e*P		**P**	**03 46 25.0**	**+0.9**
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
KIV				MLR		MLR		
	comp=Z,17nm,17.0s							
KIV	**Kislovodsk**	**68.43**	**310**	*e*P		**P**	**03 46 25.0**	**+0.9**
KBZ	**Khabaz**	**68.45**	**310**	P		**P**	**03 46 24.8**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=48,slow=5.8,SNR=9.4							
	comp=Z,4.1nm,0.9s							
KBZ	**Khabaz**	**68.45**	**310**	*de*P		**P**	**03 46 24.1**	**0.0**
KBZ	**Khabaz**	**68.45**	**310**	*e*P		**P**	**03 46 24.1**	**0.0**
HFS	**Hagfors**	**69.76**	**336**	P		**P**	**03 46 31.0**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=43,slow=6.7,SNR=19							
HFS				LR		LR	04 23 58.5	
	comp=Z,24nm,18.6s,baz=67,slow=42							
	comp=Z,1.3nm,0.3s							
NB2	**NORSAR Subarra**	**69.77**	**337**	P		**P**	**03 46 30.7**	**-1.4**
	comp=Z,1.4nm,0.9s,baz=35,slow=6.2							
NB2	**NORSAR Subarra**	**69.77**	**337**	P		**P**	**03 46 35.0**	**+2.9**
NOA	**NORSAR Array B**	**69.77**	**337**	P		**P**	**03 46 30.5**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=34,slow=6.4,SNR=4.2							
NOA				LR		LR	04 22 06.2	
	comp=Z,12nm,19.4s,baz=105,slow=40							
	comp=Z,0.9nm,0.7s							
BOZ	**Bozeman (W)**	**70.05**	**46**	P		**P**	**03 46 34.8**	**+0.6**
BOZ				IAmb		IAmb	03 46 43.0	
	comp=Z,2.2nm,0.7s							
BOZ	**Bozeman (W)**	**70.05**	**46**	P		**P**	**03 46 34.8**	**+0.6**
BOZ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NVAR	**Mina Array Bea**	**70.81**	**55**	P		**P**	**03 46 40.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=288,slow=5.9,SNR=8.8							
	comp=Z,1.2nm,0.8s							
AKASG	**Malin Array Be**	**70.89**	**322**	P		**P**	**03 46 38.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=45,slow=5.7,SNR=6.2							
	comp=Z,0.5nm,0.4s							
AKASG	**Malin Array Be**	**70.89**	**322**	*i* P		**P**	**03 46 38.5**	**-0.5**
AKBB	**Malin Array Si**	**70.89**	**322**	*de*P		**P**	**03 46 39.1**	**+0.1**
PDAR	**Pinedale Array**	**73.04**	**47**	P		**P**	**03 46 52.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=334,slow=0.4,SNR=5.5							
	comp=Z,0.3nm,0.4s							
ULM	**Lac du Bonnet**	**74.35**	**35**	P		**P**	**03 46 59.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=14,slow=4.2,SNR=1.5							
	comp=Z,1.0nm,0.6s							
PFO	**Pinyon Flats O**	**75.05**	**58**	LR		LR	04 16 29.1	
	comp=Z,16nm,20.1s,baz=232,slow=33							
BRTR	**Keskin Array B**	**76.29**	**312**	P		**P**	**03 47 11.3**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=98,slow=2.2,SNR=6.6							
	comp=Z,0.9nm,0.7s							
BRTR	**Keskin Array B**	**76.29**	**312**	*i* P		**P**	**03 47 11.1**	**-0.1**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CLL	**Collm**	**77.11**	**330**	*i* P		**P**	**03 47 15.5**	**+0.1**
CLL	**Collm**	**77.11**	**330**	*i* P		**P**	**03 47 15.5**	**+0.1**
EKA	**Eskdalemuir Ar**	**78.52**	**341**	P		**P**	**03 47 23.0**	**-0.2**
EKA	**Eskdalemuir Ar**	**78.52**	**341**	P		**P**	**03 47 23.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=6.9,slow=4.8,SNR=1.8							
	comp=Z,0.2nm,0.3s							
EKA	**Eskdalemuir Ar**	**78.52**	**341**	P		**P**	**03 47 23.0**	**-0.2**
GERES	**GERESS Array B**	**78.85**	**329**	P		**P**	**03 47 25.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=53,slow=6.7,SNR=2.8							
	comp=Z,0.3nm,0.6s							
MMAI	**Mount Meron Ar**	**79.93**	**306**	P		**P**	**03 47 31.9**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=39,slow=11,SNR=4.1							
	comp=Z,1.7nm,0.5s							
DAVOX	**Davos/Dischmat**	**82.01**	**330**	LR		LR	04 26 16.3	
	comp=Z,30nm,18.9s,baz=80,slow=37							
RAR	**Rarotonga**	**82.31**	**128**	LR		LR	04 17 50.4	
	comp=Z,19nm,19.8s,baz=172,slow=31							
LPIG	**La Paz**	**85.45**	**61**	LR		LR	04 22 15.3	
	comp=Z,17nm,18.4s,baz=255,slow=33							
TXAR	**Lajitas Array**	**85.86**	**54**	P		**P**	**03 48 03.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=291,slow=3.0,SNR=15							
	comp=Z,0.8nm,0.7s							
PPT	**Papeete**	**85.92**	**118**	LR		LR	04 21 28.1	
	comp=Z,36nm,21.4s,baz=278,slow=32							
TORD	**Torodi Ar. Bea**	**114.36**	**318**	PKP		**PKiKP**	**03 54 01.4**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=83,slow=1.5,SNR=1.7							
H03N2	**Juan Fernandez**	**145.94**	**89**	T		T	06 38 02.1	
	baz=300,slow=76,SNR=15							
H03N3	**Juan Fernandez**	**145.96**	**89**	T		T	06 38 02.0	
	baz=300,slow=76,SNR=17							
H03N1	**Juan Fernandez**	**145.96**	**89**	T		T	06 38 12.4	
	baz=300,slow=76,SNR=18							
SNAA	**Sanae**	**146.23**	**199**	PKPbc		**PKPdf**	**03 55 00.8**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=194,slow=4.2,SNR=6.5							

*MDD **21** 03:43:11.6±1.3,36.92N×12.24W,h0km,Mb4.1/10, M_mb3.4/10,Error ellipse: s-maj=9.6km s-min=6.4km az=68.0*
*IGIL **21** 03:43:12.3,36.69N×12.41W,h70km,ML2.1*
*INMG **21** 03:43:14.5±1.4,36.72N×12.47W,h37km,ML2.1,Error ellipse: s-maj=7.6km s-min=4.5km az=92.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*

ISC 21 03:43:15.0±3.7,36.9N±0.1×12.1W±0.2,h80km±45km,n48, σ0.85/75,10C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.65**	**84**	Pn	**Pn**	**03 43 55.0**	**-0.5**
PFVI				Sn	**Sn**	**03 44 25.2**	**-1.7**
PFVI	**Vila Bisbo**	**2.65**	**84**	*e*P	**Pn**	**03 43 55.1**	**-0.5**
PFVI				*e*S	**Sn**	**03 44 26.4**	**-0.4**
PFVI				*i* IAML		03 44 26.9	
PFVI				*i* IAML		03 44 28.3	
PTEO	**Sao Teotonio**	**2.79**	**76**	*e*P	**Pn**	**03 43 58.4**	**+0.9**
PTEO				*e*S	**Sn**	**03 44 30.1**	**0.0**
PTEO				*i* IAML		03 44 34.2	
PTEO				*i* IAML		03 44 38.4	
PTEO				*i* IAML		03 44 41.5	
MORF	**Marmelete**	**2.81**	**81**	*e*P	**Pn**	**03 43 57.4**	**-0.4**
MORF				*e*S	**Sn**	**03 44 29.9**	**-0.7**
MORF				IAML		03 44 33.5	
	comp=N,6.0nm,0.2s						
MORF	**Marmelete**	**2.81**	**81**	*e*P	**Pn**	**03 43 57.4**	**-0.4**
MORF				*e*S	**Sn**	**03 44 30.1**	**-0.6**
MORF				*i* IAML		03 44 31.7	
MORF				*i* IAML		03 44 33.9	
MORF				*i* IAML		03 44 35.1	
PMAFR	**Mafra**	**3.04**	**47**	Pn	**Pn**	**03 44 00.9**	**+0.1**
PMAFR				Sn	**Sn**	**03 44 35.9**	**-0.3**
PMAFR	**Mafra**	**3.04**	**47**	*e*P	**Pn**	**03 44 01.6**	**+0.8**
PMAFR				*e*S	**Sn**	**03 44 37.5**	**+1.3**
PMAFR				*i* IAML		03 44 38.9	
PMAFR				*i* IAML		03 44 39.6	
PMAFR				*i* IAML		03 44 40.1	
PARRA	**Arraiolos**	**3.10**	**51**	*e*P	Pn	03 44 10.5	+8.9
PARRA				*e*S	Sn	03 44 53.2	+16
PARRA				*i* IAML		03 44 53.9	
PARRA				*i* IAML		03 44 54.8	
PARRA				*i* IAML		03 44 59.2	
MESJ	**Messejana**	**3.25**	**72**	*e*P	**Pn**	**03 44 04.4**	**+0.8**
MESJ				*e*S	**Sn**	**03 44 41.7**	**+0.4**
MESJ				*i* IAML		03 44 46.6	
MESJ				*i* IAML		03 44 48.4	
MESJ				*i* IAML		03 44 54.0	
PCVE	**Castro Verde**	**3.34**	**76**	Pn	**Pn**	**03 44 04.9**	**0.0**
PCVE				Sn	**Sn**	**03 44 43.1**	**-0.5**
PCVE	**Castro Verde**	**3.34**	**76**	*e*P	**Pn**	**03 44 05.6**	**+0.7**
PCVE				*e*S	**Sn**	**03 44 43.2**	**-0.3**
PCVE				*i* IAML		03 44 46.5	
PCVE				*i* IAML		03 44 53.1	
PCVE				*i* IAML		03 45 00.7	
PBDV	**Barranco-do-Ve**	**3.38**	**83**	Pn	**Pn**	**03 44 05.2**	**-0.2**
PBDV				Sn	**Sn**	**03 44 44.4**	**0.0**
PBDV	**Barranco-do-Ve**	**3.38**	**83**	*e*S	**Sn**	**03 44 45.2**	**+0.8**
PVAQ	**Vaqueiros**	**3.56**	**81**	Pn	**Pn**	**03 44 07.9**	**0.0**
PVAQ	**Vaqueiros**	**3.56**	**81**	*e*P	**Pn**	**03 44 08.1**	**+0.2**
PVAQ				*e*S	**Sn**	**03 44 48.3**	**-0.5**
PVAQ				*i* IAML		03 44 52.1	
PVAQ				*i* IAML		03 44 54.0	
PVAQ				*i* IAML		03 44 55.3	
EVO	**Evora**	**3.65**	**62**	Sn	**Sn**	**03 44 50.8**	**-0.1**
EVO	**Evora**	**3.65**	**62**	*e*P	**Pn**	**03 44 10.3**	**+1.3**
EVO				*e*S	**Sn**	**03 44 50.7**	**-0.2**
EGRO	**El Granado**	**3.76**	**79**	Pn	**Pn**	**03 44 10.7**	**+0.1**
EGRO				Sn	**Sn**	**03 44 53.2**	**-0.6**
EGRO	**El Granado**	**3.76**	**79**	P	**Pn**	**03 44 11.1**	**+0.5**
EGRO				⇑*i*Vmb_VC		03 44 14.6	
	comp=N,113nm,SNR=1.5						
EGRO				S	**Sn**	**03 44 53.9**	**+0.2**
PMTG	**Montargil**	**3.76**	**54**	*e*P	**Pn**	**03 44 11.3**	**+0.7**
PMTG				*e*S	**Sn**	**03 44 53.8**	**0.0**
PMTG				*i* IAML		03 44 54.8	
PMTG				*i* IAML		03 44 59.6	
PMTG				*i* IAML		03 45 06.8	
PESTR	**Estremoz**	**4.09**	**60**	Pn	**Pn**	**03 44 15.1**	**0.0**
PESTR				Sn	**Sn**	**03 45 00.7**	**-1.0**
PESTR	**Estremoz**	**4.09**	**60**	*e*P	**Pn**	**03 44 15.5**	**+0.4**
PESTR				*e*S	**Sn**	**03 45 01.6**	**-0.2**
PESTR				*i* IAML		03 45 03.3	
PESTR				*i* IAML		03 45 07.8	
PESTR				*i* IAML		03 45 11.4	
PSARD	**Sardoal**	**4.12**	**48**	*e*P	**Pn**	**03 44 16.4**	**+0.9**
PSARD				*e*S	**Sn**	**03 45 02.8**	**+0.3**
PSARD				*i* IAML		03 45 04.5	
PSARD				*i* IAML		03 45 05.4	
PSARD				*i* IAML		03 45 07.0	
PBAR	**Barrancos**	**4.24**	**71**	Pn	**Pn**	**03 44 16.9**	**-0.2**
PBAR				Sn	**Sn**	**03 45 04.6**	**-0.7**
PBAR	**Barrancos**	**4.24**	**71**	*e*P	**Pn**	**03 44 17.2**	**0.0**
PBAR				*e*S	**Sn**	**03 45 04.8**	**-0.6**
PBAR				*i* IAML		03 45 05.7	
PBAR				*i* IAML		03 45 09.4	
PBAR				*i* IAML		03 45 15.2	
PCAS	**Casmilo, Conde**	**4.24**	**41**	*e*P	**Pn**	**03 44 18.4**	**+1.3**
PCAS				*e*S	**Sn**	**03 45 05.2**	**-0.2**
PCAS				*i* IAML		03 45 07.3	
PCAS				*i* IAML		03 45 08.1	
PCAS				*i* IAML		03 45 10.2	
COI	**Coimbra**	**4.40**	**40**	*e*S	**Sn**	**03 45 09.0**	**-0.1**
EMIN	**Mina Concepcio**	**4.43**	**77**	Pn	**Pn**	**03 44 20.0**	**+0.3**
EMIN	**Mina Concepcio**	**4.43**	**77**	P	**Pn**	**03 44 20.0**	**+0.3**
EMIN				⇑*i*Vmb_VC		03 44 22.4	
	comp=N,88nm,SNR=1.3						
EMIN				S	**Sn**	**03 45 10.3**	**+0.2**
EBAD	**Badajoz**	**4.45**	**64**	Pn	**Pn**	**03 44 20.5**	**+0.6**
EBAD	**Badajoz**	**4.45**	**64**	P	**Pn**	**03 44 20.6**	**+0.6**
EBAD				⇑*i*Vmb_VC		03 44 21.9	
	comp=N,116nm,SNR=1.4						
EBAD				S	**Sn**	**03 45 11.3**	**+0.8**
PMRV	**Marv??o**	**4.50**	**55**	*e*P	**Pn**	**03 44 20.9**	**+0.2**
PMRV				*e*S	**Sn**	**03 45 11.0**	**-0.8**
PMRV				*i* IAML		03 45 13.2	
PMRV				*i* IAML		03 45 13.2	
PMRV				*i* IAML		03 45 16.0	
PCBR	**Castelo Branco**	**4.68**	**50**	*e*S	**Sn**	**03 45 15.6**	**-0.6**
MTE	**Manteigas**	**5.00**	**44**	*e*P	**Pn**	**03 44 27.5**	**-0.1**
MTE				*e*S	**Sn**	**03 45 24.0**	**-0.1**
MTE				*i* IAML		03 45 25.8	
MTE				*i* IAML		03 45 32.4	
MTE				*i* IAML		03 45 37.8	
ESPR	**Espera**	**5.03**	**89**	⇑*i*Vmb_VC		03 44 30.1	
	comp=N,135nm,SNR=2.2						
ESPR				S	**Sn**	**03 45 24.6**	**-0.1**
PVIS	**Viseu**	**5.04**	**40**	*e*S	**Sn**	**03 45 24.0**	**-0.9**
ECAB	**El Cabril**	**5.46**	**76**	P	**Pn**	**03 44 34.0**	**+0.2**
ECAB				⇑*i*Vmb_VC		03 44 34.6	
	comp=N,53nm,SNR=0.9						
ECAB				S	**Sn**	**03 45 36.0**	**+0.7**
PVRL	**Vila Real**	**5.55**	**37**	*e*S	**Sn**	**03 45 35.9**	**-1.6**
PVRL				*i* IAML		03 45 38.8	
PVRL				*i* IAML		03 45 39.7	
PVRL				*i* IAML		03 45 52.6	
POLO	**Lamas de Olo**	**5.59**	**36**	*e*S	**Sn**	**03 45 37.0**	**-1.5**
POLO				*i* IAML		03 45 37.7	
POLO				*i* IAML		03 45 38.3	
POLO				*i* IAML		03 45 40.4	
PCAB	**Cabril**	**5.75**	**32**	*e*S	**Sn**	**03 45 41.6**	**-0.8**
MVO	**Moncorvo**	**5.81**	**42**	*e*S	**Sn**	**03 45 42.5**	**-1.5**
MVO				*i* IAML		03 45 44.6	
MVO				*i* IAML		03 45 46.5	
MVO				*i* IAML		03 45 49.9	
PGAV	**Gavieira, Arco**	**5.87**	**29**	*e*P	**Pn**	**03 44 41.7**	**+2.3**
PGAV				*e*S	**Sn**	**03 45 43.0**	**-2.3**
PGAV				*i* IAML		03 45 46.2	
PGAV				*i* IAML		03 45 49.7	
PGAV				*i* IAML		03 45 50.5	
EZAM	**Zamans**	**5.87**	**26**	⇑*i*Vmb_VC		03 44 43.3	
	comp=N,194nm,SNR=0.9						
EZAM				S	**Sn**	**03 45 43.1**	**-2.0**
ELOB	**Lobios**	**5.87**	**31**	⇑*i*Vmb_VC		03 44 43.1	
	comp=N,209nm,SNR=1.4						
ELOB				S	**Sn**	**03 45 43.1**	**-2.2**
EADA	**Adamuz**	**6.13**	**76**	P	**Pn**	**03 44 42.8**	**-0.1**
EADA				⇑*i*Vmb_VC		03 44 46.6	
	comp=N,72nm,SNR=1.3						
EADA				S	**Sn**	**03 45 51.7**	**0.0**
ECAL	**Calabor**	**6.53**	**38**	⇑*i*Vmb_VC		03 44 51.3	
	comp=N,136nm,SNR=0.9						
ECAL				S	**Sn**	**03 46 00.4**	**-1.1**
EAGO	**Agolada(Pontev**	**6.66**	**27**	⇑*i*Vmb_VC		03 44 51.9	
	comp=N,125nm,SNR=0.8						
EAGO				S	Sn	03 46 00.1	-4.3
PSIM	**Granatula de C**	**6.89**	**71**	P	**Pn**	**03 44 54.5**	**+1.2**

*JMA **21** 03:48:32.4±0.2,28°N±2°×13°9E±°,h546km,MV3.5/32,W OFF OGASAWARA*
*IDC **21** 03:48:32.5±0.8,28°.28N×139°.07E,h520km±16km,mb3.2/9, mbtmp4.1/13,Error ellipse: s-maj=42.7km s-min=13.4km az=72.0*

ISC 21 03:48:32.8±0.7,28°.29N±0°.08×139°.1E±0°.1,h524km,n25, σ0.95/30,mb3.6/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.98**	**113**	P	**P**	**03 49 45.9**	**+0.3**
CBIJ				*e*S	**S**	**03 50 44.7**	**-0.2**
JCJ	**Chichijima**	**2.98**	**113**	P	**P**	**03 49 45.7**	**0.0**
	35nm,0.4s,baz=346,slow=16,SNR=25						
JCJ				S	**S**	**03 50 44.0**	**-0.9**
	44nm,0.3s,baz=294,slow=20,SNR=8.1						
JHH2	**Haha-jima-NKT2**	**3.19**	**121**	*e*P	**P**	**03 49 48.1**	**+1.1**
JHH2				*e*S	**S**	**03 50 47.3**	**0.0**
JHJ2	**Mitsune**	**4.84**	**7**	*e*P	**P**	**03 50 01.0**	**+1.4**
JHJ	**Hachijo jima 2**	**4.85**	**7**	P	**P**	**03 50 00.2**	**+0.5**
	64nm,0.8s,baz=143,slow=20,SNR=16						
JHJ				S	**S**	**03 51 10.7**	**-0.1**
	51nm,0.7s,baz=143,slow=20,SNR=1.3						
JIE	**Ise**	**6.42**	**342**	*e*P	**P**	**03 50 16.4**	**+2.4**
BSO1	**Boso 1**	**6.54**	**14**	*e*P	**P**	**03 50 15.8**	**+1.2**
BSO1				*e*S	**S**	**03 51 38.1**	**0.0**
BSO3	**Boso 3**	**6.60**	**10**	*e*S	**S**	**03 51 38.2**	**-1.5**
BSO4	**Boso 4**	**6.76**	**9**	*e*S	**S**	**03 51 42.0**	**-0.7**
JAO	**Obara**	**7.13**	**348**	*e*P	**P**	**03 50 22.8**	**+1.8**
JRY	**Ryogami san**	**7.70**	**359**	*e*P	**P**	**03 50 26.9**	**+0.2**
JAG	**Ashikaga**	**8.11**	**2**	*e*P	**P**	**03 50 30.0**	**-0.8**
MJAR	**Matsushiro Arr**	**8.26**	**355**	P	**P**	**03 50 31.8**	**-0.5**
	5.3nm,0.6s,baz=170,slow=11,SNR=12						
JHO	**Hitachi**	**8.38**	**8**	*e*P	**P**	**03 50 34.3**	**+0.7**
USRK	**Usuriysk Ar.**	**16.87**	**342**	P	**P**	**03 52 02.9**	**+1.6**
	1.1nm,0.5s,baz=158,slow=8.8,SNR=2.7						
SONM	**Songino Array**	**31.97**	**317**	P	**P**	**03 54 15.3**	**-0.3**
	0.2nm,0.3s,baz=126,slow=8.4,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**47.60**	**309**	P	**P**	**03 56 20.5**	**-0.5**
	0.4nm,0.5s,baz=98,slow=9.1,SNR=3.9						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**48.17**	**186**	P	**P**	**03 56 25.6**	**+0.1**
	0.7nm,0.5s,baz=2.5,slow=7.7,SNR=9.2						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**50.25**	**314**	P	**P**	**03 56 40.0**	**-0.5**
	2.0nm,0.5s,baz=91,slow=8.3,SNR=19						
	2.0nm,0.5s						
BVAR	**Borovoye Array**	**55.31**	**317**	P	**P**	**03 57 16.4**	**-0.1**
	5.5nm,0.5s,baz=96,slow=7.9,SNR=24						
	5.5nm,0.5s						
ARCES	**ARCESS Array B**	**71.50**	**340**	P	**P**	**03 59 00.7**	**+0.7**
	1.6nm,0.8s,baz=71,slow=9.1,SNR=6.9						
	1.6nm,0.8s						
KBZ	**Khabaz**	**75.19**	**312**	P	**P**	**03 59 20.7**	**-0.8**
	1.3nm,0.6s,baz=120,slow=2.8,SNR=4.6						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**75.66**	**333**	P	**P**	**03 59 23.7**	**-0.1**
	1.6nm,0.4s,baz=66,slow=4.9,SNR=26						
	1.6nm,0.4s						
HFS	**Hagfors**	**81.23**	**336**	P	**P**	**03 59 53.0**	**-0.7**
	1.0nm,0.6s,baz=41,slow=7.7,SNR=4.7						
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**121.73**	**309**	PKP	**PKiKP**	**04 06 27.4**	**-0.7**
	0.1nm,0.5s,baz=355,slow=2.4,SNR=1.3						

*IDC **21** 03:52:28.7±2.3,30°.59S×177°.45W,h0km,mb4.1/2, mbtmp4.1/2,Error ellipse: s-maj=55.7km s-min=33.9km az=115.0*
*NEIC **21** 03:52:30.1±1.5,29°.9S±0°.2×179°.2W±0°.1,h10km±1km, mb4.5/7,Error ellipse: s-maj=31.3km s-min=10.9km az=324.0*

ISC 21 03:52:29.2±0.7,29°.9S±0°.1×179°.19W±0°.09,h10km,n23, σ1.30/19,mb4.4/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.29**	**60**	Pn	**Pg**	**03 52 54.8**	**+0.8**
RAO				Sn	**Sg**	**03 53 10.2**	**-0.5**
RAO	**Raoul Island**	**1.29**	**60**	Pn	**Pg**	**03 52 55.6**	**+1.7**
	127nm,0.3s,baz=168,slow=20,SNR=7.2						
RAO				Sn	**Sb**	**03 53 09.0**	**-1.1**
	418nm,0.3s,baz=180,slow=20,SNR=11						
URZ	**Urewera**	**8.87**	**199**	Sn	**Sn**	**03 56 14.7**	**-2.7**
	1.1nm,0.3s,baz=69,slow=17,SNR=6.5						
**KH

IDC 21 03:55:46.3±10.0, 18°90S×176°70W, h421km±113km, mb3.2/4, mbtmp4.0/4, Error ellipse: s-maj=125.4km s-min=40.5km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.60**	**243**	P	P	04 02 39.0	-0.5
	1.0nm,0.3s,baz=117,slow=18,SNR=3.0						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**46.05**	**260**	P	P	04 03 30.1	-0.7
	0.4nm,0.3s,baz=98,slow=6.6,SNR=6.3						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**46.09**	**255**	P	P	04 03 31.3	+0.2
	4.0nm,0.5s,baz=90,slow=8.4,SNR=40						
ASAR				PcP	PcP	04 05 00.4	+1.1
	0.3nm,0.3s,baz=97,slow=4.1,SNR=2.0						
	4.0nm,0.5s						
TXAR	**Lajitas Array**	**85.16**	**57**	P	P	04 07 37.4	+0.2
	0.4nm,0.8s,baz=224,slow=5.2,SNR=4.9						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**118.63**	**321**	PKP	PKPdf	04 13 42.7	-2.4
	0.7nm,0.4s,baz=90,slow=1.4,SNR=4.1						
BRTR	**Keskin Array B**	**146.62**	**315**	PKPbc	PKPbc	04 14 40.1	+0.1
	0.5nm,0.7s,baz=47,slow=2.8,SNR=2.2						

*MDD **21** 04:01:48.9±0.4, 36°.38N×8°.03W, h26km±4km, mb_Lg3.5/47, Error ellipse: s-maj=3.0km s-min=1.8km az=49.0*
*CNRM **21** 04:01:48.0, 36°.26N×8°.15W, h62km, ML3.2*
*SFS **21** 04:01:48.5, 36°.44N×7°.92W, h106km, mb3.9/6, ML3.6/8, ML3.8/25, MLv3.4/25*
*INMG **21** 04:01:50.6±1.3, 36°.42N×8°.00W, h34km, ML3.1, Error ellipse: s-maj=2.5km s-min=1.5km az=54.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*
*LDG **21** 04:01:50.2±0.2, 36°.52N×7°.89W, h10km, Ml3.3/3, Error ellipse: s-maj=5.0km s-min=2.5km az=43.0*
*IGIL **21** 04:01:50.0, 36°.42N×7°.99W, h26km, ML3.1*

ISC 21 04:01:47.8±1.0, 36°.44N±0°.03×7°.98W±0°.03, h68km±9km, n169, σ1°70/272, 14C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFARO	**Faro**	**0.59**	**4**	*e*P	**Pn**	**04 02 01.5**	**+0.2**
PFARO				*e*S	**Sn**	**04 02 09.9**	**-1.3**
PFARO				*i* IAML		04 02 14.7	
PFARO				*i* IAML		04 02 14.7	
PFARO				*i* IAML		04 02 18.9	
PALBU	**Albufeira**	**0.69**	**342**	*e*P	**Pn**	**04 02 03.1**	**+0.7**
PALBU				*e*S	**Sn**	**04 02 12.4**	**-0.8**
PALBU				*i* IAML		04 02 12.8	
PALBU				*i* IAML		04 02 13.4	
PALBU				*i* IAML		04 02 13.5	
PTAV	**Tavira**	**0.73**	**21**	*e*S	**Sn**	**04 02 13.2**	**-0.8**
PBDV	**Barranco-do-Ve**	**0.80**	**3**	Sn	**Sn**	**04 02 14.8**	**-0.8**
PBDV				Pn	**Pn**	**04 02 04.4**	**+0.7**
PBDV	**Barranco-do-Ve**	**0.80**	**3**	⇑*i*P	**Pn**	**04 02 04.5**	**+0.7**
PBDV				*e*S	**Sn**	**04 02 14.8**	**-0.8**
PBDV				*i* IAML		04 02 15.2	
PBDV				*i* IAML		04 02 15.4	
PBDV				*i* IAML		04 02 20.0	
PLAGO	**Lagos**	**0.87**	**319**	*e*P	**Pn**	**04 02 05.3**	**+0.8**
PLAGO				*e*S	**Sn**	**04 02 16.8**	**-0.1**
PLAGO				*i* IAML		04 02 25.4	
PLAGO				*i* IAML		04 02 32.8	
PLAGO				*i* IAML		04 02 33.6	
PFVI	**Vila Bisbo**	**0.97**	**316**	Pn	**Pn**	**04 02 06.5**	**+0.7**
PFVI	**Vila Bisbo**	**0.97**	**316**	⇓*e*P	**Pn**	**04 02 06.5**	**+0.7**
PFVI				*e*S	**Sn**	**04 02 19.2**	**0.0**
PFVI				*i* IAML		04 02 26.6	
PFVI				*i* IAML		04 02 26.7	
PFVI				*i* IAML		04 02 27.2	
PFVI	**Vila Bisbo**	**0.97**	**316**	P	**Pn**	**04 02 06.3**	**+0.5**
PFVI	**Vila Bisbo**	**0.97**	**316**	S	**Sn**	**04 02 17.4**	**-1.8**
PVAQ	**Vaqueiros**	**0.98**	**12**	Pn	**Pn**	**04 02 06.9**	**+0.9**
PVAQ	**Vaqueiros**	**0.98**	**12**	⇑*e*P	**Pn**	**04 02 06.9**	**+0.9**
PVAQ				*e*S	**Sn**	**04 02 19.2**	**-0.3**
PVAQ				*i* IAML		04 02 19.3	
PVAQ				*i* IAML		04 02 19.6	
PVAQ				*i* IAML		04 02 20.5	
PVAQ	**Vaqueiros**	**0.98**	**12**	P	**Pn**	**04 02 06.5**	**+0.5**
PVAQ	**Vaqueiros**	**0.98**	**12**	S	Sn	04 02 29.8	+10
PSVI	**Cabo S. Vicent**	**1.00**	**306**	*e*S	**Sn**	**04 02 21.2**	**+1.3**
MORF	**Marmelete**	**1.02**	**328**	*e*P	**Pn**	**04 02 07.3**	**+0.8**
MORF				*e*S	**Sn**	**04 02 19.9**	**-0.4**
MORF				IAML		04 02 23.4	
	comp=E,267nm,0.1s						
MORF	**Marmelete**	**1.02**	**328**	⇓*i*P	**Pn**	**04 02 07.3**	**+0.8**
MORF				*e*S	**Sn**	**04 02 20.3**	**0.0**
MORF				*i* IAML		04 02 20.8	
MORF				*i* IAML		04 02 23.7	
MORF				*i* IAML		04 02 25.1	
PALJ	**Aljezur**	**1.10**	**323**	*e*P	**Pn**	**04 02 08.7**	**+1.3**
PALJ				*e*S	**Sn**	**04 02 21.7**	**-0.3**
EGRO	**El Granado**	**1.16**	**20**	Sn	**Sn**	**04 02 22.8**	**-0.7**
EGRO				Pn	**Pn**	**04 02 09.5**	**+1.3**
EGRO	**El Granado**	**1.16**	**20**	⇑P	**Pn**	**04 02 09.5**	**+1.3**
EGRO				⇑P		04 02 09.5	
EGRO				S	**Sn**	**04 02 23.4**	**-0.1**
EGRO				S		04 02 24.0	
EGRO				*i* IVmb_Lg		04 02 24.1	
PCVE	**Castro Verde**	**1.19**	**358**	Sn	**Sn**	**04 02 24.4**	**+0.2**
PCVE				Pn	**Pn**	**04 02 10.1**	**+1.5**
PCVE	**Castro Verde**	**1.19**	**358**	⇑*i*P	**Pn**	**04 02 10.1**	**+1.5**
PCVE				*e*S	**Sn**	**04 02 24.4**	**+0.2**
PCVE				*i* IAML		04 02 24.7	
PCVE				*i* IAML		04 02 24.7	
PCVE				*i* IAML		04 02 25.0	
ARNO	**Arenosillo**	**1.20**	**56**	Sn	**Sn**	**04 02 24.7**	**+0.4**
ARNO				Pn	**Pn**	**04 02 10.0**	**+1.4**
PTEO	**Sao Teotonio**	**1.25**	**332**	⇓*e*P	**Pn**	**04 02 10.8**	**+1.3**
PTEO				*e*S	**Sn**	**04 02 25.9**	**+0.3**
PTEO				*i* IAML		04 02 27.1	
PTEO				*i* IAML		04 02 27.8	
PTEO				*i* IAML		04 02 27.9	
MESJ	**Messejana**	**1.41**	**352**	*e*P	**Pn**	**04 02 12.9**	**+1.4**
MESJ				*e*S	**Sn**	**04 02 29.5**	**+0.2**
MESJ				IAML		04 02 30.2	
	comp=N,291nm,0.3s						
MESJ	**Messejana**	**1.41**	**352**	*e*P	**Pn**	**04 02 13.2**	**+1.7**
MESJ				*e*S	**Sn**	**04 02 30.0**	**+0.7**
MESJ				*i* IAML		04 02 30.2	
MESJ				*i* IAML		04 02 30.3	
MESJ				*i* IAML		04 02 31.2	
SFS	**San Fernando**	**1.43**	**88**	Sn	**Sn**	**04 02 30.2**	**+0.5**
SFS	**San Fernando**	**1.43**	**88**	S	**Sn**	**04 02 31.1**	**+1.4**
CNIL	**Conil**	**1.55**	**92**	Pn	**Pn**	**04 02 15.2**	**+1.9**
PBEJ	**Beja**	**1.59**	**3**	*e*P	**Pn**	**04 02 15.2**	**+1.4**
PBEJ				*e*S	**Sn**	**04 02 33.8**	**+0.3**
PBEJ				*i* IAML		04 02 36.4	
PBEJ				*i* IAML		04 02 36.5	
PBEJ				*i* IAML		04 02 36.9	
PSINE	**Sines**	**1.67**	**335**	*e*S	**Sn**	**04 02 37.6**	**+2.1**
EXBAR	**Barbate**	**1.68**	**98**	S	**Sn**	**04 02 38.5**	**+2.8**
EMIN	**Mina Concepcio**	**1.69**	**38**	Sn	**Sn**	**04 02 37.2**	**+1.4**
EMIN				Pn	**Pn**	**04 02 16.2**	**+1.1**
EMIN	**Mina Concepcio**	**1.69**	**38**	⇑P	**Pn**	**04 02 16.2**	**+1.1**
EMIN				S	**Sn**	**04 02 36.9**	**+1.0**
EMIN				*i* IVmb_Lg		04 02 41.3	
ESPR	**Espera**	**1.76**	**75**	Sn	**Sn**	**04 02 37.7**	**+0.1**
ESPR				Pn	**Pn**	**04 02 17.4**	**+1.3**
ESPR	**Espera**	**1.76**	**75**	⇑P	**Pn**	**04 02 17.4**	**+1.3**
ESPR				S	**Sn**	**04 02 37.6**	**+0.1**
ESPR				*i* IVmb_Lg		04 02 39.3	
PBAR	**Barrancos**	**1.89**	**23**	Pn	**Pn**	**04 02 19.2**	**+1.4**
PBAR	**Barrancos**	**1.89**	**23**	⇑*e*P	**Pn**	**04 02 19.2**	**+1.4**
PBAR				*e*S	**Sn**	**04 02 41.1**	**+0.5**
PBAR				*i* IAML		04 02 56.1	
PBAR				*i* IAML		04 02 58.5	
PBAR				*i* IAML		04 02 59.2	
EJIF	**Jimena Fronter**	**2.02**	**89**	P	**Pn**	**04 02 21.7**	**+2.1**
EJIF				S	**Sn**	**04 02 43.9**	**-0.1**
EVO	**Evora**	**2.09**	**359**	Pn	**Pn**	**04 02 22.3**	**+1.8**
EVO				Sn	**Sn**	**04 02 45.2**	**-0.3**
EVO	**Evora**	**2.09**	**359**	*e*P	**Pn**	**04 02 22.3**	**+1.8**
EVO				*e*S	**Sn**	**04 02 45.8**	**+0.2**
EVO				*i* IAML		04 02 47.5	
EVO				*i* IAML		04 02 47.6	
EVO				*i* IAML		04 02 47.9	
EXMOR	**Moron de la Fr**	**2.14**	**71**	P	**Pn**	**04 02 22.6**	**+1.4**
EXMOR				S	**Sn**	**04 02 48.6**	**+1.8**
ECEU	**Ceuta**	**2.17**	**104**	Pn	**Pn**	**04 02 23.6**	**+1.9**
ECEU	**Ceuta**	**2.17**	**104**	P	**Pn**	**04 02 23.6**	**+1.9**
ECEU				S	**Sn**	**04 02 49.0**	**+1.4**
CEU	**Ceuta**	**2.17**	**104**	Pn	**Pn**	**04 02 24.2**	**+2.5**
CEU				Sn	**Sn**	**04 02 48.8**	**+1.1**
SMIR	**Smir Dam**	**2.24**	**109**	P	**Pn**	**04 02 24.0**	**+1.5**
EBAD	**Badajoz**	**2.44**	**18**	Pn	**Pn**	**04 02 26.6**	**+1.3**
EBAD	**Badajoz**	**2.44**	**18**	⇑P	**Pn**	**04 02 26.6**	**+1.3**
EBAD				S	**Sn**	**04 02 54.1**	**+0.1**
EBAD				*i* IVmb_Lg		04 02 55.7	
PESTR	**Estremoz**	**2.44**	**7**	Pn	**Pn**	**04 02 26.8**	**+1.4**
PESTR				Sn	**Sn**	**04 02 54.8**	**+0.6**
PESTR	**Estremoz**	**2.44**	**7**	*e*P	**Pn**	**04 02 26.8**	**+1.4**
PESTR				*e*S	**Sn**	**04 02 54.1**	**-0.1**
PESTR				*i* IAML		04 02 56.2	
PESTR				*i* IAML		04 02 56.4	
PESTR				*i* IAML		04 02 57.8	
PESTR	**Estremoz**	**2.44**	**7**	P	**Pn**	**04 02 26.7**	**+1.4**
LIS	**Lisbon**	**2.46**	**338**	*e*S	**Sn**	**04 02 54.4**	**-0.1**
LIS				IAML		04 02 58.2	
	comp=N,89nm,0.2s						
LIS	**Lisbon**	**2.46**	**338**	*e*P	**Pn**	**04 02 28.6**	**+3.1**
LIS				*e*S	**Sn**	**04 02 56.6**	**+2.1**
LIS				*i* IAML		04 02 58.5	
LIS				*i* IAML		04 03 00.8	
LIS				*i* IAML		04 03 10.4	
PARRA	**Arraiolos**	**2.52**	**341**	⇓*e*P	**Pn**	**04 02 26.1**	**-0.2**
PARRA				*e*S	**Sn**	**04 02 53.1**	**-2.8**
PARRA				*i* IAML		04 02 53.7	
PARRA				*i* IAML		04 02 53.8	
PARRA				*i* IAML		04 02 55.0	
ECAB	**El Cabril**	**2.61**	**51**	Pn	**Pn**	**04 02 28.7**	**+1.0**
ECAB				Sn	**Sn**	**04 02 56.3**	**-2.1**
ECAB	**El Cabril**	**2.61**	**51**	⇑P	**Pn**	**04 02 28.7**	**+1.0**
ECAB				S	**Sn**	**04 02 56.5**	**-1.8**
ECAB				*i* IVmb_Lg		04 03 02.3	
PMTG	**Montargil**	**2.63**	**356**	*e*P	**Pn**	**04 02 29.6**	**+1.7**
PMTG				*e*S	**Sn**	**04 02 58.9**	**+0.1**
PMTG				*i* IAML		04 03 00.3	
PMTG				*i* IAML		04 03 00.4	
PMTG				*i* IAML		04 03 00.4	
PMAFR	**Mafra**	**2.72**	**338**	Pn	**Pn**	**04 02 31.0**	**+2.0**
PMAFR				Sn	**Sn**	**04 03 00.9**	**0.0**
PMAFR	**Mafra**	**2.72**	**338**	*e*P	**Pn**	**04 02 31.1**	**+2.0**
PMAFR				*e*S	**Sn**	**04 03 01.5**	**+0.7**
PMAFR				*i* IAML		04 03 02.9	
PMAFR				*i* IAML		04 03 03.0	
PMAFR				*i* IAML		04 03 03.1	
EMAL	**Malaga-Limoner**	**2.87**	**83**	Pn	**Pn**	**04 02 33.7**	**+2.5**
EMAL				Sn	**Sn**	**04 03 04.7**	**+0.1**
PMRV	**Marv??o**	**3.02**	**9**	⇑*e*P	**Pn**	**04 02 34.9**	**+1.7**
PMRV				*e*S	**Sn**	**04 03 08.5**	**+0.3**
PMRV				*i* IAML		04 03 09.1	
PMRV				*i* IAML		04 03 10.0	
PMRV				*i* IAML		04 03 10.4	
PSARD	**Sardoal**	**3.16**	**357**	*e*P	**Pn**	**04 02 37.0**	**+1.9**
PSARD				*e*S	**Sn**	**04 03 10.7**	**-0.9**
PSARD				*i* IAML		04 03 13.5	
PSARD				*i* IAML		04 03 14.2	
PSARD				*i* IAML		04 03 14.6	
AVE	**Averroes**	**3.17**	**171**	Pn	**Pn**	**04 02 36.1**	**+0.9**
AVE				Sn	**Sn**	**04 03 09.9**	**-2.0**
AVE	**Averroes**	**3.17**	**171**	P	**Pn**	**04 02 36.1**	**+0.9**
AVE	**Averroes**	**3.17**	**171**	S	**Sn**	**04 02 54.0**	**-1.3**
EGOR	**Sierra Gorda,**	**3.18**	**77**	Pn	**Pn**	**04 02 37.7**	**+2.2**
EGOR				Sn	**Sn**	**04 03 11.2**	**-1.0**
EGOR	**Sierra Gorda,**	**3.18**	**77**	P	**Pn**	**04 02 37.6**	**+2.2**
EGOR				S	**Sn**	**04 03 10.8**	**-1.5**
EGOR				*i* IVmb_Lg		04 03 14.5	
ZHG	**ZHG**	**3.18**	**159**	P	**Pn**	**04 02 36.0**	**+0.5**
ZHG	**ZHG**	**3.18**	**159**	S	**Sn**	**04 03 10.9**	**-1.4**
SICH	**Sidi Chahed**	**3.19**	**136**	P	**Pn**	**04 02 35.9**	**+0.4**
SICH	**Sidi Chahed**	**3.19**	**136**	S	**Sn**	**04 03 09.2**	**-3.2**
EADA	**Adamuz**	**3.21**	**57**	Pn	**Pn**	**04 02 37.4**	**+1.5**
EADA				Sn	**Sn**	**04 03 12.5**	**-0.5**
EADA	**Adamuz**	**3.21**	**57**	P	**Pn**	**04 02 37.3**	**+1.5**
EADA				S	**Sn**	**04 03 12.3**	**-0.7**
EADA				*i* IVmb_Lg		04 03 14.2	
PCBR	**Castelo Branco**	**3.42**	**6**	⇑*e*P	**Pn**	**04 02 40.4**	**+1.8**
PCBR				*e*S	**Sn**	**04 03 17.4**	**-0.5**
PCBR				*i* IAML		04 03 18.8	
PCBR				*i* IAML		04 03 19.2	
PCBR				*i* IAML		04 03 19.2	
PALE	**Palemas**	**3.50**	**109**	P	**Pn**	**04 02 40.3**	**+0.5**
ELGU	**Los Guajares,**	**3.52**	**82**	Pn	**Pn**	**04 02 41.8**	**+1.7**
ELGU				Sn	**Sn**	**04 03 21.3**	**+0.7**
ELGU	**Los Guajares,**	**3.52**	**82**	P	**Pn**	**04 02 41.8**	**+1.7**
ELGU				S	**Sn**	**04 03 21.4**	**+0.8**
ELGU				*i* IVmb_Lg		04 03 25.1	
EXGRA	**Granada**	**3.59**	**77**	S	**Sn**	**04 03 24.7**	**+2.5**
EXCAB	**Granada**	**3.59**	**77**	P	**Pn**	**04 02 43.9**	**+2.8**
EXCAB				S	**Sn**	**04 03 24.6**	**+2.2**
PCAS	**Casmilo, Conde**	**3.63**	**354**	*e*P	**Pn**	**04 02 44.1**	**+2.5**
PCAS				*e*S	**Sn**	**04 03 22.6**	**-0.5**
PCAS				*i* IAML		04 03 24.2	
PCAS				*i* IAML		04 03 24.2	
PCAS				*i* IAML		04 03 24.4	
EQTA	**Presa de Quent**	**3.72**	**77**	Pn	**Pn**	**04 02 45.2**	**+2.4**
EQTA				Sn	**Sn**	**04 03 26.9**	**+1.4**
EQUE	**Quentar**	**3.72**	**77**	P	**Pn**	**04 02 45.2**	**+2.4**
EQUE				S	**Sn**	**04 03 25.4**	**-0.1**
EQUE				*i* IVmb_Lg		04 03 31.2	
LCRM	**LCR**	**3.75**	**136**	P	**Pn**	**04 02 43.2**	**-0.2**
LCRM				P		04 02 43.2	
COI	**Coimbra**	**3.78**	**355**	*e*P	**Pn**	**04 02 45.3**	**+1.8**
COI				*e*S	**Sn**	**04 03 25.7**	**-1.0**
COI				*i* IAML		04 03 27.7	
COI				*i* IAML		04 03 27.7	
COI				*i* IAML		04 03 28.2	
E0803	**Jimena (Jaen)**	**3.86**	**68**	P	**Pn**	**04 02 46.0**	**+1.3**
E0803				S	**Sn**	**04 03 28.7**	**-0.1**
AKLM	**AKL**	**3.87**	**119**	P	**Pn**	**04 02 47.0**	**+2.1**
EPLA	**Plasencia**	**3.91**	**22**	P	**Pn**	**04 02 47.1**	**+1.7**
EPLA				S	**Sn**	**04 03 29.3**	**-0.9**
EPLA				*i* IVmb_Lg		04 03 31.1	
SRHM	**Skhour des Reh**	**3.96**	**179**	P	**Pn**	**04 02 46.7**	**+0.5**
MTE	**Manteigas**	**3.97**	**5**	⇑*e*P	**Pn**	**04 02 47.9**	**+1.7**
MTE				*e*S	**Sn**	**04 03 30.7**	**-0.7**
MTE				*i* IAML		04 03 32.2	
MTE				*i* IAML		04 03 32.6	
MTE				*i* IAML		04 03 32.7	
E0802	**Ubeda,Jaen**	**4.00**	**65**	P	**Pn**	**04 02 48.0**	**+1.3**
E0802				S	**Sn**	**04 03 30.9**	**-1.4**
EALB	**Alboran**	**4.03**	**96**	Pn	**Pn**	**04 02 49.7**	**+2.8**
EALB				Sn	**Sn**	**04 03 29.6**	**-3.3**
EALB	**Alboran**	**4.03**	**96**	S	**Sn**	**04 03 29.4**	**-3.5**
PSIM	**Granatula de C**	**4.11**	**53**	⇑P	**Pn**	**04 02 49.6**	**+1.6**
PSIM				S	**Sn**	**04 03 34.6**	**-0.3**
EQES	**Quesada**	**4.15**	**69**	P	**Pn**	**04 02 50.1**	**+1.3**
EQES				S	**Sn**	**04 03 35.9**	**-0.1**
EQES				*i* IVmb_Lg		04 03 40.6	
CZD	**Col de Zad**	**4.17**	**144**	P	**Pn**	**04 02 49.7**	**+0.5**
PAB	**San Pablo**	**4.22**	**42**	P	**Pn**	**04 02 51.1**	**+1.4**
PAB				S	**Sn**	**04 03 35.6**	**-2.1**
PAB				*i* IVmb_Lg		04 03 38.1	
PAB	**San Pablo**	**4.22**	**42**	P	**Pn**	**04 02 51.1**	**+1.4**
GOG	**Mont Gurugu**	**4.23**	**105**	P	**Pn**	**04 02 50.0**	**+0.2**
GOG				P		04 02 50.0	
EMEL	**Melilla**	**4.23**	**104**	P	**Pn**	**04 02 50.1**	**+0.4**
EMEL				S	**Sn**	**04 03 36.1**	**-1.8**
EMLI	**Melilla**	**4.24**	**104**	Sn	**Sn**	**04 03 35.5**	**-2.5**
PVIS	**Viseu**	**4.27**	**1**	*e*P	**Pn**	**04 02 52.6**	**+2.3**
PVIS				*e*S	**Sn**	**04 03 38.5**	**-0.4**
MD31	**MD31**	**4.44**	**142**	P	**Pn**	**04 02 53.7**	**+1.0**
ESDC	**Sonseca Array**	**4.52**	**43**	P	**Pn**	**04 02 55.4**	**+1.6**
ESDC				S	**Sn**	**04 03 41.5**	**-3.5**
ESDC				*i* IVmb_Lg		04 03 44.4	
ESBB	**Sonseca Array**	**4.53**	**43**	P	**Pn**	**04 02 55.3**	**+1.5**
ESBB				S	**Sn**	**04 03 41.5**	**-3.6**
MDT	**Midelt**	**4.56**	**141**	P	**Pn**	**04 02 54.9**	**+0.6**
ENIJ	**Nijar**	**4.67**	**82**	Pn	**Pn**	**04 02 57.3**	**+1.6**
ENIJ				Sn	**Sn**	**04 03 47.4**	**-1.1**
ENIJ	**Nijar**	**4.67**	**82**	P	**Pn**	**04 02 57.5**	**+1.8**
ENIJ				S	**Sn**	**04 03 47.2**	**-1.4**
ENIJ				*i* IVmb_Lg		04 03 50.9	
MVO	**Moncorvo**	**4.78**	**9**	*e*P	**Pn**	**04 02 58.8**	**+1.6**
MVO				*e*S	**Sn**	**04 03 49.5**	**-1.8**
MVO				*i* IAML		04 03 51.8	
MVO				*i* IAML		04 03 52.4	
MVO				*i* IAML		04 03 53.0	
TAF	**Taforalt**	**4.81**	**108**	P	**Pn**	**04 02 58.1**	**+0.4**
PVRL	**Vila Real**	**4.83**	**2**	*e*P	**Pn**	**04 02 59.7**	**+1.7**
PVRL				*e*S	**Sn**	**04 03 51.1**	**-1.5**
PVRL				*i* IAML		04 03 53.4	
PVRL				*i* IAML		04 03 53.4	
PVRL				*i* IAML		04 03 53.9	
TISM	**Timmit**	**4.88**	**164**	P	**Pn**	**04 02 56.4**	**-2.1**
TISM				P		04 02 56.6	
TISM				P		04 02 57.0	
JBK	**JBK**	**4.89**	**114**	P	**Pn**	**04 02 60.0**	**+1.0**
EJUZ	**Juzbado, Salam**	**4.92**	**19**	P	**Pn**	**04 03 00.6**	**+1.4**
EJUZ				S	**Sn**	**04 03 53.2**	**-1.6**
POLO	**Lamas de Olo**	**4.93**	**2**	*e*P	**Pn**	**04 03 01.1**	**+1.8**
POLO				*e*S	**Sn**	**04 03 53.4**	**-1.7**
POLO				*i* IAML		04 03 55.8	
POLO				*i* IAML		04 03 55.8	
POLO				*i* IAML		04 03 56.2	
GUD	**Guadarrama**	**5.16**	**34**	⇓P	**Pn**	**04 03 04.5**	**+2.1**
GUD				S	**Sn**	**04 03 59.0**	**-1.7**
GUD				*i* IVmb_Lg		04 04 01.5	
TLOR	**Lorca, Murcia**	**5.17**	**75**	P	**Pn**	**04 03 04.2**	**+1.6**
OUK	**Oukaimeden**	**5.22**	**179**	P	**Pn**	**04 03 03.5**	**-0.1**
PCAB	**Cabril**	**5.26**	**360**	*e*P	**Pn**	**04 03 06.0**	**+2.2**
PCAB				*e*S	**Sn**	**04 04 01.7**	**-1.4**
PCAB				*i* IAML		04 04 04.2	
PCAB				*i* IAML		04 04 04.2	
PCAB				*i* IAML		04 04 04.8	
EXBUL	**Bullas, Murcia**	**5.29**	**70**	S	**Sn**	**04 04 04.5**	**+0.7**
UCM	**Universidad Co**	**5.36**	**42**	Pn	**Pn**	**04 03 07.5**	**+2.3**
UCM				Sn	**Sn**	**04 04 02.3**	**-2.3**
ELOB	**Lobios**	**5.42**	**359**	P	**Pn**	**04 03 07.9**	**+1.9**
ELOB				S	**Sn**	**04 04 05.6**	**-1.5**
ELOB				*i* IVmb_Lg		04 04 08.4	
PBRG	**Braganca**	**5.44**	**10**	*e*P	**Pn**	**04 03 08.0**	**+1.7**
PBRG				*e*S	**Sn**	**04 04 05.5**	**-2.0**
PBRG				*i* IAML		04 04 08.5	
PBRG				*i* IAML		04 04 08.9	
PBRG				*i* IAML		04 04 09.1	
PGAV	**Gavieira, Arco**	**5.52**	**358**	*e*P	**Pn**	**04 03 09.5**	**+2.1**
PGAV				*e*S	**Sn**	**04 04 07.7**	**-1.9**
PGAV				*i* IAML		04 04 10.5	
PGAV				*i* IAML		04 04 10.7	
PGAV				*i* IAML		04 04 11.0	
TIO	**Tiouine**	**5.53**	**174**	Pn	**Pn**	**04 03 08.0**	**+0.4**
TIO				Sn	**Sn**	**04 04 05.2**	**-4.7**
TIO	**Tiouine**	**5.53**	**174**	P	**Pn**	**04 03 08.2**	**+0.5**
EMUR	**La Murta**	**5.56**	**73**	Pn	**Pn**	**04 03 09.1**	**+1.9**
EMUR				Sn	**Sn**	**04 04 08.8**	**-1.7**
EMUR	**La Murta**	**5.56**	**73**	P	**Pn**	**04 03 09.6**	**+1.6**
EMUR				S	**Sn**	**04 04 08.7**	**-1.8**
EMUR				*i* IVmb_Lg		04 04 10.6	
ETOB	**Tobarra**	**5.56**	**65**	P	**Pn**	**04 03 09.5**	**+1.5**
ECAL	**Calabor**	**5.58**	**10**	Pn	**Pn**	**04 03 10.0**	**+1.8**
ECAL				Sn	**Sn**	**04 04 09.6**	**-1.3**
ECAL	**Calabor**	**5.58**	**10**	P	**Pn**	**04 03 09.9**	**+1.8**
ECAL				S	**Sn**	**04 04 09.8**	**-1.1**
ECAL				*i* IVmb_Lg		04 04 12.5	
CART	**Cartagena**	**5.70**	**76**	Pn	**Pn**	**04 03 10.7**	**+1.0**
CART				Sn	**Sn**	**04 04 10.1**	**-3.7**
EZAM	**Zamans**	**5.73**	**355**	P	**Pn**	**04 03 12.7**	**+2.5**
EZAM				S	**Sn**	**04 04 11.7**	**-2.8**
EZAM				*i* IVmb_Lg		04 04 17.9	
EVIV	**Cofrentes, Val**	**6.12**	**60**	P	**Pn**	**04 03 16.5**	**+0.9**
EVIV				S	**Sn**	**04 04 22.0**	**-2.1**
EVIV				*i* IVmb_Lg		04 04 24.5	
AFON	**Font Roja**	**6.31**	**67**	P	**Pn**	**04 03 19.9**	**+1.6**
AFON				S	**Sn**	**04 04 27.3**	**-1.7**
EAGO	**Agolada(Pontev**	**6.36**	**359**	P	**Pn**	**04 03 20.9**	**+2.2**
EAGO				S	**Sn**	**04 04 26.5**	**-3.4**
EAGO				*i* IVmb_Lg		04 04 31.4	
ECHE	**Chera**	**6.37**	**58**	Pn	**Pn**	**04 03 20.2**	**+1.3**
ECHE				Sn	**Sn**	**04 04 27.5**	**-2.7**
ECHE	**Chera**	**6.37**	**58**	P	**Pn**	**04 03 20.1**	**+1.1**
ECHE				S	**Sn**	**04 04 28.0**	**-2.2**
ECHE				*i* IVmb_Lg		04 04 30.0	
ETOR	**Torete**	**6.37**	**45**	P	**Pn**	**04 03 21.0**	**+2.0**
ETOR				S	**Sn**	**04 04 29.3**	**-1.1**
ETOR		

BSWZ	**Blackbirch Sta**	**0.99**	**90**	P		**Pn**	**04 06 27.5**	**-0.1**
KHZ	**Kahutara**	**1.01**	**133**	P		**Pn**	**04 06 28.1**	**+0.3**
KHZ	**Kahutara**	**1.01**	**133**	S		**Sn**	**04 06 42.4**	**+0.4**
KHZ	**Kahutara**	**1.01**	**133**	P		**Pn**	**04 06 28.1**	**+0.3**
LTZ	**Lake Taylor**	**1.08**	**191**	P		**Pb**	**04 06 28.4**	**-0.1**
TUWZ	**Tuamarina**	**1.09**	**75**	P		**Pn**	**04 06 28.8**	**-0.1**
CMWZ	**Cape Campbell**	**1.25**	**92**	P		**Pg**	**04 06 33.4**	**+1.5**
GVZ	**Greta Valley S**	**1.29**	**164**	P		**Pg**	**04 06 32.6**	**-0.1**
DUWZ	**D'Urville Isla**	**1.39**	**49**	P		**Pn**	**04 06 33.1**	**+0.1**
TCW	**Tory Channel**	**1.40**	**69**	P		**Pb**	**04 06 33.7**	**-0.2**
AMCZ	**Amberley**	**1.45**	**177**	P		**Pn**	**04 06 34.2**	**+0.2**
OXZ	**Oxford**	**1.64**	**193**	P		**Pn**	**04 06 37.0**	**+0.4**
SNZO	**South Karori**	**1.67**	**76**	P		**Pb**	**04 06 37.6**	**-1.0**
SNZO	**South Karori**	**1.67**	**76**	S		**Sg**	**04 06 59.9**	**-1.8**
BHW	**Baring Head**	**1.77**	**81**	P		**Pn**	**04 06 39.3**	**-1.0**
WVZ	**Waitaha Valley**	**1.90**	**224**	P		**Pn**	**04 06 40.4**	**+0.3**
KIW	**Kapiti Island**	**1.98**	**65**	P		**Pn**	**04 06 42.5**	**-1.3**
MQZ	**McQueen's Vall**	**1.98**	**178**	P		**Pn**	**04 06 40.5**	**-0.7**
CAW	**Cannon Point**	**1.99**	**73**	P		**Pb**	**04 06 42.7**	**-1.3**
OKCZ	**Okains Bay**	**2.03**	**169**	P		**Pn**	**04 06 42.0**	**+0.1**
PLWZ	**Palliser**	**2.04**	**87**	P		**Pn**	**04 06 42.1**	**+0.2**
MSWZ	**Moikau Station**	**2.05**	**82**	P		**Pn**	**04 06 42.5**	**+0.3**
AKCZ	**Akaroa Harbour**	**2.16**	**173**	P		**Pn**	**04 06 43.3**	**-0.4**
OGWZ	**Otaki Gorge**	**2.18**	**66**	P		**Pn**	**04 06 43.5**	**-0.4**
PAWZ	**Paruwai Farm**	**2.19**	**82**	P		**Pn**	**04 06 44.3**	**+0.2**
RPZ	**Rata Peaks**	**2.27**	**208**	P		**Pb**	**04 06 48.9**	**+0.1**
RPZ	**Rata Peaks**	**2.27**	**208**	P		**Pn**	**04 06 47.0**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**2.29**	**225**	P		**Pn**	**04 06 44.6**	**-0.8**
MTW	**Mount Morrison**	**2.29**	**77**	P		**Pn**	**04 06 45.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**2.38**	**71**	P		**Pn**	**04 06 47.6**	**+0.8**
ARCZ	**Arundel**	**2.44**	**204**	P		**Pn**	**04 06 47.3**	**-0.3**
MRZ	**Mangatainoka R**	**2.52**	**66**	P		**Pn**	**04 06 46.8**	**-1.9**
TMWZ	**Te Maipa**	**2.59**	**77**	P		**Pn**	**04 06 52.9**	**-1.3**
KHEZ	**Kahui Hut**	**2.67**	**25**	P		**Pn**	**04 06 51.3**	**+0.5**
KHEZ	**Kahui Hut**	**2.67**	**25**	P		**Pn**	**04 06 52.4**	**+1.6**
TIWZ	**Tintock**	**2.69**	**70**	P		**Pn**	**04 06 51.3**	**+0.3**
FOZ	**Fox Glacier**	**2.71**	**227**	P		**Pn**	**04 06 50.2**	**-1.0**
PKE	**Pukeiti**	**2.76**	**24**	P		**Pn**	**04 06 53.3**	**+1.4**
PRWZ	**Pori Road**	**2.84**	**67**	P		**Pn**	**04 06 51.7**	**-1.3**
TMZ	**Timaru**	**2.89**	**203**	P		**Pn**	**04 06 52.9**	**-0.8**
BFZ	**Birch Farm**	**2.98**	**71**	P		**Pn**	**04 06 55.0**	**+0.1**
BFZ	**Birch Farm**	**2.98**	**71**	S		**Sn**	**04 07 31.5**	**+0.9**
BFZ	**Birch Farm**	**2.98**	**71**	P		**Pn**	**04 06 53.8**	**-1.1**
VRZ	**Vera Road**	**3.10**	**34**	P		**Pn**	**04 06 58.6**	**+2.1**
PKVZ	**Pokaka**	**3.24**	**42**	P		**Pn**	**04 06 58.8**	**+0.3**
WNVZ	**Wahianoa**	**3.34**	**45**	P		**Pn**	**04 06 57.8**	**-2.2**
WHVZ	**Whangaehu Hut**	**3.37**	**45**	P		**Pn**	**04 06 59.1**	**-1.4**
TUVZ	**Tukino**	**3.41**	**45**	P		**Pn**	**04 06 59.1**	**-1.9**
ETVZ	**East Tongariro**	**3.54**	**44**	P		**Pn**	**04 07 01.3**	**-1.4**
TMVZ	**Te Maari**	**3.55**	**44**	P		**Pn**	**04 07 01.6**	**-1.2**
ODZ	**Otahua Downs**	**3.60**	**202**	P		**Pn**	**04 07 06.3**	**+2.9**
ODZ	**Otahua Downs**	**3.60**	**202**	P		**Pn**	**04 07 03.1**	**-0.3**
JCZ	**Jackson Bay**	**3.63**	**228**	P		**Pn**	**04 07 05.9**	**+2.0**
JCZ	**Jackson Bay**	**3.63**	**228**	P		**Pn**	**04 07 02.8**	**-1.2**
HIZ	**Hauiti**	**3.66**	**30**	P		**Pn**	**04 07 04.7**	**+0.4**
HIZ	**Hauiti**	**3.66**	**30**	P		**Pn**	**04 07 06.6**	**+2.3**
KWHZ	**Kaweka Forest**	**3.74**	**53**	P		**Pn**	**04 07 08.5**	**+3.0**
BKZ	**Black Stump Fm**	**3.95**	**51**	P		**Pn**	**04 07 07.8**	**-0.5**
BKZ	**Black Stump Fm**	**3.95**	**51**	P		**Pn**	**04 07 06.2**	**-2.1**

*TRN **21** 04:50:36.7, 10′.99N×62′.23W, h113km, MD2.9, Northf of the Paria peninsula.*
*FUNV **21** 04:50:37.7, 11′.03N×62′.41W, h18km, MW3.3*

ISC 21 04:50:35.8±2.7, 10′.99N±0′.07×62′.4W±0′.1, h107km±32km, n13, σ1°10′.19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.85**	**110**	*eP*	**Pn**	**04 50 55.8**	**+0.4**
DMDM				*eS*	**Sn**	**04 51 09.3**	**-0.7**
PSMG	**Mucurapo Girls**	**0.88**	**111**	*eS*	**Sn**	**04 51 10.5**	**0.0**
PSQC	**Port of Spain**	**0.89**	**111**	*eS*	**Sn**	**04 51 10.4**	**-0.3**
PSGH	**Port of Spain**	**0.90**	**111**	*eS*	**Sn**	**04 51 10.1**	**-0.8**
PSNL	**Port of Spain**	**0.91**	**111**	*eS*	**Sn**	**04 51 09.7**	**-1.2**
TRN	**Trinidad (W)**	**1.01**	**109**	*eP*	**Pn**	**04 50 57.8**	**+0.9**
TRN				*eS*	**Sn**	**04 51 11.6**	**-1.1**
GRFF	**Grenada Fort F**	**1.23**	**30**	*eP*	**Pn**	**04 50 59.8**	**+0.4**
GRFF				*eS*	**Sn**	**04 51 16.4**	**-0.6**
GRGR	**Grenville**	**1.34**	**31**	*eP*	**Pn**	**04 51 00.8**	**+0.2**
GRGR				*eS*	**Sn**	**04 51 19.7**	**+0.3**
GRSS	**Sisters**	**1.50**	**29**	*eS*	**Sn**	**04 51 23.2**	**+0.4**
GCMP	**Grenada, Carri**	**1.75**	**32**	*eP*	**Pn**	**04 51 05.7**	**+0.1**
GCMP				*eS*	**Sn**	**04 51 27.2**	**-1.1**
PCRV	**Puerto La Cruz**	**2.37**	**250**	*eP*	**Pn**	**04 51 15.0**	**+1.4**
PCRV				*eS*	**Sn**	**04 51 41.5**	**-1.0**
CACV	**CAICARA DEL OR**	**5.34**	**231**	*eP*	Pn	04 51 49.2	-4.0
CACV				*eS*	Sn	04 52 43.7	-10
BAUV	**El Baul**	**5.95**	**251**	*eP*	**Pn**	**04 52 02.6**	**+1.2**
BAUV				*eS*	**Sn**	**04 53 05.7**	**-2.6**

*NEIC **21** 04:51:19.6±0.9, 19′.60N±0′.04×155′.42W±0′.04, h34km±8km, Error ellipse: s-maj=6.0km s-min=5.5km az=69.0*

HVO 21 04:51:21.3±0.8, 19′.60N±0′.03×155′.39W±0′.03, h26km±7km, ML2.7/30, **ML2.6**/42(NEIC), **Error ellipse: s-maj=4.4km s-min=4.1km az=50.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMH	**Humu'ula Sheep**	**0.09**	**275**		Pb	04 51 26.4	-0.1
HMH					Sb	04 51 30.2	+0.2
HMH	**Humu'ula Sheep**	**0.09**	**275**	IAML		04 51 30.3	
	comp=E,2μm,0.1s						
HMH				IAML		04 51 30.4	
	comp=N,4μm,0.2s						
MLH	**Mauna Loa**	**0.10**	**178**		Pb	04 51 26.4	-0.1
MLH					Sb	04 51 30.1	+0.1
MLH	**Mauna Loa**	**0.10**	**178**	IAML		04 51 30.3	
	comp=E,740nm,0.1s						
MLH				IAML		04 51 30.5	
	comp=N,2μm,0.2s						
RSD	**Rainshed**	**0.17**	**141**		Sb	04 51 30.7	-0.1
RSD	**Rainshed**	**0.17**	**141**	Pg	Pb	04 51 27.5	+0.5
UWE	**Uwekahuna**	**0.20**	**152**		Pb	04 51 26.8	-0.4
UWE					Sb	04 51 31.0	-0.3
UWE	**Uwekahuna**	**0.20**	**152**	IAML		04 51 34.2	
	comp=N,383nm,0.5s						
UWE				IAML		04 51 35.1	
	comp=E,470nm,0.5s						
UWB	**Uwekahuna Bluf**	**0.20**	**148**		Pb	04 51 26.7	-0.6
UWB					Sb	04 51 30.8	-0.5
OBL	**Observatory Le**	**0.20**	**151**		Pb	04 51 26.8	-0.5
OBL					Sb	04 51 30.7	-0.7
SBLHI	**Steaming Bluff**	**0.20**	**146**		Pb	04 51 26.8	-0.6
SBLHI					Sb	04 51 30.8	-0.6
WRMHI	**West Rim**	**0.21**	**156**		Pb	04 51 26.8	-0.6
WRMHI					Sb	04 51 30.9	-0.5
HATHI	**Halema'uma'u T**	**0.21**	**145**		Pb	04 51 26.8	-0.6
HATHI					Sb	04 51 30.9	-0.7
HATHI	**Halema'uma'u T**	**0.21**	**145**	IAML		04 51 31.4	
	comp=N,268nm,0.2s						
HATHI				IAML		04 51 32.1	
	comp=E,184nm,0.1s						
POHA	**Pohakuloa**	**0.21**	**320**		Pb	04 51 26.7	-0.9
POHA					Sb	04 51 30.7	-1.1
POHA	**Pohakuloa**	**0.21**	**320**	IAML		04 51 31.0	
	comp=E,896nm,0.4s						
POHA				IAML		04 51 31.2	
	comp=E,650nm,0.1s						
BYL	**Byron's Ledge**	**0.22**	**146**		Pb	04 51 27.0	-0.5
BYL					Sb	04 51 31.2	-0.5
BYL	**Byron's Ledge**	**0.22**	**146**	IAML		04 51 31.4	
	comp=E,206nm,0.1s						
BYL				IAML		04 51 36.7	
	comp=N,163nm,1.2s						
SDHHI	**Sand Hill**	**0.22**	**156**		Pb	04 51 27.0	-0.6
SDHHI					Sb	04 51 31.2	-0.6
MWH	**Mokuaweoweo**	**0.23**	**241**		Pb	04 51 27.3	-0.7
MWH					Sb	04 51 31.7	-0.8
MWH	**Mokuaweoweo**	**0.23**	**241**	IAML		04 51 32.5	
	comp=N,814nm,0.5s						
MWH				IAML		04 51 34.3	
	comp=E,680nm,0.6s						
RIM	**Rim**	**0.23**	**151**		Pb	04 51 27.0	-0.6
RIM					Sb	04 51 31.3	-0.5
KKO	**Keanakako'i**	**0.23**	**149**		Pb	04 51 27.1	-0.6
KKO					Sb	04 51 31.5	-0.5
AIN	**Ainahou**	**0.23**	**196**		Pb	04 51 27.4	-0.3
AIN					Sb	04 51 31.9	-0.1
AIN	**Ainahou**	**0.23**	**196**	IAML		04 51 32.3	
	comp=E,2μm,0.3s						
AIN				IAML		04 51 32.4	
	comp=N,2μm,0.2s						
ALEP	**Alea Permanent**	**0.25**	**257**		Pb	04 51 27.4	-0.6
ALEP					Sb	04 51 31.9	-0.7
PUH	**Pauahi**	**0.27**	**143**		Pb	04 51 27.4	-0.8
PUH					Sb	04 51 32.1	-0.8
KNHH	**Kane Nui o Ham**	**0.30**	**136**		Pb	04 51 27.9	-0.6
HLP	**Hilina Pali**	**0.31**	**166**		Pb	04 51 28.1	-0.6
HLP					Sb	04 51 33.1	-0.6
HLP	**Hilina Pali**	**0.31**	**166**	IAML		04 51 33.4	
	comp=N,2μm,0.2s						
HLP				IAML		04 51 33.5	
	comp=E,1μm,0.1s						
STCH	**Steam Cracks**	**0.33**	**130**		Pb	04 51 28.1	-0.8
STCH					Sb	04 51 33.1	-1.0
STCH	**Steam Cracks**	**0.33**	**130**	IAML		04 51 33.3	
	comp=E,2μm,0.1s						
STCH				IAML		04 51 33.6	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.33**	**127**		Pb	04 51 28.2	-0.8
NPOC					Sb	04 51 33.3	-1.0
JCUZ	**Jacuzzi**	**0.34**	**128**		Pb	04 51 28.3	-0.9
JCUZ					Sb	04 51 33.4	-1.1
HTC	**Hot Caves**	**0.36**	**181**		Pb	04 51 28.6	-0.7
JOKA	**Jonika Flow**	**0.40**	**114**		Pb	04 51 28.9	-1.1
JOKA					Sb	04 51 34.8	-1.1
JOKA	**Jonika Flow**	**0.40**	**114**	IAML		04 51 35.1	
	comp=N,382nm,0.5s						
JOKA				IAML		04 51 36.4	
	comp=E,204nm,0.2s						
KHU	**Kahuku**	**0.41**	**212**		Pb	04 51 29.2	-1.1
KHU					Sb	04 51 35.0	-1.4
HUH	**Hualalai**	**0.43**	**282**		Pb	04 51 29.6	-1.0
HUH					Sb	04 51 35.8	-1.2
HUH	**Hualalai**	**0.43**	**282**	IAML		04 51 37.9	
	comp=N,1μm,0.1s						
HUH				IAML		04 51 40.2	
	comp=E,855nm,0.3s						
CPH	**Captain Cook**	**0.51**	**258**		Pb	04 51 30.1	-1.7
HPAH	**Hawaii Prepara**	**0.52**	**326**		Pb	04 51 30.1	-1.9
HPAH					Pn	04 51 36.5	+3.4
HPAH	**Hawaii Prepara**	**0.52**	**326**	IAML		04 51 36.9	
	comp=N,540nm,0.1s						
HPAH				IAML		04 51 36.9	
	comp=E,528nm,0.1s						
HPO	**Honuapo**	**0.53**	**197**		Pb	04 51 30.7	-1.4
HPO					Pn	04 51 37.6	+4.5
MHA	**Mahukona**	**0.76**	**321**		Pb	04 51 33.5	-2.5
MHA					Sb	04 51 42.9	-3.1
WMR	**Waimanalo Ridg**	**2.75**	**309**		Pn	04 52 00.4	-3.3
WMR					Sn	04 52 30.7	-5.5

AUST 21 05:00:07.9±0.5, 19°S±4′×12°1E±°, h10km, mb4.1/3, ML3.0/7, ML3.6/6, Error ellipse: s-maj=11.1km s-min=4.7km az=137.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUBRM	**Broome Senior**	**1.74**	**69**	P	Pb	05 00 40.6	+0.6
AUBRM				S	Sb	05 01 01.4	-0.5
MBWA	**Marble Bar**	**2.66**	**196**	P	Pn	05 00 51.8	+1.0
MBWA				S	Sn	05 01 25.1	+1.9
PSAA2	**Pilbara Seismi**	**3.02**	**192**	P	Pn	05 00 55.8	-0.1
PSAA2				S	Sn	05 01 33.5	+1.4
PSA00	**Pilbara Seismi**	**3.03**	**192**	P	Pn	05 00 56.6	+0.6
PSA00				S	Sn	05 01 34.1	+1.8
PSAA1	**Pilbara Seismi**	**3.04**	**192**	P	Pn	05 00 55.5	-0.5
FITZ	**Fitzroy Crossi**	**4.88**	**85**	P	Pn	05 01 19.5	-1.9
GIRL	**Giralia**	**7.14**	**235**	P	Pn	05 01 49.9	-2.6
	comp=Z,0.2nmcomp=Z,421μmcomp=Z,47nm,1.5s						
MEEK	**Meekatharra**	**8.20**	**192**	P	Pn	05 02 06.8	-0.2
WRKA	**Warakurna**	**9.65**	**133**	P	Pn	05 02 27.5	+0.5
	comp=Z,0.0nmcomp=Z,3.8nm,1.9s						
WRKA				S	Sn	05 04 14.5	-1.1
BLDU	**Ballidu**	**12.46**	**195**	P	Pn	05 03 04.8	-0.6
	comp=Z,20nm,2.7s						
BLDU				S	Sn	05 05 15.2	-9.1

*NEIC **21** 05:01:54.7±0.5, 19°.47N±0°.03×155°.60W±0°.03, h38km±2km, Error ellipse: s-maj=4.1km s-min=3.3km az=148.0*

HVO 21 05:01:55.5±0.7, 19°.45N±0°.03×155°.59W±0°.03, h37km±3km, ML2.3/31, **ML2.5**/38(NEIC), **Error ellipse: s-maj=4.0km s-min=4.0km az=159.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Mokuaweoweo**	**0.04**	**348**		Pn	05 02 01.2	-1.0
MWH				IAML		05 02 07.5	
	comp=N,598nm,0.6s						
MWH				IAML		05 02 08.4	
	comp=E,831nm,0.6s						
MWH	**Mokuaweoweo**	**0.04**	**348**		Sn	05 02 06.2	-0.7
ALEP	**Alea Permanent**	**0.11**	**331**		Pn	05 02 01.8	-7.3
ALEP					Sn	05 02 06.6	-15
AIN	**Ainahou**	**0.14**	**121**		Pn	05 02 01.8	-5.2
AIN					Sn	05 02 06.7	-11
AIN	**Ainahou**	**0.14**	**121**	IAML		05 02 07.4	
	comp=E,1μm,0.4s						
AIN				IAML		05 02 09.1	
	comp=N,1μm,0.4s						
HMH	**Humu'ula Sheep**	**0.18**	**33**		Pn	05 02 02.4	-3.2
HMH					Sn	05 02 07.2	-8.2
HMH	**Humu'ula Sheep**	**0.18**	**33**	IAML		05 02 08.5	
	comp=E,749nm,0.5s						
HMH				IAML		05 02 08.5	
	comp=N,1μm,0.6s						
MLH	**Mauna Loa**	**0.20**	**76**		Pn	05 02 02.5	-2.6
MLH					Sn	05 02 07.4	-7.0
MLH	**Mauna Loa**	**0.20**	**76**	IAML		05 02 09.2	
	comp=E,535nm,0.8s						
MLH				IAML		05 02 09.6	
	comp=N,541nm,0.6s						
KHU	**Kahuku**	**0.20**	**187**		Pn	05 02 02.0	-2.9
KHU					Sn	05 02 07.2	-6.8
WRMHI	**West Rim**	**0.28**	**98**		Pn	05 02 02.5	-1.4
WRMHI					Sn	05 02 08.0	-3.4
HTC	**Hot Caves**	**0.28**	**139**		Pn	05 02 02.7	-1.1
UWE	**Uwekahuna**	**0.28**	**95**		Pn	05 02 03.0	-0.9
UWE					Sn	05 02 08.2	-3.1
UWE	**Uwekahuna**	**0.28**	**95**	IAML		05 02 18.3	
	comp=E,533nm,0.9s						
SDHHI	**Sand Hill**	**0.28**	**102**		Pn	05 02 03.0	-0.9
SDHHI					Sn	05 02 08.5	-2.7
RSD	**Rainshed**	**0.29**	**87**		Pn	05 02 02.9	-1.0
RSD					Sn	05 02 08.6	-2.6
UWB	**Uwekahuna Bluf**	**0.29**	**94**		Pn	05 02 02.9	-1.0
UWB					Sn	05 02 08.2	-2.9
SBLHI	**Steaming Bluff**	**0.30**	**94**		Pn	05 02 02.8	-1.0
SBLHI					Sn	05 02 08.3	-2.7
HLP	**Hilina Pali**	**0.30**	**120**		Pn	05 02 03.3	-0.6
HLP					Sn	05 02 08.6	-2.3
HLP	**Hilina Pali**	**0.30**	**120**	IAML		05 02 17.6	
	comp=N,442nm,0.5s						
KKO	**Keanakako'i**	**0.31**	**99**		Pn	05 02 03.1	-0.8
KKO					Sn	05 02 08.8	-2.1
HATHI	**Halema'uma'u T**	**0.31**	**94**		Pn	05 02 03.0	-0.9
HATHI					Sn	05 02 08.4	-2.6
HATHI	**Halema'uma'u T**	**0.31**	**94**	IAML		05 02 09.2	
	comp=N,297nm,1.5s						
HATHI				IAML		05 02 18.4	
	comp=E,322nm,0.7s						
BYL	**Byron's Ledge**	**0.31**	**96**		Pn	05 02 03.2	-0.7
BYL					Sn	05 02 09.0	-2.0
BYL	**Byron's Ledge**	**0.31**	**96**	IAML		05 02 10.9	
	comp=N,258nm,2.4s						
BYL				IAML		05 02 12.4	
	comp=E,429nm,1.3s						
POHA	**Pohakuloa**	**0.31**	**10**		Pn	05 02 03.1	-1.0
POHA					Sn	05 02 08.3	-2.9
POHA	**Pohakuloa**	**0.31**	**10**	IAML		05 02 09.4	
	comp=E,385nm,1.0s						
POHA				IAML		05 02 11.5	
	comp=E,233nm,1.0s						
CPH	**Captain Cook**	**0.31**	**278**		Pn	05 02 03.3	-0.5
HUH	**Hualalai**	**0.33**	**315**		Pn	05 02 03.4	-0.8
HUH				IAML		05 02 10.3	
	comp=N,508nm,0.6s						
HUH				IAML		05 02 15.7	
	comp=E,469nm,0.5s						
PUH	**Pauahi**	**0.36**	**102**	Pn	Pn	05 02 06.0	+1.8
PUH				IAML		05 02 11.1	
	comp=E,291nm,1.6s						
PUH				IAML		05 02 20.6	
	comp=N,270nm,1.8s						
KNHH	**Kane Nui o Ham**	**0.40**	**100**	Pn	Pn	05 02 03.6	-1.1
STCH	**Steam Cracks**	**0.44**	**98**		Pn	05 02 04.5	-0.7
STCH				IAML		05 02 12.1	
	comp=E,294nm,1.3s						
HPAH	**Hawaii Prepara**	**0.59**	**350**		Pn	05 02 05.3	-2.3
HPAH				IAML		05 02 14.1	
	comp=E,195nm,0.6s						
HPAH				IAML		05 02 14.2	
	comp=N,193nm,1.0s						

CATAC 21 05:06:27.5±0.6, 12°N±2°×8°6W±°, h8km±2km, M2.5/12, MLv2.5/12, Error ellipse: s-maj=4.3km s-min=2.7km az=45.3, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNAN	**Cigeo UNAN**	**0.05**	**307**	P	Pg	05 06 29.8	+0.4
UNAN				S	Sg	05 06 31.3	+0.7
R4DEC	**Barrio San Lui**	**0.07**	**343**	P	Pg	05 06 30.4	+0.8
R4DEC	**Barrio San Lui**	**0.07**	**343**	S	Sg	05 06 32.3	+1.3
WILN	**Americas 2**	**0.09**	**25**	P	Pg	05 06 30.9	+1.1
WILN				S	Sg	05 06 33.2	+1.8
ABCN	**Banco Central**	**0.09**	**298**	P	Pg	05 06 30.9	+1.0
ABCN	**Banco Central**	**0.09**	**298**	S	Sg	05 06 33.1	+1.7
MASN	**Masaya**	**0.12**	**141**	P	Pg	05 06 30.8	+0.6
MASN				S	Sg	05 06 33.1	+0.9
NANN	**Nandasmo**	**0.17**	**143**	P	Pg	05 06 32.8	+1.7
NANN	**Nandasmo**	**0.17**	**143**	S	Sg	05 06 34.0	+1.3
CNGN	**Cerro Negro**	**0.62**	**312**	P	Pg	05 06 40.0	+0.4
CNGN	**Cerro Negro**	**0.62**	**312**	S	Sg	05 06 48.5	+0.7
BOAB	**BOACO BROADBAN**	**0.66**	**56**	P	Pg	05 06 40.5	+0.2
BOAB	**BOACO BROADBAN**	**0.66**	**56**	S	Sb	05 06 49.9	-0.7

*JMA **21** 05:07:11.1±0.4, 23°N±2°×122°.8E±1°.0, h49km, MV2.7/10, FAR S OFF ISHIGAKIJIMA*
*TAP **21** 05:07:12.5, 22°.94N×122°.60E, h97km, ML2.9, D*

ISC 21 05:07:09.1±1.3, 22°.95N±0°.03×122°.73E±0°.03, h17km±9km, n68, σ0°.77/135, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.19**	**257**	*eP*	**Pg**	**05 07 32.1**	**-0.1**
LDUT				*eS*	**Sb**	**05 07 46.5**	**+0.1**
EOS4	**EOS4**	**1.23**	**342**	*eP*	**Pg**	**05 07 34.0**	**+1.3**
EOS4				*eS*	**Sg**	**05 07 48.9**	**+0.2**
ECBN	**Changbin**	**1.23**	**288**	*eP*	**Pg**	**05 07 34.9**	**+2.0**
ECBN				*eS*	**Sn**	**05 07 48.1**	**+0.4**
CHKH	**Chenggong**	**1.25**	**281**	*eP*	**Pg**	**05 07 33.2**	**-0.1**
CHKH				*i S*	**Sn**	**05 07 48.2**	**0.0**
CHKT	**Chengkung**	**1.26**	**277**	P	**Pg**	**05 07 33.3**	**-0.2**
CHKT				*eS*	**Sb**	**05 07 48.2**	**-0.2**
EDH	**Donghe**	**1.31**	**271**	P	**Pb**	**05 07 34.0**	**+0.7**
EDH				*eS*	**Sb**	**05 07 50.2**	**+0.4**
HGSD	**Ruisui**	**1.32**	**295**	*eP*	**Pb**	**05 07 33.5**	**+0.2**
HGSD				*eS*	**Sg**	**05 07 51.6**	**-0.2**
TEGC	**Jichi Village**	**1.33**	**305**	P	**Pg**	**05 07 35.2**	**+0.4**
TEGC				S	**Sg**	**05 07 52.1**	**0.0**
FULB	**Fuli**	**1.34**	**281**	*eP*	**Pb**	**05 07 33.7**	**-0.1**
FULB				*eS*	**Sn**	**05 07 50.5**	**-0.1**
SHUL	**Shoufeng**	**1.36**	**308**	*eP*	**Pg**	**05 07 35.2**	**-0.1**
SHUL				*i S*	**Sg**	**05 07 52.3**	**-0.7**
TWF1	**Yuli**	**1.38**	**287**	*eP*	**Pg**	**05 07 35.4**	**-0.3**
TWF1				*eS*	**Sn**	**05 07 50.2**	**-1.2**
EHYH	**Wanrong**	**1.38**	**293**	*eP*	**Pg**	**05 07 36.9**	**+1.1**
EHYH				*eS*	**Sg**	**05 07 54.0**	**+0.2**
EOS3	**EOS3**	**1.38**	**344**	*eP*	**Pg**	**05 07 35.6**	**-0.2**
EOS3				*eS*	**Sg**	**05 07 53.8**	**-0.1**
YULB	**Yu-li**	**1.39**	**289**	*eP*	**Pg**	**05 07 36.1**	**+0.2**
YULB				*eS*	**Sg**	**05 07 54.0**	**0.0**
EGFH	**Guangfu**	**1.39**	**301**	*eP*	**Pg**	**05 07 37.1**	**+1.1**
EGFH				*eS*	**Sg**	**05 07 54.0**	**-0.2**
ECS	**Chishang**	**1.40**	**276**	P	**Pg**	**05 07 36.9**	**+0.8**
ECS				S	**Sg**	**05 07 53.8**	**-0.5**
EHY	**Hungye**	**1.41**	**294**	P	**Pg**	**05 07 36.1**	**-0.2**
EHY				S	**Sg**	**05 07 54.0**	**-0.7**
LAY	**Lan-yu**	**1.42**	**230**	*eP*	**Pb**	**05 07 36.2**	**-0.3**
LAY				S	**Sb**	**05 07 53.4**	**+0.6**
EHD	**Haiduan**	**1.42**	**278**	*eP*	**Pg**	**05 07 36.3**	**-0.1**
EHD				*eS*	**Sb**	**05 07 52.4**	**-0.4**
LYUB	**Lan-yu**	**1.42**	**229**	P	**Pg**	**05 07 36.6**	**+0.1**
LYUB				*eS*	**

FUSB	**Fushanzhiwuyua**	**2.08**	**330**	P		**Pb**	**05 07 46.9**	**+0.4**
FUSB				S		**Sb**	**05 08 11.6**	**-0.5**
YHNB	**Yeheng**	**2.11**	**324**	*e*P		**Pb**	**05 07 47.6**	**+0.6**
YHNB				*e*S		**Sb**	**05 08 11.7**	**-1.3**
NWLT	**Wulai**	**2.14**	**329**	P		**Pb**	**05 07 46.7**	**-0.7**
NWLT				S		**Sb**	**05 08 12.4**	**-1.3**
CHN2	**Minshiung**	**2.15**	**286**	*e*P		**Pb**	**05 07 47.1**	**-0.5**
CHN2				*e*S		**Sn**	**05 08 11.6**	**+1.2**
TIPB	**Shuangxi**	**2.18**	**338**	*e*P		**Pb**	**05 07 48.5**	**+0.4**
TIPB				*e*S		**Sb**	**05 08 13.9**	**-0.8**
JISG	**Ishigakijimahi**	**2.18**	**41**	*e*P		**Pn**	**05 07 45.2**	**+0.6**
JISG				S		**Sn**	**05 08 10.0**	**-1.2**
SNJT	**Kaohsiung City**	**2.22**	**265**	*e*P		**Pb**	**05 07 49.3**	**+0.6**
SNJT				*i* S		**Sb**	**05 08 15.9**	**+0.1**
NFF	**Wufeng Townshi**	**2.23**	**319**	P		**Pb**	**05 07 47.7**	**-1.4**
NFF				S		**Sn**	**05 08 14.0**	**+1.5**
SXI1	**Grass Mountain**	**2.27**	**340**	P		**Pb**	**05 07 48.8**	**-0.9**
SXI1				S		**Sb**	**05 08 15.7**	**-1.9**
LIOB	**Emei**	**2.31**	**317**	P		**Pb**	**05 07 49.2**	**-1.0**
LIOB				*e*S		**Sb**	**05 08 17.2**	**-1.2**
JTJ	**Tarama**	**2.47**	**47**	*e*P		**Pn**	**05 07 49.4**	**+0.8**
JTJ				S		**Sn**	**05 08 17.4**	**-0.9**

*IDC **21** 05:40:24.6±1.0,22.°87N×144.°13E, h0km, mb3.7/10, mbtmp3.7/11, ML3.6/1, MS2.8/1, Error ellipse: s-maj=35.7km s-min=21.3km az=79.0*

ISC 21 05:40:29.9±0.9, 22.°9N±0.°1×144.°0E±0.°2, h34km, n18, σ1§02/12, mb3.7/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**4.48**	**339**	Pn	**Pn**	**05 41 35.8**	**+0.4**
JCJ	2.9nm,0.3s,baz=149,slow=19,SNR=6.0			Sn	**Sn**	**05 42 25.6**	**-0.7**
JHJ	10nm,0.3s,baz=133,slow=19,SNR=7.6 8.6nm,0.3s **Hachijo jima 2**	**10.82**	**341**	LR	LR	05 47 25.4	
KSRS	comp=Z,45nm,18.6s,baz=134,slow=39 **Korea Array**	**20.04**	**320**	P	**Pn**	**05 45 01.5**	**-0.4**
	0.5nm,0.5s,baz=148,slow=7.9,SNR=8.4 0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**21.54**	**94**	T	T	06 07 28.6	
H11N2	baz=283,slow=74,SNR=20 **WAKE ISLAND Hy**	**21.54**	**94**	T	T	06 07 25.5	
H11N3	baz=283,slow=74,SNR=12 **WAKE ISLAND Hy**	**21.55**	**94**	T	T	06 07 26.5	
H11S3	baz=283,slow=74,SNR=14 **WAKE ISLAND Hy**	**21.65**	**98**	T	T	06 07 42.1	
H11S1	baz=290 **WAKE ISLAND Hy**	**21.66**	**97**	T	T	06 07 52.6	
H11S2	baz=290 **WAKE ISLAND Hy**	**21.66**	**98**	T	T	06 07 42.7	
WRA	baz=290 **Warramunga Arr**	**43.64**	**193**	P	**P**	**05 48 30.6**	**-0.7**
	0.9nm,0.6s,baz=16,slow=9.0,SNR=5.4 0.9nm,0.6s						
ASAR	**Alice Springs**	**47.34**	**193**	P	**P**	**05 49 00.2**	**-0.4**
	0.3nm,0.7s,baz=9.4,slow=7.5,SNR=2.0 0.3nm,0.7s						
MKAR	**Makanchi Array**	**54.45**	**312**	P	**P**	**05 49 54.2**	**+0.3**
	0.3nm,0.6s,baz=85,slow=13,SNR=4.1 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**57.17**	**316**	P	**P**	**05 50 13.8**	**+0.5**
	0.6nm,0.7s,baz=92,slow=7.7,SNR=1.9 0.6nm,0.7s						
ILAR	**Eielson Array**	**60.60**	**27**	P	**P**	**05 50 35.1**	**-1.8**
	0.1nm,0.5s,baz=259,slow=5.3,SNR=1.7 0.1nm,0.5s						
BVAR	**Borovoye Array**	**62.25**	**319**	P	**P**	**05 50 49.0**	**+0.7**
	2.5nm,0.5s,baz=89,slow=7.0,SNR=12 2.5nm,0.5s						
NVAR	**Mina Array Bea**	**81.78**	**52**	P	**P**	**05 52 47.5**	**+1.7**
	0.4nm,0.7s,baz=225,slow=4.0,SNR=3.7 0.4nm,0.7s						
KBZ	**Khabaz**	**82.08**	**314**	P	**P**	**05 52 47.8**	**+0.8**
	1.3nm,0.5s,baz=56,slow=3.6,SNR=2.2 1.3nm,0.5s						
FINES	**FINESS Array B**	**82.41**	**335**	P	**P**	**05 52 47.9**	**-0.5**
	0.5nm,0.4s,baz=66,slow=5.0,SNR=3.4 0.5nm,0.4s						

TAP 21 05:49:41.2, 23.°52N×121.°51E, h37km±1km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.08**	**252**	*e*P	Pn	05 49 47.5	+0.1
HGSD				*e*S	Sn	05 49 52.1	+0.4
EHYH	**Wanrong**	**0.15**	**261**	*i* S	Sn	05 49 53.5	-10
EGFH	**Guangfu**	**0.17**	**334**	*e*P	Pn	05 49 47.8	-3.7
EGFH				*e*S	Sn	05 49 55.0	-6.8
EHY	**Hungye**	**0.17**	**266**	P	Pn	05 49 47.7	-3.7
EHY				*i* S	Sn	05 49 53.4	-8.2
TEGC	**Jichi Village**	**0.19**	**8**	*e*P	Pn	05 49 48.6	-2.1
TEGC				*e*S	Sn	05 49 54.5	-5.6
WARBT	**Fenglin Townsh**	**0.23**	**331**	P	Pn	05 49 48.5	-1.4
WARBT				S	Sn	05 49 54.3	-4.0
YULB	**Yu-li**	**0.23**	**238**	P	Pn	05 49 48.8	-1.1
YULB				S	Sn	05 49 53.8	-4.4
TWF1	**Yuli**	**0.26**	**230**	*i* P	Pn	05 49 48.5	-1.0
TWF1				*i* S	Sn	05 49 54.6	-2.7
SHUL	**Shoufeng**	**0.27**	**10**	*e*P	Pn	05 49 48.6	-0.8
SHUL				*e*S	Sn	05 49 55.4	-1.5
CHKH	**Chenggong**	**0.34**	**198**	*e*S	Sn	05 49 56.5	+0.2
TEYL	**Yanliau Villag**	**0.36**	**13**	*e*P	Pn	05 49 50.5	+0.8
TEYL				*e*S	Sn	05 49 57.4	+0.9
FULB	**Fuli**	**0.37**	**212**	*e*P	Pn	05 49 51.2	+1.3
VWDT	**VWDT**	**0.41**	**305**	*e*P	Pn	05 49 51.8	+1.5
VWDT				*e*S	Sn	05 49 58.9	+1.7
CHKT	**Chengkung**	**0.44**	**198**	P	Pn	05 49 51.9	+1.2
CHKT				*e*S	Sn	05 49 59.4	+1.7
ETM	**Tongmen**	**0.45**	**358**	*e*P	Pn	05 49 51.9	+1.0
ETM				*e*S	Sn	05 49 59.0	+1.0
EDH	**Donghe**	**0.57**	**199**	*e*P	Pn	05 49 53.8	+0.8
EDH				*e*S	Sn	05 50 02.5	+1.3
WUSB	**Renai**	**0.59**	**323**	*e*P	Pn	05 49 54.2	+0.9
WUSB				*e*S	Sn	05 50 02.6	+0.8

JMA 21 05:50:03.0±0.1, 24.°2N±0.°7×123.°3E±0.°3, h54km±1km, MV1.2/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.39**	**316**	P	Pn	05 50 13.4	+0.1
YOJ				S	Sn	05 50 20.6	-0.2
IRIF	**Iriomote-Funau**	**0.41**	**68**	P	Pn	05 50 13.7	+0.1
IRIF				*e*S	Sn	05 50 21.4	+0.2
HATJ	**Hateruma jima**	**0.47**	**105**	*e*P	Pn	05 50 14.1	-0.1
HATJ				*e*S	Sn	05 50 22.3	+0.1
JIJ	**Ishigaki jima**	**0.78**	**76**	P	Pn	05 50 17.9	-0.1
JIJ				*e*S	Sn	05 50 28.9	0.0
JISG	**Ishigakijimahi**	**1.00**	**66**	P	Pn	05 50 21.0	+0.2
JISG				S	Sn	05 50 34.1	+0.2

*IDC **21** 06:20:24.7±0.8, 17.°95S×174.°56W, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=33.8km s-min=23.0km az=133.0*

ISC 21 06:20:41.0±0.8, 18.°0S±0.°2×174.°7W±0.°2, h132km, n18, σ0§83/9, mb3.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**40.62**	**332**	T	T	07 11 38.6	
H11S3	baz=150 **WAKE ISLAND Hy**	**40.63**	**332**	T	T	07 11 36.8	
H11S1	baz=150 **WAKE ISLAND Hy**	**40.64**	**332**	T	T	07 11 41.8	
H11N3	baz=150 **WAKE ISLAND Hy**	**41.61**	**333**	T	T	07 12 42.1	
H11N1	baz=154 **WAKE ISLAND Hy**	**41.62**	**333**	T	T	07 12 42.1	
H11N2	baz=154 **WAKE ISLAND Hy**	**41.63**	**333**	T	T	07 12 44.3	
WRA	baz=154 **Warramunga Arr**	**48.11**	**259**	P	**P**	**06 29 07.5**	**-0.4**
	0.8nm,0.9s,baz=98,slow=8.2,SNR=3.1 0.8nm,0.9s						
ASAR	**Alice Springs**	**48.19**	**254**	P	**P**	**06 29 08.1**	**-0.4**
	6.9nm,0.9s,baz=87,slow=8.4,SNR=30 6.9nm,0.9s						
VNDA	**Vanda**	**60.68**	**186**	P	**P**	**06 30 38.1**	**+0.2**
	0.9nm,1.1s,baz=358,slow=6.2,SNR=3.9 0.9nm,1.1s						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**06 31 50.5**	**-0.1**
	1.8nm,0.9s,baz=16,slow=3.9,SNR=6.3 1.8nm,0.9s						
NVAR	**Mina Array Bea**	**77.06**	**42**	P	**P**	**06 32 19.5**	**-0.5**
	0.2nm,0.5s,baz=232,slow=5.5,SNR=2.4 0.2nm,0.5s						
KSRS	**Korea Array**	**77.17**	**317**	P	**P**	**06 32 21.4**	**+1.1**
	0.4nm,0.3s,baz=109,slow=4.7,SNR=2.1 0.4nm,0.3s						
TXAR	**Lajitas Array**	**83.06**	**56**	P	**P**	**06 32 53.2**	**+1.0**
	0.1nm,0.5s,baz=255,slow=5.6,SNR=3.8 0.1nm,0.5s						
H03S2	**Juan Fernandez**	**84.78**	**124**	T	T	08 06 08.8	
H03S1	baz=253 **Juan Fernandez**	**84.80**	**124**	T	T	08 06 09.7	
H03S3	baz=253 **Juan Fernandez**	**84.80**	**124**	T	T	08 06 08.5	
PDAR	baz=253 **Pinedale Array**	**85.00**	**42**	P	**P**	**06 33 01.2**	**-0.8**
	0.5nm,0.7s,baz=236,slow=4.2,SNR=5.0 0.5nm,0.7s						
ILAR	**Eielson Array**	**85.22**	**12**	P	**P**	**06 33 01.4**	**-0.8**
	0.3nm,0.9s,baz=206,slow=6.0,SNR=4.2 0.3nm,0.9s						

*IDC **21** 06:21:11.9±0.7, 17.°90S×175.°24W, h0km, mb4.0/11, mbtmp4.0/11, MS3.6/5, Error ellipse: s-maj=27.1km s-min=20.6km az=121.0*
*NEIC **21** 06:21:17.0±2.3, 18.°3S±0.°1×174.°1W±0.°1, h10km±1km, mb4.7/74, Error ellipse: s-maj=22.0km s-min=16.3km az=324.0*

ISC 21 06:21:20.9±0.5, 18.°41S±0.°09×174.°01W±0.°09, h43km, n116, σ1§41/71, mb4.6/52, MS3.6/4, 6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.92**	**100**		**Pn**	**06 22 18.2**	**-0.4**
RAO	**Raoul Island**	**11.37**	**198**	Pn	**Pn**	**06 23 59.3**	**-1.4**
RAR	**Rarotonga**	**13.68**	**104**	Pn	**Pn**	**06 24 30.8**	**-1.5**
DZM	**Mont Dzumac**	**18.70**	**256**	LR	LR	06 30 06.3	
BKZ	comp=Z,140nm,20.1s,baz=43,slow=30 **Black Stump Fm**	**22.26**	**200**	P	**P**	**06 26 14.8**	**+0.5**
BKZ				IAmb	IAmb	06 26 19.4	
HNR	comp=Z,27nm,0.9s **Honiara**	**26.78**	**286**	LR	LR	06 35 58.0	
RPZ	comp=Z,79nm,20.2s,baz=162,slow=35 **Rata Peaks**	**28.19**	**203**	LR	LR	06 38 08.2	
H11S2	comp=Z,582nm,20.0s,baz=302,slow=36 **WAKE ISLAND Hy**	**41.28**	**332**	T	T	07 12 57.0	
H11S3	baz=149,slow=74 **WAKE ISLAND Hy**	**41.29**	**332**	T	T	07 12 56.4	
H11S1	baz=149 **WAKE ISLAND Hy**	**41.30**	**332**	T	T	07 12 57.1	
H11N3	baz=149,slow=74 **WAKE ISLAND Hy**	**42.27**	**333**	T	T	07 13 43.7	
H11N1	baz=153,slow=74 **WAKE ISLAND Hy**	**42.27**	**333**	T	T	07 13 43.3	
H11N2	baz=153,slow=74 **WAKE ISLAND Hy**	**42.29**	**333**	T	T	07 13 44.0	
WR8	baz=153,slow=74 **Warramunga Arr**	**48.50**	**259**	P	**P**	**06 29 56.9**	**-3.0**
WR8				IAmb	IAmb	06 30 12.6	
WB0	comp=Z,13nm,1.2s **Warramunga Arr**	**48.63**	**260**	P	**P**	**06 29 58.8**	**-2.0**
WB0				IAmb	IAmb	06 30 09.1	
WRA	comp=Z,13nm,1.3s **Warramunga Arr**	**48.66**	**259**	P	P	06 29 49.6	-11
	comp=Z,0.4nm,0.6s,baz=96,slow=8.4,SNR=6.2 comp=Z,0.4nm,0.6s						
AS31	**Alice Springs**	**48.69**	**254**		**P**	**06 29 58.1**	**-3.2**
ASAR	**Alice Springs**	**48.69**	**254**		**P**	**06 29 59.3**	**-2.0**
ASAR	**Alice Springs**	**48.69**	**254**	P	P	06 29 49.5	-12
	comp=Z,4.0nm,0.8s,baz=91,slow=8.4,SNR=6.2 comp=Z,4.0nm,0.8s						
SBA	**Scott Base**	**60.22**	**185**	P	**P**	**06 31 27.1**	**+3.0**
SBA				IAmb	IAmb	06 31 31.2	
VNDA	comp=Z,6.0nm,1.1s **Vanda**	**60.34**	**186**	P	**P**	**06 31 24.1**	**-0.8**
	comp=Z,1.6nm,1.1s,baz=328,slow=4.5,SNR=3.5 comp=Z,1.6nm,1.1s						
MJAR	**Matsushiro Arr**	**70.88**	**321**	P	P	06 32 25.2	-8.3
	comp=Z,0.8nm,0.3s,baz=153,slow=7.2,SNR=4.7 comp=Z,0.8nm,0.3s						
QSPA	**South Pole Qui**	**71.65**	**180**	P	**P**	**06 32 40.6**	**+2.7**
QSPA	**South Pole Qui**	**71.65**	**180**	P	**P**	**06 32 39.7**	**+1.8**
	comp=Z,4.4nm,0.7s,baz=47,slow=1.0,SNR=16 comp=Z,4.4nm,0.7s						
KMPM	**Mount Pierce**	**74.68**	**37**	P	**P**	**06 32 57.0**	**+0.9**
KMRM	**Mail Ridge**	**74.78**	**38**	P	**P**	**06 32 58.6**	**+1.9**
O02D	**Mt. Diablo Mer**	**75.29**	**38**		**P**	**06 33 00.5**	**+0.9**
PFO	**Pinyon Flats O**	**75.39**	**47**	LR	LR	06 58 26.5	
KSXB	comp=Z,33nm,18.8s,baz=262,slow=29 **Camp Six Broad**	**75.74**	**36**	P	**P**	**06 33 03.4**	**+1.2**
CWC	**Cottonwood Cre**	**75.92**	**44**		**P**	**06 33 04.1**	**+0.7**
MPMC	**Manual Prospec**	**76.09**	**44**	IAmb	IAmb	06 33 09.2	
YBH	comp=Z,8.2nm,1.3s **Yreka Blue Hor**	**76.34**	**37**		**P**	**06 33 05.7**	**+0.1**
YBH				IAmb	IAmb	06 33 17.8	
DSP	comp=Z,7.6nm,1.4s **Deep Springs**	**76.54**	**43**		**P**	**06 33 07.7**	**+1.1**
DSP				IAmb	IAmb	06 33 11.7	
GWY	comp=Z,12nm,1.5s **Greenwater Val**	**76.70**	**44**		**P**	**06 33 06.3**	**-1.6**
GWY				IAmb	IAmb	06 33 12.2	
LHV	comp=Z,7.0nm,1.3s **Little Huntoon**	**76.72**	**42**	P	**P**	**06 33 08.2**	**+0.6**
NVAR	**Mina Array Bea**	**76.95**	**42**		**P**	**06 33 09.8**	**+0.6**
NVAR	**Mina Array Bea**	**76.95**	**42**	P	**P**	**06 33 10.0**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=223,slow=8.9,SNR=11 comp=Z,2.7nm,1.0s						
GMN	**Gold Mountain**	**76.96**	**43**	IAmb	IAmb	06 33 13.8	
KSRS	comp=Z,12nm,1.5s **Korea Array**	**77.91**	**316**	P	P	06 33 04.3	-10
	comp=Z,0.3nm,0.3s,baz=130,slow=6.2,SNR=1.4 comp=Z,0.3nm,0.3s						
KSAR	**Wonju Array Be**	**77.93**	**316**		**P**	**06 33 14.3**	**-0.2**
K05A	**Summer Lake**	**78.01**	**37**	IAmb	IAmb	06 33 29.4	
J05D	comp=Z,9.0nm,1.3s **Fort Rock, OR**	**78.17**	**36**	IAmb	IAmb	06 33 30.4	
PRN	comp=Z,12nm,1.5s **Pahroc Range**	**78.46**	**44**		**P**	**06 33 18.9**	**+1.3**
R11B	**Troy Canyon, C**	**78.64**	**43**		**P**	**06 33 19.7**	**+1.0**
PINE	**Pine Mountain**	**78.66**	**36**	IAmb	IAmb	06 33 30.6	
X16A	comp=Z,5.0nm,1.0s **Lo Mia Camp, P**	**79.34**	**48**		**P**	**06 33 22.8**	**+0.3**
CCUT	**Cedar City**	**79.67**	**45**		**P**	**06 33 26.1**	**+1.8**
KNB	**Kanab**	**79.74**	**45**	IAmb	IAmb	06 33 38.0	
SZCU	comp=Z,10nm,1.4s **Shurtz Canyon**	**79.87**	**45**	IAmb	IAmb	06 33 30.5	
G08A	comp=Z,9.6nm,1.4s **Pilot Rock**	**80.70**	**36**	IAmb	IAmb	06 33 32.8	
MTPU	comp=Z,6.1nm,1.2s **Mount Pierson**	**80.72**	**45**	IAmb	IAmb	06 33 44.5	
MDJ	comp=Z,7.0nm,1.4s **Mudanjiang**	**81.06**	**323**	P	**P**	**06 33 32.0**	**+0.7**
MDJ				pmax	pmax		
BELA	comp=Z,10.0nm,2.1s **Belgrano 2**	**81.11**	**172**		**P**	**06 33 30.9**	**-0.3**
BELA				IAmb	IAmb	06 33 37.9	
BMO	comp=Z,8.8nm,1.3s **Blue Mountains**	**81.37**	**37**	IAmb	IAmb	06 33 37.0	
NJ2	comp=Z,11nm,1.4s **Nanjing**	**81.53**	**308**	*e*P	**P**	**06 33 34.3**	**+0.2**
NJ2				pmax	pmax		
TMUT	comp=Z,10.0nm,0.6s **Trail Mountain**	**82.03**	**44**	IAmb	IAmb	06 33 42.2	
F10A	comp=Z,8.4nm,1.5s **Beach Ranch, E**	**82.08**	**36**	IAmb	IAmb	06 33 39.4	
PLID	comp=Z,9.4nm,1.4s **Pearl Lake**	**82.26**	**37**	IAmb	IAmb	06 33 41.8	
P17A	comp=Z,8.4nm,1.4s **Butcher Ranch,**	**82.43**	**44**	IAmb	IAmb	06 33 44.0	
TXAR	comp=Z,9.0nm,1.3s **Lajitas Array**	**82.77**	**56**		**P**	**06 33 42.4**	**+1.6**
TXAR	**Lajitas Array**	**82.77**	**56**	P	P	**06 33 40.8**	**0.0**
BNX	comp=Z,0.3nm,0.7s,baz=227,slow=4.6,SNR=6.4 comp=Z,0.3nm,0.7s **BinXian**	**82.97**	**323**	||P	**P**	**06 33 41.5**	**+0.2**
BNX				pmax	pmax		
ANMO	comp=Z,5.0nm,1.7s **Albuquerque**	**83.17**	**50**		**P**	**06 33 43.7**	**+0.7**
H03S2	**Juan Fernandez** baz=250,slow=75	**84.03**	**124**	T	T	08 06 58.0	
H03S1	**Juan Fernandez** baz=250,slow=75	**84.04**	**124**	T	T	08 06 59.1	
H03S3	**Juan Fernandez** baz=250,slow=75	**84.04**	**124**	T	T	08 07 00.2	
TPAW	**Teton Pass**	**84.39**	**41**	IAmb	IAmb	06 34 02.1	
O20A	comp=Z,6.4nm,1.1s **White River Ci**	**84.42**	**45**	IAmb	IAmb	06 34 07.3	
SNOW	comp=Z,8.4nm,1.4s **Snow King Moun**	**84.50**	**41**	IAmb	IAmb	06 34 05.9	
LOHW	comp=Z,6.2nm,1.1s **Long Hollow**	**84.67**	**41**	IAmb	IAmb	06 33 53.7	
PD31	comp=Z,6.1nm,1.4s **Pinedale Array**	**84.89**	**42**	IAmb	IAmb	06 33 54.5	
PDAR	comp=Z,6.0nm,1.4s **Pinedale Array**	**84.89**	**42**	P	**P**	**06 33 49.5**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=240,slow=2.1,SNR=7.7 comp=Z,1.3nm,0.8s						
WRH	**Wood River Hil**	**85.00**	**11**		**P**	**06 33 50.2**	**-1.1**
BOZ	**Bozeman (W)**	**85.09**	**39**	IAmb	IAmb	06 33 54.3	
SEY	comp=Z,3.3nm,1.1s **Seymchan**	**85.27**	**345**	LR	LR	07 07 09.5	
	comp=Z,28nm,21.9s,baz=141,slow=33						
ILAR	**Eielson Array**	**85.50**	**11**	P	**P**	**06 33 52.6**	**-1.2**
ILAR	**Eielson Array**	**85.50**	**11**	P	**P**	**06 33 49.8**	**-3.9**
	comp=Z,0.6nm,0.9s,baz=200,slow=6.2,SNR=5.0 comp=Z,0.6nm,0.9s						
J25K	**Salcha River,**	**85.65**	**12**	IAmb	IAmb	06 33 59.9	
YNE	comp=Z,5.0nm,1.1s **Yellowstone No**	**85.76**	**40**	IAmb	IAmb	06 34 18.9	
HNDO	comp=Z,9.6nm,1.5s **Hondo**	**86.33**	**57**	P	**P**	**06 34 00.2**	**+1.5**
PRP	**Porcupine Dome**	**86.42**	**11**	IAmb	IAmb	06 34 05.6	
I26K	comp=Z,11nm,1.4s **Coal Creek Min**	**86.70**	**12**	IAmb	IAmb	06 34 01.7	
APMT	comp=Z,10nm,1.5s **Aspermont**	**87.19**	**54**		**P**	**06 34 04.2**	**+1.3**
BRDY	**Brady**	**87.25**	**56**		**P**	**06 34 02.7**	**-0.5**
BRDY				IAmb	IAmb	06 34 16.9	
ABTX	comp=Z,8.4nm,1.4s **Abilene, Hawle**	**87.28**	**54**	P	**P**	**06 34 03.3**	**0.0**
HKT	**Hockley**	**89.26**	**58**		**P**	**06 34 12.0**	**-0.6**
TROLL	**Troll, Antarti**	**89.78**	**179**	P	**P**	**06 34 15.8**	**+1.2**
TROLL	**Troll, Antarti**	**89.78**	**179**	||P	**P**	**06 34 15.8**	**+1.2**
XAN	comp=Z,134nm,0.9s **Xi'an**	**89.92**	**306**	P	**P**	**06 34 18.9**	**+3.1**
XAN				pmax	pmax		
VNA3	comp=Z,7.0nm,1.0s **Neumayer Olymp**	**89.92**	**175**	P	**P**	**06 34 16.5**	**+1.4**
VNA3	**Neumayer Olymp**	**89.92**	**175**	||P	**P**	**06 34 16.5**	**+1.4**
SNAA	comp=Z,2.7nm,0.7s **Sanae**	**89.94**	**177**	P	**P**	**06 34 16.5**	**+1.2**
SNAA	**Sanae**	**89.94**	**177**	||P	**P**	**06 34 16.5**	**+1.2**
SNAA	comp=Z,31nm,0.8s **Sanae**	**89.94**	**177**	P	**P**	**06 34 14.9**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=108,slow=3.2,SNR=4.6 comp=Z,1.7nm,0.9s						
VNA2	**Neumayer--Watz**	**90.41**	**176**	P	**P**	**06 34 16.3**	**-1.1**
VNA2	baz=222,slow=1.7 **Neumayer--Watz**	**90.41**	**176**	||P	**P**	**06 34 16.3**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=222,slow=1.7						
VNA1	**Neumayer--Stat**	**90.61**	**175**	P	**P**	**06 34 20.1**	**+1.8**
VNA1	**Neumayer--Stat**	**90.61**	**175**	||P	**P**	**06 34 20.1**	**+1.8**
HHC	comp=Z,4.2nm,0.8s **Hu-ho-hao-te**	**90.64**	**313**	*e*P	**P**	**06 34 20.1**	**+1.0**
HHC	**Hu-ho-hao-te**	**90.64**	**313**	pmax	pmax		
HHC	comp=Z,56nm,5.9s **Hu-ho-hao-te**	**90.64**	**313**	pmax	pmax		
CD2	comp=Z,18nm,0.7s **Chengdu**	**92.88**	**301**	*e*P	**P**	**06 34 29.8**	**+0.2**
PZH	**PanZhiHua**	**93.10**	**297**	P	**P**	**06 34 32.0**	**+1.2**
FCAR	**Ozark Folk Cen**	**94.27**	**54**	IAmb	IAmb	06 34 40.5	
BRTR	comp=Z,6.6nm,1.3s **Keskin Array B**	**148.05**	**317**	PKPbc	**PKPdf**	**06 40 57.0**	**-2.1**
	comp=Z,5.5nm,0.4s,baz=58,slow=3.6,SNR=2.0						
GERES	**GERESS Array B**	**149.01**	**350**	PKPbc	**PKPdf**	**06 41 00.2**	**-0.1**
	comp=Z,0.4nm,0.2s,baz=12,slow=2.6,SNR=4.9						
CONA	**Conrad Observa**	**149.48**	**347**	*e*PKP	**PKPbc**	**06 41 05.4**	**-0.2**
RONA	comp=Z,4.9nm,1.1s **Rosalia, Austr**	**149.60**	**346**	*e*PKP	**PKPbc**	**06 41 05.8**	**+0.1**
LESA	comp=Z,3.5nm,1.0s **Schwarzleotal**	**150.55**	**351**	*e*PKP	**PKPbc**	**06 41 08.3**	**+0.1**
MOTA	comp=Z,0.9nm,0.5s **Moosalm**	**150.84**	**353**	*e*PKP	**PKPbc**	**06 41 09.1**	**+0.2**
SOKA	comp=Z,2.9nm,0.6s **Soboth**	**150.84**	**347**	*e*PKP	**PKPbc**	**06 41 09.1**	**+0.2**
WTTA	comp=Z,1.0nm,0.5s **Wattenberg**	**150.86**	**352**	*e*PKP	**PKPbc**	**06 41 09.0**	**0.0**
SQTA	comp=Z,5.9nm,0.9s **Sankt Quirin**	**150.95**	**353**	*e*PKP	**PKPbc**	**06 41 09.2**	**+0.1**
MYKA	comp=Z,1.0nm,0.4s **Terra Mystica**	**151.16**	**349**	*e*PKP	**PKPbc**	**06 41 09.5**	**-0.1**
FETA	comp=Z,1.3nm,0.5s **Feichten**	**151.21**	**353**	*e*PKP	**PKPbc**	**06 41 09.7**	**-0.1**
ABTA	comp=Z,3.0nm,0.7s **Abfaltersbach**	**151.24**	**351**	*e*PKP	**PKPbc**	**06 41 09.8**	**0.0**
	comp=Z,2.0nm,0.8s						

WEL 21 06:25:54.8±0.6, 38.°S±3.°×177.°E±.°, h7km±5km, M2.5/13, ML2.7/15, MLv2.5/13, Error ellipse: s-maj=3.8km s-min=2.9km az=35.6, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAFS	**Kawerau Fire S**	**0.02**	**204**	P	Pg	06 25 54.3	-1.8
KAFS				S	Sg	06 25 55.5	-1.6
EDRZ	**Edgecumbe**	**0.05**	**163**	P	Pg	06 25 56.1	-0.3
MARZ	**Manawahe**	**0.09**	**334**	P	Pg	06 25 57.4	+0.5
MKRZ	**Makatiti**	**0.21**	**249**	P	Pg	06 26 00.6	+1.4
MKRZ				S	Sg	06 26 04.2	+2.1
OPRZ	**Ohinepanea**	**0.25**	**329**	P	Pg	06 26 00.4	+0.6
OPRZ				S	Sg	06 26 04.6	+1.4
WHRZ	**Whale Island**	**0.29**	**44**	P	Pb	06 26 01.6	-0.7
RRRZ	**Republican Roa**	**0.32**	**210**	P	Pg	06 26 01.1	-0.1
URZ	**Urewera**	**0.36**	**123**	P	Pg	06 26 02.2	+0.3
KARZ	**Kaharoa**	**0.38**	**276**	P	Pb	06 26 03.2	-0.7
TGRZ	**Tauranga**	**0.49**	**312**	P	Pg	06 26 05.1	+0.7
PRRZ	**Plateau Road**

GRSS				eS		Sn	06 29 15.4	-0.5
DMDM	**Guralp CMG5TDE**	**1.02**	**153**	*e*P		**Pn**	**06 29 04.5**	**+0.2**
DMDM				eS		Sn	06 29 19.3	-0.7
PSKH	**Kent House, Po**	**1.05**	**152**	*e*P		**Pn**	**06 29 05.0**	**+0.4**
PSKH				eS		Sn	06 29 20.5	0.0
GCMP	**Grenada, Carri**	**1.05**	**34**	*e*P		**Pn**	**06 29 04.0**	**-0.6**
GCMP				eS		Sn	06 29 18.9	-1.7
PSMG	**Mucurapo Girls**	**1.05**	**152**	*e*P		**Pn**	**06 29 04.8**	**+0.1**
PSGH	**Port of Spain**	**1.07**	**151**	*e*P		**Pn**	**06 29 05.2**	**+0.4**
PSGH				eS		Sn	06 29 20.8	-0.2
PSNL	**Port of Spain**	**1.08**	**152**	*e*P		**Pn**	**06 29 04.8**	**-0.1**
PSNL				eS		Sn	06 29 21.1	0.0
TRN	**Trinidad (W)**	**1.14**	**147**	*e*P		**Pn**	**06 29 05.9**	**+0.4**
TRN				eS		Sn	06 29 22.1	-0.2
SVB	**Belmont**	**1.82**	**25**	*e*P		**Pn**	**06 29 14.6**	**+0.8**
SVB				eS		Sn	06 29 36.3	-0.7
SLBI	**Saint Lucia, B**	**2.61**	**23**	*e*P		**Pn**	**06 29 24.6**	**+0.5**
SLBI				eS		Sn	06 29 55.2	-0.1
PCRV	**Puerto La Cruz**	**2.93**	**241**	*e*P		**Pn**	**06 29 29.6**	**+1.2**
PCRV				eS		Sn	06 30 02.7	-0.2
DSLB	**Salisbury**	**3.85**	**9**	*e*P		**Pn**	**06 29 41.1**	**+0.5**
BENV	**Beln**	**5.71**	**254**	*e*P		**Pn**	**06 30 07.6**	**+1.7**
BENV				eS		Sn	**06 31 08.4**	**-1.8**
CACV	**CAICARA DEL OR**	**5.99**	**228**	*e*P		Pn	06 30 05.1	-4.5
CACV				eS		Sn	06 31 05.9	-11
BAUV	**El Baul**	**6.48**	**246**	*e*P		**Pn**	**06 30 17.2**	**+0.9**
BAUV				eS		**Sn**	**06 31 25.6**	**-3.3**

ASRS ***21*** *06:29:36.0±0.6,54˚.11N×86˚.44E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 06:29:36.7±2.7,54˚.21N×86˚.64E,h0km,mbtmp3.1/2, ML3.0/2,Error ellipse: s-maj=21.5km s-min=13.9km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**257**	I	I	06 36 30.0	
	baz=79,slow=319,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.11**	**257**	Pg	Pg	06 29 56.5	-1.4
	1.2nm,0.3s,baz=75,slow=17,SNR=14						
ZALV				Lg	Lg	06 30 12.9	
	2.9nm,0.3s,baz=72,slow=33,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.13**	**237**	Pn	Pn	06 31 09.8	+1.4
	0.2nm,0.3s,baz=54,slow=13,SNR=13						
KURBB				Sn	Sn	06 32 18.6	-0.5
	baz=49,slow=28,SNR=1.1						
KURBB				Lg	Lg	06 32 51.4	
	baz=56,slow=30,SNR=1.8						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.92**	**202**	Pn	Pn	06 31 33.5	+0.4
	0.5nm,0.3s,baz=24,slow=14,SNR=11						
MKAR				Sn	Sn	06 33 03.9	+0.5
	0.1nm,0.3s,baz=20,slow=30,SNR=2.3						
	0.5nm,0.3s						

IDC 21 06:32:05.9±11.0,31˚.18N×87˚.03E,h0km,mb3.4/4, mbtmp3.4/5,ML3.1/1,Error ellipse: s-maj=169.7km s-min=54.2km az=5.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.02**	**348**	Pn	Pn	06 35 49.6	-3.0
	0.1nm,0.3s,baz=165,slow=9.9,SNR=4.6						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**20.44**	**344**	P	Pn	06 36 45.7	-1.0
	0.7nm,0.7s,baz=157,slow=10,SNR=5.8						
	0.7nm,0.7s						
SONM	**Songino Array**	**22.26**	**36**	P	P	06 37 04.6	+0.1
	1.3nm,0.6s,baz=225,slow=12,SNR=7.1						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**22.82**	**357**	P	P	06 37 09.7	-0.5
	0.6nm,0.4s,baz=179,slow=8.6,SNR=1.4						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**24.96**	**336**	P	P	06 37 30.8	-0.2
	0.3nm,0.4s,baz=157,slow=14,SNR=1.7						
	0.3nm,0.4s						

IDC ***21*** *06:34:56.3±1.4,0˚.36N×125˚.63E,h0km,mb3.9/5, mbtmp4.0/6,ML3.2/1,MS3.5/2,Error ellipse: s-maj=123.0km s-min=18.6km az=67.0*

DJA ***21*** *06:35:00.2±0.3,0˚.N±3˚×12˚.6E±˚,h10km,M3.9/12,mb4.0/1, MLv3.9/12*

ISC 21 06:35:01.7±1.0,0˚.49N±0˚.09×126˚.22E±0˚.07,h44km,n14, σ0.88/12,mb3.9/5,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**76**	P	**Pn**	**06 35 22.1**	**+0.3**
KMSI	**Cibinong**	**2.24**	**272**	P	**Pn**	**06 35 36.6**	**+0.2**
SANI	**Sanana**	**2.54**	**185**	P	**Pn**	**06 35 40.4**	**0.0**
LUWI	**Luwuk**	**3.77**	**246**	P	**Pn**	**06 35 57.2**	**-0.2**
NLAI	**Namlea**	**3.81**	**167**	P	**Pn**	**06 35 58.5**	**+0.6**
APSI	**Ampana**	**4.78**	**253**	P	**Pn**	**06 36 12.5**	**+1.2**
JAY	**Jayapura**	**14.79**	**102**	LR	LR	06 45 00.5	
	comp=Z,61nm,19.6s,baz=3.5,slow=39						
FITZ	**Fitzroy Crossi**	**18.48**	**182**	P	**P**	**06 39 12.8**	**-1.3**
	0.1nm,0.3s,baz=0.0,slow=4.0,SNR=2.3						
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**06 39 50.4**	**+0.1**
	2.4nm,0.6s,baz=335,slow=12,SNR=12						
	2.4nm,0.6s						
ASAR	**Alice Springs**	**25.15**	**163**	P	**P**	**06 40 24.1**	**+1.1**
	1.2nm,0.3s,baz=345,slow=11,SNR=37						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**59.93**	**327**	P	**P**	**06 45 02.7**	**-0.7**
	0.6nm,0.3s,baz=117,slow=7.7,SNR=8.6						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**06 45 31.1**	**-0.8**
	0.7nm,0.3s,baz=123,slow=6.7,SNR=7.4						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**69.75**	**328**	P	**P**	**06 46 08.0**	**+0.8**
	0.3nm,0.3s,baz=130,slow=4.5,SNR=1.9						
	0.3nm,0.3s						
IDI	**Anoyia**	**98.96**	**306**	LR	LR	07 41 39.5	
	comp=Z,63nm,18.5s,baz=206,slow=41						

IDC ***21*** *06:46:44.4±0.6,53˚.93S×6˚.97E,h0km,mb4.4/10, mbtmp4.4/11,ML4.0/1,MS4.2/38,Error ellipse: s-maj=23.2km s-min=17.2km az=65.0*

GCMT ***21*** *06:46:48.1±0.2,54˚.00S±0˚.01×7˚.06E±0˚.03,h12km, MW5.0/134,Moment Tensor Solution. s44,c49; s134,c197; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.64±.07; Mθθ2.99±.07; Mφφ0.65±.08; Mrθ1.71±.27; Mθφ-1.13±.06; Mrφ0.13±.32; Best double couple: Mo3.93100×10¹⁶ NP1:φs121.00000°,δ34.00000°, λ-73.00000°. NP2:φs282.00000°,δ58.00000°, λ-101.00000°. Principal axes: T 3.7720, Plg12.0000°, Azm19.0000°; N 0.3170, Plg9.0000°, Azm287.0000°; P -4.0890, Plg75.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***21*** *06:46:49.1±1.0,54˚.2S±0˚.2×6˚.2E±0˚.3,h10km±1km, mb4.9/20 Error ellipse: s-maj=32.1km s-min=23.9km az=34.0*

ISC 21 06:46:46.4±0.5,53˚.94S±0˚.08×6˚.7E±0˚.1,h10km,n101, σ1.51/60,mb4.9/18,MS4.3/39,2C-6D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**18.05**	**196**	⇓P	**Pn**	**06 50 56.1**	**-0.8**
	comp=Z,33nm,0.9s						
VNA2	**Neumayer--Watz**	**18.16**	**195**	⇓P	**Pn**	**06 50 57.3**	**-0.9**
	comp=Z,18nm,1.1s,baz=15,slow=13						
TROLL	**Troll, Antarti**	**18.23**	**184**	⇓P	**Pn**	**06 50 57.9**	**-1.3**
	comp=Z,2μm,1.0s						
SNAA	**Sanae**	**18.27**	**190**	⇓P	**P**	**06 50 58.3**	**-1.4**
	comp=Z,462nm,0.8s						
SNAA	**Sanae**	**18.27**	**190**		**Pn**	**06 50 57.7**	**-2.0**
SNAA	**Sanae**	**18.27**	**190**	P	**Pn**	**06 50 58.7**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=19,slow=11,SNR=52						
SNAA				S	Sn	06 54 03.9	-20
	comp=Z,1.3nm,0.9s,baz=74,slow=18,SNR=1.3						
SNAA				LR	LR	06 56 37.8	
	comp=Z,2μm,18.6s,baz=25,slow=32						
	comp=Z,22nm,0.9s						
VNA3	**Neumayer Olymp**	**18.80**	**196**	⇓P	**P**	**06 51 04.2**	**-1.4**
	comp=Z,25nm,0.8s						

SYO	**Syowa Base**		**21.38**	**148**	⇑P	**P**	**06 51 32.4**	**-1.1**
SYO	**Syowa Base**		**21.38**	**148**	⇓pPn	**P**	**06 51 38.0**	**+4.5**
SYO	**Syowa Base**		**21.38**	**148**	⇑pP	pP	06 51 40.2	+4.9
BELA	**Belgrano 2**		**28.09**	**197**		**P**	**06 52 37.5**	**-0.2**
BELA					IAmb	IAmb	06 52 40.0	
	comp=Z,32nm,1.5s							
BOSA	**Boshof**		**28.72**	**36**	P	**P**	**06 52 43.0**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=168,slow=11,SNR=2.8							
BOSA					LR	LR	07 01 59.2	
	comp=Z,1μm,20.9s,baz=201,slow=32							
	comp=Z,3.3nm,0.9s							
H04S2	**CROZET ISLANDS**		**29.25**	**95**	T	T	07 23 36.1	
	baz=239,slow=76,SNR=83							
H04S3	**CROZET ISLANDS**		**29.26**	**95**	T	T	07 23 43.9	
	baz=239,slow=76,SNR=81							
H04S1	**CROZET ISLANDS**		**29.27**	**95**	T	T	07 23 36.8	
	baz=239,slow=76,SNR=140							
MAW	**Mawson**		**29.42**	**140**	P	**P**	**06 52 48.0**	**-1.5**
	comp=Z,7.6nm,1.1s,baz=282,slow=10,SNR=7.4							
MAW					LR	LR	07 02 19.1	
	comp=Z,245nm,20.7s,baz=282,slow=32							
	comp=Z,7.6nm,1.1s							
LBTB	**Lobatse**		**32.16**	**34**	LR	LR	07 04 02.7	
	comp=Z,741nm,20.4s,baz=187,slow=32							
ESPZ	**Base Esperanza**		**33.05**	**228**	P	**P**	**06 53 20.4**	**-1.1**
ESPZ					IAmb	IAmb	06 53 26.2	
	comp=Z,23nm,1.5s							
TSUM	**Tsumeb**		**35.68**	**18**	LR	LR	07 06 25.3	
	comp=Z,792nm,19.2s,baz=150,slow=33							
PMSA	**Palmer Station**		**35.68**	**224**	LR	LR	07 05 04.2	
	comp=Z,449nm,21.2s,baz=106,slow=31							
QSPA	**South Pole Qui**		**36.30**	**180**	P	**P**	**06 53 51.0**	**+1.3**
QSPA	**South Pole Qui**		**36.30**	**180**	P	**P**	**06 53 50.0**	**+0.3**
	comp=Z,40nm,1.2s,baz=232,slow=3.7,SNR=36							
QSPA					LR	LR	07 07 44.5	
	comp=Z,688nm,21.1s,baz=221,slow=35							
	comp=Z,40nm,1.2s							
MATP	**Matopo**		**37.38**	**35**	LR	LR	07 07 33.0	
	comp=Z,738nm,18.8s,baz=223,slow=34							
LSZ	**Lusaka**		**42.09**	**32**	LR	LR	07 10 29.0	
	comp=Z,751nm,18.2s,baz=184,slow=34							
OPO	**Ambohidratompo**		**47.02**	**57**	LR	LR	07 12 55.2	
	comp=Z,105nm,18.0s,baz=6.0,slow=34							
CASY	**Casey**		**47.13**	**148**		**P**	**06 55 20.1**	**+2.0**
CASY					IAmb	IAmb	06 55 20.4	
	comp=Z,18nm,1.4s							
SBA	**Scott Base**		**47.89**	**174**		**P**	**06 55 25.5**	**+1.6**
VNDA	**Vanda**		**47.89**	**173**	P	**P**	**06 55 25.3**	**+1.4**
VNDA	**Vanda**		**47.89**	**173**	P	**P**	**06 55 23.8**	**-0.1**
	comp=Z,12nm,1.1s,baz=226,slow=8.1,SNR=32							
VNDA					LR	LR	07 15 04.3	
	comp=Z,566nm,18.8s,baz=194,slow=36							
	comp=Z,12nm,1.1s							
H10S2	**ASCENSION HYDR**		**48.02**	**331**	T	T	07 47 25.6	
	baz=162,slow=74,SNR=24							
H10S3	**ASCENSION HYDR**		**48.03**	**331**	T	T	07 47 26.4	
	baz=58,slow=74,SNR=16							
TRQA	**Tornquist**		**48.33**	**260**		**P**	**06 55 28.2**	**+0.3**
TRQA					IAmb	IAmb	06 55 42.1	
	comp=Z,21nm,1.4s							
CPUP	**Villa Florida**		**53.97**	**274**		**P**	**06 56 09.1**	**-1.2**
CPUP	**Villa Florida**		**53.97**	**274**	P	**P**	**06 56 10.6**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=158,slow=1.3,SNR=6.3							
CPUP					LR	LR	07 16 59.7	
	comp=Z,14nm,19.6s,baz=9.0,slow=34							
	comp=Z,1.7nm,1.1s							
BO02	**Sierra Bellavi**		**55.69**	**257**		**P**	**06 56 22.5**	**-0.3**
BO02					IAmb	IAmb	06 56 25.3	
	comp=Z,22nm,1.4s							
BO04	**La Punta**		**56.17**	**257**	P	**P**	**06 56 25.8**	**-0.3**
BO04					IAmb	IAmb	06 56 32.0	
	comp=Z,19nm,1.5s							
MT08	**Bocatoma Ro**		**56.22**	**258**	P	**P**	**06 56 27.6**	**+0.8**
MT08					IAmb	IAmb	06 56 29.3	
	comp=Z,16nm,1.4s							
PEL	**Peldehue**		**56.82**	**258**	P	**P**	**06 56 31.0**	**+0.2**
BDFB	**Brasilia**		**56.96**	**290**	P	**P**	**06 56 32.3**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=152,slow=24,SNR=3.8							
BDFB					LR	LR	07 15 59.4	
	comp=Z,122nm,19.8s,baz=144,slow=31							
	comp=Z,2.6nm,0.8s							
AQDB	**Aquidauana**		**57.50**	**280**	P	**P**	**06 56 35.6**	**0.0**
KMBO	**Kilima Mbogo**		**58.35**	**37**	LR	LR	07 19 38.6	
	comp=Z,575nm,20.8s,baz=205,slow=34							
RCBR	**Riachuelo**		**59.05**	**308**	LR	LR	07 17 03.3	
	comp=Z,28nm,18.9s,baz=100,slow=31							
DBIC	**Dimbokro**		**61.16**	**347**	LR	LR	07 18 15.3	
	comp=Z,149nm,18.4s,baz=193,slow=31							
PTLB	**Pontes e Lacer**		**63.45**	**280**	P	**P**	**06 57 16.2**	**-0.1**
PTLB					IAmb	IAmb	06 57 18.0	
	comp=Z,9.3nm,1.2s							
SIV	**San Ignacio**		**64.15**	**278**	LR	LR	07 22 15.5	
	comp=Z,118nm,20.6s,baz=126,slow=33							
VILB	**Vilhena**		**66.06**	**281**	P	**P**	**06 57 33.6**	**+0.2**
VILB					IAmb	IAmb	06 57 43.7	
	comp=Z,18nm,1.4s							
TORD	**Torodi Ar. Bea**		**66.96**	**355**	P	**P**	**06 57 37.9**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=182,slow=6.8,SNR=2.8							
TORD					LR	LR	07 21 18.0	
	comp=Z,227nm,20.6s,baz=148,slow=31							
	comp=Z,0.7nm,1.0s							
PB16	**IPOC Station P**		**67.29**	**270**	P	**P**	**06 57 42.0**	**+0.1**
LPAZ	**La Paz**		**68.07**	**272**	P	**P**	**06 57 47.4**	**+0.5**
LPAZ					IAmb	IAmb	06 57 51.0	
	comp=Z,14nm,1.1s							
LPAZ	**La Paz**		**68.07**	**272**	P	**P**	**06 57 47.5**	**+0.5**
	comp=Z,7.5nm,1.0s,baz=142,slow=6.8,SNR=16							
LPAZ					LR	LR	07 24 15.0	
	comp=Z,109nm,21.6s,baz=120,slow=33							
	comp=Z,7.5nm,1.0s							
H01W2	**Cape Leeuwin H**		**71.72**	**124**	T	T	08 16 55.6	
	baz=217,slow=75,SNR=94							
H01W3	**Cape Leeuwin H**		**71.73**	**124**	T	T	08 16 56.6	
	baz=217,slow=75,SNR=117							
H01W1	**Cape Leeuwin H**		**71.73**	**124**	T	T	08 17 07.5	
	baz=217,slow=75,SNR=98							
ATD	**Arta Tunnel**		**72.08**	**37**	LR	LR	07 28 58.2	
	comp=Z,7.5nm,18.7s,baz=212,slow=35							
NNA	**Nana**		**76.61**	**268**	LR	LR	07 29 59.5	
	comp=Z,145nm,21.5s,baz=176,slow=34							
MDP	**Montagnes des**		**76.76**	**298**	LR	LR	07 29 56.2	
	comp=Z,67nm,18.0s,baz=129,slow=34							
ATAH	**Atahualpa**		**81.39**	**270**	LR	LR	07 34 39.2	
	comp=Z,22nm,19.6s,baz=159,slow=35							
RPZ	**Raspa**		**81.80**	**169**	LR	LR	07 33 34.4	
	comp=Z,370nm,19.9s,baz=141,slow=34							
STKA	**Stephens Creek**		**86.05**	**143**	P	**P**	**06 59 25.4**	**-1.6**
	comp=Z,4.2nm,0.9s,baz=180,slow=5.1,SNR=2.9							
	comp=Z,4.2nm,0.9s							
PALK	**Pallekele**		**86.55**	**73**	LR	LR	07 29 07.9	
	comp=Z,283nm,18.6s,baz=174,slow=29							
EIL	**Elat**		**86.79**	**24**	LR	LR	07 37 26.2	
	comp=Z,368nm,18.8s,baz=245,slow=35							
MDT	**Midelt**		**86.95**	**350**	LR	LR	07 32 44.4	
	comp=Z,130nm,21.8s,baz=174,slow=32							
OTAV	**Otavalo**		**87.32**	**274**	P	**P**	**06 59 35.3**	**+1.3**
PCRV	**Puerto La Cruz**		**87.44**	**291**	LR	LR	07 34 52.1	
	comp=Z,104nm,20.4s,slow=33							
URZ	**Urewera**		**87.80**	**172**	LR	LR	07 36 34.0	
	comp=Z,148nm,19.4s,baz=172,slow=34							
ROSC	**El Rosal**		**88.60**	**280**	LR	LR	07 38 03.6	
	comp=Z,73nm,18.7s,baz=101,slow=35							
RUSC	**La Rusia**		**88.73**	**282**	P	**P**	**06 59 40.7**	**-0.1**
KEST	**Kesra**		**89.34**	**2**	LR	LR	07 39 33.7	
	comp=Z,97nm,18.1s,baz=245,slow=36							
ASF	**Jabal al Asfar**		**89.66**	**25**	LR	LR	07 39 27.4	
	comp=Z,192nm,18.2s,baz=333,slow=35							
MMAI	**Mount Meron Ar**		**90.10**	**24**	LR	LR	07 39 40.1	
	comp=Z,234nm,18.3s,baz=194,slow=35							
ASAR	**Alice Springs**		**90.34**	**133**	P	**P**	**06 59 46.4**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=201,slow=3.6,SNR=9.7							
	comp=Z,1.9nm,0.8s							
VAE	**Valguarnera**		**91.30**	**6**	LR	LR	07 36 47.6	
	comp=Z,87nm,21.6s,baz=128,slow=33							
ESDC	**Sonseca Array**		**93.69**	**352**	LR	LR	07 39 19.9	
	comp=Z,59nm,18.7s,baz=143,slow=34							
SJG	**San Juan**		**94.78**	**294**	LR	LR	07 39 49.5	
	comp=Z,34nm,20.4s,baz=156,slow=34							
BRTR	**Keskin Array B**		**96.14**	**21**	LR	LR	07 46 03.6	
	comp=Z,93nm,18.6s,baz=148,slow=37							
JTS	**Las Juntas de**		**99.20**	**275**	LR	LR	07 44 10.5	
	comp=Z,42nm,21.2s,baz=158,slow=35							
KAPI	**Kappang**		**99.25**	**112**	LR	LR	07 38 32.8	
	comp=Z,94nm,18.9s,baz=262,slow=31							
GNI	**Garni**		**99.27**	**29**	LR	LR	07 46 04.8	
	comp=Z,264nm,18.0s,baz=217,slow=36							
BVAR	**Borovoye Array**		**118.98**	**38**	PKP	**PKPdf**	**07 05 33.8**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=222,slow=2.0,SNR=11							

MKAR	**Makanchi Array**		**119.01**	**50**	PKP	**PKPdf**	**07 05 33.4**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=247,slow=3.0,SNR=19								
KURBB	**Kurchatov Arra**		**120.29**	**44**	PKP	**PKPdf**	**07 05 35.6**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=229,slow=2.9,SNR=7.9								
XAN	**Xi'an**		**123.60**	**77**	Pdif	**Pdif**	**07 02 23.9**	**+7.7**
ARCES	**ARCESS Array B**		**123.93**	**8**	PKP	**PKPdf**	**07 05 42.4**	**-0.6**
	comp=Z,4.8nm,0.9s,baz=181,slow=1.8,SNR=10								
TXAR	**Lajitas Array**		**124.94**	**273**	PKP	**PKPdf**	**07 05 46.5**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=136,slow=2.0,SNR=12								
ANMO	**Albuquerque**		**130.60**	**276**		**PKiKP**	**07 05 58.5**	**+0.5**
SONM	**Songino Array**		**131.54**	**63**	PKP	**PKPdf**	**07 05 57.8**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=218,slow=2.8,SNR=6.2								
KNB	**Kanab**		**135.78**	**273**		**PKiKP**	**07 06 08.9**	**+0.6**
CCUT	**Cedar City**		**136.45**	**273**		**PKiKP**	**07 06 10.5**	**+0.7**
PDAR	**Pinedale Array**		**137.58**	**282**	PKP	**PKPdf**	**07 06 09.2**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=57,slow=7.6,SNR=12								
LOHW	**Long Hollow**		**138.70**	**282**		**PKPdf**	**07 06 12.5**	**+0.5**
TPAW	**Teton Pass**		**138.83**	**282**		**PKPdf**	**07 06 12.7**	**+0.3**
YHL	**Hebgen Lake**		**139.78**	**283**		**PKPdf**	**07 06 15.6**	**+1.6**
NVAR	**Mina Array Bea**		**139.96**	**270**		**PKPdf**	**07 06 15.7**	**+1.2**
NVAR	**Mina Array Bea**		**139.96**	**270**	PKP	**PKPdf**	**07 06 15.0**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=158,slow=2.6,SNR=9.2								
AFDM	**Forest Hills D**		**141.87**	**269**		**PKPdf**	**07 06 18.7**	**+1.0**
USRK	**Ussuriysk Ar.**		**143.71**	**83**	PKP	PKPab	07 06 17.0	-0.4
	comp=Z,1.9nm,0.8s,baz=204,slow=2.6,SNR=4.7								
KHMM	**Horse Mountain**		**144.73**	**269**		**PKPdf**	**07 06 24.1**	**+1.3**
D08A	**Wollman Farm,**		**145.48**	**281**		**PKPdf**	**07 06 24.0**	**+0.3**
HAWA	**Hanford**		**145.48**	**280**		**PKPab**	**07 06 24.8**	**+0.8**
YKA	**Yellowknife Ar**		**148.97**	**310**	PKPbc	**PKPbc**	**07 06 32.5**	**-0.6**
	comp=Z,7.0nm,1.0s,baz=88,slow=2.6,SNR=11								
ILAR	**Eielson Array**		**162.87**	**320**	PKPab	**PKPab**	**07 07 37.6**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=52,slow=4.0,SNR=11								

NEIC ***21*** *06:50:40.3±1.2,34˚.01N±0˚.01×116˚.75W±0˚.01,h20km±3km, Error ellipse: s-maj=1.8km s-min=1.2km az=217.0*

PAS 21 06:50:41.2±1.5,34˚.01N±0˚.01×116˚.75W±0˚.01,h17km±2km, ML3.2/294,ML3.2/106(NEIC),Error ellipse: s-maj=1.8km s-min=1.6km az=204.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEVC	**Devers**	**0.16**	**118**		Pg	06 50 45.6	0.0
DEVC					Sb	06 50 49.1	+0.2
BBSC	**Beaumont Base**	**0.21**	**244**		Pg	06 50 46.3	0.0
BBSC					Sb	06 50 50.4	+0.2
EW2	**E Wide Canyon**	**0.29**	**104**		Pg	06 50 47.3	-0.4
EW2					Sg	06 50 51.8	-0.2
BLAC	**Blackrock camp**	**0.31**	**79**		Pg	06 50 47.5	-0.4
BLAC					Sg	06 50 51.9	-0.5
SIL	**Silver Peak**	**0.34**	**349**		Pg	06 50 48.0	-0.5
SIL					Sg	06 50 53.2	-0.3
GVDA	**Garner Valley**	**0.35**	**169**		Pg	06 50 48.0	-0.6
GVDA					Sg	06 50 53.1	-0.6
POB	**Polly Butte**	**0.35**	**204**		Pg	06 50 48.4	-0.3
POB					Sg	06 50 53.9	+0.1
PEC	**Perris**	**0.36**	**251**		Pg	06 50 48.4	-0.4
PEC					Sg	06 50 53.9	-0.1
HMTC	**Hemet**	**0.37**	**215**		Pg	06 50 48.5	-0.4
HMTC					Sg	06 50 53.8	-0.4
HLNC	**Highland**	**0.40**	**286**		Pg	06 50 49.1	-0.4
HLNC					Sg	06 50 55.1	0.0
DGR	**Domenigoni Val**	**0.42**	**211**		Pg	06 50 49.3	-0.5
DGR					Sg	06 50 55.2	-0.4
GTM	**Goat Mountain**	**0.43**	**49**		Pg	06 50 49.1	-0.9
GTM					Sg	06 50 55.1	-0.9
CFSC	**Central Fire S**	**0.45**	**282**		Pg	06 50 49.8	-0.5
CFSC					Sg	06 50 56.6	0.0
BACC	**Bachelor Mtn.**	**0.47**	**211**		Sg	06 50 56.7	-0.3
PFO	**Pinyon Flats O**	**0.47**	**149**		Pg	06 50 50.1	-0.6
PFO				IAML		06 50 57.2	
	2μm,0.3s						
PFO				IAML		06 50 57.2	
	2μm,0.3s						
PFO	**Pinyon Flats O**	**0.47**	**149**		Pg	06 50 50.1	-0.7
PFO					Sg	06 50 57.0	-0.1
XPFO	**Pinon Flat**	**0.47**	**148**		Pg	06 50 50.1

comp=N,238nm,0.3s
TPO **Tropico Hills** **1.50 306** Pn 06 51 06.4 -0.9
TPO IAML 06 51 32.2
comp=E,206nm,0.5s
TPO IAML 06 51 34.4
comp=N,189nm,0.6s
TJX **Tijuana** **1.52 190** Pn 06 51 07.6 0.0
TJX IAML 06 51 28.4
comp=E,423nm,0.5s
TJX IAML 06 51 30.5
comp=N,352nm,0.7s
YUH **Yuha Desert** **1.53 153** Pn 06 51 06.0 -1.7
LRMC **Laurel Mtn Rad** **1.65 333** Pn 06 51 08.5 -1.1
LRMC IAML 06 51 35.9
comp=N,404nm,0.4s
LRMC IAML 06 51 37.1
comp=E,226nm,0.4s
WSHM **Spangler Hills** **1.70 339** IAML 06 51 37.1
comp=E,309nm,0.2s
WSHM IAML 06 51 37.2
comp=E,306nm,0.2s
CBX **Cerro Bola** **1.70 177** Pn 06 51 09.7 -0.4
OSI **Osito Audit: C** **1.74 291** Pn 06 51 10.3 -0.3
OSI IAML 06 51 39.6
comp=N,125nm,0.8s
MTPC **Mountain Pass** **1.77 34** Pn Pn 06 51 10.7 -0.5
GLA **Glamis** **1.87 120** Pn Pn 06 51 11.5 -1.0
GLA IAML 06 51 42.4
comp=E,142nm,0.7s
SHOC **Shoshone, Teco** **1.92 12** Pn 06 51 12.3 -0.9
CLC **China Lake** **1.93 339** IAML 06 51 43.3
comp=E,141nm,0.4s
CLC IAML 06 51 43.5
comp=N,167nm,0.2s
QSM **Queen of Sheba** **1.95 357** Pn 06 51 12.7 -0.8
QSM IAML 06 51 43.8
comp=E,290nm,0.3s
QSM IAML 06 51 44.6
comp=N,290nm,0.3s
ESJX **Sierra Juarez** **2.11 161** Pn 06 51 15.5 -0.4
ESJX IAML 06 51 47.1
comp=E,182nm,0.2s
ESJX IAML 06 51 47.3
comp=N,112nm,0.1s
GWY **Greenwater Val** **2.17 2** Pn 06 51 15.8 -0.9
GWY IAML 06 51 51.1
comp=E,202nm,0.4s
GWY IAML 06 51 51.4
comp=N,148nm,0.3s
ISA **Isabella, Lake** **2.17 320** Pn 06 51 15.6 -1.0
V12A **Nelson** **2.32 42** Pn 06 51 17.9 -0.7
FURC **Furnace Creek,** **2.45 358** Pn 06 51 19.9 -0.5
FURC IAML 06 52 04.6
comp=N,134nm,0.3s
FURC IAML 06 52 09.1
comp=E,177nm,0.6s
W13A **Hualapai Mount** **2.60 65** Pn 06 51 22.2 -0.4
VES **Vestal, Richgr** **2.65 314** Pn 06 51 22.4 -0.7
VES IAML 06 52 10.7
comp=E,92nm,0.9s
VES IAML 06 52 11.7
comp=N,103nm,0.6s
CWC **Cottonwood Cre** **2.66 336** Pn 06 51 23.1 -0.3
WCT **Wildcat Mounta** **2.78 2** IAML 06 52 12.3
comp=E,66nm,0.7s
SHPR **Sheep Range** **2.81 27** Pn 06 51 25.2 -0.2
TPNV **Topopah Spring** **2.96 8** Pn 06 51 27.5 0.0
TPNV IAML 06 52 15.5
comp=E,64nm,0.6s
TPNV IAML 06 52 17.7
comp=E,63nm,0.5s
Y14A **Wickenburg** **3.12 90** Pn 06 51 28.7 -0.8
Y14A IAML 06 52 19.6
comp=N,53nm,0.3s
DSP **Deep Springs** **3.49 344** Pn 06 51 34.9 +0.2
KNB **Kanab** **4.39 46** Pn 06 51 47.4 +0.2
NVAR **Mina Array Bea** **4.58 345** Pn Pn 06 51 50.5 +0.6

*NNC **21** 06:55:00.3±1.4,54°.49N×86°.31E,h0km,mb2.6,mpv2.5,*
Error ellipse: s-maj=24.2km s-min=7.6km az=154.0,
Suspected Mining explosion.
*ASRS **21** 06:55:02.0±0.9,54°.30N×86°.14E,h0km,M2.7,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
*IDC **21** 06:55:03.5±2.3,54°.29N×86°.24E,h0km,mbtmp3.2/3,*
ML2.7/3,Error ellipse: s-maj=17.9km s-min=12.1km
az=54.0
ISC 21 06:55:03.7±2.9,54°.3N±0°.1×86°.1E±0°.1,h0km,n9,σ0s83/11,
6C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**243**	I	I	07 00 40.0	
	baz=66,slow=307,SNR=1.1						
ZAA0	**Zalesovo Array**	**0.87**	**243**	⇑P	**Pg**	**06 55 19.8**	**-0.5**
ZAA0	0.1nm,0.3s			⇓S	**Sb**	**06 55 34.3**	**+0.5**
	1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**0.87**	**243**	Pg	**Pg**	**06 55 19.4**	**-1.0**
	1.9nm,0.3s,baz=67,slow=15,SNR=22						
ZALV				Lg	Lg	06 55 33.9	
	7.9nm,0.3s,baz=70,slow=29,SNR=21						
KURK	**Kurchatov**	**5.85**	**235**	⇑Lg	Lg	06 58 12.2	
	4.1nm,0.7s						
KURBB	**Kurchatov Arra**	**5.95**	**234**	Pn	**Pn**	**06 56 33.7**	**+0.6**
	0.1nm,0.3s,baz=52,slow=13,SNR=4.6						
KURBB				Sn	**Sn**	**06 57 42.0**	**+0.1**
	baz=51,slow=34,SNR=1.3						
KURBB				Lg	Lg	06 58 12.8	
	0.1nm,0.3s,baz=51,slow=33,SNR=8.1						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**5.95**	**234**	⇑Pn	**Pn**	**06 56 33.0**	**-0.1**
	1.2nm,0.4s						
KURBB				⇑Lg	Lg	06 58 15.2	
	6.3nm,0.7s						
MK31	**Makanchi Array**	**7.95**	**199**	⇑Pn	**Pn**	**06 57 00.0**	**-0.4**
	0.3nm,0.3s,baz=26,slow=13,SNR=36						
MK31				⇑Sn	**Sn**	**06 58 32.5**	**+1.5**
	0.4nm,0.5s,baz=29,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**7.95**	**199**	Pn	**Pn**	**06 57 00.7**	**+0.3**
	0.7nm,0.3s,baz=20,slow=12,SNR=18						
MKAR				Sn	**Sn**	**06 58 30.0**	**-1.0**
	0.1nm,0.3s,baz=18,slow=29,SNR=5.4						
MKAR				Lg	Lg	06 59 16.1	
	baz=23,slow=30,SNR=3.6						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**9.44**	**268**	Pn	**Pn**	**06 57 21.3**	**+0.5**
	baz=73,slow=12,SNR=2.0						
	0.4nm,0.5s						

*ASRS **21** 07:05:05.0±0.9,53°.70N×88°.00E,h0km,M2.7,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
IDC 21 07:05:10.0±3.1,53°.58N×87°.83E,h0km,mbtmp2.9/2,
ML2.5/2,Error ellipse: s-maj=26.8km s-min=16.7km
az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**283**	I	I	07 17 20.0	
	0.1nm,0.8s,baz=97,slow=325,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.83**	**283**	Pg	Pn	07 05 42.8	**+0.2**
	1.2nm,0.3s,baz=102,slow=14,SNR=23						
ZALV				Lg	Lg	07 06 07.9	
	2.3nm,0.3s,baz=100,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	Pn	07 06 47.1	**+1.0**
	0.1nm,0.3s,baz=62,slow=14,SNR=5.7						
KURBB				Sn	Sn	07 07 59.4	**-0.9**
	baz=59,slow=23,SNR=2.3						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	07 07 03.9	**+1.1**
	0.1nm,0.3s,baz=32,slow=12,SNR=5.1						
MKAR				Lg	Lg	07 09 09.9	
	0.1nm,0.3s,baz=26,slow=30,SNR=5.2						
	0.2nm,0.4s						

IDC 21 07:39:19.1±3.2,5°.97S×140°.93E,h0km,mb3.6/2,
mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=106.5km
s-min=15.7km az=100.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.30**	**204**	Pn	Pn	07 42 54.9	**-1.7**
	0.3nm,0.3s,baz=29,slow=13,SNR=6.7						
WRA				Lg	Lg	07 47 26.9	
	0.1nm,0.3s,baz=24,slow=27,SNR=2.6						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**18.85**	**200**	P	P	07 43 39.4	**-1.6**
	0.2nm,0.3s,baz=29,slow=10,SNR=25						
ASAR				S	Sn	07 47 14.7	**+1.6**
	0.2nm,0.4s,baz=15,slow=26,SNR=1.9						
ASAR				Lg	Lg	07 49 19.5	
	baz=21,slow=30,SNR=2.7						
	3.2nm,0.7s						
MKAR	**Makanchi Array**	**73.70**	**322**	P	P	07 50 55.7	**+0.8**
	0.5nm,0.7s,baz=116,slow=6.7,SNR=3.5						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**77.65**	**325**	P	P	07 51 17.2	**-0.1**
	0.1nm,0.3s,baz=109,slow=5.4,SNR=2.4						
	0.1nm,0.3s						

*NNC **21** 08:13:30.5±4.1,53°.77N×88°.69E,h0km,mb3.2,mpv2.8,*
Error ellipse: s-maj=30.9km s-min=17.2km az=96.0,
Suspected Mining explosion.
*ASRS **21** 08:13:34.0±1.1,53°.86N×88°.21E,h0km,M3.0,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
*IDC **21** 08:13:35.9±3.1,53°.84N×88°.23E,h0km,mbtmp2.7/3,*
ML2.1/3,Error ellipse: s-maj=24.5km s-min=17.8km
az=61.0
ISC 21 08:13:35.8±3.5,53°.9N±0°.1×88°.2E±0°.2,h0km,n8,σ0s71/8,
5C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**273**	I	I	08 26 25.0	
	0.2nm,1.1s,baz=89,slow=324,SNR=8.7						
ZAA0	**Zalesovo Array**	**1.99**	**273**	⇑P	**Pn**	**08 14 10.6**	**-0.1**
	1.9nm,1.1s,baz=94,slow=12						
ZAA0				⇑S	**Sg**	**08 14 39.9**	**+0.2**
	6.1nm,0.8s,baz=91,slow=26						
ZALV	**Zalesovo Beam**	**1.99**	**273**	Pn	**Pb**	**08 14 12.8**	**0.0**
	0.7nm,0.3s,baz=88,slow=14,SNR=24						
ZALV				Lg	Lg	08 14 40.7	
	1.9nm,0.3s,baz=90,slow=27,SNR=18						
ZALV				I	I	08 26 33.3	
	baz=84,slow=32,SNR=6.0						
	5.5nm,0.7s						
KURK	**Kurchatov**	**6.67**	**245**	⇑Lg	Lg	08 17 08.1	
	6.6nm,0.9s						
KURBB	**Kurchatov Arra**	**6.77**	**245**	Pn	**Pn**	**08 15 16.7**	**+0.3**
	0.1nm,0.3s,baz=62,slow=13,SNR=4.4						
KURBB				Sn	**Sn**	**08 16 32.7**	**-1.4**
	0.1nm,0.3s,baz=53,slow=19,SNR=4.9						
KURBB				Lg	Lg	08 17 08.2	
	baz=60,slow=32,SNR=9.3						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**6.77**	**245**	⇓Pn	Pn	08 15 11.9	-4.4
	0.9nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 16 34.7**	**+0.6**
	5.1nm,0.8s						
KURBB				⇑Lg	Lg	08 17 12.5	
	10nm,0.8s						
MK31	**Makanchi Array**	**8.05**	**210**	⇓Lg	Lg	08 17 45.6	
	1.5nm,0.7s,baz=209,slow=39,SNR=8.6						
MKAR	**Makanchi Array**	**8.05**	**210**	Pn	**Pn**	**08 15 33.8**	**-0.1**
	0.1nm,0.3s,baz=25,slow=7.9,SNR=2.8						
MKAR				Sn	**Sn**	**08 17 05.9**	**+0.2**
	baz=27,slow=26,SNR=3.5						
MKAR				Lg	Lg	08 17 47.2	
	0.1nm,0.3s,baz=24,slow=32,SNR=4.0						
	0.3nm,0.5s						

GCG 21 08:26:28.7±1.5,13°.70N×91°.09W,h51km±28km,MD3.6,
ML2.9,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSJ	**San Jos, E**	**0.59**	**103**	*e*P	Pn	08 26 39.1	-2.1
ESSG	**Sabana Grande**	**0.73**	**20**	*i*P	Pn	08 26 42.5	-0.5
ESSG				*e*S	Sn	08 26 54.9	+1.7
ESSG				IAML		08 26 55.4	
	comp=N,211nm,0.2s						
FG16	**Alotenango, Sa**	**0.80**	**45**	*i*P	Pn	08 26 43.7	-0.3
FG16				IAML		08 27 00.2	
	comp=N,1μm,0.2s						
NUBE	**Las Nubes**	**1.29**	**81**	*e*P	Pn	08 26 50.3	-0.2
NUBE				*e*S	Sn	08 27 08.5	+1.7
QUIS	**Sacapulas**	**1.58**	**0**	*i*P	Pn	08 26 56.0	+1.5
JAYA	**Jayaque - finc**	**1.60**	**91**	*e*P	Pn	08 26 55.6	+0.9

*JMA **21** 08:39:50.3±0.1,43°.0N±0°.5×145°.4E±0°.6,h48km,MV2.9/35,*
OFF NEMURO PENINSULA
*SKHL **21** 08:39:51.0±0.2,43°.00N×145°.40E,h35km±4km,mb4.1/3*
ISC 21 08:39:50.8±2.0,43°.00N±0°.09×145°.40E±0°.06,h44km±11km,
n14,σ0s46/26,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.19**	**295**	*i*P	**Pn**	**08 39 58.6**	**+0.2**
JKHN				S	**Sn**	**08 40 04.5**	**+0.7**
AKK	**Akkeshi**	**0.41**	**272**	*i*P	**Pn**	**08 40 00.4**	**-0.1**
AKK				*e*S	**Sn**	**08 40 07.6**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.44**	**33**	*i*P	**Pn**	**08 40 00.6**	**-0.3**
NMR				AMB	AMB	08 40 01.1	
	70nm,0.3s						
NMR				*i*S	**Sn**	**08 40 07.7**	**-0.4**
NMR				A	A	08 40 08.4	
	390nm,0.2s						
NMR				A	A	08 40 08.4	
	500nm,0.2s						
NEM2	**Nemuro 2**	**0.44**	**35**	*i*P	**Pn**	**08 40 00.6**	**-0.4**
NEM2				S	**Sn**	**08 40 07.7**	**-0.5**
JAK	**Akkeshi**	**0.51**	**269**	*i*P	**Pn**	**08 40 01.7**	**-0.2**
JAK				S	**Sn**	**08 40 09.9**	**+0.1**
GLVR	**Golovnino**	**0.74**	**7**	*i*P	**Pn**	**08 40 04.6**	**-0.3**
GLVR				AMB	AMB	08 40 06.9	
	120nm,0.2s						
GLVR				*i*S	**Sn**	**08 40 14.7**	**-0.3**
GLVR				A	A	08 40 15.8	
	330nm,0.2s						
GLVR				A	A	08 40 15.8	
	510nm,0.2s						
JNK	**Nakash**	**0.76**	**320**	*i*P	**Pn**	**08 40 04.9**	**-0.3**
JNK				S	**Sn**	**08 40 15.0**	**-0.6**
JNSB	**Nemuroshibetsu**	**0.82**	**340**	P	**Pn**	**08 40 05.8**	**-0.1**
JNSB				*e*S	**Sn**	**08 40 16.9**	**-0.1**
JRA	**Rausu**	**0.95**	**348**	P	**Pn**	**08 40 07.8**	**0.0**
JRA				S	**Sn**	**08 40 20.9**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.08**	**18**	*e*P	**Pn**	**08 40 09.5**	**0.0**
YUK				AMB	AMB	08 40 09.8	
	40nm,0.2s						
YUK				*i*S	**Sn**	**08 40 23.0**	**-0.4**
YUK				A	A	08 40 26.9	
	230nm,0.2s						
YUK				A	A	08 40 26.9	
	140nm,0.2s						
JOB	**Onbets**	**1.15**	**266**	P	**Pn**	**08 40 10.1**	**-0.3**
JOB				S	**Sn**	**08 40 24.5**	**-0.5**
JAR	**Ashorobuto**	**1.23**	**284**	*i*P	**Pn**	**08 40 11.5**	**0.0**
JAR				S	**Sn**	**08 40 26.6**	**-0.3**
JTKR	**Abashiri--Toko**	**1.45**	**312**	*i*P	**Pn**	**08 40 15.3**	**+0.8**
KUR	**Kuril'sk**	**2.85**	**38**	*e*P	**Pn**	**08 40 34.8**	**+1.1**

*ASRS **21** 08:50:11.0±1.5,54°.20N×87°.21E,h0km,M2.6,The*
earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p +
CD-ROM, 2021.
IDC 21 08:50:11.7±3.3,54°.23N×87°.34E,h0km,mbtmp2.7/2,
ML2.6/2,Error ellipse: s-maj=27.4km s-min=19.2km
az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**260**	I	I	08 59 50.0	
	0.1nm,0.7s,baz=80,slow=318,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.51**	**260**	Pg	Pn	08 50 38.8	-1.2
	1.8nm,0.3s,baz=76,slow=16,SNR=19						
ZALV				Lg	Lg	08 50 59.6	
	2.1nm,0.3s,baz=77,slow=25,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.49**	**240**	Pn	Pn	08 51 49.1	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=2.4						
KURBB				Lg	Lg	08 53 38.0	
	baz=56,slow=30,SNR=2.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	08 52 11.8	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=2.2						
MKAR				Lg	Lg	08 54 28.8	
	baz=27,slow=26						
	0.1nm,0.3s						

IDC 21 08:54:04.5±10.0,15°.20S×163°.76E,h0km,mb4.0/3,
mbtmp3.9/4,ML3.0/1,Error ellipse: s-maj=188.9km
s-min=33.8km az=44.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.29**	**160**	Pn	Pn	08 55 52.1	-0.3
	0.3nm,0.3s,baz=333,slow=18,SNR=1.9						
DZM				Sn	Sn	08 57 19.0	+3.0
	0.1nm,0.3s,baz=338,slow=19,SNR=1.2						
	5.1nm,1.0s						
STKA	**Stephens Creek**	**26.15**	**227**	P	P	08 59 40.3	-0.3
	0.9nm,0.5s,baz=68,slow=10,SNR=5.0						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**28.42**	**256**	P	P	09 00 01.7	+0.6
	1.1nm,0.5s,baz=84,slow=8.7,SNR=10.0						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**29.34**	**249**	P	P	09 00 09.0	-0.3
	0.9nm,0.4s,baz=83,slow=8.6,SNR=24						
	0.9nm,0.4s						

*SDD **21** 08:55:58.7±1.3,18°.66N×71°.23W,h23km±32km,MD2.8,*
ML1.6,MW2.4
*OSPL **21** 08:56:00.1±0.3,18°.52N×71°.23W,h39km±6km,ML1.3*
ISC 21 08:55:59.3±1.2,18°.57N±0°.05×71°.13W±0°.05,h20km±5km,
n6,σ1s07/11,4C-2D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEDR	**Neiba UASD**	**0.29**	**253**	⇓*e*Pg	**Pg**	**08 56 05.3**	**-0.4**
NEDR				⇓*e*Sg	**Sb**	**08 56 09.1**	**-1.0**
NEDR				IAML		08 56 09.3	
	comp=N,132nm,0.2s						
LODU1	**El Espartillar**	**0.39**	**237**	*i*P	**Pg**	**08 56 07.5**	**-0.1**
LODU1				*e*S	**Sg**	**08 56 12.9**	**-0.2**
LODU1				IAML		08 56 14.2	
	comp=Z,51nm,1.0s						
PODR	**Polo**	**0.42**	**200**	*i*P	**Pb**	**08 56 08.7**	**+0.4**
PODR				*e*S	**Sb**	**08 56 14.8**	**+0.4**
PODR	**Polo**	**0.42**	**200**	⇑*e*Pg	**Pg**	**08 56 08.4**	**+0.2**
PODR				⇑*e*Sg	**Sb**	**08 56 14.8**	**+0.4**
PODR				IAML		08 56 19.5	
	comp=N,36nm,0.2s						
SDDR	**Presa de Saban**	**0.44**	**340**	*e*S	**Sb**	**08 56 16.6**	**+2.0**
SDDR				IAML		08 56 20.9	
	comp=Z,11nm,0.9s						
ABDR	**Alto Bandera**	**0.53**	**63**	⇑*e*Pg	**Pb**	**08 56 08.9**	**-1.3**
ABDR				⇑*e*Sg	**Sg**	**08 56 18.4**	**+0.8**
ABDR				IAML		08 56 44.7	
	comp=N,22nm,0.8s						

*SSNC **21** 09:07:31.3±1.9,19°.71N×71°.21W,h4km±11km,MD3.4*
*SDD **21** 09:07:31.7±1.9,19°.78N×71°.15W,h23km±9km,MD3.5,*
ML3.1,MW3.4
*OSPL **21** 09:07:32.3±3.7,19°.80N×71°.17W,h0km±16km,ML2.7*
ISC 21 09:07:30.9±0.9,19°.79N±0°.03×71°.20W±0°.03,h16km±5km,
n25,σ1s43/45,19C-2D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.07**	**4**	*i*P	**Pg**	**09 07 33.7**	**-0.3**
LOPP1				*e*S	**Sg**	**09 07 35.0**	**-1.0**
LOPP1				IAML		09 07 39.4	
	comp=Z,2μm,0.2s						
MADR	**Mao Valverde**	**0.24**	**157**	⇑*e*Pg	**Pg**	**09 07 36.4**	**+0.1**
MADR				⇑*e*Sg	**Sg**	**09 07 40.6**	**+0.7**
MADR				IAML		09 07 42.5	
	comp=N,8μm,0.4s						
LUDR	**Luperon**	**0.26**	**66**	⇑*e*Pg	**Pg**	**09 07 36.0**	**-0.5**
LUDR				⇓*e*Sg	**Sg**	**09 07 41.7**	**+1.2**
MCDR	**Montecristi**	**0.44**	**284**	⇑*e*Pg	**Pg**	**09 07 40.4**	**+0.6**
MCDR				⇑*e*Sg	**Sb**	**09 07 49.2**	**+2.5**
MCDR				IAML		09 07 53.7	
	comp=N,501nm,0.1s						
SC01	**Santiago de lo**	**0.57**	**128**	*i*P	**Pg**	**09 07 41.8**	**-0.5**
SC01				*e*S	**Sg**	**09 07 50.4**	**+0.4**
SC01				IAML		09 08 01.4	
	comp=Z,282nm,0.5s						
SODR	**Sosua Marina B**	**0.59**	**93**	⇑*e*Pg	**Pg**	**09 07 41.4**	**-1.2**
SODR				⇑*e*Sg	**Sg**	**09 07 49.6**	**-0.9**
SODR				IAML		09 07 59.9	
	comp=N,440nm,0.4s						
SDDR	**Presa de Saban**	**0.80**	**186**	*e*P	**Pg**	**09 07 45.5**	**-1.0**
SDDR				*e*S	**Sg**	**09 07 54.5**	**-2.7**
SDDR				*e*Sg	**Sb**	**09 07 57.3**	**+0.1**
SDDR	**Presa de Saban**	**0.80**	**186**	*i*P	**Pg**	**09 07 45.5**	**-1.0**
SDDR				*e*S	**Sg**	**09 07 57.6**	**+0.4**
SDDR				IAML		09 07 58.0	
	comp=Z,363nm,0.5s						
SDDR	**Presa de Saban**	**0.80**	**186**	⇑*e*Pg	**Pg**	**09 07 45.6**	**-0.9**
SDDR				⇑*e*Sg	**Sg**	**09 07 57.6**	**+0.4**
SDDR				IAML		09 07 59.3	
	comp=N,535nm,0.3s						
ABDR	**Alto Bandera**	**1.11**	**151**	⇑*e*Pg	**Pg**	**09 07 50.2**	**-2.3**
ABDR				⇑*e*Sg	**Sg**	**09 08 04.7**	**-2.4**
ABDR				IAML		09 08 15.7	
	comp=N,185nm,0.2s						
NEDR	**Neiba UASD**	**1.31**	**189**	⇑*e*Pg	**Pn**	**09 07 53.6**	**-1.0**
NEDR				⇑*e*Sg	**Sg**	**09 08 12.7**	**-0.6**
NEDR				IAML		09 08 14.2	
	comp=N,228nm,0.4s						
NADR	**Nagua**	**1.34**	**108**	⇑*e*Pg	**Pn**	**09 07 54.7**	**-0.3**
NADR				IAML		09 08 19.4	
	comp=N,1μm,0.3s						
DR08	**Loma La Naviza**	**1.39**	**126**	⇑*e*Pg	**Pn**	**09 07 54.3**	**-1.4**
DR08				⇑*e*Sg	**Sg**	**09 08 13.3**	**-2.4**
DR08				IAML		09 08 17.1	
	comp=N,3μm,0.2s						
LODU1	**El Espartillar**	**1.45**	**190**	*i*P	**Pn**	**09 07 57.6**	**+1.1**
LODU1				IAML		09 08 18.9	
	comp=Z,212nm,0.3s						
PODR	**Polo**	**1.61**	**183**	*i*P	**Pn**	**09 07 60.0**	**+1.0**
PODR				*e*S	**Sg**	**09 08 24.9**	**+1.9**
PAPH	**Port-au-Prince**	**1.63**	**220**	*i*P	**Pn**	**09 08 01.4**	**+2.4**
GRTK	**Grand Turk**	**1.72**	**2**	*e*P	**Pn**	**09 07 59.6**	**-0.5**
GRTK				*e*S	**Sn**	**09 08 22.3**	**+0.5**
GRTK	**Grand Turk**	**1.72**	**2**	*i*P	**Pn**	**09 08 00.3**	**+0.2**
GRTK				*e*S	**Sn**	**09 08 23.0**	**+1.2**
GRTK				IAML		09 08 25.2	
	comp=Z,110nm,0.2s						
LOBH	**Bahia de las A**	**1.96**	**192**	*i*P	**Pn**	**09 08 06.1**	**+2.6**
LOBH				IAML		09 08 42.8	
	comp=Z,57nm,1.3s						
HATOM	**Hato Mayor del**	**1.99**	**120**	⇑*e*Pg	**Pn**	**09 08 05.4**	**+1.5**
HATOM				⇑*e*Sg	**Sn**	**09 08 30.0**	**+1.5**
HATOM				IAML		09 08 39.4	
	comp=N,64nm,0.3s						
MIDR	**Miches**	**2.18**	**111**	⇓*e*Pg	**Pn**	**09 08 08.1**	**+1.5**
MIDR				⇑*e*Sg	**Sn**	**09 08 35.4**	**+2.0**
MIDR				IAML		09 08 43.1	
	comp=N,40nm,0.3s						
MASC	**Masc**	**2.87**	**278**	*e*P	**Pn**	**09 08 15.3**	**-0.7**
MASC				*e*S	**Sn**	**09 08 48.7**	**-1.6**
QMBU	**Quimbuelo**	**3.42**	**278**	*e*P	**Pn**	**09 08 22.2**	**-1.4**
QMBU				*e*S	**Sn**	**09 09 02.5**	**-1.4**
GTBY	**Guantanamo Bay**	**3.68**	**273**	*e*P	**Pn**	**09 08 26.5**	**-0.7**
RCC	**Rio Carpintero**	**4.23**	**274**	*e*P	**Pn**	**09 08 33.7**	**-1.1**

*SNET **21** 09:17:50.9±1.8,13°.06N×90°.05W,h17km,ML2.6*
*GCG **21** 09:17:51.8±1.1,13°.25N×90°.12W,h0km±124km,MD3.8*
ISC 21 09:17:50.5±3.1,13°.1N±0°.1×90°.1W±0°.1,h8km±12km,n17,
σ0s58/26,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.81**	**47**	*e*P	**Pg**	**09 18 06.3**	**+0.2**
JAYA				*e*S	**Sg**	**09 18 16.2**	**-0.5**
JAYA	**Jayaque - finc**	**0.81**	**47**	*i*P	**Pb**	**09 18 07.2**	**+0.2**
JAYA				*i*S	**S

NUBE	**Las Nubes**	**0.84**	**18**	*i* P		**Pb**	**09 18 07.7**	**+0.2**
NUBE				*i* S		**Sb**	**09 18 18.9**	**-0.2**
SBLS	**San Blas**	**0.85**	**29**	*e*P		**Pb**	**09 18 07.8**	**+0.1**
SNJE	**San Jose**	**0.88**	**29**	*e*P		**Pb**	**09 18 08.3**	**+0.1**
RTR	**El Retiro**	**0.89**	**26**	*e*P		**Pb**	**09 18 08.8**	**+0.5**
BOQS	**Boqueron**	**0.98**	**50**	*e*P		**Pg**	**09 18 10.1**	**+0.6**
LOMA	**Loma Larga**	**1.02**	**57**	*e*P		**Pg**	**09 18 09.4**	**-0.7**
LOMA				*e*S		**Sg**	**09 18 23.6**	**+0.2**
LFRS	**El Faro**	**1.10**	**61**	*e*P		**Pg**	**09 18 11.1**	**-0.6**
PAVA	**Las Pavas**	**1.25**	**60**	*e*P		**Pn**	**09 18 13.6**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.42**	**65**	*e*P		**Pn**	**09 18 16.4**	**-0.3**
SCLA				*e*S		**Sn**	**09 18 34.7**	**-1.0**
MTO3	**Montecristo**	**1.46**	**27**	*e*P		**Pn**	**09 18 17.1**	**-0.3**
MTO3	**Montecristo**	**1.46**	**27**	*i* P		**Pn**	**09 18 17.3**	**-0.1**
MTO3				*i* S		**Sg**	**09 18 37.5**	**-0.1**
ESQI	**Esquipulas**	**1.61**	**25**	*e*P		**Pn**	**09 18 19.6**	**+0.2**
ESQI				*e*S		**Sn**	**09 18 40.3**	**-0.1**
PACA	**Pacayal**	**1.72**	**77**	*e*P		**Pn**	**09 18 21.8**	**+0.9**

*BJI **21** 09:19:06.2, 8˚60N×93˚36E, h10km, mB4.8/7, mb4.7/39, Ms4.3/6, Ms7 4.0/8*
*IDC **21** 09:19:08.2±0.6, 8˚87N×93˚60E, h0km, mb4.5/29, mbtmp4.5/31, ML4.2/2, MS3.6/6, Error ellipse: s-maj=21.8km s-min=13.7km az=60.0*
*NDI **21** 09:19:09.1±0.3, 9˚11N×93˚56E, h10km, ML4.5, MW4.5, mb4.9(NEIC)*
*NEIC **21** 09:19:12.1±1.6, 9˚12N±0˚05×93˚57E±0˚06, h10km±1km, mb4.9/45, Error ellipse: s-maj=11.6km s-min=5.4km az=128.0*
*DJA **21** 09:19:18.5±0.5, 9˚N±4˚×9˚3E±˚, h61km±7km, M4.7/11, mb4.5/11, mB5.7/2, MLv4.8/5, Mw(mB)5.2/2*
*BKK **21** 09:19:19.8±1.3, 9˚N±4˚×9˚4E±˚, h23km±13km, M4.8/8, mB5.0/2, mb4.9/5, Mjma4.4/8, ML4.8/7, MLv4.8/8, Mw(mB)4.3/2*
ISC 21 09:19:10.6±0.4, 8˚93N±0˚04×93˚47E±0˚06, h10km, n162, σ1§48/165, mb4.8/59, MS4.2/6, 5C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**1.96**	**167**	*e*P		**Pn**	**09 19 42.5**	**-1.4**
CMBY				*e*S		**Sn**	**09 20 07.2**	**-1.5**
CMBY				IAML			09 20 08.7	
	comp=N,9μm,0.8s							
CMBY				IAML			09 20 18.5	
	comp=E,9μm,1.6s							
PBA	**Port Blair**	**2.80**	**345**			**Pn**	**09 19 53.9**	**-1.6**
PBA	**Port Blair**	**2.80**	**345**	*e*P		**Pn**	**09 19 52.1**	**-3.3**
PBA				*e*S		**Sn**	**09 20 23.8**	**-5.6**
PBA				IAML			09 20 43.6	
	comp=E,4μm,2.1s							
PBA				IAML			09 20 45.7	
	comp=N,4μm,2.0s							
DGPR	**DIGLIPUR**	**4.25**	**353**	*e*P		**Pn**	**09 20 11.9**	**-3.6**
DGPR				*e*S		**Sn**	**09 20 57.4**	**-7.8**
DGPR				IAML			09 21 33.4	
	comp=N,869nm,5.0s							
DGPR				IAML			09 21 40.9	
	comp=E,847nm,1.9s							
RNTT	**Ranong**	**4.97**	**84**	P		**Pn**	**09 20 25.8**	**+0.5**
MLSI	**Meulaboh, Aceh**	**5.48**	**148**	P		**Pn**	**09 20 33.8**	**+1.5**
KCSI	**Kotacane, Aceh**	**6.87**	**141**	P		Pn	09 20 56.4	+4.9
	comp=E,30nm,0.9s							
TSI	**Tuntungan**	**7.40**	**136**	P		Pn	09 21 04.7	+5.9
KHLT	**Khaolaem Dam**	**7.69**	**40**	P		**Pn**	**09 21 05.7**	**+3.0**
	comp=E,0.2nmcomp=E,0.2nmcomp=E,0.5nmcomp=E,43nm,1.1s							
KULM	**Kulim**	**7.99**	**116**			**Pn**	**09 21 05.6**	**-1.3**
PSI	**Prapat**	**8.16**	**138**	Pn		**Pn**	**09 21 08.1**	**-1.2**
	comp=E,0.9nm,0.3s,baz=304,slow=8.1,SNR=12							
PSI				LR		LR	09 24 42.5	
	comp=E,520nm,18.1s,baz=238,slow=41							
	comp=E,2.1nm,0.5s							
RPSI	**Rantau Prapat**	**8.24**	**138**			**Pn**	**09 21 10.8**	**+0.5**
GSI	**Gunungsitoli**	**8.61**	**151**	P		Pn	09 21 20.5	+5.1
CM31	**Chiang Mai Arr**	**10.86**	**29**	Pn		**Pn**	**09 21 45.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**10.86**	**29**	Pn		**Pn**	**09 21 44.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**10.86**	**29**	Pn		**Pn**	**09 21 46.6**	**+0.4**
	comp=E,1.1nm,0.3s,baz=217,slow=14,SNR=25							
CMAR				LR		LR	09 25 53.8	
	comp=E,158nm,19.2s,baz=205,slow=37							
	comp=E,4.4nm,0.8s							
CHTO	**Chiang Mai**	**11.17**	**28**			**Pn**	**09 21 49.6**	**-0.8**
PALK	**Pallekele**	**12.74**	**264**	LR		LR	09 26 43.3	
	comp=E,183nm,21.5s,baz=163,slow=35							
MDRS	**Chennai**	**13.61**	**289**	*e*S		Sn	09 24 43.0	-12
MASI	**Maura Aman, Be**	**14.84**	**144**	P		**P**	**09 22 45.5**	**-1.1**
JHSG	**JHARSUGUGA**	**15.80**	**325**	*e*S		Sn	09 25 30.3	-18
SLVN	**Son La**	**15.91**	**38**			**Pn**	**09 22 56.2**	**+1.4**
SHL	**Shillong**	**16.61**	**355**			**Pn**	**09 23 05.0**	**+1.0**
TNCH	**TengChong**	**16.72**	**16**	P		**P**	**09 23 07.8**	**+0.2**
TNCH				pP		sP	09 23 10.6	-0.6
TNCH				sP		pP	09 23 13.4	+3.3
TNCH				PP		**PnPn**	**09 23 22.3**	**+7.5**
TNCH				S		**Sn**	**09 26 12.8**	**+1.6**
TNCH				pmax		pmax		
	comp=E,41nm,0.3s							
TNCH				pmax		pmax		
	comp=E,170nm,3.7s							
TNCH				LR		LR		
	comp=E,260nm,8.9s							
TNCH				LR		LR		
	comp=E,160nm,8.3s							
TNCH				LR		LR		
	comp=E,220nm,13.3s							
HYB	**Hyderabad**	**16.78**	**302**	*e*P		**P**	**09 23 09.3**	**+1.1**
KSM	**Kuching**	**18.32**	**113**	P		**P**	**09 23 26.2**	**+0.9**
QIZ	**Qiongzhong**	**18.78**	**56**	P		**Pn**	**09 23 31.9**	**+1.2**
QIZ				S		**Sn**	**09 26 57.9**	**-3.0**
QIZ				LR		LR		
	comp=E,430nm,10.6s							
QIZ				LR		LR		
	comp=E,280nm,12.5s							
QIZ				LR		LR		
	comp=E,210nm,16.8s							
PZH	**PanZhiHua**	**19.16**	**23**	P		**Pn**	**09 23 36.4**	**+1.1**
SBUM	**Sibu**	**19.73**	**108**			**Pn**	**09 23 41.9**	**-0.3**
EVN	**Everest**	**19.94**	**343**			**P**	**09 23 43.2**	**-0.3**
EVN				IAmb		IAmb	09 23 47.8	
	comp=E,76nm,0.8s							
LSA	**Lhasa**	**20.78**	**354**	P		**P**	**09 23 52.0**	**-0.4**
LSA				pmax		pmax		
	comp=E,24nm,1.1s							
JHNI	**Jhansi**	**21.73**	**321**	*e*P		**P**	**09 24 08.1**	**+5.9**
JHNI				*e*S		S	09 27 46.7	-16
CD2	**Chengdu**	**23.88**	**22**	P		**P**	**09 24 24.6**	**0.0**
CD2				pmax		pmax		
	comp=Z,30nm,0.7s							
H08S3	**Diego Garcia H**	**26.60**	**232**	T		T	09 51 51.2	
	baz=51,slow=75,SNR=42							
H08S2	**Diego Garcia H**	**26.61**	**232**	T		T	09 51 52.8	
	baz=51,slow=75,SNR=17							
H08S1	**Diego Carcia H**	**26.62**	**232**	T		T	09 52 03.8	
	baz=51,slow=75,SNR=24							
GOMU	**GeErMu**	**27.17**	**2**	P		**P**	**09 24 54.8**	**0.0**
GOMU				pP		sP	09 24 58.3	-0.3
GOMU				pmax		pmax		
	comp=E,18nm,0.9s							
LZH	**Lanzhou**	**28.64**	**18**	*e*P		**P**	**09 25 07.0**	**-0.6**
LZH				sP		sP	09 25 14.4	+2.9
LZH				pmax		pmax		
	comp=E,21nm,1.3s							
XAN	**Xi'an**	**28.75**	**27**	P		**P**	**09 25 07.3**	**-1.2**
XAN				pmax		pmax		
	comp=E,11nm,0.9s							
NIL	**Nilore**	**30.86**	**326**	P		**P**	**09 25 27.6**	**+0.4**
NIL				IAmb		IAmb	09 25 33.0	
	comp=E,23nm,1.1s							
GTA	**Gaotai**	**30.88**	**10**	*e*P		**P**	**09 25 28.6**	**+1.2**
GTA				pP		sP	09 25 32.6	+1.3
GTA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
NJ2	**Nanjing**	**32.92**	**42**	*e*P		**P**	**09 25 46.5**	**+1.2**
NJ2				pmax		pmax		
	comp=E,5.0nm,0.6s							
KSH	**Kashi**	**34.24**	**336**	P		**P**	**09 25 56.8**	**-0.1**
KSH				pP		sP	09 26 02.6	+1.8
KSH				pmax		pmax		
	comp=E,14nm,0.8s							
BTO	**Baotou**	**34.81**	**22**	*e*P		**P**	**09 26 03.4**	**+1.6**
BTO				pP		**sP**	**09 26 07.0**	**+1.4**
BTO				S		**S**	**09 31 35.6**	**+3.0**
BTO				pmax		pmax		
	comp=Z,32nm,0.5s							
BTO				pmax		pmax		
	comp=Z,160nm,4.3s							
BTO				LR		LR		
	comp=Z,180nm,6.4s							
BTO				LR		LR		
	comp=Z,190nm,8.5s							
BTO				LR		LR		
	comp=Z,150nm,6.8s							
WMQ	**Urumqi**	**35.12**	**353**	*e*P		**P**	**09 26 05.8**	**+1.5**
WMQ				LR		LR		
	comp=Z,490nm,22.1s							
TARG	**Taragay, Kyrgy**	**35.47**	**340**	P		**P**	**09 26 07.7**	**-0.1**
TARG				IAmb		IAmb	09 26 10.4	
	comp=Z,19nm,0.8s							
HHC	**Hu-ho-hao-te**	**35.62**	**24**	⇓*i*P		**P**	**09 26 04.3**	**-4.4**
HHC				sP		pP	09 26 11.1	-0.3
HHC				S		S	09 31 31.0	-14
HHC				pmax		pmax		
	comp=Z,21nm,0.8s							
HHC				pmax		pmax		
	comp=Z,130nm,4.8s							
HHC				LR		LR		
	comp=N,270nm,10.2s							
HHC				LR		LR		
	comp=E,320nm,9.8s							
HHC				LR		LR		
	comp=Z,170nm,14.1s							
PRZ	**Przheval'sk**	**35.95**	**341**	P		**P**	**09 26 11.6**	**0.0**
KDJ	**Kajisay**	**36.05**	**339**	P		**P**	**09 26 12.2**	**-0.3**
KDJ				IAmb		IAmb	09 26 14.9	
	comp=Z,21nm,0.8s							
SHLS	**Shalkode**	**36.23**	**343**	*e*P		**P**	**09 26 12.8**	**-1.1**
	comp=Z,9.2nm,0.9s							
UZB	**Uzynbulak**	**36.35**	**342**	*e*P		**P**	**09 26 15.0**	**-0.1**
GAR	**Garm**	**36.43**	**329**	P		**P**	**09 26 15.3**	**-0.4**
SATY	**Saty**	**36.47**	**341**	*e*P		**P**	**09 26 15.8**	**-0.2**
	comp=Z,7.7nm,0.8s							
CHGR	**Chuyangaron**	**36.78**	**327**	P		**P**	**09 26 18.9**	**+0.2**
SIMJ	**Simiganj**	**36.86**	**327**	P		**P**	**09 26 19.3**	**-0.1**
SIMJ				IAmb		IAmb	09 26 21.6	
	comp=Z,22nm,1.0s							
TNSS	**Tian-Shan**	**36.93**	**340**	*e*P		**P**	**09 26 19.8**	**-0.4**
MDOK	**Medeo**	**37.00**	**340**	*e*P		**P**	**09 26 20.6**	**0.0**
ARSB	**Arslanbob**	**37.01**	**334**	P		**P**	**09 26 20.3**	**-0.4**
AAA	**Alma-Ata**	**37.09**	**340**	*e*P		**P**	**09 26 21.2**	**0.0**
AAK	**Ala-Archa**	**37.48**	**337**	P		**P**	**09 26 25.4**	**+0.8**
AAK				IAmb		IAmb	09 26 27.9	
	comp=Z,19nm,1.1s							
MKAR	**Makanchi Array**	**38.92**	**348**	P		**P**	**09 26 35.8**	**-0.8**
MKAR	**Makanchi Array**	**38.92**	**348**	P		**P**	**09 26 36.5**	**-0.1**
	comp=Z,5.7nm,0.7s,baz=168,slow=8.1,SNR=34							
MKAR				ScP		**S**	**09 32 34.6**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=191,slow=2.9,SNR=2.3							
	comp=Z,5.7nm,0.7s							
IUG	**Iuzhnay**	**38.99**	**332**	*e*P		**P**	**09 26 37.4**	**+0.1**
	comp=Z,24nm,1.1s							
DZA	**Taraz**	**39.00**	**334**	*e*P		**P**	**09 26 37.3**	**0.0**
ZSN	**Zaisan**	**39.08**	**351**	*e*P		**P**	**09 26 37.8**	**-0.1**
CHM	**Chimkent**	**39.32**	**332**	*e*P		**P**	**09 26 40.3**	**+0.3**
	comp=Z,5.0nm,0.2s							
KK31	**Kaz Array**	**39.52**	**333**	P		**P**	**09 26 42.3**	**+0.6**
KKAR	**Karatay Array**	**39.52**	**333**	P		**P**	**09 26 41.9**	**+0.2**
BTLS	**Baital**	**39.70**	**338**	*e*P		**P**	**09 26 43.2**	**+0.1**
BRLS	**Borolday**	**39.77**	**333**	*e*P		**P**	**09 26 42.7**	**-1.0**
XLT	**XiLinHaoTe**	**40.01**	**26**	*e*P		**P**	**09 26 47.4**	**+1.6**
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XLT				LR		LR		
	comp=Z,270nm,14.0s							
XLT				LR		LR		
	comp=Z,180nm,17.0s							
SONM	**Songino Array**	**40.29**	**13**	P		**P**	**09 26 48.2**	**+0.1**
SONM	**Songino Array**	**40.29**	**13**	P		**P**	**09 26 47.9**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=195,slow=9.7,SNR=9.7							
	comp=Z,2.5nm,0.8s							
ULN	**Ulaanbaatar**	**40.47**	**14**	P		**P**	**09 26 49.6**	**-0.1**
KURBB	**Kurchatov Arra**	**43.37**	**346**	P		**P**	**09 27 13.0**	**0.0**
	comp=Z,7.3nm,0.8s,baz=165,slow=7.4,SNR=49							
KURBB				PcP		**PcP**	**09 29 01.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=167,slow=2.6,SNR=2.4							
KURBB				ScP		**ScP**	**09 32 51.7**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=149,slow=3.9,SNR=5.0							
	comp=Z,7.3nm,0.8s							
KURK	**Kurchatov**	**43.43**	**346**	P		**P**	**09 27 13.9**	**+0.3**
ZAA0	**Zalesovo Array**	**45.43**	**353**	P		**P**	**09 27 29.8**	**+0.3**
ZAA0				IAmb		IAmb	09 27 31.0	
	comp=Z,12nm,0.7s							
ZALV	**Zalesovo Beam**	**45.43**	**353**	P		**P**	**09 27 29.3**	**-0.2**
ZALV	**Zalesovo Beam**	**45.43**	**353**	P		**P**	**09 27 29.7**	**+0.2**
	comp=Z,8.4nm,0.4s,baz=176,slow=8.5,SNR=19							
	comp=Z,8.4nm,0.4s							
BVAR	**Bovoye Array**	**47.78**	**341**	P		**P**	**09 27 47.6**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=134,slow=8.5,SNR=22							
BVAR				PcP		**PcP**	**09 29 16.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=2.4							
	comp=Z,5.2nm,0.8s							
BRVK	**Borovoye**	**47.84**	**341**	P		**P**	**09 27 48.2**	**-0.2**
BRVK				IAmb		IAmb	09 27 49.2	
	comp=Z,5.4nm,0.8s							
RAYN	**Ar Rayn**	**48.05**	**294**	P		**P**	**09 27 52.3**	**+1.7**
RAYN				IAmb		IAmb	09 27 53.7	
	comp=Z,7.7nm,0.7s							
AB31	**Akbulak array**	**48.99**	**331**	P		**P**	**09 27 57.7**	**+0.3**
AB31				IAmb		IAmb	09 27 59.2	
	comp=Z,8.6nm,0.8s							
ABKAR	**Akbulak array**	**48.99**	**331**	P		**P**	**09 27 58.0**	**+0.6**
WRA	**Warramunga Arr**	**49.41**	**126**	P		**P**	**09 27 58.2**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=305,slow=8.5,SNR=6.7							
	comp=Z,0.6nm,0.6s							
TABU	**Tabubil**	**49.65**	**105**	P		**P**	**09 28 01.2**	**-1.9**
HEH	**HeiHe**	**49.88**	**28**	*e*P		**P**	**09 28 05.4**	**+1.3**
AKTO	**Aktyubinsk**	**50.71**	**331**	P		**P**	**09 28 10.4**	**0.0**
	comp=Z,4.8nm,0.6s,baz=130,slow=6.9,SNR=13							
	comp=Z,4.8nm,0.6s							
ASAR	**Alice Springs**	**51.10**	**130**	P		**P**	**09 28 11.1**	**-2.8**
	comp=Z,1.0nm,0.7s,baz=304,slow=6.8,SNR=10							
ASAR				PcP		**PcP**	**09 29 29.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=309,slow=4.2,SNR=4.4							
	comp=Z,1.0nm,0.7s							
GNI	**Garni**	**53.23**	**314**	P		**P**	**09 28 30.3**	**+0.7**
	comp=Z,2.7nm,0.4s,baz=99,slow=13,SNR=3.8							
	comp=Z,2.7nm,0.4s							
ARTI	**Arti**	**54.70**	**337**	P		**P**	**09 28 39.6**	**-0.3**
ARTI				IAmb		IAmb	09 28 40.7	
	comp=Z,10nm,0.7s							
ARTI	**Arti**	**54.70**	**337**	P		**P**	**09 28 39.7**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=136,slow=6.0,SNR=9.5							
	comp=Z,7.4nm,0.7s							
MARD	**Mardin**	**55.21**	**309**	P		**P**	**09 28 44.6**	**+0.5**
KBZ	**Khabaz**	**55.86**	**317**	P		**P**	**09 28 48.8**	**+0.3**
	comp=Z,3.7nm,1.0s,baz=133,slow=6.9,SNR=5.0							
KBZ				LR		LR	09 55 34.9	
	comp=Z,57nm,19.0s,baz=7.5,slow=39							
	comp=Z,3.7nm,1.0s							
KIV	**Kislovodsk**	**56.09**	**318**	P		**P**	**09 28 50.0**	**-0.2**
BELG	**Belogornoye**	**57.07**	**328**	P		**P**	**09 28 57.1**	**+0.2**
	comp=Z,24nm,0.8s,baz=146,slow=11,SNR=7.2							
	comp=Z,24nm,0.8s							
KIRS	**Kirsehir-Merke**	**60.90**	**310**	⇑P		**P**	**09 29 23.9**	**0.0**
BR131	**Keskin Array S**	**61.24**	**310**	P		**P**	**09 29 26.1**	**-0.2**
BR131				IAmb		IAmb	09 29 26.9	
	comp=Z,5.5nm,0.8s							
BRTR	**Keskin Array B**	**61.24**	**310**	P		**P**	**09 29 25.4**	**-0.9**
BRTR	**Keskin Array B**	**61.24**	**310**	P		**P**	**09 29 25.6**	**-0.6**
	comp=Z,4.8nm,0.9s,baz=116,slow=7.3,SNR=14							
BRTR				LR		LR	09 56 08.9	
	comp=Z,70nm,21.8s,baz=139,slow=36							
	comp=Z,4.8nm,0.9s							
OBN	**Obninsk**	**64.14**	**328**	P		**P**	**09 29 44.4**	**-0.7**
	comp=Z,16nm,0.4s,baz=135,slow=5.7,SNR=4.4							
	comp=Z,16nm,0.4s							
AKASG	**Malin Array Be**	**66.92**	**321**	P		**P**	**09 30 01.8**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=92,slow=4.7,SNR=5.0							
	comp=Z,1.3nm,0.6s							
AKBB	**Malin Array Si**	**66.92**	**321**	P		**P**	**09 30 02.2**	**-1.0**
AKBB				IAmb		IAmb	09 30 02.9	
	comp=Z,7.3nm,1.0s							
KIEV	**Kiev**	**66.92**	**321**	P		**P**	**09 30 01.9**	**-1.3**
KIEV				IAmb		IAmb	09 30 02.9	
	comp=Z,6.1nm,0.9s							
VRI	**Vrincioaia**	**67.48**	**316**	⇓P		**P**	**09 30 07.8**	**+0.9**
PLOR	**Plostina**	**67.53**	**316**	⇑P		**P**	**09 30 08.1**	**+0.9**
MLR	**Muntele Rosu**	**67.95**	**315**			**P**	**09 30 10.0**	**0.0**
MLR				IAmb		IAmb	09 30 12.0	
	comp=Z,18nm,1.2s							
MLR	**Muntele Rosu**	**67.95**	**315**	P		**P**	**09 30 10.0**	**0.0**
	comp=Z,6.8nm,0.8s,baz=127,slow=5.1,SNR=6.3							
	comp=Z,6.8nm,0.8s							
MLR	**Muntele Rosu**	**67.95**	**315**	⇓P		**P**	**09 30 10.5**	**+0.4**
VOIR		**68.57**	**315**	⇑P		**P**	**09 30 13.5**	**-0.3**
BURAR	**Bucovina Array**	**68.82**	**318**	P		**P**	**09 30 15.1**	**-0.3**
ARR	**Arges**	**68.84**	**315**	⇓P		**P**	**09 30 15.7**	**+0.2**
LIT	**Litokhoron**	**69.76**	**309**	P		**P**	**09 30 20.3**	**-1.0**
LIT				IAmb		IAmb	09 30 21.4	
	comp=Z,10nm,0.8s							
MARR	**Marisel-Cluj**	**70.08**	**316**	⇑P		**P**	**09 30 23.7**	**+0.5**
HERR	**Herculane**	**70.33**	**314**	⇑P		**P**	**09 30 24.9**	**+0.3**
SURR	**Surduc**	**70.64**	**315**	⇓P		**P**	**09 30 26.7**	**+0.1**
BOVS	**Bovan**	**70.70**	**313**	⇓P		**P**	**09 30 27.2**	**+0.3**
PABE	**Paberze**	**71.11**	**326**	P		**P**	**09 30 28.5**	**-0.7**
FINES	**FINESS Array B**	**71.47**	**332**	P		**P**	**09 30 30.9**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=104,slow=5.9,SNR=11							
	comp=Z,3.8nm,0.7s							
VADS	**Vadso**	**72.99**	**341**	*e*P		**P**	**09 30 39.1**	**-1.1**
VYHS	**Vyhne**	**73.18**	**318**	*e*P		**P**	**09 30 42.0**	**+0.2**
ARA0	**ARCESS Array S**	**74.05**	**340**	*e*P		**P**	**09 30 46.9**	**+0.4**
ARCES	**ARCESS Array B**	**74.05**	**340**	P		**P**	**09 30 46.7**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=94,slow=5.7,SNR=49							
	comp=Z,2.3nm,0.5s							
MORC	**Moravsky Berou**	**74.14**	**319**	P		**P**	**09 30 47.0**	**-0.4**
KTK1	**Kautokeino**	**74.68**	**339**	*e*P		**P**	**09 30 50.4**	**+0.3**
CEL	**Celeste**	**74.78**	**307**	P		**P**	**09 30 51.8**	**+0.4**
CEL				IAmb		IAmb	09 30 53.5	
	comp=Z,8.7nm,0.9s							
HAMF	**Hammerfest**	**74.97**	**341**	*e*P		**P**	**09 30 52.3**	**+0.5**
BOSA	**Boshof**	**75.58**	**237**	P		**P**	**09 30 56.7**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=90,slow=3.0,SNR=5.8							
	comp=Z,3.7nm,0.8s							
JETT	**Jettan, Norway**	**75.78**	**340**	*e*P		**P**	**09 30 57.0**	**+0.5**
TRO	**Tromso**	**76.31**	**340**	*e*P		**P**	**09 30 59.3**	**-0.1**
GERES	**GERESS Array B**	**76.60**	**318**	P		**P**	**09 31 01.7**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=76,slow=5.6,SNR=21							
	comp=Z,3.3nm,0.7s							
HFS	**Hagfors**	**77.21**	**330**	P		**P**	**09 31 04.4**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=101,slow=7.7,SNR=19							
	comp=Z,4.6nm,0.6s							
FAUS	**Fauske**	**77.26**	**337**	*e*P		**P**	**09 31 05.0**	**+0.2**
STEI	**Steigen**	**77.35**	**338**	*e*P		**P**	**09 31 05.7**	**+0.4**
NC602	**NORSAR Array S**	**78.32**	**330**	*e*P		**P**	**09 31 10.6**	**-0.3**
NB2	**NORSAR Subarra**	**78.49**	**331**	P		**P**	**09 31 11.3**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=96,slow=5.1							
NB2	**NORSAR Subarra**	**78.49**	**331**	P		**P**	**09 31 11.3**	**-0.6**
	baz=96,slow=5.1							
NOA	**NORSAR Array B**	**78.49**	**331**	P		**P**	**09 31 11.2**	**-0.6**
	comp=Z,5.0nm,0.7s,baz=95,slow=5.2,SNR=14							
	comp=Z,5.0nm,0.7s							
SPITS	**Spitsbergen Ar**	**78.67**	**348**	P		**P**	**09 31 12.4**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=123,slow=10,SNR=5.5							
	comp=Z,3.7nm,0.6s							
DAVOX	**Davos/Dischmat**	**79.17**	**316**	P		**P**	**09 31 16.3**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=104,slow=5.8,SNR=8.2							
	comp=Z,1.6nm,0.3s							
KEST	**Kesra**	**80.09**	**305**	P		**P**	**09 31 21.6**	**+0.4**
	comp=Z,4.3nm,0.7s,baz=90,slow=3.5,SNR=5.0							
	comp=Z,4.3nm,0.7s							
MOL	**Molde**	**80.25**	**332**	*e*P		**P**	**09 31 20.8**	**-0.6**
BMRD	**Maredsous**	**82.37**	**320**	*d*P		**P**	**09 31 33.9**	**+1.0**
EKA	**Eskdalemuir Ar**	**86.48**	**325**	P		**P**	**09 31 53.8**	**+0.2**
	comp=Z,5.3nm,0.7s,baz=100,slow=5.3,SNR=16							
	comp=Z,5.3nm,0.7s							
G19K	**Purcell Mounta**	**89.59**	**23**			**P**	**09 32 08.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**89.71**	**283**	P		**P**	**09 32 10.2**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=67,slow=5.6,SNR=12							
	comp=Z,2.1nm,0.7s							
F20K	**Avaraart Lake**	**89.76**	**22**	P		**P**	**09 32 09.2**	**+0.2**
F20K				IAmb		IAmb	09 32 13.3	
	comp=Z,5.7nm,1.0s							
ESDC	**Sonseca Array**	**90.03**	**310**	P		**P**	**09 32 11.0**	**0.0**
	comp=Z,1.9nm,0.9s,baz=67,slow=4.8,SNR=8.0							
	comp=Z,1.9nm,0.9s						

MEF	**Metsahovi**	**2.33 253**	*e*P		**Pn**	**09 22 18.9**	**-3.9**
MEF	**Metsahovi**	**2.33 253**	PG		**Pb**	**09 22 25.6**	**-0.6**
MEF			MSG			09 22 54.5	
	comp=Z,2.9nm,0.2s						
MEF			SB		**Sb**	**09 22 55.6**	**+0.3**
NIF	**Nilsia**	**2.48 349**	PG		**Pb**	**09 22 27.9**	**-0.8**
NIF			MSG			09 22 57.6	
	comp=Z,2.3nm,0.2s						
NIF			SG		**Sb**	**09 23 01.0**	**+1.4**
RAF	**Rauma**	**3.46 274**	*e*P		**Pn**	**09 22 38.0**	**-0.2**
HFS	**Hagfors**	**7.52 270**	Pn		**Pn**	**09 23 34.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=88,slow=15,SNR=1.6						
	comp=Z,1.3nm,0.8s						
ARCES	**ARCESS Array B**	**8.71 352**	Pn		**Pn**	**09 23 50.9**	**+0.5**
	baz=168,slow=12,SNR=5.2						
ARCES			Lg		Lg	09 26 15.3	
	baz=168,slow=26						
	comp=Z,1.1nm,0.9s						
I37NO	**I37NO**	**9.20 336**	I		I	10 14 59.9	
	baz=147,slow=320,SNR=1.1						

*ASRS **21** 09:23:43.0±1.8,53.77N×91.03E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 09:23:49.9±4.6,53.80N×90.91E,h0km,mbtmp2.9/3, ML2.4/3,Error ellipse: s-maj=47.6km s-min=27.9km az=39.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.61 275**		I	I	09 45 40.0	
	baz=90,slow=327,SNR=5.8						
ZALV	**Zalesovo Beam**	**3.61 275**		Pn	Pn	09 24 48.9	+1.9
	0.7nm,0.3s,baz=91,slow=12,SNR=7.5						
ZALV				Lg	Lg	09 25 43.8	
	0.9nm,0.3s,baz=87,slow=25,SNR=7.9						
	2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**8.24 252**		Pn	Pn	09 25 49.4	-1.1
	baz=65,slow=14,SNR=2.6						
KURBB				Lg	Lg	09 28 13.6	
	baz=65,slow=33,SNR=4.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**8.91 222**		Pn	Pn	09 26 00.7	+0.9
	0.1nm,0.3s,baz=42,slow=14,SNR=6.5						
MKAR				Lg	Lg	09 28 28.8	
	baz=41,slow=27						
	0.6nm,0.6s						

*BJI **21** 09:24:53.1,5.68S×154.94E,h74km,mB5.2/43,mb5.0/81, Ms4.8/78,Ms7 4.7/79*

*NEIC **21** 09:24:53.9,5.97S×154.63E,h80km,Moment Tensor Solution. Duration: 29s Moment tensor: Scale 10^{17}Nm; M_{rr}0.94; $M_{\theta\theta}$-1.00; $M_{\phi\phi}$0.06; $M_{r\theta}$-0.38; $M_{\theta\phi}$-1.25; $M_{\phi r}$-1.02; Fault plane solution: $M_0$1.92000×10^{17} NP1:ϕ_s92.55000°, δ41.81000°,λ149.90000°. NP2:ϕ_s205.91000°,δ70.47000°, λ52.27000°. Principal axes: T 1.6765, Plg50.0000°, Azm74.0000°; N 0.4170, Plg35.0000°, Azm220.0000°; P -2.0934, Plg17.0000°, Azm323.0000°;*

*NEIC **21** 09:24:53.9,6.07S×154.63E,h80km*

*NEIC **21** 09:24:54.2±1.9,6.06S±0.08×154.65E±0.08,h64km±1km, mb5.3/275,Mwb5.3/43,Mww5.5/24,Error ellipse: s-maj=14.9km s-min=10.8km az=40.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-0.26; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.18; $M_{\phi r}$-0.85; Fault plane solution: $M_0$1.15000×10^{17} NP1:ϕ_s63.82000°, δ19.35000°,λ120.22000°. NP2:ϕ_s212.12000°,δ73.37000°, λ79.98000°. Principal axes: T 1.2606, Plg60.0000°, Azm108.0000°; N -0.2644, Plg10.0000°, Azm215.0000°; P -0.9963, Plg28.0000°, Azm310.0000°;*

*NEIC **21** 09:24:54.5,6.06S×154.63E,h66km*

*MOS **21** 09:24:54.2±0.9,6.01S×154.60E,h85km,mb5.0/21,Error ellipse: s-maj=8.2km s-min=6.1km az=114.1*

*IDC **21** 09:24:55.2±1.1,6.04S×154.55E,h82km±8km,mb4.7/22, mbtmp5.1/26,MS4.3/49,Error ellipse: s-maj=9.6km s-min=9.0km az=112.0*

*DJA **21** 09:24:56.9±0.4,6°S±3'×15°5E±°,h90km±4km,M5.6/84, mB6.0/47,mb5.5/84,MLv5.7/2,Mw5.4/67,Mw(mB)5.7/47, MwMwp5.2/7,Mwp5.5/7*

*GCMT **21** 09:24:56.2±0.1,6.11S±0.01×154.55E±0.01,h84km, MW5.5/150,Moment Tensor Solution. s132,c257; s150,c305; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.01±.02; $M_{\theta\theta}$-1.14±.02; $M_{\phi\phi}$0.13±.02; $M_{r\theta}$-0.55±.01; $M_{\theta\phi}$-0.89±.02; $M_{\phi r}$-1.16±.01; Best double couple: $M_0$1.89100×10^{17} NP1:ϕ_s94.00000°,δ35.00000°, λ144.00000°. NP2:ϕ_s215.00000°,δ71.00000°,λ61.00000°. Principal axes: T 1.8150, Plg55.0000°, Azm88.0000°; N 0.1620, Plg28.0000°, Azm225.0000°; P -1.9680, Plg20.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 09:24:55.0±0.3,6.05S±0.03×154.61E±0.04,h78km±2km, h78km:pP-P,n910,σ1s25/874,mb5.2/240,15C-19D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.06 307**			**Pn**	**09 25 42.2**	**+1.1**
TATA	**Tatamba Isabel**	**5.65 115**		P	**Pn**	**09 26 17.4**	**+0.9**
TATA	**Tatamba Isabel**	**5.65 115**		S	**Sn**	**09 27 22.4**	**+2.3**
SAVO	**Savo Central**	**6.01 121**		P	**Pn**	**09 26 22.9**	**+1.5**
SAVO	**Savo Central**	**6.01 121**		S	**Sn**	**09 27 31.9**	**+3.1**
HNR	**Honiara**	**6.27 123**			**Pn**	**09 26 23.6**	**-1.2**
HNR	**Honiara**	**6.27 123**		P	**Pn**	**09 26 27.2**	**+2.3**
	160nm,0.6s,baz=233,slow=7.3,SNR=4.7						
HNR				S	**Sn**	**09 27 36.7**	**+1.6**
	3μm,1.0s,baz=315,slow=14,SNR=5.6						
HNR	**Honiara**	**6.27 123**		P	**Pn**	**09 26 27.2**	**+2.3**
HNR	**Honiara**	**6.27 123**		S	**Sn**	**09 27 38.1**	**+3.0**
ALEG	**Aligegeo Malai**	**6.61 114**		P	**Pn**	**09 26 31.3**	**+1.8**
NGOA	**Tingoa Renbel**	**7.68 136**		P	**Pn**	**09 26 44.4**	**+0.2**
PMG	**Port Moresby**	**8.10 245**			**Pn**	**09 26 50.8**	**+0.8**
PMG	**Port Moresby**	**8.10 245**		P	**Pn**	**09 26 51.2**	**+1.3**
	821nm,0.5s,baz=65,slow=6.5,SNR=125						
PMG				S	**Sn**	**09 28 20.9**	**+0.9**
	831nm,0.7s,baz=64,slow=17,SNR=12						
PMG				LR	LR	09 30 23.9	
	comp=Z,4μm,18.3s,baz=24,slow=41						
PMG	**Port Moresby**	**8.10 245**		P	**Pn**	**09 26 51.8**	**+1.9**
PMG	**Port Moresby**	**8.10 245**		S	**Sn**	**09 28 22.3**	**+2.4**
PMG	**Port Moresby**	**8.10 245**		P	**Pn**	**09 26 51.9**	**+2.0**
PMG	**Port Moresby**	**8.10 245**		S	**Sn**	**09 28 22.5**	**+2.6**
PMG	**Port Moresby**	**8.10 245**	*c*	*i*P	**Pn**	**09 26 51.4**	**+1.5**
PMG				pmax	pmax		
	comp=Z,2μm,1.3s						
MANU	**Manus Island**	**8.25 299**			**Pn**	**09 26 53.4**	**+1.4**
HURO	**Huro Makira**	**8.45 122**		P	**Pn**	**09 26 56.4**	**+1.7**
HURO	**Huro Makira**	**8.45 122**		S	**Sn**	**09 28 32.4**	**+3.9**
LUES	**Luesalemba Tem**	**12.09 113**		P	**Pn**	**09 27 46.0**	**+1.7**
PATS	**Pohnpei**	**13.33 16**		P	**Pn**	**09 28 00.1**	**-0.9**
	comp=Z,550nm,0.8s						
PATS	**Pohnpei**	**13.33 16**		P	**Pn**	**09 28 01.5**	**+0.4**
COEN	**Coen**	**13.72 234**		P	**Pn**	**09 28 06.8**	**+0.6**
	comp=Z,77nm,0.8s						
COEN	**Coen**	**13.72 234**			**Pn**	**09 28 06.7**	**+0.4**
COEN	**Coen**	**13.72 234**		P	**Pn**	**09 28 07.1**	**+0.8**
JAY	**Jayapura**	**14.30 284**		P	**Pn**	**09 28 14.2**	**+0.4**
	comp=Z,313nm,1.1s,baz=133,slow=5.9,SNR=34						
JAY				LR	LR	09 33 58.2	
	comp=Z,2μm,18.1s,baz=86,slow=38						
JAY	**Jayapura**	**14.30 284**		P	**Pn**	**09 28 14.3**	**+0.4**
	comp=Z,4μmcomp=Z,307nm,1.3s						
MMPI	**Merauke**	**14.31 260**		P	**Pn**	**09 28 15.8**	**+1.8**
	comp=Z,520nm,1.1s						
GENI	**Genyem**	**14.80 283**		P	**Pn**	**09 28 21.1**	**+0.8**
GENI	**Genyem**	**14.80 283**		P	**Pn**	**09 28 21.1**	**+0.8**
	comp=Z,4μmcomp=Z,11μmcomp=Z,555nm,1.5s						
SANVU	**Saraoutou**	**15.49 128**			**Pn**	**09 28 28.6**	**-0.5**
SANVU	**Saraoutou**	**15.49 128**		P	**P**	**09 28 30.9**	**-1.0**
MTSU	**Mount Surprise**	**15.65 219**		P	**P**	**09 28 34.1**	**+0.3**
	comp=Z,24nm,1.1s						
MTSU	**Mount Surprise**	**15.65 219**		P	**Pn**	**09 28 31.9**	**+0.7**
VLAKA	**Lakatoro**	**16.05 130**		P	**Pn**	**09 28 37.0**	**+0.9**
CTAO	**Charters Tower**	**16.14 209**			**Pn**	**09 28 37.7**	**+0.4**
CTAO	**Charters Tower**	**16.14 209**		P	**Pn**	**09 28 37.7**	**+0.4**
CTAO	**Charters Tower**	**16.14 209**		P	**Pn**	**09 28 37.7**	**+0.4**
SMPI	**Sarmi**	**16.36 284**		P	**Pn**	**09 28 40.8**	**+0.8**
	comp=Z,11μmcomp=Z,808nm,1.6s						
DVP	**Devils Point**	**17.62 132**		P	**Pn**	**09 28 57.3**	**+1.8**
GD1S	**Gladstone Soft**	**17.99 190**		P	**Pn**	**09 29 00.7**	**+0.7**
BAKI	**Biak**	**19.08 284**		P	**Pn**	**09 29 13.8**	**+0.7**
	comp=Z,6μmcomp=Z,9μmcomp=Z,383nm,1.6s						
EIDS	**Eidsvold**	**19.50 190**		P	**Pn**	**09 29 17.0**	**-1.0**
	comp=Z,223nm,1.0s						
EIDS	**Eidsvold**	**19.50 190**		P	**P**	**09 29 16.4**	**+0.3**
EIDS				IAmb	IAmb	09 29 18.3	
	comp=Z,146nm,0.8s						
EIDS	**Eidsvold**	**19.50 190**		P	**Pn**	**09 29 17.3**	**-0.7**
INH	**Isangel**	**19.58 135**		P	**P**	**09 29 17.4**	**+0.4**
DZM	**Mont Dzumac**	**19.61 145**		P	**P**	**09 29 17.2**	**-0.1**
DZM	**Mont Dzumac**	**19.61 145**		P	**P**	**09 29 18.2**	**+0.9**
	comp=Z,445nm,1.0s,baz=344,slow=10,SNR=153						
DZM				LR	LR	09 36 03.4	
	comp=Z,2μm,21.8s,baz=320,slow=34						
DZM	**Mont Dzumac**	**19.61 145**		P	**P**	**09 29 18.2**	**+0.9**
ONTNC	**Ouen Toro**	**19.80 146**			**P**	**09 29 18.6**	**-0.7**
ONTNC	**Ouen Toro**	**19.80 146**		P	**P**	**09 29 19.7**	**+0.4**
OUENC	**Ouen Island, N**	**20.11 145**		P	**P**	**09 29 23.1**	**+0.5**
QIS	**Mount Isa**	**20.49 224**		P	**P**	**09 29 27.6**	**+0.8**
	comp=Z,79nm,0.6s						
QIS	**Mount Isa**	**20.49 224**		P	**P**	**09 29 27.7**	**+0.8**
PINNC	**Pines Island,**	**20.61 144**			**P**	**09 29 28.0**	**0.0**
PINNC	**Pines Island,**	**20.61 144**		P	**P**	**09 29 28.5**	**+0.5**
RKPI	**Ransiki, Papua**	**20.87 282**		P	**P**	**09 29 32.4**	**+1.4**
	comp=Z,434nm,1.3s						
RMQ	**Roma**	**21.07 195**		P	**P**	**09 29 33.9**	**+0.8**
	comp=Z,57nm,1.7s						
GUMO	**Guam**	**21.78 334**			**P**	**09 29 40.1**	**-0.5**
GUMO				IAmb	IAmb	09 29 42.6	
	comp=Z,316nm,1.1s						
GUMO	**Guam**	**21.78 334**		P	**P**	**09 29 40.1**	**-0.5**
	comp=Z,161nm,1.0s,baz=175,slow=10,SNR=12						
GUMO				LR	LR	09 38 01.1	
	comp=Z,306nm,18.2s,baz=146,slow=36						
	comp=Z,161nm,1.0s						
GUMO	**Guam**	**21.78 334**		P	**P**	**09 29 41.2**	**+0.6**
GC1S	**Gold Coast 1 S**	**22.01 183**		P	**P**	**09 29 44.2**	**+1.2**
FAKI	**Fak Fak**	**22.50 277**		P	**P**	**09 29 48.2**	**-0.3**
FAKI	**Fak Fak**	**22.50 277**		P	**P**	**09 29 48.1**	**-0.4**
FAKI	**Fak Fak**	**22.50 277**		P	**P**	**09 29 49.1**	**+0.6**
	comp=Z,2μmcomp=Z,5μmcomp=Z,439nm,1.1s						
QLP	**Quilpie**	**22.69 205**		P	**P**	**09 29 50.2**	**-0.1**
	comp=Z,553nm,1.3s						
QLP	**Quilpie**	**22.69 205**		P	**P**	**09 29 50.9**	**+0.6**
KDU	**Kakadu**	**22.80 252**		P	**P**	**09 29 50.5**	**-1.0**
	comp=Z,162nm,1.1s						
KDU	**Kakadu**	**22.80 252**		P	**P**	**09 29 51.5**	**-0.1**
SAUI	**Saumlaki**	**23.21 264**		P	**P**	**09 29 54.6**	**-1.0**
SAUI	**Saumlaki**	**23.21 264**		P	**P**	**09 29 56.0**	**+0.4**
SAUI	**Saumlaki**	**23.21 264**		P	**P**	**09 29 55.8**	**+0.2**
SWI	**Sorong**	**23.86 282**		P	**P**	**09 30 02.5**	**+1.0**
	comp=Z,2μmcomp=Z,4μmcomp=Z,301nm,1.1s						
SWI				pP	**pP**	**09 30 20.2**	**+2.3**
	comp=Z,2μmcomp=Z,4μmcomp=Z,301nm,1.1s						
SWI	**Sorong**	**23.86 282**		P	**P**	**09 30 02.5**	**+1.0**
WR0	**Warramunga Arr**	**23.90 233**		P	**P**	**09 30 02.1**	**+0.3**
WB0	**Warramunga Arr**	**23.92 233**		P	**P**	**09 30 01.9**	**0.0**
WB0				IAmb	IAmb	09 30 32.8	
	comp=Z,123nm,1.1s						
WRAB	**Tennant Creek**	**24.04 233**	↓	*i*P	**P**	**09 30 03.3**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,96nm,0.9s						
WRA	**Warramunga Arr**	**24.05 233**		P	**P**	**09 30 01.9**	**-1.3**
WRA	**Warramunga Arr**	**24.05 233**		P	**P**	**09 30 01.7**	**-1.5**
	comp=Z,53nm,0.6s,baz=56,slow=9.2,SNR=122						
WRA				PcP	**PcP**	**09 33 43.2**	**0.0**
	comp=Z,3.7nm,0.5s,baz=60,slow=2.4,SNR=5.7						
WRA				S	**S**	**09 34 12.8**	**-2.4**
	comp=Z,9.8nm,1.0s,baz=55,slow=15,SNR=7.0						
WRA				ScP	**ScP**	**09 37 14.5**	**-0.5**
	comp=Z,15nm,1.0s,baz=56,slow=2.7,SNR=13						
WRA				LR	LR	09 40 15.8	
	comp=Z,1μm,18.4s,baz=58,slow=38						
	comp=Z,53nm,0.6s						
WRA	**Warramunga Arr**	**24.05 233**	*i*	P	**P**	**09 30 03.5**	**+0.3**
WRA				pmax	pmax		
	comp=Z,54nm,0.6s						
MTN	**Manton Dam**	**24.11 252**		P	**P**	**09 30 04.1**	**+0.5**
	comp=Z,195nm,1.2s						
MTN	**Manton Dam**	**24.11 252**		P	**P**	**09 30 03.8**	**+0.1**
MTN				IAmb	IAmb	09 30 05.7	
	comp=Z,238nm,1.2s						
MTN	**Manton Dam**	**24.11 252**		P	**P**	**09 30 04.7**	**+1.0**
DRS	**Darwin Rock St**	**24.23 253**		P	**P**	**09 30 05.3**	**+0.5**
ARMA	**Armidale**	**24.40 186**		P	**P**	**09 30 06.5**	**+0.2**
	comp=Z,332nm,1.3s						
ARMA	**Armidale**	**24.40 186**		P	**P**	**09 30 06.5**	**+0.2**
ARMA	**Armidale**	**24.40 186**		P	**P**	**09 30 07.3**	**+1.0**
MSVF	**Nonsavu**	**25.67 119**		P	**P**	**09 30 17.1**	**-0.9**
MSVF				IAmb	IAmb	09 30 37.0	
	comp=Z,105nm,1.1s						
MSVF	**Nonsavu**	**25.67 119**		P	**P**	**09 30 19.7**	**+1.7**
MSVF	**Nonsavu**	**25.67 119**	*c*	*i*P	**P**	**09 30 17.4**	**-0.6**
MSVF				pmax	pmax		
	comp=Z,50nm,1.1s						
LHI	**Lord Howe Isla**	**25.68 171**		P	**P**	**09 30 17.8**	**0.0**
	comp=Z,272nm,1.3s						
LHI	**Lord Howe Isla**	**25.68 171**		P	**P**	**09 30 17.6**	**-0.1**
LHI				IAmb	IAmb	09 30 18.7	
	comp=Z,202nm,0.9s						
AAI	**Ambon**	**26.42 274**		P	**P**	**09 30 28.5**	**+3.8**
	comp=Z,267nm,0.8s						
AS17	**Alice Springs**	**26.46 226**		P	**P**	**09 30 24.8**	**-0.2**
	comp=Z,57nm,1.1s						
AS01	**Alice Springs**	**26.49 226**		P	**P**	**09 30 26.3**	**+1.0**
AS31	**Alice Springs**	**26.52 227**		P	**P**	**09 30 24.9**	**-0.7**
ASAR	**Alice Springs**	**26.52 227**		P	**P**	**09 30 25.0**	**-0.6**
ASAR	**Alice Springs**	**26.52 227**		P	**P**	**09 30 25.6**	**0.0**
	comp=Z,30nm,0.6s,baz=59,slow=9.0,SNR=429						
ASAR				PcP	**PcP**	**09 33 48.9**	**+0.1**
	comp=Z,7.0nm,0.5s,baz=56,slow=2.8,SNR=8.5						
ASAR				S	**S**	**09 34 53.4**	**-1.0**
	comp=Z,5.6nm,1.0s,baz=58,slow=16,SNR=4.6						
ASAR				ScP	**ScP**	**09 37 22.2**	**+0.2**
	comp=Z,12nm,1.0s,baz=55,slow=3.1,SNR=14						
ASAR				LR	LR	09 40 21.6	
	comp=Z,1μm,21.0s,baz=50,slow=35						
	comp=Z,30nm,0.6s						
DGTI	**Dogotuki**	**26.64 115**		P	**P**	**09 30 27.5**	**+0.8**
CMSA	**Cobar Meteorol**	**26.69 197**		P	**P**	**09 30 26.6**	**-0.4**
	comp=Z,178nm,1.1s						
CMSA	**Cobar Meteorol**	**26.69 197**		P	**P**	**09 30 27.3**	**+0.3**
NTLH	**Newcastle Hard**	**26.85 185**		P	**P**	**09 30 29.3**	**+1.0**
KNRA	**Kununurra**	**27.09 247**		P	**P**	**09 30 30.6**	**-0.1**
	comp=Z,87nm,1.7s						
KNRA	**Kununurra**	**27.09 247**		P	**P**	**09 30 29.8**	**-0.9**
KNRA				IAmb	IAmb	09 30 55.1	
	comp=Z,115nm,1.1s						
TAVE	**Taveuni**	**27.10 115**		P	**P**	**09 30 33.4**	**+2.6**
H11S3	**WAKE ISLAND Hy**	**27.15 26**		T	T	09 58 39.9	
	baz=206,slow=73,SNR=1142						
H11S2	**WAKE ISLAND Hy**	**27.15 26**		T	T	09 59 01.5	
	baz=206,slow=73,SNR=49						
H11S1	**WAKE ISLAND Hy**	**27.16 26**		T	T	09 58 40.7	
	baz=206,slow=73,SNR=66						
MGCD	**Mangrove Creek**	**27.22 186**		P	**P**	**09 30 32.9**	**+1.3**
NLAI	**Namlea**	**27.56 275**		P	**P**	**09 30 36.6**	**+1.7**
	comp=Z,3μmcomp=Z,234nm,1.7s						
SYDH	**Sydney Hard Ro**	**27.80 187**		P	**P**	**09 30 37.9**	**+1.1**
RIV	**Riverview**	**27.82 186**		P	**P**	**09 30 37.5**	**+0.5**
	comp=Z,278nm,1.2s						
RIV	**Riverview**	**27.82 186**		P	**P**	**09 30 38.1**	**+1.1**
RIV	**Riverview**	**27.82 186**		P	**P**	**09 30 37.9**	**+0.9**
RIV				pmax	pmax		
	comp=Z,278nm,1.2s						
FUTU	**Fugatoga**	**28.04 109**		P	**P**	**09 30 38.4**	**-0.8**
FUTU				IAmb	IAmb	09 30 39.8	
	comp=Z,69nm,1.1s						
FUTU	**Fugatoga**	**28.04 109**		P	**P**	**09 30 40.3**	**+1.1**
STKA	**Stephens Creek**	**28.43 204**		P	**P**	**09 30 41.7**	**-0.8**
	comp=Z,371nm,1.0s						
STKA	**Stephens Creek**	**28.43 204**		P	**P**	**09 30 41.7**	**-0.8**
STKA	**Stephens Creek**	**28.43 204**		P	**P**	**09 30 42.0**	**-0.5**
	comp=Z,56nm,0.8s,baz=13,slow=8.0,SNR=69						
STKA				PcP	**PcP**	**09 33 52.9**	**-0.2**
	comp=Z,9.9nm,0.8s,baz=48,slow=4.8,SNR=3.5						
STKA				ScP	**ScP**	**09 37 28.2**	**+0.6**
	comp=Z,24nm,1.1s,baz=1.4,slow=3.6,SNR=12						
	comp=Z,56nm,0.8s						
STKA	**Stephens Creek**	**28.43 204**		P	**P**	**09 30 42.4**	**-0.1**
SANI	**Sanana**	**28.82 277**		P	**P**	**09 30 47.2**	**+1.1**
SANI	**Sanana**	**28.82 277**		P	**P**	**09 30 47.0**	**+0.9**
	comp=Z,3μmcomp=Z,241nm,1.2s						
CNB	**Canberra Magne**	**29.52 189**		P	**P**	**09 30 52.6**	**+0.5**
	comp=Z,81nm,1.1s						
CNB	**Canberra Magne**	**29.52 189**		P	**P**	**09 30 53.2**	**+1.0**
CAN	**Canberra**	**29.58 189**		P	**P**	**09 30 53.2**	**+0.5**
	comp=Z,44nm,1.4s						
CAN	**Canberra**	**29.58 189**		P	**P**	**09 30 52.5**	**-0.2**
CAN				IAmb	IAmb	09 30 54.6	
	comp=Z,33nm,0.8s						
CAN	**Canberra**	**29.58 189**		P	**P**	**09 30 53.7**	**+1.0**
CAN	**Canberra**	**29.58 189**		P	**P**	**09 30 52.5**	**-0.2**
CAN				pmax	pmax		
	comp=Z,33nm,0.8s						
SOEI	**Soe**	**30.27 261**		P	**P**	**09 30 58.7**	**-0.4**
SOEI	**Soe**	**30.27 261**		P	**P**	**09 31 01.4**	**+2.3**
SOEI	**Soe**	**30.27 261**		P	**P**	**09 30 59.5**	**+0.4**
	comp=Z,3μmcomp=Z,142nm,1.0s						
SGSI	**Sangihe**	**30.61 288**		P	**P**	**09 31 04.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**30.69 244**		P	**P**	**09 31 02.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.69 244**		P	**P**	**09 31 01.8**	**-0.9**
	comp=Z,69nm,0.8s,baz=61,slow=10,SNR=40						
FITZ				ScP	**ScP**	**09 37 35.8**	**+0.7**
	comp=Z,19nm,1.0s,baz=90,slow=7.1,SNR=4.6						
	comp=Z,69nm,0.8s						
HTT	**Hallett**	**30.89 206**		P	**P**	**09 31 04.1**	**-0.2**
	comp=Z,27nm,1.3s						
HTT	**Hallett**	**30.89 206**		P	**P**	**09 31 04.4**	**+0.1**
BATI	**Baumata**	**30.90 260**		LR	LR	09 46 58.7	
	comp=Z,983nm,18.3s,baz=104,slow=43						
BATI	**Baumata**	**30.90 260**		P	**P**	**09 31 05.3**	**+0.7**
	comp=Z,161nm,1.3s						
WHYH	**Whyalla**	**31.18 208**		P	**P**	**09 31 07.1**	**+0.4**
KMSI	**Cibinong**	**31.27 281**		P	**P**	**09 31 09.3**	**+1.4**
WRKA	**Warakurna**	**31.49 230**		P	**P**	**09 31 09.1**	**-0.6**
	comp=Z,29nm,1.1s						
BBOO	**Buckleboo**	**31.74 211**		P	**P**	**09 31 10.9**	**-0.8**
	comp=Z,72nm,1.2s						
BBOO	**Buckleboo**	**31.74 211**		P	**P**	**09 31 10.7**	**-1.0**
BBOO				IAmb	IAmb	09 31 12.2	
	comp=Z,51nm,0.8s						
BBOO	**Buckleboo**	**31.74 211**		P	**P**	**09 31 11.6**	**-0.1**
DAV	**Davao City (W)**	**31.76 294**		LR	LR	09 42 13.3	
	comp=Z,744nm,21.8s,baz=109,slow=33						
LUWI	**Luwuk**	**32.15 278**		P	**P**	**09 31 15.3**	**-0.2**
LUWI	**Luwuk**	**32.15 278**		P	**P**	**09 31 18.0**	**+2.4**
LUWI	**Luwuk**	**32.15 278**		P	**P**	**09 31 16.9**	**+1.3**
MMRI	**Maumere**	**32.20 263**		P	**P**	**09 31 17.3**	**+1.3**
MMRI	**Maumere**	**32.20 263**		P	**P**	**09 31 16.7**	**+0.7**
TOO	**Toolangi**	**32.45 194**		P	**P**	**09 31 18.3**	**+0.4**
	comp=Z,32nm,2.4s						
TOO	**Toolangi**	**32.45 194**		P	**P**	**09 31 17.7**	**-0.3**
TOO	**Toolangi**	**32.45 194**		P	**P**	**09 31 17.7**	**-0.3**
TOO				pmax	pmax		
	comp=Z,21nm,1.4s						
ARPS	**Mount Arapiles**	**32.73 199**		P	**P**	**09 31 20.4**	**+0.1**
	comp=Z,81nm,1.0s						
EDFI	**Ende, Flores**	**32.74 263**		P	**P**	**09 31 19.9**	**-1.0**
BRAT	**Ballarat**	**32.83 196**		P	**P**	**09 31 22.0**	**+0.9**
MRSI	**Marisa**	**33.25 280**		P	**P**	**09 31 25.5**	**+0.3**
	comp=Z,1μmcomp=Z,86nm,1.2s						
APSI	**Ampana**	**33.28 278**		P	**P**	**09 31 27.6**	**+2.2**
GEXS	**Deakin Univers**	**33.34 195**		P	**P**	**09 31 27.5**	**+1.8**
OUZ	**Omahuta**	**33.89 151**		P	**P**	**09 31 31.9**	**+1.4**
BSSI	**Bau Bau, Buton**	**33.92 268**		P	**P**	**09 31 34.5**	**+3.5**
	comp=Z,186nm,1.2s						
BASI	**Baing, Sumba**	**33.93 261**		P	**P**	**09 31 33.7**	**+2.6**
WSI	**Waingapu**	**34.16 262**		P	**P**	**09 31 34.2**	**+1.1**
BKSI	**Bulukumba**	**34.32 269**		P	pP	09 31 53.9	+1.9
BNSI	**Bone**	**34.39 271**		P	pP	09 31 55.6	+3.1
TOLI2	**Tolitoli**	**34.51 281**		P	**P**	**09 31 34.5**	**-1.6**
TOLI2				IAmb	IAmb	09 31 36.8	
	comp=Z,81nm,1.1s						
TOLI2	**Tolitoli**	**34.51 281**		P	**P**	**09 31 36.5**	**+0.3**
KAPI	**Kappang**	**34.70 270**		P	**P**	**09 31 37.7**	**0.0**
KAPI	**Kappang**	**34.70 270**		LR	LR	09 47 49.5	
	comp=Z,276nm,21.6s,baz=97,slow=40						
KAPI	**Kappang**	**34.70 270**	*d*	*i*P	**P**	**09 31 37.8**	**0.0**
KAPI				pmax	pmax		
	comp=Z,95nm,1.8s						
KAPI	**Kappang**	**34.70 270**		P	**P**	**09 31 37.8**	**0.0**

THZ	Tophouse	39.11 158	P	P	09 32 14.5	-0.4		
MRZ	Mangatainoka R	39.25 155	P	P	09 32 14.7	-1.3		
PXZ	Pawanui	39.30 153	P	P	09 32 15.8	-0.6		
SNZO	South Karori	39.42 156	P	P	09 32 18.3	+0.9		
SNZO	South Karori	39.42 156	P	P	09 32 16.4	-1.0		
SNZO			pP	pP	09 32 34.4	-1.5		
BFZ	Birch Farm	39.55 154	P	P	09 32 20.9	+2.4		
LTZ	Lake Taylor	39.78 160	P	P	09 32 20.3	-0.1		
JCZ	Jackson Bay	39.86 164	P	P	09 32 22.1	+1.0		
KHZ	Kahutara	39.91 158	P	P	09 32 21.5	+0.1		
KHZ	Kahutara	39.91 158	P	P	09 32 20.3	-1.1		
MEEK	Meekatharra	39.92 235	P	P	09 32 21.8	-0.1		
	comp=Z,51nm,0.7s							
MEEK	Meekatharra	39.92 235	P	P	09 32 22.1	+0.2		
KKM	Kota Kinabalu	40.16 287	P	P	09 32 23.5	-0.6		
KKM	Kota Kinabalu	40.16 287	P	P	09 32 25.9	+1.8		
OXZ	Oxford	40.18 160	P	P	09 32 22.9	-0.8		
JAGI	Jajag, Banyuwa	40.19 264	P	P	09 32 25.8	+1.6		
JAGI	Jajag, Banyuwa	40.19 264	P	P	09 32 23.3	-0.9		
	comp=Z,99nm,1.2s							
MSZ	Milford Sound	40.19 165	P	P	09 32 24.4	+0.7		
RPZ	Rata Peaks	40.20 161	LR	LR	09 46 41.8			
	comp=Z,1μm,21.4s,baz=324,slow=32							
RPZ	Rata Peaks	40.20 161	P	P	09 32 23.6	-0.3		
GVZ	Greta Valley S	40.21 159	P	P	09 32 23.4	-0.6		
LBZ	Lake Benmore	40.55 163	P	P	09 32 25.5	-1.2		
MQZ	McQueen's Vall	40.72 160	P	P	09 32 27.7	-0.4		
TMZ	Timaru	40.79 162	P	P	09 32 27.2	-1.5		
MLZ	Mavora Lakes	40.89 165	P	P	09 32 29.1	-0.4		
EAZ	Earnscleugh	41.07 164	P	P	09 32 30.5	-0.5		
JOW	Kunigami	41.46 323	P	P	09 32 34.4	0.0		
JOW			IAmb	IAmb	09 32 53.8			
	comp=Z,65nm,1.0s							
JOW	Kunigami	41.46 323	LR	LR	09 46 43.3			
	comp=Z,536nm,21.8s,baz=129,slow=32							
JOW	Kunigami	41.46 323	P	P	09 32 35.4	+1.0		
SYZ	Scrubby Hill	42.24 165	P	P	09 32 39.9	-0.5		
MORW	Morawa	43.00 233	P	P	09 32 46.7	-0.3		
	comp=Z,50nm,0.6s							
MORW	Morawa	43.00 233	P	P	09 32 46.3	-0.6		
MORW			IAmb	IAmb	09 32 47.7			
	comp=Z,25nm,0.6s							
MORW	Morawa	43.00 233	P	P	09 32 47.7	+0.7		
PCJI	Pacitan	43.13 265	P	P	09 32 49.0	+0.8		
	comp=Z,142nm,1.4s							
BLDU	Ballidu	43.15 231	P	P	09 32 47.6	-0.5		
	comp=Z,37nm,1.3s							
BLDU	Ballidu	43.15 231	P	P	09 32 48.1	0.0		
SBUM	Sibu	43.16 280	P	P	09 32 49.0	+0.5		
SBUM			IAmb	IAmb	09 32 51.1			
	comp=Z,33nm,1.1s							
SBUM	Sibu	43.16 280	P	P	09 32 50.5	+2.0		
YOJ	Yonaguni jima	43.22 316	P	P	09 32 49.7	+1.0		
YOJ	Yonaguni jima	43.22 316	P	P	09 32 50.0	+1.3		
YOJ	Yonaguni jima	43.22 316	P	P	09 32 49.7	+1.0		
YOJ			pmax	pmax				
	comp=Z,184nm,0.9s							
WOJI	Wonogiri, Jawa	43.39 265	P	P	09 32 51.5	+1.2		
	comp=Z,125nm,1.6s							
STKI	Sintang	43.48 276	P	P	09 32 53.4	+2.4		
TWGBT	Beinan	43.57 312	P	P	09 32 53.4	+1.8		
YULB	Yu-li	43.76 313	P	P	09 32 52.9	-0.3		
YULB	Yu-li	43.76 313	P	P	09 32 54.4	+1.3		
NWAO	Narrogin (SRO)	43.83 227	P	P	09 32 53.3	-0.3		
NWAO	Narrogin (SRO)	43.83 227	LR	LR	09 52 34.7			
	comp=Z,1μm,18.1s,baz=70,slow=38							
NACB	Ninganchiao	44.03 314	P	P	09 32 54.9	-0.4		
NACB	Ninganchiao	44.03 314	P	P	09 32 56.6	+1.4		
MUN	Mundaring	44.15 229	P	P	09 32 55.7	-0.4		
	comp=Z,40nm,1.3s							
MUN	Mundaring	44.15 229	P	P	09 32 56.9	+0.8		
TPUB	Ta-pu	44.19 313	P	P	09 32 57.7	+1.1		
SSLB	Suanglung	44.25 313	P	P	09 32 56.6	-0.4		
SSLB			IAmb	IAmb	09 33 17.3			
	comp=Z,73nm,1.0s							
SSLB	Suanglung	44.25 313	P	P	09 32 58.2	+1.1		
MTKN	Mount Kenneth	44.45 230	P	P	09 32 58.6	+0.1		
	comp=Z,166nm,0.5s							
YHNB	Yeheng	44.49 315	P	P	09 32 59.1	+0.1		
YHNB	Yeheng	44.49 315	P	P	09 33 01.3	+2.3		
TATO	Taipei	44.61 315	P	P	09 33 00.6	+0.8		
RKGY	Rocky Gully	44.86 226	P	P	09 33 02.1	+0.4		
	comp=Z,96nm,1.0s							
KSM	Kuching	44.86 278	P	P	09 33 02.0	-0.1		
KSM			IAmb	IAmb	09 33 03.8			
	comp=Z,103nm,1.2s							
KSM	Kuching	44.86 278	P	P	09 33 02.4	+0.3		
JNU	Nakatsue	45.01 331	P	P	09 33 02.5	-0.4		
JNU			IAmb	IAmb	09 33 04.4			
	comp=Z,44nm,0.8s							
JNU	Nakatsue	45.01 331	LR	LR	09 51 23.3			
	comp=Z,139nm,18.0s,baz=143,slow=35							
JNU	Nakatsue	45.01 331	P	P	09 33 03.3	+0.4		
MJAR	Matsushiro Arr	45.07 341	P	P	09 33 01.4	-1.9		
	comp=Z,1.9nm,0.5s,baz=169,slow=7.1,SNR=8.2							
MJAR			LR	LR	09 50 27.1			
	comp=Z,249nm,21.9s,baz=168,slow=34							
	comp=Z,1.9nm,0.5s							
MAJO	Matsushiro	45.07 341	P	P	09 33 01.9	-1.5		
MAJO	Matsushiro	45.07 341	P	P	09 33 02.9	-0.5		
MAJO	Matsushiro	45.07 341	P	P	09 33 01.9	-1.5		
MAJO			pmax	pmax				
	comp=Z,9.0nm,0.8s							
MJB9	Matsu-Tunnel	45.08 341	P	P	09 33 02.7	-0.7		
CTZ	Chatham Island	45.25 151	P	P	09 33 04.6	-0.1		
CTZ	Chatham Island	45.25 151	P	P	09 33 06.0	+1.3		
CTZ	Chatham Island	45.25 151	P	P	09 33 04.9	+0.3		
KPJI	Karang Pucung	45.37 266	P	P	09 33 08.2	+2.1		
	comp=Z,50nm,0.8s							
RAR	Rarotonga	46.63 113	P	P	09 33 15.0	-0.9		
	comp=Z,16nm,0.9s,baz=290,slow=2.6,SNR=3.6							
RAR			LR	LR	09 49 35.4			
	comp=Z,766nm,20.1s,baz=279,slow=32							
	comp=Z,16nm,0.9s							
RAR	Rarotonga	46.63 113	P	P	09 33 15.0	-0.9		
BBJI	Bungbulang	46.64 265	P	P	09 33 16.1	-0.1		
QZH	Quanzhou	46.66 313	⇓*i*P	P	09 33 17.0	+1.0		
QZH			pP	pP	09 33 34.0	-0.9		
QZH			S	S	09 40 01.3	+1.4		
QZH			pmax	pmax				
	comp=Z,180nm,1.0s							
QZH			LR	LR				
	comp=Z,440nm,16.5s							
QZH			LR	LR				
	comp=Z,500nm,19.2s							
QZH			LR	LR				
	comp=Z,1μm,25.4s							
LEM	Lembang	46.69 266	P	P	09 33 16.5	-0.2		
	comp=Z,32nm,0.5s,baz=131,slow=8.2,SNR=5.9							
	comp=Z,32nm,0.5s							
LEM	Lembang	46.69 266	P	P	09 33 16.8	+0.1		
	comp=Z,67nm,0.9s							
CNJI	Cibinong	47.16 266	P	P	09 33 19.9	-0.2		
	comp=Z,5μmcomp=Z,1μmcomp=Z,124nm,1.0s							
XMAS	Kiritimati	48.55 82	P	P	09 33 30.6	-0.2		
HKPS	Hong Kong Po S	48.60 307	P	P	09 33 32.5	+1.3		
HKPS	Hong Kong Po S	48.60 307	P	P	09 33 32.3	+1.2		
CGJI	Cibinong	48.60 267	P	P	09 33 30.6	-0.7		
	comp=Z,108nm,1.0s							
SSE	Sheshan	48.84 321	P	P	09 33 33.8	+1.0		
SSE			S	S	09 40 29.8	-0.7		
SSE			pmax	pmax				
	comp=Z,11nm,0.6s							
SSE			LR	LR				
	comp=Z,210nm,30.9s							
SSE			LR	LR				
	comp=Z,170nm,28.9s							
DLV	Lat	49.23 291	P	P	09 33 36.1	-0.2		
DLV	Lat	49.23 291	P	P	09 33 36.9	+0.6		
TJN	Taejon	49.33 331	P	P	09 33 36.3	-0.2		
TJN	Taejon	49.33 331	P	P	09 33 37.7	+1.3		
TJN	Taejon	49.33 331	*d*/P	P	09 33 36.3	-0.2		
TJN			pmax	pmax				
	comp=Z,3.0nm,1.2s							
KSRS	Korea Array	49.93 332	P	P	09 33 40.6	-0.4		
	comp=Z,19nm,1.0s,baz=151,slow=8.6,SNR=54							
	comp=Z,19nm,1.0s							
KSAR	Wonju Array Be	49.94 332	P	P	09 33 40.9	-0.1		
KSAR	Wonju Array Be	49.94 332	P	P	09 33 40.9	-0.1		
KS19	Wonju Array Si	50.00 332	P	P	09 33 40.2	-1.3		
KS19			IAmb	IAmb	09 33 42.1			
	comp=Z,40nm,1.2s							
MDSI	Maura Dua	50.23 269	P	P	09 33 42.6	-1.1		
	comp=Z,35nm,1.2s							
INCN	Inchon	50.56 331	P	P	09 33 46.1	+0.3		
INCN	Inchon	50.56 331	P	P	09 33 46.6	+0.8		
INCN	Inchon	50.56 331	P	P	09 33 46.1	+0.3		
INCN			pmax	pmax				
	comp=Z,60nm,0.8s							
QIZ	Qiongzhong	50.65 301	P	P	09 33 46.0	-0.7		
QIZ			IAmb	IAmb	09 34 08.4			
	comp=Z,41nm,1.1s							
QIZ	Qiongzhong	50.65 301	P	P	09 33 48.0	+1.2		
QIZ			pP	pP	09 34 03.3	-2.5		
QIZ			sP	sP	09 34 12.3	-2.1		
QIZ			S	S	09 40 58.1	+1.9		
QIZ			sS	sS	09 41 27.6	-1.6		
QIZ			pmax	pmax				
	comp=Z,32nm,1.2s							
QIZ			pmax	pmax				
	comp=Z,280nm,4.9s							
QIZ			LR	LR				
	comp=Z,250nm,16.4s							
QIZ			LR	LR				
	comp=Z,440nm,22.1s							
QIZ			LR	LR				
	comp=Z,840nm,35.0s							
QIZ	Qiongzhong	50.65 301	P	P	09 33 47.3	+0.5		
NJ2	Nanjing	50.95 320	⇓P	P	09 33 49.6	+0.8		
NJ2			pP	pP	09 34 07.5	-0.5		
NJ2			pmax	pmax				
	comp=Z,16nm,1.0s							
CNSH	ChangSha	52.66 312	P	P	09 34 03.3	+1.7		
WHN	Wuhan	53.00 316	⇑P	P	09 34 05.4	+1.3		
WHN			pP	pP	09 34 23.0	-0.2		
WHN			S	S	09 41 28.5	+0.4		
WHN			LR	LR				
	comp=Z,3μm,25.9s							
WHN			LR	LR				
	comp=Z,550nm,11.5s							
WHN			LR	LR				
	comp=Z,4μm,28.1s							
GULI	GuiLin	53.10 308	P	P	09 34 01.5	-3.4		
GULI			S	S	09 41 23.6	-6.0		
GULI			pmax	pmax				
	comp=Z,94nm,1.1s							
GULI			LR	LR				
	comp=Z,500nm,22.8s							
GULI			LR	LR				
	comp=Z,510nm,22.8s							
GULI			LR	LR				
	comp=Z,860nm,21.1s							
KRJI	Kerinci	53.14 272	P	P	09 34 07.1	+1.6		
YSS	Yuzhno-Sakhali	53.81 350	*e*P	P	09 34 10.0	+0.3		
YSS			*e*S	S	09 41 38.7	+0.2		
YSS			pmax	pmax				
	comp=Z,10.0nm,1.3s							
YSS			pmax	pmax				
	comp=Z,100nm,5.5s							
YSS			MLR	MLR				
	comp=Z,200nm,14.0s							
YSS			MLR	MLR				
	comp=N,200nm,16.0s							
YSS			MLR	MLR				
	comp=E,200nm,15.0s							
USRK	Ussuriysk Ar.	54.02 340	P	P	09 34 10.9	-0.3		
	comp=E,3.7nm,0.5s,baz=150,slow=7.9,SNR=15							
USRK			LR	LR	09 53 43.0			
	comp=E,215nm,21.4s,baz=155,slow=32							
	comp=E,3.7nm,0.5s							
USRK	Ussuriysk Ar.	54.02 340	P	P	09 34 11.0	-0.3		
USA0B	Ussuriysk Arra	54.02 340	P	P	09 34 11.6	+0.3		
USA0B			IAmb	IAmb	09 34 13.4			
	comp=Z,81nm,1.6s							
USA0B	Ussuriysk Arra	54.02 340	*d*/P	P	09 34 10.1	-1.2		
DL2	Dalian	54.17 328	P	P	09 34 12.8	+0.4		
DL2			S	S	09 41 41.4	-2.2		
DL2			pmax	pmax				
	comp=Z,50nm,1.1s							
DL2			pmax	pmax				
	comp=Z,170nm,5.8s							
DL2			LR	LR				
	comp=Z,130nm,20.4s							
DL2			LR	LR				
	comp=Z,170nm,20.5s							
DL2			LR	LR				
	comp=Z,410nm,21.6s							
PDSI	Padang	54.26 273	P	P	09 34 12.9	-0.8		
	comp=Z,79nm,0.9s							
PPI	Padang Panjang	54.38 274	P	P	09 34 13.3	-1.2		
	comp=Z,6μmcomp=Z,143nm,1.0s							
IPM	Ipoh	54.51 280	P	P	09 34 14.8	-0.6		
IPM	Ipoh	54.51 280	P	P	09 34 17.5	+2.0		
TIA	Tai'an	54.79 323	P	P	09 34 16.8	-0.2		
TIA			pP	pP	09 34 35.1	-1.3		
TIA			sP	sP	09 34 49.8	+4.7		
TIA			S	S	09 41 44.8	-7.3		
TIA			ScS	ScS	09 43 52.3	-6.9		
TIA			pmax	pmax				
	comp=Z,18nm,1.0s							
TIA			LR	LR				
	comp=Z,300nm,22.1s							
TIA			LR	LR				
	comp=Z,330nm,23.0s							
TIA			LR	LR				
	comp=Z,850nm,25.0s							
KULM	Kulim	55.03 281	P	P	09 34 18.7	-0.5		
KULM	Kulim	55.03 281	P	P	09 34 19.7	+0.5		
MDJ	Mudanjiang	55.23 338	P	P	09 34 20.4	+0.4		
MDJ			pP	pP	09 34 37.9	-1.6		
MDJ			S	S	09 41 57.5	-0.2		
MDJ			sS	sS	09 42 29.1	-1.7		
MDJ			ScS	ScS	09 44 02.9	+1.0		
MDJ			pmax	pmax				
	comp=Z,26nm,1.2s							
MDJ			LR	LR				
	comp=Z,350nm,22.2s							
MDJ			LR	LR				
	comp=Z,220nm,23.0s							
MDJ			LR	LR				
	comp=Z,740nm,23.6s							
MNSI	Mandailing Nat	55.35 275	P	P	09 34 21.1	-0.4		
	comp=Z,88nm,0.9s							
SNY	Shenyang	55.44 332	⇑P	P	09 34 21.4	-0.1		
SNY			S	S	09 41 54.3	-6.2		
SNY			pmax	pmax				
	comp=Z,9.0nm,0.8s							
SNY			pmax	pmax				
	comp=Z,89nm,5.1s							
SNY			LR	LR				
	comp=Z,190nm,13.3s							
SNY			LR	LR				
	comp=Z,190nm,14.3s							
SNY			LR	LR				
	comp=Z,660nm,24.5s							
PPT	Papeete	55.64 107	LR	LR	09 56 03.5			
	comp=Z,117nm,18.8s,baz=290,slow=34							
CN2	Changchun	56.18 335	P	P	09 34 26.8	0.0		
CN2			pP	pP	09 34 44.4	-2.0		
CN2			pmax	pmax				
	comp=Z,20nm,1.2s							
CN2			LR	LR				
	comp=Z,300nm,21.0s							
CN2			LR	LR				
	comp=Z,300nm,21.0s							
CN2			LR	LR				
	comp=Z,400nm,28.0s							
RPSI	Rantau Prapat	56.28 277	P	P	09 34 27.0	-1.1		
RPSI			IAmb	IAmb	09 34 48.0			
	comp=Z,56nm,1.4s							
PSI	Prapat	56.30 277	P	P	09 34 29.6	+1.2		
PSI	Prapat	56.30 277	P	P	09 34 27.0	-1.4		
PSI			pmax	pmax				
	comp=Z,56nm,1.4s							
ENH	Enshi	56.32 313	P	P	09 34 28.1	0.0		
ENH	Enshi	56.32 313	P	P	09 34 28.4	+0.2		
ENH			pP	pP	09 34 46.4	-1.1		
GYA	Guiyang	56.58 307	P	P	09 34 30.9	+0.7		
GYA			pP	pP	09 34 49.4	-0.2		
GYA			S	S	09 42 16.0	-0.5		
GYA			LR	LR				
	comp=Z,1μm,21.9s							
LYN	LuoYang	56.66 318	P	P	09 34 30.8	+0.3		
LYN			pP	pP	09 34 48.6	-1.5		
LYN			S	S	09 42 15.6	-1.5		
LYN			sS	sS	09 42 48.6	+0.2		
LYN			pmax	pmax				
	comp=Z,31nm,0.9s							
LYN			pmax	pmax				
	comp=Z,390nm,4.1s							
LYN			LR	LR				
	comp=Z,580nm,27.8s							
LYN			LR	LR				
	comp=Z,710nm,28.9s							
LYN			LR	LR				
	comp=Z,2μm,27.1s							
SLVN	Son La	56.68 300	P	P	09 34 31.7	+0.8		
SLVN			IAmb	IAmb	09 34 33.5			
	comp=Z,56nm,1.2s							
SLVN	Son La	56.68 300	P	P	09 34 32.8	+1.9		
BNX	BinXian	57.00 338	⇑P	P	09 34 32.6	0.0		
BNX			pP	pP	09 34 50.6	-1.6		
BNX			sP	sP	09 35 03.4	+2.5		
BNX			PP	PP	09 36 43.1	+3.0		
BNX			S	S	09 42 18.5	-2.6		
BNX			pmax	pmax				
	comp=Z,41nm,1.2s							
BNX			pmax	pmax				
	comp=Z,150nm,9.8s							
BNX			LR	LR				
	comp=Z,240nm,25.9s							
BNX			LR	LR				
	comp=Z,160nm,18.9s							
BNX			LR	LR				
	comp=Z,450nm,33.7s							
HNS	HongShan	57.03 322	⇓P	P	09 34 33.0	0.0		
HNS			pP	pP	09 34 51.3	-1.2		
HNS			sP	sP	09 35 05.4	+4.3		
HNS			S	S	09 42 21.6	-0.2		
HNS			pmax	pmax				
	comp=Z,36nm,1.1s							
HNS			LR	LR				
	comp=Z,210nm,22.9s							
HNS			LR	LR				
	comp=Z,440nm,24.1s							
HNS			LR	LR				
	comp=Z,700nm,24.3s							
GSI	Gunungsitoli	57.41 275	P	P	09 34 34.6	-1.5		
GSI	Gunungsitoli	57.41 275	P	P	09 34 37.1	+1.0		
GSI	Gunungsitoli	57.41 275	P	P	09 34 35.6	-0.5		
KCSI	Kotacane, Aceh	57.55 278	P	P	09 34 37.7	+0.6		
TYV	Tymovskoe	57.62 351	*e*P	P	09 34 37.8	+1.0		
TYV			*e*S	S	09 42 30.8	+1.8		
TYV			pmax	pmax				
	comp=Z,6.0nm,1.3s							
TYV			pmax	pmax				
	comp=Z,100nm,3.4s							
TYV			smax	smax				
	comp=N,100nm,3.4s							
TYV			smax	smax				
	comp=E,100nm,3.4s							
BJT	Baijiatuau	57.92 326	P	P	09 34 38.6	-0.6		
BJT			pP	pP	09 34 55.6	-3.2		
BJI	Beijing	57.93 326	P	P	09 34 39.3	0.0		
BJI			pP	pP	09 34 59.4	+0.6		
BJI			sP	sP	09 35 04.5	-2.9		
BJI			S	S	09 42 35.8	+2.3		
BJI			sS	sS	09 43 10.4	+5.4		
BJI			pmax	pmax				
	comp=E,5.0nm,1.4s							
BJI			LR	LR				
	comp=E,170nm,16.7s							
BJI			LR	LR				
	comp=E,100nm,16.2s							
BJI			LR	LR				
	comp=E,300nm,23.6s							
GRNR	Gornyy	58.73 347	*e*P	pP	09 35 02.2	-2.2		
XAN	Xi'an	58.77 316	⇓P	P	09 34 44.9	-0.4		
XAN			pP	pP	09 35 03.3	-1.7		
XAN			sP	sP	09 35 16.1	+2.5		
XAN			S	S	09 42 40.6	-4.2		
XAN			pmax	pmax				
	comp=E,42nm,1.0s							
XAN			pmax	pmax				
	comp=E,240nm,7.7s							
XAN			LR	LR				
	comp=E,480nm,19.4s							
XAN			LR	LR				
	comp=E,500nm,24.1s							
XAN			LR	LR				
	comp=E,990nm,23.4s							
PET	Petropavlovsk	58.95 3	*e*P	pP	09 35 02.4	-3.5		
PET			*e*S	S	09 42 55.7	+9.4		
PET			pmax	pmax				
	comp=Z,100nm,13.3s							
PET			MLR	MLR				
	comp=Z,300nm,15.0s							
PEA0B	Petropavlovsk-	58.99 2	⇓*i*P	P	09 34 46.9	+0.5		
PETK	Petropavlovsk-	58.99 2	P	P	09 34 46.4	0.0		
PETK	Petropavlovsk-	58.99 2	P	P	09 34 46.1	-0.3		
	comp=Z,2.4nm,0.6s,baz=167,slow=5.6,SNR=8.4							
PETK			LR	LR	09 56 41.3			
	comp=Z,235nm,21.7s,baz=184,slow=32							
	comp=Z,2.4nm,0.6s							
PETK	Petropavlovsk-	58.99 2	P	P	09 34 46.4	0.0		
KMI	Kunming	59.17 304	⇓P	P	09 34 50.1	+1.6		
KMI			pP	pP	09 35 07.0	-0.9		
KMI			S	S	09 42 46.8	-3.9		
KMI			SS	SS	09 46 51.3	+4.9		
KMI			pmax	pmax				
	comp=Z,98nm,1.1s							
KMI			LR	LR				
	comp=Z,240nm,19.8s							
KMI			LR	LR				
	comp=Z,540nm,20.8s							
KMI			LR	LR				
	comp=Z,980nm,26.8s							
CM31	Chiang Mai Arr	60.03 295	P	P	09 34 55.3	+1.1		
CMAR	Chiang Mai Arr	60.03 295	P	P	09 34 55.0	+0.8		
CMAR	Chiang Mai Arr	60.03 295	P	P	09 34 55.2	+1.0		
	comp=Z,40nm,0.9s,baz=113,slow=5.0,SNR=103							
CMAR			LR	LR	09 59 18.9			
	comp=Z,245nm,21.7s,baz=105,slow=34							
CMAR			PKPPKP	P'P'df	10 04 18.1	-2.1		
	comp=Z,4.8nm,1.2s,baz=293,slow=4.2,SNR=7.7							
	comp=Z,40nm,0.9s							
CMAR	Chiang Mai Arr	60.03 295	*ce*P	P	09 34 55.7	+1.4		
CMAR			pmax	pmax				
	comp=Z,48nm,0.9s							
CHTO	Chiang Mai	60.15 296	P	P	09 34 55.6	+0.6		
CHTO	Chiang Mai	60.15 296	P	P	09 34 56.4	+1.4		
CHTO	Chiang Mai	60.15 296	P	P	09 34 55.6	+0.6		
CHTO			pmax	pmax				
	comp=Z,66nm,1.1s							
CHTO	Chiang Mai	60.15 296	P	P	09 34 55.7	+0.6		
CHTO			pP	pP	09 35 12.8	-1.8		
PZH	PanZhiHua	60.56 305	P	P	09 34 58.8	+0.9		
PZH			pP	pP	09 35 17.1	-0.3		
PZH			S	S	09 43 07.8	-0.5		
PZH			pmax	pmax				
	comp=Z,30nm,0.7s							
PZH			pmax	pmax				
	comp=Z,260nm,4.7s							
PZH			LR	LR				
	comp=Z,340nm,23.7s							
PZH			LR	LR				
	comp=Z,490nm,22.5s							
PZH			LR	LR				
	comp=Z,750nm,23.7s							
XLT	XiLinHaoTe	60.66 329	*e*P	P	09 34 58.0	-0.1		
XLT			pP	pP	09 35 16.0	-1.9		
XLT			sP	sP	09 35 26.6	+0.1		
XLT			PcP	PcP	09 35 43.8	+2.1		
XLT			SS	SS	09 47 08.3	-0.5		
XLT			pmax	pmax				
	comp=Z,61nm,0.9s							
XLT			LR	LR				
	comp=Z,350nm,23.3s							
HEH	HeiHe	60.82 340	*e*P	P	09 34 58.6	-0.4		
HEH			pP	pP	09 35 17.4	-1.4		
HEH			ScS	ScS	09 44 39.8	-3.0		
HEH			pmax	pmax				
	comp=Z,12nm,1.2s							
HEH			LR	LR				
	comp=Z,390nm,18.8s							
HEH			LR	LR				
	comp=Z,280nm,19.6s							
HEH			LR	LR				
	comp=Z,430nm,20.6s							
SHEM	Shemya Is, Ala	60.86 13	LR	LR	09 58 34.5			
	comp=Z,605nm,20.7s,baz=154,slow=33							
CD2	Chengdu	60.91 310	P	P	09 35 00.4	+0.3		
CD2			pP	pP	09 35 18.5	-1.5		
CD2			sP	sP	09 35 28.0	-0.6		

CD2 PcP **PcP** **09 35 42.9 -0.1**
CD2 S **S** **09 43 12.3 -0.2**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 LR LR
comp=Z,650nm,24.7s
CD2 LR LR
comp=Z,790nm,22.4s
CD2 LR LR
comp=Z,920nm,19.6s
HHC Hu-ho-hao-te 61.11 324 *e*P **P** **09 35 04.3 +3.0**
HHC pP pP 09 35 19.9 -1.2
HHC S **S** **09 43 11.6 -3.2**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,110nm,6.7s
HHC LR LR
comp=Z,320nm,20.2s
HHC LR LR
comp=Z,210nm,13.5s
HHC LR LR
comp=Z,690nm,21.9s
DRV Dumont d'Urvil 61.35 187 P **P** **09 35 02.5 +0.2**
DRV sP **pwP** **09 35 26.0 -0.5**
DRV PcP **PcP** **09 35 43.7 -0.2**
BTO Baotou 61.88 323 *e*P **P** **09 35 08.0 +1.5**
BTO pP **pP** **09 35 25.4 -0.9**
BTO sP **sP** **09 35 35.8 +1.0**
BTO S **S** **09 43 25.3 +0.8**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,280nm,4.0s
BTO LR LR
comp=Z,650nm,18.5s
BTO LR LR
comp=Z,420nm,17.8s
BTO LR LR
comp=Z,1µm,19.4s
TNCH TengChong 62.66 302 ⇓P **P** **09 35 12.8 +0.7**
TNCH pP pP 09 35 29.8 -1.9
TNCH S **S** **09 43 36.8 +1.8**
TNCH sS sS 09 44 08.3 +1.6
TNCH pmax pmax
comp=Z,83nm,1.2s
TNCH LR LR
comp=Z,760nm,15.2s
TNCH LR LR
comp=Z,720nm,23.0s
TNCH LR LR
comp=Z,440nm,21.9s
HIA Hailar 62.91 335 P **P** **09 35 12.7 -0.4**
HIA IAmb IAmb 09 35 14.8
comp=Z,27nm,0.9s
HIA Hailar 62.91 335 P **P** **09 35 12.7 -0.4**
HIA pmax pmax
comp=Z,27nm,0.9s
HIA Hailar 62.91 335 P **P** **09 35 12.6 -0.4**
LZH Lanzhou 63.38 315 *e*P **P** **09 35 17.8 +1.2**
LZH pP pP 09 35 36.8 +0.2
LZH sP sP 09 35 45.6 +0.4
LZH S **S** **09 43 39.3 -4.3**
LZH SS **SS** **09 47 56.8 +5.0**
LZH pmax pmax
comp=Z,51nm,1.3s
LZH LR LR
comp=Z,220nm,15.1s
LZH LR LR
comp=Z,460nm,15.5s
LZH LR LR
comp=Z,500nm,14.8s
ZEA Zeya 63.87 342 *e*P **P** **09 35 19.8 +0.5**
ZEA *e* 09 35 38.4
ZEA pmax pmax
comp=Z,20nm,1.0s
MA2 Magadan 65.49 358⇓ *e*P **P** **09 35 29.6 -0.1**
MA2 pmax pmax
comp=Z,14nm,1.2s
NIKH Nikolski High 66.43 23 P **P** **09 35 36.4 +0.5**
baz=220
CASY Casey 67.36 198 P **P** **09 35 41.0 -0.6**
CASY IAmb IAmb 09 35 42.4
comp=Z,27nm,0.8s
CASY Casey 67.36 198 P **P** **09 35 41.2 -0.4**
CASY pP **pP** **09 35 57.7 -3.1**
GTA Gaotai 67.79 317 P **P** **09 35 46.6 +1.6**
GTA pP pP 09 36 04.4 -0.7
GTA S **S** **09 44 36.3 -1.0**
GTA pmax pmax
comp=Z,26nm,1.1s
GTA LR LR
comp=Z,280nm,21.5s
GTA LR LR
comp=Z,350nm,20.3s
GTA LR LR
comp=Z,850nm,21.6s
BRDH Bariadhala 67.83 297 LR LR 10 06 30.3
comp=Z,130nm,19.6s,baz=146,slow=37
ULN Ulaanbaatar 68.01 328*d* *i*P **P** **09 35 46.6 +0.4**
ULN pmax pmax
comp=Z,21nm,1.4s
UNV Unalaska Valle 68.02 24 P **P** **09 35 47.0 +1.2**
baz=222
SONM Songino Array 68.34 327 P **P** **09 35 48.3 +0.1**
SONM IAmb IAmb 09 36 23.3
comp=Z,70nm,1.4s
SONM Songino Array 68.34 327 P **P** **09 35 48.3 +0.1**
comp=Z,3.8nm,0.6s,baz=137,slow=5.6,SNR=26
SONM PKP2bc 10 04 02.1
comp=Z,1.2nm,0.9s,baz=20,slow=0.3,SNR=6.7
SONM LR LR 10 05 49.9
comp=Z,151nm,20.0s,baz=134,slow=36
comp=Z,3.8nm,0.6s
SEY Seymchan 68.81 359 *e*P **P** **09 35 49.9 -0.7**
SEY pmax pmax
comp=Z,16nm,1.7s
P08K Saint George I 68.99 20 P **P** **09 35 53.0 +1.2**
baz=218
SPIA Saint Paul Isl 69.20 20 P **P** **09 35 54.5 +1.3**
baz=218
FALS False Pass 70.00 24 P **P** **09 35 58.7 +0.6**
baz=225
LSA Lhasa 70.43 304 P **P** **09 36 01.9 0.0**
YAK Yakutsk 70.56 348 LR LR 10 05 35.5
comp=Z,72nm,20.6s,baz=148,slow=35
YAK Yakutsk 70.56 348 *e*P **P** **09 36 01.7 +0.3**
YAK *e**PP **pP** **09 36 19.6 -2.0**
YAK *e* 09 36 23.3
YAK *e* 09 38 38.7
YAK *e*PPP PPP 09 40 21.5
YAK *e*S **S** **09 45 09.5 +0.8**
YAK *e**SS **sS** **09 45 45.8 +3.7**
YAK *e* 09 45 57.7
YAK *e*SS **SS** **09 49 43.0 +1.3**
YAK pmax pmax
comp=Z,33nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=Z,44nm,1.8s
YAK pmax pmax
comp=N,26nm,1.8s
YAK pmax pmax
comp=E,20nm,1.6s
YAK smax smax
comp=E,123nm,4.0s
YAK smax smax
comp=N,51nm,2.9s
YAK Yakutsk 70.56 348 P **P** **09 36 01.9 +0.5**
YAK pP **pP** **09 36 18.7 -3.0**
S12K Black Hills 71.15 24 P **P** **09 36 05.5 +0.4**
baz=226
CCD Concordia, Ant 71.28 188 P **P** **09 36 06.2 0.0**
ZAK Zakamensk 71.50 328 *e*P **P** **09 36 07.2 -0.3**
ZAK pmax pmax
comp=Z,12nm,1.2s
VNDA Vanda 71.53 178 P **P** **09 36 07.0 -0.1**
VNDA IAmb IAmb 09 36 08.8
comp=Z,82nm,1.6s
VNDA Vanda 71.53 178 P **P** **09 36 07.1 -0.1**
comp=Z,17nm,1.0s,baz=338,slow=6.9,SNR=73
VNDA LR LR 10 02 45.1
comp=Z,183nm,21.5s,baz=358,slow=32
comp=Z,17nm,1.0s
VNDA Vanda 71.53 178 P **P** **09 36 07.3 +0.2**
VNDA PcP **pP** **09 36 26.7 -0.2**
SDPT Sand Point 71.56 25 P **P** **09 36 08.4 +0.8**
baz=228
CHNA Chernabura Isl 71.60 26 P **P** **09 36 08.5 +0.7**
baz=229
SBA Scott Base 72.04 177 P **P** **09 36 10.8 +0.6**
SBA IAmb IAmb 09 36 13.2
comp=Z,98nm,1.4s
SBA Scott Base 72.04 177 P **P** **09 36 10.8 +0.6**
SBA pmax pmax
comp=Z,98nm,1.4s
SBA Scott Base 72.04 177 P **P** **09 36 11.4 +1.2**
IRK Irkutsk 72.08 330 *e*P **pP** **09 36 28.2 -3.0**
IRK pmax pmax
comp=Z,30nm,1.2s
S14K Fog Glacier 72.58 25 P **P** **09 36 14.5 +0.7**
baz=228
M11K Mekoryuk 73.03 19 P **P** **09 36 17.9 +1.7**
baz=221
CHGN Chignik 73.07 25 P **P** **09 36 18.0 +1.5**
baz=229
EVN Everest 73.52 301 P **P** **09 36 19.9 -0.7**
EVN IAmb IAmb 09 36 41.5
comp=Z,119nm,1.4s
O14K Tigyukauivet M 73.93 22 P **P** **09 36 22.4 +0.9**
O14K IAmb IAmb 09 36 44.7
comp=Z,59nm,1.2s
O14K Tigyukauivet M 73.93 22 P **P** **09 36 22.5 +1.0**
baz=226
CHIR Chirikof Islan 73.98 27 P **P** **09 36 22.9 +1.0**
baz=232
M13K Dall Lake 74.00 20 P **P** **09 36 23.0 +1.0**
M13K IAmb IAmb 09 36 45.6
comp=Z,66nm,1.4s
M13K Dall Lake 74.00 20 P **P** **09 36 23.2 +1.3**
baz=224
GAMB Gambell 74.11 15 P **P** **09 36 23.7 +1.2**
baz=215
R16K Pilot Point 74.24 25 P **P** **09 36 24.1 +0.7**
baz=230
N14K Kuskokwak Cree 74.24 21 P **P** **09 36 24.1 +0.8**
baz=226
BILL Bilibino 74.38 5⇑ *i*P **P** **09 36 24.8 +0.8**
BILL pmax pmax
comp=Z,9.0nm,0.9s
O15K Ungalikthiuk R 74.41 22 P **P** **09 36 25.4 +1.0**
baz=227
K13K Kusilvak Mount 74.69 19 P **P** **09 36 27.2 +1.3**
baz=222
M14K Bethel 74.73 20 IAmb IAmb 09 36 50.0
comp=Z,35nm,1.0s
M14K Bethel 74.73 20 P **P** **09 36 27.4 +1.3**
baz=225,SNR=5.7
R17L Mt. Peulik Vol 74.78 25 P **P** **09 36 27.5 +0.8**
baz=231
PLK4 Peulik 4 74.79 25 IAmb IAmb 09 36 49.8
comp=Z,53nm,0.9s
L14K Kuka Creek 74.90 20 IAmb IAmb 09 36 50.5
comp=Z,44nm,1.1s
L14K Kuka Creek 74.90 20 P **P** **09 36 28.4 +1.3**
baz=224
PALK Pallekele 74.91 279⇓ *i*P **P** **09 36 27.7 -0.6**
PALK pmax pmax
comp=Z,26nm,1.4s
N15K Kwethluk River 74.99 22 P **P** **09 36 28.0 +0.3**
N15K IAmb IAmb 09 36 51.0
comp=Z,34nm,1.2s
N15K Kwethluk River 74.99 22 P **P** **09 36 28.9 +1.2**
baz=227,SNR=5.4
P16K Nushagak River 75.02 23 P **P** **09 36 29.2 +1.3**
baz=229
SII Sitkinak Islan 75.07 27 P **P** **09 36 29.4 +1.1**
baz=233
M15K Kasigluk River 75.14 21 P **P** **09 36 28.7 +0.2**
baz=226,SNR=5.6
Q16K King Salmon 75.33 24 P **P** **09 36 30.2 +0.6**
baz=230
O16K Kokwok River B 75.35 23 P **P** **09 36 30.3 +0.5**
baz=229
Q17K Contact Creek 75.38 25 P **P** **09 36 30.3 +0.2**
baz=231
L15K Ungalak Mounta 75.54 20 P **P** **09 36 31.6 +0.8**
baz=225
R18K Karluk 75.56 26 P **P** **09 36 31.0 +0.1**
baz=233
ACHA Angle Creek He 75.58 25 P **P** **09 36 31.8 +0.6**
J14K Nanvaranak Lak 75.64 18 P **P** **09 36 32.6 +1.3**
baz=223,SNR=5.6
N16K Nishlik Lake 75.68 22 P **P** **09 36 33.2 +1.5**
baz=228
P17K Kvichak River 75.74 24 P **P** **09 36 32.4 +0.4**
baz=231
O17K Koliganek Bris 75.86 23 P **P** **09 36 32.8 +0.1**
baz=230
OHAK Old Harbor 75.86 26 P **P** **09 36 33.2 +0.5**
baz=234
K15K Wolf Creek Mou 75.96 20 P **P** **09 36 34.0 +0.8**
K15K IAmb IAmb 09 36 56.7
comp=Z,50nm,1.2s
K15K Wolf Creek Mou 75.96 20 P **P** **09 36 34.7 +1.5**
baz=225,SNR=5.3
M16K Timber Creek 75.98 21 IAmb IAmb 09 36 56.8
comp=Z,38nm,1.1s
M16K Timber Creek 75.98 21 P **P** **09 36 34.5 +1.2**
baz=228,SNR=9.4
Q18K Katmai Hardscr 75.98 25 P **P** **09 36 33.6 0.0**
baz=232,SNR=7.7
L16K Owhat River 76.26 21 P **P** **09 36 34.5 -0.5**
L16K IAmb IAmb 09 36 58.0
comp=Z,27nm,1.2s
L16K Owhat River 76.26 21 P **P** **09 36 35.8 +0.9**
baz=227,SNR=5.4
N17K Nushagak Hills 76.31 22 P **P** **09 36 36.3 +1.0**
baz=230
P18K Big Mountain, 76.35 24 P **P** **09 36 35.5 -0.1**
baz=232
ANM Nome 76.44 17 P **P** **09 36 36.8 +0.8**
baz=221
KDAK Kodiak Island 76.49 26 LR LR 10 06 31.1
comp=Z,299nm,20.6s,baz=230,slow=33
KDAK Kodiak Island 76.49 26⇑ *i*P **P** **09 36 37.7 +1.4**
KDAK pmax pmax
comp=Z,12nm,1.1s
KDAK Kodiak Island 76.49 26 P **P** **09 36 37.6 +1.3**
baz=234
TNA Tin City 76.52 15 P **P** **09 36 37.5 +1.3**
baz=218
O18K Koktuh Hills 76.65 23 P **P** **09 36 37.7 +0.5**
baz=232
Q19K Cape Douglas, 76.72 25 P **P** **09 36 37.7 +0.1**
baz=233
M17K Holitna River 76.78 22 P **P** **09 36 38.9 +1.0**
baz=229
F14K Arctic Creek 76.87 16 P **P** **09 36 39.5 +1.2**
baz=220
N18K Kilae Creek 76.90 23 P **P** **09 36 39.8 +1.2**
baz=231,SNR=7.9
L17K Donlin 76.96 21 P **P** **09 36 39.6 +0.7**
baz=228
J16K Anvik River 76.97 19 P **P** **09 36 40.6 +1.7**
J16K IAmb IAmb 09 37 02.7
comp=Z,48nm,1.4s
J16K Anvik River 76.97 19 P **P** **09 36 39.5 +0.7**
baz=226
Q20K Shuyak Island 77.06 25 P **P** **09 36 40.1 +0.6**
baz=234
G15K Niukluk 77.14 17 P **P** **09 36 40.2 +0.4**
baz=222
O19K Port Alsworth 77.21 23 P **P** **09 36 40.4 +0.1**
baz=232
P19K Oil Pt 77.32 24 P **P** **09 36 41.1 +0.1**
baz=234
K17K Iditarod 77.35 20 IAmb IAmb 09 37 04.6
comp=Z,28nm,1.1s
K17K Iditarod 77.35 20 P **P** **09 36 42.7 +1.6**
baz=228,SNR=6.0
I17K Unalakleet 77.36 19 P **P** **09 36 42.4 +1.4**
baz=226
H16K Elim 77.41 18 P **P** **09 36 42.4 +1.0**
baz=224
M18K Stony River 77.44 22 P **P** **09 36 42.9 +1.4**
baz=231,SNR=5.7
F15K North Star Dit 77.51 16 P **P** **09 36 42.8 +0.9**
baz=222
N19K Bonanza Creek 77.52 23 P **P** **09 36 42.7 +0.5**
baz=232
J17K VABM Dome 77.54 19 P **P** **09 36 43.4 +1.3**
baz=227,SNR=6.2
L18K Granite Mounta 77.59 21 P **P** **09 36 43.8 +1.4**
baz=230,SNR=10
O20K Slope Mountain 77.82 24 P **P** **09 36 44.0 +0.2**
baz=234
WMQ Urumqi 77.88 317 *e*P **P** **09 36 46.5 +2.0**
WMQ LR LR
comp=Z,750nm,24.2s
G16K Koyuk River 77.92 17 IAmb IAmb 09 37 30.1
comp=Z,24nm,1.1s
G16K Koyuk River 77.92 17 P **P** **09 36 45.1 +0.9**
baz=224,SNR=7.2
CNPM China Poot 78.07 25 IAmb IAmb 09 37 08.0
comp=Z,65nm,1.1s
M19K Big River Lodg 78.23 22 IAmb IAmb 09 37 30.6
comp=Z,36nm,1.2s
M19K Big River Lodg 78.23 22 P **P** **09 36 47.3 +1.3**
baz=232,SNR=5.8
L19K White Mountain 78.23 22 IAmb IAmb 09 37 09.3
comp=Z,28nm,0.9s
L19K White Mountain 78.23 22 P **P** **09 36 46.8 +0.8**
baz=232,SNR=12
H17K Granite Mounta 78.33 18 P **P** **09 36 47.6 +1.1**
baz=226,SNR=6.6
J18K Innoko River 78.38 20 P **P** **09 36 47.6 +0.8**
baz=230,SNR=8.0
G17K Kiwalik Mounta 78.50 17 P **P** **09 36 48.7 +1.3**
baz=226
HYB Hyderabad 78.60 289 *e*P **P** **09 36 49.3 +0.3**
HYB *e*pP **pP** **09 37 07.2 -2.1**
HYB *e*sP **sP** **09 37 14.3 -3.4**
HYB *e*PP **PP** **09 39 48.3 +0.4**
N20K Mount Spurr 78.64 23 P **P** **09 36 48.1 -0.3**
baz=234
M20K Styx River 78.69 22 IAmb IAmb 09 37 20.2
comp=Z,44nm,1.6s
M20K Styx River 78.69 22 P **P** **09 36 49.6 +1.0**
baz=233
L20K Farewell, AK 78.77 22 P **P** **09 36 50.3 +1.3**
baz=232,SNR=5.9
F17K Baldwin Pennin 78.99 17 P **P** **09 36 51.2 +1.2**
baz=225
SLKM Skilak Lake 79.05 24 IAmb IAmb 09 37 12.3
comp=Z,25nm,1.0s
J19K Poorman 79.10 20 P **P** **09 36 50.8 +0.1**
baz=231,SNR=6.7
SEW Seward 79.14 25 P **P** **09 36 51.3 +0.4**
baz=237
GCSA Galena City Sc 79.17 19 P **P** **09 36 51.4 +0.4**
baz=229,SNR=6.2
O22K Cooper Landing 79.24 25 P **P** **09 36 51.2 -0.3**
baz=237
K20K Telida 79.24 21 P **P** **09 36 52.1 +0.6**
baz=232,SNR=6.2
C16K Lisburne Hills 79.27 14 P **P** **09 36 52.1 +0.6**
baz=221
E17K Hotham Inlet 79.29 16 P **P** **09 36 52.1 +0.5**
baz=224,SNR=6.4
SKT Skwentna 79.36 23 P **P** **09 36 52.3 +0.1**
baz=235
SUA Susitna One 79.37 23 P **P** **09 36 52.2 -0.1**
baz=236
G18K Tagagawik 79.37 18 P **P** **09 36 52.0 -0.2**
baz=227
TIXI Tiksi 79.38 352 LR LR 10 09 34.6
comp=Z,61nm,21.5s,baz=180,slow=34
TIXI Tiksi 79.38 352⇓ *i*P **P** **09 36 52.3 +0.3**
TIXI pmax pmax
comp=Z,12nm,1.0s
D17K Noatak River 79.41 15 P **P** **09 36 51.6 -0.7**
baz=223
F18K Selawik 79.56 17 P **P** **09 36 53.1 0.0**
baz=226
RC01 Rabbit Creek A 79.57 24 P **P** **09 36 53.3 0.0**
baz=236
PPLA Purkeypile 79.65 22 P **P** **09 36 53.7 -0.1**
baz=234
RDOG Red Dog Mine 79.71 15 P **P** **09 36 55.0 +1.0**
baz=223
J20K Nowinta River 79.72 20 IAmb IAmb 09 37 16.9
comp=Z,62nm,1.7s
J20K Nowinta River 79.72 20 P **P** **09 36 54.8 +0.8**
baz=228,SNR=8.4
H19K Roundabout Mou 79.81 19 P **P** **09 36 54.8 +0.3**
baz=230,SNR=12
E18K Tukpahlearik C 79.87 16 P **P** **09 36 55.6 +0.8**
baz=225
C17K DeLong Mountai 79.95 15 P **P** **09 36 54.9 -0.4**
baz=223
P23K Montague Islan 79.96 26 P **P** **09 36 55.1 -0.3**
baz=239
I20K Naaghedeneel 79.99 20 IAmb IAmb 09 37 40.0
comp=Z,85nm,1.5s
I20K Naaghedeneel 79.99 20 P **P** **09 36 56.6 +1.2**
baz=232,SNR=5.1
CAST Castle Rocks 79.99 21 P **P** **09 36 55.6 0.0**
baz=234,SNR=7.1
G19K Purcell Mounta 80.02 18 P **P** **09 36 56.9 +1.3**
baz=229,SNR=8.9
PWL Port Wells 80.02 25 IAmb IAmb 09 37 35.0
comp=Z,29nm,0.9s
PWL Port Wells 80.02 25 P **P** **09 36 55.8 0.0**
baz=238
PMR Palmer 80.09 24 P **P** **09 36 58.0 +1.9**
PMR Palmer 80.09 24 P **P** **09 36 56.1 0.0**
baz=237
CUT Chulitna 80.09 23 P **P** **09 36 56.3 +0.3**
baz=236
Q23K Middleton Isla 80.13 26 P **P** **09 36 56.3 0.0**
baz=240
CHUM Lake Minchumin 80.18 21 P **P** **09 36 57.1 +0.5**
baz=234,SNR=7.0
KNK Knik Glacier 80.26 24 P **P** **09 36 56.3 -0.8**
baz=238
F19K Shaleruckik Mo 80.27 17 P **P** **09 36 56.8 -0.2**
baz=228
H20K Anotleneega Mo 80.29 19 P **P** **09 36 57.7 +0.5**
baz=231,SNR=7.4
GLI Glacier Island 80.55 25 P **P** **09 36 58.6 0.0**
baz=239
TRF Thorofare Moun 80.67 22 P **P** **09 36 59.3 -0.1**
baz=236
BPAW Bear Paw Mtn. 80.79 21 P **P** **09 36 59.8 0.0**
baz=235
E19K Redstone River 80.84 17 IAmb IAmb 09 37 56.9
comp=Z,27nm,1.1s
E19K Redstone River 80.84 17 P **P** **09 37 00.3 +0.2**
baz=229
SCM Sheep Creek Mo 80.94 24 P **P** **09 37 01.1 +0.3**
baz=239
EYAK Cordova Ski Ar 80.95 26 P **P** **09 37 00.9 +0.2**
baz=240
IMAR Indian Mountai 80.97 19 P **P** **09 37 01.6 +0.9**
ZSN Zaisan 80.98 320 *e*P **P** **09 37 01.5 +0.3**
ZSN Zaisan 80.98 320 *e*P **P** **09 37 01.5 +0.3**
F20K Avaraart Lake 81.02 18 P **P** **09 37 01.8 +0.8**
baz=230,SNR=6.4
I21K Tanana 81.07 20 P **P** **09 37 01.1 -0.2**
baz=234,SNR=8.5
H21K Melozitna Rive 81.08 19 P **P** **09 37 01.1 -0.2**
baz=233
KAIM Kayak Island 81.23 26 P **P** **09 37 01.7 -0.5**
baz=242
C19K Lookout Ridge 81.32 15 P **P** **09 37 02.8 +0.2**
baz=226
MCK McKinley 81.33 22 IAmb IAmb 09 37 45.5
comp=Z,52nm,1.4s
MCK McKinley 81.33 22 P **P** **09 37 02.2 -0.5**
baz=237,SNR=8.3
KLU Kluting 81.35 25 P **P** **09 37 03.1 +0.1**
baz=240
G21K Allakaket 81.37 19 IAmb IAmb 09 37 47.6
comp=Z,65nm,2.0s
G21K Allakaket 81.37 19 P **P** **09 37 03.0 +0.2**
baz=232
MLY Manley 81.41 20 P **P** **09 37 03.3 +0.2**
baz=235,SNR=7.1
M24K Tolsona, Glenn 81.55 24 IAmb IAmb 09 37 28.1
comp=Z,110nm,1.7s
M24K Tolsona, Glenn 81.55 24 P **P** **09 37 03.8 -0.2**
baz=240
BMRM Bremner River 81.64 25 IAmb IAmb 09 37 28.1
comp=Z,47nm,1.4s
BMRM Bremner River 81.64 25 P **P** **09 37 04.5 0.0**
baz=241
H22K Ishtalitna Cre 81.69 20 P **P** **09 37 05.5 +0.9**
baz=234,SNR=6.3

A19K Wainwright 81.73 14 P P 09 37 05.6 +1.0
baz=224
NEA2 Nenana 81.76 21 P P 09 37 04.2 -0.7
baz=237,SNR=6.8
F21K Alatna River 81.81 18 P P 09 37 05.7 +0.5
baz=232
BGLC Bering Glacier 81.82 27 P P 09 37 05.2 -0.1
baz=242
D20K Etivluk River 81.85 16 IAmb IAmb 09 37 38.8
comp=Z,30nm,1.6s
D20K Etivluk River 81.85 16 P P 09 37 05.6 +0.2
baz=229
N25K Chitina, Valde 81.95 25 P P 09 37 06.7 +0.6
baz=241
I23K Minto, Yukon-K 81.96 21 P P 09 37 06.8 +0.8
baz=236
CRQE Cirque 82.20 26 P P 09 37 07.2 -0.3
baz=243
GLB Gilahina Butte 82.21 25 IAmb IAmb 09 37 31.0
comp=Z,70nm,1.6s
G22K Bettles 82.25 19 P P 09 37 07.9 +0.4
baz=234,SNR=6.0
PAX Paxson 82.27 24 P P 09 37 07.8 0.0
baz=240
H23K Yukon River 82.27 20 P P 09 37 08.0 +0.3
baz=236,SNR=6.3
COLA College 82.35 21 P P 09 37 09.7 +1.7
COLA College 82.35 21 ⇑*iP* P 09 37 07.3 -0.7
COLA pmax pmax
comp=Z,13nm,1.1s
COLA College 82.35 21 P P 09 37 07.6 -0.3
baz=238
F22K John River 82.39 18 P P 09 37 09.1 +0.9
baz=233
E21K Killik River 82.42 17 P P 09 37 08.0 -0.4
baz=232
HDA Harding Lake 82.43 22 P P 09 37 08.1 -0.3
HDA Harding Lake 82.43 22 P P 09 37 08.8 +0.3
baz=239
MESA MESA 82.44 27 P P 09 37 09.4 +0.6
baz=244
MK31 Makanchi Array 82.45 319 ⇓*iP* P 09 37 08.8 -0.2
MKAR Makanchi Array 82.45 319 P P 09 37 08.5 -0.5
MKAR Makanchi Array 82.45 319 P P 09 37 08.2 -0.8
comp=Z,6.2nm,1.0s,baz=100,slow=6.3,SNR=33
MKAR PKKP PKKPbc 09 55 34.5 -2.6
comp=Z,0.6nm,0.8s,baz=292,slow=6.4,SNR=3.7
MKAR LR LR 10 13 54.4
comp=Z,160nm,20.5s,baz=101,slow=36
comp=Z,6.2nm,1.0s
MKAR Makanchi Array 82.45 319 P P 09 37 08.5 -0.5
MCARA McCarthy VSAT 82.52 25 IAmb IAmb 09 38 00.9
comp=Z,64nm,1.7s
MCARA McCarthy VSAT 82.52 25 P P 09 37 09.2 +0.2
baz=243
B20K Meade River 82.56 15 P P 09 37 09.4 +0.4
baz=228
K24K Donnelly Dome 82.56 23 P P 09 37 09.3 +0.1
baz=240
G23K Bananza Creek 82.61 19 P P 09 37 09.3 -0.2
baz=236,SNR=8.9
POKR Poker Plat Res 82.63 21 P P 09 37 09.1 -0.4
baz=238
C21K Knifeblade Rid 82.64 16 P P 09 37 10.0 +0.5
baz=231
ILAR Eielson Array 82.64 22 P P 09 37 08.6 -1.0
ILAR Eielson Array 82.64 22 P P 09 37 08.5 -1.1
comp=Z,5.0nm,1.1s,baz=257,slow=4.9,SNR=24
ILAR PKKP PKKPbc 09 55 33.4 -4.0
comp=Z,0.3nm,0.5s,baz=352,slow=1.9,SNR=5.4
ILAR LR LR 10 10 48.4
comp=Z,409nm,20.2s,baz=229,slow=33
comp=Z,5.0nm,1.1s
ILAR Eielson Array 82.64 22 P P 09 37 08.6 -1.0
COLD Coldfoot 82.85 19 IAmb IAmb 09 37 33.9
comp=Z,38nm,2.0s
COLD Coldfoot 82.85 19 P P 09 37 10.9 +0.4
baz=235
H24K Noodor Dome 82.85 20 P P 09 37 10.8 +0.1
baz=238
E22K Anaktuvuk Pass 82.87 18 P P 09 37 11.5 +0.8
baz=234
RIDG Independent Ri 82.89 23 IAmb IAmb 09 37 33.5
comp=Z,30nm,1.2s
RIDG Independent Ri 82.89 23 P P 09 37 10.9 -0.1
baz=241,SNR=7.0
MENT Mentasta 82.95 24 P P 09 37 13.2 +1.9
B21K Ikpikpuk River 82.98 16 P P 09 37 11.5 +0.4
baz=231
M26K Nabesna, AK 83.00 25 P P 09 37 12.4 +0.9
baz=242
CTG Chitna Glacier 83.06 26 P P 09 37 11.9 0.0
baz=244
CTGM Chitina Glacie 83.06 26 IAmb IAmb 09 37 35.2
comp=Z,26nm,1.2s
D22K Ayikyak River 83.06 17 P P 09 37 12.7 +1.1
baz=233
J25K Salcha River, 83.13 22 IAmb IAmb 09 37 33.8
comp=Z,42nm,1.5s
J25K Salcha River, 83.13 22 P P 09 37 12.4 +0.3
baz=240,SNR=13
L26K Log Cabin Wild 83.14 24 P P 09 37 13.1 +0.9
baz=242
DOT Dot Lake 83.16 23 IAmb IAmb 09 37 34.2
comp=Z,27nm,1.4s
PINM Pinnacle 83.17 27 P P 09 37 13.2 +0.7
baz=245
ZAA0 Zalesovo Array 83.19 326 P P 09 37 11.6 -1.0
ZALV Zalesovo Beam 83.19 326 P P 09 37 11.1 -1.5
ZALV Zalesovo Beam 83.19 326 P P 09 37 11.5 -1.1
comp=Z,4.2nm,0.7s,baz=112,slow=4.8,SNR=21
ZALV LR LR 10 14 32.4
comp=Z,121nm,21.3s,baz=110,slow=36
comp=Z,4.2nm,0.7s
SCRK Sand Creek 83.34 23 P P 09 37 13.7 +0.4
baz=241,SNR=7.4
SHLS Shalkode 83.39 315 *eP* P 09 37 12.5 -1.5
SHLS Shalkode 83.39 315 *eP* P 09 37 12.6 -1.5
PNL Peninsula 83.39 28 P P 09 37 14.4 +0.8
baz=246
BCPM Bancas Point 83.40 28 IAmb IAmb 09 37 17.9
comp=Z,29nm,0.7s
M27K Edge Creek, AK 83.44 25 IAmb IAmb 09 37 52.0
comp=Z,20nm,1.0s
M27K Edge Creek, AK 83.44 25 P P 09 37 14.3 +0.3
baz=244,SNR=12
G24K Hadweenzic Riv 83.45 20 P P 09 37 14.5 +0.7
baz=238
O28M Mount Upton 83.49 27 P P 09 37 14.8 +0.4
baz=245
E23K Chandalar 83.50 18 P P 09 37 14.9 +0.8
baz=236,SNR=7.4
PRP Porcupine Dome 83.52 21 P P 09 37 14.9 +0.7
baz=240
UZB Uzynbulak 83.70 315 *eP* P 09 37 15.7 +0.1
UZB Uzynbulak 83.70 315 *eP* P 09 37 15.8 +0.1
D23K Nanushuk River 83.70 17 IAmb IAmb 09 37 49.9
comp=Z,26nm,1.1s
D23K Nanushuk River 83.70 17 P P 09 37 16.2 +1.3
baz=235,SNR=11
J26L Joseph Creek 83.75 23 P P 09 37 15.4 0.0
baz=242,SNR=6.7
B22K Teshekpuk Lake 83.75 16 P P 09 37 15.4 +0.2
baz=232
F24K Squaw Lake 83.76 19 P P 09 37 16.2 +0.9
baz=238,SNR=7.0
A22K Sinclair Lake 83.77 15 P P 09 37 16.1 +0.9
baz=230
L27K Beaver Creek, 83.78 24 P P 09 37 16.2 +0.7
baz=244,SNR=8.3
YUK3 Moose Creek 83.79 26 P P 09 37 16.5 +0.7
baz=245
BCAR Beaver Creek A 83.80 24 P P 09 37 16.4 +0.7
H25L Birch Creek 83.80 21 P P 09 37 16.4 +1.0
baz=240
TOLK Toolik Lake Re 83.85 18 P P 09 37 16.2 +0.5
baz=236
E24K Your Creek 83.87 18 P P 09 37 16.3 +0.5
baz=237
YUK8 Steele Glacier 83.89 26 P P 09 37 16.9 +0.6
baz=246
BVCY Beaver Creek 83.89 25 P P 09 37 17.1 +1.0
baz=244
QSPA South Pole Qui 83.92 180 P P 09 37 16.9 +0.6
QSPA South Pole Qui 83.92 180 P P 09 37 16.6 +0.3
comp=Z,221nm,0.9s,baz=351,slow=3.3,SNR=439
QSPA LR LR 10 07 53.6
comp=Z,203nm,21.7s,baz=11,slow=31

G25K Bearman Lake 83.95 20 P P 09 37 17.2 +1.0
baz=239,SNR=5.8
O29M Mount Kennedy 84.03 27 P P 09 37 17.5 +0.6
baz=247
SATY Saty 84.11 314 *eP* P 09 37 17.8 0.0
SATY Saty 84.11 314 *eP* P 09 37 17.9 +0.1
K27K Chicken 84.11 23 P P 09 37 17.8 +0.7
baz=243
P29M Windy Craggy 84.15 28 P P 09 37 18.0 +0.6
baz=248
C23K Itkillik River 84.22 17 P P 09 37 18.7 +1.2
baz=235
S31K Pelican 84.26 30 P P 09 37 18.7 +0.7
baz=249
I26K Coal Creek Min 84.29 22 P P 09 37 18.4 +0.5
baz=242
D24K Happy Valley 84.36 17 IAmb IAmb 09 37 43.7
comp=Z,22nm,1.2s
D24K Happy Valley 84.36 17 P P 09 37 19.2 +0.9
baz=236
YUK6 Outpost Mounta 84.37 27 P P 09 37 18.7 -0.1
baz=247
SIT Sitka 84.41 31 P P 09 37 18.8 +0.1
baz=250
YUK4 Talbot Arm 84.41 26 P P 09 37 19.7 +0.8
baz=247,SNR=5.7
F25K Christian River 84.53 19 P P 09 37 19.7 +0.4
baz=240
R31K City Hall, Gus 84.67 30 P P 09 37 20.4 +0.4
baz=249
P30M Million Dollar 84.70 28 P P 09 37 21.4 +1.1
baz=248
C24K Franklin Bluff 84.71 17 P P 09 37 20.2 +0.3
baz=236
HYT Haines Junctio 84.72 27 P P 09 37 20.8 +0.4
baz=248
PLBC Pleasant Camp 84.74 29 P P 09 37 20.6 +0.3
baz=249
BMAR Burnt Mountain 84.80 20 P P 09 37 21.3 +0.7
E25K Arctic Village 84.82 19 P P 09 37 20.9 +0.2
baz=240
G26K Porcupine Rive 84.84 20 IAmb IAmb 09 37 23.9
comp=Z,22nm,1.1s
G26K Porcupine Rive 84.84 20 P P 09 37 21.7 +1.0
baz=241,SNR=24
M29M Somme Creek 84.92 25 P P 09 37 22.0 +0.6
baz=247
S32K Killisnoo 84.93 31 P P 09 37 22.0 +0.7
baz=250
I27K Kandik River 85.00 22 P P 09 37 22.4 +0.8
baz=244,SNR=12
CRAG Craig 85.05 33 P P 09 37 22.3 +0.4
baz=252
F26K Sheenjek River 85.08 20 P P 09 37 22.7 +0.8
baz=241,SNR=5.2
MDOK Medeo 85.10 314 *eP* P 09 37 22.8 0.0
MDOK Medeo 85.10 314 *eP* P 09 37 22.8 0.0
KSH Kashi 85.11 310 P P 09 37 25.0 +2.1
KSH pP pP 09 37 43.9 +0.2
KSH S S 09 47 50.9 +4.3
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,270nm,9.2s
KSH LR LR
comp=Z,920nm,17.5s
KSH LR LR
comp=Z,490nm,17.7s
KSH LR LR
comp=Z,330nm,12.6s
MAW Mawson 85.11 203 P P 09 37 22.0 -0.1
comp=Z,49nm,0.5s,baz=91,slow=5.5,SNR=138
MAW LR LR 10 11 24.8
comp=Z,122nm,21.6s,baz=88,slow=33
comp=Z,49nm,0.5s
N30M Aishikik Lake 85.14 27 P P 09 37 23.3 +0.9
baz=248
TNSS Tian-Shan 85.15 314 *eP* P 09 37 23.1 -0.2
TNSS Tian-Shan 85.15 314 *eP* P 09 37 23.1 -0.2
D25K Kavik River 85.19 18 P P 09 37 22.9 +0.5
baz=239,SNR=5.8
DAWY Dawson 85.19 24 P P 09 37 22.2 -0.4
DAWY IAmb IAmb 09 38 04.0
comp=Z,30nm,1.7s
DAWY Dawson 85.19 24 P P 09 37 23.4 +0.8
baz=246
SKAG Skagway 85.23 29 P P 09 37 26.0 +3.2
SKAG Skagway 85.23 29 P P 09 37 23.1 +0.3
baz=250
U33K Whale Pass 85.25 32 P P 09 37 24.4 +1.4
baz=252
H27K Steamboat Moun 85.31 21 IAmb IAmb 09 37 45.8
comp=Z,26nm,1.5s
H27K Steamboat Moun 85.31 21 P P 09 37 24.2 +1.1
baz=244,SNR=11
L29M L29M 85.33 25 IAmb IAmb 09 38 24.4
comp=Z,19nm,1.2s
L29M L29M 85.33 25 P P 09 37 24.6 +1.3
baz=247
G27K Doyon Strip 85.52 21 P P 09 37 25.2 +1.0
baz=243,SNR=7.5
T33K Petersburg 85.56 32 P P 09 37 25.2 +0.8
baz=252
I28M Miner Creek 85.56 22 IAmb IAmb 09 37 48.4
comp=Z,34nm,1.8s
I28M Miner Creek 85.56 22 P P 09 37 25.5 +1.1
baz=245
M30M Minto, Yukon 85.69 26 P P 09 37 26.0 +0.9
baz=248,SNR=5.6
N31M Braeburn, Yuko 85.74 27 IAmb IAmb 09 38 04.0
comp=Z,37nm,1.2s
N31M Braeburn, Yuko 85.74 27 P P 09 37 26.4 +1.0
baz=249
WRAK Wrangell Islan 85.75 32 P P 09 37 26.3 +0.8
baz=252
J29N Klondike Camp 85.82 24 IAmb IAmb 09 38 10.2
comp=Z,44nm,1.5s
J29N Klondike Camp 85.82 24 P P 09 37 27.0 +1.3
baz=247
V35K Ketchikan 85.83 33 P P 09 37 27.2 +1.4
baz=253
KURK Kurchatov 85.86 322 P P 09 37 25.2 -0.9
KURK IAmb IAmb 09 37 47.9
comp=Z,26nm,1.3s
KURK Kurchatov 85.86 322 *c iP* P 09 37 25.5 -0.6
KURK pmax pmax
comp=Z,15nm,1.3s
WHY Whitehorse 85.86 28 P P 09 37 26.8 +0.8
baz=250
K29M Barlow Dome 85.86 24 IAmb IAmb 09 38 09.6
comp=Z,20nm,1.1s
K29M Barlow Dome 85.86 24 P P 09 37 27.4 +1.3
baz=247,SNR=11
KURBB Kurchatov Arra 85.89 322 P P 09 37 25.1 -1.2
comp=Z,3.1nm,1.0s,baz=107,slow=3.8,SNR=14
KURBB PKKP PKKPbc 09 55 26.6 -2.5
comp=Z,0.7nm,0.9s,baz=314,slow=2.4,SNR=4.6
KURBB LR LR 10 15 29.0
comp=Z,137nm,22.0s,baz=182,slow=35
comp=Z,3.1nm,1.0s
C26K Camden Bay 85.93 18 P P 09 37 27.2 +1.1
baz=240
P32M Atlin 86.05 29 P P 09 37 27.9 +0.9
baz=251
I29M Ogilvie Camp, 86.15 23 IAmb IAmb 09 38 21.4
comp=Z,16nm,1.1s
I29M Ogilvie Camp, 86.15 23 P P 09 37 28.0 +0.7
baz=247
C27K Jago River 86.15 18 IAmb IAmb 09 38 03.5
comp=Z,22nm,1.4s
C27K Jago River 86.15 18 P P 09 37 27.9 +0.7
baz=241
E27K Coleen River 86.16 20 P P 09 37 28.2 +0.9
baz=243,SNR=12
MAYO Mayo, Yukon 86.44 25 IAmb IAmb 09 37 35.2
comp=Z,31nm,0.9s
MAYO Mayo, Yukon 86.44 25 P P 09 37 29.7 +1.0
baz=249,SNR=12
H29M Whitestone 86.47 22 P P 09 37 29.6 +0.8
baz=246
F28M Old Crow 86.50 20 P P 09 37 29.7 +0.7
baz=245,SNR=7.9
Q32M Nakina River 86.56 30 P P 09 37 29.8 +0.1
baz=252
M31M Drury Creek, Y 86.60 26 IAmb IAmb 09 39 01.7
comp=Z,35nm,1.8s
M31M Drury Creek, Y 86.60 26 P P 09 37 30.3 +0.7
baz=250

J30M Hart River 86.62 24 IAmb IAmb 09 38 13.2
comp=Z,25nm,1.1s
J30M Hart River 86.62 24 P P 09 37 30.8 +1.1
baz=248,SNR=14
P33M Teslin, Yukon 86.68 29 P P 09 37 31.1 +1.0
baz=252
S34M Telegraph Cree 86.82 31 IAmb IAmb 09 37 59.7
comp=Z,16nm,1.1s
S34M Telegraph Cree 86.82 31 P P 09 37 30.8 +0.1
baz=253
AAK Ala-Archa 86.83 313 P P 09 37 31.3 0.0
AAK Ala-Archa 86.83 313 LR LR 10 18 25.7
comp=Z,113nm,19.7s,baz=94,slow=37
AAK Ala-Archa 86.83 313 P P 09 37 31.3 0.0
AAK pmax pmax
comp=Z,6.0nm,1.0s
D27M Malcolm River 86.84 19 IAmb IAmb 09 38 08.7
comp=Z,64nm,2.0s
D27M Malcolm River 86.84 19 P P 09 37 31.4 +0.7
baz=244,SNR=6.1
I30M Mount Dempster 86.84 23 IAmb IAmb 09 38 13.8
comp=Z,16nm,1.1s
I30M Mount Dempster 86.84 23 P P 09 37 31.2 +0.4
baz=248,SNR=8.1
N32M Quiet Lake 86.85 28 P P 09 37 31.7 +0.8
baz=252
G29M Pine Creek 86.87 21 IAmb IAmb 09 37 53.1
comp=Z,32nm,1.4s
G29M Pine Creek 86.87 21 P P 09 37 31.9 +1.1
baz=247,SNR=8.8
BBB Bella Bella 87.00 37 LR LR 10 10 37.0
comp=Z,175nm,21.6s,baz=262,slow=32
T35M Bob Quinn 87.02 32 P P 09 37 32.5 +0.7
baz=254
E28M Babbage River 87.03 20 IAmb IAmb 09 38 09.2
comp=Z,15nm,1.1s
E28M Babbage River 87.03 20 P P 09 37 32.6 +1.1
baz=245,SNR=7.4
EPYK Eagle Plains 87.14 22 IAmb IAmb 09 37 37.6
comp=Z,22nm,1.0s
EPYK Eagle Plains 87.14 22 P P 09 37 32.7 +0.5
baz=248,SNR=12
R33M Jennings River 87.33 30 P P 09 37 34.0 +0.6
baz=254
E29M Blow River 87.50 20 P P 09 37 34.9 +1.2
baz=247
DLBC Dease Lake 87.53 31 LR LR 10 11 09.2
comp=Z,212nm,20.1s,baz=241,slow=32
DLBC Dease Lake 87.53 31 P P 09 37 34.2 0.0
baz=254
G30M tAoh Zraii Nji 87.55 22 P P 09 37 34.6 +0.5
baz=248
D28M Stokes Point 87.59 19 P P 09 37 35.3 +1.1
baz=246
BTLS Baital 87.61 316 *eP* P 09 37 34.4 -0.4
BTLS Baital 87.61 316 *eP* P 09 37 34.5 -0.4
KRMB Red Mountain 87.63 48 IAmb IAmb 09 38 10.6
comp=Z,36nm,1.9s
H31M Peel River 87.84 23 IAmb IAmb 09 38 00.3
comp=Z,38nm,1.6s
H31M Peel River 87.84 23 P P 09 37 35.8 +0.2
baz=250,SNR=5.6
F30M Barrier River 87.94 21 IAmb IAmb 09 38 20.4
comp=Z,19nm,1.1s
F30M Barrier River 87.94 21 P P 09 37 36.2 +0.3
baz=249,SNR=6.4
MMPY Sheldon Lake, 88.12 26 P P 09 37 37.5 +0.6
baz=253
G31M Satah River 88.25 22 IAmb IAmb 09 38 27.9
comp=Z,14nm,1.1s
G31M Satah River 88.25 22 P P 09 37 38.2 +0.9
baz=250,SNR=5.0
YBH Yreka Blue Hor 88.55 48 LR LR 10 12 13.9
comp=Z,24nm,20.0s,baz=267,slow=32
WTLY Watson Lake, Y 88.58 29 P P 09 37 39.5 +0.4
baz=255
F31M Tsiigehtchic 88.62 21 P P 09 37 39.5 +0.5
baz=251
L04D Klamath Falls 88.92 48 IAmb IAmb 09 37 43.0
comp=Z,11nm,1.2s
INK Inuvik 88.98 21 LR LR 10 15 17.8
comp=Z,433nm,20.5s,baz=238,slow=34
INK Inuvik 88.98 21 P P 09 37 41.0 +0.3
baz=251
TGTN Hyland Airport 89.18 28 P P 09 37 42.0 0.0
baz=256
BRZS Berezniki 89.42 320 *eP* P 09 37 43.4 +0.2
BRZS Berezniki 89.42 320 *eP* P 09 37 43.5 +0.2
AFDM Forest Hills D 89.44 51 IAmb IAmb 09 37 45.8
comp=Z,12nm,1.1s
LIRD Liard River Hi 89.74 30 P P 09 37 44.9 +0.4
baz=258
KKAR Karatay Array 89.79 313 P P 09 37 44.3 -0.9
KKAR Karatay Array 89.79 313 P P 09 37 44.3 -0.9
J05D Fort Rock, OR 89.86 47 IAmb IAmb 09 37 47.6
comp=Z,12nm,1.1s
BUCR Buckhorn Ranch 89.90 52 P P 09 37 45.6 -0.3
BUCR IAmb IAmb 09 37 48.0
comp=Z,13nm,1.2s
IUG Iuzhnay 90.01 312 *eP* P 09 37 46.3 0.0
IUG Iuzhnay 90.01 312 *eP* P 09 37 46.3 0.0
K05A Summer Lake 90.03 47 IAmb IAmb 09 37 48.6
comp=Z,13nm,1.2s
TOAD Toad River Com 90.06 31 P P 09 37 46.3 +0.2
baz=258
BRLS Boroldav 90.27 313 *eP* P 09 37 47.8 +0.4
BRLS Boroldav 90.27 313 *eP* P 09 37 47.8 +0.4
VES Vestal, Richgr 90.52 54 IAmb IAmb 09 37 50.8
comp=Z,59nm,1.8s
WAKR Walker 90.57 52 IAmb IAmb 09 37 51.8
comp=Z,21nm,1.3s
PAHR Pah Rah Range 90.76 50 IAmb IAmb 09 37 52.2
comp=Z,13nm,1.1s
LTY Liberty 90.82 43 IAmb IAmb 09 37 50.5
comp=Z,19nm,1.4s
KOTAN Kotaneelee Air 90.90 30 P P 09 37 50.4 +0.5
baz=259
ISA Isabella, Lake 90.99 54 IAmb IAmb 09 37 53.4
comp=Z,24nm,1.5s
LHV Little Huntoon 91.27 52 IAmb IAmb 09 37 55.0
comp=Z,32nm,1.1s
RYN Ryan 91.29 51 IAmb IAmb 09 37 54.8
comp=Z,27nm,1.1s
BVAR Borovoye Array 91.32 323 P P 09 37 50.3 -1.7
comp=Z,5.8nm,0.9s,baz=98,slow=4.5,SNR=16
BVAR LR LR 10 18 23.1
comp=Z,150nm,21.6s,baz=99,slow=35
comp=Z,5.8nm,0.9s
BRVK Borovoye 91.38 323 ⇓*iP* P 09 37 51.1 -1.2
BRVK pmax pmax
comp=Z,7.0nm,1.3s
CWC Cottonwood Cre 91.39 54 IAmb IAmb 09 37 55.5
comp=Z,23nm,1.4s
NVAR Mina Array Bea 91.44 52 P P 09 37 53.8 +0.6
NVAR Mina Array Bea 91.44 52 P P 09 37 53.6 +0.3
comp=Z,19nm,1.0s,baz=252,slow=5.8,SNR=75
comp=Z,19nm,1.0s
HAWA Hanford 91.48 44 IAmb IAmb 09 37 54.6
comp=Z,8.2nm,0.9s
DSP Deep Springs 91.59 53 IAmb IAmb 09 37 56.5
comp=Z,22nm,1.1s
WRGLY Wrigley 91.73 27 P P 09 37 54.2 +0.6
baz=260
G08A Pilot Rock 91.75 45 IAmb IAmb 09 37 55.8
comp=Z,10nm,1.2s
E08A Dider Farm, El 91.82 44 IAmb IAmb 09 37 56.1
comp=Z,8.9nm,1.0s
MPMC Manual Prospec 91.83 54 IAmb IAmb 09 37 57.7
comp=Z,28nm,1.3s
MZP Montezuma Peak 92.08 52 IAmb IAmb 09 37 58.6
comp=Z,15nm,1.1s
TPH Tonopah 92.25 52 IAmb IAmb 09 37 59.2
comp=Z,23nm,1.1s
GSC Goldstone, Bar 92.30 55 IAmb IAmb 09 37 59.8
comp=Z,31nm,1.4s
PFO Pinyon Flats O 92.42 57 LR LR 10 12 56.5
comp=Z,240nm,20.7s,baz=262,slow=31
GWY Greenwater Val 92.50 54 IAmb IAmb 09 38 00.5
comp=Z,25nm,1.3s
C36M Paulatuk 92.56 21 P P 09 37 57.5 +0.1
baz=260
WCT Wildcat Mounta 92.60 53 IAmb IAmb 09 38 01.0
comp=Z,24nm,1.1s
RPN Rapa Nui 92.64 117 LR LR 10 15 09.2
comp=Z,97nm,20.6s,baz=252,slow=32
A36M Sachs Harbour 92.67 18 P P 09 37 58.1 +0.3
baz=259
VTX Valle De La Tr 92.78 59 IAmb IAmb 09 38 03.6

	comp=Z,31nm,1.2s							
BMO	**Blue Mountains**	**92.87**	**45**	IAmb	IAmb	09 38 00.9		
	comp=Z,12nm,1.3s							
TPNV	**Topopah Spring**	**92.91**	**53**	IAmb	IAmb	09 38 02.6		
	comp=Z,35nm,1.3s							
F10A	**Beach Ranch, E**	**93.03**	**44**	IAmb	IAmb	09 38 01.3		
	comp=Z,11nm,1.1s							
SYO	**Syowa Base**	**93.08**	**199**	⇑*i*P	**P**	**09 37 59.0**	**-0.9**	
NEW	**Newport**	**93.32**	**42**	IAmb	IAmb	09 38 02.4		
	comp=Z,6.2nm,0.9s							
NEW	**Newport**	**93.32**	**42**	LR	LR	10 13 55.1		
	comp=Z,554nm,20.7s,baz=274,slow=32							
MTPC	**Mountain Pass**	**93.34**	**55**	IAmb	IAmb	09 38 04.6		
	comp=Z,36nm,1.5s							
113A	**Mohawk Valley,**	**94.60**	**58**	IAmb	IAmb	09 38 10.6		
	comp=Z,17nm,1.4s							
W13A	**Hualapai Mount**	**94.67**	**55**	IAmb	IAmb	09 38 11.0		
	comp=Z,18nm,1.1s							
PSUT	**Pine Spring**	**94.93**	**52**	IAmb	IAmb	09 38 11.8		
	comp=Z,21nm,1.4s							
LCMT	**Little Creek M**	**95.31**	**53**	IAmb	IAmb	09 38 13.9		
	comp=Z,33nm,1.6s							
Y14A	**Wickenburg**	**95.32**	**57**	IAmb	IAmb	09 38 13.7		
	comp=Z,11nm,1.2s							
SZCU	**Shurtz Canyon**	**95.47**	**53**	IAmb	IAmb	09 38 14.7		
	comp=Z,18nm,1.4s							
YKA	**Yellowknife Ar**	**95.69**	**28**	LR	LR	10 16 56.5		
	comp=Z,209nm,21.8s,baz=292,slow=33							
U15A	**North Rim**	**96.05**	**54**	IAmb	IAmb	09 38 17.6		
	comp=Z,28nm,1.5s							
TMUT	**Trail Mountain**	**97.03**	**51**	IAmb	IAmb	09 38 21.2		
	comp=Z,6.5nm,1.0s							
LPIG	**La Paz**	**97.07**	**67**	LR	LR	10 18 50.9		
	comp=Z,203nm,18.0s,baz=255,slow=33							
HMU	**Henry Mountain**	**97.35**	**53**	IAmb	IAmb	09 38 22.7		
	comp=Z,17nm,1.3s							
BSUT	**Blindstream Ca**	**97.41**	**50**	IAmb	IAmb	09 38 25.6		
	comp=Z,5.8nm,1.1s							
PDAR	**Pinedale Array**	**98.36**	**48**	P	**P**	**09 38 24.1**	**-0.6**	
	comp=Z,1.2nm,0.6s,baz=205,slow=1.7,SNR=12							
PDAR				PKKPbc	**PKKPbc**	**09 54 55.0**	**-1.9**	
	comp=Z,0.2nm,0.5s,baz=118,slow=5.9,SNR=3.9							
PDAR				LR	LR	10 17 00.9		
	comp=Z,117nm,21.4s,baz=257,slow=32							
	comp=Z,1.2nm,0.6s							
ARTI	**Arti**	**98.45**	**326**	LR	LR	10 23 45.9		
	comp=Z,141nm,21.5s,baz=92,slow=36							
AKTO	**Aktyubinsk**	**98.83**	**320**	LR	LR	10 24 12.8		
	comp=Z,76nm,20.6s,baz=66,slow=36							
TROLL	**Troll, Antarti**	**99.99**	**188**	⇑P	**Pdif**	**09 38 30.5**	**-0.8**	
	comp=Z,648nm,1.1s							
SNAA	**Sanae**	**101.02**	**187**	⇑P	**Pdif**	**09 38 34.7**	**-1.1**	
	comp=Z,168nm,1.1s							
SNAA	**Sanae**	**101.02**	**187**	P	**Pdif**	**09 38 35.4**	**-0.4**	
	comp=Z,3.6nm,1.0s,baz=175,slow=6.1,SNR=25							
SNAA	**Sanae**	**101.02**	**187**	⇓*i*P	**Pdif**	**09 38 35.4**	**-0.4**	
SNAA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
VNA3	**Neumayer Olymp**	**102.16**	**185**	⇓P	**Pdif**	**09 38 39.9**	**-0.9**	
	comp=Z,8.1nm,0.8s							
VNA2	**Neumayer--Watz**	**102.24**	**186**	⇑P	**Pdif**	**09 38 40.1**	**-1.1**	
	comp=Z,4.2nm,0.6s,baz=138,slow=5.4							
VNA1	**Neumayer--Stat**	**102.59**	**186**	⇑P	**Pdif**	**09 38 42.4**	**-0.3**	
	comp=Z,4.7nm,0.9s							
TXAR	**Lajitas Array**	**103.15**	**61**	PKKPbc	PKKPbc	09 54 41.5	-1.0	
	comp=Z,0.5nm,0.6s,baz=110,slow=4.5,SNR=7.7							
MAK	**Makhachkala**	**106.61**	**313**	*i*P	**Pdif**	**09 38 58.5**	**-2.6**	
MAK				*e*		09 43 31.4		
MAK				*e*		09 49 30.3		
MAK				*e*SS	SS	09 58 24.2	-1.4	
MAK				pmax	pmax			
	comp=Z,81nm,0.8s							
MAK				MLR	MLR			
	comp=Z,316nm,20.0s							
ARCES	**ARCESS Array B**	**108.58**	**343**	PKKPbc	PKKPbc	09 54 22.1	-4.9	
	comp=Z,1.3nm,0.8s,baz=250,slow=3.6,SNR=5.5							
FINES	**FINESS Array B**	**112.93**	**336**	PKKPbc	PKKPbc	09 54 08.8	-3.7	
	comp=Z,3.1nm,1.0s,baz=219,slow=2.4,SNR=6.5							
BI02	**San Fabin de**	**119.63**	**138**		**PKPdf**	**09 43 35.8**	**-0.8**	
BOSA	**Boshof**	**120.30**	**232**	PKP	**PKPdf**	**09 43 37.3**	**-0.8**	
	comp=Z,2.9nm,0.5s,baz=137,slow=2.9,SNR=14							
BO02	**Sierra Bellavi**	**121.02**	**137**		**PKPdf**	**09 43 38.6**	**-0.7**	
LCO	**Las Campanas**	**124.20**	**131**		**PKPdf**	**09 43 45.5**	**-0.4**	
LCO	**Las Campanas**	**124.20**	**131**	PKIKP	**PKPdf**	**09 43 45.5**	**-0.4**	
ATAH	**Atahualpa**	**125.52**	**103**	PKP	**PKiKP**	**09 43 49.5**	**+0.2**	
	comp=Z,19nm,1.1s,baz=245,slow=3.2,SNR=10							
GERES	**GERESS Array B**	**126.05**	**329**	PKP	**PKPdf**	**09 43 46.6**	**-1.9**	
	comp=Z,0.3nm,0.2s,baz=69,slow=5.8,SNR=5.1							
FLOC	**Florencia**	**129.67**	**93**		**PKPdf**	**09 43 56.5**	**+0.1**	
LPAZ	**La Paz**	**132.24**	**118**		**PKPdf**	**09 44 02.1**	**+0.2**	
LPAZ	**La Paz**	**132.24**	**118**	PKP	**PKPdf**	**09 44 01.3**	**-0.6**	
	comp=Z,20nm,1.2s,baz=270,slow=1.6,SNR=30							
LPAZ				SKPbc	**SKPbc**	**09 47 19.4**	**-2.4**	
	comp=Z,1.1nm,0.3s,baz=194,slow=5.1,SNR=17							
LPAZ	**La Paz**	**132.24**	**118**	PKIKP	**PKPdf**	**09 44 02.1**	**+0.2**	
RUSC	**La Rusia**	**132.58**	**88**		**PKPdf**	**09 44 01.8**	**-0.7**	
TBTG	**Tabatinga, AM**	**134.40**	**102**		**PKPdf**	**09 44 05.5**	**+0.2**	
SDV	**Santo Domingo**	**135.07**	**84**	PKP	**PKPdf**	**09 44 05.2**	**-1.5**	
	comp=Z,9.4nm,0.3s,baz=268,slow=0.8,SNR=7.3							
SDV				SKPbc	**SKPbc**	**09 47 29.8**	**-0.9**	
	comp=Z,9.2nm,0.4s,baz=290,slow=1.8,SNR=5.2							
CPUP	**Villa Florida**	**135.33**	**138**	PKP	**PKPdf**	**09 44 06.1**	**-0.5**	
	comp=Z,1.2nm,0.9s,baz=169,slow=2.4,SNR=6.1							
KEST	**Kesra**	**136.54**	**318**	SKPbc	**SKPbc**	**09 47 33.4**	**-1.1**	
	comp=Z,14nm,1.0s,baz=295,slow=4.0,SNR=8.0							
SIV	**San Ignacio**	**138.44**	**122**	PKKPbc	PKPpre	09 44 00.3		
	comp=Z,2.1nm,1.0s,baz=244,slow=5.3,SNR=5.9							
SIV				PKP	**PKPdf**	**09 44 12.4**	**-0.3**	
	comp=Z,4.2nm,0.7s,baz=263,slow=1.9,SNR=12							
SIV				SKPbc	**SKPbc**	**09 47 39.7**	**-0.8**	
	comp=Z,1.8nm,0.8s,baz=232,slow=6.3,SNR=6.7							
SJG	**San Juan**	**138.49**	**70**	SKPbc	**SKPbc**	**09 47 40.1**	**-0.5**	
	comp=Z,10nm,0.7s,baz=267,slow=3.1,SNR=3.9							
PTLB	**Pontes e Lacer**	**140.33**	**123**		PKPpre	09 44 09.3		
BIM	**Bigot**	**143.95**	**74**		PKPbc	09 44 21.4	+0.8	
VAO	**Valinhos**	**144.24**	**145**		**PKPab**	**09 44 21.1**	**+0.2**	
EDA	**Edea**	**144.52**	**268**		**PKPab**	**09 44 21.9**	**-0.2**	
BOAV	**Boa Vista**	**144.78**	**94**		**PKPab**	**09 44 22.4**	**-0.8**	
BDFB	**Brasilia**	**148.91**	**134**		**PKPdf**	**09 44 31.5**	**+0.4**	
BDFB	**Brasilia**	**148.91**	**134**	PKP	**PKPdf**	**09 44 30.4**	**-0.7**	
	comp=Z,18nm,0.9s,baz=167,slow=3.2,SNR=11							
BDFB				PKPbc	**PKPbc**	**09 44 34.0**	**-1.1**	
	comp=Z,19nm,0.9s,baz=181,slow=1.2,SNR=15							
BDFB	**Brasilia**	**148.91**	**134**	PKIKP	**PKPdf**	**09 44 31.5**	**+0.4**	
MAL2	**Monte Alegre,**	**150.16**	**105**		**PKPdf**	**09 44 34.4**	**+1.3**	
TORD	**Torodi Ar. Bea**	**152.40**	**287**		**PKPbc**	**09 44 42.3**	**-0.9**	
TORD	**Torodi Ar. Bea**	**152.40**	**287**	PKPbc	**PKPbc**	**09 44 42.0**	**-1.3**	
	comp=Z,1.8nm,0.4s,baz=79,slow=2.0,SNR=42							
TORD				PKPab	**PKPab**	**09 44 53.8**	**+0.2**	
	comp=Z,7.2nm,1.0s,baz=45,slow=4.9,SNR=12							
MDP	**Montagnes des**	**152.87**	**91**	PKP	**PKPdf**	**09 44 35.6**	**-1.5**	
	comp=Z,7.5nm,1.0s,baz=212,slow=4.1,SNR=3.6							
MDP				PKPbc	**PKPbc**	**09 44 44.3**	**-0.1**	
	comp=Z,42nm,0.9s,baz=275,slow=3.0,SNR=25							
MDP				PKPab	**PKPab**	**09 44 55.3**	**-0.3**	
	comp=Z,32nm,1.0s,baz=290,slow=4.4,SNR=12							
DBIC	**Dimbokro**	**159.58**	**273**	PKPab	**PKPab**	**09 45 24.6**	**+0.2**	
	comp=Z,2.3nm,0.6s,baz=112,slow=6.7,SNR=4.5							

IDC 21 09:30:09.7±604.0, 55°64N×39°50E, h0km, Error ellipse: s-maj=248.0km s-min=53.3km az=129.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**1.67**	**311**	I	I	09 40 20.0	
	0.2nm,0.8s,baz=130,slow=315,SNR=3.3						
I37NO	**I37NO**	**16.45**	**333**	I	I	11 05 50.0	
	baz=135,slow=320,SNR=1.7						
I48TN	**KESRA INFRASON**	**28.57**	**239**	I	I	12 26 20.0	
	baz=41,slow=312,SNR=0.6						

RSNC 21 09:32:55.4±0.0, 5°N±1°×7°4W±°, h148km±2km, M2.8, mb4.0, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.71**	**233**	P	Pn	09 33 18.9	+0.7
CVER	**Cruz Verde, Cu**	**0.81**	**203**	P	Pn	09 33 19.3	+0.2
RUSC	**La Rusia**	**0.91**	**47**	P	Pn	09 33 19.7	-0.1
RUSC				S	Sn	09 33 38.1	-0.2
NORC	**Norcasia**	**1.15**	**285**	P	Pn	09 33 20.7	-0.7
NORC				S	Sn	09 33 40.6	-0.6
VILC	**Villavicencio,**	**1.15**	**177**	P	Pn	09 33 20.7	-0.8
VILC				S	Sn	09 33 40.7	-0.8
BARC	**Barichara**	**1.43**	**23**	P	Pn	09 33 23.5	-0.9
BARC				S	Sn	09 33 45.4	-1.1
PTBC	**PUERTO BERRIO,**	**1.44**	**331**	P	Pn	09 33 22.9	-1.4
PTBC				S	Sn	09 33 45.4	-1.0
GUY2C	**Guyana, Caldas**	**1.61**	**268**	P	Pn	09 33 26.0	-0.5
GUY2C				S	Sn	09 33 50.8	+0.6
BRJC	**Barrancabermej**	**1.69**	**0**	P	Pn	09 33 26.5	-0.4
BRJC				S	Sn	09 33 51.3	+0.2
NIZA	**Niza - Manizal**	**1.73**	**263**	P	Pn	09 33 28.5	+0.9
NIZA				S	Sn	09 33 52.3	+0.1
PRAC	**Prado**	**1.92**	**216**	P	Pn	09 33 29.0	-0.5
PRAC				S	Sn	09 33 54.8	-0.9
HELC	**Santa Helena**	**1.99**	**297**	P	Pn	09 33 30.6	-0.1
HELC				S	Sn	09 33 57.1	-0.6
ORTC	**Ortega, Tolima**	**2.01**	**228**	P	Pn	09 33 29.9	-0.7
ORTC				S	Sn	09 33 56.5	-1.2
URMC	**La Uribe, Meta**	**2.10**	**197**	P	Pn	09 33 31.6	-0.2
URMC				S	Sn	09 33 59.5	-0.2
PAMC	**Pamplona, Colo**	**2.31**	**27**	P	Pn	09 33 34.6	0.0
PAMC				S	Sn	09 34 04.1	-0.5
CBOC	**Ciudad Bolivar**	**2.33**	**285**	P	Pn	09 33 34.1	-0.4
CBOC				S	Sn	09 34 03.9	-0.6
ZARC	**Zaragoza, Cauc**	**2.47**	**334**	P	Pn	09 33 33.8	-2.3
ZARC				S	Sn	09 34 05.4	-2.0
PLMC	**San Jos del P**	**2.55**	**262**	P	Pn	09 33 37.6	+0.5
PLMC				S	Sn	09 34 10.2	+1.0
YOTC	**Yotoco, Valle**	**2.88**	**244**	P	Pn	09 33 40.6	-0.8
YOTC				S	Sn	09 34 17.3	+0.4
OCAC	**Ocana**	**2.98**	**8**	P	Pn	09 33 42.0	-0.6
OCAC				S	Sn	09 34 18.4	-0.7
DBBC	**Dabeiba**	**3.00**	**305**	P	Pn	09 33 42.3	-0.5
DBBC				S	Sn	09 34 19.4	0.0
URCC	**San Jos de Ur**	**3.04**	**324**	P	Pn	09 33 40.5	-2.7
URECC				S	Sn	09 34 16.9	-3.3
MACC	**Macarena, Meta**	**3.11**	**182**	P	Pn	09 33 42.2	-1.9
MACC				S	Sn	09 34 18.5	-3.3
GARC	**Garzon, Huila**	**3.52**	**210**	P	Pn	09 33 48.1	-1.6
GARC				S	Sn	09 34 30.4	-1.3
APAC	**Apartado, Choc**	**3.84**	**313**	P	Pn	09 33 52.9	-0.6
APAC				S	Sn	09 34 38.2	-0.4
POPC	**Popayan, Colom**	**3.98**	**227**	P	Pn	09 33 55.6	-0.1
POPC				S	Sn	09 34 40.6	-1.8
FLOC	**Florencia**	**4.13**	**207**	P	Pn	09 33 56.4	-0.9
SJCC	**San Jacinto, C**	**4.81**	**343**	P	Pn	09 34 02.6	-3.8
SJCC				S	Sn	09 34 56.1	-5.6
CRJC	**Cerrejon, Guaj**	**5.78**	**8**	P	Pn	09 34 17.3	-1.9
CRJC				S	Sn	09 35 18.3	-6.5
URIC	**Uribia, Colomb**	**6.62**	**15**	P	Pn	09 34 27.5	-2.9
URIC				S	Sn	09 35 38.2	-6.7
SGC2	**Sao Gabriel da**	**8.64**	**128**	P	Pn	09 34 52.6	-4.9
SGC2				S	Sn	09 36 26.4	-7.2

ASRS 21 09:39:24.0±1.0, 53°60N×87°97E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*IDC **21** 09:39:56.5±1.7, 30°48S×178°23W, h131km±12km, mb3.6/3, mbtmp4.1/5, Error ellipse: s-maj=50.2km s-min=16.2km az=109.0*

ISC 21 09:39:54.3±1.6, 30°59S±0°08×177°8W±0°3, h150km, n31, σ1°45/45, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.33**	**354**	P	**Pn**	**09 40 22.9**	**+0.7**
GLKZ				S	**Sn**	**09 40 40.9**	**-2.5**
RAO	**Raoul Island**	**1.34**	**354**	P	**Pn**	**09 40 22.9**	**+0.7**
	361nm,0.3s,baz=112,slow=22,SNR=5.6						
RAO				S	**Sn**	**09 40 41.5**	**-2.1**
	2μm,0.3s,baz=93,slow=23,SNR=18						
RIZ	**Raoul Island**	**1.35**	**354**	P	**Pn**	**09 40 22.5**	**+0.2**
RIZ				S	**Sn**	**09 40 42.5**	**-1.2**
MXZ	**Matakaoa Point**	**7.68**	**204**	S	**Sn**	**09 43 09.3**	**+0.2**
WMGZ	**Waiomatatini S**	**7.88**	**203**	P	**Pn**	**09 41 46.3**	**+0.3**
WMGZ				S	**Sn**	**09 43 13.1**	**-0.7**
PKGZ	**Pakihiroa**	**8.03**	**204**	P	**Pn**	**09 41 48.6**	**+0.5**
PKGZ				S	**Sn**	**09 43 17.4**	**-0.2**
HAZ	**Te Kaha**	**8.04**	**206**	P	**Pn**	**09 41 49.4**	**+1.2**
HAZ				S	**Sn**	**09 43 17.2**	**-0.6**
RUGZ	**Raukumara Rang**	**8.27**	**206**	P	**Pn**	**09 41 50.2**	**-1.1**
RUGZ				S	**Sn**	**09 43 21.3**	**-2.1**
TWGZ	**Tauwhareparae**	**8.35**	**204**	S	**Sn**	**09 43 27.2**	**+2.0**
CNGZ	**Carnagh Statio**	**8.55**	**202**	P	**Pn**	**09 41 56.4**	**+1.5**
CNGZ				S	**Sn**	**09 43 30.1**	**+0.2**
TKGZ	**Te Karaka**	**8.63**	**204**	P	**Pn**	**09 41 58.0**	**+0.8**
TKGZ				S	**Sn**	**09 43 32.1**	**+0.3**
URZ	**Urewera**	**8.74**	**208**	P	**Pn**	**09 41 58.1**	**+0.5**
	6.2nm,0.7s,baz=327,slow=17,SNR=2.2						
URZ				S	**Sn**	**09 43 34.5**	**-0.1**
	8.9nm,0.3s,baz=0.0,slow=20,SNR=17						
URZ	**Urewera**	**8.74**	**208**	P	**Pn**	**09 41 58.3**	**+0.7**
URZ				S	**Sn**	**09 43 33.0**	**-1.6**
RAGZ	**Rawiri**	**8.83**	**205**	P	**Pn**	**09 41 59.4**	**+0.6**
RAGZ				S	**Sn**	**09 43 36.4**	**-0.5**
RIGZ	**Rimuhau**	**8.89**	**203**	P	**Pn**	**09 41 59.4**	**-0.2**
RIGZ				S	**Sn**	**09 43 38.3**	**0.0**
PRGZ	**Paritu Road**	**9.05**	**202**	S	**Sn**	**09 43 40.3**	**-1.8**
MUGZ	**Murupara**	**9.07**	**208**	P	**Pn**	**09 42 00.0**	**-1.8**
MUGZ				S	**Sn**	**09 43 41.6**	**-2.0**
SNGZ	**Shannon Statio**	**9.11**	**205**	P	**Pn**	**09 42 02.0**	**-0.5**
SNGZ				S	**Sn**	**09 43 45.0**	**+1.5**
MHGZ	**Mahia Peninsul**	**9.25**	**201**	P	**Pn**	**09 42 04.3**	**0.0**
MHGZ				S	**Sn**	**09 43 43.9**	**-3.0**
MTHZ	**Maungataniwha**	**9.36**	**207**	S	**Sn**	**09 43 48.5**	**-1.0**
BKZ	**Black Stump Fm**	**9.77**	**207**	P	**Pn**	**09 42 09.5**	**-1.7**
BKZ				S	**Sn**	**09 43 55.0**	**-4.4**
MCHZ	**McNeill Hill**	**9.93**	**206**	S	**Sn**	**09 44 01.2**	**-2.1**
KAHZ	**Kahuranaki**	**10.18**	**204**	P	**Pn**	**09 42 15.1**	**-1.5**
KAHZ				S	Sn	09 43 59.5	-10
RPZ	**Rata Peaks**	**15.83**	**211**	P	**P**	**09 43 30.2**	**+0.6**
	2.5nm,0.3s,baz=39,slow=15,SNR=5.6						
STKA	**Stephens Creek**	**34.63**	**257**	P	**P**	**09 46 31.4**	**+2.2**
	2.0nm,0.7s,baz=73,slow=11,SNR=3.9						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**43.30**	**267**	P	**P**	**09 47 42.1**	**+0.7**
	0.8nm,0.5s,baz=105,slow=7.2,SNR=20						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**44.31**	**272**	P	**P**	**09 47 49.6**	**+0.1**
	0.9nm,0.3s,baz=111,slow=7.9,SNR=12						
	0.9nm,0.3s						
H03S2	**Juan Fernandez**	**80.19**	**123**	T	T	11 21 32.8	
	baz=238						
H03S1	**Juan Fernandez**	**80.20**	**123**	T	T	11 21 38.5	
	baz=238						
H03S3	**Juan Fernandez**	**80.21**	**123**	T	T	11 21 44.9	
	baz=238						
FINES	**FINESS Array B**	**145.39**	**340**	PKPbc	**PKiKP**	**09 59 16.4**	**-1.2**
	0.9nm,0.3s,baz=32,slow=3.6,SNR=11						

ASRS 21 09:40:14.0±1.5, 53°67N×86°92E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*AFAD **21** 09:45:45.2, 41°01N×23°78E, h5km±2km, MW3.4*
*SOF **21** 09:45:47.9, 40°91N±0°01×23°84E, h10km±1km, MD3.7/8*
*ATH **21** 09:45:47.9, 40°89N×23°84E, h15km, ML3.2/21, Manual Solution by A.Plessa First location: 2019/08/21 09:47:06, This location: 2019/08/21 10:04:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **21** 09:45:48.5, 40°9N±0°7×23°8E±0°6, h6km±1km, M3.2/24, MLh3.2/24*
*SKO **21** 09:45:49.2, 40°90N×23°83E, h0km, ML3.5*
*BEO **21** 09:45:49.6±0.5, 40°89N×23°83E, h11km±2km, ML3.5/8*
*ISK **21** 09:45:51.0, 40°99N×24°13E, h5km, ML3.3/19*

ISC 21 09:45:48.5±0.9, 40°88N±0°01×23°83E±0°01, h9km±8km, n151, σ0°90/217, 15C-13D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.29**	**322**	P	**Pg**	**09 45 54.3**	**0.0**
SRS				S	**Sg**	**09 45 58.2**	**-0.1**
SRS	**Serrai**	**0.29**	**322**	⇑*i*Pg	**Pg**	**09 45 54.3**	**0.0**
SRS				*i* Sg	**Sg**	**09 45 58.2**	**-0.1**
SRS	**Serrai**	**0.29**	**322**	*e*Pg	**Pg**	**09 45 54.3**	**0.0**
SRS				P	**Pg**	**09 45 54.3**	**0.0**
SRS				S	**Sg**	**09 45 58.1**	**-0.1**
DRA2	**DRAMA**	**0.36**	**41**	P	**Pg**	**09 45 55.9**	**+0.3**
DRA2				S	**Sg**	**09 46 00.1**	**-0.3**
SOH	**Sokhos**	**0.37**	**260**	P	**Pg**	**09 45 55.8**	**+0.1**
SOH				S	**Sg**	**09 46 01.1**	**+0.6**
SOH	**Sokhos**	**0.37**	**260**	⇓*i*Pg	**Pg**	**09 45 55.8**	**+0.1**
SOH				*i* Sg	**Sg**	**09 46 01.2**	**+0.6**
SOH	**Sokhos**	**0.37**	**260**	P	**Pg**	**09 45 55.7**	**+0.1**
SOH				S	**Sg**	**09 46 01.1**	**+0.6**
KVLA	**Kavala**	**0.42**	**83**	P	**Pg**	**09 45 56.5**	**-0.3**
KVLA				S	**Sg**	**09 46 02.1**	**-0.2**
KAVA	**Kavala**	**0.53**	**78**	P	**Pg**	**09 45 58.4**	**-0.3**
KAVA				S	**Sg**	**09 46 05.5**	**-0.2**
KAVA	**Kavala**	**0.53**	**78**	P	**Pg**	**09 45 58.3**	**-0.4**
KAVA				S	**Sg**	**09 46 05.4**	**-0.2**
OUR	**Ouranopolis**	**0.56**	**168**	P	**Pg**	**09 45 59.4**	**+0.1**
OUR				S	**Sg**	**09 46 07.8**	**+1.1**
OUR	**Ouranopolis**	**0.56**	**168**	P	**Pg**	**09 45 59.2**	**-0.1**
OUR				S	**Sg**	**09 46 07.0**	**+0.4**
HORT	**Hortiatis**	**0.63**	**243**	P	**Pg**	**09 46 00.4**	**-0.1**
HORT				S	**Sg**	**09 46 09.3**	**+0.5**
HORT	**Hortiatis**	**0.63**	**243**	P	**Pg**	**09 46 00.3**	**-0.3**
MMB	**Musomishta**	**0.67**	**355**	*i* Pg	**Pg**	**09 46 01.1**	**-0.2**
MMB				*i* Sg	**Sg**	**09 46 09.2**	**-0.8**
MMB	**Musomishta**	**0.67**	**355**	P	**Pg**	**09 46 01.1**	**-0.2**
MMB				S	**Sb**	**09 46 10.7**	**-1.0**
MMB	**Musomishta**	**0.67**	**355**	⇑*i*Pg	**Pg**	**09 46 01.1**	**-0.2**
MMB				*i* Sg	**Sb**	**09 46 10.9**	**-0.8**
THE	**Thessaloniki**	**0.70**	**249**	P	**Pg**	**09 46 01.8**	**-0.3**
THE				S	**Sg**	**09 46 11.7**	**+0.4**
THE	**Thessaloniki**	**0.70**	**249**	⇓*i*Pg	**Pg**	**09 46 01.8**	**-0.3**
THE				*i* Sg	**Sg**	**09 46 11.2**	**-0.1**
THE	**Thessaloniki**	**0.70**	**249**	P	**Pg**	**09 46 01.5**	**-0.6**
THAS	**Thassos island**	**0.73**	**112**	P	**Pg**	**09 46 02.1**	**-0.4**
THAS				S	**Sg**	**09 46 12.6**	**+0.6**
THAS	**Thassos island**	**0.73**	**112**	P	**Pg**	**09 46 02.0**	**-0.5**
THAS				S	**Sg**	**09 46 12.2**	**+0.2**
KNT	**Kendrikon**	**0.76**	**292**	P	**Pg**	**09 46 02.7**	**-0.4**
KNT				S	**Sg**	**09 46 13.2**	**+0.2**
KNT	**Kendrikon**	**0.76**	**292**	*i* Pg	**Pg**	**09 46 02.7**	**-0.4**
KNT				*i* Sg	**Sg**	**09 46 13.2**	**+0.2**
KNT	**Kendrikon**	**0.76**	**292**	P	**Pg**	**09 46 02.7**	**-0.4**
KNT				S	**Sg**	**09 46 13.2**	**+0.2**
XANC	**Avdira**	**0.85**	**83**	P	**Pg**	**09 46 04.3**	**-0.6**
VAY	**Valandovo**	**1.05**	**295**	*i* Pg	**Pg**	**09 46 08.7**	**+0.1**
VAY				*i* Sg	**Sb**	**09 46 22.9**	**+0.2**
VAY				*e*Lg	Lg	09 46 24.9	
	comp=E,638nm,0.5s						
VAY				*e*Lg	Lg	09 46 25.3	
	comp=N,806nm,0.3s						
RZN	**Rozhen**	**1.06**	**40**	*e*P	**Pb**	**09 46 09.0**	**-0.1**
RZN				*i* S	**Sg**	**09 46 22.2**	**-0.4**
KKB	**Krupnik**	**1.09**	**331**	*i* P	**Pg**	**09 46 09.0**	**-0.5**
KKB				*i* S	**Sg**	**09 46 23.2**	**-0.5**
KKB	**Krupnik**	**1.09**	**331**	P	**Pg**	**09 46 09.0**	**-0.5**
KKB				S	**Sn**	**09 46 24.9**	**-0.4**
KKB	**Krupnik**	**1.09**	**331**	⇑*i*Pg	**Pg**	**09 46 09.0**	**-0.5**
KKB				*i* Sg	**Sb**	**09 46 23.8**	**-0.2**
LIT	**Litokhoron**	**1.29**	**233**	P	**Pn**	**09 46 11.9**	**-0.8**
LIT				S	**Sn**	**09 46 31.0**	**+0.9**
LIT	**Litokhoron**	**1.29**	**233**	P	**Pn**	**09 46 11.9**	**-0.8**
LIT				S	**Sg**	**09 46 30.0**	**+0.1**
LIT	**Litokhoron**	**1.29**	**233**	*i* Pg	**Pn**	**09 46 11.8**	**-0.9**
LIT	**Litokhoron**	**1.29**	**233**	P	**Pn**	**09 46 11.7**	**-0.9**
RDO	**Rodhopi**

ZAPS				*e*Sn	**Sn**	**09 47 03.2 +2.0**
JMB	**Yambol**	**2.58**	**51**	Pn	**Pn**	**09 46 32.2 +1.8**
CANM	**Can-anakkale**	**2.61**	**108**	Pn	**Pn**	**09 46 33.3 +2.5**
KRBG	**Karabiga-Canak**	**2.68**	**99**	Pn	**Pn**	**09 46 32.5 +0.7**
VIL2	**Platees**	**2.71**	**189**	P	**Pn**	**09 46 31.2 -1.0**
ANX	**Ano Chora**	**2.72**	**213**	P	**Pn**	**09 46 32.7 +0.2**
ANX	**Ano Chora**	**2.72**	**213**	P	**Pn**	**09 46 32.5 0.0**
YENI	**Yenice-Canakka**	**2.77**	**109**	Pn	**Pn**	**09 46 35.5 +2.4**
YAYO	**Edremit-Balk**	**2.79**	**116**	Pn	**Pb**	**09 46 36.2 -2.2**
TKR	**Tekirdag**	**2.81**	**87**	Pn	**Pn**	**09 46 35.4 +1.8**
SERG	**Sergoula**	**2.82**	**210**	P	**Pn**	**09 46 33.6 -0.2**
SERG	**Sergoula**	**2.82**	**210**	P	**Pn**	**09 46 33.3 -0.5**
PTL	**Penteli**	**2.83**	**179**	P	**Pn**	**09 46 33.2 -0.7**
BLKB	**Belogradchik**	**2.87**	**343**	*e*Pn	**Pn**	**09 46 35.3 +0.9**
BLKB				*e*Sn	**Sn**	**09 47 09.8 +0.7**
EFP	**Efpalio**	**2.87**	**212**	P	**Pn**	**09 46 33.5 -0.9**
MRMT	**Marmara Adasi**	**2.87**	**94**	Pn	**Pn**	**09 46 36.4 +1.9**
PHSR	**Pinarhisar**	**2.88**	**74**	Pn	**Pn**	**09 46 36.2 +1.6**
PHSR	**Pinarhisar**	**2.88**	**74**	⇑P	**Pn**	**09 46 36.3 +1.8**
IGT	**Igoumenitsa**	**3.00**	**244**	*e*Pn	**Pn**	**09 46 39.0 +2.8**
GONE	**Gonen-Balikesi**	**3.06**	**105**	Pn	**Pn**	**09 46 39.5 +2.5**
SELS	**Selova**	**3.09**	**320**	*e*Pn	**Pn**	**09 46 37.7 +0.3**
SELS				*e*Lg	Lg	09 47 26.9
EDC	**Edincik**	**3.12**	**99**	Pn	**Pn**	**09 46 40.5 +2.7**
ZAGS	**Zajecar**	**3.16**	**338**	*e*Pn	**Pn**	**09 46 38.7 +0.3**
ZAGS				*e*Sn	**Sn**	**09 47 16.7 +0.5**
GUR	**Goura**	**3.16**	**202**	P	**Pn**	**09 46 38.0 -0.5**
BOVS	**Bovan**	**3.17**	**331**	⇓P	**Pn**	**09 46 39.0 +0.4**
BOVS	**Bovan**	**3.17**	**331**	*e*Pn	**Pn**	**09 46 39.2 +0.7**
BOVS				*e*Sn	**Sn**	**09 47 17.6 +1.1**
BOVS				*e*Lg	Lg	09 47 28.3
SLVT	**Silivri**	**3.33**	**83**	Pn	**Pn**	**09 46 42.7 +2.0**
CTYL	**Yalikoy Yolu**	**3.42**	**79**	Pn	**Pn**	**09 46 43.9 +2.0**
GOCS	**Kraljevo Serbi**	**3.46**	**322**	*e*Pn	**Pn**	**09 46 42.9 +0.2**
GOCS				*e*Sn	**Sn**	**09 47 24.4 +0.5**
PDG	**Podgorica**	**3.76**	**296**	⇓P	**Pn**	**09 46 45.6 -1.1**
GRUS	**Gruza**	**3.79**	**323**	*e*Pn	**Pn**	**09 46 47.1 +0.1**
GRUS				*e*Lg	Lg	09 47 49.4
HERR	**Herculane**	**4.13**	**346**	⇑P	**Pn**	**09 46 51.2 -0.5**
MDVR	**Moldovita**	**4.20**	**339**	⇑P	**Pn**	**09 46 52.6 -0.2**
MDVR	**Moldovita**	**4.20**	**339**	*e*Pn	**Pn**	**09 46 52.5 -0.2**
ARR	**Arges**	**4.52**	**7**	⇓P	**Pn**	**09 46 57.5 +0.4**
LOT	**Lotru**	**4.56**	**359**	⇓P	**Pn**	**09 46 58.1 +0.4**
GZR	**Gura Zlata**	**4.57**	**351**	⇓P	**Pn**	**09 46 57.4 -0.5**
GZR	**Gura Zlata**	**4.57**	**351**	*e*Pn	**Pn**	**09 46 57.4 -0.5**
GZR				*e*Sn	**Sn**	**09 47 49.2 -2.0**
VRSS	**Vrsac**	**4.62**	**337**	*e*Pn	**Pn**	**09 46 58.1 -0.3**
VRSS				*e*Sn	**Sn**	**09 47 49.9 -2.3**
VOIR		**4.64**	**11**	⇑P	**Pn**	**09 46 59.8 +1.0**
TEKS	**Tekeris**	**4.84**	**321**	*e*Pn	**Pn**	**09 47 01.4 -0.2**
MLR	**Muntele Rosu**	**4.86**	**18**	⇑P	**Pn**	**09 47 03.3 +1.4**
MLR	**Muntele Rosu**	**4.86**	**18**	*e*Pn	**Pn**	**09 47 03.4 +1.6**
NEHR	**Nehoiu**	**4.88**	**21**	⇑P	**Pn**	**09 47 04.1 +2.0**
BZS	**Buzias**	**5.00**	**342**	⇓P	**Pn**	**09 47 03.3 -0.4**
BZS	**Buzias**	**5.00**	**342**	*e*Pn	**Pn**	**09 47 03.3 -0.4**
SURR	**Surduc**	**5.02**	**346**	⇓P	**Pn**	**09 47 04.5 +0.5**
COVR	**Voineasa-Covas**	**5.25**	**18**	⇓P	**Pn**	**09 47 09.2 +2.0**
CFR	**Carcaliu**	**5.33**	**35**	⇑P	**Pn**	**09 47 08.3 +0.2**
OZUR		**5.40**	**15**	⇑P	**Pn**	**09 47 10.9 +1.7**
VRI	**Vrincioaia**	**5.41**	**22**	⇑P	**Pn**	**09 47 10.9 +1.6**
MARR	**Marisel-Cluj**	**5.81**	**355**	⇓P	**Pn**	**09 47 15.7 +0.8**

GCG 21 09:55:32.5±1.4, 15°20'N×91°89'W, h153km±7km, MD4.0, ML3.6, MW3.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUEH	**Huehuetenango**	**0.39**	**73**	*i* P		Pn	09 55 54.9	+0.9
HUEH				*i* S		Sn	09 56 11.3	+0.9
HUEH				IAML			09 56 13.3	
	comp=E,2μm,0.3s							
SMCA	**Catarina**	**0.39**	**208**	*i* P		Pn	09 55 53.4	-0.4
THIG		**0.47**	**231**	*i* P		Pn	09 55 54.4	+0.3
THIG				*i* S		Sn	09 56 11.9	+1.5
THIG				IAML			09 56 13.5	
	comp=N,696nm,0.3s							
CCIG	**Comitan**	**1.10**	**347**	*i* P		Pn	09 56 00.4	+1.7
CCIG				*i* S		Sn	09 56 20.9	+2.1
CCIG				IAML			09 56 21.9	
	comp=E,908nm,0.5s							
TGIG		**1.97**	**323**	*i* P		Pn	09 56 08.1	+0.6
TGIG				*i* S		Sn	09 56 34.6	+0.2
MTO3	**Montecristo**	**2.57**	**108**	*i* P		Pn	09 56 15.7	+0.9
PETF	**Flores**	**2.58**	**48**	*i* P		Pn	09 56 15.5	+0.7
PETF				IAML			09 56 50.9	
	comp=E,81nm,0.6s							
JAYA	**Jayaque - finc**	**2.82**	**123**	*i* P		Pn	09 56 18.0	+0.2

HEL 21 09:59:06.8±0.1, 60°41'N×24°84'E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NUR	**Nurmijarvi**	**0.14**	**318**	PG		Pg	09 59 08.8	-0.7
HEL1	**Helsinki**	**0.23**	**174**	PG		Pg	09 59 10.9	-0.3
HEL1				SG		Sg	09 59 14.4	+0.2
MEF	**Metsahovi**	**0.29**	**229**	PG		Pg	09 59 11.9	-0.4
MEF				SG		Sg	09 59 16.1	0.0
HEL5	**Espoo, Suvisaa**	**0.29**	**190**	PG		Pg	09 59 12.0	-0.4
	baz=9.0							
HEL5				SG		Sg	09 59 16.2	0.0
PVF	**Pernaja**	**0.53**	**74**	PG		Pg	09 59 16.1	-0.8
PVF				SG		Sg	09 59 23.0	-0.7
PVF				MSG			09 59 23.7	
	comp=E,1.8nm,0.2s							
TVF	**Tvarminne**	**0.97**	**235**	PG		Pg	09 59 24.4	-1.1
TVF				MSG			09 59 36.6	
	comp=Z,0.6nm,0.2s							
TVF				SB		Sg	09 59 37.5	-0.5
ARBE	**Arbavere**	**1.13**	**149**	SG		Sg	09 59 42.2	-0.9
FIA0	**FINESS Array S**	**1.21**	**30**	PN		Pb	09 59 30.5	0.0
FIA0				MSG			09 59 43.4	
	comp=Z,1.5nm,0.2s							
FIA0				SN		Sn	09 59 50.1	+2.2
VJF	**Virojoki**	**1.35**	**83**	MSG			09 59 47.5	
	comp=Z,2.1nm,0.2s							
VJF				SN		Sn	09 59 52.7	+1.2
RAF	**Rauma**	**1.63**	**294**	PG		Pn	09 59 36.5	-0.2
RAF				MSG			09 59 55.5	
	comp=Z,1.6nm,0.2s							
RAF				SN		Sn	09 59 57.9	-0.5
KEF	**Keuruu**	**1.77**	**1**	PG		Pn	09 59 39.3	+0.7
KEF				MSG			09 59 59.4	
	comp=Z,1.2nm,0.2s							
KPF	**Kankaanpaa**	**1.96**	**318**	MSG			10 00 05.1	
	comp=Z,0.9nm,0.2s							
KPF				SG		Sb	10 00 07.5	-0.9
SUF	**Sumiainen**	**2.41**	**15**	PG		Pb	09 59 49.3	-1.6
SUF				MSG			10 00 17.8	
	comp=Z,0.5nm,0.2s							
SUF				SG		Sb	10 00 21.5	+0.4

*VKMS **21** 10:00:03.0, 52°32'N×35°45'E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 21 10:00:15.7±4.1, 52°28'N×35°44'E, h0km, mbtmp3.8/1, ML2.9/1, Error ellipse: s-maj=56.3km s-min=24.5km az=139.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKASG	**Malin Array Be**	**4.19**	**250**	Pn		Pn	10 01 19.1	-1.7
	0.8nm,0.3s,baz=60,slow=15,SNR=2.9							
AKASG				Sn		Sn	10 02 09.5	-0.9
	2.0nm,0.3s,baz=46,slow=20,SNR=5.5							
AKASG				Lg		Lg	10 02 27.1	
	2.9nm,0.3s,baz=66,slow=29,SNR=5.0							
I43RU	**DUBNA INFRASON 4**	**4.57**	**12**	I		I	10 28 55.0	
	baz=196,slow=326,SNR=8.4							
ARCES	**ARCESS Array B**	**17.93**	**349**	P		P	10 04 26.6	-0.2
	2.2nm,1.0s,baz=166,slow=11,SNR=1.6							

*HEL **21** 10:00:29.0±0.2, 64°77'N×30°72'E, h0km, ML2.1, Explosion*
*IDC **21** 10:00:29.7±2.6, 64°71'N×31°11'E, h0km, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=37.8km s-min=9.8km az=102.0*
*UPP **21** 10:00:29.3±3.0, 64°62'N×30°85'E, h0km, ML2.0, Presumed earthquake*
*KOLA **21** 10:00:30.8, 64°73'N×30°80'E, h0km, ML2.2, Error ellipse: s-maj=17.1km s-min=10.4km az=170.0, Kostomuksha, Karelia*

ISC 21 10:00:27.8±0.9, 64°76'N±0°02'×30°69'E±0°04, h0km, n54, σ2.221/71, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RMF	**Romuvaara**	**0.64**	**211**	PG		**Pg**	**10 00 41.4**	**+1.4**
	baz=29							
RMF				SG		**Sg**	**10 00 47.3**	**-0.9**
RMF				MSG			10 00 49.8	
	comp=Z,29nm,0.2s							
KU1	**Kurvinen**	**0.94**	**330**	PG		**Pg**	**10 00 45.8**	**+0.1**
KU6	**Riekki**	**1.31**	**346**	PG		**Pg**	**10 00 52.7**	**-0.1**
	baz=166							
KU6				MSG			10 01 08.4	
	comp=Z,13nm,0.2s							
KU6				SG		**Sg**	**10 01 09.6**	**-0.2**
MSF	**Maaselka**	**1.34**	**330**	PG		**Pg**	**10 00 53.2**	**-0.3**
MSF				SG		**Sg**	**10 01 11.1**	**+0.2**
KU2	**Taivalkoski**	**1.41**	**314**	PG		**Pn**	**10 00 54.2**	**-0.4**
OLKF	**Oulanka, Finla**	**1.65**	**342**	PG		**Pn**	**10 00 58.6**	**+0.6**
OLKF				MSG			10 01 18.2	
	comp=Z,16nm,0.2s							
OLKF				SN		**Sg**	**10 01 22.4**	**+1.6**
NIF	**Nilsia**	**1.87**	**224**	PG		**Pb**	**10 01 03.2**	**+0.4**
NIF				MSG			10 01 25.2	
	comp=Z,12nm,0.2s							
JOF	**Joensuu**	**1.87**	**171**	*e*P		**Pn**	**10 01 02.4**	**+1.4**
JOF	**Joensuu**	**1.87**	**171**	SB		Sn	10 01 02.2	-23
JOF	**Joensuu**	**1.87**	**171**	PG		**Pn**	**10 01 02.2**	**+1.2**
RANF	**Ranua**	**2.06**	**309**	PG		**Pn**	**10 01 05.5**	**+1.9**
	baz=126							
RANF				SG		**Sb**	**10 01 32.1**	**0.0**
OUL	**Oulu**	**2.07**	**281**	SN		Sn	10 01 11.4	-19
OUL	**Oulu**	**2.07**	**281**	PG		**Pb**	**10 01 06.0**	**-0.1**
OUL				SG		**Sb**	**10 01 32.7**	**+0.4**
KVDA	**Kovda**	**2.13**	**24**	P		**Pb**	**10 01 06.8**	**-0.5**
KVDA				S		**Sb**	**10 01 34.5**	**+0.2**
OBF4	**Vikkela, Lumij**	**2.39**	**274**	PG		**Pb**	**10 01 10.9**	**-0.8**
	baz=89							
OBF4				MSG			10 01 40.0	
	comp=Z,13nm,0.2s							
OBF4				SG		**Sb**	**10 01 43.5**	**+1.8**
OUF	**Merijarvi**	**2.60**	**264**	PB		**Pb**	**10 01 14.2**	**-1.0**
OUF				MSG			10 01 46.2	
	comp=Z,9.3nm,0.2s							
OUF				SG		**Sb**	**10 01 48.9**	**+1.2**
RNF	**Rovaniemi**	**2.68**	**316**	PB		**Pn**	**10 01 14.8**	**+2.7**
RNF				SG		**Sb**	**10 01 51.9**	**+2.0**
OBF0	**Syolatti, Pyha**	**2.79**	**267**	PG		**Pb**	**10 01 19.5**	**+1.0**
OBF0				MSG			10 01 51.7	
	comp=Z,6.9nm,0.2s							
SUF	**Sumiainen**	**2.88**	**227**	PB		**Pb**	**10 01 18.7**	**-1.2**
SUF				MSG			10 01 54.2	
	comp=Z,5.0nm,0.2s							
TOF	**Tornio**	**2.97**	**299**	PB		**Pn**	**10 01 19.2**	**+3.1**
TOF				MSG			10 01 56.6	
	comp=Z,4.1nm,0.2s							
TOF				SG		**Sb**	**10 01 59.1**	**+0.8**
VRF	**Varrio**	**3.03**	**352**	PB		**Pn**	**10 01 19.8**	**+2.9**
VRF				MSG			10 01 57.9	
	comp=Z,3.9nm,0.2s							
KALU	**Kalix**	**3.27**	**293**	P		**Pn**	**10 01 23.0**	**+2.9**
KALU				S		**Sn**	**10 02 02.0**	**+2.4**
KALU	**Kalix**	**3.27**	**293**	PG		**Pb**	**10 01 26.7**	**+0.2**
KALU				SG		**Sb**	**10 02 10.4**	**+3.6**
KAF	**Kangasniemi**	**3.31**	**219**	PB		**Pb**	**10 01 25.9**	**-1.4**
RUF	**Ruokolahti**	**3.44**	**194**	PB		**Pb**	**10 01 28.2**	**-1.4**
LVZ	**Lovozero**	**3.53**	**25**	S		**Sn**	**10 02 07.8**	**+1.6**
LVZ	**Lovozero**	**3.53**	**25**	PN		**Pn**	**10 01 25.3**	**+1.5**
KEF	**Keuruu**	**3.69**	**228**	*e*P		**Pn**	**10 01 28.9**	**+3.0**
KEF	**Keuruu**	**3.69**	**228**	PB		**Pb**	**10 01 32.2**	**-1.6**
	baz=41							
RAJF	**Raja-Jooseppi**	**3.85**	**347**	PN		**Pn**	**10 01 29.8**	**+1.7**
RAJF				SG		**Sg**	**10 02 29.5**	**-1.7**
PAJU	**Pajala**	**3.85**	**310**	P		**Pn**	**10 01 31.0**	**+2.8**
PAJU	**Pajala**	**3.85**	**310**	PN		**Pn**	**10 01 31.1**	**+3.0**
PAJU				SG		**Sg**	**10 02 29.1**	**-2.2**
SJUU	**Sjulsmark**	**3.91**	**285**	P		**Pn**	**10 01 33.5**	**+4.6**
SJUU	**Sjulsmark**	**3.91**	**285**	*e*P		**Pn**	**10 01 30.5**	**+1.5**
FIA0	**FINESS Array S**	**3.94**	**214**	PB		**Pb**	**10 01 35.5**	**-2.4**
	baz=25							
FINES	**FINESS Array B**	**3.94**	**214**	Pn		**Pn**	**10 01 31.9**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=36,slow=13,SNR=8.7							
FINES				Lg		Lg	10 02 33.0	
	comp=Z,0.6nm,0.3s,baz=36,slow=26,SNR=5.9							
	comp=Z,0.5nm,0.3s							
ERTU	**Ertsjaerv**	**3.95**	**301**	P		**Pn**	**10 01 32.4**	**+2.9**
ERTU	**Ertsjaerv**	**3.95**	**301**	PB		**Pb**	**10 01 35.2**	**-3.0**
HARU	**Harads**	**4.29**	**293**	P		**Pn**	**10 01 36.5**	**+2.3**
ODEU	**Stanfors**	**4.32**	**270**	P		**Pn**	**10 01 35.4**	**+0.8**
UMAU	**Umeaa**	**4.45**	**263**	SG		**Sg**	**10 02 48.2**	**-2.2**
HEF	**Hetta**	**4.61**	**326**	*e*P		**Pn**	**10 01 42.1**	**+3.6**
HEF	**Hetta**	**4.61**	**326**	PN		**Pn**	**10 01 41.0**	**+2.4**
HEF				SG		**Sg**	**10 02 51.5**	**-4.2**
TERR	**Teriberka**	**4.78**	**19**	P		**Pn**	**10 01 43.6**	**+2.7**
TERR				S		**Sn**	**10 02 37.2**	**+0.3**
ARCES	**ARCESS Array B**	**5.20**	**339**	Pn		**Pn**	**10 01 47.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=49							
ARCES				Sn		**Sn**	**10 02 46.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=157,slow=24,SNR=6.3							
ARCES				Lg		Lg	10 03 09.2	
	comp=Z,0.6nm,0.3s,baz=155,slow=29,SNR=11							
	comp=Z,1.0nm,0.2s							
ARCES	**ARCESS Array B**	**5.20**	**339**	P		**Pn**	**10 01 47.5**	**+0.9**
ARCES				S		**Sn**	**10 02 47.0**	**-0.2**
KEV	**Kevo**	**5.21**	**346**	*e*P		**Pn**	**10 01 47.8**	**+0.9**
VADS	**Vadso**	**5.41**	**355**	P		**Pn**	**10 01 53.0**	**+3.5**
MEF	**Metsahovi**	**5.42**	**215**	*e*P		**Pn**	**10 01 52.2**	**+2.6**
RAF	**Rauma**	**5.54**	**231**	*e*P		**Pn**	**10 01 55.5**	**+4.2**
I37NO	**I37NO**	**6.42**	**318**	I		I	10 37 40.0	
	baz=125,slow=321,SNR=3.4							
FAUS	**Fauske**	**6.79**	**300**	S		**Sn**	**10 03 27.7**	**+1.4**
HFS	**Hagfors**	**9.13**	**247**	Pn		**Pn**	**10 02 41.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=59,slow=14,SNR=2.0							
HFS				Sn		**Sn**	**10 04 16.3**	**-7.5**
	comp=Z,0.2nm,0.3s,baz=61,slow=15,SNR=2.1							
HFS				Lg		Lg	10 05 14.1	
	comp=Z,0.3nm,0.3s,baz=63,slow=27,SNR=3.5							
	comp=Z,1.5nm,0.8s							
NOA	**NORSAR Array B**	**9.62**	**256**	Pn		**Pn**	**10 02 47.5**	**+0.2**
	baz=65,slow=14,SNR=1.4							
	comp=Z,0.2nm,0.5s							

*NEIC **21** 10:04:43.0±1.1, 28°83'S±0°03'×71°64'W±0°06, h10km±1km, mb4.5/5, ML4.1(GUC), Error ellipse: s-maj=8.9km s-min=4.8km az=267.0*
*SJA **21** 10:04:43.2±0.6, 28°87'S×71°63'W, h25km±2km, ML4.3, MW4.4*
*GUC **21** 10:04:46.5±0.7, 28°90'S×71°38'W, h32km±7km, ML4.1*
*IDC **21** 10:04:51.4±2.9, 28°80'S×71°23'W, h70km±24km, mb3.7/7, mbtmp3.9/11, MS3.1/2, Error ellipse: s-maj=29.0km s-min=15.0km az=77.0*

ISC 21 10:04:41.7±1.5, 28°85'S±0°02'×71°65'W±0°04, h4km±9km, n108, σ1.963/135, mb4.3/8, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.82**	**38**			**Pn**	**10 05 00.1**	**+0.1**
AC04	**Llanos de Chal**	**0.82**	**38**	*i* P		**Pn**	**10 05 00.4**	**+0.3**
AC04				*i* S		**Sn**	**10 05 10.9**	**-1.7**
AC04				IAML			10 05 12.5	
	comp=N,11μm,0.7s							
AC04	**Llanos de Chal**	**0.82**	**38**	*e*P		**Pb**	**10 04 59.6**	**+1.1**
AC04				*e*S		**Sn**	**10 05 11.5**	**-1.1**
AC04				IAML			10 05 12.1	
	comp=Z,5μm,0.5s							
LCO	**Las Campanas**	**0.85**	**101**			**Pb**	**10 04 59.1**	**0.0**
LCO	**Las Campanas**	**0.85**	**101**	*e*P		**Pg**	**10 04 58.5**	**+0.6**
LCO				*i* S		**Sg**	**10 05 07.0**	**-2.0**
LCO	**Las Campanas**	**0.85**	**101**	*e*P		**Pb**	**10 04 59.3**	**+0.2**
LCO				*e*S		**Sb**	**10 05 09.9**	**-1.1**
LCO				IAML			10 05 10.6	
	comp=Z,17μm,0.5s							
CO05	**La Serena**	**1.12**	**161**			**Pn**	**10 05 04.8**	**+0.6**
CO05	**La Serena**	**1.12**	**161**	*e*P		**Pn**	**10 05 04.8**	**+0.6**
CO05				*i* S		**Sb**	**10 05 18.0**	**-0.6**
CO05				IAML			10 05 20.0	
	comp=E,10μm,0.4s							
GO04	**Tololo Observa**	**1.51**	**151**			**Pn**	**10 05 10.2**	**+0.4**
GO04	**Tololo Observa**	**1.51**	**151**	*e*P		**Pn**	**10 05 10.3**	**+0.6**
GO04				*i* S		**Sb**	**10 05 29.4**	**-0.7**
GO04	**Tololo Observa**	**1.51**	**151**	*e*P		**Pn**	**10 05 10.4**	**+0.6**
GO04				*e*S		**Sg**	**10 05 30.9**	**+0.7**
GO04				IAML			10 05 33.0	
	comp=Z,6μm,0.8s							
CO01	**Juntas del Tor**	**1.76**	**130**			**Pb**	**10 05 14.0**	**-0.6**
CO01	**Juntas del Tor**	**1.76**	**130**	⇓*i*P		**Pb**	**10 05 14.1**	**-0.6**
CO01				*i* S		**Sn**	**10 05 34.3**	**-1.9**
CO01				IAML			10 05 37.6	
	comp=E,2μm,0.3s							
CO01	**Juntas del Tor**	**1.76**	**130**	*e*P		**Pb**	**10 05 14.1**	**-0.6**
CO01				*e*S		**Sb**	**10 05 35.6**	**-1.7**
CO01				IAML			10 05 37.5	
	comp=Z,2μm,0.3s							
GO03	**Copiapo**	**1.77**	**45**			**Pn**	**10 05 13.8**	**+0.6**
GO03	**Copiapo**	**1.77**	**45**	⇑*i*P		**Pb**	**10 05 14.2**	**-0.5**
GO03				*i* S		**Sb**	**10 05 36.1**	**-1.2**
GO03				IAML			10 05 43.5	
	comp=N,3μm,0.7s							
GO03	**Copiapo**	**1.77**	**45**	*e*P		**Pb**	**10 05 14.3**	**-0.4**
GO03				*e*S		**Sn**	**10 05 31.8**	**-4.4**
GO03				IAML			10 05 40.2	
	comp=Z,3μm,0.6s							
CO06	**Fray Jorge**	**1.81**	**180**			**Pn**	**10 05 14.3**	**+0.6**
CO06	**Fray Jorge**	**1.81**	**180**	*e*P		**Pn**	**10 05 14.6**	**+0.9**
CO06				*i* S		**Sn**	**10 05 36.8**	**-0.4**
CO06				IAML			10 05 46.6	
	comp=E,2μm,0.2s							
AC06	**Mina Casimiro**	**1.88**	**38**			**Pb**	**10 05 16.2**	**-0.3**
AC06	**Mina Casimiro**	**1.88**	**38**	⇑*i*P		**Pb**	**10 05 16.4**	**-0.2**
AC06				*i* S		**Sb**	**10 05 39.7**	**-0.8**
AC06				IAML			10 05 42.9	
	comp=E,3μm,0.5s							
CO03	**El Pedregal**	**2.15**	**157**			**Pn**	**10 05 19.5**	**+1.2**
CO03	**El Pedregal**	**2.15**	**157**	*e*P		**Pn**	**10 05 19.6**	**+1.3**
CO03				*i* S		**Sn**	**10 05 44.4**	**-1.2**
CO03				IAML			10 05 54.7	
	comp=E,3μm,0.3s							
CO03	**El Pedregal**	**2.15**	**157**	*e*P		**Pn**	**10 05 19.6**	**+1.2**
CO03				*e*S		**Sb**	**10 05 46.9**	**-1.4**
CO03				IAML			10 05 54.6	
	comp=Z,1μm,0.5s							
AROD	**Rodeo**	**2.31**	**125**	*e*P		**Pb**	**10 05 23.4**	**-0.6**
AROD				*e*S		**Sn**	**10 05 46.4**	**-3.3**
CO02	**Combarbal**	**2.41**	**167**			**Pn**	**10 05 23.0**	**+1.0**
CO02	**Combarbal**	**2.41**	**167**	*e*P		**Pn**	**10 05 23.1**	**+1.1**
CO02	**Combarbal**	**2.41**	**167**	*e*P		**Pn**	**10 05 23.2**	**+1.1**
CO02				*e*S		**Sg**	**10 05 59.5**	**+0.4**
CO02				IAML			10 06 04.7	
	comp=Z,3μm,0.3s							
ACDV	**Cuesta del Vie**	**2.57**	**121**	*e*P		**Pb**	**10 05 27.3**	**-1.1**
ACDV				*e*S		**Sg**	**10 06 02.9**	**-1.3**
ACDV				IAML			10 06 04.6	
	comp=Z,623nm,0.4s							
AGUA	**GUANDACOL**	**2.83**	**104**	*e*P		**Pb**	**10 05 31.7**	**-1.2**
AGUA				*e*S		**Sb**	**10 06 08.4**	**+0.4**
AGUA				IAML			10 06 20.0	
	comp=Z,976nm,0.6s							
ACCO	**Cerro Coronel**	**2.84**	**128**	*e*P		**Pb**	**10 05 31.6**	**-1.5**
ACCO				*e*S		**Sb**	**10 06 06.6**	**-1.7**
AC01	**Pan de Azucar**	**2.85**	**19**			**Pn**	**10 05 28.0**	**0.0**
AC01	**Pan de Azucar**	**2.85**	**19**	⇑*i*P		**Pn**	**10 05 28.4**	**+0.4**
AC01				*i* S		**Sb**	**10 06 09.2**	**+0.7**
AC01				IAML			10 06 19.5	
	comp=E,1μm,0.2s							
AC01	**Pan de Azucar**	**2.85**	**19**	*e*P		**Pn**	**10 05 28.4**	**+0.4**
AC01				*e*S		**Sb**	**10 06 08.0**	**-0.4**
AC01				IAML			10 06 19.2	
	comp=Z,993nm,0.5s							
AC02	**Maricunga**	**3.00**	**49**			**Pn**	**10 05 32.3**	**+1.8**
AC02	**Maricunga**	**3.00**	**49**	*e*P		**Pn**	**10 05 32.6**	**+2.1**
AC02				*e*S		**Sb**	**10 06 08.9**	**-4.4**
AC02				IAML			10 06 19.0	
	comp=Z,942nm,0.7s							
VCA	**Vinchina**	**3.02**	**89**	*e*P		**Pn**	**10 05 30.0**	**-0.5**
VCA				*e*S		**Sg**	**10 06 23.3**	**+4.4**
VCA				IAML			10 06 24.1	
	comp=Z,609nm

comp=Z,2.9nm,0.7s,baz=216,slow=12,SNR=17
SIV LR LR 10 14 35.1
CZSB Cruzeiro do Su 21.04 357 P P 10 09 26.0 -0.6
CZSB IAmb IAmb 10 09 30.5
comp=Z,15nm,0.8s
BDFB Brasilia 25.46 64 P P **10 10 09.6 -1.5**
comp=Z,3.3nm,0.6s,baz=132,slow=8.4,SNR=4.1
comp=Z,3.3nm,0.6s
VNA3 Neumayer Olymp 54.02 159 ⇓P P **10 14 06.9 +0.3**
comp=Z,1.8nm,0.6s
SNAA Sanae 56.24 159 ⇓P P **10 14 22.3 -0.4**
comp=Z,32nm,0.6s
SNAA Sanae 56.24 159 P P **10 14 22.7 0.0**
SNAA IAmb IAmb 10 14 33.0
comp=Z,4.6nm,1.1s
SNAA Sanae 56.24 159 P P **10 14 22.7 0.0**
comp=Z,1.1nm,0.6s,baz=276,slow=9.1,SNR=25
comp=Z,1.1nm,0.6s
TROLL Troll, Antarti 57.95 159 ⇓P P **10 14 34.3 -0.7**
comp=Z,72nm,0.7s
QSPA South Pole Qui 61.37 180 P P **10 14 58.6 0.0**
QSPA South Pole Qui 61.37 180 P P **10 15 01.0 +2.5**
comp=Z,0.6nm,0.5s,baz=138,slow=3.3,SNR=3.3
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 65.45 329 P P **10 15 25.1 -0.8**
TXAR Lajitas Array 65.45 329 P P **10 15 28.6 +2.7**
comp=Z,0.6nm,0.7s,baz=154,slow=9.1,SNR=8.4
comp=Z,0.6nm,0.7s
SYO Syowa Base 70.53 159⇑ *e*P P **10 15 55.8 -1.5**
DBIC Dimbokro 73.26 72 P P **10 16 14.1 -0.5**
PDAR Pinedale Array 79.35 333 P P **10 16 50.1 +1.3**
comp=Z,0.3nm,0.7s,baz=182,slow=4.8,SNR=2.8
comp=Z,0.3nm,0.7s
TORD Torodi Ar. Bea 82.16 70 P P **10 17 03.7 -0.5**
comp=Z,1.6nm,0.6s,baz=270,slow=5.0,SNR=14
comp=Z,1.6nm,0.6s
BOSA Boshof 82.19 118 P P **10 17 04.0 -0.4**
comp=Z,1.6nm,0.5s,baz=295,slow=3.4,SNR=5.2
comp=Z,1.6nm,0.5s
ASAR Alice Springs 122.28 208 PKP **PKPdf 10 23 38.1 -0.6**
comp=Z,0.3nm,0.6s,baz=112,slow=1.4,SNR=2.3
WRA Warramunga Arr 125.38 210 PKP **PKPdf 10 23 45.1 +0.5**
comp=Z,0.8nm,0.5s,baz=155,slow=1.6,SNR=14
H11N3 WAKE ISLAND Hyl 26.30 274 T T 12 42 54.7
baz=113,slow=76,SNR=16
H11N1 WAKE ISLAND Hyl 26.32 274 T T 12 42 55.4
baz=113,slow=76,SNR=9.0
H11N2 WAKE ISLAND Hyl 26.32 274 T T 12 42 56.5
baz=113,slow=76,SNR=24
KURBB Kurchatov Arra 148.75 38 PKPbc **PKPdf 10 24 27.0 +0.9**
comp=Z,1.7nm,0.8s,baz=297,slow=3.3,SNR=6.4
ZALV Zalesovo Beam 149.61 28 PKPbc **PKPbc 10 24 32.5 +0.5**
comp=Z,0.6nm,0.5s,baz=306,slow=3.5,SNR=3.6
MKAR Makanchi Array 152.91 42 PKPbc **PKPbc 10 24 40.3 +0.3**
comp=Z,1.1nm,0.7s,baz=332,slow=2.1,SNR=9.3
NJ2 Nanjing 170.39 292 *e*P **PKPdf 10 24 51.9 +0.7**
NJ2 Nanjing 170.39 292 pmax pmax
comp=Z,9.0nm,0.6s

GCG 21 10:09:13.1±1.2, 13°54N×89°82W, h71km±16km, MD3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.36**	**6**	*i* P	Pn	10 09 25.4	+0.4
JAYA	**Jayaque - finc**	**0.38**	**72**	*i* P	Pn	10 09 24.9	-0.2
JAYA				*i* S	Sn	10 09 34.3	+0.3
MTO3	**Montecristo**	**0.96**	**28**	*i* P	Pn	10 09 31.7	+0.2
MTO3				*i* S	Sn	10 09 46.1	+1.0

*IDC **21** 10:10:01.8±1.7,2°.58S×138°.28E, h0km, mb3.3/2, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=32.3km s-min=27.3km az=159.0*
*DJA **21** 10:10:07.4±0.4,2°.5±.5°×13°.9E±°, h10km, M3.2/6, MLv3.2/6*
ISC 21 10:10:05.7±1.0, 2°.52S±0°.09×138°.48E±0°.05, h32km, n9, σ1°67/10, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.58**	**23**	P	**Pb**	**10 10 15.7**	**-1.8**
GENI	**Genyem**	**1.69**	**92**	P	**Pb**	**10 10 35.4**	**-0.7**
JAY	**Jayapura**	**2.22**	**90**	Pn	**Pb**	**10 10 43.1**	**-2.1**
	2.3nm,0.3s,baz=211,slow=10,SNR=9.7						
JAY				Sn	**Sb**	**10 11 14.2**	**+1.8**
	2.0nm,0.3s,baz=122,slow=18,SNR=2.4 16nm,0.6s						
JAY	**Jayapura**	**2.22**	**90**	P	**Pn**	**10 10 42.2**	**+1.8**
SRPI	**Serui, Papua**	**2.33**	**286**	P	**Pb**	**10 10 47.0**	**-0.1**
BAKI	**Biak**	**2.72**	**299**	P	**Pb**	**10 10 52.5**	**-1.2**
WRA	**Warramunga Arr**	**17.78**	**193**	P	**Pn**	**10 14 09.9**	**-1.0**
	0.1nm,0.3s,baz=16,slow=12,SNR=6.7 0.4nm,0.5s						
ASAR	**Alice Springs**	**21.48**	**192**	P	**P**	**10 14 50.5**	**-1.4**
	0.8nm,0.8s,baz=19,slow=11,SNR=7.2 0.8nm,0.8s						
MKAR	**Makanchi Array**	**69.50**	**322**	P	**P**	**10 21 12.0**	**+0.8**
	0.3nm,0.6s,baz=123,slow=7.2,SNR=2.6 0.3nm,0.6s						

*MEX **21** 10:16:45.8±0.4, 14°.16N×92°.14W, h46km±9km, MD3.8*
*GCG **21** 10:16:46.3±2.1, 14°.28N×91°.99W, h45km±19km, MD4.0, ML3.5*
ISC 21 10:16:43.4±1.5, 14°14N±0°.08×92°17W±0°.04, h46km±24km, n23, σ1°64/36, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.60**	**50**	*e*P	**Pn**	**10 16 56.1**	**+0.4**
RTAL				*e*S	**Sn**	**10 17 04.1**	**-0.4**
SMCA	**Catarina**	**0.72**	**8**	*i* P	**Pn**	**10 16 57.3**	**0.0**
THIG		**0.77**	**353**	*e*P	**Pn**	**10 16 58.5**	**+0.6**
THIG				*e*S	**Sn**	**10 17 08.2**	**-0.2**
THIG		**0.77**	**353**	*i* P	**Pn**	**10 16 58.5**	**+0.6**
THIG				*i* S	**Sn**	**10 17 08.9**	**+0.5**
QUEO	**Labor Ovalle**	**0.97**	**41**	*e*P	**Pn**	**10 17 00.7**	**-0.1**
QUEO				*i* S	**Sn**	**10 17 13.1**	**-0.6**
SOKI	**Kika Raxquin**	**1.01**	**48**	*i* P	**Pn**	**10 17 01.2**	**-0.3**
SOKI				*i* S	**Sn**	**10 17 13.6**	**-1.2**
ESSG	**Sabana Grande**	**1.33**	**79**	*e*P	**Pn**	**10 17 05.9**	**+0.4**
ESSG				IAML		10 17 21.6	
	comp=E,656nm,0.4s						
HUEH	**Huehuetenango**	**1.34**	**29**	*e*P	**Pn**	**10 17 06.2**	**+0.3**
HUEH				*e*S	**Sn**	**10 17 21.8**	**-0.9**
HUEH	**Huehuetenango**	**1.34**	**29**	*i* P	**Pn**	**10 17 06.3**	**+0.3**
HUEH				*i* S	**Sn**	**10 17 22.7**	**+0.1**
HUEH				IAML		10 17 29.6	
	comp=E,2μm,0.7s						
QUIS	**Sacapulas**	**1.55**	**42**	*i* P	**Pn**	**10 17 09.3**	**+0.7**
QUIS				*e*S	**Sn**	**10 17 28.0**	**+0.3**
QUIS				IAML		10 17 28.8	
	comp=E,1μm,0.4s						
FG16	**Alotenango, Sa**	**1.62**	**85**	*i* P	Pn	10 17 05.6	-4.0
FG16				*i* S	Sn	10 17 21.2	-8.3
PCIG		**1.86**	**327**	*e*P	**Pn**	**10 17 13.6**	**+0.9**
PCIG				*e*S	**Sn**	**10 17 34.7**	**-0.3**
CCIG	**Comitan**	**2.13**	**1**	*e*P	**Pn**	**10 17 17.3**	**+0.7**
CCIG				*e*S	**Sn**	**10 17 40.4**	**-1.6**
CCIG	**Comitan**	**2.13**	**1**	*i* P	**Pn**	**10 17 19.1**	**+2.4**
CCIG				IAML		10 17 51.5	
	comp=N,141nm,0.4s						
NUBE	**Las Nubes**	**2.34**	**95**	*e*P	**Pn**	**10 17 21.2**	**+1.8**
JAYA	**Jayaque - finc**	**2.69**	**100**	*i* P	**Pn**	**10 17 25.7**	**+1.4**
TGIG		**2.78**	**341**	*e*P	**Pn**	**10 17 29.1**	**+3.6**
TGIG				*e*S	**Sn**	**10 17 56.3**	**-1.5**
TGIG		**2.78**	**341**	*i* P	**Pn**	**10 17 29.7**	**+4.2**
PETF	**Flores**	**3.55**	**39**	*e*P	**Pn**	**10 17 34.4**	**-1.5**
PETF				*e*S	Sn	10 18 07.9	-8.8
UXUV	**UXUV**	**3.69**	**329**	*e*P	**Pn**	**10 17 39.4**	**+1.5**
UXUV				*e*S	**Sn**	**10 18 20.3**	**+0.2**
HUIG	**Huatulco**	**4.13**	**294**	*e*P	**Pn**	**10 17 45.4**	**+1.4**
NEUV	**Arroyo Zacate**	**4.98**	**316**	*e*P	**Pn**	**10 17 54.7**	**-0.9**
NEUV				*e*S	**Sn**	**10 18 50.9**	**-1.1**
PEIG	**Puerto Escondi**	**5.15**	**292**	*e*P	**Pn**	**10 17 59.0**	**+1.0**
PEIG				*e*S	**Sn**	**10 18 51.2**	**-4.9**

*ISK **21** 10:20:34.2, 41°.12N×44°.07E, h15km, ML2.9/4*
*TIF **21** 10:20:35.1, 41°.07N×43°.99E, h9km±1km*
*AFAD **21** 10:20:35.2, 41°.02N×43°.96E, h7km±4km, MW3.3*
*MOS **21** 10:20:35.4±1.1, 41°.09N×43°.91E, h12km, mb3.7/3, Error ellipse: s-maj=6.7km s-min=4.9km az=69.9*
*AZER **21** 10:20:37.9, 40°.83N×44°.32E, h12km, ml3.0*
ISC 21 10:20:35.2±1.0, 41°05N±0°.02×44°03E±0°.01, h8km±8km, n80, σ1°19/138, mb3.5/3, 3C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.39**	**303**	P	**Pg**	**10 20 43.4**	**+0.6**
BGD				S	**Sg**	**10 20 49.1**	**+1.2**
BGD	**Bogdanovka**	**0.39**	**303**	PG	**Pg**	**10 20 43.4**	**+0.6**
BGD				S	**Sg**	**10 20 49.1**	**+1.2**
KZRT	**Kazreti**	**0.44**	**40**	P	**Pg**	**10 20 42.9**	**-0.8**
KZRT				S	**Sg**	**10 20 49.2**	**-0.3**
KZRT	**Kazreti**	**0.44**	**40**	PG	**Pg**	**10 20 42.9**	**-0.8**
TRLG	**Trialeti**	**0.49**	**7**	P	**Pg**	**10 20 45.3**	**+0.6**
TRLG				S	**Sg**	**10 20 52.0**	**+0.8**
TRLG	**Trialeti**	**0.49**	**7**	PG	**Pg**	**10 20 45.3**	**+0.6**
TRLG				S	**Sg**	**10 20 52.0**	**+0.8**
AKH	**Akhalkalaki**	**0.54**	**312**	Pg	**Pg**	**10 20 45.1**	**-0.5**
AKH				Sg	**Sg**	**10 20 52.6**	**-0.1**
AKH	**Akhalkalaki**	**0.54**	**312**	P	**Pg**	**10 20 45.8**	**+0.1**
AKH				S	**Sg**	**10 20 52.9**	**+0.1**
AKH	**Akhalkalaki**	**0.54**	**312**	*e*PG	**Pg**	**10 20 45.8**	**+0.1**
DIGO	**Kars**	**0.81**	**218**	P	**Pg**	**10 20 50.5**	**-0.2**
DIGO				S	**Sg**	**10 21 01.4**	**+0.1**
BTNK	**Botanikuri**	**0.86**	**42**	PG	**Pg**	**10 20 52.0**	**+0.3**
BTNK				S	**Sb**	**10 21 04.3**	**+0.3**
TBLG	**Delisi**	**0.86**	**38**	P	**Pg**	**10 20 52.2**	**+0.3**
TBLG				S	**Sb**	**10 21 04.4**	**+0.1**
TBLG	**Delisi**	**0.86**	**38**	PG	**Pg**	**10 20 52.1**	**+0.3**
TBLG				S	**Sb**	**10 21 04.3**	**+0.1**
KAPZ	**Kaputan**	**0.89**	**145**⇑	*i* PG	**Pb**	**10 20 53.6**	**+0.6**
SEAG	**Tbilisi Sea**	**0.92**	**39**	P	**Pb**	**10 20 53.4**	**0.0**
SEAG				S	**Sb**	**10 21 06.7**	**+0.8**
SEAG	**Tbilisi Sea**	**0.92**	**39**	PG	**Pb**	**10 20 53.4**	**0.0**
SEAG				S	**Sb**	**10 21 06.6**	**+0.8**
BOZK	**Kars-Merkez-Bo**	**0.92**	**240**	P	**Pg**	**10 20 52.4**	**-0.5**
BOZK				S	**Sg**	**10 21 03.9**	**-1.0**
VNNZ	**Vanand**	**0.96**	**189**⇑	*i* PG	**Pb**	**10 20 54.3**	**+0.1**
QZX	**Qazax, Azerbai**	**1.02**	**89**	P	**Pb**	**10 20 55.5**	**+0.4**
QZX				S	**Sn**	**10 21 11.1**	**+0.8**
GNI	**Garni**	**1.05**	**149**	Pn	**Pg**	**10 20 55.6**	**+0.2**
GNI				Sn	**Sn**	**10 21 11.2**	**-0.2**
GNI	**Garni**	**1.05**	**149***c*	*i* PG	**Pn**	**10 20 56.5**	**+0.1**
GNI				*i* S	**Sn**	**10 21 11.5**	**+0.1**
GNI				pmax	pmax		
	comp=Z,57nm,0.4s						
GNI				smax	smax		
	comp=Z,226nm,0.4s						
AHAN	**Ardahan-Merkez**	**1.06**	**276**	P	**Pg**	**10 20 53.0**	**-2.7**
AHAN				S	**Sg**	**10 21 09.6**	**0.0**
EPOS	**Posof**	**1.08**	**295**	P	**Pg**	**10 20 55.1**	**-0.8**
EPOS				S	**Sg**	**10 21 09.9**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.08**	**171**	Pn	**Pg**	**10 20 56.1**	**+0.2**
TASB				Sn	**Sn**	**10 21 12.1**	**+0.2**
ALIG	**Mtskhetisjvari**	**1.09**	**345**	P	**Pg**	**10 20 55.9**	**-0.2**
ALIG				S	**Sb**	**10 21 10.8**	**+0.1**
ALIG	**Mtskhetisjvari**	**1.09**	**345**	PG	**Pg**	**10 20 55.9**	**-0.2**
ALIG				S	**Sb**	**10 21 10.8**	**+0.1**
DGRG	**David-gareji**	**1.09**	**68**	P	**Pn**	**10 20 57.1**	**+0.3**
DGRG				S	**Sn**	**10 21 14.3**	**+2.2**
DGRG	**David-gareji**	**1.09**	**68**	*e*PG	**Pn**	**10 20 57.3**	**+0.5**
GOLE	**Ardahan-G¶le**	**1.10**	**259**	P	**Pg**	**10 20 56.5**	**+0.1**
GOLE				S	**Sg**	**10 21 11.2**	**+0.5**
IGDI	**IGDIR**	**1.18**	**178**	P	**Pg**	**10 20 57.3**	**-0.6**
IGDI				S	**Sg**	**10 21 13.2**	**-0.1**
GDB	**GEDABAY**	**1.35**	**104**	P	**Pn**	**10 21 01.0**	**+0.4**
GDB				S	**Sb**	**10 21 17.9**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.36**	**249**	Pn	**Pn**	**10 21 00.2**	**-0.5**
SENK				Sn	**Sb**	**10 21 18.9**	**+0.1**
KOTA	**Agri, Merkez-K**	**1.40**	**207**	P	**Pg**	**10 21 02.7**	**+0.6**
KOTA				S	**Sn**	**10 21 25.3**	**+5.4**
TKB	**Tkibuli**	**1.51**	**330**	P	**Pb**	**10 21 23.4**	**-0.1**
TKB				S	**Sg**	**10 21 23.6**	**-0.1**
TKB	**Tkibuli**	**1.51**	**330**	PG	**Pb**	**10 21 03.4**	**-0.1**
TKB				S	**Sg**	**10 21 23.6**	**-0.1**
AGRT	**Agri**	**1.65**	**209**	PN	**Pb**	**10 21 05.6**	**-0.3**
EATA	**Eleskirt**	**1.67**	**225**	P	**Pn**	**10 21 06.0**	**+1.0**
EATA				S	**Sg**	**10 21 29.3**	**+0.4**
AGRB	**Hanur-Agry**	**1.67**	**209**	Pn	**Pn**	**10 21 04.9**	**-0.1**
AGRB				Sn	**Sn**	**10 21 27.2**	**+0.5**
DDEM	**Demirkent**	**1.73**	**265**	P	**Pb**	**10 21 07.4**	**+0.2**
DBAD	**Bademkaya**	**1.76**	**270**	P	**Pn**	**10 21 06.8**	**+0.6**
GANJ	**Ganja**	**1.79**	**102**	P	**Pb**	**10 21 08.9**	**+0.7**
GANJ				S	**Sb**	**10 21 31.1**	**+0.2**
GANJ	**Ganja**	**1.79**	**102**	PN	**Pb**	**10 21 08.9**	**+0.7**
VSHL	**Vashlovani**	**1.80**	**84**	P	**Pg**	**10 21 09.5**	**-0.2**
SHTL	**Shatili**	**1.81**	**27**	P	**Pb**	**10 21 09.3**	**+0.6**
SHTL				S	**Sg**	**10 21 33.4**	**0.0**
SHTL	**Shatili**	**1.81**	**27**	PN	**Pb**	**10 21 09.3**	**+0.6**
SHTL				S	**Sg**	**10 21 33.4**	**0.0**
BATM	**Batumi**	**1.84**	**288**	P	**Pb**	**10 21 08.9**	**-0.2**
BATM				S	**Sb**	**10 21 32.5**	**+0.2**
BATM	**Batumi**	**1.84**	**288**	PN	**Pb**	**10 21 08.9**	**-0.2**
BATM				S	**Sb**	**10 21 32.5**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.97**	**238**	Pn	**Pn**	**10 21 08.9**	**-0.1**
SBZ	**Shahbuz**	**2.03**	**144**	P	**Pb**	**10 21 12.5**	**+0.2**
SBZ				S	**Sn**	**10 21 35.0**	**-0.3**
ZKTA	**Zakatala**	**2.04**	**73**	P	**Pb**	**10 21 12.6**	**0.0**
ZKTA				S	**Sg**	**10 21 40.2**	**-0.5**
BTLR	**Botlikh**	**2.30**	**45**	*e*PN	**Pn**	**10 21 13.9**	**+0.4**
MNGR	**Mingechevir, A**	**2.33**	**96**	P	**Pb**	**10 21 16.1**	**-1.5**
MNGR				S	**Sn**	**10 21 43.3**	**+0.5**
MNGR	**Mingechevir, A**	**2.33**	**96**	PN	**Pb**	**10 21 16.0**	**-1.5**
SEKA	**Sheki**	**2.40**	**85**	P	**Pb**	**10 21 18.1**	**-0.7**
SEKA				S	**Sb**	**10 21 50.2**	**+1.7**
SEKA	**Sheki**	**2.40**	**85**	PN	**Pb**	**10 21 18.0**	**-0.7**
BRDA	**Brd**	**2.52**	**107**	P	**Pn**	**10 21 17.1**	**+0.6**
BRDA				S	**Sn**	**10 21 48.3**	**+0.9**
AGDM	**Agdam**	**2.53**	**111**	P	**Pn**	**10 21 18.2**	**+1.6**
AGDM				S	**Sn**	**10 21 47.2**	**-0.5**
KMKR	**Kumukh**	**2.54**	**64**	*e*PN	**Pb**	**10 21 21.4**	**+0.2**
KMKR				*e*S	**Sg**	**10 21 57.3**	**+0.4**
GNBR	**Gunib**	**2.57**	**58**	*e*PN	**Pn**	**10 21 18.1**	**+0.9**
ORD	**Ordubad**	**2.61**	**144**	P	**Pn**	**10 21 19.4**	**+1.7**
ORD				S	**Sn**	**10 21 50.2**	**+0.6**
UNCR	**Uncukul**	**2.65**	**50**	*e*PN	**Pb**	**10 21 22.0**	**-0.9**
UNCR				*e*S	**Sb**	**10 21 57.8**	**+2.1**
ARKR	**Arakani**	**2.71**	**54**	*e*PN	**Pb**	**10 21 23.6**	**-0.3**
ARKR				*e*S	**Sb**	**10 21 59.8**	**+2.6**
DLMR	**Dylym**	**2.80**	**43**	*e*PN	**Pn**	**10 21 22.4**	**+2.1**
DLMR				*e*S	**Sb**	**10 21 59.1**	**-0.7**
KBZ	**Khabaz**	**2.80**	**343**	*i* PN	**Pn**	**10 21 19.8**	**-0.5**
AKT	**Akhty**	**2.82**	**80**	*e*PN	**Pb**	**10 21 24.6**	**-1.3**
AKT				*e*		10 21 29.8	
AKT				*e*		10 21 33.1	
AKT				*e*S	**Sg**	**10 22 03.9**	**-2.0**
AKT				*e*		10 22 12.4	
AKT				pmax	pmax		
	comp=Z,33nm,0.5s						
AKT				smax	smax		
	comp=N,55nm,0.6s						
AKT				smax	smax		
	comp=E,60nm,0.3s						
AKT				smax	smax		
	comp=E,42nm,0.4s						
DOMR	**Dombai**	**2.86**	**322**	*i* PN	**Pn**	**10 21 19.5**	**-1.8**
QBL	**Gabala**	**2.89**	**91**	P	**Pn**	**10 21 22.9**	**+1.4**
QBL				S	**Sb**	**10 22 00.2**	**-2.3**
URKR	**Urkarakh**	**2.92**	**66**	*e*PN	**Pb**	**10 21 26.6**	**-1.1**
URKR				*e*S	**Sb**	**10 22 05.9**	**+2.3**
KIV	**Kislovodsk**	**3.06**	**342**	*i* PN	**Pn**	**10 21 23.3**	**-0.7**
XNQ	**Khinaliq**	**3.11**	**86**	P	**Pb**	**10 21 28.2**	**-2.7**
XNQ				S	**Sn**	**10 22 04.9**	**+2.7**
IML	**Ismayilli**	**3.16**	**93**	P	**Pn**	**10 21 28.5**	**+3.2**
IML				S	**Sn**	**10 22 06.3**	**+3.1**
MAK	**Makhachkala**	**3.22**	**53**	*e*PN	**Pn**	**10 21 28.1**	**+2.1**
MAK				*e*S	**Sb**	**10 22 09.6**	**-2.3**
QSAR	**Qusar**	**3.23**	**80**	P	**Pn**	**10 21 28.2**	**+2.0**
QSAR				S	**Sn**	**10 22 06.9**	**+2.1**
SIZA	**Siyzn**	**3.68**	**88**	P	**Pn**	**10 21 35.6**	**+3.1**
SIZA				S	**Sn**	**10 22 16.3**	**+0.1**
YRD	**Yardimli**	**3.88**	**122**	P	**Pn**	**10 21 37.1**	**+1.8**
YRD				S	**Sn**	**10 22 21.4**	**+0.3**
BR131	**Keskin Array S**	**8.04**	**264**	*i* P	**Pn**	**10 22 32.5**	**+0.1**
ARTI	**Arti**	**17.97**	**27**	P	**Pn**	**10 24 44.7**	**-0.5**
ARTI				S	**Sn**	**10 28 05.0**	**-0.7**
BRVK	**Borovoye**	**21.41**	**47**	*i* P	**P**	**10 25 20.8**	**-2.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KHC	**Kasperske Hory**	**22.84**	**301**	*i* P	**P**	**10 25 38.1**	**-0.6**
KHC				pmax	pmax		
	comp=Z,1.0nm,1.3s						
KURK	**Kurchatov**	**25.74**	**56**	*e*P	**P**	**10 26 05.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*IDC **21** 10:22:38.4±5.6, 36°.27N×71°.42E, h82km±50km, mb3.5/8, mbtmp3.9/14, ML3.8/6, Error ellipse: s-maj=36.9km s-min=23.6km az=25.0*
*MOS **21** 10:22:40.1±0.8, 36°.52N×71°.25E, h91km, mb4.1/6, Error ellipse: s-maj=12.0km s-min=5.9km az=87.4*
*NEIC **21** 10:22:41.5±1.3, 36°.48N±0°.06×71°.27E±0°.09, h104km±4km, mb4.1/8, Error ellipse: s-maj=10.5km s-min=8.9km az=69.0*
*NNC **21** 10:22:48.9±5.4, 37°.03N×71°.28E, h155km±70km, mb3.5, mpv4.5, Error ellipse: s-maj=50.7km s-min=33.4km az=24.0*
ISC 21 10:22:41.1±0.6, 36°40N±0°.05×71°43E±0°.06, h114km, n94, σ2°00/102, mb3.9/14, 3C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.69**	**227**		**Pn**	**10 23 22.7**	**-0.7**
KBL	**Kabul**	**2.69**	**227**	PN	**Pn**	**10 23 22.7**	**-0.7**
GAR	**Garm**	**2.74**	**341**		**Pn**	**10 23 22.5**	**-1.4**
GAR				Sn	**Sn**	**10 23 54.4**	**-2.5**
CHGR	**Chuyangaron**	**2.89**	**322**		**Pn**	**10 23 23.4**	**-2.4**
CHGR	**Chuyangaron**	**2.89**	**322**	PN	**Pn**	**10 23 23.4**	**-2.4**
SIMJ	**Simiganj**	**2.96**	**320**		**Pn**	**10 23 24.3**	**-2.6**
NIL	**Nilore**	**3.13**	**151**		**Pn**	**10 23 30.7**	**+1.7**
NIL	**Nilore**	**3.13**	**151**	PN	**Pn**	**10 23 30.7**	**+1.7**
SRNI	**Srinagar**	**3.62**	**128**	*e*P	**Pn**	**10 23 36.8**	**+1.3**
SRNI				*e*S	**Sn**	**10 24 17.5**	**0.0**
SRNI				IAML		10 24 20.1	
	comp=N,1μm,0.3s						
SRNI				IAML		10 24 20.1	
	comp=E,1μm,0.3s						
JMU	**Jammu**	**4.66**	**141**	*e*P	**Pn**	**10 23 49.3**	**-0.1**
JMU				*e*S	**Sn**	**10 24 38.3**	**-4.1**
KSH	**Kashi**	**4.75**	**48**	Pn	Pn	10 23 47.6	-3.1
KSH				Sn	Sn	10 24 36.0	-8.7
KSH				smax	smax		
	comp=N,500nm,0.3s						
KSH				smax	smax		
	comp=E,400nm,0.6s						
DHRM	**DHARAMSHALA**	**5.78**	**134**	*e*P	**Pn**	**10 24 05.2**	**+0.4**
DHRM				*e*S	**Sn**	**10 25 07.2**	**-2.6**
DHRM				IAML		10 25 09.7	
	comp=E,577nm,0.6s						
DHRM				IAML		10 25 10.4	
	comp=N,405nm,0.4s						
IUG	**Iuzhnay**	**5.84**	**350**	Lg	Lg	10 25 06.7	
	comp=N,120nm,0.2s						
UCH	**Uchtor**	**6.29**	**21**	P	**Pn**	**10 24 11.9**	**+0.1**
	SNR=36						
DZA	**Taraz**	**6.48**	**359**	P	**Pn**	**10 24 13.8**	**-0.2**
MRKS	**Merke**	**6.48**	**12**	Lg	Lg	10 25 23.3	
	comp=N,59nm,0.6s						
EKS2	**Erkin-Say**	**6.51**	**15**	P	**Pn**	**10 24 14.6**	**+0.2**
	SNR=24						
AAK	**Ala-Archa**	**6.66**	**20**		**Pn**	**10 24 16.4**	**-0.1**
AAK	**Ala-Archa**	**6.66**	**20**	P	**Pn**	**10 24 17.0**	**+0.5**
	comp=N,10nm,0.3s,baz=203,slow=7.8,SNR=56						
AAK				S	**Sn**	**10 25 29.7**	**-1.4**
	comp=N,13nm,0.6s,baz=329,slow=17,SNR=8.1 comp=N,24nm,0.3s						
AAK	**Ala-Archa**	**6.66**	**20**	P	**Pn**	**10 24 17.0**	**+0.5**
	SNR=36						
AAK	**Ala-Archa**	**6.66**	**20**	⇑P	**Pn**	**10 24 16.5**	**0.0**
	comp=N,31nm,0.9s						
AAK				⇓S	**Sn**	**10 25 28.9**	**-2.2**
	comp=N,20nm,0.8s						
KK31	**Karatay Array**	**6.73**	**354**		**Pn**	**10 24 15.9**	**-1.4**
KK31	**Karatay Array**	**6.73**	**354**	⇑P	**Pn**	**10 24 16.0**	**-1.4**
	comp=N,70nm,0.4s,baz=177,slow=11,SNR=585						
KK31				S	**Sn**	**10 25 24.6**	**-7.9**
	comp=N,10nm,0.3s,baz=179,slow=18,SNR=6.8						
KK31	**Karatay Array**	**6.73**	**354**	PN	**Pn**	**10 24 15.9**	**-1.4**
KKAR	**Karatay Array**	**6.73**	**354**		**Pn**	**10 24 15.9**	**-1.4**
KKAR	**Karatay Array**	**6.73**	**354**	PN	**Pn**	**10 24 15.9**	**-1.4**
FRU1	**Bishkek**	**6.86**	**20**	Pn	**Pn**	**10 24 19.8**	**+0.7**
FRU1	**Bishkek**	**6.86**	**20**	PN	**Pn**	**10 24 19.8**	**+0.7**
ULHL	**Ulahol**	**6.92**	**31**	P	**Pn**	**10 24 20.5**	**+0.4**
	SNR=7.1						
CHMS	**Chumysh**	**7.07**	**20**	P	**Pn**	**10 24 22.1**	**+0.2**
	SNR=12						
SMLA	**Simla**	**7.10**	**136**	*e*P	**Pn**	**10 24 23.4**	**+0.9**
SMLA				*e*S	**Sn**	**10 25 37.6**	**-4.0**
SMLA				IAML		10 25 40.7	
	comp=E,319nm,0.2s						
SMLA				IAML		10 25 41.5	
	comp=N,254nm,0.4s						
HNLY	**HANLEY**	**7.19**	**118**	*e*P	**Pn**	**10 24 24.5**	**+0.4**
HNLY				*e*S	**Sn**	**10 25 40.3**	**-4.2**
HNLY				IAML		10 25 44.9	
	com

EVN	**Everest**	**15.50**	**119**		Pn	**Pn**	**10 26 11.6**	**-2.5**
EVN					IAmb	IAmb	10 26 24.4	
	comp=Z,4.7nm,0.5s							
BVA0	**Borovoye Array**	**16.64**	**358**		P	**Pn**	**10 26 25.6**	**-1.8**
	comp=Z,0.1nm,0.6s,baz=164,slow=13,SNR=7.4							
BVAR	**Borovoye Array**	**16.64**	**358**		P	**Pn**	**10 26 26.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=13,SNR=10							
	comp=Z,2.6nm,0.5s							
BRVK	**Borovoye**	**16.67**	**358**	*i*	P	**Pn**	**10 26 26.6**	**-1.1**
AKTO	**Aktyubinsk**	**17.04**	**330**		P	**Pn**	**10 26 31.7**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=146,slow=12,SNR=12							
	comp=Z,5.5nm,0.6s							
AKTO	**Aktyubinsk**	**17.04**	**330**	⇓	P	**Pn**	**10 26 29.0**	**-3.2**
	comp=Z,4.6nm,1.0s							
ZAA0	**Zalesovo Array**	**19.86**	**24**		P	**P**	**10 27 03.6**	**+0.6**
ZALV	**Zalesovo Beam**	**19.86**	**24**		P	**P**	**10 27 03.5**	**+0.5**
ZALV	**Zalesovo Beam**	**19.86**	**24**		P	**P**	**10 27 03.6**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=205,slow=10,SNR=21							
	comp=Z,4.2nm,0.4s							
ZALV	**Zalesovo Beam**	**19.86**	**24**	*i*	P	**P**	**10 27 03.5**	**+0.5**
ZALV					pmax	pmax		
	comp=Z,4.0nm,0.4s							
ARTI	**Arti**	**21.85**	**340**	*d*	*i* P	**P**	**10 27 24.8**	**+0.5**
ARTI							10 27 48.7	
ARTI					S	**S**	**10 31 19.6**	**+1.1**
ARTI					SS	**SnSn**	**10 32 00.2**	**+5.1**
ARTI					pmax	pmax		
	comp=Z,5.0nm,1.5s							
KBZ	**Khabaz**	**22.95**	**297**	*i*	P	**P**	**10 27 35.2**	**-0.3**
KIV	**Kislovodsk**	**23.14**	**298**	*e*	P	**P**	**10 27 38.2**	**+0.7**
KIV				*e*	S	**S**	**10 31 41.6**	**+1.5**
KIV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
BELG	**Belogornoye**	**23.18**	**321**	*i*	P	**P**	**10 27 37.2**	**-0.4**
LZH	**Lanzhou**	**26.08**	**81**	*e*	P	**P**	**10 28 09.0**	**+4.7**
LZH					pP	pP	10 28 14.0	-16
LZH					sP	sP	10 28 18.4	-25
LZH					pmax	pmax		
	comp=Z,22nm,1.3s							
HHC	**Hu-ho-hao-te**	**31.47**	**69**	*e*	P	**P**	**10 28 53.9**	**+1.9**
HHC					pmax	pmax		
	comp=Z,9.0nm,0.7s							
KLMR	**Klimovskoe**	**31.74**	**331**	*e*	P	**P**	**10 28 53.0**	**-0.9**
KLMR					pmax	pmax		
	comp=Z,12nm,1.5s							
AKASG	**Malin Array Be**	**33.28**	**309**		P	**P**	**10 29 08.8**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=85,slow=7.0,SNR=6.0							
	comp=Z,1.0nm,0.6s							
AKBB	**Malin Array Si**	**33.28**	**309**	*i*	P	**P**	**10 29 08.5**	**+1.0**
AKBB					pmax	pmax		
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**37.76**	**326**		P	**P**	**10 29 47.1**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=118,slow=10,SNR=8.5							
	comp=Z,0.7nm,0.4s							
FINES	**FINESS Array B**	**37.76**	**326**	*i*	P	**P**	**10 29 47.0**	**+1.4**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.37**	**338**		P	**P**	**10 30 16.3**	**+0.8**
ARCES					IAmb	IAmb	10 30 34.8	
	comp=Z,6.1nm,1.2s							
ARCES	**ARCESS Array B**	**41.37**	**338**		P	**P**	**10 30 17.1**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=106,slow=7.7,SNR=7.4							
	comp=Z,0.6nm,0.5s							
HFS	**Hagfors**	**43.36**	**322**		P	**P**	**10 30 32.9**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=98,slow=11,SNR=8.6							
	comp=Z,1.1nm,0.4s							
NC405	**NORSAR Array S**	**44.43**	**323**		P	**P**	**10 30 40.7**	**+0.4**
NB201	**NORSAR Array S**	**44.63**	**323**		P	**P**	**10 30 42.3**	**+0.4**
NB2	**NORSAR Subarra**	**44.67**	**323**		P	**P**	**10 30 43.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.67**	**323**		P	**P**	**10 30 43.3**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=96,slow=7.7,SNR=4.4							
	comp=Z,0.5nm,0.4s							
ESDC	**Sonseca Array**	**57.81**	**298**		P	**P**	**10 32 21.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=56,slow=7.0,SNR=2.2							
	comp=Z,0.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**66.06**	**269**		P	**P**	**10 33 16.1**	**-0.1**
TORD					IAmb	IAmb	10 33 23.7	
	comp=Z,2.3nm,1.3s							
TORD	**Torodi Ar. Bea**	**66.06**	**269**		P	**P**	**10 33 15.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=47,slow=6.0,SNR=8.6							
	comp=Z,0.5nm,0.4s							
WRA	**Warramunga Arr**	**81.64**	**122**		P	**P**	**10 34 47.4**	**+0.6**
	comp=Z,0.5nm,1.1s,baz=332,slow=5.1,SNR=5.3							
	comp=Z,0.5nm,1.1s							

*IDC **21** 10:24:46.7±1.9,0.°41N×99.°95E,h145^{km}±13^{km}, mb3.9/13, mbtmp4.2/15, Error ellipse: s-maj=36.4km s-min=14.0km az=53.0*
*DJA **21** 10:24:47.7±0.2,0.°N±2.°×10.°0E±.°, h146^{km}±3^{km}, M4.7/24, mB5.5/5, mb4.9/6, MLv4.5/24, Mw(mB)5.0/5*
*NEIC **21** 10:24:48.1±1.7,0.°43N±0.°09×99.°83E±0.°06, h148^{km}±7^{km}, mb4.0/9, Error ellipse: s-maj=14.1km s-min=8.4km az=199.0*
ISC 21 10:24:47.5±0.7,0.°40N±0.°04×99.°82E±0.°04,h152^{km}±6^{km}, n64,σ0°95/75,mb4.0/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.46**	**328**	P		**Pn**	**10 25 09.1**	**+0.2**
MNSI				S		**Sn**	**10 25 24.8**	**-0.5**
PPI	**Padang Panjang**	**1.03**	**146**	P		**Pn**	**10 25 13.3**	**+0.6**
PPI				S		**Sn**	**10 25 32.3**	**+0.2**
BKNI	**Bangkinang**	**1.22**	**94**			**Pn**	**10 25 14.6**	**+0.2**
BKNI					Sn	**Sn**	**10 25 34.9**	**-0.2**
BKNI	**Bangkinang**	**1.22**	**94**	P		**Pn**	**10 25 14.9**	**+0.4**
BKNI	**Bangkinang**	**1.22**	**94**	P		**Pn**	**10 25 14.8**	**+0.3**
BKNI				S		**Sn**	**10 25 34.6**	**-0.5**
PDSI	**Padang**	**1.46**	**154**	P		**Pn**	**10 25 17.4**	**+0.6**
PDSI				S		**Sn**	**10 25 39.1**	**-0.2**
PBSI	**Pulau Batu**	**1.60**	**254**	P		**Pn**	**10 25 19.5**	**+1.2**
PBSI				S		**Sn**	**10 25 42.3**	**+0.3**
SISI	**Saibi**	**1.87**	**203**	P		**Pn**	**10 25 21.0**	**-0.2**
SISI				S		**Sn**	**10 25 46.6**	**-0.6**
GSI	**Gunungsitoli**	**2.42**	**292**			**Pn**	**10 25 29.0**	**+1.2**
GSI					Sn	**Sn**	**10 25 57.5**	**-1.2**
GSI	**Gunungsitoli**	**2.42**	**292**	P		**Pn**	**10 25 28.9**	**+1.2**
GSI	**Gunungsitoli**	**2.42**	**292**	P		**Pn**	**10 25 28.9**	**+1.2**
GSI				S		**Sn**	**10 25 57.7**	**-1.0**
RPSI	**Rantau Prapat**	**2.45**	**339**			**Pn**	**10 25 28.9**	**+0.8**
RPSI	**Rantau Prapat**	**2.45**	**339**			**Pn**	**10 25 28.2**	**+0.1**
RPSI						**Sn**	**10 25 59.4**	**-0.1**
PSI	**Prapat**	**2.54**	**339**	P		**Pn**	**10 25 28.2**	**-1.2**
	157nm,0.5s,baz=152,slow=11,SNR=122							
PSI				S		**Sn**	**10 25 59.4**	**-2.4**
	35nm,0.5s,baz=161,slow=21,SNR=4.3							
PSI	**Prapat**	**2.54**	**339**	P		**Pn**	**10 25 28.6**	**-0.8**
PPSI	**Pulau Pagai**	**3.15**	**177**	P		**Pn**	**10 25 35.8**	**-1.1**
KCSI	**Kotacane, Aceh**	**3.71**	**327**	P		**Pn**	**10 25 44.3**	**+0.2**
SNSI	**Sinabang, Aceh**	**4.02**	**300**	P		**Pn**	**10 25 49.2**	**+1.1**
BTDF	**Bukit Timah Da**	**4.07**	**76**	P		**Pn**	**10 25 49.6**	**+0.9**
BTDF	**Bukit Timah Da**	**4.07**	**76**	S		**Sn**	**10 26 36.6**	**+0.3**
IPM	**Ipoh**	**4.22**	**17**			**Pn**	**10 25 52.1**	**+1.3**
IPM	**Ipoh**	**4.22**	**17**	P		**Pn**	**10 25 51.8**	**+1.0**
MASI	**Maura Aman, Be**	**4.27**	**146**	P		**Pn**	**10 25 52.5**	**+1.1**
KSI	**Kapahiang**	**4.89**	**145**	P		**Pn**	**10 25 59.7**	**+0.1**
KULM	**Kulim**	**4.92**	**10**			**Pn**	**10 26 00.4**	**+0.4**
KULM	**Kulim**	**4.92**	**10**	P		**Pn**	**10 26 00.2**	**+0.2**
MLSI	**Meulaboh, Aceh**	**5.14**	**318**	P		**Pn**	**10 26 02.9**	**+0.1**
LHMI	**Lhok Sumawe**	**5.59**	**329**	P		**Pn**	**10 26 09.2**	**+0.5**
	0.8nm5µm176nm,1.0s							
LHSI	**Lahat**	**5.60**	**139**	P		**Pn**	**10 26 09.3**	**+0.4**
	0.9nm168nm,0.9s							
MNAI	**Manna**	**5.67**	**147**	P		**Pn**	**10 26 08.8**	**-1.1**
	203nm,1.1s							
MDSI	**Maura Dua**	**6.52**	**138**	P		**Pn**	**10 26 20.1**	**-1.1**
	0.2nm68nm,0.9s							
KASI	**Kota Agung**	**7.51**	**142**	P		**Pn**	**10 26 33.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.96**	**357**	P		**P**	**10 28 45.8**	**-0.5**
	0.9nm,0.6s,baz=186,slow=11,SNR=6.2							
WRA	**Warramunga Arr**	**39.40**	**123**	P		**P**	**10 32 01.7**	**-1.0**
	0.2nm,0.3s,baz=308,slow=8.8,SNR=6.0							
WRA						PcP	**PcP**	**10 34 07.8**	**-0.2**
	0.2nm,0.3s,baz=318,slow=2.6,SNR=5.1							
	0.2nm,0.3s							
WR8	**Warramunga Arr**	**39.54**	**123**	P		**P**	**10 32 06.2**	**+2.3**
WR8						IAmb	IAmb	10 32 29.3	
	comp=Z,4.5nm,1.1s							
ASAR	**Alice Springs**	**40.84**	**128**	P		**P**	**10 32 13.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=299,slow=8.3,SNR=4.1							
ASAR						PcP	**PcP**	**10 34 12.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=308,slow=2.6,SNR=5.1							
KSRS	**Korea Array**	**45.07**	**32**	P		**P**	**10 32 46.8**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=223,slow=8.6,SNR=7.7							
	comp=Z,1.2nm,0.6s							
TARG	**Taragay, Kyrgy**	**45.69**	**337**	P		**P**	**10 32 55.7**	**+2.1**
TARG						IAmb	IAmb	10 32 56.2	
	comp=Z,1.6nm,0.6s							
SONM	**Songino Array**	**47.59**	**6**	P		**P**	**10 33 07.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=192,slow=11,SNR=6.6							
	comp=Z,1.5nm,0.5s							
MKAR	**Makanchi Array**	**48.68**	**344**	P		**P**	**10 33 17.0**	**+0.8**
	comp=Z,4.6nm,0.4s,baz=163,slow=8.0,SNR=50							
	comp=Z,4.6nm,0.4s							
USRK	**Ussuriysk Ar.**	**52.15**	**29**	P		**P**	**10 33 42.5**	**+0.2**
KURBB	**Kurchatov Arra**	**53.21**	**343**	P		**P**	**10 33 50.6**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=179,slow=6.4,SNR=10							
	comp=Z,1.7nm,0.4s							
ZAA0	**Zalesovo Array**	**54.79**	**349**	P		**P**	**10 34 01.7**	**+0.4**
ZALV	**Zalesovo Beam**	**54.79**	**349**	P		**P**	**10 34 01.9**	**+0.5**
ZALV	**Zalesovo Beam**	**54.79**	**349**	P		**P**	**10 34 01.7**	**+0.4**
	comp=Z,10nm,0.5s,baz=184,slow=7.0,SNR=35							
	comp=Z,10nm,0.5s							
BVAR	**Borovoye Array**	**57.88**	**339**	P		**P**	**10 34 23.4**	**+0.1**
	comp=Z,3.7nm,0.4s,baz=135,slow=9.8,SNR=14							
	comp=Z,3.7nm,0.4s							
AB31	**Akbulak array**	**59.46**	**331**	P		**P**	**10 34 34.3**	**+0.1**
AB31						IAmb	IAmb	10 34 35.3	
	comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**59.46**	**331**	P		**P**	**10 34 34.5**	**+0.2**
ARTI	**Arti**	**64.99**	**336**	P		**P**	**10 35 10.8**	**-0.1**
PETK	**Petropavlovsk-**	**70.97**	**33**	P		**P**	**10 35 48.3**	**0.0**
AKASG	**Malin Array Be**	**77.49**	**322**	P		**P**	**10 36 25.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=89,slow=5.2,SNR=5.7							
	comp=Z,0.6nm,0.5s							
BURAR	**Bucovina Array**	**79.35**	**318**	P		**P**	**10 36 38.3**	**+1.7**
BURAR						IAmb	IAmb	10 36 38.7	
	comp=Z,1.1nm,0.6s							
BUR08	**Bucovina Ar. S**	**79.37**	**318**	P		**P**	**10 36 38.5**	**+1.8**
FINES	**FINESS Array B**	**81.92**	**332**	P		**P**	**10 36 50.6**	**+0.9**
FINES	**FINESS Array B**	**81.92**	**332**	P		**P**	**10 36 50.5**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=96,slow=6.3,SNR=14							
	comp=Z,1.6nm,0.6s							
ARCES	**ARCESS Array B**	**84.17**	**340**	P		**P**	**10 37 01.9**	**+0.7**
ARCES	**ARCESS Array B**	**84.17**	**340**	P		**P**	**10 37 01.7**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=99,slow=6.3,SNR=29							
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**87.14**	**319**	P		**P**	**10 37 16.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=86,slow=5.7,SNR=1.7							
	comp=Z,0.2nm,0.4s							
HFS	**Hagfors**	**87.72**	**330**	P		**P**	**10 37 18.9**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=111,slow=6.5,SNR=5.7							
	comp=Z,0.7nm,0.4s							
SPITS	**Spitsbergen Ar**	**88.26**	**348**	P		**P**	**10 37 20.8**	**-0.2**
	comp=Z,8.1nm,0.9s,baz=107,slow=5.0,SNR=1.9							
	comp=Z,8.1nm,0.9s							
CLC	**China Lake**	**129.90**	**40**			PKPpre	10 43 27.5	
K30B	**Basset**	**133.69**	**20**			**PKPdf**	**10 43 46.5**	**-0.1**
R32A	**Long Quarter,**	**137.77**	**22**			PKPpre	10 43 46.5	
TXAR	**Lajitas Array**	**142.88**	**35**	PKP		**PKPdf**	**10 44 00.8**	**-3.0**
	comp=Z,0.3nm,0.5s,baz=239,slow=0.7,SNR=9.2							

*IDC **21** 10:50:48.0±1.2,6.°75N×124.°86E, h0^{km}, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=22.5km s-min=10.6km az=150.0*
ISC 21 10:50:49.3±1.2,6.°8N±0.°2×125.°1E±0.°2,h10^{km},n6,σ0°55/6, mb3.4/5,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.55**	**65**	Pg		**Pn**	**10 51 03.2**	**0.0**
	449nm,0.3s,baz=242,slow=15,SNR=16							
DAV				Lg		Lg	10 51 14.1	
	293nm,0.3s,baz=38,slow=22,SNR=16							
DAV				LR		LR	10 51 33.6	
	comp=Z,547nm,21.4s,baz=360,slow=58							
FITZ	**Fitzroy Crossi**	**24.79**	**179**	P		**P**	**10 56 10.9**	**-0.6**
	3.2nm,0.9s,baz=354,slow=11,SNR=1.8							
	3.2nm,0.9s							
WRA	**Warramunga Arr**	**28.13**	**161**	P		**P**	**10 56 41.4**	**-0.3**
	0.5nm,0.8s,baz=331,slow=10,SNR=1.8							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**31.52**	**164**	P		**P**	**10 57 12.3**	**+0.5**
	0.3nm,0.5s,baz=343,slow=7.1,SNR=7.1							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**54.08**	**325**	P		**P**	**11 00 13.9**	**-0.3**
	0.2nm,0.6s,baz=124,slow=7.7,SNR=2.3							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**58.25**	**327**	P		**P**	**11 00 44.2**	**+0.3**
	0.3nm,0.3s,baz=114,slow=6.8,SNR=2.2							
	0.3nm,0.3s							

*AEIC **21** 10:55:25.2±1.6,54.°74N±0.°02×162.°87W±0.°02,h10^{km}±3^{km}, Error ellipse: s-maj=2.8km s-min=1.5km az=149.0*
NEIC 21 10:55:24.3±1.3,54.°61N±0.°01×162.°77W±0.°02,h10^{km}±1^{km}, ML2.9/18,ML2.6(AEIC),Error ellipse: s-maj=2.8km s-min=2.5km az=58.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.45**	**303**			Pg	10 55 32.8	-0.2
FALS						Sg	10 55 38.4	-0.6
DT1	**Dutton Round H**	**0.57**	**29**			Pg	10 55 35.2	-0.1
DT1						Sg	10 55 42.3	-0.5
ISNN	**Isanotski Nort**	**0.63**	**291**			Pg	10 55 36.6	+0.2
ISNN						Sg	10 55 45.2	+0.5
SSLS	**Shishaldin Sou**	**0.72**	**278**			Pg	10 55 38.2	0.0
SSLS						Sg	10 55 48.2	+0.5
DOL	**Dolgoi Island**	**0.75**	**44**			Pg	10 55 38.5	-0.2
DOL						Sg	10 55 48.4	0.0
SSBA	**Shishaldin**	**0.81**	**282**			Pg	10 55 39.4	-0.4
SSBA						Sg	10 55 50.2	-0.1
PS4A	**Pavlof South-4**	**0.90**	**35**			Pg	10 55 41.5	-0.2
PS4A						Sb	10 55 53.7	-0.3
PS1A	**Pavlof South-1**	**1.00**	**36**			Pg	10 55 43.2	-0.3
PS1A						Sb	10 55 57.2	+0.3
WEBT	**Westdahl Beart**	**1.16**	**270**			Pb	10 55 45.6	-0.8
S12K	**Black Hills**	**1.16**	**20**			Pb	10 55 45.8	-0.7
S12K					IAML		10 56 02.9	
	comp=N,342nm,0.2s							
SDPT	**Sand Point**	**1.51**	**60**			Pn	10 55 51.7	+0.4
SDPT						Sb	10 56 11.9	+0.4
SDPT					IAML		10 56 13.4	
	comp=E,310nm,0.3s							
AKUT	**Akutan**	**1.82**	**256**			Pb	10 55 56.8	-0.9
AKUT						Sb	10 56 21.1	+0.5
AKUT					IAML		10 56 23.5	
	comp=E,101nm,0.2s							
AKUT					IAML		10 56 23.6	
	comp=N,104nm,0.4s							
CNBA	**Chernabura Isl**	**1.85**	**82**			Pn	10 55 55.8	-0.3
AKGG	**Akutan Green G**	**1.93**	**259**			Pn	10 55 57.8	+0.6
AKGG						Sb	10 56 23.2	-0.4
LVA	**Lava Point**	**1.96**	**258**			Pn	10 55 58.8	+1.2
LVA					IAML		10 56 33.0	
	comp=E,58nm,1.0s							
LVA					IAML		10 56 34.2	
	comp=N,99nm,0.6s							
AKRB	**Akutan Reef Bi**	**1.99**	**257**			Pn	10 55 58.8	+0.8
UNV	**Unalaska Valle**	**2.33**	**252**			Pn	10 56 03.3	+0.7
MREP	**Makushin Rep't**	**2.47**	**253**			Pn	10 56 05.5	+0.9
MAPS	**Pakushin South**	**2.58**	**253**			Pn	10 56 06.8	+0.8
MAPS						Sb	10 56 40.7	-1.7
CHGN	**Chignik**	**3.00**	**54**			Pn	10 56 13.2	+1.3
CHGN					IAML		10 56 52.3	
	comp=E,32nm,0.3s							
CHGN					IAML		10 56 53.9	
	comp=N,25nm,0.1s							
PLK4	**Peulik 4**	**4.69**	**47**	Pn		Pn	10 56 35.2	0.0
PLK4					IAML		10 58 12.1	
	comp=E,6.6nm,0.9s							
PLK4					IAML		10 58 30.3	
	comp=N,9.0nm,1.0s							

*AEIC **21** 10:57:37.5±1.0,53.°3N±0.°1×166.°9W±0.°1,h59^{km}±9^{km}, Error ellipse: s-maj=17.3km s-min=4.1km az=150.0*
NEIC 21 10:57:37.7±1.1,53.°4N±0.°2×166.°9W±0.°2,h71^{km}±15^{km}, ML2.9/12,ML2.5(AEIC),Error ellipse: s-maj=29.1km s-min=2.3km az=147.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAPS	**Pakushin South**	**0.45**	**359**			Pn	10 57 49.7	-0.4
MAPS						Sn	10 57 59.5	+0.2
MREP	**Makushin Rep't**	**0.46**	**14**			Pn	10 57 50.1	-0.2
MREP						Sn	10 57 60.0	+0.3
UNV	**Unalaska Valle**	**0.55**	**28**			Pn	10 57 50.8	-0.2
UNV						Sn	10 58 01.0	+0.1
UNV					IAML		10 58 02.0	
	comp=E,285nm,0.3s							
UNV					IAML		10 58 02.2	
	comp=N,402nm,0.2s							
MTBL	**Makushin Table**	**0.63**	**14**			Pn	10 57 51.7	-0.3
MTBL						Sn	10 58 02.4	-0.1
OKTU	**Okmok Mt. Tuli**	**0.67**	**272**			Pn	10 57 52.5	+0.1
OKTU						Sn	10 58 02.7	-0.5
OKNC	**Okmok New Cone**	**0.72**	**278**			Pn	10 57 52.5	-0.5
OKNC						Sn	10 58 03.7	-0.5
OKSP	**Okmok Steeple**	**0.82**	**263**			Pn	10 57 54.2	+0.1
OKSP						Sn	10 58 07.0	+0.7
AKMO	**Akutan Morgan**	**0.91**	**36**			Pn	10 57 55.1	0.0
AKMO						Sn	10 58 08.4	+0.3
AKRB	**Akutan Reef Bi**	**0.92**	**33**			Pn	10 57 55.1	-0.2
AKRB						Sn	10 58 08.2	-0.2
LVA	**Lava Point**	**0.96**	**33**			Pn	10 57 55.7	-0.1
LVA					IAML		10 58 18.8	
	comp=N,268nm,0.6s							
AKGG	**Akutan Green G**	**1.01**	**33**			Pn	10 57 55.9	-0.4
AKGG						Sn	10 58 10.2	0.0
AKUT	**Akutan**	**1.04**	**41**			Pn	10 57 56.2	-0.4
NIKH	**Nikolski High**	**1.22**	**252**			Pn	10 57 59.4	+0.4
NIKH					Sn	Sn	10 58 16.1	+1.0
NIKH					IAML		10 58 18.6	
	comp=N,190nm,0.9s							
NIKH					IAML		10 58 21.9	
	comp=E,156nm,0.7s							
WEBT	**Westdahl Beart**	**1.78**	**45**			Pn	10 58 06.1	-0.3
WEBT						Sn	10 58 29.1	+0.9
CLCO	**Concord Point,**	**1.78**	**252**			Pn	10 58 07.2	+0.8
CLCO						Sn	10 58 29.8	+1.6
FALS	**False Pass**	**2.55**	**53**			Pn	10 58 17.5	+0.8
DT1	**Dutton Round H**	**3.24**	**55**			Pn	10 58 26.6	+0.5
DOL	**Dolgoi Island**	**3.47**	**57**			Pn	10 58 29.6	+0.4
S12K	**Black Hills**	**3.68**	**48**	Pn		Pn	10 58 31.7	-0.4
S12K					IAML		10 59 12.1	
	comp=E,25nm,1.9s							
SDPT	**Sand Point**	**4.27**	**60**	Pn		Pn	10 58 40.1	0.0
CNBA	**Chernabura Isl**	**4.56**	**68**	Pn		Pn	10 58 43.1	-1.0
CHGN	**Chignik**	**5.73**	**56**	Pn		Pn	10 58 59.6	-0.5

*IDC **21** 10:59:12.5±0.6,50.°38S×138.°86E, h0^{km}, mb4.2/9, mbtmp4.2/10, ML3.9/1, MS4.0/34, Error ellipse: s-maj=42.6km s-min=14.8km az=89.0*
*NEIC **21** 10:59:13.6±1.8,50.°40S±0.°05×139.°4E±0.°3, h10^{km}±1^{km}, mb4.6/18, Error ellipse: s-maj=31.1km s-min=4.9km az=283.0*
*GCMT **21** 10:59:14.6±0.2,50.°32S±0.°01×139.°52E±0.°03, h23^{km}±1^{km}, MW5.0/102, Moment Tensor Solution. s33,c37; s102,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.17; $M_{\theta\theta}$0.78±.13; $M_{\phi\phi}$-0.52±.16; $M_{r\theta}$0.13±.19; $M_{\theta\phi}$-3.84±.11; $M_{\phi r}$-0.45±.20; Best double couple: M_o3.92200×10^{16} NP1:φ$_s$85.00000°, δ83.00000°, λ179.00000°. NP2:φ$_s$175.00000°, δ89.00000°, λ7.00000°. Principal axes: T 4.0570, Plg5.0000°, Azm40.0000°; N -0.2700, Plg83.0000°, Azm181.0000°; P -3.7860, Plg4.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 10:59:14.0±0.5,50.°44S±0.°07×139.°6E±0.°2,h12^{km},n95, σ1°84/58,mb4.5/20,MS4.1/33,5D,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**9.20**	**38**	Pn		**Pn**	**11 01 27.8**	**+1.4**
TOO	**Toolangi**	**13.53**	**20**	Pn		**Pn**	**11 02 24.9**	**-0.8**
CAN	**Canberra**	**16.58**	**28**	Pn		**Pn**	**11 03 05.0**	**-1.2**
CAN						IAmb	IAmb	11 03 23.0	
	comp=Z,83nm,1.5s							
HTT	**Hallett**	**17.01**	**358**	P		**P**	**11 03 13.5**	**0.0**
BBOO	**Buckleboo**	**17.82**	**350**			**Pn**	**11 03 19.8**	**-1.9**
BBOO						IAmb	IAmb	11 03 31.5	
	comp

	comp=Z,680nm,21.8s,baz=80,slow=33 comp=Z,3.0nm,0.9s						
PMG	**Port Moresby**	**41.38**	**11**	LR	LR	11 24 23.6	
	comp=Z,350nm,18.6s,baz=182,slow=36						
BATI	**Baumata**	**42.23**	**336**	LR	LR	11 23 56.3	
	comp=Z,302nm,21.7s,baz=183,slow=35						
HNR	**Honiara**	**44.21**	**29**	LR	LR	11 24 07.9	
	comp=Z,82nm,19.9s,baz=206,slow=34						
JAY	**Jayapura**	**47.77**	**1**	LR	LR	11 27 40.8	
	comp=Z,285nm,21.2s,baz=182,slow=36						
KAPI	**Kappang**	**48.26**	**333**	LR	LR	11 27 32.8	
	comp=Z,155nm,20.0s,baz=162,slow=35						
BELA	**Belgrano 2**	**51.90**	**182**	P	**P**	**11 08 22.2**	**+0.4**
BELA				IAmb	IAmb	11 08 32.3	
	comp=Z,12nm,1.1s						
TROLL	**Troll, Antarti**	**54.18**	**195**	⇓P	**P**	**11 08 38.9**	**+0.2**
	comp=Z,234nm,1.1s						
H04S1	**CROZET ISLANDS**	**54.79**	**237**	T	T	12 08 31.0	
	baz=127,slow=75,SNR=29						
H04S2	**CROZET ISLANDS**	**54.80**	**237**	T	T	12 08 26.7	
	baz=127,slow=75,SNR=25						
H04S3	**CROZET ISLANDS**	**54.81**	**237**	T	T	12 08 22.1	
	baz=127,slow=75,SNR=34						
RAR	**Rarotonga**	**55.28**	**81**	LR	LR	11 29 20.7	
	comp=Z,50nm,19.9s,baz=240,slow=32						
SNAA	**Sanae**	**55.32**	**194**	⇓P	**P**	**11 08 46.4**	**-0.6**
	comp=Z,104nm,1.0s						
SNAA	**Sanae**	**55.32**	**194**	P	**P**	**11 08 46.9**	**0.0**
SNAA	**Sanae**	**55.32**	**194**	P	**P**	**11 08 46.2**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=164,slow=15,SNR=7.9						
SNAA				LR	LR	11 33 13.4	
	comp=Z,156nm,18.1s,baz=147,slow=37 comp=Z,3.0nm,0.9s						
VNA2	**Neumayer--Watz**	**56.65**	**192**	⇓P	**P**	**11 08 54.1**	**-2.2**
	comp=Z,5.9nm,0.7s,baz=136,slow=5.5						
VNA3	**Neumayer Olymp**	**56.66**	**191**	⇓P	**P**	**11 08 53.9**	**-2.5**
	comp=Z,2.7nm,0.9s						
VNA1	**Neumayer--Stat**	**57.02**	**192**	⇓P	**P**	**11 08 59.2**	**+0.3**
	comp=Z,8.9nm,0.9s						
DAV	**Davao City (W)**	**58.56**	**344**	LR	LR	11 34 48.3	
	comp=Z,65nm,20.7s,baz=232,slow=37						
PSI	**Prapat**	**63.47**	**313**	LR	LR	11 35 41.9	
	comp=Z,231nm,18.3s,baz=157,slow=35						
PMSA	**Palmer Station**	**63.65**	**169**	P	**P**	**11 09 40.9**	**-3.5**
PMSA	**Palmer Station**	**63.65**	**169**	LR	LR	11 34 32.2	
	comp=Z,113nm,18.2s,baz=198,slow=33						
GUMO	**Guam**	**63.92**	**6**	LR	LR	11 35 40.6	
	comp=Z,67nm,22.0s,baz=185,slow=34						
PPT	**Papeete**	**64.44**	**87**	LR	LR	11 32 56.7	
	comp=Z,24nm,20.4s,baz=238,slow=31						
H08S2	**Diego Garcia H**	**69.65**	**283**	T	T	12 26 06.2	
	baz=141,slow=76,SNR=19						
H08S1	**Diego Carcia H**	**69.66**	**283**	T	T	12 26 14.5	
	baz=141,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**69.67**	**283**	T	T	12 26 07.3	
	baz=141,slow=76,SNR=30						
PALK	**Pallekele**	**76.67**	**299**	LR	LR	11 39 35.6	
	comp=Z,143nm,18.7s,baz=160,slow=32						
JCJ	**Chichijima**	**77.23**	**2**	LR	LR	11 44 18.7	
	comp=Z,33nm,21.5s,baz=192,slow=35						
CMAR	**Chiang Mai Arr**	**77.40**	**321**	P	**P**	**11 11 07.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=182,slow=4.3,SNR=4.3 comp=Z,0.4nm,0.3s						
BOSA	**Boshof**	**82.28**	**234**	LR	LR	11 40 17.7	
	comp=Z,127nm,21.9s,baz=186,slow=30						
JHJ	**Hachijo jima 2**	**83.20**	**0**	LR	LR	11 45 26.0	
	comp=Z,74nm,21.8s,baz=334,slow=33						
LBTB	**Lobatse**	**85.01**	**236**	LR	LR	11 43 06.9	
	comp=Z,128nm,20.0s,baz=128,slow=31						
MJAR	**Matsushiro Arr**	**86.62**	**359**	P	**P**	**11 11 57.4**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=196,slow=4.3,SNR=2.0						
MJAR				LR	LR	11 49 03.0	
	comp=Z,64nm,22.0s,baz=188,slow=34 comp=Z,1.0nm,0.6s						
MATP	**Matopo**	**87.11**	**241**	LR	LR	11 45 29.2	
	comp=Z,215nm,18.5s,baz=120,slow=32						
KSAR	**Wonju Array Be**	**88.12**	**351**	P	**P**	**11 12 03.6**	**-0.4**
KSRS	**Korea Array**	**88.13**	**351**	P	**P**	**11 12 04.9**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=196,slow=5.7,SNR=5.3 comp=Z,1.1nm,0.8s						
H03S1	**Juan Fernandez**	**89.42**	**149**	T	T	12 52 15.0	
	baz=201,slow=74,SNR=29						
H03S2	**Juan Fernandez**	**89.42**	**149**	T	T	12 52 05.0	
	baz=201,slow=74,SNR=28						
H03S3	**Juan Fernandez**	**89.44**	**149**	T	T	12 52 13.2	
	baz=201,slow=74,SNR=31						
LSZ	**Lusaka**	**91.39**	**244**	LR	LR	11 46 21.4	
	comp=Z,184nm,20.2s,baz=166,slow=31						
TSUM	**Tsumeb**	**93.97**	**233**	LR	LR	11 47 31.8	
	comp=Z,160nm,20.9s,baz=147,slow=31						
ASAJ	**Asahikawa**	**94.21**	**2**	LR	LR	11 54 17.5	
	comp=Z,53nm,20.9s,baz=176,slow=35						
KMBO	**Kilima Mbogo**	**97.01**	**260**	LR	LR	11 48 33.4	
	comp=Z,92nm,21.5s,baz=99,slow=31						
NVAR	**Mina Array Bea**	**125.51**	**71**	PKP	**PKiKP**	**11 18 15.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=203,slow=3.9,SNR=4.2						
ILAR	**Eielson Array**	**128.08**	**31**	PKP	**PKiKP**	**11 18 21.1**	**+2.0**
	comp=Z,0.3nm,0.9s,baz=232,slow=3.0,SNR=2.5						
TXAR	**Lajitas Array**	**128.72**	**89**	PKP	**PKPdf**	**11 18 21.3**	**+0.3**
	comp=Z,0.1nm,0.7s,baz=339,slow=3.2,SNR=1.9						
INK	**Inuvik**	**134.48**	**31**	PKP	**PKPdf**	**11 18 30.8**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=38,slow=3.0,SNR=3.8						
AKASG	**Malin Array Be**	**137.33**	**298**	PKP	**PKPdf**	**11 18 34.4**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=85,slow=2.1,SNR=3.4						
ARCES	**ARCESS Array B**	**144.26**	**327**	PKP	**PKPdf**	**11 18 50.0**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=100,slow=2.9,SNR=7.8						
ULM	**Lac du Bonnet**	**145.28**	**68**	PKPbc	**PKiKP**	**11 18 53.3**	**-1.2**
	comp=Z,5.0nm,0.8s,baz=201,slow=5.2,SNR=4.3						
SPITS	**Spitsbergen Ar**	**145.56**	**342**	PKPbc	**PKPab**	**11 18 51.5**	**+0.7**
	comp=Z,25nm,1.0s,baz=95,slow=6.3,SNR=10						
GERES	**GERESS Array B**	**145.60**	**289**	PKPbc	**PKPdf**	**11 18 51.5**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=160,slow=4.3,SNR=7.4						
GRF	**Grafenberg Arr**	**147.43**	**289**	*e*PKPab	**PKiKP**	**11 19 06.2**	**+7.2**
	baz=112,slow=3.7						
GRF				*e*L	L	12 31 10.8	
	comp=Z,53nm,18.6s						
MOX	**Moxa**	**147.53**	**291**	*e*L	L	12 29 59.5	
	comp=Z,54nm,19.7s						
ESDC	**Sonseca Array**	**152.39**	**261**	PKPbc	**PKPbc**	**11 19 08.3**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=283,slow=1.3,SNR=5.6						

HEL 21 11:29:56.6±0.2, 61.26N×23.60E, *h*0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	**Rauma**	**0.93**	**256**	PG	Pg	11 30 13.3	-1.0
RAF				MSG		11 30 25.1	
	comp=Z,0.9nm,0.2s						
RAF				SB	Sg	11 30 25.9	-0.3
KPF	**Kankaanpaa**	**0.93**	**309**	PB	Pg	11 30 13.6	-0.8
	baz=120						
KPF				MSG		11 30 25.1	
	comp=Z,0.8nm,0.2s						
KEF	**Keuruu**	**1.09**	**33**	PG	Pg	11 30 16.2	-1.3
	baz=221						
KEF				MSG		11 30 29.8	
	comp=Z,0.8nm,0.2s						
KEF				SG	Sg	11 30 30.1	-1.4
FIA0	**FINESS Array S**	**1.21**	**80**	PG	Pg	11 30 18.0	-1.7
FIA0				MSG		11 30 33.2	
	comp=Z,0.9nm,0.2s						
FIA0				SN	Sb	11 30 36.7	+0.3
KAF	**Kangasniemi**	**1.54**	**55**	PG	Pn	11 30 24.4	-1.0
	baz=238						
KAF				MSG		11 30 42.7	
	comp=Z,4.0nm,0.2s						

*IDC **21** 11:30:11.6±2.0, 63.93N×28.42E, *h*0km, mbtmp2.8/2, ML1.7/2, Error ellipse: s-maj=44.3km s-min=10.7km az=97.0*

*HEL **21** 11:30:11.1±0.1, 63.98N×28.11E, *h*0km, ML1.6, Suspected explosion*

*KOLA **21** 11:30:14.9, 64.47N×31.29E, *h*0km, ML1.7, Karelia*

ISC 21 11:30:10.1±0.8, 63.96N±0.02×28.10E±0.03, *h*0km, n28, σ0 85/44, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.59**	**193**	PG	**Pg**	**11 30 21.8**	**+0.4**
	baz=16						
NIF				SG	**Sg**	**11 30 29.4**	**+0.5**
NIF				MSG		11 30 30.3	
	comp=Z,7.0nm,0.2s						
RMF	**Romuvaara**	**0.84**	**71**	PG	**Pg**	**11 30 26.5**	**+0.2**
RMF				SG	**Sg**	**11 30 36.9**	**-0.3**
RMF				MSG		11 30 37.0	
	comp=Z,4.6nm,0.2s						
OUL	**Oulu**	**1.48**	**321**	PN	**Sg**	**11 30 57.4**	**-0.2**
OUL	**Oulu**	**1.48**	**321**	PN	**Pn**	**11 30 37.9**	**-0.1**
OUL				SN	**Sg**	**11 30 57.4**	**-0.2**
SUF	**Sumiainen**	**1.53**	**216**	PG	**Pn**	**11 30 39.0**	**+0.4**
	baz=31						
SUF				MSG		11 30 57.2	
	comp=Z,2.3nm,0.2s						
OUF	**Merijarvi**	**1.53**	**287**	PG	**Pn**	**11 30 38.6**	**-0.1**
OUF				MSG		11 30 57.0	
	comp=Z,9.5nm,0.2s						
OUF				SN	**Sg**	**11 30 59.5**	**+0.2**
OBF4	**Vikkela, Lumij**	**1.56**	**305**	PG	**Sb**	**11 31 00.3**	**+0.2**
OBF4	**Vikkela, Lumij**	**1.56**	**305**	PG	**Pn**	**11 30 39.2**	**+0.1**
OBF4				MSG		11 30 57.8	
	comp=Z,4.5nm,0.2s						
OBF4				SN	**Sb**	**11 31 00.3**	**+0.2**
KU1	**Kurvinen**	**1.73**	**21**	PG	**Pb**	**11 30 42.0**	**-0.7**
KU1				SN	**Sb**	**11 31 04.6**	**-0.3**
KU2	**Taivalkoski**	**1.76**	**2**	PG	**Pn**	**11 30 42.2**	**+0.4**
OBF0	**Syolatti, Pyha**	**1.77**	**289**	PG	**Pb**	**11 30 42.9**	**-0.6**
OBF0				MSG		11 31 04.0	
	comp=Z,4.5nm,0.2s						
OBF0				SN	**Sb**	**11 31 06.2**	**0.0**
JOF	**Joensuu**	**1.78**	**125**	PG	**Sb**	**11 31 07.3**	**+0.8**
JOF	**Joensuu**	**1.78**	**125**	PG	**Pn**	**11 30 42.9**	**+0.8**
	baz=310						
JOF				SN	**Sb**	**11 31 07.3**	**+0.8**
MSF	**Maaselka**	**2.00**	**11**	PG	**Pb**	**11 30 46.3**	**-1.0**
MSF				SG	**Sb**	**11 31 12.9**	**+0.1**
KAF	**Kangasniemi**	**2.03**	**205**	PN	**Pn**	**11 30 44.3**	**-1.2**
KAF				MSG		11 31 11.7	
	comp=Z,4.4nm,0.2s						
KAF				SG	**Sb**	**11 31 14.8**	**+1.3**
KAF	**Kangasniemi**	**2.03**	**205**	SG	**Pn**	**11 30 44.3**	**-1.2**
RANF	**Ranua**	**2.14**	**345**	PG	**Pb**	**11 30 49.4**	**-0.3**
	baz=163						
RANF				SG	**Sb**	**11 31 16.3**	**-0.4**
KU6	**Riekki**	**2.21**	**19**	PG	**Pb**	**11 30 50.2**	**-0.7**
	baz=199						
KU6				MSG		11 31 16.1	
	comp=Z,2.2nm,0.2s						
KU6				SG	**Sb**	**11 31 18.4**	**-0.3**
KEF	**Keuruu**	**2.33**	**221**	MSG		11 31 20.3	
	comp=Z,3.3nm,0.2s						
KEF				SG	**Sb**	**11 31 22.6**	**+0.5**
RUF	**Ruokolahti**	**2.58**	**171**	PG	**Pb**	**11 30 56.3**	**-0.8**
	baz=348						
RUF				MSG		11 31 27.5	
	comp=Z,2.4nm,0.2s						
RUF				SG	**Sb**	**11 31 30.2**	**+0.9**
FIA0	**FINESS Array S**	**2.69**	**201**	PB	**Pb**	**11 30 58.1**	**-1.0**
	baz=20						
FIA0				MSG		11 31 30.9	
	comp=Z,1.5nm,0.2s						
FIA0				SB	**Sb**	**11 31 31.2**	**-1.5**
FINES	**FINESS Array B**	**2.69**	**201**	Pn	**Pb**	**11 30 58.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=23,slow=13,SNR=8.5						
FINES				Sn	**Sb**	**11 31 32.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=25,slow=27,SNR=14 comp=Z,1.3nm,0.5s						
RNF	**Rovaniemi**	**2.80**	**343**	SG	**Sb**	**11 31 36.6**	**+0.8**
UMAU	**Umeaa**	**3.28**	**272**	PN	**Pn**	**11 31 03.8**	**+1.1**
ERTU	**Ertsjaerv**	**3.60**	**319**	SN	**Sn**	**11 31 52.3**	**+2.1**
ARCES	**ARCESS Array B**	**5.69**	**351**	Pn	**Pn**	**11 31 37.6**	**+1.8**
	baz=174,slow=13,SNR=1.1						
ARCES				Sn	**Sn**	**11 32 39.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=169,slow=24,SNR=1.9 comp=Z,4.3nm,1.4s						
ARCES	**ARCESS Array B**	**5.69**	**351**	P	**Pn**	**11 31 35.9**	**+0.1**
ARCES				S	**Sn**	**11 32 41.3**	**-0.5**
I37NO	**I37NO**	**6.38**	**328**	I	I	12 07 20.0	
	baz=139,slow=319,SNR=1.3						

*IDC **21** 11:30:37.5±1.3, 50.66S×140.75E, *h*0km, mb3.9/6, mbtmp3.9/7, ML3.8/1, MS3.8/15, Error ellipse: s-maj=95.5km s-min=19.7km az=86.0*

ISC 21 11:30:42.1±1.6, 50.45S±0.1×139.6E±0.7, *h*10km, n28, σ0 80/10, mb3.9/6, MS3.8/14, 1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**18.51**	**5**	P	**Pn**	**11 34 59.0**	**+0.4**
	0.2nm,0.3s,baz=167,slow=10,SNR=5.7						
STKA				LR	LR	11 40 55.4	
	comp=Z,205nm,21.4s,baz=199,slow=33 6.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**23.98**	**308**	LR	LR	11 43 20.1	
	comp=Z,215nm,18.3s,baz=156,slow=31						
H01W1	**Cape Leeuwin H**	**24.10**	**300**	T	T	12 00 49.9	
	baz=136,slow=74,SNR=114						
H01W2	**Cape Leeuwin H**	**24.11**	**300**	T	T	12 00 46.1	
	baz=136,slow=74,SNR=60						
H01W3	**Cape Leeuwin H**	**24.12**	**300**	T	T	12 00 47.0	
	baz=136,slow=74,SNR=76						
ASAR	**Alice Springs**	**27.00**	**348**	P	**P**	**11 36 24.1**	**0.0**
	1.9nm,0.8s,baz=167,slow=10,SNR=14						
ASAR				LR	LR	11 45 53.1	
	comp=Z,162nm,20.7s,baz=301,slow=33 1.9nm,0.8s						
VNDA	**Vanda**	**28.55**	**170**	P	P	11 36 29.2	-8.2
	0.2nm,0.5s,baz=304,slow=5.2,SNR=3.2						
VNDA				LR	LR	11 45 58.8	
	comp=Z,128nm,20.4s,baz=325,slow=33 0.2nm,0.5s						
URZ	**Urewera**	**29.13**	**80**	LR	LR	11 47 31.7	
	comp=Z,90nm,18.6s,baz=250,slow=36						
WRA	**Warramunga Arr**	**30.62**	**350**	P	**P**	**11 36 56.1**	**-0.3**
	4.0nm,0.9s,baz=173,slow=7.9,SNR=15 4.0nm,0.9s						
QSPA	**South Pole Qui**	**39.77**	**180**	LR	LR	11 54 30.8	
	comp=Z,144nm,18.9s,baz=17,slow=36						
MAW	**Mawson**	**40.04**	**215**	LR	LR	11 52 29.5	
	comp=Z,204nm,20.8s,baz=76,slow=33						
PMG	**Port Moresby**	**41.29**	**11**	LR	LR	11 56 01.7	
	comp=Z,144nm,18.1s,baz=188,slow=37						
BATI	**Baumata**	**42.13**	**336**	LR	LR	11 57 25.7	
	comp=Z,267nm,19.1s,baz=174,slow=38						
KAPI	**Kappang**	**48.16**	**333**	LR	LR	11 59 31.3	
	comp=Z,87nm,19.5s,baz=291,slow=36						
LEM	**Lembang**	**50.33**	**317**	LR	LR	12 02 03.7	
	comp=Z,124nm,18.1s,baz=159,slow=36						
TROLL	**Troll, Antarti**	**54.27**	**195**	⇓P	**P**	**11 40 08.3**	**+0.5**
	comp=Z,117nm,1.0s						
SNAA	**Sanae**	**55.41**	**194**	P	**P**	**11 40 17.0**	**+1.0**
SNAA	**Sanae**	**55.41**	**194**	P	P	11 40 11.7	-4.3
	comp=Z,0.9nm,1.1s,baz=126,slow=8.6,SNR=6.1						
SNAA				LR	LR	12 01 15.1	
	comp=Z,85nm,21.8s,baz=75,slow=33 comp=Z,0.9nm,1.1s						
VNA1	**Neumayer--Stat**	**57.11**	**192**	P	**P**	**11 40 26.8**	**-1.2**
H08S2	**Diego Garcia H**	**69.60**	**283**	T	T	12 57 33.0	
	baz=141,slow=76,SNR=6.7						
H08S1	**Diego Carcia H**	**69.61**	**283**	T	T	12 57 35.1	
	baz=141,slow=76,SNR=7.2						
H08S3	**Diego Garcia H**	**69.62**	**283**	T	T	12 57 35.7	
	baz=141,slow=76,SNR=7.6						
CMAR	**Chiang Mai Arr**	**77.31**	**321**	P	**P**	**11 42 36.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=152,slow=6.0,SNR=1.5						
CMAR				LR	LR	12 15 48.4	
	comp=Z,45nm,20.9s,baz=180,slow=35 comp=Z,0.4nm,0.3s						
BOSA	**Boshof**	**82.32**	**234**	LR	LR	12 14 20.9	
	comp=Z,39nm,18.1s,baz=174,slow=32						
LBTB	**Lobatse**	**85.04**	**236**	LR	LR	12 15 17.4	
	comp=Z,54nm,18.9s,baz=108,slow=31						
KSRS	**Korea Array**	**88.03**	**351**	P	**P**	**11 43 32.4**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=163,slow=4.6,SNR=5.2 comp=Z,1.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**145.46**	**342**	PKPbc	**PKPbc**	**11 50 17.7**	**-1.0**
	comp=Z,16nm,1.1s,baz=70,slow=1.7,SNR=2.2						
GERES	**GERESS Array B**	**145.54**	**289**	PKPbc	**PKPab**	**11 50 20.7**	**+0.5**
	comp=Z,3.8nm,1.1s,baz=151,slow=3.0,SNR=8.7						

*IDC **21** 11:32:45.1±2.1, 23.34S×179.98W, h519km±21km, mb3.5/10, mbtmp4.3/12, Error ellipse: s-maj=18.0km s-min=16.9km az=73.0*

*NEIC **21** 11:32:47.0±0.8, 23.25S±0.2×179.7W±0.1, h558km±16km, mb4.2/19, Error ellipse: s-maj=33.5km s-min=12.7km az=204.0*

ISC 21 11:32:45.6±0.5, 23.45S±0.09×179.87W±0.08, *h*532km, n46, σ1 832/49, mb4.1/21, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.02**	**341**	P	**P**	**11 34 24.8**	**+1.1**
NIUE	**Niue**	**10.24**	**67**	P	**P**	**11 35 04.4**	**-1.4**
PINNC	**Pines Island,**	**11.71**	**272**	P	**P**	**11 35 22.1**	**+1.0**
DZM	**Mont Dzumac**	**12.71**	**274**	P	**P**	**11 35 33.4**	**+1.8**
DZM	**Mont Dzumac**	**12.71**	**274**	P	**P**	**11 35 29.3**	**-2.3**
	7.0nm,1.0s,baz=72,slow=20						
URZ	**Urewera**	**14.98**	**189**	P	**P**	**11 35 54.7**	**-0.2**
	8.4nm,0.5s,baz=345,slow=2.0,SNR=11						
URZ				S	**S**	**11 38 26.3**	**-4.8**
	10nm,0.7s,baz=272,slow=23,SNR=9.4						
EIDS	**Eidsvold**	**26.50**	**260**	P	**P**	**11 37 41.9**	**+1.3**
EIDS				IAmb	IAmb	11 37 42.1	
	comp=Z,4.8nm,0.6s						
CTAO	**Charters Tower**	**31.60**	**269**	P	**P**	**11 38 26.1**	**+1.1**
PMG	**Port Moresby**	**34.47**	**288**	P	**P**	**11 38 47.8**	**-1.4**
INKA	**Innaminka**	**35.68**	**255**	P	**P**	**11 39 00.4**	**+1.2**
COEN	**Coen**	**36.17**	**278**	P	**P**	**11 39 03.0**	**-0.4**
MANU	**Manus Island**	**38.21**	**299**	P	**P**	**11 39 18.9**	**-1.2**
AS31	**Alice Springs**	**42.23**	**260**	P	**P**	**11 39 52.6**	**+0.3**
AS31				IAmb	IAmb	11 39 53.4	
	comp=Z,1.5nm,0.5s						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**11 39 52.7**	**+0.4**
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**11 39 52.4**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=93,slow=7.4,SNR=61						
ASAR				ScP	**ScP**	**11 44 36.1**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=94,slow=3.6,SNR=6.7						
ASAR				S	**S**	**11 45 33.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=99,slow=14,SNR=6.8 comp=Z,3.0nm,0.5s						
WR0	**Warramunga Arr**	**42.37**	**266**	P	**P**	**11 39 53.3**	**-0.1**
WR0				IAmb	IAmb	11 40 08.6	
	comp=Z,4.2nm,1.1s						
WR8	**Warramunga Arr**	**42.41**	**266**	P	**P**	**11 39 53.6**	**-0.1**
WR8				IAmb	IAmb	11 39 55.1	
	comp=Z,3.2nm,0.8s						
WB2	**Warramunga Arr**	**42.55**	**266**		**P**	**11 39 54.5**	**-0.2**
WB2				IAmb	IAmb	11 39 55.1	
	comp=Z,9.0nm,0.9s						
WB0	**Warramunga Arr**	**42.55**	**266**	P	**P**	**11 39 54.5**	**-0.3**
WB0				IAmb	IAmb	11 39 55.0	
	comp=Z,7.5nm,0.7s						
WRAB	**Tennant Creek**	**42.55**	**266**	P	**P**	**11 39 54.8**	**0.0**
WRAB				IAmb	IAmb	11 39 54.9	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**11 39 54.8**	**-0.1**
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**11 39 54.5**	**-0.3**
	comp=Z,5.0nm,0.5s,baz=90,slow=5.9,SNR=82						
WRA				ScP	**ScP**	**11 44 36.1**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=100,slow=3.7,SNR=4.0 comp=Z,5.0nm,0.5s						
MTN	**Manton Dam**	**47.55**	**274**	P	**P**	**11 40 32.9**	**-0.2**
MTN				IAmb	IAmb	11 40 56.6	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**48.81**	**269**	P	**P**	**11 40 42.8**	**+0.3**
KNRA				IAmb	IAmb	11 40 56.3	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.99**	**265**	P	**P**	**11 40 59.1**	**+0.6**
VNDA	**Vanda**	**54.83**	**185**	P	**P**	**11 41 26.8**	**+1.9**
VNDA	**Vanda**	**54.83**	**185**	P	**P**	**11 41 26.4**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=5.5,slow=6.5,SNR=10 comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**11 42 44.4**	**+1.4**
QSPA				IAmb	IAmb	11 42 46.1	
	comp=Z,8.9nm,0.8s						
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**11 42 45.1**	**+2.1**
	comp=Z,6.9nm,0.6s,baz=38,slow=3.4,SNR=48 comp=Z,6.9nm,0.6s						
BELA	**Belgrano 2**	**76.86**	**173**	P	**P**	**11 43 42.6**	**+0.4**
BELA				IAmb	IAmb	11 43 43.1	
	comp=Z,5.0nm,0.7s						
MAW	**Mawson**	**78.21**	**200**	P	**P**	**11 43 50.0**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=122,slow=11,SNR=4.7 comp=Z,3.0nm,0.7s						
NVAR	**Mina Array Bea**	**84.35**	**44**	P	**P**	**11 44 22.6**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=221,slow=8.2,SNR=4.1 comp=Z,0.8nm,0.9s						
TROLL	**Troll, Antarti**	**84.78**	**181**	⇑P	**P**	**11 44 23.2**	**-0.2**
	comp=Z,266nm,0.3s						
SNAA	**Sanae**	**85.11**	**179**	⇑P	**P**	**11 44 24.3**	**-0.7**
	comp=Z,36nm,0.4s						
SNAA	**Sanae**	**85.11**	**179**	P	**P**	**11 44 24.5**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=205,slow=8.6,SNR=34 comp=Z,1.3nm,0.4s						
VNA3	**Neumayer Olymp**	**85.31**	**177**	⇑P	**P**	**11 44 25.0**	**-0.9**
	comp=Z,2.0nm,0.4s						
TXAR	**Lajitas Array**	**90.09**	**58**	P	**P**	**11 44 50.9**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=213,slow=6.8,SNR=18 comp=Z,1.3nm,0.7s						
PDAR	**Pinedale Array**	**92.28**	**44**	P	**P**	**11 44 59.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=207,slow=4.1,SNR=5.8 comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**96.85**	**319**	P	**P**	**11 45 17.5**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=155,slow=4.8,SNR=2.6 comp=Z,0.4nm,0.4s						
BVAR	**Borov

JMK	**Ichinoseki**	**7.52**	**352**	*e*P		**Pn**	**11 58 29.5**	**+0.5**
JMK				*e*S		**Sn**	**11 59 50.0**	**-3.1**
JTM	**Tenmabayashi**	**9.35**	**353**	Pn		**Pn**	**11 58 53.8**	**-0.4**
JNU	**Nakatsue**	**10.04**	**282**	LR		LR	12 02 24.4	
	comp=Z,96nm,20.9s,baz=230,slow=35							
ERM	**Erimo**	**10.51**	**2**	Pn		**Pn**	**11 59 09.7**	**-0.3**
JCH	**Churui**	**11.12**	**3**	*e*P		**Pn**	**11 59 17.4**	**-0.8**
JCH				*e*S		**Sn**	**12 01 13.8**	**-7.4**
ASAJ	**Asahikawa**	**12.60**	**0**	Pn		**Pn**	**11 59 39.6**	**+1.1**
	0.8nm,0.3s,baz=226,slow=10,SNR=7.3							
ASAJ				Sn		**Sn**	**12 01 54.6**	**-3.0**
	0.4nm,0.3s,baz=304,slow=26,SNR=2.3							
	2.1nm,0.3s							
JKA	**Kamikawa-asahi**	**12.60**	**0**	Pn		**Pn**	**11 59 38.9**	**+0.3**
JOW	**Kunigami**	**13.34**	**253**	LR		LR	12 04 05.8	
	comp=Z,80nm,21.6s,baz=244,slow=34							
KSRS	**Korea Array**	**13.47**	**300**	Pn		**Pn**	**11 59 51.9**	**+1.4**
	0.2nm,0.3s,baz=110,slow=12,SNR=7.0							
	1.9nm,0.9s							
YULB	**Yu-li**	**20.52**	**252**	P		**P**	**12 01 13.9**	**-3.3**
YULB				IAmb		IAmb	12 01 30.3	
	comp=Z,14nm,1.1s							
SONM	**Songino Array**	**31.93**	**311**	P		**P**	**12 03 06.0**	**+1.6**
	comp=Z,2.1nm,0.8s,baz=119,slow=8.2,SNR=11							
	comp=Z,2.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.38**	**262**	P		**P**	**12 04 22.6**	**-2.3**
	comp=Z,0.8nm,0.7s,baz=77,slow=7.6,SNR=2.0							
	comp=Z,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**46.48**	**316**	P		**P**	**12 05 05.7**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=117,slow=5.2,SNR=5.5							
	comp=Z,1.2nm,0.6s							
MK31	**Makanchi Array**	**48.05**	**307**	P		**P**	**12 05 17.8**	**0.0**
MK31				IAmb		IAmb	12 05 20.4	
	comp=Z,2.2nm,1.0s							
MKAR	**Makanchi Array**	**48.05**	**307**	P		**P**	**12 05 17.6**	**-0.1**
MKAR	**Makanchi Array**	**48.05**	**307**	P		**P**	**12 05 18.5**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=89,slow=9.8,SNR=9.1							
	comp=Z,1.0nm,0.4s							
H19K	**Roundabout Mou**	**49.81**	**28**	P		**P**	**12 05 30.6**	**-0.2**
KURK	**Kurchatov**	**50.23**	**312**	P		**P**	**12 05 34.3**	**0.0**
KURBB	**Kurchatov Arra**	**50.30**	**312**	P		**P**	**12 05 35.8**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=88,slow=7.1,SNR=17							
	comp=Z,2.2nm,0.8s							
WRA	**Warramunga Arr**	**51.75**	**190**	P		**P**	**12 05 43.0**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=6.6,slow=7.6,SNR=29							
	comp=Z,1.6nm,0.3s							
ILAR	**Eielson Array**	**53.72**	**30**	P		**P**	**12 06 01.9**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=258,slow=6.5,SNR=14							
	comp=Z,0.8nm,0.6s							
AAK	**Ala-Archa**	**54.12**	**302**	LR		LR	12 29 22.3	
	comp=Z,112nm,20.7s,baz=162,slow=36							
ASAR	**Alice Springs**	**55.48**	**190**	P		**P**	**12 06 10.6**	**-2.7**
	comp=Z,0.9nm,0.5s,baz=8.6,slow=7.2,SNR=12							
	comp=Z,0.9nm,0.5s							
FINES	**FINESS Array B**	**74.17**	**333**	P		**P**	**12 08 15.5**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=45,slow=4.1,SNR=2.3							
	comp=Z,1.1nm,0.7s							
KBZ	**Khabaz**	**75.29**	**312**	P		**P**	**12 08 23.1**	**+1.7**
	comp=Z,3.4nm,0.8s,baz=132,slow=2.5,SNR=6.3							
	comp=Z,3.4nm,0.8s							
NVAR	**Mina Array Bea**	**77.55**	**53**	P		**P**	**12 08 36.7**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=287,slow=5.6,SNR=7.0							
	comp=Z,0.8nm,0.7s							
AKASG	**Malin Array Be**	**79.29**	**324**	P		**P**	**12 08 44.3**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=50,slow=5.4,SNR=6.8							
	comp=Z,0.9nm,0.5s							
HFS	**Hagfors**	**79.53**	**337**	P		**P**	**12 08 46.1**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=46,slow=6.2,SNR=1.8							
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**79.67**	**338**	P		**P**	**12 08 46.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**79.67**	**338**	P		**P**	**12 08 46.7**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=40,slow=5.2,SNR=4.1							
	comp=Z,0.9nm,0.6s							
PDAR	**Pinedale Array**	**80.86**	**45**	P		**P**	**12 08 53.7**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=321,slow=2.1,SNR=4.5							
	comp=Z,0.4nm,0.7s							
BRTR	**Keskin Array B**	**83.28**	**313**	P		**P**	**12 09 05.9**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=146,slow=2.4,SNR=3.9							
	comp=Z,1.3nm,0.9s							
TXAR	**Lajitas Array**	**92.69**	**53**	P		**P**	**12 09 52.1**	**+1.4**
	comp=Z,1.1nm,0.9s,baz=308,slow=3.2,SNR=11							
	comp=Z,1.1nm,0.9s							
QSPA	**South Pole Qui**	**121.25**	**180**	PKP		**PKPdf**	**12 15 29.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=356,slow=0.7,SNR=6.1							
LPAZ	**La Paz**	**148.23**	**69**	PKPbc		**PKPbc**	**12 16 26.5**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=270,slow=2.0,SNR=5.2							

KRSC 21 12:05:28.2±1.2, 55.99N×164.20E, h14km±20km, MI4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.81**	**287**	*e*P	Pg	12 05 43.2	-0.6
KBG	**Krutoberegovo**	**0.88**	**288**	*e*P	Pb	12 05 44.3	-0.9
KBG				*e*S	Sg	12 05 56.2	-0.5
BKI	**Bering**	**1.28**	**127**	*e*P	Pn	12 05 51.4	0.0
BKI				*e*S	Sn	12 06 08.2	-0.1
SMKR	**Semkarok**	**1.64**	**293**	*e*P	Pn	12 05 56.4	-0.2
SMKR				*e*S	Sn	12 06 16.6	-0.8
ZLN	**Zelenaya**	**1.91**	**272**	*e*P	Pb	12 06 02.1	-0.7
CIRR	**Tsirk**	**1.94**	**275**	*e*P	Pb	12 06 02.2	-1.1
BZGR	**Bezymyannyi-Gr**	**1.97**	**270**	*e*P	Pb	12 06 02.7	-1.1
KLY	**Klyuchi**	**2.01**	**281**	*e*P	Pn	12 06 00.9	-0.7
KLY				*e*S	Sn	12 06 25.2	-1.2
MKZ	**Mys Kozlova**	**2.01**	**226**	*e*P	Pb	12 06 03.5	-1.0
MKZ				*e*S	Sb	12 06 28.7	-0.5
BZWR	**Bezymyannyi-We**	**2.08**	**271**	*e*P	Pb	12 06 04.4	-1.3
BZMR	**Bezymyannaya**	**2.09**	**270**	*e*P	Pb	12 06 04.6	-1.2
KIRR	**Kirishev**	**2.17**	**271**	*e*P	Pb	12 06 05.9	-1.3
KIRR				*e*S	Sb	12 06 33.5	-0.5
KPT	**Kopyto**	**2.24**	**271**	*e*P	Pb	12 06 06.7	-1.6
KPT				*e*S	Sb	12 06 35.1	-0.8
KMNR	**Kamenistaya**	**2.25**	**266**	*e*P	Pb	12 06 07.5	-1.0
TUMD	**Tumrok D**	**2.30**	**252**	*e*P	Pb	12 06 08.0	-1.3
TUMD				*e*S	Sb	12 06 37.3	-0.2
KOZ	**Kozyrevsk**	**2.43**	**273**	*e*P	Pb	12 06 09.7	-1.8
KOZ				*e*S	Sb	12 06 40.8	-0.5
SRDR	**Sredinnyy**	**2.53**	**279**	*e*P	Pn	12 06 10.6	+1.8
SRDR				*e*S	Sn	12 06 41.2	+1.9
ESO	**Esso**	**3.09**	**271**	*e*P	Pn	12 06 18.6	+2.1
KII	**Karymskiy**	**3.36**	**236**	*e*P	Pn	12 06 23.2	+3.0
SPN	**Mys Shipunski**	**3.78**	**222**	*e*P	Pn	12 06 28.4	+2.5
SPN				*e*S	Sn	12 07 11.2	+1.1
SDLR	**Sedlovina**	**4.11**	**231**	*e*P	Pn	12 06 33.8	+3.3
KRER	**Koryakskii**	**4.15**	**232**	*e*P	Pn	12 06 35.6	+4.4
SMAR	**Somma**	**4.16**	**231**	*e*P	Pn	12 06 34.4	+3.2
KRX	**Arik**	**4.16**	**233**	*e*P	Pn	12 06 35.7	+4.4
AVH	**Avacha**	**4.18**	**232**	*e*P	Pb	12 06 37.3	-4.2
UGLR	**Uglovaya**	**4.18**	**231**	*e*P	Pn	12 06 35.5	+3.9
KOK	**Koryaka**	**4.21**	**232**	*e*P	Pn	12 06 36.2	+4.2
GNL	**Ganaly**	**4.28**	**240**	*e*P	Pn	12 06 37.1	+4.2
DALK	**Dalny**	**4.34**	**229**	*e*P	Pn	12 06 36.7	+3.1
KRMR	**Karymshinskiy**	**4.75**	**231**	*e*P	Pn	12 06 42.9	+3.7
GRL	**Gorelyy**	**4.97**	**229**	*e*P	Pn	12 06 47.0	+4.6
MTVR	**Mutnovka**	**4.98**	**228**	*e*P	Pn	12 06 46.6	+4.2
ASAK	**Asacha**	**5.17**	**228**	*e*P	Pn	12 06 49.6	+4.6

*SOME **21** 12:22:46.8, 41.50N×81.78E, h10km*
*NNC **21** 12:22:50.1±13.0, 42.28N×82.49E, h0km, mb3.5, mpv3.1,*
Error ellipse: s-maj=114.7km s-min=91.1km az=148.0
ISC 21 12:22:45.0±4.0, 41.9N±0.3×82.5E±0.2, h13km, n7, σ0.97/9, 2C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.56**	**301**	*e*P	**Pn**	**12 23 26.6**	**+0.4**
	20nm,0.1s						
SHLS				*e*S	**Sn**	**12 23 55.4**	**-1.8**
	41nm,0.8s						
PDGK	**Podgornoye**	**2.63**	**304**	⇑Pn	**Pb**	**12 23 31.8**	**-0.1**
	9.4nm,0.8s						
PDGK				⇑Lg	Lg	12 24 05.9	
	36nm,0.9s						
UZB	**Uzynbulak**	**2.84**	**298**	*e*P	**Pb**	**12 23 35.9**	**+0.3**
	3.6nm,0.2s						
UZB				*e*S	**Sb**	**12 24 11.5**	**+1.3**
	10nm,0.3s						
KOTS	**Kotyrbulak**	**4.17**	**291**	*e*P	**Pb**	**12 23 58.0**	**-0.3**
	1.1nm,0.1s						
KOTS				*e*S	**Sb**	**12 24 49.1**	**+0.4**
	10nm,0.7s						
IZV	**Izvestkoviy**	**4.47**	**287**	*e*P	**Pb**	**12 24 03.2**	**-0.2**
	1.1nm,0.1s						
IZV				*e*S	**Sb**	**12 24 57.9**	**+0.5**
	3.2nm,0.1s						
MK31	**Makanchi Array**	**4.92**	**359**	Lg	Lg	12 25 14.6	
	3.7nm,0.7s,baz=174,slow=24,SNR=6.8						
MAKZ	**Makanchi**	**4.94**	**356**	⇓Lg	Lg	12 25 15.9	
	4.4nm,0.8s						

*ISN **21** 12:22:42.1±0.6, 32.78N×46.15E, h7km±3km, ML3.0*
*TEH **21** 12:22:43.5, 32.84N×46.23E, h9km±61km*
ISC 21 12:22:44.6±1.8, 32.84N±0.10×46.13E±0.05, h10km, n14, σ0.87/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.31**	**328**	*e*Pg	**Pg**	**12 22 50.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**12 22 55.0**	**-0.1**
IBDR				AML	AML	12 23 00.6	
	comp=E,1μm,0.5s						
IBDR				AML	AML	12 23 04.4	
	comp=N,650nm,0.3s						
ILBA	**Ilam Banvizeh**	**0.78**	**5**	Pg	**Pg**	**12 22 58.0**	**-1.7**
ILBA				Sg	**Sg**	**12 23 10.4**	**+0.5**
GLG1	**Gilan-e-Gharb**	**1.28**	**352**	Pg	**Pn**	**12 23 09.0**	**+0.4**
BHD	**Baghdad**	**1.53**	**287**	*e*Pn	**Pn**	**12 23 12.0**	**+0.1**
BHD				*e*Sn	**Sg**	**12 23 34.0**	**+0.2**
IGHG	**Ghaleghazi**	**1.53**	**14**	Pg	**Pb**	**12 23 13.2**	**0.0**
KCHF	**Cheshme Sefid,**	**1.62**	**28**	Pg	**Pb**	**12 23 14.5**	**-0.2**
IDHR	**Dehrash**	**1.86**	**7**	Pn	**Pb**	**12 23 18.4**	**-0.4**
IDOB	**Doab**	**1.96**	**61**	Pn	**Pn**	**12 23 19.3**	**+1.2**
IBZA	**Bozab**	**2.17**	**41**	Pn	**Pn**	**12 23 21.0**	**0.0**
SNQR	**Sonqor, Kerman**	**2.37**	**31**	Pn	**Pn**	**12 23 24.5**	**+0.8**
BDRS	**Dareh Seyedi**	**2.56**	**64**	Pn	**Pn**	**12 23 26.7**	**+0.3**
IKRK	**Kirkuk**	**2.95**	**330**	*e*Pn	**Pn**	**12 23 32.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**12 24 09.0**	**+2.0**
IKRK				AML	AML	12 24 30.1	
	comp=E,93nm,0.4s						
IKRK				AML	AML	12 24 37.2	
	comp=N,96nm,0.7s						
HAGD	**Aghdareh**	**3.19**	**51**	Pn	**Pn**	**12 23 34.9**	**-0.1**
HGHA	**Hamedan- Ghaye**	**3.48**	**40**	Pn	**Pn**	**12 23 39.7**	**+0.7**

*SKO **21** 12:24:49.4, 41.91N×20.31E, h16km, ML2.7*
*TIR **21** 12:24:51.0, 41.93N×20.33E, h5km±1km, Ml2.7/3*
*PDG **21** 12:24:51.2±0.4, 41.91N×20.37E, h4km±1km, ML2.5/11,*
Error ellipse: s-maj=0.7km s-min=0.8km az=0.0
*BEO **21** 12:24:52.8±0.3, 41.89N×20.39E, h5km±9km, ML2.4/17*
ISC 21 12:24:51.5±1.1, 41.91N±0.02×20.37E±0.02, h4km±10km, n41, σ1.16/78, 5C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.38**	**290**	Pg	**Pg**	**12 24 58.1**	**-0.8**
PUK				Sg	**Sg**	**12 25 03.6**	**-0.3**
PUK				AML	AML	12 25 08.8	
	4.1nm,0.5s						
BCI	**Bajram Curri**	**0.51**	**334**	Pg	**Pg**	**12 25 00.7**	**-0.5**
BCI				Sg	**Sg**	**12 25 08.2**	**+0.4**
BCI				AML	AML	12 25 13.5	
	2.9nm,0.4s						
PVY	**Plav**	**0.75**	**336**	⇑*i*Pg	**Pg**	**12 25 05.6**	**-0.2**
PVY				*e*Sg	**Sb**	**12 25 16.5**	**-0.9**
SKO	**Skopje**	**0.80**	**85**	*i*Pg	**Pg**	**12 25 05.7**	**-1.1**
SKO				*i*Sg	**Sg**	**12 25 17.8**	**+0.6**
ULC	**Ulcinj**	**0.84**	**274**	⇑*i*Pg	**Pg**	**12 25 07.2**	**-0.4**
ULC				*i*Sg	**Sb**	**12 25 20.1**	**-0.2**
OHR	**Ohrid**	**0.86**	**158**	*i*Pg	**Pg**	**12 25 06.8**	**-1.3**
OHR				*i*Sg	**Sb**	**12 25 20.0**	**-0.9**
OHR				*e*Lg	Lg	12 25 20.6	
	comp=N,157nm,0.5s						
OHR				*e*Lg	Lg	12 25 20.7	
	comp=E,248nm,0.8s						
DRME	**Dracevica, Mon**	**0.93**	**288**	⇑*i*Pg	**Pg**	**12 25 08.3**	**-0.9**
DRME				*e*Sg	**Sb**	**12 25 22.8**	**+0.1**
PDG	**Podgorica**	**0.98**	**302**	*e*Pg	**Pg**	**12 25 09.0**	**-1.2**
PDG				*e*Sg	**Sn**	**12 25 26.4**	**+0.2**
PDG	**Podgorica**	**0.98**	**302**	⇓*i*Pg	**Pg**	**12 25 09.6**	**-0.6**
PDG				*i*Sg	**Sb**	**12 25 24.2**	**0.0**
IVA	**Berane**	**1.02**	**340**	⇓*i*Pg	**Pg**	**12 25 10.1**	**-1.0**
IVA				*i*Sg	**Sn**	**12 25 26.3**	**-1.1**
KOME	**Kolasin**	**1.13**	**326**	*e*Pg	**Pg**	**12 25 11.7**	**-1.5**
KOME				*e*Sg	**Sn**	**12 25 29.9**	**-0.3**
BUM	**Brajici-Budva**	**1.17**	**290**	⇑*i*Pg	**Pg**	**12 25 12.9**	**-0.9**
BUM				*e*Sg	**Sn**	**12 25 31.0**	**0.0**
CEME	**Cevo**	**1.25**	**301**	⇓*i*Pg	**Pg**	**12 25 14.0**	**-1.5**
CEME				*i*Sg	**Sn**	**12 25 33.8**	**+0.7**
KBN	**Korca**	**1.33**	**166**	Pn	**Pg**	**12 25 16.9**	**0.0**
KBN				Sn	**Sn**	**12 25 36.2**	**+1.3**
KBN				AML	AML	12 25 44.0	
	comp=E,0.3nm,0.7s						
FNA	**Florina**	**1.36**	**146**	Pn	**Pb**	**12 25 17.0**	**-0.4**
FNA				Sn	**Sn**	**12 25 38.4**	**+2.7**
FNA	**Florina**	**1.36**	**146**	*i*Pg	**Pn**	**12 25 15.0**	**-2.2**
FNA				*i*Sg	**Sn**	**12 25 35.9**	**+0.1**
FNA	**Florina**	**1.36**	**146**	*e*Pg	**Pg**	**12 25 17.7**	**+0.2**
FNA				*e*Sg	**Sn**	**12 25 35.8**	**+0.1**
SJES	**Sjenica**	**1.38**	**348**	*e*Pg	**Pn**	**12 25 17.1**	**-0.5**
SJES				*e*Sg	**Sn**	**12 25 37.7**	**+1.4**
BARS	**Barje**	**1.40**	**49**	*i*Pg	**Pn**	**12 25 17.5**	**-0.3**
BARS				*i*Sg	**Sg**	**12 25 37.4**	**+1.0**
BARS	**Barje**	**1.40**	**49**	*e*Pg	**Pb**	**12 25 17.8**	**-0.4**
BARS				*e*Sg	**Sg**	**12 25 37.7**	**+1.2**
SELS	**Selova**	**1.42**	**23**	*e*Pg	**Pn**	**12 25 17.5**	**-0.5**
SELS				*e*Sg	**Sg**	**12 25 39.5**	**+2.5**
HCY	**Herceg Novi**	**1.49**	**292**	⇓*i*Pg	**Pn**	**12 25 18.9**	**-0.2**
HCY				*i*Sg	**Sg**	**12 25 41.8**	**+2.3**
NEST	**Nestorio**	**1.58**	**161**	P	**Pn**	**12 25 19.8**	**-0.6**
NEST				S	**Sg**	**12 25 44.4**	**+2.1**
IVAS	**Ivanjica**	**1.67**	**355**	*e*Pg	**Pn**	**12 25 41.5**	**+0.9**
IVAS				*e*Sg	**Sg**	**12 25 45.9**	**+0.8**
BOSS	**Bosilegrad**	**1.67**	**69**	*e*Pg	**Pb**	**12 25 22.7**	**-0.1**
BOSS				*e*Sg	**Sg**	**12 25 45.4**	**+0.2**
BRY	**Bratogost**	**1.68**	**307**	⇑*i*Pn	**Pb**	**12 25 22.6**	**-0.4**
BRY				*i*Sn	**Sg**	**12 25 47.7**	**+2.3**
UPM	**Unac-Piva**	**1.68**	**320**	⇓*i*Pn	**Pb**	**12 25 22.2**	**-0.9**
UPM				*e*Sn	**Sg**	**12 25 48.1**	**+2.5**
GOCS	**Kraljevo Serbi**	**1.69**	**12**	*e*Pg	**Pg**	**12 25 23.5**	**-0.4**
GOCS				*e*Sg	**Sg**	**12 25 46.9**	**+1.1**
TREB	**Trebinje**	**1.70**	**299**	*e*Pg	**Pb**	**12 25 23.0**	**-0.3**
TREB				*e*Sg	**Sg**	**12 25 48.1**	**+2.0**
VAY	**Valandovo**	**1.75**	**109**	*i*Pg	**Pn**	**12 25 22.1**	**-0.5**
BOVS	**Bovan**	**1.98**	**29**	*e*Pg	**Pg**	**12 25 28.6**	**-0.8**
BOVS				*e*Sg	**Sg**	**12 25 57.0**	**+1.9**
GRUS	**Gruza**	**1.99**	**7**	*e*Pg	**Pg**	**12 25 30.4**	**+0.8**
GRUS				*e*Sg	**Sg**	**12 25 57.2**	**+1.8**
KNT	**Kendrikon**	**2.04**	**111**	*i*Pg	**Pn**	**12 25 26.4**	**-0.2**
ZAPS	**Zavoj**	**2.15**	**50**	*e*Pg	**Pg**	**12 25 32.3**	**-0.5**
ZAPS				*e*Sg	**Sg**	**12 25 59.9**	**-0.8**
STON	**Ston**	**2.20**	**297**	*e*Pn	**Pb**	**12 25 30.2**	**-1.5**
STON				*e*Sg	**Sg**	**12 26 04.5**	**+2.4**
DIVS	**Divibare**	**2.20**	**353**	*e*Pg	**Pg**	**12 25 33.5**	**-0.2**
DIVS				*e*Sg	**Sg**	**12 26 04.5**	**+2.3**
TRUS	**Trudelj**	**2.31**	**1**	*e*Pg	**Pb**	**12 25 33.4**	**-0.3**
TRUS				*e*Sg	**Sg**	**12 26 07.8**	**+2.2**
ZAGS	**Zajecar**	**2.34**	**35**	*e*Pg	**Pg**	**12 25 36.8**	**+0.5**
ZAGS				*e*Sg	**Sg**	**12 26 06.5**	**-0.1**
LIT	**Litokhoron**	**2.42**	**138**	*i*Pn	**Pn**	**12 25 32.6**	**+0.8**
SOH	**Sokhos**	**2.50**	**115**	*i*Pn	**Pb**	**12 25 36.6**	**-0.2**
KUBS	**Kucevo**	**2.67**	**20**	*e*Pg	**Pg**	**12 25 42.2**	**-0.5**
KUBS				*e*Sg	**Sg**	**12 26 16.7**	**-0.6**

*IDC **21** 12:28:24.3±1.1, 38.01N×29.57E, h0km, mb3.7/5,*
mbtmp3.6/9, ML2.8/2, Error ellipse: s-maj=27.4km
s-min=16.6km az=151.0
*AFAD **21** 12:28:25.3, 37.87N×29.62E, h24km±1km, ML3.3*
*ISK **21** 12:28:25.3, 37.88N×29.60E, h10km, ML3.5/25*
ISC 21 12:28:26.3±0.8, 37.88N±0.02×29.60E±0.02, h15km±6km, n67, σ1.18/95, mb3.6/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.17**	**187**	P	**Pg**	**12 28 29.9**	**-0.7**
INCE				*i* IAML		12 28 35.0	
	comp=N,9μm,0.3s						
INCE				*i* IAML		12 28 35.0	
	comp=E,7μm,0.3s						
INCE				S	**Sg**	**12 28 35.0**	**+1.6**
BASM	**Basmaki-Afyon**	**0.36**	**84**	Pg	**Pg**	**12 28 32.6**	**-1.0**
BASM				Sg	**Sg**	**12 28 37.9**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.41**	**117**	P	**Pg**	**12 28 33.6**	**-0.9**
BRDR				*i* IAML		12 28 42.0	
	comp=N,2μm,0.8s						
BRDR				S	**Sb**	**12 28 42.6**	**+1.3**
BRDR				*i* IAML		12 28 44.0	
	comp=E,2μm,0.3s						
KHL	**Karahalli**	**0.45**	**352**	Pg	**Pg**	**12 28 34.4**	**-0.8**
KHL				Sg	**Sb**	**12 28 41.5**	**-0.9**
APMY	**Acipayam-Deniz**	**0.47**	**210**	Pg	**Pg**	**12 28 34.9**	**-0.8**
APMY				Sg	**Sb**	**12 28 42.3**	**-0.9**
PASA	**Karahalli, USA**	**0.47**	**349**	P	**Pg**	**12 28 34.8**	**-0.9**
PASA				S	**Sb**	**12 28 42.3**	**-0.9**
PASA				*i* IAML		12 28 45.0	
	comp=E,3μm,0.3s						
PASA				*i* IAML		12 28 48.0	
	comp=N,2μm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.51**	**240**	P	**Pg**	**12 28 35.7**	**-0.8**
DNIZ				S	**Sb**	**12 28 44.5**	**+0.1**
DNIZ				*i* IAML		12 28 45.0	
	comp=N,5μm,0.3s						
DNIZ				*i* IAML		12 28 45.0	
	comp=E,5μm,0.3s						
KZIL	**AFYON_Kizioren**	**0.57**	**49**	P	**Pg**	**12 28 36.7**	**-0.8**
KZIL				*i* IAML		12 28 48.0	
	comp=N,2μm,0.7s						
KZIL				S	**Sn**	**12 28 48.2**	**-1.0**
KZIL				*i* IAML		12 28 52.0	
	comp=E,1μm,0.9s						
GOLH	**Golhisar**	**0.65**	**183**	P	**Pg**	**12 28 38.1**	**-0.8**
GOLH				*i* IAML		12 28 57.0	
	comp=E,2μm,0.8s						
GOLH				*i* IAML		12 29 00.0	
	comp=N,1μm,0.6s						
TAVA	**DENIZLI_Tavas**	**0.69**	**233**	P	**Pb**	**12 28 39.0**	**-1.0**
TAVA				*i* IAML		12 28 50.0	
	comp=E,772nm,0.1s						
TAVA				*i* IAML		12 28 54.0	
	comp=N,831nm,1.6s						
ISP	**Isparta**	**0.73**	**94**	Pg	**Pb**	**12 28 39.9**	**-0.9**
CAEL	**Denizli, Camel**	**0.79**	**196**	P	**Pg**	**12 28 40.8**	**-0.9**
CAEL				*i* IAML		12 29 02.0	
	comp=N,2μm,0.8s						
CAEL				*i* IAML		12 29 03.0	
	comp=E,2μm,0.9s						
BNAZ	**Uak-Banaz**	**0.83**	**15**	P	**Pg**	**12 28 41.4**	**-1.0**
BNAZ				S	**Sn**	**12 28 54.9**	**-0.6**
BNAZ				*i* IAML		12 28 58.0	
	comp=N,7μm,0.7s						
BNAZ				*i* IAML		12 28 59.0	
	comp=E,7μm,0.6s						
BUCA	**Burdur, Bucak-**	**0.94**	**126**	P	**Pn**	**12 28 45.4**	**+0.4**
BUCA				S	**Sn**	**12 29 00.9**	**+2.7**
BUCA				*i* IAML		12 29 01.0	
	comp=E,436nm,1.0s						
BUCA				*i* IAML		12 29 02.0	
	comp=N,332nm,0.6s						
BAGO	**Egridir - ISPA**	**0.95**	**83**	P	**Pb**	**12 28 43.8**	**-0.6**
BAGO				S	**Sn**	**12 28 59.1**	**+0.6**
BAGO				*i* IAML		12 29 02.0	
	comp=E,545nm,1.4s						
BAGO				*i* IAML		12 29 09.0	
	comp=N,449nm,0.9s						
USAK	**Uak-Merkez**	**0.95**	**331**	P	**Pg**	**12 28 43.8**	**-0.8**
USAK				S	**Sb**	**12 28 56.6**	**-0.3**
USAK				*i* IAML		12 29 00.0	
	comp=E,1μm,0.6s						
USAK				*i* IAML		12 29 01.0	
	comp=N,809nm,0.6s						
CAME	**Cameli-Denizli**	**0.97**	**194**	Pg	**Pg**	**12 28 43.9**	**-1.1**
KULA	**Kula-Manisa**	**0.97**	**311**	Pg	**Pb**	**12 28 44.6**	**-0.3**
ESEN	**Aydn-Nazilli**	**0.99**	**266**	P	**Pb**	**12 28 44.6**	**-0.6**
ESEN				S	**Sn**	**12 28 58.8**	**-0.7**
ESEN				*i* IAML		12 29 02.0	
	comp=N,437nm,0.4s						
ESEN		

BLCB	**Balcova**	**2.08 285**	Pn	**Pn**	**12 29 01.2**	**+0.6**
STEP	**BALIKESIR_Sava**	**2.10 316**	P	**Pn**	**12 29 00.4**	**-0.5**
STEP			S	**Sg**	**12 29 37.3**	**+3.5**
STEP			*i* IAML		12 29 40.0	
	comp=E,472nm,0.7s					
STEP			*i* IAML		12 29 42.0	
	comp=N,656nm,0.7s					
ZEDA	**zmir-Bergama**	**2.26 299**	P	**Pn**	**12 29 03.5**	**+0.4**
ZEDA			*i* IAML		12 29 43.0	
	comp=E,89nm,0.6s					
ZEDA			*i* IAML		12 29 47.0	
	comp=N,144nm,0.7s					
BKES	**Balkesir-Mer**	**2.26 325**	P	**Pn**	**12 29 03.4**	**+0.2**
BKES			S	**Sg**	**12 29 41.7**	**+2.7**
BKES			*i* IAML		12 29 47.0	
	comp=E,215nm,0.8s					
BKES			*i* IAML		12 29 49.0	
	comp=N,283nm,1.0s					
FOCM	**Foa**	**2.41 291**	Pn	**Pn**	**12 29 05.9**	**+0.8**
BALY	**Balya**	**2.42 321**	P	**Pn**	**12 29 05.7**	**+0.4**
BALY			*i* IAML		12 29 52.0	
	comp=E,211nm,0.5s					
BALY			*i* IAML		12 29 53.0	
	comp=N,347nm,0.6s					
URLA	**Izmir**	**2.42 282**	P	**Pg**	**12 29 11.8**	**-0.8**
URLA			S	**Sg**	**12 29 46.2**	**+2.2**
BUHA	**Balikesir, Bur**	**2.55 310**	P	**Pn**	**12 29 07.8**	**+0.6**
BUHA			*i* IAML		12 29 54.0	
	comp=N,190nm,0.8s					
BUHA			*i* IAML		12 29 59.0	
	comp=E,266nm,0.8s					
BRTR	**Keskin Array B**	**3.65 58**	Pn	**Pn**	**12 29 23.3**	**+0.9**
	0.8nm,0.3s,baz=234,slow=16,SNR=12					
BRTR			Sn	**Sn**	**12 30 05.5**	**+0.2**
	1.2nm,0.3s,baz=234,slow=26,SNR=7.6 3.2nm,0.5s					
IDI	**Anoyia**	**4.59 237**	Pn	**Pn**	**12 29 36.6**	**+1.3**
	7.4nm,0.8s,baz=124,slow=16,SNR=6.5					
IDI			Sn	**Sn**	**12 30 26.9**	**-1.4**
	0.7nm,0.3s,baz=212,slow=7.1,SNR=1.4					
MMAI	**Mount Meron Ar**	**6.78 134**	Pn	**Pn**	**12 30 06.3**	**+0.9**
	2.0nm,0.3s,baz=328,slow=11,SNR=7.1					
MMAI			Sn	**Sn**	**12 31 21.2**	**-1.1**
	2.2nm,0.3s,baz=323,slow=26,SNR=6.7					
GERES	**GERESS Array B**	**15.89 319**	Pn	**Pn**	**12 32 09.1**	**-0.3**
	baz=134,slow=13,SNR=1.1 0.2nm,0.2s					
FINES	**FINESS Array B**	**23.69 356**	P	**P**	**12 33 35.9**	**-1.3**
	1.6nm,0.8s,baz=152,slow=17,SNR=3.6 1.6nm,0.8s					
TORD	**Torodi Ar. Bea**	**34.98 233**	P	**P**	**12 35 18.3**	**+0.3**
	0.9nm,0.5s,baz=31,slow=9.4,SNR=7.1 0.9nm,0.5s					
KURBB	**Kurchatov Arra**	**36.63 54**	P	**P**	**12 35 32.3**	**+0.4**
	0.8nm,0.7s,baz=276,slow=8.8,SNR=6.4 0.8nm,0.7s					
MKAR	**Makanchi Array**	**39.30 60**	P	**P**	**12 35 55.1**	**+0.5**
	0.9nm,0.7s,baz=281,slow=7.3,SNR=7.6 0.9nm,0.7s					
ZALV	**Zalesovo Beam**	**40.53 48**	P	**P**	**12 36 03.7**	**-0.9**
	0.5nm,0.5s,baz=289,slow=9.0,SNR=1.7 0.5nm,0.5s					

IDC 21 12:39:42.1±2.8, 6°32N×125°95E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=240.3km s-min=28.5km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.37**	**163**	P	P	12 45 28.0	-1.3
	0.2nm,0.8s,baz=342,slow=9.8,SNR=1.2 0.2nm,0.8s						
ASAR	**Alice Springs**	**30.80**	**166**	P	P	12 46 00.9	+1.1
	0.6nm,1.1s,baz=343,slow=8.7,SNR=4.8 0.6nm,1.1s						
MKAR	**Makanchi Array**	**55.00**	**325**	P	P	12 49 15.3	-0.1
	0.3nm,0.3s,baz=119,slow=7.8,SNR=4.7 0.3nm,0.3s						

*KRSC **21** 12:44:57.9±1.0, 54°.71N×164°.44E, h40km±22km, Ml3.9*
*IDC **21** 12:44:57.5±1.1, 54°.96N×164°.37E, h0km, mb3.6/7, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=41.6km s-min=20.0km az=162.0*

ISC 21 12:44:58.1±2.0, 54°.79N±0°.05×164°.42E±0°.07, h8km±14km, n46, σ1°38/52, mb3.6/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.98**	**65**	*i* P	**Pg**	**12 45 16.9**	**-0.1**
BKI				*e*S	**Sg**	**12 45 28.9**	**-0.8**
MKZ	**Mys Kozlova**	**1.58**	**263**	*e*P	**Pn**	**12 45 26.1**	**-0.2**
MKZ				*e*S	**Sn**	**12 45 44.7**	**-2.3**
KBTR	**Krutoberegovo**	**1.69**	**328**	*e*P	**Pn**	**12 45 26.5**	**-1.4**
KBG	**Krutoberegovo**	**1.76**	**327**	*e*P	**Pn**	**12 45 27.9**	**-0.9**
KBG				*e*S	**Sn**	**12 45 49.8**	**-1.7**
TUMD	**Tumrok D**	**2.35**	**282**	*e*P	**Pn**	**12 45 37.6**	**+0.5**
ZLN	**Zelenaya**	**2.40**	**302**	*e*P	**Pn**	**12 45 39.1**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**2.42**	**300**	*e*P	**Pn**	**12 45 39.2**	**+1.2**
SMKR	**Semkarok**	**2.45**	**318**	*e*P	**Pn**	**12 45 39.5**	**+1.0**
SMKR				*e*S	**Sn**	**12 46 10.1**	**+1.5**
BZMR	**Bezymyannaya**	**2.52**	**299**	*e*P	**Pn**	**12 45 40.6**	**+1.1**
KMNR	**Kamenistaya**	**2.58**	**294**	*e*P	**Pn**	**12 45 41.4**	**+1.2**
KIRR	**Kirishev**	**2.60**	**298**	*e*P	**Pn**	**12 45 42.1**	**+1.6**
KLY	**Klyuchi**	**2.63**	**307**	*e*P	**Pn**	**12 45 40.0**	**-0.8**
KLY				*e*S	**Sn**	**12 46 10.9**	**-1.9**
KPT	**Kopyto**	**2.67**	**298**	*e*P	**Pn**	**12 45 42.9**	**+1.5**
KOZ	**Kozyrevsk**	**2.89**	**298**	*e*P	**Pn**	**12 45 46.3**	**+1.9**
KII	**Karymskiy**	**3.00**	**257**	*e*P	**Pn**	**12 45 46.8**	**+0.8**
SRDR	**Sredinnyy**	**3.08**	**302**	*e*P	**Pn**	**12 45 48.4**	**+1.4**
SPN	**Mys Shipunski**	**3.10**	**239**	*e*P	**Pn**	**12 45 46.8**	**-0.5**
SPN				*e*S	**Sn**	**12 46 21.1**	**-3.4**
NLC	**Nalytchevo**	**3.41**	**244**	*e*P	**Pn**	**12 45 51.5**	**+0.1**
NLC				*e*S	**Sn**	**12 46 29.3**	**-2.7**
ESO	**Esso**	**3.46**	**292**	*e*P	**Pn**	**12 45 52.8**	**+0.6**
SDLR	**Sedlovina**	**3.60**	**247**	*e*P	**Pn**	**12 45 54.6**	**+0.4**
SMAR	**Somma**	**3.65**	**248**	*e*P	**Pn**	**12 45 55.8**	**+0.8**
KRER	**Koryakskii**	**3.66**	**248**	*e*P	**Pn**	**12 45 56.1**	**+1.0**
UGLR	**Uglovaya**	**3.66**	**247**	*e*P	**Pn**	**12 45 55.8**	**+0.7**
AVH	**Avacha**	**3.68**	**248**	*e*P	**Pn**	**12 45 56.8**	**+1.5**
KRX	**Arik**	**3.69**	**249**	*e*P	**Pn**	**12 45 56.5**	**+1.0**
KOK	**Koryaka**	**3.73**	**249**	*e*P	**Pn**	**12 45 56.8**	**+0.9**
DALK	**Dalny**	**3.79**	**245**	*e*P	**Pn**	**12 45 57.0**	**+0.3**
PET	**Petropavlovsk**	**3.84**	**245**	*e*P	**Pn**	**12 45 58.3**	**+0.8**
GNL	**Ganaly**	**3.96**	**257**	*e*P	**Pn**	**12 46 01.0**	**+1.8**
KRMR	**Karymshinskiy**	**4.21**	**245**	*e*P	**Pn**	**12 46 03.8**	**+1.2**
KRMR				*e*S	**Sn**	**12 46 50.2**	**-1.7**
RUS	**Russkaya**	**4.24**	**239**	*e*P	**Pn**	**12 46 04.7**	**+1.8**
PETK	**Petropavlovsk-**	**4.31**	**250**	Pn	**Pn**	**12 46 04.8**	**+0.9**
	2.7nm,0.3s,baz=68,slow=18,SNR=20						
PETK				Sn	**Sn**	**12 46 53.8**	**-0.6**
	2.7nm,0.3s,baz=319,slow=22,SNR=5.4 3.5nm,0.3s						
MTVR	**Mutnovka**	**4.37**	**241**	*e*P	**Pn**	**12 46 05.6**	**+0.8**
GRL	**Gorelyy**	**4.39**	**242**	*e*P	**Pn**	**12 46 06.0**	**+0.9**
ASAK	**Asacha**	**4.57**	**241**	*e*P	**Pn**	**12 46 08.6**	**+1.1**
APC	**Apacha**	**4.69**	**249**	*e*P	**Pn**	**12 46 12.3**	**+3.3**
ILAR	**Eielson Array**	**25.79**	**48**	P	**P**	**12 50 28.6**	**-0.5**
	1.1nm,0.8s,baz=263,slow=8.9,SNR=7.4 1.1nm,0.8s						
INK	**Inuvik**	**30.94**	**40**	P	**P**	**12 51 13.8**	**-1.1**
	2.2nm,1.0s,baz=265,slow=7.2,SNR=6.6 2.2nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**35.05**	**176**	T	T	13 30 20.6	
	baz=359,slow=76,SNR=37						
H11N3	**WAKE ISLAND Hy**	**35.06**	**176**	T	T	13 30 20.8	
	baz=359,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**35.07**	**176**	T	T	13 30 26.9	
	baz=359,slow=76,SNR=37						
KURBB	**Kurchatov Arra**	**49.09**	**303**	P	**P**	**12 53 45.7**	**+0.3**
	0.3nm,0.5s,baz=56,slow=7.7,SNR=4.1 0.3nm,0.5s						
MKAR	**Makanchi Array**	**49.70**	**297**	P	**P**	**12 53 49.7**	**-0.5**
	0.3nm,0.7s,baz=57,slow=5.3,SNR=2.6 0.3nm,0.7s						
NVAR	**Mina Array Bea**	**52.78**	**74**	P	**P**	**12 54 14.8**	**+1.1**
	0.3nm,0.7s,baz=316,slow=6.8,SNR=3.0 0.3nm,0.7s						
TXAR	**Lajitas Array**	**67.64**	**71**	P	**P**	**12 55 56.4**	**+0.9**
	0.7nm,0.5s,baz=301,slow=4.8,SNR=12 0.7nm,0.5s						
ASAR	**Alice Springs**	**82.41**	**208**	P	**P**	**12 57 21.3**	**+0.8**
	0.3nm,0.7s,baz=8.9,slow=6.1,SNR=2.1 0.3nm,0.7s						

*IDC **21** 12:58:07.5±0.6, 50°.39S×139°.42E, h0km, mb4.4/11, mbtmp4.5/12, ML4.4/1, MS4.6/41, Error ellipse: s-maj=37.1km s-min=14.0km az=91.0*
*NEIC **21** 12:58:08.5, 50°.33S×139°.43E, h20km*
*NEIC **21** 12:58:08.1±1.7, 50°.33S±0°.09×139°.4E±0°.1, h10km±1km, mb5.0/27, Ms_20 4.9/82, Mww5.4/8, Error ellipse: s-maj=18.3km s-min=6.5km az=322.0*
*NEIC **21** 12:58:08.5, 50°.43S×139°.43E, h20km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17^Nm; Mrr~0.03; Mθθ~0.21; Mϕϕ0.24; Mrθ0.76; Mθϕ~1.28; Mϕr0.23; Fault plane solution: M0 1.53000×10^17^ NP1: ϕs182.29000°, δ61.71000°, λ-7.97000°. NP2: ϕs276.09000°, δ82.99000°, λ-151.48000°. Principal axes: T 1.4000, Plg14.0000°, Azm46.0000°; N 0.2304, Plg61.0000°, Azm289.0000°; P -1.6305, Plg25.0000°, Azm143.0000°;*
*BJI **21** 12:58:08.9, 50°.31S×139°.53E, h18km, mB5.3/8, mb5.0/22, Ms4.9/12, Ms7 4.7/14*
*GCMT **21** 12:58:11.1±0.1, 50°.34S±0°.01×139°.45E±0°.01, h12km, MW5.3/142, Moment Tensor Solution. s105,c175; s142,c250; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr~0.07±.01; Mθθ0.08±.01; Mϕϕ~0.01±.01; Mrθ0.04±.03; Mθϕ~1.14±.01; Mϕr~0.02±.03; Best double couple: M0 1.14200×10^17^ NP1: ϕs179.00000°, δ88.00000°, λ1.00000°. NP2: ϕs89.00000°, δ89.00000°, λ178.00000°. Principal axes: T 1.1760, Plg2.0000°, Azm44.0000°; N -0.0680, Plg88.0000°, Azm240.0000°; P -1.1080, Plg1.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 12:58:08.9±0.3, 50°.40S±0°.06×139°.49E±0°.09, h12km, n203, σ1°55/124, mb5.0/32, MS4.8/82, 1C-8D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**9.22**	**39**		**Pn**	**13 00 20.1**	**-1.5**
TAU	**Tasmania Unive**	**9.22**	**39**	P	**Pn**	**13 00 23.6**	**+2.0**
MOO	**Moorlands**	**9.57**	**37**	P	**Pn**	**13 00 28.8**	**+2.4**
GLAD	**Gladstone**	**11.14**	**36**	P	**Pn**	**13 00 50.4**	**+2.6**
TOO	**Toolangi**	**13.53**	**21**	Pn	**Pn**	**13 01 18.0**	**-2.6**
CAN	**Canberra**	**16.59**	**28**		**Pn**	**13 02 01.0**	**-0.2**
CAN				IAmb	IAmb	13 02 07.7	
	comp=Z,148nm,1.5s						
HTT	**Hallett**	**16.96**	**358**	P	**P**	**13 02 07.5**	**-0.4**
BBOO	**Buckleboo**	**17.76**	**351**		**Pn**	**13 02 13.8**	**-2.0**
BBOO	**Buckleboo**	**17.76**	**351**	P	**P**	**13 02 17.2**	**+0.5**
STKA	**Stephens Creek**	**18.58**	**6**		**P**	**13 02 24.7**	**-0.9**
STKA	**Stephens Creek**	**18.58**	**6**	P	**P**	**13 02 24.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=168,slow=12,SNR=18						
STKA				LR	LR	13 08 30.0	
	comp=Z,2μm,19.6s,baz=181,slow=34 comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**18.58**	**6**	P	**Pn**	**13 02 26.5**	**+0.6**
CMSA	**Cobar Meteorol**	**19.41**	**16**	P	**Pn**	**13 02 35.9**	**0.0**
WHZ	**Wether Hill Ro**	**19.46**	**88**	P	**P**	**13 02 35.9**	**+0.6**
WHZ				IAmb	IAmb	13 02 45.3	
	comp=Z,254nm,1.6s						
LBZ	**Lake Benmore**	**21.54**	**86**	IAMs_20	IAMs_20	13 09 13.7	
	comp=Z,4μm,18.0s						
ODZ	**Otahua Downs**	**21.54**	**88**	P	**P**	**13 03 04.2**	**+6.4**
CASY	**Casey**	**21.68**	**212**		**P**	**13 02 58.1**	**-0.9**
CASY				IAmb	IAmb	13 03 05.4	
	comp=Z,93nm,1.1s						
CASY	**Casey**	**21.68**	**212**	IAMs_20	IAMs_20	13 09 25.5	
	comp=Z,4μm,20.0s						
ARMA	**Armidale**	**21.95**	**29**		**P**	**13 03 02.4**	**0.0**
ARMA	**Armidale**	**21.95**	**29**	P	**P**	**13 03 04.1**	**+1.8**
RPZ	**Rata Peaks**	**22.40**	**85**	LR	LR	13 10 02.8	
	comp=Z,3μm,18.7s,baz=245,slow=32						
NWAO	**Narrogin (SRO)**	**23.96**	**308**	IAMs_20	IAMs_20	13 10 05.9	
	comp=Z,4μm,22.0s						
NWAO	**Narrogin (SRO)**	**23.96**	**308**	LR	LR	13 10 27.2	
	comp=Z,3μm,20.7s,baz=115,slow=31						
QLP	**Quilpie**	**24.06**	**10**	P	**P**	**13 03 26.1**	**+2.2**
H01W1	**Cape Leeuwin H**	**24.07**	**300**	T	T	13 28 18.5	
	baz=137,slow=74						
H01W2	**Cape Leeuwin H**	**24.08**	**300**	T	T	13 28 22.9	
	baz=137,slow=74						
H01W3	**Cape Leeuwin H**	**24.09**	**300**	T	T	13 28 22.1	
	baz=137,slow=74						
THZ	**Tophouse**	**24.57**	**82**	P	**P**	**13 03 28.1**	**-0.4**
THZ				IAmb	IAmb	13 03 39.0	
	comp=Z,43nm,1.0s						
EIDS	**Eidsvold**	**26.55**	**24**	P	**P**	**13 03 46.2**	**-0.3**
EIDS				IAmb	IAmb	13 03 52.5	
	comp=Z,46nm,1.6s						
ASAR	**Alice Springs**	**27.04**	**349**		**P**	**13 03 49.2**	**-1.8**
ASAR	**Alice Springs**	**27.04**	**349**	P	**P**	**13 03 49.8**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=163,slow=10,SNR=82						
ASAR				PcP	**PcP**	**13 07 11.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=165,slow=2.9,SNR=4.8						
ASAR				LR	LR	13 13 20.0	
	comp=Z,702nm,19.7s,baz=169,slow=34 comp=Z,2.6nm,0.5s						
AS31	**Alice Springs**	**27.04**	**349**		**P**	**13 03 49.6**	**-1.4**
VNDA	**Vanda**	**28.51**	**170**	P	**P**	**13 04 03.4**	**-0.2**
VNDA	**Vanda**	**28.51**	**170**	P	**P**	**13 04 02.9**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=325,slow=9.4,SNR=88						
VNDA				LR	LR	13 13 44.6	
	comp=Z,1μm,18.2s,baz=336,slow=33 comp=Z,6.2nm,0.7s						
RTZ	**Ruatahuna**	**28.91**	**80**		**P**	**13 04 06.6**	**-1.0**
RTZ				IAmb	IAmb	13 04 16.5	
	comp=Z,46nm,0.9s						
OUZ	**Omahuta**	**28.96**	**72**	IAMs_20	IAMs_20	13 12 34.7	
	comp=Z,3μm,20.0s						
URZ	**Urewera**	**29.21**	**80**	LR	LR	13 14 38.7	
	comp=Z,1μm,18.3s,baz=234,slow=34						
SBA	**Scott Base**	**29.37**	**169**		**P**	**13 04 11.8**	**+0.6**
SBA				IAmb	IAmb	13 04 25.2	
	comp=Z,14nm,0.9s						
SBA	**Scott Base**	**29.37**	**169**	IAMs_20	IAMs_20	13 14 35.6	
	comp=Z,2μm,18.0s						
WR8	**Warramunga Arr**	**30.64**	**351**	P	**P**	**13 04 21.2**	**-1.7**
WRA	**Warramunga Arr**	**30.67**	**350**		**P**	**13 04 22.4**	**-0.8**
WRA	**Warramunga Arr**	**30.67**	**350**	P	**P**	**13 04 21.9**	**-1.3**
	comp=Z,7.4nm,0.8s,baz=169,slow=7.9,SNR=45						
WRA				PcP	**PcP**	**13 07 20.6**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=193,slow=2.5,SNR=6.0						
WRA				LR	LR	13 16 11.4	
	comp=Z,705nm,19.7s,baz=153,slow=35 comp=Z,7.4nm,0.8s						
CTAO	**Charters Tower**	**30.72**	**13**	P	**P**	**13 04 21.8**	**-1.9**
CTAO				IAmb	IAmb	13 04 26.3	
	comp=Z,23nm,1.4s						
PSA00	**Pilbara Seismi**	**32.66**	**325**	P	**P**	**13 04 38.8**	**-1.9**
PSA00				IAmb	IAmb	13 04 56.9	
	comp=Z,59nm,1.9s						
MBWA	**Marble Bar**	**33.08**	**325**	IAMs_20	IAMs_20	13 15 47.5	
	comp=Z,3μm,19.0s						
FITZ	**Fitzroy Crossi**	**34.08**	**336**	P	**P**	**13 04 51.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**34.08**	**336**	LR	LR	13 17 50.7	
	comp=Z,994nm,21.1s,baz=166,slow=35						
DZM	**Mont Dzumac**	**35.30**	**47**	P	**P**	**13 05 02.1**	**-1.6**
DZM				IAmb	IAmb	13 05 10.7	
	comp=Z,29nm,1.1s						
DZM	**Mont Dzumac**	**35.30**	**47**	LR	LR	13 16 44.3	
	comp=Z,1μm,19.4s,baz=185,slow=32						
RAO	**Raoul Island**	**38.26**	**73**	LR	LR	13 17 55.6	
	comp=Z,1μm,20.1s,baz=216,slow=31						
QSPA	**South Pole Qui**	**39.71**	**180**	P	**P**	**13 05 41.6**	**+0.8**
QSPA				IAmb	IAmb	13 05 58.2	
	comp=Z,21nm,0.9s						
QSPA	**South Pole Qui**	**39.71**	**180**	IAMs_20	IAMs_20	13 22 01.8	
	comp=Z,2μm,19.0s						
QSPA	**South Pole Qui**	**39.71**	**180**	P	**P**	**13 05 41.4**	**+0.6**
	comp=Z,7.4nm,0.6s,baz=189,slow=0.9,SNR=72						
QSPA				LR	LR	13 22 22.3	
	comp=Z,1μm,18.5s,baz=2.0,slow=37 comp=Z,7.4nm,0.6s						
MAW	**Mawson**	**39.95**	**215**	P	**P**	**13 05 42.6**	**+0.1**
	comp=Z,5.3nm,1.0s,baz=106,slow=12,SNR=6.7						
MAW				LR	LR	13 19 42.7	
	comp=Z,3μm,21.5s,baz=92,slow=32 comp=Z,5.3nm,1.0s						
PMG	**Port Moresby**	**41.36**	**12**	P	**P**	**13 05 53.5**	**-1.1**
PMG				IAmb	IAmb	13 06 03.4	
	comp=Z,33nm,1.1s						
PMG	**Port Moresby**	**41.36**	**12**	LR	LR	13 23 10.7	
	comp=Z,790nm,19.6s,baz=185,slow=36						
BATI	**Baumata**	**42.15**	**336**	LR	LR	13 22 51.4	
	comp=Z,1μm,20.8s,baz=186,slow=35						
HNR	**Honiara**	**44.22**	**30**	LR	LR	13 24 21.0	
	comp=Z,525nm,18.0s,baz=205,slow=36						
SYO	**Syowa Base**	**47.37**	**209**	‖*e*P	**P**	**13 06 42.2**	**0.0**
SYO	**Syowa Base**	**47.37**	**209**	‖*e*pP	pP	13 06 45.4	+0.6
SYO	**Syowa Base**	**47.37**	**209**	‖*e*PcP	**PcP**	**13 08 12.0**	**-0.6**
FAKI	**Fak Fak**	**47.71**	**350**	P	**P**	**13 06 42.9**	**-2.5**
JAY	**Jayapura**	**47.73**	**2**	LR	LR	13 26 47.0	
	comp=Z,829nm,20.7s,baz=154,slow=36						
KAPI	**Kappang**	**48.18**	**333**	IAMs_20	IAMs_20	13 25 56.7	
	comp=Z,869nm,20.0s						
KAPI	**Kappang**	**48.18**	**333**	LR	LR	13 26 19.1	
	comp=Z,702nm,20.4s,baz=171,slow=35						
LEM	**Lembang**	**50.92**	**318**	LR	LR	13 27 02.9	
	comp=Z,567nm,21.1s,baz=139,slow=34						
BELA	**Belgrano 2**	**51.94**	**182**	P	**P**	**13 07 16.1**	**-0.7**
BELA				IAmb	IAmb	13 07 33.4	
	comp=Z,36nm,1.2s						
TOLI2	**Tolitoli**	**53.76**	**337**	IAMs_20	IAMs_20	13 30 18.5	
	comp=Z,941nm,20.0s						
TROLL	**Troll, Antarti**	**54.19**	**195**	‖P	**P**	**13 07 33.3**	**-0.5**
	comp=Z,514nm,0.9s						
H04S1	**CROZET ISLANDS**	**54.73**	**237**	T	T	14 07 19.2	
	baz=128,slow=75,SNR=181						
H04S2	**CROZET ISLANDS**	**54.73**	**237**	T	T	14 07 27.7	
	baz=128,slow=75,SNR=185						
H04S3	**CROZET ISLANDS**	**54.75**	**237**	T	T	14 07 16.4	
	baz=128,slow=75,SNR=211						
SNAA	**Sanae**	**55.34**	**194**	‖P	**P**	**13 07 41.5**	**-0.4**
	comp=Z,185nm,1.2s						
SNAA	**Sanae**	**55.34**	**194**	P	**P**	**13 07 41.5**	**-0.4**
SNAA				IAmb	IAmb	13 07 58.3	
	comp=Z,26nm,1.2s						
SNAA				IAMs_20	IAMs_20	13 31 55.3	
	comp=Z,879nm,19.0s						
SNAA	**Sanae**	**55.34**	**194**	P	**P**	**13 07 41.2**	**-0.7**
	comp=Z,4.5nm,0.7s,baz=172,slow=8.1,SNR=14						
SNAA				LR	LR	13 32 07.4	
	comp=Z,788nm,18.5s,baz=157,slow=37 comp=Z,4.5nm,0.7s						
RAR	**Rarotonga**	**55.37**	**82**	LR	LR	13 29 27.3	
	comp=Z,193nm,18.1s,baz=226,slow=34						
VNA2	**Neumayer--Watz**	**56.67**	**192**	‖P	**P**	**13 07 50.8**	**-0.5**
	comp=Z,9.9nm,0.6s,baz=165,slow=6.5						
VNA3	**Neumayer Olymp**	**56.67**	**191**	‖P	**P**	**13 07 50.2**	**-1.3**
	comp=Z,6.0nm,0.8s						
VNA1	**Neumayer--Stat**	**57.04**	**192**	‖P	**P**	**13 07 53.3**	**-0.7**
	comp=Z,14nm,0.8s						
MYLDM	**Lahad Datu**	**58.25**	**335**	IAMs_20	IAMs_20	13 35 15.6	
	comp=Z,929nm,18.0s						
DAV	**Davao City (W)**	**58.50**	**344**	LR	LR	13 33 56.9	
	comp=Z,280nm,20.6s,baz=124,slow=37						
KKM	**Kota Kinabalu**	**59.72**	**333**	IAMs_20	IAMs_20	13 33 56.5	
	comp=Z,763nm,21.0s						
RPSI	**Rantau Prapat**	**63.27**	**313**	IAMs_20	IAMs_20	13 30 24.6	
	comp=Z,602nm,18.0s						
PSI	**Prapat**	**63.37**	**313**	LR	LR	13 33 50.3	
	comp=Z,506nm,20.1s,baz=138,slow=34						
PMSA	**Palmer Station**	**63.71**	**169**	IAMs_20	IAMs_20	13 33 33.0	
	comp=Z,556nm,18.0s						
PMSA	**Palmer Station**	**63.71**	**169**	LR	LR	13 33 52.8	
	comp=Z,516nm,18.1s,baz=198,slow=34						
GUMO	**Guam**	**63.89**	**6**	LR	LR	13 34 37.6	
	comp=Z,268nm,22.0s,baz=189,slow=34						
PPT	**Papeete**	**64.54**	**87**	LR	LR	13 31 02.9	
	comp=Z,223nm,19.1s,baz=237,slow=31						
KULM	**Kulim**	**64.79**	**316**	IAMs_20	IAMs_20	13 32 57.8	
	comp=Z,853nm,21.0s						
ESPZ	**Base Esperanza**	**65.80**	**172**	P	**P**	**13 08 52.9**	**-0.3**
ESPZ				IAmb	IAmb	13 09 06.3	
	comp=Z,18nm,1.1s						
TGY	**Tagaytay City**	**66.26**	**340**	LR	LR	13 39 37.8	
	comp=Z,178nm,19.8s,baz=254,slow=38						
H08S2	**Diego Garcia H**	**69.54**	**283**	T	T	14 25 07.9	
	baz=141,slow=76,SNR=59						
H08S1	**Diego Carcia H**	**69.56**	**283**	T	T	14 25 07.8	
	baz=141,slow=76,SNR=62						
H08S3	**Diego Garcia H**	**69.56**	**283**	T	T	14 25 09.6	
	baz=141,slow=76,SNR=73						
QIZ	**Qiongzhong**	**73.91**	**331**	P	**P**	**13 09 45.3**	**+1.7**
QIZ				S	**S**	**13 19 17.8**	**+2.6**
QIZ				LR	LR		
	comp=Z,230nm,17.3s						
QIZ				LR	LR		
	comp=Z,250nm,17.9s						
QIZ				LR	LR		
	comp=Z,400nm,29.6s						
PALK	**Pallekele**	**76.56**	**299**	LR	LR	13 38 02.1	
	comp=Z,664nm,19.5s,baz=136,slow=31						
JCJ	**Chichijima**	**77.19**	**2**	LR	LR	13 43 47.2	
	comp=Z,89nm,20.9s,baz=170,slow=36						
CMAR	**Chiang Mai Arr**	**77.31**	**321**	P	**P**	**13 10 01.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**77.31**	**321**	P	**P**	**13 10 04.9**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=172,slow=4.2,SNR=5.5						
CMAR				LR	LR	13 45 35.0	
	com

H03S3	**Juan Fernandez**	**89.53**	**149**	T	T	14 51 11.4	
	baz=201,slow=74						
HNS	**HongShan**	**90.12**	**341**	⇓P	**P**	**13 11 11.0**	**+2.8**
HNS				pmax	pmax		
	comp=Z,13nm,0.5s						
HNS				LR	LR		
	comp=Z,150nm,19.6s						
HNS				LR	LR		
	comp=Z,200nm,18.6s						
HNS				LR	LR		
	comp=Z,280nm,18.8s						
EVN	**Everest**	**90.86**	**315**	P	**P**	**13 11 11.8**	**-0.9**
LSZ	**Lusaka**	**91.32**	**244**	LR	LR	13 47 47.4	
	comp=Z,725nm,18.4s,baz=154,slow=33						
LZH	**Lanzhou**	**91.68**	**332**	*e*P	**P**	**13 11 16.5**	**+0.7**
LZH				pP	sP	13 11 20.3	+0.6
LZH				sP	pwP	13 11 22.8	-0.4
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,3.4s						
LZH				LR	LR		
	comp=Z,220nm,18.6s						
LZH				LR	LR		
	comp=Z,220nm,18.5s						
LZH				LR	LR		
	comp=Z,320nm,19.2s						
BJI	**Beijing**	**92.36**	**342**	P	**P**	**13 11 19.6**	**+1.0**
BJI				LR	LR		
	comp=Z,69nm,15.2s						
TSUM	**Tsumeb**	**93.92**	**234**	LR	LR	13 48 11.5	
	comp=Z,611nm,18.7s,baz=150,slow=32						
HHC	**Hu-ho-hao-te**	**94.11**	**339**	*e*P	**P**	**13 11 28.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,94nm,5.9s						
ASAJ	**Asahikawa**	**94.18**	**2**	LR	LR	13 53 34.5	
	comp=Z,178nm,20.8s,baz=188,slow=35						
BTO	**Baotou**	**94.24**	**338**	*e*P	**P**	**13 11 30.0**	**+2.6**
BTO				sP	**pwP**	**13 11 37.5**	**+2.6**
BTO				PP	**PP**	**13 15 18.3**	**+3.4**
BTO				S	**S**	**13 22 44.0**	**+5.8**
BTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,190nm,3.6s						
BTO				LR	LR		
	comp=Z,260nm,11.9s						
BTO				LR	LR		
	comp=Z,170nm,9.2s						
BTO				LR	LR		
	comp=Z,170nm,6.7s						
USRK	**Ussuriysk Ar.**	**94.45**	**355**	P	**P**	**13 11 28.7**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=178,slow=4.1,SNR=5.9						
USRK				LR	LR	13 53 13.1	
	comp=Z,89nm,19.9s,baz=166,slow=35						
	comp=Z,2.3nm,0.8s						
CN2	**Changchun**	**94.62**	**350**	P	**P**	**13 11 28.8**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMBO	**Kilima Mbogo**	**96.92**	**260**	LR	LR	13 47 28.4	
	comp=Z,286nm,20.5s,baz=101,slow=31						
YSS	**Yuzhno-Sakhali**	**97.02**	**2**	IAMs_20	IAMs_20	13 53 37.8	
	comp=Z,298nm,21.0s						
ULN	**Ulaanbaatar**	**101.80**	**338**	IAMs_20	IAMs_20	14 03 02.9	
	comp=Z,274nm,20.0s						
RAYN	**Ar Rayn**	**110.23**	**283**	IAMs_20	IAMs_20	13 54 24.1	
	comp=Z,344nm,21.0s						
KURK	**Kurchatov**	**113.27**	**323**	IAMs_20	IAMs_20	14 07 10.7	
	comp=Z,199nm,19.0s						
N17K	**Nushagak Hills**	**121.72**	**31**	IAMs_20	IAMs_20	14 04 40.2	
	comp=Z,302nm,20.0s						
ANM	**Nome**	**122.35**	**25**	IAMs_20	IAMs_20	14 06 13.4	
	comp=Z,220nm,19.0s						
TNA	**Tin City**	**122.48**	**23**	IAMs_20	IAMs_20	14 01 37.7	
	comp=Z,255nm,22.0s						
F15K	**North Star Dit**	**123.44**	**24**	IAMs_20	IAMs_20	14 04 07.1	
	comp=Z,201nm,22.0s						
K20K	**Telida**	**124.79**	**30**	IAMs_20	IAMs_20	14 01 56.2	
	comp=Z,249nm,19.0s						
C16K	**Lisburne Hills**	**125.25**	**22**	IAMs_20	IAMs_20	14 05 21.8	
	comp=Z,320nm,22.0s						
NVAR	**Mina Array Bea**	**125.59**	**71**	PKP	**PKiKP**	**13 17 11.8**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=224,slow=3.9,SNR=6.8						
RDOG	**Red Dog Mine**	**125.68**	**23**	IAMs_20	IAMs_20	14 03 39.2	
	comp=Z,294nm,22.0s						
E18K	**Tukpahleerik C**	**125.80**	**24**	IAMs_20	IAMs_20	14 05 16.5	
	comp=Z,194nm,21.0s						
HDC	**Heredia**	**126.09**	**123**	IAMs_20	IAMs_20	13 54 10.8	
	comp=Z,258nm,19.0s						
MCK	**McKinley**	**126.74**	**32**	IAMs_20	IAMs_20	14 05 11.8	
	comp=Z,267nm,21.0s						
ILAR	**Eielson Array**	**128.10**	**32**	PKP	**PKiKP**	**13 17 14.4**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=272,slow=2.8,SNR=5.4						
EPT	**El Paso**	**128.64**	**85**	IAMs_20	IAMs_20	14 08 46.9	
	comp=Z,246nm,21.0s						
TXAR	**Lajitas Array**	**128.82**	**89**	PKP	**PKiKP**	**13 17 17.7**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=240,slow=2.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**129.45**	**238**	PKP	**PKiKP**	**13 17 18.3**	**+0.1**
	comp=Z,2.0nm,1.1s,baz=12,slow=1.3,SNR=4.7						
ANMO	**Albuquerque**	**130.73**	**82**	IAMs_20	IAMs_20	14 09 15.2	
	comp=Z,190nm,18.0s						
OK052	**Battle Ridge R**	**137.53**	**88**	IAMs_20	IAMs_20	14 09 27.4	
	comp=Z,275nm,20.0s						
YKA	**Yellowknife Ar**	**139.64**	**44**	PKP	**PKPdf**	**13 17 34.2**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=277,slow=3.3,SNR=1.2						
ILAM	**Ilet Lapin Mar**	**140.81**	**148**	IAMs_20	IAMs_20	14 33 38.6	
	comp=Z,218nm,19.0s						
SEUS	**St. Eustatius**	**142.55**	**143**	IAMs_20	IAMs_20	14 33 50.0	
	comp=Z,257nm,22.0s						
FINES	**FINESS Array B**	**142.76**	**313**	PKP	**PKPdf**	**13 17 40.2**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=149,slow=2.9,SNR=1.5						
OBKA	**Obir**	**143.98**	**286**	*ep*PKP	pPKPdf	13 17 46.1	-0.4
	comp=Z,10nm,1.3s						
N41A	**Harden Midland**	**144.07**	**86**		**PKPdf**	**13 17 44.4**	**+0.7**
I37A	**Lemond, Waseca**	**144.16**	**79**	PKPdf	**PKPdf**	**13 17 43.9**	**+0.1**
ARCES	**ARCESS Array B**	**144.18**	**327**	PKP	**PKPdf**	**13 17 42.8**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=108,slow=4.0,SNR=6.8						
Q44A	**Meyer Farm, Va**	**144.24**	**90**		**PKPdf**	**13 17 43.7**	**-0.3**
Y52A	**Lilburn**	**144.31**	**101**		PKPbc	13 17 42.9	+0.2
W50A	**Signal Mountai**	**144.38**	**98**		**PKPab**	**13 17 42.3**	**-0.3**
AGMN	**Agassiz Nation**	**144.59**	**71**		**PKPdf**	**13 17 45.1**	**+0.8**
MYKA	**Terra Mystica**	**144.59**	**285**	*e*PKP	**PKPdf**	**13 17 45.0**	**+0.5**
	comp=Z,9.0nm,1.0s						
BIOA	**Bad Ischl, Aus**	**145.06**	**287**	*e*PKP	**PKPdf**	**13 17 45.8**	**+0.5**
	comp=Z,15nm,1.0s						
ABTA	**Abfaltersbach**	**145.34**	**285**	*ep*PKP	**PKPdf**	**13 17 47.0**	**+1.2**
	comp=Z,15nm,0.9s						
ULM	**Lac du Bonnet**	**145.35**	**68**	PKPbc	**PKPab**	**13 17 45.9**	**+0.2**
	comp=Z,8.0nm,1.0s,baz=259,slow=1.3,SNR=5.3						
SPITS	**Spitsbergen Ar**	**145.49**	**342**	PKPbc	**PKPab**	**13 17 45.3**	**-0.2**
	comp=Z,15nm,0.7s,baz=72,slow=3.6,SNR=10						
GEC2	**GERESS Array S**	**145.50**	**289**	*e*L	L	14 35 13.9	
	comp=Z,133nm,21.2s						
GERES	**GERESS Array B**	**145.50**	**289**		**PKPdf**	**13 17 45.9**	**-0.1**
GERES	**GERESS Array B**	**145.50**	**289**	PKPbc	**PKPbc**	**13 17 46.1**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=136,slow=4.6,SNR=14						
LESA	**Schwarzleotal**	**145.53**	**286**	*e*PKP	**PKPdf**	**13 17 46.2**	**0.0**
	comp=Z,12nm,1.0s						
WCI	**Wyandotte Cave**	**145.59**	**93**		**PKPdf**	**13 17 46.2**	**-0.3**
WTTA	**Wattenberg**	**146.11**	**285**	*ep*PKP	pPKPdf	13 17 50.8	+0.6
	comp=Z,15nm,0.9s						
WET	**Wettzell**	**146.11**	**289**	*e*L	L	14 32 00.3	
	comp=Z,168nm,20.6s						
BRG	**Berggiesshubel**	**146.12**	**292**	*e*PKP	**PKiKP**	**13 17 55.4**	**+4.2**
BRG				Amp		13 17 56.6	
	comp=Z,5.2nm,0.7s						
BRG	**Berggiesshubel**	**146.12**	**292**	P	PKiKP	13 17 59.5	+8.4
BRG				Amp		13 18 01.7	
	comp=Z,10nm,1.1s						
WATA	**Walderalm**	**146.18**	**285**	*ep*PKP	pPKPdf	13 17 51.0	+0.7
	comp=Z,3.4nm,0.4s						
SQTA	**Sankt Quirin**	**146.35**	**285**	*e*PKP	**PKPab**	**13 17 49.9**	**+0.1**
	comp=Z,7.1nm,0.7s						
MOTA	**Moosalm**	**146.47**	**285**	*e*PKP	**PKPab**	**13 17 50.0**	**-0.2**
	comp=Z,7.1nm,0.8s						
FETA	**Feichten**	**146.57**	**284**	*ep*PKP	pPKPdf	13 17 51.1	+0.1
	comp=Z,8.3nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**146.68**	**284**	IAMs_20	IAMs_20	14 27 59.2	
	comp=Z,239nm,19.0s						
RETA	**Reutte**	**146.74**	**285**	*ep*PKP	**PKiKP**	**13 17 52.4**	**-0.3**
	comp=Z,26nm,1.2s						
DAVA	**Damuels**	**147.20**	**284**	*ep*PKP	**PKiKP**	**13 17 54.5**	**+0.8**
	comp=Z,21nm,0.9s						
GRF	**Grafenberg Arr**	**147.32**	**289**	*e*PKPab	**PKiKP**	**13 17 54.6**	**+0.9**
	baz=111,slow=3.5						
GRF				*e*L	L	14 29 55.0	
	comp=Z,155nm,20.2s						
MOX	**Moxa**	**147.42**	**291**	*e*L	L	14 28 41.1	
	comp=Z,173nm,21.7s						
Q51A	**Peebles**	**147.94**	**94**		**PKPbc**	**13 17 54.1**	**+0.7**
BNI	**Bardonecchia**	**148.24**	**279**		**PKPab**	**13 17 57.9**	**+0.6**
BNI				IAMs_20	IAMs_20	14 30 49.6	
	comp=Z,234nm,19.0s						
SENIN	**Lac Senin/Sane**	**148.43**	**281**		**PKPab**	**13 17 58.6**	**+0.5**
HFS	**Hagfors**	**148.49**	**309**	PKPbc	**PKiKP**	**13 17 56.2**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=141,slow=7.3,SNR=4.7						
ECH	**Echery**	**149.26**	**285**		**PKPab**	**13 18 01.7**	**+0.5**
P53A	**Whipple**	**149.44**	**95**		**PKPab**	**13 18 01.9**	**-0.3**
SSB	**Saint Sauveur**	**149.69**	**278**		**PKPab**	**13 18 04.2**	**+1.0**
NB2	**NORSAR Subarra1**	**149.79**	**311**	PKPdf	**PKPab**	**13 18 02.2**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**149.79**	**311**	PKPbc	**PKiKP**	**13 17 59.0**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=248,slow=3.0,SNR=5.2						
S57A	**Dark Hollow, R**	**149.98**	**100**		**PKPdf**	**13 17 51.8**	**-1.9**
ESDC	**Sonseca Array**	**152.30**	**261**	PKPbc	**PKiKP**	**13 18 05.2**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=79,slow=0.8,SNR=5.1						
PAB	**San Pablo**	**152.47**	**261**		**PKPab**	**13 18 11.4**	**-3.5**
BBSR	**BB Station**	**154.62**	**126**	IAMs_20	IAMs_20	14 27 35.3	
	comp=Z,171nm,20.0s						

*IDC **21** 13:04:20.4±2.5,5˚.07N×79˚.93W, h0km, mb3.7/4, mbtmp3.9/7, ML3.3/3, MS3.1/5, Error ellipse: s-maj=70.2km s-min=26.4km az=19.0*
*RSNC **21** 13:04:21.3±0.3,6˚N±2˚×8˚0W±˚, h0km, M3.7, mB4.9, mb4.6, ML3.1, Mw(mB)4.2*
*UPA **21** 13:04:26.7±1.1,5˚.94N×80˚.06W, h0km±15km, MW4.2*
*UCR **21** 13:04:26.4±1.1,5˚.95N×79˚.85W, h0km±33km, MW3.6*

ISC 21 13:04:23.4±0.8,**5˚.60N**±0˚.04×**79˚.78W**±0˚.04,**h10km**,**n85,**
σ2ᵌ33/106,**mb3.7**/**4**,**4C-2D**,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACHO3	**Achotines, Los**	**1.85**	**348**	*e*P	**Pn**	**13 04 52.6**	**-2.6**
ACHO3				*e*S	**Sn**	**13 05 14.1**	**-4.6**
TOSI3	**Tonosi**	**1.92**	**340**	*e*P	**Pn**	**13 04 54.0**	**-2.1**
PEDA3	**Pedasi**	**1.94**	**353**	*e*P	**Pn**	**13 04 53.9**	**-2.5**
PEDA3				*e*S	**Sn**	**13 05 16.0**	**-4.8**
CACAO	**El Cacao, Vera**	**2.05**	**328**	⇑*i*P	**Pn**	**13 04 55.6**	**-2.3**
CACAO				*e*S	**Sn**	**13 05 17.3**	**-6.2**
CACAO	**El Cacao, Vera**	**2.05**	**328**	P	**Pn**	**13 04 55.5**	**-2.4**
PCRI3	**Pocri, Los San**	**2.08**	**351**	*e*P	**Pn**	**13 04 56.2**	**-2.1**
PCRI3				*e*S	**Sn**	**13 05 21.0**	**-3.4**
AZU	**Azuero**	**2.24**	**347**	⇑*i*P	**Pn**	**13 04 58.7**	**-1.9**
AZU				*e*S	**Sn**	**13 05 23.2**	**-5.1**
AZU	**Azuero**	**2.24**	**347**	⇑*i*P	**Pn**	**13 04 58.6**	**-1.9**
AZU				*e*S	**Sn**	**13 05 24.7**	**-3.6**
AZU	**Azuero**	**2.24**	**347**	P	**Pn**	**13 04 58.6**	**-1.9**
MARI3	**Mariato, Verag**	**2.37**	**329**	*e*P	**Pn**	**13 05 00.8**	**-1.6**
MARI3				*e*S	**Sn**	**13 05 25.4**	**-6.1**
MAPO	**Malpelo**	**2.42**	**229**	P	**Pn**	**13 05 19.9**	**-1.1**
CHIT3	**Chitre**	**2.43**	**345**	⇑*e*P	**Pn**	**13 05 01.7**	**-1.5**
CHIT3				*e*S	**Sn**	**13 05 29.1**	**-4.0**
SOLC	**Bahia Solano**	**2.44**	**75**	P	**Pn**	**13 04 59.5**	**-3.8**
PIZC	**Pizarro, Choco**	**2.48**	**104**	P	**Pn**	**13 05 01.2**	**-2.7**
PTAC	**Punta Ardita,**	**2.49**	**52**	P	**Pn**	**13 05 00.9**	**-3.1**
GMAL	**Guarumal, Vera**	**2.60**	**326**	*e*P	**Pn**	**13 05 04.5**	**-1.0**
GMAL				*e*S	**Sn**	**13 05 32.0**	**-5.1**
GMAL	**Guarumal, Vera**	**2.60**	**326**	*e*P	**Pn**	**13 05 04.6**	**-0.9**
GMAL				*e*S	**Sn**	**13 05 36.6**	**-0.5**
GMAL	**Guarumal, Vera**	**2.60**	**326**	P	**Pn**	**13 05 04.5**	**-1.0**
MESA3	**La Mesa, Verag**	**2.90**	**331**	*e*P	**Pn**	**13 05 08.0**	**-1.6**
MESA3				*e*S	**Sn**	**13 05 39.3**	**-5.2**
PNME	**Penonome**	**2.92**	**349**	*e*P	**Pn**	**13 05 09.0**	**-1.0**
PNME				*e*S	**Sn**	**13 05 41.6**	**-3.6**
GR1C	**Gorgona, Isla**	**3.03**	**148**	P	Pn	13 05 08.2	-3.3
GR1C				S	Sn	13 05 39.9	-8.0
CHOR3	**La Chorrera**	**3.28**	**0**	*e*P	**Pn**	**13 05 14.5**	**-0.4**
CHOR3				*e*S	**Sn**	**13 05 51.2**	**-2.9**
FLAM	**Flamenco Islan**	**3.31**	**4**	*e*P	**Pn**	**13 05 15.3**	**+0.1**
FLAM				*e*S	**Sn**	**13 05 51.8**	**-2.8**
ZANG	**Zanguenga, Cho**	**3.34**	**358**	*e*P	**Pn**	**13 05 15.6**	**-0.1**
ZANG				*e*S	**Sn**	**13 05 52.6**	**-2.9**
ZANG	**Zanguenga, Cho**	**3.34**	**358**	*e*P	**Pn**	**13 05 15.4**	**-0.3**
ZANG				*e*S	**Sn**	**13 05 54.7**	**-0.8**
UPA	**Univ. de Panam**	**3.37**	**4**	*e*P	**Pn**	**13 05 16.1**	**-0.1**
UPA				*e*S	**Sn**	**13 05 53.9**	**-2.4**
GAMB1	**Gamboa**	**3.50**	**1**	*e*P	**Pn**	**13 05 17.7**	**-0.2**
GAMB1				*e*S	**Sn**	**13 05 56.7**	**-2.8**
PLMC	**San Jos del P**	**3.54**	**101**	P	**Pn**	**13 05 16.0**	**-2.6**
BCIP	**Isla Barro Col**	**3.55**	**359**	*e*P	**Pn**	**13 05 18.1**	**-0.5**
BCIP				*e*S	**Sn**	**13 05 57.2**	**-3.5**
BCIP	**Isla Barro Col**	**3.55**	**359**	⇓*e*P	**Pn**	**13 05 18.1**	**-0.5**
BCIP				*e*S	**Sn**	**13 05 58.5**	**-2.1**
BCIP	**Isla Barro Col**	**3.55**	**359**	P	**Pn**	**13 05 17.8**	**-0.8**
FRIJ	**El Hiral**	**3.60**	**1**	*e*P	**Pn**	**13 05 19.9**	**+0.5**
FRIJ				*e*S	**Sn**	**13 05 58.7**	**-3.3**
MLIR	**Monte Lirio**	**3.62**	**359**	*e*P	**Pn**	**13 05 19.9**	**+0.3**
MLIR				*e*S	**Sn**	**13 05 59.4**	**-3.1**
CAZU	**Cerro Azul, Pa**	**3.64**	**6**	*e*P	**Pn**	**13 05 20.9**	**+0.9**
CAZU				*e*S	**Sn**	**13 05 59.0**	**-4.0**
CBOC	**Ciudad Bolivar**	**3.75**	**86**	P	**Pn**	**13 05 19.0**	**-2.6**
YOTC	**Yotoco, Valle**	**3.77**	**115**	P	**Pn**	**13 05 19.4**	**-2.4**
DBBC	**Dabeiba**	**3.81**	**68**	P	**Pn**	**13 05 20.7**	**-1.6**
CAPC	**Capurgana**	**3.86**	**38**	P	**Pn**	**13 05 22.4**	**-0.5**
JAMC	**Jamundi, Valle**	**3.89**	**127**	P	**Pn**	**13 05 20.8**	**-2.7**
APAC	**Apartado, Choc**	**3.91**	**54**	P	**Pn**	**13 05 24.3**	**+0.7**
PTPA	**Petro Terminal**	**4.02**	**310**	*e*P	**Pn**	**13 05 25.7**	**+0.7**
RBALA	**Bur**	**4.03**	**324**	*e*P	**Pn**	**13 05 25.3**	**+0.1**
RBALA				*e*S	**Sn**	**13 06 10.1**	**-2.3**
PBNVO	**Pueblo Nuevo,**	**4.06**	**324**	*e*P	**Pn**	**13 05 25.6**	**0.0**
PBNVO				*e*S	**Sn**	**13 06 11.7**	**-1.5**
JEFFS	**S de V. Baru**	**4.10**	**318**	*e*P	**Pn**	**13 05 26.1**	**-0.2**
DAP26	**falda V. Bar**	**4.12**	**321**	*e*P	**Pn**	**13 05 26.9**	**+0.4**
BANCO	**falda S V. Bar**	**4.13**	**319**	⇓*e*P	**Pn**	**13 05 26.4**	**-0.4**
HELC	**Santa Helena**	**4.26**	**82**	P	**Pn**	**13 05 26.5**	**-2.3**
POPC	**Popayan, Colom**	**4.33**	**134**	P	**Pn**	**13 05 27.4**	**-2.2**
BBAC	**Balboa, Cauca**	**4.35**	**145**	P	**Pn**	**13 05 27.8**	**-2.1**
GUY2C	**Guyana, Caldas**	**4.41**	**95**	P	**Pn**	**13 05 30.3**	**-0.5**
RECRC	**Villamaria, Ca**	**4.45**	**98**	P	**Pn**	**13 05 31.2**	**-0.3**
ANIL	**Santa Ana**	**4.49**	**104**	P	**Pn**	**13 05 30.5**	**-1.3**
ALCO	**Alturas Coton,**	**4.51**	**318**	*e*P	**Pn**	**13 05 32.0**	**0.0**
LCBC	**Los crdobas,**	**4.68**	**46**	P	**Pn**	**13 05 35.4**	**+1.2**
ORTC	**Ortega, Tolima**	**4.81**	**110**	P	**Pn**	**13 05 36.1**	**+0.1**
NORC	**Norcasia**	**4.88**	**90**	P	**Pn**	**13 05 38.3**	**+1.3**
FIMO	**Fila Mora**	**4.90**	**314**	*e*P	**Pn**	**13 05 37.7**	**+0.5**
CEUA	**Cerro Uatsi, L**	**5.08**	**322**	*e*P	**Pn**	**13 05 43.3**	**+3.6**
EDPE	**Pejibaye, P**	**5.17**	**313**	*e*P	**Pn**	**13 05 41.4**	**+0.5**
PRAC	**Prado**	**5.22**	**111**	P	**Pn**	**13 05 41.5**	**-0.1**
	2um139nm,0.9s						
ZARC	**Zaragoza, Cauc**	**5.24**	**69**	P	**Pn**	**13 05 39.0**	**-2.8**
	27nm,0.7s						
SAJE	**San Jernim**	**5.25**	**315**	*e*P	**Pn**	**13 05 43.6**	**+1.4**
PTBC	**PUERTO BERRIO,**	**5.37**	**80**	P	**Pn**	**13 05 43.4**	**-0.3**
	132nm8.1nm,0.7s						
PAC1	**Pacto, Paraso**	**5.38**	**169**	P	**Pn**	**13 05 45.0**	**+1.0**
GARC	**Garzon, Huila**	**5.45**	**128**	P	**Pn**	**13 05 45.4**	**+0.4**
VERH	**Veragua Rainfo**	**5.47**	**322**	*e*P	**Pn**	**13 05 47.3**	**+2.2**
ROSC	**El Rosal**	**5.48**	**98**	Pn	**Pn**	**13 05 47.0**	**+1.5**
	5.9nm,0.3s,baz=300,slow=16,SNR=5.6						
ROSC					Sn	**Sn**	**13 06 46.4**	**-2.5**
	0.9nm,0.3s,baz=123,slow=19,SNR=1.3						
ROSC				LR	LR	13 07 57.0	
	comp=Z,182nm,20.5s,baz=66,slow=39						
	14nm,0.4s						
FLOC	**Florencia**	**5.73**	**134**	P	**Pn**	**13 05 49.0**	**+0.4**
PIEC	**Cerro El Cedra**	**5.76**	**314**	*e*P	**Pn**	**13 05 50.1**	**+0.9**
URMC	**La Uribe, Meta**	**5.86**	**113**	P	**Pn**	**13 05 50.7**	**+0.2**
	1µm70nm,0.8s						
PICV	**PH. Pirrs**	**5.94**	**313**	*e*P	**Pn**	**13 05 52.3**	**+0.8**
VILC	**Villavicencio,**	**6.24**	**103**	P	**Pn**	**13 05 57.3**	**+1.6**
	2µm260nm,1.0s						
SJCC	**San Jacinto, C**	**6.24**	**47**	P	**Pn**	**13 05 55.7**	**0.0**
	22nm,1.0s						
MACC	**Macarena, Meta**	**6.83**	**120**	P	**Pn**	**13 06 03.2**	**-0.6**
JTS	**Las Juntas de**	**6.93**	**313**	Pn	**Pn**	**13 06 06.9**	**+1.7**
	1.5nm,0.3s,baz=144,slow=17,SNR=3.9						
JTS				LR	LR	13 08 42.8	
	comp=Z,163nm,20.9s,baz=122,slow=36						
	5.0nm,0.3s						
SDV	**Santo Domingo**	**9.64**	**70**	Pn	**Pn**	**13 06 45.1**	**+2.7**
	4.2nm,0.3s,baz=351,slow=12,SNR=1.6						
	14nm,0.4s						
PCRV	**Puerto La Cruz**	**15.67**	**72**	LR	LR	13 16 15.0	
	comp=Z,46nm,18.8s,slow=45						
MDP	**Montagnes des**	**27.02**	**90**	LR	LR	13 21 27.4	
	comp=Z,43nm,20.9s,baz=240,slow=38						
TKL	**Tuckaleechee C**	**30.14**	**354**	LR	LR	13 24 09.1	
	comp=Z,41nm,18.3s,baz=266,slow=39						
PDAR	**Pinedale Array**	**45.44**	**329**	P	**P**	**13 12 45.5**	**+2.6**
	0.2nm,0.6s,baz=144,slow=7.1,SNR=2.2						
	0.2nm,0.6s						
ULM	**Lac du Bonnet**	**46.52**	**346**	P	**P**	**13 12 52.8**	**+1.8**
	2.4nm,0.7s,baz=148,slow=8.7,SNR=2.9						
	2.4nm,0.7s						
ILAR	**Eielson Array**	**75.32**	**336**	P	**P**	**13 16 07.6**	**+0.9**
	0.2nm,0.6s,baz=115,slow=6.8,SNR=2.3						
	0.2nm,0.6s						
ESDC	**Sonseca Array**	**75.53**	**51**	P	**P**	**13 16 08.9**	**+0.5**
	1.2nm,0.8s,baz=261,slow=5.8,SNR=5.6						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**142.95**	**238**	PKP	PKPpre	13 23 54.3	
	0.2nm,0.5s,baz=94,slow=3.1,SNR=1.2						
WRA	**Warramunga Arr**	**143.91**	**244**	PKP	**PKPab**	**13 23 58.1**	**+0.9**
	2.3nm,1.2s,baz=99,slow=3.7,SNR=8.0						

*KRNET **21** 13:09:05.4±0.1,41˚.34N×72˚.82E, h17km, mb2.6*
*SOME **21** 13:09:07.5,41˚.47N×72˚.87E, h20km*
*NNC **21** 13:09:09.3±2.4,41˚.48N×72˚.95E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=20.2km s-min=8.2km az=171.0*

ISC 21 13:09:05.2±1.0,**41˚.39N**±0˚.04×**72˚.85E**±0˚.03,**h11km**±7km,
n21,σ1ᵌ38/38,**23C-5D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.12**	**123**	⇑*i*P	**Pg**	**13 09 08.5**	**+0.1**
ARSB				⇑*i*S	**Sg**	**13 09 10.8**	**+0.1**
SALK	**Salom-Alik**	**0.89**	**124**	⇑*i*P	**Pb**	**13 09 22.0**	**-0.8**
SALK				⇑*i*S	**Sg**	**13 09 34.1**	**0.0**
TRKS	**Terek-Say**	**1.29**	**277**	⇑*i*P	**Pn**	**13 09 28.5**	**-0.8**
TRKS				⇑*i*S	**Sn**	**13 09 45.3**	**-1.4**
MRKS	**Merke**	**1.38**	**12**	P	**Pg**	**13 09 32.4**	**+0.6**
	2.2nm,0.2s						
MRKS				S	**Sb**	**13 09 49.7**	**+0.8**
	10.0nm,0.2s						
MRKS	**Merke**	**1.38**	**12**	*e*P	**Pg**	**13 09 32.4**	**+0.6**
	2.2nm,0.2s						
MRKS				*e*S	**Sb**	**13 09 49.7**	**+0.8**
	10.0nm,0.2s						
EKS2	**Erkin-Say**	**1.45**	**28**	⇑*i*P	**Pg**	**13 09 33.0**	**0.0**
EKS2				⇑*i*S	**Sg**	**13 09 53.0**	**+1.2**
UCH	**Uchtor**	**1.50**	**56**	⇓*i*P	**Pg**	**13 09 34.0**	**-0.1**
UCH				⇓*i*S	**Sg**	**13 09 54.8**	**+1.2**
AAK	**Ala-Archa**	**1.75**	**44**	⇑Pn	**Pg**	**13 09 39.3**	**+0.5**
	0.6nm,0.4s						
AAK				⇓Sn	**Sg**	**13 10 03.0**	**+1.5**
	3.9nm,0.7s						
AAK	**Ala-Archa**	**1.75**	**44**	⇑*i*P	**Pg**	**13 09 38.4**	**-0.4**
AAK				⇑*i*S	**Sg**	**13 10

mbtmp4.1/6,ML4.0/2,MS2.8/1,Error ellipse: s-maj=33.7km s-min=23.8km az=98.0
*NEIC **21** 13:34:55.3±1.2,31°.2S×0°.1×178°.0W±0°.1,h32km±5km, mb4.5/9,Error ellipse: s-maj=16.1km s-min=14.5km az=219.0*

ISC 21 13:34:54.5±0.6,**31°.34S**±0°.05×**178°.1W**±0°.1,**h35**km,**n59,** σ2$41/65,**mb4.3**/10,**3C-1D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.08**	**5**	P	**Pn**	**13 35 25.8**	**-1.1**
GLKZ				S	**Sn**	**13 35 48.3**	**-3.2**
RAO	**Raoul Island**	**2.09**	**5**	Pn	**Pn**	**13 35 26.5**	**-0.5**
RAO	**Raoul Island**	**2.09**	**5**	Pn	**Pn**	**13 35 26.7**	**-0.3**
	143nm,0.3s,baz=59,slow=23,SNR=5.5						
RAO				Sn	**Sn**	**13 35 49.2**	**-2.5**
	400nm,0.3s,baz=70,slow=21,SNR=6.9						
	304nm,0.3s						
RIZ	**Raoul Island**	**2.09**	**4**	P	**Pn**	**13 35 25.8**	**-1.2**
RIZ				S	**Sn**	**13 35 48.1**	**-3.8**
MXZ	**Matakaoa Point**	**6.88**	**205**	P	**Pn**	**13 36 29.9**	**-2.9**
WMGZ	**Waiomatatini S**	**7.07**	**203**	P	**Pn**	**13 36 32.6**	**-2.8**
WMGZ				S	**Sn**	**13 37 55.3**	**+0.7**
PKGZ	**Pakihiroa**	**7.23**	**205**	P	**Pn**	**13 36 34.9**	**-2.8**
PKGZ				S	**Sn**	**13 37 55.7**	**-2.8**
HAZ	**Te Kaha**	**7.24**	**207**	P	**Pn**	**13 36 35.9**	**-1.9**
HAZ				S	**Sn**	**13 38 01.1**	**+2.3**
PUZ	**Puketiti**	**7.35**	**203**	P	**Pn**	**13 36 36.5**	**-2.9**
PUZ				S	**Sn**	**13 37 58.2**	**-3.3**
RUGZ	**Raukumara Rang**	**7.46**	**207**	P	**Pn**	**13 36 38.5**	**-2.5**
RUGZ				S	**Sn**	**13 38 04.2**	**-0.3**
TWGZ	**Tauwhareparae**	**7.54**	**204**	P	**Pn**	**13 36 38.0**	**-3.9**
TWGZ				S	**Sn**	**13 38 04.2**	**-2.0**
CNGZ	**Carnagh Statio**	**7.74**	**202**	P	**Pn**	**13 36 41.3**	**-3.4**
CNGZ				S	**Sn**	**13 38 10.3**	**-0.8**
WCZ	**Waipu Caves**	**7.79**	**232**	P	Pn	13 36 52.8	+7.5
TKGZ	**Te Karaka**	**7.82**	**204**	S	**Sn**	**13 38 10.9**	**-2.2**
URZ	**Urewera**	**7.94**	**208**	Pn	**Pn**	**13 36 44.3**	**-3.1**
	0.5nm,0.3s,baz=247,slow=4.1,SNR=19						
URZ				Sn	**Sn**	**13 38 12.8**	**-3.2**
	2.7nm,0.3s,baz=220,slow=4.1,SNR=9.9						
	4.2nm,0.5s						
URZ	**Urewera**	**7.94**	**208**	P	**Pn**	**13 36 44.4**	**-3.0**
URZ				S	**Sn**	**13 38 13.5**	**-2.5**
OUZ	**Omahuta**	**7.95**	**239**	P	Pn	13 36 54.2	+6.7
RAGZ	**Rawiri**	**8.03**	**206**	S	**Sn**	**13 38 18.2**	**-0.1**
RIGZ	**Rimuhau**	**8.09**	**204**	P	**Pn**	**13 36 44.9**	**-4.6**
RIGZ				S	**Sn**	**13 38 18.4**	**-1.3**
PRGZ	**Paritu Road**	**8.24**	**202**	P	**Pn**	**13 36 47.4**	**-4.2**
PRGZ				S	**Sn**	**13 38 19.9**	**-3.6**
MUGZ	**Murupara**	**8.27**	**209**	S	**Sn**	**13 38 22.5**	**-1.5**
SNGZ	**Shannon Statio**	**8.31**	**205**	S	**Sn**	**13 38 21.6**	**-3.5**
MHGZ	**Mahia Peninsul**	**8.45**	**202**	P	**Pn**	**13 36 49.8**	**-4.5**
MHGZ				S	**Sn**	**13 38 25.9**	**-2.6**
BKZ	**Black Stump Fm**	**8.97**	**208**	Pn	**Pn**	**13 36 57.6**	**-3.9**
WAZ	**Wanganui**	**10.10**	**212**	S	**Sn**	**13 39 06.3**	**-2.8**
RAR	**Rarotonga**	**19.26**	**63**	LR	LR	13 45 14.9	
	comp=Z,33nm,21.5s,baz=274,slow=33						
CTAO	**Charters Tower**	**33.87**	**281**	P	**P**	**13 41 35.2**	**+1.3**
CTAO				IAmb	IAmb	13 41 39.1	
	comp=Z,9.1nm,1.1s						
INKA	**Innaminka**	**35.83**	**265**	P	**P**	**13 41 53.8**	**+3.0**
INKA				IAmb	IAmb	13 41 54.7	
	comp=Z,2.3nm,0.7s						
AS31	**Alice Springs**	**42.97**	**268**	P	**P**	**13 42 51.5**	**+1.0**
ASAR	**Alice Springs**	**42.97**	**268**	P	**P**	**13 42 51.8**	**+1.3**
ASAR	**Alice Springs**	**42.97**	**268**	P	**P**	**13 42 52.1**	**+1.6**
	comp=Z,2.2nm,0.4s,baz=105,slow=7.4,SNR=33						
	comp=Z,2.2nm,0.4s						
WR8	**Warramunga Arr**	**43.90**	**273**	P	**P**	**13 42 59.0**	**+1.0**
WR8				IAmb	IAmb	13 43 01.8	
	comp=Z,9.7nm,1.0s						
WRA	**Warramunga Arr**	**44.05**	**273**	P	**P**	**13 43 00.7**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=111,slow=8.0,SNR=48						
	comp=Z,3.9nm,0.3s						
VNDA	**Vanda**	**47.15**	**186**	P	**P**	**13 43 25.3**	**+2.4**
KNRA	**Kununurra**	**50.69**	**275**	P	**P**	**13 43 52.1**	**+1.3**
CASY	**Casey**	**54.27**	**208**	P	**P**	**13 44 17.3**	**+0.7**
CASY				IAmb	IAmb	13 44 19.2	
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**13 44 52.1**	**+3.2**
QSPA				pP	**sP**	**13 44 59.1**	**-2.7**
QSPA	**South Pole Qui**	**58.77**	**180**	P	**P**	**13 44 47.9**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=36,slow=6.7,SNR=1.5						
	comp=Z,0.7nm,1.0s						
BELA	**Belgrano 2**	**68.87**	**172**	P	**P**	**13 45 57.0**	**+2.0**
ESPZ	**Base Esperanza**	**74.75**	**156**	P	**P**	**13 46 30.7**	**+0.3**
ESPZ				IAmb	IAmb	13 47 04.1	
	comp=Z,4.4nm,1.1s						
SYO	**Syowa Base**	**76.18**	**193**	⇓eP	**P**	**13 46 40.4**	**+1.8**
TROLL	**Troll, Antarti**	**76.94**	**180**	⇑P	**P**	**13 46 44.2**	**+1.2**
	comp=Z,36nm,0.3s						
SNAA	**Sanae**	**77.22**	**178**	⇑P	**P**	**13 46 45.5**	**+1.0**
	comp=Z,41nm,0.9s						
SNAA	**Sanae**	**77.22**	**178**	P	**P**	**13 46 41.5**	**-3.0**
	comp=Z,0.7nm,0.8s,baz=197,slow=11,SNR=1.6						
	comp=Z,0.7nm,0.8s						
VNA3	**Neumayer Olymp**	**77.38**	**176**	⇑P	**P**	**13 46 46.8**	**+1.4**
	comp=Z,1.2nm,0.4s						
H03S2	**Juan Fernandez**	**80.03**	**123**	T	T	15 16 04.5	
	baz=237,slow=74,SNR=5.9						
H03S1	**Juan Fernandez**	**80.04**	**123**	T	T	15 16 14.1	
	baz=237,slow=74,SNR=5.9						
H03S3	**Juan Fernandez**	**80.04**	**123**	T	T	15 16 05.2	
	baz=237,slow=74,SNR=5.4						
H03N3	**Juan Fernandez**	**80.22**	**123**	T	T	15 16 06.8	
	baz=240,slow=72,SNR=9.7						
H03N2	**Juan Fernandez**	**80.22**	**123**	T	T	15 16 11.7	
	baz=240,slow=72,SNR=5.0						
H03N1	**Juan Fernandez**	**80.24**	**123**	T	T	15 15 57.2	
	baz=240,slow=72,SNR=6.9						
MKAR	**Makanchi Array**	**118.30**	**310**	PKP	**PKPdf**	**13 53 37.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=66,slow=1.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**121.66**	**313**	PKP	**PKPdf**	**13 53 43.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=119,slow=1.8,SNR=5.3						
BVAR	**Borovoye Array**	**127.01**	**315**	PKP	**PKiKP**	**13 53 55.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=124,slow=2.3,SNR=4.4						
ARCES	**ARCESS Array B**	**139.49**	**347**	PKhKP	PKPpre	13 54 11.3	
	comp=Z,1.4nm,0.9s,baz=90,slow=3.6,SNR=5.5						
FINES	**FINESS Array B**	**145.99**	**339**	PKPbc	**PKPab**	**13 54 30.1**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=49,slow=3.9,SNR=26						
NOA	**NORSAR Array B**	**149.66**	**351**	PKPbc	**PKiKP**	**13 54 40.4**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=16,slow=4.3,SNR=3.7						
HFS	**Hagfors**	**150.14**	**348**	PKPbc	**PKiKP**	**13 54 41.6**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=64,slow=3.4,SNR=2.7						
AKASG	**Malin Array Be**	**151.98**	**322**	PKPbc	**PKiKP**	**13 54 45.8**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=55,slow=2.7,SNR=6.3						

NOU 21 13:38:46.7,11°.45S×165°.96E,h7km,MLv4.5/11,Santa Cruz Islands,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**0.79**	**357**	P	Pg	13 39 01.5	-0.3
LUES	**Luesalemba Tem**	**0.79**	**357**	S	Sb	13 39 12.9	-0.6
HURO	**Huro Makira**	**4.10**	**283**	P	Pn	13 39 50.2	+0.3
HURO	**Huro Makira**	**4.10**	**283**	S	Sn	13 40 37.4	-0.8
SANVU	**Saraoutou**	**4.15**	**163**	P	Pn	13 39 49.6	-1.0
SANVU	**Saraoutou**	**4.15**	**163**	P	Sn	13 40 40.5	+1.1
VLAKA	**Lakatoro**	**4.84**	**163**	P	Pn	13 40 00.0	0.0
NGOA	**Tingoa Renbel**	**5.78**	**268**	P	Pn	13 40 12.7	-0.3
ALEG	**Aligegeo Malai**	**5.83**	**297**	P	Pn	13 40 14.7	+1.0
SAVO	**Savo Central**	**6.47**	**290**	P	Pn	13 40 23.2	+0.8
TATA	**Tatamba Isabel**	**6.79**	**296**	P	Pn	13 40 28.1	+1.3

*NNC **21** 13:41:47.6±0.6,50°.00N×78°.67E,h0km,mb2.7,mpv2.2, Error ellipse: s-maj=14.2km s-min=2.4km az=75.0, Suspected Mining explosion.*
*IDC **21** 13:41:51.0±4.1,50°.07N×79°.04E,h0km,mbtmp2.4/2, ML1.7/2,Error ellipse: s-maj=59.9km s-min=25.1km az=82.0*

ISC 21 13:41:47.1±2.4,**50°.04N**±0°.07×**78°.5E**±0°.3,**h0**km,**n15,** σ0$44/24,**12C-11D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.54**	**5**	⇓P	**Pb**	**13 41 59.5**	**0.0**
KUR07				⇑S	**Sb**	**13 42 08.6**	**+0.8**
KUR06	**Kurchatov Arra**	**0.56**	**5**	⇓P	**Pb**	**13 41 59.6**	**-0.2**
KUR06				⇑S	**Sb**	**13 42 08.7**	**+0.3**
KUR14	**Kurchatov Arra**	**0.58**	**9**	⇑P	**Pb**	**13 41 59.7**	**-0.4**
KUR14				⇓S	**Sb**	**13 42 08.8**	**-0.1**
KUR15	**Kurchatov Arra**	**0.58**	**7**	⇓P	**Pb**	**13 41 59.7**	**-0.4**
KUR15				⇑S	**Sb**	**13 42 09.0**	**+0.1**
KURBB	**Kurchatov Arra**	**0.58**	**5**	⇑P	**Pb**	**13 41 59.9**	**-0.3**
KURBB				⇑S	**Sb**	**13 42 09.2**	**+0.2**
	20nm,0.6s						
KUR16	**Kurchatov Arra**	**0.59**	**3**	⇑P	**Pb**	**13 41 60.0**	**-0.3**
KUR16				⇓S	**Sb**	**13 42 09.3**	**+0.2**
KUR17	**Kurchatov Arra**	**0.59**	**1**	⇓P	**Pb**	**13 42 00.6**	**+0.3**
KUR17				⇑S	**Sb**	**13 42 08.6**	**-0.6**
KUR05	**Kurchatov Arra**	**0.60**	**5**	⇓S	**Sb**	**13 42 09.3**	**-0.3**
KUR04	**Kurchatov Arra**	**0.62**	**6**	⇓P	**Pb**	**13 42 00.1**	**-0.7**
KUR04				⇓S	**Sb**	**13 42 09.6**	**-0.5**
KURK	**Kurchatov**	**0.68**	**9**	⇓P	**Pb**	**13 42 01.5**	**-0.3**
	1.3nm,0.3s						
KURK				⇓S	**Sb**	**13 42 11.4**	**-0.4**
	3.5nm,0.4s						
MAKZ	**Makanchi**	**4.00**	**143**	⇑Lg	Lg	13 43 51.5	
	3.8nm,0.9s						
MK31	**Makanchi Array**	**4.14**	**140**	⇑Pn	**Pn**	**13 42 51.1**	**-0.4**
	0.3nm,0.6s,baz=323,slow=9.7,SNR=4.6						
MK31				⇑Pg	**Pb**	**13 43 00.4**	**-0.3**
	0.4nm,0.5s,baz=326,slow=14,SNR=6.8						
MK31				⇑Lg	Lg	13 43 56.8	
	0.7nm,0.3s,baz=336,slow=29,SNR=6.2						
MKAR	**Makanchi Array**	**4.14**	**140**	Pn	**Pn**	**13 42 52.3**	**+0.8**
	baz=327,slow=10,SNR=6.8						
MKAR				Pg	**Pb**	**13 43 00.6**	**-0.1**
	0.1nm,0.3s,baz=329,slow=17,SNR=5.3						
MKAR				Lg	Lg	13 43 53.6	
	0.6nm,0.3s,baz=330,slow=27,SNR=11						
	0.9nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.55**	**43**	I	I	14 15 30.0	
	baz=228,slow=323,SNR=0.3						
ZALV	**Zalesovo Beam**	**5.55**	**43**	Pn	**Pn**	**13 43 11.3**	**+0.5**
	0.1nm,0.3s,baz=234,slow=16,SNR=2.0						
	0.5nm,0.2s						

*IDC **21** 13:42:33.3±6.2,17°.72S×178°.66W,h592km±74km, mb3.0/12,mbtmp4.0/13,Error ellipse: s-maj=31.3km s-min=18.8km az=87.0*

ISC 21 13:42:29.3±0.7,**17°.7S**±0°.1×**178°.5W**±0°.1,**h547**km,**n14,** σ1$**00**/14,**mb3.5**/12,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.84**	**251**	P	**P**	**13 45 38.9**	**+1.5**
	6.7nm,0.6s,baz=73,slow=15,SNR=8.5						
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**13 49 06.7**	**+0.1**
	3.9nm,0.5s,baz=103,slow=13,SNR=6.2						
	3.9nm,0.5s						
WRA	**Warramunga Arr**	**44.61**	**259**	P	**P**	**13 49 52.5**	**-1.1**
	0.9nm,0.7s,baz=94,slow=7.0,SNR=14						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**13 49 54.4**	**-0.5**
	8.4nm,0.6s,baz=88,slow=8.3,SNR=142						
	8.4nm,0.6s						
VNDA	**Vanda**	**60.64**	**185**	P	**P**	**13 51 46.6**	**-0.4**
	0.3nm,0.6s,baz=347,slow=5.7,SNR=1.8						
	0.0nm,0.6s						
MJAR	**Matsushiro Arr**	**67.72**	**323**	P	**P**	**13 52 31.5**	**-1.0**
	1.4nm,0.7s,baz=151,slow=5.6,SNR=3.5						
	1.4nm,0.7s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**13 53 00.6**	**+0.9**
	2.7nm,0.9s,baz=15,slow=0.3,SNR=10						
	2.7nm,0.9s						
PETK	**Petropavlovsk-**	**73.48**	**345**	P	**P**	**13 53 07.0**	**+0.9**
	2.2nm,0.8s,baz=160,slow=5.6,SNR=2.1						
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**13 53 39.8**	**+1.0**
	0.3nm,0.4s,baz=264,slow=4.5,SNR=2.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**13 54 09.2**	**-1.0**
	0.4nm,0.7s,baz=220,slow=5.4,SNR=4.9						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**13 54 12.9**	**+0.7**
	0.1nm,0.3s,baz=246,slow=4.7,SNR=3.0						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**87.25**	**43**	P	**P**	**13 54 18.6**	**+0.3**
	0.2nm,0.4s,baz=286,slow=4.4,SNR=2.6						
	0.2nm,0.4s						
SNAA	**Sanae**	**90.80**	**179**	P	**P**	**13 54 32.6**	**-1.4**
	0.5nm,0.6s,baz=233,slow=5.3,SNR=5.2						
	0.5nm,0.6s						
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc	**PKPbc**	**14 01 11.8**	**-0.2**
	0.5nm,0.2s,baz=354,slow=2.7,SNR=3.7						

*ISK **21** 13:50:22.7,39°.39N×40°.01E,h6km,ML3.9/16*
*IDC **21** 13:50:23.0±1.0,39°.27N×40°.02E,h0km,mb3.6/5, mbtmp3.6/12,ML3.4/7,Error ellipse: s-maj=16.8km s-min=9.4km az=165.0*
*AFAD **21** 13:50:22.1,39°.37N×40°.02E,h14km±1km,MW3.9*

ISC 21 13:50:24.0±0.6,**39°.35N**±0°.03×**40°.02E**±0°.02,**h10**km,**n49,** σ1$**58**/58,**mb3.5**/4,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YEDI	**Yedisu-Bingol**	**0.42**	**78**	Pg	**Pg**	**13 50 31.4**	**-0.9**
YEDI				Sg	**Sg**	**13 50 37.2**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.44**	**237**	P	**Pg**	**13 50 31.4**	**-1.3**
TNCL				S	**Sg**	**13 50 38.0**	**-0.4**
TNCL				*i* IAML		13 50 39.0	
	comp=E,1μm,0.3s						
TNCL				*i* IAML		13 50 43.0	
	comp=N,10μm,0.5s						
KOVA	**Elazig, Kovanc**	**0.67**	**194**	P	**Pg**	**13 50 35.6**	**-1.3**
KOVA				S	**Sg**	**13 50 44.8**	**-0.8**
KOVA				*i* IAML		13 50 46.0	
	comp=E,6μm,0.3s						
KOVA				*i* IAML		13 50 50.0	
	comp=N,4μm,0.8s						
KOPT	**Kop Dagi**	**0.76**	**29**	P	**Pg**	**13 50 36.7**	**-2.1**
KARO	**Karliova-Bingo**	**0.80**	**93**	Pg	**Pg**	**13 50 37.1**	**-2.4**
KARO				Sg	**Sg**	**13 50 50.8**	**+0.8**
SLHN	**Bingol, Solhan**	**0.88**	**116**	P	**Pg**	**13 50 38.9**	**-2.1**
BAYB	**BAYBURT**	**0.92**	**11**	P	**Pg**	**13 50 39.5**	**-2.3**
KELT	**Kelkit**	**0.99**	**324**	P	**Pg**	**13 50 41.3**	**-1.8**
BAYT	**Aydıntepe-Bayb**	**1.04**	**5**	Pg	**Pg**	**13 50 42.1**	**-2.1**
ILIC	**ilic-Erzincan**	**1.13**	**276**	Pn	**Pg**	**13 50 44.2**	**-1.5**
ILIC				Sn	**Sn**	**13 51 00.8**	**-0.8**
ELZG	**Elazig**	**1.17**	**224**	P	**Pb**	**13 50 44.6**	**-1.9**
ELZG				S	**Sn**	**13 51 02.6**	**-0.2**
ELZG				*i* IAML		13 51 05.0	
	comp=E,3μm,0.6s						
ELZG				*i* IAML		13 51 08.0	
	comp=N,4μm,0.6s						
GUMT	**Gumushane**	**1.18**	**340**	Pn	**Pb**	**13 50 45.7**	**-0.9**
MUSM	**Mu-Merkez**	**1.32**	**118**	P	**Pn**	**13 50 46.0**	**-2.7**
ARPR	**Arapgir-MALATY**	**1.33**	**259**	Pn	**Pn**	**13 50 48.3**	**-0.6**
ARPR				Sn	**Sg**	**13 51 07.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.51**	**142**	Pn	**Pn**	**13 50 50.9**	**-0.3**
SVAN				Sn	**Sb**	**13 51 12.5**	**+1.0**
KOPR	**Koprukoy-ERZUR**	**1.55**	**65**	Pn	**Pn**	**13 50 50.9**	**-1.0**
MAYA	**Malatya/Merkez**	**1.61**	**231**	P	**Pn**	**13 50 52.2**	**-0.5**
HEKM	**Malatya_Hekimh**	**1.67**	**254**	P	**Pb**	**13 50 53.9**	**-1.1**
GURO	**Guroymak-BITLI**	**1.76**	**116**	Pn	**Pn**	**13 50 54.8**	**0.0**
CHOM	**Cayeli-Rize**	**1.83**	**18**	Pn	**Pn**	**13 50 55.6**	**0.0**
BLIS	**Bitlis-Merkez**	**1.89**	**119**	P	**Pn**	**13 50 56.9**	**+0.4**
MLAZ	**Malazgirt-MUS**	**1.98**	**95**	Pn	**Pn**	**13 50 57.9**	**+0.2**
SRTM	**Siirt_Merkez**	**2.02**	**132**	P	**Pn**	**13 50 58.6**	**+0.4**
SENK	**Senkaya-Erzuru**	**2.16**	**55**	Pn	**Pn**	**13 51 00.3**	**0.0**
HOPA	**Hopa-Artvin**	**2.31**	**28**	Pn	**Pn**	**13 51 02.2**	**+0.1**
AGRB	**Hanur-Agry**	**2.31**	**84**	Pn	**Pn**	**13 51 02.7**	**+0.3**
BCA	**Borcka**	**2.42**	**30**	Pn	**Pn**	**13 51 03.6**	**-0.1**
AKDM	**Akdamar-Van**	**2.53**	**113**	Pn	**Pn**	**13 51 05.9**	**+0.6**
BATM	**Batumi**	**2.59**	**29**	P	**Pn**	**13 51 06.2**	**+0.2**
BATM				S	**Sg**	**13 51 45.7**	**-1.5**
TASB	**TASBURUN-IGDIR**	**3.32**	**78**	Pn	**Pn**	**13 51 16.3**	**+0.2**
AKH	**Akhalkalaki**	**3.36**	**51**	P	**Pb**	**13 51 25.1**	**+1.4**
GNI	**Garni**	**3.73**	**76**	Pn	**Pn**	**13 51 23.9**	**+2.1**
	3.8nm,0.3s,baz=309,slow=1.6,SNR=13						
GNI				Lg	Lg	13 52 22.0	
	baz=277,slow=20						
	5.7nm,0.4s						
TKB	**Tkibuli**	**3.75**	**36**	P	**Pn**	**13 51 22.5**	**+0.5**
TRLG	**Trialeti**	**3.81**	**54**	P	**Pn**	**13 51 25.2**	**+2.3**
ALIG	**Mtskhetisjvari**	**3.90**	**44**	P	**Pb**	**13 51 28.5**	**-4.4**
GARIG	**Gari**	**4.17**	**38**	P	**Pn**	**13 51 31.3**	**+3.5**
DGRG	**David-gareji**	**4.59**	**61**	P	**Pb**	**13 51 47.3**	**+2.5**
KBZ	**Khabaz**	**4.88**	**25**	Pn	**Pn**	**13 51 40.1**	**+2.7**
	0.4nm,0.3s,baz=189,slow=11,SNR=3.6						
KBZ				Lg	Lg	13 52 57.5	
	0.1nm,0.3s,baz=160,slow=18,SNR=1.1						
	1.1nm,0.4s						
BRTR	**Keskin Array B**	**4.95**	**276**	Pn	**Pn**	**13 51 40.0**	**+1.4**
	2.5nm,0.3s,baz=100,slow=15,SNR=21						
BRTR				Lg	Lg	13 53 00.7	
	baz=106,slow=21						
	6.2nm,0.4s						
VSHL	**Vashlovani**	**5.23**	**67**	P	**Pg**	**13 52 00.8**	**-3.4**
MMAI	**Mount Meron Ar**	**7.34**	**212**	Pn	**Pn**	**13 52 11.2**	**-0.2**
	0.8nm,0.3s,baz=20,slow=17,SNR=1.8						
	0.4nm,0.3s						
ASF	**Jabal al Asfar**	**7.60**	**200**	Pn	**Pn**	**13 52 15.3**	**+0.3**
	0.3nm,0.3s,baz=38,slow=12,SNR=1.9						
ASF				Lg	Lg	13 54 21.9	
	0.4nm,0.3s,baz=229,slow=12,SNR=3.2						
	2.0nm,0.4s						
AKASG	**Malin Array Be**	**13.66**	**330**	Pn	**Pn**	**13 53 39.4**	**+1.7**
	0.5nm,0.3s,baz=137,slow=13,SNR=4.3						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**16.85**	**43**	Pn	**Pn**	**13 54 20.1**	**+0.2**
	0.2nm,0.3s,baz=237,slow=8.5,SNR=6.3						
	2.5nm,0.7s						
ARTI	**Arti**	**20.92**	**29**	P	**P**	**13 55 06.4**	**-0.1**
	4.3nm,0.7s,baz=238,slow=7.2,SNR=3.2						
	4.3nm,0.7s						
GERES	**GERESS Array B**	**21.06**	**305**	P	**P**	**13 55 08.5**	**+0.3**
	0.9nm,0.3s,baz=124,slow=8.4,SNR=3.5						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**23.73**	**343**	P	**P**	**13 55 37.7**	**+1.7**
	1.6nm,0.6s,baz=152,slow=9.1,SNR=1.6						
	1.6nm,0.6s						
BVAR	**Borovoye Array**	**24.86**	**47**	P	**P**	**13 55 48.7**	**+2.2**
	0.3nm,0.4s,baz=254,slow=10,SNR=2.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**29.16**	**54**	P	**P**	**13 56 25.2**	**0.0**
	0.2nm,0.3s,baz=266,slow=9.1,SNR=1.4						
	0.2nm,0.3s						

DJA 21 14:11:48.7±0.5,**1°.S**±2°.×**9°.9E**±°,**h23**km±6km,**M3.6/7, mb3.8**/1,**MLv3.5/7,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.67**	**209**	P	Pb	14 12 02.0	+0.3
SISI				S	Sn	14 12 12.5	+0.1
PPI	**Padang Panjang**	**1.03**	**74**	P	Pb	14 12 07.9	+0.1
PPI				S	Sn	14 12 21.3	-0.1
PDSI	**Padang**	**1.06**	**99**	P	Pb	14 12 08.4	-0.1
PDSI				S	Sn	14 12 22.9	+0.5
PBSI	**Pulau Batu**	**1.32**	**301**	P	Pn	14 12 10.5	-1.2
PBSI				S	Sb	14 12 29.1	-0.2
MNSI	**Mandailing Nat**	**1.54**	**6**	P	Pn	14 12 14.7	0.0

*IDC **21** 14:18:58.0±1.2,59°.63N×22°.49E,h0km,mbtmp3.0/5, ML2.3/5,Error ellipse: s-maj=18.1km s-min=8.4km az=157.0*
*DNK **21** 14:18:58.0±2.6,59°.85N×22°.36E,h0km±15km,ML1.9*
*EST **21** 14:18:59.0,59°.84N×22°.27E,h0km,ML1.9(HEL), Explosion*
*HEL **21** 14:18:59.0±0.0,59°.84N×22°.26E,h0km,ML1.9,Explosion*
*UPP **21** 14:18:59.6±1.1,59°.84N×22°.10E,h0km,ML2.5,Presumed earthquake*
*BER **21** 14:19:01.6±1.6,59°.80N×22°.07E,h0km,ML2.5(UPP), Suspected explosion*

ISC 21 14:18:55.7±0.6,**59°.85N**±0°.02×**22°.35E**±0°.02,**h0**km,**n85,** σ1$**59**/121,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVF	**Tvarminne**	**0.45**	**90**	*e*P	**Pb**	**14 19 07.5**	**+0.9**
TVF				*e*S	**Sb**	**14 19 14.2**	**+0.3**
EE01	**Perakula, Nova**	**0.92**	**134**	*e*P	**Pn**	**14 19 15.6**	**-0.2**
EE01				*e*S	**Sb**	**14 19 27.0**	**-0.1**
EE06	**Soera, Palade,**	**0.92**	**164**	*e*P	**Pn**	**14 19 15.3**	**-0.5**

VJF					MSG			14 20 31.4	
	comp=Z,4.5nm,0.2s								
IGGU	**Iggoen**	**2.70**	**294**		P		**Pb**	**14 19 43.2**	**-1.6**
IGGU	**Iggoen**	**2.70**	**294**		P		**Pb**	**14 19 43.2**	**-1.6**
IGGU	**Iggoen**	**2.70**	**294**		P		**Pb**	**14 19 43.2**	**-1.6**
GOTU	**Gotland**	**2.93**	**224**		*e*P		**Pb**	**14 19 46.1**	**-2.7**
GOTU					*e*SB		**Sb**	**14 20 25.7**	**+0.6**
GOTU					MSG			14 20 35.1	
	comp=Z,2.1nm,0.2s								
PBUR	**Paburge**	**3.84**	**184**		*e*P		**Pn**	**14 19 57.6**	**+1.5**
HFS	**Hagfors**	**4.36**	**277**		Pn		**Pn**	**14 20 05.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=92,slow=14,SNR=6.9								
HFS					Pg		**Pb**	**14 20 15.4**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=93,slow=18,SNR=5.3								
HFS					Sn		**Sn**	**14 20 56.9**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=94,slow=24,SNR=2.4								
HFS					Lg		Lg	14 21 11.5	
	comp=Z,0.6nm,0.3s,baz=98,slow=31,SNR=8.3								
	comp=Z,1.1nm,0.8s								
BLEU	**Blekinge**	**4.97**	**227**		*i* P		**Pn**	**14 20 13.0**	**+1.6**
BLEU					*i* S		**Sn**	**14 21 09.8**	**+0.3**
BLEU					IAML			14 21 36.1	
	comp=Z,0.6nm,0.3s								
JOF	**Joensuu**	**5.29**	**51**		*e*P		**Pn**	**14 20 14.8**	**-1.1**
NC602	**NORSAR Array S**	**5.45**	**284**		*e*P		**Pn**	**14 20 20.3**	**+2.2**
NC303	**NORSAR Array S**	**5.59**	**289**		*e*P		**Pn**	**14 20 21.7**	**+1.7**
DEL	**Delary**	**5.62**	**237**		*e*		**Pn**	**14 20 21.4**	**+1.0**
	baz=65,slow=7.9								
DEL					*i* P		**Pn**	**14 20 22.0**	**+1.6**
DEL					*i* S		**Sn**	**14 21 26.2**	**+0.5**
DEL					IAML			14 21 58.1	
	comp=Z,0.6nm,0.4s								
NOA	**NORSAR Array B**	**5.64**	**287**		Pn		**Pn**	**14 20 23.3**	**+2.6**
	baz=98,slow=14,SNR=5.0								
NOA					Sn		**Sn**	**14 21 27.0**	**+0.8**
	baz=88,slow=16,SNR=1.4								
	comp=Z,0.2nm,0.4s								
SJUU	**Sjulsmark**	**5.69**	**357**		*e*P		**Pn**	**14 20 23.1**	**+1.8**
STRU	**Stroemstad**	**5.76**	**267**		*e*P		**Pn**	**14 20 23.8**	**+1.6**
STRU	**Stroemstad**	**5.76**	**267**		*e*P		**Pn**	**14 20 24.6**	**+2.3**
STRU					*e*S		**Sn**	**14 21 28.0**	**-0.9**
NAO01	**NORSAR Array S**	**5.78**	**285**		*e*P		**Pn**	**14 20 24.8**	**+2.2**
TJOU	**Tjoern**	**5.84**	**256**		*e*P		**Pn**	**14 20 26.4**	**+2.9**
TJOU					*e*S		**Sn**	**14 21 31.0**	**-0.1**
NBO00	**NORSAR Array S**	**5.85**	**287**		*e*P		**Pn**	**14 20 24.8**	**+1.2**
ONAU	**Onsala**	**5.98**	**250**		*e*P		**Pn**	**14 20 28.8**	**+3.5**
BSD	**Bornholm Skovb**	**6.21**	**223**		*e*P		**Pn**	**14 20 32.0**	**+3.5**
BJUU	**Bjuv**	**6.24**	**237**		*e*P		**Pn**	**14 20 30.6**	**+1.7**
LUNU	**Lund**	**6.37**	**232**		*e*P		Pn	14 20 36.0	+5.3
LUNU					*e*S		**Sn**	**14 21 41.7**	**-2.3**
SALU	**Saltoluokta**	**7.75**	**349**		*e*P		**Pn**	**14 20 51.9**	**+2.3**
FAUS	**Fauske**	**8.18**	**340**		*e*P		**Pn**	**14 20 56.9**	**+1.4**
HEF	**Hetta**	**8.61**	**3**		*e*P		**Pn**	**14 21 03.5**	**+2.1**
HEF					*e*S		**Sn**	**14 22 36.8**	**-2.3**
KIF	**Kilpisjarvi**	**9.22**	**357**		*e*P		**Pn**	**14 21 12.8**	**+3.2**
ARA0	**ARCESS Array S**	**9.82**	**7**		*e*P		**Pn**	**14 21 19.0**	**+1.1**
ARCES	**ARCESS Array B**	**9.82**	**7**		Pn		**Pn**	**14 21 19.7**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=14								
ARCES					Sn		**Sn**	**14 23 04.3**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=188,slow=26,SNR=1.7								
	comp=Z,0.5nm,0.4s								
KEV	**Kevo**	**10.14**	**9**		*e*P		**Pn**	**14 21 23.8**	**+1.5**
GERES	**GERESS Array B**	**12.11**	**208**		Pn		**Pn**	**14 21 45.8**	**-3.7**
	baz=28,slow=13,SNR=0.9								
	comp=Z,0.4nm,0.3s								

*JMA **21** 14:18:58.3±0.2, 41°.6N±0°.5×142°.1E±0°.8, h65km±2km, MV3.0/35, E OFF AOMORI PREF*

*IDC **21** 14:19:02.9±2.4, 41°.87N×142°.09E, h90km±15km, mb3.4/7, mbtmp3.6/10, MS3.1/1, Error ellipse: s-maj=38.3km s-min=16.0km az=119.0*

ISC 21 14:18:58.7±1.0, **41°.55N**±0°.04×**142°.07E**±0°.05, **h63**km±10km, **n33**, σ0**967**/32, **mb3.7**/7, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.62**	**243**	*i* P	**Pn**	**14 19 12.4**	**+0.2**
JAHD				*e*S	**Sn**	**14 19 22.7**	**+0.7**
JARK	**Aomorirokkasho**	**0.76**	**224**	P	**Pn**	**14 19 13.6**	**-0.2**
JARK				*e*S	**Sn**	**14 19 24.6**	**-0.3**
JOT	**Ohata**	**0.79**	**258**	P	**Pn**	**14 19 13.8**	**-0.3**
JOT				*e*S	**Sn**	**14 19 25.8**	**+0.3**
JKB	**Kayabe**	**0.84**	**294**	P	**Pn**	**14 19 14.1**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.89**	**35**	P	**Pn**	**14 19 14.6**	**-0.8**
JEM	**Erimo**	**0.94**	**60**	P	**Pn**	**14 19 15.6**	**-0.4**
JEM				*e*S	**Sn**	**14 19 28.3**	**-0.5**
JIAM	**Iburiatsuma**	**1.07**	**354**	P	**Pn**	**14 19 18.3**	**+0.5**
JIAM				*e*S	**Sn**	**14 19 33.2**	**+1.2**
JTM	**Tenmabayashi**	**1.08**	**225**	P	**Pn**	**14 19 18.1**	**+0.2**
JTM				*e*S	**Sn**	**14 19 32.2**	**+0.2**
JNB	**Noboribetsu**	**1.20**	**320**	P	**Pn**	**14 19 18.5**	**-0.9**
JSR	**Shiriuchi**	**1.24**	**269**	P	**Pn**	**14 19 20.2**	**+0.3**
JBT2	**Biratori 2**	**1.24**	**10**	P	**Pn**	**14 19 20.3**	**+0.3**
JBT2				*e*S	**Sn**	**14 19 36.9**	**+0.9**
JANG	**Nango**	**1.25**	**200**	P	**Pn**	**14 19 20.4**	**+0.2**
JANG				*e*S	**Sn**	**14 19 35.8**	**-0.3**
JEW	**Eniwo**	**1.37**	**341**	P	**Pn**	**14 19 21.8**	**+0.1**
JEW				*e*S	**Sn**	**14 19 38.4**	**-0.4**
JYM2	**Yakumo 2**	**1.39**	**294**	P	**Pn**	**14 19 22.0**	**+0.1**
JCH	**Churui**	**1.43**	**42**	P	**Pn**	**14 19 22.9**	**+0.4**
JCH				*e*S	**Sn**	**14 19 41.7**	**+1.3**
JOMM	**Oshimamatsumae**	**1.55**	**270**	P	**Pn**	**14 19 23.9**	**-0.2**
ASAJ	**Asahikawa**	**2.59**	**8**	P	**Pn**	**14 19 38.8**	**+0.6**
	12nm,0.4s,baz=226,slow=10,SNR=29						
ASAJ				S	**Sn**	**14 20 06.7**	**-1.8**
	12nm,0.4s,baz=358,slow=14,SNR=4.2						
MJAR	**Matsushiro Arr**	**5.84**	**212**	P	Pn	14 20 30.5	+7.9
	1.0nm,0.6s,baz=27,slow=10,SNR=4.2						
KSRS	**Korea Array**	**11.67**	**254**	P	Pn	14 21 48.5	+6.2
	0.6nm,0.5s,baz=64,slow=14,SNR=4.4						
PETK	**Petropavlovsk-**	**15.64**	**37**	LR	LR	14 28 53.7	
	comp=Z,64nm,19.3s,baz=240,slow=38						
H11N2	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	14 57 34.2	
	baz=322,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	14 57 32.2	
	baz=322,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	14 57 32.7	
	baz=322,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	14 58 36.0	
	baz=322,slow=74,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	14 58 37.3	
	baz=322,slow=74,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**31.16**	**130**	T	T	14 58 35.8	
	baz=322						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**14 26 21.9**	**0.0**
	0.7nm,0.6s,baz=96,slow=8.6,SNR=3.9						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**14 26 46.2**	**+0.2**
	1.1nm,1.1s,baz=74,slow=6.8,SNR=3.8						
	1.1nm,1.1s						
KURBB	**Kurchatov Arra**	**43.74**	**304**	P	P	14 26 57.3	-0.3
	0.7nm,0.5s,baz=76,slow=8.9,SNR=4.9						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**45.45**	**35**	P	**P**	**14 27 10.5**	**-0.6**
	0.4nm,0.8s,baz=266,slow=6.0,SNR=3.1						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**48.00**	**309**	P	**P**	**14 27 31.3**	**+0.2**
	0.7nm,0.4s,baz=72,slow=8.9,SNR=4.4						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**65.07**	**332**	P	P	14 29 31.5	-0.6
	0.8nm,0.6s,baz=70,slow=6.3,SNR=5.9						
	0.8nm,0.6s						
HFS	**Hagfors**	**70.19**	**335**	P	P	14 30 03.7	-0.7
	0.4nm,0.6s,baz=28,slow=6.5,SNR=0.9						
	0.4nm,0.6s						

*NEIC **21** 14:20:22.2±1.1, 35°.539N±0°.010×117°.36W±0°.01, h9km±7km, Error ellipse: s-maj=1.6km s-min=1.3km az=47.0*

PAS 21 14:20:22.8±1.0, **35°.532N**±0°.010×**117°.37W**±0°.01, **h8**km±7km, **ML3.2**/264, **ML2.9**/114(NEIC), **Error ellipse: s-maj=1.5km s-min=1.4km az=46.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCCA	**Chr Cany lake**	**0.01**	**146**	Pg	Pg	14 20 24.6	+0.2
WSHM	**Spangler Hills**	**0.12**	**304**		Pg	14 20 25.5	-0.1
WSHM				IAML		14 20 29.0	
	7μm,0.1s						
LRMC	**Laurel Mtn Rad**	**0.26**	**258**		Pg	14 20 27.9	-0.2
CLC	**China Lake**	**0.34**	**327**		Pg	14 20 29.2	-0.3
CLC				IAML		14 20 34.3	
	comp=N,2μm,0.3s						
CLC				IAML		14 20 34.6	
	comp=E,1μm,0.4s						
SRTC	**Snort**	**0.35**	**297**		Pg	14 20 29.8	+0.1
SRTC					Sg	14 20 35.6	+1.3
TOW	**Tower One**	**0.42**	**311**		Pg	14 20 31.2	+0.1
TOW					Sg	14 20 37.8	+1.1
DTP	**Desert Tortois**	**0.47**	**236**		Pg	14 20 31.6	-0.3
DTP					Sg	14 20 38.0	-0.1
GSC	**Goldstone, Bar**	**0.52**	**116**		Pg	14 20 32.5	-0.3
GSC				IAML		14 20 40.8	
	comp=E,764nm,0.5s						
GSC	**Goldstone, Bar**	**0.52**	**116**		Sg	14 20 39.5	0.0
MPMC	**Manual Prospec**	**0.53**	**350**		Pg	14 20 32.6	-0.6
MPMC				IAML		14 20 40.5	
	comp=N,1μm,0.5s						
MPMC				IAML		14 20 41.9	
	comp=E,882nm,0.4s						
MPMC	**Manual Prospec**	**0.53**	**350**		Sg	14 20 39.9	-0.3
WNMM	**Nine Mile Cany**	**0.53**	**306**		Pg	14 20 32.8	-0.3
WVPM	**Volcano Peak E**	**0.55**	**319**		Pg	14 20 33.1	-0.4
WVPM					Sg	14 20 40.8	0.0
JRC2	**Joshua Ridge**	**0.57**	**322**		Pg	14 20 33.6	-0.4
JRC2					Sg	14 20 41.4	-0.1
WCSM	**Coso Springs S**	**0.59**	**327**		Pg	14 20 33.8	-0.4
WCSM					Sg	14 20 41.9	-0.1
QSM	**Queen of Sheba**	**0.59**	**43**		Pg	14 20 34.0	-0.3
QSM				IAML		14 20 44.1	
	comp=E,643nm,0.5s						
QSM				IAML		14 20 46.1	
	comp=N,823nm,0.6s						
QSM	**Queen of Sheba**	**0.59**	**43**		Sg	14 20 42.0	-0.1
WBSM	**Bird Springs**	**0.63**	**271**		Pg	14 20 34.5	-0.4
WBSM					Sg	14 20 42.9	-0.3
WRVM	**Rose V. Centra**	**0.64**	**318**		Pg	14 20 34.5	-0.6
WRVM					Sg	14 20 43.2	-0.2
CCAC	**Calif City Air**	**0.65**	**235**		Pg	14 20 35.0	-0.3
CCAC					Sg	14 20 44.0	+0.2
HYS	**Haystack Butte**	**0.69**	**194**		Pg	14 20 35.3	-0.7
HYS					Sg	14 20 44.7	-0.3
MFS	**McCloud Flat S**	**0.70**	**326**		Pg	14 20 35.9	-0.5
MFS					Sg	14 20 45.6	0.0
RRX	**Edison Barstow**	**0.72**	**155**		Sg	14 20 45.9	-0.2
WORM	**Onyx Ranch**	**0.73**	**283**		Pg	14 20 36.2	-0.7
WORM					Sg	14 20 45.6	-0.8
WHFM	**Hanning Flat**	**0.81**	**282**		Pg	14 20 37.7	-0.8
WHFM					Sg	14 20 48.3	-0.8
EDW2	**Edwards Air Fo**	**0.83**	**218**		Pg	14 20 37.9	-0.7
GWY	**Greenwater Val**	**0.87**	**41**		Pg	14 20 38.9	-0.6
GWY				IAML		14 20 53.0	
	comp=E,524nm,0.3s						
GWY				IAML		14 20 53.4	
	comp=N,611nm,0.4s						
ISA	**Isabella, Lake**	**0.91**	**279**		Pg	14 20 39.3	-1.0
ISA				IAML		14 20 51.8	
	comp=N,430nm,0.3s						
ISA				IAML		14 20 52.8	
	comp=E,421nm,0.3s						
ISA	**Isabella, Lake**	**0.91**	**279**		Sg	14 20 51.2	-0.9
SBB	**Saddle Back Bu**	**0.92**	**204**		Pg	14 20 39.7	-0.8
SBB					Sg	14 20 51.6	-0.9
TPO	**Tropico Hills**	**0.96**	**227**		Pg	14 20 40.2	-1.0
TPO	**Tropico Hills**	**0.96**	**227**		Sb	14 20 54.2	-0.3
SHOC	**Shoshone, Teco**	**0.96**	**67**		Pg	14 20 40.7	-0.6
SHOC	**Shoshone, Teco**	**0.96**	**67**		Sg	14 20 53.9	+0.1
VTV	**Victorville**	**0.97**	**178**		Pb	14 20 41.6	-0.2
ADO	**Adelanto Recei**	**0.98**	**183**		Pb	14 20 42.0	0.0
WASM	**Alta Sierra Ca**	**0.99**	**282**		Pg	14 20 40.9	-0.9
WASM					Sg	14 20 54.0	-0.6
FURC	**Furnace Creek,**	**1.02**	**24**	Pg	Pg	14 20 41.5	-0.8
FURC				IAML		14 20 58.6	
	comp=N,312nm,0.9s						
FURC				IAML		14 21 11.2	
	comp=E,372nm,0.6s						
CWC	**Cottonwood Cre**	**1.07**	**328**		Pg	14 20 42.4	-1.0
CGO	**Cerro Gordo**	**1.07**	**341**		Pg	14 20 42.6	-0.8
HEC	**Hector,Ludlow**	**1.10**	**129**		Pg	14 20 43.0	-0.9
HOLC	**Holcomb Ridge**	**1.14**	**200**		Pg	14 20 43.6	-1.0
LRRC	**Littlerock Res**	**1.14**	**208**		Pg	14 20 43.7	-0.9
LRRC					Sb	14 21 00.0	+0.4
LEOC	**Leona Valley**	**1.18**	**221**		Pg	14 20 44.2	-1.2
JNH	**Juniper Hills**	**1.18**	**204**		Pg	14 20 44.4	-1.1
TUQ	**Turquoise Moun**	**1.18**	**94**		Pg	14 20 43.9	-1.6
TUQ					Sg	14 21 00.3	-0.6
SIL	**Silver Peak**	**1.26**	**159**		Pn	14 20 46.0	-0.8
AMDNV	**Amargosa**	**1.27**	**44**		Pn	14 20 45.3	-1.5
CHFC	**Chilao Flat St**	**1.31**	**204**		Pn	14 20 46.2	-1.3
BFSC	**Mount Baldy Ra**	**1.31**	**190**		Pn	14 20 46.0	-1.5
BFSC				IAML		14 21 05.1	
	comp=E,160nm,0.7s						
BFSC				IAML		14 21 06.4	
	comp=N,185nm,0.5s						
SPG2	**Springville 2**	**1.32**	**301**		Pn	14 20 46.2	-1.3
SPG2					Sb	14 21 04.4	-0.4
SSK	**Sunset Peak**	**1.34**	**191**		Pn	14 20 47.1	-0.8
WCT	**Wildcat Mounta**	**1.40**	**25**		Pn	14 20 47.1	-1.4
MWC	**Mount Wilson**	**1.42**	**204**		Pn	14 20 47.9	-1.1
MWC				IAML		14 21 10.8	
	comp=N,154nm,0.3s						
MWC				IAML		14 21 12.4	
	comp=E,166nm,0.3s						
VES	**Vestal, Richgr**	**1.43**	**283**		Pn	14 20 47.9	-1.1
VES				IAML		14 21 10.1	
	comp=E,178nm,0.5s						
VES				IAML		14 21 13.4	
	comp=N,263nm,0.4s						
OSI	**Osito Audit: C**	**1.44**	**231**		Pb	14 20 49.5	-0.3
OSI				IAML		14 21 11.5	
	comp=N,234nm,0.4s						
SGV	**South Grapevin**	**1.47**	**11**		Pn	14 20 48.7	-1.0
PSRC	**Puddingstone R**	**1.48**	**194**		Pn	14 20 49.5	-0.2
PSRC					Sb	14 21 09.4	-0.1
MTPC	**Mountain Pass**	**1.48**	**91**		Pn	14 20 48.1	-1.8
MTPC				IAML		14 21 09.9	
	comp=N,238nm,0.3s						
MTPC				IAML		14 21 10.1	
	comp=E,244nm,0.4s						
GTM	**Goat Mountain**	**1.49**	**146**		Pn	14 20 48.3	-1.6
GTM					Sb	14 21 09.7	-0.1
DECC	**Green Verdugo**	**1.50**	**212**		Pb	14 20 50.8	-0.1
PASC	**Pasadena Art C**	**1.51**	**207**		Pn	14 20 48.5	-1.6
GMRC	**Granite Mounta**	**1.59**	**118**		Pn	14 20 49.1	-2.1
TIN	**Tinemaha, Big**	**1.67**	**336**		Pn	14 20 50.9	-1.5
TIN				IAML		14 21 23.9	
	comp=N,213nm,0.9s						
TIN				IAML		14 21 28.6	
	comp=E,163nm,1.3s						
DJJ	**Donna J Jenkin**	**1.68**	**212**		Pb	14 20 53.9	0.0
TPNV	**Topopah Spring**	**1.68**	**32**		Pn	14 20 51.6	-1.0
TPNV				IAML		14 21 19.6	
	comp=E,147nm,0.6s						
TPNV				IAML		14 21 20.5	
	comp=E,111nm,0.6s						
GMN	**Gold Mountain**	**1.77**	**3**		Pn	14 20 52.8	-1.0
TPC	**Twentynine Pal**	**1.79**	**142**		Pn	14 20 53.0	-1.0
DANC	**Danby, Needles**	**1.86**	**118**		Pn	14 20 53.0	-1.9
POB	**Polly Butte**	**1.88**	**169**		Pn	14 20 54.7	-0.5
ELS	**Elsinore Mount**	**1.88**	**181**		Pn	14 20 54.2	-1.1
ELS				IAML		14 21 22.8	
	comp=N,70nm,0.6s						
ELS				IAML		14 21 23.9	
	comp=E,99nm,0.3s						
DSP	**Deep Springs**	**1.90**	**345**		Pn	14 20 55.1	-0.2
BELC	**Belle Mtn. Jos**	**1.90**	**143**		Pn	14 20 53.9	-1.6
BELC				IAML		14 21 24.1	
	comp=E,164nm,0.5s						
BELC				IAML		14 21 24.1	
	comp=N,154nm,0.4s						
DGR	**Domenigoni Val**	**1.90**	**171**		Pn	14 20 55.0	-0.5
BACC	**Bachelor Mtn.**	**1.93**	**172**		Pn	14 20 55.4	-0.6
SHPR	**Sheep Range**	**2.04**	**61**	Pn	Pn	14 20 56.3	-1.2
PMD	**Palm Desert**	**2.05**	**156**	Pn	Pn	14 20 56.0	-1.5
PMD				IAML		14 21 29.6	
	comp=E,78nm,0.5s						
PFO	**Pinyon Flats O**	**2.06**	**158**	Pn	Pn	14 20 56.5	-1.2
PFO				IAML		14 21 30.6	
	comp=E,63nm,0.8s						
V12A	**Nelson**	**2.06**	**84**		Pn	14 20 56.4	-1.3
V12A				IAML		14 21 28.2	
	comp=N,89nm,1.0s						
V12A				IAML		14 21 31.0	
	comp=E,63nm,0.6s						
FRD	**Ford Ranch, An**	**2.13**	**162**		Pn	14 20 58.2	-0.5
MZP	**Montezuma Peak**	**2.16**	**360**		Pn	14 20 58.6	-0.8
BORC	**Borrego Spring**	**2.39**	**160**		Pn	14 21 01.8	-0.4
BORC				IAML		14 21 40.3	
	comp=E,61nm,0.3s						
BORC				IAML		14 21 40.0	
	comp=N,52nm,0.6s						
BC3	**Big Chuckawall**	**2.45**	**139**		Pn	14 21 01.4	-1.8
BC3				IAML		14 21 44.3	
	comp=N,67nm,0.4s						
BC3				IAML		14 21 46.0	
	comp=E,53nm,0.5s						
SBI	**Santa Barbara**	**2.46**	**214**		Pb	14 21 06.3	-0.9
DPP	**Dos Picos Cty**	**2.55**	**172**		Pn	14 21 03.6	-0.9
DPP				IAML		14 21 43.3	
	comp=E,81nm,0.5s						
LHV	**Little Huntoon**	**2.86**	**342**	Pn	Pn	14 21 07.8	-0.9
LHV				IAML		14 21 56.9	
	comp=E,32nm,1.0s						
LHV				IAML		14 22 01.3	
	comp=N,45nm,0.8s						
W13A	**Hualapai Mount**	**2.88**	**98**		Pn	14 21 07.5	-1.7
W13A				IAML		14 21 55.7	
	comp=N,39nm,0.4s						
NVAR	**Mina Array Bea**	**2.99**	**346**	Pn	Pn	14 21 10.3	-0.3
BBGB	**Big Mountain B**	**3.15**	**290**		Pn	14 21 12.5	-0.2
BBGB				IAML		14 22 11.4	
	comp=E,57nm,0.8s						
R11B	**Troy Canyon, C**	**3.15**	**26**		Pn	14 21 11.9	-1.0
CBX	**Cerro Bola**	**3.26**	**169**		Pn	14 21 14.3	0.0
SAO	**San Andreas Ge**	**3.52**	**292**	Pn	Pn	14 21 19.9	+2.2
ESJX	**Sierra Juarez**	**3.71**	**161**	Pn	Pn	14 21 19.7	-0.9
ESJX				IAML		14 22 19.4	
	comp=E,20nm,0.9s						
ESJX				IAML		14 22 22.0	
	comp=N,15nm,0.6s						
CCUT	**Cedar City**	**3.80**	**57**	Pn	Pn	14 21 20.8	-1.0
Y14A	**Wickenburg**	**3.93**	**113**		Pn	14 21 21.4	-2.0
Y14A				IAML		14 22 29.8	
	comp=E,24nm,0.3s						
Y14A				IAML		14 22 33.9	
	comp=N,30nm,0.7s						
PSUT	**Pine Spring**	**4.11**	**42**		Pn	14 21 26.2	+0.2
PSUT				IAML		14 22 41.4	
	comp=N,13nm,1.1s						
PSUT				IAML		14 22 42.2	
	comp=E,15nm,0.7s						
U15A	**North Rim**	**4.21**	**76**		Pn	14 21 27.8	+0.3
U15A				IAML		14 22 34.3	
	comp=E,18nm,0.9s						
U15A				IAML		14 22 37.9	
	comp=N,17nm,1.1s						

*IDC **21** 14:25:14.4±1.1, 50°.19S×139°.67E, h0km, mb3.9/5, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=122.6km s-min=19.2km az=84.0*

*NEIC **21** 14:25:16.0±2.3, 50°.31S±0°.10×139°.3E±0°.3, h10km±1km, mb4.4/11, Error ellipse: s-maj=27.4km s-min=15.6km az=100.0*

ISC 21 14:25:15.8±0.6, **50°.29S**±0°.07×**139°.3E**±0°.2, **h10**km, **n36**, σ1**909**/24, **mb4.0**/9, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**9.22**	**40**	Pn	**Pn**	**14 27 29.6**	**+0.8**
TOO	**Toolangi**	**13.47**	**22**	Pn	**Pn**	**14 28 29.1**	**+2.1**
CAN	**Canberra**	**16.55**	**29**	Pn	**Pn**	**14 29 07.0**	**-0.9**
CAN				IAmb	IAmb	14 29 15.6	
	comp=Z,39nm,1.4s						
BBOO	**Buckleboo**	**17.62**	**351**	Pn	**Pn**	**14 29 20.7**	**-0.6**
BBOO				IAmb	IAmb	14 29 38.1	
	comp=E,60nm,1.5s						
STKA	**Stephens Creek**	**18.48**	**6**	P	**P**	**14 29 30.4**	**-1.3**
STKA				IAmb	IAmb	14 30 09.6	
	comp=Z,59nm,1.3s						
STKA	**Stephens Creek**	**18.48**	**6**	P	**P**	**14 29 28.7**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=3.7						
	comp=Z,1.9nm,0.8s						
CASY	**Casey**	**21.70**	**212**	P	**P**	**14 30 07.0**	**+0.5**
CASY				IAmb	IAmb	14 30 11.9	
	comp=Z,13nm,1.0s						
H01W1	**Cape Leeuwin H**	**23.89**	**301**	T	T	14 55 22.8	
	baz=136,slow=74,SNR=73						
H01W2	**Cape Leeuwin H**	**23.90**	**300**	T	T	14 55 22.5	
	baz=136,slow=74,SNR=68						
H01W3	**Cape Leeuwin H**	**23.91**	**301**	T	T	14 55 20.2	
	baz=136,slow=74,SNR=48						
ASAR	**Alice Springs**	**26.90**	**349**	P	**P**	**14 30 57.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=166,slow=9.3,SNR=13						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**28.64**	**170**	P	**P**	**14 31 11.9**	**-0.2**
VNDA	**Vanda**	**28.64**	**170**	P	**P**	**14 31 12.3**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=328,slow=11,SNR=3.6						
	comp=Z,0.7nm,1.0s				

*ISC-PP **21** 14:28:25,50.33S×139.32E,h13km±1km,Mwppsm6.2, Moment Tensor Solution. s24 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.17±.10; $M_{\theta\theta}$-0.56±.14; $M_{\phi\phi}$0.72±.12; $M_{r\theta}$-0.15±.20; $M_{\theta\phi}$-0.08±.14; $M_{r\phi}$0.19±.10; Fault plane solution: M_o2.85000×10^{18} NP1:ϕ_s51.80000°,δ82.70000°, λ343.50000°. NP2:ϕ_s144.00000°,δ73.70000°, λ-172.40000°.*

*NEIC **21** 14:28:26,50.31S×139.23E,h12km*

*NEIC **21** 14:28:26,50.31S×139.23E,h12km,Moment Tensor Solution. Duration: 4$\frac{1}{2}$7 Moment tensor: Scale 10^{18}Nm; M_{rr}0.09; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-0.08; $M_{r\theta}$0.45; $M_{\theta\phi}$-1.03; $M_{r\phi}$-0.50; Fault plane solution: M_o1.23000×10^{18} NP1:ϕ_s85.26000°, δ68.51000°,λ161.28000°. NP2:ϕ_s182.34000°,δ72.62000°, λ22.57000°. Principal axes: T 1.3432, Plg28.0000°, Azm45.0000°; N -0.2676, Plg62.0000°, Azm218.0000°; P -1.0756, Plg3.0000°, Azm313.0000°;*

*NEIC **21** 14:28:26,50.31S×139.22E,h10km*

*GCMT **21** 14:28:29.6±0.1,50.30S×139.44E,h12km,MW6.0/164, Moment Tensor Solution. s163,c359; s164,c560; Duration: 2$\frac{1}{2}$5 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.05±.01; $M_{\theta\theta}$0.15±.01; $M_{\phi\phi}$-0.09±.01; $M_{r\theta}$-0.02±.02; $M_{\theta\phi}$-1.30±.01; $M_{r\phi}$-0.05±.02; Best double couple: M_o1.30700×10^{18} NP1:ϕ_s87.00000°,δ88.00000°, λ-179.00000°. NP2:ϕ_s357.00000°,δ89.00000°, λ-2.00000°. Principal axes: T 1.3320, Plg1.0000°, Azm42.0000°; N -0.0490, Plg87.0000°, Azm152.0000°; P -1.2820, Plg2.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 21 14:28:27.2±0.6,50°39S±0'.04×139°23E±0'.05,h13km±3km, n1234,σ1$\frac{1}{2}$81/800,mb5.5/118,MS5.8/519,47C-25D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**9.32**	**40**		**Pn**	**14 30 39.0**	**-2.2**
TAU	**Tasmania Unive**	**9.32**	**40**	P	**Pn**	**14 30 39.0**	**-2.2**
TAU	**Tasmania Unive**	**9.32**	**40**	⇑P	**Pn**	**14 30 39.8**	**-1.4**
MOO	**Moorlands**	**9.66**	**38**	P	**Pn**	**14 30 44.1**	**-1.7**
	comp=Z,0.0nmcomp=Z,25nm,1.1s						
MOO	**Moorlands**	**9.66**	**38**	P	**Pn**	**14 30 47.9**	**+2.1**
MOO	**Moorlands**	**9.66**	**38**	P	**Pn**	**14 30 44.7**	**-1.2**
MOO				S	**Sn**	**14 32 28.4**	**-5.8**
CORO	**Coronation Par**	**10.50**	**35**	P	Pn	14 31 01.1	+3.8
BRAT	**Ballarat**	**13.27**	**16**	P	**Pn**	**14 31 37.4**	**+2.2**
TOO	**Toolangi**	**13.58**	**22**	P	**Pn**	**14 31 39.1**	**-0.3**
	comp=Z,0.0nmcomp=Z,35nm,1.3s						
TOO	**Toolangi**	**13.58**	**22**		**Pn**	**14 31 36.5**	**-2.9**
TOO	**Toolangi**	**13.58**	**22**	P	**Pn**	**14 31 36.5**	**-2.9**
TOO	**Toolangi**	**13.58**	**22**	⇑P	**Pn**	**14 31 38.5**	**-1.0**
ARPS	**Mount Arapiles**	**13.74**	**9**	P	**Pn**	**14 31 41.4**	**-0.3**
	comp=Z,0.0nmcomp=Z,72nm,2.0s						
GHSS	**Government Hou**	**15.47**	**358**	P	**P**	**14 32 06.4**	**-3.0**
CAN	**Canberra**	**16.65**	**29**	P	**Pn**	**14 32 19.1**	**-1.2**
	comp=Z,0.0nmcomp=Z,132nm,1.6s						
CAN	**Canberra**	**16.65**	**29**		**Pn**	**14 32 16.4**	**-3.9**
CAN	**Canberra**	**16.65**	**29**	P	**P**	**14 32 24.3**	**+1.6**
CAN	**Canberra**	**16.65**	**29**	P	**Pn**	**14 32 16.4**	**-3.9**
CAN				pmax	pmax		
	comp=Z,590nm,1.9s						
CAN	**Canberra**	**16.65**	**29**	⇑P	**Pn**	**14 32 18.8**	**-1.5**
CNB	**Canberra Magne**	**16.77**	**30**	P	**Pn**	**14 32 19.4**	**-2.5**
	comp=Z,0.0nmcomp=Z,104nm,1.6s						
CNB	**Canberra Magne**	**16.77**	**30**	P	**P**	**14 32 26.1**	**+2.1**
HTT	**Hallett**	**16.95**	**359**	P	**P**	**14 32 23.7**	**-2.2**
	comp=Z,42nm,1.5s						
HTT	**Hallett**	**16.95**	**359**	P	**P**	**14 32 26.5**	**+0.5**
HTT	**Hallett**	**16.95**	**359**	P	**P**	**14 32 24.4**	**-1.6**
HTT	**Hallett**	**16.95**	**359**	⇑P	**P**	**14 32 26.6**	**+0.7**
PTPS	**Port Pirie**	**17.23**	**356**	P	**P**	**14 32 30.0**	**+1.0**
WHYH	**Whyalla**	**17.39**	**355**	P	**P**	**14 32 30.8**	**+0.1**
BBOO	**Buckleboo**	**17.72**	**351**	P	**P**	**14 32 32.8**	**-1.7**
	comp=Z,0.0nmcomp=Z,250nm,1.7s						
BBOO	**Buckleboo**	**17.72**	**351**		**Pn**	**14 32 31.1**	**-2.5**
BBOO	**Buckleboo**	**17.72**	**351**	P	**P**	**14 32 36.1**	**+1.7**
STKA	**Stephens Creek**	**18.58**	**6**	P	**P**	**14 32 41.3**	**-2.6**
STKA	**Stephens Creek**	**18.58**	**6**		**P**	**14 32 40.9**	**-3.0**
STKA	**Stephens Creek**	**18.58**	**6**	P	**P**	**14 32 40.8**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=171,slow=15,SNR=18						
STKA				S	**Sn**	**14 36 10.4**	**-1.2**
	comp=Z,5.4nm,1.1s,baz=243,slow=22,SNR=1.0						
STKA				LR	LR	14 38 56.4	
	comp=Z,29μm,18.7s,baz=182,slow=34 comp=Z,30nm,1.2s						
STKA	**Stephens Creek**	**18.58**	**6**	⇓*i*P	**P**	**14 32 41.7**	**-2.2**
SYDH	**Sydney Hard Ro**	**18.65**	**31**	P	**Pn**	**14 32 46.8**	**+1.9**
PYZ	**Puysegur Point**	**18.70**	**88**	P	**Pn**	**14 32 50.1**	**+4.6**
RIV	**Riverview**	**18.73**	**32**	P	**Pn**	**14 32 46.3**	**+0.5**
	comp=Z,0.0nmcomp=Z,266nm,2.8s						
RIV	**Riverview**	**18.73**	**32**	P	**Pn**	**14 32 49.8**	**+4.0**
RIV	**Riverview**	**18.73**	**32**	P	**Pn**	**14 32 46.1**	**+0.3**
RIV				pmax	pmax		
	comp=Z,266nm,2.8s						
MGCD	**Mangrove Creek**	**19.27**	**32**	P	**Pn**	**14 32 51.6**	**-0.9**
	comp=Z,98nm,1.1s						
MGCD	**Mangrove Creek**	**19.27**	**32**	P	**Pn**	**14 32 55.3**	**+2.8**
APZ	**The Paps**	**19.29**	**91**	P	**Pn**	**14 32 51.9**	**-0.7**
DCZ	**Deep Cove**	**19.29**	**86**	P	**Pn**	**14 32 56.6**	**+4.0**
CMSA	**Cobar Meteorol**	**19.44**	**17**	P	**P**	**14 32 50.3**	**-3.1**
WHZ	**Wether Hill Ro**	**19.62**	**88**	P	**Pn**	**14 32 54.5**	**-2.1**
NTLH	**Newcastle Hard**	**19.76**	**33**	P	**Pn**	**14 33 00.9**	**+2.6**
MLZ	**Mavora Lakes**	**19.95**	**87**	P	**Pn**	**14 32 58.2**	**-2.3**
MSZ	**Milford Sound**	**20.13**	**85**	P	Pn	14 33 02.1	-0.4
SYZ	**Scrubby Hill**	**20.13**	**91**	P	Pn	14 33 01.8	-0.8
WKZ	**Wanaka**	**20.75**	**86**	P	Pn	14 33 08.2	-1.8
EAZ	**Earnscleugh**	**20.77**	**87**	P	Pn	14 33 07.1	-3.0
JCZ	**Jackson Bay**	**20.95**	**84**	P	Pn	14 33 13.5	+1.2
JCZ	**Jackson Bay**	**20.95**	**84**	P	Pn	14 33 09.5	-2.9
HHSZ	**Highcliff Hill**	**21.32**	**90**	P	**P**	**14 33 17.2**	**+3.6**
CASY	**Casey**	**21.60**	**212**	P	**P**	**14 33 15.7**	**-0.7**
CASY	**Casey**	**21.60**	**212**	IAMs_20	IAMs_20	14 39 46.6	
	comp=Z,53μm,20.0s						
LBZ	**Lake Benmore**	**21.70**	**86**	P	**P**	**14 33 17.6**	**-0.1**
ODZ	**Otahua Downs**	**21.70**	**88**	P	**P**	**14 33 16.3**	**-1.4**
ODZ	**Otahua Downs**	**21.70**	**88**	P	**P**	**14 33 17.4**	**-0.3**
ODZ	**Otahua Downs**	**21.70**	**88**	⇑P	**P**	**14 33 19.3**	**+1.6**
ARMA	**Armidale**	**22.01**	**30**	P	**P**	**14 33 18.9**	**-2.4**
	comp=Z,0.0nmcomp=Z,226nm,1.4s						
ARMA	**Armidale**	**22.01**	**30**		**P**	**14 33 18.9**	**-2.4**
ARMA				IAmb	IAmb	14 33 27.2	
	comp=Z,384nm,1.4s						
ARMA	**Armidale**	**22.01**	**30**	P	**P**	**14 33 23.5**	**+2.2**
ARMA	**Armidale**	**22.01**	**30**	⇑P	**P**	**14 33 19.8**	**-1.5**
TMZ	**Timaru**	**22.22**	**87**	P	**P**	**14 33 23.7**	**+0.4**
RPZ	**Rata Peaks**	**22.56**	**85**	P	**P**	**14 33 25.8**	**-1.2**
	comp=Z,63nm,0.9s,baz=210,slow=3.8,SNR=10.0						
RPZ				S	**S**	**14 37 34.3**	**+0.3**
	comp=Z,9.9nm,0.9s,baz=39,slow=20,SNR=1.5						
RPZ				LR	LR	14 40 21.5	
	comp=Z,26μm,18.7s,baz=245,slow=32 comp=Z,63nm,0.9s						
RPZ	**Rata Peaks**	**22.56**	**85**	P	**P**	**14 33 28.9**	**+1.9**
RKGY	**Rocky Gully**	**22.63**	**306**	P	**P**	**14 33 28.7**	**+1.0**
	comp=Z,0.0nmcomp=Z,209nm,1.2s						
INZ	**Inchbonnie**	**23.30**	**83**	P	**P**	**14 33 38.3**	**+3.7**
MQZ	**McQueen's Vall**	**23.59**	**87**	P	**P**	**14 33 40.8**	**+3.4**
LTZ	**Lake Taylor**	**23.80**	**84**	P	**P**	**14 33 39.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**23.82**	**309**	P	**P**	**14 33 38.4**	**-1.5**
NWAO				IAmb	IAmb	14 33 49.5	
	comp=Z,293nm,1.4s						
NWAO	**Narrogin (SRO)**	**23.82**	**309**	IAMs_20	IAMs_20	14 40 24.2	
	comp=Z,45μm,22.0s						
NWAO	**Narrogin (SRO)**	**23.82**	**309**	LR	LR	14 40 46.2	
	comp=Z,42nm,21.0s,baz=104,slow=31						
NWAO	**Narrogin (SRO)**	**23.82**	**309**	P	**P**	**14 33 40.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**23.82**	**309**	P	**P**	**14 33 38.4**	**-1.5**
NWAO				pmax	pmax		
	comp=Z,293nm,1.5s						
H01W1	**Cape Leeuwin H**	**23.92**	**301**	T	T	14 58 36.0	
	baz=136,slow=74,SNR=1388						
H01W2	**Cape Leeuwin H**	**23.93**	**301**	T	T	14 58 35.6	
	baz=136,slow=74,SNR=1373						
H01W3	**Cape Leeuwin H**	**23.94**	**301**	T	T	14 58 37.3	
	baz=136,slow=74,SNR=938						
QLP	**Quilpie**	**24.08**	**11**	P	**P**	**14 33 40.8**	**-1.5**
	comp=Z,0.0nmcomp=Z,332nm,1.7s						
QLP	**Quilpie**	**24.08**	**11**	P	**P**	**14 33 44.3**	**+2.0**
QLP	**Quilpie**	**24.08**	**11**	⇑P	**P**	**14 33 41.1**	**-1.1**
GVZ	**Greta Valley S**	**24.19**	**85**	P	**P**	**14 33 44.1**	**+0.9**
GC1S	**Gold Coast 1 S**	**24.71**	**31**	P	**P**	**14 33 51.5**	**+3.5**
THZ	**Tophouse**	**24.73**	**83**	P	**P**	**14 33 49.8**	**+1.7**
KHZ	**Kahutara**	**24.79**	**85**	P	**P**	**14 33 48.6**	**0.0**
KHZ	**Kahutara**	**24.79**	**85**	⇑P	**P**	**14 33 49.4**	**+0.8**
MUN	**Mundaring**	**25.10**	**308**	P	**P**	**14 33 52.6**	**+1.1**
	comp=Z,0.0nmcomp=Z,107nm,1.3s						
MUN	**Mundaring**	**25.10**	**308**	P	**P**	**14 33 52.3**	**+0.8**
MUN	**Mundaring**	**25.10**	**308**	P	**P**	**14 33 51.7**	**+0.2**
BLDU	**Ballidu**	**25.97**	**311**	P	**P**	**14 33 58.4**	**-1.0**
	comp=Z,55nm,1.3s						
BLDU	**Ballidu**	**25.97**	**311**	P	**P**	**14 34 00.6**	**+1.2**
EIDS	**Eidsvold**	**26.61**	**25**	P	**P**	**14 34 03.3**	**-1.9**
	comp=Z,0.0nmcomp=Z,79nm,2.2s						
EIDS	**Eidsvold**	**26.61**	**25**	IAMs_20	IAMs_20	14 44 00.2	
	comp=Z,30μm,18.0s						
EIDS	**Eidsvold**	**26.61**	**25**	P	**P**	**14 34 08.6**	**+3.4**
EIDS	**Eidsvold**	**26.61**	**25**	⇑P	**P**	**14 34 05.7**	**+0.5**
WRKA	**Warakurna**	**26.69**	**337**	P	**P**	**14 34 03.7**	**-2.4**
ASAR	**Alice Springs**	**27.00**	**349**	P	**P**	**14 34 05.5**	**-3.3**
ASAR	**Alice Springs**	**27.00**	**349**	P	**P**	**14 34 06.5**	**-2.3**
	comp=Z,16nm,0.8s,baz=168,slow=9.6,SNR=62						
ASAR				PcP	**PcP**	**14 37 29.2**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=172,slow=2.0,SNR=4.9						
ASAR				LR	LR	14 43 39.0	
	comp=Z,12μm,20.2s,baz=170,slow=34 comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**27.00**	**349**	P	**P**	**14 34 06.1**	**-2.7**
AS31	**Alice Springs**	**27.00**	**349**	P	**P**	**14 34 06.7**	**-2.1**
MRZ	**Mangatainoka R**	**27.02**	**83**	P	**P**	**14 34 07.2**	**-1.6**
BFZ	**Birch Farm**	**27.43**	**84**	P	**P**	**14 34 16.7**	**+4.2**
BFZ	**Birch Farm**	**27.43**	**84**	P	**P**	**14 34 12.0**	**-0.6**
MORW	**Morawa**	**27.57**	**312**	P	**P**	**14 34 14.3**	**+0.4**
	comp=Z,53nm,1.5s						
MORW	**Morawa**	**27.57**	**312**	P	**P**	**14 34 12.4**	**-1.4**
MORW	**Morawa**	**27.57**	**312**	P	**P**	**14 34 15.7**	**+1.8**
MORW	**Morawa**	**27.57**	**312**	⇑P	**P**	**14 34 14.8**	**+0.9**
BKZ	**Black Stump Fm**	**28.44**	**81**	P	**P**	**14 34 25.9**	**+4.3**
MEEK	**Meekatharra**	**28.50**	**319**	P	**P**	**14 34 20.3**	**-1.9**
	comp=Z,33nm,1.5s						
MEEK	**Meekatharra**	**28.50**	**319**	P	**P**	**14 34 23.6**	**+1.4**
VNDA	**Vanda**	**28.55**	**170**	P	**P**	**14 34 21.1**	**-1.0**
VNDA				IAmb	IAmb	14 35 15.3	
	comp=Z,122nm,1.4s						
VNDA	**Vanda**	**28.55**	**170**	P	**P**	**14 34 21.6**	**-0.5**
	comp=Z,19nm,0.9s,baz=323,slow=9.2,SNR=36						
VNDA				LR	LR	14 44 04.6	
	comp=Z,18μm,18.8s,baz=336,slow=33 comp=Z,19nm,0.9s						
OUZ	**Omahuta**	**29.11**	**72**	IAMs_20	IAMs_20	14 42 54.1	
	comp=Z,27μm,21.0s						
URZ	**Urewera**	**29.37**	**80**	LR	LR	14 44 57.6	
	comp=Z,14μm,18.2s,baz=235,slow=34						
URZ	**Urewera**	**29.37**	**80**	⇑P	**P**	**14 34 30.0**	**+0.2**
SBA	**Scott Base**	**29.41**	**169**	P	**P**	**14 34 29.8**	**0.0**
SBA	**Scott Base**	**29.41**	**169**	P	**P**	**14 34 29.8**	**0.0**
SBA				pmax	pmax		
	comp=Z,303nm,1.9s						
QIS	**Mount Isa**	**29.77**	**1**	P	**P**	**14 34 32.8**	**-0.8**
	comp=Z,95nm,1.5s						
MXZ	**Matakaoa Point**	**30.54**	**80**	IAMs_20	IAMs_20	14 44 18.9	
	comp=Z,20μm,19.0s						
WRA	**Warramunga Arr**	**30.63**	**351**	P	**P**	**14 34 38.8**	**-2.2**
WRA	**Warramunga Arr**	**30.63**	**351**	P	**P**	**14 34 39.2**	**-1.9**
	comp=Z,45nm,0.9s,baz=173,slow=8.0,SNR=93						
WRA				PcP	**PcP**	**14 37 38.5**	**-0.8**
	comp=Z,9.1nm,0.9s,baz=185,slow=2.4,SNR=8.9						
WRA				LR	LR	14 46 29.8	
	comp=Z,10μm,19.0s,baz=174,slow=36 comp=Z,45nm,0.9s						
WRA	**Warramunga Arr**	**30.63**	**351**	*e*P	**P**	**14 34 38.9**	**-2.2**
WRAB	**Tennant Creek**	**30.64**	**351**	*d*iP	**P**	**14 34 39.6**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,80nm,0.9s						
WRAB				MLR	MLR		
	comp=Z,8μm,17.0s						
CTAO	**Charters Tower**	**30.75**	**13**	P	**P**	**14 34 39.6**	**-2.5**
CTAO				IAmb	IAmb	14 34 48.2	
	comp=Z,108nm,1.6s						
CTAO	**Charters Tower**	**30.75**	**13**	P	P	14 34 45.3	+3.2
CTAO	**Charters Tower**	**30.75**	**13**	P	**P**	**14 34 39.6**	**-2.5**
CTAO				pmax	pmax		
	comp=Z,108nm,1.6s						
CTAO				MLR	MLR		
	comp=Z,37μm,20.0s						
CTAO	**Charters Tower**	**30.75**	**13**	⇑P	**P**	**14 34 42.5**	**+0.4**
WB0	**Warramunga Arr**	**30.80**	**351**	P	**P**	**14 34 39.5**	**-3.1**
WB0				IAmb	IAmb	14 34 46.1	
	comp=Z,82nm,1.1s						
MTSU	**Mount Surprise**	**32.44**	**9**	P	**P**	**14 34 59.5**	**+2.5**
PSA00	**Pilbara Seismi**	**32.56**	**325**	P	**P**	**14 34 56.0**	**-2.1**
	comp=Z,67nm,1.4s						
PSA00	**Pilbara Seismi**	**32.56**	**325**	P	**P**	**14 34 55.6**	**-2.4**
PSA00				IAMs_20	IAMs_20	14 46 16.6	
	comp=Z,22μm,20.0s						
PSA00	**Pilbara Seismi**	**32.56**	**325**	P	**P**	**14 34 58.3**	**+0.3**
MBWA	**Marble Bar**	**32.98**	**325**	P	**P**	**14 34 60.0**	**-1.7**
	comp=Z,62nm,1.5s						
MBWA	**Marble Bar**	**32.98**	**325**	P	**P**	**14 34 58.6**	**-3.1**
MBWA				IAmb	IAmb	14 35 13.8	
	comp=Z,134nm,1.6s						
MBWA	**Marble Bar**	**32.98**	**325**	IAMs_20	IAMs_20	14 46 28.7	
	comp=Z,25μm,20.0s						
MBWA	**Marble Bar**	**32.98**	**325**	P	**P**	**14 35 02.4**	**+0.7**
MBWA	**Marble Bar**	**32.98**	**325**	⇑P	**P**	**14 35 00.5**	**-1.2**
GIRL	**Giralia**	**33.90**	**316**	P	**P**	**14 35 12.1**	**+2.4**
FITZ	**Fitzroy Crossi**	**34.01**	**336**	P	**P**	**14 35 09.5**	**-1.2**
	comp=Z,8.2nm,1.5s						
FITZ	**Fitzroy Crossi**	**34.01**	**336**	LR	LR	14 48 10.2	
	comp=Z,12μm,21.5s,baz=168,slow=35						
FITZ	**Fitzroy Crossi**	**34.01**	**336**	P	**P**	**14 35 12.8**	**+2.1**
ONTNC	**Ouen Toro**	**35.21**	**47**	P	**P**	**14 35 18.0**	**-3.1**
ONTNC				IAmb	IAmb	14 35 25.3	
	comp=Z,107nm,1.2s						
ONTNC	**Ouen Toro**	**35.21**	**47**	P	P	14 35 25.3	+4.2
OUENC	**Ouen Island, N**	**35.30**	**48**	P	P	14 35 24.9	+3.1
DZM	**Mont Dzumac**	**35.41**	**47**	P	**P**	**14 35 19.9**	**-2.9**
DZM				IAmb	IAmb	14 35 32.0	
	comp=Z,99nm,1.1s						
DZM				IAMs_20	IAMs_20	14 47 01.7	
	comp=Z,15μm,19.0s						
DZM	**Mont Dzumac**	**35.41**	**47**	LR	LR	14 46 52.6	
	comp=Z,15μm,20.3s,baz=192,slow=31						
DZM	**Mont Dzumac**	**35.41**	**47**	P	**P**	**14 35 25.3**	**+2.4**
DZM	**Mont Dzumac**	**35.41**	**47**	⇑P	**P**	**14 35 23.2**	**+0.3**
KNRA	**Kununurra**	**35.65**	**343**	P	**P**	**14 35 23.8**	**-1.1**
	comp=Z,32nm,0.8s						
KNRA	**Kununurra**	**35.65**	**343**	P	**P**	**14 35 22.7**	**-2.1**
KNRA				IAmb	IAmb	14 35 38.0	
	comp=Z,140nm,1.5s						
KNRA				IAMs_20	IAMs_20	14 48 53.1	
	comp=Z,18μm,21.0s						
COEN	**Coen**	**36.48**	**6**	P	**P**	**14 35 34.9**	**+2.9**
COEN	**Coen**	**36.48**	**6**	IAMs_20	IAMs_20	14 50 13.9	
	comp=Z,20μm,20.0s						
COEN	**Coen**	**36.48**	**6**	P	**P**	**14 35 35.0**	**+3.0**
KDU	**Kakadu**	**38.00**	**349**	P	**P**	**14 35 44.1**	**-0.8**
	comp=Z,120nm,1.6s						
KDU	**Kakadu**	**38.00**	**349**	P	**P**	**14 35 47.9**	**+3.0**
KDU	**Kakadu**	**38.00**	**349**	⇑P	**P**	**14 35 44.4**	**-0.5**
MTN	**Manton Dam**	**38.02**	**347**	P	**P**	**14 35 43.0**	**-2.1**
	comp=Z,91nm,1.3s						
MTN	**Manton Dam**	**38.02**	**347**	P	**P**	**14 35 43.0**	**-2.1**
MTN				IAmb	IAmb	14 35 49.6	
	comp=Z,203nm,1.4s						
MTN	**Manton Dam**	**38.02**	**347**	P	**P**	**14 35 48.0**	**+2.9**
MTN	**Manton Dam**	**38.02**	**347**	⇑P	**P**	**14 35 43.8**	**-1.3**
RAO	**Raoul Island**	**38.41**	**73**	LR	LR	14 49 32.8	
	comp=Z,10μm,18.8s,baz=208,slow=33						
QSPA	**South Pole Qui**	**39.73**	**180**	P	**P**	**14 35 58.8**	**-0.4**
QSPA	**South Pole Qui**	**39.73**	**180**	P	**P**	**14 36 00.5**	**+1.4**
	comp=Z,66nm,1.1s,baz=346,slow=4.6,SNR=53						
QSPA				LR	LR	14 52 24.0	
	comp=Z,24μm,18.1s,baz=2.5,slow=36 comp=Z,66nm,1.1s						
MAW	**Mawson**	**39.87**	**216**	P	**P**	**14 36 00.3**	**+0.2**
	comp=Z,15nm,1.3s						
MAW	**Mawson**	**39.87**	**216**	P	**P**	**14 36 00.7**	**+0.6**
	comp=Z,56nm,1.1s,baz=102,slow=11,SNR=42						
MAW				LR	LR	14 50 03.5	
	comp=Z,35μm,21.6s,baz=92,slow=32 comp=Z,56nm,1.1s						
MAW	**Mawson**	**39.87**	**216**	⇑P	**P**	**14 36 00.7**	**+0.6**
PMG	**Port Moresby**	**41.38**	**12**	LR	LR	14 53 37.3	
	comp=Z,17μm,18.0s,baz=184,slow=37						
PMG	**Port Moresby**	**41.38**	**12**	P	**P**	**14 36 15.9**	**+2.9**
PMG	**Port Moresby**	**41.38**	**12**	P	P	14 36 16.3	+3.3
PMG	**Port Moresby**	**41.38**	**12**	⇑*e*P	**P**	**14 36 12.1**	**-0.9**
PMG				pmax	pmax		
	comp=Z,100nm,1.1s						
PMG				MLR	MLR		
	comp=Z,29μm,17.0s						
PMG	**Port Moresby**	**41.38**	**12**	⇑P	**P**	**14 36 13.3**	**+0.2**
SANVU	**Saraoutou**	**41.54**	**43**	P	**P**	**14 36 11.6**	**-2.7**
SANVU				IAmb	IAmb	14 36 23.4	
	comp=Z,153nm,1.0s						
SANVU	**Saraoutou**	**41.54**	**43**	P	P	14 36 18.6	+4.3
BATI	**Baumata**	**42.08**	**337**	LR	LR	14 53 10.4	
	comp=Z,17μm,21.0s,baz=192,slow=35						
SOEI	**Soe**	**42.36**	**338**	P	**P**	**14 36 23.3**	**+2.1**
SOEI	**Soe**	**42.36**	**338**	P	**P**	**14 36 24.0**	**+2.8**
	comp=Z,87nm,1.1s						
SAUI	**Saumlaki**	**42.79**	**348**	IAMs_20	IAMs_20	14 53 07.3	
	comp=Z,16μm,20.0s						
MMRI	**Maumere**	**43.95**	**335**	P	**P**	**14 36 32.0**	**-1.9**
MMRI	**Maumere**	**43.95**	**335**	P	**P**	**14 36 34.8**	**+0.9**
EDFI	**Ende, Flores**	**43.99**	**335**	P	**P**	**14 36 35.6**	**+1.2**
	comp=Z,2μmcomp=Z,1μmcomp=Z,42nm,1.6s						
HNR	**Honiara**	**44.29**	**30**	LR	LR	14 54 29.8	
	comp=Z,5μm,18.0s,baz=202,slow=35						
SAVO	**Savo Central**	**44.52**	**30**	P	P	14 36 42.0	+3.5
MSVF	**Nonsavu**	**44.94**	**58**	P	**P**	**14 36 39.2**	**-2.7**
MSVF	**Nonsavu**	**44.94**	**58**	P	P	14 36 45.9	+4.0
MSVF	**Nonsavu**	**44.94**	**58**	⇓*i*P	**P**	**14 36 40.3**	**-1.6**
MSVF				pmax	pmax		
	comp=Z,36nm,1.7s						
MSVF				MLR	MLR		
	comp=Z,7μm,15.0s						
MSVF	**Nonsavu**	**44.94**	**58**	⇑P	P	14 36 48.0	+6.1
TABU	**Tabubil**	**45.00**	**3**	P	**P**	**14 36 44.8**	**+2.4**
ALEG	**Aligegeo Malai**	**45.17**	**31**	P	P	14 36 46.4	+2.8
TATA	**Tatamba Isabel**	**45.23**	**29**	P	P	14 36 47.6	+3.5
SRBI	**Singaraja**	**46.66**	**326**	P	**P**	**14 36 56.7**	**+1.3**
	comp=Z,1μmcomp=Z,66nm,1.1s						
TAVE	**Taveuni**	**46.89**	**59**	P	**P**	**14 36 59.9**	**+2.7**
DGTI	**Dogotuki**	**47.02**	**58**	P	**P**	**14 37 00.6**	**+2.3**
GMJI	**Gumukmas**	**47.14**	**324**	P	**P**	**14 37 00.6**	**+1.5**
	comp=Z,68nm,1.6s						
SYO	**Syowa Base**	**47.31**	**209**	⇓*i*P	**P**	**14 37 00.1**	**+0.2**
SYO	**Syowa Base**	**47.31**	**209**	⇓*i*pP	pP	14 37 02.6	-0.3
SYO	**Syowa Base**	**47.31**	**209**	⇓*i*sP	sP	14 37 03.9	-0.2
RABL	**Rabaul**	**47.31**	**18**	IAMs_20	IAMs_20	14 55 18.1	
	comp=Z,11μm,20.0s						
GENI	**Genyem**	**47.63**	**1**	P	**P**	**14 37 05.6**	**+2.6**
FAKI	**Fak Fak**	**47.67**	**351**	⇑P	**P**	**14 37 04.6**	**+1.3**
JAY	**Jayapura**	**47.72**	**2**	LR	LR	14 57 05.0	
	comp=Z,12μm,21.0s,baz=158,slow=36						
JAY	**Jayapura**	**47.72**	**2**	P	**P**	**14 37 02.6**	**-1.1**
	comp=Z,697nmcomp=Z,36nm,1.2s						
KAPI	**Kappang**	**48.10**	**333**	IAMs_20	IAMs_20	14 56 16.2	
	comp=Z,9μm,20.0s						
KAPI	**Kappang**	**48.10**	**333**	LR	LR	14 56 38.2	
	comp=Z,8μm,20.8s,baz=173,slow=35						
KAPI	**Kappang**	**48.10**	**333**	⇑*i*P	**P**	**14 37 05.0**	**-1.6**
KAPI				pmax	pmax		
	comp=Z,73n

RPSI IAMs_20 IAMs_20 15 03 57.4
comp=Z,6μm,20.0s
PSI Prapat 63.24 314 P **P** **14 38 55.3 -0.2**
PSI Prapat 63.24 314 P **P** **14 38 52.5 -3.0**
PSI pmax pmax
comp=Z,36nm,1.3s
PMSA Palmer Station 63.75 169 P **P** **14 38 58.0 -0.1**
PMSA IAmb IAmb 14 39 20.1
comp=Z,47nm,1.4s
PMSA Palmer Station 63.75 169 IAMs_20 IAMs_20 15 03 53.7
comp=Z,7μm,18.0s
PMSA Palmer Station 63.75 169 LR LR 15 04 13.2
comp=Z,7μm,18.0s,baz=198,slow=34
IPM Ipoh 63.78 317 P **P** **14 38 58.0 -0.9**
IPM IAmb IAmb 14 39 10.7
comp=Z,58nm,1.3s
IPM IAMs_20 IAMs_20 15 02 55.1
comp=Z,7μm,22.0s
IPM Ipoh 63.78 317 P **P** **14 39 00.5 +1.6**
GUMO Guam 63.90 6 LR LR 15 05 06.1
comp=Z,3μm,21.7s,baz=190,slow=34
GUMO Guam 63.90 6 P **P** **14 39 02.3 +2.7**
KCSI Kotacane, Aceh 64.41 313 P **P** **14 39 03.6 +0.5**
comp=Z,695nmcomp=Z,31nm,1.2s
KULM Kulim 64.67 317 P **P** **14 39 03.7 -1.0**
KULM IAmb IAmb 14 39 27.0
comp=Z,89nm,1.5s
KULM IAMs_20 IAMs_20 15 02 44.7
comp=Z,8μm,22.0s
KULM Kulim 64.67 317 P **P** **14 39 05.7 +1.0**
PPT Papeete 64.70 87 LR LR 15 01 02.1
comp=Z,2μm,19.6s,baz=234,slow=30
ESPZ Base Esperanza 65.83 172 P **P** **14 39 10.9 -0.8**
ESPZ IAMs_20 IAMs_20 15 06 12.7
comp=Z,7μm,19.0s
TGY Tagaytay City 66.19 341 LR LR 15 08 54.0
comp=Z,1μm,21.8s,baz=168,slow=37
H08S2 Diego Garcia H 69.38 283 T T 15 55 22.4
baz=141,slow=76,SNR=78
H08S1 Diego Carcia H 69.39 283 T T 15 55 20.0
baz=141,slow=76,SNR=93
H08S3 Diego Garcia H 69.40 283 T T 15 55 26.8
baz=141,slow=76,SNR=124
FOMA Nahampoana Res 72.56 252 IAMs_20 IAMs_20 15 04 56.4
comp=Z,7μm,20.0s
USHA Ushuaia 72.62 164 LR LR 15 08 08.0
comp=Z,3μm,18.1s,baz=196,slow=33
MG03 Isla Dawson 73.17 162 IAMs_20 IAMs_20 15 10 18.0
comp=Z,5μm,18.0s
QIZ Qiongzhong 73.82 331 P **P** **14 40 04.8 +3.5**
QIZ PcP **PcP** **14 40 17.3 +0.5**
QIZ S **S** **14 49 35.8 +3.4**
QIZ pmax pmax
comp=Z,26nm,1.6s
QIZ pmax pmax
comp=Z,440nm,6.6s
QIZ LR LR
comp=Z,2μm,22.0s
QIZ LR LR
comp=Z,1μm,17.1s
QIZ LR LR
comp=Z,4μm,26.6s
MG05 Puerto Natales 74.80 160 IAMs_20 IAMs_20 15 09 13.9
comp=Z,4μm,19.0s
YULB Yu-li 75.16 343 P **P** **14 40 08.6 -0.4**
YULB Yu-li 75.16 343 P **P** **14 40 11.0 +2.0**
TPUB Ta-pu 75.19 342 P **P** **14 40 12.2 +3.0**
GO09 Cerro Castillo 75.22 160 P **P** **14 40 08.3 -0.9**
GO09 IAmb IAmb 14 40 16.8
comp=Z,87nm,1.4s
SSLB Suanglung 75.61 343 P **P** **14 40 10.2 -1.4**
SSLB Suanglung 75.61 343 P **P** **14 40 14.0 +2.4**
PALK Pallekele 76.42 299 LR LR 15 08 22.1
comp=Z,8μm,20.0s,baz=152,slow=31
GZH Guangzhou 76.66 336 P P 14 40 22.1 +4.6
GZH PP **PP** **14 43 12.3 +2.0**
GZH S S 14 50 14.6 +11
GZH LR LR
comp=Z,3μm,23.3s
GZH LR LR
comp=Z,1μm,14.2s
JCJ Chichijima 77.19 3 LR LR 15 13 54.4
comp=Z,1μm,21.6s,baz=174,slow=35
CM31 Chiang Mai Arr 77.19 321 P **P** **14 40 19.6 -1.1**
CM31 IAmb IAmb 14 40 39.1
comp=Z,80nm,1.6s
CMAR Chiang Mai Arr 77.19 321 P **P** **14 40 20.2 -0.5**
CMAR Chiang Mai Arr 77.19 321 P **P** **14 40 20.8 +0.1**
comp=Z,5.8nm,1.0s,baz=172,slow=4.9,SNR=22
CMAR LR LR 15 12 44.0
comp=Z,5μm,20.9s,baz=155,slow=34
comp=Z,5.8nm,1.0s
OPO Ambohidrampo 77.20 256 LR LR 15 08 15.4
comp=Z,4μm,19.3s,baz=4.0,slow=31
QZH Quanzhou 77.20 341 ⇓*i*P **P** **14 40 23.5 +3.0**
QZH S **S** **14 50 10.3 +0.8**
QZH pmax pmax
comp=Z,470nm,7.0s
QZH LR LR
comp=Z,1μm,18.2s
QZH LR LR
comp=Z,1μm,15.8s
QZH LR LR
comp=Z,3μm,26.8s
EFI East Falkland 77.25 169*ce*P **P** **14 40 21.3 +0.6**
EFI pmax pmax
comp=Z,78nm,1.3s
EFI MLR MLR
comp=Z,2μm,20.0s
JOW Kunigami 77.49 350 P **P** **14 40 22.7 +0.5**
comp=Z,20nm,0.9s,baz=160,slow=6.8,SNR=5.3
JOW LR LR 15 16 50.3
comp=Z,2μm,18.5s,baz=159,slow=38
comp=Z,20nm,0.9s
CHTO Chiang Mai 77.51 321 P **P** **14 40 21.6 -0.9**
CHTO IAmb IAmb 14 40 40.8
comp=Z,80nm,1.6s
CHTO IAMs_20 IAMs_20 15 16 38.5
comp=Z,5μm,19.0s
CHTO Chiang Mai 77.51 321 P **P** **14 40 24.0 +1.5**
CHTO Chiang Mai 77.51 321 P **P** **14 40 21.6 -0.9**
CHTO pmax pmax
comp=Z,81nm,1.6s
CHTO MLR MLR
comp=Z,5μm,19.0s
CHTO Chiang Mai 77.51 321 ⇑P **P** **14 40 22.6 +0.1**
GRHM Grahamstown, E 77.80 232 ⇑P **P** **14 40 25.2 +1.1**
SLVN Son La 77.94 327 P **P** **14 40 23.0 -1.8**
SLVN IAmb IAmb 14 40 59.6
comp=Z,77nm,1.7s
SLVN Son La 77.94 327 P **P** **14 40 26.3 +1.5**
POGA Pongola 79.65 240 P **P** **14 40 32.9 -1.5**
POGA IAmb IAmb 14 40 47.3
comp=Z,67nm,1.2s
POGA Pongola 79.65 240 ⇑P **P** **14 40 37.1 +2.7**
SUR Sutherland 81.27 229 P **P** **14 40 42.2 -1.1**
SUR IAmb IAmb 14 40 47.0
comp=Z,98nm,1.2s
GYA Guiyang 81.77 331 ⇑P **P** **14 40 47.3 +1.7**
GYA PP **PP** **14 43 55.5 +2.4**
GYA S **S** **14 50 59.1 +0.9**
GYA pmax pmax
comp=Z,16nm,0.9s
GYA LR LR
comp=Z,2μm,26.6s
GYA LR LR
comp=Z,1μm,22.0s
GYA LR LR
comp=Z,5μm,26.4s
KMI Kunming 81.83 327 P **P** **14 40 48.1 +2.0**
KMI pP pwP 14 40 57.6 +4.3
KMI S **SKSac** **14 51 03.3 -2.5**
KMI pmax pmax
comp=Z,25nm,0.8s
KMI pmax pmax
comp=Z,350nm,6.5s
KMI LR LR
comp=Z,5μm,19.7s
KMI LR LR
comp=Z,1μm,20.2s
KMI LR LR
comp=Z,5μm,19.0s
RPN Rapa Nui 81.95 123 LR LR 15 09 33.7
comp=Z,2μm,18.8s,baz=217,slow=30
BOSA Boshof 82.11 234 P **P** **14 40 48.3 +0.7**
BOSA IAmb IAmb 14 40 51.0
comp=Z,68nm,1.2s
BOSA Boshof 82.11 234 P **P** **14 40 48.3 +0.7**
comp=Z,33nm,1.1s,baz=145,slow=5.3,SNR=25
BOSA LR LR 15 09 32.9
comp=Z,8μm,21.9s,baz=142,slow=30
comp=Z,33nm,1.1s
BOSA Boshof 82.11 234 ⇑P **P** **14 40 48.1 +0.5**
SSE Sheshan 82.69 344 P **P** **14 40 50.6 +0.5**
SSE S **S** **14 51 04.4 -2.7**
SSE SS **SS** **14 56 35.1 +4.9**
SSE pmax pmax
comp=Z,20nm,0.8s
SSE LR LR
comp=Z,670nm,19.1s
LL02 Futaleuf 82.93 158 ⇑P **P** **14 40 53.2 +1.7**
TNCH TengChong 83.29 323 ⇑P **P** **14 40 55.1 +1.5**
TNCH pP pwP 14 40 57.8 -3.0
TNCH PP **PP** **14 44 09.0 +3.3**
TNCH S **SKSac** **14 51 16.3 +0.8**
TNCH sS SKKSac 14 51 22.4 +2.6
TNCH SS **SS** **14 56 41.6 +2.0**
TNCH pmax pmax
comp=Z,43nm,1.6s
TNCH pmax pmax
comp=Z,330nm,5.3s
TNCH LR LR
comp=Z,2μm,19.7s
TNCH LR LR
comp=Z,1μm,17.2s
TNCH LR LR
comp=Z,10μm,24.3s
PZH PanZhiHua 83.45 327 P P 14 40 58.6 +4.3
PZH S **S** **14 51 13.0 -2.4**
PZH pmax pmax
comp=Z,340nm,7.0s
PZH LR LR
comp=Z,3μm,23.5s
PZH LR LR
comp=Z,2μm,24.3s
PZH LR LR
comp=Z,7μm,23.0s
JNU Nakatsue 83.48 353 P **P** **14 40 53.3 -0.9**
JNU Nakatsue 83.48 353 LR LR 15 17 39.8
comp=Z,1μm,21.3s,baz=177,slow=35
JNU Nakatsue 83.48 353 P **P** **14 40 57.0 +2.8**
JNU Nakatsue 83.48 353 ⇑P **P** **14 40 54.5 +0.3**
WHN Wuhan 83.54 339 ⇑P **P** **14 40 57.9 +3.4**
WHN S **S** **14 51 18.1 +2.3**
WHN pmax pmax
comp=Z,200nm,1.6s
WHN LR LR
comp=Z,6μm,18.8s
WHN LR LR
comp=Z,2μm,16.3s
WHN LR LR
comp=Z,8μm,18.8s
JMN Monobe 83.89 356 P **P** **14 40 56.4 +0.1**
JMN IAmb IAmb 14 41 00.9
comp=Z,53nm,1.1s
JMN IAMs_20 IAMs_20 15 17 27.1
comp=Z,4μm,19.0s
JMN Monobe 83.89 356 ⇑P **P** **14 40 57.8 +1.5**
BRDH Bariadhala 84.02 317 P **P** **14 40 58.9 +1.7**
comp=Z,82nm,0.3s,baz=196,slow=23,SNR=0.9
BRDH LR LR 15 17 35.3
comp=Z,3μm,20.2s,baz=154,slow=35
NJ2 Nanjing 84.04 343 ⇓P **P** **14 40 59.4 +2.4**
NJ2 sP **pwP** **14 41 07.5 +3.3**
NJ2 S **S** **14 51 24.6 +3.8**
NJ2 SS **SS** **14 56 54.3 +4.0**
NJ2 pmax pmax
comp=Z,34nm,1.0s
NJ2 pmax pmax
comp=Z,440nm,4.1s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,2μm,18.9s
NJ2 LR LR
comp=Z,2μm,21.8s
AZL Aizawl 84.50 318 *e*P **P** **14 40 55.4 -4.3**
AZL IAmb IAmb 14 41 16.3
comp=Z,34nm,0.9s
BWNR Bhubaneshwar 84.66 311 *e*P **P** **14 40 56.6 -3.8**
BWNR IAmb IAmb 14 41 11.4
comp=Z,59nm,1.4s
LBTB Lobatse 84.82 237 P **P** **14 41 00.4 -1.2**
LBTB IAmb IAmb 14 41 04.5
comp=Z,38nm,1.2s
LBTB Lobatse 84.82 237 LR LR 15 13 00.4
comp=Z,5μm,19.3s,baz=158,slow=32
LBTB Lobatse 84.82 237 P **P** **14 41 00.4 -1.2**
LBTB pmax pmax
comp=Z,38nm,1.3s
LBTB Lobatse 84.82 237 ⇑P **P** **14 41 02.7 +1.1**
IMP Imphal 84.93 320 *e*P **P** **14 40 57.3 -4.6**
AGT Agartala 85.25 317 *e*P **P** **14 40 59.7 -3.6**
INU Inuyama 85.39 358 P **P** **14 41 06.8 +3.0**
JGF Kuroka 85.64 358 P **P** **14 41 03.7 -1.4**
JGF Kuroka 85.64 358 P **P** **14 41 08.2 +3.1**
KOHI KOHIMA 85.65 320 *e*P **P** **14 41 01.6 -3.9**
KOHI IAmb IAmb 14 41 22.4
comp=Z,75nm,1.3s
MREMI Moremi 85.78 239 *i* P **P** **14 41 08.2 +1.8**
HYB Hyderabad 85.95 303 *e*P **P** **14 41 06.3 -0.7**
HYB *e*pP **sP** **14 41 09.5 -1.9**
HYB *e*PP **PP** **14 44 26.0 -1.2**
HYB *e*S **S** **14 51 40.9 +0.5**
SKOMA Sekoma 86.11 236 *i* P **P** **14 41 09.3 +1.2**
LKP Lekhapani 86.39 322 *e*P P 14 41 03.4 -5.6
LKP IAmb IAmb 14 41 43.9
comp=Z,42nm,1.1s
SHL Shillong 86.45 318 *e*P **P** **14 41 05.2 -4.3**
SHL Shillong 86.45 318 P **P** **14 41 07.0 -2.5**
MJAR Matsushiro Arr 86.56 359 P **P** **14 41 08.7 -0.9**
MJAR IAmb IAmb 14 41 14.1
comp=Z,118nm,2.0s
MJAR Matsushiro Arr 86.56 359 P **P** **14 41 10.1 +0.5**
comp=Z,8.9nm,0.9s,baz=179,slow=5.5,SNR=18
MJAR LR LR 15 18 16.6
comp=Z,2μm,21.4s,baz=172,slow=35
comp=Z,8.9nm,0.9s
MAJO Matsushiro 86.56 359 P **P** **14 41 12.4 +2.8**
MAJO Matsushiro 86.56 359 ⇓*i*P **P** **14 41 08.9 -0.7**
MAJO pmax pmax
comp=Z,67nm,1.8s
MAJO MLR MLR
comp=Z,2μm,19.0s
MJA0 Matsu Arr-Jizo 86.56 359 *e*P **P** **14 41 09.2 -0.4**
KDWAN Kaudwane 86.64 237 P **P** **14 41 09.7 -1.0**
KDWAN IAMs_20 IAMs_20 15 14 33.7
comp=Z,5μm,20.0s
CD2 Chengdu 86.83 330 P **P** **14 41 10.3 -0.8**
CD2 PcP **pP** **14 41 12.3 -2.0**
CD2 pP sP 14 41 14.0 -1.5
CD2 sP pwP 14 41 16.1 -2.2
CD2 PP **PP** **14 44 35.5 +1.2**
CD2 SKS **SKSac** **14 51 37.5 +0.1**
CD2 S **S** **14 51 50.6 +2.1**
CD2 sS ScS 14 51 55.8 -0.5
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,580nm,3.9s
CD2 LR LR
comp=Z,5μm,19.2s
CD2 LR LR
comp=Z,3μm,17.3s
CD2 LR LR
comp=Z,5μm,19.8s
MATP Matopo 86.90 241 LR LR 15 14 34.9
comp=Z,10μm,18.7s,baz=148,slow=32
GOA Goa 86.97 299 *e*P **P** **14 41 08.5 -3.5**
TEZP TEZPUR 86.99 319 *e*P **P** **14 41 07.8 -4.0**
TEZP IAmb IAmb 14 41 22.8
comp=Z,17nm,1.1s
BROLN Tlhalogang 87.02 240 *i* P **P** **14 41 13.9 +1.3**
TJN Taejon 87.03 350 P **P** **14 41 14.2 +2.4**
TJN Taejon 87.03 350 ⇑*i*P **P** **14 41 11.2 -0.6**
TJN pmax pmax
comp=Z,5.0nm,1.9s
GUWA GUWAHATI 87.08 318 *e*P **P** **14 41 08.0 -4.3**
GUWA IAmb IAmb 14 41 28.4
comp=Z,33nm,1.0s
KNTI KHUNTI 87.26 312 *e*P **P** **14 41 11.4 -1.9**
KNTI IAmb IAmb 14 41 24.4
comp=Z,23nm,1.1s
ZIRO ZIRO 87.36 321 *e*P **P** **14 41 09.6 -4.3**
BOK Bokaro 87.61 313 *e*P P 14 41 10.0 -4.9
BOK IAmb IAmb 14 41 25.9
comp=Z,16nm,0.9s
LYN LuoYang 87.82 338 P **P** **14 41 17.0 +1.3**
LYN SKS **SKSac** **14 51 42.8 -0.4**
LYN S **ScS** **14 52 00.3 -3.9**
LYN pmax pmax
comp=Z,62nm,1.7s
LYN pmax pmax
comp=Z,410nm,4.6s
LYN LR LR
comp=Z,1μm,21.0s
LYN LR LR
comp=Z,2μm,21.0s
LYN LR LR
comp=Z,3μm,25.4s
BLSP Bilaspur 88.02 309 *e*P **P** **14 41 13.2 -3.8**
BLSP IAML 14 41 27.6
comp=Z,43nm,1.5s
KSAR Wonju Array Be 88.03 351 P **P** **14 41 16.1 -0.5**
KSAR Wonju Array Be 88.03 351 P **P** **14 41 16.1 -0.5**
KSRS Korea Array 88.04 351 P **P** **14 41 17.4 +0.8**
comp=Z,5.2nm,0.9s,baz=176,slow=4.0,SNR=24
KSRS LR LR 15 19 05.8
comp=Z,724μm,21.8s,baz=175,slow=35
comp=Z,5.2nm,0.9s
JSD Sado 88.06 359 P **P** **14 41 19.9 +3.2**
SOOWA Sowa 88.06 240 *i* P **P** **14 41 19.6 +2.1**
COBR COOCHBEHAR 88.13 317 *e*P **P** **14 41 13.1 -4.3**
INCN Inchon 88.20 350 P **P** **14 41 20.4 +2.9**
XAN Xi'an 88.24 335 P **P** **14 41 17.0 -0.8**
XAN PP **PP** **14 44 45.4 -0.2**
XAN SKS **SKSac** **14 51 47.8 +2.0**
XAN S **S** **14 52 00.4 -1.4**
XAN pmax pmax
comp=Z,50nm,1.9s
XAN pmax pmax
comp=Z,430nm,4.5s
XAN LR LR
comp=Z,2μm,21.3s
XAN LR LR
comp=Z,4μm,21.3s
XAN LR LR
comp=Z,5μm,24.8s
KGCAE Kacgae 88.37 235 *i* P **P** **14 41 21.5 +2.4**
TIA Tai'an 88.41 342 P **P** **14 41 18.0 -0.5**
TIA PP **PP** **14 44 49.3 +2.4**
TIA S **S** **14 52 02.3 -1.0**
TIA SS **SS** **14 57 52.6 -1.8**
TIA pmax pmax
comp=Z,14nm,1.3s
TIA pmax pmax
comp=Z,380nm,6.1s
TIA LR LR
comp=Z,2μm,23.9s
TIA LR LR
comp=Z,1μm,19.2s
TIA LR LR
comp=Z,4μm,21.8s
CKGRV CKGRV 88.72 237 *i* P **P** **14 41 22.0 +1.3**
GAYA Gaya 88.77 313 *e*P **P** **14 41 16.6 -3.9**
GAYA IAmb IAmb 14 41 31.5
comp=Z,44nm,1.1s
ARIA ARARIA 88.88 315 *e*P P 14 41 38.4 +17
KOOLE Kule 89.31 234 P **P** **14 41 21.8 -1.6**
KOOLE IAmb IAmb 14 41 26.9
comp=Z,63nm,1.2s
GTK Tadong 89.40 317 *e*P **P** **14 41 19.3 -4.2**
GTK IAmb IAmb 14 41 41.8
comp=Z,46nm,0.8s
H03S2 Juan Fernandez 89.60 149 T T 16 21 29.6
baz=201,slow=74,SNR=81
H03S1 Juan Fernandez 89.61 149 T T 16 21 36.2
baz=201,slow=74,SNR=84
H03S3 Juan Fernandez 89.62 149 T T 16 21 30.9
baz=201,slow=74,SNR=74
TRQA Tornquist 89.97 163 P **P** **14 41 25.7 -0.5**
TRQA IAMs_20 IAMs_20 15 21 36.3
comp=Z,4μm,18.0s
TRQA Tornquist 89.97 163 P **P** **14 41 25.7 -0.5**
TRQA pmax pmax
comp=Z,97nm,1.8s
TRQA MLR MLR
comp=Z,4μm,18.0s
HNS HongShan 90.05 341 ⇑P **P** **14 41 27.1 +1.0**
HNS S **S** **14 52 16.0 -2.5**
HNS SS **SS** **14 58 22.4 +4.3**
HNS pmax pmax
comp=Z,33nm,1.5s
HNS LR LR
comp=Z,2μm,20.6s
HNS LR LR
comp=Z,1μm,20.8s
HNS LR LR
comp=Z,3μm,19.4s
DL2 Dalian 90.26 346 P **P** **14 41 23.8 -3.2**
DL2 SKS **SKSac** **14 51 52.8 -4.6**
DL2 S **S** **14 52 15.9 -4.5**
DL2 pmax pmax
comp=Z,23nm,1.7s
DL2 pmax pmax
comp=Z,330nm,6.1s
DL2 LR LR
comp=Z,2μm,20.6s
DL2 LR LR
comp=Z,590nm,17.1s
DL2 LR LR
comp=Z,3μm,21.2s
LSA Lhasa 90.38 320 P **P** **14 41 28.4 -0.1**
LSA pmax pmax
comp=Z,12nm,0.9s
LSA LR LR
comp=Z,870nm,16.7s
STMR SITAMARHI 90.42 314 *e*P P 14 41 23.1 -4.9
ALBI Allahabad 90.84 310 *e*P **P** **14 41 26.4 -3.7**
ALBI IAmb IAmb 14 41 41.0
comp=Z,50nm,0.9s
TIY Taiyuan 90.85 339 P **P** **14 41 33.4 +3.4**
TIY S **S** **14 52 21.5 -4.6**
TIY pmax pmax
comp=Z,19nm,1.0s
TIY pmax pmax
comp=Z,240nm,4.9s
TIY LR LR
comp=Z,1μm,25.4s
TIY LR LR
comp=Z,1μm,21.3s
TIY LR LR
comp=Z,2μm,24.7s
KSANE Kasane 90.88 240 IAMs_20 IAMs_20 15 15 16.5
comp=Z,4μm,20.0s
NRDN NARMADA NAGAR 91.04 305 *e*P **P** **14 41 27.6 -3.5**
NRDN IAmb IAmb 14 41 41.9
comp=Z,30nm,0.9s
BO02 Sierra Bellavi 91.13 156 P **P** **14 41 30.4 -1.3**
BO02 IAmb IAmb 14 41 49.5
comp=Z,31nm,1.1s
LSZ Lusaka 91.18 244 LR LR 15 18 07.8
comp=Z,9μm,18.0s,baz=144,slow=33
LSZ Lusaka 91.18 244 P **P** **14 41 31.6 -0.7**
LSZ pmax pmax
comp=Z,108nm,1.3s
BHPL Bhopal 91.33 306 *e*P **P** **14 41 28.4 -4.1**
BHPL IAmb IAmb 14 41 43.2
comp=Z,54nm,1.3s
BO01 Tunca 91.43 155 P **P** **14 41 31.2 -1.8**
LZH Lanzhou 91.60 332 *e*P **P** **14 41 34.1 +0.5**
LZH sP pwP 14 41 42.8 +2.0
LZH PP **PP** **14 45 12.3 -0.2**
LZH SKS **SKSac** **14 52 03.4 -2.2**
LZH S **ScS** **14 52 33.8 -2.1**
LZH SS **SS** **14 58 46.0 +5.1**
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,320nm,4.8s
LZH LR LR
comp=Z,3μm,19.2s
LZH LR LR
comp=Z,2μm,19.6s
LZH LR LR
comp=Z,5μm,19.9s
BJI Beijing 92.30 342 P **P** **14 41 36.0 -0.5**

BJI SKS **SKSac** **14 52 11.4 +2.4**
BJI S **ScS** **14 52 40.8 -0.3**
BJI SS **SS** **14 58 55.6 +5.1**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJI pmax pmax
comp=Z,51nm,3.6s
BJI LR LR
comp=Z,960nm,21.4s
BJI LR LR
comp=Z,500nm,24.5s
BJI LR LR
comp=Z,1μm,20.6s
JHNI **Jhansi** **92.60 308** *e*P **P** **14 41 34.3 -4.0**
JHNI IAmb IAmb 14 41 45.0
comp=Z,22nm,0.7s
MT08 **Bocatoma Ro** **92.61 156** P **P** **14 41 37.0 -1.8**
MT08 IAmb IAmb 14 42 06.1
comp=Z,26nm,1.2s
BRCI **Bahraich** **92.84 311** *e*P **P** **14 41 35.0 -4.3**
SNY **Shenyang** **92.86 348** ⇓P **P** **14 41 38.0 -1.0**
SNY S **S** **14 52 41.0 -2.7**
SNY pmax pmax
comp=Z,12nm,1.7s
SNY pmax pmax
comp=Z,110nm,11.1s
SNY LR LR
comp=Z,1μm,22.5s
SNY LR LR
comp=Z,840nm,19.5s
SNY LR LR
comp=Z,2μm,24.6s
MSHR **Mys Shultsa** **92.86 354** ⇓*i*P **P** **14 41 37.6 -1.4**
MSHR pmax pmax
comp=Z,56nm,1.7s
TSUM **Tsumeb** **93.80 234** LR LR 15 18 32.1
comp=Z,7μm,18.7s,baz=148,slow=32
HHC **Hu-ho-hao-te** **94.05 339** *e*P **P** **14 41 45.5 +0.8**
HHC PP **PP** **14 45 35.3 +3.7**
HHC S **S** **14 52 52.3 -2.3**
HHC sS sS 14 53 00.8 +0.8
HHC SS **SS** **14 59 19.1 +3.4**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,130nm,6.7s
HHC LR LR
comp=Z,1μm,16.7s
HHC LR LR
comp=Z,640nm,18.5s
HHC LR LR
comp=Z,2μm,18.1s
ASAJ **Asahikawa** **94.17 2** LR LR 15 23 52.5
comp=Z,2μm,20.7s,baz=187,slow=35
BTO **Baotou** **94.17 338** *e*P P 14 41 49.3 +4.0
BTO sP pwP 14 41 56.1 +3.6
BTO PP PP 14 45 39.6 +7.1
BTO SKS **SKSac** **14 52 19.5 0.0**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,310nm,4.3s
BTO LR LR
comp=Z,2μm,24.1s
BTO LR LR
comp=Z,3μm,19.2s
BTO LR LR
comp=Z,2μm,21.2s
AGRA **Agra** **94.35 308** *e*P **P** **14 41 41.6 -4.7**
USRK **Ussuriysk Ar.** **94.42 355** P **P** **14 41 46.4 +0.2**
comp=Z,6.6nm,0.8s,baz=201,slow=5.7,SNR=8.1
USRK LR LR 15 23 21.5
comp=Z,1μm,19.9s,baz=170,slow=35
comp=Z,6.6nm,0.8s
USA0B **Ussuriysk Arra** **94.42 355**⇑*e*P **P** **14 41 45.4 -0.8**
CN2 **Changchun** **94.58 350** P **P** **14 41 46.0 -0.9**
CN2 S **S** **14 52 56.1 -2.7**
CN2 SS **SS** **14 59 24.8 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1μm,24.0s
CN2 LR LR
comp=Z,1μm,24.0s
CN2 LR LR
comp=Z,2μm,23.0s
GOMU **GeErMu** **94.70 325** P **P** **14 41 48.4 +0.2**
GOMU PP **PP** **14 45 37.1 0.0**
GOMU S **S** **14 53 03.4 +2.3**
GOMU pmax pmax
comp=Z,120nm,6.6s
GOMU LR LR
comp=Z,2μm,21.6s
GOMU LR LR
comp=Z,1μm,19.9s
GOMU LR LR
comp=Z,3μm,22.1s
CFA **Coronel Fontan** **94.81 157** LR LR 15 20 40.6
comp=Z,712nm,18.6s,baz=182,slow=33
MDJ **Mudanjiang** **95.00 353** P **P** **14 41 48.0 -0.8**
MDJ S **S** **14 53 09.8 +7.4**
MDJ pmax pmax
comp=Z,18nm,1.8s
MDJ LR LR
comp=Z,1μm,24.4s
MDJ LR LR
comp=Z,1μm,22.7s
MDJ LR LR
comp=Z,3μm,24.1s
KIBK **Kibwezi** **95.33 260** IAMs_20 IAMs_20 15 15 25.0
comp=Z,4μm,21.0s
GTA **Gaotai** **95.90 330** *e*P **P** **14 41 55.3 +2.1**
GTA pP pwP 14 42 02.3 +1.8
GTA S **S** **14 53 09.1 -1.7**
GTA SS **SS** **14 59 42.8 +0.6**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA LR LR
comp=Z,2μm,23.5s
GTA LR LR
comp=Z,1μm,23.1s
GTA LR LR
comp=Z,3μm,24.9s
XLT **XiLinHaoTe** **96.05 343** *e*P **P** **14 41 54.1 +0.3**
XLT pP sP 14 41 56.8 -1.4
XLT S **S** **14 53 09.4 -2.4**
XLT pmax pmax
comp=Z,6.0nm,1.1s
XLT pmax pmax
comp=Z,120nm,4.3s
XLT LR LR
comp=Z,870nm,23.6s
XLT LR LR
comp=Z,2μm,20.6s
LCO **Las Campanas** **96.61 154** IAMs_20 IAMs_20 15 14 55.0
comp=Z,4μm,22.0s
KMBO **Kilima Mbogo** **96.77 260** LR LR 15 17 48.8
comp=Z,3μm,21.0s,baz=122,slow=31
YSS **Yuzhno-Sakhali** **97.01 2** IAMs_20 IAMs_20 15 24 16.5
comp=Z,4μm,21.0s
YSS **Yuzhno-Sakhali** **97.01 2** *e*P **P** **14 41 53.1 -4.8**
YSS *e* 14 45 51.1
YSS *e* 14 52 32.8
YSS *e*PS **PS** **14 54 37.9 -5.1**
YSS eSS SS 14 59 55.0 -2.4
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS pmax pmax
comp=Z,100nm,2.7s
YSS smax smax
comp=N,200nm,9.2s
YSS smax smax
comp=E,300nm,8.8s
KLP **Kalpa** **97.74 311** *e*P **P** **14 41 57.4 -4.6**
KLP IAmb IAmb 14 42 27.5
comp=Z,24nm,1.2s
HEH **HeiHe** **100.77 352** P **Pdif** **14 42 16.0 +1.4**
HEH PP **PP** **14 46 22.8 -0.2**
HEH SS SS 15 00 53.0 +2.9
HEH LR LR
comp=Z,1μm,18.6s
HEH LR LR
comp=Z,1μm,21.0s
HEH LR LR
comp=Z,3μm,19.8s
ULN **Ulaanbaatar** **101.73 339**⇓*e*P **Pdif** **14 42 18.6 -0.6**
ULN pmax pmax
comp=Z,1.0nm,0.9s
SONM **Songino Array** **101.85 338** P **Pdif** **14 42 20.7 +1.0**
comp=Z,1.1nm,0.9s,baz=152,slow=3.6,SNR=4.3
NIL **Nilore** **101.91 309** IAMs_20 IAMs_20 15 14 53.1
comp=Z,3μm,18.0s
FURI **Furi** **103.53 268** IAMs_20 IAMs_20 15 24 54.7
comp=Z,3μm,20.0s
PEA0B **Petropavlovsk-** **104.30 11** IAMs_20 IAMs_20 15 27 36.2
comp=Z,2μm,20.0s
ADK **Adak** **108.54 27** IAMs_20 IAMs_20 15 28 15.7
comp=Z,4μm,22.0s
GSTR **Great Sitkin T** **108.91 27** IAMs_20 IAMs_20 15 28 57.5
comp=Z,3μm,21.0s
ATKA **Atka Island** **109.56 28** IAMs_20 IAMs_20 15 28 36.8
comp=Z,4μm,21.0s
NNA **Nana** **110.34 142** IAMs_20 IAMs_20 15 24 42.4
comp=Z,2μm,18.0s
NIKH **Nikolski High** **111.91 31** P **PKiKP** **14 47 00.7 -0.2**
baz=213
KURBB **Kurchatov Arra** **113.13 323** Pdiff **Pdif** **14 43 11.6 +2.0**
comp=Z,0.8nm,0.8s,baz=131,slow=4.2,SNR=4.3
KURBB PKiKP **PKiKP** **14 47 03.5 +0.2**
comp=Z,0.2nm,0.3s,baz=153,slow=2.1,SNR=4.9
KURK **Kurchatov** **113.17 323** *i* PKiKP **PKiKP** **14 47 03.5 +0.2**
UNV **Unalaska Valle** **113.41 32** P **PKiKP** **14 47 03.6 -0.1**
baz=214
ZAA0 **Zalesovo Array** **113.55 328** IAMs_20 IAMs_20 15 34 36.3
comp=Z,3μm,22.0s
ZALV **Zalesovo Beam** **113.55 328** PKiKP **PKiKP** **14 47 05.1 +1.1**
comp=Z,0.2nm,0.3s,baz=147,slow=2.9,SNR=1.3
ZALV PKKPbc **PKKPbc** **14 57 46.9 -0.9**
comp=Z,0.4nm,0.4s,baz=319,slow=5.7,SNR=3.9
PAYG **Puerto Ayora** **113.99 124** IAMs_20 IAMs_20 15 23 42.5
comp=Z,4μm,21.0s
P08K **Saint George I** **114.73 28** IAMs_20 IAMs_20 15 31 12.7
comp=Z,3μm,21.0s
P08K **Saint George I** **114.73 28** P **PKiKP** **14 47 06.8 +0.6**
baz=213
SPIA **Saint Paul Isl** **115.01 28** IAMs_20 IAMs_20 15 32 18.9
comp=Z,3μm,21.0s
SPIA **Saint Paul Isl** **115.01 28** P **PKiKP** **14 47 07.1 +0.4**
baz=213
FALS **False Pass** **115.29 33** IAMs_20 IAMs_20 15 32 31.5
comp=Z,2μm,22.0s
FALS **False Pass** **115.29 33** P **PKiKP** **14 47 07.1 -0.1**
baz=217
S12K **Black Hills** **116.43 33** IAMs_20 IAMs_20 15 33 15.8
comp=Z,2μm,21.0s
S12K **Black Hills** **116.43 33** P **PKiKP** **14 47 10.0 +0.5**
baz=218
CNBA **Chernabura Isl** **116.61 35** IAMs_20 IAMs_20 15 27 06.9
comp=Z,3μm,22.0s
CHNA **Chernabura Isl** **116.62 35** P **PKiKP** **14 47 10.5 +0.6**
baz=219
SDPT **Sand Point** **116.71 34** IAMs_20 IAMs_20 15 28 39.2
comp=Z,2μm,20.0s
SDPT **Sand Point** **116.71 34** P **PKiKP** **14 47 10.5 +0.5**
baz=218
ASCN **Ascension** **117.55 210** IAMs_20 IAMs_20 15 27 01.3
comp=Z,3μm,22.0s
S14K **Fog Glacier** **117.77 34** P **PKiKP** **14 47 12.2 0.0**
baz=219
SAML **Samuel** **117.77 155** IAMs_20 IAMs_20 15 39 33.5
comp=Z,3μm,20.0s
CHGN **Chignik** **118.19 34** IAMs_20 IAMs_20 15 28 30.2
comp=Z,3μm,21.0s
BVAR **Borovoye Array** **118.21 320** PKP **PKiKP** **14 47 13.3 +0.3**
comp=Z,1.2nm,0.8s,baz=143,slow=2.8,SNR=5.7
BRVK **Borovoye** **118.28 320***d* *i*PKIKP **PKiKP** **14 47 13.8 +0.7**
BRVK MLR MLR
comp=Z,1μm,20.0s
CHIR **Chirikof Islan** **118.84 36** IAMs_20 IAMs_20 15 29 19.7
comp=Z,3μm,21.0s
CHIR **Chirikof Islan** **118.84 36** P **PKiKP** **14 47 14.4 +0.2**
baz=222
M11K **Mekoryuk** **118.85 28** IAMs_20 IAMs_20 15 35 21.5
comp=Z,3μm,20.0s
M11K **Mekoryuk** **118.85 28** P **PKiKP** **14 47 14.3 +0.3**
baz=216
R16K **Pilot Point** **119.45 34** P **PKiKP** **14 47 15.5 +0.3**
baz=221
O14K **Tigyukauivet M** **119.49 31** IAMs_20 IAMs_20 15 33 10.5
comp=Z,2μm,20.0s
O14K **Tigyukauivet M** **119.49 31** P **PKiKP** **14 47 15.7 +0.4**
baz=219
M13K **Dall Lake** **119.73 29** IAMs_20 IAMs_20 15 34 38.9
comp=Z,3μm,20.0s
M13K **Dall Lake** **119.73 29** P **PKiKP** **14 47 16.2 +0.5**
baz=218
BILL **Bilibino** **119.83 11** IAMs_20 IAMs_20 15 40 06.2
comp=Z,3μm,20.0s
BILL **Bilibino** **119.83 11***c* *i*PKIKP **PKiKP** **14 47 17.2 +1.5**
BILL MLR MLR
comp=Z,3μm,19.0s
N14K **Kuskokwak Cree** **119.87 30** IAMs_20 IAMs_20 15 30 34.6
comp=Z,3μm,22.0s
N14K **Kuskokwak Cree** **119.87 30** P **PKiKP** **14 47 16.4 +0.5**
baz=219
O15K **Ungalikthiuk R** **119.90 31** IAMs_20 IAMs_20 15 34 42.5
comp=Z,3μm,20.0s
O15K **Ungalikthiuk R** **119.90 31** P **PKiKP** **14 47 16.4 +0.3**
baz=220
R17L **Mt. Peulik Vol** **119.93 34** P **PKiKP** **14 47 16.7 +0.4**
baz=222
PLK4 **Peulik 4** **119.93 34** IAMs_20 IAMs_20 15 29 35.3
comp=Z,2μm,22.0s
SII **Sitkinak Islan** **119.93 36** IAMs_20 IAMs_20 15 30 02.5
comp=Z,3μm,21.0s
SII **Sitkinak Islan** **119.93 36** P **PKiKP** **14 47 16.3 0.0**
baz=223
GAMB **Gambell** **120.13 23** IAMs_20 IAMs_20 15 31 31.2
comp=Z,2μm,22.0s
GAMB **Gambell** **120.13 23** P **PKiKP** **14 47 17.1 +0.7**
baz=214
P16K **Nushagak River** **120.41 32** P **PKiKP** **14 47 17.8 +0.7**
baz=221
M14K **Bethel** **120.43 29** IAMs_20 IAMs_20 15 35 11.3
comp=Z,3μm,22.0s
M14K **Bethel** **120.43 29** P **PKiKP** **14 47 17.7 +0.7**
baz=219
K13K **Kusilvak Mount** **120.54 27** IAMs_20 IAMs_20 15 37 21.1
comp=Z,2μm,20.0s
K13K **Kusilvak Mount** **120.54 27** P **PKiKP** **14 47 17.7 +0.5**
baz=218
N15K **Kwethluk River** **120.57 30** IAMs_20 IAMs_20 15 33 03.2
comp=Z,3μm,21.0s
N15K **Kwethluk River** **120.57 30** P **PKiKP** **14 47 17.6 +0.1**
baz=220
R18K **Karluk** **120.57 35** P **PKiKP** **14 47 18.1 +0.7**
baz=223
Q16K **King Salmon** **120.61 33** P **PKiKP** **14 47 17.6 +0.1**
baz=222
L14K **Kuka Creek** **120.67 28** IAMs_20 IAMs_20 15 35 57.5
comp=Z,2μm,20.0s
L14K **Kuka Creek** **120.67 28** P **PKiKP** **14 47 18.1 +0.6**
baz=219
OHAK **Old Harbor** **120.75 36** IAMs_20 IAMs_20 15 31 00.2
comp=Z,3μm,22.0s
OHAK **Old Harbor** **120.75 36** P **PKiKP** **14 47 18.2 +0.4**
baz=223
M15K **Kasigluk River** **120.79 30** P **PKiKP** **14 47 18.4 +0.6**
baz=220
O16K **Kokwok River B** **120.80 32** IAMs_20 IAMs_20 15 34 08.2
comp=Z,3μm,20.0s
O16K **Kokwok River B** **120.80 32** P **PKiKP** **14 47 18.4 +0.6**
baz=221
SLBS **Sierra La Lagu** **121.03 90** IAMs_20 IAMs_20 15 29 23.0
comp=Z,2μm,20.0s
P17K **Kvichak River** **121.07 33** P **PKiKP** **14 47 18.9 +0.6**
baz=222
Q18K **Katmai Hardscr** **121.17 34** P **PKiKP** **14 47 19.0 +0.2**
baz=223
N16K **Nishlik Lake** **121.24 31** P **PKiKP** **14 47 18.9 +0.2**
baz=221
O17K **Koliganek Bris** **121.27 32** P **PKiKP** **14 47 18.9 +0.1**
baz=222
L15K **Ungalak Mounta** **121.29 29** P **PKiKP** **14 47 19.4 +0.6**
baz=220
AKT **Akhty** **121.30 298** *i* PKIKP **PKPdf** **14 47 18.2 -1.3**
AKT pmax pmax
comp=Z,21nm,1.3s
KDAK **Kodiak Island** **121.42 36** IAMs_20 IAMs_20 15 31 07.9
comp=Z,3μm,22.0s
KDAK **Kodiak Island** **121.42 36** P **PKiKP** **14 47 19.7 +0.6**
baz=224
J14K **Nanvaranak Lak** **121.50 27** IAMs_20 IAMs_20 15 38 00.2
comp=Z,2μm,20.0s
J14K **Nanvaranak Lak** **121.50 27** P **PKiKP** **14 47 19.8 +0.7**
baz=219
M16K **Timber Creek** **121.59 30** IAMs_20 IAMs_20 15 33 44.0
comp=Z,3μm,21.0s
M16K **Timber Creek** **121.59 30** P **PKiKP** **14 47 20.2 +0.8**
baz=222
P18K **Big Mountain,** **121.63 33** IAMs_20 IAMs_20 15 30 42.3
comp=Z,2μm,22.0s
P18K **Big Mountain,** **121.63 33** P **PKiKP** **14 47 20.2 +0.7**
baz=223
K15K **Wolf Creek Mou** **121.75 28** IAMs_20 IAMs_20 15 37 00.1
comp=Z,3μm,21.0s
K15K **Wolf Creek Mou** **121.75 28** P **PKiKP** **14 47 20.4 +0.7**
baz=220
GHAJ **Ghor Haditha** **121.78 282** IAMs_20 IAMs_20 15 39 31.2
comp=Z,2μm,21.0s
N17K **Nushagak Hills** **121.80 31** IAMs_20 IAMs_20 15 35 08.6
comp=Z,3μm,20.0s
N17K **Nushagak Hills** **121.80 31** P **PKiKP** **14 47 20.3 +0.5**
baz=222
Q19K **Cape Douglas,** **121.86 34** IAMs_20 IAMs_20 15 31 37.3
comp=Z,3μm,22.0s
Q19K **Cape Douglas,** **121.86 34** P **PKiKP** **14 47 20.3 +0.3**
baz=224
AKTO **Aktyubinsk** **121.88 312** PKP **PKiKP** **14 47 20.4 +0.1**
comp=Z,0.6nm,0.3s,baz=35,slow=2.3,SNR=1.5
L16K **Owhat River** **121.94 29** IAMs_20 IAMs_20 15 36 09.3
comp=Z,3μm,20.0s
L16K **Owhat River** **121.94 29** P **PKiKP** **14 47 20.4 +0.3**
baz=221
TIXI **Tiksi** **121.96 356** IAMs_20 IAMs_20 15 44 43.6
comp=Z,2μm,20.0s
O18K **Koktuh Hills** **121.98 33** IAMs_20 IAMs_20 15 36 49.4
comp=Z,2μm,20.0s
O18K **Koktuh Hills** **121.98 33** P **PKiKP** **14 47 20.7 +0.5**
baz=223
Q20K **Shuyak Island** **122.08 35** P **PKiKP** **14 47 20.9 +0.5**
baz=225
SYI **Shuyak Island** **122.09 35** IAMs_20 IAMs_20 15 33 16.4
comp=Z,2μm,21.0s
N18K **Kilae Creek** **122.35 32** IAMs_20 IAMs_20 15 32 03.1
comp=Z,3μm,22.0s
N18K **Kilae Creek** **122.35 32** P **PKiKP** **14 47 21.4 +0.5**
baz=223
M17K **Holitna River** **122.36 31** IAMs_20 IAMs_20 15 34 06.5
comp=Z,3μm,20.0s
M17K **Holitna River** **122.36 31** P **PKiKP** **14 47 21.5 +0.6**
baz=223
RAMR **Ramage Ranch** **122.36 72** IAMs_20 IAMs_20 15 31 58.8
comp=Z,2μm,20.0s
HULI **Fort Hunter Li** **122.40 71** IAMs_20 IAMs_20 15 31 57.7
comp=Z,3μm,20.0s
MAK **Makhachkala** **122.40 300** *i* P **Pdif** **14 43 41.0 -10**
MAK *e* 14 54 17.2
MAK *e*PS **PS** **14 58 47.3 -5.1**
MAK pmax pmax
comp=Z,41nm,0.4s
MAK MLR MLR
comp=Z,1μm,20.0s
ANM **Nome** **122.41 25** IAMs_20 IAMs_20 15 36 22.5
comp=Z,2μm,21.0s
ANM **Nome** **122.41 25** P **PKiKP** **14 47 21.7 +0.8**
baz=219
FARB **Farallon Islan** **122.44 69** IAMs_20 IAMs_20 15 32 38.9
comp=Z,2μm,19.0s
P19K **Oil Pt** **122.53 34** IAMs_20 IAMs_20 15 30 55.0
comp=Z,3μm,22.0s
P19K **Oil Pt** **122.53 34** P **PKiKP** **14 47 21.9 +0.6**
baz=224
O19K **Port Alsworth** **122.53 33** IAMs_20 IAMs_20 15 37 06.1
comp=Z,2μm,20.0s
O19K **Port Alsworth** **122.53 33** P **PKiKP** **14 47 21.8 +0.6**
baz=224
TNA **Tin City** **122.53 23** IAMs_20 IAMs_20 15 34 49.4
comp=Z,2μm,22.0s
TNA **Tin City** **122.53 23** P **PKiKP** **14 47 22.0 +0.9**
baz=217
L17K **Donlin** **122.63 30** P **PKiKP** **14 47 22.3 +0.9**
baz=222
SCZ **Santa Cruz** **122.68 71** IAMs_20 IAMs_20 15 34 33.1
comp=Z,2μm,18.0s
SAO **San Andreas Ge** **122.76 70** IAMs_20 IAMs_20 15 34 35.4
comp=Z,2μm,19.0s
J16K **Anvik River** **122.78 28** IAMs_20 IAMs_20 15 38 01.4
comp=Z,2μm,20.0s
J16K **Anvik River** **122.78 28** P **PKiKP** **14 47 22.4 +0.8**
baz=221
ILSW **Iliamna Southw** **122.80 34** IAMs_20 IAMs_20 15 31 27.0
comp=Z,2μm,21.0s
F14K **Arctic Creek** **122.87 24** P **PKiKP** **14 47 22.3 +0.5**
baz=218
N19K **Bonanza Creek** **122.92 32** IAMs_20 IAMs_20 15 33 38.3
comp=Z,3μm,21.0s
N19K **Bonanza Creek** **122.92 32** P **PKiKP** **14 47 22.5 +0.3**
baz=224
M18K **Stony River** **122.96 31** P **PKiKP** **14 47 22.9 +0.8**
baz=224
O20K **Slope Mountain** **123.05 34** P **PKiKP** **14 47 22.9 +0.6**
baz=225
K17K **Iditarod** **123.06 29** IAMs_20 IAMs_20 15 37 22.8
comp=Z,3μm,20.0s
K17K **Iditarod** **123.06 29** P **PKiKP** **14 47 22.7 +0.5**
baz=223
HOM **Homer** **123.10 34** IAMs_20 IAMs_20 15 32 23.7
comp=Z,2μm,21.0s
HOM **Homer** **123.10 34** P **PKiKP** **14 47 22.9 +0.5**
baz=226
G15K **Niukluk** **123.11 25** P **PKiKP** **14 47 22.8 +0.6**
baz=220
I17K **Unalakleet** **123.21 27** IAMs_20 IAMs_20 15 37 33.6
comp=Z,2μm,20.0s
I17K **Unalakleet** **123.21 27** P **PKiKP** **14 47 23.2 +0.8**
baz=222
L18K **Granite Mounta** **123.21 30** P **PKiKP** **14 47 23.1 +0.6**
baz=224
J17K **VABM Dome** **123.32 28** P **PKiKP** **14 47 23.1 +0.4**
baz=222
H16K **Elim** **123.33 26** P **PKiKP** **14 47 23.7 +1.0**
baz=221
BRLK **Bradley Lake** **123.45 35** IAMs_20 IAMs_20 15 34 50.6
comp=Z,3μm,21.0s
F15K **North Star Dit** **123.50 24** P **PKiKP** **14 47 23.9 +0.9**
baz=220
RUSS **Russell Ranch** **123.67 69** IAMs_20 IAMs_20 15 33 15.2
comp=Z,2μm,20.0s
M19K **Big River Lodg** **123.73 31** IAMs_20 IAMs_20 15 33 19.7
comp=Z,3μm,22.0s
M19K **Big River Lodg** **123.73 31** P **PKiKP** **14 47 24.1 +0.5**
baz=225,SNR=5.6
L19K **White Mountain** **123.78 31** P **PKiKP** **14 47 24.5 +0.8**
baz=225
JCC **Jacoby Creek,** **123.87 65** IAMs_20 IAMs_20 15 29 23.6
comp=Z,3μm,22.0s
G16K **Koyuk River** **123.87 25** P **PKiKP** **14 47 24.7 +1.0**
baz=221
N20K **Mount Spurr** **123.98 33** P **PKiKP** **14 47 24.8 +0.6**
baz=226
SPCR **Spurr Chakacha** **123.98 33** P **PKiKP** **14 47 24.8 +0.6**
baz=226
ACRG **Accra** **123.98 231** IAMs_20 IAMs_20 15 33 11.7
comp=Z,3μm,21.0s
J18K **Innoko River** **124.10 29** IAMs_20 IAMs_20 15 37 33.4
comp=Z,3μm,20.0s
J18K **Innoko River** **124.10 29** P **PKiKP** **14 47 24.8 +0.5**
baz=224
BUCR **Buckhorn Ranch** **124.14 70** IAMs_20 IAMs_20 15 36 03.5
comp=Z,2μm,18.0s
M20K **Styx River** **124.14 32** IAMs_20 IAMs_20 15 35 08.6
comp=Z,2μm,20.0s
M20K **Styx River** **124.14 32** P **PKiKP** **14 47 24.9 +0.4**
baz=226
SLKM **Skilak Lake** **124.21 34** IAMs_20 IAMs_20 15 34 57.1
comp=Z,3μm,20.0s
SEW **Seward** **124.21 35** IAMs_20 IAMs_20 15 38 15.2
comp=Z,2μm,21.0s
SEW **Seward** **124.21 35** P **PKiKP** **14 47 25.1 +0.6**
baz=227
H17K **Granite Mounta** **124.22 27** P **PKiKP** **14 47 25.3 +0.8**
baz=222
CMB **Columbia Colle** **124.23 70** IAMs_20 IAMs_20 15 39 09.3
comp=Z,2μm,18.0s
WELL **Weller Preserv** **124.29 69** IAMs_20 IAMs_20 15 32 57.5
comp=Z,2μm,20.0s
L20K **Farewell, AK** **124.31 31** P **PKiKP** **14 47 25.6 +0.8**
baz=225,SNR=7.5
O22K **Cooper Landing** **124.37 35** IAMs_20 IAMs_20 15 36 06.7

	comp=Z,2µm,20.0s									
O22K	**Cooper Landing**	**124.37**	**35**	P	**PKiKP**		**14 47 25.5**	**+0.7**		
	baz=227									
WSHM	**Spangler Hills**	**124.41**	**74**	IAMs_20	IAMs_20		15 35 23.1			
	comp=Z,2µm,19.0s									
G17K	**Kiwalik Mounta**	**124.43**	**26**	P	**PKiKP**		**14 47 25.4**	**+0.6**		
	baz=222									
SUA	**Susitna One**	**124.67**	**33**	IAMs_20	IAMs_20		15 32 27.4			
	comp=Z,2µm,22.0s									
SUA	**Susitna One**	**124.67**	**33**	P	**PKiKP**		**14 47 26.0**	**+0.4**		
	baz=227									
SKT	**Skwentna**	**124.76**	**33**	IAMs_20	IAMs_20		15 32 54.5			
	comp=Z,3µm,22.0s									
SKT	**Skwentna**	**124.76**	**33**	P	**PKiKP**		**14 47 26.2**	**+0.5**		
	baz=227									
RC01	**Rabbit Creek A**	**124.78**	**34**	IAMs_20	IAMs_20		15 31 44.1			
	comp=Z,3µm,22.0s									
RC01	**Rabbit Creek A**	**124.78**	**34**	P	**PKiKP**		**14 47 26.1**	**+0.4**		
	baz=228									
J19K	**Poorman**	**124.82**	**29**	IAMs_20	IAMs_20		15 38 24.4			
	comp=Z,3µm,20.0s									
J19K	**Poorman**	**124.82**	**29**	P	**PKiKP**		**14 47 26.4**	**+0.7**		
	baz=225									
H18K	**Honhosa River**	**124.83**	**27**	IAMs_20	IAMs_20		15 39 52.4			
	comp=Z,2µm,20.0s									
H18K	**Honhosa River**	**124.83**	**27**	P	**PKiKP**		**14 47 26.3**	**+0.6**		
	baz=224									
O03E	**Paynes Creek**	**124.84**	**67**	IAMs_20	IAMs_20		15 29 48.2			
	comp=Z,3µm,22.0s									
K20K	**Telida**	**124.86**	**30**	IAMs_20	IAMs_20		15 38 12.6			
	comp=Z,3µm,20.0s									
K20K	**Telida**	**124.86**	**30**	P	**PKiKP**		**14 47 26.6**	**+0.8**		
	baz=226,SNR=7.9									
P23K	**Montague Islan**	**124.90**	**36**	IAMs_20	IAMs_20		15 31 56.8			
	comp=Z,2µm,22.0s									
P23K	**Montague Islan**	**124.90**	**36**	P	**PKiKP**		**14 47 26.4**	**+0.5**		
	baz=228									
Q23K	**Middleton Isla**	**124.92**	**37**	P	**PKiKP**		**14 47 26.6**	**+0.6**		
	baz=229									
F17K	**Baldwin Pennin**	**124.96**	**25**	P	**PKiKP**		**14 47 26.6**	**+0.7**		
	baz=222									
GCSA	**Galena City Sc**	**124.97**	**28**	P	**PKiKP**		**14 47 26.7**	**+0.8**		
	baz=224									
M22K	**Willow**	**125.09**	**33**	IAMs_20	IAMs_20		15 34 05.7			
	comp=Z,3µm,22.0s									
M22K	**Willow**	**125.09**	**33**	P	**PKiKP**		**14 47 25.9**	**-0.3**		
	baz=228									
PWL	**Port Wells**	**125.13**	**35**	IAMs_20	IAMs_20		15 39 32.8			
	comp=Z,2µm,20.0s									
PWL	**Port Wells**	**125.13**	**35**	P	**PKiKP**		**14 47 26.6**	**+0.2**		
	baz=228									
PPLA	**Purkeypile**	**125.16**	**31**	IAMs_20	IAMs_20		15 34 13.5			
	comp=Z,3µm,22.0s									
PPLA	**Purkeypile**	**125.16**	**31**	P	**PKiKP**		**14 47 26.5**	**-0.1**		
	baz=227									
G18K	**Tagagawik**	**125.28**	**26**	P	**PKiKP**		**14 47 27.3**	**+0.7**		
	baz=224									
E17K	**Hotham Inlet**	**125.28**	**24**	P	**PKiKP**		**14 47 27.3**	**+0.8**		
	baz=222									
C16K	**Lisburne Hills**	**125.30**	**22**	IAMs_20	IAMs_20		15 36 24.4			
	comp=Z,3µm,22.0s									
C16K	**Lisburne Hills**	**125.30**	**22**	P	**PKiKP**		**14 47 27.2**	**+0.7**		
	baz=220									
PMR	**Palmer**	**125.33**	**34**	IAMs_20	IAMs_20		15 32 12.2			
	comp=Z,2µm,22.0s									
PMR	**Palmer**	**125.33**	**34**	P	**PKiKP**		**14 47 27.0**	**+0.3**		
	baz=228									
HATC	**Hat Creek Radi**	**125.37**	**67**	IAMs_20	IAMs_20		15 30 26.8			
	comp=Z,3µm,21.0s									
J20K	**Nowinta River**	**125.41**	**30**	IAMs_20	IAMs_20		15 36 22.0			
	comp=Z,3µm,21.0s									
J20K	**Nowinta River**	**125.41**	**30**	P	**PKiKP**		**14 47 27.5**	**+0.7**		
	baz=226									
D17K	**Noatak River**	**125.42**	**23**	P	**PKiKP**		**14 47 27.4**	**+0.7**		
	baz=222									
KNK	**Knik Glacier**	**125.45**	**34**	IAMs_20	IAMs_20		15 37 30.4			
	comp=Z,2µm,20.0s									
KNK	**Knik Glacier**	**125.45**	**34**	P	**PKiKP**		**14 47 27.5**	**+0.4**		
	baz=228									
CUT	**Chulitna**	**125.48**	**33**	IAMs_20	IAMs_20		15 37 28.7			
	comp=Z,3µm,21.0s									
CUT	**Chulitna**	**125.48**	**33**	P	**PKiKP**		**14 47 27.7**	**+0.7**		
	baz=228									
KBZ	**Khabaz**	**125.48**	**298**	PKP	**PKiKP**		**14 47 28.6**	**+1.0**		
	comp=Z,4.7nm,0.8s,baz=7.2,slow=2.4,SNR=4.4									
KBZ	**Khabaz**	**125.48**	**298**	*d i* PKIKP	**PKiKP**		**14 47 27.9**	**+0.3**		
KBZ				MLR	MLR					
	comp=Z,1µm,18.0s									
HIN	**Hinchinbrook I**	**125.50**	**36**	IAMs_20	IAMs_20		15 32 13.7			
	comp=Z,2µm,22.0s									
F18K	**Selawik**	**125.51**	**25**	P	**PKiKP**		**14 47 27.6**	**+0.7**		
	baz=224									
GHO	**Glory Hole Cre**	**125.53**	**34**	IAMs_20	IAMs_20		15 38 43.9			
	comp=Z,3µm,21.0s									
CAST	**Castle Rocks**	**125.56**	**31**	IAMs_20	IAMs_20		15 34 58.5			
	comp=Z,3µm,22.0s									
CAST	**Castle Rocks**	**125.56**	**31**	P	**PKiKP**		**14 47 27.7**	**+0.5**		
	baz=227									
ARTI	**Arti**	**125.58**	**318**	IAMs_20	IAMs_20		15 41 07.2			
	comp=Z,2µm,21.0s									
ARTI	**Arti**	**125.58**	**318**	PKP	**PKiKP**		**14 47 27.4**	**0.0**		
	comp=Z,6.4nm,1.1s,baz=102,slow=3.7,SNR=5.4									
ARTI	**Arti**	**125.58**	**318**	*i* PKIKP	**PKiKP**		**14 47 27.8**	**+0.4**		
ARTI							14 49 17.2			
ARTI							14 54 39.2			
ARTI				SP	SP		14 59 19.6	+1.2		
ARTI				SS	**SS**		**15 06 13.6**	**-4.9**		
ARTI				MLR	MLR					
	comp=Z,2µm,20.0s									
GLI	**Glacier Island**	**125.60**	**35**	IAMs_20	IAMs_20		15 36 49.9			
	comp=Z,2µm,20.0s									
GLI	**Glacier Island**	**125.60**	**35**	P	**PKiKP**		**14 47 27.9**	**+0.5**		
	baz=229									
CSS	**Mathiatis**	**125.61**	**284**	IAMs_20	IAMs_20		15 39 39.6			
	comp=Z,2µm,20.0s									
H19K	**Roundabout Mou**	**125.66**	**28**	IAMs_20	IAMs_20		15 38 29.4			
	comp=Z,2µm,21.0s									
H19K	**Roundabout Mou**	**125.66**	**28**	P	**PKiKP**		**14 47 27.9**	**+0.6**		
	baz=225,SNR=8.4									
RDOG	**Red Dog Mine**	**125.73**	**23**	IAMs_20	IAMs_20		15 35 06.8			
	comp=Z,2µm,22.0s									
RDOG	**Red Dog Mine**	**125.73**	**23**	P	**PKiKP**		**14 47 28.1**	**+0.7**		
	baz=222									
NVAR	**Mina Array Bea**	**125.74**	**71**	PKP	**PKiKP**		**14 47 28.8**	**+0.1**		
	comp=Z,8.1nm,1.2s,baz=213,slow=3.0,SNR=14									
I20K	**Naaghedeneel**	**125.74**	**29**	IAMs_20	IAMs_20		15 38 23.7			
	comp=Z,3µm,20.0s									
I20K	**Naaghedeneel**	**125.74**	**29**	P	**PKiKP**		**14 47 28.1**	**+0.7**		
	baz=226									
KIV	**Kislovodsk**	**125.74**	**298**	*i* PKIKP	**PKiKP**		**14 47 28.5**	**+0.2**		
KIV				*e*PS	**PS**		**14 59 20.4**	**-1.7**		
KIV				*e*SS	SS		15 06 19.6	-1.5		
KIV				pmax	pmax					
	comp=Z,12nm,1.0s									
KIV				MLR	MLR					
	comp=Z,816nm,23.0s									
FID	**Port Fidalgo**	**125.74**	**36**	IAMs_20	IAMs_20		15 32 22.5			
	comp=Z,3µm,22.0s									
CHUM	**Lake Minchumin**	**125.80**	**30**	P	**PKiKP**		**14 47 28.3**	**+0.7**		
	baz=227									
E18K	**Tukpahlearik C**	**125.86**	**24**	IAMs_20	IAMs_20		15 36 52.5			
	comp=Z,2µm,22.0s									
E18K	**Tukpahlearik C**	**125.86**	**24**	P	**PKiKP**		**14 47 27.8**	**+0.2**		
	baz=223									
EYAK	**Cordova Ski Ar**	**125.89**	**36**	IAMs_20	IAMs_20		15 38 37.9			
	comp=Z,2µm,20.0s									
EYAK	**Cordova Ski Ar**	**125.89**	**36**	P	**PKiKP**		**14 47 28.4**	**+0.6**		
	baz=230									
G19K	**Purcell Mounta**	**125.91**	**27**	P	**PKiKP**		**14 47 28.7**	**+0.9**		
	baz=225,SNR=9.1									
M23K	**Glacier View**	**125.97**	**34**	P	**PKiKP**		**14 47 28.2**	**+0.2**		
	baz=229									
C17K	**DeLong Mountai**	**125.98**	**23**	P	**PKiKP**		**14 47 28.4**	**+0.5**		
	baz=222									
KAIM	**Kayak Island**	**125.99**	**37**	IAMs_20	IAMs_20		15 38 08.4			
	comp=Z,3µm,20.0s									
KAIM	**Kayak Island**	**125.99**	**37**	P	**PKiKP**		**14 47 28.2**	**0.0**		
	baz=230									
JTS	**Las Juntas de**	**126.02**	**122**	IAMs_20	IAMs_20		15 30 25.4			
	comp=Z,3µm,20.0s									
JTS	**Las Juntas de**	**126.02**	**122**	*i* PKIKP	**PKPdf**		**14 47 28.0**	**-1.3**		
JTS				*i*			14 47 29.3			
JTS				pmax	pmax					
	comp=Z,1.0nm,0.3s									
JTS				MLR	MLR					
	comp=Z,774nm,17.0s									
TPNV	**Topopah Spring**	**126.04**	**74**	IAMs_20	IAMs_20		15 31 32.4			
	comp=Z,3µm,21.0s									
TULE	**Intermountain**	**126.08**	**66**	IAMs_20	IAMs_20		15 30 50.0			
	comp=Z,3µm,22.0s									
H20K	**Anotleneega Mo**	**126.10**	**28**	P	**PKiKP**		**14 47 28.8**	**+0.6**		
	baz=226									
SCM	**Sheep Creek Mo**	**126.14**	**34**	P	**PKiKP**		**14 47 28.7**	**+0.2**		
	baz=229									
TRF	**Thorofare Moun**	**126.17**	**32**	IAMs_20	IAMs_20		15 37 21.3			
	comp=Z,2µm,20.0s									
TRF	**Thorofare Moun**	**126.17**	**32**	P	**PKiKP**		**14 47 28.5**	**-0.1**		
	baz=228									
RAGM	**Ragged Mountai**	**126.19**	**37**	IAMs_20	IAMs_20		15 37 52.5			
	comp=Z,2µm,20.0s									
F19K	**Shaleruckik Mo**	**126.20**	**26**	P	**PKiKP**		**14 47 28.5**	**+0.1**		
	baz=225									
HMT	**Hamilton**	**126.31**	**37**	IAMs_20	IAMs_20		15 38 39.8			
	comp=Z,3µm,20.0s									
SUCK	**Suckling Hills**	**126.33**	**37**	IAMs_20	IAMs_20		15 38 18.8			
	comp=Z,3µm,19.0s									
BPAW	**Bear Paw Mtn.**	**126.38**	**31**	IAMs_20	IAMs_20		15 35 23.2			
	comp=Z,2µm,21.0s									
BPAW	**Bear Paw Mtn.**	**126.38**	**31**	P	**PKiKP**		**14 47 28.9**	**+0.1**		
	baz=228									
KLU	**Klutina**	**126.43**	**35**	IAMs_20	IAMs_20		15 39 33.8			
	comp=Z,2µm,20.0s									
KLU	**Klutina**	**126.43**	**35**	P	**PKiKP**		**14 47 29.0**	**-0.1**		
	baz=230									
TUC	**Tucson**	**126.44**	**82**	IAMs_20	IAMs_20		15 36 58.0			
	comp=Z,2µm,18.0s									
WAT6	**Susitna Watana**	**126.48**	**33**	P	**PKiKP**		**14 47 29.5**	**+0.3**		
	baz=230									
BGLC	**Bering Glacier**	**126.56**	**37**	P	**PKiKP**		**14 47 29.2**	**0.0**		
	baz=231									
BERG	**Berg Lake**	**126.57**	**37**	IAMs_20	IAMs_20		15 38 38.2			
	comp=Z,3µm,20.0s									
BMRM	**Bremner River**	**126.59**	**36**	IAMs_20	IAMs_20		15 38 49.4			
	comp=Z,2µm,20.0s									
BMRM	**Bremner River**	**126.59**	**36**	P	**PKiKP**		**14 47 29.4**	**0.0**		
	baz=231									
RND	**Reindeer**	**126.63**	**32**	IAMs_20	IAMs_20		15 34 15.0			
	comp=Z,3µm,22.0s									
M24K	**Tolsona, Glenn**	**126.73**	**34**	P	**PKiKP**		**14 47 29.4**	**-0.2**		
	baz=230									
SNH	**Sunshine Point**	**126.77**	**38**	IAMs_20	IAMs_20		15 35 24.8			
	comp=Z,3µm,21.0s									
I21K	**Yanana**	**126.78**	**29**	P	**PKiKP**		**14 47 30.0**	**+0.5**		
	baz=228,SNR=14									
E19K	**Redstone River**	**126.79**	**26**	P	**PKiKP**		**14 47 29.9**	**+0.4**		
	baz=226									
MCK	**McKinley**	**126.82**	**32**	IAMs_20	IAMs_20		15 35 18.8			
	comp=Z,3µm,22.0s									
MCK	**McKinley**	**126.82**	**32**	P	**PKiKP**		**14 47 29.5**	**-0.2**		
	baz=229									
H21K	**Melozitna Rive**	**126.84**	**29**	P	**PKiKP**		**14 47 29.2**	**-0.5**		
	baz=228,SNR=5.1									
BWN	**Browne**	**126.93**	**31**	IAMs_20	IAMs_20		15 37 54.6			
	comp=Z,3µm,20.0s									
F20K	**Avaraart Lake**	**126.93**	**26**	P	**PKiKP**		**14 47 30.3**	**+0.5**		
	baz=226,SNR=6.9									
WAX	**Waxell Ridge**	**126.93**	**37**	IAMs_20	IAMs_20		15 40 24.9			
	comp=Z,2µm,19.0s									
B18K	**Kokolik River**	**126.97**	**22**	P	**PKiKP**		**14 47 29.9**	**+0.1**		
	baz=223									
N25K	**Chitina, Valde**	**126.99**	**36**	IAMs_20	IAMs_20		15 39 18.1			
	comp=Z,2µm,20.0s									
N25K	**Chitina, Valde**	**126.99**	**36**	P	**PKiKP**		**14 47 30.5**	**+0.3**		
	baz=231									
CRQM	**Cirque**	**127.01**	**37**	IAMs_20	IAMs_20		15 39 00.7			
	comp=Z,2µm,20.0s									
MLY	**Manley**	**127.08**	**30**	IAMs_20	IAMs_20		15 39 18.6			
	comp=Z,2µm,20.0s									
MLY	**Manley**	**127.08**	**30**	P	**PKiKP**		**14 47 30.4**	**+0.2**		
	baz=229,SNR=11									
MESA	**MESA**	**127.11**	**38**	IAMs_20	IAMs_20		15 42 52.1			
	comp=Z,2µm,19.0s									
MESA	**MESA**	**127.11**	**38**	P	**PKiKP**		**14 47 30.5**	**-0.1**		
	baz=232									
TGL	**Tana Glacier**	**127.13**	**37**	IAMs_20	IAMs_20		15 43 12.4			
	comp=Z,2µm,19.0s									
VRDI	**Verde Repeater**	**127.19**	**36**	IAMs_20	IAMs_20		15 34 17.8			
	comp=Z,2µm,22.0s									
SOC	**Sochi**	**127.21**	**296**	*i* PKIKP	**PKiKP**		**14 47 30.9**	**-0.2**		
SOC				*e*			14 49 30.3			
SOC				*e*PPP	PPP		14 52 13.4			
SOC				*e*			14 54 35.6			
SOC				*e*PS	**PS**		**14 59 31.6**	**-3.2**		
SOC				*e*SS	SS		15 06 35.3	-3.9		
SOC				*e*SSS	SSS		15 11 21.5			
SOC				MLR	MLR					
	comp=Z,795nm,18.0s									
G21K	**Allakaket**	**127.21**	**28**	IAMs_20	IAMs_20		15 36 52.8			
	comp=Z,2µm,22.0s									
G21K	**Allakaket**	**127.21**	**28**	P	**PKiKP**		**14 47 30.2**	**-0.1**		
	baz=228									
HARP	**HAARP**	**127.29**	**35**	P	**PKiKP**		**14 47 30.8**	**+0.2**		
	baz=231									
YAH	**Yahtse**	**127.31**	**38**	IAMs_20	IAMs_20		15 43 17.1			
	comp=Z,2µm,19.0s									
NEA2	**Nenana**	**127.33**	**31**	IAMs_20	IAMs_20		15 38 37.5			
	comp=Z,3µm,20.0s									
NEA2	**Nenana**	**127.33**	**31**	P	**PKiKP**		**14 47 30.9**	**+0.2**		
	baz=230									
C19K	**Lookout Ridge**	**127.33**	**23**	IAMs_20	IAMs_20		15 40 02.6			
	comp=Z,2µm,20.0s									
C19K	**Lookout Ridge**	**127.33**	**23**	P	**PKiKP**		**14 47 31.2**	**+0.5**		
	baz=225									
H22K	**Ishtalitna Cre**	**127.44**	**29**	P	**PKiKP**		**14 47 31.3**	**+0.4**		
	baz=229,SNR=12									
MCARA	**McCarthy VSAT**	**127.44**	**36**	P	**PKiKP**		**14 47 31.6**	**+0.6**		
	baz=232									
PAX	**Paxson**	**127.53**	**34**	IAMs_20	IAMs_20		15 39 21.9			
	comp=Z,2µm,21.0s									
PAX	**Paxson**	**127.53**	**34**	P	**PKiKP**		**14 47 31.1**	**-0.2**		
	baz=231,SNR=5.7									
WRH	**Wood River Hil**	**127.58**	**31**	IAMs_20	IAMs_20		15 40 22.4			
	comp=Z,2µm,21.0s									
TABL	**Table Mountain**	**127.59**	**38**	IAMs_20	IAMs_20		15 43 24.7			
	comp=Z,2µm,20.0s									
I23K	**Minto, Yukon-K**	**127.59**	**30**	P	**PKiKP**		**14 47 31.7**	**+0.5**		
	baz=230									
F21K	**Alatna River**	**127.69**	**27**	IAMs_20	IAMs_20		15 38 13.2			
	comp=Z,2µm,21.0s									
F21K	**Alatna River**	**127.69**	**27**	P	**PKiKP**		**14 47 31.9**	**+0.5**		
	baz=228,SNR=5.9									
PINM	**Pinnacle**	**127.74**	**39**	P	**PKiKP**		**14 47 31.7**	**0.0**		
	baz=233									
A19K	**Wainwright**	**127.76**	**22**	P	**PKiKP**		**14 47 31.7**	**+0.4**		
	baz=224									
CCB	**Clear Creek Bu**	**127.78**	**31**	IAMs_20	IAMs_20		15 40 28.5			
	comp=Z,2µm,20.0s									
PNL	**Peninsula**	**127.83**	**39**	P	**PKiKP**		**14 47 31.4**	**-0.5**		
	baz=233									
D20K	**Etivluk River**	**127.83**	**25**	P	**PKiKP**		**14 47 31.5**	**-0.1**		
	baz=227									
CTG	**Chitna Glacier**	**127.83**	**37**	P	**PKiKP**		**14 47 31.9**	**-0.1**		
	baz=233									
COLA	**College**	**127.91**	**31**	IAMs_20	IAMs_20		15 40 52.1			
	comp=Z,2µm,21.0s									
COLA	**College**	**127.91**	**31**	P	**PKiKP**		**14 47 32.0**	**+0.2**		
	baz=231									
HDA	**Harding Lake**	**127.92**	**32**	IAMs_20	IAMs_20		15 35 28.2			
	comp=Z,3µm,22.0s									
HDA	**Harding Lake**	**127.92**	**32**	P	**PKiKP**		**14 47 32.2**	**+0.3**		
	baz=231									
K24K	**Donnelly Dome**	**127.94**	**33**	IAMs_20	IAMs_20		15 34 54.2			
	comp=Z,3µm,22.0s									
K24K	**Donnelly Dome**	**127.94**	**33**	P	**PKiKP**		**14 47 31.7**	**-0.2**		
	baz=232									
H23K	**Yukon River**	**127.97**	**30**	IAMs_20	IAMs_20		15 37 50.7			
	comp=Z,2µm,21.0s									
H23K	**Yukon River**	**127.97**	**30**	P	**PKiKP**		**14 47 31.8**	**-0.2**		
	baz=230,SNR=11									
SIT	**Sitka**	**128.00**	**44**	P	**PKiKP**		**14 47 31.8**	**-0.3**		
	baz=234									
CRAG	**Craig**	**128.07**	**46**	P	**PKiKP**		**14 47 32.7**	**+0.4**		
	baz=234									
G22K	**Bettles**	**128.08**	**28**	P	**PKiKP**		**14 47 32.3**	**+0.3**		
	baz=230									
M26K	**Nabesna, AK**	**128.08**	**35**	IAMs_20	IAMs_20		15 39 52.8			
	comp=Z,3µm,21.0s									
M26K	**Nabesna, AK**	**128.08**	**35**	P	**PKiKP**		**14 47 32.6**	**+0.2**		
	baz=233									
S31K	**Pelican**	**128.14**	**42**	IAMs_20	IAMs_20		15 34 04.8			
	comp=Z,3µm,21.0s									
S31K	**Pelican**	**128.14**	**42**	P	**PKiKP**		**14 47 32.4**	**0.0**		
	baz=234									
MENT	**Mentasta**	**128.14**	**35**	IAMs_20	IAMs_20		15 37 33.5			
	comp=Z,3µm,20.0s									
O28M	**Mount Upton**	**128.17**	**38**	IAMs_20	IAMs_20		15 43 41.3			
	comp=Z,2µm,19.0s									
O28M	**Mount Upton**	**128.17**	**38**	P	**PKiKP**		**14 47 32.0**	**-0.8**		
	baz=233									
ILAR	**Eielson Array**	**128.17**	**32**	PKP	**PKiKP**		**14 47 31.8**	**-0.6**		
	comp=Z,2.9nm,1.0s,baz=286,slow=3.2,SNR=19									
POKR	**Poker Plat Res**	**128.21**	**31**	IAMs_20	IAMs_20		15 39 20.9			
	comp=Z,2µm,20.0s									
POKR	**Poker Plat Res**	**128.21**	**31**	P	**PKiKP**		**14 47 32.2**	**-0.2**		
	baz=231									
RIDG	**Independent Ri**	**128.23**	**33**	IAMs_20	IAMs_20		15 40 05.4			
	comp=Z,2µm,21.0s									
RIDG	**Independent Ri**	**128.23**	**33**	P	**PKiKP**		**14 47 32.3**	**-0.3**		
	baz=232,SNR=7.7									
F22K	**John River**	**128.26**	**27**	P	**PKiKP**		**14 47 32.5**	**0.0**		
	baz=229,SNR=5.3									
L26K	**Log Cabin Wild**	**128.33**	**35**	IAMs_20	IAMs_20		15 34 11.4			
	comp=Z,3µm,22.0s									
L26K	**Log Cabin Wild**	**128.33**	**35**	P	**PKiKP**		**14 47 33.4**	**+0.6**		
	baz=233									
E21K	**Killik River**	**128.37**	**26**	IAMs_20	IAMs_20		15 44 37.0			
	comp=Z,2µm,20.0s									
E21K	**Killik River**	**128.37**	**26**	P	**PKiKP**		**14 47 32.9**	**+0.2**		
	baz=229,SNR=8.3									
G23K	**Bananza Creek**	**128.39**	**29**	P	**PKiKP**		**14 47 33.1**	**+0.3**		
	baz=230									
BRTR	**Keskin Array B**	**128.44**	**288**	PKP	**PKiKP**		**14 47 34.7**	**+0.8**		
	comp=Z,1.6nm,0.8s,baz=113,slow=3.3,SNR=3.7									
U33K	**Whale Pass**	**128.44**	**46**	P	**PKiKP**		**14 47 32.9**	**-0.2**		
	baz=235									
DOT	**Dot Lake**	**128.45**	**34**	IAMs_20	IAMs_20		15 36 09.2			
	comp=Z,2µm,21.0s									
M27K	**Edge Creek, AK**	**128.47**	**36**	IAMs_20	IAMs_20		15 41 12.2			
	comp=Z,2µm,20.0s									
M27K	**Edge Creek, AK**	**128.47**	**36**	P	**PKiKP**		**14 47 33.0**	**-0.3**		
	baz=235									
P29M	**Windy Craggy**	**128.48**	**40**	P	**PKiKP**		**14 47 32.9**	**-0.3**		
	baz=234									
H24K	**Noodor Dome**	**128.51**	**30**	P	**PKiKP**		**14 47 33.4**	**+0.3**		
	baz=231									
O29M	**Mount Kennedy**	**128.53**	**39**	IAMs_20	IAMs_20		15 43 33.1			
	comp=Z,2µm,20.0s									
O29M	**Mount Kennedy**	**128.53**	**39**	P	**PKiKP**		**14 47 33.4**	**0.0**		
	baz=234									
S32K	**Killisnoo**	**128.57**	**44**	P	**PKiKP**		**14 47 33.0**	**-0.3**		
	baz=235									
B20K	**Meade River**	**128.58**	**23**	IAMs_20	IAMs_20		15 40 52.4			
	comp=Z,3µm,21.0s									
B20K	**Meade River**	**128.58**	**23**	P	**PKiKP**		**14 47 33.6**	**+0.6**		
	baz=227									
J25K	**Salcha River,**	**128.59**	**32**	P	**PKiKP**		**14 47 33.7**	**+0.4**		
	baz=232,SNR=10.0									
C21K	**Knifeblade Rid**	**128.62**	**25**	P	**PKiKP**		**14 47 33.4**	**+0.2**		
	baz=228									
YUK8	**Steele Glacier**	**128.64**	**38**	P	**PKiKP**		**14 47 33.7**	**0.0**		
	baz=234									
YUK3	**Moose Creek**	**128.66**	**37**	P	**PKiKP**		**14 47 33.9**	**+0.2**		
	baz=234									
COLD	**Coldfoot**	**128.67**	**28**	P	**PKiKP**		**14 47 33.4**	**+0.2**		
	baz=231									
SCRK	**Sand Creek**	**128.68**	**33**	IAMs_20	IAMs_20		15 40 29.1			
	comp=Z,2µm,21.0s									
SCRK	**Sand Creek**	**128.68**	**33**	P	**PKiKP**		**14 47 33.6**	**0.0**		
	baz=233,SNR=7.6									
J08A	**Circle Bar Ran**	**128.68**	**66**	IAMs_20	IAMs_20		15 31 51.8			
	comp=Z,3µm,22.0s									
V35K	**Ketchikan**	**128.69**	**47**	P	**PKiKP**		**14 47 33.3**	**-0.3**		
	baz=235									
E22K	**Anaktuvuk Pass**	**128.78**	**27**	IAMs_20	IAMs_20		15 44 37.8			
	comp=Z,2µm,20.0s									
E22K	**Anaktuvuk Pass**	**128.78**	**27**	P	**PKiKP**		**14 47 33.3**	**-0.2**		
	baz=230,SNR=7.8									
EPT	**El Paso**	**128

	comp=Z,2µm,20.0s								
N30M	**Aishikik Lake** baz=236	129.80	38	P	PKiKP		14 47 36.0	+0.2	
FYU	**Fort Yukon** comp=Z,2µm,22.0s	129.81	30	IAMs_20	IAMs_20		15 38 47.8		
M29M	**Somme Creek** comp=Z,2µm,21.0s	129.81	37	IAMs_20	IAMs_20		15 41 50.4		
M29M	**Somme Creek** baz=236,SNR=6.5	129.81	37	P	PKiKP		14 47 36.2	+0.3	
KARP	**Karpathos** comp=Z,2µm,22.0s	129.85	280	IAMs_20	IAMs_20		15 47 03.9		
HAWA	**Hanford** comp=Z,3µm,20.0s	129.86	62	IAMs_20	IAMs_20		15 33 40.9		
P32M	**Atlin** comp=Z,2µm,21.0s	130.15	42	IAMs_20	IAMs_20		15 37 23.8		
P32M	**Atlin** baz=237	130.15	42	P	PKiKP		14 47 36.7	+0.1	
EGAK	**Eagle** comp=Z,3µm,21.0s	130.15	33	IAMs_20	IAMs_20		15 42 17.5		
DUG	**Dugway, Tooele** comp=Z,2µm,20.0s	130.17	72	IAMs_20	IAMs_20		15 35 43.6		
C23K	**Itkillik River** comp=Z,2µm,20.0s	130.19	25	IAMs_20	IAMs_20		15 43 20.0		
C23K	**Itkillik River** baz=232	130.19	25	P	PKiKP		14 47 36.8	+0.5	
BMO	**Blue Mountains** comp=Z,3µm,20.0s	130.24	65	IAMs_20	IAMs_20		15 39 55.3		
WHY	**Whitehorse** baz=237	130.25	40	P	PKiKP		14 47 37.0	+0.2	
T35M	**Bob Quinn** baz=237	130.25	46	P	PKiKP		14 47 37.2	+0.4	
D24K	**Happy Valley** baz=233	130.27	26	P	PKiKP		14 47 37.4	+0.9	
MFID	**Camas Ranch** comp=Z,2µm,22.0s	130.27	67	IAMs_20	IAMs_20		15 33 24.1		
F25K	**Christian Rive** baz=234,SNR=6.4	130.29	29	P	PKiKP		14 47 37.5	+0.9	
L29M	**L29M** comp=Z,2µm,20.0s	130.31	36	IAMs_20	IAMs_20		15 42 52.0		
L29M	**L29M** baz=236,SNR=12	130.31	36	P	PKiKP		14 47 38.3	+1.5	
N31M	**Braeburn, Yuko** comp=Z,2µm,20.0s	130.33	39	IAMs_20	IAMs_20		15 41 07.6		
N31M	**Braeburn, Yuko** baz=237	130.33	39	P	PKiKP		14 47 37.6	+0.7	
S34M	**Telegraph Cree** baz=237	130.36	44	P	PKiKP		14 47 37.6	+0.7	
DAWY	**Dawson** baz=236,SNR=8.0	130.38	35	P	PKiKP		14 47 38.0	+1.1	
Q32M	**Nakina River** baz=237	130.42	43	P	PKiKP		14 47 36.7	-0.6	
I27K	**Kandik River** baz=236,SNR=10	130.46	32	P	PKiKP		14 47 38.1	+1.1	
G26K	**Porcupine Rive** comp=Z,2µm,22.0s	130.50	30	IAMs_20	IAMs_20		15 39 19.3		
G26K	**Porcupine Rive** baz=235	130.50	30	P	PKiKP		14 47 37.4	+0.5	
M30M	**Minto, Yukon** comp=Z,2µm,20.0s	130.53	37	IAMs_20	IAMs_20		15 42 46.8		
M30M	**Minto, Yukon** baz=237	130.53	37	P	PKiKP		14 47 37.5	+0.3	
E25K	**Arctic Village** baz=235	130.62	29	P	PKiKP		14 47 37.7	+0.4	
C24K	**Franklin Bluff** comp=Z,3µm,22.0s	130.65	26	IAMs_20	IAMs_20		15 37 31.2		
C24K	**Franklin Bluff** baz=233	130.65	26	P	PKiKP		14 47 37.7	+0.6	
KIRV	**Kirov** comp=Z,13nm,0.4s,baz=340,slow=2.1,SNR=1.1	130.80	316	PKP	PKiKP		14 47 37.9	+0.1	
F26K	**Sheenjek River** comp=Z,2µm,20.0s	130.81	29	IAMs_20	IAMs_20		15 41 44.8		
F26K	**Sheenjek River** baz=235	130.81	29	P	PKiKP		14 47 37.9	+0.3	
H27K	**Steamboat Moun** baz=236	130.84	32	P	PKiKP		14 47 38.2	+0.5	
P33M	**Teslin, Yukon** comp=Z,2µm,21.0s	130.86	41	IAMs_20	IAMs_20		15 35 42.8		
P33M	**Teslin, Yukon** baz=238	130.86	41	P	PKiKP		14 47 38.1	+0.1	
ANMO	**Albuquerque** comp=Z,2µm,18.0s	130.89	82	IAMs_20	IAMs_20		15 39 42.9		
K29M	**Barlow Dome** comp=Z,2µm,22.0s	130.95	36	IAMs_20	IAMs_20		15 36 58.7		
K29M	**Barlow Dome** baz=237,SNR=11	130.95	36	P	PKiKP		14 47 38.5	+0.4	
I28M	**Miner Creek** comp=Z,2µm,21.0s	130.95	33	IAMs_20	IAMs_20		15 36 59.6		
I28M	**Miner Creek** baz=237	130.95	33	P	PKiKP		14 47 38.3	+0.2	
J29N	**Klondike Camp** comp=Z,2µm,22.0s	131.02	35	IAMs_20	IAMs_20		15 34 57.6		
D25K	**Kavik River** comp=Z,3µm,20.0s	131.07	27	IAMs_20	IAMs_20		15 42 36.6		
D25K	**Kavik River** baz=235	131.07	27	P	PKiKP		14 47 38.6	+0.5	
G27K	**Doyon Strip** comp=Z,3µm,21.0s	131.12	31	IAMs_20	IAMs_20		15 37 58.9		
G27K	**Doyon Strip** baz=237	131.12	31	P	PKiKP		14 47 38.8	+0.6	
IDI	**Anoyia**	131.12	278	PKP	PKiKP		14 47 38.6	-0.7	
DLBC	**Dease Lake** baz=238	131.13	44	P	PKiKP		14 47 38.7	+0.1	
PLID	**Pearl Lake** comp=Z,3µm,22.0s	131.14	65	IAMs_20	IAMs_20		15 34 54.0		
HLID	**Hailey** comp=Z,2µm,20.0s	131.19	68	IAMs_20	IAMs_20		15 41 27.6		
R33M	**Jennings River** comp=Z,2µm,20.0s	131.22	43	IAMs_20	IAMs_20		15 36 11.4		
R33M	**Jennings River** baz=238	131.22	43	P	PKiKP		14 47 38.7	-0.1	
N32M	**Quiet Lake** baz=238	131.25	40	P	PKiKP		14 47 38.5	-0.2	
M31M	**Drury Creek, Y** comp=Z,3µm,21.0s	131.28	39	IAMs_20	IAMs_20		15 38 10.1		
M31M	**Drury Creek, Y** baz=238	131.28	39	P	PKiKP		14 47 38.9	+0.2	
MAYO	**Mayo, Yukon** baz=238	131.43	36	P	PKiKP		14 47 39.1	+0.1	
I29M	**Ogilvie Camp,** comp=Z,3µm,20.0s	131.48	34	IAMs_20	IAMs_20		15 42 25.6		
I29M	**Ogilvie Camp,** baz=238	131.48	34	P	PKiKP		14 47 39.0	0.0	
HWUT	**Hardware Ranch** comp=Z,2µm,22.0s	131.77	72	IAMs_20	IAMs_20		15 35 02.9		
J30M	**Hart River** baz=239	131.78	35	P	PKiKP		14 47 39.4	-0.4	
SDV	**Santo Domingo** comp=Z,3µm,20.0s	131.79	139	IAMs_20	IAMs_20		15 36 09.8		
C26K	**Camden Bay** baz=236	131.84	27	P	PKiKP		14 47 39.1	-0.4	
E27K	**Coleen River** comp=Z,3µm,22.0s	131.89	30	IAMs_20	IAMs_20		15 41 14.2		
E27K	**Coleen River** baz=238	131.89	30	P	PKiKP		14 47 39.9	+0.1	
H29M	**Whitestone** comp=Z,3µm,22.0s	131.91	33	IAMs_20	IAMs_20		15 37 52.0		
H29M	**Whitestone** baz=238	131.91	33	P	PKiKP		14 47 40.1	+0.2	
C27K	**Jago River** baz=237	132.02	27	P	PKiKP		14 47 40.1	+0.1	
TEIG	**Tepich** comp=Z,3µm,19.0s	132.07	111	IAMs_20	IAMs_20		15 36 01.4		
I30M	**Mount Dempster** comp=Z,2µm,21.0s	132.10	34	IAMs_20	IAMs_20		15 40 16.0		
I30M	**Mount Dempster** baz=239	132.10	34	P	PKiKP		14 47 40.3	-0.1	
F28M	**Old Crow** comp=Z,3µm,20.0s	132.14	31	IAMs_20	IAMs_20		15 41 53.5		
F28M	**Old Crow** baz=238	132.14	31	P	PKiKP		14 47 40.3	0.0	
G29M	**Pine Creek** comp=Z,3µm,20.0s	132.39	32	IAMs_20	IAMs_20		15 44 03.6		
G29M	**Pine Creek** baz=239	132.39	32	P	PKiKP		14 47 40.9	0.0	
S22A	**4UR Ranch, Cre** comp=Z,2µm,20.0s	132.40	79	IAMs_20	IAMs_20		15 39 06.7		
WTLY	**Watson Lake, Y** baz=240	132.53	43	P	PKiKP		14 47 41.2	-0.1	
EPYK	**Eagle Plains** comp=Z,2µm,22.0s	132.56	33	IAMs_20	IAMs_20		15 37 36.8		
EPYK	**Eagle Plains** baz=240	132.56	33	P	PKiKP		14 47 41.4	+0.2	
D27M	**Malcolm River** comp=Z,2µm,20.0s	132.64	28	IAMs_20	IAMs_20		15 43 34.1		
D27M	**Malcolm River** baz=239	132.64	28	P	PKiKP		14 47 41.2	-0.1	
MMPY	**Sheldon Lake,** baz=241	132.74	39	P	PKiKP		14 47 40.9	-0.8	
E28M	**Babbage River** comp=Z,2µm,22.0s	132.76	30	IAMs_20	IAMs_20		15 40 06.9		
E28M	**Babbage River** baz=240	132.76	30	P	PKiKP		14 47 41.4	-0.1	
O20A	**White River Ci** comp=Z,2µm,22.0s	132.94	75	IAMs_20	IAMs_20		15 36 01.2		
G30M	**tAoh Zraii Nji** comp=Z,2µm,20.0s	133.04	32	IAMs_20	IAMs_20		15 43 41.4		
G30M	**tAoh Zraii Nji** baz=241	133.04	32	P	PKiKP		14 47 41.9	-0.2	
H31M	**Peel River** comp=Z,2µm,20.0s	133.12	34	IAMs_20	IAMs_20		15 42 09.1		
H31M	**Peel River** baz=241	133.12	34	P	PKiKP		14 47 42.1	-0.2	
E29M	**Blow River** comp=Z,2µm,20.0s	133.17	30	IAMs_20	IAMs_20		15 42 27.9		
E29M	**Blow River** baz=241	133.17	30	P	PKiKP		14 47 42.4	+0.1	
SDCO	**Great Sand Dun** comp=Z,2µm,20.0s	133.23	80	IAMs_20	IAMs_20		15 39 06.9		
MSO	**Missoula** comp=Z,2µm,21.0s	133.30	65	IAMs_20	IAMs_20		15 36 06.1		
D28M	**Stokes Point** baz=241	133.37	29	P	PKiKP		14 47 42.9	+0.3	
LIRD	**Liard River Hi** baz=241	133.38	45	P	PKiKP		14 47 42.8	-0.2	
TGTN	**Hyland Airport** baz=242	133.45	41	P	PKiKP		14 47 43.0	-0.1	
F30M	**Barrier River** comp=Z,3µm,22.0s	133.49	32	IAMs_20	IAMs_20		15 39 01.3		
F30M	**Barrier River** baz=242	133.49	32	P	PKiKP		14 47 43.2	+0.2	
TOAD	**Toad River Com** baz=242	133.51	46	P	PKiKP		14 47 43.1	-0.2	
T25A	**Trinidad** comp=Z,2µm,22.0s	133.55	81	IAMs_20	IAMs_20		15 35 16.3		
PDAR	**Pinedale Array** comp=Z,0.6nm,0.8s,baz=221,slow=2.4,SNR=5.7	133.66	72	PKP	PKiKP		14 47 44.1	-0.3	
G31M	**Satah River** comp=Z,3µm,22.0s	133.68	33	IAMs_20	IAMs_20		15 38 19.8		
G31M	**Satah River** baz=242	133.68	33	P	PKiKP		14 47 43.3	-0.1	
F31M	**Tsiigehtchic** comp=Z,3µm,21.0s	134.11	32	IAMs_20	IAMs_20		15 44 11.0		
F31M	**Tsiigehtchic** baz=243	134.11	32	P	PKiKP		14 47 44.2	0.0	
ISCO	**Idaho Springs** comp=Z,2µm,19.0s	134.38	77	IAMs_20	IAMs_20		15 40 02.3		
INK	**Inuvik** baz=244	134.57	31	P	PKiKP		14 47 45.1	0.0	
KOTAN	**Kotaneelee Air** baz=243	134.64	44	P	PKiKP		14 47 45.2	-0.3	
WHTX	**Lake Whitney,** comp=Z,2µm,18.0s	134.73	92	IAMs_20	IAMs_20		15 40 46.9		
MOS	**Moscow**	134.95	308	*i* PKiKP	PKiKP		14 47 47.4	+1.2	
MOS				*e*			14 50 30.2		
OBN	**Obninsk**	135.19	307	*e*PKiKP	PKiKP		14 47 45.3	-1.4	
OBN				*i*			14 47 46.5		
OBN				*i*			14 47 48.3		
OBN							14 54 48.0		
OBN				*i* PS	PS		15 00 44.8	+1.4	
OBN				*e*PPS	PPS		15 02 19.0		
OBN				*i* SS	SS		15 08 17.7	+1.3	
OBN	comp=Z,6.0nm,0.6s			pmax	pmax				
MILM	**Milestii Mici**	135.44	294	*e*SKP			14 51 13.0		
MILM				*e*L	L		15 32 59.0		
MILM				LRM	MLR		16 04 52.0		
	comp=Z,800nm,18.0s								
K22A	**Casper** comp=Z,2µm,21.0s	135.44	73	IAMs_20	IAMs_20		15 37 59.3		
WMOK	**Wichita Mounta** comp=Z,2µm,20.0s	135.65	88	IAMs_20	IAMs_20		15 40 04.1		
Z35A	**Perchaven, San** comp=Z,2µm,20.0s	135.73	90	IAMs_20	IAMs_20		15 37 28.3		
KSCO	**Kaye Shedlock'** comp=Z,2µm,21.0s	135.80	80	IAMs_20	IAMs_20		15 37 29.8		
WRGLY	**Wrigley** comp=Z,2µm,21.0s	136.21	40	IAMs_20	IAMs_20		15 42 26.1		
KLMR	**Klimovskoe**	136.29	316	*e*PKiKP	PKPdf		14 47 45.1	-2.0	
KLMR				pmax	pmax				
	comp=Z,27nm,1.3s								
KLMR				MLR	MLR				
	comp=Z,2µm,21.0s								
EGMT	**Eagleton** comp=Z,2µm,20.0s	136.35	65	IAMs_20	IAMs_20		15 39 23.8		
MLR	**Muntele Rosu** comp=Z,2µm,20.0s	136.39	290	IAMs_20	IAMs_20		15 45 56.6		
OK038	**West end E0370** comp=Z,2µm,21.0s	136.75	86	IAMs_20	IAMs_20		15 39 14.2		
AKASG	**Malin Array Be** comp=Z,0.8nm,0.5s,baz=93,slow=1.6,SNR=6.6	137.07	299	PKP	PKPdf		14 47 48.4	-0.6	
AKASG	**Malin Array Be**	137.07	299	*c i* PKiKP	PKiKP		14 47 53.7	+3.0	
AKBB	**Malin Array Si**	137.07	299	*c i* PKiKP	PKiKP		14 47 52.3	+1.6	
KIEV	**Kiev** comp=Z,2µm,21.0s	137.08	299	IAMs_20	IAMs_20		15 46 00.3		
Z38A	**Mt. Pleasant** comp=Z,2µm,21.0s	137.14	92	IAMs_20	IAMs_20		15 37 08.6		
OK029	**Liberty Lake** comp=Z,2µm,20.0s	137.16	87	IAMs_20	IAMs_20		15 38 51.0		
OGNE	**Ogallala** comp=Z,2µm,22.0s	137.28	78	IAMs_20	IAMs_20		15 38 57.0		
CBKS	**Cedar Bluff** comp=Z,2µm,20.0s	137.51	82	IAMs_20	IAMs_20		15 40 44.2		
OK052	**Battle Ridge R** comp=Z,2µm,20.0s	137.69	88	IAMs_20	IAMs_20		15 42 05.2		
LAO	**LASA Array** comp=Z,2µm,21.0s	137.76	69	IAMs_20	IAMs_20		15 39 25.3		
RSSD	**Black Hills** comp=Z,2µm,18.0s	137.76	73	IAMs_20	IAMs_20		15 49 54.6		
R32A	**Long Quarter,** comp=Z,2µm,21.0s	137.93	84	IAMs_20	IAMs_20		15 39 14.4		
C36M	**Paulatuk** baz=252	138.14	32	P	PKiKP		14 47 51.3	-1.1	
GRGR	**Grenville** comp=Z,2µm,20.0s	138.18	148	IAMs_20	IAMs_20		15 53 12.7		
TUL3	**Leonard** comp=Z,2µm,20.0s	138.29	89	IAMs_20	IAMs_20		15 41 41.0		
T35A	**Sooner Cattle** comp=Z,2µm,20.0s	138.44	87	IAMs_20	IAMs_20		15 40 09.0		
A36M	**Sachs Harbour** comp=Z,2µm,21.0s	138.53	28	IAMs_20	IAMs_20		15 46 29.4		
A36M	**Sachs Harbour** baz=254	138.53	28	P	PKiKP		14 47 52.5	-0.6	
CHIV	**Chivirico** comp=Z,2µm,19.0s	138.60	124	IAMs_20	IAMs_20		15 39 34.7		
GTBY	**Guantanamo Bay** comp=Z,2µm,18.0s	139.25	126	IAMs_20	IAMs_20		15 41 56.7		
MNK	**Minsk**	139.46	303	*i* PKiKP	PKPdf		14 47 50.9	-2.3	
MNK				*i*			14 50 45.2		
MNK				pmax	pmax				
	comp=E,16nm,1.2s								
MNK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
MNK				pmax	pmax				
	comp=N,15nm,0.8s								
MNK				MLR	MLR				
	comp=E,2µm,21.0s								
MNK				MLR	MLR				
	comp=Z,681nm,17.0s								
MNK				MLR	MLR				
	comp=N,2µm,23.0s								
U38A	**Gravette** comp=Z,2µm,20.0s	139.51	89	IAMs_20	IAMs_20		15 42 00.1		
HHAR	**Hobbs** comp=Z,2µm,20.0s	139.70	90	IAMs_20	IAMs_20		15 42 26.2		
YKA	**Yellowknife Ar** comp=Z,1.3nm,0.6s,baz=225,slow=2.6,SNR=2.6	139.75	44	PKP	PKiKP		14 47 54.0	-1.8	
BBGH	**Gun Hill** comp=Z,2µm,20.0s	139.81	151	IAMs_20	IAMs_20		15 53 42.6		
DGMT	**Dagmar** comp=Z,2µm,20.0s	139.82	67	IAMs_20	IAMs_20		15 44 44.5		
NMDO	**Nuevo Mundo** comp=Z,2µm,18.0s	139.84	125	IAMs_20	IAMs_20		15 42 15.3		
BGNE	**Belgrade** comp=Z,2µm,21.0s	139.98	80	IAMs_20	IAMs_20		15 40 13.2		
WHAR	**Wooly Hollow** comp=Z,2µm,22.0s	140.15	92	IAMs_20	IAMs_20		15 38 59.0		
LVZ	**Lovozero** comp=Z,2µm,21.0s	140.55	325	IAMs_20	IAMs_20		15 53 39.4		
BIM	**Bigot** comp=Z,2µm,21.0s	140.60	148	IAMs_20	IAMs_20		15 42 16.8		
FCAR	**Ozark Folk Cen** comp=Z,2µm,19.0s	140.62	91	IAMs_20	IAMs_20		15 43 53.6		
FDF	**Fort de France** comp=Z,2µm,22.0s	140.78	148	IAMs_20	IAMs_20		15 41 59.5		
APA	**Apatity**	140.94	324	*i* PKiKP	PKiKP		14 48 01.6	+3.5	
APA				*e*SS	SS		15 09 21.9	-2.0	
APA				MLR	MLR				
	comp=Z,3µm,27.0s								
S39A	**Bolivar** comp=Z,2µm,18.0s	140.94	88	IAMs_20	IAMs_20		15 49 35.4		
Y45A	**Yeager Farm, C** comp=Z,2µm,20.0s	141.00	96	IAMs_20	IAMs_20		15 45 36.6		
SC01	**Santiago de Io** comp=Z,2µm,22.0s	141.02	131	IAMs_20	IAMs_20		15 57 44.5		
E28A	**Huff** comp=Z,2µm,19.0s	141.03	72	IAMs_20	IAMs_20		15 49 05.8		
SUSD	**Miller** comp=Z,2µm,19.0s	141.06	76	IAMs_20	IAMs_20		15 44 53.8		
PAOL	**Paolisi** comp=Z,2µm,21.0s	141.06	278	IAMs_20	IAMs_20		15 50 39.9		
PSZ	**Piszkesteto** comp=Z,2µm,19.0s	141.21	291	IAMs_20	IAMs_20		15 50 16.2		
451A	**Vernon** comp=Z,2µm,21.0s	141.23	103	IAMs_20	IAMs_20		15 40 57.7		
N35A	**Tabor** comp=Z,2µm,20.0s	141.26	82	IAMs_20	IAMs_20		15 42 50.4		
KEST	**Kesra** comp=Z,4.2nm,0.9s,baz=245,slow=1.2,SNR=3.9	141.32	267	PKP	PKPdf		14 47 56.6	-0.7	
L34A	**Svendsen Farm,** comp=Z,2µm,21.0s	141.40	81	IAMs_20	IAMs_20		15 40 55.8		
OXF	**Oxford** comp=Z,2µm,20.0s	141.50	95	IAMs_20	IAMs_20		15 46 06.8		
P38A	**Dawn** comp=Z,2µm,20.0s	141.92	86	IAMs_20	IAMs_20		15 43 08.9		
SJG	**San Juan** comp=Z,2µm,22.0s	141.94	139	IAMs_20	IAMs_20		15 53 17.5		
R40A	**Maddies Statio** comp=Z,2µm,18.0s	141.97	88	IAMs_20	IAMs_20		15 50 40.1		
GNAR	**Gosnell** comp=Z,2µm,19.0s	142.02	93	IAMs_20	IAMs_20		15 53 53.5		
SACV	**Santiago Islan** comp=Z,2µm,22.0s	142.03	208	IAMs_20	IAMs_20		15 41 03.8		
DWPF	**Disney Wildern** comp=Z,2µm,22.0s	142.09	110	IAMs_20	IAMs_20		15 39 56.4		
VYHS	**Vyhne**	142.10	291	*e*PKiKP	PKiKP		14 48 03.1	+1.9	
VYHS	**Vyhne**	142.10	291	*e*PKP	PKiKP		14 48 03.1	+1.9	
ECSD	**EROS Data Cent** comp=Z,2µm,20.0s	142.16	78	IAMs_20	IAMs_20		15 43 26.0		
PEBM	**Pemiscott Bayo** comp=Z,1µm,18.0s	142.21	93	IAMs_20	IAMs_20		15 53 14.5		
HALT	**Halls** comp=Z,2µm,19.0s	142.42	94	IAMs_20	IAMs_20		15 45 57.1		
CCM	**Cathedral Cave** comp=Z,2µm,22.0s	142.49	89	IAMs_20	IAMs_20		15 40 49.9		
GRTK	**Grand Turk** comp=Z,2µm,20.0s	142.60	129	IAMs_20	IAMs_20		15 43 47.2		
CAMP	**Campotosto** comp=Z,2µm,19.0s	142.60	279	IAMs_20	IAMs_20		15 50 50.5		
FIA1	**FINESS Array S** comp=Z,2µm,22.0s	142.63	313	IAMs_20	IAMs_20		15 50 16.3		
FINES	**FINESS Array B** comp=Z,7.8nm,1.0s,baz=90,slow=1.9,SNR=6.3	142.63	313	PKP	PKPdf		14 47 57.3	-1.4	
SEUS	**St. Eustatius** comp=Z,2µm,21.0s	142.66	144	IAMs_20	IAMs_20		15 55 56.4		
SABA	**Saba** comp=Z,2µm,20.0s	142.68	143	IAMs_20	IAMs_20		15 57 06.9		
N38A	**Joes South For** comp=Z,2µm,20.0s	142.76	84	IAMs_20	IAMs_20		15 43 10.0		
VADS	**Vadso**	142.79	328	*e*pPKPdf	PKiKP		14 48 02.0	+0.2	
VADS				*e*SS	SS		15 09 52.4	+7.2	
P40A	**Paris** comp=Z,2µm,19.0s	142.82	87	IAMs_20	IAMs_20		15 43 21.6		
HICK	**Hickman** comp=Z,1µm,19.0s	142.87	93	IAMs_20	IAMs_20		15 48 44.2		
GUMA	**Gualdo di Mace** comp=Z,2µm,22.0s	142.92	280	IAMs_20	IAMs_20		15 48 13.8		
FVM	**French Village** comp=Z,2µm,21.0s	142.97	90	IAMs_20	IAMs_20		15 40 54.6		
MODS	**Modra-Piesok**	142.98	290	*e*PKiKP	PKiKP		14 48 01.4	-1.6	
MODS	**Modra-Piesok**	142.98	290	*e*PKP	PKiKP		14 48 01.4	-1.6	
UTMT	**University of** comp=Z,2µm,21.0s	142.99	93	IAMs_20	IAMs_20		16 05 50.3		
FDMO	**Fiordimonte** comp=Z,2µm,22.0s	143.06	280	IAMs_20	IAMs_20		15 52 39.6		
OKC	**Ostrava-Krasne**	143.08	293	*ex*	x		15 09 48.4		
OKC				AMS	AMS		16 08 30.0		
	comp=Z,1µm,17.1s								
SMRT	**St. Maarten** comp=Z,2µm,21.0s	143.13	143	IAMs_20	IAMs_20		15 48 46.9		
CESX	**Cesi** comp=Z,2µm,22.0s	143.16	279	IAMs_20	IAMs_20		15 52 25.2		
RONA	**Rosalia, Austr** comp=Z,3.6nm,1.0s	143.28	289	*e*PKP	PKPdf		14 47 59.9	-0.4	
SCIA	**State Center** comp=Z,2µm,20.0s	143.37	83	IAMs_20	IAMs_20		15 45 23.0		
MORC	**Moravsky Berou**	143.41	292	*e*PKP	PKPdf		14 47 59.6	-0.9	
SLM	**Saint Louis** comp=Z,3µm,22.0s	143.47	89	IAMs_20	IAMs_20		15 41 39.8		
WVT	**Waverly** comp=Z,2µm,20.0s	143.51	95	IAMs_20	IAMs_20		15 45 57.2		
S44A	**Carbondale** comp=Z,2µm,21.0s	143.55	91	IAMs_20	IAMs_20		15 44 20.0		
ARSA	**Arzberg** comp=Z,2µm,20.0s	143.56	287	IAMs_20	IAMs_20		15 52 00.4		
ARSA	**Arzberg** comp=Z,11nm,1.3s	143.56	287	*e*PKP	PKPdf		14 48 00.1	-0.8	
KEV	**Kevo** comp=Z,2µm,22.0s	143.56	327	IAMs_20	IAMs_20		15 51 42.1		
SIUC	**Southern Illin** comp=Z,2µm,20.0s	143.58	91	IAMs_20	IAMs_20		15 43 03.9		
SOKA	**Soboth** comp=Z,12nm,1.2s	143.60	286	*e*PKP	PKPdf		14 47 59.8	-1.2	
CONA	**Conrad Observa** comp=Z,6.4nm,1.6s	143.65	289	*e*PKP	PKPdf		14 48 00.4	-0.6	
VRAC	**Vranov**	143.79	291	*e*PKP	PKPdf		14 47 59.7	-1.5	
KRUC	**Moravsky**	143.81	291	*e*PKP	PKPdf		14 47 59.9	-1.3	
OBKA	**Obir** comp=Z,5.5nm,1.0s	143.82	286	*e*PKP	PKPdf		14 48 01.2	-0.2	
V48A	**Smith Brothers** comp=Z,2µm,21.0s	143.92	96	IAMs_20	IAMs_20		16 04 23.8		
HOPEN	**Hopen**	143.95	339	*e*PKPdf	PKiKP		14 48 02.4	-1.7	
HOPEN				*e*SS	SS		15 09 58.1	-0.2	
KRLC	**Kraliky**	143.98	292	*e*PKiKP	PKPdf		14 48 00.0	-1.5	
KRLC				MLR	MLR				
	comp=Z,1µm,19.7s								
KRLC	**Kraliky**	143.98	292	*e*PKP	PKPdf		14 48 00.0	-1.5	
KRLC				AMS	AMS		16 08 30.0		
	comp=Z,1µm,19.7s								
ARA0	**ARCESS Array S**	144.08	327	*e*PKPdf	PKPdf		14 48 00.6	-0.5	
ARA0				*e*PKPdf	PKPdf		14 48 00.6	-0.5	
ARCES	**ARCESS Array B** comp=Z,15nm,1.1s,baz=82,slow=2.7,SNR=12	144.08	327	PKP	PKPdf		14 48 01.1	+0.1	
SWET	**Sewanee** comp=Z,2µm,22.0s	144.16	97	IAMs_20	IAMs_20		16 05 10.1		
N41A	**Harden Midland** comp=Z,2µm,20.0s	144.23	86	IAMs_20	IAMs_20		15 46 20.0		
154A	**Montrose** comp=Z,2µm,21.0s	144.24	103	IAMs_20	IAMs_20		16 07 16.3		
DPC	**Dobruska-Polom**	144.36	293	*e*PKiKP	PKPdf		14 48 01.9	-0.3	
DPC				MLR	MLR				
	comp=Z,1µm,18.7s								
DPC	**Dobruska-Polom**	144.36	293	*e*PKP	PKPdf		14 48 01.9	-0.3	
DPC				AMS	AMS		16 07 20

comp=Z,1µm,20.5s
L40A Anamosa 144.72 84 IAMs_20 IAMs_20 15 47 16.7
comp=Z,2µm,19.0s
HAMF Hammerfest 144.72 329 *e*PKPdf **PKPdf 14 48 02.0 -0.1**
HAMF *e*SS SS 15 10 12.7 +5.2
AGMN Agassiz Nation 144.74 72 IAMs_20 IAMs_20 15 46 33.8
comp=Z,2µm,20.0s
KBA Koelnbreinsper 144.81 286 *e*PKP PKPbc 14 48 01.5 -0.8
comp=Z,28nm,1.2s
STAL STALIGIAL 144.84 284 IAMs_20 IAMs_20 15 58 40.7
comp=Z,2µm,21.0s
KTK1 Kautokeino 144.86 326 *e*P **PKPab 14 47 59.7 -1.8**
KTK1 IVmB_BB 14 48 11.6
comp=Z,924nm,3.0s
KTK1 *e*SS SS 15 10 12.4 +3.2
GKP Gorka Klasztor 144.88 298 *e*PKP **PKiKP 14 48 05.3 -1.4**
OLIL Olney 144.89 91 IAMs_20 IAMs_20 15 43 43.6
comp=Z,2µm,21.0s
BIOA Bad Ischl, Aus 144.90 287 *e*PKP **PKPdf 14 48 02.0 -1.1**
comp=Z,31nm,0.9s,SNR=11
CKRC Cesky Krumlov 144.96 289 *e*PKIKP **PKPdf 14 48 02.3 -0.9**
CKRC *e* 15 10 11.1
CKRC MLR MLR
comp=Z,2µm,19.1s
CKRC Cesky Krumlov 144.96 289 *e*PKP **PKPdf 14 48 02.3 -0.9**
CKRC *ex* x 15 10 11.1
CKRC AMS AMS 16 10 40.0
comp=Z,2µm,19.1s
257A Skidaway Islan 145.09 106 IAMs_20 IAMs_20 16 05 48.8
comp=Z,2µm,21.0s
ABTA Abfaltersbach 145.18 285 *e*PKP **PKPdf 14 48 03.8 +0.1**
comp=Z,67nm,1.1s,SNR=11
ZVC Zvikov 145.28 290 *e*PKP **PKPab 14 48 03.4 -0.3**
ZVC AMS AMS 16 08 30.0
comp=Z,2µm,22.0s
PRU Pruhonice 145.28 291 *e*PKIKP **PKiKP 14 48 05.6 -2.0**
PRU MLR MLR
comp=Z,1µm,19.2s
PRU Pruhonice 145.28 291 *e*PKP **PKiKP 14 48 05.6 -2.0**
PRU AMS AMS 16 08 20.0
comp=Z,1µm,19.2s
VLC Villacollemand 145.32 280 PKP **PKiKP 14 48 05.6 -2.4**
GEC2 GERESS Array S 145.34 289 IAMs_20 IAMs_20 16 05 33.5
comp=Z,2µm,21.0s
GERES GERESS Array B 145.34 289 PKPbc **PKPab 14 48 03.3 -0.8**
comp=Z,12nm,0.9s,baz=127,slow=3.5,SNR=37
LESA Schwarzleotal 145.38 286 *e*PKP **PKPab 14 48 03.2 -1.0**
comp=Z,164nm,2.5s,SNR=12
PRA Prague 145.38 291 *e*PKIKP **PKPab 14 48 04.1 +0.1**
PRA MLR MLR
comp=Z,1µm,20.0s
PRA Prague 145.38 291 *e*PKP **PKPab 14 48 04.1 +0.1**
PRA AMS AMS 16 10 40.0
comp=Z,1µm,20.0s
CTI Castel Tesino 145.41 284 IAMs_20 IAMs_20 16 02 56.6
comp=Z,1µm,19.0s
SPA0 Spitsbergen Ar 145.43 342 *e*P **PKPab 14 48 03.1 -0.4**
SPA0 IVmB_BB 14 48 07.3
comp=Z,1µm,1.2s
SPITS Spitsbergen Ar 145.43 342 PKPbc **PKPab 14 48 02.7 -0.8**
comp=Z,26nm,0.8s,baz=83,slow=6.8,SNR=11
PVCC Panska Ves 145.47 292 AMS AMS 16 02 10.0
comp=Z,2µm,19.7s
ULM Lac du Bonnet 145.50 68 PKPbc **PKPab 14 48 03.4 -1.1**
comp=Z,57nm,1.2s,baz=236,slow=3.5,SNR=21
KHC Kasperske Hory 145.53 289 *e*PKIKP **PKiKP 14 48 06.2 -2.0**
KHC MLR MLR
comp=Z,2µm,19.8s
KHC Kasperske Hory 145.53 289 *e*PKP **PKiKP 14 48 06.2 -2.0**
KHC *ex* x 15 10 11.0
KHC AMS AMS 16 09 10.0
comp=Z,2µm,19.8s
PRMA PARMA 145.65 281 IAMs_20 IAMs_20 15 54 59.2
comp=Z,2µm,20.0s
RICC Richard 145.75 292 AMS AMS 16 12 40.0
comp=Z,2µm,18.3s
WCI Wyandotte Cave 145.75 93 IAMs_20 IAMs_20 15 52 55.4
comp=Z,2µm,19.0s
BJO1 Bjornoya 145.76 336 *e*PKPbc **PKPab 14 48 04.0 -0.7**
JFWS Jewell Farm 145.77 83 IAMs_20 IAMs_20 15 43 56.6
comp=Z,2µm,22.0s
HODGE Hodges 145.84 102 IAMs_20 IAMs_20 15 49 19.7
comp=Z,2µm,20.0s
JETT Jettan, Norway 145.87 327 *e*P **PKPab 14 48 04.7 -0.6**
JETT IVmB_BB 14 48 21.4
comp=Z,1µm,2.8s
BG3 Lake Jocassee 145.91 101 IAMs_20 IAMs_20 16 08 03.6
comp=Z,2µm,20.0s
WTTA Wattenberg 145.95 285 *e*PKP **PKPbc 14 48 05.0 -0.9**
comp=Z,107nm,2.2s,SNR=22
P46A Rosedale 145.96 90 IAMs_20 IAMs_20 15 46 53.9
comp=Z,2µm,20.0s
BRG Berggiesshubel 145.97 292 *e*PKP **PKiKP 14 48 07.4 -1.6**
BRG Amp 14 48 09.2
comp=Z,14nm,0.9s
BRG Berggiesshubel 145.97 292 P PKiKP 14 48 17.5 +8.5
BRG Amp 14 48 20.4
comp=Z,31nm,1.1s
T50A Nancy 145.97 96 IAMs_20 IAMs_20 15 47 09.1
comp=Z,2µm,20.0s
KBS Kingsbay 145.97 344 *e* **PKiKP 14 48 14.3 +6.0**
WATA Walderalm 146.01 286 *e*PKP **PKPab 14 48 06.4 -0.3**
comp=Z,332nm,2.4s,SNR=15
BLO Bloomington 146.15 91 IAMs_20 IAMs_20 15 44 13.9
comp=Z,2µm,21.0s
SQTA Sankt Quirin 146.19 285 *e*pPKP pPKPdf 14 48 07.7 -1.2
comp=Z,251nm,2.1s,SNR=9.6
MOTA Moosalm 146.31 285 *e*PKP **PKPab 14 48 06.9 -0.9**
comp=Z,516nm,2.9s,SNR=9.1
CSU Charleston Sou 146.37 106 IAMs_20 IAMs_20 16 02 25.7
comp=Z,2µm,21.0s
NHSC New Hope 146.38 106 IAMs_20 IAMs_20 16 07 45.1
comp=Z,2µm,20.0s
TRO Tromso 146.38 327 *e* **PKiKP 14 48 09.8 +0.5**
TRO *e*SS SS 15 10 35.2 +8.8
FETA Feichten 146.41 285 *e*PKP **PKPab 14 48 06.8 -1.4**
comp=Z,128nm,1.9s,SNR=9.0
V53A Saluda 146.41 100 IAMs_20 IAMs_20 16 07 32.0
comp=Z,2µm,21.0s
TZTN Tazewell 146.49 98 IAMs_20 IAMs_20 16 05 01.1
comp=Z,2µm,22.0s
PAULI Pauline 146.50 102 IAMs_20 IAMs_20 16 01 33.3
comp=Z,2µm,21.0s
R49A Shelbyville 146.51 94 IAMs_20 IAMs_20 15 53 30.4
comp=Z,2µm,18.0s
RETA Reutte 146.58 285 *e*PKP **PKPab 14 48 08.5 -0.2**
comp=Z,123nm,1.5s,SNR=11
CLL Collm 146.67 293 IAMs_20 IAMs_20 16 08 33.6
comp=Z,2µm,20.0s
CLL Collm 146.67 293 *i* PKP2 **PKPbc 14 48 07.2 -0.5**
CLL pmax pmax
comp=Z,35nm,1.3s
HQIL Hanson Quary C 146.73 86 IAMs_20 IAMs_20 16 06 25.1
comp=Z,2µm,22.0s
Y57A Sumter 146.86 104 IAMs_20 IAMs_20 16 07 21.8
comp=Z,2µm,20.0s
K43A Burlington 146.88 85 IAMs_20 IAMs_20 15 45 39.1
comp=Z,2µm,20.0s
L44A Lake County Fo 146.88 86 IAMs_20 IAMs_20 15 44 51.2
comp=Z,2µm,21.0s
G40A Rib Lake 146.93 79 IAMs_20 IAMs_20 15 59 14.1
comp=Z,1µm,20.0s
KMSC Kings Mountain 147.01 102 IAMs_20 IAMs_20 16 08 30.7
comp=Z,2µm,20.0s
P48A Milroy 147.01 92 IAMs_20 IAMs_20 15 48 53.8
comp=Z,2µm,21.0s
R50A Paris 147.04 95 IAMs_20 IAMs_20 16 08 27.5
comp=Z,2µm,20.0s
DAVA Damuels 147.04 285 PKP **PKPab 14 48 10.1 -0.6**
comp=Z,90nm,1.5s,SNR=7.9
I42A Draeger Farm, 147.09 82 IAMs_20 IAMs_20 15 49 35.7
comp=Z,2µm,19.0s
S51A Beattyville 147.13 96 IAMs_20 IAMs_20 16 07 30.9
comp=Z,2µm,20.0s
GRA1 Grafenberg Arr 147.16 289 IAMs_20 IAMs_20 16 00 25.8
comp=Z,2µm,22.0s
GRFO Grafenberg 147.16 289 IAMs_20 IAMs_20 16 00 25.8
comp=Z,2µm,21.0s
BIRD Birdtown, Kers 147.23 103 IAMs_20 IAMs_20 16 08 56.6
comp=Z,2µm,20.0s
Y58A Scranton 147.24 105 IAMs_20 IAMs_20 16 07 13.7
comp=Z,2µm,20.0s
RGN Rugen 147.48 299 IAMs_20 IAMs_20 16 00 14.5
comp=Z,2µm,21.0s
V55A Taylorsville 147.54 101 IAMs_20 IAMs_20 16 08 19.7
comp=Z,2µm,20.0s
U54A Nelsons Funny 147.57 99 IAMs_20 IAMs_20 16 06 57.7
comp=Z,2µm,20.0s
NOR Nord 147.77 354 *e*P **PKPbc 14 48 09.1 -0.8**
L46A Eue Claire 147.83 87 IAMs_20 IAMs_20 15 47 48.3
comp=Z,2µm,20.0s
STEI Steigen 147.84 324 *e*P **PKPbc 14 48 09.8 -0.6**
W57A Gilead 147.85 103 IAMs_20 IAMs_20 16 01 49.1
comp=Z,2µm,20.0s
FAUS Fauske 147.86 323 *e*PKPdf **PKPbc 14 48 08.5 -2.0**
FAUS *e*SS SS 15 10 44.8 +1.6
X58A Rowland 147.87 105 IAMs_20 IAMs_20 16 08 22.5
comp=Z,2µm,20.0s
COWI Conover 147.96 79 IAMs_20 IAMs_20 15 43 19.5
comp=Z,2µm,22.0s
H43A Windswept, Lux 148.09 82 IAMs_20 IAMs_20 15 45 08.1
comp=Z,2µm,22.0s
Q51A Peebles 148.10 94 IAMs_20 IAMs_20 15 48 00.0
comp=Z,2µm,22.0s
O49A Covington 148.12 92 IAMs_20 IAMs_20 16 04 41.0
comp=Z,2µm,21.0s
Y60A Bolivia 148.19 107 IAMs_20 IAMs_20 15 43 46.9
comp=Z,2µm,22.0s
MOR8 Moi Rana 148.26 321 *e* **PKPab 14 48 16.1 +1.4**
SENIN Lac Senin/Sane 148.26 282 IAMs_20 IAMs_20 16 03 23.2
comp=Z,2µm,21.0s
HFS Hagfors 148.36 309 PKPbc **PKiKP 14 48 12.0 -1.6**
comp=Z,12nm,0.7s,baz=98,slow=4.0,SNR=10
HFS Hagfors 148.36 309 PKP2 **PKiKP 14 48 12.0 -1.6**
TIO Tiouine 148.38 245 PKP **PKPdf 14 48 04.7 -5.0**
F42A Maple Grove Fa 148.44 80 IAMs_20 IAMs_20 16 09 55.3
comp=Z,2µm,22.0s
LOF Lofoten 148.46 324 *e*SS SS 15 10 58.3 +8.4
S54A Dingess, Beckl 148.68 98 IAMs_20 IAMs_20 15 49 09.8
comp=Z,2µm,20.0s
VAGH Vaagaholmen 148.69 322 *e* **PKiKP 14 48 13.9 -0.2**
V58A Windy Hill, Pi 148.81 103 IAMs_20 IAMs_20 16 06 29.5
comp=Z,2µm,19.0s
STOK Stokkvaagen 148.82 321 *e* **PKPab 14 48 19.6 +2.6**
STOK *e* 15 11 07.3
W59A Clinton 148.83 105 IAMs_20 IAMs_20 16 09 28.8
comp=Z,2µm,21.0s
I45A Fountain 148.87 84 IAMs_20 IAMs_20 15 47 27.6
comp=Z,2µm,20.0s
BLA Blacksburg 148.88 100 IAMs_20 IAMs_20 16 06 46.3
comp=Z,2µm,21.0s
CART Cartagena 149.04 261 PKP **PKPdf 14 48 05.8 -4.5**
ECH Echery 149.10 285 IAMs_20 IAMs_20 16 03 33.2
comp=Z,1µm,19.0s
EJON La Jonquera 149.25 272 PKP **PKiKP 14 48 14.6 -1.5**
NSS Namsos 149.36 318 *e*SS SS 15 10 56.0 -4.2
J47A Sunmer 149.39 86 IAMs_20 IAMs_20 16 09 09.4
comp=Z,2µm,20.0s
T57A Hurt 149.49 101 IAMs_20 IAMs_20 16 07 37.3
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 149.66 311 PKP **PKPbc 14 48 14.2 -1.1**
comp=Z,61nm,1.7s,baz=93,slow=4.1
NB2 NORSAR Subarra 149.66 311 PKP **PKPbc 14 48 14.2 -1.1**
baz=93,slow=4.1
NOA NORSAR Array B 149.66 311 PKPbc **PKiKP 14 48 14.9 -1.5**
comp=Z,5.4nm,0.8s,baz=96,slow=3.0,SNR=11
O52A Adamsville 149.68 94 IAMs_20 IAMs_20 16 07 59.8
comp=Z,2µm,20.0s
R55A Marlinton 149.72 98 IAMs_20 IAMs_20 15 59 46.4
comp=Z,2µm,21.0s
N51A Ashland 149.77 92 IAMs_20 IAMs_20 16 03 28.7
comp=Z,2µm,21.0s
S57A Dark Hollow, R 150.14 100 IAMs_20 IAMs_20 16 05 50.6
comp=Z,2µm,21.0s
O53A New Philadelph 150.15 94 IAMs_20 IAMs_20 15 48 38.7
comp=Z,2µm,20.0s
WLF Walterdange 150.24 287 *d*PKP **PKiKP 14 48 18.1 +0.3**
KONO Kongsberg 150.37 308 IAMs_20 IAMs_20 16 04 49.2
comp=Z,2µm,21.0s
KONO Kongsberg 150.37 308 *e*SS SS 15 11 13.8 +2.0
T59A Double "B" Far 150.53 103 IAMs_20 IAMs_20 15 47 04.0
comp=Z,2µm,20.0s
BHOU Houvegnez 150.55 288 *d*PKP **PKiKP 14 48 17.3 -1.2**
K50A Casco 150.56 89 IAMs_20 IAMs_20 16 03 26.7
comp=Z,2µm,20.0s
MEM Membach 150.63 289 *d*PKP **PKiKP 14 48 19.5 +0.8**
N53A Lisbon 150.69 93 IAMs_20 IAMs_20 16 06 40.1
comp=Z,2µm,21.0s
Q56A Snyder Ridge, 150.75 98 IAMs_20 IAMs_20 16 08 42.8
comp=Z,2µm,20.0s
HOMB Homborsund 150.80 305 *e*PKPdf **PKPdf 14 48 12.4 0.0**
BSTI Sart Tilman 150.89 289 *d*PKP **PKiKP 14 48 19.3 +0.2**
RCHB Rochefort 150.96 288 *d*PKP **PKiKP 14 48 18.6 -0.7**
BCLA Clavier 151.00 288 *d*PKP **PKiKP 14 48 19.2 -0.2**
SKAR Skarslia 151.07 310 *e* **PKPab 14 48 26.4 -0.1**
SKAR *e*SS SS 15 11 23.1 +3.4
BMRD Maredsous 151.29 288 *d*PKP **PKiKP 14 48 20.1 +0.1**
DOU Dourbes 151.33 287 *d*PKP **PKPbc 14 48 18.6 -1.0**
MOL Molde 151.41 314 *e* **PKPab 14 48 25.8 -2.0**
MOL *e*SS SS 15 11 34.4 +11
TULEG Thule 151.55 13 *i* P **PKPbc 14 48 18.0 -1.4**
UCC Uccle 151.69 289 IAMs_20 IAMs_20 16 00 41.4
comp=Z,2µm,20.0s
PAOC Oil Creek Stat 151.81 93 IAMs_20 IAMs_20 15 53 39.6
comp=Z,2µm,19.0s
ODD1 Odda 151.88 308 *e*PKPdf **PKPdf 14 48 14.0 -0.2**
BLS5 Blasjo 151.95 307 *e*PKPdf **PKPdf 14 48 14.9 +0.7**
HYA Hoyanger 152.10 311 *e*PKPdf **PKPdf 14 48 14.0 -0.3**
ESDC Sonseca Array 152.14 262 PKP **PKPdf 14 48 14.7 -0.6**
comp=Z,1.7nm,1.1s,baz=58,slow=0.6,SNR=6.0
ESDC PKPbc **PKiKP 14 48 22.1 -0.1**
comp=Z,4.5nm,0.9s,baz=126,slow=2.6,SNR=15
DAG Danmarks Havn 152.16 349 *i* P **PKiKP 14 48 22.0 +1.0**
SSPA Standing Stone 152.48 96 IAMs_20 IAMs_20 16 06 41.5
comp=Z,2µm,20.0s
NEEM North Greenlan 152.56 5 *e*P **PKiKP 14 48 22.3 0.0**
KMY Karmoy 152.56 307 *e* **PKPab 14 48 35.2 +2.5**
SUE Sulen 152.80 311 *e* **PKiKP 14 48 25.5 +2.8**
PVAQ Vaqueiros 153.12 254 *e*PKPbc **PKiKP 14 48 24.0 -0.2**
PVAQ *i* tx tx 14 48 35.9
PVAQ *e*SS SS 15 11 59.3 +17
PVAQ *e*LQ LQ 15 34 41.8
PVAQ *e*LR LR 15 41 59.1
PVAQ *i* IAMs_20 IAMs_20 15 57 25.9
comp=Z,3µm,18.0s
PBDV Barranco-do-Ve 153.15 253 *e*PKPdf **PKPdf 14 48 15.9 -0.8**
PBDV *i* tx tx 14 48 33.4
PBAR Barrancos 153.18 256 *i* tx tx 14 48 33.8
PCVE Castro Verde 153.46 254 *e*PKPbc **PKPbc 14 48 23.3 -1.5**
PCVE *i* tx tx 14 48 40.7
WUPA West Chester U 153.53 100 IAMs_20 IAMs_20 16 06 00.4
comp=Z,2µm,20.0s
MMNY Mt. Morris Dam 153.56 92 IAMs_20 IAMs_20 16 02 19.1
comp=Z,2µm,22.0s
PBEJ Beja 153.60 255 *i* tx tx 14 48 37.7
PFVI Vila Bisbo 153.62 252 *i* tx tx 14 48 40.5
MORF Marmelete 153.63 253 *e*PKPdf **PKPdf 14 48 19.4 +1.9**
MORF *e*PKPbc **sPKPbc 14 48 32.0 +2.3**
MORF *i* tx tx 14 48 41.5
BUKO Buck Lake 153.85 86 IAMs_20 IAMs_20 15 51 36.6
comp=Z,2µm,21.0s
PESTR Estremoz 153.95 257 *i* tx tx 14 48 36.6
PMRV Marv??o 154.16 258 *i* tx tx 14 48 40.9
PMRV *e*SS SS 15 12 02.4 +8.3
PMRV *e*LQ LQ 15 34 25.9
PMRV *e*LR LR 15 43 02.5
PMRV *i* IAMs_20 IAMs_20 15 56 30.9
comp=Z,2µm,20.0s
PCBR Castelo Branco 154.45 258 *i* tx tx 14 48 38.3
PMTG Montargil 154.46 256 *i* tx tx 14 48 44.4
BINY Binghamton 154.52 95 IAMs_20 IAMs_20 15 57 26.5
comp=Z,2µm,20.0s
PSARD Sardoal 154.74 257 *i* tx tx 14 48 44.2
BBSR BB Station 154.75 126 IAMs_20 IAMs_20 16 00 54.3
comp=Z,1µm,21.0s
MTE Manteigas 154.81 259 *i* tx tx 14 48 41.1
MTE *e*SS SS 15 12 08.2 +6.9
MTE *e*LR LR 15 43 02.1
MTE *i* IAMs_20 IAMs_20 15 56 22.9
comp=Z,2µm,20.0s
PARRA Arraiolos 154.81 255 *e*PKPbc **PKiKP 14 48 27.1 -0.5**
MVO Moncorvo 154.91 262 *e*PKPdf **PKPdf 14 48 12.5 -6.7**
MVO *e*PKPbc **PKPbc 14 48 25.0 -2.9**
MVO *i* tx tx 14 48 44.6
MVO *e*LQ LQ 15 32 35.2
MVO *e*LR LR 15 43 17.4
MVO *i* IAMs_20 IAMs_20 15 57 30.5
comp=Z,2µm,20.0s
PBRG Braganca 155.07 263 *i* tx tx 14 48 47.0
L59A Walton 155.12 96 IAMs_20 IAMs_20 16 05 06.3
comp=Z,2µm,20.0s
PVIS Viseu 155.21 260 *i* tx tx 14 48 48.0
PMOZ Porto Moniz, M 155.29 234 *e*LR LR 15 43 17.4
PMOZ *i* IAMs_20 IAMs_20 15 49 51.3
comp=Z,2µm,22.0s
POLO Lamas de Olo 155.51 261 *e*PKPdf **PKPdf 14 48 23.1 +3.1**
POLO *i* tx tx 14 48 49.2
PGAV Gavieira, Arco 156.13 262 *e*LQ LQ 15 34 57.6
PGAV *e*LR LR 15 46 06.0
PGAV *i* IAMs_20 IAMs_20 16 02 02.4
comp=Z,2µm,16.0s
EKA Eskdalemuir Ar 156.97 297 PKPab **PKPab 14 48 51.4 -0.2**
comp=Z,5.3nm,1.0s,baz=98,slow=4.7,SNR=4.3
SUMG Summit 157.71 358 *i* P PKPdf 14 48 29.0 +6.7
SCO Scoresbysund 158.01 343 IAMs_20 IAMs_20 16 08 09.8
comp=Z,1µm,19.0s
DSB Dublin 158.67 291 IAMs_20 IAMs_20 16 08 28.0
comp=Z,2µm,20.0s

PRU 21 14:53:12.8,51.42N×16.11E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.83**	**182**	*e*PG	Pg	14 53 28.3	-0.5
CHVC				*e*SG	Sg	14 53 40.0	+0.5
OSTC	**Ostas**	**0.87**	**176**	*e*SG	Sg	14 53 40.6	0.0
UPC	**Upice**	**0.92**	**184**	*e*PG	Pg	14 53 29.7	-0.6
UPC				*e*SG	Sg	14 53 42.4	+0.2
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*SG	Sg	14 53 47.2	-0.2
PVCC	**Panska Ves**	**1.32**	**228**	*e*SG	Sg	14 53 54.5	-0.7
	8.5nm,0.2s						
KRLC	**Kraliky**	**1.41**	**162**	*e*PG	Pn	14 53 38.3	-1.5
KRLC				*e*SG	Sg	14 53 57.8	-0.3
BRG	**Berggiesshubel**	**1.47**	**249**	Sg	Sb	14 54 00.2	0.0
BRG				Amp		14 54 01.6	
	comp=Z,3.7nm,0.4s						
KHC	**Kasperske Hory**	**2.81**	**216**	*e*SG	Sg	14 54 41.7	-1.3

*SJA **21** 15:07:23.9±0.7,25.54S×70.13W,h78km±3km,ML3.4, MW3.5*
*GUC **21** 15:07:25.4±0.7,25.63S×70.16W,h44km±3km,ML3.5*
ISC 21 15:07:25.8±1.4,25.58S±0.03×70.25W±0.06,h55km±17km, n23,σ0.87/29,1C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.64**	**209**	⇑*i*P	**Pn**	**15 07 38.9**	**-0.2**
AC01				*e*S	**Sn**	**15 07 48.5**	**-0.3**
AC01				IAML		15 07 52.4	
	comp=E,2µm,0.2s						
GO02	**Mina Guanaco**	**0.73**	**55**	*e*P	**Pn**	**15 07 39.7**	**-0.7**
GO02				*e*S	**Sn**	**15 07 50.8**	**-0.3**
GO02	**Mina Guanaco**	**0.73**	**55**	*e*P	**Pn**	**15 07 39.7**	**-0.7**
GO02				*e*S	**Sn**	**15 07 51.6**	**+0.5**
GO02				IAML		15 07 51.7	
	comp=Z,4µm,0.1s						
PB14	**IPOC Station P**	**0.96**	**352**	*e*P	**Pn**	**15 07 43.8**	**+0.3**
PB14				*e*S	**Sn**	**15 07 57.9**	**+1.5**
PB14				IAML		15 07 59.5	
	comp=Z,518nm,0.2s						
AC02	**Maricunga**	**1.60**	**141**	⇓*i*P	**Pn**	**15 07 52.4**	**+0.2**
AC02				*e*S	**Sn**	**15 08 12.1**	**0.0**
AC02				IAML		15 08 15.4	
	comp=E,2µm,0.1s						
AC02	**Maricunga**	**1.60**	**141**	*e*P	**Pn**	**15 07 52.2**	**0.0**
AC02				*e*S	**Sn**	**15 08 12.5**	**+0.4**
AC02				IAML		15 08 13.0	
	comp=Z,438nm,0.2s						
AC06	**Mina Casimiro**	**1.77**	**183**	*e*P	**Pn**	**15 07 53.5**	**-0.5**
AC06				IAML		15 08 24.2	
	comp=E,616nm,0.1s						
GO03	**Copiapo**	**2.00**	**180**	*e*P	**Pn**	**15 07 57.0**	**-0.2**
GO03				IAML		15 08 29.4	
	comp=E,212nm,0.3s						
GO03	**Copiapo**	**2.00**	**180**	*e*P	**Pn**	**15 07 57.6**	**+0.3**
GO03				*e*S	**Sn**	**15 08 23.6**	**+2.4**
GO03				IAML		15 08 29.6	
	comp=Z,182nm,0.3s						
PB10	**IPOC Station P**	**2.08**	**352**	*e*P	**Pn**	**15 07 58.2**	**-0.1**
PB10				*e*S	Sn	15 08 05.9	-17
AC04	**Llanos de Chal**	**2.71**	**196**	*e*P	**Pn**	**15 08 05.2**	**-1.8**
AC04				IAML		15 08 54.1	
	comp=E,202nm,0.3s						
PB05	**IPOC Station P**	**2.72**	**1**	*e*P	**Pn**	**15 08 06.4**	**-0.7**
PB05				IAML		15 08 56.2	
	comp=E,106nm,0.3s						
PB05	**IPOC Station P**	**2.72**	**1**	*e*P	**Pn**	**15 08 06.5**	**-0.7**
PB05				*e*S	Sn	15 08 27.2	-12
PB05				IAML		15 08 53.1	
	comp=Z,67nm,0.7s						
PB06	**IPOC Station P**	**2.93**	**12**	*e*P	**Pn**	**15 08 09.8**	**-0.2**
PB06				IAML		15 08 54.3	
	comp=E,172nm,0.2s						
PB06	**IPOC Station P**	**2.93**	**12**	*e*P	**Pn**	**15 08 10.0**	**-0.1**
PB06				*e*S	Sn	15 08 28.9	-15
PB06				IAML		15 08 59.2	
	comp=Z,94nm,0.4s						
LCO	**Las Campanas**	**3.44**	**187**	*e*P	**Pn**	**15 08 16.3**	**-0.8**
LCO				IAML		15 09 15.1	
	comp=Z,84nm,0.3s						
PB03	**IPOC Station P**	**3.55**	**7**	*e*P	**Pn**	**15 08 17.4**	**-1.1**
PB03				IAML		15 09 13.1	
	comp=E,106nm,0.2s						
PB03	**IPOC Station P**	**3.55**	**7**	*e*P	**Pn**	**15 08 18.1**	**-0.4**
PB03				*e*S	Sn	15 09 11.2	+12
PB03				IAML		15 09 12.1	
	comp=Z,91nm,0.5s						
PB09	**IPOC Station P**	**3.88**	**14**	*e*P	**Pn**	**15 08 23.5**	**+0.4**
PB09	**IPOC Station P**	**3.88**	**14**	*e*P	**Pn**	**15 08 23.2**	**+0.1**
PB09				*e*S	Sn	15 09 20.1	+13
PB09				IAML		15 09 40.6	
	comp=Z,60nm,0.6s						
PB02	**IPOC Station P**	**4.26**	**4**	*e*P	**Pn**	**15 08 27.1**	**-1.0**
PB02				*e*S	Sn	15 09 26.9	+10
PB02				IAML		15 09 33.6	
	comp=Z,67nm,0.3s						
AANI	**Anillaco**	**4.36**	**138**	*e*P	Pn	15 08 40.7	+11
AANI				*e*S	Sn	15 09 25.9	+6.6
PB01	**IPOC Station P**	**4.57**	**9**	*e*P	**Pn**	**15 08 31.4**	**-1.1**
PB01				*e*S	Sn	15 09 40.5	+16
PB01				IAML		15 09 46.1	
	comp=Z,33nm,0.2s						

NNC 21 15:17:17.1±3.3,37.82N×80.00E,h0km,mb3.8,mpv3.5, 4C-2D,Error ellipse: s-maj=27.0km s-min=21.9km az=42.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.37**	**347**	Pg	Pg	15 18 59.0	-1.1
	1.4nm,0.2s						
SATY				Lg	Lg	15 20 09.8	
	16nm,0.6s						
UZB	**Uzynbulak**	**5.37**	**352**	Pg	Pg	15 18 59.8	-0.3
	1.8nm,0.2s						
UZB				Lg	Lg	15 20 11.1	
	9.6nm,0.5s						
PDGK	**Podgornoye**	**5.52**	**356**	⇓Pn	Pn	15 18 39.0	-1.7
	4.0nm,0.3s						
PDGK				⇑Lg	Lg	15 20 07.7	
	23nm,0.8s						
MDOK	**Medeo**	**5.79**	**338**	Pg	Pg	15 19 04.5	-3.6
	1.6nm,0.5s						
MDOK				Lg	Lg	15 20 19.3	
	7.5nm,0.8s						
MTBS	**Maitube**	**5.96**	**334**	Pg	Pg	15 19 07.3	-4.1
	0.9nm,0.1s						
MTBS				Lg	Lg	15 20 25.5	
	4.8nm,0.1s						
KST	**Kastek**	**6.06**	**331**	Pg	Pg	15 19 09.0	-4.2
	2.3nm,0.3s						
KST				Lg	Lg	15 20 28.4	
	10nm,0.7s						
DGS	**Degeres**	**6.30**	**331**	Pg	Pb	15 19 11.9	+4.1
	1.4nm,0.5s						
DGS				Lg	Lg	15 20 33.7	
	7.7nm,0.5s						
KTBS	**Karatobe**	**6.40**	**338**	Pg	Pb	15 19 12.9	+3.5
	2.3nm,0.6s						
KTBS				Lg	Lg	15 20 35.2	
	8.8nm,0.8s						
ARXS	**Arharly**	**6.59**	**346**	Pg	Pg	15 19 19.4	-4.1
	1.8nm,0.6s						

ARXS					Lg	Lg	15 20 47.2		
	6.2nm,0.5s								
MRKS	**Merke**	**7.14**	**316**		Pg	Pb	15 19 27.0	+4.9	
	2.3nm,0.4s								
MRKS					Lg	Lg	15 20 59.3		
	5.6nm,0.8s								
MAKZ	**Makanchi**	**9.10**	**9**		Pn	Pn	15 19 28.2	-1.5	
	2.0nm,0.6s								
MAKZ					⇓Sn	Sn	15 21 14.3	+1.4	
	2.1nm,1.1s								
MK31	**Makanchi Array**	**9.13**	**10**	⇑	Pn	Pn	15 19 29.0	-1.1	
	0.1nm,0.2s,baz=204,slow=49,SNR=9.1								
MK31				⇑	Sn	Sn	15 21 14.8	+1.3	
	1.9nm,0.7s,baz=195,slow=24,SNR=9.0								
KURK	**Kurchatov**	**12.93**	**356**	⇑	Pn	Pn	15 20 20.1	-1.9	
	2.1nm,0.8s								

IDC 21 15:27:08.9±784.0, 54°.40N×160°.28E, h0km, Error ellipse: s-maj=329.9km s-min=45.2km az=52.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I44RU	**PETROPAVLOVSK-**	**2.00**	**231**	I	I	15 39 20.0	
	0.4nm,0.8s,baz=49,slow=313,SNR=18						
I30JP	**ISUMI INFRASON**	**23.61**	**224**	I	I	17 52 40.0	
	baz=30,slow=320,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**42.17**	**302**	I	I	19 44 30.0	
	baz=58,slow=325,SNR=0.6						

*IDC **21** 16:03:46.2±8.8, 19°.50S×175°.94W, h158km±79km, mb3.7/9, mbtmp4.2/10, Error ellipse: s-maj=29.3km s-min=24.8km az=37.0*

*NEIC **21** 16:03:49.2±1.6, 19°.6S±0°.1×175°.8W±0°.1, h180km±5km, mb4.3/12, Error ellipse: s-maj=20.4km s-min=17.7km az=130.0*

ISC 21 16:03:50.4±0.6, 19°.7S±0°.1×175°.73W±0°.09, h200km, n39, σ1§46/38, mb4.0/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.50**	**85**	Pn	**Pn**	**16 05 10.6**	**-0.7**
MSVF	**Nonsavu**	**6.20**	**287**	Pn	Pn	16 05 25.1	+4.7
PINNC	**Pines Island,**	**15.97**	**256**	P	**Pn**	**16 07 27.3**	**+2.8**
DZM	**Mont Dzumac**	**16.84**	**259**	P	**Pn**	**16 07 36.0**	**+1.0**
DZM	**Mont Dzumac**	**16.84**	**259**	P	**Pn**	**16 07 36.3**	**+1.3**
	29nm,0.7s,baz=76,slow=20,SNR=32						
URZ	**Urewera**	**19.56**	**197**	P	**P**	**16 08 02.3**	**-0.7**
	5.1nm,0.3s,baz=321,slow=3.8,SNR=11						
URZ				S	**S**	**16 11 30.1**	**-2.8**
	27nm,1.2s,baz=320,slow=19,SNR=2.0						
BKZ	**Black Stump Fm**	**20.58**	**197**	P	**P**	**16 08 13.0**	**-1.0**
QRZ	**Quarry Range**	**23.37**	**203**	P	**P**	**16 08 42.2**	**+1.2**
LTZ	**Lake Taylor**	**25.19**	**201**	P	**P**	**16 08 58.2**	**+0.6**
EIDS	**Eidsvold**	**31.14**	**253**	P	**P**	**16 09 49.4**	**-1.1**
CAN	**Canberra**	**34.75**	**236**	P	**P**	**16 10 24.7**	**+2.8**
CTAO	**Charters Tower**	**35.71**	**263**	P	**P**	**16 10 29.5**	**-0.7**
COEN	**Coen**	**39.68**	**272**	P	**P**	**16 11 02.4**	**-1.0**
MANU	**Manus Island**	**40.10**	**291**	P	**P**	**16 11 07.3**	**+0.4**
WR8	**Warramunga Arr**	**46.69**	**261**	P	**P**	**16 11 58.1**	**-1.4**
WR8				IAmb	IAmb	16 11 58.3	
	comp=Z,2.8nm,0.4s						
AS31	**Alice Springs**	**46.80**	**256**	P	**P**	**16 11 59.6**	**-0.8**
AS31				IAmb	IAmb	16 12 00.2	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**46.80**	**256**	P	**P**	**16 11 59.3**	**-1.1**
ASAR	**Alice Springs**	**46.80**	**256**	P	**P**	**16 11 59.0**	**-1.3**
	comp=Z,13nm,0.6s,baz=92,slow=8.6,SNR=36						
	comp=Z,13nm,0.6s						
WB0	**Warramunga Arr**	**46.82**	**261**	P	**P**	**16 11 59.2**	**-1.3**
WB0				IAmb	IAmb	16 11 59.8	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**46.84**	**261**	P	**P**	**16 11 57.7**	**-3.0**
WRA	**Warramunga Arr**	**46.84**	**261**	P	**P**	**16 11 59.0**	**-1.8**
	comp=Z,4.2nm,0.5s,baz=92,slow=6.3,SNR=18						
	comp=Z,4.2nm,0.5s						
MTN	**Manton Dam**	**51.30**	**269**	P	**P**	**16 12 32.6**	**-2.0**
MTN				IAmb	IAmb	16 12 32.9	
	comp=Z,18nm,1.4s						
KNRA	**Kununurra**	**52.85**	**265**	P	**P**	**16 12 44.3**	**-1.7**
KNRA				IAmb	IAmb	16 12 45.1	
	comp=Z,6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.26**	**261**	P	**P**	**16 13 01.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**55.26**	**261**	P	**P**	**16 13 02.1**	**-1.3**
	comp=Z,3.7nm,0.6s,baz=132,slow=6.2,SNR=5.2						
	comp=Z,3.7nm,0.6s						
QSPA	**South Pole Qui**	**70.41**	**180**	P	**P**	**16 14 44.6**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=106,slow=1.6,SNR=6.4						
	comp=Z,0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**70.83**	**322**	P	**P**	**16 14 44.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=166,slow=4.3,SNR=4.7						
	comp=Z,1.1nm,0.6s						
PETK	**Petropavlovsk-**	**76.03**	**344**	P	**P**	**16 15 15.0**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=131,slow=6.8,SNR=3.0						
	comp=Z,2.7nm,0.9s						
BELA	**Belgrano 2**	**80.11**	**172**	P	**P**	**16 15 37.7**	**+0.1**
K15K	**Wolf Creek Mou**	**82.44**	**7**	P	**P**	**16 15 51.0**	**+1.2**
K15K				IAmb	IAmb	16 15 51.5	
	comp=Z,4.6nm,1.1s						
TXAR	**Lajitas Array**	**84.80**	**57**	P	**P**	**16 16 04.2**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=234,slow=5.5,SNR=3.6						
	comp=Z,0.2nm,0.6s						
BPAW	**Bear Paw Mtn.**	**85.66**	**11**	P	**P**	**16 16 07.4**	**+1.3**
H21K	**Melozitna Rive**	**86.81**	**9**	P	**P**	**16 16 12.0**	**+0.3**
ILAR	**Eielson Array**	**87.03**	**12**	P	**P**	**16 16 12.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=207,slow=5.1,SNR=4.1						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**91.86**	**289**	P	**P**	**16 16 36.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=110,slow=4.7,SNR=4.8						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**119.80**	**320**	PKP	**PKPdf**	**16 22 15.4**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=90,slow=2.0,SNR=4.4						
ARCES	**ARCESS Array B**	**128.46**	**351**	PKP	**PKPdf**	**16 22 32.0**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=32,slow=2.1,SNR=4.1						
AKASG	**Malin Array Be**	**143.26**	**333**	PKhKP	PKPpre	16 22 56.9	
	comp=Z,0.5nm,0.6s,baz=46,slow=3.6,SNR=6.2						
MMAI	**Mount Meron Ar**	**149.22**	**302**	PKPbc	**PKPbc**	**16 23 15.7**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=73,slow=5.6,SNR=6.8						

*AUST **21** 16:04:28.3±0.3, 18°.3×12°.0±°, h10km, mb4.2/12, ML3.4/4, ML4.0/2, Error ellipse: s-maj=9.5km s-min=5.1km az=120.8*

*NOU **21** 16:04:30.4, 18°.07S×120°.18E, h91km, mb4.1/9, Western Australia*

ISC 21 16:04:27.8±0.9, 18°.19S±0°.07×120°.35E±0°.07, h10km, n26, σ1§69/30, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**3.01**	**191**	P	**Pn**	**16 05 17.8**	**+2.3**
MBWA				S	**Sn**	**16 05 52.3**	**+0.6**
MBWA	**Marble Bar**	**3.01**	**191**	P	**Pn**	**16 05 17.7**	**+2.1**
PSA00	**Pilbara Seismi**	**3.40**	**188**	P	**Pn**	**16 05 22.8**	**+1.9**
PSA00				S	**Sn**	**16 06 00.3**	**-1.0**
PSA00	**Pilbara Seismi**	**3.40**	**188**	P	**Pn**	**16 05 22.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**5.03**	**90**	P	**Pn**	**16 05 45.3**	**+1.8**
	comp=Z,0.0nmcomp=Z,18µmcomp=Z,3.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**5.03**	**90**	S	**Sn**	**16 06 40.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**5.03**	**90**	P	**Pn**	**16 05 45.4**	**+1.9**
GIRL	**Giralia**	**7.24**	**231**	P	**Pn**	**16 06 15.6**	**+1.8**
	comp=Z,295µmcomp=Z,68nm,1.3s,comp=Z,0.2nm						
GIRL				S	**Sn**	**16 07 31.4**	**-4.8**
KNRA	**Kununurra**	**8.43**	**74**	P	**Pn**	**16 06 32.4**	**+2.2**
	comp=Z,0.1nmcomp=Z,20nm,1.7s						
KNRA				S	**Sn**	**16 08 02.9**	**-2.6**
CVQOZ	**Cooralya Stati**	**8.53**	**222**	P	**Pn**	**16 06 32.8**	**+1.3**
	comp=Z,160nm,1.4s,comp=Z,0.9nm						
MEEK	**Meekatharra**	**8.56**	**190**	P	**Pn**	**16 06 32.9**	**+1.1**
MEEK	**Meekatharra**	**8.56**	**190**	P	**Pn**	**16 06 32.8**	**+0.9**
EDFI	**Ende, Flores**	**9.48**	**8**	P	**Pn**	**16 06 43.8**	**-0.8**
	comp=Z,14nm,1.5s,comp=Z,0.0nm						
PLAI	**Plampang**	**9.64**	**345**	P	**Pn**	**16 06 47.9**	**+1.2**
	comp=Z,27nm,1.1s,comp=Z,0.1nm						
WRKA	**Warakurna**	**10.05**	**134**	P	**Pn**	**16 06 53.9**	**+1.5**
MORW	**Morawa**	**11.52**	**199**	P	**Pn**	**16 07 11.2**	**-1.3**
	comp=Z,18nm,2.5s						
MORW	**Morawa**	**11.52**	**199**	P	**Pn**	**16 07 11.9**	**-0.6**
MTN	**Manton Dam**	**11.67**	**64**	P	**Pn**	**16 07 15.2**	**+0.6**
	comp=Z,23nm,2.3s						
MTN	**Manton Dam**	**11.67**	**64**	P	**Pn**	**16 07 15.5**	**+0.9**
BLDU	**Ballidu**	**12.80**	**194**	P	**Pn**	**16 07 29.1**	**-0.9**
	comp=Z,15nm,2.3s						
BLDU	**Ballidu**	**12.80**	**194**	P	**Pn**	**16 07 30.2**	**+0.2**
KDU	**Kakadu**	**12.91**	**67**	P	**Pn**	**16 07 31.2**	**-0.2**
	comp=Z,20nm,1.9s						
KDU	**Kakadu**	**12.91**	**67**	P	**Pn**	**16 07 31.6**	**+0.2**
MUN	**Mundaring**	**14.23**	**194**	P	**Pn**	**16 07 48.4**	**-1.1**
	comp=Z,12nm,1.5s						
MUN	**Mundaring**	**14.23**	**194**	P	**Pn**	**16 07 48.8**	**-0.6**
RKGY	**Rocky Gully**	**16.62**	**190**	P	**Pn**	**16 08 20.6**	**-0.4**
	comp=Z,73nm,1.9s						

*SJA **21** 16:17:19.3±0.8, 24°.31S×67°.23W, h194km±6km, ML3.4, MW3.6*

*GUC **21** 16:17:21.5±0.8, 24°.23S×67°.55W, h198km±7km, ML3.7*

ISC 21 16:17:18.5±1.7, 24°.31S±0°.04×67°.22W±0°.04, h204km±14km, n34, σ1§49/57, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.81**	**84**	*e*P	**Pn**	**16 17 47.7**	**-0.5**
SALTA				IAML		16 18 12.4	
	comp=Z,17nm,0.5s						
AF01	**San Pedro de A**	**1.61**	**327**	*e*S	**S**	**16 18 21.5**	**+0.4**
AF01	**San Pedro de A**	**1.61**	**327**	*e*P	**Pn**	**16 17 55.9**	**+1.9**
AF01				IAML		16 18 39.3	
	comp=Z,144nm,0.8s						
SLA	**San Lorenzo**	**1.61**	**105**	*e*P	**Pn**	**16 17 54.9**	**+1.0**
SLA				*e*S	**S**	**16 18 20.3**	**-0.5**
SLA				IAML		16 18 20.7	
	comp=Z,97nm,1.0s						
AZAP	**Zapla**	**1.97**	**88**	*e*P	**Pn**	**16 17 57.8**	**+0.5**
AZAP				*e*S	**S**	**16 18 26.8**	**0.0**
AZAP				IAML		16 18 28.0	
	comp=Z,112nm,0.7s						
FSA	**Cafayete**	**2.12**	**148**	*e*P	**Pn**	**16 17 59.8**	**+1.1**
FSA				*e*S	**S**	**16 18 23.4**	**-6.2**
GO02	**Mina Guanaco**	**2.32**	**248**	⇑*e*P	**Pn**	**16 18 02.2**	**+1.2**
GO02				*e*S	**S**	**16 18 33.3**	**-0.2**
GO02				IAML		16 18 34.6	
	comp=E,411nm,0.3s						
GO02	**Mina Guanaco**	**2.32**	**248**	*e*P	**Pn**	**16 18 02.2**	**+1.2**
GO02				*e*S	**S**	**16 18 34.0**	**+0.6**
GO02				IAML		16 18 34.5	
	comp=Z,294nm,0.2s						
YJA	**Yavi**	**2.64**	**37**	*e*P	**Pn**	**16 18 06.5**	**+1.8**
YJA				*e*S	**S**	**16 18 40.8**	**+0.6**
YJA				IAML		16 18 41.2	
	comp=Z,2.5nm,1.9s						
PB06	**IPOC Station P**	**2.69**	**306**	⇑*e*P	**Pn**	**16 18 06.2**	**+1.2**
PB06				*e*S	**S**	**16 18 39.4**	**-1.2**
PB06				IAML		16 18 42.3	
	comp=N,278nm,0.1s						
PB06	**IPOC Station P**	**2.69**	**306**	*e*P	**Pn**	**16 18 06.1**	**+1.2**
PB06				*e*S	**S**	**16 18 40.0**	**-0.5**
PB06				IAML		16 18 42.9	
	comp=Z,113nm,0.3s						
PB14	**IPOC Station P**	**2.92**	**263**	*e*P	**Pn**	**16 18 08.6**	**+0.8**
PB14				*e*S	**S**	**16 18 45.0**	**-0.5**
PB14				IAML		16 18 49.7	
	comp=Z,105nm,0.4s						
AHML	**Horco Molle**	**3.00**	**146**	*e*P	**Pn**	**16 18 10.7**	**+2.4**
AHML				IAML		16 19 24.4	
	comp=Z,6.0nm,3.4s						
ALOL	**LOMAS DE OLMED**	**3.00**	**81**	*e*P	**Pn**	**16 18 09.2**	**+0.8**
AC02	**Maricunga**	**3.05**	**214**	*e*P	**Pn**	**16 18 11.4**	**+1.9**
AC02				*e*S	**S**	**16 18 48.2**	**-0.5**
AC02				IAML		16 19 08.2	
	comp=Z,16nm,0.1s						
PB05	**IPOC Station P**	**3.10**	**297**	*i* P	**Pn**	**16 18 10.5**	**+0.9**
PB05				*e*S	**S**	**16 18 47.2**	**-1.8**
PB05				IAML		16 18 51.0	
	comp=N,84nm,0.3s						
PB05	**IPOC Station P**	**3.10**	**297**	*e*P	**Pn**	**16 18 10.6**	**+0.9**
PB05				*e*S	**S**	**16 18 48.1**	**-0.9**
PB05				IAML		16 18 50.0	
	comp=Z,44nm,0.1s						
PB09	**IPOC Station P**	**3.12**	**323**	⇓*e*P	**Pn**	**16 18 11.4**	**+1.4**
PB09				*e*S	**S**	**16 18 49.4**	**-0.2**
PB09				IAML		16 18 50.0	
	comp=N,148nm,0.5s						
PB09	**IPOC Station P**	**3.12**	**323**	*e*P	**Pn**	**16 18 11.6**	**+1.6**
PB09				*e*S	**S**	**16 18 48.9**	**-0.8**
PB09				IAML		16 18 49.9	
	comp=Z,125nm,0.5s						
PB10	**IPOC Station P**	**3.15**	**284**	*e*P	**Pn**	**16 18 11.4**	**+1.2**
PB10				*e*S	**S**	**16 18 48.6**	**-1.4**
PB10				IAML		16 18 53.6	
	comp=E,74nm,0.3s						
PB10	**IPOC Station P**	**3.15**	**284**	*e*P	**Pn**	**16 18 11.4**	**+1.2**
PB10				*e*S	**S**	**16 18 50.2**	**+0.2**
PB10				IAML		16 18 55.4	
	comp=Z,69nm,0.5s						
PB03	**IPOC Station P**	**3.24**	**313**	*e*P	**Pn**	**16 18 12.3**	**+0.9**
PB03				*e*S	**S**	**16 18 50.5**	**-1.7**
PB03				IAML		16 18 52.5	
	comp=E,177nm,0.1s						
PB03	**IPOC Station P**	**3.24**	**313**	*e*P	**Pn**	**16 18 12.3**	**+0.9**
PB03				IAML		16 18 59.8	
	comp=Z,112nm,0.2s						
AC01	**Pan de Azucar**	**3.57**	**238**	⇓*i*P	**Pn**	**16 18 15.6**	**+0.4**
AC01				*i* S	**S**	**16 18 57.5**	**-1.4**
AC01	**Pan de Azucar**	**3.57**	**238**	*e*P	**Pn**	**16 18 15.6**	**+0.4**
AC01				*e*S	**S**	**16 18 58.0**	**-1.0**
AC01				IAML		16 18 58.5	
	comp=Z,79nm,0.3s						
PB01	**IPOC Station P**	**3.87**	**327**	⇑*i*P	**Pn**	**16 18 19.3**	**+0.3**
PB01				*e*S	**S**	**16 19 03.9**	**-2.0**
PB01	**IPOC Station P**	**3.87**	**327**	*e*P	**Pn**	**16 18 19.6**	**+0.6**
PB01				IAML		16 19 07.1	
	comp=Z,71nm,0.2s						
PB02	**IPOC Station P**	**3.87**	**320**	*e*P	**Pn**	**16 18 19.5**	**+0.5**
PB02				*e*S	**S**	**16 19 03.6**	**-2.2**
PB02	**IPOC Station P**	**3.87**	**320**	*e*P	**Pn**	**16 18 19.5**	**+0.5**
PB02				IAML		16 19 10.9	
	comp=Z,204nm,0.1s						
GO03	**Copiapo**	**4.25**	**219**	*e*P	**Pn**	**16 18 24.4**	**+0.8**
GO03				*e*S	**S**	**16 19 14.1**	**-0.2**
GO03				IAML		16 19 15.4	
	comp=Z,37nm,0.1s						
PATCX	**Punta Patache**	**4.41**	**321**	*e*P	**Pn**	**16 18 26.3**	**+0.6**
PATCX				*e*S	**S**	**16 19 14.5**	**-3.5**
PB08	**IPOC Station P**	**4.52**	**336**	*e*P	**Pn**	**16 18 28.9**	**+1.5**
TA01	**Diego Aracena**	**4.62**	**323**	*e*P	**Pn**	**16 18 28.4**	**+0.1**
TA01				IAML		16 19 23.3	
	comp=Z,283nm,0.4s						
HMBC	**Humberstone**	**4.71**	**328**	*e*P	**Pn**	**16 18 30.1**	**+0.5**
HMBC				IAML		16 19 20.3	
	comp=Z,202nm,0.1s						

*IDC **21** 16:17:59.9±1.9, 6°.39S×129°.77E, h0km, mb3.8/1, mbtmp3.8/5, ML3.6/4, Error ellipse: s-maj=42.4km s-min=26.4km az=88.0*

ISC 21 16:18:14.4±1.0, 6°.99S±0°.08×129°.50E±0°.07, h139km, n15, σ3§06/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**119**	P	**Pn**	**16 18 52.2**	**+2.8**
SAUI	**Saumlaki**	**2.04**	**119**	S	**Sn**	**16 19 20.3**	**+4.0**
FAKI	**Fak Fak**	**4.88**	**34**	P	**Pn**	**16 19 24.0**	**-2.2**
DRS	**Darwin Rock St**	**5.58**	**166**	P	**Pn**	**16 19 38.4**	**+2.9**
DRS	**Darwin Rock St**	**5.58**	**166**	S	**Sn**	**16 20 40.0**	**+1.3**
MTN	**Manton Dam**	**6.04**	**165**	P	**Pn**	**16 19 43.6**	**+2.0**
KDU	**Kakadu**	**6.38**	**153**	P	**Pn**	**16 19 47.7**	**+1.6**
BATI	**Baumata**	**6.59**	**241**	Pn	**Pn**	**16 19 47.2**	**-1.9**
	1.4nm,0.3s,baz=90,slow=9.1,SNR=1.6						
BATI				Sn	**Sn**	**16 21 07.9**	**+4.8**
	2.1nm,0.3s,baz=184,slow=23,SNR=4.0						
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**11.66**	**198**	Pn	**Pn**	**16 20 57.1**	**+0.4**
	0.2nm,0.3s,baz=18,slow=9.0,SNR=11						
FITZ				Sn	**Sn**	**16 23 02.5**	**-3.0**
	0.5nm,0.3s,baz=286,slow=14,SNR=6.8						
	3.6nm,1.0s						
WRA	**Warramunga Arr**	**13.71**	**160**	Pn	**Pn**	**16 21 21.0**	**-2.2**
	0.3nm,0.3s,baz=339,slow=13,SNR=8.4						
WRA				Sn	**Sn**	**16 23 47.8**	**-7.0**
	0.5nm,0.3s,baz=334,slow=22,SNR=7.1						
	1.0nm,0.8s						
COEN	**Coen**	**15.12**	**118**	P	**P**	**16 21 43.5**	**+0.6**
QIS	**Mount Isa**	**16.67**	**145**	P	**Pn**	**16 22 01.4**	**+1.4**
ASAR	**Alice Springs**	**17.11**	**166**	P	**Pn**	**16 22 07.0**	**+1.6**
	0.3nm,0.3s,baz=347,slow=12,SNR=42						
	1.6nm,0.6s						
AS01	**Alice Springs**	**17.12**	**166**	P	**Pn**	**16 22 06.4**	**+0.9**
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**16 28 58.4**	**0.0**
	0.3nm,0.3s,baz=115,slow=8.3,SNR=8.5						
	0.3nm,0.3s						

GUC 21 16:18:53.7±0.9, 19°.62S×70°.20W, h44km±5km, ML2.5, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.54**	**105**	⇑*i*P	**Pn**	**16 19 04.8**	**-0.5**
PB11				*e*S	Sn	16 19 13.4	0.0
PB11				IAML		16 19 13.7	
	comp=N,526nm,0.1s						
TA02	**Huaiquique**	**0.65**	**174**	*e*P	**Pn**	**16 19 06.0**	**-0.6**
TA02				*e*S	Sn	16 19 15.3	-0.6
HMBC	**Humberstone**	**0.72**	**156**	*i* P	**Pn**	**16 19 06.9**	**-0.8**
HMBC				*e*S	Sn	16 19 16.9	-0.8
HMBC	**Humberstone**	**0.72**	**156**	*e*S	Sn	16 19 17.0	-0.7
TA01	**Diego Aracena**	**0.94**	**179**	*e*P	**Pn**	**16 19 09.8**	**-0.7**
TA01				*e*S	Sn	16 19 22.6	-0.3
GO01	**Chusmiza**	**0.95**	**93**	*e*P	**Pn**	**16 19 11.1**	**-0.1**
GO01				*e*S	Sn	16 19 24.7	+0.9
PB08	**IPOC Station P**	**1.12**	**118**	*e*P	**Pn**	**16 19 13.4**	**+0.1**
PB08				*e*S	Sn	16 19 28.5	+0.8
PB08				IAML		16 19 34.2	
	comp=N,196nm,0.2s						
PB08	**IPOC Station P**	**1.12**	**118**	*e*S	Pn	16 19 13.4	+0.1
PATCX	**Punta Patache**	**1.20**	**178**	*e*P	**Pn**	**16 19 13.9**	**-0.2**
PATCX				IAML		16 19 30.7	
	comp=E,130nm,0.2s						
AP01	**Chacalluta**	**1.25**	**354**	*e*P	**Pn**	**16 19 14.3**	**-0.4**
AP01				IAML		16 19 35.9	
	comp=E,313nm,0.3s						
PB16	**IPOC Station P**	**1.44**	**27**	*e*P	**Pn**	**16 19 17.8**	**0.0**
PB16				*e*S	Sn	16 19 36.1	+0.3

*IDC **21** 16:19:57.9±1.0, 58°.46S×24°.73W, h0km, mb4.1/5, mbtmp4.1/7, ML4.3/2, Error ellipse: s-maj=54.1km s-min=21.3km az=100.0*

ISC 21 16:19:59.6±0.9, 58°.6S±0°.1×24°.4W±0°.2, h10km, n22, σ1§71/15, mb3.9/4, S Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.86**	**157**	⇓P	**Pn**	**16 23 17.1**	**+1.4**
	comp=Z,9.9nm,0.4s						
VNA3	**Neumayer Olymp**	**14.08**	**160**	⇓P	**Pn**	**16 23 19.0**	**+0.3**
	comp=Z,8.4nm,0.3s						
VNA2	**Neumayer--Watz**	**14.25**	**157**	⇓P	**Pn**	**16 23 21.5**	**+0.4**
	comp=Z,8.7nm,0.4s,baz=320,slow=15						
SNAA	**Sanae**	**15.79**	**155**	⇓P	**Pn**	**16 23 42.7**	**+1.0**
	comp=Z,189nm,0.4s						
SNAA	**Sanae**	**15.79**	**155**	Pn	**Pn**	**16 23 43.1**	**+1.4**
	comp=Z,2.5nm,0.3s,baz=317,slow=15,SNR=123						
SNAA				Sn	**Sn**	**16 26 32.4**	**-4.1**
	baz=75,slow=20,SNR=1.5						
	comp=Z,7.3nm,0.4s						
TROLL	**Troll, Antarti**	**17.28**	**152**	⇓P	**Pn**	**16 24 02.2**	**+1.4**
	comp=Z,211nm,0.4s						
PMSA	**Palmer Station**	**19.51**	**235**	Pn	**Pn**	**16 24 26.2**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=346,slow=13,SNR=4.9						
	comp=Z,2.5nm,0.5s						
QSPA	**South Pole Qui**	**31.64**	**180**	P	**P**	**16 26 24.6**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=188,slow=1.9,SNR=8.4						
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**44.08**	**182**	P	**P**	**16 28 08.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=188,slow=5.8,SNR=5.3						
	comp=Z,0.5nm,0.7s						
H04S2	**CROZET ISLANDS**	**45.19**	**110**	T	T	17 18 47.9	
	baz=225,slow=75,SNR=7.6						
H04S3	**CROZET ISLANDS**	**45.20**	**110**	T	T	17 18 54.3	
	baz=225,slow=75,SNR=5.6						
H04S1	**CROZET ISLANDS**	**45.21**	**110**	T	T	17 18 49.1	
	baz=225,slow=75,SNR=6.1						
H10S2	**ASCENSION HYDR**	**50.09**	**13**	T	T	17 23 15.2	
	baz=188,slow=74,SNR=8.3						
H10S3	**ASCENSION HYDR**	**50.10**	**13**	T	T	17 23 15.6	
	baz=32,slow=74,SNR=9.1						
H10N1	**ASCENSION HYDR**	**51.21**	**13**	T	T	17 24 42.0	
	baz=186						
H10N3	**ASCENSION HYDR**	**51.21**	**13**	T	T	17 24 45.7	
	baz=186,slow=74,SNR=4.1						
H10N2	**ASCENSION HYDR**	**51.23**	**13**	T	T	17 24 48.5	
	baz=186,slow=74,SNR=3.3						
DBIC	**Dimbokro**	**66.94**	**21**	P	**P**	**16 30 51.8**	**-0.2**
	comp=Z,7.4nm,1.1s,baz=74,slow=12,SNR=1.7						
	comp=Z,7.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.61**	**26**	P	**P**	**16 31 38.7**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=202,slow=6.0,SNR=23						
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**96.08**	**160**	P	**P**	**16 33 26.7**	**

ASAJ	**Asahikawa**	**2.13**	**284**	P		**Pn**	**16 26 43.8**	**+0.2**
JFR	**Furan**	**2.14**	**258**	P		**Pn**	**16 26 43.7**	**0.0**
JFR				*e*S		**Sn**	**16 27 12.8**	**+1.8**
KUR	**Kuril'sk**	**2.35**	**46**	*e*P		**Pn**	**16 26 46.0**	**-0.3**
KUR				AMB		AMB	16 26 46.4	
	30nm,0.2s							
KUR				*e*S		**Sn**	**16 27 15.6**	**-0.1**
KUR				A		A	16 27 17.4	
	30nm,0.3s							
KUR				A		A	16 27 17.4	
	30nm,0.3s							

GCG 21 16:27:16.3±0.6, 13°.96N×90°.67W, h98km±6km, MD3.6, ML3.2, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.45**	**340**	*i* P	Pn	16 27 31.8	+0.2
ESSG				*i* S	Sn	16 27 43.5	+0.4
NUBE	**Las Nubes**	**0.87**	**93**	*i* P	Pn	16 27 35.4	+0.1
NUBE				*i* S	Sn	16 27 51.4	+1.8
JAYA	**Jayaque - finc**	**1.22**	**104**	*i* P	Pn	16 27 39.3	+0.1
JAYA				*i* S	Sn	16 27 56.8	+0.2
MTO3	**Montecristo**	**1.34**	**71**	*i* P	Pn	16 27 41.4	+0.6

IDC 21 17:15:17.7±4.7, 47°.54N×92°.74W, h0km, mbtmp2.5/1, ML1.0/1, Error ellipse: s-maj=69.2km s-min=29.5km az=54.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.41**	**324**	Pn	Pn	17 16 11.0	-1.1
	0.2nm,0.3s,baz=140,slow=18,SNR=2.1						
ULM				Lg	Lg	17 17 03.0	
	1.7nm,0.3s,baz=170,slow=19,SNR=12						
	1.7nm,0.7s						
I10CA	**LAC DU BONNET**	**3.43**	**322**	I	I	17 36 30.0	
	0.1nm,0.9s,baz=140,slow=326,SNR=24						
I56US	**NEWPORT INFRAS**	**16.36**	**282**	I	I	18 55 10.0	
	baz=84,slow=314,SNR=3.1						

*IDC **21** 17:20:16.0±1.0, 37°.21N×102°.08E, h0km, mb3.8/10, mbtmp3.8/13, ML3.8/3, Error ellipse: s-maj=25.8km s-min=18.4km az=56.0*
*NEIC **21** 17:20:20.1±0.8, 37°.52N±0°.09×102°.1E±0°.1, h10km±2km, mb4.0/9, Error ellipse: s-maj=22.7km s-min=6.7km az=229.0*

ISC 21 17:20:17.7±0.6, 37°.28N±0°.08×102°.08E±0°.07, h10km, n29, σ1°18/29, mb3.9/12, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**1.85**	**130**	Pg	**Pb**	**17 20 52.5**	**+0.8**
LZH				Sg	**Sb**	**17 21 15.3**	**+0.3**
LZH				smax	smax		
	comp=N,2μm,1.4s						
LZH				smax	smax		
	comp=E,2μm,1.5s						
GTA	**Gaotai**	**2.78**	**321**	Pg	**Pn**	**17 21 02.6**	**+0.2**
GTA				Sg	**Sb**	**17 21 41.9**	**+0.2**
GTA				smax	smax		
	comp=N,340nm,0.9s						
GTA				smax	smax		
	comp=E,300nm,0.7s						
GOMU	**GeErMu**	**5.94**	**262**	Pn	Pb	17 21 54.3	-7.2
GOMU				Sn	**Sn**	**17 22 53.8**	**-0.5**
GOMU				smax	smax		
	comp=N,160nm,1.0s						
GOMU				smax	smax		
	comp=E,110nm,0.8s						
SONM	**Songino Array**	**11.02**	**15**	Pn	**Pn**	**17 22 54.4**	**-1.1**
SONM	**Songino Array**	**11.02**	**15**	Pn	**Pn**	**17 22 56.0**	**+0.6**
	comp=E,0.3nm,0.3s,baz=204,slow=14,SNR=6.4						
SONM				Lg	Lg	17 26 07.6	
	comp=E,0.6nm,0.3s,baz=196,slow=32,SNR=6.6						
	comp=E,1.4nm,0.5s						
MKAR	**Makanchi Array**	**17.47**	**309**		**P**	**17 24 24.1**	**+1.5**
MKAR	**Makanchi Array**	**17.47**	**309**	P	**Pn**	**17 24 20.8**	**-0.7**
	comp=E,0.1nm,0.3s,baz=113,slow=14,SNR=9.9						
	comp=E,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**18.95**	**189**	P	**P**	**17 24 38.4**	**-0.7**
	comp=E,0.4nm,0.3s,baz=2.2,slow=11,SNR=9.8						
	comp=E,0.9nm,0.4s						
TARG	**Taragay, Kyrgy**	**19.23**	**291**	P	**P**	**17 24 43.1**	**+0.6**
KS19	**Wonju Array Si**	**20.47**	**82**	Pn	Pn	17 24 59.1	+1.3
KS19				IAmb	IAmb	17 25 05.2	
	comp=Z,17nm,1.4s						
ZAA0	**Zalesovo Array**	**20.49**	**330**	P	**P**	**17 24 54.8**	**-0.8**
ZALV	**Zalesovo Beam**	**20.49**	**330**	P	**P**	**17 24 54.4**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=133,slow=11,SNR=7.5						
	comp=Z,1.5nm,0.6s						
KSAR	**Wonju Array Be**	**20.50**	**82**	Pn	Pn	17 24 59.2	+1.2
KSRS	**Korea Array**	**20.52**	**82**	P	**P**	**17 24 57.1**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=277,slow=10,SNR=17						
	comp=Z,2.9nm,0.7s						
KURK	**Kurchatov**	**21.45**	**316**		**P**	**17 25 07.2**	**+1.1**
KURK				IAmb	IAmb	17 25 09.0	
	comp=Z,8.9nm,1.1s						
KURBB	**Kurchatov Arra**	**21.46**	**316**	P	**P**	**17 25 04.4**	**-1.7**
	comp=Z,4.3nm,0.8s,baz=123,slow=11,SNR=8.4						
	comp=Z,4.3nm,0.8s						
ARSB	**Arslanbob**	**22.83**	**289**		**P**	**17 25 22.1**	**+1.1**
ARSB				IAmb	IAmb	17 25 28.6	
	comp=Z,6.9nm,1.2s						
CHGR	**Chuyangaron**	**25.92**	**283**	P	**P**	**17 25 51.6**	**+1.5**
SIMJ	**Simiganj**	**26.04**	**283**		**P**	**17 25 51.4**	**+0.1**
SIMJ				IAmb	IAmb	17 25 56.5	
	comp=Z,3.7nm,1.0s						
BVAR	**Borovoye Array**	**27.05**	**316**	P	**P**	**17 26 01.1**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=111,slow=8.1,SNR=7.1						
	comp=Z,1.1nm,0.7s						
AB31	**Akbulak array**	**32.53**	**305**	P	**P**	**17 26 49.6**	**+1.0**
AB31				IAmb	IAmb	17 26 52.1	
	comp=Z,1.3nm,0.8s						
ABKAR	**Akbulak array**	**32.53**	**305**	P	**P**	**17 26 49.7**	**+1.1**
ARCES	**ARCESS Array B**	**50.97**	**334**	P	**P**	**17 29 20.5**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=92,slow=7.6,SNR=3.6						
	comp=Z,1.3nm,0.8s						
FINES	**FINESS Array B**	**51.57**	**323**	P	**P**	**17 29 24.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=76,slow=8.0,SNR=7.4						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**57.77**	**324**	P	**P**	**17 30 09.5**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=73,slow=7.7,SNR=6.5						
	comp=Z,1.7nm,0.6s						
NB2	**NORSAR Subarra**	**58.60**	**325**	P	**P**	**17 30 11.5**	**-3.0**
	comp=Z,1.0nm,0.5s,baz=71,slow=6.9						
NOA	**NORSAR Array B**	**58.60**	**325**	P	**P**	**17 30 15.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=71,slow=6.9,SNR=4.1						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**64.53**	**146**	P	**P**	**17 30 53.3**	**-1.7**
	comp=Z,0.7nm,1.0s,baz=342,slow=6.9,SNR=2.1						
	comp=Z,0.7nm,1.0s						
ILAR	**Eielson Array**	**65.03**	**26**	P	**P**	**17 30 56.8**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=304,slow=5.1,SNR=5.2						
	comp=Z,0.5nm,0.8s						

*NEIC **21** 17:40:45.3±0.3, 36°.46N±0°.01×98°.804W±0°.007, h7km±1km, Error ellipse: s-maj=2.0km s-min=0.7km az=169.0*

NEIC 21 17:40:45.3±0.5, 36°.47N±0°.01×98°.81W±0°.01, h7km, mb_Lg2.6/5, ML2.1/24, ML2.2/11, Error ellipse: s-maj=2.2km s-min=1.3km az=163.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.05**	**78**		Pg	17 40 47.3	+0.3
OK038					Sg	17 40 48.7	+0.6
NOKA	**Waynoka**	**0.20**	**329**		Pg	17 40 49.9	+0.6
NOKA					Sg	17 40 53.2	+1.2
ELIS	**Ellis County**	**0.64**	**231**	Pg	Pg	17 40 57.6	0.0
ELIS				IAML		17 41 13.6	
	comp=E,85nm,0.3s						
ELIS				IAML		17 41 15.3	
	comp=N,115nm,0.3s						
CROK	**Carrier**	**0.66**	**87**		Pg	17 40 58.0	-0.1
CROK					Sg	17 41 07.3	+0.6
CSTR	**Hydro, Custer**	**0.83**	**173**		Pg	17 41 01.0	-0.1
CSTR					Sg	17 41 12.5	+0.6
KAN13	**South Haven SW**	**1.20**	**63**		Pg	17 41 07.6	-0.7
KAN13					Sg	17 41 23.8	0.0
OK029	**Liberty Lake**	**1.28**	**121**		Pn	17 41 08.8	-0.8
OK029					Sb	17 41 26.1	-0.3
OK029				IAML		17 41 26.8	
	comp=N,45nm,0.5s						
OK029				IAML		17 41 29.2	
	comp=N,29nm,0.3s						
BLOK	**Blackwell**	**1.31**	**77**		Pn	17 41 09.7	-0.4
BLOK					Sb	17 41 27.3	0.0
QUOK	**Quay**	**1.72**	**99**	Pn	Pn	17 41 15.5	-0.1
WMOK	**Wichita Mounta**	**1.73**	**179**	Pn	Pn	17 41 15.8	0.0
SMWD	**Samnorwood**	**1.79**	**221**		Pn	17 41 16.4	-0.3
T35A	**Sooner Cattle**	**1.90**	**76**	Pn	Pn	17 41 18.8	+0.7
WTFS	**Witchita Falls**	**2.71**	**174**	IAmb_Lg		17 42 08.7	
	comp=Z,9.3nm,0.9s						
Q24A	**Divide**	**5.61**	**298**	IAmb_Lg		17 43 52.0	
	comp=Z,6.1nm,0.8s						
OXF	**Oxford**	**7.91**	**102**	IAmb_Lg		17 44 50.5	
	comp=Z,18nm,1.1s						

SCB 21 17:54:05.3±1.2, 21°.58S×66°.76W, h216km±9km, ML3.5/3, MW3.1, Error ellipse: s-maj=5.4km s-min=3.8km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.09**	**73**	Pg	Pn	17 54 38.0	+0.1
MOCB				Sg	S	17 55 02.8	-0.2
YJA	**Yavi**	**1.30**	**118**	Pg	Pn	17 54 40.0	+0.7
PB09	**IPOC Station P**	**2.32**	**264**	Pg	Pn	17 54 49.7	+1.3
PB01	**IPOC Station P**	**2.60**	**281**	Pg	Pn	17 54 51.9	+0.5
PB01				Sg	S	17 55 27.4	+0.4
PB01				IAML		17 55 30.1	
	79nm,0.2s						
PB08	**IPOC Station P**	**2.66**	**302**	Pg	Pn	17 54 53.5	+1.2
PB02	**IPOC Station P**	**2.93**	**274**	Pg	Pn	17 54 55.6	+0.5
PB02				Sg	S	17 55 33.1	-0.7
PB02				IAML		17 55 37.3	
	104nm,0.2s						
GO01	**Chusmiza**	**2.97**	**309**	Pg	Pn	17 54 56.3	+0.4
SOEO	**Opoqueri**	**3.18**	**340**	Pg	Pn	17 54 59.5	+1.1
PB11	**IPOC Station P**	**3.26**	**303**	Pg	Pn	17 54 58.9	-0.1
PB11				Sg	S	17 55 39.9	-0.8
PB11				IAML		17 55 41.7	
	84nm,0.2s						
PB05	**IPOC Station P**	**3.44**	**248**	Pg	Pn	17 55 01.6	+0.6
SOET	**ToroToro**	**3.56**	**15**	Pg	Pn	17 55 02.4	-0.3
PB10	**IPOC Station P**	**4.00**	**240**	Pg	Pn	17 55 07.9	+0.2
PB16	**IPOC Station P**	**4.13**	**321**	Pg	Pn	17 55 10.7	+0.8
SOEJ	**Jacaque**	**4.77**	**343**	Pg	Pn	17 55 19.0	+1.2
LPAZ	**La Paz**	**5.42**	**346**	Pg	Pn	17 55 26.5	+0.5

*LDG **21** 18:04:26.9±0.5, 41°.28N×11°.82E, h22km, Ml3.1/12, Error ellipse: s-maj=12.6km s-min=3.2km az=173.0*
*IDC **21** 18:04:27.0±1.3, 41°.65N×11°.90E, h0km, mb3.7/2, mbtmp3.6/7, ML3.9/4, MS3.0/7, Error ellipse: s-maj=29.1km s-min=15.6km az=110.0*
*ROM **21** 18:04:27.3±0.2, 41°.61N±0°.01×11°.67E±0°.01, h21km±1km, ML3.3/145, Error ellipse: s-maj=1.0km s-min=1.0km az=175.0*

ISC 21 18:04:25.5±1.3, 41°.52N±0°.03×11°.61E±0°.02, h2km±10km, n135, σ1°66/146, 1C-19D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLF	**Tolfa**	**0.62**	**28**	⇓P	**Pg**	**18 04 36.8**	**-0.6**
TOLF				S	**Sg**	**18 04 46.4**	**+1.0**
TOLF				AML	AML		
	comp=E,47850μm,1.0s						
TOLF				AML	AML		
	comp=N,70200μm,0.3s						
TOLF				AML	AML		
	comp=E,47850μm,1.0s						
TOLF				AML	AML		
	comp=E,44779μm,0.3s						
RMMM	**Roma Monte Mar**	**0.75**	**57**	P	**Pg**	**18 04 40.7**	**+0.9**
SAMA	**S.Maria delle**	**0.78**	**70**	P	**Pg**	**18 04 40.9**	**+0.5**
SAMA				S	**Sb**	**18 04 52.2**	**-0.5**
SAMA				AML	AML		
	comp=E,7225μm,0.4s						
SAMA				AML	AML		
	comp=N,9530μm,0.9s						
SAMA				AML	AML		
	comp=N,9530μm,1.1s						
SAMA				AML	AML		
	comp=N,8941μm,0.5s						
BARO	**Barbarano Roma**	**0.80**	**24**	⇓P	**Pg**	**18 04 40.2**	**-0.6**
BARO				S	**Sg**	**18 04 51.5**	**+0.2**
BARO				AML	AML		
	comp=E,8990μm,0.8s						
BARO				AML	AML		
	comp=E,48600μm,1.6s						
BARO				AML	AML		
	comp=N,15000μm,0.4s						
BARO				AML	AML		
	comp=E,48550μm,1.6s						
BARO				AML	AML		
	comp=N,55850μm,1.5s						
BARO				AML	AML		
	comp=E,48500μm,1.6s						
BARO				AML	AML		
	comp=N,55800μm,1.5s						
BARO				AML	AML		
	comp=E,48500μm,0.4s						
BARO				AML	AML		
	comp=N,55800μm,0.5s						
BARO				AML	AML		
	comp=E,8990μm,0.7s						
MA9	**Marino**	**0.82**	**72**	P	**Pg**	**18 04 42.3**	**+1.0**
MA9				S	**Sb**	**18 04 54.1**	**+0.1**
LAV9	**Lanuvio**	**0.83**	**78**	P	**Pb**	**18 04 42.7**	**+0.1**
RDP	**Rocca di Papa**	**0.86**	**73**	P	**Pg**	**18 04 42.7**	**+0.7**
RDP				AML	AML		
	comp=E,7695μm,0.7s						
RDP				AML	AML		
	comp=N,11800μm,0.6s						
RMP	**Rome, Mte Porz**	**0.87**	**70**	P	**Pg**	**18 04 42.8**	**+0.6**
RMP				AML	AML		
	comp=N,10720μm,1.1s						
RMP				AML	AML		
	comp=N,10720μm,0.9s						
RMP				AML	AML		
	comp=E,6460μm,0.4s						
VIVA	**Pratoni del Vi**	**0.90**	**75**	P	**Pg**	**18 04 43.4**	**+0.7**
VIVA				AML	AML		
	comp=E,15600μm,0.3s						
VIVA				AML	AML		
	comp=N,17150μm,1.4s						
VIVA				AML	AML		
	comp=N,17150μm,0.6s						
SRES	**S.Oreste - Sor**	**0.98**	**43**	⇓P	**Pg**	**18 04 43.9**	**-0.4**
SRES				S	**Sg**	**18 04 57.5**	**+0.3**
MTCE	**Montecelio**	**0.99**	**59**	⇓P	**Pg**	**18 04 44.1**	**-0.2**
MTCE				S	**Sg**	**18 04 58.1**	**+1.0**
MTCE				AML	AML		
	comp=E,4125μm,1.1s						
MTCE				AML	AML		
	comp=N,3520μm,0.4s						
MTCE				AML	AML		
	comp=E,4125μm,0.9s						
LATB	**Latina**	**1.01**	**91**	⇓P	**Pg**	**18 04 45.0**	**+0.1**
LATB				S	**Sg**	**18 04 58.4**	**+0.4**
LATB				AML	AML		
	comp=N,470μm,1.6s						
LATB				AML	AML		
	comp=E,950μm,1.1s						
LATB				AML	AML		
	comp=N,470μm,0.4s						
LATB				AML	AML		
	comp=E,950μm,0.9s						
LATB				AML	AML		
	comp=E,950μm,1.1s						
LATB				AML	AML		
	comp=N,368μm,1.0s						
LATE	**Laterza**	**1.11**	**7**	⇓P	**Pg**	**18 04 46.0**	**-0.7**
LATE				AML	AML		
	comp=E,3905μm,1.4s						
LATE				AML	AML		
	comp=N,4720μm,1.2s						
LATE				AML	AML		
	comp=E,3905μm,0.6s						
CERT	**Cerreto**	**1.11**	**67**	⇓P	**Pg**	**18 04 45.9**	**-0.9**
CERT				AML	AML		
	comp=E,3125μm,0.5s						
CERT				AML	AML		
	comp=N,1895μm,0.7s						
CERT				AML	AML		
	comp=E,3125μm,1.5s						
GIUL	**Giuliano Di Ro**	**1.23**	**87**	P	**Pn**	**18 04 47.9**	**-1.8**
MCIV	**Monte Civitell**	**1.26**	**2**	AML	AML		
	comp=E,1480μm,1.6s						
MCIV				AML	AML		
	comp=N,1580μm,0.3s						
MCIV				AML	AML		
	comp=E,1480μm,0.4s						
SF01	**Poggio Pratacc**	**1.30**	**358**	⇓P	**Pn**	**18 04 49.1**	**-1.5**
SF01				AML	AML		
	comp=N,2485μm,1.3s						
SF01				AML	AML		
	comp=E,2605μm,1.3s						
SF01				AML	AML		
	comp=N,2490μm,1.3s						
SF01				AML	AML		
	comp=N,2490μm,0.7s						
GUAR	**Guarcino**	**1.30**	**77**	⇓P	**Pn**	**18 04 48.9**	**-1.8**
GUAR				AML	AML		
	comp=E,1625μm,0.9s						
GUAR				AML	AML		
	comp=N,1885μm,1.1s						
GUAR				AML	AML		
	comp=E,1630μm,0.9s						
GUAR				AML	AML		
	comp=N,1885μm,0.9s						
GUAR				AML	AML		
	comp=E,1630μm,1.1s						
CESX	**Cesi**	**1.31**	**33**	⇓P	**Pn**	**18 04 48.6**	**-2.1**
CESX				AML	AML		
	comp=N,1100μm,1.3s						
CESX				AML	AML		
	comp=E,850μm,0.5s						
SF04	**Casetta**	**1.32**	**2**	⇓P	**Pn**	**18 04 49.4**	**-1.5**
ARCI	**Arcidosso**	**1.34**	**356**	P	**Pn**	**18 04 50.1**	**-1.1**
ARCI				AML	AML		
	comp=E,779μm,0.5s						
ARCI				AML	AML		
	comp=N,699μm,1.4s						
SACS	**San Casciano d**	**1.35**	**9**	⇓P	**Pn**	**18 04 49.7**	**-1.6**
SACS				S	**Sb**	**18 05 07.8**	**-1.4**
SACS				AML	AML		
	comp=N,807μm,0.7s						
SACS				AML	AML		
	comp=E,1062μm,1.3s						
FIAM	**Fiamignano**	**1.35**	**56**	P	**Pn**	**18 04 49.9**	**-1.5**
FIAM				AML	AML		
	comp=E,3060μm,1.6s						
FIAM				AML	AML		
	comp=N,1645μm,1.0s						
FIAM				AML	AML		
	comp=N,870μm,1.0s						
FIAM				AML	AML		
	comp=E,1094μm,1.4s						
FIAM				AML	AML		
	comp=E,3060μm,0.4s						
FIAM				AML	AML		
	comp=E,1094μm,0.6s						
ARRO	**Arrone**	**1.37**	**39**	⇓P	**Pn**	**18 04 49.6**	**-1.9**
ARRO				AML	AML		
	comp=E,868μm,1.3s						
ARRO				AML	AML		
	comp=E,868μm,0.7s						
ARRO				AML	AML		
	comp=N,1060μm,1.3s						
CASP	**Castiglione de**	**1.39**	**337**	P	**Pn**	**18 04 50.7**	**-1.1**
CASP				AML	AML		
	comp=E,1190μm,1.0s						
CASP				AML	AML		
	comp=N,2015μm,0.4s						
MGAB	**Montegabbione**	**1.44**	**15**	⇓P	**Pn**	**18 04 50.8**	**-1.9**
MOMA	**Monte Martano**	**1.47**	**29**	⇓P	**Pn**	**18 04 51.0**	**-2.1**
MOMA				AML	AML		
	comp=N,590μm,0.6s						
MOMA				AML	AML		
	comp=E,814μm,1.4s						
MOMA				AML	AML		
	comp=N,590μm,1.4s						
MOMA				AML	AML		
	comp=E,814μm,0.6s						
LRP	**Arpino**	**1.49**	**84**	P	**Pn**	**18 04 51.8**	**-1.4**
LRP				AML	AML		
	comp=E,1190μm,1.0s						
LRP				AML	AML		
	comp=N,996μm,1.5s						
LRP				AML	AML		
	comp=N,994μm,1.5s						
LRP				AML	AML		
	comp=N,994μm,0.5s						
RIBO	**Ribolla Roccas**	**1.49**	**344**	P	**Pn**	**18 04 52.5**	**-0.8**
GAVE	**Gavelli**	**1.51**	**39**	P	**Pn**	**18 04 51.7**	**-1.9**
GAVE				AML	AML		
	comp=E,1345μm,1.0s						
GAVE				AML	AML		
	comp=N,276μm,1.6s						
GAVE				AML	AML		
	comp=E,1275μm,0.9s						
GAVE				AML	AML		
	comp=N,951μm,0.4s						
GAVE				AML	AML		
	comp=E,1275μm,1.1s						
GAVE				AML	AML		
	comp=N,951μm,1.6s						
GAVE				AML	AML		
	comp=E,1345μm,1.0s						
GAVE				AML	AML		
	comp=N,276μm,1.6s						
LNSS	**Leonessa**	**1.52**	**44**	P	**Pn**	**18 04 52.0**	**-1.8**
LNSS				AML	AML		
	comp=E,1085μm,0.6s						
LNSS				AML	AML		
	comp=E,1085μm,1.4s						
LNSS				AML	AML		
	comp=N,1345μm,1.2s						
VENT	**Ventotene**	**1.54**	**117**	P	**Pb**	**18 04 54.9**	**+0.1**
VENT				AML	AML		
	comp=E,1625μm,0.3s						
VENT				AML	AML		
	comp=N,1870μm,0.9s						
VVLD	**Villa Vallelon**	**1.55**	**76**	P	**Pn**	**18 04 53.0**	**-1.1**
VVLD				AML	AML		
	comp=E,942μm,1.0s						
VVLD				AML	AML		
	comp=N,840μm,0.9s						
VVLD				AML	AML		
	comp=E,998μm,1.0s						
VVLD				AML	AML		
	comp=N,896μm,0.8s						
VVLD				AML	AML		
	comp=N,839μm,0.9s						
VVLD				AML	AML		
	comp=N,896μm,1.2s						
VVLD				AML	AML		
	comp=E,941μm,1.0s						
VVLD				AML	AML		
	comp=N,839μm,1.1s						
RM33	**Pellescritta (**	**1.55**	**50**	P	**Pn**	**18 04 52.5**	**-1.7**
RM33				AML	AML		
	comp=N,726μm,1.0s						
RM33				AML	AML		
	comp=E,773μm,1.4s						
RM33				AML	AML		
	comp=N,726μm,1.0s						
RM33				AML	AML		
	comp=E,772μm,1.4s						
RM33				AML	AML		
	comp=E,772μm,0.6s						
RM33				AML	AML		
	comp=E,776μm,0.4s						
RM33				AML	AML		
	comp=N,760μm,1.1s						
CELB	**S.Piero in Cam**	**1.61**	**320**	P	**Pn**	**18 04 55.5**	**+0.5**
CELB				AML	AML		
	comp=N,732μm,0.5s						
CELB				AML	AML		
	comp=E,963μm,1.2s						
SMA1	**SAN MARTINO**	**1.70**	**48**	P	**Pn**	**18 04 55.4**	**-0.8**
SMA1				AML	AML		
	comp=E,1760μm,1.3s						
SMA1				AML	AML		
	comp=E,1760μm,0.7s						
SMA1				AML	AML		
	comp=N,1205μm,1.6s						
ASSB	**Assisi San Ben**	**1.71**	**27**	⇓P	**Pn**	**18 04 54.8**	**-1.5**
ASSB				AML	AML		
	comp=E,352μm,1.2s						
ASSB				AML	AML		

	comp=N,495µm,1.2s								
ASSB					AML	AML			
	comp=E,352µm,0.8s								
GIGS	**Gran Sasso**	**1.73**	**57**		P	**Pn**	**18 04 55.8**	**-0.8**	
GIGS					AML	AML			
	comp=E,289µm,0.9s								
GIGS					AML	AML			
	comp=N,328µm,1.1s								
GIGS					AML	AML			
	comp=E,289µm,1.1s								
GIGS					AML	AML			
	comp=N,328µm,0.9s								
MODR	**Mondragone**	**1.75**	**101**		P	**Pn**	**18 04 56.0**	**-0.7**	
T0110	**Collepietro**	**1.77**	**66**		P	**Pn**	**18 04 56.5**	**-0.6**	
T0110					AML	AML			
	comp=E,978µm,1.6s								
T0110					AML	AML			
	comp=N,878µm,1.6s								
T0110					AML	AML			
	comp=E,978µm,1.6s								
T0110					AML	AML			
	comp=E,978µm,0.4s								
T0110					AML	AML			
	comp=N,878µm,0.4s								
ATTE	**AVT- Monte Tez**	**1.77**	**18**		P	**Pn**	**18 04 55.6**	**-1.5**	
ATTE					AML	AML			
	comp=E,726µm,0.8s								
ATTE					AML	AML			
	comp=N,688µm,1.2s								
ATTE					AML	AML			
	comp=N,688µm,0.8s								
ATTE					AML	AML			
	comp=E,726µm,1.2s								
INTR	**Introdacqua**	**1.79**	**73**	⇓	P	**Pn**	**18 04 56.8**	**-0.5**	
INTR					AML	AML			
	comp=N,1300µm,0.8s								
INTR					AML	AML			
	comp=E,1225µm,1.1s								
INTR					AML	AML			
	comp=E,856µm,1.0s								
INTR					AML	AML			
	comp=N,1410µm,0.8s								
INTR					AML	AML			
	comp=N,1295µm,0.8s								
INTR					AML	AML			
	comp=E,856µm,1.0s								
INTR					AML	AML			
	comp=E,1225µm,0.9s								
SMPL	**Sampolo**	**1.83**	**289**		P	**Pn**	**18 04 58.5**	**+0.6**	
SMPL	**Sampolo**	**1.83**	**289**		P	**Pn**	**18 04 57.7**	**-0.2**	
SMPL					AML	AML			
	comp=E,137µm,0.9s								
SMPL					AML	AML			
	comp=N,102µm,1.6s								
FDMO	**Fiordimonte**	**1.87**	**35**	⇓	P	**Pn**	**18 04 57.4**	**-1.1**	
FDMO					AML	AML			
	comp=E,408µm,0.4s								
FDMO					AML	AML			
	comp=N,342µm,1.0s								
AGLI	**Aglientu**	**1.88**	**259**		P	**Pb**	**18 04 59.7**	**-0.7**	
AGLI					S	**Sb**	**18 05 24.1**	**-0.2**	
AGLI					AML	AML			
	comp=N,464µm,0.8s								
AGLI					AML	AML			
	comp=E,349µm,0.4s								
AGLI					AML	AML			
	comp=N,464µm,1.2s								
MMO1	**Montemonaco**	**1.88**	**42**	⇓	P	**Pn**	**18 04 57.6**	**-1.0**	
ATMI	**Monte Miggiano**	**1.88**	**15**		P	**Pn**	**18 04 58.9**	**+0.3**	
ATMI					AML	AML			
	comp=E,762µm,0.4s								
ATMI					AML	AML			
	comp=N,1036µm,1.0s								
ATMI					AML	AML			
	comp=N,1036µm,1.0s								
RNI2	**Rionero Sannit**	**1.91**	**84**		P	**Pn**	**18 04 59.0**	**-0.1**	
RNI2					AML	AML			
	comp=E,904µm,1.6s								
RNI2					AML	AML			
	comp=E,959µm,1.6s								
RNI2					AML	AML			
	comp=N,1255µm,1.2s								
RNI2					AML	AML			
	comp=N,1205µm,1.2s								
RNI2					AML	AML			
	comp=E,959µm,0.4s								
RNI2					AML	AML			
	comp=E,904µm,0.4s								
DGI	**Dorgali Grotta**	**1.93**	**232**		P	**Pb**	**18 05 01.8**	**+0.4**	
CSP1	**Cessapalombo**	**1.97**	**36**		P	**Pn**	**18 04 59.3**	**-0.6**	
CSP1					AML	AML			
	comp=N,706µm,1.0s								
CSP1					AML	AML			
	comp=E,552µm,0.6s								
VAGA	**Valle Agricola**	**1.97**	**92**		P	**Pn**	**18 04 59.6**	**-0.3**	
VAGA					AML	AML			
	comp=E,394µm,0.7s								
VAGA					AML	AML			
	comp=N,667µm,1.4s								
VAGA					AML	AML			
	comp=N,603µm,1.4s								
VAGA					AML	AML			
	comp=E,394µm,1.3s								
VAGA					AML	AML			
	comp=N,667µm,0.6s								
VAGA					AML	AML			
	comp=N,603µm,0.6s								
VAGA					AML	AML			
	comp=E,335µm,1.5s								
LPEL	**Lama dei Pelig**	**2.00**	**74**		AML	AML			
	comp=E,560µm,1.1s								
LPEL					AML	AML			
	comp=E,560µm,0.9s								
LPEL					AML	AML			
	comp=N,476µm,1.0s								
LPEL					AML	AML			
	comp=N,476µm,1.0s								
ATPI	**Pietralunga -**	**2.02**	**17**		P	**Pn**	**18 05 00.5**	**-0.1**	
ATPI					AML	AML			
	comp=E,384µm,1.5s								
ATPI					AML	AML			
	comp=N,242µm,1.1s								
ATPI					AML	AML			
	comp=E,384µm,0.5s								
OSSC	**Osservatorio P**	**2.02**	**352**		P	**Pn**	**18 05 00.7**	**+0.1**	
SGG	**Gregorio Mates**	**2.08**	**93**		P	**Pn**	**18 05 01.1**	**-0.4**	
SGG					AML	AML			
	comp=E,442µm,0.7s								
SGG					AML	AML			
	comp=N,516µm,1.3s								
SGG					AML	AML			
	comp=E,452µm,0.8s								
SGG					AML	AML			
	comp=N,456µm,1.3s								
SGG					AML	AML			
	comp=E,452µm,1.2s								
SGG					AML	AML			
	comp=N,516µm,0.7s								
SGG					AML	AML			
	comp=N,456µm,0.7s								
SGG					AML	AML			
	comp=E,442µm,1.3s								
EL6	**Elcito**	**2.12**	**31**		P	**Pn**	**18 05 01.3**	**-0.7**	
EL6					AML	AML			
	comp=E,541µm,1.5s								
EL6					AML	AML			
	comp=N,648µm,0.4s								
EL6					AML	AML			
	comp=E,541µm,0.5s								
APEC	**Apecchio**	**2.13**	**16**		P	**Pn**	**18 05 03.4**	**+1.4**	
PIEI	**Pieia**	**2.13**	**18**		P	**Pn**	**18 05 03.5**	**+1.4**	
PIEI					AML	AML			
	comp=E,202µm,1.3s								
PIEI					AML	AML			
	comp=N,204µm,1.0s								
PIEI					AML	AML			
	comp=N,204µm,1.0s								
PIEI					AML	AML			
	comp=E,202µm,0.7s								
AJAC	**Base Areonaval**	**2.17**	**282**		P	**Pb**	**18 05 04.2**	**-1.2**	
AJAC	**Base Areonaval**	**2.17**	**282**		P	**Pn**	**18 05 03.8**	**+1.3**	
AJAC					AML	AML			
	comp=N,276µm,0.9s								
AJAC					AML	AML			
	comp=E,301µm,0.3s								
PARC	**Parchiule**	**2.18**	**12**		P	**Pn**	**18 05 02.0**	**-0.7**	
PGF	**Pioggiola**	**2.20**	**299**		*e*Pn	**Pn**	**18 05 03.5**	**+0.4**	
PGF					*e*Sn	**Sn**	**18 05 30.2**	**-0.8**	
	comp=E,67nm,0.3s								
TRIV	**Trivento**	**2.22**	**83**		P	**Pn**	**18 05 04.3**	**+1.1**	
TRIV					AML	AML			
	comp=N,372µm,1.6s								
TRIV					AML	AML			
	comp=N,422µm,1.6s								
TRIV					AML	AML			
	comp=E,347µm,0.8s								
TRIV					AML	AML			
	comp=N,372µm,0.4s								
TRIV					AML	AML			
	comp=E,348µm,0.8s								
TRIV					AML	AML			
	comp=N,422µm,0.4s								
BSSO	**Busso**	**2.24**	**88**		P	**Pn**	**18 05 04.0**	**+0.4**	
BSSO					AML	AML			
	comp=N,622µm,1.6s								
BSSO					AML	AML			
	comp=N,252µm,1.6s								
BSSO					AML	AML			
	comp=N,622µm,0.4s								
BSSO					AML	AML			
	comp=N,252µm,0.4s								
BSSO					AML	AML			
	comp=E,198µm,1.4s								
BSSO					AML	AML			
	comp=E,498µm,1.4s								
MPAG	**Monte Paganucc**	**2.28**	**21**		P	**Pn**	**18 05 04.1**	**0.0**	
VITU	**Vitulano (BN)**	**2.30**	**97**		P	**Pn**	**18 05 04.3**	**0.0**	
VITU					AML	AML			
	comp=E,273µm,1.3s								
VITU					AML	AML			
	comp=N,496µm,1.2s								
VITU					AML	AML			
	comp=E,510µm,1.0s								
VITU					AML	AML			
	comp=E,273µm,0.7s								
VITU					AML	AML			
	comp=N,524µm,1.0s								
CPGN	**Carpegna, Ital**	**2.34**	**13**		AML	AML			
	comp=E,216µm,1.5s								
CPGN					AML	AML			
	comp=N,224µm,1.6s								
CPGN					AML	AML			
	comp=N,224µm,0.4s								
CPGN					AML	AML			
	comp=E,216µm,0.5s								
MAIM	**Mastiano**	**2.54**	**341**		P	**Pn**	**18 05 07.6**	**0.0**	
LMD	**Lutirano**	**2.56**	**2**		AML	AML			
	comp=N,102µm,1.4s								
LMD					AML	AML			
	comp=E,92µm,1.6s								
LMD					AML	AML			
	comp=E,92µm,0.4s								
POPM	**Popiglio**	**2.60**	**346**		P	**Pn**	**18 05 09.3**	**+0.7**	
POPM	**Popiglio**	**2.60**	**346**		P	**Pn**	**18 05 09.2**	**+0.7**	
POPM					AML	AML			
	comp=E,68µm,1.4s								
POPM					AML	AML			
	comp=N,68µm,1.0s								
POPM					AML	AML			
	comp=E,68µm,0.6s								
POPM					AML	AML			
	comp=N,68µm,1.0s								
VSL	**Villasalto**	**2.64**	**221**	⇑	P	**Pb**	**18 05 12.0**	**-1.5**	
VSL					S	**Sb**	**18 05 43.4**	**-2.9**	
VSL					AML	AML			
	comp=N,344µm,0.3s								
VSL					AML	AML			
	comp=E,304µm,0.8s								
CARD	**Cardoso**	**2.64**	**342**		P	**Pn**	**18 05 09.6**	**+0.5**	
CGL	**Cagliari Serpe**	**2.78**	**220**		AML	AML			
	comp=E,508µm,1.0s								
CGL					AML	AML			
	comp=E,508µm,1.0s								
CGL					AML	AML			
	comp=N,476µm,1.1s								
SARO	**Sassorosso**	**2.81**	**342**		P	**Pn**	**18 05 11.9**	**+0.4**	
PLMA	**Palmaria, Port**	**2.84**	**333**		P	**Pn**	**18 05 12.2**	**+0.4**	
PLMA	**Palmaria, Port**	**2.84**	**333**		P	**Pn**	**18 05 12.2**	**+0.4**	
PLMA					AML	AML			
	comp=E,71µm,1.5s								
PLMA					AML	AML			
	comp=N,56µm,0.9s								
SGTA	**Sant Agata di**	**2.85**	**96**		P	**Pn**	**18 05 12.7**	**+0.7**	
SGTA					AML	AML			
	comp=E,131µm,1.0s								
SGTA					AML	AML			
	comp=N,102µm,1.5s								
EQUI	**Equi**	**2.86**	**338**		P	**Pn**	**18 05 12.3**	**+0.2**	
USI	**Ustica**	**3.05**	**156**		AML	AML			
	comp=N,153µm,0.6s								
USI					AML	AML			
	comp=E,45µm,1.6s								
USI					AML	AML			
	comp=E,45µm,0.4s								
SGRT	**San Giovanni R**	**3.11**	**84**		P	**Pn**	**18 05 14.2**	**-1.3**	
SGRT					AML	AML			
	comp=E,126µm,0.8s								
SGRT					AML	AML			
	comp=N,91µm,1.2s								
SGRT					AML	AML			
	comp=N,91µm,0.8s								
MSSA	**Maissana**	**3.19**	**332**		P	**Pn**	**18 05 17.6**	**+0.9**	
MSSA	**Maissana**	**3.19**	**332**		P	**Pn**	**18 05 17.4**	**+0.7**	
MSSA					AML	AML			
	comp=N,54µm,1.6s								
MSSA					AML	AML			
	comp=E,47µm,1.4s								
MSSA					AML	AML			
	comp=N,54µm,0.4s								
SU26	**Carbonia-Igles**	**3.38**	**226**		P	**Pb**	**18 05 22.5**	**-3.5**	
SU26					AML	AML			
	comp=N,243µm,1.5s								
SU26					AML	AML			
	comp=E,272µm,1.1s								
SU26					AML	AML			
	comp=N,243µm,0.5s								
IMI	**Imperia**	**3.64**	**312**		P	**Pn**	**18 05 22.3**	**-0.5**	
IMI	**Imperia**	**3.64**	**312**		P	**Pn**	**18 05 22.3**	**-0.5**	
IMI					AML	AML			
	comp=E,28µm,1.2s								
IMI					AML	AML			
	comp=N,43µm,1.6s								
IMI					AML	AML			
	comp=E,28µm,0.8s								
IMI					AML	AML			
	comp=N,43µm,0.4s								
CET2	**Cetraro**	**3.86**	**120**		AML	AML			
	comp=E,65µm,0.9s								
CET2					AML	AML			
	comp=N,63µm,0.9s								
CET2					AML	AML			
	comp=N,63µm,1.1s								
SBF	**Sospel**	**3.87**	**309**		*e*Pn	**Pn**	**18 05 25.8**	**-0.2**	
SBF					*e*Sn	**Sn**	**18 06 09.0**	**-3.0**	
	comp=N,23nm,0.4s								
GBOS	**Grotte di Boss**	**3.89**	**316**		P	**Pn**	**18 05 26.9**	**+0.7**	
GBOS	**Grotte di Boss**	**3.89**	**316**		P	**Pn**	**18 05 26.9**	**+0.7**	
TURF	**col de Turini**	**3.96**	**310**		P	**Pn**	**18 05 27.2**	**-0.2**	
CTL8	**Castelleone**	**3.99**	**341**		P	**Pb**	**18 05 37.7**	**+1.2**	
ENR	**Entracque**	**4.10**	**313**		P	**Pn**	**18 05 29.6**	**+0.4**	
LMR	**La Mourre**	**4.19**	**297**		*e*Pn	**Pn**	**18 05 29.8**	**-0.5**	
LMR					*e*Sn	**Sn**	**18 06 17.2**	**-2.6**	
	comp=N,4.4nm,0.2s								
ISO	**Isola**	**4.28**	**310**		P	**Pn**	**18 05 32.7**	**+1.0**	
SURF	**Saint Ours**	**4.60**	**312**		P	**Pn**	**18 05 37.9**	**+1.7**	
MBDF	**Montbardon**	**4.78**	**314**		*e*Pn	**Pn**	**18 05 40.3**	**+1.7**	
SMRF	**Simiane la Rot**	**5.08**	**301**		*e*Pn	**Pn**	**18 05 43.3**	**+0.7**	
SMRF					*e*Sn	**Sn**	**18 06 39.5**	**-2.3**	
	comp=N,2.5nm,0.3s								
ABTA	**Abfaltersbach**	**5.27**	**7**		*e*Pn	**Pn**	**18 05 45.5**	**+0.3**	
	comp=N,3.9nm,0.6s								
LPG	**La Plagne**	**5.32**	**320**		*e*Pn	**Pn**	**18 05 50.4**	**+4.3**	
LPG					*e*Sn	**Sn**	**18 06 48.1**	**0.0**	
	comp=N,2.7nm,0.4s								
LPL	**La Plagne**	**5.34**	**320**		*e*Pn	**Pn**	**18 05 48.4**	**+2.0**	
LPL					*e*Sn	**Sn**	**18 06 49.5**	**+0.9**	
	comp=N,6.3nm,0.5s								
ORIF	**Oris-en-Rattie**	**5.39**	**311**		*e*Pn	**Pn**	**18 05 48.7**	**+1.7**	
ORIF					*e*Sn	**Sn**	**18 06 48.6**	**-1.0**	
	comp=N,1.9nm,0.4s								
DAVOX	**Davos/Dischmat**	**5.41**	**347**		Pn	**Pn**	**18 05 49.5**	**+2.2**	
	comp=N,2.9nm,0.3s,baz=161,slow=12,SNR=22								
DAVOX					Sn	**Sn**	**18 06 49.9**	**-0.2**	
	baz=97,slow=21								
DAVOX					LR	LR	18 07 05.6		
	comp=N,35nm,20.6s,baz=108,slow=30								
	comp=N,6.0nm,0.3s								
OBKA	**Obir**	**5.42**	**22**		*e*Pn	Pn	18 05 53.2	+5.8	
	comp=N,10nm,1.1s								
FETA	**Feichten**	**5.54**	**354**		*e*Pn	**Pn**	**18 05 52.0**	**+2.9**	
	comp=N,6.0nm,1.2s								
KBA	**Koelnbreinsper**	**5.70**	**12**		*e*Pn	**Pn**	**18 05 51.5**	**+0.3**	
	comp=N,4.2nm,1.2s								
SQTA	**Sankt Quirin**	**5.71**	**357**		*e*Pn	**Pn**	**18 05 54.5**	**+3.2**	
	comp=N,2.6nm,0.5s								
SOKA	**Soboth**	**5.72**	**24**		*e*Pn	**Pn**	**18 05 53.1**	**+1.7**	
	comp=N,2.0nm,0.5s								
WTTA	**Wattenberg**	**5.75**	**0**		*e*Pn	**Pn**	**18 05 53.3**	**+1.5**	
	comp=N,2.6nm,0.7s								
WATA	**Walderalm**	**5.82**	**360**		*e*Pn	**Pn**	**18 05 56.1**	**+3.3**	
	comp=N,2.1nm,0.5s								
MOTA	**Moosalm**	**5.84**	**357**		*e*Pn	**Pn**	**18 05 56.0**	**+2.9**	
	comp=N,3.4nm,0.7s								
MOTA					*e*Sn	**Sn**	**18 07 01.0**	**+0.3**	
	comp=N,4.5nm,0.8s								
DAVA	**Damuels**	**5.90**	**348**		*e*Pn	**Pn**	**18 05 56.3**	**+2.3**	
	comp=N,6.3nm,0.8s								
LESA	**Schwarzleotal**	**5.96**	**7**		*e*Pn	**Pn**	**18 05 56.5**	**+1.9**	
	comp=N,9.1nm,0.7s								
RETA	**Reutte**	**6.00**	**354**		*e*Pn	**Pn**	**18 05 59.1**	**+3.9**	
	comp=N,2.7nm,0.7s								
KEST	**Kesra**	**6.04**	**198**		Pn	Pn	18 06 01.5	+5.7	
	comp=N,2.9nm,0.3s,baz=1.5,slow=5.7,SNR=23								
KEST					Sn	**Sn**	**18 07 12.6**	**+7.0**	
	comp=N,0.6nm,0.3s,baz=55,slow=18,SNR=1.4								
KEST					LR	LR	18 08 22.6		
	comp=N,191nm,18.4s,baz=1.7,slow=38								
	comp=N,27nm,0.7s								
VIVF	**Saint-Julien-l**	**6.07**	**306**		*e*Pn	**Pn**	**18 05 56.3**	**+0.1**	
VIVF					*e*Sn	**Sn**	**18 07 01.1**	**-5.1**	
	comp=N,2.1nm,0.3s								
LASF	**Ste Croix**	**6.25**	**297**		*e*Pn	**Pn**	**18 05 57.9**	**-0.8**	
LASF					*e*Sn	**Sn**	**18 07 07.6**	**-3.1**	
	comp=N,1.8nm,0.3s								
BIOA	**Bad Ischl, Aus**	**6.34**	**12**		*e*Pn	**Pn**	**18 06 04.0**	**+4.1**	
	comp=N,2.9nm,0.7s								
MOA	**Molln**	**6.61**	**16**		*e*Sn	**Sn**	**18 07 16.9**	**-2.5**	
	comp=N,2.1nm,0.4s								
RONA	**Rosalia, Austr**	**7.03**	**27**		*e*Pn	**Pn**	**18 06 10.1**	**+0.8**	
	comp=N,2.0nm,0.5s								
CONA	**Conrad Observa**	**7.09**	**24**		*e*Pn	**Pn**	**18 06 07.3**	**-2.9**	
	comp=N,0.8nm,0.4s								
CONA					*e*Sn	**Sn**	**18 07 28.5**	**-2.8**	
	comp=N,1.4nm,0.4s								
MTLF	**Montolieu**	**7.19**	**288**		*e*Pn	**Pn**	**18 06 09.2**	**-2.3**	
MTLF					*e*Sn	**Sn**	**18 07 31.4**	**-2.2**	
	comp=N,2.3nm,0.5s								
GERES	**GERESS Array B**	**7.48**	**11**		Pn	**Pn**	**18 06 14.9**	**-0.6**	
	comp=N,0.4nm,0.4s,baz=189,slow=14,SNR=4.6								
CDF	**Champ du Feu**	**7.55**	**337**		*e*Pn	**Pn**	**18 06 16.9**	**+0.4**	
CAF	**Calviac**	**7.76**	**299**		*e*Pn	**Pn**	**18 06 18.8**	**-0.6**	
VRAC	**Vranov**	**8.54**	**22**		LR	LR	18 10 33.4		
	comp=N,91nm,18.6s,baz=206,slow=44								
MLR	**Muntele Rosu**	**11.14**	**64**		Pn	**Pn**	**18 07 04.4**	**-1.4**	
	comp=N,0.2nm,0.3s,baz=202,slow=16,SNR=1.3								
MLR					LR	LR	18 12 17.6		
	comp=N,118nm,18.8s,baz=250,slow=43								
	comp=N,0.5nm,0.4s								
ESDC	**Sonseca Array**	**11.98**	**266**		Pn	**Pn**	**18 07 18.9**	**+1.6**	
	comp=N,0.1nm,0.3s,baz=76,slow=14,SNR=4.7								
AKASG	**Malin Array Be**	**15.25**	**47**		Pn	**Pn**	**18 07 59.7**	**-1.9**	
	comp=N,0.4nm,0.3s,baz=241,slow=12,SNR=1.8								
	comp=N,0.2nm,0.3s								
NOA	**NORSAR Array B**	**19.55**	**359**		LR	LR	18 16 32.7		
	comp=N,18nm,21.8s,baz=45,slow=37								
FINES	**FINESS Array B**	**21.80**	**19**		P	**P**	**18 09 19.4**	**+1.0**	
	comp=N,2.0nm,0.8s,baz=207,slow=10,SNR=5.2								
	comp=N,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**29.01**	**10**		LR	LR	18 21 08.5		
	comp=N,71nm,20.5s,baz=114,slow=35								
TORD	**Torodi Ar. Bea**	**29.56**	**200**		P	**P**	**18 10 34.6**	**+3.0**	
	comp=N,1.0nm,0.9s,baz=11,slow=10,SNR=4.3								
	comp=N,1.0nm,0.9s								
ZALV	**Zalesovo Beam**	**48.63**	**49**		LR	LR	18 37 16.0		
	comp=N,50nm,18.2s,baz=201,slow=41								

*GCG **21** 18:08:35.6±0.8, 14°.19N×90°.87W, h92km±4km, MD3.8, ML4.0*
*SNET **21** 18:08:35.0±0.8, 13°.74N×91°.15W, h30km, ML3.6*
*CATAC **21** 18:08:36.0±0.7, 14°N±4°×9°.1W±°, h32km±6km, M3.7/9, MLv3.7/9, Error ellipse: s-maj=9.9km s-min=3.5km az=30.0, confirmed*

ISC 21 18:08:36.6±1.5, **13°.84N**±0°.07×**91°.05W**±0°.04, **h27**km±13km, **n23**, σ0**986**/30, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.58**	**21**	*e*P	**Pn**	**18 08 49.1**	**-0.1**
ESSG				*e*S	**Sn**	**18 08 59.1**	**+1.2**
ESSG				IAML		18 09 02.8	
	comp=N,3µm,0.2s						
ESSJ	**San Jos, E**	**0.60**	**117**	*e*P	**Pn**	**18 08 48.8**	**-0.5**
ESSJ				*e*S	**Sn**	**18 09 00.1**	**+2.0**
FG16	**Alotenango, Sa**	**0.68**	**50**	*e*P	**Pb**	**18 08 49.7**	**-0.3**
FG16				*e*S	**Sn**	**18 09 01.1**	**+0.7**
FG16				IAML		18 09 05.2	
	comp=E,16µm,0.2s						
RTAL	**Retalhuleu**	**0.93**	**318**	P	**Pb**	**18 08 54.1**	**0.0**
RTAL	**Retalhuleu**	**0.93**	**318**	S	**Sb**	**18 09 06.6**	**+0.5**
SOKI	**Kika Raxquin**	**1.04**	**341**	*e*P	**Pn**	**18 08 54.7**	**-1.0**
SOKI				IAML		18 09 12.6	
	comp=E,916nm,0.3s						
NUBE	**Las Nubes**	**1.23**	**87**	*e*S	**Sn**	**18 09 13.7**	**-0.4**
LOAL	**Lomas de Alarc**	**1.24**	**82**	P	**Pn**	**18 08 57.3**	**-0.9**
LOAL	**Lomas de Alarc**	**1.24**	**82**	S	**Sb**	**18 09 15.0**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.24**	**81**	P	**Pn**	**18 08 57.3**	**-0.9**
SLOZ	**Alcaldia de Sa**	**1.24**	**81**	S	**Sb**	**18 09 15.1**	**-0.1**
CEVE	**Cerro Verde**	**1.39**	**90**	*e*P	**Pn**	**18 08 60.0**	**-0.3**
CEVE				*e*S	**Sb**	**18 09 20.8**	**+1.4**
CEVE	**Cerro Verde**	**1.39**	**90**	S	**Sn**	**18 09 18.3**	**+0.4**
CEVE	**Cerro Verde**	**1.39**	**90**	P	**Pn**	**18 09 00.0**	**-0.3**
SMCA	**Catarina**	**1.42**	**316**	*e*P	**Pn**	**18 08 59.6**	**-1.0**
JAYA	**Jayaque - finc**	**1.57**	**96**	*e*P	**Pn**	**18 09 01.7**	**-1.1**
JAYA				*e*S	**Sn**	**18 09 22.5**	**+0.3**
JAYA				IAML		18 09 23.4	
	comp=Z,708nm,0.2s						
JAYA	**Jayaque - finc**	**1.57**	**96**	*e*P	**Pn**	**18 09 01.6**	**-1.1**
JAYA				*e*S	**Sn**	**18 09 21.4**	**-0.8**
JAYA	**Jayaque - finc**	**1.57**	**96**	P	**Pn**	**18 09 01.7**	**-1.1**
THIG		**1.59**	**312**	*i* P	**Pn**	**18 09 02.6**	**-0.3**
THIG				*i* S	**Sn**	**18 09 23.1**	**+0.5**
PMON	**Piamonte**	**1.69**	**94**	P	**Pn**	**18 09 03.4**	**-1.0**
PMON	**Piamonte**	**1.69**	**94**	S	**Sn**	**18 09 25.5**	**+0.2**
LALI	**Alcalda de L**	**1.71**	**101**	*e*S	**Sn**	**18 09 26.6**	**+0.9**
LFRS	**El Faro**	**1.94**	**96**	*e*P	**Pn**	**18 09 08.1**	**+0.1**

*IDC **21** 18:37:22.8±5.4, 15°.50S×167°.58E, h119km±44km, mb3.8/6, mbtmp4.2/7, Error ellipse: s-maj=39.2km s-min=29.4km az=41.0*
*NEIC **21** 18:37:23.9±1.6, 15°.6S±0°.1×167°.69E±0°.04, h124km±7km, mb4.5/11, Error ellipse: s-maj=17.1km s-min=5.6km az=179.0*

ISC 21 18:37:23.1±1.0, **15°.63S**±0°.07×**167°.7E**±0°.2, **h124**km, **n30**, σ1**905**/34, **mb4.4**/15, **5C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.50**	**291**	Pn	**Pn**	**18 37 42.1**	**+0.6**
SANVU				Sn	**Sn**	**18 37 56.7**	**+1.4**
DZM	**Mont Dzumac**	**6.51**	**190**		**Pn**	**18 38 57.9**	**+1.3**
DZM				Sn	**Sn**	**18 40 08.1**	**-1.5**
DZM	**Mont Dzumac**	**6.51**	**190

STKA	**Stephens Creek**	**28.73**	**231**	P	**P**	**18 43 09.6**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=64,slow=5.1,SNR=5.9						
	comp=Z,3.2nm,0.7s						
WR8	**Warramunga Arr**	**31.86**	**257**	P	**P**	**18 43 35.1**	**-1.5**
WR8				IAmb	IAmb	18 44 14.6	
	comp=Z,8.1nm,1.2s						
WB0	**Warramunga Arr**	**31.95**	**258**	P	**P**	**18 43 36.5**	**-0.9**
WB0				IAmb	IAmb	18 43 56.1	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**32.01**	**257**	P	**P**	**18 43 37.0**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=86,slow=8.9,SNR=15						
	comp=Z,2.1nm,0.6s						
AS31	**Alice Springs**	**32.74**	**251**	P	**P**	**18 43 43.8**	**-0.5**
ASAR	**Alice Springs**	**32.74**	**251**	P	**P**	**18 43 43.3**	**-1.0**
ASAR	**Alice Springs**	**32.74**	**251**	P	**P**	**18 43 43.9**	**-0.4**
	comp=Z,3.4nm,0.3s,baz=79,slow=9.1,SNR=80						
	comp=Z,3.4nm,0.3s						
BBOO	**Buckleboo**	**33.35**	**233**	P	**P**	**18 43 48.2**	**-1.3**
BBOO				IAmb	IAmb	18 44 13.6	
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**37.44**	**265**	P	**P**	**18 44 24.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.25**	**260**	P	**P**	**18 44 48.3**	**+0.2**
FITZ				IAmb	IAmb	18 44 48.8	
	comp=Z,2.1nm,0.6s						
MORW	**Morawa**	**49.24**	**245**	P	**P**	**18 45 59.0**	**-0.3**
MORW				IAmb	IAmb	18 46 00.0	
	comp=Z,9.4nm,0.9s						
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**18 48 48.5**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=45,slow=1.3,SNR=8.8						
	comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.68**	**294**	P	**P**	**18 48 55.2**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=114,slow=5.9,SNR=5.4						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**83.46**	**324**	P	**P**	**18 49 36.6**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=133,slow=6.3,SNR=4.9						
	comp=Z,0.6nm,0.5s						
SYO	**Syowa Base**	**87.96**	**196**	⇑*i*P	**P**	**18 49 58.8**	**+0.2**
TROLL	**Troll, Antarti**	**92.00**	**185**	⇑P	**P**	**18 50 16.9**	**-0.7**
	comp=Z,75nm,0.4s						
SNAA	**Sanae**	**92.67**	**183**	⇑P	**P**	**18 50 19.5**	**-1.2**
	comp=Z,14nm,0.6s						
VNA3	**Neumayer Olymp**	**93.32**	**181**	⇑P	**P**	**18 50 22.2**	**-1.5**
	comp=Z,1.9nm,0.7s						
VNA2	**Neumayer--Watz**	**93.60**	**182**	⇑P	**P**	**18 50 23.7**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=186,slow=5.0						
ARCES	**ARCESS Array B**	**121.22**	**345**	PKP	**PKPdf**	**18 55 60.0**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=50,slow=2.4,SNR=5.5						
SENIN	**Lac Senin/Sane**	**145.25**	**336**		**PKPdf**	**18 56 46.7**	**+0.3**

GUC 21 18:38:36.6±0.8, 18°46S×70°91W, h44km±4km, ML3.5, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**0.54**	**81**	⇓*i*P	Pn	18 38 48.0	0.0
PB16	**IPOC Station P**	**1.33**	**85**	*i*P	Pn	18 39 00.7	+1.3
PB16				*e*S	Sn	18 39 19.3	+3.1
PB18	**Visviri**	**1.61**	**58**	*e*P	Pn	18 39 07.2	+4.2
PB11	**IPOC Station P**	**1.75**	**138**	*e*P	Pn	18 39 05.5	+0.8
PB11				*e*S	Sn	18 39 27.8	+1.9
PB11				IAML		18 39 31.5	
	comp=N,1μm,0.6s						
TA02	**Huaiquique**	**1.95**	**158**	*e*P	Pn	18 39 07.0	-0.2
GO01	**Chusmiza**	**2.02**	**127**	*e*P	Pn	18 39 10.5	+1.9
GO01				IAML		18 39 40.7	
	comp=N,502nm,0.3s						
HMBC	**Humberstone**	**2.05**	**152**	⇑*i*P	Pn	18 39 08.7	0.0
HMBC				*e*S	Sn	18 39 32.6	-0.6
HMBC				IAML		18 39 43.5	
	comp=N,316nm,0.3s						
TA01	**Diego Aracena**	**2.21**	**162**	*e*P	Pn	18 39 09.9	-0.8
PB08	**IPOC Station P**	**2.35**	**136**	*e*P	Pn	18 39 14.2	+1.0
PB08				IAML		18 39 49.7	
	comp=E,251nm,0.2s						
PATCX	**Punta Patache**	**2.46**	**163**	*e*P	Pn	18 39 13.2	-1.1
PATCX				IAML		18 40 00.8	
	comp=E,194nm,0.5s						
PB01	**IPOC Station P**	**2.90**	**153**	*e*P	Pn	18 39 20.0	-0.3
PB01				IAML		18 40 11.4	
	comp=N,115nm,0.4s						
PB02	**IPOC Station P**	**3.00**	**162**	⇑*i*P	Pn	18 39 21.1	-0.7
PB02				IAML		18 40 09.9	
	comp=E,245nm,0.6s						
PB09	**IPOC Station P**	**3.67**	**155**	⇑*i*P	Pn	18 39 31.4	+0.4
PB03	**IPOC Station P**	**3.73**	**163**	*e*P	Pn	18 39 30.7	-1.2
YJA	**Yavi**	**6.27**	**127**	*e*		18 38 28.6	

HEL 21 18:44:52.8±0.2, 63°67N×25°97E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.87**	**108**	PG	Pg	18 45 08.0	-1.5
NIF				SG	Sg	18 45 19.3	-1.5
NIF				MSG		18 45 19.8	
	comp=Z,1.5nm,0.2s						
OUF	**Merijarvi**	**0.89**	**322**	PB	Pg	18 45 09.8	0.0
	baz=138						
OUF				MSG		18 45 20.0	
	comp=Z,1.2nm,0.2s						
OUF				SB	Sb	18 45 23.5	+0.1
SUF	**Sumiainen**	**0.96**	**175**	PG	Pg	18 45 10.6	-0.6
SUF				MSG		18 45 22.4	
	comp=Z,0.7nm,0.2s						
SUF				SB	Sg	18 45 23.3	-0.3
OBF0	**Syolatti, Pyha**	**1.12**	**318**	PN	Pb	18 45 14.8	-0.3
OBF0				MSG		18 45 27.0	
	comp=Z,1.0nm,0.2s						
OBF0				SN	Sb	18 45 30.8	+0.6
OBF4	**Vikkela, Lumij**	**1.21**	**342**	PN	Pb	18 45 16.4	0.0
OBF4				MSG		18 45 29.4	
	comp=Z,1.1nm,0.2s						
OUL	**Oulu**	**1.42**	**359**	PN	Pn	18 45 19.3	-0.5
	baz=180						
OUL				SB	Sg	18 45 37.9	-0.4
KAF	**Kangasniemi**	**1.57**	**174**	PN	Pn	18 45 21.6	-0.3
KAF				MSG		18 45 40.0	
	comp=Z,1.3nm,0.2s						
KAF				SN	Sn	18 45 42.0	-0.9
KEF	**Keuruu**	**1.59**	**199**	MSG		18 45 40.5	
	comp=Z,0.8nm,0.2s						
KEF				SN	Sn	18 45 42.7	-0.8
RMF	**Romuvaara**	**1.83**	**71**	PG	Pn	18 45 26.2	+0.8
	baz=252						
RMF				MSG		18 45 47.2	
	comp=Z,0.6nm,0.2s						
RMF				SG	Sb	18 45 50.7	+0.2
FIA0	**FINESS Array S**	**2.24**	**179**	PG	Pb	18 45 33.1	-1.0
	baz=2.4						
FIA0				MSG		18 45 59.1	
	comp=Z,0.6nm,0.2s						
FIA0				SG	Sb	18 46 02.0	-0.3
KU2	**Taivalkoski**	**2.26**	**24**	PG	Pb	18 45 33.5	-0.9
	baz=209						
KU2				SG	Sb	18 46 03.3	+0.4
KU1	**Kurvinen**	**2.45**	**38**	PG	Pb	18 45 36.8	-0.8
KU1				SG	Sb	18 46 08.3	0.0
JOF	**Joensuu**	**2.53**	**105**	SG	Sb	18 46 09.5	-1.1
KPF	**Kankaanpaa**	**2.58**	**226**	MSG		18 46 08.7	
	comp=Z,0.4nm,0.2s						
KPF				SG	Sb	18 46 12.1	+0.2

*NEIC **21** 19:16:08.4±1.9, 35°.40N±0°.02×102°.71W±0°.03, h5km±1km, mb_Lg2.4/43, ML2.8/34, Error ellipse: s-maj=4.0km s-min=2.9km az=71.0*

TXNET 21 19:16:08.3, 35°N±2°×10°3W±°, h5km±3km, ML3.0/5, Error ellipse: s-maj=3.9km s-min=2.1km az=24.9, final, Northwestern Texas-Oklahoma border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PH02	**Texas Public H**	**0.67**	**91**	P	Pg	19 16 21.4	+0.4
PH02				S	Sg	19 16 30.2	+0.5
PH03	**Pantex**	**0.99**	**92**	P	Pg	19 16 27.4	+0.1
PH03				S	Sg	19 16 40.6	+0.5
AMTX	**Amarillo**	**1.03**	**120**	Pg	Pg	19 16 26.1	-1.9
AMTX				IAML		19 16 44.8	
	138nm,0.3s						
AMTX	**Amarillo**	**1.03**	**120**	P	Pg	19 16 27.8	-0.1
AMTX				S	Sg	19 16 41.7	+0.4
RTBA	**Rita Blanca**	**1.03**	**1**		Pg	19 16 28.1	0.0
RTBA				Sg	Sg	19 16 41.6	+0.1
RTBA				IAML		19 16 42.5	
	247nm,0.4s						
RTBA				IAML		19 16 42.5	
	157nm,0.3s						
RTBA	**Rita Blanca**	**1.03**	**1**	P	Pg	19 16 28.1	0.0
RTBA				S	Sg	19 16 42.1	+0.5
MSTX	**Muleshoe**	**1.43**	**180**		Pn	19 16 34.3	-0.7
MSTX				Sg	Sb	19 16 53.9	-0.2
MSTX				IAmb_Lg		19 16 55.4	
	comp=Z,33nm,0.8s						
MSTX	**Muleshoe**	**1.43**	**180**	P	Pn	19 16 34.4	-0.6
MSTX				S	Sg	19 16 54.4	+0.2
SMWD	**Samnorwood**	**2.08**	**97**	P	Pb	19 16 45.7	-0.9
SMWD				S	Sb	19 17 12.9	+0.1
T25A	**Trinidad**	**2.19**	**323**	Pn	Pn	19 16 45.5	0.0
T25A				Pg	Pb	19 16 47.9	-0.6
T25A					Sb	19 17 16.6	+0.7
T25A				IAML		19 17 17.4	
	comp=N,62nm,0.5s						
T25A				IAmb_Lg		19 17 17.6	
	comp=Z,29nm,0.9s						
DRZT	**Darrouzett**	**2.25**	**62**	P	Pb	19 16 48.0	-1.5
DRZT				S	Sb	19 17 16.8	-1.0
DKNS	**Dickens**	**2.30**	**138**	Pn	Pn	19 16 45.6	-1.4
DKNS					Pn	19 16 45.7	-1.2
DKNS				IAML		19 17 21.0	
	comp=Z,86nm,0.4s						
DKNS				IAML		19 17 21.8	
	comp=Z,56nm,0.2s						
DKNS	**Dickens**	**2.30**	**138**	P	Pn	19 16 47.4	+0.4
DKNS				Pg	Pb	19 16 50.4	+0.1
DKNS				S	Sn	19 17 16.6	+0.9
DKNS				Sg	Sb	19 17 20.5	+1.4
CPRX	**Cap Rock**	**2.54**	**201**	Pn	Pn	19 16 47.9	-2.4
CPRX	**Cap Rock**	**2.54**	**201**	P	Pn	19 16 50.6	+0.4
POST	**Post**	**2.55**	**156**	Pn	Pn	19 16 48.4	-2.0
POST				IAML		19 17 29.3	
	comp=Z,53nm,0.4s						
POST				IAmb_Lg		19 17 35.2	
	comp=Z,13nm,0.7s						
POST	**Post**	**2.55**	**156**	P	Pn	19 16 52.0	+1.6
POST				Pg	Pb	19 16 55.1	+0.5
POST				S	Sn	19 17 23.7	+1.8
POST				Sg	Sg	19 17 29.1	-1.2
TMB04	**Seminole**	**2.78**	**175**	Pg	Pb	19 16 56.8	-1.7
TMB04				S	Sn	19 17 28.8	+1.3
TMB04				Sg	Sb	19 17 35.2	+2.3
ELIS	**Ellis County**	**2.80**	**75**	Pn	Pn	19 16 55.0	+1.2
APMT	**Aspermont**	**3.01**	**133**	Pn	Pn	19 16 56.6	-0.1
APMT				IAmb_Lg		19 17 48.6	
	comp=Z,14nm,0.8s						
ANMO	**Albuquerque**	**3.06**	**263**	Pn	Pn	19 16 56.8	-0.7
ANMO	**Albuquerque**	**3.06**	**263**	Pg	Pb	19 17 02.9	-0.5
ANMO				Sg	Sb	19 17 43.0	+1.9
SDCO	**Great Sand Dun**	**3.21**	**317**	Pn	Pn	19 16 59.7	0.0
WMOK	**Wichita Mounta**	**3.33**	**100**	Pn	Pn	19 17 00.6	-0.5
WMOK				IAML		19 17 56.3	
	comp=Z,25nm,0.9s						
BNM	**Barren Site**	**3.42**	**250**	Pn	Pn	19 17 02.1	-0.4
CRNM	**Carthage**	**3.58**	**247**	Pn	Pn	19 17 04.3	-0.3
CRNM				Pg	Pg	19 17 15.2	-1.7
ABTX	**Abilene, Hawle**	**3.79**	**136**	IAmb_Lg		19 18 11.0	
	comp=Z,8.9nm,0.9s						
MNHN	**Monahans**	**4.05**	**180**	IAmb_Lg		19 18 24.6	
	comp=Z,9.5nm,0.7s						
PECS	**Pecos**	**4.13**	**193**	IAmb_Lg		19 18 30.8	
	comp=Z,8.9nm,0.7s						
MNTX	**Cornudas Mount**	**4.29**	**211**	IAmb_Lg		19 18 24.4	
	comp=Z,15nm,1.3s						
KAN01	**Argonia South**	**4.40**	**65**	IAmb_Lg		19 18 32.5	
	comp=Z,14nm,0.8s						
R32A	**Long Quarter,**	**4.43**	**46**	IAmb_Lg		19 18 36.9	
	comp=Z,9.5nm,0.8s						
121A	**Cookes Peak, D**	**5.06**	**237**	IAmb_Lg		19 19 01.4	
	comp=Z,5.9nm,1.1s						
BRDY	**Brady**	**5.17**	**141**	IAmb_Lg		19 18 55.0	
	comp=Z,7.4nm,0.9s						
SAND	**Sanderson**	**5.46**	**174**	IAmb_Lg		19 19 15.9	
	comp=Z,6.3nm,0.7s						
JCT	**Junction City**	**5.50**	**152**	IAmb_Lg		19 19 05.4	
	comp=Z,8.4nm,1.1s						
DRIO	**Del Rio**	**6.23**	**163**	IAmb_Lg		19 19 39.6	
	comp=Z,5.5nm,0.8s						
HMU	**Henry Mountain**	**6.89**	**294**	IAmb_Lg		19 19 53.4	
	comp=Z,3.8nm,1.2s						
TMUT	**Trail Mountain**	**7.77**	**303**	IAmb_Lg		19 20 13.6	
	comp=Z,3.5nm,0.8s						
TCRU	**Three Creeks R**	**8.38**	**295**	IAmb_Lg		19 20 29.8	
	comp=Z,6.3nm,1.2s						

*AFAD **21** 19:16:11.9, 36°.51N×30°.14E, h52km±1km, ML2.6*
*ISK **21** 19:16:11.6, 36°.61N×30°.05E, h30km, ML2.8/18*

ISC 21 19:16:10.4±1.4, 36°47N±0°.05×30°15E±0°.03, h63km±8km, n48, σ0°87/66, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.22**	**133**	P	**Pn**	**19 16 20.2**	**0.0**
AKUM				S	**Sn**	**19 16 27.2**	**-0.1**
AKUM				*i* IAML		19 16 29.0	
	comp=N,345nm,0.3s						
AKUM				*i* IAML		19 16 29.0	
	comp=E,395nm,0.2s						
DEMR	**Demre-Antalya**	**0.30**	**220**	Pg	**Pn**	**19 16 21.3**	**+0.5**
DEMR				Sg	**Sn**	**19 16 28.0**	**-0.3**
KEMT	**Kemer-ANTALYA**	**0.35**	**68**	Pg	**Pn**	**19 16 21.1**	**-0.1**
KEMT				Sg	**Sn**	**19 16 28.4**	**-0.6**
ANTB	**Antalya**	**0.59**	**43**	Pg	**Pn**	**19 16 23.8**	**+0.3**
KNIK	**Mula-Seydike**	**0.59**	**309**	P	**Pn**	**19 16 24.3**	**+0.6**
KNIK				S	**Sn**	**19 16 34.3**	**+0.8**
KNIK				*i* IAML		19 16 35.0	
	comp=E,228nm,0.2s						
IZZE	**Mula-Seydike**	**0.74**	**268**	P	**Pn**	**19 16 26.4**	**+1.1**
IZZE				S	**Sn**	**19 16 35.6**	**-0.7**
IZZE				*i* IAML		19 16 39.0	
	comp=E,352nm,0.3s						
IZZE				*i* IAML		19 16 40.0	
	comp=N,262nm,0.3s						
CAME	**Cameli-Denizli**	**0.83**	**305**	Pg	**Pn**	**19 16 26.6**	**+0.1**
GOLH	**Golhisar**	**0.90**	**329**	P	**Pn**	**19 16 28.0**	**+0.7**
GOLH				S	**Sn**	**19 16 39.2**	**-0.7**
BUCA	**Burdur, Bucak-**	**0.92**	**21**	P	**Pn**	**19 16 27.9**	**+0.3**
BUCA				S	**Sn**	**19 16 40.0**	**-0.2**
BUCA				*i* IAML		19 16 45.0	
	comp=E,168nm,0.4s						
CAEL	**Denizli, Camel**	**0.93**	**315**	P	**Pn**	**19 16 28.5**	**+0.7**
CAEL				S	**Sn**	**19 16 40.6**	**0.0**
CAEL				*i* IAML		19 16 44.0	
	comp=N,235nm,0.3s						
CAEL				*i* IAML		19 16 49.0	
	comp=E,290nm,1.0s						
SABU	**Mula-Dalaman**	**1.01**	**291**	P	**Pn**	**19 16 28.9**	**+0.2**
APMY	**Acipayam-Deniz**	**1.21**	**326**	Pg	**Pn**	**19 16 30.8**	**-0.5**
DNZT	**Denizli-Tavas-**	**1.21**	**312**	P	**Pn**	**19 16 32.3**	**+1.0**
DNZT				S	**Sn**	**19 16 46.7**	**-0.2**
DNZT				*i* IAML		19 16 48.0	
	comp=N,96nm,0.3s						
BRDR	**BURDUR-Merkez**	**1.23**	**357**	P	**Pn**	**19 16 32.0**	**+0.5**
BRDR				S	**Sn**	**19 16 46.4**	**-0.9**
INCE	**Denizli-Bozkur**	**1.32**	**340**	P	**Pn**	**19 16 33.2**	**+0.4**
ISP	**Isparta**	**1.38**	**12**	Pn	**Pn**	**19 16 33.8**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.40**	**316**	P	**Pn**	**19 16 34.5**	**+0.6**
TAVA				S	**Sn**	**19 16 50.8**	**-0.8**
TAVA				*i* IAML		19 16 56.0	
	comp=E,90nm,0.5s						
BASM	**Basmaki-Afyon**	**1.45**	**357**	Pn	**Pn**	**19 16 34.3**	**-0.2**
DNIZ	**Denizli-Tavas-**	**1.46**	**323**	P	**Pn**	**19 16 35.0**	**+0.4**
DNIZ				*i* IAML		19 16 58.0	
	comp=N,127nm,0.3s						
DNIZ				*i* IAML		19 16 59.0	
	comp=E,145nm,0.5s						
TURN	**Turunc**	**1.56**	**282**	P	**Pn**	**19 16 37.2**	**+1.4**
TURN				S	**Sn**	**19 16 54.6**	**-0.5**
TURN				*i* IAML		19 16 58.0	
	comp=N,58nm,0.3s						
TURN				*i* IAML		19 16 59.0	
	comp=E,59nm,0.2s						
BAGO	**Egridir - ISPA**	**1.60**	**18**	P	**Pn**	**19 16 37.7**	**+1.1**
SEDI	**Konya, Seydise**	**1.62**	**52**	P	**Pn**	**19 16 38.1**	**+1.3**
SEDI				S	**Sn**	**19 16 58.5**	**+1.7**
SEDI				*i* IAML		19 17 00.0	
	comp=E,143nm,0.4s						
SEDI				*i* IAML		19 17 01.0	
	comp=N,132nm,0.7s						
SEYD	**Seydisehir-KON**	**1.65**	**55**	Pn	**Pn**	**19 16 38.8**	**+1.6**
ARG	**Arkhangelos**	**1.65**	**262**	Pn	**Pn**	**19 16 37.9**	**+0.8**
MULA	**Mugla, Merkez-**	**1.66**	**299**	P	**Pn**	**19 16 38.4**	**+1.1**
MULA				*i* IAML		19 17 03.0	
	comp=E,65nm,0.5s						
GAZI	**Gazipasa**	**1.77**	**97**	P	**Pn**	**19 16 37.7**	**-1.0**
GAZI				S	**Sn**	**19 16 58.5**	**-1.7**
GAZI				*i* IAML		19 17 00.0	
	comp=E,83nm,0.3s						
GAZI				*i* IAML		19 17 04.0	
	comp=N,120nm,0.3s						
KZIL	**AFYON_Kizioren**	**1.78**	**360**	P	**Pn**	**19 16 39.5**	**+0.5**
AFYN	**Afyon-Dinar-K**	**1.82**	**9**	P	**Pn**	**19 16 40.0**	**+0.4**
PASA	**Karahalli, USA**	**1.95**	**345**	P	**Pn**	**19 16 40.7**	**-0.5**
ESEN	**Aydn-Nazilli**	**1.96**	**313**	P	**Pn**	**19 16 41.8**	**+0.6**
YVAC	**Isparta, Yalva**	**2.00**	**26**	P	**Pn**	**19 16 42.3**	**+0.4**
DOGA	**KONYA_Doganhis**	**2.03**	**36**	P	**Pn**	**19 16 43.9**	**+1.4**
DOGA				S	**Sn**	**19 17 06.7**	**-0.2**
DOGA				*i* IAML		19 17 10.0	
	comp=N,79nm,0.5s						
DOGA				*i* IAML		19 17 11.0	
	comp=E,61nm,0.3s						
SDAG	**Sultandagi-AFY**	**2.06**	**17**	Pn	**Pn**	**19 16 43.7**	**+0.9**
DAT	**Datca**	**2.08**	**278**	Pn	**Pn**	**19 16 44.1**	**+1.0**
DAT	**Datca**	**2.08**	**278**	P	**Pn**	**19 16 44.4**	**+1.3**
DAT				*i* IAML		19 17 12.0	
	comp=E,100nm,0.2s						
NAZL	**Nazilli-Aydin**	**2.10**	**316**	Pn	**Pn**	**19 16 43.6**	**+0.3**
AYDN	**Tasoluk**	**2.17**	**304**	P	**Pn**	**19 16 44.9**	**+0.7**
AYDN				S	**Sn**	**19 17 07.1**	**-2.9**
AYDN				*i* IAML		19 17 18.0	
	comp=N,41nm,0.5s						
AYDN				*i* IAML		19 17 18.0	
	comp=E,36nm,0.6s						
YAZI	**Mula-Dat§a-**	**2.18**	**276**	P	**Pn**	**19 16 45.1**	**+0.8**
YAZI				S	**Sn**	**19 17 09.5**	**-0.7**
YAZI				*i* IAML		19 17 13.0	
	comp=E,40nm,0.2s						
YAZI				*i* IAML		19 17 14.0	
	comp=N,30nm,0.3s						
KIRA	**zmir-Kiraz**	**2.21**	**322**	P	**Pn**	**19 16 44.0**	**-0.9**
BDRM	**Kayabasi**	**2.25**	**286**	P	**Pn**	**19 16 46.3**	**+1.0**
BDRM				S	**Sn**	**19 17 11.0**	**-0.9**
BDRM				*i* IAML		19 17 15.0	
	comp=E,71nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**2.33**	**310**	Pn	**Pn**	**19 16 46.5**	**+0.1**
KURO	**Afyon-Bolvadin**	**2.34**	**15**	P	**Pn**	**19 16 47.7**	**+1.0**
KULA	**Kula-Manisa**	**2.36**	**330**	Pn	**Pn**	**19 16 47.2**	**+0.4**
YKAV	**Yalikavak-Bodr**	**2.39**	**287**	Pn	**Pn**	**19 16 47.9**	**+0.7**
USAK	**Uak-Merkez**	**2.41**	**339**	P	**Pn**	**19 16 47.2**	**-0.3**
USAK				*i* IAML		19 17 13.0	
	comp=N,34nm,2.9s						
ODEM	**Odemis-Izmir**	**2.44**	**318**	Pn	**Pn**	**19 16 48.4**	**+0.4**
TVSB	**Tavsanli**	**3.02**	**350**	Pn	**Pn**	**19 16 55.6**	**-0.3**
BLCB	**Balcova**	**3.12**	**309**	Pn	**Pn**	**19 16 57.3**	**+0.1**

*IDC **21** 19:25:37.0±2.4, 6°.55S×130°.10E, h0km, mb3.8/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=104.9km s-min=28.4km az=77.0*

ISC 21 19:25:54.1±3.3, 7°.5S±0°.2×129°.7E±0°.2, h200km, n6, σ2§32/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRS	**Darwin Rock St**	**5.06**	**167**	P	**Pn**	**19 27 11.7**	**+2.4**
KDU	**Kakadu**	**5.84**	**153**	P	**Pn**	**19 27 21.0**	**+1.7**
FITZ	**Fitzroy Crossi**	**11.29**	**200**	Pn	**P**	**19 28 33.8**	**-2.0**
	0.2nm,0.3s,baz=27,slow=13,SNR=15						
FITZ				Sn	**Sn**	**19 30 37.3**	**+1.4**
	0.2nm,0.3s,baz=90,slow=18,SNR=1.0						
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**13.18**	**161**	Pn	**P**	**19 28 55.6**	**-1.2**
	0.4nm,0.3s,baz=338,slow=15,SNR=5.2						
WRA				Sn	**S**	**19 31 18.6**	**-2.3**
	0.3nm,0.3s,baz=331,slow=23,SNR=4.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**16.59**	**166**	P	Pn	19 29 41.2	+5.6
	0.2nm,0.3s,baz=344,slow=8.9,SNR=8.4						
ASAR				S	**Sn**	**19 32 42.6**	**+0.2**
	0.6nm,1.0s,baz=8.5,slow=28,SNR=1.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**68.47**	**327**	P	P	19 36 37.6	+2.9
	0.5nm,0.5s,baz=114,slow=8.2,SNR=6.4						
	0.5nm,0.5s						

*SKHL **21** 19:28:15.0±0.2, 44°.10N×148°.80E, h55km±4km, mb4.4/4*
*JMA **21** 19:28:16.1±0.3, 44°N±1°×14°8E±°, h0km, MV3.6/23, SE OFF ETOROFU*

ISC 21 19:28:14.6±3.4, 44°.04N±0°.09×148°.7E±0°.2, h47km, n17, σ1§19/26, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.34**	**333**	*e*P	**Pn**	**19 28 36.4**	**-0.4**
KUR				AMB	AMB	19 28 37.4	
	120nm,0.4s						
KUR				*e*S	**Sn**	**19 28 52.5**	**-0.9**
KUR				A	A	19 28 56.6	
	460nm,0.7s						
KUR				A	A	19 28 56.6	
	260nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.06**	**271**	*e*P	**Pn**	**19 28 47.0**	**+0.3**
YUK				AMB	AMB	19 28 51.6	
	140nm,0.4s						
YUK				*e*S	**Sn**	**19 29 10.8**	**-0.4**
YUK				A	A	19 29 14.1	
	340nm,0.3s						
YUK				A	A	19 29 14.1	
	150nm,0.3s						
NEM2	**Nemuro 2**	**2.26**	**254**	*e*P	**Pn**	**19 28 49.5**	**0.0**
NEM2				*e*S	**Sn**	**19 29 13.8**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.27**	**254**	*e*P	**Pn**	**19 28 49.5**	**-0.1**
NMR			

CHSH	**Refugio Sur-Vo**	**0.70**	**147**	⇓P		**Pn**	**19 29 55.2**	**+0.7**
CHSH				S		**Sn**	**19 30 11.4**	**+2.6**
SRAM	**San Ramn-Vol**	**0.71**	**78**	P		**Pn**	**19 29 54.2**	**0.0**
BRRN	**Barrancas-Volc**	**0.79**	**82**	⇓P		**Pn**	**19 29 55.3**	**+0.2**
BRRN				S		**Sn**	**19 30 09.4**	**-0.4**
PECV	**Mancha de Ca P**	**0.80**	**279**	P		Pn	19 29 59.3	+4.6
SUCR	**Mariscal Sucre**	**0.81**	**71**	⇓P		**Pn**	**19 29 55.8**	**+0.6**
BMOR	**Cotopaxi Volca**	**0.81**	**78**	⇓P		**Pn**	**19 29 55.6**	**+0.2**
BMOR				S		**Sn**	**19 30 10.2**	**-0.2**
BREF	**Cotopaxi Volca**	**0.85**	**74**	⇓P		**Pn**	**19 29 56.4**	**+0.5**
ACHN	**Ecuador-Chone-**	**0.85**	**284**	P		**Pn**	**19 29 55.1**	**0.0**
JSCH	**Cashca Tororas**	**0.86**	**161**	P		**Pn**	**19 29 55.9**	**+0.2**
JSCH				S		**Sn**	**19 30 10.7**	**0.0**
MONB	**Balzapamba Mon**	**0.86**	**176**	⇑P		**Pn**	**19 29 54.8**	**-0.6**
MONB				S		**Sn**	**19 30 08.8**	**-1.5**
VCES	**Cotopaxi**	**0.87**	**83**	⇓P		**Pn**	**19 29 56.1**	**+0.2**
VCES				S		**Sn**	**19 30 10.3**	**-0.9**
BVC2	**Cotopaxi Volca**	**0.88**	**74**	⇓P		**Pn**	**19 29 56.4**	**+0.4**
PIS1	**Pisayambo**	**0.89**	**100**	⇓P		**Pn**	**19 29 56.1**	**+0.1**
PIS1				S		**Sn**	**19 30 11.4**	**0.0**
BTAM	**Cotopaxi Volca**	**0.89**	**75**	⇓P		**Pn**	**19 29 56.4**	**+0.3**
PITA	**Cotopaxi Volc**	**0.89**	**68**	⇓P		**Pn**	**19 29 56.5**	**+0.4**
VC1	**Cotopaxi 1**	**0.89**	**73**	⇓P		**Pn**	**19 29 56.6**	**+0.4**
TAMB	**Tambo**	**0.91**	**77**	⇓P		**Pn**	**19 29 56.7**	**+0.4**
TOMA	**Boca Toma-Volc**	**0.91**	**64**	⇓P		**Pn**	**19 29 56.8**	**+0.5**
TOMA				S		**Sn**	**19 30 11.8**	**+0.1**
GGPT	**Toaza - Volcan**	**0.93**	**43**	P		**Pn**	**19 29 56.8**	**+0.5**
GGPT				S		**Sn**	**19 30 13.0**	**+1.0**
TERV	**Terraza Guagua**	**0.97**	**42**	⇓P		**Pn**	**19 29 57.6**	**+0.7**
TERV				S		**Sn**	**19 30 14.5**	**+1.4**
GGPC	**Guagua Pichinc**	**0.97**	**43**	⇓P		**Pn**	**19 29 57.8**	**+0.7**
GGPC				S		**Sn**	**19 30 14.1**	**+1.0**
PIAT	**Ana Tenorio**	**1.00**	**96**	⇓P		**Pn**	**19 29 56.8**	**-0.3**
PIAT	**Ana Tenorio**	**1.00**	**96**	P		**Pn**	**19 29 56.6**	**-0.4**
PIAT				S		**Sn**	**19 30 12.5**	**-0.7**
APR2	**Miler**	**1.01**	**17**	P		**Pn**	**19 29 56.8**	**-0.1**
BPAT	**Tungurahua Vol**	**1.02**	**126**	⇓P		**Pn**	**19 29 57.2**	**-0.2**
YANA	**Yana**	**1.04**	**41**	P		**Pn**	**19 29 58.0**	**+0.5**
BV15	**Puerto Quito-O**	**1.05**	**2**	⇑P		**Pn**	**19 29 56.9**	**-0.3**
BV15				S		**Sn**	**19 30 11.8**	**-1.7**
ANTG	**Antisana-Guama**	**1.08**	**69**	⇓P		**Pn**	**19 29 58.2**	**+0.1**
ANTM	**Antisana-La Mi**	**1.09**	**71**	⇓P		**Pn**	**19 29 58.5**	**+0.2**
ANTS	**Antisana-Sarah**	**1.16**	**70**	⇓P		**Pn**	**19 29 59.3**	**+0.4**
ABH2	**Ecuador-Univer**	**1.17**	**282**	P		**Pn**	**19 30 00.4**	**+2.0**
ANTI	**Antisana**	**1.18**	**68**	⇓P		**Pn**	**19 29 59.6**	**+0.4**
PULU	**Pululahua**	**1.19**	**39**	P		**Pn**	**19 29 59.9**	**+0.8**
PULU				S		**Sn**	**19 30 18.9**	**+2.1**
AV18	**Acelerografo,**	**1.23**	**350**	⇑P		**Pn**	**19 29 59.8**	**+0.7**
PAC1	**Pacto, Paraso**	**1.25**	**22**	⇑P		**Pn**	**19 29 59.7**	**+0.1**
PAC1	**Pacto, Paraso**	**1.25**	**22**	P		**Pn**	**19 29 59.7**	**+0.1**
PAC1				S		**Sn**	**19 30 17.6**	**-0.1**
AGUAY	**Guayaquil**	**1.34**	**211**	P		**Pn**	**19 30 00.2**	**-0.2**
APUY	**Puyo**	**1.38**	**114**	P		**Pn**	**19 30 01.3**	**+0.4**
JIPI	**JIPIJAPA**	**1.38**	**251**	P		**Pn**	**19 30 01.6**	**+0.6**
OTAV	**Otavalo**	**1.39**	**35**	⇓P		**Pn**	**19 30 01.9**	**+0.5**
OTAV	**Otavalo**	**1.39**	**35**	P		**Pn**	**19 30 01.6**	**+0.2**
OTAV				S		**Sn**	**19 30 21.4**	**+0.4**
MILO	**Milagro-Astudi**	**1.40**	**192**	P		**Pn**	**19 29 59.9**	**-1.2**
CSOL	**CASCOL**	**1.42**	**238**	⇑P		**Pn**	**19 30 01.3**	**0.0**
ARDO	**Archidona, Ten**	**1.46**	**94**	⇓P		**Pn**	**19 30 01.9**	**0.0**
CUSE	**Cuicocha Este**	**1.47**	**36**	P		**Pn**	**19 30 02.8**	**+0.4**
CUSE	**Cuicocha Este**	**1.47**	**36**	P		**Pn**	**19 30 03.1**	**+0.7**
CUSE				S		**Sn**	**19 30 23.7**	**+1.0**
AMNT	**Manta-Manabi**	**1.48**	**268**	P		**Pn**	**19 30 04.1**	**+2.1**
CUIC	**Cuicocha-Domo**	**1.49**	**37**	P		**Pn**	**19 30 03.4**	**+0.8**
COHC	**Cochancay**	**1.56**	**180**	P		**Pn**	**19 30 01.9**	**-1.1**
COHC	**Cochancay**	**1.56**	**180**	P		**Pn**	**19 30 01.9**	**-1.1**
COHC				S		**Sn**	**19 30 23.3**	**-0.5**
ANGU	**Angureal**	**1.56**	**53**	⇓P		**Pn**	**19 30 04.4**	**+0.7**
IMBA	**Imbabura, San**	**1.58**	**42**	P		**Pn**	**19 30 05.1**	**+1.4**
AV21	**Acelerografo,**	**1.58**	**349**	P		**Pn**	**19 30 04.2**	**+1.0**
PPLP	**Puerto Lpez**	**1.65**	**247**	P		**Pn**	**19 30 04.5**	**+0.4**
PPLP	**Puerto Lpez**	**1.65**	**247**	P		**Pn**	**19 30 04.0**	**-0.1**
PPLP				S		**Sn**	**19 30 25.8**	**-0.1**
URCU	**Urcuqui**	**1.67**	**37**	⇓P		**Pn**	**19 30 05.8**	**+1.1**
YAHU	**Yahuarcocha**	**1.73**	**43**	P		**Pn**	**19 30 06.6**	**+1.1**
LAV4	**Lava4-Reventad**	**1.81**	**64**	⇓P		**Pn**	**19 30 06.8**	**+0.4**
REVS	**Reventador Sur**	**1.82**	**64**	⇓P		**Pn**	**19 30 07.0**	**+0.6**
REVN	**San Rafael**	**1.83**	**63**	⇓P		**Pn**	**19 30 07.1**	**+0.6**
ISPT	**Isla de la Pla**	**1.85**	**259**	P		**Pn**	**19 30 06.8**	**+0.2**
AATC	**Ecuador-Atacam**	**1.85**	**341**	P		**Pn**	**19 30 07.9**	**+1.3**
AMA1	**Acelerografo,**	**1.88**	**346**	P		**Pn**	**19 30 08.7**	**+1.6**
LITE1	**Lita**	**1.91**	**28**	P		**Pn**	**19 30 07.6**	**+0.1**
RVRD	**Rio Verde**	**1.96**	**356**	P		**Pn**	**19 30 08.8**	**+0.8**
ACUE	**Ecuador-Cuenca**	**2.02**	**172**	P		**Pn**	**19 30 11.1**	**+2.1**
MORR	**Playas El Morr**	**2.04**	**212**	P		**Pn**	**19 30 09.4**	**+0.4**
CHMA	**Chilma**	**2.12**	**34**	P		**Pn**	**19 30 11.4**	**+1.1**
ECEN	**Cerro Negro**	**2.14**	**37**	P		**Pn**	**19 30 12.2**	**+1.4**
SALI	**Salinas**	**2.15**	**234**	P		**Pn**	**19 30 10.6**	**+0.2**
BONI	**La Bonita**	**2.19**	**52**	P		**Pn**	**19 30 12.0**	**+0.8**
BONI	**La Bonita**	**2.19**	**52**	P		**Pn**	**19 30 12.1**	**+0.9**
SNLR	**San Lorenzo-Es**	**2.22**	**11**	P		**Pn**	**19 30 12.0**	**+0.7**
ISPG	**Isla Puna-Puer**	**2.25**	**204**	P		**Pn**	**19 30 13.7**	**+2.0**
TAIS	**Taisha**	**2.29**	**130**	P		**Pn**	**19 30 12.7**	**+0.4**
PCRA	**Pucara 2**	**2.30**	**186**	P		**Pn**	**19 30 13.0**	**+0.1**
BOSC	**San Juan Bosco**	**2.36**	**161**	P		**Pn**	**19 30 14.8**	**+1.5**
ARNL	**Arenillas**	**2.75**	**197**	⇑P		**Pn**	**19 30 17.8**	**-0.5**
MCRA	**Macar, Loja**	**3.52**	**191**	P		**Pn**	**19 30 27.9**	**-0.5**
BBAC	**Balboa, Cauca**	**3.53**	**35**	P		**Pn**	**19 30 29.3**	**+0.4**
BBAC	**Balboa, Cauca**	**3.53**	**35**	P		**Pn**	**19 30 29.2**	**+0.4**
BBAC				S		**Sn**	**19 31 11.9**	**+2.0**
ZUMB	**Zumba**	**3.94**	**178**	P		**Pn**	**19 30 35.6**	**+1.3**
GR1C	**Gorgona, Isla**	**4.03**	**16**	P		**Pn**	**19 30 35.5**	**+0.2**
GR1C				S		**Sn**	**19 31 17.5**	**-4.1**
POPC	**Popayan, Colom**	**4.28**	**37**	P		**Pn**	**19 30 39.1**	**+0.2**
POPC				S		**Sn**	**19 31 25.8**	**-2.3**
YOTC	**Yotoco, Valle**	**5.66**	**31**	P		**Pn**	**19 30 56.4**	**-1.0**
YOTC				S		**Sn**	**19 31 57.4**	**-3.8**

IDC 21 19:49:05.3±2.0, 3°.55S×152°.19E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=67.8km s-min=28.4km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.85**	**226**	P	P	19 54 21.2	+0.7
	1.5nm,0.8s,baz=50,slow=11,SNR=7.1						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**26.69**	**220**	P	P	19 54 46.6	+0.2
	0.3nm,0.7s,baz=49,slow=8.9,SNR=4.8						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**56.80**	**295**	P	P	19 58 52.6	+0.7
	0.3nm,0.3s,baz=103,slow=6.6,SNR=4.4						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**81.23**	**22**	P	P	20 01 21.1	-1.8
	0.3nm,0.9s,baz=230,slow=4.2,SNR=1.5						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**87.88**	**323**	P	P	20 01 57.0	+0.2
	0.7nm,0.4s,baz=89,slow=7.8,SNR=3.1						
	0.7nm,0.4s						

*IDC **21** 19:52:52.1±2.1, 4°.51S×152°.63E, h0km, mb3.4/8, mbtmp3.4/8, MS3.5/5, Error ellipse: s-maj=69.2km s-min=28.0km az=116.0*

ISC 21 19:52:59.9±2.0, 4°.6S±0°.3×152°.6E±0°.4, h58km, n14, σ1§69/9, mb3.3/8, MS3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**12.03**	**279**	LR	LR	19 59 52.3	
	comp=Z,170nm,19.0s,baz=16,slow=35						
GUMO	**Guam**	**19.61**	**337**	LR	LR	20 05 44.9	
	comp=Z,48nm,18.4s,baz=176,slow=40						
DZM	**Mont Dzumac**	**21.97**	**144**	LR	LR	20 05 12.5	
	comp=Z,186nm,20.5s,baz=246,slow=34						
WRA	**Warramunga Arr**	**23.42**	**228**	P	**P**	**19 58 02.2**	**-1.8**
	0.2nm,0.3s,baz=47,slow=10,SNR=1.9						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**26.16**	**222**	P	**P**	**19 58 30.3**	**+1.3**
	0.2nm,0.7s,baz=49,slow=9.0,SNR=4.2						
	0.2nm,0.7s						
KAPI	**Kappang**	**32.71**	**268**	LR	LR	20 14 05.1	
	comp=Z,174nm,19.0s,baz=303,slow=39						
MJAR	**Matsushiro Arr**	**43.06**	**343**	LR	LR	20 16 16.6	
	comp=Z,46nm,19.5s,baz=217,slow=33						
CMAR	**Chiang Mai Arr**	**57.58**	**295**	P	**P**	**20 02 43.1**	**-1.2**
	0.1nm,0.3s,baz=109,slow=6.8,SNR=5.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**80.02**	**319**	P	**P**	**20 05 04.2**	**+1.0**
	0.2nm,0.6s,baz=106,slow=5.7,SNR=5.4						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**80.85**	**326**	P	**P**	**20 05 08.3**	**+0.9**
	0.2nm,0.3s,baz=126,slow=7.3,SNR=1.7						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**82.05**	**22**	P	**P**	**20 05 12.6**	**-1.0**
	0.3nm,0.9s,baz=229,slow=5.7,SNR=3.4						
	0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**83.49**	**322**	P	**P**	**20 05 23.0**	**+1.7**
	0.1nm,0.3s,baz=107,slow=5.8,SNR=2.3						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**88.94**	**323**	P	**P**	**20 05 46.9**	**-1.2**
	0.3nm,0.3s,baz=116,slow=6.6,SNR=5.2						
	0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**150.03**	**288**	PKPab	**PKPab**	**20 12 53.0**	**+2.0**
	0.3nm,0.8s,baz=84,slow=5.9,SNR=1.1						

NEIC 21 19:54:51.7±1.2, 37°.41N±0°.02×81°.56W±0°.02, h0km±2km, mb_Lg2.8/109, ML2.5/6, Error ellipse: s-maj=3.4km s-min=3.2km az=213.0, West Virginia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
S54A	**Dingess, Beckl**	**0.44**	**27**		Pg	19 54 60.0	-0.2
S54A				IAML		19 55 09.9	
	391nm,1.1s						
U54A	**Nelsons Funny**	**0.91**	**193**		Pg	19 55 08.7	-0.5
U54A				IAML		19 55 27.7	
	265nm,1.6s						
U54A				IAML		19 55 31.9	
	129nm,1.6s						
BLA	**Blacksburg**	**0.93**	**102**		Pg	19 55 09.4	-0.2
BLA				IAML		19 55 37.7	
	100nm,1.1s						
U56A	**King**	**1.42**	**138**		Pn	19 55 17.5	-1.4
U56A				IAmb_Lg		19 55 40.1	
	comp=Z,50nm,0.8s						
R55A	**Marlinton**	**1.44**	**52**		Pn	19 55 17.1	-2.0
V55A	**Taylorsville**	**1.58**	**170**		Pn	19 55 18.9	-2.2
S51A	**Beattyville**	**1.63**	**279**		Pn	19 55 21.7	0.0
Q52A	**Bidwell**	**1.65**	**340**		Pn	19 55 19.6	-2.4
Q54A	**Coxs Mills**	**1.67**	**20**		Pn	19 55 21.2	-1.1
Q54A				IAmb_Lg		19 55 46.5	
	comp=Z,44nm,0.8s						
TZTN	**Tazewell**	**1.81**	**242**		Pn	19 55 20.8	-3.5
T57A	**Hurt**	**1.89**	**102**	IAmb_Lg		19 55 52.1	
	comp=Z,44nm,0.8s						
V53A	**Saluda**	**2.01**	**210**		Pn	19 55 26.6	-0.3
P53A	**Whipple**	**2.08**	**4**		Pn	19 55 27.7	-0.2
P53A				IAmb_Lg		19 56 01.7	
	comp=Z,41nm,0.8s						
S57A	**Dark Hollow, R**	**2.10**	**80**		Pn	19 55 27.2	-1.0
S57A				IAmb_Lg		19 55 57.4	
	comp=Z,52nm,0.9s						
Q51A	**Peebles**	**2.14**	**319**	Pn	Pn	19 55 28.0	-0.7
P52A	**Corning**	**2.26**	**349**		Pn	19 55 29.9	-0.5
P52A				IAmb_Lg		19 56 05.9	
	comp=Z,50nm,0.8s						
KMSC	**Kings Mountain**	**2.27**	**175**	IAmb_Lg		19 56 04.5	
	comp=Z,41nm,0.8s						
R50A	**Paris**	**2.36**	**293**		Pn	19 55 31.9	+0.2
Q56A	**Snyder Ridge,**	**2.48**	**48**		Pn	19 55 32.7	-0.7
Q56A				IAmb_Lg		19 56 14.7	
	comp=Z,45nm,0.8s						
TKL	**Tuckaleechee C**	**2.50**	**226**		Pn	19 55 33.0	-0.7
TKL				IAmb_Lg		19 56 16.2	
	comp=Z,32nm,0.9s						
V58A	**Windy Hill, Pi**	**2.54**	**129**		Pn	19 55 33.9	-0.4
V58A				IAmb_Lg		19 56 11.9	
	comp=Z,38nm,0.9s						
W57A	**Gilead**	**2.58**	**150**		Pn	19 55 33.4	-1.5
W57A				IAmb_Lg		19 56 19.2	
	comp=Z,34nm,0.8s						
PAULI	**Pauline**	**2.59**	**185**	IAmb_Lg		19 56 15.2	
	comp=Z,26nm,0.9s						
T50A	**Nancy**	**2.65**	**263**		Pn	19 55 35.5	-0.1
BG3	**Lake Jocassee**	**2.66**	**205**		Pn	19 55 33.4	-2.4
BG3				IAmb_Lg		19 56 15.8	
	comp=Z,33nm,0.8s						
BIRD	**Birdtown, Kers**	**2.90**	**162**	IAmb_Lg		19 56 24.5	
	comp=Z,30nm,0.8s						
O54A	**Avella**	**2.92**	**18**	IAmb_Lg		19 56 31.7	
	comp=Z,36nm,0.9s						
R58B	**Mineral**	**2.97**	**78**	IAmb_Lg		19 56 26.2	
	comp=Z,27nm,0.8s						
W52A	**Murphy**	**3.00**	**220**	IAmb_Lg		19 56 30.5	
	comp=Z,23nm,0.7s						
ACSO	**Alum Creek Sta**	**3.03**	**339**	IAmb_Lg		19 56 35.3	
	comp=Z,37nm,1.1s						
CPCT	**Cooper Cave**	**3.09**	**232**	Pn	Pn	19 55 38.7	-3.1
HODGE	**Hodges**	**3.22**	**190**	IAmb_Lg		19 56 35.7	
	comp=Z,31nm,1.0s						
T59A	**Double "B" Far**	**3.23**	**97**	IAmb_Lg		19 56 38.1	
	comp=Z,33nm,0.9s						
P57A	**Homestead Farm**	**3.47**	**52**	IAmb_Lg		19 56 39.2	
	comp=Z,26nm,1.1s						
O49A	**Covington**	**3.52**	**323**	IAmb_Lg		19 56 46.6	
	comp=Z,20nm,0.7s						
P48A	**Milroy**	**3.66**	**305**	IAmb_Lg		19 56 54.9	
	comp=Z,19nm,0.7s						
PAMR	**Moraine State**	**3.70**	**17**	IAmb_Lg		19 56 56.1	
	comp=Z,21nm,0.8s						
W50A	**Signal Mountai**	**3.75**	**235**	IAmb_Lg		19 56 57.8	
	comp=Z,24nm,0.7s						
X51A	**Calhoun**	**3.90**	**224**	IAmb_Lg		19 57 03.9	
	comp=Z,26nm,0.8s						
O48B	**Farmland**	**3.99**	**316**	IAmb_Lg		19 57 05.9	
	comp=Z,18nm,0.8s						
SWET	**Sewanee**	**4.15**	**239**	IAmb_Lg		19 57 07.8	
	comp=Z,26nm,1.0s						
BLO	**Bloomington**	**4.28**	**296**	IAmb_Lg		19 57 13.9	
	comp=Z,16nm,0.8s						
GOGA	**Godfrey**	**4.28**	**202**	IAmb_Lg		19 57 14.5	
	comp=Z,24nm,1.2s						
N47A	**Urbana**	**4.72**	**318**	IAmb_Lg		19 57 34.1	
	comp=Z,22nm,0.9s						
MVL	**Millersville**	**4.83**	**56**	IAmb_Lg		19 57 20.7	
	comp=Z,14nm,0.8s						
ERPA	**Erie**	**4.86**	**14**	IAmb_Lg		19 57 37.5	
	comp=Z,16nm,0.9s						
N58A	**Sunbury**	**5.09**	**46**	IAmb_Lg		19 57 29.6	
	comp=Z,16nm,0.9s						
M57A	**Sunshine Farm,**	**5.21**	**40**	IAmb_Lg		19 57 35.1	
	comp=Z,18nm,0.8s						
SFIN	**Lafayette**	**5.24**	**306**	IAmb_Lg		19 57 50.9	
	comp=Z,16nm,0.8s						
X48A	**Hartselle**	**5.34**	**238**	IAmb_Lg		19 57 47.0	
	comp=Z,18nm,0.9s						
152A	**Waverly Hall**	**5.39**	**210**	IAmb_Lg		19 57 52.9	
	comp=Z,14nm,0.9s						
L56A	**Greenwood**	**5.64**	**32**	IAmb_Lg		19 57 50.2	
	comp=Z,16nm,1.1s						
SIUC	**Southern Illin**	**6.09**	**275**	IAmb_Lg		19 58 19.8	
	comp=Z,13nm,0.8s						
S44A	**Carbondale**	**6.12**	**275**	IAmb_Lg		19 58 13.3	
	comp=Z,13nm,1.0s						
LRAL	**Lakeview Retre**	**6.23**	**227**	IAmb_Lg		19 58 12.5	
	comp=Z,12nm,0.9s						
K57A	**Scipio Center**	**6.57**	**34**	IAmb_Lg		19 58 36.1	
	comp=Z,12nm,1.0s						
P43A	**Skaggs, Pawnee**	**6.63**	**292**	IAmb_Lg		19 58 36.1	
	comp=Z,10nm,0.9s						
L59A	**Walton**	**6.92**	**44**	IAmb_Lg		19 58 35.3	
	comp=Z,8.5nm,0.9s						
PBMO	**Poplar Bluff**	**7.12**	**268**	IAmb_Lg		19 58 45.4	
	comp=Z,11nm,0.9s						
J59A	**Piesco**	**8.09**	**39**	IAmb_Lg		19 59 23.8	
	comp=Z,6.9nm,0.9s						
I42A	**Draeger Farm,**	**8.55**	**322**	IAmb_Lg		19 59 28.5	
	comp=Z,8.9nm,1.0s						
JFWS	**Jewell Farm**	**8.62**	**312**	IAmb_Lg		19 59 32.5	
	comp=Z,9.1nm,0.8s						

JMA 21 19:59:18.9±0.1, 40°.1N±0°.2×142°.1E±0°.6, h9km±1km, MV0.6/25, NE OFF IWATE PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.22**	**227**	P	Pg	19 59 23.3	-0.1
JKEN	**Kujiedanarisaw**	**0.30**	**293**	P	Pg	19 59 25.2	+0.3
JKEN				*e*S	Sg	19 59 29.8	+0.9
MIYJ	**Miyakonagasawa**	**0.55**	**201**	*e*P	Pg	19 59 29.8	+0.3
MIYJ				*e*S	Sg	19 59 37.1	+0.5
JKZ	**Kuzumaki**	**0.58**	**260**	P	Pg	19 59 30.1	0.0
JKZ				*e*S	Sg	19 59 37.7	0.0
JOM	**Ohasama**	**0.86**	**225**	*e*P	Pg	19 59 35.5	+0.1

*NEIC **21** 20:03:12.4±0.9, 10°.68S±0°.08×165°.9E±0°.1, h97km±10km, mb4.5/10, Error ellipse: s-maj=20.0km s-min=11.7km az=85.0*

*IDC **21** 20:03:14.6±3.4, 10°.75S×166°.04E, h116km±29km, mb3.7/7, mbtmp4.1/9, MS3.4/3, Error ellipse: s-maj=25.5km s-min=22.3km az=73.0*

ISC 21 20:03:12.7±0.7, 10°.81S±0°.09×166°.15E±0°.09, h100km, n31, σ1§04/30, mb4.3/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.72**	**168**	Pn	**Pn**	**20 04 23.4**	**+1.7**
SANVU				Sn	Sn	20 05 05.7	-10
HNR	**Honiara**	**6.26**	**282**	P	**Pn**	**20 04 42.8**	**+0.1**
HNR	103nm,0.7s,baz=180,slow=17,SNR=5.1			S	**Sn**	**20 05 53.3**	**+0.4**
HNR	123nm,0.9s,baz=176,slow=21,SNR=2.3			LR	LR	20 07 13.7	
	comp=Z,134nm,18.9s,baz=164,slow=39						
DZM	**Mont Dzumac**	**11.20**	**179**	Pn	**Pn**	**20 05 50.6**	**+0.7**
DZM	**Mont Dzumac**	**11.20**	**179**	P	**Pn**	**20 05 51.8**	**+2.0**
DZM	4.0nm,0.4s,baz=5.2,slow=6.5,SNR=11			S	**Sn**	**20 07 51.4**	**-1.8**
	3.3nm,0.4s,baz=296,slow=23,SNR=1.7						
ONTNC	**Ouen Toro**	**11.44**	**179**	Pn	**Pn**	**20 05 51.2**	**-1.7**
PINNC	**Pines Island,**	**11.80**	**174**	Pn	**Pn**	**20 05 58.9**	**+1.1**
MSVF	**Nonsavu**	**13.42**	**122**		**P**	**20 06 23.5**	**-1.6**
RTZ	**Ruatahuna**	**29.33**	**163**	P	**P**	**20 09 07.1**	**+1.0**
RTZ				IAmb	IAmb	20 09 08.2	
	comp=Z,26nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**30.34**	**1**	T	T	20 41 11.2	
	baz=182,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**30.35**	**1**	T	T	20 41 11.0	
	baz=182,slow=76,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**30.36**	**1**	T	T	20 41 12.6	
	baz=182,slow=76,SNR=3.5						
TCW	**Tory Channel**	**31.11**	**168**	P	**P**	**20 09 22.8**	**+1.1**
TUWZ	**Tuamarina**	**31.26**	**169**	P	**P**	**20 09 23.6**	**+0.6**
MSWZ	**Moikau Station**	**31.52**	**167**	P	**P**	**20 09 25.5**	**+0.2**
WR8	**Warramunga Arr**	**31.79**	**250**	P	P	20 09 22.8	-5.2
WR8				IAmb	IAmb	20 09 29.8	
	comp=Z,7.7nm,1.2s						
WB0	**Warramunga Arr**	**31.86**	**250**	P	**P**	**20 09 28.1**	**-0.5**
WB0				IAmb	IAmb	20 09 29.6	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**31.94**	**250**	P	**P**	**20 09 28.8**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=81,slow=8.8,SNR=8.4						
WRA				PcP	**PcP**	**20 12 17.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=77,slow=3.1,SNR=2.3						
	comp=Z,2.1nm,0.7s						
KHZ	**Kahutara**	**32.14**	**170**	P	**P**	**20 09 31.5**	**+0.9**
KHZ				IAmb	IAmb	20 10 12.1	
	comp=Z,37nm,1.4s						
LTZ	**Lake Taylor**	**32.29**	**172**	P	**P**	**20 09 32.8**	**+0.7**
ASAR	**Alice Springs**	**33.26**	**243**	P	**P**	**20 09 39.6**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=71,slow=9.2,SNR=8.5						
ASAR				PcP	**PcP**	**20 12 20.2**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=84,slow=1.9,SNR=10						
ASAR				LR	LR	20 24 12.6	
	comp=Z,176nm,19.4s,baz=304,slow=38						
	comp=Z,1.7nm,0.9s						
MQZ	**McQueen's Vall**	**33.26**	**171**	P	**P**	**20 09 41.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**39.83**	**255**	P	**P**	**20 10 35.1**	**-1.5**
PPT	**Papeete**	**43.36**	**104**	LR	LR	20 27 17.8	
	comp=Z,33nm,19.7s,baz=192,slow=33						
**V

DZA Taraz 6.63 12 *e*PN **Pn** **20 12 25.1 +1.0**
DZA Taraz 6.63 12 *e*P **Pn** **20 12 25.1 +1.0**
ALCI Alchi Leh 6.67 107 *e*P **Pn** **20 12 28.9 +4.0**
KK31 Karatay Array 6.74 6 **Pn** **20 12 26.4 +0.9**
KK31 Karatay Array 6.74 6 ⇓Pn **Pn** **20 12 24.3 -1.2**
comp=E,70nm,0.5s,baz=199,slow=15,SNR=767
KK31 ⇑Sn **Sn** **20 13 37.8 -3.2**
comp=E,79nm,0.5s,baz=188,slow=21,SNR=3.8
KK31 ⇓Lg Lg 20 14 14.0
comp=E,269nm,0.7s,baz=197,slow=32,SNR=3.9
KK31 Karatay Array 6.74 6 *i* PN **Pn** **20 12 26.2 +0.7**
KKAR Karatay Array 6.74 6 **Pn** **20 12 26.3 +0.8**
KKAR Karatay Array 6.74 6 PN **Pn** **20 12 26.3 +0.8**
DHRM DHARAMSHALA 7.00 124 *e*P **Pn** **20 12 31.6 +2.3**
DHRM *e*S **Sn** **20 13 46.1 -1.7**
DHRM IAML 20 13 58.2
comp=N,2μm,0.7s
UCH Uchtor 7.00 32 P **Pn** **20 12 31.2 +1.7**
SNR=400
EKS2 Erkin-Say 7.08 27 P **Pn** **20 12 31.9 +1.7**
SNR=143
AAK Ala-Archa 7.33 30 **Pn** **20 12 35.5 +1.7**
AAK Ala-Archa 7.33 30 Pn **Pn** **20 12 35.3 +1.6**
comp=N,169nm,0.4s,baz=211,slow=7.7,SNR=374
AAK Sn **Sn** **20 13 58.0 +2.2**
comp=N,15nm,0.3s,baz=143,slow=15,SNR=6.3
AAK Lg Lg 20 14 39.9
comp=N,10nm,0.3s,baz=231,slow=13,SNR=1.6
AAK LR LR 20 15 53.3
comp=N,2μm,18.3s,baz=220,slow=41
AAK Ala-Archa 7.33 30 P **Pn** **20 12 35.9 +2.1**
AAK S **Sn** **20 13 57.5 +1.7**
AAK Ala-Archa 7.33 30 P **Pn** **20 12 35.9 +2.1**
SNR=277
AAK Ala-Archa 7.33 30 ⇑Pn **Pn** **20 12 34.5 +0.7**
comp=N,142nm,0.7s
AAK ⇑Sn **Sn** **20 13 58.9 +3.1**
comp=N,1μm,0.8s
AAK ⇑Lg Lg 20 14 40.5
comp=N,1μm,0.8s
AAK Ala-Archa 7.33 30*c i*P **Pn** **20 12 35.8 +2.1**
AAK pmax pmax
comp=Z,290nm,0.8s
AAK Ala-Archa 7.33 30 *i* P **Pn** **20 12 35.9 +2.1**
SNR=290
FRU1 Bishkek 7.53 30 **Pn** **20 12 38.4 +2.0**
FRU1 Bishkek 7.53 30 P **Pn** **20 12 38.4 +2.0**
KBK Karagaybulak 7.54 32 P **Pn** **20 12 38.9 +2.3**
SNR=96
BHK Bhakra 7.62 129 *e*P Pn 20 12 44.7 +7.1
BHK *e*S **Sn** **20 14 07.9 +5.2**
BHK IAML 20 14 08.9
comp=N,2μm,0.8s
BHK IAML 20 14 09.3
comp=E,912nm,0.6s
CHMS Chumysh 7.74 30 P **Pn** **20 12 40.8 +1.6**
SNR=424
ULHL Ulahol 7.84 40 P **Pn** **20 12 42.1 +1.4**
SNR=56
USP Ospenovka 7.87 28 P **Pn** **20 12 42.1 +1.2**
SNR=274
TKM2 Tokmak 2 8.04 34 P **Pn** **20 12 44.9 +1.4**
SNR=155
SGDS Sogindy 8.07 28 *e*P **Pn** **20 12 44.7 +0.8**
KDJ Kajisay 8.27 44 **Pn** **20 12 47.2 +0.6**
KDJ Kajisay 8.27 44 P **Pn** **20 12 47.2 +0.6**
SMLA Simla 8.29 127 *e*P **Pn** **20 12 49.0 +2.3**
SMLA *e*S **Sn** **20 14 16.0 -3.1**
SMLA IAML 20 14 23.7
comp=E,995nm,0.6s
SMLA IAML 20 14 26.5
comp=N,907nm,0.5s
TARG Taragay, Kyrgy 8.38 48 **Pn** **20 12 49.0 +0.6**
TARG Taragay, Kyrgy 8.38 48 P **Pn** **20 12 49.0 +0.6**
KLP Kalpa 8.76 121 *e*P **Pn** **20 12 56.0 +2.5**
KLP *e*S **Sn** **20 14 27.4 -3.8**
KLP IAML 20 14 38.2
comp=N,886nm,0.5s
KLP IAML 20 14 40.1
comp=E,792nm,0.4s
TNSS Tian-Shan 8.77 39 *e*P **Pn** **20 12 54.4 +0.7**
TNSS Tian-Shan 8.77 39 *e*P **Pn** **20 12 54.5 +0.7**
AAA Alma-Ata 8.88 38 *e*P **Pn** **20 12 56.2 +1.3**
AAA Alma-Ata 8.88 38 *e*P **Pn** **20 12 56.2 +1.3**
KNDC Almaty 8.91 38 ⇑Pn **Pn** **20 12 56.9 +1.6**
comp=E,304nm,0.9s
KNDC Almaty 8.91 38 P **Pn** **20 12 56.9 +1.6**
MDOK Medeo 8.91 38 *e*P **Pn** **20 12 56.6 +1.2**
MDOK Medeo 8.91 38 *e*P **Pn** **20 12 56.7 +1.2**
PRZ Przheval'sk 9.19 46 **Pn** **20 13 00.5 +1.2**
PRZ Przheval'sk 9.19 46 P **Pn** **20 13 00.5 +1.2**
BTLS Baital 9.29 20 *e*P **Pn** **20 13 00.4 -0.1**
BTLS Baital 9.29 20 *e*P **Pn** **20 13 00.4 -0.1**
DDI Dehra Dun 9.39 128 *e*P **Pn** **20 13 04.0 +2.0**
CHKK Chushkaly 9.40 35 *e*P **Pn** **20 13 02.4 +0.5**
CHKK Chushkaly 9.40 35 *e*P **Pn** **20 13 02.5 +0.5**
SATY Saty 9.56 43 *e*P **Pn** **20 13 04.4 +0.1**
SATY Saty 9.56 43 *e*P **Pn** **20 13 04.4 +0.1**
UZB Uzynbulak 9.96 45 *e*P **Pn** **20 13 09.8 0.0**
UZB Uzynbulak 9.96 45 *e*P **Pn** **20 13 09.8 0.0**
NPLP NPLP New Delhi 10.10 138 *e*P **Pn** **20 13 12.5 +0.8**
NPLP *e*S **Sn** **20 14 57.8 -6.0**
NPLP IAML 20 15 02.1
comp=E,445nm,0.4s
NPLP IAML 20 15 05.2
comp=N,524nm,0.3s
SHLS Shalkode 10.22 46 *e*P **Pn** **20 13 17.0 +3.7**
SHLS Shalkode 10.22 46 *e*P **Pn** **20 13 17.0 +3.7**
JOSI Joshimath 10.24 122 *e*P **Pn** **20 13 15.2 +1.5**
JOSI *e*S **Sn** **20 15 01.6 -5.8**
PDGK Podgornoye 10.34 45 ⇓Pn **Pn** **20 13 14.4 -0.6**
comp=N,69nm,0.8s
PDGK ⇓Sn **Sn** **20 15 16.1 +6.4**
comp=N,138nm,1.4s
PDGK Podgornoye 10.34 45 P **Pn** **20 13 13.5 -1.5**
LGTI Lohaghat 11.39 124 *e*P **Pn** **20 13 30.3 +0.9**
LGTI *e*S **Sn** **20 15 26.7 -8.7**
LGTI IAML 20 15 36.2
comp=N,270nm,0.6s
LGTI IAML 20 15 38.6
comp=E,155nm,0.9s
UDPR Udaipur 12.34 162 *e*P **Pn** **20 13 44.2 +1.9**
UDPR *e*S Sn 20 15 48.5 -10
UDPR IAML 20 15 56.5
comp=E,264nm,1.0s
UDPR IAML 20 15 56.5
comp=N,252nm,0.9s
MAKZ Makanchi 13.96 38 ⇓P **Pn** **20 14 02.2 -2.1**
comp=N,38nm,0.8s
MAKZ Makanchi 13.96 38 P **Pn** **20 14 03.2 -1.1**
MK31 Makanchi Array 14.11 39 P **Pn** **20 14 04.7 -1.7**
comp=N,17nm,0.6s,baz=219,slow=13,SNR=154
MK31 Makanchi Array 14.11 39*c i*P **Pn** **20 14 04.6 -1.7**
MKAR Makanchi Array 14.11 39 Pn **Pn** **20 14 04.2 -2.1**
comp=N,1.3nm,0.3s,baz=226,slow=15,SNR=139
MKAR LR LR 20 20 08.7
comp=N,509nm,21.1s,baz=202,slow=40
comp=N,15nm,0.7s
AB31 Akbulak array 14.61 335 **Pn** **20 14 09.7 -3.3**
AB31 Akbulak array 14.61 335 ⇑Pn Pn 20 14 07.6 -5.4
comp=N,23nm,0.5s,baz=152,slow=12,SNR=505
AB31 ⇑Sn **Sn** **20 16 46.3 -7.3**
comp=N,14nm,0.5s,baz=157,slow=23,SNR=6.9
AB31 Akbulak array 14.61 335 *e*P **Pn** **20 14 09.7 -3.3**
ABKAR Akbulak array 14.61 335 **Pn** **20 14 09.2 -3.9**
SHME Shamm 15.37 232 P **Pn** **20 14 24.4 +1.1**
KURBB Kurchatov Arra 15.64 22 Pn **Pn** **20 14 22.6 -4.0**
comp=N,0.5nm,0.3s,baz=212,slow=12,SNR=93
KURBB LR LR 20 21 10.0
comp=N,1μm,18.7s,baz=182,slow=40
comp=N,21nm,1.0s
KURK Kurchatov 15.74 22 **Pn** **20 14 24.3 -3.8**
KURK IAmb IAmb 20 14 32.1
comp=E,85nm,0.8s
KURK Kurchatov 15.74 22 ⇑P **Pn** **20 14 24.1 -3.9**
comp=Z,96nm,0.9s
KURK Kurchatov 15.74 22*d i*P **Pn** **20 14 24.8 -3.2**
KURK pmax pmax
comp=Z,39nm,1.3s
WMQ Urumqi 15.76 56 *e*P **P** **20 14 31.1 -0.9**
WMQ LR LR
comp=Z,830nm,11.1s
WMQ LR LR
comp=Z,870nm,10.3s
WMQ LR LR
comp=Z,340nm,15.7s
MASF Masafi 15.85 230 P **Pn** **20 14 31.1 +1.5**
MSFE Esma-Masafi 15.85 230 P **Pn** **20 14 31.0 +1.3**
WSAR Wadi Sarin 16.13 219 Pn **Pn** **20 14 30.4 -2.8**
baz=17,slow=19,SNR=4.8
WSAR Wadi Sarin 16.13 219 P **Pn** **20 14 31.8 -1.4**
UOSS Minazif 16.13 229 Pn **Pn** **20 14 33.0 -0.1**
UOSS Minazif 16.13 229 P **Pn** **20 14 33.7 +0.5**
UOSS Minazif 16.13 229 P **Pn** **20 14 34.2 +1.0**
HATD Hatta, Dubai 16.26 228 P **P** **20 14 36.7 -0.9**
HATD Hatta, Dubai 16.26 228 P **Pn** **20 14 36.5 +1.6**
AKTO Aktyubinsk 16.28 333 Pn **Pn** **20 14 33.4 -1.5**
comp=Z,3.4nm,0.3s,baz=143,slow=11,SNR=102
AKTO Sn **Sn** **20 17 25.1 -9.2**
comp=Z,1.8nm,0.3s,baz=218,slow=21,SNR=6.7
comp=Z,37nm,0.6s
AKTO Aktyubinsk 16.28 333 ⇑P **Pn** **20 14 30.6 -4.3**
comp=Z,65nm,1.1s
ASHO Ashiyiah 16.41 228 P **Pn** **20 14 37.8 +1.0**
ASHO Ashiyiah 16.41 228 P **Pn** **20 14 38.0 +1.1**
SOHO SOHO 16.55 226 P **P** **20 14 40.3 -0.4**
LKRN Lenkeran, Azer 16.57 284 P **Pn** **20 14 37.4 -1.3**
SMDO Samad 16.58 220 P **Pn** **20 14 39.3 +0.4**
BVA0 Borovoye Array 16.63 2 ⇑P **Pn** **20 14 36.0 -3.3**
comp=Z,65nm,0.9s
BVA0 Borovoye Array 16.63 2 P **Pn** **20 14 36.0 -3.3**
BVAR Borovoye Array 16.63 2 Pn **Pn** **20 14 36.8 -2.5**
comp=Z,0.5nm,0.3s,baz=169,slow=11,SNR=66
BVAR Sn **Sn** **20 17 36.9 -5.9**
comp=Z,0.2nm,0.3s,baz=161,slow=24,SNR=1.4
BVAR LR LR 20 21 45.2
comp=Z,721nm,18.5s,baz=184,slow=39
comp=Z,26nm,0.6s
BRVK Borovoye 16.66 2 **Pn** **20 14 37.4 -2.3**
BRVK IAmb IAmb 20 14 48.7
comp=Z,79nm,0.9s
BRVK Borovoye 16.66 2 P **Pn** **20 14 37.7 -2.0**
BRVK Borovoye 16.66 2 ⇓P **Pn** **20 14 37.2 -2.4**
comp=Z,68nm,0.8s
BRVK Borovoye 16.66 2*c i*P **Pn** **20 14 37.4 -2.3**
BRVK pmax pmax
comp=Z,85nm,1.0s
JLN Jalan Bani Buh 16.68 214 P **Pn** **20 14 40.9 +0.7**
ASUD Al Ashush, Dub 16.90 230 P **P** **20 14 45.3 +0.7**
ALNE Al Ain 17.07 228 P **P** **20 14 46.0 -0.5**
ALNE Al Ain 17.07 228 *i* P **P** **20 14 46.1 -0.5**
SNR=9.4
ARQ Araqi 17.18 224 P **P** **20 14 47.8 0.0**
AKT Akhty 17.65 293 *e*P **Pn** **20 14 49.7 -2.5**
AKT *e*S **Sn** **20 18 06.9 -0.8**
AKT pmax pmax
comp=Z,23nm,0.9s
AKT MLR MLR
comp=Z,370nm,12.0s
SEKA Sheki 18.00 292 P **Pn** **20 14 55.1 -1.4**
MNGR Mingechevir, A 18.03 291 P **Pn** **20 14 56.2 -0.6**
MAK Makhachkala 18.11 298 *e*P **Pn** **20 14 55.6 -2.1**
MAK *e*S **Sn** **20 18 16.1 -2.6**
MAK pmax pmax
comp=Z,118nm,1.2s
MAK MLR MLR
comp=Z,1μm,12.0s
MHTO MHTO 18.36 216 P **Pn** **20 15 02.0 +1.1**
MZWR Madinat Zayed 18.43 231 P **P** **20 15 01.4 -0.2**
UMZA Um Al Zommool 18.44 226 P **P** **20 15 02.0 +0.3**
GANJ Ganja 18.59 290 P **P** **20 15 02.8 -0.4**
GHWR Ruwais 18.93 234 P **P** **20 15 06.5 -0.6**
SHMA Al-Shehemyia 18.99 242 P **P** **20 15 08.1 +0.5**
NAX Nakhchivan 19.14 286 P **P** **20 15 09.1 -0.3**
MZR Muzera 19.24 230 P **P** **20 15 10.2 -0.2**
MZR Muzera 19.24 230 *i* P **P** **20 15 10.1 -0.3**
SNR=27
LSA Lhasa 19.34 104 P **P** **20 15 12.6 +0.6**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA LR LR
comp=Z,440nm,13.0s
TRNA Turayna 19.52 239 P **P** **20 15 13.2 -0.3**
GNI Garni 19.76 288 P **P** **20 15 16.2 +0.1**
GNI Garni 19.76 288 P **P** **20 15 16.7 +0.6**
comp=Z,1.2nm,0.3s,baz=175,slow=7.7,SNR=7.7
GNI S **S** **20 18 54.8 -2.2**
comp=Z,11nm,0.9s,baz=343,slow=20,SNR=2.1
GNI LR LR 20 25 17.6
comp=Z,235nm,20.1s,baz=94,slow=44
comp=Z,16nm,0.8s
GNI Garni 19.76 288*d i*P **P** **20 15 17.0 +0.9**
GNI Garni 19.76 288 P **Pn** **20 15 17.7 -0.1**
SMRA Abu-Samra 19.79 239 P **P** **20 15 15.6 -0.8**
GOMU GeErMu 20.41 83 P **P** **20 15 24.0 +0.5**
GOMU pP pP 20 15 33.3 +0.1
GOMU pmax pmax
comp=Z,20nm,0.9s
GOMU pmax pmax
comp=Z,120nm,5.8s
GOMU LR LR
comp=Z,190nm,11.3s
GOMU LR LR
comp=Z,130nm,13.0s
GOMU LR LR
comp=Z,310nm,9.6s
ZAA0 Zalesovo Array 20.53 26 P **P** **20 15 23.7 -0.4**
ZAA0 Zalesovo Array 20.53 26 P **P** **20 15 23.8 -0.4**
ZALV Zalesovo Beam 20.53 26 P **P** **20 15 23.8 -0.4**
ZALV Zalesovo Beam 20.53 26 P **P** **20 15 23.6 -0.6**
comp=Z,84nm,0.5s,baz=217,slow=10,SNR=430
ZALV S **S** **20 19 10.8 -1.0**
comp=Z,2.1nm,0.7s,baz=221,slow=15,SNR=1.7
ZALV LR LR 20 24 06.7
comp=Z,795nm,19.3s,baz=219,slow=39
comp=Z,84nm,0.5s
ZALV Zalesovo Beam 20.53 26 *i* P **P** **20 15 23.6 -0.6**
ZALV pmax pmax
comp=Z,85nm,0.5s
HYB Hyderabad 20.55 155 *e*P **P** **20 15 25.8 +1.0**
NCK Nalchik 21.02 298 *i* P **P** **20 15 30.4 +0.8**
NCK pmax pmax
comp=Z,15nm,0.8s
SVE Sverdlovsk 21.28 347 *e*P **P** **20 15 32.1 -0.1**
SVE *e*S **S** **20 19 22.9 -3.7**
SVE pmax pmax
comp=Z,55nm,1.0s
SVE MLR MLR
comp=Z,2μm,13.0s
ARTI Arti 21.35 343 P **P** **20 15 33.2 +0.2**
ARTI IAmb IAmb 20 15 46.6
comp=Z,60nm,0.7s
ARTI Arti 21.35 343 P **P** **20 15 32.8 -0.2**
comp=Z,38nm,0.8s,baz=150,slow=5.6,SNR=35
ARTI S **S** **20 19 24.6 -3.4**
comp=Z,6.8nm,0.5s,baz=178,slow=22,SNR=2.5
ARTI LR LR 20 24 11.0
comp=Z,236nm,18.2s,baz=156,slow=38
comp=Z,38nm,0.8s
ARTI Arti 21.35 343*d i*P **P** **20 15 32.9 -0.1**
ARTI PPP PPP 20 15 58.7
ARTI S **S** **20 19 30.5 +2.4**
ARTI SSS SSS 20 20 07.2
ARTI pmax pmax
comp=Z,53nm,0.9s
ARTI MLR MLR
comp=Z,673nm,15.0s
KBZ Khabaz 21.56 298 P **P** **20 15 35.2 -0.1**
comp=Z,9.9nm,0.8s,baz=71,slow=7.9,SNR=11
KBZ S **S** **20 19 27.7 -4.6**
comp=Z,3.7nm,0.6s,baz=118,slow=21,SNR=1.6
KBZ LR LR 20 26 45.5
comp=Z,235nm,18.2s,baz=86,slow=44
comp=Z,9.9nm,0.8s
KBZ Khabaz 21.56 298*d i*P **P** **20 15 35.2 -0.1**
KBZ pmax pmax
comp=Z,5.0nm,0.7s
SHA1 Shidzhatmaz 21.73 298*c i*P **P** **20 15 37.9 +0.4**
GOF Gofitskoye 21.74 302*ce*P **P** **20 15 38.6 +1.2**
GOF *e*S **S** **20 19 37.9 +1.9**
KVAR Kislovodsk Arr 21.74 299 LR LR 20 25 47.1
comp=Z,328nm,20.0s,slow=41
KIV Kislovodsk 21.75 299 P **P** **20 15 37.4 -0.2**
KIV IAmb IAmb 20 15 45.9
comp=Z,57nm,0.8s
KIV Kislovodsk 21.75 299 P **P** **20 15 38.5 +0.9**
KIV Kislovodsk 21.75 299 ⇓P **P** **20 15 38.9 +1.4**
KIV Kislovodsk 21.75 299 *e*P **P** **20 15 37.7 +0.1**
KIV *e*S **S** **20 19 39.0 +2.7**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,306nm,14.0s
KIV Kislovodsk 21.75 299 *i* P **P** **20 15 37.7 +0.1**
SNR=12
SHL Shillong 21.99 113 P **P** **20 15 40.5 +0.2**
SHL Shillong 21.99 113 P **P** **20 15 40.6 +0.2**
SNR=97
SHL Shillong 21.99 113 P **P** **20 15 40.5 +0.2**
SHL pmax pmax
comp=Z,196nm,0.8s
BELG Belogornoye 22.21 323*c i*P **P** **20 15 41.6 -0.7**
BELG pmax pmax
comp=Z,16nm,1.1s
DOK Doka 22.29 221 P **P** **20 15 42.9 -0.6**
SNR=7.2
DMTO DMTO 22.62 218 P **P** **20 15 46.1 -0.8**
SNR=7.0
WHFO Wadi Hawf 23.06 221 P **P** **20 15 50.7 -0.9**
SNR=13
RBK Rabkut 23.18 220 P **P** **20 15 52.3 -0.4**
VSLR Vesyoloye 23.57 296 *i* P **P** **20 15 58.8 +2.4**
VSLR pmax pmax
comp=Z,36nm,1.0s
ERBR Yeremizino-Bor 23.65 302 *e*P **P** **20 15 58.0 +0.9**
ERBR pmax pmax
comp=Z,19nm,0.8s
ABTO Aybut 23.78 221 P **P** **20 15 57.7 -0.9**
GTA Gaotai 24.07 74 P **P** **20 16 01.9 +0.6**
GTA S **S** **20 20 15.8 -0.7**
GTA pmax pmax
comp=Z,40nm,1.3s
GTA LR LR
comp=Z,690nm,17.5s
GTA LR LR
comp=Z,510nm,15.9s
GTA LR LR
comp=Z,580nm,16.3s
RAYN Ar Rayn 24.34 245 P **P** **20 16 02.8 -1.0**
RAYN Ar Rayn 24.34 245 P **P** **20 16 03.7 0.0**
RAYN Ar Rayn 24.34 245 P **P** **20 16 02.8 -1.0**
RAYN pmax pmax
comp=Z,14nm,0.8s
RAYN Ar Rayn 24.34 245 *i* P **P** **20 16 03.2 -0.6**
SNR=20
VRH Novokhopyorsk 24.71 315 *e*P **P** **20 16 06.8 0.0**
VRH pmax pmax
comp=Z,30nm,1.0s
VRH MLR MLR
comp=Z,600nm,13.0s
ANN Anapa 25.61 299 *e*P **P** **20 16 14.6 -0.4**
ANN *e*S **S** **20 20 45.1 +4.4**
ANN pmax pmax
comp=Z,57nm,0.8s
ANN MLR MLR
comp=N,494nm,17.0s
ANN MLR MLR
comp=Z,880nm,16.0s
KIRV Kirov 25.80 336 LR LR 20 27 25.9
comp=Z,346nm,18.4s,baz=146,slow=38
KIRV Kirov 25.80 336*d i*P **P** **20 16 17.1 +0.5**
VORD Divnogorie 26.01 314 *e*P **P** **20 16 17.7 -0.9**
VORD pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 26.18 314 *e*P **P** **20 16 19.2 -0.9**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR MLR MLR
comp=Z,230nm,12.0s
VORR Voronezh 26.33 315 *e*P **P** **20 16 20.7 -0.8**
VORR pmax pmax
comp=Z,30nm,0.8s
LPSR Galich'ya Gora 26.87 317 *e*P **P** **20 16 25.3 -1.0**
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR MLR MLR
comp=Z,350nm,13.0s
MOY Mondy 27.05 46 *e*P **P** **20 16 29.7 +1.6**
MOY pmax pmax
comp=Z,41nm,1.6s
ASF Jabal al Asfar 27.17 271 LR LR 20 30 36.0
comp=Z,203nm,20.2s,baz=153,slow=44
TNCH TengChong 27.32 106 ⇑P **P** **20 16 31.8 +0.9**
TNCH S **S** **20 21 05.6 -2.9**
TNCH pmax pmax
comp=Z,16nm,0.8s
TNCH pmax pmax
comp=Z,180nm,4.4s
TNCH LR LR
comp=Z,200nm,10.4s
TNCH LR LR
comp=Z,420nm,11.3s
TNCH LR LR
comp=Z,480nm,11.5s
KHAM Kharkiv 27.52 310 P **P** **20 16 33.5 +1.3**
LZH Lanzhou 27.64 80 *e*P **P** **20 16 35.1 +1.5**
LZH pP pP 20 16 43.3 -0.6
LZH sP sP 20 16 46.8 -1.3
LZH pmax pmax
comp=Z,26nm,1.3s
LZH LR LR
comp=Z,460nm,12.7s
LZH LR LR
comp=Z,470nm,13.4s
LZH LR LR
comp=Z,410nm,13.4s
SIM Simferopol' 27.96 299 *e*P P 20 16 44.4 +8.2
SIM pmax pmax
comp=Z,34nm,0.9s
ZAK Zakamensk 27.98 49 *e*P **P** **20 16 36.7 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
MMAI Mount Meron Ar 28.13 273 P **P** **20 16 38.8 +0.9**
comp=Z,1.7nm,0.5s,baz=46,slow=12,SNR=6.2
MMAI LR LR 20 29 48.1
comp=Z,99nm,19.2s,baz=81,slow=41
comp=Z,1.7nm,0.5s
KIRS Kirsehir-Merke 28.13 286 ⇓P **P** **20 16 40.8 +2.9**
BR104 Keskin Array S 28.29 288 P **P** **20 16 41.2 +1.8**
comp=Z,6.6nm,0.8s
BR131 Keskin Array S 28.29 288 P **P** **20 16 41.7 +2.3**
BR131 Keskin Array S 28.29 288*d i*P **P** **20 16 41.7 +2.3**
BRTR Keskin Array B 28.29 288 P **P** **20 16 38.3 -1.1**
BRTR Keskin Array B 28.29 288 P **P** **20 16 40.6 +1.2**
comp=Z,4.4nm,0.7s,baz=102,slow=8.6,SNR=15
BRTR PcP **PcP** **20 19 50.7 -1.1**
comp=Z,1.1nm,0.5s,baz=146,slow=2.8,SNR=2.2
comp=Z,4.4nm,0.7s
BRTR Keskin Array B 28.29 288 *i* P **P** **20 16 41.2 +1.8**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BR106 Keskin Array S 28.31 288 P **P** **20 16 40.8 +1.2**
comp=Z,7.4nm,0.7s
BR105 Keskin Array S 28.31 288 P **P** **20 16 41.3 +1.7**
comp=Z,8.6nm,0.7s
PLTM Poltava 28.47 309 P **P** **20 16 42.1 +1.4**
CD2 Chengdu 28.96 91 P **P** **20 16 45.6 +0.3**
CD2 S **S** **20 21 30.5 -3.4**
CD2 LR LR
comp=Z,480nm,14.1s
CD2 LR LR
comp=Z,480nm,12.2s
CD2 LR LR
comp=Z,570nm,12.2s
MOS Moscow 28.97 322 *e*P **P** **20 16 44.7 -0.3**
MOS *e* 20 17 39.7
MOS *e*S **S** **20 21 36.2 +2.7**
MOS *e*SS **SnSn** **20 23 04.1 +6.2**
MOS pmax pmax
comp=Z,32nm,0.8s
MOS MLR MLR
comp=Z,300nm,14.0s
PZH PanZhiHua 29.12 101 P **P** **20 16 47.3 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
IRK Irkutsk 29.15 46 *e*P **P** **20 16 47.6 +0.9**
IRK pmax pmax
comp=Z,50nm,1.7s
OBN Obninsk 29.22 320 P **P** **20 16 47.6 +0.4**
OBN Obninsk 29.22 320 ⇑P **P** **20 16 48.2 +0.9**
OBN Obninsk 29.22 320*c i*P **P** **20 16 47.9 +0.7**
OBN *i* *SP **pP** **20 16 51.9 -5.5**
OBN *e*PPP PPP 20 17 48.1
OBN S **S** **20 21 45.0 +7.6**
OBN SS **SnSn** **20 23 11.0 +7.1**
OBN *e*SSS SSS 20 23 25.1

OBN			pmax	pmax	
	comp=Z,47nm,1.2s				
OBN			MLR	MLR	
	comp=Z,237nm,15.0s				
OBN	Obninsk	29.22 320	P	P	20 16 47.8 +0.6
	comp=Z,45nm,1.1s				
OBN			pP	pP	20 16 51.8 -5.6
	comp=Z,45nm,1.1s				
SONM	Songino Array	29.40 56	P	P	20 16 50.0 +0.9
SONM	Songino Array	29.40 56	P	P	20 16 50.3 +1.2
	comp=Z,5.8nm,0.6s,baz=268,slow=8.4,SNR=40				
SONM			PcP	PcP	20 19 53.7 -0.8
	comp=Z,3.0nm,0.9s,baz=251,slow=4.4,SNR=4.0				
SONM			LR	LR	20 29 56.3
	comp=Z,674nm,21.7s,baz=257,slow=39				
	comp=Z,5.8nm,0.6s				
EIL	Elat	29.60 267	LR	LR	20 30 09.3
	comp=Z,128nm,20.1s,baz=67,slow=39				
HMDM	Hanimaadhoo	29.69 173	P	P	20 16 54.0 +2.2
ULN	Ulaanbaatar	29.84 56	P	P	20 16 53.8 +0.7
ULN	Ulaanbaatar	29.84 56	P	P	20 16 54.0 +0.9
ULN	Ulaanbaatar	29.84 56c	*i*P	P	20 16 54.0 +0.9
ULN			pmax	pmax	
	comp=Z,10.0nm,0.7s				
KMI	Kunming	30.57 102	P	P	20 17 02.0 +2.2
KMI			pmax	pmax	
	comp=Z,13nm,0.7s				
KMI			LR	LR	
	comp=Z,220nm,20.2s				
KMI			LR	LR	
	comp=Z,230nm,17.7s				
KMI			LR	LR	
	comp=Z,290nm,11.6s				
PALK	Pallekele	30.76 158	LR	LR	20 30 50.6
	comp=Z,206nm,19.1s,baz=360,slow=40				
KLMR	Klimovskoe	30.97 332	*e*P	P	20 17 00.3 -2.4
KLMR			*e*		20 18 01.8
KLMR			pmax	pmax	
	comp=Z,40nm,1.6s				
KLMR			MLR	MLR	
	comp=Z,382nm,14.0s				
CHTO	Chiang Mai	31.27 116	P	P	20 17 06.3 +0.5
CHTO			IAmb	IAmb	20 17 19.1
	comp=Z,33nm,1.8s				
CHTO	Chiang Mai	31.27 116	P	P	20 17 06.1 +0.3
CHTO	Chiang Mai	31.27 116	P	P	20 17 06.9 +1.1
CHTO	Chiang Mai	31.27 116	P	P	20 17 06.3 +0.5
CHTO			pmax	pmax	
	comp=Z,33nm,1.8s				
CHTO	Chiang Mai	31.27 116	P	P	20 17 06.4 +0.7
CHTO			pP	pP	20 17 17.9 +1.5
BAL3X	Bal3x, Balta	31.39 304	P	P	20 17 07.3 +0.8
YLV	Yalova	31.48 290	P	P	20 17 08.4 +0.9
	comp=Z,18nm,0.8s				
CM31	Chiang Mai Arr	31.50 117	P	P	20 17 07.8 0.0
CMAR	Chiang Mai Arr	31.50 117	P	P	20 17 07.5 -0.2
CMAR	Chiang Mai Arr	31.50 117	P	P	20 17 06.6 -1.2
	comp=Z,5.8nm,0.8s,baz=295,slow=8.1,SNR=35				
CMAR			PcP	PcP	20 19 59.7 -0.6
	comp=Z,1.8nm,0.9s,baz=303,slow=2.9,SNR=2.2				
	comp=Z,5.8nm,0.8s				
CMAR	Chiang Mai Arr	31.50 117	P	P	20 17 07.6 -0.2
KLYT	Kilyos	31.66 291	P	P	20 17 10.4 +1.4
BTO	Baotou	31.80 70	*e*P	P	20 17 10.8 +0.4
BTO			pP	pP	20 17 16.3 -4.6
BTO			sP	sP	20 17 19.1 -5.9
BTO			PP	PnPn	20 18 18.1 +2.8
BTO			S	S	20 22 22.6 +4.1
BTO			SS	ScP	20 24 05.6 +24
BTO			pmax	pmax	
	comp=Z,61nm,0.9s				
BTO			pmax	pmax	
	comp=Z,74nm,3.5s				
BTO			LR	LR	
	comp=Z,670nm,11.0s				
BTO			LR	LR	
	comp=Z,300nm,10.0s				
BTO			LR	LR	
	comp=Z,670nm,15.3s				
MILM	Milestii Mici	31.82 302⇑	*e*P	P	20 17 10.0 -0.3
MILM	Milestii Mici	31.82 302c	*i*P	P	20 17 10.0 -0.3
MILM			pmax	pmax	
	comp=Z,40nm,1.0s				
AK09	Malin Array Si	32.00 309	P	P	20 17 12.5 +0.7
TPGR	Topolog	32.00 298	⇓P	P	20 17 13.5 +1.5
AK10	Malin Array Si	32.02 309	P	P	20 17 12.7 +0.7
AK08	Malin Array Si	32.02 309	P	P	20 17 12.7 +0.7
AK07	Malin Array Si	32.04 309	P	P	20 17 12.9 +0.7
AK06	Malin Array Si	32.05 309	P	P	20 17 13.0 +0.7
AK05	Malin Array Si	32.05 309	P	P	20 17 12.9 +0.6
AKASG	Malin Array Be	32.05 309	P	P	20 17 12.6 +0.3
AKASG	Malin Array Be	32.05 309	P	P	20 17 12.8 +0.5
	comp=Z,10nm,0.5s,baz=85,slow=7.5,SNR=109				
AKASG			PcP	PcP	20 20 00.2 -1.0
	comp=Z,1.6nm,0.5s,baz=86,slow=3.5,SNR=4.2				
AKASG			LR	LR	20 33 14.4
	comp=Z,210nm,18.7s,baz=106,slow=42				
	comp=Z,10nm,0.5s				
AKASG	Malin Array Be	32.05 309	*i* P	P	20 17 12.8 +0.5
AKASG			pmax	pmax	
	comp=Z,21nm,0.6s				
AKBB	Malin Array Si	32.05 309	IAmb	IAmb	20 17 13.6
	comp=Z,20nm,0.6s				
AKBB	Malin Array Si	32.05 309c	*e*P	P	20 17 12.8 +0.5
AKBB			pmax	pmax	
	comp=Z,16nm,0.6s				
AKBB	Malin Array Si	32.05 309	P	P	20 17 12.8 +0.5
AK02	Malin Array Si	32.05 309	P	P	20 17 12.8 +0.5
AK01	Malin Array Si	32.06 309	P	P	20 17 12.9 +0.5
AK03	Malin Array Si	32.06 309	P	P	20 17 12.8 +0.4
KIEV	Kiev	32.06 309	P	P	20 17 12.5 +0.1
KIEV			IAmb	IAmb	20 17 13.6
	comp=Z,18nm,0.6s				
KIEV	Kiev	32.06 309	⇓P	P	20 17 13.2 +0.8
KIEV	Kiev	32.06 309	P	P	20 17 13.2 +0.8
KIEV	Kiev	32.06 309	*i* P	P	20 17 12.7 +0.3
	SNR=17				
KIEV	Kiev	32.06 309	P	P	20 17 12.9 +0.5
	comp=Z,1μmcomp=Z,121nm,0.9s				
KIEV	Kiev	32.06 309	P	P	20 17 12.5 +0.1
KIEV			sP	sP	20 17 28.9 +1.0
AK11	Malin Array Si	32.08 309	P	P	20 17 13.1 +0.5
AK14	Malin Array Si	32.11 309	P	P	20 17 13.3 +0.5
AK15	Malin Array Si	32.11 309	P	P	20 17 13.2 +0.3
AK23	Malin Array Si	32.12 309	P	P	20 17 13.4 +0.4
AK13	Malin Array Si	32.14 309	P	P	20 17 13.6 +0.5
AK17	Malin Array Si	32.15 309	P	P	20 17 13.7 +0.5
AK18	Malin Array Si	32.15 309	P	P	20 17 13.6 +0.4
XAN	Xi'an	32.16 82	⇑P	P	20 17 13.5 0.0
XAN			pP	pP	20 17 23.8 -0.1
XAN			pmax	pmax	
	comp=Z,45nm,1.0s				
XAN			pmax	pmax	
	comp=Z,200nm,4.5s				
XAN			LR	LR	
	comp=Z,370nm,12.4s				
XAN			LR	LR	
	comp=Z,530nm,14.5s				
XAN			LR	LR	
	comp=Z,500nm,17.9s				
AK21	Malin Array Si	32.18 309	P	P	20 17 13.7 +0.3
AK19	Malin Array Si	32.19 309	P	P	20 17 13.8 +0.3
AK20	Malin Array Si	32.19 309	P	P	20 17 13.7 +0.1
CFR	Carcaliu	32.21 299	⇑P	P	20 17 14.9 +1.1
CFR	Carcaliu	32.21 299	P	P	20 17 14.8 +1.1
SORM	Soroca	32.24 304	⇓P	P	20 17 14.8 +0.8
SORM	Soroca	32.24 304	P	P	20 17 14.8 +0.8
SORM	Soroca	32.24 304	P	P	20 17 14.3 +0.3
	comp=Z,12nm,0.8s				
GHRR		32.74 300	P	P	20 17 20.2 +1.8
LUBAR	Lubar, Ukraine	32.85 308	P	P	20 17 19.8 +0.5
HHC	Hu-ho-hao-te	32.95 69	*e*P	P	20 17 24.1 +3.7
HHC			S	S	20 22 40.3 +4.0
HHC			pmax	pmax	
	comp=Z,19nm,0.7s				
HHC			pmax	pmax	
	comp=Z,78nm,5.9s				
HHC			LR	LR	
	comp=Z,350nm,14.7s				
HHC			LR	LR	
	comp=Z,270nm,12.2s				
HHC			LR	LR	
	comp=Z,470nm,16.7s				
ODBI	Odobesti	32.98 300	⇑P	P	20 17 23.1 +2.5
MI28	Mi28,Pidlybu	33.06 309	P	P	20 17 21.1 -0.1

GYA	Guiyang	33.07 97	⇑P	P	20 17 21.9 +0.3
GYA			pmax	pmax	
	comp=Z,24nm,0.7s				
GYA			LR	LR	
	comp=Z,300nm,13.0s				
VRI	Vrincioaia	33.21 300	⇓P	P	20 17 25.0 +2.4
VRI	Vrincioaia	33.21 300	P	P	20 17 24.9 +2.4
PLOR	Plostina	33.27 300	⇓P	P	20 17 24.8 +1.7
PLOR	Plostina	33.27 300	P	P	20 17 24.7 +1.7
TESR	Tescani	33.28 301	⇑P	P	20 17 24.4 +1.3
TESR	Tescani	33.28 301	P	P	20 17 24.2 +1.0
	comp=Z,17nm,0.7s				
ISR	Istrita	33.33 299	⇑P	P	20 17 26.6 +2.8
ISR	Istrita	33.33 299	P	P	20 17 26.5 +2.8
SLVN	Son La	33.48 107	P	P	20 17 26.2 +1.0
KMPD	K-Podol'skiy	33.54 305	P	P	20 17 25.4 +0.1
COVR	Voineasa-Covas	33.58 300	⇑P	P	20 17 27.7 +1.9
MNK	Minsk	33.71 316	*i* P	P	20 17 28.0 +1.3
	comp=E,10.0nm,0.8s				
MNK			*i* P	P	20 17 28.0 +1.3
	comp=N,13nm,1.1s				
MNK			*i* P	P	20 17 28.0 +1.3
	comp=Z,17nm,1.3s,baz=105				
MNK			*i* PP	PnPn	20 18 41.0 +1.8
MNK			*i* PPP	PPP	20 18 51.0
MNK			*i* S	S	20 22 53.0 +5.5
MNK			*i* SS	SnSn	20 24 59.4 +6.4
MNK			*i* LQ	LQ	20 28 25.8
MNK			*i* LR	LR	20 31 00.9
MNK			*i* LRM	MLR	20 33 36.8
	comp=Z,283nm,15.8s				
MNK	Minsk	33.71 316	*e*P	P	20 17 28.0 +1.3
TURR	Turia	33.71 300	⇓P	P	20 17 29.3 +2.3
MLR	Muntele Rosu	33.76 299	IAmb	IAmb	20 17 31.1
	comp=Z,21nm,0.8s				
MLR	Muntele Rosu	33.76 299	LR	LR	20 35 46.1
	comp=Z,337nm,18.5s,baz=62,slow=44				
MLR	Muntele Rosu	33.76 299	⇓P	P	20 17 30.0 +2.5
MLR	Muntele Rosu	33.76 299	P	P	20 17 30.0 +2.5
ELND	Elena	33.89 295	⇑P	P	20 17 29.8 +1.3
BOSR	Bodos	33.96 300	⇓P	P	20 17 30.8 +1.7
KARP	Karpathos	34.06 281	P	P	20 17 31.4 +1.3
	comp=Z,67nm,1.0s				
TIY	Taiyuan	34.09 75	P	P	20 17 35.4 +5.1
TIY			S	S	20 22 56.6 +2.7
TIY			pmax	pmax	
	comp=Z,120nm,6.7s				
TIY			LR	LR	
	comp=Z,340nm,19.2s				
TIY			LR	LR	
	comp=Z,160nm,10.2s				
TIY			LR	LR	
	comp=Z,190nm,15.1s				
DOPR	Dopca	34.15 300	⇑P	P	20 17 32.8 +2.0
RNPP5	Staryi Chortor	34.22 310	P	P	20 17 32.0 +0.8
RNPP9	Sopachiv	34.25 310	P	P	20 17 31.9 +0.5
RNPP8	Varash	34.26 310	P	P	20 17 32.4 +0.9
BURAR	Bucovina Array	34.31 303	P	P	20 17 33.1 +1.0
BURAR	Bucovina Array	34.31 303	⇑P	P	20 17 33.6 +1.4
BURAR	Bucovina Array	34.31 303	P	P	20 17 33.6 +1.4
VOIR		34.39 299	⇓P	P	20 17 34.5 +1.7
VOIR		34.39 299	P	P	20 17 34.5 +1.7
VOIR		34.39 299	P	P	20 17 34.2 +1.3
	comp=Z,261nmcomp=Z,8.9nm,0.7s				
NACGM	Naroch	34.43 316	*e*P	P	20 17 32.5 -0.5
ATD	Arta Tunnel	34.50 231	LR	LR	20 34 42.2
	comp=Z,4.6nm,19.5s,baz=46,slow=42				
CIT	Chita	34.64 49	*e*P	P	20 17 35.8 +0.9
CIT			*e*		20 17 42.4
CIT			*e*		20 18 52.4
CIT			pmax	pmax	
	comp=Z,99nm,1.3s				
ARR	Arges	34.68 299	⇑P	P	20 17 37.1 +1.7
LYN	LuoYang	34.85 80	P	P	20 17 39.1 +2.2
LYN			pP	pP	20 17 43.6 -3.7
LYN			pmax	pmax	
	comp=Z,66nm,1.2s				
LYN			pmax	pmax	
	comp=Z,200nm,4.5s				
LYN			LR	LR	
	comp=Z,520nm,16.8s				
LYN			LR	LR	
	comp=Z,500nm,16.1s				
LYN			LR	LR	
	comp=Z,700nm,15.8s				
LOT	Lotru	35.29 299	⇓P	P	20 17 42.1 +1.4
JOF	Joensuu	35.34 331	*e*P	P	20 17 41.5 +0.8
BMR	Baia Mare	35.47 303	P	P	20 17 44.5 +2.4
VSU	Vasula	35.50 322c	*i*P	P	20 17 41.7 -0.5
VSU			pmax	pmax	
	comp=Z,59nm,0.8s				
VSU	Vasula	35.50 322	*e*P	P	20 17 42.0 -0.1
MARR	Marisel-Cluj	35.72 301	⇑P	P	20 17 46.2 +1.9
DEV	Deva	35.88 300	P	P	20 17 48.4 +2.8
HNS	HongShan	35.92 75	⇑P	P	20 17 47.3 +1.3
HNS			pmax	pmax	
	comp=Z,17nm,1.0s				
HNS			LR	LR	
	comp=Z,320nm,13.7s				
HNS			LR	LR	
	comp=Z,190nm,15.9s				
HNS			LR	LR	
	comp=Z,290nm,17.5s				
GZR	Gura Zlata	35.99 299	⇓P	P	20 17 47.7 +1.1
GZR	Gura Zlata	35.99 299	P	P	20 17 47.7 +1.1
DRGR		36.00 302	⇑P	P	20 17 48.7 +1.9
DRGR		36.00 302	P	P	20 17 48.6 +1.9
XLT	XiLinHaoTe	36.00 63	*e*P	P	20 17 48.8 +2.0
XLT			pmax	pmax	
	comp=Z,9.0nm,1.3s				
XLT			LR	LR	
	comp=Z,47nm,20.7s				
XLT			LR	LR	
	comp=Z,230nm,14.0s				
XLT			LR	LR	
	comp=Z,280nm,15.0s				
KWP	Kalwaria Pacla	36.08 306	P	P	20 17 49.2 +1.9
KWP			pmax	pmax	
	comp=Z,23nm,0.8s				
KWP	Kalwaria Pacla	36.08 306	P	P	20 17 48.6 +1.3
	comp=Z,23nm,0.8s				
PABE	Paberze	36.14 317	*e*P	P	20 17 48.2 +0.6
ARBE	Arbavere	36.20 323	*e*P	P	20 17 48.9 +0.8
BOD	Bodaibo	36.20 39	*e*P	P	20 17 48.6 +0.4
BOD			pmax	pmax	
	comp=Z,57nm,1.0s				
KOLS	Kolonicke sedl	36.33 305	*e*P	P	20 17 51.3 +1.9
KOLS			pmax	pmax	
	comp=Z,7.0nm,0.6s				
KOLS	Kolonicke sedl	36.33 305	*e*P	P	20 17 51.3 +1.9
SURR	Surduc	36.43 300	⇑P	P	20 17 52.4 +2.0
BJT	Baijiatuau	36.54 70	P	P	20 17 52.5 +1.2
BJT			pP	sP	20 18 04.5 -1.4
BJT			PcP	PcP	20 20 13.9 -0.4
BJI	Beijing	36.54 70	P	P	20 17 52.8 +1.5
BJI			PcP	PcP	20 20 14.3 0.0
BJI			S	S	20 23 33.3 +1.9
BJI			pmax	pmax	
	comp=Z,4.0nm,1.1s				
BJI			LR	LR	
	comp=Z,110nm,12.8s				
BJI			LR	LR	
	comp=Z,180nm,13.7s				
BJI			LR	LR	
	comp=Z,310nm,17.7s				
SIRR	Siria	36.74 301	⇓P	P	20 17 54.9 +1.9
MDVR	Moldovita	36.77 298	⇑P	P	20 17 55.0 +1.7
BZS	Buzias	36.79 300	⇓P	P	20 17 55.4 +1.9
BZS	Buzias	36.79 300	P	P	20 17 55.3 +1.9
BOVS	Bovan	36.87 296	⇑P	P	20 17 55.8 +1.7
FINES	FINESS Array B	36.88 327	P	P	20 17 54.4 +0.5
FINES	FINESS Array B	36.88 327	P	P	20 17 54.7 +0.7
	comp=Z,17nm,0.6s,baz=119,slow=11,SNR=64				
FINES			LR	LR	20 34 10.5
	comp=Z,323nm,18.9s,baz=108,slow=38				
	comp=Z,17nm,0.6s				
STHS	Stebnicka Huta	37.02 306	*e*P	P	20 17 55.7 +0.4
STHS	Stebnicka Huta	37.02 306	*e*P	P	20 17 55.7 +0.4
LVZ	Lovozero	37.10 339	P	P	20 17 55.9 +0.2
LVZ	Lovozero	37.10 339⇑	*i*P	P	20 17 56.2 +0.4
LVZ			pmax	pmax	
	comp=Z,31nm,1.8s				
LVZ	Lovozero	37.10 339	P	P	20 17 56.0 +0.2
LVZ			pP	pP	20 18 07.3 +1.1

LVZ			sP	sP	20 18 12.7 +1.7
MEF	Metsahovi	37.21 324	*e*P	P	20 17 57.9 +1.1
APA	Apatity	37.26 338	*e*P	P	20 17 56.2 -0.9
APA			*e*		20 19 21.1
APA			*e*SS	SS	20 26 17.6 -7.8
APA			MLR	MLR	
	comp=Z,867nm,11.3s				
PBUR	Paburge	37.37 317	*e*P	P	20 17 59.2 +1.0
FNA	Florina	37.48 292	P	P	20 18 00.3 +0.9
FNA			pmax	pmax	
	comp=Z,9.0nm,0.7s				
SLIT	Slitere, Latvi	37.53 320	*e*P	P	20 17 59.2 -0.3
WHN	Wuhan	37.62 86	P	P	20 18 09.8 +9.2
WHN			LR	LR	
	comp=Z,630nm,16.1s				
NIE	Niedzica	37.64 306	*e*P	P	20 18 02.5 +2.0
NIE	Niedzica	37.64 306	P	P	20 18 02.7 +2.1
NIE			pmax	pmax	
	comp=Z,9.0nm,0.9s				
KEF	Keuruu	37.69 327	*e*P	P	20 18 01.3 +0.5
PSZ	Piszkesteto	37.90 304	⇓P	P	20 18 04.4 +1.5
PSZ	Piszkesteto	37.90 304	P	P	20 18 04.3 +1.5
PSZ	Piszkesteto	37.90 304	*e*P	P	20 18 02.9 0.0
OJC	Ojcow	37.98 307	*e*P	P	20 18 04.3 +0.9
OJC	Ojcow	37.98 307	P	P	20 18 03.9 +0.5
OJC	Ojcow	37.98 307	P	P	20 18 04.2 +0.8
	comp=Z,15nm,0.8s				
TIA	Tai'an	38.08 76	P	P	20 18 05.9 +1.4
TIA			pmax	pmax	
	comp=Z,25nm,0.9s				
UBPT	Khong Chiam	38.31 114	IAmb	IAmb	20 18 06.7
	comp=Z,23nm,1.0s				
UBPT	Khong Chiam	38.31 114	P	P	20 18 06.1 -0.4
RAF	Rauma	38.70 325	*e*P	P	20 18 09.7 +0.4
MORH	Mrgy, Hungar	38.83 301	⇑P	P	20 18 11.5 +0.9
SRO	Srobarova	38.97 303	*e*P	P	20 18 15.7 +4.0
SRO			pmax	pmax	
	comp=Z,12nm,0.7s				
SRO	Srobarova	38.97 303	*e*P	P	20 18 15.7 +4.0
STEB	Steborice	39.28 307	*e*P	P	20 18 15.6 +1.2
STEB			*e*x	x	20 18 21.4
QIZ	Qiongzhong	39.38 105	P	P	20 18 16.3 +0.9
QIZ			S	S	20 24 17.0 +2.3
QIZ			LR	LR	
	comp=Z,150nm,10.4s				
QIZ			LR	LR	
	comp=Z,250nm,12.6s				
QIZ			LR	LR	
	comp=Z,260nm,15.3s				
MORC	Moravsky Berou	39.43 307	*e*P	P	20 18 16.7 +1.0
MORC	Moravsky Berou	39.43 307	⇓P	P	20 18 17.4 +1.7
MORC	Moravsky Berou	39.43 307	P	P	20 18 17.3 +1.7
GKP	Gorka Klasztor	39.72 312	*e*P	P	20 18 18.8 +0.9
GKP	Gorka Klasztor	39.72 312	*e*P	P	20 18 19.0 +1.1
KRLC	Kraliky	39.92 307	*e*P	P	20 18 21.2 +1.5
KRLC	Kraliky	39.92 307	*e*P	P	20 18 21.2 +1.5
VRAC	Vranov	40.06 306	LR	LR	20 39 25.9
	comp=Z,165nm,18.3s,baz=80,slow=43				
VRAC	Vranov	40.06 306	*e*P	P	20 18 21.9 +1.1
VRAC	Vranov	40.06 306	⇓P	P	20 18 22.8 +2.0
VRAC	Vranov	40.06 306	P	P	20 18 22.8 +2.0
KRUC	Moravsky	40.20 305	*e*P	P	20 18 22.9 +0.9
DPC	Dobruska-Polom	40.21 307	*e*P	P	20 18 23.8 +1.6
DPC			MLR	MLR	
	comp=Z,200nm,14.3s				
DPC	Dobruska-Polom	40.21 307	*e*P	P	20 18 23.8 +1.6
DPC			AMS	AMS	20 39 00.0
	comp=Z,200nm,14.3s				
DPC	Dobruska-Polom	40.21 307	P	P	20 18 23.7 +1.6
	comp=Z,12nm,0.7s				
KSP	Ksiaz	40.23 308	*e*P	P	20 18 23.3 +1.1
KSP	Ksiaz	40.23 308	P	P	20 18 23.8 +1.6
KSP	Ksiaz	40.23 308	P	P	20 18 23.3 +1.1
OSTC	Ostas	40.28 308	*e*P	P	20 18 24.3 +1.6
OSTC	Ostas	40.28 308	*e*P	P	20 18 24.3 +1.6
SJUU	Sjulsmark	40.30 331	*e*P	P	20 18 23.3 +0.8
RONA	Rosalia, Austr	40.33 303	*e*P	P	20 18 24.2 +1.1
	comp=Z,3.9nm,0.6s				
CHVC	Chvalec	40.38 308	*e*P	P	20 18 25.1 +1.6
CHVC	Chvalec	40.38 308	*e*P	P	20 18 25.1 +1.6
UPP	Uppsala	40.39 322	*e*P	P	20 18 24.0 +0.6
UPC	Upice	40.41 308	*e*P	P	20 18 25.4 +1.7
UPC			*e*		20 18 30.3
UPC			MLR	MLR	
	comp=Z,300nm,14.0s				
UPC	Upice	40.41 308	*e*P	P	20 18 25.4 +1.7
UPC			*e*x	x	20 18 30.3
UPC			AMS	AMS	20 39 00.0
	comp=Z,300nm,14.0s				
CONA	Conrad Observa	40.61 304	*e*P	P	20 18 26.9 +1.4
	comp=Z,6.9nm,0.8s				
NJ2	Nanjing	40.70 81	*e*P	P	20 18 27.4 +1.1
NJ2			pmax	pmax	
	comp=Z,11nm,0.7s				
ARA0	ARCESS Array S	40.77 338	*e*P	P	20 18 27.2 +0.8
ARCES	ARCESS Array B	40.77 338	P	P	20 18 27.0 +0.6
ARCES			IAmb	IAmb	20 18 28.4
	comp=Z,31nm,1.2s				
ARCES	ARCESS Array B	40.77 338	P	P	20 18 27.0 +0.6
	comp=Z,6.5nm,0.6s,baz=118,slow=7.8,SNR=45				
ARCES			LR	LR	20 36 38.7
	comp=Z,269nm,18.2s,baz=120,slow=38				
	comp=Z,6.5nm,0.6s				
BLEU	Blekinge	40.80 317	*i* P	P	20 18 27.5 +0.7
BLEU			IAmb	IAmb	20 18 27.8
	comp=Z,6.8nm,0.6s				
DL2	Dalian	40.90 70	P	P	20 18 29.0 +1.1
DL2			S	S	20 24 37.6 +0.5
DL2			pmax	pmax	
	comp=Z,35nm,0.7s				
DL2			LR	LR	
	comp=Z,280nm,16.4s				
DL2			LR	LR	
	comp=Z,380nm,16.9s				
DL2			LR	LR	
	comp=Z,450nm,17.5s				
KTK1	Kautokeino	41.21 337	*e*P	P	20 18 30.5 +0.5
PERS	Pernice	41.22 302	*i* P	P	20 18 31.8 +1.3
SOKA	Soboth	41.28 302	*i* P	P	20 18 32.4 +1.4
	comp=Z,8.6nm,0.6s				
PRU	Pruhonice	41.37 307	*e*P	P	20 18 33.1 +1.5
PRU			MLR	MLR	
	comp=Z,200nm,14.6s				
PRU	Pruhonice	41.37 307	*e*P	P	20 18 33.1 +1.5
PRU			AMS	AMS	20 39 10.0
	comp=Z,200nm,14.6s				
PRA	Prague	41.44 307	AMS	AMS	20 39 10.0
	comp=Z,300nm,13.1s				
CKRC	Cesky Krumlov	41.58 305	*e*P	P	20 18 34.8 +1.4
CKRC			MLR	MLR	
	comp=Z,200nm,13.1s				
CKRC	Cesky Krumlov	41.58 305	*e*P	P	20 18 34.8 +1.4
CKRC			AMS	AMS	20 39 50.0
	comp=Z,200nm,13.1s				
ZVC	Zvikov	41.62 306	*e*P	P	20 18 35.4 +1.7
ZVC			*e*x	x	20 18 39.4
MOA	Molln	41.69 304	*e*P	P	20 18 35.2 +0.9
	comp=Z,5.7nm,0.6s,SNR=5.7				
BRG	Berggiesshubel	41.72 308	*e*P	P	20 18 37.0 +2.5
	comp=Z,13nm,0.6s,baz=85,slow=8.0				
BRG	Berggiesshubel	41.72 308	*i* P	P	20 18 37.0 +2.5
BRG			Amp		20 18 37.8
	comp=Z,13nm,0.6s				
BRG	Berggiesshubel	41.72 308	P	P	20 18 40.2 +5.8
BRG			Amp		20 18 40.8
	comp=Z,7.9nm,0.7s				
MOZS	Mozjanca	41.72 301	*i* P	P	20 18 35.9 +1.3
CUC	Castrocucco	41.80 292	P	P	20 18 36.0 +0.7
HAMF	Hammerfest	41.87 339	*e*P	P	20 18 36.6 +1.2
DEL	Delary	41.89 317	*i* P	P	20 18 36.6 +0.8
GEC2	GERESS Array S	41.98 305	*e*P	P	20 18 37.8 +1.0
	comp=Z,3.0nm,0.8s,baz=85,slow=8.0				
GERES	GERESS Array B	41.98 305	P	P	20 18 37.8 +1.0
	comp=Z,1.5nm,0.5s,baz=89,slow=7.9,SNR=16				
GERES			PcP	PcP	20 20 31.8 +0.3
	comp=Z,1.7nm,0.7s,baz=109,slow=4.0,SNR=7.3				
	comp=Z,1.5nm,0.5s				
KHC	Kasperske Hory	42.04 306⇑	*e*P	P	20 18 38.0 +0.8
KHC			pmax	pmax	
	comp=Z,2.0nm,0.7s				
KHC	Kasperske Hory	42.04 306	*e*P	P	20 18 38.4 +1.2
KHC			*e*x	x	20 18 44.1
KHC			AMS	AMS	20 40 40.0
	comp=Z,200nm,12.8s				

LUNU Lund 42.07 315 *i* P **P** **20 18 38.3 +1.0**
BIOA Bad Ischl, Aus 42.12 304 *i* P **P** **20 18 38.7 +0.8**
comp=Z,3.3nm,0.5s
MYKA Terra Mystica 42.23 302 *i* P **P** **20 18 39.5 +0.6**
comp=Z,3.1nm,0.5s
CLL Collm 42.30 309⇓ *i* P **P** **20 18 40.2 +1.1**
CLL *i* 20 20 31.6
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL Collm 42.30 309 *eP* **P** **20 18 40.1 +0.9**
comp=Z,5.5nm,0.7s,baz=85,slow=8.0
CLL eL L 20 40 30.6
comp=Z,76nm,19.2s
CLL Collm 42.30 309⇓ *i* P **P** **20 18 40.2 +1.1**
comp=Z,6.0nm,0.7s
CLL *i* x x 20 18 43.2
CLL *e*PP **PP** **20 20 17.0 -0.3**
CLL *i* PcP **PcP** **20 20 31.6 -0.7**
CLL *e*PPIp 20 20 37.0
CLL *ex* x 20 20 44.0
CLL *i* PPP PPP 20 20 52.1
CLL *e*PPPP 20 20 59.0
CLL *ex* x 20 25 40.0
CLL *ex* x 20 26 54.0
CLL *e*SS SS 20 28 21.0 +15
BJUU Bjuv 42.33 316 *i* P **P** **20 18 40.1 +0.7**
JETT Jettan, Norway 42.36 337 *eP* **P** **20 18 39.8 +0.3**
ROBS Robic 42.37 301 *i* P **P** **20 18 40.6 +0.7**
HFS Hagfors 42.39 322 P **P** **20 18 40.2 +0.5**
comp=Z,55nm,0.6s,baz=98,slow=11,SNR=206
HFS PcP **PcP** **20 20 32.7 +0.2**
comp=Z,2.3nm,0.4s,baz=99,slow=4.5,SNR=1.2
HFS LR LR 20 39 31.2
comp=Z,195nm,18.8s,baz=96,slow=41
comp=Z,55nm,0.6s
KBA Koelnbreinsper 42.39 303 *i* P **P** **20 18 41.1 +1.0**
comp=Z,2.6nm,0.7s
WET Wettzell 42.50 306 *e*L L 20 41 42.0
comp=Z,96nm,18.9s
FABU Falkenberg 42.56 317 *i* P **P** **20 18 41.7 +0.5**
BORU Boraas 42.58 318 *i* P **P** **20 18 42.4 +1.0**
TANN Tannenbergstha 42.68 308 *eP* **P** **20 18 43.6 +1.2**
comp=Z,3.1nm,0.8s,baz=85,slow=8.0
LESA Schwarzleotal 42.80 303 *i* P **P** **20 18 44.2 +0.8**
comp=Z,4.9nm,0.4s
PLN Plauen 42.87 308 *eP* **P** **20 18 45.1 +1.3**
comp=Z,1.9nm,0.8s,baz=85,slow=8.0
ROTZ Rotzenmuhle 42.89 307 *eP* **P** **20 18 45.8 +1.8**
comp=Z,4.2nm,1.6s,baz=85,slow=8.0
MANZ Manzenberg 42.94 307 *eP* **P** **20 18 46.0 +1.6**
comp=Z,1.1nm,0.8s,baz=85,slow=8.0
ABTA Abfaltersbach 42.99 302 *eP* **P** **20 18 45.4 +0.4**
comp=Z,3.4nm,1.0s
IPM Ipoh 43.01 130 P **P** **20 18 44.8 -0.5**
IPM IAmb IAmb 20 18 46.0
comp=Z,33nm,0.9s
IPM Ipoh 43.01 130 P **P** **20 18 45.4 +0.1**
ONAU Önsala 43.02 318 *i* P **P** **20 18 44.9 0.0**
ZEA Zeya 43.04 47 *eP* **P** **20 18 47.1 +2.0**
ZEA pmax pmax
comp=Z,100nm,1.0s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA MLR MLR
comp=Z,100nm,16.0s
NEUB Neuenburg 43.07 309 *eP* **P** **20 18 46.5 +1.1**
comp=Z,12nm,0.7s,baz=85,slow=8.0
PSI Prapat 43.08 134 P **P** **20 18 45.5 -0.5**
MOX Moxa 43.21 308 *eP* **P** **20 18 47.9 +1.3**
comp=Z,4.7nm,0.6s,baz=85,slow=8.0
MOX eL L 20 38 21.3
comp=Z,70nm,19.8s
HEH HeiHe 43.28 53 *eP* **P** **20 18 48.3 +1.2**
HEH pmax pmax
comp=Z,80nm,0.6s
HEH LR LR
comp=Z,160nm,21.2s
HEH LR LR
comp=Z,290nm,20.8s
HEH LR LR
comp=Z,500nm,19.0s
GORT1 Trebel 43.29 311 *eP* **P** **20 18 48.4 +1.3**
comp=Z,20nm,1.3s,baz=85,slow=8.0
MOR8 Moi Rana 43.30 331 *eP* **P** **20 18 47.2 0.0**
FAUS Fauske 43.32 333 *eP* **P** **20 18 47.9 +0.7**
NC405 NORSAR Array S 43.49 323 IAmb IAmb 20 18 50.0
comp=Z,28nm,0.8s
WTTA Wattenberg 43.52 303 *i* P **P** **20 18 49.6 +0.2**
comp=Z,3.2nm,0.5s
WTTA *e*PP **PcP** **20 20 36.3 -0.5**
comp=Z,2.9nm,0.5s
NC602 NORSAR Array S 43.52 323 IAmb IAmb 20 18 49.5
comp=Z,14nm,0.7s
NC602 NORSAR Array S 43.52 323 *eP* **P** **20 18 49.2 +0.2**
NORES NORESS Array B 43.52 323 P **P** **20 18 49.0 0.0**
STRU Stroemstad 43.53 320 *eP* **P** **20 18 49.1 +0.1**
STRU Stroemstad 43.53 320 *i* P **P** **20 18 49.2 +0.2**
GRF Grafenberg Arr 43.53 307 *eP* **P** **20 18 51.3 +2.0**
baz=85,slow=8.0
GRF eL L 20 41 19.6
comp=Z,160nm,18.8s
MURB Monte Urbino 43.54 297 IAmb IAmb 20 18 52.6
comp=Z,22nm,0.9s
GSI Gunungsitoli 43.55 137 P **P** **20 18 50.3 +0.7**
GSI Gunungsitoli 43.55 137 P **P** **20 18 50.4 +0.8**
GSI Gunungsitoli 43.55 137 P **P** **20 18 50.3 +0.7**
comp=Z,110nm,1.0s
WATA Walderalm 43.55 303 *i* P **P** **20 18 49.6 0.0**
comp=Z,3.1nm,0.7s
FUR Furstenfeldbru 43.65 304 *eP* **P** **20 18 51.6 +1.3**
comp=Z,9.5nm,0.7s,baz=85,slow=8.0
FUR eL L 20 38 48.7
comp=Z,97nm,19.1s
NC303 NORSAR Array S 43.67 323 P **P** **20 18 50.2 +0.1**
NB201 NORSAR Array S 43.68 323 IAmb IAmb 20 18 50.9
comp=Z,23nm,0.6s
NB2 NORSAR Subarra 43.72 323 P **P** **20 18 50.4 -0.2**
comp=Z,22nm,0.6s,baz=98,slow=7.9
NB2 NORSAR Subarra 43.72 323 P **P** **20 18 50.5 -0.2**
NB2 pmax pmax
comp=Z,2.0nm,0.4s
NB2 NORSAR Subarra 43.72 323 P **P** **20 18 50.4 -0.2**
baz=98,slow=7.9
NOA NORSAR Array B 43.72 323 P **P** **20 18 50.6 0.0**
comp=Z,16nm,0.5s,baz=99,slow=8.0,SNR=125
NOA LR LR 20 40 24.0
comp=Z,139nm,18.5s,baz=100,slow=41
comp=Z,16nm,0.5s
BNX BinXian 43.80 59⇓ P **P** **20 18 52.8 +1.4**
BNX pmax pmax
comp=Z,12nm,0.8s
LEIR Leirfjorden 43.81 331 *eP* **P** **20 18 51.5 +0.3**
SQTA Sankt Quirin 43.81 303 *i* P **P** **20 18 51.6 0.0**
comp=Z,3.4nm,0.5s
SQTA *e*PcP **PcP** **20 20 37.5 -0.2**
comp=Z,5.5nm,0.7s
NAO01 NORSAR Array S 43.85 323 IAmb IAmb 20 18 52.5
comp=Z,25nm,1.2s
MOTA Moosalm 43.87 303 *eP* **P** **20 18 52.0 -0.1**
comp=Z,5.9nm,0.7s,SNR=7.0
MOTA *e*PcP **PcP** **20 20 37.3 -0.7**
comp=Z,5.4nm,0.7s
CLZ Clausthal 43.91 310 *eP* **P** **20 18 53.5 +1.2**
baz=85,slow=8.0
NRDL Niedersach Rie 44.04 311 *eP* **P** **20 18 54.6 +1.5**
comp=Z,7.2nm,0.7s,baz=85,slow=8.0
RETA Reutte 44.08 304 *i* P **P** **20 18 54.0 +0.2**
comp=Z,4.7nm,0.6s
RETA *e*PcP **PcP** **20 20 38.5 -0.1**
comp=Z,2.1nm,0.7s
FETA Feichten 44.17 303 *i* P **P** **20 18 54.6 +0.1**
comp=Z,7.7nm,0.6s,SNR=4.1
FETA *e*PP **PP** **20 20 38.4 +0.8**
comp=Z,6.5nm,0.6s
GTTG Gottingen 44.18 309 *eP* **P** **20 18 55.8 +1.4**
comp=Z,12nm,0.6s,baz=85,slow=8.0
UBBA Unterbreizbach 44.22 308 *eP* **P** **20 18 55.8 +1.3**
comp=Z,6.8nm,0.5s,baz=85,slow=8.0
KONO Kongsberg 44.39 321*c* *i* P **P** **20 18 56.1 +0.2**
KONO pmax pmax
comp=Z,14nm,0.6s
KONO Kongsberg 44.39 321 *eP* **P** **20 18 56.3 +0.4**
KONO Kongsberg 44.39 321 P **P** **20 18 56.1 +0.2**
KONO pP **pP** **20 19 08.2 +1.9**
DAVA Damuels 44.70 303 *i* P **P** **20 18 59.0 +0.2**
comp=Z,15nm,0.6s
DAVA *e*PcP **PcP** **20 20 40.5 -0.3**
comp=Z,7.7nm,1.0s
YAK Yakutsk 44.76 36 P **P** **20 18 58.7 0.0**
YAK Yakutsk 44.76 36 LR LR 20 39 28.7
comp=Z,127nm,18.0s,baz=216,slow=38
YAK Yakutsk 44.76 36*c* *i* P **P** **20 18 58.8 0.0**
YAK *e**PP **pP** **20 19 10.0 +0.7**
YAK *e* 20 20 38.7
YAK *e* 20 20 43.9
YAK *e*PPP PPP 20 21 21.5
YAK *e*S **S** **20 25 33.8 +0.7**
YAK *e**SS **sS** **20 25 53.1 +2.6**
YAK *e* 20 28 52.8
YAK *e*SSS SSS 20 29 42.4
YAK pmax pmax
comp=Z,86nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,22nm,1.3s
YAK pmax pmax
comp=Z,45nm,3.3s
YAK pmax pmax
comp=N,29nm,2.5s
YAK pmax pmax
comp=E,35nm,3.2s
YAK smax smax
comp=E,51nm,3.8s
YAK smax smax
comp=N,35nm,2.7s
YAK Yakutsk 44.76 36 P **P** **20 18 59.0 +0.2**
YAK pP **pP** **20 19 10.4 +1.1**
DAVOX Davos/Dischmat 44.78 303 LR LR 20 43 16.3
comp=N,124nm,18.3s,baz=72,slow=44
HOMB Homborsund 44.88 319 *i* P **P** **20 19 00.4 +0.6**
HOMB IAmb IAmb 20 19 01.2
comp=Z,12nm,0.6s
MNSI Mandailing Nat 45.09 135 P **P** **20 19 02.0 0.0**
comp=Z,91nm,0.8s
SKAR Skarsla 45.10 323 *eP* **P** **20 19 03.0 +1.3**
TUE Stuetta 45.19 302 P **P** **20 19 02.2 -0.5**
TNS Taunus Mts 45.26 308 *eL* L 20 39 34.1
comp=Z,80nm,20.3s
HLG Helgoland 45.28 313 *eL* L 20 40 58.3
comp=Z,242nm,21.0s
LODK Lodwar 45.43 232 P **P** **20 19 04.7 -0.2**
LODK Lodwar 45.43 232 P **P** **20 19 06.5 +1.7**
SNR=7.8
IBBN Ibbenburen 45.49 311 *eP* **P** **20 19 05.8 +1.1**
comp=Z,15nm,0.7s,baz=85,slow=8.0
MDJ Mudanjiang 45.52 60 P **P** **20 19 08.3 +3.2**
MDJ pmax pmax
comp=Z,18nm,2.3s
SNART Snartemo 45.57 319 *eP* **P** **20 19 06.5 +1.2**
SNART Snartemo 45.57 319 *i* P **P** **20 19 06.3 +1.0**
BFO Black Forest 45.58 305 *e*L L 20 42 09.1
comp=Z,125nm,18.2s
MOL Molde 45.61 325 *eP* **P** **20 19 06.4 +0.8**
SSLB Suanglung 45.79 91 P **P** **20 19 08.1 +0.5**
SSLB IAmb IAmb 20 19 09.5
comp=Z,16nm,0.7s
SSLB Suanglung 45.79 91 P **P** **20 19 08.9 +1.3**
BLS5 Blasjo 45.98 321 *eP* **P** **20 19 09.9 +1.4**
KS19 Wonju Array Si 46.01 70 P **P** **20 19 09.9 +0.8**
KS19 IAmb IAmb 20 19 10.6
comp=Z,34nm,1.4s
KSAR Wonju Array Be 46.04 70 P **P** **20 19 09.0 -0.3**
KSAR Wonju Array Be 46.04 70 P **P** **20 19 09.0 -0.3**
KSRS Korea Array 46.07 70 P **P** **20 19 09.8 +0.2**
comp=Z,5.1nm,0.7s,baz=276,slow=6.9,SNR=18
KSRS PcP **PcP** **20 20 44.0 -1.4**
comp=Z,4.4nm,0.9s,baz=290,slow=3.3,SNR=6.2
comp=Z,5.1nm,0.7s
KLR Kul'dur 46.19 54 LR LR 20 40 14.7
comp=Z,195nm,19.8s,baz=218,slow=38
YULB Yu-li 46.25 91 P **P** **20 19 12.2 +1.0**
YULB IAmb IAmb 20 19 13.4
comp=Z,15nm,0.9s
BKNI Bangkinang 46.31 134 P **P** **20 19 11.6 -0.1**
TIXI Tiksi 46.32 22 P **P** **20 19 11.2 +0.2**
TIXI Tiksi 46.32 22 LR LR 20 40 21.1
comp=Z,266nm,18.4s,baz=223,slow=38
TIXI Tiksi 46.32 22*c* *i* P **P** **20 19 11.7 +0.7**
TIXI pmax pmax
comp=Z,48nm,0.8s
TIXI Tiksi 46.32 22 P **P** **20 19 11.1 +0.1**
TWGBT Beinan 46.35 92 P **P** **20 19 13.8 +1.8**
ECH Echery 46.37 305 P **P** **20 19 12.4 +0.5**
ECH Echery 46.37 305 P **P** **20 19 12.2 +0.3**
BER Bergen 46.56 322 *eP* **P** **20 19 13.9 +0.9**
PPI Padang Panjang 46.58 135 P **P** **20 19 13.6 -0.1**
comp=Z,75nm,0.7s
SENIN Lac Senin/Sane 46.60 303 IAmb IAmb 20 19 15.1
comp=Z,9.3nm,0.7s
BTNL Teell 46.69 308 *dP* **P** **20 19 15.0 +0.7**
comp=Z,6.0nm,1.0s
MEM Membach 46.76 309 *dP* **P** **20 19 15.9 +1.1**
comp=Z,7.4nm,0.9s
WLF Walferdange 46.80 307 IAmb IAmb 20 19 17.8
comp=Z,16nm,1.1s
WLF Walferdange 46.80 307 *dP* **P** **20 19 16.6 +1.4**
comp=Z,8.1nm,0.9s
WLF Walferdange 46.80 307 *eP* **P** **20 19 16.9 +1.7**
comp=Z,15nm,1.1s,baz=85,slow=8.0
PSTR Posyet 46.80 63⇑ *i* P **P** **20 19 15.6 +0.4**
MSHR Mys Shultsa 47.08 63⇑ *i* P **P** **20 19 18.4 +1.1**
MSHR pmax pmax
comp=Z,67nm,1.8s
BCLA Clavier 47.23 308 *dP* **P** **20 19 17.8 -0.7**
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 47.28 60 P **P** **20 19 18.5 -0.5**
comp=Z,5.4nm,0.8s,baz=276,slow=6.3,SNR=6.6
USRK PcP **PcP** **20 20 49.1 -0.6**
comp=Z,3.6nm,0.5s,baz=316,slow=3.7,SNR=5.8
USRK LR LR 20 41 44.6
comp=Z,379nm,19.7s,baz=267,slow=39
comp=Z,5.4nm,0.8s
BNI Bardonecchia 47.30 301 P **P** **20 19 19.6 +0.4**
BNI IAmb IAmb 20 19 20.9
comp=Z,29nm,1.8s
BNI Bardonecchia 47.30 301 P **P** **20 19 19.6 +0.4**
BNI pmax pmax
comp=Z,29nm,1.8s
SPITS Spitsbergen Ar 47.31 347 P **P** **20 19 19.9 +1.1**
comp=Z,16nm,0.8s,baz=120,slow=9.7,SNR=9.8
SPITS LR LR 20 43 15.9
comp=Z,210nm,18.2s,baz=128,slow=41
comp=Z,16nm,0.8s
RCHB Rochefort 47.32 308 *dP* **P** **20 19 20.4 +1.2**
comp=Z,4.2nm,0.9s
VLA Vladivostok 47.46 62⇓ *i* P **P** **20 19 21.2 +0.8**
VLA pmax pmax
comp=Z,99nm,2.1s
BMRD Maredsous 47.59 308 *dP* **P** **20 19 22.6 +1.4**
comp=Z,4.4nm,0.9s
KMBO Kilima Mbogo 47.87 226 P **P** **20 19 20.2 -3.9**
comp=Z,1.9nm,0.3s,baz=36,slow=10,SNR=4.6
comp=Z,1.9nm,0.3s
KEST Kesra 47.90 288 P **P** **20 19 25.3 +1.3**
comp=Z,9.9nm,0.8s,baz=103,slow=0.4,SNR=17
comp=Z,9.9nm,0.8s
KEST Kesra 47.90 288 P **P** **20 19 25.9 +1.9**
SNR=8.3
KIBK Kibwezi 48.41 224 P **P** **20 19 28.2 +0.2**
KIBK Kibwezi 48.41 224 P **P** **20 19 28.2 +0.2**
KBS Kingsbay 48.43 347 P **P** **20 19 28.8 +1.4**
KBS Kingsbay 48.43 347 P **P** **20 19 28.8 +1.4**
KBS pmax pmax
comp=Z,37nm,0.8s
KBS Kingsbay 48.43 347 P **P** **20 19 28.6 +1.2**
SSB Saint Sauveur 48.72 302 P **P** **20 19 30.4 +0.3**
SSB Saint Sauveur 48.72 302 P **P** **20 19 30.9 +0.7**
SSB pP **pP** **20 19 42.8 +2.1**
GRNR Gornyy 48.92 51⇑ *i* P **P** **20 19 29.4 -2.1**
GRNR pmax pmax
comp=Z,4.0nm,0.8s
GRNR MLR MLR
comp=N,130nm,12.0s
GRNR MLR MLR
comp=Z,160nm,15.0s
CLF Chambon-Foret 49.63 306 IAmb IAmb 20 19 38.5
comp=Z,26nm,1.2s
JNU Nakatsue 49.80 75 LR LR 20 43 27.3
comp=Z,147nm,18.6s,baz=254,slow=39
MASI Maura Aman, Be 49.82 135 P **P** **20 19 38.1 -0.7**
JOW Kunigami 50.30 83 P **P** **20 19 41.7 -0.7**
JOW IAmb IAmb 20 21 08.5
comp=Z,28nm,1.1s
JOW Kunigami 50.30 83 LR LR 20 43 53.3
comp=Z,156nm,18.3s,baz=258,slow=40
KSI Kapahiang 50.43 135 P **P** **20 19 42.3 -1.2**
MBAR Mbarara 51.46 233 P **P** **20 19 50.8 -0.6**
MBAR IAmb IAmb 20 19 52.7
comp=Z,9.3nm,0.8s
MBAR Mbarara 51.46 233 P **P** **20 19 50.8 -0.6**
MBAR pmax pmax
comp=Z,9.0nm,0.8s
EKA Eskdalemuir Ar 51.50 316 P **P** **20 19 50.6 -0.4**
comp=Z,13nm,0.8s,baz=100,slow=7.3,SNR=16
comp=Z,13nm,0.8s
SBUM Sibu 51.90 120 P **P** **20 19 53.6 -0.8**
SBUM Sibu 51.90 120 P **P** **20 19 54.2 -0.3**
KKM Kota Kinabalu 52.29 114 IAmb IAmb 20 19 59.2
comp=Z,24nm,1.0s
KKM Kota Kinabalu 52.29 114 P **P** **20 19 58.7 +1.2**
TYV Tymovskoe 52.77 50 *eP* **P** **20 20 01.0 +0.6**
TYV pmax pmax
comp=Z,10.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,2.2s
STKI Sintang 53.12 123 P **P** **20 20 04.4 +0.9**
comp=Z,2µmcomp=Z,40nm,0.9s
JSD Sado 53.62 66 P **P** **20 20 08.8 +1.9**
NOR Nord 53.67 350 *i* P **P** **20 20 07.4 +0.7**
NOR IAmb IAmb 20 20 08.8
comp=Z,7.4nm,1.1s
YSS Yuzhno-Sakhali 53.88 54 P **P** **20 20 08.9 +0.2**
YSS Yuzhno-Sakhali 53.88 54 P **P** **20 20 09.7 +1.0**
YSS Yuzhno-Sakhali 53.88 54 *eP* **P** **20 20 09.1 +0.4**
YSS pmax pmax
comp=Z,200nm,5.3s
YSS pmax pmax
comp=Z,100nm,0.7s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS Yuzhno-Sakhali 53.88 54 P **P** **20 20 06.5 -2.1**
MJB9 Matsu-Tunnel 54.12 68 IAmb IAmb 20 20 12.9
comp=Z,12nm,0.9s
MAJO Matsushiro 54.13 68 P **P** **20 20 10.5 -0.2**
MAJO IAmb IAmb 20 20 12.0
comp=Z,12nm,0.9s
MAJO Matsushiro 54.13 68 P **P** **20 20 11.0 +0.3**
MAJO Matsushiro 54.13 68*c* *i* P **P** **20 20 09.7 -1.0**
MAJO pmax pmax
comp=Z,17nm,1.1s
MAJO Matsushiro 54.13 68 P **P** **20 20 09.9 -0.8**
MJAR Matsushiro Arr 54.13 68 P **P** **20 20 10.3 -0.4**
MJAR Matsushiro Arr 54.13 68 P **P** **20 20 11.4 +0.7**
comp=Z,6.3nm,0.9s,baz=294,slow=9.7,SNR=16
MJAR LR LR 20 45 32.3
comp=Z,102nm,19.6s,baz=288,slow=39
comp=Z,6.3nm,0.9s
DAG Danmarks Havn 54.47 344 P **P** **20 20 13.0 +0.4**
DAG Danmarks Havn 54.47 344 *i* P **P** **20 20 12.7 +0.2**
DAG IAmb IAmb 20 20 14.6
comp=Z,46nm,0.8s
ASAJ Asahikawa 54.64 58 LR LR 20 45 35.8
comp=Z,245nm,18.9s,baz=288,slow=38
SEY Seymchan 55.18 34 LR LR 20 46 16.1
comp=Z,180nm,18.5s,baz=266,slow=39
SEY Seymchan 55.18 34 *eP* **P** **20 20 17.0 -0.8**
SEY pmax pmax
comp=Z,17nm,1.3s
MA2 Magadan 55.19 38 P **P** **20 20 18.6 +0.5**
MA2 Magadan 55.19 38 P **P** **20 20 20.2 +2.2**
MA2 Magadan 55.19 38⇓ *i* P **P** **20 20 18.3 +0.3**
MA2 pmax pmax
comp=Z,15nm,0.9s
JMM Marumori 55.55 65 P **P** **20 20 21.5 +0.6**
TAM Tamanrasset 56.32 275 P **P** **20 20 25.9 -1.0**
TAM IAmb IAmb 20 20 60.0
comp=Z,12nm,0.5s
TAM Tamanrasset 56.32 275 P **P** **20 20 27.2 +0.3**
TAM Tamanrasset 56.32 275 P **P** **20 20 26.6 -0.3**
ESBB Sonseca Array 56.41 297 IAmb IAmb 20 20 28.5
comp=Z,7.9nm,0.8s
ESDC Sonseca Array 56.41 297 P **P** **20 20 26.7 -0.5**
ESDC Sonseca Array 56.41 297 P **P** **20 20 27.2 +0.1**
comp=Z,6.3nm,0.7s,baz=59,slow=7.5,SNR=57
ESDC LR LR 20 49 12.4
comp=Z,46nm,18.0s,baz=102,slow=41
comp=Z,6.3nm,0.7s
MVO Moncorvo 58.02 300 *eP* **P** **20 20 39.6 +1.0**
MVO *i* IAmb IAmb 20 20 52.1
comp=Z,17nm,1.6s
BORG Borgarnes 58.07 330 LR LR 20 45 49.1
comp=Z,112nm,19.9s,baz=97,slow=36
PVRL Vila Real 58.46 300 *eP* **P** **20 20 42.8 +1.3**
PGAV Gavieira, Arco 58.58 301 *eP* **P** **20 20 43.6 +1.2**
PGAV *i* IAmb IAmb 20 20 50.2
comp=Z,22nm,1.8s
MTE Manteigas 58.68 299 *eP* **P** **20 20 44.4 +1.3**
MTE *i* IAmb IAmb 20 20 46.8
comp=Z,28nm,1.7s
DAV Davao City (W) 58.75 106 LR LR 20 49 18.2
comp=Z,118nm,19.7s,baz=232,slow=40
PVIS Viseu 58.80 300 *eP* **P** **20 20 45.4 +1.5**
ALE Alert 58.99 353 P **P** **20 20 46.0 +1.4**
ABPO Ambohimpanom 59.00 205 P **P** **20 20 45.6 +0.1**
ABPO Ambohimpanom 59.00 205 P **P** **20 20 45.6 +0.1**
ABPO pmax pmax
comp=Z,27nm,0.7s
ABPO Ambohimpanom 59.00 205 P **P** **20 20 45.7 +0.1**
PBAR Barrancos 59.21 297 *eP* **P** **20 20 47.4 +0.7**
PBAR *i* IAmb IAmb 20 21 03.1
comp=Z,16nm,1.6s
BILL Bilibino 59.23 26⇑ *i* P **P** **20 20 47.3 +0.9**
BILL pmax pmax
comp=Z,23nm,1.3s
BILL Bilibino 59.23 26 P **P** **20 20 47.4 +1.0**
BILL sP **sP** **20 21 04.7 +3.1**
PESTR Estremoz 59.32 298 *eP* **P** **20 20 48.3 +0.8**
PESTR *i* IAmb IAmb 20 20 52.8
comp=Z,19nm,1.9s
COI Coimbra 59.36 300 *eP* **P** **20 20 49.0 +1.2**
COI *i* IAmb IAmb 20 21 01.0
comp=Z,43nm,1.9s
PCAS Casmilo, Conde 59.49 299 *eP* **P** **20 20 49.7 +1.0**
PCAS *i* IAmb IAmb 20 20 57.1
comp=Z,28nm,1.7s
MDT Midelt 59.67 290 LR LR 20 50 21.2
comp=Z,47nm,18.6s,baz=108,slow=40
EVO Evora 59.76 298 *eP* **P** **20 20 51.4 +0.9**
EVO *i* IAmb IAmb 20 20 52.4
comp=Z,24nm,1.5s
PBEJ Beja 59.86 297 *eP* **P** **20 20 52.0 +0.8**
PBEJ *i* IAmb IAmb 20 20 60.0
comp=Z,12nm,1.7s
PVAQ Vaqueiros 60.01 296 *eP* **P** **20 20 53.0 +0.7**
PVAQ *i* IAmb IAmb 20 20 56.1
comp=Z,36nm,1.5s
PBDV Barranco-do-Ve 60.24 296 *eP* **P** **20 20 55.3 +1.5**
PBDV *i* IAmb IAmb 20 21 00.5
comp=Z,41nm,1.7s
MRSI Marisa 60.24 114 P **P** **20 20 54.0 -0.1**
comp=Z,57nm,0.8s
PTEO Sao Teotonio 60.68 297 *eP* **P** **20 20 58.1 +1.2**
PTEO *i* IAmb IAmb 20 20 59.1
comp=Z,41nm,1.8s
SUMG Summit 60.75 341 P **P** **20 20 58.2 +1.0**
SUMG Summit 60.75 341 P **P** **20 20 58.2 +1.0**
SUMG pmax pmax
comp=Z,38nm,0.8s
SUMG Summit 60.75 341 *i* P **P** **20 20 58.1 +0.8**
SUMG IAmb IAmb 20 20 59.8
comp=Z,32nm,0.8s
NEEM North Greenlan 60.86 348 *i* P **P** **20 20 58.7 +0.9**
PEA0B Petropavlovsk- 60.89 44⇑ *eP* **P** **20 20 58.1 +0.1**
PETK Petropavlovsk- 60.89 44 P **P** **20 20 57.2 -0.8**
PETK Petropavlovsk- 60.89 44 P **P** **20 20 57.8 -0.2**
comp=Z,4.2nm,0.7s,baz=316,slow=2.0,SNR=8.4
PETK LR LR 20 48 29.6
comp=Z,165nm,18.1s,baz=289,slow=37
comp=Z,4.2nm,0.7s
JCJ Chichijima 61.22 76 LR LR 20 49 48.4
comp=Z,64nm,19.4s,baz=4.5,slow=38
VOI Vohitsoka 61.83 204 P **P** **20 21 05.0 +0.1**

VOI Vohitsoka 61.83 204 P **P** **20 21 05.6 +0.8**
TULEG Thule 64.32 350 *i* P **P** **20 21 20.4 -0.1**
TORD Torodi Ar. Bea 64.49 268 P **P** **20 21 21.1 -1.6**
TORD Torodi Ar. Bea 64.49 268 P **P** **20 21 20.9 -1.6**
comp=Z,4.2nm,0.6s,baz=47,slow=6.3,SNR=52
TORD LR LR 20 53 12.4
comp=Z,86nm,19.8s,baz=244,slow=40
comp=Z,4.2nm,0.6s
LSZ Lusaka 64.51 225 P **P** **20 21 21.8 -0.9**
LSZ lAmb lAmb 20 21 23.3
comp=Z,16nm,0.7s
LSZ Lusaka 64.51 225 P **P** **20 21 22.5 -0.2**
LSZ Lusaka 64.51 225 P **P** **20 21 21.8 -0.9**
LSZ pmax pmax
comp=Z,16nm,0.7s
LSZ Lusaka 64.51 225 P **P** **20 21 22.4 -0.3**
ILULI Ilulissat 66.08 340 P **P** **20 21 32.6 +0.6**
ILULI Ilulissat 66.08 340 P **P** **20 21 32.6 +0.6**
ILULI pmax pmax
comp=Z,37nm,0.7s
ILULI Ilulissat 66.08 340 *i* P **P** **20 21 32.7 +0.7**
SFJD Kangerlussuaq 67.40 338 P **P** **20 21 40.7 +0.3**
comp=Z,14nm,0.8s,baz=21,slow=0.9,SNR=4.1
SFJD LR LR 20 51 25.1
comp=Z,80nm,18.4s,baz=38,slow=36
comp=Z,14nm,0.8s
A19K Wainwright 67.61 17 P **P** **20 21 43.1 +1.4**
baz=318
A21K Barrow 67.72 15 P **P** **20 21 43.3 +0.9**
baz=321
C16K Lisburne Hills 67.95 19 lAmb lAmb 20 21 45.5
comp=Z,14nm,0.9s
C16K Lisburne Hills 67.95 19 P **P** **20 21 44.4 +0.5**
baz=315
B18K Kokolik River 68.06 17 P **P** **20 21 45.6 +1.0**
baz=317
SWI Sorong 68.13 108 P **P** **20 21 44.3 -1.5**
KSANE Kasane 68.26 226 *i* P **P** **20 21 46.9 +0.3**
KSANE Kasane 68.26 226 lAmb lAmb 20 21 47.7
comp=Z,21nm,0.9s
A22K Sinclair Lake 68.30 14 P **P** **20 21 47.3 +1.2**
baz=323
C17K DeLong Mountai 68.37 18 P **P** **20 21 47.5 +0.9**
baz=316,SNR=6.6
B20K Meade River 68.63 16 lAmb lAmb 20 21 49.7
comp=Z,17nm,0.8s
B20K Meade River 68.63 16 P **P** **20 21 49.1 +1.0**
baz=321,SNR=6.5
RES Resolute Bay 68.70 356 P **P** **20 21 48.2 -0.3**
comp=Z,14nm,0.9s,baz=3.1,slow=8.5,SNR=3.1
comp=Z,14nm,0.9s
RDOG Red Dog Mine 68.75 19 P **P** **20 21 49.4 +0.5**
baz=317
C19K Lookout Ridge 68.78 17 lAmb lAmb 20 21 50.9
comp=Z,16nm,0.6s
C19K Lookout Ridge 68.78 17 P **P** **20 21 50.2 +1.0**
baz=319,SNR=15
D17K Noatak River 68.96 19 P **P** **20 21 50.9 +0.6**
baz=317,SNR=12
GAMB Gambell 69.11 25 P **P** **20 21 51.4 +0.3**
baz=311
TNA Tin City 69.11 22 P **P** **20 21 51.9 +0.7**
baz=313
B22K Teshekpuk Lake 69.14 14 P **P** **20 21 52.4 +1.1**
baz=324
B21K Ikpikpuk River 69.48 15 P **P** **20 21 54.5 +1.1**
baz=323,SNR=15
F14K Arctic Creek 69.65 22 P **P** **20 21 55.7 +1.2**
baz=315
BROLN Tlhalogang 69.69 222 *i* P **P** **20 21 54.9 -0.6**
E17K Hotham Inlet 69.75 19 P **P** **20 21 55.7 +0.6**
baz=318
D20K Etivluk River 69.77 16 lAmb lAmb 20 21 57.1
comp=Z,22nm,1.1s
D20K Etivluk River 69.77 16 P **P** **20 21 55.8 +0.6**
baz=322,SNR=11
E18K Tukpahlearik C 69.81 18 lAmb lAmb 20 21 57.2
comp=Z,21nm,1.1s
E18K Tukpahlearik C 69.81 18 P **P** **20 21 56.0 +0.5**
baz=319,SNR=9.1
C21K Knifeblade Rid 69.82 15 P **P** **20 21 56.6 +1.1**
baz=323,SNR=9.7
SOOWA Sowa 69.87 223 *i* P **P** **20 21 56.0 -0.6**
F15K North Star Dit 69.98 21 lAmb lAmb 20 21 59.9
comp=Z,18nm,0.9s
F15K North Star Dit 69.98 21 P **P** **20 21 57.7 +1.1**
baz=316
C23K Itkillik River 70.11 14 P **P** **20 21 58.7 +1.4**
baz=326,SNR=9.3
F17K Baldwin Pennin 70.38 19 P **P** **20 21 60.0 +1.0**
baz=319
D22K Ayikyak River 70.49 15 lAmb lAmb 20 22 01.8
comp=Z,21nm,1.1s
D22K Ayikyak River 70.49 15 P **P** **20 22 00.8 +1.1**
baz=325,SNR=8.8
C24K Franklin Bluff 70.57 13 P **P** **20 22 01.4 +1.4**
baz=328,SNR=7.6
E21K Killik River 70.57 16 lAmb lAmb 20 22 01.6
comp=Z,16nm,0.8s
E21K Killik River 70.57 16 P **P** **20 22 00.4 +0.2**
baz=324
E19K Redstone River 70.61 17 P **P** **20 22 00.9 +0.4**
baz=322,SNR=9.9
G15K Niukluk 70.67 21 P **P** **20 22 01.6 +0.8**
baz=317
F18K Selawik 70.68 19 P **P** **20 22 01.4 +0.6**
baz=320,SNR=7.4
D23K Nanushuk River 70.82 14 lAmb lAmb 20 22 03.8
comp=Z,17nm,1.0s
D23K Nanushuk River 70.82 14 P **P** **20 22 02.8 +1.0**
baz=327
MREMI Moremi 70.83 221 *i* P **P** **20 22 02.1 -0.3**
F19K Shaleruckik Mo 70.97 18 P **P** **20 22 02.3 -0.2**
baz=321,SNR=6.6
D24K Happy Valley 71.03 14 lAmb lAmb 20 22 04.4
comp=Z,7.9nm,0.7s
D24K Happy Valley 71.03 14 P **P** **20 22 03.9 +1.0**
baz=328
C26K Camden Bay 71.06 12 P **P** **20 22 04.7 +1.6**
baz=331
G17K Kiwalik Mounta 71.25 20 P **P** **20 22 04.9 +0.6**
baz=319,SNR=8.9
E22K Anaktuvuk Pass 71.29 15 lAmb lAmb 20 22 06.2
comp=Z,18nm,1.1s
E22K Anaktuvuk Pass 71.29 15 P **P** **20 22 05.1 +0.6**
baz=326
F20K Avaraart Lake 71.30 17 P **P** **20 22 04.6 0.0**
baz=323,SNR=7.2
TOLK Toolik Lake Re 71.32 14 P **P** **20 22 05.7 +0.9**
baz=328,SNR=25
D25K Kavik River 71.33 13 lAmb lAmb 20 22 07.2
comp=Z,18nm,0.9s
D25K Kavik River 71.33 13 P **P** **20 22 06.1 +1.3**
baz=330,SNR=14
A36M Sachs Harbour 71.41 5 P **P** **20 22 05.8 +0.7**
baz=348,SNR=9.5
H16K Elim 71.46 21 P **P** **20 22 06.4 +0.9**
baz=318
G18K Tagagawik 71.48 19 P **P** **20 22 07.2 +1.5**
baz=321,SNR=5.5
C27K Jago River 71.52 12 lAmb lAmb 20 22 08.5
comp=Z,17nm,0.8s
C27K Jago River 71.52 12 P **P** **20 22 07.6 +1.7**
baz=332,SNR=11
F21K Alatna River 71.67 16 lAmb lAmb 20 22 09.5
comp=Z,9.4nm,0.6s
F21K Alatna River 71.67 16 P **P** **20 22 07.4 +0.5**
baz=325,SNR=15
G19K Purcell Mounta 71.69 18 lAmb lAmb 20 22 07.9
comp=Z,12nm,0.7s
G19K Purcell Mounta 71.69 18 P **P** **20 22 07.5 +0.5**
baz=322,SNR=13
F22K John River 71.73 16 P **P** **20 22 08.2 +1.0**
baz=326,SNR=12
E23K Chandalar 71.80 14 lAmb lAmb 20 22 09.6
comp=Z,26nm,1.4s
E23K Chandalar 71.80 14 P **P** **20 22 08.6 +0.8**
baz=328,SNR=12
H17K Granite Mounta 71.88 20 P **P** **20 22 08.9 +0.8**
baz=320,SNR=5.1
CKGRV CKGRV 71.91 225 *i* P **P** **20 22 08.8 -0.1**
E24K Your Creek 72.01 14 lAmb lAmb 20 22 10.5
comp=Z,11nm,0.6s
E24K Your Creek 72.01 14 P **P** **20 22 10.0 +1.1**
baz=329,SNR=18
H18K Honhosa River 72.13 19 lAmb lAmb 20 22 11.1
comp=Z,52nm,1.9s
H18K Honhosa River 72.13 19 P **P** **20 22 10.0 +0.4**
baz=321
G21K Allakaket 72.25 17 P **P** **20 22 10.5 +0.2**
baz=325,SNR=8.4
D27M Malcolm River 72.29 11 P **P** **20 22 11.9 +1.3**
baz=335
LPHEP Lephephe 72.32 222 lAmb lAmb 20 22 12.0
comp=Z,20nm,1.1s
H19K Roundabout Mou 72.33 18 P **P** **20 22 11.4 +0.6**
baz=323,SNR=9.5
COLD Coldfoot 72.39 15 lAmb lAmb 20 22 13.0
comp=Z,20nm,0.9s
COLD Coldfoot 72.39 15 P **P** **20 22 11.8 +0.7**
baz=327,SNR=23
J14K Nanvaranak Lak 72.47 23 lAmb lAmb 20 22 13.7
comp=Z,16nm,0.9s
J14K Nanvaranak Lak 72.47 23 P **P** **20 22 12.6 +1.0**
baz=318,SNR=7.8
I17K Unalakleet 72.47 21 P **P** **20 22 12.8 +1.2**
baz=320
E25K Arctic Village 72.53 13 P **P** **20 22 12.9 +0.9**
baz=331,SNR=9.3
F24K Squaw Lake 72.61 14 P **P** **20 22 13.3 +0.8**
baz=329,SNR=5.5
IMAR Indian Mountai 72.63 17 P **P** **20 22 12.6 0.0**
K13K Kusilvak Mount 72.72 24 lAmb lAmb 20 22 15.1
comp=Z,12nm,0.9s
K13K Kusilvak Mount 72.72 24 P **P** **20 22 14.0 +0.9**
baz=317,SNR=8.1
H20K Anotleneega Mo 72.75 18 P **P** **20 22 13.8 +0.4**
baz=324,SNR=14
G23K Bananza Creek 72.86 15 lAmb lAmb 20 22 15.9
comp=Z,12nm,0.9s
G23K Bananza Creek 72.86 15 P **P** **20 22 14.7 +0.7**
baz=328,SNR=14
J16K Anvik River 72.95 21 lAmb lAmb 20 22 16.7
comp=Z,20nm,0.8s
J16K Anvik River 72.95 21 P **P** **20 22 15.7 +1.1**
baz=320,SNR=9.5
F25K Christian Rive 72.97 13 lAmb lAmb 20 22 17.1
comp=Z,14nm,0.8s
F25K Christian Rive 72.97 13 P **P** **20 22 16.0 +1.3**
baz=331,SNR=18
E28M Babbage River 73.09 11 lAmb lAmb 20 22 17.7
comp=Z,38nm,1.6s
E28M Babbage River 73.09 11 P **P** **20 22 16.6 +1.3**
baz=336,SNR=7.2
H21K Melozitna Rive 73.12 17 lAmb lAmb 20 22 17.2
comp=Z,15nm,1.1s
H21K Melozitna Rive 73.12 17 P **P** **20 22 16.0 +0.4**
baz=326,SNR=16
E27K Coleen River 73.15 12 lAmb lAmb 20 22 18.0
comp=Z,14nm,0.9s
E27K Coleen River 73.15 12 P **P** **20 22 17.0 +1.3**
baz=334,SNR=5.3
F26K Shenjek River 73.16 13 P **P** **20 22 17.0 +1.2**
baz=332,SNR=8.4
H22K Ishtalitna Cre 73.25 16 P **P** **20 22 17.2 +0.9**
baz=327,SNR=7.3
J17K VABM Dome 73.31 21 P **P** **20 22 17.5 +0.8**
baz=321
BMAR Burnt Mountain 73.31 13 P **P** **20 22 17.8 +1.1**
M11K Mekoryuk 73.32 25 P **P** **20 22 17.9 +1.2**
baz=316
G24K Hadweenzic Riv 73.40 14 lAmb lAmb 20 22 18.9
comp=Z,11nm,0.7s
G24K Hadweenzic Riv 73.40 14 P **P** **20 22 18.5 +1.3**
baz=330,SNR=21
I20K Naaghedeneel 73.42 18 lAmb lAmb 20 22 25.5
comp=Z,29nm,1.1s
I20K Naaghedeneel 73.42 18 P **P** **20 22 18.3 +1.1**
baz=324
K15K Wolf Creek Mou 73.43 22 P **P** **20 22 18.5 +1.1**
baz=319,SNR=5.3
DBIC Dimbokro 73.47 266 P **P** **20 22 16.7 -1.7**
comp=Z,9.3nm,1.1s,baz=72,slow=7.4,SNR=4.9
DBIC LR LR 21 00 24.9
comp=Z,52nm,21.4s,baz=31,slow=41
comp=Z,9.3nm,1.1s
E29M Blow River 73.53 10 lAmb lAmb 20 22 20.3
comp=Z,16nm,0.9s
E29M Blow River 73.53 10 P **P** **20 22 19.2 +1.3**
baz=337,SNR=13
G25K Bearman Lake 73.61 14 P **P** **20 22 19.9 +1.5**
baz=331,SNR=8.8
I21K Tanana 73.71 17 P **P** **20 22 19.7 +0.7**
baz=326,SNR=7.1
H23K Yukon River 73.72 16 lAmb lAmb 20 22 21.4
comp=Z,13nm,0.8s
H23K Yukon River 73.72 16 P **P** **20 22 20.3 +1.2**
baz=328,SNR=18
J19K Poorman 73.78 19 lAmb lAmb 20 22 21.4
comp=Z,19nm,1.1s
J19K Poorman 73.78 19 P **P** **20 22 20.3 +0.9**
baz=324,SNR=13
L14K Kuka Creek 73.79 23 lAmb lAmb 20 22 21.8
comp=Z,18nm,0.8s
L14K Kuka Creek 73.79 23 P **P** **20 22 20.7 +1.2**
baz=318,SNR=10
G26K Porcupine Rive 73.89 13 P **P** **20 22 21.2 +1.3**
baz=333,SNR=8.4
TSUM Tsumeb 73.90 231 P **P** **20 22 20.1 -0.7**
J18K Innoko River 73.91 20 lAmb lAmb 20 22 21.9
comp=Z,13nm,0.8s
J18K Innoko River 73.91 20 P **P** **20 22 20.9 +0.7**
baz=323,SNR=16
L15K Ungalak Mounta 73.91 23 P **P** **20 22 21.0 +0.8**
baz=319,SNR=6.2
KGCAE Kacgae 73.94 225 *i* P **P** **20 22 20.5 -0.4**
F28M Old Crow 73.95 11 P **P** **20 22 21.6 +1.2**
baz=336,SNR=8.9
FYU Fort Yukon 73.96 14 lAmb lAmb 20 22 23.0
comp=Z,34nm,1.1s
J20K Nowinta River 74.01 18 lAmb lAmb 20 22 22.7
comp=Z,14nm,0.9s
J20K Nowinta River 74.01 18 P **P** **20 22 21.6 +0.8**
baz=325,SNR=13
K17K Iditarod 74.06 21 P **P** **20 22 21.9 +0.9**
baz=322,SNR=13
H24K Noodor Dome 74.06 15 lAmb lAmb 20 22 23.3
comp=Z,11nm,0.8s
H24K Noodor Dome 74.06 15 P **P** **20 22 22.0 +0.9**
baz=330,SNR=14
C36M Paulatuk 74.08 5 P **P** **20 22 20.9 -0.2**
baz=349,SNR=12
H25L Birch Creek 74.11 14 P **P** **20 22 22.4 +1.2**
baz=331,SNR=8.4
MLY Manley 74.12 17 P **P** **20 22 22.0 +0.5**
baz=327,SNR=13
INK Inuvik 74.19 9 lAmb lAmb 20 22 23.6
comp=Z,22nm,0.8s
INK Inuvik 74.19 9 P **P** **20 22 22.2 +0.5**
comp=Z,17nm,0.6s,baz=5.7,slow=7.3,SNR=36
INK PKKPbc **PKKPbc** **20 41 49.6 -2.0**
comp=Z,2.9nm,0.6s,baz=261,slow=4.4,SNR=5.0
INK LR LR 20 59 19.1
comp=Z,63nm,20.1s,baz=334,slow=39
comp=Z,17nm,0.6s
INK Inuvik 74.19 9 P **P** **20 22 22.6 +1.0**
baz=341,SNR=17
M13K Dall Lake 74.27 24 P **P** **20 22 24.3 +2.0**
baz=318,SNR=7.4
SKOMA Sekoma 74.29 222 *i* P **P** **20 22 22.9 -0.1**
I23K Minto, Yukon-K 74.34 16 lAmb lAmb 20 22 24.7
comp=Z,16nm,1.1s
I23K Minto, Yukon-K 74.34 16 P **P** **20 22 23.3 +0.7**
baz=328,SNR=7.3
MBWA Mable Bar 74.37 132 P **P** **20 22 21.0 -2.4**
comp=Z,23nm,0.9s
MBWA Marble Bar 74.37 132 P **P** **20 22 23.0 -0.4**
G27K Doyon Strip 74.39 12 lAmb lAmb 20 22 25.4
comp=Z,14nm,0.8s
G27K Doyon Strip 74.39 12 P **P** **20 22 24.2 +1.3**
baz=334,SNR=23
M14K Bethel 74.47 23 P **P** **20 22 24.7 +1.3**
baz=319,SNR=16
L16K Owhat River 74.50 22 P **P** **20 22 24.9 +1.2**
baz=321,SNR=21
L17K Donlin 74.52 21 P **P** **20 22 25.0 +1.2**
baz=322,SNR=10
F30M Barrier River 74.55 10 lAmb lAmb 20 22 26.0
comp=Z,24nm,0.9s
F30M Barrier River 74.55 10 P **P** **20 22 24.7 +0.9**
baz=339,SNR=13
K20K Telida 74.70 19 lAmb lAmb 20 22 26.8
comp=Z,16nm,0.9s
K20K Telida 74.70 19 P **P** **20 22 25.6 +0.8**
baz=325,SNR=18
CHUM Lake Minchumin 74.71 18 P **P** **20 22 25.7 +0.8**
baz=326,SNR=17
PSA00 Pilbara Seismi 74.75 132 P **P** **20 22 24.8 -0.8**
comp=Z,29nm,1.0s
PSA00 Pilbara Seismi 74.75 132 P **P** **20 22 24.5 -1.1**
PSA00 lAmb lAmb 20 22 25.7
comp=Z,16nm,1.0s
PSA00 Pilbara Seismi 74.75 132 P **P** **20 22 25.2 -0.4**
FRB Frobisher Bay 74.78 342 LR LR 20 59 51.5
comp=Z,54nm,18.9s,baz=98,slow=39
POKR Poker Plat Res 74.78 15 P **P** **20 22 26.2 +1.0**
baz=330,SNR=6.2
PRP Porcupine Dome 74.82 14 P **P** **20 22 26.7 +1.0**
baz=331
BPAW Bear Paw Mtn. 74.85 17 lAmb lAmb 20 22 33.5
comp=Z,10nm,0.8s
BPAW Bear Paw Mtn. 74.85 17 P **P** **20 22 25.8 +0.2**
baz=327,SNR=17
NEA2 Nenana 74.88 16 lAmb lAmb 20 22 27.2
comp=Z,21nm,0.8s
NEA2 Nenana 74.88 16 P **P** **20 22 26.3 +0.5**
baz=329,SNR=19
G29M Pine Creek 74.88 11 lAmb lAmb 20 22 27.4
comp=Z,10.0nm,0.8s
G29M Pine Creek 74.88 11 P **P** **20 22 26.9 +1.1**
baz=337,SNR=5.6
COLA College 74.90 16 P **P** **20 22 26.5 +0.6**
COLA College 74.90 16 P **P** **20 22 27.1 +1.2**
COLA College 74.90 16 *c i* P **P** **20 22 26.4 +0.6**
COLA pmax pmax
comp=Z,26nm,0.9s
COLA College 74.90 16 P **P** **20 22 26.2 +0.3**
baz=330
L18K Granite Mounta 74.91 20 lAmb lAmb 20 22 27.9
comp=Z,29nm,1.5s
L18K Granite Mounta 74.91 20 P **P** **20 22 26.8 +0.8**
baz=323,SNR=8.3
M15K Kasigluk River 74.92 23 P **P** **20 22 27.4 +1.4**
baz=320,SNR=6.5
H27K Steamboat Moun 74.93 12 lAmb lAmb 20 22 28.5
comp=Z,19nm,0.8s
H27K Steamboat Moun 74.93 12 P **P** **20 22 27.3 +1.2**
baz=335,SNR=25
F31M Tsiigehtchic 74.98 9 P **P** **20 22 27.1 +0.8**
baz=341,SNR=6.9
G30M tAoh Zrail Nji 75.08 10 P **P** **20 22 27.4 +0.4**
baz=339,SNR=13
CAST Castle Rocks 75.16 18 P **P** **20 22 28.1 +0.6**
baz=326,SNR=48
N14K Kuskokwak Cree 75.19 24 lAmb lAmb 20 22 29.9
comp=Z,21nm,0.8s
N14K Kuskokwak Cree 75.19 24 P **P** **20 22 28.8 +1.2**
baz=320
M16K Timber Creek 75.20 22 lAmb lAmb 20 22 30.1
comp=Z,12nm,0.8s
M16K Timber Creek 75.20 22 P **P** **20 22 29.2 +1.5**
baz=322,SNR=8.6
ILAR Eielson Array 75.20 15 P **P** **20 22 27.4 -0.2**
ILAR Eielson Array 75.20 15 P **P** **20 22 27.1 -0.5**
comp=Z,7.9nm,0.9s,baz=320,slow=4.7,SNR=66
ILAR LR LR 20 59 56.4
comp=Z,116nm,19.1s,baz=298,slow=39
comp=Z,7.9nm,0.9s
ILAR Eielson Array 75.20 15 P **P** **20 22 27.4 -0.2**
KOOLE Kule 75.20 226 *i* P **P** **20 22 28.5 +0.2**
KOOLE Kule 75.20 226 lAmb lAmb 20 22 29.3
comp=Z,15nm,1.1s
M17K Holitna River 75.35 21 P **P** **20 22 30.2 +1.6**
baz=323,SNR=12
G31M Satah River 75.41 9 lAmb lAmb 20 22 30.4
comp=Z,28nm,1.1s
G31M Satah River 75.41 9 P **P** **20 22 29.3 +0.6**
baz=340,SNR=12
L19K White Mountain 75.45 20 P **P** **20 22 30.1 +0.9**
baz=324,SNR=7.7
H29M Whitestone 75.47 11 P **P** **20 22 30.4 +1.2**
baz=337,SNR=24
I26K Coal Creek Min 75.47 14 lAmb lAmb 20 22 31.1
comp=Z,14nm,0.8s
I26K Coal Creek Min 75.47 14 P **P** **20 22 29.9 +0.7**
baz=333
L20K Farewell, AK 75.47 19 P **P** **20 22 30.0 +0.7**
baz=325,SNR=13
I27K Kandik River 75.49 13 P **P** **20 22 30.3 +0.9**
baz=335,SNR=22
HDA Harding Lake 75.50 15 P **P** **20 22 28.7 -0.7**
baz=330,SNR=6.8
N15K Kwethluk River 75.51 23 lAmb lAmb 20 22 32.1
comp=Z,21nm,1.1s
N15K Kwethluk River 75.51 23 P **P** **20 22 31.0 +1.5**
baz=321,SNR=5.0
PPLA Purkeypile 75.57 18 lAmb lAmb 20 22 31.1
comp=Z,12nm,0.6s
PPLA Purkeypile 75.57 18 P **P** **20 22 29.9 0.0**
baz=326,SNR=7.0
TRF Thorofare Moun 75.57 17 P **P** **20 22 29.6 -0.4**
baz=328,SNR=5.7
EPYK Eagle Plains 75.58 11 lAmb lAmb 20 22 30.8
comp=Z,11nm,0.8s
EPYK Eagle Plains 75.58 11 P **P** **20 22 30.1 +0.2**
baz=338
PHPEN Phepeng 75.64 223 lAmb lAmb 20 22 31.1
comp=Z,20nm,0.9s
MCK McKinley 75.64 17 P **P** **20 22 30.6 +0.4**
baz=329,SNR=5.3
J25K Salcha River, 75.65 15 lAmb lAmb 20 22 31.4
comp=Z,9.4nm,0.8s
J25K Salcha River, 75.65 15 P **P** **20 22 30.3 0.0**
baz=332,SNR=16
N16K Nishlik Lake 75.69 22 P **P** **20 22 31.8 +1.3**
baz=322
M18K Stony River 75.75 21 P **P** **20 22 31.5 +0.7**
baz=324,SNR=7.0
M19K Big River Lodg 75.81 20 P **P** **20 22 32.2 +1.0**
baz=325
O14K Tigyukauivet M 75.84 24 lAmb lAmb 20 22 33.5
comp=Z,16nm,0.9s
O14K Tigyukauivet M 75.84 24 P **P** **20 22 32.4 +1.0**
baz=320
I28M Miner Creek 75.92 12 lAmb lAmb 20 22 33.4
comp=Z,21nm,0.7s
I28M Miner Creek 75.92 12 P **P** **20 22 32.4 +0.5**
baz=336,SNR=32
RND Reindeer 75.94 17 lAmb lAmb 20 22 32.6
comp=Z,13nm,0.8s
J26L Joseph Creek 76.11 14 lAmb lAmb 20 22 34.5
comp=Z,22nm,0.8s
J26L Joseph Creek 76.11 14 P **P** **20 22 33.4 +0.4**
baz=333,SNR=32
N17K Nushagak Hills 76.12 22 P **P** **20 22 34.3 +1.3**
baz=323,SNR=6.9
M20K Styx River 76.17 19 P **P** **20 22 33.6 +0.2**
baz=326
I29M Ogilvie Camp, 76.27 12 lAmb lAmb 20 22 35.1
comp=Z,21nm,0.8s
I29M Ogilvie Camp, 76.27 12 P **P** **20 22 34.1 +0.3**
baz=337,SNR=26
K24K Donnelly Dome 76.28 15 P **P** **20 22 33.9 0.0**
baz=331
O15K Ungalikthiuk R 76.37 24 P **P** **20 22 34.8 +0.4**
baz=321
N18K Kilae Creek 76.38 21 P **P** **20 22 35.6 +1.1**
baz=324
H31M Peel River 76.45 10 P **P** **20 22 35.2 +0.4**
baz=340,SNR=17
SCRK Sand Creek 76.50 14 lAmb lAmb 20 22 36.9
comp=Z,13nm,0.8s
SCRK Sand Creek 76.50 14 P **P** **20 22 35.7 +0.5**
baz=333,SNR=10
SKT Skwentna 76.50 19 lAmb lAmb 20 22 35.9
comp=Z,21nm,0.8s
SKT Skwentna 76.50 19 P **P** **20 22 34.8 -0.4**
baz=327,SNR=24
WAT1 Susitna Watana 76.51 17 P **P** **20 22 34.5 -0.7**
baz=329
RIDG Independent Ri 76.53 15 lAmb lAmb 20 22 37.0
comp=Z,9.8nm,0.8s
RIDG Independent Ri 76.53 15 P **P** **20 22 35.2 -0.1**
baz=332,SNR=6.5
DHY Denali Highway 76.57 16 lAmb lAmb 20 22 37.2
comp=Z,16nm,0.7s
DHY Denali Highway 76.57 16 P **P** **20 22 35.2 -0.5**
baz=330
O16K Kokwok River B 76.59 23 lAmb lAmb 20 22 38.1
comp=Z,20nm,0.8s
O16K Kokwok River B 76.59 23 P **P** **20 22 36.6 +1.0**
baz=322,SNR=9.3
N19K Bonanza Creek 76.68 20 P **P** **20 22 37.0 +0.8**
baz=325,SNR=6.9

I30M	**Mount Dempster** baz=339,SNR=49	**76.71**	**11**	P	**P**	**20 22 36.9**	**+0.6**
O17K	**Koliganek Bris** baz=323	**76.75**	**22**	P	**P**	**20 22 37.1**	**+0.6**
DOT	**Dot Lake** comp=Z,11nm,0.8s	**76.78**	**15**	IAmb	IAmb	20 22 38.0	
K27K	**Chicken** comp=Z,18nm,0.8s	**76.83**	**14**	IAmb	IAmb	20 22 39.1	
K27K	**Chicken** baz=334	**76.83**	**14**	P	**P**	**20 22 38.2**	**+1.3**
BOSA	**Boshof** comp=Z,17nm,0.8s	**76.89**	**219**	IAmb	IAmb	20 22 38.1	
BOSA	**Boshof** comp=Z,17nm,0.9s,baz=32,slow=5.6,SNR=24	**76.89**	**219**	P	**P**	**20 22 36.5**	**-1.4**
BOSA	comp=Z,89nm,19.2s,baz=150,slow=37 comp=Z,17nm,0.9s			LR	LR	20 58 06.1	
WAT6	**Susitna Watana** baz=330	**76.92**	**17**	P	**P**	**20 22 37.7**	**+0.1**
M22K	**Willow** baz=328	**77.05**	**18**	P	**P**	**20 22 38.2**	**0.0**
P16K	**Nushagak River** baz=322	**77.07**	**23**	P	**P**	**20 22 39.7**	**+1.4**
PAX	**Paxson** comp=Z,15nm,0.7s	**77.08**	**16**	IAmb	IAmb	20 22 39.6	
PAX	**Paxson** baz=332,SNR=18	**77.08**	**16**	P	**P**	**20 22 38.7**	**+0.2**
J29N	**Klondike Camp** baz=338	**77.13**	**12**	P	**P**	**20 22 39.6**	**+0.9**
SUA	**Susitna One** comp=Z,15nm,0.8s	**77.14**	**19**	IAmb	IAmb	20 22 41.2	
SUA	**Susitna One** baz=328,SNR=11	**77.14**	**19**	P	**P**	**20 22 38.6**	**-0.3**
O19K	**Port Alsworth** baz=325	**77.23**	**21**	P	**P**	**20 22 39.9**	**+0.7**
O18K	**Koktuh Hills** comp=Z,19nm,0.8s	**77.25**	**21**	IAmb	IAmb	20 22 41.6	
O18K	**Koktuh Hills** baz=324,SNR=11	**77.25**	**21**	P	**P**	**20 22 40.5**	**+1.1**
DAWY	**Dawson** comp=Z,17nm,0.9s	**77.29**	**13**	IAmb	IAmb	20 22 41.1	
DAWY	**Dawson** baz=337,SNR=17	**77.29**	**13**	P	**P**	**20 22 40.0**	**+0.4**
J30M	**Hart River** comp=Z,15nm,0.8s	**77.32**	**11**	IAmb	IAmb	20 22 41.7	
J30M	**Hart River** baz=339,SNR=25	**77.32**	**11**	P	**P**	**20 22 40.7**	**+0.8**
P17K	**Kvichak River** baz=324,SNR=12	**77.42**	**22**	P	**P**	**20 22 41.5**	**+1.2**
PMR	**Palmer** comp=Z,15nm,0.6s	**77.44**	**18**	IAmb	IAmb	20 23 39.5	
PMR	**Palmer**	**77.44**	**18**	P	**P**	**20 22 40.6**	**+0.3**
PMR	**Palmer** baz=329	**77.44**	**18**	P	**P**	**20 22 40.2**	**-0.2**
L26K	**Log Cabin Wild** baz=334	**77.48**	**15**	P	**P**	**20 22 41.5**	**+0.8**
M23K	**Glacier View** baz=330,SNR=33	**77.60**	**17**	P	**P**	**20 22 41.2**	**-0.1**
P18K	**Big Mountain,** comp=Z,17nm,0.9s	**77.62**	**22**	IAmb	IAmb	20 22 43.1	
P18K	**Big Mountain,** baz=325,SNR=7.0	**77.62**	**22**	P	**P**	**20 22 41.9**	**+0.4**
HARP	**HAARP** baz=332,SNR=14	**77.66**	**16**	P	**P**	**20 22 42.8**	**+1.2**
SCM	**Sheep Creek Mo** baz=330,SNR=16	**77.66**	**17**	P	**P**	**20 22 42.0**	**+0.2**
M24K	**Tolsona, Glenn** baz=331,SNR=15	**77.69**	**16**	P	**P**	**20 22 43.0**	**+1.1**
RC01	**Rabbit Creek A** baz=329,SNR=7.5	**77.72**	**18**	P	**P**	**20 22 41.8**	**-0.1**
L27K	**Beaver Creek,** comp=Z,9.8nm,0.8s	**77.75**	**14**	IAmb	IAmb	20 22 44.3	
L27K	**Beaver Creek,** baz=335,SNR=14	**77.75**	**14**	P	**P**	**20 22 43.4**	**+1.2**
BCAR	**Beaver Creek A**	**77.76**	**14**	P	**P**	**20 22 43.1**	**+0.8**
KNK	**Knik Glacier** baz=330,SNR=12	**77.76**	**18**	P	**P**	**20 22 42.6**	**+0.3**
K29M	**Barlow Dome** baz=338,SNR=32	**77.81**	**12**	P	**P**	**20 22 43.4**	**+0.8**
MEEK	**Meekatharra** comp=Z,34nm,1.0s	**77.94**	**136**	P	**P**	**20 22 42.3**	**-1.3**
MEEK	**Meekatharra**	**77.94**	**136**	P	**P**	**20 22 43.0**	**-0.6**
P19K	**Oil Pt** comp=Z,12nm,0.7s	**77.99**	**21**	IAmb	IAmb	20 22 44.6	
P19K	**Oil Pt** baz=326,SNR=5.3	**77.99**	**21**	P	**P**	**20 22 44.0**	**+0.5**
SLKM	**Skilak Lake** comp=Z,13nm,0.8s	**78.09**	**19**	IAmb	IAmb	20 22 44.6	
PWL	**Port Wells** comp=Z,18nm,1.0s	**78.27**	**18**	IAmb	IAmb	20 22 46.1	
PWL	**Port Wells** baz=330,SNR=5.8	**78.27**	**18**	P	**P**	**20 22 45.0**	**0.0**
KLU	**Klutina** comp=Z,19nm,0.8s	**78.29**	**16**	IAmb	IAmb	20 22 47.0	
KLU	**Klutina** baz=332,SNR=15	**78.29**	**16**	P	**P**	**20 22 46.0**	**+0.7**
Q18K	**Katmai Hardscr** baz=325,SNR=5.9	**78.30**	**22**	P	**P**	**20 22 44.6**	**-0.7**
Q17K	**Contact Creek** baz=324	**78.34**	**23**	P	**P**	**20 22 45.2**	**-0.5**
M27K	**Edge Creek, AK** baz=335	**78.38**	**14**	P	**P**	**20 22 47.2**	**+1.4**
L29M	**L29M** comp=Z,21nm,1.1s	**78.39**	**12**	IAmb	IAmb	20 22 47.9	
L29M	**L29M** baz=338,SNR=12	**78.39**	**12**	P	**P**	**20 22 46.9**	**+1.1**
MORW	**Morawa** comp=Z,22nm,1.3s	**78.47**	**140**	P	**P**	**20 22 45.0**	**-1.4**
MORW	**Morawa**	**78.47**	**140**	P	**P**	**20 22 45.2**	**-1.2**
MORW	**Morawa**	**78.47**	**140**	P	**P**	**20 22 46.2**	**-0.2**
Q19K	**Cape Douglas,** baz=326	**78.47**	**21**	P	**P**	**20 22 45.7**	**-0.6**
N25K	**Chitina, Valde** comp=Z,46nm,1.9s	**78.48**	**16**	IAmb	IAmb	20 22 48.7	
N25K	**Chitina, Valde** baz=333,SNR=6.0	**78.48**	**16**	P	**P**	**20 22 46.9**	**+0.6**
BVCY	**Beaver Creek** baz=336,SNR=6.2	**78.53**	**14**	P	**P**	**20 22 47.6**	**+1.1**
BRLK	**Bradley Lake** comp=Z,16nm,0.7s	**78.55**	**20**	IAmb	IAmb	20 22 46.9	
GLI	**Glacier Island** comp=Z,21nm,0.8s	**78.55**	**17**	IAmb	IAmb	20 22 47.8	
GLI	**Glacier Island** baz=331,SNR=9.6	**78.55**	**17**	P	**P**	**20 22 46.9**	**+0.3**
SEW	**Seward** baz=329	**78.64**	**19**	P	**P**	**20 22 46.8**	**-0.2**
R17L	**Mt. Peulik Vol** baz=324	**78.71**	**23**	P	**P**	**20 22 47.6**	**+0.1**
FID	**Port Fidalgo** comp=Z,15nm,0.6s	**78.81**	**17**	IAmb	IAmb	20 22 49.5	
M29M	**Somme Creek** comp=Z,9.2nm,0.8s	**78.95**	**13**	IAmb	IAmb	20 22 51.1	
M29M	**Somme Creek** baz=337,SNR=13	**78.95**	**13**	P	**P**	**20 22 49.9**	**+1.0**
MCARA	**McCarthy VSAT** baz=334	**79.03**	**15**	P	**P**	**20 22 49.6**	**+0.4**
BMRM	**Bremner River** comp=Z,23nm,1.1s	**79.05**	**16**	IAmb	IAmb	20 22 51.2	
BMRM	**Bremner River** baz=333,SNR=8.4	**79.05**	**16**	P	**P**	**20 22 50.1**	**+0.7**
VRDI	**Verde Repeater** comp=Z,14nm,1.1s	**79.07**	**16**	IAmb	IAmb	20 22 51.3	
CHGN	**Chignik** baz=323	**79.10**	**25**	P	**P**	**20 22 49.8**	**+0.1**
Q20K	**Shuyak Island** baz=327,SNR=7.4	**79.10**	**21**	P	**P**	**20 22 49.0**	**-0.6**
SYI	**Shuyak Island** comp=Z,13nm,0.7s	**79.10**	**21**	IAmb	IAmb	20 22 50.3	
M30M	**Minto, Yukon** baz=339,SNR=5.1	**79.12**	**12**	P	**P**	**20 22 50.2**	**+0.5**
EYAK	**Cordova Ski Ar**	**79.16**	**17**	P	**P**	**20 22 51.5**	**+1.6**
EYAK	**Cordova Ski Ar** baz=332,SNR=7.2	**79.16**	**17**	P	**P**	**20 22 50.6**	**+0.7**
YUK3	**Moose Creek** baz=336,SNR=8.1	**79.19**	**14**	P	**P**	**20 22 50.9**	**+0.6**
P23K	**Montague Islan** baz=331	**79.25**	**18**	P	**P**	**20 22 51.5**	**+1.1**
R18K	**Karluk** baz=325	**79.36**	**22**	P	**P**	**20 22 51.0**	**0.0**
RAGM	**Ragged Mountai** comp=Z,19nm,1.0s	**79.55**	**16**	IAmb	IAmb	20 22 54.2	
CRQM	**Cirque** comp=Z,14nm,0.8s	**79.56**	**16**	IAmb	IAmb	20 22 54.0	
CRQE	**Cirque** baz=334,SNR=5.2	**79.58**	**16**	P	**P**	**20 22 52.9**	**+0.5**
TGL	**Tana Glacier** comp=Z,11nm,0.8s	**79.63**	**15**	IAmb	IAmb	20 22 54.8	
KDAK	**Kodiak Island**	**79.74**	**21**	P	**P**	**20 22 53.2**	**+0.1**
KDAK				IAmb	IAmb	20 22 54.3	
KDAK	**Kodiak Island** comp=Z,89nm,18.7s,baz=326,slow=40	**79.74**	**21**	*c* LR	LR	21 03 32.4	
KDAK	**Kodiak Island**	**79.74**	**21**	*c i* P	**P**	**20 22 53.2**	**+0.1**
KDAK	comp=Z,29nm,0.9s			pmax	pmax		
KDAK	**Kodiak Island**	**79.74**	**21**	P	**P**	**20 22 53.2**	**+0.1**
CTG	**Chitna Glacier** baz=335,SNR=7.9	**79.76**	**15**	P	**P**	**20 22 54.3**	**+0.9**
CTGM	**Chitina Glacie** comp=Z,14nm,0.7s	**79.76**	**15**	IAmb	IAmb	20 22 55.3	
YUK8	**Steele Glacier** baz=336	**79.78**	**14**	P	**P**	**20 22 54.3**	**+0.7**
M31M	**Drury Creek, Y** comp=Z,15nm,0.8s	**79.86**	**11**	IAmb	IAmb	20 22 55.5	
M31M	**Drury Creek, Y** baz=341,SNR=14	**79.86**	**11**	P	**P**	**20 22 54.6**	**+0.8**
WAX	**Waxell Ridge** comp=Z,11nm,0.6s	**79.90**	**16**	IAmb	IAmb	20 22 55.6	
MMPY	**Sheldon Lake,** baz=343,SNR=8.3	**79.91**	**10**	P	**P**	**20 22 55.0**	**+0.9**
YUK4	**Talbot Arm** baz=337,SNR=7.0	**79.93**	**13**	P	**P**	**20 22 55.0**	**+0.6**
LOGN	**Logan Glacier** comp=Z,10nm,0.8s	**79.95**	**15**	IAmb	IAmb	20 22 56.3	
OHAK	**Old Harbor** comp=Z,11nm,0.7s	**80.00**	**22**	IAmb	IAmb	20 22 55.8	
OHAK	**Old Harbor**	**80.00**	**22**	P	**P**	**20 22 55.4**	**+0.9**
OHAK	**Old Harbor** baz=326	**80.00**	**22**	P	**P**	**20 22 54.9**	**+0.4**
BLDU	**Ballidu** comp=Z,41nm,1.1s	**80.05**	**140**	P	**P**	**20 22 53.7**	**-1.4**
BLDU	**Ballidu**	**80.05**	**140**	P	**P**	**20 22 53.9**	**-1.1**
N30M	**Aishikik Lake** baz=339,SNR=6.5	**80.11**	**13**	P	**P**	**20 22 55.9**	**+0.8**
O28M	**Mount Upton** baz=336,SNR=5.1	**80.16**	**14**	P	**P**	**20 22 56.6**	**+0.9**
WRGLY	**Wrigley** baz=350	**80.17**	**6**	P	**P**	**20 22 56.5**	**+1.2**
YAH	**Yahtse** comp=Z,19nm,0.7s	**80.22**	**15**	IAmb	IAmb	20 22 58.2	
SII	**Sitkinak Islan** baz=326	**80.27**	**23**	P	**P**	**20 22 56.4**	**+0.4**
N31M	**Braeburn, Yuko** comp=Z,24nm,1.1s	**80.31**	**12**	IAmb	IAmb	20 22 57.9	
N31M	**Braeburn, Yuko** baz=340,SNR=8.8	**80.31**	**12**	P	**P**	**20 22 56.8**	**+0.6**
MESA	**MESA** baz=335	**80.34**	**15**	P	**P**	**20 22 57.5**	**+0.9**
YUK6	**Outpost Mounta** baz=338	**80.36**	**13**	P	**P**	**20 22 57.8**	**+1.1**
CHIR	**Chirikof Islan** baz=325	**80.42**	**24**	P	**P**	**20 22 57.8**	**+1.0**
HYT	**Haines Junctio** comp=Z,12nm,0.8s	**80.63**	**13**	IAmb	IAmb	20 23 00.1	
HYT	**Haines Junctio** baz=338,SNR=14	**80.63**	**13**	P	**P**	**20 22 59.2**	**+1.2**
PCA	**Pinnacle** comp=Z,20nm,0.8s	**80.77**	**15**	IAmb	IAmb	20 23 01.2	
PINM	**Pinnacle** baz=336,SNR=5.4	**80.77**	**15**	P	**P**	**20 22 59.8**	**+1.1**
O29M	**Mount Kennedy** baz=338	**80.91**	**14**	P	**P**	**20 22 59.8**	**+0.2**
WHY	**Whitehorse** comp=Z,18nm,0.6s	**81.24**	**12**	IAmb	IAmb	20 23 02.1	
WHY	**Whitehorse** baz=340,SNR=6.3	**81.24**	**12**	P	**P**	**20 23 01.5**	**+0.2**
PNL	**Peninsula**	**81.34**	**14**	P	**P**	**20 23 03.1**	**+1.4**
PNL	**Peninsula** baz=337,SNR=5.4	**81.34**	**14**	P	**P**	**20 23 02.4**	**+0.7**
TGTN	**Hyland Airport** baz=345,SNR=7.4	**81.35**	**8**	P	**P**	**20 23 03.3**	**+1.6**
P30M	**Million Dollar** baz=339	**81.38**	**13**	P	**P**	**20 23 02.9**	**+0.9**
YKA	**Yellowknife Ar** comp=Z,19nm,0.8s,baz=354,slow=5.7,SNR=14	**81.39**	**2**	P	**P**	**20 23 02.4**	**+0.5**
YKA	comp=Z,95nm,18.1s,baz=311,slow=40 comp=Z,19nm,0.8s			LR	LR	21 05 16.2	
YKAW1	**Yellowknife Wh** comp=Z,33nm,0.8s	**81.40**	**2**	IAmb	IAmb	20 23 03.5	
SCHQ	**Schefferville** comp=Z,2.4nm,0.5s,baz=48,slow=14,SNR=4.7	**81.69**	**336**	P	**P**	**20 23 03.7**	**0.0**
SCHQ	comp=Z,85nm,19.3s,baz=40,slow=36 comp=Z,2.4nm,0.5s			LR	LR	20 59 38.0	
P29M	**Windy Craggy** baz=338	**81.70**	**14**	P	**P**	**20 23 04.3**	**+0.6**
P33M	**Teslin, Yukon** baz=342,SNR=22	**81.99**	**11**	P	**P**	**20 23 05.6**	**+0.4**
PLBC	**Pleasant Camp** baz=339,SNR=14	**82.11**	**13**	P	**P**	**20 23 06.9**	**+1.1**
NWAO	**Narrogin (SRO)**	**82.16**	**141**	P	**P**	**20 23 04.9**	**-1.3**
SUR	**Sutherland**	**82.19**	**220**	P	**P**	**20 23 07.0**	**+0.3**
SKAG	**Skagway** comp=Z,13nm,0.9s	**82.29**	**12**	IAmb	IAmb	20 23 08.9	
SKAG	**Skagway**	**82.29**	**12**	P	**P**	**20 23 07.7**	**+1.0**
SKAG	**Skagway** baz=340,SNR=5.4	**82.29**	**12**	P	**P**	**20 23 07.8**	**+1.2**
P32M	**Atlin** comp=Z,24nm,1.4s	**82.44**	**12**	IAmb	IAmb	20 23 09.2	
P32M	**Atlin** baz=341	**82.44**	**12**	P	**P**	**20 23 08.5**	**+0.9**
WTLY	**Watson Lake, Y** comp=Z,18nm,0.8s	**82.66**	**9**	IAmb	IAmb	20 23 10.2	
WTLY	**Watson Lake, Y** baz=345	**82.66**	**9**	P	**P**	**20 23 09.5**	**+0.9**
WRA	**Warramunga Arr** comp=Z,5.8nm,0.6s,baz=324,slow=5.0,SNR=35	**82.99**	**121**	P	**P**	**20 23 08.7**	**-2.2**
WRA	comp=Z,0.6nm,0.4s,baz=131,slow=2.3,SNR=6.5 comp=Z,5.8nm,0.6s			PKKPbc	**PKKPbc**	**20 41 33.0**	**+0.4**
R33M	**Jennings River** comp=Z,16nm,1.0s	**83.05**	**10**	IAmb	IAmb	20 23 12.5	
R33M	**Jennings River** baz=344,SNR=7.9	**83.05**	**10**	P	**P**	**20 23 11.5**	**+0.7**
WR8	**Warramunga Arr** comp=Z,24nm,1.4s	**83.11**	**121**	IAmb	IAmb	20 23 12.4	
KOTAN	**Kotaneelee Air** baz=349	**83.17**	**7**	P	**P**	**20 23 12.1**	**+0.9**
Q32M	**Nakina River** comp=Z,8.3nm,0.7s	**83.27**	**11**	IAmb	IAmb	20 23 13.4	
Q32M	**Nakina River** baz=343	**83.27**	**11**	P	**P**	**20 23 12.7**	**+0.6**
R32K	**Eaglecrest** baz=341	**83.56**	**12**	P	**P**	**20 23 14.2**	**+0.9**
DLBC	**Dease Lake** comp=Z,29nm,18.1s,baz=262,slow=40	**84.11**	**10**	LR	LR	21 06 36.2	
DLBC	**Dease Lake** baz=344	**84.11**	**10**	P	**P**	**20 23 17.0**	**+0.8**
S32K	**Killisnoo** baz=341	**84.31**	**13**	P	**P**	**20 23 18.1**	**+1.0**
TOAD	**Toad River Com** baz=348	**84.31**	**8**	P	**P**	**20 23 18.2**	**+1.1**
S34M	**Telegraph Cree** baz=344=12	**84.45**	**11**	P	**P**	**20 23 19.2**	**+1.4**
AS31	**Alice Springs** comp=Z,3.1nm,0.5s	**85.21**	**124**	P	**P**	**20 23 20.1**	**-2.0**
ASAR	**Alice Springs** comp=Z,6.3nm,0.6s,baz=311,slow=4.9,SNR=90	**85.21**	**124**	P	**P**	**20 23 19.9**	**-2.2**
ASAR	comp=Z,0.5nm,0.6s,baz=110,slow=2.4,SNR=7.6 comp=Z,6.3nm,0.6s			PKKPbc	**PKKPbc**	**20 41 27.6**	**+0.1**
ASAR	**Alice Springs**	**85.21**	**124**	P	**P**	**20 23 20.0**	**-2.2**
AS01	**Alice Springs**	**85.24**	**124**	P	**P**	**20 23 20.5**	**-1.8**
T35M	**Bob Quinn** baz=344	**85.48**	**11**	P	**P**	**20 23 24.3**	**+1.2**
U33K	**Whale Pass** baz=342	**85.85**	**12**	P	**P**	**20 23 25.9**	**+1.0**
FFC	**Flin Flon**	**88.94**	**355**	P	**P**	**20 23 39.8**	**0.0**
FFC	comp=Z,11nm,0.8s			IAmb	IAmb	20 23 41.0	
FFC	**Flin Flon**	**88.94**	**355**	P	**P**	**20 23 39.8**	**0.0**
FFC	comp=Z,11nm,0.9s			pmax	pmax		
ULM	**Lac du Bonnet** comp=Z,5.3nm,0.6s,baz=23,slow=4.1,SNR=7.2 comp=Z,5.3nm,0.6s	**92.75**	**351**	P	**P**	**20 23 57.1**	**-0.4**
EYMN	**Ely** comp=Z,8.4nm,0.8s	**94.32**	**347**	IAmb	IAmb	20 24 05.8	
SADO	**Sadowa** comp=Z,51nm,18.0s,baz=144,slow=37	**94.35**	**338**	LR	LR	21 08 33.9	
AGMN	**Agassiz Nation** comp=Z,5.3nm,0.7s	**94.66**	**350**	IAmb	IAmb	20 24 07.7	
NEW	**Newport** comp=Z,4.1nm,0.8s	**95.50**	**4**	IAmb	IAmb	20 24 11.8	
NEW	**Newport** comp=Z,40nm,18.3s,baz=5.0,slow=39	**95.50**	**4**	LR	LR	21 12 37.0	
BOZ	**Bozeman (W)** comp=Z,7.8nm,1.1s	**98.37**	**1**	IAmb	IAmb	20 27 40.6	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=352,slow=3.3,SNR=2.5	**101.20**	**359**	P	**Pdif**	**20 24 36.9**	**+0.6**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=205,slow=4.3,SNR=3.6	**105.19**	**6**	PKKPbc	PKKPbc	20 40 33.0	-1.1
TXAR	**Lajitas Array** comp=Z,0.6nm,0.7s,baz=187,slow=1.4,SNR=5.9	**114.29**	**353**	PKiKP	**PKiKP**	**20 29 23.9**	**-1.6**
TXAR	comp=Z,0.6nm,0.8s,baz=354,slow=8.5,SNR=3.9			PP	**PP**	**20 30 18.0**	**-1.8**
TXAR	comp=Z,0.4nm,0.7s,baz=196,slow=4.4,SNR=4.5			PKKPbc	**PKKPbc**	**20 40 04.6**	**-0.1**
NVL	**N'lazarevskaya**	**114.48**	**198**	*e*PKiKP	PKiKP	20 29 33.3	+9.1
NVL	comp=Z,9.0nm,0.8s			pmax	pmax		
TROLL	**Troll, Antarti** comp=Z,611nm,0.5s	**117.61**	**199**	⇓P	**PKPdf**	**20 29 30.1**	**-0.3**
SNAA	**Sanae** comp=Z,73nm,0.6s	**118.88**	**200**	⇓P	**PKPdf**	**20 29 31.9**	**-0.9**
SNAA	**Sanae** comp=Z,4.8nm,0.9s,baz=132,slow=2.9,SNR=25	**118.88**	**200**	PKP	**PKPdf**	**20 29 31.7**	**-1.0**
VNA2	**Neumayer--Watz** comp=Z,20nm,0.6s,baz=24,slow=3.9	**119.86**	**202**	⇓P	**PKPdf**	**20 29 34.1**	**-0.5**
VNA1	**Neumayer--Stat** comp=Z,13nm,0.9s	**120.00**	**202**	⇓P	**PKPdf**	**20 29 34.4**	**-0.4**
VNA3	**Neumayer Olymp** comp=Z,17nm,0.8s	**120.66**	**202**	⇓P	**PKPdf**	**20 29 35.4**	**-0.8**
BDFB	**Brasilia** comp=Z,11nm,0.3s,baz=153,slow=8.1,SNR=14	**121.14**	**273**	PKP	**PKPdf**	**20 29 35.6**	**-3.1**
VNDA	**Vanda** comp=Z,1.1nm,0.9s,baz=288,slow=4.8,SNR=7.6	**125.73**	**164**	PKP	**PKPdf**	**20 29 44.5**	**-1.2**
QSPA	**South Pole Qui** comp=Z,7.3nm,0.9s,baz=271,slow=1.9,SNR=13	**126.20**	**180**	PKP	**PKPdf**	**20 29 46.4**	**-0.5**
ROSC	**El Rosal** comp=Z,16nm,0.6s,baz=121,slow=18,SNR=5.0	**126.81**	**313**	PKP	**PKPdf**	**20 29 50.5**	**+0.4**
SAML	**Samuel**	**129.16**	**290**	*e*P	**PKPdf**	**20 29 53.6**	**-0.5**
SIV	**San Ignacio** comp=Z,3.3nm,0.9s,baz=98,slow=2.9,SNR=8.6	**131.78**	**281**	PKP	**PKPdf**	**20 29 58.2**	**-0.8**
CPUP	**Villa Florida** comp=Z,1.1nm,0.8s,baz=76,slow=0.6,SNR=7.8	**133.98**	**267**	PKP	**PKPdf**	**20 30 01.7**	**-1.2**
LPAZ	**La Paz** comp=Z,2.1nm,0.7s,baz=13,slow=3.9,SNR=9.2	**137.47**	**287**	PKP	**PKPdf**	**20 30 10.0**	**-0.4**
LPAZ	**La Paz**	**137.47**	**287**	PKiKP	**PKPdf**	**20 30 10.0**	**-0.4**
LPAZ	**La Paz**	**137.47**	**287**	*e*P	**PKPdf**	**20 30 10.3**	**-0.1**
CFA	**Coronel Fontan** comp=Z,7.0nm,0.6s,baz=32,slow=3.5,SNR=27	**144.83**	**265**	PKP	**PKPab**	**20 30 21.1**	**-0.4**
PLCA	**Paso Flores** comp=Z,5.8nm,0.9s,baz=110,slow=2.5,SNR=5.7	**148.64**	**250**	PKPbc	**PKPdf**	**20 30 28.9**	**+0.3**
PLCA	**Paso Flores**	**148.64**	**250**	*e*P	**PKPdf**	**20 30 29.1**	**+0.4**

*IDC **21** 20:26:32.8±0.6,28.°75N×139.°84E,h459km±11km, mb3.1/10,mbtmp4.0/15,Error ellipse: s-maj=31.3km s-min=15.3km az=65.0*
*JMA **21** 20:26:33.7±0.3,29.°N±1.°×14.°0E±.°,h469km±4km,MV3.6/23, W OFF OGASAWARA*
ISC 21 20:26:33.1±0.7,28.°77N±0.°07×139.°7E±0.°1,h450km,n25, σ1s50/31,mb3.6/10,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.74**	**127**	*i* P	**P**	**20 27 39.4**	**+1.1**
CBIJ				S	**S**	**20 28 31.5**	**+0.5**
JCJ	**Chichijima** 62nm,0.3s,baz=278,slow=15,SNR=80	**2.74**	**127**	P	**P**	**20 27 39.1**	**+0.9**
JCJ	96nm,0.4s,baz=294,slow=23,SNR=22			S	**S**	**20 28 30.8**	**-0.3**
JHH2	**Haha-jima-NKT2**	**3.04**	**134**	P	**P**	**20 27 41.8**	**+1.4**
JHH2				S	**S**	**20 28 36.7**	**+1.6**
JHJ	**Hachijo jima 2** 39nm,0.3s,baz=89,slow=15,SNR=6.9	**4.33**	**1**	P	**P**	**20 27 53.1**	**+2.1**
JHJ	37nm,0.4s,baz=107,slow=19,SNR=1.3			S	**S**	**20 28 54.8**	**+0.2**
BSO1	**Boso 1**	**5.96**	**10**	S	**S**	**20 29 23.4**	**+1.0**
BSO3	**Boso 3**	**6.04**	**6**	*e*S	**S**	**20 29 24.5**	**-0.1**
JIE	**Ise**	**6.17**	**336**	P	**P**	**20 28 12.0**	**+3.0**
JKN2	**Miekihoku**	**6.20**	**332**	P	**P**	**20 28 12.4**	**+3.1**
JNY	**Yasuok**	**6.75**	**347**	P	**P**	**20 28 17.1**	**+1.9**
JEG	**Eigenji**	**6.95**	**337**	*e*P	**P**	**20 28 20.7**	**+3.5**
JAG	**Ashikaga**	**7.63**	**358**	P	**P**	**20 28 24.5**	**+0.2**
JHO	**Hitachi**	**7.85**	**5**	P	**P**	**20 28 28.1**	**+1.5**
MJAR	**Matsushiro Arr** 2.4nm,0.4s,baz=170,slow=10,SNR=14	**7.85**	**351**	P	**P**	**20 28 27.0**	**+0.2**
JOW	**Kunigami** 4.4nm,0.6s,baz=111,slow=8.6,SNR=1.7	**10.33**	**262**	P	**P**	**20 28 55.0**	**+1.2**
KSRS	**Korea Array** 0.4nm,0.3s,baz=128,slow=10.0,SNR=1.9	**13.14**	**314**	P	**P**	**20 29 24.1**	**0.0**
SONM	**Songino Array** 0.5nm,0.3s,baz=126,slow=8.6,SNR=7.9 0.5nm,0.3s	**32.01**	**316**	P	**P**	**20 32 20.6**	**-0.2**
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=99,slow=8.9,SNR=2.5 0.4nm,0.5s	**46.80**	**318**	P	**P**	**20 34 19.3**	**-1.1**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=86,slow=9.8,SNR=12	**47.74**	**309**	P	**P**	**20 34 27.0**	**-0.7**
MKAR	0.2nm,0.4s,baz=84,slow=5.2,SNR=2.6			PcP	**PcP**	**20 35 47.7**	**-0.8**
MKAR	0.1nm,0.4s,baz=87,slow=2.9,SNR=1.8 0.6nm,0.4s			ScP	**ScP**	**20 38 56.8**	**-2.3**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=5.5,slow=7.6,SNR=5.2 0.2nm,0.3s	**48.71**	**187**	P	**P**	**20 34 34.4**	**-0.8**
KURBB	**Kurchatov Arra** 1.9nm,0.4s,baz=91,slow=8.1,SNR=42 1.9nm,0.4s	**50.32**	**314**	P	**P**	**20 34 46.0**	**-0.8**
BVAR	**Borovoye Array** 1.2nm,0.4s,baz=89,slow=7.0,SNR=12 1.2nm,0.4s	**55.34**	**317**	P	**P**	**20 35 22.2**	**-0.6**
ARCES	**ARCESS Array B** 1.1nm,0.7s,baz=63,slow=5.6,SNR=3.9 1.1nm,0.7s	**71.24**	**340**	P	**P**	**20 37 04.2**	**-1.0**
KBZ	**Khabaz** 1.2nm,0.6s,baz=63,slow=4.5,SNR=2.0 1.2nm,0.6s	**75.28**	**312**	P	**P**	**20 37 29.0**	**+0.2**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=71,slow=4.9,SNR=14 0.6nm,0.4s	**75.48**	**333**	P	**P**	**20 37 29.1**	**-0.5**
HFS	**Hagfors** 1.8nm,0.9s,baz=60,slow=10,SNR=2.1 1.8nm,0.9s	**81.02**	**336**	P	**P**	**20 37 58.5**	**-1.0**

*IDC **21** 20:33:30.7±1.3,60.°36N×152.°85W,h95km±15km,mb3.8/18, mbtmp4.2/22,Error ellipse: s-maj=16.0km s-min=12.4km az=94.0*
*NEIC **21** 20:33:32.5±0.9,60.°35N±0.°04×152.°69W±0.°09, h116km±4km,Error ellipse: s-maj=6.9km s-min=6.1km az=110.0*
*AEIC **21** 20:33:34.2±1.6,60.°37N±0.°04×152.°60W±0.°09, h106km±4km,ML3.7,ML3.9/228(NEIC), Error ellipse: s-maj=6.6km s-min=5.9km az=92.0*
ISC 21 20:33:32.6±0.6,60.°35N±0.°03×152.°62W±0.°04, h118km±5km,n307,σ1s00/279,mb4.1/18,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RED	**Redoubt Volcan**	**0.10**	**315**		**Sn**	**20 33 59.8**	**-1.4**
RED	**Redoubt Volcan**	**0.10**	**315**		**Pn**	**20 33 48.2**	**-0.6**
RED	comp=E,1μm,1.2s			IAML		20 34 00.3	
RED	comp=N,2μm,1.0s			IAML		20 34 00.7	
RDSO	**Redoubt South**	**0.12**	**332**		**Pn**	**20 33 48.4**	**-0.6**
RDSO					**Sn**	**20 33 59.9**	**

P19K Oil Pt 0.76 204 Pn 20 33 52.3 +0.1
P19K Oil Pt 0.76 204 Sn 20 34 06.9 -0.2
CAPN Captain Cook N 0.84 59 Pn 20 33 54.4 +1.5
HOM Homer 0.85 144 Sn 20 34 09.3 +1.0
HOM Homer 0.85 144 Pn 20 33 53.4 +0.5
O19K Port Alsworth 0.86 261 Pn 20 33 52.5 -0.5
O19K Port Alsworth 0.86 261 Sn 20 34 07.2 -1.2
SPCR Spurr Chakacha 0.88 13 Sn 20 34 08.3 -0.8
SPU Mount Spurr 0.89 18 Pn 20 33 53.0 -0.3
SPBG Spurr Blockage 0.93 8 Pn 20 33 53.9 +0.1
SPBG Sn 20 34 09.5 -0.4
SPCG Spurr Capps Gl 1.00 17 Pn 20 33 54.5 0.0
SPCG Sn 20 34 10.1 -1.0
N19K Bonanza Creek 1.03 298 Pn 20 33 54.1 -0.7
N19K IAML 20 34 10.9
comp=N,1µm,0.8s
N19K Bonanza Creek 1.03 298 Sn 20 34 10.5 -1.2
AU22 Augustine Moun 1.04 201 Sn 20 34 11.9 +0.3
BRLK Bradley Lake 1.05 123 Pn 20 33 54.7 -0.2
BRLK IAML 20 34 12.4
comp=E,2µm,0.4s
BRLK IAML 20 34 15.1
comp=N,2µm,0.4s
CNPM China Poot 1.08 139 Sn 20 34 12.3 0.0
CNPM China Poot 1.08 139 Pn 20 33 55.3 +0.1
CNPM IAML 20 34 15.4
comp=N,3µm,0.7s
SLKM Skilak Lake 1.20 81 Pn 20 33 56.5 0.0
SLKM IAML 20 34 14.4
comp=N,3µm,0.7s
SLKM IAML 20 34 15.6
comp=E,2µm,0.5s
SLKM Skilak Lake 1.20 81 Sn 20 34 13.6 -1.1
STLK Strandline Lak 1.22 18 Pn 20 33 56.8 0.0
STLK IAML 20 34 17.3
comp=E,742nm,0.5s
O18K Koktuh Hills 1.39 250 Pn 20 33 58.1 -0.4
O18K IAML 20 34 17.7
comp=E,582nm,0.7s
O18K IAML 20 34 17.8
comp=N,584nm,0.8s
FIS Fire Island 1.43 55 Pn 20 34 00.2 +1.3
O22K Cooper Landing 1.45 83 Pn 20 33 59.2 +0.1
SUA Susitna One 1.45 38 Sn 20 34 20.0 +0.2
SUA Susitna One 1.45 38 Pn 20 33 59.7 +0.4
Q19K Capes Douglas, 1.51 200 Pn 20 33 59.9 -0.1
Q19K IAML 20 34 26.3
comp=N,1µm,0.6s
Q19K IAML 20 34 50.5
comp=E,1µm,0.7s
M20K Styx River 1.56 351 Pn 20 34 00.8 +0.2
SEW Seward 1.60 97 Pn 20 34 00.8 -0.2
SEW IAML 20 34 24.0
comp=N,913nm,0.4s
SEW IAML 20 34 26.9
comp=E,859nm,0.4s
RC01 Rabbit Creek A 1.60 61 Pn 20 34 01.2 +0.2
RC01 IAML 20 34 23.5
comp=N,2µm,0.5s
RC01 IAML 20 34 24.0
comp=E,2µm,0.4s
P18K Big Mountain, 1.62 235 Pn 20 34 01.0 -0.4
N18K Kilae Creek 1.65 283 Sn 20 34 21.8 -2.0
N18K Kilae Creek 1.65 283 Pn 20 34 01.0 -0.6
N18K IAML 20 34 22.3
comp=N,440nm,0.8s
N18K IAML 20 34 22.7
comp=E,518nm,1.0s
SKT Skwentna 1.73 17 Pn 20 34 02.4 -0.1
SKT IAML 20 34 28.2
comp=N,411nm,0.4s
SKT IAML 20 34 28.3
comp=E,419nm,0.3s
SYI Shuyak Island 1.74 176 Pn 20 34 03.0 +0.3
SYI IAML 20 34 28.1
comp=E,1µm,0.9s
M19K Big River Lodg 1.78 332 Pn 20 34 03.2 0.0
M22K Willow 1.87 40 Pn 20 34 03.1 -1.0
M18K Stony River 1.94 308 Pn 20 34 04.4 -0.7
KAHG Katmai Hook Gl 2.10 209 Pn 20 34 07.7 +0.5
PMR Palmer 2.11 52 Pn 20 34 06.5 -0.7
PMR IAML 20 34 38.1
comp=E,628nm,0.5s
PMR IAML 20 34 39.6
comp=N,575nm,0.4s
PMR Palmer 2.11 52 P Pn 20 34 06.5 -0.7
PMR Palmer 2.11 52 S Sn 20 34 32.4 -1.4
L19K White Mountain 2.13 331 Pn 20 34 07.5 -0.1
PWL Port Wells 2.18 74 Pn 20 34 07.1 -1.0
PWL IAML 20 34 39.0
comp=E,1µm,0.5s
KAWH Katmai 2.26 210 Pn 20 34 09.5 +0.3
N17K Nushagak Hills 2.27 277 Pn 20 34 08.8 -0.4
N17K IAML 20 34 36.6
comp=E,324nm,0.8s
N17K IAML 20 34 36.8
comp=N,344nm,0.6s
KNK Knik Glacier 2.30 60 IAML 20 34 39.1
comp=N,1µm,0.7s
CUT Chulitna 2.36 28 Pn 20 34 10.7 +0.3
CUT Chulitna 2.36 28 IAML 20 34 41.8
comp=N,1µm,0.6s
ACHA Angle Creek He 2.55 214 Pn 20 34 13.3 +0.3
PPLA Purkeypile 2.57 4 IAML 20 34 47.0
comp=E,207nm,0.7s
KDAK Kodiak Island 2.57 180 Pn 20 34 12.0 -1.2
KDAK IAML 20 34 44.9
comp=E,520nm,0.5s
KDAK IAML 20 34 45.1
comp=E,537nm,0.2s
KDAK Kodiak Island 2.57 180 P Pn 20 34 11.8 -1.3
comp=E,183nm,0.3s,baz=36,slow=5.6,SNR=642
KDAK S Sn 20 34 41.8 -2.5
comp=E,215nm,0.3s,baz=57,slow=4.5,SNR=19
MGLS Mageik Landsli 2.57 212 Pn 20 34 13.7 +0.6
M17K Holitna River 2.58 296 Pn 20 34 12.9 -0.4
M17K IAML 20 34 44.7
comp=N,258nm,0.9s
M17K IAML 20 35 01.7
comp=E,241nm,0.6s
P23K Montague Islan 2.63 95 IAML 20 34 47.9
comp=E,1µm,0.5s
Q16K King Salmon 2.65 233 Pn 20 34 14.7 +0.6
KJL Kejulik 2.75 215 Pn 20 34 16.5 +0.9
GLI Glacier Island 2.78 76 Pn 20 34 13.9 -1.9
GLI Glacier Island 2.78 76 IAML 20 34 55.9
comp=E,647nm,0.5s
GLI IAML 20 34 56.8
comp=N,598nm,0.6s
M23K Glacier View 2.79 56 Pn 20 34 15.5 -0.5
O16K Kokwok River B 2.85 257 Pn 20 34 16.8 0.0
R18K Karluk 2.94 200 Pn 20 34 17.1 -0.8
R18K Karluk 2.94 200 IAML 20 34 55.3
comp=N,712nm,0.3s
SCM Sheep Creek Mo 2.97 58 IAML 20 34 57.9
comp=E,600nm,0.6s
SCM IAML 20 35 05.9
comp=N,693nm,0.7s
P16K Nushagak River 3.02 247 Pn 20 34 19.6 +0.6
P16K Nushagak River 3.02 247 IAML 20 35 25.0
comp=N,264nm,0.8s
P16K IAML 20 35 29.7
comp=E,278nm,1.0s
HIN Hinchinbrook I 3.04 86 Pn 20 34 19.6 +0.4
HIN IAML 20 34 55.5
comp=N,386nm,0.5s
HIN IAML 20 34 55.7
comp=E,335nm,0.5s
N16K Nishlik Lake 3.05 275 Pn 20 34 19.3 -0.1
FID Port Fidalgo 3.06 80 Pn 20 34 19.3 -0.2
FID IAML 20 34 56.2
comp=N,506nm,0.4s
FID IAML 20 34 57.2
comp=E,487nm,0.6s
WAT7 Susitna Watana 3.08 34 Pn 20 34 19.6 -0.3
CAST Castle Rocks 3.10 4 Pn 20 34 19.9 0.0
OHAK Old Harbor 3.15 187 Pn 20 34 19.4 -1.4
OHAK IAML 20 34 56.6
comp=E,200nm,0.3s
OHAK IAML 20 34 59.0
comp=N,197nm,0.4s
OHAK Old Harbor 3.15 187 P Pn 20 34 19.3 -1.4
OHAK Old Harbor 3.15 187 S Sn 20 34 55.2 -2.6
WAT1 Susitna Watana 3.16 36 Pn 20 34 20.7 -0.2

M16K Timber Creek 3.19 285 Pn 20 34 21.0 -0.2
WAT6 Susitna Watana 3.24 44 Pn 20 34 21.7 -0.4
PLK3 Peulik 3 3.26 217 Pn 20 34 23.0 +0.8
PLK1 Peulik 1 3.28 221 Pn 20 34 22.9 +0.6
Q23K Middleton Isla 3.29 103 Pn 20 34 23.3 +0.8
Q23K IAML 20 35 03.2
comp=N,472nm,0.7s
Q23K IAML 20 35 03.4
comp=E,352nm,0.9s
TRF Thorofare Moun 3.31 18 Pn 20 34 22.3 -0.6
TRF IAML 20 35 01.9
comp=N,338nm,0.7s
TRF IAML 20 35 03.4
comp=E,190nm,0.6s
KTH Kantishna Hill 3.32 13 Pn 20 34 22.9 -0.1
KTH Kantishna Hill 3.32 13 IAML 20 35 06.2
comp=N,179nm,0.6s
KTH IAML 20 35 26.1
comp=E,161nm,0.8s
PLK4 Peulik 4 3.34 217 Pn 20 34 24.0 +0.7
PLK4 IAML 20 35 06.1
comp=E,140nm,0.5s
PLK4 IAML 20 35 26.5
comp=N,114nm,1.0s
EYAK Cordova Ski Ar 3.41 84 Pn 20 34 24.1 -0.1
EYAK Cordova Ski Ar 3.41 84 IAML 20 35 07.8
comp=E,124nm,0.6s
EYAK IAML 20 35 24.0
comp=N,166nm,0.5s
EYAK Cordova Ski Ar 3.41 84 P Pn 20 34 23.9 -0.2
PLBL Peulik Blue Cr 3.43 221 Pn 20 34 24.4 +0.1
DIV Divide 3.46 74 Pn 20 34 23.8 -1.0
DIV Divide 3.46 74 IAML 20 35 06.7
comp=E,227nm,0.6s
DIV IAML 20 35 08.5
comp=N,413nm,0.5s
KLU Klutina 3.47 68 IAML 20 35 04.7
comp=E,297nm,0.4s
KLU IAML 20 35 08.5
comp=N,515nm,0.5s
RND Reindeer 3.55 29 Pn 20 34 25.8 -0.3
RND IAML 20 35 08.9
comp=E,148nm,0.8s
RND IAML 20 35 32.2
comp=N,139nm,0.9s
CHUM Lake Minchumin 3.55 2 Pn 20 34 26.0 0.0
M24K Tolsona, Glenn 3.58 58 Pn 20 34 26.7 +0.2
M24K IAML 20 35 10.8
comp=N,489nm,0.5s
L16K Owhat River 3.60 295 Pn 20 34 26.2 -0.4
J18K Innoko River 3.68 330 Pn 20 34 27.4 -0.3
DHY Denali Highway 3.71 40 Pn 20 34 27.9 -0.3
DHY Denali Highway 3.71 40 IAML 20 35 12.6
comp=E,314nm,0.5s
DHY IAML 20 35 15.4
comp=N,282nm,0.4s
N15K Kwethluk River 3.73 271 Pn 20 34 29.1 +0.8
N15K IAML 20 35 11.2
comp=N,83nm,0.8s
R16K Pilot Point 3.79 225 Pn 20 34 29.8 +0.7
R16K Pilot Point 3.79 225 IAML 20 35 15.6
comp=E,135nm,1.2s
R16K IAML 20 35 59.9
comp=N,113nm,1.1s
MCK McKinley 3.82 25 IAML 20 35 17.6
comp=E,123nm,0.7s
MCK IAML 20 35 20.4
comp=N,118nm,0.5s
O15K Ungalikthiuk R 3.83 255 Pn 20 34 29.7 0.0
BPAW Bear Paw Mtn. 3.85 11 Pn 20 34 29.0 -0.9
SII Sitkinak Islan 3.88 193 Pn 20 34 29.9 -0.6
SII Sitkinak Islan 3.88 193 P Pn 20 34 28.9 -1.6
SII Sitkinak Islan 3.88 193 S Sn 20 35 11.7 -3.6
GOAT Goat Mountain 3.92 83 Pn 20 34 29.5 -1.4
J19K Poorman 3.92 340 Pn 20 34 31.0 0.0
RAGM Ragged Mountai 3.95 86 Pn 20 34 29.6 -1.7
BMRM Bremner River 4.00 78 IAML 20 35 40.1
comp=E,243nm,0.7s
BMRM IAML 20 35 41.2
comp=N,327nm,0.9s
M15K Kasigluk River 4.00 279 Pn 20 34 31.3 -0.6
N25K Chitina, Valde 4.11 69 IAML 20 35 22.5
comp=N,260nm,0.6s
BWN Browne 4.12 20 Pn 20 34 33.2 -0.3
BWN Browne 4.12 20 IAML 20 35 40.6
comp=N,183nm,1.0s
BWN IAML 20 36 00.0
comp=E,192nm,0.9s
KAIM Kayak Island 4.12 92 Pn 20 34 34.4 +0.7
KAIM IAML 20 35 26.0
comp=E,255nm,0.6s
HMT Hamilton 4.16 86 Pn 20 34 33.7 -0.4
HMT Hamilton 4.16 86 IAML 20 35 25.8
comp=N,243nm,0.6s
PAX Paxson 4.31 49 IAML 20 35 26.1
comp=E,124nm,0.6s
PAX IAML 20 35 45.3
comp=N,122nm,0.7s
NICHA Nichawak Mount 4.31 88 Pn 20 34 35.6 -0.5
SUCK Suckling Hills 4.42 90 IAML 20 35 29.4
comp=N,129nm,0.6s
SUCK IAML 20 35 33.4
comp=E,72nm,0.7s
BERG Berg Lake 4.43 86 Pn 20 34 37.5 -0.2
GLB Gilahina Butte 4.44 72 IAML 20 35 29.8
comp=E,227nm,0.4s
GLB IAML 20 35 32.2
comp=N,221nm,0.5s
ANNE Aniakchak Nort 4.46 222 Pn 20 34 38.5 +0.2
O14K Tigyukauivet M 4.50 260 Pn 20 34 38.5 -0.1
ANPK Aniakchak Peak 4.54 222 Pn 20 34 39.4 +0.1
I20K Naaghedeneel 4.55 350 Pn 20 34 38.4 -0.8
I20K Naaghedeneel 4.55 350 IAML 20 35 46.6
comp=E,111nm,0.9s
I20K IAML 20 36 28.6
comp=N,143nm,0.9s
N14K Kuskokwak Cree 4.55 269 Pn 20 34 39.3 0.0
N14K Kuskokwak Cree 4.55 269 IAML 20 36 02.7
comp=E,90nm,0.9s
N14K IAML 20 36 16.3
comp=N,52nm,0.8s
NEA2 Nenana 4.57 20 Pn 20 34 38.7 -0.9
VRDI Verde Repeater 4.58 75 IAML 20 35 33.9
comp=E,161nm,0.5s
ANPB Aniakchak Plen 4.62 222 Pn 20 34 40.2 -0.2
GRIN Grindle Hills 4.63 87 Pn 20 34 40.5 +0.1
M14K Bethel 4.63 279 Pn 20 34 40.0 -0.4
WRH Wood River Hil 4.65 25 IAML 20 35 33.1
comp=E,91nm,0.5s
WRH IAML 20 35 33.1
comp=N,55nm,0.4s
CRQM Cirque 4.70 81 IAML 20 35 43.5
comp=E,168nm,0.5s
K15K Wolf Creek Mou 4.72 298 Pn 20 34 41.5 0.0
MLY Manley 4.78 10 Pn 20 34 41.7 -0.8
CHIR Chirikof Islan 4.81 201 Pn 20 34 41.2 -1.6
CHIR Chirikof Islan 4.81 201 IAML 20 35 34.1
comp=N,116nm,0.4s
CHIR IAML 20 35 34.2
comp=E,142nm,0.6s
CHIR Chirikof Islan 4.81 201 P Pn 20 34 40.8 -2.0
CHIR Chirikof Islan 4.81 201 S Sn 20 35 33.6 -3.8
MCARA McCarthy VSAT 4.81 73 Pn 20 34 42.7 -0.1
WAX Waxell Ridge 4.85 85 Pn 20 34 43.1 -0.3
TGL Tana Glacier 4.85 81 IAML 20 35 44.1
comp=N,155nm,0.5s
CCB Clear Creek Bu 4.86 25 IAML 20 35 39.6
comp=N,40nm,0.4s
CCB IAML 20 35 40.0
comp=E,92nm,0.5s
SNH Sunshine Point 4.88 88 Pn 20 34 43.5 -0.2
SNH Sunshine Point 4.88 88 IAML 20 35 40.5
comp=N,82nm,0.5s
SNH IAML 20 35 42.7
comp=E,133nm,0.9s
MENT Mentasta 4.98 55 P Pn 20 34 45.6 +0.5
comp=E,54nm,0.5s
RIDG Independent Ri 5.00 44 Pn 20 34 45.3 -0.1
RIDG Independent Ri 5.00 44 IAML 20 35 56.1
comp=N,160nm,1.1s
L14K Kuka Creek 5.02 286 Pn 20 34 45.3 -0.3
L14K Kuka Creek 5.02 286 IAML 20 36 17.2
comp=N,33nm,0.9s
L14K IAML 20 36 24.2
comp=E,34nm,1.1s

BARK Barkley Ridge 5.03 85 Pn 20 34 45.2 -0.6
I23K Minto, Yukon-K 5.05 16 IAML 20 36 18.3
comp=N,47nm,0.7s
I23K IAML 20 36 51.2
comp=E,31nm,0.6s
COLA College 5.05 24 Pn 20 34 45.8 -0.1
COLA College 5.05 24 P Pn 20 34 45.7 -0.3
PTPK Patty Peak 5.05 76 Pn 20 34 46.1 -0.2
CHGN Chignik 5.07 219 Pn 20 34 46.2 -0.1
CHGN IAML 20 35 44.4
comp=N,154nm,0.1s
KIAG Kiagna River 5.09 79 Pn 20 34 46.1 -0.6
ISLE Juniper Island 5.10 83 Pn 20 34 46.8 0.0
ISLE Juniper Island 5.10 83 IAML 20 35 50.2
comp=E,154nm,0.5s
BALM Baldy 5.10 78 Pn 20 34 45.9 -0.9
ILAR Eielson Array 5.17 28 Pn 20 34 47.2 -0.5
ILAR Eielson Array 5.17 28 P Pn 20 34 46.5 -1.1
comp=E,95nm,0.4s,baz=214,slow=14,SNR=1149
ILAR S Sn 20 35 40.6 -5.5
comp=E,15nm,0.6s,baz=215,slow=23,SNR=7.3
I17K Unalakleet 5.19 317 Pn 20 34 46.7 -1.2
DOT Dot Lake 5.22 47 Pn 20 34 48.3 -0.1
DOT Dot Lake 5.22 47 IAML 20 36 10.9
comp=N,100nm,1.1s
BAGL Bagley Icefiel 5.22 84 Pn 20 34 48.3 0.0
H20K Anotleneega Mo 5.27 350 Pn 20 34 48.7 -0.2
MESA MESA 5.32 87 Pn 20 34 49.0 -0.8
M13K Dall Lake 5.32 275 Pn 20 34 50.7 +1.1
M13K Dall Lake 5.32 275 IAML 20 36 27.0
comp=E,26nm,1.2s
H21K Melozitna Rive 5.33 359 Pn 20 34 49.3 -0.5
POKR Poker Plat Res 5.35 24 Pn 20 34 49.4 -0.6
POKR Poker Plat Res 5.35 24 IAML 20 35 50.9
comp=N,41nm,0.5s
POKR IAML 20 35 51.5
comp=E,79nm,0.8s
GRNC Granite Creek 5.38 81 IAML 20 35 54.1
comp=E,132nm,0.6s
VNHG Veniaminof 1 5.38 223 Pn 20 34 50.0 -0.7
YAH Yahtse 5.40 85 Pn 20 34 51.3 +0.3
BARN Barnard Glacie 5.43 78 Pn 20 34 51.0 -0.4
J25K Salcha River, 5.44 35 Pn 20 34 51.5 +0.2
H19K Roundabout Mou 5.49 343 Pn 20 34 50.8 -1.1
H18K Honhosa River 5.50 334 Pn 20 34 51.1 -0.9
CTGM Chitina Glacie 5.59 79 Pn 20 34 53.3 -0.1
RKAV Rock Avalanche 5.61 86 Pn 20 34 53.1 -0.5
IMAR Indian Mountai 5.68 355 Pn 20 34 54.1 -0.4
TABL Table Mountain 5.70 84 Pn 20 34 54.7 -0.2
H17K Granite Mounta 5.70 327 Pn 20 34 54.0 -0.8
CHX Chaix Hills 5.75 88 Pn 20 34 55.1 -0.4
LOGN Logan Glacier 5.75 80 Pn 20 34 55.5 -0.1
J14K Nanvaranak Lak 5.75 299 Pn 20 34 54.7 -0.7
L27K Beaver Creek, 5.81 57 Pn 20 34 55.5 -0.8
BCAR Beaver Creek A 5.83 57 Pn 20 34 56.3 -0.3
YUK2 White River 5.90 71 Pn 20 34 56.8 -0.8
SAMH Samovar Hills 5.91 87 Pn 20 34 57.9 +0.2
H24K Noodor Dome 5.92 19 Pn 20 34 57.0 -0.7
J26L Joseph Creek 5.92 41 Pn 20 34 57.1 -0.8
K13K Kusilvak Mount 6.04 290 Pn 20 34 59.6 +0.3
YUK3 Moose Creek 6.08 71 Pn 20 34 59.4 -0.7
PRP Porcupine Dome 6.12 29 Pn 20 34 59.9 -0.6
O28M Mount Upton 6.15 81 Pn 20 35 01.4 +0.3
G19K Purcell Mounta 6.16 343 Pn 20 34 59.5 -1.4
K27K Chicken 6.17 49 Pn 20 35 00.8 -0.3
PCA Pinnacle 6.17 87 Pn 20 35 00.9 -0.3
H16K Elim 6.19 318 Pn 20 35 01.0 -0.4
G18K Tagagawik 6.20 336 Pn 20 35 01.3 -0.2
G21K Allakaket 6.21 357 Pn 20 35 00.7 -0.9
YUK8 Steele Glacier 6.36 76 Pn 20 35 03.8 -0.2
BCPM Bancas Point 6.50 88 Pn 20 35 03.4 -2.2
SDPT Sand Point 6.53 223 Pn 20 35 04.9 -1.1
SDPT Sand Point 6.53 223 P Pn 20 35 04.9 -1.1
I26K Coal Creek Min 6.60 37 Pn 20 35 06.3 -0.6
PNL Peninsula 6.67 90 Pn 20 35 07.8 -0.1
PNL Peninsula 6.67 90 P Pn 20 35 08.2 +0.3
PNL Peninsula 6.67 90 S Sn 20 36 20.9 -1.5
CHNA Chernabura Isl 6.67 217 P Pn 20 35 06.5 -1.4
CNBA Chernabura Isl 6.68 217 Pn 20 35 06.1 -2.0
H25L Birch Creek 6.69 24 Pn 20 35 07.8 -0.2
G24K Hadweenzic Riv 6.78 18 Pn 20 35 08.7 -0.7
S12K Black Hills 6.84 231 Pn 20 35 09.1 -1.0
F20K Avaraart Lake 6.87 350 Pn 20 35 09.7 -0.8
F19K Shaleruckik Mo 6.90 343 Pn 20 35 10.4 -0.6
F21K Alatna River 6.92 357 Pn 20 35 11.0 -0.2
PS1A Pavlof South-1 6.92 229 Pn 20 35 11.8 +0.4
O29M Mount Kennedy 6.98 84 Pn 20 35 11.3 -0.8
COLD Coldfoot 6.99 8 Pn 20 35 11.9 -0.3
F18K Selawik 7.02 336 Pn 20 35 11.5 -1.0
M29M Somme Creek 7.12 67 Pn 20 35 13.6 -0.4
DAWY Dawson 7.22 53 Pn 20 35 14.5 -0.8
DT1 Dutton Round H 7.36 229 Pn 20 35 17.6 +0.3
L29M L29M 7.42 62 Pn 20 35 17.1 -0.9
E19K Redstone River 7.42 346 Pn 20 35 17.4 -0.6
F24K Squaw Lake 7.50 14 Pn 20 35 17.8 -1.3
P29M Windy Craggy 7.50 89 Pn 20 35 19.1 -0.1
N30M Aishikik Lake 7.66 75 Pn 20 35 20.7 -0.5
G26K Porcupine Rive 7.70 27 Pn 20 35 20.6 -1.2
I28M Miner Creek 7.72 43 Pn 20 35 21.5 -0.7
E22K Anaktuvuk Pass 7.83 2 Pn 20 35 23.1 -0.4
E23K Chandalar 7.86 8 Pn 20 35 22.5 -1.4
K29M Barlow Dome 7.90 57 Pn 20 35 23.6 -1.0
BMAR Burnt Mountain 7.94 23 Pn 20 35 23.4 -1.7
E24K Your Creek 7.97 11 Pn 20 35 23.9 -1.5
F26K Sheenjek River 8.25 23 Pn 20 35 27.8 -1.5
TOLK Toolik Lake Re 8.43 8 Pn 20 35 29.7 -2.0
D22K Ayikyak River 8.57 360 Pn 20 35 32.4 -1.1
D20K Etivluk River 8.57 350 Pn 20 35 32.8 -0.7
J30M Hart River 8.65 54 Pn 20 35 33.6 -1.1
D23K Nanushuk River 8.70 5 Pn 20 35 35.2 0.0
H29M Whitestone 8.70 41 Pn 20 35 34.8 -0.4
S31K Pelican 8.75 99 Pn 20 35 34.9 -1.1
I30M Mount Dempster 8.89 50 Pn 20 35 38.8 +0.8
C21K Knifeblade Rid 8.90 355 Pn 20 35 38.6 +0.8
G29M Pine Creek 9.23 38 Pn 20 35 40.8 -1.6
B21K Ikpikpuk River 9.35 356 Pn 20 35 44.1 +0.1
D25K Kavik River 9.39 14 Pn 20 35 43.3 -1.3
JIS Juneau Island 9.55 95 P Pn 20 35 48.6 +1.9
JIS Juneau Island 9.55 95 S Sn 20 37 32.3 +0.2
C24K Franklin Bluff 9.56 8 Pn 20 35 44.6 -2.2
C23K Itkillik River 9.57 4 Pn 20 35 45.6 -1.4
SIT Sitka 9.58 103 P Pn 20 35 47.8 +0.6
G30M tAoh Zrail Nji 9.84 41 Pn 20 35 48.8 -1.9
B20K Meade River 9.89 351 Pn 20 35 50.7 -0.5
H31M Peel River 9.91 49 Pn 20 35 50.2 -1.4
E28M Babbage River 10.00 29 Pn 20 35 52.4 -0.4
D27M Malcolm River 10.20 24 Pn 20 35 56.6 +1.1
E29M Blow River 10.26 32 Pn 20 35 55.6 -0.6
F30M Barrier River 10.35 38 Pn 20 35 56.9 -0.6
G31M Satah River 10.46 43 Pn 20 35 57.8 -1.1
CRAG Craig 11.45 107 P Pn 20 36 13.1 +0.9
INK Inuvik 11.45 38 P Pn 20 36 11.6 -0.6
comp=E,7.0nm,0.7s,baz=239,slow=16,SNR=15
NIKH Nikolski High 11.56 237 P Pn 20 36 15.0 +1.2
DLBC Dease Lake 11.66 90 P P 20 36 19.5 -4.1
comp=E,1.7nm,0.3s,baz=220,slow=13,SNR=6.0
DLBC S Sn 20 38 23.9 +0.6
comp=E,1.7nm,0.4s,baz=323,slow=20,SNR=3.3
ADK Adak 15.79 248 P P 20 37 11.8 +2.4
YKA Yellowknife Ar 18.14 67 P Pn 20 37 36.6 +0.2
comp=E,5.4nm,0.7s,baz=316,slow=14,SNR=5.7
MA2 Magadan 27.61 294 P P 20 39 08.7 +0.3
comp=E,5.8nm,0.4s,baz=104,slow=12,SNR=5.2
comp=E,5.8nm,0.4s
NVAR Mina Array Bea 30.73 120 P P 20 39 37.7 +1.3
comp=E,0.2nm,0.4s,baz=317,slow=6.7,SNR=1.9
comp=E,0.2nm,0.4s
YAK Yakutsk 35.41 307 P P 20 40 16.5 0.0
comp=E,6.7nm,0.4s,baz=341,slow=0.4,SNR=4.1
comp=E,6.7nm,0.4s
SPITS Spitsbergen Ar 41.56 3 P P 20 41 07.5 -0.2
comp=E,7.0nm,0.9s,baz=51,slow=11,SNR=1.9
comp=E,7.0nm,0.9s
TXAR Lajitas Array 44.93 111 P P 20 41 38.5 +3.1
comp=E,0.2nm,0.5s,baz=324,slow=7.7,SNR=2.9
comp=E,0.2nm,0.5s
ARCES ARCESS Array B 50.41 1 P P 20 42 16.8 -0.3
comp=E,1.5nm,0.8s,baz=347,slow=6.5,SNR=2.0
comp=E,1.5nm,0.8s
KSRS Korea Array 53.29 283 P P 20 42 38.5 -0.3
comp=E,0.6nm,0.4s,baz=44,slow=7.1,SNR=3.2
comp=E,0.6nm,0.4s

SONM	**Songino Array**	**54.74**	**306**	P		**P**	**20 42 50.0**	**+0.6**	
	comp=E,6.5nm,0.7s,baz=44,slow=6.0,SNR=28								
	comp=E,6.5nm,0.7s								
ZALV	**Zalesovo Beam**	**57.21**	**324**	P		**P**	**20 43 07.0**	**+0.3**	
	comp=E,4.3nm,0.5s,baz=30,slow=7.2,SNR=23								
	comp=E,4.3nm,0.5s								
FINES	**FINESS Array B**	**58.53**	**1**	P		**P**	**20 43 15.7**	**-0.2**	
	comp=E,1.4nm,0.8s,baz=15,slow=7.9,SNR=4.6								
	comp=E,1.4nm,0.8s								
HFS	**Hagfors**	**59.38**	**8**	P		**P**	**20 43 22.5**	**+0.7**	
	comp=E,1.7nm,0.8s,baz=0.0,slow=7.2,SNR=2.0								
	comp=E,1.7nm,0.8s								
BVAR	**Borovoye Array**	**61.85**	**332**	P		**P**	**20 43 38.8**	**+0.1**	
	comp=E,3.6nm,0.5s,baz=32,slow=8.7,SNR=17								
	comp=E,3.6nm,0.5s								
KURBB	**Kurchatov Arra**	**61.96**	**326**	P		**P**	**20 43 39.4**	**+0.1**	
	comp=E,4.1nm,0.6s,baz=28,slow=6.6,SNR=42								
	comp=E,4.1nm,0.6s								
EKA	**Eskdalemuir Ar**	**62.14**	**19**	P		**P**	**20 43 40.8**	**+0.3**	
	comp=E,0.2nm,0.3s,baz=343,slow=6.5,SNR=1.2								
	comp=E,0.2nm,0.3s								
MKAR	**Makanchi Array**	**64.28**	**321**	P		**P**	**20 43 54.4**	**-0.4**	
	comp=E,1.6nm,0.5s,baz=38,slow=6.6,SNR=26								
	comp=E,1.6nm,0.5s								
AKASG	**Malin Array Be**	**69.30**	**359**	P		**P**	**20 44 26.9**	**+0.4**	
	comp=E,0.6nm,0.4s,baz=1.9,slow=5.9,SNR=4.9								
	comp=E,0.6nm,0.4s								
KBZ	**Khabaz**	**75.51**	**348**	P		**P**	**20 45 03.9**	**+0.5**	
	comp=E,1.5nm,0.6s,baz=27,slow=11,SNR=2.5								
	comp=E,1.5nm,0.6s								
CMAR	**Chiang Mai Arr**	**82.89**	**295**	P		**P**	**20 45 43.5**	**-0.5**	
	comp=E,0.5nm,0.4s,baz=7.9,slow=7.9,SNR=5.2								
	comp=E,0.5nm,0.4s								
BOSA	**Boshof**	**148.24**	**4**	PKPbc		**PKPbc**	**20 53 03.2**	**-1.1**	
	comp=E,1.0nm,0.5s,baz=359,slow=1.3,SNR=5.9								
QSPA	**South Pole Qui**	**150.15**	**180**	PKPbc		**PKiKP**	**20 53 09.1**	**+0.6**	
	comp=E,1.9nm,0.7s,baz=64,slow=4.5,SNR=8.6								

*MOS **21** 20:38:58.3±1.1, 62.°62N×157.°62E, h5km, mb3.7/1, Error ellipse: s-maj=23.9km s-min=14.1km az=54.5*
*NERS **21** 20:38:58.2, 62.°62N×157.°56E, h0km*
*IDC **21** 20:38:59.3±0.9, 62.°50N×157.°74E, h0km, mb3.7/7, mbtmp3.8/9, ML5.0/1, MS3.5/4, Error ellipse: s-maj=24.0km s-min=10.9km az=154.0*
ISC 21 20:39:00.9±0.9, 62.°67N±0.°06×157.°54E±0.°06, h10km, n23, σ1s70/37, mb3.6/7, MS3.8/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SEY	**Seymchan**	**2.38**	**279**	Pn		**Pn**	**20 39 39.9**	**-0.1**
	43nm,0.3s,baz=104,slow=16,SNR=30							
SEY				Pg		**Pb**	**20 39 43.4**	**-0.5**
	32nm,0.3s,baz=102,slow=18,SNR=32							
SEY				Sn		**Sn**	**20 40 12.3**	**+3.1**
	27nm,0.3s,baz=180,slow=8.1,SNR=13							
SEY	**Seymchan**	**2.38**	**279**	*e*P		**Pn**	**20 39 39.4**	**-0.5**
SEY				*e*Pg		**Pb**	**20 39 41.4**	**-2.5**
SEY				Pgmax			20 39 46.6	
	90nm,0.5s							
SEY				*e*Sg		**Sb**	**20 40 13.9**	**+0.6**
SEY				Sgmax			20 40 18.5	
	1μm,0.7s							
SEY	**Seymchan**	**2.38**	**279**	*e*P		**Pn**	**20 39 39.5**	**-0.5**
SEY				*e*S		**Sb**	**20 40 14.6**	**+1.3**
SEY				pmax		pmax		
	comp=Z,16nm,0.6s							
SEY				smax		smax		
	comp=N,646nm,0.4s							
SEY				smax		smax		
	comp=E,887nm,0.4s							
TLAR	**Talaya**	**2.88**	**240**	*e*P		**Pn**	**20 39 45.9**	**-1.0**
TLAR				*e*Pg		**Pb**	**20 39 51.5**	**-0.9**
TLAR				Pgmax			20 39 56.3	
	comp=E,420nm,0.6s							
TLAR				*e*Sg		**Sb**	**20 40 27.4**	**-0.3**
TLAR				Sgmax			20 40 40.7	
	comp=E,960nm,0.6s							
TLAR				Sgmax			20 40 40.7	
	comp=E,760nm,0.6s							
TLAR	**Talaya**	**2.88**	**240**	*e*P		**Pn**	**20 39 45.9**	**-1.0**
TLAR				*e*SG		**Sb**	**20 40 27.4**	**-0.3**
TLAR				pmax		pmax		
	comp=Z,420nm,0.6s							
MGD	**Magadan 1**	**4.20**	**234**	*e*P		**Pn**	**20 40 05.3**	**+0.3**
MGD				*e*Pg		**Pb**	**20 40 17.1**	**+2.2**
MGD				Pgmax			20 40 18.7	
	comp=Z,70nm,0.4s							
MGD				*e*Sg		**Sg**	**20 41 12.3**	**-3.4**
MGD				Sgmax			20 41 16.6	
	comp=Z,260nm,0.5s							
MGD	**Magadan 1**	**4.20**	**234**	*e*P		**Pn**	**20 40 05.3**	**+0.3**
MGD				pmax		pmax		
	comp=Z,70nm,0.4s							
GADL	**Gadlja**	**4.26**	**228**	*e*P		**Pn**	**20 40 05.7**	**0.0**
GADL				*e*Pg		**Pb**	**20 40 14.6**	**-1.2**
GADL				Pgmax			20 40 17.9	
	comp=Z,80nm,0.4s							
GADL				*e*Sg		**Sb**	**20 41 11.7**	**+4.5**
GADL				Sgmax			20 41 16.4	
	comp=Z,830nm,0.6s							
GADL				Sgmax			20 41 16.4	
	comp=Z,240nm,0.6s							
GADL	**Gadlja**	**4.26**	**228**	*e*P		**Pn**	**20 40 05.7**	**0.0**
GADL				pmax		pmax		
	comp=Z,80nm,0.4s							
MA2	**Magadan**	**4.52**	**230**	Pn		**Pn**	**20 40 08.8**	**-0.5**
	comp=Z,6.3nm,0.3s,baz=52,slow=9.2,SNR=11							
MA2				Pg		**Pb**	**20 40 17.7**	**-2.5**
	comp=Z,5.5nm,0.3s,baz=46,slow=17,SNR=6.5							
MA2				Lg		Lg	20 41 19.7	
	comp=Z,7.9nm,0.3s,baz=338,slow=19,SNR=6.6							
MA2				LR		LR	20 42 14.9	
	comp=Z,103nm,19.7s,baz=284,slow=44							
	comp=Z,16nm,0.3s							
MA2	**Magadan**	**4.52**	**230**	*e*P		**Pn**	**20 40 09.0**	**-0.3**
MA2				*e*Pg		**Pb**	**20 40 18.5**	**-1.7**
MA2				Pgmax			20 40 25.1	
	comp=Z,30nm,0.8s							
MA2				*e*Sg		**Sb**	**20 41 18.1**	**+3.5**
MA2				Sgmax			20 41 29.2	
	comp=Z,120nm,0.9s							
MA2				Sgmax			20 41 29.2	
	comp=Z,160nm,0.9s							
MA2	**Magadan**	**4.52**	**230**	*e*P		**Pn**	**20 40 09.0**	**-0.3**
MA2				pmax		pmax		
	comp=Z,30nm,0.8s							
TLON	**Talon**	**5.19**	**240**	*e*P		**Pg**	**20 40 39.4**	**-0.8**
TLON				*e*Sg		**Sg**	**20 41 45.8**	**-1.6**
TLON				Sgmax			20 41 55.3	
	comp=Z,330nm,0.6s							
ILAR	**Eielson Array**	**24.03**	**60**	P		**P**	**20 44 15.8**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=280,slow=7.6,SNR=10							
	comp=Z,1.0nm,0.8s							
KDAK	**Kodiak Island**	**24.71**	**78**	P		**P**	**20 44 20.6**	**-1.2**
	comp=Z,3.3nm,0.9s,baz=297,slow=6.8,SNR=4.0							
	comp=Z,3.3nm,0.9s							
INK	**Inuvik**	**27.73**	**48**	P		**P**	**20 44 47.2**	**-1.7**
	comp=Z,3.6nm,0.5s,baz=291,slow=8.6,SNR=4.3							
	comp=Z,3.6nm,0.5s							
KURK	**Kurchatov**	**42.17**	**292**	P		**P**	**20 46 55.1**	**+1.9**
KURBB	**Kurchatov Arra**	**42.27**	**292**	P		**P**	**20 46 55.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=44,slow=7.8,SNR=6.5							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**43.50**	**285**	P		**P**	**20 47 04.2**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=40,slow=7.7,SNR=2.7							
	comp=Z,0.2nm,0.7s							
BVAR	**Borovoye Array**	**43.88**	**299**	P		**P**	**20 47 08.7**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=37,slow=9.9,SNR=3.0							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**54.34**	**65**	P		**P**	**20 48 28.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=352,slow=3.0,SNR=6.5							
PDAR				LR		LR	21 11 15.8	
	comp=Z,51nm,21.2s,baz=342,slow=36							
	comp=Z,0.9nm,0.7s							
ANMO	**Albuquerque**	**62.21**	**67**	LR		LR	21 20 51.1	
	comp=Z,92nm,19.3s,baz=104,slow=40							
HNR	**Honiara**	**71.91**	**177**	LR		LR	21 19 15.9	
	comp=Z,49nm,20.2s,baz=198,slow=34							

*IDC **21** 21:11:42.2±1.2, 50.°24S×139.°96E, h0km, mb3.8/5, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=123.4km s-min=18.2km az=86.0*
ISC 21 21:11:43.7±1.1, 50.°2S±0.°1×139.°8E±0.°8, h10km, n12, σ0s69/6, mb3.7/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**18.40**	**5**	P		**P**	**21 15 58.2**	**-0.5**
	0.1nm,0.3s,baz=166,slow=15,SNR=4.5							
	1.6nm,0.7s							
H01W1	**Cape Leeuwin H**	**24.13**	**300**	T		T	21 41 56.2	
	baz=137,slow=74,SNR=31							
H01W2	**Cape Leeuwin H**	**24.14**	**300**	T		T	21 41 55.2	
	baz=137,slow=74,SNR=26							
H01W3	**Cape Leeuwin H**	**24.15**	**300**	T		T	21 41 57.6	
	baz=137,slow=74,SNR=26							
ASAR	**Alice Springs**	**26.91**	**348**	P		**P**	**21 17 25.4**	**+0.5**
	1.1nm,0.8s,baz=165,slow=9.9,SNR=7.8							
	1.1nm,0.8s							
VNDA	**Vanda**	**28.64**	**170**	P		**P**	**21 17 39.9**	**0.0**
	0.6nm,0.7s,baz=332,slow=8.4,SNR=6.0							
	0.6nm,0.7s							
WRA	**Warramunga Arr**	**30.54**	**350**	P		**P**	**21 17 57.5**	**+0.3**
	2.5nm,0.9s,baz=172,slow=7.9,SNR=8.5							
	2.5nm,0.9s							
QSPA	**South Pole Qui**	**39.88**	**180**	P		**P**	**21 19 17.8**	**+0.6**
	1.7nm,1.0s,baz=341,slow=3.4,SNR=5.4							
	1.7nm,1.0s							
H04S1	**CROZET ISLANDS**	**54.96**	**237**	T		T	22 21 08.0	
	baz=127,slow=76,SNR=5.0							
H04S2	**CROZET ISLANDS**	**54.97**	**237**	T		T	22 21 14.0	
	baz=127,slow=76,SNR=5.1							
H04S3	**CROZET ISLANDS**	**54.98**	**237**	T		T	22 21 07.8	
	baz=127,slow=76,SNR=5.9							
SNAA	**Sanae**	**55.54**	**193**	P		**P**	**21 21 17.8**	**-0.7**
	0.7nm,0.9s,baz=150,slow=8.1,SNR=1.9							
	0.7nm,0.9s							

*MDD **21** 21:13:35.4±1.2, 36.°36N×10.°81W, h26km±12km, mb_Lg2.9/11, Error ellipse: s-maj=11.5km s-min=5.7km az=78.0*
*IGIL **21** 21:13:36.5, 36.°44N×10.°78W, h15km, ML1.8*
*INMG **21** 21:13:36.8±1.1, 36.°42N×10.°76W, h16km, ML2.0, Error ellipse: s-maj=5.0km s-min=3.2km az=91.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*
*CNRM **21** 21:13:38.5, 36.°24N×10.°46W, h34km, ML2.6*
ISC 21 21:13:31.5±1.9, 36.°35N±0.°04×10.°74W±0.°08, h13km±11km, n70, σ2s01/110, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.72**	**62**	P		**Pb**	**21 14 03.5**	**+0.4**
PFVI				S		**Sn**	**21 14 24.1**	**+0.9**
PFVI	**Vila Bisbo**	**1.72**	**62**	*e*P		**Pg**	**21 14 04.1**	**-0.4**
PFVI				*e*S		**Sb**	**21 14 24.8**	**+0.1**
PFVI				*i* IAML			21 14 25.1	
PFVI				*i* IAML			21 14 25.5	
PFVI				*i* IAML			21 14 25.5	
PFVI	**Vila Bisbo**	**1.72**	**62**	P		**Pg**	**21 14 04.2**	**-0.4**
PFVI	**Vila Bisbo**	**1.72**	**62**	S		**Sn**	**21 14 23.9**	**+0.7**
MORF	**Marmelete**	**1.93**	**60**	*e*P		**Pb**	**21 14 06.9**	**+0.3**
MORF				*e*S		**Sn**	**21 14 29.1**	**+0.9**
MORF				IAML			21 14 30.0	
	comp=N,14nm,0.3s							
MORF	**Marmelete**	**1.93**	**60**	*i*P		**Pb**	**21 14 06.9**	**+0.3**
MORF				*e*S		**Sn**	**21 14 30.0**	**+1.7**
MORF				*i* IAML			21 14 30.1	
MORF				*i* IAML			21 14 30.3	
MORF				*i* IAML			21 14 30.7	
PTEO	**Sao Teotonio**	**2.01**	**53**	*e*P		**Pb**	**21 14 08.0**	**+0.1**
PTEO				*e*S		**Sn**	**21 14 31.4**	**+1.2**
PTEO				*i* IAML			21 14 32.8	
PTEO				*i* IAML			21 14 36.9	
PTEO				*i* IAML			21 14 37.5	
PBDV	**Barranco-do-Ve**	**2.42**	**68**	P		**Pn**	**21 14 13.2**	**+2.3**
PBDV				S		**Sn**	**21 14 42.9**	**+2.3**
PBDV	**Barranco-do-Ve**	**2.42**	**68**	*e*P		**Pb**	**21 14 14.2**	**-0.9**
PBDV				*e*S		**Sn**	**21 14 42.1**	**+1.6**
PBDV				*i* IAML			21 14 49.7	
PBDV				*i* IAML			21 14 52.6	
PBDV				*i* IAML			21 14 59.1	
MESJ	**Messejana**	**2.50**	**53**	*e*P		**Pn**	**21 14 14.7**	**+2.7**
MESJ				*e*S		**Sn**	**21 14 42.7**	**+0.3**
MESJ				IAML			21 14 43.4	
	comp=N,2.3nm,0.1s							
MESJ	**Messejana**	**2.50**	**53**	*e*P		**Pn**	**21 14 14.7**	**+2.7**
MESJ				*e*S		**Sn**	**21 14 43.3**	**+0.9**
MESJ				*i* IAML			21 14 45.1	
MESJ				*i* IAML			21 14 49.3	
MESJ				*i* IAML			21 14 56.3	
PCVE	**Castro Verde**	**2.51**	**59**	P		**Pn**	**21 14 14.7**	**+2.5**
PCVE				S		**Sn**	**21 14 43.3**	**+0.6**
PCVE	**Castro Verde**	**2.51**	**59**	*e*P		**Pb**	**21 14 15.1**	**-1.4**
PCVE				*e*S		**Sn**	**21 14 43.5**	**+0.9**
PCVE				*i* IAML			21 14 46.5	
PCVE				*i* IAML			21 14 46.7	
PCVE				*i* IAML			21 14 47.0	
PVAQ	**Vaqueiros**	**2.64**	**66**	P		**Pn**	**21 14 16.1**	**+2.2**
PVAQ				S		**Sn**	**21 14 46.6**	**+0.7**
PVAQ	**Vaqueiros**	**2.64**	**66**	*e*P		**Pn**	**21 14 17.0**	**+3.1**
PVAQ				*e*S		**Sn**	**21 14 46.7**	**+0.8**
PVAQ				*i* IAML			21 14 48.5	
PVAQ				*i* IAML			21 14 48.6	
PVAQ				*i* IAML			21 14 56.7	
PARRA	**Arraiolos**	**2.81**	**28**	*e*P		**Pg**	**21 14 24.8**	**-0.5**
PARRA				*e*S		**Sg**	**21 15 01.1**	**-0.6**
PARRA				*i* IAML			21 15 02.7	
PARRA				*i* IAML			21 15 03.1	
PARRA				*i* IAML			21 15 03.9	
PBEJ	**Beja**	**2.84**	**53**	*e*S		**Sn**	**21 14 51.9**	**+1.2**
PMAFR	**Mafra**	**2.85**	**24**	P		**Pn**	**21 14 17.6**	**+0.9**
PMAFR				S		**Sn**	**21 14 50.6**	**-0.3**
PMAFR	**Mafra**	**2.85**	**24**	*e*P		**Pn**	**21 14 18.5**	**+1.7**
PMAFR				*e*S		**Sn**	**21 14 50.7**	**-0.3**
PMAFR				*i* IAML			21 14 52.5	
PMAFR				*i* IAML			21 14 54.7	
PMAFR				*i* IAML			21 14 54.8	
EGRO	**El Granado**	**2.86**	**65**	P		**Pn**	**21 14 19.3**	**+2.3**
EGRO				S		**Sn**	**21 14 51.1**	**-0.2**
EGRO	**El Granado**	**2.86**	**65**	Pn		**Pn**	**21 14 19.8**	**+2.9**
EGRO				Sn		**Sn**	**21 14 51.5**	**+0.2**
EGRO				*i* IVmb_Lg			21 14 54.1	
EVO	**Evora**	**3.08**	**44**	S		**Sn**	**21 14 55.7**	**-0.8**
EVO	**Evora**	**3.08**	**44**	*e*S		**Sn**	**21 14 56.1**	**-0.4**
EVO				*i* IAML			21 14 57.9	
EVO				*i* IAML			21 14 58.6	
EVO				*i* IAML			21 14 59.0	
PMTG	**Montargil**	**3.37**	**36**	*e*P		**Pn**	**21 14 26.2**	**+2.4**
PMTG				*e*S		**Sn**	**21 15 03.3**	**-0.4**
PMTG				*i* IAML			21 15 04.2	
PMTG				*i* IAML			21 15 05.0	
PMTG				*i* IAML			21 15 05.9	
PBAR	**Barrancos**	**3.47**	**57**	P		**Pn**	**21 14 27.5**	**+2.2**
PBAR				S		**Sn**	**21 15 06.0**	**-0.2**
PBAR	**Barrancos**	**3.47**	**57**	*e*P		**Pn**	**21 14 27.9**	**+2.7**
PBAR				*e*S		**Sn**	**21 15 06.3**	**0.0**
PBAR				*i* IAML			21 15 07.8	
PBAR				*i* IAML			21 15 10.3	
PBAR				*i* IAML			21 15 10.6	
PESTR	**Estremoz**	**3.55**	**44**	P		**Pn**	**21 14 28.5**	**+2.2**
PESTR				S		**Sn**	**21 15 07.5**	**-0.7**
PESTR	**Estremoz**	**3.55**	**44**	*e*P		**Pn**	**21 14 29.1**	**+2.8**
PESTR				*e*S		**Sn**	**21 15 07.8**	**-0.4**
PESTR				*i* IAML			21 15 09.1	
PESTR				*i* IAML			21 15 11.9	
PESTR				*i* IAML			21 15 14.6	
PESTR	**Estremoz**	**3.55**	**44**	P		**Pn**	**21 14 28.4**	**+2.0**
PESTR	**Estremoz**	**3.55**	**44**	S		**Sn**	**21 15 11.9**	**+3.7**
EMIN	**Mina Concepcio**	**3.55**	**65**	P		**Pn**	**21 14 28.5**	**+2.2**
EMIN	**Mina Concepcio**	**3.55**	**65**	Pn		**Pn**	**21 14 28.1**	**+1.7**
EMIN				Sn		**Sn**	**21 15 07.1**	**-1.1**
EMIN				*i* IVmb_Lg			21 15 22.0	
EBAD	**Badajoz**	**3.81**	**50**	P		**Pn**	**21 14 32.3**	**+2.3**
EBAD				S		**Sn**	**21 15 13.7**	**-1.0**
EBAD	**Badajoz**	**3.81**	**50**	Pn		**Pn**	**21 14 32.3**	**+2.3**
EBAD				Sn		**Sn**	**21 15 14.0**	**-0.7**
EBAD				*i* IVmb_Lg			21 15 16.3	
PSARD	**Sardoal**	**3.83**	**31**	*e*P		**Pn**	**21 14 32.8**	**+2.5**
PSARD				*e*S		**Sn**	**21 15 14.2**	**-1.0**
PSARD				*i* IAML			21 15 15.7	
PSARD				*i* IAML			21 15 16.1	
PSARD				*i* IAML			21 15 16.1	
ESPR	**Espera**	**3.96**	**81**	P		**Pn**	**21 14 34.6**	**+2.6**
ESPR				S		**Sn**	**21 15 19.5**	**+1.1**
ESPR	**Espera**	**3.96**	**81**	Pn		**Pn**	**21 14 35.2**	**+3.2**
ESPR				Sn		**Sn**	**21 15 18.0**	**-0.4**
ESPR				*i* IVmb_Lg			21 15 21.1	
PMRV	**Marv??o**	**4.06**	**40**	*e*P		**Pn**	**21 14 35.4**	**+2.0**
PMRV				*e*S		**Sn**	**21 15 19.8**	**-0.9**
PMRV				*i* IAML			21 15 22.0	
PMRV				*i* IAML			21 15 22.2	
PMRV				*i* IAML			21 15 22.8	
PCAS	**Casmilo, Conde**	**4.10**	**25**	*e*S		**Sn**	**21 15 20.9**	**-0.8**
PCAS				*i* IAML			21 15 24.0	
PCAS				*i* IAML			21 15 32.6	
PCAS				*i* IAML			21 15 37.5	
PCBR	**Castelo Branco**	**4.33**	**35**	*e*S		**Sn**	**21 15 25.7**	**-1.8**
ZHG	**ZHG**	**4.44**	**130**	P		**Pn**	**21 14 39.6**	**+0.9**
ZHG	**ZHG**	**4.44**	**130**	S		**Sn**	**21 15 28.8**	**-1.5**
SRHM	**Skhour des Reh**	**4.53**	**148**	P		**Pn**	**21 14 43.6**	**+3.7**
SRHM	**Skhour des Reh**	**4.53**	**148**	S		**Sn**	**21 15 36.0**	**+3.6**
ECAB	**El Cabril**	**4.58**	**66**	P		**Pn**	**21 14 42.8**	**+2.2**
ECAB				S		**Sn**	**21 15 32.8**	**-1.0**
ECAB	**El Cabril**	**4.58**	**66**	Pn		**Pn**	**21 14 42.8**	**+2.2**
ECAB				*i* IVmb_Lg			21 15 24.5	
ECAB				Sn		**Sn**	**21 15 32.8**	**-1.0**
PVIS	**Viseu**	**4.90**	**26**	*e*S		**Sn**	**21 15 40.0**	**-1.5**
EPLA	**Plasencia**	**5.22**	**43**	*i* IVmb_Lg			21 15 47.0	
EPLA				Sn		**Sn**	**21 15 47.7**	**-1.7**
EADA	**Adamuz**	**5.24**	**68**	P		**Pn**	**21 14 51.9**	**+2.3**
EADA				S		**Sn**	**21 15 49.1**	**-0.8**
EADA	**Adamuz**	**5.24**	**68**	Pn		**Pn**	**21 14 51.9**	**+2.3**
EADA				Sn		**Sn**	**21 15 48.4**	**-1.6**
EADA				*i* IVmb_Lg			21 15 55.3	
EGOR	**Sierra Gorda,**	**5.38**	**80**	P		**Pn**	**21 14 52.5**	**+0.9**
EGOR				S		**Sn**	**21 15 51.6**	**-1.9**
POLO	**Lamas de Olo**	**5.52**	**24**	*e*P		**Pn**	**21 14 56.1**	**+2.6**
POLO				*e*S		**Sn**	**21 15 54.1**	**-2.8**
POLO				*i* IAML			21 16 02.3	
POLO				*i* IAML			21 16 02.5	
MVO	**Moncorvo**	**5.61**	**30**	*e*S		**Sn**	**21 15 57.1**	**-2.1**
MVO				*i* IAML			21 16 00.1	
MVO				*i* IAML			21 16 02.1	
MVO				*i* IAML			21 16 10.3	
ELOB	**Lobios**	**5.89**	**20**	Sn		**Sn**	**21 16 01.1**	**-5.0**
ELOB				*i* IVmb_Lg			21 16 04.6	
AKLM	**AKL**	**5.91**	**106**	P		**Pn**	**21 14 58.5**	**-0.4**
AKLM	**AKL**	**5.91**	**106**	S		**Sn**	**21 16 01.8**	**-4.6**
PGAV	**Gavieira, Arco**	**5.93**	**18**	*e*P		**Pn**	**21 14 59.9**	**+0.8**
PGAV				*e*S		**Sn**	**21 16 03.3**	**-3.7**
PGAV				*i* IAML			21 16 12.3	
PGAV				*i* IAML			21 16 12.8	
PGAV				*i* IAML			21 16 20.2	
PAB	**San Pablo**	**5.97**	**56**	Pn		**Pn**	**21 15 01.3**	**+1.5**
PAB				Sn		**Sn**	**21 16 04.0**	**-4.1**
PAB				*i* IVmb_Lg			21 16 15.1	
MD31	**MD31**	**6.03**	**123**	P		**Pn**	**21 15 03.1**	**+2.5**
MD31	**MD31**	**6.03**	**123**	S		**Sn**	**21 16 07.7**	**-1.9**
PSIM	**Granatula de C**	**6.07**	**64**	Pn		**Pn**	**21 15 02.2**	**+1.1**
PSIM				Sn		**Sn**	**21 16 07.6**	**-2.9**
TIO	**Tiouine**	**6.14**	**151**	P		**Pn**	**21 15 02.6**	**+0.6**
TIO				S		**Sn**	**21 16 08.9**	**-3.4**
TIO	**Tiouine**	**6.14**	**151**	P		**Pn**	**21 15 05.0**	**+2.9**
TIO	**Tiouine**	**6.14**	**151**	S		**Sn**	**21 16 12.0**	**-0.2**
MDT	**Midelt**	**6.17**	**123**	P		**Pn**	**21 15 04.2**	**+1.8**
MDT	**Midelt**	**6.17**	**123**	S		**Sn**	**21 16 10.5**	**-2.4**
OUZM	**OUZ**	**6.36**	**147**	P		**Pn**	**21 15 08.2**	**+3.1**
OUZM	**OUZ**	**6.36**	**147**	S		**Sn**	**21 16 17.4**	**-0.3**
ECAL	**Calabor**	**6.39**	**28**	*i* IVmb_Lg			21 16 00.8	
ECAL				Sn		**Sn**	**21 16 15.2**	**-3.2**
GUD	**Guadarrama**	**6.71**	**48**	*i* IVmb_Lg			21 16 14.3	
GUD				Sn		**Sn**	**21 16 23.4**	**-2.9**

*MOS **21** 21:24:16.6±0.9, 28.°45N×139.°86E, h411km, mb4.3/35, Error ellipse: s-maj=12.2km s-min=5.8km az=115.7*
*IDC **21** 21:24:16.4±0.5, 28.°49N×139.°98E, h398km±5km, mb3.7/23, mbtmp4.4/29, Error ellipse: s-maj=12.8km s-min=7.5km az=66.0*
*JMA **21** 21:24:17.1±0.3, 28.°6N±0.°9×14.°0E±.°, h420km±4km, MV3.6/40, W OFF OGASAWARA*
*NEIC **21** 21:24:18.0±1.3, 28.°47N±0.°08×139.°9E±0.°1, h405km±7km, mb4.2/64, Error ellipse: s-maj=16.4km s-min=11.7km az=82.0*
ISC 21 21:24:17.4±0.5, 28.°48N±0.°05×139.°99E±0.°06, h406km±4km, n401, σ1s03/429, mb4.2/84, 6C-12D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.38**	**125**	P		**P**	**21 25 15.9**	**-0.5**
CBIJ				*e*S		**S**	**21 26 01.9**	**-2.3**
JCJ	**Chichijima**	**2.38**	**125**			**P**	**21 25 16.0**	**-0.4**
JCJ	**Chichijima**	**2.38**	**125**	P

HEH HeiHe 23.75 340 *e*P P 21 28 55.9 +0.7
HEH pmax pmax
comp=Z,11nm,0.9s
HHC Hu-ho-hao-te 26.32 305 *e*P P 21 29 18.9 +0.6
HHC pmax pmax
comp=Z,14nm,0.9s
ZEA Zeya 26.91 343 *e*P P 21 29 24.1 +0.8
ZEA pmax pmax
comp=Z,10.0nm,0.7s
PEA0B Petropavlovsk- 27.86 23*de*P P 21 29 34.4 +2.7
PET Petropavlovsk 28.13 24⇑*i*P P 21 29 34.8 +0.8
PET pmax pmax
comp=Z,21nm,1.2s
MA2 Magadan 31.95 10*de*P P 21 30 09.0 +1.8
MA2 pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 31.98 316 P 21 30 08.0 +0.1
ULN IAmb IAmb 21 30 09.4
comp=Z,15nm,0.9s
ULN Ulaanbaatar 31.98 316*c i*P P 21 30 08.5 +0.6
ULN pmax pmax
comp=Z,14nm,0.9s
SONM Songino Array 32.37 316 P 21 30 11.0 -0.2
SONM IAmb IAmb 21 30 12.5
comp=Z,8.3nm,1.0s
SONM Songino Array 32.37 316 P P 21 30 11.6 +0.4
comp=Z,8.4nm,0.9s,baz=126,slow=8.5,SNR=36
SONM PcP PcP 21 32 46.9 -0.6
comp=Z,0.7nm,0.7s,baz=142,slow=3.2,SNR=3.8
SONM ScP ScP 21 35 51.7 -0.3
comp=Z,0.3nm,0.5s,baz=147,slow=2.9,SNR=2.7
comp=Z,8.4nm,0.9s
PZH PanZhiHua 33.90 276 P P 21 30 24.6 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 34.81 299 P P 21 30 31.8 -0.3
GTA pP pwP 21 31 56.8 +5.2
GTA pmax pmax
comp=Z,14nm,0.9s
ZAK Zakamensk 35.29 319 *e*P P 21 30 35.3 -0.6
ZAK pmax pmax
comp=Z,9.0nm,1.1s
CMAR Chiang Mai Arr 38.79 264 P P 21 31 05.3 0.0
comp=Z,0.5nm,0.3s,baz=63,slow=9.2,SNR=5.4
comp=Z,0.5nm,0.3s
COEN Coen 42.30 175 P P 21 31 34.2 +0.7
COEN IAmb IAmb 21 31 40.8
comp=Z,23nm,1.3s
TIXI Tiksi 43.65 355 P P 21 31 43.7 +0.3
TIXI IAmb IAmb 21 32 07.6
comp=Z,7.4nm,0.9s
TIXI Tiksi 43.65 355 P P 21 31 43.7 +0.3
TIXI pmax pmax
comp=Z,7.0nm,0.9s
KULM Kulim 43.83 246 P P 21 31 45.6 -0.2
KULM IAmb IAmb 21 32 10.0
comp=Z,27nm,1.5s
NIKH Nikolski High 44.62 42 P P 21 31 51.5 +0.2
baz=258
SPIA Saint Paul Isl 44.96 36 P P 21 31 54.5 +0.6
baz=252
P08K Saint George I 45.15 37 P P 21 31 56.3 +0.9
baz=253
UNV Unalaska Valle 46.18 41 P P 21 32 04.7 +1.4
baz=259
GAMB Gambell 46.75 27 P P 21 32 08.9 +1.4
baz=244
ZAA0 Zalesovo Array 47.17 319 P 21 32 10.1 -0.8
ZAA0 IAmb IAmb 21 32 11.3
comp=Z,7.0nm,0.9s
ZALV Zalesovo Beam 47.17 319 P 21 32 10.2 -0.7
ZALV Zalesovo Beam 47.17 319 P P 21 32 10.1 -0.9
comp=Z,5.1nm,0.7s,baz=101,slow=7.7,SNR=22
ZALV PcP PcP 21 33 33.9 -1.0
comp=Z,1.8nm,0.5s,baz=127,slow=2.7,SNR=8.9
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 47.17 319 *i* P P 21 32 10.6 -0.3
ZALV pmax pmax
comp=Z,5.0nm,0.7s
MK31 Makanchi Array 48.10 309*d i*P P 21 32 17.9 -0.3
MKAR Makanchi Array 48.10 309 P 21 32 17.8 -0.4
MKAR Makanchi Array 48.10 309 P P 21 32 18.0 -0.1
comp=Z,9.5nm,0.7s,baz=92,slow=9.2,SNR=92
MKAR PcP PcP 21 33 37.9 -0.6
comp=Z,1.8nm,0.7s,baz=89,slow=5.2,SNR=6.5
MKAR ScP ScP 21 36 51.9 -1.6
comp=Z,0.4nm,0.6s,baz=86,slow=5.9,SNR=4.3
comp=Z,9.5nm,0.7s
WB0 Warramunga Arr 48.27 187 P P 21 32 19.7 0.0
WB0 IAmb IAmb 21 32 20.5
comp=Z,14nm,1.3s
FITZ Fitzroy Crossi 48.34 198 P P 21 32 20.5 +0.3
WRA Warramunga Arr 48.45 187 P P 21 32 19.9 -1.1
WRA Warramunga Arr 48.45 187 P P 21 32 20.7 -0.3
comp=Z,2.0nm,0.4s,baz=5.3,slow=7.7,SNR=30
WRA PcP PcP 21 33 40.5 +0.5
comp=Z,1.2nm,0.3s,baz=360,slow=3.8,SNR=14
WRA ScP ScP 21 36 54.1 -1.0
comp=Z,1.0nm,0.7s,baz=2.7,slow=4.8,SNR=6.0
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 48.45 187 *i* P P 21 32 21.0 0.0
WRA pmax pmax
comp=Z,2.0nm,0.3s
TNA Tin City 48.97 26 P P 21 32 25.3 +1.0
baz=247
S12K Black Hills 49.04 39 P P 21 32 26.3 +1.3
baz=261
M14K Bethel 50.05 33 P P 21 32 32.9 +0.5
baz=257
O14K Tigyukauivet M 50.08 35 P P 21 32 33.2 +0.6
baz=259
F15K North Star Dit 50.29 26 P P 21 32 34.7 +0.6
baz=250
K15K Wolf Creek Mou 50.61 31 P P 21 32 38.5 +1.9
K15K IAmb IAmb 21 32 47.2
comp=Z,13nm,1.4s
K15K Wolf Creek Mou 50.61 31 P P 21 32 37.3 +0.7
baz=256
KURK Kurchatov 50.63 314 P 21 32 36.6 -0.3
KURK IAmb IAmb 21 32 37.5
comp=Z,14nm,0.8s
KURK Kurchatov 50.63 314*d i*P P 21 32 36.5 -0.4
KURK pmax pmax
comp=Z,20nm,1.0s
M15K Kasigluk River 50.65 33 P P 21 32 37.8 +0.9
baz=258
KURBB Kurchatov Arra 50.69 314 P P 21 32 37.0 -0.3
comp=Z,14nm,0.6s,baz=91,slow=7.8,SNR=121
KURBB PcP PcP 21 33 46.9 -1.0
comp=Z,0.4nm,0.3s,baz=86,slow=4.2,SNR=1.8
comp=Z,14nm,0.6s
O15K Ungalikthiuk R 50.80 35 P P 21 32 38.2 +0.2
baz=260
H16K Elim 50.92 28 P P 21 32 39.4 +0.6
baz=254
C16K Lisburne Hills 50.96 23 P P 21 32 39.2 +0.2
baz=248
PRZ Przheval'sk 51.02 303 P P 21 32 40.9 +0.7
PRZ Przheval'sk 51.02 303 P P 21 32 40.9 +0.7
J16K Anvik River 51.27 30 P P 21 32 41.5 +0.1
baz=256
I17K Unalakleet 51.37 29 P P 21 32 42.7 +0.6
baz=256
L16K Owhat River 51.43 32 P P 21 32 43.4 +0.8
baz=259
TARG Taragay, Kyrgy 51.54 302 P P 21 32 44.6 +0.3
TARG Taragay, Kyrgy 51.54 302 P P 21 32 44.6 +0.3
TARG pmax pmax
comp=Z,6.0nm,0.9s
N16K Nishlik Lake 51.54 34 P P 21 32 44.2 +0.7
baz=260
M16K Timber Creek 51.55 33 P P 21 32 44.7 +1.2
baz=260
D17K Noatak River 51.55 24 P P 21 32 43.6 +0.3
baz=250
O16K Kokwok River B 51.74 35 P P 21 32 45.9 +1.1
baz=262
R16K Pilot Point 51.74 37 P P 21 32 46.2 +1.3
baz=264
C17K DeLong Mountai 51.78 23 P P 21 32 45.7 +0.7
baz=250
G17K Kiwalik Mounta 51.81 27 P P 21 32 46.2 +0.9
baz=255
F17K Baldwin Pennin 51.84 26 P P 21 32 46.6 +1.2
baz=253
KDJ Kajisay 51.96 303 P P 21 32 47.1 +0.1
KDJ Kajisay 51.96 303 P P 21 32 47.1 +0.1
KDJ pmax pmax
comp=Z,4.0nm,0.8s
J17K VABM Dome 51.96 30 P P 21 32 47.3 +0.9
baz=258
H17K Granite Mounta 51.96 28 P P 21 32 47.3 +0.9
baz=256
L17K Donlin 52.06 32 P P 21 32 48.1 +1.0
baz=259
K17K Iditarod 52.17 31 P P 21 32 50.0 +2.1
K17K PcP PcP 21 33 55.1 +1.9
K17K Iditarod 52.17 31 P P 21 32 48.9 +1.0
baz=259
AS31 Alice Springs 52.18 187 P 21 32 48.4 -0.1
ASAR Alice Springs 52.18 187 P P 21 32 48.5 -0.1
comp=Z,0.9nm,0.4s,baz=2.5,slow=5.7,SNR=35
ASAR PcP PcP 21 33 54.3 +0.5
comp=Z,0.9nm,0.7s,baz=6.8,slow=4.6,SNR=5.9
ASAR ScP ScP 21 37 10.1 -1.0
comp=Z,0.3nm,0.6s,baz=2.8,slow=3.8,SNR=2.1
comp=Z,0.9nm,0.4s
O17K Koliganek Bris 52.26 35 P P 21 32 49.6 +1.0
baz=262
N17K Nushagak Hills 52.32 34 P P 21 32 49.8 +0.7
baz=262
M17K Holitna River 52.34 33 P P 21 32 49.9 +0.7
baz=261
R17L Mt. Peulik Vol 52.40 37 P P 21 32 50.2 +0.4
baz=265
F18K Selawik 52.49 26 P P 21 32 51.0 +0.8
baz=255
P17K Kvichak River 52.52 36 P P 21 32 50.9 +0.4
baz=263
B18K Kokolik River 52.55 22 P P 21 32 50.5 -0.1
baz=250
H18K Honhosa River 52.65 28 P P 21 32 51.8 +0.4
baz=257
G18K Tagagawik 52.71 27 P P 21 32 52.9 +1.1
G18K Tagagawik 52.71 27 P P 21 32 52.2 +0.4
baz=256
Q17K Contact Creek 52.71 37 P P 21 32 51.7 -0.4
baz=265
L18K Granite Mounta 52.82 32 P P 21 32 52.7 0.0
baz=261
J18K Innoko River 53.02 30 P P 21 32 54.6 +0.5
baz=260
A19K Wainwright 53.07 21 P P 21 32 54.7 +0.4
baz=251
MBWA Marble Bar 53.09 204 P P 21 32 55.0 -0.1
MBWA IAmb IAmb 21 33 12.9
comp=Z,22nm,1.2s
M18K Stony River 53.12 33 P P 21 32 54.8 0.0
baz=262
P18K Big Mountain, 53.16 35 P P 21 32 54.3 -1.0
baz=264
KSH Kashi 53.21 300 P P 21 32 59.4 +3.4
KSH pmax pmax
comp=Z,10.0nm,0.8s
Q18K Katmai Hardscr 53.21 36 P P 21 32 54.6 -1.1
baz=265
O18K Koktuh Hills 53.22 35 P P 21 32 55.8 +0.2
baz=264
C19K Lookout Ridge 53.22 23 P P 21 32 55.8 +0.2
baz=253
F19K Shaleruckik Mo 53.28 26 P P 21 32 56.4 +0.5
baz=256
G19K Purcell Mounta 53.39 27 P P 21 32 57.2 +0.5
baz=258
R18K Karluk 53.42 38 P P 21 32 57.6 +0.6
baz=266
SII Sitkinak Islan 53.51 39 P P 21 32 58.8 +1.1
baz=267
H19K Roundabout Mou 53.52 28 P P 21 32 59.3 +1.7
H19K Roundabout Mou 53.52 28 P P 21 32 58.5 +0.9
baz=259
J19K Poorman 53.59 30 P P 21 32 59.0 +0.8
baz=261
E19K Redstone River 53.63 25 P P 21 32 59.3 +0.8
baz=256
L19K White Mountain 53.66 32 P P 21 32 59.5 +0.8
baz=263
N19K Bonanza Creek 53.68 34 P P 21 32 59.7 +0.7
baz=264
AAK Ala-Archa 53.87 304 P P 21 33 00.6 -0.2
AAK IAmb IAmb 21 33 01.8
comp=Z,5.5nm,0.7s
AAK Ala-Archa 53.87 304*d i*P P 21 33 00.9 +0.1
AAK pmax pmax
comp=Z,5.0nm,0.7s
F20K Avaraart Lake 54.11 26 P P 21 33 02.5 +0.6
baz=258
D20K Etivluk River 54.15 24 P P 21 33 03.5 +1.3
D20K IAmb IAmb 21 33 04.8
comp=Z,6.4nm,0.8s
D20K Etivluk River 54.15 24 P P 21 33 02.9 +0.7
baz=256,SNR=5.8
H20K Anotleneega Mo 54.15 28 P P 21 33 02.9 +0.7
baz=260
K20K Telida 54.18 31 P P 21 33 03.3 +0.9
baz=262
P19K Oil Pt 54.20 35 P P 21 33 03.6 +1.0
baz=266
I20K Naaghedeneel 54.21 29 P P 21 33 03.6 +1.1
baz=261
J20K Nowinta River 54.26 30 P P 21 33 04.2 +1.3
baz=262
B20K Meade River 54.29 22 P P 21 33 04.1 +1.0
baz=255
KDAK Kodiak Island 54.43 37 P P 21 33 04.5 +0.3
KDAK IAmb IAmb 21 33 17.5
comp=Z,9.9nm,1.3s
KDAK Kodiak Island 54.43 37 P P 21 33 04.5 +0.3
KDAK pmax pmax
comp=Z,10.0nm,1.3s
KDAK Kodiak Island 54.43 37 P P 21 33 04.7 +0.5
baz=268
Q20K Shuyak Island 54.57 36 P P 21 33 05.7 +0.5
baz=267
IMAR Indian Mountai 54.70 27 P P 21 33 07.3 +1.3
IMAR PcP PcP 21 34 04.3 +1.5
G21K Allakaket 54.88 27 P P 21 33 08.8 +1.5
G21K Allakaket 54.88 27 P P 21 33 08.1 +0.8
baz=261
C21K Knifeblade Rid 54.90 23 P P 21 33 07.9 +0.5
baz=258
F21K Alatna River 55.00 26 P P 21 33 08.5 +0.3
baz=260
H21K Melozitna Rive 55.03 28 P P 21 33 08.5 +0.1
baz=262,SNR=6.3
E21K Killik River 55.04 24 P P 21 33 08.0 -0.5
baz=259
B21K Ikpikpuk River 55.06 23 P P 21 33 08.0 -0.5
baz=258
CAST Castle Rocks 55.07 31 P P 21 33 08.2 -0.5
baz=264
ARSB Arslanbob 55.18 302 P P 21 33 10.5 +0.4
ARSB IAmb IAmb 21 33 11.6
comp=Z,22nm,1.4s
ARSB Arslanbob 55.18 302 P P 21 33 10.5 +0.4
ARSB pmax pmax
comp=Z,23nm,1.4s
SKT Skwentna 55.20 32 P P 21 33 10.7 +1.0
SKT Skwentna 55.20 32 P P 21 33 09.7 +0.1
baz=266
CNPM China Poot 55.20 35 P P 21 33 10.1 +0.3
I21K Tanana 55.31 28 P P 21 33 10.8 +0.5
baz=263
SUA Susitna One 55.54 33 P P 21 33 12.7 +0.5
baz=267
F22K John River 55.55 26 P P 21 33 12.2 +0.2
baz=261
D22K Ayikyak River 55.59 24 P P 21 33 13.9 +1.6
baz=260
BPAW Bear Paw Mtn. 55.62 30 P P 21 33 13.8 +1.1
baz=265
H22K Ishtalitna Cre 55.65 28 P P 21 33 14.1 +1.3
baz=263
BVAR Borovoye Array 55.71 317 P P 21 33 13.3 0.0
comp=Z,4.7nm,0.3s,baz=89,slow=7.7,SNR=44
BVAR PcP PcP 21 34 05.4 -1.7
comp=Z,2.0nm,0.8s,baz=67,slow=3.7,SNR=5.1
comp=Z,4.7nm,0.3s
G22K Bettles 55.72 26 P P 21 33 14.6 +1.4
baz=262
BRVK Borovoye 55.77 317 P 21 33 13.5 -0.4
BRVK IAmb IAmb 21 33 14.8
comp=Z,15nm,1.2s
BRVK Borovoye 55.77 317*d i*P P 21 33 13.4 -0.4
BRVK pmax pmax
comp=Z,15nm,1.2s
E22K Anaktuvuk Pass 55.78 25 P P 21 33 15.0 +1.3
baz=261
MLY Manley 55.82 29 P P 21 33 15.2 +1.2
baz=264
TRF Thorofare Moun 55.88 31 P P 21 33 15.7 +1.1
baz=266
RC01 Rabbit Creek A 56.01 33 P P 21 33 15.7 +0.4
baz=268
SEW Seward 56.12 35 P P 21 33 16.3 +0.2
baz=269
COLD Coldfoot 56.27 26 P P 21 33 17.6 +0.5
baz=264
G23K Bananza Creek 56.28 27 P P 21 33 18.9 +1.7
G23K IAmb IAmb 21 33 19.9
comp=Z,5.8nm,0.8s
G23K Bananza Creek 56.28 27 P P 21 33 17.6 +0.4
baz=264,SNR=5.3
D23K Nanushuk River 56.31 24 P P 21 33 17.9 +0.6
baz=262
H23K Yukon River 56.39 28 P P 21 33 18.3 +0.4
baz=265
I23K Minto, Yukon-K 56.41 29 P P 21 33 18.7 +0.7
baz=266
C23K Itkillik River 56.47 23 P P 21 33 19.2 +0.8
baz=261
NEA2 Nenana 56.49 29 P P 21 33 19.8 +1.2
baz=266
MCK McKinley 56.50 30 P P 21 33 19.9 +1.1
baz=267
E23K Chandalar 56.59 25 P P 21 33 19.9 +0.5
baz=264
KNK Knik Glacier 56.64 33 P P 21 33 20.0 +0.2
baz=269
PWL Port Wells 56.69 34 P P 21 33 20.1 0.0
baz=269
KK31 Karatay Array 56.70 305 P P 21 33 20.5 0.0
KK31 Karatay Array 56.70 305 P P 21 33 20.5 0.0
KK31 pmax pmax
comp=Z,21nm,0.8s
KKAR Karatay Array 56.70 305 P P 21 33 20.5 0.0
KKAR Karatay Array 56.70 305 P P 21 33 20.5 0.0
WAT6 Susitna Watana 57.00 32 P P 21 33 22.5 +0.1
baz=269
D24K Happy Valley 57.00 24 P P 21 33 22.5 +0.4
baz=264
E24K Your Creek 57.01 25 P P 21 33 22.8 +0.6
baz=265
H24K Noodor Dome 57.07 28 P P 21 33 23.2 +0.5
baz=267
C24K Franklin Bluff 57.11 23 P P 21 33 23.6 +0.8
baz=263
P23K Montague Islan 57.15 35 P P 21 33 23.4 +0.2
baz=271
SCM Sheep Creek Mo 57.18 33 P P 21 33 23.8 +0.3
baz=270
F24K Squaw Lake 57.19 26 P P 21 33 25.1 +1.7
F24K IAmb IAmb 21 33 26.4
comp=Z,4.5nm,0.7s
F24K Squaw Lake 57.19 26 P P 21 33 24.0 +0.5
baz=266,SNR=7.1
G24K Hadweenzic Riv 57.29 27 P P 21 33 25.0 +0.8
baz=266,SNR=5.4
HDA Harding Lake 57.40 30 P P 21 33 25.3 +0.4
baz=268
ILAR Eielson Array 57.44 29 P P 21 33 25.2 +0.1
comp=Z,1.3nm,0.8s,baz=276,slow=6.0,SNR=11
comp=Z,1.3nm,0.8s
GAR Garm 57.62 300 P P 21 33 27.0 0.0
G25K Bearman Lake 57.84 27 P P 21 33 28.0 +0.1
baz=268
D25K Kavik River 57.89 24 P P 21 33 27.9 -0.3
baz=266
H25L Birch Creek 57.93 27 P P 21 33 28.8 +0.3
baz=268
F25K Christian Rive 58.05 26 P P 21 33 29.4 0.0
baz=268
E25K Arctic Village 58.11 25 P P 21 33 30.1 +0.4
baz=267
HARP HAARP 58.20 32 P P 21 33 31.1 +0.7
baz=271
BMAR Burnt Mountain 58.46 26 P P 21 33 34.2 +2.1
N25K Chitina, Valde 58.48 33 P P 21 33 33.2 +0.6
baz=272
BMRM Bremner River 58.51 34 P P 21 33 33.5 +0.9
BMRM IAmb IAmb 21 33 35.9
comp=Z,5.8nm,1.0s
BMRM Bremner River 58.51 34 P P 21 33 33.5 +0.9
baz=273
CHGR Chuyangaron 58.58 300 P P 21 33 33.5 0.0
CHGR Chuyangaron 58.58 300 P P 21 33 33.5 0.0
CHGR pmax pmax
comp=Z,59nm,0.7s
F26K Sheenjek River 58.63 26 P P 21 33 34.2 +0.9
baz=269
SIMJ Simiganj 58.69 300 P P 21 33 34.4 0.0
SIMJ IAmb IAmb 21 33 35.4
comp=Z,15nm,0.8s
SCRK Sand Creek 58.70 30 P P 21 33 34.3 +0.3
baz=271
G26K Porcupine Rive 58.76 27 P P 21 33 35.2 +1.1
baz=270
C27K Jago River 58.84 23 P P 21 33 35.8 +1.1
C27K Jago River 58.84 23 P P 21 33 35.3 +0.6
baz=268
J26L Joseph Creek 58.87 29 P P 21 33 35.1 0.0
baz=271,SNR=8.8
GLB Gilahina Butte 58.87 33 P P 21 33 36.2 +1.1
L26K Log Cabin Wild 59.01 31 P P 21 33 36.3 +0.3
baz=272
BGLC Bering Glacier 59.21 35 P P 21 33 37.9 +0.6
baz=274
CRQE Cirque 59.26 34 P P 21 33 38.2 +0.4
baz=274
K27K Chicken 59.54 30 P P 21 33 39.5 0.0
baz=273
E27K Coleen River 59.59 25 P P 21 33 40.5 +0.7
baz=271
G27K Doyon Strip 59.60 27 P P 21 33 40.8 +0.9
baz=272
I27K Kandik River 59.66 28 P P 21 33 41.2 +0.8
baz=272
H27K Steamboat Moun 59.67 27 P P 21 33 40.5 +0.1
baz=272,SNR=5.6
KBL Kabul 59.67 295 P 21 33 41.0 -0.2
KBL IAmb IAmb 21 33 41.9
comp=Z,11nm,0.9s
KBL Kabul 59.67 295 P P 21 33 41.0 -0.2
KBL pmax pmax
comp=Z,11nm,1.0s
L27K Beaver Creek, 59.70 31 P P 21 33 41.1 +0.4
baz=274
BCAR Beaver Creek A 59.72 31 P P 21 33 41.9 +1.0
M27K Edge Creek, AK 59.73 32 P P 21 33 41.4 +0.4
baz=274
D27M Malcolm River 59.81 24 P P 21 33 41.5 +0.2
baz=271
STKA Stephens Creek 60.05 178 P P 21 33 43.2 -0.1
comp=Z,1.1nm,0.6s,baz=347,slow=7.1,SNR=3.2
comp=Z,1.1nm,0.6s
F28M Old Crow 60.26 26 P P 21 33 44.9 +0.6
baz=273,SNR=7.9
E28M Babbage River 60.34 25 P P 21 33 45.3 +0.5
baz=273
I28M Miner Creek 60.37 28 P P 21 33 45.6 +0.4
baz=274,SNR=6.5
YUK3 Moose Creek 60.44 33 P P 21 33 46.4 +0.5
baz=276
O28M Mount Upton 60.68 34 P P 21 33 48.5 +0.9
baz=276
DAWY Dawson 60.71 30 P P 21 33 48.5 +1.0
baz=275
PINM Pinnacle 60.72 34 P P 21 33 48.7 +1.1
baz=277
SVE Sverdlovsk 60.94 322 *e*P P 21 33 49.0 0.0
SVE pmax pmax
comp=Z,12nm,0.9s
H29M Whitestone 60.95 27 P P 21 33 49.7 +0.8
baz=275
E29M Blow River 60.96 25 P P 21 33 49.2 +0.2
baz=274
G29M Pine Creek 61.03 27 P P 21 33 49.7 +0.3
baz=275,SNR=7.2
I29M Ogilvie Camp, 61.05 28 P P 21 33 49.7 +0.1
baz=276
BBOO Buckleboo 61.07 184 P P 21 33 50.2 +0.1

M29M	**Somme Creek**	**61.30**	**32**	P		**P**	**21 33 51.4**	**-0.1**
	baz=277							
L29M	**L29M**	**61.37**	**31**	P		**P**	**21 33 51.8**	**0.0**
	baz=277,SNR=5.5							
O29M	**Mount Kennedy**	**61.53**	**34**	P		**P**	**21 33 53.2**	**+0.3**
	baz=278							
K29M	**Barlow Dome**	**61.56**	**30**	P		**P**	**21 33 53.0**	**-0.1**
	baz=277							
EPYK	**Eagle Plains**	**61.60**	**27**	P		**P**	**21 33 54.6**	**+1.4**
EPYK	**Eagle Plains**	**61.60**	**27**	P		**P**	**21 33 53.7**	**+0.5**
	baz=276,SNR=11							
MORW	**Morawa**	**61.64**	**204**	P		**P**	**21 33 53.5**	**-0.5**
G30M	**tAoh Zraii Nji**	**61.73**	**26**	P		**P**	**21 33 54.3**	**+0.3**
	baz=276							
F30M	**Barrier River**	**61.82**	**26**	P		**P**	**21 33 55.1**	**+0.4**
	baz=277							
I30M	**Mount Dempster**	**61.88**	**28**	P		**P**	**21 33 55.2**	**0.0**
	baz=277,SNR=8.6							
HYT	**Haines Junctio**	**61.98**	**33**	P		**P**	**21 33 55.9**	**0.0**
	baz=279							
J30M	**Hart River**	**61.98**	**29**	P		**P**	**21 33 55.9**	**0.0**
	baz=278							
M30M	**Minto, Yukon**	**62.05**	**31**	P		**P**	**21 33 56.2**	**-0.1**
	baz=278							
N30M	**Aishikik Lake**	**62.08**	**33**	P		**P**	**21 33 56.3**	**-0.3**
	baz=279							
ARTI	**Arti**	**62.24**	**322**	P		**P**	**21 33 56.9**	**-0.7**
ARTI	**Arti**	**62.24**	**322**	*c iP*		**P**	**21 33 57.0**	**-0.6**
ARTI							21 34 34.3	
ARTI							21 36 17.6	
ARTI				S		**S**	**21 41 53.8**	**+3.3**
ARTI				SS		**SS**	**21 45 59.9**	**-1.9**
ARTI				pmax	pmax			
	comp=Z,8.0nm,0.7s							
G31M	**Satah River**	**62.50**	**26**	P		**P**	**21 33 59.6**	**+0.6**
	baz=278							
INK	**Inuvik**	**62.58**	**25**	P		**P**	**21 34 00.5**	**+0.9**
	baz=278							
F31M	**Tsiigehtchic**	**62.62**	**26**	P		**P**	**21 34 00.5**	**+0.7**
	baz=278							
H31M	**Peel River**	**62.63**	**28**	P		**P**	**21 34 00.4**	**+0.4**
	baz=279,SNR=5.3							
AB31	**Akbulak array**	**62.74**	**313**	P		**P**	**21 34 00.6**	**-0.4**
ABKAR	**Akbulak array**	**62.74**	**313**	P		**P**	**21 34 00.5**	**-0.4**
PLBC	**Pleasant Camp**	**62.76**	**35**	P		**P**	**21 34 02.0**	**+1.1**
	baz=280							
S31K	**Pelican**	**63.11**	**36**	P		**P**	**21 34 03.8**	**+0.6**
	baz=281							
WHY	**Whitehorse**	**63.27**	**33**	P		**P**	**21 34 05.0**	**+0.7**
	baz=281							
MMPY	**Sheldon Lake,**	**64.56**	**31**	P		**P**	**21 34 13.1**	**+0.6**
	baz=283							
DLBC	**Dease Lake**	**66.19**	**35**	P		**P**	**21 34 24.2**	**+1.2**
	baz=286							
TGTN	**Hyland Airport**	**66.19**	**32**	P		**P**	**21 34 24.0**	**+1.1**
	baz=286							
V35K	**Ketchikan**	**66.21**	**39**	P		**P**	**21 34 24.1**	**+1.1**
	baz=286							
KIRV	**Kirov**	**66.45**	**325**	*d iP*		**P**	**21 34 24.4**	**0.0**
SPITS	**Spitsbergen Ar**	**68.67**	**349**	P		**P**	**21 34 36.7**	**-1.2**
	comp=Z,6.0nm,0.9s,baz=23,slow=4.7,SNR=9.7							
	comp=Z,6.0nm,0.9s							
BELG	**Belogornoye**	**69.35**	**319**	*d iP*		**P**	**21 34 42.1**	**-0.3**
BELG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KEV	**Kevo**	**71.03**	**340**	P		**P**	**21 34 52.2**	**+0.1**
KEV	**Kevo**	**71.03**	**340**	P		**P**	**21 34 52.2**	**+0.1**
KEV				pmax	pmax			
	comp=Z,20nm,1.3s							
ARCES	**ARCESS Array B**	**71.59**	**340**	P		**P**	**21 34 55.8**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=71,slow=8.2,SNR=31							
	comp=Z,5.8nm,0.7s							
VRH	**Novokhopyorsk**	**73.20**	**319**	*e*P		**P**	**21 35 02.9**	**-2.3**
VRH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
AKT	**Akhty**	**73.33**	**308**	*e*P		**P**	**21 35 04.9**	**-1.4**
AKT				*e*			21 35 17.3	
AKT				pmax	pmax			
	comp=Z,10.0nm,0.6s							
LKRN	**Lenkeran, Azer**	**73.69**	**305**	P		**P**	**21 35 08.1**	**-0.1**
SEKA	**Sheki**	**73.80**	**308**	P		**P**	**21 35 09.3**	**+0.3**
MNGR	**Mingechevir, A**	**74.06**	**308**	P		**P**	**21 35 10.8**	**+0.5**
OBN	**Obninsk**	**74.28**	**325**	*e*P		**P**	**21 35 11.5**	**+0.2**
OBN							21 35 23.0	
OBN				*PP		**pwP**	**21 36 43.0**	**-0.2**
OBN				*e*SP		**sP**	**21 37 25.6**	**+2.6**
OBN							21 38 03.0	
OBN				*e*			21 44 52.8	
OBN				SS		SS	21 49 02.0	-4.1
OBN				pmax	pmax			
	comp=Z,15nm,1.0s							
GANJ	**Ganja**	**74.64**	**308**	P		**P**	**21 35 14.1**	**+0.4**
VSR	**Storozhevoye**	**74.64**	**320**	*e*P		**P**	**21 35 10.9**	**-2.5**
VSR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KBZ	**Khabaz**	**75.64**	**312**	P		**P**	**21 35 19.1**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=86,slow=3.1,SNR=13							
	comp=Z,6.8nm,0.8s							
KBZ	**Khabaz**	**75.64**	**312**	*d iP*		**P**	**21 35 19.3**	**+0.1**
KBZ				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KIV	**Kislovodsk**	**75.68**	**312**	*i* P		**P**	**21 35 20.3**	**+0.7**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
NAX	**Nakhchivan**	**75.83**	**307**	P		**P**	**21 35 20.6**	**+0.1**
B08A	**Colville Reser**	**75.83**	**43**	P		**P**	**21 35 21.1**	**+0.8**
B08A				IAmb	IAmb		21 35 22.8	
	comp=Z,12nm,1.4s							
FINES	**FINESS Array B**	**75.84**	**333**	P		**P**	**21 35 19.6**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=68,slow=4.7,SNR=47							
	comp=Z,2.2nm,0.3s							
KHAM	**Kharkiv**	**76.86**	**320**	P		**P**	**21 35 26.0**	**+0.1**
PINE	**Pine Mountain**	**76.90**	**47**	P		**P**	**21 35 28.0**	**+1.5**
PINE				IAmb	IAmb		21 35 29.3	
	comp=Z,5.6nm,0.8s							
KHZ	**Kahutara**	**77.03**	**155**	P		**P**	**21 35 25.4**	**-1.3**
O02D	**Mt. Diablo Mer**	**77.28**	**51**	P		**P**	**21 35 29.4**	**+0.9**
O02D				IAmb	IAmb		21 35 33.9	
	comp=Z,5.4nm,1.2s							
GURO	**Guroymak-BITLI**	**78.53**	**308**	P		**P**	**21 35 35.1**	**-0.3**
GURO				IAmb	IAmb		21 35 36.9	
	comp=Z,4.1nm,0.8s							
BMO	**Blue Mountains**	**78.71**	**45**	P		**P**	**21 35 37.2**	**+1.0**
BMO	**Blue Mountains**	**78.71**	**45**	P		**P**	**21 35 37.2**	**+1.0**
BMO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SUMG	**Summit**	**79.21**	**360**	P		**P**	**21 35 39.3**	**+0.6**
SUMG				IAmb	IAmb		21 35 54.0	
	comp=Z,6.8nm,1.4s							
SUMG	**Summit**	**79.21**	**360**	P		**P**	**21 35 39.3**	**+0.6**
SUMG				pmax	pmax			
	comp=Z,7.0nm,1.4s							
PABE	**Paberze**	**80.19**	**329**	P		**P**	**21 35 43.3**	**-0.4**
AK03	**Malin Array Si**	**80.34**	**323**	P		**P**	**21 35 43.8**	**-0.8**
AKASG	**Malin Array Be**	**80.35**	**323**	P		**P**	**21 35 43.8**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=53,slow=5.8,SNR=10.0							
	comp=Z,2.8nm,0.7s							
AKASG	**Malin Array Be**	**80.35**	**323**	*i* P		**P**	**21 35 43.9**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKBB	**Malin Array Si**	**80.35**	**323**	*i* P		**P**	**21 35 43.8**	**-0.9**
AKBB	**Malin Array Si**	**80.35**	**323**	P		**P**	**21 35 43.6**	**-1.1**
WAKR	**Walker**	**80.36**	**51**				**21 35 46.2**	**+1.0**
WAKR				IAmb	IAmb		21 35 47.5	
	comp=Z,3.2nm,0.7s							
KIEV	**Kiev**	**80.36**	**323**	P		**P**	**21 35 43.6**	**-1.1**
	comp=Z,28nm,0.8s							
AK09	**Malin Array Si**	**80.37**	**323**	P		**P**	**21 35 44.0**	**-0.7**
AK04	**Malin Array Si**	**80.37**	**323**	P		**P**	**21 35 43.7**	**-1.1**
AK08	**Malin Array Si**	**80.37**	**323**	P		**P**	**21 35 43.7**	**-1.1**
AK11	**Malin Array Si**	**80.39**	**323**	P		**P**	**21 35 44.1**	**-0.8**
AK21	**Malin Array Si**	**80.41**	**323**	P		**P**	**21 35 44.1**	**-0.8**
AK15	**Malin Array Si**	**80.41**	**323**	P		**P**	**21 35 43.6**	**-1.4**
AK12	**Malin Array Si**	**80.42**	**323**	P		**P**	**21 35 44.3**	**-0.7**
AK06	**Malin Array Si**	**80.43**	**323**	P		**P**	**21 35 44.3**	**-0.8**
AK20	**Malin Array Si**	**80.44**	**323**	P		**P**	**21 35 44.3**	**-0.8**
AK07	**Malin Array Si**	**80.44**	**323**	P		**P**	**21 35 44.6**	**-0.6**
AK17	**Malin Array Si**	**80.45**	**323**	P		**P**	**21 35 45.4**	**+0.2**
AK19	**Malin Array Si**	**80.45**	**323**	P		**P**	**21 35 44.0**	**-1.2**
MI28	**Mi28,Pidlybu**	**81.04**	**324**	P		**P**	**21 35 47.7**	**-0.6**
NVAR	**Mina Array Bea**	**81.17**	**51**	P		**P**	**21 35 50.8**	**+1.3**
NVAR	**Mina Array Bea**	**81.17**	**51**	P		**P**	**21 35 50.3**	**+0.8**
	comp=Z,3.8nm,0.7s,baz=305,slow=6.3,SNR=20							
	comp=Z,3.8nm,0.7s							
HFS	**Hagfors**	**81.38**	**336**	P		**P**	**21 35 49.0**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=60,slow=8.5,SNR=19							
	comp=Z,1.5nm,0.3s							
HFS	**Hagfors**	**81.38**	**336**	P		**P**	**21 35 49.0**	**-0.9**
LUBAR	**Lubar, Ukraine**	**81.57**	**323**	P		**P**	**21 35 50.2**	**-0.8**
NB2	**NORSAR Subarra**	**81.60**	**337**	P		**P**	**21 35 50.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=45,slow=4.8							
NB2	**NORSAR Subarra**	**81.60**	**337**	P		**P**	**21 35 50.2**	**-0.8**
NOA	**NORSAR Array B**	**81.60**	**337**	P		**P**	**21 35 50.2**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=45,slow=5.0,SNR=9.5							
	comp=Z,2.0nm,0.6s							
BAL3X	**Bal3x, Balta**	**81.67**	**320**	P		**P**	**21 35 50.3**	**-1.3**
RNPP9	**Sopachiv**	**81.68**	**325**	P		**P**	**21 35 50.9**	**-0.7**
NORES	**NORESS Array B**	**81.71**	**337**	P		**P**	**21 35 52.0**	**+0.5**
RNPP8	**Varash**	**81.74**	**325**	P		**P**	**21 35 51.4**	**-0.5**
RNPP5	**Staryi Chortor**	**81.79**	**325**	P		**P**	**21 35 51.6**	**-0.5**
SORM	**Soroca**	**82.25**	**321**	P		**P**	**21 35 53.4**	**-1.2**
	comp=Z,15nm,0.8s							
BNN	**Bunyan**	**82.62**	**310**			**P**	**21 35 56.7**	**-0.2**
BNN				IAmb	IAmb		21 35 58.1	
	comp=Z,8.3nm,0.9s							
RAYN	**Ar Rayn**	**82.82**	**293**			**P**	**21 35 58.0**	**0.0**
RAYN	**Ar Rayn**	**82.82**	**293**	P		**P**	**21 35 58.0**	**0.0**
RAYN				pmax	pmax			
	comp=Z,17nm,0.8s							
KMPD	**K-Podol'skiy**	**83.04**	**322**	P		**P**	**21 35 57.1**	**-1.5**
TPNV	**Topopah Spring**	**83.32**	**52**	P		**P**	**21 36 01.6**	**+1.1**
TPNV				IAmb	IAmb		21 36 02.4	
	comp=Z,5.6nm,0.9s							
TPNV	**Topopah Spring**	**83.32**	**52**	P		**P**	**21 36 01.6**	**+1.1**
TPNV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
RLMT	**Red Lodge**	**83.43**	**42**	P		**P**	**21 36 02.1**	**+1.2**
RLMT				IAmb	IAmb		21 36 03.4	
	comp=Z,4.9nm,0.7s							
BR131	**Keskin Array S**	**83.64**	**312**	*i* P		**P**	**21 36 01.6**	**-0.4**
BRTR	**Keskin Array B**	**83.64**	**312**	P		**P**	**21 36 01.8**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=84,slow=3.6,SNR=5.7							
	comp=Z,1.6nm,0.6s							
BRTR	**Keskin Array B**	**83.64**	**312**	*i* P		**P**	**21 36 02.0**	**0.0**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BR106	**Keskin Array S**	**83.65**	**312**	P		**P**	**21 36 01.7**	**-0.3**
	comp=Z,2.2nm,0.7s							
BEL	**Belsk**	**83.94**	**327**	P		P	21 36 09.6	+6.6
BEL				pmax	pmax			
	comp=Z,4.0nm,0.5s							
HWUT	**Hardware Ranch**	**83.97**	**46**	P		**P**	**21 36 04.6**	**+1.0**
HWUT				IAmb	IAmb		21 36 06.0	
	comp=Z,5.4nm,0.8s							
BUR08	**Bucovina Ar. S**	**84.27**	**322**	P		**P**	**21 36 04.4**	**-0.5**
BURAR	**Bucovina Array**	**84.28**	**322**	P		**P**	**21 36 04.6**	**-0.4**
BURAR	**Bucovina Array**	**84.28**	**322**	P		**P**	**21 36 04.6**	**-0.4**
BURAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**84.58**	**44**	P		**P**	**21 36 06.9**	**+0.2**
PDAR	**Pinedale Array**	**84.58**	**44**	P		**P**	**21 36 07.5**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=222,slow=1.0,SNR=9.9							
	comp=Z,0.9nm,0.6s							
PFO	**Pinyon Flats O**	**84.88**	**55**	P		**P**	**21 36 08.9**	**+0.7**
PFO				IAmb	IAmb		21 36 10.0	
	comp=Z,4.0nm,0.8s							
PFO	**Pinyon Flats O**	**84.88**	**55**	P		**P**	**21 36 08.9**	**+0.7**
PFO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PMD	**Palm Desert**	**84.92**	**54**	P		**P**	**21 36 08.5**	**+0.3**
PMD				IAmb	IAmb		21 36 09.9	
	comp=Z,5.1nm,0.8s							
BELC	**Belle Mtn. Jos**	**85.01**	**54**	P		**P**	**21 36 09.6**	**+0.7**
MMAI	**Mount Meron Ar**	**85.93**	**305**	P		**P**	**21 36 12.4**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=151,slow=3.3,SNR=2.3							
	comp=Z,1.8nm,0.7s							
KHC	**Kasperske Hory**	**89.17**	**328**	*d iP*		**P**	**21 36 27.3**	**-0.9**
KHC				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KHC	**Kasperske Hory**	**89.17**	**328**	P		**P**	**21 36 26.9**	**-1.3**
GERES	**GERESS Array B**	**89.31**	**328**	P		**P**	**21 36 27.5**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=37,slow=5.2,SNR=7.8							
	comp=Z,1.2nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**92.53**	**328**	P		**P**	**21 36 43.1**	**-0.9**
TXAR	**Lajitas Array**	**96.30**	**52**	P		**P**	**21 37 02.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=288,slow=2.7,SNR=8.1							
	comp=Z,0.7nm,0.7s							
QSPA	**South Pole Qui**	**118.25**	**180**	PKP		**PKiKP**	**21 42 16.5**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=289,slow=1.6,SNR=20							
TORD	**Torodi Ar. Bea**	**122.21**	**310**	PKP		**PKPdf**	**21 42 24.1**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=23,slow=2.2,SNR=11							
SNAA	**Sanae**	**132.22**	**195**	PKP		**PKPdf**	**21 42 42.3**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=188,slow=9.8,SNR=5.9							
SNAA				SKPbc		**SKPbc**	**21 45 28.7**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=180,slow=7.1,SNR=8.6							
LPAZ	**La Paz**	**151.38**	**71**	PKPbc		**PKiKP**	**21 43 25.6**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=4.8,slow=5.5,SNR=11							
PLCA	**Paso Flores**	**152.19**	**124**	PKPbc		**PKiKP**	**21 43 26.2**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=231,slow=3.3,SNR=9.4							

JMA 21 21:25:35.3±0.2, 41.1°N±0.5°×139.1°E±1.0°, h20km±3km, MV1.6/13, W OFF AOMORI PREF, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.81**	**125**	P	Pb	21 25 50.3	-0.4
JIW				S	Sb	21 26 00.9	-0.4
JSI2	**Shiura 2**	**0.97**	**90**	*e*P	Pb	21 25 53.0	-0.4
JSI2				S	Sb	21 26 06.0	+0.2

*IPEC **21** 21:35:43.4±0.3, 49.83°N×18.58°E, h1km, ML1.7/4, Error ellipse: s-maj=2.1km s-min=1.7km az=70.0*

PRU 21 21:35:44.8, 49.82°N×18.49°E, h0km, Mining Induced Event Csm, E=4.3e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.22**	**275**	*e*PG	Pg	21 35 49.0	-0.1
OKC				*e*SG	Sg	21 35 53.0	+1.1
	42nm,0.6s						
STEB	**Steborice**	**0.48**	**284**	*e*PG	Pg	21 35 53.9	0.0
STEB				*e*SG	Sg	21 36 00.7	+0.6
MORC	**Moravsky Berou**	**0.62**	**266**	*e*Pg	Pg	21 35 56.5	-0.1
	baz=85						
MORC				*e*Sg	Sg	21 36 04.5	0.0
	13nm,0.3s,baz=85						
LANS	**Liptovska Anna**	**0.93**	**136**	*e*PG	Pg	21 36 00.9	-1.6
LANS				*e*SG	Sg	21 36 15.1	+0.6
LANS				*e*LG	Lg	21 36 20.9	
OJC	**Ojcow**	**0.93**	**64**	*e*Pg	Pg	21 36 00.2	-2.5
OJC				*e*Sg	Sg	21 36 12.3	-2.5
JAVC	**Velka Javorina**	**1.10**	**209**	*e*Pg	Pg	21 36 05.5	-0.4
	baz=31						
JAVC	**Velka Javorina**	**1.10**	**209**	*e*PG	Pg	21 36 05.6	-0.3
KRLC	**Kraliky**	**1.13**	**284**	*e*PG	Pg	21 36 04.9	-1.6
KRLC				*e*SG	Sg	21 36 21.0	-0.2
	7.6nm,0.2s						
NIE	**Niedzica**	**1.24**	**108**	*e*Pg	Pg	21 36 06.5	-2.2
NIE				*e*Sg	Sg	21 36 24.8	+0.1
VRAC	**Vranov**	**1.34**	**248**	*e*Pg	Pg	21 36 09.3	-1.1
	baz=67						
VRAC				*e*Sg	Sg	21 36 27.0	-0.7
	9.9nm,0.3s,baz=67						
VYHS	**Vyhne**	**1.35**	**170**	*e*PG	Pg	21 36 08.6	-2.0
VYHS				*e*SG	Sg	21 36 27.0	-1.0
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*P	Pn	21 36 11.7	-1.2
DPC	**Dobruska-Polom**	**1.49**	**292**	*e*PG	Pn	21 36 11.7	-1.2
DPC				*e*SG	Sg	21 36 32.2	-0.6
	4.3nm,0.3s						
KRUC	**Moravsky**	**1.56**	**242**	*e*Pg	Pn	21 36 12.6	-1.2
	baz=61						
KRUC				*e*Sg	Sn	21 36 34.1	-0.7
	6.8nm,0.2s,baz=61						
KRUC	**Moravsky**	**1.56**	**242**	*e*PG	Pn	21 36 12.7	-1.1
KRUC				*e*SG	Sn	21 36 34.2	-0.6
OSTC	**Ostas**	**1.64**	**298**	*e*P	Pn	21 36 14.4	-0.5
OSTC	**Ostas**	**1.64**	**298**	*e*PG	Pn	21 36 14.4	-0.5
OSTC				*e*SG	Sn	21 36 36.1	-0.6
UPC	**Upice**	**1.74**	**294**	*e*P	Pn	21 36 15.5	-0.7
UPC	**Upice**	**1.74**	**294**	*e*PG	Pn	21 36 15.5	-0.7
UPC				*e*SG	Sn	21 36 38.9	-0.2
CHVC	**Chvalec**	**1.74**	**297**	*e*P	Pn	21 36 16.4	+0.1
CHVC	**Chvalec**	**1.74**	**297**	*e*PG	Pn	21 36 16.4	+0.1
CHVC				*e*SG	Sn	21 36 39.6	+0.3
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*P	Pn	21 36 16.9	-0.7
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*PG	Pn	21 36 16.9	-0.7
TREC	**Trest**	**2.02**	**256**	*e*SG	Sb	21 36 48.3	+0.1
PRU	**Pruhonice**	**2.56**	**275**	*e*SG	Sg	21 37 06.1	-0.8
CKRC	**Cesky Krumlov**	**2.91**	**251**	*e*SG	Sb	21 37 15.5	+1.8
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PN	Pn	21 36 36.5	-0.9
KHC				*e*SG	Sg	21 37 29.4	-0.6

IDC 21 21:39:37.1±4.6, 22.61°N×93.49°E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=410.2km s-min=24.9km az=59.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.77**	**342**	P	P	21 45 09.9	+0.3
	0.3nm,0.5s,baz=146,slow=10,SNR=4.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**58.13**	**134**	P	P	21 49 32.3	-0.5
	0.2nm,0.5s,baz=317,slow=7.4,SNR=1.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**60.50**	**137**	P	P	21 49 49.5	+0.3
	0.3nm,0.5s,baz=316,slow=6.9,SNR=6.0						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**61.34**	**338**	P	P	21 49 53.9	-0.4
	0.4nm,0.7s,baz=96,slow=8.5,SNR=3.6						
	0.4nm,0.7s						

*THE **21** 21:56:29.7, 40°N±1°×2°4E±°, h17km±3km, M3.4/34, MLh3.4/34*
*ATH **21** 21:56:29.5, 39.86°N×24.49°E, h24km±1km, ML3.6/21, Manual Solution by M.Papanikolaou First location: 2019/08/21 21:57:35, This location: 2019/08/21 22:20:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*ISK **21** 21:56:31.2, 40.08°N×24.58°E, h11km, ML3.5/26*
*AFAD **21** 21:56:36.5, 39.97°N×25.02°E, h40km±5km, ML2.8*

ISC 21 21:56:29.7±1.0, 39.84°N±0.02×24.48°E±0.02, h32km±10km, n153, σ1872/148, 17C-23D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.55**	**84**	P	**Pb**	**21 56 40.7**	**-0.2**
LIA				S	**Sb**	**21 56 48.5**	**-0.2**
LIA	**Limnos Island**	**0.55**	**84**	P	**Pb**	**21 56 40.6**	**-0.3**
LIA				S	**Sb**	**21 56 47.7**	**-0.9**
OUR	**Ouranopolis**	**0.62**	**322**	Pg	**Pb**	**21 56 41.9**	**-0.3**
OUR				Sg	**Sb**	**21 56 49.9**	**-0.8**
OUR	**Ouranopolis**	**0.62**	**322**	P	**Pb**	**21 56 41.6**	**-0.6**
OUR	**Ouranopolis**	**0.62**	**322**	P	**Pb**	**21 56 41.6**	**-0.6**
OUR				S	**Sb**	**21 56 50.0**	**-0.8**
THAS	**Thassos island**	**0.78**	**14**	P	**Pn**	**21 56 44.3**	**-0.3**
THAS				S	**Sn**	**21 56 55.7**	**+0.5**
THAS	**Thassos island**	**0.78**	**14**	P	**Pn**	**21 56 44.1**	**-0.4**
THAS				S	**Sb**	**21 56 54.4**	**-0.8**
AOS	**Alonnisos**	**0.82**	**215**	P	**Pn**	**21 56 45.4**	**+0.4**
SKY	**Skiros Island**	**0.97**	**177**	P	**Pb**	**21 56 47.9**	**-0.1**
SMTH	**Samothraki Isl**	**1.02**	**52**	P	**Pn**	**21 56 48.0**	**+0.2**
SMTH	**Samothraki Isl**	**1.02**	**52**	P	**Pn**	**21 56 48.0**	**+0.2**
NEO	**Neokhori**	**1.11**	**241**	P	**Pn**	**21 56 49.1**	**+0.1**
GADA	**Gvkgeada**	**1.14**	**72**	Pg	**Pb**	**21 56 51.1**	**+0.1**
GADA				Sg	**Sb**	**21 57 05.7**	**+0.2**
GADA	**Gvkgeada**	**1.14**	**72**	P	**Pn**	**21 56 50.5**	**+1.0**
GOAD	**anakkale-G¶**	**1.14**	**73**	P	**Pn**	**21 56 50.2**	**+0.7**
GOAD				S	**Sn**	**21 57 02.4**	**-1.7**
KAVA	**Kavala**	**1.15**	**1**	P	**Pn**	**21 56 50.0**	**+0.3**
KAVA				S	**Sb**	**21 57 07.0**	**+1.3**
KAVA	**Kavala**	**1.15**	**1**	P	**Pn**	**21 56 49.9**	**+0.3**
BOZC	**Bozcaada**	**1.21**	**90**	P	**Pn**	**21 56 51.6**	**+1.1**
BOZC				S	**Sn**	**21 57 02.0**	**-3.8**
SIGR	**SIGRI**	**1.24**	**120**	Pn	**Pb**	**21 56 56.1**	**+3.6**
KYMI	**Kymi, Euboea I**	**1.25**	**194**	P	**Pn**	**21 56 51.3**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.25**	**194**	P	**Pn**	**21 56 51.2**	**+0.3**
SOH	**Sokhos**	**1.30**	**319**	P	**Pn**	**21 56 52.7**	**-1.0**
SOH	**Sokhos**	**1.30**	**319**	P	**Pn**	**21 56 52.5**	**+0.8**
ECEA	**Canakkale, Ece**	**1.32**	**81**	P	**Pn**	**21 56 52.7**	**+0.8**
ECEA				S	**Sn**	**21 57 05.0**	**-3.3**
KOCA	**Canakkale, Ayv**	**1.33**	**104**	P	**Pb**	**21 56 53.4**	**-0.7**
KOCA

comp=E,77nm,0.4s
BALY *i* IAML 21 57 31.0
comp=N,55nm,1.2s
SOMA Soma-Manisa 2.46 105 Pn **Pb** **21 57 12.2 -1.1**
BLCB Balcova 2.47 125 Pn **Pb** **21 57 13.6 +0.2**
GONE Gonen-Balikesi 2.47 84 Pn **Pb** **21 57 11.3 -2.2**
GUR Goura 2.53 222 P **Pn** **21 57 09.5 +0.8**
STEP BALIKESIR_Sava 2.55 100 P **Pn** **21 57 10.7 +1.9**
STEP *i* IAML 21 57 34.0
comp=E,91nm,0.5s
STEP *i* IAML 21 57 37.0
comp=N,90nm,0.8s
FNA Florina 2.55 293 P **Pn** **21 57 10.7 +1.7**
KLV Kalavryta, Ach 2.56 226 P **Pn** **21 57 09.7 +0.8**
EDRB Edirne 2.64 40 Pn **Pn** **21 57 11.9 +1.9**
EDC Edincik 2.64 78 Pn **Pn** **21 57 13.4 +3.3**
BKES Balkesir-Mer 2.66 91 P **Pn** **21 57 12.5 +2.1**
NEST Nestorio 2.69 283 P **Pn** **21 57 12.7 +1.9**
BAND Balkesir-Ban 2.82 78 ⇓P **Pb** **21 57 19.5 +0.1**
PHSR Pinarhisar 2.92 51 ⇓P Pb 21 57 26.2 +5.1
GORD Gordes-Manisa 3.02 107 Pn **Pb** **21 57 20.3 -2.4**
SLVT Silivri 3.16 63 Pn **Pn** **21 57 20.3 +3.0**
ELND Elena 3.26 18 ⇓P **Pn** **21 57 19.4 +0.8**
CTYL Yalikoy Yolu 3.33 59 Pn **Pn** **21 57 22.4 +2.9**
MDNY Mudanya-Bursa 3.42 80 Pn **Pn** **21 57 24.6 +3.8**
ARMT Armutlu 3.43 76 Pn **Pn** **21 57 24.7 +3.7**
BGKT Bogazkoy 3.54 66 Pn **Pn** **21 57 25.7 +3.3**
PLVB Pleven 3.54 2 ⇓P **Pb** **21 57 34.9 +3.3**
ISK Istanbul-Kandi 3.70 69 Pn **Pn** **21 57 28.3 +3.6**
KAVV Kandilli-Istan 3.70 69 Pn **Pn** **21 57 27.9 +3.2**
KLYT Kilyos 3.75 67 Pn **Pn** **21 57 28.6 +3.3**
YLV Yalova 3.82 78 Pn **Pn** **21 57 30.3 +4.0**
LOZB Loznitsa 3.86 24 ⇓P **Pb** **21 57 38.0 +0.9**
ZIMR 3.87 10 ⇓P Pb 21 57 42.8 +5.6
RAZG Razgrad 4.02 22 ⇓P **Pb** **21 57 40.2 +0.4**
VLAD Vladila 4.15 359 ⇓P **Pb** **21 57 43.3 +1.3**
BOVS Bovan 4.32 332 ⇑P **Pb** **21 57 41.7 -3.1**
PDG Podgorica 4.71 305 ⇓P **Pb** **21 57 55.4 +3.8**
SRE Strehaia 4.91 349 ⇑P **Pb** **21 57 54.5 -0.4**
ICOR Ion Corvin 4.94 29 ⇑P **Pn** **21 57 43.7 +2.1**
SULR 5.01 15 ⇑P Pn 21 57 47.1 +4.5
MFTR Murfatlar 5.23 33 ⇓P Pb 21 57 56.7 -3.8
HERR Herculane 5.26 344 ⇑P **Pn** **21 57 48.0 +1.9**
MDVR Moldovita 5.34 338 ⇓P **Pb** **21 57 59.5 -2.9**
TIRR Tirgusor 5.46 31 ⇓P Pb 21 57 59.8 -4.5
HARR Harsova 5.48 27 ⇑P Pb 21 58 00.4 -4.2
ISR Istrita 5.49 15 ⇓P **Pn** **21 57 52.3 +3.1**
ARR Arges 5.52 1 ⇓P **Pn** **21 57 50.1 +0.4**
VOIR 5.61 4 ⇑P Pb 21 58 02.2 -4.6
LOT Lotru 5.62 355 ⇓P **Pn** **21 57 52.8 +1.6**
NEHR Nehoiu 5.74 13 ⇑P Pb 21 58 05.0 -4.0
MLR Muntele Rosu 5.75 10 ⇑P **Pn** **21 57 53.9 +1.0**
TPGR Topolog 5.80 29 ⇑P Pb 21 58 01.9 -8.1
MATE Matera 6.00 280 ⇓P Pb 21 58 07.5 -6.0
COVR Voineasa-Covas 6.13 11 ⇑P **Pn** **21 58 00.7 +2.6**
SURR Surduc 6.16 344 ⇑P Pb 21 58 10.7 -5.4
DOPR Dopca 6.16 6 ⇓P **Pn** **21 58 02.6 +4.2**
ODBI Odobesti 6.21 17 ⇓P Pb 21 58 13.7 -3.3
PLOR Plostina 6.21 14 ⇑P Pn 21 58 04.7 +5.5
VRI Vrincioaia 6.24 15 ⇑P **Pn** **21 58 00.1 +0.5**
MDB Medias 6.29 359 ⇑P Pn 21 58 05.4 +5.1
OZUR 6.32 8 ⇑P **Pn** **21 57 59.5 -1.2**
SIRR Siria 6.74 343 ⇓P Pb 21 58 18.4 -7.7
MORH Mrgy, Hungar 7.67 328 ⇓P Pn 21 58 26.8 +7.7
BURAR Bucovina Array 7.79 4 ⇓P **Pn** **21 58 23.3 +2.5**
SORM Soroca 8.74 17 ⇑P Pn 21 58 29.9 -3.9

*IDC **21** 22:11:27.1±0.8,2°.71N×128°.21E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=48.6km s-min=15.5km az=81.0*

ISC 21 22:11:32.1±0.8,**2°.7N**±0°.1×**128°.3E**±0°.3,**h35**km,**n10,** σ0**84**/10,**mb4.1/9,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.81**	**187**	P	**P**		**22 16 10.9**	**+0.3**
	3.6nm,1.0s,baz=348,slow=5.9,SNR=6.3							
	3.6nm,1.0s							
WRA	**Warramunga Arr**	**23.26**	**165**	P	**P**		**22 16 38.0**	**+1.3**
	0.9nm,0.3s,baz=346,slow=10,SNR=6.1							
	0.9nm,0.3s							
ASAR	**Alice Springs**	**26.76**	**168**	P	**P**		**22 17 08.8**	**0.0**
	0.4nm,0.8s,baz=357,slow=11,SNR=1.6							
	0.4nm,0.8s							
KSRS	**Korea Array**	**34.61**	**360**	P	**P**		**22 18 18.4**	**+0.6**
	1.1nm,0.5s,baz=175,slow=9.9,SNR=5.2							
	1.1nm,0.5s							
MJAR	**Matsushiro Arr**	**34.92**	**14**	P	**P**		**22 18 20.3**	**-0.4**
	2.1nm,0.7s,baz=182,slow=9.7,SNR=7.7							
	2.1nm,0.7s							
STKA	**Stephens Creek**	**36.63**	**161**	P	**P**		**22 18 34.8**	**-0.6**
	3.1nm,1.0s,baz=342,slow=13,SNR=3.7							
	3.1nm,1.0s							
SONM	**Songino Array**	**48.78**	**341**	P	**P**		**22 20 14.6**	**+0.8**
	0.5nm,0.5s,baz=152,slow=9.6,SNR=4.5							
	0.5nm,0.5s							
PETK	**Petropavlovsk-**	**55.84**	**21**	P	**P**		**22 21 05.8**	**-0.1**
	2.1nm,1.0s,baz=193,slow=7.3,SNR=1.0							
	2.1nm,1.0s							
MKAR	**Makanchi Array**	**59.28**	**325**	P	**P**		**22 21 30.3**	**-0.1**
	0.4nm,0.4s,baz=116,slow=7.8,SNR=9.3							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.44**	**327**	P	**P**		**22 21 57.1**	**-1.3**
	2.8nm,0.2s,baz=115,slow=6.4,SNR=2.3							
	2.8nm,0.2s							

*IDC **21** 22:14:23.3±0.7, 29°.75S×178°.78W, h198km±11km, mb3.4/5, mbtmp4.0/5, Error ellipse: s-maj=34.3km s-min=20.7km az=34.0*

ISC 21 22:14:23.3±0.8,**29°.8S**±0°.2×**178°.8W**±0°.2,**h200**km,**n15,** σ0**70**/15,**mb3.8/7,4C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**54**	P	**Pn**		**22 14 52.8**	**+0.3**
	300nm,0.3s,baz=330,slow=20,SNR=2.5							
RAO				S		**Sn**	**22 15 14.8**	**-0.2**
	516nm,0.3s,baz=246,slow=20,SNR=4.2							
URZ	**Urewera**	**9.11**	**201**	S		Sn	22 17 58.6	-14
	14nm,0.8s,baz=18,slow=18,SNR=6.7							
STKA	**Stephens Creek**	**33.98**	**256**	P	**P**		**22 20 48.4**	**+0.4**
	1.4nm,0.6s,baz=86,slow=13,SNR=2.8							
	1.4nm,0.6s							
ASAR	**Alice Springs**	**42.48**	**267**	P	**P**		**22 21 58.9**	**-0.2**
	0.5nm,0.4s,baz=102,slow=7.4,SNR=9.4							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**43.42**	**272**	P	**P**		**22 22 06.0**	**-0.6**
	1.2nm,0.4s,baz=111,slow=7.9,SNR=6.2							
	1.2nm,0.4s							
QSPA	**South Pole Qui**	**60.31**	**180**	P	**P**		**22 24 11.9**	**+1.2**
	1.7nm,0.6s,baz=61,slow=1.5,SNR=20							
	1.7nm,0.6s							
TROLL	**Troll, Antarti**	**78.47**	**180**	⇑P	**P**		**22 26 01.5**	**-0.3**
	comp=Z,86nm,0.7s							
SNAA	**Sanae**	**78.77**	**179**	⇑P	**P**		**22 26 02.7**	**-0.7**
	comp=Z,25nm,1.1s							
SNAA	**Sanae**	**78.77**	**179**	P	**P**		**22 26 02.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=169,slow=10,SNR=5.6							
	comp=Z,0.3nm,0.4s							
VNA3	**Neumayer Olymp**	**78.95**	**176**	⇑P	**P**		**22 26 03.5**	**-0.7**
	comp=Z,1nm,0.7s							
VNA2	**Neumayer--Watz**	**79.37**	**177**	⇑P	**P**		**22 26 05.7**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=181,slow=4.7							
FINES	**FINESS Array B**	**144.35**	**340**	PKP		**PKPab**	**22 33 33.9**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=58,slow=3.4,SNR=38							
HFS	**Hagfors**	**148.52**	**348**	PKPbc		**PKPbc**	**22 33 45.5**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=80,slow=8.9,SNR=2.7							
MMAI	**Mount Meron Ar**	**150.74**	**285**	PKPbc		**PKiKP**	**22 33 53.1**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=61,slow=8.9,SNR=2.1							
TORD	**Torodi Ar. Bea**	**163.43**	**182**	PKPab		**PKPab**	**22 34 53.7**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=197,slow=4.4,SNR=2.2							

*IDC **21** 23:00:58.5±6.7, 18°.16S×178°.17W, h554km±81km, mb3.1/9, mbtmp4.0/9, Error ellipse: s-maj=35.2km s-min=26.9km az=179.0*

ISC 21 23:00:58.5±0.9,**18°.2S**±0°.2×**178°.2W**±0°.2,**h550**km,**n11,** σ0**93**/12,**mb3.6/8,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URZ	**Urewera**	**20.44**	**191**	P	**P**		**23 04 56.8**	**-1.6**
	8.5nm,0.8s,baz=343,slow=23,SNR=1.3							
	8.5nm,0.8s							
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**		**23 07 36.3**	**+0.9**
	0.8nm,0.4s,baz=140,slow=7.9,SNR=2.0							
	0.8nm,0.4s							
WRA	**Warramunga Arr**	**44.75**	**260**	P	**P**		**23 08 23.5**	**-0.2**
	0.7nm,0.4s,baz=97,slow=6.9,SNR=9.0							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**44.89**	**254**	P	**P**		**23 08 25.2**	**+0.5**
	5.7nm,0.5s,baz=88,slow=8.6,SNR=64							
ASAR				PcP		**PcP**	**23 09 54.8**	**+0.3**
	0.3nm,0.5s,baz=105,slow=3.8,SNR=1.0							
	5.7nm,0.5s							
MJAR	**Matsushiro Arr**	**68.20**	**323**	P	**P**		**23 11 03.4**	**-1.0**
	0.7nm,0.4s,baz=181,slow=8.3,SNR=2.0							
	0.7nm,0.4s							
PETK	**Petropavlovsk-**	**73.96**	**345**	P	**P**		**23 11 37.6**	**-0.2**
	1.5nm,0.7s,baz=100,slow=7.9,SNR=4.1							
	1.5nm,0.7s							
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**		**23 12 42.3**	**+0.9**
	0.3nm,0.7s,baz=212,slow=4.4,SNR=5.3							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**86.09**	**13**	P	**P**		**23 12 40.1**	**-0.7**
	0.5nm,0.4s,baz=222,slow=5.1,SNR=9.0							
	0.5nm,0.4s							
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**		**23 12 48.0**	**+0.1**
	0.4nm,0.6s,baz=318,slow=0.8,SNR=1.7							
	0.4nm,0.6s							
AKASG	**Malin Array Be**	**140.85**	**332**	PKP		**PKPdf**	**23 19 25.9**	**-0.1**
	0.2nm,0.3s,baz=67,slow=0.5,SNR=1.6							
GERES	**GERESS Array B**	**147.89**	**345**	PKPbc		**PKPdf**	**23 19 39.5**	**+1.2**
	0.7nm,0.6s,baz=28,slow=3.2,SNR=5.6							

IDC 21 23:19:28.1±3.0,**18°.90S**×**176°.71W**,**h0**km,**mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=78.2km s-min=49.8km az=40.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.05**	**260**	P	**P**		23 27 54.5	+0.4
	0.4nm,0.4s,baz=95,slow=8.2,SNR=5.1							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**46.09**	**255**	P	P		23 27 53.8	-0.6
	0.9nm,0.7s,baz=92,slow=7.4,SNR=7.6							
	0.9nm,0.7s							
VNDA	**Vanda**	**59.60**	**185**	P	P		23 29 33.3	0.0
	0.2nm,0.5s,baz=5.6,slow=8.0,SNR=3.6							
	0.2nm,0.5s							
MMAI	**Mount Meron Ar**	**148.04**	**302**	PKPbc		PKPbc	23 39 15.5	-0.7
	0.2nm,0.3s,baz=57,slow=5.3,SNR=1.7							

*IDC **21** 23:50:06.6±0.5, 4°.94S×152°.64E, h0km, mb4.5/19, mbtmp4.4/21, ML3.1/2, MS3.6/17, Error ellipse: s-maj=17.0km s-min=12.9km az=86.0*
*NEIC **21** 23:50:13.2±1.1, 5°.065±0°.03×152°.61E±0°.09, h40km±5km, mb5.0/58, Error ellipse: s-maj=12.8km s-min=4.3km az=91.0*

ISC 21 23:50:14.3±0.3,**5°.05S**±0°.05×**152°.58E**±0°.07,**h55**km,**n379,** σ0**84**/373,**mb4.9/5**1,**MS3.7**/16,**1C-1D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.95**	**334**			**Pn**	**23 50 30.7**	**-0.9**
RABL					Sn	**Sn**	**23 50 42.7**	**-1.5**
MANU	**Manus Island**	**6.00**	**300**			**Pn**	**23 51 40.5**	**-0.1**
PMG	**Port Moresby**	**6.91**	**231**			**Pn**	**23 51 51.4**	**-1.6**
PMG	**Port Moresby**	**6.91**	**231**	Pn		**Pn**	**23 51 52.8**	**-0.2**
	5.4nm,0.3s,baz=32,slow=17,SNR=5.3							
PMG					Sn	**Sn**	**23 53 11.7**	**+1.4**
	6.1nm,0.3s,baz=35,slow=12,SNR=5.1							
	22nm,0.5s							
HNR	**Honiara**	**8.51**	**121**	LR	LR		23 56 05.8	
	comp=Z,571nm,18.1s,baz=306,slow=42							
JAY	**Jayapura**	**12.11**	**282**	Pn		**Pn**	**23 53 03.5**	**-0.9**
	0.6nm,0.3s,baz=151,slow=19,SNR=3.6							
	5.4nm,0.8s							
COEN	**Coen**	**12.82**	**226**	Pn		**Pn**	**23 53 14.5**	**+0.6**
CTAO	**Charters Tower**	**16.17**	**202**	Pn		**Pn**	**23 53 57.6**	**-0.4**
GUMO	**Guam**	**20.04**	**338**	LR	LR		00 01 28.5	
	comp=Z,65nm,21.7s,baz=113,slow=34							
EIDS	**Eidsvold**	**20.26**	**184**	P		**P**	**23 54 43.5**	**-1.8**
FAKI	**Fak Fak**	**20.39**	**275**	P		**P**	**23 54 47.6**	**+0.8**
FAKI					IAmb	IAmb	23 55 05.3	
	comp=Z,72nm,1.3s							
DZM	**Mont Dzumac**	**21.60**	**143**			**P**	**23 54 56.5**	**-3.4**
DZM					IAmb	IAmb	23 55 02.6	
	comp=Z,88nm,2.0s							
DZM	**Mont Dzumac**	**21.60**	**143**	P		**P**	**23 54 58.5**	**-1.4**
	comp=Z,9.8nm,0.7s,baz=326,slow=13,SNR=9.8							
	comp=Z,9.8nm,0.7s							
WB0	**Warramunga Arr**	**22.97**	**229**			**P**	**23 55 13.5**	**-0.9**
WB0					IAmb	IAmb	23 55 16.0	
	comp=Z,61nm,1.4s							
WRA	**Warramunga Arr**	**23.12**	**229**	P		**P**	**23 55 13.9**	**-2.0**
WRA	**Warramunga Arr**	**23.12**	**229**	P		**P**	**23 55 15.3**	**-0.6**
	comp=Z,7.8nm,0.4s,baz=50,slow=9.9,SNR=44							
WRA					LR	LR	00 04 27.9	
	comp=Z,176nm,19.4s,baz=132,slow=37							
	comp=Z,7.8nm,0.4s							
INKA	**Innaminka**	**25.23**	**205**	P		**P**	**23 55 34.2**	**-0.9**
INKA					IAmb	IAmb	23 56 09.6	
	comp=Z,18nm,0.5s							
KNRA	**Kununurra**	**25.67**	**244**			**P**	**23 55 38.6**	**-0.7**
KNRA					IAmb	IAmb	23 55 41.3	
	comp=Z,24nm,0.8s							
AS31	**Alice Springs**	**25.82**	**222**			**P**	**23 55 39.8**	**-0.9**
ASAR	**Alice Springs**	**25.82**	**222**			**P**	**23 55 39.8**	**-0.9**
ASAR	**Alice Springs**	**25.82**	**222**	P		**P**	**23 55 40.5**	**-0.2**
	comp=Z,10.0nm,0.7s,baz=58,slow=8.7,SNR=50							
ASAR					LR	LR	00 05 58.7	
	comp=Z,108nm,19.3s,baz=304,slow=37							
	comp=Z,10.0nm,0.7s							
STKA	**Stephens Creek**	**28.61**	**200**	P		**P**	**23 56 04.7**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=38,slow=14,SNR=5.4							
	comp=Z,4.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**29.35**	**242**			**P**	**23 56 11.5**	**-0.8**
JCJ	**Chichijima**	**33.50**	**343**	LR	LR		00 08 52.6	
	comp=Z,58nm,21.0s,baz=90,slow=34							
MBWA	**Marble Bar**	**35.66**	**240**	P		**P**	**23 57 06.4**	**-1.0**
PSA00	**Pilbara Seismi**	**35.72**	**240**	P		**P**	**23 57 07.1**	**-0.8**
PSA00					IAmb	IAmb	23 57 08.1	
	comp=Z,39nm,1.3s							
TCW	**Tory Channel**	**40.91**	**155**	P		**P**	**23 57 50.9**	**-0.4**
YULB	**Yu-li**	**41.61**	**314**	P		**P**	**23 57 57.0**	**-0.2**
YULB					IAmb	IAmb	23 58 29.9	
	comp=Z,16nm,1.1s							
MORW	**Morawa**	**42.02**	**231**	P		**P**	**23 57 59.8**	**-0.8**
MORW					IAmb	IAmb	23 58 34.5	
	comp=Z,81nm,1.9s							
JNU	**Nakatsue**	**43.18**	**333**	P		**P**	**23 58 09.8**	**-0.2**
JNU					IAmb	IAmb	23 58 14.1	
	comp=Z,16nm,0.8s							
MJAR	**Matsushiro Arr**	**43.50**	**343**	P		**P**	**23 58 11.2**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=184,slow=15,SNR=2.0							
MJAR					LR	LR	00 13 46.4	
	comp=Z,59nm,20.5s,baz=204,slow=33							
	comp=Z,0.7nm,0.4s							
KSRS	**Korea Array**	**48.12**	**334**	P		**P**	**23 58 47.7**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=143,slow=7.9,SNR=6.6							
	comp=Z,0.9nm,0.4s							
NJ2	**Nanjing**	**48.90**	**321**	*e*P		**P**	**23 58 56.8**	**+1.9**
NJ2					pmax	pmax		
	comp=Z,13nm,0.5s							
JKA	**Kamikawa-asahi**	**49.76**	**351**	P		**P**	**23 59 00.8**	**-0.4**
ASAJ	**Asahikawa**	**49.76**	**351**	LR	LR		00 17 25.3	
	comp=Z,41nm,21.1s,baz=208,slow=33							
ENH	**Enshi**	**54.16**	**313**	P		**P**	**23 59 34.0**	**-0.3**
ENH					IAmb	IAmb	23 59 35.5	
	comp=Z,17nm,1.1s							
BNX	**BinXian**	**55.32**	**339**	⇑P		**P**	**23 59 42.3**	**-0.1**
BNX					pmax	pmax		
	comp=Z,7.0nm,0.8s							
XAN	**Xi'an**	**56.65**	**317**	⇓P		**P**	**23 59 52.4**	**+0.2**
XAN					pmax	pmax		
	comp=Z,14nm,0.7s							
CM31	**Chiang Mai Arr**	**57.78**	**295**	P		**P**	**00 00 00.7**	**+0.2**
CM31					IAmb	IAmb	00 00 02.9	
	comp=Z,16nm,1.0s							
CMAR	**Chiang Mai Arr**	**57.78**	**295**			**P**	**00 00 00.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.78**	**295**	P		**P**	**00 00 01.1**	**+0.7**
	comp=Z,3.2nm,0.4s,baz=114,slow=5.2,SNR=24							
	comp=Z,3.2nm,0.4s							
PPT	**Papeete**	**57.86**	**107**	P		**P**	**00 00 01.5**	**+0.5**
	comp=Z,40nm,0.3s,baz=317,slow=18,SNR=5.6							
PPTF	**Pamatai, Papee**	**57.87**	**108**	P		**P**	**00 00 00.1**	**-1.0**
	8.5nm,0.8s							
CHTO	**Chiang Mai**	**57.90**	**296**	P		**P**	**00 00 01.5**	**+0.3**
PEA0B	**Petropavlovsk-**	**58.10**	**4**	P		**P**	**00 00 01.9**	**0.0**
PETK	**Petropavlovsk-**	**58.10**	**4**	P		**P**	**00 00 01.2**	**-0.7**
PETK	**Petropavlovsk-**	**58.10**	**4**	P		**P**	**00 00 00.5**	**-1.5**
	comp=Z,5.0nm,0.6s,baz=164,slow=6.8,SNR=10							
	comp=Z,5.0nm,0.6s							
PZH	**PanZhiHua**	**58.34**	**305**	P		**P**	**00 00 06.9**	**+2.6**
CD2	**Chengdu**	**58.73**	**311**	P		**P**	**00 00 06.9**	**0.0**
CD2					sP	pwP	00 00 23.8	+2.3
CD2					pmax	pmax		
	comp=Z,40nm,0.5s							
DRV	**Dumont d'Urvil**	**62.13**	**186**	P		**P**	**00 00 29.6**	**+0.2**
KIWB	**Kanaga Island**	**62.28**	**21**	P		**P**	**00 00 31.1**	**+0.5**
ADK	**Adak**	**62.47**	**21**	P		**P**	**00 00 32.0**	**+0.2**
SHL	**Shillong**	**66.24**	**301**	P		**P**	**00 00 56.9**	**-0.4**
NIKH	**Nikolski High**	**66.33**	**24**	P		**P**	**00 00 57.7**	**+0.7**
	baz=222							
SONM	**Songino Array**	**66.42**	**328**	P		**P**	**00 00 58.5**	**+0.6**
SONM	**Songino Array**	**66.42**	**328**	P		**P**	**00 00 58.3**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=142,slow=4.5,SNR=5.5							
	comp=Z,1.0nm,0.5s							
UNV	**Unalaska Valle**	**67.93**	**25**	P		**P**	**00 01 08.1**	**+0.9**
	baz=225							
SPIA	**Saint Paul Isl**	**68.96**	**21**	P		**P**	**00 01 14.0**	**+0.4**
	baz=220							
S12K	**Black Hills**	**71.08**	**25**	P		**P**	**00 01 26.8**	**+0.2**
	baz=228							
EVN	**Everest**	**71.28**	**302**			**P**	**00 01 28.9**	**-0.3**
EVN					IAmb	IAmb	00 01 30.6	
	comp=Z,5.9nm,0.7s							
SDPT	**Sand Point**	**71.53**	**26**	P		**P**	**00 01 29.5**	**+0.2**
	baz=230							
CHNA	**Chernabura Isl**	**71.60**	**27**	P		**P**	**00 01 29.8**	**+0.1**
	baz=231							
CCD	**Concordia, Ant**	**71.99**	**188**	P		**P**	**00 01 33.0**	**+0.7**
S14K	**Fog Glacier**	**72.53**	**26**	P		**P**	**00 01 35.5**	**+0.1**
	baz=231							
VNDA	**Vanda**	**72.59**	**178**	P		**P**	**00 01 35.7**	**+0.4**
VNDA	**Vanda**	**72.59**	**178**	P		**P**	**00 01 36.3**	**+1.0**
	comp=Z,3.6nm,0.6s,baz=333,slow=6.7,SNR=51							
	comp=Z,3.6nm,0.6s							
M11K	**Mekoryuk**	**72.76**	**20**	P		**P**	**00 01 36.8**	**+0.3**
	baz=223							
SBA	**Scott Base**	**73.14**	**177**	P		**P**	**00 01 39.4**	**+0.8**
O14K	**Tigyukauivet M**	**73.77**	**23**	P		**P**	**00 01 42.9**	**+0.4**
O14K	**Tigyukauivet M**	**73.77**	**23**	P		**P**	**00 01 43.2**	**+0.8**
	baz=228							
M13K	**Dall Lake**	**73.78**	**21**	P		**P**	**00 01 43.2**	**+0.7**
M13K	**Dall Lake**	**73.78**	**21**	P		**P**	**00 01 43.4**	**+0.9**
	baz=226							
CHIR	**Chirikof Islan**	**74.00**	**27**	P		**P**	**00 01 44.6**	**+0.7**
	baz=234							
N14K	**Kuskokwak Cree**	**74.05**	**22**	P		**P**	**00 01 45.3**	**+1.1**
	baz=228							
O15K	**Ungalikthiuk R**	**74.28**	**23**	P		**P**	**00 01 46.2**	**+0.7**
	baz=230							
K13K	**Kusilvak Mount**	**74.40**	**19**	P		**P**	**00 01 47.2**	**+1.1**
	baz=224							
M14K	**Bethel**	**74.51**	**21**	P		**P**	**00 01 47.6**	**+0.8**
	baz=227							
L14K	**Kuka Creek**	**74.66**	**21**	P		**P**	**00 01 48.5**	**+0.9**
	baz=226							
R17L	**Mt. Peulik Vol**	**74.74**	**26**	P		**P**	**00 01 48.5**	**+0.2**
	baz=233,SNR=5.6							
N15K	**Kwethluk River**	**74.82**	**22**	P		**P**	**00 01 49.4**	**+0.8**
	baz=229							
P16K	**Nushagak River**	**74.92**	**24**	P		**P**	**00 01 49.4**	**+0.3**
	baz=231							
M15K	**Kasigluk River**	**74.94**	**22**	P		**P**	**00 01 49.8**	**+0.5**
	baz=228							
SII	**Sitkinak Islan**	**75.09**	**27**	P		**P**	**00 01 50.3**	**0.0**
SII	**Sitkinak Islan**	**75.09**	**27**	P		**P**	**00 01 50.6**	**+0.3**
	baz=236							
O16K	**Kokwok River B**	**75.22**	**24**	P		**P**	**00 01 51.5**	**+0.6**
	baz=231							
Q16K	**King Salmon**	**75.25**	**25**	P		**P**	**00 01 51.5**	**+0.5**
	baz=233							
L15K	**Ungalak Mounta**	**75.31**	**21**	P		**P**	**00 01 51.8**	**+0.4**
	baz=228							
Q17K	**Contact Creek**	**75.32**	**25**	P		**P**	**00 01 51.5**	**-0.2**
	baz=234							
J14K	**Nanvaranak Lak**	**75.34**	**19**	P		**P**	**00 01 53.0**	**+1.5**
	baz=225,SNR=5.9							
N16K	**Nishlik Lake**	**75.52**	**23**	P		**P**	**00 01 53.3**	**+0.7**
	baz=230							
R18K	**Karluk**	**75.54**	**26**	P		**P**	**00 01 53.6**	**+0.8**
	baz=235							
P17K	**Kvichak River**	**75.65**	**24**	P		**P**	**00 01 54.1**	**+0.7**
	baz=233							
K15K	**Wolf Creek Mou**	**75.71**	**20**	P		**P**	**00 01 54.4**	**+0.7**
	baz=227,SN

CNPM **China Poot** 78.03 26 P P 00 02 07.3 +0.5
L19K **White Mountain** 78.06 22 P P 00 02 07.9 +1.0
baz=234,SNR=18
M19K **Big River Lodg** 78.07 23 P P 00 02 08.2 +1.2
baz=234,SNR=9.0
J18K **Innoko River** 78.15 21 P P 00 02 08.1 +0.7
baz=232,SNR=14
G17K **Kiwalik Mounta** 78.16 18 P P 00 02 08.6 +1.1
baz=228,SNR=12
BRLK **Bradley Lake** 78.31 26 P P 00 02 08.5 +0.1
BRLK IAmb IAmb 00 02 09.3
comp=Z,12nm,0.7s
M20K **Styx River** 78.55 23 P P 00 02 10.5 +0.8
baz=236
L20K **Farewell, AK** 78.60 22 P P 00 02 10.9 +1.0
baz=235,SNR=8.9
F17K **Baldwin Pennin** 78.62 17 P P 00 02 11.1 +1.2
baz=227,SNR=6.1
H18K **Honnhosa River** 78.66 19 P P 00 02 10.4 +0.2
baz=230
C16K **Lisburne Hills** 78.80 15 P P 00 02 11.6 +0.7
baz=223
STLK **Strandline Lak** 78.85 24 P P 00 02 10.5 -0.9
J19K **Poorman** 78.86 21 P P 00 02 12.3 +1.0
baz=233,SNR=8.9
GCSA **Galena City Sc** 78.89 20 P P 00 02 12.2 +0.8
baz=232
E17K **Hotham Inlet** 78.89 17 P P 00 02 12.8 +1.3
baz=226,SNR=15
D17K **Noatak River** 78.98 16 P P 00 02 12.9 +1.1
baz=225,SNR=8.4
SLKM **Skilak Lake** 78.98 25 P P 00 02 11.8 -0.3
K20K **Telida** 79.04 22 P P 00 02 13.6 +1.2
baz=234,SNR=14
G18K **Tagagawik** 79.05 18 P P 00 02 12.9 +0.6
baz=230,SNR=16
SEW **Seward** 79.10 26 P P 00 02 13.0 +0.3
baz=239
O22K **Cooper Landing** 79.18 25 P P 00 02 13.4 +0.3
baz=239
F18K **Selawik** 79.20 18 P P 00 02 13.7 +0.6
baz=228
SKT **Skwentna** 79.23 23 P 00 02 12.2 -1.2
SKT **Skwentna** 79.23 23 P P 00 02 12.5 -0.9
baz=237
SUA **Susitna One** 79.27 24 P P 00 02 13.4 -0.4
SUA IAmb IAmb 00 02 14.4
comp=Z,18nm,0.7s
SUA **Susitna One** 79.27 24 P P 00 02 13.3 -0.5
baz=238,SNR=19
RDOG **Red Dog Mine** 79.28 16 P P 00 02 14.1 +0.6
RDOG **Red Dog Mine** 79.28 16 P P 00 02 14.2 +0.6
baz=225,SNR=5.4
PPLA **Purkeypile** 79.48 22 P P 00 02 14.7 -0.2
baz=236
RC01 **Rabbit Creek A** 79.49 25 P P 00 02 14.9 +0.2
RC01 IAmb IAmb 00 02 15.8
comp=Z,30nm,1.1s
RC01 **Rabbit Creek A** 79.49 25 P P 00 02 14.7 -0.1
baz=239,SNR=6.4
J20K **Nowinta River** 79.49 21 P P 00 02 16.0 +1.3
baz=234,SNR=26
C17K **DeLong Mountai** 79.50 15 P P 00 02 15.9 +1.2
baz=225,SNR=23
H19K **Roundabout Mou** 79.52 19 P P 00 02 16.0 +1.2
baz=232,SNR=21
M22K **Willow** 79.68 24 P P 00 02 16.1 +0.4
baz=238
G19K **Purcell Mounta** 79.70 19 P P 00 02 17.0 +1.2
baz=231,SNR=15
I20K **Naaghedeneel** 79.74 20 P P 00 02 17.4 +1.3
baz=234,SNR=9.3
CAST **Castle Rocks** 79.81 22 P P 00 02 16.4 -0.1
CAST IAmb IAmb 00 02 17.8
comp=Z,14nm,0.6s
CAST **Castle Rocks** 79.81 22 P P 00 02 16.5 0.0
baz=236,SNR=25
F19K **Shaleruckik Mo** 79.92 18 P P 00 02 17.9 +0.8
baz=230,SNR=26
P23K **Montague Islan** 79.94 26 P P 00 02 17.5 +0.3
baz=241
PWL **Port Wells** 79.96 25 P P 00 02 17.8 +0.4
PWL **Port Wells** 79.96 25 P P 00 02 17.7 +0.4
baz=240,SNR=16
CUT **Chulitna** 79.96 23 P P 00 02 17.6 +0.3
baz=238
CHUM **Lake Minchumin** 79.99 22 P P 00 02 17.6 +0.2
baz=236
PMR **Palmer** 80.00 24 P P 00 02 17.4 -0.1
baz=239
H20K **Anotleneega Mo** 80.02 20 P P 00 02 18.6 +1.0
baz=233,SNR=16
C18K **Utukok River** 80.15 16 P P 00 02 19.0 +0.7
C18K IAmb IAmb 00 02 19.9
comp=Z,11nm,0.7s
C18K **Utukok River** 80.15 16 P P 00 02 19.1 +0.8
baz=227
GHO **Glory Hole Cre** 80.17 24 P P 00 02 18.8 +0.2
GHO IAmb IAmb 00 02 19.6
comp=Z,14nm,0.7s
KNK **Knik Glacier** 80.19 25 P P 00 02 19.0 +0.4
baz=240
MK31 **Makanchi Array** 80.37 319 P P 00 02 20.2 +0.2
MKAR **Makanchi Array** 80.37 319 P P 00 02 20.0 +0.1
MKAR **Makanchi Array** 80.37 319 P P 00 02 19.7 -0.2
comp=Z,1.3nm,0.6s,baz=97,slow=6.4,SNR=12
comp=Z,1.3nm,0.6s
B18K **Kokolik River** 80.48 15 P P 00 02 21.1 +1.1
baz=226,SNR=6.8
E19K **Redstone River** 80.48 17 P P 00 02 21.3 +1.3
baz=231
GLI **Glacier Island** 80.50 26 P P 00 02 20.5 +0.2
baz=241,SNR=9.9
TRF **Thorofare Moun** 80.51 22 P P 00 02 19.9 -0.6
baz=238,SNR=8.2
MAKZ **Makanchi** 80.58 319 P P 00 02 21.2 +0.1
BPAW **Bear Paw Mtn.** 80.59 22 P P 00 02 20.5 -0.3
baz=237,SNR=7.8
M23K **Glacier View** 80.68 25 P P 00 02 21.5 +0.2
baz=240
IMAR **Indian Mountai** 80.69 20 P P 00 02 22.0 +0.8
F20K **Avaraart Lake** 80.69 18 P P 00 02 22.3 +1.2
baz=232
H21K **Melozitna Rive** 80.82 20 P P 00 02 22.8 +0.9
baz=235,SNR=7.1
I21K **Tanana** 80.83 21 P P 00 02 22.8 +0.8
baz=236,SNR=18
WAT1 **Susitna Watana** 80.86 23 P P 00 02 22.2 0.0
baz=240
SCM **Sheep Creek Mo** 80.86 25 P P 00 02 22.3 0.0
baz=241
C19K **Lookout Ridge** 80.89 16 P P 00 02 23.6 +1.3
baz=228,SNR=26
EYAK **Cordova Ski Ar** 80.93 26 P P 00 02 23.0 +0.4
baz=242
WAT6 **Susitna Watana** 81.06 24 P P 00 02 23.6 +0.2
baz=240
G21K **Allakaket** 81.08 19 P P 00 02 24.0 +0.7
baz=234,SNR=11
MCK **McKinley** 81.17 23 P P 00 02 23.4 -0.4
baz=239,SNR=13
MLY **Manley** 81.19 21 P P 00 02 24.4 +0.4
baz=237,SNR=41
ZAA0 **Zalesovo Array** 81.24 326 P 00 02 23.8 -0.6
ZALV **Zalesovo Beam** 81.24 326 P 00 02 23.6 -0.7
ZALV **Zalesovo Beam** 81.24 326 P P 00 02 23.8 -0.5
comp=Z,4.9nm,0.6s,baz=111,slow=5.6,SNR=30
ZALV LR LR 00 36 58.9
comp=Z,34nm,21.6s,baz=189,slow=35
comp=Z,4.9nm,0.6s
A19K **Wainwright** 81.25 14 P P 00 02 25.2 +1.2
baz=227,SNR=6.0
KLU **Klutina** 81.29 25 P P 00 02 25.1 +0.5
baz=242,SNR=8.3
H22K **Ishtalitna Cre** 81.44 20 P P 00 02 26.0 +0.8
baz=237,SNR=9.8
DHY **Denali Highway** 81.45 24 P P 00 02 25.7 +0.2
baz=241,SNR=9.1
D20K **Etivluk River** 81.46 17 P P 00 02 26.0 +0.8
baz=231,SNR=12
M24K **Tolsona, Glenn** 81.47 25 P P 00 02 26.3 +0.8
baz=242,SNR=7.6
F21K **Alatna River** 81.50 19 P P 00 02 26.3 +0.8
baz=234,SNR=6.7
NEA2 **Nenana** 81.57 22 P P 00 02 25.5 -0.4
baz=239,SNR=8.5
BMRM **Bremner River** 81.62 26 P P 00 02 26.8 +0.5
baz=244

I23K **Minto, Yukon-K** 81.75 21 P P 00 02 27.1 +0.4
baz=238,SNR=14
BERG **Berg Lake** 81.77 27 P P 00 02 27.7 +0.7
BERG IAmb IAmb 00 02 28.8
comp=Z,21nm,0.7s
N25K **Chitina, Valde** 81.91 25 P P 00 02 28.4 +0.6
baz=243,SNR=5.4
G22K **Bettles** 81.96 19 P P 00 02 28.7 +0.8
baz=236
HARP **HAARP** 82.03 25 P P 00 02 29.0 +0.6
baz=243
H23K **Yukon River** 82.04 21 P P 00 02 29.1 +0.7
baz=238,SNR=12
E21K **Killik River** 82.06 17 P P 00 02 29.3 +0.8
baz=234
F22K **John River** 82.08 19 P P 00 02 29.5 +1.0
baz=236
B20K **Meade River** 82.13 15 P P 00 02 29.5 +0.9
B20K **Meade River** 82.13 15 P P 00 02 29.6 +0.9
baz=230
PAX **Paxson** 82.17 24 P P 00 02 29.6 +0.4
baz=242
CRQE **Cirque** 82.19 27 P P 00 02 29.8 +0.4
baz=245
C21K **Knifeblade Rid** 82.25 17 P P 00 02 30.5 +1.1
baz=233,SNR=10
HDA **Harding Lake** 82.27 22 P P 00 02 30.2 +0.6
baz=241,SNR=7.4
G23K **Bananza Creek** 82.34 20 P P 00 02 30.7 +0.7
baz=238,SNR=13
K24K **Donnelly Dome** 82.43 23 P P 00 02 31.1 +0.6
baz=242
POKR **Poker Plat Res** 82.44 22 P P 00 02 30.0 -0.4
baz=240
ILAR **Eielson Array** 82.47 22 P P 00 02 29.9 -0.7
ILAR **Eielson Array** 82.47 22 P P 00 02 29.7 -0.9
comp=Z,9.2nm,0.7s,baz=247,slow=5.5,SNR=68
ILAR LR LR 00 36 39.7
comp=Z,47nm,18.5s,baz=274,slow=34
comp=Z,9.2nm,0.7s
MESA **MESA** 82.47 27 P P 00 02 31.8 +0.8
baz=246
MCARA **McCarthy VSAT** 82.49 26 P P 00 02 31.4 +0.6
baz=245
E22K **Anaktuvuk Pass** 82.54 18 P P 00 02 32.1 +1.1
baz=236,SNR=18
COLD **Coldfoot** 82.56 19 P P 00 02 32.0 +1.0
baz=238,SNR=6.8
B21K **Ikpikpuk River** 82.58 16 P P 00 02 32.1 +1.0
baz=233,SNR=9.1
KDJ **Kajisay** 82.62 313 P P 00 02 32.3 +0.2
KDJ IAmb IAmb 00 02 37.1
comp=Z,5.8nm,0.8s
H24K **Noodor Dome** 82.63 21 P P 00 02 32.2 +0.7
baz=240,SNR=11
D22K **Ayikyak River** 82.70 17 P P 00 02 33.0 +1.3
baz=235,SNR=19
RIDG **Independent Ri** 82.77 23 P P 00 02 32.5 +0.3
baz=243,SNR=7.9
M26K **Nabesna, AK** 82.94 25 P P 00 02 33.6 +0.4
baz=245
J25K **Salcha River,** 82.97 23 P P 00 02 33.5 +0.2
baz=242,SNR=50
L26K **Log Cabin Wild** 83.06 24 P P 00 02 34.2 +0.5
baz=244
CTG **Chitna Glacier** 83.06 27 P P 00 02 34.8 +0.9
baz=246,SNR=7.5
A21K **Barrow** 83.10 15 P P 00 02 34.3 +0.6
baz=231
E23K **Chandalar** 83.19 19 P P 00 02 35.4 +1.0
baz=238,SNR=11
G24K **Hadweenzic Riv** 83.21 20 P P 00 02 35.1 +0.7
baz=240,SNR=11
SCRK **Sand Creek** 83.22 23 P P 00 02 35.2 +0.5
baz=244,SNR=7.2
PINM **Pinnacle** 83.22 28 P P 00 02 35.1 +0.4
baz=248
A22K **Sinclair Lake** 83.32 15 P P 00 02 35.7 +0.9
baz=233
PRP **Porcupine Dome** 83.33 22 P P 00 02 35.7 +0.5
baz=242
B22K **Teshekpuk Lake** 83.34 16 P P 00 02 35.8 +0.8
baz=234
D23K **Nanushuk River** 83.35 18 P P 00 02 36.7 +1.6
baz=237,SNR=37
M27K **Edge Creek, AK** 83.39 25 P P 00 02 36.6 +1.0
baz=246,SNR=19
PNL **Peninsula** 83.46 28 P P 00 02 36.7 +0.9
baz=248
F24K **Squaw Lake** 83.48 19 P P 00 02 37.1 +1.3
baz=240,SNR=22
O28M **Mount Upton** 83.51 27 P P 00 02 37.0 +0.6
baz=248,SNR=5.2
TOLK **Toolik Lake Re** 83.52 18 P 00 02 36.8 +0.8
TOLK IAmb IAmb 00 02 37.9
comp=Z,14nm,0.8s
TOLK **Toolik Lake Re** 83.52 18 P P 00 02 37.1 +1.1
baz=238,SNR=12
E24K **Your Creek** 83.56 19 P P 00 02 37.4 +1.1
baz=239
H25L **Birch Creek** 83.58 21 P P 00 02 37.3 +1.0
baz=242
J26L **Joseph Creek** 83.61 23 P P 00 02 37.1 +0.5
baz=244,SNR=9.8
L27K **Beaver Creek,** 83.70 25 P P 00 02 37.8 +0.8
baz=246,SNR=10
G25K **Bearman Lake** 83.72 20 P P 00 02 37.9 +0.9
baz=241,SNR=6.8
BCAR **Beaver Creek A** 83.72 25 P 00 02 37.5 +0.4
YUK3 **Moose Creek** 83.77 26 P P 00 02 38.3 +0.7
baz=247
KURK **Kurchatov** 83.83 322 P 00 02 37.8 -0.1
BVCY **Beaver Creek** 83.85 25 P P 00 02 38.7 +0.9
baz=247,SNR=5.3
C23K **Itkillik River** 83.85 17 P P 00 02 38.6 +1.0
baz=237,SNR=9.7
KURBB **Kurchatov Arra** 83.86 322 P P 00 02 37.8 -0.3
comp=Z,0.6nm,0.5s,baz=108,slow=4.0,SNR=7.0
comp=Z,0.6nm,0.5s
YUK8 **Steele Glacier** 83.89 27 P P 00 02 39.4 +1.1
baz=248,SNR=5.5
NIL **Nilore** 83.94 304 P 00 02 39.1 +0.2
NIL IAmb IAmb 00 02 40.7
comp=Z,16nm,0.7s
K27K **Chicken** 84.00 24 P P 00 02 39.6 +1.1
baz=245
D24K **Happy Valley** 84.02 18 P P 00 02 39.7 +1.2
baz=239,SNR=11
O29M **Mount Kennedy** 84.07 28 P P 00 02 40.1 +1.0
baz=249
I26K **Coal Creek Min** 84.12 22 P P 00 02 39.6 +0.5
baz=244
P29M **Windy Craggy** 84.23 29 P P 00 02 40.8 +0.9
baz=250
F25K **Christian Rive** 84.27 20 P P 00 02 41.2 +1.3
baz=242,SNR=5.4
C24K **Franklin Bluff** 84.35 17 P P 00 02 41.4 +1.3
baz=239,SNR=12
YUK6 **Outpost Mounta** 84.40 27 P P 00 02 41.6 +0.7
baz=249
S31K **Pelican** 84.42 30 P P 00 02 41.7 +1.0
baz=251
YUK4 **Talbot Arm** 84.42 27 P P 00 02 42.4 +1.5
baz=249,SNR=6.5
E25K **Arctic Village** 84.54 19 P P 00 02 42.4 +1.2
baz=242
BMAR **Burnt Mountain** 84.55 20 P P 00 02 42.2 +0.9
SIT **Sitka** 84.60 31 P P 00 02 42.4 +0.8
baz=252
G26K **Porcupine Rive** 84.61 21 P P 00 02 42.9 +1.4
baz=244,SNR=31
AAK **Ala-Archa** 84.68 314 P P 00 02 43.0 +0.3
AAK IAmb IAmb 00 02 45.2
comp=Z,4.8nm,0.8s
HYT **Haines Junctio** 84.75 28 P 00 02 43.4 +0.8
HYT IAmb IAmb 00 02 45.2
comp=Z,12nm,0.8s
HYT **Haines Junctio** 84.75 28 P P 00 02 43.7 +1.1
baz=250,SNR=12
P30M **Million Dollar** 84.77 28 P P 00 02 43.6 +1.0
baz=250
F26K **Sheenjek River** 84.82 20 P P 00 02 43.3 +0.7
baz=243,SNR=6.1
I27K **Kandik River** 84.83 22 P P 00 02 43.6 +0.8
baz=246,SNR=13
PLBC **Pleasant Camp** 84.83 29 P P 00 02 43.6 +0.8
baz=251
D25K **Kavik River** 84.86 18 P P 00 02 43.3 +0.5
baz=241,SNR=12
M29M **Somme Creek** 84.89 26 P P 00 02 44.1 +0.9
baz=249,SNR=8.7
QSPA **South Pole Qui** 84.92 180 P 00 02 44.5 +1.2
QSPA **South Pole Qui** 84.92 180 P P 00 02 44.4 +1.2
comp=Z,6.1nm,0.6s,baz=330,slow=0.9,SNR=79
comp=Z,6.1nm,0.6s
DAWY **Dawson** 85.10 24 P P 00 02 45.1 +1.0
baz=248,SNR=5.8
S32K **Killisnoo** 85.11 31 P P 00 02 44.1 0.0
baz=253
H27K **Steamboat Moun** 85.12 22 P P 00 02 45.3 +1.2
baz=246,SNR=13
N30M **Aishikik Lake** 85.16 27 P P 00 02 45.6 +1.1
baz=250
MAW **Mawson** 85.26 203 P P 00 02 45.3 +0.5
comp=Z,3.1nm,0.5s,baz=93,slow=6.6,SNR=12
comp=Z,3.1nm,0.5s
L29M **L29M** 85.28 25 P P 00 02 46.1 +1.1
baz=249,SNR=10
G27K **Doyon Strip** 85.31 21 P P 00 02 46.4 +1.2
baz=246,SNR=8.7
I28M **Miner Creek** 85.41 23 P P 00 02 46.4 +0.7
baz=247,SNR=9.0
ARSB **Arslanbob** 85.53 312 P 00 02 47.6 +0.7
ARSB IAmb IAmb 00 02 49.8
comp=Z,23nm,1.2s
C26K **Camden Bay** 85.59 18 P P 00 02 48.0 +1.7
baz=242,SNR=9.2
M30M **Minto, Yukon** 85.67 26 P P 00 02 48.1 +1.2
baz=250,SNR=6.1
J29N **Klondike Camp** 85.72 24 P P 00 02 48.5 +1.3
baz=249
N31M **Braeburn, Yuko** 85.76 27 P P 00 02 48.8 +1.3
baz=251
K29M **Barlow Dome** 85.79 25 P P 00 02 49.0 +1.4
baz=250,SNR=21
C27K **Jago River** 85.83 18 P P 00 02 48.9 +1.3
baz=243,SNR=10
E27K **Coleen River** 85.90 20 P P 00 02 49.2 +1.2
baz=246,SNR=7.5
WHY **Whitehorse** 85.92 28 P P 00 02 49.3 +1.0
baz=252
I29M **Ogilvie Camp,** 86.01 23 P P 00 02 49.7 +1.1
baz=249
F28M **Old Crow** 86.27 21 P P 00 02 50.8 +1.0
baz=247,SNR=12
H29M **Whitestone** 86.30 22 P P 00 02 51.1 +1.2
baz=249
J30M **Hart River** 86.53 24 P P 00 02 52.6 +1.3
baz=251,SNR=15
D27M **Malcolm River** 86.55 19 P P 00 02 52.6 +1.4
baz=246,SNR=7.5
M31M **Drury Creek, Y** 86.61 27 P P 00 02 52.7 +1.1
baz=252
G29M **Pine Creek** 86.68 22 P P 00 02 52.8 +1.0
baz=249,SNR=11
Q32M **Nakina River** 86.70 30 P P 00 02 53.1 +0.8
baz=255
I30M **Mount Dempster** 86.72 24 P P 00 02 53.0 +0.7
baz=251,SNR=7.5
P33M **Teslin, Yukon** 86.77 29 P P 00 02 53.1 +0.6
baz=254
E28M **Babbage River** 86.77 20 P P 00 02 53.4 +1.2
baz=247,SNR=5.3
EPYK **Eagle Plains** 86.98 22 P P 00 02 54.2 +0.9
baz=250,SNR=23
S34M **Telegraph Cree** 87.01 31 P P 00 02 54.4 +0.8
baz=256
E29M **Blow River** 87.25 20 P P 00 02 55.3 +0.8
baz=249
G30M **tAoh Zraii Nji** 87.37 22 P P 00 02 55.5 +0.3
baz=251,SNR=5.5
BBB **Bella Bella** 87.42 37 LR LR 00 35 27.4
comp=Z,30nm,20.8s,baz=188,slow=31
R33M **Jennings River** 87.46 30 P P 00 02 56.6 +0.7
baz=256
KK31 **Karatay Array** 87.64 313 P 00 02 56.6 -0.4
KK31 IAmb IAmb 00 02 59.4
comp=Z,5.2nm,1.2s
KKAR **Karatay Array** 87.64 313 P 00 02 56.8 -0.3
DLBC **Dease Lake** 87.70 31 LR LR 00 36 36.1
comp=Z,53nm,20.1s,baz=280,slow=32
DLBC **Dease Lake** 87.70 31 P P 00 02 58.0 +1.0
baz=256
H31M **Peel River** 87.71 23 P P 00 02 57.7 +0.8
baz=252,SNR=10
F30M **Barrier River** 87.73 21 P P 00 02 57.6 +0.7
baz=251,SNR=10
G31M **Satah River** 88.08 22 P P 00 02 59.1 +0.6
baz=252,SNR=14
MMPY **Sheldon Lake,** 88.12 27 P P 00 02 59.8 +0.8
baz=255
F31M **Tsiigehtchic** 88.43 22 P P 00 03 00.9 +0.8
baz=253
WTLY **Watson Lake, Y** 88.69 29 P P 00 03 02.8 +1.2
baz=258
INK **Inuvik** 88.76 21 P 00 03 01.3 -0.3
INK IAmb IAmb 00 03 03.5
comp=Z,7.4nm,1.1s
INK **Inuvik** 88.76 21 P P 00 03 02.0 +0.3
baz=253,SNR=5.2
TGTN **Hyland Airport** 89.24 28 P P 00 03 04.7 +0.5
baz=258
BVAR **Borovoye Array** 89.31 323 P P 00 03 03.9 -0.8
comp=Z,4.0nm,0.7s,baz=97,slow=6.1,SNR=19
comp=Z,4.0nm,0.7s
C36M **Paulatuk** 92.34 21 P P 00 03 18.4 +0.1
baz=262
NVAR **Mina Array Bea** 92.41 52 P P 00 03 19.7 0.0
comp=Z,0.9nm,0.7s,baz=248,slow=6.4,SNR=4.2
comp=Z,0.9nm,0.7s
NEW **Newport** 93.92 42 LR LR 00 40 37.2
comp=Z,30nm,18.4s,baz=320,slow=32
RPN **Rapa Nui** 94.89 118 LR LR 00 41 38.6
comp=Z,32nm,20.0s,baz=223,slow=33
YKA **Yellowknife Ar** 95.75 28 LR LR 00 40 58.6
comp=Z,63nm,21.7s,baz=290,slow=32
LPIG **La Paz** 98.52 66 LR LR 00 40 49.0
comp=Z,42nm,20.3s,baz=205,slow=31
PDAR **Pinedale Array** 99.17 48 P Pdif 00 03 48.7 -1.7
comp=Z,0.2nm,0.6s,baz=251,slow=4.5,SNR=2.2
PDAR LR LR 00 45 55.3
comp=Z,31nm,18.1s,baz=310,slow=34
comp=Z,0.2nm,0.6s
FINES **FINESS Array B** 111.19 336 PKiKP PKiKP 00 08 41.5 -0.1
comp=Z,21.2nm,0.8s,baz=64,slow=3.2,SNR=1.3
AKASG **Malin Array Be** 114.57 324 PKP PKiKP 00 08 48.3 -0.1
comp=Z,0.4nm,0.4s,baz=62,slow=2.1,SNR=2.5
NOA **NORSAR Array B** 117.07 340 PKP PKPdf 00 08 52.6 -0.4
comp=Z,0.3nm,0.7s,baz=50,slow=1.4,SNR=3.2
PLCA **Paso Flores** 119.71 143 PKP PKPdf 00 08 59.0 +0.2
comp=Z,2.1nm,1.0s,baz=250,slow=8.7,SNR=2.2
CONA **Conrad Observa** 123.53 326 *e*PKiKP PKiKP 00 09 06.7 +0.6
comp=Z,1.0nm,0.6s
GERES **GERESS Array B** 124.15 328 PKP PKiKP 00 09 07.5 +0.2
comp=Z,1.9nm,0.6s,baz=56,slow=2.0,SNR=17
LESA **Schwarzleotal** 125.56 327 *e*PKiKP PKPdf 00 09 10.1 +0.3
comp=Z,3.1nm,0.8s
ABTA **Abfaltersbach** 126.07 327 PKP PKPdf 00 09 10.9 +0.2
comp=Z,7.8nm,2.0s
EKA **Eskdalemuir Ar** 126.20 343 PKP PKiKP 00 09 11.0 0.0
comp=Z,1.2nm,0.7s,baz=20,slow=2.5,SNR=4.0
WTTA **Wattenberg** 126.22 328 *e*PKiKP PKiKP 00 09 11.6 +0.1
comp=Z,3.3nm,0.7s
STAL **STALIGIAL** 126.25 326 PKPdf PKPdf 00 09 11.4 +0.3
SQTA **Sankt Quirin** 126.47 328 *e*PKiKP PKiKP 00 09 12.6 +0.6
comp=Z,4.4nm,0.8s
FETA **Feichten** 126.85 328 *e*PKiKP PKiKP 00 09 12.9 +0.1
comp=Z,3.3nm,0.9s
DAVA **Damuels** 127.12 329 *e*PKiKP PKiKP 00 09 14.1 +0.7
comp=Z,2.0nm,0.5s
FUORN **Ofenpass-Fuorn** 127.35 328 PKPdf PKiKP 00 09 14.6 +0.7
TUE **Stuetta** 127.93 328 PKPdf PKiKP 00 09 15.6 +0.5
ZCCA **Zocca** 128.39 325 PKPdf PKiKP 00 09 16.7 +0.9
LPAZ **La Paz** 134.49 119 PKP PKiKP 00 09 29.9 +0.2
comp=Z,1.1nm,0.7s,baz=231,slow=2.0,SNR=6.8
FDF **Fort de France** 145.45 71 PKPbc PKPdf 00 09 47.3 0.0
BIM **Bigot** 145.57 72 PKPbc PKPdf 00 09 47.6 +0.1
MPOM **Morne Pois Mar** 145.79 72 PKPdf PKPdf 00 09 47.5 -0.3
TORD **Torodi Ar. Bea** 150.18 288 PKPbc PKPbc 00 09 59.5 -0.7
TORD **Torodi Ar. Bea** 150.18 288 PKPbc PKPbc 00 10 00.1 -0.2
comp=Z,8.1nm,0.7s,baz=88,slow=2.5,SNR=66
BDFB **Brasilia** 151.04 136 PKPbc PKPbc 00 10 02.8 +0.5
comp=Z,5.3nm,0.7s,baz=170,slow=5.8,SNR=9.4
BDFB PKPab PKPab 00 10 10.6 +0.6
comp=Z,5.2nm,0.7s,baz=272,slow=7.3,SNR=6.5
DBIC **Dimbokro** 157.50 275 PKPab PKPab 00 10 37.5 +0.1

comp=Z,8.1nm,0.5s,baz=128,slow=3.5,SNR=16

*GRAL **21** 23:58:36.9±0.3,33°.65N×34°.97E, h32km±1km, MD2.7*
*GII **21** 23:58:36.7±0.0,33°.554N±0°.002×35°.030E±0°.001, h4km, Mws1.9, confirmed*

ISC 21 23:58:34.7±1.6, **33°.63N**±0°.06×**35°.06E**±0°.07, **h12km, n30, σ0^{8}80/32, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.43**	**80**	*eP*	**Pn**	**23 58 46.9**	**0.0**
QRWL	**Qaraoun**	**0.53**	**99**	*eP*	**Pn**	**23 58 48.3**	**+0.2**
QRWL				*eS*	**Sn**	**23 58 56.7**	**-0.3**
HNTI	**Hanita**	**0.56**	**170**	P	**Pn**	**23 58 47.1**	**-1.4**
HNTI	**Hanita**	**0.56**	**170**	S	**Sb**	**23 58 54.8**	**+0.4**
BHL	**Bhannes**	**0.56**	**61**	*eP*	**Pn**	**23 58 48.6**	**0.0**
SHBL	**Chebaa**	**0.64**	**116**	*eP*	**Pn**	**23 58 49.9**	**+0.2**
SHBL				*eS*	**Sn**	**23 58 59.8**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.66**	**130**	P	**Pn**	**23 58 49.7**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.66**	**130**	S	**Sb**	**23 58 59.0**	**+1.8**
RCY	**Rachaya**	**0.66**	**102**	*eP*	**Pn**	**23 58 50.4**	**+0.3**
NATI	**Neve Ativ**	**0.68**	**123**	P	**Pn**	**23 58 50.1**	**0.0**
NATI	**Neve Ativ**	**0.68**	**123**	S	**Sn**	**23 59 00.4**	**-0.2**
MMA0B	**Mount Meron ar**	**0.68**	**155**	P	**Pn**	**23 58 49.6**	**-0.7**
MMA0B	**Mount Meron ar**	**0.68**	**155**	S	**Sb**	**23 58 59.2**	**+1.2**
MMC5	**Mount Meron ar**	**0.69**	**155**	P	**Pn**	**23 58 49.8**	**-0.6**
ZAHL	**Zahle**	**0.72**	**72**	*eP*	**Pn**	**23 58 51.0**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.90**	**173**	P	**Pn**	**23 58 53.2**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.90**	**173**	S	**Sn**	**23 59 05.3**	**-0.9**
HWQ	**Hawqa**	**0.98**	**49**	*eP*	**Pn**	**23 58 54.3**	**-0.1**
OFRI	**`Ofer**	**1.01**	**184**	P	**Pn**	**23 58 54.7**	**-0.1**
OFRI	**`Ofer**	**1.01**	**184**	S	**Sn**	**23 59 08.5**	**-0.5**
MMLI	**Mount Malkishu**	**1.23**	**166**	P	**Pg**	**23 58 58.4**	**0.0**
MMLI	**Mount Malkishu**	**1.23**	**166**	S	**Sg**	**23 59 14.9**	**+0.5**
SLTI	**Sal'it**	**1.39**	**181**	P	**Pg**	**23 59 01.4**	**0.0**
SLTI	**Sal'it**	**1.39**	**181**	S	**Sg**	**23 59 19.5**	**+0.1**
HMDT	**Nahal Hemdat**	**1.43**	**164**	P	**Pg**	**23 59 01.9**	**-0.3**
HMDT	**Nahal Hemdat**	**1.43**	**164**	S	**Sg**	**23 59 20.8**	**0.0**
DSI	**Dead Sea**	**2.08**	**172**	P	**Pb**	**23 59 10.8**	**-1.5**
DSI	**Dead Sea**	**2.08**	**172**	S	**Sn**	**23 59 36.4**	**+1.2**
KZIT	**Kziot**	**2.78**	**192**	P	**Pn**	**23 59 20.8**	**+1.7**
KZIT	**Kziot**	**2.78**	**192**	S	**Sn**	**23 59 54.1**	**+1.6**

*IDC **22** 00:14:20.8±1.2, 7°.03S×156°.28E, h0km, mb4.0/9, mbtmp4.0/9, MS2.7/1, Error ellipse: s-maj=42.3km s-min=23.4km az=85.0*

ISC 22 00:14:26.4±1.4, **7°.1S**±0°.2×**156°.2E**±0°.3, **h35km, n17, σ1^{9}13/10, mb4.0/9, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.37**	**123**	LR	LR	00 17 25.4	
	comp=Z,93nm,20.3s,baz=164,slow=42						
WRA	**Warramunga Arr**	**24.80**	**237**	P	**P**	**00 19 45.5**	**+0.2**
	2.7nm,0.6s,baz=60,slow=9.6,SNR=12						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**27.06**	**230**	P	**P**	**00 20 05.2**	**-0.6**
	0.5nm,0.5s,baz=51,slow=9.7,SNR=9.3						
	0.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.41**	**22**	T	T	00 48 41.8	
	baz=202,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**27.41**	**22**	T	T	00 48 37.7	
	baz=202,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy**	**27.43**	**22**	T	T	00 48 43.2	
	baz=202,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.60**	**21**	T	T	00 50 08.6	
	baz=203						
H11N3	**WAKE ISLAND Hy**	**28.61**	**21**	T	T	00 50 14.4	
	baz=203,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.62**	**21**	T	T	00 50 29.5	
	baz=203						
CMAR	**Chiang Mai Arr**	**61.92**	**295**	P	**P**	**00 24 43.4**	**+0.3**
	1.8nm,0.3s,baz=106,slow=6.6,SNR=1.7						
	1.8nm,0.3s						
SONM	**Songino Array**	**70.06**	**327**	P	**P**	**00 25 35.8**	**+0.8**
	1.0nm,0.7s,baz=139,slow=6.1,SNR=5.2						
	1.0nm,0.7s						
VNDA	**Vanda**	**70.48**	**179**	P	**P**	**00 25 36.1**	**-0.8**
	0.4nm,0.5s,baz=60,slow=18,SNR=6.9						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**82.92**	**180**	P	**P**	**00 26 49.1**	**+1.6**
	1.9nm,0.8s,baz=5.5,slow=14,SNR=11						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**84.26**	**318**	P	**P**	**00 26 55.0**	**+0.3**
	0.8nm,0.7s,baz=103,slow=5.2,SNR=5.7						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**84.92**	**326**	P	**P**	**00 26 57.2**	**-0.5**
	0.4nm,0.3s,baz=118,slow=5.5,SNR=2.3						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**87.67**	**321**	P	**P**	**00 27 10.3**	**-1.0**
	0.2nm,0.4s,baz=100,slow=4.2,SNR=4.2						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**154.22**	**286**	PKPbc	**PKPbc**	**00 34 22.2**	**-1.7**
	0.5nm,0.9s,baz=40,slow=2.9,SNR=2.7						

*SDD **22** 00:15:18.3±2.1, 19°.22N×70°.08W, h23km±11km, MD3.3, ML3.5, MW3.6*
*OSPL **22** 00:15:18.0±3.3, 19°.17N×70°.10W, h5km±18km, ML3.2*
*SSNC **22** 00:15:22.6±3.4, 19°.65N×70°.77W, h0km±52km, MD3.6*

ISC 22 00:15:15.9±1.2, **19°.21N**±0°.02×**70°.09W**±0°.02, **h10km**±10km, **n37, σ1^{9}48/63, 25C-13D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.26**	**165**	↑*eP*	**Pb**	**00 15 23.7**	**+1.0**
DR08				↑*eSg*	**Sb**	**00 15 28.4**	**+1.1**
DR08				IAML		00 15 28.6	
	comp=N,85μm,0.2s						
NADR	**Nagua**	**0.27**	**58**	*ePg*	**Pb**	**00 15 23.1**	**+0.3**
NADR				↑*eSg*	**Sb**	**00 15 29.3**	**+1.8**
NADR				IAML		00 15 29.3	
	comp=N,37μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.27**	**52**	*i* P	**Pb**	**00 15 23.3**	**+0.3**
LONA1				*eS*	**Sb**	**00 15 28.7**	**+1.0**
LONA1				IAML		00 15 32.3	
	comp=Z,4μm,0.4s						
CADR	**Cabrera**	**0.48**	**18**	↑*ePg*	**Pb**	**00 15 25.8**	**-0.6**
CADR				↓*eSg*	**Sb**	**00 15 33.1**	**-0.4**
CADR				IAML		00 15 35.6	
	comp=N,4μm,0.7s						
SC01	**Santiago de lo**	**0.64**	**290**	*i* P	**Pb**	**00 15 29.4**	**+0.3**
SC01				*eS*	**Sb**	**00 15 39.4**	**+1.3**
SC01				IAML		00 15 46.3	
	comp=Z,798nm,0.3s						
SC01	**Santiago de lo**	**0.64**	**290**	↑*ePg*	**Pb**	**00 15 29.7**	**+0.5**
SC01				↑*eSg*	**Sn**	**00 15 39.7**	**-1.5**
SC01				IAML		00 15 40.1	
	comp=N,1μm,0.2s						
ABDR	**Alto Bandera**	**0.64**	**232**	↓*ePg*	**Pb**	**00 15 29.2**	**-0.2**
ABDR				↑*eSg*	**Sb**	**00 15 38.1**	**-0.5**
ABDR				IAML		00 15 38.8	
	comp=N,1μm,0.2s						
SODR	**Sosua Marina B**	**0.70**	**320**	↑*ePg*	**Pn**	**00 15 31.0**	**-0.9**
SODR				↑*eSg*	**Sb**	**00 15 40.6**	**+0.5**
SODR				IAML		00 15 44.0	
	comp=N,2μm,1.0s						
SDD	**Santo Domingo**	**0.77**	**167**	*i* P	**Pb**	**00 15 31.8**	**+0.5**
SDD				*eS*	**Sg**	**00 15 39.7**	**-1.1**
HATOM	**Hato Mayor del**	**0.80**	**122**	↓*ePg*	**Pb**	**00 15 32.0**	**+0.2**
HATOM				↑*eSg*	**Sb**	**00 15 42.9**	**+0.2**
HATOM				IAML		00 15 43.5	
	comp=N,596nm,0.2s						
LOSC1	**San Cristbal**	**0.80**	**181**	*eS*	**Sg**	**00 15 41.5**	**-0.3**
BANI	**BANI**	**0.85**	**197**	↑*ePg*	**Pb**	**00 15 33.5**	**+0.6**
BANI				↓*ePg*	**Pn**	**00 15 34.0**	**-0.1**
BANI				↓*eSg*	**Sn**	**00 15 45.8**	**-1.0**
BANI				IAML		00 15 46.8	
	comp=N,268nm,0.2s						
BANI				IAML		00 15 46.8	
	comp=N,2μm,0.1s						
SMDR	**Samana, DR**	**0.86**	**85**	↓*ePg*	**Pb**	**00 15 32.9**	**0.0**
SMDR				↑*eSg*	**Sb**	**00 15 44.4**	**-0.1**
SMDR				IAML		00 15 48.0	
	comp=N,1μm,0.9s						
MADR	**Mao Valverde**	**1.01**	**291**	↑*ePg*	**Pn**	**00 15 37.2**	**+0.9**
MADR				↓*eSg*	**Sn**	**00 15 50.4**	**-0.2**
MADR				IAML		00 15 54.3	
	comp=N,1μm,0.3s						
LUDR	**Luperon**	**1.06**	**310**	↑*ePg*	**Pn**	**00 15 36.4**	**-0.4**
SDDR	**Presa de Saban**	**1.15**	**259**	*eP*	**Pg**	**00 15 38.3**	**+0.3**
SDDR	**Presa de Saban**	**1.15**	**259**	*i* P	**Pb**	**00 15 37.4**	**-0.5**
SDDR				*eS*	**Sb**	**00 15 52.3**	**-0.7**
SDDR				IAML		00 15 55.8	
	comp=Z,317nm,0.5s						
SDDR	**Presa de Saban**	**1.15**	**259**	↑*ePg*	**Pb**	**00 15 37.6**	**-0.3**
SDDR				↑*eSg*	**Sb**	**00 15 52.6**	**-0.4**
SDDR				IAML		00 15 58.8	
	comp=N,349nm,0.8s						
LOPP1	**Punta Rusia, P**	**1.22**	**302**	*i* P	**Pn**	**00 15 38.9**	**-0.2**
LOPP1				*eS*	**Sn**	**00 15 56.3**	**+0.6**
LOPP1				IAML		00 16 01.9	
	comp=Z,872nm,0.5s						
REDR	**Restauracion**	**1.23**	**268**	↓*ePg*	**Pg**	**00 15 42.6**	**+3.1**
REDR				↓*eSg*	**Sn**	**00 16 01.5**	**+5.6**
REDR				IAML		00 16 06.4	
	comp=N,591nm,0.2s						
HGY1	**Higuey**	**1.44**	**115**	↓*ePg*	**Pb**	**00 15 42.5**	**-0.3**
HGY1				IAML		00 16 08.0	
	comp=N,371nm,0.3s						
HIDR	**Higuey Centro**	**1.44**	**115**	↑*ePg*	**Pb**	**00 15 42.5**	**-0.4**
HIDR				↓*eSg*	**Sn**	**00 15 60.0**	**-1.1**
HIDR				IAML		00 16 08.0	
	comp=N,878nm,0.3s						
PODR	**Polo**	**1.53**	**227**	*i* P	**Pb**	**00 15 44.9**	**+0.4**
PODR				*eS*	**Sg**	**00 16 06.0**	**+0.8**
PODR	**Polo**	**1.53**	**227**	↑*ePg*	**Pg**	**00 15 45.1**	**-0.2**
PODR				↑*eSg*	**Sn**	**00 16 03.6**	**0.0**
PODR				IAML		00 16 08.3	
	comp=N,145nm,0.5s						
LODU1	**El Espartillar**	**1.56**	**237**	*i* P	**Pg**	**00 15 45.8**	**-0.1**
MCDR	**Montecristi**	**1.62**	**295**	↓*ePg*	**Pb**	**00 15 45.8**	**-0.1**
MCDR				↓*eSg*	**Sn**	**00 16 05.3**	**-0.3**
MCDR				IAML		00 16 12.5	
	comp=N,554nm,0.3s						
JIDR	**Jimani**	**1.81**	**247**	↑*ePg*	**Pb**	**00 15 49.6**	**+0.4**
JIDR				↑*eSg*	**Sn**	**00 16 10.5**	**+0.3**
JIDR				IAML		00 16 16.2	
	comp=N,350nm,0.4s						
PAPH	**Port-au-Prince**	**2.20**	**252**	*eP*	**Pb**	**00 15 55.3**	**-0.5**
PAPH	**Port-au-Prince**	**2.20**	**252**	*i* P	**Pb**	**00 15 55.5**	**-0.3**
GRTK	**Grand Turk**	**2.49**	**337**	*eP*	**Pn**	**00 15 56.0**	**-0.5**
GRTK	**Grand Turk**	**2.49**	**337**	*i* P	**Pn**	**00 15 55.8**	**-0.7**
AOPR	**Arecibo Observ**	**3.28**	**105**	*ePg*	**Pb**	**00 16 12.5**	**-1.8**
AOPR				↑*eSg*	**Sn**	**00 16 49.2**	**+2.7**
AOPR				IAML		00 17 04.3	
	comp=N,277nm,0.5s						
CELP	**Cerrillos**	**3.52**	**108**	↑*ePg*	**Pb**	**00 16 15.0**	**-3.3**
CELP				↑*eSg*	**Sn**	**00 16 56.6**	**+4.2**
CELP				IAML		00 17 09.3	
	comp=N,90nm,0.5s						
MASC	**Masc**	**4.01**	**285**	*eP*	**Pn**	**00 16 16.2**	**-1.3**
MASC				*eS*	**Sn**	**00 17 04.6**	**0.0**
QMBU	**Quimbuelo**	**4.55**	**283**	*eP*	**Pn**	**00 16 23.0**	**-1.9**
GTBY	**Guantanamo Bay**	**4.78**	**279**	*eP*	**Pn**	**00 16 27.1**	**-1.0**
PINC	**Pinares de May**	**5.51**	**284**	*eP*	**Pn**	**00 16 33.6**	**-4.5**

*OSPL **22** 00:18:04.6±1.2, 18°.96N×70°.05W, h0km±6km, ML1.8*
*SDD **22** 00:18:07.6±2.4, 19°.25N×70°.15W, h18km±20km, MD2.6, ML2.3, MW2.6*

ISC 22 00:18:07.2±0.9, **19°.17N**±0°.04×**70°.07W**±0°.03, **h17km**±8km, **n12, σ1^{9}41/21, 12C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.22**	**167**	↑*ePg*	**Pb**	**00 18 12.8**	**0.0**
DR08				↑*eSg*	**Sb**	**00 18 17.9**	**+1.4**
DR08				IAML		00 18 18.2	
	comp=N,3μm,0.2s						
NADR	**Nagua**	**0.27**	**49**	↓*ePg*	**Pg**	**00 18 12.7**	**-0.5**
NADR				↑*eSg*	**Sb**	**00 18 18.6**	**+0.5**
NADR				IAML		00 18 18.8	
	comp=N,3μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.28**	**44**	*i* P	**Pg**	**00 18 13.2**	**-0.2**
LONA1				*eS*	**Sg**	**00 18 18.1**	**+0.5**
ABDR	**Alto Bandera**	**0.64**	**236**	↓*ePg*	**Pg**	**00 18 18.7**	**-1.2**
ABDR				↑*eSg*	**Sg**	**00 18 28.5**	**+0.1**
ABDR				IAML		00 18 31.1	
	comp=N,46nm,0.3s						
SC01	**Santiago de lo**	**0.67**	**292**	*eS*	**Sg**	**00 18 29.3**	**0.0**
SC01				IAML		00 18 31.9	
	comp=Z,40nm,0.6s						
HATOM	**Hato Mayor del**	**0.76**	**120**	↑*ePg*	**Pb**	**00 18 21.4**	**-0.6**
HATOM				↑*eSg*	**Sg**	**00 18 32.5**	**+0.4**
BANI	**BANI**	**0.82**	**199**	↑*ePg*	**Pg**	**00 18 23.2**	**-0.1**
BANI				↑*eSg*	**Sn**	**00 18 35.7**	**-0.3**
BANI				IAML		00 18 36.4	
	comp=N,202nm,0.1s						
SMDR	**Samana, DR**	**0.84**	**82**	↑*eSg*	**Sn**	**00 18 37.0**	**+0.7**
SMDR				IAML		00 18 39.5	
	comp=N,53nm,0.7s						
MIDR	**Miches**	**0.98**	**101**	↓*ePg*	**Pg**	**00 18 26.3**	**-0.1**
MIDR				↑*eSg*	**Sn**	**00 18 40.9**	**+1.0**
MIDR				IAML		00 18 44.0	
	comp=N,14nm,0.8s						
SDDR	**Presa de Saban**	**1.17**	**261**	*eS*	**Sb**	**00 18 41.1**	**-2.7**
REDR	**Restauracion**	**1.25**	**270**	↓*ePg*	**Pg**	**00 18 33.0**	**+1.6**
REDR				↑*eSg*	**Sg**	**00 18 51.7**	**+4.0**
REDR				IAML		00 18 56.8	
	comp=N,47nm,0.1s						
LOPP1	**Punta Rusia, P**	**1.26**	**303**	*i* P	**Pn**	**00 18 29.1**	**-1.0**
LOPP1				*eS*	**Sg**	**00 18 48.5**	**+0.5**

*IDC **22** 00:26:28.7±2.8, 10°.50S×122°.17E, h0km, mb3.8/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=255.3km s-min=33.7km az=51.0*
*DJA **22** 00:26:38.5±0.4, 10°.S±4°.×12°.2E±°, h10km, M3.4/6, MLv3.4/6*

ISC 22 00:26:29.7±1.0, **10°.67S**±0°.07×**121°.96E**±0°.04, **h10km, n10, σ1^{9}26/12, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.44**	**288**	P	Pg	00 27 06.1	+8.8
BATI	**Baumata**	**1.73**	**75**	P	**Pg**	**00 27 03.6**	**+0.6**
BATI				S	**Sb**	**00 27 23.9**	**+0.4**
EDFI	**Ende, Flores**	**1.93**	**352**	P	**Pg**	**00 27 07.1**	**+0.4**
EDFI				S	**Sb**	**00 27 28.7**	**-0.5**
MMRI	**Maumere**	**2.04**	**8**	P	**Pb**	**00 27 07.1**	**+0.2**
MMRI				S	**Sn**	**00 27 28.9**	**-0.8**
SOEI	**Soe**	**2.44**	**68**	P	**Pb**	**00 27 14.7**	**+0.9**
WBSI	**Waikabubak, Su**	**2.73**	**292**	P	**Pg**	**00 27 24.6**	**+2.5**
PLAI	**Plampang**	**4.52**	**294**	P	**Pb**	**00 27 47.6**	**-1.5**
WRA	**Warramunga Arr**	**15.07**	**129**	Pn	**Pn**	**00 30 01.1**	**-1.8**
	0.1nm,0.3s,baz=306,slow=14,SNR=1.6						
WRA				Sn	Sn	00 32 36.4	-14
	0.2nm,0.3s,baz=297,slow=23,SNR=2.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**17.22**	**140**	P	**P**	**00 30 31.8**	**-0.3**
	0.1nm,0.3s,baz=316,slow=13,SNR=5.7						
ASAR				S	Sn	00 33 31.4	-11
	0.4nm,0.4s,baz=314,slow=23,SNR=3.2						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.29**	**332**	P	**P**	**00 37 25.0**	**+0.4**
	0.7nm,0.7s,baz=145,slow=5.3,SNR=5.2						
	0.7nm,0.7s						

*IDC **22** 00:26:20.7±0.7, 16°.56S×173°.98W, h0km, mb4.2/9, mbtmp4.2/9, MS3.6/2, Error ellipse: s-maj=35.4km s-min=18.9km az=144.0*
*NEIC **22** 00:26:35.8±2.2, 17°.0S±0°.1×173°.78W±0°.10, h122km±6km, mb4.4/24, Error ellipse: s-maj=19.3km s-min=10.9km az=208.0*
*NOU **22** 00:26:36.5, 16°.80S×173°.52W, h97km, mb4.7/9, Tonga Islands*

ISC 22 00:26:34.0±0.5, **16°.80S**±0°.10×**173°.67W**±0°.06, **h100km, n60, σ2^{8}15/47, mb4.2/15, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.21**	**123**		**Pn**	**00 27 38.1**	**+1.9**
NIUE	**Niue**	**4.21**	**123**	P	**Pn**	**00 27 37.9**	**+1.8**
NIUE	**Niue**	**4.21**	**123**	S	**Sn**	**00 28 24.1**	**-0.2**
FUTU	**Fugatoga**	**4.96**	**299**	Pn	**Pn**	**00 27 48.9**	**+2.7**
FUTU	**Fugatoga**	**4.96**	**299**	P	**Pn**	**00 27 50.1**	**+3.9**
LKBA	**Tubou, Lakemba**	**5.12**	**253**	P	**Pn**	**00 27 52.5**	**+4.2**
TAVE	**Taveuni**	**5.98**	**270**	P	**Pn**	**00 28 04.5**	**+4.4**
DGTI	**Dogotuki**	**6.35**	**274**	P	**Pn**	**00 28 09.0**	**+3.9**
MSVF	**Nonsavu**	**7.97**	**262**	Pn	**Pn**	**00 28 30.6**	**+3.4**
MSVF	**Nonsavu**	**7.97**	**262**	P	**Pn**	**00 28 31.8**	**+4.6**
RAR	**Rarotonga**	**13.85**	**111**	Pn	**Pn**	**00 29 47.4**	**+1.4**
	1.6nm,0.3s,baz=274,slow=13,SNR=4.7						
RAR				LR	LR	00 33 26.6	
	comp=Z,94nm,20.1s,baz=228,slow=30						
PINNC	**Pines Island,**	**18.69**	**249**	P	**P**	**00 30 43.4**	**-1.2**
PINNC				IAmb	IAmb	00 30 48.2	
	comp=Z,51nm,1.3s						
OUENC	**Ouen Island, N**	**19.19**	**250**	P	**Pn**	**00 30 54.7**	**+2.8**
DZM	**Mont Dzumac**	**19.47**	**251**	P	**P**	**00 30 51.1**	**-2.1**
DZM				IAmb	IAmb	00 30 57.9	
	comp=Z,16nm,0.8s						
DZM	**Mont Dzumac**	**19.47**	**251**	P	**P**	**00 30 51.0**	**-2.2**
	comp=Z,12nm,0.6s,baz=119,slow=19,SNR=6.8						
DZM	**Mont Dzumac**	**19.47**	**251**	P	**Pn**	**00 30 56.5**	**+1.1**
ONTNC	**Ouen Toro**	**19.51**	**251**	P	**P**	**00 30 52.4**	**-1.1**
ONTNC				IAmb	IAmb	00 30 57.4	
	comp=Z,20nm,0.7s						
BKZ	**Black Stump Fm**	**23.88**	**199**	P	**P**	**00 31 36.7**	**-1.7**
BKZ				IAmb	IAmb	00 32 12.6	
	comp=Z,32nm,1.4s						
ARMA	**Armidale**	**34.42**	**240**	P	**P**	**00 33 09.3**	**-2.8**
H11S2	**WAKE ISLAND Hy**	**40.04**	**330**	T	T	01 15 25.9	
	baz=146,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**40.05**	**330**	T	T	01 15 24.7	
	baz=146,slow=76,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**40.06**	**330**	T	T	01 15 28.2	
	baz=146,slow=76,SNR=4.1						
STKA	**Stephens Creek**	**43.13**	**241**	P	**P**	**00 34 22.2**	**-2.5**
STKA	**Stephens Creek**	**43.13**	**241**	P	**P**	**00 34 22.5**	**-2.2**
	comp=Z,5.7nm,0.8s,baz=76,slow=12,SNR=5.7						
	comp=Z,5.7nm,0.8s						
BBOO	**Buckleboo**	**47.90**	**241**	P	**P**	**00 34 58.9**	**-3.5**
WB0	**Warramunga Arr**	**49.26**	**258**	P	**P**	00 35 09.2	-3.8
WB0				IAmb	IAmb	00 35 52.5	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**49.29**	**258**	P	P	00 35 09.3	-3.9
WRA	**Warramunga Arr**	**49.29**	**258**	P	P	00 35 09.5	-3.7
	comp=Z,1.2nm,0.7s,baz=96,slow=8.0,SNR=5.7						
	comp=Z,1.2nm,0.7s						
AS31	**Alice Springs**	**49.45**	**253**		P	00 35 10.8	-3.6
ASAR	**Alice Springs**	**49.45**	**253**	P	P	00 35 10.8	-3.6
	comp=Z,20nm,0.5s,baz=93,slow=7.8,SNR=171						
	comp=Z,20nm,0.5s						
FAKI	**Fak Fak**	**54.85**	**278**	P	**P**	**00 35 52.7**	**-1.8**
VNDA	**Vanda**	**61.96**	**186**	P	**P**	**00 36 42.8**	**-0.1**
VNDA				IAmb	IAmb	00 36 45.5	
	comp=Z,3.5nm,1.4s						
MBWA	**Marble Bar**	**62.73**	**255**	P	P	00 36 45.4	-3.7
QSPA	**South Pole Qui**	**73.25**	**180**	P	**P**	**00 37 54.0**	**-0.2**
QSPA				IAmb	IAmb	00 38 25.8	
	comp=Z,5.8nm,1.4s						
QSPA	**South Pole Qui**	**73.25**	**180**	P	**P**	**00 37 55.6**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=28,slow=0.5,SNR=10						
	comp=Z,1.8nm,0.8s						
NVAR	**Mina Array Bea**	**75.54**	**42**	P	**P**	**00 38 07.5**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=241,slow=8.2,SNR=12						
	comp=Z,2.6nm,0.8s						
GMN	**Gold Mountain**	**75.57**	**43**	P	**P**	**00 38 07.9**	**-0.3**
CCUT	**Cedar City**	**78.30**	**45**	P	**P**	**00 38 23.2**	**-0.3**
PSUT	**Pine Spring**	**78.49**	**44**	P	**P**	**00 38 24.2**	**-0.3**
HLID	**Hailey**	**80.87**	**39**		**P**	**00 38 36.4**	**-0.9**
VHRN	**Van Horn**	**81.18**	**54**	P	**P**	**00 38 39.3**	**+0.2**
TXAR	**Lajitas Array**	**81.60**	**56**	P	**P**	**00 38 41.9**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=249,slow=5.1,SNR=7.3						
	comp=Z,1.0nm,1.0s						
S22A	**4UR Ranch, Cre**	**82.90**	**47**		**P**	**00 38 48.3**	**+0.1**
S22A				IAmb	IAmb	00 38 49.7	
	comp=Z,2.9nm,0.9s						
PD31	**Pinedale Array**	**83.47**	**42**	P	**P**	**00 38 49.9**	**-1.1**
PD31				IAmb	IAmb	00 38 51.1	
	comp=Z,2.4nm,0.7s						
PDAR	**Pinedale Array**	**83.47**	**42**	P	**P**	**00 38 50.3**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=243,slow=4.2,SNR=24						
	comp=Z,1.8nm,0.6s						
YHL	**Hebgen Lake**	**83.52**	**39**		**P**	**00 38 51.0**	**-0.2**
YHL				IAmb	IAmb	00 38 52.6	
	comp=Z,6.5nm,0.7s						
ILAR	**Eielson Array**	**83.86**	**11**	P	**P**	**00 38 52.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=231,slow=5.7,SNR=4.9						
	comp=Z,0.2nm,0.5s						
H03S2	**Juan Fernandez**	**84.64**	**124**	T	T	02 12 27.7	
	baz=250						
H03S1	**Juan Fernandez**	**84.66**	**124**	T	T	02 12 34.2	
	baz=250,SNR=3.4						
H03S3	**Juan Fernandez**	**84.66**	**124**	T	T	02 12 26.7	
	baz=250						
SNAA	**Sanae**	**91.53**	**177**	P	**P**	**00 39 28.2**	**-1.0**
SNAA				IAmb	IAmb	00 39 43.6	
	comp=Z,2.4nm,1.2s						
CMAR	**Ch

MKZ	**Mys Kozlova**	**2.26**	**224**	*e*P		**Pn**	**00 37 35.2**	**0.0**
MKZ				*e*S		**Sn**	**00 38 00.3**	**-2.9**
KIRR	**Kirishev**	**2.30**	**265**	PN		**Pn**	**00 37 37.3**	**+1.3**
KIRR				S		**Sn**	**00 38 04.8**	**+0.2**
KIRR	**Kirishev**	**2.30**	**265**	*e*P		**Pn**	**00 37 37.4**	**+1.3**
KIRR				*e*S		**Sn**	**00 38 04.9**	**+0.2**
KPT	**Kopyto**	**2.37**	**266**	PN		**Pn**	**00 37 38.5**	**+1.7**
KPT				S		**Sn**	**00 38 06.7**	**+0.6**
KPT	**Kopyto**	**2.37**	**266**	*e*P		**Pn**	**00 37 38.5**	**+1.7**
KPT				*e*S		**Sn**	**00 38 06.8**	**+0.6**
KMNR	**Kamenistaya**	**2.40**	**261**	PN		**Pn**	**00 37 38.6**	**+1.4**
KMNR				S		**Sn**	**00 38 07.8**	**+1.0**
KMNR	**Kamenistaya**	**2.40**	**261**	*e*P		**Pn**	**00 37 38.6**	**+1.4**
KMNR				*e*S		**Sn**	**00 38 07.9**	**+1.0**
TUMD	**Tumrok D**	**2.49**	**248**	PN		**Pn**	**00 37 39.4**	**+1.0**
TUMD				S		**Sn**	**00 38 09.1**	**+0.1**
TUMD	**Tumrok D**	**2.49**	**248**	*e*P		**Pn**	**00 37 39.4**	**+1.0**
TUMD				*e*S		**Sn**	**00 38 09.1**	**+0.1**
SRDR	**Sredinnyy**	**2.63**	**274**	PN		**Pn**	**00 37 42.1**	**+1.7**
SRDR				S		**Sn**	**00 38 12.6**	**+0.1**
SRDR	**Sredinnyy**	**2.63**	**274**	*e*P		**Pn**	**00 37 42.2**	**+1.7**
SRDR				*e*S		**Sn**	**00 38 12.7**	**+0.1**
OSSR	**Ossora**	**3.14**	**347**	PN		**Pn**	**00 37 47.7**	**+0.3**
OSSR	**Ossora**	**3.14**	**347**	*e*P		**Pn**	**00 37 47.7**	**+0.3**
OSSR				*e*S		**Sn**	**00 38 21.2**	**-3.9**
ESO	**Esso**	**3.22**	**267**	PN		**Pn**	**00 37 49.9**	**+1.4**
ESO	**Esso**	**3.22**	**267**	*e*P		**Pn**	**00 37 49.9**	**+1.4**
ESO				*e*S		**Sn**	**00 38 27.1**	**0.0**
KII	**Karymskiy**	**3.59**	**235**	PN		**Pn**	**00 37 54.6**	**+1.0**
KII	**Karymskiy**	**3.59**	**235**	*e*P		**Pn**	**00 37 54.6**	**+1.0**
PALN	**Palana**	**3.76**	**322**	PN		**Pn**	**00 37 58.7**	**+2.9**
PALN	**Palana**	**3.76**	**322**	*e*P		**Pn**	**00 37 58.7**	**+2.9**
SPN	**Mys Shipunski**	**4.03**	**221**	PN		**Pn**	**00 38 00.6**	**+1.1**
SPN	**Mys Shipunski**	**4.03**	**221**	*e*P		**Pn**	**00 38 00.6**	**+1.1**
SPN				*e*S		**Sn**	**00 38 42.2**	**-4.7**
NLC	**Nalytchevo**	**4.23**	**226**	PN		**Pn**	**00 38 04.0**	**+1.7**
NLC	**Nalytchevo**	**4.23**	**226**	*e*P		**Pn**	**00 38 04.0**	**+1.7**
NLC				*e*S		**Sn**	**00 38 49.4**	**-2.5**
SDLR	**Sedlovina**	**4.35**	**230**	PN		**Pn**	**00 38 05.6**	**+1.6**
SDLR	**Sedlovina**	**4.35**	**230**	*e*P		**Pn**	**00 38 05.7**	**+1.6**
TILK	**Tilichiki**	**4.35**	**11**	PN		**Pn**	**00 38 06.3**	**+2.4**
TILK	**Tilichiki**	**4.35**	**11**	*e*P		**Pn**	**00 38 06.4**	**+2.4**
TILK				*e*S		**Sn**	**00 38 54.3**	**-0.5**
KRER	**Koryakskii**	**4.39**	**231**	PN		**Pn**	**00 38 06.3**	**+1.6**
KRER	**Koryakskii**	**4.39**	**231**	*e*P		**Pn**	**00 38 06.4**	**+1.6**
KRX	**Arik**	**4.39**	**232**	PN		**Pn**	**00 38 06.5**	**+1.8**
KRX	**Arik**	**4.39**	**232**	*e*P		**Pn**	**00 38 06.5**	**+1.8**
SMAR	**Somma**	**4.39**	**230**	PN		**Pn**	**00 38 06.2**	**+1.4**
SMAR	**Somma**	**4.39**	**230**	*e*P		**Pn**	**00 38 06.3**	**+1.4**
AVH	**Avacha**	**4.42**	**231**	PN		**Pn**	**00 38 06.9**	**+1.9**
AVH	**Avacha**	**4.42**	**231**	*e*P		**Pn**	**00 38 07.0**	**+1.9**
UGLR	**Uglovaya**	**4.42**	**230**	PN		**Pn**	**00 38 06.7**	**+1.6**
UGLR	**Uglovaya**	**4.42**	**230**	*e*P		**Pn**	**00 38 06.7**	**+1.6**
KOK	**Koryaka**	**4.45**	**231**	PN		**Pn**	**00 38 07.6**	**+2.2**
KOK	**Koryaka**	**4.45**	**231**	*e*P		**Pn**	**00 38 07.6**	**+2.2**
GNL	**Ganaly**	**4.50**	**239**	PN		**Pn**	**00 38 08.5**	**+2.3**
GNL	**Ganaly**	**4.50**	**239**	*e*P		**Pn**	**00 38 08.6**	**+2.3**
DALK	**Dalny**	**4.58**	**228**	PN		**Pn**	**00 38 09.0**	**+1.9**
DALK	**Dalny**	**4.58**	**228**	*e*P		**Pn**	**00 38 09.0**	**+1.9**
PET	**Petropavlovsk**	**4.63**	**229**	*e*PN		**Pn**	**00 38 08.7**	**+0.9**
PET				pmax	pmax			
	comp=Z,29nm,0.6s							
KRMR	**Karymshinskiy**	**4.99**	**230**	PN		**Pn**	**00 38 13.7**	**+1.0**
KRMR	**Karymshinskiy**	**4.99**	**230**	*e*P		**Pn**	**00 38 13.8**	**+1.0**
PEA0B	**Petropavlovsk-**	**4.99**	**234**	PN		**Pn**	**00 38 15.2**	**+2.5**
PETK	**Petropavlovsk-**	**4.99**	**234**	Pn		**Pn**	**00 38 14.9**	**+2.1**
	comp=Z,1.2nm,0.3s,baz=72,slow=18,SNR=21							
PETK				Sn		**Sn**	**00 39 11.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=47,slow=18,SNR=1.6							
	comp=Z,2.6nm,0.4s							
GRL	**Gorelyy**	**5.21**	**228**	PN		**Pn**	**00 38 18.3**	**+2.4**
GRL	**Gorelyy**	**5.21**	**228**	*e*P		**Pn**	**00 38 18.3**	**+2.4**
MTVR	**Mutnovka**	**5.22**	**227**	PN		**Pn**	**00 38 18.3**	**+2.3**
MTVR	**Mutnovka**	**5.22**	**227**	*e*P		**Pn**	**00 38 18.3**	**+2.3**
ASAK	**Asacha**	**5.41**	**228**	PN		**Pn**	**00 38 21.3**	**+2.7**
ASAK	**Asacha**	**5.41**	**228**	*e*P		**Pn**	**00 38 21.4**	**+2.7**
MIPR	**Malaya Ipel'ka**	**5.97**	**232**	PN		**Pn**	**00 38 29.4**	**+3.1**
MIPR	**Malaya Ipel'ka**	**5.97**	**232**	*e*P		**Pn**	**00 38 29.4**	**+3.1**
ASAJ	**Asahikawa**	**18.39**	**238**	P		**Pn**	**00 41 12.9**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=90,slow=5.1,SNR=6.5							
ASAJ				LR	LR		00 49 33.0	
	comp=Z,40nm,19.3s,baz=305,slow=41							
	comp=Z,13nm,0.8s							
ILAR	**Eielson Array**	**24.86**	**50**	P		**P**	**00 42 18.6**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=280,slow=7.2,SNR=2.4							
	comp=Z,0.2nm,0.5s							
MJAR	**Matsushiro Arr**	**26.44**	**233**	P		**P**	**00 42 34.1**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=26,slow=8.4,SNR=1.7							
	comp=Z,1.0nm,0.3s							
H11N2	**WAKE ISLAND Hy**	**36.46**	**176**	T		T	01 22 54.3	
	baz=357,slow=76,SNR=70							
H11N3	**WAKE ISLAND Hy**	**36.48**	**176**	T		T	01 22 52.3	
	baz=357,slow=76,SNR=62							
H11N1	**WAKE ISLAND Hy**	**36.48**	**176**	T		T	01 22 52.3	
	baz=357,slow=76,SNR=57							
KURK	**Kurchatov**	**46.23**	**302**	P		P	00 45 33.3	-5.2
BVAR	**Borovoye Array**	**50.42**	**309**	P		**P**	**00 45 54.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=50,slow=7.7,SNR=6.2							
	comp=Z,0.9nm,0.7s							
PDAR	**Pinedale Array**	**53.87**	**65**	P		**P**	**00 46 21.4**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=316,slow=6.5,SNR=2.0							
	comp=Z,0.1nm,0.5s							
TXAR	**Lajitas Array**	**67.17**	**71**	P		**P**	**00 47 53.1**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=318,slow=6.6,SNR=3.7							
	comp=Z,0.2nm,0.7s							
EKA	**Eskdalemuir Ar**	**68.36**	**352**	P		**P**	**00 47 59.6**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=355,slow=5.6,SNR=2.7							
	comp=Z,2.2nm,0.8s							

*IDC **22** 00:38:54.8±5.0, 45.°76N×26.°00E, h117km±55km, mb3.1/2, mbtmp3.2/4, Error ellipse: s-maj=54.7km s-min=28.0km az=142.0*
*BUC **22** 00:38:55.8±0.2, 45.°56N×26.°46E, h135km±1km, ml3.5/65, Error ellipse: s-maj=1.3km s-min=1.0km az=171.0*
*SOF **22** 00:38:56.8, 45.°63N±0.°03×26.°40E±0.°02, h100km±1km, MD3.3/3*
*BEO **22** 00:38:59.5±1.7, 45.°49N×26.°30E, h103km±8km, ML2.0/3*
*MCSM **22** 00:39:00.1±0.6, 45.°N±6.°×2.°7E±.°, h121km, 11km, MLv2.4*

ISC 22 00:38:55.8±0.9, **45.°58N**±0.°03×**26.°45E**±0.°03, **h141**km±5km, **n116**, σ1**00**/158, **62C-48D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.18**	**99**	||P	**Pn**	**00 39 15.1**	**0.0**
BISRR				||S	**Sn**	**00 39 29.4**	**-0.3**
BISRR	**Bisoca**	**0.18**	**99**	Pn		**Pn**	**00 39 15.0**	**0.0**
NEHR	**Nehoiu**	**0.19**	**217**	↑P		**Pn**	**00 39 14.9**	**-0.1**
NEHR				↑S		**Sn**	**00 39 29.2**	**-0.4**
PLOR5	**Plostina Array**	**0.31**	**29**	Pn		**Pn**	**00 39 14.9**	**-0.4**
PLOR	**Plostina**	**0.31**	**26**	↑P		**Pn**	**00 39 14.9**	**-0.5**
PLOR				↑S		**Sn**	**00 39 29.7**	**-0.6**
COVR	**Voineasa-Covas**	**0.32**	**327**	||P	**Pn**	**00 39 14.8**	**-0.6**
COVR				↑S		**Sn**	**00 39 28.9**	**-1.4**
VRI	**Vrincioaia**	**0.35**	**33**	↑P		**Pn**	**00 39 15.2**	**-0.3**
VRI				||S	**Sn**	**00 39 29.6**	**-0.9**
VRI	**Vrincioaia**	**0.35**	**33**	Pn		**Pn**	**00 39 15.2**	**-0.3**
MLR	**Muntele Rosu**	**0.37**	**257**	↑P		**Pn**	**00 39 15.5**	**-0.2**
MLR				↑S		**Sn**	**00 39 29.4**	**-1.4**
MLR	**Muntele Rosu**	**0.37**	**257**	*e*Pg		**Pn**	**00 39 15.5**	**-0.2**
MLR				*e*Sg		**Sn**	**00 39 29.9**	**-0.9**
MLR	**Muntele Rosu**	**0.37**	**257**	Pn		**Pn**	**00 39 15.7**	**0.0**
GRER		**0.42**	**118**	↑P		**Pn**	**00 39 15.3**	**-0.4**
ODBI	**Odobesti**	**0.46**	**66**	↑S		**Sn**	**00 39 31.1**	**-0.1**
ODBI	**Odobesti**	**0.46**	**66**	Pn		**Pn**	**00 39 16.4**	**+0.5**
ISR	**Istrita**	**0.46**	**172**	Pn		**Pn**	**00 39 16.0**	**0.0**
TURR	**Turia**	**0.57**	**327**	↑P		**Pn**	**00 39 16.2**	**-0.4**
TURR				↑S		**Sn**	**00 39 31.8**	**-0.5**
PANC	**Panciu**	**0.57**	**58**	↑P		**Pn**	**00 39 16.6**	**+0.1**
PANC				||S	**Sn**	**00 39 31.8**	**-0.4**
OZUR		**0.70**	**318**	↑P		**Pn**	**00 39 16.8**	**-0.6**
OZUR				↑S		**Sn**	**00 39 32.3**	**-1.5**
PLAR	**PLOIESTI**	**0.73**	**205**	||P	**Pn**	**00 39 17.3**	**-0.2**
BOSR	**Bodos**	**0.74**	**312**	||P	**Pn**	**00 39 17.1**	**-0.6**
BOSR				↑S		**Sn**	**00 39 33.1**	**-1.3**
ONER	**Baraj Valea Uz**	**0.76**	**357**	↑P		**Pn**	**00 39 17.5**	**-0.3**
ONER				↑S		**Sn**	**00 39 33.7**	**-0.9**
PGOR	**Pogoanele**	**0.77**	**151**	||P	**Pn**	**00 39 17.8**	**0.0**
GHRR		**0.82**	**54**	||P	**Pn**	**00 39 18.2**	**0.0**
GHRR				↑S		**Sn**	**00 39 34.9**	**-0.4**
GHRR		**0.82**	**54**	Pn		**Pn**	**00 39 18.2**	**0.0**

DOPR	**Dopca**	**0.84**	**298**	||P	**Pn**	**00 39 17.9**	**-0.5**
DOPR				||S	**Sn**	**00 39 35.2**	**-0.4**
TUDR		**0.85**	**88**	↑P		**Pn**	**00 39 17.8**	**-0.6**
TUDR				||S	**Sn**	**00 39 34.6**	**-1.1**
SULR		**0.91**	**189**	||P	**Pn**	**00 39 19.0**	**+0.1**
SULR				↑S		**Sn**	**00 39 35.6**	**-0.9**
IZVR	**Izvoarele**	**0.92**	**92**	↑P		**Pn**	**00 39 18.1**	**-0.9**
TESR	**Tescani**	**0.94**	**8**	↑P		**Pn**	**00 39 18.6**	**-0.7**
TESR	**Tescani**	**0.94**	**8**	Pn		**Pn**	**00 39 18.5**	**-0.7**
SCHL	**Schela**	**0.97**	**94**	↑P		**Pn**	**00 39 18.8**	**-0.6**
SCHL				↑S		**Sn**	**00 39 36.0**	**-1.4**
SCHLR	**Schela**	**0.97**	**96**	↑P		**Pn**	**00 39 18.8**	**-0.6**
SCHLR				||S	**Sn**	**00 39 36.5**	**-0.9**
VOIR		**1.00**	**262**	↑P		**Pn**	**00 39 19.2**	**-0.5**
VOIR				↑S		**Sn**	**00 39 36.6**	**-1.4**
VOIR		**1.00**	**262**	Pn		**Pn**	**00 39 19.1**	**-0.7**
NEGRR	**Negrea**	**1.00**	**92**	↑P		**Pn**	**00 39 19.4**	**-0.3**
NEGRR				||S	**Sn**	**00 39 36.8**	**-1.1**
VARL	**Varlezi**	**1.03**	**71**	↑P		**Pn**	**00 39 19.6**	**-0.3**
VARL				||S	**Sn**	**00 39 37.5**	**-0.8**
MTUR	**Matau**	**1.04**	**251**	||P	**Pn**	**00 39 20.0**	**-0.2**
BIR	**Birlad**	**1.07**	**49**	↑P		**Pn**	**00 39 20.1**	**-0.2**
BIR				↑S		**Sn**	**00 39 37.9**	**-1.2**
SCTR	**Scanteiesti**	**1.09**	**84**	↑P		**Pn**	**00 39 20.4**	**0.0**
SCTR				↑S		**Sn**	**00 39 38.3**	**-1.0**
TATR	**Tataca**	**1.12**	**88**	↑P		**Pn**	**00 39 20.6**	**-0.2**
TATR				↑S		**Sn**	**00 39 39.1**	**-0.7**
GISR	**Galati**	**1.13**	**96**	||P	**Pn**	**00 39 20.7**	**-0.2**
GISR				↑S		**Sn**	**00 39 38.8**	**-1.2**
LEHL	**Lehliu**	**1.13**	**167**	||S	**Sn**	**00 39 39.7**	**-0.4**
AMRR	**Amara**	**1.15**	**147**	↑P		**Pn**	**00 39 20.8**	**-0.3**
AMRR				||S	**Sn**	**00 39 39.2**	**-1.1**
INCR	**INCERC-Sediu C**	**1.16**	**190**	↑S		**Sn**	**00 39 39.6**	**-0.8**
VLDR	**Vladesti**	**1.17**	**76**	↑P		**Pn**	**00 39 21.1**	**-0.2**
VLDR				||S	**Sn**	**00 39 39.5**	**-1.2**
BUC	**Bucharest**	**1.19**	**192**	↑S		**Sn**	**00 39 40.2**	**-0.8**
CIOR	**Ciorogarla**	**1.20**	**200**	||P	**Pn**	**00 39 21.3**	**-0.3**
CIOR				↑S		**Sn**	**00 39 40.6**	**-0.6**
CFR	**Carcaliu**	**1.25**	**108**	||P	**Pn**	**00 39 21.2**	**-0.8**
CFR				↑S		**Sn**	**00 39 41.1**	**-0.9**
BUC1	**Bucharest**	**1.27**	**194**	||P	**Pn**	**00 39 22.1**	**-0.1**
BUC1				||S	**Sn**	**00 39 41.6**	**-0.7**
BUC1	**Bucharest**	**1.27**	**194**	||P	**Pn**	**00 39 22.1**	**-0.1**
ARR	**Arges**	**1.30**	**261**	↑P		**Pn**	**00 39 22.6**	**0.0**
ARR				||S	**Sn**	**00 39 42.8**	**-0.3**
HARR	**Harsova**	**1.37**	**130**	↑P		**Pn**	**00 39 22.9**	**-0.3**
HUMR	**Humele**	**1.48**	**225**	↑P		**Pn**	**00 39 24.0**	**-0.4**
HUMR				↑S		**Sn**	**00 39 45.1**	**-1.2**
TLBR	**Topalu**	**1.53**	**132**	↑P		**Pn**	**00 39 24.7**	**-0.3**
MDB	**Medias**	**1.56**	**292**	||P	**Pn**	**00 39 24.4**	**-0.8**
TPGR	**Topolog**	**1.56**	**117**	↑P		**Pn**	**00 39 24.6**	**-0.8**
CVDA	**Cernavoda**	**1.68**	**137**	||P	**Pn**	**00 39 26.3**	**-0.3**
COPA	**Copaceanca**	**1.69**	**212**	↑P		**Pn**	**00 39 26.3**	**-0.5**
COPA				↑S		**Sn**	**00 39 49.1**	**-1.3**
TLCR		**1.71**	**102**	||P	**Pn**	**00 39 26.7**	**-0.2**
TLCR				↑S		**Sn**	**00 39 49.9**	**-0.9**
ICOR	**Ion Corvin**	**1.75**	**146**	↑P		**Pn**	**00 39 27.4**	**0.0**
TIRR	**Tirgusor**	**1.78**	**128**	↑P		**Pn**	**00 39 27.4**	**-0.4**
TIRR				||S	**Sn**	**00 39 50.5**	**-1.8**
TIRR	**Tirgusor**	**1.78**	**128**	Pn		**Pn**	**00 39 27.2**	**-0.6**
LOT	**Lotru**	**1.89**	**267**	↑P		**Pn**	**00 39 28.7**	**-0.5**
JURR	**Jurilovca**	**1.90**	**114**	||P	**Pn**	**00 39 28.5**	**-0.6**
MFTR	**Murfatlar**	**1.98**	**134**	||P	**Pn**	**00 39 29.7**	**-0.4**
RAZG	**Razgrad**	**2.01**	**179**	||P	**Pn**	**00 39 30.4**	**-0.1**
ZIMR		**2.07**	**202**	||P	**Pn**	**00 39 30.8**	**-0.4**
MILM	**Milestii Mici**	**2.12**	**50**	↑P		**Pn**	**00 39 30.8**	**-0.9**
MILM	**Milestii Mici**	**2.12**	**50**	*e*P		**Pn**	**00 39 30.6**	**-1.1**
	8.0nm,0.1s							
MILM				*e*S		**Sn**	**00 39 56.0**	**-3.3**
	110nm,0.1s							
VLAD	**Vladila**	**2.15**	**223**	||P	**Pn**	**00 39 31.5**	**-0.6**
KIS	**Kishinev**	**2.17**	**48**	||P	**Pn**	**00 39 32.1**	**-0.3**
KIS	**Kishinev**	**2.17**	**48**	*e*P		**Pn**	**00 39 32.0**	**-0.3**
	12nm,0.2s							
KIS				*e*S		**Sn**	**00 39 57.9**	**-2.6**
	90nm,0.2s							
LOZB	**Loznitsa**	**2.21**	**177**	||P	**Pn**	**00 39 32.4**	**-0.5**
LOZB				||S	**Sn**	**00 40 00.3**	**-1.1**
BURAR	**Bucovina Array**	**2.21**	**338**	↑P		**Pn**	**00 39 33.5**	**+0.5**
PSN	**Preselentsi**	**2.28**	**148**	*i* P		**Pn**	**00 39 33.9**	**+0.2**
PSN				*i* S		**Sn**	**00 40 02.0**	**-0.9**
MANR	**Mangalia**	**2.33**	**138**	↑P		**Pn**	**00 39 33.6**	**-0.7**
SZH	**Strazhitsa**	**2.34**	**189**	*i* P		**Pn**	**00 39 34.1**	**-0.4**
SZH				*i* S		**Sn**	**00 40 02.7**	**-1.5**
NEF	**NEVSHA**	**2.39**	**165**	*i* P		**Pn**	**00 39 35.0**	**-0.1**
NEF				*i* S		**Sn**	**00 40 04.0**	**-1.3**
SRE	**Strehaia**	**2.48**	**249**	↑P		**Pn**	**00 39 35.6**	**-0.6**
DEV	**Deva**	**2.51**	**278**	↑P		**Pn**	**00 39 36.9**	**+0.4**
PLVB	**Pleven**	**2.55**	**212**	||P	**Pn**	**00 39 36.7**	**-0.4**
PURM	**Purcari**	**2.56**	**67**	||P	**Pn**	**00 39 36.4**	**-0.7**
MARR	**Marisel-Cluj**	**2.57**	**297**	||P	**Pn**	**00 39 37.6**	**+0.3**
GZR	**Gura Zlata**	**2.59**	**267**	||P	**Pn**	**00 39 37.6**	**-0.1**
GZR	**Gura Zlata**	**2.59**	**267**	*e*Pn		**Pn**	**00 39 37.3**	**-0.4**
ELND	**Elena**	**2.68**	**189**	||P	**Pn**	**00 39 38.1**	**-0.6**
VALD	**Valchedram**	**2.86**	**230**	*i* P		**Pn**	**00 39 40.2**	**-0.9**
DRGR		**2.87**	**296**	*e*Pn		**Pn**	**00 39 40.4**	**-0.7**
SORM	**Soroca**	**2.87**	**26**	||P	**Pn**	**00 39 40.1**	**-0.9**
HERR	**Herculane**	**2.94**	**258**	||P	**Pn**	**00 39 41.3**	**-0.6**
MPEP	**Malo Peshtene**	**2.95**	**222**	*i* P		**Pn**	**00 39 42.0**	**-0.1**
KMPD	**K-Podol'skiy**	**2.99**	**0**	Pn		**Pn**	**00 39 46.9**	**+4.4**
SURR	**Surduc**	**3.04**	**275**	↑P		**Pn**	**00 39 43.1**	**-0.2**
JMB	**Yambol**	**3.08**	**179**	*i* P		**Pn**	**00 39 43.6**	**-0.3**
BZS	**Buzias**	**3.40**	**272**	||P	**Pn**	**00 39 47.3**	**-0.6**
BZS	**Buzias**	**3.40**	**272**	*e*Pn		**Pn**	**00 39 47.2**	**-0.6**
MDVR	**Moldovita**	**3.45**	**258**	||P	**Pn**	**00 39 47.7**	**-0.9**
MDVR	**Moldovita**	**3.45**	**258**	*e*Pn		**Pn**	**00 39 47.6**	**-0.9**
ZAGS	**Zajecar**	**3.49**	**241**	*e*Pn		**Pn**	**00 39 47.4**	**-1.7**
ZAPS	**Zavoj**	**3.58**	**231**	*e*Pn		**Pn**	**00 39 48.9**	**-1.4**
KUBS	**Kucevo**	**3.58**	**253**	*e*Pn		**Pn**	**00 39 47.4**	**-2.9**
VRSS	**Vrsac**	**3.65**	**265**	*e*Pn		**Pn**	**00 39 50.2**	**-0.9**
BOVS	**Bovan**	**3.91**	**242**	||P	**Pn**	**00 39 53.8**	**-0.7**
BOVS	**Bovan**	**3.91**	**242**	*e*Pn		**Pn**	**00 39 53.6**	**-0.9**
BOSS	**Bosilegrad**	**4.21**	**224**	*e*Pn		**Pn**	**00 39 58.1**	**-0.4**
BARS	**Barje**	**4.33**	**232**	*e*Pn		**Pn**	**00 39 59.7**	**-0.4**
GRUS	**Gruza**	**4.42**	**250**	*e*Pn		**Pn**	**00 40 00.5**	**-0.8**
GOCS	**Kraljevo Serbi**	**4.47**	**245**	*e*Pn		**Pn**	**00 40 01.0**	**-1.0**
SELS	**Selova**	**4.49**	**240**	*e*Pn		**Pn**	**00 40 01.7**	**-0.6**
TRUS	**Trudelj**	**4.50**	**255**	*e*Pn		**Pn**	**00 40 01.5**	**-0.9**
IVAS	**Ivanjica**	**4.93**	**248**	*e*Pn		**Pn**	**00 40 05.9**	**-2.2**
SJES	**Sjenica**	**5.19**	**246**	*e*Pn		**Pn**	**00 40 11.5**	**-0.1**
AKASG	**Malin Array Be**	**5.45**	**19**	P		**Pn**	**00 40 14.0**	**-0.9**
	0.4nm,0.3s,baz=206,slow=12,SNR=5.2							
AKASG				S		**Sn**	**00 41 12.4**	**-4.3**
	0.9nm,0.5s,baz=212,slow=21,SNR=3.1							
NOA	**NORSAR Array B**	**17.89**	**335**	P		**P**	**00 42 53.4**	**-0.7**
	0.3nm,0.8s,baz=155,slow=9.0,SNR=1.5							
KURBB	**Kurchatov Arra**	**34.54**	**62**	P		**P**	**00 45 33.3**	**+2.9**
	0.2nm,0.4s,baz=276,slow=9.1,SNR=4.0							
	0.2nm,0.4s							
TORD	**Torodi Ar. Bea**	**38.54**	**221**	P		**P**	**00 46 05.2**	**+0.6**
	0.7nm,1.1s,baz=20,slow=9.3,SNR=1.7							
	0.7nm,1.1s							

*IDC **22** 00:42:34.7±6.9, 41.°53N×141.°82E, h60km±39km, mb3.5/7, mbtmp3.7/9, ML3.2/2, Error ellipse: s-maj=71.9km s-min=25.2km az=140.0*
*JMA **22** 00:42:35.5±0.1, 41.°6N±0.°3×141.°9E±0.°5, h65km±1km, MV3.4/37, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .

ISC 22 00:42:35.5±0.9, **41.°58N**±0.°04×**141.°90E**±0.°05, **h70**km±8km, **n34**, σ0**68**/36, **mb3.8**/7, **8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.53**	**234**	*i* P		**Pn**	**00 42 48.9**	**+0.4**
JAHD				*i* S		**Sn**	**00 42 57.9**	**-0.1**
JOT	**Ohata**	**0.67**	**253**	||*i* P	**Pn**	**00 42 50.0**	**+0.1**
JOT				||*i* S	**Sn**	**00 43 00.8**	**+0.1**
JARK	**Aomorirokkasho**	**0.70**	**215**	P		**Pn**	**00 42 50.2**	**0.0**
JARK				S		**Sn**	**00 43 00.7**	**-0.5**
JKB	**Kayabe**	**0.72**	**296**	||*i* P	**Pn**	**00 42 50.2**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.95**	**42**	P		**Pn**	**00 42 52.3**	**-0.9**
JTM	**Tenmabayashi**	**1.01**	**219**	||*i* P	**Pn**	**00 42 54.5**	**+0.5**
JTM				||S	**Sn**	**00 43 08.0**	**+0.1**
JEM	**Erimo**	**1.04**	**65**	*i* P		**Pn**	**00 42 54.1**	**-0.3**
JEM				*e*S		**Sn**	**00 43 08.2**	**-0.3**
JIAM	**Iburiatsuma**	**1.04**	**1**	P		**Pn**	**00 42 54.8**	**+0.3**
JNB	**Noboribetsu**	**1.10**	**324**	P		**Pn**	**00 42 54.7**	**-0.4**
JNB				S		**Sn**	**00 43 09.2**	**-0.6**

JSR	**Shiriuchi**	**1.11**	**268**	P		**Pn**	**00 42 55.6**	**+0.3**
JSR				S		**Sn**	**00 43 11.8**	**+1.6**
JANG	**Nango**	**1.24**	**194**	*i* P		**Pn**	**00 42 57.0**	**0.0**
JBT2	**Biratori 2**	**1.25**	**16**	P		**Pn**	**00 42 57.4**	**+0.3**
JBT2				S		**Sn**	**00 43 14.2**	**+0.9**
JYM2	**Yakumo 2**	**1.26**	**296**	||*i* P	**Pn**	**00 42 58.0**	**+0.7**
JEW	**Eniwo**	**1.30**	**345**	||P	**Pn**	**00 42 58.1**	**+0.3**
JEW				||S	**Sn**	**00 43 14.5**	**-0.2**
JOMM	**Oshimamatsumae**	**1.42**	**268**	P		**Pn**	**00 42 59.7**	**+0.4**
JCH	**Churui**	**1.50**	**46**	P		**Pn**	**00 43 01.1**	**+0.7**
ASAJ	**Asahikawa**	**2.59**	**11**	P		**Pn**	**00 43 14.7**	**-0.3**
	4.3nm,0.3s,baz=205,slow=17,SNR=8.1							
ASAJ				S		**Sn**	**00 43 46.7**	**+1.3**
	15nm,0.3s,baz=127,slow=20,SNR=5.9							
	7.0nm,0.4s							
USRK	**Ussuriysk Ar.**	**7.74**	**293**	P		**Pn**	**00 44 23.4**	**-1.8**
	0.2nm,0.3s,baz=101,slow=15,SNR=2.1							
	1.6nm,0.6s							
SONM	**Songino Array**	**25.84**	**296**	P		**P**	**00 47 59.9**	**-0.4**
	0.3nm,0.3s,baz=99,slow=7.4,SNR=1.6							
	0.

YUSH	**Yuscaran**	**1.78**	**29**	P	Pn	01 50 46.8	-0.1
RCVN	**Varillal2**	**1.92**	**52**	S	Sn	01 51 12.5	0.0
COMHN	**El Horno**	**2.04**	**5**	P	Pn	01 50 50.0	-0.6

*SFS **22** 03:00:07.3,36°42′N×7°97′W,h43km,ML2.7/13,ML2.9/14, MLv2.6/14*
*CNRM **22** 03:00:07.8,36°31′N×8°04′W,h57km,ML3.2*
*INMG **22** 03:00:08.7±2.0,36°47′N×7°98′W,h16km±4km,ML1.9,Error ellipse: s-maj=4.6km s-min=3.0km az=64.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*
*MDD **22** 03:00:08.1±0.6,36°51′N×7°96′W,h14km±3km,mb_Lg2.7/21, Error ellipse: s-maj=4.8km s-min=2.8km az=34.0*
*IGIL **22** 03:00:09.6,36°45′N×7°99′W,h30km,ML2.0*

ISC 22 03:00:07.8±5.6,36°43′N±0°03′×7°96′W±0°03′,h37km±6km, n63,σ1¶30/108,2C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.81**	**2**	P		**Pn**		**03 00 23.3**	**+0.5**
PBDV				S		**Sn**		**03 00 33.5**	**-0.1**
PBDV	**Barranco-do-Ve**	**0.81**	**2**	⇑*eP*		**Pn**		**03 00 23.5**	**+0.7**
PBDV				*eS*		**Sn**		**03 00 33.0**	**-0.5**
PBDV				*i* IAML				03 00 33.9	
PBDV				*i* IAML				03 00 34.3	
PBDV				*i* IAML				03 00 34.6	
PFVI	**Vila Bisbo**	**0.99**	**315**	⇓*eP*		**Pn**		**03 00 25.7**	**+0.6**
PFVI				*eS*		**Sn**		**03 00 38.0**	**+0.1**
PFVI				*i* IAML				03 00 45.9	
PFVI				*i* IAML				03 00 47.9	
PFVI				*i* IAML				03 00 56.4	
PFVI	**Vila Bisbo**	**0.99**	**315**	P		**Pn**		**03 00 26.0**	**+0.9**
PFVI	**Vila Bisbo**	**0.99**	**315**	S		**Sn**		**03 00 40.9**	**+3.1**
PVAQ	**Vaqueiros**	**0.99**	**11**	⇑*eP*		**Pn**		**03 00 25.9**	**+0.8**
PVAQ				*eS*		**Sn**		**03 00 37.9**	**0.0**
PVAQ				*i* IAML				03 00 38.1	
PVAQ				*i* IAML				03 00 38.4	
PVAQ				*i* IAML				03 00 38.4	
PVAQ	**Vaqueiros**	**0.99**	**11**	P		**Pn**		**03 00 26.0**	**+0.8**
PVAQ	**Vaqueiros**	**0.99**	**11**	S		**Sn**		**03 00 42.7**	**+4.8**
MORF	**Marmelete**	**1.03**	**328**	*eP*		**Pn**		**03 00 26.3**	**+0.5**
MORF				*eS*		**Sn**		**03 00 38.4**	**-0.6**
MORF				IAML				03 00 40.1	
	comp=E,22nm,0.3s								
MORF	**Marmelete**	**1.03**	**328**	⇓*eP*		**Pn**		**03 00 26.4**	**+0.5**
MORF				*eS*		**Sn**		**03 00 38.4**	**-0.6**
MORF				*i* IAML				03 00 39.3	
MORF				*i* IAML				03 00 40.7	
MORF				*i* IAML				03 00 42.7	
EGRO	**El Granado**	**1.16**	**19**	P		**Pn**		**03 00 28.5**	**+1.0**
EGRO				S		**Sn**		**03 00 41.7**	**-0.5**
EGRO	**El Granado**	**1.16**	**19**	Pg		**Pn**		**03 00 28.4**	**+0.8**
EGRO				Sg		**Sn**		**03 00 42.0**	**-0.2**
EGRO				*i* IVmb_Lg				03 00 42.5	
PCVE	**Castro Verde**	**1.20**	**357**	P		**Pn**		**03 00 28.9**	**+0.8**
PCVE				S		**Sn**		**03 00 43.0**	**-0.1**
PCVE	**Castro Verde**	**1.20**	**357**	*eP*		**Pn**		**03 00 29.2**	**+1.1**
PCVE				*eS*		**Sn**		**03 00 43.3**	**+0.2**
PCVE				*i* IAML				03 00 43.4	
PCVE				*i* IAML				03 00 43.5	
PCVE				*i* IAML				03 00 43.5	
PTEO	**Sao Teotonio**	**1.27**	**331**	*eP*		**Pn**		**03 00 29.9**	**+0.9**
PTEO				*eS*		**Sn**		**03 00 45.3**	**+0.5**
PTEO				*i* IAML				03 00 46.6	
PTEO				*i* IAML				03 00 46.8	
PTEO				*i* IAML				03 00 47.0	
MESJ	**Messejana**	**1.42**	**352**	*eS*		**Sn**		**03 00 47.9**	**-0.6**
MESJ				IAML				03 00 48.9	
	comp=N,22nm,0.2s								
MESJ	**Messejana**	**1.42**	**352**	*eP*		**Pn**		**03 00 32.5**	**+1.4**
MESJ				*eS*		**Sn**		**03 00 48.8**	**+0.3**
MESJ				*i* IAML				03 00 49.0	
MESJ				*i* IAML				03 00 49.1	
MESJ				*i* IAML				03 00 50.0	
PBEJ	**Beja**	**1.59**	**3**	*eS*		**Sn**		**03 00 52.5**	**-0.2**
PBEJ				*i* IAML				03 00 55.2	
PBEJ				*i* IAML				03 00 55.3	
PBEJ				*i* IAML				03 01 04.9	
EMIN	**Mina Concepcio**	**1.68**	**37**	P		**Pn**		**03 00 34.9**	**+0.2**
EMIN				S		**Sn**		**03 00 57.5**	**+2.5**
EMIN	**Mina Concepcio**	**1.68**	**37**	Pn		**Pn**		**03 00 34.9**	**+0.2**
EMIN				Sn		**Sn**		**03 00 54.1**	**-1.0**
EMIN				*i* IVmb_Lg				03 01 02.4	
ESPR	**Espera**	**1.75**	**75**	P		**Pn**		**03 00 36.4**	**+0.8**
ESPR				S		**Sn**		**03 00 56.6**	**+0.1**
ESPR	**Espera**	**1.75**	**75**	Pn		**Pn**		**03 00 36.3**	**+0.8**
ESPR				Sn		**Sn**		**03 00 56.1**	**-0.4**
ESPR				*i* IVmb_Lg				03 00 58.8	
PBAR	**Barrancos**	**1.89**	**23**	P		**Pn**		**03 00 37.7**	**+0.2**
PBAR				S		**Sn**		**03 00 59.5**	**-0.6**
PBAR	**Barrancos**	**1.89**	**23**	*eP*		**Pn**		**03 00 38.1**	**+0.6**
PBAR				*eS*		**Sn**		**03 00 59.1**	**-0.9**
PBAR				*i* IAML				03 01 05.5	
PBAR				*i* IAML				03 01 11.2	
PBAR				*i* IAML				03 01 13.2	
EJIF	**Jimena Fronter**	**2.01**	**89**	Sn		**Sn**		**03 01 04.7**	**+1.6**
EVO	**Evora**	**2.10**	**359**	P		**Pn**		**03 00 40.8**	**+0.4**
EVO				S		**Sn**		**03 01 04.5**	**-0.7**
EVO	**Evora**	**2.10**	**359**	*eP*		**Pn**		**03 00 41.4**	**+1.0**
EVO				*eS*		**Sn**		**03 01 04.5**	**-0.7**
EVO				*i* IAML				03 01 06.5	
EVO				*i* IAML				03 01 06.7	
EVO				*i* IAML				03 01 07.2	
EBAD	**Badajoz**	**2.44**	**18**	S		**Sn**		**03 01 12.4**	**-1.2**
EBAD				P		**Pn**		**03 00 45.5**	**+0.4**
EBAD	**Badajoz**	**2.44**	**18**	Pn		**Pn**		**03 00 45.8**	**+0.7**
EBAD				Sn		**Sn**		**03 01 12.6**	**-1.0**
EBAD				*i* IVmb_Lg				03 01 21.9	
PESTR	**Estremoz**	**2.45**	**7**	P		**Pn**		**03 00 45.2**	**-0.1**
PESTR				S		**Sn**		**03 01 13.3**	**-0.6**
PESTR	**Estremoz**	**2.45**	**7**	*eP*		**Pn**		**03 00 46.4**	**+1.2**
PESTR				*eS*		**Sn**		**03 01 13.8**	**-0.1**
PESTR				*i* IAML				03 01 14.9	
PESTR				*i* IAML				03 01 15.0	
PESTR				*i* IAML				03 01 27.2	
PARRA	**Arraiolos**	**2.53**	**340**	*eP*		**Pn**		**03 00 45.1**	**-1.2**
PARRA				*eS*		**Sn**		**03 01 11.8**	**-4.1**
PARRA				*i* IAML				03 01 12.2	
PARRA				*i* IAML				03 01 12.4	
PARRA				*i* IAML				03 01 12.6	
ECAB	**El Cabril**	**2.61**	**50**	P		**Pn**		**03 00 47.8**	**+0.4**
ECAB				S		**Sn**		**03 01 15.2**	**-2.6**
ECAB	**El Cabril**	**2.61**	**50**	Pn		**Pn**		**03 00 47.6**	**+0.2**
ECAB				Sn		**Sn**		**03 01 15.4**	**-2.5**
ECAB				*i* IVmb_Lg				03 01 25.7	
PMTG	**Montargil**	**2.64**	**356**	*eP*		**Pn**		**03 00 48.7**	**+0.9**
PMTG				*eS*		**Sn**		**03 01 18.2**	**-0.4**
PMTG				*i* IAML				03 01 19.1	
PMTG				*i* IAML				03 01 19.1	
PMTG				*i* IAML				03 01 19.2	
PMAFR	**Mafra**	**2.73**	**338**	P		**Pn**		**03 00 49.9**	**+0.8**
PMAFR				S		**Sn**		**03 01 19.9**	**-0.9**
PMAFR	**Mafra**	**2.73**	**338**	*eP*		**Pn**		**03 00 50.5**	**+1.4**
PMAFR				*eS*		**Sn**		**03 01 20.3**	**-0.5**
PMAFR				*i* IAML				03 01 21.7	
PMAFR				*i* IAML				03 01 21.9	
PMAFR				*i* IAML				03 01 22.3	
PMRV	**Marv??o**	**3.02**	**8**	*eP*		**Pn**		**03 00 53.9**	**+0.7**
PMRV				*eS*		**Sn**		**03 01 27.5**	**-0.6**
PMRV				*i* IAML				03 01 27.8	
PMRV				*i* IAML				03 01 27.8	
PMRV				*i* IAML				03 01 28.6	
AVE	**Averroes**	**3.16**	**172**	S		**Sn**		**03 01 31.1**	**-0.4**
EGOR	**Sierra Gorda,**	**3.16**	**77**	P		**Pn**		**03 00 56.2**	**+1.0**
EGOR				S		**Sn**		**03 01 32.0**	**+0.3**
EGOR	**Sierra Gorda,**	**3.16**	**77**	Pn		**Pn**		**03 00 56.9**	**+1.7**
EGOR				Sn		**Sn**		**03 01 31.8**	**0.0**
EGOR				*i* IVmb_Lg				03 01 33.3	
PSARD	**Sardoal**	**3.17**	**357**	*eP*		**Pn**		**03 00 56.2**	**+1.1**
PSARD				*eS*		**Sn**		**03 01 30.9**	**-0.7**
PSARD				*i* IAML				03 01 32.3	
PSARD				*i* IAML				03 01 32.7	
PSARD				*i* IAML				03 01 33.2	
EADA	**Adamuz**	**3.21**	**56**	P		**Pn**		**03 00 56.6**	**+0.9**
EADA				S		**Sn**		**03 01 31.1**	**-1.5**
EADA	**Adamuz**	**3.21**	**56**	Pn		**Pn**		**03 00 56.3**	**+0.6**
EADA				Sn		**Sn**		**03 01 31.3**	**-1.3**
EADA				*i* IVmb_Lg				03 01 34.1	
PCBR	**Castelo Branco**	**3.42**	**6**	*eP*		**Pn**		**03 00 59.7**	**+1.1**
PCBR				*eS*		**Sn**		**03 01 37.3**	**-0.6**
PCBR				*i* IAML				03 01 37.5	
PCBR				*i* IAML				03 01 37.7	
PCBR				*i* IAML				03 01 37.9	
ELGU	**Los Guajares,**	**3.51**	**82**	P		**Pn**		**03 00 59.0**	**-0.9**
ELGU				S		**Sn**		**03 01 42.3**	**+2.1**
ELGU	**Los Guajares,**	**3.51**	**82**	Sn		**Sn**		**03 01 40.7**	**+0.5**
ELGU				*i* IVmb_Lg				03 01 50.4	
PCAS	**Casmilo, Conde**	**3.64**	**353**	*eS*		**Sn**		**03 01 42.6**	**-0.6**
PCAS				*i* IAML				03 01 44.5	
PCAS				*i* IAML				03 01 44.6	
PCAS				*i* IAML				03 01 46.4	
E0803	**Jimena (Jaen)**	**3.85**	**67**	Pn		**Pn**		**03 01 05.3**	**+0.8**
E0803				Sn		**Sn**		**03 01 48.4**	**-0.1**
SRHM	**Skhour des Reh**	**3.95**	**179**	P		**Pn**		**03 01 06.2**	**+0.3**
PSIM	**Granatula de C**	**4.10**	**53**	Pn		**Pn**		**03 01 08.6**	**+0.7**
PSIM				Sn		**Sn**		**03 01 53.6**	**-1.1**
EQES	**Quesada**	**4.14**	**69**	Pn		**Pn**		**03 01 09.8**	**+1.2**
EQES				Sn		**Sn**		**03 01 55.4**	**-0.3**
EQES				*i* IVmb_Lg				03 02 05.1	
PAB	**San Pablo**	**4.22**	**41**	Pn		**Pn**		**03 01 10.2**	**+0.5**
PAB				*i* IVmb_Lg				03 01 53.5	
PAB				Sn		**Sn**		**03 01 54.7**	**-3.0**
MD31	**MD31**	**4.43**	**143**	P		**Pn**		**03 01 12.8**	**+0.3**
MD31	**MD31**	**4.43**	**143**	S		**Sn**		**03 02 01.3**	**-1.5**
MDT	**Midelt**	**4.55**	**142**	P		**Pn**		**03 01 14.5**	**+0.3**
OUK	**Oukaimeden**	**5.21**	**179**	P		**Pn**		**03 01 22.3**	**-1.3**
GOLM	**Goulmima**	**5.34**	**151**	P		**Pn**		**03 01 26.4**	**+1.4**
UCM	**Universidad Co**	**5.36**	**42**	P		**Pn**		**03 01 26.5**	**+1.3**
UCM				S		**Sn**		**03 02 24.7**	**-0.9**
ELOB	**Lobios**	**5.43**	**359**	Sn		**Sn**		**03 02 24.8**	**-2.6**
ELOB				*i* IVmb_Lg				03 02 39.2	
TIO	**Tiouine**	**5.52**	**174**	P		**Pn**		**03 01 27.5**	**-0.1**
TIO				S		**Sn**		**03 02 25.9**	**-4.0**
ECAL	**Calabor**	**5.58**	**9**	Pn		**Pn**		**03 01 29.3**	**+1.0**
ECAL				Sn		**Sn**		**03 02 27.9**	**-3.4**
ECAL				*i* IVmb_Lg				03 02 30.5	
OUZM	**OUZ**	**5.60**	**169**	P		**Pn**		**03 01 28.9**	**+0.3**

*CNRM **22** 03:05:31.6,36°36′N×7°20′W,h78km,ML2.7*
*SFS **22** 03:05:32.2,36°46′N×6°92′W,h57km,mb3.8/4,ML3.2/24, ML3.3/24,MLv3.1/24*
*MDD **22** 03:05:33.8±0.3,36°48′N×6°93′W,h32km±1km,mb_Lg3.0/44, Error ellipse: s-maj=2.4km s-min=1.8km az=23.0*
*IGIL **22** 03:05:34.6,36°47′N×6°95′W,h41km,ML2.6*
*INMG **22** 03:05:34.8±1.4,36°47′N×6°94′W,h31km±7km,ML2.5,Error ellipse: s-maj=2.9km s-min=2.1km az=47.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Golfo de Cadiz*

ISC 22 03:05:32.5±1.1,36°52′N±0°03′×6°90′W±0°02′,h35km,n122, σ1¶89/209,20C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFS	**San Fernando**	**0.56**	**95**	P		**Pn**		**03 05 46.0**	**+2.0**
ARNO	**Arenosillo**	**0.60**	**13**	P		**Pn**		**03 05 47.2**	**+2.7**
CNIL	**Conil**	**0.70**	**102**	P		**Pn**		**03 05 48.2**	**+2.3**
CNIL				S		**Sn**		**03 05 56.9**	**+1.5**
ESPR	**Espera**	**0.91**	**67**	P		**Pn**		**03 05 50.8**	**+2.0**
ESPR				S		**Sn**		**03 06 02.4**	**+1.7**
ESPR	**Espera**	**0.91**	**67**	⇑Pg		**Pn**		**03 05 50.8**	**+2.0**
ESPR				Sg		**Sn**		**03 06 03.3**	**+2.6**
ESPR				*i* IVmb_Lg				03 06 03.9	
PBDV	**Barranco-do-Ve**	**1.10**	**312**	P		**Pn**		**03 05 52.8**	**+1.5**
PBDV				S		**Sn**		**03 06 06.3**	**+1.0**
PBDV	**Barranco-do-Ve**	**1.10**	**312**	⇑*iP*		**Pn**		**03 05 52.8**	**+1.5**
PBDV				*eS*		**Sn**		**03 06 06.4**	**+1.1**
PBDV				*i* IAML				03 06 07.2	
PBDV				*i* IAML				03 06 07.4	
PBDV				*i* IAML				03 06 08.1	
PVAQ	**Vaqueiros**	**1.10**	**324**	P		**Pn**		**03 05 53.1**	**+1.8**
PVAQ				S		**Sn**		**03 06 07.3**	**+2.0**
PVAQ	**Vaqueiros**	**1.10**	**324**	⇑*iP*		**Pn**		**03 05 53.1**	**+1.8**
PVAQ				*eS*		**Sn**		**03 06 06.8**	**+1.5**
PVAQ				*i* IAML				03 06 07.1	
PVAQ				*i* IAML				03 06 07.7	
PVAQ				*i* IAML				03 06 08.3	
PVAQ	**Vaqueiros**	**1.10**	**324**	P		**Pn**		**03 05 53.1**	**+1.8**
EGRO	**El Granado**	**1.12**	**336**	P		**Pn**		**03 05 53.5**	**+1.9**
EGRO				S		**Sn**		**03 06 07.3**	**+1.6**
EGRO	**El Granado**	**1.12**	**336**	⇑Pg		**Pn**		**03 05 53.5**	**+1.9**
EGRO				Sg		**Sn**		**03 06 07.2**	**+1.5**
EGRO				*i* IVmb_Lg				03 06 07.8	
EMIN	**Mina Concepcio**	**1.26**	**8**	P		**Pn**		**03 05 55.4**	**+1.8**
EMIN				S		**Sn**		**03 06 10.5**	**+1.1**
EMIN	**Mina Concepcio**	**1.26**	**8**	⇑Pg		**Pn**		**03 05 55.4**	**+1.8**
EMIN				Sg		**Sn**		**03 06 10.5**	**+1.1**
EMIN				*i* IVmb_Lg				03 06 11.6	
ECEU	**Ceuta**	**1.38**	**116**	P		**Pn**		**03 05 57.0**	**+1.7**
ECEU	**Ceuta**	**1.38**	**116**	Pg		**Pn**		**03 05 57.1**	**+1.9**
ECEU				Sg		**Sn**		**03 06 13.5**	**+1.3**
ECEU				*i* IVmb_Lg				03 06 18.2	
PCVE	**Castro Verde**	**1.44**	**321**	P		**Pn**		**03 05 57.6**	**+1.6**
PCVE				S		**Sn**		**03 06 14.7**	**+1.0**
PCVE	**Castro Verde**	**1.44**	**321**	⇑*iP*		**Pn**		**03 05 57.6**	**+1.6**
PCVE				*eS*		**Sn**		**03 06 14.8**	**+1.1**
PCVE				*i* IAML				03 06 15.1	
PCVE				*i* IAML				03 06 15.5	
PCVE				*i* IAML				03 06 15.9	
SMIR	**Smir Dam**	**1.49**	**124**	P		**Pn**		**03 05 58.1**	**+1.4**
SMIR				P				03 05 58.2	
SMIR	**Smir Dam**	**1.49**	**124**	S		**Sn**		**03 06 19.4**	**+4.5**
MORF	**Marmelete**	**1.61**	**300**	*eP*		**Pn**		**03 05 59.2**	**+0.8**
MORF				*eS*		**Sn**		**03 06 17.8**	**-0.1**
MORF				IAML				03 06 20.8	
	comp=N,56nm,0.2s								
MORF	**Marmelete**	**1.61**	**300**	⇑*iP*		**Pn**		**03 05 59.2**	**+0.8**
MORF				*eS*		**Sn**		**03 06 18.3**	**+0.4**
MORF				*i* IAML				03 06 19.2	
MORF				*i* IAML				03 06 19.4	
MORF				*i* IAML				03 06 22.8	
PBAR	**Barrancos**	**1.66**	**356**	P		**Pn**		**03 06 01.0**	**+1.9**
PBAR				S		**Sn**		**03 06 19.8**	**+0.6**
PBAR	**Barrancos**	**1.66**	**356**	⇑*eP*		**Pn**		**03 06 01.0**	**+1.9**
PBAR				*eS*		**Sn**		**03 06 20.3**	**+1.2**
PBAR				*i* IAML				03 06 21.3	
PBAR				*i* IAML				03 06 22.1	
PBAR				*i* IAML				03 06 22.3	
PFVI	**Vila Bisbo**	**1.66**	**292**	P		**Pn**		**03 05 59.9**	**+0.8**
PFVI				S		**Sn**		**03 06 19.1**	**0.0**
PFVI	**Vila Bisbo**	**1.66**	**292**	⇑*eP*		**Pn**		**03 05 59.9**	**+0.8**
PFVI				*eS*		**Sn**		**03 06 19.2**	**0.0**
PFVI				*i* IAML				03 06 19.5	
PFVI				*i* IAML				03 06 19.7	
PFVI				*i* IAML				03 06 19.9	
MESJ	**Messejana**	**1.69**	**322**	*eP*		**Pn**		**03 06 01.1**	**+1.7**
MESJ				*eS*		**Sn**		**03 06 20.2**	**+0.4**
MESJ				IAML				03 06 21.8	
	comp=E,46nm,0.3s								
MESJ	**Messejana**	**1.69**	**322**	⇑*iP*		**Pn**		**03 06 01.1**	**+1.7**
MESJ				*eS*		**Sn**		**03 06 20.4**	**+0.5**
MESJ				*i* IAML				03 06 21.9	
MESJ				*i* IAML				03 06 21.9	
MESJ				*i* IAML				03 06 24.2	
PBEJ	**Beja**	**1.69**	**333**	⇓*eP*		**Pn**		**03 06 01.1**	**+1.6**
PBEJ				*eS*		**Sn**		**03 06 21.0**	**+1.1**
PBEJ				*i* IAML				03 06 21.3	
PBEJ				*i* IAML				03 06 21.3	
PBEJ				*i* IAML				03 06 23.6	
PTEO	**Sao Teotonio**	**1.78**	**306**	⇑*iP*		**Pn**		**03 06 02.1**	**+1.4**
PTEO				*eS*		**Sn**		**03 06 22.7**	**+0.5**
PTEO				*i* IAML				03 06 23.3	
PTEO				*i* IAML				03 06 26.1	
PTEO				*i* IAML				03 06 26.2	
ECAB	**El Cabril**	**1.96**	**37**	P		**Pn**		**03 06 04.6**	**+1.4**
ECAB				S		**Sn**		**03 06 26.7**	**+0.2**
ECAB	**El Cabril**	**1.96**	**37**	Pn		**Pn**		**03 06 04.6**	**+1.4**
ECAB				Pg				03 06 10.8	
ECAB				Sn		**Sn**		**03 06 26.6**	**+0.1**
ECAB				*i* IVmb_Lg				03 06 28.4	
ECAB				Sg				03 06 32.5	
EMAL	**Malaga-Limoner**	**2.01**	**82**	P		**Pn**		**03 06 05.7**	**+1.9**
EMAL				S		**Sn**		**03 06 29.6**	**+1.9**
EVO	**Evora**	**2.20**	**337**	P		**Pn**		**03 06 08.2**	**+1.8**
EVO				S		**Sn**		**03 06 32.3**	**-0.1**
EVO	**Evora**	**2.20**	**337**	*eP*		**Pn**		**03 06 08.2**	**+1.8**
EVO				*eS*		**Sn**		**03 06 32.6**	**+0.2**
EVO				*i* IAML				03 06 34.1	
EVO				*i* IAML				03 06 34.5	
EVO				*i* IAML				03 06 35.5	
EBAD	**Badajoz**	**2.24**	**358**	P		**Pn**		**03 06 08.8**	**+1.8**
EBAD				S		**Sn**		**03 06 33.2**	**-0.2**
EBAD	**Badajoz**	**2.24**	**358**	Pn		**Pn**		**03 06 08.8**	**+1.8**
EBAD				Sn		**Sn**		**03 06 33.9**	**+0.6**
EBAD				*i* IVmb_Lg				03 06 35.7	
EGOR	**Sierra Gorda,**	**2.32**	**74**	P		**Pn**		**03 06 10.3**	**+2.1**
EGOR				S		**Sn**		**03 06 37.7**	**+2.1**
EGOR	**Sierra Gorda,**	**2.32**	**74**	Pn		**Pn**		**03 06 10.4**	**+2.1**
EGOR				Sn		**Sn**		**03 06 37.6**	**+1.9**
PESTR	**Estremoz**	**2.41**	**347**	⇑*eP*		**Pn**		**03 06 10.9**	**+1.6**
PESTR				*eS*		**Sn**		**03 06 38.1**	**+0.5**
PESTR				*i* IAML				03 06 39.6	
PESTR				*i* IAML				03 06 39.7	
PESTR				*i* IAML				03 06 39.8	
PESTR	**Estremoz**	**2.41**	**347**	P		**Pn**		**03 06 10.9**	**+1.6**
PESTR	**Estremoz**	**2.41**	**347**	S		**Sn**		**03 06 40.0**	**+2.3**
EADA	**Adamuz**	**2.48**	**48**	S		**Sn**		**03 06 39.1**	**-0.4**
EADA				P		**Pn**		**03 06 12.1**	**+1.7**
EADA	**Adamuz**	**2.48**	**48**	Pn		**Pn**		**03 06 12.1**	**+1.7**
EADA				Sn		**Sn**		**03 06 38.9**	**-0.6**
EADA				*i* IVmb_Lg				03 06 40.7	
RTC	**Rabat Centre**	**2.52**	**179**	S		**Sn**		**03 06 37.2**	**-3.3**
ELGU	**Los Guajares,**	**2.66**	**81**	S		**Sn**		**03 06 45.4**	**+1.6**
ELGU				P		**Pn**		**03 06 13.8**	**+0.9**
ELGU	**Los Guajares,**	**2.66**	**81**	Pn		**Pn**		**03 06 14.1**	**+1.3**
ELGU				Sn		**Sn**		**03 06 45.5**	**+1.6**
ELGU				*i* IVmb_Lg				03 06 48.2	
PALE	**Palemas**	**2.73**	**117**	P		**Pn**		**03 06 14.2**	**+0.3**
PALE	**Palemas**	**2.73**	**117**	S		**Sn**		**03 06 50.0**	**+4.3**
PMTG	**Montargil**	**2.75**	**338**	⇑*eP*		**Pn**		**03 06 15.7**	**+1.6**
PMTG				*eS*		**Sn**		**03 06 46.5**	**+0.4**
PMTG				*i* IAML				03 06 48.8	
PMTG				*i* IAML				03 06 49.0	
PMTG				*i* IAML				03 06 49.6	
PARRA	**Arraiolos**	**2.85**	**324**	⇑*eP*		**Pn**		**03 06 11.8**	**-3.6**
PARRA				*eS*		Sn		03 06 38.8	-10
PARRA				*i* IAML				03 06 41.2	
PARRA				*i* IAML				03 06 42.3	
PARRA				*i* IAML				03 06 53.8	
EQTA	**Presa de Quent**	**2.86**	**75**	S		**Sn**		**03 06 50.3**	**+1.3**
EQTA				P		**Pn**		**03 06 17.1**	**+1.4**
EQUE	**Quentar**	**2.86**	**75**	Pn		**Pn**		**03 06 17.3**	**+1.6**
EQUE				Sn		**Sn**		**03 06 48.5**	**-0.4**
EQUE				*i* IVmb_Lg				03 06 51.8	
PMRV	**Marv??o**	**2.93**	**353**	⇑*eP*		**Pn**		**03 06 18.4**	**+1.9**
PMRV				*eS*		**Sn**		**03 06 50.2**	**-0.4**
PMRV				*i* IAML				03 06 52.1	
PMRV				*i* IAML				03 06 52.5	
PMRV				*i* IAML				03 06 52.6	
E0803	**Jimena (Jaen)**	**3.04**	**63**	Pn		**Pn**		**03 06 19.5**	**+1.4**
E0803				Sn		**Sn**		**03 06 52.3**	**-1.1**
PMAFR	**Mafra**	**3.08**	**323**	S		**Sn**		**03 06 54.3**	**+0.1**
PMAFR				P		**Pn**		**03 06 20.4**	**+1.8**
PMAFR	**Mafra**	**3.08**	**323**	⇓*eP*		**Pn**		**03 06 20.6**	**+2.0**
PMAFR				*eS*		**Sn**		**03 06 53.9**	**-0.3**
PMAFR				*i* IAML				03 07 03.5	
PMAFR				*i* IAML				03 07 04.2	
PMAFR				*i* IAML				03 07 06.0	
AKLM	**AKL**	**3.19**	**128**	P		**Pn**		**03 06 19.7**	**-0.5**
AKLM	**AKL**	**3.19**	**128**	S		**Sn**		**03 06 58.6**	**+1.6**
PSARD	**Sardoal**	**3.23**	**343**	⇑*eP*		**Pn**		**03 06 22.5**	**+1.8**
PSARD				*eS*		**Sn**		**03 06 57.7**	**-0.3**
PSARD				*i* IAML				03 06 59.6	
PSARD				*i* IAML				03 06 59.8	
PSARD				*i* IAML				03 06 59.9	
AVE	**Averroes**	**3.24**	**188**	S		**Sn**		**03 06 54.9**	**-3.2**
AVE				P		**Pn**		**03 06 20.5**	**-0.2**
AVE	**Aver

PBRG				*i* IAML			03 07 49.8		
OUK	**Oukaimeden**	**5.36**	**189**	S	**Sn**		**03 07 45.6**	**-5.3**	
ELOB	**Lobios**	**5.42**	**351**	Pn	**Pn**		**03 06 51.8**	**+1.0**	
ELOB				Sn	**Sn**		**03 07 48.8**	**-3.2**	
ELOB				*i* IVmb_Lg			03 07 53.5		
ECAL	**Calabor**	**5.42**	**1**	S	**Sn**		**03 07 51.0**	**-1.0**	
ECAL				P	**Pn**		**03 06 52.6**	**+1.9**	
ECAL	**Calabor**	**5.42**	**1**	Pn	**Pn**		**03 06 52.7**	**+1.9**	
ECAL				Sn	**Sn**		**03 07 50.4**	**-1.6**	
ECAL				*i* IVmb_Lg			03 07 52.8		
AFON	**Font Roja**	**5.49**	**65**	Pn	**Pn**		**03 06 52.2**	**+0.4**	
AFON				Sn	**Sn**		**03 07 51.0**	**-2.8**	
AFON				*i* IVmb_Lg			03 07 55.0		
PGAV	**Gavieira, Arco**	**5.54**	**349**	*e*P	**Pn**		**03 06 54.1**	**+1.5**	
PGAV				*e*S	**Sn**		**03 07 52.9**	**-2.2**	
PGAV				*i* IAML			03 07 54.5		
PGAV				*i* IAML			03 07 56.0		
PGAV				*i* IAML			03 07 56.1		
TIO	**Tiouine**	**5.58**	**183**	S	**Sn**		**03 07 49.8**	**-6.4**	
TIO				P	**Pn**		**03 06 52.2**	**-0.9**	
TIO	**Tiouine**	**5.58**	**183**	P	**Pn**		**03 06 51.7**	**-1.5**	
OUZM	**OUZ**	**5.59**	**179**	P	**Pn**		**03 06 54.5**	**+1.2**	
ECHE	**Chera**	**5.60**	**55**	S	**Sn**		**03 07 53.1**	**-3.3**	
ECHE				P	**Pn**		**03 06 54.3**	**+1.0**	
ECHE	**Chera**	**5.60**	**55**	Pn	**Pn**		**03 06 53.7**	**+0.4**	
ECHE				Sn	**Sn**		**03 07 52.5**	**-3.9**	
ECHE				*i* IVmb_Lg			03 07 56.3		
ETOR	**Torete**	**5.73**	**40**	Pn	**Pn**		**03 06 57.0**	**+1.9**	
ETOR				Sn	**Sn**		**03 07 55.8**	**-3.9**	
ETOR				*i* IVmb_Lg			03 08 00.9		
EBEN2	**Beniarda presa**	**5.75**	**66**	Pn	**Pn**		**03 06 55.7**	**+0.4**	
EBEN2				Sn	**Sn**		**03 07 56.2**	**-3.9**	
E0901	**Celadas (Terue**	**6.01**	**47**	Pn	**Pn**		**03 07 00.8**	**+1.7**	
E0901				Sn	**Sn**		**03 08 04.3**	**-2.4**	
E0901				*i* IVmb_Lg			03 08 09.3		
EMOS	**Mosqueruela**	**6.34**	**51**	Pn	**Pn**		**03 07 05.3**	**+1.7**	
EMOS				Sn	**Sn**		**03 08 10.9**	**-4.0**	
EMOS				*i* IVmb_Lg			03 08 17.1		
EAGO	**Agolada(Pontev**	**6.34**	**352**	Pn	**Pn**		**03 07 04.8**	**+1.3**	
EAGO				Sn	**Sn**		**03 08 10.1**	**-4.5**	
EAGO				*i* IVmb_Lg			03 08 15.2		
EARI	**Arriondas**	**6.90**	**10**	Pn	**Pn**		**03 07 12.7**	**+1.6**	
EARI				Sn	**Sn**		**03 08 25.9**	**-2.4**	
EIBI	**Ibiza**	**7.00**	**67**	P	**Pn**		**03 07 13.1**	**+0.7**	
ELAN	**Lanestosa**	**7.22**	**21**	Pn	**Pn**		**03 07 16.9**	**+1.4**	
ELAN				Sn	**Sn**		**03 08 32.6**	**-3.6**	
EALK	**Alkurruntz**	**7.88**	**30**	Pn	**Pn**		**03 07 26.4**	**+1.9**	
EALK				Sn	**Sn**		**03 08 48.8**	**-3.6**	
PMOZ	**Porto Moniz, M**	**9.24**	**250**	P	**Pn**		**03 07 42.5**	**-0.8**	

NOU 22 03:19:19.7, 10°.85S × 164°.34E, h32km, MLv4.7/8, Santa Cruz Islands Region, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUES	**Luesalemba Tem**	**1.56**	**83**	P	Pn	03 19 44.3	-0.9
HURO	**Huro Makira**	**2.43**	**279**	P	Pn	03 19 56.5	-0.6
HURO	**Huro Makira**	**2.43**	**279**	S	Sn	03 20 25.4	-0.4
NGOA	**Tingoa Renbel**	**4.25**	**260**	P	Pn	03 20 21.9	-0.4
TATA	**Tatamba Isabel**	**5.10**	**298**	P	Pn	03 20 35.3	+1.4
TATA	**Tatamba Isabel**	**5.10**	**298**	S	Sn	03 21 33.1	+1.4
SANVU	**Saraoutou**	**5.35**	**149**	P	Pn	03 20 38.1	+0.7

GEN ***22*** *03:20:25.4, 44°.66N × 7°.26E, h5km ± 1km, Ml0.2*
LDG ***22*** *03:20:25.6 ± 0.1, 44°.66N × 7°.30E, h5km, Md1.6/2, Ml1.5/1, Error ellipse: s-maj=0.9km s-min=0.7km az=57.0*

ROM 22 03:20:24.8 ± 0.2, 44°.657N ± 0°.006 × 7°.28E ± 0°.02, h10km ± 1km, ML0.8/6, Error ellipse: s-maj=1.4km s-min=0.4km az=268.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHB	**Bricherasio**	**0.18**	**356**	P	Pg	03 20 29.4	+0.6
BHB				S	Sg	03 20 32.2	+0.7
BHB	**Bricherasio**	**0.18**	**356**	P	Pg	03 20 29.4	+0.6
BHB				S	Sg	03 20 32.1	+0.6
BHB				AML	AML		
	comp=E,26µm,0.1s						
BHB				AML	AML		
	comp=N,35µm,0.1s						
PZZ	**Stroppo**	**0.19**	**218**	P	Pb	03 20 29.9	-0.5
PZZ				S	Sg	03 20 32.7	+1.0
PZZ	**Stroppo**	**0.19**	**218**	P	Pb	03 20 29.9	-0.5
PZZ				S	Sg	03 20 32.5	+0.7
PZZ				AML	AML		
	comp=E,50µm,0.1s						
PZZ				AML	AML		
	comp=N,79µm,0.2s						
PZZ				AML	AML		
	comp=N,79µm,1.8s						
MBDF	**Montbardon**	**0.37**	**281**	*e*Pg	Pb	03 20 33.1	-0.4
MBDF				*e*Sg	Sb	03 20 38.3	-1.0
	comp=N,1.3nm,0.2s						
STV	**Sant Anna di V**	**0.41**	**175**	P	Pb	03 20 33.8	-0.4
STV	**Sant Anna di V**	**0.41**	**175**	P	Pb	03 20 33.8	-0.4
STV				S	Sg	03 20 39.2	+0.8
RRL	**Rocca Remolon**	**0.44**	**307**	P	Pb	03 20 34.2	-0.5
RRL	**Rocca Remolon**	**0.44**	**307**	P	Pb	03 20 34.2	-0.5
RRL				S	Sg	03 20 40.0	+0.7
ENR	**Entracque**	**0.44**	**167**	P	Pg	03 20 33.3	-0.1
ENR				S	Sg	03 20 39.9	+0.6
ENR	**Entracque**	**0.44**	**167**	P	Pb	03 20 34.1	-0.5
ENR				S	Sg	03 20 40.1	+0.8
ENR				AML	AML		
	comp=E,16µm,1.3s						
ENR				AML	AML		
	comp=N,14µm,1.4s						
ENR				AML	AML		
	comp=E,16µm,0.7s						
ENR				AML	AML		
	comp=N,14µm,0.6s						
RSP	**Reno Superiore**	**0.49**	**359**	P	Pb	03 20 35.2	-0.3
RSP				S	Sg	03 20 41.6	+0.7
RSP	**Reno Superiore**	**0.49**	**359**	P	Pb	03 20 35.2	-0.4
RSP				S	Sg	03 20 41.4	+0.5
ISO	**Isola**	**0.50**	**199**	P	Pb	03 20 36.1	+0.4
ISO				S	Sb	03 20 42.8	-0.2
GBOS	**Grotte di Boss**	**0.58**	**136**	P	Pb	03 20 36.5	-0.4
GBOS				S	Sg	03 20 43.8	+0.2
SBF	**Sospel**	**0.80**	**172**	*e*Pg	Pb	03 20 40.8	0.0
SBF				*e*Sg	Sg	03 20 50.8	+0.1
	comp=N,0.9nm,0.2s						
LMR	**La Mourre**	**1.44**	**203**	*e*Pg	Pg	03 20 52.7	+0.4
LMR				*e*Sg	Sg	03 21 10.7	-0.2
	comp=N,0.8nm,0.3s						

ROM ***22*** *03:20:31.9 ± 0.3, 39°.208N ± 0°.010 × 17°.15E ± 0°.02, h7km ± 1km, ML3.1/92, Error ellipse: s-maj=1.2km s-min=0.9km az=282.0*
IDC ***22*** *03:20:31.4 ± 1.0, 39°.38N × 17°.02E, h0km, mb3.5/6, mbtmp3.4/12, ML2.7/5, MS2.6/1, Error ellipse: s-maj=19.6km s-min=15.3km az=93.0*

ISC 22 03:20:32.8 ± 0.9, 39°.22N ± 0°.03 × 17°.09E ± 0°.03, h15km ± 5km, n81, σ1§18/87, mb3.6/5, 4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LADO	**San Nicola del**	**0.11**	**305**	⇓P	**Pg**	**03 20 35.7**	**-0.6**
LADO				S	**Sg**	**03 20 38.5**	**0.0**
LADO				AML	AML		
	comp=E,6740µm,1.6s						
LADO				AML	AML		
	comp=N,3995µm,0.5s						
LADO				AML	AML		
	comp=N,3992µm,0.3s						
LADO				AML	AML		
	comp=E,6607µm,0.3s						
TIP	**Timpagrande**	**0.26**	**260**	⇓P	**Pg**	**03 20 38.5**	**-0.1**
TIP				S	**Sb**	**03 20 44.2**	**+0.6**
TIP				AML	AML		
	comp=E,6750µm,0.6s						
TIP				AML	AML		
	comp=N,5835µm,0.7s						
TIP				AML	AML		
	comp=E,6730µm,0.6s						
TIP				AML	AML		
	comp=N,5830µm,0.7s						
TIP				AML	AML		
	comp=E,6745µm,0.6s						
TIP				AML	AML		
	comp=N,5805µm,0.7s						
TIP				AML	AML		
	comp=E,6745µm,1.4s						
TIP				AML	AML		
	comp=E,6730µm,1.4s						
PIPA	**Pietrapaola**	**0.34**	**321**	⇓P	**Pg**	**03 20 39.4**	**-0.4**
PIPA				S	**Sb**	**03 20 46.9**	**+1.1**
PIPA				AML	AML		
	comp=E,16100µm,0.3s						
PIPA				AML	AML		
	comp=N,8945µm,1.5s						
PIPA				AML	AML		
	comp=N,8570µm,1.5s						
PIPA				AML	AML		
	comp=N,8570µm,1.5s						
PIPA				AML	AML		
	comp=N,8945µm,0.5s						
PIPA				AML	AML		
	comp=N,8570µm,0.5s						
PIPA				AML	AML		
	comp=E,16100µm,0.3s						
CELI	**Celico**	**0.49**	**292**	P	**Pg**	**03 20 42.3**	**-0.2**
CELI				S	**Sb**	**03 20 50.7**	**+0.6**
CELI				AML	AML		
	comp=N,3615µm,0.6s						
CELI				AML	AML		
	comp=E,9525µm,0.4s						
CELI				AML	AML		
	comp=E,3730µm,0.4s						
CELI				AML	AML		
	comp=E,9520µm,0.4s						
CELI				AML	AML		
	comp=N,8865µm,0.6s						
CELI				AML	AML		
	comp=N,3610µm,0.6s						
CELI				AML	AML		
	comp=E,3725µm,0.4s						
SPS2	**Spezzano della**	**0.59**	**277**	P	**Pg**	**03 20 44.0**	**-0.4**
SPS2				S	**Sn**	**03 20 54.9**	**-1.1**
SPS2				AML	AML		
	comp=N,2060µm,1.4s						
SPS2				AML	AML		
	comp=N,2060µm,0.6s						
SPS2				AML	AML		
	comp=E,1715µm,0.4s						
GRI	**Girifalco**	**0.66**	**233**	P	**Pg**	**03 20 45.1**	**-0.6**
GRI				AML	AML		
	comp=E,3520µm,0.5s						
GRI				AML	AML		
	comp=N,3585µm,0.5s						
GRI				AML	AML		
	comp=E,3515µm,0.5s						
CAR1	**CAROLEI**	**0.68**	**273**	P	**Pg**	**03 20 46.1**	**-0.1**
CAR1				AML	AML		
	comp=E,2815µm,1.3s						
CAR1				AML	AML		
	comp=N,3195µm,0.3s						
CAR1				AML	AML		
	comp=E,2815µm,1.3s						
CAR1				AML	AML		
	comp=N,2900µm,0.8s						
CAR1				AML	AML		
	comp=N,3200µm,0.3s						
CAR1				AML	AML		
	comp=E,3205µm,1.3s						
CAR1				AML	AML		
	comp=N,2900µm,1.2s						
CAR1				AML	AML		
	comp=E,3205µm,0.7s						
CAR1				AML	AML		
	comp=E,2820µm,1.3s						
TDS	**Terranova Siba**	**0.73**	**307**	⇓P	**Pg**	**03 20 45.8**	**-1.3**
TDS				AML	AML		
	comp=N,1360µm,1.2s						
TDS				AML	AML		
	comp=E,1235µm,1.3s						
TDS				AML	AML		
	comp=N,1360µm,0.8s						
TDS				AML	AML		
	comp=E,1235µm,0.7s						
SALB	**San Lorenzo Be**	**0.87**	**319**	P	**Pb**	**03 20 48.3**	**-1.4**
SALB				AML	AML		
	comp=N,701µm,1.0s						
SALB				AML	AML		
	comp=E,910µm,0.3s						
PLAC	**Placanica**	**0.93**	**214**	P	**Pb**	**03 20 49.6**	**-1.0**
PLAC				AML	AML		
	comp=N,1175µm,0.7s						
PLAC				AML	AML		
	comp=E,1128µm,0.6s						
PLAC				AML	AML		
	comp=N,1048µm,0.6s						
PLAC				AML	AML		
	comp=N,1175µm,1.3s						
PLAC				AML	AML		
	comp=E,1104µm,1.0s						
CET2	**Cetraro**	**0.93**	**289**	P	**Pb**	**03 20 49.4**	**-1.3**
CET2				AML	AML		
	comp=E,1320µm,0.5s						
CET2				AML	AML		
	comp=N,3715µm,0.6s						
CET2				AML	AML		
	comp=N,3715µm,1.4s						
ORI	**Oriolo Calabro**	**0.97**	**330**	P	**Pb**	**03 20 51.0**	**-0.4**
ORI				AML	AML		
	comp=N,3570µm,0.5s						
ORI				AML	AML		
	comp=E,2450µm,0.4s						
ORI				AML	AML		
	comp=N,3570µm,1.5s						
MMN	**Mormanno**	**1.08**	**308**	P	**Pb**	**03 20 53.0**	**-0.1**
GRIS	**Grisolia**	**1.09**	**299**	P	**Pb**	**03 20 52.5**	**-0.9**
CRAC	**Craco**	**1.25**	**336**	P	**Pb**	**03 20 56.0**	**0.0**
CRAC				AML	AML		
	comp=E,1965µm,0.7s						
CRAC				AML	AML		
	comp=N,1695µm,0.7s						
CUC	**Castrocucco**	**1.25**	**308**	P	**Pb**	**03 20 56.0**	**-0.1**
CUC				AML	AML		
	comp=E,748µm,0.6s						
CUC				AML	AML		
	comp=N,794µm,0.8s						
CUC				AML	AML		
	comp=E,748µm,0.6s						
CUC				AML	AML		
	comp=N,803µm,0.8s						
CUC				AML	AML		
	comp=E,760µm,0.6s						
CUC				AML	AML		
	comp=N,794µm,1.2s						
CUC				AML	AML		
	comp=N,803µm,1.2s						
TAR1	**Taranto**	**1.31**	**6**	P	**Pb**	**03 20 56.8**	**-0.3**
TAR1				AML	AML		
	comp=N,681µm,0.5s						
TAR1				AML	AML		
	comp=E,586µm,0.3s						
CEL	**Celeste**	**1.34**	**225**	P	**Pn**	**03 20 57.1**	**0.0**
CEL				AML	AML		
	comp=N,424µm,1.6s						
CEL				AML	AML		
	comp=N,461µm,1.6s						
CEL				AML	AML		
	comp=E,628µm,1.2s						
CEL				AML	AML		
	comp=E,650µm,1.2s						
CEL				AML	AML		
	comp=N,424µm,0.4s						
CEL				AML	AML		
	comp=N,461µm,0.4s						
SIRI	**Monte Sirino -**	**1.34**	**316**	P	**Pb**	**03 20 58.0**	**+0.2**
SIRI				AML	AML		
	comp=E,506µm,1.5s						
SIRI				AML	AML		
	comp=E,527µm,1.5s						
SIRI				AML	AML		
	comp=E,506µm,0.5s						
SIRI				AML	AML		
	comp=E,527µm,0.5s						
SIRI				AML	AML		
	comp=N,546µm,1.1s						
SIRI				AML	AML		
	comp=N,534µm,1.1s						
LTRZ	**Laterza**	**1.39**	**351**	P	**Pb**	**03 20 58.1**	**-0.5**
LTRZ				AML	AML		
	comp=E,491µm,0.4s						
LTRZ				AML	AML		
	comp=E,620µm,0.5s						
LTRZ				AML	AML		
	comp=N,633µm,0.7s						
SOI	**Samo**	**1.41**	**216**	P	**Pb**	**03 20 59.3**	**+0.5**
SOI				AML	AML		
	comp=N,347µm,0.8s						
SOI				AML	AML		
	comp=N,348µm,0.8s						
SOI				AML	AML		
	comp=E,286µm,0.5s						
MATE	**Matera**	**1.46**	**348**	P	**Pb**	**03 20 59.5**	**0.0**
MIGL	**Miglionico**	**1.47**	**340**	P	**Pb**	**03 20 59.5**	**-0.3**
MIGL				AML	AML		
	comp=E,1930µm,1.1s						
MIGL				AML	AML		
	comp=N,2050µm,0.8s						
MIGL				AML	AML		
	comp=E,1930µm,0.9s						
MCEL	**Monticello**	**1.48**	**318**	P	**Pb**	**03 21 00.3**	**+0.2**
MGR	**Morigerati**	**1.50**	**308**	P	**Pb**	**03 21 00.3**	**0.0**
MGR				AML	AML		
	comp=E,330µm,1.0s						
MGR				AML	AML		
	comp=N,316µm,0.4s						
PTRP	**Pietrapertosa**	**1.52**	**329**	P	**Pg**	**03 21 01.7**	**-0.4**
NOCI	**Noci**	**1.56**	**359**	P	**Pb**	**03 21 00.7**	**-0.7**
NOCI				AML	AML		
	comp=N,630µm,0.7s						
NOCI				AML	AML		
	comp=N,630µm,1.3s						
NOCI				AML	AML		
	comp=E,445µm,1.1s						
MSRU	**Castanea**	**1.56**	**233**	P	**Pn**	**03 21 00.8**	**+0.8**
MSRU				AML	AML		
	comp=E,778µm,1.5s						
MSRU				AML	AML		
	comp=N,584µm,0.9s						
MSRU				AML	AML		
	comp=E,778µm,0.5s						
SLCN	**Sala Consilina**	**1.62**	**317**	P	**Pg**	**03 21 03.5**	**-0.4**
SLCN				AML	AML		
	comp=E,582µm,0.5s						
SLCN				AML	AML		
	comp=N,552µm,0.5s						
SLCN				AML	AML		
	comp=E,582µm,0.5s						
SLCN				AML	AML		
	comp=N,552µm,0.5s						
SLCN				AML	AML		
	comp=E,628µm,0.5s						
SLCN				AML	AML		
	comp=N,592µm,0.6s						
MTTG	**Motta San Giov**	**1.64**	**222**	P	**Pb**	**03 21 03.2**	**+0.5**
MTTG				AML	AML		
	comp=E,466µm,0.8s						
MTTG				AML	AML		
	comp=N,531µm,0.8s						
AMUR	**Altamura**	**1.72**	**348**	P	**Pb**	**03 21 03.0**	**-1.2**
AMUR				AML	AML		
	comp=E,394µm,0.6s						
AMUR				AML	AML		
	comp=N,316µm,0.4s						
AMUR				AML	AML		
	comp=E,394µm,1.4s						
CMPR	**Campora**	**1.76**	**309**	P	**Pb**	**03 21 04.7**	**-0.1**
CMPR				AML	AML		
	comp=E,196µm,0.8s						
CMPR				AML	AML		
	comp=N,236µm,1.6s						
CMPR				AML	AML		
	comp=E,196µm,1.2s						
ACER	**Acerenza**	**1.79**	**331**	P	**Pb**	**03 21 04.6**	**-0.8**
ACER				AML	AML		
	comp=E,668µm,0.7s						
ACER				AML	AML		
	comp=N,582µm,0.6s						
ACER				AML	AML		
	comp=E,668µm,0.7s						
ACER				AML	AML		
	comp=N,546µm,0.6s						
ACER				AML	AML		
	comp=N,590µm,0.8s						
ACER				AML	AML		
	comp=E,733µm,0.7s						
ACER				AML	AML		
	comp=N,546µm,1.4s						
ACER				AML	AML		
	comp=N,590µm,1.2s						
CDRU	**Civita di Ruta**	**1.87**	**313**	P	**Pb**	**03 21 06.3**	**-0.4**
PALZ	**Palazzo San Ge**	**1.93**	**334**	P	**Pn**	**03 21 06.0**	**+0.9**
MRVN	**Minervino Murg**	**1.96**	**340**	P	**Pn**	**03 21 05.9**	**+0.3**
MRLC	**Muro Lucano**	**1.96**	**322**	P	**Pb**	**03 21 07.9**	**-0.4**
MCRV	**Calabrutti - M**	**2.15**	**317**	P	**Pb**	**03 21 11.2**	**-0.3**
KEK	**Kerkira**	**2.15**	**76**	P	**Pb**	**03 21 10.7**	**-0.8**
KEK				AML	AML		
	comp=E,228µm,0.6s						
KEK				AML	AML		
	comp=N,262µm,1.1s						
EPZF	**Pizzo Felice**	**2.24**	**232**	P	**Pb**	**03 21 11.8**	**-1.3**
EPZF				AML	AML		
	comp=N,332µm,0.9s						
EPZF				AML	AML		
	comp=E,415µm,0.7s						
MNO	**Monte Soro**	**2.28**	**236**	P	**Pb**	**03 21 12.3**	**-1.4**
MNO				AML	AML		
	comp=E,318µm,0.8s						
MNO				AML	AML		
	comp=N,258µm,0.6s						
MNO				AML	AML		
	comp=E,318µm,1.2s						
MSFR	**San Fratello**	**2.29**	**240**	P	**Pb**	**03 21 12.3**	**-1.5**
MSFR				AML	AML		
	comp=E,108µm,1.2s						
MSFR				AML	AML		
	comp=N,106µm,1.3s						
MSFR				AML	AML		
	comp=E,108µm,0.8s						
MSFR				AML	AML		
	comp=N,106µm,0.7s						
SRN	**Sarande**	**2.34**	**73**	P	**Pn**	**03 21 10.3**	**-0.4**
AGST	**Augusta-Monte**	**2.45**	**217**	P	**Pn**	**03 21 11.8**	**-0.5**
HAGA	**Augusta**	**2.46**	**219**	P	**Pn**	**03 21 12.6**	**+0.3**
GALF	**Gagliano Caste**	**2.49**	**233**	P	**Pn**	**03 21 15.1**	**+2.3**
GALF				AML	AML		
	comp=E,417µm,0.6s						
GALF				AML	AML		
	comp=N,470µm,0.8s						
GALF				AML	AML		
	comp=E,417µm,1.4s						
GALF				AML	AML		
	comp=E,138µm,1.0s						
GALF				AML	AML		
	comp=N,148µm,1.0s						
GALF				AML	AML		
	comp=E,138µm,1.0s						
HLNI	**Lentini**	**2.56**	**224**	P	**Pn**	**03 21 13.4**	**-0.3**
HLNI				AML	AML		
	comp=E,67µm,1.2s						
HLNI				AML	AML		
	comp=N,91µm,1.6s						
HLNI				AML	AML		
	comp=E,67µm,0.8s						
HLNI				AML	AML		
	comp=N,91µm,0.4s						
VAE	**Valguarnera**	**2.73**	**231**	Pn	**Pn**	**03 21 17.8**	**+1.6**
	comp=N,14nm,0.7s,baz=18,slow=6.4,SNR=4.2						
RAFF	**Raffo Rosso**	**2.93**	**228**	P	**Pn**	**03 21 19.6**	**+0.7**
RAFF				AML	AML		
	comp=N,73µm,0.8s						
RAFF				AML	AML		
	comp=N,73µm,1.2s						
RAFF				AML	AML		
	comp=E,76µm,0.9s						
HPAC	**Pachino**	**2.97**	**212**	P	**Pn**	**03 21 19.3**	**0.0**
ACATE	**Acate (RG)**	**3.00**	**224**	AML	AML		
	comp=N,336µm,0.7s						
ACATE				AML	AML		
	comp=E,186µm,0.6s						
OHR	**Ohrid**	**3.41**	**55**	*i* Pn	**Pn**	**03 21 28.6**	**+3.1**
PUK	**Puka**	**3.53**	**36**	P	**Pn**	**03 21 27.1**	**-0.1**
PUK				AML	AML		
	comp=N,79µm,0.4s						
PUK				AML	AML		
	comp=E,58µm,0.4s						
TREB	**Trebinje**	**3.62**	**15**	*e*Pn	**Pn**	**03 21 27.5**	**-0.8**
STON	**Ston**	**3.67**	**7**	*e*Pn	**Pn**	**03 21 28.5**	**-0.5**

THL	**Klokotos Trika**	**3.83**	**83**	P		**Pn**	**03 21 33.1**	**+1.9**
KLINJ	**Klinje**	**4.10**	**15**	*e*Pn		**Pn**	**03 21 35.9**	**+0.9**
RUDO	**Rudo**	**4.71**	**21**	*e*Pn		**Pn**	**03 21 43.4**	**+0.1**
KIJV	**Kijevo**	**4.81**	**354**	*e*Pn		**Pn**	**03 21 45.2**	**+0.6**
A050A	**Klekovaca**	**5.27**	**356**	*e*Pn		**Pn**	**03 21 53.1**	**+2.0**
BLY	**Banja Luka**	**5.52**	**1**	*e*Pn		**Pn**	**03 21 55.1**	**+0.7**
A051A	**Mrakovica**	**5.79**	**359**	*e*Pn		**Pn**	**03 21 58.4**	**+0.3**
MOSL	**Moslavina**	**6.39**	**358**	*e*Pn		**Pn**	**03 22 05.7**	**-0.7**
OZLJ	**Ozalj**	**6.50**	**350**	*e*Pn		**Pn**	**03 22 09.1**	**+1.3**
KEST	**Kesra**	**7.08**	**243**	Pn		**Pn**	**03 22 17.7**	**+1.8**
	comp=E,0.1nm,0.3s,baz=52,slow=18,SNR=4.3							
	comp=E,0.9nm,0.6s							
MORH	**Mrgy, Hungar**	**7.08**	**9**	*e*Pn		**Pn**	**03 22 14.2**	**-1.6**
IDI	**Anoyia**	**7.36**	**120**	Pn		**Pn**	**03 22 21.8**	**+2.1**
	comp=E,1.3nm,0.3s,baz=301,slow=11,SNR=9.8							
IDI				Sn		**Sn**	**03 23 40.5**	**-2.4**
	comp=E,0.3nm,0.3s,baz=299,slow=18,SNR=1.6							
	comp=E,2.8nm,0.3s							
OBKA	**Obir**	**7.52**	**346**	*i* Pn		**Pn**	**03 22 22.8**	**+0.8**
SOKA	**Soboth**	**7.60**	**349**	*i* Pn		**Pn**	**03 22 25.0**	**+1.9**
	comp=E,0.6nm,0.4s							
ARSA	**Arzberg**	**8.11**	**352**	*i* Pn		**Pn**	**03 22 31.3**	**+1.4**
	comp=E,1.5nm,0.4s							
ABTA	**Abfaltersbach**	**8.23**	**337**	*e*Pn		**Pn**	**03 22 31.9**	**+0.2**
	comp=E,0.9nm,0.4s							
MLR	**Muntele Rosu**	**9.06**	**43**	Pn		**Pn**	**03 22 47.3**	**+4.1**
	comp=E,0.1nm,0.3s,baz=164,slow=12,SNR=3.0							
DAVOX	**Davos/Dischmat**	**9.21**	**327**	Pn		**Pn**	**03 22 44.5**	**-0.8**
	comp=E,0.2nm,0.3s,baz=233,slow=21,SNR=1.7							
DAVOX				LR		LR	03 27 05.2	
	comp=E,34nm,19.7s,baz=85,slow=44							
	comp=E,0.5nm,0.4s							
GERES	**GERESS Array B**	**9.92**	**347**	Pn		**Pn**	**03 22 53.9**	**-0.9**
	baz=164,slow=11,SNR=5.0							
GERES				Sn		**Sn**	**03 24 41.8**	**-4.2**
	baz=164,slow=24,SNR=2.1							
	comp=E,0.4nm,0.6s							
ESDC	**Sonseca Array**	**16.27**	**278**	Pn		**Pn**	**03 24 20.8**	**0.0**
	baz=83,slow=9.7,SNR=2.2							
	comp=E,0.2nm,0.9s							
FINES	**FINESS Array B**	**22.93**	**11**	P		**P**	**03 25 36.1**	**+0.1**
	comp=E,1.1nm,0.8s,baz=197,slow=19,SNR=1.3							
	comp=E,1.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.32**	**212**	P		**P**	**03 26 36.0**	**+1.1**
	comp=E,0.8nm,0.8s,baz=22,slow=8.0,SNR=3.5							
	comp=E,0.8nm,0.8s							
KURBB	**Kurchatov Arra**	**43.78**	**54**	P		**P**	**03 28 38.0**	**+0.5**
	comp=E,0.1nm,0.4s,baz=288,slow=9.7,SNR=2.1							
	comp=E,0.1nm,0.4s							
ZALV	**Zalesovo Beam**	**47.00**	**48**	P		**P**	**03 29 04.2**	**+1.1**
	comp=E,0.3nm,0.3s,baz=298,slow=12,SNR=1.4							
	comp=E,0.3nm,0.3s							
MKAR	**Makanchi Array**	**47.04**	**58**	P		**P**	**03 29 03.6**	**0.0**
	comp=E,0.3nm,0.5s,baz=292,slow=5.3,SNR=3.5							
	comp=E,0.3nm,0.5s							
SONM	**Songino Array**	**61.85**	**50**	P		**P**	**03 30 51.8**	**+0.5**
	comp=E,0.3nm,0.3s,baz=295,slow=11,SNR=3.9							
	comp=E,0.3nm,0.3s							

NEIC ***22*** *03:21:16.5±1.7, 17°.42N±0°.06×94°.80W±0°.05, h141km±4km, mb4.1/10, Md4.3/85(MEX), Error ellipse: s-maj=9.1km s-min=5.6km az=204.0*
MEX ***22*** *03:21:17.9±0.7, 17°.48N×94°.79W, h138km±4km, MD4.3*
GCG ***22*** *03:21:17.8±2.1, 17°.34N×94°.78W, h112km±42km, MD4.4, ML3.8*

ISC 22 03:21:16.0±0.7, 17°.42N±0°.03×94°.82W±0°.02, h148km±5km, n102, σ1s98/177, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.33**	**191**		**Pn**	**03 21 36.5**	**0.0**
CMIG					**Sn**	**03 21 50.8**	**-1.2**
CMIG	**Matias Romero**	**0.33**	**191**	*e*P	**Pn**	**03 21 36.5**	**0.0**
CMIG				*e*S	**Sn**	**03 21 50.8**	**-1.2**
MIHL	**Minatitlan**	**0.63**	**25**		**Pn**	**03 21 37.8**	**-0.1**
MIHL					**Sn**	**03 21 53.5**	**-1.0**
MIHL	**Minatitlan**	**0.63**	**25**	*e*P	**Pn**	**03 21 37.8**	**-0.1**
MIHL				*e*S	**Sn**	**03 21 53.5**	**-1.0**
UXUV	**UXUV**	**0.65**	**99**		**Pn**	**03 21 37.9**	**-0.1**
UXUV					**Sn**	**03 21 52.4**	**-2.3**
UXUV	**UXUV**	**0.65**	**99**	*e*P	**Pn**	**03 21 37.9**	**-0.1**
UXUV				*e*S	**Sn**	**03 21 52.4**	**-2.3**
TUIG	**Tuzandepetl**	**0.72**	**32**	*e*P	**Pn**	**03 21 38.1**	**-0.3**
TUIG				*e*S	**Sn**	**03 21 52.4**	**-3.2**
NEUV	**Arroyo Zacate**	**0.98**	**288**		**Pn**	**03 21 40.4**	**-0.1**
NEUV					**Sn**	**03 21 58.0**	**-1.0**
NEUV	**Arroyo Zacate**	**0.98**	**288**	*e*P	**Pn**	**03 21 40.4**	**-0.1**
NEUV				*e*S	**Sn**	**03 21 58.0**	**-1.0**
PMUV	**Sontecomapan**	**1.16**	**346**		**Pn**	**03 21 41.1**	**-1.0**
PMUV					**Sn**	**03 21 58.8**	**-3.3**
PMUV	**Sontecomapan**	**1.16**	**346**	*e*P	**Pn**	**03 21 41.1**	**-1.0**
PMUV				*e*S	**Sn**	**03 21 58.8**	**-3.3**
TGIG		**1.74**	**111**		**Pn**	**03 21 48.1**	**0.0**
TGIG					**Sn**	**03 22 10.6**	**-2.1**
TGIG		**1.74**	**111**	*e*P	**Pn**	**03 21 48.1**	**0.0**
TGIG				*e*S	**Sn**	**03 22 10.6**	**-2.1**
TGIG		**1.74**	**111**	*i* P	**Pn**	**03 21 48.1**	**0.0**
TGIG				*i* S	**Sn**	**03 22 10.8**	**-1.9**
TGIG				IAML		03 22 12.5	
	comp=N,1μm,0.4s						
TGBT	**Tuxtla Gutierr**	**1.77**	**111**		**Pn**	**03 21 48.9**	**+0.6**
TGBT					**Sn**	**03 22 11.8**	**-1.4**
TGBT	**Tuxtla Gutierr**	**1.77**	**111**	*e*P	**Pn**	**03 21 48.9**	**+0.6**
TGBT				*e*S	**Sn**	**03 22 11.8**	**-1.4**
OXLC	**Oaxaca**	**1.83**	**259**		**Pn**	**03 21 49.2**	**-0.1**
OXLC					**Sn**	**03 22 14.4**	**-0.4**
OXLC	**Oaxaca**	**1.83**	**259**	*e*P	**Pn**	**03 21 49.2**	**-0.1**
OXLC				*e*S	**Sn**	**03 22 14.4**	**-0.4**
OXBJ	**Oaxaca**	**1.85**	**259**		**Pn**	**03 21 49.8**	**+0.3**
OXBJ					**Sn**	**03 22 15.5**	**+0.3**
OXBJ	**Oaxaca**	**1.85**	**259**	*e*P	**Pn**	**03 21 49.8**	**+0.3**
OXBJ				*e*S	**Sn**	**03 22 15.5**	**+0.3**
OXIG	**Oaxaca**	**1.86**	**260**		**Pn**	**03 21 50.5**	**+0.9**
OXIG					**Sn**	**03 22 16.7**	**+1.3**
VHO	**Vista Hermosa**	**1.86**	**260**	*e*P	**Pn**	**03 21 50.5**	**+0.9**
VHO				*e*S	**Sn**	**03 22 16.7**	**+1.3**
VHSA	**Villahermosa**	**1.88**	**72**		**Sn**	**03 22 13.3**	**-2.0**
VHSA	**Villahermosa**	**1.88**	**72**	*e*S	**Sn**	**03 22 13.3**	**-2.0**
HUIG	**Huatulco**	**2.05**	**217**		**Pn**	**03 21 50.5**	**-1.2**
HUIG					**Sn**	**03 22 18.6**	**-0.4**
HUIG	**Huatulco**	**2.05**	**217**	*e*P	**Pn**	**03 21 50.5**	**-1.2**
HUIG				*e*S	**Sn**	**03 22 18.6**	**-0.4**
HUIG	**Huatulco**	**2.05**	**217**	*i* P	**Pn**	**03 21 50.4**	**-1.2**
HUIG				*i* S	**Sn**	**03 22 18.2**	**-0.9**
HUIG				IAML		03 22 19.7	
	comp=N,259nm,0.2s						
TOIG	**Toxpalan**	**2.24**	**288**		**Pn**	**03 21 54.4**	**+0.4**
TOIG					**Sn**	**03 22 22.8**	**-0.4**
TOIG	**Toxpalan**	**2.24**	**288**	*e*P	**Pn**	**03 21 54.4**	**+0.4**
TOIG				*e*S	**Sn**	**03 22 22.8**	**-0.4**
PCIG		**2.29**	**138**		**Pn**	**03 21 55.0**	**+0.5**
PCIG					**Sn**	**03 22 23.3**	**-0.7**
PCIG		**2.29**	**138**	*e*P	**Pn**	**03 21 55.0**	**+0.5**
PCIG				*e*S	**Sn**	**03 22 23.3**	**-0.7**
TPIG	**Tehuac#an**	**2.62**	**293**		**Pn**	**03 21 59.8**	**+1.1**
TPIG					**Sn**	**03 22 30.3**	**-1.3**
TPIG	**Tehuac#an**	**2.62**	**293**	*e*P	**Pn**	**03 21 59.8**	**+1.1**
TPIG				*e*S	**Sn**	**03 22 30.3**	**-1.3**
PEIG	**Puerto Escondi**	**2.64**	**238**		**Pn**	**03 21 57.2**	**-1.6**
PEIG					**Sn**	**03 22 31.0**	**-0.8**
PEIG	**Puerto Escondi**	**2.64**	**238**	*e*P	**Pn**	**03 21 57.2**	**-1.6**
PEIG				*e*S	**Sn**	**03 22 31.0**	**-0.8**
YOIG	**Yosondua**	**2.67**	**258**		**Pn**	**03 21 59.8**	**+0.4**
YOIG					**Sn**	**03 22 32.7**	**0.0**
YOIG	**Yosondua**	**2.67**	**258**	*e*P	**Pn**	**03 21 59.8**	**+0.4**
YOIG				*e*S	**Sn**	**03 22 32.7**	**0.0**
JAUV	**Jalcomulco**	**2.70**	**316**		**Pn**	**03 21 59.0**	**-0.6**
JAUV					**Sn**	**03 22 30.6**	**-2.7**
JAUV	**Jalcomulco**	**2.70**	**316**	*e*P	**Pn**	**03 21 59.0**	**-0.6**
JAUV				*e*S	**Sn**	**03 22 30.6**	**-2.7**
LVIG	**Laguna Verde**	**2.75**	**327**	*e*P	**Pn**	**03 21 59.0**	**-1.1**
LVIG				*e*S	**Sn**	**03 22 31.1**	**-3.1**
CCIG	**Comitan**	**2.81**	**113**		**Pn**	**03 22 00.7**	**-0.2**
CCIG	**Comitan**	**2.81**	**113**	*e*P	**Pn**	**03 22 01.0**	**0.0**
CCIG				*e*S	**Sn**	**03 22 34.4**	**-1.3**
CCIG	**Comitan**	**2.81**	**113**	*i* P	**Pn**	**03 22 01.2**	**+0.2**
CCIG				*i* S	**Sn**	**03 22 34.0**	**-1.7**
CCIG				IAML		03 22 38.9	
	comp=N,304nm,0.4s						
TXIG	**Tlaxiaco**	**2.82**	**267**		**Pn**	**03 22 02.0**	**+0.8**
TXIG					**Sn**	**03 22 33.3**	**-2.9**
TXIG	**Tlaxiaco**	**2.82**	**267**	*e*P	**Pn**	**03 22 02.0**	**+0.8**
TXIG				*e*S	**Sn**	**03 22 33.3**	**-2.9**
POHV	**Veracruz**	**2.86**	**305**		**Pn**	**03 22 02.5**	**+0.6**
POHV	**Veracruz**	**2.86**	**305**	*e*P	**Pn**	**03 22 02.5**	**+0.6**
HLIG	**Huajuapan de L**	**2.88**	**279**		**Pn**	**03 22 02.0**	**+0.1**
HLIG					**Sn**	**03 22 33.8**	**-3.5**
HLIG	**Huajuapan de L**	**2.88**	**279**	*e*P	**Pn**	**03 22 02.0**	**+0.1**
HLIG				*e*S	**Sn**	**03 22 33.8**	**-3.5**
FTIG	**Fresnillo de T**	**3.20**	**279**		**Pn**	**03 22 06.2**	**+0.3**
FTIG					**Sn**	**03 22 37.9**	**-6.6**
FTIG	**Fresnillo de T**	**3.20**	**279**	*e*P	**Pn**	**03 22 06.2**	**+0.3**
FTIG				*e*S	**Sn**	**03 22 37.9**	**-6.6**
PNIG	**Pinotepa**	**3.33**	**253**		**Pn**	**03 22 06.3**	**-1.2**
PNIG					**Sn**	**03 22 43.6**	**-3.8**
PNIG	**Pinotepa**	**3.33**	**253**	*e*P	**Pn**	**03 22 06.3**	**-1.2**
PNIG				*e*S	**Sn**	**03 22 43.6**	**-3.8**
THIG		**3.50**	**135**		**Pn**	**03 22 10.5**	**+0.8**
THIG					**Sn**	**03 22 49.8**	**-1.5**
THIG		**3.50**	**135**	*e*P	**Pn**	**03 22 10.5**	**+0.8**
THIG				*e*S	**Sn**	**03 22 49.8**	**-1.5**
TLIG	**Tlapa**	**3.58**	**273**		**Pn**	**03 22 11.2**	**+0.4**
TLIG	**Tlapa**	**3.58**	**273**	*e*P	**Pn**	**03 22 11.0**	**+0.1**
TLIG				*e*S	**Sn**	**03 22 49.6**	**-3.8**
CXUV	**Coxquihui**	**3.80**	**317**		**Pn**	**03 22 14.1**	**+0.6**
CXUV					**Sn**	**03 22 55.6**	**-2.7**
CXUV	**Coxquihui**	**3.80**	**317**	*e*P	**Pn**	**03 22 14.1**	**+0.6**
CXUV				*e*S	**Sn**	**03 22 55.6**	**-2.7**
HUEH	**Huehuetenango**	**3.81**	**123**	*e*P	**Pn**	**03 22 09.7**	**-4.2**
HUEH				*e*S	**Sn**	**03 22 50.8**	**-8.0**
PPM	**Popocatepetl**	**3.97**	**295**	*e*P	**Pn**	**03 22 17.8**	**+1.5**
PPM				*e*S	**Sn**	**03 23 00.5**	**-2.6**
PPIG	**Popocatepetl**	**3.98**	**295**		**Pn**	**03 22 17.8**	**+1.5**
PPIG					**Sn**	**03 23 00.5**	**-2.7**
RTAL	**Retalhuleu**	**4.16**	**133**		**Pn**	**03 22 19.3**	**+1.0**
RTAL	**Retalhuleu**	**4.16**	**133**	*e*P	**Pn**	**03 22 19.7**	**+1.4**
RTAL				*e*S	**Sn**	**03 23 05.2**	**-1.6**
CRIG	**Cruz Grande**	**4.18**	**261**		**Pn**	**03 22 17.1**	**-1.5**
CRIG					Sn	03 22 58.4	-8.8
CRIG	**Cruz Grande**	**4.18**	**261**	*e*P	**Pn**	**03 22 17.1**	**-1.5**
CRIG				*e*S	Sn	03 22 58.4	-8.8
YAIG	**Yautepec**	**4.29**	**290**		**Pn**	**03 22 21.8**	**+1.7**
YAIG					**Sn**	**03 23 06.0**	**-3.9**
YAIG	**Yautepec**	**4.29**	**290**	*e*P	**Pn**	**03 22 21.8**	**+1.7**
YAIG				*e*S	**Sn**	**03 23 06.0**	**-3.9**
VTVM	**Tizayuca**	**4.42**	**303**		**Pn**	**03 22 22.3**	**+0.3**
VTVM					**Sn**	**03 23 16.7**	**+3.3**
VTVM	**Tizayuca**	**4.42**	**303**	*e*P	**Pn**	**03 22 22.3**	**+0.3**
VTVM				*e*S	**Sn**	**03 23 16.7**	**+3.3**
TLVM	**San Miguel Top**	**4.49**	**294**		**Pn**	**03 22 23.7**	**+0.8**
TLVM					**Sn**	**03 23 13.0**	**-2.0**
TLVM	**San Miguel Top**	**4.49**	**294**	*e*P	**Pn**	**03 22 23.7**	**+0.8**
TLVM				*e*S	**Sn**	**03 23 13.0**	**-2.0**
MEIG	**Mezcala**	**4.61**	**277**		**Pn**	**03 22 24.6**	**+0.4**
MEIG					**Sn**	**03 23 14.1**	**-3.2**
MEIG	**Mezcala**	**4.61**	**277**	*e*P	**Pn**	**03 22 24.6**	**+0.4**
MEIG				*e*S	**Sn**	**03 23 14.1**	**-3.2**
DAIG	**Los Arroyos**	**4.63**	**266**		Pn	03 22 19.9	-4.6
DAIG					**Sn**	**03 23 14.8**	**-3.2**
DAIG	**Los Arroyos**	**4.63**	**266**	*e*P	Pn	03 22 19.9	-4.6
DAIG				*e*S	**Sn**	**03 23 14.8**	**-3.2**
AOVM	**Tlapan**	**4.66**	**294**		**Pn**	**03 22 27.1**	**+1.9**
AOVM	**Tlapan**	**4.66**	**294**	*e*P	**Pn**	**03 22 27.1**	**+1.9**
MAVM	**Malinalco, Edo**	**4.70**	**290**		**Pn**	**03 22 27.3**	**+1.7**
MAVM					**Sn**	**03 23 14.7**	**-5.2**
MAVM	**Malinalco, Edo**	**4.70**	**290**	*e*P	**Pn**	**03 22 27.3**	**+1.7**
MAVM				*e*S	**Sn**	**03 23 14.7**	**-5.2**
TOVM	**TOLUCA**	**4.97**	**293**		**Pn**	**03 22 28.6**	**-0.7**
TOVM					**Sn**	**03 23 27.7**	**-0.8**
TOVM	**TOLUCA**	**4.97**	**293**	*e*P	**Pn**	**03 22 28.6**	**-0.7**
TOVM				*e*S	**Sn**	**03 23 25.7**	**-0.8**
CAIG	**El Cayaco**	**5.22**	**267**		**Pn**	**03 22 31.4**	**-0.9**
CAIG					**Sn**	**03 23 28.6**	**-3.3**
CAIG	**El Cayaco**	**5.22**	**267**	*e*P	**Pn**	**03 22 31.4**	**-0.9**
CAIG				*e*S	**Sn**	**03 23 28.6**	**-3.3**
ARIG	**Puente Sto Nin**	**5.33**	**280**		**Pn**	**03 22 35.8**	**+2.0**
ARIG					**Sn**	**03 23 31.7**	**-3.0**
ARIG	**Puente Sto Nin**	**5.33**	**280**	*e*P	**Pn**	**03 22 35.8**	**+2.0**
ARIG				*e*S	**Sn**	**03 23 31.7**	**-3.0**
MTO3	**Montecristo**	**6.05**	**119**		**Pn**	**03 22 42.2**	**-1.4**
JRQG	**Juriquilla Cam**	**6.25**	**302**		**Pn**	**03 22 47.5**	**+1.4**
ZIIG	**Zihuatanejo**	**6.34**	**273**		**Pn**	**03 22 47.2**	**0.0**
ZIIG					**Sn**	**03 23 57.9**	**-0.8**
ZIIG	**Zihuatanejo**	**6.34**	**273**	*e*P	**Pn**	**03 22 47.2**	**0.0**
ZIIG				*e*S	**Sn**	**03 23 57.9**	**-0.8**
833A	**Chaparral WMA,**	**11.64**	**340**		**Pn**	**03 23 58.4**	**+0.7**
TX31	**Lajitas Ar. Si**	**14.37**	**327**	Pn	**Pn**	**03 24 34.1**	**+1.4**
OZNA	**Ozona**	**14.62**	**338**	Pn	**Pn**	**03 24 36.8**	**+1.0**
ALPN	**Alpine**	**15.20**	**330**		**P**	**03 24 44.4**	**-0.3**
ALPN					IAmb	IAmb	03 24 50.8	
	comp=Z,4.8nm,1.1s							
MNHN	**Monahans**	**15.63**	**334**	P	**Pn**	**03 24 49.1**	**+0.9**
MNHN					IAmb	IAmb	03 24 54.0	
	comp=Z,6.4nm,0.7s							
VHRN	**Van Horn**	**16.21**	**327**		**P**	**03 24 57.2**	**+1.4**
FCAR	**Ozark Folk Cen**	**18.56**	**7**	P	**P**	**03 25 21.7**	**+0.3**
BG3	**Lake Jocassee**	**20.47**	**29**	P	**P**	**03 25 42.0**	**-0.1**
BG3					IAmb	IAmb	03 25 42.1	
	comp=Z,5.5nm,0.7s							
O49A	**Covington**	**24.44**	**20**	P	**P**	**03 26 19.7**	**-1.2**
O49A					IAmb	IAmb	03 26 20.2	
	comp=Z,9.8nm,1.1s							
E46A	**Sault Ste Mari**	**30.16**	**15**	P	**P**	**03 27 13.1**	**+1.2**
RLMT	**Red Lodge**	**30.16**	**339**	P	**P**	**03 27 13.0**	**+0.8**
RLMT					IAmb	IAmb	03 27 17.3	
	comp=Z,4.0nm,0.8s							
HLID	**Hailey**	**30.89**	**332**	P	**P**	**03 27 19.0**	**+0.4**

IDC 22 03:37:26.8±2.3, 5°.94S×130°.19E, h0km, mb3.9/1, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=95.4km s-min=29.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.88**	**200**	Pn	Pn	03 40 31.8	+0.5
	0.1nm,0.3s,baz=27,slow=11,SNR=3.0						
FITZ				Sn	Sn	03 42 40.8	-15
	0.2nm,0.3s,baz=356,slow=13,SNR=3.2						
	1.7nm,0.7s						
WRA	**Warramunga Arr**	**14.50**	**164**	Pn	Pn	03 40 55.3	+1.9
	0.3nm,0.3s,baz=344,slow=9.4,SNR=6.9						
WRA				Sn	Sn	03 43 19.0	-16
	0.3nm,0.3s,baz=332,slow=28,SNR=1.7						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.99**	**169**	P	Pn	03 41 37.1	-1.4
	0.3nm,0.3s,baz=344,slow=9.8,SNR=7.3						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.44**	**326**	P	P	03 48 24.5	0.0
	0.6nm,0.5s,baz=127,slow=8.1,SNR=4.6						
	0.6nm,0.5s						

OSPL ***22*** *03:39:01.3±1.2, 18°.47N×71°.63W, h66km±12km, ML1.8*
SDD ***22*** *03:39:03.4±1.0, 18°.41N×71°.99W, h22km±11km, MD2.8, ML1.7, MW2.5*

ISC 22 03:39:04.4±1.1, 18°.39N±0°.07×71°.80W±0°.04, h18km±8km, n6, σ1s90/12, 1C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.11**	**333**	⇓*e*Pg	**Pg**	**03 39 08.3**	**+0.1**
JIDR				⇓*e*Sg	**Sg**	**03 39 10.6**	**-0.1**
JIDR				IAML		03 39 12.0	
	comp=N,127nm,0.2s						
LODU1	**El Espartillar**	**0.31**	**97**	*i* P	**Pg**	**03 39 11.6**	**+0.5**
LODU1				*e*S	**Sb**	**03 39 17.5**	**+1.3**
LODU1				IAML		03 39 20.6	
	comp=Z,57nm,0.8s						
NEDR	**Neiba UASD**	**0.37**	**75**	*e*Pg	**Pg**	**03 39 12.2**	**0.0**
NEDR				⇑*e*Sg	**Sn**	**03 39 20.0**	**-1.7**
NEDR				IAML		03 39 22.2	
	comp=N,52nm,0.3s						
PAPH	**Port-au-Prince**	**0.49**	**286**	*i* P	**Pg**	**03 39 14.5**	**+0.1**
PAPH				*e*S	**Sb**	**03 39 24.5**	**+2.9**
PODR	**Polo**	**0.54**	**114**	⇓*e*Pg	**Pg**	**03 39 16.4**	**+1.1**
PODR				⇓*e*Sg	**Sb**	**03 39 26.0**	**+3.0**
PODR				IAML		03 39 30.3	
	comp=N,25nm,1.3s						
LOBH	**Bahia de las A**	**0.55**	**164**	*i* P	**Pb**	**03 39 13.5**	**-1.9**
LOBH				*e*S	**Sb**	**03 39 24.1**	**+1.1**

IDC ***22*** *03:39:06.4±2.3, 7°.65S×130°.44E, h0km, mb3.8/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=88.4km s-min=29.4km az=79.0*
NEIC ***22*** *03:39:10.6±1.7, 7°.63S±0°.03×130°.24E±0°.07, h35km±2km, mb4.2/7, Error ellipse: s-maj=11.9km s-min=4.4km az=93.0*

ISC 22 03:39:10.4±0.7, 7°.82S±0°.06×130°.36E±0°.08, h35km, n20, σ2s71/24, mb4.2/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.94**	**100**	Pn	**Pn**	**03 39 30.0**	**+2.8**
SAUI				Sn	**Sn**	**03 39 43.5**	**+4.1**
MTN	**Manton Dam**	**5.05**	**171**	Pn	**Pn**	**03 40 23.1**	**-0.6**
FAKI	**Fak Fak**	**5.22**	**21**	Pn	**Pn**	**03 40 24.0**	**-2.0**
KNRA	**Kununurra**	**7.96**	**191**	Pn	**Pn**	**03 41 06.2**	**+2.4**
FITZ	**Fitzroy Crossi**	**11.20**	**204**	Pn	**Pn**	**03 41 51.2**	**+3.1**
FITZ	**Fitzroy Crossi**	**11.20**	**204**	Pn	**Pn**	**03 41 51.6**	**+3.4**
	0.7nm,0.3s,baz=32,slow=12,SNR=11						
FITZ				Sn	**Sn**	**03 43 53.5**	**+1.2**
	0.6nm,0.3s,baz=48,slow=15,SNR=2.4						
	2.0nm,0.3s						
WB0	**Warramunga Arr**	**12.50**	**162**	Pn	**Pn**	**03 42 07.3**	**+1.3**
WRA	**Warramunga Arr**	**12.65**	**163**	Pn	**Pn**	**03 42 08.7**	**+0.7**
	0.3nm,0.3s,baz=343,slow=13,SNR=2.6						
WRA				Sn	**Sn**	**03 44 25.1**	**-2.7**
	0.7nm,0.3s,baz=336,slow=23,SNR=6.3						
	0.5nm,0.6s						
WR8	**Warramunga Arr**	**12.71**	**162**	Pn	**Pn**	**03 42 10.7**	**+1.9**
ASAR	**Alice Springs**	**16.12**	**168**	Pn	**P**	**03 42 56.2**	**-1.2**
	0.1nm,0.3s,baz=349,slow=8.9,SNR=4.5						
ASAR				Sn	**Sn**	**03 45 44.4**	**-7.8**
	baz=352,slow=25,SNR=4.9						
	0.5nm,0.8s						
MBWA	**Marble Bar**	**16.77**	**217**	Pn	**P**	**03 43 03.1**	**-1.6**
MBWA				IAmb	IAmb	03 43 11.2	
	comp=Z,19nm,1.4s						
CTAO	**Charters Tower**	**19.64**	**130**	P	**P**	**03 43 35.7**	**-0.5**
EIDS	**Eidsvold**	**26.36**	**134**	P	**P**	**03 44 45.1**	**+1.6**
EIDS				IAmb	IAmb	03 44 54.4	
	comp=Z,7.4nm,1.2s						
MKAR	**Makanchi Array**	**69.11**	**327**	P	**P**	**03 50 13.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=121,slow=7.2,SNR=5.5						
	comp=Z,0.7nm,0.6s						
KDJ	**Kajisay**	**69.43**	**321**	P	**P**	**03 50 12.7**	**-2.7**
KDJ				IAmb	IAmb	03 50 12.7	
	comp=Z,1.8nm,0.7s						
KKAR	**Karatay Array**	**74.19**	**319**	P	**P**	**03 50 42.1**	**-1.6**
QSPA	**South Pole Qui**	**82.16**	**180**	P	**P**	**03 51 29.4**	**+1.8**
QSPA				IAmb	IAmb	03 51 33.3	
	comp=Z,3.4nm,1.4s						
C16K	**Lisburne Hills**	**88.02**	**20**	P	**P**	**03 51 55.4**	**-1.2**
C16K				IAmb	IAmb	03 52 04.7	
	comp=Z,11nm,1.2s						
J20K	**Nowinta River**	**90.73**	**25**	P	**P**	**03 52 10.3**	**+0.8**
CAPN	**Captain Cook N**	**91.18**	**29**	P	**P**	**03 52 11.4**	**-0.2**

IDC 22 03:40:40.2±2.2, 7°.76S×130°.36E, h0km, mb4.0/1, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=87.3km s-min=29.5km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.26**	**204**	Pn	Pn	03 43 23.6	+1.1
	0.8nm,0.3s,baz=31,slow=13,SNR=2.7				

comp=Z,320nm,21.5s,baz=152,slow=61

JOW	**Kunigami**	**1.27**	**298**	*i* P	**Pg**	**04 08 32.5**	**+0.5**
JOW				*e*S	**Sg**	**04 08 47.4**	**-1.1**
JNTH	**Nagotoyohara**	**1.39**	**282**	P	**Pn**	**04 08 33.8**	**-0.3**
JNTH				S	**Sg**	**04 08 49.0**	**-3.1**
JOKE	**Okinoerabujima**	**1.41**	**322**	*e*P	**Pn**	**04 08 34.3**	**-0.2**
JOKE				S	**Sg**	**04 08 51.4**	**-1.4**
JMZ	**Minamidaito 2**	**1.57**	**105**	*i* P	**Pn**	**04 08 36.0**	**-0.7**
JMZ				S	**Sn**	**04 08 54.1**	**-3.7**
JJT3	**Tamagusuku3**	**1.58**	**267**	P	**Pn**	**04 08 37.1**	**+0.3**
JJT3				*e*S	**Sn**	**04 08 56.4**	**-1.5**
JKDJ	**Kitadaitoujima**	**1.61**	**100**	P	**Pn**	**04 08 36.6**	**-0.5**
JKDJ				*e*S	**Sn**	**04 08 58.8**	**-2.9**
JIH	**Iheya**	**1.61**	**300**	P	**Pn**	**04 08 37.4**	**+0.2**
JIH				S	**Sn**	**04 08 56.3**	**-2.4**
JTK	**Tokunoshima**	**1.62**	**341**	*i* P	**Pn**	**04 08 37.5**	**+0.2**
JTK				S	**Sn**	**04 08 55.4**	**-3.5**
JAGN	**Aguni-jima**	**2.09**	**280**	*i* P	**Pn**	**04 08 44.2**	**+0.4**
JAGN				S	**Sn**	**04 09 08.2**	**-2.2**
JZK	**Kikaishima**	**2.10**	**11**	*e*P	**Pn**	**04 08 44.6**	**+0.7**
JZK				S	**Sn**	**04 09 09.4**	**-1.2**
JAM	**Amami Oshima**	**2.16**	**2**	*e*S	**Sn**	**04 09 09.2**	**-3.0**
JKE	**Kume jima 2**	**2.47**	**272**	P	**Pn**	**04 08 48.6**	**-0.5**
JKE				S	**Sn**	**04 09 17.0**	**-3.0**
JTAJ	**Takarajima**	**2.91**	**354**	*e*P	**Pn**	**04 08 55.4**	**+0.3**
JTAJ				S	**Sn**	**04 09 26.8**	**-3.9**
JMTN	**Minamitane**	**4.31**	**16**	*e*P	**Pn**	**04 09 14.8**	**+0.5**
JMTN				*e*S	**Sn**	**04 10 02.5**	**-2.8**
JTN	**Tanegashima 3**	**4.57**	**16**	*e*P	**Pn**	**04 09 18.8**	**+0.9**
KSRS	**Korea Array**	**11.26**	**353**	Pn	**Pn**	**04 10 54.3**	**+4.7**
	0.2nm,0.3s,baz=168,slow=12,SNR=2.0 0.6nm,0.4s						
SONM	**Songino Array**	**28.19**	**326**	P	**P**	**04 14 02.0**	**+0.2**
	0.4nm,0.4s,baz=134,slow=8.3,SNR=2.1 0.4nm,0.4s						
MKAR	**Makanchi Array**	**42.40**	**312**	P	**P**	**04 16 02.1**	**-1.6**
	0.3nm,0.6s,baz=91,slow=7.6,SNR=2.5 0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**42.95**	**322**	P	**P**	**04 16 07.1**	**-0.9**
	0.3nm,0.3s,baz=125,slow=9.0,SNR=1.7 0.3nm,0.3s						
WRA	**Warramunga Arr**	**46.15**	**174**	P	**P**	**04 16 35.0**	**+1.1**
	0.6nm,0.6s,baz=353,slow=8.5,SNR=3.4 0.6nm,0.6s						
ASAR	**Alice Springs**	**49.80**	**175**	P	**P**	**04 17 04.2**	**+2.0**
	0.3nm,0.7s,baz=354,slow=7.8,SNR=1.9 0.3nm,0.7s						
BVAR	**Borovoye Array**	**51.04**	**318**	LR	LR	04 41 10.1	
	comp=Z,59nm,18.7s,baz=158,slow=39						
ILAR	**Eielson Array**	**63.87**	**28**	P	P	04 18 49.8	+8.1
	0.2nm,0.7s,baz=280,slow=7.3,SNR=4.8 0.2nm,0.7s						
KBZ	**Khabaz**	**70.05**	**310**	P	**P**	**04 19 22.8**	**+1.5**
	1.3nm,0.6s,baz=79,slow=5.2,SNR=2.5 1.3nm,0.6s						
FINES	**FINESS Array B**	**73.42**	**331**	P	**P**	**04 19 42.0**	**+0.7**
	1.5nm,0.5s,baz=80,slow=4.6,SNR=12 1.5nm,0.5s						
AKASG	**Malin Array Be**	**76.28**	**320**	LR	LR	04 56 25.8	
	comp=Z,56nm,18.6s,baz=60,slow=38						
GERES	**GERESS Array B**	**85.89**	**323**	P	**P**	**04 20 50.1**	**+0.7**
	0.4nm,0.7s,baz=48,slow=3.4,SNR=2.5 0.4nm,0.7s						

*IDC **22** 04:10:46.8±0.9,41.˚44S×174.˚27E,h0km,mb4.1/5, mbtmp4.0/7,ML3.7/2,Error ellipse: s-maj=27.5km s-min=21.1km az=100.0*
*NOU **22** 04:10:48.4,41.˚71S×174.˚53E,h10km,MLv4.8/18,Cook Strait, New Zealand*
*NEIC **22** 04:10:48.1±2.1,41.˚72S±0.˚03×174.˚52E±0.˚06,h10km±1km, mb4.5/17,Error ellipse: s-maj=7.9km s-min=4.8km az=295.0*
*WEL **22** 04:10:49.2,41.˚58S×174.˚42E,h19km,ML4.6,Mw4.4, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}1.29; $M_{\theta\theta}$3.01; $M_{\phi\phi}$-4.29; $M_{r\theta}$-1.80; $M_{\theta\phi}$-1.22; $M_{\phi r}$0.31; Fault plane solution: M_o4.40000×10^{15} NP1: ϕ_s329.00000°,δ69.00000°,λ23.00000°. NP2: ϕ_s230.00000°,δ68.00000°,λ157.00000°. Principal axes: T 4.3046, Plg31.0000°, Azm190.0000°; N 0.1859, Plg59.0000°, Azm8.0000°; P -4.4905, Plg1.0000°, Azm99.0000°; Stations used: NNZ QRZ BFZ TSZ INZ OBLIQUE-REVERSE FAULTING*
*WEL **22** 04:10:49.2±0.3,42.˚S±3.˚×17.˚4E±.˚,h12km,M4.6/61, ML4.9/19,MLv4.6/61 Error ellipse: s-maj=3.8km s-min=2.1km az=158.2,confirmed*

ISC 22 04:10:48.2±1.0,**41.˚71S**±0.˚02×**174.˚51E**±0.˚02,**h14**km±6km, **n222**,σ1f**08**/235,**mb4.5**/16,**5C,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.23**	**259**		**Pb**	**04 10 54.6**	**+0.5**
CMWZ	**Cape Campbell**	**0.23**	**259**	P	**Pb**	**04 10 54.8**	**+0.8**
CMWZ				S	**Sb**	**04 10 58.9**	**+0.9**
SEDS	**Seddon Fire St**	**0.33**	**276**	P	**Pb**	**04 10 55.8**	**0.0**
SEDS				S	**Sb**	**04 11 00.7**	**-0.2**
BHW	**Baring Head**	**0.40**	**42**		**Pb**	**04 10 57.4**	**+0.3**
BHW				Sg	**Sg**	**04 11 02.7**	**+0.9**
BHW	**Baring Head**	**0.40**	**42**	P	**Pb**	**04 10 57.4**	**+0.3**
SNZO	**South Karori**	**0.42**	**20**		**Pg**	**04 10 57.0**	**+0.3**
SNZO				Sg	**Sg**	**04 11 02.5**	**+0.2**
SNZO	**South Karori**	**0.42**	**20**	P	**Pg**	**04 10 57.0**	**+0.3**
SNZO	**South Karori**	**0.42**	**20**	S	**Sg**	**04 11 03.6**	**+1.3**
WEL	**Wellington**	**0.46**	**25**	P	**Pg**	**04 10 57.9**	**+0.5**
WEL				S	**Sg**	**04 11 04.0**	**+0.3**
KEKS	**Kekerengu Vall**	**0.47**	**238**	P	**Pn**	**04 10 59.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.47**	**269**		**Pb**	**04 10 58.2**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.47**	**269**	P	**Pb**	**04 10 58.3**	**0.0**
BSWZ				S	**Sb**	**04 11 05.0**	**-0.1**
MKBS	**Makara Bunker**	**0.50**	**17**	P	**Pg**	**04 10 58.1**	**0.0**
MKBS				S	**Sg**	**04 11 04.4**	**-0.3**
TUWZ	**Tuamarina**	**0.51**	**303**		**Pg**	**04 10 58.3**	**+0.1**
TUWZ	**Tuamarina**	**0.51**	**303**	P	**Pg**	**04 10 58.3**	**+0.1**
TUWZ				S	**Sg**	**04 11 04.0**	**-1.0**
SOMS	**Somes Island**	**0.52**	**31**	P	**Pg**	**04 10 58.9**	**+0.4**
TCW	**Tory Channel**	**0.53**	**340**		**Pg**	**04 10 57.6**	**-0.9**
TCW	**Tory Channel**	**0.53**	**340**	P	**Pg**	**04 10 57.8**	**-0.8**
TCW				S	**Sg**	**04 11 03.7**	**-1.9**
BWRS	**Waikakaho Road**	**0.53**	**300**	P	**Pg**	**04 10 58.1**	**-0.4**
PTOS	**Petone Overbri**	**0.55**	**29**	P	**Pg**	**04 10 59.4**	**+0.3**
NWFS	**Ngawi Fire Sta**	**0.56**	**78**	P	**Pn**	**04 11 01.6**	**0.0**
PLWZ	**Palliser**	**0.57**	**77**	Pg	**Pn**	**04 11 01.8**	**-0.2**
PLWZ	**Palliser**	**0.57**	**77**	P	**Pn**	**04 11 01.9**	**0.0**
PLWZ				S	**Sn**	**04 11 11.5**	**+0.3**
MSWZ	**Moikau Station**	**0.63**	**63**		**Pn**	**04 11 02.0**	**-0.7**
MSWZ	**Moikau Station**	**0.63**	**63**	P	**Pn**	**04 11 02.2**	**-0.4**
MSWZ				S	**Sn**	**04 11 12.3**	**-0.2**
HAVS	**Havelock**	**0.70**	**308**	P	**Pb**	**04 11 00.7**	**-1.3**
CAW	**Cannon Point**	**0.73**	**35**	P	**Pb**	**04 11 02.7**	**0.0**
CAW				S	**Sb**	**04 11 12.7**	**+0.2**
PAWZ	**Paruwai Farm**	**0.76**	**65**	P	**Pn**	**04 11 04.6**	**+0.1**
KIW	**Kapiti Island**	**0.90**	**20**	P	**Pb**	**04 11 05.0**	**-0.5**
KIW				S	**Sb**	**04 11 16.3**	**-1.0**
MTW	**Mount Morrison**	**0.93**	**54**	P	**Pn**	**04 11 07.1**	**+0.4**
TRWZ	**Traveller**	**0.94**	**71**	P	**Pn**	**04 11 07.4**	**+0.5**
NNZ	**Nelson**	**0.98**	**300**		**Pb**	**04 11 05.9**	**-1.0**
NNZ	**Nelson**	**0.98**	**300**	P	**Pb**	**04 11 06.1**	**-0.8**
NNZ				S	**Sb**	**04 11 18.2**	**-1.4**
DUWZ	**D'Urville Isla**	**1.01**	**334**	P	**Pb**	**04 11 06.3**	**-1.1**
KHZ	**Kahutara**	**1.01**	**225**		**Pg**	**04 11 09.0**	**+1.2**
KHZ	**Kahutara**	**1.01**	**225**	P	**Pg**	**04 11 08.4**	**+0.6**
KHZ	**Kahutara**	**1.01**	**225**	P	**Sn**	**04 11 23.8**	**+1.9**
KHZ	**Kahutara**	**1.01**	**225**	P	**Pg**	**04 11 08.9**	**+1.2**
OGWZ	**Otaki Gorge**	**1.02**	**29**	P	**Pb**	**04 11 07.3**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.11**	**43**	P	**Pb**	**04 11 09.5**	**+0.4**
TMWZ	**Te Maipa**	**1.20**	**60**	P	**Pb**	**04 11 10.8**	**+0.1**
THZ	**Tophouse**	**1.20**	**267**		**Pb**	**04 11 10.9**	**+0.1**
THZ	**Tophouse**	**1.20**	**267**	P	**Pb**	**04 11 10.8**	**+0.1**
MRZ	**Mangatainoka R**	**1.32**	**38**		**Pn**	**04 11 12.7**	**+0.5**
MRZ	**Mangatainoka R**	**1.32**	**38**	P	**Pn**	**04 11 12.6**	**+0.5**
TKNZ	**Takaka Hill**	**1.35**	**299**		**Pn**	**04 11 12.4**	**-0.1**
TKNZ	**Takaka Hill**	**1.35**	**299**	P	**Pn**	**04 11 12.4**	**-0.1**
MRNZ	**Matariki Terra**	**1.35**	**283**		**Pn**	**04 11 12.6**	**0.0**
MRNZ	**Matariki Terra**	**1.35**	**283**	P	**Pn**	**04 11 12.8**	**+0.2**
TIWZ	**Tintock**	**1.39**	**49**	P	**Pn**	**04 11 13.5**	**+0.3**
CPWZ	**Castlepoint**	**1.50**	**59**	P	**Pn**	**04 11 15.1**	**+0.4**
PRWZ	**Pori Road**	**1.59**	**44**	P	**Pn**	**04 11 16.1**	**+0.2**
OHWZ	**Ohakea**	**1.62**	**22**	P	**Pb**	**04 11 18.1**	**+0.3**
POWZ	**Post Office Ro**	**1.62**	**36**	P	**Pn**	**04 11 16.6**	**+0.3**
BFZ	**Birch Farm**	**1.66**	**53**		**Pn**	**04 11 16.5**	**-0.4**
BFZ	**Birch Farm**	**1.66**	**53**	P	**Pn**	**04 11 16.5**	**-0.4**
BFZ	**Birch Farm**	**1.66**	**53**	S	**Sb**	**04 11 39.5**	**+0.2**
BFZ	**Birch Farm**	**1.66**	**53**	P	**Pn**	**04 11 16.4**	**-0.4**
GVZ	**Greta Valley S**	**1.67**	**220**		**Pb**	**04 11 17.7**	**-1.0**
GVZ	**Greta Valley S**	**1.67**	**220**	P	**Pb**	**04 11 17.7**	**-1.0**
QRZ	**Quartz Range**	**1.73**	**300**		**Pn**	**04 11 18.3**	**+0.5**
QRZ	**Quartz Range**	**1.73**	**300**	P	**Pn**	**04 11 18.7**	**+0.8**
QRZ	**Quartz Range**	**1.73**	**300**	S	**Sn**	**04 11 40.6**	**+0.9**
QRZ	**Quartz Range**	**1.73**	**300**	P	**Pn**	**04 11 18.6**	**+0.8**
DVHZ	**Dannevirke**	**1.88**	**42**	P	**Pn**	**04 11 19.5**	**-0.4**
ANWZ	**Angora Road**	**1.94**	**51**	P	**Pn**	**04 11 20.1**	**-0.6**
TSZ	**Takapari Road**	**1.98**	**34**	P	**Pn**	**04 11 21.4**	**+0.1**
LTZ	**Lake Taylor**	**1.98**	**236**		**Pn**	**04 11 21.6**	**+0.3**
LTZ	**Lake Taylor**	**1.98**	**236**	P	**Pn**	**04 11 21.9**	**+0.6**
WAZ	**Wanganui**	**1.98**	**11**	P	**Pb**	**04 11 23.8**	**-0.2**
AMCZ	**Amberley**	**2.01**	**222**		**Pn**	**04 11 21.9**	**+0.3**
AMCZ	**Amberley**	**2.01**	**222**	P	**Pn**	**04 11 22.0**	**+0.3**
DSZ	**Denniston Nort**	**2.02**	**268**		**Pn**	**04 11 22.8**	**+0.9**
DSZ	**Denniston Nort**	**2.02**	**268**	P	**Pn**	**04 11 22.9**	**+0.9**
PRHZ	**Porangahau**	**2.16**	**49**	P	**Pn**	**04 11 23.0**	**-0.7**
WPHZ	**Waipukurau**	**2.20**	**42**	P	**Pn**	**04 11 24.1**	**-0.2**
PNHZ	**Pukenui**	**2.20**	**36**	P	**Pn**	**04 11 24.1**	**-0.2**
LREZ	**Lake Rotokare**	**2.25**	**358**	P	**Pb**	**04 11 27.8**	**-0.7**
OKCZ	**Okains Bay**	**2.28**	**207**	P	**Pn**	**04 11 25.4**	**0.0**
NMEZ	**Namu Road**	**2.34**	**348**	P	**Pb**	**04 11 29.8**	**-0.3**
PREZ	**Palmer Road**	**2.38**	**353**	P	**Pb**	**04 11 29.8**	**-1.0**
MQZ	**McQueen's Vall**	**2.42**	**214**		**Pn**	**04 11 26.6**	**-0.7**
MQZ	**McQueen's Vall**	**2.42**	**214**	P	**Pn**	**04 11 26.5**	**-0.7**
MTVZ	**Mangateitei**	**2.43**	**18**	P	**Pn**	**04 11 30.6**	**-1.1**
KHEZ	**Kahui Hut**	**2.44**	**351**	P	**Pn**	**04 11 30.0**	**+2.4**
KHEZ	**Kahui Hut**	**2.44**	**351**	P	**Pb**	**04 11 30.5**	**-1.3**
OXZ	**Oxford**	**2.44**	**228**		**Pn**	**04 11 27.0**	**-0.5**
OXZ	**Oxford**	**2.44**	**228**	P	**Pn**	**04 11 27.1**	**-0.5**
PXZ	**Pawanui**	**2.45**	**48**	P	**Pn**	**04 11 26.5**	**-1.1**
NEZ	**North Egmont**	**2.45**	**352**	P	**Pb**	**04 11 30.9**	**-1.2**
AKCZ	**Akaroa Harbour**	**2.46**	**208**	P	**Pn**	**04 11 27.6**	**-0.3**
MOVZ	**Moawhango**	**2.48**	**23**	P	**Pn**	**04 11 29.0**	**+0.7**
NBEZ	**Newall Road No**	**2.48**	**348**	P	**Pn**	**04 11 30.7**	**+2.5**
INZ	**Inchbonnie**	**2.50**	**245**		**Pn**	**04 11 28.9**	**+0.5**
INZ	**Inchbonnie**	**2.50**	**245**	P	**Pn**	**04 11 29.6**	**+1.3**
PKVZ	**Pokaka**	**2.50**	**15**	P	**Pb**	**04 11 32.4**	**-0.4**
KRHZ	**Kereru**	**2.50**	**35**	P	**Pn**	**04 11 28.1**	**-0.4**
WNVZ	**Wahianoa**	**2.52**	**20**	P	**Pn**	**04 11 30.2**	**+1.4**
DREZ	**Durham Road**	**2.52**	**355**	P	**Pb**	**04 11 32.2**	**-1.1**
TRVZ	**Turoa**	**2.53**	**19**	P	**Pn**	**04 11 30.6**	**+1.5**
PKE	**Pukeiti**	**2.54**	**351**	P	**Pn**	**04 11 31.6**	**+2.6**
WHVZ	**Whangaehu Hut**	**2.56**	**19**	P	**Pn**	**04 11 30.6**	**+1.3**
MAVZ	**Matarangi**	**2.56**	**19**	P	**Pb**	**04 11 32.3**	**-1.8**
FWVZ	**Far West T-bar**	**2.57**	**18**	P	**Pn**	**04 11 31.1**	**+1.5**
VRZ	**Vera Road**	**2.58**	**4**	P	**Pn**	**04 11 32.1**	**+2.5**
TUVZ	**Tukino**	**2.59**	**20**	P	**Pn**	**04 11 31.2**	**+1.5**
KAHZ	**Kahuranaki**	**2.62**	**44**	P	**Pn**	**04 11 29.1**	**-1.0**
COVZ	**Chateau Observ**	**2.62**	**18**	P	**Pb**	**04 11 34.3**	**-0.7**
MHEZ	**Mangahewa**	**2.63**	**357**	P	**Pb**	**04 11 35.8**	**+0.7**
SNVZ	**South Ngauruho**	**2.66**	**19**	P	**Pb**	**04 11 34.6**	**-1.0**
NGZ	**Ngauruhoe**	**2.66**	**19**	P	**Pn**	**04 11 32.3**	**+1.6**
RACZ	**Rakaia**	**2.67**	**220**	P	**Pn**	**04 11 30.1**	**-0.6**
OTVZ	**Oturere**	**2.69**	**20**	P	**Pb**	**04 11 35.4**	**-0.7**
NNVZ	**North Ngauruho**	**2.71**	**19**	P	**Pn**	**04 11 32.8**	**+1.4**
WTVZ	**West Tongariro**	**2.72**	**18**	P	**Pn**	**04 11 33.7**	**+2.2**
ETVZ	**East Tongariro**	**2.73**	**20**	P	**Pn**	**04 11 33.2**	**+1.5**
TWVZ	**Taurewa**	**2.73**	**15**	P	**Pn**	**04 11 33.7**	**+2.1**
TMVZ	**Te Maari**	**2.74**	**20**	P	**Pn**	**04 11 33.0**	**+1.1**
KRVZ	**Karewarewa**	**2.75**	**19**	P	**Pn**	**04 11 33.5**	**+1.5**
MCHZ	**McNeill Hill**	**2.81**	**37**	P	**Pn**	**04 11 31.8**	**-0.8**
MHCZ	**Mount Hutt**	**2.84**	**229**	P	**Pn**	**04 11 32.4**	**-0.7**
KATZ	**Kakaramea**	**2.87**	**19**	P	**Pb**	**04 11 39.1**	**-0.2**
RITZ	**Rihia Road**	**2.91**	**21**	P	**Pb**	**04 11 39.6**	**-0.3**
BKZ	**Black Stump Fm**	**2.95**	**31**	Pn	**Pn**	**04 11 33.8**	**-0.9**
BKZ	**Black Stump Fm**	**2.95**	**31**	P	**Pn**	**04 11 35.3**	**+0.6**
BKZ	**Black Stump Fm**	**2.95**	**31**	P	**Pn**	**04 11 41.5**	**+0.9**
WACZ	**Wakanui South**	**2.98**	**220**	P	**Pn**	**04 11 34.4**	**-0.5**
RATZ	**Rangitukua**	**3.00**	**19**	P	**Pb**	**04 11 41.1**	**-0.3**
ARHZ	**Aropaoanui**	**3.09**	**39**	P	**Pn**	**04 11 35.2**	**-1.3**
WVZ	**Waitaha Valley**	**3.11**	**243**	P	**Pn**	**04 11 37.1**	**+0.4**
WATZ	**Wairara**	**3.14**	**18**	P	**Pb**	**04 11 44.0**	**+0.2**
HIZ	**Hauiti**	**3.20**	**5**		**Pn**	**04 11 38.7**	**+0.7**
HIZ	**Hauiti**	**3.20**	**5**	P	**Pn**	**04 11 39.7**	**+1.7**
HIZ	**Hauiti**	**3.20**	**5**	P	**Pn**	**04 11 40.2**	**+2.2**
MRHZ	**Matea Rd**	**3.22**	**28**	P	**Pn**	**04 11 38.1**	**-0.2**
RPZ	**Rata Peaks**	**3.24**	**231**	Pn	**Pn**	**04 11 38.3**	**-0.3**
	30nm,0.3s,baz=102,slow=1.9,SNR=92						
RPZ				Sn	**Sn**	**04 12 15.1**	**-1.9**
	57nm,0.3s,baz=342,slow=24,SNR=13 78nm,0.3s						
RPZ	**Rata Peaks**	**3.24**	**231**	P	**Pn**	**04 11 38.5**	**-0.1**
RPZ	**Rata Peaks**	**3.24**	**231**	P	**Pn**	**04 11 38.3**	**-0.3**
ARCZ	**Arundel**	**3.32**	**226**	P	**Pn**	**04 11 39.1**	**-0.6**
MTHZ	**Maungataniwha**	**3.36**	**33**	P	**Pn**	**04 11 41.7**	**+1.4**
KUTZ	**Kaahu Road**	**3.37**	**18**	P	**Pn**	**04 11 48.4**	**+0.8**
ALRZ	**Allen Road**	**3.44**	**25**	P	**Pb**	**04 11 48.9**	**0.0**
TLZ	**Tolley Road**	**3.46**	**14**	P	**Pn**	**04 11 46.8**	**-2.5**
GCSZ	**Gaunt Creek Bo**	**3.49**	**241**	P	**Pn**	**04 11 42.9**	**+0.9**
RTZ	**Ruatahuna**	**3.62**	**32**	Pn	**Pn**	**04 11 43.1**	**-0.7**
SNGZ	**Shannon Statio**	**3.64**	**37**	P	**Pn**	**04 11 42.9**	**-1.1**
MHGZ	**Mahia Peninsul**	**3.64**	**47**	P	**Pn**	**04 11 42.9**	**-1.2**
TMZ	**Timaru**	**3.71**	**223**	P	**Pn**	**04 11 44.6**	**-0.4**
PRIZ	**Paritu Road**	**3.79**	**44**	P	**Pn**	**04 11 44.6**	**-1.8**
FOZ	**Fox Glacier**	**3.92**	**241**		**Pn**	**04 11 48.1**	**+0.3**
FOZ	**Fox Glacier**	**3.92**	**241**	P	**Pn**	**04 11 48.3**	**+0.4**
URZ	**Urewera**	**3.98**	**31**	Pn	**Pn**	**04 11 47.3**	**-1.5**
	1.7nm,0.3s,baz=219,slow=8.8,SNR=5.5						
URZ				Sn	**Sn**	**04 12 33.6**	**-1.5**
	13nm,0.3s,baz=202,slow=19,SNR=1.9 4.0nm,0.2s						
URZ	**Urewera**	**3.98**	**31**	P	**Pn**	**04 11 49.3**	**+0.6**
URZ	**Urewera**	**3.98**	**31**	P	**Pb**	**04 11 55.8**	**-2.3**
TOZ	**Tahuroa Road**	**4.04**	**11**		**Pn**	**04 11 49.1**	**-0.5**
TOZ	**Tahuroa Road**	**4.04**	**11**	P	**Pn**	**04 11 53.4**	**+3.8**
LBZ	**Lake Benmore**	**4.15**	**228**		**Pn**	**04 11 51.4**	**+0.2**
LBZ	**Lake Benmore**	**4.15**	**228**	P	**Pn**	**04 11 51.3**	**+0.2**
ODZ	**Otahua Downs**	**4.37**	**219**		**Pn**	**04 11 53.4**	**-0.7**
ODZ	**Otahua Downs**	**4.37**	**219**	P	**Pn**	**04 11 53.4**	**-0.7**
ODZ	**Otahua Downs**	**4.37**	**219**	P	**Pn**	**04 11 53.3**	**-0.7**
MKAZ	**Moumakai**	**4.62**	**6**	P	**Pn**	**04 11 58.6**	**+1.0**
AWAZ	**Awhitu Peninsu**	**4.64**	**1**	P	**Pn**	**04 11 60.0**	**+2.2**
HAZ	**Te Kaha**	**4.68**	**34**	P	**Pn**	**04 11 57.0**	**-1.4**
PKGZ	**Pakihiroa**	**4.72**	**37**	P	**Pn**	**04 11 57.4**	**-1.5**
ETAZ	**East Tamaki Re**	**4.76**	**4**	P	**Pn**	**04 12 02.9**	**+3.5**
WTAZ	**Waiatarua**	**4.77**	**1**	P	**Pn**	**04 12 02.4**	**+2.8**
JCZ	**Jackson Bay**	**4.83**	**239**	P	**Pn**	**04 12 01.1**	**+0.7**
JCZ	**Jackson Bay**	**4.83**	**239**	P	**Pn**	**04 12 00.8**	**+0.3**
MBAZ	**Motutapu North**	**4.94**	**4**	P	Pb	04 12 09.0	-5.4
KUZ	**Kuaotunu**	**5.04**	**11**	P	**Pn**	**04 12 04.3**	**+1.0**
HHSZ	**Highcliff Hill**	**5.05**	**213**	P	**Pn**	**04 12 03.2**	**-0.2**
MXZ	**Matakaoa Point**	**5.07**	**37**	Pn	**Pn**	**04 12 03.4**	**-0.4**
WKZ	**Wanaka**	**5.08**	**230**	Pn	**Pn**	**04 12 03.4**	**-0.5**
WKZ	**Wanaka**	**5.08**	**230**	P	**Pn**	**04 12 03.7**	**-0.2**
EAZ	**Earnscleugh**	**5.17**	**225**	P	**Pn**	**04 12 04.7**	**-0.4**
TUZ	**Tuapeka**	**5.52**	**218**	P	**Pn**	**04 12 09.2**	**-0.6**
MSZ	**Milford Sound**	**5.65**	**236**	P	Pn	04 12 17.9	+6.2
WCZ	**Waipu Caves**	**5.76**	**359**	P	**Pn**	**04 12 15.9**	**+2.7**
MLZ	**Mavora Lakes**	**5.91**	**230**	Pn	**Pn**	**04 12 15.3**	**0.0**
MLZ	**Mavora Lakes**	**5.91**	**230**	P	**Pn**	**04 12 15.4**	**+0.1**
SYZ	**Scrubby Hill**	**6.18**	**217**	P	**Pn**	**04 12 18.6**	**-0.4**
SYZ	**Scrubby Hill**	**6.18**	**217**	P	**Pn**	**04 12 19.0**	**0.0**
WHZ	**Wether Hill Ro**	**6.33**	**226**	Pn	**Pn**	**04 12 19.8**	**-1.2**
WHZ	**Wether Hill Ro**	**6.33**	**226**	P	**Pn**	**04 12 20.3**	**-0.7**
DCZ	**Deep Cove**	**6.53**	**232**	Pn	**Pn**	**04 12 23.9**	**+0.2**
CTZ	**Chatham Island**	**6.84**	**110**	Pn	**Pn**	**04 12 28.2**	**+0.2**
CTZ	**Chatham Island**	**6.84**	**110**	P	**Pn**	**04 12 28.2**	**+0.2**
CTZ	**Chatham Island**	**6.84**	**110**	P	**Pn**	**04 12 28.4**	**+0.4**
APZ	**The Paps**	**6.94**	**220**	P	**Pn**	**04 12 29.1**	**-0.3**
LHI	**Lord Howe Isla**	**16.01**	**304**	Pn	**Pn**	**04 14 35.5**	**+1.6**
CAN	**Canberra**	**20.91**	**279**	P	**P**	**04 15 29.4**	**-0.8**
ARMA	**Armidale**	**21.59**	**294**	P	**P**	**04 15 38.0**	**+0.4**
ARMA				IAmb	IAmb	04 15 44.4	
	comp=Z,26nm,1.4s						
MSVF	**Nonsavu**	**24.09**	**8**	P	**P**	**04 16 00.5**	**-2.8**
MSVF				IAmb	IAmb	04 16 03.8	
	comp=Z,13nm,1.2s						
EIDS	**Eidsvold**	**25.31**	**303**	P	**P**	**04 16 15.5**	**+1.2**
EIDS				IAmb	IAmb	04 16 19.1	
	comp=Z,24nm,1.4s						
CTAO	**Charters Tower**	**32.20**	**303**	P	**P**	**04 17 14.6**	**-1.2**
CTAO				IAmb	IAmb	04 17 16.5	
	comp=Z,10nm,1.2s						
VNDA	**Vanda**	**36.31**	**185**	P	**P**	**04 17 51.1**	**+0.3**
AS31	**Alice Springs**	**38.21**	**285**	P	**P**	**04 18 07.6**	**+0.1**
ASAR	**Alice Springs**	**38.21**	**285**	P	**P**	**04 18 07.1**	**-0.5**
ASAR	**Alice Springs**	**38.21**	**285**	P	**P**	**04 18 06.4**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=124,slow=7.5,SNR=6.7 comp=Z,0.5nm,0.4s						
WR8	**Warramunga Arr**	**40.15**	**290**	P	**P**	**04 18 22.6**	**-1.2**
WR8				IAmb	IAmb	04 18 32.3	
	comp=Z,8.8nm,1.1s						
WB2	**Warramunga Arr**	**40.26**	**290**	P	**P**	**04 18 23.5**	**-1.2**
WB2				IAmb	IAmb	04 18 29.8	
	comp=Z,4.5nm,0.7s						
WRA	**Warramunga Arr**	**40.27**	**290**	P	**P**	**04 18 24.3**	**-0.5**
WRA	**Warramunga Arr**	**40.27**	**290**	P	**P**	**04 18 23.4**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=126,slow=8.3,SNR=13 comp=Z,0.9nm,0.4s						
WB0	**Warramunga Arr**	**40.35**	**290**	P	**P**	**04 18 24.1**	**-1.3**
WB0				IAmb	IAmb	04 18 37.7	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**47.69**	**284**	P	**P**	**04 19 23.3**	**-1.0**
QSPA	**South Pole Qui**	**48.42**	**180**	P	**P**	**04 19 30.1**	**+0.4**
QSPA				IAmb	IAmb	04 19 37.6	
	comp=Z,5.1nm,1.1s						
QSPA	**South Pole Qui**	**48.42**	**180**	P	P	04 19 33.9	+4.3
	comp=Z,3.9nm,1.0s,baz=17,slow=3.7,SNR=9.5 comp=Z,3.9nm,1.0s						
VA02	**Isla de Pascua**	**

KECS				eSN	Sn	04 34 26.9	-1.8
KECS				eLG	Lg	04 34 39.8	
KRUC	Moravsky	2.12	235	ePn	Pn	04 34 03.6	+0.4
	baz=55						
KRUC				eSg	Sb	04 34 32.1	-0.6
	23nm,0.5s,baz=55						
MODS	Modra-Piesok	2.25	211	eSN	Sn	04 34 32.8	-0.7
KOLS	Kolonicke sedl	2.51	122	ePN	Pn	04 34 10.4	+1.7
KOLS				eSN	Sn	04 34 39.1	-0.9
KOLS				eLG	Lg	04 34 56.1	
PRU	Pruhonice	2.91	265	eSG	Sb	04 34 57.1	+1.7
	14nm,0.5s						
CONA	Conrad Observa	3.17	222	i Pn	Pn	04 34 17.6	-0.1
	1.2nm,0.4s						
CONA				i Sn	Sn	04 34 56.0	-0.2
	4.1nm,0.4s						
RONA	Rosalia, Austr	3.17	216	ePn	Pn	04 34 18.5	+0.8
	2.1nm,0.4s						
RONA				i Sn	Sn	04 34 58.8	+2.5
	4.7nm,0.4s						
BRG	Berggiesshubel	3.29	282	Pg	Pg	04 34 31.4	+1.7
BRG				Sg	Sg	04 35 13.9	+1.6
BRG				Amp		04 35 16.8	
	comp=Z,14nm,0.5s						
KHC	Kasperske Hory	3.73	254	ePN	Pn	04 34 26.0	+0.6
KHC				ePG	Pb	04 34 32.6	-0.7
KHC				eSG	Sg	04 35 23.4	-3.0
	comp=Z,21nm,0.5s						
GERES	GERESS Array B	3.77	249	Pn	Pn	04 34 27.2	+1.3
	baz=64,slow=13,SNR=4.7						
GERES				Pg	Pb	04 34 33.9	0.0
	comp=Z,0.1nm,0.3s,baz=72,slow=13,SNR=12						
GERES				Lg	Lg	04 35 22.6	
	comp=Z,0.8nm,0.3s,baz=63,slow=29,SNR=10.0						
	comp=Z,0.4nm,0.3s						
ARSA	Arzberg	3.84	219	i Pn	Pn	04 34 26.7	-0.2
	comp=Z,1.4nm,0.2s						
ARSA				eSg	Sg	04 35 33.5	+3.6
	comp=Z,3.9nm,0.5s						
CLL	Collm	3.96	287	ePg	Pg	04 34 43.0	+0.7
CLL				eSg	Sg	04 35 34.0	+0.4
	comp=Z,10.0nm,0.5s						
MOA	Molln	3.98	234	i Pn	Pn	04 34 30.3	+1.4
	comp=Z,0.7nm,0.3s						
MOA				i Sn	Sn	04 35 18.9	+2.7
	comp=Z,14nm,0.7s						
NACGM	Naroch	6.59	43	eP	Pb	04 35 17.9	-4.0
	comp=Z,4.0nm,0.8s,baz=229						
DAVOX	Davos/Dischmat	7.03	243	Sn	Sn	04 36 28.9	-2.6
	comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=1.4						
DAVOX				Lg	Lg	04 37 09.3	
	comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=5.0						
FINES	FINESS Array B	11.83	17	Pn	Pn	04 36 15.5	-0.9
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=5.7						
	comp=Z,2.7nm,0.8s						
ARCES	ARCESS Array B	19.54	7	Pn	P	04 37 54.6	-0.7
	comp=Z,0.1nm,0.3s,baz=197,slow=11,SNR=5.5						
	comp=Z,2.3nm,1.0s						
TORD	Torodi Ar. Bea	39.68	207	P	P	04 40 59.7	-0.6
	comp=Z,0.2nm,0.7s,baz=13,slow=7.8,SNR=1.7						
	comp=Z,0.2nm,0.7s						

IDC 22 04:36:14.4±0.8, 7.30°N×124.57°E, h0km, mb3.9/13, mbtmp3.9/13, MS3.7/18, Error ellipse: s-maj=21.1km s-min=9.8km az=29.0

NEIC 22 04:36:15.6±2.0, 7.27°N±0.08°×124.68°E±0.05°, h10km±1km, mb4.5/10, Error ellipse: s-maj=14.6km s-min=7.2km az=19.0

ISC 22 04:36:15.1±0.6, 7.22°N±0.08°×124.69°E±0.06°, h10km, n47, σ1.13s/34, mb4.0/18, MS3.9/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.90	100		Pb	04 36 34.2	+1.4
DAV					Sg	04 36 43.9	-0.4
DAV	Davao City (W)	0.90	100	Pg	Pb	04 36 34.5	+1.6
	219nm,0.3s,baz=326,slow=0.7,SNR=10						
DAV				LR	LR	04 36 35.4	
	comp=Z,133nm,20.4s,baz=156,slow=20						
DAV				Lg	Lg	04 36 47.9	
	704nm,0.3s,baz=321,slow=15,SNR=7.2						
DAV	Davao City (W)	0.90	100	P	Pg	04 36 30.0	-2.5
MYLDM	Lahad Datu	6.47	252		Pn	04 37 49.9	-0.7
TOLI2	Tolitoli	7.21	213		Pn	04 37 59.8	-0.9
TGY	Tagaytay City	7.76	332	LR	LR	04 41 21.5	
	comp=Z,302nm,19.8s,baz=222,slow=40						
KAPI	Kappang	13.11	202	LR	LR	04 45 33.9	
	comp=Z,221nm,18.7s,baz=12,slow=43						
JAY	Jayapura	18.69	121	LR	LR	04 46 34.3	
	comp=Z,90nm,20.6s,baz=352,slow=33						
GUMO	Guam	20.83	71	LR	LR	04 50 08.5	
	comp=Z,41nm,19.4s,baz=273,slow=40						
KNRA	Kununurra	23.11	170	P	P	04 41 21.5	+0.1
FITZ	Fitzroy Crossi	25.18	178	P	P	04 41 41.8	+0.8
CMAR	Chiang Mai Arr	27.43	296	P	P	04 42 01.2	-0.2
	1.0nm,0.3s,baz=112,slow=8.8,SNR=1.7						
CMAR				LR	LR	04 52 30.1	
	comp=Z,66nm,20.5s,baz=180,slow=36						
	1.0nm,0.3s						
WB0	Warramunga Arr	28.47	161	P	P	04 42 10.6	-0.1
WB0				IAmb	IAmb	04 42 20.0	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	28.62	161	P	P	04 42 10.5	-1.5
WRA	Warramunga Arr	28.62	161	P	P	04 42 13.4	+1.5
	comp=Z,0.6nm,0.7s,baz=341,slow=8.9,SNR=6.8						
	comp=Z,0.6nm,0.7s						
WR8	Warramunga Arr	28.68	160	P	P	04 42 13.6	+1.0
WR8				IAmb	IAmb	04 42 20.7	
	comp=Z,12nm,1.3s						
KS19	Wonju Array Si	30.28	5	P	P	04 42 24.6	-1.9
MJAR	Matsushiro Arr	31.69	21	LR	LR	04 55 08.6	
	comp=Z,51nm,19.7s,baz=228,slow=36						
ASAR	Alice Springs	31.99	164	P	P	04 42 43.5	+1.7
	comp=Z,0.8nm,0.6s,baz=340,slow=6.8,SNR=5.1						
ASAR				LR	LR	04 56 43.9	
	comp=Z,159nm,18.3s,baz=282,slow=38						
	comp=Z,0.8nm,0.6s						
USRK	Ussuriysk Ar.	37.38	9	P	P	04 43 28.5	+0.4
	comp=Z,1.2nm,0.5s,baz=224,slow=6.0,SNR=1.6						
	comp=Z,1.2nm,0.5s						
ASAJ	Asahikawa	39.95	20	LR	LR	04 58 03.2	
	comp=Z,67nm,21.8s,baz=172,slow=33						
BBOO	Buckleboo	41.26	165	P	P	04 43 59.8	-0.8
BBOO				IAmb	IAmb	04 44 04.1	
	comp=Z,6.9nm,0.8s						
STKA	Stephens Creek	42.10	158	P	P	04 44 08.2	+0.6
STKA				IAmb	IAmb	04 44 14.4	
	comp=Z,16nm,0.9s						
STKA	Stephens Creek	42.10	158	P	P	04 44 10.2	+2.6
	comp=Z,2.7nm,0.8s,baz=359,slow=4.1,SNR=3.7						
STKA				LR	LR	05 05 30.2	
	comp=Z,169nm,19.7s,baz=273,slow=42						
	comp=Z,2.7nm,0.8s						
SONM	Songino Array	43.37	342	P	P	04 44 18.7	+0.9
	comp=Z,0.6nm,0.6s,baz=161,slow=9.2,SNR=5.4						
SONM				LR	LR	05 02 20.6	
	comp=Z,143nm,20.5s,baz=176,slow=36						
	comp=Z,0.6nm,0.6s						
ARMA	Armidale	45.48	147	P	P	04 44 35.9	+0.9
TOO	Toolangi	48.62	158	P	P	04 44 59.8	+0.6
TOO				IAmb	IAmb	04 45 00.4	
	comp=Z,7.1nm,1.4s						
LHI	Lord Howe Isla	50.63	141	P	P	04 45 15.2	+0.6
PETK	Petropavlovsk-	53.04	24	P	P	04 45 32.2	-0.1
PETK	Petropavlovsk-	53.04	24	P	P	04 45 34.0	+1.6
	comp=Z,2.4nm,0.9s,baz=227,slow=7.1,SNR=1.6						
	comp=Z,2.4nm,0.9s						
MKAR	Makanchi Array	53.55	325	P	P	04 45 36.2	0.0
MKAR	Makanchi Array	53.55	325	P	P	04 45 35.7	-0.5
	comp=Z,0.6nm,0.7s,baz=118,slow=7.2,SNR=6.8						
	comp=Z,0.6nm,0.7s						
AAK	Ala-Archa	56.42	317	LR	LR	05 10 10.3	
	comp=Z,109nm,18.5s,baz=156,slow=36						
ZALV	Zalesovo Beam	56.57	333	P	P	04 45 57.7	-0.2
	comp=Z,0.5nm,0.4s,baz=94,slow=5.9,SNR=3.6						
	comp=Z,0.5nm,0.4s						
KURBB	Kurchatov Arra	57.72	327	P	P	04 46 05.2	-0.8
	comp=Z,1.2nm,0.7s,baz=128,slow=6.1,SNR=11						
	comp=Z,1.2nm,0.7s						
KURK	Kurchatov	57.72	327	P	P	04 46 05.8	-0.3
KURK				IAmb	IAmb	04 46 15.7	
	comp=Z,3.9nm,0.8s						
BVAR	Borovoye Array	63.30	327	P	P	04 46 44.1	-0.1
	comp=Z,0.7nm,0.5s,baz=106,slow=11,SNR=5.8						
	comp=Z,0.7nm,0.5s						
TIXI	Tiksi	64.41	1	LR	LR	05 17 29.6	
	comp=Z,100nm,20.1s,baz=206,slow=38						
ABKAR	Akbulak array	68.18	320	P	P	04 47 15.1	-0.6
ARTI	Arti	71.00	327	LR	LR	05 20 21.6	
	comp=Z,76nm,19.2s,baz=138,slow=37						
ILAR	Eielson Array	82.85	26	P	P	04 48 39.9	+0.3
	comp=Z,0.4nm,0.9s,baz=281,slow=5.3,SNR=2.8						
	comp=Z,0.4nm,0.9s						
BRTR	Keskin Array B	86.24	309	P	P	04 48 57.9	+0.3
	comp=Z,0.4nm,0.4s,baz=51,slow=7.8,SNR=1.5						
	comp=Z,0.4nm,0.4s						
SPITS	Spitsbergen Ar	86.68	349	LR	LR	05 33 26.1	
	comp=Z,64nm,18.7s,baz=96,slow=40						
FINES	FINESS Array B	87.81	332	LR	LR	05 29 21.0	
	comp=Z,82nm,20.2s,baz=104,slow=36						
AKASG	Malin Array Be	87.92	321	LR	LR	05 31 34.3	
	comp=Z,32nm,20.8s,baz=60,slow=38						
HFS	Hagfors	94.00	332	LR	LR	05 35 05.8	
	comp=Z,70nm,19.6s,baz=88,slow=38						
NOA	NORSAR Array B	94.77	333	LR	LR	05 35 52.1	
	comp=Z,33nm,20.2s,baz=95,slow=38						

LDG 22 04:38:21.9±0.1, 43.18°N×1.54°W, h10km, Md2.1/2, Ml2.6/13, Error ellipse: s-maj=1.7km s-min=1.6km az=1.0

MDD 22 04:38:22.1±0.2, 43.08°N×1.57°W, h6km±1km, mb_Lg2.6/58, Error ellipse: s-maj=1.6km s-min=1.0km az=4.0

STR 22 04:38:22.6±0.6, 43°N±3°×°±°, h2km, MLv2.5/6, LOCSAT earthModelID pyrenees_taup-2.11 preliminary

INMG 22 04:38:22.1±1.9, 43.07°N×1.61°W, h8km±4km, ML2.2, Error ellipse: s-maj=4.6km s-min=2.7km az=52.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Pirineus (ESP)

ISC 22 04:38:21.7±0.8, 43.12°N±0.02°×1.61°W±0.02°, h17km±5km, n81, σ2.45s/166, 1C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.13	36	⇓Pg	Pg	04 38 25.2	-0.5
EALK				Sg	Sg	04 38 27.7	-0.7
EALK				i IVmb_Lg		04 38 28.2	
EALK	Alkurruntz	0.13	36	Pg	Pg	04 38 25.2	-0.5
EALK				Sg	Sg	04 38 26.8	-1.5
SJPF	Ste Jean	0.28	90	ePg	Pg	04 38 26.9	-1.0
SJPF				eSg	Sg	04 38 30.7	-1.4
	1µm,0.3s						
OSSF	Osses	0.29	61	Pg	Pg	04 38 27.0	-1.0
OSSF				Sg	Sg	04 38 30.9	-1.5
EARA	Aranguren	0.34	176	⇑Pg	Pg	04 38 29.0	+0.1
EARA				Sg	Sg	04 38 32.4	-1.4
EARA				i IVmb_Lg		04 38 35.9	
EARA	Aranguren	0.34	176	Pg	Pg	04 38 29.0	+0.1
EARA				Sg	Sg	04 38 34.5	+0.7
IRAF	Chalets d'Irat	0.43	101	Pg	Pg	04 38 29.7	-0.8
IRAF				Sg	Sg	04 38 35.4	-1.0
ORDF	Ordiarp	0.51	79	Pg	Pg	04 38 30.7	-1.1
ORDF				Sg	Sg	04 38 37.7	-0.9
ATE	Arette	0.67	92	Pg	Pg	04 38 33.6	-1.3
ATE				Sg	Sg	04 38 42.3	-1.5
TERF	Tercis-les-Bai	0.67	33	Pg	Pg	04 38 35.0	+0.1
ETSF	Etsaut	0.80	105	ePg	Pg	04 38 35.7	-1.7
ETSF				eSg	Sg	04 38 45.7	-2.3
	60nm,0.2s						
CANF	Canfranc	0.88	113	Pg	Pb	04 38 37.5	-1.0
CANF				Sg	Sb	04 38 50.1	+0.1
REYF	Montagne du Re	0.90	92	Pg	Pb	04 38 38.3	-0.5
REYF				Sg	Sb	04 38 50.6	+0.1
VIEF	Viey	1.22	100	Pg	Pn	04 38 43.2	-0.9
VIEF				Sg	Sb	04 38 59.7	-0.2
LABF	Labassere	1.24	93	Pg	Pn	04 38 43.7	-0.5
LABF				Sg	Sb	04 39 00.4	+0.1
ELAN	Lanestosa	1.34	276	Pn	Pn	04 38 45.9	+0.2
ELAN				Pg	Pb	04 38 47.1	+0.8
ELAN				Sn	Sn	04 39 04.4	+1.3
ELAN				Sg	Sb	04 39 05.3	+2.1
ELAN				i IVmb_Lg		04 39 07.8	
EPF	Esparros	1.43	93	ePg	Pn	04 38 47.3	+0.3
EPF				eSg	Sn	04 39 05.8	+0.4
	53nm,0.4s						
ESAC	San Caprasio	1.63	148	Pn	Pn	04 38 49.9	+0.2
ESAC				Pg	Pb	04 38 51.2	-0.2
ESAC				Sn	Sn	04 39 09.9	-0.4
ESAC				Sg	Sb	04 39 13.1	+1.5
MELF	Melles	1.76	97	Pn	Pn	04 38 52.8	+1.4
MELF				Sn	Sn	04 39 15.6	+2.1
CRAS	Crastes	1.81	70	Pn	Pn	04 38 53.6	+1.5
CRAS				Sn	Sb	04 39 16.7	0.0
ALT02	Santillana del	1.85	279	Sn	Sb	04 39 18.5	+0.6
ALT01	Santillana del	1.85	279	Pg	Pb	04 38 55.8	+0.8
ALT01				Sn	Sn	04 39 17.8	+2.2
ALT03	Santillana del	1.85	279	Pg	Pn	04 38 55.1	+2.4
ALT03				Sn	Sn	04 39 16.4	+0.8
MLS	Moulis	1.99	94	Pn	Pn	04 38 56.4	+1.8
MLS				Sn	Sb	04 39 21.9	-0.1
SALF	Salau	2.09	99	Pn	Pn	04 38 58.1	+2.1
SALF				Sn	Sn	04 39 24.0	+2.4
ETOR	Torete	2.32	188	Pn	Pn	04 38 59.7	+0.6
ETOR				Sn	Sn	04 39 28.3	+0.9
ETOR				i IVmb_Lg		04 39 38.1	
MONQ	Montcuq	2.39	57	Pn	Pn	04 39 01.0	+0.9
MONQ				Sn	Sn	04 39 30.8	+1.8
LFF	La Frestale	2.49	42	eP	Pn	04 39 04.0	+2.5
LFF				eSg	Sb	04 39 38.5	+2.1
	9.0nm,0.3s						
DUNF	Dun	2.51	91	Pn	Pn	04 39 03.4	+1.7
DUNF				Sn	Sn	04 39 34.3	+2.3
ERTA	Horta de San J	2.60	145	Pn	Pn	04 39 02.6	-0.4
ERTA				Sn	Sn	04 39 33.2	-1.0
ERTA				Sg	Sb	04 39 42.2	+2.7
ERTA				i IVmb_Lg		04 39 51.2	
EARI	Arriondas	2.64	275	Pn	Pn	04 39 03.8	+0.3
EARI				Sn	Sn	04 39 34.1	-1.0
E0901	Celadas (Terue	2.66	172	Pn	Pn	04 39 05.0	+1.2
E0901				Pg	Pb	04 39 12.2	+3.3
E0901				Sn	Sn	04 39 35.3	-0.4
E0901				Sg	Sb	04 39 44.5	+3.2
E0901				i IVmb_Lg		04 39 54.2	
EPOB	Poblet	2.66	130	Pn	Pn	04 39 03.5	-0.4
EPOB				Pg	Pb	04 39 09.3	+0.4
EPOB				Sn	Sn	04 39 34.0	-1.9
EPOB				Sg	Sb	04 39 41.9	+0.5
EPOB				i IVmb_Lg		04 39 52.1	
CARF	Carcanieres	2.76	97	Pn	Pn	04 39 06.8	+1.6
CARF				Sn	Sn	04 39 39.9	+1.6
VALC	Valcebollere	2.79	104	Pn	Pn	04 39 06.9	+1.1
VALC				Sn	Sn	04 39 40.0	+0.9
MTLF	Montolieu	2.81	84	ePn	Pn	04 39 05.4	-0.4
MTLF				eSn	Sn	04 39 37.5	-1.8
	4.0nm,0.3s						
MTLF	Montolieu	2.81	84	Pn	Pn	04 39 07.2	+1.4
MTLF				Sn	Sn	04 39 41.4	+2.1
EMOS	Mosqueruela	2.88	162	Pn	Pn	04 39 07.4	+0.4
EMOS				Pg	Pb	04 39 15.8	+3.1
EMOS				Sn	Sn	04 39 39.4	-1.9
EMOS				Sg	Sb	04 39 51.3	+3.6
EMOS				i IVmb_Lg		04 39 58.0	
GUD	Guadarrama	3.12	218	Pn	Pn	04 39 10.3	+0.1
GUD				Sn	Sn	04 39 45.3	-1.7
GUD				Sg	Sb	04 39 57.9	+3.5
GUD				i IVmb_Lg		04 40 02.7	
FILF	Fillols	3.12	99	Pn	Pn	04 39 10.3	+0.1
FILF				Sn	Sn	04 39 45.9	-1.2
RJF	Les Rejaudoux	3.14	45	ePn	Pn	04 39 08.2	-2.2
RJF				eSn	Sn	04 39 43.8	-3.7
	1.2nm,0.2s						
CAF	Calviac	3.21	54	ePn	Pn	04 39 09.1	-2.3
CAF	Calviac	3.21	54	eP	Pn	04 39 11.8	+0.4
CAF				eSn	Sn	04 39 45.8	-3.5
	2.3nm,0.2s						
EJON	La Jonquera	3.38	100	Sn	Sn	04 39 54.2	+0.8
EJON				Sg	Sb	04 40 06.7	+4.7
EJON				i IVmb_Lg		04 40 13.1	
ECHE	Chera	3.55	172	Pn	Pn	04 39 17.3	+1.1
ECHE				Pg	Pb	04 39 27.6	+3.4
ECHE				Sn	Sn	04 39 56.8	-0.9
ECHE				Sg	Sb	04 40 11.1	+4.1
ECHE				i IVmb_Lg		04 40 15.7	
MFF	Saint Martin d	3.64	16	ePn	Pn	04 39 15.2	-2.0
MFF	Saint Martin d	3.64	16	ePn	Pn	04 39 15.6	-1.6
MFF	Saint Martin d	3.64	16	ePg	Pb	04 39 27.2	+1.7
MFF	Saint Martin d	3.64	16	ePg	Pb	04 39 27.3	+1.7
MFF				eSn	Sn	04 39 56.0	-3.7
	1.0nm,0.2s						
MFF				eSn	Sn	04 39 56.1	-3.7
	1.7nm,0.2s						
MFF				eSg	Sb	04 40 13.1	+3.7
MFF				eSg	Sb	04 40 13.1	+3.7
ECOL	Islas Columbre	3.65	151	Pn	Pn	04 39 18.2	+0.8
ECOL				Pg	Pb	04 39 28.8	+3.1
ECOL				Sg	Sb	04 40 13.6	+4.0
EJUZ	Juzbado, Salam	3.77	239	Sg	Sb	04 40 18.4	+5.1
ESBB	Sonseca Array	3.86	208	Pn	Pn	04 39 19.7	-0.7
ESBB				Sn	Sn	04 40 01.6	-3.8
ESDC	Sonseca Array	3.87	208	Pn	Pn	04 39 20.1	-0.3
ESDC				Sn	Sn	04 40 02.0	-3.5
ESDC				i IVmb_Lg		04 40 24.3	
ECAL	Calabor	3.96	255	Pn	Pn	04 39 21.8	0.0
ECAL				Sn	Sn	04 40 02.9	-5.1
ECAL				Sg	Sb	04 40 22.3	+3.4
ECAL				i IVmb_Lg		04 40 34.9	
PBRG	Braganca	4.01	253	ePn	Pn	04 39 22.5	+0.1
PBRG				eSn	Sn	04 40 05.3	-3.8
PBRG				i IAML		04 40 10.9	
PBRG				i IAML		04 40 11.7	
PBRG				i IAML		04 40 34.1	
EPON	Pontenova	4.05	275	Pn	Pn	04 39 23.3	+0.4
EPON				Sn	Sn	04 40 08.3	-1.7
LASF	Ste Croix	4.09	75	ePn	Pn	04 39 22.1	-1.3
LASF	Ste Croix	4.09	75	eP	Pn	04 39 24.9	+1.5
PAB	San Pablo	4.12	211	Pn	Pn	04 39 23.3	-0.6
PAB				Sn	Sn	04 40 07.5	-4.2
PAB				i IVmb_Lg		04 40 33.9	
MVO	Moncorvo	4.47	246	ePn	Pn	04 39 28.6	-0.2
MVO				eSn	Sn	04 40 17.0	-3.5
MVO				i IAML		04 40 44.8	
MVO				i IAML		04 40 47.1	
MVO				i IAML		04 40 55.6	
EPLA	Plasencia	4.53	229	Sn	Sn	04 40 18.3	-3.5
EPLA				Sg	Sb	04 40 41.8	+6.7
PSIM	Granatula de C	4.59	201	Pn	Pn	04 39 30.8	+0.5
PSIM				Sn	Sn	04 40 20.3	-2.9
EIBI	Ibiza	4.66	150	Sn	Sn	04 40 18.9	-6.0
EAGO	Agolada(Pontev	4.76	268	Pn	Pn	04 39 33.2	+0.5
EAGO				Sn	Sn	04 40 25.3	-2.2
POLO	Lamas de Olo	4.91	251	ePn	Pn	04 39 34.4	-0.4
POLO				eSn	Sn	04 40 27.0	-4.2
POLO				i IAML		04 40 57.1	
POLO				i IAML		04 41 00.8	
POLO				i IAML		04 41 05.4	
QUIF	Quistinic	4.92	348	ePn	Pn	04 39 33.0	-1.9
QUIF				eSn	Sn	04 40 27.4	-4.0
	1.8nm,0.3s						
ELOB	Lobios	4.93	258	Pn	Pn	04 39 34.4	-0.6
ELOB				Sn	Sn	04 40 27.7	-4.0
ELOB				Sg	Sb	04 40 54.8	+8.3
PGAV	Gavieira, Arco	5.05	259	eSn	Sn	04 40 33.6	-1.1
SGMF	Saint Gilles	5.18	353	ePn	Pn	04 39 36.8	-1.6
SGMF				eSn	Sn	04 40 33.3	-4.5
	1.2nm,0.2s						
PVIS	Viseu	5.26	245	eSn	Sn	04 40 36.4	-3.5
GRR	Gorron	5.30	5	ePn	Pn	04 39 38.4	-1.6
GRR				eSn	Sn	04 40 34.5	-6.2
	1.1nm,0.2s						
ROSF	Rostrenen	5.35	348	ePn	Pn	04 39 38.8	-1.9
ROSF				eSn	Sn	04 40 34.7	-7.2
	1.8nm,0.2s						
EQES	Quesada	5.42	192	Pn	Pn	04 39 42.1	+0.3
EQES				Sn	Sn	04 40 41.0	-2.9
EQES				Sg	Sg	04 41 11.9	-3.8
EADA	Adamuz	5.43	206	Pn	Pn	04 39 41.9	0.0
EADA				Sn	Sn	04 40 39.3	-4.8
EADA				Sg	Sb	04 41 10.4	+9.4
PMRV	Marv??o	5.70	232	ePn	Pn	04 39 45.3	-0.3
PMRV				eSn	Sn	04 40 46.0	-4.7
PMRV				i IAML		04 40 50.1	
PMRV				i IAML		04 41 24.1	
PMRV				i IAML		04 41 32.5	
ECAB	El Cabril	5.81	211	Pn	Pn	04 39 46.8	-0.2
ECAB				Sn	Sn	04 40 47.3	-6.0
EBAD	Badajoz	5.97	225	Pn	Pn	04 39 48.5	-0.8
EBAD				Sn	Sn	04 40 52.1	-5.2
EBAD				Sg	Sb	04 41 26.3	+10
PSARD	Sardoal	6.05	237	ePn	Pn	04 39 50.2	-0.2
PESTR	Estremoz	6.20	229	ePn	Pn	04 39 52.3	-0.1
PMTG	Montargil	6.42	233	eSn	Sn	04 41 03.2	-5.2
PBAR	Barrancos	6.43	222	ePn	Pn	04 39 56.5	+0.9

IDC 22 04:42:14.9±0.8, 7.42°N×124.49°E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=24.4km s-min=10.6km az=34.0

NEIC 22 04:42:16.5±2.0, 7.42°N±0.09°×124.58°E±0.06°, h10km±1km, mb4.4/11, Error ellipse: s-maj=15.9km s-min=7.3km az=205.0

ISC 22 04:42:17.2±0.6, 7.41°N±0.08°×124.56°E±0.06°, h19km, n26, σ1.09s/27, mb4.0/16, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.07	108		Pn	04 42 36.6	-0.6
DAV				Sg	Sb	04 42 50.3	-0.4
DAV	Davao City (W)	1.07	108	Pg	Pn	04 42 36.8	-0.4
	300nm,0.3s,baz=281,slow=16,SNR=7.0						
DAV				Lg	Lg	04 42 52.5	
	864nm,0.3s,baz=218,slow=19,SNR=33						
MYLDM	Lahad Datu	6.41	250	Pn	Pn	04 43 50.1	-0.5
TOLI2	Tolitoli	7.30	211		Pn	04 44 01.8	-1.0
MTN	Manton Dam	21.15	162	P	P	04 46 59.4	-2.0
MTN				IAmb	IAmb	04 47 29.8	
	comp=Z,29nm,1.3s						
IPM	Ipoh	23.58	264	P	P	04 47 25.6	-1.4
IPM				IAmb	IAmb	04 48 05.3	
	comp=Z,13nm,1.2s						
FITZ	Fitzroy Crossi	25.36	178	P	P	04 47 45.0	+1.7
WB0	Warramunga Arr	28.69	160	P	P	04 48 13.6	+0.4
WB0				IAmb	IAmb	04 48 48.5	
	comp=Z,12nm,1.3s						
WRA	Warramunga Arr	28.83	161	P	P	04 48 14.9	+0.4
	comp=Z,0.8nm,0.9s,baz=340,slow=9.6,SNR=6.2						
	comp=Z,0.8nm,0.9s						
WR8	Warramunga Arr	28.90	160	P	P	04 48 15.3	+0.2
WR8				IAmb	IAmb	04 48 33.2	
	comp=Z,9.0nm,1.3s						
KSAR	Wonju Array Be	30.05	5	P	P	04 48 25.2	+0.1
INU	Inuyama	30.07	21	P	P	04 48 22.9	-2.5
INU				IAmb	IAmb	04 48 30.3	
	comp=Z,7.9nm,0.9s						
ASAR	Alice Springs	32.21	164	P	P	04 48 45.5	+1.2
	comp=Z,0.3nm,0.4s,baz=345,slow=7.8,SNR=5.7						
	comp=Z,0.3nm,0.4s						
NWAO	Narrogin (SRO)	40.71	189	P	P	04 49 57.5	+0.8
STKA	Stephens Creek	42.32	158	P	P	04 50 10.3	+0.4
	comp=Z,0.5nm,0.3s,baz=342,slow=11,SNR=3.5						
	comp=Z,0.5nm,0.3s						
SONM	Songino Array	43.15	342	P	P	04 50 15.9	-0.8
	comp=Z,0.4nm,0.6s,baz=161,slow=9.4,SNR=4.3						
	comp=Z,0.4nm,0.6s						
PETK	Petropavlovsk-	52.93	24	P	P	04 51 32.2	+0.1
	comp=Z,1.1nm,0.5s,baz=264,slow=14,SNR=5.4						
	comp=Z,1.1nm,0.5s						
MKAR	Makanchi Array	53.32	325	P	P	04 51 35.6	+0.5
	comp=Z,1.4nm,0.9s,baz=122,slow=7.7,SNR=7.5						
	comp=Z,1.4nm,0.9s						
ZALV	Zalesovo Beam	56.35	333	P	P	04 51 57.7	+0.8
	comp=Z,0.4nm,0.4s,baz=106,slow=7.7,SNR=1.5						
	comp=Z,0.4nm,0.4s						
KURBB	Kurchatov Arra	57.50	327	P	P	04 52 05.9	+0.8
	comp=Z,0.6nm,0.8s,baz=126,slow=7.7,SNR=4.8						
	comp=Z,0.6nm,0.8s						
BVAR	Borovoye Array	63.08	327	P	P	04 52 44.6	+1.3
	comp=Z,0.7nm,0.5s,baz=124,slow=7.4,SNR=4.9						
	comp=Z,0.7nm,0.5s						
ABKAR	Akbulak array	67.95	320	P	P	04 53 15.1	+0.2
H18K	Honhosa River	77.89	25	P	P	04 54 13.4	-0.1
H18K				IAmb	IAmb	04 54 19.8	
	comp=Z,3.2nm,1.1s						
C19K	Lookout Ridge	78.08	21	P	P	04 54 15.2	+0.6
I23K	Minto, Yukon-K	81.68	25	P	P	04 54 35.3	+1.3
I23K				IAmb	IAmb	04 54 43.1	
	comp=Z,3.6nm,1.4s						
NEA2	Nenana	81.80	26	P	P	04 54 36.6	+1.9

TRN 22 04:48:48.6, 16.46°N×61.11°W, h26km, MD3.5, Near

North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSDZ	**La Diserade, G**	**0.15**	**165**	*e*P	Pn	04 48 55.1	-0.1
DSDZ				*e*S	Sb	04 48 59.5	+2.0
DHSZ	**Broadband at M**	**0.66**	**254**	*e*P	Pn	04 49 04.0	+1.8
DHSZ				*e*S	Sn	04 49 14.5	+2.7
MMLZ	**Guadeloupe Bro**	**0.68**	**233**	*e*P	Pn	04 49 03.9	+1.4
MMLZ				*e*S	Sn	04 49 15.2	+2.9
ATGZ	**Broadband at L**	**0.70**	**239**	*e*P	Pn	04 49 04.6	+1.8
ATGZ				*e*S	Sn	04 49 15.2	+2.5
TBG	**Guadaloupe-3**	**0.80**	**221**	*e*P	Pn	04 49 05.8	+1.7
TBG				*e*S	Sn	04 49 18.0	+2.9
DWS	**Wesley**	**0.91**	**193**	*e*P	Pb	04 49 07.1	+1.4
DWS				*e*S	Sn	04 49 19.9	+2.0
DSLB	**Salisbury**	**1.06**	**197**	*e*P	Pb	04 49 09.4	+1.0
DSLB				*e*S	Sb	04 49 24.2	+2.4
MBWH		**1.08**	**285**	*e*P	Pb	04 49 09.6	+1.0
MBWH				*e*S	Sb	04 49 24.2	+1.9
MBFL	**Flemmings, Mon**	**1.10**	**285**	*e*P	Pb	04 49 10.2	+1.2
MBFL				*e*S	Sb	04 49 25.8	+2.8
ANWB	**Willy Bob**	**1.36**	**332**	*e*P	Pb	04 49 13.0	-0.5
BIM	**Bigot**	**1.93**	**179**	*e*S	Sb	04 49 46.3	-0.6

CNRM ***22*** *04:50:21.2, 36°.45N×7°.70W, h72km, ML2.4*
MDD ***22*** *04:50:22.5±0.8, 36°.59N×7°.55W, h16km±4km, mb_Lg2.4/9, Error ellipse: s-maj=6.4km s-min=3.1km az=16.0*
SFS ***22*** *04:50:23.0, 36°.58N×7°.52W, h54km, ML2.4/12, ML2.6/13, MLv2.4/13*
IGIL ***22*** *04:50:23.9, 36°.58N×7°.56W, h19km, ML1.7*
INMG ***22*** *04:50:24.4±1.7, 36°.60N×7°.58W, h18km±4km, ML1.7, Error ellipse: s-maj=3.9km s-min=3.5km az=59.0, #DIST_RANGE: LOCAL #IPMA_REGION: Golfo de Cadiz*

ISC 22 04:50:19.7±0.8, 36°.53N±0'.03×7°.50W±0'.02, h10km, n66, σ1§74/105, 4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.79**	**334**	P	**Pn**	**04 50 37.8**	**+0.9**
PBDV	**Barranco-do-Ve**	**0.79**	**334**	⇓P	**Pn**	**04 50 37.8**	**+0.9**
PBDV				*e*S	**Sb**	**04 50 46.8**	**+0.5**
PBDV				*i* IAML		04 50 47.5	
PBDV				*i* IAML		04 50 47.8	
PBDV				*i* IAML		04 50 51.5	
PVAQ	**Vaqueiros**	**0.89**	**349**	⇓*e*P	**Pn**	**04 50 39.2**	**+0.9**
PVAQ				*e*S	**Sb**	**04 50 49.3**	**+0.2**
PVAQ				*i* IAML		04 50 49.8	
PVAQ				*i* IAML		04 50 50.0	
PVAQ				*i* IAML		04 50 50.1	
PVAQ	**Vaqueiros**	**0.89**	**349**	P	**Pn**	**04 50 38.9**	**+0.6**
PVAQ	**Vaqueiros**	**0.89**	**349**	S	**Sn**	**04 50 52.7**	**+1.5**
EGRO	**El Granado**	**1.00**	**1**	S	**Sb**	**04 50 52.8**	**+0.4**
EGRO				P	**Pn**	**04 50 41.0**	**+1.2**
EGRO	**El Granado**	**1.00**	**1**	Pg	**Pn**	**04 50 40.7**	**+0.9**
EGRO				Sg	**Sg**	**04 50 52.1**	**+0.1**
EGRO				*i* IVmb_Lg		04 50 53.7	
PCVE	**Castro Verde**	**1.18**	**339**	P	**Pg**	**04 50 43.4**	**+1.1**
PCVE				S	**Sg**	**04 50 57.1**	**-0.4**
PCVE	**Castro Verde**	**1.18**	**339**	*e*P	**Pg**	**04 50 43.5**	**+1.1**
PCVE				*e*S	**Sb**	**04 50 57.4**	**-0.1**
PCVE				*i* IAML		04 51 04.0	
PCVE				*i* IAML		04 51 05.1	
MORF	**Marmelete**	**1.20**	**310**	*e*P	**Pb**	**04 50 43.3**	**+0.7**
MORF				*e*S	**Sb**	**04 50 57.2**	**-1.1**
MORF				IAML		04 50 58.7	
	comp=N,12nm,0.2s						
MORF	**Marmelete**	**1.20**	**310**	⇓*e*P	**Pb**	**04 50 43.4**	**+0.7**
MORF				*e*S	**Sb**	**04 50 57.2**	**-1.1**
MORF				*i* IAML		04 51 06.0	
MORF				*i* IAML		04 51 06.4	
MORF				*i* IAML		04 51 06.6	
PFVI	**Vila Bisbo**	**1.22**	**300**	P	**Pb**	**04 50 43.8**	**+0.9**
PFVI				S	**Sn**	**04 51 01.8**	**+2.4**
PFVI	**Vila Bisbo**	**1.22**	**300**	*e*P	**Pb**	**04 50 43.8**	**+0.9**
PFVI				*e*S	**Sb**	**04 50 57.6**	**-1.1**
PFVI				*i* IAML		04 51 03.3	
PFVI				*i* IAML		04 51 05.6	
PFVI				*i* IAML		04 51 06.9	
PFVI	**Vila Bisbo**	**1.22**	**300**	P	**Pn**	**04 50 42.5**	**-0.3**
ESPR	**Espera**	**1.36**	**75**	P	**Pb**	**04 50 46.8**	**+0.9**
ESPR				S	**Sg**	**04 51 04.5**	**+1.0**
ESPR	**Espera**	**1.36**	**75**	Pg	**Pg**	**04 50 47.0**	**+1.2**
ESPR				Sg	**Sg**	**04 51 04.3**	**+0.8**
ESPR				*i* IVmb_Lg		04 51 05.5	
EMIN	**Mina Concepcio**	**1.40**	**28**	P	**Pb**	**04 50 46.3**	**+0.4**
EMIN				S	**Sb**	**04 51 02.1**	**-1.8**
EMIN	**Mina Concepcio**	**1.40**	**28**	Pn	**Pn**	**04 50 45.7**	**+0.4**
EMIN				Sn	**Sb**	**04 51 03.0**	**-0.8**
EMIN				*i* IVmb_Lg		04 51 06.1	
PTEO	**Sao Teotonio**	**1.41**	**316**	*e*P	**Pb**	**04 50 46.6**	**+0.6**
PTEO				*e*S	**Sn**	**04 51 03.0**	**-1.0**
PTEO				*i* IAML		04 51 03.3	
PTEO				*i* IAML		04 51 12.2	
MESJ	**Messejana**	**1.43**	**336**	*e*P	**Pn**	**04 50 46.5**	**+0.8**
MESJ	**Messejana**	**1.43**	**336**	⇓*e*P	**Pn**	**04 50 46.8**	**+1.1**
MESJ				*e*S	**Sn**	**04 51 03.8**	**-0.7**
MESJ				*i* IAML		04 51 10.8	
MESJ				*i* IAML		04 51 11.8	
MESJ				*i* IAML		04 51 19.8	
EJIF	**Jimena Fronter**	**1.64**	**92**	Sn	**Sn**	**04 51 10.4**	**+0.7**
PBAR	**Barrancos**	**1.68**	**12**	P	**Pn**	**04 50 50.3**	**+1.2**
PBAR				S	**Sn**	**04 51 11.5**	**+0.8**
PBAR	**Barrancos**	**1.68**	**12**	*e*P	**Pn**	**04 50 50.5**	**+1.3**
PBAR				*e*S	**Sn**	**04 51 09.5**	**-1.2**
PBAR				*i* IAML		04 51 13.6	
PBAR				*i* IAML		04 51 17.1	
PBAR				*i* IAML		04 51 17.8	
EVO	**Evora**	**2.04**	**349**	P	**Pn**	**04 50 55.1**	**+1.0**
EVO	**Evora**	**2.04**	**349**	*e*P	**Pn**	**04 50 55.4**	**+1.3**
EBAD	**Badajoz**	**2.25**	**10**	S	**Sn**	**04 51 23.6**	**-1.2**
EBAD				P	**Pn**	**04 50 57.6**	**+0.6**
EBAD	**Badajoz**	**2.25**	**10**	Pn	**Pn**	**04 50 57.3**	**+0.3**
EBAD				Sn	**Sn**	**04 51 23.5**	**-1.3**
EBAD				*i* IVmb_Lg		04 51 28.5	
ECAB	**El Cabril**	**2.26**	**47**	P	**Pb**	**04 50 59.8**	**-0.9**
ECAB				S	**Sn**	**04 51 22.5**	**-2.7**
ECAB	**El Cabril**	**2.26**	**47**	Pn	**Pn**	**04 50 57.9**	**+0.7**
ECAB				Sn	**Sn**	**04 51 23.9**	**-1.3**
ECAB				*i* IVmb_Lg		04 51 26.3	
PESTR	**Estremoz**	**2.33**	**358**	S	**Sn**	**04 51 24.3**	**-2.6**
PESTR				P	**Pn**	**04 50 58.1**	**-0.1**
PESTR	**Estremoz**	**2.33**	**358**	*e*P	**Pn**	**04 50 59.2**	**+1.0**
PESTR				*e*S	**Sn**	**04 51 24.2**	**-2.7**
PESTR				*i* IAML		04 51 34.5	
PESTR				*i* IAML		04 51 37.0	
PESTR				*i* IAML		04 51 39.9	
PESTR	**Estremoz**	**2.33**	**358**	P	**Pn**	**04 50 59.0**	**+0.9**
PESTR	**Estremoz**	**2.33**	**358**	S	**Sn**	**04 51 26.4**	**-0.4**
PARRA	**Arraiolos**	**2.59**	**332**	*e*P	**Pn**	**04 50 59.2**	**-2.4**
PARRA				*e*S	Sn	04 51 24.7	-8.4
PARRA				*i* IAML		04 51 25.5	
PARRA				*i* IAML		04 51 25.5	
PARRA				*i* IAML		04 51 37.4	
PMTG	**Montargil**	**2.60**	**347**	*e*P	**Pn**	**04 51 03.0**	**+1.2**
PMTG				*e*S	**Sn**	**04 51 31.6**	**-1.7**
PMTG				*i* IAML		04 51 32.7	
PMTG				*i* IAML		04 51 47.6	
PMTG				*i* IAML		04 51 49.4	
EGOR	**Sierra Gorda,**	**2.78**	**77**	S	**Sn**	**04 51 38.3**	**+0.2**
PMAFR	**Mafra**	**2.80**	**330**	S	**Sn**	**04 51 33.4**	**-5.1**
PMAFR				P	**Pn**	**04 51 05.7**	**+1.1**
PMAFR	**Mafra**	**2.80**	**330**	*e*P	**Pn**	**04 51 05.7**	**+1.1**
PMAFR				*e*S	**Sn**	**04 51 31.5**	**-7.0**
PMAFR				*i* IAML		04 51 35.1	
PMAFR				*i* IAML		04 51 44.0	
PMAFR				*i* IAML		04 51 44.3	
EADA	**Adamuz**	**2.84**	**54**	P	**Pn**	**04 51 07.0**	**+1.8**
EADA				S	**Sn**	**04 51 37.7**	**-1.8**
EADA	**Adamuz**	**2.84**	**54**	Pn	**Pn**	**04 51 06.9**	**+1.7**
EADA				Sn	**Sn**	**04 51 38.1**	**-1.4**
EADA				*i* IVmb_Lg		04 51 41.0	
PMRV	**Marv??o**	**2.89**	**2**	*e*P	**Pn**	**04 51 07.0**	**+1.1**
PMRV				*e*S	**Sn**	**04 51 38.8**	**-1.9**
PMRV				*i* IAML		04 51 40.0	
PMRV				*i* IAML		04 51 40.8	
PMRV				*i* IAML		04 51 48.9	
PSARD	**Sardoal**	**3.11**	**350**	*e*P	**Pn**	**04 51 10.1**	**+1.3**
PSARD				*e*S	**Sn**	**04 51 43.4**	**-2.6**
PSARD				*i* IAML		04 51 45.0	
PSARD				*i* IAML		04 51 46.1	
PSARD				*i* IAML		04 51 46.9	
PCBR	**Castelo Branco**	**3.30**	**0**	*e*P	**Pn**	**04 51 12.7**	**+1.2**
PCBR				*e*S	**Sn**	**04 51 48.5**	**-2.3**
PCBR				*i* IAML		04 51 49.7	
PCBR				*i* IAML		04 51 49.7	
PCBR				*i* IAML		04 52 05.7	
AKLM	**AKL**	**3.59**	**123**	P	**Pn**	**04 51 13.5**	**-1.9**
AKLM	**AKL**	**3.59**	**123**	S	**Sn**	**04 51 55.6**	**-2.3**
PSIM	**Granatula de C**	**3.75**	**51**	Pn	**Pn**	**04 51 19.5**	**+1.9**
PSIM				Sn	**Sn**	**04 52 00.5**	**-1.2**
EQES	**Quesada**	**3.76**	**69**	Sn	**Sn**	**04 52 02.4**	**+0.2**
EQES				*i* IVmb_Lg		04 52 04.9	
MTE	**Manteigas**	**3.86**	**359**	*e*P	**Pn**	**04 51 20.3**	**+1.1**
MTE				*e*S	**Sn**	**04 52 02.2**	**-2.5**
PAB	**San Pablo**	**3.90**	**39**	Pn	**Pn**	**04 51 20.9**	**+1.1**
PAB				Sn	**Sn**	**04 52 01.4**	**-4.3**
PAB				*i* IVmb_Lg		04 52 09.9	
SRHM	**Skhour des Reh**	**4.07**	**185**	P	**Pn**	**04 51 23.4**	**+1.4**
SRHM	**Skhour des Reh**	**4.07**	**185**	S	**Sn**	**04 52 10.8**	**+1.0**
PVIS	**Viseu**	**4.19**	**356**	*e*P	**Pn**	**04 51 24.6**	**+0.9**
PVIS				*e*S	**Sn**	**04 52 09.6**	**-3.1**
MD31	**MD31**	**4.30**	**148**	P	**Pn**	**04 51 25.1**	**-0.2**
MD31	**MD31**	**4.30**	**148**	S	**Sn**	**04 52 13.5**	**-2.0**
MDT	**Midelt**	**4.41**	**146**	P	**Pn**	**04 51 27.0**	**+0.2**
MDT	**Midelt**	**4.41**	**146**	S	**Sn**	**04 52 18.3**	**+0.1**
MVO	**Moncorvo**	**4.64**	**4**	*e*P	**Pn**	**04 51 31.2**	**+1.3**
MVO				*e*S	**Sn**	**04 52 20.6**	**-3.2**
POLO	**Lamas de Olo**	**4.84**	**357**	*e*P	**Pn**	**04 51 33.6**	**+0.9**
POLO				*e*S	**Sn**	**04 52 25.6**	**-3.2**
POLO				*i* IAML		04 52 26.9	
POLO				*i* IAML		04 52 27.1	
POLO				*i* IAML		04 52 27.6	
PBRG	**Braganca**	**5.30**	**6**	*e*P	**Pn**	**04 51 39.9**	**+0.9**
PGAV	**Gavieira, Arco**	**5.46**	**354**	*e*P	**Pn**	**04 51 42.2**	**+1.1**
TIO	**Tiouine**	**5.59**	**178**	P	**Pn**	**04 51 45.4**	**+2.3**
TIO				S	**Sn**	**04 52 44.9**	**-2.7**
TIO	**Tiouine**	**5.59**	**178**	P	**Pn**	**04 51 42.1**	**-1.1**
TIO	**Tiouine**	**5.59**	**178**	S	**Sn**	**04 52 43.5**	**-4.1**
OUZM	**OUZ**	**5.64**	**174**	P	**Pn**	**04 51 43.3**	**-0.5**
OUZM	**OUZ**	**5.64**	**174**	S	**Sn**	**04 52 47.0**	**-1.8**

WEL 22 05:00:31.1±0.8, 35°S±8°×17°9E±1°1, h224km±14km, M4.0/13, mB4.3/2, ML4.1/8, MLv4.0/13, Mw(mB)3.4/2, Error ellipse: s-maj=15.4km s-min=9.6km az=106.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.87**	**198**	P	Pn	05 01 21.5	+1.1
MXZ				S	S	05 01 58.4	-0.8
WMGZ	**Waiomatatini S**	**3.09**	**195**	P	Pn	05 01 21.4	-1.6
HAZ	**Te Kaha**	**3.21**	**204**	P	Pn	05 01 25.7	+1.5
HAZ				S	S	05 02 06.2	+0.2
PKGZ	**Pakihiroa**	**3.22**	**199**	P	Pn	05 01 24.5	+0.1
PKGZ				S	S	05 02 06.8	+0.4
PUZ	**Puketiti**	**3.37**	**196**	P	Pn	05 01 26.6	+0.4
PUZ				S	S	05 02 08.6	-0.9
RUGZ	**Raukumara Rang**	**3.43**	**204**	P	Pn	05 01 27.4	+0.3
TWGZ	**Tauwhareparae**	**3.54**	**199**	S	S	05 02 15.5	+2.5
KUZ	**Kuaotunu**	**3.56**	**237**	P	Pn	05 01 28.0	-0.5
CNGZ	**Carnagh Statio**	**3.77**	**195**	P	Pn	05 01 31.8	+0.8
OPRZ	**Ohinepanea**	**3.79**	**217**	P	Pn	05 01 31.9	+0.7
TKGZ	**Te Karaka**	**3.82**	**199**	P	Pn	05 01 31.4	-0.1
TKGZ				S	S	05 02 19.0	0.0
URZ	**Urewera**	**3.90**	**208**	P	Pn	05 01 32.9	+0.5
URZ				S	S	05 02 21.9	+1.2
RIGZ	**Rimuhau**	**4.09**	**199**	P	Pn	05 01 33.9	-0.9
RIGZ				S	S	05 02 25.1	0.0
MKAZ	**Moumakai**	**4.13**	**235**	P	Pn	05 01 35.8	+0.5
PRGZ	**Paritu Road**	**4.27**	**196**	P	Pn	05 01 37.0	+0.1
PRGZ				S	S	05 02 30.0	+1.1
SNGZ	**Shannon Statio**	**4.28**	**202**	P	Pn	05 01 37.6	+0.5
SNGZ				S	S	05 02 30.3	+1.0
WCZ	**Waipu Caves**	**4.29**	**254**	P	Pn	05 01 36.0	-1.3
KNZ	**Kokohu**	**4.41**	**198**	P	Pn	05 01 38.3	-0.4
KNZ				S	S	05 02 32.3	+0.2
MHGZ	**Mahia Peninsul**	**4.48**	**195**	P	Pn	05 01 39.7	+0.2
MTHZ	**Maungataniwha**	**4.52**	**207**	P	Pn	05 01 40.9	+0.9
MTHZ				S	S	05 02 35.5	+1.0
MRHZ	**Matea Rd**	**4.67**	**210**	P	Pn	05 01 41.8	-0.1
MRHZ				S	S	05 02 39.5	+1.6
NMHZ	**Naumai**	**4.75**	**205**	P	Pn	05 01 43.8	+0.8
NMHZ				S	S	05 02 41.0	+1.3
ARHZ	**Aropaoanui**	**4.83**	**203**	P	Pn	05 01 44.0	+0.1
ARHZ				S	S	05 02 42.6	+1.1
MCHZ	**McNeill Hill**	**5.09**	**204**	P	Pn	05 01 47.1	-0.1
MCHZ				S	S	05 02 50.4	+2.9
OTVZ	**Oturere**	**5.27**	**214**	P	Pn	05 01 49.9	+0.4
KAHZ	**Kahuranaki**	**5.35**	**202**	P	Pn	05 01 50.1	-0.4
KAHZ				S	S	05 02 53.0	-0.4
KRHZ	**Kereru**	**5.38**	**206**	P	Pn	05 01 49.8	-1.1
KRHZ				S	S	05 02 53.6	-0.5
FWVZ	**Far West T-bar**	**5.39**	**214**	P	Pn	05 01 51.0	-0.1
PNHZ	**Pukenui**	**5.69**	**206**	P	Pn	05 01 53.0	-1.7
PNHZ				S	S	05 02 58.8	-2.2
PRHZ	**Porangahau**	**5.86**	**201**	P	Pn	05 01 55.7	-1.1
PRHZ				S	S	05 03 04.6	-0.4
BFZ	**Birch Farm**	**6.36**	**202**	P	Pn	05 02 01.9	-1.3
BFZ				S	S	05 03 12.7	-3.8
MRZ	**Mangatainoka R**	**6.57**	**206**	P	Pn	05 02 03.7	-2.1
MRZ				S	S	05 03 17.4	-4.0
HOWZ	**Holdsworth Sta**	**6.80**	**206**	P	Pn	05 02 06.6	-2.3
HOWZ				S	S	05 03 21.9	-4.9
OGWZ	**Otaki Gorge**	**6.86**	**208**	P	Pn	05 02 07.9	-1.6
OGWZ				S	S	05 03 24.9	-3.2
TMWZ	**Te Maipa**	**6.86**	**203**	P	Pn	05 02 07.0	-2.6
KIW	**Kapiti Island**	**7.00**	**209**	P	Pn	05 02 09.7	-1.7
MTW	**Mount Morrison**	**7.03**	**205**	P	Pn	05 02 09.6	-2.2
MTW				S	S	05 03 28.9	-3.4
CAW	**Cannon Point**	**7.15**	**207**	P	Pn	05 02 11.4	-1.9
CAW				S	S	05 03 31.0	-3.9
TCW	**Tory Channel**	**7.55**	**211**	P	Pn	05 02 16.5	-1.9

IDC ***22*** *05:31:43.0±0.5, 4°.83S×68°.61E, h0km, mb4.3/28, mbtmp4.3/28, MS4.0/53, Error ellipse: s-maj=17.0km s-min=13.3km az=69.0*
BJI ***22*** *05:31:42.9, 5°.05S×68°.56E, h21km, mB4.9/10, mb4.9/48, Ms4.6/14, Ms7 4.3/18*
NEIC ***22*** *05:31:44.2±1.5, 5°.00S±0°.09×68°.55E±0°.09, h10km±1km, mb4.9/36, Error ellipse: s-maj=20.2km s-min=8.3km az=225.0*
GCMT ***22*** *05:31:46.2±0.2, 4°.89S±0°.01×68°.51E±0°.01, h14km±1km, MW5.0/128, Moment Tensor Solution. s46,c52; s128,c193; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.15±.11; Mθθ-3.00±.08; Mϕϕ4.15±.11; Mrθ-0.97±.21; Mθϕ-0.98±.08; Mϕr-0.59±.18; Best double couple: Mo3.95100×10^16 NP1:ϕs129.00000°, δ70.00000°, λ-166.00000°. NP2:ϕs35.00000°, δ77.00000°, λ-20.00000°. Principal axes: T 4.3220, Plg5.0000°, Azm83.0000°; N -0.7420, Plg66.0000°, Azm184.0000°; P -3.5800, Plg23.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 05:31:44.9±0.4, 4°.87S±0°.06×68°.63E±0°.05, h13km, n138, σ1§33/109, mb4.8/60, MS4.1/58, 5C-2D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.56**	**124**		**Pn**	**05 32 53.0**	**-0.7**
H08S3	**Diego Garcia H**	**4.71**	**126**	Pn	**Pn**	**05 32 54.3**	**-1.2**
H08S3				Sn	**Sn**	**05 33 48.7**	**-1.2**
	baz=308,slow=74						
H08S3				T	T	05 37 43.5	
	baz=302,slow=80,SNR=230						
H08S1	**Diego Carcia H**	**4.71**	**126**	Pn	**Pn**	**05 32 54.3**	**-1.2**
H08S1				Sn	**Sn**	**05 33 48.8**	**-1.2**
	baz=108,slow=74						
H08S1				T	T	05 37 50.8	
	baz=302,slow=80,SNR=192						
H08S2	**Diego Garcia H**	**4.73**	**126**	Pn	**Pn**	**05 32 54.5**	**-1.2**
H08S2				Sn	**Sn**	**05 33 49.0**	**-1.4**
H08S2				T	T	05 37 44.9	
	baz=302,slow=80,SNR=318						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**13.11**	**270**	Pn	**Pn**	**05 34 48.5**	**-2.5**
ROCAM	**Rodrigues Isla**	**15.65**	**199**	Pn	**Pn**	**05 35 23.3**	**-2.1**
PALK	**Pallekele**	**17.05**	**45**		**Pn**	**05 35 44.5**	**+1.2**
PALK	**Pallekele**	**17.05**	**45**	P	**P**	**05 35 45.9**	**+0.8**
	15nm,0.3s,baz=228,slow=12,SNR=28						
PALK				S	**Sn**	**05 38 44.7**	**-8.2**
	13nm,1.0s,baz=210,slow=20,SNR=2.0						
PALK				LR	LR	05 41 08.0	
	comp=Z,936nm,18.4s,baz=226,slow=33						
KCSI	**Kotacane, Aceh**	**30.28**	**75**	P	**P**	**05 37 57.4**	**+1.2**
	3μm21nm,1.1s						
ATD	**Arta Tunnel**	**30.39**	**303**	LR	LR	05 47 23.9	
	comp=Z,14nm,21.9s,baz=123,slow=31						
PSI	**Prapat**	**31.21**	**76**	LR	LR	05 49 06.3	
	comp=Z,999nm,18.5s,baz=242,slow=33						
KMBO	**Kilima Mbogo**	**31.55**	**276**	LR	LR	05 48 25.4	
	comp=Z,621nm,21.3s,baz=108,slow=32						
LHSI	**Lahat**	**34.81**	**90**	P	**P**	**05 38 37.1**	**+1.3**
MDSI	**Maura Dua**	**35.43**	**91**	P	**P**	**05 38 42.5**	**+1.3**
	25nm,1.2s						
BRDH	**Bariadhala**	**35.44**	**39**	LR	LR	05 53 00.8	
	comp=Z,451nm,20.9s,baz=138,slow=36						
EVN	**Everest**	**37.05**	**27**		**P**	**05 38 55.2**	**-0.4**
SHL	**Shillong**	**37.75**	**36**		**P**	**05 39 01.4**	**+0.4**
SHL				IAmb	IAmb	05 39 02.7	
	comp=Z,22nm,1.2s						
CM31	**Chiang Mai Arr**	**37.82**	**51**	P	**P**	**05 39 01.6**	**0.0**
CM31				IAmb	IAmb	05 39 03.7	
	comp=Z,17nm,1.1s						
CMAR	**Chiang Mai Arr**	**37.82**	**51**		**P**	**05 39 01.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.82**	**51**	P	**P**	**05 39 02.3**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=244,slow=9.3,SNR=28						
CMAR				PcP	**PcP**	**05 41 18.3**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=239,slow=5.4,SNR=4.6						
CMAR				LR	LR	05 54 17.6	
	comp=Z,220nm,18.5s,baz=245,slow=36						
	comp=Z,5.7nm,0.8s						
CHTO	**Chiang Mai**	**38.02**	**51**		**P**	**05 39 03.7**	**+0.5**
CHTO				IAmb	IAmb	05 39 05.2	
	comp=Z,15nm,0.9s						
NIL	**Nilore**	**38.56**	**6**		**P**	**05 39 08.3**	**+0.8**
LEM	**Lembang**	**38.83**	**95**	LR	LR	05 52 44.8	
	comp=Z,400nm,20.1s,baz=285,slow=32						
KBL	**Kabul**	**39.20**	**1**	P	**P**	**05 39 13.6**	**+0.5**
LSZ	**Lusaka**	**41.06**	**252**	LR	LR	05 53 32.2	
	comp=Z,478nm,20.6s,baz=112,slow=32						
TNCH	**TengChong**	**41.56**	**43**	⇓P	**P**	**05 39 32.9**	**0.0**
TNCH				pP	sP	05 39 38.8	+1.4
TNCH				sP	pwP	05 39 40.1	+0.9
TNCH				S	**S**	**05 45 50.8**	**+1.9**
TNCH				sS	sS	05 45 57.8	+3.4
TNCH				pmax	pmax		
	comp=Z,56nm,0.8s						
TNCH				LR	LR		
	comp=Z,400nm,14.8s						
TNCH				LR	LR		
	comp=Z,300nm,8.8s						
TNCH				LR	LR		
	comp=Z,330nm,21.7s						
KSM	**Kuching**	**42.11**	**82**	P	**P**	**05 39 37.2**	**-0.1**
KSM				IAmb	IAmb	05 39 39.7	
	comp=Z,25nm,1.1s						
DLV	**Lat**	**43.01**	**67**	P	**P**	**05 39 44.8**	**0.0**
SLVN	**Son La**	**43.29**	**52**		**P**	**05 39 47.5**	**+0.7**
H04N2	**CROZET ISLANDS**	**43.65**	**197**	T	T	06 26 55.5	
	baz=18,slow=75,SNR=4.1						
H04N1	**CROZET ISLANDS**	**43.66**	**197**	T	T	06 26 43.8	
	baz=18,slow=75,SNR=3.8						
H04N3	**CROZET ISLANDS**	**43.67**	**197**	T	T	06 27 10.8	
	baz=18,slow=75,SNR=4.2						
GAR	**Garm**	**43.68**	**2**	P	**P**	**05 39 50.4**	**+0.6**
SBUM	**Sibu**	**44.15**	**81**	P	**P**	**05 39 53.7**	**-0.2**
SBUM				IAmb	IAmb	05 39 55.9	
	comp=Z,51nm,1.9s						
KMI	**Kunming**	**44.58**	**46**	P	**P**	**05 39 58.3**	**+0.9**
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
KMI				LR	LR		
	comp=Z,440nm,24.9s						
KSH	**Kashi**	**44.69**	**8**	P	**P**	**05 39 55.1**	**-2.7**
KSH				pmax	pmax		
	comp=Z,16nm,1.0s						
PZH	**PanZhiHua**	**44.73**	**44**	P	**P**	**05 39 59.5**	**+1.1**
PZH				pmax	pmax		
	comp=Z,40nm,1.2s						
LBTB	**Lobatse**	**45.87**	**240**	LR	LR	05 56 42.8	
	comp=Z,426nm,21.1s,baz=74,slow=33						
QIZ	**Qiongzhong**	**47.02**	**58**	P	**P**	**05 40 16.8**	**+0.4**
QIZ				ScP	**ScP**	**05 45 43.6**	**+1.1**
QIZ				S	**S**	**05 47 10.6**	**+2.5**
QIZ				pmax	pmax		
	comp=Z,380nm,9.1s						
QIZ				LR	LR		
	comp=Z,230nm,10.9s						
QIZ				LR	LR		
	comp=Z,240nm,12.2s						
QIZ				LR	LR		
	comp=Z,290nm,17.7s

comp=Z,4.7nm,0.8s,baz=156,slow=8.4,SNR=7.4
KBZ LR LR 06 04 37.3
comp=Z,71nm,18.4s,baz=150,slow=37
comp=Z,4.7nm,0.8s
XAN Xi'an 54.26 41 P **P** **05 41 10.0 -0.9**
XAN pmax pmax
comp=Z,28nm,0.8s
AB31 Akbulak array 54.44 353 **P** **05 41 12.3 +0.4**
AB31 IAmb IAmb 05 41 15.5
comp=Z,9.8nm,1.1s
ABKAR Akbulak array 54.44 353 **P** **05 41 11.6 -0.3**
BRTR Keskin Array B 54.84 327 P **P** **05 41 14.5 -0.7**
BRTR Keskin Array B 54.84 327 P **P** **05 41 16.1 +0.9**
comp=Z,2.2nm,1.0s,baz=150,slow=9.6,SNR=5.7
comp=Z,2.2nm,1.0s
AKTO Aktyubinsk 55.84 352 P **P** **05 41 20.6 -1.5**
comp=Z,5.2nm,0.9s,baz=186,slow=7.4,SNR=9.9
AKTO LR LR 06 05 58.9
comp=Z,60nm,18.5s,baz=253,slow=37
comp=Z,5.2nm,0.9s
KURBB Kurchatov Arra 55.93 8 P **P** **05 41 21.9 -0.8**
comp=Z,5.9nm,0.9s,baz=202,slow=7.4,SNR=24
KURBB LR LR 06 04 06.3
comp=Z,133nm,20.2s,baz=162,slow=35
comp=Z,5.9nm,0.9s
KURK Kurchatov 56.03 8 P **P** **05 41 22.8 -0.6**
KURK IAmb IAmb 05 41 25.5
comp=Z,12nm,0.9s
FITZ Fitzroy Crossi 57.17 108 LR LR 06 05 30.2
comp=Z,251nm,18.8s,baz=306,slow=35
BVAR Borovoye Array 57.70 1 P **P** **05 41 35.1 0.0**
comp=Z,1.8nm,0.7s,baz=157,slow=4.7,SNR=4.8
BVAR LR LR 06 08 38.3
comp=Z,88nm,18.4s,baz=165,slow=38
comp=Z,1.8nm,0.7s
DAV Davao City (W) 58.06 79 LR LR 06 05 11.8
comp=Z,152nm,22.0s,baz=310,slow=35
TWG Pinlang 58.14 59 P **P** **05 41 38.7 -0.1**
HNS HongShan 60.04 41 ⇓P **P** **05 41 52.4 +0.7**
HNS pmax pmax
comp=Z,18nm,0.7s
HHC Hu-ho-hao-te 60.10 37 *e*P **P** **05 41 55.3 +3.0**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,69nm,4.0s
ZAA0 Zalesovo Array 60.16 11 P **P** **05 41 51.2 -1.0**
ZAA0 IAmb IAmb 05 41 53.9
comp=Z,8.9nm,0.8s
ZALV Zalesovo Beam 60.16 11 P **P** **05 41 51.1 -1.1**
ZALV Zalesovo Beam 60.16 11 P **P** **05 41 50.9 -1.3**
comp=Z,6.7nm,0.6s,baz=200,slow=7.7,SNR=23
ZALV LR LR 06 05 45.1
comp=Z,111nm,18.4s,baz=221,slow=34
comp=Z,6.7nm,0.6s
NJ2 Nanjing 60.21 49 *e*P **P** **05 41 53.4 +0.4**
NJ2 pmax pmax
comp=Z,11nm,0.5s
TIA Tai'an 61.03 44 P **P** **05 41 58.3 -0.2**
TIA pmax pmax
comp=Z,14nm,0.7s
ARTI Arti 61.63 354 P **P** **05 42 02.1 -0.1**
ARTI IAmb IAmb 05 42 04.8
comp=Z,12nm,1.0s
ARTI Arti 61.63 354 P **P** **05 42 03.0 +0.8**
comp=Z,6.2nm,0.7s,baz=176,slow=3.2,SNR=8.4
comp=Z,6.2nm,0.7s
SONM Songino Array 62.07 28 P **P** **05 42 06.0 +0.5**
SONM IAmb IAmb 05 42 07.2
comp=Z,16nm,1.2s
SONM Songino Array 62.07 28 P **P** **05 42 05.9 +0.4**
comp=Z,6.4nm,0.7s,baz=221,slow=7.0,SNR=29
SONM LR LR 06 08 49.3
comp=Z,188nm,20.1s,baz=207,slow=36
comp=Z,6.4nm,0.7s
ULN Ulaanbaatar 62.40 28 P **P** **05 42 07.5 -0.3**
ULN IAmb IAmb 05 42 10.8
comp=Z,6.4nm,1.1s
BJI Beijing 62.47 40 P **P** **05 42 08.4 +0.3**
BJI pmax pmax
comp=Z,6.0nm,0.7s
BJI LR LR
comp=Z,96nm,12.3s
BJI LR LR
comp=Z,56nm,13.7s
MAW Mawson 62.75 182 P **P** **05 42 10.1 +0.5**
comp=Z,1.6nm,0.8s,baz=347,slow=8.1,SNR=1.8
MAW LR LR 06 03 22.2
comp=Z,198nm,20.6s,baz=344,slow=30
comp=Z,1.6nm,0.8s
MLR Muntele Rosu 62.92 328 LR LR 06 10 37.9
comp=Z,72nm,18.4s,baz=135,slow=37
AKASG Malin Array Be 64.88 334 P **P** **05 42 22.9 -1.0**
comp=Z,1.0nm,0.6s,baz=128,slow=5.2,SNR=10
AKASG LR LR 06 14 40.0
comp=Z,47nm,18.2s,baz=202,slow=40
comp=Z,1.0nm,0.6s
ASAR Alice Springs 65.43 114 P **P** **05 42 27.8 -0.3**
comp=Z,1.8nm,0.9s,baz=276,slow=6.5,SNR=10.0
ASAR LR LR 06 07 55.1
comp=Z,274nm,20.9s,baz=282,slow=33
comp=Z,1.8nm,0.9s
WRA Warramunga Arr 65.53 110 P **P** **05 42 29.2 +0.5**
WRA Warramunga Arr 65.53 110 P **P** **05 42 28.2 -0.5**
comp=Z,5.0nm,1.0s,baz=286,slow=6.1,SNR=14
WRA LR LR 06 06 54.1
comp=Z,277nm,21.9s,baz=288,slow=32
comp=Z,5.0nm,1.0s
JOW Kunigami 65.67 58 LR LR 06 12 21.8
comp=Z,106nm,18.3s,baz=198,slow=37
WR8 Warramunga Arr 65.68 110 P **P** **05 42 29.7 0.0**
WR8 IAmb IAmb 05 42 38.1
comp=Z,11nm,0.9s
KEST Kesra 68.59 311 P **P** **05 42 47.0 -1.0**
comp=Z,1.0nm,0.4s,baz=138,slow=22,SNR=1.9
comp=Z,1.0nm,0.4s
TORD Torodi Ar. Bea 68.83 286 P **P** **05 42 49.8 +0.1**
comp=Z,1.3nm,1.1s,baz=82,slow=8.3,SNR=3.6
TORD LR LR 06 10 17.1
comp=Z,88nm,20.8s,baz=122,slow=34
comp=Z,1.3nm,1.1s
KSAR Wonju Array Be 69.25 47 P **P** **05 42 51.4 -0.5**
KSRS Korea Array 69.28 47 P **P** **05 42 51.4 -0.6**
comp=Z,2.0nm,0.7s,baz=258,slow=7.1,SNR=7.1
comp=Z,2.0nm,0.7s
JNU Nakatsue 69.91 52 LR LR 06 13 10.7
comp=Z,92nm,18.8s,baz=248,slow=36
CN2 Changchun 70.33 40 P **P** **05 42 59.3 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
STKA Stephens Creek 72.98 122 P **P** **05 43 16.3 +1.5**
comp=Z,2.0nm,0.8s,baz=321,slow=5.4,SNR=4.0
STKA LR LR 06 12 21.4
comp=Z,181nm,20.0s,baz=263,slow=33
comp=Z,2.0nm,0.8s
FINES FINESS Array B 73.82 340 P **P** **05 43 20.2 +1.3**
comp=Z,1.7nm,0.8s,baz=144,slow=5.0,SNR=2.4
comp=Z,1.7nm,0.8s
DBIC Dimbokro 74.24 278 LR LR 06 16 54.8
comp=Z,108nm,18.7s,baz=128,slow=36
SENIN Lac Senin/Sane 74.33 321 P **P** **05 43 21.3 -1.3**
USRK Ussuriysk Ar. 74.77 42 P **P** **05 43 26.2 +1.3**
comp=Z,3.9nm,0.8s,baz=267,slow=2.9,SNR=4.3
USRK LR LR 06 18 48.0
comp=Z,109nm,18.3s,baz=245,slow=38
comp=Z,3.9nm,0.8s
MJAR Matsushiro Arr 76.70 51 LR LR 06 17 48.4
comp=Z,60nm,19.7s,baz=244,slow=36
HFS Hagfors 77.67 335 P **P** **05 43 41.5 +0.5**
comp=Z,3.6nm,0.6s,baz=124,slow=7.4,SNR=14
comp=Z,3.6nm,0.6s
JCJ Chichijima 77.69 61 LR LR 06 14 49.3
comp=Z,37nm,21.1s,baz=291,slow=33
GUMO Guam 77.83 75 LR LR 06 15 52.7
comp=Z,67nm,20.8s,baz=277,slow=34
TROLL Troll, Antarti 78.13 197 ⇑P **P** **05 43 47.1 +3.4**
comp=Z,92nm,0.9s
MDT Midelt 78.67 305 LR LR 06 17 26.1
comp=Z,59nm,19.3s,baz=108,slow=35
NOA NORSAR Array B 79.19 335 P **P** **05 43 47.8 -1.7**
comp=Z,1.1nm,1.0s,baz=113,slow=5.8,SNR=2.5
NOA LR LR 06 21 06.1
comp=Z,42nm,18.1s,baz=75,slow=37
comp=Z,1.1nm,1.0s
SNAA Sanae 79.62 198 ⇑P **P** **05 43 52.1 +0.3**
comp=Z,34nm,0.8s
SNAA Sanae 79.62 198 P **P** **05 43 51.4 -0.3**
comp=Z,1.2nm,1.1s,baz=46,slow=5.1,SNR=6.2
SNAA LR LR 06 10 27.2
comp=Z,144nm,21.4s,baz=74,slow=29
comp=Z,1.2nm,1.1s
ARCES ARCESS Array B 79.82 346 P **P** **05 43 51.8 -0.9**
comp=Z,5.3nm,1.1s,baz=146,slow=5.5,SNR=4.3
ARCES LR LR 06 20 41.6
comp=Z,77nm,18.7s,baz=106,slow=37
comp=Z,5.3nm,1.1s
ESDC Sonseca Array 79.84 312 P **P** **05 43 53.9 +0.3**
comp=Z,0.8nm,0.6s,baz=90,slow=4.7,SNR=6.1
ESDC LR LR 06 19 51.1
comp=Z,32nm,19.3s,baz=122,slow=36
comp=Z,0.8nm,0.6s
VNA2 Neumayer--Watz 80.86 199 ⇑P **P** **05 43 58.6 +0.3**
comp=Z,4.6nm,0.8s,baz=63,slow=5.2
VNA1 Neumayer--Stat 81.09 199 ⇑P **P** **05 44 01.3 +1.7**
comp=Z,5.9nm,1.2s
YAK Yakutsk 81.20 25 LR LR 06 20 29.4
comp=Z,98nm,19.2s,baz=237,slow=36
VNA3 Neumayer Olymp 81.65 199 ⇑P **P** **05 44 03.3 +0.7**
comp=Z,9.6nm,0.8s
ASAJ Asahikawa 81.97 44 LR LR 06 21 42.5
comp=Z,69nm,19.2s,baz=237,slow=37
QSPA South Pole Qui 85.14 180 P **P** **05 44 21.3 +0.6**
comp=Z,0.7nm,0.8s,baz=278,slow=1.8,SNR=8.0
comp=Z,0.7nm,0.8s
TIXI Tiksi 85.60 16 LR LR 06 24 31.8
comp=Z,119nm,18.1s,baz=251,slow=37
VNDA Vanda 85.98 167 LR LR 06 18 10.1
comp=Z,94nm,20.6s,baz=272,slow=32
SPITS Spitsbergen Ar 87.52 351 LR LR 06 26 43.4
comp=Z,31nm,18.6s,baz=110,slow=38
MA2 Magadan 90.19 30 LR LR 06 25 18.4
comp=Z,61nm,20.3s,baz=238,slow=36
HNR Honiara 90.51 99 LR LR 06 27 43.9
comp=Z,78nm,18.1s,baz=230,slow=37
PETK Petropavlovsk- 93.30 37 LR LR 06 29 28.9
comp=Z,76nm,19.3s,baz=261,slow=37
BORG Borgarnes 94.35 335 LR LR 06 30 37.2
comp=Z,55nm,19.5s,baz=95,slow=38
PDAR Pinedale Array 142.23 358 PKP **PKPdf** **05 51 18.9 +1.1**
comp=Z,0.8nm,0.8s,baz=104,slow=2.8,SNR=6.4
NVAR Mina Array Bea 146.01 10 PKPbc **PKPdf** **05 51 25.1 +0.5**
comp=Z,13nm,1.1s,baz=355,slow=2.8,SNR=16
TXAR Lajitas Array 154.60 344 PKPbc **PKPbc** **05 51 46.4 -0.1**
comp=Z,0.8nm,0.7s,baz=69,slow=3.4,SNR=5.7

KRSC ***22*** *05:38:21.4± 1.1, 53.˚48N× 160.˚81E, h52km± 17km, Mc4.0, Ml4.6, Felt [III-IV] at kordon Kronoki; [III] at HMS Semyachik.*
BJI ***22*** *05:38:22.4, 53.˚79N× 160.˚61E, h59km, mB4.6/4, mb4.5/11, Ms7 4.0/1*
MOS ***22*** *05:38:24.0± 0.9, 53.˚55N× 160.˚56E, h66km, mb4.7/19, Error ellipse: s-maj=6.9km s-min=3.7km az=78.2*
NEIC ***22*** *05:38:25.3± 1.3, 53.˚7N± 0.˚2× 160.˚41E± 0.˚08, h50km± 10km, mb4.4/43, Error ellipse: s-maj=24.0km s-min=1.2km az=162.0*
IDC ***22*** *05:38:28.0± 1.5, 53.˚69N× 160.˚33E, h80km± 13km, mb3.9/26, mbtmp4.3/29, MS3.4/12, Error ellipse: s-maj=13.8km s-min=10.7km az=136.0*

ISC 22 05:38:23.4±0.6, 53.˚51N±0.˚03× 160.˚69E±0.˚03, h46km±5km, n268, σ1s57/327, mb4.4/75, MS3.6/9, 10C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.57**	**224**	PN		**Pn**		**05 38 35.7**	**+0.4**
SPN				S		**Sn**		**05 38 44.0**	**+0.1**
SPN	**Mys Shipunski**	**0.57**	**224**	*e*P		**Pn**		**05 38 35.8**	**+0.4**
SPN				*e*S		**Sn**		**05 38 44.1**	**+0.1**
NLC	**Nalytchevo**	**0.88**	**248**	PN		**Pn**		**05 38 39.7**	**+0.4**
NLC				S		**Sn**		**05 38 51.2**	**+0.3**
NLC	**Nalytchevo**	**0.88**	**248**	*e*P		**Pn**		**05 38 39.8**	**+0.4**
NLC				*e*S		**Sn**		**05 38 51.2**	**+0.3**
KII	**Karymskiy**	**0.91**	**306**	PN		**Pn**		**05 38 40.1**	**+0.3**
KII	**Karymskiy**	**0.91**	**306**	*e*P		**Pn**		**05 38 40.2**	**+0.3**
SDLR	**Sedlovina**	**1.11**	**259**	PN		**Pn**		**05 38 43.3**	**+0.7**
SDLR				S		**Sn**		**05 38 57.9**	**+1.2**
SDLR	**Sedlovina**	**1.11**	**259**	*e*P		**Pn**		**05 38 43.4**	**+0.7**
SDLR				*e*S		**Sn**		**05 38 57.9**	**+1.2**
SMAR	**Somma**	**1.16**	**258**	PN		**Pn**		**05 38 44.0**	**+0.7**
SMAR				S		**Sn**		**05 38 59.2**	**+1.1**
SMAR	**Somma**	**1.16**	**258**	*e*P		**Pn**		**05 38 44.1**	**+0.7**
SMAR				*e*S		**Sn**		**05 38 59.3**	**+1.1**
UGLR	**Uglovaya**	**1.16**	**256**	PN		**Pn**		**05 38 44.3**	**+1.0**
UGLR				S		**Sn**		**05 38 58.6**	**+0.6**
UGLR	**Uglovaya**	**1.16**	**256**	*e*P		**Pn**		**05 38 44.4**	**+1.0**
UGLR				*e*S		**Sn**		**05 38 58.6**	**+0.6**
KRER	**Koryakskii**	**1.18**	**261**	PN		**Pn**		**05 38 44.7**	**+1.0**
KRER				S		**Sn**		**05 38 59.3**	**+0.6**
KRER	**Koryakskii**	**1.18**	**261**	*e*P		**Pn**		**05 38 44.7**	**+1.0**
KRER				*e*S		**Sn**		**05 38 59.4**	**+0.6**
AVH	**Avacha**	**1.19**	**259**	PN		**Pn**		**05 38 44.8**	**+1.1**
AVH				S		**Sn**		**05 39 00.0**	**+1.2**
AVH	**Avacha**	**1.19**	**259**	*e*P		**Pn**		**05 38 44.9**	**+1.1**
AVH				*e*S		**Sn**		**05 39 00.0**	**+1.2**
MKZ	**Mys Kozlova**	**1.21**	**30**	PN		**Pn**		**05 38 43.7**	**-0.2**
MKZ				S		**Sn**		**05 38 58.3**	**-0.9**
MKZ	**Mys Kozlova**	**1.21**	**30**	*e*P		**Pn**		**05 38 43.7**	**-0.2**
MKZ				*e*S		**Sn**		**05 38 58.4**	**-0.9**
KRX	**Arik**	**1.23**	**264**	PN		**Pn**		**05 38 45.0**	**+0.7**
KRX				S		**Sn**		**05 39 00.6**	**+0.8**
KRX	**Arik**	**1.23**	**264**	*e*P		**Pn**		**05 38 45.0**	**+0.7**
KRX				*e*S		**Sn**		**05 39 00.6**	**+0.8**
KOK	**Koryaka**	**1.25**	**261**	PN		**Pn**		**05 38 45.3**	**+0.8**
KOK				S		**Sn**		**05 39 01.3**	**+1.1**
KOK	**Koryaka**	**1.25**	**261**	*e*P		**Pn**		**05 38 45.4**	**+0.8**
KOK				*e*S		**Sn**		**05 39 01.3**	**+1.1**
DALK	**Dalny**	**1.26**	**248**	PN		**Pn**		**05 38 45.1**	**+0.6**
DALK				S		**Sn**		**05 39 00.6**	**+0.4**
DALK	**Dalny**	**1.26**	**248**	*e*P		**Pn**		**05 38 45.2**	**+0.6**
DALK				*e*S		**Sn**		**05 39 00.7**	**+0.4**
PET	**Petropavlovsk**	**1.32**	**249**			**Pn**		**05 38 46.1**	**+0.8**
PET	**Petropavlovsk**	**1.32**	**249**	*d*	iPN	**Pn**		**05 38 46.1**	**+0.8**
PET					pmax	pmax			
comp=Z,515nm,1.0s									
PET	**Petropavlovsk**	**1.32**	**249**	*e*P		**Pn**		**05 38 46.1**	**+0.8**
PET				*e*S		**Sn**		**05 39 02.3**	**+0.6**
PET	**Petropavlovsk**	**1.32**	**249**	P		**Pn**		**05 38 45.0**	**-0.3**
INSR	**Institute**	**1.33**	**251**	PN		**Pn**		**05 38 46.4**	**+0.9**
INSR				S		**Sn**		**05 39 02.5**	**+0.5**
INSR	**Institute**	**1.33**	**251**	*e*P		**Pn**		**05 38 46.4**	**+0.9**
INSR				*e*S		**Sn**		**05 39 02.5**	**+0.5**
GNL	**Ganaly**	**1.65**	**278**	PN		**Pn**		**05 38 51.2**	**+1.2**
GNL	**Ganaly**	**1.65**	**278**	*e*P		**Pn**		**05 38 51.3**	**+1.2**
KRMR	**Karymshinskiy**	**1.68**	**247**	PN		**Pn**		**05 38 51.5**	**+1.1**
KRMR				S		**Sn**		**05 39 11.8**	**+1.1**
KRMR	**Karymshinskiy**	**1.68**	**247**	*e*P		**Pn**		**05 38 51.5**	**+1.1**
KRMR				*e*S		**Sn**		**05 39 11.8**	**+1.1**
RUS	**Russkaya**	**1.70**	**232**	PN		**Pn**		**05 38 51.4**	**+0.8**
RUS				S		**Sn**		**05 39 11.2**	**+0.1**
RUS	**Russkaya**	**1.70**	**232**	*e*P		**Pn**		**05 38 51.4**	**+0.8**
RUS				*e*S		**Sn**		**05 39 11.3**	**+0.1**
TUMD	**Tumrok D**	**1.70**	**354**	PN		**Pn**		**05 38 51.5**	**+0.8**
TUMD				S		**Sn**		**05 39 11.4**	**+0.1**
TUMD	**Tumrok D**	**1.70**	**354**	*e*P		**Pn**		**05 38 51.5**	**+0.8**
TUMD				*e*S		**Sn**		**05 39 11.4**	**+0.1**
I44RU	**PETROPAVLOVSK-**	**1.83**	**258**	P		**Pn**		**05 38 54.8**	**+2.4**
baz=80,slow=19,SNR=2.1									
MTVR	**Mutnovka**	**1.83**	**237**	PN		**Pn**		**05 38 53.6**	**+1.1**
MTVR				S		**Sn**		**05 39 15.7**	**+1.2**
MTVR	**Mutnovka**	**1.83**	**237**	*e*P		**Pn**		**05 38 53.6**	**+1.1**
MTVR				*e*S		**Sn**		**05 39 15.7**	**+1.2**
PEA0B	**Petropavlovsk-**	**1.84**	**259**			**Pn**		**05 38 54.0**	**+1.5**
PEA0B	**Petropavlovsk-**	**1.84**	**259**	*d*	iPN	**Pn**		**05 38 53.9**	**+1.4**
PETK	**Petropavlovsk-**	**1.84**	**259**			**Pn**		**05 38 53.0**	**+0.4**
PETK	**Petropavlovsk-**	**1.84**	**259**	P		**Pn**		**05 38 53.7**	**+1.2**
comp=Z,71nm,0.3s,baz=79,slow=17,SNR=638									
PETK				S		**Sn**		**05 39 17.8**	**+3.3**
comp=Z,212nm,0.4s,baz=79,slow=15,SNR=3.5									
PETK				LR		LR		05 39 47.5	
comp=Z,785nm,20.7s,baz=96,slow=47									
GRL	**Gorelyy**	**1.85**	**240**	PN		**Pn**		**05 38 54.3**	**+1.6**
GRL				S		**Sn**		**05 39 18.1**	**+3.1**
GRL	**Gorelyy**	**1.85**	**240**	*e*P		**Pn**		**05 38 54.4**	**+1.6**
GRL				*e*S		**Sn**		**05 39 18.1**	**+3.1**
ASAK	**Asacha**	**2.03**	**237**	PN		**Pn**		**05 38 57.0**	**+1.8**
ASAK				S		**Sn**		**05 39 20.8**	**+1.4**
ASAK	**Asacha**	**2.03**	**237**	*e*P		**Pn**		**05 38 57.0**	**+1.8**
ASAK				*e*S		**Sn**		**05 39 20.8**	**+1.4**
APC	**Apacha**	**2.20**	**256**	PN		**Pn**		**05 39 00.9**	**+3.4**
APC				S		**Sn**		**05 39 26.2**	**+2.8**
APC	**Apacha**	**2.20**	**256**	*e*P		**Pn**		**05 39 00.9**	**+3.4**
APC				*e*S		**Sn**		**05 39 26.2**	**+2.8**
KMNR	**Kamenistaya**	**2.27**	**354**	PN		**Pn**		**05 39 00.8**	**+2.4**
KMNR	**Kamenistaya**	**2.27**	**354**	*e*P		**Pn**		**05 39 00.8**	**+2.4**
BZMR	**Bezymyannaya**	**2.43**	**357**	PN		**Pn**		**05 39 02.9**	**+2.1**
BZMR				S		**Sn**		**05 39 29.7**	**+0.4**
BZMR	**Bezymyannaya**	**2.43**	**357**	*e*P		**Pn**		**05 39 03.0**	**+2.1**
BZMR				*e*S		**Sn**		**05 39 29.7**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.44**	**0**	PN		**Pn**		**05 39 02.9**	**+2.2**
BZGR				S		**Sn**		**05 39 30.8**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**2.44**	**0**	*e*P		**Pn**		**05 39 03.0**	**+2.2**
BZGR				*e*S		**Sn**		**05 39 30.8**	**+1.5**
KIRR	**Kirishev**	**2.46**	**355**	PN		**Pn**		**05 39 03.0**	**+1.9**
KIRR				S		**Sn**		**05 39 31.0**	**+1.1**
KIRR	**Kirishev**	**2.46**	**355**	*e*P		**Pn**		**05 39 03.0**	**+1.9**
KIRR				*e*S		**Sn**		**05 39 31.0**	**+1.1**
BZWR	**Bezymyannyi-We**	**2.46**	**357**	PN		**Pn**		**05 39 03.4**	**+2.2**
BZWR	**Bezymyannyi-We**	**2.46**	**357**	*e*P		**Pn**		**05 39 03.5**	**+2.2**
KPT	**Kopyto**	**2.48**	**354**	PN		**Pn**		**05 39 03.2**	**+1.9**
KPT				S		**Sn**		**05 39 32.0**	**+1.7**
KPT	**Kopyto**	**2.48**	**354**	*e*P		**Pn**		**05 39 03.2**	**+1.9**
KPT				*e*S		**Sn**		**05 39 32.1**	**+1.7**
ZLN	**Zelenaya**	**2.51**	**1**	PN		**Pn**		**05 39 04.3**	**+2.5**
ZLN	**Zelenaya**	**2.51**	**1**	*e*P		**Pn**		**05 39 04.3**	**+2.5**
LGNR	**Loginova**	**2.58**	**0**	PN		**Pn**		**05 39 05.8**	**+2.9**
LGNR				S		**Sn**		**05 39 34.3**	**+1.2**
LGNR	**Loginova**	**2.58**	**0**	*e*P		**Pn**		**05 39 05.9**	**+2.9**
LGNR				*e*S		**Sn**		**05 39 34.3**	**+1.2**
KOZ	**Kozyrevsk**	**2.60**	**350**	PN		**Pn**		**05 39 04.6**	**+1.7**
KOZ	**Kozyrevsk**	**2.60**	**350**	*e*P		**Pn**		**05 39 04.6**	**+1.7**
CIRR	**Tsirk**	**2.61**	**1**	PN		**Pn**		**05 39 04.5**	**+1.3**
CIRR	**Tsirk**	**2.61**	**1**	*e*P		**Pn**		**05 39 04.5**	**+1.3**
ESO	**Esso**	**2.68**	**335**	PN		**Pn**		**05 39 05.2**	**+1.2**
ESO	**Esso**	**2.68**	**335**	*e*P		**Pn**		**05 39 05.2**	**+1.2**
MIPR	**Malaya Ipel'ka**	**2.68**	**244**	PN		**Pn**		**05 39 06.5**	**+2.4**
MIPR	**Malaya Ipel'ka**	**2.68**	**244**	*e*P		**Pn**		**05 39 06.5**	**+2.4**
KLY	**Klyuchi**	**2.81**	**360**	PN		**Pn**		**05 39 08.0**	**+2.3**
KLY				S		**Sn**		**05 39 40.7**	**+2.4**
KLY	**Klyuchi**	**2.81**	**360**	*e*P		**Pn**		**05 39 08.1**	**+2.3**
KLY				*e*S		**Sn**		**05 39 40.7**	**+2.4**
SRDR	**Sredinnyy**	**2.87**	**349**	PN		**Pn**		**05 39 08.5**	**+1.8**
SRDR				S		**Sn**		**05 39 42.7**	**+2.8**
SRDR	**Sredinnyy**	**2.87**	**349**	*e*P		**Pn**		**05 39 08.5**	**+1.8**
SRDR				*e*S		**Sn**		**05 39 42.7**	**+2.8**
KBTR	**Krutoberegovo**	**2.97**	**24**	PN		**Pn**		**05 39 09.8**	**+1.8**
KBTR				S		**Sn**		**05 39 44.2**	**+1.9**
KBTR	**Krutoberegovo**	**2.97**	**24**	*e*P		**Pn**		**05 39 09.9**	**+1.8**
KBTR				*e*S		**Sn**		**05 39 44.2**	**+1.9**
KBG	**Krutoberegovo**	**2.99**	**22**	PN		**Pn**		**05 39 10.4**	**+2.2**
KBG				S		**Sn**		**05 39 45.8**	**+3.1**
KBG	**Krutoberegovo**	**2.99**	**22**	*e*P		**Pn**		**05 39 10.5**	**+2.2**
KBG				*e*S		**Sn**		**05 39 45.9**	**+3.1**
BDR	**Baidarnaya**	**3.08**	**5**	*e*S		**Sn**		**05 39 47.8**	**+2.6**
SMKR	**Semkarok**	**3.11**	**8**	PN		**Pn**		**05 39 12.1**	**+2.1**
SMKR				S		**Sn**		**05 39 48.3**	**+2.4**
SMKR	**Semkarok**	**3.11**	**8**	*e*P		**Pn**		**05 39 12.2**	**+2.1**
SMKR				*e*S		**Sn**		**05 39 48.4**	**+2.4**
PAU	**Pauzhetka**	**3.13**	**231**	PN		**Pn**		**05 39 12.7**	**+2.5**
PAU				S		**Sn**		**05 39 49.5**	**+3.2**
PAU	**Pauzhetka**	**3.13**	**231**	*e*P		**Pn**		**05 39 12.7**	**+2.5**
PAU				*e*S		**Sn**		**05 39 49.5**	**+3.2**
BKI	**Bering**	**3.53**	**59**	PN		**Pn**		**05 39 16.5**	**+0.9**
BKI	**Bering**	**3.53**	**59**	*e*P		**Pn**		**05 39 16.6**	**+0.9**
BKI				*e*S		**Sn**		**05 39 53.0**	**-3.0**
SKR	**Severo-Kuril's**	**4.00**	**227**	*e*PN		**Pn**		**05 39 25.1**	**+3.0**
SKR				*e*S		**Sn**		**05 40 09.4**	**+1.8**
SKR					pmax	pmax			
comp=Z,72nm,1.0s									
SKR					smax	smax			
comp=N,615nm,0.8s									
SKR					smax	smax			
comp=E,556nm,0.6s									
SKR	**Severo-Kuril's**	**4.00**	**227**	*e*P		**Pn**		**05 39 24.8**	**+2.8**
SKR				*e*S		**Sn**		**05 40 08.4**	**+0.8**
PALN	**Palana**	**5.61**	**356**	PN		**Pn**		**05 39 47.7**	**+3.6**
PALN	**Palana**	**5.61**	**356**	*e*P		**Pn**		**05 39 47.7**	**+3.6**
OSSR	**Ossora**	**5.90**	**12**	PN		**Pn**		**05 39 50.2**	**+2.0**
OSSR	**Ossora**	**5.90**	**12**	*e*P		**Pn**		**05 39 50.2**	**+2.0**
TILK	**Tilichiki**	**7.56**	**21**	PN		**Pn**		**05 40 09.5**	**-1.4**
TILK	**Tilichiki**	**7.56**	**21**	*e*P		**Pn**		**05 40 09.5**	**-1.4**
SHEM	**Shemya Is, Ala**	**8.11**	**90**	P		**Pn**		**05 40 20.2**	**+1.8**
comp=E,38nm,0.3s,baz=270,slow=20,SNR=11									
SHEM				S		**Sn**		**05 41 45.0**	**-3.6**
comp=E,21nm,0.3s,baz=294,slow=20,SNR=1.6									
SHEM				LR		LR		05 43 28.0	
comp=E,162nm,21.2s,baz=280,slow=36									
SMY	**Shemya**	**8.11**	**90**	Pn		**Pn**		**05 40 21.8**	**+3.4**
SMY	**Shemya**	**8.11**	**90**	PN		**Pn**		**05 40 21.8**	**+3.4**
MA2	**Magadan**	**8.18**	**322**	P		**Pn**		**05 40 19.4**	**0.0**
comp=E,3.6nm,0.4s,baz=138,slow=15,SNR=3.9									
MA2				LR		LR		05 43 59.7	
comp=E,184nm,19.4s,baz=125,slow=42									
MA2	**Magadan**	**8.18**	**322**	*e*PN		**Pn**		**05 40 20.2**	**+0.8**
SEY	**Seymchan**	**10.40**	**339**	P		**Pn**		**05 40 49.9**	**+0.1**
comp=E,0.3nm,0.3s,baz=106,slow=18,SNR=1.5									
SEY				LR		LR		05 45 11.3	
comp=E,214nm,21.0s,baz=150,slow=40									
SEY	**Seymchan**	**10.40**	**339**	⇑*i*	PN	**Pn**		**05 40 49.6**	**-0.2**
SEY					pmax	pmax			
comp=Z,1.0nm,1.0s									
TYV	**Tymovskoe**	**11.38**	**264**	*e*	PN	Pn		05 41 10.1	+6.9
TYV					pmax	pmax			
comp=Z,7.0nm,1.0s									
TYV					pmax	pmax			
comp=Z,100nm,3.5s									
AMKA	**Amchitka**	**11.56**	**93**	Pn		**Pn**		**05 41 09.1**	**+3.5**
YSS	**Yuzhno-Sakhali**	**13.20**	**247**	*e*	PN	**Pn**		**05 41 28.8**	**+0.7**
YSS					*e*S	**Sn**		**05 43 55.1**	**+1.8**
YSS					pmax	pmax			

TIXI pmax pmax
comp=Z,7.0nm,1.3s
J17K VABM Dome 22.86 48 P **P** **05 43 23.5 +1.0**
MJB9 Matsu-Tunnel 23.09 232 **P** **05 43 26.8 +1.8**
MJB9 IAmb IAmb 05 43 30.0
comp=Z,22nm,1.0s
MAJO Matsushiro 23.09 232 **P** **05 43 26.1 +1.1**
MAJO IAmb IAmb 05 43 29.0
comp=Z,24nm,1.1s
MAJO Matsushiro 23.09 232*c iP* **P** **05 43 25.5 +0.5**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 23.09 232 P **P** **05 43 25.8 +0.8**
comp=Z,12nn,0.9s,baz=22,slow=12,SNR=18
MJAR LR LR 05 52 30.2
comp=Z,58nm,21.6s,baz=208,slow=37
comp=Z,12nn,0.9s
K17K Iditarod 23.15 50 P **P** **05 43 27.1 +1.7**
K17K IAmb IAmb 05 44 02.9
comp=Z,13nm,1.5s
H18K Honhosa River 23.43 44 P **P** **05 43 27.3 -0.9**
G18K Tagagawik 23.45 42 **P** **05 43 28.4 0.0**
M17K Holitna River 23.50 54 P **P** **05 43 29.1 +0.3**
M17K IAmb IAmb 05 44 06.1
comp=Z,12nn,1.0s
F19K Shaleruckik Mo 24.01 40 **P** **05 43 34.0 +0.6**
C19K Lookout Ridge 24.01 34 **P** **05 43 33.9 +0.3**
C19K IAmb IAmb 05 43 35.9
comp=Z,8.1nm,1.0s
H19K Roundabout Mou 24.28 44 **P** **05 43 36.8 +0.8**
H19K IAmb IAmb 05 43 39.0
comp=Z,11nn,1.4s
D20K Etivluk River 24.91 36 **P** **05 43 41.9 +0.2**
D20K IAmb IAmb 05 43 43.9
comp=Z,8.4nm,0.8s
IMAR Indian Mountai 25.45 43 P **P** **05 43 47.8 +1.1**
B21K Ikpikpuk River 25.85 34 **P** **05 43 50.7 +0.6**
B21K IAmb IAmb 05 43 52.6
comp=Z,17nm,1.1s
I21K Tanana 26.11 45 P **P** **05 43 53.7 +1.1**
H23K Yukon River 27.16 44 P **P** **05 44 03.2 +1.1**
KSRS Korea Array 27.70 248 P **P** **05 44 07.5 +0.4**
comp=Z,0.9nm,0.5s,baz=45,slow=9.4,SNR=4.2
comp=Z,0.9nm,0.5s
COLA College 27.85 46⇓*iP* **P** **05 44 04.8 -3.4**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 28.27 46 P **P** **05 44 12.4 +0.5**
comp=Z,1.3nm,0.8s,baz=264,slow=8.2,SNR=16
ILAR PcP **PcP** **05 47 23.1 -0.8**
comp=Z,0.3nm,0.6s,baz=274,slow=3.5,SNR=4.3
ILAR LR LR 05 56 47.1
comp=Z,45nm,19.0s,baz=232,slow=39
comp=Z,1.3nm,0.8s
G26K Porcupine Rive 29.50 41 **P** **05 44 24.0 +1.2**
L27K Beaver Creek, 30.66 49 **P** **05 44 34.7 +1.6**
ULN Ulaanbaatar 33.76 283⇑*iP* **P** **05 45 00.1 -0.5**
ULN pmax pmax
comp=Z,1.0nm,0.9s
H11N2 WAKE ISLAND Hy 34.06 170 T T 06 21 21.9
baz=354,slow=76,SNR=474
H11N3 WAKE ISLAND Hy 34.07 170 T T 06 21 26.0
baz=354,slow=76,SNR=495
H11N1 WAKE ISLAND Hy 34.07 170 T T 06 21 29.2
baz=354,slow=76,SNR=1042
SONM Songino Array 34.15 283 P **P** **05 45 02.6 -1.4**
SONM Songino Array 34.15 283 P **P** **05 45 03.3 -0.7**
comp=Z,1.0nm,0.7s,baz=54,slow=7.9,SNR=4.2
SONM PcP **PcP** **05 47 40.4 +0.3**
comp=Z,1.0nm,0.6s,baz=71,slow=2.3,SNR=5.0
comp=Z,1.0nm,0.7s
SONM Songino Array 34.15 283 P **P** **05 45 02.6 -1.4**
SONM pmax pmax
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 35.01 269*eP* **P** **05 45 12.3 +0.9**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,93nm,4.8s
H11S1 WAKE ISLAND Hy 35.24 170 T T 06 22 51.5
baz=352,slow=76,SNR=42
H11S3 WAKE ISLAND Hy 35.26 170 T T 06 22 53.6
baz=352,slow=76,SNR=86
H11S2 WAKE ISLAND Hy 35.26 170 T T 06 22 59.4
baz=352,slow=76,SNR=37
DLBC Dease Lake 37.51 54 LR LR 06 02 21.4
comp=Z,41nn,19.4s,baz=82,slow=38
ZALV Zalesovo Beam 42.85 303 P **P** **05 46 14.5 -2.2**
comp=Z,0.6nm,0.3s,baz=77,slow=7.8,SNR=4.8
comp=Z,0.6nm,0.3s
ZALV Zalesovo Beam 42.85 303*i P* **P** **05 46 14.0 -2.7**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
GTA Gaotai 42.91 276*eP* **P** **05 46 16.8 -0.8**
GTA pmax pmax
comp=Z,8.0nm,0.8s
SPITS Spitsbergen Ar 46.78 351 P **P** **05 46 47.3 -0.3**
comp=Z,7.6nm,0.7s,baz=60,slow=8.8,SNR=9.6
comp=Z,7.6nm,0.7s
SPB2 Spitsbergen Ar 46.78 350 P **P** **05 46 46.1 -1.5**
WMQ Urumqi 47.17 289*eP* **P** **05 46 52.4 +1.2**
WMQ LR LR
comp=Z,200nm,21.5s
KURK Kurchatov 47.82 302 P **P** **05 46 53.7 -2.3**
KURK IAmb IAmb 05 46 55.7
comp=Z,4.1nm,0.8s
KURK Kurchatov 47.82 302*c iP* **P** **05 46 54.7 -1.3**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 47.92 302 P **P** **05 46 54.2 -2.6**
comp=Z,2.6nm,0.7s,baz=57,slow=8.1,SNR=19
comp=Z,2.6nm,0.7s
MK31 Makanchi Array 48.30 296⇑*iP* **P** **05 46 58.1 -1.7**
MKAR Makanchi Array 48.30 296 P **P** **05 46 58.5 -1.3**
MKAR Makanchi Array 48.30 296 P **P** **05 46 58.0 -1.8**
comp=Z,1.5nm,0.9s,baz=53,slow=5.5,SNR=7.6
comp=Z,1.5nm,0.9s
MKAR Makanchi Array 48.30 296 P **P** **05 46 58.5 -1.3**
BVAR Borovoye Array 50.41 308 P **P** **05 47 13.6 -2.3**
comp=Z,1.2nm,0.3s,baz=39,slow=9.6,SNR=4.5
comp=Z,1.2nm,0.3s
PZH PanZhiHua 50.80 262 P **P** **05 47 19.6 +0.4**
LVZ Lovozero 52.45 337 P **P** **05 47 29.3 -1.6**
comp=Z,14nm,2.1s
ARCES ARCESS Array B 53.00 342 P **P** **05 47 34.0 -0.9**
ARCES ARCESS Array B 53.00 342 P **P** **05 47 33.5 -1.4**
comp=Z,4.0nm,0.8s,baz=24,slow=8.9,SNR=7.0
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 53.00 342 P **P** **05 47 34.0 -0.9**
ARCES pmax pmax
comp=Z,12nm,1.4s
SUMG Summit 53.50 7 **P** **05 47 38.3 -0.7**
SUMG Summit 53.50 7 P **P** **05 47 38.3 -0.7**
SUMG pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 53.50 7*i P* **P** **05 47 39.0 0.0**
AAK Ala-Archa 55.21 296⇓*iP* **P** **05 47 51.3 -0.3**
AAK pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 55.27 71 P **P** **05 47 54.7 +2.5**
comp=Z,1.4nm,0.8s,baz=294,slow=7.0,SNR=10
comp=Z,1.4nm,0.8s
RLMT Red Lodge 55.52 59 **P** **05 47 55.8 +2.0**
RLMT IAmb IAmb 05 47 57.0
comp=Z,3.6nm,0.9s
KLMR Klimovskoe 56.77 330*eP* **P** **05 47 59.3 -2.9**
KLMR pmax pmax
comp=Z,13nm,1.5s
PDAR Pinedale Array 57.01 61 P **P** **05 48 06.4 +1.9**
comp=Z,1.2nm,0.8s,baz=312,slow=2.9,SNR=11
comp=Z,1.2nm,0.8s
ULM Lac du Bonnet 58.27 47 P **P** **05 48 14.0 +1.0**
comp=Z,1.7nm,0.5s,baz=321,slow=7.9,SNR=4.6
comp=Z,1.7nm,0.5s
CMAR Chiang Mai Arr 58.62 258 P **P** **05 48 16.1 +0.4**
comp=Z,1.3nm,0.2s,baz=43,slow=7.9,SNR=4.2
comp=Z,1.3nm,0.2s
CMAR Chiang Mai Arr 58.62 258*i P* **P** **05 48 17.3 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.2s
RSSD Black Hills 58.88 57 **P** **05 48 19.1 +1.6**
RSSD Black Hills 58.88 57 P **P** **05 48 19.2 +1.6**
RSSD pmax pmax
comp=Z,7.0nm,0.7s
PFO Pinyon Flats O 59.74 73⇓*iP* **P** **05 48 21.1 -2.4**
PFO pmax pmax
comp=Z,5.0nm,1.1s

FINES FINESS Array B 59.88 337 P **P** **05 48 23.3 -0.6**
comp=Z,3.6nm,0.6s,baz=35,slow=7.8,SNR=14
comp=Z,3.6nm,0.6s
FINES FINESS Array B 59.88 337*i P* **P** **05 48 23.5 -0.4**
FINES pmax pmax
comp=Z,4.0nm,0.5s
ECSD EROS Data Cent 62.78 53 P **P** **05 48 45.4 +1.6**
ECSD IAmb IAmb 05 48 45.6
comp=Z,2.4nm,0.8s
NC204 NORSAR Array S 63.09 344 **P** **05 48 45.5 -0.2**
NB201 NORSAR Array S 63.22 344 P **P** **05 48 46.4 -0.1**
NB2 NORSAR Subarra 63.24 344 P **P** **05 48 45.9 -0.7**
comp=Z,7.1nm,0.9s,baz=22,slow=6.9
NB2 NORSAR Subarra 63.24 344 P **P** **05 48 46.5 -0.1**
NOA NORSAR Array B 63.24 344 P **P** **05 48 46.3 -0.3**
comp=Z,4.7nm,0.8s,baz=20,slow=6.6,SNR=16
comp=Z,4.7nm,0.8s
HFS Hagfors 63.66 342 P **P** **05 48 48.5 -0.9**
comp=Z,1.5nm,0.4s,baz=55,slow=7.8,SNR=11
comp=Z,1.5nm,0.4s
PMG Port Moresby 63.72 195 LR LR 06 14 08.6
comp=Z,98nm,20.2s,baz=192,slow=34
SCHQ Schefferville 65.11 28 P **P** **05 48 59.2 +0.2**
comp=Z,2.2nm,0.7s,baz=351,slow=4.3,SNR=5.1
comp=Z,2.2nm,0.7s
MNK Minsk 65.49 332*i P* **P** **05 48 57.5 -3.9**
MNK *i* *PP **pP** **05 49 11.6 -2.7**
MNK *i* 05 49 28.7
MNK *i* 05 51 22.0
MNK *i* S **S** **05 57 39.4 -3.0**
MNK *i* *SS **sS** **05 58 03.5 -0.7**
MNK *i* 05 58 48.5
MNK *i* SS **SS** **06 01 54.8 -0.7**
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=E,12nm,0.8s
MNK MLR MLR
comp=E,218nm,27.0s
MNK MLR MLR
comp=N,155nm,22.0s
MNK MLR MLR
comp=Z,31nm,16.0s
P40A Paris 68.20 53 **P** **05 49 19.9 +1.1**
AK03 Malin Array Si 68.42 329 P **P** **05 49 19.0 -1.0**
AK21 Malin Array Si 68.43 329 P **P** **05 49 18.8 -1.3**
AK22 Malin Array Si 68.43 329 P **P** **05 49 18.4 -1.7**
AK04 Malin Array Si 68.44 329 P **P** **05 49 19.0 -1.1**
AKASG Malin Array Be 68.44 329 P **P** **05 49 18.8 -1.4**
comp=Z,3.1nm,0.6s,baz=30,slow=6.1,SNR=13
comp=Z,3.1nm,0.6s
AKASG Malin Array Be 68.44 329*i P* **P** **05 49 18.6 -1.5**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 68.44 329 **P** **05 49 18.7 -1.5**
AKBB IAmb IAmb 05 49 20.6
comp=Z,5.1nm,0.8s
AKBB Malin Array Si 68.44 329*ceP* **P** **05 49 18.6 -1.5**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 68.44 329 P **P** **05 49 18.9 -1.2**
KIEV Kiev 68.45 329 **P** **05 49 18.5 -1.7**
KIEV IAmb IAmb 05 49 20.6
comp=Z,4.6nm,0.8s
KIEV Kiev 68.45 329 P **P** **05 49 18.5 -1.7**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
AK01 Malin Array Si 68.45 329 P **P** **05 49 18.8 -1.4**
AK11 Malin Array Si 68.47 329 P **P** **05 49 19.1 -1.3**
AK02 Malin Array Si 68.48 329 P **P** **05 49 19.0 -1.4**
AK19 Malin Array Si 68.48 329 P **P** **05 49 19.0 -1.4**
AK08 Malin Array Si 68.49 329 P **P** **05 49 19.0 -1.4**
AK09 Malin Array Si 68.50 329 P **P** **05 49 19.1 -1.4**
AK16 Malin Array Si 68.50 329 P **P** **05 49 19.1 -1.4**
RNPP9 Sopachiv 68.79 332 P **P** **05 49 20.9 -1.4**
RNPP5 Staryi Chortor 68.96 331 P **P** **05 49 22.1 -1.3**
KIV Kislovodsk 69.38 317*eP* P 05 49 31.0 +4.8
KIV pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 69.48 317⇑*iP* **P** **05 49 25.4 -1.3**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
CCM Cathedral Cave 69.75 53 **P** **05 49 28.9 +0.5**
CCM IAmb IAmb 05 49 31.2
comp=Z,3.5nm,0.9s
CCM Cathedral Cave 69.75 53 P **P** **05 49 29.0 +0.5**
CCM pmax pmax
comp=Z,4.0nm,0.9s
HHAR Hobbs 69.84 56 **P** **05 49 29.5 +0.4**
HHAR IAmb IAmb 05 49 30.1
comp=Z,5.8nm,0.6s
TXAR Lajitas Array 70.15 67 P **P** **05 49 33.0 +1.8**
comp=Z,1.5nm,0.6s,baz=298,slow=4.7,SNR=21
comp=Z,1.5nm,0.6s
TXAR Lajitas Array 70.15 67 P **P** **05 49 33.0 +1.8**
LPIG La Paz 70.42 76 LR LR 06 17 05.7
comp=Z,41nn,18.0s,baz=324,slow=33
EKA Eskdalemuir Ar 70.70 350 P **P** **05 49 34.0 0.0**
comp=Z,2.1nm,0.7s,baz=25,slow=5.7,SNR=6.1
comp=Z,2.1nm,0.7s
CLL Collm 72.09 339*i P* **P** **05 49 42.0 -0.4**
comp=Z,12nm,1.1s
KHC Kasperske Hory 74.02 338⇑*iP* **P** **05 49 54.0 0.0**
KHC pmax pmax
comp=Z,6.0nm,1.2s
MLR Muntele Rosu 74.08 329 P **P** **05 49 54.9 +0.4**
comp=Z,5.3nm,0.7s,baz=312,slow=4.4,SNR=7.2
comp=Z,5.3nm,0.7s
GERES GERESS Array B 74.26 338 P **P** **05 49 55.5 +0.1**
comp=Z,2.3nm,0.7s,baz=26,slow=3.4,SNR=10
comp=Z,2.3nm,0.7s
CONA Conrad Observa 74.62 336*i P* **P** **05 49 58.0 +0.4**
comp=Z,5.5nm,1.1s
RONA Rosalia, Austr 74.73 336*eP* **P** **05 49 59.2 +1.1**
comp=Z,1.1nm,0.5s
MOA Molln 75.07 337*eP* **P** **05 50 00.6 +0.5**
comp=Z,2.1nm,0.8s
ARSA Arzberg 75.33 336*i P* **P** **05 50 02.5 +0.9**
comp=Z,4.3nm,0.7s
LESA Schwarzleotal 75.83 338*i P* **P** **05 50 05.4 +0.9**
comp=Z,2.8nm,0.6s
SOKA Soth 75.99 336*i P* **P** **05 50 06.0 +0.5**
comp=Z,7.5nm,0.9s
KBA Koelnbreinsper 76.00 338*i P* **P** **05 50 06.6 +0.9**
comp=Z,19nm,0.9s
RETA Reutte 76.18 340*i P* **P** **05 50 06.9 +0.4**
comp=Z,5.5nm,1.0s
ECH Echery 76.19 342 **P** **05 50 06.2 -0.2**
ECH IAmb IAmb 05 50 08.6
comp=Z,6.6nm,1.0s
ECH Echery 76.19 342 P **P** **05 50 06.2 -0.2**
ECH pmax pmax
comp=Z,7.0nm,1.0s
WTTA Wattenberg 76.21 339*i P* **P** **05 50 07.6 +0.9**
comp=Z,8.4nm,0.8s
MOTA Moosalm 76.25 339*i P* **P** **05 50 07.1 +0.2**
comp=Z,9.2nm,1.0s
OBKA Obir 76.26 337*i P* **P** **05 50 07.6 +0.7**
comp=Z,16nm,1.4s
SQTA Sankt Quirin 76.34 339*i P* **P** **05 50 08.2 +0.8**
comp=Z,9.2nm,0.9s
ABTA Abfaltersbach 76.50 338*i P* **P** **05 50 08.8 +0.5**
comp=Z,12nm,1.0s
WRA Warramunga Arr 76.61 205 P **P** **05 50 09.5 +0.5**
comp=Z,1.7nm,0.7s,baz=17,slow=5.9,SNR=8.3
comp=Z,1.7nm,0.7s
WRA Warramunga Arr 76.61 205*i P* **P** **05 50 11.0 +2.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
FETA Feichten 76.63 339*i P* **P** **05 50 09.7 +0.6**
comp=Z,5.8nm,0.8s
FUORN Ofenpass-Fuorn 77.11 340 **P** **05 50 11.9 0.0**
FUORN IAmb IAmb 05 50 13.6
comp=Z,7.0nm,0.8s
TUE Stuetta 77.44 340 **P** **05 50 14.3 +0.6**
BNI Bardonecchia 79.33 342 **P** **05 50 23.9 -0.2**
BNI IAmb IAmb 05 50 26.6
comp=Z,8.5nm,1.1s
BNI Bardonecchia 79.33 342 P **P** **05 50 23.9 -0.2**
BNI pmax pmax
comp=Z,8.0nm,1.2s
MSSA Maissana 79.47 339 **P** **05 50 24.4 -0.4**
ASAR Alice Springs 80.29 205 P **P** **05 50 30.7 +1.4**
comp=Z,3.1nm,0.9s,baz=14,slow=5.7,SNR=16
comp=Z,3.1nm,0.9s
ASF Jabal al Asfar 81.76 315 LR LR 06 33 47.4
comp=Z,69nm,18.2s,baz=153,slow=41
ESDC Sonseca Array 86.25 348 P **P** **05 50 58.9 -1.1**
comp=Z,1.8nm,0.9s,baz=11,slow=5.4,SNR=10
comp=Z,1.8nm,0.9s
LPAZ La Paz 126.96 65 PKP **PKiKP** **05 57 23.8 +0.3**
comp=Z,0.5nm,0.7s,baz=20,slow=5.4,SNR=2.3
QSPA South Pole Qui 143.26 180 PKP PKPbc 05 57 49.1 +0.9
comp=Z,2.8nm,0.7s,baz=349,slow=0.9,SNR=20
PLCA Paso Flores 143.66 91 PKP PKPbc 05 57 50.5 +0.3
comp=Z,1.5nm,0.9s,baz=327,slow=4.6,SNR=3.2
SNAA Sanae 160.40 196 PKPab **PKPab** **05 58 57.5 -0.1**
comp=Z,0.4nm,0.7s,baz=197,slow=11,SNR=1.4

SDD ***22*** *05:39:17.0±0.9, 18°.10N×71°.54W, h35km±6km, MD2.2, ML1.8, MW2.5*
OSPL ***22*** *05:39:18.7±0.3, 18°.39N×71°.64W, h18km±10km, ML2.2*
ISC 22 05:39:20.9±1.2, 18°.24N±0°.03×71°.54W±0°.04, h9km±11km, n7, σ1§10/14, 1C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LODU1	**El Espartillar**	**0.12**	**29**	*i* P	**Pg**	**05 39 22.9**	**-0.9**
LODU1				*e*S	**Sg**	**05 39 25.9**	**+0.1**
LODU1				IAML		05 39 29.1	
	comp=Z,808nm,0.3s						
PODR	**Polo**	**0.26**	**107**	*i* P	**Pg**	**05 39 25.1**	**-1.1**
PODR				*e*S	**Sg**	**05 39 31.0**	**+1.3**
PODR	**Polo**	**0.26**	**107**⇓	*e*Pg	**Pg**	**05 39 25.1**	**-1.1**
PODR				*e*Sg	**Sg**	**05 39 31.5**	**+1.8**
PODR				IAML		05 39 36.4	
	comp=N,114nm,0.3s						
NEDR	**Neiba UASD**	**0.27**	**26**⇑	*e*Pg	**Pg**	**05 39 26.6**	**+0.3**
NEDR				⇓*e*Sg	**Sb**	**05 39 33.0**	**+0.4**
NEDR				IAML		05 39 33.6	
	comp=N,267nm,0.1s						
JIDR	**Jimani**	**0.39**	**310**⇓	*e*Pg	**Pg**	**05 39 28.3**	**-0.2**
JIDR				*e*Sg	**Sb**	**05 39 35.9**	**-0.2**
JIDR				IAML		05 39 36.6	
	comp=N,57nm,0.2s						
LOBH	**Bahia de las A**	**0.39**	**194**	*i* P	**Pg**	**05 39 28.4**	**-0.2**
LOBH				*e*S	**Sb**	**05 39 35.6**	**-0.6**
LOBH				IAML		05 39 43.6	
	comp=Z,103nm,0.6s						
SDDR	**Presa de Saban**	**0.77**	**18**	*e*Pg	**Pg**	**05 39 34.2**	**-1.7**
SDDR				*e*Sg	**Sb**	**05 39 48.1**	**+0.8**
SDDR				IAML		05 39 49.7	
	comp=N,7.7nm,0.3s						

SJA ***22*** *05:39:58.3±0.3, 15°.16S×70°.34W, h270km, ML3.6, MW3.8*
NEIC ***22*** *05:39:59.9±1.5, 15°.28S±0°.09×70°.32W±0°.09, h236km±11km, mb4.3/12, Error ellipse: s-maj=13.4km s-min=12.6km az=114.0*
VAO ***22*** *05:40:00.5±0.6, 15°.34S×70°.28W, h225km±4km, mb4.0*
IDC ***22*** *05:40:01.7±0.8, 15°.23S×70°.09W, h226km±7km, mb3.3/7, mbtmp3.9/13, Error ellipse: s-maj=20.3km s-min=10.5km az=35.0*
ISC 22 05:40:00.3±0.5, 15°.38S±0°.05×70°.23W±0°.06, h250km, n83, σ1§88/85, mb3.9/8, 2C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.21**	**114**	P	**Pn**	**05 40 45.9**	**+0.5**
	48nm,0.4s,baz=324,slow=6.3,SNR=753						
LPAZ				S	**S**	**05 41 18.2**	**-2.7**
	135nm,0.5s,baz=313,slow=13,SNR=61						
LPAZ	**La Paz**	**2.21**	**114**	*eP*	**Pn**	**05 40 44.3**	**-1.1**
LPAZ				*eS*	**S**	**05 41 17.9**	**-3.0**
PB18	**Visviri**	**2.31**	**162**		**Pn**	**05 40 47.7**	**+1.5**
AP01	**Chacalluta**	**2.97**	**182**		**Pn**	**05 40 52.1**	**-0.3**
AP01				Sn	**S**	**05 41 29.4**	**-4.4**
AP01	**Chacalluta**	**2.97**	**182**⇑	*iP*	**Pn**	**05 40 51.8**	**-0.6**
PB16	**IPOC Station P**	**3.02**	**167**		**Pn**	**05 40 54.4**	**+0.8**
PB16	**IPOC Station P**	**3.02**	**167**⇑	*iP*	**Pn**	**05 40 54.5**	**+1.0**
PB16				*i* S	**S**	**05 41 34.1**	**-1.6**
GO01	**Chusmiza**	**4.38**	**167**		**Pn**	**05 41 09.3**	**+0.4**
PB11	**IPOC Station P**	**4.39**	**173**		**Pn**	**05 41 08.0**	**-0.8**
PB08	**IPOC Station P**	**4.84**	**168**		**Pn**	**05 41 14.8**	**+0.3**
TA01	**Diego Aracena**	**5.15**	**179**		**Pn**	**05 41 17.0**	**-1.0**
PATCX	**Punta Patache**	**5.41**	**179**		**Pn**	**05 41 20.2**	**-1.0**
PB01	**IPOC Station P**	**5.67**	**173**	Pn	**Pn**	**05 41 23.8**	**-0.6**
PB02	**IPOC Station P**	**5.91**	**177**		**Pn**	**05 41 27.1**	**-0.3**
PB09	**IPOC Station P**	**6.45**	**172**	Pn	**Pn**	**05 41 33.9**	**-0.2**
PB03	**IPOC Station P**	**6.64**	**176**		**Pn**	**05 41 36.0**	**-0.7**
NNA	**Nana**	**7.26**	**297**		**Pn**	**05 41 42.1**	**-2.2**
NNA	**Nana**	**7.26**	**297**	P	Pn	05 41 45.7	+1.4
	6.5nm,0.3s,baz=134,slow=12,SNR=5.5						
NNA				S	**S**	**05 43 07.9**	**+0.1**
	15nm,0.5s,baz=209,slow=10,SNR=2.1						
PB06	**IPOC Station P**	**7.31**	**175**	Pn	**Pn**	**05 41 44.3**	**-0.7**
PB05	**IPOC Station P**	**7.43**	**180**		**Pn**	**05 41 45.9**	**-0.5**
AF01	**San Pedro de A**	**7.77**	**166**	Pn	**Pn**	**05 41 51.3**	**+0.3**
CZSB	**Cruzeiro do Su**	**7.98**	**342**		**Pn**	**05 41 51.2**	**-2.3**
CZSB	**Cruzeiro do Su**	**7.98**	**342**	*eP*	**Pn**	**05 41 51.0**	**-2.4**
PB10	**IPOC Station P**	**8.09**	**182**		**Pn**	**05 41 55.0**	**+0.3**
YJA	**Yavi**	**8.10**	**147**	*i* P	**Pn**	**05 41 57.9**	**+2.6**
YJA				*i* S	**S**	**05 43 26.0**	**-1.8**
YJA				IAML		05 43 26.7	
	comp=Z,3.7nm,1.1s						
SIV	**San Ignacio**	**8.84**	**95**	P	**Pn**	**05 42 04.1**	**-0.2**
	comp=Z,6.1nm,0.6s,baz=268,slow=16,SNR=51						
PB14	**IPOC Station P**	**9.20**	**181**		**Pn**	**05 42 09.2**	**+0.2**
GO02	**Mina Guanaco**	**9.75**	**177**		**Pn**	**05 42 16.7**	**+0.8**
VILB	**Vilhena**	**10.02**	**77**		**Pn**	**05 42 19.4**	**+0.2**
VILB	**Vilhena**	**10.02**	**77**	*eP*	**Pn**	**05 42 19.7**	**+0.4**
SLA	**San Lorenzo**	**10.29**	**155**	*i* P	**P**	**05 42 24.0**	**-4.0**
SLA				*i* S	**S**	**05 44 13.2**	**-5.3**
PTLB	**Pontes e Lacer**	**10.70**	**92**		**P**	**05 42 28.2**	**-4.3**
PTLB	**Pontes e Lacer**	**10.70**	**92**	*eP*	**P**	**05 42 29.3**	**-3.1**
AC01	**Pan de Azucar**	**10.72**	**182**	Pn	**P**	**05 42 28.3**	**-4.3**
AC02	**Maricunga**	**11.44**	**175**		**P**	**05 42 39.2**	**-2.0**
ATAH	**Atahualpa**	**11.46**	**315**	P	**P**	**05 42 40.5**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=164,slow=18,SNR=4.4						
AC06	**Mina Casimiro**	**11.92**	**181**	Pn	**P**	**05 42 44.2**	**-1.7**
GO03	**Copiapo**	**12.15**	**180**	Pn	**P**	**05 42 47.2**	**-1.3**
AC04	**Llanos de Chal**	**12.78**	**183**	Pn	**P**	**05 42 54.0**	**-1.5**
TEFE	**Tefe**	**13.02**	**26**	*eP*	**P**	**05 42 57.3**	**-1.1**
VCA	**Vinchina**	**13.42**	**172**	*i* P	**P**	**05 43 03.7**	**+1.0**
LCO	**Las Campanas**	**13.57**	**182**		**P**	**05 43 05.9**	**+1.4**
PDRB	**Porto dos Gac**	**13.65**	**76**	*eP*	**P**	**05 43 05.5**	**+0.1**
BDQN	**Bodoquena, MS**	**13.78**	**113**	*eP*	**P**	**05 43 07.1**	**+0.4**
SALV	**Santo Antonio**	**14.01**	**94**	*eP*	**P**	**05 43 10.6**	**+1.3**
AGUA	**GUANDACOL**	**14.13**	**174**	*i* P	**P**	**05 43 12.6**	**+2.1**
AQDB	**Aquidauana**	**14.72**	**112**	P	**Pn**	**05 43 18.7**	**+1.5**
AQDB	**Aquidauana**	**14.72**	**112**	*eP*	**Pn**	**05 43 19.3**	**+2.0**
GO04	**Tololo Observa**	**14.73**	**182**	P	**Pn**	**05 43 19.8**	**+2.3**
CLDB	**Colider**	**14.75**	**74**	*eP*	**Pn**	**05 43 19.4**	**+1.7**
CO03	**El Pedregal**	**15.39**	**181**	P	**Pn**	**05 43 26.5**	**+1.3**
CO03				IAmb	IAmb	05 43 30.1	
	comp=Z,10nm,0.8s						
CO02	**Combarbal**	**15.76**	**182**	P	**Pn**	**05 43 31.4**	**+1.8**
AMBA	**Amambai (Brazi**	**16.23**	**120**	*eP*	**Pn**	**05 43 37.2**	**+2.1**
CPUP	**Villa Florida**	**16.23**	**134**	P	**Pn**	**05 43 37.1**	**+2.0**
	comp=Z,1.8nm,0.5s,baz=25,slow=12,SNR=18						
CFA	**Coronel Fontan**	**16.25**	**174**	P	**Pn**	**05 43 38.5**	**+3.2**
	comp=Z,1.8nm,0.4s,baz=48,slow=12,SNR=16						
SJPY	**San Joaquin**	**16.34**	**128**	*eP*	**Pn**	**05 43 38.0**	**+1.6**
RPRD	**Ribas do Rio P**	**16.52**	**110**	*eP*	**Pn**	**05 43 40.1**	**+1.5**
NPGB	**Novo Progresso**	**16.77**	**62**	*eP*	**Pn**	**05 43 42.4**	**+0.9**
VA03	**San Esteban**	**17.31**	**181**	P	**Pn**	**05 43 48.5**	**+0.7**
OTAV	**Otavalo**	**17.52**	**332**	*eP*	**Pn**	**05 43 50.2**	**-0.6**
MT02	**Curacav**	**17.82**	**182**	P	**Pn**	**05 43 53.6**	**-0.1**
ITTB	**Itaituba**	**17.98**	**54**	*eP*	**Pn**	**05 43 55.5**	**-0.3**
MT09	**Talagante**	**18.33**	**182**	P	**Pn**	**05 43 58.7**	**-1.1**
MT09				IAmb	IAmb	05 44 18.5	
	comp=Z,14nm,1.2s						
SNDB	**Serra Nova Dou**	**18.71**	**82**	*eP*	**Pn**	**05 44 03.1**	**-1.3**
BO02	**Sierra Bellavi**	**19.33**	**181**		**Pn**	**05 44 11.0**	**-0.5**
BO02				IAmb	IAmb	05 44 13.1	
	comp=Z,8.3nm,0.7s						
PTGB	**Pitanga**	**19.41**	**121**	*eP*	**Pn**	**05 44 10.9**	**-1.7**
LDASE	**Londrina, Braz**	**19.70**	**117**	*eP*	**Pn**	**05 44 13.6**	**-2.3**
IPMB	**Ipameri, GO**	**21.25**	**100**	*eP*	**P**	**05 44 28.5**	**+1.0**
BDFB	**Brasilia**	**21.41**	**94**	P	**P**	**05 44 29.9**	**+0.8**
BDFB	**Brasilia**	**21.41**	**94**	P	**P**	**05 44 30.8**	**+1.7**
	comp=Z,3.1nm,0.5s,baz=269,slow=10,SNR=12						
	comp=Z,3.1nm,0.5s						
PLTB	**Pedras Altas**	**22.27**	**140**	P	**P**	**05 44 38.3**	**+1.5**
PLTB				IAmb	IAmb	05 45 16.3	

	comp=Z,13nm,1.4s								
TRQA	**Tornquist**	**23.73**	**164**		P	**P**	05 44 51.1	+1.1
TRQA					IAmb	IAmb	05 45 24.4	
	comp=Z,17nm,1.3s								
JANB	**Januaria**	**25.01**	**93**	*eP*	**P**	**P**	**05 45 03.4**	**+1.6**
PLCA	**Paso Flores**	**25.26**	**181**		P	**P**	**05 45 06.6**	**+2.7**
PLCA					IAmb	IAmb	05 45 43.3	
	comp=Z,10.0nm,1.4s								
PLCA	**Paso Flores**	**25.26**	**181**		P	**P**	**05 45 07.9**	**+4.1**
	comp=Z,1.3nm,0.7s,baz=338,slow=11,SNR=5.0								
	comp=Z,1.3nm,0.7s								
TXAR	**Lajitas Array**	**54.94**	**324**		P	P	05 49 09.7	+3.9	
	comp=Z,0.4nm,0.6s,baz=150,slow=9.3,SNR=5.8								
	comp=Z,0.4nm,0.6s								
PDAR	**Pinedale Array**	**68.22**	**330**		P	P	05 50 38.0	+3.8	
	comp=Z,0.3nm,0.5s,baz=124,slow=9.5,SNR=5.9								
	comp=Z,0.3nm,0.5s								
SNAA	**Sanae**	**68.44**	**162**		P	**P**	**05 50 37.0**	**+1.9**	
SNAA	**Sanae**	**68.44**	**162**		P	P	05 50 40.3	+5.3	
	comp=Z,0.9nm,0.9s,baz=311,slow=15,SNR=4.6								
	comp=Z,0.9nm,0.9s								
ULM	**Lac du Bonnet**	**69.14**	**343**		P	P	05 50 42.0	+2.5	
	comp=Z,0.8nm,0.3s,baz=170,slow=6.1,SNR=1.8								
	comp=Z,0.8nm,0.3s								
TORD	**Torodi Ar. Bea**	**76.59**	**72**		P	**P**	**05 51 26.0**	**+2.1**	
	comp=Z,0.6nm,0.6s,baz=270,slow=5.5,SNR=5.1								
	comp=Z,0.6nm,0.6s								
ZALV	**Zalesovo Beam**	**136.85**	**21**		PKP	**PKiKP**	**05 58 56.0**	**+1.3**	
	comp=Z,0.6nm,0.4s,baz=349,slow=3.0,SNR=4.7								
SONM	**Songino Array**	**147.52**	**4**		PKPbc	**PKPab**	**05 59 19.5**	**+1.7**	
	comp=Z,0.4nm,0.4s,baz=304,slow=3.5,SNR=3.6								

IDC ***22*** *05:41:45.0±1.8, 40.24N×46.64E, h0km, mb3.6/3, mbtmp3.8/8, ML3.7/4, Error ellipse: s-maj=23.1km s-min=11.9km az=157.0*

TIF ***22*** *05:41:46.9, 40.24N×46.50E, h17km±1km*

AZER ***22*** *05:41:46.1, 40.28N×46.49E, h11km, ml4.1*

NSSP ***22*** *05:41:47.7, 40.27N×46.45E, h10km, Ms3.7*

MOS ***22*** *05:41:47.9±0.8, 40.26N×46.56E, h13km, mb4.4/2, Error ellipse: s-maj=7.7km s-min=4.0km az=98.6*

TEH ***22*** *05:41:47.8, 40.28N×46.52E, h19km±38km*

DRS ***22*** *05:41:49.5, 40.03N×46.63E, h50km*

ISC 22 05:41:46.2±1.1, 40°22N±0.01×46°57E±0.01, h3km±8km, n150, σ1s25/251, mb3.8/5, 14C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGDM	**Agdam**	**0.43**	**105**	P		**Pb**	**05 41 57.5**	**+1.1**
AGDM				S		**Sb**	**05 42 05.1**	**+1.8**
GANJ	**Ganja**	**0.47**	**337**	Pg		**Pg**	**05 41 55.8**	**+0.6**
GANJ	**Ganja**	**0.47**	**337**	P		**Pg**	**05 41 55.8**	**+0.6**
GANJ				S		**Sg**	**05 42 01.4**	**+0.2**
GANJ	**Ganja**	**0.47**	**337**	PG		**Pg**	**05 41 55.8**	**+0.6**
BRDA	**Brd**	**0.47**	**84**	Pg		**Pb**	**05 41 58.7**	**+1.6**
BRDA	**Brd**	**0.47**	**84**	P		**Pb**	**05 41 58.7**	**+1.6**
BRDA				S		**Sb**	**05 42 07.6**	**+3.2**
MNGR	**Mingechevir, A**	**0.68**	**35**	Pg		**Pb**	**05 42 01.4**	**+0.7**
MNGR	**Mingechevir, A**	**0.68**	**35**	P		**Pb**	**05 42 01.4**	**+0.7**
MNGR				S		**Sb**	**05 42 12.1**	**+1.6**
MNGR	**Mingechevir, A**	**0.68**	**35**	PG		**Pb**	**05 42 01.4**	**+0.7**
GRS	**Goris**	**0.74**	**194**	⇑*i*	P	**Pg**	**05 41 59.0**	**-1.4**
GRS				⇓*i*	S	**Sg**	**05 42 10.0**	**0.0**
GDB	**GEDABAY**	**0.80**	**309**	Pg		**Pg**	**05 42 01.5**	**0.0**
GDB	**GEDABAY**	**0.80**	**309**	P		**Pg**	**05 42 01.5**	**0.0**
GDB				S		**Sg**	**05 42 11.3**	**-0.5**
ZRD	**Zardab**	**0.86**	**86**	Pg		**Pn**	**05 42 05.4**	**+0.3**
ZRD	**Zardab**	**0.86**	**86**	P		**Pn**	**05 42 05.5**	**+0.3**
ZRD				S		**Sn**	**05 42 19.7**	**+1.6**
BLQ	**Beylaqan**	**0.91**	**123**	Pg		**Pn**	**05 42 05.7**	**-0.1**
BLQ	**Beylaqan**	**0.91**	**123**	P		**Pn**	**05 42 05.8**	**-0.1**
BLQ				S		**Sn**	**05 42 19.6**	**+0.2**
QRD	**Qoradiz**	**0.95**	**142**	Pg		**Pn**	**05 42 06.4**	**0.0**
QRD	**Qoradiz**	**0.95**	**142**	P		**Pn**	**05 42 06.4**	**0.0**
QRD				S		**Sn**	**05 42 20.3**	**-0.2**
EGVZ	**Egvard**	**0.99**	**181**	⇑*i*	P	**Pb**	**05 42 06.8**	**+0.8**
EGVZ				⇓*i*	S	**Sn**	**05 42 21.0**	**-0.6**
VSHL	**Vashlovani**	**1.02**	**353**	P		**Pb**	**05 42 07.2**	**+0.7**
VSHL				S		**Sn**	**05 42 22.6**	**+0.4**
VAYK	**Vayk**	**1.02**	**240**	*i*	P	**Pb**	**05 42 07.1**	**+0.5**
VAYK				*i*	S	**Sb**	**05 42 21.0**	**+0.7**
SEKA	**Sheki**	**1.10**	**26**	Pg		**Pg**	**05 42 07.4**	**+0.1**
SEKA	**Sheki**	**1.10**	**26**	P		**Pg**	**05 42 07.4**	**+0.1**
SEKA				S		**Sg**	**05 42 22.2**	**+0.6**
SEKA	**Sheki**	**1.10**	**26**	PG		**Pg**	**05 42 07.4**	**+0.1**
SBZ	**Shahbuz**	**1.13**	**224**	Pg		**Pn**	**05 42 09.7**	**+0.7**
SBZ	**Shahbuz**	**1.13**	**224**	P		**Pn**	**05 42 09.7**	**+0.7**
SBZ				S		**Sn**	**05 42 25.5**	**+0.4**
QBL	**Gabala**	**1.21**	**53**	P		**Pg**	**05 42 10.0**	**+0.6**
QBL				S		**Sb**	**05 42 26.8**	**+1.0**
QZX	**Qazax, Azerbai**	**1.24**	**313**	Pg		**Pg**	**05 42 09.4**	**-0.5**
QZX	**Qazax, Azerbai**	**1.24**	**313**	P		**Pg**	**05 42 09.5**	**-0.5**
QZX				S		**Sg**	**05 42 25.3**	**-0.6**
KDMR	**Kurdemir**	**1.25**	**82**	P		**Pn**	**05 42 11.2**	**+0.8**
KDMR				S		**Sn**	**05 42 29.9**	**+2.1**
LSVT	**Lusahovit**	**1.26**	**304**	⇓*i*	P	**Pg**	**05 42 09.6**	**-0.7**
LSVT				⇑*i*	S	**Sg**	**05 42 24.9**	**-1.8**
NAX	**Nakhchivan**	**1.33**	**219**	Pn		**Pg**	**05 42 13.7**	**+1.9**
NAX				Sn		**Sn**	**05 42 32.5**	**+2.6**
NAX	**Nakhchivan**	**1.33**	**219**	PG		**Pb**	**05 42 13.7**	**+1.9**
IML	**Ismayilli**	**1.36**	**65**	Pn		**Pn**	**05 42 12.3**	**+0.2**
IML				Sn		**Sn**	**05 42 31.7**	**+1.1**
ORD	**Ordubad**	**1.36**	**199**	Pn		**Pg**	**05 42 13.1**	**+0.8**
ORD				Sn		**Sn**	**05 42 31.2**	**+0.5**
GNI	**Garni**	**1.40**	**268**	Pg		**Pg**	**05 42 13.9**	**+0.8**
	108nm,0.3s,baz=63,slow=1.4,SNR=124							
GNI				Lg		Lg	05 42 33.0	
	203nm,0.3s,baz=68,slow=19,SNR=17							
GNI	**Garni**	**1.40**	**268**	⇑*i*	P	**Pg**	**05 42 13.8**	**+0.8**
GNI				⇑*i*	S	**Sn**	**05 42 33.0**	**+1.2**
GNI	**Garni**	**1.40**	**268**	*c i*	PG	**Pg**	**05 42 13.8**	**+0.8**
GNI				*i*	S	**Sg**	**05 42 31.5**	**+0.3**
GNI					pmax	pmax		
	comp=Z,13nm,1.2s							
GNI					smax	smax		
	comp=Z,1μm,0.5s							
HYR	**Heyderabad**	**1.41**	**250**	Pn		**Pg**	**05 42 14.4**	**+1.2**
HYR				Sn		**Sn**	**05 42 33.5**	**+1.7**
ZKTA	**Zakatala**	**1.42**	**2**	Pn		**Pn**	**05 42 12.7**	**-0.2**
ZKTA				Sn		**Sb**	**05 42 32.1**	**+0.3**
KAPZ	**Kaputan**	**1.43**	**275**	⇑*i*	P	**Pb**	**05 42 14.2**	**+0.6**
KAPZ				⇑*i*	S	**Sn**	**05 42 33.2**	**+0.6**
SAAT	**Saatly**	**1.47**	**103**	Pn		**Pn**	**05 42 13.3**	**-0.2**
SAAT				Sn		**Sb**	**05 42 32.7**	**-0.4**
DGRG	**David-gareji**	**1.53**	**324**	P		**Pn**	**05 42 14.9**	**+0.5**
DGRG				S		**Sb**	**05 42 35.9**	**+1.0**
DGRG	**David-gareji**	**1.53**	**324**	PG		**Pn**	**05 42 14.9**	**+0.5**
DGRG				S		**Sb**	**05 42 35.9**	**+1.0**
XNQ	**Khinaliq**	**1.53**	**51**	Pn		**Pn**	**05 42 14.2**	**-0.3**
XNQ				Sg		**Sn**	**05 42 35.0**	**-0.1**
AKT	**Akhty**	**1.54**	**35**	*i*	Pg	**Pn**	**05 42 14.9**	**+0.3**
	comp=Z,619nm,0.3s							
AKT				*e*	Sg	**Sn**	**05 42 35.3**	**+0.2**
	comp=Z,4μm,0.4s							
AKT	**Akhty**	**1.54**	**35**	⇑*i*	PG	**Pn**	**05 42 14.9**	**+0.3**
AKT				*e*	S	**Sn**	**05 42 35.3**	**+0.2**
AKT					pmax	pmax		
	comp=Z,619nm,0.3s							
IMRD	**Marand**	**1.65**	**204**	Pg		**Pg**	**05 42 18.8**	**+1.1**
PQL	**Pirkuli**	**1.65**	**69**	Pn		**Pn**	**05 42 16.8**	**+0.6**
PQL				Sn		**Sg**	**05 42 40.0**	**+0.9**
MAKU	**Maku**	**1.69**	**240**	Pg		**Pb**	**05 42 18.8**	**+0.8**
GLBA	**Clilabad**	**1.71**	**124**	Pn		**Pb**	**05 42 18.3**	**0.0**
GLBA				Sn		**Sg**	**05 42 41.8**	**+0.6**
AMBZ	**Amberd**	**1.77**	**276**	⇑*i*	P	**Pb**	**05 42 20.2**	**+0.7**
AMBZ				⇑*i*	S	**Sg**	**05 42 43.7**	**+0.6**
KSMR	**Kasumkent**	**1.82**	**40**	*e*	Pg	**Pn**	**05 42 19.4**	**+1.0**
	comp=Z,447nm,0.2s							
KSMR				*e*	Sg	**Sn**	**05 42 42.9**	**+0.8**
	comp=Z,6μm,0.4s							
KSMR	**Kasumkent**	**1.82**	**40**	*e*	PN	**Pn**	**05 42 19.4**	**+1.0**
KSMR				*e*	S	**Sn**	**05 42 42.8**	**+0.8**
KSMR					pmax	pmax		
	comp=Z,447nm,0.2s							
QSAR	**Qusar**	**1.83**	**44**	Pg		**Pb**	**05 42 20.0**	**-0.3**
QSAR				Sn		**Sg**	**05 42 44.9**	**+0.1**
YRD	**Yardimli**	**1.83**	**135**	Pn		**Pb**	**05 42 20.2**	**-0.3**
YRD				Sn		**Sg**	**05 42 45.9**	**+0.7**
GBS	**Qobustan**	**1.84**	**79**	Pg		**Pb**	**05 42 21.3**	**+0.7**
GBS				Sn		**Sg**	**05 42 46.1**	**+0.7**
QUBA	**Quba, Azerbaij**	**1.85**	**52**	Pn		**Pb**	**05 42 20.5**	**-0.2**
QUBA				Sn		**Sg**	**05 42 46.5**	**+0.8**
ALIB	**&Aumlli-Bayram**	**1.89**	**97**	Pg		**Pb**	**05 42 22.2**	**+0.9**
ALIB				Sn		**Sg**	**05 42 46.9**	**0.0**
TLTR	**Tlyarata**	**1.89**	**355**	*e*	Pg	**Pn**	**05 42 20.2**	**+0.6**
	comp=Z,1.0nm,0.3s							
TLTR				*e*	Sg	**Sn**	**05 42 45.2**	**+1.2**
	comp=Z,1μm,0.4s							
TLTR	**Tlyarata**	**1.89**	**355**	*e*	PN	**Pn**	**05 42 20.1**	**+0.6**
TLTR				*e*	S	**Sn**	**05 42 45.1**	**+1.2**
TLTR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
ARUZ	**Aruch**	**1.90**	**273**	*e*	P	**Pb**	**05 42 22.0**	**+0.6**
ARUZ				*e*	S	**Sg**	**05 42 47.5**	**+0.4**
METS	**Metsamor**	**1.91**	**269**	*e*	P	**Pb**	**05 42 21.7**	**+0.1**
METS				*e*	S	**Sb**	**05 42 46.5**	**+0.7**
SRTK	**Saratovka**	**1.91**	**297**	⇑*i*	P	**Pn**	**05 42 20.9**	**+1.2**
SRTK				⇓*i*	S	**Sn**	**05 42 44.9**	**+0.6**
ATGJ	**Altiaghaj**	**1.92**	**70**	Pn		**Pb**	**05 42 22.0**	**+0.1**
ATGJ				Sn		**Sb**	**05 42 46.3**	**+0.1**
IHRS	**Heris**	**1.93**	**169**	Pn		**Pb**	**05 42 22.6**	**+0.4**
KMKR	**Kumukh**	**1.95**	**12**	*e*	Pg	**Pn**	**05 42 21.9**	**+1.5**
	comp=Z,388nm,0.1s							
KMKR				*e*	Sg	**Sb**	**05 42 47.2**	**-0.2**
	comp=Z,2μm,0.4s							
KMKR	**Kumukh**	**1.95**	**12**	*e*	PN	**Pn**	**05 42 21.9**	**+1.5**
KMKR					pmax	pmax		
	comp=Z,388nm,0.1s							
SIZA	**Siyzn**	**1.97**	**63**	Pn		**Pb**	**05 42 22.2**	**-0.5**
SIZA				Sg		**Sg**	**05 42 50.8**	**+1.3**
BTNK	**Botanikuri**	**1.98**	**318**	PN		**Pn**	**05 42 21.2**	**+0.6**
ITBZ	**Tabriz**	**2.01**	**189**	Pn		**Pb**	**05 42 23.7**	**+0.3**
KZRT	**Kazreti**	**2.02**	**306**	P		**Pn**	**05 42 20.4**	**-0.7**
KZRT				S		**Sn**	**05 42 45.3**	**-1.6**
KZRT	**Kazreti**	**2.02**	**306**	PN		**Pn**	**05 42 20.4**	**-0.7**
SEAG	**Tbilisi Sea**	**2.04**	**320**	P		**Pn**	**05 42 22.5**	**+1.1**
SEAG				S		**Sn**	**05 42 48.7**	**+1.3**
SEAG	**Tbilisi Sea**	**2.04**	**320**	PN		**Pn**	**05 42 22.5**	**+1.1**
TBLG	**Delisi**	**2.05**	**318**	P		**Pn**	**05 42 22.1**	**+0.6**
TBLG				S		**Sn**	**05 42 48.8**	**+1.2**
TBLG	**Delisi**	**2.05**	**318**	*e*	PN	**Pn**	**05 42 22.6**	**+1.1**
KMOZ	**Kamo**	**2.08**	**288**	⇑*i*	P	**Pb**	**05 42 25.9**	**+1.2**
KMOZ				⇓*i*	S	**Sg**	**05 42 52.9**	**-0.2**
LRK	**Lerik**	**2.09**	**138**	Pn		**Pb**	**05 42 24.3**	**-0.5**
LRK				Sn		**Sg**	**05 42 53.2**	**-0.1**
URKR	**Urkarakh**	**2.10**	**22**	*e*	Pn	**Pn**	**05 42 24.4**	**+1.9**
	comp=Z,171nm,0.4s							
URKR				*e*	Sn	**Sb**	**05 42 51.6**	**0.0**
	comp=Z,616nm,0.6s							
URKR	**Urkarakh**	**2.10**	**22**	*e*	PN	**Pn**	**05 42 24.3**	**+1.9**
URKR					pmax	pmax		
	comp=Z,171nm,0.4s							
VNNZ	**Vanand**	**2.10**	**268**	*e*	P	**Pb**	**05 42 25.7**	**+0.7**
VNNZ				*e*	S	**Sg**	**05 42 55.0**	**+1.2**
GNBR	**Gunib**	**2.19**	**8**	*e*	Pn	**Pn**	**05 42 25.5**	**+2.0**
	comp=Z,134nm,0.4s							
GNBR				*e*	Sn	**Sb**	**05 42 54.0**	**0.0**
	comp=Z,538nm,0.5s							
GNBR	**Gunib**	**2.19**	**8**	*i*	PN	**Pb**	**05 42 25.9**	**-0.5**
GNBR				*e*	S	**Sb**	**05 42 53.9**	**0.0**
DRN	**Derbent**	**2.25**	**36**	*e*	Pn	**Pn**	**05 42 24.4**	**+0.2**
	comp=Z,223nm,0.4s							
DRN				*e*	Sn	**Sn**	**05 42 52.8**	**+0.4**
	comp=Z,1μm,0.3s							
DRN	**Derbent**	**2.25**	**36**	*i*	PN	**Pn**	**05 42 25.8**	**+1.6**
DRN				*e*	S	**Sb**	**05 42 55.4**	**-0.2**
LKRN	**Lenkeran, Azer**	**2.28**	**131**	Pn		**Pb**	**05 42 26.8**	**-1.2**
LKRN				Sn		**Sb**	**05 42 57.0**	**+0.5**
LKRN	**Lenkeran, Azer**	**2.28**	**131**	PN		**Pb**	**05 42 26.8**	**-1.2**
TRLG	**Trialeti**	**2.29**	**306**	P		**Pn**	**05 42 26.2**	**+1.2**
TRLG				S		**Sn**	**05 42 55.0**	**+1.2**
TRLG	**Trialeti**	**2.29**	**306**	PN		**Pn**	**05 42 26.1**	**+1.2**
TRLG				S		**Sn**	**05 42 54.9**	**+1.2**
XNZR	**Khunzakh**	**2.32**	**3**	*e*	Pn	**Pn**	**05 42 27.2**	**+1.7**
	comp=Z,96nm,0.5s							
XNZR				*e*	Sn	**Sn**	**05 42 56.9**	**+2.3**
	comp=Z,321nm,0.5s							
HNZR	**Khunzah**	**2.34**	**3**	*e*	PN	**Pn**	**05 42 27.1**	**+1.4**
HNZR				*e*	S	**Sn**	**05 42 56.9**	**+1.9**
HNZR					pmax	pmax		
	comp=Z,96nm,0.5s							
ASTR	**Astara**	**2.39**	**133**	Pn		**Pn**	**05 42 27.9**	**+1.7**
ASTR				Sn		**Sb**	**05 43 00.4**	**+0.7**
ARKR	**Arakani**	**2.40**	**8**	*e*	Pn	**Pn**	**05 42 28.5**	**+2.1**
	comp=Z,103nm,0.4s							
ARKR				*e*	Sn	**Sb**	**05 42 59.2**	**-0.9**
	comp=Z,233nm,0.4s							
ARKR	**Arakani**	**2.40**	**8**	*e*	PN	**Pn**	**05 42 28.5**	**+2.1**
ARKR				*e*	S	**Sb**	**05 42 59.2**	**-0.9**
ARKR					pmax	pmax		
	comp=Z,103nm,0.4s							
BTLR	**Botlikh**	**2.46**	**354**	*e*	Pn	**Pn**	**05 42 29.0**	**+1.8**
	comp=Z,104nm,0.3s							
BTLR				*e*	Sn	**Sb**	**05 43 00.4**	**-1.2**
	comp=Z,297nm,0.5s							
BTLR	**Botlikh**	**2.46**	**354**	*i*	PN	**Pn**	**05 42 29.6**	**+2.4**
BTLR				*e*	S	**Sb**	**05 43 00.5**	**-1.2**
BGD	**Bogdanovka**	**2.48**	**296**	P		**Pb**	**05 42 31.7**	**+0.1**
BGD				S		**Sb**	**05 43 03.5**	**+0.9**
BGD	**Bogdanovka**	**2.48**	**296**	PN		**Pb**	**05 42 31.6**	**+0.1**
BGD				S		**Sb**	**05 43 03.5**	**+0.9**
UNCR	**Uncukul**	**2.50**	**4**	*e*	Pn	**Pn**	**05 42 29.1**	**+1.4**
	comp=Z,85nm,0.4s							
UNCR				*e*	Sn	**Sn**	**05 43 00.8**	**+2.1**
	comp=Z,478nm,0.5s							
UNCR	**Uncukul**	**2.50**	**4**	*e*	PN	**Pn**	**05 42 29.1**	**+1.4**
UNCR				*e*	S	**Sn**	**05 43 00.8**	**+2.1**
UNCR					pmax	pmax		
	comp=Z,85nm,0.4s							
GAS1	**Astara - Iran**	**2.54**	**135**	Pn		**Pn**	**05 42 30.2**	**+1.9**
IAZR	**Azarshahr**	**2.58**	**190**	Pn		**Pb**	**05 42 32.8**	**-0.3**
AKH	**Akhalkalaki**	**2.62**	**298**	P		**Pb**	**05 42 33.5**	**-0.3**
AKH				S		**Sb**	**05 43 03.3**	**-0.2**
AKH	**Akhalkalaki**	**2.62**	**298**	PN		**Pb**	**05 42 33.5**	**-0.3**
AKH				S		**Sb**	**05 43 06.3**	**-0.2**
KRNR	**Karanay**	**2.62**	**6**	*e*	Pn	**Pn**	**05 42 30.6**	**+1.1**
	comp=Z,43nm,0.8s							
KRNR				*e*	Sn	**Sn**	**05 43 03.6**	**+1.8**
	comp=Z,117nm,0.4s							
KRNR	**Karanay**	**2.62**	**6**	*e*	PN	**Pn**	**05 42 30.5**	**+1.1**
KRNR				*e*	S	**Sn**	**05 43 03.6**	**+1.8**
KRNR					pmax	pmax		
	comp=Z,43nm,0.8s							
BUJR	**Buynaksk**	**2.64**	**9**	*i*	PN	**Pb**	**05 42 33.0**	**-1.0**
BUJR				*e*	S	**Sb**	**05 43 07.1**	**+0.3**
SHTL	**Shatili**	**2.66**	**337**	P		**Pn**	**05 42 30.6**	**+0.6**
SHTL				S		**Sn**	**05 43 05.5**	**+2.7**
SHTL	**Shatili**	**2.66**	**337**	PN		**Pn**	**05 42 31.1**	**+1.1**
GUDG	**Gudauri**	**2.74**	**326**	P		**Pn**	**05 42 32.9**	**+1.7**
GUDG	**Gudauri**	**2.74**	**326**	PN		**Pn**	**05 42 32.9**	**+1.7**
MAK	**Makhachkala**	**2.83**	**14**	*e*	PN	**Pn**	**05 42 34.2**	**+2.0**
MAK				*e*	S	**Sn**	**05 43 09.7**	**+2.9**
MAK					pmax	pmax		
	comp=Z,98nm,0.3s							
MAK					smax	smax		
	comp=E,454nm,0.5s							
MAK					smax	smax		
	comp=E,419nm,0.6s							
MAK					MLR	MLR		
	comp=Z,38nm,6.0s							
ALIG	**Mtskhetisjvari**	**2.90**	**311**	P		**Pn**	**05 42 34.9**	**+1.6**
ALIG				S		**Sb**	**05 43 13.4**	**-1.0**
ALIG	**Mtskhetisjvari**	**2.90**	**311**	PN		**Pn**	**05 42 34.9**	**+1.6**
ALIG				S		**Sb**	**05 43 13.4**	**-1.0**
IHSH	**Hashtrud**	**2.96**	**169**	Pn		**Pb**	**05 42 37.5**	**-2.3**
LACR	**Lac**	**3.11**	**328**	*i*	PN	**Pn**	**05 42 37.7**	**+1.4**
LACR				*e*	S	**Sb**	**05 43 19.2**	**-1.4**
GARIG	**Gari**	**3.33**	**317**	P		**Pn**	**05 42 41.5**	**+2.3**
GARIG				S		**Sb**	**05 43 27.6**	**+0.7**
TKB	**Tkibuli**	**3.43**	**310**	P		**Pn**	**05 42 40.7**	**+0.1**
TKB				S		**Sb**	**05 43 29.3**	**-0.4**
TKB	**Tkibuli**	**3.43**	**310**	PN		**Pn**	**05 42 40.7**	**+0.1**
TKB				S		**Sb**	**05 43 29.3**	**-0.4**
BATM	**Batumi**	**3.94**	**292**	P		**Pb**	**05 42 57.7**	**+1.4**
BATM				S		**Sb**	**05 43 47.2**	**+2.8**
BATM	**Batumi**	**3.94**	**292**	PN		**Pb**	**05 42 57.7**	**+1.4**
BATM				S		**Sb**	**05 43 47.2**	**+2.8**
KBZ	**Khabaz**	**4.45**	**323**	Pn		**Pn**	**05 42 57.2**	**+2.8**
	comp=Z,1.3nm,0.3s,baz=141,slow=6.5,SNR=6.5							
KBZ				Pg		**Pb**	**05 43 06.3**	**+1.5**
	comp=Z,2.6nm,0.3s,baz=146,slow=9.6,SNR=12							
KBZ				Lg		Lg	05 44 03.6	
	comp=Z,1.6nm,0.3s,baz=180,slow=20,SNR=4.4							
	comp=Z,2.6nm,0.4s							
KBZ	**Khabaz**	**4.45**	**323**	*e*	PN	**Pn**	**05 42 56.1**	**+1.7**
SHA1	**Shidzhatmaz**	**4.57**	**322**	*c i*	PN	**Pn**	**05 42 58.7**	**+2.4**
KIV	**Kislovodsk**	**4.72**	**324**	*e*	PN	**Pn**	**05 42 59.2**	**+0.9**
KIV				*e*	S	**Sn**	**05 43 55.0**	**+1.4**
KIV					pmax	pmax		
	comp=Z,5.0nm,0.9s							
HGHA	**Hamedan- Ghaye**	**5.06**	**158**	Pn		**Pn**	**05 43 06.9**	**+3.8**
QABG	**Abgarm-Qazvin**	**5.09**	**151**	Pn		**Pn**	**05 43 07.0**	**+3.4**
IPRN	**Peran**	**6.03**	**129**	Pn		**Pn**	**05 43 18.2**	**+1.8**
IDMV	**Damavand**	**6.33**	**135**	Pn		**Pn**	**05 43 23.0**	**+2.3**
IFIR	**Firoozkooh**	**6.69**	**131**	Pn		**Pn**	**05 43 28.1**	**+2.5**
IKIA	**Kiasar**	**6.89**	**123**	Pn		**Pn**	**05 43 29.6**	**+1.4**
ERBR	**Yeremizino-Bor**	**7.07**	**323**	*e*	P	**Pn**	**05 43 29.8**	**-0.7**
ERBR				*e*	S	**Sn**	**05 44 50.7**	**-0.7**
ERBR					pmax	pmax		
	comp=Z,8.0nm,0.4s							
MRVT	**Maraveh tapeh**	**7.85**	**106**	Pn		**Pn**	**05 43 41.1**	**-0.2**
ANN	**Anapa**	**8.15**	**307**	*e*	P	**Pn**	**05 43 44.5**	**-0.8**
ANN				*e*	S	**Sn**	**05 45 17.1**	**-0.8**
ANN					pmax	pmax		
	comp=Z,93nm,1.3s							
BELG	**Belogornoye**	**12.20**	**3**	Pn		**Pn**	**05 44 38.0**	**-2.7**
	comp=Z,1.3nm,0.3s,baz=176,slow=14,SNR=1.7							
	comp=Z,7.7nm,0.7s							
BELG	**Belogornoye**	**12.20**	**3**	P		**Pn**	**05 44 38.0**	**-2.7**
AKTO	**Aktyubinsk**	**12.99**	**34**	Pn		**Pn**	**05 44 47.9**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=205,slow=6.2,SNR=5.0							
	comp=Z,0.8nm,0.3s							
AKASG	**Malin Array Be**	**16.02**	**317**	Pn		**Pn**	**05 45 31.1**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=126,slow=12,SNR=1.0							
ARTI	**Arti**	**17.94**	**22**	P		**Pn**	**05 45 55.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=225,slow=1.4,SNR=4.1							
	comp=Z,1.9nm,0.4s							
ARTI	**Arti**	**17.94**	**22**	P		**Pn**	**05 45 57.1**	**+0.6**
ARTI				S		**Sn**	**05 49 18.4**	**+1.6**
MNK	**Minsk**	**19.00**	**325**	*i*	P	**P**	**05 46 08.0**	**-0.7**
	comp=E,12nm,0.7s							
MNK				*i*	P	**P**	**05 46 08.0**	**-0.7**
	comp=N,9.0nm,0.7s							
MNK				*i*	P	**P**	**05 46 08.0**	**-0.7**
	comp=Z,8.0nm,0.6s,baz=131							
MNK				*i*	PP	**PnPn**	**05 46 21.1**	**-0.5**
MNK				*i*	PPP	PPP	05 46 28.9	
MNK				*i*	S	**Sn**	**05 49 42.2**	**-0.2**
MNK				*i*	SS	**SnSn**	**05 49 57.6**	**+1.4**
MNK				*i*	SSS	SSS	05 50 12.6	
MNK				*i*	LQ	LQ	05 51 49.5	
MNK	**Minsk**	**19.00**	**325**	*i*	P	**P**	**05 46 08.0**	**-0.7**
MNK				*i*	S	**Sn**	**05 49 42.2**	**-0.2**
MNK					pmax	pmax		
	comp=Z,8.0nm,0.6s							
MNK					pmax	pmax		
	comp=E,12nm,0.7s							
MNK					pmax

PBDV	**Barranco-do-Ve**	**4.09**	**89**	*eP*		**Pn**	**06 14 50.8**	**0.0**
PBDV				*eS*		**Sn**	**06 15 37.7**	**-0.9**
PBDV				*i* IAML			06 15 43.7	
PBDV				*i* IAML			06 15 44.4	
PBDV				*i* IAML			06 15 45.7	
EVO	**Evora**	**4.18**	**71**	P		**Pn**	**06 14 52.6**	**+0.5**
EVO				S		**Sn**	**06 15 41.6**	**+0.7**
EVO	**Evora**	**4.18**	**71**	*eP*		**Pn**	**06 14 52.5**	**+0.5**
EVO				*eS*		**Sn**	**06 15 41.3**	**+0.3**
EVO				*i* IAML			06 15 45.1	
EVO				*i* IAML			06 15 45.8	
EVO				*i* IAML			06 15 47.0	
PBEJ	**Beja**	**4.19**	**78**	*eP*		**Pn**	**06 14 52.5**	**+0.4**
PBEJ				*eS*		**Sn**	**06 15 40.8**	**-0.3**
PBEJ				*i* IAML			06 14 44.6	
PBEJ				*i* IAML			06 15 45.2	
PBEJ				*i* IAML			06 15 47.6	
PMTG	**Montargil**	**4.21**	**63⇑**	*eP*		**Pn**	**06 14 52.7**	**+0.3**
PMTG				*eS*		**Sn**	**06 15 42.0**	**+0.3**
PMTG				*i* IAML			06 15 45.9	
PMTG				*i* IAML			06 15 46.3	
PMTG				*i* IAML			06 15 47.2	
PVAQ	**Vaqueiros**	**4.26**	**87**	P		**Pn**	**06 14 53.0**	**+0.1**
PVAQ	**Vaqueiros**	**4.26**	**87**	*eP*		**Pn**	**06 14 53.1**	**+0.1**
PVAQ				*eS*		**Sn**	**06 15 42.6**	**-0.2**
PVAQ				*i* IAML			06 15 44.7	
PVAQ				*i* IAML			06 15 46.3	
PVAQ				*i* IAML			06 15 52.1	
PVAQ	**Vaqueiros**	**4.26**	**87**	P		**Pn**	**06 14 53.1**	**+0.1**
PVAQ	**Vaqueiros**	**4.26**	**87**	S		**Sb**	**06 15 52.0**	**-2.5**
EGRO	**El Granado**	**4.45**	**85**	P		**Pn**	**06 14 55.8**	**+0.2**
EGRO				S		**Sn**	**06 15 46.2**	**-1.3**
EGRO	**El Granado**	**4.45**	**85**	Pn		**Pn**	**06 14 55.8**	**+0.2**
EGRO				⇑*i*Vmb_VC			06 15 05.0	
	comp=N,254nm,SNR=2.0							
EGRO				Sn		**Sn**	**06 15 46.1**	**-1.3**
PSARD	**Sardoal**	**4.49**	**57⇓**	*eP*		**Pn**	**06 14 57.0**	**+0.8**
PSARD				*eS*		**Sn**	**06 15 49.8**	**+1.2**
PSARD				*i* IAML			06 15 51.4	
PSARD				*i* IAML			06 15 53.4	
PSARD				*i* IAML			06 15 55.5	
PCAS	**Casmilo, Conde**	**4.52**	**51**	*eP*		**Pn**	**06 14 57.0**	**+0.3**
PCAS				*eS*		**Sn**	**06 15 49.0**	**-0.4**
PCAS				*i* IAML			06 15 53.0	
PCAS				*i* IAML			06 15 54.0	
PCAS				*i* IAML			06 16 00.2	
PESTR	**Estremoz**	**4.60**	**68**	P		**Pn**	**06 14 58.2**	**+0.4**
PESTR				S		**Sn**	**06 15 52.8**	**+1.6**
PESTR	**Estremoz**	**4.60**	**68**	*eP*		**Pn**	**06 14 58.3**	**+0.6**
PESTR				*eS*		**Sn**	**06 15 51.8**	**+0.5**
PESTR				*i* IAML			06 15 56.3	
PESTR				*i* IAML			06 15 58.1	
PESTR				*i* IAML			06 16 00.7	
PESTR	**Estremoz**	**4.60**	**68**	P		**Pn**	**06 14 58.7**	**+1.0**
PESTR	**Estremoz**	**4.60**	**68**	S		**Sn**	**06 15 58.0**	**+6.7**
PBAR	**Barrancos**	**4.86**	**77**	P		**Pn**	**06 15 01.5**	**+0.3**
PBAR				S		**Sn**	**06 15 56.7**	**-0.8**
PBAR	**Barrancos**	**4.86**	**77**	*eP*		**Pn**	**06 15 01.9**	**+0.7**
PBAR				*eS*		**Sn**	**06 15 56.9**	**-0.6**
PBAR				*i* IAML			06 16 06.8	
PBAR				*i* IAML			06 16 08.0	
PBAR				*i* IAML			06 16 14.4	
PMRV	**Marv??o**	**4.95**	**62**	*eP*		**Pn**	**06 15 02.7**	**+0.2**
PMRV				*eS*		**Sn**	**06 15 59.8**	**0.0**
PMRV				*i* IAML			06 16 02.3	
PMRV				*i* IAML			06 16 02.5	
PMRV				*i* IAML			06 16 02.5	
PMPST	**Porto Santo, M**	**4.96**	**214**	*eP*		Pn	06 14 47.5	-15
PMPST				*eS*		Sn	06 15 31.5	-29
PMPST				*i* IAML			06 15 35.8	
PMPST				*i* IAML			06 15 36.9	
PMPST				*i* IAML			06 15 37.1	
EBAD	**Badajoz**	**5.00**	**71**	P		**Pn**	**06 15 03.3**	**+0.1**
EBAD				S		**Sn**	**06 16 01.5**	**+0.4**
EBAD	**Badajoz**	**5.00**	**71**	Pn		**Pn**	**06 15 03.2**	**+0.1**
EBAD				⇑*i*Vmb_VC			06 15 12.7	
	comp=N,257nm,SNR=2.8							
EBAD				Sn		**Sn**	**06 15 59.8**	**-1.2**
PCBR	**Castelo Branco**	**5.07**	**58**	*eP*		**Pn**	**06 15 04.9**	**+0.7**
PCBR				*eS*		**Sn**	**06 16 02.7**	**-0.1**
PCBR				*i* IAML			06 16 04.8	
PCBR				*i* IAML			06 16 07.0	
PCBR				*i* IAML			06 16 07.1	
EMIN	**Mina Concepcio**	**5.10**	**82**	P		**Pn**	**06 15 04.4**	**-0.2**
EMIN				S		**Sn**	**06 16 03.0**	**-0.5**
EMIN	**Mina Concepcio**	**5.10**	**82**	Pn		**Pn**	**06 15 04.8**	**+0.2**
EMIN				Sn		**Sn**	**06 16 02.2**	**-1.3**
PVIS	**Viseu**	**5.29**	**48**	*eP*		**Pn**	**06 15 08.0**	**+0.7**
PVIS				*eS*		**Sn**	**06 16 08.1**	**-0.3**
MTE	**Manteigas**	**5.32**	**52**	*eP*		**Pn**	**06 15 08.1**	**+0.4**
MTE				*eS*		**Sn**	**06 16 08.9**	**-0.2**
MTE				*i* IAML			06 16 12.1	
MTE				*i* IAML			06 16 13.2	
MTE				*i* IAML			06 16 14.3	
PMAR	**Madeira**	**5.53**	**216**	P		Pn	06 14 50.4	-20
PMAR	**Madeira**	**5.53**	**216**	S		Sn	06 15 46.7	-28
PMOZ	**Porto Moniz, M**	**5.58**	**219**	P		Pn	06 14 51.5	-20
PMOZ	**Porto Moniz, M**	**5.58**	**219**	S		Sn	06 15 50.5	-25
PVRL	**Vila Real**	**5.76**	**44**	*eS*		**Sn**	**06 16 18.5**	**-1.0**
ESPR	**Espera**	**5.77**	**92**	P		**Pn**	**06 15 14.0**	**+0.2**
ESPR				S		**Sn**	**06 16 20.7**	**+0.6**
ESPR	**Espera**	**5.77**	**92**	Pn		**Pn**	**06 15 14.2**	**+0.4**
ESPR				⇑*i*Vmb_VC			06 15 16.0	
	comp=N,259nm,SNR=2.4							
ESPR				Sn		**Sn**	**06 16 19.3**	**-0.8**
POLO	**Lamas de Olo**	**5.79**	**43**	*eP*		**Pn**	**06 15 14.1**	**+0.1**
POLO				*eS*		**Sn**	**06 16 19.0**	**-1.6**
POLO				*i* IAML			06 16 21.6	
POLO				*i* IAML			06 16 21.9	
POLO				*i* IAML			06 16 22.1	
PCAB	**Cabril**	**5.90**	**40**	*eS*		**Sn**	**06 16 21.7**	**-1.6**
PCAB				*i* IAML			06 16 23.1	
PCAB				*i* IAML			06 16 23.5	
PCAB				*i* IAML			06 16 25.1	
EZAM	**Zamans**	**5.92**	**33**	Sn		**Sn**	**06 16 19.3**	**-4.5**
PGAV	**Gavieira, Arco**	**5.97**	**37**	*eP*		**Pn**	**06 16 16.8**	**+0.1**
PGAV				*eS*		**Sn**	**06 16 22.5**	**-2.6**
PGAV				*i* IAML			06 16 24.0	
PGAV				*i* IAML			06 16 24.5	
PGAV				*i* IAML			06 16 27.1	
ELOB	**Lobios**	**6.00**	**38**	Pn		**Pn**	**06 15 17.6**	**+0.6**
ELOB				⇑*i*Vmb_VC			06 15 21.8	
	comp=N,196nm,SNR=1.7							
ELOB				Sn		**Sn**	**06 16 22.6**	**-3.2**
RTC	**Rabat Centre**	**6.01**	**121**	S		**Sn**	**06 16 20.4**	**-5.7**
AVE	**Averroes**	**6.08**	**129**	S		**Sn**	**06 16 21.0**	**-6.7**
MVO	**Moncorvo**	**6.09**	**48**	*eP*		**Pn**	**06 15 18.2**	**0.0**
MVO				*eS*		**Sn**	**06 16 27.0**	**-1.0**
MVO				*i* IAML			06 16 29.6	
MVO				*i* IAML			06 16 30.8	
MVO				*i* IAML			06 16 31.7	
ECAB	**El Cabril**	**6.11**	**80**	P		**Pn**	**06 15 18.9**	**+0.4**
ECAB				S		**Sn**	**06 16 28.5**	**-0.1**
ECAB	**El Cabril**	**6.11**	**80**	Pn		**Pn**	**06 15 19.0**	**+0.4**
ECAB				⇑*i*Vmb_VC			06 15 19.5	
	comp=N,231nm,SNR=4.5							
ECAB				Sn		**Sn**	**06 16 26.4**	**-2.1**
EPLA	**Plasencia**	**6.13**	**61**	Pn		**Pn**	**06 15 19.5**	**+0.7**
EPLA				⇑*i*Vmb_VC			06 15 20.1	
	comp=N,161nm,SNR=2.1							
EPLA				Sn		**Sn**	**06 16 26.4**	**-2.6**
SMIR	**Smir Dam**	**6.38**	**102**	P		**Pn**	**06 15 20.6**	**-1.7**
SMIR	**Smir Dam**	**6.38**	**102**	S		**Sn**	**06 16 41.0**	**+5.8**
SRHM	**Skhour des Reh**	**6.39**	**137**	P		Pn	06 15 18.7	-4.3
SRHM	**Skhour des Reh**	**6.39**	**137**	S		**Sn**	**06 16 37.7**	**+2.2**
EMAZ	**Mazaricos**	**6.48**	**28**	Pn		**Pn**	**06 15 22.7**	**-0.8**
EMAZ				Sn		**Sn**	**06 16 31.1**	**-6.4**
PBRG	**Braganca**	**6.66**	**45**	*eP*		**Pn**	**06 15 26.1**	**+0.1**
PBRG				*eS*		**Sn**	**06 16 40.0**	**-2.0**
PBRG				*i* IAML			06 16 46.7	
PBRG				*i* IAML			06 16 46.8	
PBRG				*i* IAML			06 16 47.4	
EAGO	**Agolada(Pontev**	**6.71**	**33**	Pn		**Pn**	**06 15 26.1**	**-0.7**
EAGO				Sn		**Sn**	**06 16 37.6**	**-5.8**
ECAL	**Calabor**	**6.75**	**44**	P		**Pn**	**06 15 27.2**	**-0.2**
ECAL				S		**Sn**	**06 16 43.4**	**-1.0**
ECAL	**Calabor**	**6.75**	**44**	Pn		**Pn**	**06 15 27.4**	**+0.1**
ECAL				⇑*i*Vmb_VC			06 15 35.3	
	comp=N,150nm,SNR=1.4							
ECAL				Sn		**Sn**	**06 16 41.3**	**-3.1**
EADA	**Adamuz**	**6.78**	**80**	P		**Pn**	**06 15 27.2**	**-0.6**
EADA				S		**Sn**	**06 16 43.7**	**-1.4**
EADA	**Adamuz**	**6.78**	**80**	Pn		**Pn**	**06 15 27.6**	**-0.1**
EADA				⇑*i*Vmb_VC			06 15 32.1	
	comp=N,164nm,SNR=2.5							
EADA				Sn		**Sn**	**06 16 44.6**	**-0.5**
EGOR	**Sierra Gorda,**	**7.14**	**89**	P		**Pn**	**06 15 33.2**	**+0.4**
PAB	**San Pablo**	**7.21**	**69**	Pn		**Pn**	**06 15 33.7**	**+0.1**
PAB				⇑*i*Vmb_VC			06 15 34.9	
	comp=N,120nm,SNR=2.3							
PAB				Sn		**Sn**	**06 16 54.6**	**-0.9**
OUK	**Oukaimeden**	**7.42**	**143**	P		Pn	06 15 30.1	-6.7
OUK	**Oukaimeden**	**7.42**	**143**	S		**Sn**	**06 16 58.6**	**-2.4**
PSIM	**Granatula de C**	**7.50**	**75**	Pn		**Pn**	**06 15 38.0**	**+0.4**
PSIM				Sn		**Sn**	**06 17 00.3**	**-2.5**
EPON	**Pontenova**	**7.55**	**35**	Pn		**Pn**	**06 15 37.1**	**-1.1**
EPON				⇑*i*Vmb_VC			06 15 38.4	
	comp=N,197nm,SNR=1.0							
EPON				Sn		**Sn**	**06 16 58.7**	**-5.2**
ELGU	**Los Guajares,**	**7.55**	**90**	P		**Pn**	**06 15 39.6**	**+1.3**
GUD	**Guadarrama**	**7.71**	**61**	Pn		**Pn**	**06 15 41.0**	**+0.4**
GUD				Sn		**Sn**	**06 17 04.8**	**-3.3**
TISM	**Timmit**	**7.77**	**133**	P		**Pn**	**06 15 37.7**	**-3.6**
CZD	**Col de Zad**	**7.80**	**120**	P		**Pn**	**06 15 38.8**	**-3.2**
CZD	**Col de Zad**	**7.80**	**120**	S		**Sn**	**06 17 15.2**	**+4.6**
TIO	**Tiouine**	**7.94**	**141**	S		Sn	06 17 04.5	-9.2
AKLM	**AKL**	**7.95**	**107**	P		**Pn**	**06 15 42.1**	**-1.7**
AKLM	**AKL**	**7.95**	**107**	S		**Sn**	**06 17 16.7**	**+2.8**
MD31	**MD31**	**8.09**	**120**	P		**Pn**	**06 15 42.6**	**-3.2**
MD31	**MD31**	**8.09**	**120**	S		**Sn**	**06 17 22.2**	**+4.7**
OUZM	**OUZ**	**8.21**	**139**	P		Pn	06 15 42.8	-4.6
OUZM	**OUZ**	**8.21**	**139**	S		**Sn**	**06 17 18.3**	**-2.1**
MDT	**Midelt**	**8.23**	**120**	P		**Pn**	**06 15 44.3**	**-3.3**
MDT	**Midelt**	**8.23**	**120**	S		**Sn**	**06 17 23.8**	**+3.1**
EARI	**Arriondas**	**8.50**	**42**	Pn		**Pn**	**06 15 51.8**	**+0.6**
EARI				⇑*i*Vmb_VC			06 16 01.5	
	comp=N,153nm,SNR=0.8							
EARI				Sn		**Sn**	**06 17 23.6**	**-3.6**
JBK	**JBK**	**9.01**	**106**	P		Pn	06 15 54.1	-4.4

*SNET **22** 06:31:04.4±1.3, 12°.83N×88°.63W, h33km, ML2.8*
CATAC 22 06:31:03.6±0.7, 13°N±4°×8°9W±°, h32km±7km, M2.9/11, MLv2.9/11, 5D, Error ellipse: s-maj=9.3km s-min=4.0km az=25.7, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.72**	**29**	*eP*	Pb	06 31 18.1	+0.3
LCY				*eS*	Sn	06 31 28.8	+1.1
PACA	**Pacayal**	**0.75**	**25**	*eP*	Pb	06 31 18.5	+0.2
PACA				*eS*	Sn	06 31 29.1	+0.7
PACA	**Pacayal**	**0.75**	**25**	⇓P	Pb	06 31 18.5	+0.2
TECO	**Alcaldia de Te**	**0.75**	**350**	S	Sn	06 31 28.8	+0.4
TECO	**Alcaldia de Te**	**0.75**	**350**	⇓P	Pn	06 31 18.1	0.0
PQSS	**Presa 15 de Se**	**0.83**	**6**	*eP*	Pn	06 31 19.4	+0.2
PQSS				*eS*	Sb	06 31 31.2	+0.6
PQSS	**Presa 15 de Se**	**0.83**	**6**	⇓P	Pn	06 31 19.4	+0.2
UESV	**Universidad de**	**0.85**	**351**	S	Sb	06 31 31.4	+0.3
UESV	**Universidad de**	**0.85**	**351**	P	Pn	06 31 19.7	+0.2
LCND	**La Caada**	**0.90**	**55**	*eP*	Pn	06 31 20.4	+0.2
LCND	**La Caada**	**0.90**	**55**	P	Pn	06 31 20.3	+0.1
SCLA	**Alcaldia de Sa**	**0.91**	**355**	*eP*	Pb	06 31 20.6	-0.3
SCLA				*eS*	Sb	06 31 33.4	+0.6
SCLA	**Alcaldia de Sa**	**0.91**	**355**	⇓P	Pn	06 31 20.6	+0.3
CNCH	**Conchagua**	**0.93**	**59**	S	Sb	06 31 34.2	+0.7
CNCH	**Conchagua**	**0.93**	**59**	⇓P	Pn	06 31 20.9	+0.3
PAVA	**Las Pavas**	**0.96**	**343**	*eP*	Pn	06 31 21.2	+0.3
PAVA				*eS*	Sb	06 31 34.0	-0.3
PAVA	**Las Pavas**	**0.96**	**343**	P	Pn	06 31 21.1	+0.1
LOMA	**Loma Larga**	**0.99**	**329**	P	Pn	06 31 21.8	+0.4
UTEC	**Universidad Te**	**1.05**	**329**	S	Sn	06 31 35.9	+0.1
UEES	**Universidad Ev**	**1.08**	**328**	S	Sb	06 31 37.7	+0.1
PMON	**Piamonte**	**1.12**	**325**	*eP*	Pb	06 31 24.0	-0.6
PMON				*eS*	Sn	06 31 37.6	0.0
POTN	**Potosi Cosigui**	**1.14**	**79**	P	Pn	06 31 24.0	+0.7
POTN				S	Sn	06 31 38.4	+0.6
NUBE	**Las Nubes**	**1.56**	**315**	*eP*	Pn	06 31 30.0	+0.7
NUBE				*eS*	Sn	06 31 48.0	-0.4
NUBE	**Las Nubes**	**1.56**	**315**	P	Pn	06 31 29.8	+0.5
CHOHN	**Orocuina**	**1.61**	**65**	P	Pn	06 31 29.8	-0.1
FAME	**Alcaldia de Sa**	**1.69**	**308**	P	Pn	06 31 31.2	+0.3
SARH	**Santa Rosa de**	**1.98**	**357**	P	Pn	06 31 35.5	+0.5

CATAC 22 06:43:37.6±0.7, 12°N±3°×8°8W±°, h27km±6km, M2.9/15, MLv2.9/15, Error ellipse: s-maj=8.0km s-min=3.0km az=31.4, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.94**	**23**	P	Pn	06 43 54.8	-0.2
POTN				S	Sn	06 44 07.9	+0.5
CNCH	**Conchagua**	**1.14**	**3**	S	Sb	06 44 14.3	+1.2
CNCH	**Conchagua**	**1.14**	**3**	P	Pn	06 43 57.8	-0.1
LCND	**La Caada**	**1.17**	**360**	P	Pn	06 43 57.9	-0.2
LCND	**La Caada**	**1.17**	**360**	S	Sb	06 44 13.9	0.0
POLN	**Al Sur del Vol**	**1.17**	**64**	P	Pn	06 43 57.7	-0.5
PLRN	**Geotermica Pol**	**1.18**	**68**	P	Pn	06 43 56.9	-1.4
PLRN				S	Sn	06 44 13.2	-0.4
CNGA	**Al SSO del Vol**	**1.21**	**73**	P	Pn	06 43 59.0	-0.2
CNGN	**Cerro Negro**	**1.22**	**73**	P	Pn	06 43 59.0	+0.1
CNGN	**Cerro Negro**	**1.22**	**73**	S	Sb	06 44 15.6	+0.2
COPN	**Copaltepe**	**1.27**	**88**	P	Pn	06 43 59.3	-0.3
PACA	**Pacayal**	**1.39**	**342**	P	Pn	06 44 01.3	-0.1
PACA	**Pacayal**	**1.39**	**342**	S	Sn	06 44 18.4	-0.5
MOM2	**El Cardon**	**1.41**	**78**	P	Pn	06 44 01.0	-0.4
MOM2				S	Sb	06 44 20.0	-0.7
CHOHN	**Orocuina**	**1.51**	**28**	P	Pn	06 44 02.9	-0.1
CHOHN	**Orocuina**	**1.51**	**28**	S	Sn	06 44 22.4	+0.5
UNAN	**Cigeo UNAN**	**1.58**	**91**	P	Pn	06 44 03.7	-0.1
UNAN				S	Sn	06 44 24.0	+0.5
R4DEC	**Barrio San Lui**	**1.60**	**89**	S	Sn	06 44 23.9	0.0
PQSS	**Presa 15 de Se**	**1.62**	**336**	P	Pn	06 44 04.4	+0.1
PQSS	**Presa 15 de Se**	**1.62**	**336**	S	Sn	06 44 24.8	+0.5
TECO	**Alcaldia de Te**	**1.64**	**328**	P	Pn	06 44 04.3	-0.4
TECO	**Alcaldia de Te**	**1.64**	**328**	S	Sn	06 44 25.6	+0.6
WILN	**Americas 2**	**1.66**	**89**	S	Sn	06 44 26.3	+0.9
UESV	**Universidad de**	**1.73**	**330**	S	Sn	06 44 26.0	-1.1
NANN	**Nandasmo**	**1.74**	**96**	P	Pn	06 44 07.2	+1.1
SCLA	**Alcaldia de Sa**	**1.76**	**332**	P	Pn	06 44 07.0	+0.7
SCLA	**Alcaldia de Sa**	**1.76**	**332**	S	Sn	06 44 28.6	+0.7
OCON	**Estacion meteo**	**2.03**	**43**	P	Pn	06 44 09.9	-0.1
YUSH	**Yuscaran**	**2.08**	**29**	P	Pn	06 44 10.8	+0.1
RCVN	**Varillal2**	**2.19**	**49**	P	Pn	06 44 12.7	+0.3

*IDC **22** 07:00:51.2±1.0, 52°.67S×28°.01E, h0km, mb3.9/8, mbtmp3.9/8, MS3.4/1, Error ellipse: s-maj=37.9km s-min=20.9km az=83.0*
*NEIC **22** 07:00:51.6±1.1, 52°.6S±0°.1×27°.9E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=20.7km s-min=11.7km az=16.0*
ISC 22 07:00:51.8±0.6, 52°.63S±0°.09×27°.9E±0°.1, h10km, n33, σ1s00/30, mb4.2/15, 5C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**16.52**	**79**	T	T	07 21 57.2	
	baz=242,slow=76,SNR=6.6						
H04S3	**CROZET ISLANDS**	**16.52**	**79**	T	T	07 21 57.4	
	baz=242,slow=76,SNR=7.7						
H04S1	**CROZET ISLANDS**	**16.54**	**79**	T	T	07 21 57.7	
	baz=242,slow=76,SNR=9.5						
CRZF	**Crozet Islands**	**16.71**	**78**	Pn	**Pn**	**07 04 45.3**	**-0.5**
GRHM	**Grahamstown, E**	**19.37**	**356**	P	**P**	**07 05 16.9**	**-0.7**
GRHM				IAmb	IAmb	07 05 36.3	
	comp=Z,61nm,1.4s						
SUR	**Sutherland**	**20.88**	**343**	P	**P**	**07 05 33.6**	**-0.5**
TROLL	**Troll, Antarti**	**22.38**	**200**	⇑P	**P**	**07 05 49.5**	**-0.5**
	comp=Z,118nm,0.7s						
MAW	**Mawson**	**22.54**	**145**	P	**P**	**07 05 52.9**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=318,slow=12,SNR=2.4						
	comp=Z,1.6nm,0.7s						
SNAA	**Sanae**	**23.39**	**204**	⇑P	**P**	**07 06 00.9**	**+0.5**
	comp=Z,56nm,0.7s						
SNAA	**Sanae**	**23.39**	**204**	P	**P**	**07 06 00.1**	**-0.3**
SNAA	**Sanae**	**23.39**	**204**	P	**P**	**07 06 01.4**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=76,slow=8.9,SNR=27						
	comp=Z,3.2nm,0.8s						
BOSA	**Boshof**	**24.07**	**354**	P	**P**	**07 06 09.3**	**+2.0**
BOSA				LR	LR	07 13 11.8	
	comp=Z,3.1nm,1.0s,baz=186,slow=11,SNR=3.2						
	comp=Z,100nm,20.3s,baz=57,slow=31						
	comp=Z,3.1nm,1.0s						
VNA2	**Neumayer--Watz**	**24.18**	**208**	⇑P	**P**	**07 06 08.6**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=51,slow=11						
VNA1	**Neumayer--Stat**	**24.29**	**209**	⇑P	**P**	**07 06 09.9**	**+1.0**
	comp=Z,16nm,0.8s						
VNA3	**Neumayer Olymp**	**24.98**	**208**	⇑P	**P**	**07 06 14.5**	**-0.7**
	comp=Z,2.1nm,0.8s						
WIN	**Windhoek**	**31.13**	**340**	P	**P**	**07 07 10.5**	**-0.3**
WIN				IAmb	IAmb	07 07 14.8	
	comp=Z,6.2nm,0.7s						
BELA	**Belgrano 2**	**33.46**	**200**	P	**P**	**07 07 30.1**	**-0.3**
QSPA	**South Pole Qui**	**37.59**	**180**	P	**P**	**07 08 06.2**	**0.0**
QSPA				IAmb	IAmb	07 08 07.4	
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**37.59**	**180**	P	**P**	**07 08 06.5**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=260,slow=1.7,SNR=19						
	comp=Z,2.5nm,0.5s						
CASY	**Casey**	**40.84**	**142**	P	**P**	**07 08 33.2**	**+0.1**
CASY				IAmb	IAmb	07 08 34.9	
	comp=Z,4.7nm,0.8s						
VNDA	**Vanda**	**47.02**	**168**	P	**P**	**07 09 22.2**	**-0.4**
VNDA				IAmb	IAmb	07 09 23.1	
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**47.02**	**168**	P	**P**	**07 09 22.9**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=236,slow=7.3,SNR=28						
	comp=Z,1.9nm,0.6s						
SBA	**Scott Base**	**47.35**	**169**	P	**P**	**07 09 25.9**	**+0.7**
SBA				IAmb	IAmb	07 10 01.3	
	comp=Z,5.4nm,1.4s						
MG05	**Puerto Natales**	**56.51**	**227**	P	**P**	**07 10 32.7**	**-0.9**
MT08	**Bocatoma Ro**	**68.61**	**243**	P	**P**	**07 11 56.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**69.29**	**333**	P	**P**	**07 12 00.5**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=165,slow=6.0,SNR=2.0						
	comp=Z,0.5nm,0.7s						
CO01	**Juntas del Tor**	**71.30**	**245**	P	**P**	**07 12 10.5**	**-1.2**
CO01				IAmb	IAmb	07 12 53.7	
	comp=Z,4.0nm,1.1s						
AC06	**Mina Casimiro**	**73.46**	**247**	P	**P**	**07 12 23.4**	**-1.0**
AC06				IAmb	IAmb	07 12 55.4	
	comp=Z,9.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**80.41**	**107**	P	**P**	**07 13 00.9**	**-2.7**
ASAR	**Alice Springs**	**80.66**	**117**	P	**P**	**07 13 04.1**	**-0.9**
ASAR	**Alice Springs**	**80.66**	**117**	P	**P**	**07 13 05.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=214,slow=4.7,SNR=9.9						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**83.89**	**115**	P	**P**	**07 13 22.0**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=213,slow=3.9,SNR=5.2						
	comp=Z,1.1nm,0.8s						
WR8	**Warramunga Arr**	**83.97**	**115**	P	**P**	**07 13 21.5**	**-0.8**

*SCB **22** 07:05:18.8±1.1, 21°.02S×67°.47W, h182km±12km, ML3.5/3, MW3.4, Error ellipse: s-maj=4.0km s-min=3.4km az=2.0*
ISC 22 07:05:18.2±2.1, 21°.02S±0°.06×67°.49W±0°.06, h195km±18km, n31, σ0s83/47, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.74**	**98**	Pg	**Pn**	**07 05 54.0**	**-0.2**
PB08	**IPOC Station P**	**1.79**	**299⇑**	*iP*	**Pn**	**07 05 55.4**	**+0.7**
PB08				*i* S	**Sn**	**07 06 23.3**	**+0.4**
PB08				IAML		07 06 26.8	
	comp=E,66nm,0.2s						
PB08	**IPOC Station P**	**1.79**	**299⇑**	*iP*	**Pn**	**07 05 55.3**	**+0.7**
PB08				*i* S	**Sn**	**07 06 22.9**	**0.0**
PB08				IAML		07 06 24.8	
	comp=N,64nm,0.2s						
PB08				IAML		07 06 26.9	
	comp=E,66nm,0.2s						
PB08	**IPOC Station P**	**1.79**	**299**	Pg	**P

TRN				*e*S		**Sn**	07 11 50.4	-1.0	
GRFF	**Grenada Fort F**	**1.54**	**28**	*e*P		**Pn**	07 11 41.8	+0.7	
GRFF				*e*S		**Sn**	07 11 59.5	-2.1	
GRGR	**Grenville**	**1.65**	**29**	*e*P		**Pn**	07 11 43.3	+0.7	
GRGR				*e*S		**Sn**	07 12 03.4	-0.7	
GRW	**Mount Saint Ca**	**1.67**	**28**	*e*P		**Pn**	07 11 43.8	+0.9	
GRW				*e*S		**Sn**	07 12 02.7	-1.9	
GRSS	**Sisters**	**1.82**	**28**	*e*P		**Pn**	07 11 45.9	+1.3	
GRSS				*e*S		**Sn**	07 12 06.8	-0.9	
GCMP	**Grenada, Carri**	**2.07**	**30**	*e*P		**Pn**	07 11 48.7	+0.9	
GCMP				*e*S		**Sn**	07 12 13.1	-0.4	
PCRV	**Puerto La Cruz**	**2.18**	**257**	*e*P		**Pn**	07 11 50.5	+1.2	
PCRV				*e*S		**Sn**	07 12 15.9	-0.2	
PCRV	**Puerto La Cruz**	**2.18**	**257**	*e*P		**Pn**	07 11 51.9	+2.5	
PCRV				*e*S		**Sn**	07 12 17.3	+1.1	
SVB	**Belmont**	**2.84**	**25**	*e*P		**Pn**	07 11 59.0	+1.0	
SVB				*e*S		**Sn**	07 12 30.3	-1.3	
SLBI	**Saint Lucia, B**	**3.63**	**24**	*e*P		**Pn**	07 12 10.2	+1.7	
SLBI				*e*S		**Sn**	07 12 50.3	-0.2	
TACV	**Tcata**	**4.51**	**264**	*e*P		**Pn**	07 12 21.6	+1.2	
TACV				*e*S		**Sn**	07 13 09.7	-2.1	
CACV	**CAICARA DEL OR**	**5.07**	**233**	*e*P		Pn	07 12 23.8	-4.2	
CACV				*e*S		Sn	07 13 14.3	-11	
BENV	**Beln**	**5.09**	**262**	*e*P		**Pn**	07 12 29.5	+1.1	
BENV				*e*S		**Sn**	07 13 23.1	-3.0	
BAUV	**El Baul**	**5.75**	**253**	*e*P		**Pn**	07 12 38.4	+1.2	
BAUV				*e*S		**Sn**	07 13 38.2	-3.7	

IDC ***22*** *07:16:18.3±1.6, 31°.08S×177°.51W, h0km, mb4.1/3, mbtmp4.1/3, MS3.5/1, Error ellipse: s-maj=40.1km s-min=23.7km az=83.0*

ISC 22 07:16:23.3±1.5, 31°.20S±0°.09×177°.8W±0°.3, h46km, n7, σ2s94/8, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.94**	**357**	Pn	**Pn**	**07 16 51.6**	**-2.2**
	58nm,0.3s,baz=139,slow=20,SNR=2.7						
RAO				Sn	**Sn**	**07 17 16.1**	**-0.9**
	118nm,0.3s,baz=167,slow=23,SNR=2.9						
URZ	**Urewera**	**8.20**	**209**	Pn	**Pn**	**07 18 16.4**	**-3.2**
	0.3nm,0.3s,baz=351,slow=19,SNR=1.7						
URZ				Sn	**Sn**	**07 19 49.3**	**-1.5**
	1.5nm,0.3s,baz=128,slow=18,SNR=6.6						
DZM	**Mont Dzumac**	**16.76**	**299**	LR	LR	07 25 05.4	
	comp=Z,171nm,19.7s,baz=200,slow=31						
ASAR	**Alice Springs**	**43.26**	**268**	P	**P**	**07 24 23.8**	**+3.3**
	1.4nm,0.7s,baz=109,slow=8.4,SNR=20						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**44.32**	**273**	P	**P**	**07 24 31.9**	**+2.9**
	1.3nm,0.6s,baz=114,slow=8.3,SNR=14						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**58.91**	**180**	P	**P**	**07 26 19.6**	**+2.2**
	3.9nm,1.0s,baz=14,slow=2.6,SNR=6.9						
	3.9nm,1.0s						
FINES	**FINESS Array B**	**145.96**	**340**	PKPbc	**PKPab**	**07 35 58.2**	**+0.6**
	0.8nm,0.5s,baz=49,slow=4.4,SNR=4.5						

ASRS ***22*** *07:20:40.0±1.0, 54°.02N×86°.51E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:20:43.9±3.1, 54°.03N×86°.54E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=24.8km s-min=15.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**266**	I	I	07 27 30.0	
	baz=83,slow=317,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.02**	**266**	Pg	Pg	07 21 02.6	-0.8
	0.3nm,0.3s,baz=85,slow=18,SNR=3.8						
ZALV				Lg	Lg	07 21 17.6	
	0.7nm,0.3s,baz=87,slow=30,SNR=5.8						
KURBB	**Kurchatov Arra**	**5.98**	**238**	Pn	Pn	07 22 14.8	+1.3
	0.1nm,0.3s,baz=57,slow=14,SNR=4.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.74**	**202**	Pn	Pn	07 22 38.3	+0.6
	0.1nm,0.3s,baz=13,slow=14,SNR=2.1						
	0.1nm,0.4s						

NNC ***22*** *07:31:31.3±0.5, 50°.00N×78°.72E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=13.5km s-min=2.3km az=75.0, Suspected Mining explosion.*

IDC ***22*** *07:31:35.4±4.2, 49°.96N×79°.03E, h0km, mbtmp2.4/2, ML1.3/2, Error ellipse: s-maj=51.1km s-min=18.8km az=92.0*

ISC 22 07:31:30.9±2.4, 50°.03N±0°.07×78°.4E±0°.3, h0km, n14, σ0s88/25, 18C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.56**	**5**	⇑P	**Pb**	**07 31 42.9**	**-0.6**
KUR07				⇑S	**Sb**	**07 31 51.7**	**-0.4**
KUR06	**Kurchatov Arra**	**0.58**	**5**	⇑P	**Pb**	**07 31 43.2**	**-0.7**
KUR06				⇑S	**Sb**	**07 31 52.3**	**-0.3**
KUR14	**Kurchatov Arra**	**0.59**	**9**	⇑P	**Pb**	**07 31 43.2**	**-0.9**
KUR14				⇑S	**Sb**	**07 31 52.0**	**-1.1**
KUR15	**Kurchatov Arra**	**0.60**	**7**	⇑P	**Pb**	**07 31 43.5**	**-0.6**
KUR15				⇑S	**Sb**	**07 31 52.3**	**-0.8**
KURBB	**Kurchatov Arra**	**0.60**	**5**	⇑P	**Pb**	**07 31 43.8**	**-0.4**
	5.4nm,0.3s						
KURBB				⇑S	**Sb**	**07 31 53.2**	**0.0**
	37nm,0.7s						
KUR16	**Kurchatov Arra**	**0.60**	**4**	⇑P	**Pb**	**07 31 43.9**	**-0.4**
KUR16				⇑S	**Sb**	**07 31 52.9**	**-0.4**
KUR17	**Kurchatov Arra**	**0.60**	**2**	⇓P	**Pb**	**07 31 44.2**	**-0.1**
KUR17				⇓S	**Sb**	**07 31 53.2**	**-0.2**
KUR05	**Kurchatov Arra**	**0.62**	**6**	⇑P	**Pb**	**07 31 43.8**	**-0.8**
KUR05				⇑S	**Sb**	**07 31 52.8**	**-1.0**
KUR04	**Kurchatov Arra**	**0.64**	**6**	⇑P	**Pb**	**07 31 44.4**	**-0.5**
KUR04				⇑S	**Sb**	**07 31 53.4**	**-0.9**
KURK	**Kurchatov**	**0.70**	**9**	⇑P	**Pb**	**07 31 45.1**	**-0.8**
	1.3nm,0.3s						
KURK				⇑S	**Sb**	**07 31 55.6**	**-0.4**
	36nm,1.0s						
MK31	**Makanchi Array**	**4.13**	**140**	Pn	**Pn**	**07 32 36.1**	**+0.9**
	0.1nm,0.2s,baz=357,slow=29,SNR=4.1						
MK31				⇓Pg	**Pb**	**07 32 44.7**	**+0.3**
	0.1nm,0.2s,baz=319,slow=13,SNR=10						
MK31				Lg	Lg	07 33 37.5	
	2.6nm,0.6s,baz=330,slow=25,SNR=13						
MKAR	**Makanchi Array**	**4.13**	**140**	Pn	**Pn**	**07 32 36.2**	**+1.0**
	0.1nm,0.3s,baz=323,slow=10,SNR=5.6						
MKAR				Pg	**Pb**	**07 32 42.5**	**-2.0**
	0.1nm,0.3s,baz=321,slow=14,SNR=7.6						
MKAR				Lg	Lg	07 33 37.5	
	0.9nm,0.3s,baz=331,slow=25,SNR=12						
	0.2nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.56**	**43**	I	I	08 01 50.0	
	baz=226,slow=327,SNR=8.1						
ZALV	**Zalesovo Beam**	**5.56**	**43**	Pn	**Pn**	**07 32 56.5**	**+1.7**
	baz=228,slow=14,SNR=1.7						
ZALV				Lg	Lg	07 34 26.6	
	0.2nm,0.3s,baz=222,slow=30,SNR=1.8						
	0.3nm,0.3s						

HEL 22 07:36:33.4±0.2, 63°.93N×25°.42E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUF	**Merijarvi**	**0.54**	**326**	PG	Pg	07 36 42.9	-0.7
OUF				SG	Sg	07 36 50.3	-0.2
OUF				MSG		07 36 50.5	
	comp=Z,2.2nm,0.2s						
OBF0	**Syolatti, Pyha**	**0.77**	**319**	PG	Pg	07 36 47.3	-0.8
	baz=142						
OBF0				MSG		07 36 57.5	
	comp=Z,1.8nm,0.2s						
OBF0				SB	Sg	07 36 58.6	+0.5
OBF4	**Vikkela, Lumij**	**0.90**	**351**	PG	Pg	07 36 50.1	-0.6
OBF4				MSG		07 37 01.1	
	comp=Z,1.1nm,0.2s						
OUL	**Oulu**	**1.18**	**10**	PG	Pg	07 36 55.2	-0.8
	baz=191						
NIF	**Nilsia**	**1.20**	**116**	PG	Pg	07 36 54.9	-1.4
NIF				MSG		07 37 09.7	
	comp=Z,1.3nm,0.2s						
NIF				SB	Sg	07 37 11.3	-0.4
SUF	**Sumiainen**	**1.26**	**164**	PN	Pg	07 36 56.5	-1.0
SUF				MSG		07 37 11.5	
	comp=Z,0.7nm,0.2s						
SUF				SB	Sg	07 37 12.9	-0.8
KEF	**Keuruu**	**1.78**	**188**	MSG		07 37 26.5	
	comp=Z,1.3nm,0.2s						
KEF				SN	Sn	07 37 28.3	-0.4
KAF	**Kangasniemi**	**1.87**	**167**	PG	Pn	07 37 06.8	+0.2
KAF				MSG		07 37 28.9	
	comp=Z,2.0nm,0.2s						
KAF				SG	Sn	07 37 30.9	+0.1
RMF	**Romuvaara**	**2.01**	**80**	PG	Pn	07 37 09.2	+0.7
RMF				MSG		07 37 33.0	
	comp=Z,1.0nm,0.2s						
UMAU	**Umeaa**	**2.10**	**271**	SG	Sn	07 37 37.4	+1.0
KU2	**Taivalkoski**	**2.16**	**33**	PG	Pn	07 37 11.7	+1.1
KU2				SG	Sb	07 37 40.5	0.0
RANF	**Ranua**	**2.18**	**15**	SG	Sb	07 37 41.2	+0.2
TOF	**Tornio**	**2.21**	**348**	PG	Pn	07 37 12.6	+1.3
TOF				MSG		07 37 38.7	
	comp=Z,0.4nm,0.2s						
KU1	**Kurvinen**	**2.42**	**45**	SG	Sb	07 37 48.0	-0.1
FIA0	**FINESS Array S**	**2.51**	**173**	MSG		07 37 47.5	
	comp=Z,0.8nm,0.2s						
FIA0				SG	Sb	07 37 49.4	-1.3
MSF	**Maaselka**	**2.52**	**36**	SB	Sn	07 37 48.9	+2.0
KPF	**Kankaanpaa**	**2.60**	**218**	MSG		07 37 50.1	
	comp=Z,0.7nm,0.2s						
KPF				SG	Sb	07 37 52.6	-0.6
JOF	**Joensuu**	**2.84**	**108**	SG	Sb	07 38 01.0	+0.9
PAJU	**Pajala**	**3.25**	**344**	SN	Sn	07 38 01.6	-3.5
NUR	**Nurmijarvi**	**3.45**	**186**	PG	Pb	07 37 33.0	-2.3
NUR				SG	Sb	07 38 16.1	-1.6
HEF	**Hetta**	**4.56**	**352**	PB	Pb	07 37 48.9	-5.2
HEF				SN	Sn	07 38 32.8	-4.3

IDC ***22*** *07:40:26.1±3.3, 54°.25N×87°.51E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.5km s-min=20.5km az=45.0*

ASRS 22 07:40:26.0±0.6, 54°.12N×87°.12E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**264**	I	I	07 49 40.0	
	baz=80,slow=320,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.37**	**264**	Pn	Pb	07 40 54.6	+2.2
	0.9nm,0.3s,baz=80,slow=16,SNR=8.4						
ZALV				Lg	Lg	07 41 17.8	
	1.5nm,0.3s,baz=77,slow=25,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn	Pn	07 42 03.5	+3.2
	0.1nm,0.3s,baz=53,slow=14,SNR=1.7						
KURBB				Lg	Lg	07 43 57.6	
	baz=57,slow=29,SNR=1.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.95**	**205**	Pn	Pn	07 42 28.4	+5.6
	0.1nm,0.3s,baz=26,slow=13,SNR=1.3						
MKAR				Lg	Lg	07 44 42.5	
	0.1nm,0.3s,baz=17,slow=26,SNR=1.6						
	0.1nm,0.4s						

IDC ***22*** *07:41:35.5±2.3, 12°.62S×116°.29E, h0km, mb3.6/1, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=91.8km s-min=16.0km az=37.0*

ISC 22 07:41:24.4±1.3, 13°.4S±0°.1×114°.9E±0°.1, h10km, n10, σ4s08/11, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**4.98**	**352**	P	**Pn**	**07 42 38.2**	**-1.0**
PLAI	**Plampang**	**5.38**	**32**	P	**Pn**	**07 42 46.8**	**+2.0**
UGM	**Wanagama**	**6.95**	**322**	P	**Pn**	**07 43 05.1**	**-1.3**
MBWA	**Marble Bar**	**8.98**	**150**	P	**Pn**	**07 43 36.9**	**+2.7**
PSA00	**Pilbara Seismi**	**9.38**	**150**	P	**Pn**	**07 43 42.5**	**+2.7**
FITZ	**Fitzroy Crossi**	**11.35**	**116**	Pn	**Pn**	**07 44 09.8**	**+3.0**
	0.5nm,0.3s,baz=304,slow=9.1,SNR=20						
FITZ				Sn	**Sn**	**07 46 09.6**	**-4.2**
	0.7nm,0.3s,baz=349,slow=18,SNR=5.8						
	1.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.35**	**116**	P	**Pn**	**07 44 10.7**	**+3.9**
WRA	**Warramunga Arr**	**19.73**	**112**	P	**Pn**	**07 45 58.4**	**+2.6**
	0.1nm,0.3s,baz=284,slow=12,SNR=5.4						
WRA				S	**S**	**07 49 29.1**	**-7.8**
	0.5nm,0.7s,baz=292,slow=26,SNR=2.6						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**20.69**	**122**	P	Pn	07 46 11.4	+4.2
	0.1nm,0.3s,baz=299,slow=10,SNR=23						
ASAR				S	**S**	**07 49 55.1**	**-1.1**
	1.1nm,0.9s,baz=297,slow=21,SNR=4.2						
	2.4nm,0.7s						
MKAR	**Makanchi Array**	**66.69**	**336**	P	P	07 52 26.4	+11
	0.3nm,0.4s,baz=152,slow=7.8,SNR=2.9						
	0.3nm,0.4s						

IDC 22 07:45:51.9±727.0, 47°.86N×47°.69E, h0km, Error ellipse: s-maj=278.4km s-min=131.3km az=142.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**10.94**	**328**	I	I	08 50 30.0	
	0.1nm,0.5s,baz=142,slow=328,SNR=5.0						
I26DE	**FREYUNG INFRAS**	**22.50**	**285**	I	I	10 02 40.0	
	baz=77,slow=319,SNR=1.7						
I37NO	**I37NO**	**25.67**	**336**	I	I	10 22 40.0	
	baz=130,slow=326,SNR=1.2						
I48TN	**KESRA INFRASON**	**30.71**	**261**	I	I	10 53 20.0	
	baz=56,slow=313,SNR=1.0						

LVSN ***22*** *07:48:14.8±0.7, 59°.70N×21°.91E, h0km, 23km, ML3.0*
HEL ***22*** *07:48:15.4±0.1, 59°.59N×22°.21E, h0km, ML2.2, Explosion*
EST ***22*** *07:48:15.5, 59°.57N×22°.22E, h0km, ML2.1(HEL), Explosion*
IDC ***22*** *07:48:17.0±0.9, 59°.68N×22°.21E, h0km, mbtmp3.4/6, ML2.6/4, Error ellipse: s-maj=13.1km s-min=9.3km az=163.0*
UPP ***22*** *07:48:18.5±0.9, 59°.64N×21°.76E, h0km, ML2.8, Presumed earthquake*

ISC 22 07:48:14.2±0.7, 59°.61N±0°.03×22°.34E±0°.03, h0km, n56, σ1s48/67, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVF	**Tvarminne**	**0.51**	**63**	*e*P	**Pg**	**07 48 25.9**	**+1.9**
TVF				*e*S	**Sb**	**07 48 33.9**	**-0.1**
TVF				MSG		07 48 34.4	
	comp=Z,36nm,0.1s						
EE06	**Soera, Palade,**	**0.70**	**158**	*e*P	**Pg**	**07 48 27.9**	**+0.4**
EE06				*e*S	**Sg**	**07 48 36.9**	**+0.4**
EE06				MSG		07 48 38.2	
	comp=Z,61nm,0.3s						
MEF	**Metsahovi**	**1.20**	**59**	*e*P	**Pg**	**07 48 35.1**	**-2.0**
MEF	**Metsahovi**	**1.20**	**59**	*e*P	**Pb**	**07 48 38.4**	**+0.7**
MEF				AML	AML	07 49 05.3	
	comp=Z,127nm,0.3s						
MEF				AML	AML	07 49 05.7	
	comp=N,93nm,0.4s						
MEF				AML	AML	07 49 07.9	
	comp=E,58nm,0.3s						
MEF	**Metsahovi**	**1.20**	**59**	*e*P	**Pb**	**07 48 38.4**	**+0.7**
AAL	**Aland**	**1.31**	**297**	P	**Pg**	**07 48 38.1**	**-1.1**
AAL	**Aland**	**1.31**	**297**	P	**Pg**	**07 48 38.1**	**-1.1**
AAL	**Aland**	**1.31**	**297**	*e*P	**Pg**	**07 48 38.2**	**-1.1**
RAF	**Rauma**	**1.44**	**349**	*e*P	**Pb**	**07 48 42.8**	**+1.0**
RAF	**Rauma**	**1.44**	**349**	*e*PG	**Pn**	**07 48 41.7**	**+0.2**
NUR	**Nurmijarvi**	**1.46**	**51**	*e*P	**Pb**	**07 48 43.0**	**+0.7**
ARBE	**Arbavere**	**1.86**	**94**	*e*P	**Pn**	**07 48 46.4**	**-0.9**
ARBE	**Arbavere**	**1.86**	**94**	*e*P	**Pb**	**07 48 50.1**	**+1.0**
ARBE				*e*S	**Sg**	**07 49 16.1**	**+2.2**
ARBE				AML	AML	07 49 27.4	
	comp=E,723nm,0.3s						
ARBE				AML	AML	07 49 27.9	
	comp=Z,365nm,0.3s						
ARBE				AML	AML	07 49 28.3	
	comp=N,744nm,0.3s						
ARBE	**Arbavere**	**1.86**	**94**	*e*PG	**Pb**	**07 48 50.1**	**+1.0**
NRTU	**Norrtaelje**	**1.89**	**274**	P	**Pn**	**07 48 47.5**	**-0.1**
NRTU				S	**Sn**	**07 49 11.5**	**-0.5**
NRTU	**Norrtaelje**	**1.89**	**274**	P	**Pn**	**07 48 47.5**	**-0.1**
NRTU				S	**Sn**	**07 49 11.5**	**-0.5**
NRTU	**Norrtaelje**	**1.89**	**274**	*e*PN	**Pn**	**07 48 47.9**	**+0.3**
SLIT	**Slitere, Latvi**	**1.99**	**181**	*e*P	**Pn**	**07 48 49.9**	**+0.9**
SLIT				*e*S	**Sb**	**07 49 16.1**	**-0.4**
SLIT				AML	AML	07 49 17.0	
	comp=Z,251nm,0.5s						
SLIT				AML	AML	07 49 27.3	
	comp=E,653nm,0.3s						
SLIT				AML	AML	07 49 27.5	
	comp=N,642nm,0.3s						
PVF	**Pernaja**	**2.00**	**61**	*e*PG	**Pb**	**07 48 52.2**	**+0.9**
GRAU	**Graesoe**	**2.04**	**292**	P	**Pn**	**07 48 50.3**	**+0.6**
GRAU	**Graesoe**	**2.04**	**292**	P	**Pn**	**07 48 50.3**	**+0.6**
KPF	**Kankaanpaa**	**2.23**	**357**	*e*PG	**Pb**	**07 48 55.4**	**+0.1**
FLYU	**Flymyra**	**2.31**	**285**	P	**Pn**	**07 48 53.7**	**+0.3**
FLYU	**Flymyra**	**2.31**	**285**	P	**Pn**	**07 48 53.7**	**+0.3**
NYNU	**Nynaeshamn**	**2.31**	**256**	P	**Pn**	**07 48 54.7**	**+1.3**
NYNU	**Nynaeshamn**	**2.31**	**256**	P	**Pn**	**07 48 54.7**	**+1.3**
UPP	**Uppsala**	**2.40**	**278**	*e*P	**Pg**	**07 49 04.5**	**+4.3**
FIBU	**Brunna**	**2.54**	**279**	P	**Pn**	**07 48 57.8**	**+1.2**
FIBU	**Brunna**	**2.54**	**279**	P	**Pn**	**07 48 57.8**	**+1.2**
VSU	**Vasula**	**2.55**	**115**	*e*P	**Pn**	**07 48 58.4**	**+1.7**
VSU	**Vasula**	**2.55**	**115**	*e*P	**Pb**	**07 48 59.7**	**-1.0**
VSU				*e*S	**Sb**	**07 49 32.2**	**-0.3**
VSU				AML	AML	07 49 44.6	
	comp=E,104nm,0.4s						
VSU				AML	AML	07 49 44.9	
	comp=Z,72nm,0.3s						
VSU				AML	AML	07 49 45.5	
	comp=N,163nm,0.4s						
FIA0	**FINESS Array S**	**2.60**	**44**	*e*PB	**Pb**	**07 49 01.4**	**-0.2**
FINES	**FINESS Array B**	**2.60**	**44**	Pn	**Pb**	**07 49 00.6**	**-1.1**
	comp=N,4.2nm,0.3s,baz=228,slow=14,SNR=95						
FINES				Sn	**Sb**	**07 49 35.2**	**+1.1**
	comp=N,7.5nm,0.3s,baz=227,slow=28,SNR=17						
	comp=N,6.7nm,0.3s						
BACU	**Backbrunna**	**2.66**	**277**	P	**Pn**	**07 48 58.5**	**+0.3**
BACU	**Backbrunna**	**2.66**	**277**	P	**Pn**	**07 48 58.5**	**+0.3**
OSTU	**Oestervaala**	**2.69**	**285**	P	**Pn**	**07 48 59.2**	**+0.5**
OSTU	**Oestervaala**	**2.69**	**285**	P	**Pn**	**07 48 59.2**	**+0.5**
IGGU	**Iggoen**	**2.81**	**299**	P	**Pn**	**07 49 01.2**	**+1.0**
IGGU	**Iggoen**	**2.81**	**299**	P	**Pn**	**07 49 01.2**	**+1.0**
KEF	**Keuruu**	**2.84**	**25**	*e*P	**Pn**	**07 49 00.9**	**+0.2**
KEF	**Keuruu**	**2.84**	**25**	*e*PB	**Pb**	**07 49 04.9**	**-0.9**
ARNU	**Arnoeviken**	**3.21**	**313**	P	**Pn**	**07 49 06.9**	**+1.1**
ARNU	**Arnoeviken**	**3.21**	**313**	P	**Pn**	**07 49 06.9**	**+1.1**
HEMU	**Hemsoen**	**3.71**	**328**	P	**Pn**	**07 49 14.9**	**+2.2**
HEMU	**Hemsoen**	**3.71**	**328**	P	**Pn**	**07 49 14.9**	**+2.2**
PABE	**Paberze**	**4.21**	**167**	*e*P	**Pn**	**07 49 24.2**	**+4.7**
HFS	**Hagfors**	**4.39**	**281**	Pn	**Pn**	**07 49 22.4**	**+0.4**
	comp=N,0.5nm,0.3s,baz=96,slow=12,SNR=10						
HFS				Sn	**Sn**	**07 50 13.1**	**-0.7**
	comp=N,1.2nm,0.3s,baz=97,slow=31,SNR=2.1						
	comp=N,1.0nm,0.3s						
BLEU	**Blekinge**	**4.81**	**229**	*i* P	**Pn**	**07 49 27.6**	**-0.1**
JOF	**Joensuu**	**5.45**	**49**	*e*P	**Pn**	**07 49 35.8**	**-0.7**
DEL	**Delary**	**5.49**	**239**	*i* P	**Pn**	**07 49 35.5**	**-1.7**
DEL				*i* S	**Sn**	**07 50 37.0**	**-3.9**
NOA	**NORSAR Array B**	**5.71**	**289**	Pn	**Pn**	**07 49 39.4**	**-0.8**
	comp=N,0.1nm,0.3s,baz=100,slow=12,SNR=7.4						
	comp=N,0.1nm,0.3s						
SJUU	**Sjulsmark**	**5.93**	**357**	*e*P	**Pn**	**07 49 43.9**	**+0.9**
BJUU	**Bjuv**	**6.11**	**239**	*i* P	**Pn**	**07 49 44.9**	**-0.7**
BJUU				*i* S	**Sn**	**07 50 51.4**	**-4.7**
AKASG	**Malin Array Be**	**9.76**	**153**	Pn	**Pn**	**07 50 34.8**	**-0.8**
	comp=N,0.2nm,0.2s,baz=336,slow=13,SNR=5.8						
ARCES	**ARCESS Array B**	**10.05**	**6**	Pn	**Pn**	**07 50 38.5**	**-1.0**
	comp=N,0.3nm,0.3s,baz=182,slow=14,SNR=21						
	comp=N,0.6nm,0.4s						
SPITS	**Spitsbergen Ar**	**18.76**	**356**	Pn	**P**	**07 52 33.2**	**-1.0**
	comp=N,17nm,1.1s,baz=168,slow=15,SNR=4.1						

IDC ***22*** *07:48:26.8±1.0, 59°.68N×22°.14E, h0km, mbtmp3.5/5, ML3.2/5, Error ellipse: s-maj=13.5km s-min=8.8km az=159.0*
UPP ***22*** *07:48:31.5±1.0, 59°.65N×21°.38E, h0km, ML3.0, Presumed earthquake*
DNK ***22*** *07:48:32.4±0.7, 59°.65N×21°.31E, h0km, ML3.0(UPP), Suspected explosion*

ISC 22 07:48:26.2±1.5, 60°.0N±0°.1×22°.05E±0°.05, h0km, n19, σ0s87/23, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAL	**Aland**	**1.06**	**283**	P	**Pn**	**07 48 48.0**	**-0.2**
AAL				S	**Sg**	**07 48 59.2**	**-0.9**
AAL	**Aland**	**1.06**	**283**	P	**Pn**	**07 48 48.0**	**-0.2**
AAL				S	**Sg**	**07 48 59.2**	**-0.9**
NRTU	**Norrtaelje**	**1.75**	**262**	P	**Pn**	**07 48 57.5**	**-0.3**
NRTU	**Norrtaelje**	**1.75**	**262**	P	**Pn**	**07 48 57.5**	**-0.3**
GRAU	**Graesoe**	**1.80**	**284**	P	**Pg**	**07 49 00.7**	**0.0**
GRAU	**Graesoe**	**1.80**	**284**	P	**Pg**	**07 49 00.7**	**0.0**
FORU	**Forsmark**	**1.98**	**284**	P	**Pb**	**07 49 03.0**	**-0.1**
FORU	**Forsmark**	**1.98**	**284**	P	**Pb**	**07 49 03.0**	**-0.1**
FLYU	**Flymyra**	**2.10**	**276**	P	**Pb**	**07 49 04.9**	**-0.2**
FLYU	**Flymyra**	**2.10**	**276**	P	**Pb**	**07 49 04.9**	**-0.2**
NYNU	**Nynaeshamn**	**2.28**	**247**	P	**Pn**	**07 49 04.6**	**-0.4**
NYNU	**Nynaeshamn**	**2.28**	**247**	P	**Pn**

0.1nm,0.3s,baz=106,slow=13,SNR=7.2
0.3nm,0.3s
AKASG **Malin Array Be 9.82 153** Pn Pn 07 51 02.7 -4.4
1.1nm,0.3s,baz=337,slow=13,SNR=4.1
0.3nm,0.3s
ARCES **ARCESS Array B 10.02 7** Pn Pn 07 51 08.1 -1.7
0.5nm,0.3s,baz=189,slow=10,SNR=6.6
1.0nm,0.3s
VRAC **Vranov 10.86 200** Pn Pn 07 51 17.3 -4.0
3.1nm,0.3s,baz=21,slow=17,SNR=3.4

*HEL **22** 07:57:11.7±0.1, 59.53N×22.19E, h0km, ML1.5, Explosion*
*EST **22** 07:57:11.7, 59.52N×22.18E, h0km, ML1.6(HEL), Explosion*
*DNK **22** 07:57:12.8±1.0, 59.74N×22.16E, h0km, ML2.2(UPP), Suspected explosion*
*IDC **22** 07:57:13.4±1.8, 59.56N×22.24E, h0km, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=22.7km s-min=7.8km az=162.0*
*UPP **22** 07:57:16.7±1.3, 59.76N×21.57E, h0km, ML2.2, Presumed earthquake*

ISC 22 07:57:11.2±0.8, **59.62N**±0.05×**22.21E**±0.03, **h0km, n36,** σ1§**48**/43, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVF	**Tvarminne**	**0.57**	**67**	*e*P	**Pg**	**07 57 22.5**	**+0.4**
TVF				*e*S	**Sg**	**07 57 31.0**	**+1.5**
TVF				MSG		07 57 31.7	
	comp=Z,8.0nm,0.1s						
EE06	**Soera, Palade,**	**0.73**	**153**	*e*P	Pg	07 57 23.0	-2.1
EE01	**Perakula, Nova**	**0.83**	**119**	*e*P	**Pg**	**07 57 26.2**	**-0.9**
EE01				*e*SB	**Sg**	**07 57 37.3**	**-0.6**
AAL	**Aland**	**1.25**	**297**	*e*P	**Pg**	**07 57 34.6**	**-0.4**
MEF	**Metsahovi**	**1.25**	**61**	*e*P	**Pn**	**07 57 38.3**	**+2.5**
MEF	**Metsahovi**	**1.25**	**61**	*e*P	**Pg**	**07 57 35.1**	**-0.1**
EE02	**Kiisa, Saku**	**1.34**	**108**	*e*PB	**Pn**	**07 57 35.8**	**-1.4**
EE02				*e*SN	**Sg**	**07 57 56.2**	**+2.0**
RAF	**Rauma**	**1.42**	**351**	*e*P	**Pn**	**07 57 37.9**	**-0.3**
RAF	**Rauma**	**1.42**	**351**	*e*P	**Pn**	**07 57 38.3**	**+0.1**
NRTU	**Norrtaelje**	**1.82**	**273**	P	**Pn**	**07 57 44.0**	**+0.3**
NRTU				S	**Sn**	**07 58 08.2**	**+0.9**
NRTU	**Norrtaelje**	**1.82**	**273**	P	**Pn**	**07 57 44.0**	**+0.3**
NRTU				S	**Sn**	**07 58 08.2**	**+0.9**
NRTU	**Norrtaelje**	**1.82**	**273**	*e*P	**Pn**	**07 57 44.0**	**+0.3**
EE08	**Sarghaua, Vand**	**1.84**	**120**	*e*PG	**Pn**	**07 57 44.1**	**+0.2**
EE08				*e*SN	**Sn**	**07 58 08.5**	**+0.7**
ARBE	**Arbavere**	**1.93**	**94**	*e*P	**Pn**	**07 57 47.5**	**+2.3**
GRAU	**Graesoe**	**1.98**	**293**	P	**Pn**	**07 57 46.4**	**+0.5**
GRAU	**Graesoe**	**1.98**	**293**	P	**Pn**	**07 57 46.4**	**+0.5**
SLIT	**Slitere, Latvi**	**2.00**	**179**	*e*P	Pn	07 57 43.5	-2.6
PVF	**Pernaja**	**2.05**	**62**	*e*P	**Pb**	**07 57 48.9**	**-0.3**
FLYU	**Flymyra**	**2.24**	**285**	P	**Pn**	**07 57 51.1**	**+1.7**
FLYU	**Flymyra**	**2.24**	**285**	P	**Pn**	**07 57 51.1**	**+1.7**
NYNU	**Nynaeshamn**	**2.24**	**256**	P	**Pn**	**07 57 51.2**	**+1.7**
NYNU	**Nynaeshamn**	**2.24**	**256**	P	**Pn**	**07 57 51.2**	**+1.7**
UPP	**Uppsala**	**2.33**	**278**	*e*P	Pn	07 57 45.6	-5.1
BACU	**Backbrunna**	**2.59**	**277**	P	**Pn**	**07 57 55.8**	**+1.5**
BACU	**Backbrunna**	**2.59**	**277**	P	**Pn**	**07 57 55.8**	**+1.5**
VSU	**Vasula**	**2.61**	**115**	*e*P	**Pn**	**07 57 56.0**	**+1.4**
FINES	**FINESS Array B**	**2.65**	**45**	Pn	**Pb**	**07 57 58.2**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=228,slow=14,SNR=34						
FINES				Sn	**Sb**	**07 58 32.6**	**+0.3**
	comp=Z,7.0nm,0.3s,baz=230,slow=26,SNR=21						
	comp=Z,5.2nm,0.2s						
KEF	**Keuruu**	**2.87**	**26**	*e*P	**Pn**	**07 58 00.0**	**+2.0**
ESKU	**Eskilstuna**	**3.00**	**265**	P	**Pn**	**07 58 02.1**	**+2.3**
ESKU	**Eskilstuna**	**3.00**	**265**	P	**Pn**	**07 58 02.1**	**+2.3**
PABE	**Paberze**	**4.24**	**166**	*e*P	**Pn**	**07 58 15.3**	**-1.6**
HFS	**Hagfors**	**4.32**	**280**	Pn	**Pn**	**07 58 19.8**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=90,slow=14,SNR=8.4						
HFS				Sn	**Sn**	**07 59 08.6**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=96,slow=26,SNR=6.1						
HFS				Lg	Lg	07 59 28.3	
	comp=Z,2.8nm,0.3s,baz=93,slow=32,SNR=10						
	comp=Z,0.4nm,0.3s						
JOF	**Joensuu**	**5.50**	**49**	*e*P	**Pn**	**07 58 36.3**	**+2.1**
NOA	**NORSAR Array B**	**5.64**	**289**	Pn	**Pn**	**07 58 37.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=12						
NOA				Sn	**Sn**	**07 59 42.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=106,slow=9.6,SNR=3.4						
NOA				Lg	Lg	08 00 03.4	
	comp=Z,0.1nm,0.3s,baz=122,slow=18,SNR=5.3						
	comp=Z,0.2nm,0.2s						
SJUU	**Sjulsmark**	**5.92**	**358**	*e*P	**Pn**	**07 58 39.3**	**-0.6**
ARCES	**ARCESS Array B**	**10.05**	**7**	Pn	**Pn**	**07 59 36.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=188,slow=14,SNR=18						
ARCES				Sn	**Sn**	**08 01 25.7**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=190,slow=24,SNR=7.0						
ARCES				Lg	Lg	08 02 23.6	
	comp=Z,0.3nm,0.3s,baz=185,slow=29,SNR=3.8						
	comp=Z,0.4nm,0.2s						

*ASRS **22** 07:59:39.0±1.0, 54.17N×86.36E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 07:59:19.3±3.4, **54.23N×86.58E, h0km, mbtmp2.6**/2, **ML2.4**/2, **Error ellipse: s-maj=27.2km s-min=16.5km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**256**	I	I	08 06 10.0	
	baz=73,slow=318,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.08**	**256**	Pg	Pg	07 59 39.2	-0.7
	0.4nm,0.3s,baz=74,slow=16,SNR=4.9						
ZALV				Lg	Lg	07 59 55.1	
	0.9nm,0.3s,baz=78,slow=28,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.11**	**237**	Pn	Pn	08 00 51.0	+0.3
	0.1nm,0.3s,baz=55,slow=13,SNR=4.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.93**	**202**	Pn	Pn	08 01 17.2	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=2.1						
	0.1nm,0.3s						

*HEL **22** 08:02:38.7, 59.50N×22.20E, h0km, ML2.3, Explosion*
*DNK **22** 08:02:38.4±1.7, 59.55N×22.31E, h0km, ML2.5, ML2.8(UPP), Suspected explosion*
*LVSN **22** 08:02:39.1±2.3, 59.53N×22.36E, h0km±6km, ML2.7*
*EST **22** 08:02:39.3, 59.56N×22.18E, h0km, ML2.2(HEL), Explosion*
*IDC **22** 08:02:40.9±1.0, 59.65N×22.12E, h0km, mbtmp3.1/5, ML2.6/4, Error ellipse: s-maj=12.9km s-min=7.5km az=170.0*
*UPP **22** 08:02:41.2±1.0, 59.59N×21.91E, h0km, ML2.8, Presumed earthquake*
*BER **22** 08:02:41.0±3.0, 59.45N×22.36E, h0km, ML1.9, ML2.5(DNK), Suspected explosion*

ISC 22 08:02:36.9±0.6, **59.58N**±0.03×**22.20E**±0.02, **h0km, n79,** σ1§**82**/109, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVF	**Tvarminne**	**0.59**	**63**	*e*P	**Pb**	**08 02 50.0**	**-0.1**
TVF				*e*S	**Sb**	**08 02 58.3**	**-0.8**
EE06	**Soera, Palade,**	**0.69**	**151**	*e*P	**Pb**	**08 02 51.6**	**-0.2**
EE06				*e*S	**Sg**	**08 03 00.7**	**+1.6**
EE06				MSG		08 03 01.7	
	comp=Z,34nm,0.2s						
EE01	**Perakula, Nova**	**0.81**	**116**	*e*P	**Pb**	**08 02 53.8**	**-0.1**
EE01				*e*S	**Sb**	**08 03 04.5**	**-0.9**
AAL	**Aland**	**1.27**	**299**	P	**Pn**	**08 03 02.2**	**+0.4**
AAL				S	**Sb**	**08 03 19.2**	**+0.8**
AAL	**Aland**	**1.27**	**299**	P	**Pn**	**08 03 02.2**	**+0.4**
AAL				S	**Sb**	**08 03 19.2**	**+0.8**
AAL	**Aland**	**1.27**	**299**	*e*PB	**Pn**	**08 03 02.2**	**+0.4**
MEF	**Metsahovi**	**1.28**	**59**	*e*P	**Pn**	**08 03 02.6**	**+0.5**
MEF	**Metsahovi**	**1.28**	**59**	*e*P	**Pn**	**08 03 02.5**	**+0.5**
MEF				*e*S	**Sn**	**08 03 19.4**	**-0.4**
MEF				AML	AML	08 03 23.4	
	comp=Z,50nm,0.2s						
MEF				AML	AML	08 03 27.6	
	comp=N,38nm,0.2s						
MEF				AML	AML	08 03 28.9	
	comp=E,37nm,0.2s						
MEF	**Metsahovi**	**1.28**	**59**	*e*P	**Pn**	**08 03 02.5**	**+0.5**
EE02	**Kiisa, Saku**	**1.33**	**106**	*e*P	**Pn**	**08 03 03.1**	**+0.3**
EE02				*e*S	**Sb**	**08 03 20.5**	**+0.2**
HEL5	**Espoo, Suvisaa**	**1.39**	**66**	*e*P	**Pb**	**08 03 04.5**	**+0.8**
HEL5				*e*SB	**Sn**	**08 03 23.0**	**+0.4**
RAF	**Rauma**	**1.47**	**352**	*e*P	**Pb**	**08 03 06.3**	**+1.3**
RAF	**Rauma**	**1.47**	**352**	*e*P	**Pb**	**08 03 05.9**	**+0.8**
NUR	**Nurmijarvi**	**1.54**	**52**	*e*PG	**Pg**	**08 03 07.2**	**+0.7**
NRTU	**Norrtaelje**	**1.82**	**275**	P	**Pb**	**08 03 11.5**	**+0.5**
NRTU	**Norrtaelje**	**1.82**	**275**	P	**Pb**	**08 03 11.5**	**+0.5**
NRTU	**Norrtaelje**	**1.82**	**275**	*e*PN	**Pb**	**08 03 11.5**	**+0.5**
ARBE	**Arbavere**	**1.93**	**93**	*e*P	**Pb**	**08 03 12.5**	**-0.5**
ARBE	**Arbavere**	**1.93**	**93**	*e*P	**Pg**	**08 03 13.5**	**-0.4**
ARBE				*e*S	**Sg**	**08 03 39.4**	**+0.4**
ARBE				AML	AML	08 03 41.1	
	comp=E,738nm,0.2s						
ARBE				AML	AML	08 03 44.4	
	comp=N,650nm,0.2s						
ARBE				AML	AML	08 03 44.6	
	comp=Z,140nm,0.4s						
SLIT	**Slitere, Latvi**	**1.95**	**179**	*e*P	**Pn**	**08 03 11.8**	**+0.6**
SLIT	**Slitere, Latvi**	**1.95**	**179**	*e*P	**Pb**	**08 03 13.9**	**+0.6**
SLIT				*e*S	**Sg**	**08 03 39.7**	**+0.2**
SLIT				AML	AML	08 03 42.8	
	comp=Z,212nm,0.2s						
SLIT				AML	AML	08 03 44.5	
	comp=N,294nm,0.3s						
SLIT				AML	AML	08 03 44.9	
	comp=E,436nm,0.3s						
GRAU	**Graesoe**	**1.99**	**294**	P	**Pb**	**08 03 14.2**	**+0.3**
GRAU	**Graesoe**	**1.99**	**294**	P	**Pb**	**08 03 14.2**	**+0.3**
PVF	**Pernaja**	**2.08**	**60**	*e*PG	**Pg**	**08 03 16.4**	**-0.2**
PVF				MSG		08 03 45.5	
	comp=Z,30nm,0.2s						
FORU	**Forsmark**	**2.18**	**294**	P	**Pb**	**08 03 17.1**	**0.0**
FORU	**Forsmark**	**2.18**	**294**	P	**Pb**	**08 03 17.1**	**0.0**
NYNU	**Nynaeshamn**	**2.23**	**257**	P	**Pb**	**08 03 18.4**	**+0.4**
NYNU	**Nynaeshamn**	**2.23**	**257**	P	**Pb**	**08 03 18.4**	**+0.4**
FLYU	**Flymyra**	**2.25**	**286**	P	**Pb**	**08 03 17.7**	**-0.6**
FLYU	**Flymyra**	**2.25**	**286**	P	**Pb**	**08 03 17.7**	**-0.6**
KPF	**Kankaanpaa**	**2.27**	**358**	*e*PB	**Pg**	**08 03 19.6**	**-0.8**
UPP	**Uppsala**	**2.34**	**279**	*e*P	**Pn**	**08 03 17.3**	**+0.8**
FIBU	**Brunna**	**2.48**	**280**	P	**Pb**	**08 03 21.7**	**-0.6**
FIBU	**Brunna**	**2.48**	**280**	P	**Pb**	**08 03 21.7**	**-0.6**
BACU	**Backbrunna**	**2.60**	**278**	P	**Pb**	**08 03 22.7**	**-1.6**
BACU	**Backbrunna**	**2.60**	**278**	P	**Pb**	**08 03 22.7**	**-1.6**
VSU	**Vasula**	**2.60**	**114**	*e*P	**Pn**	**08 03 21.9**	**+1.9**
VSU	**Vasula**	**2.60**	**114**	*e*P	**Pb**	**08 03 24.0**	**-0.2**
VSU				*e*S	**Sb**	**08 03 56.0**	**-0.7**
VSU				AML	AML	08 03 59.2	
	comp=N,68nm,0.4s						
VSU				AML	AML	08 04 02.0	
	comp=E,59nm,0.4s						
VSU				AML	AML	08 04 03.9	
	comp=Z,48nm,0.2s						
OSTU	**Oestervaala**	**2.64**	**287**	P	**Pb**	**08 03 23.2**	**-1.7**
OSTU	**Oestervaala**	**2.64**	**287**	P	**Pb**	**08 03 23.2**	**-1.7**
FINES	**FINESS Array B**	**2.68**	**44**	Pn	**Pb**	**08 03 24.7**	**-1.0**
	comp=Z,3.0nm,0.3s,baz=228,slow=14,SNR=78						
FINES				Sn	**Sb**	**08 03 59.8**	**+0.7**
	comp=Z,5.9nm,0.3s,baz=231,slow=24,SNR=22						
	comp=Z,5.2nm,0.2s						
GOTU	**Gotland**	**2.68**	**227**	P	**Pb**	**08 03 24.1**	**-1.7**
GOTU	**Gotland**	**2.68**	**227**	P	**Pb**	**08 03 24.1**	**-1.7**
KEF	**Keuruu**	**2.91**	**25**	*e*P	**Pn**	**08 03 26.8**	**+2.4**
PABE	**Paberze**	**4.19**	**166**	*e*P	**Pn**	**08 03 42.9**	**+0.9**
PABE	**Paberze**	**4.19**	**166**	*e*P	**Pn**	**08 03 46.2**	**+4.2**
PABE				*e*S	**Sn**	**08 04 34.9**	**+3.3**
PABE				AML	AML	08 04 38.1	
	comp=N,37nm,0.2s						
PABE				AML	AML	08 04 59.5	
	comp=Z,14nm,0.4s						
PABE				AML	AML	08 04 59.9	
	comp=E,29nm,0.2s						
HFS	**Hagfors**	**4.33**	**281**	Pn	**Pn**	**08 03 46.0**	**+2.1**
	comp=E,0.3nm,0.3s,baz=97,slow=13,SNR=6.3						
HFS				Sn	**Sn**	**08 04 36.2**	**+1.2**
	comp=E,0.9nm,0.3s,baz=99,slow=26,SNR=5.4						
HFS				Lg	Lg	08 04 51.9	
	comp=E,2.8nm,0.3s,baz=98,slow=31,SNR=9.6						
	comp=E,0.9nm,0.3s						
BLEU	**Blekinge**	**4.73**	**229**	*i* P	**Pn**	**08 03 51.3**	**+2.0**
BLEU	**Blekinge**	**4.73**	**229**	*i* P	**Pn**	**08 03 51.3**	**+2.0**
BORU	**Boraas**	**5.30**	**253**	*i* P	**Pn**	**08 04 00.2**	**+3.0**
BORU	**Boraas**	**5.30**	**253**	*i* P	**Pn**	**08 04 00.2**	**+3.0**
DEL	**Delary**	**5.41**	**238**	*i* P	**Pn**	**08 03 59.9**	**+1.1**
DEL				*e*S	**Sn**	**08 05 00.4**	**-1.2**
DEL				IAML		08 05 35.0	
	comp=Z,1.9nm,0.4s						
DEL	**Delary**	**5.41**	**238**	*i* P	**Pn**	**08 03 59.9**	**+1.1**
DEL				*e*S	**Sn**	**08 05 00.4**	**-1.2**
DEL				IAML		08 05 35.0	
	comp=Z,1.9nm,0.4s						
JOF	**Joensuu**	**5.53**	**49**	*e*P	**Pn**	**08 04 02.0**	**+1.7**
NC303	**NORSAR Array S**	**5.62**	**292**	*e*P	**Pn**	**08 04 02.9**	**+1.3**
NC303				*e*S	**Sn**	**08 05 08.3**	**+1.5**
NC303				IAML		08 05 37.2	
	comp=Z,4.7nm,0.3s						
NB201	**NORSAR Array S**	**5.62**	**290**	*e*P	**Pn**	**08 04 03.1**	**+1.5**
NB201				IAML		08 05 40.0	
	comp=Z,3.2nm,0.3s						
NOA	**NORSAR Array B**	**5.66**	**290**	Pn	**Pn**	**08 04 03.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=106,slow=12,SNR=6.7						
NOA				Sn	**Sn**	**08 05 08.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=141,slow=20,SNR=1.6						
NOA				Lg	Lg	08 05 36.3	
	comp=Z,0.1nm,0.3s,baz=93,slow=11,SNR=4.9						
	comp=Z,0.2nm,0.3s						
STRU	**Stroemstad**	**5.67**	**269**	*i* P	**Pn**	**08 04 05.5**	**+3.2**
STRU	**Stroemstad**	**5.67**	**269**	*i* P	**Pn**	**08 04 05.5**	**+3.2**
TJOU	**Tjoern**	**5.71**	**259**	*i* P	**Pn**	**08 04 06.5**	**+3.6**
TJOU	**Tjoern**	**5.71**	**259**	*i* P	**Pn**	**08 04 06.5**	**+3.6**
ONAU	**Onsala**	**5.82**	**252**	*e*P	**Pn**	**08 04 05.4**	**+1.1**
ONAU				*i* P	**Pn**	**08 04 06.5**	**+2.2**
ONAU				*i* S	**Sn**	**08 05 12.4**	**+0.7**
ONAU	**Onsala**	**5.82**	**252**	*e*P	**Pn**	**08 04 05.4**	**+1.1**
ONAU				*i* P	**Pn**	**08 04 06.5**	**+2.2**
ONAU				*i* S	**Sn**	**08 05 12.4**	**+0.7**
BSD	**Bornholm Skovb**	**5.96**	**225**	*i* P	**Pn**	**08 04 07.1**	**+0.8**
BSD				IAML		08 05 52.4	
	comp=Z,2.9nm,0.3s						
BSD	**Bornholm Skovb**	**5.96**	**225**	*i* P	**Pn**	**08 04 07.1**	**+0.8**
BSD				IAML		08 05 52.4	
	comp=Z,2.9nm,0.3s						
SJUU	**Sjulsmark**	**5.96**	**358**	*e*P	**Pn**	**08 04 08.0**	**+1.7**
BJUU	**Bjuv**	**6.03**	**238**	*i* P	**Pn**	**08 04 09.0**	**+1.8**
BJUU				*i* S	**Sn**	**08 05 15.4**	**-1.5**
BJUU	**Bjuv**	**6.03**	**238**	*i* P	**Pn**	**08 04 09.0**	**+1.8**
BJUU				*i* S	**Sn**	**08 05 15.4**	**-1.5**
SKAR	**Skarslia**	**7.03**	**285**	*e*P	**Pn**	**08 04 22.6**	**+1.5**
SKAR				*e*S	**Sn**	**08 05 37.1**	**-4.4**
HOMB	**Homborsund**	**7.21**	**265**	*e*P	**Pn**	**08 04 25.1**	**+1.7**
MOR8	**Moi Rana**	**7.50**	**335**	*e*P	**Pn**	**08 04 31.8**	**+4.4**
MOR8				*e*S	**Sn**	**08 05 55.1**	**+1.9**
SALU	**Saltoluokta**	**8.01**	**350**	*e*P	**Pn**	**08 04 37.4**	**+3.1**
SALU				*e*S	**Sn**	**08 06 02.0**	**-3.4**
VAGH	**Vaagaholmen**	**8.23**	**334**	*e*P	**Pn**	**08 04 42.0**	**+4.7**
FAUS	**Fauske**	**8.42**	**341**	*e*P	**Pn**	**08 04 41.0**	**+1.1**
FAUS				IAML		08 06 21.4	
	comp=Z,1.4nm,0.3s						
HEF	**Hetta**	**8.89**	**3**	*e*P	**Pn**	**08 04 47.8**	**+1.4**
STEI	**Steigen**	**8.93**	**343**	*e*P	**Pn**	**08 04 48.1**	**+1.2**
STEI				*e*S	**Sn**	**08 06 24.8**	**-3.2**
STEI				IAML		08 06 29.2	
	comp=Z,0.9nm,0.4s						
AKASG	**Malin Array Be**	**9.75**	**153**	Pn	**Pn**	**08 04 58.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=335,slow=13,SNR=2.7						
ARA0	**ARCESS Array S**	**10.10**	**7**	*e*P	**Pn**	**08 05 03.4**	**+0.4**
ARA0				*e*S	**Sn**	**08 06 53.5**	**-3.3**
ARCES	**ARCESS Array B**	**10.10**	**7**	Pn	**Pn**	**08 05 03.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=186,slow=15,SNR=15						
ARCES				Sn	**Sn**	**08 06 50.4**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=2.3						
	comp=Z,0.4nm,0.3s						

*ASRS **22** 08:04:09.0±0.6, 53.92N×86.54E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 08:04:09.8±3.3, **53.99N×86.73E, h0km, mbtmp2.5**/2, **ML2.4**/2, **Error ellipse: s-maj=27.7km s-min=16.4km az=56.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**269**	I	I	08 11 20.0	
	baz=88,slow=318,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.13**	**269**	Pg	Pg	08 04 30.8	-0.7
	0.6nm,0.3s,baz=87,slow=14,SNR=5.1						
ZALV				Lg	Lg	08 04 47.0	
	1.7nm,0.3s,baz=87,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**6.05**	**239**	Pn	Pn	08 05 41.2	+0.7
	0.1nm,0.3s,baz=55,slow=13,SNR=3.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.74**	**203**	Pn	Pn	08 06 04.8	+1.1
	0.1nm,0.3s,baz=23,slow=12,SNR=1.8						
	0.1nm,0.3s						

*SJA **22** 08:15:57.1±0.7, 21.05S×69.55W, h94km±3km, ML3.7, MW3.7*
*GUC **22** 08:15:59.1±0.7, 21.04S×69.51W, h87km±4km, ML3.6*
*IDC **22** 08:16:24.3±5.5, 19.28S×68.09W, h162km±39km, mb3.3/2, mbtmp3.6/5, Error ellipse: s-maj=78.5km s-min=25.3km az=16.0*

ISC 22 08:15:57.7±1.1, **21.08S**±0.03×**69.67W**±0.05, **h100km**±6km, **n38,** σ1§**73**/62, **6C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.18**	**77**	⇓*i*P	**Pn**	**08 16 11.2**	**-0.7**
PB01				*i* S	**Sn**	**08 16 20.3**	**-2.2**
PB01	**IPOC Station P**	**0.18**	**77**	*e*P	**Pn**	**08 16 11.0**	**-0.9**
PB01				*e*S	**Sn**	**08 16 20.9**	**-1.7**
PB01				IAML		08 16 22.1	
	comp=Z,4μm,0.1s						
PB02	**IPOC Station P**	**0.32**	**222**	⇑*i*P	**Pn**	**08 16 13.0**	**+0.5**
PB02				*i* S	**Sn**	**08 16 23.4**	**-0.2**
PB02				IAML		08 16 25.2	
	comp=E,8μm,0.2s						
PB02	**IPOC Station P**	**0.32**	**222**	*e*P	**Pn**	**08 16 12.9**	**+0.5**
PB02				*e*S	**Sn**	**08 16 23.8**	**+0.2**
PB02				IAML		08 16 24.0	
	comp=Z,5μm,0.2s						
PATCX	**Punta Patache**	**0.52**	**300**	*e*P	**Pn**	**08 16 14.3**	**+0.6**
PATCX				*e*S	**Sn**	**08 16 27.4**	**+1.6**
PATCX				IAML		08 16 27.8	
	comp=Z,3μm,0.4s						
PX03	**IPOC Station P**	**0.68**	**3**	*e*P	**Pn**	**08 16 13.8**	**-1.2**
PX03				*i* S	**Sn**	**08 16 26.3**	**-1.7**
TA01	**Diego Aracena**	**0.70**	**317**	⇓*i*P	**Pn**	**08 16 15.5**	**+0.4**
TA01				*i* S	**Sn**	**08 16 28.2**	**0.0**
TA01				IAML		08 16 30.1	
	comp=E,3μm,0.2s						
TA01	**Diego Aracena**	**0.70**	**317**	*e*P	**Pn**	**08 16 15.5**	**+0.4**
TA01				*e*S	**Sn**	**08 16 28.9**	**+0.7**
TA01				IAML		08 16 29.4	
	comp=Z,892nm,0.5s						
PB09	**IPOC Station P**	**0.81**	**151**	⇑*i*P	**Pn**	**08 16 16.6**	**+0.2**
PB09				*i* S	**Sn**	**08 16 29.8**	**-0.6**
PB09				IAML		08 16 31.7	
	comp=N,4μm,0.5s						
PB09	**IPOC Station P**	**0.81**	**151**	*e*P	**Pn**	**08 16 16.6**	**+0.2**
PB09				*e*S	**Sn**	**08 16 30.2**	**-0.2**
PB09				IAML		08 16 30.8	
	comp=Z,3μm,0.3s						
PB03	**IPOC Station P**	**0.96**	**185**	⇑*i*P	**Pn**	**08 16 18.5**	**+0.6**
PB03				*i* S	**Sn**	**08 16 33.0**	**-0.1**
PB03				IAML		08 16 33.9	
	comp=E,2μm,0.1s						
PB03	**IPOC Station P**	**0.96**	**185**	*e*P	**Pn**	**08 16 18.3**	**+0.4**
PB03				*e*S	**Sn**	**08 16 33.5**	**+0.4**
PB03				IAML		08 16 34.3	
	comp=Z,2μm,0.4s						
PB08	**IPOC Station P**	**1.06**	**27**	⇓*i*P	**Pn**	**08 16 18.7**	**-0.4**
PB08				*i* S	**Sn**	**08 16 33.5**	**-1.8**
PB08				IAML		08 16 35.2	
	comp=N,2μm,0.1s						
PB08	**IPOC Station P**	**1.06**	**27**	*e*P	**Pn**	**08 16 18.0**	**-1.2**
PB08				*e*S	**Sn**	**08 16 33.8**	**-1.5**
PB08				IAML		08 16 36.0	
	comp=Z,1μm,0.5s						
PB11	**IPOC Station P**	**1.32**	**1**	*e*P	**Pn**	**08 16 21.5**	**-0.4**
PB11				*i* S	**Sn**	**08 16 39.3**	**-0.9**
PB11				IAML		08 16 40.1	
	comp=N,3μm,0.4s						
PB11	**IPOC Station P**	**1.32**	**1**	*e*P	**Pn**	**08 16 21.4**	**-0.6**
PB11				*e*S	**Sn**	**08 16 39.6**	**-0.5**
PB11				IAML		08 16 40.7	
	comp=Z,867nm,0.3s						
GO01	**Chusmiza**	**1.48**	**18**	⇓*i*P	**Pn**	**08 16 23.8**	**-0.4**
GO01				*i* S	**Sn**	**08 16 42.4**	**-1.8**
GO01	**Chusmiza**	**1.48**	**18**	*e*P	**Pn**	**08 16 23.8**	**-0.4**
GO01				*e*S	**Sn**	**08 16 44.2**	**+0.1**
GO01				IAML		08 16 45.0	
	comp=Z,514nm,0.1s						
PB06	**IPOC Station P**	**1.62**	**177**	⇑*i*P	**Pn**	**08 16 26.1**	**+0.5**
PB06				*i* S	**Sn

baz=76,slow=319,SNR=0.6
I37NO I37NO 23.53 336 I I 10 40 40.0
baz=129,slow=324,SNR=0.4

*IDC **22** 08:19:30.8±3.0,53°.70N×87°.05E,h0km,mbtmp2.4/2, ML2.6/2, Error ellipse: s-maj=29.8km s-min=17.0km az=61.0*
ASRS 22 08:19:28.0±1.1,53°.65N×86°.81E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**285**	I	I	08 27 40.0	
	baz=99,slow=310,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.22**	**285**	Pg	Pn	08 19 55.6	+3.3
	0.8nm,0.3s,baz=99,slow=18,SNR=4.9						
ZALV				Lg	Lg	08 20 14.2	
	1.0nm,0.3s,baz=103,slow=32,SNR=7.6						
ZALV				Rg	Rg	08 20 27.8	
	1.5nm,0.3s,baz=104,slow=31,SNR=3.7						
KURBB	**Kurchatov Arra**	**5.93**	**243**	Pn	Pn	08 21 02.3	+5.3
	0.1nm,0.3s,baz=56,slow=13,SNR=4.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**7.45**	**205**	Pn	Pn	08 21 23.6	+5.6
	0.2nm,0.3s,baz=25,slow=15,SNR=5.8						
	0.1nm,0.4s						

*IDC **22** 08:30:50.3±0.8,49°.50N×159°.59E,h0km,mb3.7/13, mbtmp3.7/15,ML3.5/2,MS3.1/8, Error ellipse: s-maj=23.2km s-min=15.7km az=157.0*
*KRSC **22** 08:30:51.1±2.3,49°.83N×159°.82E,h43km±48km,Ml4.2*
*MOS **22** 08:30:52.7±0.7,49°.74N×159°.69E,h48km,mb4.3/1, Error ellipse: s-maj=16.6km s-min=3.7km az=95.0*
ISC 22 08:30:51.7±4.5,49°.69N±0°.07×159°.65E±0°.05,h13km±29km, n95,σ2s04/137,mb3.7/12,MS3.5/4,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.48**	**295**	PN	**Pn**	**08 31 29.5**	**-2.2**
SKR				S	**Sn**	**08 31 57.2**	**-4.6**
SKR	**Severo-Kuril's**	**2.48**	**295**	*e*P	**Pn**	**08 31 29.6**	**-2.2**
SKR				*e*S	**Sn**	**08 31 57.3**	**-4.6**
PAU	**Pauzhetka**	**2.54**	**316**	PN	**Pn**	**08 31 31.5**	**-1.0**
PAU				S	**Sn**	**08 32 01.0**	**-2.3**
PAU	**Pauzhetka**	**2.54**	**316**	*e*P	**Pn**	**08 31 31.6**	**-1.0**
PAU				*e*S	**Sn**	**08 32 01.0**	**-2.3**
RUS	**Russkaya**	**2.84**	**346**	PN	**Pn**	**08 31 35.4**	**-1.3**
RUS				S	**Sn**	**08 32 07.6**	**-3.1**
RUS	**Russkaya**	**2.84**	**346**	*e*P	**Pn**	**08 31 35.4**	**-1.3**
RUS				*e*S	**Sn**	**08 32 07.6**	**-3.1**
ASAK	**Asacha**	**2.91**	**338**	PN	**Pn**	**08 31 37.2**	**-0.6**
ASAK				S	**Sn**	**08 32 09.9**	**-2.8**
ASAK	**Asacha**	**2.91**	**338**	*e*P	**Pn**	**08 31 37.2**	**-0.6**
ASAK				*e*S	**Sn**	**08 32 10.0**	**-2.8**
MTVR	**Mutnovka**	**2.95**	**342**	PN	**Pn**	**08 31 37.5**	**-0.8**
MTVR				S	**Sn**	**08 32 10.9**	**-2.7**
MTVR	**Mutnovka**	**2.95**	**342**	*e*P	**Pn**	**08 31 37.5**	**-0.8**
MTVR				*e*S	**Sn**	**08 32 10.9**	**-2.7**
GRL	**Gorelyy**	**3.03**	**341**	PN	**Pn**	**08 31 39.3**	**-0.1**
GRL				S	**Sn**	**08 32 13.8**	**-1.9**
GRL	**Gorelyy**	**3.03**	**341**	*e*P	**Pn**	**08 31 39.4**	**-0.1**
GRL				*e*S	**Sn**	**08 32 13.8**	**-1.9**
MIPR	**Malaya Ipel'ka**	**3.17**	**326**	PN	**Pn**	**08 31 41.1**	**-0.1**
MIPR	**Malaya Ipel'ka**	**3.17**	**326**	*e*P	**Pn**	**08 31 41.1**	**-0.1**
KRMR	**Karymshinskiy**	**3.29**	**344**	PN	**Pn**	**08 31 42.0**	**-0.8**
KRMR				S	**Sn**	**08 32 20.6**	**-1.1**
KRMR	**Karymshinskiy**	**3.29**	**344**	*e*P	**Pn**	**08 31 42.0**	**-0.8**
KRMR				*e*S	**Sn**	**08 32 20.6**	**-1.1**
DALK	**Dalny**	**3.39**	**351**	PN	**Pn**	**08 31 43.1**	**-1.2**
DALK				S	**Sn**	**08 32 22.4**	**-1.9**
DALK	**Dalny**	**3.39**	**351**	*e*P	**Pn**	**08 31 43.1**	**-1.2**
DALK				*e*S	**Sn**	**08 32 22.5**	**-1.9**
PET	**Petropavlovsk**	**3.40**	**350**	*e*PN	**Pn**	**08 31 43.5**	**-0.8**
PET				*e*S	**Sn**	**08 32 22.5**	**-1.9**
PET				smax	smax		
	comp=E,203nm,0.7s						
PET				smax	smax		
	comp=N,239nm,0.5s						
PET	**Petropavlovsk**	**3.40**	**350**	*e*P	**Pn**	**08 31 43.5**	**-0.8**
PET				*e*S	**Sn**	**08 32 20.2**	**-4.2**
SPN	**Mys Shipunski**	**3.42**	**4**	PN	**Pn**	**08 31 44.4**	**-0.3**
SPN				S	**Sn**	**08 32 20.5**	**-4.5**
SPN	**Mys Shipunski**	**3.42**	**4**	*e*P	**Pn**	**08 31 44.5**	**-0.3**
SPN				*e*S	**Sn**	**08 32 20.6**	**-4.5**
NLC	**Nalytchevo**	**3.49**	**357**	PN	**Pn**	**08 31 44.8**	**-0.8**
NLC				S	**Sn**	**08 32 24.1**	**-2.7**
NLC	**Nalytchevo**	**3.49**	**357**	*e*P	**Pn**	**08 31 44.9**	**-0.8**
NLC				*e*S	**Sn**	**08 32 24.1**	**-2.7**
UGLR	**Uglovaya**	**3.56**	**352**	PN	**Pn**	**08 31 47.0**	**+0.3**
UGLR				S	**Sn**	**08 32 25.5**	**-3.2**
UGLR	**Uglovaya**	**3.56**	**352**	*e*P	**Pn**	**08 31 47.1**	**+0.3**
UGLR				*e*S	**Sn**	**08 32 25.5**	**-3.2**
APC	**Apacha**	**3.60**	**335**	PN	**Pn**	**08 31 48.5**	**+1.5**
APC				S	**Sn**	**08 32 30.0**	**+0.6**
APC	**Apacha**	**3.60**	**335**	*e*P	**Pn**	**08 31 48.6**	**+1.5**
APC				*e*S	**Sn**	**08 32 30.1**	**+0.6**
SMAR	**Somma**	**3.62**	**352**	PN	**Pn**	**08 31 48.0**	**+0.4**
SMAR				S	**Sn**	**08 32 28.8**	**-1.4**
SMAR	**Somma**	**3.62**	**352**	*e*P	**Pn**	**08 31 48.0**	**+0.4**
SMAR				*e*S	**Sn**	**08 32 28.9**	**-1.4**
AVH	**Avacha**	**3.62**	**351**	PN	**Pn**	**08 31 47.6**	**0.0**
AVH				S	**Sn**	**08 32 26.9**	**-3.3**
AVH	**Avacha**	**3.62**	**351**	*e*P	**Pn**	**08 31 47.7**	**0.0**
AVH				*e*S	**Sn**	**08 32 27.0**	**-3.3**
SDLR	**Sedlovina**	**3.62**	**353**	PN	**Pn**	**08 31 46.9**	**-0.7**
SDLR	**Sedlovina**	**3.62**	**353**	*e*P	**Pn**	**08 31 46.9**	**-0.7**
PEA0B	**Petropavlovsk-**	**3.63**	**341**	PN	**Pn**	**08 31 47.5**	**-0.1**
PEA0B				S	**Sn**	**08 32 29.8**	**-0.6**
PETK	**Petropavlovsk-**	**3.63**	**341**	Pn	**Pn**	**08 31 48.2**	**+0.6**
	comp=N,5.5nm,0.3s,baz=149,slow=15,SNR=26						
PETK				Sn	**Sn**	**08 32 31.9**	**+1.5**
	comp=N,3.8nm,0.3s,baz=199,slow=33,SNR=7.2						
PETK				LR	LR	08 33 31.2	
	comp=N,158nm,21.9s,baz=177,slow=42						
	comp=N,12nm,0.5s						
KOK	**Koryaka**	**3.66**	**350**	PN	**Pn**	**08 31 47.8**	**-0.3**
KOK				S	**Sn**	**08 32 29.1**	**-2.1**
KOK	**Koryaka**	**3.66**	**350**	*e*P	**Pn**	**08 31 47.8**	**-0.3**
KOK				*e*S	**Sn**	**08 32 29.1**	**-2.1**
KRER	**Koryakskii**	**3.66**	**352**	PN	**Pn**	**08 31 48.1**	**-0.1**
KRER				S	**Sn**	**08 32 28.6**	**-2.7**
KRER	**Koryakskii**	**3.66**	**352**	*e*P	**Pn**	**08 31 48.2**	**-0.1**
KRER				*e*S	**Sn**	**08 32 28.6**	**-2.7**
KRX	**Arik**	**3.73**	**351**	PN	**Pn**	**08 31 48.4**	**-0.6**
KRX				S	**Sn**	**08 32 29.8**	**-3.0**
KRX	**Arik**	**3.73**	**351**	*e*P	**Pn**	**08 31 48.4**	**-0.6**
KRX				*e*S	**Sn**	**08 32 29.8**	**-3.0**
GNL	**Ganaly**	**4.15**	**346**	PN	**Pn**	**08 31 54.9**	**+0.1**
GNL				S	**Sn**	**08 32 41.8**	**-1.4**
GNL	**Ganaly**	**4.15**	**346**	*e*P	**Pn**	**08 31 54.9**	**+0.1**
GNL				*e*S	**Sn**	**08 32 41.8**	**-1.4**
KII	**Karymskiy**	**4.36**	**358**	PN	**Pn**	**08 31 58.0**	**+0.4**
KII				S	**Sn**	**08 32 45.3**	**-2.9**
KII	**Karymskiy**	**4.36**	**358**	*e*P	**Pn**	**08 31 58.0**	**+0.4**
KII				*e*S	**Sn**	**08 32 45.4**	**-2.9**
MKZ	**Mys Kozlova**	**5.04**	**14**	PN	**Pn**	**08 32 05.7**	**-1.2**
MKZ	**Mys Kozlova**	**5.04**	**14**	*e*P	**Pn**	**08 32 05.8**	**-1.2**
MKZ				*e*S	**Sn**	**08 33 00.1**	**-4.7**
TUMD	**Tumrok D**	**5.54**	**4**	PN	**Pn**	**08 32 13.8**	**0.0**
TUMD	**Tumrok D**	**5.54**	**4**	*e*P	**Pn**	**08 32 13.8**	**0.0**
TUMD				*e*S	**Sn**	**08 33 13.9**	**-3.4**
KMNR	**Kamenistaya**	**6.09**	**3**	PN	**Pn**	**08 32 21.8**	**+0.5**
KMNR	**Kamenistaya**	**6.09**	**3**	*e*P	**Pn**	**08 32 21.9**	**+0.5**
KMNR				*e*S	**Sn**	**08 33 28.9**	**-2.0**
ESO	**Esso**	**6.27**	**355**	PN	**Pn**	**08 32 24.5**	**+0.7**
ESO	**Esso**	**6.27**	**355**	*e*P	**Pn**	**08 32 24.5**	**+0.7**
ESO				*e*S	**Sn**	**08 33 34.1**	**-1.3**
KIRR	**Kirishev**	**6.29**	**4**	PN	**Pn**	**08 32 25.6**	**+1.4**
KIRR	**Kirishev**	**6.29**	**4**	*e*P	**Pn**	**08 32 25.7**	**+1.4**
KPT	**Kopyto**	**6.30**	**3**	PN	**Pn**	**08 32 25.8**	**+1.5**
KPT	**Kopyto**	**6.30**	**3**	*e*P	**Pn**	**08 32 25.8**	**+1.5**
KPT				*e*S	**Sn**	**08 33 33.8**	**-2.3**
BZWR	**Bezymyannyi-We**	**6.31**	**4**	PN	**Pn**	**08 32 25.3**	**+0.9**
BZWR	**Bezymyannyi-We**	**6.31**	**4**	*e*P	**Pn**	**08 32 25.4**	**+0.9**
BZWR				*e*S	**Sn**	**08 33 32.9**	**-3.5**
BKI	**Bering**	**6.74**	**33**	PN	**Pn**	**08 32 29.0**	**-1.2**
BKI	**Bering**	**6.74**	**33**	*e*P	**Pn**	**08 32 29.1**	**-1.2**
BKI				*e*S	Sn	08 33 38.7	-8.0
KBTR	**Krutoberegovo**	**6.80**	**15**	PN	**Pn**	**08 32 30.6**	**-0.5**
KBTR	**Krutoberegovo**	**6.80**	**15**	*e*P	**Pn**	**08 32 30.7**	**-0.5**
KBG	**Krutoberegovo**	**6.83**	**14**	PN	**Pn**	**08 32 30.0**	**-1.4**
KBG	**Krutoberegovo**	**6.83**	**14**	*e*P	**Pn**	**08 32 30.1**	**-1.4**
SMKR	**Semkarok**	**6.99**	**8**	PN	**Pn**	**08 32 34.8**	**+1.0**
SMKR	**Semkarok**	**6.99**	**8**	*e*P	**Pn**	**08 32 34.8**	**+1.0**
SMKR				*e*S	**Sn**	**08 33 49.6**	**-3.5**
KUR	**Kuril'sk**	**9.14**	**245**	*e*PN	**Pn**	**08 33 00.8**	**-2.4**
KUR				pmax	pmax		
	comp=Z,60nm,0.5s						
SHEM	**Shemya Is, Ala**	**9.57**	**66**	Pn	**Pn**	**08 33 08.9**	**-0.1**
	comp=Z,12nm,0.3s,baz=186,slow=1.7,SNR=7.5						
SHEM				Sn	**Sn**	**08 34 47.8**	**-8.4**
	comp=Z,2.6nm,0.3s,baz=309,slow=22,SNR=1.2						
SHEM				LR	LR	08 37 19.0	
	comp=Z,52nm,18.8s,baz=310,slow=40						
MA2	**Magadan**	**11.15**	**336**	LR	LR	08 37 52.9	
	comp=Z,60nm,20.4s,baz=196,slow=37						
ASAJ	**Asahikawa**	**12.91**	**251**	Pn	**Pn**	**08 33 52.2**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=88,slow=14,SNR=5.4						
ASAJ				LR	LR	08 40 35.5	
	comp=Z,57nm,18.1s,baz=128,slow=46						
	comp=Z,5.9nm,0.7s						
MJAR	**Matsushiro Arr**	**20.35**	**238**	P	**P**	**08 35 27.4**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=38,slow=11,SNR=4.6						
	comp=Z,0.7nm,0.3s						
YAK	**Yakutsk**	**20.64**	**318**	*e*P	**P**	**08 35 28.2**	**-2.4**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
KSRS	**Korea Array**	**25.83**	**254**	P	**P**	**08 36 24.2**	**+1.6**
	comp=E,1.0nm,0.8s,baz=43,slow=9.0,SNR=2.5						
	comp=E,1.0nm,0.8s						
KDAK	**Kodiak Island**	**28.84**	**55**	LR	LR	08 47 59.3	
	comp=E,30nm,21.9s,baz=251,slow=36						
H11N2	**WAKE ISLAND Hy**	**30.45**	**166**	T	T	09 08 52.1	
	baz=350,slow=76,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**30.46**	**166**	T	T	09 08 59.1	
	baz=350,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**30.46**	**166**	T	T	09 08 59.3	
	baz=350,slow=76,SNR=6.4						
ILAR	**Eielson Array**	**31.49**	**41**	P	**P**	**08 37 15.2**	**+2.5**
	comp=E,0.4nm,0.6s,baz=256,slow=6.8,SNR=12						
	comp=E,0.4nm,0.6s						
KURK	**Kurchatov**	**49.36**	**304**	P	**P**	**08 39 42.2**	**+1.8**
MKAR	**Makanchi Array**	**49.45**	**298**	P	**P**	**08 39 41.2**	**0.0**
	comp=E,0.3nm,0.4s,baz=56,slow=5.3,SNR=4.2						
	comp=E,0.3nm,0.4s						
MKAR	**Makanchi Array**	**49.45**	**298**	P	**P**	**08 39 41.2**	**0.0**
KURBB	**Kurchatov Arra**	**49.45**	**304**	P	**P**	**08 39 42.1**	**+1.0**
	comp=E,0.9nm,0.5s,baz=62,slow=7.6,SNR=4.8						
	comp=E,0.9nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.45**	**351**	P	**P**	**08 39 51.4**	**+2.9**
	comp=E,1.5nm,0.6s,baz=55,slow=12,SNR=5.3						
	comp=E,1.5nm,0.6s						
BVAR	**Borovoye Array**	**52.33**	**310**	P	**P**	**08 40 03.5**	**+0.6**
	comp=E,1.2nm,0.4s,baz=78,slow=9.5,SNR=4.9						
	comp=E,1.2nm,0.4s						
ARTI	**Arti**	**55.85**	**319**	P	**P**	**08 40 30.7**	**+2.3**
	comp=E,2.8nm,0.5s,baz=22,slow=11,SNR=3.8						
	comp=E,2.8nm,0.5s						
ARCES	**ARCESS Array B**	**56.45**	**342**	LR	LR	09 09 40.2	
	comp=E,34nm,19.0s,baz=107,slow=41						
NVAR	**Mina Array Bea**	**57.23**	**68**	P	**P**	**08 40 40.8**	**+2.0**
	comp=E,0.1nm,0.5s,baz=308,slow=7.2,SNR=1.5						
	comp=E,0.1nm,0.5s						
PDAR	**Pinedale Array**	**59.48**	**59**	P	**P**	**08 40 56.1**	**+1.6**
	comp=E,0.2nm,0.4s,baz=324,slow=1.7,SNR=3.8						
	comp=E,0.2nm,0.4s						
AKASG	**Malin Array Be**	**71.39**	**329**	LR	LR	09 16 39.6	
	comp=E,38nm,20.6s,baz=62,slow=38						
TXAR	**Lajitas Array**	**72.26**	**66**	P	**P**	**08 42 18.2**	**+1.4**
	comp=E,0.3nm,0.4s,baz=301,slow=4.7,SNR=12						
	comp=E,0.3nm,0.4s						
WRA	**Warramunga Arr**	**72.87**	**205**	P	**P**	**08 42 19.3**	**-0.9**
	comp=E,0.3nm,0.4s,baz=16,slow=6.0,SNR=2.2						
	comp=E,0.3nm,0.4s						
ASAR	**Alice Springs**	**76.54**	**204**	P	**P**	**08 42 40.5**	**-0.9**
	comp=E,0.2nm,0.4s,baz=16,slow=5.9,SNR=2.3						
	comp=E,0.2nm,0.4s						
TKL	**Tuckaleechee C**	**78.19**	**48**	LR	LR	09 18 00.7	
	comp=E,42nm,20.4s,baz=338,slow=36						

*TIF **22** 08:34:14.6,43°.28N×46°.11E,h9km±1km*
*IDC **22** 08:34:14.9±1.1,43°.47N×45°.93E,h0km,mb3.7/4, mbtmp3.7/8,ML3.2/4, Error ellipse: s-maj=14.9km s-min=12.1km az=102.0*
*MOS **22** 08:34:14.9,43°.20N×46°.16E,h12km,MPVA4.3*
*NORS **22** 08:34:14.8,43°.26N×46°.31E,h9km,MPVA4.4*
*DRS **22** 08:34:17.5,43°.11N×46°.25E,h6km*
ISC 22 08:34:15.4±1.1,43°.26N±0°.02×46°.18E±0°.02,h8km±8km, n99,σ1s23/183,mb3.8/5,1C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.31**	**187**	*e*Pg	**Pg**	**08 34 21.8**	**+0.4**
DVE				*e*Sg	**Sg**	**08 34 26.5**	**+0.9**
DVE	**Vedeno**	**0.31**	**187**	⇓*i*PG	**Pg**	**08 34 21.9**	**+0.4**
DLMR	**Dylym**	**0.38**	**120**	*e*PG	**Pb**	**08 34 24.7**	**+0.2**
DLMR				*e*S	**Sb**	**08 34 30.9**	**+0.3**
BTLR	**Botlikh**	**0.60**	**177**	*i* Pg	**Pg**	**08 34 26.9**	**-0.1**
BTLR				*e*Sg	**Sg**	**08 34 34.6**	**-0.2**
BTLR	**Botlikh**	**0.60**	**177**	⇓*i*PG	**Pg**	**08 34 26.9**	**-0.1**
BTLR				*e*S	**Sg**	**08 34 34.6**	**-0.2**
BTLR				pmax	pmax		
	comp=Z,501nm,0.4s						
KRNR	**Karanay**	**0.69**	**129**	*e*Pg	**Pb**	**08 34 29.3**	**-0.4**
KRNR				*e*Sg	**Sb**	**08 34 39.1**	**-0.4**
KRNR	**Karanay**	**0.69**	**129**	*e*PG	**Pb**	**08 34 29.3**	**-0.4**
KRNR				*e*S	**Sg**	**08 34 38.3**	**+0.6**
KRNR				pmax	pmax		
	comp=Z,69nm,0.3s						
UNCR	**Uncukul**	**0.71**	**140**	*i* Pg	**Pb**	**08 34 29.4**	**-0.7**
UNCR				*e*Sg	**Sg**	**08 34 38.5**	**+0.1**
UNCR	**Uncukul**	**0.71**	**140**	⇓*i*PG	**Pb**	**08 34 29.3**	**-0.7**
UNCR				*e*S	**Sg**	**08 34 38.5**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,216nm,0.6s						
HNZR	**Khunzah**	**0.81**	**150**	⇓*i*PG	**Pb**	**08 34 31.3**	**-0.5**
HNZR				*e*S	**Sb**	**08 34 42.3**	**-0.6**
HNZR				pmax	pmax		
	comp=Z,197nm,0.6s						
BUJR	**Buynaksk**	**0.81**	**122**	*e*Pg	**Pb**	**08 34 31.4**	**-0.4**
BUJR				*i* Sg	**Sn**	**08 34 44.5**	**-0.9**
BUJR	**Buynaksk**	**0.81**	**122**	*e*PG	**Pb**	**08 34 31.4**	**-0.4**
BUJR				*i* S	**Sn**	**08 34 44.5**	**-0.9**
XNZR	**Khunzakh**	**0.82**	**152**	*i* Pg	**Pg**	**08 34 31.3**	**+0.1**
XNZR				*e*Sg	**Sg**	**08 34 42.3**	**+0.5**
ARKR	**Arakani**	**0.89**	**137**	*e*Pg	**Pb**	**08 34 33.0**	**-0.2**
ARKR				*e*Sg	**Sb**	**08 34 45.1**	**-0.2**
ARKR	**Arakani**	**0.89**	**137**	*e*PG	**Pb**	**08 34 32.9**	**-0.2**
ARKR				*e*S	**Sb**	**08 34 45.0**	**-0.2**
ARKR				pmax	pmax		
	comp=Z,110nm,0.2s						
SHTL	**Shatili**	**0.96**	**231**	P	**Pg**	**08 34 33.3**	**-0.7**
SHTL				S	**Sg**	**08 34 45.4**	**-1.1**
SHTL	**Shatili**	**0.96**	**231**	PG	**Pg**	**08 34 33.3**	**-0.7**
KMGR	**Komgaron**	**0.98**	**258**	*e*Pg	**Pn**	**08 34 35.7**	**+0.2**
KMGR				*e*Sg	**Sn**	**08 34 50.2**	**+0.6**
KMGR	**Komgaron**	**0.98**	**258**	*e*PG	**Pn**	**08 34 35.7**	**+0.2**
KMGR				*e*S	**Sn**	**08 34 50.2**	**+0.6**
MAK	**Makhachkala**	**1.02**	**107**	⇑*i*PG	**Pn**	**08 34 37.1**	**+1.1**
MAK				*e*S	**Sn**	**08 34 51.6**	**+1.2**
MAK				pmax	pmax		
	comp=Z,185nm,0.3s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
GNBR	**Gunib**	**1.05**	**146**	*e*Pg	**Pn**	**08 34 36.1**	**-0.3**
GNBR				*e*Sg	**Sn**	**08 34 50.9**	**-0.4**
GNBR	**Gunib**	**1.05**	**146**	*e*PG	**Pn**	**08 34 36.1**	**-0.3**
GNBR				*e*S	**Sn**	**08 34 50.9**	**-0.4**
GNBR				pmax	pmax		
	comp=Z,239nm,0.4s						
VLKR	**Vladikavkaz**	**1.12**	**259**	*e*Pg	**Pn**	**08 34 38.1**	**+0.7**
VLKR				*e*Sg	**Sn**	**08 34 54.8**	**+1.8**
VLKR	**Vladikavkaz**	**1.12**	**259**	*e*PG	**Pn**	**08 34 38.1**	**+0.7**
VLKR				*e*S	**Sn**	**08 34 54.8**	**+1.8**
TRKR	**Terskaya**	**1.15**	**294**	*e*Pg	**Pn**	**08 34 38.4**	**+0.6**
TRKR				*e*Sg	**Sn**	**08 34 55.2**	**+1.5**
TLTR	**Tlyarata**	**1.16**	**173**	*e*PG	**Pg**	**08 34 37.5**	**-0.2**
TLTR				*e*S	**Sb**	**08 34 52.9**	**-0.2**
BTKR	**Batakoyurt**	**1.20**	**276**	*e*Pg	**Pn**	**08 34 39.8**	**+1.3**
BTKR				*e*Sg	**Sn**	**08 34 57.5**	**+2.6**
BTKR	**Batakoyurt**	**1.20**	**276**	*e*PG	**Pn**	**08 34 40.3**	**+1.8**
BTKR				*e*S	**Sn**	**08 34 58.8**	**+3.8**
KMKR	**Kumukh**	**1.32**	**149**	*e*Pg	**Pg**	**08 34 41.3**	**+0.5**
KMKR				*e*Sg	**Sn**	**08 34 60.0**	**+1.7**
KMKR	**Kumukh**	**1.32**	**149**	*e*PG	**Pg**	**08 34 41.2**	**+0.5**
KMKR				*e*S	**Sn**	**08 34 59.9**	**+1.7**
KMKR				pmax	pmax		
	comp=Z,348nm,0.1s						
LACR	**Lac**	**1.45**	**253**	*e*Pg	**Pn**	**08 34 41.8**	**-0.2**
LACR				*e*Sg	**Sb**	**08 35 00.9**	**-0.3**
LACR	**Lac**	**1.45**	**253**	*e*PG	**Pn**	**08 34 41.8**	**-0.2**
LACR				*e*S	**Sb**	**08 35 00.9**	**-0.3**
PRTR	**Priterechnaya**	**1.46**	**290**	*e*PG	**Pg**	**08 34 43.6**	**+0.2**
PRTR				*e*S	**Sg**	**08 35 04.4**	**+2.0**
URKR	**Urkarakh**	**1.54**	**135**	*e*PG	**Pg**	**08 34 44.8**	**0.0**
URKR				*e*S	**Sg**	**08 35 06.0**	**+1.3**
URKR				pmax	pmax		
	comp=Z,107nm,0.5s						
STDR	**Stavd-Durt**	**1.55**	**275**	*e*Pg	**Pg**	**08 34 45.0**	**0.0**
STDR				*e*Sg	**Sg**	**08 35 07.2**	**+2.1**
STDR	**Stavd-Durt**	**1.55**	**275**	*e*PG	**Pg**	**08 34 45.0**	**0.0**
STDR				*e*S	**Sg**	**08 35 07.2**	**+2.1**
LSNR	**Lesken**	**1.72**	**271**	*e*Pg	**Pn**	**08 34 46.0**	**+0.4**
LSNR				*e*Sg	**Sg**	**08 35 10.1**	**-0.5**
LSNR	**Lesken**	**1.72**	**271**	*e*PN	**Pg**	**08 34 47.4**	**-0.9**
LSNR				*e*S	**Sg**	**08 35 11.6**	**+1.0**
SEAG	**Tbilisi Sea**	**1.81**	**215**	P	**Pg**	**08 34 49.7**	**-0.4**
SEAG				S	**Sg**	**08 35 14.2**	**+0.7**
SEAG	**Tbilisi Sea**	**1.81**	**215**	PN	**Pg**	**08 34 49.7**	**-0.4**
TBLG	**Delisi**	**1.86**	**215**	P	**Pb**	**08 34 50.0**	**+0.3**
TBLG				S	**Sg**	**08 35 14.9**	**-0.4**
TBLG	**Delisi**	**1.86**	**215**	PN	**Pb**	**08 34 50.0**	**+0.3**
BTNK	**Botanikuri**	**1.88**	**213**	PN	**Pb**	**08 34 50.2**	**+0.2**
NCK	**Nalchik**	**1.90**	**278**	*e*Pg	**Pn**	**08 34 47.2**	**-0.9**
NCK				*e*Sg	**Sb**	**08 35 13.2**	**-0.9**
NCK	**Nalchik**	**1.90**	**278**	*i* PN	**Pn**	**08 34 47.6**	**-0.5**
DGRG	**David-gareji**	**1.91**	**198**	P	**Pg**	**08 34 51.5**	**-0.4**
DGRG				S	**Sg**	**08 35 18.8**	**+2.2**
DGRG	**David-gareji**	**1.91**	**198**	PN	**Pg**	**08 34 51.5**	**-0.4**
DGRG				S	**Sg**	**08 35 18.8**	**+2.2**
DIGR	**Digorskoe uzhe**	**1.94**	**260**	*e*Pg	**Pb**	**08 34 49.9**	**-1.2**
DIGR				*e*Sg	**Sb**	**08 35 14.5**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.94**	**260**	*e*PN	**Pb**	**08 34 49.9**	**-1.2**
DRN	**Derbent**	**2.01**	**127**	*e*Pg	**Pb**	**08 34 51.9**	**-0.3**
DRN				*e*Sg	**Sg**	**08 35 19.0**	**-0.9**
DRN	**Derbent**	**2.01**	**127**	*e*PN	**Pb**	**08 34 51.8**	**-0.3**
DRN				pmax	pmax		
	comp=Z,65nm,0.1s						
VSHL	**Vashlovani**	**2.04**	**175**	P	**Pb**	**08 34 53.0**	**+0.3**
VSHL				S	**Sg**	**08 35 22.9**	**+2.1**
KBTC	**Kuba-Taba**	**2.09**	**286**	*e*Pg	**Pn**	**08 34 50.5**	**-0.3**
KBTC				*e*Sg	**Sb**	**08 35 18.9**	**-0.8**
KBTC	**Kuba-Taba**	**2.09**	**286**	*e*PN	**Pn**	**08 34 50.5**	**-0.3**
KBTC				*e*S	**Sb**	**08 35 18.9**	**-0.8**
GARIG	**Gari**	**2.10**	**253**	P	**Pb**	**08 34 52.1**	**-1.6**
GARIG				S	**Sb**	**08 35 20.6**	**+0.7**
AKT	**Akhty**	**2.12**	**147**	*e*Pg	**Pb**	**08 34 53.5**	**-0.7**
AKT				*e*Sg	**Sb**	**08 35 21.6**	**+0.9**
AKT	**Akhty**	**2.12

MNK					pmax	pmax			
	comp=N,12nm,0.8s								
MNK					pmax	pmax			
	comp=Z,8.0nm,0.6s								
MNK					pmax	pmax			
	comp=E,18nm,0.9s								
MNK					MLR	MLR			
	comp=E,104nm,22.0s								
MNK					MLR	MLR			
	comp=N,62nm,21.0s								
MNK					MLR	MLR			
	comp=Z,37nm,15.0s								
BRVK	**Borovoye**	**18.75**	**50**	*i* P		**Pn**	**08 38 36.2**	**+1.3**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
BVAR	**Borovoye Array**	**18.79**	**50**	P		**P**	**08 38 34.5**	**-0.5**	
	comp=Z,0.1nm,0.3s,baz=240,slow=12,SNR=3.0 comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**21.79**	**334**	P		**P**	**08 39 05.7**	**-1.8**	
	comp=Z,2.1nm,0.5s,baz=136,slow=10,SNR=9.3 comp=Z,2.1nm,0.5s								
FINES	**FINESS Array B**	**21.79**	**334**	*i* P		**P**	**08 39 07.5**	**0.0**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KURBB	**Kurchatov Arra**	**23.14**	**60**	P		**P**	**08 39 23.4**	**+1.5**	
	comp=Z,0.2nm,0.4s,baz=267,slow=8.3,SNR=1.8 comp=Z,0.2nm,0.4s								
KURK	**Kurchatov**	**23.21**	**60**	*i* P		**P**	**08 39 23.6**	**+1.0**	
KURK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
HFS	**Hagfors**	**25.89**	**322**	P		**P**	**08 39 46.2**	**-1.2**	
	comp=Z,1.0nm,0.3s,baz=120,slow=8.5,SNR=5.4 comp=Z,1.0nm,0.3s								
ARCES	**ARCESS Array B**	**28.40**	**345**	P		**P**	**08 40 09.2**	**-0.7**	
	comp=Z,1.3nm,0.8s,baz=154,slow=9.4,SNR=6.2 comp=Z,1.3nm,0.8s								

ASRS **22** *08:35:09.0±0.7,53.66N×87.86E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 08:35:07.7±3.1,54.19N×87.50E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=26.4km s-min=20.4km az=37.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**262**	I		I	08 44 00.0	
	baz=80,slow=315,SNR=5.0							
ZALV	**Zalesovo Beam**	**1.60**	**262**	Pn		Pn	08 35 36.6	-0.7
	1.0nm,0.3s,baz=82,slow=16,SNR=11							
ZALV				Lg		Lg	08 35 57.7	
	0.7nm,0.3s,baz=80,slow=28,SNR=4.4							
KURBB	**Kurchatov Arra**	**6.55**	**241**	Pn		Pn	08 36 46.4	+1.2
	0.1nm,0.3s,baz=57,slow=14,SNR=3.4							
KURBB				Sn		Sn	08 38 01.5	+0.9
	0.1nm,0.3s,baz=56,slow=20,SNR=2.5							
KURBB				Lg		Lg	08 38 33.6	
	0.1nm,0.3s,baz=56,slow=32,SNR=1.9 0.4nm,0.4s							
MKAR	**Makanchi Array**	**8.12**	**206**	Pn		Pn	08 37 07.4	+0.7
	0.1nm,0.3s,baz=25,slow=18,SNR=4.0							
MKAR				Lg		Lg	08 39 16.6	
	0.1nm,0.3s,baz=30,slow=32,SNR=3.5 0.1nm,0.4s							

ASRS **22** *08:38:10.0±1.1,53.78N×88.22E,h0km,M2.7,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 08:38:12.9±5.1,53.81N×88.32E,h0km,mbtmp2.8/3, ML2.4/3,Error ellipse: s-maj=55.8km s-min=26.7km az=72.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.08**	**275**	I		I	08 51 00.0	
	0.1nm,1.0s,baz=90,slow=321,SNR=4.4							
ZALV	**Zalesovo Beam**	**2.08**	**275**	Pn		Pn	08 38 49.5	+0.4
	1.6nm,0.3s,baz=95,slow=15,SNR=11							
ZALV				Sn		Sb	08 39 17.1	-0.7
	3.2nm,0.3s,baz=95,slow=26,SNR=15 5.0nm,0.5s							
ZALV	**Zalesovo Beam**	**2.08**	**275**	P		Pn	08 38 49.5	+0.5
KURBB	**Kurchatov Arra**	**6.81**	**246**	Pn		Pn	08 39 54.0	0.0
	0.1nm,0.3s,baz=62,slow=14,SNR=5.8 0.6nm,0.4s							
MKAR	**Makanchi Array**	**8.01**	**211**	Pn		Pn	08 40 11.9	+1.4
	0.1nm,0.3s,baz=29,slow=30,SNR=1.8 0.2nm,0.4s							

ASRS **22** *08:40:13.0±1.5,53.76N×91.21E,h0km,M2.8,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 08:40:17.5±3.5,53.59N×90.94E,h0km,mbtmp2.9/3, ML2.4/3,Error ellipse: s-maj=28.0km s-min=22.6km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.65**	**278**	I		I	09 02 50.7	
	0.1nm,1.1s,baz=91,slow=319,SNR=9.3							
ZALV	**Zalesovo Beam**	**3.65**	**278**	Pn		Pn	08 41 14.7	-0.5
	0.5nm,0.3s,baz=94,slow=15,SNR=5.1							
ZALV				Pg		Pb	08 41 22.3	-0.5
	0.5nm,0.3s,baz=89,slow=16,SNR=4.1							
ZALV				Sn		Sn	08 42 01.3	+2.4
	0.3nm,0.3s,baz=99,slow=18,SNR=2.0							
ZALV				Lg		Lg	08 42 11.4	
	1.0nm,0.3s,baz=89,slow=25,SNR=10 0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**8.20**	**254**	Pn		Pn	08 42 18.3	+0.7
	0.1nm,0.3s,baz=64,slow=15,SNR=5.5							
KURBB				Sn		Sn	08 43 49.8	-1.1
	baz=67,slow=27,SNR=11							
KURBB				Lg		Lg	08 44 39.4	
	baz=63,slow=31,SNR=2.6 1.0nm,0.6s							
MKAR	**Makanchi Array**	**8.77**	**223**	Pn		Pn	08 42 25.9	+0.3
	0.2nm,0.3s,baz=38,slow=15,SNR=2.6							
MKAR				Sn		Sn	08 44 03.5	-1.6
	baz=42,slow=22,SNR=1.3							
MKAR				Lg		Lg	08 44 53.2	
	0.2nm,0.3s,baz=43,slow=28,SNR=2.3 0.3nm,0.5s							
SONM	**Songino Array**	**11.36**	**114**	Lg		Lg	08 46 12.5	
	0.1nm,0.3s,baz=302,slow=26,SNR=5.0							

IDC **22** *08:58:40.2±0.4,7.96S×117.16E,h0km,mb4.5/21, mbtmp4.5/24,ML4.2/3,MS3.7/8,Error ellipse: s-maj=17.8km s-min=10.6km az=70.0*

NEIC **22** *08:58:41.9±1.6,8.01S±0.05×117.16E±0.05,h10km±1km, mb4.8/23,Error ellipse: s-maj=10.2km s-min=5.7km az=135.0*

DJA **22** *08:58:44.8±0.8,8°S±2°×117°E±°,h28km±8km,M4.9/24, mB5.7/6,mb4.8/15,MLv4.8/24,Mw(mB)5.2/6*

ISC 22 08:58:45.3±0.3,8.01S±0.04×117.20E±0.05,h35km,n140, σ1°48/141,mb4.8/41,MS3.8/5,3C-2D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**0.79**	**204**	P		**Pn**	**08 58 59.9**	**-0.2**
PLAI	**Plampang**	**0.99**	**145**	P		**Pn**	**08 59 03.8**	**+1.0**
PLAI	**Plampang**	**0.99**	**145**	P		**Pn**	**08 59 04.1**	**+1.3**
PLAI				S		**Sn**	**08 59 19.3**	**+3.7**
SRBI	**Singaraja**	**1.97**	**268**	P		**Pn**	**08 59 15.6**	**-0.7**
DNP	**Denpasar**	**2.08**	**251**	P		**Pn**	**08 59 17.6**	**-0.2**
WBSI	**Waikabubak, Su**	**2.70**	**127**	P		**Pn**	**08 59 28.3**	**+1.9**
ABJI	**Asem Bagus**	**2.95**	**274**	P		**Pn**	**08 59 28.3**	**-1.4**
JAGI	**Jajag, Banyuwa**	**3.06**	**261**			**Pn**	**08 59 29.4**	**-1.8**
JAGI	**Jajag, Banyuwa**	**3.06**	**261**	P		**Pn**	**08 59 29.9**	**-1.3**
JAGI	**Jajag, Banyuwa**	**3.06**	**261**	P		**Pn**	**08 59 29.9**	**-1.3**
KMMI	**Kalianget**	**3.35**	**286**	P		**Pn**	**08 59 35.2**	**0.0**
WSI	**Waingapu**	**3.48**	**119**	P		**Pn**	**08 59 36.7**	**-0.3**
GMJI	**Gumukmas**	**3.73**	**266**	P		**Pn**	**08 59 39.9**	**-0.6**
BSSI	**Bau Bau, Buton**	**3.75**	**61**	P		**Pn**	**08 59 40.9**	**+0.1**
KAPI	**Kappang**	**3.91**	**41**			**Pn**	**08 59 42.2**	**-0.6**
KAPI	**Kappang**	**3.91**	**41**	Pn		**Pn**	**08 59 42.6**	**-0.3**
	39nm,0.3s,baz=213,slow=12,SNR=107							
KAPI				Sn		**Sn**	**09 00 26.0**	**-1.5**
	42nm,0.3s,baz=233,slow=20,SNR=16							
KAPI				LR		LR	09 01 32.7	
	comp=Z,1μm,18.3s,baz=196,slow=44 120nm,0.2s							
KAPI	**Kappang**	**3.91**	**41**	P		**Pn**	**08 59 42.9**	**0.0**
KAPI	**Kappang**	**3.91**	**41**	S		**Sn**	**09 00 27.3**	**-0.2**
BKSI	**Bulukumba**	**3.94**	**48**	P		**Pn**	**08 59 43.2**	**-0.2**
BASI	**Baing, Sumba**	**3.99**	**124**	P		**Pn**	**08 59 43.4**	**-0.7**
EDFI	**Ende, Flores**	**4.50**	**100**	P		**Pn**	**08 59 52.6**	**+1.4**
BNSI	**Bone**	**4.60**	**39**	P		**Pn**	**08 59 53.7**	**+1.2**
SPSI	**Sidrap Palu**	**4.76**	**33**	P		**Pn**	**08 59 54.1**	**-0.5**
MMRI	**Maumere**	**5.02**	**98**			**Pn**	**08 59 57.4**	**-0.9**
MMRI	**Maumere**	**5.02**	**98**	P		**Pn**	**08 59 59.6**	**+1.4**
	1.2nm4μm276nm,0.6s							
TTSI	**Tana Toraja**	**5.57**	**28**	P		**Pn**	**09 00 05.7**	**-0.1**
	0.6nm80nm,0.7s							
NGJI	**Ngawi**	**5.73**	**276**	P		**Pn**	**09 00 07.8**	**-0.1**
	0.7nm90nm,0.9s							
UGM	**Wanagama**	**6.62**	**270**	Pn		**Pn**	**09 00 17.4**	**-2.8**
UGM	**Wanagama**	**6.62**	**270**	P		**Pn**	**09 00 21.3**	**+1.1**
BATI	**Baumata**	**6.74**	**109**	Pn		**Pn**	**09 00 20.9**	**-1.1**
	6.4nm,0.3s,baz=294,slow=10.0,SNR=2.2							
BATI				Sn		**Sn**	**09 01 39.8**	**+2.1**
	3.6nm,0.3s,baz=315,slow=1.4,SNR=1.5							
BATI				LR		LR	09 03 40.2	
	comp=Z,753nm,18.6s,baz=216,slow=44 19nm,0.3s							
BATI	**Baumata**	**6.74**	**109**	P		**Pn**	**09 00 23.9**	**+1.9**
	0.6nm169nm,0.7s							
SMRI	**Semarang**	**6.77**	**278**	Pn		**Pn**	**09 00 20.1**	**-2.2**
SMRI	**Semarang**	**6.77**	**278**	P		**Pn**	**09 00 21.6**	**-0.7**
SOEI	**Soe**	**7.19**	**105**			**Pn**	**09 00 27.6**	**-0.6**
SOEI	**Soe**	**7.19**	**105**	P		Pn	09 00 45.2	+17
BBJI	**Bungbulang**	**9.48**	**273**	P		**Pn**	**09 01 00.2**	**+0.6**
SBUM	**Sibu**	**11.52**	**334**	P		**Pn**	**09 01 27.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.96**	**142**			**Pn**	**09 01 45.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.96**	**142**	Pn		**Pn**	**09 01 46.3**	**-0.8**
	0.4nm,0.3s,baz=335,slow=8.6,SNR=9.8							
FITZ				Sn		**Sn**	**09 04 02.9**	**-7.4**
	1.8nm,0.3s,baz=234,slow=14,SNR=4.0							
FITZ				LR		LR	09 07 05.1	
	comp=Z,342nm,19.2s,baz=329,slow=39 3.1nm,0.7s							
FITZ	**Fitzroy Crossi**	**12.96**	**142**	P		**Pn**	**09 01 48.3**	**+1.1**
MBWA	**Marble Bar**	**13.30**	**170**			**Pn**	**09 01 50.6**	**-1.1**
MBWA	**Marble Bar**	**13.30**	**170**	P		**Pn**	**09 01 51.4**	**-0.4**
KNRA	**Kununrra**	**13.64**	**125**			**Pn**	**09 01 54.5**	**-1.9**
PSA00	**Pilbara Seismi**	**13.73**	**170**	Pn		**Pn**	**09 01 56.4**	**-1.1**
PSA00	**Pilbara Seismi**	**13.73**	**170**	P		**Pn**	**09 01 57.5**	**-0.1**
MTN	**Manton Dam**	**14.52**	**110**			**Pn**	**09 02 06.9**	**-1.5**
GIRL	**Giralia**	**14.83**	**191**	Pn		**Pn**	**09 02 10.1**	**-2.5**
KDU	**Kakadu**	**15.72**	**108**	P		**P**	**09 02 26.3**	**-1.7**
FAKI	**Fak Fak**	**15.80**	**72**	Pn		**Pn**	**09 02 24.9**	**-0.5**
DAV	**Davao City (W)**	**17.15**	**29**	LR		LR	09 11 25.9	
	comp=Z,185nm,18.2s,baz=172,slow=45							
PPI	**Padang Panjang**	**18.35**	**293**	P		**Pn**	**09 02 57.7**	**+0.5**
	2μm46nm,1.5s							
MEEK	**Meekatharra**	**18.58**	**176**	P		**Pn**	**09 03 01.6**	**+1.6**
WB0	**Warramunga Arr**	**20.35**	**127**			**P**	**09 03 19.5**	**+0.5**
WB0				IAmb		IAmb	09 03 34.8	
	comp=Z,26nm,0.8s							
WRA	**Warramunga Arr**	**20.40**	**127**	P		**P**	**09 03 18.2**	**-1.3**
WRA	**Warramunga Arr**	**20.40**	**127**	P		**P**	**09 03 20.1**	**+0.6**
	comp=Z,9.4nm,0.9s,baz=302,slow=12,SNR=36							
WRA				S		**S**	**09 06 59.2**	**-7.1**
	comp=Z,2.0nm,0.9s,baz=296,slow=21,SNR=3.6 comp=Z,9.4nm,0.9s							
WRAB	**Tennant Creek**	**20.41**	**127**	P		**P**	**09 03 18.4**	**-1.1**
WRAB				IAmb		IAmb	09 03 35.5	
	comp=Z,23nm,0.7s							
WR8	**Warramunga Arr**	**20.54**	**127**			**P**	**09 03 21.6**	**+0.7**
WR8				IAmb		IAmb	09 03 31.3	
	comp=Z,28nm,0.7s							
MORW	**Morawa**	**20.98**	**183**	P		Pn	09 03 27.5	-0.9
RPSI	**Rantau Prapat**	**21.11**	**300**			**P**	**09 03 27.9**	**+0.7**
RPSI				IAmb		IAmb	09 03 31.7	
	comp=Z,73nm,1.4s							
RPSI	**Rantau Prapat**	**21.11**	**300**	P		**P**	**09 03 27.2**	**+0.1**
PSI	**Prapat**	**21.16**	**300**	P		**P**	**09 03 27.2**	**-0.6**
	comp=Z,32nm,1.0s,baz=155,slow=9.4,SNR=16 comp=Z,32nm,1.0s							
AS31	**Alice Springs**	**22.33**	**136**			**P**	**09 03 39.8**	**-0.5**
ASAR	**Alice Springs**	**22.33**	**136**	P		**P**	**09 03 41.0**	**+0.7**
ASAR	**Alice Springs**	**22.33**	**136**	P		**P**	**09 03 40.8**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=315,slow=10,SNR=63							
ASAR				PcP		**PcP**	**09 07 34.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=4.1,slow=1.8,SNR=4.6							
ASAR				S		**S**	**09 07 42.9**	**-1.1**
	comp=Z,6.4nm,1.1s,baz=308,slow=20,SNR=8.8 comp=Z,3.1nm,0.5s							
AS01	**Alice Springs**	**22.36**	**136**	P		**P**	**09 03 42.1**	**+1.5**
BLDU	**Ballidu**	**22.50**	**181**	P		**P**	**09 03 44.2**	**+2.3**
KCSI	**Kotacane, Aceh**	**22.51**	**300**	P		**P**	**09 03 40.9**	**-1.4**
	comp=Z,966nmcomp=Z,15nm,1.3s							
NWAO	**Narrogin (SRO)**	**24.80**	**180**	P		**P**	**09 04 06.1**	**+1.9**
	comp=Z,10.0nm,1.0s,baz=9.5,slow=6.1,SNR=1.8 comp=Z,10.0nm,1.0s							
NWAO	**Narrogin (SRO)**	**24.80**	**180**	P		**P**	**09 04 05.9**	**+1.8**
QIS	**Mount Isa**	**25.00**	**122**	P		**P**	**09 04 07.3**	**+1.2**
COEN	**Coen**	**26.16**	**105**	P		**P**	**09 04 17.4**	**+0.7**
BBOO	**Buckleboo**	**30.24**	**147**	P		**P**	**09 04 54.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**31.88**	**326**	P		**P**	**09 05 07.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.88**	**326**	P		**P**	**09 05 08.3**	**+0.8**
	comp=Z,4.6nm,0.9s,baz=155,slow=7.1,SNR=12 comp=Z,4.6nm,0.9s							
HTT	**Hallett**	**32.30**	**145**	P		**P**	**09 05 12.9**	**+1.8**
STKA	**Stephens Creek**	**32.85**	**140**	P		**P**	**09 05 16.5**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=302,slow=11,SNR=6.4 comp=Z,1.9nm,0.6s							
PZH	**PanZhiHua**	**37.44**	**337**	P		**P**	**09 05 57.3**	**+1.7**
NJ2	**Nanjing**	**39.86**	**2**	*eP*		**P**	**09 06 16.3**	**+0.6**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
CD2	**Chengdu**	**40.78**	**342**	P		**P**	**09 06 25.3**	**+1.9**
CD2					pmax	pmax		
	comp=Z,20nm,0.4s							
JCJ	**Chichijima**	**42.47**	**34**	LR		LR	09 25 24.2	
	comp=Z,27nm,19.8s,baz=249,slow=38							
XAN	**Xi'an**	**42.55**	**350**	P		**P**	**09 06 37.3**	**-0.5**
XAN					pmax	pmax		
	comp=Z,7.0nm,0.5s							
EVN	**Everest**	**46.27**	**322**	P		**P**	**09 07 07.7**	**-0.7**
EVN				IAmb		IAmb	09 07 10.0	
	comp=Z,20nm,0.9s							
KSRS	**Korea Array**	**46.32**	**12**	P		**P**	**09 07 08.0**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=184,slow=8.0,SNR=7.9 comp=Z,1.8nm,0.8s							
MJAR	**Matsushiro Arr**	**48.51**	**23**	P		**P**	**09 07 23.6**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=185,slow=7.0,SNR=8.5 comp=Z,3.3nm,0.8s							
HHC	**Hu-ho-hao-te**	**48.89**	**354**	*eP*		**P**	**09 07 30.4**	**+2.5**
HHC					pmax	pmax		
	comp=Z,13nm,0.6s							
HHC					pmax	pmax		
	comp=Z,74nm,4.0s							
DZM	**Mont Dzumac**	**49.35**	**112**	P		**P**	**09 07 31.2**	**-0.6**
	comp=Z,3.8nm,1.0s,baz=285,slow=15,SNR=1.8 comp=Z,3.8nm,1.0s							
GTA	**Gaotai**	**49.86**	**342**	*eP*		**P**	**09 07 36.8**	**+1.5**
GTA				pP		pP	09 07 42.8	-2.6
GTA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**53.66**	**13**	P		**P**	**09 08 03.2**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=214,slow=7.5,SNR=4.0 comp=Z,3.4nm,0.6s							
SONM	**Songino Array**	**56.41**	**351**	P		**P**	**09 08 23.5**	**+0.1**
SONM				IAmb		IAmb	09 08 25.9	
	comp=Z,4.6nm,0.8s							
SONM	**Songino Array**	**56.41**	**351**	P		**P**	**09 08 23.2**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=173,slow=7.9,SNR=18 comp=Z,4.7nm,0.6s							
ASAJ	**Asahikawa**	**56.74**	**22**	LR		LR	09 34 08.1	
	comp=Z,64nm,19.8s,baz=258,slow=38							
WMQ	**Urumqi**	**58.10**	**335**	*eP*		**P**	**09 08 38.0**	**+2.6**
WMQ				LR		LR		
	comp=Z,650nm,23.9s							
HEH	**HeiHe**	**58.70**	**8**	*eP*		**P**	**09 08 39.0**	**-0.3**
HEH					pmax	pmax		
	comp=Z,17nm,1.0s							
KSH	**Kashi**	**60.76**	**324**	P		**P**	**09 08 53.3**	**-0.6**
KSH					pmax	pmax		
	comp=Z,13nm,0.8s							
TARG	**Taragay, Kyrgy**	**61.24**	**327**	P		**P**	**09 08 57.2**	**-0.3**
TARG				IAmb		IAmb	09 09 08.8	
	comp=Z,12nm,1.3s							
SHLS	**Shalkode**	**61.39**	**329**	*eP*		**P**	**09 08 56.3**	**-1.8**
	comp=Z,13nm,0.9s							
UZB	**Uzynbulak**	**61.61**	**329**	*eP*		**P**	**09 08 59.4**	**-0.2**
	comp=Z,13nm,1.4s							
SATY	**Saty**	**61.86**	**329**	*eP*		**P**	**09 09 01.2**	**-0.1**
	comp=Z,8.1nm,0.8s							
ZSN	**Zaisan**	**62.20**	**336**	*eP*		**P**	**09 09 03.6**	**+0.2**
MDOK	**Medeo**	**62.64**	**328**	*eP*		**P**	**09 09 06.4**	**-0.2**
AAA	**Alma-Ata**	**62.74**	**328**	*eP*		**P**	**09 09 07.0**	**-0.2**
MKAR	**Makanchi Array**	**62.78**	**334**			**P**	**09 09 06.1**	**-1.2**
MKAR	**Makanchi Array**	**62.78**	**334**	P		**P**	**09 09 07.0**	**-0.2**
	comp=Z,7.1nm,0.7s,baz=140,slow=7.8,SNR=30 comp=Z,7.1nm,0.7s							
TDK	**Taldyorghan**	**63.25**	**330**	*eP*		**P**	**09 09 10.1**	**-0.3**
	comp=Z,4.8nm,0.5s							
AAK	**Ala-Archa**	**63.66**	**326**			**P**	**09 09 13.1**	**-0.2**
AAK				IAmb		IAmb	09 09 14.4	
	comp=Z,10.0nm,1.0s							
AAK	**Ala-Archa**	**63.66**	**326**	LR		LR	09 41 42.4	
	comp=Z,156nm,18.6s,baz=158,slow=41							
GAR	**Garm**	**63.85**	**321**			**P**	**09 09 13.7**	**-1.0**
CHGR	**Chuyangaron**	**64.39**	**320**	P		**P**	**09 09 16.8**	**-1.4**
CHGR				IAmb		IAmb	09 09 29.3	
	comp=Z,22nm,1.4s							
IUG	**Iuzhnay**	**65.91**	**323**	*eP*		**P**	**09 09 27.7**	**-0.3**
	comp=Z,5.0nm,0.9s							
KK31	**Karatay Array**	**66.21**	**324**	P		**P**	**09 09 28.8**	**-1.0**
KKAR	**Karatay Array**	**66.21**	**324**	P		**P**	**09 09 28.7**	**-1.1**
BRLS	**Borolday**	**66.56**	**324**	*eP*		**P**	**09 09 31.6**	**-0.4**
KURBB	**Kurchatov Arra**	**67.30**	**334**	P		**P**	**09 09 36.4**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=147,slow=5.3,SNR=47 comp=Z,6.4nm,0.7s							
KURK	**Kurchatov**	**67.33**	**335**	P		**P**	**09 09 36.2**	**-0.4**
ZALV	**Zalesovo Beam**	**67.50**	**340**			**P**	**09 09 36.5**	**-1.1**
ZALV	**Zalesovo Beam**	**67.50**	**340**	P		**P**	**09 09 36.8**	**-0.9**
	comp=Z,8.0nm,0.7s,baz=142,slow=4.3,SNR=23 comp=Z,8.0nm,0.7s							
MAW	**Mawson**	**69.57**	**199**	P		**P**	**09 09 49.4**	**-1.0**
	comp=Z,6.5nm,0.9s,baz=60,slow=2.9,SNR=8.0 comp=Z,6.5nm,0.9s							
PETK	**Petropavlovsk-**	**69.90**	**25**	P		**P**	**09 09 53.2**	**+0.5**
PETK	**Petropavlovsk-**	**69.90**	**25**	P		**P**	**09 09 53.4**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=208,slow=6.0,SNR=12 comp=Z,7.4nm,0.8s							
MA2	**Magadan**	**72.49**	**17**			**P**	**09 10 08.9**	**+0.7**
MA2	**Magadan**	**72.49**	**17**	LR		LR	09 45 20.0	
	comp=Z,48nm,19.1s,baz=258,slow=39							
BVAR	**Borovoye Array**	**72.59**	**333**	P		**P**	**09 10 08.8**	**-0.2**
	comp=Z,11nm,0.7s,baz=134,slow=8.4,SNR=49 comp=Z,11nm,0.7s							
VNDA	**Vanda**	**73.24**	**171**	P		**P**	**09 10 13.5**	**+1.0**
VNDA	**Vanda**	**73.24**	**171**	P		**P**	**09 10 13.7**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=315,slow=6.8,SNR=7.7 comp=Z,1.1nm,0.7s							
AB31	**Akbulak array**	**75.73**	**325**	P		**P**	**09 10 26.3**	**-1.0**
AB31				IAmb		IAmb	09 10 27.6	
	comp=Z,8.7nm,0.8s							
SYO	**Syowa Base**	**78.13**	**201**	‖*ep*P		**P**	**09 10 44.2**	**+3.7**
SYO	**Syowa Base**	**78.13**	**201**	‖*ep*PcP		**PcP**	**09 10 51.0**	**+1.0**
QSPA	**South Pole Qui**	**81.98**	**180**	P		**P**	**09 11 02.9**	**+1.3**
QSPA				IAmb		IAmb	09 11 04.7	
	comp=Z,26nm,1.6s							
QSPA	**South Pole Qui**	**81.98**	**180**	P		**P**	**09 11 02.9**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=274,slow=2.6,SNR=12 comp=Z,3.3nm,0.8s							
BOSA	**Boshof**	**87.92**	**242**	P		**P**	**09 11 31.7**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=93,slow=5.6,SNR=4.8 comp=Z,4.6nm,1.0s							
TROLL	**Troll, Antarti**	**89.83**	**196**	⇑P		**P**	**09 11 42.4**	**+2.1**
	comp=Z,218nm,0.6s							
SNAA	**Sanae**	**91.47**	**196**	⇑P		**P**	**09 11 48.8**	**+1.0**
	comp=Z,64nm,0.7s							
SNAA	**Sanae**	**91.47**	**196**	P		**P**	**09 11 48.2**	**+0.4**
SNAA	**Sanae**	**91.47**	**196**	P		**P**	**09 11 48.8**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=150,slow=4.7,SNR=21 comp=Z,2.3nm,0.7s							
BELA	**Belgrano 2**	**92.83**	**186**			**P**	**09 11 54.6**	**+0.6**
BELA				IAmb		IAmb	09 11 55.7	
	comp=Z,3.9nm,0.8s							
VNA2	**Neumayer--Watz**	**93.11**	**196**	⇑P		**P**	**09 11 56.5**	**+1.2**
	comp=Z,2.4nm,0.6s,baz=108,slow=3.0							
TORD	**Torodi Ar. Bea**	**116.53**	**281**	PKP		**PKPdf**	**09 17 24.5**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=50,slow=2.4,SNR=3.5							
CPUP	**Villa Florida**	**145.46**	**189**	PKPbc		**PKPbc**	**09 18 20.5**	**0.0**
	comp=Z,1.8nm,0.6s,baz=223,slow=0.4,SNR=14							
BDFB	**Brasilia**	**152.31**	**212**	PKPbc		**PKPbc**	**09 18 38.1**	**-0.7**
BDFB				PKPab		**pPKPbc**	**09 18

comp=E,198nm,0.4s
TPNV IAML 09 00 43.0
comp=E,273nm,0.6s
R11B Troy Canyon, C 1.82 83 Pn 09 00 12.1 -0.5
R11B IAML 09 00 40.1
comp=E,211nm,0.2s
FURC Furnace Creek, 1.87 154 Pn 09 00 11.5 -1.6
CPY CP-1 1.90 129 Pn 09 00 13.4 -0.2
PAHR Pah Rah Range 1.94 323 Pn 09 00 13.5 -0.8
PAHR IAML 09 00 43.5
comp=N,109nm,0.4s
PAHR IAML 09 00 43.8
comp=E,116nm,0.4s
SDH Striped Hills 1.94 140 Pn 09 00 14.4 +0.2
MPMC Manual Prospec 2.12 171 Pn 09 00 16.2 -0.5
MPMC IAML 09 00 50.1
comp=E,89nm,0.8s
MPMC IAML 09 00 54.0
comp=N,63nm,0.6s
AMDNV Amargosa 2.12 143 Pn 09 00 17.2 +0.6
MCY Mercury 2.13 134 Pn 09 00 17.0 +0.1
GWY Greenwater Val 2.19 153 Pn 09 00 17.6 -0.1
GWY Greenwater Val 2.19 153 IAML 09 00 56.2
comp=N,91nm,0.5s
GWY IAML 09 00 59.0
comp=E,110nm,0.6s
QSM Queen of Sheba 2.33 159 Pn Pn 09 00 18.8 -0.6
PRN Pahroc Range 2.37 107 Pn 09 00 19.2 -0.8
WSHM Spangler Hills 2.57 173 Pn 09 00 22.0 -0.8
WSHM IAML 09 01 05.0
comp=E,47nm,1.0s
CCCA Chr Cany lake 2.66 171 Pn 09 00 23.9 -0.1
CCCA IAML 09 01 00.6
comp=N,101nm,0.0s
CCCA IAML 09 01 10.5
comp=E,99nm,1.0s
SHPR Sheep Range 2.72 126 Pn 09 00 25.4 +0.3
GSC Goldstone, Bar 2.98 163 Pn 09 00 27.8 -0.6
GSC IAML 09 01 23.2
comp=E,31nm,0.8s
ELK Elko 3.30 38 Pn 09 00 32.3 -0.7
ELK IAML 09 01 30.2
comp=E,22nm,0.4s
LCMT Little Creek M 3.86 106 Pn 09 00 40.4 -0.2
KNB Kanab 4.18 104 Pn 09 00 45.2 +0.1

*IDC **22** 09:01:54.3±1.4, 67.69N×26.81E, h0km, mbtmp3.0/1, ML2.1/1, Error ellipse: s-maj=37.8km s-min=10.3km az=86.0*
*UPP **22** 09:01:57.2±1.0, 67.68N×26.52E, h0km, ML1.8, Presumed earthquake*
ISC 22 09:01:55.0±1.7, 67.69N±0.05×27.2E±0.1, h10km, n12, σ1§07/14, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**1.50**	**300**	*e*P		**Pn**		**09 02 20.7**	**-1.2**
PAJU	**Pajala**	**1.70**	**249**	P		**Pn**		**09 02 24.2**	**-0.5**
PAJU				S		**Sn**		**09 02 46.4**	**-0.2**
ARCES	**ARCESS Array B**	**1.95**	**343**	Pn		**Pn**		**09 02 28.4**	**+0.3**
ARCES	0.2nm,0.3s,baz=164,slow=17,SNR=12			Sn		**Sn**		**09 02 53.4**	**+0.7**
KTK1	**Kautokeino**	**1.97**	**314**	*e*P		**Pn**		**09 02 28.6**	**+0.2**
LANU	**Lannavaara**	**1.99**	**283**	P		**Pn**		**09 02 29.2**	**+0.5**
MASU	**Masugnsbyn**	**1.99**	**266**	P		**Pn**		**09 02 29.2**	**+0.5**
ERTU	**Ertsjaerv**	**2.25**	**242**	P		**Pn**		**09 02 33.3**	**+1.1**
KALU	**Kalix**	**2.38**	**221**	P		**Pn**		**09 02 35.4**	**+1.5**
HARU	**Harads**	**2.88**	**241**	P		**Pn**		**09 02 41.5**	**+0.7**
NIKU	**Nikkaluokta**	**3.09**	**277**	P		**Pn**		**09 02 44.0**	**+0.2**
I37NO	**I37NO**	**3.46**	**298**	I		I		09 22 33.4	
	0.7nm,0.7s,baz=165,slow=24,SNR=15								
	baz=110,slow=327,SNR=1.5								
FINES	**FINES Array B**	**6.29**	**185**	Pn		**Pn**		**09 03 28.2**	**+0.6**
	0.1nm,0.3s,baz=16,slow=11,SNR=2.0								
FINES				Sn		**Sn**		**09 04 37.0**	**-2.4**
	0.1nm,0.3s,baz=24,slow=15,SNR=2.1								
	1.0nm,0.6s								

*IDC **22** 09:06:20.8±1.6, 21.21N×122.17E, h0km, mb3.8/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=72.7km s-min=27.3km az=68.0*
ISC 22 09:06:25.5±1.3, 21.3N±0.2×122.4E±0.3, h35km, n13, σ0§78/7, mb3.8/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**16.79**	**15**	Pn		**P**		**09 10 19.9**	**+0.2**
	0.1nm,0.3s,baz=194,slow=12,SNR=4.1								
	0.7nm,0.7s								
SONM	**Songino Array**	**29.43**	**338**	P		**P**		**09 12 25.2**	**-0.7**
	0.4nm,0.5s,baz=157,slow=7.8,SNR=2.5								
	0.4nm,0.6s								
MKAR	**Makanchi Array**	**41.18**	**318**	P		**P**		**09 14 06.8**	**+0.1**
	1.2nm,0.6s,baz=115,slow=9.4,SNR=8.5								
	1.2nm,0.6s								
H11N1	**WAKE ISLAND Hy**	**41.61**	**84**	T		T		09 59 11.5	
	baz=282,slow=75,SNR=14								
H11N2	**WAKE ISLAND Hy**	**41.62**	**84**	T		T		09 59 09.9	
	baz=282,slow=75,SNR=14								
H11N3	**WAKE ISLAND Hy**	**41.63**	**84**	T		T		09 59 17.6	
	baz=282,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hy**	**41.65**	**86**	T		T		09 59 08.3	
	baz=281,slow=75,SNR=29								
H11S1	**WAKE ISLAND Hy**	**41.66**	**86**	T		T		09 59 07.3	
	baz=281,slow=75,SNR=37								
H11S2	**WAKE ISLAND Hy**	**41.67**	**86**	T		T		09 59 07.9	
	baz=281,slow=75,SNR=27								
ZALV	**Zalesovo Beam**	**43.25**	**328**	P		**P**		**09 14 24.5**	**+1.1**
	0.8nm,0.4s,baz=114,slow=7.0,SNR=2.3								
	0.8nm,0.4s								
KURBB	**Kurchatov Arra**	**45.02**	**321**	P		**P**		**09 14 38.1**	**+0.5**
	1.6nm,0.7s,baz=119,slow=7.6,SNR=7.7								
	1.6nm,0.7s								
ASAR	**Alice Springs**	**46.09**	**165**	P		**P**		**09 14 46.3**	**0.0**
	0.3nm,0.9s,baz=351,slow=9.4,SNR=1.5								
	0.3nm,0.9s								
BVAR	**Borovoye Array**	**50.60**	**322**	P		**P**		**09 15 20.1**	**-0.7**
	0.9nm,0.5s,baz=116,slow=7.6,SNR=5.1								
	0.9nm,0.5s								

IDC 22 09:08:50.9±6.2, 19.56S×176.60W, h0km, mb3.7/3, mbtmp3.7/3, MS4.1/1, Error ellipse: s-maj=193.2km s-min=100.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.38**	**243**	P		P		09 16 22.2	-0.2
	1.3nm,0.7s,baz=104,slow=11,SNR=1.8								
	1.3nm,0.7s								
ASAR	**Alice Springs**	**46.02**	**256**	P		P		09 17 16.3	-0.2
	0.8nm,0.9s,baz=95,slow=7.7,SNR=8.3								
	0.8nm,0.9s								
WRA	**Warramunga Arr**	**46.04**	**261**	P		P		09 17 16.7	0.0
	0.7nm,0.7s,baz=96,slow=8.0,SNR=11								
	0.7nm,0.7s								
FITZ	**Fitzroy Crossi**	**54.46**	**261**	LR		LR		09 39 50.5	
	comp=Z,158nm,18.2s,baz=332,slow=34								
AKASG	**Malin Array Be**	**142.81**	**333**	PKP		PKPdf		09 28 25.7	-0.5
	0.7nm,0.4s,baz=36,slow=3.9,SNR=5.9								

IDC 22 09:09:25.0±50.0, 16.43S×173.85W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=948.2km s-min=197.1km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.15**	**241**	P		P		09 17 27.9	+0.3
	1.9nm,1.0s,baz=100,slow=11,SNR=1.5								
	1.9nm,1.0s								
WRA	**Warramunga Arr**	**49.19**	**258**	P		P		09 18 14.8	-0.5
	0.7nm,0.9s,baz=97,slow=7.3,SNR=9.4								
	0.7nm,0.9s								
ASAR	**Alice Springs**	**49.38**	**253**	P		P		09 18 16.8	0.0
	2.3nm,0.6s,baz=88,slow=8.2,SNR=43								
	2.3nm,0.6s								

*IDC **22** 09:10:13.9±3.8, 54.29N×87.28E, h0km, mbtmp2.7/2, ML2.2/1, Error ellipse: s-maj=34.7km s-min=22.2km az=41.0*
ASRS 22 09:10:13.0±0.7, 54.18N×87.10E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**261**	I		I		09 19 20.0	
	baz=77,slow=314,SNR=3.5								
ZALV	**Zalesovo Beam**	**1.36**	**261**	Pg		Pb		09 10 40.4	+1.0
	1.4nm,0.3s,baz=77,slow=15,SNR=5.8								
ZALV				Lg		Lg		09 11 01.4	
	1.4nm,0.3s,baz=78,slow=27,SNR=4.7								
KURBB	**Kurchatov Arra**	**6.34**	**239**	Pn		Pn		09 11 50.8	+3.2
	baz=55,slow=13,SNR=1.9								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**8.00**	**204**	Pn		Pn		09 12 14.7	+4.2
	0.1nm,0.4s,baz=24,slow=14,SNR=1.3								

*HEL **22** 09:39:56.1±0.1, 62.97N×22.01E, h0km, ML1.5, Explosion*
*IDC **22** 09:39:58.1±1.2, 62.93N×22.30E, h0km, mbtmp2.7/3, ML1.7/3, Error ellipse: s-maj=16.0km s-min=10.7km az=75.0*
*UPP **22** 09:39:58.7±0.8, 62.94N×21.80E, h0km, ML1.8, Presumed earthquake*
ISC 22 09:39:55.5±0.8, 62.96N±0.03×22.08E±0.03, h0km, n22, σ0§98/33, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**1.12**	**327**	P		**Pn**		**09 40 18.6**	**+0.2**
UMAU				S		**Sb**		**09 40 33.8**	**+1.0**
UMAU	**Umeaa**	**1.12**	**327**	PN		**Pn**		**09 40 18.4**	**0.0**
	baz=149								
UMAU				SN		**Sn**		**09 40 34.1**	**-0.4**
KPF	**Kankaanpaa**	**1.13**	**180**	PG		**Pg**		**09 40 16.5**	**-0.5**
KPF				MSG				09 40 30.6	
	comp=Z,3.3nm,0.2s								
KPF				SG		**Sg**		**09 40 31.0**	**-0.6**
HUSU	**Husum**	**1.35**	**288**	P		**Pg**		**09 40 21.6**	**+0.3**
HUSU				S		**Sg**		**09 40 39.2**	**+0.3**
HUSU	**Husum**	**1.35**	**288**	SN		**Sb**		**09 40 39.6**	**+0.1**
KEF	**Keuruu**	**1.52**	**120**	PG		**Pn**		**09 40 24.0**	**+0.1**
	baz=306								
KEF				MSG				09 40 42.5	
	comp=Z,2.1nm,0.2s								
KEF				SG		**Sg**		**09 40 44.1**	**0.0**
BREU	**Bredtraesk**	**1.83**	**302**	P		**Pg**		**09 40 30.5**	**0.0**
HEMU	**Hemsoen**	**1.88**	**263**	P		**Pn**		**09 40 29.8**	**+1.1**
HEMU	**Hemsoen**	**1.88**	**263**	PG		**Pn**		**09 40 29.4**	**+0.7**
HEMU				SN		**Sb**		**09 40 54.7**	**+0.2**
SUF	**Sumiainen**	**1.89**	**95**	PG		**Pb**		**09 40 30.5**	**-0.2**
	baz=265								
SUF				MSG				09 40 52.9	
	comp=Z,3.0nm,0.2s								
SUF				SG		**Sg**		**09 40 56.3**	**+0.3**
RAF	**Rauma**	**1.95**	**184**	PG		**Pn**		**09 40 30.7**	**+1.0**
RAF				MSG				09 40 54.1	
	comp=Z,3.3nm,0.2s								
RAF				SG		**Sn**		**09 40 54.6**	**-0.2**
KAF	**Kangasniemi**	**2.14**	**111**	PG		**Pb**		**09 40 34.8**	**-0.2**
KAF				MSG				09 41 00.4	
	comp=Z,3.2nm,0.2s								
KAF				SG		**Sb**		**09 41 02.8**	**+0.8**
SOLU	**Sollefteaa**	**2.21**	**280**	P		**Pb**		**09 40 36.1**	**-0.2**
FIA0	**FINESS Array S**	**2.41**	**127**	PB		**Pn**		**09 40 38.3**	**+2.2**
	baz=310								
FIA0				MSG				09 41 08.1	
	comp=Z,1.2nm,0.2s								
FIA0				SG		**Sb**		**09 41 09.8**	**-0.2**
FINES	**FINESS Array B**	**2.41**	**127**	Pn		**Pb**		**09 40 38.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=312,slow=14,SNR=11								
FINES				Sn		**Sb**		**09 41 09.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=307,slow=21,SNR=12								
	comp=Z,0.7nm,0.3s								
ARNU	**Arnoeviken**	**2.53**	**242**	P		**Pb**		**09 40 40.1**	**-1.6**
AAL	**Aland**	**2.96**	**201**	SG		**Sb**		**09 41 25.1**	**-0.6**
KU2	**Taivalkoski**	**3.85**	**41**	PG		**Pb**		**09 41 03.1**	**-1.1**
OLKF	**Oulanka, Finla**	**4.62**	**40**	SB		**Sb**		**09 42 12.7**	**-0.6**
HFS	**Hagfors**	**4.91**	**239**	Pn		**Pn**		**09 41 13.2**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=42,slow=14,SNR=1.3								
HFS				Lg		Lg		09 42 26.5	
	comp=Z,0.3nm,0.3s,baz=54,slow=28,SNR=4.9								
	comp=Z,1.2nm,0.8s								
I37NO	**I37NO**	**6.30**	**349**	I		I		10 18 30.0	
	baz=166,slow=326,SNR=3.0								
ARCES	**ARCESS Array B**	**6.75**	**10**	Pn		**Pn**		**09 41 37.5**	**+1.8**
	baz=191,slow=14,SNR=2.1								
ARCES				Sn		**Sn**		**09 42 52.1**	**-1.1**
	baz=191,slow=23,SNR=1.3								
ARCES				Lg		Lg		09 43 28.5	
	comp=Z,0.1nm,0.3s,baz=189,slow=29,SNR=2.0								
	comp=Z,1.7nm,1.0s								

*RSNC **22** 09:40:01.1±0.0, 9.7N±1.7×7.3W±., h1km±2km, M2.1, ML2.1*
*FUNV **22** 09:40:01.1, 9.33N×72.54W, h23km, MW3.1*
ISC 22 09:39:56.5±1.1, 9.33N±0.02×72.55W±0.04, h17km±10km, n13, σ1§68/26, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQV	**Machiques**	**0.71**	**1**	*e*P		**Pn**		**09 40 14.2**	**+2.3**
MCQV				*e*S		**Sn**		**09 40 24.9**	**+2.5**
OCAC	**Ocana**	**1.32**	**215**	P		**Pg**		**09 40 23.0**	**+0.9**
OCAC				S		**Sg**		**09 40 40.4**	**+1.0**
CAPV	**Capacho**	**1.48**	**171**	*e*P		**Pg**		**09 40 26.2**	**+1.2**
CAPV				*e*S		**Sg**		**09 40 45.1**	**+0.8**
CRJC	**Cerrejon, Guaj**	**1.71**	**349**	P		**Pg**		**09 40 29.5**	**+0.2**
CRJC				S		**Sg**		**09 40 52.1**	**+0.5**
ARGC	**Ariguani, Magd**	**1.75**	**288**	P		**Pg**		**09 40 28.8**	**-1.3**
ARGC				S		**Sb**		**09 40 50.2**	**+0.3**
PAMC	**Pamplona, Colo**	**1.98**	**184**	P		**Pg**		**09 40 34.4**	**-0.3**
PAMC				S		**Sg**		**09 41 00.7**	**+0.2**
URIC	**Uribia, Colomb**	**2.42**	**13**	P		**Pg**		**09 40 41.8**	**-1.1**
URIC				S		**Sg**		**09 41 12.1**	**-2.2**
SMRC	**Santa Marta, M**	**2.45**	**318**	P		**Pg**		**09 40 43.7**	**+0.1**
SMRC				S		**Sb**		**09 41 10.4**	**+0.2**
SJCC	**San Jacinto, C**	**2.65**	**282**	P		**Pb**		**09 40 42.8**	**-0.8**
SJCC				S		**Sb**		**09 41 16.5**	**+0.6**
ZARC	**Zaragoza, Cauc**	**2.92**	**231**	P		**Pb**		**09 40 46.1**	**-2.1**
ZARC				S		**Sb**		**09 41 21.0**	**-2.7**
PTBC	**PUERTO BERRIO,**	**3.35**	**214**	P		**Pb**		**09 40 53.9**	**-1.7**
PTBC				S		**Sb**		**09 41 34.6**	**-1.6**
BAUV	**El Baul**	**4.47**	**95**	*e*P		**Pn**		**09 41 05.9**	**+2.3**
BAUV				*e*S		**Sn**		**09 41 53.4**	**-1.8**
BENV	**Beln**	**4.92**	**82**	*e*P		**Pn**		**09 41 12.4**	**+2.5**
BENV				*e*S		**Sn**		**09 42 04.3**	**-2.3**

*IDC **22** 09:47:20.2±3.8, 54.23N×87.52E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=33.9km s-min=20.4km az=41.0*
ASRS 22 09:47:19.0±0.7, 54.14N×87.21E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**263**	I		I		09 56 40.0	
	baz=80,slow=318,SNR=2.9								
ZALV	**Zalesovo Beam**	**1.42**	**263**	Pg		Pb		09 47 48.2	+1.9
	2.5nm,0.3s,baz=80,slow=14,SNR=22								
ZALV				Lg		Lg		09 48 12.4	
	2.1nm,0.3s,baz=81,slow=25,SNR=4.9								
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn		Pn		09 48 58.5	+4.4
	0.1nm,0.3s,baz=53,slow=13,SNR=2.5								
	0.4nm,0.4s								
MKAR	**Makanchi Array**	**7.99**	**205**	Pn		Pn		09 49 21.3	+5.0
	0.1nm,0.3s,baz=25,slow=14,SNR=3.5								
	0.3nm,0.6s								

*NEIC **22** 09:47:54.1±1.0, 38.169N±0.009×117.86W±0.01, h8km±8km, ML2.5/9, ML2.4/52(NEIC), Error ellipse: s-maj=2.6km s-min=0.8km az=215.0, Nevada*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NV11	**Mina Array Sit**	**0.35**	**323**				Pg	09 48 01.4	-0.1
NV11	**Mina Array Sit**	**0.35**	**323**				Sg	09 48 06.6	+0.4
NV11	**Mina Array Sit**	**0.35**	**323**			IAML		09 48 02.6	
	comp=N,97nm,0.4s								
NV08	**Mina Array Sit**	**0.42**	**306**				Pg	09 48 02.8	-0.1
NV08							Sg	09 48 09.0	+0.5
NVAR	**Mina Array Bea**	**0.43**	**310**				Pg	09 48 03.0	0.0
NV09	**Mina Array Sit**	**0.46**	**309**				Pg	09 48 03.5	+0.1
NV09							Sg	09 48 10.5	+1.1
LHV	**Little Huntoon**	**0.50**	**282**				Pg	09 48 04.5	+0.3
LHV							Sg	09 48 11.7	+1.0
LHV	**Little Huntoon**	**0.50**	**282**	IAML				09 48 12.2	
	comp=N,494nm,0.6s								
LHV				IAML				09 48 12.7	
	comp=E,514nm,0.4s								
TPH	**Tonopah**	**0.53**	**98**	Pg		Pg		09 48 04.6	-0.1
TPH				IAML				09 48 12.4	
	comp=E,301nm,0.2s								
TPH	**Tonopah**	**0.53**	**98**				Sg	09 48 12.2	+0.5
MZP	**Montezuma Peak**	**0.60**	**139**				Pg	09 48 06.2	+0.1
MZP							Sg	09 48 14.5	+0.5
MZP	**Montezuma Peak**	**0.60**	**139**	IAML				09 48 14.7	
	comp=N,84nm,0.2s								
MZP				IAML				09 48 15.1	
	comp=E,126nm,0.3s								
RYN	**Ryan**	**0.69**	**314**				Pg	09 48 07.8	-0.1
RYN							Sg	09 48 17.2	+0.3
RYN	**Ryan**	**0.69**	**314**	IAML				09 48 18.2	
	comp=N,305nm,0.2s								
TVH1	**TV Hill, Hawth**	**0.76**	**294**				Pg	09 48 09.2	+0.1
TVH1							Sg	09 48 19.7	+0.6
DSP	**Deep Springs**	**0.78**	**185**				Pg	09 48 09.6	0.0
DSP							Sg	09 48 20.3	+0.5
Q09A	**Carvers**	**0.88**	**39**				Pg	09 48 11.1	-0.2
Q09A							Sb	09 48 23.4	-0.6
MLAC	**Mammoth, Mammo**	**0.92**	**236**				Pb	09 48 12.7	-0.1
MLAC							Sb	09 48 25.8	+0.7
LCH	**Last Change Ra**	**0.94**	**168**				Pg	09 48 12.4	-0.1
MCBM	**Casa Benchmark**	**0.95**	**238**				Pb	09 48 13.6	+0.3
GMN	**Gold Mountain**	**0.98**	**150**				Pg	09 48 13.3	-0.1
GMN	**Gold Mountain**	**0.98**	**150**	IAML				09 48 30.1	
	comp=E,96nm,0.4s								
GMN				IAML				09 48 32.7	
	comp=N,119nm,0.5s								
MDYM	**Dry Creek**	**1.02**	**241**				Pb	09 48 14.5	-0.1
MDPB	**Devils Postpil**	**1.08**	**242**				Pg	09 48 14.8	-0.4
TIN	**Tinemaha, Big**	**1.13**	**194**				Pn	09 48 16.6	0.0
TIN				IAML				09 48 35.5	
	comp=E,139nm,0.5s								
WAKR	**Walker**	**1.27**	**287**				Pn	09 48 18.2	-0.6
WAKR	**Walker**	**1.27**	**287**	IAML				09 48 39.3	
	comp=E,52nm,0.6s								
WAKR				IAML				09 48 40.9	
	comp=N,41nm,0.9s								
SGV	**South Grapevin**	**1.35**	**150**				Pn	09 48 19.4	-0.3
WCT	**Wildcat Mounta**	**1.69**	**143**				Pn	09 48 24.1	-0.2
WCT	**Wildcat Mounta**	**1.69**	**143**	IAML				09 48 51.7	
	comp=N,52nm,0.4s								
WCT				IAML				09 48 51.9	
	comp=E,58nm,0.4s								
CWC	**Cottonwood Cre**	**1.72**	**185**				Pb	09 48 26.1	-0.3
CWC				IAML				09 48 51.7	
	comp=E,22nm,0.2s								
CWC				IAML				09 48 52.6	
	comp=N,25nm,0.2s								
S11A	**Rachel**	**1.76**	**106**				Pb	09 48 27.0	-0.1
TPNV	**Topopah Spring**	**1.77**	**132**	IAML				09 48 52.7	
	comp=N,54nm,0.4s								
R11B	**Troy Canyon, C**	**1.82**	**83**				Pb	09 48 27.6	-0.5
R11B				IAML				09 48 53.5	
	comp=E,32nm,0.2s								
FURC	**Furnace Creek,**	**1.87**	**154**	IAML				09 49 03.1	
	comp=N,51nm,0.5s								
SDH	**Striped Hills**	**1.94**	**140**				Pn	09 48 28.0	+0.2
PAHR	**Pah Rah Range**	**1.94**	**323**				Pb	09 48 29.1	-1.1
PAHR	**Pah Rah Range**	**1.94**	**323**	IAML				09 48 57.0	
	comp=N,19nm,0.5s								
PAHR				IAML				09 48 57.2	
	comp=E,23nm,0.4s								
CMB	**Columbia Colle**	**1.98**	**267**				Pb	09 48 30.3	-0.4
CMB				IAML				09 48 57.6	
	comp=N,21nm,0.5s								
MPK	**Martis Peak**	**2.03**	**305**	Pn		Pb		09 48 31.2	-0.6
MPK				IAML				09 49 01.5	
	comp=E,40nm,0.5s								
MPK				IAML				09 49 03.3	
	comp=N,37nm,0.8s								
AMDNV	**Amargosa**	**2.12**	**143**				Pn	09 48 30.7	+0.5
MCY	**Mercury**	**2.13**	**134**				Pn	09 48 31.1	+0.6
GWY	**Greenwater Val**	**2.19**	**153**				Pn	09 48 32.0	+0.7
GWY	**Greenwater Val**	**2.19**	**153**	IAML				09 49 08.8	
	comp=E,26nm,0.8s								
GWY				IAML				09 49 10.6	
	comp=N,20nm,0.4s								
QSM	**Queen of Sheba**	**2.33**	**159**	Pn		Pn		09 48 33.1	0.0
CLC	**China Lake**	**2.34**	**174**				Pn	09 48 33.9	+0.5
PRN	**Pahroc Range**	**2.36**	**107**	Pn		Pn		09 48 33.6	-0.1
ELK	**Elko**	**3.30**	**37**				Pn	09 48 47.0	+0.4
ELK				IAML				09 49 40.0	
	comp=N,5.0nm,0.6s								

*ASRS **22** 09:49:56.0±1.4, 53.53N×87.66E, h0km, M3.0, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 22 09:49:58.6±2.9, 53.56N×87.74E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=23.7km s-min=14.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**284**	I		I		10 01 20.0	
	0.1nm,1.0s,baz=100,slow=316,SNR=11								
ZALV	**Zalesovo Beam**	**1.78**	**284**	Pg		Pn		09 50 29.8	-0.8
	1.1nm,0.3s,baz=98,slow=15,SNR=16								
ZALV				Lg		Lg		09 50 55.8	
	3.4nm,0.3s,baz=104,slow=23,SNR=12								
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn		Pn		09 51 34.6	+0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=3.8								
KURBB				Sn		Sn		09 52 47.2	-0.4
	baz=61,slow=29,SNR=1.6								
KURBB				Lg		Lg		09 53 19.7	
	0.1nm,0.3s,baz=60,slow=30,SNR=8.8								
	1.4nm,0.5s								
MKAR	**Makanchi Array**	**7.62**	**209**	Pn		Pn		09 51 52.4	+1.4
	0.3nm,0.3s,baz=31,slow=14,SNR=8.9								
MKAR				Sn		Sn		09 53 17.9	0.0
	0.1nm,0.3s,baz=28,slow=26,SNR=6.4								
MKAR				Lg		Lg		09 53 58.2	
	0.2nm,0.3s,baz=29,slow=33,SNR=6.4								
	0.8nm,0.5s								
BVAR	**Borovoye Array**	**10.40**	**274**	Sn		Sn		09 54 18.2	-8.0
	baz=78,slow=23,SNR=5.3								

*KRNET **22** 09:56:48.4±0.1, 39.56N×74.48E, mb3.4*
*SOME **22** 09:56:51.9, 39.65N×74.22E, h15km*

KST	**Kastek**	**3.63**	**17**	*e*P	**Pb**	**09 57 56.6**	**+1.6**
	3.2nm,0.3s							
KST				*e*S	**Sb**	**09 58 42.2**	**+3.0**
	9.4nm,0.5s							
DGS	**Degeres**	**3.78**	**14**	Pg	**Pb**	**09 57 55.1**	**-2.5**
	5.1nm,0.7s							
DGS				Lg	Lg	09 58 40.3		
	4.9nm,0.8s							
MTBS	**Maitube**	**3.83**	**21**	Pg	**Pb**	**09 57 57.0**	**-1.4**
	5.2nm,0.6s							
MTBS				Lg	Lg	09 58 42.8		
	8.9nm,0.6s							
MDOK	**Medeo**	**4.06**	**27**	Pg	**Pb**	**09 58 02.0**	**-0.3**
	2.0nm,0.9s							
MDOK				Lg	Lg	09 58 52.2		
	2.8nm,0.7s							
IUG	**Iuzhnay**	**4.26**	**308**	Pg	**Pb**	**09 58 05.0**	**-0.8**
	18nm,0.8s							
IUG				Lg	Lg	09 58 57.0		
	27nm,0.8s							
KTBS	**Karatobe**	**4.44**	**21**	Pg	**Pb**	**09 58 09.2**	**+0.5**
	1.6nm,0.7s							
KTBS				Lg	Lg	09 59 03.9		
	9.4nm,0.8s							
KK31	**Karatay Array**	**4.64**	**321**	Pn	**Pn**	**09 58 02.1**	**+1.2**
	2.2nm,0.5s,baz=136,slow=13,SNR=14							
KK31				⇑Sn	**Sn**	**09 58 54.8**	**+0.1**
	2.8nm,0.5s,baz=141,slow=24,SNR=3.9							
KK31				⇓Lg	Lg	09 59 12.3		
	2.9nm,0.4s,baz=134,slow=29,SNR=4.1							
CHKK	**Chushkaly**	**4.66**	**23**	Pg	**Pb**	**09 58 13.8**	**+1.4**
	1.1nm,0.2s							
CHKK				Lg	Lg	09 59 11.8		
	4.0nm,0.5s							
CHKK	**Chushkaly**	**4.66**	**23**	*e*P	**Pg**	**09 58 18.0**	**-1.9**
	1.3nm,0.3s							
CHKK				*e*S	**Sg**	**09 59 19.7**	**-0.5**
	4.0nm,0.5s							
BRLS	**Borolday**	**4.93**	**316**	Pg	**Pb**	**09 58 17.2**	**0.0**
	2.0nm,0.5s							
BRLS				Lg	Lg	09 59 18.0		
	7.2nm,0.9s							
BRLS	**Borolday**	**4.93**	**316**	*e*P	**Pb**	**09 58 17.2**	**0.0**
	2.0nm,0.5s							
BRLS				*e*S	**Sb**	**09 59 17.9**	**+1.4**
	7.2nm,0.9s							

NEIC **22** *10:11:09.5±0.4,19°.19N±0°.02×155°.48W±0°.03,h39*km*±4*km*, Error ellipse: s-maj=4.8km s-min=1.4km az=126.0*

HVO 22 10:11:10.7±0.5,19°.17N±0°.06×155°.46W±0°.10,h35km**±8**km**, ML2.4**/32**,ML2.5**/42(NEIC)**, Error ellipse: s-maj=13.8km s-min=7.7km az=107.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**39**		Pn	10 11 16.4	-0.4
KHU	**Kahuku**	**0.17**	**298**		Pn	10 11 16.6	-0.6
KHU					Sn	10 11 21.0	-0.4
HLP	**Hilina Pali**	**0.19**	**48**		Pn	10 11 17.0	-0.4
HLP					Sn	10 11 21.8	+0.1
HLP	**Hilina Pali**	**0.19**	**48**	IAML		10 11 23.9	
	comp=E,551nm,0.2s						
HLP				IAML		10 11 25.3	
	comp=N,635nm,0.3s						
AIN	**Ainahou**	**0.20**	**0**		Pn	10 11 17.2	-0.5
AIN					Sn	10 11 21.9	-0.2
AIN	**Ainahou**	**0.20**	**0**	IAML		10 11 22.1	
	comp=E,1μm,0.3s						
AIN				IAML		10 11 22.6	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.27**	**35**		Pn	10 11 17.5	-0.9
SDHHI					Sn	10 11 22.5	-1.0
WRMHI	**West Rim**	**0.28**	**32**		Pn	10 11 17.5	-1.1
WRMHI					Sn	10 11 22.8	-1.0
RIM	**Rim**	**0.29**	**37**		Pn	10 11 17.6	-1.1
KKO	**Keanakako'i**	**0.29**	**38**		Pn	10 11 17.7	-1.0
KKO					Sn	10 11 22.8	-1.3
UWE	**Uwekahuna**	**0.30**	**32**		Pn	10 11 17.7	-1.1
UWE					Sn	10 11 23.0	-1.1
UWE	**Uwekahuna**	**0.30**	**32**	IAML		10 11 27.1	
	comp=N,570nm,0.6s						
UWE				IAML		10 11 30.6	
	comp=E,599nm,0.4s						
OBL	**Observatory Le**	**0.30**	**33**		Pn	10 11 17.7	-1.1
BYL	**Byron's Ledge**	**0.31**	**37**		Pn	10 11 17.7	-1.2
PUH	**Pauahi**	**0.31**	**48**		Pn	10 11 17.8	-1.1
PUH				IAML		10 11 23.3	
	comp=E,404nm,0.6s						
PUH	**Pauahi**	**0.31**	**48**		Sn	10 11 22.9	-1.5
PUH	**Pauahi**	**0.31**	**48**	IAML		10 11 22.8	
	comp=N,333nm,1.5s						
UWB	**Uwekahuna Bluf**	**0.31**	**34**		Pn	10 11 17.6	-1.3
UWB					Sn	10 11 23.3	-1.0
HATHI	**Halema'uma'u T**	**0.32**	**36**		Pn	10 11 17.8	-1.2
HATHI					Sn	10 11 23.0	-1.6
HATHI	**Halema'uma'u T**	**0.32**	**36**	IAML		10 11 23.5	
	comp=E,398nm,0.3s						
HATHI				IAML		10 11 23.6	
	comp=N,286nm,0.5s						
SBLHI	**Steaming Bluff**	**0.32**	**35**		Pn	10 11 17.7	-1.3
SBLHI					Sn	10 11 23.1	-1.4
MLH	**Mauna Loa**	**0.33**	**12**		Pn	10 11 18.3	-1.1
MLH					Sn	10 11 23.7	-1.4
MLH	**Mauna Loa**	**0.33**	**12**	IAML		10 11 24.1	
	comp=N,559nm,0.4s						
MLH				IAML		10 11 24.1	
	comp=E,471nm,0.2s						
RSD	**Rainshed**	**0.34**	**30**		Pn	10 11 18.1	-1.3
RSD					Sn	10 11 23.4	-1.8
MWH	**Mokuaweoweo**	**0.34**	**338**		Pn	10 11 18.2	-1.5
MWH					Sn	10 11 24.3	-1.5
MWH	**Mokuaweoweo**	**0.34**	**338**	IAML		10 11 35.1	
	comp=E,371nm,1.6s						
KNHH	**Kane Nui o Ham**	**0.35**	**52**		Pn	10 11 18.2	-1.1
STCH	**Steam Cracks**	**0.38**	**55**		Pn	10 11 18.6	-1.3
STCH	**Steam Cracks**	**0.38**	**55**	IAML		10 11 24.7	
	comp=E,352nm,0.1s						
STCH				IAML		10 11 25.6	
	comp=N,198nm,0.2s						
NPOC	**North of Pu'u**	**0.40**	**56**		Pn	10 11 18.8	-1.3
ALEP	**Alea Permanent**	**0.41**	**335**		Pn	10 11 18.8	-1.7
HMH	**Humu'ula Sheep**	**0.43**	**357**		Pn	10 11 19.6	-1.2
HMH	**Humu'ula Sheep**	**0.43**	**357**	IAML		10 11 26.5	
	comp=N,609nm,0.3s						
HMH				IAML		10 11 27.3	
	comp=E,339nm,0.1s						
JOKA	**Jonika Flow**	**0.51**	**58**		Pn	10 11 19.9	-1.6
JOKA					Sn	10 11 26.7	-2.3
JOKA	**Jonika Flow**	**0.51**	**58**	IAML		10 11 27.3	
	comp=E,222nm,0.3s						
JOKA				IAML		10 11 27.7	
	comp=N,331nm,0.5s						
CPH	**Captain Cook**	**0.54**	**307**		Pn	10 11 20.0	-2.0
POHA	**Pohakuloa**	**0.59**	**353**		Pn	10 11 21.0	-1.9
POHA	**Pohakuloa**	**0.59**	**353**	IAML		10 11 33.4	
	comp=N,172nm,2.1s						
HUH	**Hualalai**	**0.63**	**325**		Pn	10 11 21.8	-1.6
HUH	**Hualalai**	**0.63**	**325**	IAML		10 11 33.5	
	comp=E,208nm,0.2s						
HUH				IAML		10 11 41.0	
	comp=N,200nm,0.4s						
HPAH	**Hawaii Prepara**	**0.89**	**345**		Pn	10 11 24.8	-2.0
HPAH					Sn	10 11 35.1	-3.5
MHA	**Mahukona**	**1.10**	**338**	Pn	Pn	10 11 27.9	-1.7

DJA 22 10:18:56.4±0.8,8°S±3°×10°8E±°,h27km**±8**km**, M3.8**/12**, MLv3.8**/12**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.96**	**337**	P	Pb	10 19 14.3	-0.1
LEM	**Lembang**	**1.37**	**5**	P	Pn	10 19 20.3	+0.4
SKJI	**Sukabumi**	**1.51**	**322**	P	Pn	10 19 22.0	+0.3
SKJI				S	Sn	10 19 40.7	+0.2
KPJI	**Karang Pucung**	**1.66**	**59**	P	Pn	10 19 23.6	-0.1
DBJI	**Dramaga**	**1.80**	**335**	P	Pn	10 19 25.9	+0.2
DBJI				S	Sn	10 19 48.4	+0.8
UGM	**Wanagama**	**3.01**	**85**	P	Pn	10 19 42.2	-0.1
WOJI	**Wonogiri, Jawa**	**3.41**	**84**	P	Pn	10 19 47.6	-0.2
PCJI	**Pacitan**	**3.64**	**90**	P	Pn	10 19 51.1	+0.1
KRJI	**Kerinci**	**8.54**	**315**	P	Pn	10 21 02.5	+4.0

IDC **22** *10:21:42.0±3.0,5°.03S×68°.27E,h0*km*,mb4.1/7, mbtmp4.1/7,MS3.7/7, Error ellipse: s-maj=75.9km s-min=49.2km az=168.0*

ISC 22 10:21:44.5±1.7,5°.0S±0°.2×68°.4E±0°.2,h13km**,n21,** σ1ᵗ**33/15,mb4.1/7,MS3.8/6, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**4.78**	**123**	Pn	**Pn**	**10 22 57.6**	**+1.5**
	baz=325,slow=20						
H08S3				Sn	**Sn**	**10 23 50.1**	**-1.2**
H08S3				T	T	10 28 02.1	
	baz=312,slow=75,SNR=149						
H08S1	**Diego Garcia H**	**4.78**	**123**	Pn	**Pn**	**10 22 57.6**	**+1.5**
	baz=325,slow=20						
H08S1				Sn	**Sn**	**10 23 50.1**	**-1.2**
H08S1				T	T	10 28 02.6	
	baz=312,slow=75,SNR=139						
H08S2	**Diego Garcia H**	**4.80**	**123**	Pn	**Pn**	**10 22 57.8**	**+1.5**
	baz=325,slow=20						
H08S2				Sn	**Sn**	**10 23 50.3**	**-1.4**
H08S2				T	T	10 27 58.5	
	baz=312,slow=75,SNR=130						
PALK	**Pallekele**	**17.31**	**45**	LR	LR	10 30 26.9	
	comp=Z,238nm,21.1s,baz=90,slow=30						
CMAR	**Chiang Mai Arr**	**38.08**	**51**	P	**P**	**10 29 04.0**	**+0.6**
	1.6nm,0.8s,baz=240,slow=9.9,SNR=6.7						
CMAR				LR	LR	10 43 45.5	
	comp=Z,90nm,18.4s,baz=190,slow=35 1.6nm,0.8s						
LSZ	**Lusaka**	**40.82**	**253**	LR	LR	10 45 32.7	
	comp=Z,95nm,18.2s,baz=170,slow=35						
MATP	**Matopo**	**41.69**	**245**	LR	LR	10 46 00.7	
	comp=Z,78nm,18.3s,baz=88,slow=35						
LBTB	**Lobatse**	**45.61**	**240**	LR	LR	10 46 09.2	
	comp=Z,137nm,20.9s,baz=97,slow=32						
BOSA	**Boshof**	**47.13**	**235**	LR	LR	10 47 00.5	
	comp=Z,109nm,19.9s,baz=68,slow=32						
KAPI	**Kappang**	**51.12**	**92**	LR	LR	10 49 01.5	
	comp=Z,112nm,21.9s,baz=312,slow=32						
H01W3	**Cape Leeuwin H**	**51.57**	**131**	T	T	11 26 29.2	
	baz=296,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**51.57**	**131**	T	T	11 26 29.3	
	baz=296,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**51.59**	**131**	T	T	11 26 46.7	
	baz=296,slow=75,SNR=11						
MKAR	**Makanchi Array**	**53.05**	**12**	P	**P**	**10 30 59.2**	**-2.3**
	0.5nm,0.6s,baz=202,slow=7.4,SNR=2.2 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**56.12**	**8**	P	**P**	**10 31 23.7**	**+0.1**
	4.7nm,0.2s,baz=196,slow=7.5,SNR=4.1 4.7nm,0.2s						
BVAR	**Borovoye Array**	**57.87**	**1**	P	**P**	**10 31 35.0**	**-0.9**
	0.3nm,0.3s,baz=188,slow=5.4,SNR=2.0 0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**60.36**	**11**	P	**P**	**10 31 53.0**	**-0.2**
	0.9nm,0.6s,baz=228,slow=5.8,SNR=3.9 0.9nm,0.6s						
SONM	**Songino Array**	**62.31**	**28**	P	**P**	**10 32 07.4**	**+0.7**
	1.7nm,0.8s,baz=217,slow=7.3,SNR=7.8 1.7nm,0.8s						
HFS	**Hagfors**	**77.74**	**335**	P	**P**	**10 33 41.3**	**+0.3**
	1.2nm,0.6s,baz=116,slow=6.7,SNR=1.9 1.2nm,0.6s						
NVAR	**Mina Array Bea**	**146.21**	**10**	PKPbc	**PKPdf**	**10 41 22.8**	**-1.7**
	1.2nm,1.0s,baz=0.6,slow=5.5,SNR=5.2						
TXAR	**Lajitas Array**	**154.71**	**344**	PKPbc	**PKiKP**	**10 41 46.4**	**+0.1**
	0.2nm,0.8s,baz=26,slow=3.7,SNR=2.2						

SNET **22** *10:25:42.6±0.8,12°.71N×88°.00W,h34*km*±7*km*, ML2.8*

CATAC 22 10:25:41.5±0.7,13°N±5°×8°8W±°,h36km**±6**km**, M2.9**/13**, MLv2.9**/13**, Error ellipse: s-maj=13.1km s-min=4.0km az=32.3, confirmed, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.57**	**50**	P	Pn	10 25 53.8	+0.6
POTN				S	Sn	10 26 03.7	+2.4
CNCH	**Conchagua**	**0.65**	**10**	*i* P	Pn	10 25 54.8	+0.3
CNCH				*e*S	Sn	10 26 04.3	+0.8
CNCH	**Conchagua**	**0.65**	**10**	S	Sn	10 26 05.7	+2.2
CNCH	**Conchagua**	**0.65**	**10**	P	Pn	10 25 54.9	+0.5
LCND	**La Caada**	**0.68**	**5**	*e*P	Pn	10 25 55.0	+0.3
LCND				IAML		10 26 07.0	
	comp=Z,529nm,0.3s						
LCND	**La Caada**	**0.68**	**5**	P	Pn	10 25 55.0	+0.4
BLLM	**Bellamira**	**0.85**	**341**	*e*P	Pn	10 25 57.0	0.0
BLLM				*e*S	Sn	10 26 08.8	+0.4
LCY	**Lacayo**	**0.85**	**337**	*e*P	Pn	10 25 57.1	0.0
PACA	**Pacayal**	**0.91**	**337**	*e*P	Pn	10 25 58.0	+0.1
PACA				*e*S	Sn	10 26 10.1	+0.3
PACA				IAML		10 26 13.8	
	comp=Z,523nm,0.2s						
PACA	**Pacayal**	**0.91**	**337**	P	Pn	10 25 58.4	+0.5
QUEN	**Al S del Volca**	**1.07**	**92**	P	Pn	10 26 00.5	+0.5
HERN	**Volcan Telica**	**1.09**	**91**	P	Pn	10 26 00.6	+0.3
HERN	**Volcan Telica**	**1.09**	**91**	S	Sn	10 26 19.5	+1.3
CHOHN	**Orocuina**	**1.14**	**42**	P	Pn	10 26 00.9	-0.1
PLRN	**Geotermica Pol**	**1.16**	**92**	P	Pn	10 26 01.4	+0.2
PLRN				S	Sn	10 26 15.6	-0.1
CNGN	**Cerro Negro**	**1.23**	**96**	P	Pn	10 26 02.9	+0.7
CNGN	**Cerro Negro**	**1.23**	**96**	S	Sn	10 26 18.4	+0.8
SCLA	**Alcaldia de Sa**	**1.30**	**325**	*e*P	Pn	10 26 03.1	-0.1
SCLA	**Alcaldia de Sa**	**1.30**	**325**	P	Pn	10 26 03.1	-0.1
SCLA	**Alcaldia de Sa**	**1.30**	**325**	S	Sn	10 26 20.1	+0.7
COPN	**Copaltepe**	**1.40**	**109**	P	Pn	10 26 05.0	+0.5
MOM2	**El Cardon**	**1.45**	**98**	P	Pn	10 26 05.5	+0.5
MOM2				S	Sn	10 26 23.6	+0.8
TGUH	**Tegucigalpa,Un**	**1.56**	**25**	P	Pn	10 26 07.0	+0.2
YUSH	**Yuscaran**	**1.70**	**39**	P	Pn	10 26 08.8	+0.1
JAYA	**Jayaque - finc**	**1.78**	**305**	*e*P	Pn	10 26 10.4	+0.6
JAYA				*e*S	Sn	10 26 30.8	-0.5
JAYA				IAML		10 26 32.9	
	comp=Z,46nm,0.2s						
RCVN	**Varillal2**	**1.96**	**61**	P	Pn	10 26 12.9	+0.7
MATN	**Matagalpa**	**2.00**	**81**	P	Pn	10 26 11.6	-1.2
BOAB	**BOACO BROADBAN**	**2.24**	**94**	P	Pn	10 26 15.8	-0.3

JMA **22** *10:29:26.9±0.1,24°.6N±0°.3×121°.6E±0°.8,h56*km*±1*km*, MV2.8/12,TAIWAN REGION*

TAP **22** *10:29:27.2,24°.66N×121°.63E,h55*km*,ML3.5,B*

ISC 22 10:29:27.4±1.2,24°.70N±0°.02×121°.64E±0°.02,h56km**±4**km**, n168,** σ1ᵗ**00/307,1C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.03**	**55**	*i* P	**Pn**	**10 29 36.1**	**+0.3**
TWE				*e*S	**Sn**	**10 29 41.6**	**-0.3**
FUSB	**Fushanzhiwuyua**	**0.07**	**323**	*i* P	**Pn**	**10 29 36.0**	**0.0**
FUSB				*e*S	**Sn**	**10 29 41.9**	**-0.4**
ENTT	**Nioudou**	**0.09**	**226**	*i* P	**Pn**	**10 29 36.1**	**+0.1**
ENTT				*i* S	**Sn**	**10 29 42.2**	**+0.1**
ILA	**Ilan**	**0.12**	**58**	*e*P	**Pn**	**10 29 36.5**	**+0.5**
ILA				*e*S	**Sn**	**10 29 43.4**	**+1.1**
NWLT	**Wulai**	**0.14**	**302**	*i* P	**Pn**	**10 29 36.1**	**-0.1**
NWLT				S	**Sn**	**10 29 41.6**	**-0.9**
LATG	**Datong**	**0.19**	**211**	*i* P	**Pn**	**10 29 36.7**	**+0.1**
LATG				S	**Sn**	**10 29 43.2**	**+0.1**
TWC	**Suao**	**0.21**	**115**	*i* P	**Pn**	**10 29 36.6**	**+0.1**
TWC				*i* S	**Sn**	**10 29 43.1**	**+0.1**
ESAO	**Su ao**	**0.23**	**123**	P	**Pn**	**10 29 36.5**	**0.0**
ESAO				*e*S	**Sn**	**10 29 43.3**	**+0.1**
NTC	**Toucheng**	**0.23**	**49**	P	**Pn**	**10 29 37.0**	**+0.4**
NTC				S	**Sn**	**10 29 44.0**	**+0.7**
YHNB	**Yeheng**	**0.24**	**262**	P	**Pn**	**10 29 36.3**	**-0.5**
YHNB	**Yeheng**	**0.24**	**262**	*i* P	**Pn**	**10 29 36.6**	**-0.2**
YHNB				*e*S	**Sn**	**10 29 43.1**	**-0.4**
NHDH	**Xindian Distri**	**0.28**	**339**	P	**Pn**	**10 29 37.0**	**0.0**
NHDH				*i* S	**Sn**	**10 29 43.9**	**0.0**
TWA	**Mucha**	**0.28**	**350**	*i* P	**Pn**	**10 29 37.2**	**+0.1**
TWA				*i* S	**Sn**	**10 29 43.9**	**-0.1**
EWUT	**Wuta**	**0.29**	**153**	*e*P	**Pn**	**10 29 36.8**	**-0.3**
EWUT				S	**Sn**	**10 29 43.4**	**-0.6**
ENA	**Nanau**	**0.29**	**161**	*e*P	**Pn**	**10 29 36.7**	**-0.3**
ENA				S	**Sn**	**10 29 43.3**	**-0.7**
EGS		**0.30**	**62**	*i* P	**Pn**	**10 29 37.9**	**+0.7**
EGS				*i* S	**Sn**	**10 29 45.4**	**+1.2**
TATO	**Taipei**	**0.30**	**334**	P	**Pn**	**10 29 37.0**	**-0.2**
TATO	**Taipei**	**0.30**	**334**	S	**Sn**	**10 29 44.1**	**-0.1**
TATO	**Taipei**	**0.30**	**334**	⇓P	**Pn**	**10 29 37.1**	**-0.1**
TATO				S	**Sn**	**10 29 44.2**	**0.0**
TIPB	**Shuangxi**	**0.32**	**33**	*i* P	**Pn**	**10 29 37.7**	**+0.3**
TIPB				*i* S	**Sn**	**10 29 44.2**	**-0.3**
BACT	**New Taipei Cit**	**0.34**	**329**	P	**Pn**	**10 29 37.9**	**+0.4**
BACT				S	**Sn**	**10 29 45.6**	**+0.8**
NNSB	**Datong**	**0.36**	**220**	*i* P	**Pn**	**10 29 37.9**	**+0.1**
NNSB				*e*S	**Sn**	**10 29 45.1**	**-0.1**
EAHA	**Aohua**	**0.38**	**166**	*e*P	**Pn**	**10 29 37.5**	**-0.4**
EAHA				*e*S	**Sn**	**10 29 44.2**	**-1.2**
NWF	**Wu-fen Shan**	**0.39**	**20**	*e*P	**Pn**	**10 29 38.4**	**+0.3**
NWF				*i* S	**Sn**	**10 29 45.7**	**-0.1**
WFSB	**Wu-fen Shan**	**0.39**	**20**	*i* P	**Pn**	**10 29 38.5**	**+0.5**
WFSB				*i* S	**Sn**	**10 29 45.8**	**+0.2**
KSHI	**Guanxi Townshi**	**0.42**	**280**	*i* P	**Pn**	**10 29 38.6**	**+0.3**
KSHI				*i* S	**Sn**	**10 29 46.7**	**+0.6**
NTY	**Taoyuan**	**0.43**	**314**	P	**Pn**	**10 29 39.0**	**+0.6**
NTY				S	**Sn**	**10 29 47.1**	**+0.9**
TWB1	**Santiao Chiao**	**0.44**	**46**	*i* P	**Pn**	**10 29 38.9**	**+0.4**
TWB1				*i* S	**Sn**	**10 29 46.8**	**+0.3**
TWS1	**Kuangyinshan**	**0.45**	**334**	*i* P	**Pn**	**10 29 38.9**	**+0.4**
TWS1				*i* S	**Sn**	**10 29 46.9**	**+0.4**
SXI1	**Grass Mountain**	**0.45**	**29**	P	**Pn**	**10 29 38.9**	**+0.3**
SXI1				S	**Sn**	**10 29 47.2**	**+0.5**
YM01	**YM01**	**0.45**	**352**	*i* P	**Pn**	**10 29 38.7**	**+0.1**
YM01				S	**Sn**	**10 29 46.7**	**0.0**
TNOU	**National Taiwa**	**0.46**	**15**	*i* P	**Pn**	**10 29 38.9**	**+0.2**
TNOU				*i* S	**Sn**	**10 29 46.7**	**-0.2**
ZUZH	**Zhuzihu**	**0.47**	**350**	*i* P	**Pn**	**10 29 39.0**	**+0.2**
ZUZH				S	**Sn**	**10 29 47.0**	**0.0**
NFF	**Wufeng Townshi**	**0.48**	**262**	*i* P	**Pn**	**10 29 38.9**	**0.0**
NFF				*i* S	**Sn**	**10 29 47.0**	**-0.2**
YM08	**YM08**	**0.49**	**355**	*e*P	**Pn**	**10 29 38.9**	**-0.1**
YM08				*e*S	**Sn**	**10 29 46.8**	**-0.5**
NCUH	**Zhongli**	**0.49**	**303**	*i* P	**Pn**	**10 29 39.2**	**+0.2**
NCUH				*e*S	**Sn**	**10 29 47.0**	**+0.3**
NTST	**Danshui**	**0.49**	**340**	*i* P	**Pn**	**10 29 39.5**	**+0.5**
NTST				*i* S	**Sn**	**10 29 48.3**	**+1.0**
ANP	**Anpu**	**0.49**	**348**	P	**Pn**	**10 29 39.2**	**+0.1**
ANP				*e*S	**Sn**	**10 29 46.9**	**-0.7**
NJD	**Zhudong**	**0.50**	**274**	P	**Pn**	**10 29 39.0**	**-0.1**
NJD				S	**Sn**	**10 29 48.0**	**+0.4**
NWRT	**Kuosheng**	**0.50**	**2**	P	**Pn**	**10 29 39.6**	**+0.5**
NWRT				*e*S	**Sn**	**10 29 47.0**	**-0.6**
ETLH	**Xiulin Townshi**	**0.51**	**196**	*i* P	**Pn**	**10 29 38.9**	**-0.4**
ETLH				*i* S	**Sn**	**10 29 47.5**	**-0.4**
NACB	**Ninganchiao**	**0.53**	**184**	P	**Pn**	**10 29 38.0**	**-1.4**
NACB	**Ninganchiao**	**0.53**	**184**	S	**Sn**	**10 29 45.0**	**-3.1**
NACB	**Ninganchiao**	**0.53**	**184**	*e*P	**Pn**	**10 29 38.3**	**-1.1**
NACB				*e*S	**Sn**	**10 29 48.1**	**0.0**
ETL	**Fush Village**	**0.54**	**181**	*e*P	**Pn**	**10 29 38.8**	**-0.8**
ETL				*e*S	**Sn**	**10 29 47.6**	**-0.8**
HSN1	**Hsinchu**	**0.57**	**278**	*e*P	**Pn**	**10 29 40.1**	**+0.3**
HSN1				S	**Sn**	**10 29 49.8**	**+0.9**
LIOB	**Emei**	**0.57**	**265**	*i* P	**Pn**	**10 29 40.0**	**+0.1**
LIOB				*e*S	**Sn**	**10 29 48.5**	**-0.4**
TWY	**Chenhua**	**0.57**	**357**	*e*P	**Pn**	**10 29 40.3**	**+0.4**
TWY				*e*S	**Sn**	**10 29 49.8**	**+0.8**
FUSS	**Fushou**	**0.58**	**218**	*e*P	**Pn**	**10 29 40.5**	**+0.3**
FUSS				*e*S	**Sn**	**10 29 49.1**	**-0.4**
NSTT	**Nanjuang**	**0.58**	**263**	*i* P	**Pn**	**10 29 40.0**	**0.0**
NSTT				*i* S	**Sn**	**10 29 49.2**	**0.0**
NSM	**Shimen**	**0.58**	**356**	P	**Pn**	**10 29 39.9**	**-0.2**
NSM				*e*S	**Sn**	**10 29 50.5**	**+1.2**
SBCB	**Hsinchu**	**0.60**	**279**	P	**Pn**	**10 29 40.6**	**+0.4**
SBCB				*i* S	**Sn**	**10 29 50.1**	**+0.6**
EOS2	**EOS2**	**0.61**	**117**	*e*P	**Pn**	**10 29 41.8**	**+1.6**
TWT	**Tachien**	**0.61**	**223**	*e*P	**Pn**	**10 29 41.5**	**+1.0**
TWT				*e*S	**Sn**	**10 29 50.6**	**+0.5**
HSN	**Hsinchu**	**0.61**	**280**	*i* P	**Pn**	**10 29 40.1**	**-0.3**
HSN				*i* S	**Sn**	**10 29 49.3**	**-0.5**
NHW	**Xinwu Township**	**0.61**	**300**	P	**Pn**	**10 29 40.6**	**+0.2**
NHW				S	**Sn**	**10 29 51.1**	**+1.2**
TWD	**Chiawan**	**0.62**	**183**	*e*P	**Pn**	**10 29 39.4**	**-1.1**
TWD				*e*S	**Sn**	**10 29 49.0**	**-1.0**
TDCB	**Techi**	**0.62**	**224**	*i* P	**Pn**	**10 29 41.4**	**+0.7**
TDCB				*e*S	**Sn**	**10 29 50.8**	**+0.5**
WHF	**Hehuan Shan**	**0.65**	**212**	*i* P	**Pn**	**10 29 41.4**	**+0.2**
WHF				*i* S	**Sn**	**10 29 51.5**	**+0.2**
NJN	**Zhunan**	**0.70**	**269**	P	**Pn**	**10 29 41.6**	**+0.3**
NJN				S	**Sn**	**10 29 52.2**	**+0.6**
HWA	**Hwalien**	**0.72**	**182**	⇑*e*P	**Pn**	**10 29 41.0**	**-0.7**
ETM	**Tongmen**	**0.74**	**190**	*e*P	**Pn**	**10 29 40.8**	**-1.2**
ETM				*e*S	**Sn**	**10 29 52.7**	**0.0**
EOS3	**EOS3**	**0.74**	**124**	*e*P	**Pn**	**10 29 43.2**	**+1.4**
WHP	**Taichung City**	**0.76**	**236**	P	**Pn**	**10 29 43.1**	**+0.9**
WHP				*i* S	**Sn**	**10 29 54.0**	**+0.9**

ALS	**Alishan**	**1.41**	**213**	*e*P	**Pn**	**10 29 52.9 +1.9**
ALS				eS	**Sn**	**10 30 10.6 +1.9**
RLNB	**Erlin**	**1.42**	**236**	P	**Pn**	**10 29 51.3 +0.5**
RLNB				S	**Sn**	**10 30 08.4 -0.1**
WDLH	**Douliu**	**1.42**	**225**	*e*P	**Pn**	**10 29 51.7 +0.8**
WDLH				eS	**Sn**	**10 30 09.8 +1.2**
WTCT	**Ta-ch'eng**	**1.49**	**236**	eS	**Sn**	**10 30 11.5 +1.3**
CHKH	**Chenggong**	**1.52**	**188**	*e*P	**Pn**	**10 29 51.4 -0.9**
CHKH				eS	**Sn**	**10 30 09.8 -1.1**
WTK	**Tuku**	**1.52**	**229**	*e*P	**Pn**	**10 29 52.7 +0.4**
WTK				eS	**Sn**	**10 30 11.2 +0.2**
FULB	**Fuli**	**1.53**	**192**	*e*P	**Pn**	**10 29 53.0 +0.6**
FULB				S	**Sn**	**10 30 11.3 +0.1**
WCKO	**Fanlu**	**1.57**	**217**	*e*P	**Pn**	**10 29 53.2 +0.2**
WCKO				*i* S	**Sn**	**10 30 13.3 +1.0**
EHD	**Haiduan**	**1.59**	**194**	*e*P	**Pn**	**10 29 53.3 0.0**
EHD				eS	**Sn**	**10 30 13.1 +0.2**
ELDTW	**Lidau**	**1.61**	**201**	*e*P	**Pn**	**10 29 54.2 +0.6**
ELDTW				eS	**Sn**	**10 30 12.3 -1.0**
CHKT	**Chengkung**	**1.61**	**189**	*e*P	**Pn**	**10 29 52.9 -0.6**
CHKT				eS	**Sn**	**10 30 11.9 -1.4**
CHY	**Chiayi**	**1.63**	**223**	*e*P	**Pn**	**10 29 54.4 +0.6**
CHY				S	**Sn**	**10 30 14.8 +1.1**
ECS	**Chishang**	**1.64**	**194**	*e*P	**Pn**	**10 29 55.0 +1.0**
ECS				S	**Sn**	**10 30 14.1 0.0**
CHN4	**Tsaushan**	**1.65**	**216**	P	**Pn**	**10 29 54.6 +0.6**
CHN4				eS	**Sn**	**10 30 15.9 +1.8**
WSF	**Szhu**	**1.67**	**231**	*e*P	**Pn**	**10 29 55.1 +0.8**
WSF				eS	**Sn**	**10 30 15.4 +0.8**
TPUB	**Ta-pu**	**1.67**	**214**	P	**Pn**	**10 29 54.8 +0.4**
TPUB	**Ta-pu**	**1.67**	**214**	*e*P	**Pn**	**10 29 55.1 +0.8**
TPUB				eS	**Sn**	**10 30 16.2 +1.5**
STYH	**Taoyuan**	**1.72**	**208**	*e*P	**Pn**	**10 29 56.6 +1.7**
STYH				eS	**Sn**	**10 30 18.9 +3.1**
WTP	**Ta-pu**	**1.72**	**213**	*e*P	**Pn**	**10 29 55.0 -0.1**
WTP				eS	**Sn**	**10 30 17.0 +1.0**
STYT	**Tauyuan**	**1.73**	**208**	*e*P	**Pn**	**10 29 56.7 +1.6**
STYT				eS	**Sn**	**10 30 18.2 +2.0**
WSL	**Shuilin Townsh**	**1.74**	**228**	*e*P	**Pn**	**10 29 55.2 -0.1**
WSL				*i* S	**Sn**	**10 30 17.2 +0.8**
EDH	**Donghe**	**1.75**	**190**	*e*P	**Pn**	**10 29 54.4 -0.9**
EDH				eS	**Sn**	**10 30 16.1 -0.4**
TWK	**Hsinying**	**1.77**	**217**	*e*P	**Pn**	**10 29 56.3 +0.5**
TWK				eS	**Sn**	**10 30 19.6 +2.4**
SNST	**Tainan City**	**1.81**	**215**	P	**Pn**	**10 29 56.5 +0.4**
SNST				eS	**Sn**	**10 30 21.1 +3.1**
CHN1	**Nanshi**	**1.82**	**214**	*e*P	**Pn**	**10 29 57.6 +1.2**
CHN1				eS	**Sn**	**10 30 19.9 +1.6**
LONT	**Longtian**	**1.85**	**195**	*e*P	**Pn**	**10 29 57.9 +1.2**
LONT				eS	**Sn**	**10 30 19.8 +0.8**
CHN8	**Yiju**	**1.88**	**224**	*e*P	**Pn**	**10 29 57.1 0.0**
CHN8				S	**Sn**	**10 30 19.6 0.0**
IRIF	**Iriomote-Funau**	**1.94**	**100**	P	**Pn**	**10 29 57.9 0.0**
IRIF				eS	**Sn**	**10 30 20.9 -0.4**
TWG	**Pinlang**	**1.94**	**196**	*e*P	**Pn**	**10 29 57.8 -0.3**
TWG				S	**Sn**	**10 30 21.1 -0.2**
TWGBT	**Beinan**	**1.94**	**195**	P	**Pn**	**10 29 59.0 +1.0**
TWGBT	**Beinan**	**1.94**	**195**	*e*P	**Pn**	**10 29 58.0 -0.1**
VWUC	**VWUC**	**2.01**	**279**	*e*P	**Pn**	**10 29 58.5 -0.4**
VWUC				eS	**Sn**	**10 30 20.7 -2.2**
LDUT	**Ludao**	**2.02**	**184**	*e*P	**Pn**	**10 29 57.6 -1.6**
LDUT				eS	**Sn**	**10 30 21.4 -1.9**
SHHT	**Tainan City**	**2.05**	**215**	*e*P	**Pn**	**10 30 00.2 +0.7**
SHHT				eS	**Sn**	**10 30 24.0 +0.1**
HATJ	**Hateruma jima**	**2.08**	**108**	eS	**Sn**	**10 30 25.3 +0.7**
SCST	**Cishan**	**2.09**	**210**	*e*P	**Pn**	**10 30 02.1 +2.1**
SCST				eS	**Sn**	**10 30 24.6 -0.3**
TSCK	**Chigu Township**	**2.10**	**223**	P	**Pn**	**10 30 00.6 +0.5**
TSCK				S	**Sn**	**10 30 25.3 +0.2**
MATB	**Ma-tsu**	**2.10**	**314**	*e*P	**Pn**	**10 29 59.4 -0.8**
MATB				eS	**Sn**	**10 30 24.8 -0.4**
MSUT	**Lienchiang**	**2.13**	**314**	*e*P	**Pn**	**10 30 00.8 +0.2**
MSUT				eS	**Sn**	**10 30 24.7 -1.2**
SSD	**Sandimen**	**2.15**	**206**	*e*P	**Pn**	**10 30 02.4 +1.5**
SSD				eS	**Sn**	**10 30 27.8 +1.4**
TWM1	**Shoushan**	**2.17**	**211**	*e*P	**Pn**	**10 30 05.2 +4.0**
ECL	**Taimali**	**2.19**	**197**	*e*P	**Pn**	**10 30 03.0 +1.6**
ECL				*i* S	**Sn**	**10 30 27.3 +0.1**
JKRS	**Kuro-shima**	**2.21**	**102**	P	**Pn**	**10 30 02.1 +0.4**
JKRS				S	**Sn**	**10 30 28.4 +0.6**
PNG	**Penghu**	**2.21**	**240**	eS	**Sn**	**10 30 26.0 -1.9**
PHUB	**P'eng-hu**	**2.23**	**238**	*e*P	**Pn**	**10 30 00.9 -1.0**
PHUB				eS	**Sn**	**10 30 27.3 -0.9**
MASBT	**Mashibuluo**	**2.27**	**204**	P	**Pn**	**10 30 03.0 +0.5**
MASBT				eS	**Sn**	**10 30 29.3 -0.1**
JIJ	**Ishigaki jima**	**2.31**	**98**	P	**Pn**	**10 30 03.1 +0.2**
JIJ				eS	**Sn**	**10 30 29.6 -0.6**
WDGT	**Dungji**	**2.31**	**232**	*e*P	**Pn**	**10 30 02.0 -1.0**
WDGT				eS	**Sn**	**10 30 28.6 -1.6**
PTMZ	**Houxiangcun**	**2.31**	**279**	*e*P	**Pn**	**10 30 01.9 -1.1**
JISG	**Ishigakijimahi**	**2.44**	**92**	*e*P	**Pn**	**10 30 04.9 +0.2**
JISG				eS	**Sn**	**10 30 33.7 +0.3**
TAWH	**Dawu Township**	**2.45**	**196**	*e*P	**Pn**	**10 30 06.5 +1.6**
TAWH				S	**Sn**	**10 30 33.5 -0.2**
SCZT	**Fangliau**	**2.50**	**202**	P	**Pn**	**10 30 06.9 +1.3**
SCZT				eS	**Sn**	**10 30 34.2 -0.8**
VCHM	**Qimei**	**2.51**	**234**	*e*P	**Pn**	**10 30 05.1 -0.6**
VCHM				eS	**Sn**	**10 30 33.5 -1.6**
XPSS	**Dashiqiu**	**2.57**	**330**	*e*P	**Pn**	**10 30 05.7 -0.9**
LAY	**Lan-yu**	**2.65**	**182**	*e*P	**Pn**	**10 30 06.1 -1.6**
LAY				eS	**Sn**	**10 30 37.8 -0.9**
LYUB	**Lan-yu**	**2.69**	**181**	*e*P	**Pn**	**10 30 05.9 -2.3**
LYUB				eS	**Sn**	**10 30 37.7 -1.7**
TWKBT	**Hengchun**	**2.85**	**196**	*e*P	**Pn**	**10 30 12.7 +2.3**
TWKBT				eS	**Sn**	**10 30 45.8 +2.3**
KNMB	**Chin-men Tao**	**2.97**	**266**	eS	**Sn**	**10 30 44.5 -1.9**
AXDP	**Jialang**	**3.34**	**274**	*e*P	**Pn**	**10 30 17.0 -0.1**
ZPLA	**Ao Xicun**	**3.63**	**259**	*e*P	**Pn**	**10 30 21.0 -0.1**
ZPLA				eS	**Sn**	**10 31 00.5 -2.1**
DSXP	**Dongshan**	**3.97**	**256**	*e*P	**Pn**	**10 30 26.3 +0.6**
DSXP				eS	**Sn**	**10 31 09.1 -1.9**
SXFK	**Yanhouchang**	**3.98**	**296**	P	**Pn**	**10 30 26.9 +0.9**

ASRS ***22*** *10:35:29.0±1.6,51°.54N×82°.59E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 22 10:35:34.9±1.7, 51°.59N×82°.74E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=20.2km s-min=16.7km az=149.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**2.68**	**27**	Pn	Pn	10 36 19.1	-0.1
	2.4nm,0.3s,baz=213,slow=14,SNR=24						
ZALV				Sn	Sn	10 36 53.4	+1.1
	2.0nm,0.3s,baz=208,slow=24,SNR=12						
	5.2nm,0.3s						
I46RU	**ZALESOVO INFRA**	**2.68**	**27**	I	I	10 50 30.0	
	0.2nm,0.8s,baz=211,slow=329,SNR=26						
KURBB	**Kurchatov Arra**	**2.82**	**252**	Pn	Pn	10 36 21.7	+0.5
	0.1nm,0.3s,baz=71,slow=19,SNR=1.4						
KURBB				Sn	Sn	10 36 55.9	0.0
	0.4nm,0.3s,baz=71,slow=33,SNR=6.0						
	2.0nm,0.3s						
MKAR	**Makanchi Array**	**4.81**	**184**	Pn	Pn	10 36 49.5	+0.9
	0.3nm,0.3s,baz=7.2,slow=13,SNR=6.3						
MKAR				Lg	Lg	10 38 02.2	
	0.6nm,0.3s,baz=6.7,slow=26,SNR=11						
	0.7nm,0.3s						

IDC 22 10:37:11.4±911.0, 39°.15N×36°.58E, h0km, Error ellipse: s-maj=395.1km s-min=182.2km az=142.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**7.59**	**1**	I	I	12 22 37.4	
	baz=182,slow=326						
I26DE	**FREYUNG INFRAS**	**19.03**	**308**	I	I	12 26 50.0	
	baz=113,slow=315,SNR=0.5						
I48TN	**KESRA INFRASON**	**21.86**	**270**	I	I	12 50 10.0	
	baz=74,slow=311,SNR=2.4						
I37NO	**I37NO**	**31.51**	**348**	I	I	13 50 30.0	
	baz=152,slow=326,SNR=0.7						

DNK ***22*** *10:55:41.9±0.7, 59°.70N×22°.40E, h0km, ML2.4(UPP), Suspected explosion*

UPP ***22*** *10:55:42.2±1.5, 59°.68N×22°.57E, h0km, ML2.4, Presumed earthquake*

HEL ***22*** *10:55:42.9±0.1, 59°.63N×22°.25E, h0km, ML2.2, Explosion*

EST ***22*** *10:55:43.0, 59°.64N×22°.25E, h0km, ML2.3(HEL), Explosion*

ISC 22 10:55:42.1±0.8, 59°.67N±0°.04×22°.30E±0°.02, h0km, n52, σ1.32/70, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVF	**Tvarminne**	**0.51**	**69**	PG	**Pb**	**10 55 52.7**	**-1.2**
TVF				SG	**Sg**	**10 55 59.3**	**+0.8**
TVF				MSG		10 56 00.6	
	comp=Z,13nm,0.2s						
MEF	**Metsahovi**	**1.19**	**61**	*e*P	**Pb**	**10 56 05.5**	**0.0**
MEF	**Metsahovi**	**1.19**	**61**	PG	**Pb**	**10 56 05.0**	**-0.4**
	baz=239						
MEF				MSG		10 56 20.2	
	comp=Z,39nm,0.2s						
MEF				SG	**Sn**	**10 56 21.8**	**-0.9**
AAL	**Aland**	**1.27**	**295**	P	**Pg**	**10 56 05.7**	**-0.7**
AAL				S	**Sg**	**10 56 23.3**	**+0.4**
AAL	**Aland**	**1.27**	**295**	P	**Pn**	**10 56 08.0**	**+1.0**
AAL				S	**Sn**	**10 56 26.3**	**+1.5**
AAL	**Aland**	**1.27**	**295**	P	**Pg**	**10 56 05.7**	**-0.7**
AAL				S	**Sg**	**10 56 23.3**	**+0.4**
AAL	**Aland**	**1.27**	**295**	PG	**Pg**	**10 56 05.5**	**-0.9**
AAL				SB	**Sg**	**10 56 22.6**	**-0.3**
HEL5	**Espoo, Suvisaa**	**1.31**	**69**	PG	**Pn**	**10 56 07.4**	**-0.1**
HEL5				MSG		10 56 23.3	
	comp=Z,22nm,0.2s						
RAF	**Rauma**	**1.39**	**349**	*e*P	**Pb**	**10 56 09.4**	**+0.5**
RAF	**Rauma**	**1.39**	**349**	PG	**Pn**	**10 56 08.6**	**-0.1**
RAF				MSG		10 56 25.4	
	comp=Z,38nm,0.2s						
RAF				SG	**Sb**	**10 56 27.3**	**+0.3**
HEL1	**Helsinki**	**1.40**	**67**	PG	**Pg**	**10 56 07.2**	**-1.6**
HEL1				MSG		10 56 25.9	
	comp=Z,34nm,0.2s						
NUR	**Nurmijarvi**	**1.45**	**53**	PG	**Pb**	**10 56 09.8**	**-0.1**
NUR				MSG		10 56 27.5	
	comp=Z,20nm,0.2s						
NUR				SN	**Sn**	**10 56 33.9**	**+4.8**
NRTU	**Norrtaelje**	**1.86**	**272**	P	**Pn**	**10 56 15.5**	**+0.3**
NRTU				S	**Sn**	**10 56 40.1**	**+0.8**
NRTU	**Norrtaelje**	**1.86**	**272**	P	**Pn**	**10 56 15.5**	**+0.3**
NRTU				S	**Sn**	**10 56 40.1**	**+0.8**
ARBE	**Arbavere**	**1.89**	**95**	*e*P	**Pg**	**10 56 17.8**	**-0.5**
ARBE	**Arbavere**	**1.89**	**95**	PG	**Pb**	**10 56 17.0**	**-0.3**
ARBE				SG	**Sg**	**10 56 43.5**	**+0.9**
PVF	**Pernaja**	**1.99**	**62**	PG	**Pb**	**10 56 19.3**	**+0.2**
PVF				MSG		10 56 43.0	
	comp=Z,32nm,0.2s						
PVF				SG	**Sg**	**10 56 45.3**	**-0.6**
GRAU	**Graesoe**	**2.01**	**291**	P	**Pn**	**10 56 17.4**	**+0.2**
GRAU	**Graesoe**	**2.01**	**291**	P	**Pb**	**10 56 19.3**	**-0.1**
GRAU	**Graesoe**	**2.01**	**291**	P	**Pn**	**10 56 17.4**	**+0.2**
SLIT	**Slitere, Latvi**	**2.04**	**180**	*e*P	**Pn**	**10 56 18.6**	**+1.0**
SLIT	**Slitere, Latvi**	**2.04**	**180**	PG	**Pn**	**10 56 18.4**	**+0.7**
KPF	**Kankaanpaa**	**2.18**	**357**	PG	**Pb**	**10 56 22.1**	**-0.2**
KPF				MSG		10 56 48.5	
	comp=Z,11nm,0.2s						
KPF				SG	**Sb**	**10 56 50.4**	**+0.6**
FORU	**Forsmark**	**2.19**	**291**	P	**Pb**	**10 56 21.7**	**-0.8**
FLYU	**Flymyra**	**2.27**	**284**	P	**Pn**	**10 56 21.2**	**+0.4**
FLYU	**Flymyra**	**2.27**	**284**	P	**Pb**	**10 56 22.8**	**-1.2**
FLYU	**Flymyra**	**2.27**	**284**	P	**Pn**	**10 56 21.2**	**+0.4**
NYNU	**Nynaeshamn**	**2.30**	**255**	P	**Pn**	**10 56 22.6**	**+1.4**
NYNU	**Nynaeshamn**	**2.30**	**255**	P	**Pb**	**10 56 23.4**	**-0.9**
NYNU	**Nynaeshamn**	**2.30**	**255**	P	**Pn**	**10 56 22.6**	**+1.4**
UPP	**Uppsala**	**2.38**	**277**	*e*P	**Pn**	**10 56 22.9**	**+0.6**
FIA0	**FINESS Array S**	**2.58**	**45**	PB	**Pb**	**10 56 27.4**	**-1.7**
FIA0				MSG		10 57 00.1	
	comp=Z,12nm,0.2s						
FIA0				SB	**Sb**	**10 57 01.3**	**0.0**
VSU	**Vasula**	**2.59**	**116**	SG	**Sb**	**10 57 00.8**	**-0.7**
VJF	**Virojoki**	**2.77**	**69**	PN	**Pn**	**10 56 29.2**	**+1.6**
	baz=253						
VJF				SB	**Sb**	**10 57 04.2**	**-2.6**
VJF				MSG		10 57 05.6	
	comp=Z,14nm,0.2s						
KEF	**Keuruu**	**2.81**	**25**	*e*P	**Pn**	**10 56 29.5**	**+1.4**
KEF	**Keuruu**	**2.81**	**25**	PB	**Pb**	**10 56 31.7**	**-1.3**
	baz=207						
KEF				MSG		10 57 06.6	
	comp=Z,8.1nm,0.2s						
KEF				SB	**Sb**	**10 57 07.0**	**-0.9**
KAF	**Kangasniemi**	**3.14**	**37**	PB	**Pb**	**10 56 35.9**	**-2.8**
KAF				SB	**Sb**	**10 57 17.2**	**-0.3**
SUIF	**Sumiainen**	**3.58**	**30**	PN	**Pn**	**10 56 41.5**	**+2.6**
HEMU	**Hemsoen**	**3.66**	**327**	PN	**Pn**	**10 56 42.0**	**+2.2**
PABE	**Paberze**	**4.27**	**167**	*e*P	**Pn**	**10 56 50.7**	**+2.5**
UMAU	**Umeaa**	**4.30**	**350**	PN	**Pn**	**10 56 51.3**	**+2.6**
UMAU				SG	**Sg**	**10 57 58.0**	**-2.1**
BORU	**Boraas**	**5.38**	**252**	*e*P	**Pn**	**10 57 01.9**	**-1.5**
JOF	**Joensuu**	**5.43**	**49**	*e*P	**Pn**	**10 57 05.5**	**+1.4**
NC602	**NORSAR Array S**	**5.47**	**286**	*e*P	**Pn**	**10 57 05.2**	**+0.4**
DEL	**Delary**	**5.50**	**238**	*i* P	**Pn**	**10 57 06.1**	**+0.9**
NB201	**NORSAR Array S**	**5.64**	**289**	*e*P	**Pn**	**10 57 07.0**	**-0.1**
SJUU	**Sjulsmark**	**5.87**	**357**	*e*P	**Pn**	**10 57 11.8**	**+1.6**
ONAU	**Onsala**	**5.90**	**252**	*e*P	**Pn**	**10 57 12.7**	**+2.1**
BSD	**Bornholm Skovb**	**6.06**	**224**	*e*P	**Pn**	**10 57 12.1**	**-0.8**
BJUU	**Bjuv**	**6.12**	**238**	*e*P	**Pn**	**10 57 13.3**	**-0.4**
SALU	**Saltoluokta**	**7.93**	**349**	*e*P	**Pn**	**10 57 39.3**	**+0.9**
HEF	**Hetta**	**8.80**	**3**	*e*P	**Pn**	**10 57 50.8**	**+0.5**

SJA ***22*** *10:58:58.3±0.3, 16°.60S×70°.03W, h213km±18km, ML4.7, MW4.2*

NEIC ***22*** *10:59:05.1±2.8, 17°.15S±0°.06×70°.22W±0°.08, h121km±6km, mb4.8/86, Error ellipse: s-maj=11.0km s-min=8.8km az=101.0*

VAO ***22*** *10:59:06.8±0.7, 17°.11S×69°.85W, h127km±5km, mb5.0*

IDC ***22*** *10:59:08.2±0.5, 17°.09S×70°.01W, h142km±4km, mb4.2/15, mbtmp4.6/15, MS3.9/1, Error ellipse: s-maj=11.7km s-min=8.3km az=176.0*

ISC 22 10:59:05.3±0.4, 17°.16S±0°.04×70°.11W±0°.05, h126km±3km, h126km:pP-P, n171, σ1962/165, mb4.7/43, 5C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.74**	**126**		**Pn**	**10 59 28.8**	**+2.7**
AP01	**Chacalluta**	**1.23**	**190**		**Pn**	**10 59 30.9**	**+0.8**
LPAZ	**La Paz**	**2.08**	**66**	P	**Pn**	**10 59 44.0**	**+3.3**
	2μm,0.6s,baz=246,slow=7.5,SNR=2501						
LPAZ				S	**Sn**	**11 00 11.1**	**+3.5**
	851nm,0.5s,baz=157,slow=25,SNR=27						
LPAZ				LR	LR	11 00 29.2	
	comp=Z,731nm,18.6s,baz=146,slow=41						
LPAZ	**La Paz**	**2.08**	**66**	*e*P	**Pn**	**10 59 40.1**	**-0.6**
PB11	**IPOC Station P**	**2.62**	**171**		**Pn**	**10 59 47.6**	**+0.6**
GO01	**Chusmiza**	**2.64**	**161**		**Pn**	**10 59 49.5**	**+1.9**
PB08	**IPOC Station P**	**3.10**	**163**		**Pn**	**10 59 54.9**	**+1.5**
TA01	**Diego Aracena**	**3.39**	**181**		**Pn**	**10 59 56.3**	**-0.5**
PATCX	**Punta Patache**	**3.64**	**181**		**Pn**	**10 59 59.9**	**-0.3**
PB01	**IPOC Station P**	**3.91**	**171**		**Pn**	**11 00 03.5**	**-0.3**
PB02	**IPOC Station P**	**4.14**	**177**		**Pn**	**11 00 07.0**	**0.0**
PB09	**IPOC Station P**	**4.69**	**170**		**Pn**	**11 00 14.5**	**+0.3**
PB03	**IPOC Station P**	**4.88**	**176**		**Pn**	**11 00 16.7**	**-0.1**
PB06	**IPOC Station P**	**5.54**	**175**		**Pn**	**11 00 24.8**	**-0.9**
PB05	**IPOC Station P**	**5.67**	**181**		**Pn**	**11 00 26.0**	**-1.3**
PB10	**IPOC Station P**	**6.34**	**184**		**Pn**	**11 00 34.7**	**-1.6**
YJA	**Yavi**	**6.61**	**140**	*i* P	**Pn**	**11 00 41.6**	**+1.3**
YJA				*i* S	**Sn**	**11 01 55.6**	**+1.1**
PB14	**IPOC Station P**	**7.43**	**182**		**Pn**	**11 00 48.9**	**-2.4**
GO02	**Mina Guanaco**	**7.98**	**177**		**Pn**	**11 00 56.9**	**-1.8**
NNA	**Nana**	**8.30**	**307**	P	**Pn**	**11 01 02.7**	**-0.2**
	42nm,0.4s,baz=132,slow=10,SNR=18						
NNA				S	**Sn**	**11 02 28.6**	**-6.5**
	20nm,0.3s,baz=211,slow=19,SNR=4.0						
AZAP	**Zapla**	**8.46**	**147**	*i* P	**Pn**	**11 01 04.0**	**-1.2**
AZAP				*i* S	**Sn**	**11 02 37.8**	**-1.5**
AZAP				IAML		11 02 39.3	
	comp=Z,68nm,0.5s						
SLA	**San Lorenzo**	**8.67**	**151**	*i* P	**Pn**	**11 01 06.9**	**-0.9**
SLA				*i* S	**Sn**	**11 02 41.9**	**-2.1**
SLA				IAML		11 02 56.1	
	comp=Z,15nm,0.9s						
SIV	**San Ignacio**	**8.74**	**84**	P	**Pn**	**11 01 09.3**	**+0.5**
	comp=Z,237nm,0.4s,baz=268,slow=9.2,SNR=279						
ALOL	**LOMAS DE OLMED**	**8.76**	**140**	*i* P	**Pn**	**11 01 06.8**	**-2.2**
ALOL				*i* S	**Sn**	**11 02 41.9**	**-4.3**

AC01	**Pan de Azucar**	**8.96**	**183**		**Pn**	**11 01 08.6 -3.0**
AC02	**Maricunga**	**9.67**	**175**		**Pn**	**11 01 20.0 -1.7**
FSA	**Cafayete**	**9.70**	**157**	*i* P	**Pn**	**11 01 20.6 -1.2**
FSA				*i* S	**Sn**	**11 03 05.5 -3.6**
AC06	**Mina Casimiro**	**10.15**	**181**		**Pn**	**11 01 25.7 -2.0**
VILB	**Vilhena**	**10.44**	**68**		**Pn**	**11 01 30.6 -1.2**
VILB	**Vilhena**	**10.44**	**68**	*e*P	**Pn**	**11 01 29.7 -2.0**
PTLB	**Pontes e Lacer**	**10.67**	**82**		**Pn**	**11 01 33.3 -1.4**
PTLB	**Pontes e Lacer**	**10.67**	**82**	*e*P	**Pn**	**11 01 32.6 -2.1**
LCO	**Las Campanas**	**11.81**	**183**	Pn	**Pn**	**11 01 47.4 -2.6**
BDQN	**Bodoquena, MS**	**13.06**	**107**	*e*P	**Pn**	**11 02 03.8 -2.4**
SALV	**Santo Antonio**	**13.88**	**87**	*e*P	**Pn**	**11 02 14.0 -2.7**
AQDB	**Aquidauana**	**14.04**	**106**		**Pn**	**11 02 19.0 +0.3**
AQDB	**Aquidauana**	**14.04**	**106**	*e*P	**Pn**	**11 02 17.2 -1.4**
PDRB	**Porto dos Gac**	**14.08**	**69**	*e*P	**Pn**	**11 02 15.4 -3.9**
CFA	**Coronel Fontan**	**14.48**	**174**	P	**Pn**	**11 02 21.7 -2.6**
	comp=Z,7.5nm,0.7s,baz=358,slow=12,SNR=18					
CFA				S	Sn	11 04 53.7 -11
	comp=Z,1.6nm,0.5s,baz=270,slow=20,SNR=2.9					
CPUP	**Villa Florida**	**14.96**	**130**		**Pn**	**11 02 30.3 -0.1**
CPUP	**Villa Florida**	**14.96**	**130**	P	**Pn**	**11 02 30.4 0.0**
	comp=Z,0.9nm,0.7s,baz=318,slow=15,SNR=5.5					
SJPY	**San Joaquin**	**15.21**	**123**	*e*P	**Pn**	**11 02 32.6 -0.9**
CLDB	**Colider**	**15.22**	**68**	*e*P	**Pn**	**11 02 32.8 -0.9**
AMBA	**Amambai (Brazi**	**15.31**	**114**	*e*P	**Pn**	**11 02 34.3 -0.6**
VA03	**San Esteban**	**15.54**	**181**	IAmb	IAmb	11 02 42.5
	comp=Z,52nm,0.7s					
RPRD	**Ribas do Rio P**	**15.88**	**105**	*e*P	**Pn**	**11 02 41.4 -0.5**
MT02	**Curacav**	**16.06**	**183**	IAmb	IAmb	11 02 45.2
	comp=Z,31nm,0.8s					
MT08	**Bocatoma Ro**	**16.22**	**180**	IAmb	IAmb	11 02 52.3
	comp=Z,37nm,0.9s					
C2SB	**Chapadao do Su**	**16.51**	**98**	*e*P	**Pn**	**11 02 49.0 -0.6**
LMEL	**Las Melosas**	**16.62**	**180**	IAmb	IAmb	11 02 56.2
	comp=Z,58nm,0.8s					
MT01	**Popeta**	**16.67**	**183**	IAmb	IAmb	11 02 55.9
	comp=Z,34nm,0.7s					
MACA	**Manacapuru-AM**	**16.71**	**35**		**Pn**	**11 02 50.9 -1.1**
MACA	**Manacapuru-AM**	**16.71**	**35**	*e*P	**Pn**	**11 02 51.2 -0.7**
BO04	**La Punta**	**16.77**	**181**	IAmb	IAmb	11 03 03.7
	comp=Z,27nm,0.7s					
COHC	**Cochancay**	**17.15**	**327**		**P**	**11 02 56.2 -0.7**
BO01	**Tunca**	**17.18**	**183**		**Pn**	**11 02 58.5 +0.9**
BO01				IAmb	IAmb	11 03 01.9
	comp=Z,38nm,0.8s					
TRCB	**Terra Rica**	**17.35**	**112**	P	**Pn**	**11 02 59.8 0.0**
TRCB	**Terra Rica**	**17.35**	**112**	*e*P	**P**	**11 02 58.7 -0.5**
NPGB	**Novo Progresso**	**17.57**	**57**	*e*P	**P**	**11 03 00.6 -1.0**
BO02	**Sierra Bellavi**	**17.57**	**182**		**Pn**	**11 03 02.5 +0.1**
BO02				IAmb	IAmb	11 03 07.1
	comp=Z,80nm,1.3s					
ARAG	**Araguaiana, MT**	**17.61**	**88**	*e*P	**P**	**11 03 00.9 -1.2**
PTGB	**Pitanga**	**18.44**	**117**	*e*P	**P**	**11 03 10.7 -0.5**
ML02	**Panimavida**	**18.57**	**183**	IAmb	IAmb	11 03 17.9
	comp=Z,66nm,0.8s					
LDASE	**Londrina, Braz**	**18.86**	**112**	*e*P	**P**	**11 03 15.2 -0.6**
ITRB	**Iturama**	**18.91**	**101**	*e*P	**P**	**11 03 16.1 -0.2**
ITTB	**Itaituba**	**18.98**	**50**	*e*P	**P**	**11 03 16.4 -0.7**
OTAV	**Otavalo**	**19.14**	**334**	*e*P	**Pn**	**11 03 21.7 +0.2**
ITAB	**Concordia**	**19.41**	**124**		**P**	**11 03 21.5 -0.2**
ITAB				IAmb	IAmb	11 03 22.4
	comp=Z,48nm,0.7s					
ITAB	**Concordia**	**19.41**	**124**	*e*P	**P**	**11 03 20.8 -0.9**
BI02	**San Fabin de**	**19.46**	**183**	IAmb	IAmb	11 03 27.9
	comp=Z,35nm,1.2s					
CPSB	**Cacapava Do Su**	**20.13**	**134**	*e*P	**P**	**11 03 28.6 -0.8**
FRTB	**Fartura**	**20.22**	**111**	*e*P	**P**	**11 03 30.0 -0.5**
BB19B

	comp=Z,77nm,0.5s							
SNAA	**Sanae**	**66.73**	**161**	P	**P**	**11 09 43.7**	**+1.1**	
SNAA	**Sanae**	**66.73**	**161**	P	**P**	**11 09 43.9**	**+1.3**	
	comp=Z,3.2nm,0.6s,baz=283,slow=8.6,SNR=49							
	comp=Z,3.2nm,0.6s							
F33A	**5 Mile Ranch,**	**67.04**	**340**	IAmb	IAmb	11 09 46.1		
	comp=Z,7.0nm,0.6s							
KNB	**Kanab**	**67.27**	**324**		**P**	**11 09 45.9**	**-0.7**	
KNB				IAmb	IAmb	11 10 24.5		
	comp=Z,22nm,1.5s							
TROLL	**Troll, Antarti**	**68.45**	**161**	⇑P	**P**	**11 09 55.2**	**+1.7**	
	comp=Z,113nm,0.3s							
DBIC	**Dimbokro**	**68.67**	**76**		**P**	**11 09 55.6**	**0.0**	
DBIC	**Dimbokro**	**68.67**	**76**	P	**P**	**11 09 55.4**	**-0.2**	
	comp=Z,41nm,0.7s,baz=271,slow=6.9,SNR=60							
	comp=Z,41nm,0.7s							
DBIC	**Dimbokro**	**68.67**	**76**	P	**P**	**11 09 54.5**	**-1.1**	
DBIC				PcP	**PcP**	**11 10 18.8**	**-0.9**	
DBIC				pP	**pP**	**11 10 25.0**	**-3.0**	
DBIC				sP	**sP**	**11 10 38.7**	**-3.4**	
AGMN	**Agassiz Nation**	**69.10**	**342**	IAmb	IAmb	11 09 59.0		
	comp=Z,6.3nm,0.7s							
E28A	**Huff**	**69.18**	**338**	IAmb	IAmb	11 10 01.1		
	comp=Z,12nm,0.6s							
PDAR	**Pinedale Array**	**69.80**	**330**	P	**P**	**11 10 03.2**	**+0.9**	
	comp=Z,0.5nm,0.4s,baz=121,slow=8.6,SNR=9.3							
PDAR				pP	**pP**	**11 10 37.8**	**+2.9**	
	comp=Z,0.5nm,0.6s,baz=132,slow=6.6,SNR=2.9							
	comp=Z,0.5nm,0.4s							
ULM	**Lac du Bonnet**	**70.86**	**343**	P	**P**	**11 10 08.4**	**+0.2**	
	comp=Z,12nm,0.6s,baz=150,slow=6.6,SNR=33							
ULM				pP	**pP**	**11 10 43.1**	**+2.3**	
	comp=Z,3.2nm,0.6s,baz=142,slow=5.0,SNR=2.8							
	comp=Z,12nm,0.6s							
NVAR	**Mina Array Bea**	**71.40**	**322**	P	**P**	**11 10 11.9**	**-0.1**	
NVAR	**Mina Array Bea**	**71.40**	**322**	P	**P**	**11 10 14.0**	**+2.0**	
	comp=Z,1.4nm,0.7s,baz=142,slow=6.1,SNR=7.6							
NVAR				pP	**pP**	**11 10 48.8**	**+4.1**	
	comp=Z,1.4nm,0.9s,baz=143,slow=6.5,SNR=4.0							
	comp=Z,1.4nm,0.7s							
YNE	**Yellowstone No**	**71.72**	**331**	IAmb	IAmb	11 10 51.8		
	comp=Z,18nm,1.0s							
QSPA	**South Pole Qui**	**73.01**	**180**	P	**P**	**11 10 24.0**	**+2.8**	
QSPA				IAmb	IAmb	11 10 25.0		
	comp=Z,8.4nm,0.7s							
QSPA	**South Pole Qui**	**73.01**	**180**	P	**P**	**11 10 24.2**	**+3.0**	
	comp=Z,7.6nm,0.6s,baz=162,slow=1.0,SNR=65							
	comp=Z,7.6nm,0.6s							
PPT	**Papeete**	**75.25**	**256**	LR	LR	11 36 34.9		
	comp=Z,61nm,18.3s,baz=288,slow=30							
TORD	**Torodi Ar. Bea**	**77.02**	**72**	P	**P**	**11 10 43.7**	**-1.2**	
TORD				IAmb	IAmb	11 10 45.3		
	comp=Z,13nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.02**	**72**	P	**P**	**11 10 44.1**	**-0.8**	
	comp=Z,18nm,0.6s,baz=260,slow=5.6,SNR=152							
TORD				pP	**pP**	**11 11 19.6**	**+1.7**	
	comp=Z,2.9nm,0.9s,baz=265,slow=5.7,SNR=1.2							
	comp=Z,18nm,0.6s							
SBA	**Scott Base**	**79.87**	**190**	P	**P**	**11 11 01.5**	**+2.1**	
VNDA	**Vanda**	**80.91**	**190**	P	**P**	**11 11 07.7**	**+2.6**	
	comp=Z,2.1nm,0.8s,baz=122,slow=6.0,SNR=12							
	comp=Z,2.1nm,0.8s							
TSUM	**Tsumeb**	**82.40**	**108**	P	**P**	**11 11 15.2**	**+1.0**	
TSUM				IAmb	IAmb	11 11 15.8		
	comp=Z,7.2nm,0.8s							
PAB	**San Pablo**	**83.25**	**45**	P	**P**	**11 11 18.9**	**+1.0**	
PAB				IAmb	IAmb	11 11 20.2		
	comp=Z,5.3nm,0.6s							
ESDC	**Sonseca Array**	**83.57**	**45**		**P**	**11 11 19.9**	**+0.4**	
ESDC	**Sonseca Array**	**83.57**	**45**	P	**P**	**11 11 20.5**	**+1.0**	
	comp=Z,4.7nm,0.8s,baz=253,slow=5.3,SNR=28							
	comp=Z,4.7nm,0.8s							
GRTLG	**Ghanzi**	**85.09**	**111**	IAmb	IAmb	11 11 29.3		
	comp=Z,13nm,0.7s							
KGCAE	**Kacgae**	**85.55**	**112**	P	**P**	**11 11 29.8**	**-0.2**	
KGCAE				IAmb	IAmb	11 11 31.7		
	comp=Z,18nm,0.9s							
BOSA	**Boshof**	**86.50**	**119**	P	**P**	**11 11 35.3**	**+0.7**	
	comp=Z,1.7nm,0.7s,baz=326,slow=11,SNR=3.0							
	comp=Z,1.7nm,0.7s							
YKA	**Yellowknife Ar**	**86.74**	**341**	P	**P**	**11 11 35.8**	**+1.1**	
	comp=Z,2.1nm,0.8s,baz=132,slow=5.0,SNR=4.9							
YKA				pP	**pP**	**11 12 11.1**	**+2.7**	
	comp=Z,6.0nm,1.0s,baz=138,slow=4.5,SNR=5.1							
	comp=Z,2.1nm,0.8s							
LBTB	**Lobatse**	**87.88**	**115**	P	**P**	**11 11 41.0**	**-0.2**	
MAW	**Mawson**	**88.79**	**164**	P	**P**	**11 11 45.9**	**+1.4**	
	comp=Z,2.0nm,0.7s,baz=193,slow=11,SNR=4.1							
	comp=Z,2.0nm,0.7s							
NIUE	**Niue**	**93.38**	**249**		**P**	**11 12 03.1**	**-3.8**	
KURBB	**Kurchatov Arra**	**138.25**	**30**	PKP	**PKPdf**	**11 18 15.1**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=325,slow=3.5,SNR=2.7							
ZALV	**Zalesovo Beam**	**138.45**	**22**	PKP	**PKPdf**	**11 18 15.8**	**+0.1**	
	comp=Z,3.3nm,0.9s,baz=264,slow=1.4,SNR=2.3							
USRK	**Ussuriysk Ar.**	**147.23**	**330**	PKPbc	**PKPab**	**11 18 35.8**	**-0.2**	
	comp=Z,2.5nm,0.6s,baz=26,slow=4.4,SNR=4.2							
WMQ	**Urumqi**	**147.46**	**31**	*e*PKPbc	**PKPdf**	**11 18 32.4**	**+0.4**	
MJAR	**Matsushiro Arr**	**148.39**	**313**	PKPbc	**PKiKP**	**11 18 38.6**	**-0.2**	
	comp=Z,3.6nm,0.7s,baz=65,slow=1.7,SNR=7.7							
MJAR				pPKPbc	**pPKPab**	**11 19 13.9**	**-1.4**	
	comp=Z,2.7nm,0.8s,baz=79,slow=0.9,SNR=4.2							
SONM	**Songino Array**	**149.27**	**5**	PKPbc	**PKiKP**	**11 18 40.5**	**0.0**	
	comp=Z,2.8nm,0.5s,baz=313,slow=1.9,SNR=6.7							
SONM				pPKPbc	**pPKPab**	**11 19 17.8**	**-0.9**	
	comp=Z,2.5nm,0.6s,baz=332,slow=1.9,SNR=3.3							

NEIC ***22*** *11:02:40, 17.˚62N×145.˚50E, h530km*
DJA ***22*** *11:02:40.7±0.4, 18.˚N±2.˚×14.˚6E±.˚, h525km±5km, M5.4/115, mB5.8/77, mb5.6/115, MLv5.9/1, Mw(mB)5.4/77, MwMwp4.7/2, Mwp5.0/2*
BJI ***22*** *11:02:40.1, 17.˚79N×145.˚63E, h528km, mB5.3/45, mb5.8/94*
NEIC ***22*** *11:02:40.8±2.1, 17.˚56N±0.˚08×145.˚48E±0.˚09, h520km±4km, mb5.4/641, Mwb5.5/17, Mww5.5/28, Error ellipse: s-maj=13.1km s-min=11.8km az=80.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.70; $M_{\theta\theta}$1.44; $M_{\phi\phi}$-0.73; $M_{r\theta}$-1.28; $M_{\theta\phi}$-0.21; $M_{\phi r}$-1.03; Fault plane solution: $M_0$2.07000×10^{17} NP1: ϕ_s311.10000°, δ33.31000°, λ-21.60000°. NP2:ϕ_s59.41000°, δ78.34000°, λ-121.42000°. Principal axes: T 2.0563, Plg27.0000°, Azm174.0000°; N 0.0279, Plg31.0000°, Azm66.0000°; P -2.0842, Plg47.0000°, Azm297.0000°;*
NEIC ***22*** *11:02:40, 17.˚72N×145.˚50E, h530km, Moment Tensor Solution. Duration: 2±7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.99; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-0.12; $M_{r\theta}$-1.19; $M_{\theta\phi}$0.21; $M_{\phi r}$-1.16; Fault plane solution: $M_0$1.98000×10^{17} NP1: ϕ_s282.51000°, δ22.28000°, λ-42.28000°. NP2:ϕ_s52.59000°, δ75.23000°, λ-106.86000°. Principal axes: T 1.9036, Plg28.0000°, Azm156.0000°; N 0.1435, Plg16.0000°, Azm57.0000°; P -2.0471, Plg57.0000°, Azm301.0000°;*
MOS ***22*** *11:02:40.1±1.0, 17.˚62N×145.˚46E, h536km, mb5.7/76 Error ellipse: s-maj=7.2km s-min=4.0km az=111.3*
IDC ***22*** *11:02:41.7±0.7, 17.˚60N×145.˚52E, h542km±6km, mb4.8/33, mbtmp5.6/36, Error ellipse: s-maj=8.1km s-min=4.9km az=78.0*
GCMT ***22*** *11:02:41.8±0.2, 17.˚63N±0.˚01×145.˚38E±0.˚02, h523km±1km, MW5.5/125, Moment Tensor Solution. s125,c218; Duration: 1ŝ4 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.93±.03; $M_{\theta\theta}$1.14±.04; $M_{\phi\phi}$-0.21±.05; $M_{r\theta}$-1.38±.05; $M_{\theta\phi}$0.40±.04; $M_{\phi r}$-1.29±.05; Best double couple: $M_0$2.19800×10^{17} NP1:ϕ_s281.00000°, δ21.00000°, λ-41.00000°. NP2:ϕ_s50.00000°, δ77.00000°, λ-106.00000°. Principal axes: T 2.2270, Plg30.0000°, Azm153.0000°; N -0.0620, Plg15.0000°, Azm54.0000°; P -2.1690, Plg56.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
NEIC ***22*** *11:02:41, 17.˚61N×145.˚49E, h522km*
ISC 22 11:02:40.8±0.2, 17.˚59N±0.˚03×145.˚50E±0.˚03, h534km±2km, h535km; pP-P, n1458, σ1ŝ31/1423, mb5.4/559, 41C-49D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.03**	**189**		**P**	**11 03 59.8**	**-2.0**
GUMO	**Guam**	**4.03**	**189**	P	**P**	**11 04 00.2**	**-1.6**
	2μm,0.4s,baz=68,slow=2.5,SNR=144						
GUMO				S	**S**	**11 05 02.0**	**-5.8**
	3μm,0.4s,baz=175,slow=21,SNR=38						
GUMO	**Guam**	**4.03**	**189**	P	**P**	**11 03 59.9**	**-2.0**
GUMO	**Guam**	**4.03**	**189**	S	**S**	**11 05 03.4**	**-4.4**
GUMO	**Guam**	**4.03**	**189**	P	**P**	**11 03 59.8**	**-2.0**
JCJ	**Chichijima**	**9.94**	**343**	P	**P**	**11 04 58.4**	**+0.6**
	5μm,0.8s,baz=159,slow=3.4,SNR=867						
JCJ				S	**S**	**11 06 49.3**	**-1.2**
	574nm,0.7s,baz=49,slow=22,SNR=3.8						
JCJ	**Chichijima**	**9.94**	**343**	P	**P**	**11 04 58.6**	**+0.8**
	2μm,0.9s						
JCJ	**Chichijima**	**9.94**	**343**	S	**S**	**11 06 51.1**	**+0.6**
	2μm,0.9s						
JMZ	**Minamidaito 2**	**15.58**	**304**		**P**	**11 05 56.8**	**+0.2**
JMZ	**Minamidaito 2**	**15.58**	**304**	P	**P**	**11 05 56.7**	**+0.2**
	475nm,1.0s						
JMZ	**Minamidaito 2**	**15.58**	**304**	S	**S**	**11 08 39.9**	**+2.6**
	475nm,1.0s						
JHJ2	**Mitsune**	**16.28**	**343**		**P**	**11 06 01.2**	**-2.2**
JHJ2	**Mitsune**	**16.28**	**343**	P	**P**	**11 06 01.7**	**-1.7**
JHJ	**Hachijo jima 2**	**16.30**	**343**	P	**P**	**11 06 01.1**	**-2.4**
	388nm,0.2s,baz=102,slow=22,SNR=44						
JHJ				S	**S**	**11 08 46.5**	**-2.9**
	408nm,0.6s,baz=70,slow=20,SNR=11						
PATS	**Pohnpei**	**16.45**	**129**	P	**P**	**11 06 04.8**	**-0.5**
	comp=Z,580nm,1.4s						
PATS	**Pohnpei**	**16.45**	**129**	P	**P**	**11 06 04.9**	**-0.4**
JSG	**Sagara**	**18.23**	**340**		**P**	**11 06 22.1**	**+0.8**
JSG	**Sagara**	**18.23**	**340**	P	**P**	**11 06 22.2**	**+0.8**
	comp=Z,764nm,0.8s						
JSG	**Sagara**	**18.23**	**340**	S	**S**	**11 09 24.4**	**+3.4**
	comp=Z,764nm,0.8s						
JOW	**Kunigami**	**18.39**	**303**		**P**	**11 06 24.3**	**+1.3**
JOW	**Kunigami**	**18.39**	**303**	P	**P**	**11 06 23.5**	**+0.5**
	comp=Z,1μm,0.8s,baz=122,slow=12,SNR=208						
JOW				S	**S**	**11 09 24.0**	**0.0**
	comp=Z,41nm,0.9s,baz=354,slow=29,SNR=9.2						
JOW				ScP	**ScP**	**11 13 09.8**	**-1.3**
	comp=Z,44nm,1.1s,baz=139,slow=3.5,SNR=4.7						
JOW	**Kunigami**	**18.39**	**303**	P	**P**	**11 06 24.5**	**+1.4**
	comp=Z,1μm,0.9s						
JMN	**Monobe**	**19.16**	**329**	P	**P**	**11 06 30.5**	**+0.6**
JMN	**Monobe**	**19.16**	**329**	P	**P**	**11 06 31.0**	**+1.0**
	comp=Z,294nm,1.1s						
INU	**Inuyama**	**19.23**	**339**		**P**	**11 06 30.8**	**+0.2**
INU	**Inuyama**	**19.23**	**339**	P	**P**	**11 06 31.1**	**+0.6**
	comp=Z,323nm,0.8s						
INU	**Inuyama**	**19.23**	**339**	S	**S**	**11 09 40.0**	**+2.7**
	comp=Z,323nm,0.8s						
JGF	**Kuroka**	**19.34**	**340**		**P**	**11 06 31.5**	**-0.1**
JGF	**Kuroka**	**19.34**	**340**	P	**P**	**11 06 32.0**	**+0.4**
	comp=Z,315nm,0.7s						
JSU	**Suzuyama**	**19.44**	**318**	P	**P**	**11 06 33.3**	**+0.7**
	comp=Z,2.5nm,0.5s						
MANU	**Manus Island**	**19.60**	**174**		**P**	**11 06 34.1**	**-0.1**
MJAR	**Matsushiro Arr**	**19.95**	**343**	P	**P**	**11 06 36.8**	**-0.3**
MJAR	**Matsushiro Arr**	**19.95**	**343**	P	**P**	**11 06 36.4**	**-0.7**
	comp=Z,210nm,0.6s,baz=168,slow=10.0,SNR=483						
MJAR				S	**S**	**11 09 50.5**	**+1.7**
	comp=Z,48nm,1.1s,baz=294,slow=22,SNR=5.2						
MJAR				ScP	**ScP**	**11 13 12.5**	**-2.0**
	comp=Z,21nm,0.9s,baz=183,slow=2.7,SNR=11						
MAJO	**Matsushiro**	**19.95**	**343**	P	**P**	**11 06 36.8**	**-0.3**
MAJO	**Matsushiro**	**19.95**	**343**	P	**P**	**11 06 37.1**	**0.0**
	comp=Z,497nm,0.7s						
MAJO	**Matsushiro**	**19.95**	**343**	*i* P	**P**	**11 06 35.8**	**-1.3**
MJB9	**Matsu-Tunnel**	**19.95**	**343**	P	**P**	**11 06 37.8**	**+0.6**
JMJ	**Miyako jima 2**	**20.15**	**294**	P	**P**	**11 06 39.5**	**+0.4**
	comp=Z,2μm,0.9s						
JNU	**Nakatsue**	**20.30**	**322**	P	**P**	**11 06 40.6**	**+0.2**
JNU	**Nakatsue**	**20.30**	**322**	P	**P**	**11 06 40.7**	**+0.3**
	comp=Z,212nm,0.9s,baz=127,slow=4.8,SNR=74						
JNU				S	**S**	**11 09 51.9**	**-2.8**
	comp=Z,15nm,0.9s,baz=2.2,slow=23,SNR=1.0						
JNU				ScP	**ScP**	**11 13 13.4**	**-2.1**
	comp=Z,23nm,0.9s,baz=98,slow=3.6,SNR=4.9						
	comp=Z,212nm,0.9s						
JNU	**Nakatsue**	**20.30**	**322**	P	**P**	**11 06 40.7**	**+0.3**
	comp=Z,337nm,1.2s						
JAY	**Jayapura**	**20.53**	**194**	P	**P**	**11 06 42.6**	**-0.1**
	comp=Z,22nm,0.4s,baz=262,slow=0.5,SNR=16						
JAY				ScP	**ScP**	**11 13 16.2**	**-0.2**
	comp=Z,24nm,1.0s,baz=306,slow=2.6,SNR=4.6						
	comp=Z,22nm,0.4s						
JAY	**Jayapura**	**20.53**	**194**	P	**P**	**11 06 43.1**	**+0.4**
SMPI	**Sarmi**	**20.58**	**200**	P	**P**	**11 06 43.5**	**+0.4**
JMM	**Marumori**	**20.62**	**349**	P	**P**	**11 06 43.5**	**+0.4**
JMM	**Marumori**	**20.62**	**349**	P	**P**	**11 06 43.2**	**+0.1**
	comp=Z,300nm,0.7s						
GENI	**Genyem**	**20.73**	**195**	P	**P**	**11 06 45.0**	**+0.5**
	comp=Z,170nm,1.2s						
BAKI	**Biak**	**20.83**	**207**	P	**P**	**11 06 45.9**	**+0.5**
JSD	**Sado**	**21.34**	**344**	P	**P**	**11 06 50.1**	**+0.5**
	comp=Z,165nm,0.6s						
SRPI	**Serui, Papua**	**21.39**	**206**	P	**P**	**11 06 50.9**	**+0.5**
YOJ	**Yonaguni jima**	**22.06**	**292**	P	**P**	**11 06 57.1**	**+0.8**
YOJ	**Yonaguni jima**	**22.06**	**292**	P	**P**	**11 06 56.6**	**+0.3**
	comp=Z,683nm,0.9s						
YOJ	**Yonaguni jima**	**22.06**	**292**	S	**S**	**11 10 24.9**	**+2.3**
	comp=Z,683nm,0.9s						
YOJ	**Yonaguni jima**	**22.06**	**292**	P	**P**	**11 06 57.1**	**+0.8**
JTU	**Tsushima**	**22.16**	**323**	P	**P**	**11 06 57.7**	**+0.6**
	comp=Z,87nm,1.3s						
RABL	**Rabaul**	**22.62**	**162**	P	**P**	**11 07 01.1**	**-0.3**
SWI	**Sorong**	**23.09**	**219**	P	**P**	**11 07 07.5**	**+1.9**
SWI	**Sorong**	**23.09**	**219**	P	**P**	**11 07 06.8**	**+1.2**
NACB	**Ninganchiao**	**23.26**	**290**	P	**P**	**11 07 07.6**	**+0.6**
NACB	**Ninganchiao**	**23.26**	**290**	P	**P**	**11 07 07.9**	**+0.9**
	comp=Z,234nm,0.9s						
YULB	**Yu-li**	**23.38**	**288**	P	**P**	**11 07 08.8**	**+0.6**
YULB	**Yu-li**	**23.38**	**288**	P	**P**	**11 07 09.0**	**+0.8**
	comp=Z,245nm,0.9s						
JTM	**Tenmabayashi**	**23.43**	**352**	P	**P**	**11 07 09.2**	**+0.9**
JTM	**Tenmabayashi**	**23.43**	**352**	P	**P**	**11 07 09.5**	**+1.2**
	comp=Z,229nm,1.4s						
TWGBT	**Beinan**	**23.49**	**287**	P	**P**	**11 07 09.6**	**+0.5**
	comp=Z,341nm,0.7s						
TWG	**Pinlang**	**23.50**	**287**	P	**P**	**11 07 09.3**	**+0.1**
TATO	**Taipei**	**23.53**	**292**	P	**P**	**11 07 09.8**	**+0.3**
TATO	**Taipei**	**23.53**	**292**	P	**P**	**11 07 10.8**	**+1.3**
TATO	**Taipei**	**23.53**	**292**	P	**P**	**11 07 10.7**	**+1.3**
	comp=Z,585nm,0.7s						
YHNB	**Yeheng**	**23.56**	**291**	P	**P**	**11 07 10.9**	**+1.2**
YHNB	**Yeheng**	**23.56**	**291**	P	**P**	**11 07 11.0**	**+1.2**
	comp=Z,1μm,1.0s						
YHNB	**Yeheng**	**23.56**	**291**	S	**S**	**11 10 48.3**	**+1.9**
	comp=Z,1μm,1.0s						
SSLB	**Suanglung**	**23.76**	**289**	P	**P**	**11 07 12.6**	**+1.1**
SSLB					**PcP**	**11 10 37.0**	**+0.3**
SSLB	**Suanglung**	**23.76**	**289**	P	**P**	**11 07 12.5**	**+1.0**
	comp=Z,505nm,0.7s						
SSLB	**Suanglung**	**23.76**	**289**	S	**S**	**11 10 50.9**	**+1.4**
	comp=Z,505nm,0.7s						
TGY	**Tagaytay City**	**23.88**	**265**	P	**P**	**11 07 13.2**	**+0.5**
	comp=Z,1μm,0.5s,baz=353,slow=1.3,SNR=18						
TPUB	**Ta-pu**	**23.97**	**288**	P	**P**	**11 07 14.1**	**+0.7**
	comp=Z,328nm,1.3s						
TPUB	**Ta-pu**	**23.97**	**288**	S	**S**	**11 10 55.3**	**+2.5**
	comp=Z,328nm,1.3s						
KMPI	**Kaimana, Papua**	**24.11**	**210**	P	**P**	11 07 22.9	+8.2
FAKI	**Fak Fak**	**24.21**	**214**		**P**	**11 07 15.5**	**-0.2**
FAKI	**Fak Fak**	**24.21**	**214**	P	**P**	**11 07 15.6**	**0.0**
	comp=Z,71nm,1.3s						
FAKI	**Fak Fak**	**24.21**	**214**	P	**P**	**11 07 17.3**	**+1.7**
ERM	**Erimo**	**24.43**	**356**	P	**P**	**11 07 18.1**	**+1.1**
ERM	**Erimo**	**24.43**	**356**	P	**P**	**11 07 17.7**	**+0.7**
ERM	**Erimo**	**24.43**	**356**	*i* P	**P**	**11 07 17.8**	**+0.7**
ERM				pmax	pmax		
	comp=Z,93nm,1.6s						
JEM	**Erimo**	**24.43**	**356**	P	**P**	**11 07 17.7**	**+0.6**
	comp=Z,35nm,0.5s						
TJN	**Taejon**	**24.65**	**323**		**PcP**	**11 10 39.3**	**+1.0**
TJN	**Taejon**	**24.65**	**323**	P	**P**	**11 07 19.4**	**+0.2**
	comp=Z,408nm,1.2s						
TJN	**Taejon**	**24.65**	**323**	*i* P	**P**	**11 07 17.5**	**-1.7**
KSRS	**Korea Array**	**25.11**	**325**	P	**P**	**11 07 23.6**	**+0.4**
	comp=Z,52nm,0.7s,baz=146,slow=9.3,SNR=207						
KSRS				PcP	**PcP**	**11 10 40.6**	**+1.2**
	comp=Z,13nm,0.8s,baz=144,slow=2.1,SNR=7.7						
KSRS				ScP	**ScP**	**11 13 25.5**	**-2.6**
	comp=Z,7.5nm,0.9s,baz=146,slow=3.2,SNR=9.3						
KSRS				PKiKP	**PKiKP**	**11 18 18.9**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=181,slow=1.3,SNR=5.1						
	comp=Z,52nm,0.7s						
KSAR	**Wonju Array Be**	**25.12**	**325**	P	**P**	**11 07 23.6**	**+0.3**
KSAR	**Wonju Array Be**	**25.12**	**325**	P	**P**	**11 07 23.6**	**+0.3**
SSE	**Sheshan**	**25.84**	**306**	P	**P**	**11 07 30.1**	**+0.3**
SSE				S	**S**	**11 11 23.3**	**+1.4**
SSE				pmax	pmax		
	comp=Z,110nm,0.9s						
SSE				pmax	pmax		
	comp=Z,79nm,3.5s						
INCN	**Inchon**	**25.84**	**324**	P	**P**	**11 07 29.8**	**0.0**
INCN	**Inchon**	**25.84**	**324**	P	**P**	**11 07 29.8**	**0.0**
QZH	**Quanzhou**	**26.09**	**291**	⇓*i* P	**P**	**11 07 33.0**	**+0.9**
QZH				sP	**sP**	**11 09 58.1**	**-2.2**
QZH				S	**S**	**11 11 26.0**	**0.0**
QZH				ScS	**ScS**	**11 17 22.1**	**-0.1**
QZH				pmax	pmax		
	comp=Z,280nm,0.9s						
QZH				pmax	pmax		
	comp=Z,390nm,4.2s						
YUK	**Yuzh-Kuril'sk**	**26.36**	**1**	*e*P	**P**	**11 07 35.3**	**+1.1**
YUK				*i* S	**S**	**11 11 29.8**	**+0.2**
YUK				*i*		11 17 19.7	
YUK				pmax	pmax		
	comp=Z,416nm,0.7s						
YUK				pmax	pmax		
	comp=N,221nm,1.1s						
YUK				pmax	pmax		
	comp=E,142nm,0.6s						
YUK				pmax	pmax		
	comp=Z,324nm,1.5s						
ASAJ	**Asahikawa**	**26.56**	**355**	P	**P**	**11 07 36.9**	**+1.0**
	comp=Z,34nm,0.4s,baz=208,slow=11,SNR=85						
ASAJ				ScP	**ScP**	**11 13 31.4**	**-0.9**
	comp=Z,30nm,1.0s,baz=262,slow=11,SNR=4.8						
	comp=Z,34nm,0.4s						
PMG	**Port Moresby**	**26.88**	**176**	P	**P**	**11 07 38.5**	**-0.5**
PMG	**Port Moresby**	**26.88**	**176**	ScP	**ScP**	**11 13 35.0**	**+1.4**
	comp=Z,48nm,0.9s,baz=353,slow=8.1,SNR=7.0						
PMG	**Port Moresby**	**26.88**	**176**	P	**P**	**11 07 39.3**	**+0.2**
	comp=Z,357nm,1.2s						
PMG	**Port Moresby**	**26.88**	**176**	P	**P**	**11 07 39.0**	**-0.1**
	comp=Z,357nm,1.2s						
PMG	**Port Moresby**	**26.88**	**176**	*e*P	**P**	**11 07 37.4**	**-1.7**
PMG				pmax	pmax		
	comp=Z,438nm,1.1s						
KMSI	**Cibinong**	**27.09**	**234**	P	P	11 07 54.2	+13
SANI	**Sanana**	**27.40**	**226**	P	**P**	**11 07 43.9**	**+0.1**
	comp=Z,51nm,0.7s						
NLAI	**Namlea**	**27.53**	**223**	P	**P**	**11 07 46.2**	**+1.3**
	comp=Z,109nm,0.7s						
KUR	**Kuril'sk**	**27.63**	**4**	*d* iP	**P**	**11 07 45.6**	**+0.3**
KUR				*e*S	**S**	**11 11 49.2**	**-0.2**
KUR				pmax	pmax		
	comp=Z,500nm,1.1s						
VLA	**Vladivostok**	**27.95**	**338**	*i* P	**P**	**11 07 48.3**	**+0.2**
VLA				pmax	pmax		
	comp=Z,207nm,1.1s						
NJ2	**Nanjing**	**28.05**	**306**	⇓*i* P	**P**	**11 07 49.6**	**+0.4**
NJ2				sP	**sP**	**11 10 14.3**	**-3.4**
NJ2				PcP	**PcP**	**11 10 47.4**	**+0.8**
NJ2				S	**S**	**11 11 58.9**	**+2.6**
NJ2				ScP	**ScP**	**11 13 36.5**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,54nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,270nm,7.8s						
MRSI	**Marisa**	**28.75**	**236**	P	**P**	**11 07 56.0**	**+0.5**
	comp=Z,3μmcomp=Z,259nm,1.2s						
USRK	**Ussuriysk Ar.**	**28.87**	**340**	P	**P**	**11 07 56.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**28.87**	**340**	P	**P**	**11 07 56.6**	**+0.4**
	comp=Z,30nm,0.7s,baz=157,slow=8.8,SNR=37						
USRK				ScP	**ScP**	**11 13 38.4**	**-1.1**
	comp=Z,11nm,1.0s,baz=136,slow=3.7,SNR=5.8						
	comp=Z,30nm,0.7s						
USRK	**Ussuriysk Ar.**	**28.87**	**340**	P	**P**	**11 07 56.7**	**+0.6**
LUWI	**Luwuk**	**29.05**	**233**	P	**P**	**11 07 58.3**	**+0.1**
	comp=Z,553nm,0.7s						
LUWI	**Luwuk**	**29.05**	**233**	P	**P**	**11 07 57.5**	**-0.7**
MYLDM	**Lahad Datu**	**29.15**	**248**	P	**P**	**11 08 01.1**	**+2.1**
**M

BNX BinXian 31.86 336 ⇓P **P** **11 08 22.1 +0.2**
BNX S **S** **11 12 53.3 -1.4**
BNX pmax pmax
comp=Z,200nm,0.8s
HURO Huro Makira 32.24 149 P **P** **11 08 24.5 -1.1**
comp=Z,307nm,0.5s
NGOA Tingoa Renbel 32.34 153 P **P** **11 08 26.2 -0.1**
comp=Z,835nm,1.2s
TTSI Tana Toraja 32.59 233 P **P** **11 08 30.1 +1.5**
comp=Z,4µmcomp=Z,362nm,1.0s
KDU Kakadu 32.72 204 P **P** **11 08 29.3 -0.2**
comp=Z,107nm,1.1s
KDU Kakadu 32.72 204 P **P** **11 08 29.4 -0.2**
comp=Z,108nm,1.1s
SMKI Samarinda 33.12 240 P **P** **11 08 34.4 +1.3**
DRS Darwin Rock St 33.13 207 P **P** **11 08 33.4 +0.3**
SPSI Sidrap Palu 33.22 232 P **P** **11 08 34.2 +0.3**
comp=Z,5µmcomp=Z,322nm,0.8s
BNSI Bone 33.26 231 P **P** **11 08 35.5 +1.3**
comp=Z,5µmcomp=Z,374nm,0.8s
TYV Tymovskoe 33.27 357 *e*P **P** **11 08 34.0 +0.2**
TYV *e*S **S** **11 13 16.6 +0.5**
TYV pmax pmax
comp=Z,300nm,2.0s
TYV pmax pmax
comp=Z,60nm,1.1s
TYV smax smax
comp=N,41nm,1.4s
TYV smax smax
comp=E,18nm,1.4s
TYV smax smax
comp=N,900nm,4.2s
TYV smax smax
comp=E,700nm,4.2s
MTN Manton Dam 33.41 206 P **P** **11 08 35.5 +0.1**
comp=Z,373nm,0.6s
MTN Manton Dam 33.41 206 P **P** **11 08 35.8 +0.4**
comp=Z,373nm,0.6s
HNS HongShan 33.47 312 ⇓P **P** **11 08 36.9 +1.2**
HNS PcP **PcP** **11 11 02.3 +1.1**
HNS S **S** **11 13 19.6 +0.1**
HNS ScP **ScP** **11 13 54.6 -0.6**
HNS SS **SS** **11 16 18.3 -11**
HNS pmax pmax
comp=Z,340nm,1.1s
BJT Baijiatuau 33.80 317 P **P** **11 08 39.3 +0.9**
BJT pP **pP** **11 10 09.3 +1.2**
BJI Beijing 33.81 317 P **P** **11 08 39.4 +0.9**
BJI pP **pP** **11 10 09.1 +1.0**
BJI PcP **PcP** **11 11 02.3 +0.2**
BJI sP **sP** **11 11 08.9 -0.5**
BJI S **S** **11 13 23.6 -0.9**
BJI ScP **ScP** **11 13 55.5 -0.8**
BJI pmax pmax
comp=Z,88nm,0.9s
BJI pmax pmax
comp=Z,280nm,3.9s
BKB Balikpapan 33.84 239 P **P** **11 08 38.6 -0.5**
comp=Z,4µmcomp=Z,449nm,1.1s
QIZ Qiongzhong 33.85 278 IAmb IAmb 11 08 41.6
comp=Z,97nm,0.9s
QIZ Qiongzhong 33.85 278 P **P** **11 08 41.0 +1.8**
QIZ pP **pP** **11 10 07.4 -1.3**
QIZ PcP **PcP** **11 11 03.3 +0.6**
QIZ S **S** **11 13 27.9 +2.1**
QIZ sS **sS** **11 16 11.4 -1.2**
QIZ pmax pmax
comp=Z,130nm,0.7s
QIZ Qiongzhong 33.85 278 P **P** **11 08 40.8 +1.6**
QIZ PcP **PcP** **11 11 03.6 +1.0**
BKSI Bulukumba 33.86 230 P **P** **11 08 40.0 +0.8**
comp=Z,2µmcomp=Z,145nm,0.6s
GRNR Gornyy 33.89 350 ⇓*i*P **P** **11 08 39.9 +0.9**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=Z,30nm,0.9s
KAPI Kappang 33.92 231 P **P** **11 08 40.8 +1.0**
KAPI Kappang 33.92 231 S **S** **11 13 28.5 +1.5**
comp=Z,8.4nm,0.6s,baz=308,slow=23,SNR=5.6
KAPI Kappang 33.92 231 P **P** **11 08 40.8 +1.0**
KAPI S **S** **11 13 27.6 +0.6**
KAPI Kappang 33.92 231 P **P** **11 08 40.4 +0.6**
comp=Z,121nm,0.7s
KAPI Kappang 33.92 231 *i* P **P** **11 08 40.5 +0.6**
KAPI pmax pmax
comp=Z,129nm,0.6s
LYN LuoYang 33.94 306 ⇓*i*P **P** **11 08 40.9 +1.2**
LYN pP pP 11 10 11.9 +2.6
LYN PcP **PcP** **11 11 03.9 +1.3**
LYN sP sP 11 11 11.3 +1.1
LYN S **S** **11 13 26.8 0.0**
LYN ScP **ScP** **11 13 56.8 -0.1**
LYN sS sS 11 16 16.4 +2.8
LYN SS **SS** **11 16 28.8 -6.7**
LYN pmax pmax
comp=Z,640nm,0.9s
LYN pmax pmax
comp=Z,2µm,3.5s
SKR Severo-Kuril's 34.09 12 *e*P **P** **11 08 40.4 -0.2**
SKR *e*S **S** **11 13 26.1 -2.3**
SKR pmax pmax
comp=Z,186nm,1.2s
SKR pmax pmax
comp=Z,100nm,4.5s
BSSI Bau Bau, Buton 34.15 228 P **P** **11 08 42.6 +0.9**
comp=Z,4µmcomp=Z,435nm,0.7s
SOEI Soe 34.33 219 IAmb IAmb 11 08 55.5
comp=Z,69nm,0.6s
SOEI Soe 34.33 219 P **P** **11 08 44.5 +1.2**
comp=Z,104nm,0.7s
SOEI Soe 34.33 219 P **P** **11 08 42.0 -1.3**
comp=Z,103nm,0.7s
MMRI Maumere 34.75 223 IAmb IAmb 11 08 47.6
comp=Z,86nm,0.7s
MMRI Maumere 34.75 223 P **P** **11 08 48.2 +1.5**
comp=Z,121nm,0.8s
BATI Baumata 35.05 220 S **S** **11 13 39.9 -4.0**
comp=Z,51nm,0.6s,baz=47,slow=19,SNR=6.3
BATI Baumata 35.05 220 P **P** **11 08 49.4 +0.2**
comp=Z,164nm,0.7s
ENH Enshi 35.10 298 P **P** **11 08 50.8 +1.2**
ENH pP **pP** **11 10 20.1 +0.4**
ENH PcP **PcP** **11 11 06.7 +0.4**
ENH sP **sP** **11 11 20.1 -0.4**
EDFI Ende, Flores 35.19 224 P **P** **11 08 50.0 -0.5**
TIY Taiyuan 35.23 311 P **P** **11 08 51.8 +1.3**
TIY pP **pP** **11 10 23.1 +2.3**
TIY sP **sP** **11 11 17.4 -4.2**
TIY S **S** **11 13 46.4 +0.2**
TIY sS **sS** **11 16 38.1 +4.3**
TIY pmax pmax
comp=Z,370nm,0.7s
MTSU Mount Surprise 35.52 182 P **P** **11 08 53.7 +0.6**
comp=Z,243nm,0.9s
HEH HeiHe 35.67 340 *e*P **P** **11 08 54.3 +0.4**
HEH PcP **PcP** **11 11 07.4 0.0**
HEH ScP **ScP** **11 14 00.3 -2.6**
HEH ScS **ScS** **11 18 06.4 -3.0**
HEH pmax pmax
comp=Z,250nm,1.2s
NKL Nikolayevsk 35.68 355 *e*P **P** **11 08 54.2 +0.3**
NKL *e*S **S** **11 13 56.6 +4.3**
NKL pmax pmax
comp=N,78nm,1.3s
NKL pmax pmax
comp=E,154nm,1.4s
NKL pmax pmax
comp=Z,366nm,1.4s
NKL smax smax
comp=E,151nm,1.5s
NKL smax smax
comp=N,183nm,2.0s
SBUM Sibu 35.96 249 P **P** **11 08 58.2 +1.4**
SBUM Sibu 35.96 249 P **P** **11 08 58.6 +1.8**
comp=N,300nm,0.9s
XLT XiLinHaoTe 36.09 323 *e*P **P** **11 08 58.4 +0.8**
XLT PcP **PcP** **11 11 09.5 +0.5**
XLT S **S** **11 13 54.8 -4.1**
XLT SS **SS** **11 16 57.3 -12**
XLT pmax pmax
comp=N,270nm,1.0s
DLV Lat 36.19 266 P **P** **11 09 00.8 +1.9**
comp=N,382nm,0.9s
XAN Xi'an 36.54 304 ⇓P **P** **11 09 02.5 +1.1**
XAN pP pwP 11 10 38.5 +0.1
XAN PcP **PcP** **11 11 11.1 +0.6**
XAN S **S** **11 14 04.6 -1.3**
XAN pmax pmax
comp=N,330nm,0.8s
XAN pmax pmax
comp=N,250nm,3.6s
PEA0B Petropavlovsk- 36.70 12 P **P** **11 09 03.1 +0.7**
PEA0B IAmb IAmb 11 09 04.8
comp=Z,102nm,1.1s
PEA0B Petropavlovsk- 36.70 12*ce*P **P** **11 09 04.2 +1.8**
PETK Petropavlovsk- 36.70 12 P **P** **11 09 02.9 +0.5**
comp=Z,49nm,0.9s,baz=181,slow=5.8,SNR=41
PETK ScP **ScP** **11 14 04.5 -2.2**
comp=Z,25nm,1.0s,baz=177,slow=3.0,SNR=6.2
comp=Z,49nm,0.9s
WSI Waingapu 36.80 225 P **P** **11 09 02.6 -1.0**
comp=Z,7µmcomp=Z,392nm,0.5s
PET Petropavlovsk 36.83 13 P **P** **11 09 03.9 +0.6**
PET IAmb IAmb 11 09 05.7
comp=Z,206nm,1.3s
PET Petropavlovsk 36.83 13 P **P** **11 09 04.0 +0.7**
PET Petropavlovsk 36.83 13 *e*P **P** **11 09 04.3 +1.0**
PET *e* 11 10 42.5
PET *e*S **S** **11 14 11.4 +2.0**
PET *e*SS **SS** **11 17 18.2 -4.6**
PET pmax pmax
comp=Z,141nm,1.2s
KNRA Kununurra 36.95 207 P **P** **11 09 05.3 +0.4**
comp=Z,126nm,0.9s
KNRA Kununurra 36.95 207 P **P** **11 09 05.2 +0.4**
KNRA IAmb IAmb 11 09 06.7
comp=Z,122nm,1.0s
GYA Guiyang 36.95 291 ⇓P **P** **11 09 07.0 +2.0**
GYA S **S** **11 14 16.5 +4.1**
GYA pmax pmax
comp=Z,430nm,0.8s
HHC Hu-ho-hao-te 37.25 316 ⇓*i*P **P** **11 09 08.6 +1.4**
HHC pP pP 11 10 40.0 +1.3
HHC PP **PP** **11 10 51.8 +2.8**
HHC PcP **PcP** **11 11 13.8 +1.1**
HHC sP sP 11 11 35.5 -3.8
HHC S **S** **11 14 18.5 +2.2**
HHC pmax pmax
comp=Z,430nm,0.9s
HHC pmax pmax
comp=Z,210nm,4.8s
WBSI Waikabubak, Su 37.39 226 P **P** **11 09 07.0 -1.6**
comp=Z,3µmcomp=Z,249nm,0.7s
CTA Charters Tower 37.45 179 P **P** **11 09 08.8 -0.2**
comp=Z,6.6nm,1.2s
CTAO Charters Tower 37.45 179 P **P** **11 09 09.1 +0.1**
CTAO Charters Tower 37.45 179 P **P** **11 09 08.8 -0.2**
comp=Z,82nm,1.2s
CTAO Charters Tower 37.45 179 P **P** **11 09 09.1 +0.1**
CTAO pmax pmax
comp=Z,184nm,1.0s
STKI Sintang 37.73 246 P **P** **11 09 11.6 +0.2**
comp=Z,588nm,0.7s
HIA Hailar 37.84 332 P **P** **11 09 12.7 +0.8**
HIA pP **pP** **11 10 44.1 +0.5**
HIA PcP **PcP** **11 11 14.8 +0.5**
HIA sP **sP** **11 11 44.3 -0.1**
PLAI Plampang 37.94 228 P **P** **11 09 13.0 -0.1**
comp=Z,366nm,0.8s
PLAI Plampang 37.94 228 P **P** **11 09 12.9 -0.1**
comp=Z,5µmcomp=Z,371nm,0.8s
KSM Kuching 38.10 249 P **P** **11 09 14.9 +0.5**
comp=Z,372nm,1.1s
BTO Baotou 38.18 314 *e*P **P** **11 09 17.4 +2.6**
BTO pP **pwP** **11 10 54.6 +2.2**
BTO pmax pmax
comp=Z,750nm,0.9s
BTO pmax pmax
comp=Z,410nm,4.2s
QIS Mount Isa 38.35 189 P **P** **11 09 16.6 +0.3**
comp=Z,245nm,1.3s
QIS Mount Isa 38.35 189 P **P** **11 09 16.8 +0.5**
comp=Z,245nm,1.3s
WB0 Warramunga Arr 38.70 197 IAmb IAmb 11 09 20.7
comp=Z,259nm,1.6s
ZEA Zeya 38.76 343 *e*P **P** **11 09 19.2 +0.1**
ZEA *e*S **S** **11 14 35.9 -2.1**
ZEA pmax pmax
comp=N,200nm,1.7s
ZEA pmax pmax
comp=Z,300nm,1.5s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=N,50nm,1.0s
ZEA pmax pmax
comp=Z,120nm,1.0s
ZEA smax smax
comp=E,200nm,2.4s
WRAB Tennant Creek 38.87 197 P **P** **11 09 20.4 0.0**
WRAB Tennant Creek 38.87 197 *i* P **P** **11 09 20.4 0.0**
WRAB pmax pmax
comp=Z,232nm,1.6s
WRA Warramunga Arr 38.88 197 P **P** **11 09 19.2 -1.4**
WRA Warramunga Arr 38.88 197 P **P** **11 09 20.8 +0.2**
comp=Z,36nm,0.3s,baz=18,slow=8.5,SNR=572
WRA PcP **PcP** **11 11 18.6 +0.6**
comp=Z,19nm,0.5s,baz=11,slow=3.3,SNR=7.8
WRA ScP **ScP** **11 14 15.6 0.0**
comp=Z,56nm,0.9s,baz=15,slow=4.0,SNR=25
WRA S **S** **11 14 39.9 -0.7**
comp=Z,19nm,1.0s,baz=15,slow=15,SNR=8.0
comp=Z,36nm,0.3s
SANVU Saraoutou 39.19 146 P **P** **11 09 22.8 -0.3**
SANVU Saraoutou 39.19 146 P **P** **11 09 23.1 0.0**
comp=Z,520nm,1.3s
SANVU Saraoutou 39.19 146 P **P** **11 09 22.8 -0.3**
SANVU pP **pP** **11 10 56.0 +0.6**
SLVN Son La 39.32 282 P **P** **11 09 26.2 +2.0**
SLVN Son La 39.32 282 P **P** **11 09 26.5 +2.3**
comp=Z,285nm,1.0s
SRBI Singaraja 39.33 232 P **P** **11 09 25.4 +1.1**
comp=Z,327nm,0.9s
KMMI Kalianget 39.62 234 P **P** **11 09 28.0 +1.3**
comp=Z,211nm,0.7s
CD2 Chengdu 40.07 297 P **P** **11 09 30.9 +0.7**
CD2 sP sP 11 11 59.5 -3.8
CD2 S **S** **11 14 56.8 -1.2**
CD2 sS sS 11 17 48.8 -0.6
CD2 SS **SS** **11 18 20.3 -0.5**
CD2 pmax pmax
comp=Z,520nm,0.8s
JAGI Jajag, Banyuwa 40.37 233 P **P** **11 09 31.2 -1.5**
JAGI Jajag, Banyuwa 40.37 233 P **P** **11 09 32.8 +0.1**
comp=Z,216nm,0.8s
JAGI Jajag, Banyuwa 40.37 233 P **P** **11 09 32.3 -0.4**
comp=Z,215nm,0.9s
KMI Kunming 40.39 288 ⇓P **P** **11 09 34.9 +1.9**
KMI PcP **PcP** **11 11 24.6 +1.4**
KMI ScP **ScP** **11 14 21.5 -0.3**
KMI pmax pmax
comp=Z,180nm,0.6s
FITZ Fitzroy Crossi 40.49 210 S **S** **11 15 03.1 -1.0**
comp=Z,59nm,1.0s,baz=199,slow=19,SNR=22
GRJI Gresik 40.71 236 P **P** **11 09 37.0 +1.7**
comp=Z,522nm,0.8s
GMJI Gumukmas 40.79 234 P **P** **11 09 36.4 +0.4**
comp=Z,182nm,0.8s
LZH Lanzhou 41.12 305 *e*P **P** **11 09 40.8 +2.3**
LZH pP pP 11 11 14.3 +1.9
LZH PcP **PcP** **11 11 26.0 +0.7**
LZH sP sP 11 12 08.0 -4.2
LZH ScP **ScP** **11 14 24.6 +0.2**
LZH S **S** **11 15 14.4 +1.2**
LZH sS sS 11 18 00.8 -4.7
LZH pmax pmax
comp=Z,590nm,1.1s
LZH pmax pmax
comp=Z,2µm,4.1s
PZH PanZhiHua 41.35 290 P **P** **11 09 41.8 +1.3**
PZH PcP **PP** **11 11 29.3 -1.0**
PZH ScP **ScP** **11 14 24.5 -1.0**
PZH S **S** **11 15 15.8 -1.0**
PZH sS **sS** **11 18 08.4 -0.9**
PZH SS **SS** **11 18 39.1 -2.9**
PZH pmax pmax
comp=Z,500nm,0.8s
PZH pmax pmax
comp=Z,840nm,4.0s
DVP Devils Point 41.59 146 P **P** **11 09 42.8 +0.5**
SMY Shemya 41.60 26 P **P** **11 09 42.6 +0.7**
comp=Z,217nm,1.1s
SMY Shemya 41.60 26 P **P** **11 09 42.6 +0.7**
NGJI Ngawi 41.78 236 P **P** **11 09 46.1 +2.2**
comp=Z,148nm,0.9s
MA2 Magadan 42.10 4 P **P** **11 09 46.2 +0.5**
MA2 Magadan 42.10 4 P **P** **11 09 46.0 +0.3**
comp=Z,160nm,0.8s,baz=179,slow=7.3,SNR=100
MA2 ScP **ScP** **11 14 25.3 -2.3**
comp=Z,23nm,1.0s,baz=130,slow=2.1,SNR=4.5
MA2 S **S** **11 15 27.3 +0.9**
comp=Z,77nm,1.3s,baz=327,slow=17,SNR=11
comp=Z,160nm,0.8s
MA2 Magadan 42.10 4 P **P** **11 09 46.4 +0.8**
comp=Z,307nm,0.9s
MA2 Magadan 42.10 4*ce*P **P** **11 09 46.5 +0.8**
MA2 pmax pmax
comp=Z,175nm,0.7s
MA2 Magadan 42.10 4 P **P** **11 09 46.5 +0.8**
MA2 pP **pP** **11 11 20.3 +1.2**
MA2 PcP **PcP** **11 11 28.4 +0.5**
TPI Tanjungpandan 42.44 245 P **P** **11 09 49.6 +0.5**
comp=Z,3µmcomp=Z,276nm,1.1s
WOJI Wonogiri, Jawa 42.49 236 P **P** **11 09 51.0 +1.6**
comp=Z,201nm,1.7s
PCJI Pacitan 42.50 236 P **P** **11 09 49.9 +0.4**
comp=Z,6µmcomp=Z,402nm,0.7s
AS01 Alice Springs 42.53 196 P **P** **11 09 49.8 +0.2**
AS31 Alice Springs 42.54 196 P **P** **11 09 49.7 0.0**
AS31 Alice Springs 42.54 196 P **P** **11 09 49.7 0.0**
ASAR Alice Springs 42.54 196 P **P** **11 09 49.0 -0.7**
ASAR Alice Springs 42.54 196 P **P** **11 09 49.8 0.0**
comp=Z,35nm,0.3s,baz=19,slow=6.6,SNR=1217
ASAR PcP **PcP** **11 11 30.9 +0.9**
comp=Z,13nm,0.7s,baz=33,slow=3.4,SNR=8.5
ASAR ScP **ScP** **11 14 30.1 0.0**
comp=Z,40nm,0.9s,baz=16,slow=4.1,SNR=24
ASAR S **S** **11 15 34.3 +0.6**
comp=Z,11nm,0.9s,baz=18,slow=18,SNR=9.2
comp=Z,35nm,0.3s
CIT Chita 42.58 331 *e*P **P** **11 09 50.8 +1.1**
CIT *e* 11 11 25.4
CIT *e*S **S** **11 15 30.6 -3.0**
CIT *e* 11 18 46.0
CIT pmax pmax
comp=Z,439nm,1.3s
UGM Wanagama 42.85 237 P **P** **11 09 52.1 -0.2**
UGM Wanagama 42.85 237 P **P** **11 09 52.2 -0.2**
comp=Z,280nm,1.1s
UGM Wanagama 42.85 237 P **P** **11 09 53.6 +1.3**
comp=Z,280nm,1.1s
EIDS Eidsvold 43.05 173 P **P** **11 09 53.1 -0.5**
comp=Z,60nm,2.3s
EIDS Eidsvold 43.05 173 P **P** **11 09 53.5 -0.1**
comp=Z,60nm,2.3s
PPBI Pangkal Pinang 43.48 247 P **P** **11 09 59.2 +2.0**
ULN Ulaanbaatar 43.52 323 P **P** **11 09 58.3 +1.1**
ULN IAmb IAmb 11 09 59.8
comp=Z,165nm,0.9s
ULN Ulaanbaatar 43.52 323 P **P** **11 09 58.5 +1.2**
ULN S **S** **11 15 48.2 +0.8**
ULN Ulaanbaatar 43.52 323 *i* P **P** **11 09 58.1 +0.8**
ULN pmax pmax
comp=Z,332nm,1.6s
ULN Ulaanbaatar 43.52 323 P **P** **11 09 58.4 +1.1**
ULN PcP **PcP** **11 11 33.9 +0.6**
TPRI Tanjung Pinang 43.55 252 P **P** **11 09 59.0 +1.3**
comp=Z,6µmcomp=Z,304nm,0.9s
KPJI Karang Pucung 43.80 239 P **P** **11 09 59.6 -0.1**
comp=Z,266nm,1.1s
SONM Songino Array 43.89 322 P **P** **11 10 01.1 +1.1**
SONM IAmb IAmb 11 10 04.2
comp=Z,137nm,0.8s
SONM Songino Array 43.89 322 P **P** **11 10 01.2 +1.1**
comp=Z,118nm,0.8s,baz=134,slow=9.5,SNR=394
SONM PcP **PcP** **11 11 35.1 +0.6**
comp=Z,51nm,0.8s,baz=142,slow=3.6,SNR=10.0
SONM ScP **ScP** **11 14 34.1 -1.3**
comp=Z,15nm,0.9s,baz=136,slow=4.4,SNR=8.1
comp=Z,118nm,0.8s
QLP Quilpie 43.93 182 P **P** **11 09 59.8 -0.6**
comp=Z,625nm,1.2s
QLP Quilpie 43.93 182 P **P** **11 10 00.3 -0.1**
comp=Z,625nm,1.2s
BTDF Bukit Timah Da 44.05 253 P **P** **11 10 03.4 +1.7**
comp=Z,146nm,0.9s
DSRI Dabo 44.10 250 P **P** **11 10 03.0 +1.0**
comp=Z,3µmcomp=Z,274nm,1.3s
CHTO Chiang Mai 44.15 279 P **P** **11 10 03.6 +1.2**
CHTO Chiang Mai 44.15 279 P **P** **11 10 03.8 +1.4**
CHTO Chiang Mai 44.15 279 P **P** **11 10 03.6 +1.2**
comp=Z,289nm,0.8s
CHTO Chiang Mai 44.15 279 P **P** **11 10 03.6 +1.2**
CHTO pmax pmax
comp=Z,320nm,0.8s
CHTO Chiang Mai 44.15 279 P **P** **11 10 03.4 +1.1**
CHTO PcP **pP** **11 11 37.1 -0.8**
CM31 Chiang Mai Arr 44.19 279 P **P** **11 10 04.8 +2.1**
SNR=189
CMAR Chiang Mai Arr 44.19 279 P **P** **11 10 04.2 +1.6**
CMAR Chiang Mai Arr 44.19 279 P **P** **11 10 04.0 +1.3**
comp=Z,842nm,0.8s,baz=72,slow=6.3,SNR=2169
CMAR PcP **PcP** **11 11 36.5 +0.6**
comp=Z,23nm,0.8s,baz=97,slow=3.7,SNR=2.8
CMAR ScP **ScP** **11 14 37.5 +0.5**
comp=Z,9.4nm,0.9s,baz=111,slow=2.1,SNR=6.9
CMAR Chiang Mai Arr 44.19 279*ce*P **P** **11 10 04.5 +1.8**
CMAR pmax pmax
comp=Z,842nm,0.8s
TNCH TengChong 44.22 288 ⇓*i*P **P** **11 10 04.5 +1.5**
TNCH pP PcP 11 11 37.1 +1.0
TNCH sP sP 11 12 38.5 +0.6
TNCH ScP **ScP** **11 14 37.3 0.0**
TNCH S **S** **11 15 59.5 +1.6**
TNCH sS sS 11 18 49.0 -3.8
TNCH SS **SS** **11 19 27.3 -1.2**
TNCH pmax pmax
comp=Z,660nm,0.7s
DZM Mont Dzumac 44.43 152 P **P** **11 10 05.0 +0.6**
DZM Mont Dzumac 44.43 152 P **P** **11 10 05.1 +0.6**
comp=Z,336nm,1.0s
ONTNC Ouen Toro 44.64 152 IAmb IAmb 11 10 07.8
comp=Z,150nm,1.0s
ONTNC Ouen Toro 44.64 152 P **P** **11 10 06.6 +0.6**
comp=Z,163nm,1.1s
OUENC Ouen Island, N 44.91 152 P **P** **11 10 09.0 +0.9**
comp=Z,192nm,1.0s
BBJI Bungbulang 44.92 240 P **P** **11 10 06.8 -1.6**
comp=Z,96nm,1.0s
GTA Gaotai 45.08 308 ⇓P **P** **11 10 11.4 +2.0**
GTA PcP **PcP** **11 11 40.5 +1.7**
GTA pP pwP 11 11 53.4 +1.9
GTA sP sP 11 12 41.9 -2.9
GTA ScP **ScP** **11 14 40.3 -0.2**
GTA S **S** **11 16 10.3 +0.7**
GTA sS ScS 11 19 09.3 +1.8
GTA pmax pmax
comp=Z,220nm,1.0s
GTA pmax pmax
comp=Z,720nm,8.8s
DBJI Dramaga 45.17 241 P **P** **11 10 10.2 -0.1**
comp=Z,8µmcomp=Z,130nm,0.7s
ADK Adak 45.35 32 P **P** **11 10 12.0 +1.0**
ADK IAmb IAmb 11 10 13.2
comp=Z,104nm,0.7s
ADK Adak 45.35 32 P **P** **11 10 11.7 +0.7**
comp=Z,81nm,1.6s
ADK Adak 45.35 32 P **P** **11 10 12.0 +1.0**
ADK pmax pmax
comp=Z,105nm,0.7s
PINNC Pines Island, 45.36 151 P **P** **11 10 12.1 +0.6**
PINNC IAmb IAmb 11 10 13.6
comp=Z,111nm,1.0s
PINNC Pines Island, 45.36 151 P **P** **11 10 12.3 +0.8**
comp=Z,141nm,1.2s
IPM Ipoh 45.43 259 P **P** **11 10 14.1 +1.8**
comp=Z,344nm,1.2s
SBJI Serang 45.46 242 P **P** **11 10 13.4 +0.9**
comp=Z,400nm,1.1s
KULM Kulim 45.50 260 P **P** **11 10 14.7 +1.9**
comp=Z,544nm,1.0s
SEY Seymchan 45.55 4*ce*P **P** **11 10 13.4 +1.0**
SEY pmax pmax
comp=Z,144nm,1.0s
WRKA Warakurna 45.57 202 P **P** **11 10 13.2 0.0**

	comp=Z,36nm,1.4s									
YAK	**Yakutsk**	**45.77**	**350**	P		**P**	**11**	**10**	**14.0**	**0.0**
YAK	**Yakutsk**	**45.77**	**350**	P		**P**	**11**	**10**	**14.2**	**+0.2**
	comp=Z,427nm,0.8s,baz=146,slow=2.3,SNR=90									
YAK				ScP		**ScP**	**11**	**14**	**42.2**	**-0.5**
	comp=Z,15nm,0.4s,baz=179,slow=1.4,SNR=7.0									
YAK				S		**S**	**11**	**16**	**17.5**	**-0.7**
	comp=Z,35nm,0.8s,baz=126,slow=23,SNR=13									
	comp=Z,427nm,0.8s									
YAK	**Yakutsk**	**45.77**	**350**	*d* P		**P**	**11**	**10**	**14.0**	**0.0**
YAK				*e*			11	11	39.8	
YAK				*e*			11	12	08.3	
YAK				*e* S		**S**	**11**	**16**	**14.9**	**-3.3**
YAK				pmax		pmax				
	comp=Z,628nm,1.3s									
YAK				pmax		pmax				
	comp=N,189nm,1.4s									
YAK				pmax		pmax				
	comp=E,50nm,1.7s									
YAK				pmax		pmax				
	comp=Z,160nm,3.7s									
YAK				pmax		pmax				
	comp=N,44nm,1.6s									
YAK				pmax		pmax				
	comp=E,61nm,2.6s									
YAK				smax		smax				
	comp=N,440nm,2.9s									
YAK				smax		smax				
	comp=E,302nm,2.4s									
YAK	**Yakutsk**	**45.77**	**350**	P		**P**	**11**	**10**	**14.0**	**0.0**
YAK				PcP		**PcP**	**11**	**11**	**39.8**	**-0.7**
YAK				pP		**pP**	**11**	**11**	**49.8**	**-1.0**
BLSI	**Bandar Lampung**	**45.83**	**244**	P		**P**	**11**	**10**	**15.9**	**+0.6**
	comp=E,5µmcomp=E,392nm,0.8s									
KLI	**Kotabumi**	**45.91**	**245**	P		**P**	**11**	**10**	**15.5**	**-0.4**
	comp=E,604nm,0.8s									
MBWA	**Marble Bar**	**46.06**	**214**	P		**P**	**11**	**10**	**17.0**	**+0.2**
	comp=Z,60nm,0.8s									
MBWA	**Marble Bar**	**46.06**	**214**	P		**P**	**11**	**10**	**17.1**	**+0.2**
MBWA	**Marble Bar**	**46.06**	**214**	P		**P**	**11**	**10**	**16.7**	**-0.2**
	comp=Z,35nm,0.8s									
CGJI	**Cibinong**	**46.09**	**242**	P		**P**	**11**	**10**	**15.2**	**-2.1**
	comp=Z,7µmcomp=Z,469nm,0.8s									
MDSI	**Maura Dua**	**46.31**	**246**	P		**P**	**11**	**10**	**18.1**	**-0.8**
	comp=Z,2µmcomp=Z,236nm,1.0s									
PSA00	**Pilbara Seismi**	**46.33**	**214**	P		**P**	**11**	**10**	**19.2**	**+0.2**
	comp=Z,65nm,0.8s									
PSA00	**Pilbara Seismi**	**46.33**	**214**	P		**P**	**11**	**10**	**19.0**	**+0.1**
PSA00	**Pilbara Seismi**	**46.33**	**214**	IAmb		IAmb	11	10	21.3	
	comp=Z,36nm,0.6s									
PSA00	**Pilbara Seismi**	**46.33**	**214**	P		**P**	**11**	**10**	**19.7**	**+0.7**
	comp=Z,65nm,0.8s									
BOD	**Bodaibo**	**46.45**	**337**	*e* P		**P**	**11**	**10**	**19.6**	**+0.3**
BOD				pmax		pmax				
	comp=Z,291nm,1.4s									
YSA	**Yasawairara**	**46.47**	**135**	P		**P**	**11**	**10**	**20.4**	**+0.4**
KASI	**Kota Agung**	**46.55**	**244**	P		**P**	**11**	**10**	**19.6**	**-1.1**
	comp=Z,5µmcomp=Z,426nm,0.9s									
LHSI	**Lahat**	**46.56**	**247**	P		**P**	**11**	**10**	**20.9**	**+0.1**
	comp=Z,4µmcomp=Z,391nm,1.0s									
LWLI	**Liwa**	**46.67**	**245**	P		**P**	**11**	**10**	**21.1**	**-0.7**
ATKA	**Atka Island**	**46.81**	**33**	IAmb		IAmb	11	10	23.8	
	comp=Z,128nm,0.7s									
ATKA	**Atka Island**	**46.81**	**33**	P		**P**	**11**	**10**	**22.6**	**+0.5**
	comp=Z,200nm,1.5s									
ZAK	**Zakamensk**	**46.92**	**324**	*e* P		**P**	**11**	**10**	**22.6**	**-0.6**
ZAK				*e*			11	11	44.7	
ZAK				pmax		pmax				
	comp=Z,126nm,1.3s									
KSI	**Kapahiang**	**47.30**	**248**	P		**P**	**11**	**10**	**25.8**	**-0.7**
MNAI	**Manna**	**47.31**	**247**	P		**P**	**11**	**10**	**27.1**	**+0.6**
	comp=Z,925nm,1.3s									
MNAI	**Manna**	**47.31**	**247**	P		**P**	**11**	**10**	**26.3**	**-0.2**
IRK	**Irkutsk**	**47.31**	**327**	*e* P		**P**	**11**	**10**	**26.2**	**+0.2**
IRK				*e* S		**S**	**11**	**16**	**42.0**	**+1.9**
IRK				pmax		pmax				
	comp=Z,289nm,1.3s									
MASI	**Maura Aman, Be**	**47.38**	**248**	P		**P**	**11**	**10**	**26.9**	**-0.1**
MSVF	**Nonsavu**	**47.52**	**136**	P		**P**	**11**	**10**	**29.3**	**+1.2**
MSVF				IAmb		IAmb	11	10	30.9	
	comp=Z,110nm,0.9s									
MSVF	**Nonsavu**	**47.52**	**136**	P		**P**	**11**	**10**	**30.0**	**+2.0**
	comp=Z,148nm,1.2s									
MSVF	**Nonsavu**	**47.52**	**136**	*i* P		**P**	**11**	**10**	**28.0**	**0.0**
MSVF				pmax		pmax				
	comp=Z,149nm,1.0s									
KRJI	**Kerinci**	**47.60**	**250**	P		**P**	**11**	**10**	**29.5**	**+0.7**
	comp=Z,633nm,0.9s									
DGTI	**Dogotuki**	**47.66**	**133**	P		**P**	**11**	**10**	**31.2**	**+2.1**
	comp=Z,324nm,1.1s									
PPI	**Padang Pangan**	**47.87**	**253**	P		**P**	**11**	**10**	**30.6**	**-0.1**
	comp=Z,109nm,0.9s									
FUTU	**Fugatoga**	**47.88**	**129**	IAmb		IAmb	11	10	34.4	
	comp=Z,218nm,1.1s									
PSI	**Prapat**	**47.98**	**258**	P		**P**	**11**	**10**	**33.4**	**+1.7**
	comp=Z,298nm,1.2s									
PSI	**Prapat**	**47.98**	**258**	P		**P**	**11**	**10**	**33.3**	**+1.6**
PDSI	**Padang**	**48.00**	**252**	P		**P**	**11**	**10**	**30.8**	**-0.9**
	comp=Z,5µmcomp=Z,158nm,0.7s									
TSI	**Tuntungan**	**48.07**	**259**	P		**P**	**11**	**10**	**34.0**	**+1.8**
	comp=Z,338nm,1.3s									
ARMA	**Armidale**	**48.09**	**173**	P		**P**	**11**	**10**	**32.5**	**+0.4**
	comp=Z,128nm,1.3s									
ARMA	**Armidale**	**48.09**	**173**	P		**P**	**11**	**10**	**32.6**	**+0.4**
ARMA				IAmb		IAmb	11	10	34.0	
	comp=Z,158nm,1.2s									
ARMA	**Armidale**	**48.09**	**173**	P		**P**	**11**	**10**	**33.1**	**+0.9**
	comp=Z,127nm,1.3s									
MNSI	**Mandaling Nat**	**48.12**	**255**	P		**P**	**11**	**10**	**33.3**	**+0.7**
	comp=Z,4µmcomp=Z,218nm,0.9s									
XMI	**Christmas Isla**	**48.20**	**238**	P		**P**	**11**	**10**	**32.6**	**-0.5**
	comp=Z,487nm,0.8s									
GOMU	**GeErMu**	**48.29**	**303**	P		**P**	**11**	**10**	**34.9**	**+0.9**
GOMU				PcP		**PcP**	**11**	**11**	**52.0**	**+1.3**
GOMU				S		**S**	**11**	**16**	**55.4**	**+0.7**
GOMU				pmax		pmax				
	comp=Z,280nm,0.8s									
KCSI	**Kotacane, Aceh**	**48.80**	**259**	P		**P**	**11**	**10**	**37.5**	**-0.2**
	comp=Z,158nm,1.3s									
CMSA	**Cobar Meteorol**	**48.85**	**180**	P		**P**	**11**	**10**	**38.0**	**+0.4**
	comp=Z,153nm,1.2s									
CMSA	**Cobar Meteorol**	**48.85**	**180**	P		**P**	**11**	**10**	**38.1**	**+0.5**
	comp=Z,153nm,1.2s									
LHMI	**Lhok Sumawe**	**49.01**	**261**	P		**P**	**11**	**10**	**41.2**	**+2.0**
	comp=Z,1µm,0.8s									
LHMI	**Lhok Sumawe**	**49.01**	**261**	P		**P**	**11**	**10**	**40.9**	**+1.7**
STKA	**Stephens Creek**	**49.33**	**184**	P		**P**	**11**	**10**	**41.2**	**0.0**
	comp=Z,433nm,1.0s									
STKA	**Stephens Creek**	**49.33**	**184**	P		**P**	**11**	**10**	**41.2**	**0.0**
	comp=Z,38nm,0.4s,baz=12,slow=7.3,SNR=88									
STKA				ScP		**ScP**	**11**	**14**	**58.9**	**+0.6**
	comp=Z,13nm,1.0s,baz=317,slow=7.1,SNR=4.6									
STKA				S		**S**	**11**	**17**	**05.8**	**-2.4**
	comp=Z,8.4nm,1.1s,baz=131,slow=17,SNR=6.0									
	comp=Z,38nm,0.4s									
STKA	**Stephens Creek**	**49.33**	**184**	P		**P**	**11**	**10**	**41.2**	**0.0**
	comp=Z,21nm,1.0s									
STKA	**Stephens Creek**	**49.33**	**184**	*i* P		**P**	**11**	**10**	**41.0**	**-0.2**
SISI	**Saibi**	**49.42**	**252**	P		**P**	**11**	**10**	**41.9**	**-0.3**
GSI	**Gunungsitoli**	**49.78**	**256**	P		**P**	**11**	**10**	**46.1**	**+1.2**
	comp=Z,1µm,0.8s									
GSI	**Gunungsitoli**	**49.78**	**256**	P		**P**	**11**	**10**	**45.3**	**+0.4**
MLSI	**Meulaboh, Aceh**	**49.83**	**261**	P		**P**	**11**	**10**	**46.1**	**+0.8**
	comp=Z,187nm,0.9s									
LKBA	**Tubou, Lakemba**	**49.99**	**134**	P		**P**	**11**	**10**	**46.6**	**+0.3**
	comp=Z,330nm,0.9s									
NIKH	**Nikolski High**	**50.02**	**34**	IAmb		IAmb	11	10	47.2	
	comp=Z,328nm,1.5s									
NIKH	**Nikolski High**	**50.02**	**34**	P		**P**	**11**	**10**	**46.7**	**+0.7**
	comp=Z,142nm,1.4s									
NIKH	**Nikolski High**	**50.02**	**34**	P		**P**	**11**	**10**	**46.2**	**+0.2**
	baz=243,SNR=6.8									
SHL	**Shillong**	**50.21**	**289**	P		**P**	**11**	**10**	**48.7**	**+0.6**
SHL	**Shillong**	**50.21**	**289**	P		**P**	**11**	**10**	**48.9**	**+0.8**
	SNR=72									
SHL	**Shillong**	**50.21**	**289**	P		**P**	**11**	**10**	**48.7**	**+0.6**
SHL				pmax		pmax				
	comp=Z,696nm,0.9s									
WHYH	**Whyalla**	**50.91**	**189**	P		**P**	**11**	**10**	**53.3**	**+0.6**
BBOO	**Buckleboo**	**50.92**	**190**	P		**P**	**11**	**10**	**52.7**	**-0.2**
	comp=Z,101nm,1.0s									
BBOO	**Buckleboo**	**50.92**	**190**	P		**P**	**11**	**10**	**52.7**	**-0.2**
BBOO	**Buckleboo**	**50.92**	**190**	P		**P**	**11**	**10**	**53.0**	**+0.1**
	comp=Z,101nm,1.0s									
HTT	**Hallett**	**51.12**	**187**	P		**P**	**11**	**10**	**54.7**	**+0.3**
	comp=Z,29nm,1.6s									
HTT	**Hallett**	**51.12**	**187**	P		**P**	**11**	**10**	**55.3**	**+0.9**
	comp=Z,114nm,1.6s									
MEEK	**Meekatharra**	**51.14**	**211**	P		**P**	**11**	**10**	**54.0**	**-0.6**
	comp=Z,32nm,0.7s									
MEEK	**Meekatharra**	**51.14**	**211**	P		**P**	**11**	**10**	**54.5**	**-0.1**
	comp=Z,32nm,0.7s									
PBA	**Port Blair**	**51.26**	**271**	P		**P**	**11**	**10**	**57.2**	**+1.5**
SPIA	**Saint Paul Isl**	**51.39**	**29**	P		**P**	**11**	**10**	**57.9**	**+2.0**
	comp=Z,334nm,1.8s									
SPIA	**Saint Paul Isl**	**51.39**	**29**	P		**P**	**11**	**10**	**56.6**	**+0.7**
	baz=238									
P08K	**Saint George I**	**51.42**	**30**	P		**P**	**11**	**10**	**56.8**	**+0.7**
	baz=240									
UNV	**Unalaska Valle**	**51.67**	**34**	IAmb		IAmb	11	10	59.8	
	comp=Z,71nm,0.6s									
UNV	**Unalaska Valle**	**51.67**	**34**	P		**P**	**11**	**10**	**58.1**	**+0.1**
	baz=245,SNR=12									
BILL	**Bilibino**	**52.14**	**10**	P		**P**	**11**	**11**	**01.8**	**+0.7**
BILL				IAmb		IAmb	11	11	03.0	
	comp=Z,209nm,0.8s									
BILL	**Bilibino**	**52.14**	**10**	*i* P		**P**	**11**	**11**	**01.2**	**+0.1**
BILL				pmax		pmax				
	comp=Z,242nm,0.8s									
BILL	**Bilibino**	**52.14**	**10**	P		**P**	**11**	**11**	**01.4**	**+0.3**
BILL				PcP		**PcP**	**11**	**12**	**04.9**	**+1.0**
AKUT	**Akutan**	**52.18**	**34**	IAmb		IAmb	11	11	04.4	
	comp=Z,194nm,1.2s									
AKUT	**Akutan**	**52.18**	**34**	P		**P**	**11**	**11**	**02.1**	**+0.5**
	comp=Z,187nm,1.1s									
CAN	**Canberra**	**52.73**	**176**	P		**P**	**11**	**11**	**06.5**	**+0.6**
	comp=Z,146nm,1.4s									
CAN	**Canberra**	**52.73**	**176**	IAmb		IAmb	11	11	08.2	
	comp=Z,121nm,1.0s									
CAN	**Canberra**	**52.73**	**176**	P		**P**	**11**	**11**	**07.1**	**+1.3**
	comp=Z,223nm,1.4s									
CAN	**Canberra**	**52.73**	**176**	P		**P**	**11**	**11**	**06.8**	**+1.0**
CNB	**Canberra Magne**	**52.74**	**176**	P		**P**	**11**	**11**	**06.8**	**+0.8**
	comp=Z,105nm,1.5s									
CNB	**Canberra Magne**	**52.74**	**176**	P		**P**	**11**	**11**	**07.2**	**+1.2**
	comp=Z,105nm,1.5s									
FALS	**False Pass**	**53.73**	**34**	P		**P**	**11**	**11**	**13.4**	**+0.7**
	comp=Z,361nm,0.6s									
FALS	**False Pass**	**53.73**	**34**	P		**P**	**11**	**11**	**12.8**	**+0.1**
	baz=247,SNR=24									
ARPS	**Mount Arapiles**	**54.18**	**184**	P		**P**	**11**	**11**	**16.3**	**+0.3**
	comp=Z,72nm,1.2s									
MORW	**Morawa**	**54.42**	**212**	P		**P**	**11**	**11**	**17.7**	**-0.2**
	comp=Z,90nm,0.8s									
MORW	**Morawa**	**54.42**	**212**	IAmb		IAmb	11	11	18.5	
	comp=Z,72nm,0.5s									
MORW	**Morawa**	**54.42**	**212**	P		**P**	**11**	**11**	**18.0**	**+0.1**
	comp=Z,90nm,0.8s									
GAMB	**Gambell**	**54.54**	**22**	P		**P**	**11**	**11**	**18.9**	**+0.7**
	baz=233,SNR=14									
S12K	**Black Hills**	**54.77**	**33**	IAmb		IAmb	11	11	21.7	
	comp=Z,127nm,0.8s									
S12K	**Black Hills**	**54.77**	**33**	P		**P**	**11**	**11**	**20.0**	**0.0**
	baz=248,SNR=17									
M11K	**Mekoryuk**	**54.84**	**27**	P		**P**	**11**	**11**	**20.7**	**+0.4**
	baz=241									
TOO	**Toolangi**	**54.87**	**180**	P		**P**	**11**	**11**	**21.8**	**+0.9**
	comp=Z,42nm,0.9s									
TOO	**Toolangi**	**54.87**	**180**	P		**P**	**11**	**11**	**22.1**	**+1.2**
WMQ	**Urumqi**	**54.89**	**312**	LR		LR				
	comp=Z,210nm,23.8s									
WMQ	**Urumqi**	**54.89**	**312**	⇓P		**P**	**11**	**11**	**23.1**	**+1.9**
WMQ				PcP		**PcP**	**11**	**12**	**15.8**	**+0.6**
WMQ				pP		pP	11	13	04.3	+0.9
WMQ				sP		sP	11	14	00.8	-0.4
WMQ				S		**S**	**11**	**18**	**24.0**	**+1.6**
WMQ				pmax		pmax				
	comp=Z,470nm,1.1s									
WMQ				pmax		pmax				
	comp=Z,1µm,4.5s									
TIXI	**Tiksi**	**54.94**	**354**	P		**P**	**11**	**11**	**20.6**	**-0.3**
TIXI	**Tiksi**	**54.94**	**354**	*ce* P		**P**	**11**	**11**	**20.6**	**-0.3**
TIXI				pmax		pmax				
	comp=Z,61nm,1.0s									
TIXI	**Tiksi**	**54.94**	**354**	P		**P**	**11**	**11**	**20.3**	**-0.6**
TIXI				PcP		**PcP**	**11**	**12**	**13.0**	**-1.6**
BLDU	**Ballidu**	**55.36**	**210**	P		**P**	**11**	**11**	**24.4**	**-0.1**
	comp=Z,105nm,0.6s									
BLDU	**Ballidu**	**55.36**	**210**	P		**P**	**11**	**11**	**24.6**	**+0.1**
	comp=Z,105nm,0.6s									
SDPT	**Sand Point**	**55.48**	**34**	IAmb		IAmb	11	11	26.3	
	comp=Z,206nm,0.8s									
SDPT	**Sand Point**	**55.48**	**34**	P		**P**	**11**	**11**	**25.4**	**+0.5**
	comp=Z,408nm,1.5s									
SDPT	**Sand Point**	**55.48**	**34**	P		**P**	**11**	**11**	**25.3**	**+0.3**
	baz=250,SNR=14									
CHNA	**Chernabura Isl**	**55.79**	**35**	P		**P**	**11**	**11**	**27.8**	**+0.7**
	comp=Z,61nm,0.8s									
CHNA	**Chernabura Isl**	**55.79**	**35**	P		**P**	**11**	**11**	**27.3**	**+0.3**
	baz=251									
M13K	**Dall Lake**	**56.10**	**28**	IAmb		IAmb	11	11	32.5	
	comp=Z,220nm,1.0s									
M13K	**Dall Lake**	**56.10**	**28**	P		**P**	**11**	**11**	**30.6**	**+1.5**
	baz=244,SNR=20									
K13K	**Kusilvak Mount**	**56.25**	**26**	IAmb		IAmb	11	11	32.7	
	comp=Z,154nm,0.8s									
K13K	**Kusilvak Mount**	**56.25**	**26**	P		**P**	**11**	**11**	**31.4**	**+1.3**
	baz=241,SNR=52									
S14K	**Fog Glacier**	**56.30**	**33**	P		**P**	**11**	**11**	**31.3**	**+0.6**
	baz=250,SNR=9.9									
O14K	**Tigyukauivet M**	**56.56**	**30**	P		**P**	**11**	**11**	**33.0**	**+0.7**
	baz=246,SNR=12									
N14K	**Kuskokwak Cree**	**56.64**	**29**	IAmb		IAmb	11	11	35.0	
	comp=Z,171nm,0.8s									
N14K	**Kuskokwak Cree**	**56.64**	**29**	P		**P**	**11**	**11**	**33.7**	**+0.8**
	baz=245,SNR=22									
MUN	**Mundaring**	**56.73**	**210**	P		**P**	**11**	**11**	**33.9**	**0.0**
	comp=Z,51nm,0.9s									
L14K	**Kuka Creek**	**56.81**	**27**	IAmb		IAmb	11	11	37.0	
	comp=Z,182nm,1.1s									
L14K	**Kuka Creek**	**56.81**	**27**	P		**P**	**11**	**11**	**35.0**	**+1.1**
	baz=244,SNR=46									
M14K	**Bethel**	**56.87**	**28**	IAmb		IAmb	11	11	36.9	
	comp=Z,184nm,0.9s									
M14K	**Bethel**	**56.87**	**28**	P		**P**	**11**	**11**	**35.6**	**+1.2**
	baz=245,SNR=45									
CHGN	**Chignik**	**56.90**	**34**	IAmb		IAmb	11	11	35.9	
	comp=Z,270nm,1.5s									
CHGN	**Chignik**	**56.90**	**34**	P		**P**	**11**	**11**	**34.7**	**0.0**
	baz=251,SNR=11									
TNA	**Tin City**	**56.91**	**21**	IAmb		IAmb	11	11	36.6	
	comp=Z,129nm,1.1s									
TNA	**Tin City**	**56.91**	**21**	P		**P**	**11**	**11**	**35.5**	**+0.9**
	baz=236,SNR=8.2									
NWAO	**Narrogin (SRO)**	**57.04**	**208**	P		**P**	**11**	**11**	**36.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**57.04**	**208**	P		**P**	**11**	**11**	**36.2**	**+0.1**
	comp=Z,30nm,0.7s									
NWAO	**Narrogin (SRO)**	**57.04**	**208**	P		**P**	**11**	**11**	**36.1**	**+0.1**
	comp=Z,30nm,0.7s									
J14K	**Nanvaranak Lak**	**57.09**	**25**	IAmb		IAmb	11	11	38.3	
	comp=Z,124nm,1.0s									
J14K	**Nanvaranak Lak**	**57.09**	**25**	P		**P**	**11**	**11**	**37.0**	**+1.1**
	baz=242									
O15K	**Ungalikthiuk R**	**57.21**	**30**	IAmb		IAmb	11	11	38.9	
	comp=Z,150nm,0.8s									
O15K	**Ungalikthiuk R**	**57.21**	**30**	P		**P**	**11**	**11**	**37.8**	**+1.0**
	baz=248,SNR=41									
ANM	**Nome**	**57.28**	**23**	IAmb		IAmb	11	11	39.5	
	comp=Z,160nm,1.0s									
ANM	**Nome**	**57.28**	**23**	P		**P**	**11**	**11**	**38.4**	**+1.2**
	baz=239,SNR=5.9									
M15K	**Kasigluk River**	**57.41**	**28**	P		**P**	**11**	**11**	**38.9**	**+0.7**
	baz=246,SNR=24									
F14K	**Arctic Creek**	**57.42**	**22**	P		**P**	**11**	**11**	**39.2**	**+1.1**
	baz=238,SNR=17									
N15K	**Kwethluk River**	**57.47**	**29**	IAmb		IAmb	11	11	41.4	
	comp=Z,190nm,0.9s									
N15K	**Kwethluk River**	**57.47**	**29**	P		**P**	**11**	**11**	**39.6**	**+1.0**
	baz=247,SNR=73									
L15K	**Ungalak Mounta**	**57.47**	**27**	P		**P**	**11**	**11**	**39.0**	**+0.4**
	baz=245,SNR=33									
K15K	**Wolf Creek Mou**	**57.72**	**26**	IAmb		IAmb	11	11	42.6	
	comp=Z,156nm,1.1s									
K15K	**Wolf Creek Mou**	**57.72**	**26**	P		**P**	**11**	**11**	**41.2**	**+1.0**
	baz=244,SNR=37									
R16K	**Pilot Point**	**57.75**	**32**	P		**P**	**11**	**11**	**40.2**	**-0.3**
	baz=251									
G15K	**Niukluk**	**57.99**	**23**	P		**P**	**11**	**11**	**42.8**	**+0.8**
	baz=240,SNR=8.5									
P16K	**Nushagak River**	**58.04**	**31**	P		**P**	**11**	**11**	**43.7**	**+1.2**
	baz=250,SNR=51									
F15K	**North Star Dit**	**58.13**	**22**	IAmb		IAmb	11	11	45.2	
	comp=Z,121nm,0.9s									
F15K	**North Star Dit**	**58.13**	**22**	P		**P**	**11**	**11**	**43.9**	**+0.9**
	baz=239,SNR=28									
O16K	**Kokwok River B**	**58.19**	**30**	IAmb		IAmb	11	11	45.5	
	comp=Z,113nm,0.8s									
O16K	**Kokwok River B**	**58.19**	**30**	P		**P**	**11**	**11**	**44.1**	**+0.7**
	baz=249,SNR=49									
N16K	**Nishlik Lake**	**58.20**	**29**	P		**P**	**11**	**11**	**44.5**	**+1.0**
	baz=248,SNR=63									
CHIR	**Chirikof Islan**	**58.25**	**35**	P		**P**	**11**	**11**	**44.8**	**+0.9**
	comp=Z,225nm,0.8s									
CHIR	**Chirikof Islan**	**58.25**	**35**	P		**P**	**11**	**11**	**44.9**	**+0.9**
	baz=254									
M16K	**Timber Creek**	**58.32**	**28**	P		**P**	**11**	**11**	**45.3**	**+1.0**
	baz=248,SNR=36									
GLAD	**Gladstone**	**58.32**	**178**	P		**P**	**11**	**11**	**45.2**	**+0.7**
L16K	**Owhat River**	**58.36**	**27**	P		**P**	**11**	**11**	**45.1**	**+0.6**
	baz=247,SNR=37									
R17L	**Mt. Peulik Vol**	**58.39**	**32**	P		**P**	**11**	**11**	**44.8**	**-0.1**
	baz=252									
H16K	**Eliim**	**58.50**	**24**	P		**P**	**11**	**11**	**45.8**	**+0.4**
	baz=242,SNR=15									
J16K	**Anvik River**	**58.53**	**25**	IAmb		IAmb	11	11	48.3	
	comp=Z,103nm,0.9s									
J16K	**Anvik River**	**58.53**	**25**	P		**P**	**11**	**11**	**47.0**	**+1.3**
	baz=245,SNR=46									
Q16K	**King Salmon**	**58.58**	**31**	P		**P**	**11**	**11**	**45.8**	**-0.2**
	baz=251,SNR=8.7									
O17K	**Koliganek Bris**	**58.73**	**30**	P		**P**	**11**	**11**	**48.1**	**+1.0**
	baz=250,SNR=107									
I17K	**Unalakleet**	**58.76**	**25**	IAmb		IAmb	11	11	49.8	
	comp=Z,152nm,0.9s									
I17K	**Unalakleet**	**58.76**	**25**	P		**P**	**11**	**11**	**48.4**	**+1.2**
	baz=244,SNR=36									
ZAA0	**Zalesovo Array**	**58.78**	**323**	P		**P**	**11**	**11**	**47.6**	**+0.1**
ZAA0				IAmb		IAmb	11	11	49.0	
	comp=Z,128nm,0.8s									
ZALV	**Zalesovo Beam**	**58.78**	**323**	P		**P**	**11**	**11**	**47.6**	**+0.1**
ZALV	**Zalesovo Beam**	**58.78**	**323**	P		**P**	**11**	**11**	**47.9**	**+0.4**
	comp=Z,103nm,0.8s,baz=110,slow=6.2,SNR=334									
ZALV				PcP		**PcP**	**11**	**12**	**29.9**	**-0.3**
	comp=Z,64nm,0.7s,baz=116,slow=4.5,SNR=14									
ZALV				ScP		**ScP**	**11**	**15**	**37.7**	**-1.7**
	comp=Z,10nm,0.7s,baz=129,slow=4.6,SNR=3.8									
ZALV				S		**S**	**11**	**19**	**13.1**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=119,slow=24,SNR=6.4									
	comp=Z,103nm,0.8s									
G16K	**Koyuk River**	**58.81**	**23**	P		**P**	**11**	**11**	**48.0**	**+0.5**
	baz=242,SNR=5.5									
Q17K	**Contact Creek**	**58.83**	**32**	P		**P**	**11**	**11**	**47.2**	**-0.8**
	baz=252									
P17K	**Kvichak River**	**58.85**	**31**	P		**P**	**11**	**11**	**47.8**	**-0.1**
	baz=251,SNR=12									
OUZ	**Omahuta**	**58.90**	**153**	P		**P**	**11**	**11**	**50.3**	**+1.7**
	comp=Z,101nm,1.6s									
OUZ	**Omahuta**	**58.90**	**153**	P		**P**	**11**	**11**	**50.6**	**+2.0**
N17K	**Nushagak Hills**	**58.95**	**29**	IAmb		IAmb	11	11	51.2	
	comp=Z,108nm,0.8s									
N17K	**Nushagak Hills**	**58.95**	**29**	P		**P**	**11**	**11**	**49.8**	**+1.3**
	baz=250,SNR=54			

KDAK **Kodiak Island** 60.38 33 P P 11 11 58.7 +0.6
baz=255
E18K **Tukpahlearik C** 60.39 21 IAmb IAmb 11 12 00.9
comp=Z,170nm,0.9s
E18K **Tukpahlearik C** 60.39 21 P P 11 11 59.0 +1.0
baz=242
G18K **Tagagawik** 60.41 23 IAmb IAmb 11 12 00.6
comp=Z,181nm,1.0s
G18K **Tagagawik** 60.41 23 P P 11 11 58.8 +0.6
baz=245,SNR=94
P19K **Oil Pt** 60.55 31 P P 11 11 59.4 +0.1
baz=254,SNR=27
L19K **White Mountain** 60.56 28 IAmb IAmb 11 12 02.2
comp=Z,116nm,1.0s
L19K **White Mountain** 60.56 28 P P 11 12 00.2 +0.9
baz=251,SNR=63
GRZ **Great Barrier** 60.58 152 P P 11 12 00.8 +1.1
ABAZ **Army Bay** 60.60 153 P P 11 12 01.4 +1.6
GCSA **Galena City Sc** 60.63 25 P P 11 12 00.1 +0.6
baz=248,SNR=34
M19K **Big River Lodg** 60.68 28 P P 11 12 01.4 +1.3
baz=252,SNR=33
Q20K **Shuyak Island** 60.69 32 P P 11 12 00.5 +0.3
baz=255,SNR=26
SYI **Shuyak Island** 60.69 32 IAmb IAmb 11 12 01.6
comp=Z,179nm,0.8s
SHLS **Shalkode** 60.78 310 *e*P P 11 12 00.2 -1.0
SHLS *e*S S 11 19 34.7 -2.7
SHLS **Shalkode** 60.78 310 *e*P P 11 12 00.2 -1.0
SHLS *e*S S 11 19 34.7 -2.7
J19K **Poorman** 60.86 26 IAmb IAmb 11 12 03.4
comp=Z,104nm,0.8s
J19K **Poorman** 60.86 26 P P 11 12 02.1 +0.9
baz=249,SNR=113
B18K **Kokolik River** 60.93 19 P P 11 12 02.9 +1.3
baz=240
O20K **Slope Mountain** 60.97 30 P P 11 12 01.8 -0.2
baz=254,SNR=9.3
RED **Redoubt Volcan** 60.99 30 IAmb IAmb 11 12 03.1
comp=Z,83nm,0.9s
L20K **Farewell, AK** 61.09 28 P P 11 12 03.6 +0.8
baz=252,SNR=31
G19K **Purcell Mounta** 61.09 23 P P 11 12 03.6 +0.9
baz=247,SNR=167
H19K **Roundabout Mou** 61.09 24 IAmb IAmb 11 12 05.6
comp=Z,150nm,0.9s
H19K **Roundabout Mou** 61.09 24 P P 11 12 03.7 +1.0
baz=248,SNR=122
UZB **Uzynbulak** 61.10 310 *e*P P 11 12 04.3 +1.0
UZB **Uzynbulak** 61.10 310 *e*P P 11 12 04.4 +1.0
KUZ **Kuaotunu** 61.11 153 P P 11 12 04.3 +1.1
KUZ **Kuaotunu** 61.11 153 P P 11 12 03.8 +0.6
F19K **Shaleruckik Mo** 61.12 22 P P 11 12 03.3 +0.5
baz=246,SNR=44
MKAZ **Moumakai** 61.17 153 P P 11 12 04.7 +1.1
M20K **Styx River** 61.24 28 IAmb IAmb 11 12 06.5
comp=Z,110nm,0.9s
M20K **Styx River** 61.24 28 P P 11 12 05.0 +1.2
baz=253,SNR=98
K20K **Telida** 61.29 27 IAmb IAmb 11 12 06.7
comp=Z,112nm,0.8s
K20K **Telida** 61.29 27 P P 11 12 05.4 +1.4
baz=251
HOM **Homer** 61.33 31 P P 11 12 04.3 0.0
baz=255,SNR=8.7
KPKS **Kokpek** 61.36 310 *e*P P 11 12 06.1 +1.1
KPKS *e*S S 11 19 45.9 +1.4
KPKS **Kokpek** 61.36 310 *e*P P 11 12 06.1 +1.1
KPKS *e*S S 11 19 45.9 +1.4
N20K **Mount Spurr** 61.47 29 P P 11 12 05.5 +0.1
baz=254,SNR=6.6
SPCR **Spurr Chakacha** 61.47 29 P P 11 12 05.6 +0.2
baz=254
C19K **Lookout Ridge** 61.50 20 P P 11 12 06.5 +1.1
baz=243
J20K **Nowinta River** 61.53 26 IAmb IAmb 11 12 08.2
comp=Z,143nm,0.9s
J20K **Nowinta River** 61.53 26 P P 11 12 06.8 +1.3
baz=251,SNR=136
SATY **Saty** 61.55 310 *e*P P 11 12 07.4 +1.1
SATY *e*S S 11 19 48.3 +1.4
SATY pmax pmax
comp=Z,123nm,0.9s
SATY **Saty** 61.55 310 *e*P P 11 12 07.5 +1.1
comp=Z,123nm,0.9s
SATY *e*S S 11 19 48.3 +1.4
A19K **Wainwright** 61.57 18 P P 11 12 07.0 +1.3
baz=241
E19K **Redstone River** 61.57 22 IAmb IAmb 11 12 08.6
comp=Z,146nm,0.8s
E19K **Redstone River** 61.57 22 P P 11 12 06.7 +0.9
baz=246
I20K **Naaghedeneel** 61.60 25 P P 11 12 07.4 +1.4
baz=250,SNR=75
TDK **Taldyqorghan** 61.64 312 *e*P P 11 12 08.0 +1.4
TDK pmax pmax
comp=Z,233nm,0.7s
TDK **Taldyqorghan** 61.64 312 *e*P P 11 12 08.1 +1.4
comp=Z,233nm,0.7s
H20K **Anotleneega Mo** 61.69 24 P P 11 12 07.7 +1.1
baz=249,SNR=117
BRLK **Bradley Lake** 61.73 31 IAmb IAmb 11 12 07.9
comp=Z,132nm,0.7s
CAPN **Captain Cook N** 61.85 30 P P 11 12 08.0 +0.3
baz=255
F20K **Avaraart Lake** 61.95 22 IAmb IAmb 11 12 10.6
comp=Z,85nm,0.8s
F20K **Avaraart Lake** 61.95 22 P P 11 12 09.3 +1.1
baz=248,SNR=100
TARG **Taragan, Kyrgy** 61.96 308 IAmb IAmb 11 12 12.2
comp=Z,198nm,1.1s
PPLA **Purkeypile** 61.96 27 P P 11 12 09.2 +0.6
baz=253,SNR=35
KURK **Kurchatov** 61.97 319 P P 11 12 09.4 +0.7
KURK **Kurchatov** 61.97 319 P P 11 12 09.4 +0.7
KURK **Kurchatov** 61.97 319 *ce*P P 11 12 09.2 +0.5
KURK pmax pmax
comp=Z,1μm,1.3s
KURK **Kurchatov** 61.97 319 P P 11 12 09.4 +0.7
KURK pP pP 11 13 53.6 -1.1
KURK sP sP 11 14 49.4 -1.7
SKT **Skwentna** 62.00 28 P P 11 12 08.6 -0.1
baz=254,SNR=89
ARXS **Arharly** 62.01 311 *e*P P 11 12 10.1 +0.9
KURBB **Kurchatov Arra** 62.02 318 P P 11 12 09.7 +0.7
comp=Z,660nm,0.8s,baz=99,slow=6.6,SNR=1926
KURBB S S 11 19 52.5 +0.4
comp=Z,14nm,1.2s,baz=103,slow=10.0,SNR=14
KURBB **Kurchatov Arra** 62.02 318 P P 11 12 09.5 +0.5
CAST **Castle Rocks** 62.16 27 P P 11 12 10.5 +0.8
CAST IAmb IAmb 11 12 11.7
comp=Z,136nm,0.8s
CAST **Castle Rocks** 62.16 27 P P 11 12 10.5 +0.8
baz=253,SNR=188
CHUM **Lake Minchumin** 62.20 26 P P 11 12 10.9 +1.0
baz=252,SNR=58
SUA **Susitna One** 62.22 29 P P 11 12 10.0 -0.3
baz=255,SNR=46
IMAR **Indian Mountai** 62.30 24 P P 11 12 11.3 +0.7
D20K **Etivluk River** 62.30 20 P P 11 12 11.4 +0.8
baz=246
O22K **Cooper Landing** 62.47 30 P P 11 12 11.8 +0.1
baz=257,SNR=30
SEW **Seward** 62.51 31 P P 11 12 12.4 +0.4
baz=257,SNR=82
MDOK **Medeo** 62.54 310 *e*P P 11 12 13.9 +1.1
MDOK *e*S S 11 20 00.4 +1.2
MDOK **Medeo** 62.54 310 *e*P P 11 12 13.9 +1.1
MDOK *e*S S 11 20 00.5 +1.2
H21K **Melozitna Rive** 62.56 24 IAmb IAmb 11 12 14.6
comp=Z,96nm,0.8s
H21K **Melozitna Rive** 62.56 24 P P 11 12 13.3 +1.0
baz=251,SNR=136
G21K **Allakaket** 62.58 23 IAmb IAmb 11 12 14.6
comp=Z,114nm,1.2s
G21K **Allakaket** 62.58 23 P P 11 12 13.2 +0.9
baz=250
M22K **Willow** 62.58 29 P P 11 12 12.1 -0.3
baz=256,SNR=77
RC01 **Rabbit Creek A** 62.60 30 P P 11 12 12.5 -0.1
baz=256,SNR=42
CHKK **Chushkaly** 62.60 311 *e*P P 11 12 14.0 +1.0
CHKK **Chushkaly** 62.60 311 *e*P P 11 12 14.1 +1.0
TNSS **Tian-Shan** 62.62 310 *e*P P 11 12 14.4 +0.8
TNSS **Tian-Shan** 62.62 310 *e*P P 11 12 14.4 +0.8
AAA **Alma-Ata** 62.64 310 *e*P P 11 12 14.5 +1.2
AAA pmax pmax
comp=Z,155nm,0.9s
AAA **Alma-Ata** 62.64 310 *e*P P 11 12 14.6 +1.2
comp=Z,155nm,0.9s
B20K **Meade River** 62.67 19 P P 11 12 14.0 +1.1
baz=245
CUT **Chulitna** 62.68 28 P P 11 12 12.7 -0.3
baz=255,SNR=13
KTH **Kantishna Hill** 62.70 27 IAmb IAmb 11 12 15.4
comp=Z,205nm,1.1s
I21K **Tanana** 62.73 25 IAmb IAmb 11 12 16.2
comp=Z,123nm,0.9s
I21K **Tanana** 62.73 25 P P 11 12 14.5 +1.1
baz=252,SNR=96
BPAW **Bear Paw Mtn.** 62.82 26 IAmb IAmb 11 12 15.9
comp=Z,150nm,1.0s
BPAW **Bear Paw Mtn.** 62.82 26 P P 11 12 14.5 +0.5
baz=254,SNR=139
F21K **Alatna River** 62.83 23 P P 11 12 14.7 +0.7
baz=250,SNR=60
TRF **Thorofare Moun** 62.94 27 P P 11 12 14.8 -0.2
baz=255,SNR=84
URZ **Urewera** 62.98 152 P P 11 12 15.6 +0.3
comp=Z,85nm,1.7s
PMR **Palmer** 63.00 29 IAmb IAmb 11 12 16.2
comp=Z,118nm,0.8s
PMR **Palmer** 63.00 29 P P 11 12 15.2 +0.1
comp=Z,188nm,0.9s
PMR **Palmer** 63.00 29 P P 11 12 15.0 -0.1
baz=257,SNR=119
C21K **Knifeblade Rid** 63.09 20 P P 11 12 16.7 +1.1
baz=248,SNR=60
E21K **Killik River** 63.09 21 P P 11 12 16.4 +0.7
baz=249
ULHL **Ulahol** 63.13 309 P P 11 12 18.2 +1.6
SNR=12
H22K **Ishtalitna Cre** 63.19 24 P P 11 12 17.3 +0.9
baz=252,SNR=70
MLY **Manley** 63.19 25 IAmb IAmb 11 12 18.4
comp=Z,134nm,0.9s
MLY **Manley** 63.19 25 P P 11 12 17.1 +0.7
baz=253,SNR=295
PWL **Port Wells** 63.22 30 P P 11 12 17.0 +0.4
baz=258,SNR=221
RTZ **Ruatahuna** 63.22 153 P P 11 12 16.4 -0.6
KNK **Knik Glacier** 63.28 29 P P 11 12 17.3 +0.4
baz=257,SNR=71
QRZ **Quartz Range** 63.31 157 P P 11 12 18.4 +1.0
QRZ IAmb IAmb 11 12 19.4
comp=Z,123nm,1.0s
QRZ **Quartz Range** 63.31 157 P P 11 12 18.9 +1.5
comp=Z,142nm,0.9s
QRZ **Quartz Range** 63.31 157 P P 11 12 18.0 +0.6
B21K **Ikpikpuk River** 63.32 20 IAmb IAmb 11 12 19.3
comp=Z,118nm,0.8s
B21K **Ikpikpuk River** 63.32 20 P P 11 12 18.1 +1.1
baz=247,SNR=82
KSH **Kashi** 63.36 306 P P 11 12 22.0 +3.9
KSH pP pwP 11 14 09.8 +1.8
KSH sP sP 11 15 00.8 -0.5
KSH pmax pmax
comp=Z,290nm,0.8s
A21K **Barrow** 63.40 18 P P 11 12 18.5 +1.0
baz=245
F22K **John River** 63.40 22 P P 11 12 19.0 +1.4
baz=251,SNR=87
G22K **Bettles** 63.46 23 P P 11 12 18.7 +0.7
baz=252
P23K **Montague Islan** 63.49 31 P P 11 12 19.0 +0.7
baz=259,SNR=36
HYB **Hyderabad** 63.52 281 *e*P P 11 12 19.8 +0.4
HYB IVmB_BB 11 12 20.1
comp=Z,3μm,0.9s
HYB *e*PcP PcP 11 12 50.8 +0.6
HYB *e*pP pP 11 14 05.3 -0.2
HYB *e*PP PP 11 14 48.0 0.0
HYB *e*S S 11 20 13.4 +1.8
WAT1 **Susitna Watana** 63.55 28 P P 11 12 18.5 -0.2
baz=257
RND **Reindeer** 63.56 27 IAmb IAmb 11 12 20.3
comp=Z,88nm,1.0s
MCK **McKinley** 63.60 27 IAmb IAmb 11 12 20.1
comp=Z,113nm,1.2s
MCK **McKinley** 63.60 27 P P 11 12 18.7 -0.3
baz=256,SNR=17
TKM2 **Tokmak 2** 63.61 310 P P 11 12 21.1 +1.4
SNR=107
D22K **Ayikyak River** 63.69 21 P P 11 12 20.8 +1.3
baz=250,SNR=176
M23K **Glacier View** 63.70 29 P P 11 12 19.9 +0.2
baz=258,SNR=60
E22K **Anaktuvuk Pass** 63.74 22 P P 11 12 21.0 +1.2
baz=251,SNR=164
A22K **Sinclair Lake** 63.75 18 P P 11 12 21.0 +1.2
baz=246,SNR=16
NEA2 **Nenana** 63.76 26 IAmb IAmb 11 12 22.3
comp=Z,88nm,1.1s
NEA2 **Nenana** 63.76 26 P P 11 12 19.8 -0.2
baz=255,SNR=80
I23K **Minto, Yukon-K** 63.79 25 IAmb IAmb 11 12 22.3
comp=Z,100nm,0.8s
I23K **Minto, Yukon-K** 63.79 25 P P 11 12 20.9 +0.8
baz=255,SNR=120
GLI **Glacier Island** 63.81 30 IAmb IAmb 11 12 22.0
comp=Z,124nm,0.8s
GLI **Glacier Island** 63.81 30 P P 11 12 20.8 +0.4
baz=259,SNR=23
PALK **Pallekele** 63.85 270 P P 11 12 22.3 +0.8
PALK IAmb IAmb 11 12 23.4
comp=Z,105nm,0.9s
PALK **Pallekele** 63.85 270 P P 11 12 22.5 +1.0
PALK **Pallekele** 63.85 270 *i* P P 11 12 21.8 +0.3
PALK pmax pmax
comp=Z,161nm,1.0s
WAT6 **Susitna Watana** 63.86 28 P P 11 12 21.1 +0.3
baz=258,SNR=118
H23K **Yukon River** 63.89 25 IAmb IAmb 11 12 23.1
comp=Z,107nm,0.9s
H23K **Yukon River** 63.89 25 P P 11 12 21.9 +1.1
baz=254,SNR=152
SCM **Sheep Creek Mo** 63.89 29 P P 11 12 21.7 +0.7
baz=258,SNR=123
Q23K **Middleton Isla** 63.92 32 P P 11 12 22.3 +1.3
baz=260,SNR=5.9
G23K **Bananza Creek** 63.96 24 IAmb IAmb 11 12 23.7
comp=Z,112nm,0.8s
G23K **Bananza Creek** 63.96 24 P P 11 12 22.4 +1.2
baz=253,SNR=122
NNZ **Nelson** 63.97 157 P P 11 12 21.0 -0.6
B22K **Teshekpuk Lake** 63.97 19 P P 11 12 22.1 +0.9
baz=248,SNR=29
HIN **Hinchinbrook I** 64.01 31 IAmb IAmb 11 12 23.7
comp=Z,126nm,0.8s
COLD **Coldfoot** 64.04 23 IAmb IAmb 11 12 24.7
comp=Z,133nm,0.9s
COLD **Coldfoot** 64.04 23 P P 11 12 23.0 +1.3
baz=253,SNR=184
KBK **Karagaybulak** 64.08 309 P P 11 12 24.0 +1.3
SNR=57
DHY **Denali Highway** 64.13 28 IAmb IAmb 11 12 24.7
comp=Z,89nm,1.2s
DHY **Denali Highway** 64.13 28 P P 11 12 22.7 +0.1
baz=258,SNR=55
WRH **Wrh River Hil** 64.14 26 IAmb IAmb 11 12 23.8
comp=Z,135nm,1.1s
CHMS **Chumysh** 64.23 310 P P 11 12 24.5 +1.1
SNR=24
THZ **Tophouse** 64.27 158 P P 11 12 23.0 -0.6
THZ PcP PcP 11 12 52.6 -0.2
CCB **Clear Creek Bu** 64.30 26 IAmb IAmb 11 12 24.3
comp=Z,105nm,1.3s
SGDS **Sogindy** 64.31 310 ⇓ *i* P P 11 12 24.8 +0.8
COLA **College** 64.34 26 P P 11 12 23.7 +0.1
COLA IAmb IAmb 11 12 26.9
comp=Z,49nm,0.5s
COLA **College** 64.34 26 P P 11 12 23.8 +0.2
comp=Z,42nm,0.9s
COLA **College** 64.34 26 *i* P P 11 12 22.7 -0.9
COLA pmax pmax
comp=Z,57nm,0.8s
COLA **College** 64.34 26 P P 11 12 23.4 -0.2
baz=256
MRZ **Mangatainoka R** 64.35 155 IAmb IAmb 11 12 24.5
comp=Z,198nm,1.5s
MRZ **Mangatainoka R** 64.35 155 PcP PcP 11 12 53.3 +0.3
D23K **Nanushuk River** 64.40 21 P P 11 12 25.8 +1.8
baz=252,SNR=90

EYAK **Cordova Ski Ar** 64.41 31 IAmb IAmb 11 12 26.2
comp=Z,128nm,0.8s
EYAK **Cordova Ski Ar** 64.41 31 P P 11 12 26.1 +2.0
comp=Z,152nm,0.8s
EYAK **Cordova Ski Ar** 64.41 31 P P 11 12 25.0 +0.9
baz=260,SNR=31
USP **Ospenovka** 64.41 310 P P 11 12 25.6 +1.1
SNR=24
UCH **Uchtor** 64.41 309 P P 11 12 26.9 +1.7
SNR=241
AAK **Ala-Archa** 64.42 309 P P 11 12 25.8 +1.0
AAK IAmb IAmb 11 12 27.0
comp=Z,89nm,1.0s
AAK **Ala-Archa** 64.42 309 P P 11 12 25.9 +1.0
AAK **Ala-Archa** 64.42 309 P P 11 12 26.2 +1.4
SNR=18
AAK **Ala-Archa** 64.42 309 *i* P P 11 12 25.5 +0.7
AAK pmax pmax
comp=Z,113nm,1.1s
AAK **Ala-Archa** 64.42 309 *i* P P 11 12 25.8 +1.0
SNR=22
AAK **Ala-Archa** 64.42 309 P P 11 12 25.8 +1.0
AAK PcP PcP 11 12 54.0 +0.3
AAK sP sP 11 15 06.8 -1.5
M24K **Tolsona, Glenn** 64.48 29 IAmb IAmb 11 12 26.9
comp=Z,125nm,0.9s
M24K **Tolsona, Glenn** 64.48 29 P P 11 12 25.6 +0.9
baz=259,SNR=27
KLU **Klutina** 64.49 30 IAmb IAmb 11 12 26.8
comp=Z,118nm,0.8s
KLU **Klutina** 64.49 30 P P 11 12 25.7 +0.9
baz=260,SNR=94
DIV **Divide** 64.49 30 IAmb IAmb 11 12 26.9
comp=Z,157nm,1.0s
E23K **Chandalar** 64.50 22 P P 11 12 26.4 +1.7
baz=253,SNR=268
SNZO **South Karori** 64.55 156 P P 11 12 25.2 -0.1
comp=Z,62nm,1.2s
H24K **Noodor Dome** 64.56 25 IAmb IAmb 11 12 27.3
comp=Z,195nm,1.4s
H24K **Noodor Dome** 64.56 25 P P 11 12 26.0 +0.9
baz=256,SNR=78
POKR **Poker Plat Res** 64.57 26 P P 11 12 24.9 -0.3
baz=257,SNR=16
INZ **Inchbonnie** 64.60 159 P P 11 12 24.9 -0.6
HDA **Harding Lake** 64.61 26 P P 11 12 24.7 -0.6
baz=257,SNR=60
BFZ **Birch Farm** 64.64 155 P P 11 12 25.5 -0.4
BFZ IAmb IAmb 11 12 26.6
comp=Z,98nm,0.8s
BFZ **Birch Farm** 64.64 155 P P 11 12 26.3 +0.5
comp=Z,141nm,0.9s
BFZ **Birch Farm** 64.64 155 P P 11 12 25.8 0.0
BFZ **Birch Farm** 64.64 155 P P 11 12 25.9 +0.1
WVZ **Waitaha Valley** 64.67 160 P P 11 12 24.7 -1.3
TOLK **Toolik Lake Re** 64.69 22 P P 11 12 27.2 +1.3
baz=253,SNR=146
C23K **Itkillik River** 64.70 20 P P 11 12 27.1 +1.3
baz=251,SNR=142
BHW **Baring Head** 64.70 156 P P 11 12 25.7 -0.5
BHW IAmb IAmb 11 12 26.6
comp=Z,77nm,1.1s
IL31 64.72 26 IAmb IAmb 11 12 26.4
comp=Z,118nm,1.1s
ILAR **Eielson Array** 64.72 26 P P 11 12 25.1 -0.9
comp=Z,42nm,0.5s,baz=248,slow=5.9,SNR=1093
ILAR PcP PcP 11 12 53.8 -0.5
comp=Z,6.0nm,0.6s,baz=260,slow=4.2,SNR=4.9
ILAR S S 11 20 21.8 -2.6
comp=Z,0.6nm,0.8s,baz=263,slow=6.4,SNR=4.1
comp=Z,42nm,0.5s
BTLS **Baital** 64.73 312 *d* *i* P P 11 12 27.5 +1.0
BTLS *e*S S 11 20 26.4 +1.2
BTLS pmax pmax
comp=Z,57nm,0.5s
BTLS **Baital** 64.73 312 ⇓ *i* P P 11 12 27.6 +1.0
comp=Z,57nm,0.5s
BTLS *e*S S 11 20 26.4 +1.2
FOZ **Fox Glacier** 64.79 161 P P 11 12 26.2 -0.5
RAGM **Ragged Mountai** 64.91 31 IAmb IAmb 11 12 29.6
comp=Z,108nm,0.9s
E24K **Your Creek** 64.91 22 IAmb IAmb 11 12 29.7
comp=Z,116nm,0.8s
E24K **Your Creek** 64.91 22 P P 11 12 28.4 +1.1
baz=254,SNR=136
G24K **Hadweenzic Riv** 64.93 24 IAmb IAmb 11 12 29.7
comp=Z,95nm,0.8s
G24K **Hadweenzic Riv** 64.93 24 P P 11 12 28.6 +1.2
baz=256,SNR=111
LTZ **Lake Taylor** 64.93 159 P P 11 12 27.0 -0.7
EKS2 **Erkin-Say** 64.95 309 P P 11 12 29.5 +1.4
SNR=9.5
KAIM **Kayak Island** 64.96 32 P P 11 12 28.9 +1.3
baz=262,SNR=13
PAX **Paxson** 64.96 28 IAmb IAmb 11 12 29.4
comp=Z,98nm,0.8s
PAX **Paxson** 64.96 28 P P 11 12 28.1 +0.4
baz=259,SNR=94
F24K **Squaw Lake** 64.98 23 IAmb IAmb 11 12 30.4
comp=Z,144nm,1.0s
F24K **Squaw Lake** 64.98 23 P P 11 12 29.2 +1.5
baz=255,SNR=161
K24K **Donnelly Dome** 64.99 27 IAmb IAmb 11 12 29.2
comp=Z,115nm,0.8s
K24K **Donnelly Dome** 64.99 27 P P 11 12 28.0 +0.2
baz=259,SNR=78
HARP **HAARP** 65.00 29 P P 11 12 28.8 +0.8
baz=260,SNR=94
BMRM **Bremner River** 65.03 30 P P 11 12 29.1 +0.9
baz=261,SNR=78
KHZ **Kahutara** 65.07 157 P P 11 12 27.7 -0.8
comp=Z,68nm,0.8s
KHZ **Kahutara** 65.07 157 P P 11 12 27.1 -1.4
KHZ PcP PcP 11 12 55.8 -0.2
D24K **Happy Valley** 65.09 21 P P 11 12 29.9 +1.5
baz=253,SNR=232
N25K **Chitina, Valde** 65.13 30 IAmb IAmb 11 12 31.0
comp=Z,72nm,0.8s
N25K **Chitina, Valde** 65.13 30 P P 11 12 29.8 +0.9
baz=261,SNR=56
C24K **Franklin Bluff** 65.30 20 P P 11 12 30.8 +1.2
baz=253,SNR=63
J25K **Salcha River,** 65.32 26 P P 11 12 29.3 -0.7
baz=259,SNR=117
OXZ **Oxford** 65.33 159 IAmb IAmb 11 12 29.8
comp=Z,129nm,1.5s
RPZ **Rata Peaks** 65.35 160 P P 11 12 31.5 +1.2
comp=Z,82nm,0.9s
RPZ **Rata Peaks** 65.35 160 P P 11 12 29.4 -0.9
GVZ **Greta Valley S** 65.37 158 P P 11 12 29.7 -0.7
RIDG **Independent Ri** 65.38 27 P P 11 12 30.5 +0.2
baz=260,SNR=110
PRP **Porcupine Dome** 65.44 25 P P 11 12 29.2 -1.5
baz=258,SNR=20
G25K **Bearman Lake** 65.48 24 P P 11 12 31.8 +1.1
baz=257,SNR=64
H25L **Birch Creek** 65.48 24 P P 11 12 31.8 +1.1
baz=258,SNR=101
BGLC **Bering Glacier** 65.55 31 P P 11 12 32.4 +1.0
baz=263
VRDI **Verde Repeater** 65.62 30 IAmb IAmb 11 12 33.8
comp=Z,100nm,0.8s
LBZ **Lake Benmore** 65.67 161 P P 11 12 31.7 -0.6
BRZS **Berezniki** 65.72 317 *e*P P 11 12 33.1 +0.5
CRQE **Cirque** 65.73 31 P P 11 12 33.3 +0.7
baz=263,SNR=65
SCRK **Sand Creek** 65.80 27 IAmb IAmb 11 12 34.5
comp=Z,138nm,1.1s
SCRK **Sand Creek** 65.80 27 P P 11 12 33.2 +0.2
baz=260,SNR=118
WAX **Waxell Ridge** 65.81 31 IAmb IAmb 11 12 35.4
comp=Z,146nm,0.9s
F25K **Christian Rive** 65.84 23 IAmb IAmb 11 12 35.9
comp=Z,148nm,0.9s
F25K **Christian Rive** 65.84 23 P P 11 12 34.5 +1.4
baz=257,SNR=202
MCARA **McCarthy VSAT** 65.84 30 P P 11 12 34.1 +0.9
baz=262,SNR=56
MQZ **McQueen's Vall** 65.88 159 IAmb IAmb 11 12 35.2
comp=Z,153nm,1.5s
NIL **Nilore** 65.91 300 P P 11 12 35.8 +1.6
NIL **Nilore** 65.91 300 P P 11 12 35.7 +1.6
NIL **Nilore** 65.91 300 P P 11 12 35.8 +1.6
NIL pmax pmax
comp=Z,1μm,0.8s
L26K **Log Cabin Wild** 65.93 28 IAmb IAmb 11 12 35.7
comp=Z,87nm,0.8s

L26K	Log Cabin Wild	65.93	28	P		P	11 12 34.5	+0.8
	baz=261,SNR=80							
MLZ	Mavora Lakes	65.94	163	P		P	11 12 34.5	+0.5
D25K	Kavik River	65.98	21	P		P	11 12 35.1	+1.1
	baz=256,SNR=251							
E25K	Arctic Village	65.98	23	IAmb		IAmb	11 12 36.7	
	comp=Z,125nm,0.9s							
E25K	Arctic Village	65.98	23	P		P	11 12 35.4	+1.4
	baz=257,SNR=112							
M26K	Nabesna, AK	66.00	29	P		P	11 12 34.8	+0.6
	baz=262,SNR=26							
RAR	Rarotonga	66.05	124	P		P	11 12 35.3	+0.2
	comp=Z,27nm,0.8s,baz=264,slow=7.3,SNR=7.9							
	comp=Z,27nm,0.8s							
RAR	Rarotonga	66.05	124	P		P	11 12 35.7	+0.6
	comp=Z,42nm,2.5s							
J26L	Joseph Creek	66.07	27	IAmb		IAmb	11 12 36.0	
	comp=Z,89nm,0.8s							
J26L	Joseph Creek	66.07	27	P		P	11 12 34.9	+0.2
	baz=260,SNR=182							
ISLE	Juniper Island	66.08	31	IAmb		IAmb	11 12 36.8	
	comp=Z,124nm,1.0s							
BMAR	Burnt Mountain	66.20	23	P		P	11 12 37.0	+1.7
MESA	MESA	66.22	31	P		P	11 12 37.0	+1.1
	baz=264,SNR=18							
I26K	Coal Creek Min	66.37	26	P		P	11 12 35.5	-0.9
	baz=260							
ODZ	Otahua Downs	66.41	161	P		P	11 12 36.9	+0.1
G26K	Porcupine Rive	66.41	24	IAmb		IAmb	11 12 39.3	
	comp=Z,111nm,0.9s							
G26K	Porcupine Rive	66.41	24	P		P	11 12 37.9	+1.4
	baz=259,SNR=176							
F26K	Sheenjek River	66.42	23	P		P	11 12 38.3	+1.6
	baz=259,SNR=226							
BARN	Barnard Glacie	66.46	30	IAmb		IAmb	11 12 39.4	
	comp=Z,61nm,0.8s							
M27K	Edge Creek, AK	66.51	29	IAmb		IAmb	11 12 39.5	
	comp=Z,84nm,1.0s							
M27K	Edge Creek, AK	66.51	29	P		P	11 12 38.1	+0.7
	baz=263,SNR=81							
CTG	Chitna Glacier	66.61	31	P		P	11 12 39.3	+1.2
	baz=264,SNR=66							
C26K	Camden Bay	66.62	21	P		P	11 12 39.9	+2.1
	baz=257,SNR=9.6							
L27K	Beaver Creek,	66.62	28	IAmb		IAmb	11 12 40.0	
	comp=Z,56nm,0.8s							
L27K	Beaver Creek,	66.62	28	P		P	11 12 38.8	+0.7
	baz=263,SNR=89							
K27K	Chicken	66.64	27	IAmb		IAmb	11 12 40.5	
	comp=Z,118nm,1.1s							
K27K	Chicken	66.64	27	P		P	11 12 39.1	+1.0
	baz=262							
BCAR	Beaver Creek A	66.64	28	P		P	11 12 38.9	+0.8
C27K	Jago River	66.96	21	P		P	11 12 41.3	+1.3
	baz=258,SNR=102							
BVCY	Beaver Creek	66.99	29	P		P	11 12 41.2	+0.9
	baz=264,SNR=60							
I27K	Kandik River	67.05	26	P		P	11 12 41.0	+0.3
	baz=262,SNR=42							
PINM	Pinnacle	67.06	32	P		P	11 12 41.8	+0.9
	baz=265,SNR=22							
YUK3	Moose Creek	67.11	30	P		P	11 12 42.3	+1.0
	baz=264,SNR=18							
O28M	Mount Upton	67.15	31	P		P	11 12 42.9	+1.3
	baz=265,SNR=100							
H27K	Steamboat Moun	67.18	25	P		P	11 12 42.6	+1.2
	baz=262,SNR=296							
BVA0	Borovoye Array	67.21	321	P		P	11 12 42.1	+0.3
BVAR	Borovoye Array	67.21	321	P		P	11 12 42.5	+0.7
	comp=Z,412nm,0.7s,baz=95,slow=7.6,SNR=1337							
BVAR				PcP		PcP	11 13 05.1	+0.1
	comp=Z,75nm,0.7s,baz=85,slow=3.4,SNR=6.5							
BVAR				S		S	11 20 53.4	-0.9
	comp=Z,9.4nm,0.8s,baz=108,slow=13,SNR=13							
	comp=Z,412nm,0.7s							
G27K	Doyon Strip	67.22	24	P		P	11 12 42.6	+1.0
	baz=261,SNR=64							
BRVK	Borovoye	67.27	321	P		P	11 12 43.2	+1.1
BRVK	Borovoye	67.27	321	*ce*P		P	11 12 42.6	+0.4
BRVK				pmax		pmax		
	comp=Z,350nm,0.8s							
SYZ	Scrubby Hill	67.30	163	P		P	11 12 43.4	+1.1
SYZ	Scrubby Hill	67.30	163	P		P	11 12 42.0	-0.3
KK31	Karatay Array	67.33	310	P		P	11 12 43.4	+0.6
KKAR	Karatay Array	67.33	310	P		P	11 12 43.6	+0.9
KKAR	Karatay Array	67.33	310	P		P	11 12 43.6	+0.9
BCPM	Bancas Point	67.36	32	IAmb		IAmb	11 12 45.0	
	comp=Z,130nm,1.0s							
YUK8	Steele Glacier	67.40	30	P		P	11 12 44.5	+1.4
	baz=265,SNR=66							
E27K	Coleen River	67.45	23	IAmb		IAmb	11 12 45.5	
	comp=Z,90nm,0.9s							
E27K	Coleen River	67.45	23	P		P	11 12 44.3	+1.3
	baz=261,SNR=100							
PNL	Peninsula	67.46	32	P		P	11 12 44.2	+1.0
	comp=Z,188nm,1.0s							
PNL	Peninsula	67.46	32	P		P	11 12 44.3	+1.0
	baz=266,SNR=20							
I28M	Miner Creek	67.73	26	IAmb		IAmb	11 12 46.8	
	comp=Z,60nm,0.8s							
I28M	Miner Creek	67.73	26	P		P	11 12 45.7	+0.8
	baz=264,SNR=94							
IUG	Iuzhnay	67.74	309	*e*P		P	11 12 46.4	+1.0
IUG				pmax		pmax		
	comp=Z,143nm,0.9s							
IUG	Iuzhnay	67.74	309	*e*P		P	11 12 46.5	+1.0
	comp=Z,143nm,0.9s							
DAWY	Dawson	67.81	27	IAmb		IAmb	11 12 47.6	
	comp=Z,89nm,0.9s							
DAWY	Dawson	67.81	27	P		P	11 12 46.5	+1.1
	baz=265,SNR=124							
BRLS	Borolday	67.83	310	*d* i*P*		P	11 12 47.3	+1.5
BRLS	Borolday	67.83	310	ǁ *i*P		P	11 12 47.3	+1.5
D27M	Malcolm River	67.85	22	P		P	11 12 47.0	+1.6
	baz=261,SNR=116							
O29M	Mount Kennedy	67.91	31	P		P	11 12 47.8	+1.7
	baz=267,SNR=88							
YUK4	Talbot Arm	67.94	30	P		P	11 12 48.3	+2.0
	baz=266,SNR=88							
F28M	Old Crow	68.02	23	IAmb		IAmb	11 12 48.9	
	comp=Z,124nm,0.9s							
F28M	Old Crow	68.02	23	P		P	11 12 47.8	+1.3
	baz=263,SNR=151							
CHM	Chimkent	68.05	309	*e*P		P	11 12 48.2	+1.0
CHM				pmax		pmax		
	comp=Z,152nm,0.9s							
CHM	Chimkent	68.05	309	*e*P		P	11 12 48.2	+1.0
	comp=Z,152nm,0.9s							
YUK6	Outpost Mounta	68.05	31	P		P	11 12 48.5	+1.4
	baz=267,SNR=38							
M29M	Somme Creek	68.10	29	P		P	11 12 48.7	+1.5
	baz=266,SNR=191							
E28M	Babbage River	68.27	22	IAmb		IAmb	11 12 50.8	
	comp=Z,157nm,1.0s							
E28M	Babbage River	68.27	22	P		P	11 12 49.6	+1.6
	baz=263,SNR=143							
L29M	L29M	68.30	28	P		P	11 12 49.8	+1.5
	baz=266,SNR=206							
P29M	Windy Craggy	68.30	32	P		P	11 12 49.8	+1.5
	baz=268,SNR=59							
J29N	Klondike Camp	68.36	27	IAmb		IAmb	11 12 51.2	
	comp=Z,145nm,1.2s							
J29N	Klondike Camp	68.36	27	P		P	11 12 50.1	+1.5
	baz=266,SNR=15							
I29M	Ogilvie Camp,	68.40	26	IAmb		IAmb	11 12 50.8	
	comp=Z,98nm,1.0s							
I29M	Ogilvie Camp,	68.40	26	P		P	11 12 49.6	+0.7
	baz=265,SNR=111							
H29M	Whitestone	68.45	25	IAmb		IAmb	11 12 51.3	
	comp=Z,80nm,0.8s							
H29M	Whitestone	68.45	25	P		P	11 12 50.2	+1.1
	baz=265,SNR=65							
HYT	Haines Junctio	68.47	31	P		P	11 12 51.1	+1.6
	baz=268,SNR=150							
K29M	Barlow Dome	68.62	28	IAmb		IAmb	11 12 52.9	
	comp=Z,133nm,0.9s							
K29M	Barlow Dome	68.62	28	P		P	11 12 51.7	+1.4
	baz=266,SNR=152							
D28M	Stokes Point	68.65	22	P		P	11 12 51.3	+1.1
	baz=263,SNR=15							
G29M	Pine Creek	68.65	24	P		P	11 12 51.7	+1.4
	baz=265,SNR=135							
N30M	Aishikik Lake	68.69	30	IAmb		IAmb	11 12 53.4	
	comp=Z,124nm,0.8s							
N30M	Aishikik Lake	68.69	30	P		P	11 12 52.3	+1.5
	baz=268,SNR=127							
CHGR	Chuyangaron	68.70	305	P		P	11 12 52.3	+1.0
P30M	Million Dollar	68.71	32	P		P	11 12 52.4	+1.5
	baz=268							
SIMJ	Simiganj	68.82	305	P		P	11 12 53.1	+1.0
SIMJ	Simiganj	68.82	305	P		P	11 12 52.6	+0.6
SIMJ				pP		pwP	11 14 43.0	-1.0
E29M	Blow River	68.84	23	IAmb		IAmb	11 12 55.4	
	comp=Z,61nm,0.8s							
E29M	Blow River	68.84	23	P		P	11 12 52.5	+1.1
	baz=264,SNR=59							
M30M	Minto, Yukon	68.88	29	IAmb		IAmb	11 12 54.3	
	comp=Z,61nm,0.8s							
M30M	Minto, Yukon	68.88	29	P		P	11 12 53.2	+1.4
	baz=268,SNR=74							
PLBC	Pleasant Camp	69.00	32	P		P	11 12 53.7	+1.2
	baz=269,SNR=57							
S31K	Pelican	69.05	34	P		P	11 12 54.1	+1.3
	baz=270,SNR=6.1							
EPYK	Eagle Plains	69.13	25	IAmb		IAmb	11 12 55.2	
	comp=Z,108nm,0.7s							
EPYK	Eagle Plains	69.13	25	P		P	11 12 54.0	+0.8
	baz=266,SNR=88							
J30M	Hart River	69.18	27	IAmb		IAmb	11 12 56.1	
	comp=Z,95nm,1.0s							
J30M	Hart River	69.18	27	P		P	11 12 54.6	+0.9
	baz=267,SNR=88							
I30M	Mount Dempster	69.20	26	P		P	11 12 54.2	+0.4
	baz=267,SNR=72							
KBL	Kabul	69.27	301	P		P	11 12 55.4	+0.4
KBL	Kabul	69.27	301	P		P	11 12 55.8	+0.8
	SNR=118							
KBL	Kabul	69.27	301	P		P	11 12 55.4	+0.4
KBL				pmax		pmax		
	comp=Z,348nm,1.0s							
R31K	City Hall, Gus	69.31	33	P		P	11 12 55.4	+1.0
	baz=270							
N31M	Braeburn, Yuko	69.32	30	IAmb		IAmb	11 12 57.2	
	comp=Z,138nm,0.8s							
N31M	Braeburn, Yuko	69.32	30	P		P	11 12 56.0	+1.5
	baz=269,SNR=65							
MAYO	Mayo, Yukon	69.33	28	P		P	11 12 56.0	+1.5
	baz=268,SNR=56							
G30M	tAoh Zraii Nji	69.36	24	IAmb		IAmb	11 12 56.5	
	comp=Z,196nm,1.1s							
G30M	tAoh Zraii Nji	69.36	24	P		P	11 12 55.3	+0.6
	baz=266,SNR=131							
SKAG	Skagway	69.52	32	IAmb		IAmb	11 12 58.3	
	comp=Z,89nm,1.0s							
SKAG	Skagway	69.52	32	P		P	11 12 56.7	+1.1
	comp=Z,3nm,1.2s							
SKAG	Skagway	69.52	32	P		P	11 12 57.2	+1.6
	baz=270,SNR=18							
SIT	Sitka	69.54	35	P		P	11 12 57.5	+1.7
	comp=Z,52nm,1.0s							
SIT	Sitka	69.54	35	P		P	11 12 57.1	+1.3
	baz=271							
F30M	Barrier River	69.57	24	P		P	11 12 57.1	+1.3
	baz=266,SNR=171							
WHY	Whitehorse	69.75	31	P		P	11 12 58.5	+1.4
	baz=270,SNR=48							
BESE	Bessie Mountai	69.78	33	IAmb		IAmb	11 12 59.8	
	comp=Z,128nm,1.0s							
S32K	Killisnoo	69.94	34	IAmb		IAmb	11 13 00.6	
	comp=Z,86nm,1.1s							
S32K	Killisnoo	69.94	34	P		P	11 12 59.2	+1.1
	baz=271,SNR=20							
R32K	Eaglecrest	69.96	34	IAmb		IAmb	11 13 00.8	
	comp=Z,73nm,0.9s							
R32K	Eaglecrest	69.96	34	P		P	11 12 59.7	+1.4
	baz=271,SNR=45							
M31M	Drury Creek, Y	69.99	29	IAmb		IAmb	11 13 00.6	
	comp=Z,83nm,0.9s							
M31M	Drury Creek, Y	69.99	29	P		P	11 12 59.5	+1.0
	baz=270,SNR=69							
JIS	Juneau Island	70.03	34	P		P	11 13 01.1	+2.4
	comp=Z,131nm,1.1s							
H31M	Peel River	70.07	26	IAmb		IAmb	11 13 01.5	
	comp=Z,156nm,0.9s							
H31M	Peel River	70.07	26	P		P	11 12 59.6	+0.8
	baz=268,SNR=91							
G31M	Satah River	70.13	24	P		P	11 12 59.9	+0.8
	baz=268,SNR=112							
P32M	Atlin	70.35	32	IAmb		IAmb	11 13 03.1	
	comp=Z,68nm,0.9s							
P32M	Atlin	70.35	32	P		P	11 13 01.7	+1.1
	baz=271,SNR=26							
F31M	Tsiigehtchic	70.35	24	IAmb		IAmb	11 13 01.9	
	comp=Z,98nm,0.9s							
F31M	Tsiigehtchic	70.35	24	P		P	11 13 00.9	+0.5
	baz=268,SNR=20							
INK	Inuvik	70.46	23	IAmb		IAmb	11 13 02.6	
	comp=Z,127nm,0.9s							
INK	Inuvik	70.46	23	P		P	11 13 01.4	+0.4
	baz=268,SNR=111							
N32M	Quiet Lake	70.62	31	IAmb		IAmb	11 13 04.6	
	comp=Z,134nm,1.0s							
N32M	Quiet Lake	70.62	31	P		P	11 13 03.4	+1.1
	baz=271							
P33M	Teslin, Yukon	70.78	32	P		P	11 13 04.3	+1.0
	baz=272,SNR=41							
U33K	Whale Pass	70.79	36	IAmb		IAmb	11 13 05.9	
	comp=Z,95nm,1.0s							
U33K	Whale Pass	70.79	36	P		P	11 13 04.6	+1.4
	baz=273,SNR=11							
CRAG	Craig	70.83	37	P		P	11 13 04.9	+1.5
	baz=273							
T33K	Petersburg	70.85	35	P		P	11 13 04.8	+1.3
	baz=273,SNR=7.0							
Q32M	Nakina River	71.11	33	IAmb		IAmb	11 13 08.1	
	comp=Z,118nm,1.4s							
Q32M	Nakina River	71.11	33	P		P	11 13 06.8	+1.5
	baz=273,SNR=26							
HMDM	Haniaadhoo	71.16	271	P		P	11 13 08.1	+1.8
WRAK	Wrangell Islan	71.21	36	P		P	11 13 07.1	+1.5
	baz=274,SNR=24							
MMPY	Sheldon Lake,	71.44	29	IAmb		IAmb	11 13 10.5	
	comp=Z,111nm,1.2s							
MMPY	Sheldon Lake,	71.44	29	P		P	11 13 08.5	+1.4
	baz=272,SNR=72							
MOBC	Moresby Island	71.67	39	IAmb		IAmb	11 13 10.4	
	comp=Z,105nm,1.3s							
V35K	Ketchikan	71.70	37	P		P	11 13 09.3	+0.8
	baz=274,SNR=9.1							
R33M	Jennings River	71.75	32	IAmb		IAmb	11 13 11.8	
	comp=Z,88nm,0.9s							
R33M	Jennings River	71.75	32	P		P	11 13 10.7	+1.7
	baz=274,SNR=53							
S34M	Telegraph Cree	71.77	34	IAmb		IAmb	11 13 11.8	
	comp=Z,120nm,0.9s							
S34M	Telegraph Cree	71.77	34	P		P	11 13 10.7	+1.7
	baz=274,SNR=51							
HG4B	Hotspring	72.22	40	IAmb		IAmb	11 13 13.8	
	comp=Z,92nm,0.9s							
DLBC	Dease Lake	72.31	33	P		P	11 13 13.8	+1.6
	baz=275,SNR=119							
T35M	Bob Quinn	72.32	35	IAmb		IAmb	11 13 15.6	
	comp=Z,186nm,1.1s							
T35M	Bob Quinn	72.32	35	P		P	11 13 13.9	+1.7
	baz=275,SNR=54							
U35K	Hyder	72.54	36	P		P	11 13 14.4	+1.0
	baz=276							
SVE	Sverdlovsk	72.67	325	*c* i*P*		P	11 13 15.1	+0.9
SVE				*e*S		S	11 21 57.9	+1.5
SVE				pmax		pmax		
	comp=Z,383nm,1.0s							
WTLY	Watson Lake, Y	72.79	32	P		P	11 13 16.4	+1.5
	baz=275,SNR=134							
PPT	Papeete	72.81	115	P		P	11 13 17.8	+2.1
	comp=Z,41nm,0.8s,baz=33,slow=23,SNR=8.6							
	comp=Z,41nm,0.8s							
PPTF	Pamatai, Papee	72.83	115	P		P	11 13 16.2	+0.4
PPTF	Pamatai, Papee	72.83	115	P		P	11 13 17.0	+1.1
	comp=Z,66nm,0.8s							
TGTN	Hyland Airport	72.92	30	P		P	11 13 17.0	+1.4
	baz=275,SNR=76							
A36M	Sachs Harbour	73.18	19	P		P	11 13 17.4	+0.6
	baz=275,SNR=23							
KAAM	Kaadhehdhoo	73.19	265	P		P	11 13 18.2	+0.2
KAAM				IAmb		IAmb	11 13 20.7	
	comp=Z,169nm,1.1s							
KAAM	Kaadhehdhoo	73.19	265	P		P	11 13 20.2	+2.2
C36M	Paulatuk	73.84	22	P		P	11 13 20.9	+0.4
	baz=277,SNR=32							
ARTI	Arti	73.96	325	P		P	11 13 22.1	+0.5
ARTI	Arti	73.96	325	*d* i*P*		P	11 13 21.9	+0.3
ARTI							11 13 35.2	
ARTI				*PP		pwP	11 15 15.3	-1.8
ARTI							11 16 14.6	
ARTI				S		S	11 22 09.7	-0.9
ARTI							11 22 38.7	
ARTI				SS		SS	11 27 07.5	-1.6
ARTI				pmax		pmax		
	comp=Z,337nm,0.9s							
AB31	Akbulak array	74.02	317	*i* P		P	11 13 22.1	+0.1
ABKAR	Akbulak array	74.02	317	P		P	11 13 22.4	+0.4
BBB	Bella Bella	74.11	40	IAmb		IAmb	11 13 24.6	
	comp=Z,76nm,0.9s							
LIRD	Liard River Hi	74.23	32	P		P	11 13 24.4	+1.3
	baz=278,SNR=46							
HOLB	Holberg	74.33	41	P		P	11 13 25.4	+1.6
HOLB				IAmb		IAmb	11 13 26.5	
	comp=Z,137nm,0.8s							
TOAD	Toad River Com	74.75	33	P		P	11 13 26.6	+0.6
	baz=279,SNR=52							
WRGLY	Wrigley	74.93	28	IAmb		IAmb	11 13 29.2	
	comp=Z,166nm,0.9s							
WRGLY	Wrigley	74.93	28	P		P	11 13 27.9	+1.1
	baz=279,SNR=41							
AKTO	Aktyubinsk	75.07	319	P		P	11 13 27.5	-0.4
KOTAN	Kotaneelee Air	75.15	31	P		P	11 13 29.4	+1.2
	baz=279,SNR=45							
DGAR	Diego Garcia	76.27	258	P		P	11 13 36.2	+1.0
DGAR	Diego Garcia	76.27	258	P		P	11 13 36.5	+1.2
DGAR	Diego Garcia	76.27	258	*ce*P		P	11 13 37.0	+1.8
DGAR				pmax		pmax		
	comp=Z,172nm,0.8s							
OZB	Mount Ozzard	76.30	43	IAmb		IAmb	11 13 37.5	
	comp=Z,126nm,1.0s							
NLWA	Neilton Lookou	77.68	44	IAmb		IAmb	11 13 45.5	
	comp=Z,159nm,1.1s							
NGCH	Negor - Chabah	77.72	293	P		P	11 13 44.2	+1.2
RADR	Rader Ridge	77.94	45	IAmb		IAmb	11 13 46.9	
	comp=Z,109nm,1.0s							
E03A	Lebam	78.08	45	IAmb		IAmb	11 13 47.2	
	comp=Z,155nm,1.0s							
A04D	Lummi Island	78.15	43	IAmb		IAmb	11 13 47.5	
	comp=Z,115nm,1.2s							
F03A	Seaside	78.22	45	IAmb		IAmb	11 13 48.1	
	comp=Z,200nm,1.0s							
KIRV	Kirov	78.29	328	*ce*P		P	11 13 45.9	+0.5
GNW	Green Mountain	78.34	44	IAmb		IAmb	11 13 48.7	
	comp=Z,144nm,1.1s							
KEBM	Edson Butte	78.37	49	IAmb		IAmb	11 13 49.6	
	comp=Z,197nm,1.1s							
I02E	Swisshome, OR	78.43	47	IAmb		IAmb	11 13 49.2	
	comp=Z,96nm,0.8s							
J01E	Myrtle Point	78.59	48	IAmb		IAmb	11 13 50.5	
	comp=Z,150nm,1.1s							
KBO	Bosley Butte	78.60	49	IAmb		IAmb	11 13 50.4	
	comp=Z,132nm,1.2s							
COR	Corvallis	78.70	47	P		P	11 13 49.9	+2.0
I03D	Drain, OR	78.88	48	IAmb		IAmb	11 13 51.5	
	comp=Z,96nm,1.0s							
D05A	Enumclaw	78.98	44	IAmb		IAmb	11 13 52.1	
	comp=Z,112nm,1.1s							
KRPM	Rodgers	78.99	50	IAmb		IAmb	11 13 52.7	
	comp=Z,118nm,1.1s							
BUCK	Buck Mountain	79.01	47	IAmb		IAmb	11 13 52.5	
	comp=Z,163nm,1.0s							
YKAW3	Yellowknife Wh	79.03	28	IAmb		IAmb	11 13 50.8	
	comp=Z,90nm,0.8s							
YKA	Yellowknife Ar	79.05	28	P		P	11 13 49.8	+0.4
YKA	Yellowknife Ar	79.05	28	P		P	11 13 49.1	-0.3
	comp=Z,76nm,0.9s,baz=8.1,slow=5.0,SNR=129							
	comp=Z,76nm,0.9s							
YKA	Yellowknife Ar	79.05	28	*i* P		P	11 13 49.0	-0.3
YKA				pmax		pmax		
	comp=Z,6.0nm,0.3s							
YKAW1	Yellowknife Wh	79.11	28	IAmb		IAmb	11 13 51.3	
	comp=Z,120nm,0.9s							
H04D	Lebanon	79.11	47	IAmb		IAmb	11 13 52.8	
	comp=Z,112nm,1.2s							
G04A	Mulino	79.12	46	IAmb		IAmb	11 13 53.1	
	comp=Z,133nm,0.9s							
KCPM	Cahto Peak	79.67	52	IAmb		IAmb	11 13 55.9	
	comp=Z,130nm,1.1s							
HOPEN	Hopen	79.72	348	*e*P		P	11 13 53.6	+1.0
J04A	Umpqua Nationa	79.86	48	IAmb		IAmb	11 13 56.6	
	comp=Z,117nm,0.8s							
L04D	Klamath Falls	79.98	49	IAmb		IAmb	11 13 57.1	
	comp=Z,100nm,1.0s							
JLN	Jalan Bani Buh	80.04	290	P		P	11 13 56.2	+0.7
	SNR=8.4							
SPA0	Spitsbergen Ar	80.22	351	*e*P		P	11 13 56.0	+0.7
SPB2	Spitsbergen Ar	80.22	351	IAmb		IAmb	11 13 57.5	
	comp=Z,126nm,1.1s							
SPITS	Spitsbergen Ar	80.22	351	P		P	11 13 55.3	0.0
	comp=Z,18nm,0.5s,baz=107,slow=5.6,SNR=111							
	comp=Z,18nm,0.5s							
SPITS	Spitsbergen Ar	80.22	351	P		P	11 13 55.8	+0.5
SPITS				pmax		pmax		
	comp=Z,190nm,1.2s							
K04D	Chiloquin, OR	80.27	48	IAmb		IAmb	11 13 58.7	
	comp=Z,142nm,0.9s							
WBK	Wadi Bani Khal	80.32	291	P		P	11 13 58.2	+1.3
	SNR=11							
KBS	Kingsbay	80.35	352	P		P	11 13 56.5	+0.6
KBS				IAmb		IAmb	11 13 57.6	
	comp=Z,92nm,0.8s							
KBS	Kingsbay	80.35	352	*i* P		P	11 13 56.1	+0.2
KBS				pmax		pmax		
	comp=Z,114nm,0.9s							
KBS	Kingsbay	80.35	352	*e*P		P	11 13 56.6	+0.6
KBS	Kingsbay	80.35	352	ǁ *i*P		P	11 13 55.7	-0.2
B08A	Colville Reser	80.41	42	IAmb		IAmb	11 13 58.8	
	comp=Z,94nm,1.0s							
WSAR	Wadi Sarin	80.46	291	P		P	11 13 58.8	+1.2
	SNR=15							
J05D	Fort Rock, OR	80.47	48	IAmb		IAmb	11 13 59.9	
	comp=Z,106nm,0.9s							
RES	Resolute Bay	80.54	14	IAmb		IAmb	11 13 58.7	
	comp=Z,103nm,0.8s							
PINE	Pine Mountain	80.54	47	IAmb		IAmb	11 14 00.4	
	comp=Z,147nm,0.9s							
NOR	Nord	80.58	357	*i* P		P	11 13 57.3	+0.2
NOR				IAmb		IAmb	11 13 59.8	
	comp=Z,43nm,1.1s							
WAH2	Wahluke Slope	80.69	44	IAmb		IAmb	11 14 00.5	
	comp=Z,81n

	SNR=35										
BJO1	**Bjornoya**	**82.14**	**347**		*e*P		**P**		**11 14 05.2**	**0.0**	
UOSS	**Minazif**	**82.15**	**294**		P		**P**		**11 14 06.5**	**+0.3**	
UOSS	**Minazif**	**82.15**	**294**		P		**P**		**11 14 07.0**	**+0.8**	
UOSS	**Minazif**	**82.15**	**294**		*i* P		**P**		**11 14 06.8**	**+0.6**	
	SNR=6.7										
HATD	**Hatta, Dubai**	**82.24**	**294**		P		**P**		**11 14 07.9**	**+1.2**	
	SNR=17										
HATD	**Hatta, Dubai**	**82.24**	**294**		*i* P		**P**		**11 14 07.6**	**+0.9**	
	SNR=44										
ARQ	**Araqi**	**82.30**	**292**		P		**P**		**11 14 07.9**	**+0.8**	
	SNR=40										
DQM	**DQM**	**82.32**	**288**		P		**P**		**11 14 07.9**	**+0.8**	
	SNR=11										
KLMR	**Klimovskoe**	**82.34**	**332**		*e*P		**P**		**11 14 05.4**	**-1.0**	
KLMR					*e*				11 17 24.0		
KLMR					pmax		pmax				
	comp=Z,436nm,1.1s										
ASHO	**Ashiyiah**	**82.35**	**293**		P		**P**		**11 14 08.0**	**+0.7**	
	SNR=20										
ASHO	**Ashiyiah**	**82.35**	**293**		*i* P		**P**		**11 14 08.1**	**+0.7**	
	SNR=48										
MPK	**Martis Peak**	**82.42**	**51**		IAmb		IAmb		11 14 10.5		
	comp=Z,153nm,1.1s										
MPK							pwP		11 16 03.4	-5.9	
UMQ	**Umm Al-Quwin**	**82.46**	**294**		P		**P**		**11 14 10.1**	**+2.3**	
	SNR=6.1										
UMQ	**Umm Al-Quwin**	**82.46**	**294**		*i* P		**P**		**11 14 10.2**	**+2.3**	
	SNR=6.5										
CMB	**Columbia Colle**	**82.51**	**53**				pwP		11 16 07.8	-1.3	
WVOR	**Wild Horse Val**	**82.54**	**48**		P		**P**		**11 14 08.8**	**+0.8**	
NAZ	**Nazwa, Dubai**	**82.61**	**294**		P		**P**		**11 14 09.4**	**+0.8**	
	SNR=24										
NAZ	**Nazwa, Dubai**	**82.61**	**294**		*i* P		**P**		**11 14 09.1**	**+0.5**	
	SNR=22										
FAQ	**Al Faqa, Dubai**	**82.74**	**294**		P		**P**		**11 14 10.0**	**+0.8**	
	SNR=17										
FAQ	**Al Faqa, Dubai**	**82.74**	**294**		*i* P		**P**		**11 14 09.6**	**+0.4**	
	SNR=14										
BMO	**Blue Mountains**	**82.75**	**45**		IAmb		IAmb		11 14 11.0		
	comp=Z,106nm,1.1s										
BMO	**Blue Mountains**	**82.75**	**45**		P		**P**		**11 14 09.8**	**+0.8**	
ALNE	**Al Ain**	**82.79**	**293**		P		**P**		**11 14 10.6**	**+1.1**	
	SNR=60										
ALNE	**Al Ain**	**82.79**	**293**		*i* P		**P**		**11 14 10.2**	**+0.7**	
	SNR=37										
KEV	**Kevo**	**82.92**	**342**		P		**P**		**11 14 09.2**	**0.0**	
KEV	**Kevo**	**82.92**	**342**		P		**P**		**11 14 09.2**	**0.0**	
KEV					pmax		pmax				
	comp=Z,189nm,0.8s										
ASUD	**Al Ashush, Dub**	**83.00**	**294**		P		**P**		**11 14 11.7**	**+1.2**	
	SNR=27										
ASUD	**Al Ashush, Dub**	**83.00**	**294**		*i* P		**P**		**11 14 11.4**	**+0.8**	
	SNR=37										
AJN	**Ajban**	**83.32**	**294**		P		**P**		**11 14 12.6**	**+0.6**	
	SNR=37										
AJN	**Ajban**	**83.32**	**294**		*i* P		**P**		**11 14 12.2**	**+0.1**	
	SNR=25										
HAMF	**Hammerfest**	**83.37**	**343**		*e*P		**P**		**11 14 11.4**	**0.0**	
ARA0	**ARCESS Array S**	**83.48**	**342**		*e*P		**P**		**11 14 12.0**	**0.0**	
ARCES	**ARCESS Array B**	**83.48**	**342**		P		**P**		**11 14 12.2**	**+0.1**	
ARCES	**ARCESS Array B**	**83.48**	**342**		P		**P**		**11 14 12.0**	**0.0**	
	comp=Z,134nm,0.7s,baz=72,slow=6.6,SNR=341										
	comp=Z,134nm,0.7s										
ARCES	**ARCESS Array B**	**83.48**	**342**		P		**P**		**11 14 12.2**	**+0.1**	
ARCES					pmax		pmax				
	comp=Z,205nm,0.9s										
RYN	**Ryan**	**83.74**	**52**		IAmb		IAmb		11 14 16.4		
	comp=Z,67nm,0.9s										
RYN							pwP		11 16 14.5	-0.5	
TULEG	**Thule**	**83.83**	**8**		*i* P		**P**		**11 14 13.5**	**-0.1**	
TULEG					IAmb		IAmb		11 14 15.4		
	comp=Z,146nm,0.9s										
MAK	**Makhachkala**	**83.88**	**313**		*e*P		**P**		**11 14 11.9**	**-2.6**	
MAK					*e**PP		**pP**		**11 16 09.1**	**+0.2**	
MAK					*e**SP		**sP**		**11 17 05.3**	**+2.3**	
MAK					*e*				11 17 35.4		
MAK					*e*				11 23 41.8		
MAK					*e*SS		SS		11 29 44.7	+8.1	
MAK					*e*SSS		SSS		11 33 14.7		
MAK					pmax		pmax				
	comp=Z,83nm,0.7s										
NVAR	**Mina Array Bea**	**83.97**	**52**		P		**P**		**11 14 16.3**	**+1.0**	
	comp=Z,57nm,0.8s,baz=264,slow=6.0,SNR=338										
NVAR					PKKPbc		**PKKPbc**		**11 32 28.0**	**+0.9**	
	comp=Z,0.7nm,0.7s,baz=178,slow=1.4,SNR=6.0										
	comp=Z,57nm,0.8s										
VES	**Vestal, Richgr**	**84.14**	**54**				pwP		11 16 16.0	-1.7	
AKT	**Akhty**	**84.19**	**312**		*e*P		**P**		**11 14 16.0**	**-0.2**	
AKT					*e**PP		**pP**		**11 16 08.6**	**-2.2**	
AKT					*e*S		**SKSac**		**11 23 47.0**	**-2.0**	
AKT					pmax		pmax				
	comp=Z,122nm,0.7s										
AKT					MLR		MLR				
	comp=Z,376nm,21.0s										
SGF	**Sodankyl**	**84.33**	**340**		P		**P**		**11 14 15.9**	**-0.3**	
TIN	**Tinemaha, Big**	**84.44**	**53**		IAmb		IAmb		11 14 19.9		
	comp=Z,111nm,1.2s										
KTK1	**Kautokeino**	**84.45**	**342**		*e*P		**P**		**11 14 16.7**	**-0.1**	
SHAO	**Shalim**	**84.59**	**287**		P		**P**		**11 14 19.2**	**+0.6**	
SHAO	**Shalim**	**84.59**	**287**		*i* P		**P**		**11 14 19.1**	**+0.6**	
	SNR=7.9										
NEEM	**North Greenlan**	**84.66**	**4**		*i* P		**P**		**11 14 18.3**	**+0.2**	
NEEM					IAmb		IAmb		11 14 20.6		
	comp=Z,50nm,0.5s										
VRH	**Novokhopyorsk**	**84.80**	**322**		*e*P		**P**		**11 14 14.9**	**-4.0**	
VRH					pmax		pmax				
	comp=Z,50nm,0.9s										
MZP	**Montezuma Peak**	**84.88**	**52**				pwP		11 16 20.4	-1.1	
TPH	**Tonopah**	**84.89**	**52**		IAmb		IAmb		11 14 21.9		
	comp=Z,70nm,0.9s										
JETT	**Jettan, Norway**	**84.92**	**343**		*e*P		**P**		**11 14 19.1**	**0.0**	
JRN	**Qarnain Island**	**85.07**	**294**		P		**P**		**11 14 20.2**	**-0.6**	
	SNR=17										
MZR	**Muzera**	**85.08**	**292**		P		**P**		**11 14 21.1**	**+0.3**	
	SNR=83										
MZR	**Muzera**	**85.08**	**292**		*i* P		**P**		**11 14 20.8**	**-0.1**	
	SNR=232										
TPO	**Tropico Hills**	**85.10**	**55**		IAmb		IAmb		11 14 23.8		
	comp=Z,85nm,1.4s										
HLID	**Hailey**	**85.13**	**46**		IAmb		IAmb		11 14 23.6		
	comp=Z,88nm,1.0s										
TRO	**Tromso**	**85.27**	**344**		*e*P		**P**		**11 14 20.4**	**-0.3**	
MOS	**Moscow**	**85.29**	**327**		*e*P		**P**		**11 14 18.4**	**-2.7**	
MOS					*e*				11 17 45.4		
MOS					*e*S		**SKSac**		**11 23 49.0**	**-6.0**	
MOS					pmax		pmax				
	comp=Z,200nm,0.9s										
MOS					pmax		pmax				
	comp=Z,130nm,0.9s										
MOS					pmax		pmax				
	comp=N,100nm,0.7s										
MOS					pmax		pmax				
	comp=E,64nm,1.0s										
MOS					pmax		pmax				
	comp=N,91nm,0.9s										
DMTO	**DMTO**	**85.29**	**287**		P		**P**		**11 14 22.1**	**+0.2**	
GHWR	**Ruwais**	**85.33**	**294**		P		**P**		**11 14 22.0**	**0.0**	
DAG	**Danmarks Havn**	**85.35**	**356**		P		**P**		**11 14 21.4**	**+0.3**	
DAG	**Danmarks Havn**	**85.35**	**356**	⇓	*i* P		**P**		**11 14 20.4**	**-0.7**	
DAG					IAmb		IAmb		11 14 21.9		
	comp=Z,121nm,1.0s										
POIN	**Pond Inlet**	**85.44**	**12**		IAmb		IAmb		11 14 23.0		
	comp=Z,67nm,1.0s										
ELK	**Elko**	**85.48**	**49**		IAmb		IAmb		11 14 25.0		
	comp=Z,95nm,0.9s										
ELK	**Elko**	**85.48**	**49**		P		**P**		**11 14 23.7**	**+0.9**	
FURC	**Furnace Creek,**	**85.66**	**53**		IAmb		IAmb		11 14 26.3		
	comp=Z,89nm,1.1s										
DLMT	**Dillon**	**85.73**	**44**		IAmb		IAmb		11 14 25.5		
	comp=Z,67nm,1.3s										
WCT	**Wildcat Mounta**	**85.74**	**53**		IAmb		IAmb		11 14 25.9		
	comp=Z,64nm,1.0s										
DOK	**Doka**	**85.78**	**288**		P		**P**		**11 14 23.9**	**-0.3**	
OUL	**Oulu**	**85.84**	**338**		P		**P**		**11 14 22.9**	**-0.7**	
LPSR	**Galich'ya Gora**	**85.86**	**324**		*e*P		**P**		**11 14 21.6**	**-2.4**	
LPSR					pmax		pmax				
	comp=Z,160nm,1.0s										
GWY	**Greenwater Val**	**85.90**	**53**		IAmb		IAmb		11 14 26.7		
	comp=Z,54nm,1.1s										
TPNV	**Topopah Spring**	**85.98**	**53**		IAmb		IAmb		11 14 27.2		
	comp=Z,80nm,0.9s										
R11B	**Troy Canyon, C**	**86.02**	**51**		IAmb		IAmb		11 14 27.6		
	comp=Z,77nm,1.2s										
RBK	**Rabkut**	**86.03**	**287**		P		**P**		**11 14 25.8**	**+0.3**	
	SNR=10										
GSC	**Goldstone, Bar**	**86.08**	**54**		IAmb		IAmb		11 14 27.6		
	comp=Z,57nm,1.1s										
VORR	**Voronezh**	**86.08**	**323**		*e*P		**P**		**11 14 22.4**	**-2.6**	
VORR					pmax		pmax				
	comp=Z,120nm,0.9s										
OBN	**Obninsk**	**86.10**	**327**		P		**P**		**11 14 24.6**	**-0.4**	
OBN	**Obninsk**	**86.10**	**327**	*d*	*i*P		**P**		**11 14 23.8**	**-1.2**	
OBN					*i*	*PP	**pP**		**11 16 20.2**	**-0.3**	
OBN					*e*				11 17 56.8		
OBN					*e*PPP		PPP		11 19 52.7		
OBN					pmax		pmax				
	comp=Z,262nm,1.7s										
S11A	**Rachel**	**86.13**	**52**		IAmb		IAmb		11 14 28.1		
	comp=Z,96nm,0.9s										
VSR	**Storozhevoye**	**86.28**	**323**		*e*P		**P**		**11 14 22.8**	**-3.2**	
VSR					pmax		pmax				
	comp=Z,120nm,1.0s										
BOZ	**Bozeman (W)**	**86.29**	**43**		P		**P**		**11 14 27.0**	**+0.6**	
SHOC	**Shoshone, Teco**	**86.30**	**54**		IAmb		IAmb		11 14 29.1		
	comp=Z,85nm,1.2s										
WHFO	**Wadi Hawf**	**86.31**	**288**		P		**P**		**11 14 26.0**	**-0.8**	
	SNR=5.0										
VORD	**Divnogorie**	**86.31**	**323**		*e*P		**P**		**11 14 23.2**	**-2.9**	
VORD					pmax		pmax				
	comp=Z,100nm,1.0s										
NCK	**Nalchik**	**86.40**	**314**		*i* P		**P**		**11 14 25.9**	**-0.9**	
NCK					pmax		pmax				
	comp=Z,244nm,0.9s										
SHMA	**Al-Shehemyia**	**86.43**	**296**		P		**P**		**11 14 26.8**	**-0.3**	
	SNR=8.6										
TRNA	**Turayna**	**86.55**	**295**		P		**P**		**11 14 27.3**	**-0.5**	
	SNR=13										
SPR3	**Spring Creek 3**	**86.73**	**50**		IAmb		IAmb		11 14 31.9		
	comp=Z,166nm,1.4s										
SPR3							pwP		11 16 30.5	+1.2	
PRN	**Pahroc Range**	**86.73**	**52**		IAmb		IAmb		11 14 31.1		
	comp=Z,61nm,0.9s										
TRLG	**Trialeti**	**86.74**	**313**		P		**P**		**11 14 28.4**	**-0.2**	
SAKB	**Bahrain**	**86.76**	**296**		P		**P**		**11 14 28.1**	**-0.7**	
GNI	**Garni**	**86.77**	**311**		P		**P**		**11 14 28.9**	**+0.1**	
GNI							IAmb		IAmb	11 14 31.8	
	comp=Z,110nm,1.2s										
GNI	**Garni**	**86.77**	**311**		P		**P**		**11 14 29.1**	**+0.3**	
GNI	**Garni**	**86.77**	**311**		*i* P		**P**		**11 14 27.6**	**-1.1**	
GNI					pmax		pmax				
	comp=Z,127nm,1.3s										
GNI	**Garni**	**86.77**	**311**		P		**P**		**11 14 28.8**	**+0.1**	
KBZ	**Khabaz**	**86.79**	**315**		P		**P**		**11 14 28.2**	**-0.3**	
	comp=Z,128nm,0.9s,baz=99,slow=2.5,SNR=155										
	comp=Z,128nm,0.9s										
KBZ	**Khabaz**	**86.79**	**315**	*c*	*e*P		**P**		**11 14 28.0**	**-0.5**	
KBZ					pmax		pmax				
	comp=Z,176nm,1.0s										
KIV	**Kislovodsk**	**86.85**	**315**		P		**P**		**11 14 28.9**	**-0.1**	
KIV	**Kislovodsk**	**86.85**	**315**		P		**P**		**11 14 28.9**	**-0.1**	
KIV	**Kislovodsk**	**86.85**	**315**		⇑P		**P**		**11 14 28.7**	**-0.2**	
KIV	**Kislovodsk**	**86.85**	**315**		*e*P		**P**		**11 14 28.4**	**-0.6**	
KIV					*e**PP		**pP**		**11 16 25.7**	**+1.2**	
KIV					*e*				11 18 00.8		
KIV					pmax		pmax				
	comp=Z,141nm,1.1s										
KIV					pmax		pmax				
	comp=Z,49nm,4.2s										
KIV					MLR		MLR				
	comp=Z,79nm,20.0s										
KIV	**Kislovodsk**	**86.85**	**315**		*i* P		**P**		**11 14 28.3**	**-0.6**	
	SNR=15										
YHL	**Hebgen Lake**	**86.85**	**44**		IAmb		IAmb		11 14 32.0		
	comp=Z,94nm,1.2s										
HVU	**Hansel Valley**	**86.88**	**47**		IAmb		IAmb		11 14 31.7		
	comp=Z,100nm,1.2s										
YHB	**Horse Butte**	**86.88**	**44**		IAmb		IAmb		11 14 32.0		
	comp=Z,62nm,1.1s										
SMRA	**Abu Samra**	**86.89**	**295**		P		**P**		**11 14 28.8**	**-0.6**	
	SNR=21										
PFO	**Pinyon Flats O**	**86.89**	**56**		P		**P**		**11 14 30.4**	**+0.9**	
PFO							**pwP**		**11 16 30.6**	**-0.4**	
PFO	**Pinyon Flats O**	**86.89**	**56**		*i* P		**P**		**11 14 29.8**	**+0.4**	
PFO					pmax		pmax				
	comp=Z,74nm,1.1s										
KULLO	**Kullorsuaq**	**86.90**	**6**		*i* P		**P**		**11 14 27.0**	**-1.4**	
KULLO					IAmb		IAmb		11 14 29.4		
	comp=Z,88nm,1.3s										
ABTO	**Aybut**	**86.91**	**287**		P		**P**		**11 14 29.7**	**0.0**	
	SNR=7.6										
PUL	**Pulkovo**	**86.92**	**333**	*c*	*e*P		**P**		**11 14 28.9**	**+0.1**	
PUL					pmax		pmax				
	comp=Z,142nm,0.4s										
PMD	**Palm Desert**	**86.94**	**56**				pwP		11 16 25.9	-5.3	
SHA1	**Shidzhatmaz**	**86.95**	**315**		*i* P		**P**		**11 14 28.6**	**-1.0**	
ILON	**Igloolik, Nuna**	**87.03**	**15**		IAmb		IAmb		11 14 30.0		
	comp=Z,54nm,0.7s										
CBX	**Cerro Bola**	**87.15**	**57**		IAmb		IAmb		11 14 32.4		
	comp=Z,43nm,0.9s										
YNM	**Yellowstone No**	**87.22**	**44**		IAmb		IAmb		11 14 34.8		
	comp=Z,58nm,1.0s										
PSUT	**Pine Spring**	**87.24**	**51**		IAmb		IAmb		11 14 33.2		
	comp=Z,85nm,0.9s										
YNR	**Norris Junctio**	**87.24**	**44**		IAmb		IAmb		11 14 35.0		
	comp=Z,71nm,1.2s										
CCX	**Cicese**	**87.29**	**58**		IAmb		IAmb		11 14 32.8		
	comp=Z,38nm,0.8s										
DANC	**Danby, Needles**	**87.40**	**55**		IAmb		IAmb		11 14 34.0		
	comp=Z,72nm,1.0s										
STEI	**Steigen**	**87.41**	**343**		*e*P		**P**		**11 14 31.0**	**+0.1**	
DUG	**Dugway, Tooele**	**87.41**	**49**		IAmb		IAmb		11 14 34.0		
	comp=Z,93nm,0.8s										
V12A	**Nelson**	**87.44**	**53**		IAmb		IAmb		11 14 34.4		
	comp=Z,83nm,0.9s										
YMP	**Mirror Lake Pl**	**87.57**	**44**		IAmb		IAmb		11 14 35.7		
	comp=Z,55nm,1.0s										
CASY	**Casey**	**87.62**	**193**		P		**P**		**11 14 32.1**	**+0.4**	
ERBR	**Yeremizino-Bor**	**87.64**	**317**		*e*P		**P**		**11 14 31.8**	**-0.7**	
ERBR					*e**PP		**pP**		**11 16 29.4**	**+1.1**	
ERBR					*e*S		**SKSac**		**11 24 07.5**	**-2.2**	
ERBR					pmax		pmax				
	comp=Z,673nm,0.8s										
BC3	**Big Chuckawall**	**87.67**	**56**		IAmb		IAmb		11 14 35.1		
	comp=Z,43nm,0.9s										
IRM	**Iron Mountain**	**87.75**	**55**		IAmb		IAmb		11 14 35.4		
	comp=Z,54nm,1.1s										
FAUS	**Fauske**	**87.78**	**343**		*e*P		**P**		**11 14 32.1**	**-0.5**	
HWUT	**Hardware Ranch**	**87.79**	**47**		IAmb		IAmb		11 14 35.6		
	comp=Z,78nm,1.1s										
FINES	**FINESS Array B**	**87.81**	**335**		P		**P**		**11 14 31.8**	**-1.2**	
	comp=Z,72nm,0.7s,baz=66,slow=4.4,SNR=235										
FINES					PP		**PP**		**11 18 04.5**	**-3.4**	
	comp=Z,16nm,0.9s,baz=69,slow=12,SNR=4.2										
	comp=Z,72nm,0.7s										
FINES	**FINESS Array B**	**87.81**	**335**		*i* P		**P**		**11 14 31.7**	**-1.2**	
FINES					pmax		pmax				
	comp=Z,72nm,0.7s										
ESJX	**Sierra Juarez**	**87.82**	**57**		IAmb		IAmb		11 14 36.1		
	comp=Z,45nm,1.1s										
DBG	**Daneborg**	**87.85**	**356**		*i* P		**P**		**11 14 31.6**	**-1.3**	
DBG					IAmb		IAmb		11 14 33.7		
	comp=Z,32nm,1.0s										
CCUT	**Cedar City**	**87.94**	**51**		IAmb		IAmb		11 14 37.0		
	comp=Z,88nm,1.4s										
NEE2	**Needles Airpor**	**87.95**	**54**		IAmb		IAmb		11 14 36.4		
	comp=Z,70nm,0.9s										
CTU	**Camp Tracy**	**87.99**	**48**		IAmb		IAmb		11 14 36.5		
	comp=Z,71nm,1.0s										
RLMT	**Red Lodge**	**88.01**	**43**		IAmb		IAmb		11 14 38.1		
	comp=Z,28nm,0.8s										
FFC	**Flin Flon**	**88.12**	**32**		P		**P**		**11 14 35.0**	**+0.4**	
FFC	**Flin Flon**	**88.12**	**32**		P		**P**		**11 14 35.0**	**+0.4**	
FFC					pmax		pmax				
	comp=Z,86nm,0.9s										
SZCU	**Shurtz Canyon**	**88.13**	**51**		IAmb		IAmb		11 14 37.6		
	comp=Z,59nm,1.3s										
VTX	**Valle De La Tr**	**88.16**	**58**		IAmb		IAmb		11 14 37.5		
	comp=Z,44nm,1.0s										
LCMT	**Little Creek M**	**88.22**	**52**		IAmb		IAmb		11 14 38.1		
	comp=Z,40nm,1.0s										
TCRU	**Three Creeks R**	**88.24**	**50**		IAmb		IAmb		11 14 38.2		
	comp=Z,34nm,0.9s										
MPU	**Maple Canyon**	**88.32**	**49**		IAmb		IAmb		11 14 38.1		
	comp=Z,61nm,1.1s										
GLA	**Glamis**	**88.37**	**56**		IAmb		IAmb		11 14 38.5		
	comp=Z,52nm,0.8s										
W13A	**Hualapai Mount**	**88.40**	**54**		IAmb		IAmb		11 14 38.8		
	comp=Z,41nm,0.9s										
UPNV	**Upernavik**	**88.70**	**6**		*i* P		**P**		**11 14 36.1**	**-0.7**	
UPNV					IAmb		IAmb		11 14 37.8		
	comp=Z,120nm,1.3s										
PDAR	**Pinedale Array**	**88.73**	**45**		P		**P**		**11 14 38.2**	**+0.2**	
PDAR	**Pinedale Array**	**88.73**	**45**		P		**P**		**11 14 38.0**	**0.0**	
	comp=Z,3.8nm,0.6s,baz=242,slow=1.9,SNR=48										
PDAR					PKKPbc		**PKKPbc**		**11 32 14.0**	**-2.0**	
	comp=Z,0.5nm,0.6s,baz=108,slow=3.6,SNR=6.1										
	comp=Z,3.8nm,0.6s										
VAGH	**Vaagaholmen**	**88.80**	**343**		*e*P		**P**		**11 14 37.0**	**-0.4**	
MOR8	**Moi Rana**	**88.86**	**342**		*e*P		**P**		**11 14 36.3**	**-1.5**	
TMUT	**Trail Mountain**	**88.89**	**49**		IAmb		IAmb		11 14 41.0		
	comp=Z,32nm,0.9s										
SOC	**Sochi**	**88.98**	**316**		*e*P		**P**		**11 14 36.5**	**-2.3**	
SOC					*e**PP		**pP**		**11 16 35.8**	**+0.9**	
SOC					*e**SP		**sP**		**11 17 30.2**	**+1.7**	
SOC					*e*				11 18 16.7		
SOC					*e*PPP		PPP		11 20 18.2		
SOC					*e*S		**SKSac**		**11 24 13.4**	**-4.2**	
SOC					*e*SS		**SS**		**11 30 50.8**	**+0.6**	
SOC					*e*SSS		SSS		11 34 33.2		
SOC					pmax		pmax				
	comp=Z,49nm,0.7s										
SFX	**San Felipe**	**89.03**	**58**		IAmb		IAmb		11 14 41.3		
	comp=Z,78nm,1.0s										
Q16A	**Castle Valley**	**89.06**	**49**		IAmb		IAmb		11 14 42.0		
	comp=Z,84nm,1.1s										
U15A	**North Rim**	**89.14**	**52**		IAmb		IAmb		11 14 42.6		
	comp=Z,46nm,1.0s										
STOK	**Stokkvaagen**	**89.15**	**343**		*e*P		**P**		**11 14 38.9**	**-0.2**	
P17A	**Butcher Ranch,**	**89.16**	**49**		IAmb		IAmb		11 14 42.1		
	comp=Z,59nm,1.0s										
VSU	**Vasula**	**89.18**	**333**	*c*	*e*P		**P**		**11 14 37.6**	**-1.8**	
VSU					pmax		pmax				
	comp=Z,363nm,1.3s										
LEIR	**Leirfjorden**	**89.28**	**342**		*e*P		**P**		**11 14 39.3**	**-0.4**	
GURO	**Guroymak-BITLI**	**89.30**	**310**		IAmb		IAmb		11 14 41.5		
	comp=Z,94nm,1.1s										
113A	**Mohawk Valley,**	**89.30**	**56**		IAmb		IAmb		11 14 42.6		
	comp=Z,37nm,1.0s										
P18A	**Preston Nutter**	**89.46**	**48**		IAmb		IAmb		11 14 43.4		
	comp=Z,38nm,0.8s										
Y14A	**Wickenburg**	**89.49**	**55**		IAmb		IAmb		11 14 43.7		
	comp=Z,56nm,1.0s										
HMU	**Henry Mountain**	**89.74**	**50**		IAmb		IAmb		11 14 44.4		
	comp=Z,38nm,0.8s										
DGMT	**Dagmar**	**89.77**	**39**		IAmb		IAmb		11 14 43.5		
	comp=Z,54nm,0.8s										
KOPT	**Kop Dagi**	**89.84**	**312**		IAmb		IAmb		11 14 44.6		
	comp=Z,86nm,1.2s										
ANN	**Anapa**	**89.98**	**317**		*e*P		**P**		**11 14 41.6**	**-1.8**	
ANN					*e**PP		**pP**		**11 16 41.0**	**+1.3**	
ANN					*e*S		**SKSac**		**11 24 20.0**	**-3.2**	
ANN					pmax		pmax				
	comp=Z,144nm,1.0s										
SUMG	**Summit**	**90.01**	**1**		*i* P		**P**		**11 14 43.0**	**-0.5**	
SUMG					IAmb		IAmb		11 14 44.8		
	comp=Z,34nm,1.1s										
WUAZ	**Wupatki**	**90.17**	**53**		IAmb		IAmb		11 14 47.2		
	comp=Z,58nm,0.9s										
WUAZ							pwP		11 16 47.1	+0.9	
214A	**Organ Pipe Nat**	**90.34**	**56**		IAmb		IAmb		11 14 47.8		
	comp=Z,50nm,0.9s										
O20A	**White River Ci**	**90.68**	**47**		IAmb		IAmb		11 14 48.6		
	comp=Z,59nm,0.9s		

SNR=86
SIM Simferopol' 92.03 319 *e*P **P** **11 14 51.2 -1.7**
SIM *e*S **S** **11 25 04.0 -5.2**
SIM pmax pmax
comp=Z,67nm,0.7s
AKASG Malin Array Be 92.10 325 P **P** **11 14 51.5 -1.5**
AKASG IAmb IAmb 11 14 53.1
comp=Z,50nm,1.9s
AKASG Malin Array Be 92.10 325 P **P** **11 14 51.1 -1.9**
comp=Z,2.5nm,0.4s,baz=55,slow=5.2,SNR=25
AKASG PP **PP** **11 18 40.4 -1.4**
comp=Z,6.1nm,1.0s,baz=52,slow=8.8,SNR=5.4
comp=Z,2.5nm,0.4s
AKBB Malin Array Si 92.10 325 IAmb IAmb 11 14 53.7
comp=Z,69nm,1.8s
AKBB Malin Array Si 92.10 325 *ce*P **P** **11 14 50.3 -2.7**
AKBB pmax pmax
comp=Z,40nm,1.9s
KIEV Kiev 92.11 325 P **P** **11 14 51.1 -2.0**
KIEV IAmb IAmb 11 14 53.7
comp=Z,62nm,1.8s
KIEV Kiev 92.11 325 P **P** **11 14 51.1 -2.0**
KIEV pmax pmax
comp=Z,62nm,1.8s
KIEV Kiev 92.11 325 *i* P **P** **11 14 50.6 -2.5**
SNR=8.3
ILULI Ilulissat 92.62 6 *i* P **P** **11 14 54.6 -0.4**
ILULI IAmb IAmb 11 14 55.4
comp=Z,16nm,0.7s
ISCO Idaho Springs 92.65 47 IAmb IAmb 11 14 58.4
comp=Z,25nm,1.0s
ISCO Idaho Springs 92.65 47 P **P** **11 14 57.2 +0.9**
S22A 4UR Ranch, Cre 92.66 49 IAmb IAmb 11 14 59.1
comp=Z,48nm,1.4s
HSIG 92.91 58 IAmb IAmb 11 14 59.2
comp=Z,24nm,0.9s
DUN6 Lazy B Ranch 93.05 55 pwP 11 16 56.9 -2.4
NC405 NORSAR Array S 93.32 339 IAmb IAmb 11 14 58.3
comp=Z,30nm,0.7s
HFS Hagfors 93.33 338 P **P** **11 14 57.3 -1.2**
comp=Z,17nm,0.6s,baz=88,slow=3.7,SNR=52
HFS PP **PP** **11 18 48.0 -2.9**
comp=Z,9.7nm,0.8s,baz=66,slow=7.2,SNR=5.1
HFS PKKPbc **PKKPdf** **11 32 01.0 -0.1**
comp=Z,0.4nm,0.3s,baz=162,slow=6.1,SNR=4.3
comp=Z,17nm,0.6s
GAZ Gaziantep 93.35 311 IAmb IAmb 11 14 59.6
comp=Z,52nm,1.3s
NC303 NORSAR Array S 93.35 340 IAmb IAmb 11 14 58.5
comp=Z,21nm,0.9s
SUW Suwalki 93.35 330 *e*P **P** **11 14 57.5 -1.2**
DOMB Dombas 93.48 341 *e*P **P** **11 14 58.5 -0.7**
NB201 NORSAR Array S 93.50 340 IAmb IAmb 11 14 59.0
comp=Z,16nm,0.7s
NC204 NORSAR Array S 93.52 340 IAmb IAmb 11 14 59.0
comp=Z,31nm,0.9s
NB2 NORSAR Subarra 93.54 340 P **P** **11 14 57.8 -1.7**
comp=Z,18nm,0.8s,baz=47,slow=4.6
NB2 NORSAR Subarra 93.54 340 P **P** **11 14 57.8 -1.7**
baz=47,slow=4.6
NB2 NORSAR Subarra 93.54 340 PP PP 11 18 40.1 -12
comp=Z,17nm,1.0s,baz=44,slow=7.9
NOA NORSAR Array B 93.54 340 P **P** **11 14 58.2 -1.3**
comp=Z,14nm,0.8s,baz=47,slow=5.5,SNR=47
NOA PP **PP** **11 18 49.8 -2.7**
comp=Z,12nm,1.0s,baz=44,slow=8.0,SNR=6.1
comp=Z,14nm,0.8s
SDCO Great Sand Dun 93.61 49 IAmb IAmb 11 15 02.4
comp=Z,53nm,2.0s
ULM Lac du Bonnet 93.61 34 P **P** **11 15 00.0 0.0**
comp=Z,14nm,0.9s,baz=305,slow=3.7,SNR=21
comp=Z,14nm,0.9s
ULM Lac du Bonnet 93.61 34 *e*P **P** **11 14 58.8 -1.2**
NORES NORESS Array B 93.65 339 P **P** **11 15 01.6 +1.7**
NC602 NORSAR Array S 93.65 339 IAmb IAmb 11 18 36.2
comp=Z,81nm,1.9s
NBO00 NORSAR Array S 93.69 340 IAmb IAmb 11 18 53.2
comp=Z,26nm,1.0s
NAO01 NORSAR Array S 93.79 340 IAmb IAmb 11 15 00.3
comp=Z,19nm,0.8s
121A Cookes Peak, D 94.07 54 pwP 11 17 02.2 -1.7
ANMO Albuquerque 94.09 52 P **P** **11 15 03.5 +0.7**
ANMO **pwP** **11 17 05.0 +0.4**
ANMO Albuquerque 94.09 52 *i* P **P** **11 15 02.2 -0.6**
ANMO pmax pmax
comp=Z,17nm,1.3s
AGMN Agassiz Nation 94.68 36 IAmb IAmb 11 15 07.2
comp=Z,16nm,0.8s
FRB Frobisher Bay 94.73 14 P **P** **11 15 02.3 -2.4**
BR131 Keskin Array S 94.74 314 P **P** **11 15 05.0 -0.6**
BR131 Keskin Array S 94.74 314 *i* P **P** **11 15 04.1 -1.5**
BRTR Keskin Array B 94.75 314 P **P** **11 15 04.5 -1.0**
BRTR Keskin Array B 94.75 314 P **P** **11 15 04.7 -0.9**
comp=Z,28nm,0.9s,baz=97,slow=3.0,SNR=58
BRTR PP PP 11 18 54.6 -8.1
comp=Z,4.5nm,1.0s,baz=96,slow=6.3,SNR=4.3
comp=Z,28nm,0.9s
BRTR Keskin Array B 94.75 314 *i* P **P** **11 15 04.6 -1.0**
BRTR pmax pmax
comp=Z,30nm,0.9s
KIRS Kirsehir-Merke 94.82 313 ⇑P **P** **11 15 05.1 -0.8**
KSCO Kaye Shedlock' 95.08 47 IAmb IAmb 11 15 09.2
comp=Z,44nm,1.0s
TLCR 95.19 321 ⇓P **P** **11 15 06.4 -0.8**
TLCR 95.19 321 P **P** **11 15 06.4 -0.8**
ANTO Ankara 95.25 315 P **P** **11 15 07.2 -0.6**
ANTO Ankara 95.25 315 P **P** **11 15 07.1 -0.6**
ANTO Ankara 95.25 315 P **P** **11 15 07.2 -0.6**
ANTO pmax pmax
comp=Z,56nm,1.3s
K30B Basset 95.34 42 IAmb IAmb 11 15 08.8
comp=Z,36nm,0.9s
VNDA Vanda 95.40 176 P **P** **11 15 07.5 +0.1**
comp=Z,1.5nm,0.8s,baz=312,slow=5.0,SNR=8.0
VNDA PP **PP** **11 19 04.0 -3.3**
comp=Z,3.9nm,1.2s,baz=350,slow=8.6,SNR=5.8
VNDA PKKPbc **PKKPdf** **11 31 57.9 -2.0**
comp=Z,2.0nm,1.0s,baz=221,slow=2.2,SNR=6.4
comp=Z,1.5nm,0.8s
TPGR Topolog 95.61 320 ⇓P **P** **11 15 08.7 -0.5**
CFR Carcaliu 95.61 321 ⇓P **P** **11 15 07.5 -1.6**
CFR Carcaliu 95.61 321 P **P** **11 15 07.5 -1.6**
F33A 5 Mile Ranch, 95.76 38 IAmb IAmb 11 15 11.1
comp=Z,36nm,1.1s
TESR Tescani 95.78 323 ⇓P **P** **11 15 08.7 -1.2**
TIRR Tirgusor 95.82 320 IAmb IAmb 11 15 10.2
comp=Z,38nm,1.0s
BEL Belsk 95.82 329 *e*P **P** **11 15 09.1 -0.8**
BURAR Bucovina Array 95.98 324 P **P** **11 15 10.1 -0.8**
BURAR Bucovina Array 95.98 324 ⇓P **P** **11 15 09.9 -1.0**
BURAR Bucovina Array 95.98 324 P **P** **11 15 10.0 -0.9**
VRI Vrincioaia 96.08 322 ⇑P **P** **11 15 11.0 -0.3**
VRI Vrincioaia 96.08 322 P **P** **11 15 11.0 -0.3**
PLOR Plostina 96.13 322 ⇑P **P** **11 15 10.9 -0.6**
PLOR Plostina 96.13 322 P **P** **11 15 10.9 -0.6**
KWP Kalwaria Pacla 96.18 327 *e*P **P** **11 15 11.0 -0.7**
BSD Bornholm Skovb 96.35 334 *i* P **P** **11 15 10.6 -1.7**
BSD IAmb IAmb 11 15 11.6
comp=Z,34nm,0.8s
TURR Turia 96.39 322 ⇑P **P** **11 15 12.6 -0.1**
MMAI Mount Meron Ar 96.46 307 P **P** **11 15 12.4 -0.9**
comp=Z,20nm,0.9s,baz=53,slow=5.5,SNR=17
comp=Z,20nm,0.9s
OZUR 96.50 323 ⇓P **P** **11 15 12.5 -0.7**
ECSD EROS Data Cent 96.69 40 IAmb IAmb 11 15 14.6
comp=Z,20nm,1.4s
MLR Muntele Rosu 96.75 322 IAmb IAmb 11 15 17.0
comp=Z,23nm,1.2s
MLR Muntele Rosu 96.75 322 ⇑P **P** **11 15 13.8 -0.6**
MLR Muntele Rosu 96.75 322 P **P** **11 15 13.8 -0.6**
DOPR Dopca 96.81 323 ⇑P **P** **11 15 14.4 -0.2**
BGNE Belgrade 96.92 43 IAmb IAmb 11 15 18.7
comp=Z,30nm,1.2s
VHRN Van Horn 96.96 55 pwP 11 17 15.4 -2.0
STHS Stebnicka Huta 97.08 327 *i* P **P** **11 15 15.2 -0.5**
STHS Stebnicka Huta 97.08 327 *e*PDIFF **P** **11 15 15.2 -0.5**
CSS Mathiatis 97.14 310 IAmb IAmb 11 15 15.8
comp=Z,18nm,0.9s
CBKS Cedar Bluff 97.16 46 IAmb IAmb 11 15 17.0
comp=Z,18nm,0.9s
VOIR 97.30 322 ⇓P Pdif 11 15 16.0 -0.9
VOIR 97.30 322 P Pdif 11 15 15.9 -0.9
OJC Ojcow 97.32 328 *e*P Pdif 11 15 15.7 -1.0
LOZB Loznitsa 97.51 320 ⇑P Pdif 11 15 17.5 -0.2
ARR Arges 97.58 322 ⇑P Pdif 11 15 17.9 -0.1
MARR Marisel-Cluj 97.69 324 ⇑P Pdif 11 15 17.7 -0.9
ELND Elena 98.19 320 ⇓P Pdif 11 15 20.5 -0.3
TXAR Lajitas Array 98.61 56 P **P** **11 15 24.1 +1.0**
comp=Z,1.1nm,0.9s,baz=295,slow=3.9,SNR=9.7
TXAR PKKPbc **PKKPbc** **11 31 49.8 -0.1**
comp=Z,3.4nm,0.8s,baz=132,slow=5.1,SNR=30
comp=Z,1.1nm,0.9s
KSP Ksiaz 98.62 330 *e*P Pdif 11 15 21.9 -0.6
PSZ Piszkesteto 98.70 326 ⇑P Pdif 11 15 22.7 -0.3
PSZ Piszkesteto 98.70 326 P Pdif 11 15 22.7 -0.3
MORC Moravsky Berou 98.72 329 *e*PDIFF Pdif 11 15 22.2 -0.8
MORC *e*PP **PP** **11 19 30.6 -1.6**
SURR Surduc 98.80 324 ⇑P Pdif 11 15 22.8 -0.6
VYHS Vyhne 98.89 327 *i* P Pdif 11 15 23.6 -0.2
VYHS *e* 11 19 34.6
VYHS Vyhne 98.89 327 *e*PDIFF Pdif 11 15 23.6 -0.2
VYHS *e*PP **PP** **11 19 34.6 +1.1**
HERR Herculane 99.14 323 ⇑P **Pdif** **11 15 24.1 -0.9**
JAVC Velka Javorina 99.25 328 *e*PDIFF **Pdif** **11 15 26.0 +0.6**
VRAC Vranov 99.50 329 *e*PDIFF **Pdif** **11 15 26.0 -0.4**
VRAC *e*PP **PP** **11 19 38.7 +0.8**
MDVR Moldovita 99.61 323 ⇓P **Pdif** **11 15 25.9 -1.2**
BRG Berggiesshubel 99.70 331 ⇓*e*Pif 11 15 27.8
BRG Amp 11 15 28.4
comp=Z,9.1nm,0.9s
BRG Berggiesshubel 99.70 331 P **Pdif** **11 15 30.3 +3.1**
BRG Amp 11 15 30.8
comp=Z,4.1nm,0.8s
KRUC Moravsky 99.76 329 *e*PDIFF **Pdif** **11 15 27.1 -0.5**
KRUC *e*PP **PP** **11 19 39.0 -0.9**
MODS Modra-Piesok 99.77 328 *e*PP **PP** **11 19 37.6 -2.4**
WMOK Wichita Mounta 99.81 49 P **Pdif** **11 15 29.0 +0.8**
CLL Collm 99.82 332 ⇓*i*P **Pdif** **11 15 26.7 -1.1**
CLL *i* 11 19 40.6
CLL pmax pmax
comp=Z,15nm,0.9s
CLL pmax pmax
comp=Z,23nm,1.3s
MORH Mrgy, Hungar 100.43 326 ⇑P **Pdif** **11 15 30.0 -0.6**
RONA Rosalia, Austr 100.70 328 *i* Pdiff **Pdif** **11 15 31.1 -0.8**
comp=Z,11nm,1.2s
RONA *i* PP **PP** **11 19 45.5 -1.5**
comp=Z,14nm,1.2s
CONA Conrad Observa 100.77 328 *i* Pdiff **Pdif** **11 15 31.9 -0.3**
comp=Z,9.1nm,1.1s,SNR=7.4
CONA *i* PP **PP** **11 19 47.7 +0.1**
comp=Z,20nm,1.8s
CKRC Cesky Krumlov 100.94 330 *e*PP **PP** **11 19 47.9 -0.8**
KHC Kasperske Hory 101.08 330 *e*P **Pdif** **11 15 32.0 -1.5**
KHC *e* 11 19 51.2
KHC Kasperske Hory 101.08 330 *e*PDIFF **Pdif** **11 15 32.0 -1.5**
KHC *e*PP **PP** **11 19 51.2 +1.5**
VAY Valandovo 101.13 320 *i* P **Pdif** **11 15 33.3 -0.5**
GERES GERESS Array B 101.21 330 PP **PP** **11 19 50.4 -0.4**
comp=Z,1.8nm,0.3s,baz=44,slow=9.8,SNR=3.4
ARSA Arzberg 101.40 328 *i* Pdiff **Pdif** **11 15 34.7 -0.3**
comp=Z,9.4nm,1.3s
ARSA *e*PP **PP** **11 19 51.9 -0.2**
comp=Z,6.4nm,1.0s
SKO Skopje 101.43 321 *i* P **Pdif** **11 15 35.5 +0.3**
MOA Molln 101.62 329 *i* PKiKP **PKiKP** **11 19 59.7 +3.5**
comp=Z,16nm,1.6s
SOKA Soboth 102.03 328 *i* Pdiff **Pdif** **11 15 36.9 -1.0**
comp=Z,12nm,1.5s,SNR=6.7
SOKA *i* PP **PP** **11 19 57.0 +0.1**
comp=Z,9.4nm,1.2s
BIOA Bad Ischl, Aus 102.04 329 *e*PKiKP **PKiKP** **11 19 58.8 +1.9**
comp=Z,12nm,1.1s
OHR Ohrid 102.33 321 *i* P **Pdif** **11 15 38.9 -0.4**
OBKA Obir 102.39 328 *e*PKiKP **PKiKP** **11 19 58.0 +0.3**
comp=Z,9.8nm,1.0s
KBA Koelnbreinsper 102.61 329 *i* Pdiff **Pdif** **11 15 39.1 -1.5**
comp=Z,4.4nm,1.3s
KBA *i* PP **PP** **11 20 00.8 -0.4**
comp=Z,40nm,1.1s
EKA Eskdalemuir Ar 102.65 342 P **Pdif** **11 15 40.1 -0.2**
comp=Z,5.4nm,0.8s,baz=30,slow=5.8,SNR=8.1
EKA PP **PP** **11 20 00.7 -0.3**
comp=Z,17nm,0.9s,baz=35,slow=6.5,SNR=12
LESA Schwarzleotal 102.69 329 *i* PKiKP **PKiKP** **11 19 59.5 +1.3**
comp=Z,60nm,2.2s
MYKA Terra Mystica 102.77 328 *i* PKiKP **PKiKP** **11 19 59.5 +1.2**
comp=Z,19nm,1.1s
SCHQ Schefferville 102.78 19 P **Pdif** **11 15 40.5 -0.4**
comp=Z,1.0nm,0.3s,baz=277,slow=5.6,SNR=3.7
ABTA Abfaltersbach 103.25 329 *e*Pdiff **Pdif** **11 15 41.6 -1.7**
comp=Z,1.5nm,0.6s
ABTA *i* PP **PP** **11 20 05.6 -0.2**
comp=Z,14nm,1.2s
WATA Walderalm 103.29 330 *i* PP **PP** **11 20 07.7 +1.6**
comp=Z,53nm,1.3s,SNR=6.8
BTNL Ternell 103.30 335 *d*PP **PP** **11 20 06.2 +0.2**
WTTA Wattenberg 103.31 330 *e*Pdiff **Pdif** **11 15 45.1 +1.4**
comp=Z,3.5nm,0.7s
WTTA *i* PP **PP** **11 20 06.3 -0.1**
comp=Z,48nm,1.4s,SNR=6.5
MEM Membach 103.33 335 *d*PP **PP** **11 20 06.2 0.0**
MOTA Moosalm 103.51 330 *i* PP **PP** **11 20 09.1 +1.3**
comp=Z,35nm,1.3s,SNR=10
BHOU Houyegnez 103.53 335 *d*PP **PP** **11 20 08.4 +0.8**
BSTI Sart Tilman 103.53 335 *d*PP **PP** **11 20 07.9 +0.3**
SQTA Sankt Quirin 103.55 330 *i* PP **PP** **11 20 09.1 +1.0**
comp=Z,39nm,1.2s,SNR=7.3
RETA Reutte 103.57 330 *i* PP **PP** **11 20 09.4 +1.2**
comp=Z,22nm,1.0s,SNR=6.0
BCLA Clavier 103.76 335 *d*PP **PP** **11 20 09.3 +0.1**
FETA Feichten 103.92 330 *i* Pdiff **Pdif** **11 15 45.6 -0.7**
comp=Z,5.9nm,1.1s
FETA *i* PP **PP** **11 20 10.9 +0.1**
comp=Z,39nm,1.4s,SNR=7.4
RCHB Rochefort 104.00 335 *d*PP **PP** **11 20 11.6 +0.6**
WLF Walferdange 104.00 334 *d*PP **PP** **11 20 11.8 +0.7**
BMRD Maredsous 104.07 335 *d*PP **PP** **11 20 12.2 +0.7**
DAVA Damuels 104.13 331 *e*Pdiff **Pdif** **11 15 46.8 -0.5**
comp=Z,7.6nm,0.9s
DAVA *i* PP **PP** **11 20 12.8 +0.5**
comp=Z,56nm,1.7s,SNR=9.0
DOU Dourbes 104.30 335 *d*PP **PP** **11 20 13.5 +0.3**
QSPA South Pole Qui 107.41 180 PKiKP **PKiKP** **11 20 07.3 +1.1**
comp=Z,2.0nm,0.6s,baz=279,slow=1.1,SNR=20
MBAR Mbarara 113.74 277 *i* PKiKP **PKiKP** **11 20 18.1 -1.8**
PBRG Braganca 115.57 337 *e*PP **PP** **11 21 33.6 +0.3**
PGAV Gavieira, Arco 115.97 338 *e*PKP **PKiKP** **11 20 23.8 +0.4**
PGAV *e*PP **PP** **11 21 38.8 +2.6**
PCAB Cabril 116.11 338 *e*PP **PP** **11 21 38.2 +1.1**
MVO Moncorvo 116.23 337 *e*PKP **PKiKP** **11 20 24.6 +0.7**
ESDC Sonseca Array 116.30 334 **PKiKP** **11 20 24.3 +0.2**
ESDC Sonseca Array 116.30 334 PKP **PKiKP** **11 20 24.1 0.0**
comp=Z,2.6nm,0.8s,baz=39,slow=2.5,SNR=14
ESDC PP **PP** **11 21 36.0 -2.5**
comp=Z,20nm,0.9s,baz=23,slow=7.3,SNR=11
ESDC PKKPbc **PKKPab** **11 31 00.7 -2.5**
comp=Z,2.5nm,0.8s,baz=224,slow=4.4,SNR=13
POLO Lamas de Olo 116.33 338 *e*PKP **PKiKP** **11 20 24.6 +0.5**
PVRL Vila Real 116.38 338 *e*PKP **PKiKP** **11 20 24.7 +0.5**
PVRL *e*PP **PP** **11 21 41.2 +2.2**
PAB San Pablo 116.57 334 **PKiKP** **11 20 24.8 +0.2**
PAB San Pablo 116.57 334 PKiKP **PKiKP** **11 20 24.8 +0.2**
PVIS Viseu 116.94 338 *e*PKP **PKiKP** **11 20 26.2 +0.9**
MTE Manteigas 117.09 337 *e*PKP **PKiKP** **11 20 26.1 +0.5**
PCBR Castelo Branco 117.55 337 *e*PKP **PKiKP** **11 20 26.7 +0.3**
PCBR *e*PP **PP** **11 21 47.6 +0.7**
PCAS Casmilo, Conde 117.74 338 *e*PKP **PKiKP** **11 20 27.1 +0.3**
PMRV Marv??o 117.88 336 *e*PKP **PKiKP** **11 20 27.2 +0.1**
PSARD Sardoal 118.02 337 *e*PKP **PKiKP** **11 20 27.6 +0.3**
PESTR Estremoz 118.44 336 *e*PKP **PKiKP** **11 20 28.2 0.0**
PMTG Montargil 118.50 337 *e*PKP **PKPdf** **11 20 28.1 -0.1**
PMTG *e*PP **PP** **11 21 54.8 +1.4**
PBAR Barrancos 118.83 335 *e*PKP **PKiKP** **11 20 29.2 +0.3**
EVO Evora 118.89 336 *e*PKP **PKiKP** **11 20 29.4 +0.3**
EVO *e*PP **PP** **11 21 56.3 +0.2**
PARRA Arraiolos 119.03 337 *e*PKP **PKPdf** **11 20 29.3 0.0**
PBEJ Beja 119.28 336 *e*PKP **PKiKP** **11 20 30.2 +0.4**
MESJ Messejana 119.58 336 *e*PKPdf **PKiKP** **11 20 31.0 +0.6**
MESJ Messejana 119.58 336 *e*PKP **PKiKP** **11 20 30.9 +0.6**
MESJ *e*PP **PP** **11 22 01.2 +0.5**
PCVE Castro Verde 119.69 336 *e*PKP **PKiKP** **11 20 31.2 +0.6**
PVAQ Vaqueiros 119.76 336 *e*PKP **PKiKP** **11 20 30.9 +0.1**
PBDV Barranco-do-Ve 119.98 336 *e*PKP **PKiKP** **11 20 32.4 +1.1**
PTEO Sao Teotonio 120.03 336 *e*PKP **PKiKP** **11 20 31.8 +0.5**
LSZ Lusaka 120.07 262 **PKiKP** **11 20 32.5 +0.5**
LSZ Lusaka 120.07 262 PKIKP **PKiKP** **11 20 32.5 +0.5**
NVL N'lazarevskaya 120.11 196 *e*P Pdif 11 17 17.2 +20
NVL pmax pmax
comp=Z,11nm,0.9s
MORF Marmelete 120.21 336 *e*PKPdf **PKiKP** **11 20 32.3 +0.5**
MORF Marmelete 120.21 336 *e*PKP **PKiKP** **11 20 32.3 +0.5**
PFVI Vila Bisbo 120.43 336 *e*PKP **PKiKP** **11 20 32.7 +0.6**
TROLL Troll, Antarti 121.48 193 ⇑PKKPbc **PKKPab** **11 30 34.9 -2.0**
comp=Z,131nm,0.7s
TROLL ⇑PKiKP **PKiKP** **11 20 33.2 -0.1**
comp=Z,821nm,0.7s
BROLN Tlhalogang 121.87 256 *i* P **PKiKP** **11 20 35.7 +0.3**
SNAA Sanae 122.81 191 ⇑PKKPbc **PKKPab** **11 30 30.1 -0.9**
comp=Z,61nm,0.9s
SNAA ⇑PKiKP **PKPdf** **11 20 35.0 -0.5**
comp=Z,329nm,0.6s
SNAA Sanae 122.81 191 PKP **PKPdf** **11 20 35.4 -0.1**
comp=Z,13nm,0.6s,baz=196,slow=4.2,SNR=139
SNAA PP **PP** **11 22 19.6 -3.0**
comp=Z,10nm,1.3s,baz=133,slow=5.3,SNR=7.4
SNAA PKKPbc **PKKPab** **11 30 30.4 -0.6**
comp=Z,3.3nm,1.0s,baz=316,slow=8.0,SNR=9.4
SNAA Sanae 122.81 191 *ce*PKIKP **PKPdf** **11 20 35.5 -0.1**
SNAA pmax pmax
comp=Z,14nm,0.7s
KSANE Kasane 123.39 260 *i* P **PKiKP** **11 20 39.8 +1.3**
LPHEP Lephephe 123.50 253 **PKiKP** **11 20 39.1 +0.5**
TAM Tamanrasset 123.94 314 **PKiKP** **11 20 40.1 +0.5**
TAM Tamanrasset 123.94 314 PKIKP **PKiKP** **11 20 40.1 +0.5**
LCR2 La Lucha 2 124.06 65 **PKiKP** **11 20 41.0 +0.9**
VNA2 Neumayer--Watz 124.25 190 ⇑PKKPbc **PKKPab** **11 30 24.1 -0.6**
comp=Z,0.8nm,0.5s,baz=76,slow=31
VNA2 ⇑PKiKP **PKPdf** **11 20 38.3 0.0**
comp=Z,54nm,0.7s,baz=102,slow=0.6
VNA3 Neumayer Olymp 124.35 189 ⇑PKiKP **PKPdf** **11 20 37.9 -0.5**
comp=Z,26nm,0.8s
BOSA Boshof 124.44 247 PKP **PKPdf** **11 20 39.8 -0.2**
comp=Z,5.6nm,0.8s,baz=123,slow=4.5,SNR=8.2
VNA1 Neumayer--Stat 124.64 190 ⇑PKKPbc **PKKPab** **11 30 23.6 +0.6**
comp=Z,2.9nm,1.0s
VNA1 ⇑PKiKP **PKPdf** **11 20 38.9 -0.1**
comp=Z,17nm,0.8s
CKGRV CKGRV 125.20 256 *i* P **PKiKP** **11 20 42.4 +0.3**
SKOMA Sekoma 125.37 252 *i* P **PKiKP** **11 20 42.3 0.0**
KGCAE Kacgae 126.80 254 *i* P **PKiKP** **11 20 45.5 +0.4**
SUR Sutherland 128.28 242 P **PKPdf** **11 20 46.4 -0.9**
TSUM Tsumeb 130.70 260 **PKPdf** **11 20 49.2 -3.0**
TORD Torodi Ar. Bea 133.00 308 PKhKP PKPpre 11 20 41.8
comp=Z,1.1nm,0.7s,baz=47,slow=3.0,SNR=7.4
TORD PKP **PKPdf** **11 20 56.1 -0.4**
comp=Z,18nm,0.8s,baz=24,slow=2.9,SNR=44
TORD SKPbc **SKPbc** **11 23 33.3 -1.2**
comp=Z,55nm,1.0s,baz=31,slow=5.0,SNR=27
TORD SKKPbc **SKKPbc** **11 32 51.8 -1.2**
comp=Z,1.2nm,0.8s,baz=270,slow=3.3,SNR=5.9
ATAH Atahualpa 135.98 82 SKPbc **SKPbc** **11 23 45.0 +0.6**
comp=Z,14nm,0.9s,baz=303,slow=3.4,SNR=6.5
NNA Nana 138.75 88 SKPbc **SKPbc** **11 23 51.7 -0.2**
comp=Z,12nm,0.8s,baz=303,slow=4.9,SNR=4.3
PLCA Paso Flores 141.38 134 PKhKP PKPpre 11 21 07.1
comp=Z,3.9nm,0.6s,baz=240,slow=3.7,SNR=24
PLCA PKP **PKPdf** **11 21 10.7 -0.5**
comp=Z,3.2nm,0.8s,baz=180,slow=3.6,SNR=4.1
PLCA SKPbc **SKiKP** **11 23 59.5 -0.3**
comp=Z,12nm,0.7s,baz=231,slow=3.8,SNR=11
PLCA Paso Flores 141.38 134 *e*P **PKPdf** **11 21 11.2 -0.1**
DBIC Dimbokro 142.07 307 **PKPdf** **11 21 09.7 -3.5**
DBIC Dimbokro 142.07 307 PKhKP PKPpre 11 21 09.2
comp=Z,51nm,0.3s,baz=80,slow=3.7,SNR=142
DBIC PKP **PKPdf** **11 21 13.3 +0.2**
comp=Z,15nm,0.5s,baz=230,slow=7.2,SNR=7.1
DBIC SKPbc **SKPbc** **11 24 00.2 -0.3**
comp=Z,9.9nm,0.7s,baz=13,slow=3.9,SNR=4.1
MBO M'Bour 143.81 330 **PKPdf** **11 21 16.3 +0.2**
CFA Coronel Fontan 146.45 121 PKPbc **PKPdf** **11 21 21.4 +1.1**
comp=Z,27nm,0.7s,baz=258,slow=3.4,SNR=78
BOAV Boa Vista 147.55 55 **PKPdf** **11 21 23.2 +0.7**
BOAV PKPbc **PKPbc** **11 21 26.7 +0.6**
LPAZ La Paz 147.82 93 PKPbc **PKPdf** **11 21 25.2 +1.5**
comp=Z,82nm,0.7s,baz=306,slow=1.6,SNR=40
LPAZ La Paz 147.82 93 *e*P **PKPdf** **11 21 22.0 -1.6**
TRQA Tornquist 148.47 136 **PKPbc** **11 21 27.9 +0.2**
TRQA Tornquist 148.47 136 PKP2 **PKPbc** **11 21 27.9 +0.2**
MACA Manacapuru-AM 150.59 64 **PKPdf** **11 21 28.1 +0.7**
MACA PKPbc **PKiKP** **11 21 33.6 -0.2**
SIV San Ignacio 154.51 90 PKP **PKPdf** **11 21 33.5 +0.5**
comp=Z,3.3nm,0.8s,baz=247,slow=1.6,SNR=17
SIV PKPbc **PKPbc** **11 21 42.1 +0.2**
comp=Z,4.2nm,0.7s,baz=319,slow=2.4,SNR=9.4
SIV PKPab **PKPab** **11 21 59.8 +0.5**
comp=Z,3.3nm,0.5s,baz=298,slow=7.1,SNR=5.9
PTLB Pontes e Lacer 156.29 88 *e*P **PKPdf** **11 21 34.4 -0.9**
CPUP Villa Florida 157.14 116 **PKPab** **11 22 10.5 +0.2**
CPUP Villa Florida 157.14 116 PKP **PKPdf** **11 21 37.1 +1.0**
comp=Z,0.5nm,0.6s,baz=202,slow=4.4,SNR=4.3
CPUP PKPab **PKPab** **11 22 11.2 +1.0**
comp=Z,2.6nm,0.9s,baz=135,slow=4.4,SNR=9.6
BDFB Brasilia 166.90 83 PKP **PKPdf** **11 21 47.4 +1.2**
comp=Z,8.5nm,1.0s,baz=284,slow=3.5,SNR=7.3
BDFB PKPab **PKPab** **11 22 54.2 +0.6**
comp=Z,3.9nm,0.5s,baz=248,slow=6.1,SNR=4.7

NNC **22** *11:05:57.4±1.9,41.°84N×80.°73E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=12.2km s-min=11.6km az=129.0
SOME **22** *11:05:57.2,41.°87N×80.°68E,h5km*
ISC 22 11:05:56.2±2.1,41.°74N±0.°09×80.°57E±0.°07,h10km,n25,
σ1°38/38,4C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SHLS	**Shalkode** 231nm,0.2s	**1.64**	**330**	P	**Pn**	**11 06 24.2**	**-1.0**
SHLS	1μm,0.3s			S	**Sn**	**11 06 44.3**	**-2.2**
SHLS	**Shalkode** 231nm,0.2s	**1.64**	**330**	*e*P	**Pn**	**11 06 24.2**	**-1.0**
SHLS	1μm,0.3s			*e*S	**Sn**	**11 06 44.3**	**-2.2**
PDGK	**Podgornoye** 14nm,0.3s	**1.78**	**334**	⇓P	**Pb**	**11 06 28.9**	**-0.1**
PDGK	61nm,0.6s			⇑S	**Sb**	**11 06 52.6**	**+1.1**
UZB	**Uzynbulak** 16nm,0.4s	**1.82**	**322**	P	**Pg**	**11 06 30.9**	**-0.1**
UZB	48nm,0.3s			S	**Sg**	**11 06 55.9**	**+1.3**
UZB	**Uzynbulak** 16nm,0.4s	**1.82**	**322**	*e*P	**Pg**	**11 06 30.9**	**-0.1**
UZB	48nm,0.3s			*e*S	**Sg**	**11 06 55.9**	**+1.3**
SATY	**Saty** 84nm,0.2s	**2.08**	**310**	Pg	**Pg**	**11 06 38.1**	**+2.1**
SATY	178nm,0.5s			Lg	Lg	11 07 08.7	
KPKS	**Kokpek** 0.4nm,0.2s	**2.22**	**322**	Pg	**Pg**	**11 06 38.1**	**-0.6**
KPKS	7.6nm,0.7s			Lg	Lg	11 07 07.7	
MDOK	**Medeo** 3.7nm,0.6s	**2.97**	**300**	Pg	**Pg**	**11 06 52.2**	**-0.9**
MDOK	14nm,0.5s			Lg	Lg	11 07 31.5	
TNSS	**Tian-Shan** 3.3nm,0.5s	**2.98**	**297**	Pg	**Pg**	**11 06 52.8**	**-0.5**
TNSS	7.6nm,0.7s			Lg	Lg	11 07 33.0	
TNSS	**Tian-Shan** 3.3nm,0.2s	**2.98**	**297**	*e*P	**Pg**	**11 06 52.8**	**-0.5**
TNSS	7.6nm,0.7s			*e*S	**Sg**	**11 07 33.0**	**+1.0**
ARXS	**Arharly** 8.9nm,0.6s	**3.19**	**322**	Pg	**Pb**	**11 06 54.5**	**+1.5**
ARXS	18nm,0.4s			Lg	Lg	11 07 36.4	
MTBS	**Maitube** 15nm,0.4s	**3.36**	**296**	Pg	**Pg**	**11 06 58.8**	**-1.9**
MTBS	16nm,0.9s			Lg	Lg	11 07 43.0	
MTBS	**Maitube** 15nm,0.4s	**3.36**	**296**	*e*P	**Pg**	**11 06 58.8**	**-1.9**
MTBS	16nm,0.9s			*e*S	**Sg**	**11 07 43.0**	**-1.2**
CHKK	**Chushkaly** 4.3nm,0.5s	**3.38**	**310**	Pg	**Pg**	**11 06 59.9**	**-1.0**
CHKK	22nm,0.3s			Lg	Lg	11 07 45.4	
CHKK	**Chushkaly** 4.3nm,0.5s	**3.38**	**310**	*e*P	**Pg**	**11 06 59.9**	**-1.0**
CHKK	22nm,0.3s			*e*S	**Sg**	**11 07 45.4**	**+0.6**

KTBS	**Karatobe**	**3.48**	**306**	Pg	**Pg**	**11 07 01.1**	**-1.8**
	3.0nm,0.5s						
KTBS				Lg	Lg	11 07 47.3	
	36nm,0.2s						
KST	**Kastek**	**3.65**	**293**	Pg	**Pb**	**11 07 02.5**	**+1.6**
	11nm,0.7s						
KST				Lg	Lg	11 07 49.9	
	41nm,0.7s						
KST	**Kastek**	**3.65**	**293**	*e*P	**Pg**	**11 07 04.7**	**-1.5**
	8.6nm,0.3s						
KST				*e*S	**Sg**	**11 07 53.8**	**+0.3**
	41nm,0.7s						
KUU	**Kurty**	**3.78**	**306**	Pg	**Pg**	**11 07 08.0**	**-0.7**
	6.8nm,0.7s						
KUU				Lg	Lg	11 07 59.0	
	26nm,0.6s						
KUU	**Kurty**	**3.78**	**306**	*e*P	**Pg**	**11 07 08.0**	**-0.7**
	6.8nm,0.7s						
KUU				*e*S	**Sg**	**11 07 59.0**	**+1.3**
	26nm,0.6s						
DGS	**Degeres**	**3.85**	**295**	Pg	**Pg**	**11 07 09.4**	**-0.6**
	5.8nm,0.4s						
DGS				Lg	Lg	11 08 02.1	
	12nm,0.5s						
KRBS	**Karabastau**	**4.10**	**300**	Pg	**Pg**	**11 07 12.9**	**-1.9**
	7.3nm,0.5s						
KRBS				Lg	Lg	11 08 07.5	
	2.0nm,0.5s						
MK31	**Makanchi Array**	**5.21**	**13**	⇑Pn	**Pn**	**11 07 14.6**	**+0.5**
	0.9nm,0.3s,baz=97,slow=9.4,SNR=2.7						
MK31				⇓Pg	**Pb**	**11 07 28.7**	**+1.4**
	0.8nm,0.3s,baz=186,slow=13,SNR=4.1						
MK31				⇑Sn	**Sn**	**11 08 12.4**	**-1.9**
	0.3nm,0.2s,baz=140,slow=13,SNR=4.4						
MK31				⇑Lg	Lg	11 08 30.6	
	4.2nm,0.5s,baz=187,slow=28,SNR=4.5						
MRKS	**Merke**	**5.54**	**283**	Pg	**Pg**	**11 07 41.9**	**-0.4**
	1.7nm,1.3s						
MRKS	**Merke**	**5.54**	**283**	*e*P	**Pg**	**11 07 41.9**	**-0.4**
	1.7nm,1.3s						
MRKS				*e*S	**Sg**	**11 08 57.1**	**+3.1**
	4.0nm,0.4s						

DNK 22 11:06:01.4±0.6, 56°49N×13°70E, h0km, ML0.8, ML0.9(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEL	**Delary**	**0.10**	**102**	*e*	Pg	11 06 02.8	-0.5
	baz=280,slow=18						
DEL				P	P	11 06 03.1	-0.2
	baz=285						
DEL				*i* P	P	11 06 03.1	-0.2
DEL				*i* S	Sg	11 06 04.6	+0.1
DEL				S		11 06 04.7	
DEL				IAML		11 06 06.6	
	comp=Z,13nm,0.4s						
BJUU	**Bjuv**	**0.56**	**222**	*i* P	Pg	11 06 11.6	-0.5
BJUU				P	Pb	11 06 11.6	-2.4
BJUU				*i* S	Sg	11 06 19.3	-0.1
BJUU				S	Sb	11 06 19.4	-3.2
FABU	**Falkenberg**	**0.74**	**314**	*i* P	Pg	11 06 15.0	-0.6
FABU				IAML		11 06 32.4	
	comp=Z,3.8nm,0.5s						
GNOU	**Gnosjoe**	**0.80**	**2**	P	Pg	11 06 15.9	-0.8
LUNU	**Lund**	**0.87**	**189**	P	Pg	11 06 17.3	-0.8

DNK 22 11:06:40.1±0.3, 57°78N×12°12E, h0km, ML1.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANU	**Vaenersborg**	**0.71**	**358**	P	Pg	11 06 53.2	-0.6
VANU				S	Sg	11 07 02.8	-0.2
FKPU	**Falk**	**0.94**	**65**	P	Pg	11 06 57.3	-0.7
FKPU				S	Sg	11 07 09.6	-0.5
GNOU	**Gnosjoe**	**1.01**	**118**	P	Pg	11 06 58.7	-0.7
GNOU				S	Sg	11 07 12.1	-0.4
NASU	**Vaermlandsnaes**	**1.28**	**26**	P	Pg	11 07 03.2	-1.3
STRU	**Stroemstad**	**1.35**	**339**	P	Pg	11 07 04.6	-1.4

WEL 22 11:11:45.5±0.5, 39°S±2°×17°6E±°, h5km±2km, M2.6/30, ML2.5/18, MLv2.6/30, Error ellipse: s-maj=2.9km s-min=2.5km az=116.8, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPPS	**Taupo Police S**	**0.02**	**202**	P	Pg	11 11 46.2	-0.3
TPPS				S	Sg	11 11 47.9	+0.7
WHTZ	**Whakaora**	**0.10**	**269**	P	Pg	11 11 48.2	+0.6
WPRZ	**Whakapapatarin**	**0.16**	**24**	P	Pg	11 11 48.9	+0.2
ALRZ	**Allen Road**	**0.23**	**64**	P	Pg	11 11 50.2	+0.2
ALRZ				S	Sg	11 11 54.0	+1.0
KUTZ	**Kaahu Road**	**0.27**	**311**	P	Pg	11 11 51.3	+0.6
KUTZ				S	Sg	11 11 55.7	+1.5
WATZ	**Wairara**	**0.27**	**261**	P	Pg	11 11 51.3	+0.5
WATZ				S	Sg	11 11 55.3	+0.8
PRRZ	**Plateau Road**	**0.30**	**56**	P	Pg	11 11 51.6	+0.3
GRRZ	**Galatos Road**	**0.31**	**4**	P	Pg	11 11 52.2	+0.6
MRHZ	**Matea Rd**	**0.31**	**123**	P	Pg	11 11 51.9	+0.3
MRHZ				S	Sg	11 11 56.6	+0.8
RATZ	**Rangitukua**	**0.31**	**230**	P	Pg	11 11 52.2	+0.5
HRRZ	**Handcock Road**	**0.32**	**31**	P	Pg	11 11 52.1	+0.4
HRRZ				S	Sg	11 11 56.7	+0.8
RITZ	**Rihia Road**	**0.36**	**209**	P	Pb	11 11 54.2	-0.2
HSRZ	**Hossack Road**	**0.38**	**20**	P	Pg	11 11 53.4	+0.6
HSRZ				S	Sg	11 11 58.8	+1.1
HLRZ	**Highlands Stat**	**0.46**	**28**	P	Pb	11 11 55.4	-0.8
RRRZ	**Republican Roa**	**0.47**	**47**	P	Pg	11 11 55.1	+0.6
UTU	**Utuhina**	**0.49**	**11**	P	Pb	11 11 56.4	-0.4
TLZ	**Tolley Road**	**0.54**	**308**	P	Pg	11 11 55.9	0.0
MUGZ	**Murupara**	**0.57**	**71**	P	Pb	11 11 58.1	0.0
WTVZ	**West Tongariro**	**0.59**	**220**	P	Pg	11 11 57.3	+0.4
BKZ	**Black Stump Fm**	**0.60**	**147**	P	Pg	11 11 57.5	+0.5
MTHZ	**Maungataniwha**	**0.62**	**108**	P	Pg	11 11 58.2	+0.6
WNVZ	**Wahianoa**	**0.76**	**209**	P	Pg	11 12 00.1	0.0
MOVZ	**Moawhango**	**0.78**	**199**	P	Pg	11 12 00.3	-0.3
KWHZ	**Kaweka Forest**	**0.81**	**161**	P	Pb	11 12 01.6	-0.5
KWHZ				S	Sb	11 12 12.5	-0.9
URZ	**Urewera**	**0.91**	**64**	P	Pg	11 12 02.9	0.0
MCHZ	**McNeill Hill**	**0.92**	**149**	P	Pn	11 12 04.9	-0.2
TGRZ	**Tauranga**	**0.94**	**9**	P	Pb	11 12 04.3	-0.1
HIZ	**Hauiti**	**0.97**	**279**	P	Pg	11 12 04.1	0.0
KRHZ	**Kereru**	**1.00**	**167**	P	Pg	11 12 05.1	+0.3
TOZ	**Tahuroa Road**	**1.04**	**334**	P	Pg	11 12 05.1	-0.3
PNHZ	**Pukenui**	**1.25**	**176**	P	Pg	11 12 08.7	-0.8
KAHZ	**Kahuranaki**	**1.29**	**151**	P	Pb	11 12 12.5	+2.2
KNZ	**Kokohu**	**1.30**	**107**	P	Pb	11 12 13.3	+2.9
TSZ	**Takapari Road**	**1.40**	**184**	P	Pn	11 12 11.5	-0.3
WPHZ	**Waipukurau**	**1.43**	**169**	P	Pg	11 12 13.7	+0.8
PRGZ	**Paritu Road**	**1.43**	**101**	P	Pg	11 12 16.0	+3.0
HAZ	**Te Kaha**	**1.62**	**57**	P	Pn	11 12 14.4	-0.4
CNGZ	**Carnagh Statio**	**1.68**	**85**	P	Pg	11 12 19.1	+1.4
PKGZ	**Pakihiroa**	**1.77**	**64**	P	Pn	11 12 18.0	-0.8
PRWZ	**Pori Road**	**1.89**	**182**	P	Pg	11 12 24.8	+3.0
MRZ	**Mangatainoka R**	**2.03**	**191**	P	Pb	11 12 23.1	+0.1
MRZ	**Mangatainoka R**	**2.03**	**191**	P	Pb	11 12 23.5	+0.6
OGWZ	**Otaki Gorge**	**2.26**	**198**	P	Pn	11 12 24.0	+0.3
HOWZ	**Holdsworth Sta**	**2.27**	**191**	P	Pn	11 12 25.2	+1.4
KIW	**Kapiti Island**	**2.37**	**202**	P	Pn	11 12 23.1	-2.1
TMWZ	**Te Maipa**	**2.44**	**183**	P	Pn	11 12 26.8	+0.6
MTW	**Mount Morrison**	**2.53**	**190**	P	Pn	11 12 25.9	-1.4
TRWZ	**Traveller**	**2.75**	**186**	P	Pn	11 12 28.1	-2.3

IDC 22 11:15:25.3±2.0, 5°41N×123°01E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=298.8km s-min=21.7km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.55**	**156**	P	P	11 21 14.2	+0.1
	1.3nm,0.3s,baz=334,slow=9.7,SNR=22						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**30.79**	**160**	P	P	11 21 42.9	-0.1
	0.3nm,0.3s,baz=337,slow=7.9,SNR=7.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**54.09**	**326**	P	P	11 24 52.7	+0.7
	0.6nm,0.3s,baz=122,slow=7.4,SNR=5.7						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**58.35**	**328**	P	P	11 25 21.4	-0.9
	0.4nm,0.5s,baz=133,slow=6.7,SNR=4.2						
	0.4nm,0.5s						

*UPP **22** 11:15:54.7±1.3, 60°.50N×22°.51E, h0km, ML2.4, Presumed earthquake*
*BER **22** 11:15:54.3±3.7, 59°.47N×22°.45E, h0km, ML2.3(HEL), Suspected explosion*
*HEL **22** 11:15:55.2±0.1, 59°.65N×22°.43E, h0km, ML2.3, Explosion*
*EST **22** 11:15:55.3, 59°.65N×22°.43E, h0km, ML2.3(HEL), Explosion*
*DNK **22** 11:15:59.3±0.9, 59°.66N×21°.44E, h0km, ML2.3(UPP), Suspected explosion*

ISC 22 11:15:53.6±0.8, 59°.66N±0°.03×22°.33E±0°.02, h0km, n68, σ1ᵖ40/86, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVF	**Tvarminne**	**0.50**	**68**	*e*P	**Pg**	**11 16 03.4**	**+0.2**
TVF				*e*S	**Sg**	**11 16 09.3**	**-0.4**
EE06	**Soera, Palade,**	**0.74**	**159**	*e*S	**Sg**	**11 16 16.3**	**-1.1**
EE01	**Perakula, Nova**	**0.80**	**124**	*e*P	**Pg**	**11 16 08.4**	**-0.5**
EE01				*e*S	**Sg**	**11 16 18.5**	**-0.9**
MEF	**Metsahovi**	**1.18**	**61**	*e*P	**Pg**	**11 16 14.1**	**-2.1**
MEF	**Metsahovi**	**1.18**	**61**	PG	**Pg**	**11 16 15.6**	**-0.6**
	baz=239						
MEF				MSG		11 16 29.6	
	comp=Z,37nm,0.2s						
MEF				SN	**Sg**	**11 16 32.5**	**+1.0**
MEF	**Metsahovi**	**1.18**	**61**	*e*P	**Pg**	**11 16 15.6**	**-0.6**
	baz=239						
MEF				MSG		11 16 29.6	
	comp=Z,37nm,0.2s						
MEF				*e*SB	**Sg**	**11 16 32.5**	**+1.0**
AAL	**Aland**	**1.28**	**295**	P	**Pg**	**11 16 16.1**	**-2.0**
AAL				S	**Sg**	**11 16 33.2**	**-1.6**
AAL	**Aland**	**1.28**	**295**	P	**Pg**	**11 16 18.5**	**+0.3**
AAL				S	**Sb**	**11 16 37.0**	**+1.4**
AAL	**Aland**	**1.28**	**295**	PN	**Pn**	**11 16 23.0**	**+4.2**
AAL				SG	**Sb**	**11 16 36.9**	**+1.3**
AAL	**Aland**	**1.28**	**295**	P	**Pg**	**11 16 16.1**	**-2.0**
AAL				S	**Sg**	**11 16 33.2**	**-1.6**
AAL	**Aland**	**1.28**	**295**	*e*PN	**Pn**	**11 16 23.0**	**+4.2**
AAL				*e*SB	**Sb**	**11 16 36.9**	**+1.3**
HEL5	**Espoo, Suvisaa**	**1.30**	**68**	PG	**Pg**	**11 16 17.8**	**-0.7**
HEL5				MSG		11 16 33.0	
	comp=Z,29nm,0.2s						
HEL5	**Espoo, Suvisaa**	**1.30**	**68**	*e*P	**Pg**	**11 16 17.8**	**-0.7**
HEL5				MSG		11 16 33.0	
	comp=Z,29nm,0.2s						
EE02	**Kiisa, Saku**	**1.30**	**110**	*e*PB	**Pg**	**11 16 17.7**	**-0.8**
EE02				*e*SB	**Sg**	**11 16 34.6**	**-0.7**
HEL1	**Helsinki**	**1.39**	**67**	PG	**Pg**	**11 16 19.4**	**-0.8**
HEL1				MSG		11 16 35.6	
	comp=Z,33nm,0.2s						
HEL1	**Helsinki**	**1.39**	**67**	*e*PB	**Pg**	**11 16 19.4**	**-0.8**
HEL1				MSG		11 16 35.6	
	comp=Z,33nm,0.2s						
RAF	**Rauma**	**1.39**	**349**	*e*P	**Pn**	**11 16 19.3**	**-1.0**
RAF	**Rauma**	**1.39**	**349**	*e*S	**Sg**	**11 16 38.0**	**-0.3**
RAF				MSG		11 16 38.4	
	comp=Z,41nm,0.2s						
NUR	**Nurmijarvi**	**1.44**	**53**	PG	**Pn**	**11 16 20.3**	**-0.6**
NUR				MSG		11 16 37.4	
	comp=Z,34nm,0.2s						
NUR	**Nurmijarvi**	**1.44**	**53**	*e*P	**Pn**	**11 16 20.3**	**-0.6**
NUR				MSG		11 16 37.4	
	comp=Z,34nm,0.2s						
EE08	**Sarghaua, Vand**	**1.81**	**123**	*e*P	**Pn**	**11 16 26.1**	**+0.2**
EE08				*e*SN	**Sn**	**11 16 50.0**	**+0.5**
ARBE	**Arbavere**	**1.88**	**95**	*e*P	Pn	11 16 19.1	-7.8
ARBE	**Arbavere**	**1.88**	**95**	*e*PN	**Pn**	**11 16 27.5**	**+0.6**
NRTU	**Norrtaelje**	**1.88**	**272**	P	**Pn**	**11 16 25.9**	**-1.0**
NRTU	**Norrtaelje**	**1.88**	**272**	P	**Pg**	**11 16 31.6**	**+2.1**
NRTU	**Norrtaelje**	**1.88**	**272**	P	**Pn**	**11 16 25.9**	**-1.0**
PVF	**Pernaja**	**1.98**	**62**	*e*PG	**Pn**	**11 16 29.7**	**+1.4**
PVF				MSG		11 16 52.7	
	comp=Z,35nm,0.2s						
PVF				*e*SG	**Sg**	**11 16 56.9**	**-0.2**
GRAU	**Graesoe**	**2.02**	**291**	P	**Pn**	**11 16 27.8**	**-1.1**
GRAU	**Graesoe**	**2.02**	**291**	P	**Pn**	**11 16 29.7**	**+0.9**
GRAU				S	**Sb**	**11 16 56.8**	**0.0**
GRAU	**Graesoe**	**2.02**	**291**	P	**Pn**	**11 16 27.8**	**-1.1**
SLIT	**Slitere, Latvi**	**2.04**	**181**	*e*PG	**Pb**	**11 16 31.0**	**-0.5**
SLIT				*e*SG	**Sb**	**11 16 57.1**	**-0.2**
EE03	**Tooma soojaam,**	**2.17**	**110**	*e*PB	**Pn**	**11 16 32.2**	**+1.2**
EE03				*e*SG	**Sb**	**11 16 57.0**	**-0.5**
KPF	**Kankaanpaa**	**2.18**	**357**	*e*P	**Pn**	**11 16 32.5**	**+1.4**
KPF				MSG		11 17 00.7	
	comp=Z,21nm,0.2s						
FORU	**Forsmark**	**2.21**	**291**	P	**Pn**	**11 16 31.3**	**-0.1**
FORU	**Forsmark**	**2.21**	**291**	P	**Pn**	**11 16 32.0**	**+0.6**
FORU	**Forsmark**	**2.21**	**291**	P	**Pn**	**11 16 31.3**	**-0.1**
FLYU	**Flymyra**	**2.29**	**284**	P	**Pn**	**11 16 31.7**	**-0.9**
FLYU	**Flymyra**	**2.29**	**284**	P	**Pn**	**11 16 31.7**	**-0.9**
NYNU	**Nynaeshamn**	**2.31**	**255**	P	**Pn**	**11 16 32.6**	**-0.3**
NYNU	**Nynaeshamn**	**2.31**	**255**	P	**Pn**	**11 16 32.6**	**-0.3**
UPP	**Uppsala**	**2.39**	**277**	*e*P	**Pn**	**11 16 32.3**	**-1.6**
FIBU	**Brunna**	**2.53**	**278**	P	**Pn**	**11 16 35.8**	**-0.1**
FIBU	**Brunna**	**2.53**	**278**	P	**Pn**	**11 16 35.8**	**-0.1**
FIA0	**FINESS Array S**	**2.57**	**44**	*e*P	**Pn**	**11 16 37.9**	**+1.4**
	baz=231						
FIA0				MSG		11 17 10.3	
	comp=Z,15nm,0.2s						
FIA0				*e*SB	**Sb**	**11 17 12.4**	**-0.3**
VSU	**Vasula**	**2.58**	**116**	*e*P	Pn	11 16 24.2	-12
BACU	**Backbrunna**	**2.65**	**276**	P	**Pn**	**11 16 37.0**	**-0.5**
BACU	**Backbrunna**	**2.65**	**276**	P	**Pn**	**11 16 37.0**	**-0.5**
OSTU	**Oestervaala**	**2.67**	**285**	P	**Pn**	**11 16 37.5**	**-0.4**
OSTU	**Oestervaala**	**2.67**	**285**	P	**Pn**	**11 16 37.5**	**-0.4**
VJF	**Virojoki**	**2.76**	**69**	*e*PB	**Pn**	**11 16 41.6**	**+2.6**
	baz=254						
VJF				MSG		11 17 14.9	
	comp=Z,12nm,0.2s						
VJF				*e*SG	**Sb**	**11 17 20.3**	**+2.2**
KEF	**Keuruu**	**2.80**	**25**	*e*P	**Pn**	**11 16 39.8**	**+0.2**
KEF	**Keuruu**	**2.80**	**25**	*e*P	**Pn**	**11 16 42.1**	**+2.5**
	baz=205						
KEF				MSG		11 17 17.5	
	comp=Z,11nm,0.2s						
KEF				*e*SB	**Sb**	**11 17 19.2**	**-0.1**
KAF	**Kangasniemi**	**3.13**	**37**	*e*P	**Pn**	**11 16 46.6**	**+2.4**
KAF				MSG		11 17 26.6	
	comp=Z,8.6nm,0.2s						
KAF				*e*SB	**Sb**	**11 17 27.9**	**-0.9**
SUF	**Sumiainen**	**3.58**	**29**	*e*P	**Pn**	**11 16 51.9**	**+1.6**
HEMU	**Hemsoen**	**3.67**	**327**	*e*PB	**Pb**	**11 16 59.0**	**-0.2**
HEMU				*e*S	**Sn**	**11 17 37.7**	**+2.3**
HUSU	**Husum**	**3.98**	**339**	*e*P	**Pn**	**11 16 57.8**	**+2.1**
UMAU	**Umeaa**	**4.31**	**350**	*e*P	**Pn**	**11 17 01.7**	**+1.4**
UMAU				*e*SG	**Sg**	**11 18 08.7**	**-3.2**
NC602	**NORSAR Array S**	**5.49**	**286**	*e*P	**Pn**	**11 17 15.9**	**-0.6**
NB2	**NORSAR Subarra**	**5.69**	**289**	P	**Pn**	**11 17 16.4**	**-2.9**
	comp=Z,7.8nm,0.8s,baz=44,slow=5.3						
SJUU	**Sjulsmark**	**5.88**	**357**	*e*P	**Pn**	**11 17 21.6**	**-0.2**
SKAR	**Skarslia**	**7.07**	**284**	*e*P	Pn	11 17 34.2	-4.0
MOR8	**Moi Rana**	**7.45**	**335**	*e*P	**Pn**	**11 17 45.8**	**+2.3**
LEIR	**Leirfjorden**	**7.71**	**331**	*e*P	**Pn**	**11 17 49.1**	**+2.1**
MOL	**Molde**	**7.72**	**298**	*e*P	**Pn**	**11 17 46.0**	**-1.2**
HEF	**Hetta**	**8.80**	**3**	*e*P	**Pn**	**11 18 01.3**	**-0.6**
STEI	**Steigen**	**8.86**	**342**	*e*P	**Pn**	**11 18 02.1**	**-0.6**
KTK1	**Kautokeino**	**9.40**	**2**	*e*P	**Pn**	**11 18 09.9**	**-0.1**
ARA0	**ARCESS Array S**	**10.01**	**6**	*e*P	**Pn**	**11 18 17.5**	**-0.9**

*SGS **22** 11:33:55.1, 28°.26N×34°.62E, h10km, Ml2.8*
*HLW **22** 11:33:55.0, 28°.29N×34°.56E, h0km±1km, Ml2.8*

ISC 22 11:33:52.8±1.3, 28°15N±0°.04×34°70E±0°.04, h15km±10km, n22, σ0ᵖ61/26, Egypt

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSHS		**0.17**	**31**	S	**Sb**	**11 34 01.0**	**0.0**
RSHS				P	**Pb**	**11 33 58.6**	**+0.9**
TAYS	**Tayyib Ism**	**0.42**	**21**	P	**Pb**	**11 34 02.0**	**0.0**
TAYS	**Tayyib Ism**	**0.42**	**21**	S	**Sg**	**11 34 07.1**	**0.0**
BDAS	**Al Bad`**	**0.45**	**52**	P	**Pn**	**11 34 03.8**	**-0.9**
BDAS	**Al Bad`**	**0.45**	**52**	S	**Sb**	**11 34 10.3**	**+1.3**
KRABS	**KRABS**	**0.49**	**96**	P	**Pn**	**11 34 06.1**	**+0.7**
KRABS	**KRABS**	**0.49**	**96**	S	**Sn**	**11 34 13.8**	**+0.1**
AYUS	**`Aynunah**	**0.51**	**86**	S	**Sn**	**11 34 13.9**	**-0.1**
AYUS	**`Aynunah**	**0.51**	**86**	P	**Pn**	**11 34 06.1**	**+0.6**
HDHB	**Dhahab**	**0.57**	**353**	P	**Pb**	**11 34 04.6**	**+0.1**
TR1	**Tor 1**	**0.67**	**258**	P	**Pn**	**11 34 07.7**	**-0.1**
HKAT	**Jabal Katrina**	**0.72**	**301**	⇑P	**Pg**	**11 34 06.9**	**0.0**
NUB	**Nuweibaa**	**0.87**	**357**	⇑P	**Pb**	**11 34 08.8**	**-0.8**
TR2	**Tor 2**	**0.89**	**285**	P	**Pg**	**11 34 10.3**	**+0.3**
JLOS		**0.91**	**50**	S	**Sn**	**11 34 23.1**	**-1.0**
JLOS				P	**Pn**	**11 34 11.6**	**+0.4**
HAQS	**Haql**	**0.92**	**12**	S	**Sb**	**11 34 22.1**	**-0.2**
HAQS				P	**Pg**	**11 34 10.5**	**0.0**
HBST	**Basata**	**1.06**	**2**	P	**Pg**	**11 34 13.6**	**+0.3**
HBST				S	**Sn**	**11 34 27.6**	**-0.1**
JMOS	**Jabal al Moall**	**1.07**	**20**	P	**Pg**	**11 34 13.5**	**0.0**
JMOS	**Jabal al Moall**	**1.07**	**20**	S	**Sg**	**11 34 27.3**	**-0.4**
HQLS		**1.19**	**16**	P	**Pn**	**11 34 14.8**	**-0.2**
GRB	**Gharib**	**1.69**	**274**	P	**Pn**	**11 34 22.5**	**+0.6**
BIDS	**Bi'r al Bayda'**	**2.38**	**122**	P	**Pb**	**11 34 34.3**	**-1.1**

*OSPL **22** 11:45:16.4±1.7, 18°.61N×77°.57W, h58km±14km, ML3.7*
*NEIC **22** 11:45:16.3±1.4, 18°.30N±0°.04×76°.99W±0°.04, h10km±2km, mb_Lg3.1/6, Error ellipse: s-maj=7.4km s-min=5.1km az=324.0*
*JSN **22** 11:45:17.4±0.4, 18°.17N×77°.04W, h28km±5km, MD4.0*
*SSNC **22** 11:45:17.8±1.3, 18°.33N×77°.03W, h4km±7km, MD4.0, ML3.9, MW3.4*
*IDC **22** 11:45:18.0±1.1, 18°.78N×76°.50W, h0km, mb3.5/4, mbtmp3.7/5, ML4.2/1, MS3.3/2, Error ellipse: s-maj=46.9km s-min=30.2km az=37.0*

ISC 22 11:45:16.4±0.9, 18°33N±0°.05×77°02W±0°.03, h11km±5km, n45, σ1ᵖ88/65, mb3.3/4, 3C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STH	**Stony Hill**	**0.32**	**142**	⇑*i*P	**Pb**	**11 45 23.3**	**-0.9**
MTDJ	**Mount Denham**	**0.50**	**258**		**Pb**	**11 45 26.4**	**-1.0**
MTDJ				Sg	**Sb**	**11 45 33.4**	**-1.3**
MTDJ	**Mount Denham**	**0.50**	**258**	*i* P	**Pb**	**11 45 26.6**	**-0.7**
MTDJ				*e*S	**Sb**	**11 45 33.7**	**-1.0**
MTDJ				IAML		11 45 34.1	
	24µm,0.5s						
MTDJ				IAML		11 45 34.2	
	comp=Z,34µm,0.4s						
MTDJ	**Mount Denham**	**0.50**	**258**	⇑*i*P	**Pb**	**11 45 26.7**	**-0.6**
MTDJ				⇑*i*S	**Sb**	**11 45 34.0**	**-0.8**
MTDJ	**Mount Denham**	**0.50**	**258**	*i* P	**Pb**	**11 45 26.6**	**-0.7**
MTDJ				*e*S	**Sb**	**11 45 34.0**	**-0.8**
MTDJ				IAML		11 45 35.0	
	comp=Z,8µm,0.5s						
MCJ	**Malvern**	**0.76**	**238**	⇓*i*P	**Pb**	**11 45 29.9**	**-1.8**
PILO	**Pilon**	**1.61**	**347**	*i* P	**Pn**	**11 45 44.5**	**-0.3**
PILO				*i* S	**Sn**	**11 46 03.6**	**-2.0**
PILO				IAML		11 46 04.1	
	comp=N,1µm,0.4s						
PILO				IAML		11 46 04.2	
	comp=E,1µm,0.3s						
CHIV	**Chivirico**	**1.73**	**19**		**Pn**	**11 45 46.3**	**-0.2**
CHIV				IAmb_Lg		11 46 13.6	
	comp=Z,86nm,0.7s						
CHIV	**Chivirico**	**1.73**	**19**	*e*P	**Pn**	**11 45 46.3**	**-0.2**
CHIV				*e*S	**Sn**	**11 46 06.4**	**-2.1**
MARVS	**Santiago de Cu**	**1.96**	**32**	*i* P	**Pn**	**11 45 49.2**	**-0.5**
MARVS				*e*S	**Sn**	**11 46 12.0**	**-2.3**
MARVS				IAML		11 46 14.8	
	comp=Z,600nm,1.0s						
RCC	**Rio Carpintero**	**2.07**	**37**	*i* P	**Pn**	**11 45 51.1**	**-0.1**
RCC				*i* S	**Sn**	**11 46 14.6**	**-2.3**
GTBY	**Guantanamo Bay**	**2.40**	**48**		**Pn**	**11 45 55.8**	**+0.2**
GTBY	**Guantanamo Bay**	**2.40**	**48**	*i* P	**Pn**	**11 45 55.7**	**0.0**
GTBY				*i* S	**Sn**	**11 46 23.5**	**-1.6**
GTBY				IAML		11 46 28.5	
	comp=Z,400nm,1.0s						
GTBY	**Guantanamo Bay**	**2.40**	**48**	*i* P	**Pn**	**11 45 55.8**	**+0.2**
GTBY				*e*S	**Sn**	**11 46 24.8**	**-0.3**
GTBY				IAML		11 46 28.6	
	comp=Z,174nm,0.6s						
PINC	**Pinares de May**	**2.43**	**28**	*i* P	**Pn**	**11 45 56.1**	**0.0**
PINC				*i* S	**Sn**	**11 46 24.5**	**-1.4**
PINC				IAML		11 46 26.9	
	comp=Z,350nm,1.0s						
LTUP	**Las Tunas**	**2.61**	**0**	*i* P	**Pn**	**11 45 59.8**	**+1.2**
LTUP				IAML		11 46 39.7	
	comp=Z,230nm,1.0s						
HLGC	**Holguin**	**2.70**	**19**	*i* P	**Pn**	**11 46 01.0**	**+1.2**
HLGC				*i* S	**Sn**	**11 46 30.9**	**-1.6**
HLGC				IAML		11 46 36.4	
	comp=Z,280nm,1.0s						
NMDO	**Nuevo Mundo**	**2.93**	**41**		**Pn**	**11 46 02.7**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.41**	**47**	Pn	**Pn**	**11 51 57.4**	**-0.3**
	111nm,0.3s,baz=203,slow=7.7,SNR=68						
GUMO				Sn	**Sn**	**11 52 15.5**	**+0.2**
	73nm,0.3s,baz=0.0,slow=20,SNR=12						
H11S3	**WAKE ISLAND Hy 22.79**		**72**	T	T	12 20 23.3	
	baz=258,slow=75,SNR=4.6						
H11S1	**WAKE ISLAND Hy 22.80**		**72**	T	T	12 20 22.2	
	baz=258,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hy 22.80**		**72**	T	T	12 20 24.8	
	baz=258,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy 23.25**		**69**	T	T	12 20 50.0	
	baz=255,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy 23.26**		**69**	T	T	12 20 55.1	
	baz=255,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy 23.26**		**69**	T	T	12 20 54.3	
	baz=255,slow=75,SNR=13						
WRA	**Warramunga Arr**	**33.68**	**196**	P	**P**	**11 58 12.4**	**-0.4**
	0.6nm,0.7s,baz=21,slow=9.6,SNR=9.2						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**37.35**	**195**	P	**P**	**11 58 44.5**	**+0.2**
	0.1nm,0.4s,baz=17,slow=10,SNR=7.1						
	0.1nm,0.4s						
SONM	**Songino Array**	**46.93**	**326**	P	**P**	**12 00 02.0**	**-0.2**
	0.4nm,0.4s,baz=193,slow=5.9,SNR=2.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**61.47**	**317**	P	**P**	**12 01 48.3**	**+0.2**
	0.3nm,0.6s,baz=94,slow=6.5,SNR=3.3						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**64.69**	**320**	P	**P**	**12 02 09.5**	**+0.2**
	0.2nm,0.5s,baz=107,slow=6.3,SNR=1.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**69.87**	**25**	P	**P**	**12 02 41.9**	**-0.1**
	0.1nm,0.5s,baz=258,slow=6.3,SNR=1.4						
	0.1nm,0.5s						
NVAR	**Mina Array Bea**	**88.32**	**51**	P	**P**	**12 04 24.1**	**+0.4**
	0.7nm,0.7s,baz=260,slow=5.2,SNR=5.4						
	0.7nm,0.7s						

*IDC **22** 11:51:43.8±1.0, 7°.03N×92°.38E, h0km, mb4.0/9, mbtmpa4.0/12, ML3.9/3, MS3.8/1, Error ellipse: s-maj=35.5km s-min=15.6km az=55.0*

*NEIC **22** 11:51:45.7±1.6, 6°.8N±0°.1×92°.24E±0°.0/9, h10km±1km, mb4.4/10, Error ellipse: s-maj=22.0km s-min=13.4km az=208.0*

ISC 22 11:51:46.3±0.6, 6°.99N±0°.07×92°.30E±0°.06, h23km, n44, σ1§80/36, mb4.2/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.62**	**89**	*eP*	**Pn**	**11 52 11.8**	**-1.6**
DGPR	**DIGLIPUR**	**6.18**	**6**	*eP*	**Pn**	**11 53 14.0**	**-2.2**
DGPR				*eS*	**Sn**	**11 54 22.7**	**-3.4**
DGPR				IAML		11 54 41.1	
	comp=E,186nm,2.1s						
DGPR				IAML		11 54 41.7	
	comp=N,125nm,3.7s						
SRIT	**Nakonsritamara**	**7.41**	**77**		**Pn**	**11 53 35.4**	**+2.3**
PSI	**Prapat**	**7.80**	**122**	Pn	**Pn**	**11 53 38.6**	**+0.1**
	comp=N,0.4nm,0.3s,baz=270,slow=15,SNR=1.4						
PSI				Sn	**Sn**	**11 55 05.4**	**-0.9**
	comp=N,0.3nm,0.3s,baz=305,slow=16,SNR=1.0						
	comp=N,4.7nm,0.7s						
RPSI	**Rantau Prapat**	**7.86**	**123**		**Pn**	**11 53 38.6**	**-0.6**
RPSI					**Sn**	**11 55 05.4**	**-2.2**
PALK	**Pallekele**	**11.51**	**272**	Pn	**Pn**	**11 54 29.3**	**-0.1**
PALK	**Pallekele**	**11.51**	**272**	Pn	**Pn**	**11 54 30.6**	**+1.3**
	comp=N,1.4nm,0.3s,baz=80,slow=14,SNR=6.2						
PALK				Sn	**Sn**	**11 56 37.2**	**-0.1**
	comp=N,2.5nm,0.3s,baz=138,slow=13,SNR=4.6						
	comp=N,4.2nm,0.4s						
CM31	**Chiang Mai Arr**	**13.11**	**29**		**Pn**	**11 54 54.0**	**+2.8**
CMAR	**Chiang Mai Arr**	**13.11**	**29**	Pn	**Pn**	**11 54 53.9**	**+2.7**
CMAR	**Chiang Mai Arr**	**13.11**	**29**	Pn	**Pn**	**11 54 49.3**	**-1.9**
	comp=N,0.3nm,0.3s,baz=230,slow=14,SNR=22						
	comp=N,0.5nm,0.3s						
MDRS	**Chennai**	**13.31**	**298**	*eP*	Pn	11 54 50.0	-4.0
MDRS				*eS*	Sn	11 57 06.7	-15
MDRS				IAML		11 57 07.0	
	comp=N,43nm,0.0s						
MDRS				IAML		11 57 07.5	
	comp=E,78nm,0.1s						
TRD	**Trivandrum**	**15.28**	**277**	*eP*	Pn	11 55 14.5	-6.1
TRD				IAmb	IAmb	11 55 22.1	
	comp=Z,90nm,1.6s						
TRD				*eS*	Sn	11 57 50.8	-18
TRD				IAML		11 57 52.1	
	comp=N,96nm,0.3s						
TRD				IAML		11 57 55.3	
	comp=E,116nm,0.3s						
JHSG	**JHARSUGUGA**	**16.84**	**332**	*eP*	**Pn**	**11 55 37.2**	**-3.4**
JHSG				*eS*	Sn	11 58 30.6	-17
H08S3	**Diego Garcia H**	**24.52**	**234**	T	T	12 23 13.7	
	baz=53,slow=75,SNR=594						
H08S2	**Diego Garcia H**	**24.52**	**234**	T	T	12 23 21.4	
	baz=53,slow=75,SNR=200						
H08S1	**Diego Garcia H**	**24.54**	**234**	T	T	12 23 22.5	
	baz=53,slow=75,SNR=104						
ARSB	**Arslanbob**	**38.27**	**336**	P	**P**	**11 59 07.2**	**+2.2**
ARSB				IAmb	IAmb	11 59 09.3	
	comp=Z,4.8nm,0.8s						
MKAR	**Makanchi Array**	**40.58**	**349**	P	**P**	**11 59 25.1**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=166,slow=8.8,SNR=19						
	comp=Z,2.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.28**	**128**	P	**P**	**11 59 30.8**	**+0.6**
SONM	**Songino Array**	**42.44**	**14**	P	**P**	**11 59 39.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=199,slow=8.7,SNR=4.4						
	comp=Z,0.9nm,0.8s						
MTN	**Manton Dam**	**43.33**	**117**	P	**P**	**11 59 45.3**	**-1.6**
MTN				IAmb	IAmb	12 00 28.4	
	comp=Z,18nm,1.2s						
KURBB	**Kurchatov Arra**	**44.98**	**348**	P	**P**	**12 00 01.1**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=174,slow=7.4,SNR=34						
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**45.05**	**348**	P	**P**	**12 00 01.6**	**+1.4**
KURK				IAmb	IAmb	12 00 09.0	
	comp=Z,2.1nm,0.7s						
H01W3	**Cape Leeuwin H**	**46.47**	**155**	T	T	12 50 21.5	
	baz=331,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**46.48**	**155**	T	T	12 50 07.6	
	baz=331,slow=76,SNR=9.6						
H01W1	**Cape Leeuwin H**	**46.49**	**155**	T	T	12 50 08.2	
	baz=331,slow=76,SNR=9.6						
ZALV	**Zalesovo Beam**	**47.21**	**354**	P	**P**	**12 00 17.5**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=179,slow=7.4,SNR=4.1						
	comp=Z,1.0nm,0.5s						
WB0	**Warramunga Arr**	**49.23**	**124**	P	**P**	**12 00 33.8**	**+0.5**
BVAR	**Borovoye Array**	**49.26**	**343**	P	**P**	**12 00 33.9**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=152,slow=6.7,SNR=4.5						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**49.26**	**124**	P	**P**	**12 00 34.1**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=305,slow=8.4,SNR=13						
	comp=Z,1.5nm,0.8s						
WRAB	**Tennant Creek**	**49.27**	**124**	P	**P**	**12 00 33.3**	**-0.4**
WRAB				IAmb	IAmb	12 00 35.2	
	comp=Z,8.4nm,1.1s						
WR8	**Warramunga Arr**	**49.40**	**124**	P	**P**	**12 00 35.2**	**+0.6**
WR8				IAmb	IAmb	12 01 11.2	
	comp=Z,6.6nm,1.0s						
AB31	**Akbulak array**	**50.15**	**333**	P	**P**	**12 00 41.8**	**+1.9**
AB31				IAmb	IAmb	12 00 42.3	
	comp=Z,3.2nm,1.2s						
ABKAR	**Akbulak array**	**50.15**	**333**	P	**P**	**12 00 41.7**	**+1.8**
ASAR	**Alice Springs**	**50.78**	**128**	P	**P**	**12 00 46.4**	**+1.3**
ASAR	**Alice Springs**	**50.78**	**128**	P	**P**	**12 00 45.7**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=301,slow=8.0,SNR=30						
	comp=Z,0.9nm,0.4s						
AS31	**Alice Springs**	**50.78**	**128**	P	**P**	**12 00 45.7**	**+0.7**
ABPO	**Ambohimpanom**	**51.38**	**239**	P	**P**	**12 00 45.7**	**-4.1**
ARTI	**Arti**	**56.04**	**338**	LR	LR	12 27 15.7	
	comp=Z,90nm,19.5s,baz=140,slow=38						
STKA	**Stephens Creek**	**60.84**	**132**	P	**P**	**12 01 58.7**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=314,slow=10,SNR=3.6						
	comp=Z,1.5nm,0.6s						
BRTR	**Keskin Array B**	**61.63**	**312**	P	**P**	**12 02 03.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=134,slow=6.2,SNR=1.8						
	comp=Z,0.7nm,0.7s						
H04S1	**CROZET ISLANDS**	**64.46**	**210**	T	T	13 13 34.0	
	baz=47						
H04S3	**CROZET ISLANDS**	**64.47**	**210**	T	T	13 13 25.3	
	baz=47,slow=74						
H04S2	**CROZET ISLANDS**	**64.48**	**210**	T	T	13 13 29.8	
	baz=47,slow=74						

*SGS **22** 11:56:24.9, 25°.12N×36°.42E, h16km, Ml2.5*

*HLW **22** 11:56:24.1, 24°.91N×36°.13E, h18km±4km, Ml2.6*

ISC 22 11:56:19.0±1.0, 24°.95N±0°.06×36°.27E±0°.03, h10km, n38, σ0§94/41, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJ12	**UMJ12**	**0.93**	**56**	P	**Pn**	**11 56 38.6**	**+0.6**
UMJ12	**UMJ12**	**0.93**	**56**	S	**Sb**	**11 56 50.3**	**+0.8**
UMJS	**Umm Lajj**	**0.98**	**73**	P	**Pn**	**11 56 39.3**	**+0.4**
UMJS	**Umm Lajj**	**0.98**	**73**	S	**Sg**	**11 56 50.7**	**-0.1**
UMJ11	**UMJ11**	**1.01**	**47**	P	**Pn**	**11 56 39.6**	**+0.4**
SUMJS	**Umluj**	**1.04**	**100**	S	**Sg**	**11 56 52.6**	**0.0**
SUMJS	**Umluj**	**1.04**	**100**	P	**Pb**	**11 56 40.5**	**+1.3**
UMJ13	**Umluj**	**1.16**	**62**	S	**Sb**	**11 56 55.0**	**-1.3**
UMJ13				P	**Pb**	**11 56 41.6**	**+0.5**
LNY07	**LNY07**	**1.19**	**81**	P	**Pb**	**11 56 42.5**	**+0.8**
LNY07	**LNY07**	**1.19**	**81**	S	**Sb**	**11 56 55.4**	**-1.7**
UMJ01	**UMJ01**	**1.22**	**54**	P	**Pb**	**11 56 42.4**	**+0.3**
UMJ06	**UMJ06**	**1.23**	**51**	P	**Pn**	**11 56 42.7**	**+0.5**
LNY13	**LNY13**	**1.25**	**80**	P	**Pn**	**11 56 43.4**	**+0.8**
LNY13	**LNY13**	**1.25**	**80**	S	**Sb**	**11 56 57.9**	**-1.1**
UMJ02	**UMJ02**	**1.26**	**52**	P	**Pn**	**11 56 43.1**	**+0.4**
LNY16	**LNY16**	**1.27**	**71**	P	**Pn**	**11 56 43.6**	**+0.8**
LNY16	**LNY16**	**1.27**	**71**	S	**Sb**	**11 56 57.8**	**-1.5**
LNY04	**LNY04**	**1.29**	**75**	S	**Sb**	**11 56 58.9**	**-1.0**
LNY04	**LNY04**	**1.29**	**75**	P	**Pb**	**11 56 43.9**	**+0.7**
LNY05	**LNY05**	**1.30**	**86**	S	**Sb**	**11 56 58.9**	**-1.3**
LNY05	**LNY05**	**1.30**	**86**	P	**Pn**	**11 56 44.2**	**+1.0**
HAGS	**Hagol**	**1.30**	**244**	P	**Pn**	**11 56 43.9**	**+0.7**
HAGS				S	**Sb**	**11 56 58.2**	**-2.0**
UMJ07	**UMJ07**	**1.31**	**53**	P	**Pn**	**11 56 43.9**	**+0.6**
LNY14	**LNY14**	**1.39**	**77**	P	**Pn**	**11 56 45.6**	**+1.1**
LNY12	**LNY12**	**1.40**	**76**	P	**Pb**	**11 56 45.7**	**+0.5**
LNY11	**LNY11**	**1.41**	**75**	P	**Pn**	**11 56 45.9**	**+1.1**
LNY08	**LNY08**	**1.44**	**86**	S	**Sn**	**11 57 03.5**	**-0.7**
LNY08				P	**Pb**	**11 56 46.6**	**+0.7**
LNY02	**LNY02**	**1.45**	**82**	S	**Sn**	**11 57 03.7**	**-0.9**
LNY02	**LNY02**	**1.45**	**82**	P	**Pb**	**11 56 46.7**	**+0.5**
LNY10	**LNY10**	**1.48**	**77**	P	**Pb**	**11 56 47.0**	**+0.5**
UMJ09	**UMJ09**	**1.49**	**54**	P	**Pb**	**11 56 46.9**	**+0.2**
LNYS	**LNYS**	**1.52**	**85**	P	**Pb**	**11 56 47.8**	**+0.5**
LNY01	**LNY01**	**1.56**	**80**	P	**Pb**	**11 56 48.3**	**+0.5**
LNY01	**LNY01**	**1.56**	**80**	S	**Sn**	**11 57 06.5**	**-0.5**
UMJ10	**UMJ10**	**1.59**	**50**	P	**Pb**	**11 56 48.6**	**+0.1**
NADB	**Abo Dabab**	**1.65**	**284**	P	**Pn**	**11 56 48.9**	**+0.9**
HHRG	**Al Ghardaqah**	**3.32**	**313**	P	**Pn**	**11 57 10.8**	**-0.2**
HKAT	**Jabal Katrina**	**4.10**	**331**	P	**Pn**	**11 57 24.0**	**+2.1**

CATAC 22 11:59:56.3±0.7, 10°.7N±5°×8°.5W±°, h3km±3km, M3.0/7, MLv3.0/7, Error ellipse: s-maj=10.9km s-min=5.3km az=162.2, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.55**	**288**	P	Pg	12 00 06.8	-0.1
INDI	**Punta indio, G**	**0.55**	**288**	S	Sg	12 00 15.0	+0.9
JTS	**Las Juntas de**	**0.59**	**1**	P	Pg	12 00 07.5	-0.1
JTS				S	Sg	12 00 15.8	+0.5
SOCE	**Pocosol**	**0.76**	**27**	P	Pg	12 00 11.3	+0.3
SOCE	**Pocosol**	**0.76**	**27**	S	Sg	12 00 21.9	+1.0
LCR2	**La Lucha 2**	**0.95**	**87**	P	Pg	12 00 14.5	0.0
ELI1	**Hacienda Flor**	**1.10**	**329**	P	Pg	12 00 17.3	-0.1
ROCN	**Rota Cerro Neg**	**3.30**	**328**	P	Pn	12 00 49.6	+0.7

IDC 22 12:17:02.5±966.0, 53°.18N×41°.62E, h0km, Error ellipse: s-maj=376.8km s-min=95.1km az=143.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.36**	**326**	I	I	12 43 50.0	
	0.1nm,0.6s,baz=143,slow=322,SNR=4.6						
I26DE	**FREYUNG INFRAS**	**18.02**	**267**	I	I	14 04 00.0	
	baz=65,slow=320,SNR=1.1						
I37NO	**I37NO**	**19.21**	**335**	I	I	14 15 00.0	
	baz=132,slow=325,SNR=1.0						

*NOU **22** 12:27:01.1, 40°.76S×176°.84E, h28km, MLv3.5/10, North Island, New Zealand*

*WEL **22** 12:27:01.6±0.8, 41°.5S±°×17°.7E±°, h26km±6km, M3.4/19, ML3.7/19, MLv3.4/19, Error ellipse: s-maj=8.5km s-min=4.5km az=124.4, confirmed*

ISC 22 12:27:00.6±1.6, 40°.81S±0°.04×176°.88E±0°.05, h32km±15km, n91, σ1§12/96, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.47**	**319**	P	**Pn**	**12 27 11.4**	**+0.5**
ANWZ				S	**Sn**	**12 27 18.5**	**+0.3**
BFZ	**Birch Farm**	**0.50**	**285**	P	**Pn**	**12 27 12.0**	**+0.6**
BFZ	**Birch Farm**	**0.50**	**285**	S	**Sn**	**12 27 19.6**	**+0.7**
BFZ	**Birch Farm**	**0.50**	**285**	P	**Pn**	**12 27 12.2**	**+0.8**
BFZ				S	**Sn**	**12 27 19.4**	**+0.5**
CPWZ	**Castlepoint**	**0.52**	**259**	P	**Pn**	**12 27 13.4**	**+1.6**
PGFS	**Porangahau Fir**	**0.55**	**338**	P	**Pn**	**12 27 12.7**	**+0.6**
PGFS				S	**Sn**	**12 27 20.6**	**+0.5**
PRHZ	**Porangahau**	**0.58**	**341**	P	**Pn**	**12 27 13.2**	**+0.7**
PRHZ				S	**Sn**	**12 27 21.4**	**+0.5**
TRMS	**Tiraumea**	**0.69**	**281**	P	**Pn**	**12 27 14.8**	**+0.8**
PRWZ	**Pori Road**	**0.74**	**290**	P	**Pn**	**12 27 15.8**	**+1.0**
DVHZ	**Dannevirke**	**0.75**	**313**	P	**Pn**	**12 27 15.5**	**+0.7**
DVHZ				S	**Sn**	**12 27 24.9**	**-0.2**
TIWZ	**Tintock**	**0.76**	**272**	P	**Pn**	**12 27 15.9**	**+0.9**
PXZ	**Pawanui**	**0.78**	**359**	P	**Pn**	**12 27 16.3**	**+1.0**
TMWZ	**Te Maipa**	**0.81**	**248**	P	**Pn**	**12 27 16.7**	**+1.1**
WPHZ	**Waipukurau**	**0.82**	**336**	P	**Pn**	**12 27 16.8**	**+0.9**
POWZ	**Post Office Ro**	**0.94**	**296**	P	**Pb**	**12 27 18.7**	**+0.3**
MRZ	**Mangatainoka R**	**1.00**	**278**	P	**Pb**	**12 27 19.2**	**-0.2**
KAHZ	**Kahuranaki**	**1.02**	**360**	P	**Pb**	**12 27 19.7**	**0.0**
TSZ	**Takapari Road**	**1.03**	**317**	P	**Pb**	**12 27 19.8**	**-0.1**
PNHZ	**Pukenui**	**1.04**	**330**	P	**Pb**	**12 27 20.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.04**	**265**	P	**Pn**	**12 27 19.7**	**+0.9**
TRWZ	**Traveller**	**1.07**	**237**	P	**Pn**	**12 27 20.2**	**+0.9**
MTW	**Mount Morrison**	**1.10**	**251**	P	**Pn**	**12 27 20.5**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.16**	**8**	P	**Pn**	**12 27 21.6**	**+1.0**
KRHZ	**Kereru**	**1.23**	**341**	P	**Pb**	**12 27 22.8**	**-0.5**
PAWZ	**Paruwai Farm**	**1.24**	**242**	P	**Pn**	**12 27 22.4**	**+0.8**
OGWZ	**Otaki Gorge**	**1.30**	**269**	P	**Pn**	**12 27 23.5**	**+1.1**
MSWZ	**Moikau Station**	**1.37**	**243**	P	**Pn**	**12 27 24.0**	**+0.5**
MCHZ	**McNeill Hill**	**1.37**	**354**	P	**Pb**	**12 27 25.0**	**-0.7**
CAW	**Cannon Point**	**1.40**	**257**	P	**Pn**	**12 27 24.8**	**+0.9**
KWHZ	**Kaweka Forest**	**1.43**	**346**	P	**Pb**	**12 27 25.9**	**-0.7**
PLWZ	**Palliser**	**1.44**	**238**	P	**Pn**	**12 27 24.6**	**+0.1**
KIW	**Kapiti Island**	**1.50**	**267**	P	**Pn**	**12 27 26.5**	**+1.3**
ARHZ	**Aropaoanui**	**1.55**	**3**	P	**Pb**	**12 27 28.1**	**-0.5**
BHW	**Baring Head**	**1.63**	**248**	P	**Pn**	**12 27 27.6**	**+0.6**
MOVZ	**Moawhango**	**1.65**	**328**	P	**Pb**	**12 27 29.3**	**-1.0**
BKZ	**Black Stump Fm**	**1.67**	**350**	P	**Pn**	**12 27 28.8**	**+1.2**
BKZ	**Black Stump Fm**	**1.67**	**350**	S	**Sn**	**12 27 47.9**	**0.0**
BKZ	**Black Stump Fm**	**1.67**	**350**	P	**Pn**	**12 27 26.6**	**-1.0**
NMHZ	**Naumai**	**1.71**	**358**	P	**Pn**	**12 27 29.6**	**+1.4**
SNZO	**South Karori**	**1.72**	**252**	P	**Pn**	**12 27 28.9**	**+0.7**
WNVZ	**Wahianoa**	**1.78**	**326**	P	**Pb**	**12 27 31.9**	**-0.7**
MTVZ	**Mangateitei**	**1.79**	**322**	P	**Pb**	**12 27 32.2**	**-0.6**
WAZ	**Wanganui**	**1.79**	**305**	P	**Pb**	**12 27 32.2**	**-0.5**
TUVZ	**Tukino**	**1.81**	**328**	P	**Pb**	**12 27 32.3**	**-0.8**
WHVZ	**Whangaehu Hut**	**1.82**	**327**	P	**Pb**	**12 27 32.7**	**-0.6**
MHGZ	**Mahia Peninsul**	**1.84**	**26**	P	**Pn**	**12 27 30.3**	**+0.4**
MAVZ	**Matarangi**	**1.84**	**326**	P	**Pb**	**12 27 33.0**	**-0.8**
FWVZ	**Far West T-bar**	**1.86**	**326**	P	**Pb**	**12 27 33.1**	**-1.0**
SNVZ	**South Ngauruho**	**1.88**	**329**	P	**Pb**	**12 27 33.3**	**-1.0**
KNZ	**Kokohu**	**1.89**	**19**	P	**Pn**	**12 27 30.8**	**+0.3**
ETVZ	**East Tongariro**	**1.90**	**331**	P	**Pb**	**12 27 33.3**	**-1.4**
RAHZ	**Arahi**	**1.90**	**5**	P	**Pn**	**12 27 31.2**	**+0.5**
NGZ	**Ngauruhoe**	**1.91**	**329**	P	**Pb**	**12 27 33.7**	**-1.1**
COVZ	**Chateau Observ**	**1.91**	**327**	P	**Pb**	**12 27 33.9**	**-0.9**
TMVZ	**Te Maari**	**1.92**	**332**	P	**Pb**	**12 27 33.5**	**-1.5**
NNVZ	**North Ngauruho**	**1.94**	**330**	P	**Pb**	**12 27 34.0**	**-1.3**
MTHZ	**Maungataniwha**	**1.96**	**359**	P	**Pn**	**12 27 32.5**	**+1.0**
KRVZ	**Karewarewa**	**1.96**	**331**	P	**Pb**	**12 27 34.7**	**-1.0**
WTVZ	**West Tongariro**	**1.96**	**329**	P	**Pb**	**12 27 34.3**	**-1.4**
MRHZ	**Matea Rd**	**2.01**	**350**	P	**Pn**	**12 27 34.0**	**+1.8**
TCW	**Tory Channel**	**2.01**	**258**	P	**Pn**	**12 27 32.9**	**+0.7**
PRGZ	**Paritu Road**	**2.04**	**23**	P	**Pn**	**12 27 33.1**	**+0.5**
RATZ	**Rangitukua**	**2.12**	**336**	P	**Pb**	**12 27 37.0**	**-1.4**
DUWZ	**D'Urville Isla**	**2.25**	**269**	P	**Pn**	**12 27 37.2**	**+1.8**
TUWZ	**Tuamarina**	**2.30**	**253**	P	**Pn**	**12 27 37.0**	**+0.8**
LREZ	**Lake Rotokare**	**2.33**	**305**	P	**Pb**	**12 27 40.3**	**-1.5**
PRRZ	**Plateau Road**	**2.34**	**351**	P	**Pn**	**12 27 38.2**	**+1.4**
VRZ	**Vera Road**	**2.34**	**315**	P	**Pb**	**12 27 39.6**	**-2.5**
BSWZ	**Blackbirch Sta**	**2.44**	**247**	P	**Pn**	**12 27 38.5**	**+0.5**
PREZ	**Palmer Road**	**2.55**	**304**	P	**Pb**	**12 27 43.5**	**-2.2**
URZ	**Urewera**	**2.56**	**4**	P	**Pn**	**12 27 40.0**	**+0.3**
URZ	**Urewera**	**2.56**	**4**	S	**Sn**	**12 28 08.6**	**-1.1**
URZ	**Urewera**	**2.56**	**4**	P	**Pn**	**12 27 40.2**	**+0.5**
NEZ	**North Egmont**	**2.63**	**305**	P	**Pb**	**12 27 44.3**	**-2.8**
NNZ	**Nelson**	**2.68**	**260**	P	**Pn**	**12 27 42.6**	**+1.2**
PKE	**Pukeiti**	**2.75**	**305**	P	**Pb**	**12 27 46.4**	**-2.6**
HIZ	**Hauiti**	**2.78**	**325**	P	**Pn**	**12 27 43.8**	**+1.0**
RUGZ	**Raukumara Rang**	**2.91**	**13**	P	**Pn**	**12 27 46.6**	**+1.9**
KHZ	**Kahutara**	**2.97**	**236**	P	**Pn**	**12 27 45.2**	**-0.2**
KHZ	**Kahutara**	**2.97**	**236**	P	**Pn**	**12 27 45.3**	**-0.2**
TKNZ	**Takaka Hill**	**2.98**	**264**	P	**Pn**	**12 27 47.2**	**+1.7**
PKGZ	**Pakihiroa**	**3.08**	**18**	P	**Pn**	**12 27 47.2**	**+0.2**
THZ	**Tophouse**	**3.14**	**251**	P	**Pn**	**12 27 48.0**	**+0.2**
MRNZ	**Matariki Terra**	**3.17**	**258**	P	**Pn**	**12 27 49.2**	**+1.0**
QRZ	**Quartz Range**	**3.30**	**268**	P	**Pn**	**12 27 51.3**	**+1.3**
QRZ	**Quartz Range**	**3.30**	**268**	P	**Pn**	**12 27 51.0**	**+1.0**
MKAZ	**Moumakai**	**3.94**	**340**	P	**Pn**	**12 27 59.8**	**+1.1**
ETAZ	**East Tamaki Re**	**4.14**	**338**	P	**Pn**	**12 28 03.8**	**+2.2**
AKCZ	**Akaroa Harbour**	**4.24**	**223**	P	**Pn**	**12 28 04.4**	**+1.4**
MQZ	**McQueen's Vall**	**4.27**	**226**	P	**Pn**	**12 28 02.6**	**-0.6**
CTZ	**Chatham Island**	**5.64**	**123**	P	**Pn**	**12 28 24.9**	**+2.8**

*JMA **22** 12:39:57.5±0.2, 30°.N±1°×14°.0E±°, h411km, MV3.9/17, NEAR TORISHIMA IS*

*IDC **22** 12:39:58.2±0.6, 29°.95N×139°.23E, h378km±6km, mb3.4/19, mbtmpa4.2/27, Error ellipse: s-maj=14.4km s-min=8.5km az=68.0*

*NEIC **22** 12:39:58.8±1.3, 29°.96N±0°.10×139°.4E±0°.1, h388km±8km, mb4.1/17, Error ellipse: s-maj=16.8km s-min=13.5km az=62.0*

ISC 22 12:39:58.8±0.5, 29°.93N±0°.05×139°.33E±0°.07, h388km, n72, σ1§09/82, mb4.0/32, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.20**	**7**	Pn	**Pn**	**12 41 02.5**	**-0.1**
JHJ2	**Mitsune**	**3.20**	**7**	P	**Pn**	**12 41 03.4**	**+0.7**
JHJ	**Hachijo jima 2**	**3.20**	**7**	P	**Pn**	**12 41 01.4**	**-1.3**
	98nm,0.8s,baz=225,slow=7.1,SNR=11						
JHJ				S	**S**	**12 41 53.6**	**-0.8**
	64nm,0.3s,baz=64,slow=23,SNR=7.6						
CBIJ	**Chichi jima**	**3.78**	**138**	P	**Pn**	**12 41 07.8**	**-0.3**
CBIJ				*eS*	**S**	**12 42 02.1**	**-2.1**
JCJ	**Chichijima**	**3.78**	**138**		**Pn**	**12 41 07.5**	**-0.7**
JCJ	**Chichijima**	**3.78**	**138**	P	**Pn**	**12 41 07.6**	**-0.6**
	384nm,0.4s,baz=286,slow=15,SNR=250						
JCJ				S	**S**	**12 42 01.9**	**-2.3**
	350nm,0.4s,baz=315,slow=21,SNR=15						
BSO1	**Boso 1**	**4.91**	**16**	P	**Pn**	**12 41 18.9**	**+0.2**
BSO1				*eS*	**S**	**12 42 22.6**	**-1.0**
BSO3	**Boso 3**	**4.96**	**11**	P	**Pn**	**12 41 19.4**	**0.0**
BSO3				*eS*	**S**	**12 42 22.5**	**-2.4**
**JI

G31M					IAmb	IAmb	12 50 13.5		
	comp=Z,6.4nm,1.3s								
INK	**Inuvik**	**61.52**	**25**	P	**P**		**12 49 36.6**	**+1.0**	
INK					IAmb	IAmb	12 49 37.9		
	comp=Z,5.7nm,1.3s								
SPITS	**Spitsbergen Ar**	**67.14**	**349**	P	**P**		**12 50 12.4**	**+0.8**	
	comp=Z,3.2nm,1.0s,baz=120,slow=5.8,SNR=1.2								
	comp=Z,3.2nm,1.0s								
ARCES	**ARCESS Array B**	**70.04**	**340**	P	**P**		**12 50 29.6**	**+0.2**	
	comp=Z,2.0nm,0.5s,baz=71,slow=8.9,SNR=24								
	comp=Z,2.0nm,0.5s								
KBZ	**Khabaz**	**74.25**	**312**	P	**P**		**12 50 54.8**	**+0.3**	
	comp=Z,2.9nm,0.6s,baz=112,slow=3.2,SNR=5.7								
	comp=Z,2.9nm,0.6s								
FINES	**FINESS Array B**	**74.29**	**333**	P	**P**		**12 50 54.0**	**-0.4**	
	comp=Z,2.2nm,0.4s,baz=71,slow=5.1,SNR=21								
	comp=Z,2.2nm,0.4s								
AKASG	**Malin Array Be**	**78.85**	**323**	P	**P**		**12 51 19.2**	**-0.6**	
	comp=Z,1.2nm,0.3s,baz=54,slow=5.3,SNR=6.2								
	comp=Z,1.2nm,0.3s								
HFS	**Hagfors**	**79.82**	**336**	P	**P**		**12 51 24.5**	**-0.4**	
	comp=Z,2.8nm,0.4s,baz=103,slow=4.7,SNR=18								
	comp=Z,2.8nm,0.4s								
NB2	**NORSAR Subarra**	**80.04**	**337**	P	**P**		**12 51 25.8**	**-0.3**	
	comp=Z,0.7nm,0.4s,baz=45,slow=4.8								
NOA	**NORSAR Array B**	**80.04**	**337**	P	**P**		**12 51 25.9**	**-0.3**	
	comp=Z,1.3nm,0.5s,baz=44,slow=5.3,SNR=6.5								
	comp=Z,1.3nm,0.5s								
NVAR	**Mina Array Bea**	**80.72**	**51**	P	**P**		**12 51 32.3**	**+1.9**	
	comp=Z,0.5nm,0.7s,baz=289,slow=6.1,SNR=5.0								
	comp=Z,0.5nm,0.7s								
BRTR	**Keskin Array B**	**82.24**	**311**	P	**P**		**12 51 38.2**	**+0.1**	
	comp=Z,3.0nm,0.8s,baz=114,slow=3.0,SNR=6.9								
	comp=Z,3.0nm,0.8s								
BUR08	**Bucovina Ar. S**	**82.77**	**322**	IAmb	IAmb		12 51 41.4		
	comp=Z,2.4nm,0.7s								
PDAR	**Pinedale Array**	**83.94**	**44**	P	**P**		**12 51 47.8**	**+1.0**	
	comp=Z,0.1nm,0.4s,baz=310,slow=4.2,SNR=2.0								
	comp=Z,0.1nm,0.4s								
MSU	**Marysvale**	**84.73**	**48**	P	**P**		**12 51 48.7**	**-2.1**	
GERES	**GERESS Array B**	**87.78**	**327**	P	**P**		**12 52 04.5**	**-0.6**	
	comp=Z,4.1nm,0.4s,baz=25,slow=6.2,SNR=3.9								
TXAR	**Lajitas Array**	**95.87**	**51**	P	**P**		**12 52 43.6**	**+0.9**	
	comp=Z,0.2nm,0.5s,baz=309,slow=4.8,SNR=3.8								
	comp=Z,0.2nm,0.5s								

NEIC ***22*** *12:45:13.5±1.6,6.9S±0.1×125.0E±0.1,h522km±15km, mb4.2/10, Error ellipse: s-maj=24.1km s-min=12.9km az=127.0*
IDC ***22*** *12:45:15.1±7.0,7.1°S×125.4°E,h505km±52km,mb3.3/1, mbtmp4.0/5, Error ellipse: s-maj=116.3km s-min=98.9km az=112.0*

ISC 22 12:45:12.6±0.9,6.9S±0.1×124.9E±0.1,h543km,n22, σ1§78/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**2.88**	**192**	P	**P**	**12 46 26.0**	**-0.6**
SOEI				S	**S**	**12 47 20.6**	**-6.0**
MMRI	**Maumere**	**3.12**	**237**	P	**P**	**12 46 27.6**	**-0.3**
BATI	**Baumata**	**3.48**	**200**	P	**P**	**12 46 30.6**	**+0.3**
	24nm,0.3s,baz=102,slow=2.3,SNR=4.8						
BATI				S	**S**	**12 47 31.7**	**-1.9**
	12nm,0.4s,baz=250,slow=20,SNR=1.6						
FAKI	**Fak Fak**	**8.36**	**62**	P	**P**	**12 47 12.6**	**-1.3**
TOLI2	**Tolitoli**	**8.95**	**333**	P	**P**	**12 47 20.1**	**+0.3**
KNRA	**Kununurra**	**9.51**	**157**	P	**P**	**12 47 24.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.14**	**176**	P	**P**	**12 47 42.3**	**0.0**
FITZ	**Fitzroy Crossi**	**11.14**	**176**	P	**P**	**12 47 42.2**	**-0.1**
	1.8nm,0.3s,baz=1.4,slow=8.8,SNR=55						
PSA00	**Pilbara Seismi**	**15.36**	**198**	P	**P**	**12 48 27.6**	**+1.6**
PSA00				IAmb	IAmb	12 48 41.6	
	comp=Z,7.3nm,0.9s						
WB0	**Warramunga Arr**	**15.78**	**145**	P	**P**	**12 48 29.1**	**-1.1**
WB0				IAmb	IAmb	12 49 06.1	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**15.88**	**145**	P	**P**	**12 48 30.5**	**-0.8**
WRAB				IAmb	IAmb	12 48 59.5	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**15.88**	**146**	P	**P**	**12 48 29.5**	**-1.8**
WRA	**Warramunga Arr**	**15.88**	**146**	P	**P**	**12 48 30.0**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=325,slow=11,SNR=22						
WR8	**Warramunga Arr**	**15.98**	**145**	P	**P**	**12 48 31.1**	**-1.2**
WR8				IAmb	IAmb	12 48 32.9	
	comp=Z,4.6nm,0.6s						
AS31	**Alice Springs**	**18.79**	**153**	P	**P**	**12 48 59.2**	**+1.1**
ASAR	**Alice Springs**	**18.79**	**153**	P	**P**	**12 48 59.5**	**+1.4**
ASAR	**Alice Springs**	**18.79**	**153**	P	**P**	**12 48 59.3**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=331,slow=8.9,SNR=32						
COEN	**Coen**	**19.31**	**113**	P	**P**	**12 49 04.0**	**+1.0**
BBOO	**Buckleboo**	**27.79**	**159**	P	**P**	**12 50 17.4**	**-0.9**
STKA	**Stephens Creek**	**29.34**	**150**	P	**P**	**12 50 32.9**	**+1.2**
STKA	**Stephens Creek**	**29.34**	**150**	P	**P**	**12 50 32.3**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=329,slow=7.7,SNR=4.4						
	comp=Z,2.2nm,0.6s						
VNDA	**Vanda**	**73.19**	**172**	P	**P**	**12 55 50.1**	**+2.2**
VNDA				IAmb	IAmb	12 55 56.9	
	comp=Z,4.3nm,1.4s						

ISK ***22*** *13:12:26.5,36.17N×27.64E,h5km,ML3.3/15*
AFAD ***22*** *13:12:27.6,36.19N×27.65E,h14km±2km, MW3.5*
ATH ***22*** *13:12:28.0,36.18N×27.67E,h6km±1km,ML3.1/6,Manual Solution by S.Koutrakis First location: 2019/08/22 13:13:52, This location: 2019/08/22 13:17:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
THE ***22*** *13:12:28.0,36°N±2°×2°8E±°,h0km±9km,M3.0/7,MLh3.0/7*

ISC 22 13:12:27.9±1.0,36.19N±0.02×27.66E±0.02,h7km±9km, n55,σ0§78/94, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.38**	**86**	Pg	**Pg**	**13 12 34.9**	**-0.5**
ARG				Sg	**Sg**	**13 12 40.7**	**+0.3**
ARG	**Arkhangelos**	**0.38**	**86**	P	**Pg**	**13 12 35.2**	**-0.2**
ARG				S	**Sg**	**13 12 40.8**	**+0.4**
ARG	**Arkhangelos**	**0.38**	**86**	P	**Pg**	**13 12 35.1**	**-0.2**
ARG				S	**Sg**	**13 12 40.6**	**+0.3**
YAZI	**Mula-Dat§a-**	**0.51**	**342**	P	**Pg**	**13 12 37.4**	**-0.4**
YAZI				S	**Sg**	**13 12 45.1**	**+0.5**
YAZI				*i*	IAML	13 12 51.0	
	comp=E,640nm,0.3s						
DAT	**Datca**	**0.54**	**353**	Pg	**Pg**	**13 12 37.8**	**-0.6**
DAT				Sg	**Sg**	**13 12 46.2**	**+0.7**
DAT	**Datca**	**0.54**	**353**	P	**Pg**	**13 12 38.0**	**-0.4**
DAT				S	**Sb**	**13 12 47.0**	**-0.8**
NISR	**Nisiros**	**0.60**	**315**	P	**Pg**	**13 12 39.6**	**+0.1**
NISR				S	**Sb**	**13 12 49.4**	**+0.1**
NISR	**Nisiros**	**0.60**	**315**	P	**Pg**	**13 12 39.8**	**+0.3**
NISR				S	**Sg**	**13 12 48.0**	**+0.8**
TURN	**Turunc**	**0.75**	**39**	P	**Pg**	**13 12 42.3**	**0.0**
TURN				S	**Sg**	**13 12 52.6**	**+0.5**
TURN				*i*	IAML	13 12 56.0	
	comp=N,877nm,0.2s						
KARP	**Karpathos**	**0.76**	**212**	Pg	**Pg**	**13 12 41.1**	**-1.4**
KARP				Sg	**Sg**	**13 12 51.7**	**-0.7**
KARP	**Karpathos**	**0.76**	**212**	P	**Pg**	**13 12 42.2**	**-0.3**
KARP				S	**Sb**	**13 12 55.0**	**+1.0**
KARP	**Karpathos**	**0.76**	**212**	P	**Pg**	**13 12 42.7**	**+0.2**
KARP				S	**Sg**	**13 12 52.8**	**+0.4**
BDRM	**Kayabasi**	**0.89**	**349**	P	**Pg**	**13 12 44.3**	**-0.7**
BDRM				S	**Sb**	**13 12 57.5**	**-0.2**
BDRM				*i*	IAML	13 13 00.0	
	comp=E,1μm,0.4s						
YKAV	**Yalikavak-Bodr**	**0.98**	**342**	Pg	**Pg**	**13 12 46.1**	**-0.6**
MULA	**Mugla, Merkez-**	**1.19**	**27**	P	**Pb**	**13 12 50.9**	**+0.1**
MULA				S	**Sb**	**13 13 06.8**	**+0.3**
MULA				*i*	IAML	13 13 11.0	
	comp=N,281nm,0.7s						
SABU	**Mula-Dalaman**	**1.23**	**59**	P	**Pg**	**13 12 50.8**	**-0.8**
SABU				S	**Sg**	**13 13 06.1**	**-1.4**
SABU				*i*	IAML	13 13 17.0	
	comp=E,291nm,1.0s						
IZZE	**Mula-Seydike**	**1.29**	**79**	P	**Pg**	**13 12 52.7**	**0.0**
IZZE				S	**Sg**	**13 13 08.8**	**-0.7**
IZZE				*i*	IAML	13 13 16.0	
	comp=N,990nm,0.3s						
DDIM	**Aydin, Didim**	**1.30**	**345**	P	**Pn**	**13 12 51.8**	**-0.7**
DDIM				S	**Sn**	**13 13 11.1**	**+0.9**
DDIM				*i*	IAML	13 13 15.0	
	comp=N,427nm,0.8s						

AYDN	**Tasoluk**	**1.48**	**7**	P		**Pn**	**13 12 54.4**	**-0.5**	
AYDN				S		**Sn**	**13 13 13.0**	**-1.5**	
AYDN				*i*	IAML		13 13 20.0		
	comp=E,236nm,0.5s								
CAME	**Cameli-Denizli**	**1.52**	**60**	Pn		**Pn**	**13 12 55.3**	**-0.4**	
CAME				Sn		**Sb**	**13 13 16.5**	**+0.4**	
GCAM	**G?zelcaml?**	**1.54**	**347**	P		**Pn**	**13 12 55.9**	**+0.1**	
GCAM				S		**Sb**	**13 13 16.9**	**+0.4**	
GCAM				*i*	IAML		13 13 24.0		
	comp=E,220nm,0.5s								
KSL	**Kastellorizon**	**1.56**	**91**	P		**Pb**	**13 12 56.9**	**-0.2**	
KSL				S		**Sg**	**13 13 18.1**	**0.0**	
KSL	**Kastellorizon**	**1.56**	**91**	P		**Pb**	**13 12 56.9**	**-0.2**	
KSL				S		**Sn**	**13 13 16.7**	**+0.2**	
ZKR	**Zakros**	**1.59**	**228**	Pn		**Pn**	**13 12 55.7**	**-0.8**	
ZKR	**Zakros**	**1.59**	**228**	P		**Pn**	**13 12 57.0**	**+0.5**	
ZKR	**Zakros**	**1.59**	**228**	P		**Pb**	**13 12 57.4**	**-0.2**	
ZKR				S		**Sn**	**13 13 17.6**	**+0.4**	
TAVA	**DENIZLI_Tavas**	**1.62**	**38**	P		**Pb**	**13 12 58.2**	**0.0**	
TAVA				S		**Sg**	**13 13 19.8**	**-0.3**	
TAVA				*i*	IAML		13 13 24.0		
	comp=E,174nm,0.8s								
CAEL	**Denizli, Camel**	**1.63**	**55**	P		**Pb**	**13 12 58.8**	**+0.4**	
CAEL				S		**Sg**	**13 13 21.5**	**+1.2**	
CAEL				*i*	IAML		13 13 28.0		
	comp=E,732nm,0.4s								
SMG	**Samos**	**1.65**	**337**	P		**Pn**	**13 12 55.0**	**-2.3**	
SMG				S		**Sg**	**13 13 22.4**	**+1.5**	
SMG	**Samos**	**1.65**	**337**	P		**Pn**	**13 12 58.0**	**+0.7**	
SMG				S		**Sn**	**13 13 19.1**	**+0.4**	
KNIK	**Mula-Seydike**	**1.68**	**67**	P		**Pg**	**13 12 59.7**	**-0.4**	
KNIK				S		**Sg**	**13 13 21.9**	**+0.1**	
KNIK				*i*	IAML		13 13 24.0		
	comp=E,158nm,0.5s								
ESEN	**Aydn-Nazilli**	**1.70**	**19**	P		**Pn**	**13 12 57.6**	**-0.3**	
ESEN				S		**Sn**	**13 13 19.2**	**-0.6**	
ESEN				*i*	IAML		13 13 27.0		
	comp=E,142nm,0.4s								
AYDB	**Zeytinkoy-Aydi**	**1.76**	**6**	Pn		**Pn**	**13 12 58.8**	**-0.1**	
THERA	**Ancient Thera,**	**1.77**	**276**	P		**Pn**	**13 12 59.6**	**+0.7**	
DNIZ	**Denizli-Tavas-**	**1.81**	**37**	P		**Pb**	**13 13 01.5**	**+0.1**	
DNIZ				S		**Sb**	**13 13 25.1**	**+0.8**	
DNIZ				*i*	IAML		13 13 30.0		
	comp=E,764nm,0.4s								
APMY	**Acipayam-Deniz**	**1.84**	**45**	Pn		**Pn**	**13 13 00.7**	**+0.8**	
NAZL	**Nazilli-Aydin**	**1.84**	**16**	Pn		**Pn**	**13 13 00.0**	**+0.1**	
GOLH	**Golhisar**	**1.85**	**55**	P		**Pb**	**13 13 02.5**	**+0.4**	
GOLH				S		**Sg**	**13 13 27.9**	**+0.5**	
GOLH				*i*	IAML		13 13 31.0		
	comp=N,484nm,0.6s								
NPS	**Neapolis**	**1.90**	**241**	P		**Pn**	**13 13 01.6**	**+0.8**	
IZMR	**zmir-demi**	**1.96**	**7**	P		**Pn**	**13 13 02.4**	**+1.0**	
IZMR				S		**Sb**	**13 13 29.5**	**+1.1**	
IZMR				*i*	IAML		13 13 40.0		
	comp=N,90nm,0.8s								
DGB	**zmir**	**1.96**	**342**	P		**Pn**	**13 12 59.8**	**-1.7**	
DGB				S		**Sb**	**13 13 29.1**	**+0.7**	
DGB				*i*	IAML		13 13 36.0		
	comp=E,53nm,0.6s								
KIRA	**zmir-Kiraz**	**2.09**	**16**	P		**Pb**	**13 13 05.1**	**-1.1**	
KIRA				S		**Sg**	**13 13 36.2**	**+1.2**	
KIRA				*i*	IAML		13 13 44.0		
	comp=N,90nm,0.5s								
ODEM	**Odemis-Izmir**	**2.11**	**9**	Pn		**Pn**	**13 13 03.8**	**+0.2**	
INCE	**Denizli-Bozkur**	**2.16**	**45**	P		**Pn**	**13 13 05.7**	**+1.3**	
INCE				S		**Sn**	**13 13 32.7**	**+1.3**	
INCE				*i*	IAML		13 13 41.0		
	comp=E,122nm,0.5s								
BLCB	**Balcova**	**2.24**	**348**	Pn		**Pn**	**13 13 05.5**	**+0.1**	
URLA	**Izmir**	**2.32**	**339**	P		**Pn**	**13 13 04.1**	**-2.5**	
URLA				S		**Sg**	**13 13 42.3**	**-0.2**	
URLA				*i*	IAML		13 13 51.0		
	comp=N,148nm,1.2s								
MANT	**Manisa**	**2.40**	**17**	P		**Pb**	**13 13 12.6**	**+0.9**	
MANT				S		**Sb**	**13 13 40.3**	**-1.3**	
IDI	**Anoyia**	**2.42**	**249**	Pn		**Pn**	**13 13 07.3**	**-0.7**	
IDI	**Anoyia**	**2.42**	**249**	P		**Pn**	**13 13 07.8**	**-0.1**	
IDI	**Anoyia**	**2.42**	**249**	P		**Pn**	**13 13 08.0**	**0.0**	
BRDR	**BURDUR-Merkez**	**2.44**	**51**	P		**Pb**	**13 13 11.4**	**-0.8**	
BRDR				S		**Sb**	**13 13 42.6**	**+0.1**	
BRDR				*i*	IAML		13 13 57.0		
	comp=E,69nm,0.6s								
KULA	**Kula-Manisa**	**2.45**	**19**	Pn		**Pn**	**13 13 08.6**	**+0.2**	
BASM	**Basmaki-Afyon**	**2.58**	**47**	Pn		**Pn**	**13 13 10.6**	**+0.5**	
PASA	**Karahalli, USA**	**2.60**	**34**	P		**Pn**	**13 13 11.2**	**+0.8**	
PASA				S		**Sn**	**13 13 41.0**	**-1.3**	
PASA				*i*	IAML		13 14 02.0		
	comp=E,31nm,0.5s								
GORD	**Gordes-Manisa**	**2.74**	**9**	Pn		**Pn**	**13 13 12.7**	**+0.3**	

NEIC ***22*** *13:30:36.2±0.7,38.17N±0.01×117.88W±0.02,h10km, Error ellipse: s-maj=2.8km s-min=2.0km az=33.0*

REN 22 13:30:36.2±0.7,38.15N±0.01×117.88W±0.02,h9km±8km, ML2.5/8,ML2.3/58(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=222.0, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NV11	**Mina Array Sit**	**0.35**	**323**		Pg	13 30 43.0	-0.1
NV11					Sg	13 30 48.1	+0.2
NV11	**Mina Array Sit**	**0.35**	**323**	IAML		13 30 48.9	
	comp=E,109nm,0.2s						
NV11				IAML		13 30 48.9	
	comp=N,206nm,0.2s						
NV08	**Mina Array Sit**	**0.42**	**306**		Pg	13 30 44.5	-0.1
NVAR	**Mina Array Bea**	**0.43**	**310**		Pg	13 30 44.5	-0.2
NV09	**Mina Array Sit**	**0.45**	**309**		Pg	13 30 45.0	0.0
LHV	**Little Huntoon**	**0.50**	**282**		Pg	13 30 46.1	+0.2
LHV					Sg	13 30 53.1	+0.7
LHV	**Little Huntoon**	**0.50**	**282**	IAML		13 30 53.9	
	comp=N,309nm,0.6s						
LHV				IAML		13 30 54.4	
	comp=E,266nm,0.4s						
TPH	**Tonopah**	**0.53**	**98**		Pg	13 30 46.4	0.0
TPH					Sg	13 30 53.9	+0.5
TPH	**Tonopah**	**0.53**	**98**	IAML		13 30 54.1	
	comp=N,363nm,0.4s						
TPH				IAML		13 30 54.1	
	comp=E,180nm,0.3s						
MZP	**Montezuma Peak**	**0.60**	**139**		Pg	13 30 47.9	0.0
MZP					Sg	13 30 56.1	+0.4
MZP	**Montezuma Peak**	**0.60**	**139**	IAML		13 30 56.3	
	comp=E,92nm,0.3s						
MZP				IAML		13 30 56.3	
	comp=N,98nm,0.4s						
RYN	**Ryan**	**0.69**	**314**		Pg	13 30 49.4	-0.1
RYN					Sg	13 30 59.0	+0.4
RYN	**Ryan**	**0.69**	**314**	IAML		13 31 00.4	
	comp=N,118nm,0.2s						
RYN				IAML		13 31 03.5	
	comp=E,154nm,0.4s						
DSP	**Deep Springs**	**0.78**	**185**		Pg	13 30 51.3	0.0
DSP					Sg	13 31 01.9	+0.5
Q09A	**Carvers**	**0.88**	**39**		Pg	13 30 52.9	-0.2
Q09A					Sb	13 31 05.2	-0.3
Q09A	**Carvers**	**0.88**	**39**	IAML		13 31 10.8	
	comp=E,150nm,0.6s						
Q09A				IAML		13 31 10.9	
	comp=N,138nm,0.4s						
MLAC	**Mammoth, Mammo**	**0.92**	**236**		Pg	13 30 53.8	-0.1
MLAC					Sb	13 31 07.0	+0.2
LCH	**Last Change Ra**	**0.94**	**168**		Pg	13 30 54.1	-0.1
LCH					Sb	13 31 07.2	-0.1
MCBM	**Casa Benchmark**	**0.95**	**238**		Pg	13 30 54.3	-0.2
GMN	**Gold Mountain**	**0.98**	**150**		Pg	13 30 55.0	-0.1
GMN					Sg	13 31 08.0	0.0
GMN	**Gold Mountain**	**0.98**	**150**	IAML		13 31 11.9	
	comp=E,111nm,0.6s						
MDYM	**Dry Creek**	**1.02**	**241**		Pb	13 30 56.1	-0.1
MDYM					Sb	13 31 09.8	-0.1
MDPB	**Devils Postpil**	**1.08**	**242**		Pg	13 30 56.6	-0.3
MDPB					Sg	13 31 10.8	-0.1
MDPB	**Devils Postpil**	**1.08**	**242**	IAML		13 31 11.4	
	comp=N,67nm,0.5s						
MDPB				IAML		13 31 11.5	
	comp=E,46nm,0.2s						
TIN	**Tinemaha, Big**	**1.13**	**194**		Pn	13 30 58.3	+0.1
TIN					Sn	13 31 13.6	-0.4
TIN	**Tinemaha, Big**	**1.13**	**194**	IAML		13 31 17.2	
	comp=E,83nm,0.5s						
WAKR	**Walker**	**1.27**	**287**		Pn	13 30 59.9	-0.4
WAKR					Sg	13 31 17.2	+0.1

SGV	**South Grapevin**	**1.35**	**150**			Pn	13 31 01.1	-0.3	
SGV						Sg	13 31 19.9	+0.3	
KCC	**Kaiser Creek**	**1.41**	**234**			Pn	13 31 02.3	+0.2	
WCT	**Wildcat Mounta**	**1.69**	**143**			Pb	13 31 07.1	-0.3	
WCT	**Wildcat Mounta**	**1.69**	**143**	IAML			13 31 32.0		
	comp=N,26nm,0.3s								
WCT				IAML			13 31 33.0		
	comp=E,44nm,0.5s								
S11A	**Rachel**	**1.77**	**106**			Pb	13 31 09.0	+0.2	
TPNV	**Topopah Spring**	**1.77**	**132**			Pb	13 31 08.5	-0.4	
TPNV	**Topopah Spring**	**1.77**	**132**	IAML			13 31 43.5		
	comp=E,21nm,0.6s								
R11B	**Troy Canyon, C**	**1.82**	**83**			Pn	13 31 07.3	-0.6	
R11B				IAML			13 31 35.2		
	comp=E,28nm,0.2s								
FURC	**Furnace Creek,**	**1.87**	**154**			Pn	13 31 08.9	+0.6	
CPY	**CP-1**	**1.90**	**129**			Pb	13 31 10.7	-0.3	
PAHR	**Pah Rah Range**	**1.94**	**323**			Pb	13 31 10.8	-1.0	
PAHR	**Pah Rah Range**	**1.94**	**323**	IAML			13 31 38.3		
	comp=N,16nm,0.5s								
CMB	**Columbia Colle**	**1.98**	**267**			Pg	13 31 13.3	-0.8	
CMB				IAML			13 31 39.3		
	comp=N,18nm,0.5s								
CMB				IAML			13 31 40.3		
	comp=E,16nm,0.3s								
MPK	**Martis Peak**	**2.03**	**305**			Pb	13 31 13.6	+0.2	
MPK				IAML			13 31 43.8		
	comp=E,25nm,0.5s								
MPK				IAML			13 31 45.2		
	comp=N,16nm,0.5s								
MPMC	**Manual Prospec**	**2.11**	**171**			Pb	13 31 15.6	+0.8	
MPMC				IAML			13 31 45.3		
	comp=E,13nm,0.6s								
AMDNV	**Amargosa**	**2.12**	**143**			Pn	13 31 12.4	+0.6	
PEAR	**Peavine Mounta**	**2.18**	**313**			Pb	13 31 15.3	-0.6	
GWY	**Greenwater Val**	**2.19**	**153**			Pg	13 31 17.2	-1.0	
GWY				IAML			13 31 49.3		
	comp=N,18nm,0.4s								
GWY				IAML			13 31 49.6		
	comp=E,22nm,0.5s								
WELL	**Weller Preserv**	**2.25**	**278**	Pn		Pn	13 31 13.9	+0.2	
PRN	**Pahroc Range**	**2.37**	**107**			Pn	13 31 15.0	-0.3	
PRN				IAML			13 31 57.4		
	comp=E,24nm,0.7s								
SHPR	**Sheep Range**	**2.72**	**126**			Pg	13 31 27.5	-0.9	
SPR3	**Spring Creek 3**	**2.91**	**72**			Pg	13 31 30.4	-1.5	
SPR3				IAML			13 32 08.7		
	comp=E,8.6nm,0.6s								
SPR3				IAML			13 32 09.3		
	comp=N,12nm,0.2s								
ELK	**Elko**	**3.30**	**38**			Pn	13 31 28.2	0.0	

ASRS 22 14:11:46.3±0.2,50.0°N±2.2°×9.7°E±°,h10km,MLh3.8/15,1C, Error ellipse: s-maj=4.2km s-min=2.2km az=4.5, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**1.79**	**314**	Pg	Pb	14 12 19.7	+0.6
KZLR				Sg	Sg	14 12 45.6	+1.9
ARDR	**Aradan**	**2.85**	**319**	Pg	Pb	14 12 37.9	+0.6
ARDR				Sg	Sg	14 13 17.1	-0.7
MOY	**Mondy**	**3.06**	**66**	Pg	Pb	14 12 39.0	-1.8
MOY				Sg	Sb	14 13 20.9	+2.7
CERR	**Cheremushki**	**3.96**	**309**	Pg	Pb	14 12 58.8	+2.5
CERR				Sg	Sg	14 13 51.9	-1.6
DJO	**Djoy, Khakassi**	**4.02**	**307**	Pg	Pg	14 13 01.0	-2.3
DJO				Sg	Sg	14 13 53.1	-2.3
TEL	**Teeli**	**4.05**	**280**	Pn	Pn	14 12 48.9	+0.6
TEL				Sg	Sg	14 13 52.9	-3.4
ZAK	**Zakamensk**	**4.32**	**89**	Pg	Pb	14 13 05.4	+3.0
ZAK				Sg	Sg	14 14 01.6	-3.4
VEH	**Verkhnyaya Baz**	**4.74**	**308**	Pn	Pn	14 13 00.7	+2.8
VEH				Pg	Pb	14 13 12.9	+3.5
VEH				Sg	Sg	14 14 15.5	-2.8
CUR	**Chagan-Uzun**	**5.25**	**269**	Pn	Pn	14 13 05.6	+0.7
CUR				Pg	Pg	14 13 23.1	-3.8
CUR				Sg	Sg	14 14 29.7	-5.2
ULGR	**Ulagan, Altay**	**5.46**	**275**	Pg	Pg	14 13 27.7	-3.1
ULGR				Sg	Sg	14 14 37.8	-3.7
AKAR	**Aktash**	**5.70**	**272**	Pg	Pg	14 13 30.8	-4.5
AKAR				S	Sn	14 14 22.4	+5.9
AKAR				Sg	Sg	14 14 42.8	-6.2
YALR	**Yailyu, Altay**	**5.76**	**286**	Pg	Pg	14 13 32.9	-3.5
YALR				Sg	Sg	14 14 46.8	-4.1
CHBI	**Chibit, Altay**	**5.77**	**272**	Pg	Pb	14 13 30.4	+3.4
CHBI				S	Sn	14 14 18.

cutoff=50s. Triangular moment-rate function

ISC 22 14:33:15.4±0.5, 38.80S±0.08×91.25W±0.08, h10km, n109, σ2s 06/78, mb4.6/28, MS4.0/25, 4C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.10**	**67**	T	T	14 47 55.2	
	baz=238,slow=74,SNR=549						
H03S1	**Juan Fernandez**	**11.12**	**67**	T	T	14 47 53.8	
	baz=238,slow=74,SNR=363						
H03S3	**Juan Fernandez**	**11.12**	**67**	T	T	14 47 58.0	
	baz=238,slow=74,SNR=644						
H03N3	**Juan Fernandez**	**11.30**	**66**	T	T	14 48 09.4	
	baz=241,slow=72,SNR=696						
H03N2	**Juan Fernandez**	**11.30**	**66**	T	T	14 48 08.1	
	baz=241,slow=72,SNR=516						
H03N1	**Juan Fernandez**	**11.32**	**66**	T	T	14 48 08.5	
	baz=241,slow=72,SNR=1188						
LL01	**San Ignacio de**	**14.75**	**110**	Pn	**Pn**	**14 36 41.3**	**-2.7**
BI02	**San Fabin de**	**15.95**	**89**		**P**	**14 37 05.3**	**+1.7**
BI02				IAmb	IAmb	14 37 11.1	
	comp=Z,44nm,1.4s						
PLCA	**Paso Flores**	**16.03**	**103**	Pn	**Pn**	**14 36 59.8**	**-1.3**
PLCA	**Paso Flores**	**16.03**	**103**	Pn	**P**	**14 37 04.6**	**+0.1**
	baz=272,slow=12,SNR=4.6						
	comp=Z,1.8nm,1.1s						
PLCA	**Paso Flores**	**16.03**	**103**	*e*P	P	14 37 13.1	+8.7
BO01	**Tunca**	**16.77**	**81**		**P**	**14 37 15.8**	**+3.1**
MT09	**Talagante**	**17.08**	**79**	P	**P**	**14 37 18.2**	**+2.0**
MT09				IAmb	IAmb	14 37 22.9	
	comp=Z,90nm,1.5s						
VA06	**Catapilco**	**17.35**	**75**	Pn	**Pn**	**14 37 14.1**	**-3.6**
MT08	**Bocatoma Ro**	**17.95**	**79**	P	**Pn**	**14 37 25.5**	**+0.1**
CO02	**Combarbal**	**18.22**	**72**		**Pn**	**14 37 25.5**	**-3.0**
CO02				IAmb	IAmb	14 37 34.8	
	comp=Z,65nm,1.4s						
RPN	**Rapa Nui**	**19.09**	**302**	LR	LR	14 42 54.3	
	comp=Z,829nm,19.4s,baz=138,slow=30						
CO01	**Juntas del Tor**	**19.52**	**70**	P	**P**	**14 37 41.1**	**-2.1**
LCO	**Las Campanas**	**19.61**	**66**		**P**	**14 37 43.3**	**-1.0**
LCO				IAmb	IAmb	14 38 03.0	
	comp=Z,48nm,1.4s						
ZON	**Zonda**	**19.79**	**75**		**P**	**14 37 44.6**	**-1.3**
CFA	**Coronel Fontan**	**20.10**	**76**	P	Pn	14 37 52.3	+1.2
	comp=Z,0.8nm,0.4s,baz=253,slow=13,SNR=7.1						
	comp=Z,0.8nm,0.4s						
AC02	**Maricunga**	**22.03**	**64**		**P**	**14 38 09.7**	**-1.0**
AC02				IAmb	IAmb	14 38 18.4	
	comp=Z,27nm,1.2s						
PB14	**IPOC Station P**	**22.60**	**57**		**P**	**14 38 11.8**	**-4.8**
GO02	**Mina Guanaco**	**22.78**	**60**		**P**	**14 38 17.9**	**-0.7**
GO02				IAmb	IAmb	14 38 40.9	
	comp=Z,48nm,1.3s						
PB06	**IPOC Station P**	**24.49**	**55**	P	**P**	**14 38 32.3**	**-2.7**
PB06				IAmb	IAmb	14 38 41.2	
	comp=Z,27nm,1.1s						
PB03	**IPOC Station P**	**24.85**	**54**	P	**P**	**14 38 33.4**	**-4.9**
PATCX	**Punta Patache**	**25.51**	**51**	P	**P**	**14 38 42.8**	**-1.4**
TA01	**Diego Aracena**	**25.69**	**51**	P	**P**	**14 38 43.9**	**-1.8**
PB01	**IPOC Station P**	**25.76**	**53**	P	**P**	**14 38 44.9**	**-1.5**
PB01				IAmb	IAmb	14 39 00.3	
	comp=Z,34nm,1.4s						
HMBC	**Humberstone**	**26.08**	**51**	P	**P**	**14 38 46.4**	**-3.1**
HMBC				IAmb	IAmb	14 38 54.1	
	comp=Z,26nm,1.5s						
PB11	**IPOC Station P**	**26.62**	**51**	P	**P**	**14 38 50.1**	**-4.2**
PB11				IAmb	IAmb	14 38 58.9	
	comp=Z,28nm,1.4s						
PB16	**IPOC Station P**	**27.81**	**49**	IAmb	IAmb	14 39 10.6	
	comp=Z,16nm,1.4s						
NNA	**Nana**	**29.62**	**30**	LR	LR	14 48 07.2	
	comp=Z,562nm,20.4s,baz=196,slow=30						
LPAZ	**La Paz**	**30.22**	**49**		**P**	**14 39 27.3**	**+0.3**
LPAZ				IAmb	IAmb	14 39 33.1	
	comp=Z,10nm,1.4s						
LPAZ	**La Paz**	**30.22**	**49**	P	**P**	**14 39 29.6**	**+2.6**
	comp=Z,2.3nm,1.0s,baz=218,slow=5.2,SNR=9.3						
LPAZ				LR	LR	14 49 05.4	
	comp=Z,314nm,19.6s,baz=224,slow=31						
	comp=Z,2.3nm,1.0s						
LPAZ	**La Paz**	**30.22**	**49**	*e*P	**P**	**14 39 30.2**	**+3.2**
PMSA	**Palmer Station**	**30.50**	**157**	LR	LR	14 48 19.6	
	comp=Z,260nm,20.5s,baz=300,slow=30						
CPUP	**Villa Florida**	**31.00**	**77**	P	**P**	**14 39 32.5**	**-0.6**
CPUP	**Villa Florida**	**31.00**	**77**	P	**P**	**14 39 34.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=102,slow=9.0,SNR=3.3						
CPUP				LR	LR	14 50 12.0	
	comp=Z,63nm,19.4s,baz=100,slow=33						
	comp=Z,0.3nm,0.6s						
ATAH	**Atahualpa**	**33.59**	**24**	LR	LR	14 50 21.5	
	comp=Z,467nm,21.3s,baz=219,slow=30						
SIV	**San Ignacio**	**34.86**	**58**	LR	LR	14 53 25.1	
	comp=Z,83nm,19.9s,baz=272,slow=34						
AQDB	**Aquidauana**	**35.60**	**69**	P	**P**	**14 40 12.0**	**-1.3**
AQDB				IAmb	IAmb	14 40 18.5	
	comp=Z,9.2nm,0.7s						
AQDB	**Aquidauana**	**35.60**	**69**	*e*P	**P**	**14 40 15.8**	**+2.6**
PTLB	**Pontes e Lacer**	**36.54**	**59**		**P**	**14 40 22.4**	**+1.1**
PTLB				IAmb	IAmb	14 40 27.1	
	comp=Z,15nm,1.5s						
PTLB	**Pontes e Lacer**	**36.54**	**59**	*e*P	**P**	**14 40 23.8**	**+2.4**
VILB	**Vilhena**	**37.66**	**55**	P	**P**	**14 40 29.2**	**-1.7**
COHC	**Cochancay**	**37.79**	**20**		**P**	**14 40 29.8**	**-2.1**
SALV	**Santo Antonio**	**38.59**	**64**	*e*P	**P**	**14 40 41.9**	**+3.1**
SAML	**Samuel**	**38.95**	**48**		**P**	**14 40 40.6**	**-1.2**
SAML	**Samuel**	**38.95**	**48**	*e*P	**P**	**14 40 44.4**	**+2.6**
OTAV	**Otavalo**	**40.59**	**20**		**P**	**14 40 54.3**	**-1.5**
OTAV	**Otavalo**	**40.59**	**20**	*e*P	**P**	**14 40 59.5**	**+3.7**
PDRB	**Porto dos Gac**	**40.92**	**58**	*e*P	**P**	**14 41 01.0**	**+2.9**
ARAG	**Araguaiana, MT**	**41.49**	**67**	*e*P	**P**	**14 41 05.4**	**+2.6**
CLDB	**Colider**	**42.08**	**58**	*e*P	**P**	**14 41 09.8**	**+2.1**
BDFB	**Brasilia**	**44.30**	**71**	P	**P**	**14 41 24.7**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=223,slow=8.1,SNR=3.3						
BDFB				LR	LR	14 59 23.5	
	comp=Z,308nm,18.8s,baz=230,slow=35						
NPGB	**Novo Progresso**	**45.22**	**55**	*e*P	**P**	**14 41 35.4**	**+2.4**
BELA	**Belgrano 2**	**45.51**	**166**		**P**	**14 41 35.9**	**+1.4**
BELA				IAmb	IAmb	14 41 44.1	
	comp=Z,9.8nm,1.2s						
ROSC	**El Rosal**	**46.16**	**24**	LR	LR	14 59 29.2	
	comp=Z,400nm,18.5s,baz=120,slow=34						
ITTB	**Itaituba**	**47.05**	**52**	*e*P	**P**	**14 41 49.2**	**+1.9**
JANB	**Januaria**	**47.42**	**73**	*e*P	**P**	**14 41 53.0**	**+2.7**
RUSC	**La Rusia**	**47.55**	**25**	P	**P**	**14 41 51.3**	**-0.5**
RUSC				IAmb	IAmb	14 41 59.7	
	comp=Z,10nm,1.1s						
JTS	**Las Juntas de**	**49.19**	**8**	LR	LR	14 57 36.6	
	comp=Z,316nm,21.7s,baz=189,slow=30						
BOAV	**Boa Vista**	**49.82**	**42**	*e*P	**P**	**14 42 10.5**	**+1.8**
VNA3	**Neumayer Olymp**	**51.13**	**156**	⇑P	**P**	**14 42 18.5**	**+0.5**
	comp=Z,6.4nm,0.7s						
SDV	**Santo Domingo**	**51.18**	**27**	LR	LR	15 02 41.6	
	comp=Z,542nm,19.3s,baz=140,slow=34						
BOAB	**BOACO BROADBAND**	**51.25**	**7**	P	**P**	**14 42 17.7**	**-1.7**
QSPA	**South Pole Qui**	**51.43**	**180**	P	**P**	**14 42 20.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=142,slow=1.6,SNR=6.2						
QSPA				LR	LR	15 01 38.3	
	comp=Z,142nm,18.1s,baz=158,slow=33						
	comp=Z,0.7nm,0.7s						
VNA2	**Neumayer--Watz**	**51.91**	**155**	⇑P	**P**	**14 42 24.3**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=247,slow=7.7						
BAUV	**El Baul**	**52.18**	**30**	P	**P**	**14 42 23.6**	**-2.7**
SNAA	**Sanae**	**53.21**	**157**	⇑P	**P**	**14 42 33.5**	**0.0**
	comp=Z,42nm,1.0s						
SNAA	**Sanae**	**53.21**	**157**		**P**	**14 42 32.5**	**-1.0**
SNAA				IAmb	IAmb	14 42 40.2	
	comp=Z,4.8nm,0.9s						
SNAA	**Sanae**	**53.21**	**157**	P	**P**	**14 42 32.0**	**-1.5**
	comp=Z,1.9nm,1.0s,baz=273,slow=10.0,SNR=8.8						
SNAA				LR	LR	15 01 29.4	
	comp=Z,142nm,19.2s,baz=264,slow=32						
	comp=Z,1.9nm,1.0s						
PPTF	**Pamatai, Papee**	**54.63**	**275**	P	**P**	**14 42 42.2**	**-2.4**
PPT	**Papeete**	**54.65**	**275**	P	**P**	**14 42 42.5**	**-2.1**
	comp=Z,42nm,1.0s,baz=131,slow=14,SNR=4.5						
PPT				LR	LR	15 00 28.5	
	comp=Z,86nm,19.4s,baz=128,slow=30						
PCRV	**Puerto La Cruz**	**54.67**	**33**	LR	LR	15 04 53.9	
	comp=Z,292nm,19.3s,slow=35						
TROLL	**Troll, Antarti**	**54.75**	**158**	⇑P	**P**	**14 42 45.4**	**+0.5**
	comp=Z,256nm,0.7s						
CMIG	**Matias Romero**	**55.70**	**356**	LR	LR	15 00 45.5	
	comp=Z,65nm,20.3s,baz=181,slow=30						
VNDA	**Vanda**	**55.97**	**195**		**P**	**14 42 55.6**	**+2.3**
VNDA	**Vanda**	**55.97**	**195**	P	**P**	**14 42 50.9**	**-2.5**
	comp=Z,0.5nm,0.7s,baz=115,slow=8.1,SNR=7.6						
VNDA				LR	LR	15 01 37.8	
	comp=Z,140nm,20.4s,baz=98,slow=31						
	comp=Z,0.5nm,0.7s						
MDP	**Montagnes des**	**56.42**	**48**	LR	LR	15 04 55.2	
	comp=Z,175nm,21.5s,baz=160,slow=34						
RCBR	**Riachuelo**	**59.67**	**71**	LR	LR	15 08 27.3	
	comp=Z,69nm,19.1s,baz=235,slow=35						
RAR	**Rarotonga**	**60.57**	**266**	LR	LR	15 02 09.7	
	comp=Z,97nm,21.8s,baz=122,slow=29						
SJG	**San Juan**	**61.30**	**27**	LR	LR	15 07 53.1	
	comp=Z,118nm,21.5s,baz=162,slow=34						
LPIG	**La Paz**	**65.07**	**341**	LR	LR	15 05 08.1	
	comp=Z,48nm,21.1s,baz=188,slow=29						
TXAR	**Lajitas Array**	**68.77**	**348**	P	**P**	**14 44 20.3**	**+0.7**
TXAR	**Lajitas Array**	**68.77**	**348**	P	**P**	**14 44 20.5**	**+0.9**
	comp=Z,4.0nm,1.1s,baz=165,slow=10.0,SNR=12						
TXAR				LR	LR	15 08 42.7	
	comp=Z,68nm,19.9s,baz=161,slow=31						
	comp=Z,4.0nm,1.1s						
TX31	**Lajitas Ar. Si**	**68.77**	**348**	IAmb	IAmb	14 44 29.5	
	comp=Z,4.0nm,0.9s						
MAW	**Mawson**	**72.12**	**170**	P	**P**	**14 44 38.7**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=239,slow=3.4,SNR=7.2						
	comp=Z,2.5nm,0.9s						
MSTX	**Muleshoe**	**73.19**	**350**		**P**	**14 44 46.1**	**-0.2**
WHAR	**Wooly Hollow**	**73.73**	**359**		**P**	**14 44 50.8**	**+1.4**
WHAR				IAmb	IAmb	14 44 57.8	
	comp=Z,8.8nm,1.0s						
TKL	**Tuckaleechee C**	**74.41**	**6**	LR	LR	15 14 06.9	
	comp=Z,54nm,18.9s,baz=180,slow=33						
U49A	**Red Boiling Sp**	**75.11**	**5**	P	**P**	**14 44 57.9**	**+0.5**
U49A				IAmb	IAmb	14 45 06.8	
	comp=Z,10nm,1.1s						
S39A	**Bolivar**	**76.14**	**358**	IAmb	IAmb	14 45 11.5	
	comp=Z,6.7nm,0.9s						
CCM	**Cathedral Cave**	**76.48**	**0**	P	**P**	**14 45 05.1**	**-0.1**
NVAR	**Mina Array Bea**	**80.78**	**339**		**P**	**14 45 29.6**	**+0.4**
NVAR	**Mina Array Bea**	**80.78**	**339**	P	**P**	**14 45 31.6**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=162,slow=6.2,SNR=5.7						
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**82.87**	**347**	P	**P**	**14 45 41.8**	**+1.7**
PDAR	**Pinedale Array**	**82.87**	**347**	P	**P**	**14 45 42.0**	**+1.9**
	comp=Z,1.8nm,0.9s,baz=165,slow=6.2,SNR=9.4						
	comp=Z,1.8nm,0.9s						
SADO	**Sadowa**	**83.90**	**9**	LR	LR	15 19 16.3	
	comp=Z,147nm,18.8s,baz=175,slow=33						
BOSA	**Boshof**	**90.53**	**128**	LR	LR	15 18 52.6	
	comp=Z,120nm,20.6s,baz=173,slow=30						
H11S2	**WAKE ISLAND Hyl**	**10.58**	**278**	T	T	16 51 09.8	
	baz=126,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hyl**	**10.59**	**278**	T	T	16 51 10.9	
	baz=126,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hyl**	**10.59**	**278**	T	T	16 51 11.0	
	baz=126,slow=76,SNR=14						
KBZ	**Khabaz**	**145.53**	**67**	PKPbc	**PKPdf**	**14 52 52.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=176,slow=11,SNR=1.5						
KSRS	**Korea Array**	**149.31**	**280**	PKPbc	**PKPbc**	**14 53 03.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=101,slow=3.8,SNR=2.0						
SONM	**Songino Array**	**164.33**	**311**	PKPab	**PKPab**	**14 54 13.5**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=34,slow=5.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**164.61**	**9**	PKP	**PKPdf**	**14 53 18.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=270,slow=2.5,SNR=3.7						
ZALV				PKPab	**PKPab**	**14 54 13.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=333,slow=5.0,SNR=3.9						
KURBB	**Kurchatov Arra**	**166.14**	**28**	PKPab	**PKPab**	**14 54 21.8**	**+1.0**
	comp=Z,0.7nm,1.1s,baz=302,slow=5.4,SNR=5.3						

*NEIC **22** 14:33:28.4±0.9, 18°.77N±0°.07×155°.19W±0°.06, h33km±12km, Error ellipse: s-maj=11.4km s-min=6.2km az=145.0*

HVO 22 14:33:30.4±0.7, 18°.84N±0°.07×155°.24W±0°.06, h46km±7km, ML4.2/52, ML4.3/44(NEIC), Error ellipse: s-maj=12.8km s-min=2.8km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.39**	**310**		Pn	14 33 39.0	-1.0
HPO					Sn	14 33 45.9	-1.0
HTC	**Hot Caves**	**0.42**	**339**		Pn	14 33 39.8	-0.8
HLP	**Hilina Pali**	**0.46**	**352**		Pn	14 33 40.2	-0.8
HLP				IAML		14 33 48.3	
	comp=E,22µm,0.3s						
HLP				IAML		14 33 48.5	
	comp=N,16µm,0.2s						
HLP	**Hilina Pali**	**0.46**	**352**		Sn	14 33 47.9	-0.7
PUH	**Pauahi**	**0.53**	**2**		Pn	14 33 40.6	-1.3
PUH				IAML		14 33 50.5	
	comp=N,11µm,0.2s						
PUH	**Pauahi**	**0.53**	**2**		Sn	14 33 48.2	-2.0
KHU	**Kahuku**	**0.54**	**319**		Pn	14 33 40.7	-1.5
KHU					Sn	14 33 48.6	-1.9
KNHH	**Kane Nui o Ham**	**0.54**	**7**		Pn	14 33 40.7	-1.4
SDHHI	**Sand Hill**	**0.55**	**354**		Pn	14 33 40.9	-1.3
SDHHI					Sn	14 33 49.3	-1.3
STCH	**Steam Cracks**	**0.55**	**11**		Pn	14 33 40.8	-1.3
STCH				IAML		14 33 49.4	
	comp=E,13µm,0.4s						
STCH				IAML		14 33 49.5	
	comp=N,15µm,0.6s						
STCH	**Steam Cracks**	**0.55**	**11**		Sn	14 33 48.7	-1.9
RIM	**Rim**	**0.56**	**356**		Pn	14 33 40.9	-1.4
RIM					Sn	14 33 48.8	-1.9
KKO	**Keanakako'i**	**0.56**	**357**		Pn	14 33 41.0	-1.3
KKO					Sn	14 33 48.8	-1.9
JCUZ	**Jacuzzi**	**0.56**	**13**		Pn	14 33 40.9	-1.3
JCUZ					Sn	14 33 48.8	-1.9
NPOC	**North of Pu'u**	**0.56**	**12**		Pn	14 33 41.0	-1.3
NPOC					Sn	14 33 49.1	-1.8
WRMHI	**West Rim**	**0.57**	**354**		Pn	14 33 41.0	-1.4
WRMHI					Sn	14 33 49.6	-1.4
AIN	**Ainahou**	**0.57**	**339**		Pn	14 33 41.4	-1.1
AIN					Sn	14 33 50.0	-1.1
AIN	**Ainahou**	**0.57**	**339**	IAML		14 33 50.5	
	comp=E,13µm,0.5s						
AIN				IAML		14 33 50.8	
	comp=N,38µm,0.3s						
BYL	**Byron's Ledge**	**0.57**	**358**		Pn	14 33 41.0	-1.4
BYL					Sn	14 33 49.0	-2.0
BYL	**Byron's Ledge**	**0.57**	**358**	IAML		14 33 49.7	
	comp=N,23µm,0.5s						
BYL				IAML		14 33 49.9	
	comp=E,13µm,0.3s						
OBL	**Observatory Le**	**0.58**	**356**		Pn	14 33 41.1	-1.5
OBL					Sn	14 33 49.1	-2.1
HATHI	**Halema'uma'u T**	**0.58**	**358**		Pn	14 33 41.1	-1.4
HATHI					Sn	14 33 49.2	-2.1
HATHI	**Halema'uma'u T**	**0.58**	**358**	IAML		14 33 49.8	
	comp=N,24µm,0.2s						
HATHI				IAML		14 33 50.0	
	comp=E,14µm,0.4s						
UWE	**Uwekahuna**	**0.58**	**355**		Pn	14 33 41.1	-1.5
UWE					Sn	14 33 49.4	-2.0
UWE	**Uwekahuna**	**0.58**	**355**	IAML		14 33 50.3	
	comp=E,23µm,0.5s						
UWE				IAML		14 33 50.3	
	comp=N,22µm,0.4s						
UWB	**Uwekahuna Bluf**	**0.58**	**356**		Pn	14 33 41.0	-1.6
UWB					Sn	14 33 49.1	-2.2
SBLHI	**Steaming Bluff**	**0.59**	**357**		Pn	14 33 41.1	-1.5
SBLHI					Sn	14 33 49.1	-2.3
RSD	**Rainshed**	**0.62**	**356**		Pn	14 33 41.5	-1.6
RSD					Sn	14 33 49.9	-2.4
JOKA	**Jonika Flow**	**0.63**	**20**		Pn	14 33 41.7	-1.4
JOKA					Sn	14 33 50.2	-2.1
JOKA	**Jonika Flow**	**0.63**	**20**	IAML		14 33 52.4	
	comp=N,16µm,0.4s						
MLH	**Mauna Loa**	**0.67**	**348**		Pn	14 33 42.4	-1.4
MLH					Sn	14 33 51.8	-1.6
MLH	**Mauna Loa**	**0.67**	**348**	IAML		14 33 52.3	
	comp=N,17µm,0.2s						
MLH				IAML		14 33 52.3	
	comp=E,10µm,0.5s						
MWH	**Mokuaweoweo**	**0.73**	**332**		Pn	14 33 43.0	-1.9
MWH					Sn	14 33 52.7	-2.6
MWH	**Mokuaweoweo**	**0.73**	**332**	IAML		14 33 53.3	
	comp=N,8µm,0.3s						
MWH				IAML		14 33 54.6	
	comp=E,8µm,0.5s						
HMH	**Humu'ula Sheep**	**0.80**	**343**		Pn	14 33 44.1	-1.4
HMH					Sn	14 33 54.6	-1.9
HMH	**Humu'ula Sheep**	**0.80**	**343**	IAML		14 33 55.1	
	comp=N,11µm,0.3s						
ALEP	**Alea Permanent**	**0.80**	**331**		Pn	14 33 43.6	-2.0
ALEP					Sn	14 33 53.9	-2.7
CPH	**Captain Cook**	**0.91**	**315**		Pn	14 33 44.6	-2.2
POHA	**Pohakuloa**	**0.96**	**343**		Pn	14 33 45.5	-2.1
POHA	**Pohakuloa**	**0.96**	**343**		Sn	14 33 56.9	-3.4
HUH	**Hualalai**	**1.01**	**326**		Pn	14 33 46.6	-1.8
HUH					Sn	14 33 59.8	-1.9
HUH	**Hualalai**	**1.01**	**326**	IAML		14 34 07.2	
	comp=E,6µm,0.4s						
HUH				IAML		14 34 07.6	
	comp=N,5µm,0.2s						
HPAH	**Hawaii Prepara**	**1.26**	**340**		Pn	14 33 49.4	-2.3
HPAH					Sn	14 34 03.5	-4.0
HPAH	**Hawaii Prepara**	**1.26**	**340**	IAML		14 34 04.3	
	comp=E,6µm,0.2s						
HPAH				IAML		14 34 04.3	
	comp=N,4µm,0.2s						
MHA	**Mahukona**	**1.48**	**335**		Pn	14 33 52.4	-2.2
KHLH	**Kahului Airpor**	**2.33**	**332**		Pn	14 34 04.4	-1.8
WMR	**Waimanalo Ridg**	**3.37**	**317**		Pn	14 34 17.4	-3.2
WMR					Sn	14 34 53.3	-6.1
DHH	**Diamond Head**	**3.41**	**315**	Pn	Pn	14 34 16.6	-4.5
HON	**Honolulu**	**3.59**	**314**	Pn	Pn	14 34 20.5	-3.0
KIP	**Kipapa**	**3.66**	**315**	Pn	Pn	14 34 21.2	-3.4
KEKH	**Kekaha**	**5.23**	**307**	Pn	Pn	14 34 42.5	-3.6

*HEL **22** 14:37:29.7±0.0, 59°.80N×22°.26E, h0km, ML1.5, Explosion*
*EST **22** 14:37:29.7, 59°.80N×22°.26E, h0km, ML1.5(HEL), Explosion*
*DNK **22** 14:37:30.8±0.3, 59°.78N×22°.08E, h0km, ML2.2(UPP), Suspected explosion*
*IDC **22** 14:37:31.1±1.8, 59°.96N×22°.26E, h0km, mbtmp2.7/4, ML1.9/4, Error ellipse: s-maj=26.7km s-min=6.3km az=162.0*
*UPP **22** 14:37:31.6±1.1, 59°.75N×21°.92E, h0km, ML2.2, Presumed earthquake*

ISC 22 14:37:28.2±0.7, 59.86N±0°.02×22.34E±0°.02, h0km, n42, σ0s 82/65, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVF	**Tvarminne**	**0.46**	**92**	*e*P	**Pb**	**14 37 38.4**	**-0.7**
TVF				*e*S	**Sb**	**14 37 45.2**	**-1.3**
EE01	**Perakula, Nova**	**0.93**	**135**	*e*P	**Pg**	**14 37 46.0**	**0.0**
EE01				*e*S	**Sg**	**14 37 57.5**	**-0.5**
EE06	**Soera, Palade,**	**0.93**	**163**	*e*P	**Pg**	**14 37 45.6**	**-0.4**
EE06				*e*P	**Pg**	**14 37 45.6**	**-0.4**
EE06				*e*S	**Sg**	**14 37 57.2**	**-0.8**
EE06				*e*S	**Sg**	**14 37 57.2**	**-0.8**
MEF	**Metsahovi**	**1.09**	**70**	*e*P	**Pb**	**14 37 50.3**	**+0.4**
MEF	**Metsahovi**	**1.09**	**70**	*e*P	**Pb**	**14 37 50.4**	**+0.4**
MEF				*e*S	**Sb**	**14 38 05.1**	**+0.4**
RAF	**Rauma**	**1.20**	**347**	*e*P	**Pg**	**14 37 50.5**	**-0.7**
RAF	**Rauma**	**1.20**	**347**	*e*P	**Pn**	**14 37 52.2**	**0.0**
RAF				*e*S	**Sn**	**14 38 08.3**	**-0.8**
AAL	**Aland**	**1.22**	**286**	P	**Pg**	**14 37 51.2**	**-0.3**
AAL				S	**Sg**	**14 38 06.3**	**-1.0**
AAL	**Aland**	**1.22**	**286**	P	**Pg**	**14 37 51.2**	**-0.3**
AAL				S	**Sg**	**14 38 06.3**	**-1.0**
AAL	**Aland**	**1.22**	**286**	*e*P	**Pg**	**14 37 51.2**	**-0.3**
AAL				*e*S	**Sg**	**14 38 06.4**	**-0.8**
HEL5	**Espoo, Suvisaa**	**1.23**	**77**	*e*P	**Pn**	**14 37 52.8**	**+0.2**
HEL5				*e*S	**Sn**	**14 38 09.4**	**-0.6**
HEL1	**Helsinki**	**1.32**	**75**	*e*P	**Pn**	**14 37 54.0**	**+0.3**
HEL1				*e*S	**Sn**	**14 38 11.7**	**-0.3**
NUR	**Nurmijarvi**	**1.32**	**60**	*e*P	**Pn**	**14 37 54.7**	**+0.8**
NUR				*e*S	**Sn**	**14 38 12.5**	**+0.2**
EE02	**Kiisa, Saku**	**1.38**	**118**	*e*P	**Pg**	**14 37 54.5**	**0.0**
EE02				*e*S	**Sg**	**14 38 12.0**	**-0.4**
NRTU	**Norrtaelje**	**1.88**	**266**	P	**Pn**	**14 38 02.2**	**+0.6**
NRTU	**Norrtaelje**	**1.88**	**266**	P	**Pn**	**14 38 02.2**	**+0.6**
NRTU	**Norrtaelje**	**1.88**	**266**	*e*P	**Pn**	**14 38 02.1**	**+0.6**
NRTU				*e*SN	**Sn**	**14 38 26.4**	**+0.4**
NRTU				MSG		14 38 27.8	
	comp=Z,1.2nm,0.1s						
PVF	**Pernaja**	**1.89**	**67**	*e*P	**Pg**	**14 38 04.2**	**-0.2**
PVF				*e*SG	**Sg**	**14 38 29.5**	**+0.7**
PVF				MSG		14 38 33.2	
	comp=Z,4.5nm,0.1s						
ARBE	**Arbavere**	**1.90**	**101**	*e*P	**Pn**	**14 38 02.0**	**+0.2**
ARBE	**Arbavere**	**1.90**	**101**	*e*PN	**Pb**	**14 38 03.8**	**+0.1**
ARBE				*e*SG	**Sg**	**14 38 28.8**	**-0.4**

ILAR	**Eielson Array**	**86.68**	**13**	P	**P**	**14 57 20.9**	**-0.1**
	0.1nm,0.5s,baz=205,slow=5.0,SNR=1.6							
	0.1nm,0.5s							
BVAR	**Borovoye Array**	**118.13**	**321**	PKP	**PKPdf**	**15 03 21.0**	**-1.9**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=2.6							
GERES	**GERESS Array B**	**148.78**	**346**	PKPbc	**PKPdf**	**15 04 22.7**	**+3.0**
	0.3nm,0.3s,baz=51,slow=7.7,SNR=1.2							

*UCC **22** 14:52:02.7, 50.01N×1.09E, h0km, ML3.1, Explosion.*
*STR **22** 14:52:05.5±0.4, 50.6°×±°, h10km, MLv3.5/14, LOCSAT earthModelID haslach_taup-2.11*
ISC 22 14:52:02.3±1.1, 50.17N±0.06×1.01E±0.04, h0km, n30, σ0.85/35, 18D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZEV	**Zevekote**	**1.54**	**51**	*dP*	**Pn**	**14 52 28.8**	**-2.2**
BZEV				*dS*	**Sg**	**14 52 53.9**	**+2.1**
BOST	**Ostende**	**1.63**	**48**	*dP*	**Pb**	**14 52 32.9**	**-0.2**
BBOU	**Bougnies**	**1.90**	**82**	*dP*	**Pb**	**14 52 37.5**	**-0.2**
BSKQ	**Steenkerk**	**2.02**	**75**	*dP*	**Pn**	**14 52 38.0**	**+0.3**
BRQR	**Ronquire**	**2.10**	**77**	*dP*	**Pn**	**14 52 39.0**	**+0.2**
LOUF	**Saint-Loup**	**2.12**	**226**	P	**Pn**	**14 52 38.9**	**0.0**
LOUF	**Saint-Loup**	**2.12**	**226**	Pg	**Pn**	**14 52 38.8**	**-0.1**
UCC	**Uccle**	**2.23**	**72**	*dP*	**Pn**	**14 52 40.7**	**+0.2**
UCC				*dP*	**Pb**	**14 52 40.8**	**-2.7**
JSA	**Saint Aubin**	**2.29**	**246**	P	**Pn**	**14 52 42.0**	**+0.7**
DOU	**Dourbes**	**2.31**	**91**	*dP*	**Pn**	**14 52 42.4**	**+0.8**
DOU				*dS*	**Sn**	**14 53 11.9**	**+1.2**
BMRD	**Maredsous**	**2.42**	**85**	*dP*	**Pn**	**14 52 43.3**	**+0.2**
RCHB	**Rochefort**	**2.71**	**89**	*dP*	**Pn**	**14 52 47.3**	**+0.2**
RCHB				*dS*	**Sn**	**14 53 20.3**	**-0.4**
RCHB	**Rochefort**	**2.71**	**89**	P	**Pn**	**14 52 47.7**	**+0.5**
BCLA	**Clavier**	**2.77**	**83**	*dP*	**Pn**	**14 52 48.2**	**+0.3**
DYA	**Yadsworthy**	**3.18**	**277**	P	**Pn**	**14 52 53.5**	**0.0**
BHOU	**Houvegnez**	**3.21**	**85**	*dP*	**Pn**	**14 52 54.4**	**+0.4**
MEM	**Membach**	**3.23**	**80**	*dP*	**Pn**	**14 52 54.4**	**+0.1**
MEM				*dP*	**Pb**	**14 52 54.4**	**+0.1**
GUEF	**Guhenno - 56**	**3.31**	**228**	P	**Pn**	**14 52 54.9**	**-0.4**
LVIA	**Vianden**	**3.36**	**92**	*dP*	**Pn**	**14 52 56.2**	**+0.2**
LOCF	**Locquirec - 29**	**3.40**	**246**	P	**Pn**	**14 52 56.2**	**-0.3**
LOR	**Lormes**	**3.47**	**146**	P	**Pn**	**14 52 56.6**	**-0.9**
MANO	**Manonville**	**3.48**	**111**	P	**Pn**	**14 52 58.0**	**+0.4**
PLYF	**Puligny Montra**	**4.06**	**141**	P	**Pn**	**14 53 05.0**	**-0.7**
CAMF	**Camaret-sur-Me**	**4.15**	**245**	P	**Pn**	**14 53 07.4**	**+0.6**
CHMF	**Charmoille**	**4.75**	**126**	P	**Pn**	**14 53 14.7**	**-0.4**
BOURR	**Bourrignon**	**4.97**	**122**	P	**Pn**	**14 53 18.0**	**-0.2**
KIZ	**Kirchzarten**	**5.06**	**113**	P	**Pn**	**14 53 19.3**	**-0.1**
LBL	**Lubilhac**	**5.17**	**162**	P	**Pn**	**14 53 21.3**	**+0.4**
TORNY	**Torny/Romont**	**5.22**	**128**	P	**Pn**	**14 53 21.6**	**0.0**
SULZ	**Cheisacher**	**5.38**	**117**	P	**Pn**	**14 53 24.5**	**+0.6**

STR 22 14:52:20.8±0.7, 49°N±6°×±°, h8km, MLv2.5/6, LOCSAT earthModelID haslach_taup-2.11 preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSDF	**Thoir-sur-Di**	**0.89**	**167**	Pg	Pg	14 52 36.8	-1.1
TSDF				Sg	Sg	14 52 49.5	0.0
LOUF	**Saint-Loup**	**0.96**	**274**	Sg	Sg	14 52 52.1	+0.3
JSA	**Saint Aubin**	**1.64**	**291**	Pn	Pn	14 52 49.0	-0.9
JSA				Sn	Sn	14 53 10.8	-0.4
PLEF	**Pleven - 22200**	**1.66**	**267**	Pn	Pn	14 52 48.5	-1.7
PLEF				Sn	Sn	14 53 12.1	+0.4
GUEF	**Guhenno - 56**	**2.00**	**250**	Pn	Pn	14 52 54.0	-0.9
GUEF				Sn	Sn	14 53 21.0	+0.8
ROSF	**Rostrenen**	**2.30**	**264**	Pn	Pn	14 52 57.2	-1.8
LOCF	**Locquirec - 29**	**2.54**	**273**	Pn	Pn	14 53 00.0	-2.3
LOCF				Sn	Sn	14 53 34.2	+0.8
PLOF	**Ploemeur**	**2.55**	**251**	Pn	Pn	14 53 01.4	-1.1
PLOF				Sn	Sn	14 53 34.3	+0.6
LOR	**Lormes**	**2.83**	**117**	Pn	Pn	14 53 04.7	-1.6
OLIV	**Plomelin**	**2.96**	**258**	Pn	Pn	14 53 06.9	-1.1
OLIV				Sn	Sn	14 53 45.0	+1.3
VERF	**Verneugheol**	**3.28**	**150**	Pn	Pn	14 53 11.1	-1.4
VERF				Sn	Sn	14 53 53.0	+1.3
FRNF	**Fournols**	**3.62**	**152**	Pn	Pn	14 53 15.9	-1.4
COLF	**Collangettes**	**3.93**	**141**	Pn	Pn	14 53 20.3	-1.2

TRN 22 14:57:37.2, 15.01N×61.15W, h16km, MD3.6, North of Martinique., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVN	**Savane Anatole**	**0.17**	**187**	*eP*	Pb	14 57 43.2	+1.3
SVN				*eS*	Sb	14 57 46.2	+1.2
DLPL	**La Plaine**	**0.34**	**343**	*eP*	Pn	14 57 47.0	-0.4
DLPL				*eS*	Sn	14 57 52.6	-1.4
DLDT	**Laudat, Domini**	**0.38**	**329**	*eP*	Pn	14 57 47.4	-0.6
DLDT				*eS*	Sn	14 57 53.3	-1.7
MDN	**Morne-Daniel**	**0.39**	**323**	*eP*	Pn	14 57 47.5	-0.6
MDN				*eS*	Sn	14 57 53.5	-1.7
BIM	**Bigot**	**0.49**	**171**	*eP*	Pn	14 57 49.2	-0.4
BIM				*eS*	Sn	14 57 56.9	-0.9
DSLB	**Salisbury**	**0.50**	**328**	*eP*	Pn	14 57 49.2	-0.5
DSLB				*eS*	Sn	14 57 57.8	-0.3
DWS	**Wesley**	**0.58**	**344**	*eP*	Pn	14 57 51.2	+0.5
DWS				*eS*	Sn	14 58 00.2	+0.2
TBG	**Guadaloupe-3**	**0.97**	**330**	*eP*	Pn	14 57 56.9	+0.8
TBG				*eS*	Sn	14 58 12.5	+3.0
SLBI	**Saint Lucia, B**	**0.99**	**170**	*eP*	Pg	14 57 57.4	+0.9
SLBI				*eS*	Sn	14 58 12.6	+2.5
MMLZ	**Guadeloupe Bro**	**1.15**	**334**	*eP*	Pg	14 57 59.9	+0.5
MMLZ				*eS*	Sg	14 58 16.8	+2.4
ATGZ	**Broadband at L**	**1.22**	**333**	*eP*	Pg	14 58 01.3	+0.6
ATGZ				*eS*	Sg	14 58 18.6	+2.0
DSDZ	**La Diserade, G**	**1.30**	**3**	*eP*	Pb	14 58 01.8	+0.5
DSDZ				*eS*	Sg	14 58 19.1	-0.2
DHSZ	**Broadband at M**	**1.39**	**335**	*eP*	Pg	14 58 04.3	+0.2
DHSZ				*eS*	Sg	14 58 23.3	+1.1
SVB	**Belmont**	**1.73**	**183**	*eP*	Pb	14 58 08.7	+0.2
SVB				*eS*	Sg	14 58 32.7	-0.2
MLYT	**Lee's Yard**	**1.98**	**330**	*eP*	Pb	14 58 12.4	-0.5
MBWH		**2.00**	**330**	*eP*	Pb	14 58 12.2	-0.9
MBFL	**Flemmings, Mon**	**2.01**	**330**	*eP*	Pb	14 58 13.7	+0.3
ANWB	**Willy Bob**	**2.72**	**347**	*eP*	Pb	14 58 22.8	-2.6
ANWB				*eS*	Sn	14 58 54.6	+1.9

*CNRM **22** 15:27:06.3, 36.65N×4.16W, h73km*
*SFS **22** 15:27:07.0, 36.96N×3.97W, h58km, ML2.4/8, ML2.1/11, MLv1.9/11*
*MDD **22** 15:27:07.1±0.4, 36.96N×3.96W, h59km±4km, Mb3.1/22, Error ellipse: s-maj=3.4km s-min=1.9km az=165.0*
*IGIL **22** 15:27:07.9, 36.96N×3.96W, h48km, ML1.8*
*INMG **22** 15:27:07.8±1.8, 36.96N×4.05W, h31km±14km, ML2.0, Error ellipse: s-maj=5.9km s-min=5.5km az=155.0, #DIST_RANGE: REGIONAL #IPMA_REGION: NE Malaga (ESP)*
ISC 22 15:27:05.2±1.2, 36.90N±0.03×3.97W±0.02, h35km, n60, σ2.13/95, 15C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGOR	**Sierra Gorda,**	**0.24**	**333**	Pn	**Pn**	**15 27 16.2**	**+3.6**
EGOR				Sn	**Sn**	**15 27 22.2**	**+4.6**
EGOR	**Sierra Gorda,**	**0.24**	**333**	↑Pn	**Pn**	**15 27 16.2**	**+3.6**
EGOR				Sg	**Sn**	**15 27 23.4**	**+5.8**
ELGU	**Los Guajares,**	**0.28**	**96**	Pn	**Pn**	**15 27 16.2**	**+3.1**
ELGU				Sn	**Sn**	**15 27 22.5**	**+4.1**
ELGU	**Los Guajares,**	**0.28**	**96**	↓Pn	**Pn**	**15 27 16.1**	**+3.1**
ELGU				Sn	**Sn**	**15 27 22.8**	**+4.5**
EMAL	**Malaga-Limoner**	**0.39**	**250**	Pn	**Pn**	**15 27 17.9**	**+3.6**
EMAL				Sn	**Sn**	**15 27 25.9**	**+5.3**
EQTA	**Presa de Quent**	**0.53**	**54**	Pn	**Pn**	**15 27 18.4**	**+2.1**
EQTA				Sn	**Sn**	**15 27 26.8**	**+2.7**
EQUE	**Quentar**	**0.53**	**54**	↑Pn	**Pn**	**15 27 18.3**	**+1.9**
EQUE				Sn	**Sn**	**15 27 27.0**	**+2.9**
E0803	**Jimena (Jaen)**	**1.02**	**23**	Pn	**Pn**	**15 27 24.3**	**+1.4**
E0803				Sn	**Sn**	**15 27 37.3**	**+1.1**
E0803				Sn	Sn	15 27 39.9	+3.7
EQES	**Quesada**	**1.16**	**38**	↑Pn	**Pn**	**15 27 26.1**	**+1.1**
EQES				*i*Vmb_VC		15 27 27.9	
	416nm,SNR=7.3						
EQES				Sn	**Sn**	**15 27 40.3**	**+0.7**
E0802	**Ubeda,Jaen**	**1.22**	**23**	Sn	**Sn**	**15 27 41.4**	**+0.2**
EADA	**Adamuz**	**1.35**	**339**	Pn	**Pn**	**15 27 28.7**	**+1.0**
EADA				Sn	**Sn**	**15 27 44.5**	**0.0**
EADA	**Adamuz**	**1.35**	**339**	Pn	**Pn**	**15 27 28.8**	**+1.1**
EADA				↑*i*Vmb_VC		15 27 31.8	
	180nm,SNR=3.4						
EADA				Sn	**Sn**	**15 27 44.6**	**+0.2**
ENIJ	**Nijar**	**1.42**	**87**	Pn	**Pn**	**15 27 29.2**	**+0.6**
ENIJ				↑*i*Vmb_VC		15 27 29.7	
	145nm,SNR=0.9						
ENIJ				Sn	**Sn**	**15 27 44.9**	**-1.1**
ESPR	**Espera**	**1.51**	**269**	Sn	**Sn**	**15 27 50.9**	**+2.8**
ECAB	**El Cabril**	**1.64**	**316**	Pn	**Pn**	**15 27 32.6**	**+1.0**
ECAB				Sn	**Sn**	**15 27 51.2**	**-0.4**
ECAB	**El Cabril**	**1.64**	**316**	Pn	**Pn**	**15 27 32.6**	**+1.0**
ECAB				↑*i*Vmb_VC		15 27 34.9	
	155nm,SNR=3.8						
ECAB				Sn	**Sn**	**15 27 51.1**	**-0.5**
SMIR	**Smir Dam**	**1.66**	**224**	P	**Pn**	**15 27 30.4**	**-1.5**
SMIR	**Smir Dam**	**1.66**	**224**	S	**Sn**	**15 27 49.3**	**-2.7**
GOG	**Mont Gurugu**	**1.85**	**154**	P	**Pn**	**15 27 34.3**	**-0.2**
GOG	**Mont Gurugu**	**1.85**	**154**	S	**Sn**	**15 27 55.5**	**-1.3**
PSIM	**Granatula de C**	**1.93**	**5**	Pn	**Pn**	**15 27 36.0**	**+0.5**
PSIM				Sn	**Sn**	**15 27 56.3**	**-2.2**
EMIN	**Mina Concepcio**	**2.32**	**293**	Pn	**Pn**	**15 27 41.7**	**+0.8**
EMIN				Sn	**Sn**	**15 28 07.1**	**-1.0**
EMIN	**Mina Concepcio**	**2.32**	**293**	Pn	**Pn**	**15 27 41.6**	**+0.8**
EMIN				↑*i*Vmb_VC		15 27 43.2	
	243nm,SNR=4.0						
EMIN				Sn	**Sn**	**15 28 07.2**	**-1.0**
PAB	**San Pablo**	**2.66**	**354**	Pn	**Pn**	**15 27 47.4**	**+1.7**
PAB				↑*i*Vmb_VC		15 27 48.0	
	36nm,SNR=0.9						
PAB				Sn	**Sn**	**15 28 13.9**	**-2.8**
PBAR	**Barrancos**	**2.75**	**299**	Pn	**Pn**	**15 27 47.7**	**+0.9**
PBAR				Sn	**Sn**	**15 28 16.8**	**-1.9**
PBAR	**Barrancos**	**2.75**	**299**	*eP*	**Pn**	**15 27 47.7**	**+0.9**
PBAR				*eS*	**Sn**	**15 28 17.9**	**-0.9**
PBAR				*i* IAML		15 28 19.6	
PBAR				*i* IAML		15 28 20.3	
PBAR				*i* IAML		15 28 20.9	
ESDC	**Sonseca Array**	**2.77**	**0**	Sn	**Sn**	**15 28 16.5**	**-2.9**
ESBB	**Sonseca Array**	**2.77**	**0**	Sn	**Sn**	**15 28 16.8**	**-2.7**
JBK	**JBK**	**2.80**	**155**	Pn	**Pn**	**15 27 47.5**	**-0.2**
JBK	**JBK**	**2.80**	**155**	S	**Sn**	**15 28 18.4**	**-2.1**
EGRO	**El Granado**	**2.87**	**284**	Pn	**Pn**	**15 27 49.7**	**+1.2**
EGRO				Sn	**Sn**	**15 28 20.7**	**-1.1**
EGRO	**El Granado**	**2.87**	**284**	Pn	**Pn**	**15 27 50.2**	**+1.7**
EGRO				↑*i*Vmb_VC		15 27 50.5	
	270nm,SNR=1.9						
EGRO				Sn	**Sn**	**15 28 20.3**	**-1.5**
PVAQ	**Vaqueiros**	**3.03**	**281**	Pn	**Pn**	**15 27 51.7**	**+1.0**
PVAQ	**Vaqueiros**	**3.03**	**281**	*eP*	**Pn**	**15 27 51.7**	**+1.0**
PVAQ				*eS*	**Sn**	**15 28 24.3**	**-1.4**
PVAQ				*i* IAML		15 28 26.1	
PVAQ				*i* IAML		15 28 26.4	
PVAQ				*i* IAML		15 28 27.1	
PVAQ	**Vaqueiros**	**3.03**	**281**	P	**Pn**	**15 27 51.4**	**+0.7**
EBAD	**Badajoz**	**3.04**	**309**	Pn	**Pn**	**15 27 52.1**	**+1.3**
EBAD				↑*i*Vmb_VC		15 27 54.0	
	143nm,SNR=1.9						
EBAD				Sn	**Sn**	**15 28 24.1**	**-1.8**
PBDV	**Barranco-do-Ve**	**3.18**	**277**	*eP*	**Pn**	**15 27 54.9**	**+2.1**
PBDV				*eS*	**Sn**	**15 28 28.3**	**-1.2**
AFON	**Font Roja**	**3.24**	**56**	Sn	**Sn**	**15 28 30.0**	**-1.1**
PBEJ	**Beja**	**3.29**	**291**	*eS*	**Sn**	**15 28 30.9**	**-1.4**
PBEJ				*i* IAML		15 28 32.6	
PBEJ				*i* IAML		15 28 33.0	
PBEJ				*i* IAML		15 28 33.4	
PCVE	**Castro Verde**	**3.32**	**284**	Pn	**Pn**	**15 27 56.2**	**+1.5**
PCVE	**Castro Verde**	**3.32**	**284**	*eP*	**Pn**	**15 27 56.0**	**+1.3**
PCVE				*eS*	**Sn**	**15 28 32.4**	**-0.6**
PCVE				*i* IAML		15 28 34.1	
PCVE				*i* IAML		15 28 34.5	
PCVE				*i* IAML		15 28 36.7	
PESTR	**Estremoz**	**3.47**	**306**	*eS*	**Sn**	**15 28 34.8**	**-1.8**
EBEN2	**Beniarda presa**	**3.48**	**58**	Pn	**Pn**	**15 27 57.1**	**+0.2**
EBEN2				Sn	**Sn**	**15 28 34.1**	**-2.8**
MESJ	**Messejana**	**3.51**	**287**	*eP*	**Pn**	**15 27 58.4**	**+1.2**
MESJ				*eS*	**Sn**	**15 28 35.8**	**-1.8**
MESJ				IAML		15 28 37.8	
	comp=N,2.5nm,0.2s						
MESJ	**Messejana**	**3.51**	**287**	*eP*	**Pn**	**15 27 58.8**	**+1.5**
MESJ				*eS*	**Sn**	**15 28 36.8**	**-0.8**
MESJ				*i* IAML		15 28 37.6	
MESJ				*i* IAML		15 28 38.2	
MESJ				*i* IAML		15 28 38.5	
EPLA	**Plasencia**	**3.57**	**333**	Pn	**Pn**	**15 27 59.2**	**+1.1**
EPLA				Sn	**Sn**	**15 28 38.1**	**-0.9**
ECHE	**Chera**	**3.58**	**40**	Pn	**Pn**	**15 27 58.5**	**+0.2**
ECHE				↑*i*Vmb_VC		15 28 01.6	
	comp=N,59nm,SNR=0.6						
ECHE				Sn	**Sn**	**15 28 35.4**	**-4.0**
EVO	**Evora**	**3.59**	**298**	*eS*	**Sn**	**15 28 37.9**	**-1.7**
MORF	**Marmelete**	**3.76**	**278**	*eP*	**Pn**	**15 28 02.7**	**+1.9**
PTEO	**Sao Teotonio**	**3.85**	**281**	*eS*	**Sn**	**15 28 44.5**	**-1.3**
PTEO				*i* IAML		15 28 46.5	
PTEO				*i* IAML		15 28 47.2	
PTEO				*i* IAML		15 28 47.7	
PFVI	**Vila Bisbo**	**3.89**	**275**	*eP*	**Pn**	**15 28 03.7**	**+1.2**
PFVI				*eS*	**Sn**	**15 28 45.5**	**-1.4**
PFVI				*i* IAML		15 28 45.6	
PFVI				*i* IAML		15 28 47.9	
PFVI				*i* IAML		15 28 53.0	
PFVI	**Vila Bisbo**	**3.89**	**275**	P	**Pn**	**15 28 02.1**	**-0.4**
PFVI	**Vila Bisbo**	**3.89**	**275**	S	**Sn**	**15 28 44.8**	**-2.1**
PMTG	**Montargil**	**4.00**	**304**	*eP*	**Pn**	**15 28 05.2**	**+1.2**
PMTG				*eS*	**Sn**	**15 28 47.6**	**-1.9**
PMTG				*i* IAML		15 28 48.5	
PMTG				*i* IAML		15 28 48.8	
PMTG				*i* IAML		15 28 51.5	
ETOR	**Torete**	**4.19**	**20**	Pn	**Pn**	**15 28 07.0**	**+0.3**
ETOR				↑*i*Vmb_VC		15 28 07.9	
	comp=N,20nm,SNR=0.3						
ETOR				Sn	**Sn**	**15 28 50.5**	**-4.0**
PSARD	**Sardoal**	**4.26**	**311**	*eP*	**Pn**	**15 28 09.2**	**+1.6**
PSARD				*eS*	**Sn**	**15 28 53.9**	**-2.2**
PSARD				*i* IAML		15 28 54.3	
PSARD				*i* IAML		15 28 55.2	
PSARD				*i* IAML		15 28 55.7	
EMOS	**Mosqueruela**	**4.42**	**37**	Pn	**Pn**	**15 28 11.8**	**+1.9**
EMOS				↑*i*Vmb_VC		15 28 13.7	
	comp=N,31nm,SNR=0.5						
EMOS				Sn	**Sn**	**15 28 55.3**	**-4.8**
PARRA	**Arraiolos**	**4.44**	**297**	*eP*	Pn	15 28 01.9	-8.2
PARRA				*eS*	Sn	15 28 40.8	-20
PARRA				*i* IAML		15 28 42.7	
PARRA				*i* IAML		15 28 43.0	
PARRA				*i* IAML		15 28 43.2	
PMAFR	**Mafra**	**4.67**	**298**	*eS*	**Sn**	**15 29 05.3**	**-0.9**
EIBI	**Ibiza**	**4.71**	**62**	Pn	**Pn**	**15 28 14.3**	**+0.5**
EIBI				↑*i*Vmb_VC		15 28 16.2	
	comp=N,92nm,SNR=0.4						

*AEIC **22** 15:28:11.8±2.9, 54.32N±0.04×162.36W±0.03, h14km±6km, Error ellipse: s-maj=5.3km s-min=2.1km az=165.0*
NEIC 22 15:28:10.6±2.3, 54.16N±0.07×162.28W±0.06, h32km±8km, ML2.7/22, ML2.4(AEIC), Error ellipse: s-maj=10.1km s-min=4.5km az=167.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DT1	**Dutton Round H**	**0.95**	**360**		Pn	15 28 27.0	-0.6
DT1					Sn	15 28 38.1	-1.9
FALS	**False Pass**	**0.96**	**317**		Pn	15 28 27.2	-0.5
FALS					Sn	15 28 38.1	-2.3
DOL	**Dolgoi Island**	**1.02**	**13**		Pn	15 28 28.4	-0.2
DOL					Sn	15 28 41.2	-0.6
ISNN	**Isanotski Nort**	**1.10**	**308**		Pn	15 28 30.2	+0.4
ISNN					Sb	15 28 44.7	-0.5
HAG	**Hague Volcano**	**1.18**	**10**		Pn	15 28 31.5	+0.7
PS4A	**Pavlof South-4**	**1.21**	**11**		Pn	15 28 31.1	-0.1
PS4A					Sn	15 28 47.4	+0.8
SSBA	**Shishaldin**	**1.24**	**300**		Pn	15 28 32.0	+0.3
PS1A	**Pavlof South-1**	**1.30**	**14**		Pn	15 28 33.2	+0.7
WEBT	**Westdahl Beart**	**1.51**	**288**		Pn	15 28 35.5	+0.1
S12K	**Black Hills**	**1.55**	**5**	Pn	Pn	15 28 37.0	+1.1
S12K				IAML		15 29 01.6	
	comp=E,64nm,0.6s						
S12K				IAML		15 29 02.6	
	comp=N,47nm,1.0s						
SDPT	**Sand Point**	**1.58**	**40**		Pn	15 28 35.7	-0.6
SDPT					Sn	15 28 56.4	+0.8
SDPT				IAML		15 29 00.3	
	comp=N,100nm,0.3s						
SDPT				IAML		15 29 00.8	
	comp=E,83nm,0.4s						
CNBA	**Chernabura Isl**	**1.70**	**66**	Pn	Pn	15 28 36.9	-1.0
CNBA				Sn	Sn	15 28 58.2	-0.4
AKUT	**Akutan**	**2.06**	**271**	Pn	Pn	15 28 43.2	+0.4
AKUT				Sn	Sn	15 29 08.2	+0.9
AKUT				IAML		15 29 39.6	
	comp=E,35nm,1.1s						
LVA	**Lava Point**	**2.21**	**272**	Pn	Pn	15 28 45.0	0.0
LVA				IAML		15 29 02.5	
	comp=E,25nm,1.1s						
LVA				IAML		15 29 22.6	
	comp=N,37nm,1.0s						
UNV	**Unalaska Valle**	**2.52**	**264**	Pn	Pn	15 28 48.2	-0.9
UNV					Pb	15 28 49.5	-5.5
CHGN	**Chignik**	**3.08**	**44**	Pn	Pn	15 28 56.0	-0.8
CHGN				IAML		15 29 34.1	
	comp=N,31nm,0.1s						
PLK4	**Peulik 4**	**4.82**	**41**	Pn	Pn	15 29 24.0	+3.2
O14K	**Tigyukauivet M**	**5.14**	**6**	Pn	Pn	15 29 27.7	+2.6
O14K				IAML		15 31 48.1	
	comp=E,3.7nm,1.2s						
O14K				IAML		15 32 13.6	
	comp=N,6.2nm,1.0s						
O15K	**Ungalikthiuk R**	**5.21**	**14**	Pn	Pn	15 29 27.7	+1.6
O15K				IAML		15 31 31.0	
	comp=E,5.1nm,1.1s						
O15K				IAML		15 31 40.3	
	comp=N,5.3nm,1.2s						
N14K	**Kuskokwak Cree**	**5.79**	**3**	Pn	Pn	15 29 36.0	+2.0
O16K	**Kokwok River B**	**5.91**	**21**	Pn	Pn	15 29 35.7	0.0
OHAK	**Old Harbor**	**5.94**	**55**	Pn	Pn	15 29 35.7	-0.4
N15K	**Kwethluk River**	**6.14**	**10**	Pn	Pn	15 29 39.4	+0.5
M14K	**Bethel**	**6.61**	**1**	Pn	Pn	15 29 44.8	-0.5
Q19K	**Cape Douglas,**	**6.75**	**41**	Pn	Pn	15 29 47.5	+0.1
M16K	**Timber Creek**	**7.11**	**13**	Pn	Pn	15 29 54.3	+2.2
M17K	**Holitna River**	**7.71**	**18**	Pn	Pn	15 29 58.9	-1.5

*IDC **22** 15:29:56.9±0.6, 17.65S×178.66W, h522km±5km, mb4.3/21, mbtmp5.2/23, Error ellipse: s-maj=9.6km s-min=7.7km az=100.0*
*NEIC **22** 15:29:57.9±1.7, 17.66S±0.08×178.59W±0.10, h536km±2km, mb4.8/452, Error ellipse: s-maj=13.6km s-min=11.8km az=108.0*
*NOU **22** 15:29:57.8, 17.65S×178.52W, h539km, mb5.1/97, Fiji Islands Region*
*BJI **22** 15:29:57.3, 17.30S×178.25W, h535km, mB4.8/14, mb5.0/60*
*MOS **22** 15:29:58.6±1.3, 17.55S×178.72W, h548km, mb5.0/27, Error ellipse: s-maj=8.4km s-min=8.1km az=5.3*
*GCMT **22** 15:30:01.9±0.3, 17.48S±0.02×178.52W±0.03, h544km±1km, MW5.4/104, Moment Tensor Solution. s104,c166; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.44±.03; Mθθ 1.24±.04; Mφφ-0.80±.05; Mrθ 1.02±.05; Mθφ 0.52±.04; Mφr-0.73±.05; Best double couple: Mo1.74100×10^17 NP1:φs37.00000°, δ42.00000°, λ-165.00000°. NP2:φs296.00000°, δ80.00000°, λ-49.00000°. Principal axes: T 1.7330, Plg24.0000°, Azm356.0000°; N 0.0130, Plg40.0000°, Azm108.0000°; P -1.7500, Plg40.0000°, Azm244.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 22 15:29:57.7±0.3, 17.66S±0.03×178.58W±0.04, h537km±2km, h539km:pP-P, n1282, σ0.97/1245, mb4.9/343, 95C-50D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.61**	**201**	P	**P**	**15 31 02.7**	**+0.8**
LKBA	**Tubou, Lakemba**	**0.61**	**201**	S	**S**	**15 31 55.9**	**+1.8**
TAVE	**Taveuni**	**1.58**	**307**	P	**P**	**15 31 05.3**	**+0.8**
TAVE	**Taveuni**	**1.58**	**307**	S	**S**	**15 32 00.9**	**+2.2**
DGTI	**Dogotuki**	**2.10**	**310**	P	**P**	**15 31 06.9**	**+0.1**
MSVF	**Nonsavu**	**3.21**	**268**		**P**	**15 31 15.1**	**+2.0**
MSVF	**Nonsavu**	**3.21**	**268**	P	**P**	**15 31 14.7**	**+1.5**
MSVF	**Nonsavu**	**3.21**	**268**	*i* P	**P**	**15 31 14.2**	**+1.0**
FUTU	**Fugatoga**	**3.36**	**8**		**P**	**15 31 13.9**	**-0.2**
FUTU	**Fugatoga**	**3.36**	**8**	P	**P**	**15 31 13.9**	**-0.2**
YSA	**Yasawairara**	**3.80**	**284**	P	**P**	**15 31 18.2**	**+1.1**
NIUE	**Niue**	**8.34**	**101**	P	**P**	**15 31 58.4**	**0.0**
	comp=Z,2μm,1.1s						
NIUE	**Niue**	**8.34**	**101**		**P**	**15 31 58.1**	**-0.3**

BFZ **Birch Farm** 23.37 190 P **P** 15 34 23.4 -1.1
MRZ **Mangatainoka R** 23.47 191 P **P** 15 34 24.7 -0.6
TCW **Tory Channel** 24.26 193 P **P** 15 34 31.9 -0.5
SNZO **South Karori** 24.27 192 P **P** 15 34 32.5 +0.1
QRZ **Quartz Range** 24.32 197 P **P** 15 34 33.8 +0.8
THZ **Tophouse** 25.11 195 **P** 15 34 38.3 -1.6
KHZ **Kahutara** 25.57 194 **P** 15 34 42.4 -1.5
KHZ **Kahutara** 25.57 194 P **P** 15 34 43.2 -0.7
LTZ **Lake Taylor** 26.22 195 **P** 15 34 48.4 -1.4
INZ **Inchbonnie** 26.39 197 P **P** 15 34 50.1 -1.1
OXZ **Oxford** 26.79 195 **P** 15 34 53.5 -1.2
RPZ **Rata Peaks** 27.41 196 P **P** 15 35 00.6 +0.4
PPT **Papeete** 27.63 94 P **P** 15 35 03.1 +0.7
comp=Z,24nm,0.6s,baz=55,slow=4.9,SNR=9.2
comp=Z,24nm,0.6s
PPTF **Pamatai, Papee** 27.64 94 P **P** 15 35 02.5 0.0
PPTF **Pamatai, Papee** 27.64 94 P **P** 15 35 02.2 -0.4
LBZ **Lake Benmore** 28.27 197 **P** 15 35 06.3 -1.3
JCZ **Jackson Bay** 28.41 199 P **P** 15 35 09.4 +0.5
ODZ **Otahua Downs** 28.76 196 P **P** 15 35 11.3 -0.5
EIDS **Eidsvold** 29.20 250 P **P** 15 35 15.5 -0.6
comp=Z,96nm,0.9s
EIDS **Eidsvold** 29.20 250 P **P** 15 35 15.4 -0.6
EIDS **Eidsvold** 29.20 250 P **P** 15 35 16.3 +0.3
ARMA **Armidale** 29.93 239 P **P** 15 35 23.4 +1.1
comp=Z,118nm,0.9s
ARMA **Armidale** 29.93 239 P **P** 15 35 23.4 +1.1
ARMA **Armidale** 29.93 239 P **P** 15 35 22.4 0.0
WHZ **Wether Hill Ro** 30.30 199 P **P** 15 35 25.4 +0.2
SYZ **Scrubby Hill** 30.54 197 P **P** 15 35 27.6 +0.4
MGCD **Mangrove Creek** 31.30 235 P **P** 15 35 34.2 +0.2
comp=Z,106nm,1.1s
MGCD **Mangrove Creek** 31.30 235 P **P** 15 35 34.6 +0.6
RMQ **Roma** 31.45 248 P **P** 15 35 36.3 +0.9
comp=Z,45nm,1.5s
CTA **Charters Tower** 33.33 260 P **P** 15 35 51.6 +0.1
CTA **Charters Tower** 33.33 260 P **P** 15 35 51.5 +0.1
CTAO **Charters Tower** 33.33 260 P **P** 15 35 51.2 -0.2
CTAO **PcP** **PcP** 15 38 18.3 +0.6
CNB **Canberra Magne** 33.45 232 P **P** 15 35 53.4 +1.1
comp=Z,189nm,1.2s
CNB **Canberra Magne** 33.45 232 P **P** 15 35 52.6 +0.3
CAN **Canberra** 33.73 232 P **P** 15 35 55.3 +0.7
comp=Z,85nm,1.4s
CAN **Canberra** 33.73 232 P **P** 15 35 54.1 -0.5
CAN **Canberra** 33.73 232 P **P** 15 35 55.5 +0.9
CAN **Canberra** 33.73 232 P **P** 15 35 54.1 -0.5
CAN pmax pmax
comp=Z,65nm,1.0s
CAN **Canberra** 33.73 232 P **P** 15 35 55.5 +0.9
PMG **Port Moresby** 34.26 279 P **P** 15 35 57.7 -1.6
PMG **Port Moresby** 34.26 279 *i* P **P** 15 35 59.4 +0.1
PMG pmax pmax
comp=Z,114nm,1.1s
PMG **Port Moresby** 34.26 279 P **P** 15 35 59.1 -0.1
PMG PcP **PcP** 15 38 20.2 -0.2
PMG sP **sP** 15 38 30.4 -1.0
CMSA **Cobar Meteorol** 35.13 240 P **P** 15 36 06.7 +0.3
comp=Z,182nm,0.9s
CMSA **Cobar Meteorol** 35.13 240 P **P** 15 36 06.8 +0.4
MTSU **Mount Surprise** 35.27 263 P **P** 15 36 07.5 -0.3
comp=Z,35nm,1.0s
MTSU **Mount Surprise** 35.27 263 P **P** 15 36 08.0 +0.2
JOHN **Johnston Islan** 35.32 15 P **P** 15 36 07.5 -0.5
QLP **Quilpie** 35.47 249 P **P** 15 36 09.3 +0.1
comp=Z,306nm,1.0s
QLP **Quilpie** 35.47 249 P **P** 15 36 09.7 +0.4
MANU **Manus Island** 36.86 291 P **P** 15 36 20.9 0.0
GLAD **Gladstone** 36.91 224 P **P** 15 36 21.3 +0.3
COEN **Coen** 36.94 270 P **P** 15 36 21.3 -0.2
comp=Z,79nm,1.1s
COEN **Coen** 36.94 270 P **P** 15 36 21.6 0.0
TOO **Toolangi** 37.20 230 P **P** 15 36 24.3 +0.9
comp=Z,116nm,1.1s
TOO **Toolangi** 37.20 230 P **P** 15 36 24.2 +0.8
TOO **Toolangi** 37.20 230 P **P** 15 36 24.2 +0.8
TOO pmax pmax
comp=Z,106nm,1.0s
MOO **Moorlands** 38.16 222 P **P** 15 36 31.6 +0.5
comp=Z,128nm,1.1s
MOO **Moorlands** 38.16 222 P **P** 15 36 32.3 +1.1
TAU **Tasmania Unive** 38.32 222 P **P** 15 36 33.3 +0.9
TAU **Tasmania Unive** 38.32 222 P **P** 15 36 32.9 +0.5
TAU **Tasmania Unive** 38.32 222 P **P** 15 36 33.3 +0.9
TAU pmax pmax
comp=Z,105nm,1.1s
STKA **Stephens Creek** 38.61 241 P **P** 15 36 35.7 +0.8
comp=Z,831nm,1.4s
STKA **Stephens Creek** 38.61 241 P **P** 15 36 35.9 +0.9
STKA **Stephens Creek** 38.61 241 P **P** 15 36 35.4 +0.5
comp=Z,94nm,0.9s,baz=85,slow=9.1,SNR=126
STKA PcP **PcP** 15 38 34.1 +0.6
comp=Z,12nm,0.8s,baz=59,slow=4.6,SNR=3.6
STKA ScP **ScP** 15 41 34.2 +3.5
comp=Z,6.9nm,1.1s,baz=90,slow=2.0,SNR=3.9
comp=Z,94nm,0.9s
STKA **Stephens Creek** 38.61 241 P **P** 15 36 35.5 +0.5
STKA **Stephens Creek** 38.61 241 *i* P **P** 15 36 35.7 +0.8
WAKE **Wake Island** 39.48 338 P **P** 15 36 40.8 -1.1
WAKE **Wake Island** 39.48 338 P **P** 15 36 42.0 0.0
WAKE **Wake Island** 39.48 338 P **P** 15 36 41.4 -0.6
WAKE pP **pP** 15 38 15.4 -0.2
QIS **Mount Isa** 39.54 259 P **P** 15 36 41.7 -0.9
comp=Z,27nm,1.8s
QIS **Mount Isa** 39.54 259 P **P** 15 36 42.8 +0.1
ARPS **Mount Arapiles** 39.67 233 P **P** 15 36 43.8 +0.4
comp=Z,54nm,1.3s
HTT **Hallett** 41.13 239 P **P** 15 36 55.8 +0.6
comp=Z,52nm,1.2s
HTT **Hallett** 41.13 239 P **P** 15 36 56.2 +1.0
HTT **Hallett** 41.13 239 P **P** 15 36 56.1 +0.9
WHYH **Whyalla** 42.16 240 P **P** 15 37 04.0 +0.7
JAY **Jayapura** 42.68 286 P **P** 15 37 08.2 +0.5
comp=Z,2µmcomp=Z,146nm,1.2s
GENI **Genyem** 43.14 286 P **P** 15 37 12.2 +1.0
comp=Z,4µmcomp=Z,310nm,1.3s
HUH **Hualalai** 43.31 32 P **P** 15 37 12.7 0.0
PUH **Pauahi** 43.37 33 P **P** 15 37 12.4 -0.6
BBOO **Buckleboo** 43.38 241 P **P** 15 37 13.1 +0.2
comp=Z,281nm,1.0s
BBOO **Buckleboo** 43.38 241 **P** 15 37 12.6 -0.2
BBOO **Buckleboo** 43.38 241 P **P** 15 37 13.3 +0.4
POHA **Pohakuloa** 43.53 32 P **P** 15 37 13.6 -0.7
POHA **Pohakuloa** 43.53 32 P **P** 15 37 13.9 -0.4
POHA sP **sP** 15 39 50.0 +0.3
KIP **Kipapa** 43.76 28 P **P** 15 37 16.1 +0.3
KIP **Kipapa** 43.76 28 *i* P **P** 15 37 15.9 +0.1
KHLH **Kahului Airpor** 44.05 30 P **P** 15 37 18.4 +0.3
WR0 **Warramunga Arr** 44.33 259 P **P** 15 37 19.8 -0.5
WR8 **Warramunga Arr** 44.37 259 **P** 15 37 19.1 -1.6
WR8 IAmb IAmb 15 37 21.2
comp=Z,66nm,1.1s
WR8 PcP **PcP** 15 38 52.8 -0.2
WRAB **Tennant Creek** 44.51 259 P **P** 15 37 20.1 -1.6
WRAB PcP **PcP** 15 38 53.2 -0.3
WRAB **Tennant Creek** 44.51 259 *i* P **P** 15 37 20.6 -1.2
WRAB pmax pmax
comp=Z,117nm,1.6s
WRA **Warramunga Arr** 44.52 259 P **P** 15 37 20.0 -1.8
WRA PcP **PcP** 15 38 53.7 +0.2
WRA **Warramunga Arr** 44.52 259 P **P** 15 37 20.9 -1.0
comp=Z,34nm,0.9s,baz=94,slow=7.1,SNR=180
WRA PcP **PcP** 15 38 53.8 +0.2
comp=Z,24nm,0.9s,baz=88,slow=3.7,SNR=16
WRA ScP **ScP** 15 41 57.8 +3.1
comp=Z,9.7nm,1.1s,baz=90,slow=4.0,SNR=12
WRA S **S** 15 43 13.2 -5.2
comp=Z,1.0nm,0.8s,baz=99,slow=14,SNR=2.9
WRA PKiKP **PKiKP** 15 45 50.6 -0.9
comp=Z,1.6nm,0.8s,baz=60,slow=0.4,SNR=9.0
comp=Z,34nm,0.9s
AS06 **Alice Springs** 44.64 254 P **P** 15 37 22.8 0.0
comp=Z,414nm,0.8s
AS01 **Alice Springs** 44.66 254 P **P** 15 37 23.1 +0.2
AS31 **Alice Springs** 44.70 254 P **P** 15 37 23.2 0.0
comp=Z,98nm,0.9s
ASAR **Alice Springs** 44.70 254 P **P** 15 37 22.8 -0.5
ASAR PcP **PcP** 15 38 53.9 -0.3
ASAR **Alice Springs** 44.70 254 P **P** 15 37 23.3 0.0
comp=Z,227nm,0.8s,baz=89,slow=8.2,SNR=1301
ASAR PcP **PcP** 15 38 54.5 +0.4
comp=Z,21nm,0.6s,baz=96,slow=4.0,SNR=13
ASAR ScP **ScP** 15 41 59.2 +3.9
comp=Z,8.6nm,1.0s,baz=99,slow=4.2,SNR=7.4
ASAR S **S** 15 43 18.1 -2.8
comp=Z,2.8nm,0.8s,baz=93,slow=14,SNR=8.4
ASAR PKiKP **PKiKP** 15 45 50.5 -1.1
comp=Z,2.4nm,1.1s,baz=101,slow=1.6,SNR=9.4
comp=Z,227nm,0.8s
SMPI **Sarmi** 44.72 286 P **P** 15 37 23.9 +0.5
comp=Z,113nm,1.0s
MIDW **Midway** 45.62 1 P **P** 15 37 29.8 -0.1
SRPI **Serui, Papua** 47.04 284 P **P** 15 37 41.9 +0.8
comp=Z,110nm,1.2s
KDU **Kakadu** 47.40 269 P **P** 15 37 43.6 -0.2
comp=Z,128nm,1.6s
KDU **Kakadu** 47.40 269 P **P** 15 37 43.9 +0.1
BAKI **Biak** 47.42 285 P **P** 15 37 46.0 +2.0
comp=Z,2µmcomp=Z,185nm,1.3s
GUMO **Guam** 47.59 308 **P** 15 37 45.0 -0.2
GUMO **Guam** 47.59 308 P **P** 15 37 45.1 -0.1
GUMO **Guam** 47.59 308 P **P** 15 37 45.0 -0.2
GUMO pmax pmax
comp=Z,230nm,0.8s
MTN **Manton Dam** 48.64 268 P **P** 15 37 52.6 -0.4
comp=Z,113nm,1.0s
MTN **Manton Dam** 48.64 268 P **P** 15 37 53.2 +0.1
KMPI **Kaimana, Papua** 48.75 281 P **P** 15 37 54.2 +0.3
DRS **Darwin Rock St** 48.95 269 P **P** 15 37 55.3 -0.1
RKPI **Ransiki, Papua** 49.08 284 P **P** 15 37 56.7 +0.3
comp=Z,3µmcomp=Z,125nm,0.9s
WRKA **Warakurna** 49.77 252 P **P** 15 38 01.3 0.0
comp=Z,122nm,2.0s
KNRA **Kununurra** 50.35 264 P **P** 15 38 05.4 -0.2
comp=Z,136nm,1.0s
KNRA **Kununurra** 50.35 264 **P** 15 38 04.6 -1.1
KNRA PcP **PcP** 15 39 14.1 -0.6
FAKI **Fak Fak** 50.37 281 P **P** 15 38 05.1 -0.8
FAKI **Fak Fak** 50.37 281 P **P** 15 38 06.4 +0.6
FAKI **Fak Fak** 50.37 281 P **P** 15 38 05.7 -0.1
comp=Z,77nm,1.5s
SWI **Sorong** 52.03 283 P **P** 15 38 18.4 +0.6
FITZ **Fitzroy Crossi** 52.91 260 P **P** 15 38 24.0 -0.1
comp=Z,15nm,1.5s
FITZ **Fitzroy Crossi** 52.91 260 P **P** 15 38 23.5 -0.6
FITZ IAmb IAmb 15 38 25.9
comp=Z,58nm,1.8s
FITZ **Fitzroy Crossi** 52.91 260 P **P** 15 38 24.5 +0.4
AAI **Ambon** 53.92 278 P **P** 15 38 30.4 -0.9
comp=Z,2µmcomp=Z,169nm,1.3s
NLAI **Namlea** 55.10 279 P **P** 15 38 39.8 +0.2
comp=Z,4µmcomp=Z,155nm,1.5s
DRV **Dumont d'Urvil** 55.85 199 P **P** 15 38 44.3 +0.5
DRV PcP **PcP** 15 39 35.0 +0.2
SOEI **Soe** 55.91 270 P **P** 15 38 45.0 -0.3
SOEI **Soe** 55.91 270 P **P** 15 38 46.7 +1.3
SOEI **Soe** 55.91 270 P **P** 15 38 47.2 +1.8
TNTI **Ternate** 56.25 283 P **P** 15 38 47.1 -0.5
TNTI PcP **PcP** 15 39 32.5 -4.9
TNTI **Ternate** 56.25 283 P **P** 15 38 48.3 +0.7
comp=Z,2µmcomp=Z,165nm,1.0s
BATI **Batumata** 56.37 269 P **P** 15 38 49.0 +0.5
comp=Z,2µmcomp=Z,83nm,0.9s
SANI **Sanana** 56.54 279 P **P** 15 38 49.2 -0.4
comp=Z,2µmcomp=Z,181nm,1.4s
PSAC2 **Pilbara Seismi** 57.77 255 P **P** 15 38 57.5 -0.4
comp=Z,134nm,1.0s
PSA00 **Pilbara Seismi** 57.81 255 P **P** 15 38 57.9 -0.3
comp=Z,151nm,1.2s
PSA00 **Pilbara Seismi** 57.81 255 P **P** 15 38 57.7 -0.5
PSA00 IAmb IAmb 15 38 59.2
comp=Z,82nm,1.1s
PSA00 PcP **PcP** 15 39 42.7 -0.9
PSA00 **Pilbara Seismi** 57.81 255 IAmb IAmb 15 38 59.2
comp=Z,120nm,0.9s
PSA00 **Pilbara Seismi** 57.81 255 P **P** 15 38 58.3 +0.1
MBWA **Marble Bar** 57.98 256 P **P** 15 38 58.8 -0.5
comp=Z,109nm,1.2s
MBWA **Marble Bar** 57.98 256 P **P** 15 38 58.5 -0.8
MBWA PcP **PcP** 15 39 43.7 -0.5
MBWA **Marble Bar** 57.98 256 P **P** 15 38 59.1 -0.2
MBWA **Marble Bar** 57.98 256 P **P** 15 38 59.1 -0.2
MBWA **Marble Bar** 57.98 256 P **P** 15 38 58.8 -0.5
MMRI **Maumere** 58.13 271 P **P** 15 38 59.3 -1.2
MMRI **Maumere** 58.13 271 P **P** 15 39 00.0 -0.5
comp=Z,79nm,1.5s
MEEK **Meekatharra** 58.37 249 P **P** 15 39 01.0 -0.9
comp=Z,89nm,1.5s
MEEK **Meekatharra** 58.37 249 P **P** 15 39 01.8 -0.1
EDFI **Ende, Flores** 58.62 270 P **P** 15 39 03.3 -0.6
comp=Z,1µmcomp=Z,126nm,1.1s
SGSI **Sangihe** 59.05 286 P **P** 15 39 06.6 0.0
comp=Z,246nm,1.1s
NWAO **Narrogin (SRO)** 59.18 242 P **P** 15 39 06.6 -0.6
NWAO **Narrogin (SRO)** 59.18 242 P **P** 15 39 07.3 0.0
NWAO **Narrogin (SRO)** 59.18 242 P **P** 15 39 06.6 -0.6
NWAO pmax pmax
comp=Z,153nm,1.5s
KMSI **Cibinong** 59.33 282 P **P** 15 39 08.5 0.0
comp=Z,2µmcomp=Z,251nm,0.9s
RKGY **Rocky Gully** 59.35 240 P **P** 15 39 08.5 +0.2
comp=Z,121nm,1.2s
WSI **Waingapu** 59.71 269 P **P** 15 39 10.9 -0.2
comp=Z,233nm,1.2s
BLDU **Ballidu** 59.74 244 P **P** 15 39 10.5 -0.5
comp=Z,91nm,1.4s
BLDU **Ballidu** 59.74 244 P **P** 15 39 11.0 0.0
LUWI **Luwuk** 59.91 279 P **P** 15 39 11.8 -0.5
LUWI **Luwuk** 59.91 279 P **P** 15 39 13.5 +1.2
comp=Z,269nm,1.3s
MUN **Mundaring** 60.09 243 P **P** 15 39 13.4 +0.1
comp=Z,48nm,1.0s
MUN **Mundaring** 60.09 243 P **P** 15 39 13.6 +0.3
MORW **Morawa** 60.43 246 P **P** 15 39 15.2 -0.4
comp=Z,62nm,2.1s
MORW **Morawa** 60.43 246 IAmb IAmb 15 39 15.9
comp=Z,34nm,0.9s
MORW **Morawa** 60.43 246 P **P** 15 39 15.8 +0.2
BSSI **Bau Bau, Buton** 60.48 273 P **P** 15 39 15.7 -0.5
comp=Z,107nm,1.2s
SBA **Scott Base** 60.66 184 P **P** 15 39 16.5 +0.3
SBA IAmb IAmb 15 39 20.3
comp=Z,80nm,1.4s
SBA **Scott Base** 60.66 184 P **P** 15 39 16.5 +0.3
SBA pmax pmax
comp=Z,80nm,1.4s
SBA **Scott Base** 60.66 184 P **P** 15 39 18.3 +2.1
SBA x x 15 41 01.6
VNDA **Vanda** 60.68 185 P **P** 15 39 16.8 +0.4
VNDA PcP **PcP** 15 39 52.9 -1.1
VNDA **Vanda** 60.68 185 P **P** 15 39 17.8 +1.4
comp=Z,9.5nm,1.0s,baz=357,slow=7.2,SNR=33
VNDA PcP **PcP** 15 39 55.1 +1.1
comp=Z,7.4nm,1.0s,baz=12,slow=5.8,SNR=5.7
VNDA S **S** 15 46 51.0 -0.1
comp=Z,0.2nm,0.3s,baz=21,slow=8.6,SNR=8.0
comp=Z,9.5nm,1.0s
VNDA **Vanda** 60.68 185 P **P** 15 39 17.8 +1.4
VNDA pP **pP** 15 41 04.7 +1.9
APSI **Ampana** 61.01 279 P **P** 15 39 20.7 +1.1
comp=Z,3µmcomp=Z,250nm,1.6s
BKSI **Bulukumba** 61.07 274 P **P** 15 39 19.4 -0.6
MRSI **Marisa** 61.20 281 P **P** 15 39 20.3 -0.6
comp=Z,78nm,1.0s
BNSI **Bone** 61.36 275 P **P** 15 39 22.2 +0.3
comp=Z,2µmcomp=Z,187nm,1.2s
KAPI **Kappang** 61.51 274 P **P** 15 39 21.8 -1.2
KAPI IAmb IAmb 15 39 24.4
comp=Z,79nm,1.2s
KAPI **Kappang** 61.51 274 P **P** 15 39 23.5 +0.6
KAPI **Kappang** 61.51 274 *i* P **P** 15 39 21.9 -1.1
KAPI pmax pmax
comp=Z,90nm,1.3s
SPSI **Sidrap Palu** 61.81 275 P **P** 15 39 23.7 -1.2
comp=Z,1µmcomp=Z,79nm,1.1s
TTSI **Tana Toraja** 62.05 276 P **P** 15 39 26.7 +0.3
PLAI **Plampang** 62.34 269 P **P** 15 39 28.5 +0.2
PLAI **Plampang** 62.34 269 P **P** 15 39 28.2 -0.1
comp=Z,3µmcomp=Z,253nm,1.0s
TOLI2 **Tolitoli** 62.51 281 IAmb IAmb 15 39 30.7
comp=Z,86nm,1.2s
TOLI2 **Tolitoli** 62.51 281 P **P** 15 39 30.5 +1.1
PCI **Palu** 62.72 278 P **P** 15 39 33.0 +2.2
comp=Z,4µmcomp=Z,287nm,1.4s
JHJ2 **Mitsune** 64.25 322 P **P** 15 39 41.0 +0.9
SRBI **Singaraja** 64.98 269 P **P** 15 39 45.0 -0.2
comp=Z,169nm,1.2s
CCD **Concordia, Ant** 65.07 194 P **P** 15 39 46.0 +0.8
CCD PcP **PcP** 15 40 13.3 +0.7
JAGI **Jajag, Banyuwa** 65.88 268 P **P** 15 39 49.1 -1.8
JAGI **Jajag, Banyuwa** 65.88 268 P **P** 15 39 50.7 -0.2
JAGI **Jajag, Banyuwa** 65.88 268 P **P** 15 39 49.6 -1.3
comp=Z,187nm,0.9s
CASY **Casey** 66.29 205 P **P** 15 39 52.3 -0.2
CASY **Casey** 66.29 205 P **P** 15 39 53.2 +0.8
CASY pP **pP** 15 41 42.3 +1.5
JGF **Kuroka** 67.44 322 P **P** 15 39 59.8 -0.3
MJAR **Matsushiro Arr** 67.61 323 P **P** 15 40 00.1 -1.0
MJAR PcP **PcP** 15 40 24.0 +0.6
MJAR **Matsushiro Arr** 67.61 323 P **P** 15 40 00.4 -0.7
comp=Z,12nm,0.6s,baz=154,slow=5.9,SNR=39
comp=Z,12nm,0.6s
MAJO **Matsushiro** 67.61 323 P **P** 15 40 00.7 -0.3
MAJO IAmb IAmb 15 40 01.8
comp=Z,17nm,0.6s
MAJO **Matsushiro** 67.61 323 P **P** 15 40 01.0 -0.1
MAJO **Matsushiro** 67.61 323 *eP* **P** 15 40 00.8 -0.3
MAJO pmax pmax
comp=Z,10.0nm,0.5s
MJB9 **Matsu-Tunnel** 67.62 323 IAmb IAmb 15 40 02.8
comp=Z,16nm,0.6s
KKM **Kota Kinabalu** 68.52 284 P **P** 15 40 07.8 +0.6
NGJI **Ngawi** 68.75 269 P **P** 15 40 10.0 +1.6
comp=Z,117nm,1.2s
PCJI **Pacitan** 68.79 268 P **P** 15 40 09.0 +0.3
WOJI **Wonogiri, Jawa** 69.13 268 P **P** 15 40 11.1 +0.4
comp=Z,265nm,1.6s
ADK **Adak** 69.27 1 P **P** 15 40 09.4 -1.3
ADK IAmb IAmb 15 40 10.5
comp=Z,41nm,0.8s
ADK **Adak** 69.27 1 P **P** 15 40 10.4 -0.2
ADK **Adak** 69.27 1 P **P** 15 40 09.4 -1.3
ADK pmax pmax
comp=Z,41nm,0.9s
UGM **Wanagama** 69.49 268 P **P** 15 40 13.3 +0.3
ATKA **Atka Island** 69.67 3 P **P** 15 40 12.6 -0.5
SMRI **Semarang** 69.81 269 P **P** 15 40 15.2 +0.4
comp=Z,161nm,1.0s
JNU **Nakatsue** 69.85 316 P **P** 15 40 15.0 +0.3
YOJ **Yonaguni jima** 70.67 305 P **P** 15 40 21.1 +1.5
NIKH **Nikolski High** 70.84 6 P **P** 15 40 19.5 -0.5
NIKH **Nikolski High** 70.84 6 P **P** 15 40 19.1 -0.9
baz=190
STKI **Sintang** 70.94 276 P **P** 15 40 22.9 +1.4
comp=Z,134nm,1.2s
KPJI **Karang Pucung** 71.17 268 P **P** 15 40 23.1 +0.3
comp=Z,124nm,0.9s
TWGBT **Beinan** 71.39 302 P **P** 15 40 23.8 -0.1
TWG **Pinlang** 71.40 302 IAmb IAmb 15 40 23.7
comp=Z,23nm,0.7s
YULB **Yu-li** 71.50 303 IAmb IAmb 15 40 25.1
comp=Z,21nm,0.7s
YULB **Yu-li** 71.50 303 P **P** 15 40 25.0 +0.4
NACB **Ninganchiao** 71.64 304 P **P** 15 40 24.9 -0.5
NACB **Ninganchiao** 71.64 304 P **P** 15 40 25.6 +0.2
SSLB **Suanglung** 71.97 303 IAmb IAmb 15 40 28.2
comp=Z,38nm,0.8s
SSLB **Suanglung** 71.97 303 P **P** 15 40 27.8 +0.5
UNV **Unalaska Valle** 71.97 7 P **P** 15 40 26.2 -0.4
baz=192
TPUB **Ta-pu** 71.99 302 P **P** 15 40 27.2 -0.2
YHNB **Yeheng** 72.06 304 P **P** 15 40 27.8 -0.1
YHNB IAmb IAmb 15 40 29.2
comp=Z,59nm,1.0s
TATO **Taipei** 72.12 304 P **P** 15 40 28.2 +0.1
TATO **Taipei** 72.12 304 P **P** 15 40 28.5 +0.4
BBJI **Bungbulang** 72.35 268 P **P** 15 40 29.8 0.0
QSPA **South Pole Qui** 72.39 180 P **P** 15 40 30.2 +1.1
QSPA **South Pole Qui** 72.39 180 P **P** 15 40 31.0 +1.8
comp=Z,56nm,1.0s,baz=32,slow=1.7,SNR=117
QSPA PKiKP **PKiKP** 15 46 24.8 +0.7
comp=Z,0.9nm,0.8s,baz=0.0,slow=0.0,SNR=1.8
QSPA S **S** 15 49 11.9 +2.4
comp=Z,1.9nm,1.0s,baz=304,slow=21,SNR=8.8
comp=Z,56nm,1.0s
LEM **Lembang** 72.56 268 P **P** 15 40 31.7 +0.6
CNJI **Cibinong** 72.89 268 P **P** 15 40 32.3 -0.5
comp=Z,114nm,1.0s
PET **Petropavlovsk** 73.10 346 P **P** 15 40 32.5 -0.6
PET IAmb IAmb 15 40 40.2
comp=Z,72nm,1.8s
PET **Petropavlovsk** 73.10 346 P **P** 15 40 32.8 -0.3
PET **Petropavlovsk** 73.10 346 *eP* **P** 15 40 32.5 -0.6
PET pmax pmax
comp=Z,17nm,0.6s
YSS **Yuzhno-Sakhali** 73.12 333 P **P** 15 40 33.3 -0.1
YSS **Yuzhno-Sakhali** 73.12 333 *eP* **P** 15 40 34.2 +0.8
YSS *e**SP **sP** 15 43 23.1 +2.8
YSS *eS* **S** 15 49 18.4 +0.6
YSS *e* 15 49 51.1
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS pmax pmax
comp=Z,100nm,2.2s
YSS smax smax
comp=E,400nm,4.9s
YSS MLR MLR
comp=Z,100nm,13.0s
PEA0B **Petropavlovsk-** 73.40 345 *ceP* **P** 15 40 35.2 +0.4
PETK **Petropavlovsk-** 73.40 345 P **P** 15 40 34.2 -0.6
PETK **Petropavlovsk-** 73.40 345 P **P** 15 40 34.1 -0.8
comp=Z,15nm,0.8s,baz=107,slow=6.3,SNR=36
comp=Z,15nm,0.8s
PETK **Petropavlovsk-** 73.40 345 P **P** 15 40 34.2 -0.6
DBJI **Dramaga** 73.46 268 P **P** 15 40 36.4 +0.3
TPI **Tanjungpandan** 73.70 272 P **P** 15 40 38.3 +0.8
comp=Z,73nm,1.4s
CHNA **Chernabura Isl** 74.00 11 P **P** 15 40 37.4 -0.7
baz=199
TJN **Taejon** 74.12 317 *i* P **P** 15 40 39.3 0.0
SBJI **Serang** 74.18 269 P **P** 15 40 39.8 -0.4
SDPT **Sand Point** 74.33 11 P **P** 15 40 39.0 -1.0
baz=198
S12K **Black Hills** 74.40 10 P **P** 15 40 39.3 -1.2
baz=196
QZH **Quanzhou** 74.41 303 *eP* **P** 15 40 42.3 +1.1
QZH S **S** 15 49 35.3 +2.5
QZH pmax pmax
comp=Z,95nm,0.8s
KSRS **Korea Array** 74.41 318 P **P** 15 40 41.9 +1.0
comp=Z,6.0nm,0.7s,baz=126,slow=6.3,SNR=40
comp=Z,6.0nm,0.7s
KSAR **Wonju Array Be** 74.43 318 P **P** 15 40 41.0 0.0
KSAR **Wonju Array Be** 74.43 318 P **P** 15 40 41.0 0.0
CGJI **Cibinong** 74.45 268 P **P** 15 40 40.9 -0.8
SPIA **Saint Paul Isl** 74.88 5 P **P** 15 40 41.5 -1.5
baz=188
S14K **Fog Glacier** 75.38 11 P **P** 15 40 44.2 -1.9
baz=199
CHGN **Chignik** 75.61 11 P **P** 15 40 45.8 -1.4
baz=200
CHIR **Chirikof Islan** 75.73 13 P **P** 15 40 46.8 -1.0
baz=202
KASI **Kota Agung** 75.90 269 P **P** 15 40 48.9 -0.9
comp=Z,207nm,1.0s
TYV **Tymovskoe** 76.24 336 *eP* **P** 15 40 51.5 +0.7
TYV *eS* **S** 15 49 49.2 -2.2
TYV pmax pmax
comp=Z,15nm,1.7s
TYV pmax pmax
comp=Z,100nm,3.3s
TYV smax smax
comp=N,200nm,5.3s
TYV smax smax
comp=E,200nm,5.3s
USRK **Ussuriysk Ar.** 76.32 326 P **P** 15 40 52.9 +1.5
comp=E,6.4nm,0.7s,baz=128,slow=4.5,SNR=8.3
comp=E,6.4nm,0.7s
USA0B **Ussuriysk Arra** 76.32 326 P **P** 15 40 51.2 -0.2
USA0B **Ussuriysk Arra** 76.32 326 *i* P **P** 15 40 50.4 -1.0
SAO **San Andreas Ge** 76.36 44 IAmb IAmb 15 40 54.1
comp=Z,26nm,0.9s
LWLI **Liwa** 76.47 269 P **P** 15 40 52.0 -1.1
PMPB **Monarch Peak** 76.48 45 IAmb IAmb 15 40 54.5
comp=Z,28nm,0.9s
MDSI **Maura Dua** 76.51 270 P **P** 15 40 51.8 -1.3
comp=Z,66nm,1.0s

BBGB	**Big Mountain B**	**76.53**	**44**	IAmb	IAmb	15 40 55.8		
	comp=Z,84nm,1.4s							
SII	**Sitkinak Islan**	**76.72**	**14**	P	**P**	**15 40 52.8**	**-0.6**	
	baz=204							
HKPS	**Hong Kong Po S**	**76.85**	**299**	IAmb	IAmb	15 40 57.5		
	comp=Z,56nm,0.9s							
R17L	**Mt. Peulik Vol**	**77.25**	**12**	P	**P**	**15 40 55.5**	**-0.7**	
	baz=202							
DSRI	**Dabo**	**77.32**	**274**	P	**P**	**15 40 58.7**	**+1.1**	
	comp=Z,87nm,1.4s							
VES	**Vestal, Richgr**	**77.44**	**46**	IAmb	IAmb	15 40 59.5		
	comp=Z,54nm,1.2s							
O02D	**Mt. Diablo Mer**	**77.47**	**40**	P	**P**	**15 40 59.0**	**+1.1**	
O02D				IAmb	IAmb	15 41 00.7		
	comp=Z,36nm,1.2s							
VTX	**Valle De La Tr**	**77.50**	**51**	IAmb	IAmb	15 41 00.9		
	comp=Z,35nm,1.2s							
TPO	**Tropico Hills**	**77.52**	**47**	IAmb	IAmb	15 41 00.6		
	comp=Z,68nm,1.3s							
OHAK	**Old Harbor**	**77.53**	**14**	P	**P**	**15 40 57.4**	**-0.3**	
OHAK	**Old Harbor**	**77.53**	**14**	P	**P**	**15 40 57.2**	**-0.5**	
	baz=205							
R18K	**Karluk**	**77.59**	**13**	P	**P**	**15 40 57.4**	**-0.5**	
	baz=204							
NJ2	**Nanjing**	**77.66**	**310**	⇓P	**P**	**15 41 00.4**	**+1.4**	
NJ2				pmax	pmax			
	comp=Z,27nm,0.8s							
MNAI	**Manna**	**77.71**	**269**	P	**P**	**15 41 00.0**	**+0.3**	
ISA	**Isabella, Lake**	**77.76**	**46**	P	**P**	**15 41 00.1**	**+0.5**	
ISA				IAmb	IAmb	15 41 01.8		
	comp=Z,38nm,1.1s							
ISA	**Isabella, Lake**	**77.76**	**46**	P	**P**	**15 41 00.1**	**+0.5**	
ISA				pmax	pmax			
	comp=Z,38nm,1.1s							
DLV	**Lat**	**77.77**	**287**	IAmb	IAmb	15 41 02.7		
	comp=Z,69nm,1.0s							
TPRI	**Tanjung Pinang**	**77.80**	**275**	P	**P**	**15 41 01.0**	**+0.8**	
	comp=Z,77nm,1.4s							
MDJ	**Mudanjiang**	**77.89**	**325**	P	**P**	**15 41 01.6**	**+1.6**	
MDJ				S	**S**	**15 50 14.0**	**+4.8**	
MDJ				pmax	pmax			
	comp=Z,35nm,0.8s							
O14K	**Tigyukauivet M**	**77.94**	**9**	P	**P**	**15 40 59.2**	**-0.6**	
	baz=197							
Q17K	**Contact Creek**	**77.94**	**12**	P	**P**	**15 40 59.3**	**-0.7**	
	baz=202							
BORC	**Borrego Spring**	**77.97**	**49**	IAmb	IAmb	15 41 02.9		
	comp=Z,38nm,1.3s							
ACHA	**Angle Creek He**	**78.00**	**12**	IAmb	IAmb	15 41 03.1		
	comp=Z,45nm,1.6s							
O15K	**Ungalikthiuk R**	**78.09**	**10**	P	**P**	**15 40 59.7**	**-1.0**	
	baz=198							
PFO	**Pinyon Flats O**	**78.11**	**49**	P	**P**	**15 41 01.7**	**+0.1**	
PFO	**Pinyon Flats O**	**78.11**	**49**	P	**P**	**15 41 01.7**	**+0.1**	
PFO				pmax	pmax			
	comp=Z,44nm,2.0s							
Q16K	**King Salmon**	**78.17**	**11**	P	**P**	**15 41 00.9**	**-0.2**	
	baz=201							
KDAK	**Kodiak Island**	**78.20**	**14**	P	**P**	**15 41 00.9**	**-0.4**	
KDAK	**Kodiak Island**	**78.20**	**14**	*i* P	**P**	**15 41 00.0**	**-1.3**	
KDAK				pmax	pmax			
	comp=Z,84nm,1.1s							
KDAK	**Kodiak Island**	**78.20**	**14**	P	**P**	**15 41 01.4**	**+0.1**	
	baz=205							
P16K	**Nushagak River**	**78.26**	**11**	P	**P**	**15 41 01.2**	**-0.4**	
	baz=200							
KSI	**Kapahiang**	**78.26**	**270**	P	**P**	**15 41 02.2**	**-0.6**	
	comp=Z,169nm,0.8s							
M11K	**Mekoryuk**	**78.41**	**6**	P	**P**	**15 41 03.1**	**+0.7**	
	baz=192							
CCCA	**Chr Cany lake**	**78.46**	**47**	P	**P**	**15 41 04.0**	**+0.7**	
CCCA				IAmb	IAmb	15 41 05.7		
	comp=Z,36nm,1.1s							
Q18K	**Katmai Hardscr**	**78.47**	**12**	P	**P**	**15 41 02.3**	**-0.6**	
	baz=203,SNR=12							
N14K	**Kuskokwak Cree**	**78.52**	**9**	P	**P**	**15 41 03.0**	**0.0**	
	baz=196,SNR=10							
BELC	**Belle Mtn. Jos**	**78.64**	**49**	P	**P**	**15 41 04.3**	**-0.2**	
BELC				IAmb	IAmb	15 41 06.8		
	comp=Z,56nm,1.7s							
BELC					**pP**	**15 42 59.7**	**+1.4**	
MPMC	**Manual Prospec**	**78.65**	**46**	IAmb	IAmb	15 41 06.8		
	comp=Z,41nm,1.5s							
WAKR	**Walker**	**78.65**	**43**	IAmb	IAmb	15 41 06.9		
	comp=Z,51nm,1.3s							
HATC	**Hat Creek Radi**	**78.67**	**41**	IAmb	IAmb	15 41 06.7		
	comp=Z,64nm,1.2s							
TIN	**Tinemaha, Big**	**78.67**	**45**	IAmb	IAmb	15 41 06.8		
	comp=Z,46nm,0.9s							
MPK	**Martis Peak**	**78.71**	**42**	IAmb	IAmb	15 41 07.0		
	comp=Z,49nm,1.1s							
MASI	**Maura Aman, Be**	**78.75**	**270**	P	**P**	**15 41 05.7**	**+0.4**	
	comp=Z,186nm,1.3s							
M13K	**Dall Lake**	**78.77**	**8**	P	**P**	**15 41 04.5**	**+0.2**	
	baz=195							
O16K	**Kokwok River B**	**78.77**	**10**	IAmb	IAmb	15 41 04.4		
	comp=Z,91nm,1.9s							
O16K	**Kokwok River B**	**78.77**	**10**	P	**P**	**15 41 03.4**	**-0.9**	
	baz=200,SNR=7.1							
N15K	**Kwethluk River**	**78.99**	**9**	IAmb	IAmb	15 41 07.1		
	comp=Z,76nm,1.4s							
N15K	**Kwethluk River**	**78.99**	**9**	P	**P**	**15 41 05.9**	**+0.4**	
	baz=198,SNR=9.4							
Q20K	**Shuyak Island**	**78.99**	**14**	P	**P**	**15 41 05.7**	**+0.2**	
	baz=205							
Q19K	**Cape Douglas,**	**79.01**	**13**	P	**P**	**15 41 05.2**	**-0.4**	
	baz=204							
QSM	**Queen of Sheba**	**79.03**	**47**	P	**P**	**15 41 06.9**	**+0.6**	
QSM					**pP**	**15 42 59.5**	**-0.8**	
P18K	**Big Mountain,**	**79.11**	**12**	IAmb	IAmb	15 41 06.7		
	comp=Z,83nm,1.2s							
P18K	**Big Mountain,**	**79.11**	**12**	P	**P**	**15 41 05.6**	**-0.6**	
	baz=203,SNR=10.0							
O17K	**Koliganek Bris**	**79.12**	**11**	P	**P**	**15 41 05.5**	**-0.7**	
	baz=201,SNR=8.4							
LHV	**Little Huntoon**	**79.13**	**44**	P	**P**	**15 41 06.8**	**+0.2**	
LHV				IAmb	IAmb	15 41 09.3		
	comp=Z,45nm,1.1s							
LHV					**pP**	**15 43 01.0**	**-0.1**	
I03D	**Drain, OR**	**79.23**	**37**	IAmb	IAmb	15 41 09.2		
	comp=Z,74nm,1.5s							
M14K	**Bethel**	**79.28**	**8**	IAmb	IAmb	15 41 09.6		
	comp=Z,45nm,1.4s							
M14K	**Bethel**	**79.28**	**8**	P	**P**	**15 41 07.1**	**+0.1**	
	baz=196,SNR=6.4							
DL2	**Dalian**	**79.30**	**317**	P	**P**	**15 41 08.6**	**+1.0**	
DL2				*es*P	**sP**	**15 43 55.4**	**-1.2**	
DL2				S	**S**	**15 50 26.5**	**+2.4**	
DL2				pmax	pmax			
	comp=Z,45nm,0.8s							
RYN	**Ryan**	**79.32**	**44**	IAmb	IAmb	15 41 10.1		
	comp=Z,40nm,1.4s							
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**15 41 08.5**	**+0.3**	
NVAR					**pP**	**15 43 02.7**	**0.0**	
NVAR	**Mina Array Bea**	**79.36**	**44**	P	**P**	**15 41 08.8**	**+0.6**	
	comp=Z,14nm,0.8s,baz=226,slow=8.4,SNR=69							
NVAR				pP	**pP**	**15 43 02.9**	**+0.2**	
	comp=Z,5.7nm,1.2s,baz=251,slow=3.8,SNR=3.5							
	comp=Z,14nm,0.8s							
DANC	**Danby, Needles**	**79.40**	**48**	IAmb	IAmb	15 41 10.8		
	comp=Z,78nm,1.8s							
M15K	**Kasigluk River**	**79.40**	**9**	P	**P**	**15 41 07.9**	**+0.2**	
	baz=197,SNR=8.0							
N16K	**Nishlik Lake**	**79.49**	**10**	P	**P**	**15 41 08.3**	**+0.2**	
	baz=199							
O18K	**Koktuh Hills**	**79.55**	**12**	P	**P**	**15 41 07.9**	**-0.6**	
	baz=203,SNR=18							
WCT	**Wildcat Mounta**	**79.63**	**46**	P	**P**	**15 41 09.7**	**+0.2**	
WCT					**pP**	**15 43 03.2**	**-0.6**	
113A	**Mohawk Valley,**	**79.66**	**51**	IAmb	IAmb	15 41 12.3		
	comp=Z,41nm,1.5s							
J04A	**Umpqua Nationa**	**79.69**	**38**	IAmb	IAmb	15 41 11.9		
	comp=Z,48nm,0.9s							
CN2	**Changchun**	**79.73**	**322**	P	**P**	**15 41 11.1**	**+1.4**	
CN2				pmax	pmax			
	comp=Z,20nm,0.9s							
L14K	**Kuka Creek**	**79.75**	**8**	P	**P**	**15 41 09.6**	**+0.2**	
	baz=195,SNR=5.0							
P19K	**Oil Pt**	**79.76**	**13**	P	**P**	**15 41 09.0**	**-0.6**	
	baz=204							
BNX	**BinXian**	**79.80**	**325**	⇓P	**P**	**15 41 10.9**	**+0.8**	
BNX				PcP	**PcP**	**15 41 16.4**	**+0.7**	
BNX				S	**S**	**15 50 32.1**	**+3.1**	
BNX				pmax	pmax			
	comp=Z,32nm,0.7s							
N17K	**Nushagak Hills**	**79.81**	**11**	P	**P**	**15 41 09.7**	**-0.1**	
	baz=201,SNR=5.9							
TPH	**Tonopah**	**79.89**	**45**	P	**P**	**15 41 10.8**	**-0.2**	
TPH				IAmb	IAmb	15 41 13.2		
	comp=Z,64nm,1.6s							
TPH					**pP**	**15 43 04.8**	**-0.7**	
TPNV	**Topopah Spring**	**79.97**	**46**	IAmb	IAmb	15 41 13.7		
	comp=Z,50nm,1.7s							
M16K	**Timber Creek**	**79.98**	**10**	P	**P**	**15 41 11.5**	**+0.8**	
	baz=199,SNR=21							
O19K	**Port Alsworth**	**80.03**	**12**	P	**P**	**15 41 10.3**	**-0.7**	
O19K					**pP**	**15 43 05.8**	**+0.3**	
O19K	**Port Alsworth**	**80.03**	**12**	P	**P**	**15 41 10.7**	**-0.3**	
	baz=203,SNR=20							
ILSW	**Iliamna Southw**	**80.08**	**13**	IAmb	IAmb	15 41 11.8		
	comp=Z,95nm,1.2s							
K13K	**Kusilvak Mount**	**80.09**	**7**	P	**P**	**15 41 11.6**	**+0.4**	
	baz=193							
HOM	**Homer**	**80.11**	**14**	P	**P**	**15 41 10.8**	**-0.5**	
	baz=206							
K05A	**Summer Lake**	**80.11**	**39**	P	**P**	**15 41 12.5**	**+0.4**	
K05A				IAmb	IAmb	15 41 14.5		
	comp=Z,81nm,1.5s							
K05A					**pP**	**15 43 07.1**	**+0.6**	
N18K	**Kilae Creek**	**80.18**	**11**	P	**P**	**15 41 11.5**	**-0.3**	
	baz=202,SNR=5.2							
J05D	**Fort Rock, OR**	**80.23**	**39**	P	**P**	**15 41 12.0**	**-0.6**	
J05D				IAmb	IAmb	15 41 14.9		
	comp=Z,50nm,1.0s							
J05D					**pP**	**15 43 06.9**	**-0.1**	
L15K	**Ungalak Mounta**	**80.24**	**8**	P	**P**	**15 41 12.0**	**+0.1**	
	baz=196,SNR=9.9							
O20K	**Slope Mountain**	**80.28**	**13**	P	**P**	**15 41 11.9**	**-0.4**	
	baz=205							
WHN	**Wuhan**	**80.33**	**306**	⇑P	**P**	**15 41 14.8**	**+1.6**	
WHN				pmax	pmax			
	comp=Z,78nm,0.9s							
BRLK	**Bradley Lake**	**80.38**	**14**	IAmb	IAmb	15 41 13.6		
	comp=Z,57nm,1.3s							
H04A	**Detroit Lake**	**80.49**	**37**	IAmb	IAmb	15 41 15.6		
	comp=Z,85nm,1.7s							
L16K	**Owhat River**	**80.56**	**9**	IAmb	IAmb	15 41 15.6		
	comp=Z,40nm,1.1s							
L16K	**Owhat River**	**80.56**	**9**	P	**P**	**15 41 14.0**	**+0.4**	
	baz=198,SNR=14							
RED	**Redoubt Volcan**	**80.56**	**13**	IAmb	IAmb	15 41 13.4		
	comp=Z,18nm,0.8s							
N19K	**Bonanza Creek**	**80.57**	**12**	IAmb	IAmb	15 41 14.3		
	comp=Z,53nm,1.4s							
N19K	**Bonanza Creek**	**80.57**	**12**	P	**P**	**15 41 12.6**	**-1.3**	
	baz=203,SNR=7.7							
M17K	**Holitna River**	**80.59**	**10**	P	**P**	**15 41 14.8**	**+1.0**	
	baz=200,SNR=16							
S11A	**Rachel**	**80.67**	**46**	P	**P**	**15 41 15.0**	**0.0**	
S11A				IAmb	IAmb	15 41 17.2		
	comp=Z,45nm,1.3s							
PINE	**Pine Mountain**	**80.70**	**38**	P	**P**	**15 41 15.0**	**0.0**	
PINE				IAmb	IAmb	15 41 17.5		
	comp=Z,41nm,1.1s							
PINE					**pP**	**15 43 09.8**	**+0.1**	
I05D	**Terrebonne, OR**	**80.78**	**38**	P	**P**	**15 41 15.3**	**0.0**	
I05D				IAmb	IAmb	15 41 17.4		
	comp=Z,58nm,1.4s							
K15K	**Wolf Creek Mou**	**80.82**	**8**	P	**P**	**15 41 16.1**	**+1.1**	
	baz=196,SNR=21							
BKNI	**Bangkinang**	**80.93**	**273**	P	**P**	**15 41 17.4**	**+0.7**	
M18K	**Stony River**	**80.95**	**11**	P	**P**	**15 41 15.9**	**+0.2**	
	baz=202,SNR=8.3							
TIA	**Tai'an**	**80.96**	**312**	P	**P**	**15 41 17.3**	**+0.9**	
TIA				pmax	pmax			
	comp=Z,15nm,0.9s							
SEW	**Seward**	**81.01**	**14**	P	**P**	**15 41 15.5**	**-0.5**	
	baz=208							
J14K	**Nanvaranak Lak**	**81.01**	**7**	P	**P**	**15 41 16.2**	**+0.2**	
	baz=194							
PRN	**Pahroc Range**	**81.02**	**46**	IAmb	IAmb	15 41 19.5		
	comp=Z,41nm,1.2s							
PDSI	**Padang**	**81.11**	**272**	P	**P**	**15 41 16.5**	**-1.2**	
	comp=Z,51nm,1.1s							
L17K	**Donlin**	**81.14**	**9**	P	**P**	**15 41 18.0**	**+1.3**	
	baz=200,SNR=22							
O22K	**Cooper Landing**	**81.28**	**14**	P	**P**	**15 41 16.9**	**-0.5**	
	baz=208							
PPI	**Padang Panjang**	**81.31**	**272**	P	**P**	**15 41 18.7**	**0.0**	
	comp=Z,63nm,1.0s							
WVOR	**Wild Horse Val**	**81.33**	**40**	P	**P**	**15 41 18.2**	**-0.1**	
WVOR				IAmb	IAmb	15 41 20.4		
	comp=Z,36nm,1.1s							
WVOR				pP	**pP**	**15 43 13.1**	**0.0**	
WVOR	**Wild Horse Val**	**81.33**	**40**	P	**P**	**15 41 18.2**	**-0.1**	
WVOR				*PP	**pP**	**15 43 13.1**	**0.0**	
WVOR				pmax	pmax			
	comp=Z,36nm,1.1s							
GAMB	**Gambell**	**81.35**	**3**	P	**P**	**15 41 17.9**	**+0.3**	
	baz=187							
N20K	**Mount Spurr**	**81.38**	**13**	P	**P**	**15 41 16.3**	**-1.7**	
	baz=205							
SPCR	**Spurr Chakacha**	**81.38**	**13**	P	**P**	**15 41 17.0**	**-1.0**	
	baz=205							
P23K	**Montague Islan**	**81.42**	**15**	P	**P**	**15 41 17.7**	**-0.4**	
	baz=210							
L18K	**Granite Mounta**	**81.48**	**10**	IAmb	IAmb	15 41 20.5		
	comp=Z,79nm,1.4s							
L18K	**Granite Mounta**	**81.48**	**10**	P	**P**	**15 41 18.8**	**+0.4**	
	baz=201,SNR=22							
M19K	**Big River Lodg**	**81.59**	**11**	P	**P**	**15 41 18.5**	**-0.5**	
	baz=203,SNR=8.1							
TUC	**Tucson**	**81.68**	**52**	P	**P**	**15 41 20.7**	**+0.5**	
TUC				IAmb	IAmb	15 41 23.4		
	comp=Z,29nm,1.1s							
TUC					**pP**	**15 43 15.2**	**+0.1**	
TUC	**Tucson**	**81.68**	**52**	P	**P**	**15 41 20.7**	**+0.5**	
TUC				*PP	**pP**	**15 43 15.3**	**+0.1**	
TUC				pmax	pmax			
	comp=Z,29nm,1.2s							
K17K	**Iditarod**	**81.69**	**9**	IAmb	IAmb	15 41 21.5		
	comp=Z,58nm,1.4s							
K17K	**Iditarod**	**81.69**	**9**	P	**P**	**15 41 20.3**	**+0.8**	
	baz=200,SNR=8.4							
STLK	**Strandline Lak**	**81.73**	**13**	IAmb	IAmb	15 41 19.6		
	comp=Z,30nm,1.2s							
L19K	**White Mountain**	**81.77**	**11**	IAmb	IAmb	15 41 21.5		
	comp=Z,35nm,1.2s							
L19K	**White Mountain**	**81.77**	**11**	P	**P**	**15 41 20.1**	**+0.1**	
	baz=203,SNR=12							
M20K	**Styx River**	**81.82**	**12**	P	**P**	**15 41 19.3**	**-1.0**	
	baz=204,SNR=5.3							
RC01	**Rabbit Creek A**	**81.82**	**14**	IAmb	IAmb	15 41 21.0		
	comp=Z,59nm,1.3s							
RC01	**Rabbit Creek A**	**81.82**	**14**	P	**P**	**15 41 19.7**	**-0.5**	
	baz=208,SNR=7.9							
J16K	**Anvik River**	**81.90**	**8**	P	**P**	**15 41 21.1**	**+0.6**	
	baz=197,SNR=9.0							
SUA	**Susitna One**	**81.93**	**13**	IAmb	IAmb	15 41 21.3		
	comp=Z,47nm,1.1s							
SUA	**Susitna One**	**81.93**	**13**	P	**P**	**15 41 20.2**	**-0.7**	
	baz=207,SNR=16							
J08A	**Circle Bar Ran**	**81.93**	**40**	IAmb	IAmb	15 41 23.5		
	comp=Z,40nm,1.1s							
PWL	**Port Wells**	**81.94**	**14**	IAmb	IAmb	15 41 21.4		
	comp=Z,69nm,1.3s							
PWL	**Port Wells**	**81.94**	**14**	P	**P**	**15 41 20.0**	**-0.8**	
	baz=209,SNR=7.7							
CBB	**Campbell River**	**82.08**	**31**	IAmb	IAmb	15 41 23.1		
	comp=Z,42nm,1.3s							
D05A	**Enumclaw**	**82.09**	**35**	P	**P**	**15 41 22.2**	**+0.3**	
D05A				pP	**pP**	**15 43 17.8**	**+0.8**	
KAIM	**Kayak Island**	**82.13**	**17**	P	**P**	**15 41 22.0**	**+0.2**	
	baz=213							
X16A	**Lo Mia Camp, P**	**82.15**	**50**	IAmb	IAmb	15 41 25.6		
	comp=Z,26nm,1.0s							
J17K	**VABM Dome**	**82.22**	**9**	IAmb	IAmb	15 41 24.0		
	comp=Z,43nm,1.4s							
J17K	**VABM Dome**	**82.22**	**9**	P	**P**	**15 41 22.7**	**+0.6**	
	baz=199,SNR=9.4							
L20K	**Farewell, AK**	**82.22**	**11**	P	**P**	**15 41 22.1**	**-0.2**	
	baz=204,SNR=17							
SKT	**Skwentna**	**82.23**	**13**	P	**P**	**15 41 20.8**	**-1.5**	
	baz=206,SNR=11							
IPM	**Ipoh**	**82.23**	**277**	P	**P**	**15 41 25.1**	**+1.7**	
GLI	**Glacier Island**	**82.26**	**15**	IAmb	IAmb	15 41 22.4		
	comp=Z,36nm,0.7s							
GLI	**Glacier Island**	**82.26**	**15**	P	**P**	**15 41 21.6**	**-0.8**	
	baz=210							
CCUT	**Cedar City**	**82.26**	**47**	P	**P**	**15 41 22.8**	**-0.5**	
CCUT				IAmb	IAmb	15 41 25.9		
	comp=Z,28nm,1.2s							
CCUT				pP	**pP**	**15 43 18.8**	**+0.2**	
SPR3	**Spring Creek 3**	**82.31**	**45**	IAmb	IAmb	15 41 25.4		
	comp=Z,29nm,1.3s							
EYAK	**Cordova Ski Ar**	**82.31**	**16**	IAmb	IAmb	15 41 22.9		
	comp=Z,22nm,1.0s							
EYAK	**Cordova Ski Ar**	**82.31**	**16**	P	**P**	**15 41 22.3**	**-0.4**	
	baz=211							
M22K	**Willow**	**82.32**	**13**	P	**P**	**15 41 22.1**	**-0.5**	
	baz=207,SNR=8.7							
KNK	**Knik Glacier**	**82.40**	**14**	IAmb	IAmb	15 41 23.9		
	comp=Z,52nm,1.5s							
KNK	**Knik Glacier**	**82.40**	**14**	P	**P**	**15 41 22.6**	**-0.5**	
	baz=209,SNR=6.7							
PMR	**Palmer**	**82.40**	**14**	P	**P**	**15 41 22.1**	**-1.0**	
PMR				IAmb	IAmb	15 41 23.8		
	comp=Z,44nm,1.3s							
PMR	**Palmer**	**82.40**	**14**	P	**P**	**15 41 22.1**	**-1.0**	
PMR				pmax	pmax			
	comp=Z,44nm,1.3s							
PMR	**Palmer**	**82.40**	**14**	P	**P**	**15 41 22.4**	**-0.7**	
	baz=208,SNR=7.1							
BELA	**Belgrano 2**	**82.43**	**173**	IAmb	IAmb	15 41 24.7		
	comp=Z,54nm,0.9s							
I17K	**Unalakleet**	**82.46**	**8**	P	**P**	**15 41 22.8**	**-0.6**	
	baz=197							
MNSI	**Mandailing Nat**	**82.46**	**273**	P	**P**	**15 41 25.0**	**+0.4**	
SZCU	**Shurtz Canyon**	**82.47**	**47**	IAmb	IAmb	15 41 26.9		
	comp=Z,38nm,1.4s							
U15A	**North Rim**	**82.47**	**48**	IAmb	IAmb	15 41 27.2		
	comp=Z,44nm,1.1s							
ELK	**Elko**	**82.59**	**43**	P	**P**	**15 41 25.7**	**+0.8**	
GHO	**Glory Hole Cre**	**82.61**	**14**	IAmb	IAmb	15 41 25.1		
	comp=Z,63nm,1.2s							
BGLC	**Bering Glacier**	**82.61**	**17**	P	**P**	**15 41 23.9**	**-0.3**	
	baz=214							
HEH	**HeiHe**	**82.62**	**328**	*e*P	**P**	**15 41 24.9**	**+0.4**	
HEH				S	**SKSac**	**15 50 54.8**	**+0.6**	
HEH				pmax	pmax			
	comp=Z,7.0nm,0.5s							
J18K	**Innoko River**	**82.64**	**10**	IAmb	IAmb	15 41 25.7		
	comp=Z,72nm,1.6s							
J18K	**Innoko River**	**82.64**	**10**	P	**P**	**15 41 24.6**	**+0.3**	
	baz=201,SNR=21							
WUAZ	**Wupatki**	**82.71**	**49**	IAmb	IAmb	15 41 28.1		
	comp=Z,34nm,1.1s							
SIT	**Sitka**	**82.71**	**22**	P	**P**	**15 41 24.0**	**-0.7**	
	baz=221							
G08A	**Pilot Rock**	**82.72**	**38**	P	**P**	**15 41 24.9**	**-0.4**	
G08A				IAmb	IAmb	15 41 27.2		
	comp=Z,36nm,1.3s							
G08A					**pP**	**15 43 20.5**	**-0.1**	
DIV	**Divide**	**82.80**	**15**	IAmb	IAmb	15 41 26.0		
	comp=Z,86nm,1.5s							
U33K	**Whale Pass**	**82.83**	**24**	P	**P**	**15 41 24.7**	**-0.6**	
	baz=223							
V35K	**Ketchikan**	**82.85**	**25**	IAmb	IAmb	15 41 28.2		
	comp=Z,106nm,1.9s							
V35K	**Ketchikan**	**82.85**	**25**	P	**P**	**15 41 25.0**	**-0.5**	
	baz=225							
CUT	**Chulitna**	**82.87**	**13**	P	**P**	**15 41 24.9**	**-0.5**	
	baz=207,SNR=5.6							
E07A	**Sunnyside**	**82.92**	**36**	P	**P**	**15 41 26.2**	**+0.1**	
E07A				IAmb	IAmb	15 41 28.2		
	comp=Z,44nm,1.3s							
PPLA	**Purkeypile**	**82.92**	**12**	P	**P**	**15 41 24.2**	**-1.7**	
	baz=205							
PKCU	**Pink Cliffs**	**82.94**	**47**	IAmb	IAmb	15 41 30.2		
	comp=Z,76nm,1.3s							
BMRM	**Bremner River**	**82.97**	**16**	P	**P**	**15 41 26.0**	**-0.1**	
	baz=212,SNR=7.4							
K20K	**Telida**	**82.99**	**11**	IAmb	IAmb	15 41 27.3		
	comp=Z,82nm,1.4s							
K20K	**Telida**	**82.99**	**11**	P	**P**	**15 41 26.1**	**+0.1**	
	baz=204,SNR=28							
H16K	**Elim**	**83.00**	**7**	P	**P**	**15 41 25.4**	**-0.6**	
	baz=196							
HAWA	**Hanford**	**83.00**	**37**	P	**P**	**15 41 26.7**	**+0.2**	
HAWA				IAmb	IAmb	15 41 28.6		
	comp=Z,46nm,1.3s							
WAX	**Waxell Ridge**	**83.00**	**17**	IAmb	IAmb	15 41 27.7		
	comp=Z,61nm,1.2s							
SCM	**Sheep Creek Mo**	**83.03**	**14**	IAmb	IAmb	15 41 27.1		
	comp=Z,44nm,1.0s							
SCM	**Sheep Creek Mo**	**83.03**	**14**	P	**P**	**15 41 26.1**	**-0.3**	
	baz=210,SNR=13							
MESA	**MESA**	**83.03**	**17**	P	**P**	**15 41 26.8**	**+0.3**	
	baz=215							
DUN6	**Lazy B Ranch**	**83.07**	**53**	P	**P**	**15 41 27.3**	**-0.1**	
DUN6					**pP**	**15 43 23.4**	**+0.9**	
DUN6				IAmb	IAmb	15 43 27.9		
	comp=Z,79nm,1.3s							
KLU	**Klutina**	**83.08**	**15**	IAmb	IAmb	15 41 27.6		
	comp=Z,34nm,1.4s							
KLU	**Klutina**	**83.08**	**15**	P	**P**	**15 41 26.5**	**-0.1**	
	baz=211,SNR=7.0							
S31K	**Pelican**	**83.08**	**21**	P	**P**	**15 41 26.6**	**0.0**	
	baz=220							
G15K	**Niukluk**	**83.14**	**6**	P	**P**	**15 41 26.6**	**-0.1**	
	baz=194							
CRQM	**Cirque**	**83.18**	**17**	IAmb	IAmb	15 41 28.4		
	comp=Z,47nm,1.1s							
CRQE	**Cirque**	**83.19**	**17**	P	**P**	**15 41 27.1**	**-0.2**	
	baz=214,SNR=8.3							
HNS	**HongShan**	**83.23**	**313**	⇑P	**P**	**15 41 29.9**	**+2.1**	
HNS				pmax	pmax			
	comp=Z,28nm,1.0s							
YAH	**Yahtse**	**83.24**	**17**	IAmb	IAmb	15 41 28.6		
	comp=Z,26nm,0.8s							
TGL	**Tana Glacier**	**83.26**	**17**	IAmb	IAmb	15 41 28.8		
	comp=Z,52nm,1.2s							
ISLE	**Juniper Island**	**83.27**	**17**	IAmb	IAmb	15 41 28.7		
	comp=Z,40nm,1.1s							
S32K	**Killisnoo**	**83.29**	**22**	P	**P**	**15 41 28.5**	**+0.9**	
	baz=222							
MTPU	**Mount Pierson**	**83.31**	**47**	IAmb	IAmb	15 41 31.8		
	comp=Z,33nm,

baz=209,SNR=21
MFID Camas Ranch 83.59 41 lAmb lAmb 15 41 31.8
comp=Z,31nm,1.2s
WAT1 Susitna Watana 83.62 13 P **P** **15 41 28.7 -0.5**
baz=209
PSI Prapat 83.70 275 P **P** **15 41 30.1 -0.8**
comp=Z,65nm,0.8s,baz=154,slow=4.3,SNR=42
PSI PP **PP** **15 44 48.5 -5.3**
comp=Z,2.6nm,0.3s,baz=180,slow=3.0,SNR=5.1
comp=Z,65nm,0.8s
G16K Koyuk River 83.71 7 P **P** **15 41 29.3 -0.3**
baz=196
W18A Petrified Fore 83.72 50 lAmb lAmb 15 41 33.1
comp=Z,24nm,1.3s
D08A Wollman Farm, 83.73 36 P **P** **15 41 29.3 -0.8**
D08A lAmb lAmb 15 41 31.5
comp=Z,18nm,1.0s
D08A **pP** **15 43 26.0 +0.2**
MCARA McCarthy VSAT 83.73 16 P **P** **15 41 29.1 -0.7**
MCARA lAmb lAmb 15 41 31.0
comp=Z,40nm,1.2s
MCARA McCarthy VSAT 83.73 16 P **P** **15 41 29.8 0.0**
baz=214,SNR=6.5
J20K Nowinta River 83.73 10 lAmb lAmb 15 41 31.0
comp=Z,70nm,1.6s
J20K Nowinta River 83.73 10 P **P** **15 41 29.6 -0.1**
baz=203,SNR=15
KTH Kantishna Hill 83.77 12 lAmb lAmb 15 41 29.8
comp=Z,18nm,0.9s
F15K North Star Dit 83.78 6 P **P** **15 41 29.9 0.0**
baz=193
CHUM Lake Minchumin 83.80 11 P **P** **15 41 29.3 -0.7**
baz=205,SNR=12
TRF Thorofare Moun 83.80 12 lAmb lAmb 15 41 30.5
comp=Z,28nm,0.8s
TRF Thorofare Moun 83.80 12 P **P** **15 41 29.4 -0.9**
baz=207,SNR=20
GCSA Galena City Sc 83.82 9 P **P** **15 41 30.0 -0.1**
baz=201
LOGN Logan Glacier 83.83 17 lAmb lAmb 15 41 32.3
comp=Z,35nm,1.1s
BARN Barnard Glacie 83.84 17 lAmb lAmb 15 41 31.8
comp=Z,65nm,1.3s
CTG Chitna Glacier 83.85 17 P **P** **15 41 30.0 -0.6**
baz=215,SNR=7.6
CTGM Chitina Glacie 83.85 17 lAmb lAmb 15 41 31.8
comp=Z,58nm,1.4s
P29M Windy Craggy 83.87 20 lAmb lAmb 15 41 32.4
comp=Z,46nm,1.2s
P29M Windy Craggy 83.87 20 P **P** **15 41 31.2 +0.6**
baz=219,SNR=6.3
R32K Eaglecrest 83.91 22 P **P** **15 41 30.5 -0.3**
baz=222
H18K Honhosa River 83.99 8 P **P** **15 41 30.8 -0.2**
baz=199
G17K Kiwalik Mounta 84.02 7 P **P** **15 41 31.1 0.0**
baz=197
BESE Bessie Mountai 84.02 21 lAmb lAmb 15 41 33.3
comp=Z,50nm,1.4s
O28M Mount Upton 84.03 18 lAmb lAmb 15 41 32.8
comp=Z,32nm,1.1s
O28M Mount Upton 84.03 18 P **P** **15 41 31.5 -0.1**
baz=216,SNR=9.8
MAW Mawson 84.04 200 P **P** **15 41 31.6 +0.2**
comp=Z,29nm,1.0s,baz=126,slow=7.4,SNR=34
comp=Z,29nm,1.0s
HARP HAARP 84.04 15 P **P** **15 41 31.3 -0.1**
baz=212,SNR=6.3
DHY Denali Highway 84.10 14 lAmb lAmb 15 41 32.6
comp=Z,27nm,1.1s
DHY Denali Highway 84.10 14 P **P** **15 41 31.4 -0.3**
baz=210,SNR=17
PMSA Palmer Station 84.10 157 P **P** **15 41 32.0 +0.4**
PMSA lAmb lAmb 15 41 34.5
comp=Z,38nm,1.2s
F10A Beach Ranch, E 84.11 38 P **P** **15 41 32.0 -0.1**
F10A lAmb lAmb 15 41 33.6
comp=Z,30nm,1.1s
F10A **pP** **15 43 28.5 +0.5**
O29M Mount Kennedy 84.14 19 lAmb lAmb 15 42 38.4
comp=Z,18nm,0.7s
O29M Mount Kennedy 84.14 19 P **P** **15 41 32.2 +0.3**
baz=218,SNR=5.1
PLBC Pleasant Camp 84.18 20 P **P** **15 41 32.6 +0.5**
baz=220,SNR=6.5
LLLB Lillooet 84.19 32 P **P** **15 41 32.1 -0.3**
LLLB lAmb lAmb 15 41 34.0
comp=Z,23nm,1.3s
LLLB **pP** **15 43 29.6 +1.4**
B08A Colville Reser 84.23 35 pP 15 43 29.3 +0.8
BPAW Bear Paw Mtn. 84.25 12 P **P** **15 41 30.7 -1.6**
baz=206,SNR=8.6
I20K Naaghedeneel 84.25 10 lAmb lAmb 15 41 33.8
comp=Z,53nm,1.3s
I20K Naaghedeneel 84.25 10 P **P** **15 41 32.6 +0.3**
baz=203,SNR=6.9
MCK McKinley 84.34 13 lAmb lAmb 15 41 33.4
comp=Z,44nm,1.2s
MCK McKinley 84.34 13 P **P** **15 41 32.2 -0.6**
baz=208,SNR=15
PAX Paxson 84.45 15 lAmb lAmb 15 41 33.9
comp=Z,27nm,1.4s
PAX Paxson 84.45 15 P **P** **15 41 32.8 -0.7**
baz=212,SNR=12
P30M Million Dollar 84.50 20 P **P** **15 41 34.3 +0.7**
baz=220
SKAG Skagway 84.53 21 P **P** **15 41 34.6 +0.9**
baz=221
GSI Gunungsitoli 84.53 273 P **P** **15 41 34.1 -0.7**
GSI Gunungsitoli 84.53 273 P **P** **15 41 36.3 +1.5**
GSI Gunungsitoli 84.53 273 P **P** **15 41 36.0 +1.2**
comp=Z,188nm,1.3s
YUK8 Steele Glacier 84.56 18 P **P** **15 41 34.5 +0.3**
baz=217
T35M Bob Quinn 84.56 24 P **P** **15 41 34.9 +0.9**
baz=226,SNR=5.1
M26K Nabesna, AK 84.59 16 lAmb lAmb 15 41 35.3
comp=Z,46nm,1.1s
M26K Nabesna, AK 84.59 16 P **P** **15 41 34.2 +0.1**
baz=214,SNR=29
H19K Roundabout Mou 84.62 9 lAmb lAmb 15 41 35.6
comp=Z,32nm,1.4s
H19K Roundabout Mou 84.62 9 P **P** **15 41 33.9 -0.1**
baz=201,SNR=6.8
G18K Tagagawik 84.65 8 P **P** **15 41 34.0 -0.3**
baz=199
YUK6 Outpost Mounta 84.71 18 P **P** **15 41 35.1 +0.2**
baz=218
YUK3 Moose Creek 84.76 17 P **P** **15 41 35.4 +0.3**
baz=216,SNR=22
GYA Guiyang 84.77 300 ⇑P **P** **15 41 37.4 +1.5**
GYA pmax pmax
comp=Z,42nm,1.1s
H20K Anotleneega Mo 84.83 10 P **P** **15 41 35.2 +0.1**
baz=203,SNR=7.9
M27K Edge Creek, AK 84.85 16 lAmb lAmb 15 41 37.0
comp=Z,61nm,1.3s
M27K Edge Creek, AK 84.85 16 P **P** **15 41 35.9 +0.5**
baz=215,SNR=21
F17K Baldwin Pennin 84.85 7 P **P** **15 41 35.1 0.0**
baz=197
HYT Haines Junctio 84.88 19 lAmb lAmb 15 41 37.2
comp=Z,24nm,1.2s
HYT Haines Junctio 84.88 19 P **P** **15 41 35.9 +0.4**
baz=219,SNR=7.3
S34M Telegraph Cree 84.88 23 P **P** **15 41 35.8 +0.3**
S34M lAmb lAmb 15 41 37.6
comp=Z,48nm,1.1s
S34M **pP** **15 43 32.2 +0.5**
ZEA Zeya 84.89 331 *e*P **P** **15 41 36.7 +1.1**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
YUK4 Talbot Arm 84.94 18 P **P** **15 41 36.5 +0.5**
baz=218
KCSI Kotacane, Aceh 85.02 275 P **P** **15 41 37.0 -0.2**
comp=Z,33nm,0.9s
L26K Log Cabin Wild 85.02 15 lAmb lAmb 15 41 37.3
comp=Z,30nm,1.4s
L26K Log Cabin Wild 85.02 15 P **P** **15 41 35.9 -0.2**
baz=214,SNR=9.8
I21K Tanana 85.04 11 lAmb lAmb 15 41 37.0
comp=Z,31nm,1.2s
I21K Tanana 85.04 11 P **P** **15 41 35.7 -0.4**
baz=205,SNR=16
NEA2 Nenana 85.07 12 P **P** **15 41 35.0 -1.3**
baz=208

K24K Donnelly Dome 85.09 14 P **P** **15 41 36.5 0.0**
baz=211,SNR=19
G19K Purcell Mounta 85.10 9 P **P** **15 41 36.3 -0.1**
baz=200
MLY Manley 85.13 11 P **P** **15 41 35.2 -1.4**
MLY lAmb lAmb 15 41 36.8
comp=Z,20nm,1.2s
MLY **pP** **15 43 32.5 -0.4**
MLY Manley 85.13 11 P **P** **15 41 35.6 -1.1**
baz=206,SNR=18
BVCY Beaver Creek 85.17 17 P **P** **15 41 37.0 +0.1**
baz=216
P32M Atlin 85.17 21 P **P** **15 41 37.4 +0.5**
baz=222
F18K Selawik 85.19 7 P **P** **15 41 37.9 +1.1**
baz=198
Q32M Nakina River 85.22 22 lAmb lAmb 15 41 39.4
comp=Z,64nm,1.6s
Q32M Nakina River 85.22 22 P **P** **15 41 38.0 +0.6**
baz=224,SNR=8.5
SLVN Son La 85.23 294 lAmb lAmb 15 41 41.0
comp=Z,37nm,1.1s
RIDG Independent Ri 85.26 14 lAmb lAmb 15 41 38.2
comp=Z,31nm,1.2s
RIDG Independent Ri 85.26 14 P **P** **15 41 37.1 -0.2**
baz=212,SNR=13
H21K Melozitna Rive 85.33 10 lAmb lAmb 15 41 39.9
comp=Z,30nm,1.4s
H21K Melozitna Rive 85.33 10 P **P** **15 41 37.1 -0.4**
baz=205,SNR=11
HDA Harding Lake 85.36 13 lAmb lAmb 15 41 39.5
comp=Z,41nm,1.4s
HDA Harding Lake 85.36 13 P **P** **15 41 36.9 -0.7**
baz=210,SNR=12
DOT Dot Lake 85.37 15 lAmb lAmb 15 41 38.6
comp=Z,43nm,1.4s
CCB Clear Creek Bu 85.38 13 lAmb lAmb 15 41 38.1
comp=Z,47nm,1.3s
E17K Hotham Inlet 85.40 7 P **P** **15 41 37.6 -0.2**
baz=196
NEW Newport 85.41 36 P **P** **15 41 38.5 +0.1**
L27K Beaver Creek, 85.44 16 P **P** **15 41 37.9 -0.2**
L27K lAmb lAmb 15 41 39.5
comp=Z,31nm,1.6s
L27K Beaver Creek, 85.44 16 P **P** **15 41 37.7 -0.5**
baz=215,SNR=10
BCAR Beaver Creek A 85.45 16 P **P** **15 41 37.5 -0.8**
BCAR **pP** **15 43 35.0 +0.3**
XLT XiLinHaoTe 85.46 319 *e*P **P** **15 41 40.1 +1.4**
XLT SKS **SKSac** **15 51 11.9 -0.8**
XLT S **S** **15 51 26.3 +0.9**
XLT pmax pmax
comp=Z,23nm,1.2s
IMAR Indian Mountai 85.47 10 P **P** **15 41 37.3 -0.9**
IMAR pP **pP** **15 43 34.4 -0.3**
PV05 Paradox Valley 85.49 48 P **P** **15 41 39.4 +0.1**
PV05 **pP** **15 43 35.8 +0.4**
N30M Aishikik Lake 85.50 19 P **P** **15 41 38.5 0.0**
baz=219
I23K Minto, Yukon-K 85.50 12 lAmb lAmb 15 41 38.8
comp=Z,40nm,1.6s
I23K Minto, Yukon-K 85.50 12 P **P** **15 41 37.6 -0.7**
baz=208,SNR=11
VHRN Van Horn 85.52 56 P **P** **15 41 38.2 -1.2**
VHRN **pP** **15 43 35.4 -0.3**
COLA College 85.57 13 P **P** **15 41 37.4 -1.3**
COLA College 85.57 13 *i*P **P** **15 41 36.8 -1.8**
COLA pmax pmax
comp=Z,29nm,0.9s
COLA College 85.57 13 P **P** **15 41 37.8 -0.8**
baz=209
WHY Whitehorse 85.58 20 lAmb lAmb 15 41 40.7
comp=Z,56nm,1.4s
WHY Whitehorse 85.58 20 P **P** **15 41 38.3 -0.7**
baz=221,SNR=5.8
F19K Shaleruckik Mo 85.66 8 lAmb lAmb 15 41 43.2
comp=Z,36nm,1.9s
F19K Shaleruckik Mo 85.66 8 P **P** **15 41 38.5 -0.5**
baz=200
SCRK Sand Creek 85.66 15 P **P** **15 41 39.2 -0.1**
baz=213,SNR=12
DLBC Dease Lake 85.67 23 P **P** **15 41 38.7 -0.7**
baz=226,SNR=7.3
PV19 Morning Glory 85.68 48 lAmb lAmb 15 41 42.1
comp=Z,34nm,1.4s
IL31 85.68 13 lAmb lAmb 15 41 39.7
comp=Z,38nm,1.4s
ILAR Eielson Array 85.68 13 P **P** **15 41 38.2 -1.0**
comp=Z,3.3nm,0.4s,baz=223,slow=5.1,SNR=64
ILAR pP **pP** **15 43 35.2 -0.6**
comp=Z,4.0nm,1.1s,baz=210,slow=5.0,SNR=5.2
ILAR PP **PP** **15 45 09.3 +0.8**
comp=Z,4.0nm,1.1s,baz=233,slow=7.3,SNR=4.9
ILAR S **SKSac** **15 51 12.1 -0.9**
comp=Z,0.3nm,0.7s,baz=210,slow=7.1,SNR=4.8
ILAR PKKPbc **PKKPdf** **15 59 36.7 +3.1**
comp=Z,0.2nm,0.6s,baz=264,slow=0.9,SNR=5.0
comp=Z,3.3nm,0.4s
PV18 Skein Mesa, Pa 85.70 48 lAmb lAmb 15 41 42.2
comp=Z,21nm,1.3s
PV23 Carpenter Ridg 85.72 48 lAmb lAmb 15 43 43.1
comp=Z,14nm,1.0s
H22K Ishtalitna Cre 85.79 11 P **P** **15 41 39.1 -0.6**
baz=206,SNR=12
PV12 Saucer Basin, 85.81 48 lAmb lAmb 15 43 43.1
comp=Z,23nm,1.2s
M29M Somme Creek 85.86 17 P **P** **15 41 40.5 +0.2**
baz=218,SNR=9.7
POKR Poker Plat Res 85.87 13 lAmb lAmb 15 41 40.4
comp=Z,25nm,1.2s
POKR Poker Plat Res 85.87 13 P **P** **15 41 39.3 -0.9**
baz=210
J25K Salcha River, 85.88 14 lAmb lAmb 15 41 41.1
comp=Z,13nm,0.8s
J25K Salcha River, 85.88 14 P **P** **15 41 39.6 -0.7**
baz=212,SNR=16
MG05 Puerto Natales 85.90 143 lAmb lAmb 15 41 43.6
comp=Z,36nm,1.0s
N31M Braeburn, Yuko 85.92 19 P **P** **15 41 40.8 +0.3**
baz=220,SNR=6.2
P33M Teslin, Yukon 85.94 21 P **P** **15 41 41.0 +0.3**
baz=223,SNR=5.5
MG04 Isla Riesco 85.95 144 P **P** **15 41 41.1 +0.3**
XAN Xi'an 85.98 307 ⇓P **P** **15 41 42.9 +1.5**
XAN pmax pmax
comp=Z,130nm,1.0s
XAN pmax pmax
comp=Z,170nm,5.4s
G21K Allakaket 86.00 10 P **P** **15 41 40.4 -0.3**
baz=204
R33M Jennings River 86.00 22 lAmb lAmb 15 41 43.0
comp=Z,28nm,1.2s
R33M Jennings River 86.00 22 P **P** **15 41 41.6 +0.6**
baz=225,SNR=14
TXAR Lajitas Array 86.00 58 pP **pP** **15 43 38.1 +0.1**
comp=Z,2.5nm,1.0s,baz=262,slow=3.2,SNR=1.7
TXAR PKKP **PKKPdf** **15 59 33.5 +1.8**
comp=Z,0.4nm,0.6s,baz=63,slow=2.6,SNR=4.4
H23K Yukon River 86.07 12 P **P** **15 41 40.2 -0.8**
baz=208
ANMO Albuquerque 86.07 52 *i*P **P** **15 41 41.6 -0.4**
ANMO pmax pmax
comp=Z,10.0nm,1.1s
MG03 Isla Dawson 86.14 146 P **P** **15 41 41.8 0.0**
F20K Avaraart Lake 86.15 9 P **P** **15 41 41.0 -0.3**
baz=202,SNR=5.0
BILL Bilibino 86.17 354 *i*P **P** **15 41 40.6 -0.9**
BILL pmax pmax
comp=Z,37nm,1.5s
K27K Chicken 86.17 15 lAmb lAmb 15 41 43.4
comp=Z,18nm,1.3s
K27K Chicken 86.17 15 P **P** **15 41 41.7 +0.1**
baz=215
J26L Joseph Creek 86.20 14 P **P** **15 41 41.9 +0.1**
baz=213,SNR=27
AHID Auburn Hatcher 86.28 43 lAmb lAmb 15 41 45.1
comp=Z,24nm,1.4s
E19K Redstone River 86.32 8 P **P** **15 41 41.9 -0.3**
baz=200
H24K Noodor Dome 86.41 12 P **P** **15 41 42.8 +0.1**
baz=209
M30M Minto, Yukon 86.45 18 lAmb lAmb 15 41 44.3
comp=Z,58nm,1.6s
M30M Minto, Yukon 86.45 18 P **P** **15 41 42.9 -0.1**
baz=220,SNR=15
L29M L29M 86.48 17 P **P** **15 41 43.6 +0.5**
baz=218,SNR=18

N32M Quiet Lake 86.53 20 lAmb lAmb 15 41 45.3
comp=Z,40nm,1.3s
N32M Quiet Lake 86.53 20 P **P** **15 41 43.8 +0.3**
baz=223
MLSI Meulaboh, Aceh 86.54 276 P **P** **15 41 45.3 +0.8**
DLMT Dillon 86.58 40 lAmb lAmb 15 41 46.3
comp=Z,28nm,1.2s
BPMT Black Pine Rid 86.59 39 P **P** **15 41 44.2 -0.1**
BPMT **pP** **15 43 40.5 -0.5**
C17K DeLong Mountai 86.62 6 P **P** **15 41 42.8 -0.8**
baz=195
PRP Porcupine Dome 86.62 13 lAmb lAmb 15 41 44.5
comp=Z,22nm,1.4s
PRP Porcupine Dome 86.62 13 P **P** **15 41 43.0 -0.8**
baz=211,SNR=8.2
F21K Alatna River 86.65 10 P **P** **15 41 43.1 -0.7**
baz=204
TPAW Teton Pass 86.71 42 lAmb lAmb 15 41 47.3
comp=Z,18nm,1.1s
G23K Bananza Creek 86.77 11 P **P** **15 41 44.4 0.0**
baz=207
SNOW Snow King Moun 86.83 42 lAmb lAmb 15 41 47.8
comp=Z,20nm,0.9s
M31M Drury Creek, Y 86.89 19 P **P** **15 41 44.5 -0.5**
baz=222
DAWY Dawson 86.90 16 P **P** **15 41 44.9 -0.1**
baz=217,SNR=7.0
I26K Coal Creek Min 86.98 14 lAmb lAmb 15 41 46.7
comp=Z,46nm,1.9s
I26K Coal Creek Min 86.98 14 P **P** **15 41 45.1 -0.2**
baz=214,SNR=9.7
HHC Hu-ho-hao-te 86.98 315 *e*P **P** **15 41 47.9 +1.8**
HHC pP pwP 15 43 47.0 +1.7
HHC PP **PP** **15 45 22.1 +2.6**
HHC SKS **SKSac** **15 51 24.4 +2.3**
HHC S **ScS** **15 51 43.8 -1.2**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.0s
LOHW Long Hollow 86.99 42 lAmb lAmb 15 41 48.5
comp=Z,30nm,1.6s
O20A White River Ci 87.00 46 P **P** **15 41 45.8 -0.6**
F22K John River 87.12 10 P **P** **15 41 45.9 -0.1**
baz=205
YHB Horse Butte 87.15 41 lAmb lAmb 15 41 49.7
comp=Z,28nm,1.1s
COLD Coldfoot 87.20 11 lAmb lAmb 15 41 47.8
comp=Z,19nm,1.2s
COLD Coldfoot 87.20 11 P **P** **15 41 46.3 0.0**
baz=207,SNR=13
H25L Birch Creek 87.20 13 P **P** **15 41 47.4 +1.0**
baz=211
K29M Barlow Dome 87.23 17 lAmb lAmb 15 41 48.5
comp=Z,19nm,1.2s
K29M Barlow Dome 87.23 17 P **P** **15 41 47.1 +0.4**
baz=219,SNR=13
YFT Old Faithful 87.24 42 lAmb lAmb 15 41 50.8
comp=Z,22nm,1.1s
G24K Hadweenzic Riv 87.24 12 P **P** **15 41 45.9 -0.7**
baz=210,SNR=5.8
BOZ Bozeman (W) 87.28 40 lAmb lAmb 15 41 49.7
comp=Z,20nm,1.2s
PD31 Pinedale Array 87.28 44 lAmb lAmb 15 41 49.2
comp=Z,25nm,1.4s
PDAR Pinedale Array 87.28 44 P **P** **15 41 47.4 -0.3**
PDAR pP **pP** **15 43 45.1 +0.4**
PDAR Pinedale Array 87.28 44 P **P** **15 41 48.0 +0.3**
comp=Z,3.5nm,0.6s,baz=220,slow=3.9,SNR=39
PDAR pP **pP** **15 43 44.3 -0.4**
comp=Z,1.1nm,0.8s,baz=242,slow=4.8,SNR=4.5
PDAR PP **PP** **15 45 18.6 -3.4**
comp=Z,3.6nm,1.1s,baz=262,slow=8.7,SNR=7.7
PDAR PKKPbc **PKKPbc** **15 59 34.5 -1.9**
comp=Z,0.9nm,0.8s,baz=41,slow=3.3,SNR=5.6
comp=Z,3.5nm,0.6s
WTLY Watson Lake, Y 87.29 23 lAmb lAmb 15 41 48.9
comp=Z,21nm,1.3s
WTLY Watson Lake, Y 87.29 23 P **P** **15 41 47.5 +0.5**
baz=227
J29N Klondike Camp 87.52 16 lAmb lAmb 15 41 49.9
comp=Z,28nm,1.4s
G25K Bearman Lake 87.57 12 P **P** **15 41 48.0 -0.1**
baz=211
KMI Kunming 87.57 297 ⇓P **P** **15 41 51.3 +1.9**
KMI pmax pmax
comp=Z,53nm,1.0s
D20K Etivluk River 87.58 8 lAmb lAmb 15 41 48.6
comp=Z,17nm,1.3s
D20K Etivluk River 87.58 8 P **P** **15 41 48.1 -0.1**
baz=201
FYU Fort Yukon 87.58 13 lAmb lAmb 15 44 23.0
comp=Z,31nm,1.7s
I27K Kandik River 87.58 14 P **P** **15 41 48.0 -0.2**
baz=215
C19K Lookout Ridge 87.59 7 P **P** **15 41 48.0 -0.3**
baz=198
AY03 Cochrane 87.60 139 P **P** **15 41 50.4 +1.6**
AY03 lAmb lAmb 15 41 52.5
comp=Z,38nm,1.2s
B18K Kokolik River 87.61 6 P **P** **15 41 47.8 -0.4**
baz=196
E21K Killik River 87.69 9 P **P** **15 41 48.1 -0.6**
E21K pP **pP** **15 43 45.5 -0.4**
E21K Killik River 87.69 9 P **P** **15 41 48.1 -0.6**
baz=203,SNR=7.6
E22K Anaktuvuk Pass 87.75 10 lAmb lAmb 15 41 50.0
comp=Z,27nm,1.4s
E22K Anaktuvuk Pass 87.75 10 P **P** **15 41 48.6 -0.3**
baz=205,SNR=13
YMP Mirror Lake Pl 87.80 42 lAmb lAmb 15 42 06.6
comp=Z,22nm,1.4s
I28M Miner Creek 87.87 15 lAmb lAmb 15 41 50.8
comp=Z,33nm,1.9s
I28M Miner Creek 87.87 15 P **P** **15 41 49.0 -0.6**
baz=216,SNR=7.1
F24K Squaw Lake 87.88 11 lAmb lAmb 15 41 50.4
comp=Z,9.4nm,0.7s
F24K Squaw Lake 87.88 11 P **P** **15 41 49.5 0.0**
baz=209,SNR=12
BTO Baotou 87.93 314 *e*P **P** **15 41 52.6 +2.1**
BTO sP **sP** **15 44 42.4 -0.2**
BTO S **S** **15 51 43.8 -5.0**
BTO pmax pmax
comp=Z,23nm,0.9s
BTO pmax pmax
comp=Z,160nm,4.1s
YNE Yellowstone No 88.02 41 lAmb lAmb 15 41 53.6
comp=Z,24nm,1.3s
E23K Chandalar 88.05 10 lAmb lAmb 15 41 52.2
comp=Z,20nm,1.4s
E23K Chandalar 88.05 10 P **P** **15 41 50.5 +0.1**
baz=208,SNR=9.1
H27K Steamboat Moun 88.12 14 P **P** **15 41 50.9 +0.1**
baz=215,SNR=8.5
J30M Hart River 88.13 17 lAmb lAmb 15 41 52.5
comp=Z,15nm,1.4s
J30M Hart River 88.13 17 P **P** **15 41 50.8 -0.1**
baz=220,SNR=7.1
MMPY Sheldon Lake, 88.19 20 P **P** **15 41 51.7 +0.5**
baz=224,SNR=15
I29M Ogilvie Camp, 88.21 16 lAmb lAmb 15 41 52.8
comp=Z,35nm,1.9s
G26K Porcupine Rive 88.22 13 lAmb lAmb 15 41 52.6
comp=Z,19nm,0.8s
G26K Porcupine Rive 88.22 13 P **P** **15 41 51.4 +0.4**
baz=213,SNR=17
C21K Knifeblade Rid 88.24 8 P **P** **15 41 51.0 -0.2**
baz=203,SNR=6.2
E24K Your Creek 88.26 11 P **P** **15 41 50.9 -0.4**
baz=209
D22K Ayikyak River 88.29 9 lAmb lAmb 15 41 52.2
comp=Z,13nm,0.6s
D22K Ayikyak River 88.29 9 P **P** **15 41 51.7 +0.2**
baz=205,SNR=9.8
F25K Christian Rive 88.38 12 P **P** **15 41 52.5 +0.5**
baz=211,SNR=8.7
TGTN Hyland Airport 88.44 22 P **P** **15 41 52.8 +0.4**
baz=227,SNR=7.5
BMAR Burnt Mountain 88.45 12 P **P** **15 41 52.1 -0.1**
BMAR **pP** **15 43 49.8 +0.2**
A19K Wainwright 88.49 6 P **P** **15 41 52.3 0.0**
baz=197
DRIO Del Rio 88.50 59 lAmb lAmb 15 41 55.9
comp=Z,24nm,1.0s
RLMT Red Lodge 88.54 41 lAmb lAmb 15 41 55.8
comp=Z,15nm,1.1s

G27K Doyon Strip 88.57 14 P P 15 41 52.7 -0.1
baz=215,SNR=5.2
TOLK Toolik Lake Re 88.57 10 IAmb IAmb 15 41 54.0
comp=Z,20nm,1.4s
TOLK Toolik Lake Re 88.57 10 P P 15 41 52.5 -0.3
baz=208,SNR=5.9
COYC Coyhaique 88.60 138 P P 15 41 54.4 +0.9
I30M Mount Dempster 88.61 16 IAmb IAmb 15 41 54.2
comp=Z,20nm,1.5s
I30M Mount Dempster 88.61 16 P P 15 41 52.7 -0.5
baz=220,SNR=7.2
OZNA Ozona 88.63 57 IAmb IAmb 15 42 07.4
comp=Z,12nm,1.0s
CM31 Chiang Mai Arr 88.65 290 P P 15 41 55.4 +1.2
CM31 Chiang Mai Arr 88.65 290 P P 15 41 56.1 +1.9
SNR=9.8
CMAR Chiang Mai Arr 88.65 290 P P 15 41 54.9 +0.7
CMAR Chiang Mai Arr 88.65 290 P P 15 41 55.9 +1.7
comp=Z,26nm,0.9s,baz=108,slow=2.9,SNR=103
CMAR PP **PP** 15 45 30.3 -2.6
comp=Z,0.5nm,0.3s,baz=116,slow=8.1,SNR=2.0
CMAR PKKPbc **PKKPbc** 15 59 33.1 +1.4
comp=Z,2.1nm,0.8s,baz=291,slow=2.7,SNR=8.5
comp=Z,26nm,0.9s
CMAR Chiang Mai Arr 88.65 290 P P 15 41 54.9 +0.7
D23K Nanushuk River 88.68 10 IAmb IAmb 15 41 54.7
comp=Z,37nm,1.6s
D23K Nanushuk River 88.68 10 P P 15 41 53.4 +0.1
baz=206,SNR=10
B21K Ikpikpuk River 88.69 8 P P 15 41 53.1 -0.2
baz=203
B20K Meade River 88.73 7 P P 15 41 53.4 0.0
baz=200
CHTO Chiang Mai 88.76 290 P P 15 41 55.4 +0.6
CHTO Chiang Mai 88.76 290 P P 15 41 56.1 +1.4
CHTO Chiang Mai 88.76 290 P P 15 41 56.5 +1.7
CHTO Chiang Mai 88.76 290 P P 15 41 55.4 +0.6
CHTO pmax pmax
comp=Z,33nm,0.9s
F26K Sheenjek River 88.77 12 P P 15 41 53.9 +0.2
baz=213,SNR=6.8
CD2 Chengdu 88.80 303 P P 15 41 56.4 +1.7
CD2 pmax pmax
comp=Z,30nm,1.0s
E25K Arctic Village 88.85 12 IAmb IAmb 15 41 55.5
comp=Z,14nm,1.3s
E25K Arctic Village 88.85 12 P P 15 41 54.2 +0.1
baz=211,SNR=7.2
H29M Whitestone 88.87 15 IAmb IAmb 15 41 55.2
comp=Z,24nm,1.2s
H29M Whitestone 88.87 15 P P 15 41 54.2 0.0
baz=218,SNR=5.9
PZH PanZhiHua 88.90 298 P P 15 41 57.0 +1.6
PZH pmax pmax
comp=Z,30nm,1.2s
KOTAN Kotaneelee Air 89.09 24 P P 15 41 55.7 +0.4
baz=231
D24K Happy Valley 89.15 10 P P 15 41 55.4 0.0
baz=208
K22A Casper 89.25 45 IAmb IAmb 15 41 58.6
comp=Z,19nm,1.3s
YAK Yakutsk 89.29 338 *e*P P 15 41 55.6 -0.5
YAK *e**PP **pP** 15 43 52.3 -1.3
YAK *e* 15 45 32.2
YAK *e*PPP PPP 15 47 35.4
YAK *e*S **SKSac** 15 51 32.9 -1.5
YAK *e* 15 51 56.3
YAK *e*SSS SSS 16 01 52.4
YAK pmax pmax
comp=Z,10.0nm,1.5s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.8s
YAK pmax pmax
comp=Z,166nm,4.9s
YAK pmax pmax
comp=N,74nm,4.6s
YAK pmax pmax
comp=E,63nm,5.0s
YAK smax smax
comp=N,52nm,1.3s
YAK smax smax
comp=E,39nm,3.1s
LL05 Los Muermos 89.33 133 P P 15 41 56.9 -0.1
SYO Syowa Base 89.36 193 ⇓*i*P P 15 41 56.4 -0.1
SYO Syowa Base 89.36 193 ⇓*i*PcP **PcP** 15 41 57.6 +0.1
EPYK Eagle Plains 89.41 16 IAmb IAmb 15 41 57.7
comp=Z,13nm,1.1s
EPYK Eagle Plains 89.41 16 P P 15 41 56.5 -0.2
baz=220,SNR=8.2
RTBA Rita Blanca 89.44 51 IAmb IAmb 15 42 02.2
comp=Z,17nm,1.4s
C23K Itkillik River 89.47 9 P P 15 41 57.0 +0.1
baz=206,SNR=5.5
G29M Pine Creek 89.51 15 IAmb IAmb 15 41 58.1
comp=Z,18nm,1.3s
G29M Pine Creek 89.51 15 P P 15 41 57.0 -0.2
baz=218,SNR=5.3
B22K Teshekpuk Lake 89.52 8 P P 15 41 57.1 0.0
baz=204
H31M Peel River 89.61 17 IAmb IAmb 15 41 58.5
comp=Z,12nm,1.2s
H31M Peel River 89.61 17 P P 15 41 57.3 -0.4
baz=222
F28M Old Crow 89.63 14 P P 15 41 57.4 -0.2
baz=217
LL01 San Ignacio de 89.67 135 P P 15 41 59.2 +0.6
LL01 IAmb IAmb 15 42 01.9
comp=Z,28nm,1.2s
C24K Franklin Bluff 89.68 10 P P 15 41 57.9 +0.1
baz=208
E27K Coleen River 89.71 13 IAmb IAmb 15 42 00.4
comp=Z,31nm,1.9s
E27K Coleen River 89.71 13 P P 15 41 58.4 +0.3
baz=215
LL02 Futaleuf 89.72 136 P P 15 41 59.3 +0.5
D25K Kavik River 89.73 11 IAmb IAmb 15 41 58.6
comp=Z,14nm,1.4s
D25K Kavik River 89.73 11 P P 15 41 57.2 -1.0
baz=210
A22K Sinclair Lake 89.93 8 P P 15 41 58.9 -0.1
baz=202
G30M tAoh Zraii Nji 90.01 15 P P 15 41 59.2 -0.2
baz=220,SNR=13
APMT Aspermont 90.30 55 IAmb IAmb 15 42 03.3
comp=Z,9.4nm,0.8s
G31M Satah River 90.47 16 P P 15 42 01.4 -0.1
baz=222,SNR=12
BRDY Brady 90.47 57 P P 15 42 02.5 +0.1
BRDY **pP** 15 44 00.7 +0.6
BRDY IAmb IAmb 15 44 12.1
comp=Z,13nm,0.8s
C27K Jago River 90.48 12 IAmb IAmb 15 42 02.9
comp=Z,14nm,1.3s
C27K Jago River 90.48 12 P P 15 42 01.6 0.0
baz=213
E28M Babbage River 90.50 13 IAmb IAmb 15 42 03.0
comp=Z,29nm,1.6s
E28M Babbage River 90.50 13 P P 15 42 01.5 -0.3
baz=217,SNR=10
C26K Camden Bay 90.51 11 P P 15 42 01.9 +0.3
baz=212
TROLL Troll, Antarti 90.55 180 ⇓P P 15 42 02.5 +0.3
comp=Z,3µm,0.9s
F30M Barrier River 90.60 15 IAmb IAmb 15 42 03.9
comp=Z,16nm,1.3s
F30M Barrier River 90.60 15 P P 15 42 02.1 -0.1
baz=220,SNR=6.2
LZH Lanzhou 90.61 308 ⇓P P 15 42 04.9 +1.7
LZH pP pP 15 44 04.4 +2.7
LZH sP sP 15 44 53.3 -2.5
LZH S **S** 15 52 12.3 -1.2
LZH pmax pmax
comp=Z,61nm,1.0s
E29M Blow River 90.70 14 P P 15 42 02.1 -0.5
baz=218
D27M Malcolm River 90.71 13 IAmb IAmb 15 42 05.2
comp=Z,17nm,1.5s
D27M Malcolm River 90.71 13 P P 15 42 02.9 +0.2
baz=216
SNAA Sanae 90.85 179 ⇓P P 15 42 03.4 -0.1
comp=Z,2µm,1.3s
SNAA Sanae 90.85 179 P P 15 42 03.6 +0.1
comp=Z,16nm,0.8s,baz=203,slow=7.4,SNR=58
SNAA S **SKSac** 15 51 43.8 +0.1
comp=Z,2.4nm,1.0s,baz=0.0,slow=2.0,SNR=11
comp=Z,16nm,0.8s
SNAA Sanae 90.85 179 *i* P P 15 42 02.9 -0.6
SNAA pmax pmax
comp=Z,45nm,1.3s
F31M Tsiigehtchic 90.99 16 P P 15 42 03.8 -0.1
baz=222,SNR=13
VNA3 Neumayer Olymp 91.00 176 ⇓P P 15 42 04.1 0.0
comp=Z,55nm,0.8s
D28M Stokes Point 91.26 13 P P 15 42 04.9 -0.2
baz=218
VNA2 Neumayer--Watz 91.43 177 ⇓P P 15 42 06.4 +0.3
comp=Z,36nm,1.0s,baz=165,slow=3.8
RSSD Black Hills 91.50 44 P P 15 42 06.8 -0.4
RSSD IAmb IAmb 15 42 08.6
comp=Z,13nm,1.2s
RSSD Black Hills 91.50 44 P P 15 42 06.8 -0.4
RSSD pmax pmax
comp=Z,13nm,1.2s
PLCA Paso Flores 91.62 134 IAmb IAmb 15 42 10.5
comp=Z,8.9nm,1.0s
PLCA Paso Flores 91.62 134 P P 15 42 09.2 +1.4
comp=Z,7.7nm,0.9s,baz=197,slow=4.3,SNR=15
comp=Z,7.7nm,0.9s
VNA1 Neumayer--Stat 91.66 177 ⇓P P 15 42 07.8 +0.7
comp=Z,74nm,1.0s
INK Inuvik 91.69 15 IAmb IAmb 15 42 07.8
comp=Z,23nm,1.3s
INK Inuvik 91.69 15 P P 15 42 06.6 -0.5
baz=222
ULN Ulaanbaatar 92.86 320 P P 15 42 13.5 +0.3
ULN IAmb IAmb 15 42 14.8
comp=Z,9.1nm,0.8s
ULN Ulaanbaatar 92.86 320 *i* P P 15 42 12.8 -0.4
ULN pmax pmax
comp=Z,11nm,0.8s
SONM Songino Array 93.26 319 P P 15 42 14.7 -0.3
SONM Songino Array 93.26 319 P P 15 42 15.3 +0.3
comp=Z,2.9nm,0.7s,baz=138,slow=5.6,SNR=15
SONM PKKPbc **PKKPdf** 15 59 19.7 -0.1
comp=Z,0.6nm,0.5s,baz=325,slow=1.8,SNR=4.5
comp=Z,2.9nm,0.7s
SONM Songino Array 93.26 319 P P 15 42 14.7 -0.3
SONM pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 94.17 25 P P 15 42 17.5 -1.1
comp=Z,3.7nm,1.0s,baz=247,slow=5.7,SNR=4.8
comp=Z,3.7nm,1.0s
GTA Gaotai 94.75 310 P P 15 42 23.3 +1.3
GTA pmax pmax
comp=Z,11nm,0.9s
A36M Sachs Harbour 96.28 15 P P 15 42 27.4 -0.6
baz=230
SHL Shillong 97.03 294 P P 15 42 32.2 -0.5
SHL Shillong 97.03 294 P P 15 42 32.2 -0.5
LPAZ La Paz 103.64 112 Pdiff **Pdif** 15 43 06.0 +3.2
comp=Z,1.7nm,0.9s,baz=243,slow=4.9,SNR=5.4
LPAZ PKKPbc **PKKPbc** 15 58 52.2 -0.3
comp=Z,0.7nm,0.7s,baz=45,slow=3.3,SNR=5.1
ZSN Zaisan 107.18 315 *e*PKiKP **PKiKP** 15 47 22.7 -0.1
ZALV Zalesovo Beam 107.94 322 PKiKP **PKiKP** 15 47 23.3 -0.6
comp=Z,3.7nm,0.6s,baz=178,slow=0.9,SNR=21
ZALV PKKPbc **PKKPbc** 15 58 38.0 -1.7
comp=Z,0.9nm,0.5s,baz=251,slow=3.9,SNR=3.7
MKAR Makanchi Array 108.85 314 PKiKP **PKiKP** 15 47 25.6 -0.4
comp=Z,3.6nm,0.6s,baz=185,slow=0.7,SNR=23
MKAR PKKPbc **PKKPbc** 15 58 35.4 -1.3
comp=Z,2.4nm,0.8s,baz=271,slow=3.3,SNR=8.1
SIV San Ignacio 109.94 115 PKKPbc PKKPbc 15 58 32.2 -0.4
comp=Z,2.6nm,0.7s,baz=52,slow=3.9,SNR=11
SIV PKKPab **PKKPab** 15 58 46.5 -0.4
comp=Z,1.6nm,0.7s,baz=121,slow=5.9,SNR=6.7
SHLS Shalkode 110.49 310 *i* PKiKP **PKiKP** 15 47 28.4 -0.9
SHLS Shalkode 110.49 310 *e*PKiKP **PKiKP** 15 47 28.4 -0.9
UZB Uzunbulak 110.81 310 *i* PKiKP **PKiKP** 15 47 29.5 -0.4
UZB *e* 15 48 16.5
UZB Uzunbulak 110.81 310 *e*PKiKP **PKiKP** 15 47 29.6 -0.4
UZB *e*PP **PP** 15 48 16.6 -1.6
SATY Saty 111.25 310 *i* PKiKP **PKiKP** 15 47 30.3 -0.5
SATY Saty 111.25 310 *e*PKiKP **PKiKP** 15 47 30.4 -0.5
TDK Taldyqorghan 111.40 312 *i* PKiKP **PKiKP** 15 47 30.4 -0.4
TDK Taldyqorghan 111.40 312 *e*PKiKP **PKiKP** 15 47 30.4 -0.4
KURK Kurchatov 111.53 318 P **PKiKP** 15 47 30.3 -0.5
KURK Kurchatov 111.53 318*c* *i*PKiKP **PKiKP** 15 47 30.8 -0.1
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURBB Kurchatov Arra 111.59 318 PKiKP **PKiKP** 15 47 30.5 -0.5
comp=Z,7.7nm,0.8s,baz=94,slow=1.9,SNR=58
KURBB PP **PP** 15 48 26.0 +2.8
comp=Z,1.0nm,0.6s,baz=95,slow=7.3,SNR=5.7
KURBB SKP 15 50 16.3
comp=Z,1.4nm,0.8s,baz=98,slow=1.9,SNR=6.2
KURBB PKKPbc **PKKPbc** 15 58 25.8 -2.2
comp=Z,2.2nm,0.7s,baz=270,slow=3.7,SNR=15
KURBB SKKPbc SKKPbc 16 01 20.6 -1.6
comp=Z,0.2nm,0.3s,baz=260,slow=3.5,SNR=4.5
MDOK Medeo 112.25 310 *i* PKiKP **PKiKP** 15 47 32.3 -0.4
MDOK Medeo 112.25 310 *e*PKiKP **PKiKP** 15 47 32.3 -0.4
AAA Alma-Ata 112.35 310 *i* PKiKP **PKiKP** 15 47 32.3 -0.4
AAA Alma-Ata 112.35 310 *e*PKiKP **PKiKP** 15 47 32.4 -0.4
KSH Kashi 112.80 306 PKP **PKiKP** 15 47 35.0 +1.2
KSH AMB AMB
comp=Z,150nm,5.7s
TKM2 Tokmak 2 113.30 310 P **PKiKP** 15 47 34.4 -0.4
SNR=6.4
CHMS Chumysh 113.92 310 P **PKiKP** 15 47 35.4 -0.4
SNR=7.2
SGDS Sogindy 114.03 310 *e*PKiKP PKPdf 15 47 35.6 -0.4
UCH Uchtor 114.07 309 P **PKiKP** 15 47 37.2 +0.6
SNR=9.0
AAK Ala-Archa 114.10 309 P PKPdf 15 47 35.7 -0.6
AAK Ala-Archa 114.10 309*c* *i*PKiKP **PKiKP** 15 47 36.6 +0.3
AAK pmax pmax
comp=Z,8.0nm,1.3s
AAK Ala-Archa 114.10 309 PKiKP **PKiKP** 15 47 36.5 +0.3
USP Ospenovka 114.12 310 P PKPdf 15 47 36.1 -0.1
SNR=9.0
NIL Nilore 114.47 299 P PKPdf 15 47 36.4 -0.7
BTLS Baital 114.49 312 *i* PKiKP PKPdf 15 47 36.5 -0.2
BTLS Baital 114.49 312 *e*PKiKP PKPdf 15 47 36.5 -0.2
EKS2 Erkin-Say 114.63 309 P **PKiKP** 15 47 37.6 +0.3
SNR=5.5
NEEM North Greenlan 114.91 11 *e*P PKPdf 15 47 36.8 -0.3
DZA Taraz 116.43 310 *i* PKiKP **PKPdf** 15 47 40.3 -0.3
DZA Taraz 116.43 310 *e*PKiKP **PKPdf** 15 47 40.3 -0.3
BVAR Borovoye Array 116.55 321 PKP **PKPdf** 15 47 40.1 -0.4
comp=Z,9.5nm,0.4s,baz=110,slow=1.7,SNR=74
BVAR SKP 15 50 26.7
comp=Z,2.9nm,0.9s,baz=79,slow=3.2,SNR=5.1
BVAR PKKPbc **PKKPab** 15 58 15.6 +0.3
comp=Z,1.3nm,0.8s,baz=222,slow=1.9,SNR=6.0
BRVK Borovoye 116.61 321*c* *i*PKiKP **PKPdf** 15 47 40.5 0.0
BRVK pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 117.03 310 **PKPdf** 15 47 40.7 -1.0
KKAR Karatay Array 117.03 310 PKiKP **PKPdf** 15 47 40.7 -1.0
IUG Iuzhnay 117.40 309 *i* PKiKP **PKPdf** 15 47 42.2 -0.3
IUG Iuzhnay 117.40 309 *e*PKiKP **PKPdf** 15 47 42.2 -0.3
BRLS Borolday 117.53 310 *i* PKiKP **PKiKP** 15 47 42.7 0.0
BRLS Borolday 117.53 310 *e*PKiKP **PKiKP** 15 47 42.7 0.0
KBL Kabul 118.02 300 **PKPdf** 15 47 43.9 -0.3
KBL Kabul 118.02 300 P **PKiKP** 15 47 44.6 +0.4
SNR=7.5
KBL Kabul 118.02 300 PKiKP **PKPdf** 15 47 43.9 -0.3
SIMJ Simiganj 118.18 305 **PKPdf** 15 47 43.8 -0.4
SPITS Spitsbergen Ar 119.01 357 PKP **PKPdf** 15 47 44.5 0.0
comp=Z,8.9nm,0.8s,baz=75,slow=6.1,SNR=14
SUMG Summit 120.53 13 **PKPdf** 15 47 47.4 -0.7
SUMG Summit 120.53 13 PKiKP **PKPdf** 15 47 47.4 -0.7
SUMG Summit 120.53 13 *i* P **PKPdf** 15 47 48.0 -0.1
BDFB Brasilia 121.10 121 PKP **PKPdf** 15 47 50.2 -0.3
comp=Z,1.6nm,0.3s,baz=67,slow=10,SNR=3.8
BDFB SKP 15 50 37.0
comp=Z,3.4nm,0.8s,baz=170,slow=5.7,SNR=4.1
SVE Sverdlovsk 121.34 326 *e*PKiKP **PKiKP** 15 47 49.8 +0.1
SVE pmax pmax
comp=Z,25nm,0.9s
OPO Ambohidratompo 122.38 234 PKP **PKiKP** 15 47 53.3 +0.2
comp=Z,15nm,0.8s,baz=67,slow=1.7,SNR=9.4
ARTI Arti 122.66 326 **PKPdf** 15 47 51.3 -0.8
ARTI Arti 122.66 326 *i* PKiKP **PKPdf** 15 47 51.6 -0.5
ARTI 15 49 36.7
ARTI 15 54 11.7
ABKAR Akbulak array 123.64 318 **PKPdf** 15 47 53.1 -1.0
JLN Jalan Bani Buh 125.56 285 P **PKPdf** 15 47 58.7 0.0
ARCES ARCESS Array B 126.04 350 **PKPdf** 15 47 57.7 -0.5
ARCES ARCESS Array B 126.04 350 PKP **PKPdf** 15 47 57.9 -0.4
comp=Z,8.2nm,0.7s,baz=100,slow=1.9,SNR=19
ARCES ARCESS Array B 126.04 350 PKiKP **PKiKP** 15 47 57.7 -0.5
KIRV Kirov 126.23 331*ce* PKiKP **PKiKP** 15 47 59.5 +0.2
WSAR Wadi Sarin 126.39 286 P **PKiKP** 15 48 00.7 -0.1
MHTO MHTO 126.76 283 P **PKiKP** 15 48 01.3 -0.2
SNR=6.6
JMDO Jabal Madar 126.79 285 P **PKiKP** 15 48 01.5 -0.1
BIDO Bidbid 126.88 286 P **PKPdf** 15 48 01.2 +0.1
SUR Sutherland 126.89 201 P **PKiKP** 15 48 01.1 -0.2
SMDO Samad 126.91 286 P **PKiKP** 15 48 01.4 +0.1
DQM DQM 127.03 282 P **PKiKP** 15 48 02.3 +0.2
ARQ Araqi 128.33 286 P **PKiKP** 15 48 04.4 -0.3
SOHO SOHO 128.38 287 P **PKPdf** 15 48 04.0 +0.1
SOHO SOHO 128.38 287 *i* PKiKP **PKPdf** 15 48 03.9 0.0
SNR=28
BOSA Boshof 128.55 207 **PKPdf** 15 48 04.5 0.0
BOSA Boshof 128.55 207 PKP **PKPdf** 15 48 04.8 +0.3
comp=Z,11nm,0.9s,baz=212,slow=1.6,SNR=15
BOSA Boshof 128.55 207 PKiKP **PKPdf** 15 48 04.5 0.0
MDH Madha 128.66 289 P **PKPdf** 15 48 04.0 -0.5
UOSS Minazif 128.73 288 P **PKPdf** 15 48 04.6 -0.1
UOSS Minazif 128.73 288 PKiKP **PKPdf** 15 48 04.6 -0.1
HATD Hatta, Dubai 128.78 288 *i* PKiKP **PKiKP** 15 48 05.3 -0.2
SNR=11
MSFE Esma-Masafi 128.79 289 PKiKP **PKiKP** 15 48 05.3 -0.3
MASF Masafi 128.79 289 P **PKiKP** 15 48 05.3 -0.2
SHME Shamm 128.84 289 PKiKP **PKiKP** 15 48 05.2 -0.3
ASHO Ashiyiah 128.84 288 P **PKPdf** 15 48 05.1 +0.2
ASHO Ashiyiah 128.84 288 *i* PKiKP **PKiKP** 15 48 06.0 +0.3
SNR=7.1
KLMR Klimovskoe 129.07 337 *e*PKiKP **PKPdf** 15 48 02.9 -1.3
KLMR *e* 15 50 18.4
KLMR pmax pmax
comp=Z,19nm,1.0s
ALNE Al Ain 129.09 287 P **PKPdf** 15 48 05.6 +0.2
ALNE Al Ain 129.09 287 *i* PKiKP **PKPdf** 15 48 05.4 0.0
SNR=7.7
NAZ Nazwa, Dubai 129.22 288 P **PKPdf** 15 48 05.9 +0.4
ASUD Al Ashush, Dub 129.50 288 P **PKiKP** 15 48 07.0 +0.1
ASUD Al Ashush, Dub 129.50 288 PKiKP **PKPdf** 15 48 06.4 +0.3
UMZA Um Al Zommool 129.53 285 P **PKiKP** 15 48 07.1 +0.1
AJN Ajban 129.81 288 P **PKiKP** 15 48 07.8 +0.2
RBK Rabkut 129.82 278 P **PKPdf** 15 48 07.3 +0.3
DOK Doka 130.05 280 P **PKPdf** 15 48 07.3 0.0
WHFO Wadi Hawf 130.29 279 P **PKiKP** 15 48 08.1 +0.3
ABTO Aybut 130.66 278 P **PKiKP** 15 48 09.7 +0.2
MZWR Madinat Zayed 130.78 286 P **PKiKP** 15 48 09.5 0.0
MZR Muzera 131.10 285 P **PKiKP** 15 48 10.0 -0.2
SNR=7.7
MZR Muzera 131.10 285 *i* PKiKP **PKiKP** 15 48 09.9 -0.3
SNR=16
GHWR Ruwais 131.71 287 P **PKiKP** 15 48 11.4 0.0
JRN Qarnain Island 131.77 288 P **PKPdf** 15 48 10.8 +0.4
SKOMA Sekoma 132.68 208 *i* P **PKiKP** 15 48 13.7 +0.2
SKOMA Sekoma 132.68 208 *i* P **PKPdf** 15 48 12.8 +0.5
FINES FINESS Array B 132.91 344 PKhKP PKPpre 15 47 59.6
comp=Z,2.0nm,0.9s,baz=54,slow=3.6,SNR=4.6
FINES PKP **PKPdf** 15 48 10.6 -0.8
comp=Z,2.9nm,0.8s,baz=79,slow=2.4,SNR=4.4
FINES SKPbc **SKPab** 15 50 51.2 -0.1
comp=Z,9.9nm,0.7s,baz=54,slow=3.6,SNR=20
MOS Moscow 133.14 333 *i* PKiKP **PKiKP** 15 48 12.7 -0.6
MOS *e* 15 50 11.9
MOS *e* 15 50 51.1
MOS pmax pmax
comp=Z,33nm,0.6s
MATP Matopo 133.76 216 PKP **PKiKP** 15 48 16.9 +1.0
comp=Z,19nm,1.1s,baz=162,slow=2.1,SNR=19
VRH Novokhopyorsk 133.78 326 *e*PKiKP **PKPdf** 15 48 11.3 -2.0
VRH *e* 15 50 51.1
VRH pmax pmax
comp=Z,10.0nm,0.9s
BROLN Tlhalogang 133.86 214 *i* P **PKPdf** 15 48 13.0 -1.7
BROLN Tlhalogang 133.86 214 *i* P **PKPdf** 15 48 15.2 +0.6
OBN Obninsk 134.00 333*ce* PKiKP **PKPdf** 15 48 13.6 0.0
OBN *e* 15 50 18.2
OBN *e* 15 50 53.9
OBN *e* 15 54 29.6
OBN pmax pmax
comp=Z,12nm,0.5s
LPSR Galich'ya Gora 134.45 329 *e*PKiKP **PKPdf** 15 48 12.9 -1.7
LPSR *e* 15 50 52.0
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 134.84 327 *e*PKiKP **PKPdf** 15 48 13.5 -1.8
VORR *e* 15 50 56.6
VORR pmax pmax
comp=Z,30nm,1.0s
KGCAE Kacgae 134.90 208 *i* P **PKiKP** 15 48 19.3 +1.1
VSR Storozhevoye 135.12 327 *e*PKiKP **PKPdf** 15 48 13.3 -2.6
VSR *e* 15 50 55.5
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 135.19 327 *e*PKiKP **PKPdf** 15 48 13.5 -2.5
VORD *e* 15 50 56.2
VORD pmax pmax
comp=Z,10.0nm,1.0s
KOOLE Kule 135.62 205 *i* P **PKiKP** 15 48 20.3 +0.6
NB2 NORSAR Subarra 136.11 353 PKP **PKiKP** 15 48 19.0 -0.3
comp=Z,0.6nm,0.4s,baz=10,slow=3.2
NB2 pPKP **PP** 15 51 01.3 -3.1
comp=Z,2.2nm,0.8s,baz=12,slow=3.0
NOA NORSAR Array B 136.11 353 PKP **PKiKP** 15 48 18.9 -0.3
comp=Z,0.8nm,0.6s,baz=38,slow=2.4,SNR=9.5
NOA SKPbc **SKPbc** 15 51 00.5 +1.4
comp=Z,2.9nm,0.9s,baz=6.7,slow=2.4,SNR=11
KBZ Khabaz 136.51 316 PKP **PKPdf** 15 48 19.3 +0.6
comp=Z,5.8nm,0.9s,baz=141,slow=1.9,SNR=9.7
KBZ SKPbc **SKPbc** 15 51 02.2 +1.4
comp=Z,6.2nm,1.0s,baz=146,slow=2.9,SNR=7.2
KBZ Khabaz 136.51 316*ce* PKiKP **PKPdf** 15 48 15.6 -3.1
KIV Kislovodsk 136.56 316 *e*PKiKP **PKPdf** 15 48 19.0 +0.1
KIV *e* 15 51 02.7
KIV pmax pmax
comp=Z,14nm,1.1s
HFS Hagfors 136.66 351 PKP **PKiKP** 15 48 19.7 -0.7
comp=Z,3.7nm,0.6s,baz=85,slow=3.0,SNR=6.0
HFS SKPbc **SKPbc** 15 51 02.4 +1.7
comp=Z,6.6nm,0.8s,baz=123,slow=4.0,SNR=7.8
SHA1 Shidzhatmaz 136.67 316 *i* PKiKP **PKPdf** 15 48 19.1 -0.2
LSZ Lusaka 137.96 220 PKP **PKPdf** 15 48 23.2 +0.8
comp=Z,13nm,0.8s,baz=312,slow=1.5,SNR=16
LSZ SKPbc **SKiKP** 15 51 08.3 -1.5
comp=Z,1.4nm,0.4s,baz=90,slow=5.1,SNR=5.5
LSZ Lusaka 137.96 220 P **PKPdf** 15 48 23.2 +0.8
MNK Minsk 137.97 337 *i* PKiKP **PKiKP** 15 48 24.4 +1.2
MNK *i* 15 50 30.6
MNK *i* 15 51 17.2
MNK *i* PPP PPP 15 54 24.0
MNK *i* 15 54 40.9
MNK *i* SS SS 16 08 45.9 +2.2
MNK *i* SSS SSS 16 14 04.3
MNK pmax pmax
comp=N,6.0nm,0.5s
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=E,15nm,0.7s
RAYN Ar Rayn 138.44 286 PKPpre 15 48 12.3
RAYN Ar Rayn 138.44 286 P **PKPdf** 15 48 22.5 -0.4
RAYN Ar Rayn 138.44 286 PKHKP PKPpre 15 48 12.3
KIBK Kibwezi 138.79 245 PKPpre 15 48 13.8
KIBK Kibwezi 138.79 245 P **PKPdf** 15 48 23.5 -0.5
ATD Arta Tunnel 139.51 267 PKP **PKiKP** 15 48 27.5 -0.1
comp=E,0.2nm,0.3s,baz=62,slow=7.3,SNR=4.2
ATD SKPbc **SKiKP** 15 51 14.7 +1.8
comp=E,0.2nm,0.3s,baz=11,slow=5.9,SNR=3.9
ATD Arta Tunnel 139.51 267 P **PKiKP** 15 48 27.7 +0.1
TSUM Tsumeb 140.07 204 PKPpre 15 48 21.5
KMBO Kilima Mbogo 140.08 246 PKP **PKPdf** 15 48 25.5 -1.0
comp=E,9.4nm,0.8s,baz=263,slow=1.6,SNR=5.0
KMBO SKPbc **SKiKP** 15 51 14.9 +0.5
comp=E,4.9nm,0.3s,baz=112,slow=3.2,SNR=4.8
AKASG Malin Array Be 140.27 332 PKPpre 15 48 17.1
AKASG Malin Array Be 140.27 332 PKhKP PKPpre 15 48 18.4
comp=E,2.3nm,0.4s,baz=44,slow=4.1,SNR=16
AKASG PKP **PKiKP** 15 48 27.7 -0.3
comp=E,1.1nm,0.4s,baz=42,slow=3.5,SNR=4.3
AKASG SKPbc **SKiKP** 15 51 12.9 -0.3
comp=E,7.7nm,0.8s,baz=37,slow=3.3,SNR=20
AKASG SKKPbc **SKKPbc** 15 59 44.1 -0.5
comp=E,0.2nm,0.2s,baz=225,slow=5.2,SNR=8.1
KIEV Kiev 140.28 332 PKPpre 15 48 17.4

KIEV	Kiev	140.28 332	⇑P	PKPpre	15 48 18.9		
KIEV	Kiev	140.28 332	⇑PKHKP	PKPpre	15 48 18.9		
KIEV	Kiev	140.28 332	*i* PKPdf	PKPpre	15 48 18.3		
	SNR=7.1						
EKA	Eskdalemuir Ar	142.23 4	PKhKP	PKPpre	15 48 24.0		
	comp=E,1.6nm,0.4s,baz=350,slow=2.4,SNR=11						
EKA			SKP		15 51 14.8		
	comp=E,1.5nm,0.7s,baz=288,slow=0.2,SNR=3.9						
SORM	Soroca	142.50 330	⇑P	PKPdf	15 48 26.6	-2.8	
SORM	Soroca	142.50 330	⇑PKIKP	PKPdf	15 48 26.6	-2.8	
LVV	L'vov	143.12 335	PKIKP	PKPbc	15 48 28.5	-0.1	
BNN	Bunyan	143.37 312		PKPbc	15 48 30.2	+0.3	
MORS	Morshin	143.71 335	PKIKP	PKPdf	15 48 31.0	-0.5	
KWP	Kalwaria Pacla	143.78 336	*e*PKP	PKPdf	15 48 31.4	-0.3	
CIDE	Kastamonu/Cide	143.85 319	⇑P	PKPdf	15 48 32.2	+0.3	
LODK	Lodwar	143.85 251	P	PKPdf	15 48 32.9	0.0	
	SNR=50						
KSV	Kosov	143.85 333	PKIKP	PKPbc	15 48 29.9	-1.0	
PRAR	RASCA	144.05 331	⇓P	PKPdf	15 48 32.3	+0.1	
VLDR	Vladesti	144.22 328	⇑P	PKPab	15 48 32.4	0.0	
TLCR		144.28 326	⇑P	PKPab	15 48 33.3	+0.6	
TLCR		144.28 326	⇑PKIKP	PKPab	15 48 33.3	+0.6	
BURAR	Bucovina Array	144.32 332	⇑P	PKPab	15 48 33.7	+0.8	
BURAR	Bucovina Array	144.32 332	⇑PKIKP	PKPab	15 48 33.7	+0.8	
OJC	Ojcow	144.32 340	*e*PKP	PKPab	15 48 33.0	+0.3	
SCTR	Scanteiesti	144.38 327	⇑P	PKPab	15 48 34.3	+1.2	
GHRR		144.41 328	⇓P	PKiKP	15 48 35.1	-1.6	
TESR	Tescani	144.46 330	⇓P	PKPab	15 48 33.3	0.0	
BR131	Keskin Array S	144.49 315	P	PKPbc	15 48 33.5	+0.1	
	SNR=24						
BR131	Keskin Array S	144.49 315	*i* PKIKP	PKPdf	15 48 33.3	-0.1	
BRTR	Keskin Array B	144.49 315		PKPdf	15 48 32.6	-0.8	
BRTR	Keskin Array B	144.49 315	PKP	PKPdf	15 48 33.3	-0.1	
	comp=E,46nm,0.8s,baz=132,slow=3.5,SNR=97						
BRTR			SKPbc	SKiKP	15 51 23.8	+1.2	
	comp=E,4.5nm,0.9s,baz=143,slow=2.4,SNR=4.8						
BRTR			SKKPbc	SKKPbc	15 59 27.4	+0.2	
	comp=E,1.5nm,0.7s,baz=228,slow=6.1,SNR=5.1						
BRTR	Keskin Array B	144.49 315	PKIKP	PKPdf	15 48 32.6	-0.8	
STHS	Stebnicka Huta	144.50 338	*e*PKIKP	PKPab	15 48 33.2	-0.2	
STHS	Stebnicka Huta	144.50 338	*e*PKP	PKPab	15 48 33.2	-0.2	
KOLS	Kolonicke sedl	144.51 336	*e*PKIKP	PKPab	15 48 34.3	+0.8	
KOLS	Kolonicke sedl	144.51 336	*e*PKP	PKPab	15 48 34.3	+0.8	
NEGRR	Negrea	144.53 327	⇑P	PKPab	15 48 33.4	-0.2	
FLTG	Flechtingen	144.55 350	*e*PKPbc	PKPab	15 48 33.1	-0.3	
	baz=17,slow=2.8						
NRDL	Niedersach Rie	144.57 351	*e*PKPbc	PKPab	15 48 33.4	-0.1	
	baz=17,slow=2.8						
IZVR	Izvoarele	144.58 327	⇓P	PKPab	15 48 34.8	+1.0	
KIRS	Kirsehir-Merke	144.59 314	⇑P	PKPbc	15 48 33.8	+0.2	
SCHLR	Schela	144.60 327	⇑P	PKPab	15 48 34.6	+0.7	
CFR	Carcaliu	144.64 327	⇑P	PKPdf	15 48 33.0	-0.2	
CFR	Carcaliu	144.64 327	⇑PKIKP	PKPdf	15 48 33.0	-0.2	
FKH	Fakeheh	144.68 305	*e*P	PKPab	15 48 35.2	+0.4	
TPGR	Topolog	144.71 326	⇑P	PKPab	15 48 35.0	+0.6	
ONER	Baraj Valea Uz	144.71 330	⇓P	PKPab	15 48 34.9	+0.6	
BEIL	Beino	144.76 305	*e*P	PKPab	15 48 35.2	+0.2	
KSP	Ksiaz	144.83 344	*e*PKP	PKPab	15 48 35.1	+0.5	
NIE	Niedzica	144.84 338	*e*PKP	PKPab	15 48 35.4	+0.7	
ASSE	Asse, Remlinge	144.84 350	*e*PKPbc	PKPab	15 48 34.5	0.0	
	baz=17,slow=2.8						
VRI	Vrincioaia	144.88 329	⇑P	PKPbc	15 48 34.3	+0.1	
VRI	Vrincioaia	144.88 329	⇑PKIKP	PKPbc	15 48 34.3	+0.1	
TRSU	Trosnyk	144.91 335	PKIKP	PKPab	15 48 35.0	0.0	
PLOR	Plostina	144.93 329	⇓P	PKPdf	15 48 33.7	-0.1	
PLOR	Plostina	144.93 329	⇓PKIKP	PKPdf	15 48 33.7	-0.1	
TIRR	Tirgusor	144.97 326	⇑P	PKPab	15 48 35.0	-0.3	
TIRR	Tirgusor	144.97 326	⇑PKIKP	PKPab	15 48 35.0	-0.3	
ANTO	Ankara	144.99 316		PKPdf	15 48 34.1	0.0	
ANTO	Ankara	144.99 316	P	PKPbc	15 48 34.6	-0.2	
ANTO	Ankara	144.99 316	⇑P	PKPbc	15 48 34.8	0.0	
ANTO	Ankara	144.99 316	PKIKP	PKPdf	15 48 34.1	0.0	
BMR	Baia Mare	145.02 334	⇑P	PKPbc	15 48 34.9	+0.4	
BMR	Baia Mare	145.02 334	⇑PKIKP	PKPbc	15 48 34.9	+0.4	
HWQ	Hawqa	145.04 305	*e*P	PKPbc	15 48 35.0	-0.2	
IBBN	Ibbenburen	145.07 353	*e*PKPbc	PKPab	15 48 35.4	0.0	
	baz=17,slow=2.8						
HARR	Harsova	145.08 326	⇑P	PKPdf	15 48 33.3	-0.7	
HARR	Harsova	145.08 326	⇑PKIKP	PKPdf	15 48 33.3	-0.7	
TUR	Turia	145.10 330	⇑P	PKPab	15 48 35.5	-0.4	
ARCR	ARCALIA	145.10 332	⇑P	PKPbc	15 48 35.0	+0.1	
OSTC	Ostas	145.11 343	*e*PKIKP	PKPab	15 48 36.1	+0.4	
OSTC	Ostas	145.11 343⇑	*e*PKP	PKPab	15 48 36.1	+0.4	
TLBR	Topalu	145.11 326	⇓P	PKPab	15 48 36.5	+0.6	
CHVC	Chvalec	145.12 344	*e*PKIKP	PKPab	15 48 35.9	+0.1	
CHVC	Chvalec	145.12 344⇑	*e*PKP	PKPab	15 48 35.9	+0.1	
MFTR	Murfatlar	145.15 325	⇑P	PKPab	15 48 35.5	-0.5	
COVR	Voineasa-Covas	145.16 329	⇑P	PKPdf	15 48 34.1	-0.1	
CLZ	Clausthal	145.16 350	*e*PKPbc	PKPab	15 48 35.7	-0.2	
	baz=17,slow=2.8						
OZUR		145.18 330	⇑P	PKPab	15 48 35.9	-0.3	
CLL	Collm	145.19 347	⇓*i* PKP2	PKPab	15 48 35.4	-0.5	
CLL			pmax	pmax			
	comp=Z,59nm,0.7s						
CLL	Collm	145.19 347	*e*PKPbc	PKPab	15 48 35.6	-0.4	
	baz=17,slow=2.8						
CLL	Collm	145.19 347	*i* PKPdf	PKPbc	15 48 34.7	-0.2	
CLL			⇓*i* PKPbc	PKPab	15 48 35.4	-0.5	
	comp=Z,59nm,0.7s						
CLL			*i* PKiKP	PKiKP	15 48 38.1	0.0	
CLL			*i* SKPbc	SKiKP	15 51 26.0	+2.6	
	comp=Z,21nm,1.3s						
OKC	Ostrava-Krasne	145.19 341	*e*PKP2	PKPab	15 48 35.9	-0.1	
OKC	Ostrava-Krasne	145.19 341⇑	*e*PKP	PKPab	15 48 35.9	-0.1	
UPC	Upice	145.21 344	*e*PKP2	PKPab	15 48 36.2	+0.1	
UPC	Upice	145.21 344⇑	*e*PKP	PKPab	15 48 36.2	+0.1	
STEB	Steborice	145.22 341⇑	*e*PKP	PKPab	15 48 36.0	-0.1	
ZAHL	Zahle	145.22 304	*e*P	PKPab	15 48 36.4	-0.5	
BOSR	Bodos	145.25 330	⇑P	PKPbc	15 48 35.1	-0.2	
DPC	Dobruska-Polom	145.26 343	*e*PKP2	PKPab	15 48 36.5	+0.1	
DPC	Dobruska-Polom	145.26 343⇑	*e*PKP	PKPab	15 48 36.5	+0.1	
MANR	Mangalia	145.29 325	⇑P	PKPdf	15 48 34.8	+0.4	
LANS	Liptovska Anna	145.35 339	*e*PKP2	PKPab	15 48 37.4	+0.7	
LANS	Liptovska Anna	145.35 339	*e*PKP	PKPab	15 48 37.4	+0.7	
RCY	Rachaya	145.38 304	*e*P	PKPab	15 48 37.2	-0.3	
KRLC	Kraliky	145.38 343	*e*PKP2	PKPab	15 48 36.6	-0.2	
KRLC	Kraliky	145.38 343⇑	*e*PKP	PKPab	15 48 36.6	-0.2	
BRG	Berggiesshubel	145.39 346	*e*PKPbc	PKiKP	15 48 37.7	-0.9	
	baz=17,slow=2.8						
BRG	Berggiesshubel	145.39 346	*e*PKP	PKPab	15 48 36.3	-0.4	
BRG			Amp		15 48 38.4		
	comp=Z,29nm,0.8s						
BHL	Bhannes	145.39 305	*e*P	PKPbc	15 48 36.7	+0.5	
NEHR	Nehoiu	145.41 329	⇑P	PKPbc	15 48 36.1	+0.2	
MORC	Moravsky Berou	145.43 342	*e*PKP	PKPbc	15 48 35.1	-0.6	
MORC			*e*		15 51 26.4		
MORC	Moravsky Berou	145.43 342	⇑P	PKPbc	15 48 35.4	-0.4	
MORC	Moravsky Berou	145.43 342	⇑PKIKP	PKPbc	15 48 35.4	-0.4	
DOPR	Dopca	145.46 330	⇑P	PKPbc	15 48 35.6	-0.3	
QRWL	Qaraoun	145.48 304	*e*P	PKPab	15 48 37.2	-0.6	
ISR	Istrita	145.50 328	⇑P	PKPdf	15 48 35.3	+0.5	
ISR	Istrita	145.50 328	⇑PKIKP	PKPdf	15 48 35.3	+0.5	
GTTG	Gottingen	145.52 351	*e*PKPbc	PKPab	15 48 36.9	-0.4	
	baz=17,slow=2.8						
DQRL	Deir Qamar	145.52 304	*e*P	PKPab	15 48 37.6	-0.4	
NEUB	Neuenburg	145.53 348	*e*PKPbc	PKPab	15 48 36.8	-0.5	
	baz=17,slow=2.8						
MLR	Muntele Rosu	145.54 329	⇓P	PKPdf	15 48 34.8	-0.2	
MLR	Muntele Rosu	145.54 329	⇓PKIKP	PKPdf	15 48 34.8	-0.2	
PVCC	Panska Ves	145.56 345	*e*PKP2	PKPab	15 48 37.2	-0.2	
PVCC	Panska Ves	145.56 345⇑	*e*PKP	PKPab	15 48 37.2	-0.2	
RICC	Richard	145.66 346⇑	*e*PKP	PKPab	15 48 37.6	-0.2	
PSN	Preselentsi	145.66 325	P	PKPab	15 48 37.7	-0.4	
MAUC	Maruska	145.70 341⇑	*e*PKP	PKPab	15 48 37.8	-0.3	
CJR	Cluj-Napoca	145.72 333	⇑P	PKPbc	15 48 37.1	+0.4	
CJR	Cluj-Napoca	145.72 333	⇑PKP2	PKPbc	15 48 37.1	+0.4	
HSKC	Hora Svate Kat	145.75 346⇑	*e*PKP	PKPab	15 48 37.5	-0.7	
MMAI	Mount Meron Ar	145.87 303	PKPbc	PKPab	15 48 38.5	-0.8	
	comp=Z,332nm,1.1s,baz=73,slow=5.0,SNR=76						
MBAR	Mbarara	145.91 241		PKPdf	15 48 35.4	-1.2	
MBAR				PKPbc	15 48 38.0	-0.4	
MBAR	Mbarara	145.91 241	*i* PKIKP	PKPdf	15 48 37.3	+0.7	
MARR	Marisel-Cluj	145.96 333	⇓P	PKPdf	15 48 35.8	+0.2	
VOIR		146.01 330	⇑P	PKPbc	15 48 36.8	-0.8	
VOIR		146.01 330	⇑PKIKP	PKPbc	15 48 36.8	-0.8	
PRA	Prague	146.02 345	*e*PKP2	PKPab	15 48 38.5	-0.7	
PRA	Prague	146.02 345⇑	*e*PKP	PKPab	15 48 38.5	-0.7	
DRGR		146.05 333	⇑P	PKPdf	15 48 36.3	+0.6	
DRGR		146.05 333	⇑PKIKP	PKPdf	15 48 36.3	+0.6	
PRU	Pruhonice	146.06 345	*e*PKP2	PKPbc	15 48 38.4	+0.9	
PRU	Pruhonice	146.06 345⇑	*e*PKP	PKPbc	15 48 38.4	+0.9	
KASTN	Kahler Asten	146.07 352	*e*PKPbc	PKPbc	15 48 38.1	+0.5	
	baz=17,slow=2.8						
MOX	Moxa	146.10 348	*e*PKPbc	PKPbc	15 48 38.2	+0.7	
	baz=17,slow=2.8						
MOX			*e*L	L	16 59 12.6		
	comp=Z,50nm,19.1s						
VRAC	Vranov	146.12 342	*e*PKP	PKPdf	15 48 36.3	+0.6	
VRAC			*e*		15 51 28.5		
VRAC	Vranov	146.12 342	⇓P	PKPbc	15 48 37.4	-0.3	
VRAC	Vranov	146.12 342	⇓PKIKP	PKPbc	15 48 37.4	-0.3	
VYHS	Vyhne	146.13 339	*e*PKP2	PKPbc	15 48 38.6	+0.9	
VYHS	Vyhne	146.13 339	*e*PKP	PKPbc	15 48 38.6	+0.9	
PLN	Plauen	146.14 348	*e*PKPbc	PKPbc	15 48 38.6	+0.9	
	baz=17,slow=2.8						
TANN	Tannenbergstha	146.14 347	*e*PKPbc	PKPbc	15 48 38.7	+0.9	
	baz=17,slow=2.8						
JAVC	Velka Javorina	146.19 341	*e*PKP	PKPbc	15 48 37.5	-0.5	
JAVC			*e*		15 51 29.0		
TNR	Turnu Rosu	146.22 331	⇑P	PKPbc	15 48 38.3	+0.2	
TNR	Turnu Rosu	146.22 331	⇑PKP2	PKPbc	15 48 38.3	+0.2	
PSZ	Piszkesteto	146.25 337	⇑P	PKPbc	15 48 37.3	-0.9	
PSZ	Piszkesteto	146.25 337	⇑PKIKP	PKPbc	15 48 37.3	-0.9	
ARR	Arges	146.26 330	⇓P	PKPbc	15 48 37.5	-0.8	
KRUC	Moravsky	146.40 342	*e*PKP	PKPdf	15 48 36.5	+0.4	
KRUC			*e*		15 51 28.4		
TREC	Trest	146.45 343	*e*PKP2	PKPbc	15 48 39.3	+0.7	
TREC	Trest	146.45 343⇑	*e*PKP	PKPbc	15 48 39.3	+0.7	
RAZG	Razgrad	146.59 326	⇑P	PKPbc	15 48 38.9	-0.3	
MANZ	Manzenberg	146.62 347	*e*PKPbc	PKPbc	15 48 40.0	+1.0	
	baz=17,slow=2.8						
ZVC	Zvikov	146.66 345	*e*PKPDF	PKPdf	15 48 37.4	+0.9	
ZVC			⇑*e*PKP	PKiKP	15 48 40.2	-1.0	
DEV	Deva	146.67 332	⇑P	PKPbc	15 48 39.2	-0.1	
DEV	Deva	146.67 332	⇑PKP2	PKPbc	15 48 39.2	-0.1	
LOZB	Loznitsa	146.68 326	⇓P	PKPdf	15 48 37.9	+1.1	
HUMR	Humele	146.70 329	⇑P	PKPbc	15 48 38.9	-0.6	
MODS	Modra-Piesok	146.75 341	*e*PKIKP	PKPdf	15 48 36.8	+0.1	
MODS	Modra-Piesok	146.75 341	*e*PKP	PKPdf	15 48 36.8	+0.1	
ROTZ	Rotzenmuhle	146.81 347	*e*PKPbc	PKiKP	15 48 40.6	-1.0	
	baz=17,slow=2.8						
UCC	Uccle	146.86 357	*d*PKP	PKPbc	15 48 40.2	+0.7	
SRO	Srobarova	146.89 339	*e*PKP2	PKPab	15 48 42.3	-0.5	
SRO	Srobarova	146.89 339	*e*PKP	PKPab	15 48 42.3	-0.5	
SIRR	Siria	146.91 334	⇑P	PKPdf	15 48 38.5	+1.4	
MEM	Membach	146.92 355	PKP2	PKiKP	15 48 40.8	-0.9	
MEM	Membach	146.92 355	*d*PKP	PKPbc	15 48 40.2	+0.4	
BTNL	Ternell	146.94 354	*d*PKP	PKPbc	15 48 40.4	+0.5	
BSTI	Sart Tilman	146.99 355	*d*PKP	PKiKP	15 48 40.9	-0.9	
TNS	Taunus Mts	147.03 352	*e*PKPbc	PKPbc	15 48 41.1	+0.9	
	baz=17,slow=2.8						
GRF	Grafenberg Arr	147.08 348	PKP2	PKPbc	15 48 40.4	+0.1	
GRF	Grafenberg Arr	147.08 348	*e*PKPbc	PKiKP	15 48 41.6	-0.5	
	baz=17,slow=2.8						
GRF			*e*L	L	17 03 39.4		
	comp=Z,46nm,19.4s						
GRFO	Grafenberg	147.08 348		PKPdf	15 48 36.0	-1.3	
GRFO	Grafenberg	147.08 348	PKHKP	PKPdf	15 48 36.0	-1.3	
KHC	Kasperske Hory	147.10 345	*ce*PKIKP	PKPdf	15 48 38.5	+1.2	
KHC			pmax	pmax			
	comp=Z,49nm,1.3s						
KHC	Kasperske Hory	147.10 345	*e*PKPDF	PKPdf	15 48 38.1	+0.8	
KHC			⇑*e*PKP	PKiKP	15 48 41.3	-0.9	
GZR	Gura Zlata	147.10 332	⇓P	PKPdf	15 48 37.3	-0.2	
GZR	Gura Zlata	147.10 332	⇓PKIKP	PKPdf	15 48 37.3	-0.2	
SURR	Surduc	147.11 333	⇓P	PKPdf	15 48 37.4	0.0	
BCLA	Clavier	147.17 355	*d*PKP	PKPbc	15 48 40.7	+0.2	
BHOU	Houyegnez	147.18 355	*d*PKP	PKiKP	15 48 41.7	-0.5	
CKRC	Cesky Krumlov	147.20 344	*e*PKIKP	PKPdf	15 48 38.5	+1.0	
CKRC			*e*		15 48 41.6		
CKRC	Cesky Krumlov	147.20 344	*e*PKPDF	PKPdf	15 48 38.5	+1.0	
CKRC			⇑*e*PKP	PKiKP	15 48 41.6	-0.8	
WET	Wettzell	147.25 346	*e*PKPbc	PKiKP	15 48 41.8	-0.6	
	baz=17,slow=2.8						
PHSR	Pinarhisar	147.29 322	⇑P	PKPbc	15 48 40.2	-0.9	
BMRD	Maredsous	147.32 356	*d*PKP	PKPbc	15 48 40.8	-0.1	
GEC2	GERESS Array S	147.33 345	*e*PKPbc	PKPbc	15 48 41.8	+0.7	
	baz=17,slow=2.8						
GERES	GERESS Array B	147.33 345		PKPdf	15 48 37.0	-0.8	
GERES			PKPbc	PKPbc	15 48 41.4	+0.3	
GERES	GERESS Array B	147.33 345	PKPbc	PKPbc	15 48 41.7	+0.7	
	comp=Z,21nm,0.6s,baz=36,slow=2.5,SNR=87						
GERES	GERESS Array B	147.33 345	PKIKP	PKPdf	15 48 37.0	-0.8	
ELND	Elena	147.36 326	⇑P	PKPdf	15 48 39.2	+1.3	
RCHB	Rochefort	147.44 355	*d*PKP	PKPbc	15 48 41.7	+0.6	
BZS	Buzias	147.44 333	⇑P	PKPdf	15 48 39.1	+1.2	
BZS	Buzias	147.44 333	⇑PKIKP	PKPdf	15 48 39.1	+1.2	
DOU	Dourbes	147.54 356	*d*PKP	PKiKP	15 48 42.2	-0.8	
CONA	Conrad Observa	147.58 342	*i* PKP	PKPdf	15 48 39.1	+0.9	
	comp=Z,5.9nm,1.1s						
CONA			*i* PKiKP	PKiKP	15 48 42.7	-0.6	
	comp=Z,40nm,0.7s,SNR=20						
RONA	Rosalia, Austr	147.65 341	*i* PKP	PKPdf	15 48 38.3	+0.1	
	comp=Z,6.0nm,1.1s						
RONA			*i* PKiKP	PKiKP	15 48 42.7	-0.7	
	comp=Z,35nm,0.7s,SNR=19						
HERR	Herculane	147.66 332	⇓P	PKPdf	15 48 39.1	+0.7	
GRC1	Grafenberg Arr	147.69 348	PKP2	PKiKP	15 48 42.9	-0.5	
PLVB	Pleven	147.70 327	⇑P	PKPbc	15 48 41.0	-1.1	
BAND	Balkesir-Ban	147.73 320	⇑P	PKPbc	15 48 40.8	-1.4	
WLF	Walferdange	147.85 354	*d*PKP	PKiKP	15 48 43.7	0.0	
WLF	Walferdange	147.85 354	*e*PKPbc	PKiKP	15 48 43.9	+0.2	
	baz=17,slow=2.8						
MDVR	Moldovita	148.05 332	⇑P	PKPdf	15 48 39.3	+0.2	
MOA	Molln	148.10 344	*i* PKP	PKPdf	15 48 39.0	0.0	
	comp=Z,5.2nm,1.3s						
MOA			*i* PKiKP	PKiKP	15 48 43.8	-0.5	
	comp=Z,10.0nm,0.7s,SNR=8.4						
MORH	Mrgy, Hungar	148.14 337	⇓*i* P	PKPbc	15 48 43.1	0.0	
MORH	Mrgy, Hungar	148.14 337	⇑P	PKPdf	15 48 39.4	+0.3	
MPEP	Malo Peshtene	148.17 328	P	PKiKP	15 48 44.0	-0.5	
ARSA	Arzberg	148.29 342	*i* PKP	PKPdf	15 48 40.0	+0.7	
	comp=Z,1.4nm,0.5s						
ARSA			*i* PKP	PKPbc	15 48 43.8	+0.4	
	comp=Z,8.8nm,0.8s						
BIOA	Bad Ischl, Aus	148.41 344	*i* PKP	PKPdf	15 48 40.7	+1.2	
	comp=Z,2.0nm,0.4s						
BIOA			*i* PKiKP	PKPbc	15 48 44.2	+0.4	
	comp=Z,21nm,0.9s,SNR=7.2						
FUR	Furstenfeldbru	148.53 347	*e*PKPbc	PKiKP	15 48 44.9	-0.2	
	baz=17,slow=2.8						
KDZ	Kurdzhali	148.53 324	P	PKPbc	15 48 44.4	+0.2	
RJOB	Jochberg	148.59 345	*e*PKPbc	PKiKP	15 48 44.9	-0.5	
	baz=17,slow=2.8						
BFO	Black Forest	148.89 351		PKPdf	15 48 39.6	-0.6	
BFO				PKPbc	15 48 44.7	-0.2	
BFO	Black Forest	148.89 351	PKHKP	PKPbc	15 48 44.7	-0.2	
BFO	Black Forest	148.89 351	*e*PKPbc	PKiKP	15 48 45.5	-0.4	
	baz=17,slow=2.8						
LESA	Schwarzleotal	148.91 345	*i* PKP	PKPdf	15 48 40.1	-0.3	
	comp=Z,7.5nm,1.3s						
LESA			*i* PKiKP	PKiKP	15 48 45.6	-0.4	
	comp=Z,22nm,0.5s,SNR=9.6						
BOVS	Bovan	148.94 331	⇑P	PKPbc	15 48 43.2	-1.9	
SOKA	Soboth	148.95 342	*i* PKP	PKPdf	15 48 40.7	+0.2	
	comp=Z,4.3nm,1.1s						
SOKA			*i* PKP	PKPbc	15 48 45.0	-0.2	
	comp=Z,20nm,0.7s,SNR=13						
VTS	Vitosha	148.96 328	P	PKiKP	15 48 46.3	-0.1	
PERS	Pernice	148.96 342	*e*PKPbc	PKPbc	15 48 45.0	-0.2	
KBA	Koelnbreinsper	149.06 344	*i* PKP	PKPdf	15 48 39.7	-1.0	
	comp=Z,3.9nm,1.1s						
KBA			*i* PKP	PKPbc	15 48 45.5	0.0	
	comp=Z,21nm,0.5s						
EZN	Ezine	149.13 321	⇑P	PKPbc	15 48 45.0	-0.7	
EZN	Ezine	149.13 321	⇑PKHKP	PKPpre	15 48 45.0		
OBKA	Obir	149.25 342	*i* PKP	PKPdf	15 48 42.2	+1.2	
	comp=Z,3.5nm,1.2s						
OBKA			*i* PKP	PKPbc	15 48 46.0	+0.1	
	comp=Z,11nm,0.9s,SNR=5.6						
WATA	Walderalm	149.25 346	*i* PKP	PKPdf	15 48 41.3	+0.3	
	comp=Z,9.9nm,1.2s						
WATA			*i* PKiKP	PKiKP	15 48 46.5	-0.3	
	comp=Z,24nm,0.6s,SNR=10.0						
RETA	Reutte	149.28 348	*i* PKP	PKPdf	15 48 41.4	+0.4	
	comp=Z,3.2nm,0.9s						
RETA			*i* PKiKP	PKiKP	15 48 46.7	0.0	
	comp=Z,15nm,0.5s,SNR=10						
WTTA	Wattenberg	149.30 346	*i* PKP	PKPdf	15 48 42.0	+0.9	
	comp=Z,12nm,1.2s						
WTTA			*i* PKiKP	PKiKP	15 48 47.0	0.0	
	comp=Z,51nm,0.6s,SNR=15						
MOSL	Moslavina	149.34 339	⇓*i* P	PKPbc	15 48 46.3	+0.2	
MOTA	Moosalm	149.34 347	*i* PKP	PKPdf	15 48 41.4	+0.2	
	comp=Z,7.6nm,1.1s						
MOTA			*i* PKiKP	PKiKP	15 48 46.8	-0.2	
	comp=Z,38nm,0.9s,SNR=9.9						
MYKA	Terra Mystica	149.39 343	*i* PKP	PKPdf	15 48 43.3	+2.2	
	comp=Z,6.5nm,0.9s						
MYKA			*i* PKP	PKPbc	15 48 46.3	+0.1	
	comp=Z,25nm,0.5s,SNR=14						
SQTA	Sankt Quirin	149.44 347	*i* PKP	PKPdf	15 48 42.0	+0.7	
	comp=Z,12nm,1.2s						
SQTA			*i* PKiKP	PKiKP	15 48 47.2	0.0	
	comp=Z,34nm,0.6s,SNR=10						
MMB	Musomishta	149.46 326	P	PKiKP	15 48 46.9	-0.4	
MOZS	Mozjanca	149.47 342	*e*PKPbc	PKPbc	15 48 45.8	-0.6	
KKB	Krupnik	149.58 327	P	PKPbc	15 48 47.1	+0.3	
ABTA	Abfaltersbach	149.58 345	*i* PKP	PKPdf	15 48 41.5	0.0	
	comp=Z,13nm,1.0s						
ABTA			*i* PKP	PKPbc	15 48 46.8	+0.1	
	comp=Z,50nm,0.7s,SNR=33						
CRES	Cresnjevec Ost	149.58 340	*e*PKPbc	PKPbc	15 48 46.8	+0.2	
DAVA	Damuels	149.64 349	*i* PKP	PKPdf	15 48 42.4	+0.7	
	comp=Z,5.8nm,0.8s						
DAVA			*i* PKiKP	PKiKP	15 48 47.8	+0.2	
	comp=Z,45nm,0.8s,SNR=12						
FETA	Feichten	149.73 347	*i* PKP	PKPdf	15 48 42.3	+0.5	
	comp=Z,12nm,0.9s						
FETA			*i* PKiKP	PKiKP	15 48 48.1	+0.2	
	comp=Z,47nm,1.0s,SNR=17						
OZLJ	Ozalj	149.76 340	⇓*i* P	PKPbc	15 48 47.0	0.0	
A051A	Mrakovica	149.80 338	⇓*i* P	PKPbc	15 48 47.2	-0.1	
BLY	Banja Luka	149.93 337	⇓*i* P	PKiKP	15 48 47.8	-0.3	
BLY	Banja Luka	149.93 337	⇑*i* P	PKPbc	15 48 46.2	-1.2	
RUDO	Rudo	150.00 333	*e*P	PKPbc	15 48 47.8	+0.1	
VAY	Valandovo	150.24 327	*i* P	PKPbc	15 48 48.0	-0.3	
SKO	Skopje	150.34 329	*i* P	PKiKP	15 48 48.8	-0.3	
A050A	Klekovaca	150.40 338	⇓*i* P	PKPbc	15 48 48.7	0.0	
KLINJ	Klinje	150.70 334	*e*P	PKPbc	15 48 49.2	-0.2	
KIJV	Kij

baz=240,slow=72,SNR=145
H03N1 Juan Fernandez 11.40 66 T T 16 10 16.8
baz=240,slow=72,SNR=221
LL01 San Ignacio de 14.88 110 **Pn** **15 58 56.1 -0.1**
LL02 Futaleuf 15.42 113 Pn **Pn** **15 59 03.8 +0.5**
LL02 IAmb IAmb 15 59 34.5
comp=Z,36nm,1.4s
COYC Coyhaique 15.85 122 Pn **Pn** **15 59 08.3 -0.6**
BI02 San Fabin de 16.07 89 **Pn** **15 59 11.3 -0.6**
PLCA Paso Flores 16.16 104 P **Pn** **15 59 15.1 +2.0**
PLCA Paso Flores 16.16 104 Pn **Pn** **15 59 14.8 +1.8**
baz=264,slow=9.7,SNR=4.2
PLCA LR LR 16 04 23.2
comp=Z,65nm,21.2s,baz=265,slow=33
comp=Z,5.4nm,1.2s
CO02 Combarbal 18.31 72 P **Pn** **15 59 39.0 -1.1**
CO02 IAmb IAmb 15 59 47.1
comp=Z,35nm,1.1s
RPN Rapa Nui 18.96 302 LR LR 16 05 03.2
comp=Z,686nm,18.7s,baz=152,slow=30
ZON Zonda 19.89 76 P **P** **15 59 57.0 -0.4**
AC04 Llanos de Chal 19.91 64 P **P** **15 59 56.0 -1.6**
AC04 IAmb IAmb 16 00 10.1
comp=Z,50nm,1.3s
CFA Coronel Fontan 20.20 76 P Pn 16 00 03.2 +0.5
comp=Z,3.7nm,0.9s,baz=248,slow=11,SNR=5.8
comp=Z,3.7nm,0.9s
AC02 Maricunga 22.11 64 **P** **16 00 22.6 +0.7**
AC02 IAmb IAmb 16 00 27.0
comp=Z,27nm,1.2s
GO02 Mina Guanaco 22.86 60 P **P** **16 00 29.7 0.0**
GO02 IAmb IAmb 16 00 39.0
comp=Z,29nm,1.1s
PB03 IPOC Station P 24.91 54 P **P** **16 00 49.0 -0.3**
PB09 IPOC Station P 25.42 55 P **P** **16 00 53.7 -0.1**
PB01 IPOC Station P 25.82 53 P **P** **16 00 57.7 +0.3**
HMBC Humberstone 26.14 51 P **P** **16 01 00.9 +0.5**
NNA Nana 29.64 30 LR LR 16 10 15.9
comp=Z,468nm,19.9s,baz=230,slow=30
LPAZ La Paz 30.27 49 **P** **16 01 37.7 -0.2**
LPAZ La Paz 30.27 49 P **P** **16 01 40.5 +2.7**
comp=Z,2.7nm,1.1s,baz=212,slow=4.9,SNR=5.4
LPAZ LR LR 16 11 14.4
comp=Z,302nm,18.6s,baz=218,slow=31
comp=Z,2.7nm,1.1s
PMSA Palmer Station 30.59 157 LR LR 16 10 37.9
comp=Z,225nm,18.5s,baz=297,slow=30
CPUP Villa Florida 31.10 77 P **P** **16 01 44.0 -0.4**
CPUP Villa Florida 31.10 77 P **P** **16 01 44.9 +0.5**
comp=Z,0.6nm,0.6s,baz=134,slow=7.1,SNR=4.1
CPUP LR LR 16 12 31.6
comp=Z,36nm,20.4s,baz=107,slow=33
comp=Z,0.6nm,0.6s
PLTB Pedras Altas 31.48 89 P **P** **16 01 47.7 0.0**
PLTB IAmb IAmb 16 02 17.8
comp=Z,17nm,1.3s
ATAH Atahualpa 33.59 24 P **P** **16 02 09.0 +2.2**
comp=Z,3.4nm,0.6s,baz=12,slow=12,SNR=2.5
ATAH LR LR 16 12 31.2
comp=Z,380nm,21.7s,baz=235,slow=30
comp=Z,3.4nm,0.6s
SIV San Ignacio 34.93 58 P **P** **16 02 19.1 +1.1**
comp=Z,2.7nm,0.9s,baz=220,slow=8.7,SNR=9.5
SIV LR LR 16 14 59.9
comp=Z,282nm,20.7s,baz=281,slow=34
comp=Z,2.7nm,0.9s
AQDB Aquidauana 35.70 70 P **P** **16 02 24.8 +0.3**
AQDB IAmb IAmb 16 02 27.0
comp=Z,9.1nm,0.9s
TRCB Terra Rica 36.60 76 P **P** **16 02 32.4 +0.1**
PTLB Pontes e Lacer 36.62 60 **P** **16 02 32.2 -0.2**
PTLB IAmb IAmb 16 02 34.8
comp=Z,11nm,1.4s
VILB Vilhena 37.73 56 P **P** **16 02 41.1 -0.8**
VILB IAmb IAmb 16 02 44.1
comp=Z,14nm,1.1s
COHC Cochancay 37.78 20 P **P** **16 02 41.0 -1.2**
SAML Samuel 39.01 48 P **P** **16 02 52.1 -0.5**
BDFB Brasilia 44.40 71 LR LR 16 21 32.9
comp=Z,265nm,18.7s,baz=190,slow=35
BELA Belgrano 2 45.59 166 P **P** **16 03 46.0 +0.4**
BELA IAmb IAmb 16 03 50.8
comp=Z,8.5nm,1.4s
ROSC El Rosal 46.16 24 LR LR 16 21 37.8
comp=Z,327nm,18.0s,baz=127,slow=34
RUSC La Rusia 47.55 25 P **P** **16 04 01.3 -0.8**
JTS Las Juntas de 49.15 8 LR LR 16 19 46.2
comp=Z,272nm,20.9s,baz=233,slow=30
BOAV Boa Vista 49.86 42 P **P** **16 04 19.0 -0.4**
BOAV IAmb IAmb 16 04 23.6
comp=Z,7.0nm,1.3s
SDV Santo Domingo 51.18 27 LR LR 16 24 50.6
comp=Z,495nm,18.7s,baz=145,slow=34
QSPA South Pole Qui 51.48 180 P **P** **16 04 31.3 +0.1**
QSPA IAmb IAmb 16 05 00.6
comp=Z,7.4nm,1.4s
QSPA South Pole Qui 51.48 180 P **P** **16 04 31.8 +0.6**
comp=Z,0.8nm,0.9s,baz=180,slow=2.0,SNR=1.8
QSPA LR LR 16 23 57.0
comp=Z,154nm,19.2s,baz=306,slow=33
comp=Z,0.8nm,0.9s
SNAA Sanae 53.31 157 **P** **16 04 44.6 +0.1**
SNAA Sanae 53.31 157 P **P** **16 04 43.4 -1.1**
comp=Z,1.1nm,0.8s,baz=358,slow=0.5,SNR=4.4
SNAA LR LR 16 24 34.1
comp=Z,113nm,18.4s,baz=77,slow=33
comp=Z,1.1nm,0.8s
PPT Papeete 54.52 276 LR LR 16 21 29.5
comp=Z,62nm,21.0s,baz=134,slow=29
PCRV Puerto La Cruz 54.70 33 LR LR 16 27 31.9
comp=Z,216nm,18.5s,slow=35
CMIG Matias Romero 55.64 356 LR LR 16 23 35.0
comp=Z,68nm,19.6s,baz=175,slow=30
VNDA Vanda 55.99 195 LR LR 16 23 28.3
comp=Z,144nm,20.2s,baz=226,slow=30
MDP Montagnes des 56.47 48 LR LR 16 27 14.4
comp=Z,142nm,19.8s,baz=286,slow=34
RCBR Riachuelo 59.77 72 LR LR 16 29 29.8
comp=Z,51nm,20.1s,baz=234,slow=34
CELP Cerrillos 61.12 27 P **P** **16 05 40.1 -0.2**
SJG San Juan 61.31 28 LR LR 16 30 23.2
comp=Z,83nm,20.1s,baz=174,slow=34
HNDO Hondo 68.32 353 P **P** **16 06 27.1 0.0**
URZ Urewera 68.38 238 LR LR 16 30 53.0
comp=Z,131nm,19.2s,baz=278,slow=31
TXAR Lajitas Array 68.69 349 **P** **16 06 30.2 +0.7**
TXAR Lajitas Array 68.69 349 P **P** **16 06 31.4 +1.9**
comp=Z,0.6nm,0.6s,baz=166,slow=7.3,SNR=7.5
comp=Z,0.6nm,0.6s
TX31 Lajitas Ar. Si 68.69 349 P **P** **16 06 29.4 -0.1**
TX31 IAmb IAmb 16 06 38.0
comp=Z,6.2nm,1.2s
ALPN Alpine 69.71 349 **P** **16 06 35.4 -0.4**
ALPN IAmb IAmb 16 06 39.6
comp=Z,4.0nm,0.7s
MNHN Monahans 70.53 350 P **P** **16 06 40.6 -0.2**
MNHN IAmb IAmb 16 06 48.5
comp=Z,6.8nm,1.1s
TKL Tuckaleechee C 74.37 6 LR LR 16 36 33.9
comp=Z,74nm,19.2s,baz=210,slow=33
X16A Lo Mia Camp, P 75.13 343 P **P** **16 07 08.1 -0.1**
X16A IAmb IAmb 16 07 17.5
comp=Z,4.4nm,1.1s
MGMO Mountain Grove 75.53 359 P **P** **16 07 10.3 +0.1**
MGMO IAmb IAmb 16 07 17.6
comp=Z,12nm,1.4s
CCM Cathedral Cave 76.43 0 P **P** **16 07 15.4 +0.2**
S22A 4UR Ranch, Cre 77.43 348 **P** **16 07 20.6 -0.7**
S22A IAmb IAmb 16 07 41.5
comp=Z,4.3nm,1.2s
NVAR Mina Array Bea 80.69 339 P **P** **16 07 39.3 +0.3**
comp=Z,0.4nm,0.6s,baz=180,slow=3.0,SNR=1.4
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 82.79 347 P **P** **16 07 51.4 +1.3**
comp=Z,0.6nm,0.7s,baz=211,slow=4.6,SNR=4.3
comp=Z,0.6nm,0.7s
SADO Sadowa 83.87 9 LR LR 16 41 07.0
comp=Z,134nm,18.8s,baz=162,slow=33
BOSA Boshof 90.66 128 LR LR 16 43 19.4
comp=Z,68nm,20.0s,baz=172,slow=32
DBIC Dimbokro 91.44 83 LR LR 16 44 43.3
comp=Z,64nm,19.9s,baz=181,slow=32
HNR Honiara 98.35 251 LR LR 16 48 51.0
comp=Z,62nm,18.2s,baz=198,slow=33
H11S2 WAKE ISLAND Hyl 10.45 278 T T 18 13 23.0
baz=126,slow=75,SNR=17
H11S1 WAKE ISLAND Hyl 10.47 278 T T 18 13 22.4
baz=126,slow=75,SNR=11
H11S3 WAKE ISLAND Hyl 10.47 278 T T 18 13 27.0
baz=126,slow=75,SNR=11
KSRS Korea Array 149.19 280 PKPbc **PKPbc** **16 15 12.8 -1.5**
comp=Z,2.7nm,1.1s,baz=112,slow=3.3,SNR=6.5

IDC 22 16:21:26.6±441.0, 58.83N×55.36E, h0km, Error ellipse: s-maj=187.0km s-min=135.7km az=33.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.58**	**168**	I	I	17 12 40.0	
	baz=350,slow=323,SNR=0.8						
I43RU	**DUBNA INFRASON**	**9.91**	**265**	I	I	17 16 50.0	
	baz=70,slow=327,SNR=2.9						
I26DE	**FREYUNG INFRAS**	**26.10**	**266**	I	I	19 03 30.0	
	baz=53,slow=330,SNR=0.3						

*JSN **22** 16:47:43.6±0.5, 18.21N×76.55W, h14km±5km, MD2.9*
*SSNC **22** 16:47:44.1±1.3, 18.26N×76.57W, h8km±11km, MD3.6, ML2.8*

ISC 22 16:47:40.3±1.3, 18.34N±0.05×76.49W±0.05, h14km±11km, n15, σ0.73/24, 1C-4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STH	**Stony Hill**	**0.40**	**230**	*eP*	**Pb**	**16 47 49.4**	**+0.2**
STH				*eS*	**Sg**	**16 47 53.3**	**-0.6**
STH				IAML		16 47 53.9	
	comp=E,161μm,0.1s						
STH				IAML		16 47 54.0	
	comp=N,185μm,0.1s						
STH	**Stony Hill**	**0.40**	**230**	⇓*iP*	**Pb**	**16 47 49.4**	**+0.2**
HOJ	**Hope**	**0.41**	**217**	⇓*iP*	**Pb**	**16 47 49.4**	**0.0**
MTDJ	**Mount Denham**	**1.00**	**264**	*eP*	**Pg**	**16 48 00.2**	**+0.5**
MTDJ				*eS*	**Sb**	**16 48 12.5**	**-0.1**
MTDJ				IAML		16 48 13.3	
	comp=N,173nm,0.5s						
MTDJ				IAML		16 48 13.9	
	comp=N,154nm,0.2s						
MTDJ	**Mount Denham**	**1.00**	**264**	⇓*iP*	**Pg**	**16 48 00.2**	**+0.5**
MCJ	**Malvern**	**1.21**	**251**	⇓*iP*	**Pg**	**16 48 03.6**	**-0.1**
CHIV	**Chivirico**	**1.63**	**2**	*eP*	**Pb**	**16 48 11.1**	**+0.9**
CHIV				*eS*	**Sn**	**16 48 29.2**	**-0.2**
CHIV				IAML		16 48 32.7	
	comp=E,5.9nm,0.1s						
CHIV				IAML		16 48 33.1	
	comp=N,6.3nm,0.1s						
MARVS	**Santiago de Cu**	**1.75**	**18**	*eP*	**Pg**	**16 48 13.9**	**0.0**
MARVS				*eS*	**Sb**	**16 48 35.3**	**+1.4**
MARVS				*eSg*	**Sg**	**16 48 36.9**	**+0.4**
LMGC	**Las Mercedes**	**1.79**	**344**	*eP*	**Pb**	**16 48 12.8**	**0.0**
LMGC				IAML		16 48 35.8	
	comp=N,208nm,0.1s						
LMGC				IAML		16 48 36.2	
	comp=E,149nm,0.1s						
PILO	**Pilon**	**1.79**	**331**	*eP*	**Pb**	**16 48 12.6**	**-0.3**
PILO				⇓*eS*	**Sn**	**16 48 32.0**	**-1.3**
PILO				IAML		16 48 35.2	
	comp=N,20nm,0.3s						
PILO				IAML		16 48 37.1	
	comp=E,12nm,0.1s						
GTBY	**Guantanamo Bay**	**2.05**	**39**	*eP*	**Pb**	**16 48 17.4**	**+0.2**
GTBY				*eS*	**Sb**	**16 48 42.8**	**+0.2**
PINC	**Pinares de May**	**2.24**	**17**	*eP*	**Pb**	**16 48 20.2**	**-0.3**
PINC				*eS*	**Sb**	**16 48 46.9**	**-1.2**
QMBU	**Quimbuelo**	**2.44**	**40**	*eP*	**Pb**	**16 48 23.5**	**-0.4**
QMBU				*eS*	**Sn**	**16 48 50.7**	**+1.4**
NMDO	**Nuevo Mundo**	**2.63**	**32**	*eP*	**Pb**	**16 48 26.6**	**-0.6**
MASC	**Masc**	**2.81**	**49**	*eP*	**Pb**	**16 48 29.3**	**-0.9**

TRN 22 16:56:20.0, 14.98N×61.18W, h21km, MD3.5, North of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVN	**Savane Anatole**	**0.14**	**174**	*eP*	Pb	16 56 26.1	-0.1
SVN				*eS*	Sb	16 56 29.1	-1.4
DLPL	**La Plaine**	**0.35**	**350**	*eP*	Pn	16 56 29.8	-0.1
DLPL				*eS*	Sn	16 56 36.0	-0.4
ILAM	**Ilet Lapin Mar**	**0.36**	**125**	*eP*	Pn	16 56 30.4	+0.3
ILAM				*eS*	Sn	16 56 36.1	-0.4
DLDT	**Laudat, Domini**	**0.38**	**335**	*eP*	Pn	16 56 30.4	0.0
DLDT				*eS*	Sn	16 56 36.6	-0.5
MDN	**Morne-Daniel**	**0.39**	**329**	*eP*	Pn	16 56 29.5	-0.9
MDN				*eS*	Sn	16 56 36.6	-0.7
BIM	**Bigot**	**0.47**	**167**	*eP*	Pn	16 56 32.2	+0.6
BIM				*eS*	Sn	16 56 39.4	0.0
DSLB	**Salisbury**	**0.51**	**333**	*eP*	Pn	16 56 32.5	+0.5
DSLB				*eS*	Sn	16 56 39.9	-0.3
DWS	**Wesley**	**0.60**	**348**	*eP*	Pn	16 56 34.3	+1.1
DWS				*eS*	Sn	16 56 43.6	+1.3
TBG	**Guadaloupe-3**	**0.97**	**333**	*eP*	Pn	16 56 40.0	+1.6
TBG				*eS*	Sn	16 56 53.4	+1.8
SLBI	**Saint Lucia, B**	**0.97**	**168**	*eP*	Pn	16 56 39.5	+1.0
SLBI				*eS*	Sn	16 56 52.9	+1.3
MMLZ	**Guadeloupe Bro**	**1.16**	**336**	*eP*	Pb	16 56 43.4	+2.1
MMLZ				*eS*	Sn	16 56 59.9	+3.8
ATGZ	**Broadband at L**	**1.23**	**335**	*eP*	Pb	16 56 44.4	+2.0
ATGZ				*eS*	Sn	16 57 01.3	+3.5
DSDZ	**La Diserade, G**	**1.33**	**5**	*eP*	Pb	16 56 44.7	+0.5
DSDZ				*eS*	Sb	16 57 01.9	+1.1
DHSZ	**Broadband at M**	**1.40**	**336**	*eP*	Pb	16 56 46.6	+1.1
DHSZ				*eS*	Sb	16 57 06.3	+3.4
SVB	**Belmont**	**1.70**	**182**	*eP*	Pb	16 56 49.9	-0.6
SVB				*eS*	Sb	16 57 13.7	+2.1

*IDC **22** 17:02:02.9±2.0, 1.48N×127.08E, h0km, mb3.3/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=116.7km s-min=25.6km az=69.0*
*DJA **22** 17:02:16.9±0.4, 1°N±3°×12°7E±°, h126km±6km, M3.9/14, mb3.8/4, MLv3.9/14*

ISC 22 17:02:17.1±1.1, 1.34N±0.07×126.98E±0.08, h150km, n12, σ1.98/14, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.68**	**145**	P	**Pn**	**17 02 37.8**	**-1.7**
SGSI	**Sangihe**	**2.75**	**328**	P	**Pn**	**17 03 00.1**	**-1.2**
SGSI				S	**Sn**	**17 03 32.4**	**-3.0**
KMSI	**Cibinong**	**3.09**	**256**	P	**Pn**	**17 03 05.0**	**-0.6**
KMSI				S	**Sn**	**17 03 42.0**	**-1.2**
SANI	**Sanana**	**3.51**	**196**	P	**Pn**	**17 03 08.8**	**-2.2**
NLAI	**Namlea**	**4.55**	**178**	P	**Pn**	**17 03 23.7**	**-0.8**
LUWI	**Luwuk**	**4.83**	**241**	P	**Pn**	**17 03 28.0**	**-0.2**
MRSI	**Marisa**	**5.11**	**260**	P	**Pn**	**17 03 31.7**	**-0.3**
	0.2nm13nm,0.8s						
AAI	**Ambon**	**5.14**	**166**	P	**Pn**	**17 03 32.1**	**-0.2**
	0.2nm62nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.36**	**184**	P	**Pn**	**17 06 32.0**	**-1.8**
	0.1nm,0.3s,baz=15,slow=12,SNR=1.4						
	1.8nm,1.0s						
WRA	**Warramunga Arr**	**22.35**	**162**	P	**P**	**17 07 02.8**	**0.0**
	0.5nm,0.5s,baz=340,slow=11,SNR=26						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.75**	**165**	P	**P**	**17 07 37.1**	**+3.2**
	0.3nm,0.8s,baz=349,slow=12,SNR=10						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**17 12 08.5**	**+3.0**
	0.2nm,0.3s,baz=114,slow=8.3,SNR=4.2						
	0.2nm,0.3s						

*IDC **22** 17:03:51.8±2.5, 17.64S×178.54W, h513km±26km, mb3.6/16, mbtmp4.4/16, Error ellipse: s-maj=15.5km s-min=12.2km az=106.0*
*NEIC **22** 17:03:53.6±1.8, 17.6S±0.1×178.5W±0.1, h534km±7km, mb4.2/56, Error ellipse: s-maj=19.5km s-min=16.7km az=139.0*
*NOU **22** 17:03:53.9, 17.65S×178.46W, h540km, mb4.4/21, Fiji Islands Region*

ISC 22 17:03:54.5±0.4, 17.61S±0.08×178.50W±0.08, h547km, n112, σ0.97/113, mb4.2/44, 3C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.69**	**206**	P	**P**	**17 04 58.7**	**-1.1**
TAVE	**Taveuni**	**1.62**	**304**	P	**P**	**17 05 01.6**	**-0.8**

DGTI Dogotuki 2.13 307 P **P** **17 05 03.2 -1.4**
MSVF Nonsavu 3.29 267 P **P** **17 05 10.8 -0.4**
MSVF Nonsavu 3.29 267 P **P** **17 05 11.1 -0.1**
FUTU Fugatoga 3.31 6 P **P** **17 05 09.5 -1.8**
FUTU Fugatoga 3.31 6 P **P** **17 05 10.0 -1.3**
NIUE Niue 8.27 101 P **P** **17 05 53.6 -1.2**
NIUE Niue 8.27 101 P **P** **17 05 54.1 -0.7**
URZ Urewera 20.93 190 P **P** **17 07 55.8 -3.1**
4.5nm,0.5s,baz=315,slow=1.4,SNR=1.2
URZ S **S** **17 11 16.7 +0.2**
20nm,1.1s,baz=321,slow=22,SNR=2.0
4.5nm,0.5s
TATA Tatamba Isabel 23.02 291 P **P** **17 08 19.1 +1.1**
JCZ Jackson Bay 28.48 199 P **P** **17 09 04.9 -0.9**
ARMA Armidale 30.01 239 P **P** **17 09 19.3 -0.1**
CNB Canberra Magne 33.54 232 P **P** **17 09 49.4 +0.1**
CMSA Cobar Meteorol 35.22 240 P **P** **17 10 03.0 -0.3**
QLP Quilpie 35.56 249 P **P** **17 10 06.0 -0.2**
COEN Coen 37.02 270 P **P** **17 10 18.2 -0.2**
TOO Toolangi 37.29 230 P **P** **17 10 20.2 -0.2**
TOO IAmb IAmb 17 10 21.2
comp=Z,7.2nm,1.0s
STKA Stephens Creek 38.70 241 P **P** **17 10 31.7 -0.1**
STKA Stephens Creek 38.70 241 P **P** **17 10 31.7 -0.1**
comp=Z,4.6nm,0.5s,baz=93,slow=9.8,SNR=12
comp=Z,4.6nm,0.5s
STKA Stephens Creek 38.70 241 P **P** **17 10 31.8 -0.1**
INKA Innaminka 38.78 248 P **P** **17 10 31.9 -0.6**
HTT Hallett 41.22 239 P **P** **17 10 51.9 -0.2**
JAY Jayapura 42.74 286 P **P** **17 11 04.2 -0.1**
comp=Z,16nm,0.8s,baz=148,slow=5.9,SNR=17
comp=Z,16nm,0.8s
BBOO Buckleboo 43.47 241 P **P** **17 11 09.2 -0.5**
WB2 Warramunga Arr 44.59 259 P **P** **17 11 17.1 -1.4**
WB2 IAmb IAmb 17 11 17.8
comp=Z,5.7nm,0.8s
WRA Warramunga Arr 44.60 259 **P** **17 11 16.6 -2.0**
WRA Warramunga Arr 44.60 259 P **P** **17 11 16.9 -1.7**
comp=Z,3.2nm,0.7s,baz=96,slow=7.1,SNR=51
WRA PcP **PcP** **17 12 49.9 +0.1**
comp=Z,1.7nm,0.7s,baz=92,slow=3.2,SNR=8.9
comp=Z,3.2nm,0.7s
AS01 Alice Springs 44.74 254 P **P** **17 11 18.9 -0.8**
AS31 Alice Springs 44.79 254 **P** **17 11 18.8 -1.2**
ASAR Alice Springs 44.79 254 **P** **17 11 18.8 -1.2**
ASAR Alice Springs 44.79 254 P **P** **17 11 19.1 -0.9**
comp=Z,27nm,0.6s,baz=89,slow=7.8,SNR=903
ASAR PcP **PcP** **17 12 50.4 0.0**
comp=Z,2.0nm,0.4s,baz=94,slow=3.4,SNR=9.4
ASAR ScP **ScP** **17 15 54.7 +3.9**
comp=Z,0.3nm,0.8s,baz=100,slow=4.3,SNR=1.4
comp=Z,27nm,0.6s
KDU Kakadu 47.48 269 P **P** **17 11 39.9 -0.6**
KNRA Kununurra 50.43 264 P **P** **17 12 01.4 -1.0**
FAKI Fak Fak 50.44 281 P **P** **17 12 02.6 +0.2**
FITZ Fitzroy Crossi 52.99 260 P **P** **17 12 20.0 -0.8**
FITZ Fitzroy Crossi 52.99 260 P **P** **17 12 19.9 -0.8**
comp=Z,2.1nm,0.5s,baz=70,slow=7.9,SNR=23
comp=Z,2.1nm,0.5s
SOEI Soe 55.98 270 P **P** **17 12 42.3 +0.3**
TNTI Ternate 56.31 283 P **P** **17 12 44.6 +0.5**
PSA00 Pilbara Seismi 57.90 255 P **P** **17 12 53.8 -1.0**
PSA00 IAmb IAmb 17 13 01.0
comp=Z,30nm,1.5s
MBWA Marble Bar 58.06 256 P **P** **17 12 54.8 -1.1**
MBWA IAmb IAmb 17 13 34.7
comp=Z,12nm,1.1s
SBA Scott Base 60.71 184 P **P** **17 13 14.1 +1.5**
VNDA Vanda 60.73 185 P **P** **17 13 13.2 +0.4**
VNDA Vanda 60.73 185 P **P** **17 13 13.1 +0.4**
comp=Z,0.5nm,0.7s,baz=352,slow=6.2,SNR=4.0
comp=Z,0.5nm,0.7s
TOLI2 Tolitoli 62.58 281 P **P** **17 13 26.9 +1.0**
TOLI2 IAmb IAmb 17 13 28.9
comp=Z,5.7nm,0.7s
GIRL Giralia 62.90 253 P **P** **17 13 27.6 -0.2**
CASY Casey 66.37 205 P **P** **17 13 49.0 +0.1**
KKM Kota Kinabalu 68.59 284 P **P** **17 14 03.3 -0.2**
UGM Wanagama 69.57 268 P **P** **17 14 09.0 -0.4**
ATKA Atka Island 69.62 3 P **P** **17 14 07.6 -1.2**
QSPA South Pole Qui 72.44 180 P **P** **17 14 26.9 +1.6**
QSPA IAmb IAmb 17 14 28.1
comp=Z,5.2nm,1.0s
QSPA South Pole Qui 72.44 180 P **P** **17 14 26.6 +1.2**
comp=Z,4.2nm,0.9s,baz=21,slow=1.5,SNR=18
comp=Z,4.2nm,0.9s
KSM Kuching 72.56 277 P **P** **17 14 26.6 -0.3**
PEA0B Petropavlovsk- 73.37 345 P **P** **17 14 31.3 +0.6**
PETK Petropavlovsk- 73.37 345 P **P** **17 14 31.1 +0.4**
PETK Petropavlovsk- 73.37 345 P **P** **17 14 30.7 0.0**
comp=Z,2.0nm,0.7s,baz=120,slow=8.3,SNR=4.8
comp=Z,2.0nm,0.7s
PLK4 Peulik 4 77.19 12 P **P** **17 14 51.9 0.0**
OHAK Old Harbor 77.47 14 P **P** **17 14 53.4 +0.2**
KDAK Kodiak Island 78.14 14 P **P** **17 14 57.2 +0.3**
KDAK IAmb IAmb 17 15 02.7
comp=Z,21nm,1.2s
N14K Kuskokwak Cree 78.46 9 P **P** **17 14 59.1 +0.6**
N14K IAmb IAmb 17 15 20.1
comp=Z,21nm,1.2s
O16K Kokwok River B 78.71 10 P **P** **17 14 59.0 -0.9**
O16K IAmb IAmb 17 15 17.7
comp=Z,10.0nm,1.1s
DSP Deep Springs 78.93 45 P **P** **17 15 02.9 +1.3**
N15K Kwethluk River 78.93 9 P **P** **17 15 01.4 +0.3**
N15K IAmb IAmb 17 15 24.7
comp=Z,7.4nm,1.1s
P18K Big Mountain, 79.05 12 P **P** **17 15 01.6 -0.2**
P18K IAmb IAmb 17 15 02.0
comp=Z,9.2nm,0.8s
NVAR Mina Array Bea 79.27 44 P **P** **17 15 04.9 +1.2**
NVAR Mina Array Bea 79.27 44 P **P** **17 15 04.7 +0.9**
comp=Z,2.0nm,0.7s,baz=224,slow=8.9,SNR=9.8
comp=Z,2.0nm,0.7s
O18K Koktuh Hills 79.48 12 P **P** **17 15 03.9 -0.2**
M16K Timber Creek 79.92 10 P **P** **17 15 06.5 +0.2**
M16K IAmb IAmb 17 15 08.1
comp=Z,9.1nm,1.1s
O19K Port Alsworth 79.97 12 P **P** **17 15 06.2 -0.4**
O19K IAmb IAmb 17 15 06.9
comp=Z,11nm,0.8s
J05D Fort Rock, OR 80.15 39 P **P** **17 15 09.6 +1.5**
J05D IAmb IAmb 17 15 10.1
comp=Z,6.8nm,0.6s
SLKM Skilak Lake 81.13 14 P **P** **17 15 12.0 -0.6**
SLKM IAmb IAmb 17 15 54.9
comp=Z,14nm,1.2s
L18K Granite Mounta 81.42 10 P **P** **17 15 14.9 +0.9**
L18K IAmb IAmb 17 15 16.4
comp=Z,14nm,1.4s
STLK Strandline Lak 81.67 13 P **P** **17 15 13.9 -1.5**
SUA Susitna One 81.87 13 P **P** **17 15 16.1 -0.3**
SUA IAmb IAmb 17 15 16.7
comp=Z,6.3nm,0.7s
KNB Kanab 82.29 47 P **P** **17 15 20.6 +1.2**
KNB IAmb IAmb 17 15 22.8
comp=Z,7.0nm,1.4s
IPM Ipoh 82.30 277 P **P** **17 15 20.0 +0.3**
IPM IAmb IAmb 17 15 20.9
comp=Z,5.3nm,0.7s
PSUT Pine Spring 82.32 46 P **P** **17 15 20.1 +0.7**
U15A North Rim 82.39 48 P **P** **17 15 21.2 +1.2**
U15A IAmb IAmb 17 15 22.4
comp=Z,4.0nm,0.7s
BELA Belgrano 2 82.47 173 P **P** **17 15 19.2 -0.1**
BELA IAmb IAmb 17 15 20.0
comp=Z,5.3nm,0.9s
ELK Elko 82.50 43 P **P** **17 15 21.0 +0.7**
GHO Glory Hole Cre 82.54 14 P **P** **17 15 19.7 -0.2**
GHO IAmb IAmb 17 15 21.9
comp=Z,19nm,1.5s
J18K Innoko River 82.58 10 P **P** **17 15 20.0 0.0**
J18K IAmb IAmb 17 15 21.0
comp=Z,4.6nm,0.8s
G08A Pilot Rock 82.63 38 P **P** **17 15 20.9 +0.2**
K20K Telida 82.93 11 P **P** **17 15 21.7 0.0**
CAST Castle Rocks 83.36 12 P **P** **17 15 22.7 -1.2**
CAST IAmb IAmb 17 15 23.6
comp=Z,5.7nm,0.8s
TRF Thorofare Moun 83.74 12 P **P** **17 15 25.0 -0.9**
TRF IAmb IAmb 17 15 26.2
comp=Z,6.0nm,0.7s
RND Reindeer 84.00 13 P **P** **17 15 26.7 -0.4**
RND IAmb IAmb 17 15 27.5
comp=Z,6.8nm,0.8s

MAW	**Mawson**	**84.11**	**200**	P		**P**	**17 15 27.8**	**+0.2**	
	comp=Z,1.5nm,0.4s,baz=100,slow=2.8,SNR=4.1								
	comp=Z,1.5nm,0.4s								
M26K	**Nabesna, AK**	**84.52**	**16**	P		**P**	**17 15 29.6**	**0.0**	
M26K				IAmb		IAmb	17 15 30.7		
	comp=Z,3.5nm,0.8s								
CCB	**Clear Creek Bu**	**85.32**	**13**	P		**P**	**17 15 32.0**	**-1.4**	
ILAR	**Eielson Array**	**85.62**	**13**	P		**P**	**17 15 34.0**	**-0.9**	
	comp=Z,0.8nm,0.4s,baz=225,slow=5.0,SNR=8.9								
	comp=Z,0.8nm,0.4s								
TXAR	**Lajitas Array**	**85.91**	**58**	P		**P**	**17 15 39.0**	**+1.7**	
	comp=Z,1.4nm,0.8s,baz=214,slow=6.5,SNR=14								
	comp=Z,1.4nm,0.8s								
YHL	**Hebgen Lake**	**87.12**	**41**	P		**P**	**17 15 44.7**	**+1.9**	
YHL				IAmb		IAmb	17 16 16.4		
	comp=Z,7.0nm,1.4s								
PDAR	**Pinedale Array**	**87.20**	**43**	P		**P**	**17 15 43.4**	**+0.2**	
	comp=Z,0.8nm,0.5s,baz=224,slow=4.1,SNR=3.9								
	comp=Z,0.8nm,0.5s								
CMAR	**Chiang Mai Arr**	**88.70**	**290**	P		**P**	**17 15 51.5**	**+1.1**	
	comp=Z,1.2nm,0.3s,baz=96,slow=3.1,SNR=8.0								
	comp=Z,1.2nm,0.3s								
TROLL	**Troll, Antarti**	**90.60**	**180**	⇓P		**P**	**17 15 58.3**	**-0.1**	
	comp=Z,116nm,0.5s								
SNAA	**Sanae**	**90.89**	**179**	⇑P		**P**	**17 15 58.9**	**-0.7**	
	comp=Z,34nm,0.7s								
SNAA	**Sanae**	**90.89**	**179**	P		**P**	**17 15 58.9**	**-0.7**	
	comp=Z,1.5nm,0.8s,baz=186,slow=12,SNR=7.2								
	comp=Z,1.5nm,0.8s								
VNA3	**Neumayer Olymp**	**91.04**	**176**	⇑P		**P**	**17 16 00.3**	**0.0**	
	comp=Z,5.9nm,0.8s								
VNA1	**Neumayer--Stat**	**91.70**	**177**	⇑P		**P**	**17 16 03.7**	**+0.4**	
	comp=Z,5.7nm,1.0s								
HERN	**Volcan Telica**	**95.30**	**79**	IAmb		IAmb	17 16 30.5		
	comp=Z,148nm,0.7s								
MKAR	**Makanchi Array**	**108.87**	**314**	PKiKP		**PKiKP**	**17 21 20.4**	**-1.4**	
	comp=Z,0.3nm,0.5s,baz=94,slow=0.6,SNR=5.0								
KURBB	**Kurchatov Arra**	**111.60**	**318**	PKiKP		**PKiKP**	**17 21 25.4**	**-1.4**	
	comp=Z,0.2nm,0.5s,baz=89,slow=1.9,SNR=4.7								
BVAR	**Borovoye Array**	**116.56**	**321**	PKP		**PKPdf**	**17 21 35.5**	**-0.8**	
	comp=Z,0.6nm,0.4s,baz=48,slow=2.1,SNR=4.3								
BNN	**Bunyan**	**143.39**	**312**			PKPbc	17 22 26.4	+0.6	
LODK	**Lodwar**	**143.94**	**251**	PKPdf		**PKPdf**	**17 22 29.1**	**+0.2**	
BUR08	**Bucovina Ar. S**	**144.30**	**332**	PKPdf		PKPbc	17 22 28.9	+0.5	
BRTR	**Keskin Array B**	**144.51**	**315**	PKP		**PKPdf**	**17 22 29.2**	**0.0**	
	comp=Z,1.5nm,0.7s,baz=116,slow=5.6,SNR=5.8								
MMAI	**Mount Meron Ar**	**145.91**	**303**	PKPbc		**PKPbc**	**17 22 34.1**	**+0.6**	
	comp=Z,2.7nm,0.4s,baz=72,slow=5.4,SNR=10.0								
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc		**PKPbc**	**17 22 37.0**	**+0.2**	
	comp=Z,0.7nm,0.5s,baz=20,slow=4.3,SNR=5.6								
ESDC	**Sonseca Array**	**157.51**	**11**	PKP		**PKPdf**	**17 22 49.1**	**+0.4**	
	comp=Z,0.5nm,0.7s,baz=325,slow=1.6,SNR=2.5								
TORD	**Torodi Ar. Bea**	**175.56**	**182**	PKP		**PKPdf**	**17 23 01.5**	**-1.2**	
	comp=Z,0.4nm,0.7s,baz=247,slow=1.1,SNR=2.2								

*IDC **22** 17:11:54.8±3.1, 32°.85N×47°.91E, h0km, mb3.9/5, mbtmp3.9/5, MS2.9/3, Error ellipse: s-maj=61.0km s-min=43.7km az=34.0*
*TEH **22** 17:11:56.4, 32°.74N×48°.02E, h20km±34km*
ISC 22 17:11:56.3±0.9, 32°.63N±0°.06×48°.04E±0°.06, h15km, n56, σ2s11/54, mb3.8/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**1.40**	**158**	Pg		**Pg**	**17 12 25.8**	**+2.7**
ILBA	**Ilam Banvizeh**	**1.83**	**303**	Pg		**Pn**	**17 12 28.4**	**+1.1**
IBZA	**Bozab**	**1.84**	**355**	Pg		**Pn**	**17 12 27.9**	**+0.3**
KCHF	**Cheshme Sefid,**	**1.84**	**333**	Pg		**Pn**	**17 12 28.5**	**+1.0**
IGHG	**Ghaleghazi**	**2.09**	**324**	Pn		**Pn**	**17 12 32.8**	**+1.8**
SNQR	**Sonqor, Kerman**	**2.25**	**351**	Pn		**Pn**	**17 12 34.8**	**+1.5**
JHBN	**Jahan bin**	**2.25**	**100**	Pn		**Pb**	**17 12 36.2**	**-0.7**
GLG1	**Gilan-e-Gharb**	**2.32**	**310**	Pn		**Pn**	**17 12 35.5**	**+1.5**
HAGD	**Aghdareh**	**2.37**	**22**	Pn		**Pn**	**17 12 36.0**	**+1.1**
IPIR	**Pirpir**	**2.40**	**88**	Pn		**Pb**	**17 12 38.4**	**-1.0**
ZNGN	**Zangian**	**2.43**	**101**	Pn		**Pn**	**17 12 38.3**	**+2.5**
IDHR	**Dehrash**	**2.48**	**327**	Pn		**Pn**	**17 12 37.3**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**2.77**	**313**	Pn		**Pn**	**17 12 41.4**	**+1.2**
IBRJ	**Brojen**	**2.82**	**104**	Pn		**Pn**	**17 12 43.6**	**+2.5**
HGHA	**Hamedan- Ghaye**	**2.93**	**13**	Pn		**Pn**	**17 12 43.8**	**+1.3**
QAMS	**Qamsar**	**3.02**	**68**	Pn		**Pn**	**17 12 46.9**	**+3.1**
IKLH	**Kolahrood**	**3.05**	**76**	Pn		**Pn**	**17 12 47.2**	**+3.0**
QABG	**Abgarm-Qazvin**	**3.32**	**22**	Pn		**Pn**	**17 12 49.3**	**+1.3**
IQOM	**Qom**	**3.35**	**48**	Pn		**Pn**	**17 12 49.4**	**+1.1**
IGAR	**Gharneh**	**3.38**	**93**	Pn		**Pn**	**17 12 51.4**	**+2.6**
KLNJ	**Kolanjah**	**3.43**	**117**	Pn		**Pn**	**17 12 52.5**	**+3.6**
IZEF	**Zefreh**	**3.62**	**85**	Pn		**Pn**	**17 12 54.7**	**+2.6**
KRSH	**Karshahi**	**3.68**	**68**	Pn		**Pn**	**17 12 55.1**	**+2.4**
IRAM	**Ramesheh**	**3.77**	**101**	Pn		**Pn**	**17 12 56.0**	**+2.0**
IVRN	**Varamin**	**3.87**	**51**	Pn		**Pn**	**17 12 57.0**	**+1.7**
ISFB	**Sefidab**	**3.90**	**63**	Pn		**Pn**	**17 12 57.6**	**+1.8**
IGZV	**Ghazvin**	**4.15**	**25**	Pn		**Pn**	**17 13 00.4**	**+1.0**
IDMV	**Damavand**	**4.42**	**47**	Pn		**Pn**	**17 13 04.3**	**+1.2**
ANAR	**Anarak**	**4.81**	**82**	Pn		**Pn**	**17 13 10.0**	**+1.7**
ILAS	**Lasjerd**	**4.92**	**55**	Pn		**Pn**	**17 13 11.4**	**+1.5**
IFIR	**Firoozkooh**	**4.92**	**51**	Pn		**Pn**	**17 13 11.8**	**+1.8**
IPRN	**Peran**	**5.05**	**43**	Pn		**Pn**	**17 13 14.1**	**+2.5**
DSBU	**Dashti - Bushe**	**5.08**	**146**	Pn		**Pn**	**17 13 15.5**	**+3.6**
IALA	**Alasht**	**5.23**	**48**	Pn		**Pn**	**17 13 15.8**	**+1.5**
ICHK	**Chekchek**	**5.39**	**92**	Pn		**Pn**	**17 13 19.0**	**+2.5**
IMEH	**Mehriz**	**5.71**	**101**	Pn		**Pn**	**17 13 24.5**	**+3.6**
IGLO	**Ghaloghah**	**6.14**	**49**	Pn		**Pn**	**17 13 28.3**	**+1.6**
GRMI	**Germi**	**6.16**	**359**	Pn		**Pn**	**17 13 28.0**	**+1.1**
IBAF	**Bafgh**	**6.47**	**97**	Pn		**Pn**	**17 13 34.0**	**+2.9**
TPRV	**Parvadeh(Tabas**	**7.28**	**85**	Pn		**Pn**	**17 13 44.7**	**+2.4**
TNSJ	**Nastanj**	**7.29**	**77**	Pn		**Pn**	**17 13 44.4**	**+2.0**
TKDS	**Koohdasht(Taba**	**7.68**	**80**	Pn		**Pn**	**17 13 49.9**	**+2.2**
SHME	**Shamm**	**9.64**	**131**	Pn		**Pn**	**17 14 13.6**	**-0.9**
MSFE	**Esma-Masafi**	**10.14**	**134**	Pn		**Pn**	**17 14 19.7**	**-1.8**
MSFE				Sn		**Sn**	**17 16 09.7**	**-5.3**
UOSS	**Minazif**	**10.48**	**135**	Pn		**Pn**	**17 14 25.9**	**-0.1**
HATD	**Hatta, Dubai**	**10.53**	**136**	Pn		**Pn**	**17 14 26.1**	**-0.5**
ASHO	**Ashiyiah**	**10.59**	**136**	Pn		**Pn**	**17 14 28.0**	**+0.4**
ASHO				Sn		**Sn**	**17 16 22.1**	**-3.8**
MMAI	**Mount Meron Ar**	**10.64**	**275**	LR		LR	17 19 12.9	
	comp=Z,48nm,19.0s,baz=134,slow=42							
SOHO	**SOHO**	**11.29**	**136**	Pn		**Pn**	**17 14 35.7**	**-1.4**
KBZ	**Khabaz**	**11.79**	**341**	LR		LR	17 18 43.2	
	comp=Z,66nm,21.2s,baz=164,slow=35							
BVAR	**Borovoye Array**	**25.96**	**32**	P		**P**	**17 17 27.8**	**-0.2**
	2.0nm,0.8s,baz=211,slow=5.0,SNR=8.7							
	2.0nm,0.8s							
KURBB	**Kurchatov Arra**	**28.73**	**42**	P		**P**	**17 17 52.1**	**-0.8**
	0.3nm,0.6s,baz=246,slow=9.1,SNR=3.6							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**29.64**	**51**	P		**P**	**17 18 02.2**	**+1.1**
	1.2nm,0.7s,baz=254,slow=10,SNR=7.3							
	1.2nm,0.7s							
FINES	**FINESS Array B**	**32.15**	**340**	P		**P**	**17 18 21.8**	**-1.2**
	2.3nm,0.8s,baz=145,slow=11,SNR=6.0							
	2.3nm,0.8s							
DAVOX	**Davos/Dischmat**	**32.24**	**307**	LR		LR	17 31 58.8	
	comp=Z,24nm,18.8s,baz=254,slow=38							
WRA	**Warramunga Arr**	**97.51**	**109**	P		Pdif	17 25 31.6	+1.5
	0.3nm,0.7s,baz=307,slow=4.5,SNR=1.4							
	0.3nm,0.7s							

*IDC **22** 17:17:13.7±1.1, 20°.95N×122°.21E, h0km, mb3.6/8, mbtmp3.7/10, ML3.3/2, Error ellipse: s-maj=31.7km s-min=20.2km az=70.0*
*JMA **22** 17:17:17.0±0.8, 21°.1N±3°.3×12°.2E±°, h45km, MV3.5/12, TAIWAN REGION*
ISC 22 17:17:18.3±1.0, 21°.00N±0°.09×122°.3E±0°.1, h35km, n24, σ0s62/21, mb3.6/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**3.34**	**24**	*eS*		**Sn**	**17 18 46.5**	**-0.1**
JYNG	**Yonagunijimaku**	**3.48**	**10**	*eP*		**Pn**	**17 18 10.7**	**+0.7**
JYNG				*eS*		**Sn**	**17 18 50.0**	**-0.1**
IRIF	**Iriomote-Funau**	**3.57**	**21**	P		**Pn**	**17 18 11.3**	**+0.1**
IRIF				*eS*		**Sn**	**17 18 51.7**	**-0.5**
JKRS	**Kuro-shima**	**3.59**	**26**	*eS*		**Sn**	**17 18 52.2**	**-0.4**
JIJ	**Ishigaki jima**	**3.75**	**27**	P		**Pn**	**17 18 13.3**	**-0.4**
JIJ				*eS*		**Sn**	**17 18 56.2**	**-0.5**
JISG	**Ishigakijimahi**	**4.02**	**27**	*eS*		**Sn**	**17 19 03.2**	**-0.1**
JTJ	**Tarama**	**4.25**	**31**	*eS*		**Sn**	**17 19 08.1**	**-0.8**
JIRB	**Irabujima**	**4.64**	**34**	*eS*		**Sn**	**17 19 18.5**	**0.0**
JOW	**Kunigami**	**7.97**	**42**	Pn		**Pn**	**17 19 11.6**	**0.0**
	1.2nm,0.3s,baz=138,slow=16,SNR=6.2							
	5.7nm,0.4s							
KSRS	**Korea Array**	**17.11**	**15**	P		**Pn**	**17 21 14.9**	**+0.3**
	0.1nm,0.3s,baz=200,slow=11,SNR=6.2							
	1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**22.13**	**268**	P		**P**	**17 22 09.3**	**-1.8**
	0.7nm,0.8s,baz=65,slow=8.5,SNR=4.8							
	0.7nm,0.8s							
SONM	**Songino Array**	**29.69**	**338**	P		**P**	**17 23 21.1**	**+0.1**
	0.6nm,0.5s,baz=157,slow=7.8,SNR=3.1							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**41.36**	**318**	P		**P**	**17 25 01.8**	**+0.9**
	2.7nm,0.8s,baz=112,slow=9.1,SNR=10							
	2.7nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**41.72**	**84**	T		T	18 10 06.0	
	baz=282,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy**	**41.72**	**84**	T		T	18 10 00.3	
	baz=282,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**41.74**	**84**	T		T	18 09 56.7	
	baz=282,slow=75,SNR=1.8							
H11S3	**WAKE ISLAND Hy**	**41.75**	**85**	T		T	18 10 05.7	
	baz=281,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**41.76**	**85**	T		T	18 10 07.4	
	baz=281,slow=75,SNR=14							
H11S2	**WAKE ISLAND Hy**	**41.77**	**85**	T		T	18 10 03.3	
	baz=281,slow=75,SNR=12							
WRA	**Warramunga Arr**	**42.36**	**163**	P		**P**	**17 25 09.3**	**0.0**
	0.4nm,0.9s,baz=342,slow=8.6,SNR=1.9							
	0.4nm,0.9s							
ZALV	**Zalesovo Beam**	**43.48**	**328**	P		**P**	**17 25 17.9**	**-0.1**
	0.9nm,0.7s,baz=133,slow=6.1,SNR=4.3							
	0.9nm,0.7s							
KURBB	**Kurchatov Arra**	**45.22**	**322**	P		**P**	**17 25 32.4**	**+0.5**
	1.5nm,0.6s,baz=120,slow=7.4,SNR=12							
	1.5nm,0.6s							
ASAR	**Alice Springs**	**45.81**	**165**	P		**P**	**17 25 37.5**	**+0.6**
	0.2nm,0.8s,baz=340,slow=8.8,SNR=1.4							
	0.2nm,0.8s							
BVAR	**Borovoye Array**	**50.80**	**322**	P		**P**	**17 26 15.8**	**+0.7**
	0.7nm,0.6s,baz=116,slow=9.8,SNR=5.1							
	0.7nm,0.6s							

IDC 22 18:05:29.5±4.5, 19°.60N×122°.08E, h0km, mb3.3/3, mbtmp3.3/3, MS3.7/1, Error ellipse: s-maj=352.0km s-min=29.6km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.10**	**162**	P		P	18 13 14.7	-0.6
	0.3nm,0.6s,baz=342,slow=8.9,SNR=4.7							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**42.27**	**319**	P		P	18 13 24.6	-0.2
	0.6nm,0.9s,baz=126,slow=7.3,SNR=1.4							
	0.6nm,0.9s							
ASAR	**Alice Springs**	**44.52**	**164**	P		P	18 13 43.5	+0.3
	0.1nm,0.3s,baz=347,slow=6.8,SNR=8.7							
	0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**46.19**	**323**	LR		LR	18 34 09.2	
	comp=Z,74nm,18.8s,baz=168,slow=37							

*AEIC **22** 18:23:53.5±0.7, 53°.91N±0°.08×164°.79W±0°.08, h54km±9km, Error ellipse: s-maj=13.9km s-min=2.6km az=150.0*
NEIC 22 18:23:54.8±0.7, 54°.0N±0°.1×164°.9W±0°.1, h55km±22km, ML2.7/14, ML2.5(AEIC), **Error ellipse: s-maj=19.4km s-min=5.4km az=144.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKUT	**Akutan**	**0.55**	**285**			Pn	18 24 07.1	+0.2
AKUT				IAML			18 24 17.7	
	comp=E,1μm,0.2s							
AKUT	**Akutan**	**0.55**	**285**			Sn	18 24 17.3	+1.5
AHB	**Akutan Harbor**	**0.57**	**282**			Pn	18 24 07.6	+0.3
AHB						Sn	18 24 18.0	+1.7
WEBT	**Westdahl Beart**	**0.60**	**6**			Pn	18 24 07.5	0.0
AKBBA	**Akutan Broad B**	**0.64**	**279**			Pn	18 24 07.9	-0.1
AKV	**Akutan Volcano**	**0.66**	**282**			Pn	18 24 08.4	+0.1
AKV						Sn	18 24 19.1	+0.9
ZRO	**Akutan Zero**	**0.66**	**278**			Pn	18 24 08.3	-0.1
AKMO	**Akutan Morgan**	**0.68**	**278**			Pn	18 24 08.5	-0.1
AKMO						Sn	18 24 19.4	+0.9
AKGG	**Akutan Green G**	**0.69**	**287**			Pn	18 24 08.6	-0.1
AKGG						Sn	18 24 19.4	+0.6
LVA	**Lava Point**	**0.71**	**284**			Pn	18 24 08.7	-0.2
LVA	**Lava Point**	**0.71**	**284**			Sn	18 24 20.9	+1.7
SSBA	**Shishaldin**	**0.89**	**29**			Pn	18 24 11.0	-0.3
UNV	**Unalaska Valle**	**0.98**	**262**			Pn	18 24 11.9	-0.5
UNV	**Unalaska Valle**	**0.98**	**262**	IAML			18 24 25.5	
	comp=N,135nm,0.4s							
UNV				IAML			18 24 25.9	
	comp=E,137nm,0.3s							
ISNN	**Isanotski Nort**	**1.05**	**37**			Pn	18 24 13.4	+0.1
ISNN						Sn	18 24 28.5	+1.5
MTBL	**Makushin Table**	**1.07**	**269**			Pn	18 24 13.3	-0.4
MREP	**Makushin Rep't**	**1.13**	**261**			Pn	18 24 13.9	-0.5
FALS	**False Pass**	**1.21**	**44**			Pn	18 24 15.4	0.0
DT1	**Dutton Round H**	**1.87**	**53**			Pn	18 24 24.1	-0.3
DT1						Sn	18 24 47.4	+0.6
OKTU	**Okmok Mt. Tuli**	**1.99**	**253**			Pn	18 24 25.5	-0.5
OKRE	**Okmok R'deer P**	**2.02**	**258**			Pn	18 24 25.9	-0.5
S12K	**Black Hills**	**2.35**	**42**	Pn		Pn	18 24 31.0	0.0
S12K				IAML			18 25 05.8	
	comp=E,25nm,0.3s							
NIKH	**Nikolski High**	**2.60**	**248**			Pn	18 24 34.6	+0.3
NIKH	**Nikolski High**	**2.60**	**248**	IAML			18 25 13.3	
	comp=N,37nm,1.1s							
NIKH				IAML			18 25 14.3	
	comp=E,28nm,0.9s							
SDPT	**Sand Point**	**2.88**	**60**	Pn		Pn	18 24 38.0	-0.2
SDPT				IAML			18 25 19.8	
	comp=E,33nm,1.2s							
SDPT				IAML			18 25 26.6	
	comp=N,31nm,0.6s							
O14K	**Tigyukauivet M**	**5.63**	**19**	Pn		Pn	18 25 16.2	+0.4
O15K	**Ungalikthiuk R**	**5.89**	**26**	Pn		Pn	18 25 18.6	-0.7
N15K	**Kwethluk River**	**6.71**	**21**	Pn		Pn	18 25 31.2	+0.6
O16K	**Kokwok River B**	**6.73**	**31**	Pn		Pn	18 25 30.5	-0.3

IDC 22 18:24:02.7±445.0, 58°.71N×155°.54E, h0km, Error ellipse: s-maj=190.5km s-min=136.2km az=35.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.45**	**169**	I		I	19 13 00.0	
	baz=349,slow=322,SNR=1.8							
I43RU	**DUBNA INFRASON**	**10.00**	**266**	I		I	19 20 50.0	
	baz=70,slow=325,SNR=3.6							
I26DE	**FREYUNG INFRAS**	**26.19**	**266**	I		I	21 07 00.0	
	baz=51,slow=320,SNR=0.9							

*CATAC **22** 18:34:49.1±0.4, 12°.N±2°.×8°.8W±°, h22km±3km, M3.9/30, MLv3.9/30, Error ellipse: s-maj=3.9km s-min=2.0km az=31.5, confirmed*
*SNET **22** 18:34:53.0±2.0, 12°.48N×87°.79W, h30km, ML3.5*
*NEIC **22** 18:34:55.6±1.5, 12°.54N±0°.07×87°.5W±0°.1, h73km±10km, mb4.2/22, Error ellipse: s-maj=18.3km s-min=6.5km az=64.0*
ISC 22 18:34:50.8±1.2, 12°.20N±0°.05×87°.88W±0°.03, h45km±14km, n101, σ1s54/115, mb4.3/9, 5C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**0.84**	**22**	⇓P		**Pn**	**18 35 05.7**	**-0.6**
CSGN				S		**Sn**	**18 35 19.3**	**+1.7**
POTN	**Potosi Cosigui**	**0.88**	**25**	⇓P		**Pn**	**18 35 06.3**	**-0.5**
POTN				S		**Sn**	**18 35 19.2**	**+0.7**
CRIN	**San Cristobal**	**0.96**	**58**			**Pn**	**18 35 08.5**	**+0.6**
CRIN				Sn		**Sn**	**18 35 19.1**	**-1.4**
CRIN	**San Cristobal**	**0.96**	**58**	⇓P		**Pn**	**18 35 08.0**	**+0.1**
ALEN	**Leon**	**1.02**	**75**	S		**Sn**	**18 35 22.0**	**0.0**
ALEN	**Leon**	**1.02**	**75**	P		**Pn**	**18 35 07.2**	**-1.5**
CNCH	**Conchagua**	**1.08**	**3**	*eP*		**Pn**	**18 35 09.3**	**-0.2**
CNCH	**Conchagua**	**1.08**	**3**	⇓P		**Pn**	**18 35 09.0**	**-0.6**
CNCH	**Conchagua**	**1.08**	**3**	S		**Sn**	**18 35 25.2**	**+1.8**
LCND	**La Caada**	**1.11**	**360**	*eP*		**Pn**	**18 35 10.0**	**+0.1**
LCND	**La Caada**	**1.11**	**360**	⇑P		**Pn**	**18 35 09.7**	**-0.1**
HERN	**Volcan Telica**	**1.11**	**68**	Pn		**Pn**	**18 35 09.2**	**-0.7**
HERN				Sn		**Sn**	**18 35 18.3**	**-5.9**
PACN	**Al O del Volca**	**1.11**	**74**	⇑P		**Pn**	**18 35 09.8**	**-0.1**
POLN	**Al Sur del Vol**	**1.14**	**67**	⇑P		**Pn**	**18 35 10.0**	**-0.4**
POLN				S		**Sn**	**18 35 26.4**	**+1.6**
PLRN	**Geotermica Pol**	**1.16**	**70**	P		**Pn**	**18 35 08.9**	**-1.6**
PLRN				S		**Sn**	**18 35 25.8**	**+0.6**
CNGA	**Al SSO del Vol**	**1.19**	**75**	P		**Pn**	**18 35 10.8**	**-0.3**
CNGN	**Cerro Negro**	**1.20**	**75**	Pn		**Pn**	**18 35 11.5**	**+0.4**
CNGN				Sn		**Sn**	**18 35 19.8**	**-6.5**
CNGN	**Cerro Negro**	**1.20**	**75**	P		**Pn**	**18 35 11.1**	**0.0**
ILCN	**San Idelfonso**	**1.22**	**72**	⇑P		**Pn**	**18 35 11.3**	**0.0**
ILCN				S		**Sn**	**18 35 28.7**	**+2.0**
COPN	**Copaltepe**	**1.26**	**91**	⇓P		**Pn**	**18 35 12.0**	**0.0**
LCY	**Lacayo**	**1.28**	**342**	*eP*		**Pn**	**18 35 12.7**	**+0.3**
BLLM	**Bellamira**	**1.29**	**344**	*eP*		**Pn**	**18 35 12.2**	**-0.1**
BC84	**Volcan Momotom**	**1.33**	**81**	S		**Sn**	**18 35 30.2**	**+0.8**
PACA	**Pacayal**	**1.34**	**341**	*eP*		**Pn**	**18 35 13.5**	**+0.4**
PACA	**Pacayal**	**1.34**	**341**	⇓P		**Pn**	**18 35 13.3**	**+0.1**
PACA	**Pacayal**	**1.34**	**341**	S		**Sn**	**18 35 29.8**	**0.0**
MOM2	**El Cardon**	**1.39**	**80**	⇓P		**Pn**	**18 35 13.6**	**-0.1**
MOM2				S		**Sn**	**18 35 32.0**	**+1.1**
TECA	**Tecapa**	**1.43**	**335**	*eP*		**Pn**	**18 35 14.2**	**-0.1**
SAPS	**Ciudad Sandino**	**1.45**	**91**	P		**Pn**	**18 35 15.0**	**+0.5**
SAPS	**Ciudad Sandino**	**1.45**	**91**	S		**Sn**	**18 35 33.4**	**+1.1**
CHOHN	**Orocuina**	**1.46**	**29**	⇓P		**Pn**	**18 35 14.7**	**-0.1**
CHOHN	**Orocuina**	**1.46**	**29**	S		**Sn**	**18 35 34.7**	**+1.9**
APQ3	**Volcan Apoyequ**	**1.48**	**87**	P		**Pn**	**18 35 15.3**	**+0.3**
APQ3				S		**Sn**	**18 35 33.8**	**+0.6**
UNAN	**Cigeo UNAN**	**1.58**	**93**	P		**Pn**	**18 35 16.6**	**+0.3**
UNAN				S		**Sn**	**18 35 36.4**	**+0.8**
R4DEC	**Barrio San Lui**	**1.60**	**91**	S		**Sn**	**18 35 37.5**	**+1.5**
R4DEC	**Barrio San Lui**	**1.60**	**91**	P		**Pn**	**18 35 16.7**	**+0.1**
WILN	**Americas 2**	**1.66**	**91**	P		**Pn**	**18 35 17.6**	**+0.2**
WILN				S		**Sn**	**18 35 39.0**	**+1.5**
UESV	**Universidad de**	**1.68**	**329**	P		**Pn**	**18 35 17.6**	**-0.2**
UESV	**Universidad de**	**1.68**	**329**	S		**Sn**	**18 35 38.5**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.71**	**331**	*eP*		**Pn**	**18 35 18.8**	**+0.6**
SCLA				*eS*		**Sn**	**18 35 39.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.71**	**331**	⇑P		**Pn**	**18 35 18.6**	**+0.4**
NANN	**Nandasmo**	**1.74**	**98**	P		**Pn**	**18 35 20.2**	**+1.6**
NANN	**Nandasmo**	**1.74**	**98**	S		**Sn**	**18 35 43.8**	**+4.1**
LFRS	**El Faro**	**1.83**	**321**	*eP*		**Pn**	**18 35 19.6**	**-0.2**
LOMA	**Loma Larga**	**1.91**	**319**	*eP*		**Pn**	**18 35 21.5**	**+0.5**
LOMA				*eS*		**Sn**	**18 35 44.2**	**+0.3**
LOMA	**Loma Larga**	**1.91**	**319**	S		**Sn**	**18 35 43.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.94**	**18**	Pn		**Pn**	**18 35 21.7**	**+0.3**
TGUH				Sn		**Sn**	**18 35 35.3**	**-9.5**
TGUH	**Tegucigalpa,Un**	**1.94**	**18**	P		**Pn**	**18 35 21.8**	**+0.3**
TGUH				S		**Sn**	**18 35 46.5**	**+1.7**
OCON	**Estacion mete

ϕ_s252.52000°,δ75.51000°,λ-8.44000°. Principal axes: T 6.1024, Plg4.0000°, Azm118.0000°; N 1.3003, Plg73.0000°, Azm13.0000°; P -7.4028, Plg16.0000°, Azm209.0000°;

ISC-PP ***22*** *19:27:11, 14.67S×177.41W, h24km*

NEIC ***22*** *19:27:11.9, 14.66S×177.41W, h10km*

MOS ***22*** *19:27:11.4±1.2, 14.87S×177.26W, h18km, mb5.6/38, MS5.7/30, Error ellipse: s-maj=7.7km s-min=7.7km az=178.7*

IPGP ***22*** *19:27:12.0, 14.79S×177.29W, h14km, Mw6.0, Fault plane solution: NP1:*ϕ_s*251.00000°,δ78.00000°,λ14.00000°. NP2:*ϕ_s*158.00000°,δ76.00000°,λ168.00000°.*

NEIC ***22*** *19:27:12, 14.64S×177.42W, h18km*

NEIC ***22*** *19:27:12, 14.24S×176.59W, h18km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10¹⁷Nm; Mrr3.70; Mθθ-5.67; Mφφ 1.97; Mrθ0.56; Mθφ 7.57; Mφr-1.75; Fault plane solution: M₀9.25000×10¹⁷ NP1:*ϕ_s*257.70000°,δ71.73000°,λ10.56000°. NP2:*ϕ_s*164.36000°,δ79.98000°,λ161.44000°. Principal axes: T 7.0711, Plg20.0000°, Azm120.0000°; N 3.3929, Plg69.0000°, Azm317.0000°; P -10.4640, Plg6.0000°, Azm212.0000°;*

GCMT ***22*** *19:27:15.9±0.1, 14.61S×177.20W, h12km, MW5.9/162, Moment Tensor Solution. s142,c302; s162,c549; Duration: 2s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.24±.01; Mθθ-0.70±.01; Mφφ 0.45±.01; Mrθ-0.04±.01; Mθφ 0.82±.01; Mφr-0.17±.01; Best double couple: M₀1.02400×10¹⁸ NP1:*ϕ_s*253.00000°,δ79.00000°, λ9.00000°. NP2:*ϕ_s*161.00000°,δ81.00000°,λ169.00000°. Principal axes: T 0.9250, Plg14.0000°, Azm117.0000°; N 0.1980, Plg76.0000°, Azm304.0000°; P -1.1230, Plg2.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NOU ***22*** *19:27:18.5, 14.86S×177.25W, h38km, ML5.7/96, Fiji Islands Region*

ISC 22 19:27:12.5±0.5, 14°82S±0.0'04×177°28W±0.0'04, h12km±2km, h12km:pP-P, n1418, σ2s16/1153, mb5.4/287, MS5.9/488, 58C-34D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**0.96**	**302**	Pg	Pg	19 27 25.3	-5.8
FUTU				Sg	**Sg**	**19 27 36.5**	**-7.2**
YSA	**Yasawairara**	**5.29**	**249**	P	**Pn**	**19 28 32.4**	**+1.0**
MSVF	**Nonsavu**	**5.34**	**237**		**Pn**	**19 28 32.4**	**+0.3**
MSVF	**Nonsavu**	**5.34**	**237**	P	**Pn**	**19 28 33.3**	**+1.2**
MSVF	**Nonsavu**	**5.34**	**237**	*i* P	**Pn**	**19 28 31.6**	**-0.6**
MSVF	**Nonsavu**	**5.34**	**237**	⇓P	**Pn**	**19 28 31.6**	**-0.6**
FUNA	**Funafuti**	**7.14**	**331**		Pn	19 28 51.3	-5.6
FUNA	**Funafuti**	**7.14**	**331**	⇓P	**Pn**	**19 28 53.5**	**-3.4**
NIUE	**Niue**	**8.21**	**122**	P	**Pn**	**19 29 10.7**	**-0.7**
	comp=Z,0.0nmcomp=Z,412nm,1.6s						
NIUE	**Niue**	**8.21**	**122**		**Pn**	**19 29 10.3**	**-1.1**
NIUE	**Niue**	**8.21**	**122**	P	**Pn**	**19 29 12.7**	**+1.2**
NIUE	**Niue**	**8.21**	**122**	P	**Pn**	**19 29 10.9**	**-0.6**
NIUE	**Niue**	**8.21**	**122**	⇑P	**Pn**	**19 29 11.2**	**-0.3**
INH	**Isangel**	**13.68**	**248**	P	**P**	**19 30 31.1**	**-4.1**
DVP	**Devils Point**	**14.25**	**256**	P	**P**	**19 30 40.0**	**-1.5**
RAO	**Raoul Island**	**14.38**	**182**	LR	LR	19 35 16.0	
	comp=Z,65μm,21.1s,baz=0.5,slow=34						
SANVU	**Saraoutou**	**15.00**	**266**		**Pn**	**19 30 42.0**	**-2.4**
SANVU	**Saraoutou**	**15.00**	**266**	P	**P**	**19 30 49.2**	**-0.7**
SANVU	**Saraoutou**	**15.00**	**266**	⇓P	**P**	**19 30 45.9**	**-4.0**
PINNC	**Pines Island,**	**16.41**	**240**	P	**P**	**19 31 03.6**	**-1.9**
PINNC	**Pines Island,**	**16.41**	**240**	P	**P**	**19 31 06.8**	**+1.3**
OUENC	**Ouen Island, N**	**16.83**	**241**	P	**P**	**19 31 13.3**	**+3.1**
LUES	**Luesalemba Tem**	**16.91**	**282**	P	**P**	**19 31 13.7**	**+2.6**
DZM	**Mont Dzumac**	**17.04**	**243**		**P**	**19 31 11.7**	**-0.9**
DZM				IAmb	IAmb	19 31 18.7	
	comp=Z,537nm,1.5s						
DZM	**Mont Dzumac**	**17.04**	**243**	P	**P**	**19 31 11.3**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=79,slow=14,SNR=16						
DZM				LR	LR	19 36 36.5	
	comp=Z,34μm,21.3s,baz=70,slow=33						
	comp=Z,8.1nm,0.9s						
DZM	**Mont Dzumac**	**17.04**	**243**	P	**P**	**19 31 15.6**	**+3.0**
DZM	**Mont Dzumac**	**17.04**	**243**	⇓P	**P**	**19 31 13.2**	**+0.6**
ONTNC	**Ouen Toro**	**17.12**	**242**		**P**	**19 31 12.7**	**-0.7**
ONTNC				IAmb	IAmb	19 31 20.1	
	comp=Z,352nm,1.2s						
ONTNC	**Ouen Toro**	**17.12**	**242**	P	**P**	**19 31 15.6**	**+2.2**
ONTNC	**Ouen Toro**	**17.12**	**242**	⇓P	**P**	**19 31 14.9**	**+1.6**
RAR	**Rarotonga**	**17.81**	**113**	P	**Pn**	**19 31 18.5**	**-1.8**
RAR				IAmb	IAmb	19 31 26.6	
	comp=Z,625nm,1.9s						
RAR	**Rarotonga**	**17.81**	**113**	P	**Pn**	**19 31 19.8**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=268,slow=6.5,SNR=6.0						
RAR				LR	LR	19 36 01.8	
	comp=Z,22μm,22.0s,baz=296,slow=30						
	comp=Z,36nm,0.9s						
RAR	**Rarotonga**	**17.81**	**113**	P	**P**	**19 31 22.9**	**+1.8**
KOUNC	**Koumac, New Ca**	**18.46**	**249**	P	**P**	**19 31 33.4**	**+5.2**
TARA	**Tarawa**	**18.77**	**328**	P	**P**	**19 31 29.0**	**-2.6**
TARA				IAmb	IAmb	19 31 37.8	
	comp=Z,531nm,1.4s						
TARA	**Tarawa**	**18.77**	**328**	P	**Pn**	**19 31 33.9**	**+1.8**
OUZ	**Omahuta**	**21.91**	**200**	IAMs_20	IAMs_20	19 38 17.8	
	comp=Z,43μm,22.0s						
OUZ	**Omahuta**	**21.91**	**200**	P	**P**	**19 32 07.5**	**+2.0**
OUZ	**Omahuta**	**21.91**	**200**	⇑P	**P**	**19 32 12.3**	**+6.7**
NGOA	**Tingoa Renbel**	**22.30**	**276**	P	**P**	**19 32 12.2**	**+2.2**
WCZ	**Waipu Caves**	**22.33**	**198**	P	**P**	**19 32 12.6**	**+2.5**
ALEG	**Aligegeo Malai**	**22.38**	**283**	P	**P**	**19 32 14.6**	**+3.7**
KUZ	**Kuaotunu**	**22.71**	**195**	P	**P**	**19 32 19.2**	**+5.0**
KUZ	**Kuaotunu**	**22.71**	**195**	P	**P**	**19 32 17.1**	**+2.9**
HNR	**Honiara**	**22.89**	**281**	P	**P**	**19 32 14.1**	**-2.2**
HNR	**Honiara**	**22.89**	**281**	IAMs_20	IAMs_20	19 39 20.3	
	comp=Z,38μm,22.0s						
HNR	**Honiara**	**22.89**	**281**	P	**P**	**19 32 15.7**	**-0.6**
	comp=Z,119nm,0.9s,baz=148,slow=4.2,SNR=8.0						
	comp=Z,119nm,0.9s						
HNR	**Honiara**	**22.89**	**281**	P	**P**	**19 32 18.8**	**+2.5**
HNR	**Honiara**	**22.89**	**281**	⇑P	**P**	**19 32 16.9**	**+0.6**
SAVO	**Savo Central**	**23.10**	**282**	P	**P**	**19 32 22.0**	**+3.5**
HAZ	**Te Kaha**	**23.26**	**190**	P	**P**	**19 32 19.6**	**-0.2**
TATA	**Tatamba Isabel**	**23.33**	**283**	P	**P**	**19 32 22.3**	**+1.5**
PUZ	**Puketiti**	**23.50**	**189**	P	**P**	**19 32 25.8**	**+3.6**
TOZ	**Tahuroa Road**	**23.70**	**194**		**P**	**19 32 25.6**	**+1.4**
TOZ				IAmb	IAmb	19 32 30.2	
	comp=Z,111nm,1.1s						
TOZ	**Tahuroa Road**	**23.70**	**194**	P	**P**	**19 32 26.5**	**+2.3**
URZ	**Urewera**	**23.87**	**191**	P	**P**	**19 32 24.3**	**-1.5**
	comp=Z,27nm,0.8s,baz=5.4,slow=4.6,SNR=7.4						
URZ				LR	LR	19 40 39.1	
	comp=Z,47μm,19.3s,baz=28,slow=34						
	comp=Z,27nm,0.8s						
URZ	**Urewera**	**23.87**	**191**	P	**P**	**19 32 24.5**	**-1.3**
RTZ	**Ruatahuna**	**24.24**	**191**		**P**	**19 32 26.8**	**-2.6**
RTZ				IAmb	IAmb	19 32 48.6	
	comp=Z,105nm,1.2s						
RTZ				IAMs_20	IAMs_20	19 40 40.5	
	comp=Z,41μm,19.0s						
TLZ	**Tolley Road**	**24.26**	**194**	P	**P**	**19 32 32.8**	**+3.2**
HIZ	**Hauiti**	**24.60**	**195**	IAMs_20	IAMs_20	19 40 32.1	
	comp=Z,56μm,21.0s						
BKZ	**Black Stump Fm**	**24.86**	**192**	P	**P**	**19 32 34.1**	**-1.0**
BKZ				IAmb	IAmb	19 33 02.5	
	comp=Z,92nm,1.5s						
BKZ				IAMs_20	IAMs_20	19 41 02.0	
	comp=Z,44μm,21.0s						
BKZ	**Black Stump Fm**	**24.86**	**192**	P	**P**	**19 32 38.9**	**+3.9**
VRZ	**Vera Road**	**25.21**	**195**	P	**P**	**19 32 40.6**	**+2.6**
XMAS	**Kiritimati**	**25.81**	**51**	P	**P**	**19 32 39.3**	**-4.5**
BFZ	**Birch Farm**	**26.38**	**191**	P	**P**	**19 32 48.0**	**-0.7**
BFZ				IAmb	IAmb	19 33 03.5	
	comp=Z,90nm,1.2s						
BFZ				IAMs_20	IAMs_20	19 41 48.0	
	comp=Z,45μm,19.0s						
BFZ	**Birch Farm**	**26.38**	**191**	P	**P**	**19 32 52.6**	**+3.9**
BFZ	**Birch Farm**	**26.38**	**191**	P	**P**	**19 32 47.5**	**-1.2**
MRZ	**Mangatainoka R**	**26.49**	**192**	IAMs_20	IAMs_20	19 42 13.0	
	comp=Z,48μm,20.0s						
MRZ	**Mangatainoka R**	**26.49**	**192**	P	**P**	**19 32 52.3**	**+2.6**
PPT	**Papeete**	**26.73**	**100**	P	**P**	**19 32 49.9**	**-2.2**
	comp=Z,20nm,0.3s,baz=59,slow=16,SNR=4.9						
PPT				LR	LR	19 40 39.6	
	comp=Z,6μm,19.9s,baz=268,slow=30						
	comp=Z,20nm,0.3s						
PPTF	**Pamatai, Papee**	**26.74**	**100**	P	**P**	**19 32 51.6**	**-0.7**
PPTF				IAmb	IAmb	19 33 07.7	
	comp=Z,161nm,1.4s						
PPTF	**Pamatai, Papee**	**26.74**	**100**	P	**P**	**19 32 54.6**	**+2.3**
TCW	**Tory Channel**	**27.30**	**194**	P	**P**	**19 32 57.0**	**0.0**
BHW	**Baring Head**	**27.36**	**193**	P	**P**	**19 32 56.7**	**-0.7**
BHW				IAMs_20	IAMs_20	19 42 41.0	
	comp=Z,31μm,20.0s						
QRZ	**Quartz Range**	**27.39**	**197**		**P**	**19 32 59.1**	**+1.3**
QRZ				IAMs_20	IAMs_20	19 42 10.9	
	comp=Z,39μm,22.0s						
QRZ	**Quartz Range**	**27.39**	**197**	P	**P**	**19 33 00.2**	**+2.4**
PLWZ	**Palliser**	**27.43**	**192**	P	**P**	**19 32 56.6**	**-1.6**
TUWZ	**Tuamarina**	**27.59**	**194**	P	**P**	**19 33 00.2**	**+0.7**
DSZ	**Denniston Nort**	**28.45**	**197**	IAMs_20	IAMs_20	19 42 27.9	
	comp=Z,28μm,22.0s						
KHZ	**Kahutara**	**28.62**	**194**		**P**	**19 33 08.7**	**0.0**
KHZ	**Kahutara**	**28.62**	**194**	P	**P**	**19 33 08.2**	**-0.5**
KHZ	**Kahutara**	**28.62**	**194**	⇑P	**P**	**19 33 10.4**	**+1.7**
GVZ	**Greta Valley S**	**29.26**	**195**	IAmb	IAmb	19 33 27.0	
	comp=Z,84nm,0.9s						
GVZ				IAMs_20	IAMs_20	19 43 40.4	
	comp=Z,43μm,21.0s						
GVZ	**Greta Valley S**	**29.26**	**195**	P	**P**	**19 33 16.0**	**+1.6**
LTZ	**Lake Taylor**	**29.28**	**196**	IAmb	IAmb	19 33 27.6	
	comp=Z,42nm,0.8s						
LTZ	**Lake Taylor**	**29.28**	**196**	P	**P**	**19 33 14.3**	**-0.3**
INZ	**Inchbonnie**	**29.45**	**197**	IAMs_20	IAMs_20	19 44 41.5	
	comp=Z,26μm,20.0s						
INZ	**Inchbonnie**	**29.45**	**197**	P	**P**	**19 33 15.5**	**-0.6**
OXZ	**Oxford**	**29.85**	**196**	IAmb	IAmb	19 33 34.9	
	comp=Z,71nm,0.9s						
MQZ	**McQueen's Vall**	**30.05**	**195**	IAMs_20	IAMs_20	19 44 14.2	
	comp=Z,34μm,20.0s						
RPZ	**Rata Peaks**	**30.48**	**197**	IAMs_20	IAMs_20	19 45 22.6	
	comp=Z,22μm,20.0s						
RPZ	**Rata Peaks**	**30.48**	**197**	LR	LR	19 45 44.3	
	comp=Z,21μm,19.4s,baz=33,slow=37						
FOZ	**Fox Glacier**	**30.67**	**199**	P	**P**	**19 33 26.3**	**-0.5**
FOZ				IAMs_20	IAMs_20	19 46 04.8	
	comp=Z,28μm,18.0s						
FOZ	**Fox Glacier**	**30.67**	**199**	P	**P**	**19 33 26.4**	**-0.5**
GD1S	**Gladstone Soft**	**31.04**	**248**	P	**P**	**19 33 33.5**	**+3.1**
TW1H	**Toowoomba 1 Ha**	**31.25**	**241**	P	**P**	**19 33 35.2**	**+2.9**
LBZ	**Lake Benmore**	**31.34**	**197**	IAMs_20	IAMs_20	19 47 09.4	
	comp=Z,25μm,18.0s						
EIDS	**Eidsvold**	**31.44**	**245**	P	**P**	**19 33 30.3**	**-3.6**
JCZ	**Jackson Bay**	**31.48**	**199**	P	**P**	**19 33 36.1**	**+1.9**
JCZ	**Jackson Bay**	**31.48**	**199**	P	**P**	**19 33 35.0**	**+0.8**
ODZ	**Otahua Downs**	**31.82**	**196**	IAMs_20	IAMs_20	19 45 10.0	
	comp=Z,34μm,20.0s						
EAZ	**Earnscleugh**	**32.37**	**198**	P	**P**	**19 33 42.4**	**+0.5**
PATS	**Pohnpei**	**32.38**	**310**	IAMs_20	IAMs_20	19 43 11.9	
	comp=Z,25μm,21.0s						
ARMA	**Armidale**	**32.49**	**236**	P	**P**	**19 33 43.9**	**+0.6**
	comp=Z,69nm,1.2s						
ARMA	**Armidale**	**32.49**	**236**	P	**P**	**19 33 43.7**	**+0.5**
ARMA				IAmb	IAmb	19 33 49.3	
	comp=Z,54nm,0.9s						
ARMA	**Armidale**	**32.49**	**236**	P	**P**	**19 33 43.8**	**+0.6**
ARMA	**Armidale**	**32.49**	**236**	⇓P	**P**	**19 33 44.5**	**+1.2**
MLZ	**Mavora Lakes**	**32.85**	**199**	P	**P**	**19 33 46.4**	**+0.3**
DCZ	**Deep Cove**	**33.26**	**200**	IAMs_20	IAMs_20	19 46 01.8	
	comp=Z,22μm,22.0s						
WHZ	**Wether Hill Ro**	**33.38**	**199**	IAMs_20	IAMs_20	19 48 26.0	
	comp=Z,16μm,18.0s						
WHZ	**Wether Hill Ro**	**33.38**	**199**	P	**P**	**19 33 52.0**	**+1.3**
MGCD	**Mangrove Creek**	**34.00**	**232**	P	**P**	**19 33 58.8**	**+2.5**
MGCD	**Mangrove Creek**	**34.00**	**232**	P	**P**	**19 33 58.9**	**+2.7**
PYZ	**Puysegur Point**	**34.03**	**200**	IAMs_20	IAMs_20	19 46 35.6	
	comp=Z,28μm,22.0s						
APZ	**The Paps**	**34.21**	**198**	P	**P**	**19 33 58.7**	**+0.8**
SYDH	**Sydney Hard Ro**	**34.51**	**231**	P	**P**	**19 34 03.9**	**+3.2**
CTA	**Charters Tower**	**35.13**	**256**	P	**P**	**19 34 06.2**	**-0.1**
CTA	**Charters Tower**	**35.13**	**256**	P	**P**	**19 34 07.6**	**+1.3**
CTAO	**Charters Tower**	**35.13**	**256**	P	**P**	**19 34 05.6**	**-0.6**
CTAO				IAmb	IAmb	19 34 10.8	
	comp=Z,122nm,1.8s						
CTAO	**Charters Tower**	**35.13**	**256**	P	**P**	**19 34 06.6**	**+0.3**
CTAO	**Charters Tower**	**35.13**	**256**	P	**P**	**19 34 05.6**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,122nm,1.8s						
CTAO				MLR	MLR		
	comp=Z,8μm,18.0s						
CTAO	**Charters Tower**	**35.13**	**256**	⇓P	**P**	**19 34 06.9**	**+0.6**
PMG	**Port Moresby**	**35.16**	**275**	LR	LR	19 47 06.6	
	comp=Z,11μm,19.5s,baz=104,slow=34						
PMG	**Port Moresby**	**35.16**	**275**	P	**P**	**19 34 09.7**	**+3.2**
PMG	**Port Moresby**	**35.16**	**275**	*i* P	**P**	**19 34 07.0**	**+0.5**
PMG				pmax	pmax		
	comp=Z,171nm,1.3s						
PMG	**Port Moresby**	**35.16**	**275**	⇑P	**P**	**19 34 07.4**	**+0.9**
CNB	**Canberra Magne**	**36.20**	**230**	P	**P**	**19 34 16.0**	**+0.7**
	comp=Z,112nm,1.3s						
CNB	**Canberra Magne**	**36.20**	**230**	P	**P**	**19 34 18.1**	**+2.7**
CAN	**Canberra**	**36.48**	**230**	P	**P**	**19 34 17.1**	**-0.5**
	comp=Z,69nm,1.3s						
CAN	**Canberra**	**36.48**	**230**	P	**P**	**19 34 17.0**	**-0.7**
CAN				IAmb	IAmb	19 34 22.6	
	comp=Z,98nm,1.2s						
CAN	**Canberra**	**36.48**	**230**	P	**P**	**19 34 21.0**	**+3.4**
CAN	**Canberra**	**36.48**	**230**	P	**P**	**19 34 17.0**	**-0.7**
CAN				pmax	pmax		
	comp=Z,98nm,1.2s						
CAN				MLR	MLR		
	comp=Z,14μm,20.0s						
H11S2	**WAKE ISLAND Hy**	**36.67**	**334**	T	T	20 12 53.7	
	baz=154,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy**	**36.68**	**334**	T	T	20 12 54.6	
	baz=154,slow=76,SNR=138						
H11S1	**WAKE ISLAND Hy**	**36.69**	**334**	T	T	20 12 55.0	
	baz=154,slow=76,SNR=121						
MTSU	**Mount Surprise**	**36.93**	**259**	P	**P**	**19 34 20.8**	**-0.9**
	comp=Z,17nm,1.1s						
MTSU	**Mount Surprise**	**36.93**	**259**	P	**P**	**19 34 24.8**	**+3.1**
WAKE	**Wake Island**	**37.40**	**335**	P	**P**	**19 34 22.8**	**-2.7**
WAKE	**Wake Island**	**37.40**	**335**	P	**P**	**19 34 28.2**	**+2.7**
CMSA	**Cobar Meteorol**	**37.67**	**237**	P	**P**	**19 34 27.4**	**-0.4**
	comp=Z,66nm,1.0s						
CMSA	**Cobar Meteorol**	**37.67**	**237**	P	**P**	**19 34 28.3**	**+0.5**
H11N3	**WAKE ISLAND Hy**	**37.68**	**335**	T	T	20 14 11.3	
	baz=154,slow=76,SNR=150						
H11N1	**WAKE ISLAND Hy**	**37.69**	**335**	T	T	20 14 10.4	
	baz=154,slow=76,SNR=299						
H11N2	**WAKE ISLAND Hy**	**37.70**	**335**	T	T	20 14 12.9	
	baz=154,slow=76,SNR=427						
QLP	**Quilpie**	**37.72**	**246**	P	**P**	**19 34 26.7**	**-1.6**
	comp=Z,99nm,1.4s						
QLP	**Quilpie**	**37.72**	**246**	P	**P**	**19 34 28.7**	**+0.5**
QLP	**Quilpie**	**37.72**	**246**	⇓P	**P**	**19 34 27.0**	**-1.3**
COEN	**Coen**	**38.28**	**266**	P	**P**	**19 34 33.3**	**+0.1**
	comp=Z,46nm,1.5s						
COEN	**Coen**	**38.28**	**266**	P	**P**	**19 34 34.6**	**+1.4**
COEN	**Coen**	**38.28**	**266**	⇑P	**P**	**19 34 34.3**	**+1.2**
TOO	**Toolangi**	**39.99**	**228**	P	**P**	**19 34 46.8**	**-0.4**
	comp=Z,29nm,1.3s						
TOO	**Toolangi**	**39.99**	**228**	P	**P**	**19 34 47.1**	**-0.1**
TOO	**Toolangi**	**39.99**	**228**	⇓P	**P**	**19 34 47.9**	**+0.7**
KEKH	**Kekaha**	**40.43**	**26**	IAMs_20	IAMs_20	19 47 11.4	
	comp=Z,16μm,21.0s						
HON	**Honolulu**	**40.60**	**28**	IAMs_20	IAMs_20	19 47 17.0	
	comp=Z,16μm,21.0s						
HPAH	**Hawaii Prepara**	**40.62**	**32**	P	**P**	**19 34 51.6**	**-0.9**
CORO	**Coronation Par**	**40.63**	**222**	P	**P**	**19 34 54.6**	**+2.2**
KIP	**Kipapa**	**40.68**	**28**	IAMs_20	IAMs_20	19 47 30.2	
	comp=Z,16μm,21.0s						
KHLH	**Kahului Airpor**	**40.98**	**30**	IAMs_20	IAMs_20	19 48 16.9	
	comp=Z,13μm,20.0s						
BRAT	**Ballarat**	**41.12**	**229**	P	**P**	**19 34 58.2**	**+1.8**
STKA	**Stephens Creek**	**41.12**	**238**	P	**P**	**19 34 55.0**	**-1.6**
	comp=Z,322nm,1.8s						
STKA	**Stephens Creek**	**41.12**	**238**	P	**P**	**19 34 55.6**	**-0.9**
STKA	**Stephens Creek**	**41.12**	**238**	P	**P**	**19 34 55.3**	**-1.3**
	comp=Z,51nm,1.2s,baz=59,slow=7.5,SNR=17						
STKA				LR	LR	19 50 13.5	
	comp=Z,20μm,20.1s,baz=71,slow=34						
	comp=Z,51nm,1.2s						
STKA	**Stephens Creek**	**41.12**	**238**	P	**P**	**19 34 56.7**	**+0.1**
STKA	**Stephens Creek**	**41.12**	**238**	P	**P**	**19 34 55.6**	**-0.9**
STKA				pmax	pmax		
	comp=Z,533nm,1.3s						
STKA				MLR	MLR		
	comp=Z,87μm,20.0s						
TAU	**Tasmania Unive**	**41.27**	**220**	IAMs_20	IAMs_20	19 48 28.9	
	comp=Z,13μm,20.0s						
QIS	**Mount Isa**	**41.38**	**256**	P	**P**	**19 34 57.3**	**-1.7**
	comp=Z,17nm,2.4s						
QIS	**Mount Isa**	**41.38**	**256**	P	**P**	**19 34 58.9**	**0.0**
ARPS	**Mount Arapiles**	**42.38**	**231**	P	**P**	**19 35 05.1**	**-1.8**
	comp=Z,17nm,1.0s						
JAY	**Jayapura**	**43.20**	**282**	LR	LR	19 51 24.3	
	comp=Z,6μm,20.2s,baz=98,slow=34						
JAY	**Jayapura**	**43.20**	**282**	P	**P**	**19 35 13.3**	**-0.6**
	comp=Z,2μmcomp=Z,77nm,1.6s						
GENI	**Genyem**	**43.69**	**282**	P	**P**	**19 35 20.6**	**+2.9**
GENI	**Genyem**	**43.69**	**282**	P	**P**	**19 35 19.6**	**+1.9**
	comp=Z,5μmcomp=Z,198nm,1.3s						
GENI	**Genyem**	**43.69**	**282**	⇑P	**P**	**19 35 18.0**	**+0.3**
HTT	**Hallett**	**43.69**	**237**	P	**P**	**19 35 17.5**	**-0.1**
	comp=Z,11nm,1.5s						
HTT	**Hallett**	**43.69**	**237**	P	**P**	**19 35 19.7**	**+2.1**
HTT	**Hallett**	**43.69**	**237**	P	**P**	**19 35 19.6**	**+2.0**
HTT	**Hallett**	**43.69**	**237**	⇓P	**P**	**19 35 19.4**	**+1.9**
WHYH	**Whyalla**	**44.69**	**238**	P	**P**	**19 35 28.3**	**+2.8**
SMPI	**Sarmi**	**45.26**	**282**	P	**P**	**19 35 31.2**	**+0.9**
BBOO	**Buckleboo**	**45.89**	**239**	P	**P**	**19 35 35.1**	**0.0**
	comp=Z,36nm,1.5s						
BBOO	**Buckleboo**	**45.89**	**239**	P	**P**	**19 35 34.6**	**-0.5**
BBOO				IAmb	IAmb	19 35 57.0	
	comp=Z,72nm,1.4s						
BBOO	**Buckleboo**	**45.89**	**239**	P	**P**	**19 35 36.1**	**+1.0**
WR8	**Warramunga Arr**	**46.18**	**256**	P	**P**	**19 35 35.3**	**-2.3**
WR8				IAmb	IAmb	19 35 44.9	
	comp=Z,62nm,1.5s						
WB0	**Warramunga Arr**	**46.29**	**257**	P	**P**	**19 35 35.9**	**-2.5**
WB0				IAmb	IAmb	19 35 41.4	
	comp=Z,36nm,1.1s						
WRAB	**Tennant Creek**	**46.32**	**256**	*i* P	**P**	**19 35 36.0**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,56nm,1.5s						
WRA	**Warramunga Arr**	**46.33**	**256**	P	**P**	**19 35 36.1**	**-2.7**
WRA	**Warramunga Arr**	**46.33**	**256**	P	**P**	**19 35 36.5**	**-2.3**
	comp=Z,16nm,1.1s,baz=89,slow=7.7,SNR=41						
WRA				PcP	**PcP**	**19 37 13.9**	**-0.1**
	comp=Z,7.3nm,1.1s,baz=96,slow=3.3,SNR=4.8						
WRA				LR	LR	19 54 23.5	
	comp=Z,10μm,18.4s,baz=90,slow=35						
	comp=Z,16nm,1.1s						
AS31	**Alice Springs**	**46.74**	**251**	P	**P**	**19 35 38.9**	**-3.0**
AS31	**Alice Springs**	**46.74**	**251**	P	**P**	**19 35 39.5**	**-2.4**
AS31				IAmb	IAmb	19 35 45.6	
	comp=Z,24nm,0.9s						
ASAR	**Alice Springs**	**46.74**	**251**	P	**P**	**19 35 39.7**	**-2.2**
ASAR	**Alice Springs**	**46.74**	**251**	P	**P**	**19 35 40.0**	**-2.0**
	comp=Z,58nm,0.7s,baz=83,slow=8.0,SNR=165						
ASAR				PcP	**PcP**	**19 37 15.2**	**-0.2**
	comp=Z,7.1nm,0.9s,baz=100,slow=3.8,SNR=4.3						
ASAR				LR	LR	19 53 28.6	
	comp=Z,7μm,20.7s,baz=85,slow=34						
	comp=Z,58nm,0.7s						
GUMO	**Guam**	**46.91**	**305**	LR	LR	19 52 20.0	
	comp=Z,4μm,20.3s,baz=127,slow=32						
SRPI	**Serui, Papua**	**47.63**	**281**	P	**P**	**19 35 49.5**	**+0.5**
BAKI	**Biak**	**47.98**	**282**	P	**P**	**19 35 54.1**	**+2.5**
	comp=Z,3μmcomp=Z,3μmcomp=Z,97nm,1.4s						
KDU	**Kakadu**	**48.78**	**266**	P	**P**	**19 36 01.0**	**+3.2**
RKPI	**Ransiki, Papua**	**49.70**	**281**	P	**P**	**19 36 06.8**	**+1.9**
	comp=Z,3μmcomp=Z,92nm,1.4s						
MTN	**Manton Dam**	**50.05**	**266**	P	**P**	**19 36 09.3**	**+1.8**
	comp=Z,44nm,1.3s						
MTN	**Manton Dam**	**50.05**	**266**	P	**P**	**19 36 06.7**	**-0.8**
MTN				IAmb	IAmb	19 36 16.0	
	comp=Z,53nm,1.1s						
MTN	**Manton Dam**	**50.05**	**266**	P	**P**	**19 36 10.8**	**+3.3**
WRKA	**Warakurna**	**51.88**	**250**	P	**P**	**19 36 18.1**	**-3.1**
KNRA	**Kununurra

MJAR Matsushiro Arr 66.13 322 P **P** **19 37 59.5 -0.3**
comp=Z,15nm,1.1s,baz=150,slow=5.4,SNR=14
MJAR LR LR 20 01 38.2
comp=Z,2μm,21.8s,baz=124,slow=31
comp=Z,15nm,1.1s
MAJO Matsushiro 66.13 322 P **P** **19 37 59.6 -0.2**
MAJO IAmb IAmb 19 38 03.4
comp=Z,40nm,1.3s
MAJO Matsushiro 66.13 322 P **P** **19 38 02.2 +2.4**
MAJO Matsushiro 66.13 322 *i* P **P** **19 37 59.0 -0.8**
MAJO pmax pmax
comp=Z,40nm,1.4s
ADK Adak 66.42 0 P **P** **19 38 01.4 +0.1**
ADK Adak 66.42 0 IAMs_20 IAMs_20 19 59 44.4
comp=Z,9μm,22.0s
ADK Adak 66.42 0 P P 19 38 05.8 +4.5
ADK Adak 66.42 0 P **P** **19 38 01.4 +0.1**
ADK pmax pmax
comp=Z,156nm,1.6s
ADK MLR MLR
comp=Z,9μm,22.0s
MYLDM Lahad Datu 66.67 282 P **P** **19 38 06.7 +3.0**
ATKA Atka Island 66.80 2 IAMs_20 IAMs_20 20 00 05.4
comp=Z,9μm,21.0s
ATKA Atka Island 66.80 2 P **P** **19 38 07.1 +3.4**
JOW Kunigami 67.15 308 LR LR 20 01 37.6
comp=Z,4μm,21.8s,baz=117,slow=31
ERM Erimo 67.29 329 IAMs_20 IAMs_20 20 02 00.2
comp=Z,6μm,20.0s
TGY Tagaytay City 67.54 292 LR LR 20 03 13.4
comp=Z,8μm,21.5s,baz=104,slow=32
YUK Yuzh-Kuril'sk 67.54 332 *eP* **P** **19 38 05.1 -3.5**
YUK *i* S **S** **19 47 01.1 -3.8**
YUK pmax pmax
comp=Z,348nm,1.1s
YUK pmax pmax
comp=N,90nm,0.9s
KUR Kuril'sk 67.61 334 P **P** **19 38 11.8 +2.8**
KUR *i* S **S** **19 47 09.0 +3.3**
KUR SS **SS** **19 51 30.0 +3.0**
KUR pmax pmax
comp=Z,2μm,5.2s
NIKH Nikolski High 67.90 5 IAMs_20 IAMs_20 20 00 56.0
comp=Z,7μm,21.0s
NIKH Nikolski High 67.90 5 P **P** **19 38 10.5 -0.2**
baz=189
NIKH S **S** **19 47 12.4 +3.4**
baz=189
JNU Nakatsue 68.70 315 P **P** **19 38 16.1 -0.1**
comp=Z,13nm,0.9s,baz=99,slow=5.7,SNR=4.9
JNU LR LR 20 05 22.7
comp=Z,2μm,18.4s,baz=120,slow=33
comp=Z,13nm,0.9s
JNU Nakatsue 68.70 315 P **P** **19 38 18.7 +2.5**
UNV Unalaska Valle 69.01 7 IAMs_20 IAMs_20 20 02 30.3
comp=Z,7μm,20.0s
UNV Unalaska Valle 69.01 7 P **P** **19 38 18.0 +0.4**
baz=191
UNV S **S** **19 47 23.9 +1.9**
baz=191
ASAJ Asahikawa 69.13 330 P **P** **19 38 19.3 +0.7**
comp=Z,16nm,1.1s,baz=118,slow=14,SNR=3.7
ASAJ LR LR 20 05 35.9
comp=Z,4μm,18.6s,baz=150,slow=33
comp=Z,16nm,1.1s
SKR Severo-Kuril's 69.27 342 *eP* P 19 38 12.5 -6.7
SKR pmax pmax
comp=Z,100nm,7.5s
CASY Casey 69.38 204 P **P** **19 38 18.9 -1.0**
CASY IAmb IAmb 19 38 25.3
comp=Z,38nm,1.2s
CASY Casey 69.38 204 IAMs_20 IAMs_20 20 03 24.0
comp=Z,10μm,22.0s
CASY Casey 69.38 204 ⇓P **P** **19 38 20.4 +0.5**
FALS False Pass 70.39 8 IAMs_20 IAMs_20 20 09 06.1
comp=Z,5μm,18.0s
FALS False Pass 70.39 8 P **P** **19 38 26.5 +0.4**
baz=194
PET Petropavlovsk 70.68 345 P **P** **19 38 27.4 -0.4**
PET IAmb IAmb 19 38 31.4
comp=Z,70nm,1.5s
PET Petropavlovsk 70.68 345 P **P** **19 38 30.8 +2.9**
PET Petropavlovsk 70.68 345 *eP* **P** **19 38 28.0 +0.1**
PET *e* 19 41 07.7
PET *eS* **S** **19 47 41.7 0.0**
PET *eSS* **SS** **19 52 19.0 +4.9**
PET pmax pmax
comp=Z,400nm,6.0s
PET MLR MLR
comp=Z,2μm,16.0s
CNBA Chernabura Isl 70.97 11 IAMs_20 IAMs_20 20 02 31.0
comp=Z,6μm,20.0s
CHNA Chernabura Isl 70.99 11 P **P** **19 38 29.5 -0.2**
baz=198
PEA0B Petropavlovsk- 71.00 344 *ceP* **P** **19 38 28.9 -1.0**
PETK Petropavlovsk- 71.00 344 P **P** **19 38 28.4 -1.5**
PETK Petropavlovsk- 71.00 344 P **P** **19 38 28.7 -1.2**
comp=Z,15nm,1.1s,baz=97,slow=9.3,SNR=15
PETK LR LR 20 06 05.0
comp=Z,3μm,19.0s,baz=152,slow=33
comp=Z,15nm,1.1s
YULB Yu-li 71.05 301 P **P** **19 38 33.8 +2.9**
NACB Ninganchiao 71.16 302 P **P** **19 38 30.9 -0.5**
NACB Ninganchiao 71.16 302 P **P** **19 38 34.0 +2.6**
YSS Yuzhno-Sakhali 71.18 332 P **P** **19 38 31.9 +0.8**
YSS Yuzhno-Sakhali 71.18 332 P **P** **19 38 33.5 +2.4**
YSS Yuzhno-Sakhali 71.18 332 *eP* **P** **19 38 33.1 +2.0**
YSS *eS* **S** **19 47 52.4 +4.6**
YSS *eSS* **SS** **19 52 26.2 +4.1**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,700nm,4.0s
YSS pmax pmax
comp=N,300nm,3.3s
YSS pmax pmax
comp=E,100nm,3.9s
YSS smax smax
comp=N,1μm,9.2s
YSS smax smax
comp=E,1μm,9.0s
SDPT Sand Point 71.33 10 P **P** **19 38 31.9 +0.1**
baz=197
SDPT S **S** **19 47 50.5 +1.4**
baz=197
S12K Black Hills 71.41 9 P **P** **19 38 33.0 +0.6**
baz=196
S12K S **S** **19 47 52.1 +1.9**
baz=196
P08K Saint George I 71.44 4 IAMs_20 IAMs_20 20 02 32.5
comp=Z,8μm,22.0s
P08K Saint George I 71.44 4 P **P** **19 38 32.7 +0.3**
baz=188
SSLB Suanglung 71.51 302 P **P** **19 38 32.7 -1.0**
SSLB Suanglung 71.51 302 P **P** **19 38 36.2 +2.6**
YHNB Yeheng 71.55 303 P **P** **19 38 36.8 +2.9**
TPUB Ta-pu 71.57 301 P **P** **19 38 36.6 +2.6**
SBUM Sibu 71.84 278 P **P** **19 38 39.1 +3.3**
STKI Sintang 71.90 275 P **P** **19 38 37.5 +1.3**
comp=Z,52nm,1.4s
SPIA Saint Paul Isl 71.97 4 IAMs_20 IAMs_20 20 04 26.3
comp=Z,7μm,20.0s
SPIA Saint Paul Isl 71.97 4 P **P** **19 38 35.1 -0.4**
baz=187
S14K Fog Glacier 72.38 10 P **P** **19 38 37.2 -1.0**
baz=198
CHGN Chignik 72.60 11 P **P** **19 38 38.6 -0.7**
baz=199
CHIR Chirikof Islan 72.69 13 IAMs_20 IAMs_20 20 03 28.4
comp=Z,9μm,20.0s
CHIR Chirikof Islan 72.69 13 P **P** **19 38 40.0 0.0**
baz=202
FARB Farallon Islan 72.95 42 IAMs_20 IAMs_20 20 02 42.1
comp=Z,7μm,21.0s
KSRS Korea Array 73.16 317 P **P** **19 38 43.9 +0.8**
comp=Z,6.2nm,1.0s,baz=130,slow=6.4,SNR=20
comp=Z,6.2nm,1.0s
KSAR Wonju Array Be 73.18 317 P **P** **19 38 42.4 -0.9**
KSAR Wonju Array Be 73.18 317 P **P** **19 38 42.4 -0.9**
HULI Fort Hunter Li 73.19 45 IAMs_20 IAMs_20 20 02 57.8
comp=Z,5μm,20.0s
RAMR Ramage Ranch 73.23 45 IAMs_20 IAMs_20 20 03 56.9
comp=Z,5μm,20.0s
MCCM Marconi Confer 73.29 42 IAMs_20 IAMs_20 20 03 12.4
comp=Z,8μm,21.0s
H06S1 SOCORRO T 73.32 65 T T 20 58 46.4
SNR=10
KSM Kuching 73.40 276 P **P** **19 38 43.4 -1.7**
KSM IAmb IAmb 19 38 50.0
comp=Z,51nm,1.3s
KSM Kuching 73.40 276 P **P** **19 38 46.2 +1.1**
SAO San Andreas Ge 73.46 44 IAMs_20 IAMs_20 20 05 02.2
comp=Z,5μm,19.0s
CVS Carmenet Viney 73.67 42 IAMs_20 IAMs_20 20 03 44.1
comp=Z,8μm,20.0s
SII Sitkinak Islan 73.69 13 IAMs_20 IAMs_20 20 03 14.6
comp=Z,7μm,21.0s
SII Sitkinak Islan 73.69 13 P **P** **19 38 45.2 -0.7**
baz=203
LEM Lembang 73.93 267 LR LR 20 11 30.2
comp=Z,2μm,20.8s,baz=126,slow=36
MTOS Mt Oso, Westle 73.94 43 IAMs_20 IAMs_20 20 06 32.5
comp=Z,8μm,19.0s
R16K Pilot Point 73.95 11 P **P** **19 38 46.5 -0.8**
baz=200
R16K S **S** **19 48 23.0 +4.0**
baz=200
QZH Quanzhou 73.95 302 P **P** **19 38 49.4 +1.3**
QZH S **S** **19 48 25.6 +5.2**
QZH pmax pmax
comp=Z,800nm,5.2s
QZH LR LR
comp=Z,2μm,15.5s
QZH LR LR
comp=Z,3μm,20.8s
QZH LR LR
comp=Z,3μm,24.3s
VLA Vladivostok 74.09 324 *i* P **P** **19 38 48.8 +0.3**
VLA pmax pmax
comp=Z,39nm,1.2s
JCC Jacoby Creek, 74.11 39 IAMs_20 IAMs_20 20 05 07.0
comp=Z,8μm,20.0s
MSHR Mys Shultsa 74.18 323 *i* P **P** **19 38 46.9 -2.1**
TYV Tymovskoe 74.19 335 *eP* **P** **19 38 48.7 -0.2**
TYV *eS* **S** **19 48 19.4 -2.6**
TYV pmax pmax
comp=Z,17nm,1.7s
TYV pmax pmax
comp=Z,600nm,4.3s
TYV smax smax
comp=N,900nm,9.7s
TYV smax smax
comp=E,800nm,9.7s
TYV MLR MLR
comp=Z,2μm,15.0s
R17L Mt. Peulik Vol 74.23 12 P **P** **19 38 48.4 -0.7**
baz=201
R17L S **S** **19 48 24.1 +1.7**
baz=201
PLK4 Peulik 4 74.23 12 IAMs_20 IAMs_20 20 05 33.0
comp=Z,6μm,20.0s
PASC Pasadena Art C 74.35 48 IAMs_20 IAMs_20 20 03 20.3
comp=Z,5μm,21.0s
PSTR Posyet 74.42 323 *i* P **P** **19 38 50.3 -0.1**
CPE Camp Elliot 74.49 49 IAMs_20 IAMs_20 20 04 23.7
comp=Z,7μm,20.0s
OHAK Old Harbor 74.49 13 P **P** **19 38 49.6 -0.9**
baz=204
O02D Mt. Diablo Mer 74.51 40 P **P** **19 38 51.0 -0.1**
O02D IAmb IAmb 19 39 01.3
comp=Z,124nm,2.0s
R18K Karluk 74.56 13 P **P** **19 38 50.0 -0.9**
baz=203
VES Vestal, Richgr 74.57 46 IAmb IAmb 19 39 20.4
comp=Z,48nm,1.3s
SUTB Sutter Butte 74.61 42 IAMs_20 IAMs_20 20 03 43.7
comp=Z,6μm,21.0s
SSE Sheshan 74.65 309 P **P** **19 38 52.8 +0.8**
SSE S **S** **19 48 30.4 +2.5**
SSE pmax pmax
comp=Z,8.0nm,0.6s
SSE pmax pmax
comp=Z,200nm,5.1s
SSE LR LR
comp=Z,910nm,20.6s
SSE LR LR
comp=Z,580nm,20.6s
USA0B Ussuriysk Arra 74.71 325 *i* P **P** **19 38 50.7 -1.4**
USRK Ussuriysk Ar. 74.71 325 P **P** **19 38 50.6 -1.4**
USRK Ussuriysk Ar. 74.71 325 P **P** **19 38 53.3 +1.2**
comp=Z,8.6nm,1.0s,baz=156,slow=5.2,SNR=12
USRK LR LR 20 08 44.8
comp=Z,3μm,18.6s,baz=127,slow=33
comp=Z,8.6nm,1.0s
DBJI Dramaga 74.83 267 P **P** **19 38 53.4 -0.1**
WELL Weller Preserv 74.86 43 IAMs_20 IAMs_20 20 03 50.5
comp=Z,8μm,21.0s
CMB Columbia Colle 74.86 43 IAMs_20 IAMs_20 20 03 29.2
comp=Z,6μm,21.0s
Q17K Contact Creek 74.92 12 P **P** **19 38 52.1 -1.0**
baz=202
O14K Tigyukauivet M 74.96 8 P **P** **19 38 53.3 +0.2**
baz=196
O14K S **S** **19 48 30.3 0.0**
baz=196
ORV Oroville 74.97 41 IAMs_20 IAMs_20 20 04 36.9
comp=Z,7μm,20.0s
O15K Ungalikthiuk R 75.10 9 P **P** **19 38 53.5 -0.5**
baz=198
O15K S **S** **19 48 32.5 +0.7**
baz=198
Q16K King Salmon 75.16 11 P **P** **19 38 53.8 -0.5**
baz=201
Q16K S **S** **19 48 33.5 +1.0**
baz=201
KDAK Kodiak Island 75.16 13 IAMs_20 IAMs_20 20 04 20.7
comp=Z,8μm,22.0s
KDAK Kodiak Island 75.16 13 LR LR 20 04 54.3
comp=Z,8μm,21.9s,baz=213,slow=30
KDAK Kodiak Island 75.16 13 P **P** **19 38 53.9 -0.4**
baz=205
KDAK S **S** **19 48 37.6 +5.0**
baz=205
BORC Borrego Spring 75.18 49 P **P** **19 38 54.1 -1.0**
BORC IAmb IAmb 19 39 27.9
comp=Z,60nm,1.9s
BORC IAMs_20 IAMs_20 20 04 54.5
comp=Z,8μm,20.0s
O03E Paynes Creek 75.20 41 IAMs_20 IAMs_20 20 04 57.3
comp=Z,8μm,20.0s
QSPA South Pole Qui 75.22 180 P **P** **19 38 55.2 +0.2**
QSPA IAmb IAmb 19 39 15.9
comp=Z,41nm,1.1s
QSPA South Pole Qui 75.22 180 IAMs_20 IAMs_20 20 06 56.8
comp=Z,6μm,21.0s
QSPA South Pole Qui 75.22 180 P **P** **19 38 55.9 +1.0**
comp=Z,15nm,1.1s,baz=321,slow=1.1,SNR=13
QSPA LR LR 20 07 07.2
comp=Z,7μm,21.3s,baz=44,slow=32
comp=Z,15nm,1.1s
P16K Nushagak River 75.26 10 IAMs_20 IAMs_20 20 05 05.8
comp=Z,5μm,21.0s
P16K Nushagak River 75.26 10 P **P** **19 38 54.9 +0.1**
baz=199
P16K S **S** **19 48 36.3 +2.7**
baz=199
PFO Pinyon Flats O 75.32 49 IAMs_20 IAMs_20 20 04 20.1
comp=Z,9μm,21.0s
PFO Pinyon Flats O 75.32 49 LR LR 20 04 31.5
comp=Z,8μm,20.5s,baz=247,slow=30
Q18K Katmai Hardscr 75.45 12 P **P** **19 38 55.6 -0.6**
baz=202
Q18K S **S** **19 48 36.6 +0.5**
baz=202
YBH Yreka Blue Hor 75.46 39 P **P** **19 38 54.6 -1.9**
YBH Yreka Blue Hor 75.46 39 P **P** **19 38 56.1 -0.5**
comp=Z,0.9nm,1.1s,baz=163,slow=2.3,SNR=10
YBH LR LR 20 04 11.9
comp=Z,681nm,21.8s,baz=253,slow=30
M11K Mekoryuk 75.47 6 IAMs_20 IAMs_20 20 07 54.2
comp=Z,6μm,19.0s
M11K Mekoryuk 75.47 6 P **P** **19 38 56.2 +0.1**
baz=191
M11K S **S** **19 48 40.6 +4.7**
baz=191
SBJI Serang 75.53 267 P **P** **19 38 58.2 +0.7**
N14K Kuskokwak Cree 75.55 8 P **P** **19 38 57.2 +0.7**
baz=196
N14K S **S** **19 48 38.4 +1.6**
baz=196
WSHM Spangler Hills 75.56 47 IAMs_20 IAMs_20 20 06 35.2
comp=Z,7μm,19.0s
CCCA Chr Cany lake 75.61 47 IAmb IAmb 19 39 07.3
comp=Z,30nm,1.1s
P17K Kvichak River 75.69 11 P **P** **19 38 57.3 -0.1**
baz=201
P17K S **S** **19 48 38.7 +0.4**
baz=201
O16K Kokwok River B 75.77 10 P **P** **19 38 56.4 -1.5**
O16K IAmb IAmb 19 39 10.8
comp=Z,44nm,1.5s
O16K Kokwok River B 75.77 10 P **P** **19 38 56.7 -1.1**
baz=199
O16K S **S** **19 48 39.2 -0.1**
baz=199
MPMC Manual Prospec 75.80 46 IAmb IAmb 19 39 30.7
comp=Z,47nm,1.6s
M13K Dall Lake 75.81 7 IAMs_20 IAMs_20 20 07 15.2
comp=Z,5μm,20.0s
M13K Dall Lake 75.81 7 P **P** **19 38 57.4 -0.6**
baz=194
M13K S **S** **19 48 45.2 +5.5**
baz=194
Q20K Shuyak Island 75.96 13 P **P** **19 38 58.6 -0.3**
baz=205
Q20K S **S** **19 48 44.4 +3.0**
baz=205
SYI Shuyak Island 75.96 13 IAMs_20 IAMs_20 20 04 59.7
comp=Z,5μm,21.0s
LPIG La Paz 75.96 60 LR LR 20 03 47.8
comp=Z,6μm,21.6s,baz=240,slow=29
Q19K Cape Douglas, 75.98 12 IAMs_20 IAMs_20 20 05 47.3
comp=Z,7μm,21.0s
Q19K Cape Douglas, 75.98 12 P **P** **19 38 58.9 -0.2**
baz=204
Q19K S **S** **19 48 44.1 +2.3**
baz=204
L04D Klamath Falls 75.98 39 IAmb IAmb 19 39 28.2
comp=Z,63nm,1.3s
N15K Kwethluk River 76.01 9 P **P** **19 38 58.5 -0.7**
baz=197
N15K S **S** **19 48 43.8 +1.9**
baz=197
P18K Big Mountain, 76.09 11 IAmb IAmb 19 39 10.1
comp=Z,57nm,1.1s
P18K Big Mountain, 76.09 11 P **P** **19 38 58.6 -1.2**
baz=202,SNR=8.6
P18K S **S** **19 48 43.7 +0.7**
baz=202
SLBS Sierra La Lagu 76.10 61 P **P** **19 38 59.3 -1.4**
SLBS IAmb IAmb 19 39 14.0
comp=Z,38nm,1.2s
SLBS Sierra La Lagu 76.10 61 IAMs_20 IAMs_20 20 03 18.4
comp=Z,6μm,22.0s
O17K Koliganek Bris 76.11 10 P **P** **19 38 58.5 -1.2**
baz=200,SNR=8.3
O17K S **S** **19 48 44.6 +1.6**
baz=200
BBOR Butler Butte 76.15 38 P **P** **19 38 59.5 -1.1**
BBOR IAmb IAmb 19 39 10.2
comp=Z,83nm,1.9s
QSM Queen of Sheba 76.18 47 IAmb IAmb 19 41 49.5
comp=Z,18nm,0.5s
LHV Little Huntoon 76.23 44 IAmb IAmb 19 39 17.8
comp=Z,42nm,1.2s
M14K Bethel 76.31 8 P **P** **19 39 00.7 -0.2**
baz=195,SNR=10
M14K S **S** **19 48 47.4 +2.3**
baz=195
MDJ Mudanjiang 76.32 324 P **P** **19 39 03.1 +1.8**
MDJ S **S** **19 48 47.8 +1.8**
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ pmax pmax
comp=Z,570nm,4.7s
MDJ LR LR
comp=Z,3μm,14.1s
MDJ LR LR
comp=Z,3μm,17.0s
MDJ LR LR
comp=Z,2μm,17.3s
RYN Ryan 76.41 44 IAmb IAmb 19 39 13.0
comp=Z,30nm,1.2s
PAHR Pah Rah Range 76.42 42 P **P** **19 39 01.6 -0.7**
PAHR IAmb IAmb 19 39 44.8
comp=Z,39nm,1.5s
M15K Kasigluk River 76.42 8 P **P** **19 39 01.4 -0.2**
baz=197,SNR=9.9
M15K S **S** **19 48 48.5 +2.0**
baz=197
FURC Furnace Creek, 76.44 46 IAmb IAmb 19 39 08.6
comp=Z,35nm,1.3s
NVAR Mina Array Bea 76.46 44 P **P** **19 39 00.6 -2.0**
NVAR Mina Array Bea 76.46 44 P **P** **19 39 01.6 -1.0**
comp=Z,7.1nm,1.0s,baz=228,slow=8.2,SNR=16
comp=Z,7.1nm,1.0s
N16K Nishlik Lake 76.50 9 P **P** **19 39 01.4 -0.6**
baz=199
N16K S **S** **19 48 48.9 +1.5**
baz=199
O18K Koktuh Hills 76.53 11 P **P** **19 39 01.0 -1.2**
baz=202,SNR=10
O18K S **S** **19 48 50.0 +2.3**
baz=202
IRM Iron Mountain 76.54 49 IAmb IAmb 19 39 35.9
comp=Z,53nm,1.5s
HKC Hong Kong Obse 76.61 298 ⇑P **P** **19 39 05.0 +1.6**
HKPS Hong Kong Po S 76.62 298 P **P** **19 39 06.5 +2.9**
NKL Nikolayevsk 76.72 336 *eP* **P** **19 39 04.9 +1.5**
NKL pmax pmax
comp=N,103nm,1.0s
NKL pmax pmax
comp=E,117nm,1.0s
NKL pmax pmax
comp=Z,114nm,1.6s
NKL MLR MLR
comp=N,5μm,24.0s
NKL MLR MLR
comp=Z,8μm,19.0s
P19K Oil Pt 76.73 12 IAMs_20 IAMs_20 20 06 52.1
comp=Z,6μm,20.0s
P19K Oil Pt 76.73 12 P **P** **19 39 02.8 -0.5**
baz=204
P19K S **S** **19 48 51.4 +1.4**
baz=204
COR Corvallis 76.78 36 IAMs_20 IAMs_20 20 05 32.2
comp=Z,7μm,20.0s
L14K Kuka Creek 76.79 7 IAmb IAmb 19 39 29.9
comp=Z,46nm,1.3s
L14K Kuka Creek 76.79 7 P **P** **19 39 04.1 +0.5**
baz=195,SNR=5.9
L14K S **S** **19 48 54.6 +4.2**
baz=195
N17K Nushagak Hills 76.81 10 IAMs_20 IAMs_20 20 06 25.8
comp=Z,5μm,20.0s
N17K Nushagak Hills 76.81 10 P **P** **19 39 02.9 -0.8**
baz=200
N17K S **S** **19 48 52.8 +2.2**
baz=200
GRNR Gornyy 76.83 332 ⇓*i* P **P** **19 39 05.8 +1.7**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
NJ2 Nanjing 76.85 308 ⇓P **P** **19 39 07.0 +2.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,980nm,4.7s
NJ2 LR LR
comp=Z,2μm,20.0s
NJ2 LR LR
comp=Z,2μm,19.1s
NJ2 LR LR
comp=Z,3μm,19.9s
M16K Timber Creek 76.99 9 P **P** **19 39 05.0 +0.2**
baz=198,SNR=8.3
M16K S **S** **19 48 55.9 +3.2**
baz=198
TPH Tonopah 77.00 45 IAmb IAmb 19 39 38.4
comp=Z,53nm,1.5s
O19K Port Alsworth 77.02 12 P **P** **19 39 03.7 -1.1**
baz=203,SNR=5.6
O19K S **S** **19 48 55.2 +2.3**
baz=203
CNPM China Poot 77.04 13 IAMs_20 IAMs_20 20 07 47.4
comp=Z,8μm,20.0s
HOM Homer 77.07 13 IAMs_20 IAMs_20 20 05 46.1
comp=Z,7μm,22.0s
HOM Homer 77.07 13 P **P** **19 39 05.2 0.0**
baz=206
HOM S **S** **19 48 56.6 +3.0**
baz=206
TPNV Topopah Spring 77.11 46 IAmb IAmb 19 39 17.0

comp=Z,32nm,1.2s
TPNV IAMs_20 IAMs_20 20 07 46.0
comp=Z,6µm,19.0s
K05A Summer Lake 77.13 39 IAmb IAmb 19 39 35.5
comp=Z,47nm,1.2s
K13K Kusilvak Mount 77.15 6 P **P** **19 39 04.9 -0.7**
K13K IAMs_20 IAMs_20 20 06 33.5
comp=Z,6µm,21.0s
K13K Kusilvak Mount 77.15 6 P **P** **19 39 05.4 -0.2**
baz=193
K13K S **S** **19 48 59.1 +4.7**
baz=193
N18K Kilae Creek 77.17 11 P **P** **19 39 05.4 -0.4**
baz=201
N18K S **S** **19 48 56.1 +1.4**
baz=201
J05D Fort Rock, OR 77.24 38 IAmb IAmb 19 39 16.4
comp=Z,62nm,1.2s
O20K Slope Mountain 77.25 12 P **P** **19 39 06.1 -0.3**
baz=205
O20K S **S** **19 48 58.4 +2.7**
baz=205
214A Organ Pipe Nat 77.26 52 P **P** **19 39 05.8 -1.2**
214A IAmb IAmb 19 39 17.0
comp=Z,81nm,1.7s
L15K Ungalak Mounta 77.27 8 P **P** **19 39 05.5 -0.8**
baz=196,SNR=9.4
L15K S **S** **19 48 58.5 +2.9**
baz=196
BRLK Bradley Lake 77.34 13 IAMs_20 IAMs_20 20 07 44.7
comp=Z,7µm,20.0s
N19K Bonanza Creek 77.56 11 IAmb IAmb 19 39 17.5
comp=Z,37nm,1.2s
N19K Bonanza Creek 77.56 11 P **P** **19 39 07.0 -1.1**
baz=203
N19K S **S** **19 49 00.7 +1.6**
baz=203
L16K Owhat River 77.57 9 IAmb IAmb 19 39 18.8
comp=Z,74nm,1.5s
L16K Owhat River 77.57 9 P **P** **19 39 07.9 -0.1**
baz=198
M17K Holitna River 77.59 10 IAMs_20 IAMs_20 20 08 02.5
comp=Z,5µm,20.0s
M17K Holitna River 77.59 10 P **P** **19 39 08.8 +0.7**
baz=200,SNR=8.0
M17K S **S** **19 49 01.9 +2.7**
baz=200
GZH Guangzhou 77.61 298 P **P** **19 39 09.5 +0.4**
GZH PP **PP** **19 42 04.1 -0.2**
GZH S **S** **19 49 03.5 +2.6**
GZH LR LR
comp=Z,2µm,20.2s
GZH LR LR
comp=Z,960nm,18.4s
PINE Pine Mountain 77.70 38 IAmb IAmb 19 39 17.4
comp=Z,42nm,1.1s
I05D Terrebonne, OR 77.78 37 IAmb IAmb 19 39 36.3
comp=Z,81nm,1.6s
K15K Wolf Creek Mou 77.86 7 P **P** **19 39 09.3 -0.2**
baz=196,SNR=9.2
K15K S **S** **19 49 07.7 +5.7**
baz=196
M18K Stony River 77.94 10 P **P** **19 39 10.0 0.0**
baz=201,SNR=7.3
M18K S **S** **19 49 05.7 +2.7**
baz=201
SEW Seward 77.97 14 IAmb IAmb 19 39 21.5
comp=Z,41nm,1.1s
SEW IAMs_20 IAMs_20 20 06 05.9
comp=Z,5µm,21.0s
SEW Seward 77.97 14 P **P** **19 39 09.8 -0.4**
baz=208
SEW S **S** **19 49 05.6 +2.4**
baz=208
Y14A Wickenburg 78.01 50 P **P** **19 39 10.0 -1.1**
Y14A IAmb IAmb 19 39 14.7
comp=Z,38nm,1.5s
J14K Nanvaranak Lak 78.06 6 IAMs_20 IAMs_20 20 07 43.7
comp=Z,7µm,20.0s
J14K Nanvaranak Lak 78.06 6 P **P** **19 39 09.8 -0.9**
baz=194
DL2 Dalian 78.13 316 P **P** **19 39 12.3 +0.7**
DL2 pmax pmax
comp=Z,33nm,1.4s
DL2 pmax pmax
comp=Z,750nm,5.6s
DL2 LR LR
comp=Z,5µm,17.9s
DL2 LR LR
comp=Z,2µm,17.6s
DL2 LR LR
comp=Z,4µm,22.5s
Q23K Middleton Isla 78.14 16 IAMs_20 IAMs_20 20 07 10.6
comp=Z,5µm,19.0s
Q23K Middleton Isla 78.14 16 P **P** **19 39 10.3 -0.8**
baz=211
L17K Donlin 78.15 9 P **P** **19 39 11.4 +0.2**
baz=199,SNR=9.1
L17K S **S** **19 49 10.3 +5.1**
baz=199
SLKM Skilak Lake 78.15 13 IAMs_20 IAMs_20 20 08 10.8
comp=Z,5µm,20.0s
NLWA Neilton Lookou 78.16 34 IAMs_20 IAMs_20 20 05 30.3
comp=Z,5µm,21.0s
PRN Pahroc Range 78.16 46 IAmb IAmb 19 39 29.1
comp=Z,32nm,1.1s
DLV Lat 78.18 286 P **P** **19 39 14.5 +1.9**
CAPN Captain Cook N 78.18 13 P **P** **19 39 11.4 0.0**
baz=206
CAPN S **S** **19 49 10.5 +5.0**
baz=206
BNX BinXian 78.23 324 ⇓P **P** **19 39 13.3 +1.3**
BNX pP **sP** **19 39 16.6 -0.2**
BNX PcP **PcP** **19 39 22.4 +1.0**
BNX S **S** **19 49 09.3 +2.6**
BNX sS **sS** **19 49 14.8 +2.3**
BNX SS **SS** **19 54 09.6 +0.2**
BNX pmax pmax
comp=Z,19nm,0.9s
BNX pmax pmax
comp=Z,670nm,4.6s
BNX LR LR
comp=Z,2µm,15.7s
BNX LR LR
comp=Z,2µm,20.1s
BNX LR LR
comp=Z,2µm,14.1s
O22K Cooper Landing 78.24 14 IAMs_20 IAMs_20 20 07 41.1
comp=Z,6µm,20.0s
O22K Cooper Landing 78.24 14 P **P** **19 39 11.4 -0.3**
baz=207
O22K S **S** **19 49 10.0 +3.8**
baz=207
CN2 Changchun 78.27 322 P **P** **19 39 13.6 +1.3**
CN2 S **S** **19 49 09.3 +2.0**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,800nm,5.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,2µm,13.0s
CN2 LR LR
comp=Z,2µm,17.0s
N20K Mount Spurr 78.36 12 P **P** **19 39 11.3 -1.2**
baz=205
SNY Shenyang 78.36 319 ⇓P **P** **19 39 14.6 +1.8**
SNY SS SS 19 54 16.0 +4.6
SNY pmax pmax
comp=Z,46nm,1.6s
SNY pmax pmax
comp=Z,750nm,4.9s
SNY LR LR
comp=Z,920nm,12.7s
SNY LR LR
comp=Z,1µm,15.7s
SNY LR LR
comp=Z,2µm,20.4s
SPCR Spurr Chakacha 78.36 12 P **P** **19 39 12.4 -0.1**
baz=205
SPCR S **S** **19 49 10.8 +3.2**
baz=205
WVOR Wild Horse Val 78.36 40 IAmb IAmb 19 39 23.9
comp=Z,47nm,1.4s
WVOR Wild Horse Val 78.36 40 P **P** **19 39 13.5 +0.5**
P23K Montague Islan 78.36 15 IAMs_20 IAMs_20 20 07 25.4
comp=Z,5µm,20.0s
P23K Montague Islan 78.36 15 P **P** **19 39 12.3 -0.1**
baz=210
P23K S **S** **19 49 12.9 +5.3**
baz=210
DSRI Dabo 78.42 273 P **P** **19 39 13.6 -0.2**
comp=Z,33nm,1.2s
GAMB Gambell 78.47 3 IAMs_20 IAMs_20 20 08 06.1
comp=Z,5µm,20.0s
GAMB Gambell 78.47 3 P **P** **19 39 12.7 -0.2**
baz=186
GAMB S **S** **19 49 12.5 +4.0**
baz=186
L18K Granite Mounta 78.48 10 IAmb IAmb 19 39 29.8
comp=Z,39nm,1.2s
L18K IAMs_20 IAMs_20 20 08 39.1
comp=Z,5µm,20.0s
L18K Granite Mounta 78.48 10 P **P** **19 39 12.9 -0.2**
baz=200,SNR=8.6
L18K S **S** **19 49 13.2 +4.4**
baz=200
MA2 Magadan 78.53 344 P **P** **19 39 13.2 -0.2**
MA2 IAmb IAmb 19 39 16.9
comp=Z,92nm,1.9s
MA2 Magadan 78.53 344 LR LR 20 09 50.9
comp=Z,2µm,20.4s,baz=156,slow=33
MA2 Magadan 78.53 344 P **P** **19 39 15.6 +2.2**
MA2 Magadan 78.53 344 *ce*P **P** **19 39 12.5 -0.9**
MA2 pmax pmax
comp=Z,42nm,1.7s
M19K Big River Lodg 78.58 11 IAmb IAmb 19 39 22.6
comp=Z,70nm,1.9s
M19K Big River Lodg 78.58 11 P **P** **19 39 13.3 -0.3**
baz=203
M19K S **S** **19 49 12.5 +2.6**
baz=203
G06A Carlson Farm, 78.70 37 IAmb IAmb 19 39 42.3
comp=Z,48nm,1.6s
K17K Iditarod 78.70 9 IAmb IAmb 19 39 25.3
comp=Z,83nm,1.4s
K17K IAMs_20 IAMs_20 20 06 54.8
comp=Z,5µm,22.0s
K17K Iditarod 78.70 9 P **P** **19 39 14.1 -0.1**
baz=199,SNR=9.4
K17K S **S** **19 49 16.6 +5.5**
baz=199
STLK Strandline Lak 78.70 12 IAmb IAmb 19 41 53.8
comp=Z,18nm,0.6s
FIS Fire Island 78.72 13 IAMs_20 IAMs_20 20 06 49.8
comp=Z,6µm,21.0s
L19K White Mountain 78.76 11 P **P** **19 39 14.2 -0.4**
baz=202
L19K S **S** **19 49 14.5 +2.7**
baz=202
RC01 Rabbit Creek A 78.78 13 IAMs_20 IAMs_20 20 12 50.3
comp=Z,4µm,19.0s
RC01 Rabbit Creek A 78.78 13 P **P** **19 39 14.3 -0.4**
baz=207
RC01 S **S** **19 49 15.0 +3.0**
baz=207
M20K Styx River 78.80 11 IAmb IAmb 19 39 50.9
comp=Z,49nm,1.7s
M20K IAMs_20 IAMs_20 20 12 39.6
comp=Z,4µm,18.0s
M20K Styx River 78.80 11 P **P** **19 39 14.0 -0.9**
baz=204
M20K S **S** **19 49 14.1 +1.7**
baz=204
PWL Port Wells 78.89 14 IAmb IAmb 19 39 24.8
comp=Z,55nm,1.1s
PWL IAMs_20 IAMs_20 20 09 52.4
comp=Z,6µm,20.0s
PWL Port Wells 78.89 14 P **P** **19 39 14.9 -0.5**
baz=209
PWL S **S** **19 49 16.4 +3.1**
baz=209
SUA Susitna One 78.90 13 IAmb IAmb 19 39 23.2
comp=Z,36nm,1.0s
SUA Susitna One 78.90 13 P **P** **19 39 15.5 0.0**
baz=206
SUA S **S** **19 49 15.2 +1.7**
baz=206
J16K Anvik River 78.93 8 P **P** **19 39 15.7 +0.2**
baz=197,SNR=6.3
J16K S **S** **19 49 19.7 +6.2**
baz=197
HIN Hinchinbrook I 78.93 15 IAMs_20 IAMs_20 20 07 01.5
comp=Z,6µm,20.0s
TUC Tucson 78.96 52 P **P** **19 39 15.2 -1.2**
TUC IAmb IAmb 19 39 21.6
comp=Z,45nm,1.4s
TUC Tucson 78.96 52 IAMs_20 IAMs_20 20 06 11.0
comp=Z,8µm,20.0s
TUC Tucson 78.96 52 P **P** **19 39 15.3 -1.2**
TUC pmax pmax
comp=Z,45nm,1.4s
TUC MLR MLR
comp=Z,8µm,20.0s
CBB Campbell River 79.02 31 P **P** **19 39 15.1 -1.2**
CBB IAmb IAmb 19 39 25.4
comp=Z,51nm,1.2s
KAIM Kayak Island 79.07 16 IAMs_20 IAMs_20 20 07 01.3
comp=Z,6µm,20.0s
KAIM Kayak Island 79.07 16 P **P** **19 39 16.3 0.0**
baz=212
BBB Bella Bella 79.10 28 LR LR 20 08 05.2
comp=Z,7µm,19.3s,baz=238,slow=31
SKT Skwentna 79.20 12 IAMs_20 IAMs_20 20 07 19.4
comp=Z,6µm,22.0s
SKT Skwentna 79.20 12 P **P** **19 39 15.4 -1.6**
baz=206
SKT S **S** **19 49 16.9 +0.4**
baz=206
GLI Glacier Island 79.21 14 IAMs_20 IAMs_20 20 07 21.7
comp=Z,5µm,21.0s
GLI Glacier Island 79.21 14 P **P** **19 39 16.3 -0.8**
baz=210
GLI S **S** **19 49 19.5 +3.0**
baz=210
L20K Farewell, AK 79.21 11 P **P** **19 39 16.6 -0.5**
baz=203,SNR=14
L20K S **S** **19 49 19.4 +2.8**
baz=203
QIZ Qiongzhong 79.22 293 P **P** **19 39 19.0 +0.9**
QIZ S **S** **19 49 18.4 0.0**
QIZ SS **SS** **19 54 23.0 -2.3**
QIZ pmax pmax
comp=Z,18nm,1.4s
QIZ pmax pmax
comp=Z,590nm,8.0s
QIZ LR LR
comp=Z,1µm,16.7s
QIZ LR LR
comp=Z,2µm,21.6s
QIZ LR LR
comp=Z,4µm,21.4s
J17K VABM Dome 79.24 8 IAmb IAmb 19 39 26.4
comp=Z,44nm,1.3s
J17K VABM Dome 79.24 8 P **P** **19 39 17.3 +0.1**
baz=198,SNR=6.9
J17K S **S** **19 49 21.2 +4.4**
baz=198
FID Port Fidalgo 79.25 15 IAMs_20 IAMs_20 20 08 02.5
comp=Z,6µm,20.0s
EYAK Cordova Ski Ar 79.25 15 IAMs_20 IAMs_20 20 06 49.1
comp=Z,6µm,20.0s
EYAK Cordova Ski Ar 79.25 15 P **P** **19 39 16.4 -0.9**
baz=211
EYAK S **S** **19 49 20.6 +3.6**
baz=211
CRAG Craig 79.27 24 P **P** **19 39 17.1 -0.4**
baz=223
M22K Willow 79.29 13 P **P** **19 39 16.3 -1.2**
baz=207
M22K S **S** **19 49 20.2 +2.9**
baz=207
KNK Knik Glacier 79.36 14 IAMs_20 IAMs_20 20 08 03.6
comp=Z,6µm,21.0s
KNK Knik Glacier 79.36 14 P **P** **19 39 16.6 -1.3**
baz=208
KNK S **S** **19 49 21.2 +3.0**
baz=208
PMR Palmer 79.36 13 IAmb IAmb 19 39 27.5
comp=Z,39nm,1.2s
PMR Palmer 79.36 13 P **P** **19 39 19.9 +2.0**
PMR Palmer 79.36 13 P **P** **19 39 17.3 -0.5**
baz=208
PMR S **S** **19 49 20.8 +2.7**
baz=208
SUCK Suckling Hills 79.37 16 IAMs_20 IAMs_20 20 07 20.2
comp=Z,8µm,20.0s
RAGM Ragged Mountai 79.39 16 IAMs_20 IAMs_20 20 07 51.8
comp=Z,7µm,20.0s
CCUT Cedar City 79.41 47 P **P** **19 39 17.2 -1.8**
HMT Hamilton 79.46 16 IAMs_20 IAMs_20 20 08 42.6
comp=Z,7µm,20.0s
I17K Unalakleet 79.50 7 P **P** **19 39 17.7 -0.8**
baz=196
I17K S **S** **19 49 24.0 +4.5**
baz=196
KNB Kanab 79.55 47 IAmb IAmb 19 39 36.7
comp=Z,104nm,1.9s
GHO Glory Hole Cre 79.57 13 IAmb IAmb 19 39 27.2
comp=Z,52nm,1.1s
SIT Sitka 79.62 22 P **P** **19 39 18.7 -0.7**
baz=221
SZCU Shurtz Canyon 79.63 47 IAmb IAmb 19 39 37.0
comp=Z,52nm,1.6s
J18K Innoko River 79.65 9 IAmb IAmb 19 39 30.0
comp=Z,73nm,1.3s
J18K IAMs_20 IAMs_20 20 07 34.0
comp=Z,6µm,22.0s
J18K Innoko River 79.65 9 P **P** **19 39 18.2 -1.3**
baz=200,SNR=14
J18K S **S** **19 49 26.9 +5.7**
baz=200
U15A North Rim 79.66 48 IAmb IAmb 19 39 53.8
comp=Z,67nm,1.5s
BERG Berg Lake 79.66 16 IAMs_20 IAMs_20 20 07 18.9
comp=Z,8µm,20.0s
ANM Nome 79.66 5 IAMs_20 IAMs_20 20 09 34.9
comp=Z,5µm,20.0s
ANM Nome 79.66 5 P **P** **19 39 18.4 -1.1**
baz=192
ANM S **S** **19 49 26.1 +4.9**
baz=192
ELK Elko 79.67 43 IAMs_20 IAMs_20 20 06 22.6
comp=Z,6µm,22.0s
ELK Elko 79.67 43 P **P** **19 39 19.7 -0.7**
comp=Z,2.1nm,0.7s,baz=249,slow=5.7,SNR=8.4
ELK LR LR 20 08 36.0
comp=Z,5µm,19.3s,baz=244,slow=31
comp=Z,2.1nm,0.7s
WHN Wuhan 79.69 305 P **P** **19 39 22.3 +1.9**
WHN S **S** **19 49 26.0 +3.1**
WHN pmax pmax
comp=Z,2µm,5.3s
WHN LR LR
comp=Z,3µm,13.8s
WHN LR LR
comp=Z,4µm,15.3s
WHN LR LR
comp=Z,10µm,22.8s
U33K Whale Pass 79.74 23 P **P** **19 39 19.0 -1.1**
baz=223
U33K S **S** **19 49 28.5 +6.2**
baz=223
DIV Divide 79.75 15 IAmb IAmb 19 39 28.1
comp=Z,34nm,0.9s
DIV IAMs_20 IAMs_20 20 07 16.1
comp=Z,5µm,21.0s
V35K Ketchikan 79.77 25 IAmb IAmb 19 39 43.9
comp=Z,76nm,1.6s
V35K Ketchikan 79.77 25 P **P** **19 39 18.6 -1.5**
baz=225
V35K S **S** **19 49 28.8 +6.2**
baz=225
M23K Glacier View 79.86 14 P **P** **19 39 19.7 -1.0**
baz=209
M23K S **S** **19 49 26.5 +3.1**
baz=209
BMRM Bremner River 79.91 16 IAmb IAmb 19 39 39.4
comp=Z,49nm,1.0s
BMRM IAMs_20 IAMs_20 20 07 10.3
comp=Z,4µm,20.0s
BMRM Bremner River 79.91 16 P **P** **19 39 19.8 -1.1**
baz=212,SNR=6.5
BMRM S **S** **19 49 27.2 +3.1**
baz=212
PPLA Purkeypile 79.91 11 IAMs_20 IAMs_20 20 14 17.9
comp=Z,4µm,19.0s
PPLA Purkeypile 79.91 11 P **P** **19 39 19.6 -1.4**
baz=205
PPLA S **S** **19 49 23.9 -0.3**
baz=205
WUAZ Wupatki 79.91 49 P **P** **19 39 20.8 -0.9**
WUAZ IAMs_20 IAMs_20 20 07 24.8
comp=Z,6µm,20.0s
WAX Waxell Ridge 79.94 17 IAmb IAmb 19 39 31.3
comp=Z,64nm,1.1s
MESA MESA 79.97 17 IAMs_20 IAMs_20 20 07 28.1
comp=Z,7µm,20.0s
MESA MESA 79.97 17 P **P** **19 39 20.4 -1.0**
baz=215
MESA S **S** **19 49 28.3 +3.3**
baz=215
SCM Sheep Creek Mo 79.99 14 IAMs_20 IAMs_20 20 07 07.2
comp=Z,5µm,21.0s
SCM Sheep Creek Mo 79.99 14 P **P** **19 39 20.0 -1.4**
baz=210,SNR=6.9
SCM S **S** **19 49 28.2 +3.3**
baz=210
K20K Telida 79.99 10 IAmb IAmb 19 39 32.6
comp=Z,112nm,1.7s
K20K Telida 79.99 10 P **P** **19 39 20.1 -1.1**
baz=203
HAWA Hanford 79.99 36 IAMs_20 IAMs_20 20 07 54.1
comp=Z,7µm,20.0s
S31K Pelican 79.99 21 P **P** **19 39 20.2 -1.1**
baz=220
S31K S **S** **19 49 30.1 +5.2**
baz=220
TIA Tai'an 80.00 312 P **P** **19 39 23.1 +1.1**
TIA PP **PP** **19 42 25.6 +1.5**
TIA pmax pmax
comp=Z,16nm,1.1s
TIA pmax pmax
comp=Z,800nm,4.0s
TIA LR LR
comp=Z,2µm,18.6s
TIA LR LR
comp=Z,3µm,16.3s
TIA LR LR
comp=Z,4µm,19.2s
KLU Klutina 80.03 15 IAMs_20 IAMs_20 20 08 08.4
comp=Z,5µm,20.0s
KLU Klutina 80.03 15 P **P** **19 39 20.4 -1.2**
baz=211
KLU S **S** **19 49 29.7 +4.3**
baz=211
H16K Elim 80.05 7 P **P** **19 39 20.7 -0.8**
baz=195
H16K S **S** **19 49 30.4 +5.2**
baz=195
PKCU Pink Cliffs 80.11 47 P **P** **19 39 22.0 -0.9**
PKCU IAmb IAmb 19 39 39.4
comp=Z,64nm,1.3s
CRQM Cirque 80.12 16 IAmb IAmb 19 39 32.1
comp=Z,49nm,1.2s
CRQM IAMs_20 IAMs_20 20 07 23.2
comp=Z,7µm,21.0s
CRQE Cirque 80.13 16 P **P** **19 39 21.5 -0.7**
baz=214
YAH Yahtse 80.18 17 IAMs_20 IAMs_20 20 07 14.5
comp=Z,7µm,21.0s
TGL Tana Glacier 80.20 16 IAmb IAmb 19 39 30.4
comp=Z,34nm,1.0s
TGL IAMs_20 IAMs_20 20 07 25.2
comp=Z,8µm,21.0s
S32K Killisnoo 80.20 22 P **P** **19 39 21.8 -0.7**
baz=222
G15K Niukluk 80.21 6 P **P** **19 39 21.6 -0.8**
baz=193
WRAK Wrangell Islan 80.26 23 P **P** **19 39 21.8 -1.1**
baz=224
WRAK S **SKSac** **19 49 34.6 -5.6**
baz=224
PNL Peninsula 80.30 18 P **P** **19 39 25.1 +2.0**
PNL Peninsula 80.30 18 P **P** **19 39 21.9 -1.2**
baz=217
PNL S **S** **19 49 33.2 +4.9**
baz=217
T33K Petersburg 80.32 23 P **P** **19 39 21.9 -1.2**
baz=223
J19K Poorman 80.32 9 IAMs_20 IAMs_20 20 07 42.7
comp=Z,6µm,22.0s

J19K	**Poorman**	**80.32**	**9**	P	**P**	**19 39 22.5**	**-0.6**	
	baz=201,SNR=9.4							
J19K				S	**SKSac**	**19 49 33.5**	**-6.8**	
	baz=201							
PCA	**Pinnacle**	**80.39**	**18**	IAMs_20	IAMs_20	20 08 02.4		
	comp=Z,6µm,21.0s							
PINM	**Pinnacle**	**80.39**	**18**	P	**P**	**19 39 22.5**	**-1.1**	
	baz=216							
PINM				S	**S**	**19 49 33.9**	**+4.6**	
	baz=216							
CAST	**Castle Rocks**	**80.40**	**11**	IAMs_20	IAMs_20	20 14 25.0		
	comp=Z,5µm,19.0s							
CAST	**Castle Rocks**	**80.40**	**11**	P	**P**	**19 39 22.1**	**-1.4**	
	baz=205,SNR=8.8							
CAST				S	**S**	**19 49 28.4**	**-0.7**	
	baz=205							
TABL	**Table Mountain**	**80.41**	**17**	IAMs_20	IAMs_20	20 07 10.8		
	comp=Z,7µm,21.0s							
VRDI	**Verde Repeater**	**80.43**	**16**	IAmb	IAmb	19 39 35.6		
	comp=Z,38nm,1.2s							
VRDI				IAMs_20	IAMs_20	20 07 45.1		
	comp=Z,5µm,21.0s							
TNA	**Tin City**	**80.45**	**4**	IAMs_20	IAMs_20	20 08 47.6		
	comp=Z,7µm,21.0s							
TNA	**Tin City**	**80.45**	**4**	P	**P**	**19 39 22.9**	**-0.8**	
	baz=189							
TNA				S	**SKSac**	**19 49 34.2**	**-6.8**	
	baz=189							
N25K	**Chitina, Valde**	**80.45**	**15**	IAmb	IAmb	19 39 33.8		
	comp=Z,38nm,1.1s							
N25K				IAMs_20	IAMs_20	20 07 06.7		
	comp=Z,5µm,20.0s							
N25K	**Chitina, Valde**	**80.45**	**15**	P	**P**	**19 39 23.1**	**-0.9**	
	baz=212,SNR=8.8							
N25K				S	**S**	**19 49 32.2**	**+2.3**	
	baz=212							
BCPM	**Bancas Point**	**80.46**	**18**	IAMs_20	IAMs_20	20 08 24.2		
	comp=Z,5µm,20.0s							
GRNC	**Granite Creek**	**80.48**	**17**	IAMs_20	IAMs_20	20 07 23.6		
	comp=Z,8µm,21.0s							
F14K	**Arctic Creek**	**80.48**	**5**	P	**P**	**19 39 23.0**	**-0.8**	
	baz=191							
F14K				S	**SKSac**	**19 49 35.6**	**-5.7**	
	baz=191							
M24K	**Tolsona, Glenn**	**80.50**	**14**	IAmb	IAmb	19 39 27.6		
	comp=Z,98nm,1.5s							
M24K	**Tolsona, Glenn**	**80.50**	**14**	P	**P**	**19 39 23.2**	**-0.9**	
	baz=211							
M24K				S	**S**	**19 49 34.2**	**+4.0**	
	baz=211							
R31K	**City Hall, Gus**	**80.51**	**21**	P	**P**	**19 39 22.1**	**-2.0**	
	baz=221							
GLB	**Gilahina Butte**	**80.52**	**16**	IAmb	IAmb	19 39 27.1		
	comp=Z,62nm,1.5s							
GLB				IAMs_20	IAMs_20	20 07 07.4		
	comp=Z,4µm,21.0s							
WAT6	**Susitna Watana**	**80.55**	**13**	P	**P**	**19 39 23.8**	**-0.7**	
	baz=209,SNR=11							
WAT6				S	**S**	**19 49 32.7**	**+1.7**	
	baz=209							
WAT1	**Susitna Watana**	**80.59**	**13**	P	**P**	**19 39 23.5**	**-1.1**	
	baz=208							
WAT1				S	**S**	**19 49 33.5**	**+2.4**	
	baz=208							
H17K	**Granite Mounta**	**80.61**	**7**	IAmb	IAmb	19 39 35.0		
	comp=Z,83nm,1.8s							
H17K	**Granite Mounta**	**80.61**	**7**	P	**P**	**19 39 24.5**	**-0.1**	
	baz=197,SNR=6.7							
H17K				S	**SKSac**	**19 49 36.1**	**-6.2**	
	baz=197							
MFID	**Camas Ranch**	**80.63**	**40**	IAmb	IAmb	19 39 34.7		
	comp=Z,50nm,1.6s							
MFID				IAMs_20	IAMs_20	20 06 58.7		
	comp=Z,8µm,22.0s							
MCARA	**McCarthy VSAT**	**80.67**	**16**	IAMs_20	IAMs_20	20 08 02.6		
	comp=Z,5µm,21.0s							
MCARA	**McCarthy VSAT**	**80.67**	**16**	P	**P**	**19 39 23.9**	**-1.1**	
	baz=214							
MCARA				S	**S**	**19 49 35.6**	**+3.6**	
	baz=214							
D08A	**Wollman Farm,**	**80.71**	**36**	IAmb	IAmb	19 39 52.0		
	comp=Z,48nm,1.5s							
J20K	**Nowinta River**	**80.73**	**10**	IAmb	IAmb	19 39 35.6		
	comp=Z,88nm,1.6s							
J20K	**Nowinta River**	**80.73**	**10**	P	**P**	**19 39 24.8**	**-0.4**	
	baz=203,SNR=14							
J20K				S	**S**	**19 49 35.9**	**+3.4**	
	baz=203							
KTH	**Kantishna Hill**	**80.75**	**12**	IAmb	IAmb	19 39 28.3		
	comp=Z,62nm,1.5s							
KTH				IAMs_20	IAMs_20	20 07 58.2		
	comp=Z,5µm,22.0s							
G16K	**Koyuk River**	**80.77**	**6**	IAMs_20	IAMs_20	20 10 49.2		
	comp=Z,7µm,20.0s							
G16K	**Koyuk River**	**80.77**	**6**	P	**P**	**19 39 24.8**	**-0.6**	
	baz=195							
LOGN	**Logan Glacier**	**80.77**	**17**	IAmb	IAmb	19 39 35.7		
	comp=Z,51nm,1.1s							
LOGN				IAMs_20	IAMs_20	20 07 22.2		
	comp=Z,7µm,22.0s							
BARN	**Barnard Glacie**	**80.77**	**17**	IAmb	IAmb	19 39 34.2		
	comp=Z,42nm,1.0s							
BARN				IAMs_20	IAMs_20	20 07 54.4		
	comp=Z,7µm,21.0s							
TRF	**Thorofare Moun**	**80.78**	**12**	IAmb	IAmb	19 39 40.4		
	comp=Z,49nm,1.4s							
TRF	**Thorofare Moun**	**80.78**	**12**	P	**P**	**19 39 24.4**	**-1.4**	
	baz=207							
TRF				S	**S**	**19 49 34.1**	**+0.7**	
	baz=207							
CHUM	**Lake Minchumin**	**80.78**	**11**	P	**P**	**19 39 24.3**	**-1.2**	
	baz=205,SNR=13							
CHUM				S	**S**	**19 49 34.6**	**+1.5**	
	baz=205							
CTG	**Chitna Glacier**	**80.79**	**17**	P	**P**	**19 39 24.9**	**-0.9**	
	baz=215,SNR=9.1							
CTGM	**Chitina Glacie**	**80.79**	**17**	IAmb	IAmb	19 39 34.1		
	comp=Z,49nm,1.1s							
CTGM				IAMs_20	IAMs_20	20 07 43.7		
	comp=Z,7µm,21.0s							
P29M	**Windy Craggy**	**80.79**	**19**	IAMs_20	IAMs_20	20 06 44.1		
	comp=Z,5µm,22.0s							
P29M	**Windy Craggy**	**80.79**	**19**	P	**P**	**19 39 24.7**	**-1.0**	
	baz=219							
P29M				S	**SKSac**	**19 49 38.8**	**-5.0**	
	baz=219							
U35K	**Hyder**	**80.82**	**25**	P	**P**	**19 39 25.6**	**-0.2**	
	baz=226							
R32K	**Eaglecrest**	**80.83**	**21**	P	**P**	**19 39 25.8**	**-0.1**	
	baz=222							
GCSA	**Galena City Sc**	**80.84**	**9**	P	**P**	**19 39 25.9**	**+0.2**	
	baz=200							
GCSA				S	**SKSac**	**19 49 38.7**	**-5.0**	
	baz=200							
F15K	**North Star Dit**	**80.85**	**5**	IAMs_20	IAMs_20	20 08 17.3		
	comp=Z,5µm,22.0s							
F15K	**North Star Dit**	**80.85**	**5**	P	**P**	**19 39 25.7**	**-0.2**	
	baz=192							
F15K				S	**SKSac**	**19 49 39.2**	**-4.7**	
	baz=192							
JIS	**Juneau Island**	**80.88**	**21**	P	**P**	**19 39 27.9**	**+1.8**	
HEH	**HeiHe**	**80.88**	**328**	*eP*	**P**	**19 39 27.4**	**+1.1**	
HEH				SS	SS	19 54 54.3	+5.3	
HEH				pmax	pmax			
	comp=Z,31nm,1.7s							
HEH				pmax	pmax			
	comp=Z,790nm,5.2s							
HEH				LR	LR			
	comp=Z,3µm,15.5s							
HEH				LR	LR			
	comp=Z,1µm,17.1s							
HEH				LR	LR			
	comp=Z,4µm,17.5s							
BESE	**Bessie Mountai**	**80.94**	**21**	P	**P**	**19 39 25.0**	**-1.6**	
BESE				IAmb	IAmb	19 39 37.3		
	comp=Z,37nm,1.2s							
GULI	**GuiLin**	**80.95**	**299**	P	P	19 39 22.1	-5.2	
GULI				S	S	19 49 04.1	-32	
GULI				pmax	pmax			
	comp=Z,23nm,1.4s							
GULI				LR	LR			
	comp=N,1µm,21.7s							
GULI				LR	LR			
	comp=E,1µm,21.7s							
GULI				LR	LR			
	comp=Z,2µm,21.7s							
O28M	**Mount Upton**	**80.96**	**17**	IAMs_20	IAMs_20	20 07 29.3		
	comp=Z,6µm,21.0s							
O28M	**Mount Upton**	**80.96**	**17**	P	**P**	**19 39 26.2**	**-0.7**	
	baz=216,SNR=7.4							
O28M				S	**SKSac**	**19 49 41.2**	**-4.3**	
	baz=216							
HARP	**HAARP**	**80.99**	**15**	P	**P**	**19 39 26.2**	**-0.6**	
	baz=212							
HARP				S	**SKSac**	**19 49 39.7**	**-5.3**	
	baz=212							
H18K	**Honhosa River**	**81.01**	**8**	IAmb	IAmb	19 39 43.6		
	comp=Z,45nm,1.6s							
H18K	**Honhosa River**	**81.01**	**8**	P	**P**	**19 39 26.2**	**-0.6**	
	baz=199							
H18K				S	**SKSac**	**19 49 40.7**	**-4.4**	
	baz=199							
SEY	**Seymchan**	**81.04**	**346**	LR	LR	20 10 27.7		
	comp=Z,3µm,19.7s,baz=148,slow=32							
SEY	**Seymchan**	**81.04**	**346**	*eP*	**P**	**19 39 26.6**	**-0.3**	
SEY				pmax	pmax			
	comp=Z,33nm,1.7s							
G17K	**Kiwalik Mounta**	**81.06**	**7**	P	**P**	**19 39 26.8**	**-0.2**	
	baz=196,SNR=7.5							
G17K				S	**SKSac**	**19 49 41.7**	**-3.6**	
	baz=196							
O29M	**Mount Kennedy**	**81.06**	**18**	IAMs_20	IAMs_20	20 08 26.1		
	comp=Z,5µm,20.0s							
O29M	**Mount Kennedy**	**81.06**	**18**	P	**P**	**19 39 26.9**	**-0.3**	
	baz=218							
O29M				S	**SKSac**	**19 49 41.3**	**-4.6**	
	baz=218							
DHY	**Denali Highway**	**81.06**	**13**	P	**P**	**19 39 26.9**	**-0.4**	
	baz=209,SNR=8.6							
DHY				S	**S**	**19 49 39.3**	**+2.9**	
	baz=209							
PLBC	**Pleasant Camp**	**81.10**	**20**	P	**P**	**19 39 26.6**	**-0.7**	
	baz=220							
PLBC				S	**SKSac**	**19 49 42.3**	**-3.5**	
	baz=220							
F10A	**Beach Ranch, E**	**81.11**	**38**	IAmb	IAmb	19 40 10.9		
	comp=Z,84nm,1.8s							
BPAW	**Bear Paw Mtn.**	**81.23**	**11**	P	**P**	**19 39 27.1**	**-0.9**	
	baz=206							
BPAW				S	**S**	**19 49 39.8**	**+2.0**	
	baz=206							
I20K	**Naaghedeneel**	**81.25**	**10**	IAmb	IAmb	19 40 24.0		
	comp=Z,70nm,1.4s							
I20K	**Naaghedeneel**	**81.25**	**10**	P	**P**	**19 39 28.0**	**0.0**	
	baz=202,SNR=7.4							
I20K				S	**SKSac**	**19 49 43.4**	**-3.2**	
	baz=202							
MCK	**McKinley**	**81.31**	**12**	P	**P**	**19 39 27.3**	**-1.1**	
	baz=208,SNR=9.2							
MCK				S	**S**	**19 49 38.9**	**+0.3**	
	baz=208							
121A	**Cookes Peak, D**	**81.36**	**53**	IAmb	IAmb	19 39 38.2		
	comp=Z,54nm,1.2s							
PLID	**Pearl Lake**	**81.38**	**39**	P	**P**	**19 39 28.6**	**-0.9**	
PLID				IAMs_20	IAMs_20	20 07 33.3		
	comp=Z,6µm,21.0s							
PAX	**Paxson**	**81.41**	**14**	IAMs_20	IAMs_20	20 08 33.8		
	comp=Z,5µm,20.0s							
PAX	**Paxson**	**81.41**	**14**	P	**P**	**19 39 27.8**	**-1.2**	
	baz=211							
PAX				S	**S**	**19 49 41.1**	**+1.3**	
	baz=211							
P30M	**Million Dollar**	**81.42**	**19**	P	**P**	**19 39 28.2**	**-0.9**	
	baz=219							
SKAG	**Skagway**	**81.44**	**20**	P	**P**	**19 39 31.9**	**+2.8**	
SKAG	**Skagway**	**81.44**	**20**	P	**P**	**19 39 28.5**	**-0.6**	
	baz=221							
SKAG				S	**SKSac**	**19 49 45.1**	**-3.0**	
	baz=221							
T35M	**Bob Quinn**	**81.47**	**24**	P	**P**	**19 39 29.2**	**-0.2**	
	baz=226							
T35M				S	**SKSac**	**19 49 47.5**	**-1.1**	
	baz=226							
YUK8	**Steele Glacier**	**81.49**	**17**	P	**P**	**19 39 28.9**	**-0.8**	
	baz=217							
YUK8				S	**SKSac**	**19 49 46.2**	**-2.8**	
	baz=217							
M26K	**Nabesna, AK**	**81.53**	**15**	IAMs_20	IAMs_20	20 07 31.3		
	comp=Z,6µm,22.0s							
M26K	**Nabesna, AK**	**81.53**	**15**	P	**P**	**19 39 29.0**	**-0.6**	
	baz=214							
M26K				S	**SKSac**	**19 49 45.2**	**-3.6**	
	baz=214							
Q16A	**Castle Valley**	**81.57**	**46**	IAmb	IAmb	19 39 41.9		
	comp=Z,44nm,1.3s							
HLID	**Hailey**	**81.60**	**41**	IAMs_20	IAMs_20	20 08 42.2		
	comp=Z,6µm,20.0s							
YUK6	**Outpost Mounta**	**81.63**	**18**	P	**P**	**19 39 29.2**	**-1.2**	
	baz=218							
YUK6				S	**SKSac**	**19 49 47.4**	**-2.6**	
	baz=218							
H19K	**Roundabout Mou**	**81.64**	**9**	IAmb	IAmb	19 39 41.8		
	comp=Z,70nm,1.5s							
H19K	**Roundabout Mou**	**81.64**	**9**	P	**P**	**19 39 29.3**	**-0.6**	
	baz=200,SNR=13							
H19K				S	**SKSac**	**19 49 47.0**	**-2.2**	
	baz=200							
G18K	**Tagagawik**	**81.68**	**8**	IAmb	IAmb	19 39 40.5		
	comp=Z,78nm,1.8s							
G18K				IAMs_20	IAMs_20	20 10 27.5		
	comp=Z,4µm,20.0s							
G18K	**Tagagawik**	**81.68**	**8**	P	**P**	**19 39 30.3**	**0.0**	
	baz=198,SNR=10							
G18K				S	**SKSac**	**19 49 46.5**	**-3.2**	
	baz=198							
YUK3	**Moose Creek**	**81.69**	**17**	P	**P**	**19 39 30.4**	**-0.3**	
	baz=216,SNR=11							
YUK3				S	**SKSac**	**19 49 47.7**	**-2.6**	
	baz=216							
TMUT	**Trail Mountain**	**81.72**	**46**	IAmb	IAmb	19 39 39.7		
	comp=Z,41nm,1.1s							
M27K	**Edge Creek, AK**	**81.79**	**16**	IAmb	IAmb	19 39 41.6		
	comp=Z,65nm,1.2s							
M27K				IAMs_20	IAMs_20	20 10 00.1		
	comp=Z,4µm,20.0s							
M27K	**Edge Creek, AK**	**81.79**	**16**	P	**P**	**19 39 30.9**	**-0.2**	
	baz=215,SNR=15							
M27K				S	**SKSac**	**19 49 47.8**	**-3.0**	
	baz=215							
S34M	**Telegraph Cree**	**81.80**	**23**	IAmb	IAmb	19 39 39.6		
	comp=Z,28nm,1.0s							
S34M	**Telegraph Cree**	**81.80**	**23**	P	**P**	**19 39 30.7**	**-0.3**	
	baz=225							
S34M				S	**SKSac**	**19 49 50.8**	**+0.2**	
	baz=225							
HVU	**Hansel Valley**	**81.80**	**43**	IAmb	IAmb	19 40 19.5		
	comp=Z,68nm,1.8s							
HYT	**Haines Junctio**	**81.80**	**18**	IAmb	IAmb	19 39 41.6		
	comp=Z,43nm,1.3s							
HYT	**Haines Junctio**	**81.80**	**18**	P	**P**	**19 39 31.1**	**-0.1**	
	baz=219,SNR=9.4							
HYT				S	**SKSac**	**19 49 49.3**	**-1.6**	
	baz=219							
MENT	**Mentasta**	**81.80**	**15**	P	**P**	**19 39 33.0**	**+2.0**	
H20K	**Anoteneega Mo**	**81.84**	**9**	P	**P**	**19 39 31.2**	**+0.1**	
	baz=202,SNR=13							
H20K				S	**SKSac**	**19 49 48.9**	**-1.8**	
	baz=202							
YUK4	**Talbot Arm**	**81.87**	**18**	P	**P**	**19 39 31.5**	**-0.1**	
	baz=218							
F17K	**Baldwin Pennin**	**81.90**	**6**	IAMs_20	IAMs_20	20 10 14.2		
	comp=Z,6µm,20.0s							
F17K	**Baldwin Pennin**	**81.90**	**6**	P	**P**	**19 39 31.0**	**-0.4**	
	baz=196							
F17K				S	**SKSac**	**19 49 50.7**	**-0.3**	
	baz=196							
L26K	**Log Cabin Wild**	**81.97**	**15**	IAMs_20	IAMs_20	20 10 19.8		
	comp=Z,6µm,20.0s							
L26K	**Log Cabin Wild**	**81.97**	**15**	P	**P**	**19 39 31.4**	**-0.5**	
	baz=213,SNR=7.2							
L26K				S	**SKSac**	**19 49 49.1**	**-2.6**	
	baz=213							
I21K	**Tanana**	**82.03**	**10**	P	**P**	**19 39 31.3**	**-0.8**	
	baz=205,SNR=12							
I21K				S	**SKSac**	**19 49 48.7**	**-3.3**	
	baz=205							
NEA2	**Nenana**	**82.05**	**12**	IAMs_20	IAMs_20	20 10 00.5		
	comp=Z,8µm,20.0s							
NEA2	**Nenana**	**82.05**	**12**	P	**P**	**19 39 30.8**	**-1.4**	
	baz=208,SNR=5.6							
NEA2				S	**SKSac**	**19 49 49.0**	**-3.2**	
	baz=208							
K24K	**Donnelly Dome**	**82.05**	**14**	IAmb	IAmb	19 39 40.7		
	comp=Z,58nm,1.1s							
K24K				IAMs_20	IAMs_20	20 11 24.9		
	comp=Z,5µm,20.0s							
K24K	**Donnelly Dome**	**82.05**	**14**	P	**P**	**19 39 31.8**	**-0.5**	
	baz=211,SNR=7.4							
K24K				S	**SKSac**	**19 49 48.6**	**-3.7**	
	baz=211							
EPT	**El Paso**	**82.06**	**54**	IAMs_20	IAMs_20	20 07 50.3		
	comp=Z,7µm,21.0s							
P32M	**Atlin**	**82.09**	**21**	P	**P**	**19 39 31.7**	**-0.8**	
	baz=222							
P32M				S	**SKSac**	**19 49 53.0**	**+0.3**	
	baz=222							
BVCY	**Beaver Creek**	**82.11**	**16**	P	**P**	**19 39 31.5**	**-1.1**	
	baz=216							
BVCY				S	**SKSac**	**19 49 50.9**	**-1.8**	
	baz=216							
SRU	**San Rafael Swe**	**82.11**	**46**	IAmb	IAmb	19 39 37.6		
	comp=Z,35nm,1.4s							
MLY	**Manley**	**82.12**	**11**	IAMs_20	IAMs_20	20 14 24.3		
	comp=Z,4µm,19.0s							
MLY	**Manley**	**82.12**	**11**	P	**P**	**19 39 32.1**	**-0.6**	
	baz=206,SNR=13							
MLY				S	**SKSac**	**19 49 49.7**	**-3.0**	
	baz=206							
G19K	**Purcell Mounta**	**82.13**	**8**	IAmb	IAmb	19 39 43.2		
	comp=Z,61nm,1.4s							
G19K	**Purcell Mounta**	**82.13**	**8**	P	**P**	**19 39 31.8**	**-0.8**	
	baz=200,SNR=13							
G19K				S	**SKSac**	**19 49 52.0**	**-0.5**	
	baz=200							
Q32M	**Nakina River**	**82.13**	**22**	P	**P**	**19 39 32.1**	**-0.9**	
	baz=224							
Q32M				S	**SKSac**	**19 49 51.8**	**-1.5**	
	baz=224							
WRH	**Wood River Hil**	**82.14**	**12**	IAmb	IAmb	19 39 42.3		
	comp=Z,50nm,1.2s							
WRH				IAMs_20	IAMs_20	20 11 11.0		
	comp=Z,7µm,20.0s							
RIDG	**Independent Ri**	**82.21**	**14**	IAmb	IAmb	19 39 36.0		
	comp=Z,42nm,1.4s							
RIDG				IAMs_20	IAMs_20	20 08 59.1		
	comp=Z,6µm,21.0s							
RIDG	**Independent Ri**	**82.21**	**14**	P	**P**	**19 39 32.3**	**-0.9**	
	baz=212,SNR=8.9							
RIDG				S	**SKSac**	**19 49 51.2**	**-2.1**	
	baz=212							
F18K	**Selawik**	**82.23**	**7**	P	**P**	**19 39 32.2**	**-0.9**	
	baz=197,SNR=7.9							
F18K				S	**S**	**19 49 54.6**	**+6.7**	
	baz=197							
HNS	**HongShan**	**82.26**	**312**	⇑P	**P**	**19 39 35.9**	**+2.0**	
HNS				pmax	pmax			
	comp=Z,48nm,1.4s							
HNS				pmax	pmax			
	comp=Z,810nm,4.7s							
HNS				LR	LR			
	comp=Z,1µm,17.2s							
HNS				LR	LR			
	comp=Z,4µm,19.1s							
HNS				LR	LR			
	comp=Z,4µm,20.1s							
DOT	**Dot Lake**	**82.32**	**14**	IAMs_20	IAMs_20	20 09 33.0		
	comp=Z,4µm,20.0s							
HDA	**Harding Lake**	**82.32**	**13**	P	**P**	**19 39 32.9**	**-0.8**	
	baz=210							
HDA				S	**SKSac**	**19 49 51.0**	**-3.0**	
	baz=210							
H21K	**Melozitna Rive**	**82.33**	**10**	P	**P**	**19 39 33.8**	**+0.2**	
	baz=204,SNR=11							
H21K				S	**SKSac**	**19 49 53.9**	**-0.1**	
	baz=204							
CCB	**Clear Creek Bu**	**82.35**	**12**	IAmb	IAmb	19 39 44.4		
	comp=Z,44nm,1.4s							
CCB				IAMs_20	IAMs_20	20 09 47.6		
	comp=Z,7µm,20.0s							
BJI	**Beijing**	**82.38**	**315**	P	**P**	**19 39 36.3**	**+1.8**	
BJI				pmax	pmax			
	comp=Z,25nm,1.6s							
BJI				pmax	pmax			
	comp=Z,480nm,4.5s							
BJI				LR	LR			
	comp=Z,1µm,17.3s							
BJI				LR	LR			
	comp=Z,840nm,21.0s							
BJI				LR	LR			
	comp=Z,2µm,21.6s							
L27K	**Beaver Creek,**	**82.38**	**15**	IAMs_20	IAMs_20	20 09 21.8		
	comp=Z,5µm,21.0s							
L27K	**Beaver Creek,**	**82.38**	**15**	P	**P**	**19 39 34.1**	**0.0**	
	baz=215,SNR=8.3							
L27K				S	**SKSac**	**19 49 53.8**	**-0.8**	
	baz=215							
NEW	**Newport**	**82.39**	**36**	IAMs_20	IAMs_20	20 08 47.4		
	comp=Z,4µm,20.0s							
NEW	**Newport**	**82.39**	**36**	P	**P**	**19 39 34.1**	**-0.3**	
	comp=Z,3.0nm,0.9s,baz=245,slow=4.2,SNR=4.5							
NEW				LR	LR	20 08 58.1		
	comp=Z,4µm,20.9s,baz=228,slow=30							
	comp=Z,3.0nm,0.9s							
BCAR	**Beaver Creek A**	**82.40**	**15**	P	**P**	**19 39 31.4**	**-2.7**	
N30M	**Aishikik Lake**	**82.42**	**18**	IAmb	IAmb	19 40 04.1		
	comp=Z,49nm,1.8s							
N30M				IAMs_20	IAMs_20	20 09 19.1		
	comp=Z,5µm,21.0s							
N30M	**Aishikik Lake**	**82.42**	**18**	P	**P**	**19 39 33.8**	**-0.5**	
	baz=219							
N30M				S	**SKSac**	**19 49 54.3**	**-0.5**	
	baz=219							
E17K	**Hotham Inlet**	**82.46**	**6**	P	**P**	**19 39 34.3**	**0.0**	
	baz=195,SNR=8.1							
E17K				S	**SKSac**	**19 49 55.2**	**+0.5**	
	baz=195							
IMAR	**Indian Mountai**	**82.47**	**9**	P	**P**	**19 39 32.0**	**-2.4**	
I23K	**Minto, Yukon-K**	**82.48**	**12**	IAmb	IAmb	19 39 37.9		
	comp=Z,52nm,1.6s							
I23K				IAMs_20	IAMs_20	20 09 45.1		
	comp=Z,7µm,21.0s							
I23K	**Minto, Yukon-K**	**82.48**	**12**	P	**P**	**19 39 33.4**	**-1.1**	
	baz=207,SNR=12							
I23K				S	**SKSac**	**19 49 53.5**	**-1.5**	
	baz=207							
WHY	**Whitehorse**	**82.50**	**20**	IAmb	IAmb	19 39 40.7		
	comp=Z,46nm,1.1s							
WHY	**Whitehorse**	**82.50**	**20**	P	**P**	**19 39 34.7**	**-0.1**	
	baz=221,SNR=7.9							
WHY				S	**SKSac**	**19 49 56.2**	**+0.6**	
	baz=221							
HWUT	**Hardware Ranch**	**82.52**	**44**	IAmb	IAmb	19 40 08.0		
	comp=Z,54nm,1.6s							
HWUT				IAMs_20	IAMs_20	20 09 27.0		
	comp=Z,6µm,20.0s							
P18A	**Preston Nutter**	**82.53**	**46**	IAmb	IAmb	19 40 12.4		
	comp=Z,46nm,1.6s							
COLA	**College**	**82.54**	**12**	P	**P**	**19 39 33.9**	**-0.9**	
COLA	**College**	**82.54**	**12**	IAMs_20	IAMs_20	20 11 52.6		
	comp=Z,7µm,20.0s							
COLA	**College**	**82.54**	**12**	P	**P**	**19 39 37.0**	**+2.3**	
COLA	**College**	**82.54**	**12**	*i* P	**P**	**19 39 34.1**	**-0.6**	
COLA				pmax	pmax			
	comp=Z,55nm,1.1s							
COLA	**College**	**82.54**	**12**	P	**P**	**19 39 34.6**	**-0.2**	
	baz=209							
COLA				S	**SKSac**	**19 49 54.0**	**-1.4**	
	baz=209							
Y22A	**Socorro**	**82.55**	**52**	IAmb	IAmb	19 39 44.0		
	comp=Z,37nm,1.1s							
BSUT	**Blindstream Ca**	**82.58**	**45**	IAmb	IAmb	19 39 45.5		
	comp=Z,55nm,1.5s							
DLBC	**Dease Lake**	**82.58**	**23**	LR	LR	20 09 06.4		
	comp=Z,13µm,20.4

comp=Z,5.8nm,1.0s
PV05 Paradox Valley 82.67 48 IAmb IAmb 19 39 47.8
comp=Z,51nm,1.2s
F19K Shaleruckik Mo 82.69 8 P **P** **19 39 35.3 -0.2**
baz=199,SNR=13
F19K sS **SKSac** **19 49 55.1 -1.2**
baz=199
MVCO Mesa Verde 82.74 49 IAMs_20 IAMs_20 20 08 36.5
comp=Z,6µm,20.0s
LYN LuoYang 82.75 308 P **P** **19 39 39.6 +3.0**
LYN sS sS 19 50 07.0 +6.6
LYN pmax pmax
comp=Z,46nm,0.9s
LYN pmax pmax
comp=Z,1µm,5.1s
LYN LR LR
comp=Z,2µm,16.5s
LYN LR LR
comp=Z,3µm,17.5s
LYN LR LR
comp=Z,5µm,20.6s
H22K Ishtalitna Cre 82.79 10 P **P** **19 39 35.4 -0.7**
baz=205,SNR=19
H22K S **SKSac** **19 49 55.2 -1.8**
baz=205
M29M Somme Creek 82.79 17 IAMs_20 IAMs_20 20 08 59.8
comp=Z,7µm,21.0s
M29M Somme Creek 82.79 17 P **P** **19 39 35.9 -0.4**
baz=218,SNR=6.6
M29M S **SKSac** **19 49 58.0 +0.5**
baz=218
POKR Poker Plat Res 82.84 12 P **P** **19 39 35.4 -1.0**
baz=209,SNR=9.1
POKR S **SKSac** **19 49 55.5 -1.9**
baz=209
N31M Braeburn, Yuko 82.84 19 IAmb IAmb 19 39 40.0
comp=Z,57nm,1.4s
N31M Braeburn, Yuko 82.84 19 P **P** **19 39 36.0 -0.5**
baz=220,SNR=6.3
N31M S **S** **19 49 59.4 +4.9**
baz=220
J25K Salcha River, 82.84 13 P **P** **19 39 35.7 -0.8**
baz=211,SNR=13
J25K S **SKSac** **19 49 57.5 -0.1**
baz=211
P33M Teslin, Yukon 82.85 21 P **P** **19 39 36.0 -0.6**
baz=223
P33M S **S** **19 49 59.4 +4.7**
baz=223
PV23 Carpenter Ridg 82.89 47 P **P** **19 39 36.4 -1.2**
VHRN Van Horn 82.89 56 IAmb IAmb 19 39 43.1
comp=Z,30nm,0.9s
PV16 Nyswonger Mesa 82.90 47 P **P** **19 39 36.2 -1.3**
PV16 IAmb IAmb 19 39 45.3
comp=Z,35nm,1.2s
PV13 Radium Mtn., P 82.90 48 IAmb IAmb 19 39 45.3
comp=Z,48nm,1.2s
R33M Jennings River 82.91 22 IAmb IAmb 19 39 47.7
comp=Z,62nm,1.6s
R33M Jennings River 82.91 22 P **P** **19 39 36.2 -0.8**
baz=225,SNR=7.2
R33M S **S** **19 50 00.1 +4.6**
baz=225
E18K Tukpahlearik C 82.92 6 IAMs_20 IAMs_20 20 11 26.0
comp=Z,6µm,20.0s
E18K Tukpahlearik C 82.92 6 P **P** **19 39 36.4 -0.2**
baz=196,SNR=12
E18K S **S** **19 49 59.8 +4.9**
baz=196
MNTX Cornudas Mount 82.92 55 IAMs_20 IAMs_20 20 09 07.6
comp=Z,6µm,20.0s
PV03 Paradox Valley 82.92 48 IAmb IAmb 19 39 45.3
comp=Z,25nm,1.1s
PV11 David Mesa, Pa 82.92 47 P **P** **19 39 36.2 -1.4**
PV11 IAmb IAmb 19 39 48.6
comp=Z,41nm,1.1s
D17K Noatak River 82.94 5 P **P** **19 39 36.8 0.0**
baz=194,SNR=7.0
D17K S **S** **19 50 00.7 +5.6**
baz=194
PV04 Paradox Valley 82.94 47 IAmb IAmb 19 39 45.6
comp=Z,43nm,1.1s
G21K Allakaket 83.00 9 IAmb IAmb 19 39 47.6
comp=Z,38nm,1.1s
G21K IAMs_20 IAMs_20 20 10 29.5
comp=Z,4µm,20.0s
G21K Allakaket 83.00 9 P **P** **19 39 36.6 -0.6**
baz=203,SNR=17
G21K S **S** **19 50 01.4 +5.6**
baz=203
ZEA Zeya 83.04 330 *e*P **P** **19 39 39.0 +1.4**
ZEA *e*S **S** **20 50 02.2 +5.5**
ZEA pmax pmax
comp=N,10.0nm,1.3s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA pmax pmax
comp=E,200nm,6.3s
ZEA pmax pmax
comp=N,200nm,4.8s
ZEA pmax pmax
comp=Z,500nm,5.3s
ZEA smax smax
comp=N,600nm,11.0s
ZEA smax smax
comp=E,700nm,12.1s
H23K Yukon River 83.06 11 P **P** **19 39 36.5 -1.0**
baz=207,SNR=6.9
H23K S **SKSac** **19 49 58.9 +0.1**
baz=207
PV01 Paradox Valley 83.07 48 IAmb IAmb 19 39 49.3
comp=Z,37nm,1.3s
K27K Chicken 83.12 15 IAMs_20 IAMs_20 20 08 33.0
comp=Z,6µm,22.0s
K27K Chicken 83.12 15 P **P** **19 39 37.4 -0.5**
baz=214
IPM Ipoh 83.14 276 P **P** **19 39 40.6 +1.5**
PV07 Paradox Valley 83.14 47 IAmb IAmb 19 39 46.5
comp=Z,31nm,1.2s
J26L Joseph Creek 83.16 14 IAMs_20 IAMs_20 20 10 20.2
comp=Z,5µm,20.0s
J26L Joseph Creek 83.16 14 P **P** **19 39 38.0 -0.1**
baz=213,SNR=19
J26L S **SKSac** **19 50 00.3 +0.5**
baz=213
F20K Avaraart Lake 83.17 8 IAmb IAmb 19 39 48.5
comp=Z,44nm,1.4s
F20K Avaraart Lake 83.17 8 P **P** **19 39 38.0 0.0**
baz=201,SNR=13
F20K S **S** **19 50 02.3 +4.8**
baz=201
PV15 Paradox Valley 83.22 48 IAmb IAmb 19 39 50.0
comp=Z,44nm,1.1s
RDOG Red Dog Mine 83.30 5 IAMs_20 IAMs_20 20 10 18.1
comp=Z,7µm,21.0s
RDOG Red Dog Mine 83.30 5 P **P** **19 39 38.5 -0.2**
baz=194
RDOG S **S** **19 50 04.6 +5.7**
baz=194
C16K Lisburne Hills 83.32 4 IAMs_20 IAMs_20 20 09 44.4
comp=Z,7µm,22.0s
C16K Lisburne Hills 83.32 4 P **P** **19 39 38.4 -0.3**
baz=192
ANMO Albuquerque 83.33 51 P **P** **19 39 38.6 -1.2**
ANMO IAmb IAmb 19 39 49.4
comp=Z,34nm,1.1s
ANMO Albuquerque 83.33 51 P **P** **19 39 38.3 -1.6**
comp=Z,26nm,1.3s,baz=308,slow=3.4,SNR=15
ANMO LR LR 20 09 45.2
comp=Z,10µm,19.8s,baz=336,slow=31
comp=Z,26nm,1.3s
ANMO Albuquerque 83.33 51 *i*P **P** **19 39 38.5 -1.4**
ANMO pmax pmax
comp=Z,31nm,1.1s
E19K Redstone River 83.35 8 P **P** **19 39 38.8 -0.2**
baz=200
M30M Minto, Yukon 83.38 18 IAmb IAmb 19 39 42.4
comp=Z,40nm,1.4s
M30M IAMs_20 IAMs_20 20 09 49.4
comp=Z,6µm,20.0s
M30M Minto, Yukon 83.38 18 P **P** **19 39 38.7 -0.6**
baz=219,SNR=9.0
M30M S **S** **19 50 03.3 +3.4**
baz=219
H24K Noodor Dome 83.39 12 P **P** **19 39 37.6 -1.6**
baz=209
H24K S **SKSac** **19 50 01.4 +0.3**
baz=209
L29M L29M 83.42 17 IAMs_20 IAMs_20 20 10 00.2
comp=Z,7µm,20.0s
L29M L29M 83.42 17 P **P** **19 39 38.4 -1.0**
baz=218,SNR=15
L29M S **S** **19 50 04.7 +4.4**
baz=218
TXAR Lajitas Array 83.43 57 P **P** **19 39 39.4 -1.0**
comp=Z,14nm,1.1s,baz=235,slow=4.4,SNR=20
TXAR LR LR 20 09 45.2
comp=Z,6µm,19.5s,baz=238,slow=31
comp=Z,14nm,1.1s
N32M Quiet Lake 83.45 20 P **P** **19 39 39.3 -0.4**
baz=223
BILL Bilibino 83.49 354 *i*P **P** **19 39 39.7 +0.1**
BILL pmax pmax
comp=Z,30nm,1.4s
PRP Porcupine Dome 83.59 13 IAMs_20 IAMs_20 20 09 09.4
comp=Z,4µm,22.0s
PRP Porcupine Dome 83.59 13 P **P** **19 39 39.5 -0.9**
baz=211,SNR=16
PRP S **SKSac** **19 50 03.6 +1.0**
baz=211
F21K Alatna River 83.66 9 IAmb IAmb 19 39 50.7
comp=Z,42nm,1.3s
F21K IAMs_20 IAMs_20 20 10 50.9
comp=Z,5µm,20.0s
F21K Alatna River 83.66 9 P **P** **19 39 40.2 -0.3**
baz=203,SNR=14
F21K S **S** **19 50 06.8 +4.2**
baz=203
C17K DeLong Mountai 83.69 5 P **P** **19 39 40.2 -0.5**
baz=194
C17K S **S** **19 50 06.5 +3.7**
baz=194
G22K Bettles 83.70 10 P **P** **19 39 40.5 -0.2**
baz=205
KULM Kulim 83.71 277 IAmb IAmb 19 39 46.9
comp=Z,28nm,1.3s
KULM Kulim 83.71 277 P **P** **19 39 44.8 +2.8**
G23K Bananza Creek 83.76 11 IAmb IAmb 19 39 49.8
comp=Z,37nm,1.1s
G23K IAMs_20 IAMs_20 20 11 39.8
comp=Z,4µm,20.0s
G23K Bananza Creek 83.76 11 P **P** **19 39 40.5 -0.6**
baz=207,SNR=17
G23K S **S** **19 50 08.1 +4.4**
baz=207
TPAW Teton Pass 83.78 42 IAmb IAmb 19 39 53.1
comp=Z,44nm,1.1s
TPAW IAMs_20 IAMs_20 20 09 29.1
comp=Z,4µm,21.0s
M31M Drury Creek, Y 83.82 19 IAmb IAmb 19 39 45.0
comp=Z,39nm,1.7s
M31M IAMs_20 IAMs_20 20 08 30.1
comp=Z,5µm,22.0s
M31M Drury Creek, Y 83.82 19 P **P** **19 39 40.8 -0.7**
baz=222,SNR=7.8
M31M S **S** **19 50 07.1 +2.8**
baz=222
DAWY Dawson 83.84 16 P **P** **19 39 41.0 -0.6**
baz=217
DAWY S **S** **19 50 08.4 +3.9**
baz=217
SNOW Snow King Moun 83.90 42 IAMs_20 IAMs_20 20 09 11.2
comp=Z,4µm,21.0s
I26K Coal Creek Min 83.93 14 IAMs_20 IAMs_20 20 13 56.3
comp=Z,4µm,19.0s
I26K Coal Creek Min 83.93 14 P **P** **19 39 41.6 -0.4**
baz=213
EGAK Eagle 83.97 15 IAMs_20 IAMs_20 20 09 21.3
comp=Z,7µm,22.0s
UNM Universidad Na 83.99 68 IAMs_20 IAMs_20 20 08 07.1
comp=Z,6µm,20.0s
TIY Taiyuan 84.04 311 P **P** **19 39 45.6 +2.4**
TIY pmax pmax
comp=Z,690nm,5.3s
TIY LR LR
comp=Z,1µm,19.2s
TIY LR LR
comp=Z,2µm,18.6s
TIY LR LR
comp=Z,3µm,19.9s
LOHW Long Hollow 84.06 42 IAmb IAmb 19 39 54.4
comp=Z,46nm,1.4s
LOHW IAMs_20 IAMs_20 20 09 04.6
comp=Z,5µm,22.0s
F22K John River 84.12 9 P **P** **19 39 42.7 -0.2**
baz=204,SNR=10
F22K S **S** **19 50 11.1 +3.9**
baz=204
O20A White River Ci 84.14 46 IAMs_20 IAMs_20 20 10 20.3
comp=Z,6µm,20.0s
K29M Barlow Dome 84.16 17 IAMs_20 IAMs_20 20 11 23.0
comp=Z,6µm,20.0s
K29M Barlow Dome 84.16 17 P **P** **19 39 43.6 +0.2**
baz=219
K29M S **S** **19 50 11.7 +3.7**
baz=219
S22A 4UR Ranch, Cre 84.17 49 IAmb IAmb 19 39 49.4
comp=Z,32nm,1.1s
XLT XiLinHaoTe 84.17 318 *e*P **P** **19 39 44.4 +0.6**
XLT S **S** **19 50 09.9 +1.1**
XLT SS **SS** **19 55 41.6 +3.2**
XLT pmax pmax
comp=Z,24nm,1.5s
XLT pmax pmax
comp=Z,920nm,5.1s
XLT LR LR
comp=Z,2µm,20.6s
XLT LR LR
comp=Z,2µm,19.4s
H25L Birch Creek 84.17 12 P **P** **19 39 44.1 +0.9**
baz=211
COLD Coldfoot 84.20 10 IAMs_20 IAMs_20 20 12 26.2
comp=Z,5µm,20.0s
COLD Coldfoot 84.20 10 P **P** **19 39 43.7 +0.5**
baz=206,SNR=20
COLD S **S** **19 50 11.8 +3.9**
baz=206
WTLY Watson Lake, Y 84.20 22 P **P** **19 39 43.3 -0.2**
baz=227
WTLY S **S** **19 50 14.2 +5.9**
baz=227
G24K Hadweenzic Riv 84.22 11 IAMs_20 IAMs_20 20 11 50.0
comp=Z,6µm,20.0s
G24K Hadweenzic Riv 84.22 11 P **P** **19 39 43.3 -0.1**
baz=209
G24K S **S** **19 50 10.0 +1.8**
baz=209
BOZ Bozeman (W) 84.32 40 IAmb IAmb 19 39 55.5
comp=Z,44nm,1.4s
BW06 Boulder Array 84.37 43 IAMs_20 IAMs_20 20 09 56.6
comp=Z,5µm,20.0s
PD31 Pinedale Array 84.37 43 IAmb IAmb 19 39 52.4
comp=Z,42nm,1.2s
PDAR Pinedale Array 84.37 43 P **P** **19 39 42.6 -2.4**
PDAR Pinedale Array 84.37 43 P **P** **19 39 43.5 -1.6**
comp=Z,2.9nm,0.8s,baz=217,slow=3.7,SNR=19
PDAR LR LR 20 10 08.2
comp=Z,3µm,21.1s,baz=236,slow=31
comp=Z,2.9nm,0.8s
MAYO Mayo, Yukon 84.43 17 P **P** **19 39 44.3 -0.2**
baz=220
MAYO S **S** **19 50 14.6 +4.2**
baz=220
J29N Klondike Camp 84.46 16 IAMs_20 IAMs_20 20 10 04.7
comp=Z,5µm,21.0s
J29N Klondike Camp 84.46 16 P **P** **19 39 44.8 0.0**
baz=218
J29N S **S** **19 50 15.5 +4.7**
baz=218
GYA Guiyang 84.48 299 ⇑P **P** **19 39 46.4 +0.6**
GYA pmax pmax
comp=Z,28nm,1.1s
GYA LR LR
comp=Z,2µm,16.3s
GYA LR LR
comp=Z,2µm,21.0s
GYA LR LR
comp=Z,3µm,38.6s
YNR Norris Junctio 84.51 41 P **P** **19 39 45.9 +0.2**
YNR IAmb IAmb 19 40 03.3
comp=Z,51nm,1.3s
I27K Kandik River 84.54 14 P **P** **19 39 44.8 -0.4**
baz=215
I27K S **S** **19 50 15.5 +4.0**
baz=215
G25K Bearman Lake 84.55 12 P **P** **19 39 44.7 -0.3**
baz=210
FYU Fort Yukon 84.55 12 IAMs_20 IAMs_20 20 10 33.8
comp=Z,6µm,21.0s
D20K Etivluk River 84.62 7 P **P** **19 39 44.9 -0.5**
baz=200,SNR=16
D20K S **S** **19 50 14.3 +2.3**
baz=200
LKWY Lake 84.62 41 IAMs_20 IAMs_20 20 13 12.3
comp=Z,7µm,19.0s
C19K Lookout Ridge 84.65 6 IAMs_20 IAMs_20 20 14 23.7
comp=Z,6µm,19.0s
C19K Lookout Ridge 84.65 6 P **P** **19 39 45.3 -0.3**
baz=197,SNR=7.8
C19K S **S** **19 50 16.5 +4.0**
baz=197
B18K Kokolik River 84.68 5 P **P** **19 39 45.5 -0.2**
baz=195
E21K Killik River 84.72 8 IAMs_20 IAMs_20 20 11 39.5
comp=Z,5µm,21.0s
E21K Killik River 84.72 8 P **P** **19 39 45.3 -0.6**
baz=203
TOAD Toad River Com 84.72 24 P **P** **19 39 46.2 0.0**
baz=230,SNR=6.0
TOAD S **S** **19 50 16.7 +3.3**
baz=230
PSI Prapat 84.72 274 LR LR 20 19 28.2
comp=Z,1µm,19.9s,baz=134,slow=37
LIRD Liard River Hi 84.74 24 P **P** **19 39 46.0 -0.3**
baz=229
LIRD S **S** **19 50 17.7 +4.0**
baz=229
E22K Anaktuvuk Pass 84.75 9 IAMs_20 IAMs_20 20 11 17.8
comp=Z,4µm,21.0s
E22K Anaktuvuk Pass 84.75 9 P **P** **19 39 46.0 -0.2**
baz=205,SNR=19
E22K S **S** **19 50 15.8 +2.3**
baz=205
I28M Miner Creek 84.82 15 IAMs_20 IAMs_20 20 09 57.0
comp=Z,7µm,21.0s
I28M Miner Creek 84.82 15 P **P** **19 39 46.1 -0.4**
baz=216
I28M S **S** **19 50 18.5 +4.1**
baz=216
F24K Squaw Lake 84.87 11 IAmb IAmb 19 39 58.5
comp=Z,38nm,1.4s
F24K IAMs_20 IAMs_20 20 14 30.0
comp=Z,4µm,20.0s
F24K Squaw Lake 84.87 11 P **P** **19 39 46.5 -0.2**
baz=209,SNR=12
F24K S **S** **19 50 18.7 +4.1**
baz=209
MNHN Monahans 84.87 56 IAmb IAmb 19 39 55.3
comp=Z,20nm,1.0s
SAND Sanderson 84.91 57 IAmb IAmb 19 39 57.1
comp=Z,27nm,1.1s
HAYD Hayden 84.98 46 IAmb IAmb 19 39 56.1
comp=Z,33nm,1.1s
E23K Chandalar 85.04 10 IAmb IAmb 19 39 51.0
comp=Z,36nm,1.3s
E23K IAMs_20 IAMs_20 20 14 29.6
comp=Z,5µm,20.0s
E23K Chandalar 85.04 10 P **P** **19 39 47.6 0.0**
baz=207,SNR=11
E23K S **S** **19 50 19.6 +3.1**
baz=207
J30M Hart River 85.06 16 IAmb IAmb 19 39 58.1
comp=Z,28nm,1.3s
J30M IAMs_20 IAMs_20 20 13 27.7
comp=Z,6µm,19.0s
J30M Hart River 85.06 16 P **P** **19 39 47.5 -0.4**
baz=220
J30M S **S** **19 50 20.1 +3.2**
baz=220
YNE Yellowstone No 85.07 41 IAmb IAmb 19 40 00.1
comp=Z,47nm,1.2s
H27K Steamboat Moun 85.08 14 P **P** **19 39 47.5 -0.4**
baz=215
H27K S **S** **19 50 21.8 +4.9**
baz=215
MMPY Sheldon Lake, 85.11 20 P **P** **19 39 47.1 -1.0**
baz=224,SNR=11
MMPY S **S** **19 50 19.9 +2.6**
baz=224
SDCO Great Sand Dun 85.13 49 IAMs_20 IAMs_20 20 10 25.0
comp=Z,6µm,20.0s
I29M Ogilvie Camp, 85.16 15 IAMs_20 IAMs_20 20 12 18.1
comp=Z,5µm,20.0s
I29M Ogilvie Camp, 85.16 15 P **P** **19 39 47.7 -0.5**
baz=218
I29M S **S** **19 50 20.6 +3.0**
baz=218
G26K Porcupine Rive 85.18 13 IAMs_20 IAMs_20 20 09 56.5
comp=Z,5µm,22.0s
G26K Porcupine Rive 85.18 13 P **P** **19 39 47.5 -0.7**
baz=212,SNR=48
G26K S **S** **19 50 23.1 +5.4**
baz=212
SLVN Son La 85.24 293 P **P** **19 39 52.5 +2.8**
E24K Your Creek 85.25 10 IAmb IAmb 19 40 07.7
comp=Z,27nm,1.3s
E24K Your Creek 85.25 10 P **P** **19 39 48.1 -0.6**
baz=208
E24K S **S** **19 50 23.0 +4.5**
baz=208
C21K Knifeblade Rid 85.27 8 P **P** **19 39 48.3 -0.4**
baz=202,SNR=11
C21K S **S** **19 50 20.7 +2.2**
baz=202
XAN Xi'an 85.27 307 ⇓P **P** **19 39 50.1 +0.6**
XAN S **S** **19 50 19.5 -0.6**
XAN pmax pmax
comp=Z,43nm,1.2s
XAN pmax pmax
comp=Z,1µm,5.7s
XAN LR LR
comp=Z,1µm,13.1s
XAN LR LR
comp=Z,4µm,19.9s
XAN LR LR
comp=Z,5µm,20.6s
D22K Ayikyak River 85.31 9 IAmb IAmb 19 39 54.8
comp=Z,41nm,1.1s
D22K IAMs_20 IAMs_20 20 16 26.4
comp=Z,5µm,18.0s
D22K Ayikyak River 85.31 9 P **P** **19 39 48.6 -0.3**
baz=204,SNR=9.7
D22K S **S** **19 50 22.1 +3.2**
baz=204
TGTN Hyland Airport 85.36 21 P **P** **19 39 48.9 -0.4**
baz=227
TGTN S **S** **19 50 23.9 +4.1**
baz=227
F25K Christian Rive 85.36 12 IAmb IAmb 19 39 59.9
comp=Z,53nm,1.4s
F25K Christian Rive 85.36 12 P **P** **19 39 48.6 -0.6**
baz=211,SNR=12
F25K S **S** **19 50 24.7 +5.2**
baz=211
BMAR Burnt Mountain 85.43 12 P **P** **19 39 47.6 -1.9**
G27K Doyon Strip 85.53 13 IAMs_20 IAMs_20 20 13 42.7
comp=Z,4µm,20.0s
G27K Doyon Strip 85.53 13 P **P** **19 39 50.1 +0.1**
baz=215,SNR=9.9
G27K S **S** **19 50 26.0 +4.7**
baz=215
I30M Mount Dempster 85.55 16 IAMs_20 IAMs_20 20 10 58.6
comp=Z,5µm,22.0s
I30M Mount Dempster 85.55 16 P **P** **19 39 49.7 -0.6**
baz=220
I30M S **S** **19 50 22.5 +0.8**
baz=220
A19K Wainwright 85.56 5 P **P** **19 39 49.4 -0.6**
baz=196
A19K S **S** **19 50 24.5 +3.3**
baz=196
TOLK Toolik Lake Re 85.57 10 IAmb IAmb 19 39 54.4
comp=Z,67nm,1.6s
TOLK IAMs_20 IAMs_20 20 15 17.5
comp=Z,5µm,19.0s
TOLK Toolik Lake Re 85.57 10 P **P** **19 39 49.7 -0.6**
baz=207,SNR=6.1
TOLK S **S** **19 50 25.4 +3.8**
baz=207
RLMT Red Lodge 85.59 41 IAmb IAmb 19 40 02.4
comp=Z,41nm,1.1s
RLMT IAMs_20 IAMs_20 20 09 60.0
comp=Z,8µm,22.0s
GSI Gunungsitoli 85.64 272 P **P** **19 39 54.9 +3.1**

GSI Gunungsitoli 85.64 272 P **P** 19 39 53.0 +1.2
comp=Z,51nm,1.6s
D23K Nanushuk River 85.69 9 IAmb IAmb 19 40 01.5
comp=Z,43nm,1.2s
D23K IAMs_20 IAMs_20 20 15 26.5
comp=Z,6µm,19.0s
D23K Nanushuk River 85.69 9 P **P** 19 39 50.3 -0.5
baz=206,SNR=9.5
D23K S **S** 19 50 26.8 +4.1
baz=206
B21K Ikpikpuk River 85.72 8 IAMs_20 IAMs_20 20 13 09.3
comp=Z,4µm,20.0s
B21K Ikpikpuk River 85.72 8 P **P** 19 39 50.2 -0.7
baz=202
B21K S **S** 19 50 25.4 +2.5
baz=202
F26K Sheenjek River 85.74 12 IAmb IAmb 19 40 02.0
comp=Z,34nm,1.4s
F26K IAMs_20 IAMs_20 20 11 43.2
comp=Z,7µm,21.0s
F26K Sheenjek River 85.74 12 P **P** 19 39 50.7 -0.3
baz=212,SNR=14
F26K S **S** 19 50 27.0 +3.7
baz=212
B20K Meade River 85.78 7 IAMs_20 IAMs_20 20 13 22.6
comp=Z,5µm,20.0s
B20K Meade River 85.78 7 P **P** 19 39 51.1 0.0
baz=200
B20K S **S** 19 50 25.2 +1.8
baz=200
MSTX Muleshoe 85.79 53 IAmb IAmb 19 40 05.4
comp=Z,38nm,1.4s
H29M Whitestone 85.82 15 IAmb IAmb 19 40 01.5
comp=Z,40nm,1.1s
H29M IAMs_20 IAMs_20 20 10 37.6
comp=Z,6µm,22.0s
H29M Whitestone 85.82 15 P **P** 19 39 51.2 -0.2
baz=218
H29M S **S** 19 50 26.2 +2.1
baz=218
E25K Arctic Village 85.83 11 IAMs_20 IAMs_20 20 12 40.4
comp=Z,7µm,20.0s
E25K Arctic Village 85.83 11 P **P** 19 39 51.4 -0.1
baz=211,SNR=9.5
E25K S **S** 19 50 27.0 +2.9
baz=211
ISCO Idaho Springs 85.85 47 P **P** 19 39 53.6 +1.0
Q24A Divide 85.86 48 IAMs_20 IAMs_20 20 11 11.5
comp=Z,5µm,20.0s
HHC Hu-ho-hao-te 85.91 314 *e*P **P** 19 39 52.8 +0.2
HHC pP pwP 19 39 57.3 +1.1
HHC SKS **SKSac** 19 50 19.8 +1.3
HHC S **SKKSac** 19 50 26.4 +0.7
HHC pmax pmax
comp=Z,30nm,1.2s
HHC pmax pmax
comp=Z,1µm,5.1s
HHC LR LR
comp=Z,1µm,16.3s
HHC LR LR
comp=Z,2µm,18.5s
HHC LR LR
comp=Z,3µm,20.2s
KOTAN Kotaneelee Air 86.00 24 P **P** 19 39 52.4 -0.1
baz=231
KOTAN S **S** 19 50 30.2 +4.2
baz=231
KCSI Kotacane, Aceh 86.02 275 P **P** 19 39 54.6 +0.9
OZNA Ozona 86.04 57 IAmb IAmb 19 40 06.9
comp=Z,52nm,1.4s
D24K Happy Valley 86.16 10 IAmb IAmb 19 40 20.1
comp=Z,43nm,1.6s
D24K IAMs_20 IAMs_20 20 12 50.9
comp=Z,4µm,20.0s
D24K Happy Valley 86.16 10 P **P** 19 39 53.1 +0.1
baz=208
D24K S **S** 19 50 27.9 +0.7
baz=208
PMSA Palmer Station 86.20 157 P **P** 19 39 52.7 -0.8
PMSA IAmb IAmb 19 40 00.5
comp=Z,25nm,1.0s
PMSA Palmer Station 86.20 157 LR LR 20 11 31.9
comp=Z,1µm,19.9s,baz=241,slow=31
K22A Casper 86.35 44 IAmb IAmb 19 40 12.0
comp=Z,44nm,1.5s
EPYK Eagle Plains 86.36 15 IAmb IAmb 19 40 04.0
comp=Z,41nm,1.3s
EPYK IAMs_20 IAMs_20 20 10 43.8
comp=Z,5µm,22.0s
EPYK Eagle Plains 86.36 15 P **P** 19 39 53.9 -0.3
baz=219
EPYK S **S** 19 50 28.0 -1.3
baz=219
G29M Pine Creek 86.46 14 IAmb IAmb 19 40 04.4
comp=Z,37nm,1.3s
G29M IAMs_20 IAMs_20 20 12 33.4
comp=Z,6µm,20.0s
G29M Pine Creek 86.46 14 P **P** 19 39 53.8 -0.8
baz=218
G29M S **S** 19 50 33.7 +3.4
baz=218
C23K Itkillik River 86.49 9 IAmb IAmb 19 40 05.1
comp=Z,32nm,1.2s
C23K IAMs_20 IAMs_20 20 12 24.6
comp=Z,5µm,21.0s
C23K Itkillik River 86.49 9 P **P** 19 39 54.2 -0.5
baz=206
C23K S **S** 19 50 32.2 +1.9
baz=206
H31M Peel River 86.55 16 IAmb IAmb 19 40 28.1
comp=Z,28nm,1.2s
H31M IAMs_20 IAMs_20 20 11 28.9
comp=Z,5µm,22.0s
H31M Peel River 86.55 16 P **P** 19 39 54.4 -0.7
baz=221
H31M S **S** 19 50 33.3 +2.1
baz=221
B22K Teshekpuk Lake 86.55 8 IAMs_20 IAMs_20 20 16 09.2
comp=Z,4µm,19.0s
B22K Teshekpuk Lake 86.55 8 P **P** 19 39 54.8 -0.1
baz=203
EGMT Eagleton 86.57 38 IAmb IAmb 19 40 03.2
comp=Z,28nm,1.1s
EGMT IAMs_20 IAMs_20 20 10 23.5
comp=Z,5µm,22.0s
F28M Old Crow 86.59 13 IAMs_20 IAMs_20 20 14 34.8
comp=Z,4µm,19.0s
F28M Old Crow 86.59 13 P **P** 19 39 54.7 -0.6
baz=216
F28M S **S** 19 50 35.1 +3.5
baz=216
C24K Franklin Bluff 86.68 10 IAMs_20 IAMs_20 20 14 09.8
comp=Z,5µm,20.0s
C24K Franklin Bluff 86.68 10 P **P** 19 39 55.1 -0.5
baz=208,SNR=5.6
C24K S **S** 19 50 35.9 +3.7
baz=208
E27K Coleen River 86.68 13 IAMs_20 IAMs_20 20 11 49.1
comp=Z,4µm,22.0s
E27K Coleen River 86.68 13 P **P** 19 39 55.3 -0.4
baz=215,SNR=7.9
E27K S **S** 19 50 37.1 +4.7
baz=215
D25K Kavik River 86.72 11 IAMs_20 IAMs_20 20 11 40.0
comp=Z,5µm,22.0s
D25K Kavik River 86.72 11 P **P** 19 39 55.3 -0.6
baz=210
D25K S **S** 19 50 35.0 +2.1
baz=210
BTO Baotou 86.89 313 *e*P **P** 19 40 00.8 +3.3
BTO pP **pwP** 19 40 05.1 +4.1
BTO sP **sP** 19 40 07.8 +5.5
BTO PP PP 19 43 26.6 +6.0
BTO SKS **SKSac** 19 50 17.1 -7.5
BTO SS **SS** 19 56 20.8 +2.2
BTO pmax pmax
comp=Z,61nm,1.2s
BTO pmax pmax
comp=Z,290nm,4.5s
BTO LR LR
comp=Z,2µm,14.1s
BTO LR LR
comp=Z,3µm,17.3s
BTO LR LR
comp=Z,3µm,19.6s
G30M tAoh Zraii Nji 86.95 15 IAmb IAmb 19 40 06.7
comp=Z,35nm,1.2s
G30M IAMs_20 IAMs_20 20 12 15.6
comp=Z,5µm,20.0s
G30M tAoh Zraii Nji 86.95 15 P **P** 19 39 56.4 -0.7
baz=220,SNR=8.6
G30M S **S** 19 50 34.9 -0.3
baz=220
AMTX Amarillo 86.96 53 IAMs_20 IAMs_20 20 10 16.3
comp=Z,7µm,21.0s
A22K Sinclair Lake 86.97 7 P **P** 19 39 57.1 +0.1
baz=202
JCT Junction City 86.97 58 IAMs_20 IAMs_20 20 11 36.9
comp=Z,5µm,20.0s
JCT Junction City 86.97 58 P **P** 19 39 56.7 -1.3
A21K Barrow 87.08 7 P **P** 19 39 56.9 -0.6
baz=200
MAW Mawson 87.12 199 P **P** 19 39 57.9 -0.1
comp=Z,8.2nm,0.9s,baz=110,slow=4.8,SNR=28
MAW LR LR 20 16 07.2
comp=Z,8µm,19.9s,baz=108,slow=34
comp=Z,8.2nm,0.9s
YAK Yakutsk 87.14 338 P **P** 19 39 56.4 -1.5
YAK IAmb IAmb 19 40 02.3
comp=Z,18nm,0.8s
YAK Yakutsk 87.14 338 LR LR 20 20 07.8
comp=Z,1µm,18.1s,baz=128,slow=36
YAK Yakutsk 87.14 338 *e*P **P** 19 39 55.5 -2.5
YAK *e* 19 43 19.3
YAK *e*S **SKSac** 19 50 22.3 -2.5
YAK *e*SS **SS** 19 56 15.6 -5.3
YAK *e*SSS SSS 19 59 54.5
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.8s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,397nm,4.5s
YAK pmax pmax
comp=N,261nm,5.1s
YAK pmax pmax
comp=E,259nm,6.9s
YAK smax smax
comp=E,1µm,15.1s
YAK smax smax
comp=N,822nm,8.4s
YAK MLR MLR
comp=Z,1µm,16.0s
CMIG Matias Romero 87.24 72 LR LR 20 10 44.4
comp=Z,3µm,19.5s,baz=256,slow=30
G31M Satah River 87.41 16 IAmb IAmb 19 40 05.4
comp=Z,30nm,1.1s
G31M IAMs_20 IAMs_20 20 11 03.6
comp=Z,5µm,22.0s
G31M Satah River 87.41 16 P **P** 19 39 58.7 -0.5
baz=222
G31M S **S** 19 50 41.4 +2.0
baz=222
KMI Kunming 87.41 297 P **P** 19 40 02.3 +1.8
KMI S **S** 19 50 36.1 -5.6
KMI pmax pmax
comp=Z,40nm,1.5s
KMI pmax pmax
comp=Z,770nm,5.1s
KMI LR LR
comp=Z,990nm,20.4s
KMI LR LR
comp=Z,2µm,25.6s
KMI LR LR
comp=Z,4µm,23.7s
E28M Babbage River 87.47 13 P **P** 19 39 59.0 -0.5
baz=216
E28M S **S** 19 50 42.1 +2.1
baz=216
C27K Jago River 87.47 11 IAMs_20 IAMs_20 20 14 13.8
comp=Z,7µm,20.0s
C27K Jago River 87.47 11 P **P** 19 39 59.2 -0.2
baz=212
C27K S **S** 19 50 42.1 +2.1
baz=212
C26K Camden Bay 87.50 11 P **P** 19 39 59.4 -0.2
baz=211
C26K S **S** 19 50 41.4 +1.3
baz=211
MLSI Meulaboh, Aceh 87.53 275 P **P** 19 40 02.2 +1.2
F30M Barrier River 87.55 15 IAMs_20 IAMs_20 20 12 45.3
comp=Z,5µm,21.0s
F30M Barrier River 87.55 15 P **P** 19 39 59.4 -0.5
baz=220
F30M S **S** 19 50 42.5 +1.7
baz=220
APMT Aspermont 87.65 55 P **P** 19 39 58.9 -2.3
E29M Blow River 87.66 14 IAMs_20 IAMs_20 20 16 06.1
comp=Z,4µm,19.0s
E29M Blow River 87.66 14 P **P** 19 39 59.7 -0.7
baz=218
E29M S **S** 19 50 43.4 +1.6
baz=218
D27M Malcolm River 87.69 12 IAMs_20 IAMs_20 20 12 10.6
comp=Z,5µm,22.0s
D27M Malcolm River 87.69 12 P **P** 19 40 00.3 -0.4
baz=215
D27M S **S** 19 50 44.7 +2.5
baz=215
KSCO Kaye Shedlock' 87.70 49 IAMs_20 IAMs_20 20 11 48.9
comp=Z,7µm,21.0s
ABTX Abilene, Hawle 87.80 56 IAmb IAmb 19 40 10.3
comp=Z,23nm,1.0s
F31M Tsiigehtchic 87.94 15 IAMs_20 IAMs_20 20 12 02.5
comp=Z,5µm,21.0s
F31M Tsiigehtchic 87.94 15 P **P** 19 40 00.6 -1.1
baz=222
F31M S **S** 19 50 46.2 +1.9
baz=222
735A Kenedy 88.11 60 IAMs_20 IAMs_20 20 13 06.2
comp=Z,5µm,20.0s
WRGLY Wrigley 88.17 21 P **P** 19 40 02.4 -0.5
baz=232
WRGLY S **S** 19 50 50.1 +3.3
baz=232
LAO LASA Array 88.18 41 IAMs_20 IAMs_20 20 11 52.3
comp=Z,6µm,21.0s
D28M Stokes Point 88.22 13 P **P** 19 40 02.6 -0.5
baz=217
D28M S **S** 19 50 50.4 +3.3
baz=217
CD2 Chengdu 88.33 302 P **P** 19 40 04.8 +0.3
CD2 pP pwP 19 40 07.9 -0.2
CD2 sP sP 19 40 11.8 +2.5
CD2 PP **PP** 19 43 29.3 -3.0
CD2 SKS **SKSac** 19 50 30.6 -3.0
CD2 S **S** 19 50 49.0 -0.8
CD2 pmax pmax
comp=Z,60nm,1.4s
CD2 pmax pmax
comp=Z,650nm,5.9s
CD2 LR LR
comp=Z,2µm,16.7s
CD2 LR LR
comp=Z,3µm,17.7s
CD2 LR LR
comp=Z,3µm,18.0s
USHA Ushuaia 88.48 147 LR LR 20 10 48.8
comp=Z,2µm,21.7s,baz=249,slow=30
RSSD Black Hills 88.60 44 P **P** 19 40 03.2 -2.5
RSSD Black Hills 88.60 44 IAMs_20 IAMs_20 20 15 51.8
comp=Z,5µm,19.0s
RSSD Black Hills 88.60 44 P **P** 19 40 03.2 -2.5
RSSD pmax pmax
comp=Z,41nm,1.1s
RSSD MLR MLR
comp=Z,5µm,19.0s
H03S2 Juan Fernandez 88.63 125 T T 21 18 29.0
baz=250,slow=75,SNR=23
INK Inuvik 88.64 15 LR LR 20 12 37.1
comp=Z,4µm,21.8s,baz=218,slow=31
INK Inuvik 88.64 15 P **P** 19 40 03.7 -1.3
baz=222
INK S **S** 19 50 52.7 +1.7
baz=222
H03S1 Juan Fernandez 88.64 125 T T 21 18 21.7
baz=250,slow=75,SNR=27
H03S3 Juan Fernandez 88.64 125 T T 21 18 26.9
baz=250,slow=75,SNR=20
PZH PanZhiHua 88.68 298 P **P** 19 40 06.8 +0.4
PZH pmax pmax
comp=Z,30nm,1.3s
PZH pmax pmax
comp=Z,1µm,4.9s
PZH LR LR
comp=Z,1µm,18.8s
PZH LR LR
comp=Z,950nm,19.4s
PZH LR LR
comp=Z,2µm,22.6s
H03N2 Juan Fernandez 88.74 124 T T 21 18 35.2
baz=257,slow=73,SNR=8.0
H03N3 Juan Fernandez 88.74 124 T T 21 18 33.8
baz=257,slow=73,SNR=6.3
H03N1 Juan Fernandez 88.75 124 T T 21 18 33.2
baz=257,slow=73,SNR=6.7
CMAR Chiang Mai Arr 88.88 289 P **P** 19 40 05.2 -2.1
CMAR Chiang Mai Arr 88.88 289 P **P** 19 40 08.6 +1.3
comp=Z,12nm,1.3s,baz=113,slow=3.6,SNR=21
CMAR PP **PP** 19 43 37.6 +0.7
comp=Z,0.9nm,0.3s,baz=102,slow=4.8,SNR=5.3
CMAR LR LR 20 15 21.6
comp=Z,3µm,21.4s,baz=115,slow=32
comp=Z,12nm,1.3s
PLPT Palo Pinto 88.92 56 IAmb IAmb 19 40 17.5
comp=Z,29nm,1.1s
CHTO Chiang Mai 88.98 290 P **P** 19 40 10.4 +2.6
WMOK Wichita Mounta 89.16 54 IAMs_20 IAMs_20 20 12 17.2
comp=Z,7µm,21.0s
CIT Chita 89.27 325 *e*P **P** 19 40 10.6 +2.1
CIT *e* 19 43 39.8
CIT *e* 19 50 42.0
CIT pmax pmax
comp=Z,202nm,3.8s
ESPZ Base Esperanza 89.58 157 P **P** 19 40 09.5 -0.2
OK038 West end E0370 89.74 52 IAMs_20 IAMs_20 20 12 28.4
comp=Z,7µm,21.0s
CBKS Cedar Bluff 89.75 50 IAMs_20 IAMs_20 20 13 11.3
comp=Z,5µm,20.0s
LZH Lanzhou 89.88 307 ⇑P **P** 19 40 14.1 +2.2
LZH sP pwP 19 40 19.9 +4.5
LZH pmax pmax
comp=Z,63nm,1.2s
LZH pmax pmax
comp=Z,780nm,5.0s
LZH LR LR
comp=Z,2µm,17.9s
LZH LR LR
comp=Z,2µm,18.2s
LZH LR LR
comp=Z,3µm,20.6s
HKT Hockley 90.08 59 IAMs_20 IAMs_20 20 13 05.3
comp=Z,6µm,20.0s
HKT Hockley 90.08 59 *i*P **P** 19 40 13.6 +1.0
HKT pmax pmax
comp=Z,39nm,2.2s
R32A Long Quarter, 90.39 50 IAMs_20 IAMs_20 20 15 42.2
comp=Z,6µm,19.0s
LL02 Futaleuf 90.85 135 P **P** 19 40 15.5 -0.6
LL02 IAmb IAmb 19 40 24.0
comp=Z,24nm,1.0s
TNCH TengChong 91.05 295 ⇑P **P** 19 40 17.0 -0.6
TNCH SS SS 19 57 20.1 +0.3
TNCH pmax pmax
comp=Z,55nm,1.3s
TNCH pmax pmax
comp=Z,660nm,3.8s
TNCH LR LR
comp=Z,1µm,19.6s
TNCH LR LR
comp=Z,1µm,22.8s
TNCH LR LR
comp=Z,3µm,28.5s
YKA Yellowknife Ar 91.09 24 P **P** 19 40 17.3 +0.7
comp=Z,1.3nm,0.7s,baz=246,slow=3.0,SNR=2.1
YKA LR LR 20 15 04.7
comp=Z,13µm,20.2s,baz=250,slow=32
comp=Z,1.3nm,0.7s
ULN Ulaanbaatar 91.53 319 P **P** 19 40 18.6 -0.7
ULN Ulaanbaatar 91.53 319 *i*P **P** 19 40 19.6 +0.4
ULN pmax pmax
comp=Z,60nm,1.5s
T35A Sooner Cattle 91.58 52 IAmb IAmb 19 40 28.6
comp=Z,12nm,0.9s
E28A Huff 91.67 42 IAMs_20 IAMs_20 20 15 03.1
comp=Z,4µm,20.0s
C36M Paulatuk 91.84 17 IAMs_20 IAMs_20 20 14 38.9
comp=Z,4µm,21.0s
C36M Paulatuk 91.84 17 P **P** 19 40 18.7 -1.2
baz=231
C36M S **S** 19 51 20.9 +0.4
baz=231
TUL3 Leonard 91.84 53 IAMs_20 IAMs_20 20 16 18.2
comp=Z,6µm,19.0s
SONM Songino Array 91.94 319 P **P** 19 40 20.1 -1.0
SONM Songino Array 91.94 319 P **P** 19 40 21.0 -0.1
comp=Z,8.2nm,1.0s,baz=139,slow=1.8,SNR=20
SONM PP **PP** 19 43 56.0 -4.7
comp=Z,1.3nm,0.9s,baz=134,slow=6.4,SNR=3.6
SONM LR LR 20 17 20.8
comp=Z,2µm,21.9s,baz=114,slow=33
comp=Z,8.2nm,1.0s
SUSD Miller 92.13 45 IAMs_20 IAMs_20 20 14 18.4
comp=Z,5µm,21.0s
SYO Syowa Base 92.39 192 ⇓*i*P **P** 19 40 22.8 +0.1
SYO Syowa Base 92.39 192 ⇑*e*pP pP 19 40 26.0 -0.3
441A DeRidder 92.50 59 IAMs_20 IAMs_20 20 15 50.3
comp=Z,4µm,20.0s
PLCA Paso Flores 92.65 133 P **P** 19 40 23.1 -1.6
comp=Z,2.6nm,1.1s,baz=154,slow=5.9,SNR=4.9
PLCA LR LR 20 14 06.6
comp=Z,2µm,20.6s,baz=242,slow=30
comp=Z,2.6nm,1.1s
MDND Maddock 92.80 41 IAMs_20 IAMs_20 20 15 10.6
comp=Z,5µm,21.0s
U38A Gravette 93.08 53 IAmb IAmb 19 40 33.4
comp=Z,16nm,1.2s
L34A Svendsen Farm, 93.17 48 IAMs_20 IAMs_20 20 14 43.4
comp=Z,6µm,22.0s
A36M Sachs Harbour 93.24 14 IAMs_20 IAMs_20 20 17 28.5
comp=Z,4µm,21.0s
A36M Sachs Harbour 93.24 14 P **P** 19 40 25.9 -0.4
baz=230
TROLL Troll, Antarti 93.38 180 ⇑P **P** 19 40 26.3 -1.2
comp=Z,2µm,1.1s
TIXI Tiksi 93.46 345 LR LR 20 17 54.6
comp=Z,2µm,20.5s,baz=144,slow=33
TIXI Tiksi 93.46 345 *i*P **P** 19 40 26.2 -1.2
TIXI pmax pmax
comp=Z,20nm,1.6s
ECSD EROS Data Cent 93.52 46 IAMs_20 IAMs_20 20 16 23.4
comp=Z,4µm,20.0s
SNAA Sanae 93.64 178 ⇑P **P** 19 40 28.0 -0.5
comp=Z,300nm,1.0s
SNAA Sanae 93.64 178 IAmb IAmb 19 40 33.8
comp=Z,30nm,1.2s
SNAA IAMs_20 IAMs_20 20 24 19.5
comp=Z,4µm,18.0s
SNAA Sanae 93.64 178 P **P** 19 40 27.7 -0.8
comp=Z,14nm,1.1s,baz=188,slow=7.9,SNR=10.0
SNAA LR LR 20 18 27.7
comp=Z,2µm,21.0s,baz=186,slow=33
comp=Z,14nm,1.1s
SNAA Sanae 93.64 178 *i*P **P** 19 40 28.3 -0.2
SNAA pmax pmax
comp=Z,29nm,1.2s
FFC Flin Flon 93.71 34 IAMs_20 IAMs_20 20 15 29.6
comp=Z,6µm,21.0s
VNA3 Neumayer Olymp 93.73 176 ⇑P **P** 19 40 28.0 -0.9
comp=Z,20nm,0.8s
GTA Gaotai 93.91 310 *e*P **P** 19 40 30.3 -0.1
GTA pP pwP 19 40 34.3 +0.3
GTA SS SS 19 58 03.6 +3.3
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA LR LR
comp=Z,1µm,18.3s
GTA LR LR
comp=Z,3µm,20.3s
GTA LR LR
comp=Z,5µm,24.3s
VNA2 Neumayer--Watz 94.19 177 ⇑P **P** 19 40 30.5 -0.5
comp=Z,21nm,1.0s,baz=165,slow=2.9
S39A Bolivar 94.24 52 IAmb IAmb 19 40 38.6
comp=Z,20nm,1.2s
F33A 5 Mile Ranch, 94.35 44 IAmb IAmb 19 40 38.7
comp=Z,19nm,1.1s
F33A IAMs_20 IAMs_20 20 17 51.0
comp=Z,3µm,20.0s
VNA1 Neumayer--Stat 94.41 176 ⇑P **P** 19 40 32.2 +0.3
comp=Z,46nm,1.0s

WHAR **Wooly Hollow** **94.42** **55** IAmb IAmb 19 40 40.0
comp=Z,28nm,1.4s
143A **Socs Landing,** **94.47** **58** IAMs_20 IAMs_20 20 15 02.5
comp=Z,6µm,22.0s
P38A **Dawn** **94.59** **50** IAmb IAmb 19 41 06.2
comp=Z,15nm,0.9s
P38A IAMs_20 IAMs_20 20 18 21.6
comp=Z,5µm,19.0s
IRK **Irkutsk** **94.67** **323** *e*P **P** **19 40 32.6** **-0.8**
IRK *e* 19 44 19.1
IRK pmax pmax
comp=Z,55nm,3.6s
ZAK **Zakamensk** **94.69** **321** *e*P **P** **19 40 33.3** **-0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
JTS **Las Juntas de** **94.80** **81** LR LR 20 15 02.8
comp=Z,2µm,18.6s,baz=257,slow=30
VBMS **Vicksburg** **95.08** **58** IAMs_20 IAMs_20 20 17 10.6
comp=Z,4µm,21.0s
N38A **Joes South For** **95.12** **49** IAMs_20 IAMs_20 20 17 01.3
comp=Z,6µm,20.0s
R40A **Maddies Statio** **95.20** **52** IAmb IAmb 19 40 40.6
comp=Z,25nm,1.1s
AGMN **Agassiz Nation** **95.33** **42** IAmb IAmb 19 40 41.2
comp=Z,21nm,1.2s
AGMN IAMs_20 IAMs_20 20 16 48.6
comp=Z,4µm,20.0s
LCAR **Lake Charles** **95.51** **54** IAmb IAmb 19 40 44.5
comp=Z,19nm,1.3s
P40A **Paris** **95.68** **51** IAmb IAmb 19 40 45.0
comp=Z,18nm,1.1s
P40A IAMs_20 IAMs_20 20 17 13.3
comp=Z,4µm,20.0s
ULM **Lac du Bonnet** **95.86** **40** P **P** **19 40 38.7** **-0.1**
comp=Z,1.7nm,0.8s,baz=294,slow=3.6,SNR=4.2
ULM LR LR 20 17 00.4
comp=Z,7µm,21.4s,baz=248,slow=31
comp=Z,1.7nm,0.8s
CCM **Cathedral Cave** **95.92** **52** P **P** **19 40 36.4** **-3.1**
CCM IAmb IAmb 19 40 47.2
comp=Z,10.0nm,0.9s
CCM **Cathedral Cave** **95.92** **52** P **P** **19 40 36.4** **-3.1**
CCM pmax pmax
comp=Z,10.0nm,1.0s
CCM MLR MLR
comp=Z,6µm,20.0s
146A **Union** **96.38** **58** IAMs_20 IAMs_20 20 22 24.0
comp=Z,4µm,18.0s
MOY **Mondy** **96.44** **322** *e*P **P** **19 40 44.7** **+3.0**
MOY pmax pmax
comp=Z,29nm,2.5s
SPMN **Marine on St.** **96.55** **45** IAMs_20 IAMs_20 20 17 34.4
comp=Z,5µm,21.0s
BRDH **Bariadhala** **96.56** **292** LR LR 20 21 23.9
comp=Z,2µm,21.7s,baz=156,slow=34
ATAH **Akahualpa** **96.71** **99** LR LR 20 14 29.4
comp=Z,3µm,21.7s,baz=260,slow=29
NNA **Nana** **96.83** **104** LR LR 20 14 54.7
comp=Z,970nm,19.9s,baz=254,slow=30
N41A **Harden Midland** **96.85** **50** IAMs_20 IAMs_20 20 19 42.2
comp=Z,5µm,19.0s
GOMU **GeErMu** **96.94** **305** P **P** **19 40 43.9** **-0.7**
GOMU S **S** **19 52 06.4** **-1.2**
GOMU SS **SS** **19 58 40.4** **-3.6**
GOMU pmax pmax
comp=Z,8.0nm,0.9s
GOMU pmax pmax
comp=Z,150nm,5.4s
GOMU LR LR
comp=Z,500nm,21.2s
GOMU LR LR
comp=Z,960nm,20.7s
GOMU LR LR
comp=Z,1µm,20.9s
CGM3 **Cape Girardeau** **96.97** **53** IAmb IAmb 19 40 52.5
comp=Z,8.0nm,0.9s
Z47A **Carrollton** **97.31** **58** IAMs_20 IAMs_20 20 16 52.7
comp=Z,5µm,22.0s
P43A **Skaggs, Pawnee** **97.60** **51** IAMs_20 IAMs_20 20 18 44.3
comp=Z,5µm,21.0s
T45A **Paducah** **97.70** **54** IAMs_20 IAMs_20 20 17 58.2
comp=Z,4µm,21.0s
PLAL **Pickwick Lake** **97.70** **56** IAMs_20 IAMs_20 20 19 03.7
comp=Z,5µm,19.0s
E38A **The Farm, Brul** **97.72** **44** IAMs_20 IAMs_20 20 25 09.4
comp=Z,3µm,18.0s
I40A **Norwalk** **97.75** **47** IAMs_20 IAMs_20 20 18 41.1
comp=Z,3µm,20.0s
CFA **Coronel Fontan** **97.85** **125** LR LR 20 15 01.1
comp=Z,2µm,21.0s,baz=242,slow=29
HDIL **Hopedale** **97.97** **50** IAMs_20 IAMs_20 20 19 59.0
comp=Z,5µm,20.0s
EYMN **Ely** **98.07** **43** IAMs_20 IAMs_20 20 20 00.3
comp=Z,5µm,20.0s
WVT **Waverly** **98.14** **55** IAMs_20 IAMs_20 20 16 43.2
comp=Z,6µm,22.0s
LRAL **Lakeview Retre** **98.16** **58** IAMs_20 IAMs_20 20 17 32.1
comp=Z,4µm,22.0s
X48A **Hartselle** **98.42** **57** IAMs_20 IAMs_20 20 20 01.7
comp=Z,5µm,20.0s
LSA **Lhasa** **98.53** **298** P Pdif 19 40 51.6 -0.5
LSA LR LR
comp=Z,940nm,24.5s
LSA LR LR
comp=Z,2µm,21.6s
250A **Grady** **98.54** **59** IAMs_20 IAMs_20 20 19 55.3
comp=Z,3µm,20.0s
T47A **Sharon Grove** **98.89** **54** IAMs_20 IAMs_20 20 17 18.0
comp=Z,6µm,22.0s
I42A **Draeger Farm,** **98.95** **47** IAMs_20 IAMs_20 20 19 28.4
comp=Z,3µm,21.0s
COWI **Conover** **99.25** **45** IAMs_20 IAMs_20 20 23 17.9
comp=Z,4µm,18.0s
HQIL **Hanson Quary C** **99.30** **49** IAMs_20 IAMs_20 20 19 37.8
comp=Z,4µm,20.0s
L44A **Lake County Fo** **99.33** **49** IAMs_20 IAMs_20 20 18 19.6
comp=Z,5µm,22.0s
P46A **Rosedale** **99.34** **52** IAMs_20 IAMs_20 20 18 38.5
comp=Z,5µm,20.0s
SFIN **Lafayette** **99.58** **51** IAMs_20 IAMs_20 20 21 45.5
comp=Z,4µm,19.0s
WCI **Wyandotte Cave** **99.77** **53** IAMs_20 IAMs_20 20 21 38.0
comp=Z,3µm,19.0s
F42A **Maple Grove Fa** **99.87** **45** IAMs_20 IAMs_20 20 21 05.3
comp=Z,5µm,20.0s
H43A **Windswept, Lux** **99.88** **47** IAMs_20 IAMs_20 20 18 47.7
comp=Z,6µm,22.0s
152A **Waverly Hall** **99.96** **59** IAMs_20 IAMs_20 20 20 01.9
comp=Z,4µm,21.0s
PB06 **IPOC Station P** **100.02** **117** IAMs_20 IAMs_20 20 15 36.8
comp=Z,4µm,20.0s
PB03 **IPOC Station P** **100.10** **116** IAMs_20 IAMs_20 20 15 38.8
comp=Z,3µm,20.0s
X51A **Calhoun** **100.21** **57** IAMs_20 IAMs_20 20 21 45.2
comp=Z,4µm,19.0s
PB02 **IPOC Station P** **100.22** **115** IAMs_20 IAMs_20 20 15 44.2
comp=Z,4µm,21.0s
HMBC **Humberstone** **100.59** **114** IAMs_20 IAMs_20 20 15 32.9
comp=Z,4µm,20.0s
PB09 **IPOC Station P** **100.63** **116** IAMs_20 IAMs_20 20 15 55.9
comp=Z,3µm,22.0s
R49A **Shelbyville** **100.65** **53** IAMs_20 IAMs_20 20 18 45.3
comp=Z,4µm,22.0s
N47A **Urbana** **100.72** **50** IAMs_20 IAMs_20 20 24 05.7
comp=Z,4µm,18.0s
I45A **Fountain** **100.88** **47** IAMs_20 IAMs_20 20 20 33.5
comp=Z,5µm,20.0s
154A **Montrose** **101.29** **59** IAMs_20 IAMs_20 20 22 46.1
comp=Z,4µm,19.0s
R50A **Paris** **101.30** **53** IAMs_20 IAMs_20 20 18 54.6
comp=Z,5µm,22.0s
S51A **Beattyville** **101.77** **54** IAMs_20 IAMs_20 20 19 20.0
comp=Z,6µm,22.0s
N49A **Columbus Grove** **101.85** **51** IAMs_20 IAMs_20 20 24 58.8
comp=Z,3µm,19.0s
Q51A **Peebles** **102.18** **53** IAMs_20 IAMs_20 20 20 13.8
comp=Z,5µm,22.0s
AAM **Ann Arbor** **102.46** **49** IAMs_20 IAMs_20 20 25 14.6
comp=Z,5µm,18.0s
M50A **Fremont** **102.78** **50** IAMs_20 IAMs_20 20 23 22.2
comp=Z,5µm,19.0s
257A **Skidaway Islan** **102.91** **60** IAMs_20 IAMs_20 20 22 10.3
comp=Z,4µm,20.0s
Q52A **Bidwell** **103.00** **53** IAMs_20 IAMs_20 20 20 50.6
comp=Z,5µm,22.0s
JSC **Jenkinsville** **103.09** **58** IAMs_20 IAMs_20 20 23 07.6
comp=Z,5µm,19.0s
K50A **Casco** **103.28** **49** IAMs_20 IAMs_20 20 20 43.3
comp=Z,3µm,21.0s
PALK **Pallekele** **103.40** **274** IAMs_20 IAMs_20 20 28 40.2
comp=Z,5µm,21.0s
BIRD **Birdtown, Kers** **103.80** **57** IAMs_20 IAMs_20 20 20 53.3
comp=Z,5µm,22.0s
NHSC **New Hope** **103.80** **59** IAMs_20 IAMs_20 20 22 01.6
comp=Z,4µm,21.0s
M52A **Chesterland** **104.05** **50** IAMs_20 IAMs_20 20 21 16.9
comp=Z,4µm,22.0s
Q54A **Coxs Mills** **104.11** **53** IAMs_20 IAMs_20 20 21 47.0
comp=Z,4µm,22.0s
X58A **Rowland** **104.70** **58** IAMs_20 IAMs_20 20 24 07.3
comp=Z,4µm,20.0s
CHIV **Chivirico** **104.94** **73** IAMs_20 IAMs_20 20 21 41.6
comp=Z,1µm,19.0s
Y60A **Bolivia** **105.55** **58** IAMs_20 IAMs_20 20 24 14.8
comp=Z,5µm,20.0s
P57A **Homestead Farm** **106.35** **53** IAMs_20 IAMs_20 20 23 35.1
comp=Z,4µm,20.0s
NMDO **Nuevo Mundo** **106.36** **73** IAMs_20 IAMs_20 20 22 38.4
comp=Z,2µm,20.0s
ZALV **Zalesovo Beam** **106.48** **322** Pdiff **Pdif** **19 41 26.8** **+0.6**
comp=Z,1.1nm,0.8s,baz=92,slow=8.9,SNR=5.5
ZALV PKiKP **PKiKP** **19 45 37.2** **+0.1**
comp=Z,0.8nm,0.7s,baz=90,slow=1.4,SNR=4.2
MMNY **Mt. Morris Dam** **106.73** **49** IAMs_20 IAMs_20 20 22 51.6
comp=Z,3µm,22.0s
J55A **Hilton** **106.84** **49** IAMs_20 IAMs_20 20 23 21.4
comp=Z,4µm,21.0s
L56A **Greenwood** **106.94** **50** IAMs_20 IAMs_20 20 22 36.2
comp=Z,5µm,22.0s
SDMD **Soldier's Deli** **107.25** **53** IAMs_20 IAMs_20 20 24 34.8
comp=Z,2µm,20.0s
HYB **Hyderabad** **107.56** **284** *e*Pdif **Pdif** **19 41 30.1** **-1.8**
HYB *e*PKiKP **PKiKP** **19 45 38.7** **-1.6**
HYB *e*SKSac **SKSac** **19 52 10.0** **-2.5**
K57A **Scipio Center** **107.75** **49** IAMs_20 IAMs_20 20 23 22.7
comp=Z,5µm,22.0s
MKAR **Makanchi Array** **107.76** **315** Pdiff **Pdif** **19 41 34.8** **+2.6**
comp=Z,2.1nm,1.1s,baz=90,slow=7.2,SNR=4.1
MKAR PKiKP **PKiKP** **19 45 39.9** **+0.1**
comp=Z,0.6nm,0.8s,baz=91,slow=2.8,SNR=3.7
J57A **Williamstown** **108.17** **49** IAMs_20 IAMs_20 20 24 52.8
comp=Z,5µm,20.0s
TULEG **Thule** **108.59** **14** IAMs_20 IAMs_20 20 28 13.1
comp=Z,3µm,20.0s
P61A **Hammonton** **108.84** **53** IAMs_20 IAMs_20 20 23 18.1
comp=Z,5µm,22.0s
J59A **Piesco** **109.26** **49** IAMs_20 IAMs_20 20 24 45.6
comp=Z,4µm,21.0s
KURK **Kurchatov** **110.24** **319** *i* PKiKP **PKiKP** **19 45 43.4** **-0.9**
KURBB **Kurchatov Arra** **110.30** **319** PKiKP **PKiKP** **19 45 43.4** **-1.0**
comp=Z,1.7nm,1.0s,baz=87,slow=2.1,SNR=6.5
KURBB PP **PP** **19 46 13.8** **-5.4**
comp=Z,6.7nm,1.2s,baz=87,slow=7.1,SNR=9.3
KURBB PKKPbc **PKKPbc** **19 56 48.1** **+1.4**
comp=Z,0.5nm,0.7s,baz=264,slow=4.1,SNR=5.9
SAML **Samuel** **110.54** **106** IAMs_20 IAMs_20 20 23 00.8
comp=Z,3µm,21.0s
J61A **Chester** **110.68** **49** IAMs_20 IAMs_20 20 26 07.1
comp=Z,4µm,20.0s
SCHQ **Schefferville** **113.75** **36** IAMs_20 IAMs_20 20 29 27.0
comp=Z,3µm,20.0s
BVAR **Borovoye Array** **115.12** **322** PKP **PKiKP** **19 45 52.0** **-1.5**
comp=Z,1.9nm,0.8s,baz=42,slow=2.4,SNR=8.9
BRVK **Borovoye** **115.18** **322** *c* PKiKP **PKiKP** **19 45 51.4** **-2.2**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
KBS **Kingsbay** **115.72** **358** IAMs_20 IAMs_20 20 30 31.2
comp=Z,4µm,20.0s
GAR **Garm** **116.52** **306** IAMs_20 IAMs_20 20 32 39.1
comp=Z,4µm,22.0s
CHGR **Chuyangaron** **117.44** **306** IAMs_20 IAMs_20 20 38 30.5
comp=Z,3µm,19.0s
VAO **Valinhos** **118.54** **127** IAMs_20 IAMs_20 20 27 04.5
comp=Z,4µm,22.0s
SVE **Sverdlovsk** **119.65** **328** *i* PKiKP **PKiKP** **19 46 04.2** **+2.0**
SVE pmax pmax
comp=Z,8.0nm,1.3s
BBGH **Gun Hill** **119.71** **83** IAMs_20 IAMs_20 20 36 44.2
comp=Z,3µm,22.0s
ARTI **Arti** **120.97** **328** IAMs_20 IAMs_20 20 37 03.0
comp=Z,3µm,20.0s
ARTI **Arti** **120.97** **328** PKP **PKiKP** **19 46 04.6** **-0.2**
comp=Z,2.9nm,0.8s,baz=75,slow=0.5,SNR=7.7
ARTI **Arti** **120.97** **328** *i* PKiKP **PKPdf** **19 46 02.5** **-2.2**
ARTI 19 47 29.9
ARTI 19 53 14.5
ARTI SP SP 19 57 26.8 +3.5
ARTI MLR MLR
comp=Z,3µm,20.0s
MAL2 **Monte Alegre,** **121.26** **102** IAMs_20 IAMs_20 20 30 04.0
comp=Z,4µm,21.0s
KEV **Kevo** **123.03** **350** IAMs_20 IAMs_20 20 44 44.9
comp=Z,2µm,20.0s
AKTO **Aktyubinsk** **123.20** **321** PKP **PKPdf** **19 46 08.6** **-0.5**
comp=Z,2.8nm,0.9s,baz=48,slow=3.8,SNR=7.4
VOI **Vohitsoka** **123.44** **231** IAMs_20 IAMs_20 20 32 38.9
comp=Z,3µm,19.0s
ARCES **ARCESS Array B** **123.47** **351** **PKPdf** **19 46 06.9** **-2.3**
ARCES **ARCESS Array B** **123.47** **351** PKP **PKPdf** **19 46 07.2** **-1.9**
comp=Z,3.5nm,0.7s,baz=5.4,slow=2.4,SNR=14
APA **Apatity** **123.64** **346** *i* PKiKP **PKPdf** **19 46 08.5** **-1.0**
MSEY **Mahe Island** **124.25** **254** IAMs_20 IAMs_20 20 33 46.6
comp=Z,3µm,21.0s
KLMR **Klimovskoe** **126.92** **338** *e*PKiKP **PKPdf** **19 46 13.1** **-2.8**
KLMR pmax pmax
comp=Z,51nm,1.3s
KLMR MLR MLR
comp=Z,1µm,18.0s
BORG **Borgarnes** **127.48** **13** IAMs_20 IAMs_20 20 36 21.1
comp=Z,3µm,20.0s
POGA **Pongola** **129.52** **214** IAMs_20 IAMs_20 20 34 07.7
comp=Z,3µm,22.0s
SUR **Sutherland** **129.97** **200** IAMs_20 IAMs_20 20 32 50.6
comp=Z,4µm,22.0s
FIA1 **FINESS Array S** **130.51** **345** IAMs_20 IAMs_20 20 39 24.4
comp=Z,2µm,22.0s
FINES **FINESS Array B** **130.51** **345** PKP **PKPdf** **19 46 20.7** **-2.0**
comp=Z,7.4nm,0.9s,baz=46,slow=4.0,SNR=8.7
MOS **Moscow** **131.16** **335** *i* PKiKP **PKiKP** **19 46 27.1** **+2.0**
BOSA **Boshof** **131.63** **207** PKP **PKiKP** **19 46 27.6** **+0.4**
comp=Z,5.4nm,1.1s,baz=174,slow=2.0,SNR=3.4
OBN **Obninsk** **132.03** **334** IAMs_20 IAMs_20 20 44 57.0
comp=Z,3µm,20.0s
OBN **Obninsk** **132.03** **334** *ce*PKiKP **PKiKP** **19 46 26.4** **-0.4**
OBN *i* 19 48 47.6
OBN *e*PPP PPP 19 51 38.0
OBN *e* 19 53 27.5
OBN pmax pmax
comp=Z,49nm,1.7s
OBN MLR MLR
comp=Z,3µm,20.0s
MAK **Makhachkala** **132.57** **315** *i* P **Pdif** **19 43 12.3** **-10**
MAK *e* 19 53 29.1
MAK *e*SSS SSS 20 11 22.0
MAK pmax pmax
comp=Z,198nm,1.6s
AKT **Akhty** **132.96** **313** *e*PKiKP **PKiKP** **19 46 31.6** **+2.2**
AKT *e* 19 48 52.3
AKT *e*PPP PPP 19 51 45.2
AKT *e* 19 53 38.2
AKT *e*SP SP 19 59 14.4 +5.2
AKT pmax pmax
comp=Z,26nm,2.7s
NOA **NORSAR Array B** **133.44** **354** PKP **PKPdf** **19 46 27.0** **-1.4**
comp=Z,2.1nm,0.8s,baz=13,slow=4.1,SNR=6.6
HFS **Hagfors** **134.05** **352** PKP **PKPdf** **19 46 27.8** **-1.7**
comp=Z,7.4nm,1.0s,baz=191,slow=1.5,SNR=5.5
GOF **Gofitskoye** **134.58** **320** *ce*PKiKP **PKiKP** **19 46 38.4** **+6.0**
KONO **Kongsberg** **134.96** **355** IAMs_20 IAMs_20 20 56 29.2
comp=Z,2µm,20.0s
KIV **Kislovodsk** **135.33** **319** IAMs_20 IAMs_20 20 52 26.5
comp=Z,2µm,19.0s
KIV **Kislovodsk** **135.33** **319** *i* PKiKP **PKPdf** **19 46 28.7** **-3.8**
KIV *e*PS **PS** **19 59 28.6** **-3.1**
KIV *e*SSS SSS 20 11 59.9
KIV pmax pmax
comp=Z,5.0nm,1.1s
MREMI **Moremi** **135.65** **214** IAMs_20 IAMs_20 20 40 18.9
comp=Z,2µm,20.0s
MNK **Minsk** **135.81** **339** *i* PKiKP **PKPdf** **19 46 32.5** **-0.4**
MNK *i* 19 49 09.2
MNK *i* PPP PPP 19 52 05.9
MNK *i* 19 53 41.5
MNK *i* SS SS 20 07 09.1 +0.7
MNK *i* SSS SSS 20 12 11.3
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=N,15nm,0.8s
MNK MLR MLR
comp=N,988nm,19.0s
MNK MLR MLR
comp=E,2µm,20.0s
MNK MLR MLR
comp=Z,2µm,21.0s
ERBR **Yeremizino-Bor** **135.81** **322** *i* PKiKP **PKPdf** **19 46 31.9** **-1.3**
ERBR *e* 19 46 35.1
ERBR pmax pmax
comp=Z,11nm,0.6s
LPHEP **Lephephe** **135.81** **211** IAMs_20 IAMs_20 20 38 12.3
comp=Z,2µm,20.0s
PABE **Paberze** **136.21** **343** **PKPdf** **19 46 33.1** **-0.5**
PABE IAMs_20 IAMs_20 20 57 14.2
comp=Z,2µm,19.0s
RCBR **Riachuelo** **136.56** **115** IAMs_20 IAMs_20 20 40 40.1
comp=Z,3µm,20.0s
SUW **Suwalki** **137.73** **342** IAMs_20 IAMs_20 20 52 07.3
comp=Z,3µm,20.0s
KGCAE **Kacgae** **137.98** **207** IAMs_20 IAMs_20 20 45 11.6
comp=Z,2µm,20.0s
ANN **Anapa** **138.12** **323** *i* PKiKP **PKPdf** **19 46 36.6** **-0.9**
ANN *e* 19 46 40.7
ANN pmax pmax
comp=Z,30nm,1.2s
AKASG **Malin Array Be** **138.29** **335** PKP **PKPdf** **19 46 34.3** **-3.3**
comp=Z,3.4nm,0.9s,baz=41,slow=1.1,SNR=4.7
AKBB **Malin Array Si** **138.29** **335** IAMs_20 IAMs_20 20 46 03.6
comp=Z,3µm,22.0s
AKBB **Malin Array Si** **138.29** **335** *ce*PKiKP **PKPdf** **19 46 35.8** **-1.9**
KIEV **Kiev** **138.31** **335** IAMs_20 IAMs_20 20 46 03.6
comp=Z,3µm,22.0s
RAYN **Ar Rayn** **138.80** **289** IAMs_20 IAMs_20 20 54 02.0
comp=Z,2µm,18.0s
RGN **Rugen** **139.50** **351** IAMs_20 IAMs_20 21 00 42.3
comp=Z,2µm,18.0s
SIM **Simferopol'** **139.93** **325** *e*PKHKP PKPpre 19 46 31.2
SIM pmax pmax
comp=Z,10.0nm,1.0s
HLG **Helgoland** **140.51** **355** *e*L L 20 47 58.0
comp=Z,2µm,20.6s
ATD **Arta Tunnel** **140.83** **270** IAMs_20 IAMs_20 20 44 48.4
comp=Z,2µm,21.0s
LSZ **Lusaka** **140.91** **221** **PKPdf** **19 46 40.4** **-3.3**
LSZ **Lusaka** **140.91** **221** IAMs_20 IAMs_20 20 41 19.6
comp=Z,3µm,22.0s
LSZ **Lusaka** **140.91** **221** PKiKP **PKPdf** **19 46 40.4** **-3.3**
LSZ MLR MLR
comp=Z,3µm,22.0s
KIBK **Kibwezi** **141.09** **247** **PKPdf** **19 46 42.4** **-1.7**
KIBK IAMs_20 IAMs_20 20 43 58.8
comp=Z,2µm,20.0s
MILM **Milestii Mici** **141.31** **331** *e*PKP **PKPdf** **19 46 40.0** **-3.2**
MILM **Milestii Mici** **141.31** **331** *e*PP PP 19 49 48.0 +3.0
MILM *e*L L 20 41 32.0
MILM LRM MLR 20 47 29.0
comp=Z,3µm,21.5s
MILM **Milestii Mici** **141.31** **331** *e*PKiKP **PKPdf** **19 46 40.0** **-3.2**
MILM *e* 19 49 48.0
GORT1 **Trebel** **141.31** **352** *e*PKPbc **PKiKP** **19 46 45.6** **-0.1**
baz=14,slow=2.6
NRDL **Niedersach Rie** **141.96** **353** *e*PKPbc **PKiKP** **19 46 46.2** **-0.9**
baz=14,slow=2.6
FLTG **Flechtingen** **141.97** **352** *e*PKPbc **PKiKP** **19 46 45.9** **-1.3**
baz=14,slow=2.6
KMBO **Kilima Mbogo** **142.34** **248** *i* PKiKP **PKPdf** **19 46 45.2** **-1.2**
KMBO pmax pmax
comp=Z,4.0nm,0.3s
BURAR **Bucovina Array** **142.35** **335** ⇑P **PKPdf** **19 46 42.3** **-3.0**
BURAR **Bucovina Array** **142.35** **335** ⇑PKiKP **PKPdf** **19 46 42.3** **-3.0**
KOLS **Kolonicke sedl** **142.38** **339** *e*PKiKP **PKiKP** **19 46 48.6** **+0.4**
KOLS **Kolonicke sedl** **142.38** **339** *e*PKP **PKiKP** **19 46 48.6** **+0.4**
IBBN **Ibbenburen** **142.39** **355** *e*PKPbc **PKiKP** **19 46 47.2** **-0.9**
baz=14,slow=2.6
CLZ **Clausthal** **142.56** **352** *e*PKPbc **PKiKP** **19 46 47.6** **-0.9**
baz=14,slow=2.6
TESR **Tescani** **142.60** **333** ⇑P **PKPdf** **19 46 43.3** **-2.4**
CLL **Collm** **142.68** **349** IAMs_20 IAMs_20 20 53 26.1
comp=Z,2µm,20.0s
CLL **Collm** **142.68** **349** *e*PKiKP **PKPdf** **19 46 45.0** **-0.6**
CLL *i* 19 46 47.3
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL MLR MLR
comp=Z,2µm,20.1s
CLL **Collm** **142.68** **349** *e*PKPbc **PKiKP** **19 46 47.6** **-1.1**
baz=14,slow=2.6
CLL *e*L L 20 53 26.1
comp=Z,2µm,20.1s
OSTC **Ostas** **142.72** **346** *e*PKiKP **PKiKP** **19 46 48.7** **-0.1**
OSTC *e*SS SS 20 08 28.8 -0.7
OSTC MLR MLR
comp=Z,2µm,19.6s
OSTC **Ostas** **142.72** **346** *e*PKP **PKiKP** **19 46 48.7** **-0.1**
OSTC *e*SS SS 20 08 28.8 -0.7
OSTC AMS AMS 20 54 20.0
comp=Z,2µm,19.6s
CHVC **Chvalec** **142.72** **346** *e*PKiKP **PKPdf** **19 46 44.4** **-1.3**
CHVC MLR MLR
comp=Z,2µm,20.0s
CHVC **Chvalec** **142.72** **346** *e*PKP **PKPdf** **19 46 44.4** **-1.3**
CHVC AMS AMS 20 54 30.0
comp=Z,2µm,20.0s
UPC **Upice** **142.81** **346** *e*SS SS 20 08 31.1 +0.6
UPC AMS AMS 20 47 50.0
comp=Z,2µm,18.1s
OKC **Ostrava-Krasne** **142.88** **343** *e*PKiKP **PKPdf** **19 46 41.0** **-5.0**
OKC MLR MLR
comp=Z,2µm,19.8s
OKC **Ostrava-Krasne** **142.88** **343** *e*PKP **PKPdf** **19 46 41.0** **-5.0**
OKC AMS AMS 20 49 40.0
comp=Z,2µm,19.8s
DPC **Dobruska-Polom** **142.88** **346** *e*PKiKP **PKiKP** **19 46 50.4** **+1.2**
DPC *e*SS SS 20 08 32.2 +0.8
DPC MLR MLR
comp=Z,2µm,18.0s
DPC **Dobruska-Polom** **142.88** **346** *e*PKP **PKiKP** **19 46 50.4** **+1.2**
DPC *e*SS SS 20 08 32.2 +0.8
DPC AMS AMS 20 58 50.0
comp=Z,2µm,18.0s
STEB **Steborice** **142.89** **344** *e*PKP **PKiKP** **19 46 48.4** **-0.8**
GTTG **Gottingen** **142.91** **352** *e*PKPbc **PKiKP** **19 46 48.3** **-0.9**
baz=14,slow=2.6
BRG **Berggiesshubel** **142.91** **348** *e*PKPbc **PKiKP** **19 46 49.2** **0.0**
baz=14,slow=2.6
BRG **Berggiesshubel** **142.91** **348** *e*PKP **PKiKP** **19 46 49.2** **0.0**
BRG Amp 19 46 52.6
comp=Z,7.6nm,0.9s
NEUB **Neuenburg** **142.98** **351** *e*PKPbc **PKiKP** **19 46 48.2** **-1.1**
baz=14,slow=2.6
TPGR **Topolog** **142.99** **329** ⇑P **PKPdf** **19 46 43.4** **-3.0**
KRLC **Kraliky** **143.02** **345** *e*PKiKP **PKiKP** **19 46 49.2** **-0.3**
KRLC *e*SS SS 20 08 35.7 +2.6
KRLC **Kraliky** **143.02** **345** *e*PKP **PKiKP** **19 46 49.2** **-0.3**
KRLC *e*SS SS 20 08 35.7 +2.6
VRI **Vrincioaia** **143.05** **332** ⇑P **PKPdf** **19 46 44.3** **-2.2**
VRI **Vrincioaia** **143.05** **332** ⇑PKiKP **PKPdf** **19 46 44.3** **-2.2**
MORC **Moravsky Berou** **143.10** **344** IAMs_20 IAMs_20 20 47 42.4
comp=Z,3µm,22.0s
MORC **Moravsky Berou** **143.10** **344** *e*PKP **PKPdf** **19 46 46.6** **+0.1**
LANS **Liptovska Anna** **143.11** **342** *e*PKiKP **PKiKP** **19 46 47.9** **-1.8**
LANS **Liptovska Anna** **143.11** **342** *e*PKP **PKiKP** **19 46 47.9** **-1.8**
PVCC **Panska Ves** **143.11** **347** AMS AMS 20 53 30.0
comp=Z,3µm,19.4s
TSUM **Tsumeb** **143.16** **204** IAMs_20 IAMs_20 20 54 57.9
comp=Z,2µm,18.0s
RICC **Richard** **143.19** **348** *e*PKP **PKPdf** **19 46 46.1** **-0.4**
RICC AMS AMS 21 00 30.0
comp=Z,2µm,21.2s
TURR **Turia** **143.23** **333** ⇑P **PKPdf** **19 46 44.8** **-2.0**
HSKC **Hora Svate Kat** **143.27** **349** *e*PKP **PKPdf** **19 46 47.1** **+0.4**
HSKC *e*SS SS 20 08 35.1 -0.6
HSKC AMS AMS 20 53 10.0
comp=Z,2µm,21.1s
BRTR **Keskin Array B** **143.29** **318** PKPbc 19 46 43.2 -1.1
BRTR **Keskin Array B** **143.29** **318** PKP PKPbc 19 46 44.5 +0.2
comp=Z,5.6nm,0.9s,baz=64,slow=2.9,SNR=12
MAUC **Maruska** **143.40** **343** *e*PKP **PKPdf** **19 46 47.7** **+0.7**

MAUC eSS SS 20 08 48.5 +11
KASTN Kahler Asten 143.42 354 ePKPbc **PKiKP 19 46 49.0 -1.3**
baz=14,slow=2.6
KIRS Kirsehir-Merke 143.44 317 ⇑P PKPbc 19 46 44.8 +0.2
MOX Moxa 143.55 350 eL L 20 47 30.2
comp=Z,2µm,21.9s
PCED Cedros 143.56 43 ePKP **PKPdf 19 46 48.3 +0.8**
DOPR Dopca 143.57 333 ⇓P **PKPdf 19 46 46.1 -1.3**
PRA Prague 143.57 347 ePKIKP PKPbc 19 46 44.2 -0.3
PRA eSS SS 20 08 41.3 +2.1
PRA MLR MLR
comp=Z,2µm,19.1s
PRA Prague 143.57 347 ePKP PKPbc 19 46 44.2 -0.3
PRA eSS SS 20 08 41.3 +2.1
PRA AMS AMS 20 54 40.0
comp=Z,2µm,19.1s
PLN Plauen 143.61 350 ePKPbc **PKiKP 19 46 50.4 -0.2**
baz=14,slow=2.6
PRU Pruhonice 143.63 347 ePKIKP **PKPdf 19 46 47.7 +0.4**
PRU eSS SS 20 08 37.6 -2.3
PRU MLR MLR
comp=Z,2µm,21.3s
PRU Pruhonice 143.63 347 ePKP **PKPdf 19 46 47.7 +0.4**
PRU eSS SS 20 08 37.6 -2.3
PRU AMS AMS 20 53 10.0
comp=Z,2µm,21.3s
TANN Tannenbergstha 143.63 349 ePKPbc **PKiKP 19 46 49.9 -0.9**
baz=14,slow=2.6
MLR Muntele Rosu 143.69 332 PKPdf 19 46 46.1 -1.7
MLR IAMs_20 IAMs_20 20 53 59.6
comp=Z,3µm,20.0s
MLR Muntele Rosu 143.69 332 ⇑P **PKPdf 19 46 46.6 -1.1**
MLR Muntele Rosu 143.69 332 ⇑PKIKP **PKPdf 19 46 46.6 -1.1**
ANTO Ankara 143.75 319 ⇑P **PKPdf 19 46 47.1 -0.9**
ANTO Ankara 143.75 319 ⇑P PKPab 19 46 44.1 -0.7
ANTO Ankara 143.75 319 PKIKP **PKPdf 19 46 47.1 -0.9**
ANTO MLR MLR
comp=Z,1µm,21.0s
VRAC Vranov 143.78 345 PKP **PKPdf 19 46 46.8 -0.8**
comp=Z,2.3nm,0.5s,baz=18,slow=4.3,SNR=4.5
VRAC Vranov 143.78 345 ePKP **PKPdf 19 46 47.6 0.0**
PICO Pico 143.81 43 ePKP **PKPdf 19 46 47.8 -0.2**
VYHS Vyhne 143.89 342 ePKIKP **PKPdf 19 46 48.5 +0.7**
VYHS Vyhne 143.89 342 ePKP **PKPdf 19 46 48.5 +0.7**
JAVC Velka Javorina 143.90 343 ePKP **PKPdf 19 46 47.2 -0.7**
PPNO Prainha do Nor 143.93 43 ePKP **PKiKP 19 46 56.8 +5.1**
MARR Marisel-Cluj 143.95 336 ⇓P **PKPdf 19 46 46.8 -1.3**
DRGR 144.02 336 ⇑P **PKPdf 19 46 48.1 -0.1**
DRGR 144.02 336 ⇑PKIKP **PKPdf 19 46 48.1 -0.1**
KRUC Moravsky 144.06 345 ePKP **PKPdf 19 46 47.4 -0.7**
PSZ Piszkesteto 144.06 340 PKPdf 19 46 46.7 -1.5
PSZ IAMs_20 IAMs_20 20 51 07.0
comp=Z,2µm,18.0s
PSZ Piszkesteto 144.06 340 ⇑P **PKiKP 19 46 49.5 -2.2**
PSZ Piszkesteto 144.06 340 PKIKP **PKPdf 19 46 46.7 -1.5**
PSZ MLR MLR
comp=Z,2µm,18.0s
TREC Trest 144.06 346 AMS AMS 20 53 50.0
comp=Z,3µm,20.4s
UCC Uccle 144.09 358 dPKPdf **PKPdf 19 46 47.3 -0.8**
MANZ Manzenberg 144.10 350 ePKPbc **PKPdf 19 46 49.1 +0.9**
baz=14,slow=2.6
VOIR 144.14 333 ⇑P **PKPdf 19 46 47.0 -1.5**
VOIR 144.14 333 ⇑PKIKP **PKPdf 19 46 47.0 -1.5**
MEM Membach 144.21 356 dPKP **PKiKP 19 46 56.1 +4.3**
BTNL Ternell 144.22 356 dPKPdf **PKPdf 19 46 47.4 -1.0**
ZVC Zvikov 144.22 347 ePKP **PKPdf 19 46 49.5 +1.1**
ZVC AMS AMS 20 50 50.0
comp=Z,2µm,20.6s
BSTI Sart Tilman 144.26 357 dPKPdf **PKPdf 19 46 47.5 -0.9**
ROTZ Rotzenmuhle 144.30 349 ePKPbc **PKPdf 19 46 49.3 +0.8**
baz=14,slow=2.6
SAHE Sakarya_HENDEK 144.35 322 ⇑P PKPbc 19 46 46.4 -0.8
FURI Furi 144.35 265 IAMs_20 IAMs_20 20 53 48.6
comp=Z,2µm,18.0s
ARR Arges 144.37 333 ⇑P **PKPdf 19 46 48.3 -0.6**
TNS Taunus Mts 144.39 354 ePKPbc **PKPdf 19 46 48.5 -0.2**
baz=14,slow=2.6
TNS eL L 20 51 55.1
comp=Z,2µm,20.8s
MODS Modra-Piesok 144.45 343 ePKIKP **PKPab 19 46 45.5 -1.5**
MODS e 19 46 48.5
MODS Modra-Piesok 144.45 343 ePKP **PKPdf 19 46 48.5 -0.3**
BHOU Houvegnez 144.46 356 dPKPdf **PKPdf 19 46 47.6 -1.1**
PAGU Agualva, Azore 144.48 42 ePKP **PKPdf 19 46 49.8 +0.6**
GRA1 Grafenberg Arr 144.54 350 IAMs_20 IAMs_20 20 54 07.4
comp=Z,2µm,19.0s
GRF Grafenberg Arr 144.54 350 ePKPbc **PKPdf 19 46 50.2 +1.3**
baz=14,slow=2.6
GRF eL L 20 54 07.6
comp=Z,2µm,19.9s
GRFO Grafenberg 144.54 350 IAMs_20 IAMs_20 20 54 06.5
comp=Z,2µm,20.0s
BMRD Maredsous 144.57 358 dPKPdf **PKPdf 19 46 47.7 -1.2**
KHC Kasperske Hory 144.64 348 IAMs_20 IAMs_20 21 00 08.2
comp=Z,2µm,20.0s
KHC Kasperske Hory 144.64 348 cePKIKP **PKPdf 19 46 50.1 +0.9**
KHC pmax pmax
comp=Z,33nm,1.7s
KHC Kasperske Hory 144.64 348 ePKP PKPbc 19 46 47.7 -0.2
KHC eSS SS 20 08 40.2 -11
KHC AMS AMS 20 59 30.0
comp=Z,2µm,18.5s
LOT Lotru 144.68 334 ⇓P **PKPdf 19 46 49.1 -0.4**
RCHB Rochefort 144.70 357 dPKP **PKiKP 19 46 51.6 -1.2**
PRD Provadia 144.71 328 P **PKiKP 19 46 50.9 -2.2**
WET Wettzell 144.77 348 ePKPbc **PKPdf 19 46 50.2 +0.8**
baz=14,slow=2.6
WET eL L 20 54 42.4
comp=Z,3µm,20.0s
CKRC Cesky Krumlov 144.78 347 ePKIKP **PKPdf 19 46 48.5 -0.9**
CKRC eSS SS 20 08 54.0 +0.8
CKRC MLR MLR
comp=Z,2µm,20.7s
CKRC Cesky Krumlov 144.78 347 ePKP **PKPdf 19 46 48.5 -0.9**
CKRC eSS SS 20 08 54.0 +0.8
CKRC AMS AMS 20 57 40.0
comp=Z,2µm,20.7s
DOU Dourbes 144.79 358 dPKP **PKiKP 19 46 51.2 -1.9**
SIRR Siria 144.85 337 ⇓P **PKPdf 19 46 50.1 +0.5**
RAZG Razgrad 144.87 329 ⇑P **PKPdf 19 46 48.9 -0.8**
GEC2 GERESS Array S 144.89 347 IAMs_20 IAMs_20 21 00 32.7
comp=Z,2µm,19.0s
GEC2 GERESS Array S 144.89 347 ePKPbc **PKPdf 19 46 50.3 +0.7**
baz=14,slow=2.6
GEC2 eL L 20 53 33.6
comp=Z,2µm,20.8s
GERES GERESS Array B 144.89 347 PKP **PKPdf 19 46 48.9 -0.8**
comp=Z,4.6nm,1.0s,baz=48,slow=2.0,SNR=27
SURR Surduc 145.10 336 ⇑P **PKPdf 19 46 50.2 +0.2**
GZR Gura Zlata 145.14 335 ⇑P **PKPdf 19 46 49.9 -0.3**
GZR Gura Zlata 145.14 335 ⇑PKIKP **PKPdf 19 46 49.9 -0.3**
WLF Walferdange 145.14 356 IAMs_20 IAMs_20 20 51 02.5
comp=Z,3µm,20.0s
WLF Walferdange 145.14 356 dPKP **PKPdf 19 46 50.7 +0.7**
WLF Walferdange 145.14 356 ePKPbc **PKiKP 19 46 51.5 -2.3**
baz=14,slow=2.6
CONA Conrad Observa 145.24 344 epPKP pPKPdf 19 46 51.9 -2.1
comp=Z,90nm,2.0s,SNR=26
MMAI Mount Meron Ar 145.26 307 PKPbc **PKPdf 19 46 51.4 +0.6**
comp=Z,98nm,1.1s,baz=67,slow=2.8,SNR=22
RONA Rosalia, Austr 145.33 344 *i* pPKP pPKPdf 19 46 51.9 -2.1
comp=Z,49nm,1.3s,SNR=23
SZH Strazhitsa 145.35 330 P **PKiKP 19 46 53.2 -1.3**
BZS Buzias 145.41 336 ⇑P **PKiKP 19 46 52.7 -1.8**
BZS Buzias 145.41 336 ⇑PKIKP **PKiKP 19 46 52.7 -1.8**
ELND Elena 145.65 329 ⇓P **PKPbc 19 46 50.3 -1.0**
HERR Herculane 145.70 335 ⇓P **PKiKP 19 46 53.3 -1.8**
MOA Molln 145.70 346 *i* pPKP pPKPdf 19 46 53.0 -1.7
comp=Z,113nm,1.9s,SNR=35
STU Stuttgart 145.73 352 IAMs_20 IAMs_20 20 57 40.0
comp=Z,2µm,18.0s
STU Stuttgart 145.73 352 ePKPbc **PKPab 19 46 52.6 +0.9**
baz=14,slow=2.6
PHSR Pinarhisar 145.73 326 ⇓P **PKPdf 19 46 50.0 -1.2**
BANR Banloc 145.80 337 ⇑P **PKiKP 19 46 54.5 -0.8**
PLVB Pleven 145.91 331 ⇑P **PKPbc 19 46 51.2 -0.9**
ARSA Arzberg 145.95 344 *i* pPKP pPKPdf 19 46 53.6 -1.5
comp=Z,42nm,1.5s,SNR=17
PSET Sete Cidades 145.96 42 ePKP **PKiKP 19 46 55.3 -0.6**
CSS Mathiatis 145.96 312 IAMs_20 IAMs_20 20 59 06.8
comp=Z,2µm,20.0s
MORH Mrgy, Hungar 145.97 340 ⇑P **PKiKP 19 46 54.7 -0.9**
BIOA Bad Ischl, Aus 146.00 347 *i* pPKP pPKPdf 19 46 53.4 -1.8
comp=Z,50nm,1.5s,SNR=23
FUR Furstenfeldbru 146.01 350 ePKPbc **PKiKP 19 46 54.2 -1.5**
baz=14,slow=2.6
FUR eL L 20 57 01.3
comp=Z,3µm,19.7s
MDVR Moldovita 146.07 335 ⇑P **PKiKP 19 46 54.1 -1.8**
CMLA Cha da Macela 146.12 42 IAMs_20 IAMs_20 20 47 09.6
comp=Z,3µm,21.0s
CMLA Cha da Macela 146.12 42 ePKP **PKPab 19 46 54.0 +0.4**
RJOB Jochberg 146.13 348 ePKPbc **PKiKP 19 46 54.6 -1.4**
baz=14,slow=2.6
PGRON Lagoa das Cont 146.22 42 ePKP **PKPab 19 46 54.7 +0.7**
BFO Black Forest 146.27 353 PKPdf 19 46 50.0 -2.0
BFO IAMs_20 IAMs_20 20 51 03.3
comp=Z,3µm,21.0s
BFO Black Forest 146.27 353 PKIKP **PKPdf 19 46 50.0 -2.0**
BFO MLR MLR
comp=Z,3µm,21.0s
BFO Black Forest 146.27 353 ePKPbc **PKiKP 19 46 54.9 -1.3**
baz=14,slow=2.6
BFO eL L 20 51 14.7
comp=Z,3µm,21.3s
BART Pico Bartolome 146.34 42 ePKP **PKPab 19 46 54.1 -0.4**
MPEP Malo Peshtene 146.34 332 P **PKiKP 19 46 56.0 -0.5**
LESA Schwarzleotal 146.45 348 *i* pPKP pPKPdf 19 46 55.3 -0.8
comp=Z,78nm,1.4s,SNR=33
ECH Echery 146.50 355 IAMs_20 IAMs_20 20 51 35.4
comp=Z,3µm,20.0s
SOKA Soboth 146.61 345 *i* pPKP pPKPdf 19 46 55.1 -1.3
comp=Z,36nm,1.7s,SNR=19
KBA Koelnbreinsper 146.64 347 *i* PKP **PKPbc 19 46 53.8 -0.6**
comp=Z,22nm,1.2s
RETA Reutte 146.75 350 *i* pPKP **PKiKP 19 46 56.2 -1.1**
comp=Z,46nm,1.5s,SNR=21
WATA Walderalm 146.75 349 *i* pPKP pPKPdf 19 46 55.7 -0.9
comp=Z,41nm,1.4s,SNR=14
PLD Plovdiv 146.79 329 P **PKiKP 19 47 00.1 +2.7**
WTTA Wattenberg 146.81 349 *i* pPKP pPKPdf 19 46 56.2 -0.5
comp=Z,64nm,1.7s,SNR=21
PSMA Santa Maria 146.82 43 ePKP **PKPab 19 46 56.3 +0.1**
MOTA Moosalm 146.83 350 *i* pPKP pPKPdf 19 46 56.2 -0.5
comp=Z,45nm,1.5s,SNR=19
PSMN Pico do Norte, 146.85 43 ePKP **PKPab 19 46 56.4 0.0**
KDZ Kurdzhali 146.88 328 P **PKiKP 19 46 57.8 +0.1**
OBKA Obir 146.89 345 *i* pPKP pPKPdf 19 46 55.9 -0.9
comp=Z,17nm,1.1s,SNR=6.9
SQTA Sankt Quirin 146.93 349 *i* PKP **PKPbc 19 46 55.0 -0.1**
comp=Z,35nm,1.5s,SNR=9.3
MYKA Terra Mystica 147.00 346 *i* PKP **PKPbc 19 46 54.3 -1.0**
comp=Z,29nm,1.1s,SNR=9.2
BOVS Bovan 147.01 334 ⇑P **PKPbc 19 46 54.2 -1.1**
DAVA Damuels 147.09 351 *i* PKiKP **PKiKP 19 46 57.4 -0.7**
comp=Z,40nm,1.3s,SNR=15
ABTA Abfaltersbach 147.13 348 *i* PKP **PKPdf 19 46 53.3 -0.2**
comp=Z,46nm,1.4s,SNR=23
RZN Rozhen 147.13 329 P **PKiKP 19 46 59.0 +0.6**
VTS Vitosha 147.15 332 P **PKiKP 19 46 59.0 +0.6**
PDKS Podkum 147.19 344 ePKPbc **PKPbc 19 46 55.3 -0.5**
FETA Feichten 147.21 350 ePKP **PKPdf 19 46 54.1 +0.3**
comp=Z,37nm,1.0s,SNR=17
MANT Manisa 147.21 321 IAMs_20 IAMs_20 20 55 11.7
comp=Z,2µm,21.0s
LJU Ljubljana 147.33 345 ePKPbc **PKPbc 19 46 55.4 -0.7**
STAL STALIGIAL 147.55 347 IAMs_20 IAMs_20 21 00 02.2
comp=Z,3µm,19.0s
DAVOX Davos/Dischmat 147.58 351 PKPbc **PKPdf 19 46 53.8 -0.6**
comp=Z,15nm,0.8s,baz=226,slow=3.7,SNR=12
CEY Cerknica 147.64 345 ePKPbc **PKPbc 19 46 56.3 -0.7**
BLY Banja Luka 147.74 341 ⇑P **PKPbc 19 46 56.7 -0.6**
KKB Krupnik 147.81 331 P **PKPbc 19 46 57.0 -0.6**
TRI Trieste 147.83 345 IAMs_20 IAMs_20 20 56 57.6
comp=Z,3µm,21.0s
CTI Castel Tesino 147.98 348 IAMs_20 IAMs_20 20 55 03.4
comp=Z,2µm,20.0s
SENIN Lac Senin/Sane 148.32 354 IAMs_20 IAMs_20 20 57 43.6
comp=Z,2µm,19.0s
MBAR Mbarara 148.34 243 PKPbc 19 46 59.5 -0.5
MBAR Mbarara 148.34 243 PKP2 **PKPbc 19 46 59.5 -0.5**
MBAR MLR MLR
comp=Z,3µm,21.0s
VAY Valandovo 148.47 331 *i* P **PKPab 19 47 01.3 -1.3**
SKO Skopje 148.48 333 *i* P **PKPab 19 47 02.1 -0.5**
PDG Podgorica 149.01 336 IAMs_20 IAMs_20 20 57 15.2
comp=Z,2µm,20.0s
PDG Podgorica 149.01 336 ⇑P **PKPbc 19 46 59.1 -1.5**
OHR Ohrid 149.45 333 *i* P **PKPbc 19 47 00.4 -1.5**
BNI Bardonecchia 149.68 354 IAMs_20 IAMs_20 20 53 24.6
comp=Z,3µm,20.0s
KARP Karpathos 149.90 318 IAMs_20 IAMs_20 21 00 10.3
comp=Z,2µm,22.0s
SCTE Santa Cesarea 151.32 334 IAMs_20 IAMs_20 20 54 33.3
comp=Z,3µm,22.0s
PGAV Gavieira, Arco 151.33 17 ePKPdf **PKPdf 19 46 59.3 -1.2**
PGAV ePKPab **sPKPbc 19 47 10.7 -0.6**
PGAV eSS SS 20 10 12.3 +5.2
PGAV eLQ LQ 20 30 02.5
PGAV eLR LR 20 37 38.9
PGAV *i* IAMs_20 IAMs_20 20 48 23.4
comp=Z,5µm,20.0s
MATE Matera 151.52 337 ⇑P **PKPbc 19 47 05.1 -1.6**
PCAB Cabril 151.63 17 ePKPbc **PKiKP 19 47 08.8 +1.3**
ASCN Ascension 151.75 142 IAMs_20 IAMs_20 20 56 22.7
comp=Z,2µm,19.0s
PBRG Braganca 151.89 15 ePKPdf **PKPdf 19 46 58.5 -2.7**
PBRG ePKPab **PKPab 19 47 14.9 -1.8**
POLO Lamas de Olo 152.01 17 ePKPdf **PKPdf 19 46 59.9 -1.6**
POLO ePKPab **PKPab 19 47 15.5 -1.7**
PVRL Vila Real 152.12 17 ePKPbc **PKPbc 19 47 06.8 -1.5**
CEST Esterri de Car 152.29 2 PKPdf 19 46 58.5 -3.4
MVO Moncorvo 152.42 16 ePKPdf **PKPdf 19 47 01.9 -0.2**
MVO ePKPbc **PKPbc 19 47 07.6 -1.4**
MVO eSS SS 20 10 29.4 +10
MVO eLQ LQ 20 30 34.9
MVO eLR LR 20 38 32.0
MVO *i* IAMs_20 IAMs_20 20 50 09.1
comp=Z,5µm,20.0s
CUC Castrocucco 152.43 338 IAMs_20 IAMs_20 20 58 16.4
comp=Z,2µm,20.0s
PVIS Viseu 152.59 18 ePKPbc **PKPbc 19 47 05.8 -3.5**
PVIS ePKPab **PKPab 19 47 17.8 -1.8**
TIP Timpagrande 152.77 336 IAMs_20 IAMs_20 21 10 41.7
comp=Z,2µm,20.0s
MTE Manteigas 152.98 17 PKPdf 19 47 01.3 -1.6
MTE Manteigas 152.98 17 eSS SS 20 10 33.9 +8.6
MTE eLQ LQ 20 30 15.9
MTE eLR LR 20 38 20.5
MTE *i* IAMs_20 IAMs_20 20 49 30.9
comp=Z,5µm,22.0s
PCAS Casmilo, Conde 153.01 19 ePKPdf **PKPdf 19 47 01.8 -1.1**
PCBR Castelo Branco 153.52 18 ePKPdf **PKPdf 19 47 02.9 -0.7**
PSARD Sardoal 153.53 19 ePKPbc **PKPbc 19 47 08.2 -3.1**
PMRV Marv??o 153.92 18 PKPdf **PKPdf 19 47 05.4 +1.2**
PMRV eSS SS 20 10 45.7 +10
PMRV eLQ LQ 20 31 08.2
PMRV eLR LR 20 38 53.9
PMRV *i* IAMs_20 IAMs_20 20 49 07.1
comp=Z,5µm,22.0s
PARRA Arraiolos 153.94 21 ePKPbc **PKPbc 19 47 09.7 -2.6**
PMTG Montargil 153.99 20 ePKPdf **PKPdf 19 47 06.2 +1.9**
PESTR Estremoz 154.38 19 ePKPab **PKPab 19 47 26.0 -1.3**
PMOZ Porto Moniz, M 154.52 42 eLR LR 20 39 31.2
PMOZ *i* IAMs_20 IAMs_20 20 50 36.6
comp=Z,2µm,20.0s
ESDC Sonseca Array 154.55 12 PKPdf 19 47 03.3 -1.8
ESDC Sonseca Array 154.55 12 PKP **PKPdf 19 47 06.4 +1.2**
comp=Z,2.3nm,1.0s,baz=3.7,slow=2.2,SNR=9.3
ESDC PP **PP 19 51 04.5 +2.4**
comp=Z,1.3nm,1.0s,baz=0.9,slow=3.0,SNR=5.1
VSL Villasalto 154.73 348 IAMs_20 IAMs_20 20 52 50.2
comp=Z,2µm,22.0s
PBEJ Beja 155.06 20 ePKPdf **PKPdf 19 47 03.2 -2.6**
MESJ Messejana 155.10 21 ePKPdf **PKPdf 19 47 04.4 -1.5**
MESJ IAMs_20 IAMs_20 20 51 06.8
comp=Z,9µm,21.1s
MESJ Messejana 155.10 21 ePKPdf **PKPdf 19 47 04.2 -1.7**
PCVE Castro Verde 155.35 21 ePKPdf **PKPdf 19 47 10.7 +4.4**
RAFF Raffo Rosso 155.40 337 IAMs_20 IAMs_20 20 56 30.2
comp=Z,2µm,21.0s
MORF Marmelete 155.43 22 ePKPdf **PKPdf 19 47 04.8 -1.6**
MORF IAMs_20 IAMs_20 20 49 08.2
comp=Z,6µm,14.4s
MORF Marmelete 155.43 22 ePKPdf **PKPdf 19 47 07.9 +1.5**
MORF Marmelete 155.43 22 ePKIKP **PKPdf 19 47 04.8 -1.6**
PFVI Vila Bisbo 155.51 23 ePKPbc PKPdf 19 47 14.2 +7.7
PVAQ Vaqueiros 155.67 21 ePKPab **PKPab 19 47 29.8 -2.9**
PVAQ eSS SS 20 11 00.3 +5.8
PVAQ eLR LR 20 39 48.9
PVAQ *i* IAMs_20 IAMs_20 20 52 10.1
comp=Z,9µm,20.0s
WDD Wied Dalam 156.55 335 IAMs_20 IAMs_20 21 02 42.7
comp=Z,2µm,19.0s
KEST Kesra 158.34 345 PKPab **PKPab 19 47 45.1 +0.7**
comp=Z,9.5nm,0.9s,baz=335,slow=3.9,SNR=4.6
TORD Torodi Ar. Bea 178.06 149 PKP **PKPdf 19 47 22.3 -1.7**
comp=Z,1.8nm,1.1s,baz=247,slow=3.0,SNR=4.9
TORD PKPab **pPKPab 19 49 12.5 -2.9**
comp=Z,3.9nm,1.0s,baz=226,slow=1.2,SNR=9.3
TORD PP **PP 19 53 08.1 +4.1**
comp=Z,3.7nm,1.1s,baz=251,slow=2.6,SNR=8.2

LDG 22 19:44:56.5±0.3, 45°55N×6°58E, h2km, Error ellipse: s-maj=6.8km s-min=2.1km az=66.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.11**	**107**	*e*PKPab	**PKPab**	**19 47 29.8**	**-2.9**
LPL				*e*Pg	Pg	19 44 59.1	+0.4
	2.1nm,0.3s			*e*Sg	Sg	19 45 01.0	+0.8
LPG	**La Plagne**	**0.13**	**113**	*e*Pg	Pg	19 44 59.7	+0.6
LPG				*e*Sg	Sg	19 45 01.4	+0.5
	2.1nm,0.3s						

IDC 22 19:54:54.0±2.0, 17°04S×179°27W, h0km, mb3.9/4, mbtmp3.9/4, MS4.6/1, Error ellipse: s-maj=139.5km s-min=32.5km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.34**	**240**	LR	LR	20 17 13.3	
	comp=Z,897nm,19.6s,baz=340,slow=35						
ASAR	**Alice Springs**	**44.24**	**253**	P	P	20 03 05.5	-0.1
	0.5nm,0.8s,baz=93,slow=7.8,SNR=6.7						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**85.23**	**13**	P	P	20 07 32.0	0.0
	0.5nm,0.9s,baz=220,slow=8.3,SNR=4.2						
	0.5nm,0.9s						
TXAR	**Lajitas Array**	**86.23**	**58**	P	P	20 07 38.0	+0.1
	1.6nm,1.0s,baz=252,slow=5.2,SNR=9.6						
	1.6nm,1.0s						
PDAR	**Pinedale Array**	**87.29**	**44**	P	P	20 07 43.0	-0.1
	0.5nm,0.3s,baz=238,slow=5.9,SNR=4.6						
	0.5nm,0.3s						

MOS ***22*** *20:27:28.7±0.9, 63°55N×146°23E, h15km, mb3.8/1, Error ellipse: s-maj=25.7km s-min=11.7km az=106.4*
IDC ***22*** *20:27:29.9±0.9, 63°53N×146°24E, h0km, mb3.6/8, mbtmp3.7/11, ML4.2/3, Error ellipse: s-maj=23.0km s-min=11.0km az=19.0*
YARS ***22*** *20:27:31.2, 63°55N×146°19E, h13km, ML2.6/5*
NEIC ***22*** *20:27:31.8±2.1, 63°48N±0°08×146°5E±0°2, h10km±1km, mb4.1/5, Error ellipse: s-maj=16.6km s-min=9.3km az=43.0*
NERS ***22*** *20:27:33.2, 63°46N×146°40E, h30km*
ISC 22 20:27:30.7±0.5, 63°54N±0°03×146°28E±0°04, h10km, n46, σ2s23/72, mb3.7/11, 2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNR	**Ust'-Nera**	**1.69**	**309**	⇓*i*Pg	**Pb**	**20 28 01.2**	**-0.7**
	48nm,0.9s						
UNR				*i* Sg	**Sg**	**20 28 23.7**	**-1.3**
	196nm,0.5s						
SEY	**Seymchan**	**2.83**	**100**	Pn	**Pn**	**20 28 17.3**	**+1.4**
	12nm,0.3s,baz=318,slow=16,SNR=126						
SEY				Lg	Lg	20 28 58.6	
	72nm,0.3s,baz=271,slow=15,SNR=7.7						
	43nm,0.4s						
SEY	**Seymchan**	**2.83**	**100**	⇓*i*P	**Pn**	**20 28 17.2**	**+1.4**
SEY				*e*Pg	**Pg**	**20 28 23.4**	**-1.4**
SEY				Pgmax		20 28 26.0	
	170nm,0.4s						
SEY				*e*S	**Sb**	**20 28 51.6**	**-4.3**
SEY				*e*Sg	**Sg**	**20 29 00.2**	**-1.3**
SEY				Sgmax		20 29 09.8	
	970nm,0.4s						
SEY	**Seymchan**	**2.83**	**100**	*i* P	**Pn**	**20 28 17.2**	**+1.4**
SEY				*e*S	**Sb**	**20 28 51.6**	**-4.3**
SEY				pmax	pmax		
	comp=Z,170nm,0.4s						
MOMR	**Moma**	**3.21**	**338**	*e*Pn	**Pn**	**20 28 21.3**	**+0.2**
	comp=Z,0.1nm,0.7s						
MOMR				*e*Pg	**Pg**	**20 28 29.7**	**-2.4**
	comp=Z,0.1nm,0.8s						
MOMR				*e*Sn	**Sn**	**20 28 59.1**	**-0.2**
	comp=Z,16nm,0.6s						
MOMR				*e*Sn	**Sn**	**20 28 59.1**	**-0.2**
	comp=Z,9.8nm,0.8s						
MOMR				*i* Sg	**Sg**	**20 29 11.1**	**-2.6**
	comp=Z,53nm,0.4s						
MOMR				*i* Sg	**Sg**	**20 29 11.1**	**-2.6**
	comp=Z,54nm,0.6s						
TLAR	**Talaya**	**3.74**	**128**	*e*P	**Pn**	**20 28 28.0**	**-0.5**
TLAR				*e*Pg	**Pg**	**20 28 39.8**	**-2.5**
TLAR				Pgmax		20 28 42.5	
	comp=Z,70nm,0.6s						
TLAR				*e*Sg	**Sg**	**20 29 27.5**	**-3.2**
TLAR				Sgmax		20 29 34.8	
	comp=Z,780nm,0.3s						
TLAR	**Talaya**	**3.74**	**128**	*e*P	**Pn**	**20 28 28.0**	**-0.5**
MGD	**Magadan 1**	**4.09**	**147**	*e*P	**Pn**	**20 28 34.0**	**+0.8**
MGD				*e*Pg	**Pg**	**20 28 47.7**	**-1.3**
MGD				Pgmax		20 28 50.0	
	comp=Z,20nm,0.3s						
MGD				*e*Sg	**Sg**	**20 29 39.1**	**-2.9**
MGD				Sgmax		20 29 43.1	
	comp=Z,150nm,0.4s						
MGD				Sgmax		20 29 43.1	
	comp=Z,460nm,0.4s						
MGD	**Magadan 1**	**4.09**	**147**	*e*P	**Pn**	**20 28 34.0**	**+0.8**
MGD				pmax	pmax		
	comp=Z,20nm,0.3s						
MA2	**Magadan**	**4.52**	**150**		**Pn**	**20 28 39.8**	**+0.7**
MA2				Sn	**Sn**	**20 29 28.8**	**-2.9**
MA2	**Magadan**	**4.52**	**150**	Pn	**Pn**	**20 28 40.2**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=328,slow=13,SNR=23						
MA2				Lg	Lg	20 29 51.9	
	comp=Z,17nm,0.3s,baz=63,slow=20,SNR=5.1						
	comp=Z,8.7nm,0.3s						
MA2	**Magadan**	**4.52**	**150**	*i* P	**Pn**	**20 28 40.2**	**+1.1**
MA2				Pgmax		20 28 43.4	
MA2				*e*Pg	**Pg**	**20 28 54.1**	**-3.1**
MA2				*e*Sg	**Sg**	**20 29 53.8**	**-1.9**
MA2				Sgmax		20 30 06.1	
	comp=Z,250nm,0.5s						
MA2	**Magadan**	**4.52**	**150**	*i* P	**Pn**	**20 28 40.2**	**+1.1**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.2s						
MA2	**Magadan**	**4.52**	**150**	*e*Pn	**Pn**	**20 28 39.9**	**+0.8**
	comp=Z,50nm,0.2s						
MA2				*e*Pg	**Pg**	**20 28 54.1**	**-3.1**
	comp=Z,54nm,0.5s						
MA2				*i* Sn	**Sn**	**20 29 32.4**	**+0.8**
	comp=Z,116nm,0.6s						
MA2				*i* Sn	**Sn**	**20 29 32.4**	**+0.8**
	comp=Z,97nm,0.5s						
MA2				*e*Sg	**Sg**	**20 29 53.8**	**-1.9**
	comp=Z,568nm,0.5s						
MA2				*e*Sg	**Sg**	**20 29 53.8**	**-1.9**
	comp=Z,732nm,0.6s						
GADL	**Gadlja**	**4.57**	**146**	*e*P	**Pn**	**20 28 40.1**	**+0.3**
GADL				*e*Pg	**Pg**	**20 28 56.8**	**-1.4**
GADL				Pgmax		20 29 03.0	
	comp=Z,90nm,0.6s						
GADL				*e*Sg	**Sg**	**20 29 56.3**	**-1.0**
GADL				Sgmax		20 30 00.5	
	comp=Z,1µm,0.8s						
GADL	**Gadlja**	**4.57**	**146**	*e*P	**Pn**	**20 28 40.1**	**+0.3**
GADL				pmax	pmax		
	comp=Z,90nm,0.6s						
BTGS	**Batagay**	**6.34**	**316**	*i* Pg	Pg	20 29 25.7	-6.2
	comp=Z,0.6nm,0.1s						
BTGS				*i* Sg	**Sg**	**20 30 49.1**	**-4.8**
	comp=Z,3.7nm,0.7s						
BTGS				*i* Sg	**Sg**	**20 30 49.1**	**-4.8**
	comp=Z,5.7nm,0.5s						
DEPR	**Deputatskiy**	**6.40**	**339**	*i* Pg	Pb	20 29 26.3	+4.3
	comp=Z,1.3nm,1.0s						

DEPR				*i* Sg		**Sg**	**20 30 51.0**	**-5.0**
	comp=Z,7.7nm,0.8s							
DEPR				*i* Sg		**Sg**	**20 30 51.0**	**-5.0**
	comp=Z,4.0nm,0.7s							
YAK	**Yakutsk**	**7.75**	**266**			**Pn**	**20 29 25.8**	**+2.4**
YAK	**Yakutsk**	**7.75**	**266**	Pn		**Pn**	**20 29 24.1**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=240,slow=14,SNR=5.3							
YAK				Lg		Lg	20 31 33.7	
	comp=Z,5.1nm,0.3s,baz=109,slow=22,SNR=9.4							
	comp=Z,5.6nm,0.5s							
YAK	**Yakutsk**	**7.75**	**266**	*e*P		**Pn**	**20 29 24.0**	**+0.6**
YAK				*e*			20 30 49.6	
YAK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
YAK				smax	smax			
	comp=N,13nm,1.1s							
YAK				smax	smax			
	comp=E,11nm,0.7s							
BILL	**Bilibino**	**9.34**	**52**	Pn		**Pn**	**20 29 48.2**	**+3.0**
BILL				Sn		**Sn**	**20 31 35.1**	**+5.0**
BILL	**Bilibino**	**9.34**	**52**	*e*Sg			20 32 31.8	
BILL				Sgmax			20 32 49.7	
	comp=E,20nm,0.6s							
BILL	**Bilibino**	**9.34**	**52**	P		**Pn**	**20 29 48.2**	**+3.0**
BILL				S		**Sn**	**20 31 35.1**	**+5.0**
TIXI	**Tiksi**	**10.45**	**329**	Pn		**Pn**	**20 30 01.5**	**+1.2**
TIXI	**Tiksi**	**10.45**	**329**	Lg		Lg	20 33 01.6	
	comp=E,0.3nm,0.3s,baz=65,slow=20,SNR=4.5							
TIXI	**Tiksi**	**10.45**	**329**	P		**Pn**	**20 30 01.5**	**+1.2**
PETK	**Petropavlovsk-**	**12.04**	**145**	Pn		**Pn**	**20 30 19.7**	**-2.4**
PETK	**Petropavlovsk-**	**12.04**	**145**	P		**Pn**	**20 30 19.7**	**-2.4**
F19K	**Shaleruckik Mo**	**23.02**	**57**	P		**P**	**20 32 35.3**	**-0.1**
F19K				IAmb	IAmb		20 32 59.8	
	comp=Z,6.7nm,1.5s							
E19K	**Redstone River**	**23.03**	**55**	P		**P**	**20 32 36.1**	**+0.6**
G19K	**Purcell Mounta**	**23.51**	**58**	P		**P**	**20 32 41.1**	**+0.8**
G19K				IAmb	IAmb		20 33 11.1	
	comp=Z,10.0nm,1.5s							
J17K	**VABM Dome**	**23.79**	**66**	P		**P**	**20 32 44.0**	**+0.9**
H19K	**Roundabout Mou**	**23.98**	**60**	P		**P**	**20 32 45.1**	**+0.3**
H19K				IAmb	IAmb		20 33 26.3	
	comp=Z,6.7nm,1.3s							
IMAR	**Indian Mountai**	**24.84**	**58**	P		**P**	**20 32 54.1**	**+1.4**
SONM	**Songino Array**	**26.84**	**253**	P		**P**	**20 33 12.8**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=28,slow=10,SNR=4.1							
	comp=Z,0.3nm,0.5s							
KURK	**Kurchatov**	**37.02**	**282**	P		**P**	**20 34 42.3**	**+2.2**
KURBB	**Kurchatov Arra**	**37.13**	**282**	P		**P**	**20 34 42.3**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=49,slow=8.6,SNR=4.0							
	comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**38.32**	**275**	P		**P**	**20 34 51.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=54,slow=8.1,SNR=2.9							
	comp=Z,0.2nm,0.5s							
MKAR	**Makanchi Array**	**38.32**	**275**	P		**P**	**20 34 51.0**	**-0.1**
BVAR	**Borovoye Array**	**38.88**	**291**	P		**P**	**20 34 56.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=39,slow=9.3,SNR=3.7							
	comp=Z,0.5nm,0.6s							
BVAR	**Borovoye Array**	**38.88**	**291**	P		**P**	**20 34 56.0**	**+0.3**
AKASG	**Malin Array Be**	**55.91**	**317**	P		**P**	**20 37 08.1**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=30,slow=7.5,SNR=4.2							
	comp=Z,0.8nm,0.4s							
NVAR	**Mina Array Bea**	**58.66**	**66**	P		**P**	**20 37 29.3**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=325,slow=9.5,SNR=1.8							
	comp=Z,0.3nm,0.5s							
WRA	**Warramunga Arr**	**83.73**	**191**	P		**P**	**20 39 59.4**	**0.0**
	comp=Z,0.3nm,0.6s,baz=4.2,slow=6.0,SNR=5.2							
	comp=Z,0.3nm,0.6s							
ASAR	**Alice Springs**	**87.46**	**191**	P		**P**	**20 40 18.6**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=14,slow=6.2,SNR=4.3							
	comp=Z,0.2nm,0.6s							

*IDC **22** 20:44:55.0±0.8,27.35N×140.90E,h329km±15km,mb3.4/7, mbtmp4.1/7,Error ellipse: s-maj=61.9km s-min=19.0km az=79.0*

*JMA **22** 20:44:56.0±0.2,28.2N×14.1E±.,h344km,MV3.8/8, NEAR CHICHIJIMA ISLAND*

ISC 22 20:44:55.7±0.8,27.4N±0.2×141.3E±0.3,h350km,n12, σ1§21/15,mb3.8/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.85**	**114**	P	**Pn**	**20 45 41.3**	**+0.4**
CBIJ				*e*S	**S**	**20 46 16.3**	**-0.8**
JCJ	**Chichijima**	**0.85**	**114**	P	**Pn**	**20 45 40.8**	**-0.1**
	116nm,0.3s,baz=348,slow=21,SNR=199						
JCJ				S	**S**	**20 46 14.7**	**-2.5**
	121nm,0.3s,baz=334,slow=23,SNR=14						
JHH2	**Haha-jima-NKT2**	**1.11**	**136**	P	**Pn**	**20 45 42.4**	**+0.4**
JHH2				*e*S	**S**	**20 46 18.9**	**-0.1**
KSRS	**Korea Array**	**15.07**	**315**	P	**Pn**	**20 48 12.5**	**-0.7**
	1.6nm,0.6s,baz=133,slow=12,SNR=7.1						
WRA	**Warramunga Arr**	**47.59**	**189**	P	**P**	**20 52 58.1**	**+0.5**
	0.3nm,0.3s,baz=2.1,slow=7.6,SNR=8.8						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**52.24**	**314**	P	**P**	**20 53 30.7**	**-1.2**
	1.9nm,0.2s,baz=90,slow=6.9,SNR=4.2						
	1.9nm,0.2s						
BVAR	**Borovoye Array**	**57.26**	**317**	P	**P**	**20 54 07.2**	**-0.4**
	0.4nm,0.4s,baz=108,slow=9.5,SNR=4.9						
	0.4nm,0.4s						
ARCES	**ARCESS Array B**	**72.96**	**341**	P	**P**	**20 55 48.5**	**+1.3**
	1.9nm,0.7s,baz=22,slow=6.7,SNR=6.1						
	1.9nm,0.7s						
FINES	**FINESS Array B**	**77.29**	**334**	P	**P**	**20 56 13.6**	**+1.7**
	1.4nm,0.3s,baz=70,slow=4.8,SNR=27						
	1.4nm,0.3s						
HFS	**Hagfors**	**82.80**	**336**	P	**P**	**20 56 42.0**	**+0.9**
	0.6nm,0.3s,baz=108,slow=3.9,SNR=5.8						
	0.6nm,0.3s						
NOA	**NORSAR Array B**	**83.00**	**338**	P	**P**	**20 56 43.5**	**+1.3**
	0.6nm,0.7s,baz=44,slow=4.9,SNR=2.3						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**117.21**	**180**	PKP	**PKPdf**	**21 02 57.9**	**-1.0**
	1.4nm,0.8s,baz=261,slow=0.7,SNR=6.8						

*NEIC **22** 20:49:49.8±1.3,35.895N±0.006×117.70W±0.02, h4km±2km,Error ellipse: s-maj=1.9km s-min=0.8km az=77.0,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr-0.35; Mθθ-1.21; Mφφ1.56; Mrθ1.15; Mθφ2.83; Mφr-0.66; Fault plane solution: M0 3.43000×10^16^ NP1: φs349.25000°,δ73.65000°,λ-164.24000°. NP2: φs254.70000°,δ74.89000°,λ-16.96000°. Principal axes: T 3.3319, Plg1.0000°, Azm302.0000°; N 0.1949, Plg67.0000°, Azm34.0000°; P -3.5269, Plg23.0000°, Azm212.0000°;*

*BJI **22** 20:49:49.6,35.81N×118.15W,h11km,mB5.5/7,mb5.0/13, Ms5.1/4,Ms7.4/5*

*MOS **22** 20:49:49.2±1.4,35.86N×117.66W,h9km,mb5.0/16,Error ellipse: s-maj=8.2km s-min=5.7km az=100.3*

*NEIC **22** 20:49:50,35.91N×117.71W,h12km*

*PAS **22** 20:49:50.1±1.3,35.907N±0.009×117.71W±0.01, h2km±3km,Mwr5.0/6,mb4.7/107(NEIC),ML5.1/192(NEIC), Mwr5.0/197(NEIC),Mww5.0/64(NEIC),Error ellipse: s-maj=1.8km s-min=1.2km az=74.0*

*NEIC **22** 20:49:50,35.91N×117.71W,h12km,Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10^16^Nm; Mrr-1.32; Mθθ-0.95; Mφφ2.26; Mrθ0.95; Mθφ2.65; Mφr-1.75; Fault plane solution: M0 3.86000×10^16^ NP1: φs249.09000°,δ54.91000°,λ-19.53000°. NP2: φs350.62000°,δ74.13000°,λ-143.30000°. Principal axes: T 3.9868, Plg12.0000°, Azm116.0000°; N -0.2733, Plg50.0000°, Azm11.0000°; P -3.7135, Plg37.0000°, Azm215.0000°;*

*NEIC **22** 20:49:50.1,35.91N×117.71W,h2km*

*IDC **22** 20:49:50.0±0.5,35.84N×117.70W,h0km,mb4.4/13, mbtmp4.3/19,ML4.1/6,MS4.5/23,Error ellipse: s-maj=13.4km s-min=6.7km az=72.0*

*GCMT **22** 20:49:54.1±0.2,35.95N±0.01×117.64W±0.02,h13km±1km, MW5.1/120,Moment Tensor Solution. s19,c21; s120,c171; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.37±.17; Mθθ-1.45±.12; Mφφ2.82±.15; Mrθ1.83±.42; Mθφ3.13±.11; Mφr-2.28±.43; Best double couple: M0 4.92000×10^16^ NP1:φs247.00000°,δ55.00000°, λ-19.00000°. NP2:φs348.00000°,δ74.00000°, λ-143.00000°. Principal axes: T 4.7340, Plg13.0000°, Azm113.0000°; N 0.3720, Plg51.0000°, Azm8.0000°; P -5.1060, Plg37.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 20:49:50.4±0.8,35.90N±0.02×117.70W±0.02,h7km±4km, n430,σ1§01/362,mb4.7/58,MS4.5/21,3C-2D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**211**		**Pg**	**20 49 52.9**	**+0.2**
TOW					**Sg**	**20 49 56.0**	**+1.6**
WVPM	**Volcano Peak E**	**0.11**	**299**		**Pg**	**20 49 52.4**	**-0.6**
WVPM					**Sg**	**20 49 55.5**	**+0.7**
CLC	**China Lake**	**0.12**	**134**		**Pg**	**20 49 52.7**	**-0.3**
CLC	**China Lake**	**0.12**	**134**	P	**Pg**	**20 49 52.7**	**-0.3**
JRC2	**Joshua Ridge**	**0.12**	**314**		**Pg**	**20 49 52.6**	**-0.6**
WCSM	**Coso Springs S**	**0.14**	**337**		**Pg**	**20 49 52.8**	**-0.7**
WCSM					**Sg**	**20 49 55.4**	**-0.2**
WNMM	**Nine Mile Cany**	**0.17**	**252**		**Pg**	**20 49 53.7**	**-0.3**
WNMM					**Sg**	**20 49 57.0**	**+0.6**
WRVM	**Rose V. Centra**	**0.19**	**306**		**Pg**	**20 49 53.7**	**-0.6**
SRTC	**Snort**	**0.21**	**191**		**Pg**	**20 49 54.2**	**-0.4**
SRTC					**Sg**	**20 49 59.1**	**+1.7**
MPMC	**Manual Prospec**	**0.23**	**47**		**Pg**	**20 49 54.7**	**-0.5**
MPMC				IAML		20 49 59.5	
	comp=N,202μm,0.7s						
MPMC				IAML		20 49 59.8	
	comp=E,227μm,0.4s						
MFS	**McCloud Flat S**	**0.25**	**330**		**Pn**	**20 49 59.1**	**-1.7**
WSHM	**Spangler Hills**	**0.34**	**150**		**Pg**	**20 49 56.9**	**-0.2**
WSHM					**Sg**	**20 50 02.4**	**+0.8**
WSHM	**Spangler Hills**	**0.34**	**150**	IAML		20 50 02.9	
	comp=E,386μm,0.3s						
WSHM				IAML		20 50 03.1	
	comp=E,222μm,0.2s						
LRMC	**Laurel Mtn Rad**	**0.42**	**178**		**Sg**	**20 50 04.6**	**+0.5**
LRMC	**Laurel Mtn Rad**	**0.42**	**178**		**Pg**	**20 49 58.2**	**-0.3**
LRMC				IAML		20 50 05.1	
	comp=E,309μm,0.2s						
LRMC				IAML		20 50 05.4	
	comp=N,164μm,0.2s						
WORM	**Onyx Ranch**	**0.48**	**246**		**Pg**	**20 49 59.2**	**-0.6**
WORM					**Sg**	**20 50 06.2**	**0.0**
WBSM	**Bird Springs**	**0.51**	**225**		**Pg**	**20 49 59.8**	**-0.5**
WBSM					**Sg**	**20 50 07.4**	**+0.5**
WHFM	**Hanning Flat**	**0.56**	**249**		**Pg**	**20 50 00.8**	**-0.6**
WHFM					**Sg**	**20 50 08.7**	**0.0**
CWC	**Cottonwood Cre**	**0.62**	**331**		**Sb**	**20 50 11.4**	**-1.4**
CWC	**Cottonwood Cre**	**0.62**	**331**		**Pg**	**20 50 02.0**	**-0.5**
DTP	**Desert Tortois**	**0.64**	**191**		**Pg**	**20 50 02.1**	**-0.6**
DTP					**Sg**	**20 50 11.4**	**+0.3**
CGO	**Cerro Gordo**	**0.66**	**353**		**Sg**	**20 50 12.3**	**+0.5**
ISA	**Isabella, Lake**	**0.67**	**250**		**Pg**	**20 50 02.9**	**-0.5**
ISA				IAML		20 50 12.7	
	comp=N,51μm,0.5s						
ISA	**Isabella, Lake**	**0.67**	**250**	P	**Pg**	**20 50 02.9**	**-0.5**
QSM	**Queen of Sheba**	**0.68**	**84**		**Pg**	**20 50 02.8**	**-0.7**
QSM				IAML		20 50 16.8	
	comp=E,69μm,0.7s						
QSM				IAML		20 50 17.5	
	comp=N,104μm,0.9s						
WASM	**Alta Sierra Ca**	**0.71**	**257**		**Sg**	**20 50 13.3**	**-0.2**
CCAC	**Calif City Air**	**0.79**	**199**		**Sb**	**20 50 16.1**	**-1.2**
FURC	**Furnace Creek,**	**0.88**	**50**		**Pg**	**20 50 07.0**	**-0.4**
FURC				IAML		20 50 30.4	
	comp=N,73μm,0.7s						
GWY	**Greenwater Val**	**0.88**	**71**		**Sb**	**20 50 19.4**	**-0.9**
GWY	**Greenwater Val**	**0.88**	**71**		**Pg**	**20 50 06.7**	**-0.7**
GWY				IAML		20 50 23.0	
	comp=E,77μm,0.6s						
GWY				IAML		20 50 25.4	
	comp=N,57μm,1.1s						
GSC	**Goldstone, Bar**	**0.94**	**129**		**Sb**	**20 50 21.2**	**-0.6**
GSC	**Goldstone, Bar**	**0.94**	**129**	IAML		20 50 23.8	
	comp=N,77μm,1.1s						
GSC				IAML		20 50 24.1	
	comp=E,161μm,0.9s						
HYS	**Haystack Butte**	**1.04**	**174**		**Sg**	**20 50 23.6**	**-0.2**
TEJ	**El Tejon**	**1.05**	**231**		**Sg**	**20 50 23.5**	**-0.5**
TPO	**Tropico Hills**	**1.10**	**203**		**Pg**	**20 50 10.6**	**-1.0**
TPO				IAML		20 50 29.5	
	comp=N,34μm,1.0s						
TPO				IAML		20 50 33.9	
	comp=E,32μm,1.1s						
TPO	**Tropico Hills**	**1.10**	**203**		**Sb**	**20 50 26.4**	**-0.1**
VES	**Vestal, Richgr**	**1.13**	**268**		**Sg**	**20 50 25.8**	**-0.9**
VES	**Vestal, Richgr**	**1.13**	**268**		**Pb**	**20 50 11.8**	**-0.4**
VES				IAML		20 50 28.0	
	comp=N,63μm,0.5s						
MAGC	**SCE Magundon P**	**1.13**	**242**		**Sb**	**20 50 26.6**	**-0.6**
SHOC	**Shoshone, Teco**	**1.16**	**89**		**Sn**	**20 50 27.9**	**-1.2**
SHOC	**Shoshone, Teco**	**1.16**	**89**		**Pb**	**20 50 11.6**	**-1.2**
RRX	**Edison Barstow**	**1.17**	**150**		**Sn**	**20 50 28.7**	**-0.7**
ARVC	**Arvin**	**1.20**	**231**		**Sb**	**20 50 28.5**	**-0.6**
SGV	**South Grapevin**	**1.21**	**26**		**Sb**	**20 50 29.2**	**-0.4**
SBB	**Saddle Back Bu**	**1.21**	**185**		**Sb**	**20 50 28.3**	**-1.2**
TIN	**Tinemaha, Big**	**1.23**	**340**		**Pn**	**20 50 13.4**	**-0.8**
TIN				IAML		20 50 34.4	
	comp=E,42μm,0.7s						
TIN				IAML		20 50 42.0	
	comp=N,42μm,0.9s						
TIN	**Tinemaha, Big**	**1.23**	**340**	P	**Pn**	**20 50 13.4**	**-0.8**
WCT	**Wildcat Mounta**	**1.25**	**44**		**Sb**	**20 50 30.0**	**-0.6**
WCT	**Wildcat Mounta**	**1.25**	**44**		**Pn**	**20 50 13.5**	**-0.9**
WCT				IAML		20 50 33.6	
	comp=N,19μm,1.0s						
BAKC	**Calstate**	**1.27**	**245**		**Sn**	**20 50 31.6**	**-0.2**
VOG	**Valley Oaks Go**	**1.43**	**288**		**Pn**	**20 50 16.2**	**-0.6**
GMN	**Gold Mountain**	**1.45**	**14**		**Pn**	**20 50 16.5**	**-0.7**
DSP	**Deep Springs**	**1.49**	**352**		**Pb**	**20 50 17.5**	**-0.8**
DSP				IAML		20 50 41.3	
	comp=E,14μm,1.2s						
OSI	**Osito Audit: C**	**1.53**	**214**		**Pn**	**20 50 17.8**	**-0.4**
TPNV	**Topopah Spring**	**1.57**	**48**		**Pn**	**20 50 18.2**	**-0.7**
TPNV				IAML		20 50 43.0	
	comp=E,19μm,1.2s						
TPNV				IAML		20 50 43.9	
	comp=E,25μm,1.0s						
TPNV	**Topopah Spring**	**1.57**	**48**	P	**Pn**	**20 50 18.2**	**-0.7**
BFSC	**Mount Baldy Ra**	**1.65**	**179**		**Pn**	**20 50 19.0**	**-1.0**
BFSC				IAML		20 50 44.7	
	comp=E,12μm,0.7s						
BCW	**Bitter Crk WRg**	**1.69**	**236**		**Pn**	**20 50 19.6**	**-0.9**
MWC	**Mount Wilson**	**1.69**	**190**		**Pn**	**20 50 19.8**	**-0.8**
MWC				IAML		20 50 50.9	
	comp=N,11μm,1.0s						
MWC	**Mount Wilson**	**1.69**	**190**	P	**Pn**	**20 50 19.8**	**-0.8**
PASC	**Pasadena Art C**	**1.77**	**193**		**Pn**	**20 50 20.7**	**-0.8**
MTPC	**Mountain Pass**	**1.79**	**103**		**Pn**	**20 50 20.6**	**-1.4**
MTPC				IAML		20 50 49.1	
	comp=N,18μm,1.0s						
MTPC				IAML		20 50 51.9	
	comp=E,13μm,0.9s						
MZP	**Montezuma Peak**	**1.82**	**8**		**Pn**	**20 50 22.0**	**-0.4**
SHPR	**Sheep Range**	**2.14**	**73**		**Pn**	**20 50 26.2**	**-0.6**
TPH	**Tonopah**	**2.21**	**10**		**Pn**	**20 50 27.6**	**-0.1**
TPH				IAML		20 51 09.8	
	comp=N,7μm,1.3s						
TPH	**Tonopah**	**2.21**	**10**	P	**Pn**	**20 50 27.6**	**-0.1**
ELS	**Elsinore Mount**	**2.25**	**174**		**Pn**	**20 50 27.4**	**-0.8**
ELS				IAML		20 51 08.3	
	comp=E,16μm,1.4s						
ELS				IAML		20 51 09.0	
	comp=N,8μm,0.9s						
DANC	**Danby, Needles**	**2.27**	**123**	IAML		20 51 20.0	
	comp=N,16μm,0.9s						
V12A	**Nelson**	**2.32**	**93**		**Pn**	**20 50 28.3**	**-0.9**
V12A				IAML		20 51 08.7	
	comp=E,7μm,0.6s						
V12A				IAML		20 51 13.7	
	comp=N,8μm,1.1s						
S11A	**Rachel**	**2.34**	**41**		**Pn**	**20 50 29.2**	**-0.3**
BELC	**Belle Mtn. Jos**	**2.35**	**143**		**Pn**	**20 50 28.6**	**-1.0**
BELC				IAML		20 51 12.8	
	comp=N,10μm,1.0s						
BELC				IAML		20 51 17.1	
	comp=E,10μm,1.1s						
LHV	**Little Huntoon**	**2.44**	**345**	IAML		20 51 21.0	
	comp=N,6μm,1.9s						
LHV				IAML		20 51 22.8	
	comp=E,6μm,1.2s						
PMD	**Palm Desert**	**2.49**	**154**		**Pn**	**20 50 30.5**	**-0.9**
PMD				IAML		20 51 14.5	
	comp=E,9μm,2.0s						
PMD				IAML		20 51 18.3	
	comp=N,5μm,1.0s						
PFO	**Pinyon Flats O**	**2.50**	**156**		**Pn**	**20 50 30.5**	**-1.0**
PFO				IAML		20 51 15.2	
	comp=N,12μm,2.0s						
PFO				IAML		20 51 15.8	
	comp=N,8μm,1.7s						
PFO	**Pinyon Flats O**	**2.50**	**156**	Pn	**Pn**	**20 50 30.6**	**-1.0**
	comp=N,16nm,0.3s,baz=342,slow=8.4,SNR=71						
PFO				Lg	Lg	20 51 09.8	
	comp=N,649nm,0.3s,baz=72,slow=23,SNR=14						
	comp=N,78nm,0.3s						
PFO	**Pinyon Flats O**	**2.50**	**156**	*i* P	**Pn**	**20 50 30.2**	**-1.4**
PMPB	**Monarch Peak**	**2.53**	**278**		**Pn**	**20 50 32.7**	**+0.7**
PMPB				IAML		20 51 13.6	
	comp=N,14μm,1.2s						
NVAR	**Mina Array Bea**	**2.57**	**349**		**Pn**	**20 50 32.5**	**-0.3**
NVAR	**Mina Array Bea**	**2.57**	**349**	Pn	**Pn**	**20 50 32.7**	**-0.1**
	comp=N,16nm,0.3s,baz=175,slow=15,SNR=238						
NVAR				Lg	Lg	20 51 12.6	
	comp=N,268nm,0.3s,baz=138,slow=19,SNR=8.3						
	comp=N,66nm,0.6s						
PRN	**Pahroc Range**	**2.61**	**54**	IAML		20 51 20.4	
	comp=N,10μm,1.1s						
PRN				IAML		20 51 25.0	
	comp=E,12μm,0.9s						
IRM	**Iron Mountain**	**2.72**	**129**		**Pn**	**20 50 32.7**	**-1.9**
IRM				IAML		20 51 25.4	
	comp=E,5μm,1.2s						
IRM				IAML		20 51 28.1	
	comp=N,4μm,1.4s						
NEE2	**Needles Airpor**	**2.76**	**113**	IAML		20 51 25.5	
	comp=N,11μm,1.1s						
NEE2				IAML		20 51 33.9	
	comp=E,9μm,1.1s						
BBGB	**Big Mountain B**	**2.79**	**285**		**Pn**	**20 50 35.7**	**+0.2**
RYN	**Ryan**	**2.81**	**347**		**Pn**	**20 50 36.1**	**+0.2**
BC3	**Big Chuckawall**	**2.90**	**140**	IAML		20 51 31.3	
	comp=N,7μm,1.2s						
BC3				IAML		20 51 34.3	
	comp=E,8μm,1.8s						
WAKR	**Walker**	**2.95**	**332**		**Pn**	**20 50 38.5**	**+0.6**
DPP	**Dos Picos Cty**	**2.96**	**168**	IAML		20 51 24.4	
	comp=E,9μm,1.0s						
R11B	**Troy Canyon, C**	**2.97**	**34**		**Pn**	**20 50 38.1**	**-0.1**
R11B				IAML		20 51 27.8	
	comp=E,3μm,1.3s						
CMB	**Columbia Colle**	**3.03**	**316**		**Pn**	**20 50 39.5**	**+0.6**
CMB	**Columbia Colle**	**3.03**	**316**	P	**Pn**	**20 50 39.5**	**+0.6**
SAO	**San Andreas Ge**	**3.15**	**287**		**Pn**	**20 50 40.6**	**+0.2**
SAO	**San Andreas Ge**	**3.15**	**287**	P	**Pn**	**20 50 40.6**	**+0.2**
W13A	**Hualapai Mount**	**3.21**	**103**		**Pn**	**20 50 41.0**	**-0.5**
W13A				IAML		20 51 35.9	
	comp=N,3μm,1.4s						
W13A				IAML		20 51 36.3	
	comp=E,3μm,1.1s						
TJX	**Tijuana**	**3.42**	**171**		**Pn**	**20 50 43.6**	**-0.6**
TKX	**Tecate**	**3.44**	**164**	IAML		20 51 38.6	
	comp=E,4μm,1.1s						
TKX				IAML		20 51 40.6	
	comp=N,3μm,0.7s						
YUH	**Yuha Desert**	**3.56**	**155**	IAML		20 51 45.5	
	comp=E,3μm,2.3s						
YUH				IAML		20 51 55.1	
	comp=N,2μm,2.0s						
CBX	**Cerro Bola**	**3.68**	**166**		**Pn**	**20 50 47.8**	**0.0**
CCUT	**Cedar City**	**3.85**	**63**	IAML		20 51 56.1	
	comp=N,2μm,2.2s						
CCUT				IAML		20 52 00.6	
	comp=E,2μm,2.0s						
MPK	**Martis Peak**	**3.87**	**332**	IAML		20 52 07.6	
	comp=N,4μm,0.8s						
MPK				IAML		20 52 13.0	
	comp=E,4μm,1.2s						
AFDM	**Forest Hills D**	**4.01**	**320**	IAML		20 52 00.1	
	comp=E,2μm,0.9s						
PAHR	**Pah Rah Range**	**4.03**	**341**		**Pn**	**20 50 53.4**	**+0.7**
PSUT	**Pine Spring**	**4.04**	**48**	IAML		20 52 01.7	
	comp=E,2μm,1.0s						
PSUT				IAML		20 52 23.8	
	comp=N,2μm,1.3s						
SZCU	**Shurtz Canyon**	**4.07**	**64**	IAML		20 52 08.0	
	comp=N,1μm,2.5s						
KNB	**Kanab**	**4.09**	**73**	IAML		20 52 13.2	
	comp=N,3μm,1.7s						
KNB				IAML		20 52 14.6	
	comp=E,3μm,2.1s						
SPR3	**Spring Creek 3**	**4.09**	**40**		**Pn**	**20 50 53.1**	**-0.7**
SPR3				IAML		20 52 01.8	
	comp=N,2μm,1.0s						
SPR3				IAML		20 52 05.3	
	comp=E,2μm,1.3s						
ESJX	**Sierra Juarez**	**4.15**	**159**	IAML		20 52 03.1	
	comp=N,2μm,1.6s						
ESJX				IAML		20 52 05.8	
	comp=E,2μm,1.4s						
Y14A	**Wickenburg**	**4.32**	**116**	IAML		20 52 16.9	
	comp=E,2μm,0.8s						
Y14A				IAML		20 52 16.9	
	comp=N,2μm,1.0s						
U15A	**North Rim**	**4.41**	**82**	IAML		20 52 17.9	
	comp=N,2μm,1.3s						
113A	**Mohawk Valley,**	**4.51**	**133**	IAML		20 52 29.6	
	comp=E,962nm,1.3s						
VTX	**Valle De La Tr**	**4.77**	**160**	IAML		20 52 26.1	
	comp=N,2μm,1.1s						
MTPU	**Mount Pierson**	**4.91**	**63**	IAML		20 52 35.5	
	comp=N,835nm,1.3s						
MTPU				IAML		20 52 58.8	
	comp=E,926nm,2.8s						
WUAZ	**Wupatki**	**5.16**	**92**		**Pn**	**20 51 08.5**	**+0.3**
ELK	**Elko**	**5.21**	**21**		**Pn**	**20 51 09.1**	**+0.1**
ELK	**Elko**	**5.21**	**21**	P	**Pn**	**20 51 09.1**	**+0.1**
X16A	**Lo Mia Camp, P**	**5.33**	**104**	IAML		20 52 50.5	
	comp=E,749nm,1.3s						
X16A				IAML		20 53 05.1	
	comp=N,709nm,2.9s						
TUC	**Tucson**	**6.76**	**120**		**Pn**	**20 51 29.4**

comp=Z,139nm,1.5s
T35A **Sooner Cattle** 17.09 80 IAmb IAmb 20 53 58.2
comp=Z,70nm,1.4s
DEOK **Depew** 17.19 84 P **P** **20 53 52.7 +0.1**
TUL3 **Leonard** 17.75 84 IAmb IAmb 20 54 04.2
comp=Z,81nm,1.0s
BBB **Bella Bella** 17.89 339 LR LR 21 01 44.5
comp=Z,1µm,18.5s,baz=156,slow=40
ECSD **EROS Data Cent** 17.96 58 P **P** **20 54 00.6 -0.5**
RLO **Rose Lookout** 18.34 82 IAmb IAmb 20 54 10.7
comp=Z,152nm,2.0s
HBVL **Hebbronville** 18.44 113 IAmb IAmb 20 54 11.9
comp=Z,95nm,1.4s
F33A **5 Mile Ranch,** 18.94 52 P **Pn** **20 54 12.3 -0.2**
F33A IAmb IAmb 20 54 16.6
comp=Z,78nm,1.8s
HKT **Hockley** 19.27 102 P **Pn** **20 54 16.6 0.0**
HKT IAmb IAmb 20 54 24.1
comp=Z,72nm,1.7s
HKT **Hockley** 19.27 102 *i* P **P** **20 54 14.7 -0.9**
I37A **Lemond, Waseca** 20.26 59 IAmb IAmb 20 54 35.8
comp=Z,43nm,1.0s
AGMN **Agassiz Nation** 20.32 46 IAmb IAmb 20 54 32.4
comp=Z,62nm,1.3s
X40A **Basin Creek Fa** 20.36 87 P Pn 20 54 28.1 -1.4
X40A IAmb IAmb 20 54 32.2
comp=Z,44nm,1.4s
P40A **Paris** 20.59 72 P **P** **20 54 30.2 +0.2**
P40A IAmb IAmb 20 54 38.5
comp=Z,56nm,1.3s
WHAR **Wooly Hollow** 20.66 84 P Pn 20 54 32.5 -0.5
WHAR IAmb IAmb 20 54 36.0
comp=Z,66nm,1.2s
FCAR **Ozark Folk Cen** 20.71 82 P **P** **20 54 31.4 +0.2**
SPMN **Marine on St.** 21.02 56 P **P** **20 54 35.2 +0.7**
SPMN IAmb IAmb 20 54 42.9
comp=Z,33nm,0.6s
CCM **Cathedral Cave** 21.22 76 P **P** **20 54 37.3 +0.5**
CCM IAmb IAmb 20 54 42.1
comp=Z,34nm,1.1s
CCM **Cathedral Cave** 21.22 76 P **P** **20 54 37.3 +0.5**
CCM pmax pmax
comp=Z,34nm,1.1s
ULM **Lac du Bonnet** 21.34 41 P **P** **20 54 38.8 +0.8**
comp=Z,12nm,0.7s,baz=233,slow=9.3,SNR=13
comp=Z,12nm,0.7s
ULM **Lac du Bonnet** 21.34 41 *i* P **P** **20 54 37.0 -0.9**
N41A **Harden Midland** 21.57 69 IAmb IAmb 20 54 46.7
comp=Z,33nm,0.9s
V35K **Ketchikan** 21.66 338 P **P** **20 54 42.8 +1.6**
baz=148
FFC **Flin Flon** 21.74 25 P **P** **20 54 42.5 +0.4**
FFC IAmb IAmb 20 54 48.4
comp=Z,54nm,1.1s
FFC **Flin Flon** 21.74 25 P **P** **20 54 42.6 +0.4**
FFC pmax pmax
comp=Z,54nm,1.1s
FVM **French Village** 21.87 76 IAmb IAmb 20 54 52.9
comp=Z,53nm,1.4s
PBMO **Poplar Bluff** 21.96 80 IAmb IAmb 20 54 50.4
comp=Z,58nm,1.4s
EPLO **Experimental L** 22.22 44 IAmb IAmb 20 54 51.7
comp=Z,67nm,1.6s
CRAG **Craig** 22.25 336 P **P** **20 54 48.0 +0.4**
baz=145
JFWS **Jewell Farm** 22.28 63 P **P** **20 54 48.4 +0.3**
JFWS IAmb IAmb 20 55 09.6
comp=Z,33nm,1.1s
JFWS **Jewell Farm** 22.28 63 P **P** **20 54 48.4 +0.3**
JFWS pmax pmax
comp=Z,33nm,1.1s
T35M **Bob Quinn** 22.72 342 P **P** **20 54 52.4 -0.3**
baz=153
U33K **Whale Pass** 22.78 337 P **P** **20 54 52.9 -0.4**
baz=146
TOAD **Toad River Com** 23.50 350 P **P** **20 55 01.7 +1.0**
baz=165
S34M **Telegraph Cree** 23.77 342 P **P** **20 55 03.9 +0.6**
baz=152
DLBC **Dease Lake** 23.98 344 LR LR 21 05 42.8
comp=Z,2µm,19.8s,baz=137,slow=40
DLBC **Dease Lake** 23.98 344 P **P** **20 55 06.0 +0.6**
baz=155
PLAL **Pickwick Lake** 24.11 83 IAmb IAmb 20 55 09.8
comp=Z,21nm,1.3s
SIT **Sitka** 24.26 336 P **P** **20 55 08.4 +0.6**
baz=143
H43A **Windswept, Lux** 24.31 60 IAmb IAmb 20 55 26.4
comp=Z,21nm,0.9s
P46A **Rosedale** 24.33 72 IAmb IAmb 20 55 14.1
comp=Z,28nm,1.2s
S32K **Killisnoo** 24.36 338 P **P** **20 55 08.7 0.0**
baz=145
Q32M **Nakina River** 24.98 342 P **P** **20 55 15.3 +0.6**
baz=151
R32K **Eaglecrest** 25.00 339 P **P** **20 55 15.7 +1.0**
baz=146
X48A **Hartselle** 25.05 84 IAmb IAmb 20 55 21.4
comp=Z,18nm,1.2s
R33M **Jennings River** 25.06 344 IAmb IAmb 20 55 39.0
comp=Z,17nm,1.1s
R33M **Jennings River** 25.06 344 P **P** **20 55 15.6 +0.4**
baz=154
P32M **Atlin** 25.90 341 P **P** **20 55 23.7 +0.9**
baz=149
P33M **Teslin, Yukon** 26.21 343 P **P** **20 55 26.4 +0.7**
baz=151
PLBC **Pleasant Camp** 26.53 339 P **P** **20 55 28.6 +0.2**
baz=144
YKA **Yellowknife Ar** 26.69 3 P **P** **20 55 32.3 +2.5**
comp=Z,5.2nm,0.9s,baz=184,slow=8.9,SNR=6.3
YKA LR LR 21 07 12.4
comp=Z,936nm,20.8s,baz=180,slow=39
comp=Z,5.2nm,0.9s
P29M **Windy Craggy** 27.08 338 P **P** **20 55 33.5 0.0**
baz=142
WHY **Whitehorse** 27.12 341 P **P** **20 55 34.1 +0.2**
baz=148
P30M **Million Dollar** 27.24 339 P **P** **20 55 34.2 -0.8**
baz=144
TKL **Tuckaleechee C** 27.45 80 LR LR 21 06 58.6
comp=Z,988nm,18.6s,baz=280,slow=38
CMIG **Matias Romero** 27.59 127 LR LR 21 08 30.3
comp=Z,541nm,19.7s,baz=276,slow=41
O29M **Mount Kennedy** 27.87 338 P **P** **20 55 39.9 -0.8**
baz=142
HYT **Haines Junctio** 27.97 339 P **P** **20 55 40.8 -0.8**
baz=144
PINM **Pinnacle** 28.25 336 P **P** **20 55 43.9 -0.1**
baz=139
YUK6 **Outpost Mounta** 28.32 339 P **P** **20 55 44.3 -0.4**
baz=143
M31M **Drury Creek, Y** 28.33 344 P **P** **20 55 44.5 -0.2**
baz=151
N30M **Aishikik Lake** 28.38 340 P **P** **20 55 45.2 +0.1**
baz=146
YUK4 **Talbot Arm** 28.72 339 P **P** **20 55 49.6 +1.3**
baz=143
O28M **Mount Upton** 28.74 337 P **P** **20 55 48.9 +0.3**
baz=140
M30M **Minto, Yukon** 29.23 342 P **P** **20 55 53.9 +1.3**
baz=147
M29M **Somme Creek** 29.56 340 P **P** **20 55 55.0 -0.6**
baz=144
L29M **L29M** 30.02 342 P **P** **20 56 00.4 +0.8**
baz=146
SADO **Sadowa** 30.46 61 LR LR 21 09 16.4
comp=Z,729nm,21.5s,baz=288,slow=38
M27K **Edge Creek, AK** 30.48 338 P **P** **20 56 04.5 +0.7**
baz=139
K29M **Barlow Dome** 30.48 343 **P** **20 56 05.3 +1.6**
K29M **Barlow Dome** 30.48 343 P **P** **20 56 03.1 -0.7**
baz=147
J30M **Hart River** 30.83 344 P **P** **20 56 06.3 -0.6**
baz=150
L27K **Beaver Creek,** 31.00 339 P **P** **20 56 07.2 -1.1**
baz=140
DAWY **Dawson** 31.13 342 P **P** **20 56 08.9 -0.5**
baz=145
I30M **Mount Dempster** 31.40 345 P **P** **20 56 10.9 -1.0**
baz=150
H31M **Peel River** 31.52 347 P **P** **20 56 10.7 -2.1**
baz=154
K27K **Chicken** 31.82 340 P **P** **20 56 15.6 +0.2**
baz=141
KDAK **Kodiak Island** 31.82 324 LR LR 21 07 54.6
comp=Z,622nm,19.3s,baz=91,slow=34
KDAK **Kodiak Island** 31.82 324 *i* P **P** **20 56 14.9 -0.5**
pmax pmax
comp=Z,28nm,1.4s
SCM **Sheep Creek Mo** 31.93 334 P **P** **20 56 15.4 -1.1**
baz=131
I29M **Ogilvie Camp,** 31.94 344 P **P** **20 56 15.2 -1.3**
baz=147
M23K **Glacier View** 32.04 333 P **P** **20 56 16.4 -1.0**
baz=130
SII **Sitkinak Islan** 32.05 322 P **P** **20 56 17.0 -0.6**
baz=115
PAX **Paxson** 32.06 336 P **P** **20 56 17.4 -0.3**
baz=135
KNK **Knik Glacier** 32.07 332 P **P** **20 56 17.1 -0.6**
baz=129
SCRK **Sand Creek** 32.33 339 IAmb IAmb 20 56 28.1
comp=Z,9.0nm,1.0s
SCRK **Sand Creek** 32.33 339 P **P** **20 56 18.1 -1.9**
baz=138,SNR=6.9
RC01 **Rabbit Creek A** 32.37 331 P **P** **20 56 19.6 -0.6**
baz=126
I28M **Miner Creek** 32.40 343 P **P** **20 56 21.6 +1.0**
I28M IAmb IAmb 20 56 30.7
comp=Z,21nm,1.6s
I28M **Miner Creek** 32.40 343 P **P** **20 56 20.4 -0.2**
baz=145
RIDG **Independent Ri** 32.41 338 P **P** **20 56 19.2 -1.5**
baz=136
CHIR **Chirikof Islan** 32.50 320 P **P** **20 56 19.9 -1.6**
baz=112
G31M **Satah River** 32.52 348 P **P** **20 56 21.0 -0.4**
baz=154
WAT6 **Susitna Watana** 32.56 334 P **P** **20 56 21.0 -1.1**
baz=131,SNR=5.8
J26L **Joseph Creek** 32.60 339 P **P** **20 56 21.6 -0.7**
baz=139
H29M **Whitestone** 32.69 345 P **P** **20 56 21.9 -1.1**
baz=148
K24K **Donnelly Dome** 32.75 337 P **P** **20 56 23.7 +0.1**
baz=135
DHY **Denali Highway** 32.77 335 P **P** **20 56 21.1 -2.8**
baz=132
F31M **Tsiigehtchic** 32.90 349 P **P** **20 56 23.6 -1.2**
baz=156,SNR=5.9
G30M **tAoh Zraii Nji** 32.91 347 P **P** **20 56 23.3 -1.7**
baz=152
I27K **Kandik River** 32.94 342 P **P** **20 56 24.0 -1.2**
baz=143
SUA **Susitna One** 32.98 331 P **P** **20 56 24.6 -1.2**
baz=126
WAT1 **Susitna Watana** 33.01 334 P **P** **20 56 25.4 -0.5**
baz=130
I26K **Coal Creek Min** 33.10 341 P **P** **20 56 26.8 +0.2**
baz=140
G29M **Pine Creek** 33.21 346 **PcP** **20 59 10.3 +0.4**
G29M **Pine Creek** 33.21 346 P **P** **20 56 28.2 +0.7**
baz=149
J25K **Salcha River,** 33.21 339 IAmb IAmb 20 56 43.9
comp=Z,20nm,1.6s
J25K **Salcha River,** 33.21 339 P **P** **20 56 28.6 +0.9**
baz=136
Q18K **Katmai Hardscr** 33.36 325 P **P** **20 56 28.4 -0.7**
baz=116
F30M **Barrier River** 33.40 348 IAmb IAmb 20 56 44.7
comp=Z,18nm,1.2s
F30M **Barrier River** 33.40 348 P **P** **20 56 29.9 +0.7**
baz=153
H27K **Steamboat Moun** 33.42 343 IAmb IAmb 20 56 45.1
comp=Z,12nm,1.4s
H27K **PcP** **20 59 11.7 +1.1**
H27K **Steamboat Moun** 33.42 343 P **P** **20 56 30.4 +1.0**
baz=144
HDA **Harding Lake** 33.54 337 P **P** **20 56 31.9 +1.4**
baz=134
SKT **Skwentna** 33.59 332 P **P** **20 56 31.8 +0.9**
baz=125
INK **Inuvik** 33.66 349 LR LR 21 11 10.1
comp=Z,2µm,18.2s,baz=142,slow=38
INK **Inuvik** 33.66 349 P **P** **20 56 32.6 +1.1**
baz=156
MCK **McKinley** 33.73 335 IAmb IAmb 20 56 40.6
comp=Z,18nm,1.3s
MCK **McKinley** 33.73 335 P **P** **20 56 33.1 +0.9**
baz=131
IL31 33.78 338 **PcP** **20 59 12.0 +0.5**
ILAR **Eielson Array** 33.78 338 P **P** **20 56 35.5 +2.9**
comp=Z,2.8nm,0.8s,baz=154,slow=7.7,SNR=19
ILAR PcP **PcP** **20 59 12.7 +1.1**
comp=Z,2.3nm,0.7s,baz=172,slow=2.6,SNR=9.2
ILAR LR LR 21 09 54.7
comp=Z,651nm,20.0s,baz=156,slow=36
comp=Z,2.8nm,0.8s
PRP **Porcupine Dome** 33.91 340 IAmb IAmb 20 56 50.1
comp=Z,18nm,1.7s
PRP **PcP** **20 59 13.9 +1.8**
PRP **Porcupine Dome** 33.91 340 P **P** **20 56 34.9 +1.0**
baz=137
G27K **Doyon Strip** 33.91 343 **PcP** **20 59 13.8 +1.9**
G27K **Doyon Strip** 33.91 343 P **P** **20 56 33.5 -0.2**
baz=144
WRH **Wood River Hil** 33.95 337 IAmb IAmb 20 56 42.2
comp=Z,8.6nm,1.0s
O18K **Koktuh Hills** 34.00 327 P **P** **20 56 34.5 -0.1**
baz=118
TRF **Thorofare Moun** 34.01 334 P **P** **20 56 35.1 +0.3**
baz=129
N19K **Bonanza Creek** 34.15 328 IAmb IAmb 20 56 42.1
comp=Z,14nm,1.1s
N19K **Bonanza Creek** 34.15 328 P **P** **20 56 35.5 -0.5**
baz=120
M20K **Styx River** 34.16 331 P **P** **20 56 36.7 +0.8**
baz=123
F28M **Old Crow** 34.19 345 P **P** **20 56 35.9 -0.2**
baz=147
POKR **Poker Plat Res** 34.19 338 P **P** **20 56 35.4 -0.6**
baz=134
KTH **Kantishna Hill** 34.30 334 **PcP** **20 59 14.3 +1.2**
NEA2 **Nenana** 34.34 337 P **P** **20 56 38.4 +0.9**
baz=132,SNR=6.6
PPLA **Purkeypile** 34.37 333 P **P** **20 56 38.2 +0.3**
baz=126
E29M **Blow River** 34.46 347 IAmb IAmb 20 56 44.9
comp=Z,14nm,1.4s
E29M **Blow River** 34.46 347 P **P** **20 56 38.3 -0.2**
baz=150,SNR=6.2
G26K **Porcupine Rive** 34.54 342 IAmb IAmb 20 56 46.0
comp=Z,16nm,1.1s
G26K **Porcupine Rive** 34.54 342 P **P** **20 56 39.3 +0.2**
baz=141,SNR=7.4
H25L **Birch Creek** 34.55 340 P **P** **20 56 39.4 +0.2**
baz=138
CAST **Castle Rocks** 34.64 333 **PcP** **20 59 14.9 +0.9**
CAST **Castle Rocks** 34.64 333 P **P** **20 56 39.7 -0.3**
baz=126
BPAW **Bear Paw Mtn.** 34.66 335 P **P** **20 56 39.5 -0.7**
baz=128,SNR=7.4
M19K **Big River Lodg** 34.67 330 P **P** **20 56 40.0 -0.4**
baz=122
L20K **Farewell, AK** 34.78 331 P **P** **20 56 42.1 +0.8**
baz=123
I23K **Minto, Yukon-K** 34.80 337 **PcP** **20 59 15.3 +0.8**
I23K **Minto, Yukon-K** 34.80 337 P **P** **20 56 41.9 +0.6**
baz=132
H24K **Noodor Dome** 34.82 339 IAmb IAmb 20 56 49.8
comp=Z,20nm,1.6s
H24K **Noodor Dome** 34.82 339 P **P** **20 56 42.5 +0.9**
baz=134
P16K **Nushagak River** 34.93 324 P **P** **20 56 40.9 -1.6**
baz=114
E28M **Babbage River** 34.96 346 P **P** **20 56 43.7 +1.0**
baz=148
CHUM **Lake Minchumin** 34.99 334 P **P** **20 56 43.6 +0.5**
baz=126
G25K **Bearman Lake** 35.00 341 P **P** **20 56 42.8 -0.2**
baz=138
L19K **White Mountain** 35.01 330 P **P** **20 56 42.0 -1.2**
baz=121
E27K **Coleen River** 35.03 345 P **P** **20 56 43.5 +0.2**
baz=145
M18K **Stony River** 35.05 329 P **P** **20 56 44.0 +0.4**
baz=119
MLY **Manley** 35.17 336 P **P** **20 56 44.7 +0.1**
baz=130,SNR=9.2
N17K **Nushagak Hills** 35.19 327 P **P** **20 56 44.8 0.0**
baz=116
O16K **Kokwok River B** 35.20 325 P **P** **20 56 45.7 +0.8**
baz=114
F26K **Sheenjek River** 35.21 343 P **P** **20 56 44.7 -0.3**
baz=141,SNR=7.4
H23K **Yukon River** 35.31 338 P **P** **20 56 45.5 -0.3**
baz=132,SNR=6.8
G24K **Hadweenzic Riv** 35.32 340 **PcP** **20 59 17.8 +1.8**
G24K **Hadweenzic Riv** 35.32 340 P **P** **20 56 45.6 -0.3**
baz=136
K20K **Telida** 35.33 332 P **P** **20 56 45.7 -0.4**
baz=124,SNR=10
D28M **Stokes Point** 35.43 347 P **P** **20 56 47.0 +0.3**
baz=150
F25K **Christian Rive** 35.50 342 P **P** **20 56 47.1 -0.3**
baz=139
I21K **Tanana** 35.67 336 P **P** **20 56 49.0 +0.1**
baz=128,SNR=6.2
M17K **Holitna River** 35.69 328 IAmb IAmb 20 56 55.5
comp=Z,13nm,0.9s
M17K **Holitna River** 35.69 328 P **P** **20 56 49.1 0.0**
baz=117
L18K **Granite Mounta** 35.77 330 **PcP** **20 59 19.0 +1.6**
L18K **Granite Mounta** 35.77 330 P **P** **20 56 48.6 -1.2**
baz=119
D27M **Malcolm River** 35.78 346 P **P** **20 56 48.3 -1.5**
baz=147
J20K **Nowinta River** 35.82 334 P **P** **20 56 49.5 -0.7**
baz=124,SNR=5.9
O15K **Ungalikthiuk R** 35.86 324 P **P** **20 56 49.3 -1.3**
baz=112
N16K **Nishlik Lake** 35.87 326 P **P** **20 56 49.8 -0.9**
baz=114
E25K **Arctic Village** 35.88 343 P **P** **20 56 51.2 +0.5**
baz=140
H22K **Ishtalitna Cre** 35.93 337 P **P** **20 56 50.4 -0.7**
baz=130,SNR=11
F24K **Squaw Lake** 36.03 341 P **P** **20 56 51.2 -0.7**
baz=136
G23K **Bananza Creek** 36.06 339 P **P** **20 56 51.5 -0.8**
baz=132
M16K **Timber Creek** 36.19 327 P **P** **20 56 52.9 -0.4**
baz=115
H21K **Melozitna Rive** 36.24 336 P **P** **20 56 53.4 -0.4**
baz=128,SNR=12
J19K **Poorman** 36.26 333 IAmb IAmb 20 57 00.1
comp=Z,8.9nm,0.8s
J19K **PcP** **20 59 20.3 +1.5**
J19K **Poorman** 36.26 333 P **P** **20 56 54.0 0.0**
baz=122,SNR=6.5
I20K **Naaghedeneel** 36.30 334 P **P** **20 56 54.3 +0.1**
baz=125,SNR=6.1
L17K **Donlin** 36.39 329 P **P** **20 56 53.5 -1.6**
baz=117
J18K **Innoko River** 36.40 332 IAmb IAmb 20 57 02.8
comp=Z,19nm,1.4s
J18K **Innoko River** 36.40 332 P **P** **20 56 54.0 -1.2**
baz=121
O14K **Tigyukauivet M** 36.58 324 P **P** **20 56 55.0 -1.7**
baz=110
E24K **Your Creek** 36.59 341 P **P** **20 56 56.0 -0.8**
baz=136
G22K **Bettles** 36.64 338 P **P** **20 56 57.9 +0.8**
baz=131
C27K **Jago River** 36.65 345 P **P** **20 56 56.5 -0.7**
baz=143
K17K **Iditarod** 36.66 330 IAmb IAmb 20 57 05.0
comp=Z,13nm,1.1s
K17K **Iditarod** 36.66 330 P **P** **20 56 57.4 0.0**
baz=118
L16K **Owhat River** 36.71 328 P **P** **20 56 56.1 -1.7**
baz=115
IMAR **Indian Mountai** 36.75 336 P **P** **20 56 59.5 +1.4**
H20K **Anotleneega Mo** 36.84 335 P **P** **20 56 58.5 -0.4**
baz=125,SNR=6.7
E23K **Chandalar** 36.87 341 P **P** **20 56 58.4 -0.8**
baz=134
D25K **Kavik River** 36.99 344 P **P** **20 56 59.4 -0.8**
baz=140
G21K **Allakaket** 36.99 337 P **P** **20 56 59.4 -0.8**
baz=128
N14K **Kuskokwak Cree** 37.01 324 P **P** **20 56 58.7 -1.6**
baz=110
GCSA **Galena City Sc** 37.13 333 P **P** **20 57 01.3 +0.1**
baz=122
TOLK **Toolik Lake Re** 37.27 341 P **P** **20 57 02.6 0.0**
baz=135
J17K **VABM Dome** 37.30 331 P **P** **20 57 03.1 +0.4**
baz=118
H19K **Roundabout Mou** 37.40 335 P **P** **20 57 03.2 -0.3**
baz=123
F21K **Alatna River** 37.43 338 P **P** **20 57 03.5 -0.4**
baz=129
M14K **Bethel** 37.43 326 P **P** **20 57 02.7 -1.2**
baz=111
D24K **Happy Valley** 37.45 342 P **P** **20 57 02.9 -1.1**
baz=136
E22K **Anaktuuk Pass** 37.53 340 P **P** **20 57 05.9 +1.2**
baz=132
L15K **Ungalak Mounta** 37.57 327 P **P** **20 57 05.0 -0.1**
baz=113
D23K **Nanushuk River** 37.79 341 IAmb IAmb 20 57 14.2
comp=Z,36nm,1.8s
D23K **Nanushuk River** 37.79 341 P **P** **20 57 08.1 +1.3**
baz=134
K15K **Wolf Creek Mou** 37.83 328 P **P** **20 57 06.4 -0.9**
baz=114
C24K **Franklin Bluff** 37.84 343 P **P** **20 57 07.4 +0.1**
baz=137
J16K **Anvik River** 37.86 330 P **P** **20 57 07.9 +0.3**
baz=116
H18K **Honhosa River** 37.88 333 P **P** **20 57 07.6 -0.1**
baz=120
G19K **Purcell Mounta** 37.95 335 P **P** **20 57 07.9 -0.4**
baz=123
M13K **Dall Lake** 37.96 325 P **P** **20 57 07.1 -1.2**
baz=109
L14K **Kuka Creek** 37.98 326 P **P** **20 57 08.3 -0.2**
baz=111
F20K **Avaraart Lake** 38.02 337 P **P** **20 57 09.0 +0.2**
baz=126
D22K **Ayikyak River** 38.27 340 P **P** **20 57 10.1 -0.8**
baz=131
E21K **Killik River** 38.34 339 P **P** **20 57 11.0 -0.6**
baz=129
H17K **Granite Mounta** 38.34 333 P **P** **20 57 10.8 -0.8**
baz=118
G18K **Tagagawik** 38.37 334 P **P** **20 57 10.5 -1.2**
baz=121
C23K **Itkillik River** 38.38 342 P **P** **20 57 08.3 -3.5**
baz=135
F19K **Shaleruckik Mo** 38.56 336 P **P** **20 57 12.2 -1.2**
baz=123
E19K **Redstone River** 38.73 337 P **P** **20 57 14.0 -0.8**
baz=124
J14K **Nanvaranak Lak** 38.87 328 P **P** **20 57 14.4 -1.7**
baz=112
G17K **Kiwalik Mounta** 38.89 333 P **P** **20 57 16.1 -0.1**
baz=118
C21K **Knifeblade Rid** 39.02 340 P **P** **20 57 16.1 -1.2**
baz=129
K13K **Kusilvak Mount** 39.06 327 P **P** **20 57 18.7 +1.0**
baz=110
F18K **Selawik** 39.07 335 P **P** **20 57 18.1 +0.4**
baz=121
H16K **Elim** 39.10 331 P **P** **20 57 17.2 -0.7**
baz=116
D20K **Etivluk River** 39.27 339 P **P** **20 57 20.2 +0.8**
baz=126
RES **Resolute Bay** 40.39 9 LR LR 21 14 38.8
comp=Z,1µm,20.1s,baz=169,slow=37
D17K **Noatak River** 40.78 335 P **P** **20 57 32.9 +1.1**
baz=118
BILL **Bilibino** 52.08 332 *i* P **P** **20 58 57.1 -3.4**
BILL pmax pmax
comp=Z,13nm,2.0s
SEY **Seymchan** 58.69 328 *e* P **P** **20 59 48.5 +0.3**
SEY pmax pmax
comp=Z,6.0nm,1.2s
PETK **Petropavlovsk-** 59.22 316 P **P** **20 59 53.0 +0.9**
comp=Z,4.0nm,0.6s,baz=56,slow=11,SNR=9.4
comp=Z,4.0nm,0.6s
PETK **Petropavlovsk-** 59.22 316 P **P** **20 59 53.0 +0.9**
MA2 **Magadan** 60.56 324 LR LR 21 25 26.0
comp=Z,196nm,18.2s,baz=32,slow=35
BORG **Borgarnes** 60.75 29 LR LR 21 26 48.5
comp=Z,734nm,19.3s,baz=139,slow=36
PPT **Papeete** 61.14 215 LR LR 21 20 42.2
comp=Z,295nm,18.2s,baz=359,slow=30
TIXI **Tiksi** 63.17 341 *i* P **P** **21 00 17.3 -1.2**
TIXI pmax pmax
comp=Z,11nm,1.2s
MDP **Montagnes des** 66.88 101 LR LR 21 33 35.2

comp=Z,313nm,19.5s,baz=54,slow=39
RAR Rarotonga 69.37 222 LR LR 21 25 59.4
comp=Z,291nm,20.4s,baz=25,slow=31
NOA NORSAR Array B 74.83 23 P **P 21 01 33.8 +2.6**
comp=Z,0.7nm,0.8s,baz=318,slow=6.1,SNR=3.5
NOA LR LR 21 33 17.2
comp=Z,260nm,21.7s,baz=185,slow=35
comp=Z,0.7nm,0.8s
HFS Hagfors 76.31 23 LR LR 21 36 47.1
comp=Z,840nm,19.1s,baz=221,slow=37
HEH HeiHe 76.81 323 *eP* **P 21 01 43.3 +0.7**
USRK Ussuriysk Ar. 78.30 316 P **P 21 01 51.6 +0.5**
comp=Z,5.2nm,0.7s,baz=40,slow=4.2,SNR=4.7
comp=Z,5.2nm,0.7s
BNX BinXian 79.79 320 ⇑P **P 21 02 00.3 +1.1**
BNX pmax pmax
comp=Z,11nm,1.0s
ESDC Sonseca Array 83.17 45 P **P 21 02 18.1 +0.8**
comp=Z,0.6nm,0.7s,baz=314,slow=5.7,SNR=5.7
comp=Z,0.6nm,0.7s
BRG Berggiesshubel 83.70 28 *eP* P 21 02 26.1 +6.3
BRG Amp 21 02 27.4
comp=Z,6.7nm,1.1s
KSRS Korea Array 85.02 313 P **P 21 02 28.2 +1.5**
comp=Z,3.0nm,0.8s,baz=50,slow=4.7,SNR=9.0
comp=Z,3.0nm,0.8s
KSAR Wonju Array Be 85.05 313 P **P 21 02 27.2 +0.3**
KSAR Wonju Array Be 85.05 313 P **P 21 02 27.2 +0.3**
KIRV Kirov 85.26 7 *i* P **P 21 02 24.3 -3.2**
VRAC Vranov 85.97 28 LR LR 21 41 17.9
comp=Z,330nm,18.4s,baz=240,slow=36
MOS Moscow 86.32 14 *eP* **P 21 02 30.1 -2.7**
OBN Obninsk 86.70 14 *de* **P 21 02 32.5 -2.2**
OBN *e* 21 02 38.5
OBN *e* 21 05 56.4
OBN *eS* **S 21 13 14.5 +2.4**
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,423nm,17.0s
XLT XiLinHaoTe 86.76 324 *eP* **P 21 02 37.1 +1.7**
XLT pmax pmax
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 87.52 332 *i* P **P 21 02 36.5 -2.6**
ULN pmax pmax
comp=Z,7.0nm,1.4s
SONM Songino Array 87.80 332 P **P 21 02 41.7 +1.3**
SONM IAmb IAmb 21 02 45.9
comp=Z,3.1nm,0.8s
SONM Songino Array 87.80 332 P **P 21 02 41.3 +0.9**
comp=Z,2.1nm,0.6s,baz=17,slow=3.1,SNR=9.0
comp=Z,2.1nm,0.6s
ARTI Arti 88.02 2 P **P 21 02 41.9 +0.8**
ARTI Arti 88.02 2 *d* *i* P **P 21 02 40.4 -0.7**
ARTI S **SKSac 21 13 09.2 -0.5**
ARTI SS **SS 21 19 12.4 +1.6**
ARTI pmax pmax
comp=Z,7.0nm,1.3s
ZAA0 Zalesovo Array 88.42 347 P **P 21 02 43.1 +0.1**
ZALV Zalesovo Beam 88.42 347 P **P 21 02 42.5 -0.5**
ZALV Zalesovo Beam 88.42 347 P **P 21 02 43.5 +0.5**
comp=Z,1.3nm,0.7s,baz=358,slow=3.6,SNR=8.0
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 88.98 20 P **P 21 02 45.5 -0.2**
comp=Z,1.0nm,0.7s,baz=322,slow=4.0,SNR=5.6
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 88.98 20 *i* P **P 21 02 46.4 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 88.98 20 *eP* **P 21 02 43.5 -2.2**
AKBB pmax pmax
comp=Z,4.0nm,1.1s
HNR Honiara 89.34 258 LR LR 21 39 32.7
comp=Z,276nm,18.0s,baz=38,slow=33
BRVK Borovoye 91.14 355 *i* P **P 21 02 55.6 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BELG Belogornoye 91.15 9 *i* P **P 21 02 55.4 -0.4**
BELG pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 91.17 355 P **P 21 02 57.6 +1.7**
comp=Z,4.3nm,0.7s,baz=20,slow=4.7,SNR=17
comp=Z,4.3nm,0.7s
HHC Hu-ho-hao-te 91.24 325 *eP* **P 21 02 54.6 -2.0**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,80nm,6.2s
BTO Baotou 92.14 326 *eP* P 21 02 54.4 -6.4
BTO PP PP 21 06 31.6 -8.3
BTO Baotou 92.14 326 S S 21 13 53.1 -11
BTO Baotou 92.14 326 SS SS 21 20 08.6 -3.1
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,120nm,3.9s
BTO LR LR
comp=N,560nm,13.4s
BTO LR LR
comp=E,880nm,16.8s
BTO LR LR
comp=Z,490nm,10.2s
KURK Kurchatov 92.57 350 *i* P **P 21 03 00.8 -1.6**
KURK pmax pmax
comp=Z,18nm,3.6s
KURBB Kurchatov Arra 92.67 350 P **P 21 03 03.9 +1.0**
comp=Z,1.7nm,0.9s,baz=14,slow=4.7,SNR=11
comp=Z,1.7nm,0.9s
NJ2 Nanjing 94.11 315 *eP* **P 21 03 08.3 -1.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
AB31 Akbulak array 95.19 2 P **P 21 03 15.2 +0.7**
ABKAR Akbulak array 95.19 2 P **P 21 03 13.8 -0.7**
WMQ Urumqi 97.36 342 *eP* Pdif 21 03 25.8 +1.2
WMQ LR LR
comp=Z,340nm,19.3s
PZH PanZhiHua 107.63 323 PKP **PKiKP 21 08 18.1 -0.6**
WRA Warramunga Arr 115.69 263 PKP **PKiKP 21 08 33.8 -0.1**
comp=Z,0.6nm,0.6s,baz=60,slow=2.1,SNR=7.9
CMAR Chiang Mai Arr 115.77 321 PKP **PKPdf 21 08 33.9 -0.3**
comp=Z,0.7nm,0.7s,baz=304,slow=1.3,SNR=6.7
ASAR Alice Springs 117.90 260 PKP **PKiKP 21 08 37.9 -0.2**
comp=Z,1.0nm,0.7s,baz=74,slow=2.0,SNR=8.8
QSPA South Pole Qui 125.72 180 PKP **PKiKP 21 08 54.0 +1.8**
comp=Z,4.1nm,0.9s,baz=350,slow=0.4,SNR=10
VNA3 Neumayer Olymp 129.32 157 ⇑P **PKiKP 21 08 58.7 -0.5**
comp=Z,3.9nm,0.8s
SNAA Sanae 131.43 157 ⇑P **PKiKP 21 09 03.5 0.0**
comp=Z,28nm,0.9s
SNAA Sanae 131.43 157 PKP **PKiKP 21 09 03.2 -0.3**
comp=Z,2.1nm,1.1s,baz=315,slow=2.9,SNR=3.7
BOSA Boshof 147.98 88 PKPbc **PKPbc 21 09 36.1 -0.8**
comp=Z,3.4nm,1.0s,baz=276,slow=4.8,SNR=4.7
MAW Mawson 148.24 180 PKPbc **PKiKP 21 09 37.1 -0.8**
comp=Z,22nm,0.9s,baz=194,slow=3.7,SNR=27

IDC 22 20:51:30.6±51.0, 17°15S×177°32W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=937.2km s-min=152.2km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.91**	**241**	P	P	20 59 06.8	+0.2
	3.8nm,0.8s,baz=89,slow=7.8,SNR=7.8						
	3.8nm,0.8s						
WRA	**Warramunga Arr**	**45.80**	**259**	P	P	20 59 54.3	-0.2
	1.3nm,0.5s,baz=96,slow=7.2,SNR=32						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**46.00**	**253**	P	P	20 59 55.8	-0.3
	7.4nm,0.8s,baz=86,slow=8.8,SNR=70						
	7.4nm,0.8s						

---

*RSNC **22** 20:53:36.7±0.5, 4°S×2°×8°0W±°, h95km±7km, M4.3, mB4.8, mb4.5, ML3.9, Mw(mB)4.0*
*IGQ **22** 20:53:40.1±0.2, 4°S×2°×8°0W±°, h54km×3km, MLv4.5/41*
*NEIC **22** 20:53:41.3±1.6, 3°53S±0°03×79°1W±0°1, h68km±17km, mb4.2/15, Error ellipse: s-maj=19.7km s-min=4.1km az=94.0*
*VAO **22** 20:53:45.6±1.3, 3°35S×78°60W, h77km±11km, mb4.4*
ISC 22 20:53:38.1±0.6, 3°56S±0°03×79°62W±0°04, h79km±5km, n107, σ1°78/125, 12C-15D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACH2	**Ecuador-Machal**	**0.35**	**327**	⇓P		**Pn**	**20 53 51.4**	**+0.7**
PCRA	**Pucara 2**	**0.37**	**19**	⇓P		**Pn**	**20 53 51.6**	**+0.3**
PCRA				S		**Sn**	**20 54 01.1**	**+0.2**
ACH1	**Ecuador-Univer**	**0.40**	**313**	P		**Pn**	**20 53 52.0**	**+1.0**
ARNL	**Arenillas**	**0.45**	**271**	⇓P		**Pn**	**20 53 51.9**	**+0.6**
ARNL				S		**Sn**	**20 54 01.3**	**+0.2**
PU03	**PU03**	**0.67**	**344**	⇓P		**Pn**	**20 53 53.1**	**-0.4**
ISPG	**Isla Puna-Puer**	**0.80**	**317**	⇓P		**Pn**	**20 53 56.5**	**+1.6**
ISPG				S		**Sn**	**20 54 10.6**	**+3.2**
AZAM	**Ecuador-Zamora**	**0.84**	**127**	⇑P		**Pn**	**20 53 57.4**	**+2.1**
AZAM				S		**Sn**	**20 54 11.0**	**+2.9**
PU02	**PU02**	**0.85**	**329**	⇓P		Pn	20 53 59.6	+4.2
PU04	**PU04**	**0.87**	**2**	⇓P		**Pn**	**20 53 56.1**	**+0.5**
AMCR	**Ecuador-Macara**	**0.87**	**202**	P		**Pn**	**20 53 56.4**	**+0.7**
MCRA	**Macar, Loja**	**0.87**	**202**	⇑P		**Pn**	**20 53 56.3**	**+0.6**
MCRA	**Macar, Loja**	**0.87**	**202**	P		**Pn**	**20 53 56.2**	**+0.5**
MCRA				S		**Sn**	**20 54 09.8**	**+1.1**
PU01	**PU01**	**0.97**	**321**	⇓P		**Pn**	**20 53 59.4**	**+2.6**
PU06	**PU06**	**1.13**	**360**	⇓P		**Pn**	**20 53 59.0**	**+0.3**
COHC	**Cochancay**	**1.15**	**19**			**Pn**	**20 53 59.3**	**+0.4**
COHC					Sn	**Sn**	**20 54 14.9**	**+0.4**
COHC	**Cochancay**	**1.15**	**19**	⇓P		**Pn**	**20 53 59.5**	**+0.6**
COHC				S		**Sn**	**20 54 14.7**	**+0.2**
COHC	**Cochancay**	**1.15**	**19**	P		**Pn**	**20 53 59.3**	**+0.4**
COHC				S		**Sn**	**20 54 15.0**	**+0.5**
MORR	**Playas El Morr**	**1.16**	**322**	⇓P		**Pn**	**20 53 59.8**	**+0.7**
MORR				S		**Sn**	**20 54 15.1**	**+0.3**
BOSC	**San Juan Bosco**	**1.19**	**70**	⇑P		**Pn**	**20 54 01.1**	**+1.5**
BOSC				S		**Sn**	**20 54 18.0**	**+2.2**
PU07	**PU07**	**1.22**	**8**	⇓P		**Pn**	**20 53 59.6**	**-0.3**
MILO	**Milagro-Astudi**	**1.27**	**3**	⇓P		**Pn**	**20 54 02.1**	**+1.5**
GYE1	**Ecuador-Trinit**	**1.33**	**347**	⇓P		**Pn**	**20 54 01.6**	**+0.4**
ZUMB	**Zumba**	**1.38**	**160**	P		**Pn**	**20 54 04.4**	**+2.3**
GYE3	**Ecuador-Guayaq**	**1.42**	**349**	P		**Pn**	**20 54 03.0**	**+0.6**
AC07	**Ecuador-Guayaq**	**1.44**	**345**	P		**Pn**	**20 54 02.8**	**+0.1**
AGUAY	**Guayaquil**	**1.53**	**348**	P		**Pn**	**20 54 03.3**	**-0.5**
MONB	**Balzapamba Mon**	**1.83**	**13**	⇓P		**Pn**	**20 54 06.8**	**-1.0**
SALI	**Salinas**	**1.93**	**315**	⇑P		**Pn**	**20 54 09.4**	**+0.3**
JSCH	**Cashca Tororas**	**1.94**	**19**	P		**Pn**	**20 54 09.5**	**0.0**
SANGA	**Volcan Sangay**	**1.95**	**40**	P		**Pn**	**20 54 11.5**	**+1.8**
CHSH	**Refugio Sur-Vo**	**2.18**	**20**	P		**Pn**	**20 54 13.2**	**+0.2**
PPLP	**Puerto Lpez**	**2.31**	**330**	P		**Pn**	**20 54 14.6**	**+0.4**
PPLP	**Puerto Lpez**	**2.31**	**330**	P		**Pn**	**20 54 13.3**	**-0.9**
PPLP				S		**Sn**	**20 54 40.0**	**-1.8**
BPAT	**Tungurahua Vol**	**2.36**	**30**	⇑P		**Pn**	**20 54 16.7**	**+1.3**
TAIS	**Taisha**	**2.42**	**61**	⇑P		**Pn**	**20 54 16.2**	**+0.6**
PUYO	**Puyo, Santa Ro**	**2.60**	**38**	⇑P		**Pn**	**20 54 19.4**	**+1.3**
ISPT	**Isla de la Pla**	**2.70**	**327**	⇑P		**Pn**	**20 54 19.6**	**+0.1**
PIAT	**Ana Tenorio**	**2.88**	**28**	P		**Pn**	**20 54 23.8**	**+1.5**
PIAT				S		**Sn**	**20 54 58.4**	**+2.2**
ILLI	**Illinizas Sur**	**2.96**	**18**	P		**Pn**	**20 54 25.5**	**+2.1**
BRRN	**Barrancas-Volc**	**2.98**	**23**	P		**Pn**	**20 54 26.4**	**+2.7**
VCES	**Cotopaxi**	**3.00**	**24**	P		**Pn**	**20 54 27.2**	**+3.2**
BREF	**Cotopaxi Volca**	**3.10**	**22**	P		Pn	20 54 30.3	+4.8
SUCR	**Mariscal Sucre**	**3.11**	**21**	P		**Pn**	**20 54 28.7**	**+3.2**
BTAM	**Cotopaxi Volca**	**3.12**	**23**	P		**Pn**	**20 54 28.3**	**+2.7**
BVC2	**Cotopaxi Volca**	**3.12**	**23**	P		**Pn**	**20 54 29.3**	**+3.5**
ARDO	**Archidona, Ten**	**3.13**	**36**	⇑P		**Pn**	**20 54 25.7**	**+0.4**
ANTM	**Antisana-La Mi**	**3.31**	**25**	P		**Pn**	**20 54 29.7**	**+1.5**
ANTG	**Antisana-Guama**	**3.33**	**24**	P		**Pn**	**20 54 31.8**	**+3.3**
ANTS	**Antisana-Sarah**	**3.37**	**26**	P		**Pn**	**20 54 31.6**	**+2.5**
GGPT	**Toaza - Volcan**	**3.46**	**17**	P		**Pn**	**20 54 31.2**	**+1.1**
GGPC	**Guagua Pichinc**	**3.51**	**17**	P		**Pn**	**20 54 33.8**	**+2.8**
TERV	**Terraza Guagua**	**3.51**	**17**	P		**Pn**	**20 54 32.8**	**+1.8**
BV15	**Puerto Quito-O**	**3.71**	**6**	P		**Pn**	**20 54 32.4**	**-0.8**
PULU	**Pululahua**	**3.73**	**17**	P		**Pn**	**20 54 36.9**	**+3.1**
PAC1	**Pacto, Paraso**	**3.89**	**12**	P		**Pn**	**20 54 35.9**	**+0.2**
PAC1	**Pacto, Paraso**	**3.89**	**12**	P		**Pn**	**20 54 35.7**	**0.0**
PAC1				S		**Sn**	**20 55 19.2**	**-1.1**
ANGU	**Angureal**	**3.93**	**24**	P		**Pn**	**20 54 39.5**	**+2.9**
OTAV	**Otavalo**	**3.95**	**17**			**Pn**	**20 54 37.1**	**+0.3**
OTAV	**Otavalo**	**3.95**	**17**	P		**Pn**	**20 54 37.6**	**+0.8**
OTAV	**Otavalo**	**3.95**	**17**	P		**Pn**	**20 54 37.4**	**+0.6**
OTAV				S		**Sn**	**20 55 23.2**	**+1.0**
CUSE	**Cuicocha Este**	**4.03**	**18**	P		**Pn**	**20 54 39.8**	**+1.9**
CUSE	**Cuicocha Este**	**4.03**	**18**	P		**Pn**	**20 54 39.0**	**+1.1**
CUSE				S		**Sn**	**20 55 28.1**	**+4.0**
CUIC	**Cuicocha-Domo**	**4.04**	**18**	P		**Pn**	**20 54 39.8**	**+1.8**
IMBA	**Imbabura, San**	**4.07**	**20**	P		**Pn**	**20 54 41.8**	**+3.4**
URCU	**Urcuqui**	**4.20**	**19**	P		**Pn**	**20 54 42.5**	**+2.3**
YAHU	**Yahuarcocha**	**4.20**	**22**	P		Pn	20 54 46.2	+6.0
BONI	**La Bonita**	**4.50**	**28**	P		**Pn**	**20 54 46.4**	**+2.3**
BONI	**La Bonita**	**4.50**	**28**	P		**Pn**	**20 54 45.8**	**+1.7**
LNGL	**El Angel-Carch**	**4.57**	**21**	P		**Pn**	**20 54 46.6**	**+1.3**
RVRD	**Rio Verde**	**4.60**	**3**	P		**Pn**	**20 54 47.2**	**+1.9**
TULM	**Tulcn-Chalpat**	**4.62**	**23**	P		**Pn**	**20 54 49.0**	**+2.9**
CHL2	**Volcn Chiles**	**4.65**	**21**	P		Pn	20 54 50.5	+4.0
CHMA	**Chilma**	**4.66**	**20**	P		**Pn**	**20 54 48.7**	**+2.3**
BBAC	**Balboa, Cauca**	**6.03**	**23**	P		**Pn**	**20 55 04.6**	**-0.4**
	494nm32nm,0.7s						
BBAC				S		**Sn**	**20 56 14.0**	**+1.2**
	494nm32nm,0.7s						
FLOC	**Florencia**	**6.47**	**38**			**Pn**	**20 55 09.4**	**-1.4**
FLOC	**Florencia**	**6.47**	**38**	P		**Pn**	**20 55 09.5**	**-1.3**
FLOC	**Florencia**	**6.47**	**38**	P		**Pn**	**20 55 09.9**	**-0.9**
	713nm22nm,0.7s						
FLOC				S		**Sn**	**20 56 22.5**	**-0.7**
	713nm22nm,0.7s						
GR1C	**Gorgona, Isla**	**6.68**	**13**	P		**Pn**	**20 55 13.5**	**-0.1**
	143nm,0.9s						
GR1C				S		**Sn**	**20 56 23.7**	**-4.6**
	143nm,0.9s						
POPC	**Popayan, Colom**	**6.74**	**26**	P		**Pn**	**20 55 15.6**	**+1.0**
	15nm,1.0s						
POPC				S		**Sn**	**20 56 30.2**	**+0.1**
	15nm,1.0s						
GARC	**Garzon, Huila**	**7.04**	**36**	P		**Pn**	**20 55 18.1**	**-0.8**
	980nm39nm,0.4s						
GARC				S		**Sn**	**20 56 37.4**	**-0.2**
	980nm39nm,0.4s						
CZSB	**Cruzeiro do Su**	**8.03**	**121**			**Pn**	**20 55 29.6**	**-2.5**
CZSB					Sn	Sn	20 56 51.5	-10
CZSB	**Cruzeiro do Su**	**8.03**	**121**	*eP*		**Pn**	**20 55 30.2**	**-1.9**
CZSB				*eS*		Sn	20 56 51.9	-10
CZSB	**Cruzeiro do Su**	**8.03**	**121**	P		**Pn**	**20 55 31.5**	**-0.7**
CZSB				S		**Sn**	**20 56 57.7**	**-3.8**
NNA	**Nana**	**8.81**	**162**			**Pn**	**20 55 43.9**	**+1.0**
NNA						**Sn**	**20 57 18.6**	**-2.1**
BAUV	**El Baul**	**16.96**	**43**	Pn		**Pn**	**20 57 28.0**	**-2.5**
LPAZ	**La Paz**	**16.96**	**139**			**Pn**	**20 57 30.0**	**-1.1**
LPAZ	**La Paz**	**16.96**	**139**	*eP*		**Pn**	**20 57 32.0**	**+0.9**
SAML	**Samuel**	**17.19**	**109**			**Pn**	**20 57 29.4**	**-3.9**
SAML					IAmb	IAmb	20 57 57.3	
	comp=Z,13nm,0.8s						
SAML	**Samuel**	**17.19**	**109**	*eP*		**Pn**	**20 57 29.3**	**-4.1**
SAML				*eS*		Sn	21 00 29.8	-14
PB11	**IPOC Station P**	**18.81**	**150**	P		**P**	**20 57 52.7**	**+1.0**
PB11					IAmb	IAmb	20 57 53.6	
	comp=Z,10nm,0.9s						
GO01	**Chusmiza**	**18.97**	**148**	P		**P**	**20 57 55.2**	**+1.4**
GO01					IAmb	IAmb	20 57 57.9	
	comp=Z,10nm,0.9s						
PB08	**IPOC Station P**	**19.39**	**149**	P		**P**	**20 57 59.2**	**+1.0**
BOAV	**Boa Vista**	**19.98**	**73**			**P**	**20 58 03.2**	**-1.2**
BOAV					IAmb	IAmb	20 58 06.8	
	comp=Z,13nm,1.3s						
BOAV	**Boa Vista**	**19.98**	**73**	*eP*		**P**	**20 58 00.8**	**-3.6**
PB02	**IPOC Station P**	**20.03**	**153**	P		**P**	**20 58 06.4**	**+1.5**
MTO3	**Montecristo**	**20.29**	**332**	P		**P**	**20 58 09.4**	**+1.5**
MTO3					IAmb	IAmb	20 58 10.5	
	comp=Z,5.8nm,0.7s						
PB03	**IPOC Station P**	**20.73**	**153**	P		**P**	**20 58 13.8**	**+1.3**
PB03					IAmb	IAmb	20 58 15.1	
	comp=Z,30nm,1.4s						
PB09	**IPOC Station P**	**20.74**	**152**	P		**P**	**20 58 14.1**	**+1.4**
PB09					IAmb	IAmb	20 58 15.7	
	comp=Z,21nm,1.2s						
PTLB	**Pontes e Lacer**	**23.37**	**122**	P		**P**	**20 58 40.1**	**+0.1**
PTLB					IAmb	IAmb	20 58 41.7	
	comp=Z,5.1nm,0.9s						
PTLB	**Pontes e Lacer**	**23.37**	**122**	*eP*		**P**	**20 58 40.2**	**+0.1**
ITTB	**Itaituba**	**23.84**	**93**	*eP*		**P**	**20 58 43.0**	**-1.4**
CLDB	**Colider**	**24.71**	**108**	*eP*		**P**	**20 58 52.0**	**-0.2**
SJG	**San Juan**	**25.30**	**31**	P		**P**	**20 58 57.8**	**+0.3**
MT08	**Bocatoma Ro**	**31.06**	**164**	P		**P**	**20 59 50.9**	**+1.9**
VNA2	**Neumayer--Watz**	**80.89**	**162**	⇑P		**P**	**21 05 41.8**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=307,slow=6.1						
SNAA	**Sanae**	**82.49**	**162**	⇑P		**P**	**21 05 50.9**	**-0.8**
	comp=Z,16nm,0.4s						
TROLL	**Troll, Antarti**	**84.20**	**162**	⇑P		**P**	**21 06 00.9**	**+0.2**
	comp=Z,43nm,0.6s						

---

*NEIC **22** 21:09:16.5±1.2, 35°902N×0°006×117°70W×0°01, h7km×5km, Error ellipse: s-maj=1.6km s-min=0.9km az=83.0*
PAS 22 21:09:17.1±1.4, 35°91N×0°01×117°707W×0°009, h5km×3km, ML3.2/235, ML3.0/104(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=198.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	**Tower One**	**0.11**	**206**			Pg	21 09 19.9	+0.5
JRC2	**Joshua Ridge**	**0.11**	**313**			Pg	21 09 19.6	+0.1
CLC	**China Lake**	**0.13**	**135**			Pg	21 09 19.7	0.0
CLC				Sg		Sg	21 09 21.6	+0.2
CLC				IAML			21 09 22.0	
	comp=E,3μm,0.4s						
CLC				IAML			21 09 22.0	
	comp=N,3μm,0.2s						
SRTC	**Snort**	**0.22**	**189**			Pg	21 09 21.8	+0.4
WSHM	**Spangler Hills**	**0.35**	**150**			Sg	21 09 28.9	+0.3
WSHM	**Spangler Hills**	**0.35**	**150**	Pg		Pg	21 09 23.8	-0.2
WSHM				IAML			21 09 29.4	
	comp=N,6μm,0.4s						
WSHM				IAML			21 09 29.5	
	comp=N,5μm,0.3s						
LRMC	**Laurel Mtn Rad**	**0.43**	**177**			Sg	21 09 31.1	+0.2
LRMC	**Laurel Mtn Rad**	**0.43**	**177**	Pg		Pg	21 09 25.1	-0.2
LRMC				IAML			21 09 31.9	
	comp=N,4μm,0.1s						
LRMC				IAML			21 09 32.4	
	comp=E,5μm,0.2s						
CCCA	**Chr Cany lake**	**0.47**	**144**			Pg	21 09 26.4	+0.2
WORM	**Onyx Ranch**	**0.48**	**244**			Sg	21 09 32.6	-0.1
WBSM	**Bird Springs**	**0.51**	**224**			Pg	21 09 26.7	-0.2
WBSM						Sg	21 09 33.7	+0.2
WHFM	**Hanning Flat**	**0.56**	**248**			Sg	21 09 35.2	0.0
CWC	**Cottonwood Cre**	**0.61**	**331**	Pg		Pg	21 09 29.1	+0.2
DTP	**Desert Tortois**	**0.65**	**190**			Sg	21 09 37.6	-0.3
ISA	**Isabella, Lake**	**0.67**	**249**			Pg	21 09 29.6	-0.3
ISA				IAML			21 09 38.8	
	comp=N,944nm,0.4s						
ISA				IAML			21 09 39.6	
	comp=E,842nm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**249**			Sg	21 09 38.5	-0.1
QSM	**Queen of Sheba**	**0.68**	**85**			Pg	21 09 29.9	-0.3
QSM				IAML			21 09 43.0	
	comp=N,861nm,0.8s						
QSM				IAML			21 09 43.6	
	comp=E,634nm,0.5s						
QSM	**Queen of Sheba**	**0.68**	**85**			Sg	21 09 38.9	-0.2
CCAC	**Calif City Air**	**0.79**	**199**			Pg	21 09 31.8	-0.5
CCAC						Sg	21 09 42.6	0.0
FURC	**Furnace Creek,**	**0.88**	**50**			Pg	21 09 34.0	0.0
FURC				IAML			21 09 49.4	
	comp=E,765nm,0.4s						
FURC				IAML			21 09 49.6	
	comp=N,791nm,0.5s						
GWY	**Greenwater Val**	**0.89**	**71**			Pg	21 09 34.0	-0.1
GWY				IAML			21 09 49.0	
	comp=N,422nm,0.6s						
GWY				IAML			21 09 49.0	
	comp=E,566nm,0.5s						
GWY	**Greenwater Val**	**0.89**	**71**			Sg	21 09 45.5	-0.1
SPG2	**Springville 2**	**0.91**	**289**			Pg	21 09 33.7	-0.8
SPG2						Sg	21 09 45.4	-0.9
GSC	**Goldstone, Bar**	**0.95**	**129**			Pg	21 09 34.7	-0.7
GSC				IAML			21 09 49.5	
	comp=N,278nm,0.5s						
GSC				IAML			21 09 51.1	
	comp=E,392nm,0.5s						
HYS	**Haystack Butte**	**1.05**	**174**			Pg	21 09 36.4	-0.8
TEJ	**El Tejon**	**1.05**	**230**			Sg	21 09 49.8	-0.9
TPO	**Tropico Hills**	**1.11**	**203**			Pg	21 09 37.4	-1.0
TPO						Sg	21 09 52.4	-0.3
TPO				IAML			21 09 55.4	
	comp=N,547nm,0.6s						
TPO				IAML			21 09 55.5	
	comp=E,374nm,0.8s						
VES	**Vestal, Richgr**	**1.12**	**267**			Pg	21 09 38.0	-0.6
VES				IAML			21 09 53.5	
	comp=N,709nm,0.4s						
VES				IAML			21 09 54.4	
	comp=E,456nm,0.6s						
SHOC	**Shoshone, Teco**	**1.16**	**90**			Pg	21 09 38.4	-1.0
TIN	**Tinemaha, Big**	**1.22**	**340**			Pg	21 09 39.8	-0.7
TIN				IAML			21 09 58.7	
	comp=N,221nm,0.6s						
TIN				IAML			21 10 03.5	
	comp=E,299nm,0.9s						
WCT	**Wildcat Mounta**	**1.24**	**44**			Pg	21 09 40.4	-0.6
GMN	**Gold Mountain**	**1.44**	**14**			Pn	21 09 43.3	-0.8
HOLC	**Holcomb Ridge**	**1.45**	**185**			Pn	21 09 43.7	-0.4
JNH	**Juniper Hills**	**1.47**	**188**			Pn	21 09 44.1	-0.3
DSP	**Deep Springs**	**1.48**	**352**			Pn	21 09 43.8	-0.5
TUQ	**Turquoise Moun**	**1.53**	**107**			Pn	21 09 43.5	-1.6
OSI	**Osito Audit: C**	**1.53**	**213**			Pn	21 09 45.4	+0.2
OSI				IAML			21 10 08.8	
	comp=E,135nm,0.6s						
TPNV	**Topopah Spring**	**1.57**	**48**			Pn	21 09 45.0	-0.8
TPNV				IAML			21 10 08.3	
	comp=E,102nm,0.8s						
TPNV				IAML			21 10 17.4	
	comp=E,128nm,0.8s						
BFSC	**Mount Baldy Ra**	**1.66**	**179**			Pn	21 09 46.6	-0.4
BFSC				IAML			21 10 10.2	
	comp=E,126nm,0.6s						
BFSC				IAML			21 10 12.3	
	comp=N,133nm,0.2s						
MWC	**Mount Wilson**	**1.70**	**190**			Pn	21 09 48.1	+0.5
MWC				IAML			21 10 12.8	
	comp=N,200nm,0.4s						
MWC				IAML			21 10 13.0	
	comp=E,158nm,0.3s						
MTPC	**Mountain Pass**	**1.80**	**103**

W13A	**Hualapai Mount**	**3.22**	**103**		Pn	21 10 07.2	-1.4
W13A				IAML		21 10 46.2	
	comp=E,48nm,0.5s						
W13A				IAML		21 10 46.9	
	comp=N,33nm,0.5s						
GLA	**Glamis**	**3.71**	**139**		Pn	21 10 13.0	-2.1
GLA				IAML		21 11 20.4	
	comp=N,30nm,0.7s						
GLA				IAML		21 11 24.0	
	comp=E,44nm,0.7s						
U15A	**North Rim**	**4.41**	**82**		Pn	21 10 25.6	+0.6
ELK	**Elko**	**5.21**	**21**		Pn	21 10 34.2	-1.7
ELK				IAML		21 12 32.1	
	comp=E,8.6nm,0.5s						
ELK				IAML		21 12 46.6	
	comp=E,9.2nm,0.3s						

NEIC ***22*** *21:11:07.1±1.3,35°.886N±0°.009×117°.70W±0°.01, h10km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=120.0*

PAS 22 21:11:07.6±1.2,**35°.885N**±0°.008×**117°.70W**±0°.01, **h6**km±1km, **ML3.6**/250, **ML3.4**/140(NEIC), **Error ellipse: s-maj=1.2km s-min=1.1km az=179.0, Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.09**	**214**		Pg	21 11 10.2	+0.6
TOW					Sg	21 11 12.7	+1.7
CLC	**China Lake**	**0.11**	**129**		Pg	21 11 10.0	+0.1
CLC				Sg	Sg	21 11 11.9	+0.4
CLC				IAML		21 11 12.2	
	comp=N,14μm,0.3s						
CLC				IAML		21 11 12.2	
	comp=E,17μm,0.6s						
WVPM	**Volcano Peak E**	**0.11**	**304**		Pg	21 11 10.2	+0.1
JRC2	**Joshua Ridge**	**0.13**	**318**		Pg	21 11 10.5	+0.1
JRC2					Sg	21 11 12.6	+0.4
WNMM	**Nine Mile Cany**	**0.17**	**256**		Pg	21 11 11.1	+0.2
WNMM					Sg	21 11 13.8	+0.6
WRVM	**Rose V. Centra**	**0.20**	**309**		Pg	21 11 11.5	0.0
WRVM					Sg	21 11 14.5	+0.4
SRTC	**Snort**	**0.20**	**191**		Pg	21 11 11.9	+0.5
SRTC					Sg	21 11 15.5	+1.4
MPMC	**Manual Prospec**	**0.24**	**45**	Pg	Pg	21 11 12.6	+0.1
MPMC				Sg	Sg	21 11 15.9	+0.2
MFS	**McCloud Flat S**	**0.26**	**332**		Pb	21 11 16.5	+1.6
WSHM	**Spangler Hills**	**0.33**	**149**	Pg	Pg	21 11 13.8	-0.2
WSHM				Sg	Sg	21 11 18.5	+0.1
LRMC	**Laurel Mtn Rad**	**0.41**	**178**	Pg	Pg	21 11 15.2	-0.3
LRMC				Sg	Sg	21 11 21.1	+0.3
LRMC				IAML		21 11 21.5	
	comp=E,5μm,0.4s						
LRMC				IAML		21 11 21.7	
	comp=N,5μm,0.2s						
CCCA	**Chr Cany lake**	**0.45**	**143**	Pg	Pg	21 11 16.6	+0.2
CCCA					Sg	21 11 23.1	+0.9
WORM	**Onyx Ranch**	**0.48**	**247**		Pg	21 11 16.5	-0.3
WORM					Sg	21 11 22.9	-0.1
WBSM	**Bird Springs**	**0.50**	**226**		Pg	21 11 17.0	-0.1
WBSM					Sg	21 11 23.8	+0.1
WHFM	**Hanning Flat**	**0.56**	**250**		Pg	21 11 18.1	-0.3
WHFM					Sg	21 11 25.6	-0.1
DTP	**Desert Tortois**	**0.63**	**191**		Pg	21 11 19.2	-0.5
DTP					Sg	21 11 28.1	+0.2
CWC	**Cottonwood Cre**	**0.63**	**331**	Pg	Pg	21 11 19.6	-0.2
CWC				Sg	Sg	21 11 27.8	-0.2
CWC				IAML		21 11 31.6	
	comp=E,1μm,0.2s						
CWC				IAML		21 11 32.5	
	comp=N,1μm,0.2s						
ISA	**Isabella, Lake**	**0.67**	**251**		Sg	21 11 28.7	-0.3
ISA	**Isabella, Lake**	**0.67**	**251**	Pg	Pg	21 11 20.0	-0.4
ISA				IAML		21 11 29.1	
	comp=N,2μm,0.5s						
ISA				IAML		21 11 29.1	
	comp=E,2μm,0.4s						
CGO	**Cerro Gordo**	**0.67**	**353**		Pg	21 11 19.9	-0.6
CGO					Sg	21 11 29.8	+0.6
QSM	**Queen of Sheba**	**0.68**	**83**		Pg	21 11 20.2	-0.5
QSM				Sg	Sg	21 11 29.2	-0.4
QSM				IAML		21 11 31.2	
	comp=E,2μm,0.3s						
QSM				IAML		21 11 34.4	
	comp=N,2μm,0.8s						
WASM	**Alta Sierra Ca**	**0.71**	**258**		Pg	21 11 20.9	-0.3
WASM					Sg	21 11 30.2	-0.3
CCAC	**Calif City Air**	**0.78**	**199**		Pg	21 11 21.9	-0.5
CCAC					Sg	21 11 32.3	-0.2
GWY	**Greenwater Val**	**0.89**	**70**	Pg	Pg	21 11 24.2	-0.5
GWY				Sg	Sg	21 11 35.9	-0.4
GWY				IAML		21 11 41.9	
	comp=N,2μm,0.5s						
GWY				IAML		21 11 42.0	
	comp=E,2μm,0.6s						
FURC	**Furnace Creek,**	**0.89**	**49**		Sg	21 11 36.6	+0.3
FURC	**Furnace Creek,**	**0.89**	**49**	Pg	Pg	21 11 24.4	-0.3
FURC				IAML		21 11 37.8	
	comp=E,2μm,0.4s						
FURC				IAML		21 11 45.2	
	comp=N,2μm,0.6s						
SPG2	**Springville 2**	**0.92**	**290**		Pg	21 11 24.3	-0.9
SPG2					Sg	21 11 36.1	-1.0
GSC	**Goldstone, Bar**	**0.93**	**128**		Sg	21 11 37.5	-0.2
GSC	**Goldstone, Bar**	**0.93**	**128**	Pg	Pg	21 11 24.7	-0.8
GSC				IAML		21 11 39.9	
	comp=N,2μm,0.4s						
HYS	**Haystack Butte**	**1.02**	**174**		Pg	21 11 26.4	-0.8
EDW2	**Edwards Air Fo**	**1.03**	**193**		Pg	21 11 26.3	-1.1
EDW2					Sg	21 11 39.8	-0.8
TEJ	**El Tejon**	**1.04**	**231**		Pg	21 11 26.5	-1.0
TEJ					Sg	21 11 39.9	-1.0
TPO	**Tropico Hills**	**1.09**	**203**	Pg	Pg	21 11 27.4	-1.1
TPO				IAML		21 11 45.0	
	comp=E,611nm,0.9s						
TPO				IAML		21 11 51.1	
	comp=N,999nm,0.8s						
MAGC	**SCE Magundon P**	**1.12**	**243**		Pg	21 11 28.5	-0.6
VES	**Vestal, Richgr**	**1.12**	**268**		Sg	21 11 43.1	-0.6
VES	**Vestal, Richgr**	**1.12**	**268**	Pg	Pg	21 11 28.1	-1.0
VES				IAML		21 11 48.2	
	comp=E,1μm,0.9s						
SHOC	**Shoshone, Teco**	**1.16**	**89**	Pg	Pg	21 11 28.7	-1.1
RRX	**Edison Barstow**	**1.16**	**150**		Pg	21 11 29.1	-0.7
ARVC	**Arvin**	**1.19**	**231**		Pg	21 11 29.8	-0.6
TJR	**Tejon Ranch**	**1.21**	**225**		Pg	21 11 29.2	-1.5
TJR					Sg	21 11 45.0	-1.3
SGV	**South Grapevin**	**1.22**	**26**		Pg	21 11 30.2	-0.8
TIN	**Tinemaha, Big**	**1.24**	**340**	Pg	Pg	21 11 30.1	-1.3
TIN				IAML		21 11 50.0	
	comp=N,830nm,0.6s						
TIN				IAML		21 11 50.0	
	comp=E,636nm,0.6s						
WCT	**Wildcat Mounta**	**1.25**	**44**	Pg	Pg	21 11 30.2	-1.4
WCT				Sg	Sg	21 11 46.9	-1.0
WCT				IAML		21 11 50.0	
	comp=E,531nm,0.5s						
WCT				IAML		21 11 51.6	
	comp=N,396nm,0.7s						
AMDNV	**Amargosa**	**1.28**	**63**		Pn	21 11 30.4	-1.7
AMDNV					Sg	21 11 47.9	-0.8
LEOC	**Leona Valley**	**1.34**	**202**		Pn	21 11 31.7	-1.4
LCH	**Last Change Ra**	**1.35**	**2**		Pn	21 11 32.0	-1.1
LRRC	**Littlerock Res**	**1.38**	**191**		Pb	21 11 33.9	+0.1
HOLC	**Holcomb Ridge**	**1.43**	**185**		Pn	21 11 32.8	-1.4
VOG	**Valley Oaks Go**	**1.43**	**288**		Pn	21 11 33.7	-0.4
VOG					Sb	21 11 53.0	-0.1
JNH	**Juniper Hills**	**1.45**	**188**		Pg	21 11 35.2	-0.1
GMN	**Gold Mountain**	**1.46**	**14**	Pg	Pn	21 11 34.0	-0.7
DSP	**Deep Springs**	**1.50**	**352**		Pn	21 11 34.2	-0.8
DSCC	**Desert Studies**	**1.50**	**119**		Pn	21 11 33.2	-1.9
DSCC					Sb	21 11 55.2	0.0
TUQ	**Turquoise Moun**	**1.52**	**107**		Pn	21 11 33.7	-1.7
OSI	**Osito Audit: C**	**1.52**	**214**		Pn	21 11 35.2	-0.2
OSI				IAML		21 11 59.3	
	comp=N,269nm,0.8s						
OSI				IAML		21 12 01.5	
	comp=E,322nm,0.7s						
HEC	**Hector,Ludlow**	**1.54**	**133**		Pn	21 11 34.1	-1.6
HEC					Sb	21 11 56.4	+0.1
CHFC	**Chilao Flat St**	**1.57**	**190**		Pb	21 11 37.1	-0.1
TPNV	**Topopah Spring**	**1.58**	**47**		Pn	21 11 35.1	-1.2
TPNV				IAML		21 12 00.8	
	comp=E,657nm,0.7s						
TPNV				IAML		21 12 01.5	
	comp=E,596nm,0.7s						
MTUM	**Tungsten Hills**	**1.62**	**335**		Pb	21 11 37.6	-0.5
BFSC	**Mount Baldy Ra**	**1.64**	**179**		Pn	21 11 35.6	-1.6
SSK	**Sunset Peak**	**1.67**	**180**		Pn	21 11 36.8	-0.8
SS2	**San Sevaine**	**1.68**	**174**		Pb	21 11 39.1	+0.2
MWC	**Mount Wilson**	**1.68**	**190**		Pn	21 11 36.8	-1.0
MWC				IAML		21 12 07.8	
	comp=E,310nm,0.5s						
MWC				IAML		21 12 11.1	
	comp=N,304nm,0.7s						
BCW	**Bitter Crk WRg**	**1.69**	**236**		Pb	21 11 38.9	-0.2
SIL	**Silver Peak**	**1.69**	**155**		Pb	21 11 39.4	+0.1
BBRC	**Big Bear Solar**	**1.74**	**158**		Pg	21 11 40.6	-0.3
PASC	**Pasadena Art C**	**1.75**	**193**	Pn	Pn	21 11 37.8	-0.8
CRGC	**Crocker Grade**	**1.77**	**249**		Pn	21 11 39.7	+0.8
MTPC	**Mountain Pass**	**1.79**	**102**	Pn	Pn	21 11 37.5	-1.7
MTPC				IAML		21 12 07.2	
	comp=N,366nm,0.6s						
MTPC				IAML		21 12 09.3	
	comp=E,252nm,0.5s						
MZP	**Montezuma Peak**	**1.83**	**8**	Pn	Pn	21 11 38.5	-1.4
GTM	**Goat Mountain**	**1.93**	**145**		Pb	21 11 43.4	+0.1
KCC	**Kaiser Creek**	**1.94**	**318**		Pb	21 11 43.0	-0.4
SMMC	**Simmler**	**1.95**	**254**		Pn	21 11 42.1	+0.7
GMRC	**Granite Mounta**	**2.00**	**123**		Pn	21 11 39.8	-2.2
MCSM	**Casa Diablo Ho**	**2.01**	**332**		Pb	21 11 44.9	+0.1
SHPR	**Sheep Range**	**2.15**	**73**	Pn	Pn	21 11 43.0	-1.1
TPH	**Tonopah**	**2.22**	**10**	Pn	Pn	21 11 44.6	-0.5
TPC	**Twentynine Pal**	**2.23**	**142**		Pn	21 11 44.0	-1.2
DANC	**Danby, Needles**	**2.27**	**123**	Pn	Pn	21 11 43.8	-1.9
DANC				IAML		21 12 22.8	
	comp=N,342nm,0.5s						
DANC				IAML		21 12 24.7	
	comp=E,390nm,0.6s						
POB	**Polly Butte**	**2.29**	**163**		Pn	21 11 45.3	-0.7
BELC	**Belle Mtn. Jos**	**2.34**	**143**	Pn	Pn	21 11 45.2	-1.6
BELC				IAML		21 12 24.6	
	comp=E,226nm,0.5s						
BELC				IAML		21 12 27.4	
	comp=N,281nm,0.4s						
LHV	**Little Huntoon**	**2.45**	**345**	Pn	Pn	21 11 47.6	-0.5
PMD	**Palm Desert**	**2.48**	**154**	Pn	Pn	21 11 46.7	-1.9
PMD				IAML		21 12 27.6	
	comp=E,110nm,0.7s						
PFO	**Pinyon Flats O**	**2.49**	**155**	Pn	Pn	21 11 47.6	-1.2
PFO				IAML		21 12 28.3	
	comp=E,100nm,0.5s						
PFO				IAML		21 12 31.9	
	comp=E,158nm,0.9s						
PMPB	**Monarch Peak**	**2.53**	**278**	Pn	Pn	21 11 49.4	+0.1
PMPB				IAML		21 12 34.7	
	comp=E,242nm,0.7s						
PMPB				IAML		21 12 40.4	
	comp=N,223nm,0.8s						
NVAR	**Mina Array Bea**	**2.58**	**349**	Pn	Pn	21 11 50.0	-0.2
RAMR	**Ramage Ranch**	**2.59**	**265**		Pn	21 11 51.6	+1.5
PRN	**Pahroc Range**	**2.62**	**54**	Pn	Pn	21 11 50.0	-0.6
PRN				IAML		21 12 37.0	
	comp=N,221nm,1.0s						
PRN				IAML		21 12 40.5	
	comp=E,223nm,1.0s						
MYLM	**Yosemite Lake**	**2.65**	**305**		Pb	21 11 54.5	-1.0
IRM	**Iron Mountain**	**2.72**	**129**	Pn	Pn	21 11 49.6	-2.3
IRM				IAML		21 12 41.6	
	comp=E,106nm,0.5s						
IRM				IAML		21 12 42.9	
	comp=N,94nm,0.7s						
NEE2	**Needles Airpor**	**2.76**	**113**	Pn	Pn	21 11 50.1	-2.2
NEE2				IAML		21 12 40.8	
	comp=E,226nm,0.7s						
NEE2				IAML		21 12 45.9	
	comp=N,244nm,0.8s						
BBGB	**Big Mountain B**	**2.79**	**285**	Pn	Pn	21 11 52.5	-0.3
RYN	**Ryan**	**2.81**	**347**	Pn	Pn	21 11 52.4	-1.0
BC3	**Big Chuckawall**	**2.89**	**140**	Pn	Pn	21 11 52.1	-2.2
BC3				IAML		21 12 47.5	
	comp=N,162nm,0.7s						
BC3				IAML		21 12 49.0	
	comp=E,113nm,0.6s						
DPP	**Dos Picos Cty**	**2.95**	**167**	Pn	Pn	21 11 54.1	-0.9
DPP				IAML		21 12 40.6	
	comp=E,122nm,0.8s						
SALN	**Salton City**	**2.96**	**151**	Pn	Pn	21 11 54.5	-0.6
Q09A	**Carvers**	**2.97**	**8**	Pn	Pn	21 11 54.9	-0.6
Q09A				IAML		21 12 49.4	
	comp=E,129nm,0.8s						
Q09A				IAML		21 12 50.8	
	comp=N,142nm,0.8s						
SCI2	**San Clemente I**	**2.98**	**194**		Pn	21 11 53.8	-1.6
CMB	**Columbia Colle**	**3.04**	**316**	Pn	Pn	21 11 56.5	+0.2
CMB				IAML		21 12 49.8	
	comp=N,63nm,0.4s						
SAO	**San Andreas Ge**	**3.15**	**287**	Pn	Pn	21 11 58.2	+0.5
W13A	**Hualapai Mount**	**3.21**	**103**	Pn	Pn	21 11 57.2	-1.6
YUH	**Yuha Desert**	**3.55**	**155**	Pn	Pn	21 12 01.9	-1.3
CBX	**Cerro Bola**	**3.67**	**166**	Pn	Pn	21 12 04.2	-0.8
GLA	**Glamis**	**3.69**	**139**	Pn	Pn	21 12 03.3	-1.9
GLA				IAML		21 13 14.1	
	comp=N,110nm,0.9s						
LCMT	**Little Creek M**	**3.77**	**71**	Pn	Pn	21 12 05.9	-0.5
CCUT	**Cedar City**	**3.86**	**63**	Pn	Pn	21 12 07.5	-0.3
AFDM	**Forest Hills D**	**4.01**	**321**	Pn	Pn	21 12 11.6	+1.9
AFDM				IAML		21 13 15.0	
	comp=N,34nm,0.3s						
AFDM				IAML		21 13 17.1	
	comp=E,47nm,0.9s						
PAHR	**Pah Rah Range**	**4.04**	**341**	Pn	Pn	21 12 10.3	+0.2
SZCU	**Shurtz Canyon**	**4.08**	**64**	Pn	Pn	21 12 10.3	-0.5
U15A	**North Rim**	**4.41**	**81**	Pn	Pn	21 12 16.0	+0.6
U15A				IAML		21 13 32.0	
	comp=E,38nm,0.9s						
U15A				IAML		21 13 34.2	
	comp=N,30nm,1.1s						
PKCU	**Pink Cliffs**	**4.60**	**69**	Pn	Pn	21 12 18.3	+0.2
PKCU				IAML		21 13 36.4	
	comp=E,46nm,0.5s						
PKCU				IAML		21 13 50.6	
	comp=N,52nm,2.1s						

MOS ***22*** *21:19:35.9±1.0, 12°.08N×87°.91W, h14km, mb5.0/20, Error ellipse: s-maj=14.8km s-min=5.8km az=112.7*

IDC ***22*** *21:19:35.9±0.7, 12°.38N×87°.47W, h0km, mb4.4/12, mbtmp4.3/13, ML3.7/1, Error ellipse: s-maj=32.3km s-min=13.5km az=57.0*

CATAC ***22*** *21:19:37.8±0.5, 12°.N±.2°×.8°8W±°, h15km±3km, M4.7/39, MLv4.7/39, Error ellipse: s-maj=5.3km s-min=2.3km az=28.9, confirmed*

NEIC ***22*** *21:19:40.8±1.6, 12°.03N±0°.06×87°.91W±0°.05, h35km±2km, mb4.9/389, Mww4.9/9, Error ellipse: s-maj=9.8km s-min=8.1km az=199.0*

NEIC ***22*** *21:19:40.8, 12°.03N×87°.90W, h30km*

NEIC ***22*** *21:19:40.8, 12°.13N×87°.60W, h30km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr2.42; Mθθ-1.54; Mφφ-0.89; Mrθ-0.75; Mθφ1.61; Mφr0.94; Fault plane solution: M0 2.92000×10^16 NP1: φs122.44000°, δ33.37000°, λ79.32000°. NP2: φs315.17000°, δ57.28000°, λ96.96000°. Principal axes: T 2.6973, Plg77.0000°, Azm247.0000°; N 0.4033, Plg6.0000°, Azm131.0000°; P -3.1006, Plg12.0000°, Azm40.0000°;*

SNET ***22*** *21:19:41.5±0.9, 12°.14N×87°.98W, h71km, ML4.5*

GCG ***22*** *21:19:45.6±0.4, 12°.33N×88°.52W, h10km, MD4.9, ML3.6*

UCR ***22*** *21:19:47.3±0.8, 12°.05N×87°.42W, h35km, MW4.9*

ISC 22 21:19:37.2±1.3, **11°.97N**±0°.04×**88°.04W**±0°.03, **h16**km±7km, **n736, σ1s07**/727, **mb4.9**/189, **22C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.10**	**25**	⇑P	**Pn**	**21 19 59.3**	**+1.1**
CSGN				S	**Sn**	**21 20 16.6**	**+3.5**
POTN	**Potosi Cosigui**	**1.14**	**27**	⇑P	**Pn**	**21 19 59.6**	**+1.0**
CRIN	**San Cristobal**	**1.20**	**53**		**Pg**	**21 20 00.5**	**0.0**
CRIN				Sn	**Sb**	**21 20 13.2**	**-1.9**
CRIN	**San Cristobal**	**1.20**	**53**	⇑P	**Pg**	**21 20 01.1**	**+0.6**
ALEN	**Leon**	**1.24**	**67**	P	**Pb**	**21 20 00.2**	**-0.1**
ALEN	**Leon**	**1.24**	**67**	S	**Sn**	**21 20 17.6**	**+1.3**
CNCH	**Conchagua**	**1.31**	**9**	*i* P	**Pg**	**21 20 02.5**	**-0.1**
CNCH				*e*P	Pb	21 20 09.8	+8.2
CNCH	**Conchagua**	**1.31**	**9**	⇑P	**Pg**	**21 20 02.6**	**+0.1**
PACN	**Al O del Volca**	**1.32**	**67**	P	**Pg**	**21 20 02.2**	**-0.6**
LCND	**La Caada**	**1.33**	**6**	*e*P	**Pg**	**21 20 02.6**	**-0.3**
LCND	**La Caada**	**1.33**	**6**	⇑P	**Pg**	**21 20 02.7**	**-0.3**
HERN	**Volcan Telica**	**1.34**	**62**	Pn	**Pn**	**21 20 01.6**	**+0.3**
POLN	**Al Sur del Vol**	**1.37**	**61**	⇑P	**Pb**	**21 20 02.2**	**-0.3**
PLRN	**Geotermica Pol**	**1.38**	**64**	P	**Pn**	**21 20 02.3**	**+0.4**
PLRN				S	**Sg**	**21 20 23.5**	**+1.7**
CNGA	**Al SSO del Vol**	**1.40**	**68**	⇑P	**Pb**	**21 20 03.1**	**0.0**
CNGN	**Cerro Negro**	**1.41**	**68**	Pn	**Pn**	**21 20 02.8**	**+0.5**
CNGN	**Cerro Negro**	**1.41**	**68**	*e*P	**Pg**	**21 20 06.5**	**+2.1**
CNGN	**Cerro Negro**	**1.41**	**68**	⇑P	**Pb**	**21 20 03.0**	**-0.2**
COPN	**Copaltepe**	**1.43**	**82**	⇑P	**Pb**	**21 20 03.4**	**-0.1**
ILCN	**San Idelfonso**	**1.44**	**65**	⇑P	**Pb**	**21 20 03.4**	**-0.3**
ILCN				S	**Sg**	**21 20 23.6**	**0.0**
LCY	**Lacayo**	**1.46**	**350**	*i* P	**Pg**	**21 20 04.6**	**-0.8**
VSM	**San Miguel**	**1.46**	**351**	*e*P	**Pg**	**21 20 04.9**	**-0.6**
BLLM	**Bellamira**	**1.47**	**352**	*i* P	**Pg**	**21 20 04.5**	**-1.1**
PACA	**Pacayal**	**1.51**	**349**	*e*P	**Pg**	**21 20 05.3**	**-1.1**
PACA	**Pacayal**	**1.51**	**349**	⇓P	**Pg**	**21 20 05.5**	**-0.9**
TECA	**Tecapa**	**1.58**	**343**	*e*P	**Pb**	**21 20 05.9**	**-0.3**
TECA				*e*P	**Pg**	**21 20 06.0**	**-1.6**
MOM2	**El Cardon**	**1.58**	**73**	⇑P	**Pn**	**21 20 05.5**	**+0.7**
MOM2				S	**Sg**	**21 20 29.9**	**+1.5**
SAPS	**Ciudad Sandino**	**1.61**	**83**	⇑P	**Pn**	**21 20 05.7**	**+0.6**
APQ3	**Volcan Apoyequ**	**1.66**	**80**	⇓P	**Pn**	**21 20 06.6**	**+0.9**
APQ3				S	**Sg**	**21 20 29.6**	**-1.1**
APQ2	**Apoyeque**	**1.69**	**82**	P	**Pn**	**21 20 06.9**	**+0.7**
APQ2				S	**Sb**	**21 20 29.4**	**+0.4**
CRUN	**El Crucero**	**1.70**	**90**	P	**Pb**	**21 20 07.6**	**-0.6**
TECO	**Alcaldia de Te**	**1.72**	**335**	*e*P	**Pb**	**21 20 08.5**	**+0.1**
TECO	**Alcaldia de Te**	**1.72**	**335**	S	**Sb**	**21 20 30.0**	**+0.2**
USIM	**UNAN**	**1.73**	**85**	Pn	**Pn**	**21 20 06.9**	**+0.2**
UNAN	**Cigeo UNAN**	**1.73**	**85**	⇑P	**Pn**	**21 20 07.4**	**+0.7**
UNAN				S	**Sg**	**21 20 31.8**	**-1.3**
R4DEC	**Barrio San Lui**	**1.76**	**84**	⇓P	**Pn**	**21 20 07.8**	**+0.7**
R4DEC	**Barrio San Lui**	**1.76**	**84**	S	**Sn**	**21 20 30.5**	**+1.3**
CAHU	**Cacacuatique**	**1.79**	**355**	*e*P	**Pb**	**21 20 09.8**	**-0.1**
UESV	**Universidad de**	**1.81**	**336**	S	**Sb**	**21 20 32.3**	**-0.2**
WILN	**Americas 2**	**1.82**	**84**	⇑P	**Pn**	**21 20 08.7**	**+0.8**
WILN				S	**Sn**	**21 20 31.9**	**+1.2**
SABN	**Sabanita**	**1.83**	**90**	⇓P	**Pn**	**21 20 08.0**	**-0.2**
MASN	**Masaya**	**1.84**	**89**	*e*P	**Pn**	**21 20 08.4**	**+0.1**
MASN	**Masaya**	**1.84**	**89**	P	**Pn**	**21 20 09.0**	**+0.7**
MASN				S	**Sb**	**21 20 33.3**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.85**	**339**	*e*P	**Pb**	**21 20 10.3**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.85**	**339**	⇑P	**Pb**	**21 20 09.9**	**-0.8**
SCLA	**Alcaldia de Sa**	**1.85**	**339**	S	**Sb**	**21 20 33.7**	**+0.1**
NANN	**Nandasmo**	**1.87**	**91**	⇑P	**Pb**	**21 20 10.1**	**-1.0**
NANN	**Nandasmo**	**1.87**	**91**	S	**Sb**	**21 20 34.5**	**+0.1**
LFRS	**El Faro**	**1.92**	**329**	*e*P	**Pn**	**21 20 10.3**	**+0.9**
PAVA	**Las Pavas**	**1.94**	**333**	*e*P	**Pb**	**21 20 11.2**	**-1.2**
PAVA	**Las Pavas**	**1.94**	**333**	S	**Sb**	**21 20 36.9**	**+0.6**
PAVA	**Las Pavas**	**1.94**	**333**	P	**Pb**	**21 20 10.9**	**-1.5**
LALI	**Alcalda de L**	**1.96**	**320**	IAML		21 20 46.8	
	comp=N,350nm,0.8s						
LOMA	**Loma Larga**	**2.00**	**326**	S	**Sb**	**21 20 37.2**	**-0.8**
LOMA	**Loma Larga**	**2.00**	**326**	P	**Pn**	**21 20 11.3**	**+0.7**
LBRS	**Las Brisas**	**2.01**	**331**	*e*P	**Pb**	**21 20 12.9**	**-0.6**
LFU	**La Fuente**	**2.05**	**329**	*e*P	**Pb**	**21 20 12.9**	**-1.3**
PIC2	**El Picacho**	**2.12**	**326**	*e*P	**Pb**	**21 20 14.4**	**-1.1**
BOQS	**Boqueron**	**2.13**	**325**	*e*P	**Pb**	**21 20 14.9**	**-0.8**
PMON	**Piamonte**	**2.13**	**324**	P	**Pb**	**21 20 14.3**	**-1.3**
JAYA	**Jayaque - finc**	**2.17**	**321**	*e*P	**Pn**	**21 20 14.3**	**+1.4**
JAYA	**Jayaque - finc**	**2.17**	**321**	*e*P	**Pn**	**21 20 13.3**	**+0.5**
JAYA	**Jayaque - finc**	**2.17**	**321**	⇑P	**Pn**	**21 20 13.6**	**+0.8**
JAYA	**Jayaque - finc**	**2.17**	**321**	S	**Sn**	**21 20 40.9**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.20**	**20**	Pn	**Pb**	**21 20 15.2**	**-1.6**
OCON	**Estacion meteo**	**2.24**	**43**	⇑P	**Pn**	**21 20 15.6**	**+1.7**
MATN	**Matagalpa**	**2.27**	**65**	⇑P	**Pn**	**21 20 14.2**	**-0.1**
BOAB	**BOACO BROADBAN**	**2.36**	**78**	Pn	**Pn**	**21 20 15.6**	**+0.1**
BOAB	**BOACO BROADBAN**	**2.36**	**78**	⇑P	**Pn**	**21 20 15.7**	**+0.3**
MORN	**Al O del Volca**	**2.38**	**100**	P	**Pn**	**21 20 15.8**	**+0.2**
RCVN	**Varillal2**	**2.41**	**48**	⇓P	**Pn**	**21 20 17.7**	**+1.6**
CEVE	**Cerro Verde**	**2.41**	**320**	*e*P	**Pb**	**21 20 18.4**	**-2.0**
SNJE	**San Jose**	**2.43**	**321**	*e*P	**Pb**	**21 20 19.1**	**-1.6**
RCPN	**Sur Rio San Ju**	**2.44**	**51**	⇑P	**Pn**	**21 20 17.4**	**+0.7**
RTR	**El Retiro**	**2.47**	**321**	*e*P	**Pn**	**21 20 18.8**	**+1.7**
LCRUZ	**La Cruz**	**2.52**	**110**	*e*P	**Pn**	**21 20 18.9**	**+1.3**
NUBE	**Las Nubes**	**2.56**	**319**	*e*P	**Pn**	**21 20 19.7**	**+1.4**
NUBE	**Las Nubes**	**2.56**	**319**	*e*P	**Pn**	**21 20 19.4**	**+1.1**
NUBE	**

KVTX Kingsville 18.04 331 P P 21 23 50.4 +2.7
656A Willston 18.05 16 Pn 21 23 47.5 0.0
553A Crawfordville 18.43 10 P Pn 21 23 52.3 +0.1
553A IAmb IAmb 21 24 02.9
comp=Z,93nm,1.4s
BRAL Brewton 19.12 3 P P 21 23 59.3 -0.4
441A DeRidder 19.29 346 P Pn 21 24 02.3 -0.2
HKT Hockley 19.30 339 P Pn 21 24 03.3 +0.7
HKT Hockley 19.30 339 / P Pn 21 24 03.1 +0.5
HKT pmax pmax
comp=Z,30nm,1.0s
346A Big Creek Wild 19.37 356 P Pn 21 24 03.6 +0.1
346A IAmb IAmb 21 24 06.3
comp=Z,65nm,0.8s
EF04 Eagle Ford 04 19.41 334 P Pn 21 24 04.1 +0.1
EF04 IAmb IAmb 21 24 05.3
comp=Z,46nm,0.6s
833A Chaparral WMA, 19.43 329 P Pn 21 24 04.4 +0.1
456A Hilliard 19.47 16 P P 21 24 04.3 +0.8
456A IAmb IAmb 21 24 07.3
comp=Z,77nm,0.9s
MLDN Muldoon 19.61 336 P P 21 24 05.1 +0.1
MLDN IAmb IAmb 21 24 13.1
comp=Z,122nm,1.2s
352A Blakely 19.62 8 P Pn 21 24 06.0 -0.5
352A IAmb IAmb 21 24 09.1
comp=Z,80nm,0.8s
TIGA Tifton 19.80 11 P P 21 24 07.8 +0.7
BAUV El Baul 19.89 97 P P 21 24 07.3 -0.9
HNVL Huntsville, TX 19.92 341 P Pn 21 24 10.5 +0.5
HNVL IAmb IAmb 21 24 12.1
comp=Z,55nm,0.8s
250A Grady 19.98 4 P P 21 24 09.6 +0.6
VBMS Vicksburg 20.28 354 P P 21 24 12.9 +0.6
HNDO Hondo 20.36 331 P P 21 24 13.7 +0.4
146A Union 20.59 358 P P 21 24 16.4 +0.8
146A IAmb IAmb 21 24 18.8
comp=Z,71nm,1.1s
435B Jarrell 20.70 336 P P 21 24 17.2 +0.3
152A Waverly Hall 20.82 8 P Pn 21 24 19.7 -0.9
152A IAmb IAmb 21 24 21.5
comp=Z,54nm,0.9s
DRIO Del Rio 20.94 328 P P 21 24 19.9 +0.4
DRIO IAmb IAmb 21 24 30.8
comp=Z,36nm,1.0s
LRAL Lakeview Retre 20.98 2 P P 21 24 21.3 +1.4
LRAL IAmb IAmb 21 24 25.1
comp=Z,38nm,0.9s
154A Montrose 21.04 12 P P 21 24 20.9 +0.4
Z47A Carrollton 21.13 360 P P 21 24 23.0 +1.6
Z47A IAmb IAmb 21 24 32.4
comp=Z,73nm,1.3s
237A Washetta, Mont 21.18 341 P P 21 24 22.3 +0.3
237A IAmb IAmb 21 24 28.4
comp=Z,65nm,0.8s
ATAH Atahualpa 21.27 153 P P 21 24 27.1 +3.5
comp=Z,8.2nm,0.8s,baz=353,slow=9.0,SNR=5.4
comp=Z,8.2nm,0.8s
JCT Junction City 21.40 331 P P 21 24 25.0 +0.5
JCT IAmb IAmb 21 24 29.7
comp=Z,56nm,0.8s
JCT Junction City 21.40 331 P P 21 24 25.0 +0.5
JCT pmax pmax
comp=Z,56nm,0.8s
Z41A Richland Creek 21.63 349 P P 21 24 28.3 +1.5
BRDY Brady 21.72 334 P P 21 24 27.6 -0.4
BRDY IAmb IAmb 21 24 30.2
comp=Z,34nm,0.8s
WHTX Lake Whitney, 21.73 338 P P 21 24 28.3 +0.3
GOGA Godfrey 21.74 10 P P 21 24 29.1 +1.0
GOGA Godfrey 21.74 10 P P 21 24 29.1 +1.0
GOGA pmax pmax
comp=Z,129nm,1.5s
Y49A Blount Mountai 21.83 4 P P 21 24 29.8 +0.7
Y49A IAmb IAmb 21 24 31.4
comp=Z,33nm,0.7s
Y45A Yeager Farm, C 21.84 357 P P 21 24 29.8 +0.7
Y45A IAmb IAmb 21 24 32.9
comp=Z,51nm,0.8s
TREL Terrell 21.94 342 P P 21 24 31.9 +1.6
FW13 Cleburne 22.05 338 P P 21 24 32.4 +1.0
FW13 IAmb IAmb 21 24 35.8
comp=Z,48nm,1.0s
Y52A Lilburn 22.09 9 P P 21 24 32.2 +0.4
Y52A IAmb IAmb 21 24 35.5
comp=Z,42nm,0.8s
WLAR White Oak Lake 22.11 349 P 21 24 33.3 +1.3
CCAR Cane Creek 22.11 352 P P 21 24 33.2 +1.2
CCAR IAmb IAmb 21 24 34.9
comp=Z,47nm,1.0s
Z38A Mt. Pleasant 22.12 344 P P 21 24 33.4 +1.2
SAND Sanderson 22.17 326 P P 21 24 33.5 +0.7
NHSC New Hope 22.23 18 P P 21 24 32.6 -0.8
NHSC IAmb IAmb 21 24 41.5
comp=Z,40nm,0.9s
HPIG 22.27 314 P P 21 24 33.0 -1.1
X48A Hartselle 22.39 2 P P 21 24 34.8 -0.3
OZNA Ozona 22.41 329 P P 21 24 35.9 +0.5
OXF Oxford 22.47 357 P P 21 24 36.0 +0.1
OXF Oxford 22.47 357 P P 21 24 36.0 +0.1
OXF pmax pmax
comp=Z,145nm,1.5s
FPAL Fort Paine 22.57 5 P 21 24 36.8 -0.3
TXAR Lajitas Array 22.59 322 P P 21 24 38.8 +1.5
TXAR Lajitas Array 22.59 322 P P 21 24 39.4 +2.0
comp=Z,25nm,0.8s,baz=138,slow=9.8,SNR=38
comp=Z,25nm,0.8s
TX31 Lajitas Ar. Si 22.59 322 P P 21 24 38.4 +1.0
TX31 IAmb IAmb 21 24 48.6
comp=Z,32nm,1.1s
FW06 Azle 22.65 339 P P 21 24 38.9 +1.0
FW06 IAmb IAmb 21 24 41.0
comp=Z,57nm,1.1s
X51A Calhoun 22.68 7 P P 21 24 38.2 +0.1
X51A IAmb IAmb 21 24 50.3
comp=Z,27nm,0.9s
HODGE Hodges 22.77 12 P P 21 24 39.5 +0.4
HODGE IAmb IAmb 21 24 41.8
comp=Z,51nm,0.9s
PLPT Palo Pinto 22.79 337 P P 21 24 39.9 +0.6
X40A Basin Creek Fa 22.83 350 P P 21 24 40.3 +0.6
X40A IAmb IAmb 21 24 42.3
comp=Z,52nm,1.5s
Z35A Perchaven, San 22.87 340 P P 21 24 41.0 +0.9
PLAL Pickwick Lake 22.91 360 P 21 24 39.7 -0.8
Y57A Sumter 23.02 16 P P 21 24 42.7 +0.9
Y57A IAmb IAmb 21 24 45.0
comp=Z,57nm,1.0s
MIAR Mount Ida 23.03 348 P 21 24 42.7 +0.9
MIAR Mount Ida 23.03 348 P P 21 24 42.7 +0.9
MIAR pmax pmax
comp=Z,146nm,0.9s
UALR University of 23.03 351 P P 21 24 42.7 +0.9
UALR IAmb IAmb 21 24 43.9
comp=Z,60nm,1.1s
JSC Jenkinsville 23.05 14 P P 21 24 41.6 -0.4
JSC IAmb IAmb 21 24 44.5
comp=Z,52nm,0.9s
JSC Jenkinsville 23.05 14 P P 21 24 41.6 -0.4
JSC pmax pmax
comp=Z,52nm,0.9s
Y58A Scranton 23.13 18 P P 21 24 42.9 +0.1
Y58A IAmb IAmb 21 24 45.6
comp=Z,43nm,0.7s
ABTX Abilene, Hawle 23.15 334 P 21 24 43.2 0.0
SWET Sewanee 23.22 4 P P 21 24 43.7 0.0
SGCY Sterling City 23.22 331 P 21 24 43.6 -0.3
W50A Signal Mountai 23.25 6 P 21 24 43.8 -0.3
W52A Murphy 23.32 9 P P 21 24 45.5 +0.8
W52A IAmb IAmb 21 24 47.0
comp=Z,80nm,1.7s
ALPN Alpine 23.34 324 P 21 24 45.8 +0.7
ALPN IAmb IAmb 21 24 51.7
comp=Z,21nm,0.8s
BG3 Lake Jocassee 23.38 11 P P 21 24 45.4 +0.1
BG3 IAmb IAmb 21 24 47.7
comp=Z,59nm,1.0s
PAULI Pauline 23.44 13 P P 21 24 46.1 +0.2
PAULI IAmb IAmb 21 24 48.1
comp=Z,45nm,1.0s
LOOK Love County 23.45 341 P P 21 24 47.3 +1.2
WHAR Wooly Hollow 23.53 351 P 21 24 47.2 +0.4
WHAR IAmb IAmb 21 24 48.5
comp=Z,42nm,0.9s

MNHN Monahans 23.59 327 IAmb IAmb 21 24 52.8
comp=Z,56nm,1.0s
CPCT Cooper Cave 23.59 7 P P 21 24 48.1 +0.7
CPCT IAmb IAmb 21 24 50.2
comp=Z,23nm,0.8s
BIRD Birdtown, Kers 23.60 16 P P 21 24 47.9 +0.4
BIRD IAmb IAmb 21 24 49.1
comp=Z,32nm,0.8s
V48A Smith Brothers 23.69 2 P P 21 24 48.1 -0.2
WTFS Witchita Falls 23.69 338 IAmb IAmb 21 24 52.0
comp=Z,38nm,1.0s
X58A Rowland 23.83 18 P P 21 24 49.3 -0.4
X58A IAmb IAmb 21 24 51.2
comp=Z,29nm,0.7s
KMSC Kings Mountain 23.85 14 P P 21 24 49.8 -0.1
KMSC IAmb IAmb 21 24 51.8
comp=Z,28nm,0.8s
APMT Aspermont 23.96 334 P 21 24 51.0 0.0
WVT Waverly 24.05 0 P P 21 24 51.8 0.0
WVT Waverly 24.05 0 P P 21 24 51.8 0.0
WVT pmax pmax
comp=Z,11nm,1.0s
V53A Saluda 24.06 10 P P 21 24 52.2 +0.2
V53A IAmb IAmb 21 24 55.0
comp=Z,26nm,0.8s
CLTN Cedars of Leba 24.06 3 P P 21 24 51.7 -0.2
SN07 Snyder 07 24.09 333 P P 21 24 52.3 0.0
SN07 IAmb IAmb 21 24 58.3
comp=Z,58nm,1.1s
FCAR Ozark Folk Cen 24.10 352 P P 21 24 51.7 -0.5
FCAR IAmb IAmb 21 24 53.9
comp=Z,24nm,0.8s
LCAR Lake Charles 24.16 354 P 21 24 52.0 -0.7
LCAR IAmb IAmb 21 24 53.2
comp=Z,20nm,0.7s
W57A Gilead 24.20 16 P 21 24 53.0 -0.2
W57A IAmb IAmb 21 24 54.3
comp=Z,20nm,0.7s
PECS Pecos 24.21 325 P P 21 24 54.9 +1.4
PECS IAmb IAmb 21 25 05.2
comp=Z,30nm,1.2s
GLAT Glass 24.22 358 P P 21 24 52.8 -0.5
U49A Red Boiling Sp 24.52 4 IAmb P 21 24 57.3
comp=Z,80nm,1.7s
V55A Taylorsville 24.56 13 P P 21 24 56.6 +0.1
V55A IAmb IAmb 21 24 59.4
comp=Z,21nm,0.9s
DKNS Dickens 24.60 333 P P 21 24 57.5 +0.6
WMOK Wichita Mounta 24.68 338 IAmb IAmb 21 24 59.1
comp=Z,37nm,1.1s
WMOK Wichita Mounta 24.68 338 P P 21 24 58.0 +0.4
WMOK pmax pmax
comp=Z,33nm,0.9s
HHAR Hobbs 24.78 349 P P 21 24 58.7 +0.2
HHAR IAmb IAmb 21 25 01.1
comp=Z,34nm,0.8s
PBMO Poplar Bluff 24.79 355 IAmb IAmb 21 24 59.6
comp=Z,36nm,0.9s
TZTN Tazewell 24.80 9 IAmb IAmb 21 25 01.8
comp=Z,22nm,0.8s
RLO Rose Lookout 24.90 346 IAmb IAmb 21 25 02.2
comp=Z,40nm,0.9s
T45A Paducah 24.95 359 P P 21 24 59.8 -0.1
DEOK Depew 24.97 344 IAmb IAmb 21 25 00.7
comp=Z,39nm,0.8s
V58A Windy Hill, Pi 25.05 17 P P 21 25 00.8 -0.1
U54A Nelsons Funny 25.07 12 P P 21 25 01.4 +0.2
T50A Nancy 25.11 6 IAmb IAmb 21 25 30.9
comp=Z,32nm,0.9s
U56A King 25.23 15 P P 21 25 02.8 +0.2
U56A IAmb IAmb 21 25 06.3
comp=Z,22nm,0.9s
CGM3 Cape Girardeau 25.26 357 P P 21 25 02.0 -0.7
MNTX Cornudas Mount 25.32 324 P P 21 25 04.5 +1.0
MNTX IAmb IAmb 21 25 07.1
comp=Z,24nm,1.1s
QUOK Quay 25.33 343 P P 21 25 03.0 -0.5
MGMO Mountain Grove 25.36 352 IAmb IAmb 21 25 08.6
comp=Z,23nm,0.9s
CSTR Hydro, Custer 25.46 340 P P 21 25 04.4 -0.3
CPRX Cap Rock 25.49 328 P P 21 25 06.6 +1.5
S44A Carbondale 25.64 358 IAmb IAmb 21 25 06.9
comp=Z,31nm,0.9s
SIUC Southern Illin 25.66 358 P P 21 25 05.7 -0.6
SIUC IAmb IAmb 21 25 07.0
comp=Z,32nm,0.8s
S51A Beattyville 25.86 8 P 21 25 07.8 -0.5
AMTX Amarillo 25.96 334 P P 21 25 09.7 +0.5
T35A Sooner Cattle 25.98 344 IAmb IAmb 21 25 13.5
comp=Z,28nm,0.8s
CROK Carrier 26.02 342 P 21 25 09.5 -0.2
BLOK Blackwell 26.03 343 P P 21 25 09.6 -0.2
BLA Blacksburg 26.04 14 P P 21 25 09.3 -0.6
BLA IAmb IAmb 21 25 11.7
comp=Z,22nm,1.0s
BLA Blacksburg 26.04 14 P P 21 25 09.3 -0.6
BLA pmax pmax
comp=Z,23nm,1.0s
ELIS Ellis County 26.10 339 P 21 25 11.2 +0.7
CCM Cathedral Cave 26.13 354 P P 21 25 09.8 -0.8
CCM IAmb IAmb 21 25 11.6
comp=Z,29nm,0.7s
CCM Cathedral Cave 26.13 354 P 21 25 10.2 -0.5
CCM Cathedral Cave 26.13 354 P P 21 25 10.2 -0.5
CCM pmax pmax
comp=Z,31nm,0.8s
T57A Hurt 26.14 16 P P 21 25 10.6 -0.2
T57A IAmb IAmb 21 25 12.2
comp=Z,20nm,0.9s
WCI Wyandotte Cave 26.19 3 P P 21 25 10.2 -1.0
WCI IAmb IAmb 21 25 12.1
comp=Z,32nm,0.8s
WCI Wyandotte Cave 26.19 3 P P 21 25 10.3 -1.0
WCI pmax pmax
comp=Z,32nm,0.8s
OK038 West end E0370 26.24 340 P 21 25 12.0 +0.3
R49A Shelbyville 26.33 5 P P 21 25 11.7 -0.8
R50A Paris 26.41 7 P P 21 25 12.9 -0.3
NOKA Waynoka 26.44 340 P P 21 25 13.8 +0.3
R40A Maddies Statio 26.48 353 P P 21 25 13.4 -0.4
R40A IAmb IAmb 21 25 14.2
comp=Z,15nm,0.7s
T59A Double "B" Far 26.61 19 P 21 25 14.8 -0.2
OLIL Olney 26.65 360 IAmb IAmb 21 25 16.0
comp=Z,26nm,0.8s
KAN08 Anthony NE Sta 26.68 342 P P 21 25 15.8 +0.1
Q44A Meyer Farm, Va 26.83 358 P 21 25 16.2 -0.8
Q44A IAmb IAmb 21 25 17.4
comp=Z,32nm,0.7s
S57A Dark Hollow, R 26.93 16 P P 21 25 17.3 -0.6
BLO Bloomington 27.12 3 P P 21 25 18.3 -1.3
BLO IAmb IAmb 21 25 19.8
comp=Z,13nm,0.7s
BLO Bloomington 27.12 3 P P 21 25 18.3 -1.3
BLO pmax pmax
comp=Z,13nm,0.7s
R55A Marlinton 27.14 14 P 21 25 19.3 -0.5
R55A IAmb IAmb 21 25 21.5
comp=Z,17nm,0.9s
Q51A Peebles 27.26 8 P 21 25 20.4 -0.5
Q51A IAmb IAmb 21 25 22.0
comp=Z,30nm,0.9s
121A Cookes Peak, D 27.34 322 P P 21 25 24.3 +2.4
Q52A Bidwell 27.36 10 P P 21 25 20.7 -1.0
Q52A IAmb IAmb 21 25 22.9
comp=Z,20nm,0.8s
R58B Mineral 27.43 18 P P 21 25 21.7 -0.6
P48A Milroy 27.47 4 P P 21 25 21.6 -1.2
P48A IAmb IAmb 21 25 22.6
comp=Z,18nm,0.9s
Q54A Coxs Mills 27.65 12 P P 21 25 24.2 -0.1
Q54A IAmb IAmb 21 25 25.6
comp=Z,23nm,0.8s
P40A Paris 27.68 353 P 21 25 23.6 -1.0
RTBA Rita Blanca 27.73 334 P P 21 25 25.8 +0.5
BNM Barren Site 27.83 326 P 21 25 28.4 +2.1
Y22A Socorro 27.86 325 P 21 25 28.7 +2.2
Y22A IAmb IAmb 21 25 33.0
comp=Z,27nm,1.2s
R32A Long Quarter, 28.01 342 IAmb IAmb 21 25 31.4
comp=Z,19nm,0.6s
SBM South Baldy 28.01 325 P P 21 25 29.4 +1.2
P53A Whipple 28.03 11 P P 21 25 28.1 +0.3
P53A IAmb IAmb 21 25 29.1
comp=Z,26nm,0.8s

LENM Lemitar 28.03 325 P P 21 25 29.8 +1.7
P52A Corning 28.04 10 P P 21 25 27.5 -0.4
P52A IAmb IAmb 21 25 28.7
comp=Z,17nm,0.8s
Q56A Snyder Ridge, 28.08 15 P 21 25 27.8 -0.5
O49A Covington 28.29 6 P P 21 25 29.1 -1.0
O49A IAmb IAmb 21 25 30.3
comp=Z,18nm,0.8s
SFIN Lafayette 28.30 2 P P 21 25 29.2 -1.0
SFIN IAmb IAmb 21 25 30.0
comp=Z,14nm,0.8s
ANMO Albuquerque 28.33 327 P P 21 25 32.3 +1.5
ANMO Albuquerque 28.33 327 P P 21 25 32.3 +1.5
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ACSO Alum Creek Sta 28.50 8 P P 21 25 31.6 -0.3
ACSO IAmb IAmb 21 25 32.7
comp=Z,20nm,1.0s
MCWV Mont Chateau 28.51 13 P P 21 25 31.6 -0.4
O52A Adamsville 28.56 10 P P 21 25 32.3 -0.1
O52A IAmb IAmb 21 25 33.3
comp=Z,14nm,0.7s
CBKS Cedar Bluff 28.69 341 P P 21 25 33.5 -0.2
CBKS IAmb IAmb 21 25 35.1
comp=Z,21nm,0.8s
CBKS Cedar Bluff 28.69 341 P P 21 25 33.5 -0.2
CBKS pmax pmax
comp=Z,21nm,0.8s
N41A Harden Midland 28.73 356 P P 21 25 32.4 -1.6
N41A IAmb IAmb 21 25 33.8
comp=Z,22nm,0.8s
O53A New Philadelph 28.80 11 P P 21 25 34.5 -0.1
O53A IAmb IAmb 21 25 35.5
comp=Z,17nm,0.8s
P57A Homestead Farm 28.80 16 P P 21 25 34.2 -0.5
P57A IAmb IAmb 21 25 36.6
comp=Z,20nm,0.7s
BOAV Boa Vista 28.88 107 P P 21 25 34.0 -1.5
O54A Avella 28.90 12 P P 21 25 35.0 -0.5
O54A IAmb IAmb 21 25 36.6
comp=Z,13nm,0.7s
N49A Columbus Grove 29.03 6 P 21 25 35.7 -0.9
N49A IAmb IAmb 21 25 37.4
comp=Z,17nm,0.8s
T25A Trinidad 29.05 332 P P 21 25 38.3 +1.1
T25A IAmb IAmb 21 25 41.2
comp=Z,14nm,0.8s
N38A Joes South For 29.07 352 P P 21 25 37.2 +0.2
N38A IAmb IAmb 21 25 37.6
comp=Z,22nm,0.9s
SDMD Soldier's Deli 29.07 18 P P 21 25 35.9 -1.2
N53A Lisbon 29.41 11 P P 21 25 39.2 -0.8
N35A Tabor 29.54 348 P P 21 25 40.8 -0.4
M50A Fremont 29.64 8 P P 21 25 40.0 -2.1
M50A IAmb IAmb 21 25 42.5
comp=Z,17nm,0.7s
PAMR Moraine State 29.69 12 P P 21 25 41.0 -1.5
PAMR IAmb IAmb 21 25 43.3
comp=Z,16nm,0.7s
KSCO Kaye Shedlock' 29.89 337 IAmb IAmb 21 25 46.5
comp=Z,26nm,0.9s
SSPA Standing Stone 29.92 16 P P 21 25 44.0 -0.5
SDCO Great Sand Dun 30.05 332 P 21 25 46.6 +0.5
L40A Anamosa 30.10 355 P P 21 25 45.1 -1.0
L40A IAmb IAmb 21 25 46.3
comp=Z,22nm,0.9s
PAOC Oil Creek Stat 30.33 12 P P 21 25 47.6 -0.5
PAOC IAmb IAmb 21 25 48.7
comp=Z,10nm,0.7s
N58A Sunbury 30.43 17 P 21 25 47.4 -1.6
S22A 4UR Ranch, Cre 30.68 330 P 21 25 52.1 +0.4
L34A Svendsen Farm, 30.75 348 P P 21 25 51.1 -0.9
M57A Sunshine Farm, 30.77 16 P 21 25 51.6 -0.5
Q24A Divide 30.89 333 P P 21 25 53.7 +0.2
MACA Manacapuru-AM 31.07 117 P P 21 25 54.1 -0.9
ISCO Idaho Springs 31.78 334 P 21 26 01.8 +0.4
ISCO Idaho Springs 31.78 334 P P 21 26 01.8 +0.4
ISCO pmax pmax
comp=Z,4.0nm,0.8s
I42A Draeger Farm, 31.81 359 P 21 25 60.0 -1.2
I42A IAmb IAmb 21 26 02.0
comp=Z,27nm,1.1s
BINY Binghamton 31.89 17 P P 21 26 00.5 -1.5
BINY IAmb IAmb 21 26 03.1
comp=Z,26nm,1.2s
PV13 Radium Mtn., P 32.00 328 P P 21 26 03.7 +0.5
PV13 IAmb IAmb 21 26 17.2
comp=Z,15nm,1.2s
PV12 Saucer Basin, 32.12 328 P P 21 26 04.8 +0.6
PV18 Skein Mesa, Pa 32.12 328 P 21 26 05.8 +1.6
PV17 East Wray Mesa 32.17 328 P P 21 26 06.1 +1.5
PV17 IAmb IAmb 21 26 11.6
comp=Z,12nm,0.7s
K30B Basset 32.20 344 P 21 26 05.2 +0.6
PV04 Paradox Valley 32.23 328 P P 21 26 07.2 +2.0
PV04 IAmb IAmb 21 26 12.3
comp=Z,12nm,0.8s
I37A Lemond, Waseca 32.26 353 P 21 26 04.6 -0.5
PV22 Blue Mesa, Par 32.27 329 P P 21 26 05.5 0.0
PV10 Paradox Valley 32.28 328 P P 21 26 06.3 +0.6
PV10 IAmb IAmb 21 26 14.5
comp=Z,13nm,0.8s
HMU Henry Mountain 32.87 326 P P 21 26 11.9 +1.0
J57A Williamstown 33.01 16 P P 21 26 09.3 -2.4
J57A IAmb IAmb 21 26 12.7
comp=Z,19nm,0.9s
TRY Troy 33.09 20 P P 21 26 10.9 -1.5
TRY IAmb IAmb 21 26 13.9
comp=Z,28nm,1.0s
HAYD Hayden 33.09 333 P P 21 26 13.8 +1.0
L61B Northampton 33.18 21 P P 21 26 11.5 -1.7
L61B IAmb IAmb 21 26 14.6
comp=Z,15nm,0.9s
G40A Rib Lake 33.23 357 P P 21 26 12.1 -1.5
G40A IAmb IAmb 21 26 13.5
comp=Z,21nm,1.1s
O20A White River Ci 33.24 331 P P 21 26 11.3 -2.7
SPMN Marine on St. 33.39 354 P 21 26 13.7 -1.3
J59A Piesco 33.49 18 P P 21 26 14.2 -1.7
J59A IAmb IAmb 21 26 16.4
comp=Z,17nm,1.1s
SADO Sadowa 33.56 11 P 21 26 15.0 -1.5
SADO IAmb IAmb 21 26 17.9
comp=Z,16nm,0.7s
SUSD Miller 33.69 346 P P 21 26 17.2 -0.4
PFO Pinyon Flats O 33.72 314 / P P 21 26 19.0 +0.8
PFO pmax pmax
comp=Z,13nm,1.4s
DPP Dos Picos Cty 33.74 313 P P 21 26 18.9 +0.7
DPP IAmb IAmb 21 26 32.7
comp=Z,19nm,1.4s
P18A Preston Nutter 33.84 328 P P 21 26 19.7 +0.4
P17A Butcher Ranch, 33.98 328 P P 21 26 21.7 +1.2
P17A IAmb IAmb 21 26 27.4
comp=Z,11nm,0.8s
J61A Chester 34.01 20 P P 21 26 19.7 -0.7
J61A IAmb IAmb 21 26 22.4
comp=Z,27nm,1.2s
COWI Conover 34.02 359 P P 21 26 18.3 -2.2
COWI IAmb IAmb 21 26 20.1
comp=Z,19nm,0.9s
BUKO Buck Lake 34.16 11 P P 21 26 20.8 -0.9
BUKO IAmb IAmb 21 26 22.5
comp=Z,18nm,0.8s
LPAZ La Paz 34.30 145 P P 21 26 25.7 +1.8
comp=Z,0.8nm,0.5s,baz=322,slow=9.7,SNR=4.5
comp=Z,0.8nm,0.5s
LONY Lake Ozonia 34.52 17 P P 21 26 24.1 -0.8
K22A Casper 34.53 336 P P 21 26 25.9 +0.7
K22A IAmb IAmb 21 26 27.4
comp=Z,19nm,1.2s
E38A The Farm, Brul 34.65 356 P P 21 26 24.5 -1.4
BSUT Blindstream Ca 34.78 329 P P 21 26 28.3 +0.7
RSSD Black Hills 34.87 340 P P 21 26 28.1 0.0
RSSD IAmb IAmb 21 26 31.7
comp=Z,11nm,0.8s
RSSD Black Hills 34.87 340 P P 21 26 28.1 0.0
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD Black Hills 34.87 340 P P 21 26 29.4 +1.2
I62A Tamworth 34.90 21 P 21 26 27.2 -0.9
FRNY Flat Rock 35.01 18 P P 21 26 27.4 -1.6
FRNY IAmb IAmb 21 26 29.6
comp=Z,17nm,1.1s

PSUT **Pine Spring** 35.04 323 P **P** 21 26 31.4 +1.7
PB16 **IPOC Station P** 35.23 148 P **P** 21 26 31.9 0.0
I63A **Otisfield** 35.32 22 P **P** 21 26 31.2 -0.6
TCUT **Toone Canyon** 35.54 329 P **P** 21 26 35.0 +1.0
TCUT IAmb IAmb 21 26 47.7
comp=Z,13nm,0.9s
MNTQ **Montreal, Queb** 35.60 18 P **P** 21 26 33.4 -0.7
SPR3 **Spring Creek 3** 35.63 324 P **P** 21 26 33.7 -1.2
BW06 **Boulder Array** 35.92 333 P **P** 21 26 37.1 -0.2
PD31 **Pinedale Array** 35.92 333 P **P** 21 26 37.5 +0.2
PDAR **Pinedale Array** 35.92 333 P **P** 21 26 36.8 -0.5
PDAR **Pinedale Array** 35.92 333 P **P** 21 26 38.0 +0.8
comp=Z,2.9nm,0.7s,baz=128,slow=9.7,SNR=11
PDAR PcP **PcP** 21 29 03.8 -0.4
comp=Z,1.2nm,0.4s,baz=66,slow=3.4,SNR=8.0
comp=Z,2.9nm,0.7s
R11B **Troy Canyon, C** 35.95 322 P **P** 21 26 37.4 -0.1
EYMN **Ely** 35.98 356 **P** 21 26 35.9 -1.4
EYMN IAmb IAmb 21 26 36.6
comp=Z,13nm,0.7s
HWUT **Hardware Ranch** 35.98 329 **P** 21 26 38.6 +0.9
HWUT IAmb IAmb 21 26 44.8
comp=Z,14nm,0.8s
HWUT **PcP** 21 29 04.5 +0.2
TRQ **Mont Tremblant** 36.00 16 **P** 21 26 36.5 -1.1
TRQ IAmb IAmb 21 26 38.0
comp=Z,14nm,1.0s
WVL **Waterville** 36.10 22 P **P** 21 26 38.7 +0.2
BGU **Big Grassy Mou** 36.24 327 P **P** 21 26 41.1 +1.2
BGU IAmb IAmb 21 26 46.4
comp=Z,22nm,1.9s
G62A **West of Eustis** 36.35 21 **P** 21 26 40.3 -0.3
TBO **Thunder Bay** 36.58 358 **P** 21 26 41.0 -1.5
AHID **Auburn Hatcher** 36.63 331 P **P** 21 26 43.6 +0.3
AHID IAmb IAmb 21 26 52.8
comp=Z,19nm,0.8s
HVU **Hansel Valley** 36.72 328 **P** 21 26 44.0 0.0
HVU **Hansel Valley** 36.72 328 P **P** 21 26 44.0 0.0
HVU pmax pmax
comp=Z,6.0nm,0.8s
PKME **Peaks-Kenny Pk** 36.84 22 P **P** 21 26 43.9 -0.8
SNOW **Snow King Moun** 37.01 332 P **P** 21 26 48.0 +1.4
MDND **Maddock** 37.05 347 P **P** 21 26 46.6 +0.1
LOHW **Long Hollow** 37.06 332 **P** 21 26 47.0 +0.1
LOHW IAmb IAmb 21 27 00.8
comp=Z,32nm,1.5s
VILB **Vilhena** 37.09 131 P **P** 21 26 46.7 -0.6
VILB **Vilhena** 37.09 131 *e*P **P** 21 26 47.8 +0.6
VLDQ **Val d'Or** 37.10 12 P **P** 21 26 46.4 -0.5
VLDQ IAmb IAmb 21 26 47.0
comp=Z,11nm,0.9s
TPAW **Teton Pass** 37.12 332 **P** 21 26 49.3 +1.7
TPAW IAmb IAmb 21 27 01.6
comp=Z,25nm,0.9s
ELK **Elko** 37.32 325 P **P** 21 26 48.7 -0.5
ELK **Elko** 37.32 325 P **P** 21 26 48.7 -0.5
ELK pmax pmax
comp=Z,7.0nm,1.4s
G65A **Princeton** 37.45 24 P **P** 21 26 49.0 -0.9
NVAR **Mina Array Bea** 37.69 320 P **P** 21 26 54.0 +1.7
NVAR **Mina Array Bea** 37.69 320 P **P** 21 26 54.6 +2.3
comp=Z,0.7nm,0.5s,baz=131,slow=7.7,SNR=5.0
NVAR PcP **PcP** 21 29 11.9 +2.4
comp=Z,1.8nm,0.8s,baz=137,slow=3.3,SNR=6.3
comp=Z,0.7nm,0.5s
RLMT **Red Lodge** 37.69 335 **P** 21 26 51.6 -0.6
RLMT IAmb IAmb 21 26 54.2
comp=Z,16nm,1.1s
F64A **Sherman** 37.70 23 **P** 21 26 51.8 -0.2
F64A IAmb IAmb 21 26 53.4
comp=Z,17nm,0.8s
LHV **Little Huntoon** 37.71 319 P **P** 21 26 53.5 +1.3
YMP **Mirror Lake Pl** 37.76 334 P **P** 21 26 53.7 +0.8
YMP IAmb IAmb 21 27 17.9
comp=Z,30nm,1.2s
YFT **Old Faithful** 37.82 333 P **P** 21 26 52.8 -0.6
YFT IAmb IAmb 21 27 08.4
comp=Z,18nm,1.1s
LAO **LASA Array** 37.86 340 **P** 21 26 53.1 -0.4
LAO IAmb IAmb 21 26 59.1
comp=Z,17nm,0.8s
EPLO **Experimental L** 37.88 354 **P** 21 26 51.9 -1.7
YNE **Yellowstone No** 37.91 334 P **P** 21 26 54.7 +0.6
YNE IAmb IAmb 21 27 07.3
comp=Z,18nm,1.1s
E62A **Clayton Lake** 37.92 21 P **P** 21 26 53.0 -0.8
E62A IAmb IAmb 21 26 54.6
comp=Z,14nm,0.9s
YNR **Norris Junctio** 37.96 333 P **P** 21 26 55.3 +0.8
YNR IAmb IAmb 21 27 19.8
comp=Z,28nm,1.5s
YHH **Holmes Hill** 38.09 333 P **P** 21 26 56.5 +0.7
YHL **Hebgen Lake** 38.29 333 **P** 21 26 58.0 +0.6
YHL IAmb IAmb 21 27 12.1
comp=Z,16nm,0.9s
QLMT **Earthquake Lak** 38.38 333 P **P** 21 26 59.6 +1.5
LMQ **La Malbaie** 38.45 19 P **P** 21 26 56.8 -1.6
LMQ IAmb IAmb 21 26 58.6
comp=Z,19nm,0.8s
D62A **Allapoint, All** 38.48 21 P **P** 21 26 57.8 -0.8
LDAQ **Lac Daran** 38.53 18 P **P** 21 26 58.3 -0.9
ULM **Lac du Bonnet** 38.70 352 P **P** 21 26 58.8 -1.6
comp=Z,36nm,0.8s,baz=165,slow=9.2,SNR=51
comp=Z,36nm,0.8s
ULM **Lac du Bonnet** 38.70 352 *i* P **P** 21 26 58.7 -1.7
HLID **Hailey** 38.85 329 **P** 21 27 02.9 +0.9
PDRB **Porto dos Gac** 38.93 126 *e*P **P** 21 27 00.6 -2.2
MCMT **McKenzie Canyo** 39.03 332 **P** 21 27 04.9 +1.3
BOZ **Bozeman (W)** 39.07 334 IAmb IAmb 21 27 18.0
comp=Z,18nm,1.1s
CLDB **Colider** 39.25 124 *e*P **P** 21 27 04.0 -1.4
DLMT **Dillon** 39.32 332 **P** 21 27 06.9 +1.0
DLMT IAmb IAmb 21 27 19.5
comp=Z,18nm,1.1s
PTLB **Pontes e Lacer** 39.51 133 P **P** 21 27 05.1 -2.4
LRM **Limekiln Ridge** 39.61 333 P **P** 21 27 09.6 +1.2
BATG **Bathurst New B** 39.75 23 **P** 21 27 08.3 -0.9
BATG IAmb IAmb 21 27 10.1
comp=Z,24nm,0.9s
EGMT **Eagleton** 40.27 337 **P** 21 27 14.4 +0.8
EGMT IAmb IAmb 21 27 15.7
comp=Z,29nm,1.1s
WVOR **Wild Horse Val** 40.35 324 P **P** 21 27 14.9 +0.5
WVOR **Wild Horse Val** 40.35 324 P **P** 21 27 14.9 +0.5
WVOR pmax pmax
comp=Z,5.0nm,0.8s
PLID **Pearl Lake** 40.73 329 P **P** 21 27 18.0 +0.3
J08A **Circle Bar Ran** 40.85 326 **P** 21 27 18.9 +0.3
MSO **Missoula** 41.04 333 P **P** 21 27 21.1 +1.0
MSO IAmb IAmb 21 27 33.5
comp=Z,44nm,1.6s
BMO **Blue Mountains** 41.23 328 P **P** 21 27 22.0 +0.3
BMO **Blue Mountains** 41.23 328 P **P** 21 27 22.0 +0.3
BMO pmax pmax
comp=Z,4.0nm,1.0s
F10A **Beach Ranch, E** 41.97 329 P **P** 21 27 28.1 +0.5
SNDB **Serra Nova Dou** 43.55 122 *e*P **P** 21 27 40.7 -0.1
NEW **Newport** 43.55 332 P **P** 21 27 45.0 +4.6
NEW pmax pmax
comp=Z,7.0nm,0.8s
D08A **Wollman Farm,** 43.56 329 **P** 21 27 41.2 +0.7
D08A IAmb IAmb 21 27 46.9
comp=Z,11nm,0.7s
E07A **Sunnyside** 43.70 328 P **P** 21 27 42.3 +0.7
E07A IAmb IAmb 21 27 48.6
comp=Z,14nm,0.8s
MXC **Moxie City** 43.94 328 P **P** 21 27 44.7 +1.1
MXC IAmb IAmb 21 27 50.8
comp=Z,12nm,0.8s
FFC **Flin Flon** 44.04 348 P **P** 21 27 43.9 -0.3
FFC **Flin Flon** 44.04 348 P **P** 21 27 43.9 -0.3
FFC pmax pmax
comp=Z,14nm,1.1s
FFC **Flin Flon** 44.04 348 P **P** 21 27 44.3 +0.1
LTY **Liberty** 44.58 328 P **P** 21 27 48.3 -0.5
LTY IAmb IAmb 21 29 34.1
comp=Z,22nm,1.6s
B08A **Colville Reser** 44.66 330 **P** 21 27 48.9 -0.4
LON **Longmire** 44.85 327 P **P** 21 27 51.1 +0.2
LON **Longmire** 44.85 327 P **P** 21 27 51.1 +0.2
LON pmax pmax
comp=Z,5.0nm,0.8s
ARAG **Araguaiana, MT** 45.18 127 *e*P **P** 21 27 53.5 -0.4
AQDB **Aquidauana** 45.29 135 P **P** 21 27 54.2 -0.4

SCHQ **Schefferville** 45.90 17 P **P** 21 27 57.5 -1.5
SCHQ **Schefferville** 45.90 17 P **P** 21 27 56.3 -2.7
comp=Z,27nm,0.8s,baz=211,slow=9.1,SNR=19
comp=Z,27nm,0.8s
GNW **Green Mountain** 45.90 327 **P** 21 27 59.4 +0.3
GNW IAmb IAmb 21 28 05.3
comp=Z,15nm,1.3s
LLLB **Lillooet** 47.41 331 **P** 21 28 11.3 +0.4
LLLB IAmb IAmb 21 28 17.1
comp=Z,9.3nm,0.8s
AMBA **Amambai (Brazi** 47.44 137 *e*P **P** 21 28 10.6 -0.9
BDFB **Brasilia** 48.19 124 P **P** 21 28 17.0 -0.5
BDFB IAmb IAmb 21 28 18.6
comp=Z,15nm,0.9s
BDFB **Brasilia** 48.19 124 P **P** 21 28 17.2 -0.3
comp=Z,12nm,0.9s,baz=279,slow=6.7,SNR=15
comp=Z,12nm,0.9s
KUQ **Kuujjuaa** 48.40 14 P **P** 21 28 17.3 -1.0
YKA **Yellowknife Ar** 53.92 345 P **P** 21 28 58.0 -1.8
comp=Z,4.4nm,0.8s,baz=135,slow=7.6,SNR=6.7
comp=Z,4.4nm,0.8s
YKA **Yellowknife Ar** 53.92 345 P **P** 21 28 58.0 -1.8
PLTB **Pedras Altas** 54.59 144 *e*P **P** 21 29 04.5 -0.6
PLCA **Paso Flores** 54.88 164 P **P** 21 29 08.7 +1.5
comp=Z,1.4nm,0.8s,baz=347,slow=10,SNR=4.1
comp=Z,1.4nm,0.8s
CRAG **Craig** 55.75 331 P **P** 21 29 14.5 +1.4
baz=123
WRAK **Wrangell Islan** 55.91 332 P **P** 21 29 15.2 +0.9
baz=124
DLBC **Dease Lake** 56.09 335 P **P** 21 29 17.2 +1.5
baz=128
U33K **Whale Pass** 56.10 331 P **P** 21 29 17.3 +1.7
baz=123
S34M **Telegraph Cree** 56.24 334 P **P** 21 29 17.8 +1.1
baz=126
R33M **Jennings River** 57.06 335 P **P** 21 29 22.8 +0.2
baz=127
Q32M **Nakina River** 57.34 335 P **P** 21 29 25.8 +1.1
baz=126
S32K **Killisnoo** 57.51 332 P **P** 21 29 26.0 +0.4
baz=122
SIT **Sitka** 57.64 332 P **P** 21 29 28.1 +1.6
baz=122
R32K **Eaglecrest** 57.92 333 P **P** 21 29 28.4 -0.2
baz=123
P33M **Teslin, Yukon** 58.30 336 P **P** 21 29 31.5 +0.2
baz=126
P32M **Atlin** 58.31 335 P **P** 21 29 30.9 -0.5
baz=124
S31K **Pelican** 58.53 332 P **P** 21 29 32.6 -0.1
baz=121
SKAG **Skagway** 58.92 334 P **P** 21 29 37.1 +1.6
baz=123
MMPY **Sheldon Lake,** 59.17 338 **P** 21 29 37.4 +0.1
MMPY IAmb IAmb 21 29 39.5
comp=Z,14nm,1.2s
MMPY **Sheldon Lake,** 59.17 338 P **P** 21 29 38.9 +1.6
baz=129
PLBC **Pleasant Camp** 59.37 334 P **P** 21 29 38.9 +0.3
baz=122
WHY **Whitehorse** 59.40 335 P **P** 21 29 40.6 +1.6
baz=124
P30M **Million Dollar** 59.98 334 P **P** 21 29 44.5 +1.6
baz=121
P29M **Windy Craggy** 60.06 333 P **P** 21 29 44.7 +1.3
baz=120
M31M **Drury Creek, Y** 60.09 337 P **P** 21 29 44.6 +1.0
baz=125
N31M **Braeburn, Yuko** 60.23 336 P **P** 21 29 46.2 +1.6
baz=123
HYT **Haines Junctio** 60.58 335 P **P** 21 29 48.6 +1.6
baz=121
N30M **Aishikik Lake** 60.74 335 P **P** 21 29 49.5 +1.4
baz=122
O29M **Mount Kennedy** 60.76 334 P **P** 21 29 48.9 +0.6
baz=120
YUK6 **Outpost Mounta** 61.00 335 P **P** 21 29 51.5 +1.4
baz=120
M30M **Minto, Yukon** 61.22 337 P **P** 21 29 51.5 +0.2
baz=123
PINM **Pinnacle** 61.39 333 P **P** 21 29 52.7 +0.2
baz=118
O28M **Mount Upton** 61.69 334 P **P** 21 29 54.9 +0.1
baz=118
YUK8 **Steele Glacier** 61.76 335 P **P** 21 29 55.6 +0.4
baz=119
M29M **Somme Creek** 61.81 336 P **P** 21 29 55.8 +0.4
M29M IAmb IAmb 21 29 57.5
comp=Z,7.9nm,1.0s
L29M **L29M** 62.03 337 **P** 21 29 55.4 -1.3
L29M IAmb IAmb 21 29 57.9
comp=Z,6.5nm,1.1s
L29M **L29M** 62.03 337 P **P** 21 29 57.4 +0.6
baz=122
J30M **Hart River** 62.16 339 P **P** 21 29 59.2 +1.5
baz=124
MESA **MESA** 62.19 333 P **P** 21 29 58.5 +0.5
baz=116
K29M **Barlow Dome** 62.19 338 P **P** 21 29 58.7 +0.8
baz=123
H31M **Peel River** 62.20 340 P **P** 21 29 59.4 +1.6
baz=127
YUK3 **Moose Creek** 62.29 335 P **P** 21 29 59.9 +1.2
baz=119
I30M **Mount Dempster** 62.55 339 P **P** 21 29 59.6 -0.7
I30M **Mount Dempster** 62.55 339 P **P** 21 30 01.5 +1.2
baz=124
BGLC **Bering Glacier** 62.76 332 P **P** 21 30 03.1 +1.5
baz=115
G31M **Satah River** 62.85 341 P **P** 21 30 01.3 -0.8
G31M **Satah River** 62.85 341 P **P** 21 30 02.5 +0.4
baz=127
CRQE **Cirque** 62.95 333 P **P** 21 30 04.3 +1.3
baz=116
F31M **Tsiigehtchic** 63.01 342 P **P** 21 30 03.3 +0.2
baz=128
M27K **Edge Creek, AK** 63.15 335 P **P** 21 30 05.6 +1.2
baz=118
MCARA **McCarthy VSAT** 63.20 334 P **P** 21 30 05.2 +0.7
baz=116
KAIM **Kayak Island** 63.20 332 P **P** 21 30 05.5 +1.0
baz=114
I29M **Ogilvie Camp,** 63.30 339 P **P** 21 30 06.0 +0.9
baz=122
EPYK **Eagle Plains** 63.32 340 P **P** 21 30 04.8 -0.4
EPYK IAmb IAmb 21 30 06.9
comp=Z,15nm,1.3s
EPYK **Eagle Plains** 63.32 340 P **P** 21 30 05.9 +0.6
baz=124
BCAR **Beaver Creek A** 63.45 336 P **P** 21 30 05.9 -0.3
L27K **Beaver Creek,** 63.46 336 P **P** 21 30 05.6 -0.8
L27K IAmb IAmb 21 30 07.7
comp=Z,7.0nm,1.1s
INK **Inuvik** 63.49 343 IAmb IAmb 21 30 07.8
comp=Z,9.9nm,1.1s
INK **Inuvik** 63.49 343 P **P** 21 30 06.7 +0.4
baz=129
G30M **tAoh Zraii Nji** 63.51 341 P **P** 21 30 05.9 -0.7
baz=125
M26K **Nabesna, AK** 63.64 335 P **P** 21 30 08.6 +1.1
baz=116
BMRM **Bremner River** 63.71 333 P **P** 21 30 08.6 +0.6
baz=114
F30M **Barrier River** 63.74 342 **P** 21 30 08.7 +0.6
F30M IAmb IAmb 21 30 09.8
comp=Z,17nm,1.2s
F30M **Barrier River** 63.74 342 P **P** 21 30 08.9 +0.9
baz=126
H29M **Whitestone** 63.79 340 P **P** 21 30 08.7 +0.4
H29M IAmb IAmb 21 30 10.1
comp=Z,7.9nm,1.1s
H29M **Whitestone** 63.79 340 P **P** 21 30 09.5 +1.1
baz=123
Q23K **Middleton Isla** 63.90 331 P **P** 21 30 10.6 +1.5
baz=112
I28M **Miner Creek** 63.92 339 P **P** 21 30 09.9 +0.5
baz=121
N25K **Chitina, Valde** 63.97 334 P **P** 21 30 10.1 +0.3
baz=114
A36M **Sachs Harbour** 64.00 348 P **P** 21 30 10.0 +0.4
baz=139
K27K **Chicken** 64.02 337 P **P** 21 30 10.2 +0.3
baz=118
G29M **Pine Creek** 64.05 340 IAmb IAmb 21 30 11.4
comp=Z,9.2nm,0.9s
EYAK **Cordova Ski Ar** 64.06 332 P **P** 21 30 12.4 +2.2
baz=113

KLU **Klutina** 64.51 333 P **P** 21 30 15.3 +2.0
baz=113
HARP **HAARP** 64.54 334 P **P** 21 30 14.8 +1.4
baz=114
I27K **Kandik River** 64.61 338 P **P** 21 30 14.6 +0.8
baz=119
P23K **Montague Islan** 64.61 331 P **P** 21 30 15.3 +1.4
baz=111
DOT **Dot Lake** 64.63 336 IAmb IAmb 21 30 15.5
comp=Z,7.0nm,1.0s
SCRK **Sand Creek** 64.74 336 P **P** 21 30 15.8 +1.0
baz=116
GLI **Glacier Island** 64.79 332 P **P** 21 30 15.2 +0.2
baz=112
J26L **Joseph Creek** 64.81 337 P **P** 21 30 14.1 -1.1
J26L IAmb IAmb 21 30 16.9
comp=Z,7.7nm,1.1s
E29M **Blow River** 64.84 342 **P** 21 30 15.1 -0.1
E29M IAmb IAmb 21 30 17.4
comp=Z,8.4nm,1.1s
E29M **Blow River** 64.84 342 P **P** 21 30 16.0 +0.8
baz=124
M24K **Tolsona, Glenn** 64.86 334 P **P** 21 30 16.6 +1.1
baz=113
H27K **Steamboat Moun** 64.89 339 **P** 21 30 15.3 -0.3
H27K IAmb IAmb 21 30 17.1
comp=Z,12nm,1.1s
PAX **Paxson** 64.91 335 P **P** 21 30 16.9 +1.0
baz=114
RIDG **Independent Ri** 64.98 336 P **P** 21 30 17.8 +1.5
baz=115
I26K **Coal Creek Min** 65.03 338 P **P** 21 30 16.9 +0.4
baz=118
F28M **Old Crow** 65.04 341 P **P** 21 30 16.6 +0.1
F28M IAmb IAmb 21 30 18.6
comp=Z,12nm,0.9s
G27K **Doyon Strip** 65.22 339 IAmb IAmb 21 30 19.6
comp=Z,14nm,1.9s
G27K **Doyon Strip** 65.22 339 P **P** 21 30 18.3 +0.6
baz=120
PWL **Port Wells** 65.35 332 P **P** 21 30 20.3 +1.6
baz=111
K24K **Donnelly Dome** 65.39 336 P **P** 21 30 19.5 +0.6
baz=114
M23K **Glacier View** 65.42 333 P **P** 21 30 19.5 +0.4
baz=112
E28M **Babbage River** 65.46 342 IAmb IAmb 21 30 20.0
comp=Z,7.8nm,1.0s
J25K **Salcha River,** 65.56 337 P **P** 21 30 19.9 -0.2
baz=115
KNK **Knik Glacier** 65.60 333 P **P** 21 30 20.9 +0.6
baz=111
SEW **Seward** 65.61 331 P **P** 21 30 21.5 +1.2
baz=109
WAT6 **Susitna Watana** 65.72 334 P **P** 21 30 21.9 +0.7
baz=112
DHY **Denali Highway** 65.75 335 P **P** 21 30 21.8 +0.4
baz=112
E27K **Coleen River** 65.89 341 P **P** 21 30 22.9 +0.8
baz=120
PRP **Porcupine Dome** 66.01 337 **P** 21 30 23.4 +0.4
G26K **Porcupine Rive** 66.03 339 **P** 21 30 22.2 -0.7
G26K **Porcupine Rive** 66.03 339 P **P** 21 30 23.5 +0.6
baz=118
RC01 **Rabbit Creek A** 66.07 332 P **P** 21 30 24.0 +0.7
baz=109
HDA **Harding Lake** 66.10 336 P **P** 21 30 23.6 +0.1
HDA **Harding Lake** 66.10 336 P **P** 21 30 23.6 +0.1
baz=113
WAT1 **Susitna Watana** 66.16 334 P **P** 21 30 24.0 +0.1
baz=111
IL31 **66.22 336** P **P** 21 30 24.1 -0.1
IL31 IAmb IAmb 21 30 25.1
comp=Z,8.3nm,1.1s
ILAR **Eielson Array** 66.22 336 P **P** 21 30 23.4 -0.8
ILAR **Eielson Array** 66.22 336 P **P** 21 30 24.4 +0.1
comp=Z,2.8nm,0.9s,baz=116,slow=5.0,SNR=20
ILAR PP **PP** 21 32 49.5 -0.4
comp=Z,1.1nm,1.0s,baz=124,slow=6.8,SNR=4.4
comp=Z,2.8nm,0.9s
D27M **Malcolm River** 66.24 342 **P** 21 30 24.4 0.0
D27M **Malcolm River** 66.24 342 P **P** 21 30 24.1 -0.3
baz=121
H25L **Birch Creek** 66.44 338 P **P** 21 30 27.4 +1.8
baz=115
KDAK **Kodiak Island** 66.46 328 P **P** 21 30 26.3 +0.5
baz=105
F26K **Sheenjek River** 66.50 340 P **P** 21 30 25.8 -0.2
F26K **Sheenjek River** 66.50 340 P **P** 21 30 26.2 +0.3
baz=118
RND **Reindeer** 66.50 335 P **P** 21 30 26.1 0.0
RND IAmb IAmb 21 30 27.6
comp=Z,14nm,1.0s
RND **Reindeer** 66.50 335 P **P** 21 30 26.1 0.0
RND pmax pmax
comp=Z,14nm,1.0s
BMAR **Burnt Mountain** 66.52 339 P **P** 21 30 26.4 +0.3
POKR **Poker Plat Res** 66.58 337 P **P** 21 30 25.6 -0.9
baz=113
MCK **McKinley** 66.65 335 P **P** 21 30 28.1 +1.1
baz=111
SUA **Susitna One** 66.66 332 P **P** 21 30 27.4 +0.3
baz=109
OHAK **Old Harbor** 66.68 327 P **P** 21 30 27.7 +0.5
baz=104
G25K **Bearman Lake** 66.76 339 P **P** 21 30 28.4 +0.9
baz=115
F25K **Christian Rive** 66.96 339 P **P** 21 30 29.6 +0.6
SII **Sitkinak Islan** 67.00 327 P **P** 21 30 29.5 +0.1
baz=103
NEA2 **Nenana** 67.02 336 P **P** 21 30 28.9 -0.4
NEA2 IAmb IAmb 21 30 29.5
comp=Z,11nm,1.5s
NEA2 **Nenana** 67.02 336 P **P** 21 30 29.4 +0.1
baz=111
H24K **Noodor Dome** 67.03 337 **P** 21 30 29.1 -0.3
H24K **Noodor Dome** 67.03 337 P **P** 21 30 29.9 +0.5
baz=113
TRF **Thorofare Moun** 67.12 334 P **P** 21 30 31.0 +0.9
baz=110
O20K **Slope Mountain** 67.12 331 P **P** 21 30 31.1 +1.0
baz=106
E25K **Arctic Village** 67.17 340 P **P** 21 30 31.5 +1.2
baz=116
SKT **Skwentna** 67.17 333 P **P** 21 30 31.2 +0.8
baz=108
G24K **Hadweenzic Riv** 67.23 338 **P** 21 30 30.9 +0.2
G24K **Hadweenzic Riv** 67.23 338 P **P** 21 30 31.7 +1.0
baz=114
N20K **Mount Spurr** 67.25 332 P **P** 21 30 31.2 +0.3
baz=107
SPCR **Spurr Chakacha** 67.25 332 P **P** 21 30 31.4 +0.5
baz=107
C27K **Jago River** 67.28 342 P **P** 21 30 31.9 +1.0
baz=119
Q19K **Cape Douglas,** 67.31 329 P **P** 21 30 31.6 +0.3
baz=105
I23K **Minto, Yukon-K** 67.34 336 P **P** 21 30 32.0 +0.7
I23K IAmb IAmb 21 30 32.6
comp=Z,8.6nm,1.1s
I23K **Minto, Yukon-K** 67.34 336 P **P** 21 30 31.9 +0.7
baz=111
CHIR **Chirikof Islan** 67.62 326 P **P** 21 30 34.2 +0.9
baz=102
BPAW **Bear Paw Mtn.** 67.63 335 P **P** 21 30 32.9 -0.3
BPAW IAmb IAmb 21 30 33.5
comp=Z,13nm,1.4s
BPAW **Bear Paw Mtn.** 67.63 335 P **P** 21 30 33.8 +0.5
baz=109
H23K **Yukon River** 67.66 337 P **P** 21 30 34.7 +1.3
baz=112
F24K **Squaw Lake** 67.71 339 P **P** 21 30 34.4 +0.7
baz=114
PPLA **Purkeypile** 67.75 334 P **P** 21 30 34.3 +0.2
baz=108
MLY **Manley** 67.84 336 **P** 21 30 34.0 -0.7
MLY **Manley** 67.84 336 P **P** 21 30 33.9 -0.7
baz=110
CAST **Castle Rocks** 67.87 334 P **P** 21 30 33.8 -0.9
baz=108
M20K **Styx River** 67.87 332 P **P** 21 30 36.5 +1.7
baz=106
D25K **Kavik River** 67.97 341 P **P** 21 30 35.4 +0.1
D25K IAmb IAmb 21 30 36.7
comp=Z,11nm,0.8s
E24K **Your Creek** 68.14 339 P **P** 21 30 36.9 +0.5
baz=113

G23K	Bananza Creek	68.17 338	P	P	21 30 36.4	-0.2
G23K	Bananza Creek baz=111	68.17 338	P	P	21 30 37.6	+1.0
N19K	Bonanza Creek baz=105	68.20 331	P	P	21 30 36.5	-0.5
P18K	Big Mountain, baz=104	68.21 329	P	P	21 30 37.2	+0.2
Q17K	Contact Creek baz=103	68.28 328	P	P	21 30 37.5	-0.1
O18K	Koktuh Hills baz=104	68.31 330	P	P	21 30 36.9	-0.6
L20K	Farewell, AK baz=106	68.37 333	P	P	21 30 38.2	+0.3
I21K	Tanana baz=109	68.39 336	P	P	21 30 38.0	+0.1
H22K	Ishtalitna Cre baz=110	68.39 337	P	P	21 30 38.5	+0.5
COLD	Coldfoot	68.42 338	P	P	21 30 38.3	+0.1
COLD	comp=Z,8.4nm,1.0s		IAmb	IAmb	21 30 40.3	
COLD	Coldfoot baz=111	68.42 338	P	P	21 30 38.9	+0.8
M19K	Big River Lodg baz=105	68.45 332	P	P	21 30 38.2	-0.2
E23K	Chandalar	68.53 339	P	P	21 30 39.3	+0.4
E23K	comp=Z,7.0nm,0.9s		IAmb	IAmb	21 30 40.8	
E23K	Chandalar baz=112	68.53 339	P	P	21 30 39.5	+0.7
D24K	Happy Valley baz=113	68.69 340	P	P	21 30 40.3	+0.5
K20K	Telida baz=106	68.70 334	P	P	21 30 40.3	+0.3
L19K	White Mountain baz=105	68.73 332	P	P	21 30 40.9	+0.8
TOLK	Toolik Lake Re baz=112	68.74 340	P	P	21 30 40.7	+0.6
G22K	Bettles baz=110	68.79 338	P	P	21 30 41.9	+1.5
N18K	Kilae Creek baz=104	68.84 331	P	P	21 30 42.1	+1.3
H21K	Melozitna Rive baz=108	68.87 336	P	P	21 30 42.0	+1.0
C24K	Franklin Bluff baz=114	68.88 341	P	P	21 30 42.2	+1.3
J20K	Nowinta River baz=106	68.97 335	P	P	21 30 43.1	+1.5
M18K	Stony River baz=104	69.00 332	P	P	21 30 43.1	+1.3
O17K	Koliganek Bris baz=102	69.22 330	P	P	21 30 44.3	+1.1
D23K	Nanushuk River baz=112	69.23 340	P	P	21 30 44.4	+1.2
F22K	John River baz=110	69.24 338	P	P	21 30 43.9	+0.7
I20K	Naaghedeneel baz=106	69.28 335	P	P	21 30 44.3	+0.8
E22K	Anaktuvuk Pass	69.32 339	P	P	21 30 43.6	-0.1
E22K	Anaktuvuk Pass baz=110	69.32 339	P	P	21 30 44.7	+0.9
G21K	Allakaket	69.41 337	P	P	21 30 44.6	+0.3
G21K	Allakaket baz=108	69.41 337	P	P	21 30 45.3	+1.0
N17K	Nushagak Hills baz=102	69.43 330	P	P	21 30 44.1	-0.4
P16K	Nushagak River baz=101	69.52 329	P	P	21 30 47.4	+2.3
C23K	Itkillik River	69.54 341	P	P	21 30 45.2	+0.3
C23K	comp=Z,8.6nm,1.0s		IAmb	IAmb	21 30 47.4	
C23K	Itkillik River baz=112	69.54 341	P	P	21 30 45.7	+0.8
J19K	Poorman baz=105	69.54 334	P	P	21 30 45.4	+0.3
L18K	Granite Mounta baz=103	69.57 332	P	P	21 30 44.9	-0.4
F21K	Alatna River	69.62 338		P	21 30 46.1	+0.5
F21K	comp=Z,8.4nm,0.9s		IAmb	IAmb	21 30 47.5	
F21K	Alatna River baz=108	69.62 338	P	P	21 30 46.6	+1.0
H20K	Anotleneega Mo baz=106	69.64 336	P	P	21 30 46.7	+1.0
CHNA	Chernabura Isl baz=98	69.68 324	P	P	21 30 47.5	+1.4
O16K	Kokwok River B baz=101	69.68 329	P	P	21 30 46.9	+0.8
M17K	Holitna River baz=102	69.74 331	P	P	21 30 47.2	+0.8
S14K	Fog Glacier baz=99	69.87 326	P	P	21 30 47.4	0.0
D22K	Ayikyak River baz=110	69.88 340	P	P	21 30 47.9	+0.7
J18K	Innoko River baz=104	69.88 334	P	P	21 30 47.8	+0.5
N16K	Nishlik Lake baz=101	70.18 330	P	P	21 30 49.9	+0.8
SDPT	Sand Point baz=98	70.26 325	P	P	21 30 50.3	+0.6
GCSA	Galena City Sc baz=104	70.26 335	P	P	21 30 50.1	+0.6
H19K	Roundabout Mou baz=105	70.28 336	P	P	21 30 50.4	+0.8
L17K	Donlin baz=102	70.29 332	P	P	21 30 51.8	+2.0
M16K	Timber Creek baz=101	70.38 331	P	P	21 30 50.6	+0.3
F20K	Avaraart Lake baz=106	70.41 337	P	P	21 30 51.6	+1.3
K17K	Iditarod baz=102	70.42 333	P	P	21 30 52.8	+2.2
O15K	Ungalikthiuk R baz=99	70.48 329	P	P	21 30 50.5	-0.4
C21K	Knifeblade Rid baz=108	70.69 340	P	P	21 30 52.8	+0.7
G19K	Purcell Mounta	70.69 336	P	P	21 30 52.2	+0.1
G19K	Purcell Mounta baz=104	70.69 336	P	P	21 30 52.7	+0.5
L16K	Owhat River baz=101	70.75 331	P	P	21 30 53.2	+0.7
B21K	Ikpikpuk River baz=108	70.77 340	P	P	21 30 53.3	+0.7
N15K	Kwethluk River baz=100	70.78 330	P	P	21 30 53.8	+1.0
J17K	VABM Dome baz=102	70.90 333	P	P	21 30 53.7	+0.3
H18K	Honhosa River baz=103	70.97 335	P	P	21 30 55.1	+1.2
E19K	Redstone River baz=105	71.08 338	P	P	21 30 55.2	+0.7
F19K	Shaleruckik Mo baz=104	71.13 337	P	P	21 30 55.5	+0.8
M15K	Kasigluk River baz=99	71.16 330	P	P	21 30 56.1	+1.0
D20K	Etivluk River	71.19 339	P	P	21 30 55.2	+0.1
D20K	comp=Z,8.7nm,0.9s		IAmb	IAmb	21 30 56.6	
D20K	Etivluk River baz=106	71.19 339	P	P	21 30 56.6	+1.4
S12K	Black Hills baz=96	71.19 325	P	P	21 30 56.3	+0.9
O14K	Tigyukauivet M baz=98	71.22 329	P	P	21 30 56.7	+1.3
G18K	Tagagawik baz=103	71.26 336	P	P	21 30 56.9	+1.3
N14K	Kuskokwak Cree baz=98	71.53 329	P	P	21 30 57.8	+0.6
J16K	Anvik River baz=100	71.56 333	P	P	21 30 59.1	+1.6
H17K	Granite Mounta baz=101	71.57 335	P	P	21 30 59.2	+1.7
L15K	Ungalak Mounta baz=99	71.69 331	P	P	21 30 59.0	+0.8
I17K	Unalakleet baz=100	71.70 334	P	P	21 30 59.3	+1.0
B20K	Meade River baz=106	71.73 340	P	P	21 30 59.3	+1.0
M14K	Bethel	71.78 330	P	P	21 30 59.8	+1.0
M14K	comp=Z,15nm,0.9s		IAmb	IAmb	21 31 01.3	
M14K	Bethel baz=98	71.78 330	P	P	21 31 00.1	+1.3
F18K	Selawik baz=102	71.81 336	P	P	21 31 00.8	+2.0
K15K	Wolf Creek Mou baz=99	71.81 332	P	P	21 31 00.2	+1.2
G17K	Kiwalik Mounta baz=101	71.98 335	P	P	21 31 00.4	+0.5
C19K	Lookout Ridge baz=103	72.33 339	P	P	21 31 02.9	+0.8
F17K	Baldwin Pennin baz=100	72.40 336	P	P	21 31 02.7	+0.3
M13K	Dall Lake baz=97	72.42 330	P	P	21 31 03.1	+0.6
H16K	Elim baz=99	72.50 334	P	P	21 31 03.3	+0.2
G16K	Koyuk River baz=99	72.67 335	P	P	21 31 05.2	+1.2
E17K	Hotham Inlet baz=100	72.74 337	P	P	21 31 05.4	+0.9
J14K	Nanvaranak Lak baz=97	72.80 332	P	P	21 31 06.1	+1.3
K13K	Kusilvak Mount baz=96	73.22 331	P	P	21 31 08.8	+1.5
G15K	Niukluk baz=98	73.31 334	P	P	21 31 09.3	+1.4
D17K	Noatak River baz=99	73.33 337	P	P	21 31 08.0	+0.1
C17K	DeLong Mountai baz=99	73.49 338	P	P	21 31 09.4	+0.5
F15K	North Star Dit baz=97	73.66 335	P	P	21 31 10.6	+0.7
ESDC	Sonseca Array	77.93 52	P	P	21 31 32.3	-2.7
	comp=Z,0.7nm,0.8s,baz=292,slow=6.8,SNR=6.0					
	comp=Z,0.7nm,0.8s					
JOHN	Johnston Islan	78.60 285	P	P	21 31 39.0	+0.1
BILL	Bilibino	84.75 339	P	P	21 32 09.7	-0.7
BILL	Bilibino	84.75 339	*i* P	P	21 32 10.4	-0.1
BILL	comp=Z,11nm,0.9s		pmax	pmax		
RGN	Rugen	86.83 35	P	P	21 32 20.1	-0.8
KEV	Kevo	87.19 18	P	P	21 32 21.6	-0.8
KEV	Kevo	87.19 18	P	P	21 32 21.6	-0.8
KEV	comp=Z,106nm,1.8s		pmax	pmax		
CLL	Collm	87.54 38	*e*P	P	21 32 22.0	-2.6
GERES	GERESS Array B	88.67 40	P	P	21 32 27.8	-2.3
GERES	GERESS Array B	88.67 40	P	P	21 32 27.8	-2.3
SEY	Seymchan	92.16 337	*e*P	P	21 32 45.7	-0.2
SEY	comp=Z,5.0nm,1.0s		pmax	pmax		
PETK	Petropavlovsk-	94.47 327	P	P	21 32 56.7	-0.1
PETK	Petropavlovsk-	94.47 327	P	P	21 32 56.7	-0.1
KEK	Kerkira	95.74 48	P	P	21 33 02.9	0.0
ZALV	Zalesovo Beam	114.06 5	PP	PP	21 39 08.4	-0.6
	comp=Z,0.6nm,0.7s,baz=353,slow=7.4,SNR=3.7					
KSRS	Korea Array	120.36 327	PKP	PKiKP	21 38 30.4	+2.0
	comp=Z,1.7nm,0.8s,baz=300,slow=0.4,SNR=7.4					
ASAR	Alice Springs	138.56 248	PKhKP	PKPpre	21 38 58.0	
	comp=Z,1.9nm,1.1s,baz=87,slow=2.0,SNR=6.1					
WRA	Warramunga Arr	138.59 253	PKP	PKPdf	21 39 04.4	+1.0
	comp=Z,1.4nm,0.7s,baz=94,slow=1.0,SNR=5.5					
CMAR	Chiang Mai Arr	148.99 347	PKPbc	PKPdf	21 39 23.8	+2.2
	comp=Z,7.6nm,0.9s,baz=333,slow=3.5,SNR=29					

*NEIC **22**:21:21:40.5±1.2,35.887N±0.008×117.70W±0.03, h5km±7km, Error ellipse: s-maj=3.7km s-min=1.1km az=97.0*

PAS 22 21:21:40.9±1.1,**35.90N**±0.01×**117.71W**±0.02,**h5**km±7km, **ML3.5**/243,**ML3.1**/148(NEIC), **Error ellipse: s-maj=2.6km s-min=1.4km az=115.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	Tower One	0.10	208		Pg	21 21 43.6	+0.5
TOW					Sg	21 21 46.1	+1.5
WVPM	Volcano Peak E	0.10	299		Pg	21 21 43.3	+0.1
JRC2	Joshua Ridge	0.12	315		Pg	21 21 43.5	+0.1
CLC	China Lake	0.12	133		Pg	21 21 43.4	0.0
CLC				Sg	Sg	21 21 45.2	+0.1
CLC				IAML		21 21 45.5	
	comp=E,5μm,0.4s						
CLC				IAML		21 21 45.7	
	comp=N,7μm,0.2s						
WCSM	Coso Springs S	0.14	339		Pg	21 21 43.8	0.0
WCSM					Sg	21 21 46.0	+0.4
WNMM	Nine Mile Cany	0.17	251		Pg	21 21 47.1	+2.8
WRVM	Rose V. Centra	0.18	306		Pg	21 21 44.7	+0.1
SRTC	Snort	0.21	190		Pg	21 21 45.5	+0.4
SRTC					Sg	21 21 49.4	+1.6
MPMC	Manual Prospec	0.24	48	Pg	Pg	21 21 45.6	0.0
MPMC				Sg	Sg	21 21 48.8	+0.1
MFS	McCloud Flat S	0.25	331		Pg	21 21 49.6	+3.8
WSHM	Spangler Hills	0.35	150		Pg	21 21 47.5	-0.2
WSHM	Spangler Hills	0.35	150		Sg	21 21 52.6	+0.5
LRMC	Laurel Mtn Rad	0.42	177		Pg	21 21 48.8	-0.2
LRMC				Sg	Sg	21 21 54.7	+0.2
CCCA	Chr Cany lake	0.47	143		Pg	21 21 50.1	+0.3
CCCA	Chr Cany lake	0.47	143		Sg	21 21 57.1	+1.2
WORM	Onyx Ranch	0.48	245		Pg	21 21 49.9	-0.3
WBSM	Bird Springs	0.51	224		Pg	21 21 50.5	-0.2
WBSM					Sg	21 21 57.4	+0.1
CWC	Cottonwood Cre	0.62	331		Pg	21 21 52.4	-0.4
DTP	Desert Tortois	0.64	190		Sg	21 22 01.4	-0.1
ISA	Isabella, Lake	0.67	250		Pg	21 21 53.5	-0.2
ISA				IAML		21 22 02.5	
	comp=N,2μm,0.3s						
ISA				IAML		21 22 03.3	
	comp=E,2μm,0.2s						
ISA	Isabella, Lake	0.67	250		Sg	21 22 02.1	-0.3
QSM	Queen of Sheba	0.68	84		Pg	21 21 53.7	-0.3
QSM				IAML		21 22 04.0	
	comp=E,1μm,0.3s						
QSM				IAML		21 22 06.5	
	comp=N,2μm,0.7s						
QSM	Queen of Sheba	0.68	84		Sg	21 22 02.8	-0.1
WASM	Alta Sierra Ca	0.71	257		Pg	21 21 54.3	-0.2
CCAC	Calif City Air	0.79	199		Sg	21 22 06.2	0.0
FURC	Furnace Creek,	0.89	50		Pg	21 21 57.7	-0.2
FURC	Furnace Creek,	0.89	50		Sg	21 22 09.9	+0.5
GWY	Greenwater Val	0.89	71	Pg	Pg	21 21 57.7	-0.3
GWY				IAML		21 22 13.2	
	comp=E,1μm,0.5s						
GWY				IAML		21 22 14.8	
	comp=N,872nm,0.5s						
GWY	Greenwater Val	0.89	71		Sg	21 22 09.3	-0.2
SPG2	Springville 2	0.91	290		Sg	21 22 09.5	-0.7
GSC	Goldstone, Bar	0.94	129		Pg	21 21 58.2	-0.8
GSC				IAML		21 22 14.2	
	comp=E,838nm,0.8s						
GSC				IAML		21 22 16.7	
	comp=N,476nm,0.5s						
HYS	Haystack Butte	1.04	174		Sg	21 22 13.5	-0.8
EDW2	Edwards Air Fo	1.04	193		Sg	21 22 13.5	-1.0
TEJ	El Tejon	1.04	230		Sg	21 22 13.5	-0.9
TPO	Tropico Hills	1.10	203		Pg	21 22 01.1	-0.9
TPO				IAML		21 22 21.7	
	comp=N,553nm,0.9s						
TPO				IAML		21 22 23.8	
	comp=E,552nm,0.8s						
VES	Vestal, Richgr	1.12	267		Pg	21 22 01.8	-0.6
VES					Sg	21 22 16.0	-1.0
MAGC	SCE Magundon P	1.13	242		Pg	21 22 02.0	-0.5
MAGC					Sg	21 22 17.3	+0.2
SHOC	Shoshone, Teco	1.16	90		Pg	21 22 02.0	-1.2
TIN	Tinemaha, Big	1.23	340		Pg	21 22 04.4	-0.1
TIN				IAML		21 22 24.8	
	comp=E,541nm,0.6s						
TIN				IAML		21 22 28.0	
	comp=N,446nm,0.7s						
WCT	Wildcat Mounta	1.25	44		Pg	21 22 04.1	-0.8
VOG	Valley Oaks Go	1.42	288		Pn	21 22 07.0	-0.3
GMN	Gold Mountain	1.44	14		Pn	21 22 07.6	-0.3
GMN				IAML		21 22 30.3	
	comp=N,181nm,0.5s						
DSP	Deep Springs	1.48	352		Pn	21 22 07.9	-0.3
DSP				IAML		21 22 29.3	
	comp=E,149nm,0.6s						
OSI	Osito Audit: C	1.53	213		Pn	21 22 08.2	-0.7
OSI				IAML		21 22 36.6	
	comp=E,175nm,0.7s						
OSI				IAML		21 22 41.4	
	comp=N,147nm,0.9s						
TPNV	Topopah Spring	1.57	48	IAML		21 22 34.1	
	comp=N,263nm,0.8s						
TPNV				IAML		21 22 37.0	
	comp=N,205nm,0.8s						
BFSC	Mount Baldy Ra	1.66	179	IAML		21 22 34.1	
	comp=N,258nm,0.3s						
BFSC				IAML		21 22 34.9	
	comp=E,272nm,0.3s						
MWC	Mount Wilson	1.70	190		Pn	21 22 10.7	-0.7
MWC				IAML		21 22 36.6	
	comp=N,284nm,0.6s						
MWC				IAML		21 22 36.9	
	comp=E,311nm,0.6s						
PASC	Pasadena Art C	1.77	193	IAML		21 22 44.0	
	comp=E,106nm,0.8s						
MTPC	Mountain Pass	1.80	103		Pn	21 22 11.2	-1.5
MTPC				IAML		21 22 39.6	
	comp=E,223nm,0.3s						
MTPC				IAML		21 22 40.5	
	comp=N,266nm,0.8s						
MZP	Montezuma Peak	1.82	8		Pn	21 22 13.1	0.0
KCC	Kaiser Creek	1.93	318		Pb	21 22 15.9	-0.6
SHPR	Sheep Range	2.15	73		Pn	21 22 17.5	0.0
TPH	Tonopah	2.21	10		Pb	21 22 20.6	-0.8
ELS	Elsinore Mount	2.26	174		Pb	21 22 21.8	-0.4
ELS				IAML		21 22 54.1	
	comp=E,128nm,0.2s						
ELS				IAML		21 22 55.0	
	comp=N,106nm,0.6s						
DANC	Danby, Needles	2.28	123	IAML		21 22 57.9	
	comp=N,209nm,0.4s						
DANC				IAML		21 23 06.1	
	comp=E,157nm,0.8s						
V12A	Nelson	2.33	93		Pn	21 22 18.3	-1.7
V12A				IAML		21 22 58.3	
	comp=N,92nm,0.6s						
V12A				IAML		21 23 01.8	
	comp=E,88nm,0.6s						
BELC	Belle Mtn. Jos	2.36	143		Pn	21 22 19.1	-1.3
BELC				IAML		21 23 03.0	
	comp=N,170nm,0.5s						
BELC				IAML		21 23 03.9	
	comp=E,109nm,0.5s						
LHV	Little Huntoon	2.43	345		Pb	21 22 26.1	+1.0
LHV				IAML		21 23 05.0	
	comp=E,64nm,0.8s						
PMD	Palm Desert	2.50	154	IAML		21 23 04.1	
	comp=E,88nm,0.5s						
PMD				IAML		21 23 07.3	
	comp=N,60nm,0.6s						
PFO	Pinyon Flats O	2.50	155		Pb	21 22 27.2	+0.8
PFO				IAML		21 23 05.7	
	comp=N,96nm,0.9s						
PFO				IAML		21 23 07.7	
	comp=N,70nm,0.8s						
PMPB	Monarch Peak	2.53	278		Pb	21 22 26.3	-0.5
NVAR	Mina Array Bea	2.57	349		Pb	21 22 28.0	+0.3
PRN	Pahroc Range	2.61	54		Pn	21 22 25.8	+1.9
PRN				IAML		21 23 11.4	
	comp=N,112nm,0.9s						
PRN				IAML		21 23 13.9	
	comp=E,127nm,0.8s						
MYLM	Yosemite Lake	2.64	305		Pb	21 22 27.7	-1.0
IRM	Iron Mountain	2.73	129		Pn	21 22 23.3	-2.1
IRM				IAML		21 23 09.6	
	comp=E,64nm,0.4s						
NEE2	Needles Airpor	2.77	113		Pn	21 22 24.4	-1.5
NEE2				IAML		21 23 12.2	
	comp=E,134nm,0.7s						
BBGB	Big Mountain B	2.78	285		Pg	21 22 33.1	-1.1
RYN	Ryan	2.80	347		Pg	21 22 33.5	-1.1
BC3	Big Chuckawall	2.91	140		Pn	21 22 26.0	-1.9
BC3				IAML		21 23 21.3	
	comp=N,52nm,1.1s						
BC3				IAML		21 23 25.1	
	comp=E,46nm,1.4s						
WAKR	Walker	2.94	333		Pb	21 22 35.0	+1.0
Q09A	Carvers	2.96	8		Pg	21 22 39.3	+1.7
Q09A				IAML		21 23 18.9	
	comp=E,152nm,0.7s						
Q09A				IAML		21 23 18.9	
	comp=N,123nm,0.9s						
DPP	Dos Picos Cty	2.96	167		Pb	21 22 34.5	+0.3
DPP				IAML		21 23 14.3	
	comp=E,118nm,0.7s						
DPP				IAML		21 23 16.0	
	comp=N,55nm,0.4s						
R11B	Troy Canyon, C	2.98	34		Pb	21 22 34.6	+0.1
CMB	Columbia Colle	3.02	316	IAML		21 23 22.8	
	comp=N,38nm,0.7s						
CMB				IAML		21 23 23.4	
	comp=E,33nm,0.9s						
GLA	Glamis	3.70	139	IAML		21 23 49.1	
	comp=E,84nm,0.8s						
GLA				IAML		21 23 54.3	
	comp=N,37nm,0.7s						
AFDM	Forest Hills D	4.00	320	IAML		21 23 49.8	
	comp=E,20nm,0.6s						
AFDM				IAML		21 23 52.0	
	comp=N,16nm,1.7s						
PSUT	Pine Spring	4.04	48	IAML		21 24 00.5	
	comp=E,24nm,1.1s						
PSUT				IAML		21 24 03.6	
	comp=N,21nm,1.0s						
KNB	Kanab	4.09	73	IAML		21 24 03.2	
	comp=N,19nm,1.2s						
KNB				IAML		21 24 04.5	
	comp=E,17nm,1.5s						
SPR3	Spring Creek 3	4.10	40	IAML		21 23 51.7	
	comp=N,18nm,0.9s						
SPR3				IAML		21 24 02.7	
	comp=E,18nm,1.0s						
MTPU	Mount Pierson	4.91	63	IAML		21 24 30.7	
	comp=E,8.2nm,2.1s						
MTPU				IAML		21 24 52.7	
	comp=N,8.3nm,2.4s						

*NEIC **22**:22:34.9±0.9,35.884N±0.005×117.718W±0.009, h1km±1km, Error ellipse: s-maj=1.1km s-min=0.7km az=116.0*

PAS 22 21:22:35.9±0.9,**35.886N**±0.006×**117.71W**±0.01, **h5**km±1km,**ML3.0**/28,**ML2.7**/42(NEIC),**Error ellipse: s-maj=1.3km s-min=0.9km az=73.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOW	Tower One	0.09	209		Pg	21 22 38.4	+0.6
WVPM	Volcano Peak E	0.11	306		Pg	21 22 38.3	+0.1
CLC	China Lake	0.12	127	Pg	Pg	21 22 38.1	-0.2
CLC				Sg	Sg	21 22 40.0	+0.1
CLC				IAML		21 22 40.3	
	comp=N,2μm,0.2s						
JRC2	Joshua Ridge	0.12	321		Pg	21 22 38.6	+0.1
WNMM	Nine Mile Cany	0.16	255		Pg	21 22 39.3	+0.2
SRTC	Snort	0.20	189		Pg	21 22 40.1	+0.4
MPMC	Manual Prospec	0.25	46	Pg	Pg	21 22 40.6	-0.2
MPMC				Sg	Sg	21 22 44.0	-0.1
MFS	McCloud Flat S	0.26	333		Pg	21 22 40.9	-0.1
MFS					Sg	21 22 44.8	+0.4
WSHM	Spangler Hills	0.34	148	Pg	Pg	21 22 41.5	-0.9
WSHM				Sg	Sg	21 22 46.8	0.0
LRMC	Laurel Mtn Rad	0.41	177		Sg	21 22 49.4	+0.3
LRMC	Laurel Mtn Rad	0.41	177	Pg	Pg	21 22 43.4	-0.3
LRMC				IAML		21 22 49.9	
	comp=N,1μm,0.2s						
LRMC				IAML		21 22 50.5	
	comp=E,1μm,0.2s						
CCCA	Chr Cany lake	0.46	142		Pg	21 22 44.8	+0.2
CCCA					Sg	21 22 51.7	+1.0
CCCA	Chr Cany lake	0.46	142	IAML		21 22 52.3	
	comp=E,1μm,0.5s						
CCCA				IAML		21 22 52.4	
	comp=N,2μm,0.5s						
WORM	Onyx Ranch	0.47	246		Pg	21 22 44.7	-0.3
WORM					Sg	21 22 51.0	-0.1
WBSM	Bird Springs	0.49	225		Pg	21 22 45.1	-0.2
WHFM	Hanning Flat	0.55	250		Pg	21 22 46.3	-0.2
DTP	Desert Tortois	0.63	190		Pg	21 22 47.4	-0.5
CWC	Cottonwood Cre	0.63	332		Pg	21 22 47.9	-0.1
ISA	Isabella, Lake	0.66	250		Sg	21 22 56.6	-0.5
ISA	Isabella, Lake	0.66	250	Pg	Pg	21 22 48.3	-0.2
ISA				IAML		21 22 57.2	
	comp=N,335nm,0.3s						
ISA				IAML		21 22 58.7	
	comp=E,228nm,0.3s						
CGO	Cerro Gordo	0.67	354		Pg	21 22 48.9	+0.1
CGO					Sg	21 22 58.2	+0.8
QSM	Queen of Sheba	0.69	83		Pg	21 22 49.0	-0.1
QSM				IAML		21 22 59.5	
	comp=E,224nm,0.5s						
QSM				IAML		21 23 02.6	
	comp=N,228nm,0.9s						

GWY	**Greenwater Val**	**0.90**	**70**	Pg	Pg	21 22 52.7	-0.3
GWY				IAML		21 23 07.7	
	comp=E,173nm,0.3s						
GWY				IAML		21 23 10.1	
	comp=N,200nm,0.5s						
FURC	**Furnace Creek,**	**0.90**	**50**	Pg	Pg	21 22 52.9	-0.2
FURC				IAML		21 23 09.0	
	comp=E,270nm,0.3s						
FURC				IAML		21 23 13.4	
	comp=N,198nm,0.6s						
GSC	**Goldstone, Bar**	**0.94**	**128**		Pg	21 22 53.0	-0.9
GSC	**Goldstone, Bar**	**0.94**	**128**	Pg	Pg	21 22 52.9	-1.0
GSC	**Goldstone, Bar**	**0.94**	**128**	IAML		21 23 09.5	
	comp=E,189nm,0.5s						
HYS	**Haystack Butte**	**1.03**	**173**		Pg	21 22 55.6	+0.1
HYS					Sg	21 23 08.7	-0.1
TPO	**Tropico Hills**	**1.09**	**203**	Pg	Pg	21 22 55.8	-1.0
VES	**Vestal, Richgr**	**1.12**	**268**		Sg	21 23 11.3	-0.4
VES	**Vestal, Richgr**	**1.12**	**268**	Pg	Pg	21 22 56.5	-0.8
VES				IAML		21 23 12.2	
	comp=E,167nm,0.2s						
SGV	**South Grapevin**	**1.22**	**26**		Pg	21 22 58.7	-0.6
AMDNV	**Amargosa**	**1.29**	**64**		Sg	21 23 16.2	-1.1
MDPB	**Devils Postpil**	**2.06**	**328**		Pn	21 23 11.6	+0.2
MDPB				IAML		21 23 41.0	
	comp=N,40nm,0.3s						
MDPB				IAML		21 23 41.1	
	comp=E,41nm,0.2s						

IDC 22 21:42:10.8±9.6, 7°87S×159°17E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=167.3km s-min=27.1km az=36.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.74**	**154**	Pn	Pn	21 42 42.7	+0.4
	50nm,0.3s,baz=184,slow=4.0,SNR=11						
HNR				Sn	Sn	21 43 04.2	-1.0
	102nm,0.3s,baz=198,slow=23,SNR=12						
WRA	**Warramunga Arr**	**26.88**	**241**	P	P	21 47 53.6	0.0
	0.6nm,0.6s,baz=66,slow=9.2,SNR=5.6						
	0.6nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.22**	**16**	T	T	22 16 25.9	
	baz=195,slow=76,SNR=474						
H11S2	**WAKE ISLAND Hy**	**27.22**	**16**	T	T	22 16 21.1	
	baz=195,slow=76,SNR=596						
H11S1	**WAKE ISLAND Hy**	**27.24**	**16**	T	T	22 16 27.1	
	baz=195,slow=76,SNR=358						
H11N1	**WAKE ISLAND Hy**	**28.44**	**15**	T	T	22 17 57.9	
	baz=195,slow=76,SNR=353						
H11N3	**WAKE ISLAND Hy**	**28.45**	**15**	T	T	22 17 58.6	
	baz=195,slow=76,SNR=295						
H11N2	**WAKE ISLAND Hy**	**28.46**	**15**	T	T	22 17 59.3	
	baz=195,slow=76,SNR=274						
ASAR	**Alice Springs**	**28.86**	**234**	P	P	21 48 11.3	-0.1
	0.4nm,0.5s,baz=62,slow=9.5,SNR=8.9						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**28.96**	**212**	P	P	21 48 12.3	+0.3
	1.9nm,0.8s,baz=45,slow=13,SNR=3.3						
	1.9nm,0.8s						

IDC 22 21:57:10.8±0.7, 14°32S×177°68W, h0km, mb4.2/11, mbtmp4.2/11, MS3.8/4, Error ellipse: s-maj=34.2km s-min=18.2km az=135.0
NEIC 22 21:57:12.9±1.2, 14°47S±0°05×177°51W±0°03, h10km±1km, mb4.7/80, Error ellipse: s-maj=9.8km s-min=4.6km az=344.0

ISC 22 21:57:16.1±0.4, 14°41S±0°09×177°62W±0°08, h35km, n134, σ0s81/125, mb4.7/49, MS3.8/3, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.50**	**281**	Pg	**Pn**	**21 57 24.0**	**-2.8**
FUTU				Sg	**Sn**	**21 57 35.4**	**+1.3**
MSVF	**Nonsavu**	**5.32**	**231**		**Pn**	**21 58 33.2**	**0.0**
RAO	**Raoul Island**	**14.78**	**181**	LR	LR	22 05 12.4	
	comp=Z,389nm,18.1s,baz=350,slow=32						
LTZ	**Lake Taylor**	**29.59**	**195**	P	**P**	**22 03 16.6**	**-1.3**
LTZ				IAmb	IAmb	22 03 28.8	
	comp=Z,18nm,1.1s						
EIDS	**Eidsvold**	**31.31**	**245**	P	**P**	**22 03 33.6**	**+0.4**
PMG	**Port Moresby**	**34.79**	**274**	P	**P**	**22 04 03.5**	**-0.2**
PMG				IAmb	IAmb	22 04 08.5	
	comp=Z,16nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**36.16**	**334**	T	T	22 43 21.4	
	baz=152						
H11S3	**WAKE ISLAND Hy**	**36.17**	**334**	T	T	22 43 20.9	
	baz=152,slow=74						
H11S1	**WAKE ISLAND Hy**	**36.17**	**334**	T	T	22 43 17.8	
	baz=152,slow=74						
H11N3	**WAKE ISLAND Hy**	**37.17**	**335**	T	T	22 44 31.1	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**37.17**	**335**	T	T	22 44 15.7	
	baz=153,slow=74						
H11N2	**WAKE ISLAND Hy**	**37.19**	**335**	T	T	22 44 14.2	
	baz=153,slow=74						
STKA	**Stephens Creek**	**41.05**	**238**	P	**P**	**22 04 57.5**	**+1.0**
	comp=Z,3.3nm,0.9s,baz=98,slow=8.3,SNR=4.1						
	comp=Z,3.3nm,0.9s						
WR8	**Warramunga Arr**	**45.96**	**256**	P	**P**	**22 05 36.7**	**+0.6**
WB0	**Warramunga Arr**	**46.06**	**256**	P	**P**	**22 05 36.1**	**-0.8**
WB0				IAmb	IAmb	22 05 39.8	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**46.11**	**256**	P	**P**	**22 05 36.9**	**-0.5**
WRA	**Warramunga Arr**	**46.11**	**256**	P	**P**	**22 05 36.2**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=89,slow=7.8,SNR=7.2						
	comp=Z,1.1nm,0.9s						
AS31	**Alice Springs**	**46.55**	**251**	P	**P**	**22 05 41.4**	**+0.5**
ASAR	**Alice Springs**	**46.56**	**251**	P	**P**	**22 05 40.9**	**0.0**
ASAR	**Alice Springs**	**46.56**	**251**	P	**P**	**22 05 40.5**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=83,slow=8.0,SNR=54						
	comp=Z,5.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**54.42**	**258**	P	**P**	**22 06 40.6**	**+0.3**
PSA00	**Pilbara Seismi**	**59.58**	**253**	P	**P**	**22 07 16.9**	**+0.1**
PSA00				IAmb	IAmb	22 07 26.7	
	comp=Z,11nm,1.2s						
NWAO	**Narrogin (SRO)**	**61.56**	**240**	P	**P**	**22 07 30.5**	**+0.3**
MORW	**Morawa**	**62.62**	**245**	P	**P**	**22 07 37.5**	**+0.1**
VNDA	**Vanda**	**63.98**	**185**	P	**P**	**22 07 44.0**	**-1.4**
VNDA	**Vanda**	**63.98**	**185**	P	**P**	**22 07 46.2**	**+0.8**
	comp=Z,1.5nm,1.1s,baz=355,slow=6.1,SNR=4.4						
	comp=Z,1.5nm,1.1s						
SHEM	**Shemya Is, Ala**	**67.24**	**355**	LR	LR	22 30 39.4	
	comp=Z,66nm,21.7s,baz=302,slow=30						
ASAJ	**Asahikawa**	**68.60**	**330**	LR	LR	22 35 17.3	
	comp=Z,32nm,18.3s,baz=3.0,slow=33						
SDPT	**Sand Point**	**70.98**	**10**	P	**P**	**22 08 31.1**	**+1.3**
TJN	**Taejon**	**72.40**	**316**	P	**P**	**22 08 37.7**	**-1.2**
R16K	**Pilot Point**	**73.60**	**11**	P	**P**	**22 08 45.8**	**+0.3**
QSPA	**South Pole Qui**	**75.63**	**180**	P	**P**	**22 08 57.0**	**-0.5**
QSPA				IAmb	IAmb	22 09 14.6	
	comp=Z,9.3nm,1.5s						
QSPA	**South Pole Qui**	**75.63**	**180**	P	**P**	**22 08 58.3**	**+0.9**
	comp=Z,3.1nm,1.0s,baz=2.5,slow=6.5,SNR=6.9						
	comp=Z,3.1nm,1.0s						
NVAR	**Mina Array Bea**	**76.39**	**44**	P	**P**	**22 09 02.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=238,slow=10,SNR=5.9						
	comp=Z,1.2nm,0.7s						
M16K	**Timber Creek**	**76.64**	**9**	P	**P**	**22 09 04.7**	**+1.7**
M16K				IAmb	IAmb	22 09 05.0	
	comp=Z,13nm,1.2s						
MZP	**Montezuma Peak**	**76.64**	**45**	P	**P**	**22 09 03.4**	**-0.5**
J05D	**Fort Rock, OR**	**77.12**	**39**		**P**	**22 09 07.2**	**+0.9**
J05D				IAmb	IAmb	22 09 22.9	
	comp=Z,11nm,1.2s						
M17K	**Holitna River**	**77.24**	**10**	P	**P**	**22 09 07.0**	**+0.7**
M17K				IAmb	IAmb	22 09 08.6	
	comp=Z,12nm,1.1s						
214A	**Organ Pipe Nat**	**77.27**	**52**	P	**P**	**22 09 07.2**	**0.0**
214A				IAmb	IAmb	22 09 08.9	
	comp=Z,5.6nm,1.0s						
PINE	**Pine Mountain**	**77.59**	**38**	P	**P**	**22 09 08.2**	**-0.7**
I05D	**Terrebonne, OR**	**77.66**	**38**	P	**P**	**22 09 06.8**	**-2.4**
I05D				IAmb	IAmb	22 09 13.6	
	comp=Z,11nm,1.3s						
S11A	**Rachel**	**77.75**	**46**	P	**P**	**22 09 09.1**	**-0.8**
S11A				IAmb	IAmb	22 09 23.1	
	comp=Z,6.5nm,0.7s						
PRN	**Pahroc Range**	**78.12**	**46**	P	**P**	**22 09 11.6**	**-0.3**
PRN				IAmb	IAmb	22 09 13.6	
	comp=Z,7.1nm,1.3s						

SUA	**Susitna One**	**78.57**	**13**	P	**P**	**22 09 13.0**	**-0.9**
GNW	**Green Mountain**	**78.67**	**34**	P	**P**	**22 09 15.5**	**+1.0**
GNW				IAmb	IAmb	22 09 17.7	
	comp=Z,8.8nm,1.3s						
J08A	**Circle Bar Ran**	**78.85**	**40**	P	**P**	**22 09 15.7**	**-0.2**
J08A				IAmb	IAmb	22 09 18.6	
	comp=Z,8.0nm,1.4s						
J18K	**Innoko River**	**79.30**	**9**		**P**	**22 09 18.9**	**+1.2**
J18K				IAmb	IAmb	22 09 20.0	
	comp=Z,6.2nm,1.0s						
G08A	**Pilot Rock**	**79.59**	**38**		**P**	**22 09 20.4**	**+0.5**
U15A	**North Rim**	**79.63**	**48**	P	**P**	**22 09 19.3**	**-1.2**
K20K	**Telida**	**79.64**	**11**	P	**P**	**22 09 20.2**	**+0.6**
K20K				IAmb	IAmb	22 09 20.9	
	comp=Z,16nm,1.5s						
WUAZ	**Wupatki**	**79.90**	**49**	P	**P**	**22 09 22.6**	**+0.8**
E08A	**Dider Farm, El**	**80.19**	**37**	P	**P**	**22 09 22.9**	**0.0**
LNOR	**Lincton Mounta**	**80.30**	**38**	P	**P**	**22 09 24.0**	**+0.4**
DUN6	**Lazy B Ranch**	**80.38**	**53**	P	**P**	**22 09 22.9**	**-1.5**
J20K	**Nowinta River**	**80.39**	**10**	P	**P**	**22 09 24.4**	**+0.9**
J20K				IAmb	IAmb	22 09 27.9	
	comp=Z,9.6nm,1.4s						
MTPU	**Mount Pierson**	**80.42**	**47**	P	**P**	**22 09 25.1**	**+0.3**
F15K	**North Star Dit**	**80.47**	**5**	P	**P**	**22 09 24.4**	**+0.5**
X18A	**Snowflake**	**80.53**	**51**	P	**P**	**22 09 24.6**	**-0.6**
D08A	**Wollman Farm,**	**80.57**	**36**	P	**P**	**22 09 25.4**	**+0.5**
D08A				IAmb	IAmb	22 09 27.6	
	comp=Z,7.6nm,1.3s						
MSU	**Marysvale**	**80.64**	**46**	P	**P**	**22 09 25.6**	**-0.2**
O28M	**Mount Upton**	**80.66**	**18**	P	**P**	**22 09 25.8**	**+0.3**
O28M				IAmb	IAmb	22 09 28.4	
	comp=Z,18nm,1.3s						
RND	**Reindeer**	**80.70**	**13**	P	**P**	**22 09 25.3**	**-0.1**
RND				IAmb	IAmb	22 09 26.9	
	comp=Z,13nm,1.2s						
DUG	**Duguay, Tooele**	**80.97**	**45**	P	**P**	**22 09 28.5**	**+1.1**
MCK	**McKinley**	**80.98**	**12**	P	**P**	**22 09 27.2**	**+0.4**
MCK				IAmb	IAmb	22 09 39.6	
	comp=Z,7.1nm,1.2s						
F10A	**Beach Ranch, E**	**80.98**	**38**	P	**P**	**22 09 27.4**	**+0.1**
TMUT	**Trail Mountain**	**81.67**	**46**		**P**	**22 09 31.2**	**-0.1**
TMUT				IAmb	IAmb	22 09 32.5	
	comp=Z,8.4nm,1.4s						
HDA	**Harding Lake**	**81.99**	**13**	P	**P**	**22 09 32.7**	**+0.7**
HDA				IAmb	IAmb	22 09 34.0	
	comp=Z,8.7nm,1.3s						
CCB	**Clear Creek Bu**	**82.02**	**12**	P	**P**	**22 09 31.7**	**-0.4**
CCB				IAmb	IAmb	22 09 32.6	
	comp=Z,4.7nm,1.0s						
ILAR	**Eielson Array**	**82.32**	**13**	P	**P**	**22 09 34.0**	**+0.2**
ILAR	**Eielson Array**	**82.32**	**13**	P	**P**	**22 09 33.6**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=227,slow=6.3,SNR=7.9						
	comp=Z,1.0nm,0.9s						
G21K	**Allakaket**	**82.65**	**10**	P	**P**	**22 09 35.7**	**+0.2**
PV20	**West Nyswonger**	**82.84**	**48**	P	**P**	**22 09 36.7**	**-0.7**
J26L	**Joseph Creek**	**82.84**	**14**	P	**P**	**22 09 37.1**	**+0.5**
J26L				IAmb	IAmb	22 09 41.0	
	comp=Z,12nm,1.4s						
PV23	**Carpenter Ridg**	**82.85**	**47**	P	**P**	**22 09 37.4**	**-0.1**
PV13	**Radium Mtn., P**	**82.87**	**48**	P	**P**	**22 09 36.8**	**-0.7**
PV13				IAmb	IAmb	22 09 42.3	
	comp=Z,9.3nm,1.3s						
PV03	**Paradox Valley**	**82.89**	**48**	P	**P**	**22 09 37.6**	**0.0**
PV03				IAmb	IAmb	22 09 41.6	
	comp=Z,10nm,1.5s						
BNM	**Barren Site**	**82.90**	**52**		**P**	**22 09 37.9**	**+0.1**
VHRN	**Van Horn**	**82.94**	**56**		**P**	**22 09 37.6**	**-0.4**
VHRN				IAmb	IAmb	22 09 42.4	
	comp=Z,11nm,1.2s						
MCMT	**McKenzie Canyo**	**83.10**	**40**	P	**P**	**22 09 39.1**	**+0.5**
PRP	**Porcupine Dome**	**83.26**	**13**	P	**P**	**22 09 39.1**	**+0.3**
PRP				IAmb	IAmb	22 09 54.5	
	comp=Z,3.9nm,1.1s						
ANMO	**Albuquerque**	**83.34**	**52**	P	**P**	**22 09 39.9**	**-0.1**
ANMO				IAmb	IAmb	22 09 44.2	
	comp=Z,11nm,1.4s						
TX31	**Lajitas Ar. Si**	**83.49**	**58**	P	**P**	**22 09 40.9**	**+0.1**
TXAR	**Lajitas Array**	**83.49**	**58**		**P**	**22 09 40.4**	**-0.3**
TXAR	**Lajitas Array**	**83.49**	**58**	P	**P**	**22 09 41.5**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=235,slow=4.4,SNR=21						
TXAR				PP	**PP**	**22 12 54.8**	**+1.3**
	comp=Z,1.0nm,1.1s,baz=280,slow=6.8,SNR=4.0						
	comp=Z,3.4nm,1.0s						
BPMT	**Black Pine Rid**	**83.49**	**39**		**P**	**22 09 40.3**	**-0.3**
DAWY	**Dawson**	**83.53**	**16**	P	**P**	**22 09 41.4**	**+1.2**
DAWY				IAmb	IAmb	22 09 42.1	
	comp=Z,12nm,1.5s						
ALPN	**Alpine**	**83.88**	**57**		**P**	**22 09 42.2**	**-0.6**
ALPN				IAmb	IAmb	22 09 47.6	
	comp=Z,7.5nm,1.0s						
LOHW	**Long Hollow**	**83.98**	**42**		**P**	**22 09 43.2**	**+0.1**
LOHW				IAmb	IAmb	22 09 44.0	
	comp=Z,5.7nm,1.4s						
S22A	**4UR Ranch, Cre**	**84.14**	**49**	P	**P**	**22 09 43.8**	**-0.4**
S22A				IAmb	IAmb	22 09 45.8	
	comp=Z,7.2nm,1.2s						
YHL	**Hebgen Lake**	**84.16**	**41**		**P**	**22 09 44.1**	**0.0**
BOZ	**Bozeman (W)**	**84.22**	**40**	P	**P**	**22 09 44.6**	**+0.4**
PD31	**Pinedale Array**	**84.30**	**43**	P	**P**	**22 09 44.6**	**-0.2**
PDAR	**Pinedale Array**	**84.30**	**43**	P	**P**	**22 09 43.9**	**-0.9**
PDAR	**Pinedale Array**	**84.30**	**43**	P	**P**	**22 09 44.8**	**0.0**
	comp=Z,2.1nm,1.0s,baz=227,slow=3.5,SNR=12						
	comp=Z,2.1nm,1.0s						
YHH	**Holmes Hill**	**84.34**	**41**	P	**P**	**22 09 45.5**	**+0.4**
E22K	**Anaktuvuk Pass**	**84.40**	**9**		**P**	**22 09 46.0**	**+1.5**
I29M	**Ogilvie Camp,**	**84.85**	**15**	P	**P**	**22 09 47.8**	**+1.1**
I29M				IAmb	IAmb	22 09 51.6	
	comp=Z,5.7nm,1.1s						
G26K	**Porcupine Rive**	**84.85**	**13**		**P**	**22 09 47.6**	**+0.9**
SAND	**Sanderson**	**84.96**	**58**		**P**	**22 09 47.9**	**-0.3**
SAND				IAmb	IAmb	22 09 49.0	
	comp=Z,6.8nm,1.1s						
BMAR	**Burnt Mountain**	**85.09**	**12**	P	**P**	**22 09 47.9**	**-0.1**
RLMT	**Red Lodge**	**85.50**	**41**	P	**P**	**22 09 50.9**	**+0.1**
RLMT				IAmb	IAmb	22 09 52.6	
	comp=Z,9.8nm,1.4s						
BELA	**Belgrano 2**	**85.52**	**173**	P	**P**	**22 09 49.9**	**-0.3**
BELA				IAmb	IAmb	22 09 51.5	
	comp=Z,5.1nm,1.0s						
DRIO	**Del Rio**	**86.03**	**58**	P	**P**	**22 09 53.4**	**0.0**
OZNA	**Ozona**	**86.10**	**57**	P	**P**	**22 09 52.6**	**-1.2**
MAW	**Mawson**	**87.39**	**200**	P	**P**	**22 09 59.3**	**-0.1**
	comp=Z,3.7nm,1.0s,baz=141,slow=6.5,SNR=4.2						
	comp=Z,3.7nm,1.0s						
LZH	**Lanzhou**	**89.37**	**307**	*e*P	**P**	**22 10 12.8**	**+3.2**
LZH				sP	pP	22 10 20.0	0.0
LZH				pmax	pmax		
	comp=Z,13nm,0.9s						
YKA	**Yellowknife Ar**	**90.85**	**24**	LR	LR	22 47 36.0	
	comp=Z,81nm,18.9s,baz=293,slow=33						
SNAA	**Sanae**	**94.06**	**178**	P	**P**	**22 10 29.1**	**-1.5**
SNAA				IAmb	IAmb	22 10 31.9	
	comp=Z,7.5nm,1.4s						
SNAA	**Sanae**	**94.06**	**178**	P	**P**	**22 10 30.3**	**-0.2**
	comp=Z,1.9nm,1.1s,baz=202,slow=6.2,SNR=3.6						
	comp=Z,1.9nm,1.1s						
MGMO	**Mountain Grove**	**94.93**	**53**	P	**P**	**22 10 34.7**	**-0.4**
ARCES	**ARCESS Array B**	**123.01**	**351**	PKPdf	**PKPdf**	**22 16 08.2**	**0.0**
ARCES	**ARCESS Array B**	**123.01**	**351**	PKP	**PKPdf**	**22 16 07.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=14,slow=5.8,SNR=4.2						
MEM	**Membach**	**143.77**	**356**	*d*PKPdf	**PKPdf**	**22 16 47.0**	**-0.5**
GERES	**GERESS Array B**	**144.41**	**347**	PKP	PKPbc	22 16 47.5	+0.3
	comp=Z,0.4nm,0.7s,baz=353,slow=3.1,SNR=4.6						
WLF	**Walferdange**	**144.70**	**356**	*d*PKP	**PKiKP**	**22 16 52.5**	**-0.4**
CONA	**Conrad Observa**	**144.75**	**344**	*i* PKP	**PKPdf**	**22 16 49.3**	**-0.1**
	comp=Z,14nm,1.4s						
MMAI	**Mount Meron Ar**	**144.75**	**307**	PKP	**PKPdf**	**22 16 50.5**	**+0.6**
	comp=Z,14nm,1.1s,baz=85,slow=3.2,SNR=7.3						
RONA	**Rosalia, Austr**	**144.84**	**344**	*i* PKP	**PKPdf**	**22 16 49.8**	**+0.2**
	comp=Z,5.5nm,1.3s						
MOA	**Molln**	**145.22**	**346**	*i* PKP	**PKPdf**	**22 16 50.4**	**+0.3**
	comp=Z,9.0nm,1.5s						
ARSA	**Arzberg**	**145.47**	**344**	PKPdf	**PKPdf**	**22 16 48.4**	**-2.2**
ARSA	**Arzberg**	**145.47**	**344**	*i* PKP	**PKPbc**	**22 16 50.6**	**0.0**
	comp=Z,5.4nm,1.4s						
BIOA	**Bad Ischl, Aus**	**145.52**	**347**	*e*PKP	**PKPab**	**22 16 51.1**	**+0.1**
	comp=Z,9.3nm,1.4s						
LESA	**Schwarzleotal**	**145.98**	**347**	*i* PKP	**PKPab**	**22 16 52.8**	**0.0**
	comp=Z,7.7nm,1.7s						
SOKA	**Soboth**	**146.12**	**344**	*e*PKP	**PKPab**	**22 16 53.8**	**+0.4**
	comp=Z,0.3nm,0.3s						
KBA	**Koelnbreinsper**	**146.16**	**347**	*i* PKP	**PKPbc**	**22 16 52.8**	**-0.2**
	comp=Z,2.3nm,1.1s						
WATA	**Walderalm**	**146.28**	**349**	*i* PKP	**PKPbc**	**22 16 53.1**	**-0.2**
	comp=Z,4.8nm,0.9s						

RETA	**Reutte**	**146.29**	**350**	*i* PKP	**PKPab**	**22 16 53.8**	**-0.1**
	comp=Z,4.7nm,1.0s						
WTTA	**Wattenberg**	**146.34**	**349**	*e*PKP	**PKPbc**	**22 16 52.9**	**-0.6**
	comp=Z,8.6nm,1.2s						
MOTA	**Moosalm**	**146.36**	**349**	*i* PKP	**PKPdf**	**22 16 52.8**	**+0.5**
	comp=Z,5.5nm,1.1s						
SQTA	**Sankt Quirin**	**146.46**	**349**	*i* PKP	**PKPab**	**22 16 54.8**	**0.0**
	comp=Z,7.1nm,1.8s						
MYKA	**Terra Mystica**	**146.51**	**346**	*i* PKP	**PKPbc**	**22 16 54.1**	**+0.2**
	comp=Z,4.3nm,1.0s						
DAVA	**Damuels**	**146.63**	**351**	*i* PKP	**PKPbc**	**22 16 53.8**	**-0.5**
	comp=Z,7.8nm,1.8s						
ABTA	**Abfaltersbach**	**146.66**	**347**	*i* PKP	**PKPbc**	**22 16 54.0**	**-0.4**
	comp=Z,8.1nm,1.6s						
FETA	**Feichten**	**146.74**	**350**	*i* PKP	**PKPab**	**22 16 55.6**	**-0.3**
	comp=Z,6.8nm,1.3s						

IGQ 22 22:19:55.2±0.8, 1°N±4°×8°3W±°, h7km, MLv4.2/24, 3C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISPT	**Isla de la Pla**	**2.68**	**132**	⇓P	Pn	22 20 36.4	-2.4
ISPT				S	Sn	22 21 12.0	+0.4
ABH2	**Ecuador-Univer**	**2.93**	**114**	P	Pn	22 20 41.5	-0.7
PPLP	**Puerto Lpez**	**3.09**	**132**	P	Pn	22 20 42.1	-2.4
PPLP	**Puerto Lpez**	**3.09**	**132**	P	Pn	22 20 42.3	-2.2
PPLP				S	Sn	22 21 21.8	+0.1
AATC	**Ecuador-Atacam**	**3.23**	**84**	P	Pn	22 20 44.2	-2.1
SALI	**Salinas**	**3.41**	**142**	⇑P	Pn	22 20 47.1	-1.7
RVRD	**Rio Verde**	**3.73**	**82**	P	Pn	22 20 51.2	-2.0
BV15	**Puerto Quito-O**	**3.87**	**96**	P	Pn	22 20 54.3	-0.9
PAC1	**Pacto, Paraso**	**4.29**	**94**	P	Pn	22 20 60.0	-1.1
PAC1				S	Sn	22 21 51.2	-0.3
MONB	**Balzapamba Mon**	**4.50**	**121**	P	Pn	22 21 03.4	-0.5
GGPT	**Toaza - Volcan**	**4.52**	**100**	⇑P	Pn	22 21 03.7	-0.8
ILLI	**Illinizas Sur**	**4.52**	**106**	P	Pn	22 21 04.1	-0.5
TERV	**Terraza Guagua**	**4.53**	**99**	P	Pn	22 21 04.2	-0.5
JUA2	**San Juan 2**	**4.53**	**99**	P	Pn	22 21 04.2	-0.5
GGPC	**Guagua Pichinc**	**4.53**	**99**	P	Pn	22 21 04.6	-0.2
OTAV	**Otavalo**	**4.63**	**94**	P	Pn	22 21 05.6	-0.5
CHSH	**Refugio Sur-Vo**	**4.66**	**116**	P	Pn	22 21 07.1	+0.5
JSCH	**Cashca Totoras**	**4.67**	**119**	P	Pn	22 21 07.9	+1.4
CUSE	**Cuicocha Este**	**4.68**	**93**	P	Pn	22 21 06.6	-0.1
CUIC	**Cuicocha-Domo**	**4.72**	**93**	P	Pn	22 21 06.9	-0.3
SUCR	**Mariscal Sucre**	**4.73**	**104**	⇓P	Pn	22 21 08.3	+1.0
PITA	**Cotopaxi Volc**	**4.77**	**103**	P	Pn	22 21 08.7	+0.7
BRRN	**Barrancas-Volc**	**4.78**	**106**	P	Pn	22 21 09.2	+1.1
BREF	**Cotopaxi Volca**	**4.79**	**104**	P	Pn	22 21 09.3	+1.0
BVC2	**Cotopaxi Volca**	**4.81**	**104**	⇑P	Pn	22 21 10.1	+1.4
URCU	**Urcuqui**	**4.82**	**91**	P	Pn	22 21 08.2	-0.4
BTAM	**Cotopaxi Volca**	**4.83**	**104**	P	Pn	22 21 09.9	+1.0
COHC	**Cochancay**	**4.84**	**128**	P	Pn	22 21 08.2	-0.4
TAMB	**Tambo**	**4.86**	**105**	P	Pn	22 21 10.5	+1.2
VCES	**Cotopaxi**	**4.86**	**106**	P	Pn	22 21 11.0	+1.6
ANTI	**Antisana**	**5.01**	**101**	P	Pn	22 21 12.7	+1.4
ANTS	**Antisana-Sarah**	**5.01**	**102**	P	Pn	22 21 12.7	+1.3
CHMA	**Chilma**	**5.02**	**86**	P	Pn	22 21 07.1	-4.2
ARNL	**Arenillas**	**5.05**	**143**	P	Pn	22 21 10.5	-0.9
BPAT	**Tungurahua Vol**	**5.06**	**114**	P	Pn	22 21 13.8	+1.8
ANGU	**Angureal**	**5.09**	**95**	P	Pn	22 21 13.3	+0.8
ECEN	**Cerro Negro**	**5.11**	**87**	P	Pn	22 21 11.0	-1.7
BOSC	**San Juan Bosco**	**5.86**	**129**	P	Pn	22 21 25.2	+2.5
BBAC	**Balboa, Cauca**	**6.01**	**76**	P	Pn	22 21 22.8	-2.0
ZUMB	**Zumba**	**6.65**	**144**	P	Pn	22 21 34.5	+1.0

IDC 22 22:27:00.1±6.0, 8°22S×127°88E, h117km±65km, mb3.2/1, mbtmp3.9/5, MS3.4/1, Error ellipse: s-maj=55.6km s-min=19.2km az=37.0, Timor region

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

R18K	Karluk	3.54	292		Pn	22 45 08.0	+0.2
R18K						22 45 08.5	
BRLK	Bradley Lake	3.65	339		Pn	22 45 09.1	-0.1
P23K	Montague Islan	3.66	7		Pn	22 45 09.5	+0.2
P23K					Sn	22 45 49.5	-1.7
HOM	Homer	3.72	333	IAML		22 46 04.6	
	comp=N,235nm,1.0s						
HOM	Homer	3.72	333		Pn	22 45 10.8	+0.6
HOM						22 45 10.9	
SEW	Seward	3.77	352		Pn	22 45 10.7	-0.2
SEW	Seward	3.77	352		Sn	22 45 52.1	-1.9
Q19K	Cape Douglas,	3.82	314		Pn	22 45 12.2	+0.6
KAPH	Katmai Pasha	3.92	307		Pn	22 45 14.1	+1.0
KAPH						22 45 14.5	
KAHG	Katmai Hook Gl	3.96	305		Pn	22 45 14.9	+1.4
AU22	Augustine Moun	4.01	320		Pn	22 45 15.1	+0.9
AU22						22 45 15.3	
AGU	Augustine-Summ	4.03	320		Pn	22 45 15.9	+1.3
AGU						22 45 16.2	
KAKN	Katmai Knife C	4.11	301		Pn	22 45 16.7	+1.1
KAKN					Sn	22 46 03.4	+0.9
CHIR	Chirikof Islan	4.11	265	IAML		22 46 00.6	
	comp=E,80nm,1.2s						
CHIR				IAML		22 46 06.5	
	comp=N,81nm,1.1s						
CHIR	Chirikof Islan	4.11	265		Pn	22 45 15.1	-0.5
CHIR						22 45 15.2	
CHIR	Chirikof Islan	4.11	265	P	Pn	22 45 15.0	-0.6
HIN	Hinchinbrook I	4.14	13		Pn	22 45 16.3	+0.4
HIN	Hinchinbrook I	4.14	13		Sn	22 46 02.0	-1.0
P19K	Oil Pt	4.18	324		Pn	22 45 17.2	+0.7
P19K				IAML		22 46 14.9	
	comp=N,148nm,0.5s						
P19K	Oil Pt	4.18	324		Sn	22 46 06.5	+2.4
ACHA	Angle Creek He	4.20	299		Pn	22 45 18.4	+1.5
KABU	Katmai Buttres	4.21	300		Pn	22 45 18.6	+1.7
KAHC	Katmai Hardscr	4.25	305		Pn	22 45 18.6	+1.0
SLKM	Skilak Lake	4.25	347		Pn	22 45 18.1	+0.6
SLKM				IAML		22 46 06.6	
	comp=E,140nm,0.4s						
SLKM				IAML		22 46 07.8	
	comp=N,105nm,0.6s						
ANCK	Angle Creek	4.28	298		Pn	22 45 19.5	+1.6
O20K	Slope Mountain	4.34	330		Pn	22 45 19.5	+0.7
ILS	Iliamna Low So	4.37	327		Pn	22 45 19.7	+0.5
ILS						22 45 19.9	
EYAK	Cordova Ski Ar	4.39	17		Pn	22 45 19.7	+0.3
EYAK				IAML		22 46 14.8	
	comp=E,97nm,1.2s						
EYAK	Cordova Ski Ar	4.39	17	P	Pn	22 45 19.8	+0.4
IVE	Iliamna Volcan	4.40	328		Pn	22 45 19.4	-0.3
ILSW	Iliamna Southw	4.41	327		Pn	22 45 20.0	+0.2
ILSW				IAML		22 46 16.2	
	comp=N,75nm,0.7s						
ILSW				IAML		22 46 21.0	
	comp=E,67nm,0.7s						
SUCK	Suckling Hills	4.41	31		Pn	22 45 20.1	+0.3
SUCK				IAML		22 46 10.6	
	comp=N,139nm,1.0s						
SUCK				IAML		22 46 12.2	
	comp=E,113nm,1.2s						
RAGM	Ragged Mountai	4.45	24		Pn	22 45 20.9	+0.7
FID	Port Fidalgo	4.48	12		Pn	22 45 21.1	+0.4
FID				IAML		22 46 13.1	
	comp=N,96nm,1.0s						
FID				IAML		22 46 16.1	
	comp=E,82nm,0.9s						
PWL	Port Wells	4.49	0		Pn	22 45 20.9	+0.2
PWL				IAML		22 46 11.4	
	comp=E,128nm,0.7s						
PWL				IAML		22 46 11.8	
	comp=N,83nm,0.7s						
NICHA	Nichawak Mount	4.50	29		Pn	22 45 21.6	+0.7
HMT	Hamilton	4.51	27		Pn	22 45 21.8	+0.8
GLI	Glacier Island	4.55	8		Pn	22 45 21.9	+0.3
GLI				IAML		22 46 12.6	
	comp=N,68nm,1.1s						
GLI				IAML		22 46 13.1	
	comp=E,105nm,1.0s						
PLK4	Peulik 4	4.55	289		Pn	22 45 22.0	+0.3
PLK4				IAML		22 46 21.1	
	comp=N,98nm,0.8s						
PLK4				IAML		22 46 21.5	
	comp=E,99nm,0.6s						
PLK2	Peulik 2	4.57	291		Pn	22 45 22.3	+0.5
GOAT	Goat Mountain	4.61	23		Pn	22 45 23.2	+0.6
BERG	Berg Lake	4.70	29		Pn	22 45 24.1	+0.4
GRIN	Grindle Hills	4.72	32		Pn	22 45 24.6	+0.7
PLK1	Peulik 1	4.72	291		Pn	22 45 24.5	+0.6
RDWB	Redoubt West	4.74	332		Pn	22 45 24.4	0.0
P18K	Big Mountain,	4.75	312		Pn	22 45 24.7	+0.3
RC01	Rabbit Creek A	4.77	352		Pn	22 45 25.4	+0.8
RC01	Rabbit Creek A	4.77	352	IAML		22 46 19.9	
	comp=E,71nm,0.6s						
RC01				IAML		22 46 20.1	
	comp=N,76nm,0.6s						
SNH	Sunshine Point	4.79	35		Pn	22 45 25.4	+0.5
SNH	Sunshine Point	4.79	35	IAML		22 46 28.1	
	comp=E,75nm,1.1s						
SNH				IAML		22 46 46.1	
	comp=N,63nm,0.9s						
DFR	Drift River	4.79	333		Pn	22 45 24.8	-0.2
PLBL	Peulik Blue Cr	4.81	289		Pn	22 45 26.3	+1.1
NCT	North Crescent	4.83	332		Pn	22 45 25.6	+0.1
O19K	Port Alsworth	4.95	323		Pn	22 45 27.3	+0.3
BMRM	Bremner River	4.99	21		Pn	22 45 28.4	+0.7
BMRM				IAML		22 46 23.9	
	comp=N,62nm,0.7s						
BMRM				IAML		22 46 29.2	
	comp=E,50nm,0.8s						
WAX	Waxell Ridge	4.99	33		Pn	22 45 28.4	+0.6
O18K	Koktuh Hills	5.03	317		Pn	22 45 28.8	+0.6
MESA	MESA	5.08	39		Pn	22 45 29.9	+0.8
MESA				IAML		22 47 21.3	
	comp=E,57nm,0.3s						
MESA				IAML		22 47 21.6	
	comp=N,59nm,0.4s						
CRQM	Cirque	5.16	30		Pn	22 45 30.8	+0.6
CRQM				IAML		22 46 31.2	
	comp=E,60nm,1.1s						
P17K	Kvichak River	5.16	306		Pn	22 45 30.6	+0.6
SPU	Mount Spurr	5.18	340		Pn	22 45 30.2	-0.1
PMR	Palmer	5.24	356	Pn	Pn	22 45 31.6	+0.6
PMR				IAML		22 46 29.5	
	comp=E,57nm,0.9s						
PMR				IAML		22 46 34.6	
	comp=N,52nm,0.8s						
SUA	Susitna One	5.24	347		Pn	22 45 31.5	+0.3
SUA				IAML		22 46 36.7	
	comp=E,38nm,1.2s						
TGL	Tana Glacier	5.25	31		Pn	22 45 31.9	+0.7
TGL				IAML		22 46 30.1	
	comp=E,52nm,0.7s						
TGL				IAML		22 46 36.5	
	comp=N,41nm,0.9s						
CKL	Chakachamna La	5.25	338		Pn	22 45 31.7	+0.4
BAGL	Bagley Icefiel	5.26	36		Pn	22 45 31.9	+0.5
ISLE	Juniper Island	5.27	34		Pn	22 45 33.4	+1.8
ISLE				IAML		22 46 32.2	
	comp=E,43nm,1.1s						
ISLE				IAML		22 46 32.9	
	comp=N,47nm,0.8s						
KLU	Klutina	5.27	13		Pn	22 45 32.6	+1.0
SPCG	Spurr Capps Gl	5.28	340		Pn	22 45 31.2	-0.5
YAH	Yahtse	5.29	38		Pn	22 45 32.3	+0.4
YAH				IAML		22 46 16.8	
	comp=E,40nm,0.7s						
SPWE	Spurr West	5.37	338		Pn	22 45 33.6	+0.7
RKAV	Rock Avalanche	5.38	40		Pn	22 45 34.0	+0.9
GHO	Glory Hole Cre	5.41	357		Pn	22 45 35.1	+1.6
STLK	Strandline Lak	5.43	342		Pn	22 45 34.8	+1.0
N19K	Bonanza Creek	5.47	327		Pn	22 45 34.2	-0.2
VRDI	Verde Repeater	5.48	26		Pn	22 45 34.7	+0.2
SPNN	North Nagishla	5.48	337		Pn	22 45 35.3	+0.8
SCM	Sheep Creek Mo	5.49	5		Pn	22 45 35.5	+1.0
ANPB	Aniakchak Plen	5.51	278		Pn	22 45 35.4	+0.6
ANPB						22 45 35.8	
KIAG	Kiagna River	5.52	32		Pn	22 45 35.5	+0.5
TABL	Table Mountain	5.55	40		Pn	22 45 35.8	+0.2
GRNC	Granite Creek	5.56	36		Pn	22 45 35.8	+0.2
N25K	Chitina, Valde	5.58	19		Pn	22 45 36.8	+1.0
GLB	Gilahina Butte	5.59	23		Pn	22 45 36.4	+0.5
BALM	Baldy	5.61	31		Pn	22 45 36.8	+0.5
PCA	Pinnacle	5.66	46		Pn	22 45 38.0	+1.1
PTPK	Patty Peak	5.70	30		Pn	22 45 38.3	+0.7
MCARA	McCarthy VSAT	5.72	27		Pn	22 45 38.4	+0.7
O17K	Koliganek Bris	5.75	310		Pn	22 45 38.6	+0.6
PNL	Peninsula	5.78	52		Pn	22 45 39.2	+0.7
PNL	Peninsula	5.78	52	P	Pn	22 45 39.0	+0.5
P16K	Nushagak River	5.81	301		Pn	22 45 39.7	+0.9
BCPM	Bancas Point	5.83	49		Pn	22 45 40.2	+1.0
BARN	Barnard Glacie	5.84	34		Pn	22 45 39.0	-0.4
N18K	Kilae Creek	5.84	321		Pn	22 45 39.3	0.0
SKT	Skwentna	5.84	345		Pn	22 45 40.4	+1.0
M24K	Tolsona, Glenn	5.84	10		Pn	22 45 40.8	+1.4
CTGM	Chitina Glacie	5.87	36		Pn	22 45 40.5	+0.6
LOGN	Logan Glacier	5.87	38		Pn	22 45 40.5	+0.6
WACK	Wrangell Chich	5.98	19		Pn	22 45 42.9	+1.4
VNHG	Veniaminof 1	6.03	273		Pn	22 45 43.3	+1.3
VNHG						22 45 43.5	
M20K	Styx River	6.04	338		Pn	22 45 42.6	+0.5
O16K	Kokwok River B	6.10	306		Pn	22 45 43.6	+0.7
O28M	Mount Upton	6.12	41		Pn	22 45 44.4	+0.9
WAT6	Susitna Watana	6.22	3		Pn	22 45 45.7	+1.0
WAT6						22 45 45.8	
N17K	Nushagak Hills	6.22	315		Pn	22 45 45.2	+0.6
HARP	HAARP	6.25	14		Pn	22 45 46.4	+1.5
M19K	Big River Lodg	6.34	333		Pn	22 45 46.1	-0.1
M18K	Stony River	6.41	326		Pn	22 45 47.0	-0.1
O29M	Mount Kennedy	6.47	49		Pn	22 45 49.5	+1.5
WAT7	Susitna Watana	6.47	358		Pn	22 45 49.4	+1.3
P29M	Windy Craggy	6.51	56		Pn	22 45 49.1	+0.7
CHNA	Chernabura Isl	6.56	261	P	Pn	22 45 49.1	-0.1
CNBA	Chernabura Isl	6.56	261		Pn	22 45 48.8	-0.4
YUK8	Steele Glacier	6.63	39		Pn	22 45 52.0	+1.7
YUK2	White River	6.65	32		Pn	22 45 51.9	+1.4
L19K	White Mountain	6.70	333		Pn	22 45 50.9	-0.2
DHY	Denali Highway	6.73	4		Pn	22 45 52.9	+1.3
L20K	Farewell, AK	6.73	338		Pn	22 45 51.7	+0.2
O15K	Ungalikthiuk R	6.74	299		Pn	22 45 53.0	+1.3
PAX	Paxson	6.76	11		Pn	22 45 53.4	+1.4
S31K	Pelican	6.77	72		Pn	22 45 50.4	-1.7
N16K	Nishlik Lake	6.83	311		Pn	22 45 53.7	+0.8
M27K	Edge Creek, AK	6.84	26		Pn	22 45 54.2	+1.1
M17K	Holitna River	6.88	321		Pn	22 45 54.1	+0.4
YUK6	Outpost Mounta	6.92	45		Pn	22 45 56.1	+1.7
MENT	Mentasta	6.97	18		Pn	22 45 58.2	+3.3
RND	Reindeer	7.05	358		Pn	22 45 57.4	+1.5
P30M	Million Dollar	7.08	53		Pn	22 45 57.2	+0.9
PLBC	Pleasant Camp	7.08	59		Pn	22 45 57.2	+0.9
L26K	Log Cabin Wild	7.12	19		Pn	22 45 58.5	+1.6
TRF	Thorofare Moun	7.15	353	Pn	Pn	22 45 58.6	+1.2
HYT	Haines Junctio	7.20	47		Pn	22 45 59.4	+1.3
M16K	Timber Creek	7.22	314		Pn	22 45 59.0	+0.9
L18K	Granite Mounta	7.24	327		Pn	22 45 58.9	+0.4
N15K	Kwethluk River	7.26	306		Pn	22 46 00.3	+1.6
CAST	Castle Rocks	7.30	347		Pn	22 46 00.2	+0.9
KTH	Kantishna Hill	7.30	351		Pn	22 46 01.3	+1.8
MCK	McKinley	7.38	358	Pn	Pn	22 46 01.4	+1.0
L27K	Beaver Creek,	7.46	23		Pn	22 46 01.7	+0.2
O14K	Tigyukauivet M	7.47	298		Pn	22 46 03.0	+1.3
K20K	Telida	7.56	340		Pn	22 46 03.0	+0.1
RIDG	Independent Ri	7.58	12		Pn	22 46 05.1	+1.9
SKAG	Skagway	7.58	61	P	Pn	22 46 03.8	+0.6
DOT	Dot Lake	7.59	15		Pn	22 46 04.8	+1.4
BESE	Bessie Mountai	7.60	68	Pn	Pn	22 46 03.2	-0.2
L17K	Donlin	7.69	323		Pn	22 46 04.7	+0.1
S12K	Black Hills	7.71	271		Pn	22 46 05.1	+0.1
DOL	Dolgoi Island	7.73	266		Pn	22 46 04.9	-0.3
N30M	Aishikik Lake	7.77	44		Pn	22 46 06.5	+1.4
JIS	Juneau Island	7.79	70	P	Pn	22 46 06.0	0.0
L16K	Owhat River	7.83	318		Pn	22 46 07.1	+0.5
BPAW	Bear Paw Mtn.	7.85	351		Pn	22 46 07.5	+0.7
M29M	Somme Creek	7.88	36		Pn	22 46 08.6	+1.1
N14K	Kuskokwak Cree	7.89	302		Pn	22 46 08.8	+1.4
HDA	Harding Lake	8.08	4		Pn	22 46 10.7	+0.8
K17K	Iditarod	8.11	326		Pn	22 46 10.3	0.0
WRH	Wood River Hil	8.11	1		Pn	22 46 12.0	+1.6
NEA2	Nenana	8.24	358		Pn	22 46 12.9	+0.7
WHY	Whitehorse	8.24	53		Pn	22 46 13.7	+1.4
J18K	Innoko River	8.24	333		Pn	22 46 12.7	+0.4
N31M	Braeburn, Yuko	8.26	47		Pn	22 46 14.1	+1.6
CCB	Clear Creek Bu	8.29	2		Pn	22 46 14.1	+1.2
J20K	Nowinta River	8.32	342		Pn	22 46 14.1	+0.7
P32M	Atlin	8.41	62		Pn	22 46 15.2	+0.6
J26L	Joseph Creek	8.47	14		Pn	22 46 16.7	+1.2
L29M	L29M	8.48	33		Pn	22 46 16.7	+1.2
M30M	Minto, Yukon	8.54	39		Pn	22 46 17.5	+1.2
L15K	Ungalek Mounta	8.60	313		Pn	22 46 17.7	+0.6
CRAG	Craig	8.60	90	P	Pn	22 46 16.6	-0.5
I23K	Minto, Yukon-K	8.80	357		Pn	22 46 21.1	+1.2
P33M	Teslin, Yukon	9.02	58		Pn	22 46 23.8	+0.7
M31M	Drury Creek, Y	9.20	45		Pn	22 46 27.3	+1.8
K29M	Barlow Dome	9.21	31		Pn	22 46 26.9	+1.2
H21K	Melozitna Rive	9.55	349		Pn	22 46 30.1	+0.1

IDC ***22*** *22:54:24.6±0.9, 12°.66S×166°.97E, h203km±7km, mb5.4/29, mbtmp5.8/32, MS4.4/14, Error ellipse: s-maj=7.4km s-min=6.9km az=51.0*

BJI ***22*** *22:54:25.1, 12°.14S×167°.06E, h209km, mB5.6/45, mb5.8/95*

NEIC ***22*** *22:54:25.6, 12°.59S×167°.05E, h210km*

NEIC ***22*** *22:54:25.9, 12°.60S×167°.04E, h208km*

NEIC ***22*** *22:54:25.6, 12°.39S×166°.95E, h210km, Moment Tensor Solution. Duration: 3s4 Moment tensor: Scale 10^17 Nm; Mrr3.39; Mθθ-0.35; Mφφ-3.04; Mrθ0.64; Mθφ0.83; Mφr-1.03; Fault plane solution: M0 3.55000×10^17 NP1: φs349.04000°, δ35.59000°, λ98.19000°. NP2: φs159.01000°, δ54.83000°, λ84.18000°. Principal axes: T 3.6198, Plg79.0000°, Azm46.0000°; N -0.1402, Plg5.0000°, Azm162.0000°; P -3.4796, Plg10.0000°, Azm253.0000°;*

NEIC ***22*** *22:54:25.7±1.4, 12°.58S±0°.06×167°.06E±0°.08, h207km±3km, mb5.8/664, Mwb5.8/28, Mww5.6/40 Error ellipse: s-maj=10.8km s-min=9.3km az=72.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr5.81; Mθθ-1.08; Mφφ-4.73; Mrθ-0.40; Mθφ0.67; Mφr-1.05; Fault plane solution: M0 5.51000×10^17 NP1: φs345.46000°, δ40.08000°, λ82.69000°. NP2: φs174.98000°, δ50.31000°, λ96.11000°. Principal axes: T 5.9486, Plg83.0000°, Azm123.0000°; N -1.0112, Plg5.0000°, Azm351.0000°; P -4.9373, Plg5.0000°, Azm261.0000°;*

MOS ***22*** *22:54:25.2±1.0, 12°.53S×166°.97E, h217km, mb6.0/39 Error ellipse: s-maj=7.4km s-min=5.7km az=121.9*

NOU ***22*** *22:54:26.4, 12°.55S×167°.00E, h216km, ML5.5/125, Santa Cruz Islands*

GCMT ***22*** *22:54:26.7±0.1, 12°.56S±0°.01×166°.94E±0°.01, h214km, MW5.7/167, Moment Tensor Solution. s149,c272; s167,c345; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr3.97±.03; Mθθ-0.41±.04; Mφφ-3.56±.04; Mrθ0.20±.03; Mθφ0.53±.04; Mφr-1.71±.03; Best double couple: M0 4.18000×10^17 NP1: φs350.00000°, δ33.00000°, λ88.00000°. NP2: φs172.00000°, δ57.00000°, λ91.00000°. Principal axes: T 4.3420, Plg78.0000°, Azm85.0000°; N -0.3190, Plg1.0000°, Azm351.0000°; P -4.0180, Plg12.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 22:54:25.4±0.3, 12°.60S±0°.03×167°.05E±0°.03, h215km±2km, h216km; pP-P, n1700, σ1s10/1644, mb5.8/463, 105C-51D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	2.22	330	P	Pn	22 55 07.1	-0.3
SANVU	Saraoutou	2.84	177		Pn	22 55 13.5	-0.5
SANVU				Sn	S	22 55 52.2	+0.4
SANVU	Saraoutou	2.84	177	P	Pn	22 55 16.4	+2.4
SANVU	Saraoutou	2.84	177	P	S	22 55 53.2	+1.4
DVP	Devils Point	5.21	168	P	Pn	22 55 44.7	+1.8
HURO	Huro Makira	5.47	292	P	Pn	22 55 46.5	+0.3
NGOA	Tingoa Renbel	6.91	278	P	Pn	22 56 05.1	+0.4
ALEG	Aligegeo Malai	7.32	301	P	Pn	22 56 10.3	+0.3
HNR	Honiara	7.65	294		Pn	22 56 13.9	-0.3
HNR	Honiara	7.65	294	P	Pn	22 56 14.2	0.0
	346nm,0.8s,baz=204,slow=3.9,SNR=25						
HNR				S	S	22 57 35.0	-6.0
	167nm,0.5s,baz=28,slow=6.4,SNR=1.0						
SAVO	Savo Central	7.89	295	P	Pn	22 56 18.0	+0.6
TATA	Tatamba Isabel	8.26	300	P	Pn	22 56 22.1	-0.1
KOUNC	Koumac, New Ca	8.34	198	P	Pn	22 56 25.2	+2.1
KOUNC	Koumac, New Ca	8.34	198	S	S	22 57 59.3	+2.0
DZM	Mont Dzumac	9.44	183		Pn	22 56 37.9	+0.5
DZM	Mont Dzumac	9.44	183	P	Pn	22 56 37.2	-0.2
	53nm,1.0s,baz=10,slow=16,SNR=30						
DZM				S	S	22 58 16.6	-6.8
	19nm,0.6s,baz=314,slow=21,SNR=0.9						
DZM	Mont Dzumac	9.44	183	P	Pn	22 56 39.7	+2.3
DZM	Mont Dzumac	9.44	183	S	S	22 58 25.6	+2.1
ONTNC	Ouen Toro	9.67	183		Pn	22 56 40.6	+0.4
ONTNC	Ouen Toro	9.67	183	P	Pn	22 56 42.4	+2.1
ONTNC	Ouen Toro	9.67	183	S	S	22 58 31.2	+2.3
OUENC	Ouen Island, N	9.77	181	P	Pn	22 56 43.0	+1.5
OUENC	Ouen Island, N	9.77	181	S	S	22 58 33.9	+2.8
PINNC	Pines Island,	9.97	178		Pn	22 56 45.0	+1.0
YSA	Yasawairara	10.97	113	P	Pn	22 56 59.0	+2.0
MSVF	Nonsavu	11.78	117		Pn	22 57 09.4	+2.1
MSVF	Nonsavu	11.78	117	P	P	22 57 09.9	-1.9
MSVF	Nonsavu	11.78	117	*i* P	Pn	22 57 07.4	+0.1
FUNA	Funafuti	12.61	72		Pn	22 57 18.6	+1.0
DGTI	Dogotuki	12.83	108	P	P	22 57 22.5	-0.9
TAVE	Taveuni	13.27	110	P	P	22 57 28.1	-0.2
FUTU	Fugatoga	14.52	98		P	22 57 42.0	-0.3
TARA	Tarawa	15.04	23	P	Pn	22 57 47.4	+0.3
RABL	Rabaul	16.92	298		Pn	22 58 09.8	-0.4
EIDS	Eidsvold	19.70	228	P	P	22 58 40.4	+1.7
	comp=Z,0.0nmcomp=Z,433nm,0.9s						
EIDS	Eidsvold	19.70	228		P	22 58 40.2	+1.5
EIDS	Eidsvold	19.70	228	P	P	22 58 40.1	+1.4
PMG	Port Moresby	19.78	277		P	22 58 40.4	+0.7
PMG	Port Moresby	19.78	277	P	P	22 58 40.5	+0.8
	comp=Z,345nm,1.0s,baz=85,slow=6.1,SNR=38						
PMG				S	S	23 02 09.8	-1.1
	comp=Z,15nm,0.7s,baz=165,slow=14,SNR=3.9						
PMG	Port Moresby	19.78	277	P	P	22 58 40.2	+0.6
PMG	Port Moresby	19.78	277	P	P	22 58 40.4	+0.8
PMG	Port Moresby	19.78	277	*i* P	P	22 58 39.8	+0.2
PMG				pmax	pmax		
	comp=Z,428nm,1.2s						
LHI	Lord Howe Isla	20.22	200	P	Pn	22 58 47.2	-1.9
PATS	Pohnpei	21.17	335	P	P	22 58 53.9	-0.4
	comp=Z,1μm,0.9s						
PATS	Pohnpei	21.17	335	P	P	22 58 54.3	0.0
CTA	Charters Tower	21.29	247	P	P	22 58 56.0	+0.4
CTA	Charters Tower	21.29	247	S	S	23 02 39.3	+0.9
CTA	Charters Tower	21.29	247	P	P	22 58 56.2	+0.7
CTAO	Charters Tower	21.29	247		P	22 58 55.9	+0.4
CTAO	Charters Tower	21.29	247	P	P	22 58 55.9	+0.4
CTAO	Charters Tower	21.29	247	S	S	23 02 39.2	+0.9
CTAO	Charters Tower	21.29	247	P	P	22 58 55.9	+0.4
RMQ	Roma	22.05	229	P	P	22 59 04.7	+1.8
	comp=Z,147nm,1.4s						
MANU	Manus Island	22.14	297		P	22 59 03.9	0.0
MTSU	Mount Surprise	22.59	253	P	P	22 59 09.2	+1.2
	comp=Z,101nm,1.0s						
ARMA	Armidale	22.76	216	P	P	22 59 11.1	+1.6
	comp=Z,148nm,1.8s						
ARMA	Armidale	22.76	216	P	P	22 59 11.0	+1.4
ARMA	Armidale	22.76	216	P	P	22 59 10.6	+1.0
NIUE	Niue	23.05	109	P	P	22 59 12.2	0.0
	comp=Z,2μm,1.1s						
NIUE	Niue	23.05	109	P	P	22 59 12.2	0.0
NIUE	Niue	23.05	109	P	P	22 59 13.9	+1.8
COEN	Coen	23.27	264	P	P	22 59 15.4	+1.2
	comp=Z,154nm,1.3s						
COEN	Coen	23.27	264	P	P	22 59 15.2	+1.0
COEN	Coen	23.27	264	P	P	22 59 14.6	+0.4
OUZ	Omahuta	23.29	166	P	P	22 59 15.7	+1.6
MGCD	Mangrove Creek	25.16	213	P	P	22 59 32.7	+1.5
	comp=Z,75nm,1.1s						
MGCD	Mangrove Creek	25.16	213	P	P	22 59 31.9	+0.7
QLP	Quilpie	25.54	234	P	P	22 59 35.2	+0.5
	comp=Z,139nm,1.4s						
QLP	Quilpie	25.54	234	P	P	22 59 35.6	+0.9
URZ	Urewera	27.08	162	P	P	22 59 50.0	+1.8
URZ	Urewera	27.08	162	P	P	22 59 48.8	+0.6
MUGZ	Murupara	27.19	163	P	P	22 59 49.9	+0.7
CMSA	Cobar Meteorol	27.24	223	P	P	22 59 50.3	+0.5
	comp=Z,45nm,0.6s						
CMSA	Cobar Meteorol	27.24	223	P	P	22 59 50.9	+1.2
VRZ	Vera Road	27.29	167	P	P	22 59 55.0	+4.9
KATZ	Kakaramea	27.37	165	P	P	22 59 53.3	+2.3
RTZ	Ruatahuna	27.38	163	P	P	22 59 51.6	+0.7
MRHZ	Matea Rd	27.42	164	P	P	22 59 53.6	+2.2
QIS	Mount Isa	27.44	250	P	P	22 59 51.9	+0.2
	comp=Z,17nm,0.9s						
QIS	Mount Isa	27.44	250	P	P	22 59 51.8	+0.2
KRVZ	Karewarewa	27.47	165	P	P	22 59 55.4	+3.6
TKGZ	Te Karaka	27.47	161	P	P	22 59 52.8	+1.1
WTVZ	West Tongariro	27.48	166	P	P	22 59 54.7	+2.8
NNVZ	North Ngauruho	27.50	165	P	P	22 59 55.2	+3.0
TMVZ	Te Maari	27.50	165	P	P	22 59 55.6	+3.5
ETVZ	East Tongariro	27.52	165	P	P	22 59 56.0	+3.7
OTVZ	Oturere	27.54	165	P	P	22 59 54.8	+2.3

THZ IAmb IAmb 23 00 15.6
comp=Z,139nm,0.8s
THZ Tophouse 29.50 171 P **P** **23 00 10.5 +0.8**
BHW Baring Head 29.51 168 P **P** **23 00 09.4 -0.3**
MSWZ Moikau Station 29.59 167 P **P** **23 00 09.9 -0.6**
MSWZ Moikau Station 29.59 167 P **P** **23 00 10.1 -0.3**
BSWZ Blackbirch Sta 29.61 170 P **P** **23 00 11.3 +0.6**
CMWZ Cape Campbell 29.71 169 P **P** **23 00 11.1 -0.3**
PLWZ Palliser 29.74 168 P **P** **23 00 11.2 -0.7**
SMPI Sarmi 29.98 288 P **P** **23 00 14.4 +0.2**
comp=Z,3µmcomp=Z,280nm,1.1s
KHZ Kahutara 30.24 170 P **P** **23 00 15.8 -0.3**
KHZ IAmb IAmb 23 00 18.5
comp=Z,553nm,1.8s
KHZ Kahutara 30.24 170 P **P** **23 00 16.1 0.0**
KHZ Kahutara 30.24 170 P **P** **23 00 15.6 -0.5**
STKA Stephens Creek 30.25 227 P **P** **23 00 17.4 +1.0**
STKA Stephens Creek 30.25 227 P **P** **23 00 17.1 +0.7**
comp=Z,33nm,0.4s,baz=49,slow=8.9,SNR=116
STKA PcP **PcP** **23 03 11.8 +0.2**
comp=Z,65nm,0.7s,baz=40,slow=3.2,SNR=15
STKA ScP **ScP** **23 06 34.7 +1.1**
comp=Z,22nm,0.8s,baz=36,slow=5.6,SNR=10
STKA PKiKP **PKiKP** **23 10 41.7 -1.5**
comp=Z,5.2nm,0.6s,baz=4.9,slow=2.3,SNR=9.8
STKA LR LR 23 12 33.8
comp=Z,2µm,18.6s,baz=76,slow=36
comp=Z,33nm,0.4s
STKA Stephens Creek 30.25 227 P **P** **23 00 17.5 +1.0**
INZ Inchbonnie 30.26 174 P **P** **23 00 16.4 +0.1**
INZ IAmb IAmb 23 00 18.7
comp=Z,325nm,1.0s
LTZ Lake Taylor 30.41 172 P **P** **23 00 18.0 +0.3**
LTZ Lake Taylor 30.41 172 P **P** **23 00 18.4 +0.7**
GVZ Greta Valley S 30.70 171 P **P** **23 00 20.4 +0.2**
GVZ IAmb IAmb 23 00 22.9
comp=Z,198nm,0.6s
GVZ Greta Valley S 30.70 171 P **P** **23 00 20.0 -0.2**
FOZ Fox Glacier 30.92 176 P **P** **23 00 22.7 +0.7**
FOZ IAmb IAmb 23 00 26.7
comp=Z,259nm,1.1s
FOZ Fox Glacier 30.92 176 P **P** **23 00 23.2 +1.2**
OXZ Oxford 30.92 173 P **P** **23 00 22.2 +0.1**
OXZ IAmb IAmb 23 00 23.7
comp=Z,185nm,0.8s
RPZ Rata Peaks 31.20 174 P **P** **23 00 24.8 +0.2**
RPZ Rata Peaks 31.20 174 P **P** **23 00 25.9 +1.3**
MQZ McQueen's Vall 31.37 172 P **P** **23 00 25.6 -0.4**
MQZ IAmb IAmb 23 00 27.7
comp=Z,528nm,1.6s
MQZ McQueen's Vall 31.37 172 P **P** **23 00 26.1 +0.1**
JCZ Jackson Bay 31.40 178 P **P** **23 00 27.8 +1.4**
JCZ Jackson Bay 31.40 178 P **P** **23 00 28.1 +1.7**
TOO Toolangi 31.46 214 P **P** **23 00 27.7 +0.7**
comp=Z,27nm,1.4s
TOO Toolangi 31.46 214 P **P** **23 00 27.7 +0.7**
TOO **PcP** **23 03 15.4 +0.6**
TOO Toolangi 31.46 214 P **P** **23 00 27.7 +0.7**
TOO pmax pmax
comp=Z,62nm,1.5s
WAKE Wake Island 31.68 359 P **P** **23 00 28.7 -0.3**
WAKE IAmb IAmb 23 00 30.1
comp=Z,247nm,1.1s
WAKE Wake Island 31.68 359 P **P** **23 00 29.8 +0.8**
LBZ Lake Benmore 31.79 176 P **P** **23 00 29.9 +0.1**
LBZ Lake Benmore 31.79 176 P **P** **23 00 29.9 +0.1**
TMZ Timaru 31.86 175 P **P** **23 00 29.8 -0.5**
WR8 Warramunga Arr 32.05 253 P **P** **23 00 31.8 -0.6**
H11N1 WAKE ISLAND Hy 32.11 360 P **P** **23 00 32.3 -0.1**
baz=197,slow=12,SNR=5.0
H11N3 WAKE ISLAND Hy 32.11 360 P **P** **23 00 32.5 0.0**
baz=197,slow=12,SNR=5.3
WB0 Warramunga Arr 32.12 253 P **P** **23 00 32.0 -1.0**
H11N2 WAKE ISLAND Hy 32.13 360 P **P** **23 00 33.0 +0.4**
baz=197,slow=12,SNR=3.3
WKZ Wanaka 32.16 177 P **P** **23 00 33.6 +0.7**
WKZ Wanaka 32.16 177 P **P** **23 00 34.0 +1.0**
WRAB Tennant Creek 32.18 253 P **P** **23 00 32.6 -0.9**
WRAB Tennant Creek 32.18 253 *i* P **P** **23 00 32.8 -0.7**
WRAB pmax pmax
comp=Z,37nm,1.0s
WRA Warramunga Arr 32.20 253 P **P** **23 00 31.3 -2.3**
WRA Warramunga Arr 32.20 253 P **P** **23 00 32.8 -0.8**
comp=Z,14nm,0.5s,baz=81,slow=8.6,SNR=93
WRA PcP **PcP** **23 03 17.4 +0.3**
comp=Z,22nm,0.9s,baz=70,slow=1.9,SNR=7.8
WRA S **S** **23 05 26.4 -4.3**
comp=Z,13nm,1.0s,baz=82,slow=14,SNR=6.5
WRA ScP **ScP** **23 06 41.9 +1.5**
comp=Z,24nm,1.0s,baz=77,slow=3.7,SNR=18
WRA PKiKP **PKiKP** **23 10 43.4 -1.4**
comp=Z,6.2nm,0.8s,baz=355,slow=0.4,SNR=21
WRA P3KPbc 23 31 57.2
comp=Z,2.1nm,1.0s,baz=260,slow=2.2,SNR=8.5
comp=Z,14nm,0.5s
WRA Warramunga Arr 32.20 253 *i* P **P** **23 00 32.7 -0.9**
WRA pmax pmax
comp=Z,20nm,0.7s
ODZ Otahua Downs 32.48 175 P **P** **23 00 35.6 -0.2**
ODZ Otahua Downs 32.48 175 P **P** **23 00 35.7 0.0**
ODZ Otahua Downs 32.48 175 P **P** **23 00 35.5 -0.2**
GEXS Deakin Univers 32.57 214 P **P** **23 00 37.5 +0.9**
EAZ Earnscleugh 32.58 177 P **P** **23 00 37.1 +0.5**
MLZ Mavora Lakes 32.67 179 P **P** **23 00 37.6 +0.2**
MLZ Mavora Lakes 32.67 179 P **P** **23 00 38.1 +0.7**
BAKI Biak 32.69 288 P **P** **23 00 39.8 +1.8**
comp=Z,1µmcomp=Z,128nm,0.9s
DCZ Deep Cove 32.76 180 P **P** **23 00 39.1 +1.0**
DCZ Deep Cove 32.76 180 P **P** **23 00 39.5 +1.5**
RAR Rarotonga 32.82 110 P **P** **23 00 39.3 +0.3**
RAR Rarotonga 32.82 110 P **P** **23 00 38.8 -0.2**
comp=Z,59nm,0.9s,baz=239,slow=5.6,SNR=8.8
comp=Z,59nm,0.9s
RAR Rarotonga 32.82 110 P **P** **23 00 39.3 +0.3**
RAR pmax pmax
comp=Z,125nm,1.1s
GLAD Gladstone 32.84 207 P **P** **23 00 39.9 +1.1**
HTT Hallett 32.99 226 P **P** **23 00 41.7 +1.3**
WHZ Wether Hill Ro 33.19 179 P **P** **23 00 42.1 +0.2**
WHZ Wether Hill Ro 33.19 179 P **P** **23 00 42.1 +0.2**
AS01 Alice Springs 33.24 246 P **P** **23 00 42.4 -0.3**
AS31 Alice Springs 33.28 246 P **P** **23 00 42.1 -0.9**
ASAR Alice Springs 33.29 246 P **P** **23 00 42.4 -0.7**
comp=Z,14nm,0.5s,baz=69,slow=9.3,SNR=115
ASAR PcP **PcP** **23 03 19.9 -0.2**
comp=Z,30nm,0.8s,baz=81,slow=3.4,SNR=13
ASAR S **S** **23 05 44.6 -2.9**
comp=Z,16nm,1.1s,baz=73,slow=16,SNR=9.4
ASAR ScP **ScP** **23 06 45.0 +0.9**
comp=Z,42nm,0.9s,baz=80,slow=3.5,SNR=25
ASAR PKiKP **PKiKP** **23 10 44.3 -1.2**
comp=Z,2.8nm,0.6s,baz=108,slow=1.4,SNR=11
ASAR P3KPbc 23 31 53.6
comp=Z,3.4nm,0.9s,baz=263,slow=4.2,SNR=16
comp=Z,14nm,0.5s
TUZ Tuapeka 33.32 177 P **P** **23 00 44.1 +1.2**
KDU Kakadu 33.73 266 P **P** **23 00 47.1 +0.2**
WHYH Whyalla 33.75 228 P **P** **23 00 47.4 +0.6**
SYZ Scrubby Hill 33.88 177 P **P** **23 00 49.0 +1.3**
SYZ Scrubby Hill 33.88 177 P **P** **23 00 48.4 +0.7**
APZ The Paps 34.13 179 P **P** **23 00 50.0 0.0**
MOO Moorlands 34.38 206 P **P** **23 00 53.5 +1.4**
RKPI Ransiki, Papua 34.38 286 P **P** **23 00 53.1 +0.6**
comp=Z,4µmcomp=Z,187nm,0.9s
TAU Tasmania Unive 34.70 206 P **P** **23 00 55.5 +0.7**
TAU **PcP** **23 03 24.9 +1.2**
TAU Tasmania Unive 34.70 206 P **P** **23 00 55.9 +1.0**
TAU Tasmania Unive 34.70 206 P **P** **23 00 55.5 +0.7**
TAU 23 03 24.9
TAU pmax pmax
comp=Z,42nm,0.8s
BBOO Buckleboo 34.75 230 P **P** **23 00 55.7 +0.3**
BBOO **PcP** **23 03 23.6 -0.5**
BBOO Buckleboo 34.75 230 P **P** **23 00 55.8 +0.3**
MTN Manton Dam 35.02 266 PcP **PcP** **23 03 25.3 +0.1**
DRS Darwin Rock St 35.27 266 P **P** **23 01 00.5 +0.3**
FAKI Fak Fak 35.75 283 P **P** **23 01 03.9 -0.3**
FAKI Fak Fak 35.75 283 P **P** **23 01 04.4 +0.1**
KNRA Kununurra 37.22 261 P **P** **23 01 16.8 +0.2**
KNRA IAmb IAmb 23 01 18.2
comp=Z,292nm,1.1s
SWI Sorong 37.34 285 P **P** **23 01 18.2 +0.5**
comp=Z,2µmcomp=Z,222nm,1.2s
XMAS Kiritimati 38.14 70 P **P** **23 01 24.3 0.0**
XMAS Kiritimati 38.14 70 P **P** **23 01 25.4 +1.1**
FITZ Fitzroy Crossi 40.24 257 P **P** **23 01 41.8 +0.1**
FITZ Fitzroy Crossi 40.24 257 PcP **PcP** **23 03 41.8 +0.5**
comp=Z,34nm,0.8s,baz=101,slow=2.8,SNR=5.2
FITZ S **S** **23 07 30.4 -2.5**
comp=Z,8.9nm,1.0s,baz=78,slow=17,SNR=3.4
NLAI Namlea 40.59 280 P **P** **23 01 45.6 +1.0**
comp=Z,4µmcomp=Z,330nm,1.6s
TNTI Ternate 41.55 286 P **P** **23 01 53.1 +0.7**
TNTI Ternate 41.55 286 P **P** **23 03 53.2 +0.7**
SANI Sanana 41.99 281 P **P** **23 01 56.2 +0.3**
comp=Z,1µmcomp=Z,97nm,1.1s
SOEI Soe 42.03 269 P **P** **23 01 56.9 +0.4**
SOEI Soe 42.03 269 P **P** **23 01 57.4 +0.9**
comp=Z,116nm,1.1s
PPT Papeete 42.10 102 P **P** **23 01 57.4 +0.5**
comp=Z,56nm,0.7s,baz=62,slow=2.6,SNR=11
comp=Z,56nm,0.7s
PPTF Pamatai, Papee 42.11 102 P **P** **23 01 57.2 +0.2**
BATI Baumata 42.56 269 P **P** **23 02 01.5 +0.9**
comp=Z,2µmcomp=Z,212nm,0.9s
MIDW Midway 43.29 20 P **P** **23 02 06.3 +0.2**
MIDW IAmb IAmb 23 02 07.2
comp=Z,441nm,1.3s
MMRI Maumere 44.18 271 P **P** **23 02 13.7 +0.1**
MMRI IAmb IAmb 23 02 15.1
comp=Z,258nm,1.1s
MMRI Maumere 44.18 271 P **P** **23 02 13.4 -0.1**
comp=Z,261nm,1.1s
SGSI Sangihe 44.31 289 P **P** **23 02 14.8 +0.3**
comp=Z,648nm,1.4s
BBSI Bau Bau 44.44 275 P **P** **23 02 15.7 +0.1**
comp=Z,2µmcomp=Z,193nm,1.3s
KMSI Cibinong 44.69 284 P **P** **23 02 16.9 -0.6**
comp=Z,7µmcomp=Z,429nm,0.9s
EDFI Ende, Flores 44.70 270 P **P** **23 02 17.2 -0.5**
comp=Z,1µmcomp=Z,120nm,1.2s
LUWI Luwuk 45.35 281 P **P** **23 02 22.9 +0.1**
LUWI Luwuk 45.35 281 P **P** **23 02 22.9 +0.1**
comp=Z,3µmcomp=Z,113nm,0.5s
BASI Baing, Sumba 45.57 268 P **P** **23 02 24.6 +0.1**
comp=Z,345nm,0.9s
DAV Davao City (W) 45.61 293 LR LR 23 18 18.4
comp=Z,297nm,21.4s,baz=120,slow=32
PSA00 Pilbara Seismi 45.85 252 P **P** **23 02 26.6 0.0**
PSA00 Pilbara Seismi 45.85 252 P **P** **23 02 26.6 0.0**
PSA00 PcP **PcP** **23 03 59.6 -0.6**
PSA00 Pilbara Seismi 45.85 252 P **P** **23 02 26.7 +0.1**
MBWA Marble Bar 45.93 253 P **P** **23 02 27.2 0.0**
MBWA Marble Bar 45.93 253 P **P** **23 02 27.5 +0.3**
MBWA S **S** **23 08 54.6 -1.0**
MBWA Marble Bar 45.93 253 P **P** **23 02 27.9 +0.7**
JCJ Chichijima 46.26 329 P **P** **23 02 28.6 -0.9**
JCJ Chichijima 46.26 329 P **P** **23 02 29.1 -0.5**
comp=Z,401nm,0.8s,baz=256,slow=4.1,SNR=61
comp=Z,401nm,0.8s
JCJ Chichijima 46.26 329 P **P** **23 02 29.8 +0.2**
BSSI Bau Bau, Buton 46.33 274 P **P** **23 02 30.5 +0.1**
comp=Z,147nm,1.3s
APSI Ampana 46.47 281 P **P** **23 02 32.6 +1.1**
comp=Z,2µmcomp=Z,156nm,1.4s
MRSI Marisa 46.59 283 P **P** **23 02 31.2 -1.2**
comp=Z,1µmcomp=Z,70nm,1.0s
WBSI Waikabubak, Su 46.81 269 P **P** **23 02 34.1 -0.1**
comp=Z,2µmcomp=Z,233nm,1.0s
BKSI Bulukumba 46.86 275 P **P** **23 02 34.5 0.0**
BNSI Bone 47.07 276 P **P** **23 02 36.7 +0.5**
comp=Z,3µmcomp=Z,343nm,1.1s
KAPI Kappang 47.28 275 P **P** **23 02 38.3 +0.5**
KAPI Kappang 47.28 275 P **P** **23 02 38.2 +0.5**
comp=Z,86nm,0.8s,baz=112,slow=5.0,SNR=34
KAPI PcP **PcP** **23 04 05.7 +0.3**
comp=Z,28nm,0.5s,baz=97,slow=5.8,SNR=5.3
comp=Z,86nm,0.8s
KAPI Kappang 47.28 275 P **P** **23 02 38.4 +0.5**
KAPI S **S** **23 09 15.0 +0.1**
KAPI Kappang 47.28 275 *i* P **P** **23 02 37.4 -0.4**
KAPI pmax pmax
comp=Z,156nm,0.9s
KAPI Kappang 47.28 275 P **P** **23 02 38.3 +0.5**
KAPI PcP **PcP** **23 04 05.3 -0.1**
KAPI PP **PP** **23 04 29.7 -1.3**
KEKH Kekaha 47.37 44 P **P** **23 02 38.8 +0.5**
KEKH IAmb IAmb 23 02 39.5
comp=Z,236nm,0.7s
MEEK Meekatharra 47.44 245 P **P** **23 02 39.2 +0.3**
SPSI Sidrap Palu 47.50 276 P **P** **23 02 38.7 -0.7**
comp=Z,91nm,1.0s
TTSI Tana Toraja 47.67 277 P **P** **23 02 41.5 +0.8**
comp=Z,1µmcomp=Z,43nm,0.8s
TOLI2 Tolitoli 47.89 283 P **P** **23 02 41.4 -1.0**
TOLI2 PcP **PcP** **23 04 07.9 +0.3**
TOLI2 Tolitoli 47.89 283 P **P** **23 02 42.1 -0.3**
KIP Kipapa 48.16 46 P **P** **23 02 44.3 -0.1**
KIP Kipapa 48.16 46 P **P** **23 02 44.3 -0.1**
KIP pmax pmax
comp=Z,176nm,0.8s
KIP Kipapa 48.16 46 P **P** **23 02 44.6 +0.3**
PCI Palu 48.21 280 P **P** **23 02 46.3 +1.4**
comp=Z,5µmcomp=Z,391nm,1.1s
PLAI Plampang 48.51 269 P **P** **23 02 46.9 -0.3**
PLAI Plampang 48.51 269 P **P** **23 02 46.4 -0.8**
comp=Z,2µmcomp=Z,264nm,1.5s
AIN Ainahou 48.71 50 P **P** **23 02 48.7 -0.1**
AIN IAmb IAmb 23 02 50.0
comp=Z,274nm,0.7s
HMH Humu'ula Sheep 48.84 50 P **P** **23 02 50.1 +0.2**
HMH IAmb IAmb 23 02 51.5
comp=Z,348nm,0.8s
BYL Byron's Ledge 48.89 50 P **P** **23 02 50.3 +0.2**
POHA Pohakuloa 48.90 49 P **P** **23 02 50.4 +0.2**
POHA IAmb IAmb 23 02 51.5
comp=Z,212nm,0.7s
KHLH Kahului Airpor 48.95 48 P **P** **23 02 51.0 +0.6**
KHLH IAmb IAmb 23 02 52.3
comp=Z,263nm,0.9s
STCH Steam Cracks 48.97 50 P **P** **23 02 50.8 +0.1**
STCH IAmb IAmb 23 02 52.0
comp=Z,333nm,0.7s
KLBR Kellerberrin 48.98 239 P **P** **23 02 50.8 +0.2**
JOKA Jonika Flow 49.09 50 P **P** **23 02 51.7 +0.2**
NWAO Narrogin (SRO) 49.68 237 P **P** **23 02 55.8 0.0**
NWAO Narrogin (SRO) 49.68 237 LR LR 23 23 00.8
comp=Z,784nm,19.3s,baz=82,slow=35
NWAO Narrogin (SRO) 49.68 237 P **P** **23 02 55.3 -0.6**
NWAO P **P** **23 02 56.0 +0.2**
NWAO Narrogin (SRO) 49.68 237 P **P** **23 02 56.2 +0.4**
NWAO Narrogin (SRO) 49.68 237 P **P** **23 02 56.1 +0.2**
NWAO Narrogin (SRO) 49.68 237 P **P** **23 02 55.8 0.0**
NWAO pmax pmax
comp=Z,228nm,1.2s
NWAO Narrogin (SRO) 49.68 237 P **P** **23 02 55.5 -0.3**
BLDU Ballidu 49.69 241 P **P** **23 02 56.3 +0.4**
MORW Morawa 50.02 243 P **P** **23 02 58.6 +0.2**
MORW Morawa 50.02 243 P **P** **23 02 58.7 +0.2**
MUN Mundaring 50.35 239 P **P** **23 03 01.8 +1.0**
SMKI Samarinda 50.86 280 P **P** **23 03 07.0 +2.1**
comp=Z,332nm,1.0s
SRBI Singaraja 51.13 270 P **P** **23 03 06.9 0.0**
comp=Z,3µmcomp=Z,234nm,0.9s
JMZ Minamidaito 2 51.72 318 P **P** **23 03 10.6 -0.4**
JAGI Jajag, Banyuwa 52.10 269 P **P** **23 03 13.8 -0.4**
JAGI IAmb IAmb 23 03 14.3
comp=Z,348nm,1.4s
JAGI Jajag, Banyuwa 52.10 269 P **P** **23 03 13.7 -0.4**
JAGI Jajag, Banyuwa 52.10 269 P **P** **23 03 13.0 -1.1**
comp=Z,202nm,1.1s
JHJ2 Mitsune 52.36 331 P **P** **23 03 16.2 +0.6**
JHJ2 PcP **PcP** **23 04 24.4 +0.9**
JHJ2 Mitsune 52.36 331 P **P** **23 03 16.4 +0.8**
JHJ Hachijo jima 2 52.38 331 P **P** **23 03 15.2 -0.6**
comp=Z,346nm,0.7s,baz=150,slow=4.3,SNR=11
JHJ PcP **PcP** **23 04 24.4 +0.8**
comp=Z,386nm,0.8s,baz=190,slow=4.9,SNR=7.6
comp=Z,346nm,0.7s
GMJI Gumukmas 52.82 269 P **P** **23 03 18.7 -0.7**
comp=Z,84nm,1.0s
TGY Tagaytay City 52.83 299 P **P** **23 03 19.9 +0.4**
comp=Z,178nm,0.4s,baz=174,slow=10,SNR=5.0
comp=Z,178nm,0.4s
KKM Kota Kinabalu 53.81 287 P **P** **23 03 26.4 -0.3**
JOW Kunigami 54.35 316 P **P** **23 03 31.6 +1.3**
JOW IAmb IAmb 23 03 32.7
comp=Z,247nm,0.7s
JOW Kunigami 54.35 316 P **P** **23 03 31.2 +1.0**
comp=Z,208nm,0.7s,baz=153,slow=7.4,SNR=47
comp=Z,208nm,0.7s
JOW Kunigami 54.35 316 P **P** **23 03 30.6 +0.4**
JSG Sagara 54.41 331 P **P** **23 03 32.0 +1.5**
NGJI Ngawi 54.91 270 P **P** **23 03 34.9 +0.4**
comp=Z,152nm,1.6s
PCJI Pacitan 55.05 269 P **P** **23 03 35.0 -0.5**
WOJI Wonogiri, Jawa 55.36 269 P **P** **23 03 37.8 +0.1**
comp=Z,232nm,1.0s
INU Inuyama 55.52 330 P **P** **23 03 39.1 +0.7**
INU Inuyama 55.52 330 P **P** **23 03 38.7 +0.3**
INU Inuyama 55.52 330 P **P** **23 03 38.8 +0.4**
JGF Kuroka 55.56 331 P **P** **23 03 39.1 +0.3**
JGF IAmb IAmb 23 03 41.0
comp=Z,212nm,0.8s
JGF Kuroka 55.56 331 P **P** **23 03 38.8 0.0**
UGM Wanagama 55.74 269 P **P** **23 03 40.0 -0.4**
JMN Monobe 55.86 327 P **P** **23 03 41.8 +0.9**
JMN Monobe 55.86 327 P **P** **23 03 41.4 +0.5**
JMM Marumori 55.91 335 P **P** **23 03 42.0 +0.9**
JMM IAmb IAmb 23 03 43.0
comp=Z,211nm,0.7s
JMM Marumori 55.91 335 P **P** **23 03 41.7 +0.6**
MJAR Matsushiro Arr 55.93 332 P **P** **23 03 40.9 -0.5**
comp=Z,222nm,0.8s,baz=166,slow=8.3,SNR=393
MJAR PcP **PcP** **23 04 38.3 +1.0**
comp=Z,52nm,0.9s,baz=163,slow=4.2,SNR=5.3
comp=Z,222nm,0.8s
MAJO Matsushiro 55.93 332 P **P** **23 03 41.1 -0.2**
MAJO Matsushiro 55.93 332 P **P** **23 03 41.6 +0.3**
MAJO Matsushiro 55.93 332 P **P** **23 03 41.1 -0.2**
MAJO pmax pmax
comp=Z,374nm,0.9s
MAJO Matsushiro 55.93 332 P **P** **23 03 41.1 -0.2**
MAJO PcP **PcP** **23 04 38.1 +0.8**
MJB9 Matsu-Tunnel 55.94 332 P **P** **23 03 42.3 +0.9**
SMRI Semarang 55.97 270 P **P** **23 03 42.2 +0.2**
SMRI IAmb IAmb 23 03 44.0
comp=Z,230nm,0.8s
SMRI Semarang 55.97 270 P **P** **23 03 42.6 +0.6**
comp=Z,342nm,0.9s
SBUM Sibu 56.45 282 P **P** **23 03 46.0 +0.5**
STKI Sintang 56.52 279 P **P** **23 03 47.1 +1.2**
comp=Z,172nm,1.4s
YOJ Yonaguni jima 56.61 311 P **P** **23 03 46.5 +0.2**
YOJ IAmb IAmb 23 03 48.0
comp=Z,225nm,1.1s
YOJ Yonaguni jima 56.61 311 P **P** **23 03 46.5 +0.2**
YOJ Yonaguni jima 56.61 311 P **P** **23 03 46.5 +0.2**
YOJ pmax pmax
comp=Z,225nm,1.1s
JNU Nakatsue 57.08 324 P **P** **23 03 50.0 +0.4**
JNU Nakatsue 57.08 324 P **P** **23 03 49.8 +0.3**
comp=Z,298nm,0.8s,baz=103,slow=2.3,SNR=146
comp=Z,298nm,0.8s
JNU Nakatsue 57.08 324 P **P** **23 03 49.9 +0.4**
JSD Sado 57.14 333 P **P** **23 03 50.1 +0.3**
TWG Pinlang 57.16 308 P **P** **23 03 49.3 -0.9**
YULB Yu-li 57.30 309 P **P** **23 03 51.1 -0.1**
YULB Yu-li 57.30 309 P **P** **23 03 51.3 +0.1**
KPJI Karang Pucung 57.39 269 P **P** **23 03 52.4 +0.4**
comp=Z,311nm,0.8s
NACB Ninganchiao 57.51 309 P **P** **23 03 52.3 -0.3**
NACB IAmb IAmb 23 03 57.2
comp=Z,119nm,0.8s
NACB Ninganchiao 57.51 309 P **P** **23 03 52.9 +0.3**
TPUB Ta-pu 57.76 308 P **P** **23 03 54.0 -0.4**
TPUB IAmb IAmb 23 03 55.2
comp=Z,258nm,0.9s
TPUB Ta-pu 57.76 308 P **P** **23 03 54.2 -0.2**
SSLB Suanglung 57.78 309 P **P** **23 03 54.2 -0.4**
SSLB Suanglung 57.78 309 P **P** **23 03 54.7 +0.1**
YHNB Yeheng 57.95 310 P **P** **23 03 55.7 -0.1**
YHNB IAmb IAmb 23 03 57.3
comp=Z,266nm,0.9s
YHNB Yeheng 57.95 310 P **P** **23 03 56.4 +0.6**
KSM Kuching 58.02 280 P **P** **23 03 56.6 +0.2**
TATO Taipei 58.04 310 P **P** **23 03 56.2 -0.1**
TATO IAmb IAmb 23 03 57.6
comp=Z,281nm,1.3s
TATO Taipei 58.04 310 P **P** **23 03 56.7 +0.4**
JCJI Jatiwangi 58.19 270 P **P** **23 03 57.7 +0.1**
JTM Tenmabayashi 58.31 337 P **P** **23 03 58.3 +0.4**
JTM **PcP** **23 04 47.5 +1.0**
JTM Tenmabayashi 58.31 337 P **P** **23 03 58.7 +0.8**
BBJI Bungbulang 58.62 269 P **P** **23 04 00.6 0.0**
ERM Erimo 58.62 339 P **P** **23 04 00.9 +0.9**
ERM IAmb IAmb 23 04 02.7
comp=Z,216nm,0.6s
ERM Erimo 58.62 339 P **P** **23 04 00.4 +0.4**
ERM Erimo 58.62 339 *ce* P **P** **23 04 02.1 +2.1**
ERM pmax pmax
comp=Z,220nm,0.7s
JEM Erimo 58.63 339 P **P** **23 04 01.0 +1.0**
LEM Lembang 58.76 270 LR LR 23 31 24.3
comp=Z,343nm,18.9s,baz=17,slow=38
LEM Lembang 58.76 270 P **P** **23 04 02.0 +0.2**
JTU Tsushima 58.94 324 P **P** **23 04 02.6 +0.3**
CNJI Cibinong 59.15 269 P **P** **23 04 04.0 -0.2**
comp=Z,2µmcomp=Z,179nm,1.2s
TPI Tanjungpandan 59.55 274 P **P** **23 04 07.4 +0.4**
comp=Z,2µmcomp=Z,159nm,1.0s
DBJI Dramaga 59.66 270 P **P** **23 04 08.2 +0.5**
comp=Z,328nm,1.4s
SKJI Sukabumi 59.77 269 P **P** **23 04 08.1 -0.3**
KNMB Chin-men Tao 60.11 308 P **P** **23 04 10.4 -0.1**
QZH Quanzhou 60.21 308 ⇑ *i* P **P** **23 04 11.9 +0.7**
QZH pP **PcP** **23 04 56.3 +1.9**
QZH S **S** **23 12 07.6 -0.4**
QZH sS **sS** **23 13 29.1 -2.9**
QZH pmax pmax
comp=Z,200nm,1.2s
QZH pmax pmax
comp=Z,510nm,3.9s
QZH LR LR
comp=Z,430nm,15.1s
QZH LR LR
comp=Z,570nm,15.4s
QZH LR LR
comp=Z,700nm,20.5s
SBJI Serang 60.35 270 P **P** **23 04 11.9 -0.5**
comp=Z,5µmcomp=Z,255nm,1.2s
JKA Kamikawa-asahi 60.68 340 P **P** **23 04 15.3 +1.4**
ASAJ Asahikawa 60.68 340 P **P** **23 04 15.2 +1.3**
comp=Z,371nm,0.6s,baz=214,slow=8.8,SNR=230
comp=Z,371nm,0.6s
ASAJ Asahikawa 60.68 340 P **P** **23 04 15.3 +1.3**
ASAJ pmax pmax
comp=Z,387nm,0.7s
CGJI Cibinong 60.68 269 P **P** **23 04 13.5 -1.1**
PPBI Pangkal Pinang 61.16 274 P **P** **23 04 18.1 +0.2**
TJN Taejon 61.42 324 P **P** **23 04 19.2 +0.1**
TJN PcP **PcP** **23 05 00.1 +1.1**
TJN Taejon 61.42 324 P **P** **23 04 19.9 +0.8**
TJN Taejon 61.42 324 *i* P **P** **23 04 18.2 -0.9**
SSE Sheshan 61.85 316 P **P** **23 04 22.9 +0.8**
SSE S **S** **23 12 32.3 +3.8**
SSE pmax pmax
comp=Z,150nm,0.8s
SSE pmax pmax
comp=Z,340nm,3.5s
SSE LR LR
comp=Z,86nm,16.3s
SSE LR LR
comp=Z,130nm,16.2s
KSRS Korea Array 61.87 325 P **P** **23 04 22.7 +0.6**
comp=Z,82nm,0.9s,baz=140,slow=7.0,SNR=207
KSRS PcP **PcP** **23 05 02.3 +1.5**
comp=Z,4.5nm,0.6s,baz=136,slow=4.4,SNR=4.6
KSRS PKP2bc 23 33 33.8
comp=Z,1.3nm,0.4s,baz=335,slow=3.0,SNR=7.5
comp=Z,82nm,0.9s
KSAR Wonju Array Be 61.88 325 P **P** **23 04 22.8 +0.6**
KSAR PcP **PcP** **23 05 01.9 +0.9**
KSAR Wonju Array Be 61.88 325 P **P** **23 04 22.8 +0.6**
KS19 Wonju Array Si 61.94 325 P **P** **23 04 22.7 +0.1**
KS19 IAmb IAmb 23 04 24.2
comp=Z,166nm,1.1s
KS19 PcP **PcP** **23 05 02.0 +0.8**
KASI Kota Agung 62.05 270 P **P** **23 04 23.2 -0.6**
comp=Z,2µmcomp=Z,232nm,1.0s
HKPS Hong Kong Po S 62.38 303 P **P** **23 04 26.8 +1.0**
HKPS IAmb IAmb 23 04 28.4
comp=Z,261nm,0.9s

MDSI	**Maura Dua**	**62.57**	**271**	P	**P**	**23**	**04**	**26.0**	**-1.3**
	comp=Z,2µmcomp=Z,144nm,1.2s							
LWLI	**Liwa**	**62.58**	**271**	P	**P**	**23**	**04**	**26.6**	**-0.9**
	comp=Z,335nm,1.2s							
INCN	**Inchon**	**62.62**	**324**	P	**P**	**23**	**04**	**26.9**	**-0.2**
INCN				PcP	**PcP**	**23**	**05**	**04.5**	**+0.5**
INCN	**Inchon**	**62.62**	**324**	P	**P**	**23**	**04**	**27.3**	**+0.2**
INCN				S	**S**	**23**	**12**	**38.7**	**+0.8**
INCN	**Inchon**	**62.62**	**324**	P	**P**	**23**	**04**	**26.9**	**-0.2**
INCN						23	05	04.5	
INCN				pmax	pmax				
	comp=Z,738nm,1.8s								
INCN	**Inchon**	**62.62**	**324**	P	**P**	**23**	**04**	**27.8**	**+0.7**
INCN				PcP	**PcP**	**23**	**05**	**04.9**	**+0.9**
DLV	**Lat**	**63.02**	**290**	P	**P**	**23**	**04**	**30.8**	**+0.5**
DLV				IAmb	IAmb	23	04	32.6	
	comp=Z,207nm,1.5s								
DSRI	**Dabo**	**63.06**	**276**	P	**P**	**23**	**04**	**31.0**	**+0.5**
	comp=Z,2µmcomp=Z,167nm,1.1s								
YSS	**Yuzhno-Sakhali**	**63.15**	**342**	P	**P**	**23**	**04**	**31.8**	**+1.5**
YSS	**Yuzhno-Sakhali**	**63.15**	**342**	*ce*P	**P**	**23**	**04**	**32.0**	**+1.7**
YSS				*e*		23	05	07.4	
YSS				*e**PP	**pP**	**23**	**05**	**24.3**	**+5.0**
YSS				*e*S	**S**	**23**	**12**	**43.3**	**-0.8**
YSS				pmax	pmax				
	comp=Z,2µm,3.0s								
YSS				pmax	pmax				
	comp=N,700nm,3.4s								
YSS				pmax	pmax				
	comp=Z,600nm,1.0s								
YSS				smax	smax				
	comp=N,400nm,8.9s								
YSS	**Yuzhno-Sakhali**	**63.15**	**342**	P	**P**	**23**	**04**	**31.8**	**+1.5**
YSS				PcP	**PcP**	**23**	**05**	**07.3**	**+1.4**
LHSI	**Lahat**	**63.35**	**272**	P	**P**	**23**	**04**	**31.8**	**-0.6**
	comp=N,156nm,1.1s								
GZH	**Guangzhou**	**63.41**	**304**	P	**P**	**23**	**04**	**34.1**	**+1.6**
GZH				PcP	**PcP**	**23**	**05**	**09.5**	**+2.0**
GZH				pP	**pwP**	**23**	**05**	**26.6**	**+0.3**
GZH				sP	**sP**	**23**	**05**	**49.1**	**+5.9**
GZH				S	**S**	**23**	**12**	**49.3**	**+1.1**
GZH				ScS	**ScS**	**23**	**14**	**06.5**	**+1.6**
GZH				pmax	pmax				
	comp=N,120nm,1.4s								
TPRI	**Tanjung Pinang**	**63.45**	**277**	P	**P**	**23**	**04**	**33.8**	**+0.7**
TEY	**Ternei**	**63.65**	**336**⇓	*e*P	**P**	**23**	**04**	**33.4**	**-0.2**
TEY				pmax	pmax				
	comp=N,100nm,2.0s								
TEY				pmax	pmax				
	comp=Z,400nm,1.9s								
TEY				pmax	pmax				
	comp=E,40nm,1.0s								
TEY				pmax	pmax				
	comp=N,50nm,1.1s								
TEY				pmax	pmax				
	comp=Z,80nm,1.1s								
SKR	**Severo-Kuril's**	**63.73**	**352**	*e*P	**P**	**23**	**04**	**34.1**	**0.0**
SKR				*e*S	**S**	**23**	**12**	**46.5**	**-4.6**
SKR				pmax	pmax				
	comp=Z,300nm,2.4s								
SKR				pmax	pmax				
	comp=Z,598nm,1.1s								
NJ2	**Nanjing**	**64.02**	**315**⇑	*i*P	**P**	**23**	**04**	**37.4**	**+1.1**
NJ2				PcP	**PcP**	**23**	**05**	**11.3**	**+1.5**
NJ2				pP	**pwP**	**23**	**05**	**28.6**	**+0.8**
NJ2				S	**S**	**23**	**12**	**57.3**	**+1.9**
NJ2				pmax	pmax				
	comp=Z,240nm,0.8s								
MSHR	**Mys Shultsa**	**64.02**	**331**	*i* P	**P**	**23**	**04**	**36.1**	**0.0**
VLA	**Vladivostok**	**64.10**	**332**	*e*P	**P**	**23**	**04**	**38.0**	**+1.4**
VLA				pmax	pmax				
	comp=Z,521nm,1.7s								
PSTR	**Posyet**	**64.24**	**331**	*i* P	**P**	**23**	**04**	**38.8**	**+1.2**
KSI	**Kapahiang**	**64.29**	**272**	P	**P**	**23**	**04**	**37.8**	**-0.8**
	comp=Z,187nm,0.8s								
QIZ	**Qiongzhong**	**64.53**	**298**	P	**P**	**23**	**04**	**41.3**	**+1.3**
QIZ				pP	**pP**	**23**	**05**	**28.8**	**+0.8**
QIZ				S	**S**	**23**	**13**	**04.8**	**+2.6**
QIZ				SS	**SS**	**23**	**17**	**18.0**	**+0.8**
QIZ				pmax	pmax				
	comp=Z,110nm,0.9s								
QIZ				LR	LR				
	comp=Z,260nm,12.1s								
QIZ				LR	LR				
	comp=Z,220nm,10.1s								
QIZ				LR	LR				
	comp=Z,340nm,18.1s								
QIZ	**Qiongzhong**	**64.53**	**298**	P	**P**	**23**	**04**	**41.2**	**+1.2**
MASI	**Maura Aman, Be**	**64.74**	**272**	P	**P**	**23**	**04**	**40.9**	**-0.6**
USRK	**Ussuriysk Ar.**	**64.90**	**333**	P	**P**	**23**	**04**	**43.0**	**+1.2**
USRK				PcP	**PcP**	**23**	**05**	**13.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**64.90**	**333**	P	**P**	**23**	**04**	**43.0**	**+1.2**
	comp=Z,254nm,0.9s,baz=137,slow=5.8,SNR=204								
USRK				PcP	**PcP**	**23**	**05**	**14.5**	**+1.4**
	comp=Z,60nm,0.8s,baz=87,slow=1.5,SNR=6.6								
USRK				PKP2bc		23	33	25.8	
	comp=Z,5.2nm,0.8s,baz=28,slow=4.5,SNR=5.1								
	comp=Z,254nm,0.9s								
USRK	**Ussuriysk Ar.**	**64.90**	**333**	P	**P**	**23**	**04**	**43.0**	**+1.2**
USA0B	**Ussuriysk Arra**	**64.90**	**333**	P	**P**	**23**	**04**	**43.4**	**+1.6**
USA0B	**Ussuriysk Arra**	**64.90**	**333**	*i* P	**P**	**23**	**04**	**41.6**	**-0.2**
VNDA	**Vanda**	**64.97**	**181**	P	**P**	**23**	**04**	**42.7**	**+0.9**
VNDA				IAmb	IAmb	23	04	44.5	
	comp=Z,319nm,1.6s								
VNDA	**Vanda**	**64.97**	**181**	P	**P**	**23**	**04**	**42.4**	**+0.5**
	comp=Z,60nm,0.9s,baz=357,slow=7.2,SNR=155								
VNDA				PcP	**PcP**	**23**	**05**	**14.0**	**+1.0**
	comp=Z,29nm,0.8s,baz=55,slow=1.7,SNR=5.8								
VNDA				PKP2bc		23	33	25.8	
	comp=Z,2.6nm,0.9s,baz=196,slow=3.7,SNR=5.8								
	comp=Z,60nm,0.9s								
VNDA	**Vanda**	**64.97**	**181**	P	**P**	**23**	**04**	**42.7**	**+0.9**
VNDA				pmax	pmax				
	comp=Z,319nm,1.7s								
SBA	**Scott Base**	**65.25**	**180**	P	**P**	**23**	**04**	**45.3**	**+1.7**
SBA				IAmb	IAmb	23	04	47.1	
	comp=Z,239nm,1.0s								
SBA				PcP	**PcP**	**23**	**05**	**15.7**	**+1.5**
SBA	**Scott Base**	**65.25**	**180**	P	**P**	**23**	**04**	**45.3**	**+1.7**
SBA						23	05	15.7	
SBA				pmax	pmax				
	comp=Z,239nm,1.0s								
UGL	**Uglegorsk**	**65.26**	**342**	*e*P	**P**	**23**	**04**	**45.3**	**+1.3**
UGL				pmax	pmax				
	comp=Z,1µm,0.9s								
SMY	**Shemya**	**65.34**	**5**	P	**P**	**23**	**04**	**45.5**	**+1.0**
SMY	**Shemya**	**65.34**	**5**	P	**P**	**23**	**04**	**45.5**	**+1.0**
SMY				pmax	pmax				
	comp=Z,790nm,1.5s								
KIWB	**Kanaga Island**	**65.63**	**11**	P	**P**	**23**	**04**	**47.3**	**+1.0**
KRJI	**Kerinci**	**65.73**	**273**	P	**P**	**23**	**04**	**46.7**	**-1.2**
	comp=Z,318nm,0.9s								
ADK	**Adak**	**65.74**	**11**	P	**P**	**23**	**04**	**48.0**	**+0.9**
ADK	**Adak**	**65.74**	**11**	P	**P**	**23**	**04**	**47.6**	**+0.6**
ADK	**Adak**	**65.74**	**11**	P	**P**	**23**	**04**	**48.0**	**+0.9**
ADK				pmax	pmax				
	comp=Z,508nm,1.4s								
ADK	**Adak**	**65.74**	**11**	P	**P**	**23**	**04**	**47.4**	**+0.4**
PET	**Petropavlovsk**	**65.75**	**354**	P	**P**	**23**	**04**	**47.5**	**+0.4**
PET				IAmb	IAmb	23	04	48.9	
	comp=Z,347nm,1.3s								
PET	**Petropavlovsk**	**65.75**	**354**α	*i*P	**P**	**23**	**04**	**47.2**	**+0.1**
PET				*e**PP	**pP**	**23**	**05**	**37.4**	**+0.9**
PET				*i* S	**S**	**23**	**13**	**16.5**	**+0.8**
PET				pmax	pmax				
	comp=Z,800nm,8.7s								
PET				pmax	pmax				
	comp=Z,230nm,1.2s								
PET				pmax	pmax				
	comp=Z,300nm,10.7s								
PET	**Petropavlovsk**	**65.75**	**354**	P	**P**	**23**	**04**	**47.4**	**+0.3**
PET				PcP	**PcP**	**23**	**05**	**16.9**	**+0.5**
PEA0B	**Petropavlovsk-**	**65.93**	**354**	P	**P**	**23**	**04**	**49.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**65.93**	**354**	*ce*P	**P**	**23**	**04**	**49.2**	**+1.0**
PETK	**Petropavlovsk-**	**65.93**	**354**	P	**P**	**23**	**04**	**48.4**	**+0.2**
PETK	**Petropavlovsk-**	**65.93**	**354**	P	**P**	**23**	**04**	**49.0**	**+0.7**
	comp=Z,175nm,0.8s,baz=146,slow=6.6,SNR=264								
PETK				PKP2bc		23	33	22.6	
	comp=Z,18nm,1.2s,baz=66,slow=5.5,SNR=9.4								
	comp=Z,175nm,0.8s								
PETK	**Petropavlovsk-**	**65.93**	**354**	P	**P**	**23**	**04**	**49.0**	**+0.7**
GSTR	**Great Sitkin T**	**66.06**	**11**	P	**P**	**23**	**04**	**49.2**	**+0.1**
CNSH	**ChangSha**	**66.22**	**309**	P	**P**	**23**	**04**	**51.5**	**+0.9**
CNSH				S	**S**	**23**	**13**	**21.8**	**-0.5**
CNSH				pmax	pmax				
	comp=Z,46nm,0.8s								
CNSH				LR	LR				
	comp=Z,380nm,24.5s								
CNSH				LR	LR				
	comp=Z,190nm,17.5s								
CNSH				LR	LR				
	comp=Z,310nm,21.0s								
MDJ	**Mudanjiang**	**66.31**	**332**	P	**P**	**23**	**04**	**52.3**	**+1.5**
MDJ				S	**S**	**23**	**13**	**26.3**	**+3.4**
MDJ				pmax	pmax				
	comp=Z,400nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,2µm,4.5s								
MDJ	**Mudanjiang**	**66.31**	**332**	P	**P**	**23**	**04**	**52.1**	**+1.2**
MDJ				PcP	**PcP**	**23**	**05**	**20.5**	**+1.5**
MDJ				x	x	23	05	40.9	
WHN	**Wuhan**	**66.37**	**311**⇑	P	**P**	**23**	**04**	**52.0**	**+0.5**
WHN				S	**S**	**23**	**13**	**24.5**	**+0.4**
WHN				pmax	pmax				
	comp=Z,240nm,0.7s								
DL2	**Dalian**	**66.48**	**323**	P	**P**	**23**	**04**	**52.6**	**+0.6**
DL2				S	**S**	**23**	**13**	**25.8**	**+0.7**
DL2				ScS	**ScS**	**23**	**14**	**29.1**	**+1.2**
DL2				pmax	pmax				
	comp=Z,650nm,0.8s								
DL2				pmax	pmax				
	comp=Z,220nm,4.5s								
ATKA	**Atka Island**	**66.54**	**12**	P	**P**	**23**	**04**	**52.2**	**+0.2**
ATKA	**Atka Island**	**66.54**	**12**	P	**P**	**23**	**04**	**52.3**	**+0.2**
TYV	**Tymovskoe**	**66.69**	**343**	*e*P	**P**	**23**	**04**	**54.6**	**+1.6**
TYV				*e*S	**S**	**23**	**13**	**25.6**	**-1.4**
TYV				pmax	pmax				
	comp=Z,151nm,0.7s								
TYV				pmax	pmax				
	comp=Z,600nm,3.5s								
TYV				smax	smax				
	comp=N,200nm,6.4s								
TYV				smax	smax				
	comp=E,100nm,6.4s								
BKNI	**Bangkinang**	**66.69**	**276**	P	**P**	**23**	**04**	**54.3**	**+0.4**
BKNI	**Bangkinang**	**66.69**	**276**	P	**P**	**23**	**04**	**54.1**	**+0.2**
GULI	**GuiLin**	**66.84**	**305**	P	P	23	04	49.5	-5.1
GULI				S	S	23	13	14.9	-15
GULI				pmax	pmax				
	comp=Z,180nm,0.9s								
GULI				LR	LR				
	comp=N,410nm,12.5s								
GULI				LR	LR				
	comp=E,150nm,15.2s								
GULI				LR	LR				
	comp=Z,540nm,23.9s								
CCD	**Concordia, Ant**	**66.94**	**191**	P	**P**	**23**	**04**	**55.7**	**+0.9**
CCD				PcP	**PcP**	**23**	**05**	**22.3**	**+0.6**
PDSI	**Padang**	**66.97**	**274**	P	**P**	**23**	**04**	**54.1**	**-1.6**
	comp=Z,50nm,0.6s								
PPI	**Padang Panjang**	**67.13**	**275**	P	**P**	**23**	**04**	**56.9**	**+0.2**
	comp=Z,182nm,0.9s								
SNY	**Shenyang**	**67.33**	**326**⇓	P	**P**	**23**	**04**	**57.6**	**+0.3**
SNY				pmax	pmax				
	comp=Z,110nm,0.9s								
SNY				pmax	pmax				
	comp=Z,590nm,7.0s								
SNY				LR	LR				
	comp=Z,250nm,25.0s								
SNY				LR	LR				
	comp=Z,240nm,24.6s								
SNY				LR	LR				
	comp=Z,290nm,18.9s								
TIA	**Tai'an**	**67.62**	**318**	P	**P**	**23**	**04**	**58.8**	**-0.5**
TIA				PcP	**PcP**	**23**	**05**	**25.9**	**+1.2**
TIA				pP	**pP**	**23**	**05**	**46.4**	**-2.4**
TIA				S	S	23	13	27.1	-12
TIA				SKS	**ScS**	**23**	**14**	**37.3**	**+0.3**
TIA				pmax	pmax				
	comp=Z,170nm,0.9s								
TIA				pmax	pmax				
	comp=Z,720nm,3.6s								
TIA				LR	LR				
	comp=Z,510nm,19.4s								
TIA				LR	LR				
	comp=Z,530nm,17.0s								
TIA				LR	LR				
	comp=Z,500nm,20.3s								
CN2	**Changchun**	**67.72**	**329**	P	**P**	**23**	**05**	**00.1**	**+0.4**
CN2				PcP	**PcP**	**23**	**05**	**24.8**	**-0.1**
CN2				S	**S**	**23**	**13**	**39.8**	**+0.1**
CN2				pmax	pmax				
	comp=Z,290nm,0.8s								
IPM	**Ipoh**	**67.75**	**280**	P	**P**	**23**	**05**	**00.9**	**+0.3**
IPM				IAmb	IAmb	23	05	02.4	
	comp=Z,311nm,0.9s								
IPM	**Ipoh**	**67.75**	**280**	P	**P**	**23**	**05**	**01.3**	**+0.7**
CLES	**Cleveland East**	**68.11**	**15**	P	**P**	**23**	**05**	**02.1**	**+0.2**
BNX	**BinXian**	**68.18**	**331**	P	**P**	**23**	**05**	**02.4**	**-0.1**
BNX				PcP	**PcP**	**23**	**05**	**26.4**	**-0.4**
BNX				S	**S**	**23**	**13**	**46.0**	**+1.0**
BNX				pmax	pmax				
	comp=Z,250nm,1.2s								
MNSI	**Mandailing Nat**	**68.22**	**276**	P	**P**	**23**	**05**	**02.0**	**-1.5**
	comp=Z,3µmcomp=Z,292nm,0.9s								
KULM	**Kulim**	**68.33**	**281**	P	**P**	**23**	**05**	**04.0**	**-0.1**
KULM				IAmb	IAmb	23	05	05.8	
	comp=Z,135nm,1.0s								
KULM	**Kulim**	**68.33**	**281**	P	**P**	**23**	**05**	**04.9**	**+0.8**
COCO	**West Island**	**68.37**	**262**	P	**P**	**23**	**05**	**05.0**	**+0.6**
NIKH	**Nikolski High**	**68.51**	**15**	P	**P**	**23**	**05**	**04.7**	**+0.2**
NIKH	**Nikolski High**	**68.51**	**15**	P	**P**	**23**	**05**	**04.5**	**+0.1**
NIKH	**Nikolski High**	**68.51**	**15**	P	**P**	**23**	**05**	**04.6**	**+0.2**
	baz=205								
GRNR	**Gornyy**	**68.53**	**340**⇑	*i*P	**P**	**23**	**05**	**05.9**	**+1.3**
GRNR				pmax	pmax				
	comp=N,80nm,1.0s								
GRNR				pmax	pmax				
	comp=Z,310nm,0.8s								
RPSI	**Rantau Prapat**	**69.32**	**278**	IAmb	IAmb	23	05	11.2	
	comp=Z,229nm,1.0s								
LYN	**LuoYang**	**69.84**	**314**⇓	*i*P	**P**	**23**	**05**	**13.8**	**+0.8**
LYN				sP	sP	23	06	28.1	+2.3
LYN				S	**S**	**23**	**14**	**05.1**	**+0.1**
LYN				ScS	**SKSac**	**23**	**14**	**50.9**	**-2.3**
LYN				SKS	**SKSac**	**23**	**14**	**53.3**	**+0.1**
LYN				pmax	pmax				
	comp=Z,590nm,0.9s								
LYN				pmax	pmax				
	comp=Z,1µm,3.8s								
ENH	**Enshi**	**69.86**	**309**	P	**P**	**23**	**05**	**13.1**	**-0.2**
TSI	**Tuntungan**	**69.87**	**278**	P	**P**	**23**	**05**	**13.3**	**-0.3**
HNS	**HongShan**	**69.89**	**318**⇑	P	**P**	**23**	**05**	**13.3**	**+0.1**
HNS				sP	**sP**	**23**	**06**	**24.9**	**-1.0**
HNS				S	**S**	**23**	**14**	**06.3**	**+0.9**
HNS				pmax	pmax				
	comp=Z,270nm,1.3s								
HNS				LR	LR				
	comp=Z,120nm,12.2s								
HNS				LR	LR				
	comp=Z,270nm,12.9s								
HNS				LR	LR				
	comp=Z,230nm,14.2s								
UNV	**Unalaska Valle**	**69.92**	**16**	P	**P**	**23**	**05**	**12.6**	**-0.4**
UNV				IAmb	IAmb	23	05	13.8	
	comp=Z,213nm,1.2s								
UNV	**Unalaska Valle**	**69.92**	**16**	P	**P**	**23**	**05**	**12.4**	**-0.6**
	baz=208,SNR=14								
GSI	**Gunungsitoli**	**70.29**	**276**	P	**P**	**23**	**05**	**16.3**	**+0.1**
GSI	**Gunungsitoli**	**70.29**	**276**	P	**P**	**23**	**05**	**16.7**	**+0.5**
GSI	**Gunungsitoli**	**70.29**	**276**	P	**P**	**23**	**05**	**16.5**	**+0.3**
LVA	**Lava Point**	**70.33**	**16**	P	**P**	**23**	**05**	**15.2**	**-0.3**
LVA				IAmb	IAmb	23	05	15.6	
	comp=Z,127nm,0.6s								
GYA	**Guiyang**	**70.34**	**304**	P	**P**	**23**	**05**	**17.3**	**+0.9**
GYA				pmax	pmax				
	comp=Z,160nm,0.8s								
AKUT	**Akutan**	**70.38**	**17**	P	**P**	**23**	**05**	**15.4**	**-0.4**
AKUT				IAmb	IAmb	23	05	16.6	
	comp=Z,575nm,1.7s								
AKUT	**Akutan**	**70.38**	**17**	P	**P**	**23**	**05**	**15.4**	**-0.4**
BJT	**Baijiatuau**	**70.48**	**321**	P	**P**	**23**	**05**	**17.4**	**+0.7**
BJT				PcP	**PcP**	**23**	**05**	**37.3**	**+0.6**
BJI	**Beijing**	**70.48**	**321**	P	**P**	**23**	**05**	**17.5**	**+0.7**
BJI				sP	**sP**	**23**	**06**	**27.8**	**-1.7**
BJI				S	**S**	**23**	**14**	**13.6**	**+1.4**
BJI				pmax	pmax				
	comp=Z,82nm,0.8s								
BJI				pmax	pmax				
	comp=Z,400nm,3.6s								
SLVN	**Son La**	**70.56**	**298**	P	**P**	**23**	**05**	**18.1**	**+0.4**
KCSI	**Kotacane, Aceh**	**70.64**	**278**	P	**P**	**23**	**05**	**17.0**	**-1.3**
	comp=Z,118nm,0.8s								
HEH	**HeiHe**	**71.55**	**334**	*e*P	**P**	**23**	**05**	**22.9**	**-0.1**
HEH				PcP	**PcP**	**23**	**05**	**41.9**	**+0.9**
HEH				S	**S**	**23**	**14**	**22.6**	**-1.5**
HEH				pmax	pmax				
	comp=Z,230nm,0.8s								
HEH				pmax	pmax				
	comp=Z,990nm,5.0s								
TIY	**Taiyuan**	**71.56**	**317**	P	**P**	**23**	**05**	**25.0**	**+1.6**
TIY				sP	**sP**	**23**	**06**	**30.4**	**-5.9**
TIY				S	**S**	**23**	**14**	**25.8**	**+0.9**
TIY				pmax	pmax				
	comp=Z,470nm,1.0s								
TIY				LR	LR				
	comp=Z,230nm,19.9s								
TIY				LR	LR				
	comp=Z,230nm,15.1s								
TIY				LR	LR				
	comp=Z,200nm,19.2s								
P08K	**Saint George I**	**71.64**	**13**	P	**P**	**23**	**05**	**23.4**	**+0.1**
	baz=204								
FALS	**False Pass**	**71.68**	**17**	P	**P**	**23**	**05**	**23.0**	**-0.6**
FALS				IAmb	IAmb	23	05	26.4	
	comp=Z,149nm,0.6s								
FALS	**False Pass**	**71.68**	**17**	P	**P**	**23**	**05**	**22.9**	**-0.7**
	baz=210								
LHMI	**Lhok Sumawe**	**71.86**	**280**	IAmb	IAmb	23	05	27.5	
	comp=Z,168nm,0.9s								
LHMI	**Lhok Sumawe**	**71.86**	**280**	P	**P**	**23**	**05**	**26.5**	**+0.9**
	comp=Z,193nm,1.2s								
SPIA	**Saint Paul Isl**	**72.02**	**13**	P	**P**	**23**	**05**	**25.8**	**+0.2**
SPIA	**Saint Paul Isl**	**72.02**	**13**	P	**P**	**23**	**05**	**26.2**	**+0.7**
SPIA	**Saint Paul Isl**	**72.02**	**13**	P	**P**	**23**	**05**	**25.9**	**+0.4**
	baz=203,SNR=16								
XAN	**Xi'an**	**72.10**	**312**⇑	P	**P**	**23**	**05**	**26.9**	**+0.2**
XAN				pP	pP	23	06	17.1	+0.3
XAN				S	**S**	**23**	**14**	**29.8**	**-1.4**
XAN				sS	sS	23	15	53.1	-4.7
XAN				pmax	pmax				
	comp=Z,370nm,0.8s								
XAN				pmax	pmax				
	comp=Z,240nm,3.5s								
MLSI	**Meulaboh, Aceh**	**72.14**	**279**	P	**P**	**23**	**05**	**27.0**	**-0.3**
S12K	**Black Hills**	**72.81**	**18**	P	**P**	**23**	**05**	**29.9**	**-0.4**
S12K				IAmb	IAmb	23	05	30.4	
	comp=Z,160nm,0.6s								
S12K	**Black Hills**	**72.81**	**18**	P	**P**	**23**	**05**	**29.9**	**-0.4**
	baz=212,SNR=28								
CNBA	**Chernabura Isl**	**72.83**	**19**	P	**P**	**23**	**05**	**30.5**	**+0.1**
CNBA				IAmb	IAmb	23	05	31.1	
	comp=Z,279nm,1.3s								
CHNA	**Chernabura Isl**	**72.84**	**19**	P	**P**	**23**	**05**	**30.5**	**0.0**
CHNA	**Chernabura Isl**	**72.84**	**19**	P	**P**	**23**	**05**	**29.7**	**-0.8**
	baz=214,SNR=7.5								
XLT	**XiLinHaoTe**	**72.86**	**324**	*e*P	**P**	**23**	**05**	**31.0**	**0.0**
XLT				PcP	**PcP**	**23**	**05**	**43.8**	**-3.1**
XLT				pP	pP	23	06	21.6	+0.3
XLT				S	**S**	**23**	**14**	**39.3**	**-0.2**
XLT				pmax	pmax				
	comp=Z,260nm,0.9s								
SDPT	**Sand Point**	**72.99**	**19**	P	**P**	**23**	**05**	**30.6**	**-0.8**
SDPT				IAmb	IAmb	23	05	31.8	
	comp=Z,559nm,1.6s								
SDPT	**Sand Point**	**72.99**	**19**	P	**P**	**23**	**05**	**31.8**	**+0.5**
SDPT	**Sand Point**	**72.99**	**19**	P	**P**	**23**	**05**	**30.4**	**-0.9**
	baz=213,SNR=10								
KMI	**Kunming**	**73.02**	**301**⇑	P	**P**	**23**	**05**	**33.5**	**+1.0**
KMI				pP	pP	23	06	18.8	-3.0
KMI				sP	sP	23	06	44.6	+0.4
KMI				S	**S**	**23**	**14**	**42.0**	**-0.2**
KMI				SKS	**SKSac**	**23**	**15**	**16.3**	**-1.7**
KMI				pmax	pmax				
	comp=Z,320nm,0.9s								
KMI				pmax	pmax				
	comp=Z,890nm,5.6s								
MA2	**Magadan**	**73.12**	**351**	P	**P**	**23**	**05**	**32.3**	**+0.2**
MA2				IAmb	IAmb	23	05	33.5	
	comp=Z,142nm,1.1s								
MA2	**Magadan**	**73.12**	**351**	LR	LR	23	33	30.4	
	comp=Z,170nm,21.9s,baz=178,slow=32								
MA2	**Magadan**	**73.12**	**351**	P	**P**	**23**	**05**	**32.3**	**+0.2**
MA2	**Magadan**	**73.12**	**351**	*ce*P	**P**	**23**	**05**	**32.2**	**+0.2**
MA2				pmax	pmax				
	comp=Z,387nm,2.5s								
HHC	**Hu-ho-hao-te**	**73.83**	**319**⇑	*i*P	**P**	**23**	**05**	**38.4**	**+1.6**
HHC				pP	pP	23	06	24.6	-2.6
HHC				PP	**PP**	**23**	**08**	**23.3**	**-1.5**
HHC				S	**S**	**23**	**14**	**51.8**	**+1.2**
HHC				sS	sS	23	16	18.5	+0.2
HHC				pmax	pmax				
	comp=Z,170nm,1.0s								
HHC				LR	LR				
	comp=Z,150nm,17.7s								
HHC				LR	LR				
	comp=Z,150nm,16.8s								
HHC				LR	LR				
	comp=Z,250nm,21.9s								
CM31	**Chiang Mai Arr**	**73.90**	**294**	P	**P**	**23**	**05**	**38.7**	**+1.2**
CM31				IAmb	IAmb	23	05	40.2	
	comp=Z,231nm,1.0s								
CM31	**Chiang Mai Arr**	**73.90**	**294**	P	**P**	**23**	**05**	**39.0**	**+1.5**
	SNR=44								
CMAR	**Chiang Mai Arr**	**73.90**	**294**	P	**P**	**23**	**05**	**38.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**73.90**	**294**	P	**P**	**23**	**05**	**38.8**	**+1.2**
	comp=Z,116nm,0.9s,baz=120,slow=4.3,SNR=261								
CMAR				PKP2ab		23	32	57.1	
	comp=Z,0.5nm,0.4s

BTO LR LR
comp=Z,290nm,8.1s
BTO LR LR
comp=Z,100nm,6.1s
BTO LR LR
comp=Z,310nm,9.2s
CHIR Chirikof Islan 74.98 21 P **P** **23 05 43.5 +0.7**
CHIR Chirikof Islan 74.98 21 P **P** **23 05 42.8 0.0**
baz=218,SNR=5.5
R16K Pilot Point 75.74 19 P **P** **23 05 47.1 0.0**
R16K Pilot Point 75.74 19 P **P** **23 05 47.1 0.0**
baz=216,SNR=11
M11K Mekoryuk 75.82 13 P **P** **23 05 48.6 +1.1**
M11K IAmb IAmb 23 05 50.1
comp=Z,267nm,1.0s
M11K Mekoryuk 75.82 13 P **P** **23 05 48.9 +1.4**
baz=207,SNR=6.7
SII Sitkinak Islan 76.06 21 P **P** **23 05 49.5 +0.5**
SII Sitkinak Islan 76.06 21 P **P** **23 05 49.4 +0.4**
SII Sitkinak Islan 76.06 21 P **P** **23 05 49.1 +0.1**
baz=219,SNR=12
O14K Tigyukauivet M 76.06 16 P **P** **23 05 48.8 -0.1**
O14K Tigyukauivet M 76.06 16 P **P** **23 05 48.9 0.0**
baz=212,SNR=13
SEY Seymchan 76.15 353 LR LR 23 35 11.9
comp=Z,317nm,20.9s,baz=164,slow=32
SEY Seymchan 76.15 353 *ce*P **P** **23 05 49.4 0.0**
SEY pmax pmax
comp=Z,512nm,0.8s
R17L Mt. Peulik Vol 76.17 19 P **P** **23 05 49.9 +0.2**
baz=217,SNR=30
PLK4 Peulik 4 76.18 19 P **P** **23 05 50.0 +0.3**
PLK4 IAmb IAmb 23 05 51.0
comp=Z,240nm,0.9s
O15K Ungalikthiuk R 76.39 17 P **P** **23 05 50.8 0.0**
O15K Ungalikthiuk R 76.39 17 P **P** **23 05 50.6 -0.2**
baz=213,SNR=26
M13K Dall Lake 76.52 15 P **P** **23 05 52.5 +1.0**
M13K Dall Lake 76.52 15 P **P** **23 05 52.7 +1.2**
baz=210,SNR=24
N14K Kuskokwak Cree 76.52 16 P **P** **23 05 52.3 +0.8**
N14K IAmb IAmb 23 05 52.8
comp=Z,220nm,0.7s
N14K Kuskokwak Cree 76.52 16 P **P** **23 05 52.2 +0.8**
baz=211,SNR=45
TNCH TengChong 76.53 300 ⇑ *i*P **P** **23 05 53.8 +1.2**
TNCH PcP **PcP** **23 06 04.3 +1.1**
TNCH S **S** **23 15 22.6 +1.6**
TNCH pmax pmax
comp=Z,170nm,1.4s
TNCH pmax pmax
comp=Z,850nm,2.6s
TNCH LR LR
comp=Z,470nm,10.3s
LZH Lanzhou 76.74 312 ⇑ P **P** **23 05 54.8 +1.3**
LZH pP pP 23 06 42.8 -1.2
LZH sP sP 23 07 06.4 -0.2
LZH S **S** **23 15 25.8 +2.9**
LZH pmax pmax
comp=Z,440nm,1.0s
LZH pmax pmax
comp=Z,1μm,4.1s
R18K Karluk 76.75 20 P **P** **23 05 52.9 +0.1**
baz=219
P16K Nushagak River 76.81 18 P **P** **23 05 53.1 +0.1**
P16K Nushagak River 76.81 18 P **P** **23 05 53.2 +0.1**
baz=215,SNR=43
Q17K Contact Creek 76.83 19 P **P** **23 05 53.3 -0.1**
baz=217,SNR=133
OHAK Old Harbor 76.88 21 P **P** **23 05 54.0 +0.5**
OHAK Old Harbor 76.88 21 P **P** **23 05 54.0 +0.5**
OHAK Old Harbor 76.88 21 P **P** **23 05 54.3 +0.7**
baz=220,SNR=46
Q16K King Salmon 76.92 19 P **P** **23 05 53.9 +0.1**
baz=216,SNR=15
ACHA Angle Creek He 76.97 19 P **P** **23 05 54.4 +0.2**
ACHA IAmb IAmb 23 05 56.8
comp=Z,454nm,1.5s
N15K Kwethluk River 77.16 16 P **P** **23 05 56.0 +1.0**
N15K Kwethluk River 77.16 16 P **P** **23 05 56.3 +1.2**
baz=213,SNR=119
M14K Bethel 77.16 15 P **P** **23 05 55.7 +0.7**
M14K Bethel 77.16 15 P **P** **23 05 56.1 +1.1**
baz=211,SNR=120
O16K Kokwok River B 77.24 17 P **P** **23 05 54.8 -0.7**
O16K IAmb IAmb 23 05 56.1
comp=Z,227nm,1.3s
O16K Kokwok River B 77.24 17 P **P** **23 05 54.9 -0.5**
baz=215,SNR=70
P17K Kvichak River 77.41 18 P **P** **23 05 56.1 -0.4**
baz=216,SNR=39
QSPA South Pole Qui 77.42 180 P **P** **23 05 57.7 +1.0**
QSPA South Pole Qui 77.42 180 P **P** **23 05 58.1 +1.4**
comp=Z,75nm,0.7s,baz=22,slow=2.5,SNR=301
QSPA PKiKP **PKiKP** **23 11 35.5 +0.6**
comp=Z,4.4nm,0.7s,baz=0.2,slow=2.3,SNR=9.9
QSPA S **S** **23 15 32.8 +3.7**
comp=Z,4.7nm,1.0s,baz=168,slow=23,SNR=11
QSPA PKKPbc **PKKPbc** **23 24 60.0 -3.1**
comp=Z,3.4nm,0.6s,baz=118,slow=0.2,SNR=22
QSPA PKPPKP **P'P'df** **23 33 01.0 -3.1**
comp=Z,2.1nm,0.8s,baz=247,slow=1.7,SNR=3.6
QSPA LR LR 23 37 12.2
comp=Z,142nm,18.9s,baz=338,slow=33
comp=Z,75nm,0.7s
Q18K Katmai Hardscr 77.42 19 P **P** **23 05 56.9 +0.2**
baz=218,SNR=192
M15K Kasigluk River 77.44 16 P **P** **23 05 57.4 +0.9**
baz=212,SNR=133
L14K Kuka Creek 77.49 14 P **P** **23 05 57.5 +0.7**
L14K Kuka Creek 77.49 14 P **P** **23 05 58.1 +1.3**
baz=210,SNR=119
K13K Kusilvak Mount 77.55 13 P **P** **23 05 57.9 +0.7**
K13K IAmb IAmb 23 05 59.5
comp=Z,390nm,1.3s
K13K Kusilvak Mount 77.55 13 P **P** **23 05 58.4 +1.2**
baz=208,SNR=57
KDAK Kodiak Island 77.56 21 P **P** **23 05 57.3 0.0**
KDAK IAmb IAmb 23 05 59.0
comp=Z,247nm,1.1s
KDAK Kodiak Island 77.56 21 *i*P **P** **23 05 56.9 -0.4**
KDAK pmax pmax
comp=Z,325nm,1.0s
KDAK Kodiak Island 77.56 21 P **P** **23 05 57.9 +0.6**
baz=220
PBA Port Blair 77.58 285 P **P** **23 05 59.6 +1.3**
O17K Koliganek Bris 77.68 18 P **P** **23 05 57.8 -0.1**
baz=216,SNR=84
N16K Nishlik Lake 77.77 17 P **P** **23 06 00.2 +1.7**
baz=214,SNR=168
GAMB Gambell 77.87 9 P **P** **23 05 59.4 +0.5**
GAMB IAmb IAmb 23 06 01.0
comp=Z,334nm,1.1s
GAMB Gambell 77.87 9 P **P** **23 05 59.7 +0.8**
baz=201,SNR=17
P18K Big Mountain, 77.94 19 P **P** **23 05 59.3 -0.1**
baz=218,SNR=132
L15K Ungalak Mounta 78.08 15 P **P** **23 06 00.7 +0.7**
baz=211,SNR=151
Q19K Cape Douglas, 78.08 20 P **P** **23 06 00.4 +0.1**
baz=219,SNR=41
M16K Timber Creek 78.18 16 P **P** **23 06 02.3 +1.6**
baz=214,SNR=270
Q20K Shuyak Island 78.25 20 P **P** **23 06 01.8 +0.7**
baz=220,SNR=10
SYI Shuyak Island 78.26 20 IAmb IAmb 23 06 03.0
comp=Z,342nm,1.1s
N17K Nushagak Hills 78.27 17 IAmb IAmb 23 06 03.4
comp=Z,154nm,1.1s
N17K Nushagak Hills 78.27 17 P **P** **23 06 01.9 +0.8**
baz=216,SNR=44
O18K Koktuh Hills 78.31 18 P **P** **23 06 01.3 -0.2**
baz=218,SNR=33
J14K Nanvaranak Lak 78.51 13 P **P** **23 06 03.9 +1.5**
baz=209,SNR=97
K15K Wolf Creek Mou 78.59 14 P **P** **23 06 04.6 +1.7**
baz=211,SNR=301
L16K Owhat River 78.62 16 P **P** **23 06 04.0 +1.0**
baz=213,SNR=136
N18K Kilae Creek 78.77 18 P **P** **23 06 04.5 +0.5**
baz=217,SNR=20
P19K Oil Pt 78.78 19 P **P** **23 06 03.9 -0.1**
baz=219,SNR=44
O19K Port Alsworth 78.86 19 IAmb IAmb 23 06 06.5
comp=Z,142nm,0.8s
O19K Port Alsworth 78.86 19 P **P** **23 06 04.1 -0.2**
baz=218

M17K Holitna River 78.91 17 IAmb IAmb 23 06 06.9
comp=Z,138nm,0.7s
M17K Holitna River 78.91 17 P **P** **23 06 06.3 +1.7**
baz=215,SNR=70
ILSW Iliamna Southw 79.06 19 IAmb IAmb 23 06 07.3
comp=Z,179nm,1.0s
CIT Chita 79.14 330 *e*P **P** **23 06 07.0 +0.8**
CIT *e* 23 06 13.4
CIT *e* 23 06 54.6
CIT *e* 23 07 19.8
CIT *e* 23 09 05.0
CIT pmax pmax
comp=Z,667nm,1.8s
L17K Donlin 79.28 16 P **P** **23 06 08.2 +1.6**
baz=214,SNR=90
N19K Bonanza Creek 79.29 18 P **P** **23 06 06.7 -0.2**
baz=218,SNR=34
HOM Homer 79.30 20 P **P** **23 06 07.4 +0.6**
baz=221,SNR=13
O20K Slope Mountain 79.31 19 P **P** **23 06 06.9 0.0**
baz=220,SNR=17
M18K Stony River 79.44 17 P **P** **23 06 09.2 +1.7**
baz=217,SNR=97
RED Redoubt Volcan 79.52 19 IAmb IAmb 23 06 13.2
comp=Z,107nm,0.7s
BRLK Bradley Lake 79.64 20 IAmb IAmb 23 06 10.2
comp=Z,302nm,0.8s
J16K Anvik River 79.66 14 P **P** **23 06 10.3 +1.6**
baz=212,SNR=110
ANM Nome 79.73 12 IAmb IAmb 23 06 11.7
comp=Z,315nm,1.3s
ANM Nome 79.73 12 P **P** **23 06 10.4 +1.4**
baz=207,SNR=7.0
K17K Iditarod 79.76 15 P **P** **23 06 10.7 +1.5**
baz=214,SNR=122
L18K Granite Mounta 79.78 16 IAmb IAmb 23 06 12.0
comp=Z,215nm,0.9s
L18K Granite Mounta 79.78 16 P **P** **23 06 10.9 +1.5**
baz=216,SNR=219
YAK Yakutsk 79.94 343 P **P** **23 06 10.3 +0.1**
YAK Yakutsk 79.94 343 *ci*P **P** **23 06 09.9 -0.3**
YAK *e* 23 06 16.4
YAK *e**PP **pP** **23 07 04.2 +2.8**
YAK *e* 23 09 11.3
YAK *e*PPP PPP 23 11 02.2
YAK *e*S **S** **23 15 54.6 -0.8**
YAK *e* 23 16 12.8
YAK *e*SS **SS** **23 21 09.5 -1.0**
YAK *e*SSS SSS 23 24 37.5
YAK pmax pmax
comp=Z,668nm,1.0s
YAK pmax pmax
comp=N,204nm,1.6s
YAK pmax pmax
comp=E,93nm,1.6s
YAK pmax pmax
comp=Z,83nm,1.7s
YAK pmax pmax
comp=N,67nm,1.9s
YAK pmax pmax
comp=E,44nm,1.6s
YAK smax smax
comp=N,183nm,2.6s
YAK smax smax
comp=E,48nm,2.2s
J17K VABM Dome 80.13 15 IAmb IAmb 23 06 13.8
comp=Z,231nm,1.0s
J17K VABM Dome 80.13 15 P **P** **23 06 12.7 +1.5**
baz=214,SNR=97
I17K Unalakleet 80.15 14 IAmb IAmb 23 06 14.3
comp=Z,478nm,1.6s
I17K Unalakleet 80.15 14 P **P** **23 06 13.1 +1.8**
baz=212,SNR=26
TNA Tin City 80.16 10 P **P** **23 06 12.1 +0.9**
baz=205,SNR=5.3
M19K Big River Lodg 80.18 17 IAmb IAmb 23 06 14.0
comp=Z,103nm,0.8s
M19K Big River Lodg 80.18 17 P **P** **23 06 12.4 +0.9**
baz=218,SNR=77
L19K White Mountain 80.27 17 IAmb IAmb 23 06 17.2
comp=Z,153nm,0.8s
L19K White Mountain 80.27 17 P **P** **23 06 13.2 +1.2**
baz=218,SNR=143
N20K Mount Spurr 80.30 19 P **P** **23 06 11.3 -0.9**
baz=220
SPCR Spurr Chakacha 80.30 19 P **P** **23 06 11.4 -0.8**
baz=220,SNR=9.1
ULN Ulaanbaatar 80.30 324 P **P** **23 06 13.4 +0.7**
ULN IAmb IAmb 23 06 15.1
comp=Z,415nm,1.4s
ULN Ulaanbaatar 80.30 324 P **P** **23 06 13.8 +1.1**
ULN Ulaanbaatar 80.30 324 *i*P **P** **23 06 12.7 0.0**
ULN pmax pmax
comp=Z,354nm,1.4s
CAPN Captain Cook N 80.30 19 P **P** **23 06 13.4 +1.3**
baz=221
F14K Arctic Creek 80.36 11 P **P** **23 06 13.6 +1.2**
baz=206,SNR=22
SEW Seward 80.38 20 IAmb IAmb 23 06 14.2
comp=Z,294nm,1.2s
SEW Seward 80.38 20 P **P** **23 06 12.9 +0.4**
baz=223,SNR=18
G15K Niukluk 80.38 12 P **P** **23 06 13.5 +1.0**
baz=209,SNR=26
BILL Bilibino 80.42 360 P **P** **23 06 13.1 +0.5**
BILL Bilibino 80.42 360 *ci*P **P** **23 06 12.6 -0.1**
BILL pmax pmax
comp=Z,614nm,0.9s
H16K Elim 80.45 13 P **P** **23 06 13.9 +1.1**
baz=210,SNR=24
M20K Styx River 80.54 18 P **P** **23 06 13.7 +0.1**
baz=219,SNR=48
O22K Cooper Landing 80.56 20 P **P** **23 06 14.2 +0.7**
baz=223,SNR=44
SONM Songino Array 80.67 323 P **P** **23 06 15.0 +0.5**
SONM IAmb IAmb 23 06 16.8
comp=Z,174nm,1.2s
SONM Songino Array 80.67 323 P **P** **23 06 15.1 +0.6**
comp=Z,61nm,0.9s,baz=141,slow=5.3,SNR=210
SONM PKKPbc **PKKPbc** **23 24 52.7 -2.7**
comp=Z,3.7nm,0.7s,baz=268,slow=2.6,SNR=10
SONM PKPPKP **P'P'df** **23 32 55.0 -1.9**
comp=Z,1.3nm,0.8s,baz=299,slow=2.3,SNR=5.0
SONM LR LR 23 41 13.8
comp=Z,176nm,20.7s,baz=126,slow=35
comp=Z,61nm,0.9s
L20K Farewell, AK 80.78 17 P **P** **23 06 15.9 +1.1**
baz=218,SNR=215
J18K Innoko River 80.79 16 IAmb IAmb 23 06 16.6
comp=Z,158nm,0.7s
J18K Innoko River 80.79 16 P **P** **23 06 15.7 +0.9**
baz=216,SNR=177
F15K North Star Dit 80.89 11 IAmb IAmb 23 06 17.6
comp=Z,355nm,1.4s
F15K North Star Dit 80.89 11 P **P** **23 06 16.2 +1.0**
baz=208,SNR=26
SUA Susitna One 80.96 19 IAmb IAmb 23 06 17.1
comp=Z,246nm,1.2s
SUA Susitna One 80.96 19 P **P** **23 06 15.9 +0.1**
baz=222,SNR=62
Q23K Middleton Isla 80.99 22 P **P** **23 06 16.6 +0.8**
baz=226
RC01 Rabbit Creek A 81.01 20 IAmb IAmb 23 06 18.2
comp=Z,348nm,1.0s
RC01 Rabbit Creek A 81.01 20 P **P** **23 06 16.5 +0.6**
baz=223,SNR=64
P23K Montague Islan 81.01 21 IAmb IAmb 23 06 17.7
comp=Z,447nm,1.2s
P23K Montague Islan 81.01 21 P **P** **23 06 16.6 +0.7**
baz=225,SNR=8.8
GTA Gaotai 81.05 314 P **P** **23 06 17.9 +1.1**
GTA pP pwP 23 07 09.6 -0.9
GTA PP **PP** **23 09 24.4 -0.7**
GTA S **S** **23 16 09.9 +1.7**
GTA sS sS 23 17 35.5 -1.8
GTA pmax pmax
comp=Z,190nm,1.0s
GTA pmax pmax
comp=Z,960nm,10.8s
GTA LR LR
comp=Z,170nm,17.1s
GTA LR LR
comp=Z,250nm,18.3s
GTA LR LR
comp=Z,260nm,19.1s
G16K Koyuk River 81.08 12 IAmb IAmb 23 06 18.7
comp=Z,241nm,0.8s

G16K Koyuk River 81.08 12 P **P** **23 06 17.6 +1.5**
baz=210,SNR=62
SKT Skwentna 81.10 18 P **P** **23 06 15.3 -1.1**
baz=221,SNR=47
H17K Granite Mounta 81.23 14 P **P** **23 06 18.0 +1.0**
baz=213,SNR=50
PWL Port Wells 81.31 20 P **P** **23 06 18.0 +0.5**
baz=224
M22K Willow 81.37 19 P **P** **23 06 18.0 +0.3**
baz=222,SNR=32
K20K Telida 81.42 17 IAmb IAmb 23 06 21.7
comp=Z,137nm,0.9s
K20K Telida 81.42 17 P **P** **23 06 19.1 +1.0**
baz=218,SNR=116
J19K Poorman 81.51 16 P **P** **23 06 19.7 +1.2**
baz=217,SNR=81
G17K Kiwalik Mounta 81.54 13 P **P** **23 06 19.6 +1.0**
baz=212,SNR=40
PMR Palmer 81.58 20 IAmb IAmb 23 06 20.4
comp=Z,351nm,1.1s
PMR Palmer 81.58 20 P **P** **23 06 19.8 +1.0**
PMR Palmer 81.58 20 P **P** **23 06 19.1 +0.3**
baz=223,SNR=31
PPLA Purkeypile 81.60 18 P **P** **23 06 18.3 -0.9**
baz=220,SNR=36
KNK Knik Glacier 81.67 20 P **P** **23 06 20.1 +0.7**
baz=224,SNR=77
GLI Glacier Island 81.75 21 P **P** **23 06 20.3 +0.5**
baz=225,SNR=82
H18K Honhosa River 81.77 14 P **P** **23 06 20.1 +0.3**
baz=214,SNR=29
GHO Glory Hole Cre 81.77 20 IAmb IAmb 23 06 21.8
comp=Z,361nm,1.2s
GCSA Galena City Sc 81.79 15 P **P** **23 06 20.8 +0.9**
baz=216,SNR=8.4
EYAK Cordova Ski Ar 81.99 21 IAmb IAmb 23 06 22.9
comp=Z,408nm,1.3s
EYAK Cordova Ski Ar 81.99 21 P **P** **23 06 21.6 +0.5**
EYAK Cordova Ski Ar 81.99 21 P **P** **23 06 21.5 +0.5**
baz=226,SNR=24
CAST Castle Rocks 82.03 17 P **P** **23 06 21.1 -0.1**
baz=220,SNR=462
J20K Nowinta River 82.05 16 IAmb IAmb 23 06 24.6
comp=Z,175nm,0.7s
J20K Nowinta River 82.05 16 P **P** **23 06 22.3 +1.1**
baz=218,SNR=210
KAIM Kayak Island 82.05 22 P **P** **23 06 22.8 +1.4**
baz=228,SNR=19
M23K Glacier View 82.18 20 P **P** **23 06 22.7 +0.7**
baz=224,SNR=85
F17K Baldwin Pennin 82.22 12 P **P** **23 06 23.5 +1.4**
baz=211,SNR=107
RAGM Ragged Mountai 82.27 22 IAmb IAmb 23 06 24.6
comp=Z,317nm,1.0s
G18K Tagagawik 82.32 14 P **P** **23 06 23.4 +0.8**
baz=214,SNR=79
CHUM Lake Minchumin 82.33 17 P **P** **23 06 22.8 +0.1**
baz=220,SNR=86
SCM Sheep Creek Mo 82.34 20 P **P** **23 06 23.9 +1.0**
baz=225,SNR=129
I20K Naaghedeneel 82.45 16 P **P** **23 06 24.9 +1.6**
baz=218,SNR=115
BOD Bodaibo 82.47 334 *e*P **P** **23 06 23.4 -0.2**
BOD pmax pmax
comp=Z,209nm,1.6s
KTH Kantishna Hill 82.48 18 IAmb IAmb 23 06 24.2
comp=Z,157nm,0.8s
H19K Roundabout Mou 82.54 14 IAmb IAmb 23 06 26.8
comp=Z,124nm,0.8s
H19K Roundabout Mou 82.54 14 P **P** **23 06 24.8 +1.0**
baz=216,SNR=119
KMPM Mount Pierce 82.58 46 P **P** **23 06 25.8 +1.2**
KMPM IAmb IAmb 23 06 27.4
comp=Z,297nm,1.3s
KLU Klutina 82.58 21 P **P** **23 06 25.1 +0.9**
baz=226,SNR=97
MCCM Marconi Confer 82.58 48 IAmb IAmb 23 06 26.4
comp=Z,142nm,0.9s
TRF Thorofare Moun 82.59 18 IAmb IAmb 23 06 25.8
comp=Z,240nm,1.0s
TRF Thorofare Moun 82.59 18 P **P** **23 06 24.0 -0.3**
baz=222,SNR=149
BGLC Bering Glacier 82.60 23 P **P** **23 06 25.7 +1.5**
baz=229
E17K Hotham Inlet 82.65 12 P **P** **23 06 26.0 +1.7**
baz=211,SNR=177
WAT1 Susitna Watana 82.67 19 P **P** **23 06 25.1 +0.5**
baz=224
KCPM Cahto Peak 82.67 47 IAmb IAmb 23 06 27.1
comp=Z,137nm,0.9s
BMRM Bremner River 82.69 22 P **P** **23 06 25.4 +0.7**
baz=227,SNR=69
F18K Selawik 82.69 13 P **P** **23 06 25.5 +1.0**
baz=213,SNR=87
WAT6 Susitna Watana 82.74 19 P **P** **23 06 25.8 +0.7**
baz=224,SNR=188
HOPS Hopland Field 82.77 48 IAmb IAmb 23 06 28.6
comp=Z,193nm,1.2s
KMRM Mail Ridge 82.79 46 IAmb IAmb 23 06 28.5
comp=Z,224nm,1.2s
JCC Jacoby Creek, 82.80 46 IAmb IAmb 23 06 28.3
comp=Z,201nm,1.2s
BPAW Bear Paw Mtn. 82.87 17 P **P** **23 06 25.0 -0.6**
baz=221,SNR=65
G19K Purcell Mounta 82.89 14 IAmb IAmb 23 06 28.9
comp=Z,211nm,0.8s
G19K Purcell Mounta 82.89 14 P **P** **23 06 26.9 +1.3**
baz=215,SNR=164
H20K Anotleneega Mo 82.90 15 P **P** **23 06 27.0 +1.3**
baz=217,SNR=163
M24K Tolsona, Glenn 82.92 20 P **P** **23 06 27.3 +1.4**
baz=226,SNR=104
KRPM Rodgers 82.94 45 IAmb IAmb 23 06 29.5
comp=Z,244nm,1.2s
D17K Noatak River 82.95 11 P **P** **23 06 27.4 +1.5**
baz=209,SNR=66
KHMM Horse Mountain 83.03 46 IAmb IAmb 23 06 29.9
comp=Z,257nm,1.3s
C16K Lisburne Hills 83.05 10 P **P** **23 06 27.1 +0.8**
baz=207,SNR=13
CRQE Cirque 83.09 22 P **P** **23 06 27.7 +0.8**
baz=229,SNR=72
N25K Chitina, Valde 83.12 21 P **P** **23 06 27.9 +0.9**
baz=227,SNR=144
MESA MESA 83.14 23 P **P** **23 06 28.2 +1.0**
baz=230,SNR=35
KRMB Red Mountain 83.16 45 IAmb IAmb 23 06 30.5
comp=Z,285nm,1.6s
E18K Tukpahlearik C 83.19 12 IAmb IAmb 23 06 29.5
comp=Z,221nm,0.8s
E18K Tukpahlearik C 83.19 12 P **P** **23 06 28.6 +1.5**
baz=212
MCK McKinley 83.20 18 IAmb IAmb 23 06 28.6
comp=Z,276nm,0.8s
MCK McKinley 83.20 18 P **P** **23 06 27.4 +0.1**
baz=223,SNR=125
DHY Denali Highway 83.22 19 P **P** **23 06 28.1 +0.6**
baz=225,SNR=165
KBO Bosley Butte 83.22 44 IAmb IAmb 23 06 30.7
comp=Z,167nm,1.2s
RDOG Red Dog Mine 83.29 11 IAmb IAmb 23 06 30.0
comp=Z,254nm,0.7s
RDOG Red Dog Mine 83.29 11 P **P** **23 06 29.2 +1.6**
baz=210,SNR=42
F19K Shaleruckik Mo 83.30 13 IAmb IAmb 23 06 29.8
comp=Z,203nm,0.8s
F19K Shaleruckik Mo 83.30 13 P **P** **23 06 28.7 +1.0**
baz=214,SNR=182
BBGB Big Mountain B 83.37 50 IAmb IAmb 23 06 31.6
comp=Z,242nm,1.2s
KEBM Edson Butte 83.41 44 IAmb IAmb 23 06 31.2
comp=Z,157nm,1.0s
I21K Tanana 83.42 16 P **P** **23 06 29.3 +1.1**
baz=220,SNR=323
O02D Mt. Diablo Mer 83.42 47 P **P** **23 06 29.9 +0.9**
O02D IAmb IAmb 23 06 31.8
comp=Z,184nm,1.1s
O02D pP **pP** **23 07 20.3 -0.2**
HARP HAARP 83.47 20 P **P** **23 06 29.6 +0.9**
baz=227,SNR=40
GOMU GeErMu 83.48 309 P **P** **23 06 30.9 +1.1**
GOMU S **S** **23 16 35.3 +1.7**
GOMU pmax pmax
comp=Z,54nm,1.5s
HG4B Hotspring 83.53 33 IAmb IAmb 23 06 31.3
comp=Z,260nm,1.0s
MCARA McCarthy VSAT 83.53 22 P **P** **23 06 29.5 +0.5**
baz=229,SNR=57

H21K	Melozitna Rive	83.56	16	P		P		23 06 30.3	+1.2	
	baz=219,SNR=102									
IMAR	Indian Mountai	83.58	15	P		P		23 06 29.9	+0.8	
C17K	DeLong Mountai	83.61	11	P		P		23 06 30.5	+1.2	
	baz=209,SNR=56									
MLY	Manley	83.64	17	IAmb		IAmb		23 06 31.2		
	comp=Z,361nm,1.3s									
MLY	Manley	83.64	17	P		P		23 06 29.7	+0.2	
	baz=221,SNR=218									
ZAK	Zakamensk	83.70	325	*e*P		P		23 06 29.8	-0.4	
ZAK				pmax		pmax				
	comp=Z,212nm,1.4s									
PINM	Pinnacle	83.75	24	P		P		23 06 30.8	+0.6	
	baz=231,SNR=57									
PAX	Paxson	83.76	20	IAmb		IAmb		23 06 31.8		
	comp=Z,284nm,1.4s									
PAX	Paxson	83.76	20	P		P		23 06 30.4	+0.2	
	baz=226,SNR=76									
MAW	Mawson	83.77	202	P		P		23 06 30.3	+0.1	
	comp=Z,51nm,0.8s,baz=106,slow=6.7,SNR=81									
MAW				PKiKP		PKiKP		23 11 44.4	-0.4	
	comp=Z,4.1nm,0.7s,baz=101,slow=4.6,SNR=4.5									
MAW				PKKPbc		PKKPbc		23 24 45.9	-2.0	
	comp=Z,3.3nm,0.7s,baz=289,slow=5.3,SNR=7.0									
	comp=Z,51nm,0.8s									
K02D	Willamette Mer	83.79	44	IAmb		IAmb		23 06 33.1		
	comp=Z,175nm,1.0s									
J01E	Myrtle Point	83.80	43	IAmb		IAmb		23 06 33.0		
	comp=Z,167nm,0.9s									
NEA2	Nenana	83.80	18	P		P		23 06 30.1	-0.1	
	baz=223,SNR=224									
PNL	Peninsula	83.82	24	P		P		23 06 31.0	+0.4	
PNL	Peninsula	83.82	24	P		P		23 06 30.9	+0.4	
	baz=232,SNR=18									
CTG	Chitna Glacier	83.88	23	P		P		23 06 32.0	+1.0	
	baz=230,SNR=101									
BCPM	Bancas Point	83.90	24	IAmb		IAmb		23 06 32.4		
	comp=Z,344nm,1.0s									
E19K	Redstone River	83.94	13	P		P		23 06 32.4	+1.5	
	baz=215									
F20K	Avaraart Lake	83.94	14	IAmb		IAmb		23 06 33.4		
	comp=Z,89nm,0.7s									
F20K	Avaraart Lake	83.94	14	P		P		23 06 31.9	+1.0	
	baz=216,SNR=106									
SIT	Sitka	84.03	28	IAmb		IAmb		23 06 33.3		
	comp=Z,128nm,0.9s									
SIT	Sitka	84.03	28	P		P		23 06 32.2	+0.7	
SIT	Sitka	84.03	28	P		P		23 06 32.2	+0.7	
	baz=236,SNR=8.2									
IRK	Irkutsk	84.05	327	*e*P		P		23 06 30.8	-1.0	
IRK				pmax		pmax				
	comp=Z,387nm,1.8s									
G21K	Allakaket	84.06	15	IAmb		IAmb		23 06 33.3		
	comp=Z,100nm,0.8s									
G21K	Allakaket	84.06	15	P		P		23 06 32.6	+1.0	
	baz=219,SNR=159									
YBH	Yreka Blue Hor	84.07	45	IAmb		IAmb		23 06 34.8		
	comp=Z,174nm,1.0s									
ORV	Oroville	84.11	47	P		P		23 06 32.5	+0.1	
ORV				pP		pP		23 07 22.9	-1.0	
ORV	Oroville	84.11	47	P		P		23 06 32.5	+0.1	
ORV				*PP		pP		23 07 22.9	-1.0	
ORV				pmax		pmax				
	comp=Z,147nm,1.3s									
I23K	Minto, Yukon-K	84.12	17	IAmb		IAmb		23 06 32.6		
	comp=Z,97nm,0.8s									
I23K	Minto, Yukon-K	84.12	17	P		P		23 06 32.1	+0.2	
	baz=223,SNR=100									
H22K	Ishtalitna Cre	84.12	16	P		P		23 06 33.1	+1.2	
	baz=221,SNR=218									
S31K	Pelican	84.13	27	IAmb		IAmb		23 06 34.1		
	comp=Z,361nm,1.1s									
S31K	Pelican	84.13	27	P		P		23 06 33.1	+1.0	
	baz=235,SNR=21									
CRAG	Craig	84.19	30	IAmb		IAmb		23 06 34.5		
	comp=Z,148nm,1.1s									
CRAG	Craig	84.19	30	P		P		23 06 33.5	+1.1	
	baz=238,SNR=8.4									
O28M	Mount Upton	84.20	23	P		P		23 06 32.9	+0.2	
	baz=231,SNR=127									
M26K	Nabesna, AK	84.22	21	IAmb		IAmb		23 06 34.4		
	comp=Z,245nm,0.8s									
M26K	Nabesna, AK	84.22	21	P		P		23 06 32.8	+0.3	
	baz=229,SNR=134									
I02E	Swieshome, OR	84.23	43	IAmb		IAmb		23 06 35.5		
	comp=Z,162nm,0.9s									
K24K	Donnelly Dome	84.24	19	P		P		23 06 33.2	+0.6	
	baz=226,SNR=138									
LSA	Lhasa	84.26	302	P		P		23 06 33.5	-0.5	
LSA				pmax		pmax				
	comp=Z,120nm,0.9s									
LSA				LR		LR				
	comp=Z,490nm,10.2s									
AFDM	Forest Hills D	84.27	48	IAmb		IAmb		23 06 35.2		
	comp=Z,190nm,1.3s									
HDA	Harding Lake	84.30	18	P		P		23 06 33.2	+0.4	
	baz=225,SNR=906									
MENT	Mentasta	84.33	20	IAmb		IAmb		23 06 35.0		
	comp=Z,404nm,1.4s									
COLA	College	84.36	18	P		P		23 06 32.9	-0.1	
COLA	College	84.36	18	P		P		23 06 33.3	+0.2	
COLA	College	84.36	18	*c i*P		P		23 06 32.0	-1.0	
COLA				pmax		pmax				
	comp=Z,788nm,0.9s									
COLA	College	84.36	18	P		P		23 06 33.2	+0.2	
	baz=224									
I03D	Drain, OR	84.40	43	IAmb		IAmb		23 06 36.0		
	comp=Z,151nm,1.1s									
HOLB	Holberg	84.41	35	IAmb		IAmb		23 06 35.8		
	comp=Z,294nm,0.9s									
P29M	Windy Craggy	84.47	25	P		P		23 06 33.8	0.0	
	baz=234,SNR=78									
RIDG	Independent Ri	84.50	19	P		P		23 06 34.3	+0.5	
	baz=227,SNR=232									
L26K	Log Cabin Wild	84.51	20	IAmb		IAmb		23 06 36.0		
	comp=Z,331nm,1.3s									
L26K	Log Cabin Wild	84.51	20	P		P		23 06 34.5	+0.6	
	baz=228,SNR=64									
U33K	Whale Pass	84.53	29	IAmb		IAmb		23 06 36.0		
	comp=Z,255nm,1.0s									
U33K	Whale Pass	84.53	29	P		P		23 06 34.5	+0.5	
	baz=238,SNR=20									
L04D	Klamath Falls	84.53	45	IAmb		IAmb		23 06 36.7		
	comp=Z,248nm,1.0s									
O29M	Mount Kennedy	84.54	24	P		P		23 06 34.2	0.0	
	baz=233,SNR=21									
H23K	Yukon River	84.57	17	P		P		23 06 34.5	+0.3	
	baz=222,SNR=279									
ILAR	Eielson Array	84.58	18	P		P		23 06 33.9	-0.3	
ILAR	Eielson Array	84.58	18	P		P		23 06 34.1	0.0	
	comp=Z,324nm,0.6s,baz=240,slow=5.8,SNR=1410									
ILAR				S		SKSac		23 16 39.2	+2.1	
	comp=Z,1.6nm,0.9s,baz=233,slow=12.SNR=8.3									
ILAR				PKKPbc		PKKPbc		23 24 43.3	-3.7	
	comp=Z,4.9nm,0.9s,baz=350,slow=1.8,SNR=12									
ILAR				PKPPKP		P'P'df		23 32 46.5	-2.3	
	comp=Z,2.3nm,1.0s,baz=341,slow=1.3,SNR=8.4									
ILAR				LR		LR		23 38 30.3		
	comp=Z,122nm,21.0s,baz=218,slow=31									
M27K	Edge Creek, AK	84.58	21	IAmb		IAmb		23 06 36.6		
	comp=Z,321nm,1.1s									
M27K	Edge Creek, AK	84.58	21	P		P		23 06 34.7	+0.3	
	baz=230									
S32K	Killisnoo	84.59	28	IAmb		IAmb		23 06 36.3		
	comp=Z,264nm,1.2s									
S32K	Killisnoo	84.59	28	P		P		23 06 34.6	+0.3	
	baz=237,SNR=15									
HATC	Hat Creek Radi	84.60	46	IAmb		IAmb		23 06 37.2		
	comp=Z,255nm,1.1s									
VES	Vestal, Richgr	84.60	52	IAmb		IAmb		23 06 36.7		
	comp=Z,371nm,1.7s									
R31K	City Hall, Gus	84.61	26	P		P		23 06 35.1	+0.7	
	baz=236									
F21K	Alatna River	84.62	14	IAmb		IAmb		23 06 36.8		
	comp=Z,193nm,1.1s									
F21K	Alatna River	84.62	14	P		P		23 06 34.9	+0.6	
	baz=218,SNR=122									
B18K	Kokolik River	84.63	11	P		P		23 06 35.0	+0.7	
	baz=210,SNR=19									
POKR	Poker Plat Res	84.66	18	P		P		23 06 34.3	-0.3	
	baz=224,SNR=164									
YUK8	Steele Glacier	84.68	23	P		P		23 06 35.5	+0.4	
	baz=232,SNR=173									
YUK3	Moose Creek	84.73	22	P		P		23 06 35.4	+0.2	
	baz=231,SNR=76									
COR	Corvallis	84.78	42	P		P		23 06 36.8	+1.2	
COR				IAmb		IAmb		23 06 38.2		
	comp=Z,179nm,1.1s									
COR	Corvallis	84.78	42	P		P		23 06 36.8	+1.2	
COR				pmax		pmax				
	comp=Z,179nm,1.1s									
C19K	Lookout Ridge	84.82	11	IAmb		IAmb		23 06 38.1		
	comp=Z,315nm,1.4s									
C19K	Lookout Ridge	84.82	11	P		P		23 06 36.2	+0.8	
	baz=213,SNR=37									
BUCK	Buck Mountain	84.83	43	IAmb		IAmb		23 06 38.5		
	comp=Z,215nm,1.1s									
V35K	Ketchikan	84.85	30	IAmb		IAmb		23 06 37.6		
	comp=Z,182nm,0.9s									
V35K	Ketchikan	84.85	30	P		P		23 06 35.9	+0.2	
	baz=239,SNR=24									
MWC	Mount Wilson	84.86	53	IAmb		IAmb		23 06 38.5		
	comp=Z,399nm,1.7s									
G22K	Bettles	84.88	15	P		P		23 06 36.4	+0.8	
	baz=220									
J25K	Salcha River,	84.93	19	P		P		23 06 36.4	+0.3	
	baz=226,SNR=858									
PLBC	Pleasant Camp	84.94	25	P		P		23 06 36.1	0.0	
	baz=235,SNR=51									
SCRK	Sand Creek	84.94	20	IAmb		IAmb		23 06 38.1		
	comp=Z,237nm,0.7s									
SCRK	Sand Creek	84.94	20	P		P		23 06 36.0	-0.2	
	baz=228,SNR=253									
TPO	Tropico Hills	84.94	53	IAmb		IAmb		23 06 39.2		
	comp=Z,399nm,1.5s									
BVCY	Beaver Creek	84.98	22	P		P		23 06 36.3	0.0	
	baz=231,SNR=31									
YUK6	Outpost Mounta	85.01	24	P		P		23 06 36.6	-0.1	
	baz=233,SNR=31									
ISA	Isabella, Lake	85.01	52	IAmb		IAmb		23 06 39.3		
	comp=Z,252nm,1.6s									
G03D	McMinnville, O	85.05	42	IAmb		IAmb		23 06 39.3		
	comp=Z,273nm,1.1s									
H24K	Noodor Dome	85.05	17	IAmb		IAmb		23 06 38.3		
	comp=Z,213nm,1.4s									
H24K	Noodor Dome	85.05	17	P		P		23 06 35.8	-0.8	
	baz=224,SNR=74									
J04A	Umpqua Nationa	85.06	44	IAmb		IAmb		23 06 39.5		
	comp=Z,316nm,1.0s									
L27K	Beaver Creek,	85.06	21	IAmb		IAmb		23 06 38.6		
	comp=Z,85nm,0.7s									
L27K	Beaver Creek,	85.06	21	P		P		23 06 36.8	+0.1	
	baz=230,SNR=99									
WRAK	Wrangell Islan	85.06	29	IAmb		IAmb		23 06 38.5		
	comp=Z,148nm,0.8s									
WRAK	Wrangell Islan	85.06	29	P		P		23 06 36.5	-0.2	
	baz=239,SNR=18									
R32K	Eaglecrest	85.06	27	P		P		23 06 36.9	+0.2	
	baz=237									
K04D	Chiloquin, OR	85.06	45	IAmb		IAmb		23 06 39.4		
	comp=Z,186nm,1.0s									
BCAR	Beaver Creek A	85.08	21	P		P		23 06 36.9	+0.2	
MPK	Martis Peak	85.08	48	IAmb		IAmb		23 06 40.9		
	comp=Z,440nm,1.6s									
P30M	Million Dollar	85.08	25	P		P		23 06 37.0	+0.2	
	baz=234,SNR=65									
BESE	Bessie Mountai	85.08	27	IAmb		IAmb		23 06 39.7		
	comp=Z,238nm,1.2s									
D20K	Etivluk River	85.10	13	P		P		23 06 37.6	+0.8	
	baz=216,SNR=134									
G23K	Bananza Creek	85.10	16	P		P		23 06 37.4	+0.6	
	baz=222,SNR=336									
JIS	Juneau Island	85.12	27	P		P		23 06 37.4	+0.4	
H04D	Lebanon	85.13	42	IAmb		IAmb		23 06 39.7		
	comp=Z,157nm,0.9s									
BBB	Bella Bella	85.14	34	IAmb		IAmb		23 06 39.1		
	comp=Z,163nm,1.1s									
YUK4	Talbot Arm	85.14	23	P		P		23 06 37.8	+0.4	
	baz=233,SNR=37									
F03A	Seaside	85.14	41	IAmb		IAmb		23 06 39.7		
	comp=Z,232nm,1.0s									
F22K	John River	85.16	15	P		P		23 06 38.0	+0.9	
	baz=220									
ELS	Elsinore Mount	85.18	54	IAmb		IAmb		23 06 40.0		
	comp=Z,232nm,1.7s									
BFSC	Mount Baldy Ra	85.18	54	IAmb		IAmb		23 06 39.9		
	comp=Z,267nm,1.5s									
RADR	Rader Ridge	85.19	40	IAmb		IAmb		23 06 40.2		
	comp=Z,253nm,1.0s									
OZB	Mount Ozzard	85.20	38	IAmb		IAmb		23 06 39.8		
	comp=Z,137nm,1.1s									
WAKR	Walker	85.24	49	IAmb		IAmb		23 06 40.8		
	comp=Z,230nm,1.3s									
HYT	Haines Junctio	85.27	24	IAmb		IAmb		23 06 39.6		
	comp=Z,158nm,0.9s									
HYT	Haines Junctio	85.27	24	P		P		23 06 37.8	-0.1	
	baz=234,SNR=62									
DPP	Dos Picos Cty	85.36	55	IAmb		IAmb		23 06 40.9		
	comp=Z,210nm,1.3s									
SKAG	Skagway	85.37	26	IAmb		IAmb		23 06 40.4		
	comp=Z,169nm,1.2s									
SKAG	Skagway	85.37	26	P		P		23 06 39.2	+1.0	
SKAG	Skagway	85.37	26	P		P		23 06 38.5	+0.3	
	baz=236,SNR=17									
J26L	Joseph Creek	85.43	19	IAmb		IAmb		23 06 40.9		
	comp=Z,230nm,1.3s									
J26L	Joseph Creek	85.43	19	P		P		23 06 38.8	+0.3	
	baz=228,SNR=160									
COLD	Coldfoot	85.44	15	IAmb		IAmb		23 06 41.3		
	comp=Z,207nm,1.0s									
COLD	Coldfoot	85.44	15	P		P		23 06 39.4	+0.9	
	baz=222,SNR=135									
E21K	Killik River	85.46	13	P		P		23 06 39.3	+0.7	
	baz=218									
A19K	Wainwright	85.49	10	P		P		23 06 39.7	+1.1	
	baz=211,SNR=5.8									
TKX	Tecate	85.50	55	IAmb		IAmb		23 06 41.5		
	comp=Z,166nm,1.4s									
PRP	Porcupine Dome	85.51	18	P		P		23 06 38.1	-0.9	
	baz=226,SNR=101									
H04A	Detroit Lake	85.55	42	IAmb		IAmb		23 06 41.2		
	comp=Z,175nm,1.1s									
F04D	Rainier, OR	85.56	41	IAmb		IAmb		23 06 41.5		
	comp=Z,155nm,0.9s									
LRMC	Laurel Mtn Rad	85.56	52	IAmb		IAmb		23 06 42.2		
	comp=Z,183nm,1.4s									
MOY	Mondy	85.57	325	*e*P		P		23 06 40.3	+0.7	
MOY				pmax		pmax				
	comp=Z,210nm,1.9s									
K27K	Chicken	85.60	20	IAmb		IAmb		23 06 42.0		
	comp=Z,124nm,1.1s									
K27K	Chicken	85.60	20	P		P		23 06 39.3	+0.1	
	baz=229									
TIN	Tinemaha, Big	85.65	51	IAmb		IAmb		23 06 42.6		
	comp=Z,216nm,1.1s									
J05D	Fort Rock, OR	85.66	44	IAmb		IAmb		23 06 42.6		
	comp=Z,278nm,1.1s									
PAHR	Pah Rah Range	85.69	48	IAmb		IAmb		23 06 42.6		
	comp=Z,205nm,1.2s									
K05A	Summer Lake	85.69	45	IAmb		IAmb		23 06 42.9		
	comp=Z,251nm,1.1s									
E22K	Anaktuvuk Pass	85.73	14	P		P		23 06 40.4	+0.5	
	baz=220,SNR=139									
CBB	Campbell River	85.73	37	IAmb		IAmb		23 06 42.6		
	comp=Z,290nm,1.2s									
CLC	China Lake	85.73	52	IAmb		IAmb		23 06 42.9		
	comp=Z,383nm,1.6s									
WSHM	Spangler Hills	85.75	52	IAmb		IAmb		23 06 43.0		
	comp=Z,255nm,1.4s									
G24K	Hadweenzic Riv	85.79	17	P		P		23 06 40.3	+0.1	
	baz=224,SNR=463									
VTX	Valle De La Tr	85.81	57	IAmb		IAmb		23 06 43.6		
	comp=Z,202nm,1.1s									
N30M	Aishikik Lake	85.81	23	P		P		23 06 39.9	-0.6	
	baz=234,SNR=19									
LHV	Little Huntoon	85.84	50	IAmb		IAmb		23 06 43.6		
	comp=Z,188nm,1.3s									
C21K	Knifeblade Rid	85.85	13	P		P		23 06 41.2	+0.8	
	baz=217,SNR=158									
M29M	Somme Creek	85.88	22	P		P		23 06 40.7	-0.1	
	baz=233,SNR=33									
U35K	Hyder	85.92	30	P		P		23 06 40.8	-0.2	
	baz=241									
PFO	Pinyon Flats O	85.93	54	P		P		23 06 42.2	+0.4	
PFO	Pinyon Flats O	85.93	54	*c i*P		P		23 06 41.2	-0.6	
PFO				pmax		pmax				
	comp=Z,147nm,1.1s									
H25L	Birch Creek	85.95	17	P		P		23 06 40.1	-0.8	
	baz=226,SNR=27									
DSP	Deep Springs	85.95	50	IAmb		IAmb		23 06 44.0		
	comp=Z,150nm,1.1s									
RYN	Ryan	85.95	49	IAmb		IAmb		23 06 43.9		
	comp=Z,483nm,2.0s									
CLRS	Cowichan Lake	85.96	38	IAmb		IAmb		23 06 43.5		
	comp=Z,199nm,1.2s									
I05D	Terrebonne, OR	85.98	43	IAmb		IAmb		23 06 43.8		
	comp=Z,169nm,1.0s									
PINE	Pine Mountain	86.05	44	IAmb		IAmb		23 06 44.6		
	comp=Z,192nm,1.0s									
NVAR	Mina Array Bea	86.05	49	P		P		23 06 42.6	+0.2	
NVAR						pP		23 07 32.3	-2.0	
NVAR	Mina Array Bea	86.05	49	P		P		23 06 42.8	+0.5	
	comp=Z,48nm,0.8s,baz=231,slow=8.3,SNR=158									
NVAR				PKKPbc		PKKPbc		23 24 42.8	+0.4	
	comp=Z,1.8nm,0.6s,baz=90,slow=3.7,SNR=9.6									
NVAR				PKPPKP		P'P'df		23 32 43.3	-4.6	
	comp=Z,0.9nm,0.7s,baz=66,slow=3.1,SNR=3.5									
	comp=Z,48nm,0.8s									
B20K	Meade River	86.05	12	P		P		23 06 41.8	+0.5	
	baz=215									
YUH	Yuha Desert	86.07	55	IAmb		IAmb		23 06 44.6		
	comp=Z,192nm,1.2s									
I26K	Coal Creek Min	86.10	19	IAmb		IAmb		23 06 44.7		
	comp=Z,157nm,0.7s									
I26K	Coal Creek Min	86.10	19	P		P		23 06 41.9	+0.2	
	baz=228									
D22K	Ayikyak River	86.10	14	P		P		23 06 42.7	+1.0	
	baz=219									
P32M	Atlin	86.13	26	P		P		23 06 41.8	-0.2	
	baz=237,SNR=20									
HOOD	Mount Hood Mea	86.14	42	IAmb		IAmb		23 06 44.5		
	comp=Z,210nm,1.0s									
GSC	Goldstone, Bar	86.18	53	IAmb		IAmb		23 06 45.1		
	comp=Z,164nm,1.4s									
SALN	Salton City	86.21	55	IAmb		IAmb		23 06 45.4		
	comp=Z,217nm,1.0s									
E23K	Chandalar	86.21	15	IAmb		IAmb		23 06 45.0		
	comp=Z,311nm,1.1s									
E23K	Chandalar	86.21	15	P		P		23 06 42.6	+0.3	
	baz=222,SNR=112									
G25K	Bearman Lake	86.22	17	P		P		23 06 42.5	+0.3	
	baz=226,SNR=116									
WHY	Whitehorse	86.23	25	IAmb		IAmb		23 06 44.1		
	comp=Z,115nm,1.0s									
WHY	Whitehorse	86.23	25	P		P		23 06 41.6	-1.0	
	baz=236,SNR=21									
GNW	Green Mountain	86.25	40	IAmb		IAmb		23 06 45.0		
	comp=Z,151nm,1.1s									
B21K	Ikpikpuk River	86.26	13	P		P		23 06 43.5	+1.2	
	baz=217,SNR=130									
F24K	Squaw Lake	86.27	16	P		P		23 06 43.5	+1.0	
	baz=224,SNR=371									
PGC	Sidney	86.30	38	IAmb		IAmb		23 06 45.2		
	comp=Z,256nm,1.3s									
N31M	Braeburn, Yuko	86.34	24	IAmb		IAmb		23 06 44.9		
	comp=Z,149nm,1.0s									
N31M	Braeburn, Yuko	86.34	24	P		P		23 06 42.4	-0.6	
	baz=235,SNR=32									
QSM	Queen of Sheba	86.34	52	IAmb		IAmb		23 06 45.6		
	comp=Z,178nm,1.3s									
T35M	Bob Quinn	86.34	29	P		P		23 06 43.2	+0.1	
	baz=240,SNR=18									
S34M	Telegraph Cree	86.40	28	IAmb		IAmb		23 06 45.4		
	comp=Z,129nm,0.8s									
S34M	Telegraph Cree	86.40	28	P		P		23 06 43.5	+0.2	
	baz=240,SNR=63									
L29M	L29M	86.40	22	IAmb		IAmb		23 06 45.6		
	comp=Z,204nm,1.2s									
L29M	L29M	86.40	22	P		P		23 06 43.2	-0.1	
	baz=233,SNR=65									
BELC	Belle Mtn. Jos	86.42	54	IAmb		IAmb		23 06 46.5		
	comp=Z,262nm,1.2s									
Q32M	Nakina River	86.42	27	P		P		23 06 43.7	+0.1	
	baz=238,SNR=15									
SFX	San Felipe	86.47	57	IAmb		IAmb		23 06 46.2		
	comp=Z,129nm,0.8s									
FURC	Furnace Creek,	86.50	52	IAmb		IAmb		23 06 46.6		
	comp=Z,302nm,1.3s									
E24K	Your Creek	86.51	15	IAmb		IAmb		23 06 46.2		
	comp=Z,92nm,0.7s									
E24K	Your Creek	86.51	15	P		P		23 06 44.5	+0.8	
	baz=223,SNR=100									
DAWY	Dawson	86.54	21	IAmb		IAmb		23 06 46.1		
	comp=Z,106nm,0.9s									
DAWY	Dawson	86.54	21	P		P		23 06 43.9	0.0	
	baz=232,SNR=88									
GWY	Greenwater Val	86.56	52	IAmb		IAmb		23 06 46.8		
	comp=Z,157nm,1.4s									
LON	Longmire	86.58	41	IAmb		IAmb		23 06 46.4		
	comp=Z,191nm,1.8s									
M30M	Minto, Yukon	86.58	23	P		P		23 06 44.0	-0.2	
	baz=234,SNR=58									
D23K	Nanushuk River	86.63	14	P		P		23 06 45.5	+1.3	
	baz=221,SNR=192									
TOLK	Toolik Lake Re	86.66	15	IAmb		IAmb		23 06 47.0		
	comp=Z,237nm,1.1s									
TOLK	Toolik Lake Re	86.66	15	P		P		23 06 45.4	+1.0	
	baz=222,SNR=118									
TPH	Tonopah	86.74	50	IAmb		IAmb		23 06 47.9		
	comp=Z,152nm,1.4s									
BC3	Big Chuckawall	86.75	55	IAmb		IAmb		23 06 48.3		
	comp=Z,297nm,1.4s									
I27K	Kandik River	86.78	19	P		P		23 06 45.4	+0.4	
	baz=230,SNR=88									
SHOC	Shoshone, Teco	86.78	52	IAmb		IAmb		23 06

J08A	**Circle Bar Ran**	**87.57**	**45**	IAmb	IAmb	23 06 51.6	WMQ				pmax	pmax							
	comp=Z,156nm,0.9s							comp=Z,700nm,4.9s											
SRIG	**Santa Rosalia**	**87.63**	**61**	IAmb	IAmb	23 06 51.6	WMQ				LR	LR							
	comp=Z,137nm,1.0s							comp=Z,220nm,20.5s											
C24K	**Franklin Bluff**	**87.67**	**14**	P	**P**	**23 06 50.3 +1.2**	WMQ				LR	LR							
	baz=223,SNR=108							comp=Z,330nm,16.7s											
I29M	**Ogilvie Camp,**	**87.70**	**20**	P	**P**	**23 06 49.2 -0.2**	WMQ				LR	LR							
	baz=239,SNR=30							comp=Z,470nm,24.0s											
S11A	**Rachel**	**87.72**	**51**	IAmb	IAmb	23 06 53.5	**MPU**	**Maple Canyon**	**91.47**	**49**	IAmb	IAmb	23 07 10.2						
	comp=Z,129nm,1.0s							comp=Z,99nm,1.3s											
NEE2	**Needles Airpor**	**87.73**	**54**	IAmb	IAmb	23 06 52.7	**Q16A**	**Castle Valley**	**91.53**	**51**	IAmb	IAmb	23 07 10.8						
	comp=Z,259nm,1.0s							comp=Z,217nm,1.6s											
PIX	**Pinacate**	**87.76**	**57**	IAmb	IAmb	23 06 52.5	**CTU**	**Camp Tracy**	**91.56**	**49**	IAmb	IAmb	23 07 10.1						
	comp=Z,179nm,1.1s							comp=Z,78nm,1.0s											
E07A	**Sunnyside**	**87.76**	**41**	IAmb	IAmb	23 06 52.3	**HMU**	**Henry Mountain**	**91.61**	**52**	IAmb	IAmb	23 07 10.4						
	comp=Z,191nm,0.9s							comp=Z,62nm,1.0s											
SHPR	**Sheep Range**	**87.82**	**52**	IAmb	IAmb	23 06 53.5	**TCUT**	**Toone Canyon**	**91.92**	**48**	IAmb	IAmb	23 07 12.0						
	comp=Z,163nm,1.4s							comp=Z,71nm,0.9s											
V12A	**Nelson**	**87.83**	**53**	IAmb	IAmb	23 06 53.1	**WRGLY**	**Wrigley**	**92.20**	**25**	P	**P**	**23 07 09.7 -0.6**						
	comp=Z,103nm,1.0s							baz=246											
113A	**Mohawk Valley,**	**87.84**	**56**	IAmb	IAmb	23 06 53.3	**DLMT**	**Dillon**	**92.20**	**44**	IAmb	IAmb	23 07 13.2						
	comp=Z,135nm,1.0s							comp=Z,170nm,1.1s											
TIXI	**Tiksi**	**87.85**	**349**	P	**P**	**23 06 50.1 +0.2**	**BSUT**	**Blindstream Ca**	**92.25**	**49**	IAmb	IAmb	23 07 13.6						
TIXI				IAmb	IAmb	23 06 51.3		comp=Z,74nm,0.9s											
	comp=Z,445nm,1.8s						**HYB**	**Hyderabad**	**92.29**	**287**	*e*P	**P**	**23 07 11.8 -0.1**						
TIXI	**Tiksi**	**87.85**	**349**	LR	LR	23 41 42.3	HYB				*e*pP	**pP**	**23 08 03.4 -0.4**						
	comp=Z,108nm,21.0s,baz=128,slow=32						HYB				*e*PP	**PP**	**23 10 56.9 +1.1**						
TIXI	**Tiksi**	**87.85**	**349**	*ce*P	**P**	**23 06 50.1 +0.2**	HYB				*e*SKSac	**SKSac**	**23 17 26.2 +1.1**						
TIXI				pmax	pmax		HYB				*e*SKKSdf	**SKKSdf**	**23 31 12.3 -1.6**						
	comp=Z,249nm,1.7s						**121A**	**Cookes Peak, D**	**92.66**	**57**	IAmb	IAmb	23 07 15.8						
HAWA	**Hanford**	**87.91**	**42**	IAmb	IAmb	23 06 53.1		comp=Z,107nm,0.8s											
	comp=Z,154nm,0.9s						**PV05**	**Paradox Valley**	**92.90**	**52**	IAmb	IAmb	23 07 16.8						
J30M	**Hart River**	**87.92**	**21**	P	**P**	**23 06 50.0 -0.6**		comp=Z,84nm,0.9s											
	baz=235,SNR=24						**BOZ**	**Bozeman (W)**	**92.92**	**44**	IAmb	IAmb	23 07 16.6						
D25K	**Kavik River**	**87.95**	**15**	IAmb	IAmb	23 06 52.9		comp=Z,103nm,1.2s											
	comp=Z,178nm,0.8s						**YHB**	**Horse Butte**	**93.00**	**45**	IAmb	IAmb	23 07 17.4						
D25K	**Kavik River**	**87.95**	**15**	P	**P**	**23 06 50.8 +0.2**		comp=Z,67nm,1.0s											
	baz=225,SNR=154						**PV14**	**Lion Creek, Pa**	**93.03**	**52**	IAmb	IAmb	23 07 16.9						
LLLB	**Lillooet**	**88.01**	**37**	IAmb	IAmb	23 06 53.3		comp=Z,78nm,0.9s											
	comp=Z,115nm,1.1s						**YHL**	**Hebgen Lake**	**93.03**	**45**	IAmb	IAmb	23 07 17.7						
WAH2	**Wahluke Slope**	**88.02**	**41**	IAmb	IAmb	23 06 53.4		comp=Z,68nm,1.0s											
	comp=Z,151nm,1.1s						**PV17**	**East Wray Mesa**	**93.05**	**52**	IAmb	IAmb	23 07 17.5						
PALK	**Pallekele**	**88.03**	**278**	P	**P**	**23 06 52.8 +0.7**		comp=Z,63nm,0.9s											
PALK	**Pallekele**	**88.03**	**278**	P	**P**	**23 06 53.2 +1.1**	**PV18**	**Skein Mesa, Pa**	**93.08**	**52**	IAmb	IAmb	23 07 17.1						
PALK	**Pallekele**	**88.03**	**278**	P	**P**	**23 06 52.8 +0.7**		comp=Z,126nm,1.0s											
PALK				pmax	pmax		**PV16**	**Nyswonger Mesa**	**93.09**	**52**	IAmb	IAmb	23 07 17.2						
	comp=Z,78nm,1.0s							comp=Z,55nm,1.0s											
R11B	**Troy Canyon, C**	**88.05**	**50**	IAmb	IAmb	23 06 54.1	**PV21**	**Cone Mtn., Par**	**93.11**	**51**	IAmb	IAmb	23 07 17.4						
	comp=Z,141nm,1.2s							comp=Z,118nm,0.9s											
PRN	**Pahroc Range**	**88.17**	**51**	IAmb	IAmb	23 06 55.1	**PV04**	**Paradox Valley**	**93.12**	**52**	IAmb	IAmb	23 07 17.5						
	comp=Z,302nm,1.3s							comp=Z,112nm,0.9s											
H29M	**Whitestone**	**88.20**	**19**	P	**P**	**23 06 51.2 -0.5**	**PV11**	**David Mesa, Pa**	**93.12**	**52**	IAmb	IAmb	23 07 17.4						
	baz=233,SNR=43							comp=Z,123nm,1.4s											
E08A	**Dider Farm, El**	**88.25**	**42**	IAmb	IAmb	23 06 54.8	**PV03**	**Paradox Valley**	**93.13**	**52**	IAmb	IAmb	23 07 17.2						
	comp=Z,257nm,1.1s							comp=Z,57nm,1.0s											
I30M	**Mount Dempster**	**88.28**	**21**	P	**P**	**23 06 51.5 -0.7**	**PV02**	**Paradox Valley**	**93.21**	**52**	IAmb	IAmb	23 07 17.6						
	baz=235,SNR=46							comp=Z,102nm,1.0s											
W13A	**Hualapai Mount**	**88.41**	**54**	IAmb	IAmb	23 06 56.2	**PV22**	**Blue Mesa, Par**	**93.24**	**51**	IAmb	IAmb	23 07 17.8						
	comp=Z,238nm,1.1s							comp=Z,104nm,0.8s											
E27K	**Coleen River**	**88.46**	**17**	IAmb	IAmb	23 06 56.3	**PV01**	**Paradox Valley**	**93.32**	**52**	IAmb	IAmb	23 07 18.1						
	comp=Z,135nm,1.1s							comp=Z,83nm,1.0s											
E27K	**Coleen River**	**88.46**	**17**	P	**P**	**23 06 53.4 +0.5**	**PV07**	**Paradox Valley**	**93.33**	**52**	IAmb	IAmb	23 07 18.2						
	baz=230,SNR=109							comp=Z,102nm,0.9s											
WTLY	**Watson Lake, Y**	**88.53**	**27**	P	**P**	**23 06 53.4 -0.1**	**PV15**	**Paradox Valley**	**93.43**	**52**	IAmb	IAmb	23 07 18.7						
	baz=242							comp=Z,114nm,1.1s											
D08A	**Wollman Farm,**	**88.54**	**41**	IAmb	IAmb	23 06 56.0	**EPT**	**El Paso**	**93.55**	**58**	IAmb	IAmb	23 07 19.2						
	comp=Z,305nm,1.6s							comp=Z,111nm,1.2s											
F28M	**Old Crow**	**88.60**	**18**	P	**P**	**23 06 54.0 +0.4**	**Y22A**	**Socorro**	**93.65**	**56**	IAmb	IAmb	23 07 20.4						
	baz=231,SNR=51							comp=Z,91nm,1.0s											
SLBS	**Sierra La Lagu**	**88.72**	**66**	P	**P**	**23 06 55.4 +0.1**	**PDAR**	**Pinedale Array**	**93.66**	**47**	P	**P**	**23 07 17.3 -0.6**						
SLBS				IAmb	IAmb	23 06 57.0	**PDAR**	**Pinedale Array**	**93.66**	**47**	P	**P**	**23 07 17.1 -0.9**						
	comp=Z,71nm,0.7s							comp=Z,10nm,0.9s,baz=191,slow=3.1,SNR=42											
B08A	**Colville Reser**	**88.73**	**40**	IAmb	IAmb	23 06 56.4	PDAR				PKKP	**PKKPdf**	**23 24 21.2 -1.0**						
	comp=Z,218nm,1.3s							comp=Z,3.6nm,0.7s,baz=93,slow=4.8,SNR=24											
C26K	**Camden Bay**	**88.73**	**15**	P	**P**	**23 06 55.9 +1.8**	PDAR				SKKPbc	SKKPbc	23 27 38.6 -4.8						
	baz=226,SNR=35							comp=Z,0.9nm,0.5s,baz=81,slow=12,SNR=3.9											
G29M	**Pine Creek**	**88.73**	**19**	IAmb	IAmb	23 06 58.2	PDAR				PKPPKP	**P'P'df**	**23 32 31.9 -1.7**						
	comp=Z,57nm,0.7s							comp=Z,0.9nm,0.8s,baz=69,slow=2.3,SNR=6.6											
G29M	**Pine Creek**	**88.73**	**19**	P	**P**	**23 06 54.2 0.0**	PDAR				LR	LR	23 45 31.6						
	baz=233,SNR=36							comp=Z,85nm,19.6s,baz=257,slow=33											
MMPY	**Sheldon Lake,**	**88.75**	**24**	P	**P**	**23 06 53.7 -0.7**		comp=Z,10nm,0.9s											
	baz=239,SNR=26						**Y22D**	**IRIS PASSCAL I**	**93.71**	**56**	IAmb	IAmb	23 07 23.9						
Y14A	**Wickenburg**	**88.78**	**55**	IAmb	IAmb	23 06 57.6		comp=Z,117nm,0.9s											
	comp=Z,90nm,1.1s						**Y22D**	**IRIS PASSCAL I**	**93.71**	**56**	P	**P**	**23 07 16.1 -2.2**						
EPYK	**Eagle Plains**	**88.83**	**20**	IAmb	IAmb	23 06 58.1		baz=257											
	comp=Z,150nm,1.2s						**PMSA**	**Palmer Station**	**93.84**	**160**	P	**P**	**23 07 18.6 +0.6**						
EPYK	**Eagle Plains**	**88.83**	**20**	P	**P**	**23 06 54.2 -0.5**	**PMSA**	**Palmer Station**	**93.84**	**160**	*e*P	**P**	**23 07 17.8 -0.2**						
	baz=234,SNR=47						**ZSN**	**Zaisan**	**93.96**	**318**	*e*P	**P**	**23 07 18.7 -0.2**						
C27K	**Jago River**	**88.84**	**15**	IAmb	IAmb	23 06 57.9	ZSN				pmax	pmax							
	comp=Z,116nm,0.8s							comp=Z,71nm,1.2s											
C27K	**Jago River**	**88.84**	**15**	P	**P**	**23 06 55.1 +0.5**	**ZSN**	**Zaisan**	**93.96**	**318**	*e*P	**P**	**23 07 18.8 -0.2**						
	baz=228,SNR=70							comp=Z,71nm,1.2s											
BMO	**Blue Mountains**	**88.86**	**44**	IAmb	IAmb	23 06 57.5	**ANMO**	**Albuquerque**	**94.27**	**55**	P	**P**	**23 07 21.3 +0.4**						
	comp=Z,214nm,1.3s						ANMO				IAmb	IAmb	23 07 24.8						
ELK	**Elko**	**89.03**	**48**	IAmb	IAmb	23 06 58.8		comp=Z,55nm,0.9s											
	comp=Z,190nm,1.0s						ANMO				pP	**pP**	**23 08 11.6 -1.6**						
ELK	**Elko**	**89.03**	**48**	P	**P**	**23 06 56.8 +0.3**	**ANMO**	**Albuquerque**	**94.27**	**55**	LR	LR	23 47 41.5						
HSIG		**89.17**	**60**	IAmb	IAmb	23 06 60.0		comp=Z,445nm,18.0s,baz=312,slow=34											
	comp=Z,186nm,1.2s						**ANMO**	**Albuquerque**	**94.27**	**55**	*i* P	**P**	**23 07 20.4 -0.5**						
SPR3	**Spring Creek 3**	**89.18**	**50**	IAmb	IAmb	23 06 59.5	ANMO				pmax	pmax							
	comp=Z,193nm,1.0s							comp=Z,59nm,0.9s											
H31M	**Peel River**	**89.31**	**21**	P	**P**	**23 06 55.8 -1.1**	**C36M**	**Paulatuk**	**94.46**	**19**	IAmb	IAmb	23 07 20.9						
	baz=236,SNR=20							comp=Z,70nm,0.7s											
E28M	**Babbage River**	**89.32**	**17**	IAmb	IAmb	23 07 00.3	**C36M**	**Paulatuk**	**94.46**	**19**	P	**P**	**23 07 20.2 -0.4**						
	comp=Z,126nm,1.3s							baz=246,SNR=5.8											
E28M	**Babbage River**	**89.32**	**17**	P	**P**	**23 06 57.6 +0.7**	**S22A**	**4UR Ranch, Cre**	**94.57**	**53**	IAmb	IAmb	23 07 24.5						
	baz=232,SNR=78							comp=Z,80nm,1.1s											
D27M	**Malcolm River**	**89.32**	**16**	IAmb	IAmb	23 07 00.5	**VHRN**	**Van Horn**	**94.62**	**60**	IAmb	IAmb	23 07 24.1						
	comp=Z,89nm,0.7s							comp=Z,77nm,1.7s											
D27M	**Malcolm River**	**89.32**	**16**	P	**P**	**23 06 57.9 +0.9**	**EGMT**	**Eagleton**	**94.76**	**42**	IAmb	IAmb	23 07 24.6						
	baz=230,SNR=100							comp=Z,190nm,1.7s											
G30M	**tAoh Zraii Nji**	**89.35**	**19**	IAmb	IAmb	23 06 57.9	**HAYD**	**Hayden**	**94.84**	**50**	IAmb	IAmb	23 09 16.1						
	comp=Z,115nm,1.1s							comp=Z,36nm,0.7s											
G30M	**tAoh Zraii Nji**	**89.35**	**19**	P	**P**	**23 06 56.9 -0.3**	**TROLL**	**Troll, Antarti**	**94.96**	**185**	⇑P	**P**	**23 07 22.8 -0.4**						
	baz=235,SNR=39							comp=Z,5µm,0.8s											
PSUT	**Pine Spring**	**89.41**	**50**	IAmb	IAmb	23 07 00.5	TROLL				⇑PKKPbc	**PKKPdf**	**23 24 14.7 -4.1**						
	comp=Z,118nm,0.9s							comp=Z,630nm,0.8s											
MFID	**Camas Ranch**	**89.42**	**45**	IAmb	IAmb	23 07 00.3	**A36M**	**Sachs Harbour**	**95.20**	**17**	P	**P**	**23 07 23.5 -0.5**						
	comp=Z,173nm,0.9s							baz=245,SNR=8.7											
LIRD	**Liard River Hi**	**89.42**	**28**	P	**P**	**23 06 57.1 -0.5**	**TX31**	**Lajitas Ar. Si**	**95.45**	**61**	IAmb	IAmb	23 07 27.9						
	baz=244,SNR=15							comp=Z,34nm,0.8s											
TGTN	**Hyland Airport**	**89.43**	**26**	P	**P**	**23 06 57.1 -0.6**	**TXAR**	**Lajitas Array**	**95.45**	**61**	P	**P**	**23 07 26.4 +0.2**						
	baz=242,SNR=11						**TXAR**	**Lajitas Array**	**95.45**	**61**	P	**P**	**23 07 26.2 0.0**						
CCUT	**Cedar City**	**89.50**	**51**	IAmb	IAmb	23 07 01.5		comp=Z,30nm,0.8s,baz=252,slow=4.0,SNR=260											
	comp=Z,182nm,1.0s						TXAR				PKKPbc	**PKKPbc**	**23 24 17.5 -0.5**						
TOAD	**Toad River Com**	**89.58**	**29**	P	**P**	**23 06 57.7 -0.7**		comp=Z,1.2nm,0.6s,baz=93,slow=4.7,SNR=12											
	baz=245,SNR=47						TXAR				PKPPKP	**P'P'df**	**23 32 29.2 -1.6**						
E29M	**Blow River**	**89.66**	**18**	P	**P**	**23 06 58.4 -0.1**		comp=Z,0.5nm,0.9s,baz=46,slow=4.4,SNR=3.5											
	baz=233,SNR=27						TXAR				LR	LR	23 46 34.6						
SZCU	**Shurtz Canyon**	**89.72**	**51**	IAmb	IAmb	23 07 02.4		comp=Z,141nm,18.8s,baz=232,slow=33											
	comp=Z,176nm,1.1s							comp=Z,30nm,0.8s											
PLID	**Pearl Lake**	**89.82**	**44**	IAmb	IAmb	23 07 01.7	**TXAR**	**Lajitas Array**	**95.45**	**61**	P	**P**	**23 07 26.4 +0.2**						
	comp=Z,157nm,0.9s						**MK31**	**Makanchi Array**	**95.52**	**317**	*i* P	**P**	**23 07 25.5 -0.6**						
F30M	**Barrier River**	**89.85**	**19**	P	**P**	**23 06 58.9 -0.5**	MK31				pmax	pmax							
	baz=235,SNR=13							comp=Z,150nm,0.8s											
G31M	**Satah River**	**89.95**	**20**	P	**P**	**23 06 59.2 -0.6**	**MKAR**	**Makanchi Array**	**95.52**	**317**	P	**P**	**23 07 26.2 +0.1**						
	baz=236,SNR=17							comp=Z,114nm,0.8s,baz=96,slow=6.2,SNR=606											
D28M	**Stokes Point**	**89.99**	**17**	P	**P**	**23 07 00.2 +0.2**	MKAR				PP	**PP**	**23 11 18.3 -1.9**						
	baz=232,SNR=33							comp=Z,6.7nm,1.0s,baz=106,slow=8.9,SNR=6.3											
NEW	**Newport**	**90.09**	**40**	IAmb	IAmb	23 07 02.8	MKAR				PKiKP	**PKiKP**	**23 12 06.0 +0.9**						
	comp=Z,155nm,0.9s							comp=Z,2.5nm,0.8s,baz=62,slow=1.5,SNR=5.1											
NEW	**Newport**	**90.09**	**40**	P	**P**	**23 07 01.3 +0.3**	MKAR				S	**SKSac**	**23 17 41.9 +0.6**						
TUC	**Tucson**	**90.15**	**57**	P	**P**	**23 07 02.9 +1.2**		comp=Z,1.1nm,0.8s,baz=93,slow=7.3,SNR=4.6											
TUC				IAmb	IAmb	23 07 04.5	MKAR				PKKP	**PKKPbc**	**23 24 16.1 -2.4**						
	comp=Z,209nm,1.0s							comp=Z,12nm,0.8s,baz=323,slow=0.6,SNR=17											
TUC	**Tucson**	**90.15**	**57**	P	**P**	**23 07 02.9 +1.2**	MKAR				PKPPKP	**P'P'df**	**23 32 28.8 -0.8**						
TUC				pmax	pmax			comp=Z,0.7nm,0.9s,baz=316,slow=4.0,SNR=4.1											
	comp=Z,209nm,1.0s							comp=Z,114nm,0.8s											
X16A	**Lo Mia Camp, P**	**90.16**	**55**	IAmb	IAmb	23 07 04.6	**ZALV**	**Zalesovo Beam**	**95.56**	**324**	P	**P**	**23 07 25.1 -0.8**						
	comp=Z,186nm,0.9s						**ZALV**	**Zalesovo Beam**	**95.56**	**324**	P	**P**	**23 07 25.4 -0.5**						
F31M	**Tsiigehtchic**	**90.41**	**19**	IAmb	IAmb	23 07 02.8		comp=Z,73nm,0.8s,baz=113,slow=4.6,SNR=269											
	comp=Z,140nm,1.5s						ZALV				PP	**PP**	**23 11 18.2 -1.9**						
F31M	**Tsiigehtchic**	**90.41**	**19**	P	**P**	**23 07 01.4 -0.6**		comp=Z,1.9nm,0.8s,baz=99,slow=9.2,SNR=3.6											
	baz=237,SNR=13						ZALV				PKiKP	**PKiKP**	**23 12 05.9 +1.1**						
HLID	**Hailey**	**90.45**	**45**	IAmb	IAmb	23 07 05.4		comp=Z,3.1nm,0.7s,baz=142,slow=0.9,SNR=5.0											
	comp=Z,130nm,1.0s						ZALV				PKKP	**PKKPbc**	**23 24 16.1 -2.6**						
MTPU	**Mount Pierson**	**90.53**	**51**	P	**P**	**23 07 04.8 +1.1**		comp=Z,3.7nm,0.4s,baz=292,slow=2.5,SNR=17											
DUG	**Dugway, Tooele**	**90.64**	**49**	IAmb	IAmb	23 07 06.1	ZALV				PKPPKP	**P'P'df**	**23 32 26.0 -3.0**						
	comp=Z,282nm,1.8s							comp=Z,0.3nm,0.3s,baz=316,slow=4.0,SNR=3.5											
KOTAN	**Kotaneelee Air**	**90.67**	**28**	P	**P**	**23 07 02.3 -1.1**		comp=Z,73nm,0.8s											
	baz=246						**ZALV**	**Zalesovo Beam**	**95.56**	**324**	*i* P	**P**	**23 07 25.3 -0.7**						
SYO	**Syowa Base**	**90.67**	**197**	⇑*i*P	**P**	**23 07 03.1 -0.2**	ZALV				pmax	pmax							
SYO	**Syowa Base**	**90.67**	**197**	⇑*i*PcP	**PcP**	**23 07 05.0 +0.7**		comp=Z,73nm,0.8s											
INK	**Inuvik**	**90.95**	**19**	P	**P**	**23 07 03.6 -0.8**	**SNAA**	**Sanae**	**95.65**	**183**	⇑P	**P**	**23 07 25.4 -0.9**						
	baz=237,SNR=12							comp=Z,1µm,0.9s											
WMQ	**Urumqi**	**91.09**	**315**	*e*P	**P**	**23 07 07.8 +2.0**	SNAA				⇑PKiKP	**PKiKP**	**23 12 04.6 -0.1**						
WMQ				pmax	pmax			comp=Z,68nm,0.5s											
	comp=Z,120nm,1.1s						SNAA				⇑PKKPbc	PKKPdf	23 24 09.4 -8.0						

	comp=Z,164nm,0.9s																		
SNAA	**Sanae**	**95.65**	**183**	P	**P**	**23 07 25.9 -0.4**													
	comp=Z,56nm,0.9s,baz=189,slow=4.2,SNR=118																		
	comp=Z,56nm,0.9s																		
SNAA	**Sanae**	**95.65**	**183**	*ce*P	**P**	**23 07 25.4 -0.9**													
SNAA				pmax	pmax														
	comp=Z,118nm,1.2s																		
YKA	**Yellowknife Ar**	**95.76**	**27**	P	**P**	**23 07 26.2 -0.5**													
	comp=Z,31nm,0.8s,baz=265,slow=4.4,SNR=50																		
YKA				LR	LR	23 44 37.0													
	comp=Z,121nm,20.2s,baz=272,slow=31																		
	comp=Z,31nm,0.8s																		
YKAW3	**Yellowknife Wh**	**95.78**	**27**	IAmb	IAmb	23 07 27.4													
	comp=Z,133nm,1.4s																		
YKAW1	**Yellowknife Wh**	**95.81**	**27**	IAmb	IAmb	23 07 27.5													
	comp=Z,221nm,1.5s																		
ISCO	**Idaho Springs**	**95.92**	**51**	P	**P**	**23 07 29.2 +0.8**													
Q24A	**Divide**	**96.11**	**52**	IAmb	IAmb	23 07 31.2													
	comp=Z,64nm,1.0s																		
VNA3	**Neumayer Olymp**	**96.33**	**181**	⇑P	**P**	**23 07 28.2 -1.1**													
	comp=Z,120nm,0.8s																		
VNA3				⇑PKiKP	**PKiKP**	**23 12 05.7 -0.1**													
	comp=Z,10nm,0.6s																		
VNA3				⇑PKKPbc	PKKPdf	23 24 07.7 -8.5													
	comp=Z,9.2nm,0.8s																		
VNA2	**Neumayer--Watz**	**96.59**	**182**	⇑P	**P**	**23 07 29.9 -0.6**													
	comp=Z,64nm,0.7s,baz=171,slow=4.4																		
VNA2				⇑PKiKP	**PKiKP**	**23 12 06.5 +0.2**													
	comp=Z,10nm,0.6s,baz=160,slow=6.9																		
VNA2				⇑PKKPbc	PKKPdf	23 24 07.5 -8.1													
	comp=Z,3.7nm,0.5s,baz=151,slow=34																		
SHLS	**Shalkode**	**96.76**	**313**	*e*P	**P**	**23 07 30.1 -1.8**													
SHLS	**Shalkode**	**96.76**	**313**	*e*P	**P**	**23 07 30.1 -1.8**													
LAO	**LASA Array**	**96.82**	**44**	IAmb	IAmb	23 07 35.5													
	comp=Z,45nm,1.0s																		
VNA1	**Neumayer--Stat**	**96.89**	**182**	⇑P	**P**	**23 07 30.9 -0.8**													
	comp=Z,82nm,1.2s																		
VNA1				⇑PKiKP	**PKiKP**	**23 12 06.1 -0.7**													
	comp=Z,5.2nm,0.6s																		
VNA1				⇑PKKPbc	**PKKPdf**	**23 24 10.4 -4.7**													
	comp=Z,6.3nm,1.0s																		
ODSA	**Odessa**	**96.92**	**59**	IAmb	IAmb	23 07 33.6													
	comp=Z,36nm,0.9s																		
ESPZ	**Base Esperanza**	**97.03**	**162**	IAmb	IAmb	23 07 36.6													
	comp=Z,33nm,0.9s																		
MSTX	**Mulege**	**97.07**	**57**	IAmb	IAmb	23 07 34.3													
	comp=Z,67nm,0.9s																		
UZB	**Uzynbulak**	**97.07**	**313**	*e*P	**P**	**23 07 32.8 -0.5**													
UZB	**Uzynbulak**	**97.07**	**313**	*e*P	**P**	**23 07 32.9 -0.5**													
PRZ	**Przheval'sk**	**97.40**	**312**	IAmb	IAmb	23 07 38.2													
	comp=Z,134nm,1.8s																		
SATY	**Saty**	**97.50**	**312**	*e*P	**P**	**23 07 34.7 -0.5**													
SATY	**Saty**	**97.50**	**312**	*e*P	**P**	**23 07 34.8 -0.5**													
TDK	**Taldyqorghan**	**97.84**	**314**	*e*P	**P**	**23 07 36.2 -0.3**													
TDK				pmax	pmax														
	comp=Z,65nm,0.9s																		
TDK	**Taldyqorghan**	**97.84**	**314**	*e*P	**P**	**23 07 36.2 -0.3**													
	comp=Z,65nm,0.9s																		
RSSD	**Black Hills**	**97.88**	**47**	P	**P**	**23 07 36.7 -0.3**													
RSSD				IAmb	IAmb	23 07 38.2													
	comp=Z,56nm,1.9s																		
RSSD	**Black Hills**	**97.88**	**47**	P	**P**	**23 07 36.7 -0.3**							

SPITS PKKPab **PKKPab 23 23 32.9 +0.4**
comp=Z,44nm,1.2s,baz=152,slow=6.5,SNR=10
KULLO Kullorsuaq 113.32 12 *i* P **PKiKP 23 12 36.5 -0.4**
ARQ Araqi 113.58 290 P **PKiKP 23 12 37.7 -1.2**
SOHO SOHO 113.62 291 P **PKiKP 23 12 38.1 -0.8**
SOHO SOHO 113.62 291 *i* P **PKiKP 23 12 38.1 -0.8**
SNR=20
UOSS Minazif 113.97 292 P **PKiKP 23 12 38.0 -1.5**
UOSS Minazif 113.97 292 P **PKiKP 23 12 38.4 -1.2**
HATD Hatta, Dubai 114.03 292 *i* P PKPdf 23 12 39.1 -0.6
SNR=12
MSFE Esma-Masafi 114.03 292 *i* P PKPdf 23 12 39.4 -0.3
SNR=5.3
MASF Masafi 114.03 292 P PKPdf 23 12 39.2 -0.6
ASHO Ashiyiah 114.09 292 P PKPdf 23 12 39.3 -0.6
ASHO Ashiyiah 114.09 292 *i* P PKPdf 23 12 39.1 -0.7
SNR=7.0
ALNE Al Ain 114.33 291 *i* P PKPdf 23 12 40.0 -0.3
SNR=14
NAZ Nazwa, Dubai 114.46 292 P PKPdf 23 12 40.0 -0.5
NAZ Nazwa, Dubai 114.46 292 *i* P PKPdf 23 12 40.3 -0.2
SNR=8.1
FAQ Al Faqa, Dubai 114.52 292 P PKPdf 23 12 40.2 -0.4
DMTO DMTO 114.56 284 P PKPdf 23 12 35.9 -4.9
ASUD Al Ashush, Dub 114.75 291 P PKPdf 23 12 40.9 -0.2
ASUD Al Ashush, Dub 114.75 291 P **PKiKP 23 12 41.1 +0.1**
UPNV Upernavik 114.76 13 *i* P **PKiKP 23 12 39.7 0.0**
UMZA Um Al Zommool 114.79 289 P PKPdf 23 12 40.7 -0.5
KIRV Kirov 114.95 329 PKP **PKiKP 23 12 40.2 -0.2**
comp=Z,14nm,0.5s,baz=56,slow=1.9,SNR=16
KIRV Kirov 114.95 329 *c i* PKIKP PKPdf 23 12 40.8 +0.4
AJN Ajban 115.06 291 P **PKiKP 23 12 41.5 -0.2**
RBK Rabkut 115.25 284 P **PKiKP 23 12 42.4 +0.1**
DOK Doka 115.42 285 P **PKPdf 23 12 41.5 -1.0**
BJO1 Bjornoya 115.56 351 *e* PKPdf **PKPdf 23 12 41.0 -0.2**
WHFO Wadi Hawf 115.70 284 P **PKPdf 23 12 42.2 -0.9**
DAG Danmarks Havn 115.76 1 *i* P **PKPdf 23 12 40.6 -0.9**
MZWR Madinat Zayed 116.03 290 P **PKiKP 23 12 43.7 +0.2**
ABTO Aybut 116.09 283 P **PKPdf 23 12 43.5 -0.4**
NUUG Nuugaatsiaq 116.28 13 *i* P **PKPdf 23 12 42.2 -0.4**
MZR Muzera 116.35 290 P **PKiKP 23 12 44.8 +0.5**
SNR=7.6
MZR Muzera 116.35 290 *i* P **PKiKP 23 12 44.3 +0.1**
SNR=38
NIAQ Niaqornat 116.71 14 *i* P **PKiKP 23 12 44.0 +0.6**
LVZ Lovozero 116.72 342 *c i* PKIKP **PKPdf 23 12 43.6 0.0**
LVZ pmax pmax
comp=Z,46nm,0.7s
VADS Vadso 116.78 345 *e* PKPdf **PKiKP 23 12 43.7 +0.1**
VADS IAmb IAmb 23 12 44.5
comp=Z,62nm,0.8s
GHWR Ruwais 116.95 291 P **PKPdf 23 12 45.1 -0.2**
JRN Qarnain Island 117.01 292 P **PKPdf 23 12 44.7 -0.7**
L56A Greenwood 117.14 49 **PKPdf 23 12 44.4 -0.9**
SAATT Saattut 117.16 13 *i* P **PKPdf 23 12 44.2 -0.1**
APA Apatity 117.30 342 *i* PKIKP **PKPdf 23 12 43.7 -1.0**
APA *e* *PP **pPKPdf 23 13 38.8 -0.7**
APA *e* PS **PS 23 23 42.2 -3.6**
APA MLR MLR
comp=Z,336nm,21.8s
KEV Kevo 117.62 345 **PKiKP 23 12 45.6 +0.3**
KEV Kevo 117.62 345 PKiKP **PKiKP 23 12 45.6 +0.3**
SAQQ Saqqaq 117.67 14 *i* P **PKPdf 23 12 45.0 -0.3**
BELG Belogornoye 117.72 323 *i* PKIKP **PKiKP 23 12 46.2 +0.3**
HAMF Hammerfest 117.75 347 *e* PKPdf **PKPdf 23 12 44.5 -0.9**
HAMF IAmb IAmb 23 12 45.8
comp=Z,72nm,0.7s
GDH Godhavn 117.82 15 *i* P **PKPdf 23 12 45.5 -0.1**
ARA0 ARCESS Array S 118.15 346 *e* PKPdf **PKPdf 23 12 45.8 -0.5**
ARCES ARCESS Array B 118.15 346 **PKPdf 23 12 46.1 -0.2**
ARCES ARCESS Array B 118.15 346 PKP **PKPdf 23 12 46.2 -0.1**
comp=Z,88nm,0.6s,baz=181,slow=1.1,SNR=254
ARCES PKKPbc **PKKPbc 23 23 05.7 -3.1**
comp=Z,20nm,0.9s,baz=204,slow=2.7,SNR=25
ARCES PKKP **PKKPdf 23 23 34.8 -2.0**
comp=Z,3.1nm,0.8s,baz=304,slow=2.8,SNR=3.9
DBG Daneborg 118.17 2 *i* P **PKPdf 23 12 46.2 -0.1**
SUMG Summit 118.17 8 *i* P **PKiKP 23 12 47.2 +0.4**
LPAZ La Paz 118.35 116 PKP **PKPdf 23 12 48.9 -0.1**
comp=Z,15nm,0.6s,baz=281,slow=0.9,SNR=54
LPAZ PKKPbc **PKKPbc 23 23 07.0 -0.3**
comp=Z,2.3nm,0.6s,baz=70,slow=3.8,SNR=10
LPAZ La Paz 118.35 116 *e* P **PKPdf 23 12 46.1 -2.9**
ILULI Ilulissat 118.46 15 *i* P **PKPdf 23 12 46.6 -0.3**
TRNA Turayna 118.49 291 P **PKPdf 23 12 47.9 -0.4**
KLMR Klimovskoe 118.69 334 *e* PKIKP **PKPdf 23 12 45.8 -1.7**
KLMR pmax pmax
comp=Z,97nm,1.6s
KLMR MLR MLR
comp=Z,254nm,22.0s
SHMA Al-Shehemyia 118.74 293 P **PKPdf 23 12 48.7 0.0**
KTK1 Kautokeino 119.08 346 *e* PKPdf **PKPdf 23 12 47.5 -0.6**
KTK1 IAmb IAmb 23 12 48.3
comp=Z,47nm,0.7s
JETT Jettan, Norway 119.30 347 *e* PKPdf **PKPdf 23 12 48.1 -0.5**
JETT IAmb IAmb 23 12 48.9
comp=Z,72nm,0.7s
TRO Tromso 119.55 348 *e* PKPdf **PKPdf 23 12 48.0 -0.9**
TRO IAmb IAmb 23 12 49.3
comp=Z,106nm,0.8s
MAK Makhachkala 120.04 312 *i* P **Pdif 23 09 20.2 +4.9**
MAK *i* 23 12 50.4
MAK *e* 23 13 41.6
MAK *e* 23 19 27.6
MAK *e* SS SS 23 30 30.0 +2.2
MAK *e* SSS SSS 23 34 58.5
MAK pmax pmax
comp=Z,116nm,0.8s
AKT Akhty 120.15 311 *i* PKIKP **PKPdf 23 12 51.0 -0.1**
AKT *e* 23 13 45.0
AKT *e* 23 14 09.7
AKT *e* 23 14 19.6
AKT pmax pmax
comp=Z,53nm,0.8s
SFJD Kangerlussuaq 120.20 16 **PKiKP 23 12 50.4 0.0**
SFJD Kangerlussuaq 120.20 16 PKIKP **PKiKP 23 12 50.4 0.0**
SFJD Kangerlussuaq 120.20 16 *i* P **PKPdf 23 12 49.9 -0.4**
SCHQ Schefferville 120.64 33 PKP **PKPdf 23 12 50.4 -1.1**
comp=Z,18nm,0.8s,baz=334,slow=2.0,SNR=18
SCHQ PKKPab **PKKPab 23 22 57.8 -0.6**
comp=Z,7.7nm,0.6s,baz=80,slow=5.3,SNR=11
JNW Jan Mayen West 121.54 358 *e* PKPdf **PKiKP 23 12 53.9 +1.0**
JNW IAmb IAmb 23 12 54.8
comp=Z,105nm,1.0s
VRH Novokhopyorsk 121.58 323 *e* PKIKP **PKPdf 23 12 52.5 -0.9**
VRH pmax pmax
comp=Z,100nm,0.8s
JMIC Jan Mayen 121.58 358 PKP **PKPdf 23 12 52.9 0.0**
comp=Z,32nm,0.8s,baz=110,slow=3.7,SNR=3.6
JMIC Jan Mayen 121.58 358 *e* PKPdf **PKiKP 23 12 54.3 +1.3**
STEI Steigen 121.72 348 *e* PKPdf **PKPdf 23 12 52.9 -0.2**
STEI IAmb IAmb 23 12 53.8
comp=Z,145nm,0.7s
NUUK Nuuk 121.88 19 *i* P **PKiKP 23 12 54.1 +0.4**
SCO Scoresbysund 121.88 4 *i* P **PKPdf 23 12 53.5 0.0**
LOF Lofoten 121.89 349 *e* PKPdf **PKPdf 23 12 53.1 -0.4**
LOF IAmb IAmb 23 12 53.9
comp=Z,75nm,1.0s
MOS Moscow 121.96 329 *i* PKIKP **PKPdf 23 12 52.9 -1.1**
MOS *e* 23 13 43.6
MOS pmax pmax
comp=Z,100nm,1.0s
MOS pmax pmax
comp=Z,91nm,0.9s
CPUP Villa Florida 122.04 132 PKP **PKPdf 23 12 54.7 -0.4**
comp=Z,9.6nm,0.7s,baz=127,slow=1.8,SNR=68
CPUP PKKPbc **PKKPbc 23 22 53.4 +0.1**
comp=Z,3.1nm,0.9s,baz=297,slow=3.9,SNR=20
FAUS Fauske 122.17 348 *e* PKPdf **PKPdf 23 12 53.6 -0.4**
FAUS IAmb IAmb 23 12 54.0
comp=Z,35nm,0.7s
GNI Garni 122.62 310 **PKiKP 23 12 57.0 +0.7**
GNI Garni 122.62 310 P **PKiKP 23 12 56.4 +0.1**
GNI Garni 122.62 310 *i* PKIKP **PKiKP 23 12 56.3 +0.1**
GNI Garni 122.62 310 P **PKiKP 23 12 56.8 +0.6**
LPSR Galich'ya Gora 122.64 325 *e* PKIKP **PKPdf 23 12 55.1 -0.3**
LPSR pmax pmax
comp=Z,140nm,1.1s
GOF Gofitskoye 122.67 316 *c i* PKIKP **PKiKP 23 12 56.1 +0.2**
OBN Obninsk 122.79 329 **PKPdf 23 12 55.5 -0.1**
OBN Obninsk 122.79 329 PKP **PKiKP 23 12 55.7 -0.1**
comp=Z,51nm,0.9s,baz=87,slow=1.0,SNR=24
OBN Obninsk 122.79 329 ⇑P **PKiKP 23 12 55.8 +0.1**
OBN Obninsk 122.79 329 *c i* PKIKP **PKPdf 23 12 55.5 -0.1**
OBN *e* 23 13 51.9
OBN *e* 23 14 37.0
OBN *e* PPP PPP 23 17 17.7
OBN *e* SS SS 23 30 57.8 -3.8
OBN pmax pmax
comp=Z,115nm,1.3s
VORR Voronezh 122.86 324 *e* PKIKP **PKPdf 23 12 55.4 -0.4**
VORR pmax pmax
comp=Z,210nm,1.0s
VSR Storozhevoye 123.06 324 *e* PKIKP **PKPdf 23 12 54.8 -1.4**
VSR pmax pmax
comp=Z,90nm,0.9s
VORD Divnogorie 123.08 323 *e* PKIKP **PKPdf 23 12 55.4 -0.9**
VORD pmax pmax
comp=Z,70nm,1.0s
PUL Pulkovo 123.13 336 *ce* PKIKP **PKiKP 23 12 57.5 +1.2**
PUL pmax pmax
comp=Z,101nm,0.7s
KBZ Khabaz 123.13 314 PKP **PKiKP 23 12 57.4 +0.5**
comp=Z,16nm,0.8s,baz=134,slow=2.1,SNR=25
KBZ PKKPbc **PKKPbc 23 22 49.1 -0.2**
comp=Z,4.9nm,0.9s,baz=256,slow=2.5,SNR=8.9
VAGH Vaagaholmen 123.15 348 *e* PKPdf **PKPdf 23 12 55.6 -0.3**
VAGH IAmb IAmb 23 12 56.5
comp=Z,72nm,0.8s
SOEG Soedalen 123.16 8 *i* P **PKPdf 23 12 55.2 -0.8**
KIV Kislovodsk 123.22 315 **PKiKP 23 12 57.4 +0.2**
KIV Kislovodsk 123.22 315 P **PKiKP 23 12 57.4 +0.2**
KIV Kislovodsk 123.22 315 ⇓P **PKiKP 23 12 57.5 +0.4**
KIV Kislovodsk 123.22 315 *i* PKIKP **PKiKP 23 12 57.1 -0.1**
KIV *e* 23 14 38.3
KIV *e* SS SS 23 31 08.5 +0.2
KIV pmax pmax
comp=Z,34nm,1.0s
KIV Kislovodsk 123.22 315 *i* P **PKiKP 23 12 57.7 +0.5**
SNR=13
SDV Santo Domingo 123.30 88 **PKPdf 23 12 57.2 -0.8**
SDV Santo Domingo 123.30 88 *e* P **PKPdf 23 12 55.4 -2.6**
SHA1 Shidzhatmaz 123.30 314 *i* PKIKP **PKiKP 23 12 57.5 0.0**
MOR8 Moi Rana 123.38 347 *e* PKPdf **PKPdf 23 12 55.4 -1.0**
MOR8 IAmb IAmb 23 12 56.3
comp=Z,54nm,0.7s
KONS Konsvik 123.38 348 *e* PKPdf **PKiKP 23 12 56.6 0.0**
KONS IAmb IAmb 23 12 57.1
comp=Z,62nm,0.7s
STOK Stokkvaagen 123.54 348 *e* PKPdf **PKPdf 23 12 56.6 -0.1**
STOK IAmb IAmb 23 12 57.4
comp=Z,127nm,0.7s
FINES FINESS Array B 123.67 339 **PKiKP 23 12 57.4 0.0**
FINES FINESS Array B 123.67 339 PKhKP PKPpre 23 12 46.0
comp=Z,1.2nm,0.5s,baz=84,slow=3.2,SNR=8.5
FINES PKP **PKPdf 23 12 57.0 -0.1**
comp=Z,67nm,0.8s,baz=104,slow=3.9,SNR=80
FINES PKKPbc **PKKPab 23 22 46.3 +1.3**
comp=Z,12nm,0.8s,baz=207,slow=2.4,SNR=10
FINES FINESS Array B 123.67 339 PKIKP **PKiKP 23 12 57.4 0.0**
RAYN Ar Rayn 123.70 290 P **PKiKP 23 12 58.5 -0.1**
RAYN Ar Rayn 123.70 290 *i* P **PKPdf 23 12 58.4 0.0**
SNR=34
LEIR Leirfjorden 123.71 348 *e* PKPdf **PKPdf 23 12 56.9 -0.1**
LEIR IAmb IAmb 23 12 57.7
comp=Z,90nm,0.7s
ISOG Isortoq, Green 124.21 13 *i* P **PKPdf 23 12 57.7 -0.3**
ANGG Ammassalik, Gr 124.43 12 *i* P **PKPdf 23 12 57.7 -0.7**
BOSA Boshof 124.83 221 PKP **PKPdf 23 13 00.4 -0.2**
comp=Z,65nm,0.8s,baz=123,slow=2.2,SNR=121
BOSA PKKPbc **PKKPbc 23 22 41.6 -1.2**
comp=Z,8.4nm,0.6s,baz=322,slow=3.5,SNR=31
SUR Sutherland 124.83 215 **PKPdf 23 13 00.7 +0.1**
SUR Sutherland 124.83 215 P **PKPdf 23 13 00.6 +0.1**
NSS Namsos 125.33 347 *e* PKPdf **PKPdf 23 12 59.8 -0.4**
NSS IAmb IAmb 23 13 00.8
comp=Z,100nm,0.9s
SOC Sochi 125.39 315 *i* PKIKP **PKPdf 23 13 00.1 -0.8**
SOC *e* 23 14 52.2
SOC *e* PPP PPP 23 17 34.9
SOC *e* PS **PS 23 24 53.4 -5.1**
SOC *e* SS SS 23 31 37.2 +1.9
SOC *e* SSS SSS 23 36 12.0
SOC pmax pmax
comp=Z,40nm,1.0s
VSU Vasula 125.40 336 *ce* PKIKP **PKPdf 23 13 00.0 -0.5**
VSU pmax pmax
comp=Z,275nm,1.7s
ATD Arta Tunnel 125.51 275 P **PKiKP 23 13 04.4 +1.9**
SNR=6.1
NRS Narsarsuaq 126.08 19 *i* P **PKPdf 23 13 01.1 -0.6**
ANN Anapa 126.54 317 *i* PKIKP **PKPdf 23 12 56.6 -6.5**
ANN *e* 23 13 51.2
ANN *e* 23 19 38.2
ANN pmax pmax
comp=Z,91nm,1.2s
MREMI Moremi 127.19 229 *i* P **PKPdf 23 13 04.9 -0.3**
MREMI Moremi 127.19 229 *i* P **PKPdf 23 13 05.1 -0.1**
KIBK Kibwezi 127.24 257 P **PKiKP 23 13 06.5 +0.4**
MNK Minsk 127.36 331 *i* PKIKP **PKiKP 23 13 04.9 0.0**
MNK *i* 23 13 57.8
MNK *i* 23 15 06.7
MNK *i* PPP PPP 23 17 51.7
MNK *i* 23 19 56.0
MNK *i* SS SS 23 32 00.9 +2.1
MNK *i* SSS SSS 23 36 45.7
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=Z,100nm,0.9s
MNK pmax pmax
comp=E,28nm,1.0s
MNK MLR MLR
comp=E,76nm,20.0s
MNK MLR MLR
comp=N,95nm,18.0s
MNK MLR MLR
comp=Z,133nm,19.0s
BORG Borgarnes 127.59 5 **PKiKP 23 13 06.0 +0.9**
BORG Borgarnes 127.59 5 PKP **PKiKP 23 13 06.3 +1.2**
comp=Z,54nm,0.9s,baz=114,slow=1.0,SNR=18
MOL Molde 127.99 348 *e* PKPdf **PKiKP 23 13 06.1 +0.2**
MOL IAmb IAmb 23 13 06.8
comp=Z,63nm,0.8s
DOMB Dombas 128.15 347 *e* PKPdf **PKiKP 23 13 06.2 -0.2**
DOMB IAmb IAmb 23 13 06.9
comp=Z,89nm,1.0s
BROLN Tlhalogang 128.16 230 *i* P **PKPdf 23 13 06.8 -0.3**
BROLN Tlhalogang 128.16 230 *i* P **PKPdf 23 13 07.1 0.0**
KMBO Kilima Mbogo 128.35 258 PKP **PKiKP 23 13 08.6 +0.1**
comp=Z,12nm,0.8s,baz=64,slow=4.9,SNR=10.0
SKOMA Sekoma 128.45 224 *i* P **PKPdf 23 13 07.4 -0.2**
SKOMA Sekoma 128.45 224 *i* P **PKPdf 23 13 07.7 +0.1**
NB2 NORSAR Subarra 128.52 345 PKPdf **PKPdf 23 13 06.4 -0.1**
comp=Z,34nm,0.8s,baz=31,slow=1.9
NB2 SKKS 23 22 26.8
comp=Z,0.9nm,0.8s,baz=204,slow=4.4
NB2 NORSAR Subarra 128.52 345 PKPdf **PKPdf 23 13 06.4 -0.1**
baz=31,slow=1.9
NOA NORSAR Array B 128.52 345 PKhKP PKPpre 23 12 50.4
comp=Z,1.8nm,0.7s,baz=48,slow=2.0,SNR=8.1
NOA PKP **PKiKP 23 13 07.0 -0.2**
comp=Z,32nm,0.7s,baz=31,slow=2.0,SNR=98
NOA NORSAR Array B 128.52 345 PKIKP **PKiKP 23 13 07.0 -0.2**
PHPEN Phepeng 128.53 223 *i* P **PKiKP 23 13 08.8 +0.5**
PHPEN Phepeng 128.53 223 *i* P **PKiKP 23 13 08.3 0.0**
SJG San Juan 128.54 77 **PKPdf 23 13 07.0 -0.7**
SJG San Juan 128.54 77 PKIKP **PKPdf 23 13 07.0 -0.7**
HFS Hagfors 128.63 343 PKhKP PKPpre 23 12 49.3
comp=Z,2.6nm,0.7s,baz=316,slow=4.1,SNR=6.0
HFS PKP **PKPdf 23 13 06.3 -0.4**
comp=Z,43nm,0.8s,baz=110,slow=2.2,SNR=38
SIM Simferopol' 128.67 318 *i* PKIKP **PKPdf 23 13 06.8 -0.4**
SIM pmax pmax
comp=Z,68nm,1.1s
NC602 NORSAR Array S 128.70 345 *e* PKPdf **PKiKP 23 13 07.4 0.0**
NC602 IAmb IAmb 23 13 07.8
comp=Z,54nm,0.7s
AK03 Malin Array Si 128.84 327 PKP **PKPdf 23 13 07.6 +0.3**
AKASG Malin Array Be 128.85 327 **PKPdf 23 13 06.9 -0.4**
AKASG Malin Array Be 128.85 327 PKhKP PKPpre 23 12 50.5
comp=Z,2.4nm,0.8s,baz=61,slow=2.6,SNR=6.4
AKASG PKP **PKPdf 23 13 07.6 +0.3**
comp=Z,19nm,0.8s,baz=51,slow=1.9,SNR=63
AKASG Malin Array Be 128.85 327 *ce* PKIKP **PKPdf 23 13 07.5 +0.2**
AKASG pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 128.85 327 *ce* PKIKP **PKiKP 23 13 08.1 +0.1**
AKBB Malin Array Si 128.85 327 PKP **PKPdf 23 13 07.2 -0.1**
KIEV Kiev 128.87 327 **PKPdf 23 13 07.3 0.0**
KIEV Kiev 128.87 327 ⇑P **PKPdf 23 13 07.6 +0.3**
KIEV Kiev 128.87 327 ⇑PKIKP **PKPdf 23 13 07.6 +0.3**
KIEV Kiev 128.87 327 *i* P **PKPdf 23 13 07.4 0.0**
SNR=7.5
SOOWA Sowa 129.31 230 *i* P **PKiKP 23 13 10.1 0.0**
SOOWA Sowa 129.31 230 *i* P **PKiKP 23 13 10.0 0.0**
FOO Floro 129.37 349 *e* PKPdf **PKiKP 23 13 08.7 0.0**
FOO IAmb IAmb 23 13 09.5
comp=Z,70nm,0.8s
SKAR Skarslia 129.53 347 *e* PKPdf **PKPdf 23 13 08.4 0.0**
SKAR IAmb IAmb 23 13 10.6
comp=Z,51nm,0.8s
HYA Hoyanger 129.54 348 *e* PKPdf **PKiKP 23 13 09.3 +0.2**
HYA IAmb IAmb 23 13 09.8
comp=Z,77nm,1.1s
OSL Oslo 129.60 345 *e* PKPdf **PKiKP 23 13 09.7 +0.5**
OSL IAmb IAmb 23 13 10.3
comp=Z,66nm,0.8s
SUW Suwalki 129.81 333 *e* PKPdf **PKPdf 23 13 09.3 +0.2**
SUE Sulen 129.92 349 *e* PKPdf **PKiKP 23 13 10.0 +0.2**
KONO Kongsberg 130.13 345 **PKiKP 23 13 10.6 +0.3**
KONO Kongsberg 130.13 345 PKIKP **PKiKP 23 13 10.6 +0.3**
KONO Kongsberg 130.13 345 *e* PKPdf **PKiKP 23 13 11.0 +0.7**
RNPP9 Sopachiv 130.18 329 PKP **PKiKP 23 13 10.7 0.0**
STRU Stroemstad 130.25 344 *i* P **PKiKP 23 13 10.3 -0.2**
ASK Askoy 130.37 348 *e* PKPdf **PKiKP 23 13 11.0 +0.3**
BER Bergen 130.43 348 *e* PKPdf **PKiKP 23 13 10.8 -0.1**
BER IAmb IAmb 23 13 11.8
comp=Z,48nm,0.8s
CKGRV CKGRV 130.58 227 *i* P **PKPdf 23 13 11.8 +0.1**
CKGRV CKGRV 130.58 227 *i* P **PKiKP 23 13 12.2 -0.4**
ODD1 Odda 130.59 347 *e* PKPdf **PKiKP 23 13 11.3 0.0**
ODD1 IAmb IAmb 23 13 12.4
comp=Z,82nm,0.8s
SPB Sao Paulo 130.69 137 *e* P **PKPdf 23 13 11.4 -0.3**
SORM Soroca 130.71 324 ⇓P **PKPdf 23 13 10.5 -0.4**
SORM Soroca 130.71 324 ⇓PKIKP **PKPdf 23 13 10.5 -0.4**
KGCAE Kacgae 130.73 225 *i* P **PKPdf 23 13 12.2 +0.3**
KGCAE Kacgae 130.73 225 *i* P **PKiKP 23 13 12.4 -0.4**
LSZ Lusaka 130.76 237 PKPdf **PKPdf 23 13 11.8 -0.3**
LSZ Lusaka 130.76 237 P **PKPdf 23 13 12.1 -0.1**
LSZ Lusaka 130.76 237 PKIKP **PKPdf 23 13 11.8 -0.3**
HWQ Hawqa 130.76 305 *e* P **PKPdf 23 13 10.8 -0.8**
KIRS Kirsehir-Merke 130.94 311 ⇑P **PKPdf 23 13 12.2 +0.4**
BR131 Keskin Array S 130.95 312 P **PKPdf 23 13 12.1 +0.2**
SNR=8.6
BRTR Keskin Array B 130.95 312 **PKPdf 23 13 11.5 -0.4**
BRTR Keskin Array B 130.95 312 PKhKP PKPpre 23 12 57.6
comp=Z,1.8nm,0.6s,baz=115,slow=2.9,SNR=5.2
BRTR PKP **PKPdf 23 13 11.8 -0.1**
comp=Z,8.6nm,0.9s,baz=131,slow=2.5,SNR=17
BRTR SKPbc **SKPab 23 16 18.2 +1.8**
comp=Z,7.3nm,1.0s,baz=139,slow=2.8,SNR=5.6
BORU Boraas 130.98 342 *i* P **PKPdf 23 13 11.1 -0.1**
KIS Kishinev 131.02 323 *i* P **PKPdf 23 13 11.0 -0.6**
comp=Z,80nm,1.4s
KIS Kishinev 131.02 323 *c i* PKIKP **PKPdf 23 13 11.0 -0.6**
KIS pmax pmax
comp=Z,80nm,1.4s
BLEU Blekinge 131.06 339 *i* P **PKPdf 23 13 11.1 -0.2**
MILM Milestii Mici 131.07 323 ⇑*i* P **PKPdf 23 13 10.0 -1.6**
comp=Z,190nm,1.6s
MILM Milestii Mici 131.07 323 ⇓P **PKPdf 23 13 11.1 -0.5**
MILM Milestii Mici 131.07 323 ⇓PKIKP **PKPdf 23 13 11.1 -0.5**
BLS5 Blasjo 131.07 347 *e* PKPdf **PKiKP 23 13 12.4 +0.1**
BLS5 IAmb IAmb 23 13 13.9
comp=Z,77nm,0.9s
BHL Bhannes 131.09 304 *e* P **PKPdf 23 13 12.4 +0.2**
LODK Lodwar 131.38 263 **PKPdf 23 13 13.7 +0.3**
LODK Lodwar 131.38 263 P **PKiKP 23 13 13.9 -0.4**
ONAU Onsala 131.43 342 *i* P **PKiKP 23 13 12.8 -0.1**
MMAI Mount Meron Ar 131.50 303 PKP **PKiKP 23 13 14.3 +0.3**
comp=Z,14nm,0.7s,baz=67,slow=6.4,SNR=19
MMAI SKPbc **SKPab 23 16 20.4 +1.5**
comp=Z,5.3nm,0.8s,baz=50,slow=4.4,SNR=5.2
ANTO Ankara 131.51 313 **PKPdf 23 13 13.1 +0.3**
ANTO Ankara 131.51 313 P **PKPdf 23 13 13.1 +0.3**
ANTO Ankara 131.51 313 ⇓P **PKiKP 23 13 13.6 -0.2**
ANTO Ankara 131.51 313 ⇓PKIKP **PKiKP 23 13 13.6 -0.2**
FABU Falkenberg 131.52 342 *i* P **PKPdf 23 13 12.3 +0.1**
KMY Karmoy 131.52 348 *e* PKPdf **PKiKP 23 13 12.7 -0.4**
KMY IAmb IAmb 23 13 14.6
comp=Z,132nm,1.0s
KMPD K-Podol'skiy 131.53 326 PKP **PKPdf 23 13 12.6 +0.1**
DEL Delary 131.59 340 *i* P **PKPdf 23 13 12.5 +0.2**
HOMB Homborsund 131.62 345 *e* PKPdf **PKPdf 23 13 12.8 +0.4**
HOMB IAmb IAmb 23 13 14.6
comp=Z,84nm,0.8s
HOMB Homborsund 131.62 345 *i* P **PKPdf 23 13 12.5 +0.2**
KSANE Kasane 131.75 232 *i* P **PKPdf 23 13 14.2 +0.2**
KSANE Kasane 131.75 232 *i* P **PKiKP 23 13 14.5 -0.5**
SNART Snartemo 131.87 346 *e* PKPdf **PKiKP 23 13 13.8 -0.1**
SNART IAmb IAmb 23 13 14.8
comp=Z,95nm,0.8s
SNART Snartemo 131.87 346 *i* P **PKPdf 23 13 13.1 +0.3**
TLCR 131.93 321 ⇑P **PKPdf 23 13 13.5 +0.2**
TLCR 131.93 321 ⇑PKIKP **PKPdf 23 13 13.5 +0.2**
KOOLE Kule 131.99 223 *i* P **PKPdf 23 13 14.4 0.0**
KOOLE Kule 131.99 223 *i* P **PKiKP 23 13 14.6 +0.3**
BJUU Bjuv 132.19 341 *i* P **PKiKP 23 13 14.1 -0.5**
BSD Bornholm Skovb 132.32 339 *i* P **PKPdf 23 13 14.0 +0.3**
PRAR RASCA 132.33 324 ⇑P **PKPdf 23 13 13.9 -0.2**
TPGR Topolog 132.33 321 ⇓P **PKiKP 23 13 15.1 -0.2**
GHRR 132.34 322 ⇓P **PKPdf 23 13 12.4 -1.6**
CFR Carcaliu 132.35 321 ⇓P **PKiKP 23 13 14.9 -0.3**
BEL Belsk 132.35 332 *e* PKPdf **PKiKP 23 13 14.6 -0.5**
LUNU Lund 132.41 340 *i* P **PKPdf 23 13 13.9 0.0**
GRTLG Ghanzi 132.41 225 *i* P **PKPdf 23 13 15.3 +0.1**
GRTLG Ghanzi 132.41 225 *i* P **PKPdf 23 13 15.4 +0.2**
SAHE Sakarya_HENDEK 132.51 315 ⇓P **PKiKP 23 13 15.2 -0.6**
SLIND Selinda 132.52 230 *i* P **PKiKP 23 13 16.2 -0.3**
SLIND Selinda 132.52 230 *i* P **PKiKP 23 13 16.2 -0.3**
MFTR Murfatlar 132.66 320 ⇑P **PKPdf 23 13 12.2 -2.5**
COP Copenhagen 132.70 341 *i* P **PKiKP 23 13 15.6 0.0**
HARR Harsova 132.72 321 ⇓P **PKiKP 23 13 15.1 +0.2**
BURAR Bucovina Array 132.76 325 PKPdf **PKiKP 23 13 16.3 +0.2**
BURAR Bucovina Array 132.76 325 ⇓P **PKiKP 23 13 16.1 -0.1**
BURAR Bucovina Array 132.76 325 ⇓PKIKP **PKiKP 23 13 16.1 -0.1**
ONER Baraj Valea Uz 132.79 323 ⇑P **PKiKP 23 13 16.1 -0.1**
CVDA Cernavoda 132.82 320 ⇓P **PKiKP 23 13 16.3 +0.1**
VRI Vrincioaia 132.85 323 ⇑P **PKPdf 23 13 14.9 -0.2**
VRI Vrincioaia 132.85 323 ⇑PKIKP **PKPdf 23 13 14.9 -0.2**
GKP Gorka Klasztor 132.85 336 *e* PKPdf **PKiKP 23 13 15.5 -0.5**
KWP Kalwaria Pacla 132.88 329 *e* PKPdf **PKPdf 23 13 15.4 +0.4**
GMARE Gumare 133.03 228 *i* P **PKiKP 23 13 17.2 -0.2**
GMARE Gumare 133.03 228 *i* P **PKiKP 23 13 17.4 -0.2**
MUD Monsted U'grnd 133.03 343 *i* P **PKiKP 23 13 15.8 -0.5**
PSN Preselentsi 133.10 319 P **PKPdf 23 13 15.5 -0.1**
TURR Turia 133.17 323 ⇑P **PKiKP 23 13 16.6 -0.4**
BOSR Bodos 133.36 323 ⇓P **PKiKP 23 13 17.2 -0.1**
MLR Muntele Rosu 133.51 322 PKP **PKPdf 23 13 16.5 0.0**
comp=Z,10.0nm,0.8s,baz=300,slow=4.1,SNR=14
MLR Muntele Rosu 133.51 322 ⇑P **PKPdf 23 13 17.1 +0.6**
MLR Muntele Rosu 133.51 322 ⇑PKIKP **PKPdf 23 13 17.1 +0.6**
KOLS Kolonicke sedl 133.54 328 *e* PKHKP PKPpre 23 13 07.0
KOLS *e* 23 13 17.9
KOLS Kolonicke sedl 133.54 328 *e* PKP **PKiKP 23 13 17.9 +0.3**
ARCR ARCALIA 133.54 325 ⇓P **PKiKP 23 13 17.4 -0.2**
DOPR Dopca 133.58 323 ⇓P **PKiKP 23 13 17.7 0.0**
BMR Baia Mare 133.67 326 ⇑P **PKiKP 23 13 17.5 -0.4**
BMR Baia Mare 133.67 326 ⇑PKIKP **PKiKP 23 13 17.5 -0.4**
STHS Stebnicka Huta 133.75 329 *e* PKIKP **PKPdf 23 13 16.7 0.0**
STHS *e* 23 15 48.0
STHS Stebnicka Huta 133.75 329 *e* PKP **PKPdf 23 13 16.7 0.0**
STHS *e* PP **PP 23 15 48.0 0.0**
PRD Provadia 133.79 319 P **PKiKP 23 13 18.0 -0.2**
ISP Isparta 133.90 311 *ce* PKIKP **PKiKP 23 13 18.6 -0.2**
ISP pmax pmax
comp=Z,20nm,0.7s
OJC Ojcow 133.91 331 *e* PKPdf **PKPdf 23 13 17.5 +0.5**
RAZG Razgrad 134.16 320 ⇓P **PKPdf 23 13 18.2 +0.6**
CJR Cluj-Napoca 134.18 325 ⇑P **PKiKP 23 13 18.9 -0.1**
CJR Cluj-Napoca 134.18 325 ⇑PKIKP **PKiKP 23 13 18.9 -0.1**
LOZB Loznitsa 134.21 320 ⇑P **PKPdf 23 13 18.0 +0.3**
NIE Niedzica 134.21 330 *e* PKPdf **PKiKP 23 13 18.7 -0.2**
CEI Carei 134.22 327 ⇑P **PKPdf 23 13 16.9 -0.7**
CEI Carei 134.22 327 ⇑PKIKP **PKPdf 23 13 16.9 -0.7**
MESR Meseseni 134.28 326 ⇑P **PKPdf 23 13 13.4 -4.4**
ARR Arges 134.35 323 ⇓P **PKiKP 23 13 18.9 -0.5**
MARR Marisel-Cluj 134.47 325 ⇑P **PKPdf 23 13 15.4 -2.9**

HUMR	**Humele**	**134.60**	**322**	⇑P	**PKPdf**	**23**	**13**	**18.4 0.0**
BAND	**Balkesir-Ban**	**134.62**	**315**	⇓P	**PKPdf**	**23**	**13**	**18.2 -0.4**
DRGR		**134.62**	**326**	⇓P	**PKPdf**	**23**	**13**	**17.6 -0.9**
DRGR		**134.62**	**326**	⇓PKIKP	**PKPdf**	**23**	**13**	**17.6 -0.9**
SZH	**Strazhitsa**	**134.65**	**320**	P	**PKPdf**	**23**	**13**	**18.9 +0.4**
COPA	**Copaceanca**	**134.67**	**321**	⇓P	**PKiKP**	**23**	**13**	**19.3 -0.7**
LANS	**Liptovska Anna**	**134.79**	**330**	*e*PKHKP	PKPpre	23	13	08.8
LANS				*e*		23	13	19.8
LANS				*e*		23	15	56.2
LANS	**Liptovska Anna**	**134.79**	**330**	*e*PKP	**PKiKP**	**23**	**13**	**19.8 -0.4**
LANS				*e*PP	**PP**	**23**	**15**	**56.2 +1.6**
ELND	**Elena**	**134.88**	**319**	⇓P	**PKiKP**	**23**	**13**	**19.9 -0.6**
KSP	**Ksiaz**	**135.04**	**334**	*e*PKPdf	**PKiKP**	**23**	**13**	**19.9 -0.7**
STEB	**Steborice**	**135.05**	**332**	*e*PPpre	PKPpre	23	13	04.8
STEB				*e*PKPDF	**PKiKP**	**23**	**13**	**19.9 -0.7**
DEV	**Deva**	**135.06**	**325**	⇑P	**PKPdf**	**23**	**13**	**19.5 +0.3**
DEV	**Deva**	**135.06**	**325**	⇑PKIKP	**PKPdf**	**23**	**13**	**19.5 +0.3**
MORC	**Moravsky Berou**	**135.26**	**332**	*e*PKP	PKPpre	23	13	06.0
MORC				*e*		23	13	20.1
OSTC	**Ostas**	**135.29**	**334**	*e*PKHKP	PKPpre	23	13	08.8
OSTC				*e*		23	15	58.0
OSTC	**Ostas**	**135.29**	**334**	*e*PKPpre	PKPpre	23	13	08.8
OSTC				*e*PKPDF	**PP**	**23**	**15**	**58.0 +0.4**
GORT1	**Trebel**	**135.29**	**339**	*e*PKP	PKPpre	23	13	07.4
	baz=45,slow=2.5							
CHVC	**Chvalec**	**135.33**	**334**	*e*PKHKP	PKPpre	23	13	08.3
CHVC				*e*		23	13	20.9
CHVC	**Chvalec**	**135.33**	**334**	*e*PKPpre	PKPpre	23	13	08.3
CHVC				*e*PKPDF	**PKiKP**	**23**	**13**	**20.9 -0.3**
BDFB	**Brasilia**	**135.38**	**128**	PKHKP	PKPpre	23	13	11.9
	comp=Z,9.4nm,0.7s,baz=187,slow=2.9,SNR=15							
BDFB				PKP	**PKPdf**	**23**	**13**	**20.6 -0.2**
	comp=Z,48nm,0.8s,baz=199,slow=1.9,SNR=31							
BDFB				SKPbc	**SKPbc**	**23**	**16**	**31.5 -0.2**
	comp=Z,5.9nm,0.7s,baz=254,slow=2.3,SNR=3.8							
KRLC	**Kraliky**	**135.39**	**333**	*e*PKHKP	PKPpre	23	13	06.0
KRLC				*e*		23	13	21.6
KRLC	**Kraliky**	**135.39**	**333**	*e*PKPpre	PKPpre	23	13	06.0
KRLC				*e*PKPDF	**PKiKP**	**23**	**13**	**21.6 +0.2**
DPC	**Dobruska-Polom**	**135.39**	**334**	*e*PKHKP	PKPpre	23	13	08.7
DPC	**Dobruska-Polom**	**135.39**	**334**	*e*PKPpre	PKPpre	23	13	08.7
DPC				*e*PKPDF	**PKiKP**	**23**	**13**	**21.8 +0.4**
PSZ	**Piszkesteto**	**135.40**	**329**	⇓P	**PKPdf**	**23**	**13**	**19.5 -0.4**
PSZ	**Piszkesteto**	**135.40**	**329**	⇓PKIKP	**PKPdf**	**23**	**13**	**19.5 -0.4**
GZR	**Gura Zlata**	**135.41**	**324**	⇓P	**PKPdf**	**23**	**13**	**20.4 +0.4**
GZR	**Gura Zlata**	**135.41**	**324**	⇓PKIKP	**PKPdf**	**23**	**13**	**20.4 +0.4**
MAUC	**Maruska**	**135.42**	**332**	*e*PKPpre	PKPpre	23	13	13.3
PLVB	**Pleven**	**135.43**	**321**	⇑P	**PKPdf**	**23**	**13**	**20.7 +0.7**
SIRR	**Siria**	**135.52**	**326**	⇑P	**PKPdf**	**23**	**13**	**16.2 -3.9**
VYHS	**Vyhne**	**135.55**	**330**	*e*PKHKP	PKPpre	23	13	12.2
VYHS				*e*		23	13	20.5
VYHS				*e*		23	16	00.5
VYHS	**Vyhne**	**135.55**	**330**	*e*PKP	**PKPdf**	**23**	**13**	**20.4 +0.3**
VYHS				*e*PP	**PP**	**23**	**16**	**00.5 +1.2**
SURR	**Surduc**	**135.57**	**325**	⇓P	**PKPdf**	**23**	**13**	**20.7 +0.5**
BSZH	**Besenyszg**	**135.62**	**328**	⇑P	**PKiKP**	**23**	**13**	**22.0 +0.2**
JAVC	**Velka Javorina**	**135.85**	**331**	*e*PKP	PKPpre	23	13	09.3
JAVC				*e*		23	13	22.1
FLTG	**Flechtingen**	**135.86**	**339**	*e*PKP	PKPpre	23	13	09.7
	baz=45,slow=2.5							
HERR	**Herculane**	**135.92**	**324**	⇑P	**PKPdf**	**23**	**13**	**17.2 -3.7**
BZS	**Buzias**	**135.94**	**325**	⇑P	**PKPdf**	**23**	**13**	**21.4 +0.5**
BZS	**Buzias**	**135.94**	**325**	⇑PKIKP	**PKPdf**	**23**	**13**	**21.4 +0.5**
BRG	**Berggiesshubel**	**136.00**	**336**	*e*PKP	PKPpre	23	13	08.8
	baz=45,slow=2.5							
BRG	**Berggiesshubel**	**136.00**	**336**	*e*PKP	PKPpre	23	13	09.0
BRG				Amp		23	13	13.2
	comp=Z,7.2nm,0.9s							
BRG	**Berggiesshubel**	**136.00**	**336**	P	**PKiKP**	**23**	**13**	**22.7 +0.2**
BRG				Amp		23	13	25.2
	comp=Z,39nm,0.9s							
PVCC	**Panska Ves**	**136.01**	**335**	*e*PKHKP	PKPpre	23	13	09.8
PVCC	**Panska Ves**	**136.01**	**335**	*e*PKP	PKPpre	23	13	09.8
CLL	**Collm**	**136.03**	**337**	*e*PKHKP	PKPpre	23	13	08.0
CLL				*i*		23	13	20.9
CLL				pmax	pmax			
	comp=Z,31nm,0.9s							
CLL	**Collm**	**136.03**	**337**	*e*PKP	PKPpre	23	13	08.0
	baz=45,slow=2.5							
VRAC	**Vranov**	**136.03**	**332**	PKhKP	PKPpre	23	13	11.3
	comp=Z,4.4nm,0.8s,baz=346,slow=1.9,SNR=6.2							
VRAC				PKP	**PKPdf**	**23**	**13**	**21.6 +0.7**
	comp=Z,21nm,1.1s,baz=65,slow=1.5,SNR=13							
VRAC	**Vranov**	**136.03**	**332**	*e*PKP	PKPpre	23	13	08.3
VRAC				*e*		23	13	21.6
VRAC	**Vranov**	**136.03**	**332**	⇓P	PKPpre	23	13	13.1
EZN	**Ezine**	**136.07**	**315**	⇓P	**PKPdf**	**23**	**13**	**21.3 0.0**
EZN	**Ezine**	**136.07**	**315**	⇓PKIKP	**PKPdf**	**23**	**13**	**21.3 0.0**
NRDL	**Niedersach Rie**	**136.11**	**340**	*e*PKP	PKPpre	23	13	09.4
	baz=45,slow=2.5							
RETH	**Rethem/Aller,**	**136.15**	**341**	*e*PKP	**PKPdf**	**23**	**13**	**21.6 +0.7**
	baz=45,slow=2.5							
PGB	**Panagyurishte**	**136.17**	**320**	P	**PKPdf**	**23**	**13**	**22.1 +0.6**
ASSE	**Asse, Remlinge**	**136.22**	**339**	*e*PKP	PKPpre	23	13	08.8
	baz=45,slow=2.5							
RZN	**Rozhen**	**136.24**	**319**	P	**PKPdf**	**23**	**13**	**22.3 +0.5**
SRO	**Srobarova**	**136.26**	**330**	*e*PKIKP	PKPpre	23	13	15.9
SRO				*e*		23	16	06.9
SRO	**Srobarova**	**136.26**	**330**	*e*PKP	**PKiKP**	**23**	**13**	**23.9 +0.8**
SRO				*e*PP	**PP**	**23**	**16**	**06.8 +3.0**
KRUC	**Moravsky**	**136.30**	**332**	*e*PKP	PKPpre	23	13	08.9
KRUC				*e*		23	13	21.8
BANR	**Banloc**	**136.35**	**325**	⇓P	**PKPdf**	**23**	**13**	**21.6 0.0**
TSUM	**Tsumeb**	**136.37**	**224**	PKPdf	**PKPdf**	**23**	**13**	**22.6 -0.1**
MODS	**Modra-Piesok**	**136.38**	**331**	*e*PKHKP	PKPpre	23	13	10.6
MODS				*e*		23	13	18.7
MODS				*e*		23	16	02.1
MODS	**Modra-Piesok**	**136.38**	**331**	*e*PKP	**PKPdf**	**23**	**13**	**18.7 -2.9**
MODS				*e*PP	**PP**	**23**	**16**	**02.1 -2.4**
MDVR	**Moldovita**	**136.38**	**324**	⇑P	**PKPdf**	**23**	**13**	**22.2 +0.4**
HSKC	**Hora Svate Kat**	**136.41**	**336**	*e*PKPpre	PKPpre	23	13	21.5
HSKC				*e*PP	**PP**	**23**	**16**	**01.9 -2.7**
PRA	**Prague**	**136.41**	**335**	*e*PKIKP	**PKPdf**	**23**	**13**	**22.2 +0.6**
PRA	**Prague**	**136.41**	**335**	*e*PKPDF	**PKPdf**	**23**	**13**	**22.2 +0.6**
PRU	**Pruhonice**	**136.43**	**334**	*e*PKHKP	PKPpre	23	13	12.9
PRU				*e*		23	13	21.8
PRU				*e*		23	16	03.2
PRU	**Pruhonice**	**136.43**	**334**	*e*PKPpre	PKPpre	23	13	12.9
PRU				*e*PKPDF	**PKPdf**	**23**	**13**	**21.8 +0.2**
PRU				*e*PP	**PP**	**23**	**16**	**03.2 -1.5**
CLZ	**Clausthal**	**136.56**	**339**	*e*PKP	PKPpre	23	13	10.4
	baz=45,slow=2.5							
NEUB	**Neuenburg**	**136.57**	**337**	*e*PKP	PKPpre	23	13	10.4
	baz=45,slow=2.5							
EKA	**Eskdalemuir Ar**	**136.68**	**352**	PKhKP	PKPpre	23	13	09.9
	comp=Z,3.4nm,0.5s,baz=5.4,slow=2.5,SNR=14							
EKA				PKP	**PKPdf**	**23**	**13**	**22.3 +0.4**
	comp=Z,14nm,0.8s,baz=33,slow=1.6,SNR=12							
ESK	**Eskdalemuir**	**136.70**	**352**		**PKiKP**	**23**	**13**	**23.1 -0.7**
ESK	**Eskdalemuir**	**136.70**	**352**	PKIKP	**PKiKP**	**23**	**13**	**23.1 -0.7**
TANN	**Tannenbergstha**	**136.94**	**336**	*e*PKP	PKPpre	23	13	10.6
	baz=45,slow=2.5							
MMB	**Musomishta**	**136.95**	**319**	P	PKPpre	23	13	11.1
GTTG	**Gottingen**	**136.95**	**339**	*e*PKP	PKPpre	23	13	10.9
	baz=45,slow=2.5							
ZVC	**Zvikov**	**136.99**	**334**	*e*PKPpre	PKPpre	23	13	10.7
PLN	**Plauen**	**137.01**	**337**	*e*PKP	PKPpre	23	13	10.3
	baz=45,slow=2.5							
IBBN	**Ibbenburen**	**137.03**	**341**	*e*PKP	PKPpre	23	13	10.8
	baz=45,slow=2.5							
BOVS	**Bovan**	**137.06**	**323**	⇑P	**PKPdf**	**23**	**13**	**22.1 -0.9**
MOX	**Moxa**	**137.09**	**337**	*e*PKP	PKPpre	23	13	11.5
	baz=45,slow=2.5							
MOX				*e*L	L	00	15	50.5
	comp=Z,148nm,22.0s							
MORH	**Mrgy, Hungar**	**137.17**	**328**	*e*P	PKPpre	23	13	12.6
MORH	**Mrgy, Hungar**	**137.17**	**328**	⇓P	**PKPdf**	**23**	**13**	**23.6 +0.5**
KKB	**Krupnik**	**137.19**	**320**	P	**PKPdf**	**23**	**13**	**20.8 -2.5**
RONA	**Rosalia, Austr**	**137.32**	**331**	*i* PKP	**PKiKP**	**23**	**13**	**24.4 -1.0**
	comp=Z,79nm,1.0s							
RONA				*e*PP	**PP**	**23**	**16**	**12.2 +1.7**
	comp=Z,13nm,1.2s							
CONA	**Conrad Observa**	**137.36**	**331**	*i* PKP	**PKiKP**	**23**	**13**	**24.6 -0.9**
	comp=Z,57nm,1.0s							
CONA				*e*PP	**PP**	**23**	**16**	**11.4 +0.6**
	comp=Z,19nm,1.2s							
CKRC	**Cesky Krumlov**	**137.41**	**333**	*e*PKHKP	PKPpre	23	13	13.7
CKRC				*e*		23	13	23.7
CKRC	**Cesky Krumlov**	**137.41**	**333**	*e*PKPpre	PKPpre	23	13	13.7
CKRC				*e*PKPDF	**PKPdf**	**23**	**13**	**23.7 +0.2**
MANZ	**Manzenberg**	**137.42**	**336**	*e*PKP	PKPpre	23	13	12.0
	baz=45,slow=2.5							
KHC	**Kasperske Hory**	**137.49**	**334**	*e*PKHKP	PKPpre	23	13	14.4
KHC				*e*		23	13	23.6
KHC				*e*		23	16	09.5
KHC	**Kasperske Hory**	**137.49**	**334**	*e*PKPpre	PKPpre	23	13	14.4
KHC				*e*PKPDF	**PKPdf**	**23**	**13**	**23.6 -0.1**
KHC				*e*PP	**PP**	**23**	**16**	**09.5 -1.8**
UBBA	**Unterbreizbach**	**137.54**	**339**	*e*PKP	PKPpre	23	13	12.3
	baz=45,slow=2.5							
ROTZ	**Rotzenmuhle**	**137.56**	**336**	*e*PKP	PKPpre	23	13	12.9
	baz=45,slow=2.5							
GEC2	**GERESS Array S**	**137.65**	**334**	*e*PKP	PKPpre	23	13	13.7
	baz=45,slow=2.5							
GERES	**GERESS Array B**	**137.65**	**334**	PKhKP	PKPpre	23	13	13.7
	comp=Z,5.5nm,0.8s,baz=35,slow=3.3,SNR=23							
GERES				PKP	**PKPdf**	**23**	**13**	**24.6 +0.5**
	comp=Z,6.9nm,0.9s,baz=66,slow=3.2,SNR=5.8							
GERES				SKPbc	**SKiKP**	**23**	**16**	**40.5 -1.3**
	comp=Z,6.9nm,1.0s,baz=11,slow=2.7,SNR=4.7							
GERES				PKKP	**PKKPdf**	**23**	**22**	**55.8 -3.2**
	comp=Z,0.9nm,0.8s,baz=222,slow=1.8,SNR=4.8							
KASTN	**Kahler Asten**	**137.77**	**340**	*e*PKP	PKPpre	23	13	13.4
	baz=45,slow=2.5							
WET	**Wettzell**	**137.77**	**335**	*e*PKP	PKPpre	23	13	13.1
	baz=45,slow=2.5							
VAY	**Valandovo**	**137.82**	**319**	*i* P	PKPpre	23	13	12.1
BUG	**Bochum--Univer**	**137.93**	**341**	*e*PKP	PKPpre	23	13	13.9
	baz=45,slow=2.5							
GRF	**Grafenberg Arr**	**138.00**	**337**	*e*PKP	PKPpre	23	13	14.2
	baz=45,slow=2.5							
GRF				*e*L	L	00	16	00.3
	comp=Z,144nm,20.3s							
GRFO	**Grafenberg**	**138.01**	**337**	PKPdf	**PKPdf**	**23**	**13**	**25.5 +0.9**
GRFO	**Grafenberg**	**138.01**	**337**	PKIKP	**PKPdf**	**23**	**13**	**25.5 +0.9**
ARSA	**Arzberg**	**138.01**	**331**	*i* PKiKP	**PKiKP**	**23**	**13**	**26.5 -0.3**
	comp=Z,19nm,1.0s							
ARSA				*e*PP	**PP**	**23**	**16**	**15.8 +1.2**
	comp=Z,5.5nm,0.9s							
MOA	**Molln**	**138.15**	**333**	*i* PKP	**PKPdf**	**23**	**13**	**24.8 -0.2**
	comp=Z,34nm,1.0s,SNR=9.2							
MOA				*e*PP	**PP**	**23**	**16**	**16.7 +1.2**
	comp=Z,15nm,2.0s							
SKO	**Skopje**	**138.17**	**321**	*i* P	PKPpre	23	13	15.3
RUDO	**Rudo**	**138.43**	**324**	*e*P	PKPpre	23	13	14.6
MOSL	**Moslavina**	**138.55**	**328**	*e*P	PKPpre	23	13	15.4
BIOA	**Bad Ischl, Aus**	**138.55**	**333**	*i* PKP	**PKPdf**	**23**	**13**	**26.5 +0.8**
	comp=Z,45nm,1.6s							
BIOA				*i* PP	**PP**	**23**	**16**	**19.0 +1.1**
	comp=Z,15nm,1.6s							
TNS	**Taunus Mts**	**138.59**	**339**	*e*PKP	PKPpre	23	13	15.3
	baz=45,slow=2.5							
SOKA	**Soboth**	**138.66**	**331**	*i* PKP	**PKPdf**	**23**	**13**	**25.8 -0.2**
	comp=Z,16nm,0.9s							
SOKA				*e*PP	**PP**	**23**	**16**	**19.1 +0.4**
	comp=Z,16nm,1.5s							
A051A	**Mrakovica**	**138.88**	**328**	*e*P	PKPpre	23	13	16.3
RJOB	**Jochberg**	**138.89**	**334**	*e*PKP	PKPpre	23	13	17.0
	baz=45,slow=2.5							
BLY	**Banja Luka**	**138.91**	**327**	*e*P	PKPpre	23	13	17.9
BLY	**Banja Luka**	**138.91**	**327**	⇓P	PKPpre	23	13	18.4
BEBN	**Eben Emael**	**138.99**	**342**	*d*PKP	**PKPdf**	**23**	**13**	**26.8 +0.5**
OBKA	**Obir**	**139.01**	**331**	*e*PKiKP	**PKiKP**	**23**	**13**	**28.9 0.0**
	comp=Z,29nm,1.1s							
OBKA				*e*PP	**PP**	**23**	**16**	**20.2 -0.7**
	comp=Z,15nm,1.3s							
BTNL	**Ternell**	**139.03**	**341**	*d*PKP	**PKPdf**	**23**	**13**	**26.8 +0.3**
MEM	**Membach**	**139.05**	**342**	*d*PKP	**PKPdf**	**23**	**13**	**26.9 +0.4**
OHR	**Ohrid**	**139.05**	**320**	*i* P	PKPpre	23	13	16.8
KBA	**Koelnbreinsper**	**139.15**	**332**	*e*PKiKP	**PKiKP**	**23**	**13**	**29.1 -0.1**
	comp=Z,39nm,1.0s							
KBA				*i* PP	**PP**	**23**	**16**	**24.0 +2.2**
	comp=Z,28nm,1.2s							
LESA	**Schwarzleotal**	**139.18**	**333**	*i* PKP	**PKPdf**	**23**	**13**	**26.5 -0.4**
	comp=Z,38nm,1.0s,SNR=25							
LESA				*i* PP	**PP**	**23**	**16**	**22.5 +0.6**
	comp=Z,25nm,1.4s							
FUR	**Furstenfeldbru**	**139.20**	**335**	*e*PKP	PKPpre	23	13	17.3
	baz=45,slow=2.5							
OZLJ	**Ozalj**	**139.20**	**329**	*e*P	PKPpre	23	13	16.7
BSTI	**Sart Tilman**	**139.21**	**342**	*d*PKP	**PKPdf**	**23**	**13**	**26.3 -0.5**
PDG	**Podgorica**	**139.22**	**323**	⇓P	PKPpre	23	13	19.0
BHOU	**Houvegnez**	**139.28**	**341**	*d*PKPdf	**PKPdf**	**23**	**13**	**27.6 +0.7**
MYKA	**Terra Mystica**	**139.34**	**332**	*e*PKP	**PKiKP**	**23**	**13**	**28.5 -1.0**
	comp=Z,13nm,0.8s							
MYKA				*i* PP	**PP**	**23**	**16**	**24.1 +1.1**
	comp=Z,15nm,1.1s							
LJU	**Ljubljana**	**139.36**	**330**	*e*PKPdf	**PKPdf**	**23**	**13**	**27.6 +0.4**
UCC	**Uccle**	**139.37**	**343**	*d*PKP	**PKPdf**	**23**	**13**	**27.5 +0.5**
VISS	**Visnje**	**139.38**	**330**	*i* PKPdf	**PKPdf**	**23**	**13**	**27.6 +0.3**
BCLA	**Clavier**	**139.43**	**342**	*d*PKPdf	**PKPdf**	**23**	**13**	**27.5 +0.4**
A050A	**Klekovaca**	**139.43**	**327**	*e*P	PKPpre	23	13	17.5
CRNS	**Crni Vrh**	**139.46**	**331**	*e*PKPdf	**PKPdf**	**23**	**13**	**27.3 -0.1**
STU	**Stuttgart**	**139.53**	**337**	*e*PKP	PKPpre	23	13	19.0
	baz=45,slow=2.5							
TREB	**Trebinje**	**139.57**	**324**	*e*P	PKPpre	23	13	19.3
RCHB	**Rochefort**	**139.69**	**342**	*d*PKP	**PKPdf**	**23**	**13**	**28.3 +0.7**
BMRD	**Maredsous**	**139.70**	**342**	*d*PKP	**PKPdf**	**23**	**13**	**27.6 0.0**
WATA	**Walderalm**	**139.72**	**334**	*i* PKP	**PKPdf**	**23**	**13**	**27.0 -1.0**
	comp=Z,47nm,0.9s,SNR=15							
WATA				*i* PP	**PP**	**23**	**16**	**26.8 +1.6**
	comp=Z,43nm,1.4s							
WTTA	**Wattenberg**	**139.76**	**334**	*i* PKP	**PKPdf**	**23**	**13**	**29.2 +1.1**
	comp=Z,62nm,1.0s,SNR=18							
WTTA				*i* PP	**PP**	**23**	**16**	**26.5 +1.0**
	comp=Z,42nm,1.4s							
ABTA	**Abfaltersbach**	**139.77**	**333**	*i* PKP	**PKPdf**	**23**	**13**	**27.0 -1.0**
	comp=Z,59nm,0.8s,SNR=15							
ABTA				*i* PP	**PP**	**23**	**16**	**26.3 +0.8**
	comp=Z,11nm,1.1s							
KIJV	**Kijevo**	**139.82**	**327**	*e*P	PKPpre	23	13	19.3
WLF	**Walferdange**	**139.83**	**341**	*d*PKP	**PKPdf**	**23**	**13**	**27.5 -0.4**
WLF	**Walferdange**	**139.83**	**341**	*e*PKP	PKPpre	23	13	20.4
	baz=45,slow=2.5							
STON	**Ston**	**139.85**	**324**	*e*P	PKPpre	23	13	19.4
MOTA	**Moosalm**	**139.92**	**335**	*i* PKP	**PKPdf**	**23**	**13**	**28.9 +0.6**
	comp=Z,56nm,1.1s,SNR=22							
MOTA				*i* PP	**PP**	**23**	**16**	**27.1 +0.7**
	comp=Z,37nm,1.3s							
DOU	**Dourbes**	**139.93**	**342**	*d*PKPdf	**PKPdf**	**23**	**13**	**28.7 +0.7**
RETA	**Reutte**	**139.95**	**335**	*i* PKP	**PKiKP**	**23**	**13**	**29.6 -1.2**
	comp=Z,14nm,0.9s,SNR=11							
RETA				*e*PP	**PP**	**23**	**16**	**27.2 +0.7**
	comp=Z,16nm,1.5s							
SQTA	**Sankt Quirin**	**139.97**	**334**	*i* PKP	**PKPdf**	**23**	**13**	**29.0 +0.6**
	comp=Z,45nm,0.8s,SNR=13							
SQTA				*i* PP	**PP**	**23**	**16**	**28.4 +1.7**
	comp=Z,37nm,1.3s							
BFO	**Black Forest**	**140.22**	**338**	*e*PKP	PKPpre	23	13	20.1
	baz=45,slow=2.5							
FETA	**Feichten**	**140.33**	**335**	*i* PKP	**PKPdf**	**23**	**13**	**29.9 +0.8**
	comp=Z,59nm,0.8s,SNR=23							
FETA				*e*PP	**PP**	**23**	**16**	**30.4 +1.5**
	comp=Z,16nm,1.1s							
DAVA	**Damuels**	**140.47**	**335**	*i* PKiKP	**PKiKP**	**23**	**13**	**31.6 -0.4**
	comp=Z,17nm,0.9s,SNR=32							
DAVA				*i* PP	**PP**	**23**	**16**	**31.4 +1.6**
	comp=Z,23nm,1.2s							
BRJN	**Brijuni**	**140.56**	**330**	*e*P	PKPpre	23	13	21.5
DAVOX	**Davos/Dischmat**	**140.88**	**335**	PKhKP	PKPpre	23	13	23.5
	comp=Z,28nm,0.6s,baz=29,slow=2.0,SNR=75							
MATE	**Matera**	**141.82**	**322**	⇑P	PKPpre	23	13	26.9
TIP	**Timpagrande**	**142.69**	**321**	⇑P	**PKPdf**	**23**	**13**	**30.7 -2.7**
WDD	**Wied Dalam**	**146.11**	**318**	PKPbc	**PKPbc**	**23**	**13**	**40.7 0.0**
KEST	**Kesra**	**149.42**	**323**	PKP	**PKPdf**	**23**	**13**	**45.5 +0.6**
	comp=Z,33nm,1.0s,baz=298,slow=0.9,SNR=15							
KEST				PKPbc	**PKiKP**	**23**	**13**	**50.5 -0.1**
	comp=Z,213nm,0.9s,baz=305,slow=1.0,SNR=105							
KEST	**Kesra**	**149.42**	**323**	P	**PKPdf**	**23**	**13**	**46.4 +1.5**
	SNR=50							
CMAH	**Djebel Manchou**	**149.88**	**326**	P	pPKPab	23	14	51.0 +1.2
PBRG	**Braganca**	**150.40**	**351**	*e*PKPdf	**PKPdf**	**23**	**13**	**44.4 -1.9**
PBRG				*e*PKPbc	**PKiKP**	**23**	**13**	**52.3 -0.1**
PBRG				*e*PKPab	**PKPab**	**23**	**13**	**59.9 +1.1**
PGAV	**Gavieira, Arco**	**150.46**	**353**	*e*PKPdf	**PKPdf**	**23**	**13**	**46.9 +0.4**
PGAV				*e*PKPbc	**PKiKP**	**23**	**13**	**52.6 0.0**
PGAV				*e*PKPab	**PKPab**	**23**	**13**	**59.5 +0.4**
PCED	**Cedros**	**150.53**	**26**	*e*PKP	**PKiKP**	**23**	**13**	**53.0 +0.3**
CALA	**Caldeira**	**150.57**	**26**	*e*PKP	**PKiKP**	**23**	**13**	**53.2 +0.3**
ROSA	**Rosais**	**150.65**	**25**	*e*PKP	**PKiKP**	**23**	**13**	**53.4 +0.4**
PCAB	**Cabril**	**150.68**	**352**	*e*PKPdf	**PKPdf**	**23**	**13**	**47.6 +0.9**
PCAB				*e*PKPbc	**PKiKP**	**23**	**13**	**53.1 +0.2**
PCAB				*e*PKPab	**PKPab**	**23**	**14**	**01.9 +1.9**
RCBR	**Riachuelo**	**150.75**	**127**	PKP	**PKPdf**	**23**	**13**	**48.2 +0.6**
	comp=Z,35nm,1.0s,baz=76,slow=3.1,SNR=14							
RCBR				PKPbc	**PKPbc**	**23**	**13**	**52.9 -0.5**
	comp=Z,54nm,0.8s,baz=217,slow=6.2,SNR=30							
RCBR	**Riachuelo**	**150.75**	**127**	*e*P	**PKPdf**	**23**	**13**	**46.7 -0.9**
PICO	**Pico**	**150.76**	**25**	*e*PKP	**PKiKP**	**23**	**13**	**53.7 +0.4**
PCAN	**Candelaria**	**150.76**	**26**	*e*PKP	**PKiKP**	**23**	**13**	**53.7 +0.4**
PMAN	**Manadas**	**150.79**	**25**	*e*PKP	**PKiKP**	**23**	**13**	**53.7 +0.4**
PPNO	**Prainha do Nor**	**150.85**	**25**	*e*PKP	**PKiKP**	**23**	**13**	**53.8 +0.4**
PID	**Ribeirinha**	**150.94**	**25**	*e*PKP	**PKiKP**	**23**	**13**	**53.8 +0.2**
PSBA	**Serra de Santa**	**150.98**	**24**	*e*PKP	**PKPbc**	**23**	**13**	**52.1 -1.1**
POLO	**Lamas de Olo**	**150.98**	**352**	*e*PKPdf	**PKPdf**	**23**	**13**	**47.8 +0.5**
POLO				*e*PKPbc	**PKiKP**	**23**	**13**	**54.2 +0.5**
POLO				*e*PKPab	**PKPab**	**23**	**14**	**02.5 +1.2**
PAGU	**Agualva, Azore**	**151.03**	**23**	*e*PKP	**PKiKP**	**23**	**13**	**54.5 +0.8**
PVRL	**Vila Real**	**151.07**	**352**	*e*PKPdf	**PKPdf**	**23**	**13**	**48.2 +0.9**
PVRL				*e*PKPbc	**PKiKP**	**23**	**13**	**54.3 +0.5**
PVRL				*e*PKPab	**PKPab**	**23**	**14**	**01.9 +0.3**
MVO	**Moncorvo**	**151.07**	**351**	*e*PKPdf	**PKPdf**	**23**	**13**	**47.9 +0.6**
MVO				*e*PKPbc	**PKiKP**	**23**	**13**	**54.5 +0.6**
MVO				*e*PKPab	**PKPab**	**23**	**14**	**03.2 +1.5**
PSCM	**Serra do Cume**	**151.11**	**23**	*e*PKP	**PKiKP**	**23**	**13**	**53.7 -0.2**
PVIS	**Viseu**	**151.64**	**352**	*e*P

PRRZ	**Plateau Road**	**3.75**	**211**	P		Pn	23 27 43.4	+0.9	
KNZ	**Kokohu**	**3.83**	**194**	P		Pn	23 27 43.1	-0.2	
RAHZ	**Arahi**	**3.87**	**201**	P		Pn	23 27 44.1	+0.2	
RAHZ				S		S	23 28 31.8	+0.3	
MTHZ	**Maungataniwha**	**3.89**	**204**	P		Pn	23 27 44.7	+0.5	
MTHZ				S		S	23 28 34.4	+2.4	
MHGZ	**Mahia Peninsul**	**3.91**	**191**	P		Pn	23 27 44.8	+0.5	
WHHZ	**Waihua**	**3.98**	**199**	P		Pn	23 27 45.7	+0.5	
WHHZ				S		S	23 28 36.8	+3.0	
NMHZ	**Naumai**	**4.13**	**203**	P		Pn	23 27 47.6	+0.5	
NMHZ				S		S	23 28 38.4	+1.2	
ARHZ	**Aropaoanui**	**4.22**	**200**	P		Pn	23 27 48.4	+0.2	
ARHZ				S		S	23 28 40.1	+0.9	
BKZ	**Black Stump Fm**	**4.29**	**206**	P		Pn	23 27 49.0	-0.1	
BKZ				S		S	23 28 42.4	+1.5	
MCHZ	**McNeill Hill**	**4.48**	**202**	P		Pn	23 27 51.2	-0.2	
MCHZ				S		S	23 28 47.4	+2.5	
CKHZ	**Cape Kidnapper**	**4.57**	**198**	P		Pn	23 27 52.3	-0.1	
OTVZ	**Oturere**	**4.62**	**213**	P		Pn	23 27 53.3	0.0	
SNVZ	**South Ngauruho**	**4.65**	**213**	P		Pn	23 27 53.8	+0.1	
FWVZ	**Far West T-bar**	**4.75**	**213**	P		Pn	23 27 54.9	-0.1	
KAHZ	**Kahuranaki**	**4.75**	**199**	P		Pn	23 27 54.4	-0.4	
KRHZ	**Kereru**	**4.76**	**204**	P		Pn	23 27 53.7	-1.3	
KRHZ				S		S	23 28 51.9	+0.5	
PXZ	**Pawanui**	**4.98**	**198**	P		Pn	23 27 56.3	-1.2	
PXZ				S		S	23 28 53.7	-2.5	
PNHZ	**Pukenui**	**5.06**	**204**	P		Pn	23 27 57.0	-1.7	
PNHZ				S		S	23 28 56.4	-1.9	
DVHZ	**Dannevirke**	**5.42**	**203**	P		Pn	23 28 01.6	-1.7	
DVHZ				S		S	23 29 04.3	-2.2	
POWZ	**Post Office Ro**	**5.64**	**205**	P		Pn	23 28 05.0	-1.0	
POWZ				S		S	23 29 09.7	-1.7	
PRWZ	**Pori Road**	**5.72**	**203**	P		Pn	23 28 06.4	-0.5	
PRWZ				S		S	23 29 12.0	-1.3	
BFZ	**Birch Farm**	**5.75**	**200**	P		Pn	23 28 06.1	-1.3	
BFZ				S		S	23 29 11.7	-2.3	
MRZ	**Mangatainoka R**	**5.94**	**205**	P		Pn	23 28 07.7	-2.1	
MRZ				S		S	23 29 14.5	-4.0	
HOWZ	**Holdsworth Sta**	**6.18**	**204**	P		Pn	23 28 10.7	-2.2	
HOWZ				S		S	23 29 19.7	-4.3	
KIW	**Kapiti Island**	**6.36**	**208**	P		Pn	23 28 13.1	-2.2	
KIW				S		S	23 29 24.6	-3.7	
CAW	**Cannon Point**	**6.52**	**206**	P		Pn	23 28 14.6	-2.6	
CAW				S		S	23 29 29.3	-2.6	

IDC ***23*** *00:01:08.8±0.8,2˝76S×139˝53E, h0km, mb3.7/9, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=19.1km s-min=12.1km az=162.0*

DJA ***23*** *00:01:12.8±0.6,2˝5±6˝×14˝0E±˚, h28km±7km, M4.3/7, mb4.4/1, MLv4.2/7*

ISC 23 00:01:12.5±0.7,2˝63S±0˝08×139˝51E±0˝04,h27km,n18, σ1§69/23**,mb3.8/8,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.66**	**87**	P	**Pn**	**00 01 25.7**	**-0.3**
GENI				S	**Sn**	**00 01 37.0**	**+1.5**
SMPI	**Sarmi**	**1.02**	**308**	P	**Pn**	**00 01 28.5**	**-2.6**
SMPI				S	**Sn**	**00 01 44.1**	**-0.5**
JAY	**Jayapura**	**1.20**	**84**	Pg	**Pn**	**00 01 32.6**	**-0.9**
	17nm,0.3s,baz=234,slow=11,SNR=42						
JAY				Lg	Lg	00 01 47.2	
	62nm,0.3s,baz=248,slow=12,SNR=13						
JAY	**Jayapura**	**1.20**	**84**	P	**Pn**	**00 01 32.0**	**-1.5**
JAY				S	**Sb**	**00 01 48.9**	**-0.8**
WAMI	**Wamena**	**1.48**	**213**	P	**Pb**	**00 01 41.8**	**+2.4**
SRPI	**Serui, Papua**	**3.36**	**283**	P	**Pn**	**00 02 04.4**	**+1.2**
SRPI				S	**Sn**	**00 02 42.9**	**+0.7**
BAKI	**Biak**	**3.69**	**293**	P	**Pn**	**00 02 08.4**	**+0.5**
BAKI				S	**Sn**	**00 02 50.7**	**+0.2**
FAKI	**Fak Fak**	**7.26**	**268**	P	**Pn**	**00 02 55.4**	**-1.5**
WRA	**Warramunga Arr**	**17.93**	**196**	P	**Pn**	**00 05 16.9**	**-3.2**
	0.4nm,0.3s,baz=16,slow=12,SNR=13						
	2.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.52**	**221**	P	**P**	**00 05 46.9**	**-2.0**
	2.4nm,0.8s,baz=84,slow=10,SNR=3.0						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**21.60**	**194**	P	**P**	**00 05 58.4**	**-2.2**
	1.5nm,0.7s,baz=20,slow=10,SNR=18						
	1.5nm,0.7s						
STKA	**Stephens Creek**	**29.16**	**176**	P	**P**	**00 07 12.4**	**+0.9**
	2.1nm,0.7s,baz=13,slow=14,SNR=3.5						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**70.22**	**322**	P	**P**	**00 12 22.9**	**-0.3**
	0.6nm,0.8s,baz=91,slow=5.2,SNR=3.5						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**72.27**	**330**	P	**P**	**00 12 37.1**	**+1.7**
	0.6nm,0.6s,baz=98,slow=9.3,SNR=2.1						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**74.13**	**325**	P	**P**	**00 12 49.0**	**+2.5**
	0.3nm,0.6s,baz=110,slow=7.6,SNR=4.0						
	0.3nm,0.6s						
VNDA	**Vanda**	**75.79**	**175**	P	**P**	**00 12 55.8**	**+0.2**
	0.7nm,0.8s,baz=326,slow=7.7,SNR=5.2						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**79.71**	**325**	P	**P**	**00 13 20.0**	**+2.1**
	0.3nm,0.3s,baz=92,slow=7.8,SNR=3.7						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**85.43**	**24**	P	**P**	**00 13 47.4**	**0.0**
	0.6nm,0.8s,baz=260,slow=5.1,SNR=4.3						
	0.6nm,0.8s						

BJI ***23*** *00:04:29.9,28˝54S×178˝01W,h206km,mB5.4/22, mb5.3/58*

NOU ***23*** *00:04:29.6,28˝97S×177˝99W,h198km,mb5.2/90, Kermadec Islands Region*

IDC ***23*** *00:04:31.8±0.3,28˝72S×178˝40W,h209km±3km,mb4.6/25, mbtmp5.2/27, Error ellipse: s-maj=9.6km s-min=9.1km az=173.0*

MOS ***23*** *00:04:31.4±1.1,28˝82S×178˝45W,h214km,mb5.4/17, Error ellipse: s-maj=9.7km s-min=8.6km az=24.4*

NEIC ***23*** *00:04:32.6±1.8,29˝11S±0˝09×178˝34W±0˝1,h220km±4km, mb5.2/209, Error ellipse: s-maj=12.8km s-min=12.6km az=105.0*

GCMT ***23*** *00:04:34.6±0.1,28˝72S±0˝01×178˝12W±0˝01, h217km, MW5.5/157, Moment Tensor Solution. s125,c208; s157,c278; Duration: 1§3 Moment tensor: Scale 10¹⁷Nm; Mrr1.24±.02; Mθθ-1.36±.03; Mϕϕ0.12±.03; Mrθ-1.09±.02; Mrϕ0.43±.02; Mθϕ1.09±.02; Best double couple: M₀2.06400×10¹⁷ NP1:ϕs83.00000°,δ26.00000°, λ49.00000°. NP2:ϕs307.00000°,δ70.00000°,λ108.00000°. Principal axes: T 2.0680, Plg61.0000°, Azm243.0000°; N -0.0040, Plg17.0000°, Azm121.0000°; P -2.0600, Plg23.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 00:04:31.4±0.2,29˝16S±0˝02×178˝33W±0˝03, h214km±2km,h214km:pP-P,n884,σ1§**51**/932**,mb5.2**/194**, 39C-22D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.36**	**104**	P	**Pn**	**00 05 01.9**	**+2.2**
RIZ				S	**S**	**00 05 23.5**	**+1.8**
RAO	**Raoul Island**	**0.38**	**105**	P	**Pn**	**00 05 01.9**	**+2.2**
	14µm,0.2s,baz=90,slow=4.0,SNR=204						
RAO				S	**S**	**00 05 22.6**	**+0.9**
	10µm,0.3s,baz=76,slow=22,SNR=6.0						
GLKZ	**Green Lake**	**0.38**	**107**	P	**Pn**	**00 05 01.9**	**+2.2**
GLKZ				S	**S**	**00 05 22.9**	**+1.2**
WMGZ	**Waiomatatini S**	**9.06**	**197**	P	**Pn**	**00 06 36.5**	**-1.8**
WMGZ				P	**S**	**00 08 18.9**	**-1.1**
KUZ	**Kuaotunu**	**9.07**	**212**	P	**Pn**	**00 06 41.7**	**+3.4**
KUZ	**Kuaotunu**	**9.07**	**212**	P	**Pn**	**00 06 42.5**	**+4.1**
OUZ	**Omahuta**	**9.13**	**226**	P	**P**	**00 06 46.3**	**-1.6**
WCZ	**Waipu Caves**	**9.16**	**221**	P	**P**	**00 06 45.7**	**-2.5**
HAZ	**Te Kaha**	**9.17**	**200**	P	**Pn**	**00 06 38.2**	**-1.4**
HAZ				P	**S**	**00 08 22.3**	**-0.3**
PKGZ	**Pakihiroa**	**9.19**	**198**	P	**Pn**	**00 06 38.3**	**-1.6**
PKGZ				S	**S**	**00 08 18.8**	**-4.4**
PUZ	**Puketiti**	**9.34**	**197**	P	**Pn**	**00 06 39.2**	**-2.7**
PUZ				S	**S**	**00 08 24.7**	**-2.0**
RUGZ	**Raukumara Rang**	**9.39**	**200**	P	**Pn**	**00 06 41.7**	**-1.0**
RUGZ				S	**S**	**00 08 28.5**	**+0.2**
MKAZ	**Moumakai**	**9.62**	**213**	P	**Pn**	**00 06 49.9**	**+4.5**
OPRZ	**Ohinepanea**	**9.66**	**205**	P	**Pn**	**00 06 44.9**	**-1.1**
OPRZ				S	**S**	**00 08 36.6**	**+2.3**
CNGZ	**Carnagh Statio**	**9.74**	**196**	P	**Pn**	**00 06 45.0**	**-2.0**
CNGZ				S	**S**	**00 08 33.7**	**-2.5**
MARZ	**Manawahe**	**9.74**	**204**	P	**Pn**	**00 06 50.0**	**+2.9**
TKGZ	**Te Karaka**	**9.79**	**198**	P	**Pn**	**00 06 45.7**	**-1.9**
TKGZ				P	**S**	**00 08 36.7**	**-0.7**
URZ	**Urewera**	**9.84**	**201**	P	**Pn**	**00 06 46.4**	**-1.9**
	35nm,0.3s,baz=256,slow=2.9,SNR=29						
URZ				S	**S**	**00 08 38.9**	**+0.4**
	978nm,0.6s,baz=108,slow=22,SNR=25						
URZ	**Urewera**	**9.84**	**201**	P	**Pn**	**00 06 49.5**	**+1.2**
URZ	**Urewera**	**9.84**	**201**	P	**Pn**	**00 06 46.2**	**-2.1**
URZ				S	**S**	**00 08 37.8**	**-0.7**
KARZ	**Kaharoa**	**9.93**	**206**	P	**Pn**	**00 06 53.7**	**+4.3**
OMRZ	**Omania**	**9.96**	**205**	P	**Pn**	**00 06 51.9**	**+2.1**
RAGZ	**Rawiri**	**9.96**	**200**	P	**Pn**	**00 06 48.1**	**-1.9**
RAGZ				S	**S**	**00 08 40.0**	**-1.6**
TOZ	**Tahuroa Road**	**9.98**	**209**		**Pn**	**00 06 47.8**	**-2.3**
TOZ	**Tahuroa Road**	**9.98**	**209**	P	**Pn**	**00 06 51.9**	**+1.8**
RIGZ	**Rimuhau**	**10.06**	**198**	P	**Pn**	00 06 48.3	-2.9
RIGZ				S	**S**	**00 08 42.5**	**-1.6**
MUGZ	**Murupara**	**10.15**	**202**	P	**Pn**	**00 06 51.1**	**-1.2**
MUGZ				S	**S**	**00 08 46.0**	**-0.1**
RTZ	**Ruatahuna**	**10.21**	**201**		**Pn**	00 06 49.8	-3.3
RTZ	**Ruatahuna**	**10.21**	**201**	P	**Pn**	**00 06 50.3**	**-2.8**
RTZ				S	**S**	**00 08 43.9**	**-3.7**
HRRZ	**Handcock Road**	**10.24**	**204**	P	**Pn**	**00 06 57.7**	**+4.2**
SNGZ	**Shannon Statio**	**10.25**	**199**	P	**Pn**	00 06 50.4	-3.2
PRRZ	**Plateau Road**	**10.30**	**204**	P	**Pn**	**00 06 55.5**	**+1.3**
PRRZ				S	**S**	**00 08 49.1**	**-0.5**
KNZ	**Kokohu**	**10.38**	**198**	P	**Pn**	00 06 51.9	-3.3
KNZ				S	**S**	**00 08 47.2**	**-4.4**
MHGZ	**Mahia Peninsul**	**10.45**	**196**	P	**Pn**	00 06 53.2	-2.9
MHGZ				S	**S**	**00 08 50.0**	**-3.1**
RAHZ	**Arahi**	**10.45**	**200**	P	**Pn**	**00 06 53.7**	**-2.5**
RAHZ				S	**S**	**00 08 50.5**	**-2.7**
MTHZ	**Maungataniwha**	**10.47**	**201**	P	**Pn**	**00 06 55.0**	**-1.4**
MTHZ				S	**S**	**00 08 51.8**	**-1.8**
TLZ	**Tolley Road**	**10.47**	**208**	P	**Pn**	**00 06 59.0**	**+2.5**
KUTZ	**Kaahu Road**	**10.50**	**206**	P	**Pn**	**00 07 00.6**	**+3.8**
WHHZ	**Waihua**	**10.55**	**199**	P	**Pn**	**00 06 55.6**	**-1.9**
WHHZ				S	**S**	**00 08 51.2**	**-4.5**
MRHZ	**Matea Rd**	**10.59**	**203**	P	**Pn**	**00 06 57.7**	**-0.3**
NMHZ	**Naumai**	**10.70**	**201**	P	**Pn**	00 06 56.6	-2.8
WATZ	**Wairara**	**10.72**	**206**	P	**P**	**00 07 04.7**	**-1.2**
ARHZ	**Aropaoanui**	**10.80**	**200**	P	**Pn**	**00 06 57.9**	**-2.6**
RATZ	**Rangitukua**	**10.85**	**205**	P	**P**	**00 07 05.8**	**-1.5**
BKZ	**Black Stump Fm**	**10.86**	**202**		**Pn**	**00 06 59.1**	**-2.4**
BKZ	**Black Stump Fm**	**10.86**	**202**	P	**Pn**	**00 07 01.4**	**-0.1**
BKZ	**Black Stump Fm**	**10.86**	**202**	P	**Pn**	**00 06 59.0**	**-2.5**
BKZ				S	**S**	**00 09 01.4**	**-1.6**
LKBA	**Tubou, Lakemba**	**10.88**	**358**	P	Pn	00 06 55.6	-6.2
HIZ	**Hauiti**	**10.91**	**209**		**Pn**	**00 07 04.4**	**+2.4**
HIZ	**Hauiti**	**10.91**	**209**	P	**Pn**	**00 07 04.6**	**+2.6**
HIZ	**Hauiti**	**10.91**	**209**	S	**S**	**00 09 11.4**	**+7.3**
RITZ	**Rihia Road**	**10.91**	**205**	P	**Pn**	**00 07 04.9**	**+2.8**
RITZ				S	**S**	**00 09 05.0**	**+0.9**
KATZ	**Kakaramea**	**10.97**	**205**	P	**Pn**	**00 07 05.1**	**+2.2**
MCHZ	**McNeill Hill**	**11.05**	**200**	P	**Pn**	**00 07 01.5**	**-2.4**
MCHZ				S	**S**	**00 09 03.6**	**-2.4**
TMVZ	**Te Maari**	**11.09**	**205**	P	**Pn**	**00 07 04.3**	**-0.1**
TMVZ				S	**S**	**00 09 08.1**	**+1.0**
KRVZ	**Karewarewa**	**11.10**	**205**	P	**Pn**	**00 07 06.1**	**+1.6**
KRVZ				S	**S**	**00 09 07.2**	**+0.1**
ETVZ	**East Tongariro**	**11.11**	**205**	P	Pn	00 07 00.6	-4.0
KWHZ	**Kaweka Forest**	**11.12**	**202**	P	**Pn**	**00 07 07.8**	**-2.0**
KWHZ				S	**S**	**00 09 05.9**	**-1.8**
WTVZ	**West Tongariro**	**11.13**	**205**	P	**Pn**	**00 07 07.2**	**+2.3**
WTVZ				S	**S**	**00 09 09.3**	**+1.3**
CKHZ	**Cape Kidnapper**	**11.14**	**199**	P	**Pn**	**00 07 02.1**	**-2.8**
CKHZ				S	**S**	**00 09 04.9**	**-3.1**
NNVZ	**North Ngauruho**	**11.14**	**205**	P	**Pn**	**00 07 08.8**	**+3.7**
NNVZ				S	**S**	**00 09 08.3**	**+0.1**
TWVZ	**Taurewa**	**11.15**	**206**	P	**Pn**	**00 07 08.0**	**+2.8**
NGZ	**Ngauruhoe**	**11.18**	**205**	P	**Pn**	**00 07 05.4**	**-0.2**
COVZ	**Chateau Observ**	**11.23**	**205**	P	**Pn**	**00 07 08.9**	**+2.8**
TUVZ	**Tukino**	**11.24**	**205**	P	**Pn**	**00 07 08.3**	**+1.9**
FWVZ	**Far West T-bar**	**11.27**	**205**	P	**Pn**	**00 07 05.6**	**-1.2**
MAVZ	**Matarangi**	**11.28**	**205**	P	**Pn**	**00 07 06.1**	**-0.9**
TRVZ	**Turoa**	**11.31**	**205**	P	**Pn**	**00 07 08.5**	**+1.2**
WNVZ	**Wahianoa**	**11.32**	**205**	P	**Pn**	**00 07 06.1**	**-1.2**
KAHZ	**Kahuranaki**	**11.32**	**199**	P	Pn	00 07 03.5	-3.8
MOVZ	**Moawhango**	**11.33**	**204**	P	**Pn**	**00 07 05.4**	**-2.1**
PKVZ	**Pokaka**	**11.38**	**206**	P	**Pn**	**00 07 10.6**	**+2.6**
MTVZ	**Mangateitei**	**11.41**	**205**	P	**Pn**	**00 07 08.2**	**-0.3**
PXZ	**Pawanui**	**11.55**	**199**	P	Pn	00 07 05.4	-4.7
WPHZ	**Waipukurau**	**11.70**	**200**	P	**Pn**	**00 07 11.1**	**-0.9**
PRHZ	**Porangahau**	**11.83**	**199**	P	Pn	00 07 09.9	-3.7
MSVF	**Nonsavu**	**11.84**	**343**	P	**Pn**	**00 07 11.2**	**-2.9**
MSVF	**Nonsavu**	**11.84**	**343**	*i* P	**Pn**	**00 07 10.3**	**-3.8**
TSZ	**Takapari Road**	**11.85**	**202**	P	Pn	00 07 11.1	-2.8
PREZ	**Palmer Road**	**11.90**	**209**	P	**P**	**00 07 20.0**	**+1.0**
WAZ	**Wanganui**	**11.92**	**206**	P	**Pn**	**00 07 16.4**	**+1.6**
ANWZ	**Angora Road**	**12.05**	**199**	P	**Pn**	**00 07 15.0**	**-1.5**
POWZ	**Post Office Ro**	**12.21**	**202**	P	**Pn**	**00 07 17.6**	**-0.8**
PRWZ	**Pori Road**	**12.29**	**201**	P	**Pn**	**00 07 16.9**	**-2.6**
BFZ	**Birch Farm**	**12.33**	**200**	P	**Pn**	**00 07 20.5**	**+0.6**
BFZ	**Birch Farm**	**12.33**	**200**	P	Pn	00 07 16.2	-3.7
TAVE	**Taveuni**	**12.47**	**353**	P	**Pn**	**00 07 18.0**	**-4.0**
MRZ	**Mangatainoka R**	**12.51**	**202**		Pn	00 07 18.8	-3.4
CPWZ	**Castlepoint**	**12.55**	**199**	P	**Pn**	**00 07 21.4**	**-1.3**
NIUE	**Niue**	**12.63**	**39**	P	Pn	00 07 18.0	-5.8
	comp=Z,2µm,1.3s						
NIUE	**Niue**	**12.63**	**39**	P	Pn	00 07 18.7	-5.2
TMWZ	**Te Maipa**	**12.82**	**200**	P	**Pn**	**00 07 24.2**	**-2.0**
DGTI	**Dogotuki**	**12.92**	**352**	P	Pn	00 07 22.3	-5.2
YSA	**Yasawairara**	**12.96**	**342**	P	**Pn**	**00 07 24.8**	**-3.2**
SNZO	**South Karori**	**13.39**	**203**		**Pn**	**00 07 32.6**	**-0.5**
PLWZ	**Palliser**	**13.44**	**201**		**Pn**	**00 07 32.7**	**-1.1**
TCW	**Tory Channel**	**13.45**	**205**		**Pn**	**00 07 31.6**	**-2.3**
TKNZ	**Takaka Hill**	**13.82**	**209**		**Pn**	**00 07 38.2**	**-0.3**
QRZ	**Quartz Range**	**13.83**	**210**	P	**P**	**00 07 41.0**	**+0.6**
CMWZ	**Cape Campbell**	**13.95**	**204**	P	**Pn**	**00 07 40.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**14.04**	**205**	P	**Pn**	**00 07 42.0**	**+0.8**
MRNZ	**Matariki Terra**	**14.21**	**208**		**Pn**	**00 07 43.2**	**-0.1**
PINNC	**Pines Island,**	**14.36**	**294**		**P**	**00 07 46.4**	**0.0**
THZ	**Tophouse**	**14.45**	**207**		**Pn**	**00 07 46.1**	**-0.2**
CTZ	**Chatham Island**	**14.62**	**175**		**P**	**00 07 53.6**	**+4.6**
CTZ	**Chatham Island**	**14.62**	**175**	P	**P**	**00 07 50.0**	**+1.0**
CTZ	**Chatham Island**	**14.62**	**175**	S	S	**00 10 33.4**	**+3.5**
CTZ	**Chatham Island**	**14.62**	**175**	P	P	00 07 53.9	+4.9
CTZ				S	**S**	**00 10 31.9**	**+2.0**
KHZ	**Kahutara**	**14.77**	**204**		**Pn**	**00 07 47.5**	**-2.6**
INH	**Isangel**	**14.79**	**308**	P	**P**	**00 07 51.7**	**+0.5**
OUENC	**Ouen Island, N**	**14.94**	**293**	P	**P**	**00 07 54.8**	**+2.0**
ONTNC	**Ouen Toro**	**15.30**	**293**	P	**P**	**00 07 59.2**	**+2.4**
ONTNC	**Ouen Toro**	**15.30**	**293**	P	**P**	**00 07 59.7**	**+2.9**
DZM	**Mont Dzumac**	**15.43**	**294**		**Pn**	**00 08 01.1**	**+2.7**
DZM	**Mont Dzumac**	**15.43**	**294**	P	**P**	**00 07 58.1**	**-0.2**
	comp=Z,21nm,0.5s,baz=119,slow=9.4,SNR=38						
DZM	**Mont Dzumac**	**15.43**	**294**	P	**Pn**	**00 08 00.7**	**+2.3**
GVZ	**Greta Valley S**	**15.44**	**204**		**P**	**00 07 57.0**	**-1.2**
LTZ	**Lake Taylor**	**15.56**	**207**		**P**	**00 07 58.4**	**-1.5**
AMCZ	**Amberley**	**15.76**	**205**		**P**	**00 08 00.3**	**-1.4**
INZ	**Inchbonnie**	**15.85**	**209**	P	**P**	**00 08 01.2**	**-1.5**
OXZ	**Oxford**	**16.12**	**206**		**P**	**00 08 03.5**	**-2.2**
MQZ	**McQueen's Vall**	**16.22**	**204**		**P**	**00 08 05.9**	**-0.8**
DVP	**Devils Point**	**16.79**	**310**	P	**Pn**	**00 08 13.9**	**-0.7**
RPZ	**Rata Peaks**	**16.83**	**207**		**P**	**00 08 14.0**	**+0.6**
RPZ	**Rata Peaks**	**16.83**	**207**	P	**P**	**00 08 13.1**	**-0.3**
	comp=Z,15nm,0.3s,baz=284,slow=2.4,SNR=7.5						
RPZ				S	**S**	**00 11 14.3**	**-3.8**
	comp=Z,76nm,0.4s,baz=21,slow=3.1,SNR=14						
KOUNC	**Koumac, New Ca**	**17.93**	**295**	P	**Pn**	**00 08 28.4**	**+0.4**
ODZ	**Otahua Downs**	**18.10**	**206**	P	**Pn**	**00 08 30.6**	**+0.8**
RAR	**Rarotonga**	**18.55**	**59**	P	**P**	**00 08 31.8**	**-0.5**
	comp=Z,379nm,1.0s,baz=232,slow=10,SNR=20						
RAR				S	**S**	**00 11 51.5**	**-1.1**
	comp=Z,61nm,0.9s,baz=62,slow=20,SNR=3.5						
RAR	**Rarotonga**	**18.55**	**69**	P	**P**	**00 08 30.1**	**-2.3**
WKZ	**Wanaka**	**18.59**	**209**	P	**P**	**00 08 30.6**	**-1.9**
SANVU	**Saraoutou**	**19.08**	**313**		**Pn**	**00 08 41.8**	**+0.3**
SANVU	**Saraoutou**	**19.08**	**313**	P	**P**	**00 08 39.1**	**+1.0**
FUNA	**Funafuti**	**20.65**	**353**	P	**P**	**00 08 52.2**	**-2.7**
ARMA	**Armidale**	**26.07**	**260**	P	**P**	**00 09 49.4**	**+3.9**
ARMA	**Armidale**	**26.07**	**260**	P	**P**	**00 09 48.1**	**+2.6**
TW1H	**Toowoomba 1 Ha**	**26.15**	**266**	P	**P**	**00 09 48.9**	**+2.7**
EIDS	**Eidsvold**	**27.41**	**271**		**P**	**00 09 58.5**	**+1.1**
CAN	**Canberra**	**28.22**	**249**		**P**	**00 10 05.7**	**+1.2**
CAN	**Canberra**	**28.22**	**249**	P	**P**	**00 10 05.7**	**+1.2**
CAN				pmax	pmax		
	comp=Z,24nm,0.7s						
ALEG	**Aligegeo Malai**	**28.28**	**312**	P	**P**	**00 10 06.3**	**+1.2**
PPTF	**Pamatai, Papee**	**28.73**	**73**	P	**P**	**00 10 08.0**	**-1.2**
PPTF	**Pamatai, Papee**	**28.73**	**73**	P	**P**	**00 10 06.4**	**-2.8**
PPT	**Papeete**	**28.73**	**73**	P	**P**	**00 10 09.0**	**-0.1**
	comp=Z,25nm,0.3s,baz=95,slow=16,SNR=6.1						
	comp=Z,25nm,0.3s						
PPT	**Papeete**	**28.73**	**73**	P	**P**	**00 10 09.0**	**-0.1**
GLAD	**Gladstone**	**29.79**	**238**	P	**P**	**00 10 21.3**	**+3.1**
TAU	**Tasmania Unive**	**30.75**	**234**	P	**P**	**00 10 28.8**	**+2.1**
TAU				IAmb	IAmb	00 11 03.4	
	comp=Z,100nm,1.4s						
TAU	**Tasmania Unive**	**30.75**	**234**	P	**P**	**00 10 28.8**	**+2.1**
TAU				pmax	pmax		
	comp=Z,100nm,1.4s						
CMSA	**Cobar Meteorol**	**31.05**	**257**	P	**P**	**00 10 31.1**	**+1.6**
	comp=Z,51nm,0.8s						
CMSA	**Cobar Meteorol**	**31.05**	**257**	P	**P**	**00 10 33.3**	**+3.8**
TOO	**Toolangi**	**31.21**	**245**	P	**P**	**00 10 34.5**	**+3.7**
	comp=Z,10nm,1.2s						
TOO	**Toolangi**	**31.21**	**245**	P	**P**	**00 10 33.1**	**+2.4**
TOO	**Toolangi**	**31.21**	**245**	P	**P**	**00 10 33.2**	**+2.4**
TOO				pmax	pmax		
	comp=Z,54nm,1.8s						
BRAT	**Ballarat**	**32.44**	**245**	P	**P**	**00 10 44.4**	**+2.9**
QLP	**Quilpie**	**33.10**	**265**	P	**P**	**00 10 48.3**	**+0.9**
	comp=Z,55nm,0.6s						
QLP	**Quilpie**	**33.10**	**265**	P	**P**	**00 10 50.6**	**+3.2**
CTA	**Charters Tower**	**33.33**	**278**	P	**P**	**00 10 50.9**	**+1.5**
CTA	**Charters Tower**	**33.33**	**278**	P	**P**	**00 10 50.6**	**+1.1**
CTAO	**Charters Tower**	**33.33**	**278**		**P**	**00 10 50.5**	**+1.1**
CTAO				IAmb	IAmb	00 10 52.4	
	comp=Z,71nm,1.1s						
CTAO	**Charters Tower**	**33.33**	**278**	P	**P**	**00 10 50.9**	**+1.5**
CTAO	**Charters Tower**	**33.33**	**278**	P	**P**	**00 10 50.5**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,71nm,1.1s						
CTAO	**Charters Tower**	**33.33**	**278**	P	**P**	**00 10 50.4**	**+1.1**
ARPS	**Mount Arapiles**	**34.08**	**247**	P	**P**	**00 10 57.4**	**+1.7**
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**34.49**	**255**	P	**P**	**00 11 01.0**	**+1.7**
	comp=Z,325nm,0.7s						
STKA	**Stephens Creek**	**34.49**	**255**		**P**	**00 10 59.3**	**0.0**
STKA	**Stephens Creek**	**34.49**	**255**	P	**P**	**00 11 01.4**	**+2.0**
	comp=Z,30nm,0.4s,baz=100,slow=9.3,SNR=88						
STKA				ScP	**ScP**	**00 16 55.5**	**+1.4**
	comp=Z,4.8nm,0.8s,baz=100,slow=5.7,SNR=4.1						
	comp=Z,30nm,0.4s						
STKA	**Stephens Creek**	**34.49**	**255**	P	**P**	**00 11 01.5**	**+2.2**
STKA	**Stephens Creek**	**34.49**	**255**	*i* P	**P**	**00 10 59.7**	**+0.4**

CCD **Concordia, Ant** 54.07 196 P **P** 00 13 36.9 +3.0
CCD PcP **PcP** 00 14 38.2 +2.3
KLBR Kellerberrin 54.48 250 P **P** 00 13 37.5 +0.3
NWAO Narrogin (SRO) 54.57 249 P **P** 00 13 37.4 -0.4
comp=Z,20nm,0.9s,baz=126,slow=7.1,SNR=10
NWAO PcP **PcP** 00 14 38.6 +0.5
comp=Z,15nm,0.6s,baz=190,slow=1.7,SNR=6.2
comp=Z,20nm,0.9s
MEEK Meekatharra 55.19 256 P **P** 00 13 42.4 +0.1
BLDU Ballidu 55.61 251 P **P** 00 13 47.5 +2.3
SWI Sorong 55.62 291 P **P** 00 13 44.4 -1.1
comp=Z,60nm,0.6s
PSA00 Pilbara Seismi 55.83 263 P **P** 00 13 46.4 -0.5
PSA00 IAmb IAmb 00 14 44.3
comp=Z,39nm,0.8s
PSA00 Pilbara Seismi 55.83 263 P **P** 00 13 46.2 -0.7
PSA00 IAmb IAmb 00 14 44.3
comp=Z,26nm,0.8s
PSA00 Pilbara Seismi 55.83 263 P **P** 00 13 46.9 0.0
MBWA Marble Bar 56.08 263 P **P** 00 13 48.7 0.0
MBWA IAmb IAmb 00 13 49.4
comp=Z,58nm,0.8s
MBWA Marble Bar 56.08 263 P **P** 00 13 48.9 +0.2
MBWA Marble Bar 56.08 263 P **P** 00 13 47.8 -0.9
MBWA PcP **PcP** 00 14 44.0 -0.1
CASY Casey 56.10 207 P **P** 00 13 48.8 +0.7
CASY Casey 56.10 207 P **P** 00 13 49.7 +1.6
CASY PcP **PcP** 00 14 45.1 +1.7
MORW Morawa 56.61 253 IAmb IAmb 00 13 53.2
comp=Z,40nm,0.7s
MORW Morawa 56.61 253 P **P** 00 13 52.8 +0.4
SOEI Soe 56.90 278 IAmb IAmb 00 14 07.6
comp=Z,70nm,0.8s
SOEI Soe 56.90 278 P **P** 00 13 57.3 +2.6
SOEI Soe 56.90 278 P **P** 00 13 55.9 +1.2
comp=Z,113nm,1.3s
BATI Baumata 57.21 277 P **P** 00 13 58.0 +1.3
comp=Z,27nm,0.4s,baz=194,slow=6.2,SNR=5.0
comp=Z,27nm,0.4s
BATI Baumata 57.21 277 P **P** 00 13 57.3 +0.6
comp=Z,45nm,1.6s
NLAI Namlea 57.76 286 P **P** 00 14 00.1 -0.4
comp=Z,1μmcomp=Z,69nm,0.7s
MMRI Maumere 59.19 278 P **P** 00 14 09.7 -0.7
MMRI Maumere 59.19 278 P **P** 00 14 12.7 +2.3
MMRI Maumere 59.19 278 P **P** 00 14 10.3 -0.1
comp=Z,81nm,1.0s
SANI Sanana 59.33 286 P **P** 00 14 10.1 -1.2
comp=Z,1μmcomp=Z,76nm,0.6s
EDFI Ende, Flores 59.61 277 P **P** 00 14 13.0 -0.4
comp=Z,924nmcomp=Z,42nm,0.7s
WSI Waingapu 60.39 275 P **P** 00 14 19.0 +0.5
QSPA South Pole Qui 60.95 180 P P 00 14 26.9 +5.2
comp=Z,113nm,0.7s,baz=24,slow=1.0,SNR=730
comp=Z,113nm,0.7s
QSPA South Pole Qui 60.95 180 P P 00 14 28.0 +6.3
BKSI Bulukumba 62.63 280 P **P** 00 14 32.4 -1.2
comp=Z,898nmcomp=Z,44nm,1.3s
PLAI Plampang 62.98 275 P **P** 00 14 38.2 +2.4
PLAI Plampang 62.98 275 P **P** 00 14 35.7 -0.1
comp=Z,128nm,1.2s
KAPI Kappang 63.11 280 P **P** 00 14 36.8 +0.1
KAPI IAmb IAmb 00 14 38.0
comp=Z,68nm,1.2s
KAPI Kappang 63.11 280 P **P** 00 14 36.3 -0.4
comp=Z,14nm,0.4s,baz=164,slow=0.5,SNR=8.2
comp=Z,14nm,0.4s
KAPI Kappang 63.11 280 P **P** 00 14 37.5 +0.8
KAPI Kappang 63.11 280 P **P** 00 14 36.8 +0.1
KAPI pmax pmax
comp=Z,68nm,1.2s
BNSI Bone 63.11 281 P **P** 00 14 36.7 0.0
comp=Z,1μmcomp=Z,29nm,1.1s
TTSI Tana Toraja 64.04 282 P **P** 00 14 41.8 -1.0
PCI Palu 65.14 284 P **P** 00 14 50.5 +0.6
comp=Z,45nm,0.6s
TOLI2 Tolitoli 65.41 286 P **P** 00 14 50.8 -0.8
JAGI Jajag, Banyuwa 66.31 273 P **P** 00 14 55.0 -2.3
JAGI Jajag, Banyuwa 66.31 273 P **P** 00 14 56.0 -1.4
comp=Z,73nm,1.0s
GMJI Gumukmas 67.02 273 P **P** 00 15 01.6 -0.2
comp=Z,51nm,1.6s
JCJ Chichijima 67.53 322 P **P** 00 15 04.2 -0.5
PCJI Pacitan 69.03 272 P **P** 00 15 15.3 +0.9
comp=Z,173nm,1.5s
KPJI Karang Pucung 71.40 272 P **P** 00 15 28.3 -0.4
comp=Z,78nm,1.0s
STKI Sintang 72.79 280 P **P** 00 15 37.5 +0.5
comp=Z,100nm,0.7s
MAW Mawson 73.37 201 P **P** 00 15 42.6 +3.2
comp=Z,47nm,0.6s,baz=129,slow=7.1,SNR=234
comp=Z,47nm,0.6s
SBUM Sibu 73.37 282 IAmb IAmb 00 15 42.3
comp=Z,113nm,1.9s
SBUM Sibu 73.37 282 P **P** 00 15 42.5 +2.1
PMSA Palmer Station 73.52 156 P **P** 00 15 42.5 +2.1
PMSA IAmb IAmb 00 15 45.1
comp=Z,28nm,0.8s
PMSA Palmer Station 73.52 156 *e*P **P** 00 15 43.0 +2.6
DBJI Dramaga 73.67 272 P **P** 00 15 42.0 -0.2
comp=Z,156nm,1.5s
SBJI Serang 74.42 272 P **P** 00 15 46.1 -0.4
KSM Kuching 74.51 281 P **P** 00 15 46.9 -0.1
KSM IAmb IAmb 00 15 47.6
comp=Z,37nm,0.8s
KSM Kuching 74.51 281 P **P** 00 15 47.6 +0.6
CGJI Cibinong 74.57 271 P **P** 00 15 46.9 -0.4
comp=Z,147nm,1.5s
TPI Tanjungpandan 74.71 275 P **P** 00 15 48.4 +0.3
comp=Z,69nm,1.5s
JSG Sagara 75.61 324 P **P** 00 15 52.8 +0.1
JOW Kunigami 75.61 312 P **P** 00 15 52.4 -0.5
JOW IAmb IAmb 00 15 53.8
comp=Z,78nm,0.9s
JOW Kunigami 75.61 312 P **P** 00 15 53.3 +0.4
KLJ Kotabumi 76.13 272 P **P** 00 15 55.3 -0.9
PPBI Pangkal Pinang 76.32 275 P P 00 15 52.0 -5.3
MG04 Isla Riesco 76.56 143 P **P** 00 15 57.8 -0.2
MG03 Isla Dawson 76.62 145 P **P** 00 15 57.4 -0.9
MG05 Puerto Natales 76.66 142 P **P** 00 15 57.3 -1.2
MG05 IAmb IAmb 00 16 02.9
comp=Z,92nm,1.3s
GO10 Punta Arenas 76.68 144 P **P** 00 15 57.6 -1.1
INU Inuyama 76.73 324 IAmb IAmb 00 15 59.4
comp=Z,52nm,1.0s
INU Inuyama 76.73 324 P **P** 00 15 59.2 +0.2
JGF Kuroka 76.75 324 IAmb IAmb 00 15 59.4
comp=Z,51nm,1.1s
JGF Kuroka 76.75 324 P **P** 00 15 59.6 +0.4
JMM Marumori 76.87 328 IAmb IAmb 00 16 00.2
comp=Z,76nm,1.3s
MDSI Maura Dua 76.90 272 P **P** 00 15 59.5 -1.1
comp=Z,2μmcomp=Z,139nm,0.9s
MJAR Matsushiro Arr 77.06 325 P **P** 00 16 00.0 -0.9
MJAR IAmb IAmb 00 16 00.8
comp=Z,39nm,1.2s
MJAR Matsushiro Arr 77.06 325 P **P** 00 15 59.2 -1.7
comp=Z,30nm,1.0s,baz=161,slow=5.6,SNR=32
MJAR pP **pP** 00 16 50.9 -0.2
comp=Z,14nm,1.0s,baz=159,slow=5.7,SNR=5.1
comp=Z,30nm,1.0s
MJAR Matsushiro Arr 77.06 325 P **P** 00 16 00.0 -0.9
MJAR pmax pmax
comp=Z,39nm,1.2s
MAJO Matsushiro 77.06 325 P **P** 00 16 00.2 -0.7
MAJO IAmb IAmb 00 16 01.1
comp=Z,60nm,1.1s
MAJO Matsushiro 77.06 325 P **P** 00 16 01.0 +0.1
MAJO Matsushiro 77.06 325 *i* P **P** 00 15 59.3 -1.6
MAJO pmax pmax
comp=Z,63nm,1.2s
MJB9 Matsu-Tunnel 77.06 325 IAmb IAmb 00 16 02.1
comp=Z,58nm,1.1s
JMN Monobe 77.18 321 IAmb IAmb 00 16 04.0
comp=Z,72nm,1.2s
JMN Monobe 77.18 321 P **P** 00 16 02.4 +0.8
MG01 Puerto William 77.45 146 P **P** 00 16 03.3 +0.4
MG01 IAmb IAmb 00 16 07.2
comp=Z,102nm,1.2s
YOJ Yonaguni jima 77.58 307 P **P** 00 16 02.9 -1.1
YOJ Yonaguni jima 77.58 307 P **P** 00 16 02.9 -1.1
YOJ pmax pmax
comp=Z,143nm,1.0s
LHSI Lahat 77.79 272 P **P** 00 16 04.9 -0.6
comp=Z,2μmcomp=Z,86nm,1.6s
TWGBT Beinan 77.91 305 P **P** 00 16 06.9 +1.0

TWG Pinlang 77.92 305 P **P** 00 16 03.5 -2.4
TWG IAmb IAmb 00 16 04.3
comp=Z,38nm,0.7s
YULB Yu-li 78.11 305 P **P** 00 16 04.5 -2.5
YULB Yu-li 78.11 305 P **P** 00 16 06.4 -0.6
SYO Syowa Base 78.26 193 ⇓ *i* P **P** 00 16 10.0 +3.0
SYO Syowa Base 78.26 193 ⇓ *i* PcP **PcP** 00 16 14.8 -0.8
NACB Ninganchiao 78.39 306 IAmb IAmb 00 16 08.8
comp=Z,48nm,0.9s
NACB Ninganchiao 78.39 306 P **P** 00 16 09.6 +1.1
JNU Nakatsue 78.44 318 P **P** 00 16 09.3 +0.7
DSRI Dabo 78.50 276 P **P** 00 16 08.8 -0.5
comp=Z,29nm,0.6s
TPUB Ta-pu 78.53 305 P **P** 00 16 07.4 -1.9
TPUB Ta-pu 78.53 305 P **P** 00 16 08.9 -0.4
SSLB Suanglung 78.61 305 P **P** 00 16 07.9 -1.8
SSLB IAmb IAmb 00 16 09.4
comp=Z,37nm,0.7s
SSLB Suanglung 78.61 305 P **P** 00 16 08.4 -1.3
KSI Kapahiang 78.69 272 P **P** 00 16 09.8 -0.7
YHNB Yeheng 78.86 306 IAmb IAmb 00 16 11.2
comp=Z,32nm,1.0s
YHNB Yeheng 78.86 306 P **P** 00 16 12.1 +1.0
AY03 Cochrane 78.86 138 P **P** 00 16 09.5 -1.3
AY03 IAmb IAmb 00 16 15.8
comp=Z,79nm,1.4s
TATO Taipei 78.97 307 P **P** 00 16 10.6 -1.0
TROLL Troll, Antarti 79.11 180 ⇑ P **P** 00 16 15.2 +3.3
comp=Z,5μm,0.6s
MASI Maura Aman, Be 79.24 272 P **P** 00 16 13.1 -0.4
SNAA Sanae 79.40 179 ⇑ P **P** 00 16 16.3 +3.0
comp=Z,882nm,0.7s
SNAA Sanae 79.40 179 P **P** 00 16 15.6 +2.2
SNAA Sanae 79.40 179 P **P** 00 16 16.4 +3.0
comp=Z,73nm,1.1s,baz=207,slow=7.4,SNR=176
comp=Z,73nm,1.1s
SNAA Sanae 79.40 179 *ce* P **P** 00 16 16.2 +2.8
SNAA pmax pmax
comp=Z,106nm,1.3s
VNA3 Neumayer Olymp 79.56 176 ⇑ P **P** 00 16 16.9 +2.8
comp=Z,234nm,0.7s
VNA2 Neumayer--Watz 79.99 177 ⇑ P **P** 00 16 19.7 +3.2
comp=Z,190nm,0.7s,baz=175,slow=4.1
COYC Coyhaique 80.03 137 P **P** 00 16 18.6 +1.4
VNA1 Neumayer--Stat 80.22 177 ⇑ P **P** 00 16 20.9 +3.3
comp=Z,243nm,1.2s
QZH Quanzhou 81.01 305 ⇑ *i* P **P** 00 16 22.5 0.0
QZH S **S** 00 26 09.9 -3.8
QZH sS **sS** 00 27 43.5 +1.5
QZH pmax pmax
comp=Z,110nm,0.9s
H03S2 Juan Fernandez 81.39 124 T T 01 46 45.0
baz=239,slow=74,SNR=12
H03S1 Juan Fernandez 81.41 124 T T 01 46 48.6
baz=239,slow=74,SNR=13
H03S3 Juan Fernandez 81.41 124 T T 01 46 39.2
baz=239,slow=74,SNR=12
LL02 Futaleuf 81.43 135 P **P** 00 16 24.8 +0.2
DLV Lat 81.49 289 P **P** 00 16 25.7 +0.1
DLV Lat 81.49 289 P **P** 00 16 26.4 +0.9
LL01 San Ignacio de 81.51 134 P **P** 00 16 25.4 +0.4
H03N3 Juan Fernandez 81.58 124 T T 01 46 46.7
baz=234,slow=74,SNR=13
H03N2 Juan Fernandez 81.58 123 T T 01 46 47.4
baz=234,slow=74,SNR=7.9
H03N1 Juan Fernandez 81.60 124 T T 01 46 45.1
baz=234,SNR=13
PDSI Padang 81.87 273 P **P** 00 16 25.7 -1.7
comp=Z,83nm,1.4s
BKNI Bangkinang 81.97 275 P **P** 00 16 28.0 +0.1
comp=Z,7μmcomp=Z,129nm,0.9s
PPI Padang Panjang 82.15 274 P **P** 00 16 28.5 -0.3
comp=Z,36nm,1.7s
NIKH Nikolski High 82.20 6 P **P** 00 16 26.8 -1.2
HKPS Hong Kong Po S 82.70 300 IAmb IAmb 00 16 33.4
comp=Z,100nm,1.2s
HKPS Hong Kong Po S 82.70 300 P **P** 00 16 32.6 +1.2
TJN Taejon 82.78 319 P **P** 00 16 31.3 -0.2
TJN Taejon 82.78 319 P **P** 00 16 32.1 +0.6
TJN Taejon 82.78 319 *i* P **P** 00 16 31.0 -0.5
LR03 Panguipulli 83.00 132 P **P** 00 16 34.1 +1.3
KSRS Korea Array 83.21 320 P **P** 00 16 34.0 +0.3
comp=Z,18nm,0.9s,baz=141,slow=5.6,SNR=58
comp=Z,18nm,0.9s
KSAR Wonju Array Be 83.23 320 P **P** 00 16 33.6 -0.2
KSAR Wonju Array Be 83.23 320 P **P** 00 16 33.6 -0.2
KS19 Wonju Array Si 83.28 320 IAmb IAmb 00 16 35.5
comp=Z,46nm,1.1s
MNSI Mandailing Nat 83.47 275 P **P** 00 16 34.1 -1.5
comp=Z,53nm,1.0s
YSS Yuzhno-Sakhali 83.50 334 P **P** 00 16 36.0 +1.1
YSS IAmb IAmb 00 16 37.6
comp=Z,72nm,1.0s
YSS Yuzhno-Sakhali 83.50 334 P **P** 00 16 35.1 +0.2
YSS Yuzhno-Sakhali 83.50 334 *eP* **P** 00 16 35.0 +0.2
YSS *eS* **SKSac** 00 26 34.6 -1.9
YSS pmax pmax
comp=Z,70nm,0.9s
YSS smax smax
comp=E,500nm,6.9s
YSS MLR MLR
comp=Z,200nm,13.0s
PLCA Paso Flores 83.57 133 P **P** 00 16 36.7 +0.9
PLCA IAmb IAmb 00 16 40.4
comp=Z,66nm,1.2s
PLCA Paso Flores 83.57 133 P **P** 00 16 39.1 +3.3
comp=Z,27nm,1.1s,baz=228,slow=5.5,SNR=43
PLCA pP **pwP** 00 17 28.9 -1.4
comp=Z,10nm,1.0s,baz=196,slow=6.4,SNR=5.3
comp=Z,27nm,1.1s
PLCA Paso Flores 83.57 133 *eP* **P** 00 16 38.7 +2.9
GZH Guangzhou 83.77 301 P **P** 00 16 37.6 +0.8
GZH sP **sP** 00 17 47.1 -2.9
GZH S **S** 00 26 42.4 +0.6
GZH pmax pmax
comp=Z,170nm,0.8s
EFI East Falkland 83.99 147 P **P** 00 16 40.8 +3.2
EFI East Falkland 83.99 147 *i* P **P** 00 16 38.5 +0.9
EFI pmax pmax
comp=Z,192nm,1.4s
IPM Ipoh 84.02 278 P **P** 00 16 38.8 +0.4
QIZ Qiongzhong 84.20 295 P **P** 00 16 40.0 +0.9
QIZ pP **pwP** 00 17 32.6 -0.7
QIZ PP **PP** 00 19 58.8 +1.8
QIZ S **S** 00 26 47.9 +1.6
QIZ SS **SS** 00 32 25.4 +4.2
QIZ pmax pmax
comp=Z,42nm,0.9s
QIZ pmax pmax
comp=Z,300nm,3.2s
PET Petropavlovsk 84.26 346 *eP* P 00 16 29.1 -9.4
PET *eS* **SKSac** 00 26 37.9 -3.2
PET *e*SS sS 00 28 08.9 -6.0
PET MLR MLR
comp=Z,100nm,17.0s
PET MLR MLR
comp=Z,200nm,13.0s
PEA0B Petropavlovsk- 84.54 346 IAmb IAmb 00 17 36.2
comp=Z,126nm,1.7s
PEA0B Petropavlovsk- 84.54 346 *ce* P **P** 00 16 41.0 +1.0
PETK Petropavlovsk- 84.54 346 P **P** 00 16 39.6 -0.4
PETK Petropavlovsk- 84.54 346 P **P** 00 16 39.3 -0.7
comp=Z,19nm,0.9s,baz=129,slow=5.7,SNR=27
PETK pP **pP** 00 17 29.4 -1.8
comp=Z,8.6nm,1.0s,baz=100,slow=6.2,SNR=3.3
comp=Z,19nm,0.9s
PETK Petropavlovsk- 84.54 346 P **P** 00 16 39.6 -0.4
KULM Kulim 84.74 279 P **P** 00 16 42.1 +0.1
KULM Kulim 84.74 279 P **P** 00 16 43.9 +1.9
TKX Tecate 84.83 48 P **P** 00 16 42.5 +0.5
RPSI Rantau Prapat 84.97 276 P **P** 00 16 42.2 -0.9
ELS Elsinore Mount 84.98 47 P **P** 00 16 42.2 -0.6
PSI Prapat 85.02 276 P **P** 00 16 42.2 -1.3
PSI pmax pmax
comp=Z,124nm,1.2s
SFX San Felipe 85.04 50 P **P** 00 16 43.2 +0.2
SFX IAmb IAmb 00 16 51.8
comp=Z,57nm,1.0s
MSHR Mys Shultsa 85.18 325 *i* P **P** 00 16 42.9 -0.5
BFSC Mount Baldy Ra 85.21 46 P **P** 00 16 44.4 +0.4
BFSC IAmb IAmb 00 17 37.8
comp=Z,38nm,1.4s
NJ2 Nanjing 85.22 311 ⇑ P **P** 00 16 44.4 +0.5
NJ2 pmax pmax
comp=Z,49nm,0.9s

TPO Tropico Hills 85.27 46 P **P** 00 16 44.4 +0.2
TPO IAmb IAmb 00 17 38.2
comp=Z,63nm,1.3s
BI02 San Fabin de 85.31 130 P **P** 00 16 44.1 -0.4
BI02 IAmb IAmb 00 16 48.7
comp=Z,51nm,1.3s
YUH Yuha Desert 85.32 49 P **P** 00 16 43.8 -0.6
VES Vestal, Richgr 85.36 44 IAmb IAmb 00 17 38.3
comp=Z,77nm,1.3s
GSI Gunungsitoli 85.47 274 P **P** 00 16 47.7 +2.1
GSI Gunungsitoli 85.47 274 P **P** 00 16 46.6 +1.0
KMPM Mount Pierce 85.56 38 P **P** 00 16 45.7 +0.2
KMPM **pP** 00 17 39.2 +2.0
PFO Pinyon Flats O 85.58 48 P **P** 00 16 45.8 0.0
PFO Pinyon Flats O 85.58 48 P **P** 00 16 45.8 0.0
PFO pmax pmax
comp=Z,25nm,1.2s
ISA Isabella, Lake 85.62 45 P **P** 00 16 46.6 +0.7
ISA IAmb IAmb 00 17 39.5
comp=Z,35nm,1.2s
ISA Isabella, Lake 85.62 45 P **P** 00 16 46.6 +0.7
ISA pmax pmax
comp=Z,35nm,1.2s
KMRM Mail Ridge 85.64 39 P **P** 00 16 44.9 -1.0
KMRM IAmb IAmb 00 17 41.7
comp=Z,80nm,1.4s
TSI Tuntungan 85.67 276 P **P** 00 16 46.0 -0.6
USA0B Ussuriysk Arra 85.97 327 IAmb IAmb 00 16 49.0
comp=Z,78nm,1.4s
USA0B Ussuriysk Arra 85.97 327 *i* P **P** 00 16 46.9 -0.4
USRK Ussuriysk Ar. 85.97 327 P **P** 00 16 47.6 +0.3
USRK Ussuriysk Ar. 85.97 327 P **P** 00 16 47.8 +0.5
comp=Z,9.9nm,0.8s,baz=128,slow=3.1,SNR=19
comp=Z,9.9nm,0.8s
O02D Mt. Diablo Mer 86.12 39 P **P** 00 16 48.9 +0.7
O02D IAmb IAmb 00 17 43.1
comp=Z,54nm,1.1s
BELC Belle Mtn. Jos 86.12 48 P **P** 00 16 49.2 +0.7
BELC IAmb IAmb 00 17 42.8
comp=Z,36nm,1.1s
WSHM Spangler Hills 86.19 46 P **P** 00 16 48.9 +0.2
CCCA Chr Cany lake 86.22 46 P **P** 00 16 46.8 -2.1
BC3 Big Chuckawall 86.26 48 P **P** 00 16 49.4 +0.3
BC3 IAmb IAmb 00 17 43.8
comp=Z,42nm,1.2s
CLC China Lake 86.26 45 P **P** 00 16 49.3 +0.2
CLC IAmb IAmb 00 17 43.2
comp=Z,39nm,1.1s
CLC China Lake 86.26 45 P **P** 00 16 49.3 +0.2
CLC pmax pmax
comp=Z,39nm,1.1s
AFDM Forest Hills D 86.31 41 P **P** 00 16 49.7 +0.6
CWC Cottonwood Cre 86.37 45 P **P** 00 16 49.5 -0.2
KCSI Kotacane, Aceh 86.37 276 P **P** 00 16 48.9 -1.2
comp=Z,28nm,0.8s
GSC Goldstone, Bar 86.43 46 IAmb IAmb 00 17 44.1
comp=Z,42nm,1.3s
IRM Iron Mountain 86.77 48 P **P** 00 16 52.9 +1.3
IRM IAmb IAmb 00 17 46.3
comp=Z,48nm,1.2s
TYV Tymovskoe 86.80 336 *e*P **P** 00 16 51.8 +0.6
TYV *e*S **S** 00 27 09.6 -0.7
TYV pmax pmax
comp=Z,100nm,4.0s
TYV pmax pmax
comp=Z,14nm,0.8s
TYV smax smax
comp=N,200nm,6.1s
TYV smax smax
comp=E,200nm,6.1s
QSM Queen of Sheba 86.81 46 IAmb IAmb 00 17 45.8
comp=Z,40nm,1.2s
WAKR Walker 86.90 42 IAmb IAmb 00 17 46.7
comp=Z,49nm,1.3s
CNSH ChangSha 87.00 305 P **P** 00 16 53.1 +0.4
MT09 Talagante 87.08 127 P **P** 00 16 53.4 +0.1
MPK Martis Peak 87.08 41 P **P** 00 16 53.7 +0.5
MPK IAmb IAmb 00 17 48.3
comp=Z,58nm,1.1s
FURC Furnace Creek, 87.14 45 P **P** 00 16 53.1 0.0
SHOC Shoshone, Teco 87.14 46 IAmb IAmb 00 17 47.5
comp=Z,58nm,1.1s
LHV Little Huntoon 87.29 43 IAmb IAmb 00 17 48.3
comp=Z,33nm,1.3s
MTPC Mountain Pass 87.34 47 P **P** 00 16 55.1 +0.7
MTPC IAmb IAmb 00 17 49.0
comp=Z,35nm,1.1s
WHN Wuhan 87.37 307 ⇑ *i* P **P** 00 16 54.9 +0.5
WHN pmax pmax
comp=Z,230nm,1.2s
K02D Willamette Mer 87.39 37 P **P** 00 16 54.5 +0.1
K02D IAmb IAmb 00 20 16.1
comp=Z,76nm,1.9s
GMN Gold Mountain 87.43 44 P **P** 00 16 55.0 +0.2
MDJ Mudanjiang 87.44 326 P **P** 00 16 54.8 +0.4
MDJ pmax pmax
comp=Z,20nm,0.9s
MDJ pmax pmax
comp=Z,340nm,3.6s
WCT Wildcat Mounta 87.49 45 P **P** 00 16 54.7 -0.3
NVAR Mina Array Bea 87.53 43 P **P** 00 16 55.8 +0.6
NVAR Mina Array Bea 87.53 43 P **P** 00 16 55.1 -0.1
comp=Z,3.2nm,0.8s,baz=224,slow=8.0,SNR=16
NVAR pP **pP** 00 17 45.8 -1.6
comp=Z,18nm,1.0s,baz=221,slow=8.1,SNR=11
NVAR PKKPbc **PKKPbc** 00 34 46.2 +2.1
comp=Z,1.0nm,0.6s,baz=93,slow=3.1,SNR=5.9
comp=Z,3.2nm,0.8s
SURA Surathani 87.54 282 P **P** 00 16 56.8 +1.2
LMEL Las Melosas 87.58 128 P **P** 00 16 55.8 0.0
LMEL IAmb IAmb 00 17 00.1
comp=Z,85nm,1.4s
MT13 San Alfonso 87.58 128 P **P** 00 16 55.4 -0.3
MT13 IAmb IAmb 00 17 00.1
comp=Z,75nm,1.4s
MZP Montezuma Peak 87.61 44 P **P** 00 16 56.6 +0.9
PEL Peldehue 87.64 127 P **P** 00 16 56.3 +0.4
PEL IAmb IAmb 00 16 60.0
comp=Z,56nm,0.9s
PEL Peldehue 87.64 127 P **P** 00 16 56.3 +0.4
PEL pmax pmax
comp=Z,56nm,0.9s
PAHR Pah Rah Range 87.73 41 P **P** 00 16 55.9 -0.2
L04D Klamath Falls 87.79 38 P **P** 00 16 56.2 -0.1
DL2 Dalian 87.84 317 P **P** 00 16 56.0 -0.4
DL2 S **S** 00 27 18.3 -2.4
DL2 pmax pmax
comp=Z,64nm,1.3s
DL2 pmax pmax
comp=Z,360nm,7.0s
V12A Nelson 87.94 47 P **P** 00 16 57.5 +0.4
VA03 San Esteban 87.94 127 P **P** 00 16 57.1 -0.3
TPH Tonopah 87.94 44 IAmb IAmb 00 17 51.4
comp=Z,46nm,1.3s
Y14A Wickenburg 88.04 49 P **P** 00 16 58.5 +0.9
Y14A IAmb IAmb 00 17 51.6
comp=Z,28nm,1.1s
W13A Hualapai Mount 88.17 48 P **P** 00 16 57.9 -0.5
W13A **pP** 00 17 51.3 +0.8
SHPR Sheep Range 88.23 46 P **P** 00 16 58.5 0.0
I03D Drain, OR 88.26 36 P **P** 00 16 57.7 -0.6
I03D IAmb IAmb 00 19 09.6
comp=Z,107nm,2.0s
PLK4 Peulik 4 88.41 12 IAmb IAmb 00 17 02.6
comp=Z,29nm,1.0s
CO02 Combarbal 88.48 125 P **P** 00 17 01.0 +1.0
TUC Tucson 88.56 52 P **P** 00 17 02.1 +2.0
TUC IAmb IAmb 00 17 54.8
comp=Z,34nm,1.2s
TUC Tucson 88.56 52 P **P** 00 17 02.1 +2.0
TUC pmax pmax
comp=Z,34nm,1.3s
SNY Shenyang 88.65 321 ⇓ P **P** 00 17 00.6 +0.5
SNY pmax pmax
comp=Z,33nm,1.0s
PRN Pahroc Range 88.86 45 IAmb IAmb 00 17 56.5
comp=Z,41nm,1.2s
K05A Summer Lake 88.90 38 IAmb IAmb 00 17 55.5
comp=Z,37nm,1.4s
TIA Tai'an 88.91 313 P **P** 00 17 02.3 +0.7
TIA pmax pmax
comp=Z,82nm,1.2s
CN2 Changchun 88.98 323 *e*P **P** 00 17 01.4 -0.2
CN2 *e*pP pwP 00 17 54.8 -1.6
CN2 *e*S **S** 00 27 28.0 -3.2

CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,11.0s
J05D Fort Rock, OR 89.09 38 P **P** **00 17 02.0 -0.5**
J05D pP **pP** **00 17 55.0 +0.5**
R11B Troy Canyon, C 89.11 44 P **P** **00 17 03.3 +0.6**
BNX BinXian 89.32 325 ⇓P **P** **00 17 03.1 -0.1**
BNX pP **pwP** **00 17 58.5 +0.4**
BNX S **S** **00 27 35.4 +1.1**
BNX pmax pmax
comp=Z,28nm,1.2s
X16A Lo Mia Camp, P 89.36 50 IAmb IAmb 00 17 58.6
comp=Z,23nm,1.1s
PINE Pine Mountain 89.59 38 P **P** **00 17 05.5 +0.7**
PINE IAmb IAmb 00 17 58.8
comp=Z,23nm,1.1s
I05D Terrebonne, OR 89.75 37 IAmb IAmb 00 17 59.1
comp=Z,54nm,1.7s
LCO Las Campanas 89.90 123 P **P** **00 17 09.5 +2.6**
LCO Las Campanas 89.90 123 P **P** **00 17 09.5 +2.6**
LCO pmax pmax
comp=Z,79nm,0.5s
ZON Zonda 89.93 126 P **P** **00 17 06.8 +0.1**
ZON IAmb IAmb 00 17 10.9
comp=Z,69nm,1.3s
ZON Zonda 89.93 126 P **P** **00 17 06.8 +0.1**
ZON pmax pmax
comp=Z,69nm,1.3s
O16K Kokwok River B 89.99 10 P **P** **00 17 06.0 0.0**
CCUT Cedar City 90.00 46 P **P** **00 17 07.4 +0.5**
U15A North Rim 90.01 47 P **P** **00 17 06.8 -0.2**
U15A IAmb IAmb 00 18 01.6
comp=Z,24nm,1.0s
KNB Kanab 90.02 47 P **P** **00 17 07.3 +0.4**
KNB IAmb IAmb 00 18 02.1
comp=Z,37nm,1.3s
KNB Kanab 90.02 47 P **P** **00 17 07.4 +0.4**
KNB pmax pmax
comp=Z,37nm,1.3s
WUAZ Wupatki 90.06 49 IAmb IAmb 00 18 02.3
comp=Z,45nm,1.4s
SLVN Son La 90.14 294 P **P** **00 17 08.4 +0.7**
SLVN Son La 90.14 294 P **P** **00 17 09.8 +2.1**
N15K Kwethluk River 90.25 9 P **P** **00 17 07.5 +0.3**
N15K IAmb IAmb 00 18 04.8
comp=Z,33nm,1.4s
HOOD Mount Hood Mea 90.26 36 P **P** **00 17 07.6 -0.2**
TRQA Tornquist 90.52 135 P **P** **00 17 11.7 +2.5**
TRQA IAmb IAmb 00 17 13.1
comp=Z,54nm,1.6s
TRQA Tornquist 90.52 135 P **P** **00 17 11.7 +2.5**
TRQA pmax pmax
comp=Z,54nm,1.6s
PKCU Pink Cliffs 90.60 47 IAmb IAmb 00 18 04.9
comp=Z,33nm,1.3s
J08A Circle Bar Ran 90.64 39 IAmb IAmb 00 18 04.1
comp=Z,32nm,1.5s
GYA Guiyang 90.68 300 ⇑P **P** **00 17 10.8 +0.6**
GYA pmax pmax
comp=Z,44nm,1.5s
G06A Carlson Farm, 90.73 37 IAmb IAmb 00 18 04.3
comp=Z,60nm,1.7s
LYN LuoYang 90.99 309 P **P** **00 17 12.5 +1.3**
LYN pP pwP 00 18 08.1 +1.9
LYN S **S** **00 27 48.8 -1.2**
LYN pmax pmax
comp=Z,83nm,0.8s
LYN pmax pmax
comp=Z,360nm,3.8s
MTPU Mount Pierson 91.04 46 IAmb IAmb 00 18 09.7
comp=Z,44nm,1.6s
HNS HongShan 91.17 313 ⇑P **P** **00 17 13.1 +1.1**
HNS S **S** **00 27 52.5 +1.0**
HNS pmax pmax
comp=Z,45nm,1.2s
ILSW Iliamna Southw 91.20 12 IAmb IAmb 00 18 05.7
comp=Z,20nm,1.1s
G08A Pilot Rock 91.65 37 IAmb IAmb 00 18 08.7
comp=Z,48nm,1.3s
VHRN Van Horn 91.78 56 IAmb IAmb 00 18 13.6
comp=Z,20nm,1.3s
BJI Beijing 91.83 316 P **P** **00 17 15.4 +0.4**
BJI pP **pwP** **00 18 09.0 -1.0**
BJI SKS **SKSac** **00 27 24.0 -3.1**
BJI S **S** **00 27 57.8 +0.5**
BJI pmax pmax
comp=Z,12nm,1.1s
TXAR Lajitas Array 91.96 57 P **P** **00 17 16.6 +0.5**
comp=Z,0.9nm,0.9s,baz=215,slow=6.1,SNR=8.6
TXAR pP **pP** **00 18 08.0 -0.4**
comp=Z,2.6nm,1.1s,baz=201,slow=6.7,SNR=4.7
TXAR PKKPbc **PKKPbc** **00 34 35.0 +2.7**
comp=Z,0.6nm,0.9s,baz=98,slow=2.0,SNR=3.9
comp=Z,0.9nm,0.9s
Y22A Socorro 92.12 52 IAmb IAmb 00 18 15.3
comp=Z,17nm,0.9s
K15K Wolf Creek Mou 92.13 8 IAmb IAmb 00 18 27.9
comp=Z,55nm,1.8s
MFID Camas Ranch 92.16 40 IAmb IAmb 00 18 11.0
comp=Z,21nm,1.3s
BMO Blue Mountains 92.25 39 IAmb IAmb 00 18 11.2
comp=Z,24nm,1.6s
HEH HeiHe 92.50 329 *e*P **P** **00 17 16.5 -1.3**
HEH pP **pwP** **00 18 11.3 -1.1**
HEH S **S** **00 28 03.8 +1.0**
HEH pmax pmax
comp=Z,8.0nm,1.3s
PB14 IPOC Station P 92.53 120 IAmb IAmb 00 17 22.5
comp=Z,26nm,1.1s
ALPN Alpine 92.54 57 IAmb IAmb 00 18 16.8
comp=Z,23nm,1.2s
CMAR Chiang Mai Arr 92.72 290 P **P** **00 17 20.4 +0.8**
CMAR Chiang Mai Arr 92.72 290 P **P** **00 17 21.1 +1.4**
comp=Z,7.8nm,0.8s,baz=142,slow=3.7,SNR=32
comp=Z,7.8nm,0.8s
SRU San Rafael Swe 92.72 46 IAmb IAmb 00 18 16.8
comp=Z,18nm,1.2s
TIY Taiyuan 92.82 312 P **P** **00 17 20.6 +0.8**
TIY S **S** **00 28 08.1 +1.7**
CHTO Chiang Mai 92.89 290 P **P** **00 17 22.1 +1.7**
CHTO Chiang Mai 92.89 290 P **P** **00 17 21.9 +1.5**
CHTO Chiang Mai 92.89 290 P **P** **00 17 22.1 +1.7**
CHTO pmax pmax
comp=Z,72nm,1.7s
HVU Hansel Valley 92.92 43 IAmb IAmb 00 18 14.7
comp=Z,40nm,1.5s
L19K White Mountain 92.96 11 P **P** **00 17 20.4 +0.6**
L19K IAmb IAmb 00 18 16.8
comp=Z,18nm,1.2s
KMI Kunming 93.00 297 ⇑P **P** **00 17 22.5 +1.4**
KMI pmax pmax
comp=Z,24nm,1.1s
KMI pmax pmax
comp=Z,170nm,4.1s
ANMO Albuquerque 93.03 51 *i* P **P** **00 17 18.0 -2.9**
ANMO pmax pmax
comp=Z,10.0nm,2.9s
PLID Pearl Lake 93.12 39 P **P** **00 17 21.3 +0.1**
PLID IAmb IAmb 00 18 15.2
comp=Z,56nm,1.7s
XAN Xi'an 93.13 307 ⇑P **P** **00 17 21.8 +0.6**
XAN pP pwP 00 18 17.8 +1.6
XAN S **S** **00 28 08.9 -0.3**
XAN pmax pmax
comp=Z,47nm,1.3s
XAN pmax pmax
comp=Z,260nm,8.2s
BSUT Blindstream Ca 93.41 45 IAmb IAmb 00 18 20.8
comp=Z,24nm,1.3s
XLT XiLinHaoTe 94.22 319 *e*P **P** **00 17 26.4 +0.4**
XLT pP pwP 00 18 22.5 +1.4
XLT SKS **SKSac** **00 27 36.0 -4.3**
XLT S **S** **00 28 13.9 -4.5**
XLT pmax pmax
comp=Z,12nm,1.1s
PZH PanZhiHua 94.47 298 P **P** **00 17 27.6 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s

CAST Castle Rocks 94.58 12 IAmb IAmb 00 18 55.0
comp=Z,18nm,1.6s
SEY Seymchan 94.70 347 P **P** **00 17 26.4 -1.3**
comp=Z,5.4nm,0.9s,baz=134,slow=5.1,SNR=6.9
comp=Z,5.4nm,0.9s
SEY Seymchan 94.70 347 *e*P **P** **00 17 24.6 -3.0**
SEY pmax pmax
comp=Z,7.0nm,1.2s
TRF Thorofare Moun 94.94 12 IAmb IAmb 00 18 47.1
comp=Z,26nm,1.7s
HHC Hu-ho-hao-te 95.16 314 *e*P **P** **00 17 31.6 +1.1**
HHC S **S** **00 28 23.9 -2.9**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,96nm,4.3s
RND Reindeer 95.17 13 IAmb IAmb 00 18 25.1
comp=Z,16nm,1.4s
CD2 Chengdu 95.18 302 P **P** **00 17 31.6 +0.9**
CD2 pmax pmax
comp=Z,40nm,1.1s
PDAR Pinedale Array 95.44 44 P **P** **00 17 30.9 -0.9**
comp=Z,0.7nm,0.8s,baz=207,slow=3.0,SNR=5.9
PDAR pP **pP** **00 18 23.5 -0.8**
comp=Z,3.6nm,1.0s,baz=219,slow=3.8,SNR=7.9
PDAR PP **PP** **00 21 23.6 -2.3**
comp=Z,2.8nm,1.2s,baz=235,slow=5.2,SNR=4.8
PDAR PKKPbc **PKKPbc** **00 34 24.7 +0.7**
comp=Z,1.2nm,0.7s,baz=88,slow=3.7,SNR=14
comp=Z,0.7nm,0.8s
YHL Hebgen Lake 95.69 41 IAmb IAmb 00 18 28.2
comp=Z,22nm,1.3s
BTO Baotou 96.00 313 *e*P **P** **00 17 36.8 +2.5**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,150nm,6.8s
TNCH TengChong 96.27 295 P **P** **00 17 36.6 +0.6**
TNCH pmax pmax
comp=Z,30nm,1.4s
TNCH pmax pmax
comp=Z,180nm,4.0s
ILAR Eielson Array 96.78 13 P **P** **00 17 35.5 -1.6**
comp=Z,0.5nm,0.6s,baz=223,slow=6.7,SNR=5.4
ILAR pP **pP** **00 18 28.7 -0.5**
comp=Z,1.1nm,0.9s,baz=223,slow=6.6,SNR=3.5
ILAR PKKPbc **PKKPbc** **00 34 20.2 -0.8**
comp=Z,0.6nm,0.6s,baz=38,slow=2.2,SNR=6.6
comp=Z,0.5nm,0.6s
J26L Joseph Creek 97.23 14 P Pdif 00 17 39.9 +0.6
LZH Lanzhou 97.75 307 *e*P Pdif 00 17 43.8 +1.4
LZH pP pwP 00 18 39.5 +2.1
LZH sP sP 00 18 59.4 +3.2
LZH pmax pmax
comp=Z,16nm,1.1s
LZH LR LR
comp=Z,150nm,16.7s
LZH LR LR
comp=Z,220nm,18.9s
LZH LR LR
comp=Z,290nm,21.0s
OTAV Otavalo 98.75 95 *e*P **P** **00 17 49.5 +1.8**
LPAZ La Paz 98.92 114 P **P** **00 17 49.8 +1.1**
comp=Z,1.0nm,0.6s,baz=289,slow=2.5,SNR=4.8
comp=Z,1.0nm,0.6s
LPAZ La Paz 98.92 114 *e*P **P** **00 17 50.6 +2.0**
ITQB Puqui 99.29 131 *e*P **Pdif** **00 17 52.7 +3.4**
CZSB Cruzeiro do Su 99.72 104 *e*P **Pdif** **00 17 53.9 +2.4**
CPSB Cacapava Do Su 100.85 134 *e*P **Pdif** **00 17 58.8 +2.5**
CPUP Villa Florida 100.98 128 PKKPbc PKKPbc 00 34 05.9 -1.4
comp=Z,0.4nm,0.6s,baz=282,slow=4.3,SNR=4.6
CPUP Villa Florida 100.98 128 *e*P **Pdif** **00 18 00.1 +3.2**
SONM Songino Array 102.03 318 P **Pdif** **00 18 00.1 -0.9**
comp=Z,1.4nm,0.8s,baz=139,slow=3.2,SNR=4.5
SONM PP **PP** **00 22 15.7 0.0**
comp=Z,0.5nm,0.4s,baz=111,slow=6.3,SNR=3.6
GTA Gaotai 102.15 308 *e*P **Pdif** **00 18 02.8 +1.0**
GTA S **Sdif** **00 29 18.8 -7.1**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA LR LR
comp=Z,200nm,12.3s
GTA LR LR
comp=Z,120nm,15.5s
GTA LR LR
comp=Z,170nm,16.7s
SJPY San Joaquin 102.69 128 *e*P **Pdif** **00 18 07.6 +3.0**
CNLB Canela 103.22 135 *e*P **Pdif** **00 18 09.9 +2.9**
MURT Porto Murtinho 103.76 125 *e*P **Pdif** **00 18 11.9 +2.6**
ITAB Concordia 103.85 132 *e*P **Pdif** **00 18 12.9 +3.3**
BBSD Serra de San D 104.28 119 *e*P **Pdif** **00 18 18.1 +6.4**
AMBA Amambai (Brazi 104.80 127 *e*P **Pdif** **00 18 17.1 +3.1**
PTGB Pitanga 105.61 130 *e*P **Pdif** **00 18 20.9 +3.2**
RPRD Ribas do Rio P 107.31 126 *e*P **Pdif** **00 18 28.2 +3.0**
ULM Lac du Bonnet 107.33 42 PKKPbc PKKPbc 00 33 48.4 -1.0
comp=Z,1.8nm,0.5s,baz=130,slow=7.9,SNR=5.4
RVDE Rio Verde (Bra 107.36 124 *e*P **Pdif** **00 18 27.3 +1.9**
POCN Pocone 107.56 121 *e*P **Pdif** **00 18 29.8 +3.5**
FRTB Fartura 108.21 131 *e*P **Pdif** **00 18 32.3 +3.1**
WMQ Urumqi 112.23 309 *e*PKP **PKiKP** **00 22 41.6 +0.1**
IPMB Ipameri, GO 112.81 128 *e*P **Pdif** **00 18 53.0 +3.2**
VAS01 Vassouras-RJ 112.90 135 *e*P **Pdif** **00 18 53.3 +3.3**
BDFB Brasilia 114.55 126 PKKPbc PKKPbc 00 33 27.6 +2.6
comp=Z,5.5nm,0.8s,baz=38,slow=5.9,SNR=7.0
ZSN Zaisan 115.23 312 *e*PKIKP **PKPdf** **00 22 46.9 -0.1**
ZSN Zaisan 115.23 312 *e*PKP **PKPdf** **00 22 47.0 -0.1**
DIAM Diamantina, MG 115.65 131 *e*P **PKiKP** **00 22 52.5 +3.5**
MK31 Makanchi Array 116.75 311 *c i*PKIKP **PKPdf** **00 22 49.5 -0.5**
MKAR Makanchi Array 116.75 311 **PKPdf** **00 22 49.2 -0.8**
MKAR Makanchi Array 116.75 311 PKP **PKPdf** **00 22 49.4 -0.7**
comp=Z,6.0nm,0.5s,baz=187,slow=0.6,SNR=84
MKAR PKKPbc **PKKPab** **00 33 19.7 -0.5**
comp=Z,1.0nm,0.5s,baz=270,slow=3.5,SNR=15
POGA Pongola 116.88 210 **PKiKP** **00 22 51.7 +0.7**
ZALV Zalesovo Beam 116.91 319 **PKPdf** **00 22 49.0 -1.0**
ZALV Zalesovo Beam 116.91 319 PKP **PKPdf** **00 22 49.0 -1.0**
comp=Z,3.5nm,0.5s,baz=134,slow=2.3,SNR=22
MAKZ Makanchi 116.96 311 ⇑PKIKP **PKPdf** **00 22 49.9 -0.5**
SHLS Shalkode 117.75 306 *e*PKIKP **PKPdf** **00 22 51.3 -0.9**
SHLS Shalkode 117.75 306 *e*PKP **PKPdf** **00 22 51.3 -0.9**
PDGK Podgornoye 117.78 306 PKIKP **PKPdf** **00 22 51.3 -1.0**
UZB Uzynbulak 118.06 306 *e*PKIKP **PKPdf** **00 22 52.3 -0.5**
UZB Uzynbulak 118.06 306 *e*PKP **PKPdf** **00 22 52.4 -0.4**
BOSA Boshof 118.29 204 PKP **PKiKP** **00 22 55.4 +1.5**
comp=Z,8.6nm,0.5s,baz=161,slow=2.4,SNR=54
SATY Saty 118.47 306 *e*PKIKP **PKPdf** **00 22 53.2 -0.4**
SATY *e* 00 24 12.0
SATY Saty 118.47 306 *e*PKP **PKPdf** **00 22 53.2 -0.4**
SATY *e*PP **PP** **00 24 12.1 -2.1**
KSH Kashi 119.35 301 PKP **PKiKP** **00 22 56.5 +1.0**
KSH PP **PP** **00 24 23.5 +3.3**
KSH AMB AMB
comp=Z,210nm,5.8s
MDOK Medeo 119.47 306 *e*PKIKP **PKPdf** **00 22 55.0 -0.5**
MDOK Medeo 119.47 306 *e*PKP **PKPdf** **00 22 55.1 -0.5**
TNSS Tian-Shan 119.51 305 *e*PKIKP **PKPdf** **00 22 55.0 -0.9**
TNSS Tian-Shan 119.51 305 *e*PKP **PKPdf** **00 22 55.1 -0.9**
AAA Alma-Ata 119.57 306 *e*PKIKP **PKPdf** **00 22 55.2 -0.4**
AAA Alma-Ata 119.57 306 *e*PKP **PKPdf** **00 22 55.3 -0.4**
NIL Nilore 119.86 294 **PKPdf** **00 22 56.1 -0.3**
NIL Nilore 119.86 294 PKIKP **PKPdf** **00 22 56.1 -0.3**
KURK Kurchatov 119.98 314 **PKPdf** **00 22 55.4 -0.6**
KURK Kurchatov 119.98 314 *c i*PKIKP **PKPdf** **00 22 55.4 -0.6**
KURK pmax pmax
comp=Z,24nm,0.8s
KURBB Kurchatov Arra 120.02 314 PKP **PKPdf** **00 22 55.1 -1.0**
comp=Z,16nm,0.6s,baz=109,slow=1.9,SNR=92
KURBB pPKP **pPKPdf** **00 23 51.2 +0.7**
comp=Z,1.1nm,0.5s,baz=122,slow=1.9,SNR=1.6
TKM2 Tokmak 2 120.45 305 P **PKPdf** **00 22 57.5 0.0**
SNR=9.3
KBK Karagaybulak 120.85 305 P **PKiKP** **00 22 58.6 +0.2**
SNR=5.2
CHMS Chumysh 121.07 305 P **PKPdf** **00 22 58.5 0.0**
SNR=17
UCH Uchtor 121.07 304 P **PKiKP** **00 22 59.6 +0.4**
SNR=19
AAK Ala-Archa 121.18 305 **PKPdf** **00 22 58.9 +0.1**
AAK Ala-Archa 121.18 305 P **PKPdf** **00 22 58.9 +0.1**
SNR=8.3
AAK Ala-Archa 121.18 305 PKIKP **PKPdf** **00 22 58.9 +0.1**
AAK Ala-Archa 121.18 305 *i* PKPdf **PKPdf** **00 22 59.1 +0.3**
SNR=9.0
SGDS Sogindy 121.25 305 *e*PKP **PKPdf** **00 22 58.5 -0.4**
USP Ospenovka 121.31 305 P **PKPdf** **00 22 58.7 -0.3**
SNR=20
EKS2 Erkin-Say 121.70 304 P **PKiKP** **00 23 00.1 +0.2**
SNR=15
BTLS Baital 121.97 307 *e*PKIKP **PKPdf** **00 22 59.7 -0.3**
BTLS *e* 00 24 35.9
BTLS Baital 121.97 307 *e*PKP **PKPdf** **00 22 59.8 -0.3**
BTLS *e*PP **PP** **00 24 35.9 -1.8**
PHPEN Phepeng 121.99 203 *i* P **PKiKP** **00 23 02.9 +1.7**
SKOMA Sekoma 122.50 204 *i* P **PKiKP** **00 23 04.0 +1.8**
MREMI Moremi 122.89 209 *i* P **PKiKP** **00 23 04.6 +1.6**
KBL Kabul 123.46 294 **PKiKP** **00 23 04.5 +0.7**
KBL Kabul 123.46 294 PKIKP **PKiKP** **00 23 04.5 +0.7**
DZA Taraz 123.51 304 *e*PKIKP **PKPdf** **00 23 02.7 -0.4**
DZA Taraz 123.51 304 *e*PKP **PKPdf** **00 23 02.8 -0.4**
BRZS Berezniki 123.63 313 *e*PKIKP **PKPdf** **00 23 02.6 -0.5**
BRZS Berezniki 123.63 313 *e*PKP **PKPdf** **00 23 02.6 -0.5**
KK31 Karatay Array 124.14 304 *i* PKIKP **PKPdf** **00 23 04.1 -0.2**
KKAR Karatay Array 124.14 304 **PKPdf** **00 23 04.1 -0.2**
KKAR Karatay Array 124.14 304 PKIKP **PKPdf** **00 23 04.1 -0.2**
BROLN Tlhalogang 124.24 209 *i* P **PKiKP** **00 23 06.4 +0.6**
IUG luzhnay 124.32 303 *e*PKIKP **PKPdf** **00 23 04.3 -0.5**
IUG luzhnay 124.32 303 *e*PKP **PKPdf** **00 23 04.4 -0.5**
SIMJ Simiganj 124.43 299 **PKiKP** **00 23 05.8 +0.3**
BRLS Borolday 124.61 304 *e*PKIKP **PKPdf** **00 23 05.1 -0.2**
BRLS Borolday 124.61 304 *e*PKP **PKPdf** **00 23 05.1 -0.2**
CHM Chimkent 124.67 303 *e*PKIKP **PKPdf** **00 23 05.1 -0.3**
CHM Chimkent 124.67 303 *e*PKP **PKPdf** **00 23 05.1 -0.3**
KOOLE Kule 125.17 201 *i* P **PKiKP** **00 23 09.2 +1.7**
SOOWA Sowa 125.19 208 *i* P **PKiKP** **00 23 09.2 +1.6**
BVA0 Borovoye Array 125.31 316 *i* PKIKP **PKPdf** **00 23 05.8 -0.4**
BVAR Borovoye Array 125.31 316 PKP **PKPdf** **00 23 05.5 -0.7**
comp=Z,28nm,0.6s,baz=128,slow=1.1,SNR=136
BRVK Borovoye 125.38 316 *ce*PKIKP **PKPdf** **00 23 06.4 +0.1**
BRVK pmax pmax
comp=Z,30nm,1.0s
CKGRV CKGRV 125.40 205 *i* P **PKiKP** **00 23 09.1 +1.0**
GRTLG Ghanzi 126.36 203 *i* P **PKiKP** **00 23 11.4 +1.4**
GMARE Gumare 127.84 205 *i* P **PKiKP** **00 23 14.6 +1.7**
KSANE Kasane 128.10 209 *i* P **PKiKP** **00 23 14.8 +1.3**
TSUM Tsumeb 129.53 200 **PKiKP** **00 23 17.1 +0.8**
SPA0 Spitsbergen Ar 130.44 356 *e*P **PKPdf** **00 23 14.8 -0.6**
SPITS Spitsbergen Ar 130.44 356 PKP **PKPdf** **00 23 15.0 -0.4**
comp=Z,8.1nm,0.6s,baz=122,slow=6.2,SNR=11
SPITS SKPbc **SKPbc** **00 26 17.9 -0.7**
comp=Z,16nm,0.9s,baz=177,slow=2.9,SNR=9.3
SPITS Spitsbergen Ar 130.44 356 PKIKP **PKPdf** **00 23 15.7 +0.3**
SPB2 Spitsbergen Ar 130.45 356 **PKPdf** **00 23 15.6 +0.3**
SVE Sverdlovsk 130.75 322 *e*PKIKP **PKPdf** **00 23 16.6 +0.1**
SVE pmax pmax
comp=Z,19nm,1.0s
SOHO SOHO 131.07 278 *i* PKPdf **PKPdf** **00 23 18.0 -0.1**
SNR=13
HATD Hatta, Dubai 131.63 278 *i* PKPdf **PKPdf** **00 23 19.0 -0.2**
SNR=7.3
ASHO Ashiyiah 131.65 278 *i* PKPdf **PKPdf** **00 23 19.2 -0.1**
SNR=7.4
ALNE Al Ain 131.72 277 *i* PKPdf **PKPdf** **00 23 19.2 -0.1**
SNR=10.0
MSFE Esma-Masafi 131.77 279 PKPdf **PKPdf** **00 23 19.7 +0.3**
AB31 Akbulak array 131.87 312 *i* PKIKP **PKPdf** **00 23 18.8 0.0**
ABKAR Akbulak array 131.87 312 **PKPdf** **00 23 18.7 -0.1**
ARTI Arti 132.05 321 **PKPdf** **00 23 18.4 -0.6**
ARTI Arti 132.05 321 *i* PKIKP **PKPdf** **00 23 18.9 0.0**
ARTI SSS SSS 00 48 00.8
NAZ Nazwa, Dubai 132.09 278 PKPdf **PKPdf** **00 23 20.1 +0.1**
ASUD Al Ashush, Dub 132.26 278 PKPdf **PKPdf** **00 23 20.2 -0.1**
AKTO Aktyubinsk 133.04 313 PKIKP **PKPdf** **00 23 20.9 -0.1**
MZR Muzera 133.36 275 *i* PKiKP **PKiKP** **00 23 23.9 +0.2**
SNR=12
KMBO Kilima Mbogo 134.57 235 PKP **PKiKP** **00 23 26.5 -0.3**
comp=Z,2.8nm,0.4s,baz=211,slow=14,SNR=6.2
KIRV Kirov 136.13 326 *ce*PKIKP **PKPdf** **00 23 27.1 +0.6**
ARA0 ARCESS Array S 137.32 348 *e*P **PKPdf** **00 23 26.0 -2.5**
ARCES ARCESS Array B 137.32 348 **PKPdf** **00 23 26.1 -2.3**
ARCES ARCESS Array B 137.32 348 PKhKP PKPpre 00 23 18.4
comp=Z,1.9nm,0.7s,baz=112,slow=1.3,SNR=17
ARCES PKP **PKPdf** **00 23 26.0 -2.4**
comp=Z,3.9nm,0.8s,baz=46,slow=1.7,SNR=4.3
ARCES SKPbc **SKPbc** **00 26 40.9 -0.6**
comp=Z,8.4nm,1.0s,baz=349,slow=3.1,SNR=5.8
KTK1 Kautokeino 138.18 349 *e*P **PKPdf** **00 23 31.0 +0.9**
TRO Tromso 138.28 351 *e*P **PKPdf** **00 23 29.0 -1.2**
H10S3 ASCENSION HYDR 138.97 155 T T 02 59 51.9
baz=16,slow=74,SNR=11
H10S2 ASCENSION HYDR 138.97 155 T T 02 59 50.8
baz=204,slow=74,SNR=9.6
KLMR Klimovskoe 139.53 332 *e*PKIKP **PKPdf** **00 23 31.4 -1.3**
KLMR *e* 00 24 24.9
KLMR pmax pmax
comp=Z,25nm,1.4s
H10N3 ASCENSION HYDR 140.06 155 T T 03 01 02.7
baz=203,slow=76,SNR=26
H10N1 ASCENSION HYDR 140.06 155 T T 03 00 46.9
baz=203,slow=76,SNR=30
H10N2 ASCENSION HYDR 140.07 155 T T 03 00 44.2
baz=203,slow=76,SNR=28
RAYN Ar Rayn 140.49 272 PKPpre 00 23 28.6
RAYN Ar Rayn 140.49 272 PKHKP PKPpre 00 23 28.6
RAYN Ar Rayn 140.49 272 *i* PKPdf PKPpre 00 23 29.1
SNR=6.7
AKT Akhty 140.88 301 *e*PKHKP PKPpre 00 23 30.1
AKT pmax pmax
comp=Z,19nm,0.8s
VRH Novokhopyorsk 142.94 318 *e*PKHKP PKPpre 00 23 35.0
VRH pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 143.14 326 *e*PKHKP PKPpre 00 23 32.3
MOS *e* 00 26 51.0
GNI Garni 143.23 299 **PKPdf** **00 23 39.8 -0.4**
GNI Garni 143.23 299 PKIKP **PKPdf** **00 23 39.8 -0.4**
GOF Gofitskoye 143.81 307 *ce*PKIKP PKPab 00 23 38.8 +0.3
FINES FINESS Array B 143.88 340 PKPab 00 23 37.6 -0.5
FINES FINESS Array B 143.88 340 PKP PKPab 00 23 37.9 -0.2
comp=Z,28nm,0.6s,baz=54,slow=2.9,SNR=212
LPSR Galich'ya Gora 143.97 321 *e*PKHKP PKPpre 00 23 35.6
LPSR pmax pmax
comp=Z,30nm,1.0s
OBN Obninsk 143.98 326 PKPab 00 23 38.6 -0.1
OBN Obninsk 143.98 326 *c i*PKIKP PKPab 00 23 38.3 -0.4
OBN *e* 00 24 33.8
OBN *i* 00 26 54.2
OBN *e*SS SS 00 45 23.9 +0.8
OBN pmax pmax
comp=Z,120nm,2.0s
NSS Namsos 144.01 352 *e*P PKPab 00 23 37.9 -0.7
KBZ Khabaz 144.17 305 PKP PKPbc 00 23 40.3 0.0
comp=Z,12nm,0.8s,baz=79,slow=3.6,SNR=27
KBZ Khabaz 144.17 305 *ce*PKIKP PKPbc 00 23 40.6 +0.4
VORR Voronezh 144.21 320 *e*PKHKP PKPpre 00 23 36.9
VORR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 144.28 306 **PKPab** **00 23 40.5 +0.1**
KIV Kislovodsk 144.28 306 ⇑P PKPbc 00 23 40.8 +0.1
KIV Kislovodsk 144.28 306 *i* PKIKP PKPbc 00 23 41.1 +0.4
KIV *e* 00 26 57.2
KIV *e*SS SS 00 45 19.4 -8.6
KIV Kislovodsk 144.28 306 *i* PKPab PKPbc 00 23 41.0 +0.2
SNR=9.6
VSR Storozhevoye 144.42 319 *e*PKHKP PKPpre 00 23 36.9
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 144.44 318 *e*PKHKP PKPpre 00 23 38.0
VORD pmax pmax
comp=Z,10.0nm,0.9s
ERBR Yeremizino-Bor 145.42 309 *c i*PKP2 **PKPab** **00 23 44.8 +0.2**
ERBR *e* 00 30 31.0
ERBR pmax pmax
comp=Z,591nm,1.5s
MOL Molde 146.36 355 *e*P **PKPbc** **00 23 45.7 -0.6**
SOC Sochi 146.46 306 *e*PKP2 **PKPdf** **00 23 46.5 +1.1**
SOC *e* 00 27 19.9
SOC *e*PPP PPP 00 30 23.4
SOC *e*SS SS 00 45 46.5 -6.0
SOC *e*SSS SSS 00 51 23.6
SOC pmax pmax
comp=Z,31nm,0.6s
DOMB Dombas 146.75 354 *e*P **PKPbc** **00 23 46.8 -0.7**
FOO Floro 147.48 357 *e*P **PKPbc** **00 23 49.0 -0.4**
NB2 NORSAR Subarra 147.48 351 PKP **PKPbc** **00 23 48.7 -0.8**
comp=Z,22nm,0.6s,baz=13,slow=2.9
NB2 NORSAR Subarra 147.48 351 PKPab **PKPbc** **00 23 48.7 -0.8**
baz=13,slow=2.9
NOA NORSAR Array B 147.48 351 PKPbc **PKPbc** **00 23 48.8 -0.7**

comp=Z,17nm,0.6s,baz=15,slow=4.5,SNR=60
NC602 NORSAR Array S 147.73 351 *e*P **PKPbc 00 23 49.3 -0.9**
ANN Anapa 147.74 309 *i* PKP2 **PKPbc 00 23 50.6 -0.1**
ANN pmax pmax
comp=Z,46nm,0.6s
HFS Hagfors 147.97 349 PKP **PKPdf 00 23 46.4 -1.0**
comp=Z,37nm,0.8s,baz=201,slow=7.9,SNR=38
HFS PKPbc **PKPbc 00 23 49.8 -1.0**
comp=Z,39nm,0.8s,baz=39,slow=0.9,SNR=62
SKAR Skarslia 148.16 354 *e*P **PKPbc 00 23 51.5 +0.2**
MNK Minsk 148.36 331 *i* PKP2 **PKPbc 00 23 52.2 +0.2**
MNK *i* 00 30 32.9
MNK *i* PPP PPP 00 30 43.2
MNK *i* SS SS 00 46 12.4 0.0
MNK *i* SSS SSS 00 51 50.3
MNK pmax pmax
comp=N,14nm,1.0s
MNK pmax pmax
comp=Z,137nm,0.9s
MNK pmax pmax
comp=E,36nm,0.9s
MNK MLR MLR
comp=Z,97nm,20.0s
MNK MLR MLR
comp=N,56nm,20.0s
ASK Askoy 148.58 357 *e*P **PKPbc 00 23 52.4 0.0**
OSL Oslo 148.61 351 *e*P **PKPbc 00 23 52.0 -0.4**
BER Bergen 148.68 356 *e*P **PKPbc 00 23 52.6 0.0**
KONO Kongsberg 149.03 352 **PKPbc 00 23 53.5 0.0**
KONO Kongsberg 149.03 352 ⇓PKIKP **PKPdf 00 23 51.0 +1.8**
KONO Kongsberg 149.03 352 *e*P **PKPbc 00 23 53.1 -0.4**
ODD1 Odda 149.06 355 *e*P **PKPbc 00 23 53.7 0.0**
STRU Stroemstad 149.42 350 *i* P **PKPbc 00 23 54.0 -0.4**
BLS5 Blasjo 149.56 355 *e*P **PKPbc 00 23 54.9 0.0**
SIM Simferopol' 149.93 311 *e*PKP2 **PKiKP 00 23 56.8 -0.2**
SIM pmax pmax
comp=Z,55nm,0.8s
AKASG Malin Array Be 150.13 324 **PKPdf 00 23 50.9 -0.3**
AKASG Malin Array Be 150.13 324 PKP **PKPdf 00 23 50.1 -1.0**
comp=Z,40nm,0.4s,baz=48,slow=2.8,SNR=25
AKASG PKPbc **PKPbc 00 23 56.2 -0.2**
comp=Z,38nm,0.4s,baz=49,slow=3.5,SNR=77
AKASG Malin Array Be 150.13 324 PKIKP **PKPdf 00 23 50.9 -0.3**
KIEV Kiev 150.14 324 **PKPdf 00 23 51.4 +0.2**
KIEV Kiev 150.14 324 ⇑P **PKPbc 00 23 56.5 +0.1**
KIEV Kiev 150.14 324 PKHKP PKPpre 00 23 51.4
KIEV Kiev 150.14 324 *i* PKPbc **PKPbc 00 23 56.4 -0.1**
SNR=43
TJOU Tjoern 150.31 349 *i* P **PKPbc 00 23 56.0 -0.6**
BORU Boraas 150.49 348 *i* P **PKPbc 00 23 56.7 -0.4**
HOMB Homborsund 150.51 353 *e*P **PKiKP 00 23 57.5 -0.2**
HOMB Homborsund 150.51 353 *i* P **PKPbc 00 23 57.3 +0.2**
SNART Snartemo 150.57 354 *e*P **PKPbc 00 23 57.5 +0.2**
SNART Snartemo 150.57 354 *i* P **PKPbc 00 23 57.4 +0.2**
SUW Suwalki 150.64 334 *e*PKP **PKPbc 00 23 57.5 0.0**
ONAU Onsala 150.87 349 *i* P **PKPbc 00 23 57.2 -0.7**
MMAI Mount Meron Ar 150.93 286 PKPbc **PKiKP 00 24 00.5 +1.0**
comp=Z,56nm,0.6s,baz=79,slow=4.3,SNR=88
BZK Bezkurt 150.93 300 ⇑P **PKiKP 00 23 59.6 +0.5**
BLEU Blekinge 151.06 344 *i* P **PKPbc 00 23 57.8 -0.6**
FABU Falkenberg 151.10 347 *i* P **PKPbc 00 23 58.2 -0.3**
DEL Delary 151.36 346 *i* P **PKPbc 00 23 59.4 +0.3**
KIRS Kirsehir-Merke 151.64 299 ⇑P **PKiKP 00 24 01.1 +0.3**
BRTR Keskin Array B 151.74 300 **PKPdf 00 23 53.2 -1.0**
BRTR Keskin Array B 151.74 300 PKP **PKPdf 00 23 54.0 -0.2**
comp=Z,16nm,0.5s,baz=142,slow=5.0,SNR=33
BRTR PKPbc **PKPbc 00 24 00.6 -0.2**
comp=Z,16nm,0.5s,baz=141,slow=4.8,SNR=34
BJUU Bjuv 151.90 346 *i* P **PKPbc 00 24 00.5 +0.1**
PURM Purcari 151.98 316 ⇓P **PKPbc 00 23 58.0 -2.8**
SORM Soroca 152.05 320 ⇑P **PKPdf 00 23 56.4 +2.2**
SORM Soroca 152.05 320 ⇑PKIKP **PKPdf 00 23 56.4 +2.2**
MUD Monsted U'grnd 152.20 351 **PKiKP 00 24 02.3 +1.0**
LUNU Lund 152.23 346 *i* P **PKiKP 00 24 01.4 +0.1**
ANTO Ankara 152.34 301 **PKiKP 00 24 02.7 +0.5**
ANTO Ankara 152.34 301 ⇑P **PKiKP 00 24 02.9 +0.6**
ANTO Ankara 152.34 301 PKIKP **PKiKP 00 24 02.7 +0.5**
BSD Bornholm Skovb 152.36 344 *i* P **PKPbc 00 24 01.2 -0.2**
MILM Milestii Mici 152.43 317 ⇑*i* PKP **PKPbc 00 24 01.0 -0.8**
comp=Z,70nm,0.5s
MILM *ep*PKP **pPKPbc 00 24 56.0 0.0**
MILM Milestii Mici 152.43 317 ⇑P **PKPbc 00 23 59.0 -2.9**
MILM Milestii Mici 152.43 317 ⇑PKIKP **PKPbc 00 23 59.0 -2.9**
R9F13 Warsaw-Wawer 152.80 333 *e*PKPdf **PKPdf 00 23 56.4 +1.2**
R9F13 *e*PKiKP **PKiKP 00 24 02.9 +0.2**
R9F13 *e*PP **PP 00 27 50.7 +2.7**
SSRD Sdr. Stenderup 153.08 350 *i* P **PKPbc 00 24 00.1 -2.9**
BEL Belsk 153.24 333 *e*PKP **PKiKP 00 24 03.7 +0.1**
TLCR 153.27 314 ⇓P **PKiKP 00 24 04.3 +0.4**
TLCR 153.27 314 ⇓PKIKP **PKiKP 00 24 05.3 +0.4**
GKP Gorka Klasztor 153.33 339 *e*PKP **PKiKP 00 24 04.2 +0.5**
EKA Eskdalemuir Ar 153.61 6 PKPbc **PKPbc 00 24 02.8 -1.4**
comp=Z,2.9nm,0.9s,baz=15,slow=4.6,SNR=4.5
EKA PKPab **PKPab 00 24 16.9 -0.8**
comp=Z,4.1nm,0.7s,baz=333,slow=3.0,SNR=6.7
TPGR Topolog 153.67 314 ⇓P **PKiKP 00 24 05.5 +0.8**
CFR Carcaliu 153.69 315 ⇓P **PKiKP 00 24 04.9 +0.2**
CFR Carcaliu 153.69 315 ⇓PKIKP **PKiKP 00 24 04.9 +0.2**
GHRR 153.70 317 ⇓P **PKiKP 00 24 06.2 +1.4**
TESR Tescani 153.91 318 ⇑P **PKiKP 00 24 05.4 +0.2**
KWP Kalwaria Pacla 154.03 328 *e*PKP **PKPbc 00 24 05.5 +0.1**
BURAR Bucovina Array 154.08 322 **PKPdf 00 23 57.9 +0.6**
BURAR Bucovina Array 154.08 322 ⇓P **PKiKP 00 24 05.9 +0.3**
BURAR Bucovina Array 154.08 322 ⇓PKIKP **PKiKP 00 24 05.9 +0.3**
ONER Baraj Valea Uz 154.15 318 ⇑P **PKiKP 00 24 06.5 +0.8**
PLOR Plostina 154.26 317 ⇓P **PKPbc 00 24 06.0 +0.1**
PLOR Plostina 154.26 317 ⇓PKIKP **PKPbc 00 24 06.0 +0.1**
KOLS Kolonicke sedl 154.72 327 *e*PKIKP **PKPdf 00 24 00.2 +2.2**
KOLS *e* 00 24 22.7
KOLS Kolonicke sedl 154.72 327 *e*PKP **PKPdf 00 24 00.2 +2.2**
KOLS *e* 00 24 08.1
KOLS *e* 00 24 22.7
STHS Stebnicka Huta 154.86 329 *e*PKIKP **PKiKP 00 24 08.2 +1.1**
STHS *e* 00 24 22.7
STHS Stebnicka Huta 154.86 329 *e*PKP **PKiKP 00 24 08.2 +1.1**
STHS *e* 00 24 22.7
OJC Ojcow 154.88 332 *e*PKP **PKPdf 00 23 58.4 +0.2**
DOPR Dopca 154.94 319 ⇑P **PKiKP 00 24 08.0 +0.7**
GORT1 Trebel 155.15 346 *e*PKPdf **PKPdf 00 23 58.7 +0.4**
baz=23,slow=1.1
NIE Niedzica 155.28 330 *e*PKP **PKPdf 00 23 59.1 +0.3**
KSP Ksiaz 155.70 337 *e*PKP **PKPdf 00 23 59.7 +0.4**
ARR Arges 155.71 318 ⇑P **PKPdf 00 24 00.3 +0.7**
FLTG Flechtingen 155.78 346 *e*PKPdf **PKPdf 00 23 59.0 -0.3**
baz=23,slow=1.1
FLTG *e*PKPab **PKPab 00 24 26.0 -0.9**
baz=19,slow=4.3
LANS Liptovska Anna 155.84 331 *e*PKIKP **PKPdf 00 23 59.3 -0.3**
LANS Liptovska Anna 155.84 331 *e*PKP **PKPdf 00 23 59.3 -0.3**
LANS *e* 00 24 10.1
LANS *e* 00 24 28.1
STEB Steborice 155.91 334 *e*PKPDF **PKPdf 00 23 59.2 -0.4**
STEB *e*PKPAB **PKPab 00 24 27.8 +0.1**
SZH Strazhitsa 155.97 312 P **PKPab 00 24 28.8 +0.6**
OSTC Ostas 155.97 337 *e*PKIKP **PKPdf 00 24 00.2 +0.5**
OSTC Ostas 155.97 337 *e*PKPDF **PKPdf 00 24 00.2 +0.5**
OSTC *ex* x 00 24 10.3
OSTC *e*PKPAB **PKPab 00 24 28.8 +0.9**
CHVC Chvalec 156.00 337 *e*PKP2 **PKPab 00 24 28.0 -0.1**
CHVC Chvalec 156.00 337 *e*PKPAB **PKPab 00 24 28.0 -0.1**
UPC Upice 156.08 337 *e*PKP2 **PKPab 00 24 28.3 -0.1**
UPC Upice 156.08 337 *e*PKPAB **PKPab 00 24 28.3 -0.1**
DPC Dobruska-Polom 156.10 336 *e*PKIKP **PKPdf 00 24 00.0 +0.1**
DPC *e* 00 24 28.5
DPC Dobruska-Polom 156.10 336 *e*PKPDF **PKPdf 00 24 00.0 +0.1**
DPC *ex* x 00 24 10.5
DPC *e*PKPAB **PKPab 00 24 28.5 -0.1**
MORC Moravsky Berou 156.13 334 *e*PKP **PKPdf 00 23 59.8 -0.2**
MORC *e* 00 24 28.3
MORC *e* 00 25 21.8
KRLC Kraliky 156.17 335 *e*PKP2 **PKPab 00 24 28.6 -0.2**
KRLC Kraliky 156.17 335 *e*PKPAB **PKPab 00 24 28.6 -0.2**
CLL Collm 156.30 342 ⇓*i* PKIKP **PKPdf 00 24 00.1 +0.1**
CLL *i* 00 24 29.4
CLL *i* 00 25 21.4
CLL pmax pmax
comp=Z,13nm,1.4s
CLL pmax pmax
comp=Z,23nm,1.0s
CLL Collm 156.30 342 *e*PKPab **PKPab 00 24 28.8 -0.4**
baz=19,slow=4.3
BRG Berggiesshubel 156.42 340 *e*PKPdf **PKPdf 00 24 01.1 +0.9**
baz=23,slow=1.1
BRG *e*PKPab **PKPab 00 24 30.0 +0.1**
baz=19,slow=4.3
BRG *ep*PKPab **pPKPab 00 25 23.5 +1.4**
CLZ Clausthal 156.43 346 *e*PKPdf **PKPdf 00 24 00.4 +0.1**
baz=23,slow=1.1
CLZ *e*PKPab **PKPab 00 24 29.1 -0.8**
baz=19,slow=4.3
IBBN Ibbenburen 156.43 351 *e*PKPdf **PKPdf 00 23 59.5 -0.6**
baz=23,slow=1.1
IBBN *e*PKPab **PKPab 00 24 28.6 -1.2**
baz=19,slow=4.3
VYHS Vyhne 156.61 330 *e*PKIKP PKPdf 00 24 11.1 +11
NEUB Neuenburg 156.70 344 *e*PKPab **PKPab 00 24 30.8 -0.2**
baz=19,slow=4.3
GTTG Gottingen 156.79 347 *e*PKPab **PKPab 00 24 30.7 -0.6**
baz=19,slow=4.3
DBIC Dimbokro 156.80 163 PKP **PKPdf 00 24 02.4 +0.6**
comp=Z,14nm,1.1s,baz=129,slow=0.5,SNR=5.4
JAVC Velka Javorina 156.81 332 *e*PKP **PKPdf 00 24 01.4 +0.5**
JAVC *e* 00 24 32.4
JAVC *e* 00 25 25.9
VRAC Vranov 156.87 335 *e*PKP **PKPdf 00 24 00.6 -0.3**
VRAC *e* 00 24 31.8
VRAC *e* 00 25 25.1
PRA Prague 156.97 339 *e*PKP2 **PKPab 00 24 32.9 +0.7**
PRA Prague 156.97 339 *e*PKPAB **PKPab 00 24 32.9 +0.7**
PRU Pruhonice 157.01 338 *e*PKP2 **PKPab 00 24 32.8 +0.4**
PRU Pruhonice 157.01 338 *e*PKPAB **PKPab 00 24 32.8 +0.4**
KDZ Kurdzhali 157.12 309 P **PKPab 00 24 32.2 -1.0**
KRUC Moravsky 157.15 334 *e*PKP **PKPdf 00 24 01.0 -0.2**
KRUC *e* 00 24 32.8
KRUC *e* 00 25 25.7
TANN Tannenbergstha 157.25 342 *e*PKPdf **PKPdf 00 24 01.0 -0.4**
baz=23,slow=1.1
TANN *e*PKPab **PKPab 00 24 32.4 -1.1**
baz=19,slow=4.3
TANN *ep*PKPab **pPKPab 00 25 26.0 +0.2**
MOX Moxa 157.26 343 *e*PKPdf **PKPdf 00 24 00.8 -0.6**
baz=23,slow=1.1
MOX *e*PKPab **PKPab 00 24 33.1 -0.3**
baz=19,slow=4.3
MOX *e*L L 01 32 42.0
comp=Z,68nm,18.1s
BZS Buzias 157.27 322 ⇓P **PKPdf 00 24 01.4 -0.1**
BZS Buzias 157.27 322 ⇓PKIKP **PKPdf 00 24 01.4 -0.1**
PLN Plauen 157.27 342 *e*PKPdf **PKPdf 00 24 01.2 -0.2**
baz=23,slow=1.1
PLN *e*PKPab **PKPab 00 24 32.4 -1.1**
baz=19,slow=4.3
PLN *ep*PKPab **pPKPab 00 25 26.0 +0.2**
BUG Bochum--Univer 157.35 351 *e*PKPdf **PKPdf 00 24 01.3 0.0**
baz=23,slow=1.1
MODS Modra-Piesok 157.36 332 *e*PKIKP **PKPdf 00 23 59.2 -2.3**
MODS Modra-Piesok 157.36 332 *e*PKP **PKPdf 00 23 59.2 -2.3**
MODS *e* 00 24 09.8
MODS *e* 00 24 30.6
KASTN Kahler Asten 157.40 349 *e*PKPdf **PKPdf 00 24 01.5 0.0**
baz=23,slow=1.1
ZVC Zvikov 157.60 338 *e*PKPAB **PKPab 00 24 35.7 +0.7**
MANZ Manzenberg 157.74 342 *e*PKPdf **PKPdf 00 24 01.6 -0.3**
baz=23,slow=1.1
MANZ *ep*PKPab **pPKPab 00 25 27.9 0.0**
ROTZ Rotzenmuhle 157.91 342 *e*PKPab **PKPab 00 24 36.6 +0.3**
baz=19,slow=4.3
ROTZ *ep*PKPab **pPKPab 00 25 29.4 +0.8**
PLNA Plana 157.99 313 P **PKPab 00 24 38.1 +1.0**
VTS Vitosha 158.04 313 P **PKPab 00 24 38.3 +0.9**
KHC Kasperske Hory 158.07 339 *e*PKIKP **PKPdf 00 24 02.4 0.0**
KHC *e* 00 24 36.4
KHC Kasperske Hory 158.07 339 *e*PKPDF **PKPdf 00 24 02.4 0.0**
KHC *ex* x 00 24 14.1
KHC *e*PKPAB **PKPab 00 24 36.4 -0.6**
KHC *ex* x 00 25 54.3
CKRC Cesky Krumlov 158.10 337 *e*PKPAB **PKPab 00 24 36.6 -0.6**
MMB Musomishta 158.22 310 P **PKPab 00 24 38.2 +0.1**
GRF Grafenberg Arr 158.24 343 *ep*PKPab **pPKPab 00 25 30.7 +0.6**
GRF *e*L L 01 20 10.2
comp=Z,61nm,21.5s
WET Wettzell 158.27 340 *e*PKPdf **PKPdf 00 24 02.4 -0.3**
baz=23,slow=1.1
WET *e*PKPab **PKPab 00 24 37.5 -0.4**
baz=19,slow=4.3
GEC2 GERESS Array S 158.28 338 *e*PKPdf **PKPdf 00 24 01.6 -1.1**
baz=23,slow=1.1
GEC2 *e*PKPab **PKPab 00 24 37.9 -0.2**
baz=19,slow=4.3
GERES GERESS Array B 158.28 338 **PKPdf 00 24 01.6 -1.1**
GERES **PKPab 00 24 37.0 -1.0**
GERES GERESS Array B 158.28 338 PKP **PKPdf 00 24 01.0 -1.8**
comp=Z,3.0nm,1.0s,baz=90,slow=0.4,SNR=18
GERES PKPab **PKPab 00 24 36.7 -1.4**
comp=Z,3.0nm,0.7s,baz=35,slow=4.9,SNR=12
CONA Conrad Observa 158.28 334 *e*PKP **PKPdf 00 24 02.0 -0.7**
comp=Z,2.6nm,0.8s
CONA *e*PKP **PKPab 00 24 38.0 -0.1**
comp=Z,4.4nm,0.8s
CONA *ep*PKP **pPKPab 00 25 30.9 +0.6**
comp=Z,11nm,1.3s
RONA Rosalia, Austr 158.29 333 *e*PKP **PKPdf 00 24 02.0 -0.8**
comp=Z,2.9nm,0.7s
RONA *e*PKP **PKPab 00 24 38.3 +0.2**
comp=Z,6.0nm,0.9s,SNR=5.8
RONA *i* pPKP **pPKPab 00 25 31.8 +1.5**
comp=Z,19nm,1.4s
MEM Membach 158.32 352 *d*PKPdf **PKPdf 00 24 01.6 -1.0**
MORH Mrgy, Hungar 158.38 327 ⇓P **PKPdf 00 24 02.7 -0.1**
KKB Krupnik 158.49 312 P **PKPab 00 24 39.4 +0.2**
BMRD Maredsous 158.75 355 *d*PKPdf **PKPdf 00 24 03.4 +0.2**
RCHB Rochefort 158.85 354 *d*PKPdf **PKPdf 00 24 03.1 -0.1**
MOA Molln 158.94 336 *e*PKP **PKPdf 00 24 02.7 -0.8**
comp=Z,2.4nm,0.9s
MOA *e*PKP **PKPab 00 24 40.7 -0.2**
comp=Z,12nm,1.8s
MOA *ep*PKP **pPKPab 00 25 33.8 +0.6**
comp=Z,12nm,1.3s
ARSA Arzberg 158.96 333 *e*PKP **PKPdf 00 24 02.9 -0.6**
comp=Z,3.1nm,0.8s
ARSA *e*PKP **PKPab 00 24 40.7 -0.3**
comp=Z,4.6nm,1.0s
VAY Valandovo 159.11 311 *i* P **PKPab 00 24 41.9 0.0**
WLF Walferdange 159.23 352 *e*PKPdf **PKPdf 00 24 03.9 +0.2**
baz=23,slow=1.1
WLF *ep*PKPab **pPKPab 00 25 37.4 +3.2**
BIOA Bad Ischl, Aus 159.30 337 *e*PKP **PKPdf 00 24 02.9 -1.0**
comp=Z,5.5nm,1.4s
BIOA *e*PKP **PKPab 00 24 41.7 -0.7**
comp=Z,7.8nm,0.9s
BIOA *ep*PKP **pPKPab 00 25 35.2 +0.5**
comp=Z,20nm,1.4s
SKO Skopje 159.51 314 *i* P **PKPab 00 24 44.7 +1.1**
RJOB Jochberg 159.54 338 *e*PKPab **PKPab 00 24 43.4 -0.1**
baz=19,slow=4.3
RJOB *ep*PKPab **pPKPab 00 25 36.8 +1.0**
FUR Furstenfeldbru 159.62 341 *e*PKPab **PKPab 00 24 43.6 -0.1**
baz=19,slow=4.3
SOKA Soboth 159.62 333 *i* PKP **PKPdf 00 24 03.5 -0.8**
comp=Z,9.5nm,1.1s
SOKA *e*PKP **PKPab 00 24 43.9 0.0**
comp=Z,4.6nm,0.8s
SOKA *ep*PKP **pPKPab 00 25 37.5 +1.3**
comp=Z,8.0nm,1.0s
LESA Schwarzleotal 159.85 338 *e*PKP **PKPdf 00 24 03.9 -0.7**
comp=Z,6.2nm,1.2s
LESA *e*PKP **PKPab 00 24 44.5 -0.4**
comp=Z,4.7nm,0.6s
LESA *ep*PKP **pPKPab 00 25 37.9 +0.7**
comp=Z,16nm,1.5s
KBA Koelnbreinsper 159.93 336 *e*PKP **PKPdf 00 24 04.0 -0.8**
comp=Z,5.0nm,1.0s
KBA *e*PKP **PKPab 00 24 45.0 -0.4**
comp=Z,5.0nm,0.8s
KBA *ep*PKP **pPKPab 00 25 37.2 -0.4**
comp=Z,6.9nm,1.6s
OBKA Obir 159.96 333 *e*PKP **PKPdf 00 24 03.7 -1.1**
comp=Z,9.9nm,1.6s
OBKA *e*PKP **PKPab 00 24 45.4 0.0**
comp=Z,4.5nm,0.7s
MYKA Terra Mystica 160.20 335 *e*PKP **PKPab 00 24 45.3 -1.1**
comp=Z,4.6nm,0.5s
MYKA *ep*PKP **pPKPab 00 25 38.8 +0.1**
comp=Z,7.8nm,1.1s
WATA Walderalm 160.28 340 *e*PKP **PKPab 00 24 45.9 -0.9**
comp=Z,6.6nm,0.6s
WATA *ep*PKP **pPKPab 00 25 39.0 -0.1**
comp=Z,13nm,1.5s
WTTA Wattenberg 160.33 339 *e*PKP **PKPdf 00 24 04.1 -1.2**
comp=Z,3.9nm,1.1s
WTTA *e*PKP **PKPab 00 24 46.7 -0.4**
comp=Z,21nm,0.9s,SNR=6.2
WTTA *ep*PKP **pPKPab 00 25 39.0 -0.4**
comp=Z,6.8nm,1.0s
LJU Ljubljana 160.34 333 *e*PKPdf **PKPdf 00 24 04.5 -0.6**
OHR Ohrid 160.37 313 *i* P **PKPab 00 24 47.7 +0.3**
RETA Reutte 160.38 341 *e*PKP **PKPdf 00 24 04.3 -0.9**
comp=Z,2.2nm,1.1s
RETA *e*PKP **PKPab 00 24 46.8 -0.4**
comp=Z,15nm,0.9s,SNR=8.1
RETA *ep*PKP **pPKPab 00 25 39.9 +0.5**
comp=Z,13nm,1.7s
MOTA Moosalm 160.41 341 *e*PKP **PKPdf 00 24 04.0 -1.3**
comp=Z,2.6nm,0.8s
MOTA *e*PKP **PKPab 00 24 47.1 -0.4**
comp=Z,13nm,0.9s,SNR=5.9
MOTA *ep*PKP **pPKPab 00 25 40.4 +0.7**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 160.49 340 *e*PKP **PKPdf 00 24 04.3 -1.1**
comp=Z,8.9nm,1.6s
SQTA *e*PKP **PKPab 00 24 47.7 -0.1**
comp=Z,9.5nm,0.8s,SNR=5.4
SQTA *ep*PKP **pPKPab 00 25 40.2 +0.2**
comp=Z,6.5nm,1.0s
ABTA Abfaltersbach 160.50 337 *e*PKP **PKPdf 00 24 04.6 -0.7**
comp=Z,7.1nm,1.1s
ABTA *e*PKP **PKPab 00 24 47.2 -0.6**
comp=Z,6.6nm,0.6s,SNR=5.1
ABTA *ep*PKP **pPKPab 00 25 38.8 -1.2**
comp=Z,8.1nm,1.2s
CEY Cerknica 160.63 332 *e*PKPdf **PKPdf 00 24 02.7 -2.8**
CEY *e*PKPab **PKPab 00 24 48.0 -0.4**
CEY *ep*PKPab **pPKPab 00 25 40.4 0.0**
DAVA Damuels 160.80 343 *e*PKP **PKPab 00 24 48.9 -0.3**
comp=Z,5.1nm,1.0s
DAVA *ep*PKP **pPKPab 00 25 42.6 +1.2**
comp=Z,10nm,1.4s
FETA Feichten 160.81 341 *e*PKP **PKPdf 00 24 04.5 -1.3**
comp=Z,5.4nm,1.1s
FETA *e*PKP **PKPab 00 24 48.9 -0.4**
comp=Z,5.6nm,0.9s
FETA *ep*PKP **pPKPab 00 25 43.1 +1.7**
comp=Z,10nm,1.3s
PMAR Madeira 163.67 73 *e*PKPab **PKPab 00 25 00.8 -1.5**
TIP Timpagrande 164.02 313 pPKPdf 00 25 04.2 +0.3
TORD Torodi Ar. Bea 164.07 180 PKP **PKPdf 00 24 10.6 +0.9**
comp=Z,6.2nm,0.3s,baz=32,slow=1.1,SNR=1.6
TORD PKPab **pPKPdf 00 25 06.5 +1.9**
comp=Z,24nm,0.6s,baz=132,slow=2.1,SNR=2.9
PMPS Porto Santo 164.10 71 *e*PKPab **PKPab 00 25 04.2 +0.2**
PCAB Cabril 165.20 30 *e*PKPdf **PKPdf 00 24 11.8 +1.9**
POLO Lamas de Olo 165.58 30 *e*PKPdf **PKPdf 00 24 10.5 +0.1**
PVIS Viseu 166.06 32 *e*PKPdf **PKPdf 00 24 11.0 +0.2**
PVIS *e*PKPab **PKPab 00 25 13.5 +1.2**
MVO Moncorvo 166.08 28 *e*PKPdf **PKPdf 00 24 12.9 +2.1**
MTE Manteigas 166.48 32 *e*PKPdf **PKPdf 00 24 12.5 +1.4**
PSARD Sardoal 166.80 35 *e*PKPdf **PKPdf 00 24 13.0 +1.7**
PARRA Arraiolos 166.91 40 *e*PKPdf **PKPdf 00 24 13.2 +1.8**
PCBR Castelo Branco 166.95 33 *e*PKPdf **PKPdf 00 24 13.5 +2.1**
PMRV Marv??o 167.32 34 *e*PKPdf **PKPdf 00 24 12.9 +1.2**
PESTR Estremoz 167.65 36 *e*PKPdf **PKPdf 00 24 13.3 +1.4**
PCVE Castro Verde 168.29 41 *e*PKPdf **PKPdf 00 24 14.3 +1.9**
PBAR Barrancos 168.45 37 *e*PKPdf **PKPdf 00 24 14.1 +1.6**
PAB San Pablo 168.51 24 ⇑PKIKP **PKPdf 00 24 14.0 +1.4**
ESDC Sonseca Array 168.53 22 PKP **PKPdf 00 24 12.8 +0.2**
comp=Z,8.7nm,1.2s,baz=340,slow=2.7,SNR=29
KEST Kesra 170.78 317 PKP **PKPdf 00 24 14.7 +0.7**
comp=Z,8.3nm,1.0s,baz=255,slow=5.9,SNR=4.9
KEST PKPab **PKPab 00 25 33.4 -0.1**
comp=Z,7.2nm,1.1s,baz=341,slow=2.4,SNR=8.3

NEIC ***23*** *00:28:28.6±1.9,21.°95N±0.°09×143.°6E±0.°1, h220km±6km, mb4.1/22, Error ellipse: s-maj=21.4km s-min=10.6km az=65.0*
IDC ***23*** *00:28:29.5±7.7,22.°13N×143.°79E, h229km±48km, mb3.6/11, mbtmp4.2/12, Error ellipse: s-maj=75.1km s-min=31.4km az=176.0*

ISC 23 00:28:28.0±0.7, 21.°94N±0.°09×143.°6E±0.°1, h220km, n35, σ1§03/37, mb4.1/22, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.29**	**346**	P	**Pn**	**00 29 46.5**	**-0.1**
	59nm,0.4s,baz=281,slow=22,SNR=40						
JCJ				S	**S**	**00 30 47.2**	**-1.5**
	22nm,0.5s,baz=287,slow=22,SNR=2.0						
KSRS	**Korea Array**	**20.56**	**322**	P	**P**	**00 32 51.0**	**+1.1**
	3.0nm,0.8s,baz=150,slow=9.0,SNR=14						
	3.0nm,0.8s						
MYLDM	**Lahad Datu**	**29.46**	**239**	P	**P**	**00 34 10.6**	**-1.0**
SONM	**Songino Array**	**39.40**	**320**	P	**P**	**00 35 37.0**	**+0.5**
	0.7nm,0.4s,baz=131,slow=7.3,SNR=4.1						
	0.7nm,0.4s						
AMKA	**Amchitka**	**40.36**	**34**	P	**P**	**00 35 44.6**	**+0.5**
WRAB	**Tennant Creek**	**42.59**	**193**	P	**P**	**00 36 03.9**	**+1.3**
WRAB				IAmb	IAmb	00 36 19.2	
	comp=Z,5.3nm,0.6s						
WB2	**Warramunga Arr**	**42.60**	**193**	P	**P**	**00 36 01.9**	**-0.8**
ZALV	**Zalesovo Beam**	**54.26**	**321**	P	**P**	**00 37 31.5**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=115,slow=6.7,SNR=4.9						
	comp=Z,0.7nm,0.4s						
MKAR	**Makanchi Array**	**54.82**	**312**	P	**P**	**00 37 36.2**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=88,slow=8.3,SNR=12						
MKAR				PcP	**PcP**	**00 38 35.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=87,slow=4.2,SNR=8.9						
	comp=Z,1.2nm,0.5s						
KURK	**Kurchatov**	**57.56**	**317**	P	**P**	**00 37 54.9**	**+0.3**
KURK				IAmb	IAmb	00 37 55.7	
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**57.61**	**317**	P	**P**	**00 37 55.4**	**+0.4**
	comp=Z,5.5nm,0.6s,baz=92,slow=7.5,SNR=63						
	comp=Z,5.5nm,0.6s						
ILAR	**Eielson Array**	**61.65**	**27**	P	**P**	**00 38 22.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=270,slow=5.4,SNR=4.5						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**62.74**	**319**	P	**P**	**00 38 30.3**	**+0.6**
	comp=Z,4.3nm,0.4s,baz=90,slow=7.2,SNR=31						
	comp=Z,4.3nm,0.4s						
BRVK	**Borovoye**	**62.80**	**319**	P	**P**	**00 38 30.2**	**+0.1**
BRVK				IAmb	IAmb	00 38 31.5	
	comp=Z,2.7nm,0.6s						
KK31	**Karatay Array**	**63.21**	**308**	P	**P**	**00 38 33.0**	**0.0**
KK31				IAmb	IAmb	00 38 34.5	
	comp=Z,2.8nm,0.8s						
KKAR	**Karatay Array**	**63.21**	**308**	P	**P**	**00 38 33.3**	**+0.3**
MESA	**MESA**	**63.50**	**33**	P	**P**	**00 38 32.1**	**-2.6**
GAR	**Garm**	**63.84**	**304**	P	**P**	**00 38 36.7**	**-0.6**
GAR				IAmb	IAmb	00 38 38.2	
	comp=Z,3.7nm,0.8s						
H27K	**Steamboat Moun**	**64.03**	**26**	P	**P**	**00 38 39.4**	**+1.4**
H27K				IAmb	IAmb	00 38 40.4	
	comp=Z,1.1nm,0.6s						
E27K	**Coleen River**	**64.18**	**24**	P	**P**	**00 38 40.0**	**+1.2**
D27M	**Malcolm River**	**64.51**	**22**	P	**P**	**00 38 41.6**	**+0.6**
D27M				IAmb	IAmb	00 38 45.0	
	comp=Z,2.0nm,1.1s						
SIMJ	**Simiganj**	**64.90**	**304**	P	**P**	**00 38 44.0**	**-0.1**
SIMJ				IAmb	IAmb	00 38 45.5	
	comp=Z,2.3nm,0.7s						
E28M	**Babbage River**	**64.97**	**23**	P	**P**	**00 38 45.8**	**+1.8**
M29M	**Somme Creek**	**65.22**	**30**	P	**P**	**00 38 45.8**	**0.0**
H29M	**Whitestone**	**65.31**	**26**	P	**P**	**00 38 46.7**	**+0.6**
G30M	**tAoh Zraii Nji**	**66.18**	**25**	P	**P**	**00 38 52.3**	**+0.6**
G30M				IAmb	IAmb	00 38 52.6	
	comp=Z,4.6nm,1.1s						
G31M	**Satah River**	**66.95**	**25**	P	**P**	**00 38 57.6**	**+1.1**
H31M	**Peel River**	**66.96**	**26**	P	**P**	**00 38 57.8**	**+1.2**
H31M				IAmb	IAmb	00 39 04.4	
	comp=Z,5.2nm,1.1s						
WHY	**Whitehorse**	**67.00**	**32**	P	**P**	**00 38 54.7**	**-2.4**
WHY				IAmb	IAmb	00 38 58.8	
	comp=Z,6.8nm,1.0s						
THZ	**Tophouse**	**68.95**	**157**	P	**P**	**00 39 09.3**	**0.0**
AB31	**Akbulak array**	**69.65**	**316**	P	**P**	**00 39 13.8**	**+0.2**
AB31				IAmb	IA

FINES	**FINES Array B**	**83.13**	**335**	P		**P**	**00 40 28.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=65,slow=5.1,SNR=25							
	comp=Z,1.3nm,0.4s							
HFS	**Hagfors**	**88.65**	**337**	P		**P**	**00 40 54.0**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=122,slow=11,SNR=5.7							
	comp=Z,1.3nm,0.7s							

NEIC ***23*** *00:36:37.1±0.6,55.52N±0.04×158.30W±0.04, h37km±51km, Error ellipse: s-maj=6.6km s-min=2.9km az=160.0*
AEIC 23 00:36:37.7±0.6,55.52N±0.04×158.31W±0.03, h36km±10km, ML2.4, ML2.6/32(NEIC), Error ellipse: s-maj=5.9km s-min=2.1km az=172.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNSG	**Veniaminof 6**	**0.75**	**324**		Pn	00 36 50.9	-0.9
CHGN	**Chignik**	**0.79**	**356**		Pn	00 36 51.0	-1.2
CHGN					Sn	00 37 02.0	-0.8
CHGN				IAML		00 37 02.8	
	comp=N,356nm,0.1s						
VNKR	**Veniaminof 5**	**0.79**	**311**		Pn	00 36 51.5	-0.8
VNHG	**Veniaminof 1**	**0.85**	**326**		Pn	00 36 52.5	-0.7
VNSW	**Veniaminof 7**	**0.90**	**309**		Pn	00 36 53.1	-0.7
VNSW					Sn	00 37 04.9	-0.7
VNWF	**Veniaminof 8**	**0.95**	**312**		Pn	00 36 54.1	-0.5
VNNF	**Veniaminof 3**	**0.96**	**324**		Pn	00 36 54.2	-0.5
CNBA	**Chernabura Isl**	**1.02**	**227**		Sn	00 37 07.6	-0.7
CNBA	**Chernabura Isl**	**1.02**	**227**		Pn	00 36 54.8	-0.5
VNFG	**Fog Glacier, M**	**1.04**	**318**		Sn	00 37 09.0	-0.2
VNFG	**Fog Glacier, M**	**1.04**	**318**		Pn	00 36 55.2	-0.6
VNFG				IAML		00 37 18.4	
	comp=N,177nm,0.8s						
VNFG				IAML		00 37 20.1	
	comp=E,137nm,1.3s						
SDPT	**Sand Point**	**1.25**	**263**		Pn	00 36 58.1	-0.4
SDPT					Sn	00 37 14.0	-0.1
ANPK	**Aniakchak Peak**	**1.33**	**4**		Sn	00 37 16.4	+0.1
CHIR	**Chirikof Islan**	**1.55**	**78**	Pn	Pn	00 37 01.9	-0.8
CHIR				IAML		00 37 13.6	
	comp=E,68nm,1.4s						
CHIR				IAML		00 37 56.1	
	comp=N,73nm,1.5s						
PS1A	**Pavlof South-1**	**1.96**	**269**		Pn	00 37 07.8	-0.5
PS4A	**Pavlof South-4**	**2.03**	**267**		Pn	00 37 08.9	-0.4
HAG	**Hague Volcano**	**2.06**	**266**		Pn	00 37 09.5	-0.2
DOL	**Dolgoi Island**	**2.07**	**261**		Pn	00 37 09.5	-0.3
S12K	**Black Hills**	**2.14**	**277**		Pn	00 37 10.3	-0.5
S12K	**Black Hills**	**2.14**	**277**	IAML		00 37 40.1	
	comp=N,23nm,1.0s						
S12K				IAML		00 37 45.7	
	comp=E,29nm,1.5s						
DT1	**Dutton Round H**	**2.31**	**261**		Pn	00 37 12.7	-0.4
PLBL	**Peulik Blue Cr**	**2.34**	**20**		Pn	00 37 13.6	+0.1
PLK4	**Peulik 4**	**2.38**	**26**		Pn	00 37 14.0	-0.2
PLK4				IAML		00 37 44.2	
	comp=N,23nm,1.1s						
PLK4				IAML		00 37 52.6	
	comp=E,18nm,1.1s						
PLK1	**Peulik 1**	**2.47**	**22**		Pn	00 37 15.6	+0.2
PLK5	**Peulik 5**	**2.61**	**17**		Pn	00 37 17.4	+0.2
CAHL	**Cahill**	**3.03**	**32**		Pn	00 37 23.1	0.0
CNTC	**Contact Creek**	**3.06**	**25**		Pn	00 37 23.3	-0.2
ANCK	**Angle Creek**	**3.10**	**29**		Pn	00 37 24.0	0.0
KAHC	**Katmai Hardscr**	**3.62**	**28**		Pn	00 37 30.9	-0.3
O15K	**Ungalikthiuk R**	**3.76**	**348**		Pn	00 37 32.1	-1.0
O15K	**Ungalikthiuk R**	**3.76**	**348**	IAML		00 38 14.3	
	comp=E,5.4nm,0.5s						
KDAK	**Kodiak Island**	**3.89**	**52**		Pn	00 37 33.9	-0.9
KDAK	**Kodiak Island**	**3.89**	**52**	IAML		00 38 43.8	
	comp=E,9.7nm,1.3s						
O14K	**Tigyukauivet M**	**4.07**	**338**		Pn	00 37 36.7	-0.6
O14K	**Tigyukauivet M**	**4.07**	**338**	IAML		00 38 44.5	
	comp=N,9.5nm,1.5s						
O14K				IAML		00 39 56.3	
	comp=E,4.9nm,1.4s						
O16K	**Kokwok River B**	**4.09**	**2**	Pn	Pn	00 37 35.3	-2.2
O16K				IAML		00 40 19.5	
	comp=N,4.2nm,1.4s						
P18K	**Big Mountain,**	**4.22**	**22**	Pn	Pn	00 37 37.9	-1.5
O17K	**Koliganek Bris**	**4.32**	**8**		Pn	00 37 40.3	-0.3
AKUT	**Akutan**	**4.54**	**255**	Pn	Pn	00 37 41.6	-2.0
LVA	**Lava Point**	**4.67**	**256**	Pn	Pn	00 37 42.8	-2.8
N15K	**Kwethluk River**	**4.76**	**349**	Pn	Pn	00 37 46.2	-0.5
N15K				IAML		00 39 41.6	
	comp=E,8.0nm,1.4s						
N15K				IAML		00 39 56.6	
	comp=N,5.1nm,1.3s						
N14K	**Kuskokwak Cree**	**4.78**	**339**	Pn	Pn	00 37 46.0	-1.0
HOM	**Homer**	**5.48**	**38**	Pn	Pn	00 37 57.3	+0.7
M16K	**Timber Creek**	**5.53**	**357**	Pn	Pn	00 37 56.9	-0.4
M14K	**Bethel**	**5.59**	**341**	Pn	Pn	00 37 55.4	-2.7
M17K	**Holitna River**	**5.92**	**4**	Pn	Pn	00 38 02.1	-0.6
L16K	**Owhat River**	**6.24**	**355**	Pn	Pn	00 38 06.8	-0.2
L14K	**Kuka Creek**	**6.28**	**340**	Pn	Pn	00 38 06.8	-0.6

IDC ***23*** *00:39:49.1±0.9,30.86N×142.74E, h0km, mb3.9/11, mbtmp3.9/15,ML3.5/4, Error ellipse: s-maj=28.7km s-min=16.7km az=72.0*
JMA ***23*** *00:39:52.0±0.4,31.2N×142.3E, h43km, MV4.2/32, FAR E OFF IZU ISLANDS*
ISC 23 00:39:54.4±0.8,30.93N±0.06×142.6E±0.1, h37km, n26, σ2.9s04/32, mb4.0/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.23**	**313**	*e*P	**Pn**	**00 40 41.2**	**-1.2**
JHJ2				*e*S	**Sn**	**00 41 17.2**	**-2.5**
JHJ	**Hachijo jima 2**	**3.25**	**313**	Pn	**Pn**	**00 40 40.7**	**-2.1**
	7.7nm,0.3s,baz=67,slow=14,SNR=1.8						
JHJ				Sn	**Sn**	**00 41 16.8**	**-3.6**
	30nm,0.3s,baz=280,slow=22,SNR=2.5						
	99nm,0.9s						
CBIJ	**Chichi jima**	**3.83**	**186**	*e*S	**Sn**	**00 41 35.5**	**+0.9**
JCJ	**Chichijima**	**3.83**	**186**	Pn	**Pn**	**00 40 48.1**	**-2.7**
	5.9nm,0.3s,baz=350,slow=21,SNR=12						
JCJ				Sn	**Sn**	**00 41 31.0**	**-3.6**
	17nm,0.3s,baz=271,slow=23,SNR=8.2						
	12nm,0.3s						
BSO1	**Boso 1**	**3.97**	**340**	*e*P	**Pn**	**00 40 50.5**	**-1.6**
BSO3	**Boso 3**	**4.25**	**336**	*e*P	**Pn**	**00 40 55.2**	**-1.2**
BSO4	**Boso 4**	**4.49**	**335**	*e*P	**Pn**	**00 41 00.0**	**+0.4**
JOD2	**Odawara 2**	**5.25**	**327**	*e*P	**Pn**	**00 41 08.8**	**-1.4**
JOD2				*e*S	**Sn**	**00 42 09.0**	**-0.4**
JYT	**Yasato**	**5.66**	**340**	*e*P	**Pn**	**00 41 16.3**	**+0.4**
JHO	**Hitachi**	**5.92**	**344**	*e*P	**Pn**	**00 41 18.0**	**-1.5**
JHO				*e*S	**Sn**	**00 42 20.6**	**-5.5**
JRY	**Ryogami san**	**5.95**	**330**	*e*P	**Pn**	**00 41 19.8**	**-0.2**
JNY	**Yasuok**	**5.96**	**319**	*e*P	**Pn**	**00 41 21.9**	**+1.9**
JAG	**Ashikaga**	**6.09**	**335**	*e*P	**Pn**	**00 41 20.6**	**-1.2**
JAG				*e*S	**Sn**	**00 42 26.3**	**-3.8**
MJAR	**Matsushiro Arr**	**6.70**	**328**	Pn	**Pn**	**00 41 28.9**	**-1.3**
	0.5nm,0.3s,baz=148,slow=11,SNR=12						
	4.4nm,0.5s						
KSRS	**Korea Array**	**13.79**	**302**	Pn	**Pn**	**00 43 08.8**	**+1.6**
	0.4nm,0.3s,baz=122,slow=11,SNR=6.3						
	0.9nm,0.5s						
SONM	**Songino Array**	**32.33**	**312**	P	**P**	**00 46 21.8**	**+1.7**
	0.8nm,0.4s,baz=119,slow=9.2,SNR=5.5						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**46.91**	**317**	P	**P**	**00 48 22.2**	**+1.2**
	0.6nm,0.3s,baz=106,slow=11,SNR=2.7						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**48.41**	**307**	P	**P**	**00 48 33.9**	**+1.1**
	2.1nm,0.8s,baz=87,slow=10,SNR=12						
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**50.70**	**312**	P	**P**	**00 48 50.4**	**+0.3**
	1.0nm,0.6s,baz=90,slow=6.5,SNR=10						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**51.20**	**190**	P	**P**	**00 48 53.4**	**-0.7**
	2.1nm,0.6s,baz=8.1,slow=7.7,SNR=16						
	2.1nm,0.6s						
ILAR	**Eielson Array**	**54.20**	**30**	P	**P**	**00 49 15.8**	**0.0**
	0.6nm,0.8s,baz=259,slow=6.2,SNR=5.1						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**54.92**	**190**	P	**P**	**00 49 21.8**	**+0.2**
	0.5nm,0.4s,baz=9.8,slow=7.4,SNR=5.4						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**55.53**	**316**	P	**P**	**00 49 26.9**	**+1.2**
	0.6nm,0.6s,baz=111,slow=8.1,SNR=3.9						
	0.6nm,0.6s						
FINES	**FINES Array B**	**74.70**	**334**	P	**P**	**00 51 30.6**	**+0.8**
	3.1nm,1.0s,baz=112,slow=8.1,SNR=2.6						
	3.1nm,1.0s						
KBZ	**Khabaz**	**75.70**	**312**	P	**P**	**00 51 37.9**	**+1.9**
	2.2nm,0.8s,baz=53,slow=3.6,SNR=4.1						
	2.2nm,0.8s						
NVAR	**Mina Array Bea**	**77.87**	**52**	P	**P**	**00 51 49.0**	**+0.3**
	0.3nm,0.6s,baz=301,slow=5.8,SNR=2.0						
	0.3nm,0.6s						

IDC ***23*** *01:36:17.9±1.4,37.00N×135.22E, h359km±19km, mb2.7/2, mbtmp3.4/5, Error ellipse: s-maj=31.8km s-min=24.0km az=47.0*
JMA ***23*** *01:36:19.6±0.3,37.2N×137.5E±, h359km, MV2.8/15, NW OFF HOKURIKU DISTRICT*
ISC 23 01:36:17.3±1.0,37.1N±0.1×135.26E±0.09, h350km, n7, σ1.9s86/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYTA	**Yamagatataniai**	**1.89**	**141**	*e*P	**Pn**	**01 37 10.0**	**+2.1**
MJAR	**Matsushiro Arr**	**2.42**	**102**	P	**Pn**	**01 37 14.0**	**+2.2**
	1.8nm,0.6s,baz=285,slow=8.5,SNR=4.0						
JHO	**Hitachi**	**4.28**	**95**	*e*P	**Pn**	**01 37 30.1**	**+0.9**
JHO				*e*S	**S**	**01 38 25.1**	**-2.1**
KSRS	**Korea Array**	**5.87**	**276**	P	**Pn**	**01 37 47.2**	**+0.6**
	1.1nm,0.6s,baz=96,slow=12,SNR=4.8						
ASAJ	**Asahikawa**	**8.98**	**36**	P	**Pn**	**01 38 24.0**	**+1.1**
	8.6nm,0.5s,baz=209,slow=13,SNR=5.1						
KURBB	**Kurchatov Arra**	**42.08**	**307**	P	**P**	**01 43 35.9**	**-0.1**
	0.2nm,0.3s,baz=95,slow=10,SNR=4.5						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**56.71**	**181**	P	**P**	**01 45 24.6**	**-1.1**
	0.3nm,0.5s,baz=358,slow=7.4,SNR=4.9						
	0.3nm,0.5s						

SJA ***23*** *01:50:45.3±0.7,21.26S×68.96W, h128km±3km, ML3.6, MW3.6*
GUC ***23*** *01:50:47.4±0.7,21.26S×68.92W, h116km±3km, ML3.6*
ISC 23 01:50:46.1±1.4,21.27S±0.03×69.01W±0.05, h130km±8km, n37, σ0.983/66, 11C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.50**	**297**	*e*P	**Pn**	**01 51 04.9**	**-0.4**
PB01				*e*S	**Sn**	**01 51 18.4**	**-1.3**
PB01	**IPOC Station P**	**0.50**	**297**	*e*P	**Pn**	**01 51 04.9**	**-0.4**
PB01				*i* S	**Sn**	**01 51 19.4**	**-0.4**
PB01				IAML		01 51 21.4	
	comp=Z,1μm,0.1s						
PB09	**IPOC Station P**	**0.56**	**202**	*e*P	**Pn**	**01 51 05.5**	**-0.2**
PB09				*e*S	**Sn**	**01 51 20.0**	**-0.7**
PB09				IAML		01 51 20.9	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**0.56**	**202**	*e*P	**Pn**	**01 51 05.5**	**-0.2**
PB09				*i* S	**Sn**	**01 51 20.1**	**-0.7**
PB09				IAML		01 51 22.2	
	comp=Z,572nm,0.2s						
PB02	**IPOC Station P**	**0.82**	**267**	*e*P	**Pn**	**01 51 08.1**	**+0.5**
PB02				*e*S	**Sn**	**01 51 24.6**	**+0.7**
PB02	**IPOC Station P**	**0.82**	**267**	*e*P	**Pn**	**01 51 07.4**	**-0.2**
PB02				*i* S	**Sn**	**01 51 24.4**	**+0.6**
PB02				IAML		01 51 25.8	
	comp=Z,2μm,0.3s						
PB03	**IPOC Station P**	**1.03**	**222**	*e*P	**Pn**	**01 51 09.9**	**+0.4**
PB03				*e*S	**Sn**	**01 51 27.2**	**-0.1**
PB03				IAML		01 51 27.7	
	comp=N,1μm,0.2s						
PB03	**IPOC Station P**	**1.03**	**222**	*e*P	**Pn**	**01 51 09.8**	**+0.3**
PB03				*i* S	**Sn**	**01 51 27.6**	**+0.3**
PB03				IAML		01 51 29.7	
	comp=Z,1μm,0.1s						
PB08	**IPOC Station P**	**1.13**	**353**	*e*P	**Pn**	**01 51 10.5**	**-0.3**
PB08				*e*S	**Sn**	**01 51 28.6**	**-0.9**
PB08				IAML		01 51 30.1	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**1.13**	**353**	*e*P	**Pn**	**01 51 10.5**	**-0.3**
PB08				IAML		01 51 30.9	
	comp=Z,568nm,0.3s						
PATCX	**Punta Patache**	**1.16**	**293**	*e*P	**Pn**	**01 51 11.3**	**+0.7**
PATCX				*e*S	**Sn**	**01 51 30.0**	**+0.8**
PATCX				IAML		01 51 31.0	
	comp=E,2μm,0.2s						
PATCX	**Punta Patache**	**1.16**	**293**	*e*P	**Pn**	**01 51 11.3**	**+0.7**
PATCX				*i* S	**Sn**	**01 51 29.6**	**+0.4**
PATCX				IAML		01 51 30.7	
	comp=Z,788nm,0.5s						
HMBC	**Humberstone**	**1.28**	**320**	*e*P	**Pn**	**01 51 11.8**	**-0.3**
HMBC				*e*S	**Sn**	**01 51 31.3**	**-0.4**
HMBC				IAML		01 51 34.4	
	comp=E,1μm,0.3s						
HMBC	**Humberstone**	**1.28**	**320**	*e*P	**Pn**	**01 51 11.7**	**-0.3**
HMBC				*e*S	**Sn**	**01 51 31.6**	**-0.1**
HMBC				IAML		01 51 34.5	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**1.30**	**303**	*e*P	**Pn**	**01 51 12.3**	**+0.3**
TA01				*e*S	**Sn**	**01 51 31.8**	**+0.1**
TA01				IAML		01 51 32.9	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**1.30**	**303**	*e*P	**Pn**	**01 51 12.4**	**+0.4**
TA01				IAML		01 51 33.8	
	comp=Z,330nm,0.2s						
TA02	**Huaiquique**	**1.45**	**313**	*e*P	**Pn**	**01 51 13.8**	**+0.2**
TA02				*e*S	**Sn**	**01 51 34.2**	**-0.3**
TA02				IAML		01 51 39.9	
TA02	**Huaiquique**	**1.45**	**313**	*e*P	**Pn**	**01 51 13.8**	**+0.2**
TA02				*e*S	**Sn**	**01 51 36.9**	**+2.4**
TA02				IAML		01 51 38.4	
	comp=Z,797nm,0.1s						
PB06	**IPOC Station P**	**1.52**	**200**	*e*P	**Pn**	**01 51 15.2**	**+0.6**
PB06				*e*S	**Sn**	**01 51 36.4**	**+0.1**
PB06				IAML		01 51 37.1	
	comp=E,785nm,0.5s						
PB06	**IPOC Station P**	**1.52**	**200**	*e*P	**Pn**	**01 51 15.1**	**+0.6**
PB06				*e*S	**Sn**	**01 51 36.9**	**+0.6**
PB06				IAML		01 51 37.5	
	comp=Z,616nm,0.3s						
GO01	**Chusmiza**	**1.60**	**354**	*e*P	**Pn**	**01 51 15.7**	**-0.3**
GO01				*e*S	**Sn**	**01 51 38.3**	**-0.3**
GO01	**Chusmiza**	**1.60**	**354**	*e*P	**Pn**	**01 51 15.9**	**0.0**
GO01				*e*S	**Sn**	**01 51 39.1**	**+0.5**
GO01				IAML		01 51 40.5	
	comp=Z,432nm,0.2s						
PB11	**IPOC Station P**	**1.62**	**338**	*e*P	**Pn**	**01 51 15.5**	**-0.3**
PB11				*e*S	**Sn**	**01 51 37.9**	**-0.5**
PB11	**IPOC Station P**	**1.62**	**338**	*e*P	**Pn**	**01 51 15.5**	**-0.3**
PB11				*e*S	**Sn**	**01 51 38.4**	**+0.1**
PB11				IAML		01 51 39.0	
	comp=Z,599nm,0.3s						
AF01	**San Pedro de A**	**1.84**	**155**	*e*P	**Pn**	**01 51 19.3**	**+0.8**
AF01				*e*S	**Sn**	**01 51 46.1**	**+2.9**
AF01				IAML		01 52 04.3	
	comp=Z,232nm,0.4s						
PB05	**IPOC Station P**	**1.92**	**215**	*e*P	**Pn**	**01 51 19.8**	**+0.6**
PB05				*e*S	**Sn**	**01 51 44.4**	**-0.2**
PB05				IAML		01 51 45.2	
	comp=E,271nm,0.4s						
PB05	**IPOC Station P**	**1.92**	**215**	*e*P	**Pn**	**01 51 19.8**	**+0.6**
PB05				*e*S	**Sn**	**01 51 45.0**	**+0.4**
PB05				IAML		01 51 52.4	
	comp=Z,204nm,0.3s						
PB10	**IPOC Station P**	**2.65**	**212**	*e*P	**Pn**	**01 51 28.4**	**+0.2**
PB10				IAML		01 52 06.0	
	comp=E,158nm,0.5s						
PB10	**IPOC Station P**	**2.65**	**212**	*e*P	**Pn**	**01 51 28.6**	**+0.4**
PB10				*e*S	**Sn**	**01 51 59.1**	**-1.5**
AP01	**Chacalluta**	**3.15**	**336**	*e*P	**Pn**	**01 51 34.8**	**+0.1**
AP01				IAML		01 52 35.3	
	comp=Z,241nm,0.2s						
YJA	**Yavi**	**3.38**	**106**	*e*P	**Pn**	**01 51 38.7**	**+0.7**
PB14	**IPOC Station P**	**3.58**	**201**	*e*P	**Pn**	**01 51 40.3**	**-0.2**
PB14				*i* S	**Sn**	**01 52 22.8**	**+0.1**
PB14				IAML		01 52 26.5	
	comp=Z,65nm,0.4s						
GO02	**Mina Guanaco**	**3.91**	**188**	*e*P	**Pn**	**01 51 44.7**	**-0.2**
GO02				*e*S	**Sn**	**01 52 31.2**	**+0.7**
GO02				IAML		01 52 34.4	
	comp=Z,138nm,0.1s						
AZAP	**Zapla**	**4.68**	**130**	*e*P	**Pn**	**01 51 55.1**	**0.0**
LPAZ	**La Paz**	**5.03**	**10**	*e*P	**Pn**	**01 52 01.6**	**+1.4**
AC01	**Pan de Azucar**	**5.07**	**196**	*e*P	**Pn**	**01 51 58.5**	**-1.6**
AC01				*e*S	**Sn**	**01 52 54.8**	**-2.9**
AC01				IAML		01 53 13.3	
	comp=Z,27nm,0.8s						
ALOL	**LOMAS DE OLMED**	**5.29**	**119**	*e*P	**Pn**	**01 52 02.2**	**-1.0**

NEIC ***23*** *02:03:47.7±1.6,21.5S±0.1×173.75W±0.04, h10km±1km, mb5.1/19, Error ellipse: s-maj=25.3km s-min=4.5km az=171.0*
IDC ***23*** *02:03:48.6±0.7,21.16S×174.45W, h0km, mb4.1/11, mbtmp4.1/12, ML3.8/1, MS3.7/4, Error ellipse: s-maj=26.5km s-min=21.3km az=129.0*
ISC 23 02:03:50.6±0.6,21.6S±0.1×173.67W±0.08, h38km, n46, σ2.9s05/36, mb4.6/21, MS3.8/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.30**	**55**		**Pn**	**02 04 52.7**	**-0.9**
NIUE				Sn	**Sn**	**02 05 38.3**	**-4.2**
MSVF	**Nonsavu**	**8.69**	**295**		**Pn**	**02 05 55.8**	**+1.9**
RAR	**Rarotonga**	**12.95**	**91**	Pn	**Pn**	**02 06 52.7**	**+0.6**
URZ	**Urewera**	**18.43**	**204**	LR	LR	02 14 03.3	
	comp=Z,197nm,18.8s,baz=248,slow=33						
DZM	**Mont Dzumac**	**18.47**	**265**	Pn	**Pn**	**02 08 04.9**	**+1.1**
DZM	**Mont Dzumac**	**18.47**	**265**	P	**P**	**02 07 58.9**	**-4.6**
	0.3nm,0.3s,baz=254,slow=20,SNR=3.6						
	12nm,1.0s						
BHW	**Baring Head**	**22.02**	**203**	P	**P**	**02 08 42.2**	**+0.6**
BHW				IAmb	IAmb	02 09 01.9	
	comp=Z,48nm,1.4s						
KHZ	**Kahutara**	**23.39**	**204**	P	**P**	**02 08 56.9**	**+0.9**
KHZ				IAmb	IAmb	02 08 59.6	
	comp=Z,60nm,1.5s						
COEN	**Coen**	**41.68**	**273**	P	**P**	**02 11 35.6**	**-0.4**
COEN				IAmb	IAmb	02 12 02.4	
	comp=Z,101nm,2.0s						
BBOO	**Buckleboo**	**45.72**	**245**	P	**P**	**02 12 07.6**	**-0.7**
BBOO				IAmb	IAmb	02 13 46.5	
	comp=Z,74nm,1.9s						
ASAR	**Alice Springs**	**48.22**	**257**	P	**P**	**02 12 26.9**	**-1.0**
ASAR	**Alice Springs**	**48.22**	**257**	P	**P**	**02 12 26.4**	**-1.5**
	comp=Z,4.2nm,0.8s,baz=91,slow=8.1,SNR=26						
	comp=Z,4.2nm,0.8s						
WR8	**Warramunga Arr**	**48.31**	**262**	P	**P**	**02 12 26.4**	**-2.2**
WR8				IAmb	IAmb	02 13 40.1	
	comp=Z,25nm,1.6s						
WB0	**Warramunga Arr**	**48.45**	**262**	P	**P**	**02 12 27.5**	**-2.1**
WB0				IAmb	IAmb	02 12 28.9	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**48.46**	**262**	P	**P**	**02 12 27.9**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=99,slow=7.0,SNR=12						
	comp=Z,3.3nm,0.8s						
GUMO	**Guam**	**53.64**	**307**	LR	LR	02 33 19.1	
	comp=Z,41nm,19.3s,baz=77,slow=34						
FITZ	**Fitzroy Crossi**	**56.89**	**262**	P	**P**	**02 13 32.1**	**-0.1**
VNDA	**Vanda**	**57.24**	**186**	P	P	02 13 40.1	+6.4
VNDA	**Vanda**	**57.24**	**186**	P	P	02 13 39.8	+6.1
	comp=Z,0.6nm,0.8s,baz=36,slow=5.5,SNR=4.7						
	comp=Z,0.6nm,0.8s						
SOEI	**Soe**	**60.57**	**271**	P	**P**	**02 13 53.4**	**-4.5**
MBWA	**Marble Bar**	**61.56**	**257**	P	**P**	**02 14 04.1**	**-0.3**
CASY	**Casey**	**64.74**	**206**	P	**P**	**02 14 25.4**	**+0.7**
CASY				IAmb	IAmb	02 16 44.3	
	comp=Z,26nm,1.8s						
QSPA	**South Pole Qui**	**68.50**	**180**	P	P	02 14 56.3	+7.3
QSPA				IAmb	IAmb	02 15 40.7	
	comp=Z,18nm,1.9s						
QSPA	**South Pole Qui**	**68.50**	**180**	P	P	02 14 55.4	+6.5
	comp=Z,1.3nm,0.8s,baz=288,slow=1.5,SNR=4.4						
	comp=Z,1.3nm,0.8s						
KIWB	**Kanaga Island**	**73.17**	**358**	P	**P**	**02 15 17.6**	**+0.5**
LPIG	**La Paz**	**76.53**	**57**	LR	LR	02 41 48.5	
	comp=Z,44nm,19.9s,baz=184,slow=30						
PETK	**Petropavlovsk-**	**78.41**	**343**	P	**P**	**02 15 47.8**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=160,slow=4.9,SNR=3.7						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**79.09**	**41**	P	P	02 15 56.6	+5.2
	comp=Z,0.8nm,0.7s,baz=221,slow=9.4,SNR=7.5						
	comp=Z,0.8nm,0.7s						
KSRS	**Korea Array**	**80.41**	**317**	P	**P**	**02 15 58.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=131,slow=5.7,SNR=6.1						
	comp=Z,1.2nm,0.7s						
TXAR	**Lajitas Array**	**84.28**	**56**	P	P	02 16 24.9	+6.1
	comp=Z,0.4nm,1.0s,baz=291,slow=5.4,SNR=2.6						
	comp=Z,0.4nm,1.0s						
SCM	**Sheep Creek Mo**	**85.76**	**12**	P	**P**	**02 16 28.1**	**+2.6**
J18K	**Innoko River**	**85.80**	**8**	P	**P**	**02 16 27.9**	**+2.4**
NEW	**Newport**	**85.94**	**34**	LR	LR	02 48 40.4	
	comp=Z,67nm,18.7s,baz=274,slow=31						
CAST	**Castle Rocks**	**86.40**	**10**	P	**P**	**02 16 30.6**	**+2.0**
CAST				IAmb	IAmb	02 16 35.5	
	comp=Z,25nm,2.0s						
TRF	**Thorofare Moun**	**86.71**	**10**		**P**	**02 16 33.2**	**+2.9**
TRF				IAmb	IAmb	02 17 24.7	
	comp=Z,39nm,1.8s						
SNAA	**Sanae**	**86.78**	**177**	P	P	02 16 36.1	+5.5
	comp=Z,1.0nm,0.9s,baz=180,slow=2.0,SNR=3.7						
	comp=Z,1.0nm,0.9s						
RND	**Reindeer**	**86.92**

H03N2	**Juan Fernandez** baz=250,slow=72,SNR=33	**82.75**	**123**	T	T	03 52 36.8
H03N3	**Juan Fernandez** baz=250,slow=72,SNR=44	**82.75**	**123**	T	T	03 52 25.9
H03N1	**Juan Fernandez** baz=250,slow=72,SNR=31	**82.77**	**123**	T	T	03 52 25.4
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=211,slow=7.3,SNR=8.0 comp=Z,0.8nm,0.8s	**86.98**	**56**	P	**P**	**02 21 00.1 +1.9**

AFAD ***23*** *02:36:23.5,36˚01.N×30˚.57E,h26km,ML2.6*
ISK ***23*** *02:36:24.6,36˚02.N×30˚.54E,h19km,ML2.5/12*
NIC ***23*** *02:36:28.2,35˚.55N×30˚.54E,h20km±21km,Ml2.4/7*
ISC 23 02:36:20.8±1.5,35˚.88N±0˚.04×30˚.45E±0˚.03,h3km±12km, n34,σ0992/50,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
AKUM	**Antalya-Kumluc**	**0.45**	**349**	P	**Pb**		**02 36 31.8**	**+0.4**
AKUM				*i* IAML	**Sb**		**02 36 38.0**	**-0.5**
	comp=E,1μm,0.2s							
AKUM				S	**Sb**		**02 36 38.0**	**-0.5**
AKUM				*i* IAML			02 36 39.0	
	comp=N,642nm,0.1s							
DEMR	**Demre-Antalya**	**0.56**	**309**	Pg	**Pn**		**02 36 36.2**	**+0.4**
DEMR				Sg	**Sn**		**02 36 44.7**	**-1.0**
KEMT	**Kemer-ANTALYA**	**0.72**	**7**	Pg	**Pb**		**02 36 36.5**	**+0.4**
ANTB	**Antalya**	**1.03**	**9**	Pg	**Pn**		**02 36 42.1**	**-0.1**
IZZE	**Mula-Seydike**	**1.13**	**300**	P	**Pn**		**02 36 44.6**	**+0.9**
KNIK	**Mula-Seydike**	**1.19**	**324**	P	**Pn**		**02 36 45.9**	**+1.3**
KNIK				S	**Sn**		**02 37 02.0**	**+0.6**
CAME	**Cameli-Denizli**	**1.41**	**319**	Pn	**Pb**		**02 36 48.7**	**+0.9**
BUCA	**Burdur, Bucak-**	**1.44**	**4**	P	**Pg**		**02 36 49.2**	**+0.7**
ALAN	**Alanya-ANTALYA**	**1.45**	**62**	Pn	**Pb**		**02 36 48.5**	**0.0**
ALAN				Sn	**Sg**		**02 37 06.5**	**-0.9**
SABU	**Mula-Dalaman**	**1.52**	**309**	P	**Pb**		**02 36 49.5**	**-0.2**
SABU				S	**Sn**		**02 37 08.8**	**-0.5**
GOLH	**Golhisar**	**1.53**	**332**	P	**Pg**		**02 36 51.0**	**+0.8**
CAEL	**Denizli, Camel**	**1.54**	**324**	P	**Pg**		**02 36 50.3**	**+0.1**
GAZI	**Gazipasa**	**1.55**	**76**	P	**Pn**		**02 36 49.9**	**+0.4**
GAZI				S	**Sn**		**02 37 07.7**	**-2.4**
GAZI				*i* IAML			02 37 10.0	
	comp=N,168nm,0.5s							
GAZI				*i* IAML			02 37 11.0	
	comp=E,90nm,0.5s							
AKMS	**Akamas**	**1.77**	**119**	P	**Pg**		**02 36 54.8**	**+0.1**
AKMS				S	**Sn**		**02 37 15.1**	**-0.3**
AKMS				AML	AML		02 37 31.1	
	0.2nm,0.5s							
AKMS				AML	AML		02 37 45.4	
	0.1nm,0.8s							
DNZT	**Denizli-Tavas-**	**1.80**	**321**	P	**Pb**		**02 36 54.1**	**-0.5**
APMY	**Acipayam-Deniz**	**1.83**	**330**	Pn	**Pb**		**02 36 54.9**	**-0.2**
BRDR	**BURDUR-Merkez**	**1.84**	**350**	P	**Pb**		**02 36 55.6**	**+0.4**
SEDI	**Konya, Seydise**	**1.89**	**33**	P	**Pn**		**02 36 55.0**	**+0.9**
SEDI				S	**Sn**		**02 37 17.3**	**-1.2**
SEDI				*i* IAML			02 37 22.0	
	comp=N,54nm,0.5s							
SEDI				*i* IAML			02 37 31.0	
	comp=E,40nm,0.8s							
SEYD	**Seydisehir-KON**	**1.89**	**36**	Pn	**Pn**		**02 36 54.7**	**+0.6**
ALFC	**Alefka**	**1.90**	**112**	P	**Pg**		**02 36 56.6**	**-0.6**
ALFC				S	**Sb**		**02 37 19.6**	**-0.8**
ALFC				AML	AML		02 37 38.2	
	0.1nm,0.5s							
ALFC				AML	AML		02 37 42.5	
	0.1nm,0.5s							
ISP	**Isparta**	**1.94**	**2**	Pn	**Pn**		**02 36 55.4**	**+0.6**
INCE	**Denizli-Bozkur**	**1.95**	**339**	P	**Pn**		**02 36 55.8**	**+0.7**
HDMB	**Hadim**	**1.97**	**56**	Pn	**Pn**		**02 36 55.8**	**+0.5**
TURN	**Turunc**	**1.99**	**297**	P	**Pn**		**02 36 56.0**	**+0.6**
TURN				S	**Sn**		**02 37 18.8**	**-2.0**
TAVA	**DENIZLI_Tavas**	**2.00**	**322**	P	**Pn**		**02 36 56.0**	**+0.2**
BASM	**Basmakİ-Afyon**	**2.06**	**351**	Pn	**Pn**		**02 36 57.3**	**+0.8**
DNIZ	**Denizli-Tavas-**	**2.08**	**327**	P	**Pn**		**02 36 56.7**	**0.0**
TROD	**Troodos**	**2.19**	**115**	P	**Pb**		**02 37 01.0**	**-0.2**
TROD				S	**Sn**		**02 37 26.2**	**+0.2**
TROD				AML	AML		02 37 46.2	
	0.1nm,0.6s							
TROD				AML	AML		02 37 55.6	
	0.1nm,1.2s							
MULA	**Mugla, Merkez-**	**2.19**	**309**	P	**Pb**		**02 37 00.9**	**-0.4**
XYLS	**Xyliatos**	**2.29**	**111**	P	**Pn**		**02 37 00.8**	**+1.2**
XYLS				S	**Sn**		**02 37 29.3**	**+0.8**
XYLS				AML	AML		02 37 44.1	
	0.1nm,0.2s							
XYLS				AML	AML		02 37 44.2	
	0.1nm,0.2s							
CSS	**Mathiatis**	**2.53**	**110**	P	**Pb**		**02 37 05.6**	**-1.3**
CSS				S	**Sn**		**02 37 35.8**	**+1.6**
CSS				AML	AML		02 37 44.2	
	0.1nm,0.4s							
CSS				AML	AML		02 37 54.3	
	0.1nm,0.4s							
ASGA	**Asgata**	**2.54**	**115**	P	**Pb**		**02 37 06.3**	**-0.8**
ASGA				S	**Sn**		**02 37 34.9**	**+0.5**
ASGA				AML	AML		02 37 56.9	
	0.1nm,0.6s							
ASGA				AML	AML		02 37 58.4	
	0.1nm,0.8s							
SDAG	**Sultandagi-AFY**	**2.58**	**8**	Pn	**Pn**		**02 37 04.7**	**+1.0**
MVOU	**Mavrovouni**	**2.74**	**107**	P	**Pn**		**02 37 07.7**	**+2.0**
MVOU				S	**Sn**		**02 37 40.9**	**+1.6**
MVOU				AML	AML		02 37 53.2	
	0.1nm,0.5s							
MVOU				AML	AML		02 37 58.9	

NEIC ***23*** *02:37:39.5±0.9,32˚.866N±0˚.008×116˚.187W±0˚.009, h5km±1km,Error ellipse: s-maj=2.3km s-min=1.4km az=114.0*
ECX ***23*** *02:37:40.3±0.7,32˚.85N×116˚.18W,h3km±1km,MD2.8, ML3.0*
PAS ***23*** *02:37:40.1±0.8,32˚.859N±0˚.009×116˚.185W±0˚.009, h6km,ML3.0/110,ML2.9/38(NEIC),Error ellipse: s-maj=1.2km s-min=1.0km az=192.0*
ISC 23 02:37:39.6±0.8,32˚.86N±0˚.01×116˚.19W±0˚.01,h13km±6km, n110,σ0976/163,15C-9D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CRR	**Carrizo Plain**	**0.19**	**83**		**Pg**		**02 37 43.7**	**-0.1**
CRR					**Sg**		**02 37 46.8**	**0.0**
CRR	**Carrizo Plain**	**0.19**	**83**	⇑*i* P	**Pg**		**02 37 43.5**	**-0.3**
MONP2	**Monument Peak**	**0.20**	**278**	*i* P	**Pg**		**02 37 44.4**	**+0.3**
MONP2				*e* S	**Sg**		**02 37 47.5**	**+0.3**
MONP2				IAML			02 37 48.0	
	comp=N,2μm,0.3s							
IKP	**In-Ko-Pah, Jac**	**0.22**	**162**		**Pg**		**02 37 44.5**	**+0.1**
IKP					**Sg**		**02 37 48.1**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**0.22**	**162**	⇓*e* P	**Pg**		**02 37 44.5**	**+0.1**
IKP				*e* S	**Sg**		**02 37 47.7**	**-0.1**
RMX	**La Rumorosa**	**0.28**	**160**		**Pb**		**02 37 46.5**	**-0.1**
RMX					**Sb**		**02 37 51.3**	**+0.1**
RMX	**La Rumorosa**	**0.28**	**160**	⇓*i* P	**Pb**		**02 37 46.5**	**-0.1**
RMX				*e* S	**Sb**		**02 37 51.5**	**+0.2**
YUH	**Yuha Desert**	**0.31**	**134**		**Pg**		**02 37 46.0**	**0.0**
YUH				Sg	**Sg**		**02 37 50.1**	**-0.2**
YUH				IAML			02 37 50.7	
	comp=E,2μm,0.1s							
YUH				IAML			02 37 50.7	
	comp=N,1μm,0.2s							
YUH2	**Yuha Desert**	**0.31**	**134**	⇓*i* P	**Pg**		**02 37 45.9**	**-0.1**
YUH2				*e* S	**Sg**		**02 37 50.3**	**0.0**
SUP	**Superstition M**	**0.32**	**74**		**Sg**		**02 37 46.1**	**0.0**
SUP					**Sg**		**02 37 50.5**	**-0.1**
SLH	**Sleepy Hollow**	**0.33**	**351**		**Pg**		**02 37 46.5**	**+0.2**
SLH	**Sleepy Hollow**	**0.33**	**351**	⇓*i* P	**Pg**		**02 37 46.5**	**+0.2**
SWSC	**Sam W. Stewart**	**0.34**	**76**		**Pn**		**02 37 51.3**	**+1.1**
SWSC	**Sam W. Stewart**	**0.34**	**76**	⇑*i* P	**Pg**		**02 37 46.5**	**0.0**
SWSC				*e* S	**Pn**		**02 37 51.3**	**+1.1**
COK2	**Cook Ranch 2**	**0.39**	**92**		**Pg**		**02 37 47.8**	**+0.5**
COK2					**Sb**		**02 37 54.0**	**-0.2**
ERRC	**Elmore Ranch**	**0.40**	**51**		**Sb**		**02 37 54.6**	**0.0**
WESC	**Westside Schoo**	**0.40**	**105**		**Pg**		**02 37 48.1**	**+0.5**
WESC					**Sb**		**02 37 54.2**	**-0.4**
WESC	**Westside Schoo**	**0.40**	**105**	*e* P	**Pg**		**02 37 48.0**	**+0.4**
JUEM	**Julian Eagle M**	**0.40**	**302**		**Pg**		**02 37 48.1**	**+0.4**
JUEM					**Sg**		**02 37 54.1**	**+0.9**
BAR	**Barrett**	**0.44**	**246**		**Sg**		**02 37 54.4**	**+0.1**
BAR	**Barrett**	**0.44**	**246**	IAML			02 37 55.1	
	comp=N,4μm,0.2s							
BAR				IAML			02 37 55.9	
	comp=E,2μm,0.2s							
BAR	**Barrett**	**0.44**	**246**	⇑*e* P	**Pg**		**02 37 48.7**	**+0.3**
BAR				*e* S	**Sg**		**02 37 54.8**	**+0.5**
BAR				*e*			02 37 55.1	
BAR				IAML			02 37 55.1	
	comp=N,4μm,0.1s							
BAR				⇓*e*			02 37 55.9	
BAR				IAML			02 37 55.9	
	comp=E,2μm,0.2s							
SGL	**Mount Signal**	**0.45**	**118**		**Pg**		**02 37 48.6**	**+0.1**
SGL					**Sg**		**02 37 54.6**	**+0.2**
SGL	**Mount Signal**	**0.45**	**118**	⇑*i* P	**Pg**		**02 37 48.6**	**+0.1**
SGL				*i* S	**Sg**		**02 37 54.6**	**+0.2**
SALN	**Salton City**	**0.45**	**23**	Pg	**Pg**		**02 37 48.5**	**+0.1**
SALN				Sg	**Sg**		**02 37 55.1**	**+0.6**
TKX	**Tecate**	**0.46**	**230**	Pg	**Pg**		**02 37 48.7**	**+0.1**
TKX				Sg	**Sg**		**02 37 55.0**	**+0.3**
TKX	**Tecate**	**0.46**	**230**	*e* P	**Pg**		**02 37 48.9**	**+0.2**
TKX				*i* S	**Sg**		**02 37 55.1**	**+0.3**
MATG	**Mataguay Scout**	**0.51**	**311**		**Pg**		**02 37 50.0**	**+0.4**
MATG					**Sg**		**02 37 56.8**	**+0.4**
MATG	**Mataguay Scout**	**0.51**	**311**	*e* P	**Pg**		**02 37 49.9**	**+0.3**
IMPE	**Imperial**	**0.53**	**86**		**Pb**		**02 37 50.9**	**+0.1**
IMPE					**Sb**		**02 37 59.3**	**+0.9**
WEMD	**Westmorland, C**	**0.54**	**71**		**Pb**		**02 37 50.9**	**0.0**
WEMD					**Sb**		**02 37 59.2**	**+0.5**
WEMD	**Westmorland, C**	**0.54**	**71**	*e* P	**Pg**		**02 37 50.6**	**+0.4**
EML	**El Monte Cty P**	**0.55**	**273**		**Sg**		**02 37 57.8**	**+0.2**
EML	**El Monte Cty P**	**0.55**	**273**	⇑*i* P	**Pg**		**02 37 50.5**	**+0.1**
EML				*e* S	**Sg**		**02 37 57.9**	**+0.2**
DUZA	**Dulzura**	**0.56**	**243**		**Pg**		**02 37 50.6**	**+0.1**
DUZA					**Sg**		**02 37 58.0**	**+0.2**
CLI2	**Calipatria 2**	**0.57**	**63**		**Pb**		**02 37 51.5**	**0.0**
CLI2					**Sb**		**02 38 00.4**	**+0.8**
TJIG	**Tijuana**	**0.59**	**224**	⇑*e* P	**Pg**		**02 37 51.2**	**0.0**
TJIG				*i* S	**Sg**		**02 37 59.1**	**+0.1**
JARAX	**Ej. Heriberto**	**0.61**	**122**	*e* P	**Pg**		**02 37 50.7**	**-0.8**
5053	**Calexico**	**0.62**	**108**		**Pb**		**02 37 52.5**	**+0.3**
5053					**Sb**		**02 38 01.9**	**+1.0**
5271	**Bombay Beach**	**0.62**	**38**		**Pg**		**02 37 52.2**	**+0.5**
DREC	**Desert Rsrch C**	**0.63**	**95**		**Pb**		**02 37 52.6**	**+0.1**
DREC					**Sn**		**02 38 02.7**	**-1.4**
DREC	**Desert Rsrch C**	**0.63**	**95**	⇑*e* P	**Pb**		**02 37 52.6**	**+0.1**
BOMB	**Bombay Beach**	**0.63**	**38**		**Pg**		**02 37 52.4**	**+0.5**
BOMB					**Sb**		**02 38 01.1**	**-0.1**
SNR	**Schaffner Ranc**	**0.64**	**90**		**Pb**		**02 37 52.6**	**+0.1**
SNR					**Sn**		**02 38 03.0**	**-1.2**
DPP	**Dos Picos Cty**	**0.65**	**282**	Pg	**Pg**		**02 37 52.1**	**0.0**
DPP				Sg	**Sg**		**02 38 00.5**	**-0.2**
DPP				IAML			02 38 00.9	
	comp=E,687nm,0.1s							
DPP				IAML			02 38 01.0	
	comp=N,444nm,0.2s							
SDRC	**San Diego Road**	**0.65**	**259**		**Pg**		**02 37 52.1**	**0.0**
SDRC					**Sg**		**02 38 00.6**	**-0.1**
SDRC	**San Diego Road**	**0.65**	**259**	⇑*e* P	**Pg**		**02 37 52.1**	**0.0**
SDRC				*e* S	**Sg**		**02 38 00.6**	**-0.1**
OLP	**Otay Lakes Par**	**0.67**	**248**		**Pg**		**02 37 52.7**	**0.0**
OLP					**Sg**		**02 38 01.4**	**-0.1**
OLP	**Otay Lakes Par**	**0.67**	**248**	⇑*e* P	**Pg**		**02 37 52.7**	**0.0**
OLP				*e* S	**Sg**		**02 38 01.5**	**-0.1**
UABX	**UABC, Campus M**	**0.67**	**110**		**Sb**		**02 38 03.6**	**+1.1**
CBX	**Cerro Bola**	**0.68**	**216**	Pg	**Pg**		**02 37 52.8**	**0.0**
CBX				Sg	**Sg**		**02 38 01.9**	**+0.1**
CBX				IAML			02 38 04.0	
	comp=E,1μm,0.7s							
CBX	**Cerro Bola**	**0.68**	**216**	⇑*e* P	**Pg**		**02 37 52.9**	**+0.1**
FRK	**Frink**	**0.71**	**41**		**Pg**		**02 37 52.9**	**-0.5**
FRK					**Sg**		**02 38 02.1**	**-0.6**
FRD	**Ford Ranch, An**	**0.72**	**331**		**Sg**		**02 38 02.7**	**-0.3**
MTRP	**Mission Trails**	**0.73**	**267**		**Pg**		**02 37 53.6**	**-0.2**
MTRP					**Sg**		**02 38 03.2**	**-0.1**
5054	**Holtville Bond**	**0.74**	**103**		**Pb**		**02 37 54.8**	**+0.5**
5054					**Sb**		**02 38 05.5**	**+1.2**
BZNA	**Buzz No.'s Pla**	**0.74**	**328**		**Sg**		**02 38 04.0**	**+0.2**
PLM	**Palomar**	**0.74**	**311**		**Pg**		**02 37 54.4**	**+0.3**
PLM					**Sg**		**02 38 04.3**	**+0.4**
PLM	**Palomar**	**0.74**	**311**	⇓*i* P	**Pg**		**02 37 54.4**	**+0.3**
CPE	**Camp Elliot**	**0.77**	**272**		**Sg**		**02 38 04.3**	**-0.3**
CPE	**Camp Elliot**	**0.77**	**272**	IAML			02 38 04.7	
	comp=E,398nm,0.3s							
CPE				IAML			02 38 04.9	
	comp=N,518nm,0.3s							
CPE	**Camp Elliot**	**0.77**	**272**	⇑*i* P	**Pg**		**02 37 54.3**	**-0.2**
CPE				*i* S	**Sg**		**02 38 04.5**	**-0.1**
SNDA	**J Saunders Pla**	**0.77**	**333**		**Sg**		**02 38 05.2**	**+0.4**
XPFO	**Pinon Flat**	**0.78**	**344**		**Sb**		**02 38 05.7**	**+0.1**
PFO	**Pinyon Flats O**	**0.78**	**343**	Pg	**Pg**		**02 37 54.4**	**-0.4**
PFO	**Pinyon Flats O**	**0.78**	**343**		**Pg**		**02 37 54.5**	**-0.2**
PFO					**Sg**		**02 38 04.8**	**-0.1**
DNR	**Dunn Ranch,Anz**	**0.79**	**332**	Pg	**Pg**		**02 37 55.1**	**+0.1**
DNR				Sg	**Sg**		**02 38 05.6**	**+0.2**
DNR				IAML			02 38 09.0	
	comp=E,882nm,0.4s							
PMD	**Palm Desert**	**0.80**	**349**	Pg	**Pg**		**02 37 54.6**	**-0.4**
PMD				Sg	**Sg**		**02 38 04.9**	**-0.6**
PMD				IAML			02 38 06.7	
	comp=E,359nm,0.4s							
SDMC	**San Diego Miss**	**0.80**	**265**		**Pg**		**02 37 54.9**	**-0.2**
SDMC					**Sg**		**02 38 05.8**	**+0.2**
TJX	**Tijuana**	**0.81**	**244**	Pg	**Pg**		**02 37 55.4**	**+0.2**
TJX				Sg	**Sg**		**02 38 06.0**	**+0.2**
TJX				IAML			02 38 06.9	
	comp=N,663nm,0.9s							
TJX				IAML			02 38 15.0	
	comp=E,627nm,0.6s							
SLVP	**Salvation Pass**	**0.83**	**63**		**Pb**		**02 37 54.7**	**-1.3**
SLVP					**Sg**		**02 38 05.9**	**-0.7**
CRY	**Cary Ranch**	**0.84**	**327**		**Sg**		**02 38 06.7**	**-0.1**
CTW	**Cottonwood Mou**	**0.85**	**18**		**Pb**		**02 37 55.4**	**-0.9**
CTW					**Sb**		**02 38 05.5**	**-1.2**
CPBX	**Cerro Prieto**	**0.87**	**120**	Pg	**Pb**		**02 37 56.5**	**0.0**
CPBX	**Cerro Prieto**	**0.87**	**120**	⇓*e*	**Sn**		**02 38 13.5**	**+3.4**
CPBX				IAML			02 38 13.5	
	comp=N,1μm,0.2s							
CPBX				*e*			02 38 16.3	
CPBX				IAML			02 38 16.3	
	comp=E,1μm,0.2s							
ESJX	**Sierra Juarez**	**0.88**	**166**	Pg	**Pb**		**02 37 56.1**	**-0.7**
ESJX				Sg	**Sg**		**02 38 04.8**	**+0.2**
ESJX				IAML			02 38 09.5	
	comp=N,334nm,0.1s							
ESJX				IAML			02 38 11.4	
	comp=E,488nm,0.1s							
GVDA	**Garner Valley**	**0.90**	**333**		**Pb**		**02 37 57.0**	**-0.2**
GVDA					**Sb**		**02 38 08.3**	**-0.8**
COA	**Coachella**	**0.90**	**90**		**Pb**		**02 37 56.1**	**-0.9**
COA					**Sb**		**02 38 08.8**	**-0.2**
COA	**Coachella**	**0.90**	**90**	⇑*i* P	**Pb**		**02 37 56.1**	**-0.9**
GORC	**Green Oak Ranc**	**0.92**	**289**		**Sb**		**02 38 08.7**	**-0.9**
ALAMX	**Rancho Alamar**	**0.95**	**154**	⇓*e* P	**Pb**		**02 37 57.3**	**-0.6**
ALAMX				*e* S	**Sb**		**02 38 09.5**	**-0.9**
ALAMX				IAML			02 38 11.0	
	comp=E,600nm,0.3s							
ALAMX				IAML			02 38 12.8	
	comp=N,598nm,0.2s							
ALAMX				⇑*e*			02 38 12.8	
CORX	**Isla Coronado**	**1.00**	**244**	⇑*e* P	**Pb**		**02 37 58.5**	**-0.3**
CORX				*e* S	**Sb**		**02 38 11.9**	**+0.1**
BC3	**Big Chuckawall**	**1.00**	**38**	Pg	**Pb**		**02 37 57.7**	**-1.2**
BC3				Sg	**Sb**		**02 38 10.3**	**-1.8**
CCX	**Cicese**	**1.07**	**202**	Pg	**Pb**		**02 37 59.7**	**-0.3**
CCX				Sg	**Sb**		**02 38 13.7**	**-0.2**
SJX	**San Joaquin**	**1.12**	**170**	⇓*e* P	**Pb**		**02 37 56.3**	**-4.5**
BELC	**Belle Mtn. Jos**	**1.15**	**8**	Pg	**Pb**		**02 38 00.1**	**-1.2**
GLA	**Glamis**	**1.16**	**80**	Pg	**Pn**		**02 37 59.9**	**-1.8**
GLA	**Glamis**	**1.16**	**80**	*e* P	**Pn**		**02 37 60.0**	**-1.6**
ELS	**Elsinore Mount**	**1.30**	**307**		**Pn**		**02 38 03.5**	**0.0**
ELS				IAML			02 38 20.6	
	comp=N,126nm,0.3s							
VTX	**Valle De La Tr**	**1.51**	**167**		**Pn**		**02 38 07.0**	**+0.6**
IRM	**Iron Mountain**	**1.56**	**34**		**Pb**		**02 38 08.3**	**0.0**
BFSC	**Mount Baldy Ra**	**1.84**	**319**	Pn	**Pb**		**02 38 12.7**	**-0.5**
DANC	**Danby, Needles**	**1.89**	**21**	Pn	**Pb**		**02 38 13.4**	**-0.7**
113A	**Mohawk Valley,**	**2.04**	**92**	Pn	**Pn**		**02 38 12.4**	**-1.3**
MWC	**Mount Wilson**	**2.07**	**312**	Pn	**Pn**		**02 38 15.5**	**+1.3**
MWC				IAML			02 38 47.8	
	comp=E,68nm,0.5s							
MWC				IAML			02 38 48.6	
	comp=N,69nm,0.5s							
PASC	**Pasadena Art C**	**2.12**	**309**	Pn	**Pn**		**02 38 15.3**	**+0.6**
PASC				IAML			02 38 47.4	
	comp=N,53nm,0.6s							
TPO	**Tropico Hills**	**2.63**	**320**	Pn	**Pn**		**02 38 22.3**	**+0.5**
Y14A	**Wickenburg**	**2.87**	**67**	Pn	**Pn**		**02 38 26.2**	**+1.1**
W13A	**Hualapai Mount**	**2.94**	**40**	Pn	**Pn**		**02 38 27.0**	**+0.8**
214A	**Organ Pipe Nat**	**3.00**	**107**	Pn	**Pn**		**02 38 26.4**	**-0.5**
SHOC	**Shoshone, Teco**	**3.03**	**359**	Pn	**Pn**		**02 38 28.2**	**+0.9**
V12A	**Nelson**	**3.06**	**21**	Pn	**Pn**		**02 38 29.4**	**+1.6**
VES	**Vestal, Richgr**	**3.81**	**322**	Pn	**Pn**		**02 38 38.0**	**0.0**
WCT	**Wildcat Mounta**	**3.94**	**355**	Pn	**Pn**		**02 38 38.7**	**-1.1**
TPNV	**Topopah Spring**	**4.08**	**359**	Pn	**Pn**		**02 38 43.2**	**+1.4**
X16A	**Lo Mia Camp, P**	**4.25**	**67**	Pn	**Pn**		**02 38 44.8**	**+0.5**
PRN	**Pahroc Range**	**4.63**	**11**	Pn	**Pn**		**02 38 50.4**	**+1.1**
U15A	**North Rim**	**4.79**	**41**	Pn	**Pn**		**02 38 53.3**	**+1.5**
LCMT	**Little Creek M**	**4.79**	**30**	Pn	**Pn**		**02 38 52.6**	**+0.9**
KNB	**Kanab**	**4.98**	**33**	Pn	**Pn**		**02 38 55.6**	**+1.4**

CATAC 23 02:45:06.0±0.6,12˚N±4˚×87˚W±˚,h35km±6km,M3.0/13, MLv3.0/13,Error ellipse: s-maj=9.3km s-min=7.6km az=12.3,confirmed,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
COPN	**Copaltepe**	**0.54**	**31**	P	Pn		02 45 17.9	+0.7
COPN				S	Sn		02 45 27.1	+2.1
SAPS	**Ciudad Sandino**	**0.64**	**45**	P	Pn		02 45 19.0	+0.3
SAPS	**Ciudad Sandino**	**0.64**	**45**	S	Sn		02 45 29.2	+1.6
ABCN	**Banco Central**	**0.68**	**54**	S	Sn		02 45 30.4	+1.8
UNAN	**Cigeo UNAN**	**0.71**	**56**	P	Pn		02 45 20.3	+0.7
UNAN				S	Sn		02 45 30.8	+1.6
APQ2	**Apoyeque**	**0.72**	**48**	P	Pn		02 45 20.0	+0.4
APQ2				S	Sn		02 45 30.3	+0.9
ALLN	**Telcor Managua**	**0.73**	**53**	S	Sn		02 45 31.2	+1.5
APQ3	**Volcan Apoyequ**	**0.74**	**42**	P	Pn		02 45 21.0	+1.0
APQ3				S	Sn		02 45 32.4	+2.4
R4DEC	**Barrio San Lui**	**0.75**	**55**	S	Sn		02 45 31.8	+1.7
R4DEC	**Barrio San Lui**	**0.75**	**55**	P	Pn		02 45 20.6	+0.6
CNGA	**Al SSO del Vol**	**0.79**	**12**	P	Pn		02 45 20.9	+0.2
CNGA				S	Sn		02 45 32.7	+1.3
CNGN	**Cerro Negro**	**0.80**	**12**	P	Pn		02 45 21.3	+0.5
CNGN	**Cerro Negro**	**0.80**	**12**	S	Sn		02 45 32.5	+0.9
MOM2	**El Cardon**	**0.81**	**28**	P	Pn		02 45 21.5	+0.6
MOM2				S	Sn		02 45 33.6	+1.8
PLRN	**Geotermica Pol**	**0.87**	**7**	P	Pn		02 45 21.3	-0.4
QUEN	**Al S del Volca**	**0.87**	**1**	P	Pn		02 45 22.5	+0.7
ILCN	**San Idelfonso**	**0.87**	**11**	P	Pn		02 45 22.0	+0.2
ILCN				S	Sn		02 45 34.6	+1.3
CSGN	**Cosiguina Volc**	**1.42**	**332**	P	Pn		02 45 29.6	+0.2
CSGN				S	Sn		02 45 47.7	+0.7
CHOHN	**Orocuina**	**1.78**	**351**	P	Pn		02 45 35.2	+0.9
RCPN	**Sur Rio San Ju**	**1.95**	**23**	P	Pn		02 45 37.3	+0.5

PDG ***23*** *03:00:47.7±0.5,41˚.42N×20˚.32E,h7km±1km,ML2.5/10, Error ellipse: s-maj=1.2km s-min=2.7km az=0.0*
TIR ***23*** *03:00:47.1,41˚.46N×20˚.44E,h34km±1km,Ml2.3/2*
SKO ***23*** *03:00:47.1,41˚.41N×20˚.34E,h9km,ML2.4*
BEO ***23*** *03:00:47.3±0.4,41˚.48N×20˚.28E,h4km±2km,ML2.0/6*
ISC 23 03:00:47.0±1.0,41˚.44N±0˚.02×20˚.37E±0˚.02,h10km±9km, n35,σ1916/60,10C-8D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TIR	**Tirane**	**0.39**	**257**	*i* Pg	**Pg**		**03 00 54.2**	**-0.5**
TIR				*i* Sg	**Sg**		**03 01 00.8**	**+1.0**
TIR	**Tirane**	**0.39**

mbtmp4.0/20,ML3.5/3,MS3.3/8,Error ellipse: s-maj=23.3km s-min=15.1km az=6.0
*MOS **23** 03:08:29.3±1.1,52°.69N×173°.33W,h17km,mb4.6/7,Error ellipse: s-maj=15.4km s-min=9.3km az=90.6*
*NEIC **23** 03:08:30.6±1.6,52°.54N±0°.08×173°.34W±0°.07,h14km±5km, mb4.2/95,ML4.5/20,ML4.1(AEIC),Error ellipse: s-maj=12.2km s-min=4.3km az=160.0*

ISC 23 03:08:29.9±0.5,52°.58N±0°.07×173°.34W±0°.03,h10km, n168,σ0.92/134,mb4.2/37,MS3.4/6,1C,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.65**	**235**	Pg	**Pg**	**03 08 42.3**	**-0.1**
ATKA				Sg	**Sg**	**03 08 51.6**	**+0.8**
ATKA				IAML		03 08 52.5	
	comp=N,24μm,0.7s						
GSIG	**Igitkin Island**	**1.70**	**251**		**Pn**	**03 08 58.8**	**-0.8**
GSTR	**Great Sitkin T**	**1.74**	**255**		**Sn**	**03 09 23.2**	**+0.8**
GSTR	**Great Sitkin T**	**1.74**	**255**	Pn	**Pn**	**03 08 59.6**	**-0.6**
GSMY	**Great Sitkin M**	**1.75**	**253**		**Pn**	**03 08 59.2**	**-1.1**
GSMY					**Sn**	**03 09 23.7**	**+1.0**
GSTD	**Great Sitkin T**	**1.80**	**254**		**Pn**	**03 08 59.8**	**-1.3**
GSSP	**Great Sitkin S**	**1.81**	**256**		**Pn**	**03 08 60.0**	**-1.1**
ETKA	**Kagalaska Isla**	**2.02**	**250**		**Pn**	**03 09 03.5**	**-0.4**
ETKA					**Sn**	**03 09 30.8**	**+1.5**
ADAG	**Mount Adagdak**	**2.09**	**255**		**Pn**	**03 09 04.7**	**-0.3**
CLES	**Cleveland East**	**2.11**	**82**		**Sn**	**03 09 32.0**	**+0.6**
CLES					**Sb**	**03 09 33.4**	**-1.0**
CLES	**Cleveland East**	**2.11**	**82**	Pn	**Pn**	**03 09 04.1**	**-1.1**
ADK	**Adak**	**2.17**	**253**		**Sn**	**03 09 33.4**	**+0.4**
ADK					**Sb**	**03 09 33.9**	**-2.3**
ADK	**Adak**	**2.17**	**253**	Pn	**Pn**	**03 09 05.3**	**-0.8**
ADK				IAML		03 09 38.4	
	comp=N,5μm,0.6s						
ADK				IAML		03 09 39.0	
	comp=N,4μm,0.6s						
ADK	**Adak**	**2.17**	**253**	P	**Pn**	**03 09 05.3**	**-0.8**
ADK						03 09 33.4	
CLCO	**Concord Point,**	**2.21**	**83**		**Pn**	**03 09 05.7**	**-0.9**
KIRH	**Kanaga Island**	**2.41**	**255**		**Pn**	**03 09 09.0**	**-0.3**
KIWB	**Kanaga Island**	**2.46**	**254**		**Sn**	**03 09 40.7**	**+0.7**
KIWB	**Kanaga Island**	**2.46**	**254**	Pn	**Pn**	**03 09 09.3**	**-0.6**
KIWB				IAML		03 09 47.5	
	comp=E,4μm,0.7s						
KIWB				IAML		03 09 47.5	
	comp=N,3μm,0.8s						
KIMD	**Kanaga Island**	**2.54**	**253**		**Sn**	**03 09 42.1**	**+0.1**
NIKH	**Nikolski High**	**2.75**	**80**		**Sn**	**03 09 49.6**	**+2.4**
NIKH	**Nikolski High**	**2.75**	**80**	Pn	**Pn**	**03 09 13.2**	**-0.8**
NIKH				IAML		03 09 55.7	
	comp=E,2μm,0.7s						
TAFL	**Tanaga Flats**	**2.93**	**256**		**Pn**	**03 09 16.5**	**0.0**
TAFP	**Tanaga Falls P**	**2.94**	**259**		**Pn**	**03 09 16.4**	**-0.2**
TASE	**Tanaga Southea**	**2.99**	**257**		**Sn**	**03 09 52.8**	**-0.4**
TANO	**Tanaga North**	**3.02**	**259**		**Pn**	**03 09 17.4**	**-0.3**
OKSP	**Okmok Steeple**	**3.13**	**75**		**Pn**	**03 09 18.4**	**-0.8**
OKTU	**Okmok Mt. Tuli**	**3.30**	**74**		**Pn**	**03 09 21.3**	**-0.4**
GAEA	**Gareloi East**	**3.42**	**259**		**Pn**	**03 09 23.4**	**+0.1**
GANE	**Gareloi Northe**	**3.43**	**259**		**Sn**	**03 10 03.4**	**-0.7**
GANO	**Gareloi North**	**3.45**	**260**		**Pn**	**03 09 23.4**	**-0.2**
GASW	**Gareloi Southw**	**3.49**	**259**		**Pn**	**03 09 23.9**	**-0.3**
GAKI	**Gareloi-Kavalg**	**3.53**	**255**		**Pn**	**03 09 24.7**	**0.0**
MREP	**Makushin Rep't**	**4.15**	**70**		**Pn**	**03 09 33.5**	**+0.2**
UNV	**Unalaska Valle**	**4.30**	**70**	Pn	**Pn**	**03 09 35.0**	**-0.3**
P08K	**Saint George I**	**4.60**	**27**	Pn	**Pn**	**03 09 37.8**	**-1.5**
P08K				IAML		03 10 29.7	
	comp=E,251nm,1.4s						
P08K				IAML		03 10 32.8	
	comp=N,324nm,0.6s						
AKRB	**Akutan Reef Bi**	**4.62**	**67**		**Pn**	**03 09 39.6**	**-0.1**
ZRO	**Akutan Zero**	**4.66**	**68**		**Pn**	**03 09 40.4**	**+0.1**
AMKA	**Amchitka**	**4.71**	**258**	Pn	**Pn**	**03 09 40.8**	**-0.1**
AKUT	**Akutan**	**4.79**	**68**	Pn	**Pn**	**03 09 42.6**	**+0.6**
SPIA	**Saint Paul Isl**	**4.94**	**20**	Pn	**Pn**	**03 09 43.5**	**-0.6**
SPIA				IAML		03 10 40.2	
	comp=E,345nm,0.6s						
SPIA				IAML		03 10 40.7	
	comp=N,299nm,0.6s						
LSSE	**Little Sitkin**	**5.01**	**266**		**Pn**	**03 09 45.8**	**+0.7**
LSNW	**Little Sitkin**	**5.04**	**266**		**Pn**	**03 09 46.2**	**+0.7**
S12K	**Black Hills**	**7.33**	**60**	Pn	**Pn**	**03 10 17.3**	**+0.5**
SHEM	**Shemya Is, Ala**	**7.65**	**276**	LR	LR	03 13 12.6	
	comp=N,180nm,20.1s,baz=108,slow=37						
SDPT	**Sand Point**	**8.08**	**65**	Pn	**Pn**	**03 10 28.5**	**+1.4**
M11K	**Mekoryuk**	**8.76**	**24**	Pn	**Pn**	**03 10 37.0**	**+0.5**
O14K	**Tigyukauivet M**	**9.51**	**41**	Pn	**Pn**	**03 10 46.8**	**0.0**
M13K	**Dall Lake**	**9.59**	**31**	Pn	**Pn**	**03 10 48.6**	**+0.8**
N14K	**Kuskokwak Cree**	**9.80**	**37**	Pn	**Pn**	**03 10 50.9**	**+0.2**
O15K	**Ungalikthiuk R**	**10.05**	**44**	Pn	**Pn**	**03 10 54.7**	**+0.5**
M14K	**Bethel**	**10.30**	**33**	Pn	**Pn**	**03 10 57.9**	**+0.4**
K13K	**Kusilvak Mount**	**10.48**	**23**	Pn	**Pn**	**03 11 00.9**	**+0.9**
L14K	**Kuka Creek**	**10.52**	**29**	Pn	**Pn**	**03 11 00.7**	**+0.2**
N15K	**Kwethluk River**	**10.56**	**39**	Pn	**Pn**	**03 11 01.7**	**+0.6**
P16K	**Nushagak River**	**10.77**	**47**	Pn	**Pn**	**03 11 04.8**	**+0.8**
PLK4	**Peulik 4**	**10.95**	**56**	Pn	**Pn**	**03 11 08.1**	**+1.5**
M17K	**Holitna River**	**12.35**	**38**	Pn	**Pn**	**03 11 25.7**	**+0.2**
O18K	**Koktuh Hills**	**12.42**	**47**	Pn	**Pn**	**03 11 27.8**	**+1.3**
KDAK	**Kodiak Island**	**12.93**	**58**	Pn	**Pn**	**03 11 32.2**	**-1.3**
	comp=N,0.7nm,0.3s,baz=179,slow=3.9,SNR=11						
	comp=N,7.4nm,0.9s						
KDAK	**Kodiak Island**	**12.93**	**58**	*i* P	**Pn**	**03 11 35.3**	**+1.8**
M19K	**Big River Lodg**	**13.82**	**40**	Pn	**Pn**	**03 11 46.0**	**+0.3**
H17K	**Granite Mounta**	**14.17**	**24**	Pn	**Pn**	**03 11 52.7**	**+2.3**
SPU	**Mount Spurr**	**14.42**	**45**	Pn	**Pn**	**03 11 56.3**	**+2.4**
PPLA	**Purkeypile**	**15.22**	**39**	IAmb	IAmb	03 12 16.9	
	comp=Z,13nm,0.8s						
G18K	**Tagagawik**	**15.26**	**23**	IAmb	IAmb	03 12 13.4	
	comp=Z,17nm,1.1s						
J20K	**Nowinta River**	**15.29**	**33**	IAmb	IAmb	03 12 28.4	
	comp=Z,6.5nm,0.6s						
CAST	**Castle Rocks**	**15.55**	**37**	IAmb	IAmb	03 12 17.1	
	comp=Z,8.6nm,0.9s						
TRF	**Thorofare Moun**	**16.25**	**39**	IAmb	IAmb	03 12 38.7	
	comp=Z,20nm,1.1s						
BPAW	**Bear Paw Mtn.**	**16.34**	**36**	Pn	**Pn**	**03 12 19.7**	**+0.5**
E19K	**Redstone River**	**16.86**	**22**	IAmb	IAmb	03 12 31.0	
	comp=Z,15nm,1.2s						
PEA0B	**Petropavlovsk-**	**17.46**	**283**	*i* P	**Pn**	**03 12 34.5**	**+1.2**
PETK	**Petropavlovsk-**	**17.46**	**283**	P	**P**	**03 12 35.0**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=75,slow=17,SNR=5.2						
PETK				LR	LR	03 18 00.3	
	comp=Z,57nm,21.4s,baz=145,slow=33						
	comp=Z,2.5nm,0.9s						
PETK	**Petropavlovsk-**	**17.46**	**283**	P	**P**	**03 12 35.0**	**+0.5**
I23K	**Minto, Yukon-K**	**17.52**	**35**	P	**P**	**03 12 36.5**	**+1.4**
I23K				IAmb	IAmb	03 12 43.7	
	comp=Z,31nm,1.3s						
COLA	**College**	**17.91**	**37**	*i* P	**Pn**	**03 12 37.9**	**-0.8**
IL31		**18.21**	**38**	IAmb	IAmb	03 12 58.8	
	comp=Z,19nm,1.5s						
ILAR	**Eielson Array**	**18.21**	**38**	P	**Pn**	**03 12 41.5**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=239,slow=9.2,SNR=63						
	comp=Z,2.5nm,0.6s						
BILL	**Bilibino**	**18.35**	**335**	*i* P	**Pn**	**03 12 43.8**	**-0.3**
H24K	**Noodor Dome**	**18.42**	**34**	IAmb	IAmb	03 12 50.8	
	comp=Z,18nm,0.9s						
RIDG	**Independent Ri**	**18.54**	**42**	IAmb	IAmb	03 13 01.2	
	comp=Z,12nm,0.9s						
J25K	**Salcha River,**	**18.71**	**39**	P	**P**	**03 12 47.6**	**-0.6**
J25K				IAmb	IAmb	03 12 51.3	
	comp=Z,24nm,1.2s						
DOT	**Dot Lake**	**18.83**	**43**	IAmb	IAmb	03 12 51.6	
	comp=Z,11nm,0.8s						
SCRK	**Sand Creek**	**18.99**	**42**	IAmb	IAmb	03 12 52.2	
	comp=Z,10nm,0.9s						
D22K	**Ayikyak River**	**19.04**	**23**	IAmb	IAmb	03 13 04.7	
	comp=Z,7.5nm,0.8s						
G24K	**Hadweenzic Riv**	**19.05**	**32**	IAmb	IAmb	03 12 56.2	
	comp=Z,12nm,1.1s						
B21K	**Ikpikpuk River**	**19.19**	**20**	IAmb	IAmb	03 13 00.7	
	comp=Z,17nm,0.8s						
M27K	**Edge Creek, AK**	**19.34**	**47**	IAmb	IAmb	03 12 58.3	
	comp=Z,19nm,0.9s						
J26L	**Joseph Creek**	**19.37**	**40**	IAmb	IAmb	03 12 56.8	
	comp=Z,14nm,0.7s						
F24K	**Squaw Lake**	**19.41**	**30**	IAmb	IAmb	03 13 03.4	
	comp=Z,7.2nm,0.7s						
E24K	**Your Creek**	**19.58**	**28**	IAmb	IAmb	03 13 01.6	
	comp=Z,7.4nm,0.8s						
D23K	**Nanushuk River**	**19.60**	**24**	IAmb	IAmb	03 13 12.8	
	comp=Z,11nm,1.1s						
TOLK	**Toolik Lake Re**	**19.66**	**26**	IAmb	IAmb	03 13 02.9	
	comp=Z,14nm,0.8s						
FYU	**Fort Yukon**	**19.72**	**34**	IAmb	IAmb	03 13 03.5	
	comp=Z,18nm,1.1s						
K27K	**Chicken**	**19.79**	**42**	IAmb	IAmb	03 13 03.3	
	comp=Z,9.6nm,0.8s						
I26K	**Coal Creek Min**	**19.86**	**38**	IAmb	IAmb	03 13 02.0	
	comp=Z,8.1nm,0.9s						
F25K	**Christian Rive**	**20.15**	**31**	IAmb	IAmb	03 13 06.0	
	comp=Z,7.8nm,0.8s						
D24K	**Happy Valley**	**20.21**	**25**	IAmb	IAmb	03 13 10.6	
	comp=Z,10nm,0.8s						
C23K	**Itkillik River**	**20.25**	**23**	P	**P**	**03 13 05.4**	**+0.5**
BMAR	**Burnt Mountain**	**20.39**	**32**	P	**P**	**03 13 08.1**	**+1.4**
G26K	**Porcupine Rive**	**20.41**	**34**	P	**P**	**03 13 06.8**	**+0.1**
G26K				IAmb	IAmb	03 13 12.8	
	comp=Z,8.9nm,0.7s						
E25K	**Arctic Village**	**20.47**	**30**	P	**P**	**03 13 08.1**	**+0.7**
E25K				IAmb	IAmb	03 13 26.9	
	comp=Z,8.3nm,1.1s						
F26K	**Sheenjek River**	**20.68**	**32**	P	**P**	**03 13 10.2**	**+0.5**
F26K				IAmb	IAmb	03 13 16.0	
	comp=Z,10nm,0.9s						
SEY	**Seymchan**	**20.75**	**313**	P	**P**	**03 13 10.7**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=122,slow=9.6,SNR=8.8						
	comp=Z,4.1nm,0.8s						
SEY	**Seymchan**	**20.75**	**313**	*e*P	**P**	**03 13 10.4**	**0.0**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H27K	**Steamboat Moun**	**20.87**	**37**	P	**P**	**03 13 12.3**	**+0.6**
H27K				IAmb	IAmb	03 13 19.4	
	comp=Z,7.8nm,1.1s						
DAWY	**Dawson**	**20.92**	**43**	IAmb	IAmb	03 13 25.9	
	comp=Z,9.1nm,1.0s						
D25K	**Kavik River**	**20.98**	**27**	IAmb	IAmb	03 13 17.1	
	comp=Z,9.4nm,1.1s						
MA2	**Magadan**	**21.01**	**304**	LR	LR	03 22 40.2	
	comp=Z,51nm,18.9s,baz=340,slow=41						
K29M	**Barlow Dome**	**21.65**	**45**	P	**P**	**03 13 21.4**	**+1.2**
K29M				IAmb	IAmb	03 14 04.7	
	comp=Z,9.2nm,1.2s						
E27K	**Coleen River**	**21.76**	**32**	IAmb	IAmb	03 13 25.9	
	comp=Z,11nm,1.1s						
C27K	**Jago River**	**21.91**	**28**	IAmb	IAmb	03 13 25.7	
	comp=Z,13nm,1.3s						
F28M	**Old Crow**	**22.06**	**34**	IAmb	IAmb	03 13 28.4	
	comp=Z,6.0nm,0.8s						
J30M	**Hart River**	**22.34**	**43**	P	**P**	**03 13 28.5**	**+0.8**
J30M				IAmb	IAmb	03 13 47.3	
	comp=Z,5.6nm,0.9s						
I30M	**Mount Dempster**	**22.50**	**41**	IAmb	IAmb	03 13 45.3	
	comp=Z,8.1nm,0.9s						
D27M	**Malcolm River**	**22.50**	**30**	IAmb	IAmb	03 13 32.3	
	comp=Z,4.2nm,0.8s						
E29M	**Blow River**	**23.07**	**33**	IAmb	IAmb	03 13 38.0	
	comp=Z,7.9nm,0.8s						
H31M	**Peel River**	**23.47**	**41**	P	**P**	**03 13 38.8**	**-0.5**
H31M				IAmb	IAmb	03 13 40.3	
	comp=Z,9.8nm,1.0s						
INK	**Inuvik**	**24.54**	**35**	P	**P**	**03 13 49.4**	**+0.2**
INK	**Inuvik**	**24.54**	**35**	P	**P**	**03 13 49.4**	**+0.2**
INK				pmax	pmax		
	comp=Z,13nm,1.0s						
DLBC	**Dease Lake**	**24.86**	**59**	P	**P**	**03 13 51.8**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=275,slow=16,SNR=3.2						
	comp=Z,2.9nm,0.8s						
ASAJ	**Asahikawa**	**30.07**	**272**	LR	LR	03 26 35.0	
	comp=Z,43nm,19.4s,baz=161,slow=36						
TIXI	**Tiksi**	**31.31**	**329**	*i* P	**P**	**03 14 49.6**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s						
YKA	**Yellowknife Ar**	**31.93**	**49**	LR	LR	03 27 45.9	
	comp=Z,125nm,21.9s,baz=288,slow=36						
J08A	**Circle Bar Ran**	**37.05**	**82**	P	**P**	**03 15 40.3**	**+0.4**
J08A				IAmb	IAmb	03 16 03.9	
	comp=Z,2.4nm,0.6s						
BOZ	**Bozeman (W)**	**39.90**	**75**	IAmb	IAmb	03 16 08.5	
	comp=Z,4.6nm,1.3s						
NVAR	**Mina Array Bea**	**40.09**	**88**	P	**P**	**03 16 06.2**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=301,slow=7.9,SNR=3.8						
	comp=Z,0.4nm,0.6s						
YHH	**Holmes Hill**	**40.80**	**75**	P	**P**	**03 16 11.7**	**+0.2**
PRN	**Pahroc Range**	**42.72**	**87**	P	**P**	**03 16 27.4**	**+0.3**
PRN				IAmb	IAmb	03 16 39.8	
	comp=Z,3.8nm,0.8s						
PD31	**Pinedale Array**	**42.73**	**77**	P	**P**	**03 16 26.8**	**-0.5**
PD31				IAmb	IAmb	03 16 36.4	
	comp=Z,2.8nm,0.8s						
PDAR	**Pinedale Array**	**42.73**	**77**	P	**P**	**03 16 26.2**	**-1.1**
PDAR	**Pinedale Array**	**42.73**	**77**	P	**P**	**03 16 27.2**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=309,slow=3.7,SNR=19						
	comp=Z,2.1nm,0.8s						
HMU	**Henry Mountain**	**45.00**	**83**	P	**P**	**03 16 45.9**	**+0.3**
U15A	**North Rim**	**45.04**	**86**	P	**P**	**03 16 46.5**	**+0.6**
U15A				IAmb	IAmb	03 16 59.2	
	comp=Z,2.6nm,0.7s						
ULN	**Ulaanbaatar**	**48.72**	**298**	*i* P	**P**	**03 17 13.6**	**-0.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
SONM	**Songino Array**	**49.09**	**299**	LR	LR	03 39 04.2	
	comp=Z,92nm,18.6s,baz=248,slow=37						
SPITS	**Spitsbergen Ar**	**49.38**	**357**	P	**P**	**03 17 18.5**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=66,slow=5.0,SNR=6.2						
	comp=Z,2.3nm,0.7s						
ECSD	**EROS Data Cent**	**49.66**	**68**	P	**P**	**03 17 19.8**	**-1.7**
ECSD				IAmb	IAmb	03 17 36.3	
	comp=Z,4.2nm,1.2s						
HHC	**Hu-ho-hao-te**	**50.57**	**288**	*e*P	**P**	**03 17 29.9**	**+1.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,7.3s						
SUMG	**Summit**	**51.27**	**16**	P	**P**	**03 17 33.0**	**-0.7**
SUMG	**Summit**	**51.27**	**16**	P	**P**	**03 17 33.0**	**-0.7**
SUMG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SFJD	**Kangerlussuaq**	**53.22**	**24**	LR	LR	03 44 30.5	
	comp=Z,37nm,18.5s,baz=318,slow=41						
TXAR	**Lajitas Array**	**55.16**	**86**	P	**P**	**03 18 02.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=309,slow=6.1,SNR=11						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**57.42**	**352**	P	**P**	**03 18 18.2**	**+0.1**
ARCES	**ARCESS Array B**	**57.42**	**352**	P	**P**	**03 18 16.4**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=14,slow=7.2,SNR=8.4						
	comp=Z,1.8nm,0.8s						
ARCES	**ARCESS Array B**	**57.42**	**352**	P	**P**	**03 18 18.2**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KURK	**Kurchatov**	**60.57**	**316**	P	**P**	**03 18 40.8**	**+0.7**
KURK	**Kurchatov**	**60.57**	**316**	*i* P	**P**	**03 18 40.1**	**0.0**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**60.68**	**316**	P	**P**	**03 18 41.2**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=43,slow=6.9,SNR=24						
	comp=Z,3.4nm,0.7s						
MK31	**Makanchi Array**	**61.87**	**311**	*i* P	**P**	**03 18 47.8**	**-1.2**
MKAR	**Makanchi Array**	**61.87**	**311**	P	**P**	**03 18 49.0**	**0.0**
	comp=Z,0.7nm,0.7s,baz=56,slow=4.5,SNR=5.8						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**62.09**	**322**	P	**P**	**03 18 50.8**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=54,slow=7.7,SNR=13						
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**62.10**	**322**	*i* P	**P**	**03 18 49.4**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARTI	**Arti**	**63.38**	**331**	P	**P**	**03 18 59.2**	**+0.3**
ARTI	**Arti**	**63.38**	**331**	*c* P	**P**	**03 18 58.9**	**0.0**
ARTI						03 19 32.7	
ARTI				S	**S**	**03 27 32.1**	**+1.1**
ARTI				SS	**SS**	**03 31 39.0**	**+2.4**
ARTI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**65.28**	**350**	P	**P**	**03 19 10.0**	**-1.2**
	comp=Z,2.4nm,0.9s,baz=45,slow=7.2,SNR=5.6						
	comp=Z,2.4nm,0.9s						
PZH	**PanZhiHua**	**66.42**	**283**	P	**P**	**03 19 20.4**	**+1.1**
NOA	**NORSAR Array B**	**66.68**	**358**	P	**P**	**03 19 18.9**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=3.9,slow=6.5,SNR=3.5						
	comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**67.50**	**356**	P	**P**	**03 19 23.8**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=358,slow=3.3,SNR=5.8						
	comp=Z,0.9nm,0.5s						
AB31	**Akbulak array**	**68.94**	**326**	P	**P**	**03 19 34.8**	**+0.1**
AB31				IAmb	IAmb	03 19 43.0	
	comp=Z,2.5nm,1.3s						
ABKAR	**Akbulak array**	**68.94**	**326**	P	**P**	**03 19 34.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**74.20**	**280**	LR	LR	03 54 04.4	
	comp=Z,19nm,19.3s,baz=195,slow=37						
CLL	**Collm**	**76.35**	**356**	*e*P	**P**	**03 20 19.0**	**+0.3**
CLL	**Collm**	**76.35**	**356**	*e*P	**P**	**03 20 19.0**	**+0.3**
GERES	**GERESS Array B**	**78.78**	**355**	P	**P**	**03 20 31.0**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=19,slow=4.8,SNR=4.8						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**85.28**	**228**	P	**P**	**03 21 06.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=24,slow=5.0,SNR=3.4						
	comp=Z,0.9nm,0.7s						
ESDC	**Sonseca Array**	**87.66**	**8**	P	**P**	**03 21 17.0**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=335,slow=3.5,SNR=2.7						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**88.72**	**227**	P	**P**	**03 21 25.3**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=28,slow=4.5,SNR=3.5						
	comp=Z,1.0nm,0.7s						
MAW	**Mawson**	**149.52**	**219**	PKPbc	**PKPbc**	**03 28 18.7**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=59,slow=1.7,SNR=4.0						

CATAC 23 03:09:50.4±0.7,12°N±4°×8°8W±°,h22km±7km,M3.1/11, MLv3.1/11,Error ellipse: s-maj=9.7km s-min=4.7km az=25.4,confirmed,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.21**	**23**	P	Pn	03 10 11.4	-0.6
CSGN				S	Sn	03 10 28.2	+0.4
POTN	**Potosi Cosigui**	**1.25**	**25**	P	Pn	03 10 12.2	-0.4
POTN				S	Sb	03 10 29.1	+0.1
CRIN	**San Cristobal**	**1.28**	**49**	P	Pn	03 10 13.1	+0.1
CNCH	**Conchagua**	**1.42**	**8**	P	Pn	03 10 15.0	-0.1
CNCH	**Conchagua**	**1.42**	**8**	S	Sb	03 10 33.8	-0.3
PLRN	**Geotermica Pol**	**1.44**	**60**	P	Pn	03 10 14.7	-0.5
LCND	**La Caada**	**1.45**	**6**	P	Pn	03 10 15.2	-0.1
CNGA	**Al SSO del Vol**	**1.46**	**64**	P	Pn	03 10 16.0	+0.5
COPN	**Copaltepe**	**1.46**	**77**	P	Pn	03 10 15.3	-0.2
CNGN	**Cerro Negro**	**1.46**	**64**	P	Pn	03 10 15.7	+0.2
CNGN	**Cerro Negro**	**1.46**	**64**	S	Sn	03 10 34.6	+0.5
ILCN	**San Idelfonso**	**1.50**	**61**	P	Pn	03 10 15.5	-0.5
PACA	**Pacayal**	**1.62**	**350**	P	Pn	03 10 18.7	+0.9
PACA	**Pacayal**	**1.62**	**350**	S	Sn	03 10 38.7	+0.6
CHOHN	**Orocuina**	**1.83**	**28**	P	Pn	03 10 20.1	-0.5
WILN	**Americas 2**	**1.84**	**80**	S	Sn	03 10 44.5	+1.1
SCLA	**Alcaldia de Sa**	**1.95**	**340**	S	Sn	03 10 45.7	-0.3
SCLA	**Alcaldia de Sa**	**1.95**	**340**	P	Pn	03 10 22.6	+0.4
PAVA	**Las Pavas**	**2.04**	**335**	S	Sn	03 10 49.0	+0.7
LOMA	**Loma Larga**	**2.09**	**328**	S	Sn	03 10 50.2	+0.6
TGUH	**Tegucigalpa,Un**	**2.31**	**19**	S	Sn	03 10 56.0	+0.9
YUSH	**Yuscaran**	**2.39**	**29**	P	Pn	03 10 28.4	0.0
RCVN	**Varillal2**	**2.49**	**46**	P	Pn	03 10 29.9	+0.2
RCVN	**Varillal2**	**2.49**	**46**	S	Sn	03 10 59.6	0.0

*NEIC **23** 03:11:47.7±1.9,21°.3S±0°.1×179°.2W±0°.1,h608km±7km, mb4.5/91,Error ellipse: s-maj=16.7km s-min=14.5km az=116.0*
*IDC **23** 03:11:48.5±0.8,21°.17S×179°.28W,h621km,9km,mb3.7/22, mbtmp4.7/23,Error ellipse: s-maj=11.7km s-min=9.8km az=135.0*

ISC 23 03:11:46.8±0.3,21°26S±0°06×179°23W±0°07,h602km, n136,σ1.05/112,mb4.5/72,5C-7D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.34**	**323**		**P**	**03 13 17.8**	**+2.8**
FUTU	**Fugatoga**	**6.99**	**9**		**P**	**03 13 38.2**	**+1.2**
RAO	**Raoul Island**	**8.05**	**172**	P	**P**	**03 13 46.6**	**0.0**
	313nm,0.3s,baz=258,slow=20,SNR=2.1						
NIUE	**Niue**	**9.00**	**78**	P	**P**	**03 13 55.5**	**-0.5**
DZM	**Mont Dzumac**	**13.35**	**264**	P	**P**	**03 14 40.3**	**+1.0**
DZM	**Mont Dzumac**	**13.35**	**264**	P	**P**	**03 14 38.7**	**-0.6**
	8.0nm,0.6s

	comp=Z,21nm,1.1s								
PETK	**Petropavlovsk-**	**76.71**	**346**			**P**		**03 22 36.5**	**-0.4**
PETK	**Petropavlovsk-**	**76.71**	**346**	P		**P**		**03 22 37.0**	**0.0**
	comp=Z,12nm,0.9s,baz=126,slow=7.7,SNR=16								
	comp=Z,12nm,0.9s								
USRK	**Ussuriysk Ar.**	**78.95**	**327**	P		**P**		**03 22 49.4**	**+0.3**
	comp=Z,7.7nm,0.9s,baz=93,slow=3.8,SNR=5.7								
	comp=Z,7.7nm,0.9s								
BELA	**Belgrano 2**	**78.96**	**173**			**P**		**03 22 48.0**	**-0.8**
BELA				IAmb		IAmb		03 22 49.3	
	comp=Z,18nm,0.9s								
MAW	**Mawson**	**80.47**	**200**	P		**P**		**03 22 56.9**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=104,slow=5.0,SNR=8.8								
	comp=Z,4.7nm,0.7s								
PLK4	**Peulik 4**	**80.88**	**12**	P		**P**		**03 22 59.0**	**0.0**
PMSA	**Palmer Station**	**81.05**	**157**	P		**P**		**03 23 00.1**	**+0.3**
PMSA				IAmb		IAmb		03 23 01.1	
	comp=Z,11nm,0.8s								
M02C	**Callahan**	**81.30**	**39**	P		**P**		**03 23 02.5**	**+1.0**
M02C				IAmb		IAmb		03 23 03.9	
	comp=Z,8.9nm,0.9s								
YBH	**Yreka Blue Hor**	**81.60**	**39**	P		**P**		**03 23 04.3**	**+1.2**
YBH	**Yreka Blue Hor**	**81.60**	**39**	P		**P**		**03 23 03.8**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=214,slow=0.7,SNR=6.3								
DSP	**Deep Springs**	**81.98**	**45**	P		**P**		**03 23 05.3**	**+0.3**
NVAR	**Mina Array Bea**	**82.36**	**44**	P		**P**		**03 23 07.1**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=224,slow=8.4,SNR=12								
NVAR				pP		**pwP**		**03 25 18.3**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=234,slow=9.0,SNR=3.2								
	comp=Z,2.7nm,0.9s								
O16K	**Kokwok River B**	**82.40**	**11**	P		**P**		**03 23 05.3**	**-1.2**
N15K	**Kwethluk River**	**82.62**	**10**			**P**		**03 23 08.6**	**+0.9**
O18K	**Koktuh Hills**	**83.17**	**12**	IAmb		IAmb		03 23 10.7	
	comp=Z,12nm,0.8s								
K05A	**Summer Lake**	**83.27**	**39**	IAmb		IAmb		03 23 13.5	
	comp=Z,11nm,1.0s								
J05D	**Fort Rock, OR**	**83.41**	**39**	IAmb		IAmb		03 23 14.0	
	comp=Z,13nm,0.9s								
M16K	**Timber Creek**	**83.61**	**10**	IAmb		IAmb		03 23 14.4	
	comp=Z,20nm,1.4s								
ILSW	**Iliamna Southw**	**83.70**	**13**	IAmb		IAmb		03 23 13.1	
	comp=Z,18nm,0.9s								
PINE	**Pine Mountain**	**83.89**	**38**	IAmb		IAmb		03 23 16.0	
	comp=Z,7.0nm,0.9s								
K15K	**Wolf Creek Mou**	**84.45**	**8**	P		**P**		**03 23 17.2**	**+0.6**
K15K				IAmb		IAmb		03 23 19.0	
	comp=Z,12nm,1.1s								
U15A	**North Rim**	**85.32**	**48**			**P**		**03 23 22.8**	**+0.9**
HEH	**HeiHe**	**85.35**	**329**	*e*P		**P**		**03 23 21.5**	**+0.2**
HEH				pmax		pmax			
	comp=Z,7.0nm,0.7s								
L19K	**White Mountain**	**85.39**	**11**	IAmb		IAmb		03 23 22.0	
	comp=Z,9.3nm,1.0s								
CBB	**Campbell River**	**85.45**	**31**	IAmb		IAmb		03 23 23.3	
	comp=Z,12nm,1.2s								
ELK	**Elko**	**85.62**	**43**	P		**P**		**03 23 22.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=345,slow=3.8,SNR=3.9								
	comp=Z,0.6nm,0.6s								
G08A	**Pilot Rock**	**85.92**	**38**			**P**		**03 23 24.6**	**+0.3**
HAWA	**Hanford**	**86.24**	**37**	IAmb		IAmb		03 23 27.2	
	comp=Z,6.2nm,0.9s								
J18K	**Innoko River**	**86.27**	**10**	IAmb		IAmb		03 23 25.9	
	comp=Z,6.1nm,0.8s								
SCM	**Sheep Creek Mo**	**86.65**	**15**	P		**P**		**03 23 27.2**	**-0.1**
SEY	**Seymchan**	**86.85**	**347**	P		**P**		**03 23 27.4**	**-0.6**
	comp=Z,5.8nm,0.9s,baz=143,slow=6.1,SNR=10.0								
	comp=Z,5.8nm,0.9s								
TROLL	**Troll, Antarti**	**86.97**	**181**	⇑P		**P**		**03 23 28.3**	**-0.6**
	comp=Z,282nm,0.5s								
CAST	**Castle Rocks**	**87.05**	**12**	IAmb		IAmb		03 23 28.1	
	comp=Z,8.2nm,0.8s								
SNAA	**Sanae**	**87.28**	**179**	⇑P		**P**		**03 23 29.4**	**-1.0**
	comp=Z,47nm,0.5s								
SNAA	**Sanae**	**87.28**	**179**			**P**		**03 23 28.8**	**-1.5**
SNAA				IAmb		IAmb		03 23 30.1	
	comp=Z,12nm,1.4s								
SNAA	**Sanae**	**87.28**	**179**	P		**P**		**03 23 29.3**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=182,slow=8.9,SNR=21								
	comp=Z,1.8nm,0.6s								
F10A	**Beach Ranch, E**	**87.30**	**38**	IAmb		IAmb		03 23 31.5	
	comp=Z,8.7nm,0.9s								
KTH	**Kantishna Hill**	**87.39**	**12**	IAmb		IAmb		03 23 30.4	
	comp=Z,6.7nm,0.9s								
VNA3	**Neumayer Olymp**	**87.46**	**177**	⇑P		**P**		**03 23 29.5**	**-1.5**
	comp=Z,3.8nm,0.8s								
B08A	**Colville Reser**	**87.51**	**35**	IAmb		IAmb		03 23 32.2	
	comp=Z,5.8nm,0.8s								
HLID	**Hailey**	**87.65**	**41**	P		**P**		**03 23 33.3**	**+0.7**
VNA2	**Neumayer--Watz**	**87.89**	**177**	⇑P		**P**		**03 23 32.6**	**-0.4**
	comp=Z,8.2nm,0.7s,baz=194,slow=3.4								
MCK	**McKinley**	**87.96**	**13**	IAmb		IAmb		03 23 33.3	
	comp=Z,13nm,1.2s								
VNA1	**Neumayer--Stat**	**88.12**	**177**	⇑P		**P**		**03 23 34.0**	**-0.1**
	comp=Z,16nm,0.9s								
TX31	**Lajitas Ar. Si**	**88.43**	**58**	P		**P**		**03 23 36.6**	**+0.2**
TXAR	**Lajitas Array**	**88.43**	**58**	P		**P**		**03 23 37.0**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=223,slow=5.9,SNR=12								
TXAR				pP		**pwP**		**03 25 49.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=287,slow=4.2,SNR=2.1								
	comp=Z,1.0nm,0.8s								
I21K	**Tanana**	**88.67**	**11**	IAmb		IAmb		03 23 36.6	
	comp=Z,8.4nm,0.9s								
G19K	**Purcell Mounta**	**88.73**	**9**	IAmb		IAmb		03 23 37.8	
	comp=Z,7.2nm,1.1s								
MLY	**Manley**	**88.76**	**12**	IAmb		IAmb		03 23 36.4	
	comp=Z,6.3nm,1.2s								
WRH	**Wood River Hil**	**88.79**	**13**	P		**P**		**03 23 36.4**	**-0.7**
WRH				IAmb		IAmb		03 23 37.0	
	comp=Z,10nm,0.9s								
H21K	**Melozitna Rive**	**88.95**	**11**	IAmb		IAmb		03 23 37.9	
	comp=Z,7.4nm,1.2s								
HDA	**Harding Lake**	**88.98**	**13**	IAmb		IAmb		03 23 37.4	
	comp=Z,10nm,1.4s								
CCB	**Clear Creek Bu**	**89.00**	**13**	IAmb		IAmb		03 23 37.6	
	comp=Z,7.3nm,0.9s								
IMAR	**Indian Mountai**	**89.09**	**10**	P		**P**		**03 23 38.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**89.29**	**290**	P		**P**		**03 23 40.0**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=126,slow=4.6,SNR=5.2								
	comp=Z,1.9nm,0.3s								
IL31		**89.31**	**13**	IAmb		IAmb		03 23 39.8	
	comp=Z,11nm,1.4s								
ILAR	**Eielson Array**	**89.31**	**13**			**P**		**03 23 38.5**	**-1.1**
ILAR	**Eielson Array**	**89.31**	**13**	P		**P**		**03 23 38.2**	**-1.3**
	comp=Z,2.4nm,0.9s,baz=225,slow=5.3,SNR=16								
ILAR				pP		**pP**		**03 25 52.0**	**+2.7**
	comp=Z,0.4nm,0.9s,baz=226,slow=6.5,SNR=3.1								
	comp=Z,2.4nm,0.9s								
J25K	**Salcha River,**	**89.50**	**14**	IAmb		IAmb		03 23 40.1	
	comp=Z,13nm,1.5s								
PLCA	**Paso Flores**	**89.58**	**134**	P		**P**		**03 23 41.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=266,slow=4.3,SNR=7.9								
	comp=Z,1.3nm,0.6s								
G21K	**Allakaket**	**89.62**	**10**	IAmb		IAmb		03 23 41.8	
	comp=Z,5.4nm,0.8s								
K27K	**Chicken**	**89.79**	**15**	IAmb		IAmb		03 23 43.3	
	comp=Z,8.9nm,1.2s								
J26L	**Joseph Creek**	**89.82**	**15**	IAmb		IAmb		03 23 43.5	
	comp=Z,7.3nm,1.0s								
E19K	**Redstone River**	**89.95**	**8**	IAmb		IAmb		03 23 43.0	
	comp=Z,7.4nm,0.9s								
M30M	**Minto, Yukon**	**90.04**	**18**	IAmb		IAmb		03 23 44.7	
	comp=Z,4.6nm,0.9s								
PRP	**Porcupine Dome**	**90.24**	**13**	IAmb		IAmb		03 23 44.6	
	comp=Z,6.5nm,1.4s								
PDAR	**Pinedale Array**	**90.30**	**44**	P		**P**		**03 23 44.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=210,slow=2.5,SNR=9.6								
	comp=Z,0.8nm,0.7s								
MKAR	**Makanchi Array**	**110.88**	**313**	PKiKP		**PKiKP**		**03 29 11.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=97,slow=0.8,SNR=4.3								
BVAR	**Borovoye Array**	**118.91**	**320**	PKP		**PKPdf**		**03 29 26.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=95,slow=3.4,SNR=7.4								
ARCES	**ARCESS Array B**	**129.45**	**349**	PKP		**PKPdf**		**03 29 45.8**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=64,slow=1.8,SNR=16								
ARCES				SKPbc		SKPab		03 32 12.6	-1.2
	comp=Z,13nm,1.1s,baz=29,slow=3.0,SNR=8.4								
FINES	**FINESS Array B**	**136.16**	**343**	PKP		**PKPdf**		**03 30 00.1**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=168,slow=1.8,SNR=5.5								
FINES				SKPbc		**SKPbc**		**03 32 35.1**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=64,slow=4.4,SNR=7.3								
HFS	**Hagfors**	**140.09**	**350**	PKhKP		PKPpre		03 29 59.3	
	comp=Z,1.8nm,0.7s,baz=68,slow=3.9,SNR=14								
AKASG	**Malin Array Be**	**143.10**	**330**			PKPab		03 30 10.4	-0.6
AKASG	**Malin Array Be**	**143.10**	**330**	PKP		PKPab		03 30 10.0	-1.0
	comp=Z,8.3nm,0.6s,baz=43,slow=4.3,SNR=52								
KIEV	**Kiev**	**143.11**	**330**			PKPab		03 30 10.2	-0.9
EKA	**Eskdalemuir Ar**	**145.84**	**4**	PKPbc		**PKPbc**		**03 30 18.4**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=350,slow=3.9,SNR=6.4								
BRTR	**Keskin Array B**	**146.47**	**311**	PKPbc		**PKPbc**		**03 30 20.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=129,slow=2.0,SNR=1.8								
BURAR	**Bucovina Array**	**147.13**	**329**			**PKPbc**		**03 30 23.4**	**0.0**
MEM	**Membach**	**150.42**	**353**	*d*PKP		**PKPbc**		**03 30 30.7**	**-0.4**
MEM				*d*PKPab		**PKPab**		**03 30 39.5**	**-0.9**
BTNL	**Ternell**	**150.43**	**353**	*d*PKP		**PKPbc**		**03 30 30.7**	**-0.5**
BSTI	**Sart Tilman**	**150.49**	**354**	*d*PKP		**PKPbc**		**03 30 30.7**	**-0.6**
GERES	**GERESS Array B**	**150.59**	**342**	PKPbc		**PKPbc**		**03 30 31.2**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=43,slow=2.7,SNR=9.7								
BMRG	**Maredsous**	**150.84**	**355**	*d*PKP		**PKPbc**		**03 30 31.8**	**-0.4**
RCHB	**Rochefort**	**150.94**	**354**	*d*PKPdf		**PKPdf**		**03 30 25.0**	**-0.9**
RCHB				*d*PKP		**PKiKP**		**03 30 32.1**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**153.54**	**345**			**PKPab**		**03 30 53.5**	**-0.6**
ESDC	**Sonseca Array**	**161.20**	**11**	PKPab		**PKPab**		**03 31 26.3**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=348,slow=6.7,SNR=5.5								

*SOME **23** 03:18:08.7,43˚.42N×71˚.82E,h15km*
*NNC **23** 03:18:08.4±1.4,43˚.34N×71˚.79E,h0km,mb2.8,mpv2.7, Error ellipse: s-maj=21.2km s-min=4.6km az=1.0*
*KRNET **23** 03:18:10.4±0.1,43˚.27N×71˚.88E,h26km,mb3.0*

ISC 23 03:18:10.3±1.3,43˚.31N±0˚.05×71˚.89E±0˚.02,h13km±14km, n17,σ1s33/33,5C-8D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**1.03**	**259**	P	**Pb**	**03 18 26.4**	**-3.6**
	1.2nm,0.2s,baz=77,slow=15,SNR=20						
KK31				⇑S	**Sb**	**03 18 40.3**	**-3.1**
	1.3nm,0.1s						
MRKS	**Merke**	**1.13**	**120**	P	**Pb**	**03 18 30.9**	**-0.9**
	1.1nm,0.1s						
MRKS				S	**Sb**	**03 18 46.2**	**-0.3**
	17nm,0.2s						
MRKS	**Merke**	**1.13**	**120**	*e*P	**Pb**	**03 18 30.9**	**-0.9**
MRKS				*e*S	**Sb**	**03 18 46.2**	**-0.3**
MRKS	**Merke**	**1.13**	**120**	*e*P	**Pb**	**03 18 30.8**	**-1.1**
	1.1nm,0.1s						
MRKS				*e*S	**Sb**	**03 18 46.2**	**-0.3**
	17nm,0.2s						
BRLS	**Borolday**	**1.53**	**260**	P	**Pb**	**03 18 39.4**	**+0.9**
	1.9nm,0.1s						
BRLS				S	**Sg**	**03 19 00.3**	**+0.7**
	4.7nm,0.2s						
BRLS	**Borolday**	**1.53**	**260**	*e*P	**Pg**	**03 18 39.9**	**+0.2**
BRLS				*e*S	**Sg**	**03 19 01.3**	**+1.7**
BRLS	**Borolday**	**1.53**	**260**	*e*P	**Pb**	**03 18 38.8**	**+0.3**
	1.9nm,0.1s						
BRLS				*e*S	**Sg**	**03 19 00.5**	**+0.9**
	4.7nm,0.2s						
EKS2	**Erkin-Say**	**1.53**	**114**	⇑*e*P	**Pb**	**03 18 38.2**	**-0.4**
EKS2				⇑*e*S	**Sg**	**03 18 59.1**	**-0.5**
IUG	**luzhnay**	**1.80**	**230**	S	**Sb**	**03 19 05.6**	**0.0**
	9.7nm,0.2s						
IUG	**luzhnay**	**1.80**	**230**	*e*P	**Pb**	**03 18 42.3**	**-0.9**
IUG				*e*S	**Sb**	**03 19 05.6**	**0.0**
TRKS	**Terek-Say**	**1.86**	**198**	⇓*e*P	**Pb**	**03 18 43.8**	**-0.5**
TRKS				⇓*e*S	**Sb**	**03 19 08.2**	**+0.6**
USP	**Ospenovka**	**1.91**	**90**	⇓P	**Pb**	**03 18 44.2**	**-0.8**
USP				⇓*e*S	**Sb**	**03 19 09.4**	**+0.7**
AAK	**Ala-Archa**	**2.03**	**109**	⇓Pn	**Pb**	**03 18 46.2**	**-0.9**
	1.6nm,0.6s						
AAK				⇓Sn	**Sg**	**03 19 13.8**	**-1.7**
	0.6nm,0.4s						
CHMS	**Chumysh**	**2.12**	**98**	⇑*e*P	**Pb**	**03 18 47.0**	**-1.6**
CHMS				⇑*e*S	**Sb**	**03 19 14.2**	**-0.6**
UCH	**Uchtor**	**2.21**	**118**	⇓*e*P	**Pn**	**03 18 48.5**	**+1.3**
UCH				⇓*e*S	**Sb**	**03 19 16.9**	**-1.1**
BTLS	**Baital**	**2.32**	**41**	*e*P	**Pb**	**03 18 50.8**	**-1.2**
	0.7nm,0.2s						
BTLS				*e*S	**Sb**	**03 19 21.0**	**+0.3**
	3.7nm,0.3s						
KST	**Kastek**	**2.99**	**94**	*e*P	**Pb**	**03 19 03.3**	**-0.2**
	1.3nm,0.3s						
KST				*e*S	**Sb**	**03 19 42.5**	**+2.4**
	4.9nm,0.3s						

*NCEDC **23** 03:31:34.7±4.2,40˚.13N±0˚.07×127˚.1W±0˚.1,h10km±2km, Error ellipse: s-maj=14.1km s-min=12.0km az=248.0*
*IDC **23** 03:31:35.1±2.2,40˚.63N×126˚.97W,h0km,mb3.2/2, mbtmp3.1/4,ML2.7/2,MS3.0/3,Error ellipse: s-maj=34.1km s-min=21.9km az=26.0*
*NEIC **23** 03:31:36.4±2.1,40˚.41N±0˚.07×126˚.80W±0˚.04,h10km±2km, ML3.3/75,ML3.6/102(NCEDC),Error ellipse: s-maj=11.7km s-min=5.3km az=180.0*

ISC 23 03:31:36.0±1.4,40˚.40N±0˚.08×127˚.03W±0˚.10,h16km,n74, σ1s34/69,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETL	**Petrolia**	**2.06**	**92**		**Pn**	**03 32 08.0**	**-1.9**
PETL					**Sn**	**03 32 32.8**	**-2.4**
KCTM	**Capetown**	**2.06**	**87**		**Pn**	**03 32 09.5**	**-0.5**
KCTM					**Sn**	**03 32 35.1**	**-0.1**
KMPM	**Mount Pierce**	**2.22**	**89**		**Pn**	**03 32 10.9**	**-1.3**
KMPM	**Mount Pierce**	**2.22**	**89**		**Sn**	**03 32 38.5**	**-1.0**
JCC	**Jacoby Creek,**	**2.32**	**79**		**Pn**	**03 32 11.6**	**-1.9**
JCC	**Jacoby Creek,**	**2.32**	**79**	Pn	**Pn**	**03 32 11.2**	**-2.3**
BJES	**Bald Jesse, CA**	**2.41**	**86**		**Pn**	**03 32 13.2**	**-1.6**
BRIC	**Briceland Vine**	**2.42**	**96**		**Pn**	**03 32 13.5**	**-1.3**
BRIC					**Sn**	**03 32 42.6**	**-1.5**
KMRM	**Mail Ridge**	**2.55**	**93**		**Pn**	**03 32 16.5**	**-0.2**
DMOR	**Dinsmores, CA**	**2.55**	**82**		**Pn**	**03 32 15.1**	**-1.7**
KHMM	**Horse Mountain**	**2.56**	**78**		**Pn**	**03 32 15.2**	**-1.7**
KHMM				IAML		03 32 50.4	
	comp=E,134nm,0.8s						
KHMM				IAML		03 32 51.0	
	comp=N,139nm,0.7s						
KRMB	**Red Mountain**	**2.62**	**64**	Pn	**Pn**	**03 32 16.2**	**-1.5**
KBSM	**Bell Springs**	**2.68**	**99**		**Pn**	**03 32 17.6**	**-0.9**
INGLE	**Inglenook, Sm**	**2.70**	**108**		**Pn**	**03 32 17.3**	**-1.5**
KCPM	**Cahto Peak**	**2.74**	**104**		**Pn**	**03 32 18.2**	**-1.2**
KSXB	**Camp Six Broad**	**2.78**	**58**		**Pn**	**03 32 18.3**	**-1.6**
KBO	**Bosley Butte**	**2.78**	**48**	Pn	**Pn**	**03 32 18.1**	**-1.9**
KBO				IAML		03 33 05.0	
	comp=N,83nm,3.5s						
KBO				IAML		03 33 28.7	
	comp=E,103nm,3.4s						
DCMP	**DeCamp, Califo**	**2.99**	**107**	Pn	**Pn**	**03 32 21.8**	**-0.9**
DCMP				IAML		03 32 59.8	
	comp=N,159nm,0.6s						
L02F	**Cave Junction**	**3.12**	**55**		**Pn**	**03 32 23.8**	**-0.8**
KEBM	**Edson Butte**	**3.19**	**38**	Pn	**Pn**	**03 32 23.7**	**-1.9**
KEBM				IAML		03 33 07.2	
	comp=E,105nm,3.9s						
KEBM				IAML		03 33 29.3	
	comp=N,81nm,2.6s						
O02D	**Mt. Diablo Mer**	**3.25**	**93**		**Pn**	**03 32 26.0**	**-0.4**
M02C	**Callahan**	**3.32**	**71**	Pn	**Pn**	**03 32 26.1**	**-1.2**
N02D	**Trinity Center**	**3.34**	**79**	Pn	**Pn**	**03 32 26.8**	**-0.8**
N02D				IAML		03 33 11.0	
	comp=N,57nm,0.9s						
N02D				IAML		03 33 23.3	
	comp=E,50nm,0.7s						
HOPS	**Hopland Field**	**3.36**	**113**	Pn	**Pn**	**03 32 26.5**	**-1.3**
HOPS				IAML		03 33 03.2	
	comp=E,58nm,3.1s						
HOPS				IAML		03 33 10.5	
	comp=N,60nm,1.9s						
K02D	**Willamette Mer**	**3.41**	**47**		**Pn**	**03 32 27.4**	**-1.2**
K02D				IAML		03 32 53.2	
	comp=E,37nm,3.1s						
YBH	**Yreka Blue Hor**	**3.53**	**66**		**Pn**	**03 32 30.0**	**-0.2**
YBH				IAML		03 34 17.4	
	comp=N,38nm,0.6s						
YBH	**Yreka Blue Hor**	**3.53**	**66**	Pn	**Pn**	**03 32 30.3**	**+0.1**
	comp=N,0.5nm,0.3s,baz=262,slow=5.4,SNR=146						
YBH				Sn	**Sn**	**03 33 10.9**	**-0.8**
	comp=N,0.2nm,0.3s,baz=172,slow=14,SNR=3.8						
YBH				LR	LR	03 33 37.0	
	comp=N,7.7nm,19.6s,baz=292,slow=36						
	comp=N,1.3nm,0.4s						
J01E	**Myrtle Point**	**3.60**	**39**	Pn	**Pn**	**03 32 29.3**	**-1.8**
J01E				IAML		03 34 09.9	
	comp=E,42nm,3.6s						
J01E				IAML		03 34 48.5	
	comp=N,44nm,2.3s						
MNRC	**McLaughlin Min**	**3.85**	**112**	Pn	**Pn**	**03 32 35.0**	**+0.3**
MNRC				IAML		03 33 06.4	
	comp=N,49nm,3.8s						
MNRC				IAML		03 33 51.6	
	comp=E,54nm,4.2s						
MCCM	**Marconi Confer**	**3.93**	**124**		**Pn**	**03 32 34.0**	**-1.6**
L04D	**Klamath Falls**	**4.00**	**61**		**Pn**	**03 32 37.7**	**+1.0**
L04D				IAML		03 33 32.4	
	comp=N,35nm,1.1s						
L04D				IAML		03 33 43.8	
	comp=E,42nm,1.6s						
O03E	**Paynes Creek**	**4.00**	**90**	Pn	**Pn**	**03 32 35.9**	**-0.8**
O03E				IAML		03 33 24.0	
	comp=N,31nm,0.8s						
CVS	**Carmenet Viney**	**4.09**	**119**	Pn	**Pn**	**03 32 35.9**	**-2.0**
CVS				IAML		03 34 09.4	
	comp=E,55nm,3.9s						
CVS				IAML		03 35 06.8	
	comp=N,48nm,3.8s						
BBOR	**Butler Butte**	**4.10**	**51**		**Pn**	**03 32 37.9**	**-0.2**
BBOR				IAML		03 33 13.1	
	comp=E,23nm,3.3s						
FARB	**Farallon Islan**	**4.14**	**129**	Pn	**Pn**	**03 32 37.0**	**-1.4**
I03D	**Drain, OR**	**4.29**	**39**		**Pn**	**03 32 39.2**	**-1.3**
I03D				IAML		03 33 17.3	
	comp=E,25nm,2.6s						
I03D				IAML		03 34 13.4	
	comp=N,22nm,3.1s						
I02E	**Swisshome, OR**	**4.39**	**31**	Pn	**Pn**	**03 32 41.3**	**-0.7**
I02E				IAML		03 33 32.5	
	comp=N,40nm,2.5s						
J04A	**Umpqua Nationa**	**4.65**	**51**		**Pn**	**03 32 46.1**	**+0.4**
BUCK	**Buck Mountain**	**4.84**	**37**	Pn	**Pn**	**03 32 48.0**	**-0.2**
BUCK				IAML		03 35 18.8	
	comp=N,36nm,2.6s						
AFDM	**Forest Hills D**	**4.89**	**105**		**Pn**	**03 32 49.4**	**+0.5**
K05A	**Summer Lake**	**5.16**	**61**		**Pn**	**03 32 52.6**	**-0.1**
K05A				IAML		03 34 47.2	
	comp=E,19nm,4.7s						
K05A				IAML		03 35 39.4	
	comp=N,24nm,4.6s						
J05D	**Fort Rock, OR**	**5.20**	**54**		**Pn**	**03 32 53.4**	**+0.1**
J05D				IAML		03 33 46.1	
	comp=E,15nm,3.2s						
J05D				IAML		03 35 08.5	
	comp=N,18nm,4.5s						
H04D	**Lebanon**	**5.20**	**36**	Pn	**Pn**	**03 32 53.0**	**-0.1**
H04D				IAML		03 34 28.2	
	comp=N,28nm,3.4s						
MTOS	**Mt Oso, Westle**	**5.30**	**121**	Pn	**Pn**	**03 32 53.5**	**-1.0**
MTOS				IAML		03 33 57.7	
	comp=E,24nm,0.8s						
MTOS				IAML		03 33 58.7	
	comp=N,27nm,0.5s						
H04A	**Detroit Lake**	**5.58**	**38**		**Pn**	**03 32 57.2**	**-1.1**
PINE	**Pine Mountain**	**5.66**	**51**		**Pn**	**03 32 59.7**	**+0.1**
CMB	**Columbia Colle**	**5.67**	**112**		**Pn**	**03 33 00.6**	**+0.9**
SAO	**San Andreas Ge**	**5.68**	**128**		**Pn**	**03 32 57.8**	**-1.9**
SCZ	**Santa Cruz**	**5.82**	**129**	Pn	**Pn**	**03 32 59.3**	**-2.4**
BUCR	**Buckhorn Ranch**	**6.01**	**115**	Pn	**Pn**	**03 33 04.6**	**+0.3**
BBGB	**Big Mountain B**	**6.05**	**127**		**Pn**	**03 33 03.6**	**-1.3**
HULI	**Fort Hunter Li**	**6.32**	**132**	Pn	**Pn**	**03 33 06.8**	**-1.7**
PMPB	**Monarch Peak**	**6.44**	**128**		**Pn**	**03 33 08.4**	**-1.7**
E03A	**Lebam**	**6.64**	**21**	Pn	**Pn**	**03 33 13.3**	**+0.5**
RAMR	**Ramage Ranch**	**6.80**	**132**	Pn	**Pn**	**03 33 13.9**	**-1.2**
NVAR	**Mina Array Bea**	**7.04**	**103**	Pn	**Pn**	**03 33 20.0**	**+1.5**
	comp=N,0.2nm,0.3s,baz=294,slow=13,SNR=6.9						
NVAR				Sn	Sb	03 34 50.9	-11
	comp=N,0.2nm,0.3s,baz=279,slow=28,SNR=1.9						
	comp=N,0.6nm,0.6s						
LON	**Longmire**	**7.39**	**29**		**Pn**	**03 33 23.9**	**+0.7**
GNW	**Green Mountain**	**7.78**	**22**	Pn	**Pn**	**03 33 29.0**	**+0.6**
CLRS	**Cowichan Lake**	**8.67**	**13**	Pn	**Pn**	**03 33 39.9**	**-0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.25**	**169**	P	**Pg**	**04 11 00.6**	**-0.7**
SKJI				S	**Sg**	**04 11 03.9**	**-0.8**
DBJI	**Dramaga**	**0.31**	**49**	P	**Pg**	**04 11 02.1**	**-0.4**
DBJI				S	**Sg**	**04 11 07.1**	**+0.3**
TNG	**Tangerang**	**0.60**	**13**	P	**Pg**	**04 11 07.5**	**-0.4**
SBJI	**Serang**	**0.74**	**329**	P	**Pg**	**04 11 10.1**	**-0.4**
CNJI	**Cibinong**	**0.82**	**132**	P	**Pg**	**04 11 10.4**	**-1.7**
CGJI	**Cibinong**	**0.82**	**280**	P	**Pg**	**04 11 11.3**	**-0.9**
LEM	**Lembang**	**1.10**	**93**	Pg	**Pn**	**04 11 17.6**	**-0.2**
	162nm,0.3s,baz=226,slow=7.0,SNR=16						
LEM				Lg	Lg	04 11 34.7	
	278nm,0.3s,baz=194,slow=24,SNR=9.1						
LEM				LR	LR	04 11 46.9	
	comp=Z,661nm,19.1s,baz=350,slow=44						
LEM	**Lembang**	**1.10**	**93**	P	**Pn**	**04 11 18.3**	**+0.4**
JCJI	**Jatiwangi**	**1.77**	**81**	P	**Pn**	**04 11 26.3**	**-0.6**
BLSI	**Bandar Lampung**	**1.87**	**318**	P	**Pn**	**04 11 27.9**	**-0.4**
KASI	**Kota Agung**	**2.35**	**301**	P	**Pn**	**04 11 35.5**	**+0.6**
KPJI	**Karang Pucung**	**2.47**	**103**	P	**Pn**	**04 11 37.5**	**+0.9**
KLI	**Kotabumi**	**2.50**	**319**	P	**Pn**	**04 11 37.5**	**+0.5**
LWLI	**Liwa**	**2.99**	**305**	P	**Pn**	**04 11 44.1**	**+0.2**
TPI	**Tanjungpandan**	**4.14**	**16**	P	**Pn**	**04 11 59.2**	**-0.3**
UGM	**Wanagama**	**4.14**	**106**	P	**Pn**	**04 11 59.5**	**-0.1**
MNAI	**Manna**	**4.27**	**304**	P	**Pn**	**04 12 01.6**	**+0.3**
PCJI	**Pacitan**	**4.84**	**107**	P	**Pn**	**04 12 11.3**	**+2.1**
PSI	**Prapat**	**12.15**	**321**	LR	LR	04 19 15.2	
	comp=Z,435nm,20.4s,baz=166,slow=42						
CMAR	**Chiang Mai Arr**	**26.15**	**344**	P	**P**	**04 16 29.0**	**-1.8**
	2.2nm,0.3s,baz=171,slow=8.8,SNR=1.5 2.2nm,0.3s						
WRA	**Warramunga Arr**	**30.01**	**119**	P	**P**	**04 17 05.8**	**+0.3**
	1.0nm,0.8s,baz=301,slow=9.0,SNR=5.7 1.0nm,0.8s						
ASAR	**Alice Springs**	**31.22**	**126**	P	**P**	**04 17 15.3**	**-0.8**
	1.2nm,0.9s,baz=299,slow=8.6,SNR=7.9 1.2nm,0.9s						
STKA	**Stephens Creek**	**41.16**	**132**	P	**P**	**04 18 41.5**	**+0.4**
	1.8nm,0.5s,baz=302,slow=11,SNR=6.0 1.8nm,0.5s						
MKAR	**Makanchi Array**	**57.50**	**340**	P	**P**	**04 20 42.9**	**-2.7**
	0.3nm,0.5s,baz=158,slow=7.8,SNR=3.6 0.3nm,0.5s						
VNDA	**Vanda**	**76.29**	**169**	P	**P**	**04 22 46.2**	**+1.4**
	0.8nm,0.9s,baz=323,slow=5.8,SNR=4.1 0.8nm,0.9s						
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**04 23 24.4**	**+1.6**
	1.1nm,0.8s,baz=352,slow=2.7,SNR=3.0 1.1nm,0.8s						
SNAA	**Sanae**	**89.61**	**197**	P	**P**	**04 23 55.9**	**+1.9**
	1.4nm,0.9s,baz=147,slow=3.7,SNR=4.9 1.4nm,0.9s						
DAVOX	**Davos/Dischmat**	**99.42**	**316**	LR	LR	05 18 17.7	
	comp=Z,29nm,18.0s,baz=100,slow=41						

*JMA **23** 04:29:26.4±0.2,43°.2N±0°.5×145°.5E±0°.8,h101km±1km, MV3.1/39,NEMURO REGION*
*SKHL **23** 04:29:26.3±0.4,43°.20N×145°.50E,h103km±2km,mb4.5/4, msha5.4/3*
ISC 23 04:29:27.4±1.9,**43°.22N**±0°.07×**145°.42E**±0°.05,**h95**km±11km, **n16**,σ0**s40**/29,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.23**	**234**	P	**Pn**	**04 29 41.2**	**+0.1**
JKHN				S	**Sn**	**04 29 52.0**	**+0.8**
NMR	**Nemuro--Hokkai**	**0.27**	**56**	*i* P	**Pn**	**04 29 40.8**	**-0.4**
NMR				AMB	AMB	04 29 41.4	
	50nm,0.2s						
NMR				*i* S	**Sn**	**04 29 51.5**	**0.0**
NMR				A	A	04 29 52.1	
	810nm,0.2s						
NMR				A	A	04 29 52.1	
	1μm,0.2s						
NEM2	**Nemuro 2**	**0.28**	**58**	P	**Pn**	**04 29 40.8**	**-0.5**
NEM2				S	**Sn**	**04 29 51.4**	**-0.2**
AKK	**Akkeshi**	**0.47**	**245**	*i* P	**Pn**	**04 29 42.1**	**-0.3**
AKK				*i* S	**Sn**	**04 29 53.6**	**+0.1**
JAK	**Akkeshi**	**0.57**	**247**	P	**Pn**	**04 29 43.0**	**-0.1**
JAK				S	**Sn**	**04 29 55.5**	**+0.5**
JNK	**Nakash**	**0.63**	**306**	*e*P	**Pn**	**04 29 43.3**	**-0.4**
JNK				S	**Sn**	**04 29 55.8**	**0.0**
JNSB	**Nemuroshibetsu**	**0.63**	**332**	P	**Pn**	**04 29 43.5**	**-0.2**
JNSB				*e*S	**Sn**	**04 29 56.4**	**+0.5**
JRA	**Rausu**	**0.75**	**344**	*i* P	**Pn**	**04 29 44.5**	**-0.3**
JRA				S	**Sn**	**04 29 58.5**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**0.88**	**22**	*e*P	**Pn**	**04 29 45.5**	**-0.6**
YUK				AMB	AMB	04 29 45.8	
	980nm,0.3s						
YUK				*i* S	**Sn**	**04 30 00.0**	**-0.1**
YUK				A	A	04 30 00.4	
	1μm,0.4s						
YUK				A	A	04 30 00.4	
	1μm,0.4s						
JOB	**Onbets**	**1.20**	**255**	P	**Pn**	**04 29 49.7**	**0.0**
JOB				S	**Sn**	**04 30 06.8**	**+0.3**
JAR	**Ashorobuto**	**1.20**	**274**	*i* P	**Pn**	**04 29 49.7**	**-0.1**
JAR				S	**Sn**	**04 30 07.0**	**+0.3**
SHO	**Shikotan**	**1.22**	**57**	*e*P	**Pn**	**04 29 49.7**	**-0.2**
SHO				AMB	AMB	04 29 51.4	
	50nm,0.2s						
SHO				*e*S	**Sn**	**04 30 07.6**	**+0.7**
SHO				A	A	04 30 08.4	
	180nm,0.4s						
SHO				A	A	04 30 08.4	
	120nm,0.4s						
JTKR	**Abashiri--Toko**	**1.33**	**305**	*i* P	**Pn**	**04 29 51.1**	**-0.1**
JCH	**Churui**	**1.62**	**249**	*e*P	**Pn**	**04 29 54.6**	**-0.3**
JCH				S	**Sn**	**04 30 15.2**	**-0.6**
JMP	**Maruseppu**	**1.69**	**299**	P	**Pn**	**04 29 55.5**	**-0.3**
KUR	**Kuril'sk**	**2.68**	**40**	*e*P	**Pn**	**04 30 08.8**	**+0.1**
KUR				AMB	AMB	04 30 09.5	
	30nm,0.3s						

*NEIC **23** 04:44:34.4±1.2,55°.94S±0°.06×27°.6W±0°.2,h112km±6km, mb4.4/21,Error ellipse: s-maj=15.4km s-min=8.9km az=77.0*
*IDC **23** 04:44:36.8±2.1,55°.94S×27°.48W,h137km±18km,mb4.1/9, mbtmp4.5/11,MS3.6/2,Error ellipse: s-maj=18.7km s-min=12.8km az=73.0*
ISC 23 04:44:33.9±0.4,**55°.91S**±0°.08×**27°.58W**±0°.09,**h112**km, **n134**,σ0**s85**/135,**mb4.4**/15,**5C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.37**	**284**	Pn	**Pn**	**04 45 51.9**	**+0.3**
VNA1	**Neumayer--Stat**	**17.00**	**158**	⇑P	**P**	**04 48 24.7**	**+0.2**
	comp=Z,6.6nm,0.3s						
VNA3	**Neumayer Olymp**	**17.19**	**160**	⇑P	**P**	**04 48 26.5**	**-0.1**
	comp=Z,17nm,0.6s						
VNA2	**Neumayer--Watz**	**17.40**	**158**	⇑P	**Pn**	**04 48 29.4**	**+0.2**
	comp=Z,16nm,0.5s,baz=317,slow=14						
SNAA	**Sanae**	**18.96**	**156**	⇑P	**P**	**04 48 45.9**	**0.0**
	comp=Z,544nm,0.3s						
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**04 48 45.9**	**0.0**
SNAA	**Sanae**	**18.96**	**156**	P	**P**	**04 48 46.0**	**+0.1**
	comp=Z,21nm,0.4s,baz=318,slow=8.5,SNR=444						
SNAA				LR	LR	04 54 47.6	
	comp=Z,81nm,19.1s,baz=83,slow=32						
SNAA				ScP	**ScP**	**04 56 28.3**	**-3.1**
	comp=Z,1.0nm,0.7s,baz=35,slow=0.8,SNR=7.5						
PMSA	**Palmer Station**	**19.83**	**229**	P	**P**	**04 48 56.2**	**+1.0**
PMSA				IAmb	IAmb	04 48 56.9	
	comp=Z,14nm,0.7s						
PMSA	**Palmer Station**	**19.83**	**229**	P	**P**	**04 48 55.9**	**+0.6**
	comp=Z,12nm,0.7s,baz=74,slow=7.9,SNR=22						
TROLL	**Troll, Antarti**	**20.47**	**154**	⇑P	**P**	**04 49 02.3**	**0.0**
	comp=Z,1μm,0.5s						
BELA	**Belgrano 2**	**22.20**	**184**	P	**P**	**04 49 19.6**	**-0.9**
BELA				IAmb	IAmb	04 49 21.4	
	comp=Z,10nm,0.7s						
MG02	**Cerro Sombrero**	**24.21**	**260**	P	**P**	**04 49 38.9**	**-0.8**
TRQA	**Tornquist**	**29.07**	**293**	P	**P**	**04 50 22.5**	**-0.9**
PLCA	**Paso Flores**	**31.76**	**280**	ScP	**ScP**	**04 57 04.8**	**-3.7**
	comp=Z,1.3nm,0.9s,baz=126,slow=2.6,SNR=4.4						
QSPA	**South Pole Qui**	**34.34**	**180**	P	**P**	**04 51 10.9**	**+1.4**
QSPA				IAmb	IAmb	04 51 11.2	
	comp=Z,5.2nm,0.9s						
QSPA	**South Pole Qui**	**34.34**	**180**	P	**P**	**04 51 10.5**	**+1.0**
	comp=Z,4.1nm,0.5s,baz=26,slow=2.7,SNR=32						
QSPA				ScP	**ScP**	**04 57 14.3**	**-2.8**
	comp=Z,1.7nm,1.1s,baz=206,slow=3.3,SNR=3.6 comp=Z,4.1nm,0.5s						
CPUP	**Villa Florida**	**36.56**	**312**	P	**P**	**04 51 30.2**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=198,slow=9.6,SNR=2.3						
CPUP				ScP	**ScP**	**04 57 22.2**	**-3.3**
	comp=Z,0.5nm,0.9s,baz=14,slow=4.2,SNR=3.3						
CO01	**Juntas del Tor**	**39.56**	**293**	P	**P**	**04 51 54.1**	**0.0**
CO01				IAmb	IAmb	04 52 34.8	
	comp=Z,11nm,1.3s						
MAW	**Mawson**	**40.39**	**144**	P	**P**	**04 52 00.4**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=239,slow=8.7,SNR=11 comp=Z,5.0nm,0.7s						
AC02	**Maricunga**	**41.62**	**297**	P	**P**	**04 52 11.9**	**+0.5**
AC02				IAmb	IAmb	04 52 12.4	
	comp=Z,4.0nm,0.8s						
BDFB	**Brasilia**	**43.14**	**331**	P	**P**	**04 52 23.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=180,slow=8.6,SNR=3.6 comp=Z,1.6nm,0.6s						
GO02	**Mina Guanaco**	**43.23**	**298**	P	**P**	**04 52 24.0**	**-0.2**
GO02				IAmb	IAmb	04 52 54.0	
	comp=Z,10nm,1.1s						
BOSA	**Boshof**	**46.15**	**76**	P	**P**	**04 52 47.2**	**+0.1**
BOSA	**Boshof**	**46.15**	**76**	P	**P**	**04 52 46.6**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=205,slow=8.0,SNR=3.9 comp=Z,2.1nm,0.9s						
SBA	**Scott Base**	**46.20**	**184**	P	**P**	**04 52 48.5**	**+1.8**
PB01	**IPOC Station P**	**46.65**	**301**	P	**P**	**04 52 51.8**	**+0.7**
PB01				IAmb	IAmb	04 52 52.0	
	comp=Z,6.6nm,0.7s						
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**04 52 51.2**	**+0.6**
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**04 52 51.0**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=186,slow=4.9,SNR=11						
VNDA				LR	LR	05 12 31.1	
	comp=Z,143nm,19.1s,baz=264,slow=36 comp=Z,3.4nm,0.7s						
PTLB	**Pontes e Lacer**	**47.05**	**316**	P	**P**	**04 52 54.1**	**+0.1**
GO01	**Chusmiza**	**47.69**	**302**	P	**P**	**04 53 00.1**	**+0.6**
GO01				IAmb	IAmb	04 53 01.0	
	comp=Z,5.5nm,0.8s						
LPAZ	**La Paz**	**50.12**	**306**	P	**P**	**04 53 19.1**	**+0.8**
LPAZ				IAmb	IAmb	04 53 50.5	
	comp=Z,4.3nm,0.9s						
LPAZ	**La Paz**	**50.12**	**306**	P	**P**	**04 53 19.1**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=132,slow=4.4,SNR=17 comp=Z,2.5nm,0.5s						
MREMI	**Meremi**	**52.14**	**74**	P	**P**	**04 53 33.7**	**+1.0**
CASY	**Casey**	**54.11**	**161**	P	**P**	**04 53 46.7**	**+0.2**
BOAV	**Boa Vista**	**64.04**	**323**	P	**P**	**04 54 55.2**	**-0.3**
BOAV				IAmb	IAmb	04 54 55.9	
	comp=Z,5.4nm,1.2s						
DBIC	**Dimbokro**	**65.13**	**25**	P	**P**	**04 55 03.6**	**+1.0**
DBIC	**Dimbokro**	**65.13**	**25**	P	**P**	**04 55 02.9**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=198,slow=6.4,SNR=8.5 comp=Z,5.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.04**	**30**	P	**P**	**04 55 52.3**	**+0.9**
	comp=Z,11nm,0.3s,baz=199,slow=5.1,SNR=1.5 comp=Z,11nm,0.3s						
ASAR	**Alice Springs**	**99.19**	**163**	P	**Pdif**	**04 58 00.8**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=193,slow=3.8,SNR=5.8 comp=Z,0.9nm,0.9s						
WRA	**Warramunga Arr**	**102.90**	**163**	P	**Pdif**	**04 58 18.2**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=191,slow=4.5,SNR=1.3						
FINES	**FINESS Array B**	**124.36**	**28**	PKP	**PKPdf**	**05 03 17.4**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=198,slow=1.2,SNR=11						
CMAR	**Chiang Mai Arr**	**125.32**	**111**	PKP	**PKPdf**	**05 03 21.3**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=232,slow=4.0,SNR=6.2						
ARCES	**ARCESS Array B**	**130.90**	**22**	PKP	**PKPdf**	**05 03 29.5**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=205,slow=2.3,SNR=11						
BVAR	**Borovoye Array**	**134.89**	**58**	PKP	**PKPdf**	**05 03 38.5**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=286,slow=2.6,SNR=5.8						
YKA	**Yellowknife Ar**	**135.92**	**318**	PKP	**PKPdf**	**05 03 40.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=134,slow=6.3,SNR=1.2						
KURBB	**Kurchatov Array**	**137.44**	**65**	PKP	**PKPdf**	**05 03 43.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=247,slow=2.4,SNR=4.8						
N30M	**Aishikik Lake**	**144.61**	**309**		PKPbc	05 03 55.5	+0.7
N30M	**Aishikik Lake** baz=114	**144.61**	**309**	P	**PKPab**	**05 03 55.1**	**+0.4**
M30M	**Minto, Yukon** baz=112	**144.92**	**310**	P	PKPbc	05 03 55.6	-0.2
H31M	**Peel River**	**145.08**	**316**		**PKPbc**	**05 03 55.7**	**-0.4**
H31M	**Peel River** baz=110	**145.08**	**316**	P	**PKPbc**	**05 03 55.9**	**-0.3**
F31M	**Tsiigehtchic** baz=108	**145.38**	**319**	P	**PKPdf**	**05 03 56.6**	**-0.1**
G31M	**Satah River** baz=108	**145.41**	**318**	P	**PKPdf**	**05 03 56.7**	**-0.1**
J30M	**Hart River** baz=110	**145.45**	**314**	P	**PKPdf**	**05 03 56.9**	**-0.3**
INK	**Inuvik**	**145.56**	**321**		**PKPdf**	**05 03 57.3**	**+0.2**
INK	**Inuvik** baz=107	**145.56**	**321**	P	**PKPdf**	**05 03 57.3**	**+0.2**
M29M	**Somme Creek** baz=112	**145.59**	**310**	P	**PKPdf**	**05 03 57.6**	**+0.2**
I30M	**Mount Dempster** baz=109	**145.68**	**315**	P	**PKPdf**	**05 03 57.7**	**+0.2**
L29M	**L29M** baz=111	**145.68**	**311**	P	**PKPdf**	**05 03 58.0**	**+0.5**
K29M	**Barlow Dome**	**145.69**	**312**		**PKPdf**	**05 03 57.9**	**+0.3**
K29M	**Barlow Dome** baz=110	**145.69**	**312**	P	**PKPdf**	**05 03 57.7**	**+0.1**
G30M	**tAoh Zraii Nji** baz=107,SNR=17	**146.16**	**318**	P	**PKPdf**	**05 03 59.3**	**+1.1**
EPYK	**Eagle Plains** baz=107	**146.18**	**317**	P	**PKPdf**	**05 03 58.9**	**+0.6**
F30M	**Barrier River** baz=106,SNR=12	**146.18**	**319**	P	**PKPbc**	**05 03 59.5**	**0.0**
I29M	**Ogilvie Camp,** baz=108	**146.50**	**315**	P	**PKPdf**	**05 03 59.5**	**+0.7**
DAWY	**Dawson** baz=109	**146.54**	**312**	P	**PKPdf**	**05 04 00.0**	**+1.1**
H29M	**Whitestone** baz=106,SNR=15	**146.77**	**316**	P	**PKPdf**	**05 04 00.7**	**+1.4**
G29M	**Pine Creek** baz=106	**146.83**	**318**	P	**PKPbc**	**05 04 00.9**	**-0.5**
E29M	**Blow River** baz=103,SNR=15	**147.15**	**320**	P	**PKPbc**	**05 04 01.6**	**-0.6**
I28M	**Miner Creek** baz=106	**147.18**	**315**	P	**PKPdf**	**05 04 01.6**	**+1.5**
L27K	**Beaver Creek,** baz=108	**147.25**	**310**	P	**PKPbc**	**05 04 02.2**	**-0.5**
K27K	**Chicken** baz=107	**147.65**	**312**	P	**PKPbc**	**05 04 03.7**	**0.0**
F28M	**Old Crow** baz=103	**147.70**	**318**	P	**PKPbc**	**05 04 03.3**	**-0.4**
E28M	**Babbage River** baz=102	**147.78**	**320**	P	**PKPbc**	**05 04 03.3**	**-0.7**
I27K	**Kandik River** baz=105	**147.89**	**314**	P	**PKPbc**	**05 04 04.2**	**-0.1**
H27K	**Steamboat Moun** baz=104,SNR=18	**148.01**	**316**	P	**PKPbc**	**05 04 04.4**	**-0.2**
G27K	**Doyon Strip** baz=103	**148.19**	**317**	P	**PKPbc**	**05 04 04.3**	**-0.7**
J26L	**Joseph Creek** baz=105	**148.41**	**312**	P	**PKPbc**	**05 04 05.5**	**-0.2**
D27M	**Malcolm River**	**148.41**	**321**		**PKPbc**	**05 04 05.8**	**+0.2**
D27M	**Malcolm River** baz=100	**148.41**	**321**	P	**PKPbc**	**05 04 05.6**	**0.0**
I26K	**Coal Creek Min** baz=104	**148.44**	**314**	P	**PKPbc**	**05 04 05.4**	**-0.3**
SCRK	**Sand Creek** baz=106	**148.45**	**311**	P	**PKPbc**	**05 04 05.5**	**-0.5**
E27K	**Coleen River** baz=101	**148.45**	**319**	P	**PKPbc**	**05 04 04.7**	**-1.0**
RIDG	**Independent Ri** baz=105	**148.75**	**310**	P	**PKPbc**	**05 04 07.1**	**+0.5**
PAX	**Paxson** baz=106	**148.81**	**309**	P	**PKPbc**	**05 04 07.0**	**+0.1**
G26K	**Porcupine Rive** baz=101,SNR=14	**149.05**	**317**	P	**PKPbc**	**05 04 07.0**	**-0.2**
F26K	**Shnjek Ki River** baz=99,SNR=5.2	**149.31**	**318**	P	**PKPbc**	**05 04 08.2**	**+0.3**
C27K	**Jago River** baz=96	**149.42**	**322**	P	**PKPbc**	**05 04 08.0**	**0.0**
PRP	**Porcupine Dome** baz=102	**149.45**	**314**	P	**PKPbc**	**05 04 08.1**	**-0.3**
DHY	**Denali Highway** baz=105	**149.68**	**309**	P	**PKPbc**	**05 04 09.0**	**-0.1**
H25L	**Birch Creek** baz=100	**149.72**	**315**	P	**PKPbc**	**05 04 08.9**	**+0.1**
HDA	**Harding Lake** baz=103	**149.81**	**311**	P	**PKPbc**	**05 04 09.3**	**+0.2**
ILAR	**Eielson Array**	**149.86**	**312**		**PKPbc**	**05 04 08.8**	**-0.4**
ILAR	**Eielson Array** comp=Z,12nm,0.9s,baz=131,slow=1.7,SNR=79	**149.86**	**312**	PKPbc	**PKPbc**	**05 04 08.6**	**-0.6**
F25K	**Christian Rive** baz=98	**149.87**	**318**	P	**PKPbc**	**05 04 09.7**	**+0.5**
E25K	**Arctic Village**	**149.91**	**319**	P	**PKPbc**	**05 04 09.4**	**+0.1**
	baz=98						
G25K	**Bearman Lake** baz=99	**149.91**	**316**	P	**PKPbc**	**05 04 09.6**	**+0.3**
D25K	**Kavik River** baz=95	**150.33**	**321**	P	**PKPbc**	**05 04 09.7**	**-0.6**
RND	**Reindeer**	**150.41**	**309**		**PKPbc**	**05 04 10.9**	**+0.2**
G24K	**Hadweenzic Riv** baz=98	**150.44**	**316**	P	**PKPbc**	**05 04 10.5**	**-0.1**
CNPM	**China Poot**	**150.47**	**301**		**PKPbc**	**05 04 10.7**	**-0.2**
H24K	**Noodor Dome** baz=100	**150.47**	**314**	P	**PKPbc**	**05 04 10.3**	**-0.4**
MCK	**McKinley** baz=102	**150.51**	**309**	P	**PKPbc**	**05 04 11.1**	**+0.2**
KDAK	**Kodiak Island**	**150.56**	**297**	PKPbc	**PKPbc**	**05 04 11.0**	**-0.1**
F24K	**Squaw Lake** baz=97	**150.71**	**317**	P	**PKPbc**	**05 04 11.6**	**+0.3**
NEA2	**Nenana** baz=101	**150.75**	**311**	P	**PKPbc**	**05 04 10.2**	**-1.1**
SONM	**Songino Array**	**150.94**	**87**		**PKPbc**	**05 04 12.1**	**-0.5**
SONM	**Songino Array** comp=Z,8.3nm,0.7s,baz=250,slow=1.9,SNR=15	**150.94**	**87**	PKPbc	**PKPbc**	**05 04 11.3**	**-1.2**
I23K	**Minto, Yukon-K** baz=100	**150.97**	**312**	P	**PKPbc**	**05 04 11.2**	**-0.6**
E24K	**Your Creek** baz=95	**150.99**	**318**	P	**PKPbc**	**05 04 11.7**	**-0.3**
TRF	**Thorofare Moun** baz=102	**151.05**	**309**	P	**PKPbc**	**05 04 12.1**	**-0.2**
H23K	**Yukon River** baz=98	**151.15**	**314**	P	**PKPbc**	**05 04 11.6**	**-0.7**
C24K	**Franklin Bluff** baz=92	**151.17**	**322**	P	**PKPbc**	**05 04 12.3**	**+0.1**
SKT	**Skwentna** baz=104	**151.28**	**305**	P	**PKPbc**	**05 04 12.3**	**-0.4**
SPU	**Mount Spurr**	**151.33**	**304**		**PKPbc**	**05 04 11.7**	**-1.2**
TOLK	**Toolik Lake Re** baz=93	**151.44**	**319**	P	**PKPbc**	**05 04 12.6**	**-0.3**
G23K	**Bananza Creek** baz=96	**151.45**	**315**	P	**PKPbc**	**05 04 13.4**	**+0.4**
BPAW	**Bear Paw Mtn.** baz=100	**151.48**	**310**	P	**PKPbc**	**05 04 12.7**	**-0.4**
MLY	**Manley** baz=99	**151.52**	**312**	P	**PKPbc**	**05 04 12.1**	**-1.2**
ILSW	**Iliamna Southw**	**151.53**	**301**		**PKPbc**	**05 04 12.8**	**-0.6**
COLD	**Coldfoot** baz=95	**151.57**	**316**	P	**PKPbc**	**05 04 13.1**	**-0.1**
PPLA	**Purkeypile** baz=102	**151.78**	**307**	P	**PKPbc**	**05 04 13.5**	**-0.5**
CAST	**Castle Rocks** baz=101	**151.83**	**308**	P	**PKPbc**	**05 04 13.2**	**-0.7**
C23K	**Itkillik River** baz=90	**151.84**	**322**	P	**PKPbc**	**05 04 13.3**	**-0.4**
D23K	**Nanushuk River** baz=92	**151.85**	**320**	P	**PKPbc**	**05 04 13.6**	**-0.1**
H22K	**Ishtalitna Cre** baz=97	**151.90**	**314**	P	**PKPbc**	**05 04 13.7**	**-0.3**
G22K	**Bettles** baz=95	**152.06**	**316**	P	**PKPbc**	**05 04 14.1**	**-0.2**
E22K	**Anaktuvuk Pass** baz=92	**152.24**	**318**	P	**PKPbc**	**05 04 14.3**	**-0.5**
H21K	**Melozitna Rive** baz=96	**152.46**	**313**	P	**PKPbc**	**05 04 14.7**	**-0.6**
D22K	**Ayikyak River** baz=90	**152.57**	**320**	P	**PKPbc**	**05 04 15.5**	**0.0**
K20K	**Telida** baz=99	**152.70**	**308**	P	**PKPbc**	**05 04 14.9**	**-1.0**
G21K	**Alakaket** baz=94	**152.82**	**315**	P	**PKPbc**	**05 04 15.3**	**-0.7**
F21K	**Alatna River** baz=92	**152.85**	**316**	P	**PKPbc**	**05 04 16.0**	**-0.1**
PETK	**Petropavlovsk-** comp=Z,1.5nm,0.9s,baz=209,slow=2.7,SNR=3.9	**175.84**	**230**	PKP	**PKPdf**	**05 04 27.4**	**-1.9**

*NEIC **23** 05:34:09.1±1.9,35°.896N±0°.007×117°.69W±0°.01, h5km±1km,Error ellipse: s-maj=2.0km s-min=1.3km az=270.0*
*PAS **23** 05:34:09.8±2.1,35°.905N±0°.008×117°.71W±0°.01, h5km±1km,Mwr4.3/6,mb4.0/18(NEIC),ML4.5/166(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=97.0*
*IDC **23** 05:34:09.6±0.6,35°.90N×117°.64W,h0km,mb3.9/6, mbtmp3.8/12,ML3.9/5,MS3.4/16,Error ellipse: s-maj=13.2km s-min=5.3km az=72.0*
ISC 23 05:34:10.3±0.7,**35°.88N**±0°.01×**117°.69W**±0°.02,**h12**km±4km, **n205**,σ1**s03**/214,**mb4.1**/9,**MS3.4**/11,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOW	**Tower One**	**0.10**	**218**		**Pg**	**05 34 12.6**	**-0.6**
TOW					**Sg**	**05 34 15.3**	**0.0**
CLC	**China Lake**	**0.10**	**132**		**Pg**	**05 34 12.3**	**-1.0**
WVPM	**Volcano Peak E**	**0.12**	**303**		**Pg**	**05 34 12.1**	**-1.5**
WVPM					**Sg**	**05 34 14.3**	**-1.7**
JRC2	**Joshua Ridge**	**0.14**	**316**		**Pg**	**05 34 14.7**	**+0.9**
WCSM	**Coso Springs S**	**0.15**	**337**		**Pg**	**05 34 12.5**	**-1.6**
WCSM					**Sg**	**05 34 14.6**	**-2.1**
WNMM	**Nine Mile Cany**	**0.18**	**257**		**Pg**	**05 34 13.4**	**-0.9**
WNMM					**Sg**	**05 34 16.2**	**-0.9**
SRTC	**Snort**	**0.20**	**194**		**Pg**	**05 34 14.5**	**-0.2**
SRTC					**Sg**	**05 34 18.6**	**+0.9**
WRVM	**Rose V. Centra**	**0.20**	**308**		**Pg**	**05 34 16.5**	**+1.7**
MPMC	**Manual Prospec**	**0.24**	**43**		**Pg**	**05 34 14.2**	**-1.3**
MFS	**McCloud Flat S**	**0.27**	**330**		**Pg**	**05 34 13.3**	**+1.1**
WSHM	**Spangler Hills**	**0.33**	**150**		**Pg**	**05 34 16.4**	**-0.6**
WSHM	**Spangler Hills**	**0.33**	**150**		**Sg**	**05 34 21.5**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.40**	**179**		**Pg**	**05 34 17.8**	**-0.6**
LRMC				IAML		05 34 24.4	
	comp=E,69μm,0.6s						
LRMC				IAML		05 34 24.6	
	comp=N,52μm,0.7s						
LRMC	**Laurel Mtn Rad**	**0.40**	**179**		**Sg**	**05 34 23.7**	**-0.1**
CCCA	**Chr Cany lake

TEJ Sg 05 34 42.9 -1.1
TPO Tropico Hills 1.09 204 Pg 05 34 30.0 -1.4
TPO IAML 05 34 48.2
comp=N,11μm,0.5s
TPO IAML 05 34 53.1
comp=E,11μm,1.0s
TPO Tropico Hills 1.09 204 Sg 05 34 45.4 -0.3
MAGC SCE Magundon P 1.13 243 Pg 05 34 31.0 -1.1
MAGC Sg 05 34 45.8 -1.0
VES Vestal, Richgr 1.13 268 Pg 05 34 30.8 -1.3
VES Vestal, Richgr 1.13 268 Sg 05 34 45.8 -1.1
SHOC Shoshone, Teco 1.15 89 Pg 05 34 30.8 -1.6
SHOC Shoshone, Teco 1.15 89 Sb 05 34 46.7 -0.3
RRX Edison Barstow 1.16 150 Pg 05 34 31.6 -0.9
RRX Sb 05 34 47.9 +0.7
ARVC Arvin 1.20 231 Pg 05 34 31.8 -1.5
SBB Saddle Back Bu 1.20 185 Pg 05 34 31.9 -1.5
TJR Tejon Ranch 1.21 225 Pg 05 34 31.8 -1.8
TJR Sg 05 34 48.3 -1.0
SGV South Grapevin 1.22 26 Pg 05 34 32.0 -1.8
TIN Tinemaha, Big 1.25 340 Pg 05 34 32.8 -1.5
TIN IAML 05 34 53.0
comp=E,13μm,0.7s
TIN IAML 05 35 01.5
comp=N,13μm,0.8s
WCT Wildcat Mounta 1.25 43 Pg 05 34 32.7 -1.7
WCT IAML 05 34 52.2
comp=N,6μm,0.8s
WCT IAML 05 34 53.0
comp=E,6μm,0.5s
THC Tehachapi Micr 1.26 219 Pg 05 34 32.6 -1.9
BAKC Calstate 1.27 245 Pn 05 34 33.5 -0.4
AMDNV Amargosa 1.27 63 Pg 05 34 32.4 -2.4
ALPC Antelope 1.29 203 Pn 05 34 33.6 -0.7
LCH Last Change Ra 1.35 2 Pn 05 34 33.9 -1.2
LEOC Leona Valley 1.35 202 Pn 05 34 34.2 -0.8
LRRC Littlerock Res 1.38 192 Pn 05 34 34.7 -0.7
BTPC Burnt Peak 1.40 211 Pn 05 34 35.2 -0.7
HOLC Holcomb Ridge 1.43 185 Pn 05 34 35.3 -0.9
VOG Valley Oaks Go 1.44 288 Pn 05 34 35.7 -0.4
JNH Juniper Hills 1.45 189 Pn 05 34 35.7 -0.8
GMN Gold Mountain 1.46 14 Pn 05 34 36.0 -0.7
DSCC Desert Studies 1.49 119 Pn 05 34 35.6 -1.3
DSP Deep Springs 1.50 351 Pn 05 34 36.5 -0.6
DSP IAML 05 34 59.9
comp=E,5μm,1.1s
TUQ Turquoise Moun 1.51 107 Pn 05 34 36.0 -1.2
OSI Osito Audit: C 1.52 214 Pn 05 34 36.8 -0.6
OSI IAML 05 35 01.4
comp=E,5μm,0.7s
HEC Hector,Ludlow 1.53 133 Pn 05 34 36.5 -1.0
CHFC Chilao Flat St 1.57 190 Pn 05 34 37.3 -0.9
TPNV Topopah Spring 1.57 47 Pn 05 34 37.6 -0.6
TPNV IAML 05 35 01.7
comp=E,7μm,0.6s
TPNV IAML 05 35 02.0
comp=E,8μm,0.6s
MTUM Tungsten Hills 1.63 335 Pn 05 34 38.4 -0.5
BFSC Mount Baldy Ra 1.64 179 Pn 05 34 38.5 -0.7
BFSC IAML 05 35 03.8
comp=E,3μm,0.7s
SSK Sunset Peak 1.67 180 Pn 05 34 39.2 -0.3
MWC Mount Wilson 1.68 190 Pn 05 34 39.5 -0.3
MWC IAML 05 35 05.4
comp=E,3μm,0.5s
MWC IAML 05 35 05.9
comp=N,4μm,0.5s
SIL Silver Peak 1.69 155 Pb 05 34 41.4 0.0
BCW Bitter Crk WRg 1.69 237 Pn 05 34 39.1 -0.7
DECC Green Verdugo 1.71 198 Pn 05 34 39.6 -0.3
OAT Oat Mountain 1.71 206 Pn 05 34 39.9 -0.2
BBRC Big Bear Solar 1.74 158 Pb 05 34 42.2 0.0
PASC Pasadena Art C 1.76 193 Pn 05 34 40.1 -0.5
CRGC Crocker Grade 1.78 249 Pn 05 34 40.5 -0.4
PSRC Puddingstone R 1.79 183 Pn 05 34 41.1 0.0
BLCC Black Canyon 1.82 206 Pn 05 34 41.4 -0.1
MZP Montezuma Peak 1.83 8 Pn 05 34 41.3 -0.6
GR2C Griffith Obs. 1.83 196 Pn 05 34 41.3 -0.3
CARC Carrizo Plain 1.85 253 Pn 05 34 41.8 -0.1
MLSC Mira Loma 1.88 177 Pn 05 34 42.0 -0.2
DJJ Donna J Jenkin 1.88 200 Pn 05 34 41.8 -0.5
RVR Riverside 1.90 172 Pn 05 34 42.2 -0.4
GTM Goat Mountain 1.93 145 Pn 05 34 42.0 -1.0
KCC Kaiser Creek 1.94 318 Pn 05 34 43.5 +0.2
MLAC Mammoth, Mammo 1.97 333 Pb 05 34 45.9 -0.4
GMRC Granite Mounta 1.99 123 Pn 05 34 42.2 -1.7
MCSM Casa Diablo Ho 2.02 331 Pb 05 34 46.6 -0.5
BLAC Blackrock camp 2.10 149 Pn 05 34 44.9 -0.6
SHPR Sheep Range 2.14 72 Pn 05 34 45.7 -0.3
EW2 E Wide Canyon 2.21 151 Pn 05 34 46.4 -0.4
TPH Tonopah 2.22 10 Pn 05 34 47.1 0.0
TPH IAML 05 35 27.8
comp=N,2μm,1.1s
ELS Elsinore Mount 2.24 174 Pn 05 34 47.4 +0.1
ELS IAML 05 35 23.8
comp=N,2μm,0.8s
ELS IAML 05 35 27.4
comp=E,2μm,1.5s
HMTC Hemet 2.24 165 Pn 05 34 47.0 -0.3
DANC Danby, Needles 2.26 123 Pn 05 34 46.4 -1.1
POB Polly Butte 2.28 164 Pn 05 34 47.7 -0.2
DGR Domenigoni Val 2.30 166 Pn 05 34 47.7 -0.4
V12A Nelson 2.31 93 Pn 05 34 47.7 -0.7
V12A IAML 05 35 27.8
comp=E,2μm,0.5s
V12A IAML 05 35 31.2
comp=N,2μm,0.8s
MURC Murrieta 2.31 170 Pn 05 34 48.1 -0.2
BACC Bachelor Mtn. 2.33 167 Pn 05 34 48.2 -0.3
BELC Belle Mtn. Jos 2.34 143 Pn 05 34 48.1 -0.6
BELC IAML 05 35 32.2
comp=N,3μm,0.6s
BELC IAML 05 35 35.5
comp=E,3μm,1.1s
S11A Rachel 2.35 41 Pn 05 34 48.8 -0.1
LHV Little Huntoon 2.45 345 Pn 05 34 50.0 -0.1
LHV IAML 05 35 38.4
comp=N,1μm,1.0s
LHV IAML 05 35 41.3
comp=E,1μm,1.2s
PMD Palm Desert 2.48 154 Pn 05 34 49.5 -1.1
PMD IAML 05 35 35.3
comp=E,1μm,0.8s
PFO Pinyon Flats O 2.48 156 Pn 05 34 49.7 -1.0
PFO IAML 05 35 34.9
comp=E,3μm,2.0s
PFO IAML 05 35 36.9
comp=E,2μm,1.0s
PFO Pinyon Flats O 2.48 156 Pn **Pn 05 34 50.0 -0.7**
comp=E,5.4nm,0.3s,baz=346,slow=14,SNR=70
PFO Pg **Pb 05 34 55.1 +0.2**
comp=E,93nm,0.3s,baz=339,slow=15,SNR=141
PFO Lg Lg 05 35 28.6
comp=E,259nm,0.3s,baz=215,slow=20,SNR=16
comp=E,21nm,0.4s
PMPB Monarch Peak 2.54 278 Pn 05 34 51.4 0.0
NVAR Mina Array Bea 2.59 349 Pn 05 34 51.5 -0.7
NVAR Mina Array Bea 2.59 349 Pn **Pn 05 34 52.8 +0.6**
comp=E,8.7nm,0.3s,baz=175,slow=12,SNR=158
NVAR Pg **Pg 05 34 58.2 -1.8**
comp=E,136nm,0.3s,baz=171,slow=17,SNR=100
NVAR Lg Lg 05 35 30.6
comp=E,146nm,0.3s,baz=44,slow=24,SNR=9.5
comp=E,34nm,0.6s
PRN Pahroc Range 2.61 54 Pn 05 34 51.7 -0.8
PRN IAML 05 35 43.7
comp=E,3μm,1.0s
NEE2 Needles Airpor 2.75 113 Pn 05 34 52.8 -1.4
NEE2 IAML 05 35 44.4
comp=N,3μm,0.9s
NEE2 IAML 05 35 50.5
comp=E,3μm,0.6s
BBGB Big Mountain B 2.79 285 Pn 05 34 54.6 -0.3
RYN Ryan 2.82 347 Pn 05 34 54.9 -0.4
BC3 Big Chuckawall 2.89 140 Pn 05 34 54.5 -1.7
BC3 IAML 05 35 50.4
comp=N,2μm,0.8s
BC3 IAML 05 35 51.9
comp=E,1μm,0.7s
DPP Dos Picos Cty 2.94 168 Pn 05 34 56.4 -0.5
DPP IAML 05 35 43.5
comp=E,2μm,0.9s
WAKR Walker 2.96 332 Pn 05 34 56.5 -0.8

Q09A Carvers 2.97 8 Pn 05 34 57.1 -0.4
CMB Columbia Colle 3.04 316 Pn 05 34 58.3 0.0
CMB IAML 05 35 53.2
comp=N,834nm,0.7s
SAO San Andreas Ge 3.16 287 Pn 05 34 59.0 -0.8
W13A Hualapai Mount 3.20 103 Pn 05 34 59.3 -1.3
W13A IAML 05 35 57.3
comp=E,997nm,0.9s
TJX Tijuana 3.41 171 Pn 05 35 03.4 +0.2
TKX Tecate 3.43 164 Pn 05 35 03.3 -0.3
TKX IAML 05 35 57.7
comp=E,1μm,0.9s
TKX IAML 05 35 59.8
comp=N,692nm,0.7s
YUH Yuha Desert 3.54 155 Pn 05 35 03.4 -1.7
YUH IAML 05 36 07.0
comp=E,518nm,0.9s
CBX Cerro Bola 3.66 166 Pn 05 35 06.7 -0.2
GLA Glamis 3.69 139 Pn 05 35 05.2 -1.9
GLA IAML 05 36 18.7
comp=N,1μm,0.8s
LCMT Little Creek M 3.76 71 Pn 05 35 08.4 +0.1
CCUT Cedar City 3.85 63 Pn 05 35 09.5 -0.1
PAHR Pah Rah Range 4.04 341 Pn 05 35 12.5 +0.4
PSUT Pine Spring 4.05 48 Pn 05 35 11.9 -0.3
PSUT IAML 05 36 20.4
comp=E,629nm,0.9s
PSUT IAML 05 36 27.7
comp=N,494nm,1.0s
SZCU Shurtz Canyon 4.07 64 Pn 05 35 12.4 -0.3
KNB Kanab 4.08 73 Pn 05 35 13.3 +0.5
KNB IAML 05 36 21.4
comp=E,473nm,0.9s
KNB IAML 05 36 22.0
comp=N,454nm,1.0s
SPR3 Spring Creek 3 4.10 40 Pn 05 35 12.2 -0.9
SPR3 IAML 05 36 19.3
comp=E,561nm,0.8s
SPR3 IAML 05 36 20.5
comp=N,518nm,0.9s
ESJX Sierra Juarez 4.13 159 Pn 05 35 13.4 0.0
ESJX IAML 05 36 22.7
comp=E,454nm,0.8s
ESJX IAML 05 36 25.0
comp=N,431nm,0.8s
Y14A Wickenburg 4.31 115 Pn 05 35 14.4 -1.3
Y14A IAML 05 36 36.2
comp=E,525nm,0.8s
Y14A IAML 05 36 37.1
comp=N,487nm,0.8s
PKCU Pink Cliffs 4.60 69 Pn 05 35 20.6 +0.6
PKCU IAML 05 36 51.8
comp=N,703nm,2.8s
MCCM Marconi Confer 4.72 300 Pn 05 35 20.1 -1.2
MCCM IAML 05 36 32.4
comp=E,246nm,0.9s
MCCM IAML 05 36 37.9
comp=N,222nm,1.1s
MTPU Mount Pierson 4.91 62 Pn 05 35 23.0 -1.2
TCRU Three Creeks R 4.99 55 Pn 05 35 24.4 -0.9
TCRU IAML 05 37 00.8
comp=E,422nm,1.2s
TCRU IAML 05 37 02.5
comp=N,295nm,1.3s
WUAZ Wupatki 5.15 92 Pn 05 35 27.7 +0.2
ELK Elko 5.22 21 Pn 05 35 28.5 0.0
ELK Elko 5.22 21 Pn Pn **05 35 29.2 +0.7**
comp=N,4.2nm,0.3s,baz=208,slow=9.7,SNR=51
ELK Pg **Pb 05 35 44.1 +2.4**
comp=N,18nm,0.3s,baz=231,slow=12,SNR=35
ELK Lg Lg 05 36 52.0
comp=N,51nm,0.3s,baz=125,slow=15,SNR=13
comp=N,11nm,0.4s
X16A Lo Mia Camp, P 5.33 104 Pn 05 35 29.7 -0.1
214A Organ Pipe Nat 5.64 133 Pn 05 35 32.2 -1.8
KCPM Cahto Peak 6.01 311 Pn Pn **05 35 39.4 +0.2**
TMUT Trail Mountain 6.17 55 Pn Pn **05 35 43.2 +1.7**
KMRM Mail Ridge 6.42 314 Pn Pn **05 35 46.4 +1.6**
X18A Snowflake 6.48 100 Pn 05 35 46.1 +0.4
YBH Yreka Blue Hor 7.03 328 Pn Pn **05 35 55.3 +2.2**
baz=165,slow=6.4,SNR=7.6
YBH Lg Lg 05 37 49.0
baz=203,slow=3.0,SNR=4.0
YBH LR LR 05 38 21.7
comp=N,14nm,19.8s,baz=147,slow=36
PV05 Paradox Valley 7.22 70 Pn Pn **05 35 58.7 +2.9**
DUN6 Lazy B Ranch 7.86 113 Pn 05 36 05.1 +0.5
319A Douglas 8.33 120 Pn 05 36 10.7 -0.3
O20A White River Ci 8.58 58 Pn Pn **05 36 14.9 +0.4**
121A Cookes Peak, D 8.86 109 Pn 05 36 18.9 +0.6
ANMO Albuquerque 9.22 93 Pn Pn **05 36 24.4 +1.2**
comp=N,0.3nm,0.3s,baz=18,slow=12,SNR=3.8
ANMO Pg 05 36 58.2
comp=N,1.6nm,0.3s,baz=10.0,slow=12,SNR=9.9
ANMO Lg Lg 05 38 55.3
comp=N,0.9nm,0.3s,baz=271,slow=14,SNR=8.7
ANMO LR LR 05 40 31.4
comp=N,74nm,21.3s,baz=14,slow=42
BNM Barren Site 9.24 98 Pn Pn **05 36 24.6 +1.0**
PDAR Pinedale Array 9.32 40 Pn Pn **05 36 27.2 +2.6**
comp=N,0.2nm,0.3s,baz=224,slow=12,SNR=22
PDAR Lg Lg 05 39 02.4
comp=N,0.4nm,0.3s,baz=222,slow=26,SNR=6.0
comp=N,2.1nm,0.7s
NEW Newport 12.38 2 LR LR 05 42 24.1
comp=N,182nm,18.3s,baz=186,slow=40
LPIG La Paz 13.37 149 LR LR 05 42 13.6
comp=N,90nm,19.0s,baz=339,slow=36
TXAR Lajitas Array 13.50 115 Pn Pn **05 37 23.8 +2.0**
comp=N,0.3nm,0.3s,baz=294,slow=13,SNR=27
TXAR Lg Lg 05 41 17.1
comp=N,0.1nm,0.3s,baz=291,slow=29,SNR=7.1
TXAR LR LR 05 42 00.3
comp=N,46nm,21.1s,baz=292,slow=35
comp=N,1.1nm,0.5s
SAND Sanderson 14.35 110 Pn Pn **05 37 33.0 -0.3**
OZNA Ozona 14.69 105 Pn Pn **05 37 38.3 +0.3**
K30B Basset 15.54 59 Pn Pn **05 37 50.1 +0.9**
DRIO Del Rio 15.75 109 Pn Pn **05 37 53.0 +1.1**
DRIO IAmb IAmb 05 38 02.8
comp=Z,5.5nm,0.8s
KAN14 Manchester OK 15.92 80 Pn Pn **05 37 54.1 0.0**
BRDY Brady 16.23 101 Pn Pn **05 37 57.4 -0.8**
PLPT Palo Pinto 16.29 95 Pn 05 37 59.0 +0.1
E28A Huff 16.62 45 Pn Pn **05 38 03.3 +0.2**
OK052 Battle Ridge R 16.92 83 Pn Pn **05 38 06.1 -0.8**
OK052 IAmb IAmb 05 38 14.7
comp=Z,12nm,0.8s
T35A Sooner Cattle 17.08 80 Pn Pn **05 38 08.1 -0.8**
T35A IAmb IAmb 05 38 17.1
comp=Z,9.5nm,1.2s
833A Chaparral WMA, 17.22 111 Pn Pn **05 38 10.2 -0.5**
833A IAmb IAmb 05 38 15.1
comp=Z,12nm,0.9s
TUL3 Leonard 17.74 83 P P **05 38 18.2 +0.2**
TUL3 IAmb IAmb 05 38 27.4
comp=Z,11nm,0.9s
BBB Bella Bella 17.90 339 LR LR 05 46 01.9
comp=Z,111nm,19.1s,baz=151,slow=40
ECSD EROS Data Cent 17.96 58 P Pn **05 38 19.2 -0.6**
MIAR Mount Ida 19.74 87 P Pn **05 38 40.8 -0.6**
MIAR IAmb IAmb 05 38 54.3
comp=Z,8.2nm,0.8s
WHAR Wooly Hollow 20.66 84 P 05 38 50.6 +0.7
FCAR Ozark Folk Cen 20.70 82 P P **05 38 51.3 +0.9**
FCAR IAmb IAmb 05 38 54.6
comp=Z,8.4nm,1.2s
ULM Lac du Bonnet 21.34 41 P P **05 38 57.7 +0.5**
comp=Z,2.6nm,0.8s,baz=227,slow=11,SNR=5.6
comp=Z,2.6nm,0.8s
FFC Flin Flon 21.75 25 P P **05 39 01.8 +0.3**
PBMO Poplar Bluff 21.96 80 P P **05 39 03.4 -0.4**
PBMO IAmb IAmb 05 39 17.5
comp=Z,9.5nm,1.2s
DLBC Dease Lake 23.99 344 LR LR 05 49 35.2
comp=Z,230nm,21.9s,baz=136,slow=39
W50A Signal Mountai 26.30 82 P 05 39 45.7 0.0
W50A IAmb IAmb 05 39 52.2
comp=Z,5.2nm,0.9s
YKA Yellowknife Ar 26.70 3 LR LR 05 51 31.0
comp=Z,71nm,21.7s,baz=322,slow=39
TKL Tuckaleechee C 27.44 80 LR LR 05 51 24.8
comp=Z,95nm,18.2s,baz=286,slow=38
SADO Sadowa 30.46 61 LR LR 05 51 44.4
comp=Z,53nm,21.0s,baz=282,slow=35

KDAK Kodiak Island 31.83 324 LR LR 05 52 15.2
comp=Z,101nm,19.0s,baz=233,slow=34
INK Inuvik 33.67 349 LR LR 05 56 29.9
comp=Z,56nm,20.9s,baz=198,slow=40
ILAR Eielson Array 33.79 338 P **P 05 40 53.6 +1.8**
comp=Z,0.7nm,0.8s,baz=159,slow=8.1,SNR=7.1
comp=Z,0.7nm,0.8s
SCHQ Schefferville 39.42 45 LR LR 05 57 21.3
comp=Z,63nm,21.5s,baz=292,slow=35
RES Resolute Bay 40.40 9 LR LR 05 58 56.8
comp=Z,92nm,18.6s,baz=103,slow=37
FRB Frobisher Bay 40.63 31 LR LR 06 00 29.9
comp=Z,39nm,19.2s,baz=282,slow=39
SFJD Kangerlussuaq 48.63 29 LR LR 06 02 11.1
comp=Z,45nm,20.7s,baz=270,slow=35
PETK Petropavlovsk- 59.23 316 P **P 05 44 13.1 +1.9**
comp=Z,1.2nm,0.7s,baz=91,slow=8.6,SNR=2.8
comp=Z,1.2nm,0.7s
TIXI Tiksi 63.18 341 LR LR 06 17 34.2
comp=Z,62nm,18.6s,baz=216,slow=41
ZALV Zalesovo Beam 88.44 347 P **P 05 47 03.6 +1.5**
comp=Z,0.4nm,0.3s,baz=345,slow=17,SNR=3.8
comp=Z,0.4nm,0.3s
BVAR Borovoye Array 91.18 355 P **P 05 47 16.5 +1.5**
comp=Z,0.9nm,0.6s,baz=35,slow=5.4,SNR=5.4
comp=Z,0.9nm,0.6s
HHC Hu-ho-hao-te 91.25 325 *e*P **P 05 47 12.9 -2.8**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.3s
KURBB Kurchatov Array 92.68 350 P **P 05 47 22.5 +0.5**
comp=Z,0.5nm,0.8s,baz=14,slow=4.8,SNR=4.1
comp=Z,0.5nm,0.8s

NEIC ***23*** *05:37:25.5±1.2,35°.919N±0°.005×117°.701W±0°.009, h5km±1km, Error ellipse: s-maj=1.0km s-min=0.8km az=116.0*

PAS 23 05:37:25.8±1.2,**35°.915N**±0°.009×**117°.69W**±0°.01, **h7**km±1km,**ML3.2**/92,**ML3.0**/84(NEIC),**Error ellipse: s-maj=1.4km s-min=1.2km az=73.0,Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res	ISC
WVPM	**Volcano Peak E**	**0.11**	**288**			Pg	05 37 28.4	0.0	
JRC2	**Joshua Ridge**	**0.12**	**304**			Pg	05 37 30.8	+2.2	
CLC	**China Lake**	**0.12**	**144**			Pg	05 37 28.5	0.0	
CLC						Sg	05 37 30.6	+0.2	
CLC	**China Lake**	**0.12**	**144**	IAML			05 37 31.0		
comp=N,5μm,0.1s									
CLC				IAML			05 37 31.2		
comp=E,3μm,0.2s									
TOW	**Tower One**	**0.12**	**211**			Pg	05 37 29.0	+0.5	
TOW						Sg	05 37 31.8	+1.5	
WCSM	**Coso Springs S**	**0.13**	**329**			Pg	05 37 28.6	-0.1	
WCSM						Sg	05 37 30.6	0.0	
WRVM	**Rose V. Centra**	**0.19**	**299**			Pg	05 37 29.7	0.0	
WRVM						Sg	05 37 32.6	+0.3	
WNMM	**Nine Mile Cany**	**0.19**	**248**			Pg	05 37 29.7	+0.1	
WNMM						Sg	05 37 32.7	+0.5	
MPMC	**Manual Prospec**	**0.21**	**48**			Pg	05 37 29.9	-0.3	
MPMC				IAML			05 37 33.5		
comp=N,2μm,0.5s									
SRTC	**Snort**	**0.23**	**193**			Pg	05 37 30.7	+0.4	
SRTC						Sg	05 37 35.0	+1.6	
MFS	**McCloud Flat S**	**0.24**	**326**			Pg	05 37 30.6	-0.1	
MFS						Sg	05 37 34.2	+0.2	
WSHM	**Spangler Hills**	**0.35**	**153**	Pg		Pg	05 37 32.5	-0.2	
WSHM	**Spangler Hills**	**0.35**	**153**			Sg	05 37 37.7	+0.4	
LRMC	**Laurel Mtn Rad**	**0.43**	**180**			Pg	05 37 34.0	-0.3	
LRMC						Sg	05 37 40.2	+0.2	
LRMC	**Laurel Mtn Rad**	**0.43**	**180**	IAML			05 37 40.5		
comp=E,2μm,0.3s									
LRMC				IAML			05 37 40.9		
comp=N,2μm,0.2s									
CCCA	**Chr Cany lake**	**0.47**	**146**			Sg	05 37 42.1	+1.0	
CCCA	**Chr Cany lake**	**0.47**	**146**	Pg		Pg	05 37 35.0	+0.1	
CCCA				IAML			05 37 42.4		
comp=E,6μm,0.3s									
CCCA				IAML			05 37 42.8		
comp=N,6μm,0.4s									
WORM	**Onyx Ranch**	**0.50**	**244**			Pg	05 37 35.1	-0.4	
WORM						Sg	05 37 41.8	-0.3	
WBSM	**Bird Springs**	**0.53**	**224**			Pg	05 37 35.6	-0.4	
WBSM						Sg	05 37 42.9	-0.1	
WHFM	**Hanning Flat**	**0.58**	**248**			Pg	05 37 36.6	-0.4	
WHFM						Sg	05 37 44.4	-0.3	
CWC	**Cottonwood Cre**	**0.61**	**329**			Sg	05 37 45.9	+0.2	
CWC	**Cottonwood Cre**	**0.61**	**329**			Pg	05 37 37.3	-0.4	
CWC				IAML			05 37 46.4		
comp=E,622nm,0.2s									
CWC				IAML			05 37 46.4		
comp=N,735nm,0.2s									
CGO	**Cerro Gordo**	**0.64**	**352**			Pg	05 37 37.7	-0.5	
CGO						Sg	05 37 46.8	+0.2	
DTP	**Desert Tortois**	**0.66**	**191**			Pg	05 37 37.9	-0.6	
DTP						Sg	05 37 47.1	0.0	
QSM	**Queen of Sheba**	**0.67**	**85**			Sg	05 37 46.9	-0.5	
QSM	**Queen of Sheba**	**0.67**	**85**			Pg	05 37 38.4	-0.2	
QSM				IAML			05 37 48.9		
comp=N,715nm,0.4s									
QSM				IAML			05 37 49.1		
comp=E,648nm,0.2s									
ISA	**Isabella, Lake**	**0.69**	**249**	Pg		Pg	05 37 38.5	-0.5	
ISA				IAML			05 37 48.3		
comp=N,1μm,0.3s									
ISA				IAML			05 37 49.8		
comp=E,853nm,0.2s									
ISA	**Isabella, Lake**	**0.69**	**249**			Sg	05 37 47.4	-0.7	
WASM	**Alta Sierra Ca**	**0.73**	**256**			Pg	05 37 39.4	-0.4	
WASM						Sg	05 37 49.0	-0.3	
CCAC	**Calif City Air**	**0.81**	**200**			Pg	05 37 40.7	-0.7	
CCAC						Sg	05 37 51.9	+0.1	
FURC	**Furnace Creek,**	**0.86**	**50**			Pg	05 37 42.1	-0.2	
FURC				IAML			05 37 57.0		
comp=N,860nm,0.5s									
FURC	**Furnace Creek,**	**0.86**	**50**			Sg	05 37 54.0	+0.3	
GWY	**Greenwater Val**	**0.87**	**72**			Pg	05 37 42.2	-0.2	
GWY				IAML			05 37 57.3		
comp=E,507nm,0.4s									
GWY				IAML			05 37 57.3		
comp=N,571nm,0.3s									
SPG2	**Springville 2**	**0.92**	**288**			Pg	05 37 42.5	-1.0	
SPG2						Sg	05 37 54.7	-0.7	
GSC	**Goldstone, Bar**	**0.94**	**130**			Sg	05 37 55.8	-0.4	
GSC	**Goldstone, Bar**	**0.94**	**130**	Pg		Pg	05 37 43.0	-1.0	
GSC				IAML			05 37 58.2		
comp=N,324nm,0.3s									
GSC				IAML			05 37 58.3		
comp=E,384nm,0.8s									
HYS	**Haystack Butte**	**1.05**	**175**			Pg	05 37 45.4	-0.6	
HYS						Sb	05 38 00.3	0.0	
EDW2	**Edwards Air Fo**	**1.06**	**194**			Pg	05 37 45.0	-1.2	
TEJ	**El Tejon**	**1.07**	**230**			Pg	05 37 45.0	-1.2	
TPO	**Tropico Hills**	**1.12**	**203**	Pg		Pg	05 37 46.5	-0.8	
TPO				IAML			05 38 09.7		
comp=N,232nm,0.9s									
TPO				IAML			05 38 10.0		
comp=E,243nm,0.8s									
VES	**Vestal, Richgr**	**1.14**	**267**			Sg	05 38 02.3	-0.1	
VES	**Vestal, Richgr**	**1.14**	**267**	Pg		Pg	05 37 47.0	-0.7	
VES				IAML			05 38 04.4		
comp=E,479nm,0.4s									
VES				IAML			05 38 05.5		
comp=N,557nm,0.3s									
SHOC	**Shoshone, Teco**	**1.15**	**90**			Sg	05 38 02.6	0.0	
SHOC	**Shoshone, Teco**	**1.15**	**90**	Pg		Pg	05 37 47.2	-0.6	
RRX	**Edison Barstow**	**1.18**	**151**			Pb	05 37 48.5	0.0	
SGV	**South Grapevin**	**1.19**	**26**			Pg	05 37 48.1	-0.5	
SGV						Sg	05 38 04.0	0.0	
TIN	**Tinemaha, Big**	**1.22**	**339**			Pg	05 37 48.6	-0.6	
TIN				IAML			05 38 07.0		
comp=N,485nm,0.4s									
TIN				IAML			05 38 11.3		
comp=E,512nm,0.5s									
WCT	**Wildcat Mounta**	**1.23**	**44**			Sg	05 38 04.8	-0.5	
WCT	**Wildcat Mounta**	**1.23**	**44**			Pg	05 37 48.6	-0.7	
WCT				IAML			05 38 07.2		
comp=E,231nm,0.4s									
WCT				IAML			05 38 07.5		
comp=N,216nm,0.7s									
SBB	**Saddle Back Bu**	**1.23**	**185**			Pb	05 37 48.8	-0.5	
AMDNV	**Amargosa**	**1.26**	**64**			Pn	05 37 49.4	-0.4	

BAKC	**Calstate**	**1.29**	**244**			Pg	05 37 50.7	+0.2
BAKC						Sn	05 38 07.5	-0.1
LCH	**Last Change Ra**	**1.32**	**1**			Pg	05 37 51.0	-0.1
LCH						Sb	05 38 08.0	0.0
LEOC	**Leona Valley**	**1.38**	**202**			Pn	05 37 51.5	+0.1
GMN	**Gold Mountain**	**1.42**	**14**			Pn	05 37 52.1	-0.2
HOLC	**Holcomb Ridge**	**1.46**	**185**			Pn	05 37 52.8	+0.1
HOLC						Sb	05 38 12.2	0.0
DSP	**Deep Springs**	**1.47**	**351**			Sb	05 38 12.2	-0.1
DSP	**Deep Springs**	**1.47**	**351**			Pn	05 37 52.8	+0.2
TUQ	**Turquoise Moun**	**1.51**	**108**			Pb	05 37 53.9	-0.4
HEC	**Hector,Ludlow**	**1.55**	**134**			Sb	05 38 15.0	+0.4
OSI	**Osito Audit: C**	**1.55**	**213**			Pn	05 37 53.8	-0.1
TPNV	**Topopah Spring**	**1.55**	**48**			Pn	05 37 53.4	-0.5
TPNV					IAML		05 38 17.2	
	comp=N,213nm,0.5s							
TPNV					IAML		05 38 18.7	
	comp=N,201nm,0.3s							
MTUM	**Tungsten Hills**	**1.60**	**334**			Pb	05 37 55.7	-0.1
MPI	**Mount Pinos, F**	**1.62**	**228**			Pb	05 37 56.0	-0.2
BFSC	**Mount Baldy Ra**	**1.67**	**179**			Sb	05 38 18.8	+0.5
BFSC	**Mount Baldy Ra**	**1.67**	**179**			Pb	05 37 56.4	-0.5
SSK	**Sunset Peak**	**1.70**	**180**			Pb	05 37 57.9	+0.4
MWC	**Mount Wilson**	**1.71**	**190**	Pn	Pn	Pn	05 37 55.4	-0.8
PASC	**Pasadena Art C**	**1.79**	**193**	Pn	Pn	Pn	05 37 57.3	+0.3
GTM	**Goat Mountain**	**1.95**	**146**			Pb	05 38 01.8	+0.1
MCSM	**Casa Diablo Ho**	**1.99**	**331**			Pb	05 38 02.8	+0.2
SHPR	**Sheep Range**	**2.13**	**73**	Pn	Pn	Pn	05 38 03.2	+1.3
ELS	**Elsinore Mount**	**2.27**	**175**	Pn	Pn	Pn	05 38 02.6	-1.2
BELC	**Belle Mtn. Jos**	**2.36**	**144**	Pn	Pn	Pn	05 38 03.6	-1.5
BELC					IAML		05 38 45.2	
	comp=N,71nm,1.0s							
BELC					IAML		05 38 51.2	
	comp=E,71nm,0.7s							
PMPB	**Monarch Peak**	**2.54**	**278**	Pn	Pn	Pn	05 38 06.3	-1.2
YUH	**Yuha Desert**	**3.57**	**155**	Pn	Pn	Pn	05 38 22.1	+0.6
YUH					IAML		05 39 02.4	
	comp=E,27nm,2.0s							
YUH					IAML		05 39 05.3	
	comp=N,23nm,2.0s							
LCMT	**Little Creek M**	**3.74**	**72**	Pn	Pn	Pn	05 38 24.0	-0.1
LCMT					IAML		05 38 56.5	
	comp=N,20nm,2.4s							
LCMT					IAML		05 39 08.9	
	comp=E,18nm,2.1s							
PSUT	**Pine Spring**	**4.02**	**48**	Pn	Pn	Pn	05 38 28.1	+0.1
PSUT					IAML		05 39 33.1	
	comp=E,30nm,1.8s							
PSUT					IAML		05 39 37.5	
	comp=N,24nm,2.9s							
U15A	**North Rim**	**4.39**	**82**	Pn	Pn	Pn	05 38 34.3	+1.2
U15A					IAML		05 39 10.7	
	comp=N,28nm,1.5s							
U15A					IAML		05 39 41.8	
	comp=E,25nm,3.0s							

IDC ***23*** *05:50:34.5±0.8, 1°.91N×97°.74W, h0km, mb3.9/9, mbtmp3.9/10, ML3.0/1, MS4.0/40, Error ellipse: s-maj=30.4km s-min=16.6km az=55.0*
NEIC ***23*** *05:50:38.5±1.7, 2°.0N±0°.1×97°.4W±0°.1, h10km±2km, mb4.5/32, Error ellipse: s-maj=25.0km s-min=15.3km az=229.0*

ISC 23 05:50:36.5±0.7, 1°.94N±0°.09×97°.5W±0°.1, h10km, n123, σ1s 04/82, mb4.4/19, MS4.0/39, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**7.65**	**110**	Pn	**Pn**	**05 52 30.1**	**+2.0**
HUEH	**Huehuetenango**	**14.55**	**24**	Pn	**Pn**	**05 54 03.6**	**+0.8**
ESQI	**Esquipulas**	**14.90**	**32**	Pn	**Pn**	**05 54 06.5**	**-1.0**
HERN	**Volcan Telica**	**14.96**	**44**	Pn	**Pn**	**05 54 06.7**	**-1.5**
JTS	**Las Juntas de**	**14.96**	**56**	LR	LR	05 58 07.8	
	comp=E,571nm,20.6s,baz=254,slow=30						
CCIG	**Comitan**	**15.20**	**20**	Pn	**Pn**	**05 54 10.0**	**-1.5**
CCIG				IAmb	IAmb	05 54 29.0	
	comp=E,34nm,1.3s						
CMIG	**Matias Romero**	**15.27**	**9**	Pn	**Pn**	**05 54 12.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=181,slow=15,SNR=3.7						
CMIG				LR	LR	05 58 37.6	
	comp=E,975nm,19.5s,baz=169,slow=32						
	comp=Z,0.9nm,0.7s						
LCR2	**La Lucha 2**	**15.48**	**59**	Pn	**Pn**	**05 54 13.5**	**-1.8**
TGUH	**Tegucigalpa,Un**	**15.71**	**39**	Pn	**Pn**	**05 54 18.2**	**0.0**
TGUH				IAmb	IAmb	05 54 31.9	
	comp=E,45nm,1.4s						
BRU2	**Volcan**	**16.22**	**65**	Pn	**Pn**	**05 54 24.3**	**-0.5**
SIUN	**Universidad Ur**	**17.17**	**46**	Pn	**Pn**	**05 54 36.8**	**0.0**
SIUN				IAmb	IAmb	05 54 58.2	
	comp=E,11nm,1.3s						
COHC	**Cochancay**	**18.74**	**103**	P	**P**	**05 54 54.7**	**-1.0**
JRQG	**Juriquilla Cam**	**18.88**	**351**	P	**Pn**	**05 54 58.2**	**+0.3**
JRQG				IAmb	IAmb	05 55 38.1	
	comp=Z,7.5nm,0.3s						
OTAV	**Otavalo**	**19.10**	**95**		**Pn**	**05 55 00.5**	**-0.4**
OTAV				IAmb	IAmb	05 55 08.8	
	comp=Z,28nm,1.2s						
OTAV	**Otavalo**	**19.10**	**95**	*eP*	**Pn**	**05 55 00.6**	**-0.4**
TEIG	**Tepich**	**20.28**	**26**	P	**P**	**05 55 13.4**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=130,slow=23,SNR=3.6						
ATAH	**Atahualpa**	**21.07**	**116**	P	**P**	**05 55 23.9**	**+2.3**
	comp=Z,5.7nm,0.9s,baz=290,slow=14,SNR=7.0						
ATAH				LR	LR	06 01 32.1	
	comp=Z,233nm,21.6s,baz=288,slow=31						
	comp=Z,5.7nm,0.9s						
FLOC	**Florencia**	**21.82**	**91**		**P**	**05 55 29.5**	**+0.2**
ROSC	**El Rosal**	**23.30**	**82**	P	**P**	**05 55 48.2**	**+2.9**
	comp=Z,2.8nm,0.4s,baz=250,slow=19,SNR=7.6						
ROSC				LR	LR	06 03 40.7	
	comp=Z,267nm,20.2s,baz=243,slow=33						
	comp=Z,2.8nm,0.4s						
HBVL	**Hebbronville**	**25.01**	**357**		**P**	**05 56 01.9**	**+1.2**
LPIG	**La Paz**	**25.29**	**332**	LR	LR	06 03 38.6	
	comp=E,785nm,20.3s,baz=178,slow=31						
CZSB	**Cruzeiro do Su**	**26.52**	**112**		**P**	**05 56 15.7**	**+1.1**
CZSB	**Cruzeiro do Su**	**26.52**	**112**	*eP*	**P**	**05 56 15.3**	**+0.7**
HNDO	**Hondo**	**27.49**	**357**	P	**P**	**05 56 23.1**	**-0.1**
HNDO				IAmb	IAmb	05 56 34.2	
	comp=Z,10nm,1.2s						
SDV	**Santo Domingo**	**27.59**	**74**	LR	LR	06 06 31.5	
	comp=Z,105nm,18.1s,baz=278,slow=34						
TXAR	**Lajitas Array**	**27.87**	**348**	P	**P**	**05 56 27.6**	**+0.9**
TXAR	**Lajitas Array**	**27.87**	**348**	P	**P**	**05 56 25.6**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=161,slow=12,SNR=8.0						
TXAR				PcP	**PcP**	**05 59 42.3**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=183,slow=5.2,SNR=4.2						
TXAR				LR	LR	06 06 28.6	
	comp=Z,325nm,18.8s,baz=122,slow=34						
	comp=Z,0.6nm,0.8s						
SAND	**Sanderson**	**28.21**	**351**		**P**	**05 56 30.7**	**+1.1**
SAND				IAmb	IAmb	05 56 40.3	
	comp=Z,10nm,1.2s						
TBTG	**Tabatinga, AM**	**28.22**	**102**	*eP*	**P**	**05 56 29.8**	**-0.1**
ALPN	**Alpine**	**28.88**	**349**	P	**P**	**05 56 36.7**	**+1.0**
VHRN	**Van Horn**	**29.56**	**347**		**P**	**05 56 42.6**	**+0.9**
VHRN				IAmb	IAmb	05 56 42.8	
	comp=Z,9.3nm,1.4s						
BAUV	**El Baul**	**30.11**	**76**		**P**	**05 56 46.4**	**-0.2**
BNM	**Barren Site**	**33.17**	**346**		**P**	**05 57 14.3**	**+0.7**
TEFE	**Tefe**	**33.28**	**99**	*eP*	**P**	**05 57 14.5**	**0.0**
WHAR	**Wooly Hollow**	**33.53**	**8**	P	**P**	**05 57 17.8**	**+1.3**
WHAR				IAmb	IAmb	05 57 26.1	
	comp=Z,11nm,1.3s						
PCRV	**Puerto La Cruz**	**33.64**	**75**	LR	LR	06 11 19.2	
	comp=Z,195nm,20.2s,slow=37						
ANMO	**Albuquerque**	**33.89**	**347**	LR	LR	06 09 58.7	
	comp=Z,507nm,19.3s,baz=252,slow=34						
LPAZ	**La Paz**	**34.18**	**123**		**P**	**05 57 24.2**	**+1.2**
LPAZ				IAmb	IAmb	05 57 34.0	
	comp=Z,5.5nm,1.1s						
LPAZ	**La Paz**	**34.18**	**123**	P	**P**	**05 57 24.0**	**+0.9**
	comp=Z,4.2nm,1.2s,baz=310,slow=2.7,SNR=5.5						
LPAZ				LR	LR	06 09 29.2	
	comp=Z,187nm,21.1s,baz=306,slow=33						
	comp=Z,4.2nm,1.2s						
LPAZ	**La Paz**	**34.18**	**123**	*eP*	**P**	**05 57 23.7**	**+0.6**
SJG	**San Juan**	**34.69**	**60**	LR	LR	06 11 04.7	
	comp=Z,105nm,19.6s,baz=261,slow=35						
WVT	**Waverly**	**35.18**	**14**		**P**	**05 57 31.1**	**+0.3**
WVT				IAmb	IAmb	05 57 39.9	
	comp=Z,10nm,1.1s						
TKL	**Tuckaleechee C**	**35.88**	**19**	LR	LR	06 11 38.9	
	comp=Z,453nm,21.9s,baz=196,slow=35						

PFO	**Pinyon Flats O**	**36.17**	**333**	LR		LR	06 10 16.3	
	comp=Z,229nm,18.5s,baz=144,slow=33							
SDCO	**Great Sand Dun**	**36.39**	**349**			**P**	**05 57 41.3**	**-0.2**
BOAV	**Boa Vista**	**36.94**	**89**			**P**	**05 57 45.8**	**-0.3**
BOAV					IAmb	IAmb	05 57 46.4	
	comp=Z,15nm,1.4s							
BOAV	**Boa Vista**	**36.94**	**89**	*eP*		**P**	**05 57 45.1**	**-1.1**
H03N2	**Juan Fernandez**	**39.30**	**155**	T		T	06 40 10.7	
	baz=334,slow=78,SNR=31							
H03N1	**Juan Fernandez**	**39.31**	**155**	T		T	06 40 05.2	
	baz=334,slow=78,SNR=36							
H03N3	**Juan Fernandez**	**39.32**	**155**	T		T	06 40 04.8	
	baz=334,slow=78,SNR=29							
VILB	**Vilhena**	**39.85**	**113**	*eP*		**P**	**05 58 10.2**	**-0.5**
O49A	**Covington**	**39.90**	**16**	P		**P**	**05 58 10.7**	**0.0**
O49A					IAmb	IAmb	05 58 20.2	
	comp=Z,14nm,1.1s							
SIV	**San Ignacio**	**40.15**	**118**	LR		LR	06 13 43.2	
	comp=Z,150nm,18.3s,baz=120,slow=34							
VBST	**Vila Bela da S**	**40.55**	**115**	*eP*		**P**	**05 58 15.9**	**-0.6**
NVAR	**Mina Array Bea**	**41.02**	**335**	P		**P**	**05 58 19.8**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=143,slow=8.3,SNR=4.8							
	comp=Z,0.5nm,0.8s							
BBSD	**Serra de San D**	**41.03**	**119**	*eP*		**P**	**05 58 19.4**	**-1.0**
HWUT	**Hardware Ranch**	**41.48**	**344**			**P**	**05 58 24.9**	**+0.9**
HWUT					IAmb	IAmb	05 58 39.5	
	comp=Z,12nm,1.4s							
PTLB	**Pontes e Lacer**	**41.67**	**116**			**P**	**05 58 25.4**	**-0.2**
PTLB					IAmb	IAmb	05 58 26.4	
	comp=Z,14nm,1.2s							
PTLB	**Pontes e Lacer**	**41.67**	**116**	*eP*		**P**	**05 58 24.6**	**-1.0**
ELK	**Elko**	**41.84**	**340**	P		**P**	**05 58 28.6**	**+1.7**
PDAR	**Pinedale Array**	**42.06**	**347**	P		**P**	**05 58 28.2**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=156,slow=7.6,SNR=6.5							
PDAR				LR		LR	06 15 31.5	
	comp=Z,202nm,21.4s,baz=154,slow=36							
	comp=Z,0.7nm,0.8s							
ITTB	**Itaituba**	**42.19**	**99**	*eP*		**P**	**05 58 28.6**	**-1.3**
PDRB	**Porto dos Gac**	**42.69**	**109**	*eP*		**P**	**05 58 32.6**	**-1.3**
NPGB	**Novo Progresso**	**42.98**	**102**	*eP*		**P**	**05 58 34.4**	**-1.9**
CLDB	**Colider**	**43.30**	**108**	*eP*		**P**	**05 58 37.8**	**-1.8**
CCRS	**Caceres, MT,**	**43.45**	**118**	*eP*		**P**	**05 58 40.9**	**+0.8**
MDP	**Montagnes des**	**44.86**	**85**	LR		LR	06 16 55.5	
	comp=Z,130nm,18.4s,baz=226,slow=35							
SALV	**Santo Antonio**	**44.94**	**115**	*eP*		**P**	**05 58 51.1**	**-1.0**
MURT	**Porto Murtinho**	**45.48**	**123**	*eP*		**P**	**05 58 55.5**	**-0.8**
SADO	**Sadowa**	**45.63**	**18**	LR		LR	06 17 42.4	
	comp=Z,381nm,20.4s,baz=212,slow=36							
YBH	**Yreka Blue Hor**	**45.65**	**334**	LR		LR	06 16 02.5	
	comp=Z,6.6nm,20.2s,baz=132,slow=34							
BDQN	**Bodoquena, MS**	**45.69**	**121**	*eP*		**P**	**05 58 56.9**	**-1.1**
PP1B	**Ponte de Pedra**	**46.25**	**117**	*eP*		**P**	**05 59 02.1**	**-0.3**
AQDB	**Aquidauana**	**46.60**	**121**	*eP*		**P**	**05 59 05.1**	**-0.1**
RVDE	**Rio Verde (Bra**	**46.71**	**118**	*eP*		**P**	**05 59 04.4**	**-1.7**
CPUP	**Villa Florida**	**47.88**	**129**			**P**	**05 59 15.5**	**+0.5**
CPUP	**Villa Florida**	**47.88**	**129**	P		**P**	**05 59 14.7**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=112,slow=17,SNR=4.4							
CPUP				LR		LR	06 16 16.0	
	comp=Z,21nm,21.5s,baz=167,slow=32							
	comp=Z,0.8nm,1.0s							
CPUP	**Villa Florida**	**47.88**	**129**	*eP*		**P**	**05 59 15.4**	**+0.3**
SNDB	**Serra Nova Dou**	**47.92**	**108**	*eP*		**P**	**05 59 14.7**	**-0.9**
PRPB	**Parauapebas**	**48.27**	**100**	*eP*		**P**	**05 59 17.2**	**-1.1**
RPRD	**Ribas do Rio P**	**48.33**	**120**	*eP*		**P**	**05 59 18.6**	**-0.1**
ARAG	**Araguaiana, MT**	**48.42**	**113**	*eP*		P	05 59 14.3	-5.1
PLCA	**Paso Flores**	**49.06**	**153**	LR		LR	06 15 24.8	
	comp=Z,286nm,21.4s,baz=328,slow=30							
NEW	**Newport**	**49.16**	**343**	LR		LR	06 20 20.0	
	comp=Z,241nm,18.0s,baz=142,slow=36							
PCMB	**Pacaembu**	**50.86**	**120**	*eP*		**P**	**05 59 35.8**	**-2.2**
SMTB	**Santa Maria do**	**50.87**	**103**	*eP*		**P**	**05 59 36.6**	**-1.5**
PTGB	**Pitanga**	**51.39**	**124**	*eP*		**P**	**05 59 42.3**	**+0.4**
LDASE	**Londrina, Braz**	**51.66**	**122**	*eP*		**P**	**05 59 43.6**	**-0.3**
IPMB	**Ipameri, GO**	**52.39**	**114**	*eP*		**P**	**05 59 48.2**	**-1.2**
CPSB	**Cacapava Do Su**	**52.86**	**131**	*eP*		**P**	**05 59 53.3**	**+0.6**
PPT	**Papeete**	**54.85**	**247**	LR		LR	06 17 35.9	
	comp=Z,65nm,21.1s,baz=160,slow=30							
SCHQ	**Schefferville**	**58.34**	**20**	LR		LR	06 24 55.4	
	comp=Z,259nm,21.9s,baz=255,slow=35							
YKA	**Yellowknife Ar**	**61.76**	**351**	LR		LR	06 27 34.5	
	comp=Z,275nm,18.1s,baz=138,slow=36							
DLBC	**Dease Lake**	**61.85**	**341**	LR		LR	06 28 13.0	
	comp=Z,215nm,19.0s,baz=120,slow=36							
RCBR	**Riachuelo**	**61.98**	**98**	LR		LR	06 25 44.3	
	comp=Z,28nm,18.1s,baz=254,slow=34							
INK	**Inuvik**	**70.63**	**347**	LR		LR	06 33 17.3	
	comp=Z,97nm,18.2s,baz=237,slow=36							
PMSA	**Palmer Station**	**70.91**	**166**	LR		LR	06 25 13.2	
	comp=Z,142nm,19.7s,baz=34,slow=29							
IL31		**72.00**	**340**	P		**P**	**06 01 59.2**	**-0.9**
IL31					IAmb	IAmb	06 02 00.2	
	comp=Z,5.9nm,0.9s							
ILAR	**Eielson Array**	**72.00**	**340**	P		**P**	**06 01 59.2**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=146,slow=4.7,SNR=28							
ILAR				LR		LR	06 34 28.2	
	comp=Z,137nm,18.4s,baz=111,slow=37							
	comp=Z,2.4nm,0.8s							
SFJD	**Kangerlussuaq**	**72.58**	**17**	LR		LR	06 32 40.8	
	comp=Z,224nm,21.9s,baz=230,slow=35							
RES	**Resolute Bay**	**72.68**	**1**	LR		LR	06 34 06.8	
	comp=Z,91nm,18.8s,baz=114,slow=36							
PPLA	**Purkeypile**	**72.88**	**337**	P		**P**	**06 02 06.0**	**+0.3**
I23K	**Minto, Yukon-K**	**73.07**	**340**	P		**P**	**06 02 06.4**	**-0.2**
J20K	**Nowinta River**	**74.29**	**338**			**P**	**06 02 13.6**	**-0.2**
BORG	**Borgarnes**	**82.36**	**25**	LR		LR	06 38 24.5	
	comp=Z,48nm,20.0s,baz=295,slow=35							
SHEM	**Shemya Is, Ala**	**87.13**	**320**	LR		LR	06 33 30.7	
	comp=Z,48nm,20.6s,baz=101,slow=30							
JMIC	**Jan Mayen**	**87.85**	**19**	LR		LR	06 41 12.4	
	comp=Z,66nm,22.0s,baz=245,slow=34							
ESDC	**Sonseca Array**	**91.49**	**50**	LR		LR	06 37 25.3	
	comp=Z,53nm,21.7s,baz=152,slow=31							
QSPA	**South Pole Qui**	**91.96**	**180**	P		**P**	**06 03 46.2**	**+0.9**
	comp=Z,3.5nm,1.1s,baz=132,slow=3.1,SNR=5.3							
QSPA				LR		LR	06 38 22.5	
	comp=Z,64nm,18.7s,baz=280,slow=31							
	comp=Z,3.5nm,1.1s							
SPITS	**Spitsbergen Ar**	**92.89**	**11**	LR		LR	06 46 18.2	
	comp=Z,148nm,21.1s,baz=290,slow=36							
SNAA	**Sanae**	**93.29**	**162**	LR		LR	06 37 44.3	
	comp=Z,98nm,19.9s,baz=66,slow=30							
H11N3	**WAKE ISLAND Hy**	**94.63**	**290**	T		T	07 49 05.8	
	baz=84,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**94.64**	**290**	T		T	07 49 12.9	
	baz=84							
H11N1	**WAKE ISLAND Hy**	**94.65**	**290**	T		T	07 49 09.4	
	baz=84							
H11S2	**WAKE ISLAND Hy**	**94.90**	**289**	T		T	07 49 33.8	
	baz=86,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	**94.91**	**289**	T		T	07 49 23.9	
	baz=86,slow=75,SNR=20							
H11S3	**WAKE ISLAND Hy**	**94.92**	**289**	T		T	07 49 24.0	
	baz=86,slow=75,SNR=18							
NOA	**NORSAR Array B**	**97.27**	**28**	LR		LR	06 45 15.1	
	comp=Z,38nm,21.7s,baz=90,slow=34							
HFS	**Hagfors**	**98.72**	**28**	LR		LR	06 49 02.9	
	comp=Z,38nm,18.0s,baz=148,slow=36							
ARCES	**ARCESS Array B**	**99.20**	**17**	LR		LR	06 49 37.9	
	comp=Z,48nm,20.4s,baz=286,slow=36							
ASAR	**Alice Springs**	**125.82**	**242**	PKP		**PKPdf**	**06 09 38.4**	**-1.2**
	baz=Z,0.2nm,0.7s,baz=119,slow=1.3,SNR=4.9							
WRA	**Warramunga Arr**	**126.34**	**247**	PKP		**PKPdf**	**06 09 39.3**	**-1.3**
	comp=Z,6nm,0.7s,baz=96,slow=2.0,SNR=5.9							
KURBB	**Kurchatov Arra**	**127.53**	**3**	PKP		**PKPdf**	**06 09 41.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=347,slow=2.4,SNR=9.5							

NEIC ***23*** *05:54:02.0±1.0, 19°.66N±0°.02×156°.03W±0°.01, h10km±1km, Error ellipse: s-maj=3.1km s-min=2.7km az=123.0*

HVO 23 05:54:02.6±1.0, 19°.60N±0°.03×156°.02W±0°.04, h10km±5km, ML3.1/47, ML3.1/44(NEIC), Error ellipse: s-maj=6.0km s-min=2.9km az=62.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.05**	**360**		Pg	05 54 05.1	+0.4
KKH					Sg	05 54 06.9	+0.8
CPH	**Captain Cook**	**0.15**	**141**		Pg	05 54 06.3	+0.3
HUH	**Hualalai**	**0.19**	**65**		Pg	05 54 06.1	-0.7
HUH					Sg	05 54 09.2	-0.5
HUH	**Hualalai**	**0.19**	**65**	IAML		05 54 09.5	
	comp=E,8μm,0.1s						
HUH				IAML		05 54 10.9	
	comp=N,12μm,0.2s						
ALEP	**Alea Permanent**	**0.36**	**100**		Pg	05 54 10.0	+0.2
ALEP					Sg	05 54 15.7	+1.0
MWH	**Mokuaweoweo**	**0.41**	**106**		Pg	05 54 10.6	-0.4
MWH	**Mokuaweoweo**	**0.41**	**106**		Sg	05 54 16.8	+0.3
POHA	**Pohakuloa**	**0.48**	**71**		Pg	05 54 11.1	-1.0
POHA				IAML		05 54 18.4	
	comp=N,1μm,0.5s						
POHA				IAML		05 54 18.4	
	comp=N,2μm,0.6s						
POHA	**Pohakuloa**	**0.48**	**71**		Sg	05 54 17.8	-0.8
HMH	**Humu'ula Sheep**	**0.51**	**90**		Pg	05 54 12.0	-0.5
HMH				IAML		05 54 24.6	
	comp=N,2μm,0.4s						
HMH	**Humu'ula Sheep**	**0.51**	**90**		Sg	05 54 19.4	+0.1
HPAH	**Hawaii Prepara**	**0.52**	**35**		Pg	05 54 11.6	-1.2
HPAH				IAML		05 54 19.0	
	comp=E,2μm,0.4s						
HPAH	**Hawaii Prepara**	**0.52**	**35**		Sg	05 54 18.6	-1.1
KHU	**Kahuku**	**0.52**	**133**		Pg	05 54 12.2	-0.6
KHU					Sg	05 54 19.5	-0.3
AIN	**Ainahou**	**0.58**	**113**		Pg	05 54 12.8	-1.1
AIN				IAML		05 54 21.1	
	comp=E,1μm,0.1s						
AIN				IAML		05 54 27.0	
	comp=N,2μm,0.4s						
AIN	**Ainahou**	**0.58**	**113**		Sg	05 54 20.6	-0.9
MHA	**Mahukona**	**0.59**	**11**	Pg	Pg	05 54 12.9	-1.2
MHA	**Mahukona**	**0.59**	**11**		Sg	05 54 20.7	-1.2
MLH	**Mauna Loa**	**0.61**	**100**		Pg	05 54 13.2	-1.3
MLH	**Mauna Loa**	**0.61**	**100**		Sg	05 54 21.4	-1.0
HPO	**Honuapo**	**0.67**	**139**		Pg	05 54 14.3	-1.4
HTC	**Hot Caves**	**0.69**	**122**		Pg	05 54 14.3	-1.6
WRMHI	**West Rim**	**0.70**	**106**		Pg	05 54 14.3	-2.0
UWE	**Uwekahuna**	**0.71**	**105**		Pg	05 54 15.1	-1.2
UWE				Sg	Sg	05 54 24.4	-1.2
SDHHI	**Sand Hill**	**0.72**	**107**		Pg	05 54 14.4	-2.1
OBL	**Observatory Le**	**0.72**	**105**		Pg	05 54 14.5	-2.0
OBL					Sg	05 54 25.0	-0.9
UWB	**Uwekahuna Bluf**	**0.72**	**104**		Pg	05 54 15.1	-1.5
SBLHI	**Steaming Bluff**	**0.73**	**104**		Pg	05 54 15.2	-1.5
RIM	**Rim**	**0.73**	**106**		Pg	05 54 14.8	-2.0
HATHI	**Halema'uma'u T**	**0.74**	**104**		Pg	05 54 15.3	-1.6
HATHI				IAML		05 54 28.2	
	comp=N,1μm,0.4s						
HATHI				IAML		05 54 32.4	
	comp=E,995nm,0.6s						
HATHI	**Halema'uma'u T**	**0.74**	**104**		Sg	05 54 24.8	-1.7
HLP	**Hilina Pali**	**0.74**	**114**		Pg	05 54 15.7	-1.2
HLP				Sg	Sg	05 54 25.4	-1.1
HLP				IAML		05 54 25.9	
	comp=N,1μm,0.2s						
HLP				IAML		05 54 31.8	
	comp=E,984nm,0.2s						
KKO	**Keanakako'i**	**0.74**	**106**		Pg	05 54 15.4	-1.5
BYL	**Byron's Ledge**	**0.74**	**105**		Pg	05 54 15.6	-1.3
BYL				IAML		05 54 30.6	
	comp=E,826nm,0.4s						
BYL				IAML		05 54 36.3	
	comp=N,686nm,0.7s						
PUH	**Pauahi**	**0.79**	**107**	Pg	Pg	05 54 15.3	-2.6
PUH				Sg	Sg	05 54 26.3	-2.0
KNHH	**Kane Nui o Ham**	**0.83**	**105**		Pg	05 54 16.3	-2.4
STCH	**Steam Cracks**	**0.87**	**104**	Pg	Pg	05 54 15.5	-3.9
NPOC	**North of Pu'u**	**0.88**	**104**		Pg	05 54 17.5	-2.2
JCUZ	**Jacuzzi**	**0.89**	**104**		Pg	05 54 17.3	-2.5
JOKA	**Jonika Flow**	**0.97**	**100**	Pg	Pg	05 54 17.6	-3.7
JOKA				IAML		05 54 41.0	
	comp=N,471nm,0.8s						
KHLH	**Kahului Airpor**	**1.34**	**343**		Pn	05 54 24.3	-3

	1.5nm,0.2s							
BRLS					Lg	Lg	06 31 12.5	
	14nm,0.4s							
KK31	**Karatay Array**	**4.48**	**11**		Pn	Pn	06 30 08.9	+0.3
	4.6nm,0.5s,baz=190,slow=10,SNR=22							
KK31				⇑	Sn	Sn	06 31 01.9	+0.4
	3.3nm,0.4s							
KK31				⇓	Lg	Lg	06 31 21.6	
	14nm,0.5s,baz=190,slow=26							
MRKS	**Merke**	**5.01**	**35**		Pg	Pb	06 30 25.3	-2.8
	7.5nm,0.4s							
MRKS					Lg	Lg	06 31 37.8	
	16nm,0.4s							
AAK	**Ala-Archa**	**5.56**	**44**	⇑	Pn	Pn	06 30 22.8	-0.8
	1.7nm,0.7s							
AAK				⇓	Sn	Sn	06 31 30.9	+2.5
	10nm,0.8s							

CATAC 23 06:46:55.1±0.4,**10°N**±2°×**8°4W**±°,**h5**km±2km,**M2.5**/8,
MLv2.5/8,**Error ellipse: s-maj=8.4km s-min=4.4km az=66.0,confirmed,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCE	**Pocosol**	**0.51**	**286**	P	Pb	06 47 05.7	-0.8
SOCE	**Pocosol**	**0.51**	**286**	S	Sg	06 47 12.8	+1.4
LCR2	**La Lucha 2**	**0.51**	**167**	S	Sg	06 46 54.3	-17
LCR2				P	Pg	06 47 05.0	0.0
COVE	**Coope Vega, Sa**	**0.55**	**330**	P	Pg	06 47 05.9	+0.3
COVE	**Coope Vega, Sa**	**0.55**	**330**	S	Sg	06 47 13.8	+1.1
JTS	**Las Juntas de**	**0.82**	**273**	P	Pg	06 47 11.1	+0.2
JTS				S	Sg	06 47 22.1	+0.6
OCHAL	**Ojochal**	**1.23**	**158**	P	Pb	06 47 18.9	0.0
INDI	**Punta indio, G**	**1.41**	**255**	P	Pn	06 47 20.5	-1.0
ACON	**Acoyapa**	**2.00**	**329**	P	Pn	06 47 29.4	-0.2
ACON	**Acoyapa**	**2.00**	**329**	S	Sb	06 47 56.5	-0.7
CDITO	**Canoas**	**2.07**	**143**	P	Pn	06 47 30.1	-0.5
BOAB	**BOACO BROADBAN**	**2.66**	**325**	P	Pn	06 47 39.3	+0.6

*TXNET **23** 06:52:36.9,31°.7N±0°.9×104°.3W±0°.9, h8km±1km, ML2.8/15, Error ellipse: s-maj=1.4km s-min=1.2km az=41.1, final*
NEIC 23 06:52:37.2±1.9,**31°.651N**±0°.008×**104°.32W**±0°.02,
h5km±1km,**mb_Lg2.7**/40,**ML2.6**/50,**1C**,**Error ellipse: s-maj=2.9km s-min=2.6km az=260.0**,**Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB09	**Culberson Coun**	**0.12**	**6**	⇑P	Pg	06 52 40.5	+0.6
TPB09				S	Sg	06 52 42.4	+0.8
TPB11	**China Draw**	**0.37**	**40**	P	Pg	06 52 44.6	+0.1
TPB11				S	Sg	06 52 49.5	+0.1
TPB13	**Reeves - Culbe**	**0.41**	**103**	P	Pb	06 52 46.2	-0.9
TPB13				S	Sg	06 52 51.8	+1.1
PECS	**Pecos**	**0.47**	**126**	P	Pg	06 52 46.7	+0.3
PECS				Sg	Sg	06 52 52.8	+0.2
PECS				IAML		06 52 53.2	
	530nm,0.4s						
PECS				IAML		06 52 53.4	
	394nm,0.4s						
PECS	**Pecos**	**0.47**	**126**	P	Pg	06 52 46.6	+0.2
PECS				S	Sg	06 52 53.0	+0.4
TPB12	**Southwest of T**	**0.53**	**145**	P	Pg	06 52 47.7	+0.2
TPB12				S	Sg	06 52 54.9	+0.4
TPB07	**Mentone**	**0.56**	**97**	P	Pg	06 52 48.6	+0.7
TPB07				S	Sg	06 52 56.4	+1.2
TPB10	**Southeast of T**	**0.60**	**127**	P	Pg	06 52 49.1	+0.3
TPB10				S	Sg	06 52 57.4	+0.7
CLNB	**Carlsbad**	**0.72**	**31**	P	Pg	06 52 51.0	0.0
CLNB				S	Sg	06 53 01.1	+0.8
LWM1	**Layne Water Mi**	**0.72**	**125**	P	Pg	06 52 51.4	+0.4
LWM1				S	Sg	06 53 01.3	+0.8
PCOS	**Crockett Middl**	**0.73**	**109**		Pb	06 52 52.1	-0.3
PCOS					Sb	06 53 01.8	-1.0
PCOS	**Crockett Middl**	**0.73**	**109**		Pb	06 52 52.5	0.0
PCOS					Sb	06 53 01.9	-0.9
PCOS	**Crockett Middl**	**0.73**	**109**	P	Pb	06 52 52.5	0.0
PCOS				S	Sb	06 53 01.9	-0.8
PCOS	**Crockett Middl**	**0.73**	**109**	P	Pb	06 52 52.1	-0.3
PCOS				S	Sb	06 53 01.8	-1.0
LWM2	**Layne Water Mi**	**0.73**	**121**	P	Pg	06 52 51.7	+0.4
LWM2				S	Sg	06 53 01.7	+0.9
TPB01	**Permian Basin**	**0.84**	**147**	P	Pg	06 52 52.8	-0.5
TPB01				S	Sg	06 53 03.7	-0.6
CLN7	**Carlsbad 7**	**0.87**	**29**		Pg	06 52 53.4	-0.6
CLN7	**Carlsbad 7**	**0.87**	**29**	P	Pg	06 52 53.6	-0.4
TPB03	**Saragosa**	**0.89**	**129**	P	Pg	06 52 54.3	0.0
TPB03				S	Sg	06 53 06.1	+0.2
MNTX	**Cornudas Mount**	**0.91**	**273**		Pg	06 52 54.9	+0.2
MNTX					Sg	06 53 07.1	+0.7
MNTX	**Cornudas Mount**	**0.91**	**273**	P	Pg	06 52 54.9	+0.2
MNTX				S	Sg	06 53 07.1	+0.7
TPB06	**Permian Basin**	**0.94**	**90**	P	Pb	06 52 56.0	0.0
TPB06				S	Sg	06 53 07.8	+0.4
HTMS	**Hat Mesa**	**1.00**	**35**		Pg	06 52 56.4	-0.1
HTMS	**Hat Mesa**	**1.00**	**35**	P	Pg	06 52 56.1	-0.4
HTMS				S	Sg	06 53 10.0	+0.4
TPB04	**Verhalen**	**1.01**	**117**	P	Pg	06 52 56.6	0.0
TPB27	**North of Pyote**	**1.01**	**94**	S	Sg	06 53 10.4	+0.6
VHRN	**Van Horn**	**1.03**	**214**		Pg	06 52 56.6	-0.5
VHRN					Sb	06 53 12.0	+0.4
VHRN				IAML		06 53 16.2	
	139nm,0.5s						
VHRN	**Van Horn**	**1.03**	**214**	P	Pg	06 52 56.8	-0.2
VHRN				S	Sb	06 53 12.0	+0.4
NM01	**Eunice**	**1.05**	**48**	P	Pg	06 52 56.9	-0.4
NM01				S	Sg	06 53 10.9	-0.1
TPB16	**Coyonosa**	**1.05**	**120**	P	Pg	06 52 57.2	-0.2
TPB16				S	Sg	06 53 11.2	+0.2
TPB19	**West of Imperi**	**1.10**	**108**	P	Pg	06 52 57.8	-0.4
TPB05	**Hovey Rd**	**1.12**	**130**	P	Pg	06 52 58.1	-0.6
TPB05				S	Sg	06 53 12.8	-0.4
TPB15	**Southwest of C**	**1.14**	**112**	P	Pb	06 52 59.5	0.0
TPB15				S	Sb	06 53 14.7	+0.1
MNHN	**Monahans**	**1.36**	**103**		Pn	06 53 01.9	-1.1
MNHN					Sn	06 53 21.3	-0.2
MNHN	**Monahans**	**1.36**	**103**	P	Pn	06 53 02.3	-0.7
MNHN				S	Sn	06 53 21.3	-0.2
ALPN	**Alpine**	**1.40**	**155**		Pn	06 53 01.9	-1.6
ALPN					Sb	06 53 20.6	-1.6
ALPN	**Alpine**	**1.40**	**155**	P	Pn	06 53 02.4	-1.2
ALPN				S	Sb	06 53 20.6	-1.6
TPB08	**Permian Basin**	**1.42**	**122**	P	Pn	06 53 03.8	0.0
TPB08				S	Sg	06 53 23.6	+0.6
CPRX	**Cap Rock**	**1.43**	**15**		Pn	06 53 03.9	0.0
CPRX	**Cap Rock**	**1.43**	**15**	P	Pn	06 53 03.8	-0.1
ODSA	**Odessa**	**1.57**	**72**		Pn	06 53 05.9	0.0
ODSA					Sn	06 53 26.1	-0.6
ODSA	**Odessa**	**1.57**	**72**	P	Pn	06 53 05.9	0.0
ODSA				S	Sn	06 53 26.1	-0.6
TMB04	**Seminole**	**1.83**	**57**	P	Pn	06 53 10.3	+0.9
TMB04				S	Sb	06 53 34.7	+0.2
EPT	**El Paso**	**1.87**	**274**		Sn	06 53 34.0	-0.1
EPT	**El Paso**	**1.87**	**274**	S	Sg	06 53 37.8	+0.5
TMB01	**Midkiff**	**1.91**	**89**	P	Pb	06 53 11.7	-0.8
TMB01				S	Sb	06 53 36.6	0.0
TMB06	**Greenwood**	**2.17**	**81**	S	Sb	06 53 43.3	-0.9
TMB05	**Klondike**	**2.30**	**64**	P	Pb	06 53 17.6	-1.6
TMB05				S	Sb	06 53 47.7	-0.3
TX31	**Lajitas Ar. Si**	**2.38**	**166**		Pn	06 53 17.4	+0.5
TX31					Sb	06 53 51.1	+0.8
TX31					LR	06 53 52.9	
TX31	**Lajitas Ar. Si**	**2.38**	**166**	P	Pn	06 53 17.9	+1.0
TX31				Pg	Pb	06 53 20.0	-0.5
TX31	**Lajitas Ar. Si**	**2.38**	**166**	S	Sb	06 53 51.1	+0.8
TX31				Sg	Sg	06 53 52.9	-0.7
TXAR	**Lajitas Array**	**2.38**	**166**		Pn	06 53 17.4	+0.5
SAND	**Sanderson**	**2.53**	**131**		Pn	06 53 20.1	+1.0
SAND					Sn	06 53 50.9	+0.6
SAND	**Sanderson**	**2.53**	**131**	P	Pn	06 53 21.0	+1.9
SAND				Pg	Pb	06 53 22.4	-0.8
SAND				Sg	Sg	06 53 57.0	-1.7
MSTX	**Muleshoe**	**2.65**	**29**		Pn	06 53 20.3	-0.5
SGCY	**Sterling City**	**2.73**	**84**	Sg	Sb	06 54 01.6	+1.2
SGCY				IAmb_Lg		06 54 07.6	
	comp=Z,32nm,0.7s						
SGCY	**Sterling City**	**2.73**	**84**	Sg	Sb	06 54 01.6	+1.2
POST	**Post**	**2.77**	**59**		Pn	06 53 23.7	+1.3
OZNA	**Ozona**	**2.83**	**104**	Pn	Pn	06 53 22.5	-0.6
CRNM	**Carthage**	**3.07**	**319**		Pn	06 53 26.4	-0.1
121A	**Cookes Peak, D**	**3.07**	**288**	Pn	Pn	06 53 27.5	+0.9
121A				IAML		06 54 18.4	
	comp=N,18nm,0.5s						
121A				IAML		06 54 27.5	
	comp=E,14nm,0.7s						
Y22A	**Socorro**	**3.19**	**316**		Pn	06 53 29.7	+1.5
SN07	**Snyder 07**	**3.23**	**63**	Pn	Pn	06 53 29.4	+0.7
SN07				IAmb_Lg		06 54 21.3	
	comp=Z,22nm,0.7s						
Y22D	**IRIS PASSCAL I**	**3.26**	**318**	Pn	Pn	06 53 28.7	-0.5
DKNS	**Dickens**	**3.50**	**54**	Pn	Pn	06 53 32.9	+0.5
DKNS				IAmb_Lg		06 54 32.6	
	comp=Z,20nm,0.8s						
ANMO	**Albuquerque**	**3.74**	**332**	IAmb_Lg		06 54 40.7	
	comp=Z,12nm,0.9s						
DRIO	**Del Rio**	**3.89**	**124**	IAmb_Lg		06 54 47.8	
	comp=Z,21nm,1.0s						
AMTX	**Amarillo**	**3.91**	**34**		Pn	06 53 38.4	+0.4
AMTX				IAmb_Lg		06 54 43.1	
	comp=Z,22nm,0.7s						
APMT	**Aspermont**	**3.92**	**64**		Pn	06 53 38.5	+0.4
APMT				IAmb_Lg		06 54 48.2	
	comp=Z,22nm,0.9s						
JCT	**Junction City**	**4.05**	**106**	IAmb_Lg		06 54 53.5	
	comp=Z,17nm,0.8s						
ABTX	**Abilene, Hawle**	**4.08**	**75**	Pn	Pn	06 53 39.8	-0.6
ABTX				IAmb_Lg		06 54 52.7	
	comp=Z,11nm,0.8s						
BRDY	**Brady**	**4.56**	**93**		Pn	06 53 46.6	-0.2
BRDY				IAmb_Lg		06 55 02.1	
	comp=Z,10nm,0.8s						
SMWD	**Samnorwood**	**4.84**	**44**		Pn	06 53 51.9	+1.0
RTBA	**Rita Blanca**	**4.95**	**15**		Pn	06 53 52.7	+0.4
WMOK	**Wichita Mounta**	**5.57**	**55**		Pn	06 54 01.4	+0.6
WMOK	**Wichita Mounta**	**5.57**	**55**	IAmb_Lg		06 55 40.4	
	comp=Z,8.1nm,0.8s						
435B	**Jarrell**	**5.83**	**97**	IAmb_Lg		06 55 51.2	
	comp=Z,13nm,0.9s						

*IDC **23** 06:54:00.6±1.9,0°.18N×126°.89E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=190.5km s-min=22.4km az=66.0*
*DJA **23** 06:54:08.3±0.5,0°S±3°×12°7E±°, h10km, M3.6/6, MLv3.6/6*
ISC 23 06:54:09.5±1.1,**0°.08S**±0°.08×**126°.7E**±0°.2,**h73**km,**n7,**
σ2s14/9,mb3.4/4,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.05**	**36**	P	**Pn**	**06 54 28.4**	**-0.5**
TNTI				S	**Sn**	**06 54 43.7**	**+0.4**
SANI	**Sanana**	**2.10**	**201**	P	**Pn**	**06 54 40.4**	**-2.2**
SANI				S	**Sn**	**06 55 11.4**	**+3.7**
NLAI	**Namlea**	**3.16**	**173**	P	**Pn**	**06 54 54.6**	**-2.4**
WRA	**Warramunga Arr**	**21.10**	**160**	P	**P**	**06 58 49.4**	**+1.2**
	0.3nm,0.5s,baz=339,slow=11,SNR=7.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**24.45**	**164**	P	**P**	**06 59 23.0**	**+1.2**
	0.3nm,0.3s,baz=341,slow=10,SNR=6.8						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**60.70**	**327**	P	**P**	**07 04 13.3**	**0.0**
	0.3nm,0.3s,baz=118,slow=7.3,SNR=9.0						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.95**	**328**	P	**P**	**07 04 40.7**	**-0.8**
	0.4nm,0.5s,baz=130,slow=6.1,SNR=4.5						
	0.4nm,0.5s						

*AFAD **23** 06:58:21.8, 40°.32N×27°.11E, h7km±2km, MW3.6*
*ISK **23** 06:58:21.9, 40°.34N×27°.11E, h6km, ML3.7/38*
*THE **23** 06:58:24.0, 40°N±2°×27°E±°, h9km±3km, M3.3/25, MLh3.3/25*
*CFUSG **23** 06:58:26.3, 40°.78N×27°.08E, h5km, mb3.2/3, MD3.3/2, Western Turkey Magtype MSH 3.1 from 3 stations*
ISC 23 06:58:22.3±0.8,**40.33N**±0°.02×**27°.11E**±0°.01,**h13**km±6km,
n112,σ0s90/160,8C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.15**	**67**	Pg	**Pg**	**06 58 25.5**	**-0.4**
KRBG				Sg	**Sg**	**06 58 28.0**	**-0.5**
CANM	**Can-anakkale**	**0.33**	**188**	Pg	**Pg**	**06 58 28.9**	**0.0**
CANM				Sg	**Sg**	**06 58 33.9**	**+0.6**
SART	**Tekirdag**	**0.36**	**8**	P	**Pg**	**06 58 29.5**	**-0.1**
SART				S	**Sg**	**06 58 34.8**	**+0.4**
YENI	**Yenice-Canakka**	**0.41**	**166**	Pg	**Pg**	**06 58 30.4**	**0.0**
MRMT	**Marmara Adasi**	**0.46**	**54**	Pg	**Pg**	**06 58 30.9**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.49**	**278**	Pg	**Pg**	**06 58 31.9**	**-0.1**
GELI				Sg	**Sg**	**06 58 39.3**	**+0.8**
GONE	**Gonen-Balikesi**	**0.52**	**123**	Pg	**Pg**	**06 58 32.7**	**+0.2**
GONE				Sg	**Sb**	**06 58 40.5**	**-0.3**
ERIK	**Erikli-Kesan**	**0.57**	**307**	Pg	**Pg**	**06 58 33.3**	**-0.1**
EDC	**Edincik**	**0.57**	**88**	Pg	**Pg**	**06 58 33.4**	**-0.1**
EDC				Sg	**Sb**	**06 58 41.8**	**-0.5**
KESN	**Edirne-Kesan**	**0.59**	**326**	P	**Pg**	**06 58 33.8**	**-0.1**
KESN				S	**Sb**	**06 58 42.6**	**-0.6**
CNKL	**anakkale-Mer**	**0.62**	**245**	P	**Pg**	**06 58 33.8**	**-0.5**
CNKL				S	**Sg**	**06 58 42.5**	**0.0**
BALY	**Balya**	**0.71**	**147**	P	**Pg**	**06 58 35.6**	**-0.4**
BALY				S	**Sg**	**06 58 45.2**	**+0.1**
YAYO	**Edremit-Balk**	**0.72**	**183**	Pg	**Pg**	**06 58 36.3**	**0.0**
TKR	**Tekirdag**	**0.73**	**26**	Pg	**Pg**	**06 58 36.4**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.73**	**217**	P	**Pg**	**06 58 35.8**	**-0.7**
BAYC				S	**Sg**	**06 58 46.6**	**+0.4**
BAND	**Balkesir-Ban**	**0.75**	**88**	P	**Pg**	**06 58 36.0**	**-0.8**
BAND				S	**Sg**	**06 58 46.9**	**+0.1**
BAND	**Balkesir-Ban**	**0.75**	**88**	⇓P	**Pg**	**06 58 36.0**	**-0.8**
BAND				⇓S	**Sb**	**06 58 47.8**	**+0.3**
ECEA	**Canakkale, Ece**	**0.78**	**248**	P	**Pg**	**06 58 37.0**	**-0.3**
ECEA				S	**Sb**	**06 58 48.5**	**+0.4**
EZN	**Ezine**	**0.79**	**230**	Pg	**Pg**	**06 58 37.2**	**-0.3**
EZN	**Ezine**	**0.79**	**230**	P	**Pg**	**06 58 37.3**	**-0.3**
EZN	**Ezine**	**0.79**	**230**	⇑P	**Pg**	**06 58 37.2**	**-0.3**
EZN				⇑S	**Sg**	**06 58 48.1**	**+0.2**
BLKS	**Balkesir-Sus**	**0.80**	**125**	P	**Pg**	**06 58 37.2**	**-0.5**
BLKS				S	**Sg**	**06 58 48.1**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**0.81**	**297**	P	**Pg**	**06 58 37.5**	**-0.3**
CAVK				S	**Sg**	**06 58 48.3**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**0.81**	**297**	⇓P	**Pg**	**06 58 37.7**	**-0.2**
CAVK				⇓S	**Sg**	**06 58 48.7**	**+0.3**
EZNE	**Ezine-Canakkal**	**0.81**	**225**	Pg	**Pg**	**06 58 38.1**	**+0.1**
BUHA	**Balikesir, Bur**	**0.83**	**182**	P	**Pg**	**06 58 38.2**	**-0.2**
BUHA				S	**Sg**	**06 58 49.5**	**+0.3**
BKES	**Balkesir-Mer**	**0.87**	**134**	P	**Pg**	**06 58 38.6**	**-0.4**
BKES				S	**Sb**	**06 58 51.1**	**+0.3**
UKOP	**Uzunkopru-Edir**	**0.88**	**335**	Pg	**Pg**	**06 58 38.9**	**-0.3**
GOKC	**Gokceada-Canak**	**0.93**	**262**	Pg	**Pb**	**06 58 40.0**	**-0.2**
GADA	**Gvkgeada**	**0.94**	**262**	Pg	**Pb**	**06 58 40.1**	**-0.4**
GADA	**Gvkgeada**	**0.94**	**262**	P	**Pb**	**06 58 39.8**	**-0.6**
GADA				S	**Sb**	**06 58 52.5**	**-0.3**
BOZC	**Bozcaada**	**0.95**	**239**	P	**Pb**	**06 58 40.0**	**-0.6**
BOZC				S	**Sb**	**06 58 53.2**	**0.0**
KCTX	**Karacabey (Bur**	**0.95**	**94**	Pg	**Pb**	**06 58 40.5**	**-0.2**
ALN	**Alexandroupoli**	**0.99**	**305**	Pg	**Pb**	**06 58 40.5**	**-0.4**
ALN	**Alexandroupoli**	**0.99**	**305**	P	**Pb**	**06 58 40.7**	**-0.6**
ALN				S	**Sb**	**06 58 53.6**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.06**	**154**	P	**Pb**	**06 58 42.3**	**-0.2**
STEP				S	**Sn**	**06 58 57.4**	**-0.2**
AYVA	**Ayvalik**	**1.07**	**198**	P	**Pb**	**06 58 42.7**	**0.0**
AYVA				S	**Sg**	**06 58 57.2**	**+0.2**
GPNR	**Gulpinar-Canak**	**1.16**	**221**	Pn	**Pb**	**06 58 43.9**	**-0.2**
SMTH	**Samothraki Isl**	**1.22**	**277**	P	**Pn**	**06 58 44.6**	**-0.4**
SMTH				S	**Sb**	**06 59 00.9**	**+0.1**
SOMA	**Soma-Manisa**	**1.22**	**164**	Pn	**Pg**	**06 58 45.8**	**+0.1**
SLVT	**Silivri**	**1.22**	**43**	Pn	**Pb**	**06 58 45.4**	**+0.1**
DURS	**Dursunbey**	**1.28**	**125**	P	**Pb**	**06 58 46.1**	**-0.1**
DURS				S	**Sg**	**06 59 03.4**	**0.0**
YYLC	**Yaylacik**	**1.30**	**91**	P	**Pb**	**06 58 46.8**	**+0.1**
YYLC				S	**Sg**	**06 59 05.4**	**+1.2**
PHSR	**Pinarhisar**	**1.33**	**13**	Pn	**Pb**	**06 58 47.2**	**0.0**
PHSR	**Pinarhisar**	**1.33**	**13**	⇑P	**Pg**	**06 58 47.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.35**	**88**	Pn	**Pb**	**06 58 47.3**	**-0.2**
ARMT	**Armutlu**	**1.35**	**80**	Pn	**Pb**	**06 58 47.8**	**+0.3**
ZEDA	**zmir-Bergama**	**1.37**	**181**	P	**Pb**	**06 58 48.0**	**+0.3**
ZEDA				S	**Sg**	**06 59 06.4**	**+0.1**
DST	**Dursunbey**	**1.37**	**122**	Pn	**Pb**	**06 58 47.9**	**+0.1**
CTKS	**Kestanelik-??a**	**1.39**	**49**	Pn	**Pn**	**06 58 47.6**	**+0.2**
ORLT	**Orhaneli**	**1.40**	**101**	Pn	**Pg**	**06 58 48.9**	**-0.2**
CTYL	**Yalikoy Yolu**	**1.45**	**38**	Pn	**Pn**	**06 58 48.3**	**+0.1**
RDO	**Rodhopi**	**1.45**	**305**	Pn	**Pb**	**06 58 49.0**	**-0.1**
RDO	**Rodhopi**	**1.45**	**305**	P	**Pn**	**06 58 48.7**	**+0.5**
RDO				S	**Sb**	**06 59 07.4**	**0.0**
SIGR	**SIGRI**	**1.48**	**221**	Pn	**Pb**	**06 58 49.7**	**0.0**
SIGR	**SIGRI**	**1.48**	**221**	P	**Pn**	**06 58 48.9**	**+0.2**
SIGR				S	**Sb**	**06 59 08.8**	**+0.3**
BGKT	**Bogazkoy**	**1.52**	**56**	Pn	**Pn**	**06 58 49.4**	**+0.2**
EDRB	**Edirne**	**1.54**	**350**	Pn	**Pb**	**06 58 50.5**	**-0.1**
LIA	**Limnos Island**	**1.54**	**254**	P	**Pb**	**06 58 50.2**	**-0.5**
LIA				S	**Sb**	**06 59 09.9**	**-0.2**
ISK	**Istanbul-Kandi**	**1.65**	**63**	Pn	**Pb**	**06 58 51.8**	**-0.7**
KAVV	**Kandilli-Istan**	**1.65**	**63**	Pn	**Pn**	**06 58 51.0**	**0.0**
KLYT	**Kilyos**	**1.73**	**57**	Pn	**Pb**	**06 58 53.1**	**-0.8**
KLYT	**Kilyos**	**1.73**	**57**	⇓P	**Pb**	**06 58 53.6**	**-0.3**
YLV	**Yalova**	**1.74**	**82**	Pn	**Pb**	**06 58 53.7**	**-0.4**
THAS	**Thassos island**	**1.85**	**279**	P	**Pn**	**06 58 53.3**	**-0.4**
THAS				S	**Sn**	**06 59 16.1**	**-0.8**
KDZ	**Kurdzhali**	**1.87**	**315**	Pn	**Pn**	**06 58 54.8**	**+0.8**
KDZ	**Kurdzhali**	**1.87**	**315**	P	**Pn**	**06 58 54.7**	**+0.8**
KDZ				S	**Sb**	**06 59 18.7**	**-0.8**
BLCB	**Balcova**	**1.95**	**182**	P	**Pb**	**06 58 56.7**	**-0.9**
BLCB				S	**Sb**	**06 59 21.5**	**-0.3**
OSMT	**Osmaniye**	**1.99**	**81**	Pn	**Pb**	**06 58 57.5**	**-0.9**
ADVT	**Abdulvahap**	**2.01**	**86**	Pn	**Pn**	**06 58 57.0**	**+1.1**
TVSB	**Tavsanli**	**2.01**	**115**	Pn	**Pn**	**06 58 57.4**	**+1.4**
KAVA	**Kavala**	**2.09**	**289**	P	**Pn**	**06 58 57.4**	**+0.4**
KAVA				S	**Sn**	**06 59 22.1**	**-0.7**
SHAP	**Saphane-Kutahy**	**2.09**	**128**	Pn	**Pn**	**06 58 58.5**	**+1.4**
SILT	**Sile**	**2.09**	**66**	Pn	**Pn**	**06 58 58.4**	**+1.4**
SILT	**Sile**	**2.09**	**66**	⇓P	**Pn**	**06 58 57.7**	**+0.7**
CHOS	**Chios island**	**2.11**	**203**	P	**Pn**	**06 58 57.7**	**+0.3**
GEDZ	**Gediz**	**2.19**	**125**	Pn	**Pn**	**06 58 59.9**	**+1.4**
JMB	**Yambol**	**2.20**	**349**	P	**Pn**	**06 58 59.4**	**+0.9**
OUR	**Ouranopolis**	**2.39**	**271**	P	**Pn**	**06 59 01.0**	**-0.2**
OUR				S	**Sn**	**06 59 30.0**	**-0.4**
PLD	**Plovdiv**	**2.54**	**316**	P	**Pn**	**06 59 04.3**	**+1.0**
PLD				S	**Sn**	**06 59 34.7**	**+0.6**
AOS	**Alonnisos**	**2.75**	**246**	P	**Pn**	**06 59 06.8**	**+0.7**
AOS				S	**Sn**	**06 59 39.6**	**+0.4**
ELND	**Elena**	**2.75**	**341**	⇓P	**Pn**	**06 59 07.4**	**+1.2**
SRS	**Serrai**	**2.79**	**287**	P	**Pn**	**06 59 06.9**	**+0.3**
MMB	**Musomishta**	**2.82**	**297**	P	**Pn**	**06 59 08.3**	**+1.1**
MMB				S	**Sn**	**06 59 42.2**	**+1.1**
KYMI	**Kymi, Euboea I**	**2.88**	**235**	P	**Pn**	**06 59 07.7**	**-0.3**
KYMI				S	**Sn**	**06 59 42.5**	**0.0**
SAHE	**Sakarya_HENDEK**	**2.89**	**78**	⇓P	**Pn**	**06 59 09.0**	**+0.9**
SOH	**Sokhos**	**2.91**	**281**	P	**Pn**	**06 59 08.5**	**+0.2**
SOH				S	**Sn**	**06 59 42.7**	**-0.4**
HORT	**Hortiatis**	**3.07**	**276**	P	**Pn**	**06 59 11.1**	**+0.4**
KARY	**Karystos**	**3.10**	**223**	P	**Pn**	**06 59 11.5**	**+0.6**
KARY				S	**Sn**	**06 59 47.9**	**0.0**
RAZG	**Razgrad**	**3.26**	**352**	⇓P	**Pn**	**06 59 15.6**	**+2.1**
KKB	**Krupnik**	**3.37**	**298**	P	**Pn**	**06 59 15.8**	**+1.2**
KKB				S	**Sn**	**06 59 55.3**	**+0.8**
LIT	**Litokhoron**	**3.55**	**268**	P	**Pn**	**06 59 17.6**	**+0.5**
LIT				S	**Sn**	**06 59 59.5**	**+0.6**
VLY	**Voula,Athens**	**3.58**	**227**	P	**Pn**	**06 59 17.9**	**+0.3**
VAY	**Valandovo**	**3.59**	**287**	*i* Pn	**Pn**	**06 59 19.0**	**+1.4**
VAY				*e*Sn	**Sg**	**07 00 16.6**	**-0.8**
VILL	**Villia**	**3.66**	**235**	P	**Pn**	**06 59 19.0**	**+0.4**
VILL				S	**Sn**	**07 00 01.9**	**+0.1**
THL	**Klokotos Trika**	**3.99**	**261**	P	**Pn**	**06 59 23.4**	**+0.2**
OHR	**Ohrid**	**4.86**	**281**	*i* Pn	**Pn**	**06 59 38.0**	**+2.8**
CFR	**Carcaliu**	**4.90**	**8**	⇑P	**Pn**	**06 59 37.7**	**+2.1**

comp=Z,1.5nm,0.3s,baz=97,slow=7.6,SNR=19
comp=Z,1.5nm,0.3s

SBA	**Scott Base**	**57.21**	**184**	P	**P**	07 15 41.5	**+2.7**
VNDA	**Vanda**	**57.25**	**185**	P	**P**	07 15 40.5	**+1.3**
VNDA	**Vanda**	**57.25**	**185**	P	**P**	07 15 40.8	**+1.7**
	comp=Z,0.8nm,0.5s,baz=26,slow=9.0,SNR=13						
	comp=Z,0.8nm,0.5s						
CASY	**Casey**	**63.34**	**205**	P	**P**	07 16 19.2	**-0.4**
CASY				IAmb	IAmb	07 16 20.8	
	comp=Z,6.3nm,1.2s						
QSPA	**South Pole Qui**	**68.91**	**180**	P	**P**	07 16 56.6	**+1.9**
QSPA				IAmb	IAmb	07 16 57.8	
	comp=Z,6.9nm,0.8s						
QSPA	**South Pole Qui**	**68.91**	**180**	P	**P**	07 16 57.2	**+2.5**
	comp=Z,5.7nm,0.7s,baz=310,slow=0.6,SNR=39						
	comp=Z,5.7nm,0.7s						
MJAR	**Matsushiro Arr**	**70.69**	**324**	P	**P**	07 17 03.8	**-1.7**
MJAR				IAmb	IAmb	07 17 05.0	
	comp=Z,4.5nm,1.2s						
MJAR	**Matsushiro Arr**	**70.69**	**324**	P	**P**	07 17 04.3	**-1.2**
	comp=Z,1.4nm,0.5s,baz=148,slow=2.0,SNR=4.0						
	comp=Z,1.4nm,0.5s						
ADK	**Adak**	**72.73**	**1**	P	**P**	07 17 16.3	**-0.8**
ATKA	**Atka Island**	**73.12**	**3**	P	**P**	07 17 18.1	**-1.2**
UNV	**Unalaska Valle**	**75.36**	**7**	P	**P**	07 17 30.7	**-1.2**
UNV				IAmb	IAmb	07 17 47.5	
	comp=Z,29nm,1.4s						
KSRS	**Korea Array**	**77.32**	**319**	P	**P**	07 17 43.0	**-0.2**
	comp=Z,0.8nm,0.6s,baz=126,slow=5.4,SNR=2.5						
	comp=Z,0.8nm,0.6s						
S12K	**Black Hills**	**77.76**	**9**	P	**P**	07 17 43.9	**-1.2**
S12K				IAmb	IAmb	07 17 53.4	
	comp=Z,19nm,1.1s						
BELA	**Belgrano 2**	**78.92**	**173**	P	**P**	07 17 51.1	**-0.1**
BELA				IAmb	IAmb	07 17 52.1	
	comp=Z,5.8nm,0.9s						
MAW	**Mawson**	**80.92**	**200**	P	**P**	07 18 02.2	**+0.4**
	comp=Z,1.0nm,0.5s,baz=158,slow=8.0,SNR=2.8						
	comp=Z,1.0nm,0.5s						
TROLL	**Troll, Antarti**	**87.08**	**180**	⇑P	**P**	07 18 32.0	**-0.4**
	comp=Z,66nm,0.5s						
SNAA	**Sanae**	**87.36**	**178**	⇑P	**P**	07 18 32.9	**-0.8**
	comp=Z,17nm,0.6s						
SNAA	**Sanae**	**87.36**	**178**	P	**P**	07 18 33.0	**-0.6**
	comp=Z,0.6nm,0.5s,baz=209,slow=13,SNR=6.4						
	comp=Z,0.6nm,0.5s						
VNA3	**Neumayer Olymp**	**87.49**	**176**	⇑P	**P**	07 18 33.7	**-0.5**
	comp=Z,9.1nm,0.6s						
VNA2	**Neumayer--Watz**	**87.93**	**177**	⇑P	**P**	07 18 35.0	**-1.2**
	comp=Z,3.7nm,0.6s,baz=178,slow=4.0						
VNA1	**Neumayer--Stat**	**88.16**	**177**	⇑P	**P**	07 18 37.0	**-0.3**
	comp=Z,5.9nm,1.0s						
ILAR	**Eielson Array**	**88.97**	**13**	P	**P**	07 18 38.8	**-2.2**
	comp=Z,0.5nm,0.5s,baz=229,slow=5.6,SNR=7.6						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**143.54**	**331**	PKP	PKPab	07 25 14.3	**-1.8**
	comp=Z,1.4nm,0.4s,baz=44,slow=4.4,SNR=12						

*SNET **23** 07:30:03.8±1.7, 12°.76N×88°.73W, h18km, ML2.8*
CATAC 23 07:30:04.4±0.7, 13°.N±4°.×8°.9W±°, h36km±8km, M2.9/12, MLv2.9/12, Error ellipse: s-maj=9.9km s-min=3.9km az=16.2, confirmed, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.74**	**12**	*eP*	Pn	07 30 18.7	+0.1
TECA				*eP*		07 30 18.7	
PACA	**Pacayal**	**0.77**	**25**	P	Pn	07 30 19.4	+0.5
PACA	**Pacayal**	**0.77**	**25**	S	Sn	07 30 30.5	+1.2
TECO	**Alcaldia de Te**	**0.77**	**351**	*eP*	Pn	07 30 18.9	0.0
TECO	**Alcaldia de Te**	**0.77**	**351**	P	Pn	07 30 18.8	0.0
TECO	**Alcaldia de Te**	**0.77**	**351**	S	Sn	07 30 30.3	+1.0
BLLM	**Bellamira**	**0.79**	**32**	*eP*	Pn	07 30 19.3	+0.2
CNRM	**Centro Naciona**	**0.85**	**34**	P	Pn	07 30 20.2	+0.3
CNRM	**Centro Naciona**	**0.85**	**34**	S	Sn	07 30 32.9	+1.8
PQSS	**Presa 15 de Se**	**0.86**	**7**	P	Pn	07 30 20.2	+0.3
PQSS	**Presa 15 de Se**	**0.86**	**7**	S	Sn	07 30 32.6	+1.2
UESV	**Universidad de**	**0.87**	**352**	*eP*	Pn	07 30 20.4	+0.1
UESV	**Universidad de**	**0.87**	**352**	P	Pn	07 30 20.6	+0.4
UESV	**Universidad de**	**0.87**	**352**	S	Sn	07 30 32.9	+1.2
LCND	**La Caada**	**0.93**	**54**	*eP*	Pn	07 30 20.4	-0.5
LCND				*eS*	Sn	07 30 33.8	+0.9
LCND	**La Caada**	**0.93**	**54**	P	Pn	07 30 21.3	+0.4
SCLA	**Alcaldia de Sa**	**0.93**	**356**	P	Pn	07 30 21.8	+0.8
SCLA	**Alcaldia de Sa**	**0.93**	**356**	S	Sn	07 30 34.9	+1.7
CNCH	**Conchagua**	**0.95**	**58**	*eP*	Pn	07 30 21.2	-0.1
CNCH	**Conchagua**	**0.95**	**58**	P	Pn	07 30 21.8	+0.4
PAVA	**Las Pavas**	**0.98**	**344**	P	Pn	07 30 22.2	+0.5
PAVA	**Las Pavas**	**0.98**	**344**	S	Sn	07 30 35.6	+1.2
LOMA	**Loma Larga**	**1.00**	**330**	*eP*	Pn	07 30 22.2	+0.1
LOMA				*eS*	Sn	07 30 36.3	+1.3
LOMA	**Loma Larga**	**1.00**	**330**	P	Pn	07 30 22.2	+0.1
LOMA	**Loma Larga**	**1.00**	**330**	S	Sn	07 30 35.2	+0.2
UDBS	**Universidad Do**	**1.06**	**333**	P	Pn	07 30 23.3	+0.5
UDBS	**Universidad Do**	**1.06**	**333**	S	Sn	07 30 37.1	+0.8
UEES	**Universidad Ev**	**1.10**	**329**	S	Sn	07 30 38.6	+1.3
PMON	**Piamonte**	**1.13**	**326**	P	Pn	07 30 23.8	0.0
POTN	**Potosi Cosigui**	**1.15**	**78**	S	Sn	07 30 38.4	-0.1
JAYA	**Jayaque - finc**	**1.17**	**319**	*eP*	Pn	07 30 24.3	0.0
JAYA	**Jayaque - finc**	**1.17**	**319**	P	Pn	07 30 24.5	+0.1
JAYA	**Jayaque - finc**	**1.17**	**319**	S	Sn	07 30 38.8	-0.3
NUBE	**Las Nubes**	**1.57**	**316**	P	Pn	07 30 30.0	+0.1
NUBE	**Las Nubes**	**1.57**	**316**	S	Sn	07 30 49.0	0.0
CHOHN	**Orocuina**	**1.63**	**64**	P	Pn	07 30 31.4	+0.8
CHOHN	**Orocuina**	**1.63**	**64**	S	Sn	07 30 50.8	+0.4

TRN 23 07:42:30.1, 14°.99N×60°.35W, h27km, MD3.5, North-east of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.55**	**248**	*eP*	Pn	07 42 43.1	+0.9
ILAM				*eS*	Sn	07 42 51.2	+0.7
SVN	**Savane Anatole**	**0.81**	**260**	*eP*	Pn	07 42 47.1	+1.4
SVN				*eS*	Sn	07 42 59.7	+2.8
BIM	**Bigot**	**0.84**	**237**	*eP*	Pn	07 42 47.3	+1.1
BIM				*eS*	Sn	07 42 59.7	+2.0
DLDT	**Laudat, Domini**	**1.03**	**290**	*eP*	Pb	07 42 50.4	+1.1
DLDT				*eS*	Sb	07 43 04.8	+2.4
MDN	**Morne-Daniel**	**1.06**	**288**	*eP*	Pb	07 42 50.7	+0.8
MDN				*eS*	Sb	07 43 05.6	+2.2
DWS	**Wesley**	**1.10**	**302**	*eP*	Pb	07 42 51.1	+0.6
DWS				*eS*	Sb	07 43 05.4	+0.9
DSLB	**Salisbury**	**1.13**	**294**	*eP*	Pb	07 42 51.4	+0.3
DSLB				*eS*	Sb	07 43 06.6	+1.2
SLBI	**Saint Lucia, B**	**1.13**	**213**	*eP*	Pb	07 42 50.9	-0.3
SLBI				*eS*	Sb	07 43 06.1	+0.6
DSDZ	**La Diserade, G**	**1.49**	**332**	*eP*	Pb	07 42 56.4	-0.8
DSDZ				*eS*	Sb	07 43 14.8	-0.9
TBG	**Guadaloupe-3**	**1.52**	**305**	*eP*	Pn	07 42 56.3	+0.7
TBG				*eS*	Sb	07 43 15.7	-0.9
MMLZ	**Guadeloupe Bro**	**1.65**	**310**	*eS*	Sb	07 43 19.3	-1.1
ATGZ	**Broadband at L**	**1.73**	**310**	*eP*	Pn	07 42 59.1	+0.7
DHSZ	**Broadband at M**	**1.87**	**313**	*eP*	Pn	07 43 01.7	+1.3
DHSZ				*eS*	Sb	07 43 25.0	-1.7
SVB	**Belmont**	**1.92**	**207**	*eP*	Pb	07 43 03.0	-1.4
SVB				*eS*	Sn	07 43 25.6	+1.4

*NOU **23** 07:45:20.8, 42°.45S×176°.90E, h0km, MLv3.9/9, Off E. Coast of S. Island, N.Z.*
*WEL **23** 07:45:23.2±1.2, 42°.S±6°.×17°.7E±°, h8km±9km, M3.0/24, ML3.2/31, MLv3.0/24, Error ellipse: s-maj=8.7km s-min=5.9km az=131.3, confirmed*
ISC 23 07:45:22.6±1.4, 42°.39S±0°.04×176°.64E±0°.06, h10km, n91, σ1°29/95, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRWZ	**Traveller**	**1.22**	**324**	P	**Pb**	07 45 45.3	**-0.6**
PLWZ	**Palliser**	**1.32**	**308**	P	**Pn**	07 45 46.5	**-0.6**
PAWZ	**Paruwai Farm**	**1.36**	**318**	P	**Pn**	07 45 47.1	**-0.5**
TMWZ	**Te Maipa**	**1.40**	**336**	P	**Pn**	07 45 48.6	**+0.3**
MSWZ	**Moikau Station**	**1.42**	**313**	P	**Pn**	07 45 47.8	**-0.8**
MAVS	**Martinborough**	**1.47**	**323**	S	**Sg**	07 46 09.7	**-0.2**
MTW	**Mount Morrison**	**1.50**	**325**	P	**Pn**	07 45 48.7	**-0.9**
CPWZ	**Castlepoint**	**1.52**	**347**	P	**Pn**	07 45 50.4	**+0.6**
CPFS	**Castlepoint Fi**	**1.53**	**348**	P	**Pb**	07 45 51.0	**0.0**
BHW	**Baring Head**	**1.65**	**306**	P	**Pn**	07 45 51.4	**-0.2**
TIWZ	**Tintock**	**1.71**	**341**	P	**Pb**	07 45 53.9	**-0.3**
HOWZ	**Holdsworth Sta**	**1.71**	**330**	P	**Pn**	07 45 52.9	**+0.4**

BFZ	**Birch Farm**	**1.74**	**350**	P	**Pn**	07 45 53.3	**+0.4**
BFZ	**Birch Farm**	**1.74**	**350**	P	**Pn**	07 45 53.1	**+0.2**
BFZ				S	**Sn**	07 46 15.6	**+0.6**
CAW	**Cannon Point**	**1.74**	**317**	P	**Pn**	07 45 52.4	**-0.5**
CAW				S	**Sb**	07 46 16.2	**-0.4**
WEL	**Wellington**	**1.78**	**308**	P	**Pn**	07 45 54.0	**+0.5**
SNZO	**South Karori**	**1.80**	**306**	P	**Pb**	07 45 56.5	**+0.8**
MRZ	**Mangatainoka R**	**1.91**	**335**	P	**Pn**	07 45 55.3	**+0.2**
MRZ				S	**Sn**	07 46 19.3	**0.0**
PRWZ	**Pori Road**	**1.91**	**345**	P	**Pn**	07 45 56.0	**+0.8**
OGWZ	**Otaki Gorge**	**1.92**	**325**	P	**Pn**	07 45 55.8	**+0.4**
ANWZ	**Angora Road**	**1.94**	**356**	P	**Pn**	07 45 55.6	**0.0**
KIW	**Kapiti Island**	**2.00**	**319**	P	**Pn**	07 45 57.3	**+0.7**
POWZ	**Post Office Ro**	**2.10**	**342**	P	**Pn**	07 45 59.6	**+1.7**
DVHZ	**Dannevirke**	**2.12**	**350**	P	**Pn**	07 45 58.4	**+0.2**
TCW	**Tory Channel**	**2.12**	**303**	P	**Pn**	07 45 59.0	**+0.8**
PRHZ	**Porangahau**	**2.13**	**360**	P	**Pn**	07 45 58.3	**+0.1**
KHZ	**Kahutara**	**2.29**	**268**	P	**Pn**	07 46 00.8	**+0.3**
KHZ	**Kahutara**	**2.29**	**268**	P	**Pn**	07 46 00.6	**+0.1**
WPHZ	**Waipukurau**	**2.33**	**356**	P	**Pn**	07 46 01.4	**+0.3**
PXZ	**Pawanui**	**2.37**	**4**	P	**Pn**	07 46 01.3	**-0.2**
TSZ	**Takapari Road**	**2.39**	**347**	P	**Pn**	07 46 03.1	**+1.2**
PNHZ	**Pukenui**	**2.50**	**352**	P	**Pn**	07 46 03.7	**+0.3**
DUWZ	**D'Urville Isla**	**2.58**	**307**	P	**Pn**	07 46 05.7	**+1.1**
KAHZ	**Kahuranaki**	**2.60**	**4**	P	**Pn**	07 46 04.8	**0.0**
NNZ	**Nelson**	**2.70**	**295**	P	**Pn**	07 46 07.2	**+1.1**
KRHZ	**Kereru**	**2.76**	**356**	P	**Pn**	07 46 07.7	**+0.8**
THZ	**Tophouse**	**2.85**	**282**	P	**Pn**	07 46 09.0	**+0.8**
WAZ	**Wanganui**	**2.92**	**334**	P	**Pn**	07 46 12.0	**+2.8**
OKCZ	**Okains Bay**	**2.94**	**242**	P	**Pn**	07 46 10.2	**+0.8**
MCHZ	**McNeill Hill**	**2.95**	**1**	P	**Pn**	07 46 09.8	**+0.3**
KWHZ	**Kaweka Forest**	**2.97**	**357**	P	**Pn**	07 46 10.8	**+0.9**
MOHZ	**Moawhango**	**3.06**	**347**	P	**Pn**	07 46 12.4	**+1.2**
MRNZ	**Matariki Terra**	**3.06**	**288**	P	**Pn**	07 46 10.9	**-0.2**
TKNZ	**Takaka Hill**	**3.07**	**295**	P	**Pn**	07 46 11.9	**+0.7**
AKCZ	**Akaroa Harbour**	**3.10**	**240**	P	**Pn**	07 46 12.5	**+0.8**
WNVZ	**Wahianoa**	**3.16**	**345**	P	**Pn**	07 46 14.4	**+1.8**
MQZ	**McQueen's Vall**	**3.20**	**244**	P	**Pn**	07 46 12.8	**-0.1**
MQZ				S	**Sn**	07 46 46.6	**-4.5**
TRVZ	**Turoa**	**3.20**	**345**	P	**Pn**	07 46 15.3	**+2.1**
WHVZ	**Whangaehu Hut**	**3.21**	**345**	P	**Pn**	07 46 15.1	**+1.7**
BKZ	**Black Stump Fm**	**3.23**	**358**	P	**Pn**	07 46 13.5	**+0.1**
BKZ	**Black Stump Fm**	**3.23**	**358**	P	**Pn**	07 46 13.5	**+0.1**
FWVZ	**Far West T-bar**	**3.24**	**345**	P	**Pn**	07 46 15.5	**+1.7**
LTZ	**Lake Taylor**	**3.25**	**262**	P	**Pn**	07 46 14.6	**+1.0**
SNVZ	**South Ngauruho**	**3.29**	**346**	P	**Pn**	07 46 16.3	**+1.9**
NMHZ	**Naumai**	**3.30**	**2**	P	**Pn**	07 46 14.8	**+0.4**
NGZ	**Ngauruhoe**	**3.31**	**346**	P	**Pn**	07 46 16.6	**+2.0**
OTVZ	**Oturere**	**3.31**	**347**	P	**Pn**	07 46 16.5	**+1.8**
NNVZ	**North Ngauruho**	**3.35**	**346**	P	**Pn**	07 46 17.5	**+2.3**
WTVZ	**West Tongariro**	**3.37**	**346**	P	**Pn**	07 46 17.3	**+1.9**
QRZ	**Quartz Range**	**3.46**	**296**	P	**Pn**	07 46 17.6	**+1.1**
QRZ	**Quartz Range**	**3.46**	**296**	P	**Pn**	07 46 17.9	**+1.4**
RAHZ	**Arahi**	**3.49**	**6**	P	**Pn**	07 46 17.1	**0.0**
MTHZ	**Maungataniwha**	**3.54**	**3**	P	**Pn**	07 46 18.0	**+0.3**
MRHZ	**Matea Rd**	**3.56**	**357**	P	**Pn**	07 46 18.8	**+0.8**
VRZ	**Vera Road**	**3.56**	**336**	P	**Pn**	07 46 20.1	**+2.1**
NEZ	**North Egmont**	**3.67**	**327**	P	**Pn**	07 46 22.3	**+2.8**
KHEZ	**Kahui Hut**	**3.68**	**326**	P	**Pn**	07 46 22.5	**+2.8**
KHEZ	**Kahui Hut**	**3.68**	**326**	P	**Pn**	07 46 22.6	**+3.0**
RIGZ	**Rimuhau**	**3.78**	**13**	P	**Pn**	07 46 20.3	**-0.8**
RTZ	**Ruatahuna**	**3.78**	**4**	P	**Pn**	07 46 21.1	**0.0**
WACZ	**Wakanui South**	**3.83**	**245**	P	**Pn**	07 46 23.0	**+1.3**
INZ	**Inchbonnie**	**3.85**	**263**	P	**Pn**	07 46 25.0	**+3.1**
MHCZ	**Mount Hutt**	**3.89**	**251**	P	**Pn**	07 46 23.2	**+0.7**
MUGZ	**Murupara**	**3.91**	**2**	P	**Pn**	07 46 22.8	**0.0**
RAGZ	**Rawiri**	**3.94**	**2**	P	**Pn**	07 46 23.6	**-0.6**
URZ	**Urewera**	**4.15**	**5**	P	**Pn**	07 46 25.3	**-0.7**
URZ	**Urewera**	**4.15**	**5**	P	**Pn**	07 46 25.3	**-0.7**
ARCZ	**Arundel**	**4.28**	**247**	P	**Pn**	07 46 28.8	**+0.9**
RPZ	**Rata Peaks**	**4.30**	**250**	P	**Pn**	07 46 30.4	**+2.3**
RPZ	**Rata Peaks**	**4.30**	**250**	P	**Pn**	07 46 29.1	**+1.0**
TWGZ	**Tauwhareparae**	**4.34**	**14**	P	**Pn**	07 46 28.3	**-0.3**
RUGZ	**Raukumara Rang**	**4.50**	**11**	P	**Pn**	07 46 30.2	**-0.7**
TMZ	**Timaru**	**4.56**	**242**	P	**Pn**	07 46 32.8	**+1.2**
HAZ	**Te Kaha**	**4.71**	**11**	P	**Pn**	07 46 33.0	**-0.8**
WMGZ	**Waiomatatini S**	**4.77**	**17**	P	**Pn**	07 46 33.6	**-0.9**
ODZ	**Otahua Downs**	**5.09**	**237**	P	**Pn**	07 46 40.4	**+1.5**
ODZ	**Otahua Downs**	**5.09**	**237**	P	**Pn**	07 46 40.1	**+1.2**
LBZ	**Lake Benmore**	**5.11**	**245**	P	**Pn**	07 46 40.9	**+1.7**
CTZ	**Chatham Island**	**5.12**	**107**	P	**Pn**	07 46 40.0	**+0.7**
EAZ	**Earnscleugh**	**6.01**	**239**	P	**Pn**	07 46 53.0	**+1.4**
TUZ	**Tuapeka**	**6.17**	**232**	P	**Pn**	07 46 55.6	**+1.9**

KRSC 23 07:51:31.8±2.7, 48°.76N×156°.76E, h31km±43km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.97**	**348**	*eS*	Sn	07 52 25.0	-1.5
MIPR	**Malaya Ipel'ka**	**3.52**	**0**	*eP*	Pn	07 52 25.8	+1.5
ASAK	**Asacha**	**3.70**	**11**	*eP*	Pn	07 52 26.1	+4.2
ASAK				*eS*	Sb	07 53 16.0	-4.7
MTVR	**Mutnovka**	**3.83**	**13**	*eP*	Pn	07 52 33.1	+4.3
MTVR				*eS*	Sn	07 53 17.9	+5.1
RUS	**Russkaya**	**3.84**	**16**	*eS*	Sn	07 53 17.5	+4.7
GRL	**Gorelyy**	**3.88**	**12**	*eP*	Pn	07 52 33.9	+4.5
GRL				*eS*	Sn	07 53 18.7	+4.7
KRMR	**Karymshinskiy**	**4.16**	**12**	*eP*	Pn	07 52 38.3	+5.2
UGLR	**Uglovaya**	**4.64**	**16**	*eP*	Pn	07 52 44.9	+5.1
AVH	**Avacha**	**4.68**	**15**	*eP*	Pb	07 52 46.7	-6.4
KOK	**Koryaka**	**4.69**	**14**	*eP*	Pn	07 52 46.3	+5.9
SDLR	**Sedlovina**	**4.72**	**16**	*eP*	Pn	07 52 45.9	+5.0
SDLR				*eS*	Sn	07 53 41.5	+6.9
KRER	**Koryakskii**	**4.72**	**15**	*eS*	Sn	07 53 40.4	+5.7
KRX	**Arik**	**4.75**	**14**	*eP*	Pn	07 52 46.4	+5.0
KRX				*eS*	Sn	07 53 42.7	+7.2
SPN	**Mys Shipunski**	**4.81**	**24**	*eP*	Pn	07 52 46.1	+4.1
SPN				*eS*	Sn	07 53 42.6	+6.1
GNL	**Ganaly**	**4.99**	**8**	*eP*	Pn	07 52 48.2	+3.3
MKZ	**Mys Kozlova**	**6.57**	**26**	*eP*	Pn	07 53 09.9	+3.7
MKZ				*eS*	Sn	07 54 23.9	+3.9
KBTR	**Krutoberegovo**	**8.32**	**24**	*eP*	Pn	07 53 36.0	+5.8

*IDC **23** 08:09:59.9±6.1, 23°.16S×179°.72W, h479km±68km, mb3.1/6, mbtmp4.1/7, Error ellipse: s-maj=38.3km s-min=24.0km az=23.0*
ISC 23 08:10:04.2±0.9, 23°.3S±0°.2×179°.8W±0°.2, h532km, n46, σ1°35/45, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**13.93**	**195**	P	**P**	08 13 09.8	**+3.2**
MKAZ	**Moumakai**	**14.41**	**197**	P	**P**	08 13 10.8	**+3.2**
HAZ	**Te Kaha**	**14.53**	**188**	P	**P**	08 13 09.2	**+0.3**
PUZ	**Puketiti**	**14.79**	**186**	P	**P**	08 13 12.3	**+0.7**
TOZ	**Tahuroa Road**	**14.92**	**195**	P	**P**	08 13 13.5	**+0.6**
TWGZ	**Tauwhareparae**	**14.92**	**187**	P	**P**	08 13 13.2	**+0.2**
URZ	**Urewera**	**15.12**	**190**	P	**P**	08 13 12.7	**-2.3**
	20nm,1.0s,baz=243,slow=4.9,SNR=8.1						
URZ	**Urewera**	**15.12**	**190**	P	**P**	08 13 13.4	**-1.6**
RIGZ	**Rimuhau**	**15.47**	**187**	P	**P**	08 13 17.9	**-0.8**
BKZ	**Black Stump Fm**	**16.10**	**191**	P	**P**	08 13 22.8	**-2.3**
OTVZ	**Oturere**	**16.25**	**193**	P	**P**	08 13 24.7	**-2.0**
VRZ	**Vera Road**	**16.42**	**195**	P	**P**	08 13 29.8	**+1.7**
WNVZ	**Wahianoa**	**16.43**	**193**	P	**P**	08 13 27.5	**-0.9**
KRHZ	**Kereru**	**16.59**	**191**	P	**P**	08 13 28.5	**-1.3**
PNHZ	**Pukenui**	**16.88**	**191**	P	**P**	08 13 31.3	**-1.2**
TSZ	**Takapari Road**	**17.06**	**191**	P	**P**	08 13 32.4	**-1.9**
DVHZ	**Dannevirke**	**17.26**	**191**	P	**P**	08 13 35.2	**-0.9**
BFZ	**Birch Farm**	**17.62**	**190**	P	**P**	08 13 37.3	**-2.0**
QRZ	**Quartz Range**	**18.61**	**199**	P	**P**	08 13 49.1	**+0.8**
NNZ	**Nelson**	**18.74**	**196**	P	**P**	08 13 49.2	**-0.3**
THZ	**Tophouse**	**19.38**	**197**	P	**P**	08 13 55.5	**+0.1**
DSZ	**Denniston Nort**	**19.67**	**199**	P	**P**	08 13 57.9	**-0.1**
KHZ	**Kahutara**	**19.83**	**195**	P	**P**	08 13 58.5	**-0.9**
GVZ	**Greta Valley S**	**20.47**	**195**	P	**P**	08 14 05.3	**0.0**
LTZ	**Lake Taylor**	**20.49**	**197**	P	**P**	08 14 04.3	**-1.2**
INZ	**Inchbonnie**	**20.67**	**199**	P	**P**	08 14 06.2	**-0.9**
OXZ	**Oxford**	**21.06**	**197**	P	**P**	08 14 09.2	**-1.5**
WVZ	**Waitaha Valley**	**21.21**	**200**	P	**P**	08 14 11.7	**-0.2**
MQZ	**McQueen's Vall**	**21.26**	**195**	P	**P**	08 14 11.7	**-0.7**
RPZ	**Rata Peaks**	**21.70**	**198**	P	**P**	08 14 15.9	**-0.4**
FOZ	**Fox Glacier**	**21.91**	**201**	P	**P**	08 14 18.2	**0.0**
TMZ	**Timaru**	**22.32**	**198**	P	**P**	08 14 22.1	**+0.1**
LBZ	**Lake Benmore**	**22.56**	**199**	P	**P**	08 14 23.5	**-0.6**
JCZ	**Jackson Bay**	**22.73**	**202**	P	**P**	08 14 24.7	**-1.0**
WKZ	**Wanaka**	**23.32**	**200**	P	**P**	08 14 28.2	**-2.7**

HHSZ	**Highcliff Hill**	**23.82**	**197**	P	**P**	08 14 34.8	**-0.4**
MLZ	**Mavora Lakes**	**24.10**	**201**	P	**P**	08 14 39.4	**+1.6**
WHZ	**Wether Hill Ro**	**24.62**	**201**	P	**P**	08 14 43.1	**+0.8**
STKA	**Stephens Creek**	**35.15**	**247**	P	**P**	08 16 13.8	**+0.4**
	2.1nm,0.5s,baz=96,slow=11,SNR=7.2						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**42.35**	**260**	P	**P**	08 17 11.6	**-0.3**
	2.6nm,0.8s,baz=95,slow=7.3,SNR=32						
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**42.67**	**265**	P	**P**	08 17 13.6	**-0.9**
	2.3nm,0.6s,baz=94,slow=8.5,SNR=56						
	2.3nm,0.6s						
QSPA	**South Pole Qui**	**66.75**	**180**	P	**P**	08 20 03.7	**+1.3**
	1.2nm,0.8s,baz=324,slow=1.0,SNR=6.9						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**89.94**	**58**	P	**P**	08 22 07.0	**-0.1**
	0.2nm,0.7s,baz=216,slow=6.2,SNR=4.2						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**92.13**	**44**	P	**P**	08 22 17.5	**+0.5**
	0.2nm,0.5s,baz=232,slow=5.6,SNR=2.5						
	0.2nm,0.5s						
HFS	**Hagfors**	**142.04**	**349**	PKhKP	PKPpre	08 28 30.6	
	1.6nm,0.3s,baz=68,slow=4.0,SNR=15						
AKASG	**Malin Array Be**	**144.62**	**328**	PKP	**PKPdf**	08 28 39.2	**-0.8**
	0.7nm,0.4s,baz=44,slow=3.3,SNR=6.2						

*IDC **23** 08:23:18.4±15.0, 55°.93S×27°.84W, h153km±136km, mb3.2/2, mbtmp3.9/3, ML4.6/1, Error ellipse: s-maj=88.8km s-min=32.1km az=114.0*
ISC 23 08:23:14.9±1.3, 56°.0S±0°.1×27°.5W±0°.4, h100km, n11, σ1°06/11, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.88**	**158**	⇑P	**Pn**	08 27 05.5	**+1.0**
	comp=Z,1.5nm,0.5s						
VNA3	**Neumayer Olymp**	**17.07**	**160**	⇑P	**Pn**	08 27 06.7	**-0.3**
	comp=Z,2.6nm,0.6s						
VNA2	**Neumayer--Watz**	**17.28**	**158**	⇑P	**Pn**	08 27 09.5	**0.0**
	comp=Z,2.8n

SIMPL	**Simplonpass**	**0.33**	**81**	⇓Pg	**Pg**	**08 38 40.5 +0.4**
SIMPL				Sg	**Sg**	**08 38 44.9 +0.4**
SIMPL	**Simplonpass**	**0.33**	**81**	P	**Pg**	**08 38 40.5 +0.4**
SIMPL				S	**Sg**	**08 38 44.9 +0.4**
SZWD2	**Zweisimmen Kir**	**0.38**	**342**	Sg	**Sg**	**08 38 46.6 +0.7**
MFERR	**Prayon, Val Fe**	**0.39**	**232**	⇑Pg	**Pg**	**08 38 41.7 +0.7**
MFERR				Sg	**Sg**	**08 38 46.5 +0.4**
SATI	**Passo dei Sala**	**0.39**	**144**	⇑Pg	**Pb**	**08 38 41.7 -0.7**
SATI				Sg	**Sg**	**08 38 46.6 +0.4**
SATI	**Passo dei Sala**	**0.39**	**144**	P	**Pb**	**08 38 41.7 -0.7**
SATI				S	**Sg**	**08 38 46.6 +0.4**
SATI	**Passo dei Sala**	**0.39**	**144**	P	**Pb**	**08 38 41.7 -0.7**
SATI				S	**Sg**	**08 38 46.6 +0.4**
SFRS	**Frutigen, Schu**	**0.40**	**11**	⇑Pg	**Pg**	**08 38 41.6 +0.4**
SFRS				Sg	**Sg**	**08 38 47.0 +0.5**
SALAN	**Lac Salanfe**	**0.40**	**264**	⇓Pg	**Pg**	**08 38 42.1 +0.8**
SCOD	**Chcteau-dO**	**0.40**	**314**	⇑Pg	**Pg**	**08 38 41.9 +0.6**
SCOD				Sg	**Sg**	**08 38 47.6 +1.0**
ILLEZ	**Chalet Vouargn**	**0.42**	**274**	⇓Pg	**Pg**	**08 38 42.4 +0.8**
ILLEZ				Sg	**Sg**	**08 38 48.1 +0.9**
AIGLE	**Aigle**	**0.44**	**290**	Pg	**Pg**	**08 38 42.5 +0.6**
SEMOS	**Emosson Stauma**	**0.44**	**254**	Pg	**Pg**	**08 38 42.9 +0.8**
SEMOS				Sg	**Sg**	**08 38 48.6 +0.8**
REMY	**Saint-Rhmy-en**	**0.45**	**218**	⇑Pg	**Pg**	**08 38 42.8 +0.7**
REMY				Sg	**Sg**	**08 38 48.5 +0.6**
REMY	**Saint-Rhmy-en**	**0.45**	**218**	P	**Pg**	**08 38 42.8 +0.7**
REMY				S	**Sg**	**08 38 48.6 +0.6**
REMY	**Saint-Rhmy-en**	**0.45**	**218**	⇑P	**Pg**	**08 38 42.9 +0.7**
REMY				S	**Sg**	**08 38 48.6 +0.6**
REMY				AML	AML	
	comp=N,3300µm,0.3s					
REMY				AML	AML	
	comp=E,3255µm,0.2s					
REMY				AML	AML	
	comp=N,3300µm,1.7s					
FIESA	**Fiescheralp**	**0.46**	**58**	⇑Pg	**Pg**	**08 38 42.8 +0.4**
FIESA				Sg	**Sg**	**08 38 48.8 +0.2**
FIESA	**Fiescheralp**	**0.46**	**58**	P	**Pg**	**08 38 42.8 +0.4**
FIESA				S	**Sg**	**08 38 48.7 +0.2**
JAUN	**Jaun, Euschels**	**0.48**	**338**	⇑Pg	**Pg**	**08 38 43.2 +0.5**
JAUN				Sg	**Sg**	**08 38 50.0 +1.0**
WIMIS	**Wimmis**	**0.48**	**7**	⇑Pg	**Pg**	**08 38 43.0 +0.3**
WIMIS				Sg	**Sg**	**08 38 49.5 +0.6**
MRGE	**Morge**	**0.54**	**219**	⇑Pg	**Pg**	**08 38 44.4 +0.6**
MRGE				Sg	**Sg**	**08 38 51.3 +0.3**
MRGE	**Morge**	**0.54**	**219**	P	**Pg**	**08 38 44.5 +0.6**
MRGE				S	**Sg**	**08 38 51.4 +0.4**
MRGE	**Morge**	**0.54**	**219**	P	**Pg**	**08 38 44.4 +0.6**
MRGE				S	**Sg**	**08 38 51.3 +0.3**
SBUL	**Bulle cole,**	**0.55**	**322**	Pg	**Pg**	**08 38 45.0 +0.9**
SBUL				Sg	**Sg**	**08 38 53.0 +1.6**
NVL1	**Lau de Morge,**	**0.56**	**288**	Pg	**Pg**	**08 38 45.5 +1.2**
OGSI	**Sixt**	**0.56**	**258**	⇓Pg	**Pg**	**08 38 45.1 +0.8**
OGSI				Sg	**Sg**	**08 38 52.5 +0.7**
BTNF	**Ladstafel, Nuf**	**0.64**	**63**	⇑Pg	**Pg**	**08 38 46.1 +0.3**
BTNF				Sg	**Sg**	**08 38 54.2 +0.1**
GRIMS	**Grimsel Gerste**	**0.66**	**54**	⇑Pg	**Pg**	**08 38 46.4 +0.3**
GRIMS				Sg	**Sg**	**08 38 54.5 -0.4**
TRAV	**Traversella**	**0.69**	**168**	⇑Pg	**Pg**	**08 38 46.8 +0.1**
TRAV	**Traversella**	**0.69**	**168**	P	**Pg**	**08 38 46.9 +0.1**
TRAV	**Traversella**	**0.69**	**168**	P	**Pg**	**08 38 46.8 +0.1**
TRAV				AML	AML	
	comp=E,650µm,0.8s					
TRAV				AML	AML	
	comp=N,682µm,1.3s					
GSF03	**Obergoms, Fort**	**0.70**	**56**	⇑Pg	**Pg**	**08 38 47.2 +0.3**
GSF03				Sg	**Sg**	**08 38 56.0 -0.2**
HASLI	**Hasliberg/Brie**	**0.70**	**36**	⇑Pg	**Pg**	**08 38 47.1 +0.2**
HASLI				Sg	**Sg**	**08 38 56.1 -0.1**
TORNY	**Torny/Romont**	**0.71**	**325**	PmP		08 38 51.5
LSD	**Lago del Serru**	**0.79**	**202**	P	**Pg**	**08 38 48.6 +0.1**
LSD				S	**Sg**	**08 38 59.1 +0.4**
LSD	**Lago del Serru**	**0.79**	**202**	P	**Pg**	**08 38 48.6 +0.1**
RSL	**Roselend**	**0.81**	**232**	⇑Pg	**Pg**	**08 38 49.6 +0.6**
RSL	**Roselend**	**0.81**	**232**	P	**Pg**	**08 38 49.6 +0.6**
RSL				S	**Sg**	**08 38 59.9 +0.2**
WOLEN	**Wohlen bei Ber**	**0.82**	**351**	⇑Pg	**Pb**	**08 38 50.1 +0.5**
WOLEN				PmP		08 38 53.0
WOLEN				Sg	**Sb**	**08 39 01.2 +0.6**
FUSIO	**Fusio**	**0.82**	**71**	⇓Pg	**Pg**	**08 38 49.1 +0.1**
FUSIO	**Fusio**	**0.82**	**71**	P	**Pg**	**08 38 49.2 +0.1**
FUSIO				S	**Sb**	**08 39 00.2 -0.6**
FUSIO	**Fusio**	**0.82**	**71**	P	**Pg**	**08 38 49.2 +0.1**
FUSIO				S	**Sb**	**08 39 00.7 -0.1**
GMS01	**Gemsstock NE-G**	**0.85**	**60**	⇑Pg	**Pg**	**08 38 50.0 +0.3**
A060B	**Romoos, Napf,**	**0.86**	**20**	⇑Pg	**Pb**	**08 38 50.7 +0.4**
LPL	**La Plagne**	**0.88**	**220**	*e*Pg	**Pg**	**08 38 50.8 +0.5**
LPL				*e*Sg	**Sg**	**08 39 01.0 -0.8**
	comp=N,78nm,0.2s					
LPG	**La Plagne**	**0.89**	**219**	*e*Pg	**Pg**	**08 38 50.8 +0.4**
LPG				*e*Sg	**Sg**	**08 39 01.6 -0.4**
	comp=N,85nm,0.2s					
BNALP	**Bannalp**	**0.91**	**41**	⇑Pg	**Pg**	**08 38 51.0 +0.1**
BNALP				Sg	**Sg**	**08 39 02.4 -0.4**
BNALP				SmS		08 39 09.6
BNALP	**Bannalp**	**0.91**	**41**	P	**Pg**	**08 38 51.0 +0.1**
VARE	**Varese**	**0.91**	**110**	P	**Pb**	**08 38 51.2 -0.1**
NALPS	**Val Nalps**	**0.93**	**64**	Pg	**Pb**	**08 38 51.4 -0.1**
GIMEL	**St. Georges /**	**0.95**	**292**	⇓Pg	**Pn**	**08 38 53.1 +0.3**
GIMEL	**St. Georges /**	**0.95**	**292**	P	**Pn**	**08 38 53.1 +0.3**
PREO2	**Preonzo, Alpe**	**1.00**	**86**	Pg	**Pg**	**08 38 52.6 0.0**
PREO4	**Preonzo, Alpe**	**1.00**	**86**	Pg	**Pg**	**08 38 52.5 0.0**
RSP	**Reno Superiore**	**1.06**	**191**	P	**Pg**	**08 38 53.5 -0.2**
RSP	**Reno Superiore**	**1.06**	**191**	⇑P	**Pg**	**08 38 53.6 -0.2**
RSP				S	**Sg**	**08 39 07.5 0.0**
RSP				AML	AML	
	comp=E,622µm,1.4s					
RSP				AML	AML	
	comp=N,290µm,0.2s					
RSP				AML	AML	
	comp=E,320µm,0.5s					
RSP				AML	AML	
	comp=N,678µm,1.5s					
RSP				AML	AML	
	comp=E,622µm,0.6s					
RSP				AML	AML	
	comp=N,290µm,1.8s					
RSP				AML	AML	
	comp=N,679µm,1.5s					
RSP				AML	AML	
	comp=E,623µm,1.4s					
MUGIO	**Muggio**	**1.08**	**104**	Pg	**Pb**	**08 38 54.1 +0.2**
MUGIO	**Muggio**	**1.08**	**104**	P	**Pb**	**08 38 54.2 +0.2**
MUGIO				S	**Sg**	**08 39 07.4 -0.6**
MUGIO	**Muggio**	**1.08**	**104**	P	**Pb**	**08 38 54.2 +0.2**
MUGIO				S	**Sg**	**08 39 07.4 -0.6**
MUGIO				AML	AML	
	comp=E,130µm,0.5s					
MUGIO				AML	AML	
	comp=N,160µm,1.4s					
MUGIO				AML	AML	
	comp=E,114µm,0.2s					
CABF	**La Chapelle**	**1.09**	**293**	*e*Pg	**Pn**	**08 38 55.5 +0.8**
CABF				*e*Sg	**Sn**	**08 39 10.5 +0.5**
	comp=E,74nm,0.2s					
MONC	**Moncucco Torin**	**1.15**	**166**	⇑Pg	**Pn**	**08 38 57.2 +1.8**
MONC	**Moncucco Torin**	**1.15**	**166**	P	**Pn**	**08 38 57.5 +2.0**
MONC	**Moncucco Torin**	**1.15**	**166**	P	**Pn**	**08 38 56.6 +1.1**
MONC				AML	AML	
	comp=E,300µm,0.4s					
MONC				AML	AML	
	comp=N,324µm,0.4s					
MONC				AML	AML	
	comp=E,300µm,1.6s					
BALST	**Balsthal**	**1.15**	**5**	⇑Pg	**Pn**	**08 38 56.0 +0.5**
BALST	**Balsthal**	**1.15**	**5**	*e*Pn	**Pn**	**08 38 56.0 +0.5**
BALST				*e*Pg	**Pg**	**08 38 57.0 +1.6**
BALST				*e*Sg	**Sn**	**08 39 12.6 +1.2**
SAIRA	**Les Sairains D**	**1.16**	**344**	⇑Pg	**Pg**	**08 38 56.1 +0.6**
SAIRA				PmP		08 38 57.8
HAMIK	**Hmikon, Dlik**	**1.17**	**25**	Pg	**Pn**	**08 38 56.2 +0.5**
RIVEL	**MONT RIVEL**	**1.26**	**297**	Pg	**Pg**	**08 38 58.4 +0.9**
TUE	**Stuetta**	**1.28**	**77**	P	**Pg**	**08 38 57.9 0.0**
TUE	**Stuetta**	**1.28**	**77**	P	**Pg**	**08 38 57.9 0.0**
TUE				S	**Sg**	**08 39 14.2 -0.3**
TUE				AML	AML	
	comp=N,150µm,0.3s					
TUE				AML	AML	
	comp=E,126µm,0.8s					
TUE				AML	AML	
	comp=N,148µm,0.9s					
TUE				AML	AML	
	comp=E,118µm,0.6s					
TUE				AML	AML	
	comp=N,148µm,1.1s					
TUE				AML	AML	
	comp=E,126µm,1.2s					
EMMET	**Emmethof**	**1.29**	**14**	⇑Pg	**Pg**	**08 38 58.4 +0.4**
EMMET				Sg	**Sn**	**08 39 15.6 +0.9**
BNI	**Bardonecchia**	**1.29**	**208**	P	**Pn**	**08 38 58.0 +0.5**
BNI	**Bardonecchia**	**1.29**	**208**	P	**Pn**	**08 38 58.0 +0.5**
BNI				S	**Sg**	**08 39 15.3 +0.4**
BNI				AML	AML	
	comp=E,108µm,0.4s					
BNI				AML	AML	
	comp=E,109µm,0.4s					
BNI				AML	AML	
	comp=N,77µm,0.4s					
BNI				AML	AML	
	comp=N,77µm,1.6s					
BNI				AML	AML	
	comp=E,109µm,1.6s					
BNI				AML	AML	
	comp=E,108µm,1.6s					
BNI				AML	AML	
	comp=N,77µm,0.4s					
BNI				AML	AML	
	comp=N,77µm,0.4s					
BNI				AML	AML	
	comp=E,109µm,0.4s					
VDL	**Val di Lei**	**1.35**	**77**	P	**Pg**	**08 38 59.0 -0.2**
BHB	**Bricherasio**	**1.36**	**188**	P	**Pn**	**08 38 58.6 +0.2**
BHB	**Bricherasio**	**1.36**	**188**	P	**Pn**	**08 38 58.5 +0.2**
BHB				S	**Sb**	**08 39 16.6 +0.3**
BHB				AML	AML	
	comp=E,122µm,0.8s					
BHB				AML	AML	
	comp=N,121µm,0.2s					
BHB				AML	AML	
	comp=E,122µm,1.2s					
RRL	**Rocca Remolon**	**1.38**	**203**	P	**Pb**	**08 38 59.5 +0.3**
RRL	**Rocca Remolon**	**1.38**	**203**	P	**Pn**	**08 38 59.1 +0.4**
RRL				S	**Sg**	**08 39 18.2 +0.6**
RRL				AML	AML	
	comp=E,178µm,0.6s					
RRL				AML	AML	
	comp=N,149µm,0.8s					
RRL				AML	AML	
	comp=N,149µm,1.2s					
BOUC	**Bouclans**	**1.38**	**320**	⇓Pn	**Pb**	**08 39 00.1 +1.0**
OG35	**Corcelles**	**1.38**	**265**	⇑Pn	**Pg**	**08 39 00.5 +0.7**
SULZ	**Cheisacher**	**1.39**	**16**	⇑Pn	**Pb**	**08 38 59.9 +0.5**
SULZ	**Cheisacher**	**1.39**	**16**	*e*Pn	**Pb**	**08 38 59.9 +0.5**
SULZ				*e*Pg	**Pg**	**08 39 01.1 +1.1**
SULZ				*e*Sg	**Sg**	**08 39 18.5 +0.3**
ILLF	**Illfurth**	**1.50**	**353**	Pn	**Pb**	**08 39 02.1 +0.8**
PLONS	**Plons/SG**	**1.53**	**55**	Pg	**Pb**	**08 39 02.3 +0.5**
PLONS	**Plons/SG**	**1.53**	**55**	*e*Pg	**Pg**	**08 39 02.4 -0.2**
PLONS				*e*Sg	**Sb**	**08 39 21.6 +0.4**
WILA	**Wila**	**1.54**	**37**	Pn	**Pg**	**08 39 03.1 +0.3**
WILA	**Wila**	**1.54**	**37**	*e*Pg	**Pg**	**08 39 03.3 +0.4**
WILA				*e*Sg	**Sg**	**08 39 23.7 +0.8**
MBDF	**Montbardon**	**1.56**	**201**	*e*Pg	**Pb**	**08 39 02.9 +0.5**
MBDF				*e*Sg	**Sg**	**08 39 23.3 -0.2**
	comp=N,161nm,0.6s					
METMA	**Mettma DE**	**1.60**	**17**	Pn	**Pn**	**08 39 02.3 +0.7**
METMA	**Mettma DE**	**1.60**	**17**	*e*Pn	**Pn**	**08 39 02.3 +0.7**
METMA				*e*Pg	**Pg**	**08 39 04.8 +0.8**
METMA				*e*Sn	**Sn**	**08 39 22.2 -0.1**
METMA				*e*Sg	**Sg**	**08 39 25.5 +0.9**
HINF	**Hinteralfeld**	**1.69**	**344**	*e*Pg	**Pg**	**08 39 06.0 +0.2**
HINF				*e*Sg	**Sg**	**08 39 27.8 0.0**
	comp=N,119nm,0.3s					
SLE	**Schleitheim**	**1.70**	**22**	⇑Pn	**Pn**	**08 39 03.7 +0.7**
SLE	**Schleitheim**	**1.70**	**22**	*e*Pn	**Pn**	**08 39 03.7 +0.7**
SLE				*e*Pg	**Pg**	**08 39 06.5 +0.6**
SLE				*e*Sg	**Sg**	**08 39 28.9 +0.9**
PZZ	**Stroppo**	**1.71**	**190**	Pn	**Pn**	**08 39 03.7 +0.4**
PZZ	**Stroppo**	**1.71**	**190**	P	**Pn**	**08 39 03.7 +0.4**
PZZ	**Stroppo**	**1.71**	**190**	P	**Pn**	**08 39 03.7 +0.4**
PZZ				AML	AML	
	comp=E,256µm,0.5s					
PZZ				AML	AML	
	comp=N,193µm,0.5s					
PZZ				AML	AML	
	comp=N,193µm,0.5s					
PZZ				AML	AML	
	comp=E,256µm,0.5s					
FELD	**Feldberg im Sc**	**1.71**	**10**	Pn	**Pn**	**08 39 03.8 +0.5**
DAVOX	**Davos/Dischmat**	**1.72**	**69**	P	**Pg**	**08 39 06.2 0.0**
DAVOX				AML	AML	
	comp=N,132µm,1.5s					
DAVOX				AML	AML	
	comp=E,85µm,0.4s					
DAVOX				AML	AML	
	comp=N,132µm,0.5s					
ORIF	**Oris-en-Rattie**	**1.73**	**223**	*e*Pg	**Pg**	**08 39 06.6 +0.1**
ORIF				*e*Sg	**Sb**	**08 39 28.2 +1.2**
	comp=N,35nm,0.2s					
BERGE	**Lenzkirch (DE)**	**1.74**	**14**	⇑Pn	**Pn**	**08 39 04.1 +0.5**
BERGE	**Lenzkirch (DE)**	**1.74**	**14**	*e*Pn	**Pn**	**08 39 04.1 +0.5**
BERGE				*e*Pg	**Pg**	**08 39 07.2 +0.6**
BERGE				*e*Sg	**Sg**	**08 39 29.5 +0.3**
KIZ	**Kirchzarten**	**1.78**	**8**	⇑Pn	**Pn**	**08 39 04.5 +0.4**
OGAG	**Argentiere**	**1.88**	**203**	P	**Pn**	**08 39 03.7 -1.8**
WALHA	**Wallhausen, DE**	**1.90**	**34**	*e*Pg	**Pg**	**08 39 10.0 +0.3**
WALHA				*e*Sg	**Sg**	**08 39 35.2 +0.8**
EMING	**Emmingen-Lipti**	**1.92**	**27**	*e*Pg	**Pg**	**08 39 10.4 +0.3**
EMING				*e*Sg	**Sg**	**08 39 35.4 +0.4**
DAVA	**Damuels**	**1.94**	**55**	Pg	**Pg**	**08 39 11.2 +0.6**
	comp=N,12nm,0.4s					
DAVA				*e*Sg	**Sg**	**08 39 37.8 +2.0**
	comp=N,4.6nm,0.1s					
DAVA	**Damuels**	**1.94**	**55**	*e*Pg	**Pg**	**08 39 11.2 +0.6**
GBOS	**Grotte di Boss**	**1.96**	**174**	P	**Pb**	**08 39 08.2 -0.9**
GBOS	**Grotte di Boss**	**1.96**	**174**	P	**Pb**	**08 39 08.3 -0.8**
HAU	**Haudompre**	**1.99**	**336**	*e*Pg	**Pb**	**08 39 11.1 +1.5**
HAU				*e*Sg	**Sg**	**08 39 36.8 -0.5**
	comp=N,93nm,0.2s					
GORR	**Gorreto**	**2.01**	**142**	P	**Pb**	**08 39 08.7 -1.2**
GORR				AML	AML	
	comp=E,98µm,0.4s					
GORR				AML	AML	
	comp=N,95µm,0.5s					
GORR				AML	AML	
	comp=N,95µm,1.5s					
GORR				AML	AML	
	comp=N,95µm,0.5s					
ECH	**Echery**	**2.04**	**353**	Pn	**Pn**	**08 39 08.6 +0.8**
ECH	**Echery**	**2.04**	**353**	*e*Pn	**Pn**	**08 39 09.1 +1.3**
ECH				*e*Sg	**Sg**	**08 39 38.2 -0.7**
RORO	**Rocca Rossa**	**2.11**	**170**	P	**Pb**	**08 39 10.7 -0.9**
RORO				AML	AML	
	comp=N,32µm,1.3s					
RORO				AML	AML	
	comp=N,32µm,0.7s					
RORO				AML	AML	
	comp=E,39µm,0.7s					
RORO				AML	AML	
	comp=N,25µm,0.2s					
A103D	**Ravensburg, Wa**	**2.12**	**40**	Pg	**Pg**	**08 39 14.3 +0.4**
A103D				Sg	**Sg**	**08 39 42.0 +0.7**
BFO	**Black Forest**	**2.21**	**14**	Pn	**Pn**	**08 39 10.2 +0.2**
BFO	**Black Forest**	**2.21**	**14**	*e*Pn	**Pn**	**08 39 10.3 +0.3**
BFO				*e*Pg	**Pg**	**08 39 15.7 +0.1**
BFO				*e*Sn	**Sn**	**08 39 36.4 -1.0**
BFO				*e*Sg	**Sg**	**08 39 43.2 -1.0**
CDF	**Champ du Feu**	**2.23**	**355**	*e*Pn	**Pn**	**08 39 11.3 +0.9**
CDF	**Champ du Feu**	**2.23**	**355**	*e*Pg	**Pg**	**08 39 16.0 0.0**
CDF				*e*Sn	**Sn**	**08 39 38.0 0.0**
CDF				*e*Sg	**Sg**	**08 39 44.1 -0.8**
	comp=N,28nm,0.2s					
A105A	**Obersdorf, Sch**	**2.25**	**56**	Pg	**Pg**	**08 39 16.9 +0.6**
A102A	**Sigmaringen, J**	**2.25**	**29**	Pn	**Pn**	**08 39 11.0 +0.4**
A102A	**Sigmaringen, J**	**2.25**	**29**	Pn	**Pn**	**08 39 11.2 +0.5**
A102A				Sg	**Sg**	**08 39 45.0 -0.7**
SBF	**Sospel**	**2.33**	**182**	*e*Pn	**Pn**	**08 39 13.0 +1.3**
SBF				*e*Sg	**Sg**	**08 39 47.0 -1.1**
	comp=N,30nm,0.3s					
FETA	**Feichten**	**2.35**	**68**	*e*Pg	**Pg**	**08 39 19.1 +0.8**
	comp=N,4.5nm,0.5s					
FETA				Sg	**Sg**	**08 39 50.6 +1.9**
	comp=N,19nm,1.0s					
VIVF	**Saint-Julien-l**	**2.42**	**238**	*e*P	**Pn**	**08 39 15.1 +2.2**
VIVF	**Saint-Julien-l**	**2.42**	**238**	*e*Pg	**Pg**	**08 39 19.7 0.0**
VIVF				*e*Sn	**Sn**	**08 39 43.0 +0.4**
VIVF				*e*Sg	**Sg**	**08 39 50.0 -1.0**
	comp=N,37nm,0.4s					
A100A	**Rottenburg, We**	**2.45**	**22**	Pn	**Pn**	**08 39 14.4 +1.1**
A100A				Sg	**Sg**	**08 39 52.3 +0.3**
RETA	**Reutte**	**2.56**	**58**	*e*Pg	**Pg**	**08 39 22.2 -0.1**
	comp=N,1.9nm,0.4s					
RETA				*e*Sg	**Sg**	**08 39 55.5 -0.1**
	comp=N,5.0nm,0.5s					
A109A	**Bad Urach, See**	**2.60**	**29**	Pg	**Pg**	**08 39 22.9 -0.3**
SMF	**Signal de Mont**	**2.60**	**281**	*e*P	**Pn**	**08 39 17.1 +1.7**
SMF	**Signal de Mont**	**2.60**	**281**	*e*Pg	**Pg**	**08 39 22.9 -0.3**
SMF				*e*Sg	**Sg**	**08 39 55.8 -1.1**
	comp=N,17nm,0.2s					
SMRF	**Simiane la Rot**	**2.62**	**213**	*e*P	**Pn**	**08 39 18.4 +2.8**
SMRF	**Simiane la Rot**	**2.62**	**213**	*e*Pg	**Pg**	**08 39 23.4 -0.1**
SMRF				*e*Sg	**Sb**	**08 39 50.8 -1.7**
SFTF	**Sexfontaines**	**2.64**	**321**	*e*Pn	**Pn**	**08 39 16.1 +0.1**
SFTF	**Sexfontaines**	**2.64**	**321**	*e*Pg	**Pg**	**08 39 23.6 -0.3**
	baz=140					
SFTF				*e*Sn	**Sn**	**08 39 46.6 -1.4**
SFTF				*e*Sg	**Sb**	**08 39 56.4 +3.2**
	comp=N,30nm,0.2s					
ZUGS	**Zugspitze, Sch**	**2.66**	**61**	*e*Pg	**Pg**	**08 39 23.7 -0.5**
ZUGS				*e*Sg	**Sg**	**08 40 00.1 +1.4**
PAGF	**Fort de Pagny**	**2.67**	**333**	*e*P	**Pn**	**08 39 18.4 +2.1**
PAGF				*e*Sn	**Sn**	**08 39 47.7 -1.0**
PAGF				*e*Sg	**Sg**	**08 39 57.8 -1.2**
	comp=N,56nm,0.6s					
MOTA	**Moosalm**	**2.70**	**63**	Sg	**Sg**	**08 40 01.2 +1.0**
	comp=N,0.7nm,0.3s					
SQTA	**Sankt Quirin**	**2.72**	**66**	*e*Sg	**Sg**	**08 40 01.9 +1.1**
	comp=N,0.1nm,0.1s					
LOR	**Lormes**	**2.75**	**294**	*e*Pn	**Pn**	**08 39 19.2 +1.7**
	baz=118					
LOR	**Lormes**	**2.75**	**294**	*e*Pg	**Pb**	**08 39 25.0 +2.4**
	baz=114					
LOR				*e*Sg	**Sb**	**08 39 59.0 +2.6**
	comp=N,35nm,0.3s					
MEZF	**Maizieres J'vi**	**2.87**	**325**	*e*P	**Pb**	**08 39 22.9 -1.6**
MEZF	**Maizieres J'vi**	**2.87**	**325**	*e*Pg	**Pg**	**08 39 27.7 -0.5**
MEZF				*e*Sn	**Sn**	**08 39 52.9 -0.7**
MEZF				*e*Sg	**Sg**	**08 40 04.4 -1.0**
	comp=N,70nm,0.3s					
SSF	**Saint Saulge**	**2.92**	**289**	*e*Pn	**Pn**	**08 39 21.6 +1.9**
SSF	**Saint Saulge**	**2.92**	**289**	*e*Pg	**Pg**	**08 39 29.3 +0.1**
SSF				*e*Sg	**Sg**	**08 40 05.3 -1.6**
	comp=N,17nm,0.3s					
SAVF	**Savonnieres en**	**2.93**	**327**	*e*P	**Pn**	**08 39 23.1 +3.2**
SAVF	**Savonnieres en**	**2.93**	**327**	*e*Pg	**Pg**	**08 39 29.6 +0.2**
SAVF	**Savonnieres en**	**2.93**	**327**	*e*Pg	**Pg**	**08 39 30.3 +0.9**
SAVF				*e*Sn	**Sn**	**08 39 54.1 -1.0**
SAVF				*e*Sn	**Sb**	**08 39 56.3 -5.1**
SAVF				*e*Sg	**Sg**	**08 40 07.3 -0.1**
	comp=N,23nm,0.2s					
SAVF				*e*Sg	Sg	08 40 07.5 +0.1
	comp=N,15nm,0.2s					
LMR	**La Mourre**	**2.95**	**195**	*e*P	**Pn**	**08 39 22.7 +2.5**
LMR	**La Mourre**	**2.95**	**195**	*e*Pg	**Pg**	**08 39 29.0 -0.8**
LMR				*e*Sn	**Sn**	**08 39 58.3 +2.7**
LMR				*e*Sg	**Sg**	**08 40 05.7 -2.3**
	comp=N,7.8nm,0.2s					
AVF	**Avril sur Loir**	**2.96**	**283**	*e*P	**Pn**	**08 39 22.2 +1.9**
AVF				*e*Sg	**Sg**	**08 40 06.7 -1.6**
	comp=N,9.3nm,0.2s					
WATA	**Walderalm**	**3.00**	**66**	Pg	**Pg**	**08 39 31.7 +1.0**
	comp=N,0.1nm,0.1s					
WTTA	**Wattenberg**	**3.01**	**68**	Pg	**Pg**	**08 39 32.2 +1.2**
	comp=N,0.1nm,0.1s					
WTTA				Sg	**Sg**	**08 40 13.2 +3.2**
	comp=N,7.0nm,0.5s					
BE1	**Monatshausen**	**3.05**	**54**	*e*Sg	**Sg**	**08 40 10.5 -0.6**
BGF	**Bois d'Agland**	**3.27**	**278**	*e*P	**Pn**	**08 39 26.5 +1.9**
BGF				*e*Sn	**Sn**	**08 40 02.9 -0.7**
BGF				*e*Sg	**Sg**	**08 40 17.0 -1.4**
	comp=N,20nm,0.4s					
NORI	**Noerdlinger Ri**	**3.28**	**38**	*e*Sg	**Sg**	**08 40 18.0 -0.7**
LASF	**Ste Croix**	**3.36**	**232**	*e*P	**Pn**	**08 39 28.2 +2.4**
LASF	**Ste Croix**	**3.36**	**232**	*e*Pg	**Pb**	**08 39 35.7 +2.8**
LASF				*e*Sn	**Sn**	**08 40 05.9 +0.2**
LASF				*e*Sg	**Sg**	**08 40 20.1 -1.0**
	comp=N,7.7nm,0.3s					
HYF	**Humbligny**	**3.54**	**289**	*e*P	**Pn**	**08 39 30.5 +2.2**
HYF				*e*Sg	**Sg**	**08 40 25.1 -1.9**
RIVT	**Riveris**	**3.56**	**352**	*e*Pn	**Pn**	**08 39 31.0 +2.4**
RIVT				*e*Sn	**Sn**	**08 40 08.2 -2.4**
RIVT				*e*Sg	**Sg**	**08 40 26.3 -1.2**
WLF	**Walferdange**	**3.60**	**345**	*e*Sg	**Sg**	**08 40 28.3 -0.5**
ABH	**Alteburg**	**3.69**	**0**	*e*Pn	**Pn**	**08 39 31.7 +1.4**
ABH				*e*Pg	**Pg**	**08 39 44.6 +0.7**
ABH				*e*Sg	**Sg**	**08 40 31.4 -0.4**
TCF	**Toulx Ste Croi**	**3.70**	**273**	*e*P	**Pn**	**08 39 32.2 +1.6**
TCF	**Toulx Ste Croi**	**3.70**	**273**	*e*Pg	**Pg**	**08 39 43.6 -0.6**
TCF				*e*Sg	**Sb**	**08 40 28.4 +4.7**
	comp=N,5.4nm,0.3s					
CAF	**Calviac**	**4.05**	**254**	*e*P	**Pn**	**08 39 37.2 +1.8**
CAF				*e*Sn	**Sn**	**08 40 21.4 -1.5**
CAF				*e*Sg	**Sg**	**08 40 40.5 -2.9**
	comp=N,3.4nm,0.3s					

KZLR				Sg	**Sn**	**08 53 09.6**	**-0.7**
CHBI	**Chibit, Altay**	**2.38**	**264**	Pn	**Pn**	**08 52 41.0**	**-1.1**
CHBI				Pg	**Pb**	**08 52 44.9**	**-0.7**
CHBI				Sg	**Sg**	**08 53 19.8**	**+1.2**
ARDR	**Aradan**	**2.42**	**34**	Pg	**Pn**	**08 52 43.1**	**+0.6**
ARDR				Sg	**Sn**	**08 53 13.9**	**+1.3**
YALR	**Yailyu, Altay**	**2.55**	**299**	Pn	**Pn**	**08 52 44.0**	**-0.2**
YALR				Pg	**Pb**	**08 52 48.6**	**+0.2**
YALR				Sg	**Sg**	**08 53 23.7**	**0.0**
DGZ	**Jazzator, Alta**	**2.59**	**251**	Pn	**Pn**	**08 52 44.6**	**-0.3**
DGZ				Pg	**Pb**	**08 52 49.1**	**-0.1**
DGZ				Sg	**Sg**	**08 53 24.9**	**-0.3**
VEH	**Verkhnyaya Baz**	**2.71**	**349**	Pg	**Pb**	**08 52 51.8**	**+0.6**
VEH				Sg	**Sb**	**08 53 26.2**	**+1.4**
ARTR	**Artybash**	**2.74**	**297**	Pg	**Pb**	**08 52 52.7**	**+1.0**
ARTR				Sg	**Sg**	**08 53 31.0**	**+0.9**
TASR	**Tashtagol**	**2.99**	**318**	Pg	**Pg**	**08 52 58.2**	**-1.1**
TASR				Sg	**Sg**	**08 53 36.9**	**-1.2**
ELDR	**Elanda**	**3.30**	**283**	Pg	**Pb**	**08 53 02.0**	**+0.9**
ELDR				Sg	**Sg**	**08 53 48.1**	**+0.3**
KIYZ	**Kiyzas, Kuzbas**	**3.64**	**326**	Pg	**Pb**	**08 53 08.1**	**+1.1**
KIYZ				Sg	**Sg**	**08 53 60.0**	**+1.0**
KALT2	**Kaltan 2**	**3.69**	**321**	Sg	**Sg**	**08 53 58.7**	**-1.7**
ELT	**Eltsovka**	**4.07**	**313**	Pn	**Pn**	**08 53 02.9**	**-2.1**
ELT				Pg	**Pb**	**08 53 14.8**	**+0.6**
ELT				Sg	**Sg**	**08 54 10.4**	**-2.1**
UKR	**Ust'-Kan**	**4.10**	**277**	Pg	**Pb**	**08 53 16.3**	**+1.5**
UKR				Sg	**Sg**	**08 54 15.1**	**+1.6**
MINR	**Mina**	**4.67**	**22**	Pg	**Pb**	**08 53 24.3**	**-0.3**
MINR				Sg	**Sg**	**08 54 29.5**	**-2.5**
ZAA0	**Zalesovo Array**	**5.16**	**313**	⇑Pn	**Pg**	**08 53 44.9**	**+4.2**
	0.3nm,0.5s,baz=132,slow=12						
ZAA0				⇑Sn	**Sg**	**08 54 44.0**	**-3.5**
	3.6nm,0.8s,baz=136,slow=28						
MK31	**Makanchi Array**	**7.02**	**241**	⇓Pn	**Pb**	**08 54 02.3**	**-2.3**
	1.1nm,0.7s,baz=58,slow=12						
MK31				⇓Lg	Lg	08 55 48.8	
	14nm,0.8s,baz=56,slow=29						
MAKZ	**Makanchi**	**7.19**	**242**	Pn	**Pb**	**08 54 06.8**	**-0.6**
	1.6nm,1.1s						
MAKZ				⇑Lg	Lg	08 55 54.3	
	12nm,1.1s						
KURK	**Kurchatov**	**8.00**	**276**	⇑Pn	**Pb**	**08 54 17.1**	**-4.1**
	2.1nm,0.6s						
KURK				⇓Lg	Lg	08 56 24.9	
	13nm,1.1s						
KURBB	**Kurchatov Arra**	**8.06**	**275**	⇓Pn	**Pb**	**08 54 18.7**	**-3.6**
	6.0nm,0.8s						
KURBB				⇓Lg	Lg	08 56 26.4	
	11nm,0.8s						

IDC ***23*** *09:04:12.9±1.6,67°.47N×23°.39E, h0km, mbtmp2.8/2, ML2.0/2, Error ellipse: s-maj=32.8km s-min=7.7km az=97.0*

HEL ***23*** *09:04:13.1±0.1,67°.43N×23°.32E, h0km, ML1.7, Suspected explosion*

UPP 23 09:04:12.4±0.2, 67°.42N×23°.34E, h0km, ML2.0, Unknown Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.41**	**193**	P		Pg		09 04 20.3	+0.1
PAJU				S		Sg		09 04 26.2	+0.6
PAJU	**Pajala**	**0.41**	**193**	P		Pb		09 04 21.5	-1.0
PAJU				S		Sg		09 04 27.4	+1.9
PAJU	**Pajala**	**0.41**	**193**	PG		Pg		09 04 20.1	-0.1
	baz=14								
PAJU				SG		Sg		09 04 26.1	+0.6
MASU	**Masugnsbyn**	**0.52**	**274**	P		Pg		09 04 22.3	0.0
MASU	**Masugnsbyn**	**0.52**	**274**	P		Pg		09 04 23.0	+0.7
MASU				S		Sg		09 04 29.9	+0.9
LANU	**Lannavaara**	**0.81**	**321**	P		Pg		09 04 27.6	-0.3
LANU	**Lannavaara**	**0.81**	**321**	P		Pg		09 04 28.4	+0.5
LANU	**Lannavaara**	**0.81**	**321**	PG		Pg		09 04 27.4	-0.5
LANU				SB		Sb		09 04 39.8	-1.0
ERTU	**Ertsjaerv**	**0.98**	**208**	P		Pg		09 04 30.6	-0.6
ERTU				S		Sg		09 04 44.3	+0.4
ERTU	**Ertsjaerv**	**0.98**	**208**	P		Pb		09 04 32.0	-0.2
ERTU	**Ertsjaerv**	**0.98**	**208**	PG		Pg		09 04 30.6	-0.6
ERTU				SB		Sb		09 04 44.9	-0.8
HEF	**Hetta**	**1.00**	**7**	eP		Pg		09 04 31.2	-0.3
HEF	**Hetta**	**1.00**	**7**	PG		Pg		09 04 31.0	-0.4
HEF				MSG				09 04 43.4	
	comp=Z,6.1nm,0.2s								
HEF				SB		Sb		09 04 46.0	-0.2
DUNU	**Dundret**	**1.12**	**256**	P		Pg		09 04 33.4	-0.4
KUA	**Kurravaara**	**1.27**	**296**	P		Pg		09 04 35.8	-0.8
KUA	**Kurravaara**	**1.27**	**296**	P		Pg		09 04 36.6	0.0
RNF	**Rovaniemi**	**1.33**	**127**	PG		Pg		09 04 37.0	-0.8
RNF				SG		Sg		09 04 54.9	-0.1
TOF	**Tornio**	**1.41**	**163**	PG		Pn		09 04 38.7	-0.5
TOF				MSG				09 04 55.6	
	comp=Z,4.3nm,0.2s								
TOF				SB		Sg		09 04 57.2	-0.3
KOVU	**Salmi**	**1.45**	**305**	P		Pn		09 04 39.2	-0.4
KOVU	**Salmi**	**1.45**	**305**	P		Pn		09 04 40.0	+0.1
RATU	**Laukkuluspa**	**1.49**	**287**	P		Pn		09 04 39.8	-0.6
KALU	**Kalix**	**1.57**	**180**	P		Pn		09 04 41.3	-0.2
KALU	**Kalix**	**1.57**	**180**	PG		Pn		09 04 41.2	-0.2
KALU				SN		Sg		09 05 05.0	+2.2
HARU	**Harads**	**1.57**	**218**	P		Pn		09 04 41.2	-0.3
KTK1	**Kautokeino**	**1.60**	**359**	eP		Pn		09 04 41.4	-0.4
KTK1	**Kautokeino**	**1.60**	**359**	PG		Pn		09 04 41.6	-0.3
KTK1				SN		Sg		09 05 03.6	-0.1
NIKU	**Nikkaluokta**	**1.71**	**287**	P		Pn		09 04 43.6	+0.3
KIF	**Kilpisjarvi**	**1.85**	**330**	PG		Pb		09 04 46.3	-0.7
	baz=150								
KIF				MSG				09 05 09.1	
	comp=Z,7.5nm,0.2s								
KIF				SG		Sg		09 05 12.1	+0.3
RANF	**Ranua**	**1.97**	**134**	PG		Pn		09 04 47.8	+0.9
RANF				SG		Sb		09 05 13.8	-0.3
RAJF	**Raja-Jooseppi**	**2.15**	**58**	PB		Pn		09 04 50.8	+1.3
RAJF				SG		Sb		09 05 19.6	+0.2
ARA0	**ARCESS Array S**	**2.27**	**20**	PB		Pn		09 04 51.7	+0.6
ARA0				SB		Sn		09 05 20.5	+0.8
ARCES	**ARCESS Array B**	**2.27**	**20**	Pn		Pn		09 04 51.5	+0.4
	comp=Z,0.4nm,0.3s,baz=199,slow=13,SNR=28								
ARCES				Lg		Lg		09 05 22.4	
	comp=Z,0.9nm,0.3s,baz=204,slow=29,SNR=15								
	comp=Z,1.2nm,0.3s								
I37NO	**I37NO**	**2.42**	**315**	I		I		09 19 20.0	
	comp=Z,0.1nm,0.8s,baz=130,slow=322,SNR=14								
VRF	**Varrio**	**2.42**	**79**	PB		Pn		09 04 54.9	+1.7
VRF				MSG				09 05 24.9	
	comp=Z,3.9nm,0.2s								
VRF				SB		Sb		09 05 26.7	-0.5
OUL	**Oulu**	**2.57**	**155**	PB		Pn		09 04 56.9	+1.8
OUL				SG		Sb		09 05 31.6	+0.4
KU2	**Taivalkoski**	**2.60**	**129**	PB		Pb		09 04 57.8	-2.1
KU2				SG		Sb		09 05 32.7	+0.3
OLKF	**Oulanka, Finla**	**2.64**	**112**	PN		Pn		09 04 58.0	+1.9
OLKF				MSG				09 05 31.1	
	comp=Z,2.5nm,0.2s								
OLKF				SG		Sb		09 05 33.9	+0.6
KEV	**Kevo**	**2.70**	**28**	PN		Pn		09 04 58.3	+1.3
KEV				SB		Sb		09 05 34.3	-0.8
OBF4	**Vikkela, Lumij**	**2.72**	**164**	PB		Pb		09 04 59.7	-2.1
OBF4				MSG				09 05 33.2	
	comp=Z,1.4nm,0.2s								
MSF	**Maaselka**	**2.73**	**121**	PN		Pn		09 04 58.7	+1.3
MSF				SB		Sb		09 05 35.8	-0.2
KU6	**Riekki**	**2.96**	**115**	PN		Pn		09 05 01.6	+1.1
KU6				SN		Sn		09 05 38.7	+2.1
KU6				MSG				09 05 40.2	
	comp=Z,1.6nm,0.2s								
KU1	**Kurvinen**	**3.11**	**124**	PN		Pn		09 05 03.7	+1.0
KU1				SN		Sn		09 05 41.8	+1.4
OUF	**Merijarvi**	**3.12**	**169**	PB		Pn		09 05 05.4	+2.7
OUF				SB		Sn		09 05 43.6	+2.9
OUF				MSG				09 05 44.8	
	comp=Z,1.4nm,0.2s								
UMAU	**Umeaa**	**3.72**	**198**	PN		Pn		09 05 13.1	+2.1
UMAU				SN		Sn		09 05 56.9	+1.5
RMF	**Romuvaara**	**4.21**	**137**	PN		Pn		09 05 20.5	+2.8
FINES	**FINESS Array B**	**6.12**	**168**	Pn		Pn		09 05 45.5	+1.6
	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=6.6								
FINES				Sn		Sn		09 06 54.9	+0.4
	comp=Z,0.2nm,0.3s,baz=354,slow=24,SNR=6.0								
	comp=Z,1.6nm,0.7s								

GCG ***23*** *09:09:20.8±2.0, 17°.24N×94°.91W, h92km±89km, MD5.0, ML4.8*

IDC ***23*** *09:09:22.8±0.4, 17°.06N×94°.79W, h62km±4km, mb3.8/14, mbtmp4.0/16, MS3.3/13, Error ellipse: s-maj=16.1km s-min=9.7km az=48.0*

NEIC ***23*** *09:09:23.4±2.3, 17°.11N±0°.04×94°.83W±0°.04, h64km±6km, mb4.5/248, Mwr4.4/11, Md4.8/141(MEX), Error ellipse: s-maj=6.5km s-min=5.0km az=197.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.78; Mθθ1.19; Mϕϕ-3.97; Mrθ-3.08; Mθϕ0.90; Mϕr1.45; Fault plane solution: M₀4.99000×10¹⁵ NP1:ϕs199.94000°, δ39.26000°, λ145.79000°. NP2:ϕs317.70000°, δ69.16000°, λ55.94000°. Principal axes: T 5.2067, Plg53.0000°, Azm186.0000°; N -0.4740, Plg32.0000°, Azm331.0000°; P -4.7327, Plg17.0000°, Azm72.0000°;*

NEIC ***23*** *09:09:23.4, 17°.11N×94°.83W, h64km*

MEX ***23*** *09:09:24.5±0.6, 17°.06N×94°.84W, h67km±3km, MD4.8*

CATAC ***23*** *09:09:24.6±0.3, 17°N±4°×9°5W±°, h39km±8km, M5.3/15, mb5.5/4, mB5.8/4, MLv5.2/15, Mw(mB)5.4/4, Error ellipse: s-maj=9.5km s-min=6.5km az=34.1, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr4.61; Mθθ-1.67; Mϕϕ-2.95; Mrθ-0.43; Mθϕ1.89; Mϕr0.52; Fault plane solution: M₀4.51849×10¹⁵ NP1:ϕs144.86478°, δ40.73322°, λ90.85255°. NP2:ϕs323.73975°, δ49.27224°, λ89.26590°. Principal axes: T 4.6651, Plg85.6941°, Azm226.8094°; N -0.3092, Plg0.5563°, Azm324.2187°; P -4.3560, Plg4.2697°, Azm54.2603°; confirmed*

ISC 23 09:09:22.9±0.4, 17°.10N±0°.03×94°.81W±0°.03, h68km±4km, n384, σ1°73/403, mb4.5/82, 1C, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.07**	**266**				**Pn**	**09 09 32.9**	**0.0**
CMIG							**Sn**	**09 09 39.6**	**-0.5**
CMIG	**Matias Romero**	**0.07**	**266**	P			**Pn**	**09 09 32.5**	**-0.3**
	28µm,0.3s,baz=176,slow=3.2								
CMIG				S			**Sn**	**09 09 39.5**	**-0.6**
	3µm,0.3s,baz=239,slow=17,SNR=4.0								
CMIG	**Matias Romero**	**0.07**	**266**	*i* P			**Pn**	**09 09 32.9**	**0.0**
CMIG				*i* S			**Sn**	**09 09 39.6**	**-0.5**
UXUV	**UXUV**	**0.67**	**71**				**Pn**	**09 09 37.8**	**+0.5**
UXUV							**Sn**	**09 09 48.0**	**+0.1**
UXUV	**UXUV**	**0.67**	**71**	*e*P			**Pn**	**09 09 37.8**	**+0.5**
UXUV				*e*S			**Sn**	**09 09 48.0**	**+0.1**
MIHL	**Minatitlan**	**0.92**	**16**				**Pn**	**09 09 41.0**	**+0.7**
MIHL							**Sn**	**09 09 54.5**	**+1.3**
MIHL	**Minatitlan**	**0.92**	**16**	*i* P			**Pn**	**09 09 41.0**	**+0.7**
MIHL				*i* S			**Sn**	**09 09 54.5**	**+1.3**
TUIG	**Tuzandepetl**	**1.00**	**21**	*i* P			**Pn**	**09 09 41.7**	**+0.4**
TUIG				*i* S			**Sn**	**09 09 55.9**	**+0.9**
TUIG	**Tuzandepetl**	**1.00**	**21**	P			**Pn**	**09 09 42.0**	**+0.6**
NEUV	**Arroyo Zacate**	**1.13**	**303**				**Pn**	**09 09 42.8**	**-0.2**
NEUV							**Sn**	**09 09 57.1**	**-0.9**
NEUV	**Arroyo Zacate**	**1.13**	**303**	⇑*i*P			**Pn**	**09 09 42.8**	**-0.2**
	baz=126,slow=11								
NEUV				*i* S			**Sn**	**09 09 57.1**	**-0.9**
PMUV	**Sontecomapan**	**1.47**	**348**				**Pn**	**09 09 46.6**	**-1.0**
PMUV							**Sn**	**09 10 04.8**	**-1.3**
PMUV	**Sontecomapan**	**1.47**	**348**	*i* P			**Pn**	**09 09 46.6**	**-1.0**
PMUV				*i* S			**Sn**	**09 10 04.8**	**-1.3**
TGIG		**1.64**	**101**				**Pn**	**09 09 50.3**	**+0.5**
TGIG							**Sn**	**09 10 10.3**	**+0.3**
TGIG		**1.64**	**101**	*e*P			**Pn**	**09 09 50.3**	**+0.5**
TGIG				*e*S			**Sn**	**09 10 10.3**	**+0.3**
TGIG		**1.64**	**101**	*i* P			**Pn**	**09 09 50.1**	**+0.3**
TGBT	**Tuxtla Gutierr**	**1.67**	**101**				**Pn**	**09 09 51.0**	**+0.9**
TGBT							**Sn**	**09 10 11.4**	**+0.7**
TGBT	**Tuxtla Gutierr**	**1.67**	**101**	*e*P			**Pn**	**09 09 51.0**	**+0.9**
TGBT				*e*S			**Sn**	**09 10 11.4**	**+0.7**
OXLC	**Oaxaca**	**1.81**	**269**				**Pn**	**09 09 52.3**	**0.0**
OXLC							**Sn**	**09 10 14.1**	**-0.4**
OXLC	**Oaxaca**	**1.81**	**269**	*e*P			**Pn**	**09 09 52.3**	**0.0**
OXLC				*e*S			**Sn**	**09 10 14.1**	**-0.4**
HUIG	**Huatulco**	**1.82**	**224**				**Pn**	**09 09 51.5**	**-0.7**
HUIG	**Huatulco**	**1.82**	**224**	*e*P			**Pn**	**09 09 51.5**	**-0.7**
HUIG				*i* S			**Sn**	**09 10 09.7**	**-4.6**
HUIG	**Huatulco**	**1.82**	**224**	*i* P			**Pn**	**09 09 51.2**	**-0.9**
OXBJ	**Oaxaca**	**1.83**	**269**				**Pn**	**09 09 53.4**	**+0.9**
OXBJ							**Sn**	**09 10 15.3**	**+0.4**
OXBJ	**Oaxaca**	**1.83**	**269**	*e*P			**Pn**	**09 09 53.4**	**+0.9**
OXBJ				*e*S			**Sn**	**09 10 15.3**	**+0.4**
OXIG	**Oaxaca**	**1.84**	**270**				**Pn**	**09 09 53.8**	**+1.2**
OXIG							**Sn**	**09 10 15.8**	**+0.6**
VHO	**Vista Hermosa**	**1.84**	**270**	*e*P			**Pn**	**09 09 53.8**	**+1.2**
VHO				*e*S			**Sn**	**09 10 15.8**	**+0.6**
VHSA	**Villahermosa**	**1.99**	**63**				**Pn**	**09 09 55.5**	**+1.1**
VHSA							**Sn**	**09 10 19.5**	**+1.2**
VHSA	**Villahermosa**	**1.99**	**63**	*e*P			**Pn**	**09 09 55.5**	**+1.1**
VHSA				*e*S			**Sn**	**09 10 19.5**	**+1.2**
PCIG		**2.06**	**132**				**Pn**	**09 09 56.9**	**+1.6**
PCIG							**Sn**	**09 10 21.6**	**+1.6**
PCIG		**2.06**	**132**	*e*P			**Pn**	**09 09 56.9**	**+1.6**
PCIG				*e*S			**Sn**	**09 10 21.6**	**+1.6**
TOIG	**Toxpalan**	**2.37**	**295**				**Pn**	**09 10 00.4**	**+0.7**
TOIG							**Sn**	**09 10 27.3**	**-0.6**
TOIG	**Toxpalan**	**2.37**	**295**	*e*P			**Pn**	**09 10 00.4**	**+0.7**
TOIG				*e*S			**Sn**	**09 10 27.3**	**-0.6**
PEIG	**Puerto Escondi**	**2.50**	**244**				**Pn**	**09 10 00.3**	**-1.0**
PEIG	**Puerto Escondi**	**2.50**	**244**	*e*P			**Pn**	**09 10 00.3**	**-1.0**
PEIG				*e*S			**Sn**	**09 10 28.1**	**-5.7**
YOIG	**Yosondua**	**2.63**	**265**				**Pn**	**09 10 04.3**	**+0.9**
YOIG	**Yosondua**	**2.63**	**265**	*e*P			**Pn**	**09 10 04.3**	**+0.9**
YOIG				*e*S			**Sn**	**09 10 32.7**	**-1.7**
CCIG	**Comitan**	**2.68**	**107**				**Pn**	**09 10 05.1**	**+1.2**
CCIG	**Comitan**	**2.68**	**107**	*e*P			**Pn**	**09 10 05.0**	**+1.0**
CCIG				*e*S			**Sn**	**09 10 36.5**	**+1.1**
CCIG	**Comitan**	**2.68**	**107**	*i* P			**Pn**	**09 10 05.2**	**+1.2**
CCIG					IAML			09 10 43.4	
	comp=N,3µm,0.5s								
CCIG	**Comitan**	**2.68**	**107**	P			**Pn**	**09 10 05.1**	**+1.2**
TPIG	**Tehuac#an**	**2.77**	**299**				**Pn**	**09 10 06.3**	**+1.1**
TPIG							**Sn**	**09 10 37.0**	**-0.5**
TPIG	**Tehuac#an**	**2.77**	**299**	*e*P			**Pn**	**09 10 06.3**	**+1.1**
TPIG				*e*S			**Sn**	**09 10 37.0**	**-0.5**
OZST	**Orizaba**	**2.80**	**309**				**Pn**	**09 10 05.4**	**-0.1**
OZST	**Orizaba**	**2.80**	**309**	*e*P			**Pn**	**09 10 05.4**	**-0.1**
OZST				*e*S			**Sn**	**09 10 35.9**	**-2.4**
THEZ	**Tehuacan**	**2.81**	**300**	*e*P			**Pn**	**09 10 06.5**	**+0.7**
THEZ				*e*S			**Sn**	**09 10 38.2**	**-0.5**
TXIG	**Tlaxiaco**	**2.84**	**274**				**Pn**	**09 10 07.5**	**+1.4**
TXIG							**Sn**	**09 10 38.1**	**-1.3**
TXIG	**Tlaxiaco**	**2.84**	**274**	*i* P			**Pn**	**09 10 07.5**	**+1.4**
TXIG				*e*S			**Sn**	**09 10 38.1**	**-1.3**
JAUV	**Jalcomulco**	**2.95**	**320**				**Pn**	**09 10 06.5**	**-1.1**
JAUV	**Jalcomulco**	**2.95**	**320**	*e*P			**Pn**	**09 10 06.5**	**-1.1**
JAUV				*e*S			**Sn**	**09 10 37.9**	**-3.9**
HLIG	**Huajuapan de L**	**2.95**	**285**				**Pn**	**09 10 09.3**	**+1.6**
HLIG							**Sn**	**09 10 42.3**	**+0.1**
HLIG	**Huajuapan de L**	**2.95**	**285**	*e*P			**Pn**	**09 10 09.3**	**+1.6**
HLIG				*e*S			**Sn**	**09 10 42.3**	**+0.1**
LVIG	**Laguna Verde**	**3.03**	**330**	*e*P			**Pn**	**09 10 06.7**	**-1.8**
LVIG				*e*S			**Sn**	**09 10 38.1**	**-5.5**
POHV	**Veracruz**	**3.06**	**310**				**Pn**	**09 10 10.5**	**+1.0**
POHV	**Veracruz**	**3.06**	**310**	*e*P			**Pn**	**09 10 10.5**	**+1.0**
XALA	**Xalapa**	**3.13**	**321**	*e*P			Pn	09 10 03.5	-6.6
XALA				*e*S			**Sn**	**09 10 43.8**	**-2.7**
PAVE	**Pavencul**	**3.16**	**126**				**Pn**	**09 10 12.2**	**+1.7**
PAVE	**Pavencul**	**3.16**	**126**	*e*P			**Pn**	**09 10 12.2**	**+1.7**
PAVE				*e*S			**Sn**	**09 10 50.7**	**+3.5**
PNIG	**Pinotepa**	**3.26**	**258**				**Pn**	**09 10 11.0**	**-0.7**
PNIG							**Sn**	**09 10 47.1**	**-2.2**
PNIG	**Pinotepa**	**3.26**	**258**	*i* P			**Pn**	**09 10 11.0**	**-0.7**
PNIG				*i* S			**Sn**	**09 10 47.1**	**-2.2**
THIG		**3.27**	**131**				**Pn**	**09 10 14.2**	**+2.4**
THIG		**3.27**	**131**	*e*P			**Pn**	**09 10 14.2**	**+2.4**
THIG				*e*S			**Sn**	**09 10 54.5**	**+4.9**
THIG		**3.27**	**131**	*i* P			**Pn**	**09 10 14.2**	**+2.4**
FTIG	**Fresnillo de T**	**3.28**	**285**				**Pn**	**09 10 13.6**	**+1.6**
FTIG							**Sn**	**09 10 49.4**	**-0.5**
FTIG	**Fresnillo de T**	**3.28**	**285**	*e*P			**Pn**	**09 10 13.6**	**+1.6**
FTIG				*e*S			**Sn**	**09 10 49.4**	**-0.5**
SMCA	**Catarina**	**3.44**	**130**	*i* P			**Pn**	**09 10 16.4**	**+2.2**
TLIG	**Tlapa**	**3.62**	**278**	Pn			**Pn**	**09 10 17.9**	**+1.2**
TLIG	**Tlapa**	**3.62**	**278**	*e*P			**Pn**	**09 10 18.1**	**+1.3**
TLIG				*e*S			**Sn**	**09 10 57.9**	**-0.5**
TLIG	**Tlapa**	**3.62**	**278**	P			**Pn**	**09 10 18.1**	**+1.3**
HUEH	**Huehuetenango**	**3.63**	**119**				**Pn**	**09 10 17.9**	**+1.0**
HUEH	**Huehuetenango**	**3.63**	**119**	*e*P			**Pn**	**09 10 17.7**	**+0.7**
HUEH				*e*S			Sn	09 10 49.6	-9.2
HUEH	**Huehuetenango**	**3.63**	**119**	*e*P			**Pn**	**09 10 18.0**	**+1.0**
HUEH	**Huehuetenango**	**3.63**	**119**	P			**Pn**	**09 10 18.3**	**+1.4**
HMTT	**Tlapaneco**	**3.65**	**282**				**Pn**	**09 10 18.5**	**+1.4**
HMTT							**Sn**	**09 10 59.0**	**-0.1**
HMTT	**Tlapaneco**	**3.65**	**282**	*i* P			**Pn**	**09 10 18.5**	**+1.4**
HMTT				*i* S			**Sn**	**09 10 59.0**	**-0.1**
MGIG	**Malinaltepec**	**3.66**	**273**				**Pn**	**09 10 18.2**	**+0.9**
MGIG							**Sn**	**09 10 59.8**	**+0.3**
MGIG	**Malinaltepec**	**3.66**	**273**	*e*P			**Pn**	**09 10 18.2**	**+0.9**
MGIG				*e*S			**Sn**	**09 10 59.8**	**+0.3**
PHPU	**Puebla**	**3.74**	**302**				**Pn**	**09 10 20.9**	**+2.4**
PHPU							**Sn**	**09 11 02.4**	**+0.9**
PHPU	**Puebla**	**3.74**	**302**	*i* P			**Pn**	**09 10 20.9**	**+2.4**
PHPU				*i* S			**Sn**	**09 11 02.4**	**+0.9**
SCIG	**Sabancuy**	**3.92**	**61**	*e*P			**Pn**	**09 10 20.7**	**+0.1**
SCIG				*e*S			**Sn**	**09 11 00.9**	**-4.4**
SCIG	**Sabancuy**	**3.92**	**61**	*e*P			**Pn**	**09 10 20.4**	**-0.3**
SCIG	**Sabancuy**	**3.92**	**61**	P			**Pn**	**09 10 20.3**	**-0.3**
RTAL	**Retalhuleu**	**3.94**	**130**				**Pn**	**09 10 21.8**	**+0.9**
RTAL	**Retalhuleu**	**3.94**	**130**	*e*P			**Pn**	**09 10 23.6**	**+2.7**
RTAL				*e*S			**Sn**	**09 11 08.2**	**+2.3**
RTAL	**Retalhuleu**	**3.94**	**130**	P			**Pn**	**09 10 23.4**	**+2.4**
SOKI	**Kika Raxquin**	**3.98**	**124**	*i* P			**Pn**	**09 10 23.7**	**+1.8**
QUIS	**Sacapulas**	**3.99**	**116**	*i* P			**Pn**	**09 10 22.8**	**+0.9**
PPSX	**Xalitzintla**	**4.04**	**300**	*e*P			**Pn**	**09 10 25.7**	**+3.0**
PPSX				*e*S			**Sn**	**09 11 09.0**	**+0.1**
CXUV	**Coxquihui**	**4.04**	**320**				**Pn**	**09 10 22.4**	**0.0**
CXUV							**Sn**	**09 11 06.1**	**-2.4**
CXUV	**Coxquihui**	**4.04**	**320**	*e*P			**Pn**	**09 10 22.4**	**0.0**
CXUV				*e*S			**Sn**	**09 11 06.1**	**-2.4**
PPCL	**Tochimilco**	**4.05**	**297**	*e*P			**Pn**	**09 10 24.9**	**+2.1**
PPCL				*e*S			**Sn**	**09 11 05.7**	**-3.5**
PPM	**Popocatepetl**	**4.13**	**299**	*e*P			**Pn**	**09 10 27.1**	**+3.1**
PPM				*e*S			**Sn**	**09 11 13.7**	**+2.4**
PPIG	**Popocatepetl**	**4.13**	**299**				**Pn**	**09 10 27.1**	**+3.1**
PPIG							**Sn**	**09 11 13.7**	**+2.3**
CRIG	**Cruz Grande**	**4.16**	**266**				**Pn**	**09 10 23.1**	**-0.8**
CRIG	**Cruz Grande**	**4.16**	**266**	*e*P			**Pn**	**09 10 23.1**	**-0.8**
CRIG				*e*S			**Sn**	**09 11 07.1**	**-4.2**
AMVM	**AMECAMECA**	**4.29**	**299**	*e*P			**Pn**	**09 10 30.3**	**+4.2**
YAIG	**Yautepec**	**4.42**	**294**				**Pn**	**09 10 29.4**	**+1.7**
YAIG							**Sn**	**09 11 15.7**	**-2.2**
YAIG	**Yautepec**	**4.42**	**294**	*e*P			**Pn**	**09 10 29.4**	**+1.7**
YAIG				*e*S			**Sn**	**09 11 15.7**	**-2.2**
MPVM	**San Francisco**	**4.51**	**298**				**Pn**	**09 10 31.1**	**+2.0

MLDN Muldoon 12.80 351 Pn 09 12 20.7 -1.3
HNDO Hondo 13.04 342 Pn 09 12 25.5 +0.2
DRIO Del Rio 13.38 338 Pn 09 12 30.5 +0.7
441A DeRidder 13.67 6 Pn 09 12 31.4 -2.3
435B Jarrell 13.86 350 Pn 09 12 35.8 -0.5
CAMR Camarioca 13.94 63 Pn 09 12 35.3 -2.1
JCT Junction City 14.08 342 Pn 09 12 39.7 +0.5
BRU2 Volcan 14.40 123 Pn Pn 09 12 42.8 -0.8
SAND Sanderson 14.45 334 Pn Pn 09 12 43.8 -0.2
BRDY Brady 14.63 346 Pn 09 12 46.6 +0.2
TXAR Lajitas Array 14.64 328 Pn Pn 09 12 47.0 +0.4
TXAR Lajitas Array 14.64 328 P Pn 09 12 48.2 +1.6
comp=N,0.2nm,0.5s,baz=152,slow=11,SNR=18
TX31 Lajitas Ar. Si 14.64 328 Pn Pn 09 12 46.1 -0.5
237A Washetta, Mont 14.87 357 Pn 09 12 49.1 -0.3
OZNA Ozona 14.92 338 Pn Pn 09 12 50.1 0.0
WHTX Lake Whitney, 15.02 351 Pn 09 12 51.9 +0.5
FW13 Cleburne 15.38 352 Pn 09 12 55.2 -0.7
ALPN Alpine 15.48 330 Pn Pn 09 12 56.5 -1.0
ALPN IAmb IAmb 09 13 27.5
comp=Z,15nm,0.7s
VBMS Vicksburg 15.55 14 Pn Pn 09 12 56.3 -1.8
VBMS IAmb IAmb 09 13 28.6
comp=Z,15nm,0.7s
TREL Terrell 15.61 356 Pn Pn 09 12 57.9 -1.0
BRAL Brewton 15.69 25 Pn Pn 09 12 57.7 -2.1
451A Vernon 15.79 30 Pn Pn 09 12 59.1 -2.1
451A IAmb IAmb 09 13 34.1
comp=Z,73nm,1.3s
SGCY Sterling City 15.83 340 P P 09 13 06.1 +1.8
SGCY IAmb IAmb 09 13 17.5
comp=Z,27nm,0.9s
143A Socs Landing, 15.84 11 Pn 09 13 00.6 -1.2
143A IAmb IAmb 09 13 03.5
comp=Z,32nm,0.9s
PLPT Palo Pinto 15.97 349 Pn 09 13 03.4 0.0
PLPT IAmb IAmb 09 13 18.4
comp=Z,46nm,0.8s
FW06 Azle 16.00 352 Pn 09 13 04.8 +0.9
ABTX Abilene, Hawle 16.07 345 Pn Pn 09 13 04.9 +0.2
LPIG La Paz 16.09 298 LR LR 09 19 22.0
comp=Z,151nm,18.7s,baz=156,slow=37
Z38A Mt. Pleasant 16.10 359 Pn Pn 09 13 05.3 +0.3
Z38A IAmb IAmb 09 13 18.0
comp=Z,34nm,0.7s
553A Crawfordville 16.12 34 Pn Pn 09 13 04.9 -0.4
553A IAmb IAmb 09 13 23.7
comp=Z,23nm,0.8s
Z41A Richland Creek 16.19 6 Pn Pn 09 13 06.5 +0.2
Z35A Perchaven, San 16.32 353 Pn Pn 09 13 07.6 -0.2
Z35A IAmb IAmb 09 13 23.3
comp=Z,41nm,0.7s
146A Union 16.32 17 Pn Pn 09 13 07.0 -0.9
146A IAmb IAmb 09 13 34.3
comp=Z,18nm,0.8s
PECS Pecos 16.43 332 Pn 09 13 10.5 +1.2
VHRN Van Horn 16.49 328 Pn Pn 09 13 10.2 +0.1
MTDJ Mount Denham 16.50 84 Pn Pn 09 13 10.0 -0.3
ODSA Odessa 16.52 336 Pn Pn 09 13 08.8 -1.7
ODSA IAmb IAmb 09 13 30.7
comp=Z,18nm,0.7s
WLAR White Oak Lake 16.59 5 Pn Pn 09 13 10.6 -0.6
WLAR IAmb IAmb 09 13 36.3
comp=Z,30nm,0.5s
656A Willston 16.61 40 Pn 09 13 09.4 -2.0
656A IAmb IAmb 09 13 48.3
comp=Z,35nm,0.6s
060A Indiantown 16.63 51 Pn Pn 09 13 10.4 -1.3
SN07 Snyder 07 16.85 342 Pn 09 13 14.2 -0.2
SN07 IAmb IAmb 09 13 22.2
comp=Z,23nm,0.6s
APMT Aspermont 16.86 344 Pn Pn 09 13 14.1 -0.4
APMT IAmb IAmb 09 13 30.4
comp=Z,43nm,1.2s
352A Blakely 16.90 30 Pn 09 13 15.2 +0.2
352A IAmb IAmb 09 13 19.3
comp=Z,55nm,1.3s
WTFS Witchita Falls 16.92 349 Pn 09 13 15.3 -0.1
CCAR Cane Creek 16.97 9 P Pn 09 13 16.0 +0.1
CCAR IAmb IAmb 09 13 43.5
comp=Z,36nm,0.7s
Z47A Carrollton 17.15 19 IAmb IAmb 09 13 19.8
comp=Z,30nm,0.8s
Y45A Yeager Farm, C 17.36 15 IAmb IAmb 09 13 46.5
comp=Z,26nm,0.9s
DKNS Dickens 17.39 343 IAmb IAmb 09 13 29.1
comp=Z,26nm,0.5s
X40A Basin Creek Fa 17.41 5 P Pn 09 13 21.5 +0.1
MIAR Mount Ida 17.41 3 Pn 09 13 21.5 +0.1
TIGA Tifton 17.54 33 IAmb IAmb 09 13 55.5
comp=Z,20nm,0.7s
CHIV Chivirico 17.67 78 Pn 09 13 23.4 -1.2
CHIV IAmb IAmb 09 13 43.3
comp=Z,14nm,0.8s
UALR University of 17.74 7 IAmb IAmb 09 13 45.2
comp=Z,22nm,1.0s
WMOK Wichita Mounta 17.93 349 P P 09 13 27.3 -0.2
WMOK IAmb IAmb 09 13 57.2
comp=Z,14nm,0.7s
OXF Oxford 18.00 15 P 09 13 27.6 -0.7
OXF IAmb IAmb 09 13 32.2
comp=Z,43nm,1.1s
MSTX Muleshoe 18.26 338 P Pn 09 13 32.6 +0.8
OKCSW OKLAHOMA CITY 18.39 353 P P 09 13 31.1 -1.3
SMWD Samnorwood 18.58 346 P 09 13 34.8 +0.2
SMWD IAmb IAmb 09 14 04.2
comp=Z,26nm,0.8s
X48A Hartselle 18.63 20 IAmb IAmb 09 13 38.0
comp=Z,23nm,0.9s
154A Montrose 18.72 32 P P 09 13 35.6 -0.6
154A IAmb IAmb 09 13 59.8
comp=Z,31nm,0.8s
DEOK Depew 18.73 356 P 09 13 34.8 -1.5
DEOK IAmb IAmb 09 13 45.0
comp=Z,25nm,0.7s
AMTX Amarillo 18.75 342 P P 09 13 35.7 -0.9
AMTX IAmb IAmb 09 14 18.8
comp=Z,16nm,0.7s
TUL3 Leonard 18.76 358 P P 09 13 36.5 -0.1
TUL3 IAmb IAmb 09 13 56.0
comp=Z,27nm,0.6s
FCAR Ozark Folk Cen 18.87 7 IAmb IAmb 09 13 47.1
comp=Z,15nm,0.7s
HHAR Hobbs 19.13 2 P 09 13 41.3 +0.7
LCAR Lake Charles 19.18 9 P P 09 13 41.6 +0.6
U38A Gravette 19.27 1 IAmb IAmb 09 13 50.6
comp=Z,11nm,0.7s
Y52A Lilburn 19.29 28 IAmb IAmb 09 14 02.5
comp=Z,13nm,0.5s
121A Cookes Peak, D 19.34 325 P 09 13 42.8 -0.2
121A IAmb IAmb 09 14 10.0
comp=Z,15nm,0.7s
319A Douglas 19.37 320 P P 09 13 43.9 +0.5
319A IAmb IAmb 09 14 10.2
comp=Z,15nm,0.9s
BLOK Blackwell 19.70 354 P P 09 13 46.8 -0.1
SWET Sewanee 19.71 22 P P 09 13 46.6 -0.4
T35A Sooner Cattle 19.80 356 P 09 13 48.0 0.0
T35A IAmb IAmb 09 13 56.5
comp=Z,21nm,0.9s
V48A Smith Brothers 19.88 19 IAmb IAmb 09 13 54.8
comp=Z,30nm,1.2s
WVT Waverly 19.95 17 P P 09 13 49.4 -0.1
PBMO Poplar Bluff 19.98 10 IAmb IAmb 09 13 58.0
comp=Z,11nm,0.8s
MGMO Mountain Grove 20.11 6 IAmb IAmb 09 13 58.0
comp=Z,15nm,0.9s
HODGE Hodges 20.44 31 IAmb IAmb 09 13 59.5
comp=Z,23nm,1.0s
ANMO Albuquerque 20.60 332 P 09 13 58.4 +1.6
ANMO Albuquerque 20.60 332 P P 09 13 57.9 +1.1
ANMO IAmb IAmb 09 14 14.2
comp=Z,4.1nm,0.7s
ANMO Albuquerque 20.60 332 P P 09 13 57.9 +1.1
comp=Z,2.5nm,0.6s,baz=231,slow=12,SNR=13
comp=Z,2.5nm,0.6s
U49A Red Boiling Sp 20.93 21 IAmb IAmb 09 14 24.3
comp=Z,15nm,0.7s
TKL Tuckaleechee C 20.93 26 IAmb IAmb 09 14 05.7
comp=Z,24nm,1.2s
TKL Tuckaleechee C 20.93 26 P P 09 14 01.1 +1.0
comp=Z,7.4nm,0.6s,baz=185,slow=14,SNR=20
TKL LR LR 09 22 03.5
comp=Z,56nm,21.8s,baz=214,slow=36
comp=Z,7.4nm,0.6s

TUC Tucson 20.94 319 P 09 14 01.8 +1.5
T47A Sharon Grove 20.95 17 IAmb IAmb 09 14 20.3
comp=Z,24nm,0.8s
JSC Jenkinsville 20.98 33 IAmb IAmb 09 14 20.1
comp=Z,13nm,0.7s
S44A Carbondale 21.09 12 IAmb IAmb 09 14 09.9
comp=Z,16nm,0.9s
CCM Cathedral Cave 21.11 8 P P 09 14 01.1 -0.9
CCM IAmb IAmb 09 14 26.1
comp=Z,11nm,0.8s
SIUC Southern Illin 21.12 12 IAmb IAmb 09 14 10.1
comp=Z,20nm,0.9s
PAULI Pauline 21.13 31 IAmb IAmb 09 14 07.9
comp=Z,31nm,0.9s
R40A Maddies Statio 21.23 6 IAmb IAmb 09 14 12.3
comp=Z,16nm,0.9s
V53A Saluda 21.36 28 IAmb IAmb 09 14 11.2
comp=Z,15nm,1.0s
KMSC Kings Mountain 21.62 31 IAmb IAmb 09 14 26.5
comp=Z,22nm,0.8s
BIRD Birdtown, Kers 21.68 34 IAmb IAmb 09 14 32.4
comp=Z,18nm,1.0s
T50A Nancy 21.71 22 IAmb IAmb 09 14 33.4
comp=Z,7.6nm,0.6s
TZTN Tazewell 21.79 25 IAmb IAmb 09 14 14.3
comp=Z,12nm,0.8s
X18A Snowflake 22.03 325 IAmb IAmb 09 14 39.1
comp=Z,10nm,0.7s
Q44A Meyer Farm, Va 22.31 12 IAmb IAmb 09 14 25.1
comp=Z,23nm,0.8s
W57A Gilead 22.32 33 IAmb IAmb 09 14 21.9
comp=Z,24nm,1.0s
WCI Wyandotte Cave 22.34 18 P P 09 14 14.9 -0.3
WCI IAmb IAmb 09 14 23.4
comp=Z,13nm,0.8s
P40A Paris 22.48 6 IAmb IAmb 09 14 27.5
comp=Z,9.8nm,0.7s
U54A Nelsons Funny 22.51 28 IAmb IAmb 09 14 41.8
comp=Z,24nm,1.0s
S51A Beattyville 22.72 24 IAmb IAmb 09 14 49.9
comp=Z,12nm,0.9s
X16A Lo Mia Camp, P 22.79 322 IAmb IAmb 09 14 40.6
comp=Z,8.6nm,0.8s
U56A King 23.05 31 IAmb IAmb 09 14 41.1
comp=Z,24nm,1.1s
V58A Windy Hill, Pi 23.27 34 IAmb IAmb 09 14 42.2
comp=Z,26nm,0.9s
WUAZ Wupatki 23.54 324 IAmb IAmb 09 14 55.1
comp=Z,9.3nm,0.8s
BLA Blacksburg 23.72 30 IAmb IAmb 09 14 47.0
comp=Z,20nm,0.9s
N41A Harden Midland 23.78 7 IAmb IAmb 09 14 45.6
comp=Z,14nm,0.8s
T57A Hurt 24.12 32 IAmb IAmb 09 14 50.9
comp=Z,12nm,0.7s
PV01 Paradox Valley 24.19 333 IAmb IAmb 09 14 37.6
comp=Z,8.9nm,0.7s
PV13 Radium Mtn., P 24.32 332 IAmb IAmb 09 14 39.1
comp=Z,9.6nm,0.8s
PV02 Paradox Valley 24.33 333 IAmb IAmb 09 14 39.3
comp=Z,27nm,1.2s
PV15 Paradox Valley 24.33 333 P P 09 14 36.1 +1.4
PV05 Paradox Valley 24.38 332 IAmb IAmb 09 14 39.6
comp=Z,9.1nm,0.7s
Q52A Bidwell 24.39 24 IAmb IAmb 09 14 52.5
comp=Z,14nm,0.8s
PV03 Paradox Valley 24.41 332 IAmb IAmb 09 14 39.5
comp=Z,9.7nm,0.9s
PV18 Skein Mesa, Pa 24.43 332 IAmb IAmb 09 14 40.2
comp=Z,21nm,0.8s
PV11 David Mesa, Pa 24.46 332 IAmb IAmb 09 14 41.9
comp=Z,12nm,0.8s
PV07 Paradox Valley 24.48 333 IAmb IAmb 09 14 56.0
comp=Z,11nm,0.9s
PV17 East Wray Mesa 24.48 332 IAmb IAmb 09 14 40.7
comp=Z,12nm,0.8s
PV16 Nyswonger Mesa 24.49 332 IAmb IAmb 09 14 40.3
comp=Z,17nm,1.2s
O48B Farmland 24.55 18 IAmb IAmb 09 14 43.5
comp=Z,16nm,0.8s
PV04 Paradox Valley 24.55 333 IAmb IAmb 09 14 41.0
comp=Z,26nm,1.0s
OGNE Ogallala 24.57 347 IAmb IAmb 09 14 56.8
comp=Z,22nm,0.9s
PV14 Lion Creek, Pa 24.59 332 IAmb IAmb 09 14 41.2
comp=Z,19nm,1.3s
PV10 Paradox Valley 24.60 332 IAmb IAmb 09 14 40.5
comp=Z,26nm,1.3s
PV22 Blue Mesa, Par 24.62 333 IAmb IAmb 09 14 41.6
comp=Z,14nm,0.8s
PV21 Cone Mtn., Par 24.72 333 IAmb IAmb 09 14 42.5
comp=Z,11nm,1.0s
R55A Marlinton 24.73 28 IAmb IAmb 09 14 42.2
comp=Z,15nm,0.8s
COHC Cochancay 24.77 140 P 09 14 39.2 +0.7
BC3 Big Chuckawall 24.82 316 P 09 14 38.3 -0.7
BC3 IAmb IAmb 09 14 59.2
comp=Z,13nm,0.9s
IRM Iron Mountain 24.92 317 P 09 14 40.9 +1.1
N47A Urbana 24.97 17 P P 09 14 40.3 +0.1
N47A IAmb IAmb 09 15 07.3
comp=Z,36nm,1.4s
P52A Corning 25.02 24 IAmb IAmb 09 14 46.8
comp=Z,10nm,0.8s
L40A Anamosa 25.07 6 IAmb IAmb 09 14 59.3
comp=Z,14nm,0.8s
P53A Whipple 25.18 25 IAmb IAmb 09 14 46.8
comp=Z,14nm,0.7s
PFO Pinyon Flats O 25.48 314 LR LR 09 25 31.3
comp=Z,64nm,21.9s,baz=178,slow=38
K30B Basset 25.82 352 IAmb IAmb 09 15 10.3
comp=Z,20nm,0.9s
SZCU Shurtz Canyon 26.00 325 P P 09 14 49.9 +0.1
SZCU IAmb IAmb 09 15 01.6
comp=Z,7.4nm,0.8s
JFWS Jewell Farm 26.03 8 P 09 14 49.5 -0.2
JFWS IAmb IAmb 09 15 08.1
comp=Z,18nm,0.7s
ECSD EROS Data Cent 26.60 357 IAmb IAmb 09 15 34.5
comp=Z,6.2nm,0.8s
SPMN Marine on St. 28.09 3 IAmb IAmb 09 15 24.4
comp=Z,9.1nm,0.8s
PDAR Pinedale Array 28.51 337 P P 09 15 13.0 +0.7
comp=Z,0.6nm,0.8s,baz=138,slow=12,SNR=4.2
PDAR pP pP 09 15 29.3 +0.8
comp=Z,0.8nm,0.6s,baz=151,slow=9.8,SNR=8.8
PDAR LR LR 09 26 59.4
comp=Z,26nm,18.1s,baz=352,slow=37
comp=Z,0.6nm,0.8s
VES Vestal, Richgr 28.52 316 IAmb IAmb 09 15 15.6
comp=Z,10.0nm,0.9s
ATAH Atualpa 29.03 145 LR LR 09 23 46.0
comp=Z,50nm,20.7s,baz=22,slow=30
NVAR Mina Array Bea 29.58 321 P P 09 15 23.1 +1.3
NVAR Mina Array Bea 29.58 321 P P 09 15 24.1 +2.3
comp=Z,3.7nm,0.7s,baz=132,slow=9.2,SNR=38
NVAR PcP PcP 09 18 27.1 +1.8
comp=Z,0.8nm,0.7s,baz=127,slow=2.4,SNR=5.4
comp=Z,3.7nm,0.7s
LOHW Long Hollow 29.63 336 P P 09 15 22.1 -0.1
TPAW Teton Pass 29.66 336 IAmb IAmb 09 15 45.2
comp=Z,10nm,1.1s
PCRV Puerto La Cruz 30.09 99 LR LR 09 29 24.4
comp=Z,52nm,18.0s,slow=40
SADO Sadowa 30.57 22 LR LR 09 30 07.8
comp=Z,40nm,18.6s,baz=201,slow=41
EYMN Ely 30.89 4 P 09 15 32.6 -0.3
EYMN IAmb IAmb 09 15 41.7
comp=Z,4.4nm,0.6s
YHL Hebgen Lake 30.90 337 P P 09 15 33.7 +0.2
AGMN Agassiz Nation 31.13 359 IAmb IAmb 09 15 53.0
comp=Z,7.8nm,0.6s
WVOR Wild Horse Val 32.43 326 IAmb IAmb 09 16 06.4
comp=Z,6.0nm,1.1s
CZSB Cruzeiro do Su 32.95 137 P 09 15 53.2 +1.7
ULM Lac du Bonnet 33.08 359 P P 09 15 51.4 -0.8
comp=Z,1.9nm,0.5s,baz=170,slow=8.4,SNR=8.8
comp=Z,1.9nm,0.5s
YBH Yreka Blue Hor 34.27 322 LR LR 09 31 52.9
comp=Z,4.6nm,19.6s,baz=284,slow=39
FFC Flin Flon 37.96 353 P 09 16 34.1 +0.2
LPAZ La Paz 42.33 140 P 09 17 11.8 +0.6
LPAZ IAmb IAmb 09 17 29.1
comp=Z,5.6nm,0.8s
LPAZ La Paz 42.33 140 P P 09 17 11.0 -0.2
comp=Z,3.1nm,0.8s,baz=337,slow=7.9,SNR=11
LPAZ pP pP 09 17 27.8 -0.6
comp=Z,5.0nm,0.7s,baz=335,slow=7.1,SNR=11
comp=Z,3.1nm,0.8s
VILB Vilhena 45.39 129 P 09 17 35.4 +0.3
YKA Yellowknife Ar 47.42 348 P P 09 17 50.9 +0.5
comp=Z,1.8nm,0.6s,baz=152,slow=6.6,SNR=6.0
comp=Z,1.8nm,0.6s
PTLB Pontes e Lacer 47.79 131 P 09 17 54.0 +0.2
PTLB IAmb IAmb 09 17 54.6
comp=Z,7.8nm,0.9s
FRB Frobisher Bay 49.98 15 LR LR 09 41 35.2
comp=Z,41nm,18.6s,baz=236,slow=39
M29M Somme Creek 54.52 337 P P 09 18 45.7 +1.9
VA03 San Esteban 54.74 155 P P 09 18 47.3 +1.5
L29M L29M 54.79 338 P P 09 18 47.9 +2.2
K29M Barlow Dome 55.02 338 P P 09 18 48.6 +1.2
K29M IAmb IAmb 09 19 06.2
comp=Z,3.3nm,0.8s
J30M Hart River 55.07 340 P P 09 18 49.5 +1.8
J30M IAmb IAmb 09 18 51.1
comp=Z,4.8nm,0.7s
BDFB Brasilia 56.46 123 P P 09 18 58.5 +0.1
comp=Z,2.4nm,0.4s,baz=299,slow=8.5,SNR=4.6
comp=Z,2.4nm,0.4s
CPUP Villa Florida 56.48 139 P P 09 18 57.6 -0.6
comp=Z,0.8nm,1.0s,baz=151,slow=1.8,SNR=3.5
CPUP pP pP 09 19 14.5 -1.3
comp=Z,1.4nm,0.7s,baz=180,slow=7.3,SNR=7.7
comp=Z,0.8nm,1.0s
INK Inuvik 56.73 344 P P 09 18 59.9 +0.5
K27K Chicken 56.77 337 P P 09 19 01.0 +1.2
K27K IAmb IAmb 09 19 19.5
comp=Z,4.7nm,0.8s
E29M Blow River 57.99 343 IAmb IAmb 09 19 10.5
comp=Z,4.3nm,1.0s
J25K Salcha River, 58.30 337 IAmb IAmb 09 19 29.9
comp=Z,7.4nm,1.3s
PRP Porcupine Dome 58.81 338 IAmb IAmb 09 19 33.5
comp=Z,4.3nm,0.8s
IL31 58.95 337 IAmb IAmb 09 19 18.1
comp=Z,3.2nm,0.8s
ILAR Eielson Array 58.95 337 P P 09 19 15.8 +0.8
comp=Z,1.2nm,0.7s,baz=129,slow=4.7,SNR=24
ILAR pP pP 09 19 32.8 +0.1
comp=Z,1.7nm,0.6s,baz=146,slow=5.2,SNR=9.0
comp=Z,1.2nm,0.7s
BMAR Burnt Mountain 59.47 340 P P 09 19 20.0 +1.3
SPU Mount Spurr 59.58 332 P P 09 19 20.9 +1.4
SPU IAmb IAmb 09 19 21.9
comp=Z,4.7nm,0.7s
SKT Skwentna 59.65 333 P P 09 19 21.5 +1.6
SKT IAmb IAmb 09 19 22.1
comp=Z,4.4nm,0.7s
TRF Thorofare Moun 59.70 335 P 09 19 22.1 +1.6
I23K Minto, Yukon-K 60.05 337 P P 09 19 23.9 +1.4
BPAW Bear Paw Mtn. 60.25 335 P P 09 19 24.9 +0.9
BPAW IAmb IAmb 09 19 25.4
comp=Z,4.2nm,0.6s
M20K Styx River 60.32 332 P P 09 19 26.1 +1.5
M20K IAmb IAmb 09 19 26.9
comp=Z,4.2nm,0.7s
MLY Manley 60.53 336 P P 09 19 26.9 +0.9
N19K Bonanza Creek 60.57 331 P P 09 19 27.3 +0.9
PLCA Paso Flores 61.79 159 P P 09 19 35.6 +0.9
comp=Z,4.0nm,0.8s,baz=321,slow=8.3,SNR=14
comp=Z,4.0nm,0.8s
J19K Poorman 62.11 334 P 09 19 37.2 +0.6
EKA Eskdalemuir Ar 77.05 36 P P 09 21 08.1 -0.5
comp=Z,1.5nm,0.8s,baz=270,slow=4.8,SNR=2.8
comp=Z,1.5nm,0.8s
NB2 NORSAR Subarra 82.72 28 P P 09 21 40.0 +0.8
comp=Z,2.0nm,0.8s,baz=294,slow=5.6
NOA NORSAR Array B 82.72 28 P P 09 21 39.8 +0.6
comp=Z,1.5nm,0.8s,baz=292,slow=5.1,SNR=4.6
NOA pP pP 09 21 57.0 -0.8
comp=Z,1.7nm,0.9s,baz=293,slow=5.1,SNR=3.6
NOA LR LR 09 58 19.9
comp=Z,13nm,20.6s,baz=345,slow=36
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 84.05 18 P P 09 21 46.4 +0.5
comp=Z,0.6nm,0.5s,baz=302,slow=5.3,SNR=9.2
ARCES pP pP 09 22 03.8 -0.7
comp=Z,1.2nm,0.5s,baz=302,slow=5.3,SNR=3.3
comp=Z,0.6nm,0.5s
HFS Hagfors 84.20 28 LR LR 10 00 58.8
comp=Z,41nm,18.8s,baz=144,slow=37
GERES GERESS Array B 88.92 39 LR LR 10 02 52.3
comp=Z,39nm,19.2s,baz=254,slow=36
VRAC Vranov 90.43 38 LR LR 10 03 17.6
comp=Z,17nm,19.1s,baz=146,slow=36
HHC Hu-ho-hao-te 117.36 338 eP PKPdf 09 27 57.5 -3.8
HHC LR LR
comp=N,170nm,15.9s
HHC LR LR
comp=E,96nm,15.7s
HHC LR LR
comp=Z,190nm,15.1s
NJ2 Nanjing 121.44 327 eP PKiKP 09 28 11.4 +2.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BOSA Boshof 124.08 113 PKP PKPdf 09 28 14.1 -0.4
comp=Z,2.7nm,0.8s,baz=268,slow=3.6,SNR=5.9
STKA Stephens Creek 127.14 243 PKP PKPdf 09 28 19.2 -0.9
comp=Z,2.4nm,0.6s,baz=70,slow=1.4,SNR=7.7
WRA Warramunga Arr 133.44 259 PKP PKPdf 09 28 33.0 +0.7
comp=Z,1.2nm,0.5s,baz=84,slow=2.5,SNR=12
WRA pPKP 09 28 51.4 -0.5
comp=Z,0.8nm,0.6s,baz=85,slow=2.5,SNR=4.1
PZH PanZhiHua 133.78 339 PKP PKPdf 09 28 32.8 -0.2
ASAR Alice Springs 134.05 253 PKP PKPdf 09 28 34.0 +0.6
comp=Z,0.7nm,0.6s,baz=87,slow=2.2,SNR=4.2

IDC ***23*** *09:18:14.3±1.5, 6.09S×130.40E, h0km, mb3.9/3, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=79.1km s-min=22.1km az=72.0*

ISC 23 09:18:25.8±1.4, 6.8S±0.1×130.0E±0.2, h104km, n6, σ2.8 86/9, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.01	200	Pn	P	09 21 18.8	-3.3
	1.7nm,0.3s,baz=27,slow=14,SNR=52						
FITZ				Sn	Sn	09 23 26.6	+0.9
	1.9nm,0.3s,baz=202,slow=21,SNR=8.0						
	3.2nm,0.3s						
WRA	Warramunga Arr	13.75	162	Pn	P	09 21 39.5	-1.9
	0.7nm,0.3s,baz=344,slow=13,SNR=30						
WRA				Sn	Sn	09 24 06.2	-1.7
	1.0nm,0.3s,baz=330,slow=22,SNR=6.8						
	1.0nm,0.5s						
ASAR	Alice Springs	17.20	168	P	P	09 22 24.3	+4.5
	0.5nm,0.3s,baz=7.3,slow=11,SNR=34						
ASAR				S	S	09 25 33.0	-0.7
	0.4nm,0.4s,baz=347,slow=25,SNR=4.5						
	1.4nm,0.6s						
STKA	Stephens Creek	27.22	158	P	P	09 24 03.1	+3.1
	2.3nm,1.0s,baz=343,slow=17,SNR=3.2						
	2.3nm,1.0s						
MKAR	Makanchi Array	68.03	327	P	P	09 29 13.9	-0.2
	0.8nm,0.5s,baz=123,slow=7.2,SNR=10						
	0.8nm,0.5s						
KURBB	Kurchatov Arra	72.31	328	P	P	09 29 39.2	-0.8
	0.2nm,0.5s,baz=116,slow=6.3,SNR=1.7						
	0.2nm,0.5s						

NEIC ***23*** *09:25:50.5±1.4, 36.47S±0.08×179.3W±0.1, h10km±2km, mb4.4/11, Error ellipse: s-maj=20.4km s-min=10.9km az=122.0*

IDC ***23*** *09:25:53.1±1.8, 36.35S×179.56W, h0km, mb4.1/3, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=37.1km s-min=33.2km az=51.0*

WEL ***23*** *09:25:53.9±1.0, 37.5S±10×17.9W±, h12km, M3.9/12, ML4.2/15, MLv3.9/12, Error ellipse: s-maj=13.6km s-min=8.2km az=158.0, confirmed*

ISC 23 09:25:50.0±1.0, 36.54S±0.06×179.24W±0.08, h10km, n63, σ1.9 73/84, mb4.2/8, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.22	242	Pn	Pn	09 26 27.6	+0.8
MXZ				Sn	Sn	09 26 55.2	+1.0
MXZ	Matakaoa Point	2.22	242	P	Pn	09 26 28.4	+1.6
MXZ				S	Sn	09 26 56.0	+1.8
WMGZ	Waiomatatini S	2.27	235	P	Pb	09 26 30.0	-1.1
WMGZ				S	Sb	09 26 58.3	-0.9
PUZ	Puketiti	2.52	232	P	Pn	09 26 33.0	+2.0

PUZ			S		Sn	09 27 03.7	+2.0
PKGZ	**Pakihiroa**	**2.52 237**	P		Pn	09 26 33.4	+2.4
PKGZ			S		Sn	09 27 04.2	+2.4
HAZ	**Te Kaha**	**2.68 242**	P		Pb	09 26 36.0	-2.0
HAZ			S		Sb	09 27 09.3	-1.5
CNGZ	**Carnagh Statio**	**2.81 225**	P		Pn	09 26 37.2	+2.2
CNGZ			S		Sn	09 27 11.5	+2.5
RUGZ	**Raukumara Rang**	**2.85 239**	P		Pn	09 26 38.0	+2.4
RUGZ			S		Sn	09 27 12.5	+2.5
TKGZ	**Te Karaka**	**3.00 230**	P		Pn	09 26 39.8	+2.3
TKGZ			S		Sn	09 27 14.9	+1.3
RIGZ	**Rimuhau**	**3.22 227**	P		Pn	09 26 42.6	+2.0
RIGZ			S		Sn	09 27 19.6	+0.5
PRGZ	**Paritu Road**	**3.30 223**	P		Pn	09 26 43.7	+1.9
PRGZ			S		Sn	09 27 21.6	+0.5
RAGZ	**Rawiri**	**3.30 233**	P		Pn	09 26 44.1	+2.3
RAGZ			S		Sn	09 27 22.2	+1.0
URZ	**Urewera**	**3.38 238**	Pn		Pn	09 26 45.1	+2.4
	4.1nm,0.3s,baz=232,slow=2.2,SNR=9.6						
URZ			Sn		Sn	09 27 24.4	+1.4
	13nm,0.3s,baz=116,slow=22,SNR=19						
	10nm,0.3s						
MHGZ	**Mahia Peninsul**	**3.46 220**	P		Pn	09 26 45.3	+1.4
MHGZ			S		Sn	09 27 25.5	+0.6
KNZ	**Kokohu**	**3.49 224**	P		Pn	09 26 45.4	+1.2
SNGZ	**Shannon Statio**	**3.52 229**	P		Pn	09 26 47.2	+2.4
SNGZ			S		Sn	09 27 27.7	+1.2
RTZ	**Ruatahuna**	**3.65 234**			Pn	09 26 46.7	+0.1
RTZ			Sn		Sn	09 27 31.6	+1.8
RAHZ	**Arahi**	**3.76 230**	P		Pn	09 26 49.9	+1.9
RAHZ			S		Sn	09 27 33.6	+1.2
MTHZ	**Maungataniwha**	**3.88 232**	P		Pn	09 26 51.7	+2.1
MTHZ			S		Sn	09 27 36.3	+1.0
KUZ	**Kuaotunu**	**4.06 266**	P		Pn	09 26 54.5	+2.4
KUZ			S		Sn	09 27 38.2	-1.5
BKZ	**Black Stump Fm**	**4.28 231**			Pn	09 26 56.6	+1.3
TOZ	**Tahuroa Road**	**4.37 253**	Pn		Pn	09 26 56.0	-0.4
TOZ	**Tahuroa Road**	**4.37 253**	P		Pn	09 26 58.8	+2.4
MKAZ	**Moumakai**	**4.53 261**	P		Pn	09 27 01.4	+2.8
KRHZ	**Kereru**	**4.65 227**	P		Pn	09 27 01.0	+0.7
KRHZ			S		Sn	09 27 51.9	-2.5
ETAZ	**East Tamaki Re**	**4.71 263**	P		Pn	09 27 04.9	+3.9
SNVZ	**South Ngauruho**	**4.84 235**	P		Pn	09 27 05.9	+2.8
HIZ	**Hauiti**	**5.09 245**	Pn		Pn	09 27 06.4	0.0
TSZ	**Takapari Road**	**5.16 226**	P		Pn	09 27 06.6	-0.7
TSZ			S		Sn	09 28 04.1	-2.8
WCZ	**Waipu Caves**	**5.22 275**	P		Pn	09 27 07.2	-1.0
BFZ	**Birch Farm**	**5.45 219**	Pn		Pn	09 27 10.5	-0.7
BFZ	**Birch Farm**	**5.45 219**	P		Pn	09 27 09.8	-1.4
BFZ			S		Sn	09 28 08.4	-5.5
MRZ	**Mangatainoka R**	**5.78 223**	Pn		Pn	09 27 15.2	-0.7
PLWZ	**Palliser**	**6.61 219**	Pn		Pn	09 27 26.9	-0.3
BHW	**Baring Head**	**6.69 222**	Pn		Pn	09 27 28.4	+0.2
SNZO	**South Karori**	**6.71 223**	Pn		Pn	09 27 28.1	-0.4
TUWZ	**Tuamarina**	**7.22 225**	Pn		Pn	09 27 35.1	-0.4
RAO	**Raoul Island**	**7.35 9**	Pn		Pn	09 27 37.8	+0.5
NNZ	**Nelson**	**7.42 229**	Pn		Pn	09 27 38.8	+0.5
CTZ	**Chatham Island**	**7.47 165**	P		Pn	09 27 41.1	+2.2
TKNZ	**Takaka Hill**	**7.57 231**	Pn		Pn	09 27 39.8	-0.6
MRNZ	**Matariki Terra**	**7.90 230**	Pn		Pn	09 27 45.6	+0.7
THZ	**Tophouse**	**8.03 227**	Pn		Pn	09 27 45.8	-1.0
KHZ	**Kahutara**	**8.10 221**	Pn		Pn	09 27 48.6	+1.0
LTZ	**Lake Taylor**	**9.04 224**	Pn		Pn	09 28 00.5	-0.1
MQZ	**McQueen's Vall**	**9.48 218**	Pn		Pn	09 28 07.5	+1.0
OXZ	**Oxford**	**9.53 222**	Pn		Pn	09 28 07.7	+0.4
PINNC	**Pines Island,**	**18.05 317**			Pn	09 29 59.4	-1.5
ONTNC	**Ouen Toro**	**18.84 315**	P		P	09 30 09.3	-0.8
ONTNC			IAmb		IAmb	09 30 52.3	
	comp=Z,56nm,1.1s						
AS31	**Alice Springs**	**42.14 274**	P		P	09 33 42.8	+0.1
ASAR	**Alice Springs**	**42.14 274**	P		P	09 33 42.4	-0.3
ASAR	**Alice Springs**	**42.14 274**	P		P	09 33 45.2	+2.5
	comp=Z,2.1nm,0.6s,baz=117,slow=7.6,SNR=36						
	comp=Z,2.1nm,0.6s						
WR8	**Warramunga Arr**	**43.54 279**	P		P	09 33 54.4	+0.3
WR8			IAmb		IAmb	09 34 15.5	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**43.67 279**	P		P	09 33 54.7	-0.4
WB2			IAmb		IAmb	09 33 58.4	
	comp=Z,5.9nm,1.1s						
WRAB	**Tennant Creek**	**43.67 279**	P		P	09 33 54.8	-0.4
WRAB			IAmb		IAmb	09 34 29.8	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**43.68 279**	P		P	09 33 54.3	-0.9
WRA	**Warramunga Arr**	**43.68 279**	P		P	09 33 57.6	+2.4
	comp=Z,1.6nm,0.5s,baz=120,slow=7.7,SNR=27						
	comp=Z,1.6nm,0.5s						
WB0	**Warramunga Arr**	**43.73 280**	P		P	09 33 54.6	-1.0
WB0			IAmb		IAmb	09 34 28.4	
	comp=Z,13nm,1.5s						
NWAO	**Narrogin (SRO)**	**51.49 254**	P		P	09 34 55.9	+0.1
FITZ	**Fitzroy Crossi**	**51.61 275**	P		P	09 34 55.7	-1.1
FITZ			IAmb		IAmb	09 35 29.1	
	comp=Z,1.7nm,1.3s						
QSPA	**South Pole Qui**	**53.59 180**	P		P	09 35 12.2	+1.1
QSPA			IAmb		IAmb	09 35 23.2	
	comp=Z,6.6nm,1.4s						
QSPA	**South Pole Qui**	**53.59 180**	P		P	09 35 17.1	+6.0
	comp=Z,1.1nm,0.7s,baz=27,slow=2.7,SNR=8.8						
	comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**150.42 335**	PKPbc		**PKiKP**	**09 45 44.1**	**+2.6**
	comp=Z,3.5nm,1.0s,baz=40,slow=2.4,SNR=1.9						

*ASRS **23** 09:33:14.0±1.2, 53.75N×91.08E, h0km, M3.1, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
*IDC **23** 09:33:17.9±3.5, 53.67N×90.80E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=28.2km s-min=23.2km az=57.0*
*NNC **23** 09:33:24.6±2.7, 53.45N×90.72E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.3km s-min=16.2km az=79.0, Suspected Mining explosion.*

ISC 23 09:33:23.7±4.1, 53.3N±0.1×90.8E±0.2, h0km, n8, σ1s82/11, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.64 283**		I		I	09 55 30.0	
	baz=90,slow=325,SNR=4.8							
ZAA0	**Zalesovo Array**	**3.64 283**		⇓Pn		**Pn**	**09 34 21.6**	**+0.4**
	0.8nm,0.6s,baz=93,slow=15							
ZAA0				⇓Sn		**Sn**	**09 35 04.1**	**-0.6**
	2.8nm,0.6s,baz=96,slow=27							
ZALV	**Zalesovo Beam**	**3.64 283**		Pg		**Pn**	**09 34 20.9**	**-0.2**
	1.3nm,0.3s,baz=93,slow=15,SNR=11							
ZALV				Lg		Lg	09 35 09.9	
	2.1nm,0.3s,baz=93,slow=26,SNR=6.9							
KURK	**Kurchatov**	**7.96 256**		⇑Pn		**Pn**	**09 35 20.5**	**0.0**
	4.9nm,1.1s							
KURK				⇑Sn		**Sn**	**09 36 53.0**	**+1.8**
	1.9nm,0.6s							
KURBB	**Kurchatov Arra**	**8.05 256**		Pn		Pn	09 35 17.0	-4.7
	0.1nm,0.3s,baz=64,slow=14,SNR=8.3							
KURBB				Sn		**Sn**	**09 36 49.8**	**-3.6**
	0.1nm,0.3s,baz=68,slow=26,SNR=7.9							
KURBB				Lg		Lg	09 37 36.7	
	0.1nm,0.3s,baz=60,slow=31,SNR=2.7							
	1.1nm,0.5s							
KURBB	**Kurchatov Arra**	**8.05 256**		⇓Pn		**Pn**	**09 35 21.9**	**+0.1**
	1.6nm,0.5s							
KURBB				⇑Sn		**Sn**	**09 36 56.0**	**+2.6**
	6.7nm,0.8s							
MK31	**Makanchi Array**	**8.50 224**		Pn		**Pn**	**09 35 29.3**	**+1.2**
	0.3nm,0.4s,baz=32,slow=14,SNR=3.7							
MKAR	**Makanchi Array**	**8.50 224**		Pn		**Pn**	**09 35 27.3**	**-0.8**
	0.1nm,0.3s,baz=33,slow=13,SNR=4.3							
MKAR				Sn		**Sn**	**09 37 03.8**	**-0.9**
	0.1nm,0.3s,baz=33,slow=24,SNR=6.3							
MKAR				Lg		Lg	09 37 54.5	
	0.1nm,0.3s,baz=42,slow=30,SNR=3.6							
	0.3nm,0.4s							

HEL 23 09:59:54.3±0.2, 61.08N×22.47E, h0km, ML1.2, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAF	**Rauma**	**0.35 262**		PG		Pg	10 00 00.5	-0.5
RAF				SG		Sg	10 00 05.0	-0.4
KPF	**Kankaanpaa**	**0.79 346**		PG		Pg	10 00 08.1	-1.3
KPF				MSG			10 00 18.7	
	comp=Z,12nm,0.2s							
MEF	**Metsahovi**	**1.28 131**		PN		Pg	10 00 18.8	0.0
MEF				MSG			10 00 32.9	
	comp=Z,1.5nm,0.2s							
TVF	**Tvarminne**	**1.29 162**		PN		Pg	10 00 19.1	0.0
TVF				MSG			10 00 33.5	
	comp=Z,0.6nm,0.2s							
AAL	**Aland**	**1.52 235**		PN		Pb	10 00 23.0	-0.2
	baz=55							
AAL				SN		Sn	10 00 43.2	+0.2
KEF	**Keuruu**	**1.59 45**		PG		Pn	10 00 23.3	-0.3
KEF				MSG			10 00 41.7	
	comp=Z,1.2nm,0.2s							
PVF	**Pernaja**	**1.75 106**		PN		Pb	10 00 26.8	-0.3
	baz=293							
PVF				MSG			10 00 46.4	
	comp=Z,1.1nm,0.2s							
FIA0	**FINESS Array S**	**1.78 76**		PG		Pn	10 00 26.4	+0.1
FIA0				MSG			10 00 47.4	
	comp=Z,1.3nm,0.2s							
FIA0				SN		Sb	10 00 51.0	+0.4
KAF	**Kangasniemi**	**2.11 59**		PG		Pb	10 00 32.1	-1.3
KAF				MSG			10 00 56.8	
	comp=Z,1.6nm,0.2s							
KAF				SG		Sb	10 01 00.4	+0.4
HEMU	**Hemsoen**	**2.64 309**		PN		Pn	10 00 39.5	+1.3
	baz=128							
HEMU				SB		Sb	10 01 14.1	-1.3

*HEL **23** 10:00:20.9±0.2, 64.75N×30.76E, h0km, ML1.6, Explosion*
*IDC **23** 10:00:22.6±2.9, 64.74N×30.43E, h0km, mbtmp2.6/2, ML2.0/1, Error ellipse: s-maj=47.9km s-min=10.3km az=101.0*
*KOLA **23** 10:00:24.2, 64.91N×30.92E, h0km, ML1.9, Karelia*

ISC 23 10:00:19.9±0.9, 64.77N±0.02×30.74E±0.04, h0km, n35, σ1s39/52, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RMF	**Romuvaara**	**0.65 213**		PG		**Pg**	**10 00 32.6**	**+0.3**
	baz=30							
RMF				SG		**Sg**	**10 00 40.9**	**+0.1**
RMF				MSG			10 00 41.1	
	comp=Z,8.2nm,0.2s							
KU1	**Kurvinen**	**0.94 329**		PG		**Pg**	**10 00 38.1**	**+0.1**
KU6	**Riekki**	**1.31 345**		PG		**Pg**	**10 00 44.8**	**-0.2**
	baz=164							
KU6				MSG			10 01 01.1	
	comp=Z,4.1nm,0.2s							
KU6				SG		**Sg**	**10 01 02.1**	**+0.1**
MSF	**Maaselka**	**1.35 329**		PG		**Pg**	**10 00 45.5**	**-0.2**
MSF				SN		**Sb**	**10 01 04.8**	**+0.9**
KU2	**Taivalkoski**	**1.42 313**		PG		**Pn**	**10 00 46.7**	**-0.2**
KU2				SB		**Sg**	**10 01 05.7**	**+0.3**
OLKF	**Oulanka, Finla**	**1.66 341**		PG		**Pn**	**10 00 50.9**	**+0.7**
OLKF				MSG			10 01 10.9	
	comp=Z,4.0nm,0.2s							
OLKF				SN		**Sb**	**10 01 13.6**	**+0.9**
JOF	**Joensuu**	**1.87 172**		PG		**Pn**	**10 00 53.5**	**+0.3**
	baz=351							
JOF				SG		**Sb**	**10 01 18.5**	**-0.3**
NIF	**Nilsia**	**1.89 224**		PG		**Pn**	**10 00 54.6**	**+1.3**
NIF	**Nilsia**	**1.89 224**		PG		**Pn**	**10 00 54.6**	**+1.3**
NIF				MSG			10 01 16.9	
	comp=Z,4.3nm,0.2s							
NIF				SG		**Sb**	**10 01 19.4**	**+0.1**
RANF	**Ranua**	**2.07 309**		PG		**Pb**	**10 00 57.8**	**-0.5**
RANF				SG		**Sb**	**10 01 24.4**	**-0.2**
OUL	**Oulu**	**2.09 281**		PG		**Pb**	**10 00 57.8**	**-0.7**
OUL				SB		**Sn**	**10 01 24.2**	**+1.5**
KVDA	**Kovda**	**2.12 24**		P		**Pb**	**10 00 58.8**	**-0.4**
OBF4	**Vikkela, Lumij**	**2.41 274**		PB		**Pn**	**10 01 02.8**	**+2.3**
OBF4	**Vikkela, Lumij**	**2.41 274**		PB		**Pn**	**10 01 02.8**	**+2.3**
OBF4				MSG			10 01 32.4	
	comp=Z,3.1nm,0.2s							
OBF4				SG		**Sb**	**10 01 34.3**	**-0.1**
OUF	**Merijarvi**	**2.62 264**		SG		**Sb**	**10 01 40.0**	**-0.4**
OUF	**Merijarvi**	**2.62 264**		PN		**Pn**	**10 01 05.2**	**+1.8**
OUF				MSG			10 01 38.4	
	comp=Z,3.8nm,0.2s							
OUF				SB		**Sb**	**10 01 40.0**	**-0.4**
RNF	**Rovaniemi**	**2.69 316**		PB		**Pn**	**10 01 06.4**	**+2.0**
	baz=133							
RNF				SB		**Sb**	**10 01 42.2**	**-0.1**
OBF0	**Syolatti, Pyha**	**2.81 267**		SG		**Sb**	**10 01 46.2**	**+0.4**
OBF0	**Syolatti, Pyha**	**2.81 267**		PB		**Pn**	**10 01 08.2**	**+2.2**
OBF0				MSG			10 01 43.8	
	comp=Z,2.6nm,0.2s							
OBF0				SB		**Sb**	**10 01 46.2**	**+0.4**
SUF	**Sumiainen**	**2.90 227**		SG		**Pn**	**10 01 08.1**	**+0.9**
SUF	**Sumiainen**	**2.90 227**		PN		**Pn**	**10 01 08.1**	**+0.9**
SUF				MSG			10 01 45.9	
	comp=Z,1.2nm,0.2s							
SUF	**Sumiainen**	**2.90 227**		MSG			10 01 05.3	
	comp=Z,1.3nm,0.2s							
TOF	**Tornio**	**2.99 299**		PN		**Pn**	**10 01 10.0**	**+1.6**
TOF				MSG			10 01 49.0	
	comp=Z,1.0nm,0.2s							
APA0	**Apatity Array**	**3.00 17**		P		**Pn**	**10 01 10.6**	**+2.0**
VRF	**Varrio**	**3.03 352**		PB		**Pn**	**10 01 10.6**	**+1.6**
VRF				MSG			10 01 50.5	
	comp=Z,1.3nm,0.2s							
VRF				SG		**Sb**	**10 01 53.9**	**+1.8**
KALU	**Kalix**	**3.29 293**		PN		**Pn**	**10 01 14.4**	**+1.9**
KEF	**Keuruu**	**3.71 228**		SG		**Sg**	**10 02 16.3**	**-2.5**
RAJF	**Raja-Jooseppi**	**3.85 347**		PN		**Pn**	**10 01 21.8**	**+1.6**
RAJF				SN		**Sn**	**10 02 06.6**	**+0.5**
PAJU	**Pajala**	**3.86 309**		PN		**Pn**	**10 01 21.9**	**+1.5**
FINES	**FINESS Array B**	**3.95 215**		Pn		**Pn**	**10 01 23.4**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=32,slow=14,SNR=1.6							
FINES				Lg		Lg	10 02 23.1	
	comp=Z,0.4nm,0.3s,baz=31,slow=27,SNR=6.5							
ERTU	**Ertsjaerv**	**3.97 301**		PN		**Pn**	**10 01 23.8**	**+1.9**
	baz=116							
ERTU				SG		**Sg**	**10 02 26.3**	**-0.8**
HEF	**Hetta**	**4.62 325**		PN		**Pn**	**10 01 32.0**	**+1.2**
HEF				SG		**Sg**	**10 02 44.1**	**-3.9**
ARCES	**ARCESS Array B**	**5.20 339**		Pn		**Pn**	**10 01 39.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=11							
ARCES				Sn		**Sn**	**10 02 37.1**	**-2.4**
	baz=154,slow=23,SNR=1.9							
ARCES				Lg		Lg	10 03 00.1	
	comp=Z,0.1nm,0.3s,baz=149,slow=32,SNR=2.9							
	comp=Z,0.6nm,0.7s							
ARCES	**ARCESS Array B**	**5.20 339**		P		**Pn**	**10 01 39.4**	**+0.5**
ARCES				S		**Sn**	**10 02 37.7**	**-1.8**
I37NO	**I37NO**	**6.43 318**		I		I	10 38 00.0	
	baz=125,slow=324,SNR=2.3							

IDC 23 10:11:11.5±1.9, 1.45N×124.35E, h0km, mb3.4/3, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=133.8km s-min=26.7km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.46 176**		P		P	10 15 39.2	-0.7
	0.1nm,0.3s,baz=4.4,slow=13,SNR=1.2							
	0.4nm,0.3s							
WRA	**Warramunga Arr**	**23.41 156**		P		P	10 16 21.4	-0.9
	1.2nm,0.5s,baz=335,slow=10,SNR=22							
	1.2nm,0.5s							
ASAR	**Alice Springs**	**26.64 160**		P		P	10 16 53.5	+1.5
	0.2nm,0.5s,baz=332,slow=8.1,SNR=4.3							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**58.12 327**		P		P	10 21 06.8	-0.2
	0.2nm,0.3s,baz=127,slow=8.4,SNR=3.0							
	0.2nm,0.3s							

*NEIC **23** 10:22:13.7±0.6, 19.15N×0.03×155.52W±0.02, h44km±1km, Error ellipse: s-maj=5.0km s-min=2.6km az=164.0*

HVO 23 10:22:14.6±0.8, 19.10N±0.04×155.49W±0.02, h42km±3km, ML2.5/42, ML2.8/42(NEIC), Error ellipse: s-maj=5.8km s-min=1.9km az=158.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HPO	**Honuapo**	**0.06 261**				Pn	10 22 20.8	-0.6
HTC	**Hot Caves**	**0.16 33**				Pn	10 22 21.2	-0.7
KHU	**Kahuku**	**0.19 322**				Pn	10 22 21.4	-0.9
KHU						Sn	10 22 26.5	-1.3
HLP	**Hilina Pali**	**0.26 41**				Pn	10 22 21.6	-1.2
HLP						Sn	10 22 27.7	-0.8
HLP				IAML			10 22 35.6	
	comp=E,1μm,0.8s							
HLP				IAML			10 22 37.4	
	comp=N,820nm,0.8s							
AIN	**Ainahou**	**0.27 7**				Pn	10 22 22.2	-0.8
AIN						Sn	10 22 28.0	-0.9
SDHHI	**Sand Hill**	**0.34 33**				Pn	10 22 22.5	-1.2
SDHHI						Sn	10 22 28.6	-1.4
WRMHI	**West Rim**	**0.36 30**				Pn	10 22 22.7	-1.1
WRMHI						Sn	10 22 28.8	-1.5
RIM	**Rim**	**0.36 35**				Pn	10 22 22.8	-1.1
KKO	**Keanakako'i**	**0.37 35**				Pn	10 22 22.9	-1.1
KKO						Sn	10 22 29.2	-1.3
UWE	**Uwekahuna**	**0.37 30**				Pn	10 22 23.0	-1.0
UWE						Sn	10 22 29.6	-1.1
UWE				IAML			10 22 33.4	
	comp=N,864nm,0.7s							
OBL	**Observatory Le**	**0.37 32**				Sn	10 22 31.7	+1.1
PUH	**Pauahi**	**0.38 43**				Pn	10 22 22.9	-1.2
PUH						Sn	10 22 29.7	-1.0
PUH				IAML			10 22 35.2	
	comp=N,476nm,0.6s							
BYL	**Byron's Ledge**	**0.38 35**				Pn	10 22 23.1	-1.0
BYL				IAML			10 22 36.4	
	comp=N,512nm,0.6s							
BYL				IAML			10 22 41.2	
	comp=E,786nm,0.6s							
UWB	**Uwekahuna Bluf**	**0.38 32**				Sn	10 22 29.2	-1.6
SBLHI	**Steaming Bluff**	**0.39 33**				Sn	10 22 29.2	-1.7
HATHI	**Halema'uma'u T**	**0.39 34**				Pn	10 22 22.8	-1.4
HATHI				IAML			10 22 36.2	
	comp=N,733nm,0.7s							
HATHI				IAML			10 22 39.2	
	comp=E,750nm,0.7s							
MWH	**Mokuaweoweo**	**0.40 345**				Pn	10 22 23.6	-1.1
MWH						Sn	10 22 29.7	-2.0
MWH				IAML			10 22 30.6	
	comp=N,541nm,0.6s							
MWH				IAML			10 22 31.7	
	comp=E,741nm,0.8s							
MLH	**Mauna Loa**	**0.41 14**		Pn		Pn	10 22 23.7	-0.9
MLH				IAML			10 22 36.1	
	comp=E,509nm,0.7s							
MLH				IAML			10 22 36.6	
	comp=N,547nm,0.6s							
KNHH	**Kane Nui o Ham**	**0.41 47**				Pn	10 22 23.1	-1.4
RSD	**Rainshed**	**0.41 29**				Pn	10 22 22.6	-1.9
RSD	**Rainshed**	**0.41 29**				Sn	10 22 29.9	-1.6
STCH	**Steam Cracks**	**0.45 50**				Pn	10 22 23.7	-1.2
STCH						Sn	10 22 31.2	-1.0
STCH				IAML			10 22 34.3	
	comp=E,502nm,0.6s							
ALEP	**Alea Permanent**	**0.46 342**				Sn	10 22 31.1	-1.8
JCUZ	**Jacuzzi**	**0.47 52**				Sn	10 22 31.1	-1.4
NPOC	**North of Pu'u**	**0.47 51**				Sn	10 22 31.3	-1.2
HMH	**Humu'ula Sheep**	**0.50 1**				Pn	10 22 25.1	-0.7
HMH						Sn	10 22 32.8	-0.9
HMH				IAML			10 22 32.9	
	comp=N,487nm,0.8s							
HMH				IAML			10 22 37.8	
	comp=E,557nm,0.6s							
JOKA	**Jonika Flow**	**0.57 54**				Pn	10 22 25.4	-1.0
JOKA						Sn	10 22 33.6	-1.1
POHA	**Pohakuloa**	**0.66 357**		Pn		Pn	10 22 25.8	-2.0
POHA				IAML			10 22 46.3	
	comp=E,305nm,0.6s							
HUH	**Hualalai**	**0.67 331**		Pn		Pn	10 22 26.5	-1.4
HUH				IAML			10 22 48.7	
	comp=N,486nm,0.5s							
HPAH	**Hawaii Prepara**	**0.95 348**		Pn		Pn	10 22 30.2	-1.4

*NEIC **23** 10:22:22.3±1.9, 35.663N±0.008×117.531W±0.009, h10km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=288.0*

PAS 23 10:22:22.8±1.6, 35.659N±0.007×117.54W±0.01, h9km±5km, ML3.0, ML2.7/162(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=130.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSHM	**Spangler Hills**	**0.07 150**		Pg		Pg	10 22 24.9	0.0
WSHM				Sg		Sg	10 22 26.6	+0.2
CLC	**China Lake**	**0.17 342**		Pg		Pg	10 22 26.3	-0.1
CLC				Sg		Sg	10 22 29.0	+0.2
SRTC	**Snort**	**0.18 281**				Pg	10 22 29.0	+0.3
SRTC						Sg	10 22 30.5	+1.4
CCCA	**Chr Cany lake**	**0.19 134**				Pg	10 22 27.2	+0.4
CCCA				Sg		Sg	10 22 30.6	+1.0
LRMC	**Laurel Mtn Rad**	**0.21 214**				Pg	10 22 27.1	-0.1
LRMC				Sg		Sg	10 22 30.6	+0.4
LRMC				IAML			10 22 32.1	
	comp=E,2μm,0.1s							
LRMC				IAML			10 22 32.6	
	comp=N,2μm,0.2s							
TOW	**Tower One**	**0.24 309**				Pg	10 22 27.9	+0.3
WNMM	**Nine Mile Cany**	**0.35 302**				Pg	10 22 29.6	-0.2
WVPM	**Volcano Peak E**	**0.37 322**				Pg	10 22 29.8	-0.3
JRC2	**Joshua Ridge**	**0.39 326**				Pg	10 22 30.3	-0.3
JRC2						Sg	10 22 35.5	+0.1
MPMC	**Manual Prospec**	**0.40 5**		Pg		Pg	10 22 30.4	-0.3
MPMC				Sg		Sg	10 22 36.4	+0.4
MPMC				IAML			10 22 36.5	
	comp=E,1μm,0.5s							
MPMC				IAML			10 22 36.5	
	com

TEJ	**El Tejon**	**1.03**	**246**			Pg	10 22 41.6	-1.1
SHOC	**Shoshone, Teco**	**1.05**	**76**			Pg	10 22 42.6	-0.4
SHOC						Sg	10 22 56.7	0.0
VTV	**Victorville**	**1.11**	**171**			Sb	10 22 59.2	+0.4
SPG2	**Springville 2**	**1.14**	**299**			Pg	10 22 43.5	-1.2
SPG2						Sg	10 22 58.5	-0.9
ARVC	**Arvin**	**1.18**	**244**			Pb	10 22 44.6	-0.9
ARVC						Sg	10 23 00.4	-0.5
THC	**Tehachapi Micr**	**1.19**	**231**			Pg	10 22 44.5	-1.1
LRRC	**Littlerock Res**	**1.20**	**200**			Pb	10 22 44.6	-1.1
LRRC						Sg	10 23 01.4	0.0
LEOC	**Leona Valley**	**1.20**	**212**			Pb	10 22 45.1	-0.7
LEOC						Sn	10 23 03.0	+0.5
HOLC	**Holcomb Ridge**	**1.22**	**192**			Pb	10 22 44.8	-1.4
HOLC						Sb	10 23 02.2	0.0
JNH	**Juniper Hills**	**1.26**	**196**			Pn	10 22 45.4	-1.3
JNH						Sb	10 23 03.1	0.0
VES	**Vestal, Richgr**	**1.27**	**279**			Pn	10 22 46.4	-0.4
VES						Sb	10 23 03.4	-0.1
VES					IAML		10 23 05.9	
	comp=E,196nm,0.6s							
VES					IAML		10 23 06.3	
	comp=N,186nm,0.5s							
DSCC	**Desert Studies**	**1.28**	**113**			Pn	10 22 44.9	-2.0
DSCC						Sb	10 23 03.4	-0.2
HEC	**Hector,Ludlow**	**1.28**	**130**			Pn	10 22 45.4	-1.6
HEC						Sb	10 23 03.9	0.0
AMDNV	**Amargosa**	**1.29**	**52**			Pn	10 22 45.4	-1.6
TUQ	**Turquoise Moun**	**1.33**	**99**			Pn	10 22 46.4	-1.4
TUQ						Sb	10 23 05.0	-0.3
WCT	**Wildcat Mounta**	**1.35**	**33**			Pn	10 22 46.6	-1.4
SGV	**South Grapevin**	**1.38**	**17**			Pn	10 22 47.4	-1.1
SGV						Sn	10 23 07.0	+0.1
CHFC	**Chilao Flat St**	**1.38**	**197**			Pn	10 22 47.3	-1.2
CHFC						Sg	10 23 07.4	+0.1
BFSC	**Mount Baldy Ra**	**1.42**	**184**			Pn	10 22 47.2	-1.7
BFSC					IAML		10 23 08.6	
	comp=N,137nm,0.4s							
BFSC					IAML		10 23 09.3	
	comp=E,114nm,0.3s							
OSI	**Osito Audit: C**	**1.43**	**223**	Pn	Pn		10 22 47.1	-1.9
OSI					IAML		10 23 10.8	
	comp=E,108nm,0.4s							
OSI					IAML		10 23 10.9	
	comp=N,91nm,0.7s							
SIL	**Silver Peak**	**1.43**	**156**			Pn	10 22 49.2	0.0
SSK	**Sunset Peak**	**1.45**	**185**			Pn	10 22 48.8	-0.6
BBRC	**Big Bear Solar**	**1.48**	**160**			Pn	10 22 50.2	+0.3
BBRC						Sg	10 23 10.6	+0.2
MWC	**Mount Wilson**	**1.49**	**197**			Pn	10 22 49.3	-0.8
TIN	**Tinemaha, Big**	**1.50**	**338**	Pn	Pn		10 22 49.4	-0.7
TIN					IAML		10 23 17.5	
	comp=E,97nm,0.8s							
TIN					IAML		10 23 19.6	
	comp=N,118nm,0.8s							
MPI	**Mount Pinos, F**	**1.56**	**238**			Pn	10 22 51.5	+0.4
LCH	**Last Change Ra**	**1.57**	**357**			Pn	10 22 50.4	-0.8
LCH						Sb	10 23 12.6	+0.3
PASC	**Pasadena Art C**	**1.58**	**200**			Pn	10 22 49.8	-1.2
PASC					IAML		10 23 14.2	
	comp=E,73nm,0.4s							
PASC					IAML		10 23 20.2	
	comp=N,68nm,0.4s							
PASC	**Pasadena Art C**	**1.58**	**200**			Sg	10 23 12.9	-0.6
PSRC	**Puddingstone R**	**1.58**	**188**			Pn	10 22 50.5	-0.5
OAT	**Oat Mountain**	**1.58**	**214**			Pg	10 22 53.4	+0.2
MTPC	**Mountain Pass**	**1.62**	**96**			Pn	10 22 50.1	-1.7
MTPC					IAML		10 23 15.9	
	comp=N,77nm,0.3s							
MTPC					IAML		10 23 16.1	
	comp=E,81nm,0.2s							
GMN	**Gold Mountain**	**1.65**	**8**			Pn	10 22 51.5	-0.8
GMN					IAML		10 23 19.9	
	comp=N,56nm,0.5s							
TPNV	**Topopah Spring**	**1.65**	**39**			Pn	10 22 51.2	-1.0
TPNV					IAML		10 23 19.1	
	comp=N,78nm,0.5s							
TPNV					IAML		10 23 19.7	
	comp=N,52nm,0.7s							
GTM	**Goat Mountain**	**1.67**	**144**			Pb	10 22 53.3	-0.5
BLCC	**Black Canyon**	**1.69**	**214**			Pn	10 22 51.8	-0.9
DSP	**Deep Springs**	**1.74**	**349**			Pn	10 22 52.6	-0.6
GMRC	**Granite Mounta**	**1.77**	**119**			Pn	10 22 51.4	-2.3
BLAC	**Blackrock camp**	**1.84**	**149**			Pn	10 22 53.8	-1.0
MTUM	**Tungsten Hills**	**1.88**	**334**			Pb	10 22 57.6	+0.1
EW2	**E Wide Canyon**	**1.95**	**151**			Pn	10 22 55.1	-1.0
TPC	**Twentynine Pal**	**1.97**	**141**			Pn	10 22 55.1	-1.4
HMTC	**Hemet**	**1.99**	**167**			Pn	10 22 55.9	-0.9
ELS	**Elsinore Mount**	**2.01**	**177**			Pn	10 22 55.5	-1.5
ELS					IAML		10 23 29.6	
	comp=E,46nm,0.3s							
POB	**Polly Butte**	**2.03**	**165**			Pn	10 22 56.5	-0.9
DANC	**Danby, Needles**	**2.04**	**119**	Pn	Pn		10 22 55.5	-1.9
DANC					IAML		10 23 33.6	
	comp=E,83nm,0.6s							
DANC					IAML		10 23 34.6	
	comp=N,80nm,0.7s							
FMP	**Fort Macarthur**	**2.04**	**198**			Pb	10 22 59.9	-0.1
MZP	**Montezuma Peak**	**2.04**	**3**			Pn	10 22 56.7	-1.0
DGR	**Domenigoni Val**	**2.05**	**168**			Pn	10 22 54.3	-3.3
DGR						Pb	10 22 57.0	-3.3
BELC	**Belle Mtn. Jos**	**2.08**	**142**			Pn	10 22 56.4	-1.6
BELC					IAML		10 23 30.4	
	comp=N,43nm,0.6s							
BELC					IAML		10 23 32.1	
	comp=E,47nm,0.4s							
SHPR	**Sheep Range**	**2.10**	**66**	Pn	Pn		10 22 57.0	-1.4
V12A	**Nelson**	**2.19**	**87**	Pn	Pn		10 22 57.8	-1.7
V12A					IAML		10 23 32.7	
	comp=N,30nm,1.0s							
V12A					IAML		10 23 35.1	
	comp=E,29nm,0.4s							
CRY	**Cary Ranch**	**2.19**	**162**			Pn	10 22 58.7	-0.8
DNR	**Dunn Ranch,Anz**	**2.22**	**160**	Pn	Pn		10 22 58.5	-1.4
PMD	**Palm Desert**	**2.22**	**154**	Pn	Pn		10 22 58.7	-1.2
PMD					IAML		10 23 33.4	
	comp=E,36nm,0.6s							
PFO	**Pinyon Flats O**	**2.23**	**156**	Pn	Pn		10 22 58.9	-1.2
PFO					IAML		10 23 35.1	
	comp=E,28nm,0.4s							
XPFO	**Pinon Flat**	**2.23**	**156**			Pn	10 22 58.9	-1.2
FRD	**Ford Ranch, An**	**2.29**	**160**			Pn	10 23 00.1	-0.8
FRD	**Ford Ranch, An**	**2.29**	**160**			Pn	10 23 00.1	-0.8
MDPB	**Devils Postpil**	**2.33**	**328**	Pn	Pn		10 23 00.6	-1.0
MDPB					IAML		10 23 41.5	
	comp=E,28nm,0.8s							
TPH	**Tonopah**	**2.42**	**6**	Pn	Pn		10 23 00.5	-2.4
TPH					IAML		10 23 44.0	
	comp=N,29nm,0.5s							
S11A	**Rachel**	**2.45**	**35**	Pn	Pn		10 23 01.1	-2.0
S11A					IAML		10 23 44.8	
	comp=E,27nm,0.7s							
S11A					IAML		10 23 47.8	
	comp=N,32nm,0.7s							
IRM	**Iron Mountain**	**2.47**	**127**			Pn	10 23 01.1	-2.3
IRM					IAML		10 23 41.7	
	comp=E,31nm,0.4s							
IRM					IAML		10 23 46.6	
	comp=N,22nm,0.5s							
NEE2	**Needles Airpor**	**2.55**	**110**	Pn	Pn		10 23 02.3	-2.1
NEE2					IAML		10 23 46.4	
	comp=E,52nm,0.6s							
NEE2					IAML		10 23 54.1	
	comp=N,58nm,0.6s							
BC3	**Big Chuckawall**	**2.63**	**139**	Pn	Pn		10 23 03.7	-2.0
BC3					IAML		10 23 52.2	
	comp=N,28nm,0.5s							
BC3					IAML		10 23 54.9	
	comp=E,20nm,0.6s							
PRN	**Pahroc Range**	**2.65**	**48**			Pn	10 23 04.4	-1.5
PRN					IAML		10 23 52.5	
	comp=N,24nm,0.5s							
PRN					IAML		10 23 55.5	
	comp=E,24nm,0.8s							
DPP	**Dos Picos Cty**	**2.70**	**169**	Pn	Pn		10 23 05.4	-1.1
DPP					IAML		10 23 47.9	
	comp=E,21nm,0.5s							
LHV	**Little Huntoon**	**2.70**	**344**	Pn	Pn		10 23 05.5	-0.9
LHV					IAML		10 23 58.6	
	comp=E,20nm,0.6s							
PMPB	**Monarch Peak**	**2.71**	**283**	Pn	Pn		10 23 05.8	-0.8
RAMR	**Ramage Ranch**	**2.72**	**270**	Pn	Pn		10 23 04.8	-1.9
NV11	**Mina Array Sit**	**2.81**	**350**	Pn	Pn		10 23 07.0	-1.2
NVAR	**Mina Array Bea**	**2.83**	**348**	Pn	Pn		10 23 07.0	-1.5
BUCR	**Buckhorn Ranch**	**2.91**	**314**	Pn	Pn		10 23 08.0	-1.4
BUCR					IAML		10 23 53.3	
	comp=N,18nm,0.8s							
BUCR					IAML		10 23 59.7	
	comp=E,20nm,0.6s							
BBGB	**Big Mountain B**	**2.98**	**289**	Pn	Pn		10 23 08.4	-2.1
W13A	**Hualapai Mount**	**3.03**	**100**		Pn		10 23 10.0	-1.3
BAR	**Barrett**	**3.06**	**166**	Pn	Pn		10 23 09.1	-2.2
BAR					IAML		10 23 58.3	
	comp=N,33nm,0.3s							
RYN	**Ryan**	**3.07**	**345**	Pn	Pn		10 23 11.2	-0.4
R11B	**Troy Canyon, C**	**3.11**	**30**	Pn	Pn		10 23 11.3	-0.9
WAKR	**Walker**	**3.22**	**332**	Pn	Pn		10 23 12.0	-1.8
WAKR					IAML		10 24 25.1	
	comp=E,11nm,3.1s							
YUH	**Yuha Desert**	**3.29**	**156**	Pn	Pn		10 23 12.4	-2.1
CMB	**Columbia Colle**	**3.29**	**317**	Pn	Pn		10 23 12.3	-2.4
CMB					IAML		10 24 09.9	
	comp=E,14nm,0.8s							
LCMT	**Little Creek M**	**3.72**	**67**	Pn	Pn		10 23 18.9	-1.6
WELL	**Weller Preserv**	**3.77**	**318**	Pn	Pn		10 23 20.1	-1.1
WELL					IAML		10 24 27.2	
	comp=E,7.9nm,0.6s							
WELL					IAML		10 24 27.6	
	comp=N,8.7nm,1.1s							
CCUT	**Cedar City**	**3.85**	**59**	Pn	Pn		10 23 19.5	-3.0
SZCU	**Shurtz Canyon**	**4.07**	**60**	Pn	Pn		10 23 22.7	-2.7
SZCU					IAML		10 23 58.0	
	comp=E,9.1nm,0.6s							
SZCU					IAML		10 25 50.3	
	comp=N,6.8nm,1.0s							
Y14A	**Wickenburg**	**4.10**	**113**	Pn	Pn		10 23 23.4	-2.4
Y14A					IAML		10 24 35.3	
	comp=E,8.6nm,0.5s							
Y14A					IAML		10 24 35.8	
	comp=N,8.0nm,0.5s							
PSUT	**Pine Spring**	**4.11**	**45**	Pn	Pn		10 23 24.8	-1.3
PSUT					IAML		10 24 44.4	
	comp=E,5.5nm,1.5s							
SPR3	**Spring Creek 3**	**4.20**	**36**	Pn	Pn		10 23 27.0	-0.3
AFDM	**Forest Hills D**	**4.28**	**321**	Pn	Pn		10 23 27.5	-0.7
AFDM					IAML		10 24 36.0	
	comp=E,7.6nm,3.6s							
AFDM					IAML		10 25 31.0	
	comp=N,7.4nm,4.6s							
U15A	**North Rim**	**4.32**	**78**	Pn	Pn		10 23 26.9	-2.0
U15A					IAML		10 24 36.8	
	comp=N,5.4nm,3.0s							
U15A					IAML		10 24 52.3	
	comp=E,7.3nm,1.1s							

IDC ***23*** *10:27:25.8±1.7, 6°.38N×76°.87W, h0km, mbtmp4.3/2, ML2.8/2, Error ellipse: s-maj=71.0km s-min=34.0km az=177.0*

RSNC ***23*** *10:27:36.6±0.0, 7°N±1°×7°.3W±°, h122km±1km, M2.8, ML2.5*

ISC 23 10:27:36.2±1.0, 6°.92N±0°.03×73°.32W±0°.04, h123km±6km, n35,σ1§33/66, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.35**	**157**	P	**Pn**	**10 27 53.8**	**-0.2**
BARC				S	**Sn**	**10 28 06.9**	**-0.5**
BRJC	**Barrancabermej**	**0.43**	**277**	P	**Pn**	**10 27 54.1**	**0.0**
BRJC				S	**Sn**	**10 28 07.9**	**+0.4**
PAMC	**Pamplona, Colo**	**0.74**	**56**	P	**Pn**	**10 27 56.9**	**+0.2**
PAMC				S	**Sn**	**10 28 13.1**	**+0.9**
RUSC	**La Rusia**	**1.04**	**167**	P	**Pn**	**10 27 58.6**	**-0.9**
RUSC				S	**Sn**	**10 28 16.0**	**-1.0**
PTBC	**PUERTO BERRIO,**	**1.19**	**252**	P	**Pn**	**10 27 59.1**	**-1.3**
PTBC				S	**Sn**	**10 28 17.8**	**-1.0**
OCAC	**Ocana**	**1.31**	**360**	P	**Pn**	**10 28 01.9**	**0.0**
OCAC				S	**Sn**	**10 28 21.6**	**+0.2**
ZARC	**Zaragoza, Cauc**	**1.63**	**291**	P	**Pn**	**10 28 05.5**	**+0.1**
ZARC				S	**Sn**	**10 28 28.9**	**+1.3**
NORC	**Norcasia**	**2.05**	**229**	P	**Pn**	**10 28 09.2**	**-1.3**
NORC				S	**Sn**	**10 28 36.1**	**-0.6**
ROSC	**El Rosal**	**2.29**	**206**	Pn	**Pn**	**10 28 14.4**	**+0.5**
	6.6nm,0.3s,baz=305,slow=14,SNR=4.5						
ROSC				Sn	**Sn**	**10 28 47.4**	**+4.7**
	5.4nm,0.3s,baz=332,slow=23,SNR=6.1 19nm,0.4s						
ROSC	**El Rosal**	**2.29**	**206**	P	**Pn**	**10 28 14.4**	**+0.5**
ROSC				S	**Sn**	**10 28 43.2**	**+0.5**
HELC	**Santa Helena**	**2.31**	**252**	P	**Pn**	**10 28 14.0**	**-0.1**
HELC				S	**Sn**	**10 28 43.3**	**+0.2**
UREC	**San Jos de Ur**	**2.35**	**291**	P	**Pn**	**10 28 13.3**	**-0.9**
UREC				S	**Sn**	**10 28 42.6**	**-0.8**
GUY2C	**Guyana, Caldas**	**2.64**	**231**	P	**Pn**	**10 28 18.2**	**-0.2**
GUY2C				S	**Sn**	**10 28 50.6**	**-0.2**
VILC	**Villavicencio,**	**2.81**	**188**	P	**Pn**	**10 28 19.3**	**-1.0**
VILC				S	**Sn**	**10 28 53.2**	**-1.0**
DBBC	**Dabeiba**	**2.87**	**272**	P	**Pn**	**10 28 20.9**	**-0.1**
DBBC				S	**Sn**	**10 28 54.4**	**-1.1**
CBOC	**Ciudad Bolivar**	**2.88**	**249**	P	**Pn**	**10 28 21.5**	**+0.4**
CBOC				S	**Sn**	**10 28 55.3**	**-0.4**
ARGC	**Ariguani, Magd**	**3.06**	**343**	P	**Pn**	**10 28 24.8**	**+1.3**
ARGC				S	**Sn**	**10 29 02.3**	**+2.4**
ANIL	**Santa Ana**	**3.18**	**221**	P	**Pn**	**10 28 26.3**	**+1.0**
ANIL				S	**Sn**	**10 29 03.7**	**+0.6**
SDV	**Santo Domingo**	**3.30**	**53**	Pn	**Sn**	**10 29 05.2**	**-0.5**
	12nm,0.3s,baz=34,slow=14,SNR=13 31nm,0.4s						
SDV	**Santo Domingo**	**3.30**	**53**	P	**Pn**	**10 28 27.2**	**+0.5**
SDV				S	**Sn**	**10 29 03.7**	**-2.0**
APAC	**Apartado, Choc**	**3.38**	**287**	P	**Pn**	**10 28 27.5**	**-0.1**
APAC				S	**Sn**	**10 29 07.0**	**-0.3**
SJCC	**San Jacinto, C**	**3.49**	**328**	P	**Pn**	**10 28 27.9**	**-1.2**
SJCC				S	**Sn**	**10 29 07.9**	**-2.1**
PRAC	**Prado**	**3.54**	**206**	P	**Pn**	**10 28 29.5**	**-0.4**
PRAC				S	**Sn**	**10 29 11.3**	**0.0**
ORTC	**Ortega, Tolima**	**3.55**	**213**	P	**Pn**	**10 28 29.4**	**-0.5**
ORTC				S	**Sn**	**10 29 13.2**	**+1.7**
PLMC	**San Jos del P**	**3.56**	**236**	P	**Pn**	**10 28 29.7**	**-0.4**
PLMC				S	**Sn**	**10 29 10.8**	**-1.0**
LCBC	**Los crdobas,**	**3.58**	**303**	P	**Pn**	**10 28 30.6**	**+0.3**
LCBC				S	**Sn**	**10 29 13.1**	**+0.9**
CRJC	**Cerrejon, Guaj**	**4.10**	**6**	P	**Pn**	**10 28 37.5**	**+0.2**
CRJC				S	**Sn**	**10 29 23.5**	**-1.1**
YOTC	**Yotoco, Valle**	**4.19**	**226**	P	**Pn**	**10 28 37.5**	**-1.0**
SMRC	**Santa Marta, M**	**4.31**	**348**	P	**Pn**	**10 28 40.8**	**+0.8**
SMRC				S	**Sn**	**10 29 27.3**	**-2.3**
CAPC	**Capurgana**	**4.35**	**293**	P	**Pn**	**10 28 39.7**	**-0.8**
CAPC				S	**Sn**	**10 29 27.6**	**-2.8**
MACC	**Macarena, Meta**	**4.77**	**186**	P	**Pn**	**10 28 43.9**	**-2.3**
MACC				S	**Sn**	**10 29 36.9**	**-3.7**
URIC	**Uribia, Colomb**	**4.93**	**15**	P	**Pn**	**10 28 47.2**	**-1.1**
URIC				S	**Sn**	**10 29 44.1**	**-0.3**
POPC	**Popayan, Colom**	**5.49**	**218**	P	**Pn**	**10 28 58.0**	**+2.0**
POPC				S	**Sn**	**10 29 59.2**	**+1.0**
ASAR	**Alice Springs**	**149.01**	**235**	PKPbc	**PKPdf**	**10 47 06.3**	**-0.3**
	0.5nm,1.0s,baz=120,slow=3.5,SNR=5.5						
WRA	**Warramunga Arr**	**150.21**	**242**	PKPbc	**PKPdf**	**10 47 10.8**	**+2.2**
	0.2nm,0.4s,baz=108,slow=2.7,SNR=9.1						

IDC ***23*** *10:44:20.5±2.1, 11°.61S×166°.37E, h50km±17km, mb4.4/22, mbtmp4.7/25, ML2.6/1, MS4.6/52, Error ellipse: s-maj=16.3km s-min=11.7km az=83.0*

NEIC ***23*** *10:44:21.2±1.4, 11°.59S±0°.06×166°.39E±0°.07, h43km±1km, mb5.2/203, Ms_20 5.0/398, Mwb5.6/51, Mww5.5/16, Error ellipse: s-maj=12.3km s-min=9.5km az=72.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.65; Mθθ-0.05; Mφφ-2.60; Mrθ-0.01; Mθφ0.35; Mφr0.46; Fault plane solution: M0 2.69000×10¹⁷ NP1: φs353.51000°, δ49.91000°, λ91.53000°. NP2: φs171.14000°, δ40.11000°, λ88.19000°. Principal axes: T 2.6930, Plg85.0000°, Azm276.0000°; N -0.0026, Plg1.0000°, Azm173.0000°; P -2.6904, Plg5.0000°, Azm82.0000°;*

BJI ***23*** *10:44:22.2, 11°.07S×166°.35E, h56km, mB5.3/41, mb5.0/68, Ms5.0/60, Ms7 4.9/62*

MOS ***23*** *10:44:22.5±0.8, 11°.60S×166°.21E, h75km, mb5.3/34, MS4.7/5, Error ellipse: s-maj=7.9km s-min=7.7km az=27.6*

NEIC ***23*** *10:44:22.9, 11°.60S×166°.34E, h50km*

NEIC ***23*** *10:44:22.9, 11°.70S×166°.14E, h50km, Moment Tensor Solution. Duration: 2§7 Moment tensor: Scale 10¹⁷Nm; Mrr1.84; Mθθ-0.03; Mφφ-1.81; Mrθ-0.21; Mθφ0.31; Mφr0.33;*

Fault plane solution: M0 1.89000×10¹⁷ NP1: φs174.79000°, δ39.72000°, λ96.96000°. NP2: φs345.78000°, δ50.63000°, λ84.25000°. Principal axes: T 1.8843, Plg83.0000°, Azm221.0000°; N 0.0094, Plg4.0000°, Azm349.0000°; P -1.8937, Plg5.0000°, Azm80.0000°;

NEIC ***23*** *10:44:22.1, 11°.60S×166°.35E, h50km*

GCMT ***23*** *10:44:23.2±0.1, 11°.64S±0°.01×166°.10E±0°.01, h56km, MW5.5/147, Moment Tensor Solution. s147,c248; s142,c266; Duration: 1§3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.84±.02; Mθθ0.01±.02; Mφφ-1.85±.02; Mrθ-0.11±.01; Mθφ0.36±.02; Mφr0.42±.02; Best double couple: M0 1.92800×10¹⁷ NP1:φs171.00000°, δ38.00000°, λ92.00000°. NP2:φs349.00000°, δ52.00000°, λ89.00000°. Principal axes: T 1.8900, Plg83.0000°, Azm251.0000°; N 0.0770, Plg1.0000°, Azm349.0000°; P -1.9660, Plg7.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***23*** *10:44:25.1, 11°.68S×166°.06E, h56km, mb5.3/67, Santa Cruz Islands*

ISC 23 10:44:22.9±0.4, 11°.66S±0°.04×166°.29E±0°.04, h63km±3km, h63km:pP-P,n877,σ1§49/658,mb5.1/194,21C-15D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.06**	**340**	P	**Pn**	**10 44 42.4**	**+0.6**
SANVU	**Saraoutou**	**3.87**	**167**		**Pn**	**10 45 19.7**	**-0.2**
SANVU				Sn	**Sn**	**10 46 03.6**	**-0.6**
SANVU	**Saraoutou**	**3.87**	**167**	P	**Pn**	**10 45 21.2**	**+1.3**
HURO	**Huro Makira**	**4.46**	**285**	P	**Pn**	**10 45 27.1**	**-1.0**
HURO	**Huro Makira**	**4.46**	**285**	S	**Sn**	**10 46 16.4**	**-2.3**
NGOA	**Tingoa Renbel**	**6.10**	**270**	P	**Pn**	**10 45 49.5**	**-1.0**
NGOA	**Tingoa Renbel**	**6.10**	**270**	S	**Sn**	**10 46 54.6**	**-4.3**
ALEG	**Aligegeo Malai**	**6.21**	**297**	P	**Pn**	**10 45 51.9**	**-0.1**
ALEG	**Aligegeo Malai**	**6.21**	**297**	S	**Sn**	**10 46 59.9**	**-1.8**
DVP	**Devils Point**	**6.30**	**163**	P	**Pn**	**10 45 56.5**	**+3.2**
HNR	**Honiara**	**6.61**	**289**		**Pn**	**10 45 58.2**	**+0.7**
HNR				Sn	**Sn**	**10 47 10.6**	**-0.9**
HNR	**Honiara**	**6.61**	**289**	P	**Pn**	**10 45 58.0**	**+0.5**
	446nm,0.4s,baz=248,slow=10,SNR=37						
HNR				S	**Sn**	**10 47 11.7**	**+0.1**
	687nm,0.7s,baz=229,slow=21,SNR=6.1						
HNR	**Honiara**	**6.61**	**289**	P	**Pn**	**10 45 58.2**	**+0.7**
HNR	**Honiara**	**6.61**	**289**	S	**Sn**	**10 47 10.3**	**-1.3**
HNR	**Honiara**	**6.61**	**289**	P	**Pn**	**10 45 58.2**	**+0.7**
HNR						10 47 10.6	
SAVO	**Savo Central**	**6.84**	**291**	P	**Pn**	**10 46 01.4**	**+0.8**
SAVO	**Savo Central**	**6.84**	**291**	S	**Sn**	**10 47 15.7**	**-1.4**
TATA	**Tatamba Isabel**	**7.16**	**296**	P	**Pn**	**10 46 05.3**	**+0.2**
TATA	**Tatamba Isabel**	**7.16**	**296**	S	**Sn**	**10 47 24.0**	**-1.1**
DZM	**Mont Dzumac**	**10.36**	**179**		**Pn**	**10 46 48.4**	**-0.4**
DZM	**Mont Dzumac**	**10.36**	**179**	P	**Pn**	**10 46 49.1**	**+0.3**
	9.3nm,0.4s,baz=310,slow=19,SNR=18						
DZM				S	**Sn**	**10 48 42.1**	**-1.2**
	27nm,0.6s,baz=324,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**10.36**	**179**	P	**Pn**	**10 46 49.6**	**+0.8**
ONTNC	**Ouen Toro**	**10.59**	**179**	Pn	**Pn**	**10 46 50.8**	**-1.1**
OUENC	**Ouen Island, N**	**10.71**	**177**	P	**Pn**	**10 46 55.9**	**+2.3**
PINNC	**Pines Island,**	**10.95**	**174**	Pn	**Pn**	**10 46 56.7**	**-0.1**
YSA	**Yasawairara**	**12.04**	**116**	P	Pn	10 47 16.9	+5.2
MSVF	**Nonsavu**	**12.88**	**119**		**Pn**	**10 47 26.2**	**+2.9**
MSVF	**Nonsavu**	**12.88**	**119**	P	**Pn**	**10 47 27.0**	**+3.7**
MSVF	**Nonsavu**	**12.88**	**119**	*de*P	**Pn**	**10 47 26.2**	**+2.9**
FUNA	**Funafuti**	**13.09**	**77**	Pn	**Pn**	**10 47 21.5**	**-4.5**
DGTI	**Dogotuki**	**13.84**	**111**	P	**P**	**10 47 41.5**	**-1.0**
TAVE	**Taveuni**	**14.29**	**112**	P	**P**	**10 47 48.1**	**+0.6**
TARA	**Tarawa**	**14.51**	**27**	Pn	**Pn**	**10 47 42.9**	**-2.1**
TARA	**Tarawa**	**14.51**	**27**	P	**P**	**10 47 48.7**	**-1.3**
FUTU	**Fugatoga**	**15.42**	**102**	Pn	**Pn**	**10 47 54.6**	**-2.1**
FUTU				IAmb	IAmb	10 47 58.8	
	comp=Z,259nm,1.9s						
FUTU	**Fugatoga**	**15.42**	**102**	P	**P**	**10 48 02.8**	**+2.7**
PMG	**Port Moresby**	**18.94**	**275**	P	**P**	**10 48 38.9**	**0.0**
PMG	**Port Moresby**	**18.94**	**275**	P	**Pn**	**10 48 40.3**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=125,slow=7.6,SNR=4.3						
PMG				LR	LR	10 55 30.7	
	comp=Z,4μm,20.8s,baz=132,slow=35 comp=Z,26nm,0.9s						
PMG	**Port Moresby**	**18.94**	**275**	P	**Pn**	**10 48 39.8**	**-0.4**
PMG	**Port Moresby**	**18.94**	**275**	P	**Pn**	**10 48 40.0**	**-0.2**
PMG	**Port Moresby**	**18.94**	**275**	*ce*P	**Pn**	**10 48 40.3**	**+0.1**
PMG				pmax	pmax		
	comp=Z,229nm,2.8s						
EIDS	**Eidsvold**	**19.82**	**224**	P	**Pn**	**10 48 49.6**	**-0.9**
	comp=Z,0.0nmcomp=Z,43nm,0.6s						
EIDS	**Eidsvold**	**19.82**	**224**	P	**P**	**10 48 48.9**	**+0.5**
EIDS				IAmb	IAmb	10 49 05.7	
	comp=Z,168nm,1.6s						
EIDS	**Eidsvold**	**19.82

STKA **Stephens Creek** 30.37 225 P **P** 10 50 29.8 +0.8
STKA **Stephens Creek** 30.37 225 P **P** 10 50 29.2 +0.3
comp=Z,35nm,0.7s,baz=39,slow=9.1,SNR=70
STKA LR LR 11 02 02.6
comp=Z,2µm,20.6s,baz=50,slow=35
comp=Z,35nm,0.7s
STKA **Stephens Creek** 30.37 225 P **P** 10 50 29.9 +0.9
STKA **Stephens Creek** 30.37 225 *ce*P **P** 10 50 29.4 +0.4
WR0 **Warramunga Arr** 31.59 251 P **P** 10 50 39.1 -0.8
WR8 **Warramunga Arr** 31.63 251 P **P** 10 50 39.9 -0.3
WR8 IAmb IAmb 10 50 41.5
comp=Z,30nm,1.1s
WB0 **Warramunga Arr** 31.70 251 P **P** 10 50 40.3 -0.5
WRAB **Tennant Creek** 31.77 251 P **P** 10 50 40.8 -0.6
WRAB IAmb IAmb 10 50 42.5
comp=Z,42nm,1.2s
WRAB **Tennant Creek** 31.77 251 *c i*P **P** 10 50 41.2 -0.2
WRAB pmax pmax
comp=Z,58nm,1.5s
WRA **Warramunga Arr** 31.78 251 P **P** 10 50 41.1 -0.4
WRA **Warramunga Arr** 31.78 251 P **P** 10 50 40.6 -0.9
comp=Z,21nm,0.8s,baz=82,slow=9.3,SNR=104
WRA PcP **PcP** 10 53 30.7 -1.0
comp=Z,2.1nm,0.8s,baz=84,slow=2.7,SNR=4.5
WRA ScP **ScP** 10 57 11.1 +1.3
comp=Z,1.6nm,0.9s,baz=73,slow=3.4,SNR=5.6
WRA LR LR 11 02 16.0
comp=Z,1µm,21.8s,baz=68,slow=34
comp=Z,21nm,0.8s
WRA **Warramunga Arr** 31.78 251 *i* P **P** 10 50 40.9 -0.6
WRA pmax pmax
comp=Z,21nm,0.8s
TOO **Toolangi** 31.83 212 P **P** 10 50 42.6 +0.8
TOO **Toolangi** 31.83 212 P **P** 10 50 42.6 +0.8
TOO **Toolangi** 31.83 212 P **P** 10 50 42.6 +0.8
TOO pmax pmax
comp=Z,13nm,0.8s
OXZ **Oxford** 31.94 172 P **P** 10 50 42.4 -0.3
OXZ IAmb IAmb 10 50 43.0
comp=Z,30nm,0.7s
RPZ **Rata Peaks** 32.20 174 LR LR 11 02 27.5
comp=Z,1µm,22.0s,baz=330,slow=34
JCZ **Jackson Bay** 32.37 177 P **P** 10 50 49.9 +3.4
BRAT **Ballarat** 32.65 214 P **P** 10 50 50.8 +1.9
GUMO **Guam** 32.87 319 LR LR 11 04 58.0
comp=Z,441nm,18.8s,baz=136,slow=38
AS01 **Alice Springs** 32.96 244 P **P** 10 50 51.5 -0.3
AS31 **Alice Springs** 33.00 244 P **P** 10 50 51.1 -1.1
comp=Z,7.3nm,1.0s
AS31 **Alice Springs** 33.00 244 P **P** 10 50 51.5 -0.7
ASAR **Alice Springs** 33.00 244 P **P** 10 50 51.4 -0.8
ASAR **Alice Springs** 33.00 244 P **P** 10 50 51.1 -1.1
comp=Z,16nm,0.8s,baz=69,slow=9.7,SNR=122
ASAR PcP **PcP** 10 53 33.1 -1.9
comp=Z,1.4nm,0.5s,baz=84,slow=2.6,SNR=4.7
ASAR ScP **ScP** 10 57 16.6 +2.7
comp=Z,1.2nm,0.8s,baz=77,slow=3.6,SNR=4.3
ASAR LR LR 11 02 59.0
comp=Z,2µm,21.8s,baz=70,slow=34
comp=Z,16nm,0.8s
KDU **Kakadu** 33.06 265 P **P** 10 50 52.2 -0.5
comp=Z,51nm,1.0s
KDU **Kakadu** 33.06 265 P **P** 10 50 53.2 +0.5
HTT **Hallett** 33.11 225 P **P** 10 50 53.1 +0.1
comp=Z,18nm,0.9s
HTT **Hallett** 33.11 225 P **P** 10 50 54.8 +1.8
HTT **Hallett** 33.11 225 P **P** 10 50 52.0 -1.0
ARPS **Mount Arapiles** 33.30 217 P **P** 10 50 55.4 +0.8
comp=Z,8.5nm,0.8s
RAR **Rarotonga** 33.84 111 LR LR 11 01 58.2
comp=Z,1µm,21.3s,baz=272,slow=31
MTN **Manton Dam** 34.36 264 P **P** 10 51 03.9 -0.1
comp=Z,35nm,1.5s
MTN **Manton Dam** 34.36 264 P **P** 10 51 04.2 +0.2
MTN IAmb IAmb 10 51 05.6
comp=Z,38nm,1.1s
MTN **Manton Dam** 34.36 264 P **P** 10 51 05.1 +1.1
BBOO **Buckleboo** 34.81 228 P **P** 10 51 08.1 +0.4
comp=Z,29nm,1.1s
BBOO **Buckleboo** 34.81 228 P **P** 10 51 07.7 -0.1
BBOO IAmb IAmb 10 51 09.0
comp=Z,22nm,0.9s
BBOO **Buckleboo** 34.81 228 P **P** 10 51 09.4 +1.7
KNRA **Kununurra** 36.65 259 P **P** 10 51 23.4 -0.3
comp=Z,36nm,1.3s
KNRA **Kununurra** 36.65 259 P **P** 10 51 23.4 -0.3
WRKA **Warakurna** 38.29 244 P **P** 10 51 37.2 -0.3
comp=Z,13nm,1.2s
NLAI **Namlea** 39.70 279 P **P** 10 51 50.8 +1.4
comp=Z,167nm,1.7s
FITZ **Fitzroy Crossi** 39.74 256 P **P** 10 51 49.3 -0.3
FITZ **Fitzroy Crossi** 39.74 256 LR LR 11 07 27.7
comp=Z,2µm,20.2s,baz=85,slow=35
SOEI **Soe** 41.30 268 P **P** 10 52 01.2 -1.6
SOEI IAmb IAmb 10 52 45.0
comp=Z,68nm,1.0s
SOEI **Soe** 41.30 268 P **P** 10 52 04.0 +1.2
SOEI **Soe** 41.30 268 P **P** 10 52 03.6 +0.8
comp=Z,59nm,1.2s
BATI **Baumata** 41.85 268 LR LR 11 09 15.9
comp=Z,1µm,21.9s,baz=134,slow=36
BATI **Baumata** 41.85 268 P **P** 10 52 07.8 +0.7
comp=Z,2µmcomp=Z,98nm,1.2s
PPT **Papeete** 43.04 103 LR LR 11 06 55.8
comp=Z,581nm,19.4s,baz=268,slow=32
SGSI **Sangihe** 43.30 288 P **P** 10 52 20.0 +1.1
MMRI **Maumere** 43.43 270 P **P** 10 52 19.1 -0.8
MMRI **Maumere** 43.43 270 P **P** 10 52 20.2 +0.2
MMRI **Maumere** 43.43 270 P **P** 10 52 21.0 +1.0
comp=Z,126nm,1.2s
EDFI **Ende, Flores** 43.95 269 P **P** 10 52 24.3 0.0
comp=Z,1µmcomp=Z,39nm,2.4s
LUWI **Luwuk** 44.44 281 P **P** 10 52 28.2 +0.1
LUWI **Luwuk** 44.44 281 P **P** 10 52 28.5 +0.4
DAV **Davao City (W)** 44.56 293 LR LR 11 09 01.8
comp=Z,320nm,21.9s,baz=76,slow=33
JCJ **Chichijima** 45.07 329 LR LR 11 08 45.8
comp=Z,525nm,21.9s,baz=140,slow=32
PSAC2 **Pilbara Seismi** 45.38 251 P **P** 10 52 35.8 +0.4
comp=Z,61nm,1.3s
PSA00 **Pilbara Seismi** 45.43 251 P **P** 10 52 35.9 0.0
comp=Z,67nm,1.2s
PSA00 **Pilbara Seismi** 45.43 251 P **P** 10 52 37.0 +1.2
PSA00 IAmb IAmb 10 52 38.1
comp=Z,42nm,1.1s
PSA00 **Pilbara Seismi** 45.43 251 P **P** 10 52 37.0 +1.2
MBWA **Marble Bar** 45.51 252 P **P** 10 52 36.7 +0.3
comp=Z,97nm,1.2s
MBWA **Marble Bar** 45.51 252 P **P** 10 52 37.2 +0.8
MBWA **Marble Bar** 45.51 252 P **P** 10 52 37.4 +1.0
MBWA **Marble Bar** 45.51 252 P **P** 10 52 37.1 +0.7
APSI **Ampana** 45.56 280 P **P** 10 52 38.0 +1.1
comp=Z,1µmcomp=Z,109nm,1.4s
BNSI **Bone** 46.24 275 P **P** 10 52 43.3 +1.0
comp=Z,2µmcomp=Z,93nm,1.1s
KAPI **Kappang** 46.47 274 P **P** 10 52 44.0 -0.1
KAPI **Kappang** 46.47 274 LR LR 11 15 39.5
comp=Z,277nm,18.3s,baz=100,slow=40
KAPI **Kappang** 46.47 274 P **P** 10 52 45.5 +1.4
KAPI **Kappang** 46.47 274 ⇓ *e*P **P** 10 52 45.3 +1.2
KAPI pmax pmax
comp=Z,30nm,1.4s
SPSI **Sidrap Palu** 46.66 276 P **P** 10 52 46.6 +1.0
comp=Z,1µmcomp=Z,39nm,1.7s
TTSI **Tana Toraja** 46.81 277 P P 10 53 07.3 +21
TOLI2 **Tolitoli** 46.95 283 P **P** 10 52 48.0 +0.1
TOLI2 IAmb IAmb 10 53 02.1
comp=Z,30nm,1.0s
MEEK **Meekatharra** 47.16 244 P **P** 10 52 49.4 0.0
comp=Z,121nm,0.9s
MEEK **Meekatharra** 47.16 244 P **P** 10 52 51.0 +1.6
PCI **Palu** 47.31 280 P **P** 10 52 51.7 +1.0
PLAI **Plampang** 47.78 269 P P 10 53 13.1 +19
KIP **Kipapa** 48.06 47 ⇑ *e*P **P** 10 52 57.6 +1.3
TWSI **Taliwang, Sumb** 48.66 269 P **P** 10 53 00.7 -0.4
comp=Z,62nm,1.1s
KLBR **Kellerberrin** 48.83 238 P **P** 10 53 01.6 -0.6
comp=Z,102nm,0.8s
KLBR **Kellerberrin** 48.83 238 P **P** 10 53 02.9 +0.7
BLDU **Balliduu** 49.51 240 P **P** 10 53 07.0 -0.3
comp=Z,31nm,2.5s
NWAO **Narrogin (SRO)** 49.56 237 P **P** 10 53 07.4 -0.3
comp=Z,101nm,1.1s
NWAO **Narrogin (SRO)** 49.56 237 LR LR 11 14 09.2
comp=Z,2µm,19.8s,baz=72,slow=36
NWAO **Narrogin (SRO)** 49.56 237 P **P** 10 53 09.1 +1.3
NWAO **Narrogin (SRO)** 49.56 237 P **P** 10 53 08.8 +1.0
NWAO **Narrogin (SRO)** 49.56 237 P **P** 10 53 06.2 -1.5
MORW **Morawa** 49.80 242 P **P** 10 53 09.5 -0.1
comp=Z,40nm,0.9s
MORW **Morawa** 49.80 242 P **P** 10 53 10.7 +1.1
MUN **Mundaring** 50.20 238 P **P** 10 53 12.5 -0.1
comp=Z,55nm,0.9s
MYLDM **Lahad Datu** 50.39 287 P **P** 10 53 14.1 -0.1
MYLDM **Lahad Datu** 50.39 287 P **P** 10 53 15.8 +1.6
JHJ **Hachijo jima 2** 51.20 331 LR LR 11 13 03.7
comp=Z,220nm,20.5s,baz=84,slow=34
JAGI **Jajag, Banyuwa** 51.38 268 P **P** 10 53 20.7 -1.0
JAGI **Jajag, Banyuwa** 51.38 268 P **P** 10 53 23.7 +2.0
JAGI **Jajag, Banyuwa** 51.38 268 P **P** 10 53 20.7 -1.0
comp=Z,82nm,1.2s
TGY **Tagaytay City** 51.73 298 LR LR 11 13 12.6
comp=Z,805nm,21.8s,baz=144,slow=34
KKM **Kota Kinabalu** 52.82 287 P **P** 10 53 32.4 -0.2
KKM **Kota Kinabalu** 52.82 287 P **P** 10 53 33.8 +1.3
JOW **Kunigami** 53.16 317 LR LR 11 15 44.7
comp=Z,500nm,19.4s,baz=115,slow=35
PCJI **Pacitan** 54.33 268 P P 10 53 58.1 +15
JMN **Monobe** 54.67 327 P **P** 10 53 44.9 -0.7
JMN **Monobe** 54.67 327 P **P** 10 53 46.9 +1.3
MJAR **Matsushiro Arr** 54.76 332 P **P** 10 53 45.2 -0.9
MJAR **Matsushiro Arr** 54.76 332 P **P** 10 53 44.1 -2.1
comp=Z,5.2nm,1.1s,baz=156,slow=6.3,SNR=5.7
comp=Z,5.2nm,1.1s
MJAR **Matsushiro Arr** 54.76 332 P **P** 10 53 45.2 -0.9
MJAR pmax pmax
comp=Z,5.0nm,1.1s
MAJO **Matsushiro** 54.76 332 P **P** 10 53 44.9 -1.3
MAJO IAmb IAmb 10 54 00.4
comp=Z,62nm,1.9s
MAJO **Matsushiro** 54.76 332 ⇑ *e*P **P** 10 53 44.6 -1.6
MAJO pmax pmax
comp=Z,17nm,1.4s
MJB9 **Matsu-Tunnel** 54.76 332 P **P** 10 53 45.7 -0.5
MJB9 IAmb IAmb 10 54 01.4
comp=Z,60nm,1.9s
SBUM **Sibu** 55.54 281 P **P** 10 53 52.9 +0.7
SBUM **Sibu** 55.54 281 P **P** 10 53 53.8 +1.6
STKI **Sintang** 55.64 278 P **P** 10 53 53.5 +0.5
comp=Z,41nm,1.4s
JNU **Natatsue** 55.88 324 P **P** 10 53 52.0 -2.4
comp=Z,8.4nm,0.9s,baz=142,slow=2.0,SNR=5.0
JNU LR LR 11 15 53.2
comp=Z,197nm,20.2s,baz=139,slow=34
comp=Z,8.4nm,0.9s
NACB **Ninganchiao** 56.34 309 P **P** 10 53 56.6 -1.1
KSM **Kuching** 57.12 279 P **P** 10 54 03.0 -0.6
KSM **Kuching** 57.12 279 P **P** 10 54 04.1 +0.6
ERM **Erimo** 57.49 340 ⇓ *e*P **P** 10 54 07.2 +1.7
ERM pmax pmax
comp=Z,127nm,1.7s
DRV **Dumont d'Urvil** 57.72 192 P **P** 10 54 05.7 -1.0
LEM **Lembang** 58.03 269 LR LR 11 22 04.9
comp=Z,308nm,18.1s,baz=164,slow=39
ASAJ **Asahikawa** 59.55 340 P **P** 10 54 18.4 -1.3
comp=Z,13nm,0.8s,baz=206,slow=13,SNR=5.5
ASAJ LR LR 11 15 22.4
comp=Z,744nm,21.9s,baz=174,slow=31
comp=Z,13nm,0.8s
CGJI **Cibinong** 59.95 269 P P 10 54 36.6 +13
SSE **Sheshan** 60.66 316 P **P** 10 54 28.3 +0.7
SSE S **S** 11 02 41.0 +1.4
SSE pmax pmax
comp=Z,10.0nm,0.6s
SSE pmax pmax
comp=Z,82nm,3.6s
SSE LR LR
comp=Z,130nm,23.1s
SSE LR LR
comp=Z,120nm,23.3s
KSRS **Korea Array** 60.68 325 P **P** 10 54 26.1 -1.5
comp=Z,1.0nm,0.5s,baz=140,slow=6.8,SNR=2.1
comp=Z,1.0nm,0.5s
MDSI **Maura Dua** 61.80 271 P P 10 54 49.6 +14
YSS **Yuzhno-Sakhali** 62.03 342 *e*P P 10 54 41.9 +5.3
YSS *e*S **S** 11 03 03.6 +7.2
SKR **Severo-Kuril's** 62.71 353 *e*P P 10 54 33.8 -7.2
SKR *e*S **S** 11 02 57.2 -7.6
SKR pmax pmax
comp=Z,200nm,15.8s
SKR MLR MLR
comp=Z,400nm,16.0s
NJ2 **Nanjing** 62.83 315 *e*P **P** 10 54 42.8 +0.6
NJ2 pmax pmax
comp=Z,21nm,0.9s
MSHR **Mys Shultsa** 62.84 331 ⇓ *e*P **P** 10 54 42.1 0.0
MSHR pmax pmax
comp=Z,21nm,1.4s
QIZ **Qiongzhong** 63.44 298 P **P** 10 54 47.3 +0.8
QIZ pP **pP** 10 55 02.6 +0.3
QIZ sP **sP** 10 55 09.0 0.0
QIZ S **S** 11 03 18.3 +3.2
QIZ pmax pmax
comp=Z,14nm,1.2s
QIZ pmax pmax
comp=Z,430nm,7.4s
QIZ LR LR
comp=Z,430nm,17.8s
QIZ LR LR
comp=Z,440nm,21.8s
QIZ LR LR
comp=Z,910nm,23.8s
USRK **Ussuriysk Ar.** 63.73 333 P **P** 10 54 47.7 -0.3
comp=Z,8.4nm,1.0s,baz=131,slow=7.8,SNR=8.8
comp=Z,8.4nm,1.0s
SHEM **Shemya Is, Ala** 64.48 5 LR LR 11 16 41.2
comp=Z,464nm,21.9s,baz=190,slow=30
PET **Petropavlovsk** 64.75 355 *e*P **P** 10 54 55.4 +1.0
PET *e*S **S** 11 03 34.2 +4.1
PET pmax pmax
comp=Z,100nm,14.9s
PET MLR MLR
comp=Z,200nm,22.0s
PEA0B **Petropavlovsk-** 64.93 354 ⇓ *e*P **P** 10 54 55.0 -0.6
PETK **Petropavlovsk-** 64.93 354 P **P** 10 54 54.5 -1.1
PETK **Petropavlovsk-** 64.93 354 P **P** 10 54 53.9 -1.7
comp=Z,3.7nm,0.8s,baz=134,slow=6.4,SNR=8.4
comp=Z,3.7nm,0.8s
PETK **Petropavlovsk-** 64.93 354 P **P** 10 54 54.5 -1.1
ADK **Adak** 64.97 12 IAMs_20 IAMs_20 11 16 21.2
comp=Z,910nm,22.0s
MDJ **Mudanjiang** 65.14 332 P **P** 10 54 57.8 +0.7
MDJ pmax pmax
comp=Z,22nm,1.1s
WHN **Wuhan** 65.19 312 P P 10 55 27.8 +30
DL2 **Dalian** 65.28 323 P **P** 10 54 54.0 -4.2
DL2 S **S** 11 03 28.8 -8.4
DL2 pmax pmax
comp=Z,17nm,0.9s
DL2 pmax pmax
comp=Z,420nm,7.2s
DL2 LR LR
comp=Z,380nm,25.7s
DL2 LR LR
comp=Z,490nm,24.1s
DL2 LR LR
comp=Z,670nm,25.9s
TYV **Tymovskoe** 65.58 344 *e*P P 10 55 14.3 +14
TYV *e* 11 04 06.9
TYV pmax pmax
comp=Z,7.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,6.5s
ATKA **Atka Island** 65.80 13 IAMs_20 IAMs_20 11 17 16.8
comp=Z,1µm,22.0s
VNDA **Vanda** 65.89 181 P **P** 10 55 01.3 -0.2
VNDA IAmb IAmb 10 55 16.6
comp=Z,32nm,1.4s
VNDA **Vanda** 65.89 181 P **P** 10 55 00.4 -1.2
comp=Z,3.4nm,0.7s,baz=335,slow=6.4,SNR=24
VNDA LR LR 11 20 38.1
comp=Z,330nm,20.4s,baz=6.0,slow=33
comp=Z,3.4nm,0.7s
VNDA **Vanda** 65.89 181 P **P** 10 55 01.3 -0.2
VNDA pmax pmax
comp=Z,32nm,1.4s
VNDA **Vanda** 65.89 181 P **P** 10 55 01.2 -0.4
CASY **Casey** 66.00 201 P **P** 10 55 02.1 -0.3
CASY IAmb IAmb 10 55 31.3
comp=Z,16nm,1.0s
SBA **Scott Base** 66.19 180 **P** 10 55 03.3 -0.1
SBA **Scott Base** 66.19 180 P **P** 10 55 03.3 -0.1
SBA pmax pmax
comp=Z,56nm,1.5s
SBA **Scott Base** 66.19 180 P **P** 10 55 03.4 -0.1
TIA **Tai'an** 66.42 318 P **P** 10 55 05.5 -0.1
TIA pmax pmax
comp=Z,10.0nm,1.1s
TIA LR LR
comp=Z,370nm,18.6s
TIA LR LR
comp=Z,570nm,20.6s
TIA LR LR
comp=Z,920nm,22.0s
CN2 **Changchun** 66.54 329 *e*P **P** 10 55 05.6 -0.6
CN2 *ep*P pP 10 55 20.1 -2.4
CN2 *es*P sP 10 55 30.6 +1.3
CN2 *e*S **S** 11 03 48.6 -3.6
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,200nm,12.0s
IPM **Ipoh** 66.85 280 P **P** 10 55 08.0 -0.8
IPM **Ipoh** 66.85 280 P **P** 10 55 10.2 +1.4
BNX **BinXian** 67.00 331 ⇑ P **P** 10 55 09.0 -0.1
BNX pmax pmax
comp=Z,15nm,1.6s
MNSI **Mandailing Nat** 67.38 276 P **P** 10 55 11.7 -0.5
comp=Z,33nm,0.8s
CCD **Concordia, Ant** 67.71 191 P **P** 10 55 12.5 -1.2
NIKH **Nikolski High** 67.81 16 P **P** 10 55 14.2 +0.2
NIKH **Nikolski High** 67.81 16 P **P** 10 55 14.8 +0.7
baz=206
RPSI **Rantau Prapat** 68.45 278 P **P** 10 55 18.9 0.0
RPSI IAmb IAmb 10 55 33.5
comp=Z,27nm,1.1s
PSI **Prapat** 68.48 278 LR LR 11 30 35.8
comp=Z,550nm,18.1s,baz=155,slow=40
PSI **Prapat** 68.48 278 P **P** 10 55 18.9 -0.3
PSI pmax pmax
comp=Z,27nm,1.1s
LYN **LuoYang** 68.65 314 P **P** 10 55 18.8 -0.9
LYN pP pP 10 55 35.1 -1.1
LYN S **S** 11 04 20.0 +2.0
LYN pmax pmax
comp=Z,35nm,0.9s
LYN pmax pmax
comp=Z,450nm,4.1s
LYN LR LR
comp=Z,520nm,22.7s
LYN LR LR
comp=Z,580nm,22.0s
LYN LR LR
comp=Z,1µm,22.7s
HNS **HongShan** 68.69 318 ⇓ P **P** 10 55 20.3 +0.4
HNS pmax pmax
comp=Z,25nm,1.1s
HNS LR LR
comp=Z,370nm,18.9s
HNS LR LR
comp=Z,360nm,19.0s
HNS LR LR
comp=Z,710nm,21.1s
ENH **Enshi** 68.69 309 P **P** 10 55 20.1 0.0
ENH IAmb IAmb 10 55 20.8
comp=Z,37nm,1.1s
UNV **Unalaska Valle** 69.24 17 P **P** 10 55 22.1 -0.8
UNV **Unalaska Valle** 69.24 17 P **P** 10 55 23.6 +0.7
baz=208
BJT **Baijiatuau** 69.28 321 P **P** 10 55 23.5 0.0
BJT **Baijiatuau** 69.28 321 P **P** 10 55 23.5 0.0
BJT pmax pmax
comp=Z,22nm,1.3s
BJT **Baijiatuau** 69.28 321 P **P** 10 55 22.6 -0.9
BJI **Beijing** 69.29 321 P **P** 10 55 23.8 +0.3
BJI S **S** 11 04 26.8 +1.6
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI pmax pmax
comp=Z,120nm,5.8s
BJI LR LR
comp=Z,160nm,24.3s
BJI LR LR
comp=Z,110nm,22.7s
BJI LR LR
comp=Z,380nm,27.8s
SURA **Surathani** 69.42 284 P **P** 10 55 27.0 +2.1
SLVN **Son La** 69.47 298 P **P** 10 55 26.6 +1.5
SLVN IAmb IAmb 10 55 27.6
comp=Z,48nm,1.6s
SLVN **Son La** 69.47 298 P **P** 10 55 26.8 +1.7
AKUT **Akutan** 69.70 17 P **P** 10 55 25.6 -0.1
TIY **Taiyuan** 70.37 317 *e*P **P** 10 55 29.8 -0.5
TIY pmax pmax
comp=Z,290nm,5.9s
HEH **HeiHe** 70.39 335 *e*P **P** 10 55 29.4 -0.6
HEH pP **pP** 10 55 43.6 -3.1
HEH LR LR
comp=Z,210nm,17.3s
HEH LR LR
comp=Z,330nm,19.8s
HEH LR LR
comp=Z,490nm,17.6s
P08K **Saint George I** 70.91 14 IAMs_20 IAMs_20 11 20 23.2
comp=Z,852nm,21.0s
XAN **Xi'an** 70.92 312 ⇑ P **P** 10 55 33.8 +0.1
XAN pP pP 10 55 47.4 -2.9
XAN pmax pmax
comp=Z,39nm,1.2s
XAN pmax pmax
comp=Z,370nm,4.7s
XAN LR LR
comp=Z,400nm,22.0s
XAN LR LR
comp=Z,890nm,24.4s
XAN LR LR
comp=Z,1µm,21.3s
XLT **XiLinHaoTe** 71.67 324 *e*P **P** 10 55 38.1 0.0
XLT pP pP 10 55 53.6 -1.0
XLT sP sP 10 56 02.9 +1.6
XLT PP **PP** 10 58 20.3 +2.2
XLT S **S** 11 04 55.9 +2.8
XLT ScS **SKSac** 11 05 31.3 -5.0
XLT pmax pmax
comp=Z,22nm,1.4s
XLT LR LR
comp=Z,23nm,19.6s
XLT LR LR
comp=Z,220nm,19.6s
XLT LR LR
comp=Z,330nm,17.4s
KMI **Kunming** 71.89 301 ⇑ P **P** 10 55 40.6 +0.6
KMI pP pP 10 55 55.0 -0.9
KMI pmax pmax
comp=Z,35nm,1.4s
KMI pmax pmax
comp=Z,340nm,7.4s
KMI LR LR
comp=Z,200nm,20.3s
KMI LR LR
comp=Z,490nm,22.7s
KMI LR LR
comp=Z,710nm,24.1s
MA2 **Magadan** 72.09 352 LR LR 11 22 13.9
comp=Z,467nm,21.5s,baz=172,slow=32
HHC **Hu-ho-hao-te** 72.64 320 *e*P **P** 10 55 45.6 +1.6
HHC S **S** 11 05 02.4 -2.0
HHC ScS **SKSac** 11 05 42.8 -1.0
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,79nm,4.7s
HHC LR LR
comp=Z,320nm,15.7s
HHC LR LR
comp=Z,400nm,15.9s
HHC LR LR
comp=Z,790nm,16.2s
CM31 **Chiang Mai Arr** 72.84 294 P **P** 10 55 44.6 -0.9
CM31 IAmb IAmb 10 55 48.0
comp=Z,32nm,1.0s
CMAR **Chiang Mai Arr** 72.84 294 P **P** 10 55 45.4 -0.1

CMAR Chiang Mai Arr 72.84 294 P **P** **10 55 45.8 +0.2**
comp=Z,12nm,0.9s,baz=124,slow=4.4,SNR=45
CMAR LR LR 11 25 09.6
comp=Z,204nm,21.8s,baz=90,slow=34
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 72.84 294 *i* P **P** **10 55 46.5 +1.0**
CMAR pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 72.96 294 P **P** **10 55 46.0 -0.2**
CHTO IAmb IAmb 10 56 03.7
comp=Z,43nm,1.3s
CHTO Chiang Mai 72.96 294 P **P** **10 55 47.5 +1.3**
CHTO Chiang Mai 72.96 294 P **P** **10 55 46.0 -0.2**
CHTO pmax pmax
comp=Z,43nm,1.3s
ZEA Zeya 73.11 337 *e*P **P** **10 55 46.9 +0.6**
ZEA pmax pmax
comp=Z,20nm,1.5s
PZH PanZhiHua 73.25 302 P **P** **10 55 48.4 +0.5**
PZH pP **pwP** **10 56 06.0 -1.1**
PZH S **S** **11 05 12.6 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,320nm,5.4s
PZH LR LR
comp=Z,300nm,19.2s
PZH LR LR
comp=Z,390nm,20.6s
PZH LR LR
comp=Z,520nm,24.5s
CD2 Chengdu 73.39 307 P **P** **10 55 49.3 +0.7**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,590nm,5.1s
CD2 LR LR
comp=Z,410nm,15.2s
CD2 LR LR
comp=Z,380nm,19.0s
CD2 LR LR
comp=Z,350nm,15.9s
BTO Baotou 73.50 319 *e*P **P** **10 55 51.3 +2.2**
BTO pP **pwP** **10 56 07.8 -0.5**
BTO sP **sP** **10 56 14.8 +2.4**
BTO S **SKiKP** **11 05 17.3 +3.2**
BTO pmax pmax
comp=Z,33nm,0.8s
BTO pmax pmax
comp=Z,640nm,8.5s
BTO LR LR
comp=Z,710nm,19.4s
BTO LR LR
comp=Z,800nm,22.0s
BTO LR LR
comp=Z,2μm,24.1s
M11K Mekoryuk 75.09 14 P **P** **10 55 58.7 +1.0**
baz=208
R16K Pilot Point 75.10 19 P **P** **10 55 58.5 +0.7**
baz=217
SEY Seymchan 75.14 353 LR LR 11 24 26.1
comp=Z,625nm,21.5s,baz=164,slow=32
SEY Seymchan 75.14 353⇑ *e*P **P** **10 55 56.6 -1.3**
SEY pmax pmax
comp=Z,9.0nm,2.0s
TNCH TengChong 75.42 300 ⇑P **P** **10 56 00.3 -0.3**
TNCH PcP **PcP** **10 56 14.9 +1.4**
TNCH pP pP 10 56 17.9 +0.6
TNCH sP sP 10 56 25.1 +1.0
TNCH S **S** **11 05 34.6 -1.7**
TNCH sS pS 11 05 58.1 +2.3
TNCH SS **SS** **11 10 25.0 -3.1**
TNCH pmax pmax
comp=Z,39nm,1.3s
TNCH pmax pmax
comp=Z,490nm,4.2s
TNCH LR LR
comp=Z,290nm,8.8s
TNCH LR LR
comp=Z,210nm,9.0s
TNCH LR LR
comp=Z,320nm,11.3s
SII Sitkinak Islan 75.46 21 P **P** **10 56 00.9 +0.9**
baz=220
R17L Mt. Peulik Vol 75.54 20 P **P** **10 56 00.7 +0.3**
baz=218
LZH Lanzhou 75.56 312 ⇑P **P** **10 56 01.3 +0.1**
LZH pP pP 10 56 17.3 -0.4
LZH sP sP 10 56 28.3 +3.9
LZH S **S** **11 05 37.8 +0.4**
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,500nm,5.0s
LZH LR LR
comp=Z,290nm,18.6s
LZH LR LR
comp=Z,530nm,17.5s
LZH LR LR
comp=Z,920nm,21.0s
O15K Ungalikthiuk R 75.72 17 P **P** **10 56 01.8 +0.4**
baz=214
M13K Dall Lake 75.81 15 P **P** **10 56 02.4 +0.6**
baz=211
N14K Kuskokwak Cree 75.83 16 P **P** **10 56 02.4 +0.5**
baz=212
P16K Nushagak River 76.15 18 P **P** **10 56 03.9 +0.2**
baz=216
Q17K Contact Creek 76.20 19 P **P** **10 56 04.0 -0.3**
baz=218
Q16K King Salmon 76.28 19 P **P** **10 56 04.8 +0.3**
baz=217
OHAK Old Harbor 76.28 21 P **P** **10 56 04.3 -0.2**
baz=221
ACHA Angle Creek He 76.34 20 P **P** **10 56 05.2 +0.1**
M14K Bethel 76.46 15 IAMs_20 IAMs_20 11 22 16.8
comp=Z,722nm,22.0s
M14K Bethel 76.46 15 P **P** **10 56 06.2 +0.7**
baz=212
N15K Kwethluk River 76.47 17 P **P** **10 56 06.4 +0.8**
baz=214
O16K Kokwok River B 76.57 18 P **P** **10 56 06.4 +0.3**
baz=216
M15K Kasigluk River 76.75 16 P **P** **10 56 07.2 +0.1**
baz=213
P17K Kvichak River 76.76 19 P **P** **10 56 07.0 -0.2**
baz=218
L14K Kuka Creek 76.78 15 P **P** **10 56 07.6 +0.4**
baz=211
Q18K Katmai Hardscr 76.79 20 P **P** **10 56 07.3 -0.3**
baz=219,SNR=5.1
K13K Kusilvak Mount 76.81 14 P **P** **10 56 06.7 -0.8**
baz=209
KDAK Kodiak Island 76.95 21 LR LR 11 23 31.7
comp=Z,837nm,21.7s,baz=214,slow=31
KDAK Kodiak Island 76.95 21 P **P** **10 56 07.7 -0.6**
baz=221
O17K Koliganek Bris 77.02 18 P **P** **10 56 08.1 -0.5**
baz=217
GAMB Gambell 77.08 10 P **P** **10 56 08.9 0.0**
baz=202
N16K Nishlik Lake 77.09 17 P **P** **10 56 09.0 -0.1**
baz=215
P18K Big Mountain, 77.30 19 P **P** **10 56 10.0 -0.3**
P18K IAmb IAmb 10 56 11.9
comp=Z,24nm,0.9s
P18K Big Mountain, 77.30 19 P **P** **10 56 09.9 -0.5**
baz=219,SNR=5.9
L15K Ungalak Mounta 77.36 15 P **P** **10 56 10.4 -0.1**
baz=212
Q19K Cape Douglas, 77.46 20 P **P** **10 56 11.5 +0.3**
Q19K Cape Douglas, 77.46 20 P **P** **10 56 10.8 -0.4**
baz=220
M16K Timber Creek 77.49 17 P **P** **10 56 11.6 +0.3**
M16K IAmb IAmb 10 56 14.5
comp=Z,21nm,0.8s
M16K Timber Creek 77.49 17 P **P** **10 56 11.1 -0.2**
baz=215,SNR=7.9
N17K Nushagak Hills 77.60 18 P **P** **10 56 12.4 +0.5**
baz=217
Q20K Shuyak Island 77.64 21 P **P** **10 56 12.3 +0.1**
baz=221
O18K Koktuh Hills 77.67 19 IAMs_20 IAMs_20 11 23 30.8
comp=Z,635nm,20.0s
O18K Koktuh Hills 77.67 19 P **P** **10 56 12.4 +0.1**
baz=219
J14K Nanvaranak Lak 77.78 14 P **P** **10 56 13.1 +0.3**
baz=210
K15K Wolf Creek Mou 77.88 15 P **P** **10 56 13.6 +0.2**
baz=212,SNR=5.7
L16K Owhat River 77.92 16 P **P** **10 56 14.2 +0.5**
baz=214
CIT Chita 77.95 330 *e*P **P** **10 56 14.4 +0.2**
CIT *e* 10 56 28.0
CIT *e* 10 56 42.0
CIT pmax pmax
comp=Z,118nm,1.7s
N18K Kilae Creek 78.11 18 P **P** **10 56 14.8 +0.1**
baz=218
P19K Oil Pt 78.15 20 P **P** **10 56 14.8 -0.2**
baz=220
O19K Port Alsworth 78.21 19 P **P** **10 56 15.2 -0.1**
baz=219
M17K Holitna River 78.23 17 IAmb IAmb 10 56 44.8
comp=Z,28nm,1.2s
M17K Holitna River 78.23 17 P **P** **10 56 16.0 +0.6**
baz=216
QSPA South Pole Qui 78.35 180 P **P** **10 56 16.2 -0.1**
comp=Z,38nm,1.0s,baz=341,slow=1.1,SNR=70
QSPA LR LR 11 28 42.8
comp=Z,320nm,19.0s,baz=22,slow=34
comp=Z,38nm,1.0s
L17K Donlin 78.59 16 P **P** **10 56 18.0 +0.6**
baz=215,SNR=5.1
N19K Bonanza Creek 78.64 18 IAMs_20 IAMs_20 11 24 56.6
comp=Z,682nm,20.0s
N19K Bonanza Creek 78.64 18 P **P** **10 56 17.8 -0.1**
baz=219
O20K Slope Mountain 78.67 20 P **P** **10 56 17.9 0.0**
baz=221
M18K Stony River 78.77 17 P **P** **10 56 18.9 +0.6**
baz=218,SNR=5.1
YAK Yakutsk 78.83 343 LR LR 11 26 51.6
comp=Z,365nm,22.0s,baz=150,slow=32
YAK Yakutsk 78.83 343 *d i*P **P** **10 56 18.5 -0.2**
YAK pmax pmax
comp=Z,16nm,0.7s
J16K Anvik River 78.94 15 P **P** **10 56 19.6 +0.3**
baz=213
K17K Iditarod 79.06 16 P **P** **10 56 20.4 +0.5**
baz=215
L18K Granite Mounta 79.10 17 IAmb IAmb 10 56 56.4
comp=Z,23nm,1.1s
L18K Granite Mounta 79.10 17 P **P** **10 56 20.5 +0.3**
baz=217,SNR=11
ULN Ulaanbaatar 79.11 324 P **P** **10 56 20.5 -0.3**
ULN IAmb IAmb 10 56 22.1
comp=Z,38nm,1.4s
ULN Ulaanbaatar 79.11 324 *c i*P **P** **10 56 20.3 -0.5**
ULN pmax pmax
comp=Z,30nm,1.5s
J17K VABM Dome 79.42 15 IAMs_20 IAMs_20 11 25 40.1
comp=Z,615nm,21.0s
J17K VABM Dome 79.42 15 P **P** **10 56 22.4 +0.5**
baz=214
I17K Unalakleet 79.43 14 P **P** **10 56 22.3 +0.4**
baz=213
SONM Songino Array 79.47 324 P **P** **10 56 22.1 -0.6**
SONM IAmb IAmb 10 56 38.4
comp=Z,35nm,1.5s
SONM Songino Array 79.47 324 P **P** **10 56 22.1 -0.6**
comp=Z,3.1nm,0.6s,baz=136,slow=5.3,SNR=23
SONM LR LR 11 31 04.1
comp=Z,169nm,20.1s,baz=124,slow=35
comp=Z,3.1nm,0.6s
BILL Bilibino 79.49 360⇓ *i*P **P** **10 56 21.3 -0.9**
BILL pmax pmax
comp=Z,8.0nm,1.0s
M19K Big River Lodg 79.52 18 IAmb IAmb 10 56 54.1
comp=Z,57nm,1.9s
L19K White Mountain 79.60 17 P **P** **10 56 23.2 +0.3**
baz=219,SNR=6.3
N20K Mount Spurr 79.65 19 P **P** **10 56 23.6 +0.3**
baz=221
RPN Rapa Nui 79.83 116 LR LR 11 24 21.1
comp=Z,195nm,19.9s,baz=313,slow=30
GTA Gaotai 79.86 314 *e*P **P** **10 56 25.5 +0.5**
GTA pP pP 10 56 39.8 -1.9
GTA S **S** **11 06 26.6 +2.9**
GTA sS sS 11 06 49.3 -1.9
GTA pmax pmax
comp=Z,25nm,1.3s
GTA pmax pmax
comp=Z,370nm,11.9s
GTA LR LR
comp=Z,370nm,21.9s
GTA LR LR
comp=Z,470nm,21.1s
GTA LR LR
comp=Z,660nm,23.1s
M20K Styx River 79.88 18 IAMs_20 IAMs_20 11 25 26.4
comp=Z,639nm,21.0s
M20K Styx River 79.88 18 P **P** **10 56 25.1 +0.5**
baz=220
O22K Cooper Landing 79.94 20 IAMs_20 IAMs_20 11 25 22.0
comp=Z,1μm,21.0s
O22K Cooper Landing 79.94 20 P **P** **10 56 25.6 +0.8**
baz=224
J18K Innoko River 80.09 16 IAMs_20 IAMs_20 11 25 16.0
comp=Z,663nm,21.0s
J18K Innoko River 80.09 16 P **P** **10 56 25.5 0.0**
baz=217,SNR=5.1
L20K Farewell, AK 80.12 18 P **P** **10 56 26.0 +0.2**
baz=220,SNR=6.1
SUA Susitna One 80.32 19 IAMs_20 IAMs_20 11 24 24.0
comp=Z,834nm,22.0s
SUA Susitna One 80.32 19 P **P** **10 56 26.7 -0.3**
baz=223
G16K Koyuk River 80.33 13 IAMs_20 IAMs_20 11 26 15.3
comp=Z,610nm,21.0s
G16K Koyuk River 80.33 13 P **P** **10 56 27.3 +0.5**
baz=211
RC01 Rabbit Creek A 80.38 20 P **P** **10 56 27.2 +0.1**
baz=224
Q23K Middleton Isla 80.41 22 P **P** **10 56 27.5 +0.2**
baz=227
SKT Skwentna 80.45 19 IAMs_20 IAMs_20 11 25 22.5
comp=Z,650nm,22.0s
SKT Skwentna 80.45 19 P **P** **10 56 27.8 +0.2**
baz=222
H17K Granite Mounta 80.50 14 P **P** **10 56 27.7 0.0**
baz=214
M22K Willow 80.74 19 P **P** **10 56 29.2 +0.2**
baz=223
K20K Telida 80.74 17 P **P** **10 56 29.1 0.0**
baz=219
G17K Kiwalik Mounta 80.80 13 P **P** **10 56 29.7 +0.4**
baz=213
J19K Poonan 80.81 16 P **P** **10 56 29.9 +0.5**
baz=218
PPLA Purkeypile 80.94 18 P **P** **10 56 30.0 -0.3**
baz=221
PMR Palmer 80.95 20 P **P** **10 56 30.0 -0.1**
baz=224
KNK Knik Glacier 81.05 20 IAMs_20 IAMs_20 11 26 06.1
comp=Z,971nm,21.0s
KNK Knik Glacier 81.05 20 P **P** **10 56 30.7 -0.1**
baz=225
H18K Honhosa River 81.05 14 IAMs_20 IAMs_20 11 25 21.1
comp=Z,639nm,22.0s
GCSA Galena City Sc 81.08 15 P **P** **10 56 30.8 0.0**
baz=216
GLI Glacier Island 81.14 21 P **P** **10 56 30.9 -0.3**
baz=226
BOD Bodaibo 81.31 335 *e*P **P** **10 56 31.1 -1.0**
BOD pmax pmax
comp=Z,24nm,1.8s
J20K Nowinta River 81.36 16 P **P** **10 56 32.1 -0.2**
baz=219
CAST Castle Rocks 81.37 18 P **P** **10 56 32.1 -0.2**
baz=221
EYAK Cordova Ski Ar 81.39 22 P **P** **10 56 32.4 -0.2**
baz=227
F17K Baldwin Pennin 81.47 13 P **P** **10 56 32.5 -0.3**
baz=212
KAIM Kayak Island 81.47 23 P **P** **10 56 32.5 -0.4**
baz=229
M23K Glacier View 81.56 20 P **P** **10 56 32.4 -1.1**
baz=225
G18K Tagagawik 81.59 14 P **P** **10 56 32.9 -0.6**
baz=215
CHUM Lake Minchumin 81.65 17 P **P** **10 56 33.2 -0.6**
baz=221
SCM Sheep Creek Mo 81.73 20 IAmb IAmb 10 57 17.9
comp=Z,30nm,1.2s
SCM Sheep Creek Mo 81.73 20 P **P** **10 56 33.5 -0.8**
baz=226
I20K Naaghedeneel 81.75 16 P **P** **10 56 32.9 -1.4**
baz=219
KTH Kantishna Hill 81.81 18 IAmb IAmb 10 57 08.2
comp=Z,44nm,1.8s
H19K Roundabout Mou 81.82 15 P **P** **10 56 33.6 -1.0**
baz=217
E17K Hotham Inlet 81.89 12 P **P** **10 56 35.1 0.0**
baz=212
TRF Thorofare Moun 81.93 18 **P** **10 56 35.3 -0.2**
TRF IAmb IAmb 10 57 03.1
comp=Z,48nm,1.9s
TRF IAMs_20 IAMs_20 11 26 51.5
comp=Z,758nm,21.0s
TRF Thorofare Moun 81.93 18 P **P** **10 56 35.3 -0.2**
baz=223
F18K Selawik 81.95 13 P **P** **10 56 35.3 0.0**
baz=214
KLU Klutina 81.98 21 P **P** **10 56 35.5 -0.2**
baz=227
WAT1 Susitna Watana 82.03 19 P **P** **10 56 35.6 -0.3**
baz=224
BMRM Bremner River 82.09 22 P **P** **10 56 36.0 -0.3**
baz=228
WAT6 Susitna Watana 82.11 20 P **P** **10 56 36.0 -0.5**
baz=225
G19K Purcell Mounta 82.16 14 IAmb IAmb 10 57 07.5
comp=Z,45nm,1.9s
G19K Purcell Mounta 82.16 14 P **P** **10 56 36.7 +0.2**
baz=216
D17K Noatak River 82.18 11 P **P** **10 56 36.3 -0.2**
baz=210
H20K Anotleneega Mo 82.19 15 P **P** **10 56 36.7 0.0**
baz=218
BPAW Bear Paw Mtn. 82.20 18 P **P** **10 56 36.8 +0.1**
baz=222
C16K Lisburne Hills 82.27 10 P **P** **10 56 37.3 +0.4**
baz=208
M24K Tolsona, Glenn 82.31 20 IAmb IAmb 10 56 39.9
comp=Z,27nm,0.9s
M24K Tolsona, Glenn 82.31 20 P **P** **10 56 37.4 0.0**
baz=227
GOMU GeErMu 82.31 309 P **P** **10 56 39.3 +0.9**
GOMU pP pP 10 56 52.8 -2.4
GOMU sP sP 10 57 00.8 -1.0
GOMU S **S** **11 06 53.3 +3.5**
GOMU pmax pmax
comp=Z,10.0nm,1.3s
GOMU pmax pmax
comp=Z,230nm,5.1s
GOMU LR LR
comp=Z,120nm,22.5s
GOMU LR LR
comp=Z,310nm,22.6s
GOMU LR LR
comp=Z,600nm,19.1s
E18K Tukpahlearik C 82.44 12 P **P** **10 56 37.9 0.0**
baz=213
ZAK Zakamensk 82.51 325 *e*P **P** **10 56 37.3 -1.5**
ZAK pmax pmax
comp=Z,11nm,1.8s
CRQE Cirque 82.51 23 P **P** **10 56 38.4 -0.2**
baz=230
N25K Chitina, Valde 82.52 21 P **P** **10 56 37.9 -0.7**
baz=228
MCK McKinley 82.55 18 IAMs_20 IAMs_20 11 23 24.9
comp=Z,522nm,19.0s
MCK McKinley 82.55 18 P **P** **10 56 38.2 -0.4**
baz=224
F19K Shaleruckik Mo 82.56 14 P **P** **10 56 38.1 -0.5**
baz=215
MESA MESA 82.58 23 P **P** **10 56 38.4 -0.6**
baz=231
DHY Denali Highway 82.58 19 P **P** **10 56 38.6 -0.4**
baz=226
VRDI Verde Repeater 82.69 22 IAMs_20 IAMs_20 11 25 46.5
comp=Z,756nm,20.0s
GLB Gilahina Butte 82.70 22 IAMs_20 IAMs_20 11 25 34.8
comp=Z,1μm,22.0s
BWN Browne 82.71 18 IAMs_20 IAMs_20 11 27 06.4
comp=Z,951nm,22.0s
I21K Tanana 82.73 16 IAmb IAmb 10 57 13.9
comp=Z,26nm,1.4s
I21K Tanana 82.73 16 P **P** **10 56 39.6 +0.1**
baz=221
C17K DeLong Mountai 82.83 11 P **P** **10 56 40.0 +0.1**
baz=210
HARP HAARP 82.86 21 P **P** **10 56 40.1 -0.1**
baz=228
H21K Melozitna Rive 82.87 16 P **P** **10 56 40.4 +0.2**
baz=220
IMAR Indian Mountai 82.87 15 P **P** **10 56 40.9 +0.7**
CVS Carmenet Viney 82.91 49 IAMs_20 IAMs_20 11 24 50.3
comp=Z,944nm,20.0s
MCARA McCarthy VSAT 82.95 22 P **P** **10 56 40.4 -0.3**
baz=230
MLY Manley 82.97 17 P **P** **10 56 40.4 -0.3**
baz=222
NEA2 Nenana 83.13 18 IAMs_20 IAMs_20 11 27 50.3
comp=Z,607nm,20.0s
NEA2 Nenana 83.13 18 P **P** **10 56 41.1 -0.5**
baz=224
PAX Paxson 83.14 20 P **P** **10 56 41.0 -0.8**
baz=227
RAMR Ramage Ranch 83.17 52 IAMs_20 IAMs_20 11 26 21.4
comp=Z,759nm,18.0s
PINM Pinnacle 83.19 24 P **P** **10 56 41.9 -0.2**
baz=232
E19K Redstone River 83.20 13 P **P** **10 56 41.4 -0.4**
baz=216
F20K Avaraaart Lake 83.22 14 IAMs_20 IAMs_20 11 27 02.5
comp=Z,667nm,22.0s
F20K Avaraaart Lake 83.22 14 P **P** **10 56 41.5 -0.4**
baz=217
BARN Barnard Glacie 83.25 23 IAMs_20 IAMs_20 11 28 04.4
comp=Z,730nm,20.0s
PNL Peninsula 83.28 25 P **P** **10 56 41.6 -0.8**
baz=233
CTG Chitna Glacier 83.31 23 P **P** **10 56 41.9 -0.8**
baz=231
CTGM Chitina Glacie 83.31 23 IAMs_20 IAMs_20 11 27 37.0
comp=Z,850nm,20.0s
O02D Mt. Diablo Mer 83.32 47 IAmb IAmb 10 56 46.1
comp=Z,13nm,0.8s
G21K Allakaket 83.35 15 IAMs_20 IAMs_20 11 27 06.9
comp=Z,601nm,22.0s
G21K Allakaket 83.35 15 P **P** **10 56 42.2 -0.5**
baz=220
H22K Ishtalitna Cre 83.43 16 P **P** **10 56 43.0 -0.2**
baz=222
I23K Minto, Yukon-K 83.45 17 IAMs_20 IAMs_20 11 26 57.7
comp=Z,591nm,22.0s
I23K Minto, Yukon-K 83.45 17 P **P** **10 56 43.1 0.0**
baz=224
SIT Sitka 83.55 28 P **P** **10 56 43.1 -0.7**
baz=237
K24K Donnelly Dome 83.61 19 P **P** **10 56 43.8 -0.3**
baz=227
M26K Nabesna, AK 83.62 21 IAmb IAmb 10 57 22.7
comp=Z,16nm,1.1s
M26K Nabesna, AK 83.62 21 P **P** **10 56 44.1 -0.1**
baz=230
O28M Mount Upton 83.63 23 IAMs_20 IAMs_20 11 25 37.6
comp=Z,773nm,21.0s
O28M Mount Upton 83.63 23 P **P** **10 56 43.9 -0.7**
baz=232
S31K Pelican 83.64 27 P **P** **10 56 44.0 -0.2**
baz=236
HDA Harding Lake 83.65 19 IAmb IAmb 10 56 45.8
comp=Z,19nm,0.8s
HDA IAMs_20 IAMs_20 11 27 08.0
comp=Z,871nm,22.0s
HDA Harding Lake 83.65 19 P **P** **10 56 43.6 -0.6**
baz=226,SNR=17
COLA College 83.70 18 P **P** **10 56 44.4 0.0**
COLA IAmb IAmb 10 56 45.8
comp=Z,15nm,0.8s
COLA College 83.70 18 *ce*P **P** **10 56 44.1 -0.3**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 83.70 18 P **P** **10 56 43.7 -0.7**
baz=225
MENT Mentasta 83.71 21 IAmb IAmb 10 57 36.6
comp=Z,29nm,1.4s
CRAG Craig 83.75 30 P **P** **10 56 44.1 -0.8**
baz=239
RIDG Independent Ri 83.87 20 IAmb IAmb 10 57 19.6

RIDG comp=Z,37nm,1.2s IAMs_20 IAMs_20 11 26 43.7
RIDG comp=Z,731nm,21.0s **Independent Ri** baz=228 **83.87 20** P **P** **10 56 45.2 -0.2**
H23K **Yukon River** baz=223 **83.89 17** P **P** **10 56 44.9 -0.5**
F21K comp=Z,740nm,22.0s **Alatna River** **83.90 15** IAMs_20 IAMs_20 11 27 34.5
F21K baz=220 **Alatna River** **83.90 15** P **P** **10 56 44.3 -1.2**
L26K comp=Z,883nm,22.0s **Log Cabin Wild** **83.90 21** IAMs_20 IAMs_20 11 27 04.6
L26K baz=229 **Log Cabin Wild** **83.90 21** P **P** **10 56 44.9 -0.6**
ILAR comp=Z,2.9nm,0.7s,baz=237,slow=5.6,SNR=41 **Eielson Array** **83.92 18** P **P** **10 56 44.3 -1.3**
ILAR comp=Z,207nm,21.5s,baz=207,slow=31 LR LR 11 27 27.8
P29M comp=Z,2.9nm,0.7s **Windy Craggy** baz=235 **83.94 25** P **P** **10 56 45.1 -0.7**
YBH **Yreka Blue Hor** **83.94 45** **P** **10 56 46.2 -0.2**
YBH comp=Z,34nm,1.5s IAmb IAmb 10 57 02.8
YBH comp=Z,109nm,20.7s,baz=260,slow=31 **Yreka Blue Hor** **83.94 45** LR LR 11 27 04.7
YBH **Yreka Blue Hor** **83.94 45** P **P** **10 56 46.2 -0.2**
YBH comp=Z,34nm,1.5s pmax pmax
M27K **Edge Creek, AK** **83.99 22** IAMs_20 IAMs_20 11 26 17.0
M27K comp=Z,990nm,22.0s **Edge Creek, AK** **83.99 22** P **P** **10 56 44.9 -1.3**
O29M baz=231 **Mount Kennedy** **83.99 24** P **P** **10 56 45.1 -1.1**
POKR baz=234 **Poker Plat Res** **84.00 18** IAMs_20 IAMs_20 11 28 23.2
POKR comp=Z,622nm,21.0s **Poker Plat Res** **84.00 18** P **P** **10 56 45.0 -1.0**
ORV baz=225 **Oroville** **84.03 48** IAmb IAmb 10 57 03.1
DOT comp=Z,51nm,1.9s **Dot Lake** **84.07 20** IAmb IAmb 10 56 48.4
U33K comp=Z,12nm,0.8s **Whale Pass** **84.08 29** P **P** **10 56 45.2 -1.3**
YUK8 baz=239 **Steele Glacier** **84.11 23** P **P** **10 56 45.9 -1.1**
S32K baz=233 **Killisnoo** **84.11 28** P **P** **10 56 44.7 -2.0**
YUK3 baz=238 **Moose Creek** **84.15 23** P **P** **10 56 46.1 -1.0**
G22K baz=232 **Bettles** **84.17 15** P **P** **10 56 46.2 -0.6**
AFDM baz=221 **Forest Hills D** **84.21 48** IAmb IAmb 10 57 04.2
WELL comp=Z,32nm,1.4s **Weller Preserv** **84.22 49** IAMs_20 IAMs_20 11 25 41.0
J25K comp=Z,731nm,21.0s **Salcha River,** **84.29 19** IAmb IAmb 10 56 49.4
J25K comp=Z,14nm,0.8s **Salcha River,** **84.29 19** P **P** **10 56 47.1 -0.4**
SCRK baz=227,SNR=17 **Sand Creek** **84.31 20** P **P** **10 56 47.4 -0.4**
SCRK comp=Z,38nm,1.3s IAmb IAmb 10 57 03.1
SCRK comp=Z,605nm,22.0s IAMs_20 IAMs_20 11 26 56.4
SCRK baz=229,SNR=14 **Sand Creek** **84.31 20** P **P** **10 56 47.3 -0.4**
D20K baz=216 **Etivluk River** **84.35 13** P **P** **10 56 47.6 -0.1**
MAW comp=Z,3.2nm,0.8s,baz=120,slow=7.5,SNR=7.1 **Mawson** **84.36 202** P **P** **10 56 47.1 -0.8**
MAW comp=Z,456nm,18.9s,baz=96,slow=31 LR LR 11 28 07.1
H24K comp=Z,3.2nm,0.8s **Noodor Dome** **84.38 17** IAMs_20 IAMs_20 11 28 10.2
H24K comp=Z,596nm,21.0s **Noodor Dome** **84.38 17** P **P** **10 56 47.4 -0.6**
BUCR baz=225 **Buckhorn Ranch** **84.39 50** IAMs_20 IAMs_20 11 25 47.7
BVCY comp=Z,782nm,21.0s **Beaver Creek** **84.39 22** P **P** **10 56 47.6 -0.5**
G23K baz=232 **Bananza Creek** **84.41 16** IAMs_20 IAMs_20 11 29 06.0
G23K comp=Z,594nm,21.0s **Bananza Creek** **84.41 16** P **P** **10 56 48.2 +0.1**
PLBC baz=223 **Pleasant Camp** **84.42 26** P **P** **10 56 47.8 -0.4**
V35K baz=236 **Ketchikan** **84.42 30** P **P** **10 56 47.9 -0.4**
F22K baz=240 **John River** **84.44 15** P **P** **10 56 48.1 -0.2**
YUK6 baz=221 **Outpost Mounta** **84.45 24** P **P** **10 56 47.6 -1.1**
L27K baz=234 **Beaver Creek,** **84.45 21** P **P** **10 56 48.2 -0.2**
YUK4 baz=231 **Talbot Arm** **84.58 23** P **P** **10 56 49.2 0.0**
HYT baz=234 **Haines Junctio** **84.73 24** P **P** **10 56 49.9 -0.1**
E21K baz=235 **Killik River** **84.73 14** P **P** **10 56 49.7 +0.1**
COLD baz=219 **Coldfoot** **84.74 16** P **P** **10 56 49.8 +0.1**
BBB baz=223 **Bella Bella** **84.78 34** LR LR 11 26 55.8
J26L comp=Z,552nm,21.2s,baz=237,slow=30 **Joseph Creek** **84.80 19** IAMs_20 IAMs_20 11 27 14.2
J26L comp=Z,914nm,22.0s **Joseph Creek** **84.80 19** P **P** **10 56 50.2 +0.1**
PRP baz=229 **Porcupine Dome** **84.86 18** P **P** **10 56 50.3 -0.2**
SKAG baz=227 **Skagway** **84.86 26** P **P** **10 56 50.3 -0.1**
J04A baz=237 **Umpqua Nationa** **84.90 44** P **P** **10 56 50.8 -0.5**
K27K comp=Z,40nm,1.6s **Chicken** **84.98 20** IAmb IAmb 10 57 26.2
E22K comp=Z,945nm,22.0s **Anaktuvuk Pass** **85.01 15** IAMs_20 IAMs_20 11 28 10.9
E22K baz=221 **Anaktuvuk Pass** **85.01 15** P **P** **10 56 51.1 0.0**
G24K comp=Z,16nm,1.1s **Hadweenzic Riv** **85.11 17** IAmb IAmb 10 57 26.1
G24K comp=Z,629nm,22.0s IAMs_20 IAMs_20 11 28 45.4
G24K baz=225 **Hadweenzic Riv** **85.11 17** P **P** **10 56 51.0 -0.6**
C21K baz=218 **Knifeblade Rid** **85.11 13** P **P** **10 56 51.6 +0.1**
N30M baz=235 **Aishikik Lake** **85.26 24** P **P** **10 56 51.7 -0.8**
H25L baz=227 **Birch Creek** **85.28 18** P **P** **10 56 52.2 -0.2**
B20K comp=Z,553nm,20.0s **Meade River** **85.29 12** IAMs_20 IAMs_20 11 29 47.3
B20K baz=216 **Meade River** **85.29 12** P **P** **10 56 51.9 -0.4**
M29M comp=Z,802nm,20.0s **Somme Creek** **85.30 23** IAMs_20 IAMs_20 11 28 31.6
D22K comp=Z,625nm,22.0s **Ayikyak River** **85.37 14** IAMs_20 IAMs_20 11 29 26.4
D22K baz=220 **Ayikyak River** **85.37 14** P **P** **10 56 52.5 -0.4**
I26K baz=229,SNR=7.1 **Coal Creek Min** **85.46 19** P **P** **10 56 52.4 -0.9**
E23K baz=223 **Chandalar** **85.51 15** P **P** **10 56 53.7 0.0**
B21K comp=Z,657nm,22.0s **Ikpikpuk River** **85.51 13** IAMs_20 IAMs_20 11 29 42.1
B21K baz=218 **Ikpikpuk River** **85.51 13** P **P** **10 56 54.1 +0.6**
J05D comp=Z,18nm,1.2s **Fort Rock, OR** **85.52 44** IAmb IAmb 10 57 10.6
G25K baz=226 **Bearman Lake** **85.54 17** P **P** **10 56 54.1 +0.4**
K05A **Summer Lake** **85.56 45** P **P** **10 56 54.5 -0.1**
CWC **Cottonwood Cre** **85.57 52** **P** **10 56 54.5 -0.3**
F24K baz=225 **Squaw Lake** **85.57 16** P **P** **10 56 53.9 0.0**
LRMC LRMC comp=Z,23nm,1.3s **Laurel Mtn Rad** **85.58 53** P IAmb **P** IAmb **10 56 54.3 -0.5** 10 57 11.0
PAHR **Pah Rah Range** **85.62 48** IAmb IAmb 10 57 11.7
P32M comp=Z,28nm,1.4s **Atlin** **85.62 26** P **P** **10 56 54.1 -0.3**
baz=238

WHY **Whitehorse** **85.70 25** P **P** **10 56 54.6 -0.2**
CLC baz=237 **China Lake** **85.75 52** IAmb IAmb 10 57 11.7
EGAK comp=Z,20nm,1.2s **Eagle** **85.77 20** P **P** **10 56 54.9 0.0**
EGAK comp=Z,16nm,1.0s IAmb IAmb 10 57 16.3
WSHM **Spangler Hills** **85.77 53** P **P** **10 56 55.0 -0.6**
WSHM comp=Z,724nm,21.0s IAMs_20 IAMs_20 11 26 02.4
N31M **Braeburn, Yuko** **85.79 24** P **P** **10 56 54.9 -0.2**
LHV baz=236 **Little Huntoon** **85.81 50** IAmb IAmb 10 57 12.8
E24K comp=Z,28nm,1.4s **Your Creek** **85.81 16** IAMs_20 IAMs_20 11 30 02.1
E24K comp=Z,580nm,21.0s **Your Creek** **85.81 16** P **P** **10 56 54.6 -0.5**
L29M baz=224 **L29M** **85.82 22** IAMs_20 IAMs_20 11 29 41.3
L29M comp=Z,692nm,20.0s **L29M** **85.82 22** P **P** **10 56 54.6 -0.6**
PINE baz=234 **Pine Mountain** **85.89 44** IAmb IAmb 10 57 30.9
T35M comp=Z,28nm,1.5s **Bob Quinn** **85.89 29** P **P** **10 56 54.8 -0.9**
MPMC baz=241 **Manual Prospec** **85.91 52** P **P** **10 56 56.4 -0.1**
D23K baz=222 **Nanushuk River** **85.91 14** P **P** **10 56 55.2 -0.3**
RYN **Ryan** **85.91 49** P **P** **10 56 56.3 -0.1**
RYN comp=Z,14nm,1.1s IAmb IAmb 10 57 12.3
S34M comp=Z,109nm,20.7s **Telegraph Cree** **85.93 28** P **P** **10 56 54.9 -0.9**
Q32M baz=241 **Nakina River** **85.93 27** P **P** **10 56 55.6 -0.5**
DAWY baz=240 **Dawson** **85.93 21** P **P** **10 56 55.7 0.0**
DSP comp=Z,29nm,1.4s **Deep Springs** **85.94 51** IAmb IAmb 10 57 13.3
TOLK baz=223 **Toolik Lake Re** **85.94 15** P **P** **10 56 55.4 -0.4**
PFO comp=Z,718nm,20.0s **Pinyon Flats O** **86.00 55** IAMs_20 IAMs_20 11 26 50.8
PFO comp=Z,664nm,21.2s,baz=274,slow=30 **Pinyon Flats O** **86.00 55** LR LR 11 27 03.3
PFO comp=Z,10.0nm,0.9s **Pinyon Flats O** **86.00 55** *deP* pmax **P** pmax **10 56 57.7 +0.8**
M30M comp=Z,809nm,20.0s **Minto, Yukon** **86.01 23** IAMs_20 IAMs_20 11 28 12.4
M30M baz=235 **Minto, Yukon** **86.01 23** P **P** **10 56 56.1 -0.1**
NVAR **Mina Array Bea** **86.01 50** P **P** **10 56 57.1 +0.2**
NVAR comp=Z,4.0nm,0.8s,baz=230,slow=8.6,SNR=30 **Mina Array Bea** **86.01 50** P **P** **10 56 56.2 -0.8**
GNW comp=Z,4.0nm,0.8s **Green Mountain** **86.02 40** P **P** **10 56 55.8 -0.7**
I27K baz=231 **Kandik River** **86.14 19** P **P** **10 56 56.6 -0.1**
GSC comp=Z,20nm,1.6s **Goldstone, Bar** **86.22 53** IAmb IAmb 10 57 13.9
F25K comp=Z,879nm,22.0s **Christian Rive** **86.24 17** IAMs_20 IAMs_20 11 29 08.5
F25K baz=227 **Christian Rive** **86.24 17** P **P** **10 56 57.1 -0.2**
EVN **Everest** **86.29 299** **P** **10 56 57.6 -1.5**
P33M baz=239 **Teslin, Yukon** **86.33 26** P **P** **10 56 57.4 -0.4**
G26K comp=Z,22nm,1.0s **Porcupine Rive** **86.34 18** IAmb IAmb 10 57 14.4
G26K baz=229 **Porcupine Rive** **86.34 18** P **P** **10 56 57.5 -0.1**
QSM QSM comp=Z,14nm,1.2s **Queen of Sheba** **86.36 52** P IAmb **P** IAmb **10 56 58.2 -0.3** 10 57 14.4
BMAR **Burnt Mountain** **86.43 17** P **P** **10 56 57.7 -0.5**
K29M **Barlow Dome** **86.47 22** P **P** **10 56 58.6 +0.1**
K29M baz=235 **Barlow Dome** **86.47 22** P **P** **10 56 58.5 -0.1**
BELC BELC comp=Z,19nm,1.1s **Belle Mtn. Jos** **86.48 54** P IAmb **P** IAmb **10 56 58.4 -0.9** 10 57 15.4
MZP **Montezuma Peak** **86.48 51** P **P** **10 56 58.4 -1.0**
D24K comp=Z,674nm,21.0s **Happy Valley** **86.50 15** IAMs_20 IAMs_20 11 29 00.4
H27K comp=Z,626nm,21.0s **Steamboat Moun** **86.57 19** IAMs_20 IAMs_20 11 29 27.0
H27K baz=231 **Steamboat Moun** **86.57 19** P **P** **10 56 58.7 -0.1**
C23K baz=222 **Itkillik River** **86.58 14** P **P** **10 56 58.9 +0.2**
GWY GWY comp=Z,19nm,1.4s **Greenwater Val** **86.58 52** P IAmb **P** IAmb **10 56 59.4 -0.4** 10 57 15.6
I28M I28M comp=Z,23nm,1.8s **Miner Creek** **86.59 20** P IAmb **P** IAmb **10 56 58.4 -0.6** 10 58 35.8
I28M comp=Z,555nm,22.0s IAMs_20 IAMs_20 11 27 51.7
I28M comp=Z,626nm,21.0s **Miner Creek** **86.59 20** P **P** **10 56 58.5 -0.6**
E25K baz=232 **Arctic Village** **86.63 16** IAMs_20 IAMs_20 11 28 46.6
E25K comp=Z,697nm,22.0s **Arctic Village** **86.63 16** P **P** **10 56 58.9 -0.2**
DLBC baz=227 **Dease Lake** **86.69 28** LR LR 11 27 44.2
R33M comp=Z,184nm,21.7s,baz=228,slow=30 **Jennings River** **86.73 27** P **P** **10 56 59.2 -0.7**
F26K baz=241 **Sheenjek River** **86.73 17** IAMs_20 IAMs_20 11 29 20.5
F26K comp=Z,838nm,22.0s **Sheenjek River** **86.73 17** P **P** **10 56 58.9 -0.8**
M31M baz=228 **Drury Creek, Y** **86.73 24** P **P** **10 56 59.0 -0.7**
TIXI baz=238 **Tiksi** **86.79 349**↓ *iP* **P** **10 56 58.7 -1.0**
TIXI comp=Z,5.0nm,0.9s pmax pmax
WCT **Wildcat Mounta** **86.79 52** IAmb IAmb 10 57 16.7
G27K comp=Z,24nm,1.5s **Doyon Strip** **86.89 18** IAMs_20 IAMs_20 11 29 29.7
G27K comp=Z,700nm,21.0s **Doyon Strip** **86.89 18** P **P** **10 57 00.1 -0.3**
C24K baz=231 **Franklin Bluff** **86.95 14** IAMs_20 IAMs_20 11 30 49.0
C24K comp=Z,621nm,20.0s **Franklin Bluff** **86.95 14** P **P** **10 57 00.0 -0.5**
WVOR baz=224 **Wild Horse Val** **87.03 46** IAmb IAmb 10 57 17.9
I29M comp=Z,31nm,1.6s **Wild Horse Val** **87.03 46** P **P** **10 57 02.7 +0.9**
I29M **Ogilvie Camp,** **87.08 20** P **P** **10 57 01.7 +0.3**
I29M comp=Z,769nm,21.0s IAMs_20 IAMs_20 11 29 25.7
I29M comp=Z,769nm,21.0s **Ogilvie Camp,** **87.08 20** P **P** **10 57 00.6 -0.7**
TPNV baz=234 **Topopah Spring** **87.12 52** IAMs_20 IAMs_20 11 26 54.3
PALK comp=Z,832nm,22.0s **Pallekele** **87.16 278** LR LR 11 37 21.0
D25K comp=Z,156nm,20.7s,baz=120,slow=36 **Kavik River** **87.24 15** IAMs_20 IAMs_20 11 32 09.9
D25K comp=Z,535nm,20.0s **Kavik River** **87.24 15** P **P** **10 57 01.9 -0.2**
MTPC baz=226 **Mountain Pass** **87.25 53** IAmb IAmb 10 57 19.1
J30M comp=Z,17nm,1.4s **Hart River** **87.32 21** IAMs_20 IAMs_20 11 28 56.9
J08A comp=Z,619nm,22.0s **Circle Bar Ran** **87.44 45** IAmb IAmb 10 57 19.7
H29M comp=Z,14nm,1.2s **Whitestone** **87.57 20** P **P** **10 57 03.6 0.0**
I30M baz=234 **Mount Dempster** **87.67 21** P **P** **10 57 04.0 -0.3**
HAWA baz=236 **Hanford** **87.71 42** **P** **10 57 04.7 0.0**
HAWA comp=Z,36nm,1.8s IAmb IAmb 10 57 21.7
G08A comp=Z,21nm,1.6s **Pilot Rock** **87.73 43** IAmb IAmb 10 57 20.9
E27K baz=231 **Coleen River** **87.79 17** P **P** **10 57 04.3 -0.3**
SHPR comp=Z,15nm,1.5s **Sheep Range** **87.84 52** IAmb IAmb 10 57 22.2
V12A comp=Z,15nm,1.3s **Nelson** **87.87 53** IAmb IAmb 10 57 22.1
F28M **Old Crow** **87.94 18** IAMs_20 IAMs_20 11 30 13.4

comp=Z,672nm,22.0s
F28M baz=232 **Old Crow** **87.94 18** P **P** **10 57 05.2 -0.2**
C26K baz=228 **Camden Bay** **88.03 15** P **P** **10 57 05.6 -0.1**
R11B comp=Z,15nm,1.4s **Troy Canyon, C** **88.03 50** IAmb IAmb 10 57 23.4
E08A comp=Z,27nm,1.5s **Dider Farm, El** **88.05 42** IAmb IAmb 10 57 23.5
G29M comp=Z,762nm,22.0s **Pine Creek** **88.09 19** IAMs_20 IAMs_20 11 30 00.4
G29M baz=234 **Pine Creek** **88.09 19** P **P** **10 57 05.8 -0.4**
C27K comp=Z,630nm,22.0s **Jago River** **88.14 16** IAMs_20 IAMs_20 11 30 46.6
C27K baz=229 **Jago River** **88.14 16** P **P** **10 57 06.3 +0.1**
PRN **Pahroc Range** **88.17 51** P **P** **10 57 07.0 -0.4**
MMPY baz=240 **Sheldon Lake,** **88.20 24** P **P** **10 57 06.8 0.0**
EPYK comp=Z,524nm,20.0s **Eagle Plains** **88.20 20** IAMs_20 IAMs_20 11 30 32.3
EPYK baz=235 **Eagle Plains** **88.20 20** P **P** **10 57 06.5 -0.2**
W13A W13A comp=Z,14nm,1.3s **Hualapai Mount** **88.46 54** IAmb **P** IAmb **10 57 08.0 -0.9** 10 57 25.2
B08A B08A comp=Z,31nm,1.9s **Colville Reser** **88.49 40** P IAmb **P** IAmb **10 57 08.3 -0.2** 10 57 26.9
214A **Organ Pipe Nat** **88.52 57** P **P** **10 57 07.7 -1.3**
D27M D27M comp=Z,708nm,22.0s **Malcolm River** **88.64 16** IAMs_20 **P** IAMs_20 **10 57 09.2 +0.5** 11 30 53.7
D27M baz=231 **Malcolm River** **88.64 16** P **P** **10 57 08.9 +0.2**
E28M baz=233 **Babbage River** **88.65 17** P **P** **10 57 08.9 +0.2**
H31M comp=Z,881nm,22.0s **Peel River** **88.70 21** IAMs_20 IAMs_20 11 29 29.4
H31M baz=237 **Peel River** **88.70 21** P **P** **10 57 08.9 -0.1**
BMO BMO comp=Z,23nm,1.5s **Blue Mountains** **88.70 44** IAmb **P** IAmb **10 57 08.5 -1.1** 10 57 26.3
BMO comp=Z,582nm,22.0s IAMs_20 IAMs_20 11 28 02.8
BMO BMO comp=Z,23nm,1.5s **Blue Mountains** **88.70 44** P pmax **P** pmax **10 57 08.5 -1.1**
G30M baz=236 **tAoh Zraii Nji** **88.71 19** P **P** **10 57 09.0 -0.1**
LPIG comp=Z,169nm,21.9s,baz=262,slow=30 **La Paz** **88.78 65** LR LR 11 28 31.0
ELK ELK comp=Z,25nm,1.6s **Elko** **88.96 48** IAmb **P** IAmb **10 57 09.7 -1.4** 10 57 27.1
ELK comp=Z,561nm,20.0s IAMs_20 IAMs_20 11 28 42.7
ELK comp=Z,464nm,21.0s,baz=272,slow=31 **Elko** **88.96 48** LR LR 11 29 37.9
ELK ELK comp=Z,25nm,1.6s **Elko** **88.96 48** P pmax **P** pmax **10 57 09.7 -1.4**
E29M comp=Z,586nm,21.0s **Blow River** **89.00 18** IAMs_20 IAMs_20 11 30 24.4
F10A **Beach Ranch, E** **89.10 43** **P** **10 57 11.2 -0.3**
SPR3 **Spring Creek 3** **89.15 50** **P** **10 57 11.2 -1.0**
F30M **Barrier River** **89.21 19** IAMs_20 IAMs_20 11 30 56.9
MFID comp=Z,482nm,20.0s **Camas Ranch** **89.30 45** **P** **10 57 12.7 +0.2**
G31M **Satah River** **89.32 20** IAMs_20 IAMs_20 11 31 14.9
PSUT comp=Z,568nm,20.0s **Pine Spring** **89.39 51** **P** **10 57 12.3 -0.8**
PSUT comp=Z,15nm,1.3s IAmb IAmb 10 57 29.3
LCMT LCMT comp=Z,18nm,1.3s **Little Creek M** **89.46 52** P IAmb **P** IAmb **10 57 12.3 -1.1** 10 57 29.7
CCUT CCUT comp=Z,17nm,1.3s **Cedar City** **89.50 52** IAmb **P** IAmb **10 57 13.2 -0.5** 10 57 30.4
PLID PLID comp=Z,28nm,1.8s **Pearl Lake** **89.66 44** IAmb **P** IAmb **10 57 13.6 -0.7** 10 57 30.6
PLID comp=Z,605nm,22.0s IAMs_20 IAMs_20 11 28 33.0
F31M comp=Z,517nm,20.0s **Tsiigehtchic** **89.78 20** IAMs_20 IAMs_20 11 32 20.9
KNB **Kanab** **89.78 52** **P** **10 57 13.7 -1.3**
KNB KNB comp=Z,28nm,1.4s **Kanab** **89.78 52** P pmax **P** pmax **10 57 13.7 -1.3**
BELA BELA comp=Z,15nm,1.1s **Belgrano 2** **89.84 176** P IAmb **P** IAmb **10 57 13.1 -1.2** 10 57 30.1
NEW comp=Z,407nm,21.7s,baz=258,slow=30 **Newport** **89.86 41** LR LR 11 29 36.5
WMQ WMQ comp=Z,510nm,24.3s **Urumqi** **89.90 315** *eP* LR **P** LR **10 57 14.3 -0.9**
U15A U15A comp=Z,9.7nm,0.8s **North Rim** **90.05 53** P IAmb **P** IAmb **10 57 16.1 -0.3** 10 57 19.2
X16A **Lo Mia Camp, P** **90.23 55** **P** **P** **10 57 16.4 -0.8**
INK comp=Z,295nm,19.3s,baz=227,slow=34 **Inuvik** **90.31 19** LR LR 11 34 55.1
MTPU comp=Z,11nm,1.2s **Mount Pierson** **90.53 51** IAmb IAmb 10 57 35.7
WUAZ comp=Z,26nm,1.7s **Wupatki** **90.55 54** IAmb IAmb 10 57 35.9
WUAZ comp=Z,493nm,20.0s IAMs_20 IAMs_20 11 30 28.1
DUG DUG comp=Z,21nm,1.6s **Dugway, Tooele** **90.60 49** P IAmb **P** IAmb **10 57 18.5 -0.2** 10 57 35.5
DUG comp=Z,715nm,22.0s IAMs_20 IAMs_20 11 29 06.1
DUG DUG comp=Z,21nm,1.7s **Dugway, Tooele** **90.60 49** P pmax **P** pmax **10 57 18.5 -0.2**
MSU **Marysvale** **90.65 51** P **P** **10 57 19.4 +0.4**
MSU **Marysvale** **90.65 51** P **P** **10 57 19.5 +0.4**
HVU **Hansel Valley** **91.03 48** **P** **10 57 20.9 +0.2**
HVU HVU comp=Z,32nm,1.4s **Hansel Valley** **91.03 48** P pmax **P** pmax **10 57 20.9 +0.2**
HYB **Hyderabad** **91.30 287** *eP* **P** **10 57 22.4 +0.1**
HYB *esP* **pP** **10 57 40.5 +1.4**
SYO **Syowa Base** **91.35 197**↑ *epP* pP 10 57 34.2 -3.9
SYO **Syowa Base** **91.35 197**↓ *esP* sP 10 57 40.0 -4.7
MCMT **McKenzie Canyo** **91.74 45** P **P** **10 57 23.6 -0.4**
BPMT **Black Pine Rid** **91.75 43** P **P** **10 57 23.7 -0.3**
HWUT comp=Z,14nm,1.6s **Hardware Ranch** **91.86 48** IAmb IAmb 10 58 03.1
DLMT comp=Z,5.5nm,0.8s **Dillon** **92.05 44** IAmb IAmb 10 57 27.2
DLMT comp=Z,538nm,21.0s IAMs_20 IAMs_20 11 30 33.3
BSUT BSUT comp=Z,11nm,1.3s **Blindstream Ca** **92.20 49** **P** IAmb **10 57 26.6 +0.2** 10 58 04.2
OVMT **Ovando** **92.21 42** P **P** **10 57 25.8 -0.2**
LRM **Limekiln Ridge** **92.26 44** P **P** **10 57 26.2 -0.1**
TPAW comp=Z,24nm,2.0s **Teton Pass** **92.74 46** IAmb IAmb 10 58 05.5
BOZ comp=Z,25nm,1.9s **Bozeman (W)** **92.77 44** IAmb IAmb 10 57 45.6
YHL **Hebgen Lake** **92.90 45** **P** **10 57 30.1 +0.7**
LOHW **Long Hollow** **93.02 46** P **P** **10 57 28.9 -1.0**
PV10 **Paradox Valley** **93.02 52** P **P** **10 57 27.3 -2.7**
PV14 PV14 comp=Z,11nm,1.5s **Lion Creek, Pa** **93.03 52** P IAmb **P** IAmb **10 57 28.5 -1.6** 10 58 29.5
PV12 comp=Z,7.7nm,0.8s **Saucer Basin,** **93.19 52** IAmb IAmb 10 57 34.1
PDAR comp=Z,1.3nm,0.8s,baz=289,slow=7.2,SNR=14 **Pinedale Array** **93.58 47** P PKKP **P** **PKKPdf** **10 57 31.8 -0.7** **11 14 36.5 -1.8**
PDAR comp=Z,0.3nm,0.7s,baz=104,slow=6.3,SNR=4.5 LR LR 11 31 23.5
PDAR comp=Z,151nm,21.9s,baz=254,slow=30 IAMs_20 IAMs_20 11 33 13.6
YNE comp=Z,1.3nm,0.8s **Yellowstone No** **93.75 45** IAmb IAmb 11 00 31.7
Y22D comp=Z,1.3nm,1.9s **IRIS PASSCAL I** **93.81 56** IAMs_20 IAMs_20 11 33 13.6

	comp=Z,731nm,19.0s								
C36M	**Paulatuk**	**93.83**	**19**	IAMs_20	IAMs_20	11 32 46.1			
	comp=Z,501nm,21.0s								
MK31	**Makanchi Array**	**94.33**	**317**	*c iP*	**P**	**10 57 34.4**	**-1.2**		
MKAR	**Makanchi Array**	**94.33**	**317**		**P**	**10 57 34.4**	**-1.3**		
MKAR	**Makanchi Array**	**94.33**	**317**	P	**P**	**10 57 34.5**	**-1.1**		
	comp=Z,3.6nm,0.5s,baz=89,slow=6.4,SNR=35								
MKAR				LR	LR	11 40 00.2			
	comp=Z,101nm,20.3s,baz=94,slow=35								
	comp=Z,3.6nm,0.5s								
ANMO	**Albuquerque**	**94.36**	**55**	IAMs_20	IAMs_20	11 31 55.0			
	comp=Z,491nm,19.0s								
ANMO	**Albuquerque**	**94.36**	**55**	LR	LR	11 31 56.2			
	comp=Z,546nm,21.4s,baz=356,slow=30								
ANMO	**Albuquerque**	**94.36**	**55**	⇑*iP*	**P**	**10 57 36.5**	**+0.3**		
ANMO				pmax	pmax				
	comp=Z,4.0nm,2.3s								
ZAA0	**Zalesovo Array**	**94.36**	**324**	P	**P**	**10 57 34.4**	**-1.2**		
ZAA0				IAmb	IAmb	10 57 49.5			
	comp=Z,14nm,1.2s								
ZALV	**Zalesovo Beam**	**94.36**	**324**	P	**P**	**10 57 34.5**	**-1.0**		
ZALV	**Zalesovo Beam**	**94.36**	**324**	P	**P**	**10 57 34.1**	**-1.4**		
	comp=Z,2.1nm,0.7s,baz=114,slow=3.6,SNR=11								
ZALV				LR	LR	11 37 30.0			
	comp=Z,156nm,21.8s,baz=86,slow=34								
	comp=Z,2.1nm,0.7s								
EGMT	**Eagleton**	**94.57**	**42**	P	**P**	**10 57 35.4**	**-1.4**		
EGMT				IAmb	IAmb	10 57 52.3			
	comp=Z,8.4nm,1.1s								
S22A	**4UR Ranch, Cre**	**94.60**	**53**	IAMs_20	IAMs_20	11 32 04.2			
	comp=Z,488nm,19.0s								
MNTX	**Cornudas Mount**	**94.63**	**59**	IAMs_20	IAMs_20	11 31 12.9			
	comp=Z,739nm,20.0s								
HAYD	**Hayden**	**94.80**	**50**	IAMs_20	IAMs_20	11 31 35.4			
	comp=Z,526nm,22.0s								
PMSA	**Palmer Station**	**94.97**	**161**	P	**P**	**10 57 39.2**	**+1.1**		
PMSA				IAmb	IAmb	10 57 54.0			
	comp=Z,23nm,1.7s								
PMSA	**Palmer Station**	**94.97**	**161**	LR	LR	11 34 55.3			
	comp=Z,205nm,20.8s,baz=242,slow=32								
YKA	**Yellowknife Ar**	**95.27**	**27**	LR	LR	11 33 33.1			
	comp=Z,223nm,21.9s,baz=272,slow=31								
YKAW3	**Yellowknife Wh**	**95.29**	**27**	P	**P**	**10 57 40.5**	**+0.9**		
YKAW3				IAmb	IAmb	10 57 45.3			
	comp=Z,9.5nm,1.1s								
SDCO	**Great Sand Dun**	**95.63**	**53**	IAMs_20	IAMs_20	11 32 25.6			
	comp=Z,592nm,21.0s								
TX31	**Lajitas Ar. Si**	**95.66**	**61**	P	**P**	**10 57 42.7**	**+0.5**		
TXAR	**Lajitas Array**	**95.66**	**61**	P	**P**	**10 57 41.9**	**-0.3**		
	comp=Z,0.4nm,0.7s,baz=233,slow=5.8,SNR=6.0								
TXAR				LR	LR	11 32 55.0			
	comp=Z,305nm,20.9s,baz=266,slow=30								
	comp=Z,0.4nm,0.7s								
T25A	**Trinidad**	**96.38**	**54**	IAMs_20	IAMs_20	11 33 55.5			
	comp=Z,509nm,20.0s								
SNAA	**Sanae**	**96.54**	**183**	⇑P	**P**	**10 57 45.2**	**-0.2**		
	comp=Z,36nm,0.9s								
SNAA	**Sanae**	**96.54**	**183**	P	**P**	**10 57 43.6**	**-1.7**		
	comp=Z,1.0nm,0.8s,baz=191,slow=4.9,SNR=5.0								
	comp=Z,1.0nm,0.8s								
SNAA	**Sanae**	**96.54**	**183**	⇓*eP*	**P**	**10 57 44.9**	**-0.4**		
SNAA				pmax	pmax				
	comp=Z,7.0nm,1.7s								
LAO	**LASA Array**	**96.67**	**44**	IAMs_20	IAMs_20	11 32 56.5			
	comp=Z,462nm,22.0s								
MSTX	**Muleshoe**	**97.18**	**57**	IAMs_20	IAMs_20	11 34 31.9			
	comp=Z,678nm,20.0s								
VNA3	**Neumayer Olymp**	**97.25**	**181**	⇑P	**P**	**10 57 47.7**	**-0.8**		
	comp=Z,1.3nm,0.5s								
KURK	**Kurchatov**	**97.45**	**320**	⇓*iP*	**P**	**10 57 48.3**	**-1.3**		
KURK				pmax	pmax				
	comp=Z,6.0nm,1.4s								
KURBB	**Kurchatov Arra**	**97.49**	**320**	P	**P**	**10 57 47.8**	**-2.0**		
	comp=Z,0.4nm,0.2s,baz=102,slow=3.7,SNR=6.0								
KURBB				PP	**PP**	**11 01 52.4**	**+4.6**		
	comp=Z,0.7nm,0.9s,baz=102,slow=7.8,SNR=4.4								
	comp=Z,0.4nm,0.2s								
KSCO	**Kaye Shedlock'**	**98.07**	**52**	IAMs_20	IAMs_20	11 33 18.0			
	comp=Z,615nm,22.0s								
AMTX	**Amarillo**	**98.22**	**56**	IAMs_20	IAMs_20	11 32 56.7			
	comp=Z,662nm,21.0s								
AAK	**Ala-Archa**	**99.10**	**312**	LR	LR	11 43 30.9			
	comp=Z,166nm,20.6s,baz=90,slow=36								
AAK	**Ala-Archa**	**99.10**	**312**	⇓*eP*	**Pdif**	**10 57 57.8**	**+0.3**		
AAK				pmax	pmax				
	comp=Z,7.0nm,2.2s								
JCT	**Junction City**	**99.15**	**61**	IAMs_20	IAMs_20	11 35 07.2			
	comp=Z,645nm,20.0s								
ABTX	**Abilene, Hawle**	**99.58**	**59**	IAMs_20	IAMs_20	11 34 09.4			
	comp=Z,726nm,22.0s								
FFC	**Flin Flon**	**100.41**	**36**	IAMs_20	IAMs_20	11 35 43.2			
	comp=Z,715nm,21.0s								
WMOK	**Wichita Mounta**	**100.56**	**57**	IAMs_20	IAMs_20	11 36 39.3			
	comp=Z,683nm,20.0s								
OK038	**West end E0370**	**100.79**	**55**	IAMs_20	IAMs_20	11 35 37.4			
	comp=Z,588nm,21.0s								
R32A	**Long Quarter,**	**101.03**	**53**	IAMs_20	IAMs_20	11 35 23.5			
	comp=Z,416nm,21.0s								
WHTX	**Lake Whitney,**	**101.34**	**59**	IAMs_20	IAMs_20	11 36 29.1			
	comp=Z,507nm,20.0s								
BGNE	**Belgrade**	**101.76**	**50**	IAMs_20	IAMs_20	11 35 35.5			
	comp=Z,577nm,21.0s								
OK029	**Liberty Lake**	**101.76**	**56**	IAMs_20	IAMs_20	11 37 28.9			
	comp=Z,635nm,19.0s								
HKT	**Hockley**	**102.49**	**62**	IAMs_20	IAMs_20	11 36 27.7			
	comp=Z,499nm,21.0s								
T35A	**Sooner Cattle**	**102.62**	**55**	IAMs_20	IAMs_20	11 37 28.7			
	comp=Z,497nm,20.0s								
KSU1	**Kansas State U**	**102.73**	**52**	IAMs_20	IAMs_20	11 36 35.0			
	comp=Z,448nm,21.0s								
L34A	**Svendsen Farm,**	**103.12**	**49**	IAMs_20	IAMs_20	11 37 12.7			
	comp=Z,621nm,21.0s								
F33A	**5 Mile Ranch,**	**103.42**	**45**	IAMs_20	IAMs_20	11 37 57.1			
	comp=Z,375nm,20.0s								
Z38A	**Mt. Pleasant**	**103.54**	**58**	IAMs_20	IAMs_20	11 42 30.4			
	comp=Z,525nm,19.0s								
P38A	**Dawn**	**105.15**	**52**	IAMs_20	IAMs_20	11 43 56.4			
	comp=Z,507nm,19.0s								
S39A	**Bolivar**	**105.21**	**54**	IAMs_20	IAMs_20	11 39 41.7			
	comp=Z,474nm,21.0s								
R40A	**Maddies Statio**	**106.07**	**53**	IAMs_20	IAMs_20	11 38 49.0			
	comp=Z,533nm,20.0s								
143A	**Socs Landing,**	**106.50**	**59**	IAMs_20	IAMs_20	11 38 47.8			
	comp=Z,638nm,22.0s								
E38A	**The Farm, Brul**	**106.72**	**45**	IAMs_20	IAMs_20	11 46 12.5			
	comp=Z,348nm,18.0s								
CCM	**Cathedral Cave**	**106.87**	**54**	IAMs_20	IAMs_20	11 39 04.2			
	comp=Z,536nm,21.0s								
L40A	**Anamosa**	**106.97**	**49**	IAMs_20	IAMs_20	11 40 48.3			
	comp=Z,572nm,20.0s								
VBMS	**Vicksburg**	**107.22**	**60**	IAMs_20	IAMs_20	11 38 35.9			
	comp=Z,590nm,21.0s								
JFWS	**Jewell Farm**	**107.69**	**49**	IAMs_20	IAMs_20	11 47 34.4			
	comp=Z,432nm,18.0s								
Y45A	**Yeager Farm, C**	**108.11**	**58**	IAMs_20	IAMs_20	11 45 15.4			
	comp=Z,453nm,19.0s								
OXF	**Oxford**	**108.25**	**57**	IAMs_20	IAMs_20	11 41 18.9			
	comp=Z,486nm,20.0s								
TEIG	**Tepich**	**108.29**	**72**	IAMs_20	IAMs_20	11 37 10.1			
	comp=Z,467nm,20.0s								
COWI	**Conover**	**108.41**	**45**	IAMs_20	IAMs_20	11 40 46.2			
	comp=Z,515nm,21.0s								
146A	**Union**	**108.48**	**59**	IAMs_20	IAMs_20	11 39 59.1			
	comp=Z,576nm,22.0s								
K43A	**Burlington**	**109.10**	**49**	IAMs_20	IAMs_20	11 40 40.8			
	comp=Z,474nm,21.0s								
F42A	**Maple Grove Fa**	**109.12**	**46**	IAMs_20	IAMs_20	11 46 22.1			
	comp=Z,342nm,19.0s								
PLAL	**Pickwick Lake**	**109.36**	**57**	IAMs_20	IAMs_20	11 41 02.2			
	comp=Z,567nm,21.0s								
H43A	**Windswept, Lux**	**109.44**	**47**	IAMs_20	IAMs_20	11 43 52.7			
	comp=Z,370nm,20.0s								
WVT	**Waverly**	**109.57**	**56**	IAMs_20	IAMs_20	11 41 20.7			
	comp=Z,572nm,21.0s								
P46A	**Rosedale**	**110.03**	**52**	IAMs_20	IAMs_20	11 42 45.7			
	comp=Z,549nm,20.0s								
SFIN	**Lafayette**	**110.09**	**51**	IAMs_20	IAMs_20	11 41 42.3			
	comp=Z,578nm,22.0s								
T47A	**Sharon Grove**	**110.15**	**55**	IAMs_20	IAMs_20	11 47 14.0			
	comp=Z,399nm,19.0s								
X48A	**Hartselle**	**110.20**	**58**	IAMs_20	IAMs_20	11 39 58.5			
	comp=Z,421nm,22.0s								
V48A	**Smith Brothers**	**110.39**	**56**	IAMs_20	IAMs_20	11 40 31.4			
	comp=Z,589nm,22.0s								
L46A	**Eue Claire**	**110.64**	**49**	IAMs_20	IAMs_20	11 42 18.5			
	comp=Z,610nm,21.0s								
Y49A	**Blount Mountai**	**110.72**	**58**	IAMs_20	IAMs_20	11 42 57.4			
	comp=Z,428nm,21.0s								

P48A	**Milroy**	**111.41**	**52**	IAMs_20	IAMs_20	11 44 27.2			
	comp=Z,436nm,19.0s								
O48B	**Farmland**	**111.58**	**51**	IAMs_20	IAMs_20	11 48 02.7			
	comp=Z,352nm,19.0s								
W50A	**Signal Mountai**	**111.62**	**57**	IAMs_20	IAMs_20	11 43 32.2			
	comp=Z,492nm,20.0s								
J47A	**Sunmer**	**111.64**	**48**	IAMs_20	IAMs_20	11 48 20.1			
	comp=Z,339nm,19.0s								
GLMI	**Grayling**	**111.66**	**46**	IAMs_20	IAMs_20	11 44 51.4			
	comp=Z,448nm,20.0s								
E46A	**Sault Ste Mari**	**111.73**	**45**	IAMs_20	IAMs_20	11 42 45.1			
	comp=Z,544nm,22.0s								
T50A	**Nancy**	**111.96**	**55**	IAMs_20	IAMs_20	11 42 48.1			
	comp=Z,451nm,20.0s								
X51A	**Calhoun**	**112.00**	**57**	IAMs_20	IAMs_20	11 42 14.3			
	comp=Z,552nm,22.0s								
152A	**Waverly Hall**	**112.14**	**59**	IAMs_20	IAMs_20	11 43 09.0			
	comp=Z,556nm,21.0s								
O49A	**Covington**	**112.21**	**51**	IAMs_20	IAMs_20	11 43 52.4			
	comp=Z,471nm,21.0s								
R50A	**Paris**	**112.32**	**53**	IAMs_20	IAMs_20	11 42 22.4			
	comp=Z,484nm,20.0s								
AAM	**Ann Arbor**	**112.57**	**49**	IAMs_20	IAMs_20	11 42 54.7			
	comp=Z,576nm,21.0s								
Y52A	**Lilburn**	**112.67**	**58**	IAMs_20	IAMs_20	11 43 47.1			
	comp=Z,510nm,20.0s								
W52A	**Murphy**	**112.76**	**57**	IAMs_20	IAMs_20	11 44 48.2			
	comp=Z,441nm,20.0s								
S51A	**Beattyville**	**112.93**	**54**	IAMs_20	IAMs_20	11 42 07.6			
	comp=Z,620nm,22.0s								
TZTN	**Tazewell**	**113.02**	**55**	IAMs_20	IAMs_20	11 43 08.9			
	comp=Z,592nm,21.0s								
GOGA	**Godfrey**	**113.18**	**59**	IAMs_20	IAMs_20	11 44 31.5			
	comp=Z,414nm,20.0s								
ACSO	**Alum Creek Sta**	**113.25**	**51**	IAMs_20	IAMs_20	11 44 53.7			
	comp=Z,476nm,20.0s								
K50A	**Casco**	**113.29**	**48**	IAMs_20	IAMs_20	11 49 12.7			
	comp=Z,489nm,19.0s								
V53A	**Saluda**	**113.65**	**56**	IAMs_20	IAMs_20	11 44 27.8			
	comp=Z,482nm,20.0s								
N51A	**Ashland**	**113.65**	**50**	IAMs_20	IAMs_20	11 43 48.3			
	comp=Z,556nm,21.0s								
KIRV	**Kirov**	**113.76**	**329**	⇓*iP*KIKP	**PKiKP**	**11 02 55.3**	**+1.3**		
O52A	**Adamsville**	**114.13**	**51**	IAMs_20	IAMs_20	11 43 54.0			
	comp=Z,556nm,21.0s								
U54A	**Nelsons Funny**	**114.41**	**55**	IAMs_20	IAMs_20	11 44 43.8			
	comp=Z,557nm,21.0s								
S54A	**Dingess, Beckl**	**114.73**	**54**	IAMs_20	IAMs_20	11 43 49.1			
	comp=Z,538nm,22.0s								
N53A	**Lisbon**	**114.82**	**50**	IAMs_20	IAMs_20	11 43 42.3			
	comp=Z,513nm,22.0s								
KMSC	**Kings Mountain**	**114.88**	**57**	IAMs_20	IAMs_20	11 44 58.4			
	comp=Z,550nm,21.0s								
257A	**Skidaway Islan**	**115.27**	**60**	IAMs_20	IAMs_20	11 48 19.1			
	comp=Z,385nm,20.0s								
ERPA	**Erie**	**115.30**	**49**	IAMs_20	IAMs_20	11 44 08.9			
	comp=Z,359nm,22.0s								
LVZ	**Lovozero**	**115.60**	**342**	IAMs_20	IAMs_20	11 52 08.4			
	comp=Z,464nm,22.0s								
MCWV	**Mont Chateau**	**115.70**	**52**	IAMs_20	IAMs_20	11 46 53.6			
	comp=Z,471nm,19.0s								
NHSC	**New Hope**	**115.94**	**59**	IAMs_20	IAMs_20	11 45 56.8			
	comp=Z,395nm,20.0s								
APA	**Apatity**	**116.18**	**342**	*i* PKIKP	**PKPdf**	**11 02 56.0**	**-2.5**		
APA				*e*		11 04 07.5			
APA				*e*PS	**PKKPdf**	**11 13 49.6**	**-6.8**		
APA				MLR	MLR				
	comp=Z,510nm,22.0s								
Y58A	**Scranton**	**116.33**	**58**	IAMs_20	IAMs_20	11 46 57.8			
	comp=Z,510nm,20.0s								
KEV	**Kevo**	**116.53**	**345**	IAMs_20	IAMs_20	11 52 03.5			
	comp=Z,341nm,20.0s								
V58A	**Windy Hill, Pi**	**116.64**	**56**	IAMs_20	IAMs_20	11 45 19.0			
	comp=Z,544nm,22.0s								
J55A	**Hilton**	**116.72**	**47**	IAMs_20	IAMs_20	11 44 27.4			
	comp=Z,404nm,22.0s								
ARCES	**ARCESS Array B**	**117.06**	**346**	PKP	**PKPdf**	**11 02 58.6**	**-1.6**		
	comp=Z,2.7nm,0.7s,baz=48,slow=1.8,SNR=7.6								
Y60A	**Bolivia**	**117.52**	**58**	IAMs_20	IAMs_20	11 46 03.5			
	comp=Z,583nm,22.0s								
ILULI	**Ilulissat**	**117.74**	**14**	IAMs_20	IAMs_20	11 41 30.6			
	comp=Z,370nm,19.0s								
K57A	**Scipio Center**	**117.75**	**48**	IAMs_20	IAMs_20	11 46 27.7			
	comp=Z,462nm,22.0s								
J57A	**Williamstown**	**118.00**	**47**	IAMs_20	IAMs_20	11 47 13.3			
	comp=Z,506nm,21.0s								
BINY	**Binghamton**	**118.23**	**48**	IAMs_20	IAMs_20	11 46 23.4			
	comp=Z,532nm,22.0s								
V61A	**Roper**	**118.70**	**56**	IAMs_20	IAMs_20	11 47 14.4			
	comp=Z,375nm,21.0s								
L59A	**Walton**	**118.92**	**48**	IAMs_20	IAMs_20	11 49 08.7			
	comp=Z,499nm,20.0s								
AKT	**Akhty**	**118.97**	**311**	*e*PKIKP	**PKPdf**	**11 03 02.3**	**-2.5**		
AKT				pmax	pmax				
	comp=Z,6.0nm,0.9s								
AKT				MLR	MLR				
	comp=Z,381nm,21.0s								
J59A	**Piesco**	**119.06**	**47**	IAMs_20	IAMs_20	11 49 25.1			
	comp=Z,464nm,20.0s								
P61A	**Hammonton**	**119.56**	**51**	IAMs_20	IAMs_20	11 52 51.8			
	comp=Z,447nm,20.0s								
HNH	**Hanover**	**120.58**	**46**	IAMs_20	IAMs_20	11 49 01.2			
	comp=Z,409nm,20.0s								
G62A	**West of Eustis**	**121.40**	**44**	IAMs_20	IAMs_20	11 47 43.8			
	comp=Z,519nm,22.0s								
OBN	**Obninsk**	**121.60**	**329**	⇑*i*PKIKP	**PKPdf**	**11 03 07.1**	**-2.1**		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.7s								
I63A	**Otisfield**	**121.68**	**45**	IAMs_20	IAMs_20	11 49 30.4			
	comp=Z,443nm,20.0s								
KBZ	**Khabaz**	**121.95**	**314**	⇑*i*PKIKP	**PKPdf**	**11 03 08.3**	**-1.9**		
KIV	**Kislovodsk**	**122.03**	**315**	*i* PKIKP	**PKPdf**	**11 03 09.8**	**-0.8**		
KIV				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,93nm,22.0s								
FINES	**FINESS Array B**	**122.53**	**339**	PKP	**PKPdf**	**11 03 09.4**	**-1.4**		
	comp=Z,2.5nm,0.9s,baz=90,slow=2.8,SNR=5.0								
EMMW	**East Machias**	**123.63**	**44**	IAMs_20	IAMs_20	11 48 44.9			
	comp=Z,403nm,21.0s								
BOSA	**Boshof**	**125.03**	**222**	PKP	**PKPdf**	**11 03 15.2**	**-1.7**		
	comp=Z,2.8nm,0.8s,baz=172,slow=2.3,SNR=6.3								
MNK	**Minsk**	**126.19**	**331**	*i* PKP	**PKPdf**	**11 03 15.8**	**-2.2**		
MNK				*i* PKP	**PKPdf**	**11 03 15.8**	**-2.2**		
MNK				*i* PKP	**PKPdf**	**11 03 15.8**	**-2.2**		
	baz=54								
MNK				*i* PP	**PP**	**11 05 10.8**	**-1.8**		
MNK				*i* PPP	PPP	11 07 53.4			
MNK				*i* SKS	**SKSdf**	**11 10 22.5**	**-1.8**		
MNK				*i* SKKS	**SKKSdf**	**11 20 40.0**	**-4.7**		
MNK				*i* SS	**SS**	**11 22 09.7**	**-0.7**		
MNK				*i* SSS	SSS	11 26 49.3			
MNK				*i* LQ	LQ	11 50 27.2			
MNK				*i* LRM	MLR	11 56 58.3			
	comp=Z,375nm,21.5s								
MNK				*i* LRM	MLR	11 57 09.8			
	comp=E,191nm,22.3s								
MNK				*i* LRM	MLR	11 57 13.6			
	comp=N,223nm,23.2s								
MNK	**Minsk**	**126.19**	**331**	*i* PKIKP	**PKPdf**	**11 03 15.8**	**-2.2**		
MNK				*i*		11 05 10.8			
MNK				*i* PPP	PPP	11 07 53.4			
MNK				*i*		11 10 22.5			
MNK				*i* SS	SS	11 22 09.6	-0.8		
MNK				*i* SSS	SSS	11 26 49.3			
MNK				MLR	MLR				
	comp=Z,375nm,22.0s								
MNK				MLR	MLR				
	comp=E,191nm,22.0s								
MNK				MLR	MLR				
	comp=N,223nm,23.0s								
PABE	**Paberze**	**127.32**	**334**	IAMs_20	IAMs_20	11 56 58.8			
	comp=Z,358nm,21.0s								
NOA	**NORSAR Array B**	**127.43**	**345**	PKP	**PKPdf**	**11 03 19.4**	**-0.9**		
	comp=Z,0.5nm,0.7s,baz=50,slow=2.3,SNR=1.2								
AKBB	**Malin Array Si**	**127.66**	**327**	⇓*i*PKIKP	**PKiKP**	**11 03 22.4**	**+0.9**		
KIEV	**Kiev**	**127.68**	**327**	IAMs_20	IAMs_20	12 02 26.0			
	comp=Z,324nm,21.0s								
SEUS	**St. Eustatius**	**132.07**	**77**	IAMs_20	IAMs_20	11 51 50.3			
	comp=Z,406nm,20.0s								
RGN	**Rugen**	**132.19**	**339**	IAMs_20	IAMs_20	12 03 50.1			
	comp=Z,364nm,21.0s								
MLR	**Muntele Rosu**	**132.32**	**323**	IAMs_20	IAMs_20	11 59 11.6			
	comp=Z,334nm,22.0s								
CLL	**Colim**	**134.88**	**337**	IAMs_20	IAMs_20	12 06 56.4			
	comp=Z,297nm,20.0s								
PDG	**Podgorica**	**138.03**	**323**	IAMs_20	IAMs_20	12 08 10.6			

	comp=Z,290nm,21.0s								
WLF	**Walferdange**	**138.70**	**340**	IAMs_20	IAMs_20	12 04 31.2			
	comp=Z,326nm,22.0s								
ECH	**Echery**	**139.59**	**338**	IAMs_20	IAMs_20	12 02 36.0			
	comp=Z,274nm,22.0s								
FUORN	**Ofenpass-Fuorn**	**139.68**	**334**	IAMs_20	IAMs_20	12 11 49.8			
	comp=Z,272nm,20.0s								
TUE	**Stuetta**	**140.18**	**335**	IAMs_20	IAMs_20	12 12 21.0			
	comp=Z,340nm,21.0s								
TIP	**Timpagrande**	**141.50**	**321**	IAMs_20	IAMs_20	12 05 57.9			
	comp=Z,406nm,22.0s								
CUC	**Castrocucco**	**141.57**	**322**	IAMs_20	IAMs_20	12 10 14.6			
	comp=Z,266nm,21.0s								
RAFF	**Raffo Rosso**	**144.18**	**320**		PKPbc	11 03 50.7	+0.5		
WDD	**Wied Dalam**	**144.91**	**318**	PKPbc	**PKPab**	**11 03 52.2**	**-0.3**		
KEST	**Kesra**	**148.22**	**323**	PKPbc	**PKPbc**	**11 04 01.0**	**-1.4**		
	comp=Z,3.5nm,0.7s,baz=28,slow=5.4,SNR=4.4								
PGAV	**Gavieira, Arco**	**149.44**	**352**	*e*PKP	**PKPbc**	**11 04 05.3**	**0.0**		
PGAV				*e*PP	**PP**	**11 07 41.7**	**+4.9**		
PGAV				*e*LR	LR	11 57 41.7			
PGAV				*i* IAMs_20	IAMs_20	12 15 25.8			
	comp=Z,308nm,20.0s								
POLO	**Lamas de Olo**	**149.95**	**351**	*e*PKP	**PKPbc**	**11 04 06.1**	**-0.5**		
POLO				*e*PP	**PP**	**11 07 45.7**	**+6.0**		
MVO	**Moncorvo**	**150.03**	**350**	*e*LR	LR	12 02 09.7			
MVO				*i* IAMs_20	IAMs_20	12 16 19.2			
	comp=Z,199nm,18.0s								
ESDC	**Sonseca Array**	**150.79**	**344**	PKPbc	**PKPbc**	**11 04 07.3**	**-1.3**		
	comp=Z,0.7nm,0.7s,baz=11,slow=3.6,SNR=2.4								
MTE	**Manteigas**	**150.86**	**350**	*e*PKP	**PKPbc**	**11 04 06.2**	**-2.5**		
MTE				*e*PP	**PP**	**11 07 48.9**	**+3.9**		
MTE				*e*LR	LR	12 01 22.3			
MTE				*i* IAMs_20	IAMs_20	12 12 50.0			
	comp=Z,275nm,22.0s								
PAB	**San Pablo**	**151.01**	**345**	IAMs_20	IAMs_20	12 08 15.4			
	comp=Z,319nm,22.0s								
COI	**Coimbra**	**151.18**	**352**	*e*PKP	**PKPdf**	**11 04 06.1**	**+2.7**		
COI				*e*PP	**PP**	**11 07 51.2**	**+4.6**		
PCAS	**Casmilo, Conde**	**151.34**	**352**	*e*PKP	**PKPab**	**11 04 22.9**	**+4.9**		
PCAS				*e*PP	**PP**	**11 07 51.0**	**+3.4**		
PSARD	**Sardoal**	**151.74**	**351**	*e*PKP	**PKPab**	**11 04 26.0**	**+6.4**		
PSARD				*e*PP	**PP**	**11 07 53.4**	**+3.6**		
CART	**Cartagena**	**151.78**	**338**	IAMs_20	IAMs_20	12 04 50.4			
	comp=Z,232nm,21.0s								
PMRV	**Marv??o**	**151.78**	**350**	*e*PKP	**PKPdf**	**11 04 07.4**	**+3.0**		
PMRV				*e*PP	**PP**	**11 07 55.4**	**+5.3**		
PMRV				*e*LR	LR	12 00 59.9			
PMRV				*i* IAMs_20	IAMs_20	12 10 01.2			
	comp=Z,215nm,20.0s								
PMTG	**Montargil**	**152.27**	**351**	*e*PKP	**PKPbc**	**11 04 08.8**	**-3.1**		
PMTG				*e*PP	**PP**	**11 07 57.2**	**+4.4**		
PESTR	**Estremoz**	**152.36**	**350**	*e*PKP	**PKPbc**	**11 04 10.6**	**-1.5**		
PEST

ILAR	**Eielson Array**	**63.78**	**26**	P		**P**	**11 08 30.4**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=253,slow=5.5,SNR=7.2							
	comp=Z,0.4nm,0.6s							
BVAR	**Borovoye Array**	**66.45**	**320**	P		**P**	**11 08 48.9**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=91,slow=7.3,SNR=9.8							
	comp=Z,2.2nm,0.6s							
NVAR	**Mina Array Bea**	**83.30**	**52**	P		**P**	**11 10 26.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=271,slow=5.4,SNR=7.6							
	comp=Z,0.8nm,0.6s							
FINES	**FINESS Array B**	**86.90**	**335**	P		**P**	**11 10 41.4**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=60,slow=4.6,SNR=5.5							
	comp=Z,0.6nm,0.4s							

*IDC **23** 11:32:24.0±1.8, 10°.63S×75°.28W, h0km, mb3.6/5, mbtmp3.6/6, ML3.5/1, MS3.8/1, Error ellipse: s-maj=128.5km s-min=19.7km az=49.0*
*NEIC **23** 11:32:26.0±1.2, 10°.79S±0°.06×75°.28W±0°.06, h10km±1km, mb4.5/17, Error ellipse: s-maj=12.6km s-min=8.7km az=137.0*
*VAO **23** 11:32:29.8±0.7, 10°.71S×74°.97W, h10km, mb4.2*
ISC 23 11:32:27.6±0.5, 10°.75S±0°.06×75°.31W±0°.06, h25km, n55, σ0s82/55, mb4.4/13, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**1.94**	**231**			**Pn**	**11 32 59.0**	**-0.1**
NNA					Sn	**Sn**	**11 33 22.7**	**-0.1**
CZSB	**Cruzeiro do Su**	**3.95**	**41**			**Pn**	**11 33 26.0**	**-0.7**
CZSB	**Cruzeiro do Su**	**3.95**	**41**	*eP*		**Pn**	**11 33 26.4**	**-0.3**
CZSB				*eS*		**Sn**	**11 34 12.5**	**+0.2**
TBTG	**Tabatinga, AM**	**8.44**	**40**	Pn		**Pn**	**11 34 28.1**	**-0.2**
LPAZ	**La Paz**	**8.89**	**129**			**Pn**	**11 34 34.0**	**-1.2**
LPAZ	**La Paz**	**8.89**	**129**	Pn		**Pn**	**11 34 36.9**	**+1.8**
	0.3nm,0.3s,baz=321,slow=14,SNR=6.3							
LPAZ				Lg		Lg	11 37 07.8	
	0.4nm,0.3s,baz=180,slow=18,SNR=2.0							
	1.4nm,0.5s							
LPAZ	**La Paz**	**8.89**	**129**	*eP*		**Pn**	**11 34 35.9**	**+0.7**
COHC	**Cochancay**	**9.11**	**334**			**Pn**	**11 34 37.7**	**0.0**
PATCX	**Punta Patache**	**11.17**	**154**	Pn		**Pn**	**11 35 04.8**	**-1.1**
OTAV	**Otavalo**	**11.35**	**344**	Pn		**Pn**	**11 35 07.7**	**-1.1**
OTAV	**Otavalo**	**11.35**	**344**	*eP*		Pn	11 35 13.2	+4.4
SAML	**Samuel**	**12.08**	**83**			**Pn**	**11 35 18.0**	**-0.4**
SAML	**Samuel**	**12.08**	**83**	*eP*		**Pn**	**11 35 17.4**	**-0.9**
FLOC	**Florencia**	**12.26**	**358**			**Pn**	**11 35 19.8**	**-1.0**
PB05	**IPOC Station P**	**12.99**	**159**	Pn		**Pn**	**11 35 29.6**	**-1.3**
PB06	**IPOC Station P**	**13.10**	**156**	Pn		**Pn**	**11 35 31.9**	**-0.4**
VILB	**Vilhena**	**14.95**	**100**	Pn		**Pn**	**11 35 57.0**	**-0.5**
PTLB	**Pontes e Lacer**	**16.43**	**108**			**Pn**	**11 36 16.2**	**-0.4**
PTLB	**Pontes e Lacer**	**16.43**	**108**	*eP*		**Pn**	**11 36 16.1**	**-0.5**
RUSC	**La Rusia**	**16.68**	**8**	Pn		**Pn**	**11 36 19.6**	**-0.8**
AC02	**Maricunga**	**17.03**	**161**			**Pn**	**11 36 24.9**	**+0.2**
PDRB	**Porto dos Gac**	**18.25**	**94**	*eP*		**P**	**11 36 39.8**	**+0.4**
CLDB	**Colider**	**19.17**	**92**	*eP*		**Pn**	**11 36 49.7**	**-0.8**
BOAV	**Boa Vista**	**19.67**	**49**			**P**	**11 36 54.6**	**-0.4**
BOAV	**Boa Vista**	**19.67**	**49**	*eP*		**Pn**	**11 36 56.2**	**-0.4**
SALV	**Santo Antonio**	**19.76**	**107**	*eP*		**Pn**	**11 36 57.0**	**-0.6**
NPGB	**Novo Progresso**	**20.05**	**81**	*eP*		**P**	**11 36 59.0**	**-0.2**
ITTB	**Itaituba**	**20.41**	**73**	*eP*		**P**	**11 37 03.3**	**+0.2**
BAUV	**El Baul**	**20.86**	**21**			**P**	**11 37 07.8**	**-0.1**
BAUV					IAmb	IAmb	11 37 23.9	
	comp=Z,37nm,1.3s							
AMBA	**Amambai (Brazi**	**22.87**	**125**	*eP*		**P**	**11 37 31.6**	**+2.1**
CPUP	**Villa Florida**	**22.99**	**135**	P		**P**	**11 37 30.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=164,slow=9.5,SNR=3.1							
	comp=Z,0.3nm,0.6s							
SJPY	**San Joaquin**	**23.08**	**130**	*eP*		**P**	**11 37 32.8**	**+1.1**
SNDB	**Serra Nova Dou**	**23.57**	**95**	*eP*		**P**	**11 37 38.0**	**+1.4**
T57A	**Hurt**	**47.64**	**356**	P		**P**	**11 41 02.5**	**+0.7**
T57A					IAmb	IAmb	11 41 02.9	
	comp=Z,6.1nm,0.7s							
TXAR	**Lajitas Array**	**48.34**	**326**	P		**P**	**11 41 08.0**	**+0.5**
TXAR	**Lajitas Array**	**48.34**	**326**	P		**P**	**11 41 07.1**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=134,slow=8.2,SNR=4.4							
	comp=Z,0.2nm,0.6s							
WHAR	**Wooly Hollow**	**48.53**	**341**	P		**P**	**11 41 08.7**	**0.0**
WHAR					IAmb	IAmb	11 41 09.1	
	comp=Z,3.4nm,0.9s							
FCAR	**Ozark Folk Cen**	**49.03**	**342**	IAmb		IAmb	11 41 12.5	
	comp=Z,3.0nm,0.7s							
FCAR				P		**P**	**11 41 12.7**	**+0.2**
SMWD	**Samnorwood**	**51.35**	**334**			**P**	**11 41 31.1**	**+0.9**
SMWD					IAmb	IAmb	11 41 33.9	
	comp=Z,7.9nm,1.1s							
EMMW	**East Machias**	**55.65**	**7**	P		**P**	**11 42 02.8**	**+1.2**
PIX	**Pinacate**	**55.73**	**320**	P		**P**	**11 42 02.8**	**+0.4**
L34A	**Svendsen Farm,**	**55.91**	**341**	P		**P**	**11 42 02.5**	**-1.1**
L34A					IAmb	IAmb	11 42 06.2	
	comp=Z,11nm,0.9s							
SDCO	**Great Sand Dun**	**55.92**	**331**	P		**P**	**11 42 04.5**	**+0.5**
SDCO					IAmb	IAmb	11 42 05.8	
	comp=Z,4.2nm,1.5s							
LMQ	**La Malbaie**	**58.20**	**4**	P		**P**	**11 42 19.8**	**+0.2**
PFO	**Pinyon Flats O**	**58.98**	**320**	LR		LR	12 05 17.9	
	comp=Z,77nm,18.9s,baz=311,slow=34							
BSUT	**Blindstream Ca**	**60.65**	**330**	P		**P**	**11 42 37.9**	**+0.7**
BSUT					IAmb	IAmb	11 42 45.0	
	comp=Z,7.8nm,1.5s							
DRLN	**Deer Lake**	**61.77**	**13**	P		**P**	**11 42 44.3**	**+0.3**
PDAR	**Pinedale Array**	**61.78**	**332**	P		**P**	**11 42 44.7**	**+0.1**
PDAR	**Pinedale Array**	**61.78**	**332**	P		**P**	**11 42 45.1**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=142,slow=7.3,SNR=2.7							
	comp=Z,0.2nm,0.5s							
ULM	**Lac du Bonnet**	**63.35**	**345**	P		**P**	**11 42 53.9**	**-0.7**
	comp=Z,4.0nm,0.6s,baz=160,slow=7.6,SNR=7.5							
	comp=Z,4.0nm,0.6s							
YHL	**Hebgen Lake**	**64.14**	**332**	P		**P**	**11 43 02.1**	**+1.8**
YHL					IAmb	IAmb	11 43 02.1	
	comp=Z,2.1nm,0.8s							
YKA	**Yellowknife Ar**	**79.11**	**343**	P		**P**	**11 44 29.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=140,slow=4.8,SNR=2.8							
	comp=Z,0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**134.09**	**16**	PKP		**PKPdf**	**11 51 43.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=321,slow=3.7,SNR=3.6							
KURBB	**Kurchatov Arra**	**134.80**	**23**	PKP		**PKPdf**	**11 51 42.4**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=298,slow=2.8,SNR=4.1							
WRA	**Warrununga Arr**	**137.78**	**224**	PKP		**PKPdf**	**11 51 50.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=117,slow=1.9,SNR=2.1							

*UCR **23** 11:33:37.8±0.7, 7°.88N×82°.26W, h4km±5km, MW3.8*
*UPA **23** 11:33:39.4±1.5, 7°.96N×82°.26W, h17km±3km, ML3.7, MW3.9*
ISC 23 11:33:37.8±1.3, 7°.95N±0°.06×82°.21W±0°.04, h5km±11km, n41, σ0s64/65, 2C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PEDE3	**Pedregal, Chir**	**0.48**	**334**	*eP*		**Pb**	**11 33 48.8**	**+0.1**
PEDE3					AMP		11 33 49.5	
	comp=Z,11μm,0.1s							
PEDE3				*eS*		**Sb**	**11 33 55.9**	**-0.1**
LOCO3	**Loma Colorada,**	**0.50**	**335**	*eP*		**Pb**	**11 33 49.5**	**+0.4**
LOCO3					AMP		11 33 49.9	
	comp=Z,14μm,0.1s							
LOCO3				*eS*		**Sb**	**11 33 57.4**	**+0.8**
LOMA3	**Las Lomas, Chi**	**0.51**	**339**	*eP*		**Pb**	**11 33 49.9**	**+0.7**
LOMA3				*eS*		**Sb**	**11 33 57.2**	**+0.3**
CGUAY	**Guayabal, Coch**	**0.52**	**344**	*eP*		**Pb**	**11 33 50.1**	**+0.6**
DVD	**David**	**0.54**	**333**	*eP*		**Pb**	**11 33 49.9**	**+0.2**
DVD					AMP		11 33 50.3	
	comp=Z,12μm,0.1s							
DVD				*eS*		**Sb**	**11 33 56.9**	**-0.8**
NANC3	**Nancito, Chiri**	**0.55**	**59**	*eP*		**Pb**	**11 33 50.7**	**+0.7**
NANC3					AMP		11 33 51.1	
	comp=Z,2μm,0.1s							
NANC3				*eS*		**Sb**	**11 33 59.8**	**+1.6**
PTPA	**Petro Terminal**	**0.70**	**290**	*eP*		**Pg**	**11 33 51.6**	**+0.3**
PTPM	**Petroterminale**	**0.71**	**291**	*eP*		**Pg**	**11 33 51.5**	**0.0**
PTPM					AMP		11 33 51.9	
	comp=Z,3μm,0.3s							
PTPM				*eS*		**Sg**	**11 34 02.3**	**+1.7**
LESP3	**La Esperanza,**	**0.73**	**308**	*eP*		**Pg**	**11 33 52.3**	**+0.5**
LESP3				*eS*		**Sg**	**11 34 02.0**	**+0.7**
JEFFS	**S de V. Baru**	**0.78**	**336**	*eP*		**Pb**	**11 33 54.3**	**+0.4**
PTAR3	**Potrerillos Ar**	**0.79**	**339**	*eP*		**Pb**	**11 33 54.1**	**+0.1**
PTAR3					AMP		11 33 54.5	
	comp=Z,2μm,0.1s							
PTAR3				*eS*		**Sb**	**11 34 05.6**	**+0.5**
BQSF3	**Alto Boquete,**	**0.81**	**344**	*eP*		**Pb**	**11 33 54.1**	**-0.4**
BQSF3					AMP		11 33 56.6	
	comp=Z,1μm,0.1s							
BQSF3				*eS*		**Sb**	**11 34 05.8**	**-0.1**

BANCO	**falda S V. Bar**	**0.82**	**337**	*eP*		**Pb**	**11 33 54.6**	**-0.1**
WILLF	**Boquete**	**0.82**	**344**	*eP*		**Pb**	**11 33 54.6**	**-0.1**
BQTLY	**Boquete Panama**	**0.84**	**343**	*eP*		**Pb**	**11 33 54.8**	**-0.2**
LPPC	**Paso Canoas**	**0.85**	**313**	*eP*		**Pg**	**11 33 54.2**	**+0.1**
DAP26	**falda E V. Bar**	**0.85**	**346**	*eP*		**Pb**	**11 33 55.0**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.86**	**345**	*eP*		**Pb**	**11 33 55.2**	**-0.2**
LNBQ3					AMP		11 33 56.2	
	comp=Z,2μm,0.1s							
LNBQ3				*eS*		**Sb**	**11 34 06.9**	**-0.4**
RBALA	**Bur**	**0.92**	**3**	*eP*		**Pb**	**11 33 56.6**	**+0.3**
PBNVO	**Pueblo Nuevo,**	**0.93**	**1**	*eP*		**Pb**	**11 33 56.1**	**-0.4**
BC3P	**Paso Ancho**	**0.94**	**335**	*eP*		**Pg**	**11 33 56.2**	**+0.2**
BC3P					AMP		11 33 56.6	
	comp=Z,2μm,0.1s							
BC3P				*eS*		**Sb**	**11 34 09.1**	**-0.6**
BRU2	**Volcan**	**0.96**	**330**	*eP*		**Pg**	**11 33 56.4**	**+0.2**
BRU2					AMP		11 33 57.0	
	comp=Z,3μm,0.1s							
BRU2				*eS*		**Sb**	**11 34 09.9**	**-0.3**
BRU2	**Volcan**	**0.96**	**330**	*eP*		**Pg**	**11 33 56.5**	**+0.2**
BRU2				*eS*		**Sb**	**11 34 10.0**	**-0.1**
CHGR2	**Aguacate**	**0.98**	**4**	*eP*		**Pb**	**11 33 57.1**	**-0.2**
CHGR2				*eS*		**Sb**	**11 34 10.4**	**-0.2**
GMAL	**Guarumal, Vera**	**0.99**	**101**	*iP*		**Pg**	**11 33 56.3**	**-0.4**
GMAL					AMP		11 33 56.5	
	comp=Z,4μm,0.1s							
GMAL				*eS*		**Sb**	**11 34 10.2**	**-0.5**
GMAL	**Guarumal, Vera**	**0.99**	**101**	*eP*		**Pg**	**11 33 56.3**	**-0.4**
MESA3	**La Mesa, Verag**	**1.03**	**79**	*eP*		**Pb**	**11 33 58.0**	**-0.1**
MESA3				*eS*		**Sn**	**11 34 13.3**	**-0.5**
RSUS3	**Rio de Jesus,**	**1.04**	**88**	*eP*		**Pb**	**11 33 57.9**	**-0.5**
RSUS3				*eS*		**Sb**	**11 34 11.8**	**-0.4**
SCLRA	**Santa Clara, W**	**1.04**	**327**	*eP*		**Pb**	**11 33 58.1**	**-0.3**
ALCO	**Alturas Coton,**	**1.17**	**328**	*eP*		**Pg**	**11 33 59.6**	**-0.6**
ALCO				*eS*		**Sg**	**11 34 14.9**	**-0.4**
EDAD	**Golfito**	**1.17**	**306**	*eP*		**Pg**	**11 33 58.3**	**-2.0**
EDAD				*eS*		**Sg**	**11 34 14.6**	**-1.0**
STIA3	**Santiago, Vera**	**1.23**	**83**	*iP*		**Pb**	**11 34 01.5**	**-0.2**
STIA3				*eS*		**Sn**	**11 34 18.6**	**-0.2**
MARI3	**Mariato, Verag**	**1.25**	**104**	*iP*		**Pb**	**11 34 01.7**	**-0.1**
MARI3					AMP		11 34 02.7	
	comp=Z,477nm,0.2s							
CALO3	**Calobre, Verag**	**1.40**	**75**	*eP*		**Pb**	**11 34 04.7**	**+0.1**
CALO3				*eS*		**Sn**	**11 34 23.1**	**+0.1**
FIMO	**Fila Mora**	**1.53**	**312**	*eP*		**Pn**	**11 34 05.3**	**-0.6**
CHIT3	**Chitre**	**1.77**	**90**	*eP*		**Pn**	**11 34 10.0**	**+0.8**
CHIT3				*eS*		**Sn**	**11 34 32.0**	**-0.1**
AZU	**Azuero**	**1.92**	**95**	*eP*		**Pn**	**11 34 12.2**	**+0.9**
AZU					AMP		11 34 12.5	
	comp=Z,430nm,0.3s							
AZU				*eS*		**Sn**	**11 34 36.2**	**+0.4**
AZU	**Azuero**	**1.92**	**95**	*eP*		**Pn**	**11 34 12.2**	**+0.9**
ACHO3	**Achotines, Los**	**2.09**	**105**	*eP*		**Pn**	**11 34 14.1**	**+0.6**
BCIP	**Isla Barro Col**	**2.64**	**63**	*eP*		**Pb**	**11 34 23.8**	**-1.8**
BCIP				*eS*		**Sn**	**11 34 53.5**	**+0.1**
JTS	**Las Juntas de**	**3.57**	**311**	*eP*		**Pn**	**11 34 34.1**	**+0.2**

WEL 23 11:36:50.4±0.8, 31°S±7°×17°9W±1°7, h342km±11km, M4.3/19, mB5.0/19, ML5.2/31, MLv4.6/4, Mw(mB)4.2/19, Error ellipse: s-maj=23.6km s-min=6.2km az=107.9, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**2.30**	**22**	P		Pn	11 37 43.2	0.0
GLKZ				S		S	11 38 25.0	-0.6
RIZ	**Raoul Island**	**2.31**	**22**	P		Pn	11 37 43.8	+0.5
MXZ	**Matakaoa Point**	**6.56**	**200**	P		Pn	11 38 30.1	+2.9
GRZ	**Great Barrier**	**6.73**	**223**	P		Pn	11 38 29.4	+0.2
WMGZ	**Waiomatatini S**	**6.77**	**198**	P		Pn	11 38 31.2	+1.5
WMGZ				S		S	11 39 51.2	+0.9
HAZ	**Te Kaha**	**6.90**	**202**	P		Pn	11 38 31.6	+0.5
HAZ				S		S	11 39 54.1	+0.9
PKGZ	**Pakihiroa**	**6.91**	**200**	P		Pn	11 38 31.3	0.0
PKGZ				S		S	11 39 53.3	-0.1
PUZ	**Puketiti**	**7.05**	**198**	P		Pn	11 38 33.4	+0.4
PUZ				S		S	11 39 57.1	+0.7
RUGZ	**Raukumara Rang**	**7.12**	**202**	P		Pn	11 38 34.1	+0.1
RUGZ				S		S	11 39 56.6	-1.6
WCZ	**Waipu Caves**	**7.21**	**229**	P		Pn	11 38 34.3	-0.7
TWGZ	**Tauwhareparae**	**7.22**	**200**	P		Pn	11 38 35.6	+0.5
WIAZ	**Waiheke Island**	**7.30**	**221**	P		Pn	11 38 36.8	+0.9
OPRZ	**Ohinepanea**	**7.43**	**209**	P		Pn	11 38 39.4	+1.9
CNGZ	**Carnagh Statio**	**7.45**	**198**	P		Pn	11 38 39.3	+1.6
MAWZ	**Manawahe**	**7.50**	**204**	P		Pn	11 38 39.6	+2.2
TKGZ	**Te Karaka**	**7.50**	**200**	P		Pn	11 38 37.8	-0.5
MKAZ	**Moumakai**	**7.51**	**219**	P		Pn	11 38 39.6	+1.2
URZ	**Urewera**	**7.58**	**204**	P		Pn	11 38 37.8	-1.5
RAGZ	**Rawiri**	**7.69**	**202**	P		Pn	11 38 41.1	+0.5
RIGZ	**Rimuhau**	**7.78**	**200**	P		Pn	11 38 40.8	-0.9
TOZ	**Tahuroa Road**	**7.81**	**215**	P		Pn	11 38 43.5	+1.5
RRRZ	**Republican Roa**	**7.87**	**207**	P		Pn	11 38 44.8	+2.1
MUGZ	**Murupara**	**7.89**	**205**	P		Pn	11 38 43.2	+0.2
RTZ	**Ruatahuna**	**7.94**	**204**	P		Pn	11 38 43.1	-0.6
PRGZ	**Paritu Road**	**7.95**	**198**	P		Pn	11 38 46.1	+2.4
HSRZ	**Hossack Road**	**7.96**	**209**	P		Pn	11 38 46.2	+2.4
SNGZ	**Shannon Statio**	**7.97**	**202**	P		Pn	11 38 43.5	-0.5
HRRZ	**Handcock Road**	**8.01**	**208**	P		P	11 38 46.2	-1.6
PRRZ	**Plateau Road**	**8.06**	**207**	P		Pn	11 38 45.7	+0.7
KNZ	**Kokohu**	**8.10**	**199**	P		Pn	11 38 46.3	+0.9
ALRZ	**Allen Road**	**8.13**	**207**	P		Pn	11 38 45.6	-0.2
MHGZ	**Mahia Peninsul**	**8.16**	**198**	P		Pn	11 38 47.1	+0.9
WPRZ	**Whakapapatarin**	**8.17**	**208**	P		Pn	11 38 47.3	+1.0
RAHZ	**Arahi**	**8.18**	**202**	P		Pn	11 38 45.1	-1.3
MTHZ	**Maungataniwha**	**8.20**	**204**	P		Pn	11 38 46.5	-0.2
WHHZ	**Waihua**	**8.28**	**201**	P		Pn	11 38 47.8	+0.2
KUTZ	**Kaahu Road**	**8.28**	**210**	P		P	11 38 49.3	-1.6
MRHZ	**Matea Rd**	**8.34**	**206**	P		Pn	11 38 47.9	-0.5
NMHZ	**Naumai**	**8.43**	**203**	P		Pn	11 38 48.4	-1.1
ARHZ	**Aropaoanui**	**8.52**	**202**	P		Pn	11 38 49.9	-0.6
BKZ	**Black Stump Fm**	**8.61**	**205**	P		Pn	11 38 49.4	-2.2
HIZ	**Hauiti**	**8.74**	**214**	P		Pn	11 38 53.7	+0.6
MCHZ	**McNeill Hill**	**8.78**	**203**	P		Pn	11 38 51.8	-1.9
CKHZ	**Cape Kidnapper**	**8.86**	**200**	P		Pn	11 38 55.5	+1.0
KWHZ	**Kaweka Forest**	**8.86**	**204**	P		Pn	11 38 53.0	-1.6
WTVZ	**West Tongariro**	**8.91**	**209**	P		Pn	11 38 53.7	-1.5
TWVZ	**Taurewa**	**8.93**	**210**	P		Pn	11 38 54.1	-1.4
SNVZ	**South Ngauruho**	**8.95**	**208**	P		Pn	11 38 53.6	-2.2
FWVZ	**Far West T-bar**	**9.04**	**208**	P		Pn	11 38 55.0	-2.0
KAHZ	**Kahuranaki**	**9.04**	**201**	P		Pn	11 38 56.0	-0.8
MAVZ	**Mataroangi**	**9.05**	**208**	P		Pn	11 38 55.3	-1.8
WHVZ	**Whangaehu Hut**	**9.05**	**208**	P		Pn	11 38 54.9	-2.1
KRHZ	**Kereru**	**9.07**	**204**	P		Pn	11 38 54.5	-2.6
WNVZ	**Wahianoa**	**9.08**	**208**	P		Pn	11 38 54.5	-2.9
MOVZ	**Moawhango**	**9.09**	**207**	P		Pn	11 38 55.0	-2.4
PKVZ	**Pokaka**	**9.15**	**209**	P		Pn	11 38 56.7	-1.4
MTVZ	**Mangateitei**	**9.19**	**208**	P		Pn	11 38 56.8	-1.7
PXZ	**Pawanui**	**9.27**	**201**	P		Pn	11 38 57.1	-2.2
VRZ	**Vera Road**	**9.28**	**212**	P		Pn	11 38 58.3	-1.2
PNHZ	**Pukenui**	**9.37**	**204**	P		Pn	11 38 56.8	-4.0
WPHZ	**Waipukurau**	**9.43**	**202**	P		Pn	11 39 00.6	-0.8
PRHZ	**Porangahau**	**9.55**	**201**	P		Pn	11 39 01.9	-0.9
TSZ	**Takapari Road**	**9.59**	**204**	P		Pn	11 39 00.1	-3.2
WAZ	**Wanganui**	**9.70**	**209**	P		Pn	11 39 02.8	-1.8
NEZ	**North Egmont**	**9.70**	**214**	P		Pn	11 39 05.6	+0.9
DVHZ	**Dannevirke**	**9.73**	**203**	P		Pn	11 39 02.1	-2.9
ANWZ	**Angora Road**	**9.78**	**201**	P		Pn	11 39 04.5	-1.0
POWZ	**Post Office Ro**	**9.95**	**204**	P		Pn	11 39 05.0	-2.5
PRWZ	**Pori Road**	**10.03**	**203**	P		Pn	11 39 07.6	-0.9
BFZ	**Birch Farm**	**10.05**	**202**	P		Pn	11 39 05.5	-3.3
TIWZ	**Tintock**	**10.25**	**203**	P		Pn	11 39 10.2	-1.0
MRZ	**Mangatainoka R**	**10.25**	**204**	P		Pn	11 39 07.0	-4.2
HOWZ	**Holdsworth Sta**	**10.49**	**204**	P		Pn	11 39 10.2	-3.8
OGWZ	**Otaki Gorge**	**10.54**	**205**	P		Pn	11 39 09.5	-5.1
TMWZ	**Te Maipa**	**10.55**	**202**	P		Pn	11 39 12.3	-2.5
KIW	**Kapiti Island**	**10.67**	**206**	P		Pn	11 39 12.8	-3.4
MTW	**Mount Morrison**	**10.72**	**203**	P		Pn	11 39 14.0	-2.9
CAW	**Cannon Point**	**10.83**	**205**	P		Pn	11 39 13.3	-4.8
TRWZ	**Traveller**	**10.88**	**202**	P		Pn	11 39 16.4	-2.3
PAWZ	**Paruwai Farm**	**10.95**	**203**	P		Pn	11 39 16.8	-2.8
DUWZ	**D'Urville Isla**	**11.02**	**210**	P		Pn	11 39 15.5	-4.9
MSWZ	**Moikau Station**	**11.04**	**204**	P		Pn	11 39 17.5	-3.1
WEL	**Wellington**	**11.09**	**206**	P		Pn	11 39 18.3	-2.9
TCW	**Tory Channel**	**11.22**	**207**	P		Pn	11 39 18.1	-4.7
NNZ	**Nelson**	**11.59**	**210**	P		Pn	11 39 22.4	-4.8
QRZ	**Quartz Range**	**11.66**	**214**	P		Pn	11 39 23.0	-5.1
MRNZ	**Matariki Terra**	**12.01**	**212**	P		Pn	11 39 26.8	-5.4
THZ	**Tophouse**	**12.24**	**210**	P		P	11 39 29.2	-5.8

RSNC 23 11:38:38.5±0.0, 7°N±3°×7°3W±1°, h150km±4km, M3.4, mB4.8, mb3.8, ML3.1, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.41**	**196**	P		Pn	11 39 00.0	+0.2
BARC				S		Sn	11 39 15.3	-0.7
PAMC	**Pamplona, Colo**	**0.51**	**47**	P		Pn	11 39 02.8	+2.3
PAMC				S		Sn	11 39 20.1	+2.9
BRJC	**Barrancabermej**	**0.67**	**269**	P		Pn	11 39 01.9	+1.1
BRJC				S		Sn	11 39 19.5	+1.7
RUSC	**La Rusia**	**1.09**	**181**	P		Pn	11 39 03.8	-0.9
RUSC				S		Sn	11 39 22.4	-2.2
OCAC	**Ocana**	**1.27**	**349**	P		Pn	11 39 08.6	+2.7
OCAC				S		Sn	11 39 30.6	+3.7
PTBC	**PUERTO BERRIO,**	**1.45**	**252**	P		Pn	11 39 06.6	-0.9
PTBC				S		Sn	11 39 28.4	-1.3
ZARC	**Zaragoza, Cauc**	**1.84**	**286**	P		Pn	11 39 12.6	+0.8
ZARC				S		Sn	11 39 38.6	+1.2
NORC	**Norcasia**	**2.28**	**232**	P		Pn	11 39 15.8	-1.3
NORC				S		Sn	11 39 44.1	-2.6
ROSC	**El Rosal**	**2.47**	**210**	P		Pn	11 39 19.2	-0.5
ROSC				S		Sn	11 39 49.6	-1.8
UREC	**San Jos de Ur**	**2.56**	**287**	P		Pn	11 39 20.0	-0.4
UREC				S		Sn	11 39 52.2	-0.4
HELC	**Santa Helena**	**2.57**	**252**	P		Pn	11 39 20.0	-0.8
HELC				S		Sn	11 39 51.8	-1.6
CVER	**Cruz Verde, Cu**	**2.65**	**202**	P		Pn	11 39 21.5	-0.5
CVER				S		Sn	11 39 53.4	-2.0
GUY2C	**Guyana, Caldas**	**2.88**	**233**	P		Pn	11 39 24.0	-0.8
GUY2C				S		Sn	11 39 58.9	-1.6
PTGC	**Puerto Gaitan,**	**2.92**	**161**	P		Pn	11 39 22.6	-2.4
PTGC				S		Sn	11 39 56.2	-4.7
VILC	**Villavicencio,**	**2.93**	**192**	P		Pn	11 39 23.7	-1.4
VILC				S		Sn	11 39 58.0	-3.1
RECRC	**Villamaria, Ca**	**3.04**	**229**	P		Pn	11 39 28.6	+1

PRGZ				S		Sn	11 40 55.6	-2.1
OMRZ	**Omania**	**3.71 226**		P		**Pn**	11 40 17.6	+1.2
MUGZ	**Murupara**	**3.75 219**		P		**Pn**	11 40 18.6	+1.6
RTZ	**Ruatahuna**	**3.76 215**				**Pn**	11 40 16.0	-1.2
RTZ				Sn		Sn	11 40 59.5	-0.7
RTZ	**Ruatahuna**	**3.76 215**		P		**Pn**	11 40 18.6	+1.4
RRRZ	**Republican Roa**	**3.79 222**		P		**Pn**	11 40 19.6	+2.1
HLRZ	**Highlands Stat**	**3.81 224**		P		**Pn**	11 40 19.8	+1.9
KNZ	**Kokohu**	**3.82 205**		P		**Pn**	11 40 16.1	-1.8
KNZ				S		**Sn**	11 40 59.1	-2.5
MHGZ	**Mahia Peninsul**	**3.86 202**		P		**Pn**	11 40 18.2	-0.4
MHGZ				S		**Sn**	11 41 01.5	-1.2
HRRZ	**Handcock Road**	**3.95 224**		P		**Pn**	11 40 21.9	+2.1
RAHZ	**Arahi**	**3.96 212**		P		**Pn**	11 40 20.3	+0.5
RAHZ				S		**Sn**	11 41 06.1	+1.1
MKAZ	**Moumakai**	**4.01 246**		P		**Pn**	11 40 21.5	+1.0
MTHZ	**Maungataniwha**	**4.01 214**		P		**Pn**	11 40 18.5	-2.2
WHHZ	**Waihua**	**4.03 209**		P		**Pn**	11 40 20.8	0.0
WHHZ				S		**Sn**	11 41 07.3	+0.5
TOZ	**Tahuroa Road**	**4.04 236**				**Pn**	11 40 21.1	+0.2
TOZ				Sn		**Sn**	11 41 04.7	-2.2
ALRZ	**Allen Road**	**4.04 221**		P		**Pn**	11 40 22.1	+1.1
WPRZ	**Whakapapatarin**	**4.11 223**		P		**Pn**	11 40 24.4	+2.5
MRHZ	**Matea Rd**	**4.20 218**		P		**Pn**	11 40 23.7	+0.4
NMHZ	**Naumai**	**4.23 213**		P		**Pn**	11 40 25.5	+1.9
NMHZ				S		**Sn**	11 41 11.1	-0.7
ARHZ	**Aropaoanui**	**4.29 210**		P		**Pn**	11 40 25.5	+1.1
ARHZ				S		**Sn**	11 41 11.3	-1.8
WCZ	**Waipu Caves**	**4.41 264**		P		**Pn**	11 40 26.9	+0.9
BKZ	**Black Stump Fm**	**4.43 215**				**Pn**	11 40 25.2	-1.1
BKZ	**Black Stump Fm**	**4.43 215**		P		**Pn**	11 40 26.4	+0.1
BKZ				S		**Sn**	11 41 15.6	-1.3
MCHZ	**McNeill Hill**	**4.56 211**		P		**Pn**	11 40 28.6	+0.5
MCHZ				S		**Sn**	11 41 18.3	-1.7
RATZ	**Rangitukua**	**4.57 223**		P		**Pn**	11 40 28.8	+0.5
KWHZ	**Kaweka Forest**	**4.67 214**		P		**Pn**	11 40 30.1	+0.5
KATZ	**Kakaramea**	**4.69 222**		P		Pn	11 40 35.4	+5.4
KAHZ	**Kahuranaki**	**4.79 208**		P		**Pn**	11 40 30.9	-0.4
KAHZ				S		**Sn**	11 41 24.7	-1.0
OTVZ	**Oturere**	**4.84 221**		P		**Pn**	11 40 33.8	+1.7
NNVZ	**North Ngauruho**	**4.84 222**		P		**Pn**	11 40 33.9	+1.8
WTVZ	**West Tongariro**	**4.85 222**		P		**Pn**	11 40 36.4	+4.2
KRHZ	**Kereru**	**4.87 212**		P		**Pn**	11 40 32.3	0.0
KRHZ				S		**Sn**	11 41 24.8	-2.7
SNVZ	**South Ngauruho**	**4.87 221**		P		**Pn**	11 40 33.5	+1.0
NGZ	**Ngauruhoe**	**4.88 221**		P		Pn	11 40 40.0	+7.3
HIZ	**Hauiti**	**4.89 232**		Pn		**Pn**	11 40 31.7	-1.0
HIZ	**Hauiti**	**4.89 232**		P		**Pn**	11 40 34.4	+1.7
TWVZ	**Taurewa**	**4.90 223**		P		**Pn**	11 40 33.8	+0.9
COVZ	**Chateau Observ**	**4.93 222**		P		**Pn**	11 40 33.2	-0.1
FWVZ	**Far West T-bar**	**4.97 221**		P		**Pn**	11 40 32.9	-1.0
WHVZ	**Whangaehu Hut**	**4.97 221**		P		**Pn**	11 40 34.7	+0.8
MAVZ	**Matarangi**	**4.97 221**		P		**Pn**	11 40 36.2	+2.1
MOVZ	**Moawhango**	**4.97 218**		P		**Pn**	11 40 32.1	-1.8
MOVZ				P		**Sn**	11 41 25.8	-4.3
WNVZ	**Wahianoa**	**5.00 220**		P		**Pn**	11 40 34.8	+0.6
PXZ	**Pawanui**	**5.00 206**		P		**Pn**	11 40 33.5	-0.6
PXZ				S		**Sn**	11 41 26.3	-4.4
OUZ	**Omahuta**	**5.04 272**		P		**Pn**	11 40 35.0	+0.4
PKVZ	**Pokaka**	**5.10 222**		P		**Pn**	11 40 37.4	+1.8
PNHZ	**Pukenui**	**5.17 212**		P		**Pn**	11 40 35.7	-0.7
PNHZ				S		**Sn**	11 41 29.5	-5.4
WPHZ	**Waipukurau**	**5.19 209**		P		**Pn**	11 40 36.9	+0.1
WPHZ				S		**Sn**	11 41 32.2	-3.3
PRHZ	**Porangahau**	**5.29 207**		P		**Pn**	11 40 38.2	0.0
PRHZ				S		**Sn**	11 41 34.1	-3.8
VRZ	**Vera Road**	**5.33 227**		P		**Pn**	11 40 35.5	+1.9
TSZ	**Takapari Road**	**5.39 213**		P		**Pn**	11 40 40.9	+1.4
TSZ				S		**Sn**	11 41 38.1	-2.2
DVHZ	**Dannevirke**	**5.50 210**		P		**Pn**	11 40 39.9	-1.2
DVHZ				S		**Sn**	11 41 38.4	-4.8
WAZ	**Wanganui**	**5.63 221**		P		**Pn**	11 40 43.9	+1.1
POWZ	**Post Office Ro**	**5.75 212**		P		**Pn**	11 40 47.9	+3.4
LREZ	**Lake Rotokare**	**5.75 226**		P		Pn	11 40 50.6	+6.1
PRWZ	**Pori Road**	**5.80 210**		P		**Pn**	11 40 44.0	-1.2
BFZ	**Birch Farm**	**5.80 207**				**Pn**	11 40 43.4	-1.8
BFZ	**Birch Farm**	**5.80 207**		P		**Pn**	11 40 43.8	-1.4
NEZ	**North Egmont**	**5.82 229**		P		**Pn**	11 40 49.9	+4.5
KHEZ	**Kahui Hut**	**5.88 229**		P		**Pn**	11 40 50.8	+4.5
MRZ	**Mangatainoka R**	**6.05 212**		Pn		**Pn**	11 40 48.0	-0.5
MRZ	**Mangatainoka R**	**6.05 212**		P		**Pn**	11 40 47.2	-1.4
TMWZ	**Te Maipa**	**6.30 208**		P		**Pn**	11 40 49.7	-2.4
OGWZ	**Otaki Gorge**	**6.36 213**		P		Pn	11 40 57.9	+5.1
MSWZ	**Moikau Station**	**6.82 210**		Pn		**Pn**	11 40 58.2	-0.9
SNZO	**South Karori**	**6.96 213**		P		**Pn**	11 40 59.6	-1.4
BHW	**Baring Head**	**6.97 212**		Pn		**Pn**	11 40 57.5	-3.6
TCW	**Tory Channel**	**7.08 216**		Pn		**Pn**	11 41 00.2	-2.5
TUWZ	**Tuamarina**	**7.41 216**		Pn		**Pn**	11 41 03.9	-3.3
NNZ	**Nelson**	**7.53 220**		Pn		**Pn**	11 41 07.0	-2.0
TKNZ	**Takaka Hill**	**7.63 222**		Pn		**Pn**	11 41 10.9	+0.6
BSWZ	**Blackbirch Sta**	**7.66 215**		Pn		**Pn**	11 41 10.5	-0.2
QRZ	**Quartz Range**	**7.73 225**		Pn		**Pn**	11 41 11.0	-0.6
MRNZ	**Matariki Terra**	**7.99 221**		Pn		**Pn**	11 41 14.4	-0.8
THZ	**Tophouse**	**8.17 219**		Pn		**Pn**	11 41 16.5	-1.3
KHZ	**Kahutara**	**8.37 213**		Pn		**Pn**	11 41 18.9	-1.4
CTZ	**Chatham Island**	**8.62 162**		Pn		**Pn**	11 41 22.0	-1.8
CTZ	**Chatham Island**	**8.62 162**		P		**Pn**	11 41 24.9	+1.0
GVZ	**Greta Valley S**	**9.03 213**		Pn		**Pn**	11 41 27.3	-2.2
LTZ	**Lake Taylor**	**9.24 217**		Pn		**Pn**	11 41 30.4	-2.0
OXZ	**Oxford**	**9.77 215**		Pn		**Pn**	11 41 39.5	-0.1
MQZ	**McQueen's Vall**	**9.79 212**		Pn		**Pn**	11 41 39.7	-0.1
MSVF	**Nonsavu**	**17.83 355**				**Pn**	11 43 26.1	-1.1
MSVF				IAmb		IAmb	11 43 32.5	
	comp=Z,22nm,1.2s							
RAR	**Rarotonga**	**22.94 57**		LR		LR	11 53 04.5	
	comp=Z,35nm,19.4s,baz=279,slow=36							
SANVU	**Saraoutou**	**22.97 328**		P		**P**	**11 44 22.0**	**-1.2**
SANVU				IAmb		IAmb	11 45 00.3	
	comp=Z,18nm,0.8s							
STKA	**Stephens Creek**	**31.81 266**		P		**P**	**11 45 43.2**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=60,slow=8.1,SNR=3.9							
	comp=Z,2.0nm,0.7s							
PPT	**Papeete**	**32.59 65**		LR		LR	11 56 13.6	
	comp=Z,41nm,19.9s,baz=303,slow=31							
BBOO	**Buckleboo**	**36.03 261**		P		**P**	**11 46 18.5**	**-1.0**
TARA	**Tarawa**	**37.28 349**		P		**P**	**11 46 29.3**	**-1.0**
COEN	**Coen**	**39.24 294**		P		**P**	**11 46 47.7**	**+0.8**
COEN				IAmb		IAmb	11 47 13.9	
	comp=Z,17nm,1.2s							
PMG	**Port Moresby**	**39.48 303**		LR		LR	11 59 53.7	
	comp=Z,108nm,20.6s,baz=184,slow=32							
AS31	**Alice Springs**	**41.25 274**				**P**	**11 47 04.0**	**+0.5**
ASAR	**Alice Springs**	**41.25 274**		P		**P**	**11 47 03.5**	**0.0**
ASAR	**Alice Springs**	**41.25 274**		P		**P**	**11 47 02.9**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=117,slow=7.6,SNR=54							
ASAR				LR		LR	12 05 45.8	
	comp=Z,104nm,18.0s,baz=284,slow=39							
	comp=Z,3.4nm,0.6s							
WR8	**Warramunga Arr**	**42.57 279**				**P**	**11 47 14.4**	**+0.1**
WR8				IAmb		IAmb	11 47 15.2	
	comp=Z,5.8nm,0.9s							
WRAB	**Tennant Creek**	**42.71 279**		P		**P**	**11 47 15.8**	**+0.4**
WRAB				IAmb		IAmb	11 47 16.7	
	comp=Z,6.6nm,0.6s							
WRA	**Warramunga Arr**	**42.71 279**		P		**P**	**11 47 15.9**	**+0.4**
WRA	**Warramunga Arr**	**42.71 279**		P		**P**	**11 47 14.3**	**-1.1**
	comp=Z,6.5nm,0.6s,baz=121,slow=7.6,SNR=71							
	comp=Z,6.5nm,0.6s							
WB0	**Warramunga Arr**	**42.76 279**				**P**	**11 47 15.6**	**-0.2**
WB0				IAmb		IAmb	11 47 17.4	
	comp=Z,7.1nm,0.7s							
CASY	**Casey**	**49.71 210**		P		**P**	**11 48 09.5**	**-0.3**
CASY				IAmb		IAmb	11 48 09.9	
	comp=Z,5.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**50.70 275**		P		**P**	**11 48 18.7**	**+0.8**
PSA00	**Pilbara Seismi**	**53.68 268**		P		**P**	**11 48 39.4**	**-0.8**
MBWA	**Marble Bar**	**53.98 268**		P		**P**	**11 48 41.4**	**-0.9**
QSPA	**South Pole Qui**	**54.55 180**		P		**P**	**11 48 50.1**	**+4.1**
QSPA				IAmb		IAmb	11 48 51.0	
	comp=Z,5.5nm,0.9s							
QSPA	**South Pole Qui**	**54.55 180**		P		**P**	**11 48 49.3**	**+3.3**
	comp=Z,4.0nm,0.8s,baz=21,slow=1.0,SNR=23							
	comp=Z,4.0nm,0.8s							
KAPI	**Kappang**	**62.84 284**		LR		LR	12 17 53.6	
	comp=Z,191nm,19.2s,baz=285,slow=37							
BELA	**Belgrano 2**	**64.92 172**		P		**P**	**11 49 58.7**	**+1.7**
BELA				IAmb		IAmb	11 49 59.4	
	comp=Z,5.7nm,0.8s							
MAW	**Mawson**	**66.81 202**		P		**P**	**11 50 09.5**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=132,slow=8.3,SNR=4.6							
	comp=Z,2.8nm,0.8s							
PMSA	**Palmer Station**	**68.35 156**		P		**P**	**11 50 17.6**	**-1.3**
SNAA	**Sanae**	**73.04 179**		P		**P**	**11 50 48.5**	**+0.9**
SNAA	**Sanae**	**73.04 179**		⇑P		**P**	**11 50 48.5**	**+0.9**
	comp=Z,28nm,0.6s							
SNAA	**Sanae**	**73.04 179**				**P**	**11 50 48.9**	**+1.4**
SNAA				IAmb		IAmb	11 50 50.3	
	comp=Z,8.2nm,1.4s							
SNAA	**Sanae**	**73.04 179**		P		**P**	**11 50 48.7**	**+1.2**
	comp=Z,2.3nm,0.9s,baz=197,slow=4.4,SNR=9.3							
	comp=Z,2.3nm,0.9s							
VNA3	**Neumayer Olymp**	**73.27 177**		P		**P**	**11 50 49.8**	**+1.0**
VNA3	**Neumayer Olymp**	**73.27 177**		⇑P		**P**	**11 50 49.8**	**+1.0**
	comp=Z,5.6nm,0.7s							
VNA2	**Neumayer--Watz**	**73.68 178**		P		**P**	**11 50 52.3**	**+1.0**
	baz=177,slow=5.9							
VNA2	**Neumayer--Watz**	**73.68 178**		⇑P		**P**	**11 50 52.3**	**+1.0**
	comp=Z,5.4nm,0.8s,baz=177,slow=5.9							
VNA1	**Neumayer--Stat**	**73.92 177**		P		**P**	**11 50 54.1**	**+1.4**
VNA1	**Neumayer--Stat**	**73.92 177**		⇑P		**P**	**11 50 54.1**	**+1.4**
	comp=Z,4.3nm,0.7s							
H03S2	**Juan Fernandez**	**79.18 124**		T		T	13 19 43.4	
	baz=232,slow=74,SNR=8.0							
H03S1	**Juan Fernandez**	**79.19 124**		T		T	13 19 34.2	
	baz=232,slow=74,SNR=9.9							
H03S3	**Juan Fernandez**	**79.20 124**		T		T	13 19 35.9	
	baz=232,slow=74,SNR=8.6							
H03N3	**Juan Fernandez**	**79.40 123**		T		T	13 19 40.8	
	baz=236,slow=72,SNR=25							
H03N2	**Juan Fernandez**	**79.41 123**		T		T	13 19 35.6	
	baz=236,slow=72,SNR=17							
H03N1	**Juan Fernandez**	**79.42 123**		T		T	13 19 36.7	
	baz=236,slow=72,SNR=18							
KSRS	**Korea Array**	**87.12 321**		P		**P**	**11 52 03.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=150,slow=6.2,SNR=7.3							
	comp=Z,1.6nm,0.7s							
NVAR	**Mina Array Bea**	**93.29 44**		P		**P**	**11 52 32.2**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=224,slow=6.2,SNR=4.9							
	comp=Z,0.3nm,0.7s							
BVAR	**Borovoye Array**	**128.66 313**		PKP		**PKPdf**	**11 58 23.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=90,slow=5.8,SNR=2.2							
FINES	**FINESS Array B**	**149.20 335**		PKPbc		**PKPbc**	**11 59 04.7**	**-0.8**
	comp=Z,5.8nm,0.7s,baz=66,slow=3.4,SNR=14							
DBIC	**Dimbokro**	**150.93 171**		PKPbc		**PKiKP**	**11 59 11.8**	**0.0**
	comp=Z,2.2nm,0.6s,baz=187,slow=3.4,SNR=3.9							

IDC ***23*** *11:40:51.9±1.1,36.˚40N×3.˚43E,h0km,mb3.4/6, mbtmp3.6/9,ML3.9/3, Error ellipse: s-maj=25.4km s-min=19.0km az=167.0*

CRAAG ***23*** *11:40:53.2,36.˚62N×3.˚51E,Ml4.2, Algerie 03km SE Bouzegza-Keddara*

NEIC ***23*** *11:40:54.4±1.0,36.˚46N±0.˚09×3.˚44E±0.˚09,h10km±2km, mb4.3/9, Error ellipse: s-maj=15.8km s-min=11.4km az=169.0*

MDD ***23*** *11:40:58.5±0.6,36.˚73N×3.˚25E,h0km,Mb4.7/42, M_mb4.1/42, Error ellipse: s-maj=5.2km s-min=3.1km az=136.0*

ISC 23 11:40:54.4±1.2, 36˚50N±0.˚04×3˚44E±0.˚03, h15km±7km, n116, σ2s02/135, mb3.8/12, 16C-1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKED	**El Kharrouba**	**0.15**	**353**	P	**Pg**	**11 40 58.5**	**+0.2**
ABMS	**Boumerdes**	**0.25**	**8**	P	**Pg**	**11 40 58.5**	**-1.4**
ABA	**Alger-Bouzarea**	**0.44**	**313**	P	**Pb**	**11 41 03.7**	**-0.3**
ATKB	**Taksebt**	**0.58**	**72**	P	**Pg**	**11 41 04.4**	**-1.4**
ABKD	**Sidi Amar**	**0.91**	**273**	P	**Pb**	**11 41 11.0**	**-0.9**
ATAF	**Djebel Tarf**	**0.92**	**132**	P	**Pb**	**11 41 09.7**	**-2.5**
SET	**Setif**	**1.61**	**100**	P	**Pg**	**11 41 25.0**	**-0.4**
OKGL	**Djebel Kef Gue**	**2.31**	**259**	P	**Pn**	**11 41 31.0**	**-0.9**
OJGS	**Djebel Guires**	**2.40**	**246**	P	**Pn**	**11 41 31.0**	**-2.2**
OJBR	**Djebel Berber**	**2.67**	**251**	P	**Pn**	**11 41 33.0**	**-4.0**
EIBI	**Ibiza**	**3.02**	**327**	Pn	**Pn**	**11 41 42.6**	**+0.9**
EIBI				Sn	**Sn**	**11 42 12.8**	**-4.9**
EIBI	**Ibiza**	**3.02**	**327**	Pn	**Pn**	**11 41 42.6**	**+0.9**
EIBI				⇑*i*IVmb_VC		11 41 43.2	
	4μm,SNR=28						
EIBI				Sn	**Sn**	**11 42 15.3**	**-2.4**
ODJA	**Bouhanifia**	**3.14**	**249**	P	Pn	11 41 30.0	-13
ETOS	**Mallorca**	**3.30**	**352**	Pn	**Pn**	**11 41 46.0**	**+0.4**
ETOS				Sn	**Sn**	**11 42 21.5**	**-3.1**
ETOS	**Mallorca**	**3.30**	**352**	Pn	**Pn**	**11 41 45.8**	**+0.2**
ETOS				⇑*i*IVmb_VC		11 41 49.6	
	3μm,SNR=18						
ETOS				Sn	**Sn**	**11 42 20.3**	**-4.4**
EBEN2	**Beniarda presa**	**3.61**	**308**	Pn	**Pn**	**11 41 49.5**	**-0.3**
EBEN2				⇑*i*IVmb_VC		11 41 52.9	
	886nm,SNR=4.7						
EBEN2				Sn	**Sn**	**11 42 29.3**	**-3.0**
CART	**Cartagena**	**3.71**	**288**	Pn	**Pn**	**11 41 50.2**	**-1.1**
CART				Sn	**Sn**	**11 42 28.3**	**-6.5**
CART	**Cartagena**	**3.71**	**288**	Pn	**Pn**	**11 41 50.3**	**-0.9**
AFON	**Font Roja**	**3.83**	**306**	Pn	**Pn**	**11 41 53.1**	**+0.1**
AFON				Sn	**Sn**	**11 42 37.3**	**-0.5**
EMUR	**La Murta**	**3.97**	**291**	Pn	**Pn**	**11 41 55.3**	**+0.4**
EMUR				Sn	**Sn**	**11 42 35.4**	**-5.8**
EMUR	**La Murta**	**3.97**	**291**	Pn	**Pn**	**11 41 55.2**	**+0.4**
EMUR				⇑*i*IVmb_VC		11 41 55.5	
	474nm,SNR=5.7						
EMUR				Sn	**Sn**	**11 42 39.5**	**-1.7**
ECOL	**Islas Columbre**	**4.03**	**328**	Sn	**Sn**	**11 42 39.4**	**-3.1**
BLIT	**Baltah**	**4.44**	**86**	*i* P	**Pn**	**11 42 02.5**	**+1.3**
OAR	**Oum El Arais**	**4.50**	**114**	*i* P	**Pg**	**11 42 18.6**	**-1.9**
KRIT	**Krib**	**4.55**	**90**	*i* P	**Pn**	**11 42 02.6**	**-0.2**
ECHE	**Chera**	**4.65**	**313**	Pn	**Pn**	**11 42 05.2**	**+1.0**
ECHE	**Chera**	**4.65**	**313**	Pn	**Pn**	**11 42 05.5**	**+1.3**
ECHE				⇑*i*IVmb_VC		11 42 06.6	
	1μm,SNR=18						
SYA	**Sidi Yaiche**	**4.71**	**110**	*i* P	**Pb**	**11 42 15.6**	**-1.2**
KEST	**Kesra**	**4.84**	**97**	Pn	**Pn**	**11 42 06.9**	**0.0**
	3.0nm,0.3s,baz=168,slow=2.5,SNR=29						
KEST				Sn	**Sn**	**11 43 03.1**	**+0.3**
	1.4nm,0.3s,baz=228,slow=23,SNR=1.1						
	61nm,0.7s						
EMOS	**Mosqueruela**	**4.93**	**323**	Pn	**Pn**	**11 42 09.2**	**+1.0**
EMOS				⇑*i*IVmb_VC		11 42 12.2	
	765nm,SNR=12						
EMOS				Sn	**Sn**	**11 42 59.5**	**-5.6**
ERTA	**Horta de San J**	**5.07**	**332**	Pn	**Pn**	**11 42 10.4**	**+0.4**
ERTA				⇑*i*IVmb_VC		11 42 17.6	
	450nm,SNR=9.5						
ERTA				Sn	**Sn**	**11 43 01.4**	**-6.8**
BERT	**Berda**	**5.08**	**115**	*i* P	**Pg**	**11 42 35.7**	**+4.0**
TROT	**Trozza**	**5.08**	**99**	*i* P	**Pn**	**11 42 10.8**	**+0.7**
EPOB	**Poblet**	**5.18**	**340**	Pn	**Pn**	**11 42 11.8**	**+0.3**
EPOB				⇑*i*IVmb_VC		11 42 13.7	
	468nm,SNR=11						
EPOB				Sn	**Sn**	**11 43 07.0**	**-4.2**
E0901	**Celadas (Terue**	**5.35**	**319**	Pn	**Pn**	**11 42 16.0**	**+2.1**
E0901				⇑*i*IVmb_VC		11 42 21.6	
	819nm,SNR=9.5						
E0901				Sn	**Sn**	**11 43 14.5**	**-0.8**
ZGN	**Zaghouan**	**5.37**	**89**	*i* P	**Pn**	**11 42 15.8**	**+1.7**
VSL	**Villasalto**	**5.56**	**56**		**Pn**	**11 42 15.9**	**-0.8**
ELGU	**Los Guajares,**	**5.69**	**276**	Pn	**Pn**	**11 42 19.2**	**+0.7**
ELGU				Sn	**Sn**	**11 43 18.9**	**-4.7**
ELGU	**Los Guajares,**	**5.69**	**276**	Pn	**Pn**	**11 42 19.5**	**+1.0**
ELGU				⇑*i*IVmb_VC		11 42 23.4	
	249nm,SNR=2.4						
EJON	**La Jonquera**	**5.96**	**356**	Pn	**Pn**	**11 42 23.5**	**+1.3**
EJON				Sn	**Sn**	**11 43 24.7**	**-5.4**
EJON	**La Jonquera**	**5.96**	**356**	Pn	**Pn**	**11 42 23.2**	**+1.1**
SGNT	**Sidi Gnaou**	**5.99**	**116**	*i* P	**Pg**	**11 42 49.8**	**+0.8**
EGOR	**Sierra Gorda,**	**6.09**	**278**	Pn	**Pn**	**11 42 26.5**	**+2.5**
ETOR	**Torete**	**6.09**	**317**	Pn	**Pn**	**11 42 27.1**	**+3.1**
ETOR				⇑*i*IVmb_VC		11 42 36.2	
	292nm,SNR=3.8						
PSIM	**Granatula de C**	**6.16**	**294**	Pn	**Pn**	**11 42 25.3**	**+0.3**
PSIM				Sn	**Sn**	**11 43 31.6**	**-3.6**
DGI	**Dorgali Grotta**	**6.16**	**50**	Pn	**Pn**	**11 42 24.6**	**-0.4**
DGI				Sn	**Sn**	**11 43 29.0**	**-6.2**
CEST	**Esterri de Car**	**6.32**	**345**		**Pn**	**11 42 29.1**	**+1.9**
EADA	**Adamuz**	**6.60**	**287**	Pn	**Pn**	**11 42 31.1**	**+0.1**
EADA	**Adamuz**	**6.60**	**287**	Pn	**Pn**	**11 42 30.9**	**-0.1**
ESBB	**Sonseca Array**	**6.64**	**301**		**Pn**	**11 42 32.5**	**+0.9**
ESDC	**Sonseca Array**	**6.64**	**301**		**Pn**	**11 42 32.2**	**+0.6**
ESDC	**Sonseca Array**	**6.64**	**301**	Pn	**Pn**	**11 42 31.8**	**+0.3**
	1.7nm,0.3s,baz=112,slow=13,SNR=38						
ESDC				Sn	**Sn**	**11 43 49.2**	**+2.2**
	0.2nm,0.3s,baz=111,slow=23,SNR=4.7						
	4.1nm,0.4s						
PAB	**San Pablo**	**6.86**	**299**	Pn	**Pn**	**11 42 34.8**	**+0.3**
PAB				⇑*i*IVmb_VC		11 42 37.2	
	207nm,SNR=4.5						
PAB	**San Pablo**	**6.86**	**299**	Pn	**Pn**	**11 42 34.9**	**+0.3**
ECAB	**El Cabril**	**7.23**	**285**	Pn	**Pn**	**11 42 39.8**	**+0.1**
GUD	**Guadarrama**	**7.24**	**307**	Pn	**Pn**	**11 42 41.2**	**+1.3**
GUD				⇑*i*IVmb_VC		11 42 41.7	
	136nm,SNR=2.9						
MDT	**Midelt**	**7.58**	**243**	Pn	**Pn**	**11 42 44.2**	**-0.2**
	0.8nm,0.3s,baz=63,slow=9.2,SNR=14						
	3.4nm,0.2s						
MD01	**Midelt array s**	**7.66**	**244**		**Pn**	**11 42 45.8**	**+0.1**
MD31	**MD31**	**7.66**	**244**		**Pn**	**11 42 46.0**	**+0.4**
EALK	**Alkurruntz**	**7.71**	**332**	Pn	**Pn**	**11 42 47.8**	**+1.5**
EALK				⇑*i*IVmb_VC		11 42 56.7	
	279nm,SNR=2.7						
EALK				Sn	**Sn**	**11 44 10.5**	**-3.0**
CASP	**Castiglione de**	**8.50**	**40**	Pn	**Pn**	**11 42 57.4**	**+0.4**
SSB	**Saint Sauveur**	**8.81**	**5**		**Pn**	**11 43 02.9**	**+1.6**
BNI	**Bardonecchia**	**8.89**	**15**	Pn	**Pn**	**11 43 04.3**	**+1.9**
PVAQ	**Vaqueiros**	**8.98**	**279**	Pn	**Pn**	**11 43 03.7**	**+0.1**
PVAQ	**Vaqueiros**	**8.98**	**279**	*eP*	**Pn**	**11 43 04.4**	**+0.9**
PVAQ				*i* IAmb	IAmb	11 44 05.1	
	42nm,1.8s						
PVAQ				*eS*	Sg	11 45 33.2	-9.1
PMRV	**Marv??o**	**9.04**	**292**	*eP*	**Pn**	**11 43 05.4**	**+1.0**
PESTR	**Estremoz**	**9.06**	**288**	Pn	**Pn**	**11 43 05.6**	**+0.9**
PESTR	**Estremoz**	**9.06**	**288**	*eP*	**Pn**	**11 43 05.1**	**+0.5**
PESTR				*i* IAmb	IAmb	11 43 40.1	
	21nm,1.8s						
PBEJ	**Beja**	**9.14**	**283**	*eP*	**Pn**	**11 43 06.2**	**+0.4**
PCVE	**Castro Verde**	**9.24**	**280**	*eP*	**Pn**	**11 43 08.8**	**+1.6**
PCVE				*i* IAmb	IAmb	11 43 29.8	
	39nm,1.8s						
EVO	**Evora**	**9.32**	**286**	*eP*	**Pn**	**11 43 09.1**	**+0.8**
CESX	**Cesi**	**9.33**	**46**		**Pn**	**11 43 09.4**	**+1.1**
MVO	**Moncorvo**	**9.40**	**303**	*eP*	**Pn**	**11 43 10.0**	**+0.6**
MVO				*i* IAmb	IAmb	11 44 19.0	
	17nm,1.8s						
MVO				*eS*	Sn	11 45 49.2	+54
MESJ	**Messejana**	**9.40**	**282**	Pn	**Pn**	**11 43 08.2**	**-1.2**
MESJ	**Messejana**	**9.40**	**282**	*eP*	**Pn**	**11 43 09.9**	**+0.5**
MESJ				*i* IAmb	IAm

JYO ⇓S Sn 11 49 53.0 +1.0
JYO Yokosk 0.29 266 A A 11 49 46.2
comp=N,28nm,0.8s,comp=E,45nm,0.6s
BSO4 Boso 4 0.37 134 P Pn 11 49 47.6 +0.6
TOK Tokyo 0.49 334 A A 11 49 46.6
comp=N,58nm,1.1s,comp=E,106nm,0.5s
BSO3 Boso 3 0.60 138 *i* P Pn 11 49 50.0 +0.3
JIM2 Oshima 3 0.71 223 P Pn 11 49 51.3 -0.3
JIM2 S Sn 11 50 01.4 0.0
JIM2 Oshima 3 0.71 223 A A 11 49 51.3
comp=N,6.0nm,0.4s,comp=E,6.0nm,0.3s
JOD2 Odawara 2 0.76 272 *i* P Pn 11 49 51.3 -0.9
JOD2 S Sn 11 50 01.2 -1.4
JOD2 Odawara 2 0.76 272 A A 11 49 51.3
comp=N,7.0nm,0.3s,comp=E,8.0nm,0.4s
BSO1 Boso 1 0.98 127 *i* P Pn 11 49 54.4 -0.3
BSO1 S Sn 11 50 08.2 +1.0
JYT Yasato 0.99 8 Pg Pn 11 49 52.5 -2.8
JYT Yasato 0.99 8 A A 11 49 53.5
comp=N,7.0nm,0.3s,comp=E,9.0nm,0.4s
JIZS Izushimoda 1.07 241 ⇓ *i* P Pn 11 49 56.1 -0.3
JIZS ⇓S Sn 11 50 09.8 -0.4
JRY Ryogami san 1.19 311 P Pn 11 49 56.8 -1.2
JYN Shimob 1.23 282 P Pn 11 49 57.8 -0.9
JYN S Sn 11 50 12.8 -1.3
JAG Ashikaga 1.26 339 *i* P Pn 11 49 57.8 -1.3
JSG Sagara 1.61 250 Pn Pn 11 50 03.9 +0.1
MJAR Matsushiro Arr 1.96 312 Pn Pn 11 50 07.9 -0.7
MJAR Matsushiro Arr 1.96 312 Pn Pn 11 50 07.8 -0.8
comp=E,8.0nm,0.3s,baz=135,slow=16,SNR=256
MJAR Sn Sn 11 50 33.2 +1.3
comp=E,6.0nm,0.3s,baz=90,slow=34,SNR=3.4
MJAR LR LR 11 51 03.5
comp=E,203nm,19.1s,baz=176,slow=47
MAJO Matsushiro 1.96 312 Pn Pn 11 50 08.4 -0.2
MAJO Matsushiro 1.96 312 P Pn 11 50 08.5 -0.1
MJB9 Matsu-Tunnel 1.96 312 Pn Pn 11 50 09.0 +0.4
JHJ Hachijo jima 2 2.13 185 Pn Pn 11 50 10.7 -0.2
comp=E,215nm,0.3s,baz=72,slow=3.3,SNR=72
JHJ Sn Sn 11 50 37.1 +1.0
comp=E,465nm,0.3s,baz=225,slow=22,SNR=45
JHJ2 Mitsune 2.14 185 Pn Pn 11 50 11.1 +0.1
JHJ2 Mitsune 2.14 185 P Pn 11 50 11.4 +0.4
JHJ2 Mitsune 2.14 185 S Sn 11 50 36.9 +0.6
JGF Kuroka 2.20 280 Pn Pn 11 50 12.8 +0.9
JGF Kuroka 2.20 280 P Pn 11 50 13.0 +1.0
JGF Kuroka 2.20 280 S Sn 11 50 39.1 +1.1
INU Inuyama 2.46 273 Pn Pn 11 50 14.8 -0.6
INU Inuyama 2.46 273 P Pn 11 50 16.3 +0.9
JMM Marumori 2.69 13 Pn Pn 11 50 17.5 -1.1
JMM Marumori 2.69 13 P Pn 11 50 18.2 -0.4
JSD Sado 3.12 334 P Pn 11 50 24.2 -0.4
JMN Monobe 5.29 255 Pn Pn 11 50 55.2 +0.8
JTM Tenmabayashi 5.59 8 Pn Pn 11 50 57.5 -0.9
ERM Erimo 7.19 19 Pn Pn 11 51 19.8 -0.6
JCJ Chichijima 8.33 167 Pn Pn 11 51 34.6 -1.5
JCJ Chichijima 8.33 167 Pn Pn 11 51 33.7 -2.4
comp=E,7.1nm,0.3s,baz=268,slow=12,SNR=9.5
JCJ Sn Sn 11 53 02.7 -6.2
comp=E,3.1nm,0.3s,baz=277,slow=23,SNR=2.9
comp=E,16nm,0.3s
ASAJ Asahikawa 9.08 12 Pn Pn 11 51 45.4 -0.9
comp=E,0.3nm,0.3s,baz=111,slow=31,SNR=1.3
comp=E,6.2nm,0.9s
JKA Kamikawa-asahi 9.08 12 Pn Pn 11 51 45.5 -0.8
KSAR Wonju Array Be 10.03 286 Pn Pn 11 51 58.5 -0.8
KS19 Wonju Array Si 10.05 286 Pn Pn 11 51 57.2 -2.5
USRK Ussuriysk Ar. 10.87 328 Pn Pn 11 52 18.2 +7.5
comp=E,0.3nm,0.3s,baz=67,slow=44,SNR=2.4
NJ2 Nanjing 17.90 266 *e* P P 11 53 48.6 +4.7
NJ2 pmax pmax
comp=Z,11nm,0.6s
SONM Songino Array 27.90 307 LR LR 12 05 49.9
comp=Z,68nm,18.1s,baz=193,slow=35
H11N2 WAKE ISLAND Hy 28.29 116 T T 12 25 03.5
baz=308,slow=75,SNR=220
H11N1 WAKE ISLAND Hy 28.30 116 T T 12 25 01.4
baz=308,slow=75,SNR=224
H11N3 WAKE ISLAND Hy 28.31 116 T T 12 25 02.3
baz=308,slow=75,SNR=238
H11S3 WAKE ISLAND Hy 28.92 118 T T 12 25 42.8
baz=311,slow=76,SNR=30
H11S1 WAKE ISLAND Hy 28.93 118 T T 12 25 39.1
baz=311,slow=76,SNR=38
H11S2 WAKE ISLAND Hy 28.94 118 T T 12 25 50.2
baz=311,slow=76,SNR=31
ZALV Zalesovo Beam 42.31 314 P P 11 57 26.9 -0.3
ZALV Zalesovo Beam 42.31 314 P P 11 57 26.4 -0.8
comp=Z,0.6nm,0.3s,baz=76,slow=6.3,SNR=3.6
comp=Z,0.6nm,0.3s
MKAR Makanchi Array 44.13 303 P P 11 57 41.5 -0.6
comp=Z,0.8nm,0.8s,baz=81,slow=11,SNR=3.9
comp=Z,0.8nm,0.8s
KURK Kurchatov 46.17 309 P P 11 57 57.7 -0.4
KURK IAmb IAmb 11 57 58.4
comp=Z,5.0nm,0.8s
KURBB Kurchatov Arra 46.23 309 P P 11 57 58.3 -0.3
comp=Z,3.3nm,0.9s,baz=85,slow=7.9,SNR=19
comp=Z,3.3nm,0.9s
K20K Telida 48.44 33 P P 11 58 15.2 -0.4
K20K IAmb IAmb 11 58 54.1
comp=Z,6.6nm,1.3s
E22K Anaktuvuk Pass 49.71 27 P P 11 58 25.4 +0.1
E22K IAmb IAmb 11 59 05.0
comp=Z,9.1nm,1.3s
AAK Ala-Archa 50.36 299 P P 11 58 30.7 -0.1
BVAR Borovoye Array 50.95 313 P P 11 58 34.6 -0.3
comp=Z,0.4nm,0.4s,baz=76,slow=6.3,SNR=3.8
comp=Z,0.4nm,0.4s
H24K Noodor Dome 51.16 30 P P 11 58 36.4 +0.1
H24K IAmb IAmb 11 58 55.9
comp=Z,7.2nm,1.4s
ILAR Eielson Array 51.61 32 P P 11 58 40.2 +0.6
comp=Z,0.4nm,0.8s,baz=252,slow=5.9,SNR=5.0
comp=Z,0.4nm,0.8s
F26K Sheenjek River 52.59 28 P P 11 58 46.9 -0.1
F26K IAmb IAmb 11 59 18.2
comp=Z,5.3nm,1.4s
BCAR Beaver Creek A 54.01 33 P P 11 58 57.9 +0.5
FITZ Fitzroy Crossi 54.78 197 P P 11 59 02.7 -0.6
FITZ Fitzroy Crossi 54.78 197 P P 11 59 02.2 -1.1
comp=Z,1.6nm,0.9s,baz=8.1,slow=7.1,SNR=5.6
comp=Z,1.6nm,0.9s
WB0 Warramunga Arr 54.97 186 P P 11 59 04.4 -0.4
H29M Whitestone 55.00 29 P P 11 59 03.8 -0.7
WRAB Tennant Creek 55.14 187 P P 11 59 05.7 -0.3
WRAB IAmb IAmb 11 59 06.4
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 55.15 187 P P 11 59 05.6 -0.5
WRA Warramunga Arr 55.15 187 P P 11 59 05.3 -0.8
comp=Z,3.9nm,0.5s,baz=1.7,slow=7.6,SNR=93
comp=Z,3.9nm,0.5s
M29M Somme Creek 55.62 34 P P 11 59 09.5 +0.3
M29M IAmb IAmb 11 59 44.4
comp=Z,11nm,1.4s
G30M tAoh Zraii Nji 55.72 28 P P 11 59 10.3 +0.5
G30M IAmb IAmb 11 59 39.3
comp=Z,9.9nm,1.2s
WHY Whitehorse 57.70 35 P P 11 59 25.1 +1.2
AB31 Akbulak array 58.23 311 P P 11 59 27.6 -0.1
ABKAR Akbulak array 58.23 311 P P 11 59 28.1 +0.3
AS31 Alice Springs 58.88 187 P P 11 59 31.5 -0.9
ASAR Alice Springs 58.88 187 P P 11 59 33.0 +0.6
ASAR Alice Springs 58.88 187 P P 11 59 32.4 0.0
comp=Z,0.8nm,0.5s,baz=16,slow=11,SNR=40
comp=Z,0.8nm,0.5s
DZM Mont Dzumac 62.27 152 LR LR 12 21 23.1
comp=Z,288nm,21.4s,baz=153,slow=31
FINES FINESS Array B 69.86 332 P P 12 00 44.1 +0.2
FINES FINESS Array B 69.86 332 P P 12 00 43.7 -0.1
comp=Z,1.1nm,0.6s,baz=45,slow=7.2,SNR=1.3
comp=Z,1.1nm,0.6s
PINE Pine Mountain 72.36 49 P P 12 00 59.4 -0.2
PINE IAmb IAmb 12 01 20.6
comp=Z,7.0nm,1.4s
JTMT Jette 74.07 43 P P 12 01 09.5 0.0
NC602 NORSAR Array S 75.51 337 P P 12 01 17.7 +0.3
NC602 IAmb IAmb 12 01 56.5
comp=Z,7.0nm,1.0s
NAO01 NORSAR Array S 75.64 337 P P 12 01 19.3 +1.1
NVAR Mina Array Bea 76.97 52 P P 12 01 28.5 +2.1
comp=Z,0.5nm,0.6s,baz=305,slow=3.5,SNR=4.7
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 79.73 45 P P 12 01 42.6 +1.0
comp=Z,0.1nm,0.4s,baz=294,slow=10,SNR=1.6
comp=Z,0.1nm,0.4s
MTPU Mount Pierson 81.08 50 P P 12 01 49.2 +0.1
H03N2 Juan Fernandez 147.93 98 T T 14 54 16.1
baz=289,slow=76,SNR=3.2
H03N3 Juan Fernandez 147.94 98 T T 14 54 25.1
baz=289,slow=76,SNR=4.0
H03N1 Juan Fernandez 147.94 98 T T 14 54 23.9
baz=289,slow=76,SNR=3.8

IDC 23 12:01:03.0±2.0, 22.94S×174.26W, h0km, mb3.9/4, mbtmp4.1/5, ML3.7/1, MS2.8/1, Error ellipse: s-maj=79.7km s-min=35.7km az=164.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.54**	**85**	Pn	Pn	12 04 16.4	-0.1
	3.6nm,0.3s,baz=259,slow=6.8,SNR=12						
RAR				Sn	Sn	12 06 37.0	-11
	0.7nm,0.3s,baz=190,slow=23,SNR=1.2						
RAR				LR	LR	12 07 45.2	
	comp=Z,41nm,21.0s,baz=262,slow=30						
	12nm,0.5s						
ASAR	**Alice Springs**	**47.39**	**258**	P	P	12 09 39.4	0.0
	1.3nm,0.8s,baz=97,slow=7.6,SNR=11						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**47.74**	**263**	P	P	12 09 41.4	-0.7
	1.2nm,0.8s,baz=103,slow=8.4,SNR=14						
	1.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.17**	**263**	P	P	12 10 45.5	+0.5
	1.3nm,0.7s,baz=100,slow=8.7,SNR=5.9						
	1.3nm,0.7s						
MJAR	**Matsushiro Arr**	**74.25**	**322**	P	P	12 12 41.9	-0.1
	0.8nm,0.6s,baz=149,slow=6.3,SNR=2.1						
	0.8nm,0.6s						

ROM 23 12:11:10.1±0.1, 42.461N±0.004×13.358E±0.005, h11km, ML2.1/54, Error ellipse: s-maj=0.4km s-min=0.2km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAMP	**Campotosto**	**0.08**	**27**	P	Pg	12 11 13.2	+0.5
CAMP				S	Sg	12 11 15.2	+0.6
CAMP				AML	AML		
	comp=E,1104μm,1.1s						
CAMP				AML	AML		
	comp=N,1595μm,0.4s						
CAMP				AML	AML		
	comp=E,1104μm,0.9s						
CAMP				AML	AML		
	comp=E,1084μm,0.2s						
RM33	**Pellescritta (**	**0.12**	**295**	P	Pg	12 11 13.6	+0.6
RM33				S	Sg	12 11 16.0	+0.7
RM33				AML	AML		
	comp=E,3875μm,0.3s						
RM33				AML	AML		
	comp=N,3170μm,0.2s						
RM33				AML	AML		
	comp=E,3880μm,0.3s						
RM33				AML	AML		
	comp=N,3250μm,0.2s						
RM33				AML	AML		
	comp=E,3845μm,0.3s						
RM33				AML	AML		
	comp=N,3165μm,0.2s						
RM33				AML	AML		
	comp=E,3875μm,0.3s						
GIGS	**Gran Sasso**	**0.16**	**94**	P	Pg	12 11 14.1	+0.4
GIGS				S	Sg	12 11 17.0	+0.8
GIGS				AML	AML		
	comp=E,383μm,0.2s						
GIGS				AML	AML		
	comp=N,368μm,0.3s						
GIGS				AML	AML		
	comp=N,368μm,1.7s						
GIGS				AML	AML		
	comp=N,282μm,0.1s						
SMA1	**SAN MARTINO**	**0.17**	**354**	P	Pg	12 11 14.4	+0.4
SMA1				S	Sg	12 11 17.5	+0.9
SMA1				AML	AML		
	comp=E,1072μm,0.1s						
SMA1				AML	AML		
	comp=N,1100μm,0.5s						
SMA1				AML	AML		
	comp=N,944μm,0.3s						
TERO	**Teramo**	**0.24**	**48**	P	Pg	12 11 15.4	+0.3
TERO				S	Sg	12 11 19.3	+0.8
TERO				AML	AML		
	comp=E,1014μm,1.4s						
TERO				AML	AML		
	comp=N,1070μm,1.5s						
TERO				AML	AML		
	comp=N,1070μm,0.5s						
TERO				AML	AML		
	comp=E,627μm,0.2s						
TERO				AML	AML		
	comp=N,526μm,0.3s						
TERO				AML	AML		
	comp=E,818μm,0.1s						
FAGN	**Fagnano**	**0.26**	**139**	P	Pg	12 11 15.9	+0.6
FAGN				S	Sb	12 11 20.6	-0.7
FAGN				AML	AML		
	comp=E,1590μm,0.4s						
FAGN				AML	AML		
	comp=N,1100μm,0.2s						
FAGN				AML	AML		
	comp=E,1590μm,1.6s						
FAGN				AML	AML		
	comp=N,1102μm,0.2s						
FAGN				AML	AML		
	comp=E,1590μm,0.4s						
FIAM	**Fiamignano**	**0.26**	**223**	P	Pg	12 11 16.1	+0.6
FIAM				S	Sg	12 11 20.0	+0.9
FIAM				AML	AML		
	comp=E,206μm,0.3s						
FIAM				AML	AML		
	comp=N,174μm,0.4s						
LNSS	**Leonessa**	**0.27**	**301**	P	Pg	12 11 16.1	+0.4
LNSS				S	Sg	12 11 20.7	+1.2
LNSS				AML	AML		
	comp=E,772μm,0.8s						
LNSS				AML	AML		
	comp=N,814μm,0.3s						
LNSS				AML	AML		
	comp=N,814μm,1.7s						
LNSS				AML	AML		
	comp=N,744μm,0.3s						
LNSS				AML	AML		
	comp=E,649μm,0.2s						
MTRA	**Matera**	**0.30**	**6**	P	Pg	12 11 16.2	+0.1
MTRA				S	Sg	12 11 20.7	+0.5
MTRA				AML	AML		
	comp=E,1112μm,0.3s						
MTRA				AML	AML		
	comp=N,1084μm,0.4s						
MTRA				AML	AML		
	comp=E,1102μm,0.3s						
MTRA				AML	AML		
	comp=N,1085μm,0.4s						
MTRA				AML	AML		
	comp=N,1083μm,0.4s						
MTRA				AML	AML		
	comp=E,1112μm,0.3s						
MTRA				AML	AML		
	comp=N,1083μm,1.6s						
MTRA				AML	AML		
	comp=N,1085μm,1.6s						
T0110	**Collepietro**	**0.39**	**127**	P	Pg	12 11 18.2	+0.4
T0110				S	Sb	12 11 24.9	-0.3
T0110				AML	AML		
	comp=E,759μm,1.2s						
T0110				AML	AML		
	comp=N,544μm,1.1s						
T0110				AML	AML		
	comp=N,544μm,0.9s						
T0110				AML	AML		
	comp=E,759μm,0.8s						
GAVE	**Gavelli**	**0.41**	**304**	P	Pg	12 11 18.4	+0.1
GAVE				S	Sg	12 11 24.8	+1.0
GAVE				AML	AML		
	comp=E,438μm,0.3s						
GAVE				AML	AML		
	comp=N,503μm,0.2s						
GAVE				AML	AML		
	comp=E,438μm,0.3s						
NRCA	**Norcia**	**0.41**	**334**	AML	AML		
	comp=E,693μm,0.2s						
NRCA				AML	AML		
	comp=N,429μm,1.4s						
MMO1	**Montemonaco**	**0.44**	**357**	P	Pg	12 11 18.7	-0.1
MMO1				S	Sg	12 11 25.6	+1.0
ARRO	**Arrone**	**0.45**	**285**	P	Pg	12 11 18.9	0.0
ARRO				S	Sg	12 11 25.8	+0.9
ARRO				AML	AML		
	comp=N,270μm,0.2s						
ARRO				AML	AML		
	comp=E,292μm,0.3s						
MC2	**Monte Cornacci**	**0.47**	**345**	P	Pg	12 11 19.4	0.0
MC2				S	Sb	12 11 27.1	-0.5
OFFI	**Offida**	**0.53**	**27**	P	Pb	12 11 21.3	-0.2
OFFI				AML	AML		
	comp=E,385μm,0.3s						
OFFI				AML	AML		
	comp=N,447μm,0.4s						
OFFI				AML	AML		
	comp=E,385μm,0.3s						
MF5	**Montefalcone A**	**0.53**	**8**	P	Pg	12 11 20.8	+0.2
MF5				S	Sb	12 11 29.4	+0.1
MF5				AML	AML		
	comp=E,226μm,0.5s						
MF5				AML	AML		
	comp=N,205μm,0.4s						
CERT	**Certeto**	**0.58**	**209**	P	Pg	12 11 21.2	-0.2
CERT				AML	AML		
	comp=N,112μm,0.8s						
CERT				AML	AML		
	comp=E,116μm,1.2s						
CERT				AML	AML		
	comp=E,116μm,0.8s						
CERT				AML	AML		
	comp=N,112μm,0.8s						
CERT				AML	AML		
	comp=E,115μm,0.4s						
CESX	**Cesi**	**0.59**	**285**	P	Pg	12 11 21.2	-0.4
CESX				S	Sg	12 11 30.2	+0.7
CESX				AML	AML		
	comp=E,129μm,0.3s						
CESX				AML	AML		
	comp=N,163μm,0.3s						
CESX				AML	AML		
	comp=N,163μm,1.7s						
CESX				AML	AML		
	comp=E,129μm,1.7s						
GUMA	**Gualdo di Mace**	**0.60**	**358**	P	Pg	12 11 21.9	+0.2
GUMA				AML	AML		
	comp=E,840μm,0.6s						
GUMA				AML	AML		
	comp=N,3125μm,1.3s						
GUMA				AML	AML		
	comp=N,225μm,0.4s						
GUMA				AML	AML		
	comp=E,840μm,0.6s						
GUMA				AML	AML		
	comp=E,276μm,0.4s						
GUMA				AML	AML		
	comp=E,276μm,1.6s						
GUMA				AML	AML		
	comp=N,3125μm,1.3s						
FDMO	**Fiordimonte**	**0.61**	**341**	P	Pg	12 11 21.6	-0.3
FDMO				S	Sb	12 11 30.8	-0.7
FDMO				AML	AML		
	comp=N,80μm,0.5s						
FDMO				AML	AML		
	comp=E,84μm,0.2s						
FDMO				AML	AML		
	comp=N,80μm,1.5s						
FDMO				AML	AML		
	comp=E,84μm,1.8s						
FDMO				AML	AML		
	comp=N,80μm,0.5s						
VVLD	**Villa Vallelon**	**0.62**	**161**	P	Pg	12 11 22.5	+0.4
MNTT	**Montottone**	**0.63**	**16**	P	Pb	12 11 22.9	-0.3
MNTT				AML	AML		
	comp=N,383μm,0.3s						
MNTT				AML	AML		
	comp=E,300μm,1.3s						
MNTT				AML	AML		
	comp=N,382μm,0.3s						
MNTT				AML	AML		
	comp=E,300μm,0.7s						
MNTT				AML	AML		
	comp=E,279μm,0.5s						
MNTT				AML	AML		
	comp=N,383μm,0.3s						
CSP1	**Cessapalombo**	**0.64**	**350**	P	Pg	12 11 22.1	-0.4
CSP1				S	Sb	12 11 32.2	-0.2
CSP1				AML	AML		
	comp=E,137μm,0.3s						
CSP1				AML	AML		
	comp=N,162μm,1.3s						
CSP1				AML	AML		
	comp=E,137μm,0.3s						
CSP1				AML	AML		
	comp=N,126μm,0.3s						
GUAR	**Guarcino**	**0.67**	**183**	P	Pg	12 11 23.3	+0.3
MOMA	**Monte Martano**	**0.68**	**301**	P	Pg	12 11 22.9	-0.2
MOMA				S	Sb	12 11 33.1	-0.3
MOMA				AML	AML		
	comp=N,162μm,0.2s						
MOMA				AML	AML		
	comp=N,162μm,1.8s						
MOMA				AML	AML		
	comp=E,226μm,0.2s						
LPEL	**Lama dei Pelig**	**0.74**	**124**	P	Pg	12 11 23.7	-0.6
LPEL				S	Sg	12 11 34.6	+0.5
ASSB	**Assisi San Ben**	**0.78**	**319**	P	Pg	12 11 24.9	-0.2
ASSB				S	Sb	12 11 36.6	+0.3
ASSB				AML	AML		
	comp=N,87μm,1.1s						
ASSB				AML	AML		
	comp=E,93μm,0.8s						
ASSB				AML	AML		
	comp=E,93μm,1.2s						
ASSB				AML	AML		
	comp=N,86μm,0.3s						
ASSB				AML	AML		
	comp=E,77μm,0.3s						
EL6	**Elcito**	**0.89**	**348**	P	Pg	12 11 26.9	-0.4
MGAB	**Montegabbione**	**1.02**	**297**	P	Pg	12 11 29.6	-0.2
MGAB				S	Sg	12 11 42.6	-0.5
MGAB				AML	AML		
	comp=N,108μm,0.6s						
MGAB				AML	AML		
	comp=E,76μm,1.5s						
MGAB				AML	AML		
	comp=E,62μm,0.6s						
MGAB				AML	AML		
	comp=N,117μm,0.6s						
MGAB				AML	AML		
	comp=E,73μm,0.6s						

ROM 23 12:11:51.6±0.1, 42.743N±0.003×13.227E±0.005, h10km, ML1.8/43, 3D, Error ellipse: s-maj=0.4km s-min=0.1km az=258.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.12**	**318**	⇓P	Pg	12 11 55.1	+0.4
NRCA				S	Sg	12 11 57.4	+0.6
NRCA				AML	AML		
	comp=N,3095μm,0.2s						
NRCA				AML	AML		
	comp=N,2835μm,0.2s						
NRCA				AML	AML		
	comp=E,2990μm,0.2s						
NRCA				AML	AML		
	comp=E,2745μm,0.2s						
MTRA	**Matera**	**0.13**	**84**	P	Pg	12 11 55.0	+0.3
MTRA				S	Sg	12 11 57.4	+0.5
MTRA				AML	AML		
	comp=E,1026μm,0.3s						
MTRA				AML	AML		
	comp=N,1060μm,0.3s						
MTRA				AML	AML		
	comp=N,1050μm,0.3s						
MTRA				AML	AML		
	comp=E,1030μm,0.3s						
MTRA				AML	AML		
	comp=E,1061μm,0.4s						
SMA1	**SAN MARTINO**	**0.14**	**145**	⇓P	Pg	12 11 55.5	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMA1				S	Sg	12 11 57.9	+0.7
SMA1				AML	AML		
	comp=E,696µm,0.1s						
SMA1				AML	AML		
	comp=N,579µm,0.2s						
MC2	**Monte Cornacci**	**0.17**	**351**	P	Pg	12 11 55.9	+0.3
MC2				S	Sg	12 11 59.2	+1.0
LNSS	**Leonessa**	**0.20**	**225**	P	Pg	12 11 56.5	+0.7
LNSS				S	Sg	12 12 00.3	+1.6
LNSS				AML	AML		
	comp=E,376µm,0.4s						
LNSS				AML	AML		
	comp=N,736µm,0.2s						
LNSS				AML	AML		
	comp=E,331µm,0.2s						
LNSS				AML	AML		
	comp=E,365µm,0.2s						
LNSS				AML	AML		
	comp=N,685µm,0.2s						
RM33	**Pellescritta (**	**0.23**	**182**	P	Pg	12 11 57.2	+0.7
RM33				S	Sg	12 12 01.2	+1.4
RM33				AML	AML		
	comp=E,615µm,0.9s						
RM33				AML	AML		
	comp=N,548µm,0.3s						
RM33				AML	AML		
	comp=E,615µm,1.1s						
RM33				AML	AML		
	comp=N,566µm,0.3s						
RM33				AML	AML		
	comp=E,541µm,0.2s						
CAMP	**Campotosto**	**0.25**	**147**	⇓P	Pg	12 11 57.2	+0.5
CAMP				S	Sg	12 12 01.4	+1.2
CAMP				AML	AML		
	comp=N,191µm,0.6s						
CAMP				AML	AML		
	comp=E,130µm,0.2s						
GAVE	**Gavelli**	**0.25**	**258**	P	Pg	12 11 57.4	+0.6
GAVE				S	Sb	12 12 01.8	-0.9
GAVE				AML	AML		
	comp=N,262µm,0.3s						
GAVE				AML	AML		
	comp=E,263µm,0.3s						
GAVE				AML	AML		
	comp=N,263µm,0.3s						
GAVE				AML	AML		
	comp=E,199µm,0.2s						
MF5	**Montefalcone A**	**0.30**	**35**	P	Pg	12 11 58.3	+0.6
MF5				S	Sb	12 12 03.6	-0.5
MF5				AML	AML		
	comp=E,231µm,0.5s						
FDMO	**Fiordimonte**	**0.31**	**341**	P	Pg	12 11 58.0	+0.1
FDMO				S	Sg	12 12 03.0	+0.9
FDMO				AML	AML		
	comp=N,95µm,0.2s						
FDMO				AML	AML		
	comp=E,108µm,0.1s						
GUMA	**Gualdo di Mace**	**0.33**	**14**	P	Pg	12 11 58.9	+0.6
GUMA				S	Sb	12 12 04.1	-0.9
GUMA				AML	AML		
	comp=N,785µm,0.4s						
GUMA				AML	AML		
	comp=E,1615µm,0.3s						
GUMA				AML	AML		
	comp=N,785µm,1.6s						
GUMA				AML	AML		
	comp=N,785µm,0.4s						
GUMA				AML	AML		
	comp=E,1617µm,0.3s						
CSP1	**Cessapalombo**	**0.35**	**357**	P	Pg	12 11 58.8	+0.1
CSP1				S	Sg	12 12 04.3	+0.9
CSP1				AML	AML		
	comp=E,163µm,0.4s						
CSP1				AML	AML		
	comp=N,176µm,0.3s						
CSP1				AML	AML		
	comp=E,164µm,0.4s						
CSP1				AML	AML		
	comp=N,177µm,0.3s						
CESI	**CESI - Serrava**	**0.35**	**318**	P	Pg	12 11 58.9	+0.2
CESI				S	Sg	12 12 04.3	+0.9
CESI				AML	AML		
	comp=E,196µm,0.2s						
CESI				AML	AML		
	comp=N,281µm,0.3s						
CESI				AML	AML		
	comp=E,180µm,0.2s						
CESI				AML	AML		
	comp=N,281µm,0.3s						
SAP2	**Sant'Angelo in**	**0.38**	**20**	P	Pb	12 11 60.0	-0.5
SAP2				S	Sb	12 12 06.0	-0.4
SAP2				AML	AML		
	comp=E,260µm,0.1s						
SAP2				AML	AML		
	comp=N,1320µm,0.2s						
ARRO	**Arrone**	**0.38**	**244**	P	Pg	12 11 59.7	+0.6
ARRO				S	Sb	12 12 06.2	-0.1
ARRO				AML	AML		
	comp=N,63µm,0.1s						
GIGS	**Gran Sasso**	**0.39**	**139**	P	Pg	12 11 59.3	0.0
GIGS				S	Sg	12 12 05.2	+0.8
GIGS				AML	AML		
	comp=N,25µm,0.1s						
GIGS				AML	AML		
	comp=E,26µm,0.1s						
OFFI	**Offida**	**0.39**	**60**	P	Pb	12 12 00.3	-0.3
MNTT	**Montottone**	**0.42**	**40**	P	Pb	12 12 00.9	-0.3
MOMA	**Monte Martano**	**0.49**	**277**	P	Pg	12 12 01.7	+0.6
MOMA				AML	AML		
	comp=N,112µm,0.5s						
MOMA				AML	AML		
	comp=N,112µm,1.5s						
MOMA				AML	AML		
	comp=E,225µm,0.2s						
MOMA				AML	AML		
	comp=E,225µm,0.2s						
MOMA				AML	AML		
	comp=E,205µm,0.2s						
MOMA				AML	AML		
	comp=N,100µm,0.2s						
ASSB	**Assisi San Ben**	**0.51**	**306**	P	Pg	12 12 01.7	+0.1
SNTG	**Esanatoglia**	**0.55**	**338**	P	Pg	12 12 02.1	-0.3
SNTG				S	Sb	12 12 11.0	-0.5
SNTG				AML	AML		
	comp=E,21µm,0.4s						
SNTG				AML	AML		
	comp=N,30µm,0.1s						
VCEL	**Villa Celiera**	**0.57**	**127**	P	Pg	12 12 03.2	+0.4
T0110	**Collepietro**	**0.66**	**141**	P	Pg	12 12 04.2	-0.2

*TEH **23** 12:35:16.8, 34°.68N×45°.34E, h10km±48km*
*ISN **23** 12:35:17.1±0.3, 34°.69N×45°.39E, h16km±10km, ML2.6*
ISC 23 12:35:17.1±1.2**, 34°.68N**±0°.05×**45°.36E**±0°.05**, h13**km±11km**,**
n9, σ0s.63/14**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.25**	**132**	Pg	**Pg**	**12 35 22.7**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.72**	**141**	Pg	**Pb**	**12 35 31.4**	**-0.2**
GLG1				Sg	**Sb**	**12 35 41.9**	**+0.5**
IDHR	**Dehrash**	**0.84**	**88**	Pg	**Pb**	**12 35 33.6**	**-0.1**
IDHR				Sg	**Sn**	**12 35 46.0**	**-1.2**
IGHG	**Ghaleghazi**	**1.05**	**109**	Sg	**Sn**	**12 35 53.7**	**+1.3**
IKRK	**Kirkuk**	**1.11**	**311**	ePg	**Pb**	**12 35 38.0**	**-0.1**
IKRK				eSg	**Sg**	**12 35 53.0**	**+0.1**
IKRK				AML	AML	12 35 57.1	
	comp=N,203nm,0.7s						
IKRK				AML	AML	12 35 57.3	
	comp=E,189nm,0.3s						
ILBA	**Ilam Banvizeh**	**1.26**	**146**	Pg	**Pn**	**12 35 40.2**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.44**	**106**	Pg	**Pb**	**12 35 44.2**	**+0.3**
BHD	**Baghdad**	**1.62**	**210**	ePn	**Pb**	**12 35 47.0**	**+0.2**
BHD				eSn	**Sg**	**12 36 09.0**	**-0.3**
IBDR	**Badra**	**1.63**	**163**	ePn	**Pb**	**12 35 47.0**	**0.0**
IBDR				eSn	**Sg**	**12 36 09.0**	**-0.6**
IBDR				AML	AML	12 36 12.3	
	comp=E,55nm,0.8s						
IBDR				AML	AML	12 36 29.2	
	comp=N,64nm,0.5s						

*MOS **23** 12:49:45.6±0.7, 52°.40N×101°.83E, h12km, mb4.0/3, Error ellipse: s-maj=13.3km s-min=9.9km az=129.0*
*BYKL **23** 12:49:45.7±0.2, 52°.42N×101°.82E, h9km±9km, FELT*
I=II-III MSK at Shumak.
ISC 23 12:49:44.7±1.2**, 52°.41N**±0°.03×**101°.82E**±0°.02**, h0**km±9km**,**
n46, σ2s.21/96**, 6C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARS	**Arshan**	**0.61**	**142**	⇑iPg	**Pg**	**12 49 57.9**	**+1.5**
ARS				Pmax		12 49 58.4	
	2µm,0.2s						
ARS				eSg	**Sg**	**12 50 05.7**	**+1.3**
ARS				Smax		12 50 07.2	
	38µm,0.3s						
ARS	**Arshan**	**0.61**	**142**	⇑iPG	**Pg**	**12 49 57.8**	**+1.4**
ARS				e		12 50 05.8	
ARS				pmax	pmax		
	comp=Z,2µm,0.2s						
ARS				smax	smax		
	comp=N,39µm,0.3s						
MOY	**Mondy**	**0.90**	**215**	⇑iPg	**Pg**	**12 50 02.3**	**+0.4**
MOY				Pmax		12 50 02.5	
	comp=N,399nm,0.3s						
MOY				eSg	**Sg**	**12 50 13.6**	**+0.1**
MOY				Smax		12 50 14.2	
	comp=N,5µm,0.3s						
MOY	**Mondy**	**0.90**	**215**	⇑iPG	**Pg**	**12 50 02.3**	**+0.4**
MOY				e		12 50 14.0	
MOY				pmax	pmax		
	comp=Z,553nm,0.5s						
MOY				smax	smax		
	comp=N,7µm,0.5s						
ORL	**Orlik**	**1.24**	**277**	⇓iPg	**Pn**	**12 50 08.9**	**-0.4**
ORL				Pmax		12 50 09.3	
	comp=N,405nm,0.3s						
ORL				eSg	**Sb**	**12 50 24.4**	**-1.1**
ORL				Smax		12 50 25.9	
	comp=N,2µm,0.3s						
ORL	**Orlik**	**1.24**	**277**	⇓iPG	**Pn**	**12 50 09.0**	**-0.4**
ORL				e		12 50 24.8	
ORL				pmax	pmax		
	comp=Z,444nm,0.1s						
ORL				smax	smax		
	comp=N,2µm,0.7s						
TLY	**Talaya**	**1.34**	**122**	ePg	**Pn**	**12 50 10.1**	**-0.6**
TLY				Pmax		12 50 16.9	
	comp=N,146nm,0.1s						
TLY				eSg	**Sb**	**12 50 27.4**	**-1.0**
TLY				Smax		12 50 30.8	
	comp=N,2µm,0.1s						
TLY	**Talaya**	**1.34**	**122**	ePG	**Pn**	**12 50 10.2**	**-0.5**
TLY				e		12 50 27.8	
TLY				pmax	pmax		
	comp=Z,89nm,0.1s						
TLY				smax	smax		
	comp=N,2µm,0.2s						
IRK	**Irkutsk**	**1.51**	**95**	ePg	**Pb**	**12 50 13.8**	**+0.1**
IRK				Pmax		12 50 14.2	
	comp=N,664nm,0.3s						
IRK				e		12 50 16.0	
IRK				e		12 50 19.6	
IRK				eSg	**Sn**	**12 50 33.0**	**-0.5**
IRK				Smax		12 50 36.2	
	comp=N,3µm,0.4s						
IRK				e		12 50 40.8	
IRK	**Irkutsk**	**1.51**	**95**	ePG	**Pb**	**12 50 14.0**	**+0.3**
IRK				e		12 50 33.0	
IRK				pmax	pmax		
	comp=Z,662nm,0.3s						
IRK				smax	smax		
	comp=N,3µm,0.4s						
IVK	**Ivanovka**	**1.71**	**110**	ePg	**Pb**	**12 50 16.8**	**-0.3**
IVK				ePb	**Pg**	**12 50 17.4**	**-0.1**
IVK				max		12 50 18.5	
	comp=N,1µm,0.3s						
IVK				eSg	**Sn**	**12 50 38.2**	**-0.1**
IVK				Smax		12 50 42.6	
	comp=N,2µm,0.3s						
IVK	**Ivanovka**	**1.71**	**110**	ePN	**Pb**	**12 50 16.7**	**-0.3**
IVK				e		12 50 38.1	
IVK				pmax	pmax		
	comp=Z,1µm,0.3s						
IVK				smax	smax		
	comp=N,2µm,0.2s						
LSTR	**Listvyanka**	**1.93**	**105**	ePn	**Pn**	**12 50 19.6**	**+0.8**
LSTR				ePg	**Pb**	**12 50 20.9**	**+0.1**
LSTR				e		12 50 22.9	
LSTR				max		12 50 23.0	
	comp=N,156nm,0.3s						
LSTR				e		12 50 26.4	
LSTR				eSn	**Sn**	**12 50 43.7**	**-0.1**
LSTR				eSg	**Sb**	**12 50 45.2**	**-0.3**
LSTR				Smax		12 50 49.9	
	comp=N,1µm,0.5s						
LSTR				eSgSg	**SnSn**	**12 50 53.4**	**-1.0**
LSTR	**Listvyanka**	**1.93**	**105**	ePN	**Pn**	**12 50 19.8**	**+1.0**
LSTR				e		12 50 44.5	
LSTR				pmax	pmax		
	comp=Z,158nm,0.5s						
LSTR				smax	smax		
	comp=N,1µm,0.6s						
ZAK	**Zakamensk**	**2.22**	**155**	ePn	**Pn**	**12 50 23.0**	**+0.1**
ZAK				ePg	**Pb**	**12 50 25.4**	**-0.4**
ZAK				Pmax		12 50 25.4	
	comp=N,110nm,0.3s						
ZAK				eSn	**Sn**	**12 50 50.9**	**-0.2**
ZAK				eSg	**Sb**	**12 50 54.5**	**+0.6**
ZAK				Smax		12 50 55.6	
	comp=N,402nm,0.5s						
ZAK	**Zakamensk**	**2.22**	**155**	ePN	**Pb**	**12 50 25.2**	**-0.6**
ZAK				e		12 50 52.7	
ZAK				pmax	pmax		
	comp=Z,109nm,0.2s						
ZAK				smax	smax		
	comp=E,401nm,0.5s						
BGT	**Bolshoye Golou**	**2.24**	**98**	ePn	**Pn**	**12 50 23.7**	**+0.8**
BGT				ePg	**Pb**	**12 50 25.7**	**-0.3**
BGT				e		12 50 31.8	
BGT				max		12 50 31.8	
	comp=E,285nm,0.5s						
BGT				eSn	**Sn**	**12 50 50.3**	**-1.0**
BGT				eSg	**Sb**	**12 50 54.3**	**+0.1**
BGT				Smax		12 50 59.3	
	comp=E,1µm,0.3s						
BGT	**Bolshoye Golou**	**2.24**	**98**	ePN	**Pn**	**12 50 23.8**	**+0.8**
BGT				e		12 50 26.5	
BGT				eS	**Sn**	**12 50 50.3**	**-1.0**
BGT				e		12 50 54.1	
BGT				pmax	pmax		
	comp=Z,264nm,0.3s						
BGT				smax	smax		
	comp=N,1µm,0.3s						
VBR	**Suhoy Ruchey**	**2.66**	**102**	ePg	**Pb**	**12 50 34.1**	**+0.9**
VBR				eSg	**Sb**	**12 51 08.0**	**+1.7**
TRG	**Tyrgan**	**2.79**	**81**	ePn	**Pn**	**12 50 30.6**	**0.0**
TRG				ePg	**Pb**	**12 50 35.2**	**-0.2**
TRG				Pmax		12 50 35.4	
	comp=N,78nm,0.3s						
TRG				e		12 50 37.5	
TRG				eSn	**Sn**	**12 51 03.9**	**-1.0**
TRG				eSg	**Sb**	**12 51 11.7**	**+1.7**
TRG				Smax		12 51 18.6	
	comp=N,646nm,0.3s						
TRG	**Tyrgan**	**2.79**	**81**	ePN	**Pn**	**12 50 30.6**	**0.0**
TRG				e		12 50 35.8	
TRG				eS	**Sn**	**12 51 04.7**	**-0.2**
TRG				e		12 51 11.9	
TRG				pmax	pmax		
	comp=Z,199nm,0.2s						
TRG				smax	smax		
	comp=N,645nm,0.3s						
KAB	**Kabansk**	**3.00**	**95**	ePg	**Pb**	**12 50 39.9**	**+1.0**
KAB				e		12 50 41.7	
KAB				max		12 50 42.8	
	comp=N,312nm,0.5s						
KAB				ePgPg	**Pg**	**12 50 44.5**	**+2.4**
KAB				e		12 51 15.1	
KAB				eSg	**Sg**	**12 51 18.9**	**-2.0**
KAB				eSgSg	**SbSb**	**12 51 21.2**	**+0.1**
KAB				max		12 51 24.3	
	comp=N,1µm,0.7s						
ZRHB	**Zarechye**	**3.27**	**85**	ePg	**Pb**	**12 50 44.3**	**+0.8**
ZRHB				Pmax		12 50 58.4	
	comp=N,315nm,1.0s						
ZRHB				eSg	**Sg**	**12 51 27.5**	**-2.1**
ZRHB				e		12 51 35.0	
ZRHB				max		12 51 50.7	
	comp=N,1µm,0.9s						
HRMR	**Khuramsha**	**3.27**	**102**	ePn	**Pn**	**12 50 37.0**	**-0.2**
HRMR				ePg	**Pb**	**12 50 44.7**	**+1.1**
HRMR				Pmax		12 50 46.8	
	comp=N,238nm,0.5s						
HRMR				eSn	**Sn**	**12 51 15.2**	**-1.5**
HRMR				eSg	**Sb**	**12 51 26.2**	**+2.3**
HRMR				Smax		12 51 29.7	
	comp=N,1µm,0.5s						
UUDB	**Ulan-Yde**	**3.64**	**96**	ePn	**Pn**	**12 50 42.9**	**+0.6**
UUDB				ePg	**Pb**	**12 50 51.2**	**+1.3**
UUDB				Pmax		12 50 52.6	
	comp=N,45nm,0.4s						
UUDB				eSn	**Sn**	**12 51 24.0**	**-2.0**
UUDB				eSg	**Sb**	**12 51 37.9**	**+3.3**
UUDB				Smax		12 51 45.0	
	comp=N,284nm,0.5s						
OGRR	**Ongureny**	**3.70**	**68**	ePn	**Pn**	**12 50 44.1**	**+1.0**
OGRR				ePg	**Pb**	**12 50 52.6**	**+1.6**
OGRR				Pmax		12 50 56.6	
	comp=N,95nm,0.5s						
OGRR				eSn	**Sn**	**12 51 24.8**	**-2.6**
OGRR				eSg	**Sg**	**12 51 40.9**	**-2.7**
OGRR				Smax		12 51 43.9	
	comp=N,1µm,0.5s						
KELR	**Kotokel**	**3.84**	**82**	e	**Pb**	**12 50 55.7**	**+2.5**
KELR				eSg	**Sb**	**12 51 43.9**	**+3.7**
GORB	**Goryachinsk**	**3.98**	**79**	ePg	**Pb**	**12 50 57.2**	**+1.6**
GORB				eSn	**Sn**	**12 51 30.3**	**-3.9**
GORB				eSg	**Sb**	**12 51 48.5**	**+4.2**
MXMB	**Maximikha**	**4.29**	**76**	ePg	**Pb**	**12 51 02.4**	**+1.5**
MXMB				eSn	**Sn**	**12 51 39.5**	**-2.4**
MXMB				eSg	**Sb**	**12 51 57.9**	**+4.7**
KZLR	**Kyzyl**	**4.60**	**264**	eSg	**Sg**	**12 52 08.2**	**-4.2**
SYVR	**Suvo**	**5.09**	**73**	ePn	**Pn**	**12 51 03.4**	**+1.1**
SYVR				ePg	**Pb**	**12 51 17.0**	**+2.3**
SYVR				e		12 51 24.9	
SYVR				max		12 51 25.8	
	comp=N,26nm,1.2s						
SYVR				e		12 52 13.4	
SYVR				eSg	**Sg**	**12 52 22.9**	**-5.4**
SYVR				Smax		12 52 29.5	
	comp=N,101nm,0.7s						
ARDR	**Aradan**	**5.13**	**275**	ePg	**Pb**	**12 51 17.5**	**+2.2**
ARDR				eSn	**Sn**	**12 52 00.5**	**-2.2**
ARDR				eSg	**Sb**	**12 52 22.8**	**+5.4**
MINR	**Mina**	**5.17**	**302**	e	**Pb**	**12 51 12.8**	**-3.2**
MINR				ePg	Pg	12 51 19.4	-4.4
MINR				eSg	**Sg**	**12 52 27.7**	**-3.1**
ULN	**Ulaanbaatar**	**5.65**	**141**	⇓ePN	**Pn**	**12 51 09.4**	**-0.7**
ULN				i		12 51 27.3	
YLYR	**Ulyunkhan**	**6.08**	**62**	ePn	**Pn**	**12 51 15.8**	**0.0**
YLYR				e		12 51 20.4	
YLYR				ePg	**Pb**	**12 51 34.0**	**+2.5**
YLYR				Pmax		12 51 48.7	
	comp=N,25nm,0.8s						
YLYR				eSn	**Sn**	**12 52 23.0**	**-3.1**
YLYR				eSg	**Sg**	**12 52 53.4**	**-6.6**
YLYR				Smax		12 52 58.9	
	comp=N,289nm,1.5s						
KMO	**Kumora**	**6.52**	**54**	ePn	**Pn**	**12 51 22.5**	**+0.7**
KMO				e		12 51 25.5	
KMO				ePg	**Pb**	**12 51 41.7**	**+2.7**
KMO				Pmax		12 51 58.7	
	comp=N,22nm,0.4s						
KMO				eSg	**Sg**	**12 53 07.1**	**-6.9**
KMO				Smax		12 53 16.1	
	comp=N,226nm,0.9s						
BOD	**Bodaibo**	**8.84**	**47**	ePn	**Pn**	**12 51 53.8**	**+0.3**
BOD				max		12 52 09.2	
	comp=N,7.0nm,0.4s						
BOD				eSn	**Sn**	**12 53 27.8**	**-5.9**
BOD				eSg	Sg	12 54 19.4	-8.8
BOD				Smax		12 54 26.2	
	comp=N,145nm,1.6s						
NLYR	**Nelyaty**	**9.06**	**58**	ePn	**Pn**	**12 51 57.5**	**+0.8**
NLYR				ePg		12 52 29.2	
NLYR				Pmax		12 53 14.4	
	comp=N,7.0nm,1.0s						
NLYR				e		12 53 48.6	
NLYR				eSg	Sn	12 54 26.1	+47
NLYR				Smax		12 54 40.0	
	comp=N,107nm,1.5s						
VTMR	**Vitim**	**9.26**	**36**	e		12 53 25.1	
VTMR				eSg	Sn	12 54 32.0	+48
TUP	**Tupik**	**11.01**	**72**	eSg	Sn	12 55 26.2	+59
TUP				Smax		12 55 34.8	
	comp=N,45nm,1.9s						
MK31	**Makanchi Array**	**13.84**	**254**	⇑eP	**Pn**	**12 53 04.3**	**+2.3**
KURK	**Kurchatov**	**14.52**	**273**	⇑eP	**Pn**	**12 53 13.1**	**+1.9**
TIXI	**Tiksi**	**22.71**	**22**	⇓eP	**P**	**12 54 47.7**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**40.04**	**314**	eP	**P**	**12 57 22.0**	**+1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PALK	**Pallekele**	**48.21**	**209**	i P	**P**	**12 58 24.1**	**-2.9**
ILAR	**Eielson Array**	**51.78**	**31**	eP	**P**	**12 58 53.8**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

*IDC **23** 12:49:41.0±0.5, 2°.30S×139°.24E, h0km, mb4.3/17, mbtmp4.3/19, ML4.3/1, MS3.9/27, Error ellipse: s-maj=12.1km s-min=10.1km az=64.0*
*DJA **23** 12:49:44.4±0.6, 2°S±4°×13°9E±°, h17km±6km, M5.0/12, mb5.0/12, mB5.8/1, MLv5.0/9, Mw(mB)5.3/1*
*NEIC **23** 12:49:47.3±1.1, 2°.40S±0°.07×139°.25E±0°.06, h35km±2km, mb4.9/81, Error ellipse: s-maj=13.7km s-min=5.6km az=219.0*
ISC 23 12:49:46.5±0.3**, 2°.44S**±0°.05×**139°.25E**±0°.04**, h37**km**, n155,**
σ1s.10/149**, mb4.8**/57**, MS4.0**/23**, 1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.70**	**310**	P	**Pn**	**12 49 57.3**	**-2.6**
GENI	**Genyem**	**0.93**	**100**	P	**Pn**	**12 50 02.1**	**-1.0**
JAY	**Jayapura**	**1.46**	**93**	Pg	**Pn**	**12 50 09.2**	**-1.1**
	148nm,0.3s,baz=249,slow=9.1,SNR=326						
JAY				Lg	Lg	12 50 28.5	
	458nm,0.3s,baz=116,slow=21,SNR=11						
JAY				LR	LR	12 51 00.8	
	comp=Z,3µm,21.8s,baz=270,slow=54						
JAY	**Jayapura**	**1.46**	**93**	P	**Pn**	**12 50 09.3**	**-1.1**
JAY				S	**Sn**	**12 50 28.3**	**+0.1**
WAMI	**Wamena**	**1.54**	**200**	P	Pn	12 50 17.6	+6.2
WAMI				S	Sn	12 50 44.0	+14
SRPI	**Serui, Papua**	**3.06**	**281**	P	**Pn**	**12 50 32.1**	**-0.2**
SRPI				S	**Sn**	**12 51 09.4**	**+1.7**
BAKI	**Biak**	**3.37**	**291**	P	**Pn**	**12 50 35.5**	**-1.2**
BAKI				S	**Sn**	**12 51 16.7**	**+1.2**
KMPI	**Kaimana, Papua**	**5.67**	**257**	P	**Pn**	**12 51 09.4**	**+1.2**
	1.1nm248nm,0.8s						
MMPI	**Merauke**	**6.10**	**169**	P	**Pn**	**12 51 18.5**	**+4.4**
FAKI	**Fak Fak**	**7.01**	**266**		**Pn**	**12 51 27.3**	**+0.7**
FAKI	**Fak Fak**	**7.01**	**266**	P	**Pn**	**12 51 27.4**	**+0.8**
	0.5nm79nm,0.9s						
MANU	**Manus Island**	**8.12**	**87**	Pn	**Pn**	**12 51 42.4**	**+0.4**
SWI	**Sorong**	**8.13**	**281**	P	**Pn**	**12 51 43.9**	**+1.8**
	48nm,0.8s						
BNDI	**Bandanaira**	**9.55**	**257**	P	**Pn**	**12 52 02.7**	**+1.1**
	325nm,1.3s						
PMG	**Port Moresby**	**10.48**	**132**		**Pn**	**12 52 14.5**	**+0.2**
PMG	**Port Moresby**	**10.48**	**132**	Pn	**Pn**	**12 52 14.8**	**+0.5**
	21nm,1.0s,baz=313,slow=9.6,SNR=3.9						
PMG				LR	LR	12 57 44.6	
	comp=Z,696nm,20.7s,baz=327,slow=46						
COEN	**Coen**	**12.09**	**161**		**Pn**	**12 52 37.2**	**+0.8**
KRVT	**Keravat (AS076**	**12.89**	**99**	LR	LR	12 56 22.5	
	comp=Z,6.2nm,21.1s,baz=285,slow=31						
RABL	**Rabaul**	**13.01**	**98**	Pn	**Pn**	**12 52 49.3**	**+0.3**
MTN	**Manton Dam**	**13.09**	**217**		**Pn**	**12 52 50.5**	**+0.5**
SOEI	**Soe**	**16.57**	**243**		**Pn**	**12 53 36.3**	**0.0**
SOEI				IAmb	IAmb	12 53 46.3	
	comp=Z,66nm,0.9s						
SOEI	**Soe**	**16.57**	**243**	P	**P**	**12 53 38.9**	**+0.4**
	comp=Z,96nm,0.8s						
DAV	**Davao City (W)**	**16.59**	**305**	LR	LR	12 58 50.0	
	comp=Z,143nm,19.1s,baz=152,slow=33						
KNRA	**Kununurra**	**16.73**	**218**		**Pn**	**12 53 38.8**	**+0.7**
GUMO	**Guam**	**16.87**	**19**	LR	LR	12 59 53.8	
	comp=Z,245nm,18.6s,baz=180,slow=37						

BATI	Baumata	17.30	243	P		P	12 53 46.5	+0.1
	comp=Z,107nm,0.7s,baz=40,slow=3.5,SNR=12							
BATI	Baumata	17.30	243	P		P	12 53 48.9	+2.5
WB0	Warramunga Arr	17.87	195			Pn	12 53 52.2	-0.1
WR8	Warramunga Arr	18.02	195			Pn	12 53 54.6	+0.4
WRAB	Tennant Creek	18.04	195	P		Pn	12 53 54.1	-0.3
WRA	Warramunga Arr	18.05	195			Pn	12 53 53.8	-0.8
WRA	Warramunga Arr	18.05	195	P		Pn	12 53 54.3	-0.3
	comp=Z,1.0nm,0.3s,baz=14,slow=11,SNR=24							
WRA				S		Sn	12 57 10.0	-5.0
	comp=Z,3.5nm,0.9s,baz=18,slow=20,SNR=4.6							
WRA				LR		LR	13 01 35.6	
	comp=Z,1µm,18.2s,baz=4.0,slow=39							
	comp=Z,5.7nm,0.6s							
TOLI2	Tolitoli	18.79	281	P		P	12 54 01.7	-1.3
FITZ	Fitzroy Crossi	20.50	220	P		P	12 54 22.0	+0.5
FITZ	Fitzroy Crossi	20.50	220	P		P	12 54 21.6	0.0
	comp=Z,5.0nm,0.7s,baz=36,slow=10,SNR=13							
FITZ				S		S	12 58 04.5	-4.6
	comp=Z,13nm,0.9s,baz=186,slow=14,SNR=5.4							
FITZ				LR		LR	13 03 02.9	
	comp=Z,629nm,19.6s,baz=25,slow=39							
	comp=Z,5.0nm,0.7s							
HNR	Honiara	21.72	110	P		P	12 54 34.3	-0.4
	comp=Z,13nm,0.3s,baz=230,slow=7.9,SNR=1.5							
	comp=Z,13nm,0.3s							
AS31	Alice Springs	21.73	193			P	12 54 35.6	+0.8
ASAR	Alice Springs	21.73	193	P		P	12 54 35.5	+0.7
ASAR	Alice Springs	21.73	193	P		P	12 54 35.1	+0.3
	comp=Z,3.5nm,0.7s,baz=23,slow=10,SNR=42							
ASAR				S		Sn	12 58 39.9	-3.8
	comp=Z,3.3nm,1.1s,baz=17,slow=28,SNR=5.0							
ASAR				LR		LR	13 03 50.7	
	comp=Z,934nm,18.0s,baz=5.5,slow=39							
	comp=Z,3.5nm,0.7s							
MYLDM	Lahad Datu	22.06	290	P		P	12 54 37.8	-0.6
MYLDM				IAmb		IAmb	12 54 52.5	
	comp=Z,24nm,0.9s							
INKA	Innaminka	25.20	177	P		P	12 55 08.6	-0.2
EIDS	Eidsvold	25.49	154			P	12 55 12.4	+0.9
EIDS				IAmb		IAmb	12 55 16.3	
	comp=Z,28nm,1.1s							
MBWA	Marble Bar	26.60	224			P	12 55 21.3	-0.3
PSA00	Pilbara Seismi	26.80	223	P		P	12 55 21.6	-1.8
STKA	Stephens Creek	29.37	176	P		P	12 55 47.6	+1.4
STKA	Stephens Creek	29.37	176	P		P	12 55 47.5	+1.4
	comp=Z,2.5nm,0.8s,baz=345,slow=8.2,SNR=4.4							
STKA				LR		LR	13 08 54.7	
	comp=Z,532nm,20.5s,baz=356,slow=39							
	comp=Z,2.5nm,0.8s							
JCJ	Chichijima	29.50	5	LR		LR	13 05 47.8	
	comp=Z,144nm,18.8s,baz=172,slow=33							
BBOO	Buckleboo	30.36	185	P		P	12 55 55.7	+0.7
BBOO				IAmb		IAmb	12 56 19.2	
	comp=Z,28nm,1.4s							
KWJN	Gagan, Kwajale	30.48	67	P		P	12 55 56.6	+0.4
KWJN				pP		pP	12 56 06.8	+0.1
MORW	Morawa	34.48	218	P		P	12 56 31.4	+0.2
JNU	Nakatsue	36.24	348	LR		LR	13 10 44.7	
	comp=Z,126nm,18.1s,baz=216,slow=35							
NWAO	Narrogin (SRO)	36.69	212	LR		LR	13 13 14.8	
	comp=Z,1µm,18.1s,baz=59,slow=38							
MJAR	Matsushiro Arr	38.79	359	P		P	12 57 06.2	-1.5
	comp=Z,2.4nm,0.7s,baz=181,slow=9.1,SNR=5.1							
MJAR				LR		LR	13 11 02.0	
	comp=Z,120nm,18.7s,baz=172,slow=33							
	comp=Z,2.4nm,0.7s							
MAJO	Matsushiro	38.79	359	P		P	12 57 06.6	-1.1
MAJO				IAmb		IAmb	12 57 12.3	
	comp=Z,34nm,1.8s							
MJB9	Matsu-Tunnel	38.79	359	P		P	12 57 07.5	-0.2
MJB9				IAmb		IAmb	12 57 13.2	
	comp=Z,33nm,1.8s							
KSRS	Korea Array	41.06	346	P		P	12 57 25.9	-0.6
	comp=Z,1.1nm,0.8s,baz=171,slow=8.9,SNR=4.3							
	comp=Z,1.1nm,0.8s							
GSI	Gunungsitoli	41.83	275	P		P	12 57 32.1	-1.1
GSI				IAmb		IAmb	12 57 47.8	
	comp=Z,31nm,0.9s							
CMAR	Chiang Mai Arr	44.77	299	P		P	12 57 56.8	-0.1
	comp=Z,3.7nm,0.8s,baz=120,slow=6.4,SNR=18							
CMAR				LR		LR	13 16 36.6	
	comp=Z,60nm,19.6s,baz=235,slow=36							
	comp=Z,3.7nm,0.8s							
CHTO	Chiang Mai	44.91	300	P		P	12 57 58.3	+0.3
CHTO	Chiang Mai	44.91	300	P		P	12 57 57.3	-0.7
ASAJ	Asahikawa	46.44	3	LR		LR	13 15 15.6	
	comp=Z,93nm,20.8s,baz=231,slow=33							
MDJ	Mudanjiang	47.63	351	P		P	12 58 19.6	+0.7
MDJ				IAmb		IAmb	12 59 56.0	
	comp=Z,23nm,1.6s							
BNX	BinXian	49.10	349	‖P		P	12 58 29.8	-0.5
BNX				pmax		pmax		
	comp=Z,10.0nm,1.2s							
XLT	XiLinHaoTe	50.59	338	*e*P		P	12 58 41.8	0.0
XLT				pmax		pmax		
	comp=Z,4.0nm,0.5s							
SHL	Shillong	53.62	304			P	12 59 04.8	0.0
PEA0B	Petropavlovsk-	57.47	13	P		P	12 59 31.7	+0.1
PETK	Petropavlovsk-	57.47	13	P		P	12 59 32.1	+0.4
PETK	Petropavlovsk-	57.47	13	P		P	12 59 30.6	-1.0
	comp=Z,2.1nm,0.9s,baz=182,slow=7.1,SNR=5.4							
PETK				LR		LR	13 26 45.5	
	comp=Z,65nm,18.3s,baz=189,slow=39							
	comp=Z,2.1nm,0.9s							
PET	Petropavlovsk	57.62	14	P		P	12 59 33.9	+1.3
PET				pP		pP	12 59 44.2	+0.4
PET				sP		sP	12 59 49.0	+1.9
SONM	Songino Array	57.70	334	P		P	12 59 34.8	+1.2
SONM	Songino Array	57.70	334	P		P	12 59 33.0	-0.6
	comp=Z,0.8nm,0.7s,baz=134,slow=6.4,SNR=3.9							
SONM				LR		LR	13 25 18.0	
	comp=Z,82nm,18.9s,baz=252,slow=37							
	comp=Z,0.8nm,0.7s							
EVN	Everest	58.72	305			P	12 59 42.2	+0.5
RAR	Rarotonga	62.13	113	LR		LR	13 23 55.9	
	comp=Z,72nm,20.4s,baz=260,slow=33							
SHEM	Shemya Is, Ala	62.28	23	LR		LR	13 25 51.1	
	comp=Z,84nm,19.7s,baz=288,slow=35							
DRV	Dumont d'Urvil	64.11	180	P		P	13 00 16.3	-0.3
DRV				sP		sP	13 00 30.8	-1.4
YAK	Yakutsk	64.71	355	P		P	13 00 20.3	-0.2
YAK	Yakutsk	64.71	355	LR		LR	13 27 11.3	
	comp=Z,86nm,18.3s,baz=195,slow=35							
MKAR	Makanchi Array	69.90	322			P	13 00 54.2	+0.3
MKAR	Makanchi Array	69.90	322	P		P	13 00 54.0	+0.1
	comp=Z,12nm,0.9s,baz=115,slow=8.1,SNR=42							
	comp=Z,12nm,0.9s							
MAKZ	Makanchi	70.10	322	P		P	13 00 55.4	+0.4
MAKZ	Makanchi	70.10	322	P		P	13 00 55.1	0.0
MAKZ				pP		pP	13 01 05.9	-0.6
TARG	Taragay, Kyrgy	70.76	316	P		P	13 01 00.2	+0.5
KSH	Kashi	71.29	313	P		P	13 01 04.5	+1.9
KSH				sP		pP	13 01 12.3	-1.7
KSH				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KDJ	Kajisay	71.34	316	P		P	13 01 02.9	0.0
KDJ				IAmb		IAmb	13 01 07.4	
	comp=Z,7.8nm,0.9s							
NIL	Nilore	71.59	307			P	13 01 04.7	+0.3
ZAA0	Zalesovo Array	71.97	330			P	13 01 05.2	-0.9
ZAA0				IAmb		IAmb	13 01 06.2	
	comp=Z,13nm,1.6s							
ZALV	Zalesovo Beam	71.97	330			P	13 01 05.3	-0.9
ZALV	Zalesovo Beam	71.97	330	P		P	13 01 05.1	-1.1
	comp=Z,2.8nm,0.7s,baz=107,slow=5.4,SNR=12							
ZALV				LR		LR	13 32 16.7	
	comp=Z,41nm,21.4s,baz=144,slow=36							
	comp=Z,2.8nm,0.7s							
AAK	Ala-Archa	73.38	316			P	13 01 15.7	+0.6
AAK	Ala-Archa	73.38	316	P		P	13 01 15.4	+0.3
	comp=Z,2.3nm,0.7s,baz=128,slow=6.9,SNR=5.1							
AAK				LR		LR	13 35 22.8	
	comp=Z,54nm,20.0s,baz=146,slow=37							
	comp=Z,2.3nm,0.7s							
KURK	Kurchatov	73.80	325			P	13 01 16.7	-0.4
KURK				IAmb		IAmb	13 01 17.9	
	comp=Z,11nm,1.0s							
KURBB	Kurchatov Arra	73.81	325	P		P	13 01 16.9	-0.3
	comp=Z,5.3nm,0.7s,baz=113,slow=5.3,SNR=35							
	comp=Z,5.3nm,0.7s							
ARSB	Arslanbob	74.03	314	P		P	13 01 19.4	+0.5
ARSB				IAmb		IAmb	13 01 20.3	
	comp=Z,10.0nm,0.8s							
TIXI	Tiksi	74.26	357	P		P	13 01 19.6	+0.3
TIXI	Tiksi	74.26	357	LR		LR	13 33 10.8	
	comp=Z,70nm,19.7s,baz=216,slow=35							
KBL	Kabul	75.20	307	P		P	13 01 25.2	-0.7
GAR	Garm	75.32	311			P	13 01 26.4	0.0
GAR				IAmb		IAmb	13 01 27.3	
	comp=Z,16nm,0.9s							
VNDA	Vanda	76.00	175	P		P	13 01 29.9	+0.5
VNDA	Vanda	76.00	175	P		P	13 01 29.9	+0.5
	comp=Z,1.1nm,0.9s,baz=324,slow=5.1,SNR=7.3							
VNDA				LR		LR	13 34 39.0	
	comp=Z,146nm,18.1s,baz=280,slow=35							
	comp=Z,1.1nm,0.9s							
CHGR	Chuyangaron	76.11	311	P		P	13 01 30.9	0.0
SIMJ	Simiganj	76.22	311			P	13 01 31.4	-0.1
SIMJ				IAmb		IAmb	13 01 32.4	
	comp=Z,9.4nm,0.8s							
KK31	Karatay Array	76.31	315	P		P	13 01 32.1	+0.2
KKAR	Karatay Array	76.31	315			P	13 01 31.7	-0.2
L14K	Kuka Creek	77.42	25			P	13 01 38.0	+0.4
K15K	Wolf Creek Mou	78.37	24			P	13 01 43.5	+0.6
K15K				IAmb		IAmb	13 01 44.9	
	comp=Z,19nm,1.1s							
O16K	Kokwok River B	78.64	27			P	13 01 45.5	+1.1
O16K				IAmb		IAmb	13 01 47.2	
	comp=Z,12nm,1.2s							
BVAR	Borovoye Array	79.40	325	P		P	13 01 48.3	-0.5
	comp=Z,12nm,0.7s,baz=114,slow=7.3,SNR=55							
	comp=Z,12nm,0.7s							
N17K	Nushagak Hills	79.44	27			P	13 01 50.0	+1.2
N17K				IAmb		IAmb	13 01 51.6	
	comp=Z,14nm,1.2s							
M17K	Holitna River	79.70	26			P	13 01 51.1	+0.9
M17K				IAmb		IAmb	13 01 53.1	
	comp=Z,15nm,1.0s							
J17K	VABM Dome	79.88	24			P	13 01 51.8	+0.6
J17K				IAmb		IAmb	13 01 53.7	
	comp=Z,11nm,0.9s							
K17K	Iditarod	79.89	25	P		P	13 01 52.0	+0.7
L18K	Granite Mounta	80.36	25	P		P	13 01 54.6	+0.9
L18K				IAmb		IAmb	13 01 55.9	
	comp=Z,13nm,1.1s							
KDAK	Kodiak Island	80.60	30	LR		LR	13 34 03.7	
	comp=Z,129nm,19.5s,baz=208,slow=33							
N19K	Bonanza Creek	80.78	27			P	13 01 56.8	+0.7
N19K				IAmb		IAmb	13 01 58.6	
	comp=Z,22nm,1.2s							
J18K	Innoko River	80.87	24	P		P	13 01 57.1	+0.6
L19K	White Mountain	81.14	26			P	13 01 59.1	+1.1
L19K				IAmb		IAmb	13 02 00.3	
	comp=Z,14nm,1.1s							
E18K	Tukpahlearik C	81.19	20	P		P	13 01 59.5	+1.4
E18K				IAmb		IAmb	13 02 00.3	
	comp=Z,17nm,0.9s							
M19K	Big River Lodg	81.23	26	P		P	13 01 59.9	+1.5
J19K	Poorman	81.53	24			P	13 02 01.0	+1.1
J19K				IAmb		IAmb	13 02 01.8	
	comp=Z,15nm,1.1s							
M20K	Styx River	81.78	26			P	13 02 02.0	+0.6
M20K				IAmb		IAmb	13 02 03.2	
	comp=Z,11nm,1.1s							
G19K	Purcell Mounta	81.85	22	P		P	13 02 02.3	+0.7
G19K				IAmb		IAmb	13 02 03.2	
	comp=Z,9.4nm,0.8s							
K20K	Telida	81.92	25	P		P	13 02 03.3	+1.3
K20K				IAmb		IAmb	13 02 04.0	
	comp=Z,14nm,1.0s							
J20K	Nowinta River	82.20	24			P	13 02 04.3	+0.8
J20K				IAmb		IAmb	13 02 05.4	
	comp=Z,14nm,0.9s							
E19K	Redstone River	82.37	20	P		P	13 02 05.3	+1.0
E19K				IAmb		IAmb	13 02 05.9	
	comp=Z,13nm,0.8s							
F20K	Avaraart Lake	82.73	21	P		P	13 02 07.3	+1.2
F20K				IAmb		IAmb	13 02 08.1	
	comp=Z,10nm,0.9s							
CAST	Castle Rocks	82.77	25	P		P	13 02 06.8	+0.2
CAST				IAmb		IAmb	13 02 07.4	
	comp=Z,6.9nm,1.0s							
IMAR	Indian Mountai	83.04	22	P		P	13 02 07.7	-0.1
H21K	Melozitna Rive	83.28	23	P		P	13 02 09.8	+0.7
H21K				IAmb		IAmb	13 02 10.6	
	comp=Z,6.1nm,0.8s							
I21K	Tanana	83.43	23	P		P	13 02 10.7	+0.9
I21K				IAmb		IAmb	13 02 16.3	
	comp=Z,14nm,1.4s							
BPAW	Bear Paw Mtn.	83.46	25	P		P	13 02 10.2	+0.1
BPAW				IAmb		IAmb	13 02 12.6	
	comp=Z,10nm,1.3s							
I23K	Minto, Yukon-K	84.46	24	P		P	13 02 15.5	+0.5
I23K				IAmb		IAmb	13 02 16.4	
	comp=Z,13nm,1.1s							
H23K	Yukon River	84.60	23			P	13 02 16.6	+0.8
H23K				IAmb		IAmb	13 02 17.4	
	comp=Z,6.5nm,0.9s							
AB31	Akbulak array	84.86	320			P	13 02 17.2	-0.3
AB31				IAmb		IAmb	13 02 18.1	
	comp=Z,4.7nm,0.9s							
ABKAR	Akbulak array	84.86	320			P	13 02 16.7	-0.7
CCB	Clear Creek Bu	84.95	24	P		P	13 02 16.8	-0.7
ILAR	Eielson Array	85.36	24			P	13 02 18.5	-1.2
ILAR	Eielson Array	85.36	24	P		P	13 02 18.3	-1.3
	comp=Z,5.6nm,0.9s,baz=260,slow=4.9,SNR=43							
	comp=Z,5.6nm,0.9s							
TOLK	Toolik Lake Re	85.48	20	P		P	13 02 20.8	+0.6
J25K	Salcha River,	85.95	25			P	13 02 22.6	0.0
J25K				IAmb		IAmb	13 02 24.0	
	comp=Z,7.1nm,1.1s							
RIDG	Independent Ri	85.96	26	P		P	13 02 23.0	+0.3
FYU	Fort Yukon	86.49	23	P		P	13 02 25.8	+0.7
F25K	Christian Rive	86.59	22			P	13 02 27.0	+1.3
F25K				IAmb		IAmb	13 02 28.0	
	comp=Z,8.1nm,1.0s							
BMAR	Burnt Mountain	86.95	22	P		P	13 02 28.6	+1.2
CTGM	Chitina Glacie	86.98	29	P		P	13 02 29.4	+1.5
QSPA	South Pole Qui	87.51	180	P		P	13 02 31.8	+1.5
QSPA				IAmb		IAmb	13 02 55.0	
	comp=Z,10nm,1.2s							
QSPA	South Pole Qui	87.51	180	P		P	13 02 30.5	+0.2
	comp=Z,1.0nm,0.8s,baz=342,slow=0.2,SNR=5.5							
QSPA				LR		LR	13 43 17.4	
	comp=Z,107nm,18.4s,baz=329,slow=37							
	comp=Z,1.0nm,0.8s							
EGAK	Eagle	87.75	25	P		P	13 02 32.0	+0.7
I29M	Ogilvie Camp,	89.04	25	P		P	13 02 38.2	+0.8
KIRV	Kirov	91.97	328	LR		LR	13 44 50.0	
	comp=Z,58nm,20.0s,baz=133,slow=36							
BBB	Bella Bella	93.53	38	LR		LR	13 38 40.4	
	comp=Z,52nm,19.4s,baz=232,slow=32							
YKA	Yellowknife Ar	99.58	27	LR		LR	13 45 23.4	
	comp=Z,43nm,19.5s,baz=314,slow=34							
ARCES	ARCESS Array B	100.43	341	P		Pdif	13 03 27.9	-1.5
	comp=Z,2.7nm,0.9s,baz=95,slow=5.3,SNR=5.4							
CLL	Collm	113.81	326	*i* PKiKP		PKiKP	13 08 20.3	-1.0
TORD	Torodi Ar. Bea	136.69	287	PKP		PKPdf	13 09 05.3	-0.7
	comp=Z,1.1nm,0.8s,baz=60,slow=1.7,SNR=5.9							
LPAZ	La Paz	147.17	125	PKPbc		PKPbc	13 09 27.7	+0.1
	comp=Z,0.7nm,0.3s,baz=196,slow=4.5,SNR=4.0							

*KRNET **23** 12:57:48.0±0.1, 39.60N×73.76E, mb2.5*
*ISU **23** 12:57:56, 39.57N×73.24E, h2km*
ISC 23 12:57:47.7±3.3, 39.6N±0.1×74.0E±0.1, h3km±14km, n6, σ0°65/11, 8C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	Salom-Alik	1.26	355	⇑*i*P		Pn	12 58 12.5	+0.2
SALK				⇑*i*S		Sn	12 58 30.3	+0.5
FRG	Fergana	1.84	294	S		Sn	12 58 43.3	-0.6
ARSB	Arslanbob	1.85	336	⇑*i*P		Pb	12 58 21.9	-0.4
ARSB				⇑*i*S		Sg	12 58 46.8	-0.4
CHMI	Chimion	1.99	289	P		Pg	12 58 26.2	+0.4
CHMI				S		Sn	12 58 47.2	-0.5
UCH	Uchtor	2.62	9	⇑*i*P		Pb	12 58 34.7	-0.9
UCH				⇑*i*S		Sb	12 59 09.0	+0.6
TRKS	Terek-Say	2.87	312	⇑*i*P		Pn	12 58 35.1	+0.6
TRKS				⇑*i*S		Sn	12 59 09.5	-0.2

*HEL **23** 13:12:42.0±0.1, 65.70N×22.12E, h0km, ML1.3, Explosion*
*IDC **23** 13:12:44.6±1.9, 65.71N×22.94E, h0km, mbtmp2.2/1, ML1.5/1, Error ellipse: s-maj=38.2km s-min=7.4km az=86.0*
ISC 23 13:12:42.5±0.8, 65.74N±0.02×22.33E±0.04, h0km, n27, σ1°29/46, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KALU	Kalix	0.44	73	PG		Pg	13 12 51.6	+0.7
KALU				SG		Sb	13 12 58.6	-1.7
ERTU	Ertsjaerv	0.82	356	PG		Pg	13 12 57.6	-0.8
ERTU				SB		Sg	13 13 09.0	+0.1
TOF	Tornio	0.89	66	PG		Pg	13 12 59.8	+0.2
TOF				SG		Sb	13 13 12.0	-1.1
TOF				MSG			13 13 12.3	
	comp=Z,2.7nm,0.2s							
PAJU	Pajala	1.33	13	PG		Pg	13 13 06.9	-1.1
	baz=195							
PAJU				SB		Sg	13 13 25.7	+0.4
OBF0	Syolatti, Pyha	1.48	146	PN		Pn	13 13 09.3	-1.1
OBF0				MSG			13 13 27.1	
	comp=Z,3.5nm,0.2s							
OBF0				SN		Sn	13 13 32.0	+1.6
OBF4	Vikkela, Lumij	1.49	127	PG		Pn	13 13 09.9	-0.6
OBF4				MSG			13 13 28.1	
	comp=Z,1.8nm,0.2s							
OBF4				SN		Sn	13 13 31.7	+1.1
OUL	Oulu	1.63	112	PG		Pn	13 13 12.4	+0.1
OUL				SN		Sg	13 13 35.4	+0.7
OUF	Merijarvi	1.71	142	PG		Pn	13 13 12.8	-0.7
	baz=325							
OUF				MSG			13 13 33.8	
	comp=Z,2.0nm,0.2s							
OUF				SN		Sg	13 13 38.0	+0.6
RNF	Rovaniemi	1.73	58	PG		Pb	13 13 14.8	-0.4
RNF				SG		Sg	13 13 38.9	+0.7
RANF	Ranua	1.85	79	PG		Pn	13 13 16.3	+0.8
	baz=260							
RANF				SG		Sg	13 13 42.4	+0.4
UMAU	Umeaa	1.99	202	PG		Pn	13 13 16.4	-1.0
	baz=17							
UMAU				SG		Sn	13 13 41.6	-1.3
LANU	Lannavaara	2.33	357	SG		Sb	13 13 53.4	-1.2
KU2	Taivalkoski	2.44	88	PG		Pb	13 13 26.1	-1.1
KU2				SG		Sg	13 13 59.4	-1.3
HEF	Hetta	2.73	10	PN		Pn	13 13 27.5	-0.2
HEF				MSG			13 14 04.1	
	comp=Z,0.9nm,0.2s							
HEF				SG		Sb	13 14 07.1	+0.8
MSF	Maaselka	2.77	83	PB		Pn	13 13 29.1	+1.0
MSF				SB		Sb	13 14 05.4	-1.8
OLKF	Oulanka, Finla	2.94	75	PB		Pn	13 13 31.6	+1.1
OLKF				SB		Sb	13 14 10.0	-2.3
OLKF				MSG			13 14 11.4	
	comp=Z,0.7nm,0.2s							
KTK1	Kautokeino	3.31	6	PN		Pn	13 13 36.5	+1.0
KIF	Kilpisjarvi	3.34	350	SB		Sn	13 14 20.0	+3.9
VRF	Varrio	3.52	52	SN		Sn	13 14 22.3	+1.6
RAJF	Raja-Jooseppi	3.61	38	SN		Sn	13 14 23.6	+0.7
I37NO	I37NO	3.65	338	I		I	13 34 40.0	
	baz=156,slow=324,SNR=8.9							
ARA0	ARCESS Array S	4.00	16	PN		Pn	13 13 45.2	+0.1
ARA0				SN		Sn	13 14 32.7	+0.1
ARCES	ARCESS Array B	4.00	16	Pn		Pn	13 13 45.0	-0.1
	baz=195,slow=14,SNR=1.0							
ARCES				Pg		Pb	13 13 53.8	0.0
	comp=Z,0.1nm,0.3s,baz=198,slow=15,SNR=12							
ARCES				Sn		Sn	13 14 33.2	+0.5
	comp=Z,0.1nm,0.3s,baz=197,slow=21,SNR=2.5							
ARCES				Lg		Lg	13 14 47.0	
	comp=Z,0.3nm,0.3s,baz=193,slow=30,SNR=10							
	comp=Z,0.6nm,0.9s							
KEV	Kevo	4.41	22	SN		Sn	13 14 42.3	-0.3
FIA0	FINESS Array S	4.62	157	PG		Pb	13 14 03.5	-0.9
	baz=342							
FIA0				SG		Sb	13 15 04.1	+3.6
FINES	FINESS Array B	4.62	157	Pg		Pb	13 14 03.8	-0.5
	comp=Z,0.1nm,0.3s,baz=344,slow=15,SNR=5.4							
FINES				Sn		Sn	13 14 47.0	-0.8
	comp=Z,0.1nm,0.3s,baz=347,slow=22,SNR=2.2							
FINES				Lg		Lg	13 15 04.2	
	comp=Z,0.5nm,0.3s,baz=340,slow=28,SNR=9.5							
RAF	Rauma	4.74	183	SG		Sb	13 15 05.8	+2.0

*NEIC **23** 13:15:13.3±1.1, 5.2S±0.1×154.5E±0.1, h155km±6km, mb4.3/13, Error ellipse: s-maj=20.6km s-min=13.0km az=47.0*
*IDC **23** 13:15:16.8±3.9, 5.60S×154.36E, h167km±33km, mb3.5/8, mbtmp4.0/9, Error ellipse: s-maj=26.7km s-min=22.5km az=31.0*
ISC 23 13:15:09.9±0.7, 5.29S±0.10×154.62E±0.10, h118km, n25, σ2°01/26, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	2.68	294	Pn		Pn	13 15 55.2	+3.2
PMG	Port Moresby	8.45	241	Pn		Pn	13 17 12.8	+3.2
PMG	Port Moresby	8.45	241	P		Pn	13 17 13.0	+3.5
	12nm,0.3s,baz=68,slow=7.3,SNR=11							
PMG				S		Sn	13 18 41.2	-2.1
	36nm,0.7s,baz=147,slow=18,SNR=8.2							
CTAO	Charters Tower	16.81	208	P		P	13 18 59.2	+0.8
CTAO				IAmb		IAmb	13 18 59.4	
	comp=Z,24nm,1.4s							
DZM	Mont Dzumac	20.23	147	P		P	13 19 37.6	+1.6
DZM	Mont Dzumac	20.23	147	P		P	13 19 37.9	+2.0
	comp=Z,20nm,0.6s,baz=350,slow=23,SNR=9.2							

AAK	**Ala-Archa**	**3.68**	**12**	P		**Pb**	**13 29 27.9**	**+0.3**
	5.2nm,0.3s,baz=168,slow=8.2,SNR=7.7							
AAK				S		**Sb**	**13 30 17.0**	**+4.6**
	4.6nm,0.3s,baz=334,slow=18,SNR=4.3							
AAK	**Ala-Archa**	**3.68**	**12**	P		**Pb**	**13 29 28.8**	**+1.2**
	SNR=5.5							
MRKS	**Merke**	**3.71**	**357**	Pg		**Pg**	**13 29 32.6**	**-0.9**
	6.0nm,0.2s							
MRKS				Lg		Lg	13 30 23.7	
	8.4nm,0.4s							
MRKS	**Merke**	**3.71**	**357**	*e*P		**Pg**	**13 29 32.3**	**-1.2**
	6.0nm,0.2s							
MRKS				*e*S		**Sg**	**13 30 22.0**	**+0.5**
	14nm,0.3s							
IUG	**Iuzhnay**	**4.07**	**321**	Pg		**Pg**	**13 29 42.1**	**+1.9**
	14nm,0.1s							
IUG				Lg		Lg	13 30 39.4	
	6.5nm,0.1s							
TKM2	**Tokmak 2**	**4.20**	**22**	P		Pn	13 29 32.3	+5.6
	SNR=17							
USP	**Ospenovka**	**4.30**	**10**	P		**Pb**	**13 29 36.5**	**-1.5**
	SNR=5.9							
KK31	**Karatay Array**	**4.64**	**332**	Pn		**Pg**	**13 29 48.2**	**-3.0**
	3.3nm,0.2s,baz=131,slow=12,SNR=68							
KK31				⇓Sn		**Sg**	**13 30 51.2**	**-0.1**
	11nm,0.4s,baz=133,slow=22							
BRLS	**Boroldaу**	**4.85**	**327**	*e*P		**Pb**	**13 29 50.0**	**+2.7**
	6.2nm,0.1s							
BRLS				*e*S		**Sg**	**13 30 52.6**	**-5.4**
	0.2nm,0.1s							
MKAR	**Makanchi Array**	**10.09**	**37**	P		Pn	13 30 43.1	-4.2
	0.2nm,0.4s,baz=206,slow=14,SNR=2.7							
AB31	**Akbulak array**	**14.07**	**321**	P		P	13 31 58.0	+8.4
	0.2nm,0.4s,baz=132,slow=13,SNR=5.0							
BVAR	**Borovoye Array**	**14.15**	**352**	P		**P**	**13 31 50.7**	**+0.3**
	0.8nm,0.5s,baz=173,slow=13,SNR=9.8							
AKTO	**Aktyubinsk**	**15.79**	**321**	LR		LR	13 39 42.3	
	comp=Z,60nm,20.5s,baz=309,slow=40							
AKASG	**Malin Array Be**	**32.98**	**305**	P		**P**	**13 34 57.7**	**+0.5**
	0.4nm,0.3s,baz=81,slow=7.7,SNR=3.2							
	0.4nm,0.3s							
FINES	**FINESS Array B**	**36.54**	**324**	P		**P**	**13 35 27.2**	**-0.6**
	0.7nm,0.4s,baz=108,slow=7.9,SNR=6.7							
	0.7nm,0.4s							
IDI	**Anoyia**	**38.54**	**280**	LR		LR	13 55 52.8	
	comp=Z,76nm,19.6s,baz=270,slow=41							
ARCES	**ARCESS Array B**	**39.59**	**336**	P		**P**	**13 35 51.4**	**-2.1**
	0.4nm,0.5s,baz=99,slow=7.7,SNR=7.1							
	0.4nm,0.5s							

IDC 23 14:10:30.7±326.0, 57°.69N×30°.24E, h0km, Error ellipse: s-maj=128.4km s-min=104.0km az=102.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.92**	**101**	I	I	14 36 10.0	
	0.4nm,0.9s,baz=281,slow=313,SNR=6.9						
I37NO	**I37NO**	**12.52**	**340**	I	I	15 19 40.0	
	baz=145,slow=327,SNR=1.9						
I26DE	**FREYUNG INFRAS**	**13.24**	**235**	I	I	15 33 00.0	
	baz=40,slow=320,SNR=1.0						

*NEIC **23** 14:16:52.0±1.8, 38°.79N±0°.01×122°.39W±0°.01, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=320.0*

NCEDC 23 14:16:52.5±1.3, 38°.77N±0°.01×122°.45W±0°.02, h10km±2km, Mwr3.6/3, ML3.2/81(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=66.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMTM	**Middletown**	**0.03**	**8**		Pg	14 16 54.4	-0.1
MNRC	**McLaughlin Min**	**0.11**	**4**	Pg	Pg	14 16 55.3	0.0
MNRC				Sg	Sg	14 16 57.2	-0.1
GBGM	**Boggs Mountain**	**0.18**	**283**		Pg	14 16 57.0	+0.6
GRTM	**Round Top Moun**	**0.24**	**314**		Pg	14 16 57.5	+0.1
GAXM	**Alexander Vall**	**0.24**	**256**		Pg	14 16 57.7	+0.1
GDXM	**Geysers**	**0.27**	**278**		Pg	14 16 58.1	+0.1
GDXM				Sg	Sg	14 17 01.8	+0.1
GDXM				IAML		14 17 03.0	
	comp=N,5μm,0.1s						
GDXM				IAML		14 17 03.9	
	comp=E,4μm,0.2s						
GGPM	**Geyser Peak**	**0.31**	**269**		Pg	14 16 58.9	+0.2
OAKV	**Oakville Exper**	**0.34**	**175**		Pg	14 16 59.5	+0.2
QRDG	**Quail Ridge Na**	**0.38**	**140**		Pg	14 17 00.3	+0.3
GPMM	**Pine Mountain**	**0.39**	**281**		Pg	14 17 00.7	+0.4
NTYM	**Taylor**	**0.42**	**203**		Pg	14 17 01.1	+0.5
CVS	**Carmenet Viney**	**0.43**	**181**	Pg	Pg	14 17 00.9	+0.1
CVS				Sg	Sg	14 17 06.6	+0.1
CVS				IAML		14 17 09.1	
	comp=N,2μm,0.4s						
CVS				IAML		14 17 09.6	
	comp=E,3μm,0.7s						
GCVM	**Cloverdale**	**0.44**	**270**		Pb	14 17 02.2	-0.1
GHGM	**Hogback Ridge**	**0.46**	**321**		Pg	14 17 01.7	+0.1
NADM	**Allendale**	**0.49**	**129**		Pb	14 17 03.0	-0.2
RUSS	**Russell Ranch**	**0.51**	**116**	Pg	Pb	14 17 03.4	-0.1
RUSS				IAML		14 17 13.3	
	comp=N,3μm,0.9s						
RUSS				IAML		14 17 20.9	
	comp=E,3μm,1.5s						
NGVM		**0.52**	**159**		Pg	14 17 02.8	+0.1
HOPS	**Hopland Field**	**0.53**	**295**		Pg	14 17 03.1	+0.2
GSNM	**Snow Mountain**	**0.60**	**286**		Pb	14 17 04.8	-0.4
GHCM	**House Creek**	**0.61**	**254**		Pb	14 17 04.8	-0.5
FTR	**Fort Ross**	**0.61**	**246**		Pb	14 17 04.9	-0.4
GALB	**Galbreath Wild**	**0.64**	**278**		Pg	14 17 05.0	+0.1
OSUM	**Sutter Buttes**	**0.68**	**43**		Pg	14 17 04.5	-1.3
SUTB	**Sutter Butte**	**0.69**	**48**	Pg	Pg	14 17 04.0	-1.9
NLHM	**Lake Herman**	**0.69**	**160**		Pg	14 17 05.6	-0.3
JEPS	**Jepson Natural**	**0.71**	**136**		Pg	14 17 06.1	-0.1
MCCM	**Marconi Confer**	**0.71**	**359**		Pg	14 17 06.1	-0.1
BONV	**Boonville, CA**	**0.73**	**287**		Pg	14 17 07.1	-0.3
PINL	**Point Pinole R**	**0.76**	**175**		Pg	14 17 06.9	-0.3
GCK	**Clark Valley**	**0.77**	**1**		Pg	14 17 06.9	-0.5
HERB	**Hercules**	**0.77**	**169**		Pg	14 17 07.2	-0.2
NOLM	**Olema**	**0.78**	**200**		Pg	14 17 07.2	-0.4
GWRM	**Wonder Ranch**	**0.79**	**304**		Pg	14 17 07.7	-0.1
CPIM	**Pinole Ridge**	**0.80**	**167**		Pg	14 17 07.6	-0.4
CTAM	**Taylor**	**0.82**	**155**		Pg	14 17 07.9	-0.4
GGUM	**Gualala**	**0.82**	**276**		Pg	14 17 08.6	+0.2
GHOM	**Hamilton Openi**	**0.89**	**288**		Pg	14 17 09.0	-0.7
NPRM	**Point Reyes**	**0.89**	**210**		Pg	14 17 09.1	-0.6
OSTM	**Stimpson Lane**	**0.89**	**48**		Pg	14 17 07.1	-2.7
VAK	**Adit at Lawren**	**0.91**	**170**		Pg	14 17 08.9	-1.0
BL67	**Building 67, L**	**0.91**	**170**		Pg	14 17 08.9	-1.1
BRK	**Berkeley--Havi**	**0.91**	**170**		Pg	14 17 08.8	-1.2
BKS	**Berkeley--Byer**	**0.91**	**169**		Pg	14 17 08.9	-1.1
BDM	**Black Diamond**	**0.94**	**150**		Pg	14 17 08.7	-1.9
SMCB	**Saint Mary's C**	**0.97**	**164**		Pg	14 17 09.9	-1.2
JPRM	**Presidio of Sa**	**0.97**	**181**		Pg	14 17 10.2	-1.1
DCMP	**DeCamp, Califo**	**0.98**	**316**		Pg	14 17 10.5	-0.8
PAM	**Palermo**	**0.99**	**47**		Pg	14 17 08.4	-3.2
BGC	**Bolinger Road**	**1.00**	**162**		Pg	14 17 10.4	-1.4
SFRE	**Sierra Foothil**	**1.00**	**61**		Pg	14 17 08.7	-3.1
OWYM	**Wyandotte**	**1.01**	**48**		Pg	14 17 09.0	-3.0
GVV	**Valley View**	**1.02**	**350**		Pg	14 17 10.2	-1.9
ORV	**Oroville**	**1.08**	**43**		Pg	14 17 09.7	-3.6
CSLM	**San Leandro Hi**	**1.08**	**166**		Pg	14 17 11.3	-2.0
CMOB	**Morgan Territo**	**1.09**	**152**		Pg	14 17 11.0	-2.4
JSBM	**San Bruno Moun**	**1.09**	**178**		Pb	14 17 11.5	-1.9
OGOM	**Van Goodin Ran**	**1.10**	**36**		Pb	14 17 09.9	-3.6
CBSNC	**Byron Hot Spri**	**1.15**	**146**		Pb	14 17 11.9	-2.5
FARB	**Farallon Islan**	**1.16**	**202**	Pg	Pb	14 17 12.3	-2.2
FARB				IAML		14 17 31.1	
	comp=N,421nm,0.6s						
FARB				IAML		14 17 35.8	
	comp=E,451nm,0.7s						
GROM	**Round Mountain**	**1.16**	**352**		Pb	14 17 11.9	-2.8
AFDM	**Forest Hills D**	**1.17**	**81**		Pb	14 17 11.6	-3.3
AFDM				IAML		14 17 33.5	
	comp=E,501nm,0.4s						
AFDM				IAML		14 17 33.5	
	comp=N,439nm,0.3s						
SAC	**San Andreas**	**1.19**	**179**		Pb	14 17 12.6	-2.5
KPK	**Kanaka Peak**	**1.21**	**47**		Pb	14 17 12.1	-3.4
CNIC	**Niles Canyon**	**1.22**	**162**		Pn	14 17 13.6	-2.1
CVLM	**Vallecito**	**1.24**	**157**		Pn	14 17 13.8	-2.1
JCHM	**Cahill Ridge**	**1.25**	**177**		Pn	14 17 13.5	-2.6
KBNM	**Bluenose Ridge**	**1.26**	**333**		Pg	14 17 17.6	+0.9
WENL	**Wente Vineyard**	**1.27**	**154**		Pn	14 17 14.4	-1.9
KIPM	**Iron Peak**	**1.31**	**323**		Pg	14 17 18.0	+0.3
CSTL	**Corral Hollow**	**1.36**	**146**		Pn	14 17 15.2	-2.3
JRSC	**Jasper Ridge**	**1.38**	**173**		Pn	14 17 15.6	-2.1
WELL	**Weller Preserv**	**1.39**	**103**		Pn	14 17 15.0	-3.0
WELL	**Weller Preserv**	**1.39**	**103**	Pn	Pn	14 17 15.2	-2.9
WELL				IAML		14 17 39.2	
	comp=E,464nm,0.3s						
WELL				IAML		14 17 46.6	
	comp=N,378nm,1.1s						
JFP	**Foothills Park**	**1.42**	**172**		Pn	14 17 16.0	-2.4
O02D	**Mt. Diablo Mer**	**1.43**	**350**		Pn	14 17 16.1	-2.4
CMLM	**Mount Lewis**	**1.44**	**154**		Pn	14 17 16.2	-2.5
JBMM	**Black Mountain**	**1.47**	**171**		Pn	14 17 16.9	-2.3
MTOS	**Mt Oso, Westle**	**1.54**	**145**		Pn	14 17 17.2	-2.8
LCMM	**Colby Mountain**	**1.55**	**27**		Pn	14 17 17.2	-3.2
MHC	**Mount Hamilton**	**1.56**	**156**		Pn	14 17 18.2	-2.3
JPSM		**1.57**	**177**		Pn	14 17 18.2	-2.3
ARN	**Arnold Ranch**	**1.59**	**153**		Pn	14 17 18.6	-2.3
O03E	**Paynes Creek**	**1.60**	**18**		Pn	14 17 17.5	-3.5
O03E	**Paynes Creek**	**1.60**	**18**	IAML		14 18 00.6	
	comp=E,294nm,0.8s						
O03E				IAML		14 18 07.0	
	comp=N,213nm,1.0s						
JJOM	**Saint Joseph's**	**1.61**	**166**		Pn	14 17 18.6	-2.3
CMPM	**Mikes Peak**	**1.67**	**147**		Pn	14 17 20.0	-1.9
JLAB	**Laurel Hill**	**1.71**	**160**		Pn	14 17 20.2	-2.2
LDBM	**Digger Butte**	**1.74**	**17**		Pn	14 17 19.5	-3.3
KMRM	**Mail Ridge**	**1.74**	**327**	Pn	Pn	14 17 21.3	-1.6
KMRM				IAML		14 18 04.9	
	comp=N,154nm,1.0s						
KMRM				IAML		14 18 09.6	
	comp=E,168nm,2.2s						
DONR	**Donner Summit**	**1.76**	**70**		Pn	14 17 22.0	-1.2
CMB	**Columbia Colle**	**1.78**	**114**		Pn	14 17 21.3	-2.1
GHS	**Gilroy Hot Spr**	**1.85**	**154**		Pn	14 17 21.9	-2.4
LRDM	**Redding Peak**	**1.85**	**24**		Pn	14 17 21.9	-2.6
HCBM	**Chamberlain**	**1.94**	**161**		Pn	14 17 23.5	-2.0
HPCM	**Pacheco Lake**	**1.95**	**151**		Pn	14 17 23.6	-2.0
SLD	**San Luis Dam**	**1.95**	**150**		Pn	14 17 23.7	-2.0
MPK	**Marks Peak**	**1.96**	**74**		Pn	14 17 25.5	-0.5
HFEM	**San Felipe**	**1.97**	**155**		Pn	14 17 23.9	-2.1
LSHM	**Sage Hen Hill**	**2.04**	**9**		Pn	14 17 23.8	-3.2
HJGM	**San Juan Grade**	**2.09**	**160**		Pn	14 17 24.8	-2.7
PEAR	**Peavine Mounta**	**2.11**	**66**		Pn	14 17 27.5	-0.6
BUCR	**Buckhorn Ranch**	**2.12**	**120**		Pn	14 17 26.3	-1.7
MYLM	**Yosemite Lake**	**2.12**	**130**		Pn	14 17 26.0	-1.9
FRP	**Fremont Peak**	**2.15**	**159**		Pn	14 17 25.9	-2.6
SAO	**San Andreas Ge**	**2.16**	**158**		Pn	14 17 26.3	-2.2
HATC	**Hat Creek Radi**	**2.18**	**20**		Pn	14 17 27.1	-1.8
HATC				IAML		14 18 21.1	
	comp=E,199nm,1.0s						
HATC				IAML		14 18 21.5	
	comp=N,165nm,1.8s						
N02D	**Trinity Center**	**2.21**	**355**		Pn	14 17 25.7	-3.5
N02D	**Trinity Center**	**2.21**	**355**	IAML		14 18 14.2	
	comp=E,88nm,0.7s						
N02D				IAML		14 18 17.1	
	comp=N,88nm,0.7s						
LBCM	**Butte Creek Ri**	**2.23**	**22**		Pn	14 17 28.4	-1.3
KHMM	**Horse Mountain**	**2.32**	**335**		Pg	14 17 38.5	+1.5
BJCM	**Johnson Can.**	**2.38**	**159**		Pn	14 17 28.9	-2.6
WAKR	**Walker**	**2.38**	**96**		Pn	14 17 31.4	-0.4
LEGD	**La Grand CA**	**2.39**	**130**		Pn	14 17 29.8	-1.9
BPRM	**Ponciano Ridge**	**2.43**	**166**		Pn	14 17 29.8	-2.5
MMIM	**Miami Mountain**	**2.53**	**121**		Pn	14 17 32.5	-1.3
PAHR	**Pah Rah Range**	**2.56**	**68**		Pn	14 17 32.6	-1.6
PAHR				IAML		14 18 18.8	
	comp=E,151nm,0.7s						
MHDM	**Hidden Dam**	**2.61**	**128**		Pn	14 17 33.6	-1.1
PMPB	**Monarch Peak**	**2.87**	**152**		Pn	14 17 36.9	-1.4
PMPB				IAML		14 18 44.0	
	comp=N,68nm,1.1s						
PMPB				IAML		14 19 06.3	
	comp=E,74nm,0.9s						
MDPB	**Devils Postpil**	**2.89**	**112**		Pn	14 17 38.7	-0.1
MDPB	**Devils Postpil**	**2.89**	**112**	IAML		14 18 28.5	
	comp=N,98nm,0.9s						
YBH	**Yreka Blue Hor**	**2.96**	**356**		Pn	14 17 37.8	-1.8
RYN	**Ryan**	**3.08**	**91**		Pn	14 17 40.4	-1.0
RYN				IAML		14 18 43.6	
	comp=N,94nm,0.9s						
LHV	**Little Huntoon**	**3.14**	**98**		Pn	14 17 41.9	-0.1
NVAR	**Mina Array Bea**	**3.27**	**95**		Pn	14 17 42.7	-1.3
L04D	**Klamath Falls**	**3.44**	**2**		Pn	14 17 47.1	+0.8
L04D				IAML		14 19 10.5	
	comp=E,29nm,2.5s						
DSP	**Deep Springs**	**3.80**	**110**		Pn	14 17 50.7	-0.4
DSP				IAML		14 19 16.4	
	comp=E,22nm,1.5s						
VES	**Vestal, Richgr**	**3.97**	**136**		Pn	14 17 51.7	-1.8
VES				IAML		14 19 15.6	
	comp=E,45nm,0.9s						
CWC	**Cottonwood Cre**	**4.18**	**122**	IAML		14 19 08.1	
	comp=N,28nm,0.6s						
CWC				IAML		14 19 14.8	
	comp=E,24nm,0.7s						
GMN	**Gold Mountain**	**4.35**	**108**	IAML		14 19 36.1	
	comp=N,15nm,1.0s						
J05D	**Fort Rock, OR**	**4.60**	**11**		Pn	14 18 01.3	-1.0
J05D				IAML		14 20 30.4	
	comp=E,20nm,3.6s						
J05D				IAML		14 21 04.0	
	comp=N,18nm,4.0s						
MPMC	**Manual Prospec**	**4.79**	**123**		Pn	14 18 04.4	-0.5
MPMC				IAML		14 19 32.7	
	comp=N,18nm,1.2s						
MPMC				IAML		14 19 41.8	
	comp=E,18nm,1.1s						
R11B	**Troy Canyon, C**	**5.40**	**92**	Pn	Pn	14 18 11.9	-1.3
ELK	**Elko**	**5.90**	**68**		Pn	14 18 19.4	-0.7

*AEIC **23** 14:25:15.2±0.8, 53°.1N±0°.1×162°.03W±0°.10, h1km±8km, Error ellipse: s-maj=15.4km s-min=7.5km az=164.0*

NEIC 23 14:25:12.4±1.7, 53°.24N±0°.03×162°.01W±0°.09, h10km±2km, ML2.3/12, ML2.2(AEIC), Error ellipse: s-maj=8.7km s-min=5.4km az=80.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.82**	**333**		Pn	14 25 43.8	+0.1
FALS				IAML		14 26 14.4	
	comp=N,85nm,0.6s						
DT1	**Dutton Round H**	**1.88**	**355**		Pn	14 25 44.8	+0.2
DT1					Sn	14 26 09.1	+0.8
DT1					Sb	14 26 09.8	-0.4
ISNN	**Isanotski Nort**	**1.91**	**328**		Pb	14 25 46.1	-1.1
ISNN					Pn	14 25 46.4	+1.4
DOL	**Dolgoi Island**	**1.92**	**3**		Pn	14 25 45.6	+0.6
DOL					Sn	14 26 10.1	+0.8
DOL					Sb	14 26 10.8	-0.6
WEBT	**Westdahl Beart**	**2.11**	**311**		Pn	14 25 47.7	0.0
WEBT					Pb	14 25 48.0	-2.7
WEBT					Sb	14 26 17.9	+0.9
SDPT	**Sand Point**	**2.30**	**22**		Sn	14 26 18.4	-0.2
SDPT	**Sand Point**	**2.30**	**22**	Pn	Pn	14 25 50.4	+0.2
SDPT	**Sand Point**	**2.30**	**22**	IAML		14 26 52.4	
	comp=E,8.4nm,1.1s						
AKUT	**Akutan**	**2.41**	**293**	Pn	Pn	14 25 51.6	-0.2
AKUT				IAML		14 26 13.2	
	comp=N,14nm,1.0s						
AKUT				IAML		14 27 22.6	
	comp=E,17nm,1.0s						
AHB	**Akutan Harbor**	**2.43**	**293**		Pn	14 25 51.9	-0.2
S12K	**Black Hills**	**2.47**	**359**		Pn	14 25 52.4	-0.2
S12K				IAML		14 26 28.6	
	comp=N,14nm,1.1s						
S12K				IAML		14 26 34.9	
	comp=E,16nm,0.8s						
AKBBA	**Akutan Broad B**	**2.49**	**292**		Pn	14 25 52.6	-0.2
ZRO	**Akutan Zero**	**2.51**	**292**		Pn	14 25 52.9	-0.3
ZRO					Sn	14 26 22.6	-1.3
UNV	**Unalaska Valle**	**2.75**	**285**		Sn	14 26 26.2	-3.5
UNV	**Unalaska Valle**	**2.75**	**285**		Pn	14 25 55.6	-0.9
UNV	**Unalaska Valle**	**2.75**	**285**	IAML		14 26 32.5	
	comp=N,3.0nm,0.4s						
UNV				IAML		14 26 41.0	
	comp=E,4.2nm,0.8s						
MREP	**Makushin Rep't**	**2.88**	**283**		Pn	14 25 57.7	-0.7
OKRE	**Okmok R'deer P**	**3.70**	**277**		Pn	14 26 08.7	-0.8
CHIR	**Chirikof Islan**	**4.53**	**53**	Pn	Pn	14 26 19.6	-1.4
OHAK	**Old Harbor**	**6.39**	**48**	Pn	Pn	14 26 45.3	-1.1

*NNC **23** 14:27:10.5±0.7, 51°.64N×75°.48E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=8.1km s-min=5.2km az=21.0*
*IDC **23** 14:27:11.2±0.6, 51°.65N×75°.45E, h0km, mb3.9/7, mbtmp4.0/14, ML3.6/7, Error ellipse: s-maj=11.9km s-min=6.1km az=30.0*
*MOS **23** 14:27:11.0±1.8, 51°.62N×75°.37E, h14km, mb4.5/11, Error ellipse: s-maj=8.8km s-min=5.1km az=104.9*
MOS Felt (II-III) at Ekibastuz.
*SOME **23** 14:27:12.8, 51°.42N×75°.40E, h10km, MS3.3*
*NEIC **23** 14:27:12.3±1.4, 51°.65N±0°.09×75°.3E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=14.5km s-min=11.8km az=180.0*

ISC 23 14:27:11.6±0.4, 51°.53N±0°.03×75°.40E±0°.03, h10km, n122, σ2s 01/138, mb4.4/23, 15C-17D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.17**	**113**	Pn	**Pn**	**14 27 49.0**	**+1.3**
	7.5nm,0.3s,baz=302,slow=18,SNR=209						
KURBB				Lg	Lg	14 28 19.8	
	11nm,0.3s,baz=224,slow=14,SNR=8.1						
	30nm,0.5s						
KURBB	**Kurchatov Arra**	**2.17**	**113**	⇓Pg	**Pb**	**14 27 51.6**	**+0.7**
	49nm,0.3s,baz=299,slow=17						
KURBB				⇑Lg	Lg	14 28 18.7	
	308nm,0.4s,baz=294,slow=22						
KURBB	**Kurchatov Arra**	**2.17**	**113**	PN	**Pb**	**14 27 51.6**	**+0.7**
KURK	**Kurchatov**	**2.18**	**111**		**Pn**	**14 27 49.9**	**+2.0**
KURK	**Kurchatov**	**2.18**	**111**	⇓Pg	**Pn**	**14 27 50.0**	**+2.1**
	48nm,0.8s						
KURK				⇑Lg	Lg	14 28 19.5	
	619nm,1.3s						
KURK	**Kurchatov**	**2.18**	**111**	*d* iPN	**Pn**	**14 27 49.6**	**+1.7**
KURK				pmax	pmax		
	comp=Z,80nm,1.3s						
BRZS	**Berezniki**	**2.32**	**229**	*e*PN	**Pb**	**14 27 53.4**	**0.0**
BRZS	**Berezniki**	**2.32**	**229**	*e*P	**Pg**	**14 27 54.9**	**-1.1**
BRZS				*e*S	**Sg**	**14 28 25.2**	**-0.8**
	comp=Z,2.8nm,0.3s						
	comp=Z,603nm,0.5s						
BRZS	**Berezniki**	**2.32**	**229**	*e*P	**Pb**	**14 27 53.5**	**0.0**
SEM	**Semipalatinsk**	**3.26**	**108**	Pg	**Pg**	**14 28 13.0**	**-1.0**
	comp=Z,41nm,0.3s						
SEM				Lg	Lg	14 28 58.6	
	comp=Z,65nm,0.4s						
SEM	**Semipalatinsk**	**3.26**	**108**	*e*P	**Pb**	**14 28 11.6**	**+2.0**
	comp=Z,41nm,0.3s						
SEM				*e*S	**Sg**	**14 28 53.9**	**-2.3**
	comp=Z,79nm,0.3s						
BVA0	**Borovoye Array**	**3.43**	**298**	Pn	**Pn**	**14 28 06.0**	**+1.1**
	comp=Z,10nm,0.5s,baz=111,slow=14,SNR=371						
BVA0				⇑Pg	**Pb**	**14 28 11.6**	**-0.7**
	comp=Z,29nm,0.5s,baz=114,slow=16,SNR=9.7						
BVA0				⇓Lg	Lg	14 28 58.4	
	comp=Z,430nm,0.8s,baz=106,slow=28						
BVA0	**Borovoye Array**	**3.43**	**298**	PN	**Pn**	**14 28 06.5**	**+1.5**
BVA0				PG	**Pb**	**14 28 11.6**	**-0.7**
BVAR	**Borovoye Array**	**3.43**	**298**	Pn	**Pn**	**14 28 06.3**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=108,slow=13,SNR=95						
BVAR				Sn	**Sn**	**14 28 45.8**	**+0.2**
	comp=Z,5.3nm,0.3s,baz=109,slow=23,SNR=11						
BVAR				Lg	Lg	14 28 59.1	
	comp=Z,9.0nm,0.3s,baz=107,slow=25,SNR=5.9						
	comp=Z,24nm,0.4s						
ZAA0	**Zalesovo Array**	**6.21**	**63**		**Pn**	**14 28 44.0**	**+0.8**
ZAA0	**Zalesovo Array**	**6.21**	**63**	⇓Pn	**Pn**	**14 28 42.0**	**-1.2**
	comp=Z,1.7nm,0.7s						
ZAA0				⇓Sn	**Sn**	**14 29 53.0**	**-1.2**
	comp=Z,2.3nm,0.5s						
ZAA0				⇓Lg	Lg	14 30 24.1	
	comp=Z,14nm,0.9s						
ZALV	**Zalesovo Beam**	**6.21**	**63**		**Pn**	**14 28 44.5**	**+1.3**
ZALV	**Zalesovo Beam**	**6.21**	**63**	Pn	**Pn**	**14 28 43.9**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=255,slow=14,SNR=31						
ZALV				Sn	**Sn**	**14 29 50.7**	**-3.6**
	comp=Z,2.7nm,0.3s,baz=251,slow=27,SNR=8.9						
ZALV				Lg	Lg	14 30 24.4	
	comp=Z,2.4nm,0.3s,baz=245,slow=28,SNR=5.6						
	comp=Z,8.4nm,0.5s						
ZALV	**Zalesovo Beam**	**6.21**	**63**	*i* PN	**Pn**	**14 28 44.5**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MAKZ	**Makanchi**	**6.39**	**135**	Pn	**Pn**	**14 28 48.2**	**+2.5**
MAKZ	**Makanchi**	**6.39**	**135**	Pn	**Pn**	**14 28 46.8**	**+1.0**
	comp=Z,6.7nm,0.9s						
MAKZ				Sn	**Sn**	**14 30 01.6**	**+2.9**
	comp=Z,17nm,0.6s						
MAKZ				Lg	Lg	14 30 33.6	
	comp=Z,113nm,0.

PDGK	**Podgornoye**	**8.65**	**160**	P		**Pn**	**14 29 18.5**	**+1.6**
UZB	**Uzynbulak**	**8.73**	**162**	*e*P		**Pn**	**14 29 19.7**	**+1.7**
UZB	**Uzynbulak**	**8.73**	**162**	*e*P		**Pn**	**14 29 19.7**	**+1.7**
SHLS	**Shalkode**	**8.81**	**160**	*e*P		**Pn**	**14 29 22.4**	**+3.4**
SHLS	**Shalkode**	**8.81**	**160**	*e*P		**Pn**	**14 29 22.4**	**+3.4**
AAK	**Ala-Archa**	**8.91**	**184**			**Pn**	**14 29 22.9**	**+2.4**
AAK	**Ala-Archa**	**8.91**	**184**	Pn		**Pn**	**14 29 21.6**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=165,slow=6.8,SNR=4.7							
AAK				Sn		**Sn**	**14 31 02.4**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=263,slow=22,SNR=6.3							
AAK				Lg		Lg	14 31 57.0	
	comp=Z,1.5nm,0.3s,baz=207,slow=19,SNR=10							
	comp=Z,2.1nm,0.4s							
AAK	**Ala-Archa**	**8.91**	**184**	⇑Pn		**Pn**	**14 29 22.8**	**+2.4**
	comp=Z,1.2nm,0.5s							
AAK				⇓Lg		Lg	14 31 56.6	
	comp=Z,69nm,0.9s							
AAK	**Ala-Archa**	**8.91**	**184**	⇓*e*P		**Pn**	**14 29 23.2**	**+2.7**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KK31	**Karatay Array**	**9.05**	**203**			**Pn**	**14 29 23.9**	**+1.6**
KK31	**Karatay Array**	**9.05**	**203**	Pn		**Pn**	**14 29 23.9**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=19,slow=13,SNR=20							
KK31				⇑Sn		**Sn**	**14 31 07.5**	**+3.3**
	comp=Z,6.0nm,0.6s							
KK31				⇓Lg		Lg	14 32 00.8	
	comp=Z,25nm,0.8s							
KK31	**Karatay Array**	**9.05**	**203**	P		**Pn**	**14 29 23.9**	**+1.6**
KKAR	**Karatay Array**	**9.05**	**203**			**Pn**	**14 29 24.0**	**+1.7**
KKAR	**Karatay Array**	**9.05**	**203**	P		**Pn**	**14 29 24.0**	**+1.7**
DZA	**Taraz**	**9.07**	**199**	*e*P		**Pn**	**14 29 25.0**	**+2.5**
DZA	**Taraz**	**9.07**	**199**	*e*P		Pn	**14 29 25.0**	**+2.5**
BRLS	**Borolday**	**9.30**	**206**	*e*P		Pn	14 29 31.7	+6.1
BRLS	**Borolday**	**9.30**	**206**	*e*P		Pn	14 29 31.8	+6.1
AB31	**Akbulak array**	**10.13**	**263**			**Pn**	**14 29 34.5**	**-2.5**
AB31	**Akbulak array**	**10.13**	**263**	⇑P		**Pn**	**14 29 38.0**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=34,slow=7.2,SNR=50							
AB31	**Akbulak array**	**10.13**	**263**	P		**Pn**	**14 29 38.2**	**+1.2**
ABKAR	**Akbulak array**	**10.13**	**263**			**Pn**	**14 29 34.4**	**-2.5**
SVE	**Sverdlovsk**	**10.15**	**307**	*e*P		**Pn**	**14 29 36.2**	**-0.9**
SVE				*e*S		Sn	14 31 23.4	-7.4
AKTO	**Aktyubinsk**	**11.02**	**271**	Pn		**Pn**	**14 29 49.0**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=85,slow=9.9,SNR=37							
AKTO				Sn		**Sn**	**14 31 49.0**	**-3.3**
	comp=Z,0.5nm,0.3s,baz=205,slow=17,SNR=6.0							
AKTO				Lg		Lg	14 33 00.8	
	comp=Z,0.4nm,0.3s,baz=151,slow=9.5,SNR=6.2							
	comp=Z,12nm,0.5s							
AKTO	**Aktyubinsk**	**11.02**	**271**	⇑P		**Pn**	**14 29 49.0**	**-0.1**
	comp=Z,7.9nm,0.6s							
AKTO	**Aktyubinsk**	**11.02**	**271**	P		**Pn**	**14 29 49.0**	**-0.1**
AKTO							14 31 49.0	
ARTI	**Arti**	**11.14**	**303**			Pn	14 29 47.3	-3.3
ARTI	**Arti**	**11.14**	**303**	Pn		**Pn**	**14 29 49.3**	**-1.3**
	comp=Z,2.1nm,0.3s,baz=108,slow=8.1,SNR=14							
ARTI				Sn		**Sn**	**14 31 50.0**	**-5.0**
	comp=Z,1.4nm,0.3s,baz=157,slow=21,SNR=8.1							
ARTI				Lg		Lg	14 33 03.0	
	comp=Z,0.7nm,0.3s,baz=233,slow=21,SNR=5.3							
	comp=Z,8.3nm,0.5s							
ARTI	**Arti**	**11.14**	**303**	P		**Pn**	**14 29 49.4**	**-1.3**
ARTI				S		**Sn**	**14 31 56.4**	**+1.3**
KIRV	**Kirov**	**16.40**	**306**	Pn		**Pn**	**14 31 02.7**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=106,slow=3.9,SNR=5.4							
KIRV				Lg		Lg	14 35 43.0	
	comp=Z,1.1nm,0.3s,baz=190,slow=17,SNR=4.4							
KIRV	**Kirov**	**16.40**	**306***c*	*i*P		**Pn**	**14 31 04.0**	**+2.4**
ULN	**Ulaanbaatar**	**20.71**	**88**⇑	*e*P		Pn	14 31 54.8	+0.5
ULN				pmax		pmax		
	comp=Z,3.0nm,1.3s							
GTA	**Gaotai**	**20.86**	**116**	*e*P		Pn	14 31 55.8	-0.3
GTA				pP		sP	14 32 01.1	+3.3
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KLMR	**Klimovskoe**	**21.77**	**309**	*e*P		**P**	**14 32 01.5**	**-1.6**
KLMR				pmax		pmax		
	comp=Z,21nm,1.8s							
NCK	**Nalchik**	**22.79**	**262**⇑	*e*P		**P**	**14 32 16.0**	**+1.8**
NCK				pmax		pmax		
	comp=Z,17nm,0.5s							
KBZ	**Khabaz**	**23.10**	**263**	P		**P**	**14 32 19.4**	**+2.0**
	comp=Z,3.2nm,0.7s,baz=51,slow=12,SNR=6.6							
	comp=Z,3.2nm,0.7s							
KBZ	**Khabaz**	**23.10**	**263**⇑	*e*P		**P**	**14 32 19.3**	**+2.0**
KBZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
KIV	**Kislovodsk**	**23.12**	**264**	*e*P		**P**	**14 32 19.9**	**+2.3**
KIV				*e*S		**S**	**14 36 33.7**	**+4.8**
KIV				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SHA1	**Shidzhatmaz**	**23.25**	**263***d*	*i*P		**P**	**14 32 21.1**	**+2.0**
OBN	**Obninsk**	**23.26**	**294**⇓	*e*P		**P**	**14 32 20.6**	**+1.7**
OBN				pmax		pmax		
	comp=Z,8.0nm,0.4s							
FINES	**FINESS Array B**	**28.30**	**310**	P		**P**	**14 33 05.4**	**+0.5**
	comp=Z,4.0nm,1.1s,baz=97,slow=11,SNR=2.1							
	comp=Z,4.0nm,1.1s							
YAK	**Yakutsk**	**30.62**	**49**⇑	*e*P		**P**	**14 33 26.8**	**+1.4**
YAK				pmax		pmax		
	comp=Z,3.0nm,0.5s							
TIXI	**Tiksi**	**30.86**	**30**	P		**P**	**14 33 26.6**	**-0.8**
TIXI	**Tiksi**	**30.86**	**30**⇓	*i*P		**P**	**14 33 26.8**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BURAR	**Bucovina Array**	**32.26**	**283**	P		**P**	**14 33 38.7**	**-1.4**
BURAR	**Bucovina Array**	**32.26**	**283**	P		**P**	**14 33 38.7**	**-1.4**
BURAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**34.49**	**309**	P		**P**	**14 33 59.2**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=88,slow=9.5,SNR=11							
	comp=Z,3.2nm,0.6s							
NC405	**NORSAR Array S**	**35.21**	**311**	P		**P**	**14 34 05.9**	**+0.4**
NC405				IAmb		IAmb	14 34 33.9	
	comp=Z,8.5nm,1.1s							
NC303	**NORSAR Array S**	**35.34**	**311**	P		**P**	**14 34 06.0**	**-0.6**
NC602	**NORSAR Array S**	**35.38**	**310**	P		**P**	**14 34 06.4**	**-0.6**
NB2	**NORSAR Subarra**	**35.46**	**311**	P		**P**	**14 34 07.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=75,slow=8.6							
NOA	**NORSAR Array B**	**35.45**	**311**	P		**P**	**14 34 07.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=75,slow=8.7,SNR=9.2							
	comp=Z,1.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**37.87**	**142**	P		**P**	**14 34 32.2**	**+3.6**
	comp=Z,0.6nm,0.5s,baz=308,slow=5.3,SNR=2.3							
	comp=Z,0.6nm,0.5s							
GRA1	**Grafenberg Arr**	**39.60**	**294**	P		**P**	**14 34 40.9**	**-2.0**
GRA1				IAmb		IAmb	14 34 55.3	
	comp=Z,10nm,0.6s							
GRF	**Grafenberg Arr**	**39.60**	**294**	P		**P**	**14 34 40.9**	**-2.0**
GRF				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GRFO	**Grafenberg**	**39.60**	**294**	P		**P**	**14 34 41.3**	**-1.6**
GRFO	**Grafenberg**	**39.60**	**294**	P		**P**	**14 34 41.3**	**-1.6**
GRFO				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ESDC	**Sonseca Array**	**54.16**	**291**	P		**P**	**14 36 37.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=51,slow=9.3,SNR=4.2							
	comp=Z,0.4nm,0.5s							
D23K	**Nanushuk River**	**55.13**	**18**	P		**P**	**14 36 44.2**	**+0.9**
D27M	**Malcolm River**	**56.62**	**15**	P		**P**	**14 36 54.4**	**+0.3**
D27M				IAmb		IAmb	14 37 22.7	
	comp=Z,5.3nm,1.2s							
H19K	**Roundabout Mou**	**56.69**	**23**	P		**P**	**14 36 54.5**	**-0.1**
H19K				IAmb		IAmb	14 37 12.3	
	comp=Z,8.4nm,1.3s							
IMAR	**Indian Mountai**	**56.96**	**22**	P		**P**	**14 36 55.9**	**-0.6**
BMAR	**Burnt Mountain**	**57.62**	**17**	P		**P**	**14 37 01.1**	**-0.1**
G24K	**Hadweenzic Riv**	**57.70**	**19**	P		**P**	**14 37 01.8**	**+0.1**
G24K				IAmb		IAmb	14 37 16.6	
	comp=Z,7.6nm,1.4s							
E29M	**Blow River**	**57.87**	**14**	P		**P**	**14 37 03.4**	**+0.5**
E29M				IAmb		IAmb	14 37 41.6	
	comp=Z,6.1nm,1.3s							
J19K	**Poorman**	**58.15**	**24**	P		**P**	**14 37 05.7**	**+0.7**
J19K				IAmb		IAmb	14 37 35.1	
	comp=Z,7.3nm,1.4s							
G26K	**Porcupine Rive**	**58.19**	**17**	P		**P**	**14 37 05.9**	**+0.8**
G27K	**Doyon Strip**	**58.70**	**16**	P		**P**	**14 37 09.2**	**+0.5**
G30M	**tAoh Zrail Nji**	**59.42**	**14**	P		**P**	**14 37 14.1**	**+0.3**
G30M				IAmb		IAmb	14 37 53.6	
	comp=Z,9.0nm,1.4s							
ILAR	**Eielson Array**	**59.51**	**20**	P		**P**	**14 37 13.7**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=325,slow=4.7,SNR=9.4							
	comp=Z,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**69.68**	**266**	P		**P**	**14 38 21.8**	**+0.3**
	comp=Z,2µm,0.4s,baz=44,slow=8.5,SNR=5.3							

IDC ***23*** *14:38:37.6±1.1,24.4°46N×46.3°31W,h0km,mb3.7/6, mbtmp3.7/6,MS3.4/8,Error ellipse: s-maj=34.4km s-min=25.2km az=1.0*

ISC 23 14:38:39.7±0.9,24.5N±0.2°×46.3°W±0.2°,h14km,n19, σ0.8s25.7,mb3.8/6,MS3.4/8,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SADO	**Sadowa**	**33.45**	**316**	LR		LR		14 56 21.4	
	comp=Z,56nm,19.4s,baz=124,slow=32								
TKL	**Tuckaleechee C**	**34.11**	**298**	LR		LR		14 56 17.7	
	comp=Z,62nm,19.4s,baz=106,slow=31								
FRB	**Frobisher Bay**	**41.95**	**345**	LR		LR		15 02 21.0	
	comp=Z,53nm,18.6s,baz=96,slow=34								
H10N2	**ASCENSION HYDR**	**44.63**	**132**	T		T		15 34 10.0	
	baz=316,slow=76,SNR=96								
H10N3	**ASCENSION HYDR**	**44.63**	**132**	T		T		15 34 09.9	
	baz=316,slow=76,SNR=57								
H10N1	**ASCENSION HYDR**	**44.65**	**132**	T		T		15 34 11.3	
	baz=316,slow=76,SNR=86								
H10S3	**ASCENSION HYDR**	**45.34**	**133**	T		T		15 34 59.7	
	baz=315,slow=74,SNR=224								
H10S2	**ASCENSION HYDR**	**45.35**	**133**	T		T		15 35 07.4	
	baz=265,slow=74,SNR=254								
LPAZ	**La Paz**	**45.74**	**210**	P		**P**		**14 47 01.6**	**+0.1**
	0.9nm,0.7s,baz=30,slow=8.1,SNR=3.6								
	0.9nm,0.7s								
CMIG	**Matias Romero**	**45.82**	**270**	LR		LR		15 04 02.7	
	comp=Z,27nm,20.4s,baz=142,slow=33								
TORD	**Torodi Ar. Bea**	**46.60**	**95**	P		**P**		**14 47 07.5**	**-0.3**
	1.3nm,0.9s,baz=308,slow=8.0,SNR=6.3								
TXAR	**Lajitas Array**	**50.96**	**289**	P		**P**		**14 47 41.3**	**+0.1**
	0.3nm,0.6s,baz=88,slow=9.5,SNR=4.0								
TXAR						LR	LR	15 08 29.1	
	comp=Z,24nm,19.1s,baz=5.0,slow=35								
	0.3nm,0.6s								
GERES	**GERESS Array B**	**52.42**	**46**	P		**P**		**14 47 52.0**	**+0.1**
	0.3nm,0.4s,baz=267,slow=8.6,SNR=3.8								
	0.3nm,0.4s								
ANMO	**Albuquerque**	**52.60**	**296**	LR		LR		15 08 01.8	
	comp=Z,54nm,20.1s,baz=189,slow=34								
PDAR	**Pinedale Array**	**54.51**	**306**	P		**P**		**14 48 07.3**	**-0.2**
	1.0nm,1.0s,baz=79,slow=4.1,SNR=6.5								
	1.0nm,1.0s								
ELK	**Elko**	**58.90**	**304**	LR		LR		15 11 01.1	
	comp=Z,39nm,20.9s,baz=137,slow=33								
NEW	**Newport**	**59.58**	**313**	LR		LR		15 12 57.6	
	comp=Z,50nm,20.0s,baz=334,slow=35								
ILAR	**Eielson Array**	**72.53**	**334**	P		**P**		**14 50 05.8**	**-0.1**
	0.7nm,0.9s,baz=50,slow=6.4,SNR=6.2								
	0.7nm,0.9s								
KURBB	**Kurchatov Arra**	**90.83**	**32**	P		**P**		**14 51 43.0**	**+0.3**
	1.1nm,1.1s,baz=311,slow=5.0,SNR=4.5								
	1.1nm,1.1s								

IDC ***23*** *14:54:50.0±1.6,8.32N×93.54E,h0km,mb3.5/6, mbtmp3.6/7,ML4.4/1,MS3.4/2,Error ellipse: s-maj=63.5km s-min=23.3km az=59.0*

NEIC ***23*** *14:54:59.9±0.8,8.53N±0.05×93.87E±0.08,h65km±9km, mb4.2/9,Error ellipse: s-maj=13.3km s-min=2.9km az=121.0*

NDI ***23*** *14:55:01.6±0.3,8.53N×93.99E,h60km,ML4.0,MW4.1, mb4.2(NEIC)*

ISC 23 14:54:55.4±0.6,8.46N±0.06×93.7E±0.1,h26km,n36, σ1s73/32,mb4.0/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.46**	**172**	*e*P		**Pb**		**14 55 24.3**	**+2.4**
CMBY				*e*S		**Sb**		**14 55 40.5**	**+0.5**
CMBY				IAML				14 55 50.0	
	comp=N,3µm,1.4s								
PBA	**Port Blair**	**3.31**	**343**	Pn		**Pn**		**14 55 48.8**	**+3.2**
PBA	**Port Blair**	**3.31**	**343**	*e*S		**Sn**		**14 56 27.7**	**+3.6**
DGPR	**DIGLIPUR**	**4.75**	**351**	IAML				14 55 49.5	
	comp=E,343nm,0.2s								
DGPR				*e*S		**Sn**		**14 57 00.3**	**+0.8**
KULM	**Kulim**	**7.57**	**114**	Pn		**Pn**		**14 56 45.3**	**+1.1**
IPM	**Ipoh**	**8.27**	**118**	Pn		**Pn**		**14 56 55.4**	**+1.6**
CM31	**Chiang Mai Arr**	**11.16**	**27**	Pn		**Pn**		**14 57 34.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.16**	**27**	Pn		**Pn**		**14 57 34.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**11.16**	**27**	Pn		**Pn**		**14 57 35.2**	**+1.9**
	comp=E,0.8nm,0.3s,baz=211,slow=15,SNR=12								
	comp=E,2.5nm,0.4s								
CHTO	**Chiang Mai**	**11.47**	**26**	Pn		**Pn**		**14 57 39.6**	**+2.0**
PALK	**Pallekele**	**12.94**	**266**	LR		LR		15 02 29.4	
	comp=E,113nm,19.5s,baz=127,slow=36								
EVN	**Everest**	**20.45**	**342**	P		**P**		**14 59 32.2**	**+0.5**
EVN				IAmb		IAmb		14 59 41.8	
	comp=Z,7.0nm,0.8s								
H08S3	**Diego Garcia H**	**26.52**	**234**	T		T		15 27 28.8	
	baz=52,slow=74								
H08S2	**Diego Garcia H**	**26.52**	**233**	T		T		15 27 29.4	
	baz=52,slow=74								
H08S1	**Diego Carcia H**	**26.54**	**233**	T		T		15 27 31.4	
	baz=52								
MKAR	**Makanchi Array**	**39.42**	**348**	P		**P**		**15 02 22.5**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=161,slow=8.6,SNR=3.1								
	comp=Z,0.3nm,0.6s								
KK31	**Karatay Array**	**40.05**	**333**	P		**P**		**15 02 27.9**	**-0.5**
KKAR	**Karatay Array**	**40.05**	**333**	P		**P**		**15 02 28.2**	**-0.2**
KSAR	**Wonju Array Be**	**42.27**	**42**	P		**P**		**15 02 43.7**	**-3.0**
KS19	**Wonju Array Si**	**42.29**	**42**	P		**P**		**15 02 43.6**	**-3.4**
KURBB	**Kurchatov Arra**	**43.88**	**346**	P		**P**		**15 02 57.5**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=172,slow=7.6,SNR=4.4								
	comp=Z,0.1nm,0.3s								
ZALV	**Zalesovo Beam**	**45.92**	**353**	P		**P**		**15 03 15.4**	**-0.4**
ZALV	**Zalesovo Beam**	**45.92**	**353**	P		**P**		**15 03 15.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=169,slow=8.7,SNR=4.6								
	comp=Z,0.5nm,0.3s								
WB0	**Warramunga Arr**	**48.90**	**125**	P		**P**		**15 03 38.6**	**-0.9**
WRA	**Warramunga Arr**	**48.95**	**126**	P		**P**		**15 03 39.2**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=303,slow=7.4,SNR=2.2								
	comp=Z,0.5nm,1.0s								
MJAR	**Matsushiro Arr**	**49.08**	**48**	P		**P**		**15 03 38.9**	**-1.8**
MJAR				IAmb		IAmb		15 04 06.5	
	comp=Z,3.9nm,1.4s								
AB31	**Akbulak array**	**49.52**	**331**	P		**P**		**15 03 43.6**	**-0.1**
AB31				IAmb		IAmb		15 03 54.3	
	comp=Z,3.1nm,1.4s								
ABKAR	**Akbulak array**	**49.52**	**331**	P		**P**		**15 03 43.6**	**-0.1**
ASAR	**Alice Springs**	**50.62**	**130**	P		**P**		**15 03 51.4**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=302,slow=8.4,SNR=1.9								
	comp=Z,0.3nm,0.8s								
TIXI	**Tiksi**	**66.74**	**11**	P		**P**		**15 05 42.5**	**-1.4**
TIXI				IAmb		IAmb		15 06 26.2	
	comp=Z,3.3nm,1.1s								
BURAR	**Bucovina Array**	**69.33**	**318**	P		**P**		**15 05 59.0**	**-1.9**
BUR08	**Bucovina Ar. S**	**69.34**	**318**	P		**P**		**15 05 59.2**	**-1.7**
BUR08				IAmb		IAmb		15 06 21.6	
	comp=Z,3.6nm,1.2s								
FINES	**FINESS Array B**	**72.00**	**332**	P		**P**		**15 06 16.5**	**-0.1**
HFS	**Hagfors**	**77.74**	**330**	P		**P**		**15 06 49.3**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=94,slow=5.8,SNR=5.0								
	comp=Z,2.3nm,0.8s								
DAVOX	**Davos/Dischmat**	**79.67**	**316**	LR		LR		15 48 20.8	
	comp=Z,29nm,19.0s,baz=270,slow=40								
IMAR	**Indian Mountai**	**91.25**	**22**	P		**P**		**15 07 57.4**	**-0.8**

IDC ***23*** *15:21:49.6±1.8,1.03N×126.44E,h0km,mb3.4/4, mbtmp3.4/4,Error ellipse: s-maj=179.3km s-min=22.8km az=66.0*

DJA ***23*** *15:21:55.9±0.5,1.1°N±2.2°×12.7°E±.°,h27km±5km,M3.5/12, mb3.3/2,MLv3.5/12*

ISC 23 15:21:55.8±1.0,1.17N±0.05×126.84E±0.05,h35km,n11, σ1s55/17,mb3.3/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.66**	**127**	P		**Pn**		**15 22 09.8**	**+1.1**
TNTI				S		**Sn**		**15 22 19.9**	**+2.1**
LBMI	**Labuha**	**1.91**	**160**	P		**Pn**		**15 22 26.5**	**+0.6**
LBMI				S		**Sn**		**15 22 50.6**	**+1.8**
SGSI	**Sangihe**	**2.82**	**332**	P		**Pn**		**15 22 39.4**	**+1.0**
SGSI				S		**Sn**		**15 23 13.3**	**+2.1**
KMSI	**Cibinong**	**2.92**	**258**	P		**Pn**		**15 22 40.3**	**+0.6**
KMSI				S		**Sn**		**15 23 14.7**	**+1.2**
SANI	**Sanana**	**3.31**	**195**	P		**Pn**		**15 22 45.1**	**0.0**
SANI				S		**Sn**		**15 23 24.8**	**+1.6**
NLAI	**Namlea**	**4.39**	**177**	P		**Pn**		**15 23 00.4**	**+0.5**
LUWI	**Luwuk**	**4.62**	**242**	P		**Pn**		**15 23 04.2**	**+1.1**
LUWI				S		**Sn**		**15 23 57.4**	**+1.8**

WRA	**Warramunga Arr**	**22.23**	**161**	P		**P**	**15 26 47.4**	**-2.2**
	0.3nm,0.3s,baz=338,slow=11,SNR=15							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**25.62**	**165**	P		**P**	**15 27 21.4**	**-0.8**
	0.3nm,0.3s,baz=345,slow=10,SNR=10							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**59.72**	**326**	P		**P**	**15 31 55.3**	**-1.7**
	0.1nm,0.4s,baz=132,slow=8.4,SNR=1.6							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**63.95**	**328**	P		**P**	**15 32 23.9**	**-1.4**
	0.2nm,0.3s,baz=129,slow=5.9,SNR=1.8							
	0.2nm,0.3s							

PRE ***23*** *16:01:21.0±1.1,21.21S×25.45E,h0km,ML2.4,Suspected explosion*

BGSI ***23*** *16:01:26.7±1.4,21.29S×25.33E,h2km±13km,ML2.5*

IDC ***23*** *16:01:26.5±4.4,21.50S×25.42E,h0km,mbtmp3.1/3, ML3.2/3,Error ellipse: s-maj=57.6km s-min=19.0km az=116.0*

ISC 23 16:01:22.6±1.0,21.24S±0.05×25.47E±0.04,h0km,n21, σ1s74/34,Botswana

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CKGRV	**CKGRV**	**1.59**	**264**	*i* P		**Pn**		**16 01 52.3**	**+0.2**
CKGRV				*i* S		**Sn**		**16 02 10.4**	**-3.1**
CKGRV				IAML				16 02 32.8	
	comp=E,179nm,0.5s								
BROLN	**Tlhalogang**	**1.74**	**86**	*i* P		**Pg**		**16 01 57.6**	**+1.6**
BROLN				*i* S		**Sg**		**16 02 21.3**	**+2.7**
BROLN				IAML				16 02 26.1	
	comp=N,50nm,0.5s								
MREMI	**Moremi**	**2.26**	**126**	*i* P		**Pb**		**16 02 04.2**	**-0.1**
MREMI				*i* S		**Sb**		**16 02 33.0**	**+0.2**
MREMI				IAML				16 02 39.9	
	comp=E,132nm,0.3s								
MATP	**Matopo**	**2.94**	**75**	Pn		**Pb**		**16 02 15.8**	**-0.3**
	comp=E,1.1nm,0.3s,baz=248,slow=14,SNR=11								
MATP				Sn		**Sg**		**16 02 56.1**	**-1.2**
	comp=E,1.4nm,0.3s,baz=165,slow=22,SNR=5.8								
	comp=E,2.3nm,0.4s								
BLWY	**Bulawayo**	**3.13**	**70**	*i* P		**Pb**		**16 02 20.5**	**+1.2**
BLWY				*i* S		**Sg**		**16 03 04.7**	**+1.3**
LEPH	**Lephalale, Lim**	**3.37**	**141**	*e*P		**Pn**		**16 02 17.0**	**+0.3**
LEPH				*e*S		**Sn**		**16 02 57.2**	**-0.3**
LEPH				IAML				16 03 23.7	
	comp=Z,14nm,0.3s								
SKOMA	**Sekoma**	**3.55**	**203**	*i* P		**Pn**		**16 02 19.5**	**+0.3**
SKOMA				IAML				16 03 24.4	
	comp=N,16nm,0.6s								
LBTB	**Lobatse**	**3.75**	**178**	Pn		**Pn**		**16 02 22.8**	**+0.9**
	comp=N,0.9nm,0.3s,baz=358,slow=13,SNR=9.8								
LBTB				Pg		**Pb**		**16 02 31.2**	**+1.3**
	comp=N,2.2nm,0.3s,baz=356,slow=19,SNR=17								
LBTB				Lg		Lg		16 03 18.6	
	comp=N,2.0nm,0.3s,baz=78,slow=19,SNR=3.7								
	comp=N,2.2nm,0.4s								
LBTB	**Lobatse**	**3.75**	**178**	*e*P		**Pn**		**16 02 22.4**	**+0.5**
LBTB				*e*S		**Sn**		**16 03 05.3**	**-1.6**
LBTB				IAML				16 03 27.2	
	comp=Z,6.3nm,0.3s								
LBTB	**Lobatse**	**3.75**	**178**	*i* P		**Pn**		**16 02 23.8**	**+1.8**
LBTB				*i* S		**Sn**		**16 03 10.1**	**+3.2**
GRTLG	**Ghanzi**	**3.97**	**268**	*i* P		**Pn**		**16 02 26.1**	**+1.2**
GRTLG				IAML				16 03 36.6	
	comp=N,21nm,0.5s								
MUSN	**Musina, Limpop**	**4.21**	**105**	*e*P		**Pn**		**16 02 27.0**	**-1.1**
MUSN				*e*S		**Sn**		**16 03 16.1**	**-2.0**
MUSN				I

SOME 23 16:23:26.9, 41.42N × 82.55E, h15km, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.88**	**308**	Lg	Lg	16 24 48.5	
	2.9nm,0.2s						
SHLS	**Shalkode**	**2.88**	**308**	*e*P	Pn	16 24 14.5	+2.2
	1.7nm,0.2s						
SHLS				*e*S	Sn	16 24 48.5	+1.8
	2.9nm,0.2s						
SHLS	**Shalkode**	**2.88**	**308**	Pg	Pn	16 24 14.5	+2.2
	1.7nm,0.2s						
UZB	**Uzynbulak**	**3.14**	**305**	Lg	Lg	16 25 05.8	
	0.7nm,0.1s						
UZB	**Uzynbulak**	**3.14**	**305**	*e*P	Pb	16 24 24.0	+1.5
	1.9nm,0.2s						
UZB				*e*S	Sg	16 25 04.7	-2.9
	3.0nm,0.3s						
UZB	**Uzynbulak**	**3.14**	**305**	Pg	Pb	16 24 24.0	+1.5
	1.6nm,0.2s						
SATY	**Saty**	**3.49**	**299**	Lg	Lg	16 25 16.5	
	1.9nm,0.1s						
SATY	**Saty**	**3.49**	**299**	Pg	Pb	16 24 30.8	+2.4
	0.5nm,0.1s						
KPKS	**Kokpek**	**3.52**	**307**	Pg	Pb	16 24 29.7	+0.8
	0.5nm,0.2s						
KNOS	**Konyrlen**	**3.84**	**321**	Lg	Lg	16 25 29.2	
	6.9nm,0.1s						
KNOS	**Konyrlen**	**3.84**	**321**	Pg	Pg	16 24 38.2	-2.4
	1.0nm,0.6s						

NNC 23 16:24:44.1±0.6, 51.57N × 75.39E, h0km, mb3.5, mpv3.3, 12C-2D, Error ellipse: s-maj=8.3km s-min=4.8km az=26.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**114**	⇓Pn	Pn	16 25 21.9	+0.1
	7.9nm,0.2s,baz=302,slow=14						
KURBB				⇑Lg	Lg	16 25 53.1	
	61nm,0.5s,baz=292,slow=22						
KURK	**Kurchatov**	**2.21**	**111**	⇑Pn	Pn	16 25 22.3	+0.3
	3.3nm,0.4s						
KURK				⇑Lg	Lg	16 25 52.9	
	19nm,0.5s						
BVA0	**Borovoye Array**	**3.40**	**297**	Pn	Pn	16 25 38.4	0.0
	1.0nm,0.4s,baz=112,slow=14,SNR=19						
BVA0				⇑Pg	Pb	16 25 45.6	+0.4
	2.1nm,0.3s,baz=116,slow=15						
BVA0				⇑Lg	Lg	16 26 30.8	
	18nm,0.6s,baz=114,slow=27						
ZAA0	**Zalesovo Array**	**6.20**	**64**	⇑Pn	Pn	16 26 16.9	+0.1
	0.2nm,0.7s						
ZAA0				⇑Sn	Sn	16 27 28.7	+0.3
	0.3nm,0.3s						
ZAA0				⇑Lg	Lg	16 27 59.3	
	1.2nm,1.3s						
MAKZ	**Makanchi**	**6.43**	**135**	⇑Pn	Pn	16 26 20.9	+1.0
	1.7nm,1.1s						
MAKZ				Sn	Sn	16 27 35.4	+1.4
	1.7nm,0.5s						
MAKZ				⇑Lg	Lg	16 28 08.3	
	10.0nm,0.8s						
MK31	**Makanchi Array**	**6.58**	**134**	⇓Pn	Pn	16 26 21.6	-0.4
	0.5nm,0.5s,baz=300,slow=9.8,SNR=3.1						
MK31				⇑Sn	Sn	16 27 39.8	+2.1
	1.8nm,0.5s						
MK31				⇑Lg	Lg	16 28 14.3	
	5.5nm,0.6s						
AB31	**Akbulak array**	**10.13**	**263**	P	Pn	16 27 11.8	+1.1
	1.2nm,0.8s,baz=61,slow=11,SNR=6.3						

*NEIC **23** 16:39:31.7±2.3, 38.65N±0.08 × 142.7E±0.2, h65km±11km, mb4.7/7, Error ellipse: s-maj=20.1km s-min=4.8km az=120.0*
*NIED **23** 16:39:34.9, 38.89N × 141.97E, h49km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.92; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$-3.20; $M_{r\theta}$1.85; $M_{\theta\phi}$-0.70; $M_{\phi r}$4.48; Fault plane solution: $M_0$6.06000×10^{14} NP1: ϕ_s191.00000°, δ19.00000°, λ81.00000°. NP2:ϕ_s21.00000°, δ72.00000°, λ93.00000°.*
*JMA **23** 16:39:34.9±0.1, 38.9N±0.3 × 142.0E±0.7, h49km, MV3.9/35, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
*IDC **23** 16:39:35.6±2.3, 38.92N × 142.08E, h61km±19km, mb3.7/11, mbtmp3.9/15, Error ellipse: s-maj=23.7km s-min=13.8km az=97.0*

ISC 23 16:39:30.6±1.6, 38.88N±0.05 × 142.30E±0.07, h28km±10km, n53, σ1^{s}95/55, mb4.2/16, 16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.53**	**292**	⇓P	Pn	16 39 44.1	+1.9
OFUJ				⇓S	Sn	16 39 50.3	+0.1
JKMT	**Kesennumamotoy**	**0.65**	**264**	⇓*i*P	Pn	16 39 44.9	+1.0
JKMT				⇓S	Sb	16 39 51.6	-0.3
JMK	**Ichinoseki**	**0.84**	**275**	⇓P	Pb	16 39 47.2	+0.6
JMK				⇓S	Sb	16 39 56.0	-1.6
JIO	**Ouri**	**0.85**	**240**	⇓P	Pn	16 39 47.7	+1.0
JIO				⇓S	Sb	16 39 56.5	-1.4
JOM	**Ohasama**	**0.98**	**308**	⇓P	Pb	16 39 49.8	+0.9
JOM				⇓S	Sb	16 40 00.5	-0.9
JOU	**Okura**	**1.38**	**249**	⇓P	Pn	16 39 54.4	+0.5
JRG	**Rokugo**	**1.39**	**292**	⇓P	Pn	16 39 54.7	+0.6
JYK	**Kaneyama**	**1.51**	**272**	⇓P	Pn	16 39 56.2	+0.4
JYK				⇓*e*S	Sn	16 40 08.7	-5.8
JMM	**Marumori**	**1.56**	**230**		Pn	16 39 57.2	+0.8
JMM	**Marumori**	**1.56**	**230**	⇓P	Pn	16 39 57.1	+0.8
JMM				⇓*e*S	Sn	16 40 14.3	-1.2
JTM	**Tenmabayashi**	**2.13**	**334**		Pb	16 40 07.5	-0.9
ERM	**Erimo**	**3.20**	**12**	Pn	Pb	16 40 23.7	-2.9
MJAR	**Matsushiro Arr**	**3.99**	**235**		Pn	16 40 32.7	+2.8
MJAR	**Matsushiro Arr**	**3.99**	**235**	P	Pn	16 40 32.9	+2.9
	5.7nm,0.4s,baz=37,slow=12,SNR=57						
MJAR				S	Sb	16 41 27.3	-0.7
	1.9nm,0.3s,baz=186,slow=1.0,SNR=4.4						
MAJO	**Matsushiro**	**3.99**	**236**		Pn	16 40 32.2	+2.3
MJB9	**Matsu-Tunnel**	**3.99**	**236**		Pn	16 40 33.1	+3.2
JGF	**Kuroka**	**5.12**	**232**		Pn	16 40 47.0	+1.6
ASAJ	**Asahikawa**	**5.24**	**2**	P	Pn	16 40 51.0	+4.1
	7.4nm,0.8s,baz=211,slow=16,SNR=16						
ASAJ				S	Sn	16 41 49.9	+3.5
	5.1nm,0.5s,baz=348,slow=25,SNR=1.3						
JKA	**Kamikawa-asahi**	**5.24**	**2**	Pn	Pn	16 40 50.8	+3.8
INU	**Inuyama**	**5.50**	**232**		Pn	16 40 53.5	+3.0
YSS	**Yuzhno-Sakhali**	**8.08**	**2**	Pn	Pn	16 41 26.1	+0.2
JMN	**Monobe**	**8.52**	**235**	Pn	Pn	16 41 33.6	+1.5
USRK	**Ussuriysk Ar.**	**9.38**	**308**	P	Pn	16 41 44.8	+1.0
	2.7nm,0.6s,baz=120,slow=15,SNR=15						
KSRS	**Korea Array**	**11.40**	**267**	P	Pn	16 42 15.6	+4.0
	0.8nm,0.6s,baz=81,slow=14,SNR=5.3						
TPUB	**Ta-pu**	**24.11**	**236**	P	P	16 44 43.1	-0.8
TPUB				IAmb	IAmb	16 45 12.2	
	comp=Z,35nm,1.2s						
YAK	**Yakutsk**	**24.44**	**346**	P	P	16 44 45.6	-1.0
GUMO	**Guam**	**25.29**	**174**	P	P	16 44 47.9	-6.8
SONM	**Songino Array**	**27.39**	**301**	P	P	16 45 14.0	+0.4
	comp=Z,0.6nm,0.5s,baz=92,slow=8.7,SNR=1.7						
	comp=Z,0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.56**	**125**	T	T	17 15 50.6	
	baz=317,slow=75,SNR=501						
H11N1	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	17 15 52.2	
	baz=317,slow=75,SNR=499						
H11N3	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	17 15 51.7	
	baz=317,slow=75,SNR=478						
H11S1	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	17 16 44.4	
	baz=318,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	17 16 44.3	
	baz=318,slow=76,SNR=168						
H11S2	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	17 16 44.8	
	baz=318,slow=76,SNR=101						
ZALV	**Zalesovo Beam**	**41.21**	**311**		P	16 47 12.9	+0.4
ZALV	**Zalesovo Beam**	**41.21**	**311**	P	P	16 47 12.8	+0.2
	comp=Z,0.9nm,0.4s,baz=79,slow=7.7,SNR=8.6						
	comp=Z,0.9nm,0.4s						
MKAR	**Makanchi Array**	**43.75**	**301**		P	16 47 32.7	-0.7
MKAR	**Makanchi Array**	**43.75**	**301**	P	P	16 47 33.4	0.0
	comp=Z,2.1nm,0.6s,baz=84,slow=9.7,SNR=22						
	comp=Z,2.1nm,0.6s						
IMAR	**Indian Mountai**	**44.71**	**32**	P	P	16 47 37.1	-3.7
KURK	**Kurchatov**	**45.36**	**307**		P	16 47 45.6	-0.6
KURK				IAmb	IAmb	16 47 47.3	
	comp=Z,9.1nm,1.3s						
KURBB	**Kurchatov Arra**	**45.44**	**307**	P	P	16 47 46.4	-0.3
	comp=Z,4.3nm,0.5s,baz=81,slow=8.1,SNR=5.0						
	comp=Z,4.3nm,0.5s						
CNPM	**China Poot**	**45.84**	**41**	P	P	16 47 47.3	-2.5
CNPM				IAmb	IAmb	16 47 55.2	
	comp=Z,40nm,1.3s						
ILAR	**Eielson Array**	**47.57**	**33**	P	P	16 48 00.5	-2.8
ILAR	**Eielson Array**	**47.57**	**33**	P	P	16 48 05.6	+2.4
	comp=Z,0.4nm,0.6s,baz=261,slow=6.1,SNR=5.0						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**49.86**	**311**	P	P	16 48 21.4	+0.3
	comp=Z,2.4nm,0.5s,baz=66,slow=8.6,SNR=10						
BVAR				PcP	PcP	16 49 41.7	+0.5
	comp=Z,0.6nm,0.5s,baz=62,slow=3.4,SNR=2.7						
	comp=Z,2.4nm,0.5s						
ARTI	**Arti**	**55.56**	**318**	P	P	16 49 01.8	-1.3
ARTI				IAmb	IAmb	16 49 03.9	
	comp=Z,8.2nm,0.7s						
AB31	**Akbulak array**	**57.29**	**309**		P	16 49 14.3	-1.2
AB31				IAmb	IAmb	16 49 15.8	
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**57.29**	**309**	P	P	16 49 14.7	-0.9
WRA	**Warramunga Arr**	**58.98**	**189**	P	P	16 49 28.5	+0.9
	comp=Z,0.6nm,0.5s,baz=6.1,slow=7.1,SNR=14						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**62.71**	**189**	P	P	16 49 54.2	+1.3
	comp=Z,0.4nm,0.6s,baz=7.8,slow=5.0,SNR=8.7						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**67.51**	**332**	P	P	16 50 23.9	+0.3
	comp=Z,1.5nm,0.7s,baz=49,slow=6.6,SNR=5.1						
	comp=Z,1.5nm,0.7s						
HFS	**Hagfors**	**72.69**	**336**	P	P	16 50 56.7	+1.2
	comp=Z,1.7nm,0.8s,baz=45,slow=6.4,SNR=1.9						
	comp=Z,1.7nm,0.8s						
AKASG	**Malin Array Be**	**73.26**	**322**	P	P	16 50 59.0	0.0
	comp=Z,0.4nm,0.4s,baz=46,slow=5.9,SNR=4.8						
	comp=Z,0.4nm,0.4s						

IDC 23 17:00:04.0±3.8, 47.44N × 93.30W, h0km, mbtmp2.5/1, ML1.4/1, Error ellipse: s-maj=72.8km s-min=26.3km az=60.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.29**	**330**	Pn	Pn	17 00 55.5	-1.1
	0.6nm,0.3s,baz=146,slow=15,SNR=7.0						
ULM				Pg	Pb	17 01 02.4	-0.7
	0.6nm,0.3s,baz=146,slow=17,SNR=3.0						
ULM				Sn	Sn	17 01 34.1	-2.3
	0.6nm,0.3s,baz=94,slow=12,SNR=4.9						
ULM				Lg	Lg	17 01 45.2	
	2.6nm,0.3s,baz=71,slow=17,SNR=16						
	1.0nm,0.4s						
I10CA	**LAC DU BONNET**	**3.30**	**328**	I	I	17 22 40.0	
	0.1nm,1.0s,baz=147,slow=307,SNR=3.9						
I56US	**NEWPORT INFRASI**	**6.01**	**282**	I	I	18 40 20.0	
	baz=85,slow=321,SNR=2.1						

*IDC **23** 17:22:56.9±1.8, 17.40S × 178.73W, h506km±19km, mb4.1/24, mbtmp4.9/25, Error ellipse: s-maj=12.6km s-min=10.5km az=116.0*
*NOU **23** 17:22:59.4, 17.45S × 178.59W, h546km, mb4.9/69, Fiji Islands Region*
*NEIC **23** 17:22:59.7±1.9, 17.46S±0.09 × 178.65W±0.10, h544km±6km, mb4.5/203, Error ellipse: s-maj=14.3km s-min=12.3km az=136.0*

ISC 23 17:22:59.3±0.4, 17.45S±0.05 × 178.60W±0.05, h543km±4km, n393, σ1^{s}20/351, mb4.5/121, 6C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.81**	**194**	P	P	17 24 04.9	+0.5
LKBA	**Tubou, Lakemba**	**0.81**	**194**	S	S	17 24 59.5	+2.1
TAVE	**Taveuni**	**1.45**	**300**	P	P	17 24 06.6	+0.4
TAVE	**Taveuni**	**1.45**	**300**	S	S	17 25 02.6	+2.2
DGTI	**Dogotuki**	**1.96**	**305**	P	P	17 24 08.6	+0.4
DGTI	**Dogotuki**	**1.96**	**305**	S	S	17 25 05.3	+1.2
FUTU	**Fugatoga**	**3.16**	**9**		P	17 24 15.0	+0.1
FUTU				S	S	17 25 16.6	+0.4
FUTU	**Fugatoga**	**3.16**	**9**	P	P	17 24 14.9	+0.1
FUTU	**Fugatoga**	**3.16**	**9**	S	S	17 25 18.2	+2.0
MSVF	**Nonsavu**	**3.20**	**264**	P	P	17 24 16.0	+0.9
MSVF				S	S	17 25 19.8	+2.9
MSVF	**Nonsavu**	**3.20**	**264**	P	P	17 24 15.0	-0.1
YSA	**Yasawairara**	**3.73**	**281**	P	P	17 24 18.8	+0.2
AFI	**Afiamalu**	**7.46**	**63**	P	P	17 24 48.9	-2.7
AFI				S	S	17 26 18.8	-4.7
AFI	**Afiamalu**	**7.46**	**63**	P	P	17 24 49.8	-1.8
NIUE	**Niue**	**8.40**	**102**		P	17 25 00.1	-0.8
NIUE				S	S	17 26 39.6	-0.9
NIUE	**Niue**	**8.40**	**102**	P	P	17 25 01.7	+0.9
NIUE	**Niue**	**8.40**	**102**	S	S	17 26 41.1	+0.5
NIUE	**Niue**	**8.40**	**102**	P	P	17 25 02.1	+1.3
NIUE				S	S	17 26 43.6	+3.1
FUNA	**Funafuti**	**9.12**	**346**	P	P	17 25 06.4	-1.9
FUNA	**Funafuti**	**9.12**	**346**	P	P	17 25 07.6	-0.7
GLKZ	**Green Lake**	**11.78**	**177**	P	P	17 25 33.7	-1.6
SANVU	**Saraoutou**	**13.76**	**276**	P	P	17 25 54.1	-2.0
PINNC	**Pines Island,**	**14.08**	**246**		P	17 25 57.1	-2.2
PINNC	**Pines Island,**	**14.08**	**246**	P	P	17 25 59.0	-0.3
DZM	**Mont Dzumac**	**14.80**	**249**	P	P	17 26 04.2	-2.8
	50nm,1.0s,baz=321,slow=23,SNR=6.9						
DZM	**Mont Dzumac**	**14.80**	**249**	P	P	17 26 07.0	0.0
DZM	**Mont Dzumac**	**14.80**	**249**	S	S	17 28 41.1	-0.6
ONTNC	**Ouen Toro**	**14.86**	**249**	P	P	17 26 04.6	-2.9
LUES	**Luesalemba Tem**	**16.46**	**292**	P	P	17 26 24.0	+0.5
LUES	**Luesalemba Tem**	**16.46**	**292**	S	S	17 29 09.8	-0.4
OUZ	**Omahuta**	**19.02**	**200**	P	P	17 26 48.8	+2.2
WCZ	**Waipu Caves**	**19.45**	**197**	P	P	17 26 53.0	+2.4
GRZ	**Great Barrier**	**19.45**	**195**	P	P	17 26 51.7	+1.1
KUZ	**Kuaotunu**	**19.87**	**194**	P	P	17 26 55.5	+1.1
ABAZ	**Army Bay**	**19.94**	**196**	P	P	17 26 57.1	+2.1
WIAZ	**Waiheke Island**	**20.05**	**195**	P	P	17 26 57.8	+1.8
MBAZ	**Motutapu North**	**20.08**	**195**	P	P	17 26 58.3	+2.0
MXZ	**Matakaoa Point**	**20.22**	**187**	P	P	17 26 55.3	-2.3
ETAZ	**East Tamaki Re**	**20.25**	**195**	P	P	17 26 59.9	+2.0
MKAZ	**Moumakai**	**20.34**	**194**	P	P	17 27 00.0	+1.4
AWAZ	**Awhitu Peninsu**	**20.43**	**196**	P	P	17 27 01.0	+1.6
TARA	**Tarawa**	**20.47**	**335**	P	P	17 26 58.9	-1.2
HAZ	**Te Kaha**	**20.48**	**188**	P	P	17 26 59.1	-0.8
TGRZ	**Tauranga**	**20.70**	**192**	P	P	17 27 03.2	+1.3
TOZ	**Tahuroa Road**	**20.86**	**193**	P	P	17 27 05.3	+2.0
URZ	**Urewera**	**21.07**	**189**	P	P	17 27 03.3	-1.9
	6.9nm,0.3s,baz=248,slow=3.2,SNR=20						
	6.9nm,0.3s						
URZ	**Urewera**	**21.07**	**189**	P	P	17 27 03.8	-1.4
URZ	**Urewera**	**21.07**	**189**	S	S	17 30 24.7	+0.6
URZ	**Urewera**	**21.07**	**189**	P	P	17 27 03.0	-2.2
URZ				S	S	17 30 18.1	-6.0
RAHZ	**Arahi**	**21.72**	**189**	P	P	17 27 10.6	-0.5
BKZ	**Black Stump Fm**	**22.06**	**190**	P	P	17 27 11.6	-2.6
HNR	**Honiara**	**22.31**	**288**	P	P	17 27 15.2	-1.5
HNR	**Honiara**	**22.31**	**288**	P	P	17 27 15.1	-1.6
	44nm,0.9s,baz=169,slow=3.9,SNR=4.7						
	44nm,0.9s						
VRZ	**Vera Road**	**22.36**	**194**	P	P	17 27 18.6	+1.8
WNVZ	**Wahianoa**	**22.38**	**192**	P	P	17 27 16.6	-0.5
PNHZ	**Pukenui**	**22.84**	**190**	P	P	17 27 19.9	-1.2
TSZ	**Takapari Road**	**23.02**	**191**	P	P	17 27 22.5	-0.2
BFZ	**Birch Farm**	**23.58**	**190**	P	P	17 27 27.0	-0.6
MRZ	**Mangatainoka R**	**23.67**	**191**	P	P	17 27 26.5	-2.0
QRZ	**Quartz Range**	**24.52**	**196**	P	P	17 27 36.4	+0.4
QRZ	**Quartz Range**	**24.52**	**196**	P	P	17 27 35.8	-0.2
TKNZ	**Takaka Hill**	**24.60**	**195**	P	P	17 27 35.2	-1.5
NNZ	**Nelson**	**24.67**	**195**	P	P	17 27 36.3	-1.0
TUWZ	**Tuamarina**	**24.74**	**193**	P	P	17 27 36.9	-1.0
THZ	**Tophouse**	**25.30**	**195**	P	P	17 27 41.5	-1.4
DSZ	**Denniston Nort**	**25.57**	**197**	P	P	17 27 44.7	-0.7
KHZ	**Kahutara**	**25.77**	**193**	P	P	17 27 45.8	-1.2
KHZ	**Kahutara**	**25.77**	**193**	P	P	17 27 45.0	-2.0
GVZ	**Greta Valley S**	**26.41**	**194**	P	P	17 27 50.6	-2.1
LTZ	**Lake Taylor**	**26.42**	**195**		P	17 27 51.0	-1.8
LTZ	**Lake Taylor**	**26.42**	**195**	P	P	17 27 50.8	-2.0
INZ	**Inchbonnie**	**26.58**	**197**	P	P	17 27 53.0	-1.2
OXZ	**Oxford**	**26.99**	**195**		P	17 27 56.0	-1.8
OXZ	**Oxford**	**26.99**	**195**	P	P	17 27 56.2	-1.6
WVZ	**Waitaha Valley**	**27.10**	**197**	P	P	17 27 57.4	-1.3
MQZ	**McQueen's Vall**	**27.20**	**194**	P	P	17 27 57.8	-1.8
TMZ	**Timaru**	**28.24**	**196**	P	P	17 28 07.1	-1.6
LBZ	**Lake Benmore**	**28.47**	**197**	P	P	17 28 08.5	-2.2
TW1H	**Toowoomba 1 Ha**	**28.92**	**244**	P	P	17 28 15.0	+0.1
EIDS	**Eidsvold**	**29.25**	**249**		P	17 28 16.4	-1.4
EIDS	**Eidsvold**	**29.25**	**249**	P	P	17 28 17.0	-0.8
MLZ	**Mavora Lakes**	**29.97**	**199**		P	17 28 23.3	-0.4
ARMA	**Armidale**	**30.01**	**239**		P	17 28 23.5	-0.9
ARMA	**Armidale**	**30.01**	**239**	P	P	17 28 24.7	+0.3
SYDH	**Sydney Hard Ro**	**31.90**	**233**	P	P	17 28 40.6	+0.2
CTA	**Charters Tower**	**33.34**	**260**	P	P	17 28 52.1	-0.7
CTAO	**Charters Tower**	**33.34**	**260**		P	17 28 51.5	-1.3
CTAO	**Charters Tower**	**33.34**	**260**	P	P	17 28 52.1	-0.7
CNB	**Canberra Magne**	**33.56**	**232**	P	P	17 28 54.9	+0.4
CAN	**Canberra**	**33.84**	**232**		P	17 28 55.9	-0.9
CAN	**Canberra**	**33.84**	**232**	P	P	17 28 57.3	+0.5
PMG	**Port Moresby**	**34.20**	**279**		P	17 28 58.2	-1.9
PMG	**Port Moresby**	**34.20**	**279**	P	P	17 29 00.5	+0.4
PMG	**Port Moresby**	**34.20**	**279**	P	P	17 29 00.7	+0.6
CMSA	**Cobar Meteorol**	**35.22**	**240**	P	P	17 29 08.7	+0.3
MTSU	**Mount Surprise**	**35.27**	**263**	P	P	17 29 09.1	0.0
QLP	**Quilpie**	**35.52**	**249**	P	P	17 29 11.1	+0.1
MANU	**Manus Island**	**36.76**	**291**	P	P	17 29 21.0	-0.3
COEN	**Coen**	**36.92**	**270**		P	17 29 21.6	-1.1
COEN	**Coen**	**36.92**	**270**	P	P	17 29 22.8	+0.2
GLAD	**Gladstone**	**37.05**	**224**	P	P	17 29 23.7	+0.4
TOO	**Toolangi**	**37.32**	**230**		P	17 29 25.1	-0.5
CORO	**Coronation Par**	**37.85**	**224**	P	P	17 29 30.2	+0.4
MOO	**Moorlands**	**38.30**	**222**	P	P	17 29 33.6	0.0
GEXS	**Deakin Univers**	**38.43**	**230**	P	P	17 29 35.2	+0.5
BRAT	**Ballarat**	**38.46**	**231**	P	P	17 29 35.3	+0.4
STKA	**Stephens Creek**	**38.69**	**241**		P	17 29 36.1	-0.7
STKA	**Stephens Creek**	**38.69**	**241**	P	P	17 29 37.0	+0.2
	19nm,0.3s,baz=90,slow=9.0,SNR=104						
	19nm,0.3s						
STKA	**Stephens Creek**	**38.69**	**241**	P	P	17 29 36.9	0.0
WAKE	**Wake Island**	**39.27**	**338**	P	P	17 29 41.2	-0.4
QIS	**Mount Isa**	**39.56**	**259**	P	P	17 29 42.7	-1.4
HTT	**Hallett**	**41.22**	**239**	P	P	17 29 57.6	+0.4
GHSS	**Government Hou**	**41.80**	**237**	P	P	17 30 02.0	+0.3
WHYH	**Whyalla**	**42.25**	**240**	P	P	17 30 05.3	+0.1
JAY	**Jayapura**	**42.60**	**286**	P	P	17 30 08.6	+0.3
	47nm,1.1s						
GENI	**Genyem**	**43.06**	**285**	P	P	17 30 12.7	+0.8
GENI	**Genyem**	**43.06**	**285**	P	P	17 30 12.5	+0.6
HMH	**Humu'ula Sheep**	**43.26**	**33**	P	P	17 30 14.3	+0.7
STCH	**Steam Cracks**	**43.27**	**33**	P	P	17 30 14.0	+0.7
JOKA	**Jonika Flow**	**43.37**	**33**	P	P	17 30 14.5	+0.3
BBOO	**Buckleboo**	**43.47**	**241**		P	17 30 14.0	-0.7
BBOO	**Buckleboo**	**43.47**	**241**	P	P	17 30 14.6	-0.2
WR8	**Warramunga Arr**	**44.38**	**259**		P	17 30 19.8	-2.3
WB0	**Warramunga Arr**	**44.50**	**259**		P	17 30 20.7	-2.3
WB0				PcP	PcP	17 31 53.2	-1.4
WRA	**Warramunga Arr**	**44.53**	**259**		P	17 30 20.7	-2.6
WRA				PcP	PcP	17 31 53.8	-0.9
WRA	**Warramunga Arr**	**44.53**	**259**	P	P	17 30 21.8	-1.5
	9.8nm,0.3s,baz=95,slow=7.9,SNR=308						
WRA				PcP	PcP	17 31 55.4	+0.7
	6.8nm,1.0s,baz=90,slow=3.8,SNR=5.8						
WRA				ScP	ScP	17 34 58.1	+2.8
	3.4nm,1.0s,baz=89,slow=3.9,SNR=4.9						
	9.8nm,0.3s						
AS01	**Alice Springs**	**44.70**	**254**	P	P	17 30 23.7	-0.7
AS31	**Alice Springs**	**44.74**	**254**		P	17 30 23.9	-0.9
ASAR	**Alice Springs**	**44.74**	**254**		P	17 30 23.4	-1.4
ASAR				PcP	PcP	17 31 55.2	-0.2
ASAR	**Alice Springs**	**44.74**	**254**	P	P	17 30 24.0	-0.8
	117nm,0.8s,baz=89,slow=7.7,SNR=3920						
ASAR				PcP	PcP	17 31 55.5	+0.1
	5.0nm,0.7s,baz=105,slow=3.6,SNR=5.8						
ASAR				ScP	ScP	17 34 59.3	+3.1
	1.5nm,0.6s,baz=118,slow=3.8,SNR=6.0						
	117nm,0.8s						
SRPI	**Serui, Papua**	**46.97**	**284**	P	P	17 30 42.2	+0.4
	1µm38nm,0.8s						
KDU	**Kakadu**	**47.38**	**269**	P	P	17 30 44.4	-0.5
MTN	**Manton Dam**	**48.63**	**268**		P	17 30 52.8	-1.4
MTN	**Manton Dam**	**48.63**	**268**	P	P	17 30 53.5	-0.7
DRS	**Darwin Rock St**	**48.94**	**269**	P	P	17 30 56.4	-0.1
KNRA	**

	comp=Z,2.4nm,0.7s								
KSAR	**Wonju Array Be**	74.25	318		P		**P**	17 33 40.4	**-0.7**
CGJI	**Cibinong**	74.44	268		P		**P**	17 33 41.9	**-0.9**
LWLI	**Liwa**	76.45	269		P		**P**	17 33 54.3	**+0.2**
MWC	**Mount Wilson**	77.17	48		P		**P**	17 33 57.9	**+0.2**
MWC					IAmb		IAmb	17 33 60.0	
	comp=Z,23nm,1.1s								
VES	**Vestal, Richgr**	77.31	46		P		**P**	17 33 58.4	**+0.2**
DPP	**Dos Picos Cty**	77.34	49		P		**P**	17 33 59.4	**+1.0**
DPP					IAmb		IAmb	17 34 00.9	
	comp=Z,17nm,0.9s								
VTX	**Valle De La Tr**	77.38	51		P		**P**	17 33 59.0	**+0.2**
VTX					IAmb		IAmb	17 34 01.4	
	comp=Z,17nm,1.0s								
TPO	**Tropico Hills**	77.39	47		P		**P**	17 33 58.9	**+0.1**
TPO					IAmb		IAmb	17 34 01.5	
	comp=Z,28nm,1.2s								
BFSC	**Mount Baldy Ra**	77.46	48		P		**P**	17 33 59.6	**+0.4**
NJ2	**Nanjing**	77.50	309		*eP*		**P**	17 34 01.6	**+2.3**
NJ2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
ISA	**Isabella, Lake**	77.64	46		P		**P**	17 34 01.1	**+1.1**
ISA					IAmb		IAmb	17 34 02.9	
	comp=Z,20nm,1.1s								
MDJ	**Mudanjiang**	77.70	325		P		**P**	17 34 01.3	**+1.2**
MDJ					pmax		pmax		
	comp=Z,19nm,0.9s								
YUH	**Yuha Desert**	77.90	50		IAmb		IAmb	17 34 04.3	
	comp=Z,12nm,0.9s								
LRMC	**Laurel Mtn Rad**	78.09	47		P		**P**	17 34 03.6	**+1.0**
CLC	**China Lake**	78.32	47		IAmb		IAmb	17 34 06.5	
	comp=Z,12nm,1.0s								
WAKR	**Walker**	78.52	43		IAmb		IAmb	17 34 07.8	
	comp=Z,15nm,1.0s								
BELC	**Belle Mtn. Jos**	78.52	49		P		**P**	17 34 05.8	**+0.9**
GSC	**Goldstone, Bar**	78.61	47		P		**P**	17 34 06.3	**+1.1**
BC3	**Big Chuckawall**	78.74	49				pwP	17 36 06.2	+2.6
L04D	**Klamath Falls**	78.82	39		IAmb		IAmb	17 34 08.7	
	comp=Z,10nm,0.8s								
DSP	**Deep Springs**	78.88	45		IAmb		IAmb	17 34 09.6	
	comp=Z,18nm,1.1s								
LHV	**Little Huntoon**	79.00	44		P		**P**	17 34 07.7	**+0.5**
LHV					IAmb		IAmb	17 34 10.3	
	comp=Z,18nm,0.9s								
FURC	**Furnace Creek,**	79.17	46		IAmb		IAmb	17 34 10.8	
	comp=Z,14nm,1.1s								
IRM	**Iron Mountain**	79.21	49		P		**P**	17 34 09.5	**+1.0**
IRM							**pwP**	17 36 08.2	**+2.0**
NVAR	**Mina Array Bea**	79.22	44		P		**P**	17 34 09.3	**+0.7**
NVAR	**Mina Array Bea**	79.22	44		P		**P**	17 34 10.3	**+1.6**
	comp=Z,8.3nm,0.8s,baz=226,slow=9.2,SNR=39								
	comp=Z,8.3nm,0.8s								
SHOC	**Shoshone, Teco**	79.28	47		IAmb		IAmb	17 34 11.9	
	comp=Z,12nm,1.0s								
GMN	**Gold Mountain**	79.33	45				pwP	17 36 08.5	+1.5
CN2	**Changchun**	79.55	322		*eP*		**P**	17 34 11.0	**+1.1**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
113A	**Mohawk Valley,**	79.55	51		IAmb		IAmb	17 34 13.3	
	comp=Z,12nm,1.0s								
MTPC	**Mountain Pass**	79.58	48		P		**P**	17 34 12.1	**+1.6**
MTPC							**pwP**	17 36 10.9	**+2.3**
BNX	**BinXian**	79.61	325		⇓P		**P**	17 34 11.0	**+0.8**
BNX					pmax		pmax		
	comp=Z,19nm,0.9s								
TPH	**Tonopah**	79.76	45		IAmb		IAmb	17 34 14.1	
	comp=Z,23nm,1.4s								
O19K	**Port Alsworth**	79.83	12		IAmb		IAmb	17 34 12.4	
	comp=Z,14nm,1.0s								
214A	**Organ Pipe Nat**	79.88	52		IAmb		IAmb	17 34 15.5	
	comp=Z,16nm,1.1s								
K05A	**Summer Lake**	79.96	39		P		**P**	17 34 13.6	**+1.1**
K05A					IAmb		IAmb	17 34 15.3	
	comp=Z,20nm,1.0s								
J05D	**Fort Rock, OR**	80.08	39		IAmb		IAmb	17 34 15.7	
	comp=Z,26nm,0.9s								
J05D							pwP	17 36 13.3	+4.7
PINE	**Pine Mountain**	80.55	38		IAmb		IAmb	17 34 18.3	
	comp=Z,20nm,1.0s								
Y14A	**Wickenburg**	80.66	50				**P**	17 34 16.7	**+0.6**
PRN	**Pahroc Range**	80.89	46		IAmb		IAmb	17 34 20.5	
	comp=Z,18nm,1.0s								
R11B	**Troy Canyon, C**	81.00	45		P		**P**	17 34 18.6	**+0.7**
WVOR	**Wild Horse Val**	81.18	40		IAmb		IAmb	17 34 21.3	
	comp=Z,16nm,0.9s								
TUC	**Tucson**	81.57	52		P		**P**	17 34 22.8	**+2.0**
TUC					IAmb		IAmb	17 34 24.4	
	comp=Z,16nm,0.9s								
J08A	**Circle Bar Ran**	81.79	40		IAmb		IAmb	17 34 24.2	
	comp=Z,23nm,1.2s								
LCMT	**Little Creek M**	81.96	47		IAmb		IAmb	17 34 25.6	
	comp=Z,12nm,0.9s								
X16A	**Lo Mia Camp, P**	82.03	50				**P**	17 34 22.1	**-1.1**
X16A					IAmb		IAmb	17 34 26.6	
	comp=Z,15nm,0.9s								
CCUT	**Cedar City**	82.13	47		IAmb		IAmb	17 34 26.9	
	comp=Z,11nm,1.0s								
SPR3	**Spring Creek 3**	82.18	45		IAmb		IAmb	17 34 26.3	
	comp=Z,10nm,1.0s								
IPM	**Ipoh**	82.18	277				**P**	17 34 23.5	**-0.8**
IPM	**Ipoh**	82.18	277		P		**P**	17 34 25.3	**+1.0**
KNB	**Kanab**	82.25	47		IAmb		IAmb	17 34 27.4	
	comp=Z,12nm,0.9s								
PSUT	**Pine Spring**	82.27	46		P		**P**	17 34 25.4	**+0.9**
PSUT					IAmb		IAmb	17 34 26.9	
	comp=Z,9.3nm,0.8s								
SZCU	**Shurtz Canyon**	82.35	47		IAmb		IAmb	17 34 27.8	
	comp=Z,16nm,1.2s								
U15A	**North Rim**	82.35	48		IAmb		IAmb	17 34 28.2	
	comp=Z,23nm,0.9s								
HEH	**HeiHe**	82.43	328		*eP*		**P**	17 34 25.1	**+0.5**
HEH					pmax		pmax		
	comp=Z,7.0nm,1.2s								
ELK	**Elko**	82.45	43		IAmb		IAmb	17 34 27.7	
	comp=Z,9.4nm,0.9s								
ELK							pP	17 36 20.9	-0.5
ELK	**Elko**	82.45	43		P		**P**	17 34 26.8	**+1.5**
	comp=Z,7.7nm,0.8s,baz=252,slow=5.6,SNR=29								
	comp=Z,7.7nm,0.8s								
G08A	**Pilot Rock**	82.56	38				**P**	17 34 26.4	**+0.7**
G08A					IAmb		IAmb	17 34 28.0	
	comp=Z,12nm,1.1s								
G08A							**pP**	17 36 22.2	**+0.3**
WUAZ	**Wupatki**	82.59	49		IAmb		IAmb	17 34 29.2	
	comp=Z,19nm,1.0s								
BELA	**Belgrano 2**	82.64	173				**P**	17 34 25.3	**-0.1**
LTY	**Liberty**	82.70	36		P		**P**	17 34 27.2	**+1.0**
E07A	**Sunnyside**	82.76	36		IAmb		IAmb	17 34 28.8	
	comp=Z,28nm,1.3s								
HAWA	**Hanford**	82.85	37		IAmb		IAmb	17 34 29.4	
	comp=Z,18nm,1.1s								
E08A	**Dider Farm, El**	83.18	37		IAmb		IAmb	17 34 30.4	
	comp=Z,8.7nm,0.7s								
X18A	**Snowflake**	83.18	51		IAmb		IAmb	17 34 32.1	
	comp=Z,8.8nm,1.0s								
MTPU	**Mount Pierson**	83.19	47		IAmb		IAmb	17 34 32.8	
	comp=Z,15nm,1.0s								
TCRU	**Three Creeks R**	83.28	46		IAmb		IAmb	17 34 32.7	
	comp=Z,13nm,1.1s								
BMO	**Blue Mountains**	83.30	39		P		**P**	17 34 29.5	**+0.2**
BMO							**pP**	17 36 26.4	**+0.6**
MFID	**Camas Ranch**	83.45	41		IAmb		IAmb	17 34 32.6	
	comp=Z,13nm,1.1s								
D08A	**Wollman Farm,**	83.57	36		P		**P**	17 34 31.2	**+0.7**
D08A					IAmb		IAmb	17 34 32.3	
	comp=Z,7.9nm,0.9s								
TRF	**Thorofare Moun**	83.60	12		IAmb		IAmb	17 34 31.2	
	comp=Z,6.7nm,0.7s								
PSI	**Prapat**	83.66	275		P		**P**	17 34 31.6	**-0.2**
	comp=Z,16nm,0.8s,baz=152,slow=2.1,SNR=8.9								
	comp=Z,16nm,0.8s								
PSI	**Prapat**	83.66	275		P		**P**	17 34 31.9	**+0.1**
RND	**Reindeer**	83.87	13		IAmb		IAmb	17 34 32.6	
	comp=Z,8.2nm,0.8s								
F10A	**Beach Ranch, E**	83.95	38		IAmb		IAmb	17 34 34.4	
	comp=Z,15nm,1.1s								
B08A	**Colville Reser**	84.07	35		P		**P**	17 34 33.4	**+0.5**
PLID	**Pearl Lake**	84.21	39		P		**P**	17 34 34.1	**+0.2**
MAW	**Mawson**	84.23	200		P		**P**	17 34 34.5	**+1.2**
	comp=Z,10nm,0.8s,baz=113,slow=6.5,SNR=23								
	comp=Z,10nm,0.8s								
M26K	**Nabesna, AK**	84.39	16		IAmb		IAmb	17 34 36.7	
	comp=Z,8.2nm,0.9s								
HLID	**Hailey**	84.41	41		IAmb		IAmb	17 34 37.7	
	comp=Z,7.1nm,0.8s								
HVU	**Hansel Valley**	84.58	43		IAmb		IAmb	17 34 38.2	
	comp=Z,12nm,1.2s								
WRH	**Wood River Hil**	84.97	13		P		**P**	17 34 36.5	**-0.3**
WRH					IAmb		IAmb	17 34 38.2	
	comp=Z,18nm,1.4s								
DOT	**Dot Lake**	85.17	15		IAmb		IAmb	17 34 39.3	
	comp=Z,14nm,1.4s								
NEW	**Newport**	85.25	36		IAmb		IAmb	17 34 40.4	
	comp=Z,9.6nm,1.3s								
NEW	**Newport**	85.25	36		P		**P**	17 34 39.2	**+0.5**
	comp=Z,3.6nm,0.7s,baz=252,slow=3.2,SNR=5.6								
	comp=Z,3.6nm,0.7s								
XLT	**XiLinHaoTe**	85.28	319		*eP*		**P**	17 34 38.3	**-0.7**
XLT					pmax		pmax		
	comp=Z,8.0nm,0.8s								
BSUT	**Blindstream Ca**	85.33	45		IAmb		IAmb	17 34 42.3	
	comp=Z,6.9nm,1.1s								
PV05	**Paradox Valley**	85.37	48		IAmb		IAmb	17 34 42.7	
	comp=Z,18nm,1.5s								
VHRN	**Van Horn**	85.42	56		IAmb		IAmb	17 34 43.5	
	comp=Z,14nm,1.2s								
IL31		85.48	13		IAmb		IAmb	17 34 41.5	
	comp=Z,15nm,1.4s								
ILAR	**Eielson Array**	85.48	13		P		**P**	17 34 39.1	**-0.2**
	comp=Z,1.2nm,0.3s,baz=223,slow=5.0,SNR=23								
	comp=Z,1.2nm,0.3s								
PV19	**Morning Glory**	85.55	48		IAmb		IAmb	17 34 45.1	
	comp=Z,10.0nm,1.0s								
PV18	**Skein Mesa, Pa**	85.58	48		IAmb		IAmb	17 34 44.6	
	comp=Z,9.2nm,1.0s								
PV20	**West Nyswonger**	85.58	48		IAmb		IAmb	17 34 44.7	
	comp=Z,8.1nm,0.8s								
PV04	**Paradox Valley**	85.65	48		IAmb		IAmb	17 34 43.4	
	comp=Z,5.2nm,0.8s								
PV12	**Saucer Basin,**	85.69	48		P		**P**	17 34 41.7	**+0.4**
PV12					IAmb		IAmb	17 34 43.1	
	comp=Z,8.0nm,0.9s								
XAN	**Xi'an**	85.83	307		⇓P		**P**	17 34 43.5	**+1.6**
XAN					S		**S**	17 44 35.9	**+5.9**
XAN					pmax		pmax		
	comp=Z,19nm,0.8s								
XAN					pmax		pmax		
	comp=Z,220nm,5.1s								
TXAR	**Lajitas Array**	85.91	58		P		**P**	17 34 44.3	**+1.9**
TXAR							**pP**	17 36 38.9	**-0.7**
TXAR	**Lajitas Array**	85.91	58		P		**P**	17 34 45.0	**+2.6**
	comp=Z,8.2nm,0.8s,baz=224,slow=5.2,SNR=58								
	comp=Z,8.2nm,0.8s								
ANMO	**Albuquerque**	85.96	52		P		**P**	17 34 42.5	**-0.2**
ANMO							**pP**	17 36 40.5	**+0.3**
ANMO	**Albuquerque**	85.96	52		P		**P**	17 34 43.9	**+1.3**
	comp=Z,2.9nm,0.6s,baz=315,slow=7.0,SNR=6.2								
	comp=Z,2.9nm,0.6s								
ALPN	**Alpine**	86.33	57		P		**P**	17 34 45.4	**+0.9**
ALPN					IAmb		IAmb	17 34 48.3	
	comp=Z,8.8nm,1.0s								
ALPN							**pP**	17 36 40.1	**-2.1**
DLMT	**Dillon**	86.43	40		IAmb		IAmb	17 34 47.1	
	comp=Z,11nm,1.1s								
TPAW	**Teton Pass**	86.57	42		IAmb		IAmb	17 34 48.1	
	comp=Z,6.9nm,0.9s								
LRM	**Limekiln Ridge**	86.74	40		P		**P**	17 34 46.5	**+0.4**
HHC	**Hu-ho-hao-te**	86.82	315		*eP*		**P**	17 34 46.1	**-0.3**
HHC					pmax		pmax		
	comp=Z,10.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,93nm,4.8s								
S22A	**4UR Ranch, Cre**	86.85	49		IAmb		IAmb	17 34 49.7	
	comp=Z,6.6nm,1.0s								
LOHW	**Long Hollow**	86.85	42		IAmb		IAmb	17 34 49.1	
	comp=Z,5.3nm,0.7s								
YHB	**Horse Butte**	87.01	41		IAmb		IAmb	17 34 50.6	
	comp=Z,13nm,1.0s								
OVMT	**Ovando**	87.02	39		P		**P**	17 34 47.7	**+0.4**
OVMT							**pP**	17 36 44.6	**-0.5**
YHL	**Hebgen Lake**	87.06	41		IAmb		IAmb	17 34 51.0	
	comp=Z,14nm,1.0s								
BOZ	**Bozeman (W)**	87.14	40		IAmb		IAmb	17 34 50.5	
	comp=Z,8.6nm,1.1s								
PD31	**Pinedale Array**	87.15	44		IAmb		IAmb	17 34 50.1	
	comp=Z,12nm,1.3s								
PDAR	**Pinedale Array**	87.15	44		P		**P**	17 34 48.7	**+0.6**
PDAR	**Pinedale Array**	87.15	44		P		**P**	17 34 49.0	**+0.9**
	comp=Z,4.4nm,0.7s,baz=223,slow=3.7,SNR=23								
	comp=Z,4.4nm,0.7s								
SAND	**Sanderson**	87.39	58		P		**P**	17 34 50.0	**+0.7**
SAND					IAmb		IAmb	17 34 52.1	
	comp=Z,10nm,1.1s								
YNE	**Yellowstone No**	87.88	41		IAmb		IAmb	17 34 54.4	
	comp=Z,7.3nm,1.0s								
RLMT	**Red Lodge**	88.40	42		IAmb		IAmb	17 34 56.6	
	comp=Z,6.5nm,0.9s								
OZNA	**Ozona**	88.54	57		P		**P**	17 34 54.9	**+0.2**
CMAR	**Chiang Mai Arr**	88.56	290		P		**P**	17 34 54.5	**-0.4**
CMAR	**Chiang Mai Arr**	88.56	290		P		**P**	17 34 56.1	**+1.2**
	comp=Z,3.5nm,1.0s,baz=111,slow=2.6,SNR=14								
	comp=Z,3.5nm,1.0s								
SN07	**Snyder 07**	89.51	55		IAmb		IAmb	17 35 00.8	
	comp=Z,7.9nm,1.2s								
SYO	**Syowa Base**	89.56	193	⇑	*eP*		**P**	17 34 58.8	**+0.2**
APMT	**Aspermont**	90.19	55		IAmb		IAmb	17 35 04.3	
	comp=Z,8.3nm,1.0s								
BRDY	**Brady**	90.38	57		IAmb		IAmb	17 35 05.4	
	comp=Z,5.4nm,0.9s								
TROLL	**Troll, Antarti**	90.76	180	⇑	P		**P**	17 35 04.1	**-0.2**
	comp=Z,562nm,0.7s								
SNAA	**Sanae**	91.06	179	⇑	P		**P**	17 35 05.7	**+0.1**
	comp=Z,106nm,0.6s								
SNAA	**Sanae**	91.06	179		P		**P**	17 35 06.0	**+0.4**
	comp=Z,4.9nm,0.7s,baz=201,slow=6.8,SNR=40								
	comp=Z,4.9nm,0.7s								
VNA3	**Neumayer Olymp**	91.21	176	⇑	P		**P**	17 35 06.7	**+0.5**
	comp=Z,20nm,0.7s								
RSSD	**Black Hills**	91.36	44		P		**P**	17 35 07.2	**-0.4**
RSSD					IAmb		IAmb	17 35 09.4	
	comp=Z,6.7nm,0.9s								
VNA2	**Neumayer--Watz**	91.64	177	⇑	P		**P**	17 35 08.8	**+0.6**
	comp=Z,8.3nm,0.9s,baz=164,slow=4.0								
VNA1	**Neumayer--Stat**	91.87	177	⇑	P		**P**	17 35 09.9	**+0.7**
	comp=Z,18nm,0.9s								
BVAR	**Borovoye Array**	116.37	321		PKP		**PKPdf**	17 40 40.9	**-0.3**
	comp=Z,1.0nm,0.4s,baz=107,slow=3.0,SNR=12								
SPITS	**Spitsbergen Ar**	118.80	357		PKP		**PKPdf**	17 40 45.1	**-0.1**
	comp=Z,1.8nm,0.7s,baz=27,slow=1.9,SNR=6.8								
ARCES	**ARCESS Array B**	125.83	350		PKP		**PKiKP**	17 40 59.3	**-0.1**
	comp=Z,1.5nm,0.6s,baz=42,slow=2.0,SNR=7.4								
FINES	**FINESS Array B**	132.70	344		PKP		**PKPdf**	17 41 11.8	**-0.3**
	comp=Z,2.0nm,0.9s,baz=31,slow=2.2,SNR=5.9								
NOA	**NORSAR Array B**	135.90	353		PKP		**PKiKP**	17 41 19.6	**-0.4**
	comp=Z,0.2nm,0.5s,baz=17,slow=2.5,SNR=1.7								
LODK	**Lodwar**	143.90	251				PKPbc	17 41 32.3	-1.0
KOLS	**Kolonicke sedl**	144.31	336		*e*PKP		**PKPab**	17 41 34.3	**+0.5**
BRTR	**Keskin Array B**	144.33	315		PKP		**PKPab**	17 41 34.3	**-0.1**
	comp=Z,1.2nm,0.5s,baz=68,slow=1.5,SNR=4.7								
FLTG	**Flechtingen**	144.34	350		*e*PKPbc		**PKPdf**	17 41 33.4	**-0.1**
	baz=18,slow=2.7								
KSP	**Ksiaz**	144.62	344		*e*PKP		**PKPab**	17 41 35.3	**+0.5**
NIE	**Niedzica**	144.63	339		*e*PKP		**PKPdf**	17 41 34.3	**+0.1**
IBBN	**Ibbenburen**	144.86	353		*e*PKPbc		PKPbc	17 41 35.3	+0.3
	baz=18,slow=2.7								
OSTC	**Ostas**	144.90	344		*e*PKP		**PKPab**	17 41 36.7	**+0.7**
CHVC	**Chvalec**	144.91	344		*e*PKP		**PKPab**	17 41 36.2	**+0.1**
CLZ	**Clausthal**	144.95	350		*e*PKPbc		PKPbc	17 41 35.7	+0.4
	baz=18,slow=2.7								
CLL	**Collm**	144.98	347				**PKPdf**	17 41 34.9	**+0.2**
CLL	**Collm**	144.98	347		*e*PKPbc		**PKPab**	17 41 35.8	**-0.4**
	baz=18,slow=2.7								
CLL	**Collm**	144.98	347		*i* PKPbc		**PKPab**	17 41 35.9	**-0.4**
	comp=Z,9.0nm,0.6s								
CLL					*e*PKiKP		**PKiKP**	17 41 39.0	**+0.3**
UPC	**Upice**	145.00	344		*e*PKP		**PKPab**	17 41 36.5	**+0.1**
STEB	**Steborice**	145.01	341		*e*PKP		**PKPab**	17 41 36.4	**0.0**
DPC	**Dobruska-Polom**	145.06	343		*e*PKP		**PKPab**	17 41 36.9	**+0.2**
LANS	**Liptovska Anna**	145.15	339		*e*PKP		**PKPab**	17 41 37.8	**+0.8**
KRLC	**Kraliky**	145.18	343		*e*PKP		**PKPab**	17 41 37.0	**-0.1**
BRG	**Berggiesshubel**	145.18	346		*e*PKPbc		**PKPab**	17 41 37.7	**+0.6**
	baz=18,slow=2.7								
BRG	**Berggiesshubel**	145.18	346		*i* PKP		**PKPab**	17 41 38.0	**+1.0**
BRG					Amp			17 41 39.2	
	comp=Z,4.2nm,0.6s								
MORC	**Moravsky Berou**	145.22	342		*e*PKP		**PKPbc**	17 41 36.5	**+0.3**
GTTG	**Gottingen**	145.31	351		*e*PKPbc		**PKPab**	17 41 37.0	**-0.5**
	baz=18,slow=2.7								
NEUB	**Neuenburg**	145.32	349		*e*PKPbc		PKPbc	17 41 36.9	**+0.6**
	baz=18,slow=2.7								
MMAI	**Mount Meron Ar**	145.74	303		PKPbc		**PKPbc**	17 41 39.0	**+0.8**
	comp=Z,4.3nm,0.6s,baz=71,slow=3.0,SNR=10								
PRU	**Pruhonice**	145.85	345		*e*PKP		**PKPbc**	17 41 38.6	**+0.6**
MOX	**Moxa**	145.88	348		*e*L		L	18 42 06.7	
	comp=Z,38nm,19.6s								
VRAC	**Vranov**	145.92	342		*e*PKP		**PKPbc**	17 41 37.6	**-0.6**
VYHS	**Vyhne**	145.93	339		*e*PKP		**PKPab**	17 41 39.3	**-0.8**
PLN	**Plauen**	145.93	348		*e*PKPbc		**PKPbc**	17 41 38.7	**+0.5**
	baz=18,slow=2.7								
TANN	**Tannenbergstha**	145.93	347		*e*PKPbc		**PKPbc**	17 41 38.9	**+0.6**
	baz=18,slow=2.7								
JAVC	**Velka Javorina**	145.99	341		*e*PKP		**PKPab**	17 41 40.5	**+0.1**
KRUC	**Moravsky**	146.20	342		*e*PKP		**PKPbc**	17 41 39.6	**+0.6**
MODS	**Modra-Piesok**	146.54	341		*e*PKP		**PKPdf**	17 41 37.6	**+0.1**
ROTZ	**Rotzenmuhle**	146.60	347		*e*PKPbc		**PKPbc**	17 41 40.6	**+0.5**
	baz=18,slow=2.7								
CSS	**Mathiatis**	146.65	308				**PKPbc**	17 41 39.4	**-1.3**
BTNL	**Ternell**	146.72	354		*d*PKP		**PKPbc**	17 41 39.6	**-0.8**
BSTI	**Sart Tilman**	146.78	355		*d*PKP		**PKPbc**	17 41 41.1	**+0.6**
TNS	**Taunus Mts**	146.82	352		*e*PKPbc		**PKPbc**	17 41 41.1	**+0.5**
	baz=18,slow=2.7								
GRF	**Grafenberg Arr**	146.87	348		*e*L		L	18 45 20.6	
	comp=Z,37nm,21.2s								
KHC	**Kasperske Hory**	146.89	345		*e*PKP		**PKPbc**	17 41 41.8	**+0.9**
BCLA	**Clavier**	146.96	355		*d*PKP		**PKiKP**	17 41 42.8	**-0.1**
CKRC	**Cesky Krumlov**	146.99	344		*e*PKP		**PKPbc**	17 41 41.9	**+0.7**
GEC2	**GERESS Array S**	147.12	345		*e*PKPbc		**PKPbc**	17 41 41.9	**+0.3**
	baz=18,slow=2.7								
GERES	**GERESS Array B**	147.12	345		PKPbc		**PKPbc**	17 41 42.1	**+0.5**
	comp=Z,3.2nm,0.6s,baz=22,slow=3.0,SNR=24								
DOU	**Dourbes**	147.33	356		*d*PKP		**PKPbc**	17 41 42.8	**+0.8**
CONA	**Conrad Observa**	147.37	342		*e*PKP		**PKPbc**	17 41 42.2	**-0.1**
	comp=Z,6.7nm,0.6s								
RONA	**Rosalia, Austr**	147.44	341		*i* PKP		**PKPbc**	17 41 42.3	**-0.1**
	comp=Z,6.0nm,0.7s,SNR=6.9								
WLF	**Walferdange**	147.63	354		*d*PKP		**PKiKP**	17 41 43.9	**-0.4**
WLF	**Walferdange**	147.63	354		*e*PKPbc		**PKiKP**	17 41 43.9	**-0.4**
	baz=18,slow=2.7								
BIOA	**Bad Ischl, Aus**	148.21	344		*e*PKP		**PKPbc**	17 41 44.2	**-0.1**
	comp=Z,4.1nm,0.8s								
RJOB	**Jochberg**	148.38	345		*e*PKPbc		**PKPbc**	17 41 45.1	**+0.3**
	baz=18,slow=2.7								
RDO	**Rodhopi**	148.56	324				**PKPbc**	17 41 44.1	**-1.2**
BFO	**Black Forest**	148.68	351		*e*PKPbc		**PKiKP**	17 41 46.0	**-0.5**
	baz=18,slow=2.7								
LESA	**Schwarzeotal**	148.70	345		*e*PKP		**PKPbc**	17 41 45.5	**-0.1**
	comp=Z,4.5nm,0.4s								
SOKA	**Soboth**	148.74	342		*e*PKP		**PKPbc**	17 41 45.7	**0.0**
	comp=Z,2.5nm,0.6s								
KBA	**Koelnbreinsper**	148.85	344		*e*PKP		**PKPbc**	17 41 45.9	**-0.3**
	comp=Z,5.1nm,0.5s								
WATA	**Walderalm**	149.04	346		*e*PKP		**PKPbc**	17 41 46.6	**+0.1**
	comp=Z,6.9nm,0.5s								
OBKA	**Obir**	149.04

comp=Z,11nm,1.2s
SBUM Sibu 25.42 208 P **P** 17 34 17.1 +1.1
MTN Manton Dam 38.59 169 P **P** 17 36 10.6 +0.1
MTN IAmb IAmb 17 36 14.3
comp=Z,6.5nm,0.9s
MKAR Makanchi Array 39.32 314 P **P** 17 36 16.4 +0.1
MKAR Makanchi Array 39.32 314 P **P** 17 36 16.9 +0.6
comp=Z,0.7nm,0.6s,baz=95,slow=7.6,SNR=7.8
comp=Z,0.7nm,0.6s
ZALV Zalesovo Beam 40.70 325 P **P** 17 36 27.1 -0.4
comp=Z,1.1nm,0.5s,baz=117,slow=9.1,SNR=7.6
comp=Z,1.1nm,0.5s
KNRA Kununurra 41.04 173 P **P** 17 36 31.2 +0.5
KNRA IAmb IAmb 17 36 32.1
comp=Z,4.9nm,0.7s
KURBB Kurchatov Arra 42.90 318 P **P** 17 36 45.4 0.0
comp=Z,0.8nm,0.8s,baz=110,slow=8.3,SNR=5.4
comp=Z,0.8nm,0.8s
FITZ Fitzroy Crossi 43.21 178 P **P** 17 36 48.3 +0.1
COEN Coen 43.32 152 P **P** 17 36 50.4 +1.3
WB0 Warramunga Arr 45.97 166 P **P** 17 37 10.8 +0.7
WB0 IAmb IAmb 17 37 40.5
comp=Z,9.5nm,1.4s
WRA Warramunga Arr 46.13 166 P **P** 17 37 12.3 +0.9
comp=Z,3.9nm,0.7s,baz=348,slow=8.8,SNR=16
comp=Z,3.9nm,0.7s
WR8 Warramunga Arr 46.18 166 P **P** 17 37 12.2 +0.5
WR8 IAmb IAmb 17 37 13.1
comp=Z,5.2nm,0.5s
MBWA Marble Bar 46.41 185 P **P** 17 37 13.1 -0.4
MBWA IAmb IAmb 17 37 19.1
comp=Z,17nm,1.4s
PSA00 Pilbara Seismi 46.81 185 P **P** 17 37 16.6 0.0
PSA00 IAmb IAmb 17 37 17.3
comp=Z,10nm,1.1s
PSA00 Pilbara Seismi 46.81 185 P **P** 17 37 16.3 -0.3
PSA00 IAmb IAmb 17 37 17.2
comp=Z,4.9nm,1.1s
KKAR Karatay Array 46.81 306 P **P** 17 37 17.3 +0.8
BVAR Borovoye Array 48.41 319 P **P** 17 37 28.8 +0.2
comp=Z,0.3nm,0.3s,baz=126,slow=7.5,SNR=4.0
comp=Z,0.3nm,0.3s
AS31 Alice Springs 49.66 168 P **P** 17 37 38.7 +0.2
ASAR Alice Springs 49.66 168 P **P** 17 37 39.2 +0.8
ASAR PcP **PcP** 17 38 57.5 +0.2
ASAR Alice Springs 49.66 168 P **P** 17 37 39.8 +1.3
comp=Z,0.8nm,0.4s,baz=350,slow=7.5,SNR=13
comp=Z,0.8nm,0.4s
AB31 Akbulak array 54.46 314 P **P** 17 38 14.2 +0.5
ABKAR Akbulak array 54.46 314 P **P** 17 38 14.3 +0.7
MORW Morawa 54.63 189 P **P** 17 38 15.0 0.0
KAAM Kaadhehdhoo 55.02 251 P **P** 17 38 17.8 -0.3
INKA Innaminka 55.20 162 P **P** 17 38 19.0 0.0
INKA IAmb IAmb 17 38 21.5
comp=Z,3.1nm,0.8s
NIKH Nikolski High 56.54 42 P **P** 17 38 28.3 0.0
NWAO Narrogin (SRO) 58.30 187 P **P** 17 38 40.0 -0.9
IMAR Indian Mountai 64.01 27 P **P** 17 39 18.4 -0.5
F21K Alatna River 64.03 25 P **P** 17 39 19.9 +0.9
F21K IAmb IAmb 17 39 43.5
comp=Z,5.2nm,1.2s
N19K Bonanza Creek 64.13 33 P **P** 17 39 19.1 -0.8
N19K IAmb IAmb 17 39 46.5
comp=Z,11nm,1.4s
CAN Canberra 64.82 158 P **P** 17 39 24.9 +0.4
BMAR Burnt Mountain 67.42 25 P **P** 17 39 42.3 +1.5
ARCES ARCESS Array B 69.41 338 P **P** 17 39 54.2 +1.1
ARCES IAmb IAmb 17 40 37.9
comp=Z,9.8nm,1.4s
FINES FINESS Array B 71.72 330 P **P** 17 40 07.5 +0.4
comp=Z,3.0nm,1.0s,baz=78,slow=6.3,SNR=4.5
comp=Z,3.0nm,1.0s

IDC 23 17:41:34.0±4.3, 47°42'N×92°76'W, h0km, mbtmp2.6/1, ML1.0/1, Error ellipse: s-maj=74.7km s-min=31.2km az=55.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.50**	**325**	Pn	Pn	17 42 27.9	-1.7
	0.2nm,0.3s,baz=145,slow=12,SNR=1.2						
ULM				Pg	Pb	17 42 36.5	-0.3
	1.2nm,0.3s,baz=144,slow=17,SNR=11						
ULM				Lg	Lg	17 43 21.7	
	0.7nm,0.3s,baz=114,slow=17,SNR=4.3						
	1.7nm,0.6s						
I10CA	**LAC DU BONNET**	**3.52**	**323**	I	I	18 02 50.0	
	0.1nm,0.8s,baz=141,slow=313,SNR=9.3						
I56US	**NEWPORT INFRASI**	**6.36**	**282**	I	I	19 21 00.0	
	baz=85,slow=322,SNR=2.2						

*CATAC **23** 17:43:11.0±0.6, 14°N±3°×9°2Wkm, h22km±6km, M4.5/18, MLv4.5/18, Error ellipse: s-maj=9.8km s-min=4.2km az=54.4, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.52; Mθθ-0.02; Mφφ0.55; Mrθ-1.05; Mθφ0.49; Mφr0.51; Fault plane solution: M₀1.36962×10¹⁵ NP1: φs188.11970°, δ41.01995°, λ-153.61170°. NP2: φs77.59703°, δ73.04002°, λ-52.07224°. Principal axes: T 0.8513, Plg19.1009°, Azm140.2126°; N 0.7286, Plg36.0106°, Azm244.7906°; P -1.5799, Plg47.7113°, Azm27.8337°; confirmed*
*GCG **23** 17:43:12.3±1.9, 13°77'N×91°62'W, h32km±8km, MD4.3, MW3.9*
*SNET **23** 17:43:12.5±1.9, 13°88'N×91°55'W, h23km, ML4.5*
*NEIC **23** 17:43:13.9±2.1, 13°87'N±0°06'×91°66'W±0°06, h47km±9km, mb4.2/60, Error ellipse: s-maj=10.4km s-min=6.7km az=48.0*
*IDC **23** 17:43:18.2±3.7, 14°14'N×91°11'W, h81km±35km, mb3.8/5, mbtmp4.0/7, MS3.4/5, Error ellipse: s-maj=47.7km s-min=25.1km az=39.0*

ISC 23 17:43:10.6±1.7, 13°77'N±0°06×91°66'W±0°05, h26km±11km, n172, σ1s47/183, mb4.2/23, MS3.4/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.75**	**357**		**Pb**	**17 43 25.6**	**+0.5**
RTAL				Sn	**Sn**	17 43 35.5	-0.8
RTAL	**Retalhuleu**	**0.75**	**357**	P	**Pn**	**17 43 25.8**	**+0.1**
RTAL				S	**Sn**	**17 43 36.9**	**+0.6**
ESSG	**Sabana Grande**	**1.01**	**52**	*i* P	**Pn**	**17 43 29.3**	**+0.1**
ESSG				*i* S	**Sb**	17 43 43.3	+0.9
ESSJ	**San Jos, E**	**1.14**	**100**	*i* P	**Pn**	17 43 27.9	-3.1
ESSJ				*i* S	**Sn**	17 43 39.1	-6.6
SMCA	**Catarina**	**1.16**	**339**	*eP*	**Pn**	17 43 30.4	-0.9
FG16	**Alotenango, Sa**	**1.22**	**66**	*i* P	**Pn**	17 43 30.2	-2.0
HUEH	**Huehuetenango**	**1.55**	**5**		**Pn**	17 43 37.8	+1.0
HUEH	**Huehuetenango**	**1.55**	**5**	P	**Pb**	17 43 38.2	-0.6
HUEH	**Huehuetenango**	**1.55**	**5**	S	**Sb**	17 43 58.0	-0.1
FAME	**Alcaldia de Sa**	**1.60**	**87**	S	**Sn**	17 43 56.7	-0.3
FAME	**Alcaldia de Sa**	**1.60**	**87**	P	**Pn**	17 43 38.2	+1.0
QUIS	**Sacapulas**	**1.61**	**20**	*eP*	**Pb**	17 43 39.4	-0.4
QUIS				*i* S	**Sb**	17 44 00.7	+0.9
NUBE	**Las Nubes**	**1.83**	**86**	*eP*	**Pn**	17 43 41.9	+1.3
NUBE				*eS*	**Sn**	17 44 03.0	0.0
NUBE	**Las Nubes**	**1.83**	**86**	*i* S	**Sn**	17 44 03.0	0.0
NUBE	**Las Nubes**	**1.83**	**86**	S	**Sn**	17 44 03.3	+0.4
NUBE	**Las Nubes**	**1.83**	**86**	P	**Pn**	17 43 41.7	+1.1
LOAL	**Lomas de Alarc**	**1.83**	**83**	*eP*	**Pn**	17 43 42.0	+1.4
LOAL	**Lomas de Alarc**	**1.83**	**83**	P	**Pn**	17 43 42.0	+1.4
LOAL	**Lomas de Alarc**	**1.83**	**83**	S	**Sn**	17 44 04.6	+1.5
SLOZ	**Alcaldia de Sa**	**1.84**	**82**	*eP*	**Pn**	17 43 41.5	+0.9
SLOZ				*eS*	**Sn**	17 44 02.7	-0.3
SLOZ	**Alcaldia de Sa**	**1.84**	**82**	P	**Pb**	17 43 43.2	-0.4
SLOZ	**Alcaldia de Sa**	**1.84**	**82**	S	**Sb**	17 44 05.6	-0.6
RTR	**El Retiro**	**1.96**	**86**	*eP*	**Pn**	17 43 43.5	+1.1
CEVE	**Cerro Verde**	**1.97**	**88**	*eP*	**Pn**	17 43 43.6	+0.9
CEVE				*eS*	**Sn**	17 44 06.2	-0.5
CEVE	**Cerro Verde**	**1.97**	**88**	P	**Pn**	17 43 43.9	+1.2
CEVE	**Cerro Verde**	**1.97**	**88**	S	**Sn**	17 44 08.1	+1.4
SBLS	**San Blas**	**1.98**	**88**	*eP*	**Pn**	17 43 43.5	+0.8
SNJE	**San Jose**	**1.99**	**87**	*eP*	**Pn**	17 43 43.9	+0.9
UNIC	**Universidad Ca**	**2.06**	**84**	S	**Sn**	17 44 10.1	+1.6
UNIC	**Universidad Ca**	**2.06**	**84**	P	**Pn**	17 43 45.1	+1.4
JAYA	**Jayaque - finc**	**2.15**	**93**	*eP*	**Pn**	17 43 45.4	+0.5
JAYA				*eS*	**Sn**	17 44 09.3	-1.6
JAYA	**Jayaque - finc**	**2.15**	**93**	*i* P	**Pn**	17 43 45.6	+0.6
JAYA				*i* S	**Sn**	17 44 11.1	+0.2
JAYA	**Jayaque - finc**	**2.15**	**93**	P	**Pn**	17 43 45.9	+0.9

CEDA	**San Andres**	**2.20**	**89**	S	**Sn**	**17 44 14.2**	**+2.3**
PMON	**Piamonte**	**2.27**	**91**	*eP*	**Pn**	17 43 48.1	+1.4
PMON				*eS*	**Sn**	17 44 13.6	-0.4
PMON	**Piamonte**	**2.27**	**91**	P	**Pn**	17 43 48.4	+1.7
PMON	**Piamonte**	**2.27**	**91**	S	**Sn**	17 44 15.7	+1.7
LALI	**Alcalda de L**	**2.29**	**97**	*eP*	**Pn**	17 43 47.9	+1.2
LALI	**Alcalda de L**	**2.29**	**97**	P	**Pn**	17 43 47.9	+1.2
LALI	**Alcalda de L**	**2.29**	**97**	S	**Sn**	17 44 14.8	+0.8
BOQS	**Boqueron**	**2.31**	**91**	*eP*	**Pn**	17 43 49.0	+1.7
MTO3	**Montecristo**	**2.31**	**74**		**Pn**	17 43 48.6	+1.2
MTO3				Sn	**Sn**	17 44 16.4	+1.4
MTO3	**Montecristo**	**2.31**	**74**	*eP*	**Pn**	17 43 48.5	+1.1
MTO3	**Montecristo**	**2.31**	**74**	*i* P	**Pn**	17 43 48.5	+1.2
MTO3	**Montecristo**	**2.31**	**74**	P	**Pn**	17 43 48.8	+1.5
MTO3	**Montecristo**	**2.31**	**74**	S	**Sn**	17 44 17.1	+2.0
UEES	**Universidad Ev**	**2.35**	**91**	*eP*	**Pn**	17 43 49.0	+1.3
UEES	**Universidad Ev**	**2.35**	**91**	S	**Sn**	17 44 17.1	+1.3
SEMO	**Seminario San**	**2.36**	**91**	S	**Sn**	17 44 17.6	+1.5
ESQI	**Esquipulas**	**2.38**	**70**		**Pn**	17 43 49.8	+1.6
ESQI				Sn	**Sb**	17 44 19.4	-2.4
ESQI	**Esquipulas**	**2.38**	**70**	*eP*	**Pn**	17 43 49.8	+1.6
ESQI	**Esquipulas**	**2.38**	**70**	S	**Sb**	17 44 19.0	-2.9
ESQI	**Esquipulas**	**2.38**	**70**	P	**Pn**	17 43 49.6	+1.5
UTEC	**Universidad Te**	**2.39**	**91**	S	**Sn**	17 44 18.1	+1.4
LOMA	**Loma Larga**	**2.42**	**93**	*eP*	**Pn**	17 43 49.8	+1.2
LOMA	**Loma Larga**	**2.42**	**93**	S	**Sn**	17 44 18.8	+1.2
LOMA	**Loma Larga**	**2.42**	**93**	P	**Pn**	17 43 49.7	+1.1
LFU	**La Fuente**	**2.47**	**90**	*eP*	**Pn**	17 43 51.3	+1.9
LFRS	**El Faro**	**2.52**	**93**	*eP*	**Pn**	17 43 51.4	+1.2
LBRS	**Las Brisas**	**2.54**	**90**	*eP*	**Pn**	17 43 51.2	+0.9
CCIG	**Comitan**	**2.54**	**350**		**Pn**	17 43 52.6	+2.2
CCIG	**Comitan**	**2.54**	**350**	*i* P	**Pn**	17 43 53.2	+2.7
PAVA	**Las Pavas**	**2.64**	**91**	*eP*	**Pn**	17 43 53.4	+1.6
PAVA	**Las Pavas**	**2.64**	**91**	S	**Sn**	17 44 25.7	+2.7
PAVA	**Las Pavas**	**2.64**	**91**	P	**Pn**	17 43 53.3	+1.5
LLGN	**La Laguna**	**2.66**	**81**	*eP*	**Pn**	17 43 53.4	+1.4
LLGN	**La Laguna**	**2.66**	**81**	P	**Pn**	17 43 53.1	+1.1
LLGN	**La Laguna**	**2.66**	**81**	S	**Sn**	17 44 26.1	+2.6
UESV	**Universidad de**	**2.79**	**92**	S	**Sn**	17 44 29.3	+2.7
TECO	**Alcaldia de Te**	**2.80**	**94**	*eP*	**Pn**	17 43 55.3	+1.4
TECO	**Alcaldia de Te**	**2.80**	**94**	S	**Sn**	17 44 28.8	+1.9
TECO	**Alcaldia de Te**	**2.80**	**94**	P	**Pn**	17 43 55.3	+1.4
SCLA	**Alcaldia de Sa**	**2.84**	**91**	*eP*	**Pn**	17 43 56.1	+1.6
SCLA	**Alcaldia de Sa**	**2.84**	**91**	S	**Sn**	17 44 30.2	+2.3
SCLA	**Alcaldia de Sa**	**2.84**	**91**	P	**Pn**	17 43 56.3	+1.8
SARH	**Santa Rosa de**	**2.98**	**70**	*i* P	**Pn**	17 43 58.5	+2.1
SARH	**Santa Rosa de**	**2.98**	**70**	P	**Pn**	17 43 58.4	+2.0
TECA	**Tecapa**	**3.08**	**95**	*eP*	**Pn**	17 43 59.5	+1.7
PACA	**Pacayal**	**3.25**	**95**	*eP*	**Pn**	17 44 02.5	+2.3
LCY	**Lacayo**	**3.29**	**96**	*eP*	**Pn**	17 44 02.0	+1.4
TGIG		**3.31**	**335**	*i* P	**Pn**	17 44 02.3	+1.4
PETF	**Flores**	**3.58**	**29**		**Pn**	17 44 05.3	+0.8
LCND	**La Caada**	**3.69**	**97**	*eP*	**Pn**	17 44 07.0	+0.9
CNCH	**Conchagua**	**3.75**	**97**	*eP*	**Pn**	17 44 08.2	+1.2
TGUH	**Tegucigalpa,Un**	**4.26**	**86**		**Pn**	17 44 18.4	+4.3
CMIG	**Matias Romero**	**4.54**	**317**	P	**Pn**	17 44 18.1	+0.3
	14nm,0.3s,baz=143,slow=11,SNR=45						
CMIG				S	**Sn**	**17 45 08.0**	**-1.7**
	81nm,0.5s,baz=84,slow=10,SNR=6.7						
CMIG				LR	LR	17 46 39.5	
	comp=Z,327nm,20.4s,baz=180,slow=43						
CRIN	**San Cristobal**	**4.61**	**103**	Pn	**Pn**	**17 44 21.9**	**+3.2**
CNGN	**Cerro Negro**	**4.99**	**104**		**Pn**	17 44 25.0	+1.0
BOAB	**BOACO BROADBAN**	**5.98**	**102**		**Pn**	17 44 38.0	+0.4
ACON	**Acoyapa**	**6.57**	**105**		**Pn**	17 44 46.6	+0.9
SIUN	**Universidad Ur**	**6.69**	**90**		**Pn**	17 44 47.2	-0.1
TEIG	**Tepich**	**7.19**	**26**		**Pn**	17 44 54.0	-0.2
ESPN	**Las Esperanzas**	**7.34**	**101**	Pn	**Pn**	17 44 56.3	+0.1
JTS	**Las Juntas de**	**7.41**	**117**		**Pn**	17 44 59.3	+2.0
JTS	**Las Juntas de**	**7.41**	**117**	P	**Pn**	17 45 00.0	+2.8
	6.3nm,0.6s,baz=310,slow=14,SNR=5.0						
TLIG	**Tlapa**	**7.65**	**300**		**Pn**	17 45 01.0	+0.4
LCR2	**La Lucha 2**	**8.49**	**117**		**Pn**	17 45 14.4	+2.2
SOR	**Soroa**	**12.16**	**41**		**Pn**	17 46 01.4	-0.9
553A	**Crawfordville**	**17.65**	**21**	P	**P**	17 47 15.3	-0.3
656A	**Willston**	**17.68**	**27**	P	**P**	17 47 15.9	0.0
BRDY	**Brady**	**18.70**	**340**	P	**P**	17 47 23.4	+0.1
SAND	**Sanderson**	**18.79**	**331**	P	**Pn**	17 47 30.1	+1.3
TXAR	**Lajitas Array**	**19.07**	**326**		**P**	17 47 32.1	+0.7
TXAR	**Lajitas Array**	**19.07**	**326**	P	**Pn**	17 47 34.2	+1.9
	1.7nm,0.7s,baz=156,slow=13,SNR=20						
TX31	**Lajitas Ar. Si**	**19.07**	**326**		**P**	**17 47 32.4**	**+0.1**
Z47A	**Carrollton**	**19.62**	**9**	P	**P**	**17 47 37.7**	**+0.5**
Z47A				IAmb	IAmb	17 47 49.1	
	comp=Z,14nm,0.9s						
LRAL	**Lakeview Retre**	**19.64**	**12**	P	**P**	**17 47 38.1**	**+0.6**
LRAL				IAmb	IAmb	17 47 44.9	
	comp=Z,5.6nm,0.7s						
152A	**Waverly Hall**	**19.85**	**17**	P	**P**	**17 47 39.9**	**+0.1**
152A				IAmb	IAmb	17 47 43.7	
	comp=Z,18nm,1.4s						
ALPN	**Alpine**	**19.88**	**328**		**P**	**17 47 40.2**	**-0.1**
RUSC	**La Rusia**	**19.89**	**111**		**P**	**17 47 42.8**	**+2.0**
RUSC				IAmb	IAmb	17 47 45.0	
	comp=Z,23nm,1.4s						
PLPT	**Palo Pinto**	**19.91**	**343**	P	**P**	**17 47 40.0**	**-0.5**
PLPT				IAmb	IAmb	17 47 43.5	
	comp=Z,9.6nm,1.1s						
FLOC	**Florencia**	**19.93**	**126**	P	**P**	**17 47 42.0**	**+1.3**
SGCY	**Sterling City**	**20.04**	**336**	P	**P**	**17 47 41.7**	**-0.2**
SGCY				IAmb	IAmb	17 47 44.3	
	comp=Z,5.1nm,0.7s						
MNHN	**Monahans**	**20.25**	**332**	P	**P**	**17 47 43.5**	**-0.7**
COHC	**Cochancay**	**20.28**	**142**	P	**P**	**17 47 45.2**	**+0.6**
LPIG	**La Paz**	**20.40**	**303**	LR	LR	17 54 35.5	
	comp=Z,61nm,21.6s,baz=112,slow=33						
MIAR	**Mount Ida**	**20.76**	**356**	P	**P**	**17 47 48.9**	**-0.7**
PECS	**Pecos**	**20.80**	**329**	P	**P**	**17 47 50.9**	**+0.6**
PECS				IAmb	IAmb	17 47 55.9	
	comp=Z,8.5nm,0.8s						
VHRN	**Van Horn**	**20.92**	**326**		**P**	**17 47 51.1**	**-0.5**
VHRN				IAmb	IAmb	17 47 57.1	
	comp=Z,14nm,1.4s						
GOGA	**Godfrey**	**20.93**	**19**	P	**P**	**17 47 51.1**	**-0.3**
GOGA				IAmb	IAmb	17 47 55.4	
	comp=Z,16nm,1.4s						
APMT	**Aspermont**	**20.94**	**340**		**P**	**17 47 50.2**	**-1.4**
APMT				IAmb	IAmb	17 48 01.8	
	comp=Z,6.1nm,0.8s						
SN07	**Snyder 07**	**21.00**	**338**	P	**P**	**17 47 50.5**	**-1.8**
Y52A	**Lilburn**	**21.16**	**18**	P	**P**	**17 47 53.4**	**-0.6**
Y52A				IAmb	IAmb	17 47 59.2	
	comp=Z,7.6nm,0.6s						
POST	**Post**	**21.20**	**337**	P	**P**	**17 47 53.3**	**-1.2**
FPAL	**Fort Paine**	**21.39**	**14**	P	**P**	**17 47 56.2**	**-0.3**
WHAR	**Wooly Hollow**	**21.44**	**359**	P	**P**	**17 47 55.2**	**-1.6**
WHAR				IAmb	IAmb	17 48 17.0	
	comp=Z,15nm,1.3s						
DKNS	**Dickens**	**21.53**	**339**		**P**	**17 47 56.8**	**-1.2**
DKNS				IAmb	IAmb	17 48 03.1	
	comp=Z,5.7nm,0.6s						
X51A	**Calhoun**	**21.60**	**15**	P	**P**	**17 47 58.6**	**-0.1**
X51A				IAmb	IAmb	17 48 08.3	
	comp=Z,12nm,1.0s						
MNTX	**Cornudas Mount**	**21.84**	**327**	P	**P**	**17 48 01.4**	**+0.1**
WMOK	**Wichita Mounta**	**21.85**	**344**	P	**P**	**17 48 00.9**	**-0.5**
LCAR	**Lake Charles**	**22.21**	**1**	P	**P**	**17 48 04.3**	**-0.9**
LCAR				IAmb	IAmb	17 48 11.2	
	comp=Z,4.3nm,0.6s						
MSTX	**Muleshoe**	**22.50**	**335**	P	**P**	**17 48 07.1**	**-1.4**
MSTX				IAmb	IAmb	17 48 10.0	
	comp=Z,4.9nm,0.6s						
WVT	**Waverly**	**22.53**	**8**	P	**P**	**17 48 08.3**	**-0.4**
WVT				IAmb	IAmb	17 48 10.8	
	comp=Z,10nm,1.4s						
AMTX	**Amarillo**	**22.89**	**338**	P	**P**	**17 48 12.3**	**-0.3**
TKL	**Tuckaleechee C**	**22.92**	**17**	P	**P**	**17 48 13.2**	**+0.4**
TKL				IAmb	IAmb	17 48 56.5	
	comp=Z,7.5nm,0.9s						
TKL	**Tuckaleechee C**	**22.92**	**17**	LR	LR	17 59 08.9	
	comp=Z,82nm,18.0s,baz=174,slow=42						
PBMO	**Poplar Bluff**	**22.94**	**3**	P	**P**	**17 48 11.3**	**-1.7**
PBMO				IAmb	IAmb	17 48 13.2	
	comp=Z,8.1nm,0.7s						
V53A	**Saluda**	**23.22**	**19**	P	**P**	**17 48 16.2**	**+0.4**
V53A				IAmb	IAmb	17 48 38.3	
	comp=Z,14nm,1.4s						
CGM3	**Cape Girardeau**	**23.50**	**4**	P	**P**	**17 48 17.5**	**-1.1**
BAUV	**El Baul**	**23.64**	**99**	P	**P**	**17 48 20.2**	**+0.1**
BAUV				IAmb	IAmb	17 48 28.0	
	comp=Z,12nm,1.3s						
TZTN	**Tazewell**	**23.82**	**16**	P	**P**	**17 48 21.3**	**-0.3**

S44A	**Carbondale**	**23.93**	**5**	P	**P**	**17 48 22.1**	**-0.5**
CCM	**Cathedral Cave**	**24.19**	**1**	P	**P**	**17 48 23.9**	**-1.2**
CCM				IAmb	IAmb	17 48 25.5	
	comp=Z,11nm,1.3s						
U54A	**Nelsons Funny**	**24.31**	**20**	P	**P**	**17 48 26.3**	**0.0**
CRNM	**Carthage**	**24.31**	**328**	P	**P**	**17 48 27.1**	**+0.6**
BNM	**Barren Site**	**24.41**	**329**		**P**	**17 48 27.6**	**+0.1**
Y22A	**Socorro**	**24.42**	**328**	P	**P**	**17 48 28.5**	**+1.1**
Y22A				IAmb	IAmb	17 48 31.3	
	comp=Z,4.2nm,0.8s						
LENM	**Lemitar**	**24.60**	**328**	P	**P**	**17 48 31.1**	**+2.0**
V58A	**Windy Hill, Pi**	**24.66**	**25**	P	**P**	**17 48 28.5**	**-0.9**
V58A				IAmb	IAmb	17 48 30.4	
	comp=Z,6.3nm,0.7s						
ANMO	**Albuquerque**	**24.97**	**330**	P	**P**	**17 48 32.3**	**-0.1**
MVCO	**Mesa Verde**	**27.77**	**330**	P	**P**	**17 48 59.9**	**+2.1**
MVCO				IAmb	IAmb	17 49 03.0	
	comp=Z,9.4nm,1.4s						
PV12	**Saucer Basin,**	**28.80**	**331**	P	**P**	**17 49 07.4**	**+0.5**
PV12				IAmb	IAmb	17 49 41.1	
	comp=Z,10nm,1.2s						
J57A	**Williamstown**	**32.46**	**21**	P	**P**	**17 49 37.7**	**-1.2**
PDAR	**Pinedale Array**	**32.77**	**335**	P	**P**	**17 49 41.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=148,slow=9.3,SNR=4.3						
	comp=Z,0.3nm,0.5s						
BOAV	**Boa Vista**	**32.78**	**107**	P	**P**	**17 49 41.5**	**-0.5**
BOAV				IAmb	IAmb	17 50 07.0	
	comp=Z,2.6nm,1.1s						
BUKO	**Buck Lake**	**33.24**	**16**	P	**P**	**17 49 44.5**	**-1.1**
NVAR	**Mina Array Bea**	**34.06**	**321**	P	**P**	**17 49 55.0**	**+1.8**
NVAR	**Mina Array Bea**	**34.06**	**321**	P	**P**	**17 49 56.2**	**+3.0**
	comp=Z,2.0nm,0.6s,baz=131,slow=9.5,SNR=13						
	comp=Z,2.0nm,0.6s						
MCMT	**McKenzie Canyo**	**35.83**	**334**	P	**P**	**17 50 10.7**	**+2.3**
LRM	**Limekiln Ridge**	**36.46**	**335**	P	**P**	**17 50 15.1**	**+1.3**
EGMT	**Eagleton**	**37.32**	**340**	P	**P**	**17 50 20.2**	**-0.7**
G65A	**Princeton**	**37.41**	**28**	P	**P**	**17 50 20.0**	**-1.4**
F10A	**Beach Ranch, E**	**38.67**	**331**	P	**P**	**17 50 32.4**	**0.0**
TA01	**Diego Aracena**	**40.12**	**148**	P	**P**	**17 50 46.1**	**+1.5**
H04A	**Detroit Lake**	**40.29**	**326**	P	**P**	**17 50 46.8**	**+1.1**
H04A				IAmb	IAmb	17 50 50.1	
	comp=Z,4.1nm,0.7s						
SCHQ	**Schefferville**	**45.32**	**20**	P	**P**	**17 51 24.1**	**-2.3**
	comp=Z,9.8nm,0.9s,baz=214,slow=7.6,SNR=5.1						
SCHQ				LR	LR	18 11 26.5	
	comp=Z,66nm,19.3s,baz=178,slow=38						
	comp=Z,9.8nm,0.9s						
SFJD	**Kangerlussuaq**	**59.63**	**17**	LR	LR	18 19 13.4	
	comp=Z,38nm,21.1s,baz=183,slow=36						
ILAR	**Eielson Array**	**63.18**	**337**	P	**P**	**17 53 36.4**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=117,slow=7.2,SNR=10						
	comp=Z,1.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**77.96**	**36**	P	**P**	**17 55 03.6**	**-2.9**
	comp=Z,2.7nm,1.1s,baz=280,slow=5.0,SNR=3.5						
	comp=Z,2.7nm,1.1s						
WRA	**Warramunga Arr**	**135.66**	**256**	PKP	**PKPdf**	**18 02 29.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=82,slow=1.8,SNR=7.9						
ASAR	**Alice Springs**	**135.90**	**250**	PKP	**PKPdf**	**18 02 30.6**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=82,slow=1.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**146.32**	**342**	PKPbc	**PKPdf**	**18 02 50.0**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=337,slow=3.9,SNR=13						

*MOS **23** 18:05:21.1±0.9, 38°56'N×141°87'E, h53km, mb4.6/38, Error ellipse: s-maj=8.3km s-min=5.1km az=91.1*
*NEIC **23** 18:05:22.0±1.4, 38°39'N±0°04×141°85'E±0°06, h48km±5km, mb4.5/78, Error ellipse: s-maj=6.6km s-min=5.8km az=100.0*
*NIED **23** 18:05:22.6, 38°41'N×141°89'E, h54km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.32; Mθθ-0.94; Mφφ-0.38; Mrθ1.27; Mθφ-0.74; Mφr0.11; Fault plane solution: M₀1.89000×10¹⁵ NP1: φs217.00000°, δ28.00000°, λ56.00000°. NP2:φs75.00000°, δ67.00000°, λ107.00000°.*
*JMA **23** 18:05:22.6±0.1, 38°4'N±0°2×141°9'E±0°5, h54km, MD4.2/35, MV4.7/35, E OFF MIYAGI PREF*
JMA Felt III J1 at E OFF MIYAGI PREF .
*IDC **23** 18:05:22.7±1.6, 38°43'N×141°89'E, h57km±14km, mb3.9/23, mbtmp4.2/

MJA0 pmax pmax
comp=Z,27nm,0.5s
MAJO Matsushiro 3.57 240 Pn 18 06 15.3 +2.1
MAJO Matsushiro 3.57 240 P Pn 18 06 15.9 +2.7
MAJO Matsushiro 3.57 240 *c i*P **Pn 18 06 15.8 +2.6**
MJAR Matsushiro Arr 3.57 240 Pn 18 06 15.4 +2.2
MJAR Matsushiro Arr 3.57 240 P **Pn 18 06 15.7 +2.5**
comp=Z,12nm,0.4s,baz=42,slow=13,SNR=61
MJAR S **Sn 18 06 55.2 +1.0**
comp=Z,15nm,0.4s,baz=85,slow=16,SNR=6.2
MJAR Matsushiro Arr 3.57 240 P **Pn 18 06 15.4 +2.2**
MJB9 Matsu-Tunnel 3.58 240 Pn 18 06 16.8 +3.5
ERM Erimo 3.71 13 Pn 18 06 16.2 +1.1
ERM Sn **Sn 18 06 58.1 +0.7**
ERM Erimo 3.71 13 P **Pn 18 06 16.7 +1.7**
ERM Erimo 3.71 13‖ *e*P **Pn 18 06 16.5 +1.5**
JEM Erimo 3.71 13 P **Pn 18 06 16.8 +1.8**
JGF Kuroka 4.68 235 Pn 18 06 29.6 +1.2
JGF Kuroka 4.68 235 P **Pn 18 06 31.7 +3.3**
JSG Sagara 4.85 221 Pn **Pn 18 06 30.6 -0.1**
JSG Sagara 4.85 221 P **Pn 18 06 34.0 +3.4**
INU Inuyama 5.05 235 Pn 18 06 33.7 +0.2
INU Inuyama 5.05 235 P **Pn 18 06 36.6 +3.1**
JHJ2 Mitsune 5.58 200 Pn **Pn 18 06 40.8 +0.1**
JHJ2 Mitsune 5.58 200 P **Pn 18 06 42.3 +1.6**
JHJ Hachijo jima 2 5.58 200 Pn 18 06 41.1 +0.4
comp=Z,116nm,0.3s,baz=332,slow=15,SNR=35
JHJ S **Sn 18 07 41.2 -2.4**
comp=Z,263nm,0.5s,baz=107,slow=19,SNR=7.6
NMR Nemuro--Hokkai 5.70 28⇑ *i*P **Pn 18 06 42.6 +0.4**
NMR *i* S **Sn 18 07 42.8 -3.5**
JKA Kamikawa-asahi 5.73 4 Pn 18 06 43.9 +1.2
ASAJ Asahikawa 5.73 4 P **Pn 18 06 44.3 +1.6**
comp=Z,15nm,0.3s,baz=212,slow=10,SNR=92
ASAJ S **Sn 18 07 48.0 +0.9**
comp=Z,22nm,0.4s,baz=131,slow=26,SNR=2.1
GLVR Golovnino 5.94 25 *e*P **Pn 18 06 46.9 +1.2**
GLVR *e*S **Sn 18 07 50.0 -2.4**
GLVR smax smax
comp=N,524nm,0.3s
GLVR smax smax
comp=E,797nm,0.3s
RUSJ Misakicho 6.19 22 P **Pn 18 06 50.2 +1.2**
RUSJ *e*S **Sn 18 07 57.6 -0.9**
YUK Yuzh-Kuril'sk 6.32 26*d i*P **Pn 18 06 52.2 +1.4**
YUK *i* S **Sn 18 07 58.5 -3.2**
YUK pmax pmax
comp=Z,251nm,0.3s
YUK pmax pmax
comp=E,109nm,0.2s
YUK smax smax
comp=E,507nm,0.4s
YUK smax smax
comp=N,866nm,0.6s
TEY Ternei 7.78 330 *e*P Pn 18 07 17.8 +6.9
JMN Monobe 8.09 237 Pn **Pn 18 07 14.6 -0.6**
JMN Monobe 8.09 237 P **Pn 18 07 19.0 +3.8**
KUR Kuril'sk 8.09 31 *e*P **Pn 18 07 13.8 -1.3**
KUR *e*S **Sn 18 08 42.0 -3.2**
KUR pmax pmax
comp=Z,56nm,0.7s
KUR smax smax
comp=E,131nm,0.7s
KUR smax smax
comp=N,105nm,0.6s
YSS Yuzhno-Sakhali 8.57 3 Pn **Pn 18 07 22.0 +0.4**
YSS Yuzhno-Sakhali 8.57 3 *e*P **Pn 18 07 23.2 +1.6**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,200nm,14.0s
VLA Vladivostok 9.04 305⇑ *e*P **Pn 18 07 24.8 -3.3**
USRK Ussuriysk Ar. 9.53 311 P **Pn 18 07 36.7 +1.8**
comp=Z,7.0nm,0.5s,baz=79,slow=31,SNR=23
JNU Nakatsue 10.49 243 Pn **Pn 18 07 47.5 -0.6**
JNU Nakatsue 10.49 243 P **Pn 18 07 49.1 +1.0**
comp=Z,8.2nm,0.9s,baz=66,slow=2.4,SNR=4.7
KSRS Korea Array 11.20 270 P **Pn 18 08 02.5 +4.7**
comp=Z,1.3nm,0.3s,baz=83,slow=14,SNR=8.2
KSAR Wonju Array Be 11.23 270 Pn **Pn 18 07 57.9 -0.3**
KSAR Wonju Array Be 11.23 270 P **Pn 18 07 57.9 -0.3**
JCJ Chichijima 11.27 179 Pn **Pn 18 07 56.2 -2.5**
JCJ Chichijima 11.27 179 P **Pn 18 07 56.5 -2.3**
comp=Z,19nm,0.2s,baz=291,slow=22,SNR=16
JCJ S Sn 18 09 54.8 -8.6
comp=Z,19nm,0.3s,baz=266,slow=23,SNR=3.9
JCJ Chichijima 11.27 179 P **Pn 18 08 00.1 +1.4**
BNX BinXian 13.11 309‖P **P 18 08 29.3 -3.8**
BNX pmax pmax
comp=Z,5.0nm,1.3s
PEA0B Petropavlovsk- 18.26 31 P **P 18 09 30.2 +0.1**
PEA0B Petropavlovsk- 18.26 31‖ *e*P **P 18 09 30.0 -0.1**
PETK Petropavlovsk- 18.26 31 P **P 18 09 29.1 -1.0**
PETK Petropavlovsk- 18.26 31 P **Pn 18 09 32.1 +1.8**
comp=Z,3.8nm,0.9s,baz=219,slow=10,SNR=8.2
ZEA Zeya 18.40 331 *e*P **P 18 09 31.7 0.0**
PET Petropavlovsk 18.59 33 *e*P **Pn 18 09 36.7 +2.4**
PET pmax pmax
comp=Z,13nm,0.9s
NJ2 Nanjing 19.95 259 *e*P **P 18 09 49.1 +0.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 21.92 12 P **P 18 10 09.9 +0.2**
MA2 IAmb IAmb 18 10 13.7
comp=Z,17nm,0.7s
MA2 Magadan 21.92 12 P **P 18 10 10.6 +0.9**
comp=Z,13nm,0.6s,baz=194,slow=9.9,SNR=15
MA2 LR LR 18 18 54.6
comp=Z,46nm,18.1s,baz=227,slow=37
comp=Z,13nm,0.6s
MA2 Magadan 21.92 12 P **P 18 10 12.9 +3.2**
MA2 Magadan 21.92 12*c i*P **P 18 10 12.6 +2.9**
MA2 pmax pmax
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 23.55 286 *e*P **P 18 10 26.8 -0.2**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,77nm,5.5s
GUMO Guam 24.84 173 LR LR 18 20 11.7
comp=Z,11nm,20.7s,baz=6.0,slow=36
YAK Yakutsk 24.86 346 P 18 10 36.8 -1.8
YAK IAmb IAmb 18 10 42.3
comp=Z,13nm,0.8s
YAK Yakutsk 24.86 346 *e*P **P 18 10 36.9 -1.7**
YAK *e**PP **pP 18 10 51.5 +1.9**
YAK *e* 18 11 10.6
YAK *e* 18 14 13.1
YAK *e*S **S 18 14 54.0 -4.5**
YAK *e**SS **sS 18 15 13.2 -3.6**
YAK *e* 18 21 33.2
YAK pmax pmax
comp=Z,10.0nm,1.2s
YAK pmax pmax
comp=N,6.0nm,2.2s
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK pmax pmax
comp=Z,89nm,4.3s
YAK pmax pmax
comp=N,78nm,4.8s
YAK pmax pmax
comp=E,45nm,3.1s
YAK smax smax
comp=E,36nm,3.8s
YAK smax smax
comp=N,31nm,2.6s
SEY Seymchan 25.36 11 *e*P **P 18 10 44.2 +1.1**
SEY pmax pmax
comp=Z,9.0nm,1.2s
XAN Xi'an 26.99 271 P **P 18 10 52.3 -6.0**
XAN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 27.04 302‖ *e*P **P 18 10 59.0 +0.4**
ULN pmax pmax
comp=Z,9.0nm,3.3s
SONM Songino Array 27.47 302 P **P 18 11 03.2 +0.7**
comp=Z,0.6nm,0.4s,baz=116,slow=8.8,SNR=2.5
comp=Z,0.6nm,0.4s
H11N2 WAKE ISLAND Hy 28.45 124 T T 18 41 31.1
baz=316,slow=76,SNR=181
H11N1 WAKE ISLAND Hy 28.46 124 T T 18 41 30.7
baz=316,slow=76,SNR=2771
H11N3 WAKE ISLAND Hy 28.47 124 T T 18 41 31.4
baz=316,slow=76,SNR=1712
H11S1 WAKE ISLAND Hy 29.21 126 T T 18 42 24.0
baz=318,slow=76,SNR=1208
H11S3 WAKE ISLAND Hy 29.21 126 T T 18 42 24.1
baz=318,slow=76,SNR=1190
H11S2 WAKE ISLAND Hy 29.23 126 T T 18 42 25.7
baz=318,slow=76,SNR=729
LZH Lanzhou 30.36 278 *e*P **P 18 11 28.3 0.0**
LZH pP pP 18 11 37.4 -2.1
LZH sP sP 18 11 41.8 -2.6
LZH pmax pmax
comp=Z,18nm,1.1s
BILL Bilibino 32.58 17‖ *e*P **P 18 11 48.5 +1.2**
BILL pmax pmax
comp=Z,8.0nm,1.4s
QIZ Qiongzhong 33.96 245 P **P 18 12 00.5 +0.7**
QIZ S **S 18 17 24.1 +2.0**
QIZ LR LR
comp=N,210nm,9.8s
QIZ LR LR
comp=E,200nm,14.3s
QIZ LR LR
comp=Z,250nm,15.7s
TIXI Tiksi 34.00 353 P **P 18 11 58.6 -1.0**
TIXI Tiksi 34.00 353⇑ *i*P **P 18 11 59.6 0.0**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
PZH PanZhiHua 35.76 263 P **P 18 12 17.0 +1.6**
WMQ Urumqi 40.69 296 *e*P **P 18 12 55.8 -0.9**
WMQ pmax pmax
comp=Z,53nm,0.7s
ZAA0 Zalesovo Array 41.38 311 P **P 18 13 01.8 -0.3**
ZAA0 IAmb IAmb 18 13 02.5
comp=Z,4.1nm,0.6s
ZALV Zalesovo Beam 41.38 311 P 18 13 01.4 -0.7
ZALV Zalesovo Beam 41.38 311 P **P 18 13 02.0 -0.1**
comp=Z,3.9nm,0.4s,baz=83,slow=7.8,SNR=23
ZALV PcP **PcP 18 14 59.5 -0.2**
comp=Z,1.1nm,0.3s,baz=98,slow=2.9,SNR=5.3
comp=Z,3.9nm,0.4s
N15K Kwethluk River 41.87 39 P **P 18 13 07.8 +1.8**
N15K IAmb IAmb 18 13 40.8
comp=Z,11nm,1.3s
O15K Ungalikthiuk R 41.94 41 P **P 18 13 08.7 +2.1**
O15K IAmb IAmb 18 13 24.7
comp=Z,9.4nm,1.1s
F17K Baldwin Pennin 42.29 30 P **P 18 13 10.5 +1.2**
L16K Owhat River 42.30 37 P **P 18 13 11.5 +2.0**
L16K IAmb IAmb 18 13 26.9
comp=Z,12nm,1.5s
CMAR Chiang Mai Arr 42.34 254 P **P 18 13 10.0 -0.4**
comp=Z,0.3nm,0.7s,baz=51,slow=8.9,SNR=1.0
comp=Z,0.3nm,0.7s
M16K Timber Creek 42.49 38 P **P 18 13 13.1 +2.0**
M16K IAmb IAmb 18 13 22.5
comp=Z,16nm,1.4s
LUWI Luwuk 43.08 209 P **P 18 13 20.2 +3.9**
G18K Tagagawik 43.22 31 P **P 18 13 18.9 +1.9**
G18K IAmb IAmb 18 13 23.7
comp=Z,10nm,1.4s
M17K Holitna River 43.25 38 P **P 18 13 19.9 +2.7**
M17K IAmb IAmb 18 13 20.8
comp=Z,6.3nm,0.9s
L18K Granite Mounta 43.66 37 P **P 18 13 22.1 +1.5**
MK31 Makanchi Array 43.84 301 P **P 18 13 21.2 -1.0**
MK31 Makanchi Array 43.84 301 *ce*P **P 18 13 21.8 -0.4**
MKAR Makanchi Array 43.84 301 P **P 18 13 21.7 -0.5**
MKAR Makanchi Array 43.84 301 P **P 18 13 21.8 -0.4**
comp=Z,0.9nm,0.4s,baz=83,slow=11,SNR=15
comp=Z,0.9nm,0.4s
N18K Kilae Creek 43.98 39 P **P 18 13 25.2 +2.1**
N18K IAmb IAmb 18 13 41.9
comp=Z,7.0nm,1.1s
MAKZ Makanchi 44.05 301 P **P 18 13 23.4 -0.5**
MAKZ Makanchi 44.05 301 P **P 18 13 23.4 -0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.3s
H19K Roundabout Mou 44.07 32 P **P 18 13 25.6 +1.9**
CHIR Chirikof Islan 44.23 46 P **P 18 13 26.2 +1.1**
J19K Poorman 44.27 34 P **P 18 13 27.1 +1.7**
L19K White Mountain 44.52 37 P **P 18 13 29.4 +2.0**
B20K Meade River 44.55 25 P **P 18 13 28.9 +1.4**
K20K Telida 44.92 35 P **P 18 13 33.3 +2.7**
K20K PcP **PcP 18 15 13.1 +1.7**
OHAK Old Harbor 45.42 44 P **P 18 13 39.0 +4.4**
KURK Kurchatov 45.50 307 P 18 13 34.3 -1.0
KURK Kurchatov 45.50 307⇑ *i*P **P 18 13 34.7 -0.6**
KURK pmax pmax
comp=Z,11nm,0.7s
KURBB Kurchatov Arra 45.57 307 P **P 18 13 35.5 -0.4**
comp=Z,9.9nm,0.7s,baz=82,slow=8.1,SNR=42
comp=Z,9.9nm,0.7s
CAST Castle Rocks 45.82 35 P **P 18 13 40.0 +2.3**
D22K Ayikyak River 45.92 27 P **P 18 13 41.0 +2.5**
EVN Everest 46.78 274 P **P 18 13 45.6 -0.9**
EVN IAmb IAmb 18 14 07.5
comp=Z,8.0nm,1.2s
GHO Glory Hole Cre 47.32 37 P **P 18 13 50.8 +1.2**
IL31 48.08 33 P **P 18 13 56.6 +1.3**
IL31 IAmb IAmb 18 13 57.9
comp=Z,3.0nm,0.6s
ILAR Eielson Array 48.08 33 P **P 18 13 56.9 +1.5**
comp=Z,1.9nm,0.7s,baz=270,slow=6.2,SNR=26
ILAR PcP **PcP 18 15 22.1 -0.4**
comp=Z,0.4nm,0.5s,baz=275,slow=3.4,SNR=1.5
comp=Z,1.9nm,0.7s
F26K Sheenjek River 49.05 29 P **P 18 14 05.7 +2.8**
BMRM Bremner River 49.47 38 P **P 18 14 08.1 +2.0**
BMRM PcP **PcP 18 15 29.1 +1.4**
BVAR Borovoye Array 50.04 312 P **P 18 14 10.3 -0.2**
comp=Z,1.6nm,0.6s,baz=64,slow=7.9,SNR=11
BVAR PcP **PcP 18 15 30.0 +0.2**
comp=Z,2.2nm,0.5s,baz=87,slow=2.5,SNR=6.8
comp=Z,1.6nm,0.6s
FRU1 Bishkek 50.15 298 P **P 18 14 12.8 +1.3**
FRU1 Bishkek 50.15 298 P **P 18 14 12.8 +1.3**
FRU1 pmax pmax
comp=Z,6.0nm,0.5s
ISLE Juniper Island 50.63 38 P **P 18 14 17.1 +2.1**
E29M Blow River 51.33 28 IAmb IAmb 18 14 23.8
comp=Z,6.0nm,1.0s
I29M Ogilvie Camp. 51.63 32 IAmb IAmb 18 14 25.5
comp=Z,4.2nm,0.8s
ARSB Arslanbob 51.81 296 P **P 18 14 24.2 +0.1**
ARSB IAmb IAmb 18 14 54.7
comp=Z,5.0nm,1.1s
ARSB PcP **PcP 18 15 36.4 -0.4**
G30M tAoh Zraii Nji 52.18 30 P **P 18 14 28.6 +2.2**
G30M IAmb IAmb 18 15 12.4
comp=Z,6.8nm,1.2s
I30M Mount Dempster 52.45 32 P 18 14 30.6 +2.0
I30M PcP **PcP 18 15 41.0 +2.2**
KNRA Kununurra 55.21 196 P **P 18 14 49.5 +0.5**
CHGR Chuyangaron 55.54 295 P **P 18 14 50.8 -0.7**
CHGR Chuyangaron 55.54 295 P **P 18 14 50.8 -0.7**
CHGR pmax pmax
comp=Z,8.0nm,0.9s
SIMJ Simiganj 55.65 295 P **P 18 14 51.3 -1.0**
SIMJ IAmb IAmb 18 15 11.1
comp=Z,5.3nm,1.2s
ARTI Arti 55.79 318 P 18 14 52.0 -0.8
ARTI Arti 55.79 318 LR LR 18 43 05.6
comp=Z,78nm,18.3s,baz=165,slow=41
ARTI Arti 55.79 318 *c i*P **P 18 14 52.4 -0.4**
ARTI 18 15 53.1
ARTI 18 16 52.5
ARTI S **S 18 22 35.6 -1.0**
ARTI SS **SS 18 26 17.6 -4.3**
ARTI pmax pmax
comp=Z,6.0nm,0.6s
AB31 Akbulak array 57.45 310 P 18 15 04.1 -0.6
AB31 IAmb IAmb 18 15 04.8
comp=Z,2.2nm,0.7s
ABKAR Akbulak array 57.45 310 P **P 18 15 04.1 -0.6**
FUNA Funafuti 58.10 135 P **P 18 15 09.8 +0.2**
WB0 Warramunga Arr 58.30 188 P **P 18 15 10.5 -0.4**
WB0 IAmb IAmb 18 15 26.1
comp=Z,5.8nm,0.9s
WRA Warramunga Arr 58.48 189 P **P 18 15 12.1 -0.1**
WRA PcP **PcP 18 15 58.5 -3.9**
WRA Warramunga Arr 58.48 189 P **P 18 15 12.0 -0.2**
comp=Z,2.2nm,0.7s,baz=5.9,slow=7.0,SNR=33
comp=Z,2.2nm,0.7s
SPITS Spitsbergen Ar 59.29 349 P **P 18 15 17.9 +0.8**
SPITS pmax pmax
comp=Z,17nm,1.4s
KIRV Kirov 59.47 323⇑ *e*P **P 18 15 18.5 -0.1**
ASAR Alice Springs 62.21 188 P P 18 15 37.9 +0.3
ASAR Alice Springs 62.21 188 P **P 18 15 38.2 +0.6**
comp=Z,1.2nm,0.8s,baz=15,slow=7.0,SNR=15
comp=Z,1.2nm,0.8s
KEV Kevo 62.35 339 P **P 18 15 37.1 -0.9**
KEV Kevo 62.35 339 P **P 18 15 37.1 -0.9**
KEV pmax pmax
comp=Z,18nm,1.5s
ARCES ARCESS Array B 62.90 339 P P 18 15 41.6 -0.1
ARCES IAmb IAmb 18 15 49.3
comp=Z,7.6nm,1.3s
ARCES ARCESS Array B 62.90 339 P **P 18 15 42.2 +0.5**
comp=Z,0.8nm,0.5s,baz=54,slow=8.2,SNR=11
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 62.90 339 *e*P **P 18 15 41.0 -0.7**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
SGF Sodankyl 63.89 337 P **P 18 15 48.3 0.0**
SGF pmax pmax
comp=Z,11nm,0.8s
OUL Oulu 65.57 335 P **P 18 15 59.1 -0.1**
OUL pmax pmax
comp=Z,9.0nm,1.7s
OBN Obninsk 67.31 323‖ *e*P **P 18 16 10.2 -0.3**
OBN pmax pmax
comp=Z,8.0nm,0.7s
FIA1 FINESS Array S 67.84 332 P **P 18 16 13.5 -0.3**
FINES FINESS Array B 67.84 332 P **P 18 16 13.1 -0.6**
FINES FINESS Array B 67.84 332 P **P 18 16 13.3 -0.4**
comp=Z,3.8nm,0.7s,baz=34,slow=9.7,SNR=14
comp=Z,3.8nm,0.7s
KHMM Horse Mountain 68.94 54 P **P 18 16 23.6 +2.5**
L04D Klamath Falls 69.10 52 P **P 18 16 24.3 +2.1**
L04D IAmb IAmb 18 16 25.9
comp=Z,10nm,1.1s
SUMG Summit 69.32 0 P **P 18 16 24.2 +0.9**
SUMG IAmb IAmb 18 16 25.0
comp=Z,4.2nm,0.5s
SUMG Summit 69.32 0 P **P 18 16 24.2 +0.9**
SUMG pmax pmax
comp=Z,4.0nm,0.5s
KIV Kislovodsk 70.40 311 *e*P **P 18 16 30.9 +0.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 70.40 311 P **P 18 16 30.2 +0.4**
comp=Z,1.0nm,0.5s,baz=135,slow=1.4,SNR=3.6
comp=Z,1.0nm,0.5s
KBZ Khabaz 70.40 311‖ *i*P **P 18 16 30.3 +0.4**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
SHA1 Shidzhatmaz 70.54 311⇑ *e*P **P 18 16 30.3 -0.8**
JTMT Jette 70.66 44 P **P 18 16 33.2 +1.6**
GNI Garni 71.30 307‖ *e*P **P 18 16 33.7 -2.0**
GNI pmax pmax
comp=Z,52nm,1.4s
MNK Minsk 71.65 326 *i*P **P 18 16 35.8 -1.5**
MNK *i* *PP **sP 18 16 53.5 -0.6**
MNK *i* 18 19 14.6
MNK *i* PPP PPP 18 21 00.4
MNK *i* S **S 18 25 51.1 -2.5**
MNK *i* SS **SS 18 30 28.4 -0.2**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK MLR MLR
comp=N,37nm,17.0s
MNK MLR MLR
comp=Z,52nm,18.0s
MNK MLR MLR
comp=E,31nm,16.0s
OVMT Ovando 71.77 44 P **P 18 16 39.7 +1.3**
UOSS Minazif 71.87 288 P **P 18 16 38.3 -0.9**
UOSS IAmb IAmb 18 16 40.8
comp=Z,8.3nm,1.0s
VSLR Vesyoloye 72.25 312⇑ *e*P **P 18 16 41.2 +0.1**
VSLR pmax pmax
comp=Z,23nm,1.0s
SOC Sochi 72.36 312 *e*P **P 18 16 42.8 +1.0**
SOC *e* 18 19 18.6
SOC *e*PPP PPP 18 21 03.5
SOC *e*S **S 18 26 03.8 +1.6**
SOC *e*SS **SS 18 30 37.2 -2.9**
LRM Limekiln Ridge 72.82 45 P **P 18 16 46.5 +1.6**
NC405 NORSAR Array S 72.92 337 P **P 18 16 45.0 +0.2**
NC405 IAmb IAmb 18 17 01.5
comp=Z,11nm,1.2s
EGMT Eagleton 72.92 42 P **P 18 16 46.5 +1.3**
EGMT IAmb IAmb 18 16 47.6
comp=Z,5.4nm,0.8s
NC303 NORSAR Array S 72.93 337 P **P 18 16 45.1 +0.3**
DLMT Dillon 73.02 45 P **P 18 16 47.5 +1.6**
DLMT IAmb IAmb 18 16 48.8
comp=Z,4.9nm,0.9s
HFS Hagfors 73.05 336 P **P 18 16 45.8 +0.2**
comp=Z,3.6nm,0.4s,baz=49,slow=4.5,SNR=36
HFS LR LR 18 51 10.7
comp=Z,50nm,18.4s,baz=93,slow=38
comp=Z,3.6nm,0.4s
NB2 NORSAR Subarra 73.12 337 P **P 18 16 46.3 +0.2**
comp=Z,1.6nm,0.6s,baz=37,slow=6.2
NB2 NORSAR Subarra 73.12 337 P **P 18 16 46.2 +0.2**
NOA NORSAR Array B 73.12 337 P **P 18 16 46.0 0.0**
comp=Z,3.0nm,0.7s,baz=38,slow=6.0,SNR=14
NOA LR LR 18 52 36.2
comp=Z,21nm,19.2s,baz=95,slow=39
comp=Z,3.0nm,0.7s
NORES NORESS Array B 73.27 337 P **P 18 16 47.5 +0.7**
BOZ Bozeman (W) 73.42 45 P **P 18 16 49.7 +1.5**
BOZ Bozeman (W) 73.42 45 P **P 18 16 49.7 +1.5**
BOZ pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 73.53 322 P **P 18 16 48.1 -0.4**
comp=Z,1.6nm,0.4s,baz=47,slow=6.0,SNR=15
comp=Z,1.6nm,0.4s
AKBB Malin Array Si 73.53 322 P **P 18 16 47.6 -0.9**
AKBB IAmb IAmb 18 16 48.9
comp=Z,4.7nm,0.8s
AKBB Malin Array Si 73.53 322⇑ *e*P **P 18 16 48.1 -0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 73.54 322 P **P 18 16 47.9 -0.7**
KIEV IAmb IAmb 18 16 48.9
comp=Z,4.4nm,0.8s
KIEV Kiev 73.54 322 P **P 18 16 47.9 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 73.77 54 P **P 18 16 51.8 +1.3**
NVAR Mina Array Bea 73.77 54 P **P 18 16 52.6 +2.1**
comp=Z,0.6nm,0.5s,baz=287,slow=5.4,SNR=5.0
comp=Z,0.6nm,0.5s
R11B Troy Canyon, C 75.53 52 P **P 18 17 02.0 +1.4**
GWY Greenwater Val 76.16 55 P **P 18 17 06.0 +1.8**
PD31 Pinedale Array 76.35 46 P **P 18 17 06.3 +1.0**
PD31 IAmb IAmb 18 17 07.6
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 76.35 46 P **P 18 17 06.7 +1.3**
PDAR Pinedale Array 76.35 46 P **P 18 17 06.8 +1.5**
comp=Z,1.9nm,0.5s,baz=279,slow=0.9,SNR=31
comp=Z,1.9nm,0.5s
KWP Kalwaria Pacla 77.32 324 P **P 18 17 11.1 +0.8**
KWP pmax pmax
comp=Z,5.0nm,1.7s
BUR08 Bucovina Ar. S 77.54 322 P **P 18 17 11.1 -0.6**
BUR08 IAmb IAmb 18 17 12.8
comp=Z,2.9nm,0.7s
BURAR Bucovina Array 77.56 322 P **P 18 17 11.5 -0.3**
BURAR Bucovina Array 77.56 322 P **P 18 17 11.5 -0.3**
BURAR pmax pmax
comp=Z,2.0nm,0.6s
KOLS Kolonicke sedl 78.01 324 *e*P **P 18 17 14.0 -0.2**
KOLS Kolonicke sedl 78.01 324 *e*P **P 18 17 14.0 -0.2**
STHS Stebnicka Huta 78.13 325 *e*P **P 18 17 14.8 -0.1**
STHS Stebnicka Huta 78.13 325 *e*P **P 18 17 14.8 -0.1**
SRU San Rafael Swe 78.14 49 P **P 18 17 16.3 +1.0**
SRU IAmb IAmb 18 17 18.0
comp=Z,4.1nm,0.7s
SRU San Rafael Swe 78.14 49 P **P 18 17 16.3 +1.0**
SRU pmax pmax
comp=Z,4.0nm,0.7s
OJC Ojcow 78.19 326 P **P 18 17 15.7 +0.5**
OJC Ojcow 78.19 326 P **P 18 17 15.7 +0.5**

BRTR	**Keskin Array B**	**78.33**	**312**	P		**P**		**18 17 16.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=53,slow=5.7,SNR=3.4								
	comp=Z,0.7nm,0.5s								
NIE	**Niedzica**	**78.56**	**325**	P		**P**		**18 17 18.1**	**+0.8**
HMU	**Henry Mountain**	**78.76**	**50**	P		**P**		**18 17 20.1**	**+1.2**
HMU				IAmb		IAmb		18 17 21.6	
	comp=Z,2.6nm,0.6s								
MORC	**Moravsky Berou**	**79.49**	**327**	P		**P**		**18 17 22.2**	**-0.2**
MORC	**Moravsky Berou**	**79.49**	**327**	P		**P**		**18 17 22.2**	**-0.2**
MORC				pmax		pmax			
	comp=Z,4.0nm,1.0s								
DPC	**Dobruska-Polom**	**79.57**	**328**	P		**P**		**18 17 23.7**	**+0.9**
KRLC	**Kraliky**	**79.59**	**328**	P		**P**		**18 17 23.4**	**+0.5**
KRLC				pmax		pmax			
	comp=Z,3.0nm,0.9s								
PV18	**Skein Mesa, Pa**	**79.66**	**49**	P		**P**		**18 17 25.4**	**+1.6**
PV18				IAmb		IAmb		18 17 26.7	
	comp=Z,5.9nm,0.8s								
BRG	**Berggiesshubel**	**80.14**	**330**	P		**P**		**18 17 27.3**	**+1.5**
BRG				pmax		pmax			
	comp=Z,3.0nm,1.1s								
CLL	**Collm**	**80.17**	**330**	*i* P		**P**		**18 17 25.8**	**-0.1**
CLL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**80.17**	**330**	*i* P		**P**		**18 17 25.8**	**-0.1**
	comp=Z,5.0nm,0.9s								
RAYN	**Ar Rayn**	**80.61**	**292**	P		**P**		**18 17 28.1**	**-0.7**
RAYN	**Ar Rayn**	**80.61**	**292**	P		**P**		**18 17 28.1**	**-0.7**
RAYN				pmax		pmax			
	comp=Z,2.0nm,1.0s								
MOX	**Moxa**	**81.23**	**331**	P		**P**		**18 17 31.9**	**+0.2**
MOX				pmax		pmax			
	comp=Z,4.0nm,1.5s								
MMAI	**Mount Meron Ar**	**81.59**	**306**	P		**P**		**18 17 34.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=54,slow=5.3,SNR=1.9								
	comp=Z,0.4nm,0.4s								
RONA	**Rosalia, Austr**	**81.61**	**326**	*e*P		**P**		**18 17 34.2**	**+0.5**
	comp=Z,1.4nm,0.6s								
CONA	**Conrad Observa**	**81.62**	**327**	*e*P		**P**		**18 17 34.0**	**+0.1**
	comp=Z,2.6nm,0.9s								
KHC	**Kasperske Hory**	**81.64**	**329⇑**	*e*P		**P**		**18 17 34.4**	**+0.5**
KHC				pmax		pmax			
	comp=Z,3.0nm,0.8s								
GEC2	**GERESS Array S**	**81.82**	**328**	P		**P**		**18 17 35.0**	**+0.1**
GEC2				IAmb		IAmb		18 17 35.9	
	comp=Z,4.7nm,1.4s								
GERES	**GERESS Array B**	**81.82**	**328**	P		**P**		**18 17 34.4**	**-0.6**
GERES	**GERESS Array B**	**81.82**	**328**	P		**P**		**18 17 34.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=57,slow=4.9,SNR=7.6								
	comp=Z,0.5nm,0.3s								
EKA	**Eskdalemuir Ar**	**82.02**	**341**	P		**P**		**18 17 36.5**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=28,slow=4.3,SNR=5.3								
	comp=Z,0.4nm,0.4s								
BIOA	**Bad Ischl, Aus**	**82.75**	**328**	*e*P		**P**		**18 17 39.9**	**+0.2**
	comp=Z,0.2nm,0.3s								
SOKA	**Soboth**	**82.94**	**326**	*e*P		**P**		**18 17 40.5**	**-0.4**
	comp=Z,4.5nm,1.1s								
KBA	**Koelnbreinsper**	**83.35**	**328**	*e*P		**P**		**18 17 43.0**	**-0.1**
	comp=Z,0.5nm,0.4s								
LESA	**Schwarzleotal**	**83.36**	**328**	*e*P		**P**		**18 17 42.9**	**-0.1**
	comp=Z,2.9nm,0.7s								
SBM	**South Baldy**	**83.54**	**51**	P		**P**		**18 17 44.7**	**+0.1**
WTTA	**Wattenberg**	**83.92**	**329**	*e*P		**P**		**18 17 44.9**	**-1.1**
	comp=Z,1.3nm,0.5s								
ABTA	**Abfaltersbach**	**83.97**	**328**	*e*P		**P**		**18 17 45.1**	**-1.0**
	comp=Z,0.3nm,0.4s								
MOTA	**Moosalm**	**84.07**	**329**	*e*P		**P**		**18 17 46.0**	**-0.7**
	comp=Z,2.6nm,1.0s								
RETA	**Reutte**	**84.09**	**329**	*e*P		**P**		**18 17 46.5**	**-0.2**
	comp=Z,2.5nm,0.6s								
SQTA	**Sankt Quirin**	**84.13**	**329**	*e*P		**P**		**18 17 46.3**	**-0.7**
	comp=Z,1.7nm,0.6s								
STAL	**STALIGIAL**	**84.27**	**327**	P		**P**		**18 17 45.5**	**-2.0**
FETA	**Feichten**	**84.48**	**329**	*e*P		**P**		**18 17 47.7**	**-1.1**
	comp=Z,3.9nm,1.0s								
DAVA	**Damuels**	**84.61**	**330**	*e*P		**P**		**18 17 48.7**	**-0.7**
	comp=Z,4.8nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**84.99**	**329**	P		**P**		**18 17 51.6**	**+0.1**
TUE	**Stuetta**	**85.48**	**329**	P		**P**		**18 17 53.7**	**-0.2**
TUE				IAmb		IAmb		18 17 56.7	
	comp=Z,3.0nm,0.8s								
TX31	**Lajitas Ar. Si**	**88.89**	**53**	P		**P**		**18 18 11.7**	**+1.1**
TX31				IAmb		IAmb		18 18 12.8	
	comp=Z,1.6nm,0.7s								
TXAR	**Lajitas Array**	**88.89**	**53**	P		**P**		**18 18 12.2**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=305,slow=3.4,SNR=15								
	comp=Z,1.2nm,0.7s								
QSPA	**South Pole Qui**	**128.14**	**180**	PKP		**PKPdf**		**18 24 20.8**	**-0.1**
	comp=Z,0.9nm,1.0s,baz=289,slow=3.1,SNR=1.7								
SNAA	**Sanae**	**142.20**	**197**	PKhKP	PKPpre			18 24 44.1	
	comp=Z,0.6nm,0.7s,baz=199,slow=6.6,SNR=5.3								
LPAZ	**La Paz**	**145.56**	**59**	PKPbc		**PKPab**		**18 24 55.6**	**0.0**
	comp=Z,2.7nm,0.5s,baz=5.1,slow=4.6,SNR=8.3								

*IDC **23** 18:07:29.0±1.3,3.76N×63.40E, h0km, mb3.9/7, mbtmp3.9/7, MS3.7/7, Error ellipse: s-maj=41.9km s-min=24.9km az=43.0*
*NEIC **23** 18:07:30.0±1.1,3.7N±0.1×63.5E±0.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=36.2km s-min=7.9km az=118.0*
ISC 23 18:07:30.3±0.7,3.8N±0.1×63.4E±0.1, h10km, n32, σ2s26/23, mb4.3/12, MS3.8/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSEY	**Mahe Island**	**11.51**	**223**	Pn	**Pn**	**18 10 15.1**	**+0.2**
KOD	**Kodaikanal**	**15.39**	**65**	*e*P	**P**	**18 11 19.1**	**+6.5**
KOD				IAmb	IAmb	18 11 27.5	
	comp=Z,3μm,4.7s						
KOD				*e*S	**S**	**18 14 10.0**	**-5.1**
KOD				IAML		18 17 02.7	
	comp=N,15nm,1.0s						
GOA	**Goa**	**15.54**	**41**	*e*P	P	18 11 22.1	+8.2
GOA				IAmb	IAmb	18 11 32.1	
	comp=Z,241nm,1.9s						
GOA				*e*S	**S**	**18 14 14.8**	**-2.9**
GOA				IAML		18 14 41.2	
	comp=N,423nm,0.2s						
KAD	**Karad**	**17.13**	**37**	*e*P	P	18 11 44.1	+12
KAD				IAML		18 14 43.5	
	comp=Z,6μm,7.5s						
KAD				*e*S	**S**	**18 14 52.6**	**+2.4**
KAD				IAML		18 15 51.9	
	comp=N,26nm,5.2s						
NRDN	**NARMADA NAGAR**	**23.09**	**34**	*e*S	Sn	18 17 01.9	-2.3
SIMJ	**Simiganj**	**35.10**	**8**	P	**P**	**18 14 23.9**	**-0.1**
GAR	**Garm**	**35.63**	**9**	P	**P**	**18 14 28.6**	**+0.1**
CM31	**Chiang Mai Arr**	**37.72**	**64**	P	**P**	**18 14 44.5**	**-2.0**
CM31				IAmb	IAmb	18 15 12.0	
	comp=Z,11nm,1.5s						
CMAR	**Chiang Mai Arr**	**37.72**	**64**	P	**P**	**18 14 44.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**37.72**	**64**	P	**P**	**18 14 47.5**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=258,slow=8.8,SNR=7.2						
	comp=Z,1.8nm,1.1s						
AAK	**Ala-Archa**	**39.95**	**13**	LR	LR	18 31 45.9	
	comp=Z,56nm,19.4s,baz=174,slow=36						
MAKZ	**Makanchi**	**45.80**	**18**	P	**P**	**18 15 52.5**	**+0.2**
MKAR	**Makanchi Array**	**45.89**	**18**	P	**P**	**18 15 52.6**	**-0.3**
MKAR	**Makanchi Array**	**45.89**	**18**	P	**P**	**18 15 53.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=206,slow=6.3,SNR=2.3						
	comp=Z,0.4nm,0.7s						
LBTB	**Lobatse**	**46.52**	**230**	P	**P**	**18 15 57.3**	**-1.0**
LBTB				IAmb	IAmb	18 16 05.0	
	comp=Z,5.3nm,1.2s						
AKTO	**Aktyubinsk**	**46.72**	**355**	LR	LR	18 36 40.0	
	comp=Z,58nm,19.2s,baz=188,slow=38						
TSUM	**Tsumeb**	**50.49**	**241**	LR	LR	18 37 41.0	
	comp=Z,89nm,18.2s,baz=96,slow=36						
ARTI	**Arti**	**52.61**	**357**	P	**P**	**18 16 42.7**	**-1.5**
ARTI				IAmb	IAmb	18 16 47.4	
	comp=Z,5.4nm,0.9s						
ZAA0	**Zalesovo Array**	**53.01**	**16**	P	**P**	**18 16 45.3**	**-1.8**
ZAA0				IAmb	IAmb	18 16 48.1	
	comp=Z,4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**53.01**	**16**	P	**P**	**18 16 46.5**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=202,slow=7.7,SNR=10						
ZALV				LR	LR	18 38 57.8	
	comp=Z,27nm,19.4s,baz=137,slow=36						
	comp=Z,2.9nm,0.8s						
PSZ	**Piszkesteto**	**57.62**	**327**	P	**P**	**18 17 20.3**	**-0.4**
PSZ				IAmb	IAmb	18 17 25.4	
	comp=Z,3.9nm,0.9s						
H01W3	**Cape Leeuwin H**	**61.21**	**133**	T	T	19 23 50.8	
	baz=298						
H01W2	**Cape Leeuwin H**	**61.21**	**133**	T	T	19 23 58.6	
	baz=298						
H01W1	**Cape Leeuwin H**	**61.22**	**133**	T	T	19 24 00.3	
	baz=298						
HFS	**Hagfors**	**67.68**	**336**	P	**P**	**18 18 28.4**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=124,slow=7.6,SNR=1.7						
	comp=Z,1.4nm,0.7s						
ESDC	**Sonseca Array**	**70.22**	**311**	P	**P**	**18 18 44.4**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=103,slow=6.7,SNR=4.8						
	comp=Z,0.7nm,0.9s						
WRA	**Warramunga Arr**	**73.50**	**112**	P	**P**	**18 19 03.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=291,slow=5.5,SNR=7.3						
	comp=Z,1.1nm,0.8s						
ASAR	**Alice Springs**	**73.81**	**116**	P	**P**	**18 19 05.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=276,slow=6.3,SNR=9.1						
	comp=Z,1.1nm,0.8s						
YAK	**Yakutsk**	**75.72**	**26**	LR	LR	18 52 19.4	
	comp=Z,73nm,18.7s,baz=230,slow=36						
MA2	**Magadan**	**85.45**	**31**	LR	LR	18 59 59.3	
	comp=Z,56nm,18.5s,baz=280,slow=37						
SHEM	**Shemya Is, Ala**	**99.37**	**35**	LR	LR	19 10 11.4	
	comp=Z,30nm,18.2s,baz=176,slow=38						
TXAR	**Lajitas Array**	**144.81**	**340**	PKP	**PKPdf**	**18 27 09.6**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=51,slow=1.4,SNR=4.2						

*MOS **23** 18:11:16.3±1.1,37.27N×142.06E, h39km, mb4.7/3, Error ellipse: s-maj=11.3km s-min=6.8km az=84.1*
*NIED **23** 18:11:18.0,37.16N×141.91E, h50km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.54; Mθθ-0.77; Mφφ-0.77; Mrθ-0.26; Mθφ-0.58; Mφr-0.37; Fault plane solution: M0 1.51000×10^15 NP1: φs48.00000°, δ37.00000°, λ94.00000°. NP2:φs222.00000°, δ54.00000°, λ87.00000°.*
*JMA **23** 18:11:18.0±0.2,37.2N±0.4×14.2E±, h50km±2km, MV4.0/40,E OFF FUKUSHIMA PREF*
*NEIC **23** 18:11:19.4±1.8,37.22N±0.05×141.87E±0.09, h41km±7km, mb4.6/32, Error ellipse: s-maj=10.6km s-min=7.7km az=81.0*
*IDC **23** 18:11:19.2±0.7,37.06N×141.84E, h44km±5km, mb3.7/14, mbtmp4.0/17, ML3.2/3, MS3.5/1, Error ellipse: s-maj=12.8km s-min=9.7km az=119.0*
ISC 23 18:11:17.4±0.6, 37.16N±0.05×142.08E±0.05, h33km±3km, h32km:pP-P, n126, σ1s77/146, mb4.4/34, MS3.6/3, 15D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.98**	**282**	⇓*i*P	**Pn**	**18 11 33.9**	**-1.1**
JFK				⇓S	**Sn**	**18 11 45.0**	**-2.8**
ONAJ	**Iwakimizuishiy**	**1.02**	**267**	⇓*i*P	**Pn**	**18 11 34.3**	**-1.2**
ONAJ				⇓S	**Sn**	**18 11 46.1**	**-2.7**
JMST	**Minamisoumatoc**	**1.10**	**301**	⇓*i*P	**Pn**	**18 11 35.6**	**-0.9**
JMST				⇓S	**Sn**	**18 11 48.5**	**-2.1**
JFFD	**Fukushimafurud**	**1.22**	**267**	⇓*i*P	**Pn**	**18 11 37.0**	**-1.0**
JFFD				⇓S	**Sn**	**18 11 50.7**	**-2.7**
JMM	**Marumori**	**1.24**	**305**		**Pn**	**18 11 37.5**	**-1.0**
JMM				Sn	**Sn**	**18 11 49.1**	**-4.9**
JMM	**Marumori**	**1.24**	**305**	P	**Pn**	**18 11 37.6**	**-0.8**
JMM	**Marumori**	**1.24**	**305**	⇓*i*P	**Pn**	**18 11 37.7**	**-0.8**
JHO	**Hitachi**	**1.33**	**246**	*i* P	**Pn**	**18 11 38.6**	**-1.1**
JIO	**Ouri**	**1.41**	**336**	⇓*i*P	**Pn**	**18 11 41.0**	**+0.2**
JIO				⇓S	**Sn**	**18 11 57.6**	**-0.7**
JOTO	**OTAMA OYAMA**	**1.45**	**286**	*i* P	**Pn**	**18 11 41.2**	**-0.1**
JOTO				S	**Sn**	**18 11 57.8**	**-1.3**
JOU	**Okura**	**1.64**	**317**	*i* P	**Pn**	**18 11 44.0**	**0.0**
JFY	**Yanaizu**	**1.91**	**278**	⇓*i*P	**Pn**	**18 11 47.5**	**-0.2**
JFY				⇓S	**Sn**	**18 12 09.7**	**-0.9**
JMK	**Ichinoseki**	**1.91**	**339**	⇓*i*P	**Pn**	**18 11 48.4**	**+0.7**
JYS	**Shirataka**	**1.92**	**304**	⇓*i*P	**Pn**	**18 11 47.9**	**+0.2**
JSD	**Sado**	**3.16**	**287**	P	**Pn**	**18 12 04.3**	**-0.5**
MJAR	**Matsushiro Arr**	**3.17**	**260**		**Pn**	**18 12 03.6**	**-1.3**
MJAR	**Matsushiro Arr**	**3.17**	**260**	P	**Pn**	**18 12 05.2**	**+0.2**
	0.6nm,0.3s,baz=88,slow=17,SNR=32						
MJAR				S	**Sn**	**18 12 37.7**	**-3.8**
	14nm,0.6s,baz=123,slow=17,SNR=1.9						
	6.1nm,0.4s						
MAJO	**Matsushiro**	**3.17**	**260**		**Pn**	**18 12 05.2**	**+0.3**
MAJO	**Matsushiro**	**3.17**	**260**	P	**Pn**	**18 12 05.9**	**+1.0**
MAJO	**Matsushiro**	**3.17**	**260**	P	**Pn**	**18 12 05.2**	**+0.3**
MJB9	**Matsu-Tunnel**	**3.17**	**260**		**Pn**	**18 12 05.0**	**0.0**
JTM	**Tenmabayashi**	**3.70**	**348**		**Pn**	**18 12 11.0**	**-1.3**
JTM	**Tenmabayashi**	**3.70**	**348**	P	**Pn**	**18 12 13.1**	**+0.8**
JGF	**Kuroka**	**4.12**	**249**		**Pn**	**18 12 17.6**	**-0.5**
JGF				Sn	**Sn**	**18 13 04.1**	**-0.9**
JGF	**Kuroka**	**4.12**	**249**	P	**Pn**	**18 12 19.8**	**+1.8**
JHJ2	**Mitsune**	**4.45**	**205**	Pn	**Pn**	**18 12 22.0**	**-0.5**
JHJ2	**Mitsune**	**4.45**	**205**	P	**Pn**	**18 12 22.2**	**-0.3**
JHJ	**Hachijo jima 2**	**4.45**	**206**	P	**Pn**	**18 12 22.4**	**-0.2**
	22nm,0.3s,baz=37,slow=18,SNR=10						
JHJ				S	**Sn**	**18 13 09.3**	**-3.9**
	132nm,0.3s,baz=56,slow=22,SNR=12						
	42nm,0.3s						
INU	**Inuyama**	**4.47**	**248**		**Pn**	**18 12 23.0**	**+0.1**
INU	**Inuyama**	**4.47**	**248**	P	**Pn**	**18 12 24.9**	**+2.0**
ERM	**Erimo**	**4.92**	**9**		**Pn**	**18 12 28.8**	**-0.2**
ERM	**Erimo**	**4.92**	**9**	P	**Pn**	**18 12 29.1**	**+0.2**
ERM	**Erimo**	**4.92**	**9**	P	**Pn**	**18 12 28.8**	**-0.2**
JEM	**Erimo**	**4.92**	**9**	P	**Pn**	**18 12 29.4**	**+0.5**
NMR	**Nemuro--Hokkai**	**6.80**	**23**	*e*P	**Pn**	**18 12 53.2**	**-1.6**
NMR				*e*S	**Sn**	**18 14 04.1**	**-6.9**
ASAJ	**Asahikawa**	**6.96**	**3**	P	**Pn**	**18 12 57.4**	**+0.4**
	6.8nm,0.3s,baz=199,slow=14,SNR=25						
ASAJ				S	**Sn**	**18 14 10.5**	**-4.4**
	19nm,0.7s,baz=180,slow=20,SNR=5.6						
ASAJ	**Asahikawa**	**6.96**	**3**	P	**Pn**	**18 12 57.0**	**0.0**
JKA	**Kamikawa-asahi**	**6.96**	**3**	Pn	**Pn**	**18 12 57.0**	**+0.1**
GLVR	**Golovnino**	**7.07**	**21**	P	**Pn**	**18 12 57.5**	**-1.0**
GLVR				*e*S	**Sn**	**18 14 13.9**	**-3.8**
RUSJ	**Misakicho**	**7.34**	**18**	P	**Pn**	**18 13 02.6**	**+0.4**
RUSJ				*e*S	**Sn**	**18 14 20.4**	**-3.9**
YUK	**Yuzh-Kuril'sk**	**7.44**	**22**	P	**Pn**	**18 13 02.4**	**-1.2**
YUK				S	**Sn**	**18 14 21.8**	**-5.0**
YUK				pmax	pmax		
	comp=Z,118nm,0.3s						
JMN	**Monobe**	**7.52**	**245**	Pn	**Pn**	**18 13 04.3**	**-0.4**
KUR	**Kuril'sk**	**9.16**	**27**	*e*P	**Pn**	**18 13 26.9**	**-0.3**
KUR				*e*S	**Sn**	**18 15 04.3**	**-4.8**
KUR				smax	smax		
	comp=N,62nm,0.5s						
KUR				smax	smax		
	comp=E,38nm,0.6s						
YSS	**Yuzhno-Sakhali**	**9.80**	**3**	Pn	**Pn**	**18 13 36.6**	**+0.7**
YSS	**Yuzhno-Sakhali**	**9.80**	**3**	*e*P	**Pn**	**18 13 36.6**	**+0.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
JCJ	**Chichijima**	**10.04**	**179**	Pn	Pn	18 13 36.1	-3.2
JCJ	**Chichijima**	**10.04**	**179**	P	**Pn**	**18 13 36.6**	**-2.6**
	comp=Z,27nm,0.4s,baz=276,slow=23,SNR=12						
JCJ				S	Sn	18 15 18.9	-12
	comp=Z,30nm,0.5s,baz=91,slow=22,SNR=5.6						
JCJ	**Chichijima**	**10.04**	**179**	P	**Pn**	**18 13 39.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.39**	**316**	P	**Pn**	**18 13 43.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=123,slow=12,SNR=2.5						
	comp=Z,1.4nm,0.7s						
KSRS	**Korea Array**	**11.28**	**276**	P	**Pn**	**18 13 58.7**	**+2.5**
	comp=Z,1.6nm,0.8s,baz=95,slow=13,SNR=5.8						
ZEA	**Zeya**	**19.50**	**333**	*e*P	**P**	**18 15 40.9**	**-0.7**
NJ2	**Nanjing**	**19.77**	**262**	*e*P	**P**	**18 15 44.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XLT	**XiLinHaoTe**	**20.82**	**297**	*e*P	**P**	**18 15 56.9**	**+0.7**
XLT				pP	pP	18 16 05.5	+0.8
XLT				PP	**PnPn**	**18 16 20.0**	**+5.1**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.94**	**288**	*e*P	**P**	**18 16 24.9**	**-3.7**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,53nm,4.7s						
HHC				LR	LR		
	comp=N,150nm,10.6s						
HHC				LR	LR		
	comp=E,140nm,11.1s						
HHC				LR	LR		
	comp=Z,49nm,10.3s						
YAK	**Yakutsk**	**26.06**	**347**	P	**P**	**18 16 46.6**	**-0.9**
YAK				IAmb	IAmb	18 17 04.3	
	comp=Z,12nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	18 46 20.5	
	baz=314,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	18 46 36.1	
	baz=314,slow=75,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**27.78**	**122**	T	T	18 46 38.7	
	baz=314,slow=75,SNR=24						
SONM	**Songino Array**	**28.16**	**304**	P	**P**	**18 17 05.7**	**-1.0**
SONM	**Songino Array**	**28.16**	**304**	P	**P**	**18 17 06.7**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=109,slow=9.3,SNR=8.0						
SONM				pP	**pP**	**18 17 16.7**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=110,slow=8.6,SNR=6.5						
	comp=Z,2.0nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	18 47 35.7	
	baz=316,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	18 47 35.9	
	baz=316,slow=76,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	18 47 38.1	
	baz=316,slow=76,SNR=4.8						
PZH	**PanZhiHua**	**35.64**	**264**	P	**P**	**18 18 12.4**	**-0.1**
WMQ	**Urumqi**	**41.26**	**297**	*e*P	**P**	**18 19 01.3**	**+1.9**
WMQ				LR	LR		
	comp=Z,140nm,23.7s						
ZAA0	**Zalesovo Array**	**42.22**	**312**	P	**P**	**18 19 06.2**	**-0.9**
ZALV	**Zalesovo Beam**	**42.22**	**312**		**P**	**18 19 06.5**	**-0.5**
ZALV	**Zalesovo Beam**	**42.22**	**312**	P	**P**	**18 19 07.1**	**0.0**
	comp=Z,1.1nm,0.4s,baz=75,slow=7.3,SNR=8.0						
ZALV				pP	**sP**	**18 19 19.2**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=85,slow=6.8,SNR=8.6						
ZALV				PcP	**PcP**	**18 21 00.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=86,slow=3.7,SNR=2.2						
	comp=Z,1.1nm,0.4s						
N15K	**Kwethluk River**	**42.81**	**39**	P	**P**	**18 19 14.2**	**+2.4**
N15K				IAmb	IAmb	18 19 27.1	
	comp=Z,19nm,1.4s						
M16K	**Timber Creek**	**43.45**	**37**	P	**P**	**18 19 18.2**	**+1.3**
M16K				IAmb	IAmb	18 19 58.6	
	comp=Z,14nm,1.5s						
M17K	**Holitna River**	**44.22**	**37**	P	**P**	**18 19 24.8**	**+1.7**
M17K				IAmb	IAmb	18 19 30.5	
	comp=Z,7.7nm,1.2s						
G18K	**Tagagawik**	**44.27**	**30**	P	**P**	**18 19 24.7**	**+1.2**
G18K				IAmb	IAmb	18 20 03.3	
	comp=Z,11nm,1.5s						
MK31	**Makanchi Array**	**44.50**	**302**	P	**P**	**18 19 25.2**	**-0.4**
MK31	**Makanchi Array**	**44.50**	**302**	P	**P**	**18 19 25.2**	**-0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**44.50**	**302**		**P**	**18 19 24.6**	**-1.0**
MKAR	**Makanchi Array**	**44.50**	**302**	P	**P**	**18 19 25.2**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=87,slow=9.0,SNR=10						
MKAR				pP	**sP**	**18 19 37.6**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=89,slow=9.8,SNR=18						
	comp=Z,1.1nm,0.6s						
N18K	**Kilae Creek**	**44.93**	**38**	P	**P**	**18 19 31.7**	**+2.9**
N18K				IAmb	IAmb	18 19 53.1	
	comp=Z,7.2nm,1.3s						
KURK	**Kurchatov**	**46.27**	**308**		**P**	**18 19 38.7**	**-0.8**
KURK	**Kurchatov**	**46.27**	**308**	P	**P**	**18 19 40.0**	**+0.5**
KURK				*PP	**sP**	**18 19 52.7**	**+0.1**
ILSW	**Iliamna Southw**	**46.28**	**39**	P	**P**	**18 19 41.7**	**+2.1**
KURBB	**Kurchatov Arra**	**46.34**	**308**	P	**P**	**18 19 40.0**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=83,slow=8.5,SNR=20						
KURBB				pP	**sP**	**18 19 52.6**	**-0.5**
	comp=Z,8.8nm,0.7s,baz=83,slow=8.3,SNR=19						
	comp=Z,2.7nm,0.6s						
KDAK	**Kodiak Island**	**46.65**	**42**	P	**P**	**18 19 43.6**	**+1.2**
KDAK	**Kodiak Island**	**46.65**	**42**	LR	LR	18 42 18.2	
	comp=Z,50nm,19.2s,baz=218,slow=40						
KDAK	**Kodiak Island**	**46.65**	**42**	P	**P**	**18 19 43.6**	**+1.2**
CAST	**Castle Rocks**	**46.82**	**34**	P	**P**	**18 19 45.9**	**+2.2**
CAST				IAmb	IAmb	18 20 24.2	
	comp=Z,7.1nm,1.5s						
E22K	**Anaktuvuk Pass**	**47.24**	**28**	P	**P**	**18 19 49.1**	**+2.1**
E22K				IAmb	IAmb	18 20 19.0	
	comp=Z,12nm,1.3s						
BPAW	**Bear Paw Mtn.**	**47.32**	**33**	P	**P**	**18 19 49.5**	**+1.9**
BPAW				IAmb	IAmb	18 20 11.9	
	comp=Z,8.9nm,1.4s						
SCM	**Sheep Creek Mo**	**49.05**	**36**	P	**P**	**18 20

baz=292
H03N1 Juan Fernandez 146.52 96 T T 21 15 09.1
baz=292

*IDC **23** 18:36:49.4±8.3, 7.˚56S×128.˚37E, h167^{km}±89^{km}, mb2.8/1, mbtmp3.5/5, Error ellipse: s-maj=83.6km s-min=25.5km az=38.0*
ISC 23 18:36:48.2±1.0, **7.˚65S**±0.˚08×**128.˚54E**±0.˚08, **h151**^{km}, **n12, σ2°98/15, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.76**	**97**	P	**Pn**	**18 37 35.0**	**+2.4**
SOEI	**Soe**	**4.71**	**243**	P	Pn	18 38 01.5	+3.5
DRS	**Darwin Rock St**	**5.29**	**154**	P	**Pn**	**18 38 09.8**	**+4.3**
BATI	**Baumata**	**5.44**	**242**	P	**Pn**	**18 38 09.6**	**+2.0**
	19nm,0.4s,baz=54,slow=18,SNR=9.0						
BATI				S	**Sn**	**18 39 08.6**	**-1.0**
	60nm,0.4s,baz=339,slow=23,SNR=17						
MTN	**Manton Dam**	**5.76**	**154**	P	**Pn**	**18 38 14.9**	**+3.1**
FAKI	**Fak Fak**	**5.98**	**38**	P	**Pn**	**18 38 13.4**	**-1.4**
KDU	**Kakadu**	**6.33**	**143**	P	**Pn**	**18 38 22.3**	**+2.9**
FITZ	**Fitzroy Crossi**	**10.76**	**195**	P	**Pn**	**18 39 19.4**	**+1.1**
	0.9nm,0.3s,baz=20,slow=12,SNR=2.4						
FITZ				S	**Sn**	**18 41 15.5**	**-1.9**
	1.5nm,0.3s,baz=16,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**13.45**	**156**	P	**Pn**	**18 39 54.1**	**+0.9**
	0.2nm,0.3s,baz=334,slow=14,SNR=8.6						
WRA				S	**Sn**	**18 42 16.5**	**-5.8**
	1.3nm,0.3s,baz=336,slow=24,SNR=10.0						
ASAR	**Alice Springs**	**16.74**	**163**	P	**Pn**	**18 40 36.6**	**+2.6**
	0.5nm,0.5s,baz=345,slow=13,SNR=11						
ASAR				S	**S**	**18 43 38.3**	**-1.9**
	0.5nm,0.5s,baz=342,slow=24,SNR=5.9						
MKAR	**Makanchi Array**	**67.98**	**328**	P	**P**	**18 47 29.2**	**-1.8**
	0.2nm,0.6s,baz=144,slow=5.4,SNR=1.9						
	0.2nm,0.6s						
SNAA	**Sanae**	**94.69**	**194**	⇑P	**P**	**18 49 54.2**	**+2.2**
	comp=Z,4.0nm,0.3s						

*NEIC **23** 18:48:51.2±1.1, 35.˚812N±0.˚008×98.˚11W±0.˚01, h7^{km}±5^{km}, Error ellipse: s-maj=1.4km s-min=1.0km az=126.0*
NEIC 23 18:48:51.3±1.0, **35.˚818N**±0.˚010×**98.˚105W**±0.˚009, **h5**^{km}±1^{km}, **mb_Lg2.0**/9, **ML2.6**/29, **ML2.5**/48, **Error ellipse: s-maj=2.9km s-min=1.6km az=305.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSTR	**Hydro, Custer**	**0.51**	**250**		Pg	18 49 01.1	+0.1
CSTR					Sg	18 49 08.4	+0.8
OK029	**Liberty Lake**	**0.53**	**92**		Pg	18 49 01.5	+0.1
OK029					Sg	18 49 09.3	+1.0
OK029				IAML		18 49 09.4	
	257nm,0.1s						
OK004	**Okla Sci Mus**	**0.59**	**120**		Pg	18 49 02.7	+0.1
OK004					Sg	18 49 11.1	+0.8
ADOK	**Arcadia Dam**	**0.62**	**105**	Pg	Pg	18 49 02.6	-0.5
ADOK				Sg	Sg	18 49 12.1	+0.9
OKCFA	**Oklahoma City**	**0.67**	**127**		Pg	18 49 04.0	-0.1
OKCFA					Sg	18 49 13.1	+0.4
OKCSW	**OKLAHOMA CITY**	**0.68**	**127**		Pg	18 49 04.8	+0.5
OKCSW				Sg	Sg	18 49 13.2	0.0
OKCSW				IAML		18 49 13.8	
	comp=N,307nm,0.4s						
OKCSW				IAML		18 49 14.1	
	comp=E,312nm,0.1s						
CROK	**Carrier**	**0.69**	**8**		Pg	18 49 04.5	0.0
CROK				Sg	Sg	18 49 14.2	+0.6
CROK				IAML		18 49 14.8	
	comp=E,337nm,0.2s						
OK038	**West end E0370**	**0.84**	**322**		Pg	18 49 07.0	-0.3
OK038				Sg	Sg	18 49 18.7	+0.5
NOKA	**Waynoka**	**1.05**	**321**		Pg	18 49 10.9	-0.6
NOKA				Sg	Sg	18 49 25.0	-0.2
OK052	**Battle Ridge R**	**1.07**	**80**		Pg	18 49 11.2	-0.6
OK052					Sg	18 49 25.5	-0.2
OK052				IAML		18 49 33.2	
	comp=E,91nm,0.1s						
OK052				IAML		18 49 34.8	
	comp=E,82nm,0.2s						
ELIS	**Ellis County**	**1.09**	**283**	Pg	Pg	18 49 11.6	-0.6
ELIS				Sg	Sg	18 49 26.2	-0.2
ELIS				IAML		18 49 29.3	
	comp=E,122nm,0.2s						
ELIS				IAML		18 49 35.1	
	comp=N,162nm,0.2s						
KAN14	**Manchester OK**	**1.14**	**6**		Pg	18 49 12.4	-0.8
KAN14					Sg	18 49 28.1	0.0
KAN14				IAML		18 49 32.8	
	comp=E,151nm,0.1s						
KAN14				IAML		18 49 33.9	
	comp=N,92nm,0.2s						
BLOK	**Blackwell**	**1.18**	**37**		Pg	18 49 13.5	-0.5
BLOK				Sg	Sg	18 49 29.5	+0.2
QUOK	**Quay**	**1.19**	**72**		Pg	18 49 13.1	-0.9
QUOK				Sg	Sb	18 49 29.9	0.0
QUOK				IAML		18 49 36.7	
	comp=N,130nm,0.2s						
WMOK	**Wichita Mounta**	**1.21**	**207**		Pg	18 49 13.0	-1.4
WMOK	**Wichita Mounta**	**1.21**	**207**	Sg	Sg	18 49 28.8	-1.4
KAN13	**South Haven SW**	**1.30**	**23**		Pn	18 49 12.5	-3.6
DEOK	**Depew**	**1.31**	**88**		Pn	18 49 15.1	-1.0
DEOK					Sb	18 49 33.5	+0.1
DEOK				IAML		18 49 37.0	
	comp=N,67nm,0.2s						
DEOK				IAML		18 49 37.9	
	comp=E,85nm,0.2s						
KAN01	**Argonia South**	**1.36**	**12**		Pn	18 49 16.3	-0.7
KAN01				Sg	Sb	18 49 34.8	-0.1
KAN01				IAmb_Lg		18 49 35.0	
	comp=Z,8.1nm,0.7s						
KAN08	**Anthony NE Sta**	**1.41**	**4**		Pn	18 49 17.2	-0.4
T35A	**Sooner Cattle**	**1.69**	**49**		Pn	18 49 21.1	-0.3
TUL3	**Leonard**	**1.88**	**87**		Pn	18 49 24.4	+0.3
SMWD	**Samnorwood**	**1.89**	**248**		Pn	18 49 24.2	0.0
SMWD				IAmb_Lg		18 49 53.1	
	comp=Z,7.5nm,0.8s						
LOOK	**Love County**	**1.97**	**157**		Pn	18 49 25.9	+0.6
LOOK					Sg	18 49 53.6	-1.0
WTFS	**Witchita Falls**	**2.07**	**188**		Pn	18 49 26.3	-0.3
RLO	**Rose Lookout**	**2.52**	**81**		Pn	18 49 32.8	-0.1
APMT	**Aspermont**	**2.99**	**214**	Pn	Pn	18 49 38.2	-1.2
PLPT	**Palo Pinto**	**3.00**	**183**	Pn	Pn	18 49 39.7	+0.2
AMTX	**Amarillo**	**3.07**	**253**		Pn	18 49 41.2	+0.7
U38A	**Gravette**	**3.07**	**77**	Pn	Pn	18 49 40.6	+0.1
DKNS	**Dickens**	**3.16**	**228**	Pn	Pn	18 49 42.2	+0.4
DKNS				IAmb_Lg		18 50 33.5	
	comp=Z,4.6nm,0.9s						
HHAR	**Hobbs**	**3.41**	**81**	Pn	Pn	18 49 45.3	+0.2
SN07	**Snyder 07**	**3.56**	**221**	Pn	Pn	18 49 46.6	-0.6
Z38A	**Mt. Pleasant**	**3.62**	**134**		Pn	18 49 47.5	-0.6
RTBA	**Rita Blanca**	**3.80**	**281**	Pn	Pn	18 49 49.6	-1.0
MIAR	**Mount Ida**	**3.92**	**108**		Pn	18 49 51.0	-1.1
X40A	**Basin Creek Fa**	**4.52**	**106**	Pn	Pn	18 49 59.4	-1.0
X40A				IAmb_Lg		18 51 20.7	
	comp=Z,4.3nm,0.8s						
BRDY	**Brady**	**4.58**	**190**	Pn	Pn	18 49 59.6	-1.6
WHAR	**Wooly Hollow**	**4.77**	**95**	Pn	Pn	18 49 59.6	-4.2
MGMO	**Mountain Grove**	**4.89**	**72**	Pn	Pn	18 50 00.8	-4.6
T25A	**Trinidad**	**5.25**	**286**	Pn	Pn	18 50 07.7	-2.9

*JMA **23** 18:57:54.7±0.1, 24.˚3N±0.˚6×122.˚0E±0.˚5, h34^{km}±2^{km}, MV3.1/12, TAIWAN REGION*
*TAP **23** 18:57:55.2, 24.˚40N×121.˚91E, h22^{km}, ML3.6, B*
ISC 23 18:57:54.7±0.8, **24.˚38N**±0.˚01×**121.˚99E**±0.˚01, **h18**^{km}±2^{km}, **n140, σ0°66/232, 19C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EWUT	**Wuta**	**0.21**	**290**	⇑*iP*	**Pb**	**18 57 59.8**	**+0.3**
EWUT				S	**Sb**	**18 58 03.1**	**+0.4**
EOS2	**EOS2**	**0.22**	**79**	⇑*iP*	**Pg**	**18 58 01.2**	**+1.3**
ENA	**Nanau**	**0.23**	**283**	⇑*iP*	**Pb**	**18 58 00.1**	**-0.1**
ENA				S	**Sb**	**18 58 03.8**	**0.0**
EAHA	**Aohua**	**0.23**	**259**	⇑P	**Pb**	**18 58 00.1**	**-0.1**
EAHA				S	**Sg**	**18 58 04.6**	**+0.7**
EHP	**Heping Village**	**0.24**	**254**	*eP*	**Pb**	**18 58 00.2**	**0.0**
EHP				*eS*	**Sg**	**18 58 04.4**	**+0.4**
ESAO	**Su ao**	**0.24**	**326**	⇑*iP*	**Pb**	**18 58 00.3**	**0.0**
ESAO				*eS*	**Sb**	**18 58 03.9**	**-0.1**
TWC	**Suao**	**0.27**	**331**	⇑*iP*	**Pb**	**18 58 00.7**	**-0.1**
TWC				*eS*	**Sb**	**18 58 04.4**	**-0.5**
EOS3	**EOS3**	**0.31**	**107**	⇑*iP*	**Pb**	**18 58 02.5**	**+0.8**
EOS3				*eS*	**Sn**	**18 58 08.4**	**-1.8**
EOS4	**EOS4**	**0.39**	**130**	*eP*	**Pb**	**18 58 03.1**	**+0.2**
ETL	**Fush Village**	**0.40**	**237**	*eP*	**Pg**	**18 58 02.9**	**0.0**
ETL				*eS*	**Sb**	**18 58 09.7**	**+0.6**
NACB	**Ninganchiao**	**0.41**	**241**	P	**Pg**	**18 58 03.3**	**+0.1**
NACB	**Ninganchiao**	**0.41**	**241**	⇑*iP*	**Pg**	**18 58 02.8**	**-0.4**
NACB				*eS*	**Sg**	**18 58 09.5**	**+0.5**
ILA	**Ilan**	**0.45**	**330**	*iP*	**Pg**	**18 58 04.1**	**+0.3**
ILA				S	**Sg**	**18 58 10.5**	**+0.5**
LATG	**Datong**	**0.45**	**291**	⇑*iP*	**Pg**	**18 58 03.8**	**-0.1**
LATG				*eS*	**Sg**	**18 58 09.8**	**-0.4**
TWE	**Neicheng**	**0.45**	**319**	⇑*iP*	**Pg**	**18 58 03.9**	**0.0**
TWE				*eS*	**Sg**	**18 58 09.8**	**-0.3**
TWD	**Chiawan**	**0.47**	**231**	*eP*	**Sg**	**18 58 04.1**	**0.0**
TWD				*eS*	**Sb**	**18 58 11.7**	**+0.8**
ENTT	**Nioudou**	**0.47**	**304**	⇑*iP*	**Pg**	**18 58 04.0**	**-0.2**
ENTT				*iS*	**Sg**	**18 58 10.0**	**-0.6**
EGS		**0.47**	**353**	*eP*	**Pg**	**18 58 04.5**	**+0.3**
EGS				S	**Sg**	**18 58 10.9**	**+0.3**
ETLH	**Xiulin Townshi**	**0.49**	**250**	⇑*iP*	**Pg**	**18 58 04.3**	**-0.4**
ETLH				*eS*	**Sb**	**18 58 12.5**	**+0.7**
FUSB	**Fushanzhiwuyua**	**0.53**	**316**	⇑*iP*	**Pb**	**18 58 05.3**	**-0.2**
FUSB				*eS*	**Sb**	**18 58 12.0**	**-0.7**
HWA	**Hwalien**	**0.53**	**222**	*eP*	**Pg**	**18 58 06.5**	**+1.2**
NNSB	**Datong**	**0.56**	**275**	⇑*iP*	**Pb**	**18 58 05.6**	**-0.3**
NNSB				*eS*	**Sb**	**18 58 10.7**	**-2.8**
NWLT	**Wulai**	**0.60**	**312**	⇑P	**Pb**	**18 58 06.3**	**-0.3**
NWLT				*eS*	**Sb**	**18 58 14.2**	**-0.5**
ETM	**Tongmen**	**0.61**	**228**	⇑P	**Pb**	**18 58 06.6**	**-0.1**
ETM				*eS*	**Sg**	**18 58 15.8**	**+0.7**
TIPB	**Shuangxi**	**0.61**	**346**	*iP*	**Pb**	**18 58 06.8**	**0.0**
TIPB				S	**Sb**	**18 58 15.2**	**+0.1**
TWB1	**Santiao Chiao**	**0.63**	**360**	*eP*	**Pb**	**18 58 07.3**	**+0.2**
TWB1				*eS*	**Sb**	**18 58 15.4**	**-0.1**
YHNB	**Yeheng**	**0.63**	**298**	P	**Pb**	**18 58 07.3**	**+0.1**
YHNB	**Yeheng**	**0.63**	**298**	S	**Sb**	**18 58 15.8**	**+0.1**
YHNB	**Yeheng**	**0.63**	**298**	⇑*eP*	**Pb**	**18 58 07.0**	**-0.2**
YHNB				*eS*	**Sb**	**18 58 14.6**	**-1.0**
LXIB	**Xiulin Townshi**	**0.64**	**236**	⇓*iP*	**Pb**	**18 58 06.9**	**-0.4**
LXIB				*eS*	**Sg**	**18 58 17.1**	**+1.3**
FUSS	**Fushou**	**0.69**	**260**	*eP*	**Pb**	**18 58 08.4**	**+0.1**
FUSS				*eS*	**Sb**	**18 58 17.6**	**-0.1**
WHF	**Hehuan Shan**	**0.70**	**251**	*eP*	**Pb**	**18 58 08.5**	**-0.1**
WHF				*eS*	**Sb**	**18 58 18.0**	**0.0**
SHUL	**Shoufeng**	**0.70**	**214**	P	**Pb**	**18 58 08.6**	**+0.3**
SHUL				*eS*	**Sn**	**18 58 20.1**	**0.0**
TWA	**Mucha**	**0.71**	**328**	*eP*	**Pb**	**18 58 08.5**	**+0.1**
TWA				*eS*	**Sb**	**18 58 17.4**	**-0.4**
NWF	**Wu-fen Shan**	**0.72**	**345**	*iP*	**Pg**	**18 58 09.3**	**+0.5**
NWF				*iS*	**Sb**	**18 58 18.6**	**+0.4**
WFSB	**Wu-fen Shan**	**0.72**	**345**	⇑P	**Pg**	**18 58 09.3**	**+0.5**
WFSB				*eS*	**Sb**	**18 58 18.3**	**+0.1**
SXI1	**Grass Mountain**	**0.72**	**352**	P	**Pb**	**18 58 09.0**	**+0.2**
SXI1				S	**Sb**	**18 58 18.8**	**+0.4**
TATO	**Taipei**	**0.75**	**323**	P	**Pb**	**18 58 09.5**	**+0.3**
TATO	**Taipei**	**0.75**	**323**	S	**Sg**	**18 58 19.8**	**+0.4**
TWT	**Tachien**	**0.75**	**261**	*eP*	**Pg**	**18 58 10.0**	**+0.5**
TWT				*eS*	**Sg**	**18 58 19.9**	**+0.4**
ESL	**Shilin**	**0.76**	**222**	⇓P	**Pb**	**18 58 08.7**	**-0.7**
ESL				*eS*	**Sg**	**18 58 20.5**	**+0.9**
TDCB	**Techi**	**0.77**	**261**	*eP*	**Pb**	**18 58 09.6**	**0.0**
TDCB				*eS*	**Sb**	**18 58 19.2**	**-0.6**
TNOU	**National Taiwa**	**0.80**	**346**	*eP*	**Pb**	**18 58 10.3**	**+0.4**
TNOU				*eS*	**Sb**	**18 58 20.6**	**+0.2**
NFF	**Wufeng Townshi**	**0.83**	**288**	*eP*	**Pb**	**18 58 11.1**	**+0.5**
KSHI	**Guanxi Townshi**	**0.84**	**298**	*eP*	**Pn**	**18 58 11.8**	**+0.2**
OWD	**Renai**	**0.85**	**241**	P	**Pb**	**18 58 10.7**	**-0.4**
OWD				S	**Sg**	**18 58 22.9**	**+0.2**
WARBT	**Fenglin Townsh**	**0.86**	**220**	*eP*	**Pb**	**18 58 10.3**	**-0.8**
WARBT				*eS*	**Sb**	**18 58 22.6**	**+0.4**
YM01	**YM01**	**0.86**	**334**	P	**Pg**	**18 58 11.6**	**+0.1**
YM01				*eS*	**Sb**	**18 58 22.6**	**+0.3**
JYNG	**Yonagunijimaku**	**0.87**	**85**	*eP*	**Pb**	**18 58 11.2**	**-0.1**
JYNG				*eS*	**Sg**	**18 58 23.6**	**+0.3**
ZUZH	**Zhuzihu**	**0.88**	**333**	*eP*	**Pg**	**18 58 12.2**	**+0.3**
ZUZH				*eS*	**Sb**	**18 58 22.6**	**-0.4**
WUSB	**Renai**	**0.89**	**245**	P	**Pb**	**18 58 11.4**	**-0.2**
WUSB				*eS*	**Sb**	**18 58 23.3**	**+0.3**
YM08	**YM08**	**0.89**	**336**	*eP*	**Pb**	**18 58 11.6**	**+0.1**
TWS1	**Kuangyinshan**	**0.89**	**324**	P	**Pn**	**18 58 12.6**	**+0.3**
TWS1				*eS*	**Sb**	**18 58 22.7**	**-0.4**
ANP	**Anpu**	**0.91**	**332**	*eP*	**Pg**	**18 58 12.0**	**+0.4**
NTST	**Danshui**	**0.93**	**328**	*iP*	**Pg**	**18 58 13.7**	**+1.0**
NTST				*eS*	**Sg**	**18 58 25.1**	**+0.2**
LIOB	**Emei**	**0.93**	**287**	P	**Pg**	**18 58 13.1**	**+0.3**
LIOB				*eS*	**Sb**	**18 58 24.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.93**	**85**	P	**Pb**	**18 58 12.3**	**0.0**
YOJ	**Yonaguni jima**	**0.93**	**85**	S	**Sg**	**18 58 25.2**	**0.0**
YOJ	**Yonaguni jima**	**0.93**	**85**	*eP*	**Pb**	**18 58 12.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.93**	**85**	*eP*	**Pb**	**18 58 12.2**	**0.0**
YOJ				*eS*	**Sg**	**18 58 25.0**	**-0.2**
NSTT	**Nanjuang**	**0.94**	**286**	*eP*	**Pn**	**18 58 12.9**	**0.0**
NSTT				*eS*	**Sb**	**18 58 24.3**	**-0.1**
NCUH	**Zhongli**	**0.94**	**309**	*eP*	**Pg**	**18 58 13.3**	**+0.3**
WHP	**Taichung City**	**0.96**	**264**	*eP*	**Pn**	**18 58 13.4**	**+0.1**
WHP				*eS*	**Sb**	**18 58 24.3**	**-0.9**
TWY	**Chenhua**	**0.96**	**338**	P	**Pg**	**18 58 13.9**	**+0.5**
TWY				*eS*	**Sb**	**18 58 25.5**	**+0.2**
VWDT	**VWDT**	**0.99**	**232**	P	**Pb**	**18 58 12.8**	**-0.6**
VWDT				*eS*	**Sn**	**18 58 26.9**	**-0.3**
SBCB	**Hsinchu**	**1.00**	**295**	*eP*	**Pg**	**18 58 14.7**	**+0.5**
SBCB				*eS*	**Sg**	**18 58 28.9**	**+1.5**
HGSD	**Ruisui**	**1.02**	**211**	*eP*	**Pb**	**18 58 13.0**	**-0.8**
HSN	**Hsinchu**	**1.02**	**295**	*eP*	**Pg**	**18 58 14.6**	**+0.1**
WCS	**Beigang Elemen**	**1.03**	**252**	*eP*	**Pb**	**18 58 14.1**	**+0.1**
EHYH	**Wanrong**	**1.06**	**214**	*eP*	**Pb**	**18 58 13.3**	**-1.1**
EHY	**Hungye**	**1.06**	**215**	*eP*	**Pb**	**18 58 13.2**	**-1.3**
NMLH	**Miaoli**	**1.10**	**279**	*eP*	**Pg**	**18 58 16.2**	**+0.1**
NMLH				*eS*	**Sn**	**18 58 30.4**	**+0.4**
TWQ1	**Liyutan**	**1.11**	**269**	P	**Pg**	**18 58 16.1**	**-0.1**
TWQ1				*eS*	**Sb**	**18 58 29.4**	**-0.1**
SSLB	**Suanglung**	**1.11**	**238**	P	**Pn**	**18 58 14.8**	**-0.6**
SSLB	**Suanglung**	**1.11**	**238**	S	**Sb**	**18 58 29.8**	**+0.2**
SSLB	**Suanglung**	**1.11**	**238**	⇑P	**Pn**	**18 58 15.0**	**-0.4**
SSLB				*eS*	**Sb**	**18 58 29.5**	**-0.1**
NSY	**Sanyi**	**1.12**	**272**	P	**Pg**	**18 58 16.7**	**+0.3**
NSY				*eS*	**Sg**	**18 58 31.5**	**+0.3**
TYC	**Yuchr**	**1.14**	**246**	P	**Pn**	**18 58 15.8**	**+0.1**
TYC				*eS*	**Sb**	**18 58 30.6**	**+0.4**
YULB	**Yu-li**	**1.17**	**213**	P	**Pn**	**18 58 14.9**	**-1.2**
YULB	**Yu-li**	**1.17**	**213**	*eP*	**Pn**	**18 58 14.3**	**-1.8**
TWF1	**Yuli**	**1.20**	**212**	P	**Pn**	**18 58 15.1**	**-1.5**
TWF1				*eS*	**Sb**	**18 58 31.5**	**-0.6**
TCU	**Taichung**	**1.22**	**260**	P	**Pb**	**18 58 17.9**	**+0.7**
TCU				*eS*	**Sg**	**18 58 35.1**	**+0.8**
WDJ	**Dajia District**	**1.23**	**269**	*eP*	**Pb**	**18 58 18.0**	**+0.6**
WDJ				*eS*	**Sg**	**18 58 35.4**	**+0.7**
WHYT	**Xinyi Township**	**1.24**	**237**	*eP*	**Pn**	**18 58 17.4**	**+0.3**
WHYT				S	**Sn**	**18 58 34.0**	**+0.6**
PCYT	**Pengchaiyu**	**1.25**	**3**	*eP*	**Pn**	**18 58 16.2**	**-1.1**
WJS	**Zhushan**	**1.28**	**245**	*eP*	**Pg**	**18 58 19.2**	**-0.2**
WJS				*eS*	**Sg**	**18 58 37.5**	**+1.3**
WNT	**Mingjian**	**1.29**	**248**	*eP*	**Pg**	**18 58 19.4**	**-0.2**
WNT				*eS*	**Sg**	**18 58 37.5**	**+0.9**
FUL	**Fuli**	**1.33**	**209**	*eP*	**Pn**	**18 58 17.0**	**-1.4**
WCHH	**Zhanghua**	**1.34**	**258**	*eP*	**Pb**	**18 58 19.2**	**0.0**
WCHH				*eS*	**Sg**	**18 58 37.6**	**-0.5**
WCH1	**Changhua City**	**1.35**	**257**	*eP*	**Pb**	**18 58 19.8**	**+0.3**
WCH1				*eS*	**Sb**	**18 58 37.4**	**+0.9**
ALS	**Alishan**	**1.39**	**232**	P	**Pb**	**18 58 20.2**	**0.0**
ALS				*eS*	**Sb**	**18 58 38.3**	**+0.7**
CHKT	**Chengkung**	**1.39**	**204**	*eP*	**Pn**	**18 58 19.4**	**+0.2**
EHD	**Haiduan**	**1.42**	**211**	*eP*	**Pn**	**18 58 18.2**	**-1.3**
CHN5	**Tsauling**	**1.43**	**237**	*eP*	**Pb**	**18 58 21.0**	**+0.2**
CHN5				*eS*	**Sb**	**18 58 39.4**	**+0.7**
WGK	**Gukeng**	**1.48**	**243**	*eP*	**Pb**	**18 58 22.1**	**+0.5**
WGK				*eS*	**Sb**	**18 58 41.0**	**+1.0**
ELDTW	**Lidau**	**1.48**	**217**	*eP*	**Pn**	**18 58 19.7**	**-0.8**
ELDTW				*eS*	**Sn**	**18 58 38.4**	**-1.1**
WDL	**Douliou City**	**1.48**	**244**	*eP*	**Pb**	**18 58 22.2**	**+0.6**
WDL				*eS*	**Sb**	**18 58 41.5**	**+1.4**
WDLH	**Douliu**	**1.49**	**243**	*eP*	**Pb**	**18 58 22.1**	**+0.2**
WDLH				*eS*	**Sg**	**18 58 42.4**	**-0.6**
WCKO	**Fanlu**	**1.57**	**234**	*eP*	**Pb**	**18 58 23.6**	**+0.4**
WCKO				*eS*	**Sb**	**18 58 43.3**	**+0.4**
IRIF	**Iriomote-Funau**	**1.59**	**91**	*eP*	**Pn**	**18 58 21.5**	**-0.4**
IRIF				*eS*	**Sn**	**18 58 41.9**	**0.0**
WTK	**Tuku**	**1.62**	**245**	*eP*	**Pb**	**18 58 23.6**	**-0.4**
WTK				*eS*	**Sb**	**18 58 44.8**	**+0.8**
CHN2	**Minshiung**	**1.62**	**239**	*eP*	**Pb**	**18 58 24.1**	**0.0**
CHN4	**Tsaushan**	**1.64**	**232**	*eP*	**Pb**	**18 58 24.6**	**+0.3**
CHN4				*eS*	**Sb**	**18 58 46.2**	**+1.6**
STYH	**Taoyuan**	**1.64**	**223**	*eP*	**Pn**	**18 58 23.1**	**+0.6**
STYH				*eS*	**Sb**	**18 58 44.5**	**-0.1**
TPUB	**Ta-pu**	**1.64**	**230**	*eP*	**Pb**	**18 58 23.8**	**-0.6**
TPUB				*eS*	**Sb**	**18 58 45.1**	**+0.2**
LONT	**Longtian**	**1.66**	**209**	*eP*	**Pn**	**18 58 21.6**	**-1.3**
LONT				*eS*	**Sn**	**18 58 43.8**	**0.0**
CHY	**Chiayi**	**1.68**	**239**	*eP*	**Pb**	**18 58 25.0**	**0.0**
CHY				*eS*	**Sb**	**18 58 46.6**	**+0.8**
WTP	**Ta-pu**	**1.69**	**229**	P	**Pb**	**18 58 24.7**	**-0.5**
WTP				*eS*	**Sb**	**18 58 47.0**	**+0.8**
TWGBT	**Beinan**	**1.76**	**208**	P	**Pn**	**18 58 23.8**	**-0.5**
TWGBT	**Beinan**	**1.76**	**208**	S	**Sn**	**18 58 45.8**	**-0.4**
TWGBT	**Beinan**	**1.76**	**208**	*eP*	**Pn**	**18 58 23.6**	**-0.6**
TWG	**Pinlang**	**1.76**	**209**	*eP*	**Pn**	**18 58 23.1**	**-1.2**
TWK	**Hsinying**	**1.77**	**232**	P	**Pb**	**18 58 25.6**	**-0.9**
TWK				*eS*	**Sb**	**18 58 48.4**	**+0.1**
WSF	**Szhu**	**1.78**	**246**	P	**Pn**	**18 58 25.3**	**+0.9**
WSF				*eS*	**Sb**	**18 58 48.7**	**+0.1**
SNST	**Tainan City**	**1.79**	**230**	*eP*	**Pn**	**18 58 25.9**	**+1.2**
SNST				*eS*	**Sb**	**18 58 49.8**	**+0.8**
CHN1	**Nanshi**	**1.79**	**229**	*eP*	**Pb**	**18 58 26.0**	**-0.9**
CHN1				*eS*	**Sb**	**18 58 49.2**	**+0.2**
WSL	**Shuilin Townsh**	**1.82**	**243**	*eP*	**Pb**	**18 58 26.8**	**-0.7**
WSL				*eS*	**Sb**	**18 58 51.4**	**+1.5**
JKRS	**Kuro-shima**	**1.85**	**94**	*eS*	**Sn**	**18 58 48.4**	**+0.1**
CHN8	**Yiju**	**1.93**	**238**	*eP*	**Pn**	**18 58 27.6**	**+1.1**
CHN8				S	**Sb**	**18 58 53.4**	**+0.4**
JIJ	**Ishigaki jima**	**1.96**	**90**	*eP*	**Pn**	**18 58 27.3**	**+0.3**
JIJ				*eS*	**Sn**	**18 58 50.3**	**-0.9**
ECL	**Taimali**	**2.01**	**208**	*eP*	**Pn**	**18 58 27.1**	**-0.6**
SCST	**Cishan**	**2.02**	**223**	*eP*	**Pb**	**18 58 30.0**	**-0.9**
SCST				*eS*	**Sb**	**18 58 56.4**	**+0.7**
SSD	**Sandimen**	**2.05**	**218**	*eP*	**Pn**	**18 58 29.4**	**+1.3**
SSD				*iS*	**Sb**	**18 58 56.1**	**-0.3**
TWM1	**Shoushan**	**2.11**	**223**	*eP*	**Pb**	**18 58 32.0**	**-0.4**
TWM1				*eS*	**Sg**	**18 59 01.4**	**-1.3**
JISG	**Ishigakijimahi**	**2.12**	**84**	*eP*	**Pn**	**18 58 28.8**	**-0.5**
JISG				*eS*	**Sn**	**18 58 54.7**	**-0.5**
TSCK	**Chigu Township**	**2.13**	**235**	*eP*	**Pn**	**18 58 30.2**	**+0.9**
TSCK				*eS*	**Sb**	**18 58 58.3**	**-0.5**
MASBT	**Mashibuluo**	**2.15**	**216**	*eP*	**Pn**	**18 58 29.9**	**+0.2**
SCZT	**Fangliau**	**2.36**	**213**	*eP*	**Pn**	**18 58 33.1**	**+0.6**
PNG	**Penghu**	**2.37**	**251**	*eP*	**Pn**	**18 58 32

comp=Z,0.3nm,0.5s,baz=113,slow=8.2,SNR=2.1
comp=Z,0.3nm,0.5s

KONO	**Kongsberg**	**50.86**	**327**	P	**P**	**19**	**10**	**10.2 -1.0**
TORD	**Torodi Ar. Bea**	**61.41**	**271**	P	**P**	**19**	**11**	**27.9 +0.5**
	comp=Z,1.2nm,0.7s,baz=52,slow=6.4,SNR=8.1							
WRA	**Warramunga Arr**	**80.62**	**118**	P	**P**	**19**	**13**	**21.9 -1.9**
	comp=Z,0.3nm,1.0s,baz=318,slow=6.4,SNR=1.4							
	comp=Z,0.3nm,1.0s							
ASAR	**Alice Springs**	**82.28**	**121**	P	**P**	**19**	**13**	**32.5 -0.1**
	comp=Z,0.2nm,0.9s,baz=304,slow=4.5,SNR=4.5							
	comp=Z,0.2nm,0.9s							

*UPA **23** 19:06:00.4±1.2,8.°53N×82.°97W,h14km±3km,MD3.4*
*UCR **23** 19:06:01.7±1.1,8.°40N×82.°87W,h29km±2km,MW3.6*

ISC 23 19:06:01.0±1.3,8.°47N±0.°03×82.°91W±0.°02,h16km±11km, n41,σ1§62/56,1C,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.14**	**119**		*eP*	**Pb**	**19 06 06.4**	**+1.3**
LESP3					*eS*	**Sb**	**19 06 09.4**	**+1.4**
NELY	**Ciudad Neily**	**0.18**	**349**		*eP*	**Pb**	**19 06 08.4**	**+2.5**
NELY					*eS*	**Sb**	**19 06 14.4**	**+5.2**
PTPM	**Petroterminale**	**0.27**	**173**	*i*	*iP*	**Pb**	**19 06 07.9**	**+0.5**
PTPM					*eS*	**Sb**	**19 06 13.1**	**+1.3**
PTPA	**Petro Terminal**	**0.28**	**172**		*eP*	**Pb**	**19 06 08.1**	**+0.6**
PTPA					*eS*	**Sb**	**19 06 14.3**	**+2.4**
FITO	**Golfito**	**0.28**	**302**		*eP*	**Pb**	**19 06 08.7**	**+1.0**
FITO					*eS*	**Sb**	**19 06 14.7**	**+2.6**
EDAD	**Golfito**	**0.31**	**305**		*eP*	**Pb**	**19 06 09.2**	**+1.1**
EDAD					*eS*	**Sb**	**19 06 15.8**	**+2.8**
RSRNO	**Rio Sereno**	**0.34**	**8**		*eP*	**Pn**	**19 06 11.1**	**-0.3**
SCLRA	**Santa Clara, W**	**0.38**	**20**		*eP*	**Pn**	**19 06 11.4**	**-0.5**
BRU2	**Volcan**	**0.39**	**34**		*i* P	**Pn**	**19 06 10.9**	**-1.1**
BRU2					*eS*	**Sb**	**19 06 16.7**	**+1.5**
BRU2	**Volcan**	**0.39**	**34**		*eP*	**Pn**	**19 06 11.2**	**-0.8**
BRU2					*eS*	**Sn**	**19 06 19.0**	**-0.1**
TBS2		**0.41**	**38**		*eP*	**Pn**	**19 06 12.4**	**+0.1**
BC3P	**Paso Ancho**	**0.45**	**41**		*eP*	**Pb**	**19 06 11.0**	**+0.3**
BC3P					*eS*	**Sb**	**19 06 17.6**	**+0.4**
DVD	**David**	**0.46**	**95**		*eP*	**Pg**	**19 06 10.7**	**+0.6**
DVD					*eS*	**Sb**	**19 06 19.1**	**+1.9**
ALCO	**Alturas Coton,**	**0.48**	**9**		*eP*	**Pn**	**19 06 12.4**	**-0.9**
BQTLY	**Boquete Panama**	**0.53**	**58**		*eP*	**Pb**	**19 06 12.6**	**+0.7**
BQSF3	**Alto Boquete,**	**0.54**	**60**		*eP*	**Pg**	**19 06 11.4**	**-0.4**
BQSF3					*eS*	**Sb**	**19 06 21.0**	**+1.2**
WILLF	**Boquete**	**0.55**	**60**		*eP*	**Pb**	**19 06 12.7**	**+0.5**
CGUAY	**Guayabal, Coch**	**0.55**	**91**		*eP*	**Pg**	**19 06 12.2**	**+0.2**
LNBQ3	**Los Naranjos,**	**0.56**	**56**		*eP*	**Pg**	**19 06 12.1**	**-0.1**
LNBQ3					*eS*	**Sb**	**19 06 20.7**	**+0.4**
EDP2	**Potrero Grande**	**0.60**	**334**		*eP*	**Pn**	**19 06 13.2**	**-1.7**
FIMO	**Fila Mora**	**0.67**	**320**		*eP*	**Pn**	**19 06 15.5**	**-0.5**
PANP	**Palmar Norte**	**0.73**	**312**		*eP*	**Pn**	**19 06 15.9**	**-0.7**
PBNVO	**Pueblo Nuevo,**	**0.82**	**60**		*eP*	**Pg**	**19 06 16.4**	**-0.6**
RBALA	**Bur**	**0.85**	**62**		*eP*	**Pg**	**19 06 17.1**	**-0.4**
CHGR2	**Aguacate**	**0.89**	**59**		*eP*	**Pb**	**19 06 16.7**	**-1.3**
CHGR2					*eS*	**Sb**	**19 06 30.1**	**+0.5**
EDPE	**Pejibaye, P**	**0.94**	**316**		*eP*	**Pn**	**19 06 19.3**	**-0.2**
SAJE	**San Jernim**	**1.05**	**326**		*eP*	**Pn**	**19 06 20.6**	**-0.5**
RMDIO	**Remedios, Chir**	**1.10**	**103**		*eP*	**Pn**	**19 06 20.0**	**-1.7**
CEUA	**Cerro Uatsi, L**	**1.14**	**359**		*eP*	**Pg**	**19 06 24.1**	**+1.1**
KKNTU	**Kakint²**	**1.15**	**71**		*eP*	**Pn**	**19 06 20.9**	**-1.4**
VERH	**Veragua Rainfo**	**1.47**	**349**		*eP*	**Pg**	**19 06 27.5**	**-1.8**
PIEC	**Cerro El Cedra**	**1.54**	**318**		*eP*	**Pg**	**19 06 28.4**	**-2.3**
PICV	**PH. Pirrs**	**1.71**	**312**		*eP*	**Pg**	**19 06 31.2**	**-2.6**
CVTV	**Tajo**	**1.73**	**332**		*eP*	**Pg**	**19 06 31.9**	**-2.4**
CVTQ	**Turrialba Volc**	**1.74**	**331**		*eP*	**Pg**	**19 06 32.3**	**-2.2**
VTR0	**Volcan Turrial**	**1.75**	**331**		*eP*	**Pg**	**19 06 32.2**	**-2.5**
CVTR	**Volcan Turrial**	**1.75**	**331**		*eP*	**Pg**	**19 06 32.1**	**-2.6**
RVLA	**Villa Bonita**	**1.76**	**338**		*eP*	**Pg**	**19 06 32.6**	**-2.2**
VICA	**Volcano Irazu**	**1.76**	**329**		*eP*	**Pg**	**19 06 33.3**	**-1.7**
GMAL	**Guarumal, Vera**	**1.81**	**113**		*eP*	**Pn**	**19 06 30.6**	**-0.8**
GMAL					*eS*	**Sn**	**19 06 54.7**	**+0.7**
ZANG	**Zanguenga, Cho**	**3.05**	**81**		*eP*	**Pn**	**19 06 47.1**	**-1.4**
ZANG					*eS*	**Sn**	**19 07 23.6**	**-1.0**

*NEIC **23** 19:19:42.2±1.3,35.°829N±0.°007×117.°636W±0.°009, h5km±1km,Error ellipse: s-maj=2.0km s-min=1.3km az=113.0*

PAS 23 19:19:42.7±1.3,35.°830N±0.°007×117.°65W±0.°01, h3km±2km,ML3.3/282,ML3.1/168(NEIC),Error ellipse: s-maj=1.2km s-min=1.1km az=60.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CLC	**China Lake**	**0.05**	**108**			Pg	19 19 44.0	+0.2
CLC					Sg	Sg	19 19 45.0	+0.5
TOW	**Tower One**	**0.09**	**257**			Pg	19 19 47.5	+3.0
SRTC	**Snort**	**0.16**	**210**			Pg	19 19 46.3	+0.5
SRTC						Sg	19 19 49.6	+1.7
WVPM	**Volcano Peak E**	**0.18**	**311**			Pg	19 19 49.2	+3.0
JRC2	**Joshua Ridge**	**0.20**	**320**			Pg	19 19 49.8	+3.2
WNMM	**Nine Mile Cany**	**0.21**	**274**			Pg	19 19 46.9	+0.2
WNMM						Sg	19 19 50.3	+0.9
WCSM	**Coso Springs S**	**0.22**	**334**			Pg	19 19 47.0	+0.1
WCSM						Sg	19 19 50.5	+0.7
MPMC	**Manual Prospec**	**0.26**	**30**			Pg	19 19 47.9	+0.1
MPMC					Sg	Sg	19 19 51.6	+0.3
MPMC					IAML		19 19 52.1	
	comp=N,4μm,0.7s							
MPMC					IAML		19 19 52.2	
	comp=E,4μm,0.6s							
WRVM	**Rose V. Centra**	**0.26**	**312**			Pg	19 19 47.9	+0.1
WRVM						Sg	19 19 51.6	+0.4
WSHM	**Spangler Hills**	**0.26**	**151**			Pg	19 19 47.8	0.0
WSHM					Sg	Sg	19 19 51.6	+0.4
WSHM					IAML		19 19 52.5	
	comp=E,4μm,0.5s							
MFS	**McCloud Flat S**	**0.33**	**330**			Pn	19 19 54.1	-0.5
LRMC	**Laurel Mtn Rad**	**0.35**	**184**			Pg	19 19 49.4	-0.1
LRMC						Sg	19 19 54.5	+0.5
LRMC					IAML		19 19 55.2	
	comp=E,3μm,0.6s							
CCCA	**Chr Cany lake**	**0.38**	**142**			Pg	19 19 50.5	+0.5
CCCA					Sg	Sg	19 19 56.5	+1.4
WBSM	**Bird Springs**	**0.49**	**234**			Pg	19 19 52.1	-0.1
WBSM						Sg	19 19 59.1	+0.5
WORM	**Onyx Ranch**	**0.50**	**255**			Pg	19 19 52.1	-0.2
WORM						Sg	19 19 58.8	+0.1
DTP	**Desert Tortois**	**0.58**	**196**			Pg	19 19 53.6	-0.3
DTP						Sg	19 20 01.6	+0.2
WHFM	**Hanning Flat**	**0.58**	**257**			Pg	19 19 53.7	-0.2
WHFM						Sg	19 20 01.7	+0.2
QSM	**Queen of Sheba**	**0.65**	**78**			Pg	19 19 54.8	-0.4
ISA	**Isabella, Lake**	**0.69**	**256**			Pg	19 19 55.6	-0.3
ISA					Sg	Sg	19 20 04.5	-0.3
ISA					IAML		19 20 06.1	
	comp=E,552nm,0.2s							
ISA					IAML		19 20 07.2	
	comp=N,733nm,0.3s							
CWC	**Cottonwood Cre**	**0.70**	**330**			Pg	19 19 56.1	0.0
CGO	**Cerro Gordo**	**0.73**	**350**			Pg	19 19 56.2	-0.5
CCAC	**Calif City Air**	**0.74**	**204**			Pg	19 19 56.7	-0.2
CCAC						Sg	19 20 06.8	+0.4
WASM	**Alta Sierra Ca**	**0.74**	**263**			Pg	19 19 56.7	-0.2
WASM						Sg	19 20 07.1	+0.6
GSC	**Goldstone, Bar**	**0.87**	**127**			Pg	19 19 58.9	-0.4
GSC					Sg	Sg	19 20 10.5	-0.1
GSC					IAML		19 20 13.3	
	comp=N,798nm,0.6s							
GWY	**Greenwater Val**	**0.87**	**66**			Pg	19 19 59.0	-0.4
GWY					IAML		19 20 14.7	
	comp=N,536nm,0.5s							
GWY					IAML		19 20 17.8	
	comp=E,485nm,0.4s							
FURC	**Furnace Creek,**	**0.90**	**45**			Sb	19 20 12.5	-0.8
FURC	**Furnace Creek,**	**0.90**	**45**			Pg	19 19 59.8	-0.1
FURC					IAML		19 20 19.3	
	comp=N,1μm,0.6s							
HYS	**Haystack Butte**	**0.97**	**176**			Pg	19 20 00.6	-0.6
SPG2	**Springville 2**	**0.98**	**293**			Pg	19 20 00.7	-0.7
SPG2						Sg	19 20 13.4	-0.7
EDW2	**Edwards Air Fo**	**0.99**	**197**			Pg	19 20 01.0	-0.6
EDW2						Sg	19 20 13.7	-0.8
TEJ	**El Tejon**	**1.04**	**235**			Pg	19 20 01.6	-1.0
TPO	**Tropico Hills**	**1.06**	**207**			Sg	19 20 16.7	0.0
TPO	**Tropico Hills**	**1.06**	**207**			Pg	19 20 02.5	-0.5
RRX	**Edison Barstow**	**1.09**	**151**			Pg	19 20 03.3	-0.3
RRX						Sn	19 20 20.0	-0.5
SHOC	**Shoshone, Teco**	**1.12**	**86**			Pg	19 20 03.5	-0.6
SBB	**Saddle Back Bu**	**1.15**	**187**			Sg	19 20 18.7	-0.9
VES	**Vestal, Richgr**	**1.17**	**271**			Sg	19 20 20.3	+0.2
VES	**Vestal, Richgr**	**1.17**	**271**		Pg	Pg	19 20 04.2	-0.8
VES					IAML		19 20 25.1	
	comp=E,539nm,0.5s							
TJR	**Tejon Ranch**	**1.20**	**228**			Pg	19 20 04.5	-1.2
THC	**Tehachapi Micr**	**1.24**	**222**			Pg	19 20 05.5	-0.9
SGV	**South Grapevin**	**1.25**	**23**			Pg	19 20 06.2	-0.5
SGV						Sg	19 20 23.2	+0.2
WCT	**Wildcat Mounta**	**1.27**	**40**			Pg	19 20 06.0	-1.0
WCT					IAML		19 20 27.2	
	comp=E,287nm,0.6s							
AMDNV	**Amargosa**	**1.27**	**60**			Pg	19 20 05.7	-1.3
AMDNV						Sg	19 20 23.3	-0.2
TIN	**Tinemaha, Big**	**1.31**	**339**			Pg	19 20 07.1	-0.7
TIN					IAML		19 20 27.9	
	comp=E,424nm,0.6s							
TIN					IAML		19 20 27.9	
	comp=N,393nm,0.6s							
LEOC	**Leona Valley**	**1.31**	**204**			Pg	19 20 07.5	-0.3
LRRC	**Littlerock Res**	**1.34**	**193**			Pn	19 20 07.8	-0.5
HOLC	**Holcomb Ridge**	**1.38**	**187**			Pn	19 20 07.5	-1.5
LCH	**Last Change Ra**	**1.40**	**0**			Pn	19 20 08.8	-0.5
JNH	**Juniper Hills**	**1.40**	**190**			Pn	19 20 07.9	-1.3
DSCC	**Desert Studies**	**1.44**	**118**			Pn	19 20 07.9	-1.7
HEC	**Hector,Ludlow**	**1.47**	**132**			Pn	19 20 10.2	0.0
HEC						Sb	19 20 29.2	-0.5
OSI	**Osito Audit: C**	**1.50**	**216**			Pn	19 20 09.0	-1.5
OSI					IAML		19 20 33.9	
	comp=N,240nm,0.7s							
OSI					IAML		19 20 36.1	
	comp=E,261nm,0.6s							
GMN	**Gold Mountain**	**1.50**	**12**			Pn	19 20 08.4	-2.3
GMN					IAML		19 20 32.7	
	comp=N,177nm,0.5s							
CHFC	**Chilao Flat St**	**1.52**	**192**			Pn	19 20 10.9	-0.1
CHFC						Sb	19 20 31.5	0.0
DSP	**Deep Springs**	**1.56**	**351**			Pn	19 20 10.8	-0.5
DSP					IAML		19 20 33.9	
	comp=E,161nm,0.5s							
BFSC	**Mount Baldy Ra**	**1.59**	**180**			Sn	19 20 32.6	-0.3
BFSC	**Mount Baldy Ra**	**1.59**	**180**			Pn	19 20 11.0	-0.9
BFSC					IAML		19 20 36.6	
	comp=E,198nm,0.5s							
BFSC					IAML		19 20 37.3	
	comp=N,145nm,0.4s							
TPNV	**Topopah Spring**	**1.59**	**45**			Pn	19 20 11.1	-0.8
TPNV					IAML		19 20 34.8	
	comp=N,307nm,0.5s							
TPNV					IAML		19 20 36.5	
	comp=N,365nm,0.6s							
SSK	**Sunset Peak**	**1.62**	**181**			Pb	19 20 13.4	+0.1
SIL	**Silver Peak**	**1.63**	**155**			Pb	19 20 13.0	-0.4
MWC	**Mount Wilson**	**1.64**	**192**			Pn	19 20 11.7	-0.9
MTUM	**Tungsten Hills**	**1.69**	**334**			Pb	19 20 14.2	-0.3
PASC	**Pasadena Art C**	**1.71**	**195**			Sn	19 20 33.7	-2.1
PASC	**Pasadena Art C**	**1.71**	**195**			Pn	19 20 12.6	-0.9
PASC					IAML		19 20 39.8	
	comp=E,108nm,0.6s							
MTPC	**Mountain Pass**	**1.74**	**101**			Pn	19 20 12.6	-1.4
MTPC					IAML		19 20 38.9	
	comp=N,165nm,0.5s							
MTPC					IAML		19 20 39.1	
	comp=E,113nm,0.4s							
CLTC	**Calectric**	**1.75**	**171**			Pn	19 20 14.1	+0.1
GMRC	**Granite Mounta**	**1.93**	**122**			Pn	19 20 14.4	-2.2
PKM	**Mcpherson Peak**	**2.00**	**243**			Pn	19 20 17.3	-0.3
SHPR	**Sheep Range**	**2.12**	**71**			Pn	19 20 18.4	-0.9
MDPB	**Devils Postpil**	**2.13**	**328**			Pn	19 20 19.1	-0.3
MDPB					IAML		19 20 51.2	
	comp=N,89nm,0.3s							
MDPB					IAML		19 20 53.9	
	comp=E,92nm,0.6s							
TPC	**Twentynine Pal**	**2.17**	**142**			Pn	19 20 18.5	-1.2
ELS	**Elsinore Mount**	**2.19**	**175**			Pn	19 20 19.0	-1.0
DANC	**Danby, Needles**	**2.21**	**122**			Pn	19 20 18.8	-1.4
POB	**Polly Butte**	**2.22**	**164**			Pn	19 20 19.7	-0.8
TPH	**Tonopah**	**2.27**	**9**			Pn	19 20 19.6	-1.7
TPH					IAML		19 20 59.5	
	comp=E,98nm,1.0s							
TPH					IAML		19 21 01.5	
	comp=N,107nm,1.1s							
BELC	**Belle Mtn. Jos**	**2.27**	**143**			Pn	19 20 19.8	-1.4
BELC					IAML		19 20 58.0	
	comp=E,123nm,0.8s							
BELC					IAML		19 20 58.4	
	comp=N,89nm,0.7s							
V12A	**Nelson**	**2.28**	**92**			Pn	19 20 20.3	-1.0
V12A					IAML		19 20 58.2	
	comp=N,89nm,0.8s							
DNR	**Dunn Ranch,Anz**	**2.41**	**159**	Pn	Pn	Pn	19 20 21.9	-1.2
PMD	**Palm Desert**	**2.42**	**154**			Pn	19 20 21.8	-1.3
PMD					IAML		19 21 03.5	
	comp=E,50nm,0.8s							
PFO	**Pinyon Flats O**	**2.42**	**156**			Pn	19 20 21.7	-1.6
LHV	**Little Huntoon**	**2.51**	**344**			Pn	19 20 23.5	-0.9
PMPB	**Monarch Peak**	**2.58**	**279**			Pn	19 20 24.4	-1.1
PMPB					IAML		19 21 09.4	
	comp=E,110nm,1.2s							
PRN	**Pahroc Range**	**2.62**	**52**			Pn	19 20 25.2	-0.8
PRN					IAML		19 21 10.8	
	comp=E,90nm,0.7s							
PRN					IAML		19 21 17.2	
	comp=N,91nm,0.9s							
NVAR	**Mina Array Bea**	**2.65**	**349**			Pn	19 20 24.0	-2.5
IRM	**Iron Mountain**	**2.65**	**128**			Pn	19 20 23.9	-2.4
IRM					IAML		19 21 07.5	
	comp=E,76nm,0.4s							
IRM					IAML		19 21 08.9	
	comp=N,66nm,0.9s							
NEE2	**Needles Airpor**	**2.70**	**112**	Pn	Pn	Pn	19 20 25.2	-1.8
BC3	**Big Chuckawall**	**2.83**	**140**			Pn	19 20 26.7	-2.1
BC3					IAML		19 21 15.4	
	comp=N,96nm,0.6s							
BC3					IAML		19 21 21.7	
	comp=E,57nm,0.6s							
BBGB	**Big Mountain B**	**2.84**	**286**			Pn	19 20 26.3	-2.7
RYN	**Ryan**	**2.88**	**346**			Pn	19 20 27.3	-2.3
DPP	**Dos Picos Cty**	**2.88**	**168**			Pn	19 20 27.3	-2.2
DPP					IAML		19 22 20.1	
	comp=N,55nm,0.1s							
DPP					IAML		19 22 20.2	
	comp=E,65nm,0.1s							
R11B	**Troy Canyon, C**	**3.01**	**33**			Pn	19 20 29.3	-2.1
R11B					IAML		19 21 19.8	
	comp=E,45nm,1.0s							
WAKR	**Walker**	**3.03**	**332**			Pn	19 20 30.9	-0.8
CMB	**Columbia Colle**	**3.10**	**316**			Pn	19 20 30.9	-1.7
CMB					IAML		19 21 25.3	
	comp=E,39nm,0.9s							
CMB					IAML		19 21 29.2	
	comp=N,44nm,0.6s							
W13A	**Hualapai Mount**	**3.16**	**102**			Pn	19 20 31.8	-1.7
W13A					IAML		19 21 26.0	
	comp=N,29nm,1.4s							
TKX	**Tecate**	**3.37**	**165**			Pn	19 20 34.8	-1.4
TKX					IAML		19 21 46.6	
	comp=E,70nm,0.1s							
YUH	**Yuha Desert**	**3.48**	**155**			Pn	19 20 36.4	-1.4
CBX	**Cerro Bola**	**3.60**	**167**			Pn	19 20 38.6	-0.9
CBX					IAML		19 21 43.3	
	comp=N,60nm,0.7s							
GLA	**Glamis**	**3.62**	**139**			Pn	19 20 36.2	-3.5
LCMT	**Little Creek M**	**3.75**	**70**			Pn	19 20 40.9	-0.6
CCUT	**Cedar City**	**3.85**	**62**			Pn	19 20 41.9	-1.2
PSUT	**Pine Spring**	**4.06**	**47**			Pn	19 20 44.5	-1.4
PSUT					IAML		19 21 56.0	
	comp=E,31nm,0.8s							
PSUT					IAML		19 22 01.8	
	comp=N,25nm,1.4s							
SZCU	**Shurtz Canyon**	**4.07**	**63**			Pn	19 20 43.6	-2.4
ESJX	**Sierra Juarez**	**4.07**	**159**			Pn	19 20 45.0	-1.0
ESJX					IAML		19 22 10.3	
	comp=N,18nm,0.2s							
ESJX					IAML		19 22 10.3	
	comp=E,26nm,0.1s							
KNB	**Kanab**	**4.07**	**72**			Pn	19 20 45.1	-0.9
AFDM	**Forest Hills D**	**4.08**	**321**			Pn	19 20 46.0	-0.1
AFDM					IAML		19 21 57.4	
	comp=N,21nm,0.7s							
AFDM					IAML		19 22 01.3	
	comp=E,24nm,0.6s							
PAHR	**Pah Rah Range**	**4.11**	**341**			Pn	19 20 46.0	-0.4
Y14A	**Wickenburg**	**4.26**	**115**			Pn	19 20 47.9	-0.6
Y14A					IAML		19 21 59.9	
	comp=E,29nm,0.8s							
U15A	**North Rim**	**4.38**	**81**			Pn	19 20 49.7	-0.6
U15A					IAML		19 22 22.5	
	comp=E,13nm,1.3s							
113A	**Mohawk Valley,**	**4.43**	**132**			Pn	19 20 49.7	-1.2
113A					IAML		19 22 03.9	
	comp=E,11nm,1.1s							
113A					IAML		19 22 04.0	
	comp=N,11nm,0.8s							
PKCU	**Pink Cliffs**	**4.59**	**68**		IAML		19 22 11.0	
	comp=N,16nm,1.3s							
PKCU					IAML		19 23 55.5	
	comp=E,22nm,3.3s							
MTPU	**Mount Pierson**	**4.90**	**62**			Pn	19 20 56.6	-1.1
MTPU					IAML		19 21 56.4	
	comp=E,7.0nm,4.7s							
MTPU					IAML		19 22 53.4	
	comp=N,6.9nm,4.3s							
WUAZ	**Wupatki**	**5.12**	**92**		IAML		19 22 24.1	
	comp=N,15nm,1.1s							
WUAZ					IAML		19 22 25.8	
	comp=N,17nm,1.1s							
ELK	**Elko**	**5.26**	**20**			Pn	19 21 00.8	-1.7
ELK					IAML		19 22 30.3	
	comp=N,9.0nm,0.5s							

*IDC **23** 19:33:40.2±2.8,18.°68N×147.°83E,h0km,mb3.5/8, mbtmp3.6/10,ML3.8/1,Error ellipse: s-maj=86.2km s-min=19.9km az=85.0*

ISC 23 19:33:46.3±2.2,18.°7N±0.°1×147.°5E±0.°4,h35km,n13, σ1§67/11,mb3.5/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.64**	**207**		P	**Pn**	**19 35 09.0**	**+1.3**
	2.5nm,0.3s,baz=356,slow=12,SNR=1.5							
GUMO					Sn	**Sn**	**19 36 09.7**	**-1.7**
	4.1nm,0.3s,baz=5.1,slow=19,SNR=1.5							
	59nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**18.16**	**87**	T	T	T	19 56 56.1	
	baz=275							
H11S1	**WAKE ISLAND Hy**	**18.17**	**87**	T	T	T	19 57 00.4	
	baz=275							
H11S2	**WAKE ISLAND Hy**	**18.18**	**87**	T	T	T	19 56 54.2	
	baz=275							
MJAR	**Matsushiro Arr**	**19.63**	**337**	P	**P**	**P**	**19 38 09.5**	**-2.4**
	1.2nm,0.8s,baz=142,slow=13,SNR=2.1							
KSRS	**Korea Array**	**25.42**	**322**	P	**P**	**P**	**19 39 12.6**	**+2.0**
	0.5nm,0.7s,baz=151,slow=8.3,SNR=2.3							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**40.48**	**199**	P	**P**	**P**	**19 41 20.8**	**-1.1**
	0.3nm,0.6s,baz=15,slow=7.6,SNR=5.4							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**44.11**	**198**	P	**P**	**P**	**19 41 51.9**	**+0.4**
	0.2nm,0.5s,baz=29,slow=7.0,SNR=4.9							
	0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**45.95**	**278**	P	**P**	**P**	**19 42 06.5**	**+0.2**
	0.6nm,0.4s,baz=82,slow=12,SNR=3.9							
	0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**59.12**	**322**	P	**P**	**P**	**19 43 42.2**	**-1.0**
	0.3nm,0.3s,baz=118,slow=15,SNR=1.7							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**59.76**	**314**	P	**P**	**P**	**19 43 49.0**	**+1.2**
	0.2nm,0.7s,baz=87,slow=7.8,SNR=1.8							
	0.2nm,0.7s							
KURBB	**Kurchatov Arra**	**62.52**	**318**	P	**P**	**P**	**19 44 05.3**	**-1.2**
	0.2nm,0.4s,baz=96,slow=7.6,SNR=4.0							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**67.63**	**320**	P	**P**	**P**	**19 44 41.4**	**+1.8**
	0.9nm,0.5s,baz=89,slow=7.5,SNR=7.1							
	0.9nm,0.5s							

*IDC **23** 19:46:21.1±1.5,3.°83N×63.°41E,h0km,mb3.7/6, mbtmp3.7/6,MS3.8/2,Error ellipse: s-maj=47.0km s-min=29.1km az=43.0*

ISC 23 19:46:22.6±1.5,3.°9N±0.°3×63.°4E±0.°2,h10km,n9,σ0§62/7, mb3.8/6,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**37.66**	**65**	P	**P**	**P**	**19 53 38.4**	**+0.1**
	0.5nm,0.3s,baz=246,slow=6.3,SNR=1.8							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**48.33**	**13**	P	**P**	**P**	**19 55 03.8**	**-0.4**
	0.4nm,0.9s,baz=199,slow=7.4,SNR=2.0							
	0.4nm,0.9s							
BVAR	**Borovoye Array**	**49.36**	**6**	LR	LR	LR	20 17 20.6	
	comp=Z,48nm,18.0s,baz=180,slow=38							
ZALV	**Z

CAN	**Canberra**	**33.68**	**233**	P	**P**	**20 16 09.9**	**+0.5**
CAN				IAmb	IAmb	20 16 16.2	
	comp=Z,27nm,1.4s						
TOO	**Toolangi**	**37.14**	**231**	P	**P**	**20 16 38.0**	**+0.1**
TOO				IAmb	IAmb	20 16 52.7	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**37.22**	**271**	P	**P**	**20 16 39.1**	**+0.3**
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**20 16 50.8**	**+0.6**
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**20 16 50.9**	**+0.7**
	comp=Z,2.9nm,0.5s,baz=63,slow=9.6,SNR=7.2						
	comp=Z,2.9nm,0.5s						
INKA	**Innaminka**	**38.78**	**248**	P	**P**	**20 16 52.4**	**+1.1**
BBOO	**Buckleboo**	**43.42**	**241**	P	**P**	**20 17 27.4**	**-0.5**
WR8	**Warramunga Arr**	**44.56**	**260**	P	**P**	**20 17 36.6**	**-0.3**
WR8				IAmb	IAmb	20 17 38.2	
	comp=Z,6.2nm,1.3s						
WB0	**Warramunga Arr**	**44.68**	**260**	P	**P**	**20 17 37.5**	**-0.3**
WRA	**Warramunga Arr**	**44.71**	**260**		**P**	**20 17 37.8**	**-0.2**
WRA				PcP	**PcP**	**20 19 07.9**	**+0.1**
WRA	**Warramunga Arr**	**44.71**	**260**	P	**P**	**20 17 37.9**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=97,slow=7.0,SNR=70						
WRA				PcP	**PcP**	**20 19 08.4**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=87,slow=3.9,SNR=4.7						
	comp=Z,1.5nm,0.4s						
AS31	**Alice Springs**	**44.85**	**254**		**P**	**20 17 38.7**	**-0.4**
AS31				IAmb	IAmb	20 17 40.5	
	comp=Z,4.1nm,0.5s						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**20 17 39.0**	**-0.1**
ASAR				PcP	**PcP**	**20 19 08.4**	**+0.1**
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**20 17 39.5**	**+0.4**
	comp=Z,12nm,0.6s,baz=88,slow=8.6,SNR=188						
ASAR				PcP	**PcP**	**20 19 08.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=107,slow=3.8,SNR=6.4						
ASAR				S	**S**	**20 23 35.0**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=86,slow=17,SNR=5.3						
	comp=Z,12nm,0.6s						
MTN	**Manton Dam**	**48.91**	**269**	P	**P**	**20 18 08.0**	**-1.7**
MTN				IAmb	IAmb	20 18 09.8	
	comp=Z,12nm,1.2s						
KNRA	**Kununurra**	**50.58**	**264**	P	**P**	**20 18 21.9**	**0.0**
FITZ	**Fitzroy Crossi**	**53.11**	**261**	P	**P**	**20 18 40.5**	**+0.5**
PSA00	**Pilbara Seismi**	**57.97**	**256**	P	**P**	**20 19 13.8**	**+0.2**
MBWA	**Marble Bar**	**58.14**	**256**	P	**P**	**20 19 14.4**	**-0.4**
MBWA				IAmb	IAmb	20 19 47.9	
	comp=Z,17nm,1.4s						
SBA	**Scott Base**	**60.24**	**184**	P	**P**	**20 19 29.5**	**+1.7**
VNDA	**Vanda**	**60.27**	**185**	P	**P**	**20 19 26.9**	**-1.1**
VNDA	**Vanda**	**60.27**	**185**	P	**P**	**20 19 28.9**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=359,slow=6.9,SNR=6.1						
	comp=Z,0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**68.12**	**323**	P	**P**	**20 20 18.5**	**+0.2**
MJAR	**Matsushiro Arr**	**68.12**	**323**	P	**P**	**20 20 19.0**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=154,slow=6.0,SNR=10						
	comp=Z,2.6nm,0.5s						
MAJO	**Matsushiro**	**68.12**	**323**	P	**P**	**20 20 18.9**	**+0.6**
MAJO				IAmb	IAmb	20 20 42.0	
	comp=Z,10nm,1.1s						
ADK	**Adak**	**69.69**	**1**	P	**P**	**20 20 27.2**	**-0.1**
UGM	**Wanagama**	**69.75**	**268**	P	**P**	**20 20 27.9**	**-0.7**
ATKA	**Atka Island**	**70.08**	**3**	P	**P**	**20 20 29.2**	**-0.4**
SBUM	**Sibu**	**71.35**	**279**	P	**P**	**20 20 38.1**	**+0.1**
QSPA	**South Pole Qui**	**71.96**	**180**		**P**	**20 20 41.1**	**+0.4**
QSPA				IAmb	IAmb	20 20 43.7	
	comp=Z,12nm,1.5s						
QSPA	**South Pole Qui**	**71.96**	**180**	P	**P**	**20 20 42.2**	**+1.5**
	comp=Z,2.7nm,0.6s,baz=301,slow=0.5,SNR=14						
	comp=Z,2.7nm,0.6s						
KSM	**Kuching**	**72.82**	**277**	P	**P**	**20 20 46.5**	**0.0**
KSM				IAmb	IAmb	20 20 48.8	
	comp=Z,6.5nm,0.7s						
PETK	**Petropavlovsk-**	**73.88**	**345**	P	**P**	**20 20 52.5**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=107,slow=7.6,SNR=14						
	comp=Z,3.0nm,0.6s						
KSRS	**Korea Array**	**74.91**	**318**	P	**P**	**20 20 59.4**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=126,slow=5.5,SNR=3.3						
	comp=Z,0.8nm,0.6s						
CHGN	**Chignik**	**75.97**	**11**	P	**P**	**20 21 02.7**	**-0.5**
CHGN				IAmb	IAmb	20 21 42.8	
	comp=Z,31nm,1.4s						
TKX	**Tecate**	**77.55**	**50**		pP	20 23 08.4	-4.5
PLK4	**Peulik 4**	**77.62**	**12**	P	**P**	**20 21 12.6**	**+0.3**
PLK4				IAmb	IAmb	20 21 13.0	
	comp=Z,21nm,1.2s						
P16K	**Nushagak River**	**78.63**	**11**	P	**P**	**20 21 17.6**	**+0.1**
N14K	**Kuskokwak Cree**	**78.90**	**8**	P	**P**	**20 21 19.7**	**+0.9**
N14K				IAmb	IAmb	20 21 40.1	
	comp=Z,22nm,1.1s						
O16K	**Kokwok River B**	**79.14**	**10**	P	**P**	**20 21 19.6**	**-0.6**
O16K				IAmb	IAmb	20 21 59.4	
	comp=Z,12nm,1.4s						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**20 21 24.1**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=230,slow=9.9,SNR=7.1						
	comp=Z,1.1nm,0.6s						
K05A	**Summer Lake**	**80.27**	**39**	P	**P**	**20 21 28.2**	**+1.4**
M16K	**Timber Creek**	**80.36**	**9**		**P**	**20 21 27.2**	**+0.7**
M16K				IAmb	IAmb	20 21 30.6	
	comp=Z,14nm,1.2s						
J05D	**Fort Rock, OR**	**80.39**	**38**		**P**	**20 21 27.6**	**+0.2**
J05D				IAmb	IAmb	20 21 29.4	
	comp=Z,5.8nm,0.7s						
S11A	**Rachel**	**80.77**	**46**		pP	20 23 24.3	-7.1
PINE	**Pine Mountain**	**80.86**	**38**		**P**	**20 21 30.2**	**+0.4**
PINE				IAmb	IAmb	20 21 32.3	
	comp=Z,6.5nm,1.0s						
L16K	**Owhat River**	**80.94**	**9**	P	**P**	**20 21 30.6**	**+1.1**
L16K				IAmb	IAmb	20 21 31.8	
	comp=Z,13nm,1.2s						
K15K	**Wolf Creek Mou**	**81.21**	**8**	P	**P**	**20 21 32.0**	**+1.1**
K15K				IAmb	IAmb	20 21 33.4	
	comp=Z,17nm,1.0s						
WVOR	**Wild Horse Val**	**81.47**	**40**	P	**P**	**20 21 33.6**	**+0.7**
WVOR				IAmb	IAmb	20 21 35.1	
	comp=Z,5.6nm,1.1s						
U15A	**North Rim**	**82.56**	**48**	P	**P**	**20 21 39.6**	**+0.8**
G08A	**Pilot Rock**	**82.88**	**38**		**P**	**20 21 40.8**	**+0.8**
J18K	**Innoko River**	**83.02**	**10**		**P**	**20 21 39.5**	**-0.6**
J18K				IAmb	IAmb	20 21 41.8	
	comp=Z,3.9nm,0.8s						
K20K	**Telida**	**83.36**	**11**	P	**P**	**20 21 42.1**	**+0.4**
K20K				IAmb	IAmb	20 21 43.2	
	comp=Z,5.7nm,0.8s						
CRQM	**Cirque**	**83.51**	**17**		pP	20 23 40.6	-5.3
CAST	**Castle Rocks**	**83.78**	**12**		**P**	**20 21 42.3**	**-1.6**
CAST				IAmb	IAmb	20 21 43.8	
	comp=Z,7.2nm,0.9s						
TRF	**Thorofare Moun**	**84.16**	**12**		**P**	**20 21 44.7**	**-1.3**
TRF				IAmb	IAmb	20 21 47.1	
	comp=Z,9.6nm,0.8s						
RND	**Reindeer**	**84.42**	**13**	P	**P**	**20 21 47.3**	**+0.3**
RND				IAmb	IAmb	20 21 48.1	
	comp=Z,7.2nm,0.7s						
CCB	**Clear Creek Bu**	**85.74**	**13**		**P**	**20 21 52.8**	**-0.5**
CCB				IAmb	IAmb	20 21 53.9	
	comp=Z,7.8nm,1.3s						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**20 21 57.5**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=218,slow=5.1,SNR=9.8						
	comp=Z,1.5nm,0.8s						
ILAR	**Eielson Array**	**86.04**	**13**	P	**P**	**20 21 54.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=222,slow=4.8,SNR=15						
	comp=Z,1.0nm,0.4s						
YHL	**Hebgen Lake**	**87.35**	**41**		**P**	**20 22 02.8**	**+1.0**
YHL				IAmb	IAmb	20 22 04.5	
	comp=Z,3.2nm,0.9s						
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**20 22 02.8**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=219,slow=2.9,SNR=8.2						
	comp=Z,0.8nm,0.7s						
YNE	**Yellowstone No**	**88.16**	**41**	P	**P**	**20 22 05.5**	**0.0**
YNE				IAmb	IAmb	20 22 08.4	
	comp=Z,2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.05**	**290**	P	**P**	**20 22 12.2**	**+2.3**
	comp=Z,1.4nm,0.9s,baz=134,slow=3.0,SNR=7.4						
	comp=Z,1.4nm,0.9s						
TROLL	**Troll, Antarti**	**90.13**	**180**	⇑P	**P**	**20 22 13.9**	**-0.2**
	comp=Z,48nm,0.4s						
SNAA	**Sanae**	**90.41**	**179**	⇑P	**P**	**20 22 15.1**	**-0.2**
	comp=Z,18nm,0.6s						
SNAA	**Sanae**	**90.41**	**179**	P	**P**	**20 22 15.0**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=166,slow=2.8,SNR=5.9						
	comp=Z,1.2nm,0.9s						
VNA3	**Neumayer Olymp**	**90.55**	**176**	⇑P	**P**	**20 22 16.0**	**+0.1**
	comp=Z,2.6nm,0.6s						
VNA2	**Neumayer--Watz**	**90.99**	**177**	⇑P	**P**	**20 22 18.2**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=185,slow=4.4						
MKAR	**Makanchi Array**	**109.34**	**314**	PKiKP	**PKiKP**	**20 27 39.9**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=75,slow=1.6,SNR=4.4						
KURBB	**Kurchatov Arra**	**112.09**	**318**	PKiKP	**PKiKP**	**20 27 44.8**	**-0.6**
	comp=Z,0.1nm,0.7s,baz=105,slow=1.9,SNR=4.6						
BVAR	**Borovoye Array**	**117.06**	**321**	PKP	**PKiKP**	**20 27 54.9**	**0.0**
	comp=Z,0.8nm,0.4s,baz=116,slow=3.2,SNR=4.3						
ARCES	**ARCESS Array B**	**126.51**	**350**	PKP	**PKiKP**	**20 28 12.9**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=29,slow=2.8,SNR=6.2						
HFS	**Hagfors**	**137.13**	**351**	PKhKP	PKPpre	20 28 26.9	
	comp=Z,2.0nm,0.8s,baz=75,slow=7.6,SNR=4.1						
EKA	**Eskdalemuir Ar**	**142.64**	**5**	PKhKP	PKPpre	20 28 39.8	
	comp=Z,1.0nm,0.8s,baz=321,slow=1.8,SNR=2.0						
BUR08	**Bucovina Ar. S**	**144.81**	**332**		**PKPab**	**20 28 48.6**	**+0.1**
BURAR	**Bucovina Array**	**144.83**	**332**		**PKPab**	**20 28 48.6**	**+0.1**
BRTR	**Keskin Array B**	**144.99**	**315**	PKPbc	**PKPab**	**20 28 49.2**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=131,slow=5.4,SNR=9.6						
FLTG	**Flechtingen**	**145.02**	**350**	*e*PKPbc	**PKPbc**	**20 28 48.0**	**+0.2**
	baz=14,slow=2.6						
IBBN	**Ibbenburen**	**145.53**	**353**	*e*PKPbc	**PKPbc**	**20 28 49.6**	**+0.3**
	baz=14,slow=2.6						
OSTC	**Ostas**	**145.60**	**344**	*e*PKP	**PKPab**	**20 28 51.4**	**+0.1**
CHVC	**Chvalec**	**145.61**	**344**	*e*PKP	**PKPbc**	**20 28 50.5**	**+0.8**
CLZ	**Clausthal**	**145.63**	**350**	*e*PKPbc	**PKPab**	**20 28 50.6**	**-0.7**
	baz=14,slow=2.6						
CLL	**Collm**	**145.66**	**347**		**PKPbc**	**20 28 49.9**	**+0.1**
CLL	**Collm**	**145.66**	**347**	*e*PKPbc	**PKPbc**	**20 28 50.4**	**+0.6**
	baz=14,slow=2.6						
UPC	**Upice**	**145.70**	**344**	*e*PKP	**PKPab**	**20 28 51.2**	**-0.4**
STEB	**Steborice**	**145.71**	**341**	*e*PKP	**PKPab**	**20 28 51.2**	**-0.5**
DPC	**Dobruska-Polom**	**145.75**	**343**	*e*PKP	**PKPab**	**20 28 51.4**	**-0.5**
BRG	**Berggiesshubel**	**145.87**	**346**	*e*PKPbc	**PKPab**	**20 28 52.1**	**-0.2**
	baz=14,slow=2.6						
KRLC	**Krumky**	**145.88**	**343**	*e*PKP	**PKPab**	**20 28 51.7**	**-0.7**
MAUC	**Maruska**	**146.20**	**341**	*e*PKP	**PKPab**	**20 28 53.0**	**-0.7**
MMAI	**Mount Meron Ar**	**146.34**	**303**	PKPbc	**PKiKP**	**20 28 53.5**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=78,slow=5.2,SNR=8.9						
PRU	**Pruhonice**	**146.55**	**345**	*e*PKP	**PKiKP**	**20 28 53.4**	**-1.0**
MOX	**Moxa**	**146.57**	**349**	*e*L	L	21 45 57.3	
	comp=Z,33nm,20.9s						
PLN	**Plauen**	**146.62**	**348**	*e*PKPbc	**PKPbc**	**20 28 52.9**	**+0.4**
	baz=14,slow=2.6						
TANN	**Tannenbergstha**	**146.62**	**347**	*e*PKPbc	**PKPbc**	**20 28 52.6**	**+0.1**
	baz=14,slow=2.6						
MANZ	**Manzenberg**	**147.10**	**348**	*e*PKPbc	**PKPbc**	**20 28 54.1**	**+0.2**
	baz=14,slow=2.6						
ZVC	**Zvikov**	**147.15**	**345**	*e*PKP	**PKiKP**	**20 28 55.4**	**-0.2**
ROTZ	**Rotzenmuhle**	**147.29**	**347**	*e*PKPbc	**PKPbc**	**20 28 54.7**	**+0.4**
	baz=14,slow=2.6						
TNS	**Taunus Mts**	**147.49**	**352**	*e*PKPbc	**PKPbc**	**20 28 55.2**	**+0.3**
	baz=14,slow=2.6						
GRF	**Grafenberg Arr**	**147.56**	**348**	*e*L	L	21 48 36.5	
	comp=Z,41nm,18.1s						
KHC	**Kasperske Hory**	**147.58**	**345**	*e*PKP	**PKiKP**	**20 28 56.3**	**-0.3**
KHC				*ex*	x	20 29 00.9	
CKRC	**Cesky Krumlov**	**147.69**	**344**	*e*PKP	**PKiKP**	**20 28 56.6**	**-0.2**
GEC2	**GERESS Array S**	**147.82**	**345**	*e*PKPbc	**PKPbc**	**20 28 55.9**	**+0.1**
	baz=14,slow=2.6						
GERES	**GERESS Array B**	**147.82**	**345**	PKPbc	**PKiKP**	**20 28 56.5**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=21,slow=3.2,SNR=20						
CONA	**Conrad Observa**	**148.07**	**342**	*e*PKiKP	**PKiKP**	**20 28 57.6**	**-0.1**
	comp=Z,4.5nm,1.1s						
RONA	**Rosalia, Austr**	**148.15**	**341**	*e*PKiKP	**PKiKP**	**20 28 57.8**	**0.0**
	comp=Z,5.7nm,1.2s						
MOA	**Molln**	**148.59**	**344**	*i* PKiKP	**PKiKP**	**20 28 58.6**	**-0.1**
	comp=Z,4.3nm,1.1s						
BIOA	**Bad Ischl, Aus**	**148.90**	**344**	PKiKP	**PKiKP**	**20 28 59.2**	**-0.1**
	comp=Z,3.6nm,1.0s						
FUR	**Furstenfeldbru**	**149.00**	**348**	*e*PKPbc	**PKiKP**	**20 28 59.5**	**0.0**
	baz=14,slow=2.6						
RJOB	**Jochberg**	**149.07**	**345**	*e*PKPbc	**PKPbc**	**20 28 59.2**	**+0.4**
	baz=14,slow=2.6						
BFO	**Black Forest**	**149.36**	**351**	*e*PKPbc	**PKPbc**	**20 28 59.8**	**+0.3**
	baz=14,slow=2.6						
LESA	**Schwarzleotal**	**149.39**	**345**	*e*PKiKP	**PKiKP**	**20 29 00.4**	**0.0**
	comp=Z,0.7nm,0.4s						
SOKA	**Soboth**	**149.44**	**342**	*e*PKiKP	**PKiKP**	**20 29 00.4**	**-0.2**
	comp=Z,4.1nm,1.1s						
KBA	**Koelnbreinsper**	**149.55**	**344**	*e*PKiKP	**PKPbc**	**20 29 00.5**	**+0.3**
	comp=Z,2.0nm,0.6s						
WATA	**Walderalm**	**149.73**	**347**	*e*PKiKP	**PKiKP**	**20 29 01.1**	**-0.1**
	comp=Z,1.7nm,0.5s						
RETA	**Reutte**	**149.75**	**348**	*e*PKiKP	**PKiKP**	**20 29 01.2**	**0.0**
	comp=Z,2.2nm,0.9s						
WTTA	**Wattenberg**	**149.78**	**347**	*e*PKiKP	**PKiKP**	**20 29 01.2**	**-0.1**
	comp=Z,6.1nm,0.6s						
MOTA	**Moosalm**	**149.82**	**347**	*e*PKiKP	**PKiKP**	**20 29 01.2**	**-0.3**
	comp=Z,3.8nm,0.9s						
MYKA	**Terra Mystica**	**149.88**	**344**	*i* PKP	**PKPbc**	**20 29 01.0**	**+0.2**
	comp=Z,2.7nm,0.5s						
SQTA	**Sankt Quirin**	**149.92**	**347**	*e*PKiKP	**PKiKP**	**20 29 01.4**	**-0.2**
	comp=Z,5.3nm,0.7s						
ABTA	**Ofaltersbach**	**150.06**	**345**	*e*PKP	**PKPbc**	**20 29 01.4**	**+0.1**
	comp=Z,6.5nm,0.7s						
DAVA	**Damuels**	**150.12**	**349**	*e*PKiKP	**PKiKP**	**20 29 01.9**	**-0.2**
	comp=Z,6.0nm,1.1s						
FETA	**Feichten**	**150.21**	**348**	*e*PKiKP	**PKiKP**	**20 29 02.2**	**0.0**
	comp=Z,4.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**150.60**	**349**	PKPbc	**PKiKP**	**20 29 03.8**	**+0.7**
	comp=Z,5.1nm,0.6s,baz=2.4,slow=16,SNR=16						
FUORN	**Ofenpass-Fuorn**	**150.69**	**348**		**PKiKP**	**20 29 03.2**	**-0.1**
FNA	**Florina**	**151.76**	**327**		**PKPbc**	**20 29 04.3**	**-1.0**

IDC ***23*** *20:14:19.0±1.5,52.80N×35.12W,h0km,mb3.6/9, mbtmp3.7/10,ML3.8/1,MS3.3/4, Error ellipse: s-maj=47.0km s-min=23.4km az=6.0*

ISC 23 20:14:21.0±1.5,52.8N±0.3×35.1W±0.1,h13km,n15, σ0s57/12,mb3.8/9,MS3.4/4,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**18.84**	**70**	P	**Pn**		**20 18 40.5**	**-0.3**
	baz=280,slow=10							
	3.3nm,0.8s							
ESDC	**Sonseca Array**	**25.00**	**109**	P		**P**	**20 19 44.0**	**-0.5**
	0.8nm,0.9s,baz=316,slow=9.8,SNR=5.9							
	0.8nm,0.9s							
NOA	**NORSAR Array B**	**26.08**	**53**	P		**P**	**20 19 53.2**	**-0.8**
	0.5nm,0.8s,baz=289,slow=10,SNR=1.8							
NOA				LR		LR	20 28 35.0	
	comp=Z,20nm,18.0s,baz=95,slow=33							
	0.5nm,0.8s							
HFS	**Hagfors**	**27.37**	**55**	LR		LR	20 29 08.3	
	comp=Z,72nm,18.1s,baz=196,slow=32							
GERES	**GERESS Array B**	**30.61**	**78**	P		**P**	**20 20 34.9**	**+0.3**
	0.3nm,0.4s,baz=299,slow=9.0,SNR=5.1							
	0.3nm,0.4s							
TKL	**Tuckaleechee C**	**38.02**	**263**	LR		LR	20 36 27.6	
	comp=Z,68nm,19.5s,baz=62,slow=35							
BRTR	**Keskin Array B**	**47.51**	**77**	P		**P**	**20 22 56.7**	**+0.9**
	1.2nm,0.9s,baz=335,slow=5.5,SNR=4.7							
	1.2nm,0.9s							
PDAR	**Pinedale Array**	**48.89**	**290**	P		**P**	**20 23 06.7**	**+0.1**
	0.4nm,0.5s,baz=61,slow=7.9,SNR=6.0							
	0.4nm,0.5s							
BVAR	**Borovoye Array**	**57.64**	**44**	P		**P**	**20 24 10.8**	**+0.3**
	1.2nm,0.7s,baz=316,slow=8.3,SNR=5.5							
	1.2nm,0.7s							
CMIG	**Matias Romero**	**58.37**	**256**	LR		LR	20 50 05.9	
	comp=Z,30nm,18.3s,baz=292,slow=37							
KURBB	**Kurchatov Arra**	**62.78**	**41**	P		**P**	**20 24 45.6**	**0.0**
	0.8nm,0.8s,baz=322,slow=7.1,SNR=6.6							
	0.8nm,0.8s							
MKAR	**Makanchi Array**	**67.33**	**41**	P		**P**	**20 25 15.2**	**-0.2**
	0.5nm,0.6s,baz=338,slow=5.9,SNR=6.7							
	0.5nm,0.6s							
SONM	**Songino Array**	**74.51**	**26**	P		**P**	**20 25 59.5**	**+0.4**
	0.7nm,0.8s,baz=333,slow=6.8,SNR=3.7							
	0.7nm,0.8s							
WRA	**Warramunga Arr**	**146.19**	**18**	PKPbc		**PKPbc**	**20 34 00.4**	**-0.5**
	1.3nm,0.9s,baz=344,slow=3.2,SNR=8.2							
ASAR	**Alice Springs**	**149.73**	**20**	PKPbc		**PKPbc**	**20 34 09.8**	**-0.6**
	0.8nm,0.8s,baz=359,slow=2.1,SNR=8.4							

NEIC ***23*** *20:23:31.7±1.4,35.916N±0.008×117.25W±0.01, h5km, Error ellipse: s-maj=1.6km s-min=1.5km az=352.0*

PAS 23 20:23:32.3±1.2,35.915N±0.009×117.26W±0.01, h4km±1km,ML3.0/136,ML2.8/154(NEIC),Error ellipse: s-maj=1.4km s-min=1.1km az=142.0,Central California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.24**	**307**			Pg	20 23 36.9	-0.1
MPMC					Sg	Sg	20 23 40.2	+0.1
CLC	**China Lake**	**0.29**	**250**			Pg	20 23 37.8	-0.2
CLC				IAML			20 23 42.4	
	comp=E,2μm,0.3s							
QSM	**Queen of Sheba**	**0.32**	**81**			Pg	20 23 38.3	-0.2
QSM					Sg	Sg	20 23 41.6	-1.1
WSHM	**Spangler Hills**	**0.37**	**211**			Pg	20 23 39.1	-0.3
WSHM				IAML			20 23 45.1	
	comp=E,1μm,0.3s							
WSHM	**Spangler Hills**	**0.37**	**211**			Sg	20 23 44.6	+0.3
CCCA	**Chr Cany lake**	**0.40**	**193**			Pg	20 23 40.2	+0.3
CCCA				IAML			20 23 46.6	
	comp=N,1μm,0.5s							
CCCA				IAML			20 23 49.0	
	comp=E,772nm,0.8s							
TOW	**Tower One**	**0.42**	**256**			Pg	20 23 40.9	+0.4
TOW						Sg	20 23 47.6	+1.5
WCSM	**Coso Springs S**	**0.43**	**285**			Pg	20 23 40.4	-0.2
WCSM						Sg	20 23 46.9	+0.7
JRC2	**Joshua Ridge**	**0.45**	**279**			Pg	20 23 41.0	-0.1
WVPM	**Volcano Peak E**	**0.46**	**274**			Pg	20 23 41.1	0.0
WVPM						Sg	20 23 47.5	+0.5
SRTC	**Snort**	**0.46**	**241**			Pg	20 23 41.3	+0.2
SRTC						Sg	20 23 48.5	+1.4
WRVM	**Rose V. Centra**	**0.52**	**280**			Pg	20 23 42.1	-0.3
WRVM						Sg	20 23 49.9	+0.8
MFS	**McCloud Flat S**	**0.53**	**293**			Pg	20 23 42.2	-0.2
MFS						Sg	20 23 49.8	+0.6
WNMM	**Nine Mile Cany**	**0.53**	**262**			Pg	20 23 42.4	-0.1
WNMM						Sg	20 23 50.2	+0.9
GWY	**Greenwater Val**	**0.55**	**60**			Pg	20 23 42.7	-0.2
GWY						Sg	20 23 49.6	-0.4
GWY				IAML			20 23 50.5	
	comp=E,918nm,0.2s							
GWY				IAML			20 23 51.9	
	comp=N,693nm,0.3s							
LRMC	**Laurel Mtn Rad**	**0.56**	**219**			Pg	20 23 42.6	-0.4
LRMC				IAML			20 23 50.6	
	comp=E,706nm,0.3s							
LRMC	**Laurel Mtn Rad**	**0.56**	**219**			Sg	20 23 50.4	+0.2
FURC	**Furnace Creek,**	**0.64**	**30**			Pg	20 23 44.3	-0.2
FURC				IAML			20 23 57.1	
	comp=N,576nm,0.4s							
FURC				IAML			20 23 57.5	
	comp=E,741nm,0.4s							
FURC	**Furnace Creek,**	**0.64**	**30**			Sb	20 23 54.1	-1.1
GSC	**Goldstone, Bar**	**0.71**	**149**			Sg	20 23 55.5	+0.2
GSC	**Goldstone, Bar**	**0.71**	**149**	Pg		Pg	20 23 45.6	-0.3
GSC				IAML			20 23 59.0	
	comp=N,636nm,0.3s							
CGO	**Cerro Gordo**	**0.77**	**325**			Pg	20 23 46.7	-0.5
CGO						Sg	20 23 57.8	+0.6
SHOC	**Shoshone, Teco**	**0.80**	**91**			Sg	20 23 47.2	-0.4
DTP	**Desert Tortois**	**0.81**	**217**			Pg	20 23 47.0	-0.7
DTP						Sg	20 23 58.2	0.0
WBSM	**Bird Springs**	**0.81**	**243**			Pg	20 23 47.3	-0.5
WBSM						Sg	20 23 58.3	0.0
WORM	**Onyx Ranch**	**0.83**	**255**			Pg	20 23 47.6	-0.6
WORM						Sg	20 23 58.5	-0.5
CWC	**Cottonwood Cre**	**0.85**	**308**			Pg	20 23 48.0	-0.5
CWC				IAML			20 24 00.5	
	comp=N,355nm,0.3s							
CWC				IAML			20 24 01.1	
	comp=E,303nm,0.2s							
CWC	**Cottonwood Cre**	**0.85**	**308**			Sg	20 23 59.7	+0.1
WHFM	**Hanning Flat**	**0.91**	**256**			Pg	20 23 49.2	-0.6
WHFM						Sg	20 24 01.3	-0.4
AMDNV	**Amargosa**	**0.95**	**56**			Pg	20 23 50.2	-0.4
AM

PMD				IAML		20 24 48.2		
	comp=E,28nm,0.2s							
PMD	**Palm Desert**	**2.38**	**162**		Pn	20 24 10.8	-1.1	
PFO	**Pinyon Flats O**	**2.39**	**164**		Pn	20 24 11.2	-1.1	
DNR	**Dunn Ranch,Anz**	**2.40**	**167**	Pn	Pn	20 24 12.1	-0.3	
DNR				IAML		20 24 56.8		
	comp=N,76nm,0.8s							
NEE2	**Needles Airpor**	**2.44**	**117**		Pn	20 24 10.9	-2.0	
IRM	**Iron Mountain**	**2.47**	**135**		Pn	20 24 12.9	-0.3	
IRM				IAML		20 24 55.8		
	comp=N,30nm,0.4s							
IRM				IAML		20 24 55.9		
	comp=E,33nm,0.8s							
LHV	**Little Huntoon**	**2.54**	**337**		Pn	20 24 14.5	+0.3	
LHV				IAML		20 24 57.9		
	comp=N,35nm,1.1s							
LHV				IAML		20 24 58.0		
	comp=E,55nm,0.8s							
NV11	**Mina Array Sit**	**2.61**	**344**	Pn	Pn	20 24 15.2	-0.2	
NVAR	**Mina Array Bea**	**2.65**	**342**		Pn	20 24 15.4	-0.5	
BC3	**Big Chuckawall**	**2.70**	**146**		Pn	20 24 15.9	-0.6	
BC3				IAML		20 25 00.5		
	comp=N,40nm,0.5s							
BC3				IAML		20 25 01.1		
	comp=E,32nm,1.2s							
R11B	**Troy Canyon, C**	**2.77**	**28**		Pn	20 24 16.9	-0.7	
W13A	**Hualapai Mount**	**2.87**	**106**		Pn	20 24 17.4	-1.5	
W13A				IAML		20 25 05.1		
	comp=N,18nm,0.2s							
PMPB	**Monarch Peak**	**2.89**	**277**	Pn	Pn	20 24 18.0	-1.1	
PMPB				IAML		20 24 43.8		
	comp=N,53nm,3.7s							
PMPB				IAML		20 25 09.1		
	comp=E,52nm,4.8s							
RYN	**Ryan**	**2.89**	**340**		Pn	20 24 18.3	-0.9	
Q09A	**Carvers**	**2.91**	**1**	Pn	Pn	20 24 17.2	-2.4	
Q09A				IAML		20 25 09.9		
	comp=E,50nm,0.7s							
Q09A				IAML		20 25 15.7		
	comp=N,41nm,1.0s							
DPP	**Dos Picos Cty**	**2.92**	**175**		Pn	20 24 17.2	-2.3	
DPP				IAML		20 25 32.3		
	comp=N,42nm,0.5s							
DPP				IAML		20 25 51.3		
	comp=E,24nm,0.1s							
WAKR	**Walker**	**3.12**	**327**		Pn	20 24 21.1	-1.2	
CMB	**Columbia Colle**	**3.28**	**311**		Pn	20 24 22.5	-1.9	
CMB				IAML		20 25 16.4		
	comp=N,17nm,0.5s							
CMB				IAML		20 25 20.9		
	comp=E,13nm,0.7s							
CCUT	**Cedar City**	**3.53**	**61**		Pn	20 24 25.5	-2.6	
CBX	**Cerro Bola**	**3.63**	**172**		Pn	20 24 27.2	-2.1	
KNB	**Kanab**	**3.74**	**72**		Pn	20 24 28.8	-2.1	
PSUT	**Pine Spring**	**3.77**	**45**	IAML		20 25 40.0		
	comp=E,11nm,0.7s							
PSUT				IAML		20 25 45.3		
	comp=N,9.7nm,1.3s							
SPR3	**Spring Creek 3**	**3.86**	**36**		Pn	20 24 30.3	-2.4	
Y14A	**Wickenburg**	**4.01**	**118**		Pn	20 24 32.2	-2.3	
Y14A				IAML		20 25 42.0		
	comp=E,16nm,0.4s							
Y14A				IAML		20 25 43.2		
	comp=N,19nm,0.7s							
ESJX	**Sierra Juarez**	**4.05**	**164**		Pn	20 24 33.5	-1.7	
U15A	**North Rim**	**4.05**	**81**		Pn	20 24 33.7	-1.5	
U15A				IAML		20 25 45.0		
	comp=E,10nm,0.9s							
U15A				IAML		20 25 45.1		
	comp=N,7.7nm,0.8s							
AFDM	**Forest Hills D**	**4.23**	**317**		Pn	20 24 36.5	-1.0	
AFDM				IAML		20 25 48.4		
	comp=E,18nm,0.8s							
AFDM				IAML		20 25 48.5		
	comp=N,8.0nm,0.7s							
PKCU	**Pink Cliffs**	**4.26**	**68**		Pn	20 24 36.2	-1.9	
PKCU				IAML		20 26 18.1		
	comp=N,16nm,4.6s							
WUAZ	**Wupatki**	**4.80**	**93**	IAML		20 26 05.2		
	comp=N,8.3nm,0.9s							
WUAZ				IAML		20 26 09.3		
	comp=N,8.7nm,1.1s							
MSU	**Marysvale**	**4.81**	**56**		Pn	20 24 42.9	-2.8	
ELK	**Elko**	**5.08**	**18**		Pn	20 24 47.5	-1.8	

*IDC **23** 20:44:01.7±1.0, 18°.66S×174°.86W, h0km, mb3.8/7, mbtmp3.8/7, MS3.8/1, Error ellipse: s-maj=38.6km s-min=26.0km az=136.0*

ISC 23 20:44:26.3±1.0, 18°.7S±0°.2×175°.1W±0°.2, h205km, n13, σ0ş74/9, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.64**	**256**	LR	LR	20 54 00.5	
	comp=Z,318nm,19.3s,baz=18,slow=34						
WRA	**Warramunga Arr**	**47.60**	**260**	P	**P**	**20 52 41.1**	**-0.8**
	0.6nm,0.4s,baz=97,slow=5.3,SNR=27						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**47.62**	**255**	P	**P**	**20 52 41.5**	**-0.6**
	2.1nm,0.6s,baz=94,slow=7.9,SNR=51						
	2.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.01**	**260**	P	**P**	**20 53 44.0**	**0.0**
	1.3nm,0.7s,baz=50,slow=7.9,SNR=2.2						
	1.3nm,0.7s						
QSPA	**South Pole Qui**	**71.33**	**180**	P	**P**	**20 55 23.9**	**+0.4**
	0.9nm,0.6s,baz=21,slow=0.5,SNR=7.5						
	0.9nm,0.6s						
PETK	**Petropavlovsk-**	**75.32**	**343**	P	**P**	**20 55 47.5**	**+0.8**
	1.0nm,0.7s,baz=181,slow=7.0,SNR=2.2						
	1.0nm,0.7s						
H03S2	**Juan Fernandez**	**84.70**	**124**	T	T	22 29 27.5	
	baz=249,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**84.71**	**124**	T	T	22 29 31.2	
	baz=249,slow=74,SNR=3.3						
H03S3	**Juan Fernandez**	**84.72**	**124**	T	T	22 29 32.7	
	baz=249,slow=74,SNR=4.4						
PDAR	**Pinedale Array**	**85.80**	**42**	P	**P**	**20 56 42.0**	**-0.9**
	0.1nm,0.4s,baz=202,slow=3.3,SNR=2.0						
	0.1nm,0.4s						
ILAR	**Eielson Array**	**86.01**	**12**	P	**P**	**20 56 42.9**	**-0.1**
	0.2nm,0.5s,baz=233,slow=6.4,SNR=4.9						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**147.59**	**316**	PKPbc	**PKPbc**	**21 03 47.6**	**+0.9**
	0.2nm,0.4s,baz=64,slow=3.4,SNR=2.7						
GERES	**GERESS Array B**	**149.13**	**349**	PKPbc	**PKiKP**	**21 03 51.4**	**-0.1**
	0.6nm,0.7s,baz=4.5,slow=2.6,SNR=4.0						

*IDC **23** 21:14:10.8±0.6, 5°.33S×77°.33W, h0km, mb3.7/10, mbtmp3.9/16, ML3.7/6, MS3.2/4, Error ellipse: s-maj=19.4km s-min=11.4km az=97.0*

*NEIC **23** 21:14:12.6±1.4, 5°.40S±0°.04×77°.16W±0°.09, h10km±1km, mb4.6/17, Error ellipse: s-maj=15.8km s-min=5.9km az=254.0*

*RSNC **23** 21:14:14.5±1.1, 5°.S±4°×7°.7W±°, h24km±8km, M4.3, mB5.2, mb4.8, ML3.7, Mw(mB)4.6*

*VAO **23** 21:14:27.1±0.8, 4°.63S×76°.46W, h117km±8km, mb4.2*

ISC 23 21:14:14.7±0.4, 5°.35S±0°.05×77°.17W±0°.05, h26km, n80, σ1ş44/82, mb4.2/17, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.15**	**214**	Pn	**Pn**	**21 14 48.6**	**-0.7**
	119nm,0.3s,baz=27,slow=12,SNR=255						
ATAH				Lg	Lg	21 15 14.9	
	59nm,0.3s,baz=53,slow=19,SNR=6.9						
ATAH				LR	LR	21 15 25.8	
	comp=Z,197nm,18.1s,baz=344,slow=36						
	1µm,0.6s						
MCRA	**Macar, Loja**	**2.94**	**289**	P	**Pn**	**21 14 58.7**	**-1.2**
MCRA				S	**Sn**	**21 15 34.2**	**-0.2**
COHC	**Cochancay**	**3.54**	**324**		**Pn**	**21 15 08.3**	**+0.2**
COHC	**Cochancay**	**3.54**	**324**	P	**Pn**	**21 15 08.6**	**+0.5**
COHC				S	**Sn**	**21 15 52.8**	**+3.6**
PIAT	**Ana Tenorio**	**4.46**	**346**	P	**Pn**	**21 15 20.9**	**-0.2**
CZSB	**Cruzeiro do Su**	**5.03**	**118**		**Pn**	**21 15 27.7**	**-0.8**
CZSB	**Cruzeiro do Su**	**5.03**	**118**	P	**Pn**	**21 15 28.2**	**-0.3**
	2µm145nm,1.2s						
CZSB				S	**Sn**	**21 16 27.2**	**+1.4**
	2µm145nm,1.2s						
PPLP	**Puerto Lpez**	**5.22**	**316**	P	**Pn**	**21 15 31.7**	**+0.5**
	59nm,1.3s						
PPLP				S	**Sn**	**21 16 31.0**	**+0.3**
	59nm,1.3s						

OTAV	**Otavalo**	**5.70**	**347**		**Pn**	**21 15 38.7**	**+0.5**	
OTAV	**Otavalo**	**5.70**	**347**	*e*P	Pn	21 15 43.2	+5.0	
OTAV	**Otavalo**	**5.70**	**347**	P	Pn	21 15 43.6	+5.4	
PAC1	**Pacto, Paraso**	**5.81**	**344**	P	Pn	21 15 44.7	+5.2	
NNA	**Nana**	**6.60**	**177**		**Pn**	**21 15 48.5**	**-1.7**	
NNA	**Nana**	**6.60**	**177**	Pn	**Pn**	**21 15 49.2**	**-1.0**	
	6.5nm,0.3s,baz=354,slow=9.1,SNR=8.2							
NNA				Sn	**Sn**	**21 17 02.1**	**-2.6**	
	9.3nm,0.3s,baz=302,slow=22,SNR=7.2							
	15nm,0.3s							
NNA	**Nana**	**6.60**	**177**	P	**Pn**	**21 15 49.6**	**-0.6**	
FLOC	**Florencia**	**7.05**	**12**		**Pn**	**21 15 56.2**	**-0.3**	
FLOC	**Florencia**	**7.05**	**12**	P	**Pn**	**21 15 56.0**	**-0.4**	
FLOC				S	**Sn**	**21 17 16.1**	**+0.2**	
TBTG	**Tabatinga, AM**	**7.33**	**81**		**Pn**	**21 15 59.0**	**-1.2**	
TBTG	**Tabatinga, AM**	**7.33**	**81**	*e*P	**Pn**	**21 16 00.1**	**-0.1**	
TBTG	**Tabatinga, AM**	**7.33**	**81**	P	**Pn**	**21 15 59.7**	**-0.5**	
	3µm317nm,0.8s							
TBTG				S	**Sn**	**21 17 24.4**	**+1.8**	
	3µm317nm,0.8s							
GARC	**Garzon, Huila**	**7.67**	**13**	P	**Pn**	**21 16 05.0**	**-0.2**	
GARC				S	**Sn**	**21 17 31.6**	**+0.1**	
POPC	**Popayan, Colom**	**7.86**	**4**	P	**Pn**	**21 16 10.4**	**+2.8**	
MACC	**Macarena, Meta**	**8.15**	**24**	P	**Pn**	**21 16 11.9**	**+0.4**	
	680nm38nm,0.6s							
GR1C	**Gorgona, Isla**	**8.36**	**353**	P	**Pn**	**21 16 17.3**	**+3.0**	
ORTC	**Ortega, Tolima**	**9.40**	**12**	P	**Pn**	**21 16 30.7**	**+2.1**	
ROSC	**El Rosal**	**10.52**	**16**	Pn	**Pn**	**21 16 44.5**	**+0.2**	
ROSC	**El Rosal**	**10.52**	**16**	Pn	**Pn**	**21 16 44.6**	**+0.4**	
	2.3nm,0.3s,baz=271,slow=22,SNR=1.7							
ROSC				Lg	Lg	21 19 47.3		
	2.9nm,0.3s,baz=160,slow=21,SNR=2.0							
	5.4nm,0.3s							
RUSC	**La Rusia**	**11.89**	**20**		**Pn**	**21 17 02.2**	**-1.0**	
TEFE	**Tefe**	**12.63**	**82**	*e*P	**Pn**	**21 17 12.4**	**-0.5**	
LPAZ	**La Paz**	**14.02**	**141**	Pn	**Pn**	**21 17 30.9**	**-1.6**	
LPAZ	**La Paz**	**14.02**	**141**	Pn	**Pn**	**21 17 32.3**	**-0.2**	
	0.1nm,0.3s,baz=332,slow=8.3,SNR=1.8							
LPAZ				Lg	Lg	21 21 36.9		
	0.1nm,0.3s,baz=29,slow=14,SNR=1.8							
	0.5nm,0.5s							
LPAZ	**La Paz**	**14.02**	**141**	*e*P	**P**	**21 17 43.2**	**+3.0**	
SAML	**Samuel**	**14.33**	**105**		**Pn**	**21 17 33.4**	**-2.6**	
SAML	**Samuel**	**14.33**	**105**	*e*P	**Pn**	**21 17 38.2**	**+2.1**	
SDV	**Santo Domingo**	**15.57**	**25**	Pn	**Pn**	**21 17 50.9**	**-2.0**	
	3.2nm,0.3s,baz=146,slow=11,SNR=1.7							
SDV				Lg	Lg	21 22 27.5		
	2.9nm,0.3s,baz=330,slow=12,SNR=1.5							
SDV				LR	LR	21 24 28.3		
	comp=Z,96nm,20.7s,baz=270,slow=40							
	8.7nm,0.3s							
GO01	**Chusmiza**	**16.21**	**152**		**Pn**	**21 18 00.4**	**-0.9**	
PB08	**IPOC Station P**	**16.64**	**153**		**Pn**	**21 18 05.2**	**-1.5**	
BAUV	**El Baul**	**16.87**	**33**		**Pn**	**21 18 08.4**	**-0.8**	
BAUV				IAmb	IAmb	21 18 15.7		
	comp=Z,21nm,0.8s							
JTS	**Las Juntas de**	**17.37**	**333**	LR	LR	21 23 53.3		
	comp=Z,65nm,19.6s,baz=137,slow=34							
PB09	**IPOC Station P**	**18.06**	**156**	P	**P**	**21 18 25.0**	**+0.6**	
BOAV	**Boa Vista**	**18.32**	**66**		**P**	**21 18 25.2**	**-2.0**	
BOAV	**Boa Vista**	**18.32**	**66**	*e*P	**P**	**21 18 22.3**	**-4.9**	
SIV	**San Ignacio**	**19.01**	**125**	P	**P**	**21 18 34.3**	**-0.5**	
	baz=299,slow=8.3,SNR=5.3							
SIV				Lg	Lg	21 24 17.6		
	baz=221,slow=19,SNR=4.2							
	comp=Z,0.7nm,0.6s							
PTLB	**Pontes e Lacer**	**20.36**	**121**	*e*P	Pn	21 18 52.6	+1.0	
PDRB	**Porto dos Gac**	**21.14**	**108**	*e*P	**P**	**21 18 59.6**	**+1.6**	
NPGB	**Novo Progresso**	**21.75**	**96**	*e*P	**P**	**21 19 02.4**	**-2.1**	
CLDB	**Colider**	**21.85**	**106**	*e*P	**P**	**21 19 06.2**	**+0.5**	
SALV	**Santo Antonio**	**23.54**	**118**	*e*P	**P**	**21 19 24.9**	**+1.8**	
PDPR	**Patillas Dam,**	**25.70**	**25**	P	**P**	**21 19 43.1**	**+0.1**	
PDPR				IAmb	IAmb	21 19 46.5		
	comp=Z,16nm,0.8s							
AQDB	**Aquidauana**	**25.71**	**128**	P	**P**	**21 19 42.5**	**-0.6**	
AQDB				IAmb	IAmb	21 19 49.0		
	comp=Z,6.3nm,0.9s							
AQDB	**Aquidauana**	**25.71**	**128**	*e*P	**P**	**21 19 43.3**	**+0.2**	
SNDB	**Serra Nova Dou**	**26.40**	**106**	*e*P	**P**	**21 19 48.6**	**-0.8**	
MDP	**Montagnes des**	**26.61**	**67**	LR	LR	21 31 08.7		
	comp=Z,143nm,18.3s,baz=237,slow=38							
SJPY	**San Joaquin**	**28.11**	**136**	*e*P	**P**	**21 20 08.5**	**+3.9**	
CPUP	**Villa Florida**	**28.19**	**140**	P	**P**	**21 20 06.7**	**+1.3**	
	comp=Z,0.7nm,0.8s,baz=315,slow=11,SNR=4.1							
	comp=Z,0.7nm,0.8s							
IPMB	**Ipameri, GO**	**30.95**	**116**	*e*P	**P**	**21 20 31.4**	**+1.4**	
PLCA	**Paso Flores**	**35.72**	**171**	P	**P**	**21 21 12.4**	**+1.1**	
	comp=Z,1.3nm,0.8s,baz=338,slow=12,SNR=4.3							
	comp=Z,1.3nm,0.8s							
TXAR	**Lajitas Array**	**42.87**	**325**	P	**P**	**21 22 10.7**	**-0.5**	
	comp=Z,0.1nm,0.5s,baz=134,slow=9.4,SNR=1.8							
	comp=Z,0.1nm,0.5s							
DKNS	**Dickens**	**44.85**	**332**	P	**P**	**21 22 27.3**	**+0.2**	
DKNS				IAmb	IAmb	21 22 32.6		
	comp=Z,6.1nm,1.0s							
SMWD	**Samnorwood**	**45.73**	**333**	P	**P**	**21 22 34.2**	**+0.2**	
PV10	**Paradox Valley**	**52.60**	**329**	P	**P**	**21 23 25.1**	**-1.6**	
AGMN	**Agassiz Nation**	**55.89**	**345**	P	**P**	**21 23 48.9**	**-1.3**	
AGMN				IAmb	IAmb	21 23 50.2		
	comp=Z,8.0nm,1.1s							
PDAR	**Pinedale Array**	**56.19**	**332**	P	**P**	**21 23 50.9**	**-1.9**	
	comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=4.2							
	comp=Z,0.1nm,0.3s							
ULM	**Lac du Bonnet**	**57.70**	**346**	P	**P**	**21 24 02.4**	**-0.6**	
	comp=Z,3.8nm,0.8s,baz=196,slow=4.6,SNR=4.1							
	comp=Z,3.8nm,0.8s							
NVAR	**Mina Array Bea**	**57.88**	**322**	P	**P**	**21 24 04.0**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=92,slow=7.2,SNR=4.4							
	comp=Z,0.4nm,0.6s							
YHL	**Hebgen Lake**	**58.54**	**332**	P	**P**	**21 24 09.8**	**+0.4**	
YHL				IAmb	IAmb	21 24 24.7		
	comp=Z,6.3nm,1.1s							
SNAA	**Sanae**	**80.04**	**162**	P	**P**	**21 26 23.3**	**+1.5**	
	comp=Z,1.7nm,0.9s,baz=311,slow=8.8,SNR=5.5							
	comp=Z,1.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**80.42**	**76**	P	**P**	**21 26 24.9**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=261,slow=6.1,SNR=3.1							
ESDC	**Sonseca Array**	**80.61**	**48**	P	**P**	**21 26 25.9**	**+0.5**	
	comp=Z,0.6nm,1.0s,baz=261,slow=5.9,SNR=3.4							
	comp=Z,0.6nm,1.0s							
QSPA	**South Pole Qui**	**84.74**	**180**	P	**P**	**21 26 47.3**	**+0.8**	
	comp=Z,3.1nm,1.1s,baz=215,slow=1.9,SNR=5.4							
	comp=Z,3.1nm,1.1s							
ILAR	**Eielson Array**	**86.32**	**336**	P	**P**	**21 26 53.3**	**-0.9**	
	comp=Z,0.1nm,0.5s,baz=127,slow=4.9,SNR=4.2							
	comp=Z,0.1nm,0.5s							
PPLA	**Purkeypile**	**87.97**	**334**	P	**P**	**21 27 02.4**	**0.0**	
PPLA				IAmb	IAmb	21 27 07.9		
	comp=Z,1.9nm,0.8s							
E24K	**Your Creek**	**88.06**	**339**		**P**	**21 27 03.6**	**+1.0**	
CAST	**Castle Rocks**	**88.06**	**334**	P	**P**	**21 27 02.8**	**+0.1**	
CAST				IAmb	IAmb	21 27 08.3		
	comp=Z,3.5nm,1.0s							
BVAR	**Borovoye Array**	**125.55**	**23**	PKP	**PKiKP**	**21 33 14.7**	**+0.6**	
	comp=Z,0.5nm,0.6s,baz=245,slow=3.0,SNR=2.9							
ZALV	**Zalesovo Beam**	**129.38**	**14**	PKP	**PKiKP**	**21 33 21.3**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=278,slow=1.0,SNR=5.4							
KURBB	**Kurchatov Arra**	**130.50**	**20**	PKP	**PKPdf**	**21 33 23.5**	**+0.3**	
	comp=Z,0.8nm,0.7s,baz=330,slow=2.8,SNR=8.3							
MKAR	**Makanchi Array**	**135.07**	**20**	PKP	**PKiKP**	**21 33 33.4**	**-0.1**	
	comp=Z,0.4nm,0.6s,baz=347,slow=2.6,SNR=4.4							
ASAR	**Alice Springs**	**138.15**	**225**	PKP	**PKiKP**	**21 33 40.1**	**-0.3**	
	comp=Z,0.5nm,0.8s,baz=129,slow=2.9,SNR=4.5							
WRA	**Warramunga Arr**	**140.10**	**230**	PKP	**PKPdf**	**21 33 43.2**	**+1.2**	
	comp=Z,0.3nm,0.5s,baz=118,slow=2.2,SNR=4.7							

*ISN **23** 21:14:26.7±0.9, 32°.83N×46°.14E, h4km±4km, ML2.7*

*TEH **23** 21:14:27.7, 32°.88N×46°.21E, h10km±134km*

ISC 23 21:14:28.5±1.1, 32°.91N±0°.05×46°.09E±0°.06, h10km, n9, σ1ş74/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.24**	**325**	*e*Pg	**Pg**	**21 14 34.0**	**+0.6**
IBDR				*e*Sg	**Sg**	**21 14 38.0**	**+1.2**
IBDR				AML	AML	21 14 44.1	
	comp=E,148nm,0.7s						
IBDR				AML	AML	21 14 48.0	
	comp=N,208nm,0.5s						
ILBA	**Ilam Banvizeh**	**0.72**	**8**	Pg	**Pg**	**21 14 41.5**	**-0.9**
RAFI	**Al-Rafai**	**1.19**	**179**	*e*Pn	**Pn**	**21 14 51.0**	**-0.1**
RAFI				*e*Sn	**Sn**	**21 15 08.0**	**+0.7**
GLG1	**Gilan-e-Gharb**	**1.21**	**353**	Pg	**Pg**	**21 14 52.3**	**+0.5**
GLG1				Sg	**Sg**	**21 15 10.3**	**+2.8**
IGHG	**Ghaleghazi**	**1.47**	**16**	Pg	**Pg**	**21 14 56.6**	**-0.1**

BHD	**Baghdad**	**1.48**	**284**	*e*Pn	**Pg**	**21 14 57.0**	**0.0**	
BHD				*e*Sn	**Sg**	**21 15 19.0**	**+2.8**	
IDHR	**Dehrash**	**1.80**	**8**	Pn	**Pb**	**21 15 01.6**	**-0.1**	
SNQR	**Sonqor, Kerman**	**2.32**	**33**	Pn	**Pn**	**21 15 07.8**	**+0.7**	
IKRK	**Kirkuk**	**2.88**	**330**	*e*Pn	**Pb**	**21 15 17.0**	**-2.9**	
IKRK				*e*Sn	**Sb**	**21 15 53.0**	**-2.2**	

*CATAC **23** 21:32:58.9±1.3, 19°.N±10°×6°.4W±°, h17km±11km, M4.5/6, MLv4.5/6, Error ellipse: s-maj=21.1km s-min=4.5km az=8.9, confirmed*

*TRN **23** 21:32:59.2, 18°.94N×64°.28W, h72km, MD0.0, North of Anegada.*

*RSPR **23** 21:33:02.6, 18°.92N×64°.30W, h18km±5km, MD3.7/16*

*NEIC **23** 21:33:02.1±1.3, 18°.76N±0°.07×64°.31W±0°.04, h39km±2km, mb4.7/21, ML4.2/38, ML4.1/16(RSPR), Error ellipse: s-maj=10.3km s-min=5.5km az=193.0*

*IDC **23** 21:33:03.1±2.0, 18°.63N×64°.29W, h55km±20km, mb3.6/16, mbtmp4.0/20, ML3.7/4, MS3.3/12, Error ellipse: s-maj=15.4km s-min=11.6km az=45.0*

ISC 23 21:33:02.9±1.0, 18°.67N±0°.05×64°.34W±0°.02, h54km±10km, n161, σ1ş50/172, mb4.1/22, MS3.4/8, 1C-12D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**1.35**	**117**		**Pn**	**21 33 24.3**	**-1.1**
SMRT				Sn	**Sn**	**21 33 42.2**	**0.0**
SMRT				IAML		21 33 49.2	
	comp=N,7µm,0.2s						
SMRT	**St. Maarten**	**1.35**	**117**	⇓*i*P	**Pn**	**21 33 24.9**	**-0.5**
SMRT	**St. Maarten**	**1.35**	**117**	*e*S	**Sn**	**21 33 42.5**	**+0.3**
SABA	**Saba**	**1.47**	**135**		**Pn**	**21 33 26.7**	**-0.4**
SABA				Sn	**Sn**	**21 33 46.0**	**+0.7**
SABA				IAML		21 33 56.1	
	comp=N,5µm,0.4s						
SABA				IAML		21 34 01.5	
	comp=E,7µm,0.7s						
SABA	**Saba**	**1.47**	**135**	⇑*i*P	**Pn**	**21 33 28.5**	**+1.4**
SABA	**Saba**	**1.47**	**135**	*e*S	**Sn**	**21 33 48.8**	**+3.5**
SABA	**Saba**	**1.47**	**135**	P	**Pn**	**21 33 27.3**	**+0.2**
SABA	**Saba**	**1.47**	**135**	S	**Sn**	**21 33 51.9**	**+6.6**
HUMP	**Col San Antoni**	**1.53**	**250**		**Pn**	**21 33 27.6**	**-0.2**
HUMP				Sn	**Sn**	**21 33 46.8**	**+0.2**
HUMP				IAML		21 33 49.4	
	comp=E,3µm,0.2s						
HUMP				IAML		21 33 53.6	
	comp=N,3µm,0.2s						
HUMP	**Col San Antoni**	**1.53**	**250**	⇑*i*P	**Pn**	**21 33 27.8**	**0.0**
HUMP	**Col San Antoni**	**1.53**	**250**	*e*S	**Sn**	**21 33 48.8**	**+2.1**
GCPR	**Guaynabo City**	**1.69**	**258**		**Pn**	**21 33 29.4**	**-0.6**
GCPR				Sn	**Sn**	**21 33 50.7**	**0.0**
GCPR	**Guaynabo City**	**1.69**	**258**	⇑*i*P	**Pn**	**21 33 29.5**	**-0.6**
GCPR	**Guaynabo City**	**1.69**	**258**	*e*S	**Sn**	**21 33 50.8**	**0.0**
PDPR	**Patillas Dam,**	**1.73**	**248**		**Pn**	**21 33 30.6**	**+0.1**
PDPR				IAML		21 33 58.1	
	comp=E,2µm,0.5s						
PDPR	**Patillas Dam,**	**1.73**	**248**	⇑*i*P	**Pn**	**21 33 30.9**	**+0.4**
PDPR	**Patillas Dam,**	**1.73**	**248**	*e*S	**Sn**	**21 33 53.3**	**+1.9**
SEUS	**St. Eustatius**	**1.74**	**132**		**Pn**	**21 33 30.5**	**-0.2**
SEUS				IAML		21 34 05.3	
	comp=N,3µm,0.6s						
SEUS				IAML		21 34 17.5	
	comp=E,3µm,0.4s						
SJG	**San Juan**	**1.81**	**253**	Pn	**Pn**	**21 33 31.3**	**-0.3**
SJG				Sn	**Sn**	**21 33 53.1**	**-0.3**
SJG	**San Juan**	**1.81**	**253**	IAML		21 33 58.3	
	comp=E,2µm,0.2s						
SJG	**San Juan**	**1.81**	**253**	P	**Pn**	**21 33 31.9**	**+0.2**
	comp=E,164nm,0.3s,baz=71,slow=11,SNR=41						
SJG				S	**Sn**	**21 33 55.0**	**+1.6**
	comp=E,531nm,0.3s,baz=94,slow=23,SNR=16						
SJG				LR	LR	21 34 31.8	
	comp=E,282nm,19.5s,baz=90,slow=48						
SJG	**San Juan**	**1.81**	**253**	⇑*i*P	**Pn**	**21 33 31.8**	**+0.2**
SJG	**San Juan**	**1.81**	**253**	*e*S	**Sn**	**21 33 55.0**	**+1.6**
SJG	**San Juan**	**1.81**	**253**	*e*P	**Pn**	**21 33 31.5**	**-0.2**
SJG	**San Juan**	**1.81**	**253**	P	**Pn**	**21 33 30.8**	**-0.8**
SJG				S	**Sn**	**21 33 55.1**	**+1.7**
IGPR	**InterU

SNR=117
H05N1 S Sn 21 34 42.7 -2.4
MAGL Barre de l'ile 3.98 132 Pn 21 34 01.6 +0.2
MAGL IAML 21 34 58.1
comp=N,400nm,1.4s
MAGL IAML 21 35 01.8
comp=E,482nm,0.5s
DLPL La Plaine 4.44 138 *e* **Pn 21 34 10.3 +2.5**
SMDR Samana, DR 4.63 278‖ *eP* **Pn 21 34 10.0 -0.3**
SMDR Samana, DR 4.63 278 *eS* **Sn 21 35 03.0 +0.2**
SVN Savane Anatole 4.87 141 Pn 21 34 13.2 -0.5
SVN Savane Anatole 4.87 141 *eP* **Pn 21 34 14.4 +0.7**
FDF Fort de France 4.96 142 Pn 21 34 15.1 +0.2
FDF IAML 21 36 00.0
comp=N,181nm,1.2s
BIM Bigot 5.18 142 Pn 21 34 17.1 -0.8
BIM IAML 21 35 38.1
comp=N,110nm,1.6s
BIM IAML 21 36 12.7
comp=E,132nm,1.1s
BIM Bigot 5.18 142 *eP* **Pn 21 34 18.6 +0.7**
MPOM Morne Pois Mar 5.36 141 Pn 21 34 20.4 0.0
H05S1 Guadeloupe/Mar 5.39 141 P **Pn 21 34 20.2 -0.5**
SNR=53
H05S1 S Sn 21 35 21.5 0.0
SLBI Saint Lucia, B 5.63 145 *eP* **Pn 21 34 24.1 0.0**
BANI BANI 5.72 268 Pn **Pn 21 34 25.9 +0.6**
SC01 Santiago de lo 6.09 278 Pn **Pn 21 34 29.4 -1.0**
SC01 Santiago de lo 6.09 278‖ *eP* **Pn 21 34 31.7 +1.3**
SC01 Santiago de lo 6.09 278 *eS* **Sn 21 35 41.4 +2.6**
SVB Belmont 6.13 151 *eP* **Pn 21 34 31.4 +0.5**
GRTK Grand Turk 6.99 295 Pn **Pn 21 34 39.5 -3.1**
GRGR Grenville 6.99 158 *e* **Pn 21 34 47.3 +4.5**
PCRV Puerto La Cruz 8.45 182 P **Pn 21 35 03.2 +0.5**
comp=E,3.7nm,0.3s,baz=87,slow=1.0,SNR=17
PCRV S **Sn 21 36 34.8 -1.9**
comp=E,68nm,1.1s,baz=59,slow=12,SNR=3.1
PCRV LR LR 21 38 16.5
comp=E,93nm,21.1s,slow=37
comp=E,11nm,0.2s
TRN Trinidad (W) 8.46 160 *e* **Pn 21 35 05.0 +2.1**
BAUV El Baul 10.31 201 Pn 21 35 28.5 +0.3
SDV Santo Domingo 11.48 213 P **Pn 21 35 45.1 +0.8**
comp=E,3.3nm,0.3s,baz=28,slow=10.0,SNR=3.4
SDV S **Sn 21 37 47.9 -3.3**
comp=E,7.7nm,0.3s,baz=347,slow=12,SNR=1.5
SDV LR LR 21 41 41.7
comp=E,69nm,18.6s,baz=96,slow=45
comp=E,6.9nm,0.4s
BBSR BB Station 13.65 359 Pn Pn 21 36 06.6 -7.1
RUSC La Rusia 15.29 215 Pn 21 36 37.0 +1.0
RUSC IAmb IAmb 21 36 40.5
comp=Z,15nm,0.6s
BOAV Boa Vista 16.60 167 Pn 21 36 51.4 -0.6
ROSC El Rosal 16.85 217 P **Pn 21 36 55.9 +0.3**
comp=Z,2.0nm,0.3s,baz=314,slow=22,SNR=1.9
ROSC LR LR 21 43 55.2
comp=Z,87nm,21.4s,baz=84,slow=39
comp=Z,4.8nm,0.3s
061Z Ochoppi 16.92 298 Pn 21 36 55.5 -0.5
060A Indiantown 16.94 302 P 21 36 58.1 +0.6
MDP Montagnes des 17.67 138 P **Pn 21 37 05.2 -0.1**
comp=Z,0.4nm,0.3s,baz=328,slow=12,SNR=11
MDP S **Sn 21 40 13.2 -8.2**
comp=Z,1.3nm,0.6s,baz=255,slow=12,SNR=1.7
MDP LR LR 21 43 58.7
comp=Z,83nm,22.0s,baz=337,slow=37
comp=Z,6.4nm,0.7s
Y60A Bolivia 19.67 324 Pn **Pn 21 37 33.0 +3.8**
Y60A IAmb IAmb 21 37 37.9
comp=Z,47nm,0.9s
656A Willston 19.72 306 P **Pn 21 37 31.8 +2.0**
656A IAmb IAmb 21 37 38.9
comp=Z,28nm,0.5s
LCR2 La Lucha 2 21.01 248 P **P 21 37 43.0 +0.6**
451A Vernon 22.76 306 P **P 21 38 01.4 +0.7**
MAL2 Monte Alegre, 22.86 153 P **P 21 38 02.4 +0.6**
OTAV Otavalo 22.97 219 P 21 38 01.4 -2.0
TKL Tuckaleechee C 24.12 318 LR LR 21 47 17.9
comp=Z,43nm,19.5s,baz=121,slow=35
SADO Sadowa 28.82 338 LR LR 21 48 49.5
comp=Z,61nm,21.8s,baz=148,slow=33
CMIG Matias Romero 29.10 272 LR LR 21 49 24.2
comp=Z,38nm,20.2s,baz=176,slow=34
LPAZ La Paz 34.93 186 P **P 21 39 49.8 -0.6**
comp=Z,1.8nm,0.7s,baz=38,slow=1.5,SNR=6.6
comp=Z,1.8nm,0.7s
H07S1 FLORES T-PHASE 35.28 47 T T 22 16 54.8
SNR=6.3
SCHQ Schefferville 36.15 358 LR LR 21 52 17.4
comp=Z,43nm,21.6s,baz=163,slow=32
TXAR Lajitas Array 37.31 294 P **P 21 40 11.3 +1.1**
comp=Z,0.3nm,0.4s,baz=119,slow=10,SNR=4.6
TXAR PcP **PcP 21 42 29.4 +0.8**
comp=Z,0.3nm,0.6s,baz=137,slow=6.2,SNR=2.2
comp=Z,0.3nm,0.4s
BDFB Brasilia 37.69 154 P **P 21 40 13.6 +0.2**
comp=Z,3.3nm,0.6s,baz=349,slow=13,SNR=4.3
comp=Z,3.3nm,0.6s
PB11 IPOC Station P 38.54 188 P **P 21 40 19.0 -1.6**
PB11 IAmb IAmb 21 40 20.7
comp=Z,16nm,0.9s
VHRN Van Horn 38.64 296 P **P 21 40 21.2 -0.3**
PB08 IPOC Station P 38.85 187 P **P 21 40 22.6 -0.9**
PB08 IAmb IAmb 21 40 23.7
comp=Z,9.9nm,0.9s
HMBC Humberstone 39.08 188 P **P 21 40 23.2 -1.9**
HMBC IAmb IAmb 21 40 26.3
comp=Z,6.9nm,0.6s
PB01 IPOC Station P 39.78 188 P **P 21 40 29.9 -1.0**
PB01 IAmb IAmb 21 40 30.6
comp=Z,6.3nm,0.7s
PDAR Pinedale Array 45.01 312 P **P 21 41 13.8 +0.4**
comp=Z,0.7nm,0.6s,baz=121,slow=8.2,SNR=8.2
PDAR PcP **PcP 21 42 54.0 +0.3**
comp=Z,0.5nm,0.6s,baz=126,slow=5.3,SNR=3.8
comp=Z,0.7nm,0.6s
CPUP Villa Florida 45.24 171 P **P 21 41 13.8 -1.1**
comp=Z,0.6nm,0.6s,baz=216,slow=7.0,SNR=6.7
CPUP PcP **PcP 21 42 54.0 -0.2**
comp=Z,0.3nm,0.5s,baz=332,slow=3.4,SNR=3.2
comp=Z,0.6nm,0.6s
NEW Newport 51.70 317 LR LR 22 05 16.5
comp=Z,49nm,19.0s,baz=166,slow=37
MT08 Bocatoma Ro 52.10 186 P **P 21 42 09.0 +1.2**
MT08 IAmb IAmb 21 42 13.9
comp=Z,8.2nm,0.7s
MT13 San Alfonso 52.42 186 P **P 21 42 10.5 +0.4**
LMEL Las Melosas 52.52 186 P **P 21 42 11.7 +0.9**
LMEL IAmb IAmb 21 42 22.8
comp=Z,6.7nm,0.7s
MT09 Talagante 52.53 187 P **P 21 42 10.9 0.0**
MT09 IAmb IAmb 21 42 23.5
comp=Z,11nm,1.1s
BO04 La Punta 52.70 187 P **P 21 42 12.9 +0.8**
ESDC Sonseca Array 55.67 54 P **P 21 42 34.4 +0.6**
comp=Z,0.7nm,0.9s,baz=262,slow=7.3,SNR=5.3
comp=Z,0.7nm,0.9s
YKA Yellowknife Ar 55.73 334 LR LR 22 07 02.4
comp=Z,43nm,18.7s,baz=75,slow=37
EKA Eskdalemuir Ar 58.52 36 P **P 21 42 53.6 +0.1**
comp=Z,0.7nm,0.7s,baz=246,slow=4.3,SNR=2.1
comp=Z,0.7nm,0.7s
DBIC Dimbokro 59.01 93 P **P 21 42 58.1 +0.5**
comp=Z,1.7nm,0.4s,baz=319,slow=6.8,SNR=5.1
comp=Z,1.7nm,0.4s
PLCA Paso Flores 59.37 185 P **P 21 43 00.2 +0.6**
comp=Z,2.5nm,0.8s,baz=9.1,slow=8.0,SNR=5.4
comp=Z,2.5nm,0.8s
BBB Bella Bella 59.43 320 LR LR 22 09 04.0
comp=Z,86nm,19.0s,baz=332,slow=36
TORD Torodi Ar. Bea 63.45 84 P **P 21 43 27.5 -0.1**
comp=Z,1.2nm,0.7s,baz=294,slow=7.4,SNR=6.5
NOA NORSAR Array B 66.86 31 P **P 21 43 49.6 +0.6**
comp=Z,0.5nm,0.7s,baz=272,slow=6.9,SNR=2.5
comp=Z,0.5nm,0.7s
HFS Hagfors 68.05 32 P **P 21 43 55.8 -0.7**
comp=Z,1.7nm,0.8s,baz=239,slow=22,SNR=1.9
comp=Z,1.7nm,0.8s
GERES GERESS Array B 68.37 44 P **P 21 43 58.3 -0.6**
comp=Z,0.2nm,0.5s,baz=326,slow=5.1,SNR=1.7
comp=Z,0.2nm,0.5s
SPITS Spitsbergen Ar 69.95 13 P **P 21 44 08.5 +0.4**
comp=Z,1.0nm,0.7s,baz=232,slow=7.1,SNR=1.1
comp=Z,1.0nm,0.7s
ILAR Eielson Array 70.12 333 P **P 21 44 08.9 -0.3**
comp=Z,0.3nm,0.6s,baz=110,slow=3.7,SNR=6.7
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 72.62 22 P **P 21 44 24.2 -0.1**
comp=Z,1.4nm,0.9s,baz=277,slow=4.8,SNR=4.8
comp=Z,1.4nm,0.9s
FINES FINESS Array B 74.00 30 LR LR 22 14 19.5
comp=Z,28nm,19.7s,baz=189,slow=34
SNAA Sanae 99.13 164 P **Pdif 21 46 38.4 +0.7**
comp=Z,0.8nm,0.7s,baz=273,slow=6.4,SNR=4.3
comp=Z,0.8nm,0.7s
ASAR Alice Springs 162.28 251 PKPab **PKPab 21 53 46.4 -0.2**
comp=Z,1.0nm,0.6s,baz=106,slow=4.4,SNR=16
WRA Warramunga Arr 162.32 263 PKPab **PKPab 21 53 46.8 -0.1**
comp=Z,0.2nm,0.4s,baz=81,slow=3.4,SNR=5.1

IDC 23 21:53:15.1±2.0, 3°.07N×126°.56E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=189.4km s-min=23.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.11**	**162**	P	P	21 58 32.8	0.0
	0.3nm,0.5s,baz=341,slow=11,SNR=8.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.52**	**165**	P	P	21 59 04.3	+0.6
	0.1nm,0.5s,baz=348,slow=9.1,SNR=1.2						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**58.00**	**326**	P	P	22 03 08.4	-1.4
	0.4nm,0.7s,baz=110,slow=8.8,SNR=4.8						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**62.20**	**328**	P	P	22 03 39.6	+1.1
	0.6nm,0.8s,baz=108,slow=7.9,SNR=2.3						
	0.6nm,0.8s						

DJA 23 22:11:26.0±0.3, 4°S±.4°, 12°9E±°, h74km±3km, M3.6/11, mb3.8/4, MLv3.5/11, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.38**	**246**	P	Pn	22 11 39.5	+1.3
AAI				S	Sn	22 11 49.8	+2.7
MSAI	**Masohi**	**0.43**	**65**	P	Pn	22 11 40.0	+1.4
MSAI				S	Sn	22 11 51.3	+3.5
NLAI	**Namlea**	**1.47**	**281**	P	Pn	22 11 51.3	+0.6
BNDI	**Bandanaira**	**1.68**	**126**	P	Pn	22 11 53.1	-0.4
SANI	**Sanana**	**2.94**	**300**	P	Pn	22 12 11.7	+1.2
FAKI	**Fak Fak**	**3.75**	**81**	P	Pn	22 12 21.7	+0.2
SWI	**Sorong**	**3.79**	**46**	P	Pn	22 12 22.0	-0.1
WBSI	**Waikabubak, Su**	**10.93**	**236**	P	Pn	22 13 59.9	+0.3
	36nm,1.1s						

TAP ***23*** *22:12:57.2, 21°.36N×122°.02E, h173km, ML4.6, D*
IDC ***23*** *22:13:28.0±2.6, 15°.03N×123°.38E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=306.4km s-min=30.1km az=68.0*

ISC 23 22:12:55.8±1.2, 21°.33N±0°.06×121°.89E±0°.07, h187km±7km, n100, σ1°36/165, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.73**	**337**	*eP*	**Pn**	**22 13 22.4**	**-0.1**
LYUB				*eS*	**Sn**	**22 13 42.3**	**-1.0**
TSEB	**Hengchuen, Pin**	**1.09**	**302**	*eP*	**Pn**	**22 13 26.5**	**+1.6**
TSEB				S	**Sn**	**22 13 48.3**	**+0.9**
TWKBT	**Hengchun**	**1.18**	**302**	*i* P	**Pn**	**22 13 26.9**	**+1.3**
TWKBT				S	**Sn**	**22 13 48.3**	**-0.4**
TWK1	**Hengchun**	**1.19**	**301**	*i* P	**Pn**	**22 13 26.7**	**+1.0**
TWK1				*i* S	**Sn**	**22 13 48.5**	**-0.2**
SMST	**Manzhou Townsh**	**1.20**	**305**	P	**Pn**	**22 13 26.7**	**+1.0**
SMST				*i* S	**Sn**	**22 13 49.0**	**0.0**
HEN	**Hengchun**	**1.27**	**302**	P	**Pn**	**22 13 27.6**	**+1.2**
HEN				*eS*	**Sn**	**22 13 50.2**	**+0.3**
TAWH	**Dawu Township**	**1.38**	**317**	P	**Pn**	**22 13 27.5**	**+0.3**
TAWH				*eS*	**Sn**	**22 13 49.1**	**-2.5**
LDUT	**Ludao**	**1.40**	**344**	*eS*	**Sn**	**22 13 52.4**	**+0.3**
ECL	**Taimali**	**1.54**	**326**	*eP*	**Pn**	**22 13 28.9**	**+0.2**
ECL				*eS*	**Sn**	**22 13 51.3**	**-3.0**
SCZT	**Fangliau**	**1.58**	**312**	P	**Pn**	**22 13 29.9**	**+0.8**
SCZT				S	**Sn**	**22 13 53.8**	**-1.1**
TWGBT	**Beinan**	**1.67**	**333**	*eP*	**Pn**	**22 13 30.4**	**+0.5**
TWGBT				*i* S	**Sn**	**22 13 54.7**	**-1.9**
LONT	**Longtian**	**1.73**	**336**	*eP*	**Pn**	**22 13 31.5**	**+0.9**
LONT				*i* S	**Sn**	**22 13 56.1**	**-1.6**
EDH	**Donghe**	**1.73**	**342**	*eS*	**Sn**	**22 13 56.7**	**-1.0**
MASBT	**Mashibuluo**	**1.73**	**318**	P	**Pn**	**22 13 31.4**	**+0.7**
MASBT				S	**Sn**	**22 13 56.3**	**-1.5**
WLCH	**Liuqiu**	**1.74**	**306**	P	**Pn**	**22 13 33.2**	**+2.5**
WLCH				S	**Sn**	**22 14 01.0**	**+3.2**
TWP	**Hsiaoliuchiu**	**1.75**	**306**	P	**Pn**	**22 13 33.3**	**+2.5**
TWP				S	**Sn**	**22 14 00.8**	**+2.8**
SSD	**Sandimen**	**1.84**	**321**	P	**Pn**	**22 13 32.5**	**+0.8**
SSD				S	**Sn**	**22 13 58.4**	**-1.2**
ECS	**Chishang**	**1.87**	**341**	*eP*	**Pn**	**22 13 32.3**	**+0.3**
SGLT	**Jiouru**	**1.91**	**317**	*eP*	**Pn**	**22 13 34.5**	**+2.1**
SGLT				*eS*	**Sn**	**22 14 03.2**	**+2.4**
CHKH	**Chenggong**	**1.92**	**346**	*eS*	**Sn**	**22 14 01.3**	**+0.2**
KAU	**Kaohsiung**	**1.92**	**310**	P	**Pn**	**22 13 34.5**	**+2.0**
KAU				*eS*	**Sn**	**22 14 03.8**	**+2.7**
EHD	**Haiduan**	**1.92**	**341**	*eP*	**Pn**	**22 13 32.9**	**+0.3**
EHD				*eS*	**Sn**	**22 13 59.1**	**-2.2**
FULB	**Fuli**	**1.95**	**344**	*eP*	**Pn**	**22 13 34.9**	**+2.0**
FULB				S	**Sn**	**22 14 02.5**	**+0.8**
WSSB	**Gushan**	**2.00**	**311**	P	**Pn**	**22 13 35.2**	**+1.8**
WSSB				*eS*	**Sn**	**22 14 01.7**	**-1.1**
TWM1	**Shoushan**	**2.02**	**318**	P	**Pn**	**22 13 36.1**	**+2.5**
TWM1				*eS*	**Sn**	**22 14 05.8**	**+2.7**
SCST	**Cishan**	**2.02**	**320**	P	**Pn**	**22 13 35.0**	**+1.4**
SCST				*eS*	**Sn**	**22 14 03.8**	**+0.7**
STYH	**Taoyuan**	**2.11**	**331**	P	**Pn**	**22 13 35.9**	**+1.4**
STYH				*eS*	**Sn**	**22 14 04.6**	**-0.1**
YULB	**Yu-li**	**2.13**	**345**	*eP*	**Pn**	**22 13 35.6**	**+0.8**
YULB				*eS*	**Sn**	**22 14 04.1**	**-1.2**
HGSD	**Ruisui**	**2.20**	**349**	*eP*	**Pn**	**22 13 37.5**	**+2.0**
HGSD				*eS*	**Sn**	**22 14 08.5**	**+1.9**
EHYH	**Wanrong**	**2.22**	**347**	*eP*	**Pn**	**22 13 38.6**	**+2.9**
EHYH				*eS*	**Sn**	**22 14 06.1**	**-0.9**
EHY	**Hungye**	**2.23**	**346**	*eP*	**Pn**	**22 13 37.3**	**+1.4**
EHY				*eS*	**Sn**	**22 14 06.5**	**-0.8**
CHN1	**Nanshi**	**2.24**	**326**	P	**Pn**	**22 13 37.5**	**+1.4**
CHN1				S	**Sn**	**22 14 06.8**	**-0.6**
CHN3	**Shinhua**	**2.25**	**321**	*eS*	**Sn**	**22 14 08.5**	**+1.4**
WTP	**Ta-pu**	**2.25**	**328**	P	**Pn**	**22 13 37.4**	**+1.3**
WTP				S	**Sn**	**22 14 06.8**	**-0.8**
SNST	**Tainan City**	**2.29**	**326**	*eP*	**Pn**	**22 13 38.9**	**+2.4**
SNST				*eS*	**Sn**	**22 14 09.8**	**+1.5**
TPUB	**Ta-pu**	**2.29**	**329**	P	**Pn**	**22 13 37.4**	**+0.9**
TPUB				S	**Sn**	**22 14 07.2**	**-1.1**
TWK	**Hsinying**	**2.33**	**326**	P	**Pn**	**22 13 38.1**	**+1.1**
TWK				*eS*	**Sn**	**22 14 08.4**	**-0.8**
CHN4	**Tsaushan**	**2.35**	**329**	P	**Pn**	**22 13 38.2**	**+1.0**
CHN4				S	**Sn**	**22 14 09.2**	**-0.3**
EGFH	**Guangfu**	**2.37**	**350**	*eS*	**Sn**	**22 14 09.7**	**-0.4**
ALS	**Alishan**	**2.40**	**335**	P	**Pn**	**22 13 39.1**	**+1.1**
ALS				*eS*	**Sn**	**22 14 11.0**	**0.0**
WCKO	**Fanlu**	**2.42**	**331**	*eP*	**Pn**	**22 13 38.7**	**+0.7**
WCKO				*eS*	**Sn**	**22 14 10.3**	**-0.7**
SCLT	**Jiali**	**2.42**	**320**	*eP*	**Pn**	**22 13 39.0**	**+1.0**
SCLT				S	**Sn**	**22 14 11.4**	**+0.4**
WARBT	**Fenglin Townsh**	**2.43**	**349**	*eP*	**Pn**	**22 13 39.0**	**+0.9**
WARBT				*eS*	**Sn**	**22 14 09.9**	**-1.3**
TSCK	**Chigu Township**	**2.47**	**318**	P	**Pn**	**22 13 39.7**	**+1.2**
TSCK				S	**Sn**	**22 14 11.5**	**-0.4**
SHUL	**Shoufeng**	**2.47**	**353**	*eP*	**Pn**	**22 13 39.5**	**+1.0**
ESL	**Shilin**	**2.51**	**350**	*eP*	**Pn**	**22 13 39.8**	**+0.7**
ESL				*eS*	**Sn**	**22 14 12.4**	**-0.5**
VWDT	**VWDT**	**2.52**	**344**	*eP*	**Pn**	**22 13 40.7**	**+1.6**
ICHU	**Yijhu**	**2.52**	**324**	*eP*	**Pn**	**22 13 40.4**	**+1.3**
ICHU				*eS*	**Sn**	**22 14 13.5**	**+0.6**
CHN5	**Tsauling**	**2.53**	**334**	P	**Pn**	**22 13 40.4**	**+1.1**
CHN5				*eS*	**Sn**	**22 14 12.9**	**-0.4**
CHN8	**Yiju**	**2.54**	**323**	*eP*	**Pn**	**22 13 40.4**	**+1.0**
CHN8				*eS*	**Sn**	**22 14 13.4**	**-0.1**
WHYT	**Xinyi Township**	**2.55**	**338**	P	**Pn**	**22 13 40.1**	**+0.6**
WHYT				*eS*	**Sn**	**22 14 12.7**	**-1.0**
CHY	**Chiayi**	**2.56**	**328**	*eS*	**Sn**	**22 14 12.5**	**-1.2**
CHN2	**Minshiung**	**2.56**	**329**	*eS*	**Sn**	**22 14 14.0**	**+0.2**
SSLB	**Suanglung**	**2.60**	**341**	*eP*	**Pn**	**22 13 40.3**	**+0.2**
SSLB				*eS*	**Sn**	**22 14 13.6**	**-1.2**
WGK	**Gukeng**	**2.65**	**333**	*eS*	**Sn**	**22 14 15.8**	**0.0**
ETM	**Tongmen**	**2.65**	**352**	*eP*	**Pn**	**22 13 41.3**	**+0.6**
ETM				*eS*	**Sn**	**22 14 15.3**	**-0.6**
WDLH	**Douliu**	**2.67**	**332**	P	**Pn**	**22 13 41.5**	**+0.7**
WDLH				S	**Sn**	**22 14 15.6**	**-0.5**
WSL	**Shuilin Townsh**	**2.68**	**325**	P	**Pn**	**22 13 41.7**	**+0.8**
WSL				S	**Sn**	**22 14 15.6**	**-0.7**
OWD	**Renai**	**2.70**	**346**	*eP*	**Pn**	**22 13 42.4**	**+1.0**
OWD				*eS*	**Sn**	**22 14 16.6**	**-0.4**
SMLT	**Sun Moon Lake**	**2.71**	**340**	*eP*	**Pn**	**22 13 42.5**	**+1.1**
SMLT				*eS*	**Sn**	**22 14 16.9**	**-0.2**
WJS	**Zhushan**	**2.71**	**337**	*eS*	**Sn**	**22 14 16.9**	**-0.1**
LXIB	**Xiulin Townshi**	**2.72**	**351**	*eP*	**Pn**	**22 13 42.5**	**+0.8**
LXIB				*i* S	**Sn**	**22 14 16.1**	**-1.4**
WTK	**Tuku**	**2.73**	**330**	P	**Pn**	**22 13 42.3**	**+0.7**
WTK				*eS*	**Sn**	**22 14 16.8**	**-0.7**
TYC	**Yuchr**	**2.74**	**340**	*eP*	**Pn**	**22 13 43.1**	**+1.4**
TYC				*eS*	**Sn**	**22 14 17.8**	**+0.3**
WUSB	**Renai**	**2.75**	**345**	*eP*	**Pn**	**22 13 43.5**	**+1.5**
WUSB				*eS*	**Sn**	**22 14 17.6**	**-0.4**
WSF	**Szhu**	**2.77**	**326**	*eS*	**Sn**	**22 14 17.8**	**-0.4**
WNT	**Mingjian**	**2.78**	**336**	P	**Pn**	**22 13 43.1**	**+1.0**
WNT				*eS*	**Sn**	**22 14 18.5**	**+0.2**
EOS4	**EOS4**	**2.81**	**8**	*eP*	**Pn**	**22 13 44.3**	**+2.1**
WDGT	**Dungji**	**2.83**	**313**	P	**Pn**	**22 13 43.5**	**+0.8**
WDGT				S	**Sn**	**22 14 18.5**	**-0.8**
NACB	**Ninganchiao**	**2.85**	**354**	*eS*	**Sn**	**22 14 20.1**	**+0.2**
WCS	**Beigang Elemen**	**2.87**	**342**	*eP*	**Pn**	**22 13 44.6**	**+1.4**
WHF	**Hehuan Shan**	**2.87**	**348**	*eP*	**Pn**	**22 13 45.2**	**+1.5**
WHF				*eS*	**Sn**	**22 14 21.8**	**+0.8**
ETLH	**Xiulin Townshi**	**2.89**	**353**	*eP*	**Pn**	**22 13 44.9**	**+1.2**
ETLH				*eS*	**Sn**	**22 14 20.6**	**-0.4**
VCHM	**Qimei**	**2.95**	**310**	P	**Pn**	**22 13 44.9**	**+0.6**
VCHM				S	**Sn**	**22 14 21.6**	**-0.5**
EOS3	**EOS3**	**2.97**	**7**	*eP*	**Pn**	**22 13 46.7**	**+2.4**
TDCB	**Techi**	**2.99**	**347**	*eS*	**Sn**	**22 14 24.6**	**+1.3**
WCHH	**Zhanghua**	**3.01**	**336**	*eP*	**Pn**	**22 13 46.0**	**+1.1**
WCHH				*eS*	**Sn**	**22 14 23.3**	**0.0**
PHUB	**P'eng-hu**	**3.06**	**316**	P	**Pn**	**22 13 46.1**	**+0.6**
PHUB				S	**Sn**	**22 14 22.9**	**-1.4**
WHP	**Taichung City**	**3.07**	**344**	*eP*	**Pn**	**22 13 47.4**	**+1.7**
WHP				*eS*	**Sn**	**22 14 25.1**	**+0.3**
ENA	**Nanau**	**3.09**	**357**	*eP*	**Pn**	**22 13 47.1**	**+1.2**
EOS2	**EOS2**	**3.10**	**6**	*eP*	**Pn**	**22 13 48.0**	**+2.3**
PNG	**Penghu**	**3.11**	**316**	P	**Pn**	**22 13 46.9**	**+0.8**
PNG				S	**Sn**	**22 14 24.1**	**-1.3**
NNSB	**Datong**	**3.12**	**351**	*eP*	**Pn**	**22 13 48.4**	**+1.9**
LATG	**Datong**	**3.21**	**354**	*eP*	**Pn**	**22 13 49.5**	**+2.0**
LATG				*eS*	**Sn**	**22 14 27.2**	**-0.8**
NSY	**Sanyi**	**3.25**	**341**	*eS*	**Sn**	**22 14 29.5**	**+0.9**
ENTT	**Nioudou**	**3.31**	**355**	*eP*	**Pn**	**22 13 50.5**	**+1.9**
YHNB	**Yeheng**	**3.36**	**352**	*eP*	**Pn**	**22 13 51.2**	**+1.9**
NFF	**Wufeng Townshi**	**3.37**	**348**	*eP*	**Pn**	**22 13 50.3**	**+1.0**
TWE	**Neicheng**	**3.39**	**357**	*eP*	**Pn**	**22 13 51.8**	**+2.3**
NSTT	**Nanjuang**	**3.39**	**346**	*eP*	**Pn**	**22 13 49.7**	**+0.2**
LIOB	**Emei**	**3.40**	**346**	*eP*	**Pn**	**22 13 51.1**	**+1.4**
FUSB	**Fushanzhiwuyua**	**3.43**	**355**	*eP*	**Pn**	**22 13 52.2**	**+2.1**
FUSB				*eS*	**Sn**	**22 14 34.0**	**+1.3**
NWLT	**Wulai**	**3.46**	**354**	*eP*	**Pn**	**22 13 52.7**	**+2.3**
NWLT				*eS*	**Sn**	**22 14 33.9**	**+0.8**
TIPB	**Shuangxi**	**3.63**	**359**	*eP*	**Pn**	**22 13 55.0**	**+2.4**
ZUZH	**Zhuzihu**	**3.83**	**355**	*eP*	**Pn**	**22 13 56.9**	**+1.8**
KNMB	**Chin-men Tao**	**4.50**	**315**	*eP*	**Pn**	**22 14 05.3**	**+1.9**
MATB	**Ma-tsu**	**5.13**	**340**	*eP*	**Pn**	**22 14 11.7**	**+0.1**
WRA	**Warramunga Arr**	**42.78**	**163**	P	**P**	**22 20 34.5**	**-0.7**
	0.2nm,0.4s,baz=343,slow=9.2,SNR=1.9						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**43.00**	**329**	P	**PP**	**22 22 17.2**	**-3.1**
	0.4nm,0.5s,baz=114,slow=6.5,SNR=2.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**46.22**	**165**	P	**P**	**22 21 02.9**	**+0.4**
	0.2nm,0.4s,baz=345,slow=7.0,SNR=5.7						
	0.2nm,0.4s						

BUT ***23*** *22:37:37.2±0.9, 45°.87N±0°.01×111°.38W±0°.02, h7km±1km, Error ellipse: s-maj=2.3km s-min=2.0km az=103.0*

NEIC 23 22:37:36.7±0.8, 45°.86N±0°.02×111°.37W±0°.02, h6km±6km, ML3.4/47, ML3.6/27(BUT), Error ellipse: s-maj=2.6km s-min=1.8km az=163.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NQMA	**Gallatin River**	**0.05**	**34**		Pg	22 37 38.8	+0.5
NQMA					Sg	22 37 40.1	+0.6
SXM	**Sixmile**	**0.31**	**22**		Pg	22 37 43.2	+0.4
BOZ	**Bozeman (W)**	**0.32**	**214**		Pg	22 37 43.4	+0.3
BOZ				Sg	Sg	22 37 47.7	+0.4
BOZ				IAML		22 37 48.0	
	8μm,0.3s						
BOZ				IAML		22 37 48.2	
	4μm,0.2s						
BZMT	**Bozeman Pass**	**0.46**	**118**		Pg	22 37 46.3	+0.7
MSMT	**Mission Creek**	**0.75**	**108**		Pg	22 37 51.6	+0.4
LRM	**Limekiln Ridge**	**0.76**	**267**		Pg	22 37 51.2	0.0
BGMT	**Barton Gulch**	**0.79**	**217**		Pg	22 37 52.2	+0.3
BUT	**Butte**	**0.84**	**281**		Pg	22 37 53.0	+0.1
HBMT	**Mount Humbug**	**0.87**	**266**		Pg	22 37 53.3	-0.1
CRMT	**Chrome Mountai**	**0.95**	**115**		Pg	22 37 54.7	-0.4
DLMT	**Dillon**	**0.99**	**240**		Pg	22 37 55.4	-0.4
DLMT				IAML		22 38 12.7	
	1μm,0.5s						
DLMT				IAML		22 38 12.7	
	1μm,0.4s						
YMV	**Mammoth Vault**	**1.01**	**151**		Pg	22 37 56.3	+0.2
YHL	**Hebgen Lake**	**1.02**	**172**		Pg	22 37 56.1	-0.3
YHL				IAML		22 38 12.0	
	comp=E,1μm,0.5s						
YHL				IAML		22 38 14.2	
	comp=N,1μm,0.5s						
QLMT	**Earthquake Lak**	**1.03**	**182**		Pg	22

PCMT	**Pistol Creek**	**2.28**	**307**		Pn	22 38 14.8	-0.3
LOHW	**Long Hollow**	**2.32**	**166**		Pb	22 38 18.2	-0.8
TPAW	**Teton Pass**	**2.39**	**173**		Pb	22 38 20.2	-0.1
ALMT	**Alberton, Mont**	**2.42**	**300**		Pn	22 38 18.4	+1.3
EGMT	**Eagleton**	**2.43**	**27**		Pn	22 38 17.5	+0.5
SNOW	**Snow King Moun**	**2.44**	**169**		Pb	22 38 21.4	+0.2
SWMT	**Swartz Lake**	**2.45**	**313**		Pn	22 38 17.1	-0.2
FBMT	**Ferry Basin**	**2.61**	**307**		Pn	22 38 19.4	-0.1
YBMT	**Yellow Bay**	**2.70**	**319**		Pn	22 38 21.6	+0.8
JTMT	**Jette**	**2.75**	**314**		Pn	22 38 21.9	+0.4
NDMT	**Ninemile Divid**	**2.75**	**302**		Pn	22 38 21.7	+0.1
MKMT	**Mink Peak**	**2.87**	**297**		Pn	22 38 23.1	-0.1
BLMT	**Blacktail Moun**	**2.97**	**317**		Pn	22 38 25.6	+1.0
BHMT	**Big Hole Peak**	**3.05**	**306**		Pn	22 38 26.4	+0.7
BSMT	**Bassoo Peak**	**3.07**	**312**		Pn	22 38 26.5	+0.6
AHID	**Auburn Hatcher**	**3.10**	**176**		Pn	22 38 27.1	+0.7
AHID				IAML		22 39 53.8	
	comp=E,81nm,0.1s						
AHID				IAML		22 39 53.9	
	comp=E,60nm,0.1s						
HLID	**Hailey**	**3.16**	**224**		Pn	22 38 28.2	+1.0
HLID				Pg	Pg	22 38 35.8	-1.5
PLID	**Pearl Lake**	**3.35**	**258**		Pn	22 38 29.8	0.0
PLID	**Pearl Lake**	**3.35**	**258**	Pg	Pb	22 38 38.5	+1.9
PLID				IAML		22 39 26.3	
	comp=E,56nm,0.6s						
PLID				IAML		22 39 27.0	
	comp=E,64nm,0.6s						
PD31	**Pinedale Array**	**3.36**	**157**		Pn	22 38 30.6	+0.6
PDAR	**Pinedale Array**	**3.36**	**157**		Pn	22 38 30.1	+0.1
LAO	**LASA Array**	**3.66**	**75**		Pn	22 38 35.9	+1.9
MFID	**Camas Ranch**	**4.01**	**234**		Pn	22 38 39.9	+1.0
HVU	**Hansel Valley**	**4.21**	**194**		Pb	22 38 50.5	-0.7
HWUT	**Hardware Ranch**	**4.26**	**182**		Pn	22 38 43.1	+0.8
BMO	**Blue Mountains**	**4.30**	**259**		Pn	22 38 43.5	+0.7
BMO				IAML		22 39 56.5	
	comp=E,20nm,0.5s						
NEW	**Newport**	**4.61**	**303**	IAML		22 40 10.6	
	comp=E,45nm,1.0s						
NEW				IAML		22 40 11.1	
	comp=E,47nm,0.7s						
TCUT	**Toone Canyon**	**4.74**	**180**	Pn	Pn	22 38 51.2	+2.2
LNOR	**Lincton Mounta**	**4.83**	**273**		Pn	22 38 51.0	+1.0

*DJA **23** 23:06:33.2±0.3,2°N±2°×12°7E±°, h124km±4km, M4.2/16, mB5.1/1, mb4.2/7, MLv4.3/16, Mw(mB)4.5/1*
*NEIC **23** 23:06:36.6±1.5, 1°.66N±0°.09×127°.23E±0°.09, h122km±6km, mb4.2/20, Error ellipse: s-maj=15.4km s-min=10.6km az=223.0*
*IDC **23** 23:06:39.3±3.6, 1°.56N×127°.20E, h150km±31km, mb3.6/7, mbtmp4.1/9, Error ellipse: s-maj=39.3km s-min=11.9km az=70.0*
ISC 23 23:06:35.9±0.6, 1°.74N±0°.05×127°.30E±0°.06, h128km, n50, σ1§29/58, mb4.1/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.97**	**176**		**Pn**	**23 06 57.2**	**-1.0**
TNTI				Sn	**Sn**	**23 07 14.8**	**-0.6**
TNTI	**Ternate**	**0.97**	**176**	P	**Pn**	**23 06 57.3**	**-1.0**
TNTI				S	**Sn**	**23 07 15.0**	**-0.3**
LBMI	**Labuha**	**2.37**	**175**	P	**Pn**	**23 07 12.9**	**-1.5**
LBMI				S	**Sn**	**23 07 44.2**	**+0.2**
SGSI	**Sangihe**	**2.62**	**318**	P	**Pn**	**23 07 13.9**	**-3.6**
SGSI				S	**Sn**	**23 07 46.1**	**-3.4**
KMSI	**Cibinong**	**3.51**	**251**	P	**Pn**	**23 07 27.8**	**-1.3**
KMSI				S	**Sn**	**23 08 10.6**	**+0.3**
SANI	**Sanana**	**3.99**	**199**	P	**Pn**	**23 07 34.1**	**-1.4**
SWI	**Sorong**	**4.73**	**123**	P	**Pn**	**23 07 43.3**	**-2.1**
NLAI	**Namlea**	**4.95**	**182**	P	**Pn**	**23 07 47.1**	**-1.2**
LUWI	**Luwuk**	**5.30**	**239**	P	**Pn**	**23 07 52.0**	**-1.0**
	59nm,1.1s						
LUWI				S	**Sn**	**23 08 54.8**	**+1.7**
	59nm,1.1s						
MSAI	**Masohi**	**5.31**	**162**	S	**Sn**	**23 08 53.4**	**0.0**
APSI	**Ampana**	**6.23**	**245**	P	**Pn**	**23 08 04.5**	**-1.0**
	0.6nm47nm,1.3s						
TOLI2	**Tolitoli**	**6.54**	**265**	Pn	**Pn**	**23 08 08.6**	**-1.1**
FAKI	**Fak Fak**	**6.78**	**133**	Pn	**Pn**	**23 08 13.9**	**+0.9**
FAKI	**Fak Fak**	**6.78**	**133**	P	**Pn**	**23 08 11.3**	**-1.6**
	0.2nm49nm,1.3s						
KDI	**Kendari**	**7.34**	**220**	P	**Pn**	**23 08 19.6**	**-0.9**
SPSI	**Sidrap Palu**	**9.42**	**233**	P	**Pn**	**23 08 47.7**	**-0.8**
MYLDM	**Lahad Datu**	**9.42**	**291**		**Pn**	**23 08 48.9**	**+0.4**
KAPI	**Kappang**	**10.09**	**228**		**Pn**	**23 08 57.6**	**+0.1**
KAPI	**Kappang**	**10.09**	**228**	P	**Pn**	**23 08 58.9**	**+1.4**
	7.2nm,0.3s,baz=39,slow=13,SNR=5.9						
KAPI				S	**Sn**	**23 10 47.0**	**-2.0**
	5.2nm,0.3s,baz=131,slow=9.3,SNR=1.1						
KKM	**Kota Kinabalu**	**11.85**	**291**	Pn	**Pn**	**23 09 22.2**	**+1.2**
MTN	**Manton Dam**	**14.98**	**165**		**Pn**	**23 09 59.1**	**-2.1**
KNRA	**Kununurra**	**17.37**	**175**	P	**Pn**	**23 10 30.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.78**	**185**	P	**P**	**23 10 56.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.78**	**185**	P	**P**	**23 10 55.9**	**-0.3**
	2.6nm,0.6s,baz=19,slow=8.5,SNR=15						
TWG	**Pinlang**	**21.81**	**344**	P	**P**	**23 11 16.6**	**-1.3**
WB0	**Warramunga Arr**	**22.48**	**162**	P	**P**	**23 11 24.3**	**-0.5**
WB0				IAmb	IAmb	23 11 25.0	
	comp=Z,4.1nm,0.6s						
WRAB	**Tennant Creek**	**22.63**	**163**	P	**P**	**23 11 24.1**	**-2.1**
WRAB				IAmb	IAmb	23 11 26.5	
	comp=Z,5.5nm,0.6s						
WRA	**Warramunga Arr**	**22.63**	**163**	P	**P**	**23 11 24.9**	**-1.3**
WRA	**Warramunga Arr**	**22.63**	**163**	P	**P**	**23 11 25.8**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=343,slow=11,SNR=66						
WRA				S	**S**	**23 15 22.7**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=333,slow=19,SNR=4.7						
	comp=Z,4.8nm,0.6s						
WB2	**Warramunga Arr**	**22.64**	**163**	P	**P**	**23 11 26.2**	**-0.1**
WB2				IAmb	IAmb	23 11 26.6	
	comp=Z,4.7nm,0.6s						
WR8	**Warramunga Arr**	**22.69**	**162**	P	**P**	**23 11 26.5**	**-0.3**
WR8				IAmb	IAmb	23 11 27.1	
	comp=Z,5.4nm,0.5s						
WR0	**Warramunga Arr**	**22.71**	**162**	P	**P**	**23 11 26.8**	**-0.2**
WR0				IAmb	IAmb	23 11 27.3	
	comp=Z,4.7nm,0.6s						
MBWA	**Marble Bar**	**23.93**	**198**	P	**P**	**23 11 37.4**	**-0.9**
MBWA				IAmb	IAmb	23 11 49.1	
	comp=Z,8.7nm,1.3s						
AS31	**Alice Springs**	**26.06**	**166**	P	**P**	**23 11 56.6**	**-1.0**
ASAR	**Alice Springs**	**26.06**	**166**	P	**P**	**23 11 57.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=346,slow=7.4,SNR=11						
	comp=Z,0.6nm,0.4s						
MORW	**Morawa**	**32.48**	**199**	P	**P**	**23 12 53.9**	**-0.4**
MORW				IAmb	IAmb	23 13 01.5	
	comp=Z,15nm,1.4s						
BBOO	**Buckleboo**	**35.35**	**167**	P	**P**	**23 13 19.0**	**-0.1**
STKA	**Stephens Creek**	**36.08**	**159**	P	**P**	**23 13 25.6**	**+0.2**
STKA	**Stephens Creek**	**36.08**	**159**	P	**P**	**23 13 25.8**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=337,slow=11,SNR=5.4						
	comp=Z,3.4nm,0.7s						
TARA	**Tarawa**	**45.61**	**90**	P	**P**	**23 14 44.6**	**+0.8**
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**23 16 26.7**	**+1.0**
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**23 16 26.8**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=119,slow=7.7,SNR=14						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.71**	**328**	P	**P**	**23 16 55.5**	**+1.8**
	comp=Z,1.3nm,0.4s,baz=128,slow=6.3,SNR=14						
	comp=Z,1.3nm,0.4s						
KURK	**Kurchatov**	**63.71**	**328**	P	**P**	**23 16 55.5**	**+1.8**
KURK				IAmb	IAmb	23 16 56.4	
	comp=Z,2.9nm,0.6s						
KK31	**Karatay Array**	**65.06**	**317**	P	**P**	**23 17 03.7**	**+0.9**
KK31				IAmb	IAmb	23 17 11.8	
	comp=Z,2.3nm,1.1s						
KKAR	**Karatay Array**	**65.06**	**317**	P	**P**	**23 17 03.0**	**+0.2**
CTZ	**Chatham Island**	**67.45**	**139**	P	**P**	**23 17 19.1**	**+1.2**
TIXI	**Tiksi**	**69.81**	**1**	P	**P**	**23 17 33.5**	**+1.5**
TIXI				IAmb	IAmb	23 17 40.1	
	comp=Z,5.9nm,1.1s						
VNDA	**Vanda**	**81.40**	**173**	P	**P**	**23 18 38.0**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=304,slow=4.8,SNR=4.0						
	comp=Z,0.6nm,0.8s						
MAW	**Mawson**	**82.10**	**200**	P	**P**	**23 18 42.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=72,slow=6.4,SNR=1.9						
	comp=Z,0.9nm,0.6s						

*HEL **23** 23:20:42.7±0.1, 67°.85N×20°.23E, h0km, ML1.5, Suspected explosion*
UPP 23 23:20:41.8±0.1, 67°.86N×20°.21E, h0km, ML2.2, Unknown

Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**28**	P	Pg	23 20 44.0	+0.2
KUA				S	Sg	23 20 45.7	+0.6
KUA	**Kurravaara**	**0.10**	**28**	P	Pg	23 20 44.3	+0.5
KUA				S	Sg	23 20 45.9	+0.8
RATU	**Laukkuluspa**	**0.24**	**261**	P	Pg	23 20 46.5	+0.2
RATU				S	Sg	23 20 49.9	+0.5
RATU	**Laukkuluspa**	**0.24**	**261**	P	Pg	23 20 46.8	+0.5
RATU				S	Sg	23 20 50.7	+1.3
KOVU	**Salmi**	**0.36**	**357**	P	Pg	23 20 48.8	+0.1
KOVU				S	Sg	23 20 54.1	+0.7
KOVU	**Salmi**	**0.36**	**357**	P	Pg	23 20 49.3	+0.6
KOVU				S	Sg	23 20 54.6	+1.2
NIKU	**Nikkaluokta**	**0.45**	**271**	P	Pg	23 20 50.4	+0.1
NIKU				S	Sg	23 20 56.6	+0.6
NIKU	**Nikkaluokta**	**0.45**	**271**	P	Pg	23 20 50.9	+0.6
LANU	**Lannavaara**	**0.70**	**74**	P	Pg	23 20 55.1	0.0
LANU				S	Sg	23 21 04.5	+0.3
LANU	**Lannavaara**	**0.70**	**74**	P	Pg	23 20 55.5	+0.4
LANU	**Lannavaara**	**0.70**	**74**	PG	Pg	23 20 55.1	0.0
LANU				SG	Sg	23 21 00.6	-3.6
SALU	**Saltoluokta**	**0.81**	**234**	P	Pg	23 20 57.0	-0.4
SALU				S	Sg	23 21 08.3	+0.5
SALU	**Saltoluokta**	**0.81**	**234**	P	Pg	23 20 57.5	+0.1
SALU	**Saltoluokta**	**0.81**	**234**	*e*P	Pg	23 20 57.0	-0.4
KIF	**Kilpisjarvi**	**1.17**	**11**	PG	Pb	23 21 04.6	-0.2
	baz=194						
KIF				MSG		23 21 19.5	
	comp=Z,6.3nm,0.2s						
KIF				SG	Sb	23 21 20.2	-0.2
PAJU	**Pajala**	**1.40**	**126**	P	Pn	23 21 07.6	-1.0
PAJU	**Pajala**	**1.40**	**126**	PG	Pn	23 21 07.6	-1.0
	baz=308						
PAJU				SB	Sg	23 21 26.2	-0.6
HEF	**Hetta**	**1.40**	**65**	*e*P	Pn	23 21 07.9	-0.7
HEF	**Hetta**	**1.40**	**65**	PG	Pn	23 21 07.9	-0.7
	baz=248						
HEF				MSG		23 21 24.9	
	comp=Z,2.8nm,0.2s						
HEF				SG	Sg	23 21 26.5	-0.3
ERTU	**Ertsjaerv**	**1.53**	**149**	P	Pn	23 21 09.9	-0.3
ERTU	**Ertsjaerv**	**1.53**	**149**	PG	Pn	23 21 09.9	-0.3
ERTU				SN	Sg	23 21 30.1	-0.6
KTK1	**Kautokeino**	**1.61**	**43**	PG	Pn	23 21 11.8	+0.4
KTK1				SN	Sg	23 21 35.8	+2.4
HARU	**Harads**	**1.73**	**170**	P	Pn	23 21 13.5	+0.4
TRO	**Tromso**	**1.84**	**346**	PG	Pb	23 21 15.9	-0.3
TRO				SG	Sg	23 21 40.3	-0.5
KALU	**Kalix**	**2.37**	**147**	PB	Pn	23 21 23.2	+1.4
KALU				SG	Sb	23 21 54.0	-0.9
TOF	**Tornio**	**2.42**	**136**	PB	Pb	23 21 24.4	-1.7
	baz=322						
TOF				MSG		23 21 53.7	
	comp=Z,1.8nm,0.2s						
TOF				SG	Sb	23 21 56.6	+0.3
ARA0	**ARCESS Array S**	**2.56**	**47**	PB	Pb	23 21 26.6	-1.9
ARA0				SG	Sb	23 21 59.9	-0.7
RNF	**Rovaniemi**	**2.59**	**116**	PB	Pb	23 21 27.3	-1.6
RNF				SB	Sb	23 22 00.0	-1.2
RAJF	**Raja-Jooseppi**	**3.09**	**75**	PB	Pn	23 21 33.9	+2.1
KEV	**Kevo**	**3.12**	**49**	SB	Sb	23 22 13.6	-2.8
OLKF	**Oulanka, Finla**	**3.91**	**109**	SG	Sb	23 22 41.4	+2.0
KU6	**Riekki**	**4.23**	**111**	SG	Sg	23 22 53.2	-4.4

*IDC **23** 23:44:45.6±0.4, 24°.41N×124°.72E, h0km, mb4.8/27, mbtmp4.9/31, ML4.9/4, MS4.1/61, Error ellipse: s-maj=14.3km s-min=11.7km az=75.0*
*BJI **23** 23:44:45.8, 24°.07N×125°.04E, h34km, mB4.9/36, mb4.7/65, ML4.9/3, Ms4.5/72, Ms7 4.4/70*
*BGR **23** 23:44:46.8, 23°.67N×125°.60E, h33km, mb5.3, Ms4.5*
*MOS **23** 23:44:50.7±1.0, 24°.38N×124°.70E, h47km, mb5.5/89, MS4.5/8, Error ellipse: s-maj=6.0km s-min=4.0km az=114.8*
*NEIC **23** 23:44:51.5, 24°.31N×124°.79E, h35km*
*GCMT **23** 23:44:51.6±0.2, 24°.22N±0°.02×124°.73E±0°.02, h40km, MW5.1/94, Moment Tensor Solution. s85,c114; s94,c127; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.58±.16; Mθθ0.22±.11; Mϕϕ-4.80±.11; Mrθ0.46±.12; Mθϕ0.86±.09; Mϕr1.21±.11; Best double couple: Mo4.93900×10¹⁶ NP1:ϕs162.00000°, δ39.00000°, λ77.00000°. NP2:ϕs359.00000°, δ52.00000°, λ100.00000°. Principal axes: T 4.8040, Plg79.0000°, Azm313.0000°; N 0.2660, Plg8.0000°, Azm172.0000°; P -5.0740, Plg7.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 23:44:51.6, 24°.32N×124°.78E, h40km*
*NEIC **23** 23:44:51.7±1.6, 24°.31N±0°.05×124°.78E±0°.06, h37km±4km, mb5.3/410, Mwr5.0/22, Mww5.0/24, Error ellipse: s-maj=8.3km s-min=7.2km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.72; Mθθ0.17; Mϕϕ-3.89; Mrθ0.31; Mϕθ1.56; Mϕr0.72; Fault plane solution: Mo4.19000×10¹⁶ NP1:ϕs350.40000°, δ49.82000°, λ102.45000°. NP2:ϕs151.51000°, δ41.75000°, λ75.68000°. Principal axes: T 3.8494, Plg80.0000°, Azm319.0000°; N 0.6136, Plg9.0000°, Azm162.0000°; P -4.4630, Plg4.0000°, Azm72.0000°;*
*NEIC **23** 23:44:51.6, 24°.32N×124°.78E, h40km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr3.70; Mθθ0.41; Mϕϕ-4.11; Mrθ0.51; Mϕθ1.29; Mϕr1.36; Fault plane solution: Mo4.38000×10¹⁶ NP1: ϕs150.69000°, δ38.72000°, λ67.70000°. NP2: ϕs358.42000°, δ54.64000°, λ106.92000°. Principal axes: T 4.0739, Plg74.0000°, Azm316.0000°; N 0.5504, Plg14.0000°, Azm168.0000°; P -4.6243, Plg8.0000°, Azm76.0000°;*
*JMA **23** 23:44:52.3±0.1, 24°.1N×124°.7E±0°.7, h54km±1km, MD5.2/14, MW5.1/14, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt III J1 at NEAR ISHIGAKIJIMA ISLAND.
*NIED **23** 23:44:52.3, 24°.37N×124°.71E, h54km, MW5.0, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁶Nm; Mrr1.48; Mθθ1.46; Mϕϕ-2.94; Mrθ2.95; Mϕθ1.31; Mϕr1.47; Fault plane solution: Mo4.18000×10¹⁶ NP1: ϕs132.00000°, δ50.00000°, λ26.00000°. NP2:ϕs24.00000°, δ70.00000°, λ137.00000°.*
ISC 23 23:44:51.8±0.3, 24°.31N±0°.03×124°.73E±0°.02, h46km±2km, h46§pP-P, n1406, σ1§24/1421, mb5.2/386, MS4.2/78, 67C-33D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.33**	**355**	P	**Pn**	**23 45 01.4**	**+0.6**
JTJ				S	**Sn**	**23 45 08.5**	**+1.3**
JTJ	**Tarama**	**0.33**	**355**	A	A	23 45 01.4	
	comp=N,1µm,1.1s,comp=E,349nm,1.2s						
JISG	**Ishigakijimahi**	**0.47**	**306**	*i* P	**Pn**	**23 45 03.0**	**+0.6**
JISG	**Ishigakijimahi**	**0.47**	**306**	A	A	23 45 03.0	
	comp=N,221nm,1.3s,comp=E,355nm,2.0s						
JIJ	**Ishigaki jima**	**0.54**	**276**	P	**Pn**	**23 45 03.9**	**+0.6**
JIJ				S	**Sn**	**23 45 12.5**	**+1.0**
JIJ	**Ishigaki jima**	**0.54**	**276**	A	A	23 45 03.9	
	comp=N,133nm,1.9s,comp=E,104nm,1.1s						
JIRB	**Irabujima**	**0.65**	**38**	*i* P	**Pn**	**23 45 05.3**	**+0.6**
JIRB				S	**Sn**	**23 45 15.2**	**+1.1**
JIRB	**Irabujima**	**0.65**	**38**	A	A	23 45 05.3	
	comp=N,329nm,0.9s,comp=E,385nm,0.7s						
JKRS	**Kuro-shima**	**0.66**	**264**	P	**Pn**	**23 45 05.9**	**+1.1**
JKRS				S	**Sn**	**23 45 16.0**	**+1.7**
JKRS	**Kuro-shima**	**0.66**	**264**	A	A	23 45 05.9	
	comp=N,228nm,1.5s,comp=E,311nm,3.0s						
JMJ2	**Miyako jima3**	**0.69**	**52**	P	**Pn**	**23 45 06.0**	**+0.8**
JMJ2				S	**Sn**	**23 45 16.7**	**+1.7**
JMJ2	**Miyako jima3**	**0.69**	**52**	A	A	23 45 06.0	
	comp=N,374nm,0.5s,comp=E,432nm,2.5s						
JMJ	**Miyako jima 2**	**0.72**	**45**	P	**Pn**	**23 45 05.7**	**+0.1**
JMJ	**Miyako jima 2**	**0.72**	**45**	S	**Sn**	**23 45 17.4**	**+1.8**
JOGS	**Gusukube**	**0.76**	**54**	P	**Pn**	**23 45 07.0**	**+0.8**
JOGS	**Gusukube**	**0.76**	**54**	A	A	23 45 07.0	
	comp=N,294nm,1.6s,comp=E,416nm,1.4s						
JIKM	**Ikemajima**	**0.77**	**37**	P	**Pn**	**23 45 06.9**	**+0.6**
JIKM				S	**Sn**	**23 45 18.4**	**+1.6**
JIKM	**Ikemajima**	**0.77**	**37**	A	A	23 45 06.9	
	comp=N,388nm,0.6s,comp=E,317nm,0.9s						
HATJ	**Hateruma jima**	**0.88**	**254**	P	**Pn**	**23 45 08.5**	**+0.7**
HATJ				*e*S	**Sn**	**23 45 20.1**	**+0.6**
HATJ	**Hateruma jima**	**0.88**	**254**	A	A	23 45 08.5	
	comp=N,139nm,4.0s,comp=E,143nm,2.2s						
IRIF	**Iriomote-Funau**	**0.92**	**272**	P	**Pn**	**23 45 08.9**	**+0.7**
IRIF	**Iriomote-Funau**	**0.92**	**272**	A	A	23 45 08.9	
	comp=N,86nm,3.2s,comp=E,226nm,2.4s						
YOJ	**Yonaguni jima**	**1.58**	**276**		**Pn**	**23 45 17.7**	**+0.5**
YOJ	**Yonaguni jima**	**1.58**	**276**	P	**Pn**	**23 45 17.8**	**+0.5**
YOJ	**Yonaguni jima**	**1.58**	**276**	P	**Pn**	**23 45 17.7**	**+0.5**
YOJ	**Yonaguni jima**	**1.58**	**276**	P	**Pn**	**23 45 17.8**	**+0.6**
YOJ	**Yonaguni jima**	**1.58**	**276**	A	A	23 45 17.8	
	comp=N,34nm,4.4s,comp=E,47nm,2.3s						
JYNG	**Yonagunijimaku**	**1.64**	**275**	P	**Pn**	**23 45 18.6**	**+0.6**
JYNG				S	**Sn**	**23 45 38.1**	**+0.2**
JYNG	**Yonagunijimaku**	**1.64**	**275**	A	A	23 45 18.6	
	comp=N,36nm,1.6s,comp=E,49nm,3.3s						
JKE	**Kume jima 2**	**2.74**	**42**	A	A	23 45 34.6	
	comp=N,14nm,4.3s,comp=E,11nm,1.7s						
NACB	**Ninganchiao**	**2.87**	**268**		**Pn**	**23 45 34.7**	**-0.3**
NACB	**Ninganchiao**	**2.87**	**268**	P	**Pn**	**23 45 34.7**	**-0.3**
TATO	**Taipei**	**3.02**	**283**		**Pn**	**23 45 38.1**	**+1.0**
TATO	**Taipei**	**3.02**	**283**	P	**Pn**	**23 45 39.0**	**+1.8**
TATO				S	**Sn**	**23 46 14.4**	**+2.3**
TATO	**Taipei**	**3.02**	**283**	P	**Pn**	**23 45 39.4**	**+2.2**
YHNB	**Yeheng**	**3.08**	**277**		**Pn**	**23 45 38.9**	**+0.9**
YHNB	**Yeheng**	**3.08**	**277**	P	**Pn**	**23 45 39.8**	**+1.8**
JAGN	**Aguni-jima**	**3.21**	**44**	A	A	23 45 41.3	
	comp=N,14nm,5.3s,comp=E,16nm,3.1s						
YULB	**Yu-li**	**3.27**	**255**		**Pn**	**23 45 39.2**	**-1.4**
YULB	**Yu-li**	**3.27**	**255**	P	**Pn**	**23 45 39.3**	**-1.4**
JJT3	**Tamagusuku3**	**3.31**	**56**	A	A	23 45 42.9	
	comp=N,36nm,2.7s,comp=E,42nm,3.3s						
SSLB	**Suanglung**	**3.49**	**262**		**Pn**	**23 45 43.4**	**-0.2**
SSLB	**Suanglung**	**3.49**	**262**	P	**Pn**	**23 45 43.0**	**-0.6**
TWGBT	**Beinan**	**3.67**	**247**	P	**Pn**	**23 45 44.8**	**-1.2**
TWGBT	**Beinan**	**3.67**	**247**	S	**Sn**	**23 46 26.2**	**-1.8**
TWG	**Pinlang**	**3.67**	**247**		**Pn**	**23 45 44.5**	**-1.5**
JNTH	**Nagotoyohara**	**3.70**	**53**	A	A	23 45 48.3	
	comp=N,7.0nm,4.3s,comp=E,7.0nm,6.7s						
TPUB	**Ta-pu**	**3.89**	**256**		**Pn**	**23 45 49.6**	**+0.5**
TPUB	**Ta-pu**	**3.89**	**256**	P	**Pn**	**23 45 50.1**	**+1.0**
TPUB	**Ta-pu**	**3.89**	**256**	S	**Sn**	**23 46 34.1**	**+0.6**
JIH	**Iheya**	**3.98**	**46**	A	A	23 45 52.2	
	comp=N,6.0nm,4.8s,comp=E,6.0nm,5.7s						
JOW	**Kunigami**	**4.07**	**51**		**Pn**	**23 45 50.0**	**-1.5**
JOW	**Kunigami**	**4.07**	**51**	Pn	**Pn**	**23 45 50.2**	**-1.2**
	comp=E,119nm,0.3s,baz=165,slow=17,SNR=134						
JOW				Sn	**Sn**	**23 46 35.9**	**-1.9**
	comp=E,81nm,0.3s,baz=296,slow=29,SNR=7.1						
	comp=E,330nm,0.4s						
JOW	**Kunigami**	**4.07**	**51**	P	**Pn**	**23 45 50.3**	**-1.2**
JOW	**Kunigami**	**4.07**	**51**	A	A	23 45 53.4	
	comp=N,6.0nm,6.9s,comp=E,7.0nm,6.2s						
QZH	**Quanzhou**	**5.62**	**278**	*i* P	**Pn**	**23 46 12.8**	**0.0**
QZH				S	**Sn**	**23 47 12.1**	**-4.0**
QZH				smax	smax		
	comp=E,280nm,1.3s						
QZH				smax	smax		
	comp=E,230nm,0.8s						
QZH				LR	LR		
	comp=E,3µm,13.4s						
QZH				LR	LR		
	comp=E,3µm,11.7s						
QZH				LR	LR		
	comp=E,3µm,18.9s						
KNMB	**Chin-men Tao**	**5.79**	**273**		**Pn**	**23 46 14.6**	**-0.5**
JMZ	**Minamidaito 2**	**6.08**	**74**		**Pn**	**23 46 16.9**	**-2.2**
JMZ	**Minamidaito 2**	**6.08**	**74**	P	**Pn**	**23 46 17.6**	**-1.4**
SSE	**Sheshan**	**7.45**	**336**	P	**Pn**	**23 46 37.9**	**0.0**
SSE				S	**Sn**	**23 48 02.3**	**+1.2**
SSE				LR	LR		
	comp=E,640nm,14.9s						
SSE				LR	LR		
	comp=E,500nm,15.5s						
NJ2	**Nanjing**	**9.29**	**327**	*e*P	**Pn**	**23 47 03.6**	**+0.5**
NJ2				pmax	pmax		
	comp=E,6.0nm,0.5s						
NJ2				LR	LR		
	comp=E,2µm,16.1s						
NJ2				LR	LR		
	comp=E,2µm,17.5s						
NJ2				LR	LR		
	comp=E,2µm,14.2s						
HKPS	**Hong Kong Po S**	**9.94**	**260**		**Pn**	**23 47 11.0**	**-1.1**
HKPS	**Hong Kong Po S**	**9.94**	**260**	P	**Pn**	**23 47 12.4**	**+0.3**
JNU	**Nakatsue**	**10.30**	**30**		**Pn**	**23 47 15.3**	**-1.7**
JNU	**Nakatsue**	**10.30**	**30**	Pn	**Pn**	**23 47 13.8**	**-3.2**
	comp=E,4.7nm,0.3s,baz=249,slow=1.8,SNR=24						
	comp=E,23nm

QIZ LR LR
comp=E,630nm,13.5s
QIZ LR LR
comp=E,1μm,17.5s
QIZ LR LR
comp=E,2μm,18.8s
INU Inuyama 15.30 41 Pn 23 48 24.1 -0.6
INU Inuyama 15.30 41 P Pn 23 48 23.6 -1.1
HNS HongShan 15.62 329 ⇓P P 23 48 34.0 +1.8
HNS pmax pmax
comp=E,55nm,1.1s
HNS LR LR
comp=E,1μm,16.3s
HNS LR LR
comp=E,800nm,13.2s
HNS LR LR
comp=E,1μm,16.9s
JGF Kuroka 15.68 41 Pn 23 48 28.1 -1.5
JGF Kuroka 15.68 41 P Pn 23 48 30.9 +1.3
JHJ Hachijo jima 2 15.84 53 Pn P 23 48 34.0 -0.7
comp=E,2.9nm,0.3s,baz=315,slow=4.3,SNR=1.4
JHJ LR LR 23 52 46.6
comp=E,258nm,21.6s,baz=263,slow=30
JCJ Chichijima 15.97 76 P Pn 23 48 32.6 -0.8
JCJ Chichijima 15.97 76 Pn Pn 23 48 33.1 -0.3
comp=E,4.3nm,0.3s,baz=277,slow=0.7,SNR=14
JCJ LR LR 23 53 53.0
comp=E,396nm,19.6s,baz=236,slow=34
comp=E,381nm,1.1s
JCJ Chichijima 15.97 76 P Pn 23 48 33.8 +0.4
MAJO Matsushiro 16.82 40 Pn 23 48 43.4 -0.6
MAJO Matsushiro 16.82 40 P P 23 48 45.4 -0.2
MAJO Matsushiro 16.82 40⇑ *e*P P 23 48 45.9 +0.3
MJAR Matsushiro Arr 16.82 40 P Pn 23 48 44.3 +0.3
MJAR Matsushiro Arr 16.82 40 Pn P 23 48 46.4 +0.8
comp=E,0.4nm,0.3s,baz=233,slow=11,SNR=79
MJAR LR LR 23 55 42.1
comp=E,253nm,18.6s,baz=222,slow=39
MJAR Matsushiro Arr 16.82 40 P Pn 23 48 44.3 +0.3
MJAR pmax pmax
comp=Z,45nm,0.9s
MJB9 Matsu-Tunnel 16.82 40 Pn 23 48 43.0 -1.0
XAN Xi'an 16.85 309 P Pn 23 48 45.1 +0.6
XAN S Sn **23 51 52.8 +2.0**
XAN pmax pmax
comp=Z,30nm,1.1s
XAN pmax pmax
comp=Z,1μm,7.7s
XAN LR LR
comp=Z,1μm,11.0s
XAN LR LR
comp=Z,3μm,13.7s
XAN LR LR
comp=Z,3μm,16.5s
TIY Taiyuan 17.00 325 *e*P P 23 48 48.8 +1.2
TIY PP **sP 23 49 03.3 -0.7**
TIY S **S 23 51 59.1 -3.3**
TIY pmax pmax
comp=Z,450nm,5.2s
TIY LR LR
comp=Z,780nm,10.7s
TIY LR LR
comp=Z,900nm,12.7s
TIY LR LR
comp=Z,800nm,19.4s
DAV Davao City (W) 17.16 177 LR LR 23 55 14.0
comp=Z,390nm,21.9s,baz=346,slow=36
BJI Beijing 17.26 337 P P 23 48 50.4 0.0
BJI pP **pP 23 49 01.8 +0.8**
BJI S **Sn 23 52 02.5 +2.0**
BJI pmax pmax
comp=Z,9.0nm,0.5s
BJI pmax pmax
comp=Z,300nm,8.7s
BJI LR LR
comp=Z,420nm,20.9s
BJI LR LR
comp=Z,200nm,20.6s
BJI LR LR
comp=Z,530nm,16.7s
SNY Shenyang 17.50 357 ⇓P P 23 48 53.8 +0.8
SNY S **Sn 23 52 05.3 -0.8**
SNY pmax pmax
comp=Z,53nm,1.1s
SNY pmax pmax
comp=Z,310nm,6.3s
SNY LR LR
comp=Z,340nm,9.5s
SNY LR LR
comp=Z,330nm,9.8s
SNY LR LR
comp=Z,940nm,12.7s
JMM Marumori 19.24 42 P P 23 49 10.3 -2.0
JMM Marumori 19.24 42 P P 23 49 11.3 -0.9
SLVN Son La 19.42 265 P P 23 49 14.8 +0.3
SLVN Son La 19.42 265 P Pn 23 49 17.5 +1.6
CN2 Changchun 19.45 2 *e*P P 23 49 14.1 -0.4
CN2 *e*S **S 23 52 44.6 -7.3**
CN2 pmax pmax
comp=Z,50nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,900nm,15.0s
CN2 LR LR
comp=Z,600nm,13.0s
VLA Vladivostok 19.67 16⇓ *i*P P 23 49 14.8 -2.0
VLA pmax pmax
comp=Z,49nm,1.3s
CD2 Chengdu 19.70 294 P P 23 49 17.8 +0.4
CD2 S **S 23 52 54.8 -2.4**
CD2 sS sS 23 53 12.5 -1.6
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,490nm,4.3s
CD2 LR LR
comp=Z,1μm,14.0s
CD2 LR LR
comp=Z,2μm,18.4s
CD2 LR LR
comp=Z,1μm,17.1s
DLV Lat 19.71 234 P P 23 49 18.1 +0.3
DLV Lat 19.71 234 P Pn 23 49 19.0 -0.5
HHC Hu-ho-hao-te 19.84 329 *e*P P 23 49 19.0 +0.1
HHC pP pP 23 49 28.4 -1.2
HHC PP **sP 23 49 40.4 +5.0**
HHC S **S 23 52 55.0 -4.9**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,230nm,4.2s
HHC LR LR
comp=Z,690nm,10.8s
HHC LR LR
comp=Z,330nm,11.8s
HHC LR LR
comp=Z,700nm,11.7s
KKM Kota Kinabalu 19.92 206 P P 23 49 19.7 -0.2
MYLDM Lahad Datu 19.94 198 P P 23 49 20.8 +0.8
MYLDM Lahad Datu 19.94 198 P Pn 23 49 21.5 -0.5
KMI Kunming 20.00 277 P P 23 49 21.5 +0.7
KMI pP pP 23 49 34.0 +2.3
KMI S **S 23 53 02.6 -0.8**
KMI pmax pmax
comp=Z,35nm,1.1s
KMI LR LR
comp=Z,760nm,17.2s
KMI LR LR
comp=Z,1μm,17.1s
KMI LR LR
comp=Z,1μm,18.2s
BTO Baotou 20.40 326 *e*P Pn 23 49 27.3 -0.1
BTO pP pP 23 49 36.1 +0.4
BTO sP sP 23 49 40.5 -1.0
BTO PP **PnPn 23 49 49.1 +5.7**
BTO S Sn 23 53 14.5 -1.9
BTO sS sS 23 53 25.3 -2.8
BTO SS **SnSn 23 53 41.8 +10**
BTO pmax pmax
comp=Z,64nm,1.7s
BTO pmax pmax
comp=Z,550nm,7.6s
BTO LR LR
comp=Z,2μm,16.5s
BTO LR LR
comp=Z,2μm,14.3s
BTO LR LR
comp=Z,2μm,19.0s
SGSI Sangihe 20.52 178 P Pn 23 49 28.5 -0.3
comp=Z,5μmcomp=Z,205nm,0.8s
USRK Ussuriysk Ar. 20.71 15 P P 23 49 26.5 -1.7
comp=Z,3.6nm,0.6s,baz=185,slow=7.5,SNR=5.9
comp=Z,3.6nm,0.6s
XLT XiLinHaoTe 20.79 342 *e*P P 23 49 27.9 -1.2
XLT pP pP 23 49 38.8 -1.1
XLT sP sP 23 49 45.8 +0.1
XLT PP **PnPn 23 49 51.6 +2.9**
XLT S **S 23 53 14.9 -3.7**
XLT SS **SnSn 23 53 52.8 +12**
XLT pmax pmax
comp=Z,25nm,1.0s
XLT LR LR
comp=Z,760nm,17.9s
XLT LR LR
comp=Z,820nm,17.0s
PZH PanZhiHua 20.88 281 P Pn 23 49 32.0 -1.2
PZH sP sP 23 49 45.6 -1.2
PZH S **S 23 53 21.9 +1.2**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,510nm,7.7s
PZH LR LR
comp=Z,620nm,14.2s
PZH LR LR
comp=Z,740nm,15.0s
PZH LR LR
comp=Z,1μm,24.5s
JTM Tenmabayashi 21.38 36 P P 23 49 36.3 +0.9
JTM IAmb IAmb 23 49 46.2
comp=Z,184nm,1.3s
LZH Lanzhou 21.48 308 *e*P P 23 49 36.9 +0.2
LZH sP pP 23 49 47.5 -0.1
LZH S **S 23 53 28.4 -4.3**
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.0s
LZH LR LR
comp=Z,1μm,16.0s
LZH LR LR
comp=Z,2μm,15.6s
LZH LR LR
comp=Z,2μm,19.1s
BNX BinXian 21.49 5⇑P P 23 49 40.3 +3.8
BNX pmax pmax
comp=Z,48nm,1.0s
GUMO Guam 21.80 116 P P 23 49 43.5 +3.5
comp=Z,37nm,0.3s,baz=322,slow=16,SNR=1.3
GUMO LR LR 23 56 22.5
comp=Z,539nm,20.6s,baz=299,slow=32
ERM Erimo 23.36 36 P P 23 49 55.1 -1.0
ERM IAmb IAmb 23 50 17.0
comp=Z,78nm,0.9s
ERM Erimo 23.36 36⇑ *e*P P 23 49 55.8 -0.3
ERM pmax pmax
comp=Z,53nm,0.9s
TOLI2 Tolitoli 23.38 190 P P 23 49 56.0 -0.5
TOLI2 Tolitoli 23.38 190 P P 23 49 57.8 +1.3
TNTI Ternate 23.54 173 P P 23 49 57.5 -0.5
TNTI IAmb IAmb 23 50 16.0
comp=Z,120nm,1.3s
TNTI Ternate 23.54 173 P P 23 49 59.3 +1.3
TNTI Ternate 23.54 173 P P 23 50 00.2 +2.2
comp=Z,1μmcomp=Z,85nm,1.1s
TNCH TengChong 23.82 277 P P 23 50 02.3 +1.4
TNCH pP pP 23 50 04.4 -8.2
TNCH PP **PnPn 23 50 32.3 +2.0**
TNCH S **S 23 54 07.0 -6.8**
TNCH pmax pmax
comp=Z,43nm,1.1s
TNCH LR LR
comp=Z,850nm,7.3s
TNCH LR LR
comp=Z,930nm,13.9s
TNCH LR LR
comp=Z,1μm,19.6s
MRSI Marisa 23.85 187 P P 23 50 02.9 +2.0
comp=Z,65nm,1.1s
ASAJ Asahikawa 24.57 32 LR LR 00 00 10.3
comp=Z,483nm,21.7s,baz=235,slow=38
ASAJ Asahikawa 24.57 32 P P 23 50 06.3 -1.0
ASAJ pmax pmax
comp=Z,156nm,1.9s
JKA Kamikawa-asahi 24.57 32 P P 23 50 06.3 -1.1
JKA IAmb IAmb 23 50 32.8
comp=Z,156nm,1.9s
CHTO Chiang Mai 24.58 262 P P 23 50 07.9 +0.2
CHTO Chiang Mai 24.58 262 P P 23 50 09.0 +1.3
CHTO S **S 23 54 26.5 +0.7**
CHTO Chiang Mai 24.58 262 P P 23 50 09.0 +1.3
CHTO Chiang Mai 24.58 262 P P 23 50 07.9 +0.2
CHTO pmax pmax
comp=Z,58nm,1.0s
CM31 Chiang Mai Arr 24.69 261 P P 23 50 09.3 +0.6
CMAR Chiang Mai Arr 24.69 261 P P 23 50 08.4 -0.2
CMAR Chiang Mai Arr 24.69 261 P P 23 50 09.8 +1.2
comp=Z,5.7nm,0.6s,baz=61,slow=8.1,SNR=39
CMAR PcP **PcP 23 53 47.0 +1.8**
comp=Z,3.3nm,0.3s,baz=66,slow=2.9,SNR=5.6
CMAR LR LR 00 01 05.0
comp=Z,779nm,19.5s,baz=75,slow=40
comp=Z,5.7nm,0.6s
CMAR Chiang Mai Arr 24.69 261 *c e*P P 23 50 10.1 +1.4
CMAR pmax pmax
comp=Z,8.0nm,0.7s
SBUM Sibu 24.87 211 P P 23 50 10.4 +0.2
SBUM Sibu 24.87 211 P P 23 50 11.6 +1.3
APSI Ampana 25.25 187 P P 23 50 15.5 +1.8
comp=Z,2μmcomp=Z,138nm,1.3s
LUWI Luwuk 25.27 185 P P 23 50 13.2 -0.7
LUWI IAmb IAmb 23 50 43.1
comp=Z,120nm,1.3s
PCI Palu 25.51 191 P P 23 50 18.0 +1.9
comp=Z,84nm,1.3s
GTA Gaotai 25.86 312 P P 23 50 18.8 -0.4
GTA pmax pmax
comp=Z,48nm,1.1s
GTA pmax pmax
comp=Z,200nm,10.8s
GTA LR LR
comp=Z,420nm,14.3s
GTA LR LR
comp=Z,690nm,19.5s
GTA LR LR
comp=Z,740nm,18.3s
HEH HeiHe 25.98 4 *e*P P 23 50 19.3 -0.7
HEH pmax pmax
comp=Z,4.0nm,0.5s
SANI Sanana 26.23 177 P P 23 50 24.3 +1.7
SANI Sanana 26.23 177 P P 23 50 24.0 +1.4
KSM Kuching 26.65 214 P P 23 50 26.9 +0.6
KSM Kuching 26.65 214 P P 23 50 28.1 +1.7
YSS Yuzhno-Sakhali 26.80 28⇓ *e*P P 23 50 29.5 +2.0
YSS pmax pmax
comp=Z,120nm,2.2s
ULN Ulaanbaatar 27.38 334 P P 23 50 31.1 -1.8
ULN PcP **PcP 23 53 51.2 +0.2**
ULN Ulaanbaatar 27.38 334 P P 23 50 32.4 -0.4
ULN P P **23 50 32.4 -0.4**
ULN Ulaanbaatar 27.38 334 *c i*P P 23 50 31.6 -1.3
ULN pmax pmax
comp=Z,24nm,1.4s
TTSI Tana Toraja 27.61 191 P P 23 50 37.6 +2.6
comp=Z,1μmcomp=Z,26nm,1.2s
SONM Songino Array 27.62 333 P P 23 50 33.5 -1.5
SONM PcP **PcP 23 53 52.5 +1.0**
SONM Songino Array 27.62 333 P P 23 50 33.7 -1.3
comp=Z,6.5nm,0.7s,baz=153,slow=8.9,SNR=36
SONM PcP **PcP 23 53 51.7 +0.1**
comp=Z,4.2nm,1.0s,baz=164,slow=3.9,SNR=5.5
SONM LR LR 00 03 02.6
comp=Z,865nm,18.1s,baz=153,slow=40
comp=Z,6.5nm,0.7s
GOMU GeErMu 28.32 302 P P 23 50 39.8 -1.8
GOMU pP pP 23 50 51.9 -1.7
GOMU S **S 23 55 27.6 +2.3**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
GOMU pmax pmax
comp=Z,120nm,5.6s
GOMU LR LR
comp=Z,300nm,16.4s
GOMU LR LR
comp=Z,460nm,20.7s
GOMU LR LR
comp=Z,630nm,19.9s
ZEA Zeya 29.45 3 *e*P P 23 50 50.4 -0.6
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=Z,200nm,13.0s
KAPI Kappang 29.55 190 LR LR 00 02 14.6
comp=Z,340nm,21.8s,baz=336,slow=35
KAPI Kappang 29.55 190 P P 23 50 50.7 -1.5
SHL Shillong 29.77 279 P P 23 50 53.9 -0.6
SHL IAmb IAmb 23 50 56.4
comp=Z,114nm,1.4s
SHL Shillong 29.77 279 P P 23 50 53.8 -0.6
SHL Shillong 29.77 279 P P 23 50 53.9 -0.6
SHL pmax pmax
comp=Z,114nm,1.4s
JAY Jayapura 30.86 148 LR LR 00 00 57.1
comp=Z,486nm,21.1s,baz=7.5,slow=31
ZAK Zakamensk 30.89 333 *e*P P 23 51 01.1 -2.9
ZAK pmax pmax
comp=Z,5.0nm,1.4s
PSI Prapat 32.83 233 LR LR 00 03 32.1
comp=Z,389nm,19.8s,baz=48,slow=34
PSI Prapat 32.83 233 P P 23 51 24.2 +2.8
PSI Prapat 32.83 233 P P 23 51 21.3 -0.1
PSI PcP **PcP 23 54 05.7 +0.1**
PSI pmax pmax
comp=Z,20nm,1.0s
MMRI Maumere 32.84 185 P P 23 51 20.3 -0.9
MMRI IAmb IAmb 23 51 55.5
comp=Z,82nm,1.2s
RPSI Rantau Prapat 32.90 233 P P 23 51 21.3 -0.5
RPSI PcP **PcP 23 54 05.7 0.0**
EDFI Ende, Flores 32.99 186 P P 23 51 22.0 -0.7
comp=Z,23nm,1.7s
MNSI Mandailing Nat 33.76 230 P P 23 51 30.7 +1.4
comp=Z,40nm,0.9s
EVN Everest 34.14 284 P P 23 51 32.8 -0.5
MDSI Maura Dua 34.93 218 P P 23 51 40.6 +1.2
comp=Z,19nm,1.2s
KPJI Karang Pucung 35.03 208 P P 23 51 41.5 +1.3
comp=Z,65nm,1.5s
LEM Lembang 35.16 210 LR LR 00 05 33.1
comp=Z,216nm,21.8s,baz=333,slow=35
DBJI Dramaga 35.34 212 P P 23 51 44.6 +1.7
BBJI Bungbulang 35.71 210 P P 23 51 47.9 +1.7
SKR Severo-Kuril's 35.77 35⇑ *e*P P 23 51 46.5 +0.2
WMQ Urumqi 35.94 312 *e*P P 23 51 48.0 0.0
WMQ pmax pmax
comp=Z,29nm,1.3s
WMQ LR LR
comp=Z,290nm,12.7s
WMQ LR LR
comp=Z,420nm,15.1s
WMQ LR LR
comp=Z,380nm,18.9s
MTN Manton Dam 37.45 170 P P 23 51 60.0 -0.9
comp=Z,28nm,1.1s
MTN Manton Dam 37.45 170 P P 23 51 59.5 -1.4
MTN IAmb IAmb 23 52 17.4
comp=Z,56nm,1.4s
MTN Manton Dam 37.45 170 P P 23 52 01.2 +0.3
KDU Kakadu 37.54 168 P P 23 52 00.9 -0.7
comp=Z,18nm,0.8s
YAK Yakutsk 37.86 4 LR LR 00 09 36.6
comp=Z,299nm,18.8s,baz=182,slow=40
YAK Yakutsk 37.86 4⇓ *e*P P 23 52 00.6 -3.2
YAK pmax pmax
comp=Z,13nm,0.7s
PEA0B Petropavlovsk- 37.99 32 P P 23 52 04.1 -1.0
PEA0B IAmb IAmb 23 52 38.7
comp=Z,56nm,1.3s
PEA0B Petropavlovsk- 37.99 32⇓ *e*P P 23 52 04.0 -1.1
PETK Petropavlovsk- 37.99 32 P P 23 52 04.0 -1.2
PETK Petropavlovsk- 37.99 32 P P 23 52 03.7 -1.4
comp=Z,11nm,1.0s,baz=199,slow=4.1,SNR=18
PETK LR LR 00 08 58.1
comp=Z,201nm,21.1s,baz=233,slow=38
comp=Z,11nm,1.0s
PETK Petropavlovsk- 37.99 32 P P 23 52 04.0 -1.2
PET Petropavlovsk 38.41 33 P P 23 52 07.6 -1.0
PET Petropavlovsk 38.41 33 P P 23 52 08.9 +0.3
PET Petropavlovsk 38.41 33 *e*P P 23 52 08.4 -0.2
PET *e*S **S 23 57 56.5 -3.8**
PET pmax pmax
comp=Z,78nm,1.2s
PET Petropavlovsk 38.41 33 P P 23 52 08.3 -0.3
comp=Z,1μmcomp=Z,76nm,1.0s
PET Petropavlovsk 38.41 33 P P 23 52 08.4 -0.3
PET pP **pP 23 52 20.7 -0.2**
RABL Rabaul 38.93 133 P P 23 52 11.6 -1.9
H11N1 WAKE ISLAND Hy 39.25 88 T T 00 34 02.6
baz=284,slow=74,SNR=44
H11N2 WAKE ISLAND Hy 39.25 88 T T 00 34 04.7
baz=284,slow=74,SNR=35
H11N3 WAKE ISLAND Hy 39.26 88 T T 00 34 08.9
baz=284,slow=74,SNR=48
H11S3 WAKE ISLAND Hy 39.38 90 T T 00 34 17.0
baz=287,slow=75,SNR=55
H11S1 WAKE ISLAND Hy 39.39 90 T T 00 34 13.3
baz=287,slow=75,SNR=16
H11S2 WAKE ISLAND Hy 39.40 90 T T 00 34 20.6
baz=287,slow=75,SNR=25
MA2 Magadan 39.68 20 LR LR 00 08 16.3
comp=Z,206nm,20.4s,baz=220,slow=36
MA2 Magadan 39.68 20 P P 23 52 21.4 +2.2
MA2 Magadan 39.68 20 *c e*P P 23 52 18.3 -0.9
MA2 pmax pmax
comp=Z,27nm,1.2s
MA2 Magadan 39.68 20 P P 23 52 18.6 -0.6
comp=Z,29nm,0.9s
KNRA Kununurra 39.94 174 P P 23 52 19.3 -2.5
comp=Z,24nm,1.0s
KNRA Kununurra 39.94 174 P P 23 52 19.7 -2.0
PMG Port Moresby 40.03 144 P P 23 52 21.4 -1.1
PMG IAmb IAmb 23 52 38.1
comp=Z,37nm,0.8s
PMG Port Moresby 40.03 144 P P 23 52 24.4 +1.8
PMG Port Moresby 40.03 144 P P 23 52 21.5 -1.1
PMG pmax pmax
comp=Z,37nm,0.9s
MK31 Makanchi Array 40.53 314 *c i*P P 23 52 25.7 -0.8
MKAR Makanchi Array 40.53 314 P P 23 52 25.2 -1.3
MKAR Makanchi Array 40.53 314 P P 23 52 26.1 -0.4
comp=Z,19nm,0.5s,baz=100,slow=10,SNR=294
MKAR LR LR 00 10 48.0
comp=Z,537nm,18.0s,baz=92,slow=39
comp=Z,19nm,0.5s
MKAR Makanchi Array 40.53 314 *i*P P 23 52 25.8 -0.7
MKAR pmax pmax
comp=Z,20nm,0.5s
MAKZ Makanchi 40.74 314 P P 23 52 27.7 -0.5
MAKZ Makanchi 40.74 314 P P 23 52 27.7 -0.5
MAKZ pP **pP 23 52 39.5 -0.9**
MAKZ sP **sP 23 52 44.3 -1.5**
MAKZ PcP **PcP 23 54 29.5 +0.6**
SHLS Shalkode 41.51 308 *c i*P P 23 52 31.8 -2.8
SHLS Shalkode 41.51 308⇑ *i*P P 23 52 31.9 -2.8
UZB Uzynbulak 41.82 308 *e*P P 23 52 36.9 -0.3
UZB Uzynbulak 41.82 308 *e*P P 23 52 37.0 -0.3
ZAA0 Zalesovo Array 41.94 325 P P 23 52 35.8 -2.1
ZAA0 IAmb IAmb 23 52 37.4
comp=Z,92nm,1.4s
ZALV Zalesovo Beam 41.94 325 P P 23 52 36.4 -1.5
ZALV Zalesovo Beam 41.94 325 P P 23 52 36.7 -1.2
comp=Z,29nm,0.5s,baz=117,slow=8.7,SNR=185
ZALV PcP **PcP 23 54 32.2 -0.4**
comp=Z,2.2nm,0.5s,baz=142,slow=5.1,SNR=2.9
ZALV LR LR 00 11 10.1
comp=Z,236nm,20.6s,baz=122,slow=38
comp=Z,29nm,0.5s
COEN Coen 42.08 153 P P 23 52 40.3 +0.9
comp=Z,85nm,0.9s
COEN Coen 42.08 153 P P 23 52 38.1 -1.3
COEN IAmb IAmb 23 52 55.3
comp=Z,55nm,0.8s
COEN Coen 42.08 153 P P 23 52 41.1 +1.7

FITZ	Fitzroy Crossi	42.16	179	P	P	23 52 39.6	-0.4	
FITZ	Fitzroy Crossi	42.16	179	P	P	23 52 38.6	-1.4	
FITZ	Fitzroy Crossi	42.16	179	P	P	23 52 40.0	0.0	
SATY	Saty	42.24	308	eP	P	23 52 40.4	-0.3	
SATY	Saty	42.24	308	eP	P	23 52 40.4	-0.3	
TDK	Taldyqorghan	42.65	311	eP	P	23 52 43.7	-0.1	
TDK				pmax	pmax			
	comp=Z,48nm,0.8s							
TDK	Taldyqorghan	42.65	311	eP	P	23 52 43.8	-0.1	
	comp=Z,48nm,0.8s							
SEY	Seymchan	42.80	18	LR	LR	00 13 11.2		
	comp=Z,207nm,18.4s,baz=210,slow=40							
SEY	Seymchan	42.80	18	i P	P	23 52 45.5	+0.8	
SEY				pmax	pmax			
	comp=Z,14nm,1.3s							
KDJ	Kajisay	42.98	306	P	P	23 52 47.5	+0.8	
KDJ	Kajisay	42.98	306	P	P	23 52 47.5	+0.8	
KDJ				pmax	pmax			
	comp=Z,36nm,1.2s							
MDOK	Medeo	43.24	308	eP	P	23 52 48.6	-0.2	
MDOK	Medeo	43.24	308	eP	P	23 52 48.7	-0.2	
AAA	Alma-Ata	43.35	308	eP	P	23 52 49.4	-0.1	
AAA	Alma-Ata	43.35	308	eP	P	23 52 49.5	-0.1	
CHKK	Chushkaly	43.41	309	eP	P	23 52 49.6	-0.4	
CHKK	Chushkaly	43.41	309	eP	P	23 52 49.6	-0.4	
HYB	Hyderabad	43.54	270	eP	P	23 52 52.0	+0.7	
HYB				esP	sP	23 53 07.4	-1.4	
KSH	Kashi	43.56	302	P	P	23 52 55.0	+3.6	
KSH				pP	pP	23 53 03.6	-0.1	
KSH				pmax	pmax			
	comp=Z,18nm,1.1s							
KSH				LR	LR			
	comp=Z,300nm,19.4s							
KSH				LR	LR			
	comp=Z,390nm,19.8s							
KSH				LR	LR			
	comp=Z,760nm,15.8s							
ULHL	Ulahol	43.68	306	P	P	23 52 53.7	+1.3	
	SNR=5.1							
KURK	Kurchatov	44.10	319		P	23 52 54.8	-0.6	
KURK				IAmb	IAmb	23 52 55.9		
	comp=Z,90nm,1.4s							
KURK	Kurchatov	44.10	319	P	P	23 52 54.6	-0.8	
KURK	Kurchatov	44.10	319	c i P	P	23 52 54.4	-0.9	
KURK				pmax	pmax			
	comp=Z,72nm,1.3s							
KURK	Kurchatov	44.10	319	P	P	23 52 54.5	-0.9	
KURK				pP	pP	23 53 06.4	-1.4	
KURBB	Kurchatov Arra	44.13	319	P	P	23 52 54.5	-1.0	
	comp=Z,22nm,1.0s,baz=112,slow=8.3,SNR=75							
KURBB				PcP	PcP	23 54 39.5	-0.5	
	comp=Z,2.5nm,0.9s,baz=111,slow=3.0,SNR=4.4							
	comp=Z,22nm,1.0s							
TKM2	Tokmak 2	44.25	307	P	P	23 52 57.8	+0.8	
	SNR=19							
KBK	Karagaybulak	44.69	307	P	P	23 53 01.6	+1.1	
	SNR=7.9							
WB0	Warramunga Arr	44.81	167	P	P	23 53 00.8	-0.6	
CHMS	Chumysh	44.88	307	P	P	23 53 02.7	+0.9	
	SNR=15							
UCH	Uchtor	44.95	306	P	P	23 53 04.1	+1.2	
	SNR=24							
WRAB	Tennant Creek	44.96	167	P	P	23 53 01.7	-0.8	
WRAB				IAmb	IAmb	23 53 04.9		
	comp=Z,36nm,1.1s							
WRAB	Tennant Creek	44.96	167	c eP	P	23 53 03.0	+0.4	
WRAB				pmax	pmax			
	comp=Z,34nm,1.0s							
WRA	Warramunga Arr	44.97	167		P	23 53 03.6	+1.0	
WRA	Warramunga Arr	44.97	167	P	P	23 53 03.0	+0.4	
	comp=Z,21nm,1.0s,baz=349,slow=8.3,SNR=49							
WRA				PcP	PcP	23 54 43.3	0.0	
	comp=Z,1.7nm,0.9s,baz=335,slow=2.4,SNR=0.9							
WRA				LR	LR	00 10 37.4		
	comp=Z,179nm,21.6s,baz=18,slow=34							
	comp=Z,21nm,1.0s							
WR8	Warramunga Arr	45.02	167	P	P	23 53 02.1	-0.8	
AAK	Ala-Archa	45.02	307	P	P	23 53 03.2	+0.1	
AAK	Ala-Archa	45.02	307	LR	LR	00 13 08.4		
	comp=Z,322nm,20.7s,baz=98,slow=38							
AAK	Ala-Archa	45.02	307	P	P	23 53 03.9	+0.8	
AAK				P	P	23 53 03.9	+0.8	
AAK	Ala-Archa	45.02	307	c i P	P	23 53 03.4	+0.3	
AAK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
AAK	Ala-Archa	45.02	307	P	P	23 53 03.7	+0.7	
SGDS	Sogindy	45.03	308	i P	P	23 53 02.8	-0.2	
USP	Ospenovka	45.10	308	P	P	23 53 04.0	+0.4	
	SNR=6.5							
PALK	Pallekele	45.39	256	LR	LR	00 12 32.5		
	comp=Z,278nm,22.0s,baz=54,slow=37							
PALK	Pallekele	45.39	256	e P	P	23 53 08.3	+2.1	
PALK				pmax	pmax			
	comp=Z,77nm,1.5s							
MBWA	Marble Bar	45.46	187	P	P	23 53 06.1	-0.3	
	comp=Z,35nm,1.1s							
MBWA	Marble Bar	45.46	187	P	P	23 53 05.2	-1.2	
MBWA				IAmb	IAmb	23 53 07.2		
	comp=Z,34nm,1.0s							
MBWA	Marble Bar	45.46	187	P	P	23 53 05.7	-0.7	
MBWA	Marble Bar	45.46	187	P	P	23 53 08.1	+1.7	
MBWA	Marble Bar	45.46	187	P	P	23 53 06.1	-0.3	
MBWA				pP	pP	23 53 18.1	-0.3	
EKS2	Erkin-Say	45.55	307	P	P	23 53 08.2	+1.0	
	SNR=5.4							
NIL	Nilore	45.59	294		P	23 53 08.4	+0.8	
NIL	Nilore	45.59	294	P	P	23 53 08.6	+1.0	
NIL				P	P	23 53 08.6	+1.0	
NIL	Nilore	45.59	294	P	P	23 53 08.4	+0.8	
NIL				pmax	pmax			
	comp=Z,138nm,1.3s							
BTLS	Baital	45.69	310	eP	P	23 53 08.1	-0.1	
BTLS	Baital	45.69	310	eP	P	23 53 08.1	-0.1	
PSAC1	Pilbara Seismi	45.82	186	P	P	23 53 09.0	-0.3	
	comp=Z,66nm,1.5s							
PSA00	Pilbara Seismi	45.85	186	P	P	23 53 09.1	-0.5	
	comp=Z,55nm,1.4s							
PSA00	Pilbara Seismi	45.85	186	P	P	23 53 09.5	-0.1	
PSA00				IAmb	IAmb	23 53 10.5		
	comp=Z,52nm,1.0s							
PSA00	Pilbara Seismi	45.85	186	P	P	23 53 09.5	-0.1	
PSA00				IAmb	IAmb	23 53 10.5		
	comp=Z,41nm,1.1s							
PSA00	Pilbara Seismi	45.85	186	P	P	23 53 09.6	0.0	
ARSB	Arslanbob	45.99	305	P	P	23 53 11.7	+0.9	
ARSB	Arslanbob	45.99	305	P	P	23 53 11.7	+0.9	
ARSB				pmax	pmax			
	comp=Z,25nm,1.4s							
MTSU	Mount Surprise	46.31	154	P	P	23 53 14.5	+1.3	
	comp=Z,39nm,0.8s							
MTSU	Mount Surprise	46.31	154	P	P	23 53 15.2	+2.0	
SHEM	Shemya Is, Ala	46.66	39	LR	LR	00 15 27.5		
	comp=Z,56nm,19.4s,baz=270,slow=40							
QIS	Mount Isa	46.89	161	P	P	23 53 17.9	+0.1	
	comp=Z,25nm,1.0s							
QIS	Mount Isa	46.89	161	P	P	23 53 19.6	+1.9	
TIXI	Tiksi	47.43	2	P	P	23 53 18.9	-2.4	
TIXI	Tiksi	47.43	2	LR	LR	00 15 08.1		
	comp=Z,401nm,21.2s,baz=196,slow=38							
TIXI	Tiksi	47.43	2	e P	P	23 53 20.0	-1.3	
TIXI				pmax	pmax			
	comp=Z,13nm,0.9s							
BRZS	Berezniki	47.56	316	eP	P	23 53 22.4	-0.3	
BRZS	Berezniki	47.56	316	eP	P	23 53 22.5	-0.3	
SAVO	Savo Central	47.73	130	P	P	23 53 25.5	+1.0	
GAR	Garm	47.91	301	P	P	23 53 26.2	+0.4	
KK31	Karatay Array	47.98	307	P	P	23 53 25.6	-0.5	
KK31				IAmb	IAmb	23 53 28.0		
	comp=Z,38nm,1.5s							
KK31	Karatay Array	47.98	307	P	P	23 53 25.6	-0.5	
KK31				pmax	pmax			
	comp=Z,38nm,1.5s							
HNR	Honiara	48.02	130	LR	LR	00 12 24.1		
	comp=Z,167nm,19.9s,baz=332,slow=34							
ALEG	Aligegeo Malai	48.08	129	P	P	23 53 29.6	+2.5	
IUG	Iuzhnay	48.26	306	eP	P	23 53 28.3	-0.1	
IUG	Iuzhnay	48.26	306	eP	P	23 53 28.3	-0.1	
AS31	Alice Springs	48.51	169	P	P	23 53 29.8	-0.5	
ASAR	Alice Springs	48.51	169	P	P	23 53 29.8	-0.5	
ASAR	Alice Springs	48.51	169	P	P	23 53 31.1	+0.8	
	comp=Z,6.6nm,0.8s,baz=355,slow=6.9,SNR=47							
ASAR				PcP	PcP	23 54 56.1	+0.4	
	comp=Z,5.7nm,0.9s,baz=356,slow=3.6,SNR=6.2							
ASAR				LR	LR	00 12 53.9		
	comp=Z,103nm,21.4s,baz=338,slow=35							
	comp=Z,6.6nm,0.8s							
AS01	Alice Springs	48.52	169	P	P	23 53 32.2	+1.8	
AS19	Alice Springs	48.56	169	P	P	23 53 31.6	+0.9	
	comp=Z,17nm,0.6s							
CHGR	Chuyangaron	48.81	301	P	P	23 53 32.4	-0.3	
CHGR				IAmb	IAmb	23 53 46.9		
	comp=Z,37nm,0.9s							
CHGR	Chuyangaron	48.81	301	P	P	23 53 32.4	-0.3	
CHGR				pmax	pmax			
	comp=Z,37nm,0.9s							
CTA	Charters Tower	48.85	153	P	P	23 53 31.9	-1.1	
CTAO	Charters Tower	48.85	153	P	P	23 53 34.5	+1.5	
SIMJ	Simiganj	48.93	301	P	P	23 53 33.9	+0.2	
SIMJ				IAmb	IAmb	23 53 36.3		
	comp=Z,42nm,1.4s							
SIMJ	Simiganj	48.93	301	P	P	23 53 34.0	+0.4	
SIMJ				pP	pP	23 53 46.3	+0.1	
KBL	Kabul	49.03	295	P	P	23 53 35.1	+0.6	
KBL	Kabul	49.03	295	P	P	23 53 35.8	+1.2	
KBL				P	P	23 53 35.8	+1.2	
KBL	Kabul	49.03	295	P	P	23 53 35.2	+0.6	
KBL				pmax	pmax			
	comp=Z,107nm,1.2s							
WRKA	Warakurna	49.18	176	P	P	23 53 35.5	+0.1	
	comp=Z,10nm,1.8s							
BVAR	Borovoye Array	49.65	320	P	P	23 53 38.4	-0.3	
	comp=Z,8.7nm,0.5s,baz=104,slow=7.9,SNR=58							
BVAR				PcP	PcP	23 54 59.6	+0.1	
	comp=Z,5.0nm,0.5s,baz=110,slow=3.9,SNR=6.9							
BVAR				LR	LR	00 16 04.2		
	comp=Z,202nm,18.0s,baz=102,slow=38							
	comp=Z,8.7nm,0.5s							
BILL	Bilibino	50.49	19	d i P	P	23 53 45.3	+0.4	
BILL				pmax	pmax			
	comp=Z,29nm,1.2s							
KIWB	Kanaga Island	51.68	42	P	P	23 53 54.0	-0.1	
KIWB				IAmb	IAmb	23 54 12.3		
	comp=Z,38nm,1.2s							
EIDS	Eidsvold	55.58	151	P	P	23 54 23.3	+0.4	
	comp=Z,24nm,1.1s							
EIDS	Eidsvold	55.58	151	P	P	23 54 23.7	+0.8	
EIDS	Eidsvold	55.58	151	P	P	23 54 23.9	+1.1	
AB31	Akbulak array	55.67	314	P	P	23 54 23.4	+0.1	
AB31				IAmb	IAmb	23 54 24.8		
	comp=Z,31nm,0.8s							
ABKAR	Akbulak array	55.67	314	P	P	23 54 23.7	+0.4	
SVE	Sverdlovsk	55.87	323	eP	P	23 54 25.2	+0.7	
SVE				eS	S	00 02 07.4	-1.2	
SVE				pmax	pmax			
	comp=Z,94nm,1.3s							
SVE				MLR	MLR			
	comp=Z,582nm,20.0s							
KLBR	Kellerberrin	55.98	187	P	P	23 54 25.5	-0.1	
	comp=Z,63nm,0.9s							
KLBR	Kellerberrin	55.98	187	P	P	23 54 26.8	+1.2	
NIKH	Nikolski High	56.85	41	P	P	23 54 31.3	-0.4	
	baz=267							
AKTO	Aktyubinsk	56.95	316	LR	LR	00 20 31.3		
	comp=Z,311nm,20.9s,baz=87,slow=38							
ARTI	Arti	57.06	323	P	P	23 54 32.0	-1.0	
ARTI				IAmb	IAmb	23 54 33.6		
	comp=Z,33nm,0.8s							
ARTI	Arti	57.06	323	LR	LR	00 21 06.4		
	comp=Z,250nm,21.0s,baz=98,slow=38							
ARTI	Arti	57.06	323	c i P	P	23 54 32.2	-0.8	
ARTI						23 55 26.5		
ARTI						23 56 36.5		
ARTI				S	S	00 02 23.8	-0.6	
ARTI				SS	SS	00 06 08.6	-4.6	
ARTI				pmax	pmax			
	comp=Z,67nm,1.4s							
ARTI				MLR	MLR			
	comp=Z,293nm,23.0s							
ARTI	Arti	57.06	323	P	P	23 54 32.2	-0.8	
ARTI				pP	pP	23 54 45.6	-0.1	
NWAO	Narrogin (SRO)	57.37	187	P	P	23 54 36.0	+0.7	
NWAO	Narrogin (SRO)	57.37	187	P	P	23 54 35.5	+0.1	
NWAO	Narrogin (SRO)	57.37	187	LR	LR	00 22 40.5		
	comp=Z,106nm,18.3s,baz=12,slow=40							
NWAO	Narrogin (SRO)	57.37	187	P	P	23 54 33.3	-2.1	
NWAO	Narrogin (SRO)	57.37	187	P	P	23 54 36.6	+1.2	
NWAO	Narrogin (SRO)	57.37	187	P	P	23 54 35.5	+0.1	
NWAO				pmax	pmax			
	comp=Z,92nm,1.2s							
BBOO	Buckleboo	57.82	169	P	P	23 54 39.0	+0.4	
	comp=Z,48nm,1.4s							
BBOO	Buckleboo	57.82	169	P	P	23 54 38.5	-0.1	
BBOO	Buckleboo	57.82	169	P	P	23 54 40.8	+2.2	
STKA	Stephens Creek	58.15	163	P	P	23 54 41.4	+0.4	
	comp=Z,95nm,1.3s							
STKA	Stephens Creek	58.15	163	P	P	23 54 40.8	-0.2	
STKA	Stephens Creek	58.15	163	P	P	23 54 41.8	+0.9	
	comp=Z,12nm,0.9s,baz=343,slow=7.8,SNR=12							
STKA				LR	LR	00 19 59.4		
	comp=Z,88nm,20.6s,baz=5.7,slow=36							
	comp=Z,12nm,0.9s							
STKA	Stephens Creek	58.15	163	P	P	23 54 42.0	+1.1	
STKA	Stephens Creek	58.15	163	i e P	P	23 54 41.3	+0.4	
TNA	Tin City	58.77	27	P	P	23 54 45.0	+0.2	
	baz=260							
M11K	Mekoryuk	58.85	33	P	P	23 54 46.6	+1.1	
	baz=265							
HTT	Hallett	58.99	166	P	P	23 54 48.2	+1.4	
CMSA	Cobar Meteorol	59.04	159	P	P	23 54 48.9	+1.8	
F14K	Arctic Creek	59.41	27	P	P	23 54 50.0	+0.7	
	baz=261							
JLN	Jalan Bani Buh	59.56	282	P	P	23 54 51.4	+0.4	
ANM	Nome	59.69	28	P	P	23 54 51.8	+0.6	
	baz=263							
K13K	Kusilvak Mount	59.74	31	P	P	23 54 52.5	+0.9	
K13K				IAmb	IAmb	23 54 55.1		
	comp=Z,45nm,1.2s							
K13K	Kusilvak Mount	59.74	31	P	P	23 54 52.5	+0.9	
	baz=265,SNR=7.1							
WSAR	Wadi Sarin	59.96	284	P	P	23 54 54.1	+0.3	
F15K	North Star Dit	60.13	27	P	P	23 54 55.9	+1.6	
F15K				IAmb	IAmb	23 54 57.9		
	comp=Z,47nm,1.2s							
F15K	North Star Dit	60.13	27	P	P	23 54 55.4	+1.2	
	baz=263							
ARMA	Armidale	60.22	153	P	P	23 54 56.8	+1.4	
ARMA				IAmb	IAmb	23 56 16.2		
	comp=Z,75nm,1.9s							
C16K	Lisburne Hills	60.23	24	P	P	23 54 55.9	+1.1	
C16K				IAmb	IAmb	23 55 09.8		
	comp=Z,36nm,1.1s							
C16K	Lisburne Hills	60.23	24	P	P	23 54 55.5	+0.7	
	baz=261							
M13K	Dall Lake	60.27	33	P	P	23 54 56.0	+0.7	
	baz=267							
G15K	Niukluk	60.31	28	P	P	23 54 56.5	+1.0	
	baz=264							
J14K	Nanvaranak Lak	60.32	30	P	P	23 54 57.4	+1.9	
J14K				IAmb	IAmb	23 54 58.8		
	comp=Z,43nm,1.2s							
J14K	Nanvaranak Lak	60.32	30	P	P	23 54 57.2	+1.7	
	baz=266							
BIDO	Bidbid	60.33	284	P	P	23 54 57.2	+0.9	
BIDO				P	P	23 54 57.2	+0.9	
SMDO	Samad	60.52	284	P	P	23 54 58.5	+0.8	
L14K	Kuka Creek	60.64	32	P	P	23 54 59.0	+1.2	
L14K	Kuka Creek	60.64	32	P	P	23 54 59.0	+1.2	
	baz=267,SNR=20							
JMDO	Jabal Madar	60.66	283	P	P	23 54 58.5	-0.2	
S12K	Black Hills	60.88	38	P	P	23 54 59.7	+0.2	
S12K				IAmb	IAmb	23 55 20.5		
	comp=Z,22nm,1.0s							
M14K	Bethel	60.97	33	P	P	23 55 01.4	+1.4	
M14K				IAmb	IAmb	23 55 03.7		
	comp=Z,46nm,1.2s							
M14K	Bethel	60.97	33	P	P	23 55 01.2	+1.2	
	baz=268,SNR=7.5							
D17K	Noatak River	60.99	25	P	P	23 55 01.3	+1.2	
	baz=263,SNR=6.3							
H16K	Elim	61.04	28	P	P	23 55 02.3	+1.8	
	baz=266							
C17K	DeLong Mountai	61.05	24	P	P	23 55 01.2	+0.7	
	baz=263							
G16K	Koyuk River	61.05	27	P	P	23 55 01.3	+0.8	
G16K				IAmb	IAmb	23 55 03.3		
	comp=Z,21nm,1.1s							
G16K	Koyuk River	61.05	27	P	P	23 55 02.0	+1.5	
	baz=265							
N14K	Kuskokwak Cree	61.08	34	P	P	23 55 02.1	+1.3	
N14K	Kuskokwak Cree	61.08	34	P	P	23 55 01.5	+0.7	
	baz=269							
RDOG	Red Dog Mine	61.10	24	P	P	23 55 01.9	+1.1	
	baz=263							
MHTO	MHTO	61.18	281	P	P	23 55 01.7	-0.4	
L15K	Ungalak Mounta	61.23	31	P	P	23 55 02.3	+0.5	
	baz=268							
K15K	Wolf Creek Mou	61.23	31		P	23 55 02.8	+1.1	
K15K				IAmb	IAmb	23 55 05.5		
	comp=Z,38nm,1.2s							
K15K	Wolf Creek Mou	61.23	31	P	P	23 55 03.1	+1.3	
	baz=268,SNR=8.7							
O14K	Tigyukauivet M	61.29	34	P	P	23 55 03.1	+0.9	
O14K				IAmb	IAmb	23 55 06.5		
	comp=Z,28nm,1.2s							
O14K	Tigyukauivet M	61.29	34	P	P	23 55 03.0	+0.8	
	baz=270							
E17K	Hotham Inlet	61.41	25	P	P	23 55 04.2	+1.2	
	baz=265,SNR=5.7							
SHME	Shamm	61.42	288	P	P	23 55 04.0	+0.3	
SHME				P	P	23 55 04.0	+0.3	
SHME	Shamm	61.42	288	P	P	23 55 04.4	+0.7	
MDH	Madha	61.47	287	P	P	23 55 04.3	+0.3	
JOHN	Johnston Islan	61.55	83	P	P	23 55 03.9	-0.7	
SOHO	SOHO	61.57	285	P	P	23 55 04.8	+0.1	
SOHO				P	P	23 55 04.8	+0.1	
SOHO	SOHO	61.57	285	i P	P	23 55 05.2	+0.4	
	SNR=6.9							
MASF	Masafi	61.58	287	P	P	23 55 05.3	+0.5	
F17K	Baldwin Pennin	61.59	26	P	P	23 55 05.2	+1.1	
F17K				IAmb	IAmb	23 55 22.5		
	comp=Z,21nm,0.8s							
F17K	Baldwin Pennin	61.59	26	P	P	23 55 05.3	+1.2	
	baz=266							
M15K	Kasigluk River	61.59	33	P	P	23 55 04.8	+0.6	
	baz=269,SNR=5.7							
UOSS	Minazif	61.65	286	P	P	23 55 05.1	-0.2	
UOSS	Minazif	61.65	286	P	P	23 55 05.5	+0.2	
B18K	Kokolik River	61.65	23	P	P	23 55 05.5	+1.0	
	baz=264							
I17K	Unalakleet	61.67	29		P	23 55 06.5	+1.7	
I17K	Unalakleet	61.67	29	P	P	23 55 06.0	+1.2	
	baz=268,SNR=5.5							
J16K	Anvik River	61.69	30	P	P	23 55 07.3	+2.4	
J16K	Anvik River	61.69	30	P	P	23 55 05.6	+0.7	
	baz=268							
HATD	Hatta, Dubai	61.74	286	P	P	23 55 06.8	+0.9	
HATD	Hatta, Dubai	61.74	286	P	P	23 55 07.1	+1.2	
G17K	Kiwalik Mounta	61.77	27	P	P	23 55 06.2	+0.8	
	baz=267,SNR=12							
SDPT	Sand Point	61.79	39	P	P	23 55 06.0	+0.4	
SDPT	Sand Point	61.79	39	P	P	23 55 06.5	+0.8	
	baz=272							
C18K	Utukok River	61.80	24	P	P	23 55 06.4	+0.8	
	baz=264							
ARQ	Araqi	61.80	284	P	P	23 55 06.8	+0.5	
ARQ				P	P	23 55 06.8	+0.5	
ASHO	Ashiyiah	61.84	286	P	P	23 55 07.2	+0.6	
ASHO	Ashiyiah	61.84	286	P	P	23 55 07.4	+0.7	
N15K	Kwethluk River	61.88	33	P	P	23 55 07.5	+1.3	
N15K	Kwethluk River	61.88	33	P	P	23 55 07.1	+0.9	
	baz=270,SNR=15							
E18K	Tukpahlearik C	61.91	25	P	P	23 55 07.6	+1.3	
	baz=266							
KIRV	Kirov	61.98	325	LR	LR	00 24 23.1		
	comp=Z,540nm,18.5s,baz=91,slow=38							
KIRV	Kirov	61.98	325	c i P	P	23 55 06.1	-0.7	
O15K	Ungalikthiuk R	62.03	34	P	P	23 55 07.8	+0.5	
O15K				IAmb	IAmb	23 55 10.9		
	comp=Z,38nm,1.2s							
O15K	Ungalikthiuk R	62.03	34	P	P	23 55 07.9	+0.6	
	baz=271,SNR=7.4							
H17K	Granite Mounta	62.05	28	P	P	23 55 08.1	+0.8	
H17K	Granite Mounta	62.05	28	P	P	23 55 08.5	+1.2	
	baz=268,SNR=13							
NAZ	Nazwa, Dubai	62.11	286	P	P	23 55 08.2	-0.2	
NAZ	Nazwa, Dubai	62.11	286	P	P	23 55 08.4	+0.1	
L16K	Owhat River	62.19	31	P	P	23 55 08.7	+0.5	
L16K				IAmb	IAmb	23 55 12.2		
	comp=Z,28nm,1.1s							
L16K	Owhat River	62.19	31	P	P	23 55 09.3	+1.1	
	baz=270,SNR=12							
F18K	Selawik	62.24	26	P	P	23 55 09.2	+0.7	
	baz=267,SNR=9.3							
FAQ	Al Faqa, Dubai	62.24	286	P	P	23 55 09.2	0.0	
FAQ	Al Faqa, Dubai	62.24	286	P	P	23 55 09.6	+0.4	
S14K	Fog Glacier	62.27	38	P	P	23 55 09.6	+0.6	
	baz=273							
ALNE	Al Ain	62.28	285	P	P	23 55 10.4	+0.8	
	SNR=8.5							
ALNE	Al Ain	62.28	285	i P	P	23 55 10.2	+0.6	
	SNR=8.5							
CHNA	Chernabura Isl	62.32	39	P	P	23 55 10.3	+1.0	
	baz=273							
CNBA	Chernabura Isl	62.33	39	P	P	23 55 07.6	-1.7	
J17K	VABM Dome	62.38	30	P	P	23 55 11.1	+1.6	
J17K	VABM Dome	62.38	30	P	P	23 55 10.6	+1.1	
	baz=269,SNR=28							
C19K	Lookout Ridge	62.41	23	P	P	23 55 11.1	+1.3	
C19K	Lookout Ridge	62.41	23	P	P	23 55 10.7	+1.0	
	baz=266							
M16K	Timber Creek	62.44	32	P	P	23 55 10.9	+0.9	
M16K				IAmb	IAmb	23 55 13.6		
	comp=Z,39nm,1.2s							
M16K	Timber Creek	62.44	32	P	P	23 55 11.2	+1.2	
	baz=271,SNR=12							
ASUD	Al Ashush, Dub	62.50	286	P	P	23 55 11.8	+0.9	
ASUD	Al Ashush, Dub	62.50	286	P	P	23 55 11.7	+0.8	
N16K	Nishlik Lake	62.54	33	P	P	23 55 11.3	+0.6	
	baz=271,SNR=18							
G18K	Tagagawik	62.61	27	P	P	23 55 11.8	+0.7	
G18K				IAmb	IAmb	23 55 14.4		
	comp=Z,42nm,1.2s							
G18K	Tagagawik	62.61	27	P	P	23 55 12.1	+1.0	
	baz=268,SNR=12							
H18K	Honhosa River	62.72	28	P	P	23 55 12.1	+0.4	
H18K				IAmb	IAmb

GCSA **Galena City Sc** 63.35 28 P P 23 55 16.7 +0.8
baz=271
BELG **Belogornoye** 63.37 318 *c i* P P 23 55 15.7 -0.5
BELG pmax pmax
comp=Z,10.0nm,0.9s
O17K **Koliganek Bris** 63.40 34 P P 23 55 18.1 +1.8
baz=273,SNR=5.5
J18K **Innoko River** 63.44 29 P 23 55 17.8 +1.2
J18K **Innoko River** 63.44 29 P P 23 55 17.1 +0.5
baz=271,SNR=15
D20K **Etivluk River** 63.47 24 P P 23 55 17.7 +1.0
D20K **Etivluk River** 63.47 24 P P 23 55 17.3 +0.6
baz=269,SNR=9.0
L18K **Granite Mounta** 63.49 31 P P 23 55 18.5 +1.6
L18K IAmb IAmb 23 55 21.6
comp=Z,33nm,1.1s
L18K **Granite Mounta** 63.49 31 P P 23 55 18.2 +1.3
baz=272,SNR=16
H19K **Roundabout Mou** 63.52 27 P P 23 55 18.3 +1.2
H19K **Roundabout Mou** 63.52 27 P P 23 55 17.8 +0.8
baz=271,SNR=34
A21K **Barrow** 63.55 21 P P 23 55 18.1 +0.9
baz=268
CAN **Canberra** 63.61 158 P P 23 55 19.2 +1.2
comp=Z,29nm,1.2s
CAN **Canberra** 63.61 158 P P 23 55 19.9 +1.9
CNB **Canberra Magne** 63.73 158 P P 23 55 19.6 +0.8
comp=Z,42nm,1.1s
CNB **Canberra Magne** 63.73 158 P P 23 55 20.6 +1.8
P17K **Kvichak River** 63.77 34 P P 23 55 19.4 +0.7
baz=274
F20K **Avaraart Lake** 63.80 25 P P 23 55 19.5 +0.7
baz=270
J19K **Poorman** 63.91 29 P P 23 55 21.3 +1.6
J19K IAmb IAmb 23 55 23.1
comp=Z,48nm,1.1s
J19K **Poorman** 63.91 29 P P 23 55 20.5 +0.8
baz=272,SNR=28
M18K **Stony River** 63.94 32 P P 23 55 21.1 +1.3
baz=272,SNR=11
N18K **Kilae Creek** 63.95 33 P P 23 55 22.5 +2.5
N18K **Kilae Creek** 63.95 33 P P 23 55 21.4 +1.4
baz=274
MZWR **Madinat Zayed** 64.01 286 P P 23 55 20.8 -0.2
Q17K **Contact Creek** 64.13 35 P P 23 55 22.0 +0.7
baz=275
C21K **Knifeblade Rid** 64.14 23 P P 23 55 21.8 +0.7
baz=270,SNR=5.7
H20K **Anotlenenega Mo** 64.18 27 P P 23 55 22.2 +0.8
baz=272,SNR=12
B21K **Ikpikpuk River** 64.19 23 P P 23 55 22.4 +1.1
B21K **Ikpikpuk River** 64.19 23 P P 23 55 22.1 +0.8
baz=270,SNR=7.1
O18K **Koktuh Hills** 64.35 33 P P 23 55 24.7 +2.1
O18K IAmb IAmb 23 55 27.4
comp=Z,62nm,1.4s
O18K **Koktuh Hills** 64.35 33 P P 23 55 23.9 +1.3
baz=274,SNR=6.5
L19K **White Mountain** 64.35 31 P P 23 55 23.6 +1.0
L19K IAmb IAmb 23 55 27.2
comp=Z,21nm,1.0s
L19K **White Mountain** 64.35 31 P P 23 55 23.6 +1.0
baz=274,SNR=19
I20K **Naaghedeneel** 64.38 28 P P 23 55 24.3 +1.7
I20K **Naaghedeneel** 64.38 28 P P 23 55 23.9 +1.2
baz=273,SNR=7.4
P18K **Big Mountain,** 64.38 34 P P 23 55 23.8 +1.0
P18K IAmb IAmb 23 55 26.3
comp=Z,26nm,1.3s
P18K **Big Mountain,** 64.38 34 P P 23 55 23.5 +0.7
baz=275
ACHA **Angle Creek He** 64.43 35 P P 23 55 22.9 -0.3
E21K **Killik River** 64.44 24 P P 23 55 24.2 +1.1
baz=271
CHIR **Chirikof Islan** 64.50 38 P P 23 55 24.2 +0.6
baz=276
J20K **Nowinta River** 64.55 29 P P 23 55 25.0 +1.2
J20K IAmb IAmb 23 55 28.4
comp=Z,44nm,1.2s
J20K **Nowinta River** 64.55 29 P P 23 55 25.0 +1.2
baz=273,SNR=30
Q18K **Katmai Hardscr** 64.55 35 P P 23 55 25.0 +0.9
baz=275
TOO **Toolangi** 64.58 162 P P 23 55 25.4 +1.1
comp=Z,10nm,1.6s
TOO **Toolangi** 64.58 162 P P 23 55 25.4 +1.1
TOO **Toolangi** 64.58 162 P P 23 55 25.4 +1.1
TOO pmax pmax
comp=Z,10.0nm,1.1s
MZR **Muzera** 64.58 285 P P 23 55 24.6 -0.1
MZR **Muzera** 64.58 285 *i* P P 23 55 24.9 +0.2
SNR=9.5
M19K **Big River Lodg** 64.59 31 P P 23 55 25.7 +1.5
M19K **Big River Lodg** 64.59 31 P P 23 55 26.1 +1.9
baz=274,SNR=9.3
IMAR **Indian Mountai** 64.62 27 P P 23 55 25.1 +0.8
N19K **Bonanza Creek** 64.63 32 P P 23 55 25.9 +1.4
N19K **Bonanza Creek** 64.63 32 P P 23 55 26.0 +1.4
baz=275,SNR=5.2
K20K **Telida** 64.64 30 P P 23 55 26.1 +1.7
K20K IAmb IAmb 23 55 28.4
comp=Z,50nm,1.3s
K20K **Telida** 64.64 30 P P 23 55 26.2 +1.8
baz=274,SNR=22
F21K **Alatna River** 64.67 25 P P 23 55 24.2 -0.3
F21K **Alatna River** 64.67 25 P P 23 55 25.9 +1.3
baz=272
G21K **Allakaket** 64.69 26 P P 23 55 25.7 +0.9
G21K **Allakaket** 64.69 26 P P 23 55 26.0 +1.2
baz=273,SNR=16
MAK **Makhachkala** 64.78 308 *e* P P 23 55 24.2 -1.5
MAK *e* 23 57 46.6
MAK *e*S S 00 04 04.0 +0.9
MAK *e*SS SS 00 08 17.8 +3.2
MAK pmax pmax
comp=Z,96nm,1.1s
MAK MLR MLR
comp=Z,476nm,20.0s
L20K **Farewell, AK** 64.79 31 P P 23 55 27.1 +1.7
baz=274,SNR=13
AKT **Akhty** 64.89 306 *e* P P 23 55 25.4 -1.2
AKT *e**SP pP 23 55 39.8 +0.3
AKT *e* 23 55 57.2
AKT *e*S S 00 04 06.0 +1.1
AKT pmax pmax
comp=Z,80nm,1.3s
AKT MLR MLR
comp=Z,393nm,20.0s
D22K **Ayikyak River** 64.90 23 P P 23 55 27.3 +1.2
baz=272
H21K **Melozitna Rive** 65.03 27 P P 23 55 28.0 +1.1
H21K IAmb IAmb 23 55 31.0
comp=Z,52nm,1.2s
H21K **Melozitna Rive** 65.03 27 P P 23 55 28.2 +1.3
baz=274,SNR=16
F22K **John River** 65.16 25 P P 23 55 29.2 +1.4
baz=274
M20K **Styx River** 65.19 31 P P 23 55 29.4 +1.2
baz=275
SII **Sitkinak Islan** 65.22 37 P P 23 55 27.3 -1.0
SII **Sitkinak Islan** 65.22 37 P P 23 55 29.4 +1.1
baz=277
Q19K **Cape Douglas,** 65.23 34 P P 23 55 30.1 +1.7
Q19K **Cape Douglas,** 65.23 34 P P 23 55 29.9 +1.5
baz=276
E22K **Anaktuvuk Pass** 65.26 24 P P 23 55 29.8 +1.3
E22K **Anaktuvuk Pass** 65.26 24 P P 23 55 29.7 +1.3
baz=274,SNR=19
SEKA **Sheki** 65.34 306 P P 23 55 30.3 +0.8
DOK **Doka** 65.34 280 P P 23 55 28.9 -0.8
DOK P P 23 55 28.9 -0.8
P19K **Oil Pt** 65.36 34 P P 23 55 30.8 +1.6
P19K IAmb IAmb 23 55 49.5
comp=Z,32nm,0.9s
P19K **Oil Pt** 65.36 34 P P 23 55 31.1 +1.8
baz=276
ILSW **Iliamna Southw** 65.37 33 P P 23 55 30.8 +1.4
ILSW IAmb IAmb 23 55 45.3
comp=Z,39nm,1.6s
CHUM **Lake Minchumin** 65.38 29 P P 23 55 31.1 +1.9
baz=275
I21K **Tanana** 65.41 27 P P 23 55 28.5 -0.8
I21K IAmb IAmb 23 55 33.8
comp=Z,40nm,1.1s
I21K **Tanana** 65.41 27 P P 23 55 30.8 +1.4
baz=275,SNR=8.8

G22K **Bettles** 65.46 26 P P 23 55 31.2 +1.5
baz=274
MNGR **Mingechevir, A** 65.51 305 P P 23 55 31.8 +1.4
RED **Redoubt Volcan** 65.51 33 P P 23 55 29.9 -0.3
RED IAmb IAmb 23 56 16.6
comp=Z,31nm,1.3s
CAST **Castle Rocks** 65.52 29 P 23 55 31.4 +1.2
CAST IAmb IAmb 23 55 33.9
comp=Z,31nm,1.1s
CAST **Castle Rocks** 65.52 29 P P 23 55 31.1 +0.9
baz=276,SNR=25
PPLA **Purkeypile** 65.53 30 P P 23 55 30.8 +0.4
PPLA IAmb IAmb 23 55 33.9
comp=Z,36nm,1.2s
PPLA **Purkeypile** 65.53 30 P P 23 55 31.2 +0.8
baz=276,SNR=8.5
C23K **Itkillik River** 65.58 22 P P 23 55 31.4 +1.1
C23K **Itkillik River** 65.58 22 P P 23 55 31.5 +1.1
baz=274,SNR=7.5
H22K **Ishtalitna Cre** 65.60 27 P P 23 55 31.5 +0.8
baz=275,SNR=30
D23K **Nanushuk River** 65.62 23 P P 23 55 31.7 +1.0
D23K **Nanushuk River** 65.62 23 P P 23 55 32.5 +1.8
baz=274,SNR=17
O20K **Slope Mountain** 65.62 33 P P 23 55 32.1 +1.2
baz=276
OHAK **Old Harbor** 65.62 36 P P 23 55 30.4 -0.4
OHAK IAmb IAmb 23 56 12.8
comp=Z,72nm,1.6s
OHAK **Old Harbor** 65.62 36 P P 23 55 32.3 +1.4
baz=277
RBK **Rabkut** 65.63 279 P P 23 55 30.8 -0.9
RBK P P 23 55 30.8 -0.9
SPCR **Spurr Chakacha** 65.70 32 P P 23 55 32.9 +1.5
baz=276
N20K **Mount Spurr** 65.70 32 P P 23 55 32.9 +1.5
baz=276
SPU **Mount Spurr** 65.77 32 P P 23 55 32.7 +0.8
STLK **Strandline Lak** 65.84 31 P P 23 55 33.0 +0.7
WHFO **Wadi Hawf** 65.89 280 P P 23 55 33.0 -0.3
SNR=27
Q20K **Shuyak Island** 65.92 35 P P 23 55 33.6 +0.9
baz=277
SYI **Shuyak Island** 65.92 35 P P 23 55 32.1 -0.7
KDAK **Kodiak Island** 65.93 36 P P 23 55 34.1 +1.3
KDAK **Kodiak Island** 65.93 36 LR LR 00 24 56.1
comp=Z,58nm,19.1s,baz=246,slow=37
KDAK **Kodiak Island** 65.93 36 ⇓ *e* P P 23 55 32.5 -0.3
KDAK pmax pmax
comp=Z,77nm,1.5s
KDAK **Kodiak Island** 65.93 36 P P 23 55 34.1 +1.3
baz=278
SKT **Skwentna** 65.93 31 P P 23 55 32.8 0.0
SKT **Skwentna** 65.93 31 P P 23 55 34.1 +1.3
baz=277,SNR=9.4
BPAW **Bear Paw Mtn.** 65.94 29 P P 23 55 33.2 +0.3
BPAW IAmb IAmb 23 55 36.9
comp=Z,25nm,1.2s
BPAW **Bear Paw Mtn.** 65.94 29 P P 23 55 34.0 +1.1
baz=276,SNR=13
COLD **Coldfoot** 65.94 25 P P 23 55 33.8 +1.0
COLD IAmb IAmb 23 55 35.9
comp=Z,35nm,1.5s
COLD **Coldfoot** 65.94 25 P P 23 55 34.1 +1.3
baz=275
MLY **Manley** 65.95 28 P P 23 55 33.5 +0.6
MLY IAmb IAmb 23 55 37.0
comp=Z,29nm,1.1s
MLY **Manley** 65.95 28 P P 23 55 33.9 +1.0
baz=276,SNR=17
TOLK **Toolik Lake Re** 66.05 24 P P 23 55 34.5 +1.0
TOLK **Toolik Lake Re** 66.05 24 P P 23 55 34.9 +1.4
baz=275,SNR=8.6
G23K **Bananza Creek** 66.06 26 P P 23 55 34.6 +0.9
G23K IAmb IAmb 23 55 37.6
comp=Z,32nm,1.2s
G23K **Bananza Creek** 66.06 26 P P 23 55 34.9 +1.3
baz=276,SNR=8.5
TRNA **Turayna** 66.06 287 P P 23 55 34.6 +0.3
E23K **Chandalar** 66.09 24 P P 23 55 34.9 +1.0
E23K **Chandalar** 66.09 24 P P 23 55 35.1 +1.2
baz=276,SNR=12
GANJ **Ganja** 66.10 305 P P 23 55 35.5 +1.1
C24K **Franklin Bluff** 66.25 22 P P 23 55 34.9 +0.2
C24K **Franklin Bluff** 66.25 22 P P 23 55 35.6 +0.9
baz=276,SNR=11
D24K **Happy Valley** 66.27 23 P P 23 55 36.0 +1.2
D24K **Happy Valley** 66.27 23 P P 23 55 35.9 +1.0
baz=276,SNR=14
TRF **Thorofare Moun** 66.32 29 P P 23 55 35.9 +0.4
TRF **Thorofare Moun** 66.32 29 P P 23 55 36.2 +0.7
baz=277
H23K **Yukon River** 66.36 27 P P 23 55 36.6 +1.1
H23K IAmb IAmb 23 56 04.0
comp=Z,34nm,0.8s
H23K **Yukon River** 66.36 27 P P 23 55 37.0 +1.5
baz=277,SNR=32
SUA **Susitna One** 66.36 31 P P 23 55 36.2 +0.4
SUA IAmb IAmb 23 55 50.1
comp=Z,27nm,0.7s
SUA **Susitna One** 66.36 31 P P 23 55 36.7 +0.9
baz=278,SNR=21
ABTO **Aybut** 66.50 279 P P 23 55 37.1 -0.1
E24K **Your Creek** 66.51 24 P P 23 55 37.9 +1.4
baz=277
I23K **Minto, Yukon-K** 66.51 27 P P 23 55 37.4 +1.0
I23K IAmb IAmb 23 56 08.0
comp=Z,28nm,1.2s
I23K **Minto, Yukon-K** 66.51 27 P P 23 55 38.0 +1.6
baz=277,SNR=9.3
M22K **Willow** 66.62 31 P P 23 55 36.7 -0.5
M22K **Willow** 66.62 31 P P 23 55 38.6 +1.4
baz=278
MSVF **Nonsavu** 66.70 124 P P 23 55 40.1 +1.7
NEA2 **Nenana** 66.71 28 P P 23 55 38.1 +0.3
NEA2 IAmb IAmb 23 55 41.6
comp=Z,51nm,1.2s
NEA2 **Nenana** 66.71 28 P P 23 55 38.7 +0.9
baz=278,SNR=40
KLMR **Klimovskoe** 66.78 328 *e* P P 23 55 35.5 -2.7
KLMR *e**PP pP 23 55 47.5 -3.8
KLMR *e* 23 58 02.6
KLMR pmax pmax
comp=Z,69nm,1.2s
KLMR MLR MLR
comp=Z,279nm,15.0s
F24K **Squaw Lake** 66.80 25 P P 23 55 38.7 +0.4
F24K IAmb IAmb 23 55 56.0
comp=Z,26nm,0.7s
F24K **Squaw Lake** 66.80 25 P P 23 55 39.3 +0.9
baz=277,SNR=15
MCK **McKinley** 66.89 29 P P 23 55 39.1 +0.2
MCK IAmb IAmb 23 55 42.4
comp=Z,33nm,1.2s
MCK **McKinley** 66.89 29 P P 23 55 39.1 +0.2
MCK pmax pmax
comp=Z,33nm,1.2s
MCK **McKinley** 66.89 29 P P 23 55 39.8 +0.9
baz=278,SNR=9.2
RC01 **Rabbit Creek A** 66.90 32 P P 23 55 39.9 +0.9
baz=278
RND **Reindeer** 66.97 29 P P 23 55 39.4 -0.1
RND **Reindeer** 66.97 29 P P 23 55 39.4 -0.1
RND pmax pmax
comp=Z,55nm,1.0s
H24K **Noodor Dome** 67.03 27 P P 23 55 40.2 +0.3
H24K IAmb IAmb 23 55 44.2
comp=Z,24nm,1.1s
H24K **Noodor Dome** 67.03 27 P P 23 55 41.7 +1.8
baz=278,SNR=11
NAX **Nakhchivan** 67.05 304 P P 23 55 41.8 +1.3
G24K **Hadweenzic Riv** 67.07 26 P P 23 55 40.7 +0.7
G24K IAmb IAmb 23 55 44.2
comp=Z,19nm,0.9s
G24K **Hadweenzic Riv** 67.07 26 P P 23 55 41.8 +1.8
baz=278,SNR=11
D25K **Kavik River** 67.11 23 P P 23 55 40.7 +0.4
D25K **Kavik River** 67.11 23 P P 23 55 41.6 +1.3
baz=278,SNR=9.3
PMR **Palmer** 67.11 31 P P 23 55 40.4 +0.1
PMR IAmb IAmb 23 55 42.9
comp=Z,48nm,1.4s
PMR **Palmer** 67.11 31 P P 23 55 43.5 +3.2
PMR **Palmer** 67.11 31 P P 23 55 40.4 +0.1
PMR pmax pmax
comp=Z,49nm,1.4s

PMR **Palmer** 67.11 31 P P 23 55 41.6 +1.3
baz=279
WRH **Wood River Hil** 67.14 28 P P 23 55 40.4 -0.1
WRH IAmb IAmb 23 56 10.0
comp=Z,17nm,0.8s
VRH **Novokhopyorsk** 67.17 317 *e* P P 23 55 38.5 -2.4
VRH pmax pmax
comp=Z,50nm,1.0s
GHO **Glory Hole Cre** 67.18 31 P P 23 55 41.1 +0.2
GHO IAmb IAmb 23 55 43.7
comp=Z,42nm,1.4s
COLA **College** 67.19 28 P P 23 55 43.6 +2.9
COLA **College** 67.19 28 ⇓ *e* P P 23 55 42.1 +1.4
COLA pmax pmax
comp=Z,17nm,1.0s
WAT1 **Susitna Watana** 67.19 30 P P 23 55 42.0 +1.1
baz=279
SEW **Seward** 67.19 33 P P 23 55 41.3 +0.4
SEW IAmb IAmb 23 56 02.3
comp=Z,29nm,1.0s
SEW **Seward** 67.19 33 P P 23 55 42.3 +1.5
baz=279
CCB **Clear Creek Bu** 67.24 28 P P 23 55 41.3 +0.2
POKR **Poker Plat Res** 67.32 27 P P 23 55 42.7 +1.1
POKR IAmb IAmb 23 55 59.6
comp=Z,23nm,0.8s
POKR **Poker Plat Res** 67.32 27 P P 23 55 42.6 +0.9
baz=279,SNR=8.6
GNI **Garni** 67.39 305 P P 23 55 42.8 0.0
GNI IAmb IAmb 23 55 45.4
comp=Z,57nm,1.3s
GNI **Garni** 67.39 305 LR LR 00 29 57.5
comp=Z,130nm,19.4s,baz=87,slow=40
GNI **Garni** 67.39 305 P P 23 55 43.7 +1.0
GNI P P 23 55 43.7 +1.0
GNI **Garni** 67.39 305 *c i* P P 23 55 43.8 +1.1
GNI pmax pmax
comp=Z,56nm,1.4s
GNI **Garni** 67.39 305 P P 23 55 43.8 +1.1
GNI **Garni** 67.39 305 P P 23 55 43.3 +0.6
comp=Z,504nmcomp=Z,34nm,1.4s
GNI **Garni** 67.39 305 P P 23 55 44.0 +1.2
KNK **Knik Glacier** 67.46 31 P P 23 55 42.8 +0.2
KNK IAmb IAmb 23 55 45.7
comp=Z,38nm,1.1s
KNK **Knik Glacier** 67.46 31 P P 23 55 43.6 +1.1
baz=280,SNR=6.2
NCK **Nalchik** 67.47 309 ⇑ *i* P P 23 55 43.1 +0.1
NCK pmax pmax
comp=Z,32nm,1.0s
GOF **Gofitskoye** 67.53 311 *c i* P P 23 55 43.9 +0.6
E25K **Arctic Village** 67.58 24 P P 23 55 42.8 -0.5
E25K IAmb IAmb 23 55 46.5
comp=Z,36nm,1.3s
E25K **Arctic Village** 67.58 24 P P 23 55 44.9 +1.6
baz=279
WAT6 **Susitna Watana** 67.60 30 P P 23 55 44.3 +0.7
baz=280
G25K **Bearman Lake** 67.60 25 P P 23 55 44.5 +1.1
baz=279,SNR=11
IL31 67.61 28 P P 23 55 43.5 +0.1
ILAR **Eielson Array** 67.61 28 P P 23 55 42.4 -1.1
ILAR **Eielson Array** 67.61 28 P P 23 55 43.3 -0.2
comp=Z,1.8nm,0.6s,baz=265,slow=4.7,SNR=22
ILAR LR LR 00 28 28.1
comp=Z,106nm,18.4s,baz=294,slow=39
comp=Z,1.8nm,0.6s
PWL **Port Wells** 67.61 32 P P 23 55 43.5 0.0
PWL IAmb IAmb 23 56 02.6
comp=Z,23nm,0.9s
PWL **Port Wells** 67.61 32 P P 23 55 45.1 +1.5
baz=280,SNR=7.9
F25K **Christian Rive** 67.64 24 P P 23 55 45.0 +1.3
F25K IAmb IAmb 23 55 47.3
comp=Z,18nm,0.6s
F25K **Christian Rive** 67.64 24 P P 23 55 44.9 +1.2
baz=279,SNR=14
HDA **Harding Lake** 67.64 28 P P 23 55 43.0 -0.7
HDA IAmb IAmb 23 56 00.1
comp=Z,18nm,0.8s
HDA **Harding Lake** 67.64 28 P P 23 55 44.2 +0.5
baz=280,SNR=13
DHY **Denali Highway** 67.68 29 P P 23 55 44.5 +0.4
DHY **Denali Highway** 67.68 29 P P 23 55 45.3 +1.1
baz=280
M23K **Glacier View** 67.74 31 P P 23 55 45.3 +0.9
baz=280
LVZ **Lovozero** 67.76 336 P P 23 55 43.7 -0.7
LVZ **Lovozero** 67.76 336 *ce* P P 23 55 43.9 -0.5
LVZ pmax pmax
comp=Z,23nm,1.4s
LVZ **Lovozero** 67.76 336 P P 23 55 44.9 +0.5
comp=Z,19nm,1.0s
H25L **Birch Creek** 67.80 26 P P 23 55 46.5 +1.9
baz=280,SNR=9.2
KBZ **Khabaz** 67.92 309 P P 23 55 45.9 +0.1
comp=Z,49nm,1.0s,baz=84,slow=5.6,SNR=66
KBZ LR LR 00 28 59.9
comp=Z,249nm,21.2s,baz=77,slow=39
comp=Z,49nm,1.0s
KBZ **Khabaz** 67.92 309 *c i* P P 23 55 46.1 +0.4
KBZ pmax pmax
comp=Z,76nm,1.1s
SCM **Sheep Creek Mo** 67.92 31 P P 23 55 45.0 -0.5
SCM **Sheep Creek Mo** 67.92 31 P P 23 55 45.0 -0.5
SCM pmax pmax
comp=Z,70nm,1.4s
SCM **Sheep Creek Mo** 67.92 31 P P 23 55 47.1 +1.6
baz=280,SNR=6.6
FYU **Fort Yukon** 67.98 26 P P 23 55 46.7 +1.0
FYU IAmb IAmb 23 56 41.2
comp=Z,40nm,1.4s
C27K **Jago River** 67.99 22 P P 23 55 46.4 +0.6
C27K **Jago River** 67.99 22 P P 23 55 47.2 +1.5
baz=280,SNR=6.9
KVAR **Kislovodsk Arr** 68.01 310 LR LR 00 30 23.4
comp=Z,132nm,18.4s,baz=270,slow=40
KIV **Kislovodsk** 68.02 310 P P 23 55 47.0 +0.5
KIV **Kislovodsk** 68.02 310 P P 23 55 47.4 +0.9
KIV P P 23 55 47.4 +0.9
KIV **Kislovodsk** 68.02 310 ⇑ P P 23 55 47.5 +0.9
KIV **Kislovodsk** 68.02 310 *e* P P 23 55 46.8 +0.3
KIV *e*S S 00 04 43.2 +0.6
KIV pmax pmax
comp=Z,116nm,1.1s
KIV pmax pmax
comp=Z,34nm,3.5s
KIV MLR MLR
comp=Z,99nm,17.0s
KIV **Kislovodsk** 68.02 310 *i* P P 23 55 47.3 +0.9
SNR=41
KIV **Kislovodsk** 68.02 310 P P 23 55 47.1 +0.6
comp=Z,1µmcomp=Z,110nm,1.2s
KIV **Kislovodsk** 68.02 310 P P 23 55 47.2 +0.6
PRP **Porcupine Dome** 68.05 27 P P 23 55 45.7 -0.7
PRP **Porcupine Dome** 68.05 27 P P 23 55 47.4 +1.1
baz=280,SNR=8.3
BMAR **Burnt Mountain** 68.07 25 P P 23 55 47.4 +1.0
SHA1 **Shidzhatmaz** 68.09 309 *c i* P P 23 55 47.6 +0.5
F26K **Shoenjek River** 68.19 24 P P 23 55 47.8 +0.7
F26K IAmb IAmb 23 56 08.8
comp=Z,16nm,0.8s
F26K **Sheenjek River** 68.19 24 P P 23 55 49.6 +2.5
baz=281,SNR=15
GLI **Glacier Island** 68.20 32 P P 23 55 46.8 -0.4
GLI IAmb IAmb 23 56 11.6
comp=Z,26nm,0.9s
GLI **Glacier Island** 68.20 32 P P 23 55 48.7 +1.4
baz=281
K24K **Donnelly Dome** 68.26 29 P P 23 55 47.5 -0.1
K24K IAmb IAmb 23 56 15.2
comp=Z,33nm,0.8s
K24K **Donnelly Dome** 68.26 29 P P 23 55 48.5 +1.0
baz=281,SNR=8.6
J25K **Salcha River,** 68.28 28 P P 23 55 47.2 -0.6
J25K **Salcha River,** 68.28 28 P P 23 55 48.9 +1.2
baz=281
APA **Apatity** 68.29 336 *e* P P 23 55 45.9 -1.7
APA *e* 23 56 12.3
APA *e* 00 05 45.7
APA MLR MLR
comp=Z,734nm,22.0s
M24K **Tolsona, Glenn** 68.40 30 P P 23 55 48.1 -0.5
M24K **Tolsona, Glenn** 68.40 30 P P 23 55 50.8 +2.3
baz=281,SNR=5.9
G26K **Porcupine Rive** 68.47 25 P P 23 55 49.5 +0.7

G26K IAmb IAmb 23 55 53.1
comp=Z,36nm,1.1s
G26K Porcupine Rive 68.47 25 P P 23 55 50.7 +1.9
baz=281,SNR=13
FID Port Fidalgo 68.53 32 P P 23 55 49.2 -0.1
PAX Paxson 68.55 29 P P 23 55 49.6 +0.1
PAX Paxson 68.55 29 P P 23 55 49.6 +0.1
PAX pmax pmax
comp=Z,11nm,0.9s
PAX Paxson 68.55 29 P P 23 55 50.7 +1.2
baz=281,SNR=7.0
LPSR Galich'ya Gora 68.58 319 eP P 23 55 46.9 -2.8
LPSR pmax pmax
comp=Z,60nm,1.0s
VORR Voronezh 68.61 318 eP P 23 55 47.9 -2.1
VORR pmax pmax
comp=Z,70nm,1.0s
KLU Klutina 68.64 31 P P 23 55 50.3 +0.2
KLU Klutina 68.64 31 P P 23 55 51.9 +1.8
baz=282,SNR=5.4
MOS Moscow 68.67 323 eP P 23 55 47.4 -2.8
MOS e 23 56 08.9
MOS eS S **00 04 46.5 -3.3**
MOS pmax pmax
comp=Z,100nm,0.6s
MOS pmax pmax
comp=Z,68nm,0.6s
RIDG Independent Ri 68.67 29 P P 23 55 49.6 -0.6
RIDG IAmb IAmb 23 56 18.4
comp=Z,30nm,1.2s
RIDG Independent Ri 68.67 29 P P 23 55 51.0 +0.8
baz=282,SNR=9.1
VORD Divnogorie 68.71 317 eP P 23 55 48.4 -2.2
VORD pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 68.74 318 eP P 23 55 48.5 -2.2
VSR pmax pmax
comp=Z,30nm,1.0s
DIV Divide 68.79 31 P P 23 55 50.9 -0.1
DIV IAmb IAmb 23 56 05.5
comp=Z,18nm,0.7s
HARP HAARP 68.81 30 P P 23 55 51.7 +0.6
baz=282
Q23K Middleton Isla 68.86 33 P P 23 55 51.9 +0.6
baz=282
EYAK Cordova Ski Ar 68.92 32 P P 23 55 52.8 +1.1
baz=282
SCRK Sand Creek 69.00 28 P P 23 55 52.4 0.0
SCRK IAmb IAmb 23 56 09.5
comp=Z,73nm,2.0s
SCRK Sand Creek 69.00 28 P P 23 55 52.9 +0.6
baz=282,SNR=8.8
D27M Malcolm River 69.02 22 P P 23 55 53.2 +1.0
D27M Malcolm River 69.02 22 P P 23 55 54.1 +1.8
baz=283,SNR=9.8
E27K Coleen River 69.03 24 P 23 55 53.4 +1.0
E27K Coleen River 69.03 24 P P 23 55 54.0 +1.7
baz=283,SNR=9.5
DOT Dot Lake 69.04 29 P P 23 55 51.0 -1.4
I26K Coal Creek Min 69.06 27 P P 23 55 53.8 +1.3
baz=282
J26L Joseph Creek 69.07 28 P P 23 55 53.1 +0.5
J26L IAmb IAmb 23 56 20.0
comp=Z,16nm,0.7s
J26L Joseph Creek 69.07 28 P P 23 55 52.8 +0.1
baz=282,SNR=22
GEVA Gevas 69.10 304 P 23 55 54.0 +0.5
GEVA IAmb IAmb 23 55 55.5
comp=Z,32nm,0.9s
ERBR Yeremizino-Bor 69.14 312 i P P 23 55 53.7 +0.4
ERBR eS S **00 04 55.9 +0.3**
ERBR pmax pmax
comp=Z,140nm,1.1s
ERBR MLR MLR
comp=Z,213nm,19.0s
VADS Vadso 69.18 339 eP P 23 55 52.9 -0.2
N25K Chitina, Valde 69.24 31 P P 23 55 55.0 +1.2
N25K IAmb IAmb 23 56 29.7
comp=Z,60nm,1.8s
N25K Chitina, Valde 69.24 31 P P 23 55 55.0 +1.2
baz=283
G27K Doyon Strip 69.32 25 P P 23 55 55.5 +1.4
baz=283,SNR=6.9
MENT Mentasta 69.34 29 P P 23 55 57.4 +3.0
BMRM Bremner River 69.38 31 P P 23 55 55.3 +0.7
BMRM IAmb IAmb 23 56 36.8
comp=Z,26nm,1.1s
BMRM Bremner River 69.38 31 P P 23 55 55.5 +0.9
baz=283
OBN Obninsk 69.40 322 P 23 55 53.4 -1.3
OBN Obninsk 69.40 322c iP P 23 55 54.3 -0.4
OBN eS S **00 05 00.6 +2.3**
OBN pmax pmax
comp=Z,94nm,1.4s
OBN MLR MLR
comp=Z,241nm,21.0s
OBN Obninsk 69.40 322 P P 23 55 51.6 -3.1
RAGM Ragged Mountai 69.47 32 P P 23 55 56.5 +1.3
RAGM IAmb IAmb 23 56 24.4
comp=Z,50nm,1.2s
L26K Log Cabin Wild 69.49 29 P P 23 55 56.6 +1.4
baz=283
H27K Steamboat Moun 69.51 26 IAmb IAmb 23 55 59.8
comp=Z,31nm,1.3s
H27K Steamboat Moun 69.51 26 P P 23 55 56.8 +1.4
baz=284,SNR=14
I27K Kandik River 69.62 26 P P 23 55 57.7 +1.7
baz=284,SNR=23
E28M Babbage River 69.67 23 P 23 55 57.2 +0.9
E28M IAmb IAmb 23 55 59.9
comp=Z,66nm,1.5s
E28M Babbage River 69.67 23 P P 23 55 57.9 +1.7
baz=284,SNR=14
HMT Hamilton 69.69 32 P P 23 55 58.2 +1.7
KAIM Kayak Island 69.70 32 P P 23 55 57.6 +1.1
M26K Nabesna, AK 69.79 30 IAmb IAmb 23 56 24.8
comp=Z,18nm,0.8s
M26K Nabesna, AK 69.79 30 P P 23 55 58.3 +1.1
baz=284,SNR=14
F28M Old Crow 69.80 24 IAmb IAmb 23 56 17.4
comp=Z,25nm,1.0s
F28M Old Crow 69.80 24 P P 23 55 58.7 +1.6
baz=284,SNR=15
K27K Chicken 69.81 28 P P 23 55 58.7 +1.6
baz=284
GURO Guroymak-BITLI 69.82 304 P P 23 55 58.6 +0.7
GURO IAmb IAmb 23 56 00.2
comp=Z,35nm,1.3s
VRDI Verde Repeater 69.86 31 P P 23 55 58.8 +1.0
VSLR Vesyoloye 70.00 310c iP P 23 55 59.0 +0.3
VSLR pmax pmax
comp=Z,112nm,1.1s
MCARA McCarthy VSAT 70.03 31 P P 23 56 00.3 +1.8
MCARA IAmb IAmb 23 56 26.8
comp=Z,27nm,1.0s
MCARA McCarthy VSAT 70.03 31 P P 23 55 59.4 +0.8
baz=284
SPB2 Spitsbergen Ar 70.04 348 IAmb IAmb 23 55 59.3
comp=Z,48nm,1.4s
SPA0 Spitsbergen Ar 70.04 348 eP P 23 55 58.2 -0.2
SPITS Spitsbergen Ar 70.04 348 P P 23 55 58.2 -0.2
comp=Z,5.1nm,0.4s,baz=90,slow=9.4,SNR=43
SPITS LR LR 00 29 41.4
comp=Z,203nm,21.8s,baz=46,slow=38
comp=Z,5.1nm,0.4s
SPITS Spitsbergen Ar 70.04 348 P P 23 55 58.3 -0.2
SPITS pmax pmax
comp=Z,53nm,1.4s
KEV Kevo 70.06 338 P 23 55 58.8 +0.3
KEV IAmb IAmb 23 55 59.5
comp=Z,36nm,1.3s
KEV Kevo 70.06 338 P P 23 55 58.8 +0.3
KEV pmax pmax
comp=Z,36nm,1.3s
KEV Kevo 70.06 338 P P 23 55 58.6 0.0
CRQE Cirque 70.15 31 P P 23 56 00.6 +1.1
baz=284
L27K Beaver Creek, 70.15 29 P 23 56 00.8 +1.4
L27K Beaver Creek, 70.15 29 P P 23 56 00.4 +1.0
baz=284,SNR=15
BCAR Beaver Creek A 70.17 29 P 23 56 00.7 +1.2
JOF Joensuu 70.18 331 eP P 23 55 59.5 0.0
SOC Sochi 70.19 310 eP P 23 55 58.7 -1.2
SOC e 23 58 32.8
SOC ePPP PPP 00 00 15.8
SOC eS S **00 05 07.5 -0.6**
SOC eSS SS **00 09 37.8 -0.5**
SOC pmax pmax
comp=Z,53nm,1.1s
SOC MLR MLR
comp=Z,180nm,18.0s
M27K Edge Creek, AK 70.31 30 P P 23 56 01.6 +1.1
baz=285
E29M Blow River 70.31 23 IAmb IAmb 23 56 02.8
comp=Z,77nm,1.9s
E29M Blow River 70.31 23 P P 23 56 01.5 +1.4
baz=286,SNR=7.4
I28M Miner Creek 70.34 26 P 23 56 00.9 +0.4
I28M IAmb IAmb 23 56 15.9
comp=Z,19nm,0.9s
I28M Miner Creek 70.34 26 P P 23 56 02.2 +1.7
baz=285,SNR=20
SNH Sunshine Point 70.41 32 P P 23 56 01.4 +0.4
KBS Kingsbay 70.53 349 P P 23 56 01.6 +0.2
KBS IAmb IAmb 23 56 03.0
comp=Z,21nm,1.0s
KBS Kingsbay 70.53 349 P P 23 56 01.6 +0.2
KBS pmax pmax
comp=Z,21nm,1.0s
ISLE Juniper Island 70.54 32 P P 23 56 02.4 +0.5
ISLE IAmb IAmb 23 57 48.0
comp=Z,50nm,1.5s
KOPT Kop Dagi 70.57 306 P 23 56 04.2 +1.5
KOPT IAmb IAmb 23 56 06.0
comp=Z,65nm,1.3s
ARA0 ARCESS Array S 70.62 338 eP P 23 56 02.2 +0.1
ARCES ARCESS Array B 70.62 338 P 23 56 02.3 +0.2
ARCES IAmb IAmb 23 56 03.1
comp=Z,34nm,1.2s
ARCES ARCESS Array B 70.62 338 P P 23 56 02.0 0.0
comp=Z,2.4nm,0.4s,baz=75,slow=6.7,SNR=44
ARCES LR LR 00 31 49.6
comp=Z,205nm,19.8s,baz=78,slow=40
comp=Z,2.4nm,0.4s
ARCES ARCESS Array B 70.62 338 P P 23 56 02.3 +0.2
HSPB Hornsund (broa 70.68 347 eP P 23 56 02.7 +0.4
G29M Pine Creek 70.68 24 IAmb IAmb 23 56 05.1
comp=Z,28nm,0.8s
G29M Pine Creek 70.68 24 P P 23 56 04.1 +1.6
baz=286,SNR=13
H29M Whitestone 70.75 25 P P 23 56 04.0 +1.1
baz=286,SNR=8.8
BVCY Beaver Creek 70.75 29 P P 23 56 04.4 +1.4
baz=286
GRNC Granite Creek 70.79 31 P P 23 56 04.6 +1.1
GRNC IAmb IAmb 23 57 46.1
comp=Z,75nm,2.0s
KHAM Kharkiv 70.83 317 P P 23 56 03.6 -0.1
MESA MESA 70.84 32 P P 23 56 04.7 +0.9
baz=285
SGF Sodankyl 70.89 336 P P 23 56 03.7 0.0
SGF pmax pmax
comp=Z,53nm,1.3s
CTG Chitna Glacier 70.92 31 P P 23 56 05.2 +1.0
baz=286
CTGM Chitina Glacie 70.92 31 P P 23 56 05.5 +1.2
CTGM IAmb IAmb 23 56 23.5
comp=Z,21nm,0.8s
DAWY Dawson 70.94 28 P P 23 56 04.9 +0.7
DAWY IAmb IAmb 23 56 06.3
comp=Z,33nm,1.5s
DAWY Dawson 70.94 28 P P 23 56 05.3 +1.2
baz=286,SNR=12
I29M Ogilvie Camp, 71.02 26 P P 23 56 05.2 +0.7
I29M Ogilvie Camp, 71.02 26 P P 23 56 06.1 +1.6
baz=287,SNR=6.8
YUK3 Moose Creek 71.11 30 P P 23 56 06.6 +1.2
baz=286,SNR=7.2
LOGN Logan Glacier 71.12 31 P P 23 56 05.8 +0.4
F30M Barrier River 71.30 24 P 23 56 07.4 +1.2
F30M IAmb IAmb 23 56 34.3
comp=Z,28nm,1.1s
F30M Barrier River 71.30 24 P P 23 56 07.3 +1.1
baz=288,SNR=7.1
J29N Klondike Camp 71.32 27 P P 23 56 07.8 +1.3
J29N IAmb IAmb 23 56 27.3
comp=Z,32nm,0.7s
J29N Klondike Camp 71.32 27 P P 23 56 07.3 +0.9
baz=287,SNR=8.3
EPYK Eagle Plains 71.34 25 IAmb IAmb 23 56 08.3
comp=Z,20nm,0.8s
EPYK Eagle Plains 71.34 25 P P 23 56 07.5 +1.0
baz=288,SNR=11
G30M tAoh Zraii Nji 71.34 24 IAmb IAmb 23 56 26.5
comp=Z,29nm,0.9s
G30M tAoh Zraii Nji 71.34 24 P P 23 56 07.1 +0.6
baz=288,SNR=15
RAYN Ar Rayn 71.40 288 P 23 56 07.5 -0.1
RAYN Ar Rayn 71.40 288 P P 23 56 07.1 -0.6
RAYN Ar Rayn 71.40 288 P P 23 56 07.7 +0.1
RAYN Ar Rayn 71.40 288 i P P 23 56 07.6 -0.1
SNR=14
RAYN Ar Rayn 71.40 288 P P 23 56 07.6 -0.1
PUL Pulkovo 71.48 328⇓eP P 23 56 07.8 +0.4
PUL pmax pmax
comp=Z,68nm,1.2s
O28M Mount Upton 71.52 31 P P 23 56 09.1 +1.1
O28M Mount Upton 71.52 31 P P 23 56 08.5 +0.6
baz=287
KTK1 Kautokeino 71.56 338 eP P 23 56 06.9 -0.8
YUK8 Steele Glacier 71.57 30 P P 23 56 09.1 +0.8
baz=287
PCA Pinnacle 71.68 32 P P 23 56 09.7 +1.0
PCA IAmb IAmb 23 56 23.7
comp=Z,31nm,0.9s
PINM Pinnacle 71.68 32 P P 23 56 09.8 +1.0
baz=287
L29M L29M 71.76 28 P 23 56 10.7 +1.6
L29M IAmb IAmb 23 56 12.3
comp=Z,28nm,1.1s
L29M L29M 71.76 28 P P 23 56 11.2 +2.1
baz=288,SNR=16
K29M Barlow Dome 71.79 28 P 23 56 10.5 +1.1
K29M Barlow Dome 71.79 28 P P 23 56 10.7 +1.3
baz=288,SNR=12
M29M Somme Creek 71.81 29 P P 23 56 10.6 +1.1
M29M Somme Creek 71.81 29 P P 23 56 11.2 +1.7
baz=288,SNR=16
I30M Mount Dempster 71.83 26 P 23 56 10.1 +0.5
I30M Mount Dempster 71.83 26 P P 23 56 10.8 +1.2
baz=288,SNR=15
OUL Oulu 71.85 334 P P 23 56 09.3 -0.2
OUL pmax pmax
comp=Z,40nm,1.2s
INK Inuvik 71.88 23 P 23 56 10.2 +0.6
INK IAmb IAmb 23 56 28.5
comp=Z,31nm,1.2s
INK Inuvik 71.88 23 LR LR 00 31 33.6
comp=Z,72nm,18.1s,baz=250,slow=39
INK Inuvik 71.88 23 P P 23 56 10.2 +0.6
INK pmax pmax
comp=Z,31nm,1.3s
INK Inuvik 71.88 23 P P 23 56 10.5 +0.9
baz=290,SNR=6.4
J30M Hart River 72.06 27 P 23 56 11.9 +0.9
J30M Hart River 72.06 27 P P 23 56 12.0 +1.1
baz=289
YUK4 Talbot Arm 72.06 30 P P 23 56 12.4 +1.2
baz=288
G31M Satah River 72.08 24 P 23 56 10.9 +0.1
G31M IAmb IAmb 23 56 30.3
comp=Z,52nm,1.8s
G31M Satah River 72.08 24 P P 23 56 11.4 +0.5
baz=290
F31M Tsiigehtchic 72.10 23 P P 23 56 12.1 +1.1
F31M IAmb IAmb 23 56 30.3
comp=Z,92nm,1.8s
F31M Tsiigehtchic 72.10 23 P P 23 56 11.2 +0.3
baz=290
PNL Peninsula 72.22 32 P P 23 56 13.0 +1.1
baz=288
JETT Jettan, Norway 72.30 339 eP P 23 56 11.9 -0.3
YUK6 Outpost Mounta 72.32 31 P P 23 56 13.8 +1.1
baz=288
O29M Mount Kennedy 72.42 31 P P 23 56 14.4 +1.2
O29M IAmb IAmb 23 56 35.5
comp=Z,37nm,1.6s
O29M Mount Kennedy 72.42 31 P P 23 56 14.8 +1.7
baz=288
ARPR Arapgir-MALATY 72.44 305 P P 23 56 16.4 +2.7
ARPR IAmb IAmb 23 56 19.6
comp=Z,36nm,0.8s
H31M Peel River 72.44 25 P 23 56 13.2 +0.1
H31M IAmb IAmb 23 56 14.9
comp=Z,29nm,1.0s
H31M Peel River 72.44 25 P P 23 56 13.8 +0.7
baz=290,SNR=14
M30M Minto, Yukon 72.51 29 P 23 56 15.2 +1.6
M30M IAmb IAmb 23 56 16.7
comp=Z,58nm,1.6s
M30M Minto, Yukon 72.51 29 P P 23 56 15.3 +1.8
baz=289,SNR=11
MAYO Mayo, Yukon 72.56 28 P P 23 56 15.4 +1.6
baz=289
N30M Aishikik Lake 72.74 30 P P 23 56 15.6 +0.6
N30M Aishikik Lake 72.74 30 P P 23 56 16.4 +1.4
baz=289,SNR=5.2
HYT Haines Junctio 72.75 31 P 23 56 15.9 +0.7
HYT Haines Junctio 72.75 31 P P 23 56 16.2 +1.0
baz=289
TRO Tromso 72.75 339 eP P 23 56 14.6 -0.2
FIA1 FINESS Array S 72.96 330 P 23 56 15.7 -0.4
FINES FINESS Array B 72.96 330 LR LR 00 31 47.3
comp=Z,479nm,18.4s,baz=75,slow=39
P29M Windy Craggy 73.03 32 P P 23 56 17.4 +0.7
P29M IAmb IAmb 23 56 42.6
comp=Z,34nm,1.1s
P29M Windy Craggy 73.03 32 P P 23 56 17.9 +1.2
baz=289
P30M Million Dollar 73.24 31 P P 23 56 19.1 +1.2
baz=289
KEF Keuruu 73.25 331 eP P 23 56 17.5 -0.4
N31M Braeburn, Yuko 73.32 30 P 23 56 19.6 +1.1
N31M IAmb IAmb 23 56 21.4
comp=Z,43nm,1.2s
N31M Braeburn, Yuko 73.32 30 P P 23 56 19.5 +1.1
baz=290,SNR=6.7
SJUU Sjulsmark 73.40 335 eP P 23 56 19.1 +0.4
TOKA Tokat 73.43 307 P P 23 56 19.6 +0.1
TOKA IAmb IAmb 23 56 21.3
comp=Z,30nm,1.3s
VSU Vasula 73.65 327c iP P 23 56 19.3 -1.0
VSU pmax pmax
comp=Z,156nm,1.3s
VSU Vasula 73.65 327 eP P 23 56 19.6 -0.6
SIM Simferopol' 73.66 312 eP P 23 56 20.4 -0.3
SIM 23 56 37.0
SIM pmax pmax
comp=Z,75nm,1.1s
ARBE Arbavere 73.68 328 eP P 23 56 20.8 +0.4
M31M Drury Creek, Y 73.69 29 P P 23 56 21.6 +1.1
baz=291,SNR=5.4
PLBC Pleasant Camp 73.75 32 P P 23 56 22.2 +1.4
baz=290
GAZ Gaziantep 73.87 304 IAmb IAmb 23 56 24.2
comp=Z,78nm,1.4s
WHY Whitehorse 74.02 30 P 23 56 23.2 +0.6
WHY Whitehorse 74.02 30 P P 23 56 23.9 +1.3
baz=291,SNR=7.7
MEF Metsahovi 74.16 329 eP P 23 56 23.4 +0.2
SKAG Skagway 74.24 32 P P 23 56 24.7 +0.9
SKAG Skagway 74.24 32 P P 23 56 26.9 +3.2
SKAG Skagway 74.24 32 P P 23 56 25.2 +1.5
baz=291
S31K Pelican 74.34 33 P P 23 56 25.4 +1.1
baz=291
BNN Bunyan 74.36 306 P 23 56 24.9 -0.1
MNK Minsk 74.39 323 i P P 23 56 23.2 -1.5
MNK i *PP **pP 23 56 35.8 -2.1**
MNK i 23 59 09.7
MNK i PPP PPP 00 00 54.6
MNK i S **S 00 05 55.5 -0.2**
MNK i SS **SS 00 10 41.9 0.0**
MNK pmax pmax
comp=Z,95nm,1.0s
MNK pmax pmax
comp=N,56nm,1.1s
MNK pmax pmax
comp=E,30nm,1.0s
MNK MLR MLR
comp=E,118nm,20.0s
MNK MLR MLR
comp=N,181nm,19.0s
MNK MLR MLR
comp=Z,304nm,22.0s
C36M Paulatuk 74.59 20 IAmb IAmb 23 56 27.7
comp=Z,72nm,1.3s
C36M Paulatuk 74.59 20 P P 23 56 26.9 +1.3
baz=298
N32M Quiet Lake 74.66 29 P P 23 56 26.8 +0.6
N32M IAmb IAmb 23 56 32.2
comp=Z,26nm,0.8s
N32M Quiet Lake 74.66 29 P P 23 56 27.1 +0.8
baz=292
STEI Steigen 74.69 338 eP P 23 56 26.1 -0.1
MMPY Sheldon Lake, 74.88 28 P 23 56 27.8 +0.3
MMPY Sheldon Lake, 74.88 28 P P 23 56 28.8 +1.3
baz=294
AK03 Malin Array Si 74.91 319 P P 23 56 27.0 -0.8
AK09 Malin Array Si 74.91 319 P P 23 56 27.1 -0.7
AKASG Malin Array Be 74.92 319 P P 23 56 27.3 -0.6
AKASG Malin Array Be 74.92 319 P P 23 56 27.3 -0.6
comp=Z,11nm,0.4s,baz=59,slow=5.7,SNR=76
AKASG LR LR 00 31 36.8
comp=Z,126nm,18.9s,baz=68,slow=38
comp=Z,11nm,0.4s
AKASG Malin Array Be 74.92 319 i P P 23 56 27.2 -0.6
AKASG pmax pmax
comp=Z,13nm,0.5s
AKBB Malin Array Si 74.92 319c iP P 23 56 27.1 -0.7
AKBB pmax pmax
comp=Z,78nm,1.4s
AKBB Malin Array Si 74.92 319 P P 23 56 27.2 -0.6
AK08 Malin Array Si 74.92 319 P P 23 56 27.2 -0.6
AK01 Malin Array Si 74.92 319 P P 23 56 27.2 -0.7
KIEV Kiev 74.93 319 P 23 56 27.4 -0.5
KIEV Kiev 74.93 319 ⇑P P 23 56 27.5 -0.4
KIEV Kiev 74.93 319 P P 23 56 27.5 -0.4
KIEV Kiev 74.93 319 i P P 23 56 27.4 -0.5
SNR=28
KIEV Kiev 74.93 319 P P 23 56 27.2 -0.7
comp=Z,3μmcomp=Z,179nm,1.2s
FAUS Fauske 74.93 338 eP P 23 56 27.4 -0.2
P32M Atlin 74.96 31 P P 23 56 29.3 +1.3
baz=292
ISAL Salakas 74.97 324 eP P 23 56 29.1 +1.0
AK15 Malin Array Si 74.98 319 P P 23 56 27.5 -0.7
AK07 Malin Array Si 74.98 319 P P 23 56 27.5 -0.7
RAF Rauma 75.06 331 eP P 23 56 28.2 -0.2
R32K Eaglecrest 75.07 32 P P 23 56 28.6 0.0
R32K IAmb IAmb 23 56 59.5
comp=Z,53nm,1.4s
R32K Eaglecrest 75.07 32 P P 23 56 29.7 +1.1
baz=292,SNR=5.1
SIT Sitka 75.12 34 P P 23 56 29.4 +0.6
baz=292
JIS Juneau Island 75.14 32 P P 23 56 31.7 +2.8
P33M Teslin, Yukon 75.14 30 P 23 56 30.1 +1.1
P33M Teslin, Yukon 75.14 30 P P 23 56 30.0 +0.9
baz=293,SNR=9.5
S32K Killisnoo 75.34 33 P P 23 56 30.9 +0.8
baz=292
KIRS Kirsehir-Merke 75.69 307 ⇑P P 23 56 32.3 -0.4
BR131 Keskin Array S 75.69 307 IAmb IAmb 23 56 54.4
comp=Z,48nm,1.2s
BR131 Keskin Array S 75.69 307 P P 23 56 33.3 +0.6
SNR=13
BR131 P **P 23 56 33.3 +0.6**
SNR=13
BR131 Keskin Array S 75.69 307c iP P 23 56 32.3 -0.4
BRTR Keskin Array B 75.69 307 P 23 56 32.1 -0.6
BRTR Keskin Array B 75.69 307 P P 23 56 33.1 +0.4
comp=Z,19nm,1.0s,baz=97,slow=3.9,SNR=45
comp=Z,19nm,1.0s
BR104 Keskin Array S 75.69 307 P P 23 56 33.1 +0.4
comp=Z,193nmcomp=Z,20nm,1.1s
BR106 Keskin Array S 75.70 307 P P 23 56 33.1 +0.3
comp=Z,214nmcomp=Z,24nm,1.0s
BR105 Keskin Array S 75.71 307 P P 23 56 33.2 +0.4
comp=Z,238nmcomp=Z,24nm,1.1s
ASF Jabal al Asfar 75.75 299 LR LR 00 33 48.1
comp=Z,141nm,20.4s,baz=153,slow=39
MI28 Mi28,Pidlybu 75.76 320 P P 23 56 32.2 -0.5
MOR8 Moi Rana 75.79 337 eP P 23 56 31.3 -1.3
Q32M Nakina River 75.89 31 P P 23 56 34.5 +1.0
baz=294
VAGH Vaagaholmen 75.93 338 eP P 23 56 33.1 -0.2

PURM Purcari 75.95 315 ⇓P P P 23 56 34.1 +0.3
PURM Purcari 75.95 315 P P P 23 56 33.5 -0.3
comp=Z,85nm,1.2s
LUBAR Lubar, Ukraine 76.07 319 P P P 23 56 34.1 -0.4
KONS Konsvik 76.10 337 eP P P 23 56 34.7 +0.4
PABE Paberze 76.13 325 eP P P 23 56 35.1 +0.4
SLIT Slitere, Latvi 76.15 327 eP P P 23 56 34.0 -0.8
STOK Stokkvaagen 76.22 337 eP P P 23 56 34.6 -0.4
ANTO Ankara 76.25 308 P P P 23 56 36.2 +0.4
ANTO Ankara 76.25 308 P P P 23 56 36.2 +0.4
ANTO P P 23 56 36.2 +0.4
ANTO Ankara 76.25 308 ⇑P P P 23 56 36.2 +0.4
ANTO Ankara 76.25 308 P P P 23 56 36.2 +0.4
ANTO pmax pmax
comp=Z,79nm,1.4s
ANTO Ankara 76.25 308 P P P 23 56 36.1 +0.4
comp=Z,279nmcomp=Z,21nm,1.7s
LEIR Leirfjorden 76.29 337 eP P P 23 56 35.0 -0.3
R33M Jennings River 76.32 31 P 23 56 36.5 +0.6
R33M Jennings River 76.32 31 P P 23 56 36.5 +0.6
baz=294,SNR=5.6
SORM Soroca 76.35 317 ⇓P P P 23 56 36.0 -0.1
SORM Soroca 76.35 317 P P P 23 56 35.9 -0.1
SORM Soroca 76.35 317 P P P 23 56 35.4 -0.7
comp=Z,603nmcomp=Z,56nm,1.2s
KIS Kishinev 76.46 316⇑ iP P 23 56 36.0 -0.7
comp=Z,30nm,1.3s
KIS Kishinev 76.46 316c iP P P 23 56 36.0 -0.7
KIS pmax pmax
comp=Z,30nm,1.3s
KIS Kishinev 76.46 316 P P P 23 56 36.0 -0.7
comp=Z,22nm,0.7s
MILM Milestii Mici 76.49 315c iP P P 23 56 35.5 -1.4
MILM pmax pmax
comp=Z,100nm,1.8s
U33K Whale Pass 76.61 34 P P P 23 56 38.1 +0.8
baz=294
TGTN Hyland Airport 76.61 28 P P P 23 56 38.4 +0.9
baz=296
RNPP9 Sopachiv 76.62 320 P P P 23 56 37.5 -0.1
MMAI Mount Meron Ar 76.64 300 P P P 23 56 38.9 +0.7
comp=Z,1.4nm,0.5s,baz=67,slow=9.1,SNR=11
MMAI LR LR 00 35 16.4
comp=Z,184nm,20.7s,baz=59,slow=40
comp=Z,1.4nm,0.5s
RNPP8 Varash 76.67 320 P P P 23 56 37.6 -0.2
RNPP5 Staryi Chortor 76.70 320 P P P 23 56 37.9 -0.1
DAG Danmarks Havn 76.72 352 P P P 23 56 37.5 -0.2
DAG pmax pmax
comp=Z,33nm,1.1s
DAG Danmarks Havn 76.72 352 iP P P 23 56 36.1 -1.6
DAG IAmb IAmb 23 56 38.1
comp=Z,17nm,1.0s
S34M Telegraph Cree 76.86 32 P P P 23 56 39.0 +0.2
S34M Telegraph Cree 76.86 32 P P P 23 56 39.7 +0.9
baz=295
PBUR Paburge 76.98 326 eP P P 23 56 40.0 +0.5
WTLY Watson Lake, Y 77.01 30 P P P 23 56 40.4 +0.7
WTLY Watson Lake, Y 77.01 30 P P P 23 56 40.7 +1.1
baz=296
GHAJ Ghor Haditha 77.11 299 P P 23 56 41.1 +0.4
GHAJ IAmb IAmb 23 56 42.7
comp=Z,25nm,0.7s
TLCR 77.12 314 ⇓P P P 23 56 40.7 +0.3
TLCR 77.12 314 P P P 23 56 40.7 +0.3
SUW Suwalki 77.14 324 eP P P 23 56 40.2 -0.1
SUW Suwalki 77.14 324 eP P P 23 56 40.3 -0.1
DLBC Dease Lake 77.17 31 LR LR 00 31 35.5
comp=Z,70nm,19.7s,baz=300,slow=36
DLBC Dease Lake 77.17 31 P P P 23 56 41.4 +0.8
baz=296
MDUB Mudurnu 77.19 309 P P P 23 56 40.8 -0.4
MDUB IAmb IAmb 23 57 02.3
comp=Z,30nm,1.0s
KMPD K-Podol'skiy 77.36 318 P P P 23 56 40.5 -1.3
UPP Uppsala 77.41 330 eP P P 23 56 41.9 +0.1
NSS Namsos 77.50 336 eP P P 23 56 41.7 -0.5
TPGR Topolog 77.50 314 ⇑P P P 23 56 43.2 +0.5
CFR Carcaliu 77.57 314 ⇓P P P 23 56 43.3 +0.3
CFR Carcaliu 77.57 314 P P P 23 56 43.2 +0.3
CSS Mathiatis 77.57 303 IAmb IAmb 23 57 04.1
comp=Z,21nm,0.9s
CSS Mathiatis 77.57 303 P P P 23 56 43.4 +0.1
comp=Z,30nm,1.0s
TIRR Tirgusor 77.65 313 P P P 23 56 44.2 +0.7
comp=Z,22nm,1.2s
T35M Bob Quinn 77.69 33 P P P 23 56 44.1 +0.6
baz=296
V35K Ketchikan 77.71 35 P P P 23 56 44.6 +1.1
baz=295
GHRR 77.71 315 P P P 23 56 44.5 +0.7
WRGLY Wrigley 77.79 25 P P P 23 56 44.6 +0.7
WRGLY IAmb IAmb 23 56 58.8
comp=Z,19nm,0.8s
WRGLY Wrigley 77.79 25 P P P 23 56 45.1 +1.2
baz=300
PRAR RASCA 77.97 317 ⇓P P P 23 56 45.2 0.0
RES Resolute Bay 78.00 10 LR LR 00 35 28.6
comp=Z,88nm,18.4s,baz=332,slow=39
ATD Arta Tunnel 78.02 277 P P P 23 56 46.2 0.0
ATD IAmb IAmb 23 57 03.5
comp=Z,54nm,1.8s
TESR Tescani 78.03 316 ⇑P P P 23 56 45.6 +0.1
TESR Tescani 78.03 316 P P P 23 56 45.8 +0.3
comp=Z,612nmcomp=Z,47nm,1.3s
ODBI Odobesti 78.05 315 P P P 23 56 46.4 +0.7
comp=Z,3μmcomp=Z,13nm,0.4s
EIL Elat 78.19 297 LR LR 00 36 33.9
comp=Z,174nm,18.7s,baz=69,slow=40
VRI Vrincioaia 78.22 315 ⇓P P P 23 56 47.6 +0.9
VRI Vrincioaia 78.22 315 P P P 23 56 47.6 +0.9
VRI Vrincioaia 78.22 315 P P P 23 56 47.4 +0.7
comp=Z,826nmcomp=Z,70nm,1.4s
ONER Baraj Valea Uz 78.26 316 ⇑P P P 23 56 47.6 +0.8
PLOR5 Plostina Array 78.27 315 P P P 23 56 47.7 +0.7
comp=Z,531nmcomp=Z,37nm,1.3s
PLOR Plostina 78.28 315 ⇑P P P 23 56 47.7 +0.7
PLOR Plostina 78.28 315 P P P 23 56 47.7 +0.7
BISRR Bisoca 78.36 315 P P P 23 56 48.2 +0.7
comp=Z,7μmcomp=Z,315nm,0.8s
NEEM North Greenlan 78.44 359⇓ iP P P 23 56 47.4 -0.3
NEEM IAmb IAmb 23 56 49.4
comp=Z,41nm,0.6s
YLV Yalova 78.45 309 P P P 23 56 48.8 +0.7
comp=Z,22nm,1.1s
BUR08 Bucovina Ar. S 78.50 317 IAmb IAmb 23 56 49.9
comp=Z,38nm,1.2s
BURAR Bucovina Array 78.50 317 P P 23 56 48.2 0.0
BURAR IAmb IAmb 23 56 50.8
comp=Z,35nm,1.4s
BURAR Bucovina Array 78.50 317 ⇓P P P 23 56 48.6 +0.3
BURAR Bucovina Array 78.50 317 P P P 23 56 48.5 +0.3
COVR Voineasa-Covas 78.57 315 ⇑P P P 23 56 49.0 +0.4
TURR Turia 78.61 315 ⇑P P P 23 56 49.9 +1.1
ISR Istrita 78.63 314 P P P 23 56 49.5 +0.5
comp=Z,29nm,1.0s
ISP Isparta 78.64 306 P P P 23 56 48.4 -0.8
ISP IAmb IAmb 23 56 50.8
comp=Z,33nm,1.1s
ISP Isparta 78.64 306 P P P 23 56 48.4 -0.8
ISP pmax pmax
comp=Z,33nm,1.1s
NEHR Nehoiu 78.67 315 ⇓P P P 23 56 50.2 +1.0
OZUR 78.74 316 ⇑P P P 23 56 50.2 +0.7
CTYL Yalikoy Yolu 78.86 310 P P P 23 56 50.7 +0.5
MLR Muntele Rosu 78.88 315 IAmb IAmb 23 56 52.0
comp=Z,34nm,1.1s
MLR Muntele Rosu 78.88 315 LR LR 00 35 45.3
comp=Z,192nm,20.9s,baz=68,slow=39
MLR Muntele Rosu 78.88 315 ⇓P P P 23 56 50.7 +0.3
MLR Muntele Rosu 78.88 315 P P P 23 56 50.7 +0.3
MLR Muntele Rosu 78.88 315 P P P 23 56 50.8 +0.3
comp=Z,383nmcomp=Z,31nm,1.2s
R9F13 Warsaw-Wawer 79.00 322 eP P P 23 56 51.3 +0.6
DBG Daneborg 79.01 351 iP P P 23 56 48.9 -1.5
HFS Hagfors 79.02 332 P P P 23 56 50.6 -0.2
comp=Z,18nm,0.7s,baz=94,slow=6.2,SNR=74
HFS LR LR 00 34 04.4
comp=Z,98nm,20.5s,baz=56,slow=38
comp=Z,18nm,0.7s
DOPR Dopca 79.04 315 ⇓P P P 23 56 51.6 +0.4
KOTAN Kotaneelee Air 79.10 28 P P P 23 56 51.9 +0.8
baz=300
KWP Kalwaria Pacla 79.20 320 eP P P 23 56 52.6 +0.7
KWP Kalwaria Pacla 79.20 320 P P P 23 56 52.2 +0.3
comp=Z,1μmcomp=Z,125nm,1.4s
TOAD Toad River Com 79.21 30 P P 23 56 52.5 +0.7
baz=299
ARCR ARCALIA 79.25 317 ⇓P P 23 56 53.7 +1.4
LOZB Loznitsa 79.28 313 ⇑P P 23 56 52.9 +0.3
BEL Belsk 79.36 322 eP P 23 56 53.4 +0.7
JMIC Jan Mayen 79.52 346 LR LR 00 37 13.0
comp=Z,135nm,20.0s,baz=58,slow=40
BMR Baia Mare 79.54 318 ⇓P P 23 56 55.0 +1.1
BMR Baia Mare 79.54 318 P P 23 56 54.9 +1.1
NB2 NORSAR Subarra 79.61 333 P P 23 56 53.6 -0.3
comp=Z,59nm,1.1s,baz=53,slow=6.2
NB2 NORSAR Subarra 79.61 333 P P 23 56 53.6 -0.3
baz=53,slow=6.2
NOA NORSAR Array B 79.61 333 P P 23 56 53.7 -0.3
comp=Z,30nm,1.0s,baz=56,slow=5.5,SNR=64
NOA LR LR 00 34 48.4
comp=Z,145nm,21.4s,baz=60,slow=38
comp=Z,30nm,1.0s
NC602 NORSAR Array S 79.63 333 IAmb IAmb 23 56 54.9
comp=Z,62nm,1.3s
NC602 NORSAR Array S 79.63 333 eP P 23 56 53.7 -0.4
NORES NORESS Array B 79.63 333 P P 23 56 55.8 +1.8
NC204 NORSAR Array S 79.67 333 P 23 56 53.9 -0.4
KOLS Kolonicke sedl 79.75 319 eP P 23 56 55.0 0.0
KOLS pmax pmax
comp=Z,15nm,1.1s
KOLS Kolonicke sedl 79.75 319 eP P 23 56 55.0 0.0
ARR Arges 79.77 315 ⇓P P 23 56 55.9 +0.7
NBO00 NORSAR Array S 79.79 333 IAmb IAmb 23 56 56.7
comp=Z,59nm,1.3s
MANT Manisa 79.82 308 P P 23 56 55.7 -0.1
NAO01 NORSAR Array S 79.84 333 IAmb IAmb 23 56 56.0
comp=Z,46nm,1.1s
UZHM Uzhgorod 79.87 319 P P 23 56 56.3 +0.7
TNR Turnu Rosu 79.89 316 ⇑P P 23 56 56.9 +1.1
TNR Turnu Rosu 79.89 316 P P 23 56 56.9 +1.1
HUMR Humele 79.89 314 ⇓P P 23 56 55.9 +0.1
BLEU Blekinge 79.92 328 iP P 23 56 56.0 +0.4
BLEU IAmb IAmb 23 56 56.3
comp=Z,5.1nm,0.7s
RPZ Rata Peaks 79.92 148 P P 23 56 56.3 +0.5
DOMB Dombas 79.93 334 eP P 23 56 55.8 +0.1
STHS Stebnicka Huta 80.15 320 eP P 23 56 57.4 +0.3
STHS pmax pmax
comp=Z,14nm,1.1s
STHS Stebnicka Huta 80.15 320 eP P 23 56 57.4 +0.3
MARR Marisel-Cluj 80.19 317 ⇑P P 23 56 57.9 +0.4
MOL Molde 80.22 335 eP P 23 56 57.7 +0.5
LOT Lotru 80.29 315 ⇑P P 23 56 58.4 +0.3
DRGR 80.39 317 ⇑P P 23 56 59.1 +0.6
DRGR 80.39 317 P P 23 56 59.1 +0.6
OSL Oslo 80.40 332 eP P 23 56 58.6 +0.5
OJC Ojcow 80.64 321 eP P 23 57 00.1 +0.4
OJC Ojcow 80.64 321 P P 23 57 00.3 +0.6
comp=Z,536nmcomp=Z,48nm,1.4s
GKP Gorka Klasztor 80.64 325 eP P 23 56 59.6 0.0
STRU Stromstad 80.68 331 iP P 23 56 59.9 +0.2
BORU Boraas 80.70 330 iP P 23 57 01.3 +1.5
NIE Niedzica 80.70 320 eP P 23 57 01.1 +1.0
NIE Niedzica 80.70 320 P P 23 57 00.7 +0.6
comp=Z,13nm,1.3s
DEL Delary 80.78 328 iP P 23 56 59.9 -0.4
RDO Rodhopi 80.89 311 P 23 57 01.3 +0.1
RDO IAmb IAmb 23 57 02.4
comp=Z,36nm,1.4s
BSD Bornholm Skovb 80.95 327 iP P 23 57 01.5 +0.3
BSD IAmb IAmb 23 57 02.2
comp=Z,14nm,1.1s
GZR Gura Zlata 80.95 316 ⇑P P 23 57 01.8 +0.3
GZR Gura Zlata 80.95 316 P P 23 57 01.8 +0.3
SKAR Skarslia 81.00 333 eP P 23 57 02.1 +0.6
TJOU Tjoern 81.02 330 iP P 23 57 02.2 +0.7
KONO Kongsberg 81.03 332 P P 23 57 01.9 +0.4
KONO IAmb IAmb 23 57 02.7
comp=Z,64nm,1.4s
KONO Kongsberg 81.03 332 P P 23 57 02.0 +0.4
KONO pmax pmax
comp=Z,64nm,1.4s
FABU Falkenberg 81.05 329 iP P 23 57 03.2 +1.5
SURR Surduc 81.21 316 ⇑P P 23 57 03.1 +0.3
SIRR Siria 81.28 317 ⇑P P 23 57 03.4 +0.2
LANS Liptovska Anna 81.31 320 eP P 23 57 04.7 +1.3
LANS pmax pmax
comp=Z,10.0nm,1.4s
LANS Liptovska Anna 81.31 320 eP P 23 57 04.7 +1.3
PUNG Punghina 81.33 315 ⇑P P 23 57 04.3 +0.9
KULLO Kullorsuaq 81.34 1 iP P 23 57 01.8 -1.2
BJUU Bjuv 81.39 328 iP P 23 57 03.2 -0.3
HERR Herculane 81.40 315 ⇑P P 23 57 03.9 0.0
LUNU Lund 81.41 328 iP P 23 57 05.2 +1.6
YKAW3 Yellowknife Wh 81.53 24 P 23 57 03.8 -0.4
YKAW3 IAmb IAmb 23 57 18.9
comp=Z,15nm,0.8s
HYA Hoyanger 81.56 335 eP P 23 57 04.8 +0.5
YKA Yellowknife Ar 81.57 24 P P 23 57 04.5 +0.1
YKA Yellowknife Ar 81.57 24 P P 23 57 04.9 +0.5
comp=Z,10.0nm,1.0s,baz=317,slow=5.5,SNR=15
YKA LR LR 00 34 31.5
comp=Z,86nm,21.9s,baz=312,slow=37
comp=Z,10.0nm,1.0s
BZS Buzias 81.59 316 ⇓P P 23 57 04.9 0.0
BZS Buzias 81.59 316 P P 23 57 04.8 0.0
PSZ Piszkesteto 81.62 319 P 23 57 05.1 +0.1
PSZ IAmb IAmb 23 57 06.8
comp=Z,39nm,1.5s
PSZ Piszkesteto 81.62 319 ⇓P P 23 57 05.2 +0.1
PSZ Piszkesteto 81.62 319 P P 23 57 05.1 +0.1
PSZ pmax pmax
comp=Z,39nm,1.5s
YKAW1 Yellowknife Wh 81.62 24 P P 23 57 05.6 +0.9
YKAW1 IAmb IAmb 23 57 06.5
comp=Z,31nm,1.3s
MDVR Moldovita 81.89 316 ⇑P P 23 57 06.8 +0.3
STEB Steborice 81.93 321 eP P 23 57 06.5 0.0
STEB epP pP 23 57 20.2 +0.3
VYHS Vyhne 81.98 320 eP P 23 57 07.5 +0.6
VYHS pmax pmax
comp=Z,64nm,1.6s
VYHS Vyhne 81.98 320 eP P 23 57 07.5 +0.6
RGN Rugen 82.03 327 P P 23 57 07.4 +0.5
RGN IAmb IAmb 23 57 08.8
comp=Z,42nm,1.2s
RGN Rugen 82.03 327 eP P 23 57 07.7 +0.8
comp=Z,41nm,1.2s,baz=57,slow=4.9
ODD1 Odda 82.12 333 eP P 23 57 08.1 +0.7
MORC Moravsky Berou 82.13 321 eP P 23 57 08.0 +0.3
MORC Moravsky Berou 82.13 321 ⇑P P 23 57 08.2 +0.5
MORC Moravsky Berou 82.13 321 P P 23 57 08.2 +0.5
MAUC Maruska 82.16 321 eP P 23 57 08.3 +0.5
MAUC epP pP 23 57 21.4 +0.3
SUE Sulen 82.19 335 eP P 23 57 08.4 +0.8
KSP Ksiaz 82.32 323 eP P 23 57 08.9 +0.3
KSP Ksiaz 82.32 323 P P 23 57 09.2 +0.6
comp=Z,21nm,1.5s
BUD Budapest 82.34 319 P P 23 57 09.2 +0.5
BOVS Bovan 82.40 314 ⇑P P 23 57 09.5 +0.3
KRLC Kraliky 82.42 322 eP P 23 57 09.3 +0.1
KRLC e*PP pP 23 57 21.9 -0.7
KRLC Kraliky 82.42 322 eP P 23 57 09.3 +0.1
KRLC epP pP 23 57 21.9 -0.7
BLS5 Blasjo 82.48 333 eP P 23 57 09.8 +0.5
JAVC Velka Javorina 82.50 320 eP P 23 57 11.0 +1.4
OSTC Ostas 82.50 322 eP P 23 57 08.7 -0.9
OSTC AMS AMS 00 36 10.0
comp=Z,300nm,19.9s
DPC Dobruska-Polom 82.55 322 eP P 23 57 10.2 +0.4
DPC e*PP pP 23 57 23.2 0.0
DPC MLR MLR
comp=Z,300nm,23.9s
DPC Dobruska-Polom 82.55 322 eP P 23 57 10.2 +0.4
DPC epP pP 23 57 23.2 0.0
DPC AMS AMS 00 36 20.0
comp=Z,300nm,23.9s
DPC Dobruska-Polom 82.55 322 P P 23 57 10.4 +0.6
comp=Z,8.4nm,0.8s
SCO Scoresbysund 82.57 349 P 23 57 10.2 +0.8
SCO Scoresbysund 82.57 349 P P 23 57 10.3 +0.8
SCO pmax pmax
comp=Z,121nm,1.4s
SCO Scoresbysund 82.57 349 iP P P 23 57 09.7 +0.2
CHVC Chvalec 82.58 322 AMS AMS 00 36 20.0
comp=Z,200nm,20.2s
SRO Srobarova 82.61 319 eP P 23 57 10.4 +0.3
SRO pmax pmax
comp=Z,19nm,1.6s
SRO Srobarova 82.61 319 eP P 23 57 10.4 +0.3
UPC Upice 82.64 322 AMS AMS 00 36 10.0
comp=Z,200nm,18.5s
SUMG Summit 82.69 355 iP P P 23 57 10.9 +0.3
SNART Snartemo 82.80 332 eP P 23 57 11.5 +0.6
SNART Snartemo 82.80 332 iP P 23 57 10.9 0.0
VAY Valandovo 82.85 312 iP P 23 57 11.5 0.0
VRAC Vranov 82.90 321 LR LR 00 37 24.7
comp=Z,147nm,20.7s,baz=66,slow=38
VRAC Vranov 82.90 321 eP P 23 57 12.1 +0.4
VRAC Vranov 82.90 321 ⇑P P 23 57 12.3 +0.7
VRAC Vranov 82.90 321 P P 23 57 12.3 +0.7
MODS Modra-Piesok 82.96 320 eP P 23 57 08.9 -3.1
MODS pmax pmax
comp=Z,86nm,1.4s
MODS Modra-Piesok 82.96 320 eP P 23 57 08.9 -3.1
MUD Monsted U'grnd 83.00 330 iP P 23 57 11.8 -0.1
KRUC Moravsky 83.13 321 eP P 23 57 13.2 +0.4
ZST Bratislava 83.14 320 eP P 23 57 14.1 +1.2
ZST pmax pmax
comp=Z,4.0nm,1.2s
ZST Bratislava 83.14 320 eP P 23 57 14.1 +1.2
UPNV Upernavik 83.16 0 iP P 23 57 11.6 -0.9
MORH Mrgy, Hungar 83.16 318 eP P 23 57 12.9 -0.1
MORH Mrgy, Hungar 83.16 318 ⇑P P 23 57 13.2 +0.2
MORH Mrgy, Hungar 83.16 318 P P 23 57 13.3 +0.2
comp=Z,22nm,1.7s
SKO Skopje 83.32 313 iP P 23 57 14.9 +0.9
PVCC Panska Ves 83.43 323 AMS AMS 00 36 40.0
comp=Z,300nm,32.0s
TREC Trest 83.54 322 eP P 23 57 15.4 +0.4
TREC epP pP 23 57 28.4 +0.1
TREC AMS AMS 00 36 10.0
comp=Z,300nm,20.1s
BRG Berggiesshubel 83.59 323 eP P 23 57 16.4 +1.2
comp=Z,12nm,1.3s,baz=57,slow=4.9
BRG Berggiesshubel 83.59 323 eP P 23 57 16.6 +1.5
BRG Amp 23 57 18.1
comp=Z,5.3nm,0.9s
SOP Sopron 83.71 320 P P 23 57 16.2 +0.4
PRU Pruhonice 83.72 322 AMS AMS 00 38 30.0
comp=Z,300nm,22.5s
PRA Prague 83.74 323 AMS AMS 00 38 30.0
comp=Z,200nm,19.4s
RONA Rosalia, Austr 83.86 320 eP P 23 57 16.6 0.0
comp=Z,10nm,1.2s,SNR=9.8
GORT1 Trebel 83.87 326 eP P 23 57 17.5 +1.1
comp=Z,186nm,2.2s,baz=57,slow=4.9
CLL Collm 83.88 324 iP P 23 57 15.8 -0.8
CLL i *PP pP 23 57 26.7 -3.3
CLL pmax pmax
comp=Z,12nm,1.1s
CLL Collm 83.88 324 P P 23 57 15.9 -0.7
comp=Z,14nm,1.6s
CLL Collm 83.88 324 eP P 23 57 16.5 -0.1
comp=Z,70nm,2.1s,baz=57,slow=4.9
CLL eL L 00 39 37.2
comp=Z,238nm,19.8s
CLL Collm 83.88 324 iP P 23 57 15.8 -0.8
comp=Z,12nm,1.1s
CLL i PcP PcP 23 57 20.8 +0.2
CLL i pP pP 23 57 26.7 -3.3
CLL i sP sP 23 57 29.8 -5.3
CLL ePP PP 00 00 25.0 -4.9
CLL eSS SS 00 13 30.0 +26
CLL Lm MLR 00 39 00.0
comp=N,200nm,19.4s
CLL Lm MLR 00 39 00.0
comp=E,100nm,18.4s
CLL Lm MLR 00 39 00.0
comp=Z,200nm,19.8s
FNA Florina 83.90 312 IAmb IAmb 23 57 17.3
comp=Z,40nm,1.6s
RUDO Rudo 83.92 315 eP P 23 57 16.6 -0.4
CONA Conrad Observa 84.00 320 eP P 23 57 17.6 +0.1
comp=Z,29nm,1.3s,SNR=27
HSKC Hora Svate Kat 84.01 323 AMS AMS 00 39 00.0
comp=Z,200nm,14.5s
OHR Ohrid 84.14 313 iP P 23 57 18.2 0.0
BEHE Becsehely 84.18 319 P P 23 57 18.5 +0.3
ZVC Zvikov 84.19 322 eP P 23 57 18.5 +0.2
ZVC epP pP 23 57 31.5 -0.1
ZVC AMS AMS 00 38 30.0
comp=Z,300nm,16.5s
FLTG Flechtingen 84.26 326 eP P 23 57 18.7 +0.2
comp=Z,68nm,1.7s,baz=57,slow=4.9
CKRC Cesky Krumlov 84.44 322 eP P 23 57 20.0 +0.4
CKRC AMS AMS 00 37 00.0
comp=Z,300nm,21.8s
KOGS Kog 84.50 319 iP P 23 57 19.3 -0.6
ARSA Arzberg 84.54 320 P 23 57 19.9 -0.2
ARSA Arzberg 84.54 320 eP P 23 57 20.2 +0.1
comp=Z,11nm,1.3s,SNR=7.0
PDG Podgorica 84.55 314 ⇑P P 23 57 20.2 0.0
NEUB Neuenburg 84.58 324 eP P 23 57 20.8 +0.7
comp=Z,38nm,1.2s,baz=57,slow=4.9
MOSL Moslavina 84.61 318 eP P 23 57 20.5 0.0
TANN Tannenbergstha 84.64 324 eP P 23 57 20.8 +0.2
comp=Z,32nm,1.7s,baz=57,slow=4.9
ASSE Asse, Remlinge 84.66 326 eP P 23 57 20.9 +0.4
comp=Z,66nm,1.6s,baz=57,slow=4.9
KHC Kasperske Hory 84.70 322c iP P 23 57 20.8 -0.1
KHC pmax pmax
comp=Z,14nm,1.3s
KHC Kasperske Hory 84.70 322 eP P 23 57 21.2 +0.3
KHC epP pP 23 57 33.9 -0.3
KHC AMS AMS 00 39 10.0
comp=Z,200nm,15.6s
KHC Kasperske Hory 84.70 322 P P 23 57 21.1 +0.2
comp=Z,11nm,1.6s
NRDL Niedersach Rie 84.75 326 eP P 23 57 21.5 +0.6
comp=Z,107nm,1.8s,baz=57,slow=4.9
BLY Banja Luka 84.77 317 eP P 23 57 21.3 0.0
BLY Banja Luka 84.77 317 ⇓P P 23 57 22.0 +0.8
PLN Plauen 84.77 324 eP P 23 57 21.5 +0.3
comp=Z,14nm,1.7s,baz=57,slow=4.9
GEC2 GERESS Array S 84.78 322 eP P 23 57 21.6 +0.2
comp=Z,15nm,1.1s,baz=57,slow=4.9
GEC2 eL L 00 39 34.3
comp=Z,119nm,19.1s
GERES GERESS Array B 84.78 322 P P 23 57 20.7 -0.6
GERES GERESS Array B 84.78 322 P P 23 57 21.6 +0.2
comp=Z,6.4nm,0.9s,baz=54,slow=3.4,SNR=43
comp=Z,6.4nm,0.9s
A051A Mrakovica 84.81 317 eP P 23 57 20.9 -0.7
CLRS Cowichan Lake 84.85 38 P P 23 57 21.7 +0.1
CLRS IAmb IAmb 23 57 27.0
comp=Z,57nm,1.9s
MOA Molln 84.97 321 eP P 23 57 22.4 +0.2
comp=Z,12nm,1.3s,SNR=9.2
MOX Moxa 84.97 324 eP P 23 57 22.5 +0.3
comp=Z,32nm,1.5s,baz=57,slow=4.9
MOX eL L 00 39 19.6
comp=Z,196nm,21.5s
CLZ Clausthal 84.97 325 eP P 23 57 23.0 +0.8
comp=Z,80nm,1.4s,baz=57,slow=4.9
MANZ Manzenberg 85.06 323 eP P 23 57 23.0 +0.4
comp=Z,11nm,1.9s,baz=57,slow=4.9
WET Wettzell 85.08 322 eP P 23 57 23.2 +0.4
comp=Z,41nm,1.8s,baz=57,slow=4.9
WET eL L 00 39 42.8
comp=Z,214nm,21.1s
PERS Pernice 85.09 319 iP P 23 57 22.9 -0.1
PERS i pP pP 23 57 36.3 0.0
SOKA Soboth 85.12 319 eP P 23 57 23.1 0.0
comp=Z,16nm,1.3s,SNR=8.1
ROTZ Rotzenmuhle 85.12 323 eP P 23 57 23.6 +0.6
comp=Z,18nm,1.9s,baz=57,slow=4.9
LLLB Lillooet 85.14 36 P 23 57 23.4 +0.4
LLLB IAmb IAmb 23 57 25.0
comp=Z,18nm,1.1s
A050A Klekovaca 85.30 317 eP P 23 57 23.7 -0.4
PGC Sidney 85.32 38 P P 23 57 24.2 +0.3
GTTG Gottingen 85.35 325 eP P 23 57 24.6 +0.6
comp=Z,35nm,1.1s,baz=57,slow=4.9
STON Ston 85.35 315 eP P 23 57 23.0 -1.2
OZLJ Ozalj 85.39 318 eP P 23 57 23.9 -0.4
BIOA Bad Ischl, Aus 85.41 321 iP P 23 57 24.7 +0.2
comp=Z,11nm,1.3s,SNR=9.6
OBKA Obir 85.49 319 eP P 23 57 24.6 -0.4
comp=Z,7.2nm,1.0s
KIJV Kijevo 85.62 317 eP P 23 57 24.9 -0.7

GRF	**Grafenberg Arr**	**85.70**	**323**	*eP*	**P**	**23 57 26.5**	**+0.7**
	comp=Z,81nm,1.7s,baz=57,slow=4.9							
GRF				*eL*	L	00 40 07.4		
	comp=Z,182nm,19.4s							
A04D	**Lummi Island**	**85.70**	**38**	P	**P**	**23 57 27.0**	**+1.2**
A04D				IAmb	IAmb	23 58 04.3		
	comp=Z,15nm,1.0s							
GRFO	**Grafenberg**	**85.70**	**323**	P	**P**	**23 57 26.4**	**+0.6**
GRFO	**Grafenberg**	**85.70**	**323**	P	**P**	**23 57 26.4**	**+0.6**
GRFO				pmax	pmax			
	comp=Z,62nm,1.6s							
UBBA	**Unterbreizbach**	**85.74**	**325**	*eP*	**P**	**23 57 26.3**	**+0.5**
	comp=Z,41nm,1.6s,baz=57,slow=4.9							
NLWA	**Neilton Lookou**	**85.75**	**39**	P	**P**	**23 57 27.6**	**+1.5**
NLWA				IAmb	IAmb	23 57 29.4		
	comp=Z,26nm,1.2s							
GBAS	**Gorenja Brezov**	**85.85**	**319**	*i* P	**P**	**23 57 25.3**	**-1.3**
GBAS				*i* pP	**pP**	**23 57 39.9**	**-0.2**
RJOB	**Jochberg**	**85.87**	**321**	*eP*	**P**	**23 57 27.1**	**+0.3**
	comp=Z,14nm,1.5s,baz=57,slow=4.9							
KBA	**Koelnbreinsper**	**85.90**	**320**	*eP*	**P**	**23 57 28.0**	**+0.8**
	comp=Z,2.0nm,0.6s							
MYKA	**Terra Mystica**	**85.96**	**320**	*eP*	**P**	**23 57 27.0**	**-0.3**
	comp=Z,4.7nm,1.1s							
IBBN	**Ibbenburen**	**86.04**	**327**	*eP*	**P**	**23 57 27.5**	**+0.1**
	comp=Z,83nm,1.5s,baz=57,slow=4.9							
LESA	**Schwarzleotal**	**86.11**	**321**	*i* P	**P**	**23 57 27.8**	**-0.2**
	comp=Z,14nm,1.2s,SNR=13							
BLKN	**Baker Lake**	**86.14**	**17**	P	**P**	**23 57 27.3**	**-0.4**
RAR	**Rarotonga**	**86.22**	**115**	P	**P**	**23 57 29.3**	**+0.5**
RAR	**Rarotonga**	**86.22**	**115**	LR	LR	00 34 24.0		
	comp=Z,56nm,18.9s,baz=302,slow=34							
RAR	**Rarotonga**	**86.22**	**115**	P	**P**	**23 57 29.3**	**+0.5**
RAR				pmax	pmax			
	comp=Z,349nm,2.0s							
GNW	**Green Mountain**	**86.25**	**39**		**P**	**23 57 29.4**	**+0.8**
GNW				IAmb	IAmb	23 57 31.7		
	comp=Z,19nm,1.2s							
SABO	**M.te Sabotino**	**86.33**	**319**	P	**P**	**23 57 29.1**	**+0.1**
SABO				IAmb	IAmb	23 59 14.5		
	comp=Z,23nm,1.3s							
KASTN	**Kahler Asten**	**86.34**	**326**	*eP*	**P**	**23 57 29.2**	**+0.2**
	comp=Z,38nm,1.7s,baz=57,slow=4.9							
E03A	**Lebam**	**86.37**	**40**		**P**	**23 57 30.1**	**+1.0**
FUR	**Furstenfeldbru**	**86.50**	**322**	*eP*	**P**	**23 57 30.5**	**+0.6**
	comp=Z,73nm,1.4s,baz=57,slow=4.9							
FUR				*eL*	L	00 38 54.7		
	comp=Z,226nm,20.8s							
ABTA	**Abfaltersbach**	**86.56**	**320**	*eP*	**P**	**23 57 28.6**	**-1.7**
	comp=Z,3.6nm,1.2s							
F03A	**Seaside**	**86.69**	**41**	P	**P**	**23 57 31.3**	**+0.5**
STAL	**STALIGIAL**	**86.70**	**320**	P	**P**	**23 57 30.6**	**-0.3**
STAL				IAmb	IAmb	23 57 32.1		
	comp=Z,26nm,1.6s							
WATA	**Walderalm**	**86.78**	**321**	*i* P	**P**	**23 57 31.0**	**-0.4**
	comp=Z,6.1nm,1.1s,SNR=7.7							
WTTA	**Wattenberg**	**86.79**	**321**	*i* P	**P**	**23 57 31.1**	**-0.4**
	comp=Z,18nm,1.5s,SNR=9.7							
BUG	**Bochum--Univer**	**86.79**	**326**	*eP*	**P**	**23 57 31.7**	**+0.6**
	comp=Z,32nm,1.2s,baz=57,slow=4.9							
BRJN	**Brijuni**	**86.80**	**318**	*eP*	**P**	**23 57 27.1**	**-4.2**
TNS	**Taunus Mts**	**86.89**	**325**	*eP*	**P**	**23 57 32.0**	**+0.3**
	comp=Z,20nm,1.4s,baz=57,slow=4.9							
TNS				*eL*	L	00 40 01.4		
	comp=Z,311nm,18.5s							
ABPO	**Ambohimpanom**	**86.89**	**248**	P	**P**	**23 57 32.1**	**-0.3**
ABPO				IAmb	IAmb	23 57 33.9		
	comp=Z,40nm,1.3s							
ABPO	**Ambohimpanom**	**86.89**	**248**	P	**P**	**23 57 32.1**	**-0.3**
ABPO				pmax	pmax			
	comp=Z,40nm,1.3s							
D05A	**Enumclaw**	**86.94**	**39**	P	**P**	**23 57 33.5**	**+1.5**
MOTA	**Moosalm**	**87.05**	**321**	*eP*	**P**	**23 57 32.6**	**-0.1**
	comp=Z,7.1nm,1.3s							
SQTA	**Sankt Quirin**	**87.06**	**321**	*i* P	**P**	**23 57 32.4**	**-0.3**
	comp=Z,7.9nm,1.2s,SNR=6.3							
LON	**Longmire**	**87.28**	**39**	P	**P**	**23 57 33.8**	**+0.1**
LON	**Longmire**	**87.28**	**39**	P	**P**	**23 57 33.8**	**+0.1**
LON				pmax	pmax			
	comp=Z,10.0nm,1.1s							
STU	**Stuttgart**	**87.32**	**323**	P	**P**	**23 57 33.8**	**0.0**
STU				IAmb	IAmb	23 57 48.0		
	comp=Z,11nm,0.8s							
STU	**Stuttgart**	**87.32**	**323**	P	**P**	**23 57 33.8**	**0.0**
STU				pmax	pmax			
	comp=Z,11nm,0.8s							
STU	**Stuttgart**	**87.32**	**323**	*eP*	**P**	**23 57 33.8**	**0.0**
	comp=Z,41nm,1.2s,baz=57,slow=4.9							
BORG	**Borgarnes**	**87.41**	**346**	LR	LR	00 40 21.6		
	comp=Z,106nm,20.0s,baz=38,slow=38							
FETA	**Feichten**	**87.44**	**321**	*eP*	**P**	**23 57 34.5**	**-0.1**
	comp=Z,5.9nm,1.2s							
LTY	**Liberty**	**87.65**	**38**	P	**P**	**23 57 36.1**	**+0.6**
LTY				IAmb	IAmb	23 57 37.8		
	comp=Z,18nm,1.2s							
B08A	**Colville Reser**	**87.77**	**37**		**P**	**23 57 36.5**	**+0.5**
DAVA	**Damuels**	**87.78**	**322**	*eP*	**P**	**23 57 36.4**	**+0.1**
	comp=Z,10nm,1.5s							
BTNL	**Ternell**	**87.88**	**326**	*dP*	**P**	**23 57 38.1**	**+1.6**
FUORN	**Ofenpass-Fuorn**	**87.93**	**321**		**P**	**23 57 37.3**	**+0.2**
FUORN				IAmb	IAmb	23 57 38.7		
	comp=Z,40nm,1.4s							
BUCK	**Buck Mountain**	**87.96**	**42**	P	**P**	**23 57 37.7**	**+0.6**
I03D	**Drain, OR**	**88.01**	**42**	P	**P**	**23 57 37.6**	**+0.5**
LODK	**Lodwar**	**88.04**	**273**		**P**	**23 57 38.2**	**+0.3**
LODK	**Lodwar**	**88.04**	**273**	P	**P**	**23 57 37.1**	**-0.9**
BFO	**Black Forest**	**88.04**	**323**		**P**	**23 57 37.0**	**-0.3**
BFO				IAmb	IAmb	23 57 38.4		
	comp=Z,34nm,1.8s							
BFO	**Black Forest**	**88.04**	**323**	P	**P**	**23 57 37.0**	**-0.3**
BFO				pmax	pmax			
	comp=Z,34nm,1.8s							
BFO	**Black Forest**	**88.04**	**323**	*eP*	**P**	**23 57 37.0**	**-0.3**
	comp=Z,35nm,1.9s,baz=57,slow=4.9							
BFO				*eL*	L	00 42 03.9		
	comp=Z,217nm,18.8s							
DAVOX	**Davos/Dischmat**	**88.06**	**321**	LR	LR	00 40 08.2		
	comp=Z,231nm,21.8s,baz=49,slow=38							
HOOD	**Mount Hood Mea**	**88.15**	**40**	P	**P**	**23 57 39.2**	**+1.1**
KMBO	**Kilima Mbogo**	**88.16**	**268**	P	**P**	**23 57 39.0**	**+0.3**
	comp=Z,1.2nm,0.2s,baz=94,slow=16,SNR=6.2							
KMBO				LR	LR	00 40 09.8		
	comp=Z,92nm,18.1s,baz=108,slow=38							
	comp=Z,1.2nm,0.2s							
H04A	**Detroit Lake**	**88.18**	**41**	P	**P**	**23 57 38.5**	**+0.4**
H04A				IAmb	IAmb	23 57 40.6		
	comp=Z,28nm,1.5s							
MXC	**Moxie City**	**88.24**	**39**	P	**P**	**23 57 39.6**	**+1.3**
MXC				IAmb	IAmb	23 57 41.2		
	comp=Z,29nm,1.1s							
CAMP	**Campotosto**	**88.25**	**316**	P	**P**	**23 57 39.4**	**+0.9**
CAMP				IAmb	IAmb	23 57 41.9		
	comp=Z,20nm,1.3s							
NRCA	**Norcia**	**88.28**	**317**	P	**P**	**23 57 39.0**	**+0.4**
NRCA				IAmb	IAmb	23 57 42.9		
	comp=Z,22nm,1.3s							
AQU	**L'Aquila**	**88.35**	**316**	P	**P**	**23 57 39.4**	**+0.5**
	comp=Z,13nm,1.0s							
MURB	**Monte Urbino**	**88.42**	**317**	P	**P**	**23 57 39.5**	**+0.3**
MURB				IAmb	IAmb	23 57 41.5		
	comp=Z,28nm,1.1s							
WLF	**Walferdange**	**88.42**	**325**	P	**P**	**23 57 38.5**	**-0.5**
WLF	**Walferdange**	**88.42**	**325**	P	**P**	**23 57 38.5**	**-0.5**
WLF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WLF	**Walferdange**	**88.42**	**325**	*dP*	**P**	**23 57 39.5**	**+0.5**
E07A	**Sunnyside**	**88.50**	**39**	P	**P**	**23 57 41.1**	**+1.6**
E07A				IAmb	IAmb	23 57 42.5		
	comp=Z,27nm,1.0s							
WAH2	**Wahluke Slope**	**88.56**	**38**	P	**P**	**23 57 41.0**	**+1.3**
VOI	**Vohitsoka**	**88.56**	**245**	P	**P**	**23 57 39.3**	**-0.9**
UCC	**Uccle**	**88.65**	**327**	P	**P**	**23 57 40.4**	**+0.4**
UCC				IAmb	IAmb	23 57 42.7		
	comp=Z,30nm,1.8s							
UCC	**Uccle**	**88.65**	**327**	P	**P**	**23 57 40.4**	**+0.4**
UCC				pmax	pmax			
	comp=Z,30nm,1.8s							
D08A	**Wollman Farm,**	**88.75**	**38**		**P**	**23 57 41.8**	**+1.2**
D08A				IAmb	IAmb	23 57 43.3		
	comp=Z,23nm,1.0s							
ECH	**Echery**	**88.75**	**324**	IAmb	IAmb	23 57 41.5		
	comp=Z,24nm,1.9s							
HAWA	**Hanford**	**88.78**	**39**	IAmb	IAmb	23 57 43.7		
	comp=Z,25nm,1.1s							
G06A	**Carlson Farm,**	**88.80**	**40**		**P**	**23 57 41.6**	**+0.7**
G06A				IAmb	IAmb	23 57 43.9		
	comp=Z,36nm,1.4s							
F07A	**Phinny Hill Vi**	**88.84**	**39**	P	**P**	**23 57 42.1**	**+1.1**
F07A				IAmb	IAmb	23 57 44.1		
	comp=Z,28nm,1.1s							
E08A	**Dider Farm, El**	**88.99**	**38**	P	**P**	**23 57 43.3**	**+1.5**
E08A				IAmb	IAmb	23 57 44.6		
	comp=Z,23nm,1.2s							
J04A	**Umpqua Nationa**	**89.01**	**42**	P	**P**	**23 57 42.9**	**+0.7**
NEW	**Newport**	**89.03**	**36**		**P**	**23 57 42.9**	**+1.0**
NEW				IAmb	IAmb	23 57 44.6		
	comp=Z,20nm,0.9s							
NEW	**Newport**	**89.03**	**36**	P	**P**	**23 57 42.9**	**+1.0**
NEW				pmax	pmax			
	comp=Z,20nm,1.0s							
EKA	**Eskdalemuir Ar**	**89.09**	**333**	P	**P**	**23 57 41.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=15,slow=4.9,SNR=12							
	comp=Z,1.0nm,0.6s							
YPT	**Yellepit**	**89.30**	**39**	P	**P**	**23 57 44.7**	**+1.5**
PINE	**Pine Mountain**	**89.42**	**41**	P	**P**	**23 57 44.8**	**+0.7**
L04D	**Klamath Falls**	**89.45**	**43**	P	**P**	**23 57 44.5**	**+0.3**
YBH	**Yreka Blue Hor**	**89.45**	**44**	P	**P**	**23 57 44.6**	**+0.4**
YBH				IAmb	IAmb	23 57 46.5		
	comp=Z,25nm,1.7s							
YBH	**Yreka Blue Hor**	**89.45**	**44**	P	**P**	**23 57 44.6**	**+0.4**
YBH				pmax	pmax			
	comp=Z,25nm,1.7s							
J05D	**Fort Rock, OR**	**89.52**	**42**		**P**	**23 57 45.5**	**+0.9**
J05D				IAmb	IAmb	23 57 46.9		
	comp=Z,18nm,1.3s							
G08A	**Pilot Rock**	**89.74**	**39**		**P**	**23 57 46.5**	**+1.0**
G08A				IAmb	IAmb	23 57 48.5		
	comp=Z,19nm,1.5s							
LNOR	**Lincton Mounta**	**89.79**	**39**	P	**P**	**23 57 46.9**	**+1.3**
LNOR				IAmb	IAmb	23 57 48.6		
	comp=Z,19nm,1.2s							
K05A	**Summer Lake**	**90.04**	**42**	P	**P**	**23 57 47.9**	**+0.9**
RAFF	**Raffo Rosso**	**90.40**	**312**		**P**	**23 57 49.4**	**+0.9**
HATC	**Hat Creek Radi**	**90.74**	**44**	P	**P**	**23 57 50.6**	**+0.4**
JTMT	**Jette**	**90.85**	**35**		**P**	**23 57 52.1**	**+1.5**
BMO	**Blue Mountains**	**90.95**	**39**		**P**	**23 57 52.2**	**+1.1**
BMO				IAmb	IAmb	23 57 53.7		
	comp=Z,19nm,1.1s							
BMO	**Blue Mountains**	**90.95**	**39**	P	**P**	**23 57 52.2**	**+1.1**
BMO				pmax	pmax			
	comp=Z,19nm,1.1s							
J08A	**Circle Bar Ran**	**91.14**	**41**	P	**P**	**23 57 53.0**	**+0.9**
PLID	**Pearl Lake**	**91.55**	**38**	P	**P**	**23 57 54.9**	**+0.8**
WVOR	**Wild Horse Val**	**91.58**	**41**	P	**P**	**23 57 54.1**	**0.0**
WVOR				IAmb	IAmb	23 57 57.0		
	comp=Z,12nm,1.1s							
WVOR	**Wild Horse Val**	**91.58**	**41**	P	**P**	**23 57 54.1**	**0.0**
WVOR				pmax	pmax			
	comp=Z,12nm,1.1s							
MSO	**Missoula**	**91.61**	**36**	P	**P**	**23 57 53.8**	**-0.3**
FRB	**Frobisher Bay**	**91.62**	**6**	LR	LR	00 40 18.0		
	comp=Z,151nm,21.7s,baz=324,slow=36							
FFC	**Flin Flon**	**91.69**	**25**	P	**P**	**23 57 54.1**	**0.0**
FFC				IAmb	IAmb	23 57 55.8		
	comp=Z,22nm,1.1s							
FFC	**Flin Flon**	**91.69**	**25**	P	**P**	**23 57 54.1**	**0.0**
FFC				pmax	pmax			
	comp=Z,22nm,1.2s							
SSB	**Saint Sauveur**	**91.95**	**322**		**P**	**23 57 55.2**	**-0.4**
SSB				IAmb	IAmb	23 57 56.8		
	comp=Z,18nm,1.5s							
SSB	**Saint Sauveur**	**91.95**	**322**	P	**P**	**23 57 55.2**	**-0.4**
SSB				pmax	pmax			
	comp=Z,18nm,1.5s							
OVMT	**Ovando**	**91.96**	**35**	P	**P**	**23 57 57.1**	**+1.3**
AFDM	**Forest Hills D**	**92.09**	**45**	P	**P**	**23 57 56.4**	**0.0**
AFDM				IAmb	IAmb	23 57 58.6		
	comp=Z,18nm,1.5s							
BPMT	**Black Pine Rid**	**92.12**	**36**		**P**	**23 57 57.6**	**+0.9**
LYMT	**Lyon Mountain**	**92.39**	**35**	P	**P**	**23 57 59.1**	**+1.2**
PAHR	**Pah Rah Range**	**92.68**	**44**		**P**	**23 58 00.8**	**+1.5**
PAHR				IAmb	IAmb	23 58 01.6		
	comp=Z,11nm,1.2s							
CMB	**Columbia Colle**	**92.98**	**46**		**P**	**23 58 01.6**	**+1.1**
CMB	**Columbia Colle**	**92.98**	**46**	P	**P**	**23 58 01.6**	**+1.1**
CMB				pmax	pmax			
	comp=Z,6.0nm,1.1s							
EGMT	**Eagleton**	**93.00**	**33**		**P**	**23 58 00.7**	**+0.2**
EGMT				IAmb	IAmb	23 59 41.8		
	comp=Z,11nm,0.7s							
DLMT	**Dillon**	**93.26**	**36**	P	**P**	**23 58 02.6**	**+0.8**
PPT	**Papeete**	**93.29**	**108**	LR	LR	00 31 59.8		
	comp=Z,63nm,20.8s,baz=306,slow=30							
HLID	**Hailey**	**93.38**	**39**	IAmb	IAmb	23 58 05.7		
	comp=Z,19nm,1.0s							
RYN	**Ryan**	**93.85**	**45**	P	**P**	**23 58 05.0**	**+0.4**
RYN				IAmb	IAmb	23 58 07.3		
	comp=Z,10nm,1.2s							
MBAR	**Mbarara**	**93.89**	**271**	P	**P**	**23 58 05.3**	**0.0**
MBAR				IAmb	IAmb	23 58 06.8		
	comp=Z,12nm,1.4s							
MBAR	**Mbarara**	**93.89**	**271**	P	**P**	**23 58 05.3**	**0.0**
MBAR				pmax	pmax			
	comp=Z,12nm,1.4s							
LHV	**Little Huntoon**	**94.08**	**45**	P	**P**	**23 58 05.6**	**+0.1**
LHV				IAmb	IAmb	23 58 08.6		
	comp=Z,20nm,1.3s							
NVAR	**Mina Array Bea**	**94.10**	**45**	P	**P**	**23 58 07.1**	**+1.2**
	comp=Z,3.3nm,0.9s,baz=279,slow=5.0,SNR=15							
	comp=Z,3.3nm,0.9s							
YHL	**Hebgen Lake**	**94.36**	**36**	P	**P**	**23 58 09.2**	**+2.1**
YHB	**Horse Butte**	**94.42**	**36**	P	**P**	**23 58 07.1**	**-0.2**
YHH	**Holmes Hill**	**94.58**	**36**	P	**P**	**23 58 08.4**	**+0.3**
KEST	**Kesra**	**94.60**	**312**	P	**P**	**23 58 08.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=121,slow=2.8,SNR=4.4							
	comp=Z,1.5nm,0.7s							
ELK	**Elko**	**94.63**	**41**		**P**	**23 58 08.7**	**+0.4**
ELK	**Elko**	**94.63**	**41**	P	**P**	**23 58 08.7**	**+0.4**
ELK				pmax	pmax			
	comp=Z,7.0nm,1.3s							
DSP	**Deep Springs**	**94.93**	**45**	P	**P**	**23 58 10.3**	**+0.9**
TPH	**Tonopah**	**95.00**	**44**	P	**P**	**23 58 09.8**	**-0.2**
TPH				IAmb	IAmb	23 58 12.5		
	comp=Z,10nm,1.0s							
TPH	**Tonopah**	**95.00**	**44**	P	**P**	**23 58 09.8**	**-0.2**
TPH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
RLMT	**Red Lodge**	**95.20**	**35**		**P**	**23 58 11.5**	**+0.7**
DGMT	**Dagmar**	**95.36**	**30**	P	**P**	**23 58 11.6**	**+0.4**
TPAW	**Teton Pass**	**95.37**	**37**	P	**P**	**23 58 12.5**	**+0.8**
TPAW				IAmb	IAmb	23 58 15.3		
	comp=Z,13nm,1.5s							
GMN	**Gold Mountain**	**95.43**	**45**	P	**P**	**23 58 12.0**	**0.0**
GMN				IAmb	IAmb	23 59 30.9		
	comp=Z,4.5nm,0.3s							
HVU	**Hansel Valley**	**95.44**	**39**	P	**P**	**23 58 10.9**	**-1.0**
HVU	**Hansel Valley**	**95.44**	**39**	P	**P**	**23 58 10.9**	**-1.0**
HVU				pmax	pmax			
	comp=Z,5.0nm,1.0s							
LOHW	**Long Hollow**	**95.48**	**37**	P	**P**	**23 58 10.7**	**-1.5**
R11B	**Troy Canyon, C**	**95.87**	**43**		**P**	**23 58 14.6**	**+0.6**
HWUT	**Hardware Ranch**	**96.25**	**39**		**P**	**23 58 16.8**	**+1.2**
HWUT				IAmb	IAmb	23 58 18.5		
	comp=Z,18nm,1.5s							
WSHM	**Spangler Hills**	**96.27**	**47**	P	**P**	**23 58 16.1**	**+0.4**
QSM	**Queen of Sheba**	**96.47**	**46**	P	**P**	**23 58 17.1**	**+0.6**
PDAR	**Pinedale Array**	**96.61**	**37**	P	**P**	**23 58 17.0**	**-0.3**
PDAR	**Pinedale Array**	**96.61**	**37**	P	**P**	**23 58 18.9**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=248,slow=1.6,SNR=6.0							
PDAR				LR	LR	00 46 36.3		
	comp=Z,23nm,18.1s,baz=346,slow=38							
	comp=Z,0.6nm,0.8s							
PSUT	**Pine Spring**	**96.83**	**42**	P	**P**	**23 58 18.4**	**+0.1**
GSC	**Goldstone, Bar**	**96.90**	**46**	P	**P**	**23 58 19.0**	**+0.4**
GSC	**Goldstone, Bar**	**96.90**	**46**	P	**P**	**23 58 19.0**	**+0.4**
GSC				pmax	pmax			
	comp=Z,7.0nm,1.1s							
MSU	**Marysvale**	**97.87**	**42**	P	Pdif	23 58 23.3	+0.2	
MSU	**Marysvale**	**97.87**	**42**	P	Pdif	23 58 23.3	+0.2	
PFO	**Pinyon Flats O**	**98.12**	**48**	LR	LR	00 37 21.9		
	comp=Z,65nm,20.3s,baz=294,slow=32							
P18A	**Preston Nutter**	**98.30**	**40**	P	Pdif	23 58 25.6	+0.5	
P18A				IAmb	IAmb	23 58 51.6		
	comp=Z,17nm,1.8s							
TXAR	**Lajitas Array**	**109.23**	**44**	Pdiff	**Pdif**	**23 59 13.5**	**-0.1**	
	comp=Z,0.1nm,0.7s,baz=331,slow=8.1,SNR=1.5							
TXAR				PKiKP	**PKiKP**	**00 03 17.8**	**+0.4**	
	comp=Z,0.4nm,0.9s,baz=334,slow=1.6,SNR=2.2							
QSPA	**South Pole Qui**	**114.10**	**180**	PKiKP	**PKiKP**	**00 03 26.1**	**+0.8**	
	comp=Z,1.3nm,0.9s,baz=315,slow=5.7,SNR=2.5							
DBIC	**Dimbokro**	**122.03**	**295**	PKP	**PKPdf**	**00 03 42.0**	**-0.1**	
	comp=Z,4.3nm,1.0s,baz=20,slow=6.8,SNR=2.6							
TROLL	**Troll, Antarti**	**122.70**	**198**	⇑P	**PKiKP**	**00 03 42.1**	**0.0**	
	comp=Z,326nm,0.9s							
SNAA	**Sanae**	**124.36**	**198**	⇑P	**PKPdf**	**00 03 45.1**	**+0.1**	
	comp=Z,38nm,1.2s							
SNAA	**Sanae**	**124.36**	**198**	PKP	**PKPdf**	**00 03 44.7**	**-0.3**	
	comp=Z,2.1nm,1.1s,baz=57,slow=5.6,SNR=3.8							
BELA	**Belgrano 2**	**125.49**	**185**		**PKPdf**	**00 03 46.6**	**-0.3**	
VNA2	**Neumayer--Watz**	**126.00**	**198**	⇑P	**PKPdf**	**00 03 48.0**	**0.0**	
	comp=Z,4.3nm,0.6s,baz=94,slow=2.8							
VNA1	**Neumayer--Stat**	**126.39**	**198**	⇑P	**PKPdf**	**00 03 47.5**	**-1.2**	
	comp=Z,9.4nm,1.0s							
VNA3	**Neumayer Olymp**	**126.43**	**197**	⇑P	**PKPdf**	**00 03 48.7**	**-0.2**	
	comp=Z,4.2nm,0.8s							
SIUN	**Universidad Ur**	**132.47**	**40**		**PKPdf**	**00 04 01.2**	**-0.8**	
BAUV	**El Baul**	**144.68**	**22**		**PKPab**	**00 04 22.1**	**-0.9**	
ROSC	**El Rosal**	**145.59**	**35**	PKPbc	**PKPab**	**00 04 27.1**	**+0.2**	
	comp=Z,13nm,0.7s,baz=32,slow=6.2,SNR=6.6							
OTAV	**Otavalo**	**146.82**	**46**	*eP*	**PKPdf**	**00 04 28.7**	**+0.1**	
ATAH	**Atahualpa**	**152.03**	**56**	PKPbc	**PKiKP**	**00 04 44.6**	**+0.9**	
	comp=Z,13nm,0.9s,baz=318,slow=5.6,SNR=9.1							
BOAV	**Boa Vista**	**152.97**	**12**	*eP*	**PKPdf**	**00 04 37.9**	**+0.1**	
PLCA	**Paso Flores**	**159.21**	**146**	PKP	**PKPdf**	**00 04 43.9**	**-1.4**	
	comp=Z,2.4nm,1.1s,baz=124,slow=3.6,SNR=3.1							
ITTB	**Itaituba**	**160.17**	**1**	*eP*	**PKPdf**	**00 04 47.3**	**+0.3**	
SMTB	**Santa Maria do**	**162.98**	**333**	*eP*	**PKPdf**	**00 04 50.2**	**+0.3**	
LPAZ	**La Paz**	**165.54**	**59**	PKP	**PKPdf**	**00 04 51.3**	**-1.6**	
	comp=Z,2.2nm,1.1s,baz=329,slow=1.9,SNR=6.9							
PATCX	**Punta Patache**	**165.82**	**79**		**PKPdf**	**00 04 50.8**	**-1.5**	
BDFB	**Brasilia**	**169.01**	**320**	PKP	**PKPdf**	**00 04 55.5**	**+0.7**	
	comp=Z,0.7nm,0.3s,baz=104,slow=4.2,SNR=1.9							
BDFB				PKPab	**PKPab**	**00 06 05.8**	**-0.3**	
	comp=Z,1.9nm,0.5s,baz=106,slow=14,SNR=3.5							
SIV	**San Ignacio**	**170.09**	**34**	PKP	**PKPdf**	**00 04 55.9**	**+0.6**	
	comp=Z,1.5nm,0.9s,baz=34,slow=5.4,SNR=6.4							
SIV				PKPab	**PKPab**	**00 06 09.8**	**-0.9**	
	comp=Z,3.8nm,0.8s,baz=308,slow=9.6,SNR=8.6							
ARAG	**Araguaiana, MT**	**170.85**	**339**	*eP*	**PKPdf**	**00 04 56.3**	**+0.6**	

IDC ***23*** *23:56:16.8±1.7, 24°.12S×67°.05W, h164km±16km, mb3.4/6, mbtmp3.8/12, Error ellipse: s-maj=22.3km s-min=13.3km az=92.0*

NEIC ***23*** *23:56:17.3±1.8, 24°.21S±0°.06×67°.35W±0°.07, h212km±11km, mb4.6/7, ML4.4(GUC), Error ellipse: s-maj=10.3km s-min=6.6km az=131.0*

GUC ***23*** *23:56:18.1±0.8, 24°.21S×67°.51W, h205km±9km, ML4.3*

VAO ***23*** *23:56:35.1±3.6, 23°.51S×66°.39W, h301km±22km, mb3.9*

ISC 23 23:56:17.5±0.6, 24°.21S±0°.04×67°.29W±0°.06, h188km±7km, n84, σ1°78/106, mb3.8/11, 9C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.50**	**327**			**Pn**	**23 56 52.0**	**+1.5**
AF01					Sn	**Sn**	**23 57 23.6**	**+7.6**
AF01	**San Pedro de A**	**1.50**	**327**	*eP*		**Pn**	**23 56 52.2**	**+1.7**
GO02	**Mina Guanaco**	**2.30**	**245**			**Pn**	**23 56 59.9**	**+1.2**
GO02					Sn	**Sn**	**23 57 32.1**	**+1.4**
GO02	**Mina Guanaco**	**2.30**	**245**	⇑*iP*		**Pn**	**23 56 59.8**	**+1.1**
GO02				*i* S		**Sn**	**23 57 31.5**	**+0.8**
GO02				IAML			23 57 33.2	
	comp=E,1μm,0.3s							
PB06	**IPOC Station P**	**2.58**	**305**			**Pn**	**23 57 02.9**	**+1.1**
PB06					Sn	**Sn**	**23 57 36.2**	**+0.1**
PB06	**IPOC Station P**	**2.58**	**305**	⇑*iP*		**Pn**	**23 57 02.9**	**+1.1**
PB06				*i* S		**Sn**	**23 57 36.2**	**+0.1**
PB06				IAML			23 57 38.2	
	comp=N,1μm,0.2s							
PB14

BDFB					IAmb	IAmb	00 00 36.3	
	comp=Z,12nm,0.8s							
BDFB	**Brasilia**	**20.01**	**68**	P		**P**	**00 00 34.8**	**-1.3**
	comp=Z,10.0nm,0.7s,baz=238,slow=12,SNR=18							
SMTB	**Santa Maria do**	**24.23**	**54**	*eP*		**P**	**00 01 16.4**	**-0.9**
SDBA	**SAO DESIDERIO**	**24.23**	**65**	*eP*		**P**	**00 01 15.9**	**-1.4**
ESPZ	**Base Esperanza**	**39.77**	**173**	P		**P**	**00 03 28.5**	**-3.2**
VNA3	**Neumayer Olymp**	**57.04**	**161**	⇓P		**P**	**00 05 45.0**	**+1.6**
	comp=Z,1.0nm,0.6s							
VNA1	**Neumayer--Stat**	**57.24**	**160**	⇓P		**P**	**00 05 46.1**	**+1.3**
	comp=Z,1.4nm,0.8s							
VNA2	**Neumayer--Watz**	**57.61**	**160**	⇓P		**P**	**00 05 49.1**	**+1.7**
	comp=Z,2.2nm,0.6s,baz=290,slow=8.2							
SNAA	**Sanae**	**59.24**	**161**	⇓P		**P**	**00 06 00.1**	**+1.4**
	comp=Z,24nm,0.6s							
SNAA	**Sanae**	**59.24**	**161**	P		**P**	**00 05 59.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=286,slow=7.8,SNR=8.2							
	comp=Z,1.0nm,0.7s							
TROLL	**Troll, Antarti**	**60.95**	**161**	⇓P		**P**	**00 06 12.1**	**+1.6**
	comp=Z,68nm,0.6s							
TXAR	**Lajitas Array**	**63.70**	**325**	P		**P**	**00 06 31.6**	**+2.5**
	comp=Z,0.3nm,0.8s,baz=110,slow=6.2,SNR=2.2							
	comp=Z,0.3nm,0.8s							
QSPA	**South Pole Qui**	**65.99**	**180**	P		**P**	**00 06 47.3**	**+3.7**
	comp=Z,1.1nm,0.5s,baz=90,slow=1.0,SNR=12							
	comp=Z,1.1nm,0.5s							
ERPA	**Erie**	**67.03**	**350**	P		**P**	**00 06 48.0**	**-2.2**
ERPA					IAmb	IAmb	00 06 51.0	
	comp=Z,17nm,0.8s							
MNTQ	**Montreal, Queb**	**69.62**	**355**	P		**P**	**00 07 02.0**	**-4.1**
MNTQ					IAmb	IAmb	00 07 03.8	
	comp=Z,11nm,0.4s							
TKX	**Tecate**	**73.50**	**318**	P		**P**	**00 07 29.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.89**	**69**	P		**P**	**00 07 50.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=254,slow=4.9,SNR=2.4							
BOSA	**Boshof**	**80.87**	**117**	P		**P**	**00 08 12.2**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=286,slow=4.6,SNR=3.8							
	comp=Z,0.7nm,0.5s							
MAW	**Mawson**	**81.31**	**163**	P		**P**	**00 08 14.9**	**+2.5**
	comp=Z,2.2nm,0.9s,baz=207,slow=6.8,SNR=3.9							
	comp=Z,2.2nm,0.9s							
ESDC	**Sonseca Array**	**86.73**	**44**	P		**P**	**00 08 41.6**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=244,slow=6.3,SNR=2.0							
	comp=Z,0.2nm,0.7s							
ASAR	**Alice Springs**	**128.15**	**205**	PKP		**PKiKP**	**00 15 03.8**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=150,slow=1.6,SNR=6.3							
WRA	**Warramunga Arr**	**131.32**	**207**	PKP		**PKiKP**	**00 15 10.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=172,slow=1.5,SNR=7.3							
ZALV	**Zalesovo Beam**	**143.70**	**28**	PKP		**PKPdf**	**00 15 30.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=324,slow=7.3,SNR=4.3							
MKAR	**Makanchi Array**	**146.85**	**40**	PKPbc		**PKPdf**	**00 15 36.9**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=309,slow=0.9,SNR=6.6							

*ISU **24** 00:15:26,41˚.16N×72˚.39E,h10km*
*KRNET **24** 00:15:26.5±0.1,41˚.11N×72˚.37E,h13km,mb2.6*
*SOME **24** 00:15:27.1,41˚.13N×72˚.35E,h5km*
*NNC **24** 00:15:28.8±2.0,41˚.14N×72˚.32E,h0km,mb3.3,mpv3.0,*
Error ellipse: s-maj=17.5km s-min=6.1km az=178.0

ISC 24 00:15:27.2±1.1,41˚.14N±0˚.02×72˚.39E±0˚.02,h9km±11km, n31,σ1§33/51,16C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANR	**Andizhan**	**0.39**	**184**	P	**Pg**	**00 15 35.0**	**+0.2**
ANR				S	**Sb**	**00 15 41.4**	**-0.9**
ARSB	**Arslanbob**	**0.48**	**67**	⇑*eP*	**Pg**	**00 15 36.4**	**-0.2**
ARSB				⇑*eS*	**Sg**	**00 15 43.7**	**+0.7**
TSTA	**Tashata**	**0.57**	**173**	P	**Pg**	**00 15 38.0**	**-0.2**
TSTA				S	**Sb**	**00 15 47.1**	**-0.4**
FRG	**Fergana**	**0.89**	**211**	P	**Pn**	**00 15 47.2**	**+1.2**
TRKS	**Terek-Say**	**1.02**	**293**	⇑*eP*	**Pg**	**00 15 45.1**	**-1.7**
TRKS				⇑*eS*	**Sg**	**00 15 58.6**	**-1.5**
CHMI	**Chimion**	**1.09**	**217**	P	**Pg**	**00 15 47.0**	**-1.2**
CHMI				S	**Sn**	**00 16 03.3**	**-0.7**
SALK	**Salom-Alik**	**1.11**	**103**	⇑*eP*	**Pg**	**00 15 47.9**	**-0.7**
SALK				⇑*eS*	**Sb**	**00 16 03.6**	**+0.2**
MRKS	**Merke**	**1.72**	**21**	P	**Pg**	**00 15 59.8**	**-0.4**
	6.8nm,0.3s						
MRKS				S	**Sg**	**00 16 23.8**	**+1.3**
	14nm,0.3s						
MRKS	**Merke**	**1.72**	**21**	*eP*	**Pg**	**00 16 00.0**	**-0.2**
	5.5nm,0.3s						
MRKS				*eS*	**Sg**	**00 16 23.6**	**+1.1**
	32nm,0.3s						
EKS2	**Erkin-Say**	**1.84**	**34**	⇑*eP*	**Pb**	**00 16 01.2**	**+0.1**
EKS2				⇑*eS*	**Sg**	**00 16 26.7**	**+0.4**
CHMG	**Chimgan**	**1.84**	**284**	S	**Sg**	**00 16 29.0**	**+2.7**
CHRV	**Charvak**	**1.90**	**286**	P	**Pb**	**00 16 01.5**	**-0.7**
DZA	**Taraz**	**1.92**	**336**	Pg	**Pg**	**00 16 04.1**	**+0.1**
	17nm,0.2s						
DZA				Lg	Lg	00 16 30.8	
	90nm,0.2s						
DZA	**Taraz**	**1.92**	**336**	*eP*	**Pg**	**00 16 04.1**	**+0.1**
	17nm,0.1s						
DZA				*eS*	**Sg**	**00 16 30.5**	**+1.6**
	90nm,0.2s						
UCH	**Uchtor**	**1.93**	**55**	⇑*eP*	**Pb**	**00 16 02.9**	**+0.1**
UCH				⇑*eS*	**Sg**	**00 16 29.6**	**+0.5**
IUG	**Iuzhnay**	**2.04**	**300**	Pg	**Pg**	**00 16 05.1**	**-1.1**
	16nm,0.3s						
IUG				Lg	Lg	00 16 32.4	
	50nm,0.3s						
AAK	**Ala-Archa**	**2.17**	**46**	⇑Pn	**Pb**	**00 16 07.1**	**+0.4**
	1.1nm,0.6s						
AAK				⇓Sn	**Sg**	**00 16 37.2**	**+0.3**
	4.1nm,0.6s						
AAK	**Ala-Archa**	**2.17**	**46**	⇓*eP*	**Pb**	**00 16 06.4**	**-0.3**
AAK				⇓*eS*	**Sb**	**00 16 35.4**	**+1.6**
KK31	**Karatay Array**	**2.41**	**325**	⇑Pg	**Pb**	**00 16 10.7**	**0.0**
	1.7nm,0.4s,baz=125,slow=13,SNR=35						
KK31				⇓Lg	Lg	00 16 41.8	
	3.5nm,0.3s,baz=138,slow=29,SNR=13						
KBK	**Karagaybulak**	**2.44**	**51**	⇑*eP*	**Pb**	**00 16 10.1**	**-1.2**
KBK				⇑*eS*	**Sb**	**00 16 41.9**	**+0.4**
CHMS	**Chumysh**	**2.56**	**43**	⇓*eP*	**Pb**	**00 16 11.6**	**-1.7**
CHMS				⇓*eS*	**Sb**	**00 16 44.5**	**-0.3**
USP	**Ospenovka**	**2.64**	**36**	⇑*eP*	**Pb**	**00 16 12.7**	**-2.0**
USP				⇑*eS*	**Sb**	**00 16 46.5**	**-0.8**
GAR	**Garm**	**2.67**	**217**	⇓*eP*	**Pn**	**00 16 12.3**	**+1.8**
GAR				⇓*eS*	**Sb**	**00 16 45.8**	**-2.3**
BRLS	**Borolday**	**2.68**	**316**	Pg	**Pb**	**00 16 15.4**	**0.0**
	2.9nm,0.2s						
BRLS				Lg	Lg	00 16 50.4	
	10nm,0.2s						
BRLS	**Borolday**	**2.68**	**316**	*eP*	**Pb**	**00 16 15.4**	**0.0**
	2.9nm,0.2s						
BRLS				*eS*	**Sb**	**00 16 50.4**	**+2.0**
	10nm,0.2s						
KST	**Kastek**	**3.27**	**53**	Pg	**Pb**	**00 16 27.7**	**+2.3**
	1.7nm,0.6s						
KST				Lg	Lg	00 17 11.2	
	6.2nm,0.6s						
KST	**Kastek**	**3.27**	**53**	*eP*	**Pb**	**00 16 27.7**	**+2.3**
	1.7nm,0.6s						
KST				*eS*	**Sg**	**00 17 11.2**	**-1.0**
	6.2nm,0.6s						
DGS	**Degeres**	**3.27**	**49**	Pg	**Pg**	**00 16 27.9**	**-2.0**
	1.6nm,0.6s						
DGS				Lg	Lg	00 17 12.0	
	7.9nm,0.6s						
BTLS	**Baital**	**4.08**	**17**	Pg	**Pg**	**00 16 43.1**	**-2.4**
	2.9nm,1.2s						
BTLS				Lg	Lg	00 17 37.6	
	3.8nm,0.7s						
BTLS	**Baital**	**4.08**	**17**	*eP*	**Pg**	**00 16 43.0**	**-2.4**
	2.9nm,1.2s						
BTLS				*eS*	**Sg**	**00 17 37.6**	**-0.7**
	3.8nm,0.7s						
KTBS	**Karatobe**	**4.08**	**50**	Pg	**Pg**	**00 16 42.8**	**-2.6**
	1.0nm,0.7s						
KTBS				Lg	Lg	00 17 37.1	
	3.8nm,0.6s						

*IDC **24** 00:22:40.6±1.4,1˚.04S×121˚.06E,h0km,mb3.3/4,*
mbtmp3.3/4,MS3.2/2,Error ellipse: s-maj=404.8km
s-min=23.3km az=60.0
*DJA **24** 00:22:42.8±0.2,1˚.5S×12˚.0E±˚,h10km,M3.9/12,*
MLv3.9/12

ISC 24 00:22:41.5±2.2,1˚.42S±0˚.04×120˚.06E±0˚.07,h2km±16km, n16,σ1§48/21,mb3.3/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.55**	**337**	P	**Pg**	**00 22 52.3**	**+0.2**
PCI				S	**Sb**	**00 23 02.7**	**+0.3**
TTSI	**Tana Toraja**	**1.64**	**188**	P	**Pn**	**00 23 08.7**	**-2.7**
TTSI				S	**Sb**	**00 23 34.0**	**+0.5**
APSI	**Ampana**	**1.67**	**73**	P	**Pn**	**00 23 11.0**	**-0.9**
APSI				S	**Sn**	**00 23 33.8**	**-0.1**
SPSI	**Sidrap Palu**	**2.55**	**186**	P	**Pn**	**00 23 24.6**	**+0.7**
SPSI				S	**Sn**	**00 23 57.0**	**+1.4**
MRSI	**Marisa**	**2.66**	**45**	P	**Pn**	**00 23 26.3**	**+0.8**
MRSI				S	**Sn**	**00 23 59.0**	**+0.6**
LUWI	**Luwuk**	**2.74**	**82**	P	**Pn**	**00 23 27.8**	**+1.2**
LUWI				S	**Sn**	**00 24 01.1**	**+0.7**
BNSI	**Bone**	**2.96**	**179**	P	**Pn**	**00 23 30.5**	**+0.8**
BNSI				S	**Sn**	**00 24 07.5**	**+1.6**
KDI	**Kendari**	**3.60**	**135**	P	**Pn**	**00 23 39.2**	**+0.8**
BKSI	**Bulukumba**	**3.88**	**179**	P	**Pn**	**00 23 43.4**	**+1.1**
BSSI	**Bau Bau, Buton**	**4.71**	**175**	P	**Pn**	**00 23 54.9**	**+1.1**
DAV	**Davao City (W)**	**10.07**	**33**	LR	LR	00 28 30.3	
	comp=Z,64nm,20.7s,baz=192,slow=38						
WRA	**Warramunga Arr**	**23.11**	**144**	P	**P**	**00 27 45.6**	**-3.5**
	0.7nm,0.8s,baz=323,slow=11,SNR=7.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**25.87**	**150**	P	**P**	**00 28 12.9**	**-2.0**
	0.4nm,0.8s,baz=329,slow=9.4,SNR=5.4						
	0.4nm,0.8s						
NWAO	**Narrogin (SRO)**	**31.46**	**185**	LR	LR	00 42 11.0	
	comp=Z,94nm,18.3s,baz=358,slow=37						
MKAR	**Makanchi Array**	**58.32**	**330**	P	**P**	**00 32 38.5**	**+0.3**
	0.2nm,0.6s,baz=128,slow=6.1,SNR=1.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**62.75**	**332**	P	**P**	**00 33 08.8**	**+0.5**
	0.3nm,0.6s,baz=134,slow=6.6,SNR=2.1						
	0.3nm,0.6s						

*NEIC **24** 00:31:25.6±1.0,36˚.837N±0˚.010×98˚.05W±0˚.01,h8km±4km,*
Error ellipse: s-maj=1.9km s-min=1.3km az=121.0

NEIC 24 00:31:25.4±1.1,36.842N±0.006×98.06W±0.02,h5km±1km, mb_Lg2.5/44,ML2.6/24,ML2.9/38,Error ellipse: s-maj=2.9km s-min=2.2km az=121.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN14	**Manchester OK**	**0.14**	**33**		Pg	00 31 29.0	+0.8
KAN14				IAML		00 31 31.4	
	comp=E,5µm,0.3s						
CROK	**Carrier**	**0.34**	**170**		Pg	00 31 32.4	+0.4
CROK					Sg	00 31 37.2	+0.7
KAN08	**Anthony NE Sta**	**0.39**	**10**		Pg	00 31 33.6	+0.7
KAN08				Sg	Sg	00 31 38.9	+0.8
KAN01	**Argonia South**	**0.39**	**37**		Pg	00 31 33.3	+0.4
KAN01					Sg	00 31 39.1	+1.0
KAN13	**South Haven SW**	**0.49**	**70**		Pg	00 31 35.4	+0.5
KAN13					Sg	00 31 42.0	+0.7
OK038	**West end E0370**	**0.66**	**237**		Pg	00 31 38.1	0.0
OK038				IAML		00 31 51.4	
	comp=E,804nm,0.3s						
OK038				IAML		00 31 60.0	
	comp=E,672nm,0.3s						
BLOK	**Blackwell**	**0.68**	**97**		Pg	00 31 38.7	+0.3
BLOK					Sg	00 31 47.8	+0.5
BLOK				IAML		00 31 51.7	
	comp=N,575nm,0.2s						
BLOK				IAML		00 31 55.1	
	comp=E,391nm,0.2s						
NOKA	**Waynoka**	**0.73**	**254**		Pg	00 31 39.4	-0.1
NOKA					Sg	00 31 49.7	+0.8
NOKA				IAML		00 31 54.4	
	comp=E,436nm,0.3s						
NOKA				IAML		00 32 02.3	
	comp=N,570nm,0.3s						
OK029	**Liberty Lake**	**1.15**	**155**		Pg	00 31 46.8	-0.6
OK029					Sb	00 32 02.7	-0.3
OK029				IAML		00 32 07.2	
	comp=N,160nm,0.2s						
T35A	**Sooner Cattle**	**1.24**	**86**		Pg	00 31 48.1	-1.1
T35A					Sg	00 32 05.4	+0.1
T35A				IAML		00 32 09.1	
	comp=N,180nm,0.3s						
QUOK	**Quay**	**1.28**	**121**		Pg	00 31 49.2	-0.6
CSTR	**Hydro, Custer**	**1.30**	**203**		Pn	00 31 49.0	-1.2
ADOK	**Arcadia Dam**	**1.31**	**155**		Pn	00 31 49.5	-0.8
ADOK					Sb	00 32 07.8	+0.2
OK052	**Battle Ridge R**	**1.32**	**130**		Pn	00 31 49.8	-0.7
OK052				IAML		00 32 12.8	
	comp=N,208nm,0.5s						
OK052				IAML		00 32 13.7	
	comp=N,243nm,0.2s						
ELIS	**Ellis County**	**1.34**	**235**		Pn	00 31 51.0	+0.1
ELIS				IAML		00 32 21.7	
	comp=E,217nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.52**	**161**	IAmb_Lg		00 32 14.0	
	comp=Z,31nm,1.0s						
OKCSW					Sg	00 32 14.4	+0.2
DEOK	**Depew**	**1.60**	**128**		Pn	00 31 54.4	0.0
R32A	**Long Quarter,**	**1.66**	**342**		Pb	00 31 56.5	0.0
TUL3	**Leonard**	**2.05**	**116**		Pn	00 32 01.8	+1.2
TUL3				IAmb_Lg		00 32 35.5	
	comp=Z,28nm,0.8s						
WMOK	**Wichita Mounta**	**2.18**	**196**		Pn	00 32 02.7	+0.3
WMOK	**Wichita Mounta**	**2.18**	**196**		Sb	00 32 31.3	-1.4
CBKS	**Cedar Bluff**	**2.38**	**326**		Pn	00 32 04.5	-0.6
SMWD	**Samnorwood**	**2.48**	**226**		Pn	00 32 06.1	-0.4
SMWD					Pb	00 32 06.4	-4.1
RLO	**Rose Lookout**	**2.54**	**105**	Pn	Pn	00 32 07.4	+0.2
RLO					Pb	00 32 07.8	-3.6
RLO					Sb	00 32 43.3	+0.4
LOOK	**Love County**	**2.93**	**166**	Pn	Pn	00 32 13.9	+1.2
AMTX	**Amarillo**	**3.53**	**237**	IAmb_Lg		00 33 24.9	
	comp=Z,12nm,0.8s						
RTBA	**Rita Blanca**	**3.79**	**265**	IAmb_Lg		00 33 32.4	
	comp=Z,10nm,1.0s						
FW06	**Azle**	**3.88**	**174**	IAmb_Lg		00 33 33.8	
	comp=Z,12nm,0.8s						
DKNS	**Dickens**	**3.94**	**217**	IAmb_Lg		00 33 32.3	
	comp=Z,10nm,0.9s						
MIAR	**Mount Ida**	**4.31**	**121**	IAmb_Lg		00 33 44.4	
	comp=Z,11nm,0.8s						
SN07	**Snyder 07**	**4.41**	**213**	IAmb_Lg		00 33 54.2	
	comp=Z,10nm,0.8s						
P38A	**Dawn**	**4.52**	**51**	IAmb_Lg		00 33 48.5	
	comp=Z,8.6nm,0.7s						
MGMO	**Mountain Grove**	**4.64**	**84**	IAmb_Lg		00 33 51.4	
	comp=Z,9.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.88**	**99**	IAmb_Lg		00 34 11.8	
	comp=Z,8.5nm,0.8s						
UALR	**University of**	**5.08**	**112**	IAmb_Lg		00 34 15.4	
	comp=Z,10nm,0.8s						
P40A	**Paris**	**5.44**	**59**	IAmb_Lg		00 34 24.3	
	comp=Z,8.9nm,0.8s						
N38A	**Joes South For**	**5.45**	**42**	IAmb_Lg		00 34 23.6	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.55**	**75**	IAmb_Lg		00 34 33.8	
	comp=Z,8.7nm,0.7s						
BRDY	**Brady**	**5.60**	**188**	IAmb_Lg		00 34 21.8	
	comp=Z,5.8nm,0.7s						
LCAR	**Lake Charles**	**5.62**	**96**	IAmb_Lg		00 34 23.6	
	comp=Z,9.5nm,0.8s						
Q24A	**Divide**	**6.00**	**293**	IAmb_Lg		00 34 47.5	
	comp=Z,9.4nm,0.8s						
FVM	**French Village**	**6.18**	**77**	IAmb_Lg		00 34 41.8	
	comp=Z,9.5nm,0.9s						
SAND	**Sanderson**	**7.66**	**207**	IAmb_Lg		00 35 44.5	
	comp=Z,4.1nm,0.8s						

*NEIC **24** 00:47:11.5±0.6,36˚.837N±0˚.010×98˚.052W±0˚.006,*
h8km±2km,Error ellipse: s-maj=1.5km s-min=0.6km
az=198.0

NEIC 24 00:47:11.4±0.7,36.85N±0˚.01×98.049W±0˚.006,h5km±1km, mb_Lg2.1/11,ML2.3/14,ML2.4/32,Error ellipse: s-maj=2.9km s-min=1.8km az=73.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN14	**Manchester OK**	**0.13**	**32**		Pg	00 47 14.7	+0.5
KAN14				Sg	Sg	00 47 17.1	+1.3
CROK	**Carrier**	**0.34**	**171**		Pg	00 47 18.4	+0.3
CROK					Sg	00 47 23.3	+0.7
KAN01	**Argonia South**	**0.39**	**37**		Pg	00 47 19.7	+0.8
KAN01					Sg	00 47 25.1	+1.2
KAN08	**Anthony NE Sta**	**0.39**	**9**	Pg	Pg	00 47 19.6	+0.7
KAN08					Sg	00 47 24.9	+0.9
KAN08				IAML		00 47 25.5	
	comp=N,328nm,0.1s						
KAN13	**South Haven SW**	**0.49**	**70**		Pg	00 47 21.3	+0.5
KAN13					Sg	00 47 28.0	+0.8
OK038	**West end E0370**	**0.67**	**237**		Pg	00 47 24.2	0.0
OK038				IAML		00 47 40.4	
	comp=N,178nm,0.3s						
OK038				IAML		00 47 40.5	
	comp=N,175nm,0.3s						
BLOK	**Blackwell**	**0.68**	**97**		Pg	00 47 24.7	+0.3
BLOK					Sg	00 47 34.0	+0.8
BLOK				IAML		00 47 37.6	
	comp=N,268nm,0.2s						
BLOK				IAML		00 47 39.6	
	comp=E,205nm,0.2s						
NOKA	**Waynoka**	**0.74**	**254**	Pg	Pg	00 47 25.2	-0.4
NOKA					Sg	00 47 35.4	+0.2
NOKA				IAML		00 47 38.4	
	comp=N,140nm,0.3s						
NOKA				IAML		00 47 42.6	
	comp=E,137nm,0.3s						
QUOK	**Quay**	**1.27**	**122**		Pg	00 47 35.1	-0.7
CSTR	**Hydro, Custer**	**1.30**	**204**		Pb	00 47 36.6	+0.2
CSTR					Sb	00 47 53.7	+0.2
ADOK	**Arcadia Dam**	**1.31**	**155**	Pg	Pn	00 47 36.1	-0.3
OK052	**Battle Ridge R**	**1.32**	**130**		Pn	00 47 35.8	-0.7
OK052				IAML		00 47 56.6	
	comp=E,84nm,0.2s						
OK052				IAML		00 47 59.0	
	comp=E,83nm,0.4s						
ELIS	**Ellis County**	**1.35**	**235**		Pn	00 47 36.3	-0.7
OKCSW	**OKLAHOMA CITY**	**1.52**	**161**		Pn	00 47 39.4	+0.1
R32A	**Long Quarter,**	**1.66**	**342**		Pb	00 47 41.9	-0.6
TUL3	**Leonard**	**2.05**	**116**		Pn	00 47 47.2	+0.7
WMOK	**Wichita Mounta**	**2.19**	**196**		Pn	00 47 49.8	+1.4
WMOK	**Wichita Mounta**	**2.19**	**196**		Sb	00 48 17.5	-1.4
CBKS	**Cedar Bluff**	**2.38**	**326**	Pn	Pn	00 47 52.0	+0.9
SMWD	**Samnorwood**	**2.49**	**226**	Pn	Pn	00 47 52.4	-0.2
RLO	**Rose Lookout**	**2.53**	**105**		Pn	00 47 54.4	+1.3
U38A	**Gravette**	**2.97**	**97**	IAmb_Lg		00 48 44.5	
	comp=Z,5.4nm,0.8s						
HHAR	**Hobbs**	**3.35**	**98**	IAmb_Lg		00 48 57.7	
	comp=Z,4.4nm,0.8s						
N35A	**Tabor**	**4.43**	**24**	IAmb_Lg		00 49 36.7	
	comp=Z,15nm,0.7s						
L34A	**Svendsen Farm,**	**5.28**	**14**	IAmb_Lg		00 50 01.7	
	comp=Z,7.0nm,0.7s						
CCM	**Cathedral Cave**	**5.55**	**75**	IAmb_Lg		00 50 19.7	
	comp=Z,2.2nm,0.7s						

*IDC **24** 00:54:08.1±8.5,34˚.55S×179˚.88E,h0km,mb3.8/4,*
mbtmp3.8/4,Error ellipse: s-maj=261.4km s-min=33.6km
az=41.0
*WEL **24** 00:54:42.2±0.8,37˚.5±5˚.×17˚.7E±˚,h15km±7km,M3.5/28,*
ML3.5/8,MLv3.5/28,Error ellipse: s-maj=8.3km
s-min=5.3km az=50.7,confirmed

ISC 24 00:54:42.1±1.0,37.09S±0.05×177.35E±0.05,h150km,n75, σ2§06/104,mb3.7/4,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.75**	**153**	P	**Pn**	**00 55 06.1**	**+1.1**
HAZ				S	**Sn**	**00 55 24.7**	**+2.3**
MXZ	**Matakaoa Point**	**0.90**	**122**	P	**Pn**	**00 55 06.7**	**+0.7**
MXZ				S	**Sn**	**00 55 26.8**	**+2.5**
RUGZ	**Raukumara Rang**	**0.92**	**163**	P	**Pn**	**00 55 07.1**	**+0.8**
RUGZ				S	**Sn**	**00 55 26.6**	**+1.7**
PKGZ	**Pakihiroa**	**0.97**	**143**	P	**Pn**	**00 55 08.2**	**+1.5**
PKGZ				S	**Sn**	**00 55 28.9**	**+3.4**
OPRZ	**Ohinepanea**	**0.98**	**220**	P	**Pn**	**00 55 09.2**	**+2.5**
TGRZ	**Tauranga**	**1.07**	**233**	P	**Pn**	**00 55 10.0**	**+2.5**
WMGZ	**Waiomatatini S**	**1.12**	**131**	P	**Pn**	**00 55 08.9**	**+0.9**
WMGZ				S	**Sn**	**00 55 29.7**	**+2.0**
EDRZ	**Edgecumbe**	**1.12**	**205**	P	**Pn**	**00 55 10.8**	**+2.7**
URZ	**Urewera**	**1.18**	**189**	P	**Pn**	**00 55 10.4**	**+1.9**
URZ				S	**Sn**	**00 55 32.4**	**+3.6**
PUZ	**Puketiti**	**1.22**	**144**	P	**Pn**	**00 55 10.0**	**+1.1**
PUZ				S	**Sn**	**00 55 31.1**	**+1.7**
KARZ	**Kaharoa**	**1.28**	**223**	P	**Pn**	**00 55 12.5**	**+3.0**
KUZ	**Kuaotunu**	**1.35**	**284**	P	**Pn**	**00 55 11.3**	**+1.2**
RAGZ	**Rawiri**	**1.41**	**178**	P	**Pn**	**00 55 12.9**	**+2.1**
RAGZ				S	**Sn**	**00 55 36.5**	**+3.7**
TKGZ	**Te Karaka**	**1.41**	**164**	P	**Pn**	**00 55 12.3**	**+1.6**
TKGZ				S	**Sn**	**00 55 36.0**	**+3.3**
MUGZ	**Murupara**	**1.46**	**198**	P	**Pn**	**00 55 13.3**	**+2.1**
MUGZ				S	**Sn**	**00 55 37.9**	**+4.2**
HRRZ	**Handcock Road**	**1.55**	**213**	P	**Pn**	**00 55 15.2**	**+2.9**
CNGZ	**Carnagh Statio**	**1.55**	**154**	P	**Pn**	**00 55 14.0**	**+1.7**
RTZ	**Ruatahuna**	**1.55**	**191**	P	**Pn**	**00 55 14.0**	**+1.6**
RTZ				S	**Sn**	**00 55 38.1**	**+2.6**
PRRZ	**Plateau Road**	**1.60**	**208**	P	**Pn**	**00 55 15.2**	**+2.5**
TOZ	**Tahuroa Road**	**1.60**	**246**	P	**Pn**	**00 55 15.6**	**+2.9**
RIGZ	**Rimuhau**	**1.65**	**169**	P	**Pn**	**00 55 14.9**	**+1.6**
RIGZ				S	**Sn**	**00 55 40.7**	**+3.4**
ALRZ	**Allen Road

ASAR	**Alice Springs**	**39.46**	**277**	P		**P**	01 01 53.8	**-4.1**
	0.9nm,0.5s,baz=120,slow=8.5,SNR=18							
	0.9nm,0.5s							
WRA	**Warramunga Arr**	**41.09**	**282**	P		**P**	**01 02 08.0**	**-3.3**
	0.6nm,0.3s,baz=121,slow=8.2,SNR=9.5							
	0.6nm,0.3s							
FITZ	**Fitzroy Crossi**	**48.95**	**278**	P		**P**	**01 03 10.3**	**-3.0**
	1.0nm,0.6s,baz=124,slow=9.0,SNR=1.3							
	1.0nm,0.6s							
QSPA	**South Pole Qui**	**53.04**	**180**	P		**P**	**01 03 45.9**	**+2.5**
	0.5nm,0.4s,baz=18,slow=6.4,SNR=2.4							
	0.5nm,0.4s							
TORD	**Torodi Ar. Bea**	**155.84**	**190**	PKPab		**PKPab**	**01 14 41.6**	**-4.4**
	0.2nm,0.4s,baz=152,slow=3.7,SNR=1.9							

*SJA **24** 01:01:43.1±0.6,21°.31S×68°.60W,h142km±3km,ML3.3, MW3.5*
*GUC **24** 01:01:45.0±0.7,21°.31S×68°.53W,h128km±3km,ML3.6*
*IDC **24** 01:01:48.3±9.1,21°.07S×68°.14W,h153km±63km, mbtmp3.6/2,MS3.3/1,Error ellipse: s-maj=99.2km s-min=55.6km az=47.0*
ISC 24 01:01:43.8±1.0,**21°.32S**±0°.03×**68°.57W**±0°.05,**h138**km±8km, **n34**,σ1§**00**/62,**9C-1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.79**	**232**	*e*P	**Pn**	**01 02 06.1**	**+0.3**
PB09				*e*S	**Sn**	**01 02 22.6**	**+0.1**
PB09	**IPOC Station P**	**0.79**	**232**	*e*P	**Pn**	**01 02 06.1**	**+0.3**
PB09				*i* S	**Sn**	**01 02 22.5**	**-0.1**
PB09				IAML		01 02 23.6	
	comp=Z,931nm,0.3s						
PB01	**IPOC Station P**	**0.90**	**287**	*e*P	**Pn**	**01 02 06.0**	**-0.6**
PB01				*e*S	**Sn**	**01 02 23.2**	**-0.7**
PB01				IAML		01 02 24.2	
	comp=N,955nm,0.2s						
PB01	**IPOC Station P**	**0.90**	**287**	*e*P	**Pn**	**01 02 06.4**	**-0.3**
PB01				*i* S	**Sn**	**01 02 24.0**	**0.0**
PB01				IAML		01 02 25.0	
	comp=Z,470nm,0.2s						
PB02	**IPOC Station P**	**1.23**	**270**	*e*P	**Pn**	**01 02 10.0**	**+0.2**
PB02				*e*S	**Sn**	**01 02 29.0**	**-0.5**
PB02	**IPOC Station P**	**1.23**	**270**	*e*P	**Pn**	**01 02 10.0**	**+0.2**
PB02				*i* S	**Sn**	**01 02 29.5**	**0.0**
PB02				IAML		01 02 34.2	
	comp=Z,1μm,0.3s						
PB08	**IPOC Station P**	**1.29**	**335**	*e*P	**Pn**	**01 02 10.9**	**+0.2**
PB08				*e*S	**Sn**	**01 02 30.7**	**-0.4**
PB08				IAML		01 02 32.0	
	comp=E,533nm,0.5s						
PB08	**IPOC Station P**	**1.29**	**335**	*e*P	**Pn**	**01 02 11.0**	**+0.4**
PB08				*e*S	**Sn**	**01 02 31.3**	**+0.2**
PB08				IAML		01 02 31.7	
	comp=Z,226nm,0.2s						
PB03	**IPOC Station P**	**1.32**	**236**	*e*P	**Pn**	**01 02 10.9**	**+0.2**
PB03				*e*S	**Sn**	**01 02 31.5**	**+0.3**
PB03				IAML		01 02 31.8	
	comp=Z,402nm,0.2s						
PATCX	**Punta Patache**	**1.56**	**288**	*e*P	**Pn**	**01 02 13.6**	**+0.5**
PATCX				*e*S	**Sn**	**01 02 35.6**	**+0.1**
PATCX				IAML		01 02 37.6	
	comp=E,1μm,0.4s						
PATCX	**Punta Patache**	**1.56**	**288**	*e*P	**Pn**	**01 02 13.6**	**+0.5**
PATCX				*e*S	**Sn**	**01 02 36.5**	**+0.9**
PATCX				IAML		01 02 37.6	
	comp=Z,624nm,0.5s						
HMBC	**Humberstone**	**1.61**	**310**	*e*P	**Pn**	**01 02 13.6**	**-0.2**
HMBC				*e*S	**Sn**	**01 02 35.8**	**-0.8**
HMBC				IAML		01 02 36.9	
	comp=N,1μm,0.4s						
HMBC	**Humberstone**	**1.61**	**310**	*e*P	**Pn**	**01 02 13.6**	**-0.2**
HMBC				*i* S	**Sn**	**01 02 36.2**	**-0.4**
HMBC				IAML		01 02 37.1	
	comp=Z,808nm,0.3s						
PB06	**IPOC Station P**	**1.67**	**214**	*e*P	**Pn**	**01 02 14.8**	**+0.3**
PB06				*e*S	**Sn**	**01 02 38.0**	**+0.1**
PB06				IAML		01 02 39.2	
	comp=E,516nm,0.2s						
PB06	**IPOC Station P**	**1.67**	**214**	*e*P	**Pn**	**01 02 14.9**	**+0.4**
PB06				*e*S	**Sn**	**01 02 38.4**	**+0.4**
PB06				IAML		01 02 38.8	
	comp=Z,238nm,0.1s						
AF01	**San Pedro de A**	**1.67**	**167**	*e*P	Pn	01 02 35.0	+20
AF01				*e*S	**Sn**	**01 02 41.5**	**+3.2**
AF01				IAML		01 02 55.4	
	comp=Z,257nm,0.7s						
TA01	**Diego Aracena**	**1.68**	**296**	*e*P	**Pn**	**01 02 14.5**	**+0.1**
TA01				*e*S	**Sn**	**01 02 37.2**	**-0.6**
TA01				IAML		01 02 38.0	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**1.68**	**296**	*i* P	**Pn**	**01 02 14.5**	**+0.1**
TA01				*e*S	**Sn**	**01 02 38.0**	**+0.1**
TA01				IAML		01 02 42.4	
	comp=Z,267nm,0.3s						
GO01	**Chusmiza**	**1.74**	**340**	*e*P	**Pn**	**01 02 15.7**	**+0.1**
GO01				*e*S	**Sn**	**01 02 39.7**	**-0.3**
GO01				IAML		01 02 43.2	
	comp=E,1μm,0.1s						
GO01	**Chusmiza**	**1.74**	**340**	*e*P	**Pn**	**01 02 15.8**	**+0.1**
GO01				*e*S	**Sn**	**01 02 40.9**	**+0.9**
GO01				IAML		01 02 43.5	
	comp=Z,150nm,0.1s						
TA02	**Huaiquique**	**1.79**	**305**	*e*P	**Pn**	**01 02 15.8**	**+0.1**
TA02				*e*S	**Sn**	**01 02 39.7**	**-0.4**
TA02				IAML		01 02 41.5	
	comp=N,913nm,0.2s						
TA02	**Huaiquique**	**1.79**	**305**	*e*P	**Pn**	**01 02 15.8**	**+0.1**
TA02				*e*S	**Sn**	**01 02 41.2**	**+1.1**
TA02				IAML		01 02 44.3	
	comp=Z,366nm,0.1s						
PB11	**IPOC Station P**	**1.85**	**327**	*e*P	**Pn**	**01 02 16.4**	**-0.3**
PB11				*e*S	**Sn**	**01 02 40.8**	**-0.9**
PB11				IAML		01 02 42.9	
PB11	**IPOC Station P**	**1.85**	**327**	*i* P	**Pn**	**01 02 16.6**	**-0.1**
PB11				*i* S	**Sn**	**01 02 41.7**	**0.0**
PB11				IAML		01 02 42.4	
	comp=Z,294nm,0.2s						
PB05	**IPOC Station P**	**2.15**	**224**	*e*P	**Pn**	**01 02 20.2**	**+0.1**
PB05				*e*S	**Sn**	**01 02 47.6**	**-0.5**
PB05				IAML		01 02 55.6	
	comp=E,168nm,0.3s						
PB05	**IPOC Station P**	**2.15**	**224**	*e*P	**Pn**	**01 02 20.3**	**+0.1**
PB05				*e*S	**Sn**	**01 02 48.1**	**0.0**
PB05				IAML		01 02 55.9	
	comp=Z,90nm,0.3s						
PB10	**IPOC Station P**	**2.85**	**220**	*e*P	**Pn**	**01 02 29.2**	**+0.4**
PB10				IAML		01 03 16.7	
	comp=N,84nm,0.6s						
PB10	**IPOC Station P**	**2.85**	**220**	*e*P	**Pn**	**01 02 29.1**	**+0.3**
PB10				IAML		01 03 23.0	
	comp=Z,29nm,0.3s						
YJA	**Yavi**	**2.97**	**107**	*e*P	**Pn**	**01 02 32.7**	**+2.0**
YJA				*e*S	**Sn**	**01 03 01.9**	**-4.9**
YJA				IAML		01 03 09.0	
	comp=Z,6.3nm,0.8s						
PB14	**IPOC Station P**	**3.70**	**207**	*e*P	**Pn**	**01 02 40.0**	**-0.1**
PB14				*e*S	**Sn**	**01 03 22.3**	**-1.4**
PB14				IAML		01 03 35.3	
	comp=Z,53nm,0.3s						
LPAZ	**La Paz**	**5.02**	**5**	P	**Pn**	**01 02 59.3**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=184,slow=8.9,SNR=9.6						
LPAZ				S	**Sn**	**01 03 54.9**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=191,slow=5.2,SNR=3.7						
LPAZ	**La Paz**	**5.02**	**5**	*e*P	**Pn**	**01 03 00.0**	**+2.1**
LPAZ				IAML		01 04 26.1	
	comp=Z,2.4nm,4.5s						
BDFB	**Brasilia**	**20.29**	**77**	P	**P**	**01 06 07.7**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=240,slow=14,SNR=3.1						
BDFB				LR	LR	01 15 54.6	
	comp=Z,92nm,20.0s,baz=352,slow=43						
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P	**P**	**01 13 22.2**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=257,slow=4.7,SNR=7.9						

IDC 24 01:02:55.2±1.8,**0°.69S**×**127°.45E**,**h0**km,**mb3.1**/4, **mbtmp3.2**/5,**ML2.7**/1,**Error ellipse: s-maj=124.6km s-min=23.1km az=70.0**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.39**	**186**	P	Pn	01 06 59.1	-0.4
	baz=14,slow=17,SNR=0.7						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**20.29**	**161**	P		**P**	01 07 33.3	**+0.5**
	0.3nm,0.6s,baz=341,slow=11,SNR=4.6							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**23.68**	**165**	P		**P**	01 08 08.7	**-0.1**
	0.3nm,0.5s,baz=349,slow=12,SNR=6.1							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**61.59**	**326**	P		**P**	01 13 12.6	**-2.0**
	0.2nm,0.4s,baz=123,slow=8.0,SNR=2.2							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**65.83**	**328**	P		**P**	01 13 44.3	**+1.8**
	0.3nm,0.9s,baz=120,slow=5.5,SNR=1.8							
	0.3nm,0.9s							

*AEIC **24** 01:34:58.3±1.4,53°.72N±0°.08×164°.09W±0°.09, h43km±10km,Error ellipse: s-maj=12.9km s-min=5.6km az=150.0*
NEIC 24 01:34:57.9±0.9,**53°.61N**±0°.07×**164°.02W**±0°.08,**h35**km±2km, **ML2.9**/10,**ML2.6**(AEIC),**Error ellipse: s-maj=13.3km s-min=3.1km az=325.0**,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WEBT	**Westdahl Beart**	**1.08**	**337**		Pn	01 35 16.1	-0.5
AKUT	**Akutan**	**1.17**	**298**		Pn	01 35 17.5	-0.2
AKUT					Sn	01 35 32.8	+0.4
AKUT	**Akutan**	**1.17**	**298**	IAML		01 35 33.2	
	comp=N,373nm,0.3s						
AKUT				IAML		01 35 33.4	
	comp=E,352nm,0.4s						
SSBA	**Shishaldin**	**1.17**	**357**		Pn	01 35 17.3	-0.6
SSBA					Sn	01 35 32.2	-0.4
AHB	**Akutan Harbor**	**1.18**	**296**		Pn	01 35 17.8	-0.2
AHB					Sn	01 35 33.4	+0.6
ISNN	**Isanotski Nort**	**1.24**	**6**		Pn	01 35 18.7	-0.1
ISNN					Sn	01 35 34.9	+0.7
FALS	**False Pass**	**1.30**	**15**		Pn	01 35 19.2	-0.4
UNV	**Unalaska Valle**	**1.50**	**280**		Sn	01 35 40.8	+0.2
UNV	**Unalaska Valle**	**1.50**	**280**		Pn	01 35 22.0	-0.3
MREP	**Makushin Rep't**	**1.64**	**278**		Pn	01 35 24.4	+0.2
DT1	**Dutton Round H**	**1.82**	**33**		Pn	01 35 26.6	-0.1
DT1					Sn	01 35 48.6	+0.1
DOL	**Dolgoi Island**	**2.00**	**38**		Pn	01 35 28.9	-0.2
DOL					Sn	01 35 53.0	+0.1
HAG	**Hague Volcano**	**2.11**	**35**		Pn	01 35 31.4	+0.7
PS4A	**Pavlof South-4**	**2.15**	**35**		Pn	01 35 32.1	+0.8
PS4A					Sn	01 35 58.5	+1.7
PS1A	**Pavlof South-1**	**2.25**	**35**		Pn	01 35 33.4	+0.7
PS1A					Sn	01 35 59.4	+0.2
S12K	**Black Hills**	**2.39**	**28**		Pn	01 35 35.1	+0.5
S12K					Sn	01 36 02.4	-0.2
S12K	**Black Hills**	**2.39**	**28**	IAML		01 36 09.0	
	comp=N,56nm,0.4s						
S12K				IAML		01 36 09.3	
	comp=E,59nm,0.3s						
SDPT	**Sand Point**	**2.71**	**48**		Pn	01 35 39.1	+0.2
SDPT	**Sand Point**	**2.71**	**48**	IAML		01 36 19.9	
	comp=N,32nm,1.2s						
SDPT				IAML		01 36 21.8	
	comp=E,28nm,0.4s						
OHAK	**Old Harbor**	**7.10**	**55**	Pn	Pn	01 36 37.3	-1.9

*SJA **24** 01:35:13.1±0.5,29°.74S×72°.29W,h22km±32km,ML3.4, MW3.7*
*GUC **24** 01:35:19.9±0.7,30°.06S×71°.51W,h27km±1km,ML3.9*
ISC 24 01:35:19.7±1.1,**30°.02S**±0°.03×**71°.66W**±0°.06,**h10**km,**n28**, σ2§**08**/45,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.38**	**74**	*e*P	**Pg**	**01 35 27.6**	**+0.5**
CO05				*i* S	**Sg**	**01 35 32.6**	**+0.5**
CO06	**Fray Jorge**	**0.65**	**178**	*e*P	**Pg**	**01 35 32.1**	**-0.1**
CO06				*i* S	**Sg**	**01 35 40.6**	**-0.2**
CO06				IAML		01 35 41.7	
	comp=E,8μm,0.1s						
GO04	**Tololo Observa**	**0.76**	**102**	*e*P	**Pg**	**01 35 33.6**	**-0.7**
GO04				*i* S	**Sg**	**01 35 43.5**	**-0.8**
CO03	**El Pedregal**	**1.17**	**134**	*e*P	**Pg**	**01 35 40.2**	**-2.0**
CO03				*i* S	**Sg**	**01 35 54.6**	**-2.7**
CO03				IAML		01 35 56.3	
	comp=E,7μm,0.2s						
CO02	**Combarbal**	**1.31**	**155**	*e*P	**Pn**	**01 35 42.8**	**-1.4**
CO02				*i* S	**Sb**	**01 35 59.5**	**-1.8**
CO02				IAML		01 36 01.1	
	comp=E,7μm,0.2s						
CO02	**Combarbal**	**1.31**	**155**	*i* P	**Pn**	**01 35 42.9**	**-1.2**
CO02				IAML		01 36 11.7	
	comp=Z,894nm,0.7s						
LCO	**Las Campanas**	**1.31**	**40**	*e*P	**Pn**	**01 35 43.2**	**-1.1**
LCO				*i* S	**Sb**	**01 35 59.9**	**-1.6**
CO01	**Juntas del Tor**	**1.36**	**88**	*e*P	**Pb**	**01 35 43.7**	**-1.7**
CO01				*i* S	**Sb**	**01 36 00.8**	**-2.0**
AC04	**Llanos de Chal**	**1.88**	**16**	*e*P	**Pn**	**01 35 51.9**	**0.0**
AC04				*i* S	**Sn**	**01 36 17.7**	**+2.0**
AC04				IAML		01 36 22.5	
	comp=N,987nm,0.2s						
ACDV	**Cuesta del Vie**	**2.20**	**94**	*i* P	**Pn**	**01 35 59.2**	**+2.7**
ACDV				IAML		01 36 48.7	
	comp=Z,110nm,0.5s						
ACCO	**Cerro Coronel**	**2.31**	**105**	*i* P	**Pn**	**01 36 00.7**	**+2.6**
VA06	**Catapilco**	**2.55**	**173**	*e*P	**Pn**	**01 36 01.6**	**+0.5**
VA06				*i* S	**Sn**	**01 36 33.5**	**+1.3**
VA06				IAML		01 36 55.0	
	comp=N,914nm,0.6s						
RTLS	**Leoncito**	**2.69**	**132**	*i* P	**Pn**	**01 36 07.0**	**+3.7**
RTLS				*i* S	**Sg**	**01 36 46.5**	**+0.3**
RTLS				IAML		01 36 46.5	
	comp=Z,985nm,0.7s						
GO03	**Copiapo**	**2.72**	**28**	*e*P	**Pn**	**01 36 04.4**	**+0.9**
GO03				*i* S	**Sn**	**01 36 39.1**	**+2.5**
GO03				IAML		01 36 47.9	
	comp=N,558nm,0.5s						
AGUA	**GUANDACOL**	**2.80**	**80**	*i* P	**Pn**	**01 36 07.0**	**+2.3**
AGUA				IAML		01 36 58.9	
	comp=Z,164nm,0.5s						
AC06	**Mina Casimiro**	**2.89**	**24**	*e*P	**Pn**	**01 36 06.6**	**+0.8**
AC06				*i* S	**Sn**	**01 36 43.1**	**+2.5**
AC06				IAML		01 36 53.0	
	comp=E,338nm,0.6s						
VA03	**San Esteban**	**2.89**	**161**	*e*P	**Pn**	**01 36 07.4**	**+1.5**
VA03				*i* S	**Sn**	**01 36 44.1**	**+3.3**
VA03				IAML		01 36 51.0	
	comp=E,723nm,0.5s						
AUSP	**Uspallata**	**2.93**	**139**	*i* P	**Pn**	**01 36 09.7**	**+3.0**
AUSP				*i* S	**Sg**	**01 36 52.4**	**-1.5**
ROCH	**El Roble**	**2.99**	**170**	*e*P	**Pn**	**01 36 08.3**	**+0.9**
ROCH				*i* S	**Sn**	**01 36 45.5**	**+2.0**
ROCH				IAML		01 36 58.0	
	comp=N,266nm,0.2s						
RTLL	**Cerro Villicun**	**3.04**	**116**	*i* P	**Pn**	**01 36 11.5**	**+3.7**
RTLL				*i* S	**Sg**	**01 36 54.5**	**-2.7**
RTLL				IAML		01 36 57.4	
	comp=Z,252nm,0.7s						
VCA	**Vinchina**	**3.27**	**68**	*i* P	**Pn**	**01 36 12.1**	**+0.9**
VCA				IAML		01 37 10.8	
	comp=Z,222nm,0.7s						
FCH	**Farellones**	**3.50**	**161**	*e*P	**Pn**	**01 36 17.4**	**+3.0**
FCH				IAML		01 37 15.8	
	comp=E,123nm,0.4s						
ASAL	**Salagasta**	**3.52**	**137**	*i* P	**Pn**	**01 36 17.8**	**+3.3**
ASAL				IAML		01 37 28.4	
	comp=Z,0.1nm,0.8s						
MT03	**Universidad Ad**	**3.60**	**165**	*e*P	**Pn**	**01 36 18.4**	**+2.8**
MT03				*i* S	**Sn**	**01 36 59.6**	**+1.4**
MT03				IAML		01 37 15.0	
	comp=E,358nm,0.2s						
AVFE	**Valle Fertil**	**3.69**	**101**	*i* P	**Pn**	**01 36 18.3**	**+1.5**
AVFE				IAML		01 37 31.0	
	comp=Z,51nm,0.6s						
AC02	**Maricunga**	**3.88**	**36**	*e*P	**Pn**	**01 36 21.4**	**+1.6**
AAGR	**Agrelo**	**3.89**	**142**	*i* P	**Pn**	**01 36 23.2**	**+3.5**
AAGR				IAML		01 37 40.3	
	comp=Z,70nm,0.6s						
APLL	**PUNTA DE LOS L**	**4.46**	**96**	*i* P	**Pn**	**01 36 28.1**	**+0.7**
APLL				IAML		01 38 01.5	
	comp=Z,7.7nm,0.6s						

*AZER **24** 02:08:39.7,38°.53N×48°.63E,h19km,ml2.7*
*TEH **24** 02:08:40.7,38°.53N×48°.63E,h16km±14km*
ISC 24 02:08:41.2±0.9,**38°.62N**±0°.04×**48°.64E**±0°.03,**h16**km±7km,

n34,σ1§**21**/59,**Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASTR	**Astara**	**0.13**	**117**	P	**Pg**	**02 08 44.5**	**-0.5**
ASTR				S	**Sg**	**02 08 48.9**	**+1.3**
LKRN	**Lenkeran, Azer**	**0.14**	**51**	P	**Pb**	**02 08 44.5**	**-0.9**
LKRN				S	**Sg**	**02 08 48.6**	**+0.9**
LRK	**Lerik**	**0.23**	**275**	P	**Pb**	**02 08 47.8**	**+0.7**
LRK				S	**Sb**	**02 08 54.4**	**+3.3**
GAS1	**Astara - Iran**	**0.28**	**146**	Pg	**Pg**	**02 08 45.8**	**-1.4**
YRD	**Yardimli**	**0.43**	**314**	P	**Pg**	**02 08 50.1**	**+0.1**
YRD				S	**Sb**	**02 08 58.3**	**+1.5**
GRMI	**Germi**	**0.61**	**288**	Pg	**Pg**	**02 08 53.2**	**0.0**
GLBA	**Clilabad**	**0.65**	**343**	P	**Pb**	**02 08 52.8**	**-1.3**
GLBA				S	**Sb**	**02 09 03.1**	**+0.2**
IHRS	**Heris**	**1.29**	**257**	Pg	**Pn**	**02 09 04.3**	**-0.4**
QRD	**Qoradiz**	**1.33**	**310**	Pn	**Pn**	**02 09 04.0**	**-1.0**
QRD				Sn	**Sb**	**02 09 23.4**	**+1.0**
ALIB	**&Aumlli-Bayram**	**1.36**	**12**	P	**Pn**	**02 09 05.5**	**0.0**
ALIB				Sn	**Sb**	**02 09 24.9**	**+1.4**
BLQ	**Beylaqan**	**1.38**	**323**	Pn	**Pn**	**02 09 04.7**	**-1.0**
BLQ				Sn	**Sn**	**02 09 24.0**	**+0.4**
IHSH	**Hashtrud**	**1.71**	**220**	Pg	**Pn**	**02 09 10.5**	**0.0**
KDMR	**Kurdemir**	**1.79**	**349**	Pn	**Pn**	**02 09 09.9**	**-1.4**
KDMR				Sn	**Sb**	**02 09 36.2**	**+0.5**
ZRD	**Zardab**	**1.81**	**336**	Pn	**Pn**	**02 09 11.4**	**-0.3**
ZRD				Sn	**Sb**	**02 09 37.0**	**+0.6**
AGDM	**Agdam**	**1.90**	**322**	Pn	**Pn**	**02 09 13.3**	**+0.4**
AGDM				Sn	**Sb**	**02 09 39.5**	**+0.6**
GBS	**Qobustan**	**1.93**	**7**	Pg	**Pn**	**02 09 14.1**	**+0.8**
GBS				Sn	**Sb**	**02 09 39.3**	**-0.4**
BRDA	**Brd**	**1.99**	**326**	Sn	**Sb**	**02 09 40.5**	**-1.0**
ORD	**Ordubad**	**2.09**	**279**	Pn	**Pn**	**02 09 16.7**	**+1.1**
ORD				Sn	**Sb**	**02 09 44.4**	**0.0**
PQL	**Pirkuli**	**2.17**	**359**	Pn	**Pn**	**02 09 16.6**	**0.0**
PQL				Sn	**Sn**	**02 09 43.2**	**0.0**
IML	**Ismayilli**	**2.20**	**351**	Pn	**Pn**	**02 09 17.3**	**+0.3**
IML				Sn	**Sn**	**02 09 44.7**	**+0.9**
ATGJ	**Altiaghaj**	**2.25**	**6**	Pn	**Pn**	**02 09 19.2**	**+1.5**
ATGJ				Sn	**Sn**	**02 09 44.7**	**-0.5**
ISHB	**Shabestar**	**2.40**	**263**	Pn	**Pn**	**02 09 21.0**	**+1.1**
QBL	**Gabala**	**2.40**	**345**	Sn	**Sn**	**02 09 50.0**	**+1.0**
SIZA	**Siyzn**	**2.46**	**5**	Pn	**Pn**	**02 09 20.9**	**+0.3**
SIZA				Sn	**Sn**	**02 09 51.2**	**+0.8**
NAX	**Nakhchivan**	**2.51**	**284**	Pn	**Pn**	**02 09 21.1**	**-0.3**
NAX				Sg	**Sg**	**02 10 00.2**	**-1.8**
SBZ	**Shahbuz**	**2.52**	**289**	Pn	**Pn**	**02 09 22.9**	**+1.3**
SBZ				Sn	**Sb**	**02 09 54.6**	**-2.4**
XNQ	**Khinaliq**	**2.58**	**352**	Pn	**Pn**	**02 09 23.0**	**+0.6**
XNQ				Sn	**Sn**	**02 09 56.2**	**+2.7**
GANJ	**Ganja**	**2.70**	**319**	Pn	**Pn**	**02 09 25.0**	**+1.1**
GANJ				Sn	**Sn**	**02 09 58.5**	**+2.3**
QUBA	**Quba, Azerbaij**	**2.73**	**358**	Pn	**Pn**	**02 09 25.0**	**+0.6**
QUBA				Sn	**Sn**	**02 09 59.2**	**+2.1**
SEKA	**Sheki**	**2.81**	**337**	Pn	**Pn**	**02 09 25.6**	**+0.2**
SEKA				Sn	**Sn**	**02 09 57.3**	**-1.7**
GDB	**GEDABAY**	**3.06**	**314**	Pn	**Pn**	**02 09 28.4**	**-0.5**
GDB				Sn	**Sn**	**02 10 05.8**	**+0.5**
HYR	**Heyderabad**	**3.14**	**292**	Pg	**Pb**	**02 09 35.4**	**-1.2**
HYR				Sg	**Sg**	**02 10 20.1**	**-1.9**
ZKTA	**Zakatala**	**3.39**	**333**	Sn	**Sn**	**02 10 12.7**	**-0.5**
QZX	**Qazax, Azerbai**	**3.50**	**315**	Sn	**Sn**	**02 10 17.6**	**+1.7**

*IDC **24** 02:09:09.0±1.7,0°.55S×127°.88E,h0km,mb3.7/5, mbtmp3.7/6,ML3.1/1,Error ellipse: s-maj=121.8km s-min=20.5km az=71.0*
ISC 24 02:09:15.0±1.8,**0°.8S**±0°.3×**127°.7E**±0°.7,**h35**km,**n6**,σ1§**71**/6, **mb3.8**/4,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.36**	**186**	P	**P**	**02 13 15.6**	**-0.2**
	0.1nm,0.3s,baz=1.3,slow=10,SNR=1.9						
	1.6nm,1.0s						
WRA	**Warramunga Arr**	**20.17**	**161**	P	**P**	**02 13 46.9**	**+0.2**
	0.3nm,0.5s,baz=341,slow=10,SNR=5.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**23.58**	**166**	P	**P**	**02 14 22.6**	**-0.1**
	0.8nm,0.6s,baz=343,slow=10,SNR=14						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**61.75**	**326**	P	**P**	**02 19 29.7**	**-0.4**
	0.6nm,0.6s,baz=126,slow=6.7,SNR=4.1						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**65.99**	**328**	P	**P**	**02 19 55.1**	**-2.8**
	2.0nm,0.2s,baz=126,slow=6.0,SNR=4.7						
	2.0nm,0.2s						
BVAR	**Borovoye Array**	**71.56**	**328**	P	**P**	**02 20 33.3**	**+0.7**
	0.5nm,0.6s,baz=122,slow=5.4,SNR=2.4						
	0.5nm,0.6s						

*IDC **24** 02:14:52.7±9.4,23°.72N×122°.51E,h0km,mb3.3/3, mbtmp3.3/3,MS4.1/1,Error ellipse: s-maj=653.9km s-min=30.3km az=60.0*
*JMA **24** 02:14:54.0±0.1,24°.2N±0°.4×124°.2E±0°.4,h13km±1km, MV3.5/11,NEAR ISHIGAKIJIMA ISLAND*
ISC 24 02:14:53.6±1.0,**24°.19N**±0°.06×**124°.24E**±0°.03,**h10**km,**n14**, σ0§**51**/22,**mb3.5**/3,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIJ	**Ishigaki jima**	**0.20**	**333**	P	**Pg**	**02 14 58.1**	**+0.4**
JIJ				*e*S	**Sg**	**02 15 00.9**	**+0.3**
JKRS	**Kuro-shima**	**0.22

M_{rr}-1.22; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$1.27; $M_{r\theta}$0.74; $M_{r\phi}$0.41; $M_{\theta\phi}$0.86; Fault plane solution: $M_0$1.74000×10^{16} NP1: ϕ_s358.85000°,δ27.97000°,λ-120.35000°. NP2: ϕ_s212.39000°,δ66.13000°,λ-74.98000°. Principal axes: T 1.7615, Plg20.0000°, Azm291.0000°; N -0.0465, Plg14.0000°, Azm26.0000°; P -1.7149, Plg66.0000°, Azm149.0000°;

GCMT ***24*** *02:33:04.3±0.3,31°.46S±0°.02×71°.50W±0°.03,h96^{km}±4^{km}, MW5.0/87,Moment Tensor Solution. s29,c32; s87,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.98±.16; $M_{\theta\theta}$-2.10±.14; $M_{\phi\phi}$3.09±.17; $M_{r\theta}$1.00±.06; $M_{\theta\phi}$-1.10±.12; $M_{r\phi}$1.97±.11; Best double couple: $M_0$3.63900×10^{16} NP1:ϕ_s306.00000°,δ49.00000°,λ-167.00000°. NP2: ϕ_s207.00000°,δ81.00000°,λ-42.00000°. Principal axes: T 3.9600, Plg20.0000°, Azm263.0000°; N -0.6340, Plg47.0000°, Azm17.0000°; P -3.3180, Plg36.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 02:32:59.6±0.3,31°.11S±0°.02×71°.53W±0°.03,h64^{km}±2^{km}, h64^{km}:pP-P,n479,σ1^{s}60/458,mb5.1/126,18C-44D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.44**	**348**			**Pn**	**02 33 12.5**	**+1.3**
CO06				Sn		**Sn**	**02 33 21.2**	**+1.4**
CO06	**Fray Jorge**	**0.44**	**348**	*eP*		**Pn**	**02 33 12.4**	**+1.1**
CO06				*eS*		**Sn**	**02 33 21.4**	**+1.6**
CO02	**Combarbal**	**0.47**	**102**			**Pn**	**02 33 11.2**	**-0.5**
CO02	**Combarbal**	**0.47**	**102**	↑	*eP*	**Pn**	**02 33 11.2**	**-0.5**
CO02					*eS*	**Sn**	**02 33 19.2**	**-1.2**
CO02	**Combarbal**	**0.47**	**102**		*eP*	**Pn**	**02 33 10.8**	**-0.8**
CO02					*eS*	**Sn**	**02 33 18.7**	**-1.7**
CO02					IAML		02 33 20.0	
	comp=Z,302μm,0.7s							
CO03	**El Pedregal**	**0.77**	**70**			**Pn**	**02 33 14.1**	**-0.9**
CO03	**El Pedregal**	**0.77**	**70**	↑	*eP*	**Pn**	**02 33 14.1**	**-0.9**
CO03					*eS*	**Sn**	**02 33 24.5**	**-1.9**
CO03	**El Pedregal**	**0.77**	**70**		*eP*	**Pn**	**02 33 13.8**	**-1.2**
CO03					IAML		02 33 30.3	
	comp=Z,45μm,4.1s							
GO04	**Tololo Observa**	**1.13**	**34**			**Pn**	**02 33 19.4**	**-0.2**
GO04	**Tololo Observa**	**1.13**	**34**		*eP*	**Pn**	**02 33 19.2**	**-0.4**
GO04					*eS*	**Sn**	**02 33 34.2**	**-0.3**
GO04	**Tololo Observa**	**1.13**	**34**		*eP*	**Pn**	**02 33 18.6**	**-1.0**
GO04					*eS*	**Sn**	**02 33 34.5**	**0.0**
CO05	**La Serena**	**1.21**	**12**			**Pn**	**02 33 21.0**	**+0.5**
CO05	**La Serena**	**1.21**	**12**	↓	*eP*	**Pn**	**02 33 21.0**	**+0.5**
CO05					*eS*	**Sn**	**02 33 36.7**	**+0.6**
VA06	**Catapilco**	**1.46**	**172**			**Pn**	**02 33 24.3**	**+0.4**
VA06	**Catapilco**	**1.46**	**172**		*eP*	**Pn**	**02 33 24.1**	**+0.3**
VA06					IAML		02 33 46.2	
	comp=N,45μm,0.5s							
CO01	**Juntas del Tor**	**1.68**	**48**			**Pn**	**02 33 27.3**	**+0.4**
CO01	**Juntas del Tor**	**1.68**	**48**	↑	*eP*	**Pn**	**02 33 27.4**	**+0.4**
CO01					*eS*	**Sn**	**02 33 47.2**	**-0.4**
CO01					IAML		02 33 49.1	
	comp=N,51μm,0.6s							
CO01	**Juntas del Tor**	**1.68**	**48**		*eP*	**Pn**	**02 33 27.0**	**+0.1**
CO01					*eS*	**Sn**	**02 33 47.7**	**+0.1**
CO01					IAML		02 33 49.1	
	comp=Z,23μm,0.3s							
VA03	**San Esteban**	**1.85**	**153**			**Pn**	**02 33 29.4**	**+0.2**
VA03	**San Esteban**	**1.85**	**153**	↓	*eP*	**Pn**	**02 33 29.4**	**+0.2**
VA03					IAML		02 33 54.1	
	comp=E,80μm,0.1s							
VA03	**San Esteban**	**1.85**	**153**		*eP*	**Pn**	**02 33 29.6**	**+0.4**
VA03					*eS*	**Sn**	**02 33 53.0**	**+1.5**
VA03					IAML		02 33 58.8	
	comp=Z,18μm,0.6s							
ROCH	**El Roble**	**1.91**	**167**	↓	*eP*	**Pn**	**02 33 30.3**	**+0.2**
ROCH					IAML		02 34 00.0	
	comp=N,23μm,0.5s							
VA01	**Torpederas**	**1.91**	**183**			**Pn**	**02 33 29.9**	**0.0**
VA01	**Torpederas**	**1.91**	**183**	↓	*eP*	**Pn**	**02 33 29.9**	**0.0**
VA01					IAML		02 34 06.0	
	comp=E,10μm,0.6s							
VA01	**Torpederas**	**1.91**	**183**		*eP*	**Pn**	**02 33 29.4**	**-0.4**
VA01					*eS*	**Sn**	**02 33 49.5**	**-3.4**
ROC1	**El Roble**	**1.91**	**167**		*eP*	**Pn**	**02 33 29.5**	**-0.6**
AROD	**Rodeo**	**2.01**	**63**		*eP*	**Pn**	**02 33 33.3**	**+1.8**
RTLS	**Leoncito**	**2.03**	**110**		*eP*	**Pn**	**02 33 33.2**	**+1.4**
RTLS					*eS*	**Sn**	**02 33 58.9**	**+2.7**
RTLS					IAML		02 34 06.0	
	comp=Z,33μm,0.8s							
PEL	**Peldehue**	**2.15**	**161**		Pn	**Pn**	**02 33 33.4**	**+0.2**
PEL	**Peldehue**	**2.15**	**161**		P	**Pn**	**02 33 33.4**	**+0.2**
PEL	**Peldehue**	**2.15**	**161**	↓	*eP*	**Pn**	**02 33 33.5**	**+0.3**
PEL					IAML		02 34 02.6	
	comp=N,18μm,0.4s							
PEL	**Peldehue**	**2.15**	**161**		*eP*	**Pn**	**02 33 33.3**	**+0.1**
PEL					*eS*	**Sn**	**02 33 59.8**	**+0.9**
PEL					IAML		02 34 02.6	
	comp=Z,11μm,0.3s							
MT02	**Curacav**	**2.17**	**171**			**Pn**	**02 33 33.2**	**-0.2**
MT02	**Curacav**	**2.17**	**171**	↓	*eP*	**Pn**	**02 33 33.2**	**-0.2**
MT02					*eS*	**Sn**	**02 33 59.8**	**+0.5**
MT02	**Curacav**	**2.17**	**171**		*eP*	**Pn**	**02 33 32.6**	**-0.8**
MT02					*eS*	**Sn**	**02 33 59.8**	**+0.5**
MT02					IAML		02 34 13.4	
	comp=Z,6μm,0.4s							
ACCO	**Cerro Coronel**	**2.18**	**77**		*eP*	**Pn**	**02 33 35.3**	**+1.5**
ACCO					*eS*	**Sn**	**02 34 04.2**	**+4.2**
LCO	**Las Campanas**	**2.21**	**19**			**Pn**	**02 33 34.7**	**+0.5**
LCO	**Las Campanas**	**2.21**	**19**		P	**Pn**	**02 33 34.7**	**+0.5**
LCO	**Las Campanas**	**2.21**	**19**		*eP*	**Pn**	**02 33 29.5**	**-4.7**
LCO					*eP*		02 33 34.2	
LCO					*eS*	**Sn**	**02 34 02.3**	**+1.7**
LCO					IAML		02 34 08.8	
	comp=Z,14μm,0.6s							
ACDV	**Cuesta del Vie**	**2.28**	**66**		*eP*	Pn	02 33 25.0	-10
ACDV					IAML		02 34 25.1	
	comp=Z,6μm,1.0s							
MT10	**Hacienda Santa**	**2.32**	**159**	↓	*eP*	**Pn**	**02 33 36.0**	**+0.5**
MT10					*eS*	**Sn**	**02 34 02.8**	**-0.2**
MT10					IAML		02 34 14.8	
	comp=E,35μm,0.5s							
MT05	**Renca**	**2.37**	**164**			**Pn**	**02 33 36.6**	**+0.4**
MT05	**Renca**	**2.37**	**164**	↓	*eP*	**Pn**	**02 33 36.6**	**+0.4**
MT05					*eS*	**Sn**	**02 34 04.2**	**-0.1**
MT05					IAML		02 34 18.4	
	comp=E,27μm,0.3s							
MT05	**Renca**	**2.37**	**164**		*eP*	**Pn**	**02 33 36.0**	**-0.3**
MT05					*eS*	**Sn**	**02 34 05.3**	**+1.0**
MT05					IAML		02 34 24.0	
	comp=Z,8μm,0.7s							
MT14	**Cerro Calן**	**2.43**	**160**	↓	*eP*	**Pn**	**02 33 37.6**	**+0.6**
MT14					IAML		02 34 20.9	
	comp=E,27μm,0.5s							
FCH	**Farellones**	**2.45**	**155**	↓	*eP*	**Pn**	**02 33 38.1**	**+0.6**
FCH					*eS*	**Sn**	**02 34 07.6**	**+1.1**
FCH					IAML		02 34 13.8	
	comp=E,11μm,0.4s							
MT16	**CCHEN**	**2.47**	**160**			**Pn**	**02 33 38.0**	**+0.6**
MT16	**CCHEN**	**2.47**	**160**	↓	*eP*	**Pn**	**02 33 38.1**	**+0.6**
MT16					*eS*	**Sn**	**02 34 06.3**	**-0.2**
MT16					IAML		02 34 21.5	
	comp=N,9μm,0.6s							
MT03	**Universidad Ad**	**2.53**	**160**			**Pn**	**02 33 39.0**	**+0.6**
MT03	**Universidad Ad**	**2.53**	**160**	↓	*eP*	**Pn**	**02 33 39.0**	**+0.6**
MT03					IAML		02 34 25.4	
	comp=E,22μm,0.3s							
MT03	**Universidad Ad**	**2.53**	**160**		*eP*	**Pn**	**02 33 38.4**	**0.0**
MT03					*eS*	**Sn**	**02 34 09.4**	**+1.2**
MT03					IAML		02 34 24.8	
	comp=Z,11μm,0.7s							
MT04	**Ro Olivares**	**2.58**	**153**	↓	*eP*	**Pn**	**02 33 40.3**	**+1.2**
MT04					IAML		02 34 16.7	
	comp=E,28μm,1.0s							
MT04	**Ro Olivares**	**2.58**	**153**		*eP*	**Pn**	**02 33 39.9**	**+0.7**
MT04					*eS*	**Sn**	**02 34 11.7**	**+2.3**
MT04					IAML		02 34 17.7	
	comp=Z,10μm,0.5s							
SJA	**San Juan**	**2.58**	**100**		*eP*	Pn	02 33 29.5	-9.5
SJA					*eS*	**Sn**	**02 34 12.6**	**+3.4**
SJA					IAML		02 34 36.7	
	comp=Z,4μm,0.6s							
RTLL	**Cerro Villicun**	**2.63**	**96**		*eP*	**Pn**	**02 33 40.8**	**+1.1**
RTLL					*eS*	**Sn**	**02 34 12.8**	**+2.3**
RTLL					IAML		02 34 14.4	
	comp=Z,9μm,0.5s							
MT15	**Las Vizcachas**	**2.63**	**161**	↓	*eP*	**Pn**	**02 33 40.1**	**+0.4**
MT15					*eS*	**Sn**	**02 34 10.8**	**+0.2**
MT15					IAML		02 34 25.9	
	comp=E,24μm,0.6s							
MT08	**Bocatoma Ro**	**2.66**	**152**			**Pn**	**02 33 42.1**	**+1.9**
MT08	**Bocatoma Ro**	**2.66**	**152**	↓	*eP*	**Pn**	**02 33 42.2**	**+1.9**
MT08					IAML		02 34 16.4	
	comp=N,13μm,0.4s							
MT08	**Bocatoma Ro**	**2.66**	**152**		*eP*	**Pn**	**02 33 41.7**	**+1.4**
MT08					*eS*	**Sn**	**02 34 16.0**	**+4.5**
MT08					IAML		02 34 19.6	
	comp=Z,5μm,0.7s							
MT09	**Talagante**	**2.70**	**170**			**Pn**	**02 33 41.2**	**+0.5**
MT09	**Talagante**	**2.70**	**170**	↓	*eP*	**Pn**	**02 33 41.2**	**+0.5**
MT09					*eS*	**Sn**	**02 34 12.7**	**+0.3**
MT09					IAML		02 34 14.9	
	comp=N,13μm,0.5s							
ASAL	**Salagasta**	**2.73**	**123**		*eP*	**Pn**	**02 33 43.5**	**+2.4**
ASAL					*eS*	Sn	02 33 57.3	-16
MT12	**Pirque**	**2.75**	**163**	↓	*eP*	**Pn**	**02 33 41.7**	**+0.4**
MT12					*eS*	**Sn**	**02 34 12.7**	**-0.6**
MT12					IAML		02 34 16.0	
	comp=E,19μm,0.5s							
MT01	**Popeta**	**2.76**	**175**			**Pn**	**02 33 41.5**	**+0.1**
MT01	**Popeta**	**2.76**	**175**	↓	*eP*	**Pn**	**02 33 41.5**	**+0.1**
MT01	**Popeta**	**2.76**	**175**		*eP*	**Pn**	**02 33 40.8**	**-0.6**
MT01					*eS*	**Sn**	**02 34 14.6**	**+1.0**
MT01					IAML		02 34 33.9	
	comp=Z,4μm,0.5s							
ARCO	**CERRO ARCO**	**2.81**	**129**		*eP*	**Pn**	**02 33 45.0**	**+2.8**
ARCO					*eS*	**Sn**	**02 34 22.9**	**+8.0**
ARCO					IAML		02 34 28.2	
	comp=Z,6μm,0.5s							
MT13	**San Alfonso**	**2.83**	**158**			**Pn**	**02 33 43.3**	**+0.8**
MT13	**San Alfonso**	**2.83**	**158**	↓	*eP*	**Pn**	**02 33 43.4**	**+0.9**
MT13					*eS*	**Sn**	**02 34 15.3**	**-0.2**
MT13					IAML		02 34 22.4	
	comp=E,15μm,0.4s							
MT13	**San Alfonso**	**2.83**	**158**		*eP*	**Pn**	**02 33 43.0**	**+0.5**
MT13					*eS*	**Sn**	**02 34 17.2**	**+1.7**
MT13					IAML		02 34 22.9	
	comp=Z,5μm,0.7s							
CFA	**Coronel Fontan**	**2.86**	**101**		P	**Pn**	**02 33 43.6**	**+0.7**
	comp=Z,375nm,0.4s,baz=282,slow=18,SNR=1182							
CFA					S	**Sn**	**02 34 17.3**	**+1.1**
	comp=Z,3μm,0.4s,baz=195,slow=20,SNR=10.0							
CFA					LR	LR	02 35 02.1	
	comp=Z,1μm,20.4s,baz=232,slow=44							
CFA	**Coronel Fontan**	**2.86**	**101**		*eP*	**Pn**	**02 33 44.0**	**+1.2**
CFA					*eS*	**Sn**	**02 34 20.2**	**+4.1**
AC04	**Llanos de Chal**	**2.92**	**8**			**Pn**	**02 33 43.9**	**+0.2**
AC04	**Llanos de Chal**	**2.92**	**8**		*eP*	**Pn**	**02 33 43.2**	**-0.5**
AC04					*eS*	**Sn**	**02 34 19.1**	**+1.5**
AC04					IAML		02 34 37.7	
	comp=Z,3μm,1.4s							
LMEL	**Las Melosas**	**2.95**	**158**			**Pn**	**02 33 45.3**	**+1.1**
LMEL	**Las Melosas**	**2.95**	**158**	↓	*eP*	**Pn**	**02 33 45.3**	**+1.1**
LMEL					IAML		02 34 24.4	
	comp=N,15μm,0.2s							
LMEL	**Las Melosas**	**2.95**	**158**		*eP*	**Pn**	**02 33 44.8**	**+0.6**
LMEL					*eS*	**Sn**	**02 34 20.7**	**+2.2**
LMEL					IAML		02 34 26.6	
	comp=Z,8μm,0.8s							
BO04	**La Punta**	**2.98**	**165**			**Pn**	**02 33 44.8**	**+0.4**
BO04	**La Punta**	**2.98**	**165**	↓	*eP*	**Pn**	**02 33 44.8**	**+0.4**
BO04					*eS*	**Sn**	**02 34 19.0**	**0.0**
BO04					IAML		02 34 22.1	
	comp=N,8μm,0.2s							
AAGR	**Agrelo**	**3.02**	**131**		*eP*	**Pn**	**02 33 47.9**	**+2.8**
AGUA	**GUANDACOL**	**3.09**	**59**		*eP*	**Pn**	**02 33 48.6**	**+2.6**
AGUA					*eS*	**Sn**	**02 34 25.1**	**+3.3**
AGUA					IAML		02 34 28.3	
	comp=Z,7μm,0.7s							
BO01	**Tunca**	**3.30**	**174**			**Pn**	**02 33 48.6**	**-0.1**
BO01	**Tunca**	**3.30**	**174**		*eP*	**Pn**	**02 33 48.6**	**-0.1**
BO01					*eS*	**Sn**	**02 34 26.5**	**-0.2**
BO01					IAML		02 34 41.9	
	comp=Z,3μm,0.8s							
GO03	**Copiapo**	**3.68**	**18**			**Pn**	**02 33 54.3**	**+0.2**
GO03	**Copiapo**	**3.68**	**18**		*eP*	**Pn**	**02 33 53.8**	**-0.3**
GO03					*eS*	**Sn**	**02 34 41.0**	**+4.7**
GO03					IAML		02 35 01.1	
	comp=Z,4μm,0.6s							
BO02	**Sierra Bellavi**	**3.73**	**170**		*eP*	Pn	02 33 49.5	-5.2
BO02					*eP*		02 33 54.9	
BO02					*eS*	**Sn**	**02 34 35.5**	**-1.9**
BO02					IAML		02 34 45.6	
	comp=Z,3μm,0.2s							
GO05	**Hualane**	**3.91**	**185**		*eP*	**Pn**	**02 33 56.8**	**-0.2**
GO05					*eS*	**Sn**	**02 34 40.8**	**-0.9**
RFA	**San Rafael**	**4.47**	**146**		*eP*	**Pn**	**02 34 05.6**	**+0.7**
RFA					IAML		02 35 24.1	
	comp=Z,2μm,0.6s							
ML02	**Panimavida**	**4.64**	**179**			**Pn**	**02 34 06.5**	**-0.6**
ML02	**Panimavida**	**4.64**	**179**		*eP*	**Pn**	**02 34 06.3**	**-0.9**
ML02					*eS*	**Sn**	**02 34 58.6**	**-1.1**
ML02					IAML		02 35 33.5	
	comp=Z,2μm,0.8s							
AC02	**Maricunga**	**4.75**	**27**			**Pn**	**02 34 09.2**	**+0.1**
AC02	**Maricunga**	**4.75**	**27**		*eP*	**Pn**	**02 34 08.5**	**-0.6**
AC02					*eS*	Sn	02 35 18.0	+15
AC02					IAML		02 35 35.9	
	comp=Z,2μm,0.9s							
AC01	**Pan de Azucar**	**5.01**	**10**			**Pn**	**02 34 10.4**	**-1.8**
AC01	**Pan de Azucar**	**5.01**	**10**		*eP*	**Pn**	**02 34 10.5**	**-1.8**
AC01					*eS*	Sn	02 35 19.0	+10
AC01					IAML		02 35 49.4	
	comp=Z,1μm,0.7s							
BI02	**San Fabin de**	**5.54**	**178**			**Pn**	**02 34 19.5**	**0.0**
GO02	**Mina Guanaco**	**6.17**	**17**			**Pn**	**02 34 26.5**	**-1.8**
H03N1	**Juan Fernandez**	**6.67**	**248**		P	**Pn**	**02 34 35.9**	**+1.3**
	baz=117,slow=18,SNR=1921							
H03N1					S	**Sn**	**02 35 47.0**	**-2.1**
	baz=78,slow=76,SNR=6.6							
H03N1					T	T	02 41 24.4	
	baz=74,slow=72,SNR=356							
VA04	**Juan Fernndez**	**6.67**	**246**			**Pn**	**02 34 35.9**	**+1.0**
H03N3	**Juan Fernandez**	**6.68**	**248**		P	**Pn**	**02 34 36.0**	**+1.1**
	baz=117,slow=18,SNR=2263							
H03N3					S	**Sn**	**02 35 46.8**	**-2.7**
	baz=78,slow=76,SNR=6.6							
H03N3					T	T	02 41 29.5	
	baz=74,slow=72,SNR=310							
H03N2	**Juan Fernandez**	**6.68**	**248**		P	**Pn**	**02 34 36.5**	**+1.6**
	baz=117,slow=18,SNR=1401							
H03N2					S	**Sn**	**02 35 47.0**	**-2.4**
	baz=78,slow=76,SNR=5.2							
H03N2					T	T	02 41 33.2	
	baz=74,slow=72,SNR=387							
H03S3	**Juan Fernandez**	**6.80**	**245**		P	**Pn**	**02 34 37.3**	**+0.9**
SNR=240								
H03S3					S	**Sn**	**02 35 47.8**	**-4.4**
	baz=125,slow=74,SNR=9.6							
H03S1	**Juan Fernandez**	**6.80**	**244**		P	**Pn**	**02 34 37.1**	**+0.7**
H03S1					S	**Sn**	**02 35 47.6**	**-4.7**
	baz=125,slow=74,SNR=285							
H03S2	**Juan Fernandez**	**6.81**	**245**		P	**Pn**	**02 34 37.3**	**+0.7**
H03S2					S	**Sn**	**02 35 47.7**	**-4.9**
	baz=125,slow=74,SNR=332							
LC02	**Puerto Saavedr**	**7.81**	**191**		Pn	**Pn**	**02 34 48.4**	**-2.2**
PLCA	**Paso Flores**	**9.64**	**176**		P	**Pn**	**02 35 15.3**	**-0.2**
	comp=Z,9.4nm,0.4s,baz=344,slow=15,SNR=106							
PLCA					LR	LR	02 39 25.5	
	comp=Z,606nm,18.1s,baz=350,slow=40							
PLCA	**Paso Flores**	**9.64**	**176**		*eP*	**Pn**	**02 35 13.5**	**-2.0**
LL03	**Petrohue**	**10.03**	**184**			**Pn**	**02 35 18.6**	**-2.3**
LL05	**Los Muermos**	**10.39**	**188**			**Pn**	**02 35 22.0**	**-3.7**
TRQA	**Tornquist**	**10.48**	**134**			**Pn**	**02 35 24.9**	**-2.2**
TRQA	**Tornquist**	**10.48**	**134**		P	**Pn**	**02 35 24.9**	**-2.2**
HMBC	**Humberstone**	**10.89**	**8**		Pn	**Pn**	**02 35 31.6**	**-1.1**
LL01	**San Ignacio de**	**11.27**	**183**			**Pn**	**02 35 35.3**	**-2.4**
PB11	**IPOC Station P**	**11.43**	**9**			**Pn**	**02 35 37.2**	**-3.0**
PSAL	**Palomas, Salto**	**11.94**	**93**		*eP*	**Pn**	**02 35 42.5**	**-4.4**
CPUP	**Villa Florida**	**13.34**	**73**			**Pn**	**02 36 01.2**	**-4.7**
CPUP	**Villa Florida**	**13.34**	**73**		P	**Pn**	**02 36 01.5**	**-4.5**
	comp=Z,3.2nm,0.8s,baz=288,slow=19,SNR=20							
CPUP					LR	LR	02 41 29.4	
	comp=Z,169nm,19.8s,baz=107,slow=38							
CPUP	**Villa Florida**	**13.34**	**73**		P	**Pn**	**02 36 01.3**	**-4.7**
PB18	**Visviri**	**13.59**	**8**			**Pn**	**02 36 08.5**	**-1.4**
SJPY	**San Joaquin**	**14.91**	**70**		*eP*	**Pn**	**02 36 23.4**	**-3.4**
LPAZ	**La Paz**	**15.08**	**13**			**Pn**	**02 36 29.6**	**+0.1**
LPAZ	**La Paz**	**15.08**	**13**		P	**Pn**	**02 36 30.5**	**+1.0**
	comp=Z,10nm,0.7s,baz=193,slow=8.3,SNR=34							
LPAZ					LR	LR	02 42 34.2	
	comp=Z,367nm,20.6s,baz=159,slow=38							
LPAZ	**La Paz**	**15.08**	**13**		*eP*	**Pn**	**02 36 25.0**	**-4.5**
PLTB	**Pedras Altas**	**15.32**	**97**		Pn	**Pn**	**02 36 27.6**	**-4.4**
PLTB	**Pedras Altas**	**15.32**	**97**		*eP*	Pn	02 36 24.8	-7.2
CPSB	**Cacapava Do Su**	**15.57**	**92**		*eP*	**Pn**	**02 36 30.1**	**-5.1**
AY03	**Cochrane**	**16.14**	**183**			**Pn**	**02 36 41.4**	**-0.8**
AMBA	**Amambai (Brazi**	**16.83**	**65**		*eP*	**Pn**	**02 36 47.1**	**-3.9**
BBSD	**Serra de San D**	**17.05**	**38**		*eP*	**Pn**	**02 36 51.8**	**-2.0**
ITAB	**Concordia**	**17.38**	**82**			**Pn**	**02 36 54.9**	**-2.9**
ITAB						IAmb	IAmb	02 36 59.6
	comp=Z,217nm,1.8s							
ITAB	**Concordia**	**17.38**	**82**		*eP*	**Pn**	**02 36 54.5**	**-3.2**
AQDB	**Aquidauana**	**17.74**	**57**		*eP*	**Pn**	**02 36 58.9**	**-3.4**
SIV	**San Ignacio**	**17.82**	**35**		P	**P**	**02 37 01.7**	**-1.6**
	comp=Z,13nm,0.6s,baz=212,slow=12,SNR=90							
SIV					LR	LR	02 45 13.1	
	comp=Z,232nm,18.4s,baz=212,slow=41							
CNLB	**Canela**	**17.96**	**90**		*eP*	**P**	**02 36 59.6**	**-5.1**
PTGB	**Pitanga**	**18.34**	**74**		*eP*	**P**	**02 37 06.1**	**-2.8**
RPRD	**Ribas do Rio P**	**19.20**	**61**		*eP*	**P**	**02 37 16.1**	**-2.3**
PTLB	**Pontes e Lacer**	**19.28**	**39**		*eP*	**P**	**02 37 17.7**	**-1.5**
NNA	**Nana**	**19.65**	**344**		LR	LR	02 43 28.9	
	comp=Z,203nm,20.9s,baz=172,slow=32							
GO09	**Cerro Castillo**	**20.15**	**181**		P	Pn	02 37 30.0	-0.8
MG05	**Puerto Natales**	**20.57**	**182**		P	Pn	02 37 34.4	-1.3
MG05						IAmb	IAmb	02 37 35.7
	comp=Z,103nm,0.9s							
VILB	**Vilhena**	**20.87**	**33**		P	**P**	**02 37 34.6**	**-1.9**
VILB						IAmb	IAmb	02 37 55.0
	comp=Z,71nm,0.9s							
VILB	**Vilhena**	**20.87**	**33**		*eP*	**P**	**02 37 34.9**	**-1.6**
C2SB	**Chapadao do Su**	**20.90**	**58**		*eP*	**P**	**02 37 34.7**	**-2.0**
SALV	**Santo Antonio**	**20.94**	**47**		*eP*	**P**	**02 37 35.3**	**-1.9**
FRTB	**Fartura**	**20.99**	**74**		*eP*	**P**	**02 37 35.3**	**-2.5**
MG04	**Isla Riesco**	**21.73**	**180**		P	**P**	**02 37 45.3**	**0.0**
PET01	**Itanhaem-SP**	**22.50**	**78**		*eP*	**P**	**02 37 51.5**	**-2.4**
SPB	**Sao Paulo**	**22.65**	**77**		P	**P**	**02 37 53.3**	**-2.2**
SPB						IAmb	IAmb	02 37 55.9
	comp=Z,71nm,0.8s							
SPB	**Sao Paulo**	**22.65**	**77**		*eP*	**P**	**02 37 53.1**	**-2.4**
MG03	**Isla Dawson**	**22.74**	**178**		P	**P**	**02 37 56.5**	**+0.3**
EFI	**East Falkland**	**22.83**	**158**		P	**P**	**02 37 56.0**	**-1.1**
EFI						IAmb	IAmb	02 37 59.7
	comp=Z,78nm,0.7s							
EFI	**East Falkland**	**22.83**	**158**	↓	*eP*	**P**	**02 37 56.4**	**-0.7**
EFI						pmax	pmax	
	comp=Z,94nm,0.7s							
BB19B	**Bebedouro**	**22.91**	**70**		*eP*	**P**	**02 37 55.5**	**-2.9**
RCLB	**Rio Claro- Sao**	**23.07**	**74**		*eP*	**P**	**02 37 56.6**	**-3.3**
VAO	**Valinhos**	**23.29**	**76**			**P**	**02 37 59.0**	**-2.9**
VAO						IAmb	IAmb	02 38 01.5
	comp=Z,55nm,0.8s							
VAO	**Valinhos**	**23.29**	**76**		*eP*	**P**	**02 37 59.2**	**-2.8**
CZSB	**Cruzeiro do Su**	**23.29**	**357**		*eP*	**P**	**02 38 01.7**	**-0.2**
ARAG	**Araguaiana, MT**	**23.66**	**54**		*eP*	**P**	**02 38 02.5**	**-2.9**
PDRB	**Porto dos Gac**	**23.75**	**38**		*eP*	**P**	**02 38 04.5**	**-1.7**
MG01	**Puerto William**	**23.98**	**174**		P	**P**	**02 38 05.6**	**-2.3**
MG01						IAmb	IAmb	02 38 11.7
	comp=Z,89nm,0.8s							
ATAH	**Atahualpa**	**24.70**	**344**		LR	LR	02 46 04.8	
	comp=Z,271nm,21.4s,baz=186,slow=32							
IPMB	**Ipameri, GO**	**24.85**	**64**		*eP*	**P**	**02 38 12.9**	**-3.4**
CLDB	**

TEIG pP **pP** **02 42 30.8 +0.5**
TEIG PcP **PcP** **02 43 20.3 +0.4**
SNAA Sanae **54.10 159** ⇓P **P** **02 42 17.7 +0.2**
comp=Z,1µm,0.7s
SNAA ⇑sP **sP** **02 42 41.9 +0.2**
SNAA Sanae **54.10 159** P **P** **02 42 17.6 0.0**
SNAA Sanae **54.10 159** P **P** **02 42 17.8 +0.2**
comp=Z,48nm,0.6s,baz=278,slow=6.2,SNR=426
SNAA LR LR 03 05 16.2
comp=Z,69nm,18.4s,baz=243,slow=36
comp=Z,48nm,0.6s
SNAA Sanae **54.10 159***d* *i*P **P** **02 42 17.4 -0.1**
SNAA pmax pmax
comp=Z,66nm,0.8s
SOR Soroa **54.71 347** P **P** **02 42 21.7 -0.7**
SOR IAmb IAmb 02 42 40.8
comp=Z,30nm,1.3s
SOR Soroa **54.71 347** P **P** **02 42 21.7 -0.7**
SOR pmax pmax
comp=Z,30nm,1.3s
TROLL Troll, Antarti **55.82 159** ⇓P **P** **02 42 30.2 +0.3**
comp=Z,2µm,0.6s
TROLL ⇑sP **sP** **02 42 54.4 +0.2**
QSPA South Pole Qui **59.12 180** P **P** **02 42 55.7 +2.4**
QSPA South Pole Qui **59.12 180** P **P** **02 42 55.7 +2.4**
comp=Z,35nm,0.6s,baz=155,slow=4.6,SNR=159
comp=Z,35nm,0.6s
QSPA South Pole Qui **59.12 180** P **P** **02 42 55.8 +2.4**
QSPA pP **pP** **02 43 12.3 +2.1**
553A Crawfordville **62.18 347** P **P** **02 43 15.7 +1.4**
352A Blakely **63.53 347** P **P** **02 43 23.5 +0.4**
GOGA Godfrey **65.16 349** IAmb IAmb 02 43 52.3
comp=Z,31nm,1.6s
LRAL Lakeview Retre **65.45 346** P **P** **02 43 36.1 +0.4**
Y52A Lilburn **65.70 349** P **P** **02 43 37.5 +0.2**
HNDO Hondo **65.83 334** P **P** **02 43 39.8 +1.5**
HNDO IAmb IAmb 02 44 00.1
comp=Z,16nm,0.7s
SBA Scott Base **65.99 191** P **P** **02 43 40.4 +1.8**
SBA Scott Base **65.99 191** P **P** **02 43 40.4 +1.8**
SBA pmax pmax
comp=Z,9.0nm,1.0s
Y49A Blount Mountai **66.13 346** P **P** **02 43 40.8 +0.8**
LPIG La Paz **66.28 321** LR LR 03 06 25.5
comp=Z,65nm,19.6s,baz=170,slow=30
BG3 Lake Jocassee **66.62 350** IAmb IAmb 02 44 02.3
comp=Z,28nm,1.3s
X48A Hartselle **66.83 346** IAmb IAmb 02 44 03.5
comp=Z,30nm,1.0s
VNDA Vanda **67.01 191** **P** **02 43 47.3 +2.1**
VNDA Vanda **67.01 191** P **P** **02 43 47.3 +2.1**
comp=Z,5.5nm,0.8s,baz=126,slow=5.2,SNR=33
VNDA LR LR 03 10 34.4
comp=Z,56nm,18.2s,baz=248,slow=34
comp=Z,5.5nm,0.8s
VNDA Vanda **67.01 191** P **P** **02 43 47.3 +2.1**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda **67.01 191** P **P** **02 43 47.4 +2.1**
VNDA pP **pP** **02 44 04.1 +1.8**
VNDA sP **sP** **02 44 09.8 +0.5**
W50A Signal Mountai **67.22 348** IAmb IAmb 02 44 05.4
comp=Z,30nm,1.1s
V55A Taylorsville **67.23 351** P **P** **02 43 47.5 +0.5**
V53A Saluda **67.27 350** P **P** **02 43 47.8 +0.5**
V53A IAmb IAmb 02 44 06.1
comp=Z,36nm,1.5s
SWET Sewanee **67.35 347** P **P** **02 43 48.4 +0.6**
SWET IAmb IAmb 02 44 06.8
comp=Z,39nm,1.2s
TKL Tuckaleechee C **67.40 349** IAmb IAmb 02 44 06.8
comp=Z,33nm,1.2s
TXAR Lajitas Array **67.44 330** **P** **02 43 50.0 +1.4**
TXAR Lajitas Array **67.44 330** P **P** **02 43 50.7 +2.1**
comp=Z,1.4nm,0.9s,baz=151,slow=6.7,SNR=11
TXAR pP **pP** **02 44 06.6 +1.0**
comp=Z,2.9nm,0.7s,baz=151,slow=8.4,SNR=19
TXAR LR LR 03 08 57.1
comp=Z,42nm,18.9s,baz=128,slow=32
TXAR PKPPKP **P'P'df** **03 12 10.3 +1.1**
comp=Z,0.8nm,1.0s,baz=318,slow=3.1,SNR=5.8
comp=Z,1.4nm,0.9s
PLAL Pickwick Lake **67.56 345** IAmb IAmb 02 44 07.8
comp=Z,24nm,1.2s
OZNA Ozona **67.79 333** IAmb IAmb 02 44 10.9
comp=Z,57nm,1.9s
CLTN Cedars of Leba **68.28 347** IAmb IAmb 02 44 12.0
comp=Z,36nm,1.5s
SYO Syowa Base **68.39 159**⇓*e*P **P** **02 43 53.6 -0.4**
SYO Syowa Base **68.39 159**⇑*e*pP pP 02 44 10.0 -1.3
PLPT Palo Pinto **68.44 336** IAmb IAmb 02 44 13.5
comp=Z,62nm,1.7s
WVT Waverly **68.61 346** P **P** **02 43 56.2 +0.5**
WVT Waverly **68.61 346** P **P** **02 43 56.2 +0.5**
WVT pmax pmax
comp=Z,54nm,1.2s
WVT Waverly **68.61 346** P **P** **02 43 56.2 +0.5**
WVT pP **pP** **02 44 12.1 -0.8**
MNHN Monahans **68.81 332** IAmb IAmb 02 44 16.5
comp=Z,44nm,1.7s
R58B Mineral **68.97 355** IAmb IAmb 02 44 17.8
comp=Z,22nm,1.1s
LCAR Lake Charles **69.32 343** IAmb IAmb 02 44 01.7
comp=Z,16nm,0.7s
FCAR Ozark Folk Cen **69.40 342** IAmb IAmb 02 44 18.7
comp=Z,33nm,1.7s
ODSA Odessa **69.41 332** **P** **02 44 02.9 +2.1**
R55A Marlinton **69.50 353** P **P** **02 44 02.1 +0.9**
APMT Aspermont **69.55 335** IAmb IAmb 02 44 20.7
comp=Z,49nm,1.6s
CGM3 Cape Girardeau **70.13 345** IAmb IAmb 02 44 23.5
comp=Z,30nm,1.4s
WCI Wyandotte Cave **70.34 348** P **P** **02 44 06.1 -0.2**
WCI Wyandotte Cave **70.34 348** P **P** **02 44 06.1 -0.2**
WCI pmax pmax
comp=Z,11nm,0.9s
S44A Carbondale **70.42 345** IAmb IAmb 02 44 24.6
comp=Z,18nm,0.8s
Q52A Bidwell **70.43 351** IAmb IAmb 02 44 25.0
comp=Z,46nm,1.6s
SIUC Southern Illin **70.44 345** IAmb IAmb 02 44 25.2
comp=Z,30nm,1.1s
TUL3 Leonard **70.45 339** IAmb IAmb 02 44 26.6
comp=Z,18nm,0.8s
U38A Gravette **70.53 341** IAmb IAmb 02 44 26.1
comp=Z,40nm,1.7s
OK052 Battle Ridge R **70.84 339** IAmb IAmb 02 44 28.6
comp=Z,41nm,1.3s
P52A Corning **71.07 351** IAmb IAmb 02 44 29.3
comp=Z,43nm,1.4s
MSTX Muleshoe **71.12 333** IAmb IAmb 02 44 30.1
comp=Z,37nm,1.4s
SMWD Samnorwood **71.19 335** IAmb IAmb 02 44 30.4
comp=Z,51nm,1.5s
CCM Cathedral Cave **71.23 344** P **P** **02 44 12.4 +0.7**
CCM Cathedral Cave **71.23 344** P **P** **02 44 12.4 +0.7**
CCM pmax pmax
comp=Z,61nm,1.4s
CCM Cathedral Cave **71.23 344** P **P** **02 44 12.7 +1.0**
CCM pP **pP** **02 44 29.2 +0.1**
P48A Milroy **71.39 349** IAmb IAmb 02 44 30.4
comp=Z,56nm,1.6s
T35A Sooner Cattle **71.60 339** IAmb IAmb 02 44 32.9
comp=Z,33nm,1.2s
121A Cookes Peak, D **71.99 328** **P** **02 44 19.4 +2.8**
P40A Paris **72.82 344** **P** **02 44 22.5 +1.3**
L56A Greenwood **73.09 355** IAmb IAmb 02 44 42.4
comp=Z,27nm,1.0s
ANMO Albuquerque **73.47 331** LR LR 03 12 25.2
comp=Z,87nm,20.1s,baz=238,slow=32
ANMO Albuquerque **73.47 331**⇓*e*P **P** **02 44 27.4 +2.0**
ANMO pmax pmax
comp=Z,7.0nm,1.5s
N41A Harden Midland **73.66 345** IAmb IAmb 02 44 44.2
comp=Z,36nm,1.0s
DBIC Dimbokro **73.86 72** **P** **02 44 27.4 -0.6**
DBIC Dimbokro **73.86 72** P **P** **02 44 27.6 -0.4**
comp=Z,38nm,0.6s,baz=251,slow=6.9,SNR=84
DBIC pP **pP** **02 44 45.7 +0.2**
comp=Z,21nm,0.8s,baz=248,slow=5.8,SNR=7.0
DBIC LR LR 03 13 60.0
comp=Z,96nm,21.0s,baz=228,slow=33
comp=Z,38nm,0.6s
T25A Trinidad **74.54 333** IAmb IAmb 02 44 51.8
comp=Z,39nm,1.4s
X16A Lo Mia Camp, P **75.25 327** IAmb IAmb 02 44 56.7
comp=Z,22nm,1.2s
SDCO Great Sand Dun **75.49 333** IAmb IAmb 02 44 57.3
comp=Z,34nm,1.7s
JFWS Jewell Farm **75.64 346** IAmb IAmb 02 44 56.2
comp=Z,50nm,1.4s
WBO Williamsburg **75.82 357** IAmb IAmb 02 44 40.2
comp=Z,22nm,0.7s
MAW Mawson **75.82 164** P **P** **02 44 38.9 +0.5**
comp=Z,6.2nm,1.1s
MAW Mawson **75.82 164** P **P** **02 44 38.4 0.0**
comp=Z,20nm,0.8s,baz=208,slow=6.9,SNR=39
MAW pP **pP** **02 44 56.6 +0.6**
comp=Z,8.4nm,0.9s,baz=185,slow=4.8,SNR=3.8
MAW LR LR 03 20 43.7
comp=Z,131nm,18.1s,baz=254,slow=38
comp=Z,20nm,0.8s
SUR Sutherland **75.86 119** P **P** **02 44 40.2 +0.6**
SUR IAmb IAmb 02 44 40.7
comp=Z,20nm,0.7s
G62A West of Eustis **75.97 1** P **P** **02 44 40.8 +1.4**
WUAZ Wupatki **76.12 327** IAmb IAmb 02 45 01.7
comp=Z,23nm,1.1s
MVCO Mesa Verde **76.26 330** IAmb IAmb 02 45 02.2
comp=Z,22nm,1.2s
I42A Draeger Farm, **76.31 347** IAmb IAmb 02 44 59.9
comp=Z,22nm,1.1s
I40A Norwalk **76.65 346** IAmb IAmb 02 45 01.7
comp=Z,19nm,1.0s
F64A Sherman **76.66 2** P **P** **02 44 44.8 +1.5**
F64A IAmb IAmb 02 44 45.6
comp=Z,19nm,1.0s
LMN Caledonia Moun **76.84 5** P **P** **02 44 44.9 +0.6**
LMN IAmb IAmb 02 45 04.6
comp=Z,20nm,0.9s
TRQ Mont Tremblant **77.02 358** IAmb IAmb 02 44 46.8
comp=Z,15nm,0.9s
PFO Pinyon Flats O **77.08 323** LR LR 03 12 44.5
comp=Z,69nm,21.9s,baz=143,slow=31
PFO Pinyon Flats O **77.08 323**⇓*e*P **P** **02 44 45.6 -0.5**
PFO pmax pmax
comp=Z,14nm,0.9s
PV13 Radium Mtn., P **77.20 331** IAmb IAmb 02 45 06.6
comp=Z,47nm,1.6s
PV05 Paradox Valley **77.25 330** IAmb IAmb 02 45 06.7
comp=Z,42nm,1.5s
U15A North Rim **77.29 327** IAmb IAmb 02 45 07.8
comp=Z,38nm,1.7s
E62A Clayton Lake **77.39 1** IAmb IAmb 02 44 49.6
comp=Z,15nm,0.7s
PV19 Morning Glory **77.39 331** IAmb IAmb 02 45 07.8
comp=Z,45nm,1.7s
PV20 West Nyswonger **77.41 331** IAmb IAmb 02 45 07.6
comp=Z,43nm,1.6s
PV10 Paradox Valley **77.47 331** IAmb IAmb 02 45 07.5
comp=Z,16nm,0.9s
WIN Windhoek **77.58 109** IAmb IAmb 02 44 50.5
comp=Z,50nm,1.5s
HMU Henry Mountain **77.84 329** IAmb IAmb 02 45 10.8
comp=Z,59nm,1.7s
D62A Allapoint, All **77.86 2** IAmb IAmb 02 44 52.0
comp=Z,17nm,0.8s
G40A Rib Lake **77.89 347** IAmb IAmb 02 45 08.7
comp=Z,18nm,1.1s
RAR Rarotonga **77.91 253** LR LR 03 10 51.8
comp=Z,47nm,20.3s,baz=110,slow=29
E46A Sault Ste Mari **77.98 351** IAmb IAmb 02 45 09.6
comp=Z,29nm,1.0s
F42A Maple Grove Fa **77.98 348** IAmb IAmb 02 44 52.2
comp=Z,13nm,0.7s
KNB Kanab **78.02 327** IAmb IAmb 02 45 12.5
comp=Z,17nm,0.9s
SPMN Marine on St. **78.40 345** IAmb IAmb 02 45 11.0
comp=Z,13nm,0.8s
MTPU Mont Pierson **78.56 328** IAmb IAmb 02 45 14.5
comp=Z,38nm,1.7s
SZCU Shurtz Canyon **78.61 327** IAmb IAmb 02 45 15.0
comp=Z,29nm,1.6s
O20A White River Ci **78.63 332** IAmb IAmb 02 45 14.6
comp=Z,53nm,1.6s
CCUT Cedar City **78.70 327** IAmb IAmb 02 45 15.9
comp=Z,36nm,1.5s
P18A Preston Nutter **79.03 331** IAmb IAmb 02 45 17.7
comp=Z,26nm,1.1s
VLDQ Val d'Or **79.04 356** IAmb IAmb 02 44 58.1
comp=Z,16nm,0.9s
P17A Butcher Ranch, **79.11 330** IAmb IAmb 02 45 17.6
comp=Z,26nm,1.2s
TSUM Tsumeb **79.60 106** **P** **02 44 60.0 -0.5**
TSUM IAmb IAmb 02 45 01.6
comp=Z,23nm,0.9s
KOOLE Kule **79.87 111** *i* P **P** **02 45 01.8 -0.1**
BSUT Blindstream Ca **80.01 331** IAmb IAmb 02 45 22.3
comp=Z,28nm,1.3s
K22A Casper **80.13 335** IAmb IAmb 02 45 22.5
comp=Z,52nm,1.5s
VES Vestal, Richgr **80.17 323** IAmb IAmb 02 45 23.8
comp=Z,23nm,0.9s
RSSD Black Hills **80.54 337** **P** **02 45 06.5 +1.5**
RSSD Black Hills **80.54 337** P **P** **02 45 06.5 +1.5**
RSSD pmax pmax
comp=Z,12nm,0.9s
PHPEN Phepeng **80.76 114** *i* P **P** **02 45 06.0 -0.6**
PHPEN Phepeng **80.76 114** IAmb IAmb 02 45 07.2
comp=Z,25nm,1.2s
TBO Thunder Bay **80.99 348** IAmb IAmb 02 45 25.4
comp=Z,29nm,1.2s
BOSA Boshof **81.04 118** IAmb IAmb 02 45 08.6
comp=Z,22nm,0.8s
BOSA Boshof **81.04 118** P **P** **02 45 07.5 -0.5**
comp=Z,23nm,0.8s,baz=243,slow=5.9,SNR=41
BOSA pP **pP** **02 45 25.4 -0.6**
comp=Z,12nm,0.7s,baz=240,slow=3.7,SNR=7.4
BOSA LR LR 03 20 54.2
comp=Z,48nm,18.2s,baz=26,slow=36
comp=Z,23nm,0.8s
HWUT Hardware Ranch **81.23 331** IAmb IAmb 02 45 27.9
comp=Z,17nm,0.7s
PDAR Pinedale Array **81.39 333** P **P** **02 45 10.1 +0.6**
comp=Z,1.2nm,0.6s,baz=142,slow=3.6,SNR=12
PDAR pP **pP** **02 45 27.6 +0.5**
comp=Z,2.5nm,0.6s,baz=139,slow=7.7,SNR=14
PDAR PKKPbc **PKKPbc** **03 03 43.2 -2.2**
comp=Z,0.9nm,0.6s,baz=329,slow=2.8,SNR=8.6
PDAR LR LR 03 18 16.4
comp=Z,28nm,19.5s,baz=112,slow=33
comp=Z,1.2nm,0.6s
GRTLG Ghanzi **81.50 110** *i* P **P** **02 45 10.4 -0.2**
GRTLG Ghanzi **81.50 110** IAmb IAmb 02 45 11.4
comp=Z,28nm,1.1s
NVAR Mina Array Bea **81.77 325** P **P** **02 45 13.5 +1.9**
comp=Z,2.1nm,0.9s,baz=131,slow=4.2,SNR=9.4
NVAR pP **pP** **02 45 30.6 +1.6**
comp=Z,3.2nm,0.7s,baz=154,slow=5.6,SNR=12
NVAR PKKPbc **PKKPbc** **03 03 43.0 -1.1**
comp=Z,1.0nm,0.7s,baz=334,slow=3.8,SNR=8.5
comp=Z,2.1nm,0.9s
AGMN Agassiz Nation **82.00 344** IAmb IAmb 02 45 30.9
comp=Z,18nm,0.8s
MAKGR Makgori **82.11 115** IAmb IAmb 02 45 14.2
comp=Z,48nm,1.6s
ELK Elko **82.14 328** P **P** **02 45 15.1 +1.6**
TORD Torodi Ar. Bea **82.82 70** P **P** **02 45 16.5 -0.9**
comp=Z,9.6nm,0.9s,baz=285,slow=4.7,SNR=42
TORD pP **pP** **02 45 34.8 -0.4**
comp=Z,12nm,0.7s,baz=277,slow=5.5,SNR=8.2
CASY Casey **82.91 181** **P** **02 45 18.3 +1.3**
LBTB Lobatse **83.13 115** LR LR 03 16 44.3
comp=Z,192nm,20.0s,baz=168,slow=32
PAHR Pah Rah Range **83.29 325** IAmb IAmb 02 45 39.7
comp=Z,42nm,1.6s
CKGRV CKGRV **83.53 111** *i* P **P** **02 45 21.0 -0.2**
ULM Lac du Bonnet **83.83 345** P **P** **02 45 21.8 +0.1**
comp=Z,9.2nm,0.8s,baz=156,slow=7.2,SNR=12
ULM pP **pP** **02 45 39.2 -0.1**
comp=Z,20nm,0.9s,baz=153,slow=4.9,SNR=15
comp=Z,9.2nm,0.8s
LPHEP Lephephe **84.19 114** IAmb IAmb 02 45 25.2
comp=Z,28nm,0.9s
DLMT Dillon **84.76 332** IAmb IAmb 02 45 46.5
comp=Z,23nm,1.4s
EDA Edea **84.83 82** IAmb IAmb 02 45 29.1
comp=Z,28nm,1.5s
J08A Circle Bar Ran **85.68 328** IAmb IAmb 02 45 51.3
comp=Z,17nm,0.9s
SCHQ Schefferville **85.69 3** P **P** **02 45 30.3 -0.6**
comp=Z,5.8nm,1.0s,baz=180,slow=20,SNR=3.5
comp=Z,5.8nm,1.0s
MREMI Moremi **85.84 114** *i* P **P** **02 45 32.6 -0.2**
MREMI Moremi **85.84 114** IAmb IAmb 02 45 33.6
comp=Z,16nm,0.9s
PLID Pearl Lake **85.94 330** IAmb IAmb 02 45 52.2
comp=Z,38nm,1.7s
THZ Tophouse **86.32 223** P **P** **02 45 37.8 +3.1**
K05A Summer Lake **86.33 326** IAmb IAmb 02 45 54.9
comp=Z,25nm,1.2s
KSANE Kasane **86.50 109** IAmb IAmb 02 45 37.3
comp=Z,23nm,1.1s
BROLN Tlhalogang **86.53 112** *i* P **P** **02 45 35.8 -0.4**
POGA Pongola **86.55 120** IAmb IAmb 02 45 37.1
comp=Z,19nm,1.0s
J05D Fort Rock, OR **86.91 326** IAmb IAmb 02 45 57.5
comp=Z,26nm,1.4s
PINE Pine Mountain **87.16 327** IAmb IAmb 02 45 58.9
comp=Z,20nm,1.1s
I05D Terrebonne, OR **87.76 327** IAmb IAmb 02 45 43.9
comp=Z,13nm,0.9s
G06A Carlson Farm, **88.11 328** IAmb IAmb 02 46 03.2
comp=Z,15nm,1.3s
HAWA Hanford **88.50 329** IAmb IAmb 02 46 04.5
comp=Z,24nm,1.4s
NEW Newport **88.94 331** LR LR 03 23 19.8
comp=Z,73nm,18.6s,baz=110,slow=34
MDT Midelt **89.67 51** LR LR 03 24 55.0
comp=Z,45nm,20.3s,baz=204,slow=35
LSZ Lusaka **90.30 108** **P** **02 45 55.3 +1.1**
LSZ Lusaka **90.30 108** P **P** **02 45 55.3 +1.1**
LSZ pmax pmax
comp=Z,22nm,0.9s
TAM Tamanrasset **91.19 64** **P** **02 45 58.6 +0.5**
TAM Tamanrasset **91.19 64** P **P** **02 45 58.6 +0.5**
TAM pmax pmax
comp=Z,16nm,0.5s
ESDC Sonseca Array **94.26 46** **P** **02 46 11.4 -0.3**
ESDC Sonseca Array **94.26 46** P **P** **02 46 10.9 -0.9**
comp=Z,2.0nm,0.9s,baz=233,slow=5.3,SNR=14
ESDC pP **pP** **02 46 29.2 -0.6**
comp=Z,1.9nm,1.0s,baz=237,slow=4.5,SNR=6.7
ESDC LR LR 03 27 16.2
comp=Z,67nm,19.0s,baz=168,slow=35
comp=Z,2.0nm,0.9s
FRB Frobisher Bay **94.56 1** LR LR 03 32 13.2
comp=Z,25nm,18.7s,baz=96,slow=38
GERES GERESS Array B **109.81 44** PKiKP **PKiKP** **02 51 22.7 -0.5**
comp=Z,0.6nm,0.6s,baz=207,slow=1.1,SNR=7.0
CLL Collm **110.42 42** *i* PKiKP **PKiKP** **02 51 23.8 -0.3**
CLL Collm **110.42 42** *i* PKiKP **PKiKP** **02 51 23.8 -0.3**
CLL *ex* x 02 58 42.0
CLL *e*Sdif Sdif 02 59 30.0 -3.4
CLL *e*SP SP 03 01 24.0 +0.9
CLL *es*PPS 03 03 00.0
CLL *e*SS **SS** **03 07 24.0 0.0**
ILAR Eielson Array **111.81 333** PKiKP **PKiKP** **02 51 26.9 +0.6**
comp=Z,0.2nm,0.8s,baz=96,slow=0.9,SNR=4.6
NOA NORSAR Array B **113.35 32** PKKPab PKKPab 03 02 19.0 -0.7
comp=Z,0.7nm,0.8s,baz=109,slow=4.1,SNR=4.5
MMAI Mount Meron Ar **119.26 67** PKP **PKPdf** **02 51 41.6 -0.1**
comp=Z,1.2nm,0.5s,baz=247,slow=3.0,SNR=7.8
AKASG Malin Array Be **119.91 46** PKP **PKPdf** **02 51 41.3 -0.9**
comp=Z,2.9nm,0.6s,baz=265,slow=2.8,SNR=11
AKASG pPKP **pPKPdf** **02 52 01.1 +0.2**
comp=Z,2.1nm,0.6s,baz=267,slow=2.5,SNR=2.8
AKASG Malin Array Be **119.91 46***c* *i*PKiKP **PKPdf** **02 51 41.2 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si **119.91 46***c* *i*PKiKP **PKPdf** **02 51 41.2 -1.1**
MNK Minsk **119.96 42** *i* PKiKP **PKPdf** **02 51 41.4 -0.8**
MNK *i* 02 51 59.0
MNK *i* 02 52 08.3
MNK *i* 02 53 06.3
MNK *i* SS SS 03 09 29.1 +0.1
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK MLR MLR
comp=N,44nm,17.0s
MNK MLR MLR
comp=Z,61nm,17.0s
MNK MLR MLR
comp=E,59nm,18.0s
BR131 Keskin Array S **120.03 59**⇑*i*PKiKP **PKPdf** **02 51 42.1 -1.0**
BRTR Keskin Array B **120.03 59** PKP **PKPdf** **02 51 43.0 -0.1**
comp=E,1.4nm,0.7s,baz=207,slow=1.6,SNR=5.3
BRTR Keskin Array B **120.03 59***c* *i*PKiKP **PKPdf** **02 51 42.7 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs **120.33 207** PKP **PKPdf** **02 51 43.6 -0.6**
comp=Z,1.7nm,0.5s,baz=136,slow=1.6,SNR=24
ASAR pPKP **pPKPdf** **02 52 02.0 -0.9**
comp=Z,2.3nm,0.8s,baz=149,slow=2.0,SNR=9.6
ASAR PKKPbc **PKKPbc** **03 01 49.4 -1.2**
comp=Z,0.3nm,0.5s,baz=332,slow=3.3,SNR=4.2
ASAR PKKP **PKKPdf** **03 02 19.5 -2.7**
comp=Z,0.3nm,0.6s,baz=339,slow=4.1,SNR=4.3
ARCES ARCESS Array B **121.21 24** PKP **PKiKP** **02 51 44.4 0.0**
comp=Z,2.2nm,0.9s,baz=270,slow=0.9,SNR=3.5
ARCES PKKPbc **PKKPbc** **03 01 47.4 -0.6**
comp=Z,1.2nm,0.7s,baz=87,slow=3.7,SNR=8.1
WR8 Warramunga Arr **123.41 210** PKP **PKPdf** **02 51 49.7 -0.4**
WRA Warramunga Arr **123.48 209** PKP **PKPdf** **02 51 50.0 -0.3**
comp=Z,4.5nm,0.5s,baz=150,slow=1.7,SNR=108
WRA pPKP **pPKPdf** **02 52 08.2 -0.8**
comp=Z,7.0nm,0.7s,baz=163,slow=1.6,SNR=16
WRAB Tennant Creek **123.49 210**⇓*i*PKiKP **PKPdf** **02 51 49.9 -0.4**
WB0 Warramunga Arr **123.62 210** **PKPdf** **02 51 50.1 -0.4**
LVZ Lovozero **124.50 26**⇓*e*PKiKP **PKiKP** **02 51 50.9 -0.1**
OBN Obninsk **125.02 42**⇓*e*PKiKP **PKPdf** **02 51 51.8 -0.1**
OBN *i* 02 52 10.3
OBN *i* 02 52 17.1
OBN 02 53 42.0
OBN *e* 03 03 38.2
OBN *e*SS SS 03 10 32.4 -0.8
OBN pmax pmax
comp=Z,17nm,1.0s
H11S2 WAKE ISLAND Hyl **126.20 271** T T 05 10 57.6
baz=116,slow=75,SNR=400
H11S1 WAKE ISLAND Hyl **126.21 271** T T 05 10 48.4
baz=116,slow=75,SNR=406
H11S3 WAKE ISLAND Hyl **126.21 271** T T 05 10 48.3
baz=116,slow=75,SNR=280
H11N3 WAKE ISLAND Hyl **126.54 272** T T 05 11 12.9
baz=116,slow=75,SNR=199
H11N1 WAKE ISLAND Hyl **126.55 272** T T 05 11 18.6
baz=116,slow=75,SNR=77
H11N2 WAKE ISLAND Hyl **126.55 272** T T 05 11 25.0
baz=116,slow=75,SNR=279
KLMR Klimovskoe **126.81 35** *e*PKiKP **PKPdf** **02 51 54.5 -0.7**
KLMR *e* 02 52 12.6
KLMR pmax pmax
comp=Z,9.0nm,0.9s
SHA1 Shidzhatmaz **127.51 56**⇑*e*PKiKP **PKPdf** **02 51 57.4 0.0**
KIV Kislovodsk **127.57 56** *e*PKiKP **PKiKP** **02 51 57.8 -0.1**
KIV pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz **127.68 57** PKP **PKPdf** **02 51 57.3 -0.1**
comp=Z,2.3nm,0.9s,baz=301,slow=5.9,SNR=4.9
KBZ Khabaz **127.68 57**⇓*i*PKiKP **PKiKP** **02 51 58.5 +0.6**
NCK Nalchik **128.15 57**⇓*e*PKiKP **PKPdf** **02 51 58.4 0.0**
BILL Bilibino **130.41 335**⇓*e*PKiKP **PKPdf** **02 52 02.2 +0.3**
AKT Akhty **130.86 60** *i* PKiKP **PKPdf** **02 52 04.0 +0.3**
AKT *e**PP **pPKPdf** **02 52 23.7 +1.3**
AKT *e**SP **sPKPdf** **02 52 30.4 +1.2**
AKT *e* 02 54 22.0
AKT pmax pmax
comp=Z,11nm,1.3s
BELG Belogornoye **131.48 46**⇓*e*PKiKP **PKPdf** **02 52 04.7 +0.4**
KIRV Kirov **131.99 37**⇑*e*PKiKP **PKPdf** **02 52 05.6 +0.5**
ARTI Arti **137.17 39** *i* PKiKP **PKPdf** **02 52 15.3 +0.4**
ARTI 02 55 00.6
ARTI SS SS 03 13 03.6 +2.2
SEY Seymchan **137.72 332** *i* PKiKP **PKPdf** **02 52 15.8 +0.1**
SEY pmax pmax
comp=Z,6.0nm,0.7s
TIXI Tiksi **137.93 351**⇓*e*PKiKP **PKiKP** **02 52 17.8 -0.1**
PEA0B Petropavlovsk- **138.41 317**⇑*e*PKiKP **PKiKP** **02 52 19.7 +0.3**
PETK Petropavlovsk- **138.41 317** PKP **PKPdf** **02 52 17.6 +0.3**
comp=Z,4.7nm,0.8s,baz=86,slow=4.8,SNR=8.0
PETK pPKP **pPKPdf** **02 52 36.2 +0.4**
comp=Z,2.6nm,0.7s,baz=100,slow=8.1,SNR=3.6
AB31 Akbulak array **139.52 49** *i* PKHKP PKPpre 02 52 10.8
MDSI Maura Dua **144.37 173** PKP **PKPab** **02 52 27.4 +0.1**

BVA0	**Borovoye Array**	**144.84**	**40**	*i* PKIKP	PKPbc	02 52 28.4	+0.4
BVAR	**Borovoye Array**	**144.84**	**40**	PKP	PKPbc	02 52 28.2	+0.2
	comp=Z,30nm,0.6s,baz=300,slow=3.0,SNR=124						
BVAR				pPKP	pPKPdf	02 52 47.2	-0.3
	comp=Z,10nm,0.5s,baz=308,slow=3.0,SNR=7.7						
PALK	**Pallekele**	**144.84**	**127**	*de*PKIKP	**PKPab**	**02 52 29.2**	**0.0**
LHSI	**Lahat**	**144.94**	**171**	PKP	**PKPdf**	**02 52 31.2**	**+1.0**
KSI	**Kapahiang**	**144.98**	**170**	PKP	**PKPdf**	**02 52 30.9**	**+0.5**
LUWI	**Luwuk**	**145.26**	**206**	PKP	**PKPdf**	**02 52 32.0**	**+1.2**
MASI	**Maura Aman, Be**	**145.43**	**169**	PKP	**PKPab**	**02 52 32.6**	**+1.3**
YAK	**Yakutsk**	**146.14**	**342**	*i* PKIKP	**PKPdf**	**02 52 30.9**	**+0.2**
YAK				*e*		02 52 50.2	
YAK				*e*SS	SS	03 14 49.7	+5.3
YAK				pmax	pmax		
	comp=Z,48nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
TPI	**Tanjungpandan**	**146.31**	**179**	PKP	**PKPab**	**02 52 34.6**	**0.0**
BRLS	**Borolday**	**147.23**	**58**	*i* PKIKP	**PKPdf**	**02 52 33.3**	**+0.1**
PDSI	**Padang**	**147.26**	**165**	PKP	**PKPbc**	**02 52 36.6**	**+0.1**
IUG	**Iuzhnay**	**147.50**	**59**	PKIKP	**PKPdf**	**02 52 33.7**	**-0.1**
KK31	**Karatay Array**	**147.71**	**57**	*i* PKIKP	**PKPdf**	**02 52 34.8**	**+0.8**
GSI	**Gunungsitoli**	**148.61**	**159**	PKP	**PKiKP**	**02 52 41.3**	**-0.3**
MNSI	**Mandailing Nat**	**148.70**	**163**	PKP	**PKPbc**	**02 52 40.3**	**0.0**
HYB	**Hyderabad**	**149.62**	**110**	*e*PKPbc	**PKPbc**	**02 52 42.3**	**-0.3**
HYB				*e*PKiKP	**PKiKP**	**02 52 43.9**	**+0.3**
BTLS	**Baital**	**149.79**	**53**	*e*PKIKP	PKPdf	02 52 24.2	-13
EKS2	**Erkin-Say**	**150.15**	**58**	P	**PKiKP**	**02 52 44.2**	**+0.2**
	SNR=14						
ASAJ	**Asahikawa**	**150.23**	**306**	PKPbc	**PKPbc**	**02 52 43.5**	**+0.3**
	comp=E,11nm,0.8s,baz=117,slow=2.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**150.43**	**40**	PKP	**PKPdf**	**02 52 37.9**	**-0.2**
	comp=E,0.9nm,0.5s,baz=302,slow=3.0,SNR=3.2						
KURBB				PKPbc	**PKPbc**	**02 52 43.2**	**-0.2**
	comp=E,11nm,0.6s,baz=300,slow=3.2,SNR=16						
KURBB				pPKPbc	**pPKPbc**	**02 53 01.9**	**-0.2**
	comp=E,4.2nm,0.6s,baz=302,slow=3.0,SNR=3.8						
KURK	**Kurchatov**	**150.44**	**40**	*de*PKIKP	**PKPdf**	**02 52 38.4**	**+0.3**
USP	**Ospenovka**	**150.54**	**56**	P	**PKiKP**	**02 52 44.6**	**-0.1**
	SNR=16						
AAK	**Ala-Archa**	**150.68**	**57**	P	**PKiKP**	**02 52 45.5**	**+0.3**
	SNR=17						
AAK	**Ala-Archa**	**150.68**	**57**	*de*PKIKP	**PKPdf**	**02 52 39.7**	**+0.7**
KCSI	**Kotacane, Aceh**	**150.76**	**158**	PKP	**PKPbc**	**02 52 45.0**	**-0.4**
UCH	**Uchtor**	**150.77**	**58**	P	**PKiKP**	**02 52 46.1**	**+0.3**
	SNR=20						
CHMS	**Chumysh**	**150.78**	**57**	P	**PKiKP**	**02 52 45.0**	**-0.2**
	SNR=5.7						
TSI	**Tuntungan**	**150.99**	**159**	PKP	**PKiKP**	**02 52 46.4**	**-0.1**
TKM2	**Tokmak 2**	**151.41**	**56**	P	**PKPdf**	**02 52 40.6**	**+0.5**
	SNR=5.1						
ZALV	**Zalesovo Beam**	**151.53**	**30**	PKP	**PKPdf**	**02 52 39.6**	**0.0**
	comp=E,3.4nm,0.7s,baz=302,slow=2.4,SNR=14						
ZALV				PKPbc	**PKPbc**	**02 52 46.1**	**+0.2**
	comp=E,52nm,0.6s,baz=314,slow=3.0,SNR=134						
ZALV				pPKPbc	**sPKPdf**	**02 53 04.9**	**-0.2**
	comp=E,42nm,0.5s,baz=312,slow=3.2,SNR=19						
KSH	**Kashi**	**152.30**	**63**	PKPbc	**PKiKP**	**02 52 48.5**	**-0.1**
KSH				pPKP	PKPab	02 52 58.0	-0.5
MK31	**Makanchi Array**	**154.48**	**45**	*de*PKIKP	**PKPdf**	**02 52 43.9**	**-0.4**
MKAR	**Makanchi Array**	**154.48**	**45**	PKP	**PKPdf**	**02 52 43.8**	**-0.5**
	comp=E,1.6nm,0.7s,baz=292,slow=1.1,SNR=11						
MKAR				PKPbc	**PKPbc**	**02 52 52.5**	**-0.2**
	comp=E,5.6nm,0.7s,baz=303,slow=1.7,SNR=19						
MKAR				PKPab	**PKPab**	**02 53 06.6**	**-0.8**
	comp=E,9.7nm,0.7s,baz=296,slow=2.8,SNR=24						
MKAR	**Makanchi Array**	**154.48**	**45**	*c* *i*PKIKP	**PKPbc**	**02 52 51.4**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**154.76**	**290**	PKP	**PKPdf**	**02 52 45.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=72,slow=4.0,SNR=5.0						
MJAR				PKPbc	**PKiKP**	**02 52 55.0**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=76,slow=3.3,SNR=2.5						
MJAR				PKPab	**PKPab**	**02 53 09.6**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=102,slow=2.3,SNR=5.3						
KSRS	**Korea Array**	**162.73**	**297**	PKP	**PKPdf**	**02 52 54.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=90,slow=1.3,SNR=2.5						
KSRS				pPKPab	**pPKPab**	**02 54 02.2**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=83,slow=5.2,SNR=3.3						
SONM	**Songino Array**	**163.22**	**5**	PKP	**PKPdf**	**02 52 53.7**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=10.0,slow=2.0,SNR=5.1						
SONM				PKPab	**PKPab**	**02 53 45.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=359,slow=2.1,SNR=2.5						
SONM				pPKPab	**pPKPab**	**02 54 04.3**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=334,slow=4.5,SNR=3.5						
SONM				PP	**PP**	**02 57 27.6**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=346,slow=0.6,SNR=3.9						
CMAR	**Chiang Mai Arr**	**164.73**	**143**	PKP	**PKPdf**	**02 52 56.5**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=201,slow=0.5,SNR=7.3						
CMAR				PKPab	**PKPab**	**02 53 51.6**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=216,slow=5.6,SNR=8.6						
GTA	**Gaotai**	**169.11**	**38**	PKP	**PKPdf**	**02 53 00.4**	**+0.8**
HHC	**Hu-ho-hao-te**	**169.96**	**346**	*e*P	**PKPdf**	**02 53 03.1**	**+3.1**
NJ2	**Nanjing**	**171.09**	**279**	*e*P	**PKPdf**	**02 53 01.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
PZH	**PanZhiHua**	**172.53**	**126**	PKP	**PKPdf**	**02 53 01.3**	**-0.5**
LZH	**Lanzhou**	**173.71**	**37**	*e*PKP	**PKPdf**	**02 53 00.9**	**-1.1**
LZH				PP	**PP**	**02 58 24.3**	**+0.6**
LZH				AMB	AMB		
	comp=Z,310nm,5.5s						
GYA	**Guiyang**	**175.10**	**161**	⇑PKP	**PKPdf**	**02 53 02.0**	**-0.7**
XAN	**Xi'an**	**177.05**	**353**	⇓PKP	**PKPdf**	**02 53 02.5**	**-0.3**
XAN				pPKP	pPKPdf	02 53 21.8	+0.1

*JMA **24** 02:55:59.3±0.1, 24°.2N±0°.5×124°.2E±0°.5, h14km±1km, MV3.3/11, NEAR ISHIGAKIJIMA ISLAND*
*IDC **24** 02:56:03.4±5.7, 22°.92N×122°.18E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=403.7km s-min=30.3km az=60.0*
ISC 24 02:55:59.4±1.2, 24°21N±0°.06×124°23E±0°.04, h12km±8km, n13, σ0s75/22, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIJ	**Ishigaki jima**	**0.18**	**333**	P	**Pg**	**02 56 03.4**	**0.0**
JIJ				*e*S	**Sg**	**02 56 06.3**	**+0.2**
JKRS	**Kuro-shima**	**0.20**	**279**	P	**Pg**	**02 56 04.0**	**+0.2**
JKRS				*e*S	**Sg**	**02 56 07.3**	**+0.5**
JISG	**Ishigakijimahi**	**0.39**	**11**	*e*P	**Pg**	**02 56 06.8**	**-0.3**
JISG				*e*S	**Sg**	**02 56 12.2**	**0.0**
HATJ	**Hateruma jima**	**0.42**	**249**	*e*P	**Pg**	**02 56 07.4**	**-0.3**
HATJ				*e*S	**Sg**	**02 56 13.7**	**+0.5**
IRIF	**Iriomote-Funau**	**0.47**	**286**	P	**Pg**	**02 56 08.7**	**-0.1**
IRIF				*e*S	**Sg**	**02 56 15.5**	**+0.4**
JTJ	**Tarama**	**0.61**	**45**	P	**Pg**	**02 56 11.2**	**-0.1**
JTJ				*e*S	**Sb**	**02 56 20.2**	**-0.4**
JIRB	**Irabujima**	**1.06**	**54**	*e*P	**Pb**	**02 56 19.4**	**-0.3**
JIRB				*e*S	**Sb**	**02 56 33.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.14**	**283**	*e*P	**Pb**	**02 56 20.3**	**-0.8**
YOJ				*e*S	**Sb**	**02 56 35.3**	**-0.6**
JIKM	**Ikemajima**	**1.17**	**52**	*e*P	**Pb**	**02 56 21.3**	**-0.3**
JYNG	**Yonagunijimaku**	**1.20**	**282**	*e*P	**Pn**	**02 56 21.1**	**-0.9**
JYNG				*e*S	**Sb**	**02 56 36.9**	**-0.6**
MKAR	**Makanchi Array**	**40.28**	**315**	P	**P**	**03 03 38.8**	**+2.4**
	0.2nm,0.5s,baz=122,slow=7.1,SNR=2.1						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.97**	**166**	P	**P**	**03 04 13.9**	**-0.8**
	0.5nm,0.7s,baz=345,slow=8.5,SNR=5.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**48.51**	**168**	P	**P**	**03 04 42.4**	**+0.1**
	0.3nm,0.9s,baz=349,slow=8.2,SNR=4.1						
	0.3nm,0.9s						

*IDC **24** 03:06:33.9±1.0, 3°.63N×63°.53E, h0km, mb3.9/17, mbtmp3.9/17, MS3.8/25, Error ellipse: s-maj=31.6km s-min=17.2km az=38.0*
*NEIC **24** 03:06:34.9±2.3, 3°.3N±0°.2×62°.9E±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=33.4km s-min=11.0km az=217.0*
ISC 24 03:06:35.2±1.1, 3°.5N±0°.2×63°.3E±0°.2, h10km, n66, σ1s42/45, mb4.3/31, MS3.9/24, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**26.40**	**260**	LR	LR	03 21 00.4	
	comp=Z,121nm,21.9s,baz=106,slow=32						
OPO	**Ambohidratompo**	**27.06**	**215**	LR	LR	03 20 28.4	
	comp=Z,304nm,20.0s,baz=160,slow=31						
BRDH	**Bariadhala**	**33.44**	**53**	LR	LR	03 27 37.7	
	comp=Z,371nm,18.3s,baz=247,slow=38						
SIMJ	**Simiganj**	**35.37**	**8**	P	**P**	**03 13 32.9**	**+1.7**
SIMJ				IAmb	IAmb	03 13 49.7	
	comp=Z,4.5nm,1.2s						
PSI	**Prapat**	**35.62**	**90**	LR	LR	03 24 44.9	
	comp=Z,278nm,19.1s,baz=256,slow=31						
GAR	**Garm**	**35.90**	**9**	P	**P**	**03 13 37.2**	**+1.5**
ASF	**Jabal al Asfar**	**37.74**	**322**	LR	LR	03 27 13.5	
	comp=Z,77nm,20.4s,baz=153,slow=33						
CMAR	**Chiang Mai Arr**	**37.93**	**64**	P	**P**	**03 13 55.5**	**+2.3**
CMAR	**Chiang Mai Arr**	**37.93**	**64**	P	**P**	**03 13 52.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=258,slow=12,SNR=6.4						
CMAR				LR	LR	03 28 48.3	
	comp=Z,71nm,18.8s,baz=255,slow=36						
	comp=Z,1.0nm,0.3s						
MMAI	**Mount Meron Ar**	**39.24**	**322**	LR	LR	03 28 25.1	
	comp=Z,76nm,21.6s,baz=161,slow=33						
LSZ	**Lusaka**	**39.42**	**241**	LR	LR	03 29 10.8	
	comp=Z,170nm,19.0s,baz=118,slow=34						
KKAR	**Karatay Array**	**39.94**	**8**	P	**P**	**03 14 12.0**	**+2.3**
AAK	**Ala-Archa**	**40.22**	**13**	LR	LR	03 31 21.5	
	comp=Z,119nm,18.5s,baz=193,slow=37						
BRTR	**Keskin Array B**	**44.93**	**327**	P	**P**	**03 14 50.6**	**+0.1**
BRTR	**Keskin Array B**	**44.93**	**327**	P	**P**	**03 14 49.8**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=132,slow=2.1,SNR=1.8						
	comp=Z,0.6nm,0.7s						
AB31	**Akbulak array**	**45.66**	**357**	P	**P**	**03 14 56.2**	**+0.2**
AB31				IAmb	IAmb	03 15 00.1	
	comp=Z,4.7nm,1.2s						
ABKAR	**Akbulak array**	**45.66**	**357**	P	**P**	**03 14 56.6**	**+0.6**
MKAR	**Makanchi Array**	**46.16**	**18**	P	**P**	**03 14 58.2**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=209,slow=15,SNR=1.6						
	comp=Z,0.2nm,0.7s						
LBTB	**Lobatse**	**46.27**	**230**	LR	LR	03 31 48.6	
	comp=Z,143nm,18.6s,baz=56,slow=32						
AKTO	**Aktyubinsk**	**46.96**	**355**	P	**P**	**03 15 05.3**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=155,slow=5.0,SNR=5.7						
	comp=Z,0.6nm,0.3s						
BOSA	**Boshof**	**48.51**	**226**	LR	LR	03 34 31.1	
	comp=Z,98nm,18.2s,baz=44,slow=34						
KURBB	**Kurchatov Arra**	**48.68**	**13**	P	**P**	**03 15 16.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=214,slow=9.0,SNR=4.4						
KURBB				PcP	**PcP**	**03 16 44.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=227,slow=4.9,SNR=1.4						
KURBB				LR	LR	03 35 03.0	
	comp=Z,88nm,21.9s,baz=166,slow=35						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**49.70**	**6**	P	**P**	**03 15 25.3**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=151,slow=3.3,SNR=1.6						
BVAR				LR	LR	03 37 19.8	
	comp=Z,86nm,20.5s,baz=228,slow=37						
	comp=Z,0.3nm,0.4s						
TSUM	**Tsumeb**	**50.27**	**242**	LR	LR	03 35 00.3	
	comp=Z,212nm,20.0s,baz=78,slow=34						
ARTI	**Arti**	**52.86**	**357**	P	**P**	**03 15 50.8**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=191,slow=5.2,SNR=3.9						
	comp=Z,1.3nm,0.5s						
ZAA0	**Zalesovo Array**	**53.28**	**16**	P	**P**	**03 15 54.4**	**+0.3**
ZAA0				IAmb	IAmb	03 15 54.9	
	comp=Z,4.0nm,1.0s						
ZALV	**Zalesovo Beam**	**53.28**	**16**	P	**P**	**03 15 53.1**	**-1.0**
ZALV	**Zalesovo Beam**	**53.28**	**16**	P	**P**	**03 15 51.5**	**-2.6**
	comp=Z,1.2nm,0.7s,baz=213,slow=7.9,SNR=6.4						
ZALV				LR	LR	03 37 44.4	
	comp=Z,60nm,18.4s,baz=214,slow=35						
	comp=Z,1.2nm,0.7s						
AKASG	**Malin Array Be**	**55.04**	**334**	P	**P**	**03 16 05.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=150,slow=5.9,SNR=4.5						
	comp=Z,0.2nm,0.3s						
SONM	**Songino Array**	**57.60**	**33**	P	**P**	**03 16 27.0**	**+1.4**
SONM	**Songino Array**	**57.60**	**33**	P	**P**	**03 16 23.7**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=207,slow=9.2,SNR=3.9						
SONM				LR	LR	03 40 44.5	
	comp=Z,139nm,21.9s,baz=205,slow=36						
	comp=Z,0.5nm,0.8s						
RONA	**Rosalia, Austr**	**59.66**	**325**	*e*P	**P**	**03 16 41.1**	**+1.3**
	comp=Z,2.6nm,1.2s						
ARSA	**Arzberg**	**59.87**	**324**	*i* P	**P**	**03 16 42.5**	**+1.3**
	comp=Z,3.8nm,1.2s						
CONA	**Conrad Observa**	**60.03**	**325**	*i* P	**P**	**03 16 44.0**	**+1.6**
	comp=Z,4.1nm,1.2s						
VRAC	**Vranov**	**60.37**	**327**	P	**P**	**03 16 45.7**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=135,slow=4.3,SNR=4.9						
	comp=Z,1.9nm,0.4s						
MOA	**Molln**	**60.91**	**324**	*i* P	**P**	**03 16 49.5**	**+1.2**
	comp=Z,5.4nm,1.1s						
H01W3	**Cape Leeuwin H**	**61.11**	**133**	T	T	04 22 59.4	
	baz=299,slow=75,SNR=9.5						
H01W2	**Cape Leeuwin H**	**61.12**	**133**	T	T	04 23 00.9	
	baz=299,slow=75,SNR=8.5						
H01W1	**Cape Leeuwin H**	**61.13**	**133**	T	T	04 22 59.8	
	baz=299,slow=75,SNR=9.6						
BIOA	**Bad Ischl, Aus**	**61.20**	**324**	*i* P	**P**	**03 16 51.5**	**+1.2**
	comp=Z,2.2nm,1.2s						
ABTA	**Abfaltersbach**	**61.41**	**323**	*e*P	**P**	**03 16 53.7**	**+1.9**
	comp=Z,3.7nm,1.0s						
LESA	**Schwarzleotal**	**61.63**	**323**	*e*P	**P**	**03 16 54.3**	**+1.0**
	comp=Z,4.1nm,1.1s						
WTTA	**Wattenberg**	**62.18**	**323**	*i* P	**P**	**03 16 57.6**	**+0.5**
	comp=Z,6.0nm,1.4s						
MOTA	**Moosalm**	**62.54**	**323**	*e*P	**P**	**03 16 59.5**	**0.0**
	comp=Z,2.9nm,1.0s						
FETA	**Feichten**	**62.62**	**322**	*e*P	**P**	**03 17 02.1**	**+2.0**
	comp=Z,2.7nm,1.6s						
DAVOX	**Davos/Dischmat**	**63.03**	**322**	P	**P**	**03 17 04.3**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=145,slow=12,SNR=6.5						
	comp=Z,2.7nm,0.8s						
DAVA	**Davos**	**63.26**	**322**	*i* P	**P**	**03 17 05.2**	**+0.9**
	comp=Z,5.0nm,1.2s						
HFS	**Hagfors**	**67.87**	**336**	P	**P**	**03 17 34.3**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=125,slow=7.4,SNR=8.8						
	comp=Z,1.7nm,0.6s						
DBIC	**Dimbokro**	**67.88**	**276**	LR	LR	03 47 04.4	
	comp=Z,68nm,18.6s,baz=133,slow=36						
NOA	**NORSAR Array B**	**69.39**	**336**	P	**P**	**03 17 42.5**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=115,slow=6.7,SNR=3.5						
	comp=Z,1.3nm,1.0s						
ESDC	**Sonseca Array**	**70.31**	**311**	P	**P**	**03 17 48.0**	**-1.3**
ESDC				IAmb	IAmb	03 17 52.2	
	comp=Z,4.6nm,1.2s						
ESDC	**Sonseca Array**	**70.31**	**311**	P	**P**	**03 17 50.8**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=87,slow=5.2,SNR=16						
	comp=Z,1.6nm,0.9s						
WRA	**Warramunga Arr**	**73.51**	**112**	P	**P**	**03 18 08.1**	**-0.7**
WRA	**Warramunga Arr**	**73.51**	**112**	P	**P**	**03 18 09.4**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=287,slow=5.5,SNR=19						
	comp=Z,4.3nm,0.9s						
WB0	**Warramunga Arr**	**73.53**	**112**	P	**P**	**03 18 08.3**	**-0.6**
ASAR	**Alice Springs**	**73.80**	**116**	P	**P**	**03 18 11.6**	**+1.1**
ASAR	**Alice Springs**	**73.80**	**116**	P	**P**	**03 18 11.1**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=287,slow=5.9,SNR=20						
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**75.83**	**53**	LR	LR	03 52 52.4	
	comp=Z,45nm,20.6s,baz=244,slow=37						
YAK	**Yakutsk**	**76.00**	**26**	LR	LR	03 52 32.2	
	comp=Z,92nm,20.9s,baz=284,slow=36						
MA2	**Magadan**	**85.73**	**31**	LR	LR	03 59 14.3	
	comp=Z,94nm,18.2s,baz=296,slow=37						
SNAA	**Sanae**	**85.98**	**197**	LR	LR	03 51 40.0	
	comp=Z,60nm,18.5s,baz=51,slow=31						
PETK	**Petropavlovsk-**	**89.88**	**37**	LR	LR	04 01 26.5	
	comp=Z,42nm,19.0s,baz=292,slow=37						
VNDA	**Vanda**	**95.27**	**168**	LR	LR	03 57 43.4	
	comp=Z,82nm,18.3s,baz=260,slow=32						
SHEM	**Shemya Is, Ala**	**99.65**	**35**	LR	LR	04 08 57.0	
	comp=Z,38nm,18.1s,baz=343,slow=38						
NVAR	**Mina Array Bea**	**138.24**	**2**	PKP	**PKPdf**	**03 25 59.2**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=310,slow=5.2,SNR=3.6						
TXAR	**Lajitas Array**	**145.01**	**340**	PKPbc	**PKPdf**	**03 26 14.2**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=31,slow=1.4,SNR=10.0						

*KRNET **24** 03:34:26.8±0.1, 40°.64N×78°.90E, h19km, mb3.6*
*NNC **24** 03:34:29.7±1.8, 40°.70N×78°.81E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=13.5km s-min=8.5km az=162.0*
*SOME **24** 03:34:29.0, 40°.77N×78°.80E, h0km*
ISC 24 03:34:30.9±1.9, 40°.76N±0°.08×78°.79E±0°.06, h10km, n30, σ1s75/49, 27C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.22**	**323**	⇑*e*P	**Pn**	**03 34 52.5**	**-2.0**
TARG				⇑*e*S	**Sn**	**03 35 11.4**	**+0.1**
PRZ	**Przheval'sk**	**1.75**	**351**	⇑*e*P	**Pb**	**03 35 01.9**	**-1.3**
PRZ				⇑*e*S	**Sg**	**03 35 27.6**	**+0.4**
KDJ	**Kajisay**	**1.83**	**319**	⇑*e*P	**Pb**	**03 35 03.0**	**-1.6**
KDJ				⇑*e*S	**Sg**	**03 35 29.4**	**-0.3**
SATY	**Saty**	**2.32**	**353**	Pg	**Pg**	**03 35 14.0**	**-1.3**
	54nm,0.8s						
SATY				Lg	Lg	03 35 46.5	
	72nm,0.6s						
ULHL	**Ulahol**	**2.42**	**309**	⇑*e*P	**Pn**	**03 35 11.5**	**+0.7**
ULHL				⇑*e*S	**Sb**	**03 35 44.1**	**-0.6**
SHLS	**Shalkode**	**2.45**	**12**	Pg	**Pg**	**03 35 16.7**	**-1.2**
	60nm,0.4s						
SHLS				Lg	Lg	03 35 50.6	
	111nm,0.5s						
SHLS	**Shalkode**	**2.45**	**12**	*e*P	**Pg**	**03 35 16.7**	**-1.2**
	60nm,0.4s						
SHLS				*e*S	**Sg**	**03 35 50.6**	**+0.9**
	111nm,0.5s						
PDGK	**Podgornoye**	**2.62**	**11**	⇓Pn	**Pn**	**03 35 14.5**	**+1.0**
	40nm,0.6s						
PDGK				⇓Lg	Lg	03 35 51.6	
	139nm,1.1s						
TNSS	**Tian-Shan**	**2.66**	**330**	*e*P	**Pg**	**03 35 21.1**	**-0.8**
	12nm,0.4s						
TNSS				*e*S	**Sg**	**03 35 58.3**	**+1.8**
KPKS	**Kokpek**	**2.71**	**358**	Pg	**Pg**	**03 35 20.9**	**-1.9**
KPKS				Lg	Lg	03 35 58.1	
MTBS	**Maitube**	**2.95**	**324**	*e*P	**Pb**	**03 35 24.2**	**+0.5**
	4.7nm,0.1s						
MTBS				*e*S	**Sg**	**03 36 03.2**	**-2.5**
	14nm,0.5s						
KST	**Kastek**	**3.11**	**318**	Pg	**Pg**	**03 35 28.3**	**-2.2**
	16nm,0.4s						
KST				Lg	Lg	03 36 10.5	
	52nm,1.1s						
KST	**Kastek**	**3.11**	**318**	*e*P	**Pg**	**03 35 28.3**	**-2.2**
	16nm,0.4s						
KST				*e*S	**Sg**	**03 36 10.5**	**-0.2**
	52nm,1.1s						
TKM2	**Tokmak 2**	**3.22**	**313**	⇑*e*P	**Pn**	**03 35 22.6**	**+0.9**
TKM2				⇑*e*S	**Sn**	**03 36 03.2**	**+3.0**
KTBS	**Karatobe**	**3.34**	**333**	Pg	**Pb**	**03 35 31.4**	**+1.1**
	26nm,0.7s						
KTBS				Lg	Lg	03 36 16.1	
	27nm,0.6s						
DGS	**Degeres**	**3.35**	**319**	Pg	**Pg**	**03 35 32.5**	**-2.6**
DGS				Lg	Lg	03 36 18.1	
KBK	**Karagaybulak**	**3.44**	**305**	⇑*e*P	**Pn**	**03 35 25.6**	**+0.8**
KBK				⇑*e*S	**Sn**	**03 36 08.5**	**+2.7**
UCH	**Uchtor**	**3.53**	**296**	⇑*e*P	**Pn**	**03 35 26.8**	**+0.6**
UCH				⇑*e*S	**Sn**	**03 36 10.6**	**+2.3**
AAK	**Ala-Archa**	**3.72**	**302**	⇓Pg	**Pb**	**03 35 36.0**	**-0.9**
	3.9nm,0.6s						
AAK				⇑Lg	Lg	03 36 27.6	
	16nm,0.8s						
AAK	**Ala-Archa**	**3.72**	**302**	⇑*e*P	**Pn**	**03 35 29.5**	**+0.9**
AAK				⇑*e*S	**Sn**	**03 36 15.1**	**+2.5**
FRU1	**Bishkek**	**3.72**	**305**	⇓*e*P	**Pn**	**03 35 29.7**	**+1.1**
FRU1				⇓*e*S	**Sn**	**03 36 15.5**	**+3.0**
CHMS	**Chumysh**	**3.75**	**308**	⇑*e*P	**Pn**	**03 35 29.8**	**+0.9**
CHMS				⇑*e*S	**Sn**	**03 36 15.7**	**+2.5**
SALK	**Salom-Alik**	**3.77**	**274**	⇑*e*P	**Pn**	**03 35 29.5**	**+0.2**
SALK				⇑*e*S	**Sn**	**03 36 15.3**	**+1.5**
USP	**Ospenovka**	**4.06**	**310**	⇓*e*P	**Pn**	**03 35 34.1**	**+0.9**
USP				⇓*e*S	**Sn**	**03 36 23.1**	**+2.3**

ACON	**Acoyapa**	**1.31**	**24**	S	**Sn**	**03 42 32.4**	**-0.5**
UNAN	**Cigeo UNAN**	**1.44**	**338**	P	**Pn**	**03 42 17.8**	**-0.3**
UNAN				S	**Sn**	**03 42 36.0**	**-0.2**
SAPS	**Ciudad Sandino**	**1.55**	**334**	P	**Pn**	**03 42 19.3**	**-0.1**
BOAB	**BOACO BROADBAN**	**.68**	**2**	P	**Pn**	**03 42 20.9**	**-0.2**
BOAB	**BOACO BROADBAN**	**.68**	**2**	S	**Sn**	**03 42 40.8**	**-0.8**
MOM2	**El Cardon**	**1.82**	**336**	P	**Pn**	**03 42 23.1**	**0.0**
CNGA	**Al SSO del Vol**	**1.97**	**331**	P	**Pn**	**03 42 25.6**	**+0.5**
ESPN	**Las Esperanzas**	**1.99**	**44**	*eP*	**Pn**	**03 42 25.4**	**+0.1**
POLN	**Al Sur del Vol**	**2.16**	**330**	P	**Pn**	**03 42 27.5**	**-0.2**

*KRNET **24** 03:42:25.6±0.1, 42.°10N×78.°82E, h15km, mb3.2*
*NNC **24** 03:42:26.4±1.0, 42.°17N×78.°84E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=6.9km s-min=3.0km az=156.0*
*SOME **24** 03:42:26.7, 42.°15N×78.°75E, h10km*
ISC 24 03:42:27.1±1.4, 42.°13N±0.°04×78.°67E±0.°03, h3km±10km, n39, σ1§81/67, 17C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.41**	**330**	⇑*eP*	**Pg**	**03 42 35.3**	**+0.4**
PRZ				⇑*eS*	**Sb**	**03 42 42.7**	**-1.1**
TARG	**Taragay, Kyrgy**	**0.76**	**238**	⇑*eP*	**Pg**	**03 42 41.5**	**-0.2**
TARG				⇑*eS*	**Sb**	**03 42 53.4**	**-0.8**
SATY	**Saty**	**0.95**	**348**	P	**Pg**	**03 42 45.1**	**-0.2**
	14nm,0.1s						
SATY				S	**Sb**	**03 42 57.9**	**-1.4**
	40nm,0.1s						
SATY	**Saty**	**0.95**	**348**	*eP*	**Pg**	**03 42 45.1**	**-0.2**
SATY				*eS*	**Sb**	**03 42 58.0**	**-1.4**
KDJ	**Kajisay**	**1.11**	**270**	⇓*eP*	**Pn**	**03 42 48.3**	**-1.4**
KDJ				⇓*eS*	**Sg**	**03 43 05.1**	**+2.4**
SHLS	**Shalkode**	**1.18**	**29**	P	**Pg**	**03 42 50.7**	**+1.0**
	12nm,0.2s						
SHLS				S	**Sg**	**03 43 08.0**	**+3.0**
	49nm,0.5s						
SHLS	**Shalkode**	**1.18**	**29**	*eP*	**Pg**	**03 42 50.7**	**+1.0**
SHLS				*eS*	**Sg**	**03 43 08.0**	**+3.0**
SHLS	**Shalkode**	**1.18**	**29**	*eP*	**Pg**	**03 42 50.6**	**+1.0**
	12nm,0.2s						
SHLS				*eS*	**Sg**	**03 43 08.0**	**+3.0**
	49nm,0.5s						
KPKS	**Kokpek**	**1.33**	**0**	P	**Pb**	**03 42 51.4**	**-1.5**
KPKS				S	**Sg**	**03 43 09.2**	**-0.7**
PDGK	**Podgornoye**	**1.34**	**27**	⇑P	**Pb**	**03 42 50.0**	**-3.0**
	2.3nm,0.3s						
PDGK				⇑S	**Sb**	**03 43 06.7**	**-3.9**
	26nm,0.5s						
TNSS	**Tian-Shan**	**1.56**	**306**	P	**Pg**	**03 42 57.5**	**+0.5**
	2.0nm,0.1s						
TNSS				S	**Sg**	**03 43 19.4**	**+2.2**
	8.9nm,0.1s						
TNSS	**Tian-Shan**	**1.56**	**306**	*eP*	**Pg**	**03 42 57.5**	**+0.5**
	2.0nm,0.1s						
TNSS				*eS*	**Sg**	**03 43 19.4**	**+2.2**
	8.9nm,0.1s						
MDOK	**Medeo**	**1.58**	**311**	Pg	**Pg**	**03 42 57.4**	**+0.1**
	2.8nm,0.1s						
MDOK				Lg	Lg	03 43 19.2	
	17nm,0.3s						
MDOK	**Medeo**	**1.58**	**311**	*eP*	**Pg**	**03 42 57.4**	**+0.1**
MDOK				*eS*	**Sg**	**03 43 19.2**	**+1.4**
ULHL	**Ulahol**	**1.81**	**274**	⇓*eP*	**Pb**	**03 43 00.9**	**-0.1**
ULHL				⇓*eS*	**Sg**	**03 43 26.8**	**+1.6**
MTBS	**Maitube**	**1.93**	**302**	Pg	**Pg**	**03 43 03.8**	**-0.3**
	6.1nm,0.3s						
MTBS				Lg	Lg	03 43 30.2	
	48nm,0.5s						
MTBS	**Maitube**	**1.93**	**302**	*eP*	**Pg**	**03 43 03.8**	**-0.3**
	6.1nm,0.3s						
MTBS				*eS*	**Sg**	**03 43 30.2**	**+1.1**
	48nm,0.5s						
CHKK	**Chushkaly**	**2.12**	**325**	Pg	**Pg**	**03 43 07.0**	**-0.7**
	44nm,0.5s						
CHKK				Lg	Lg	03 43 35.7	
	135nm,0.4s						
CHKK	**Chushkaly**	**2.12**	**325**	*eP*	**Pg**	**03 43 07.0**	**-0.7**
	44nm,0.5s						
CHKK				*eS*	**Sg**	**03 43 35.8**	**+0.6**
	135nm,0.4s						
KTBS	**Karatobe**	**2.15**	**318**	Pg	**Pg**	**03 43 08.3**	**0.0**
	35nm,0.3s						
KTBS				Lg	Lg	03 43 37.9	
	184nm,0.4s						
ARXS	**Arharly**	**2.17**	**344**	Pg	**Pb**	**03 43 06.9**	**-0.2**
	23nm,0.6s						
ARXS				Lg	Lg	03 43 35.4	
	43nm,0.5s						
ARXS	**Arharly**	**2.17**	**344**	*eP*	**Pb**	**03 43 06.9**	**-0.2**
ARXS				*eS*	**Sg**	**03 43 35.4**	**-1.4**
KST	**Kastek**	**2.20**	**295**	Pg	**Pg**	**03 43 08.7**	**-0.4**
	11nm,0.2s						
KST				Lg	Lg	03 43 38.5	
	30nm,0.5s						
KST	**Kastek**	**2.20**	**295**	*eP*	**Pg**	**03 43 08.7**	**-0.4**
	11nm,0.2s						
KST				*eS*	**Sg**	**03 43 38.5**	**+0.9**
	30nm,0.5s						
KNOS	**Konyrlen**	**2.26**	**9**	Pg	**Pb**	**03 43 07.7**	**-0.9**
	8.3nm,0.1s						
KNOS				Lg	Lg	03 43 37.1	
	39nm,0.3s						
TKM2	**Tokmak 2**	**2.41**	**290**	⇑*eP*	**Pb**	**03 43 09.1**	**-2.1**
TKM2				⇑*eS*	**Sb**	**03 43 41.3**	**0.0**
DGS	**Degeres**	**2.41**	**298**	Pg	**Pb**	**03 43 12.2**	**+1.0**
	6.3nm,0.5s						
DGS				Lg	Lg	03 43 44.5	
	25nm,0.2s						
CHMS	**Chumysh**	**3.02**	**288**	⇑*eP*	**Pn**	**03 43 17.6**	**+1.7**
CHMS				⇑*eS*	**Sb**	**03 43 55.8**	**-3.1**
UCH	**Uchtor**	**3.09**	**273**	⇑*eP*	**Pn**	**03 43 18.8**	**+1.6**
UCH				⇑*eS*	**Sb**	**03 43 58.0**	**-3.3**
AAK	**Ala-Archa**	**3.13**	**281**	⇓Pg	**Pb**	**03 43 22.9**	**-0.6**
	0.5nm,0.4s						
AAK				⇓Lg	Lg	03 44 06.0	
	5.5nm,0.7s						
AAK	**Ala-Archa**	**3.13**	**281**	⇑*eP*	**Pn**	**03 43 19.3**	**+1.7**
AAK				⇑*eS*	**Sb**	**03 43 58.8**	**-3.5**
USP	**Ospenovka**	**3.28**	**292**	⇓*eP*	**Pn**	**03 43 21.1**	**+1.7**
USP				⇓*eS*	**Sn**	**03 44 01.9**	**+2.9**
EKS2	**Erkin-Say**	**3.66**	**280**	⇓*eP*	**Pn**	**03 43 26.6**	**+1.8**
EKS2				⇓*eS*	**Sn**	**03 44 11.3**	**+2.7**
MRKS	**Merke**	**4.08**	**280**	Pg	**Pg**	**03 43 42.7**	**-2.4**
	3.1nm,0.5s						
MRKS				Lg	Lg	03 44 37.6	
	4.2nm,0.3s						
MRKS	**Merke**	**4.08**	**280**	*eP*	**Pg**	**03 43 42.7**	**-2.4**
	3.1nm,0.5s						
MRKS				*eS*	**Sg**	**03 44 37.6**	**-0.3**
	4.2nm,0.3s						
BTLS	**Baital**	**4.44**	**312**	Pg	**Pb**	**03 43 48.2**	**+2.5**
	2.9nm,0.5s						
BTLS				Lg	Lg	03 44 46.2	
	2.4nm,0.5s						
BTLS	**Baital**	**4.44**	**312**	*eP*	**Pg**	**03 43 49.5**	**-2.6**
	0.9nm,0.1s						
BTLS				*eS*	**Sg**	**03 44 48.5**	**-1.3**
	2.0nm,0.2s						
MK31	**Makanchi Array**	**5.33**	**28**	⇑Pn	**Pn**	**03 43 44.9**	**-2.7**
	0.2nm,0.3s,baz=208,slow=13,SNR=7.8						
MK31				⇓Sn	**Sn**	**03 44 49.4**	**-0.2**
	0.8nm,0.5s						
MK31				⇓Lg	Lg	03 45 11.9	
	1.0nm,0.5s						
KK31	**Karatay Array**	**6.10**	**282**	Pn	**Pn**	**03 43 56.7**	**-1.4**
	0.8nm,0.3s,baz=184,slow=12,SNR=8.6						
KK31				⇑Sn	**Sn**	**03 45 11.9**	**+3.5**
	1.7nm,0.5s,baz=195,slow=22,SNR=4.3						
KK31				⇑Lg	Lg	03 45 40.5	
	1.1nm,0.4s						

IDC 24 04:06:44.8±1.6, 0.°93S×136.°35E, h0km, mb3.6/3, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=87.8km s-min=22.2km az=98.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.99**	**186**	P	P	04 11 07.3	-0.9
	0.1nm,0.3s,baz=6.8,slow=12,SNR=6.2						
	0.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.04**	**211**	P	Pn	04 11 21.1	-0.2
	2.0nm,1.1s,baz=35,slow=12,SNR=2.1						
	2.0nm,1.1s						
ASAR	**Alice Springs**	**22.72**	**186**	P	P	04 11 48.2	-0.3
	0.3nm,0.6s,baz=18,slow=11,SNR=5.3						
	0.3nm,0.6s						
MJAR	**Matsushiro Arr**	**37.33**	**2**	P	P	04 13 58.7	-0.3
	3.8nm,0.6s,baz=194,slow=8.3,SNR=14						
	3.8nm,0.6s						

*FUNV **24** 04:18:13.1, 9.°81N×69.°29W, h5km, MW3.7*
*RSNC **24** 04:18:15.0±1.0, 10.°1N±5.°6×9.°9W±.°, h72km±19km, M3.3, mB5.0, mb3.9, ML2.8, Mw(mB)4.3*
ISC 24 04:18:15.6±1.4, 9.°83N±0.°06×69.°27W±0.°05, h79km±30km, n32, σ1§18/39, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**1.32**	**19**	*eP*	**Pn**	**04 18 36.6**	**-2.0**
JACV				*eS*	**Sn**	**04 18 56.1**	**+0.2**
BAUV	**El Baul**	**1.50**	**126**	*eP*	**Pn**	**04 18 39.2**	**-1.6**
BAUV				*eS*	**Sn**	**04 18 59.4**	**-0.5**
SDV	**Santo Domingo**	**1.64**	**235**	P	**Pn**	**04 18 42.2**	**-0.7**
SDV				S	**Sn**	**04 19 04.8**	**+1.2**
BENV	**Beln**	**1.65**	**85**	*eP*	**Pn**	**04 18 42.8**	**0.0**
BENV				*eS*	**Sn**	**04 19 05.0**	**+1.4**
TACV	**Tcata**	**2.23**	**82**	*eP*	**Pn**	**04 18 50.3**	**-0.2**
TACV				*eS*	**Sn**	**04 19 18.8**	**+1.5**
FUNV	**FUNVISIS**	**2.50**	**75**	*eP*	**Pn**	**04 18 54.6**	**+0.3**
FUNV				*eS*	**Sn**	**04 19 24.9**	**+1.0**
MCQV	**Machiques**	**3.23**	**274**	*eP*	**Pn**	**04 19 03.8**	**-0.3**
URIC	**Uribia, Colomb**	**3.26**	**305**	P	**Pn**	**04 19 02.2**	**-2.2**
CACV	**CAICARA DEL OR**	**3.51**	**130**	*eP*	Pn	04 19 13.2	+5.3
CAPV	**Capacho**	**3.59**	**237**	*eP*	**Pn**	**04 19 08.0**	**-1.1**
CRJC	**Cerrejon, Guaj**	**3.75**	**289**	P	**Pn**	**04 19 10.1**	**-1.1**
CRJC				S	**Sn**	**04 19 53.7**	**-0.5**
PAMC	**Pamplona, Colo**	**4.20**	**234**	P	**Pn**	**04 19 17.6**	**-0.1**
OCAC	**Ocana**	**4.30**	**249**	P	**Pn**	**04 19 19.1**	**+0.3**
PCRV	**Puerto La Cruz**	**4.58**	**85**	*eP*	**Pn**	**04 19 22.3**	**-0.1**
ARGC	**Ariguani, Magd**	**4.91**	**271**	P	**Pn**	**04 19 28.0**	**+1.1**
BARC	**Barichara**	**5.04**	**231**	P	**Pn**	**04 19 29.6**	**+0.7**
SMRC	**Santa Marta, M**	**5.05**	**286**	P	**Pn**	**04 19 28.7**	**-0.2**
	24nm,0.9s						
SMRC				S	**Sn**	**04 20 25.4**	**-0.6**
	24nm,0.9s						
RUSC	**La Rusia**	**5.44**	**224**	P	**Pn**	**04 19 34.1**	**-0.5**
	4.6nm,0.7s						
SJCC	**San Jacinto, C**	**5.83**	**271**	P	**Pn**	**04 19 39.1**	**-0.4**
	8.7nm,1.1s						
ZARC	**Zaragoza, Cauc**	**6.00**	**248**	P	**Pn**	**04 19 41.1**	**-0.7**
	3um8.5nm,0.5s						
PTBC	**PUERTO BERRIO,**	**6.09**	**238**	P	**Pn**	**04 19 42.1**	**-1.0**
URCC	**San Jos de Ur**	**6.53**	**252**	P	**Pn**	**04 19 48.9**	**-0.2**
	11nm,0.8s						
NORC	**Norcasia**	**6.99**	**233**	P	**Pn**	**04 19 55.6**	**+0.2**
	3.5nm,0.5s						
VILC	**Villavicencio,**	**7.18**	**218**	P	**Pn**	**04 19 59.7**	**+1.6**
	202nm15nm,0.5s						
GUY2C	**Guyana, Caldas**	**7.58**	**233**	P	**Pn**	**04 20 04.8**	**+0.9**
	7.5nm,0.8s						
CBOC	**Ciudad Bolivar**	**7.76**	**240**	P	**Pn**	**04 20 06.3**	**+0.3**
	4.0nm,1.6s						
CAPC	**Capurgana**	**8.07**	**262**	P	**Pn**	**04 20 14.0**	**+3.9**
PRAC	**Prado**	**8.25**	**223**	P	**Pn**	**04 20 12.3**	**-0.3**
	8.3nm,0.6s						
URMC	**La Uribe, Meta**	**8.28**	**218**	P	**Pn**	**04 20 13.7**	**+0.6**
	6.2nm,0.5s						
ORTC	**Ortega, Tolima**	**8.36**	**226**	P	**Pn**	**04 20 13.4**	**-0.7**
	5.6nm,0.7s						
MACC	**Macarena, Meta**	**8.89**	**211**	P	**Pn**	**04 20 19.7**	**-1.6**
YOTC	**Yotoco, Valle**	**9.12**	**231**	P	**Pn**	**04 20 25.1**	**+0.6**

*NEIC **24** 04:26:04.2±0.9, 38.°42N±0.°01×118.°71W±0.°01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.1km az=51.0*
REN 24 04:26:04.2±0.9, 38.°43N±0.°01×118.°73W±0.°02, h3km±3km, ML2.5/13, ML2.4/46(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=53.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVH1	**TV Hill, Hawth**	**0.04**	**314**		Pg	04 26 05.7	+0.3
TVH1					Sg	04 26 06.7	+0.4
LHV	**Little Huntoon**	**0.25**	**135**		Sg	04 26 13.4	+1.2
LHV	**Little Huntoon**	**0.25**	**135**		Pg	04 26 09.7	+0.8
LHV				IAML		04 26 16.4	
	comp=E,1μm,0.6s						
LHV				IAML		04 26 17.2	
	comp=N,1μm,0.5s						
RYN	**Ryan**	**0.26**	**39**		Pg	04 26 09.7	+0.6
RYN				IAML		04 26 14.0	
	comp=E,1μm,0.3s						
RYN	**Ryan**	**0.26**	**39**		Sg	04 26 13.6	+1.1
NV09	**Mina Array Sit**	**0.31**	**89**		Pg	04 26 10.6	+0.5
NV08	**Mina Array Sit**	**0.32**	**94**		Pg	04 26 10.8	+0.4
NVAR	**Mina Array Bea**	**0.33**	**90**		Pg	04 26 11.1	+0.4
NV11	**Mina Array Sit**	**0.45**	**89**	Pg	Pg	04 26 13.2	+0.3
NV11				IAML		04 26 20.0	
	comp=E,190nm,0.6s						
WAKR	**Walker**	**0.56**	**278**		Pg	04 26 15.5	+0.5
WAKR	**Walker**	**0.56**	**278**		Sb	04 26 23.9	-1.3
MCBM	**Casa Benchmark**	**0.79**	**190**		Pg	04 26 19.8	+0.4
MCBM					Sb	04 26 31.1	-0.9
MDYM	**Dry Creek**	**0.80**	**196**		Pg	04 26 20.1	+0.6
MDYM					Sb	04 26 31.3	-0.9
MLAC	**Mammoth, Mammo**	**0.80**	**186**		Pg	04 26 19.9	+0.4
MLAC					Sb	04 26 31.5	-0.7
MDPB	**Devils Postpil**	**0.84**	**199**	Pg	Pg	04 26 20.4	+0.1
MDPB	**Devils Postpil**	**0.84**	**199**		Sg	04 26 31.9	+0.6
DSP	**Deep Springs**	**1.22**	**150**		Pg	04 26 27.4	0.0
DSP	**Deep Springs**	**1.22**	**150**		Sb	04 26 43.9	+0.1
TPH	**Tonopah**	**1.24**	**106**		Pg	04 26 27.8	-0.1
Q09A	**Carvers**	**1.28**	**71**		Pg	04 26 28.8	+0.1
Q09A	**Carvers**	**1.28**	**71**		Sn	04 26 46.4	-0.4
MPK	**Martis Peak**	**1.33**	**311**		Pb	04 26 30.8	+0.8
MPK				IAML		04 26 37.7	
	comp=E,84nm,0.5s						
MPK				IAML		04 26 52.1	
	comp=N,79nm,0.6s						
MPK	**Martis Peak**	**1.33**	**311**		Sn	04 26 48.6	+0.3
BUCR	**Buckhorn Ranch**	**1.35**	**237**		Pn	04 26 29.6	-0.4
BUCR				IAML		04 26 47.6	
	comp=E,34nm,0.6s						
BUCR				IAML		04 26 47.8	
	comp=N,39nm,0.5s						
CMB	**Columbia Colle**	**1.36**	**254**		Pn	04 26 29.8	-0.4
CMB				IAML		04 26 51.8	
	comp=E,38nm,0.5s						
CMB				IAML		04 26 53.6	
	comp=N,43nm,0.7s						
PAHR	**Pah Rah Range**	**1.38**	**338**		Sb	04 26 48.8	+0.2
PAHR	**Pah Rah Range**	**1.38**	**338**		Pn	04 26 30.2	-0.1
PAHR				IAML		04 26 50.7	
	comp=E,50nm,0.5s						
PAHR				IAML		04 26 51.3	
	comp=N,78nm,0.7s						
LCH	**Last Change Ra**	**1.47**	**144**		Pg	04 26 32.5	+0.1
LCH					Sn	04 26 52.2	+0.8
PEAR	**Peavine Mounta**	**1.52**	**321**		Pb	04 26 33.0	-0.1
PEAR					Sg	04 26 53.9	+0.9
DONR	**Donner Summit**	**1.55**	**307**		Pb	04 26 33.3	-0.3
DONR					Sg	04 26 54.0	+0.1
WELL	**Weller Preserv**	**1.57**	**271**		Pb	04 26 33.5	-0.3
WELL				IAML		04 26 55.1	
	comp=E,50nm,0.2s						
WELL				IAML		04 26 57.9	
	comp=N,42nm,0.2s						
GMN	**Gold Mountain**	**1.62**	**134**		Sg	04 26 56.6	+0.5
GMN	**Gold Mountain**	**1.62**	**134**		Pn	04 26 33.9	+0.1
AFDM	**Forest Hills D**	**1.83**	**287**		Pb	04 26 37.6	-0.7
AFDM				IAML		04 27 05.3	
	comp=N,22nm,0.6s						
AFDM				IAML		04 27 07.0	
	comp=E,33nm,0.6s						
AFDM	**Forest Hills D**	**1.83**	**287**		Sn	04 27 00.1	-0.2
SGV	**South Grapevin**	**1.97**	**137**		Pn	04 26 38.6	0.0
SGV					Sb	04 27 05.5	-0.3
KPK	**Kanaka Peak**	**2.31**	**301**		Pb	04 26 46.5	-0.1
WCT	**Wildcat Mounta**	**2.33**	**134**		Sb	04 27 16.0	-0.2
WCT	**Wildcat Mounta**	**2.33**	**134**		Pn	04 26 44.1	+0.6
WCT				IAML		04 27 20.5	
	comp=E,21nm,0.4s						
WCT				IAML		04 27 21.3	
	comp=N,15nm,0.4s						
TPNV	**Topopah Spring**	**2.46**	**126**		Pn	04 26 46.2	+0.9
TPNV				IAML		04 27 26.8	
	comp=N,18nm,0.7s						
TPNV				IAML		04 27 43.8	
	comp=N,16nm,0.8s						
VES	**Vestal, Richgr**	**2.60**	**186**		Pn	04 26 47.6	+0.6
VES				IAML		04 27 34.4	
	comp=E,22nm,3.2s						
SDH	**Striped Hills**	**2.60**	**132**		Sg	04 27 28.3	+0.5
AMDNV	**Amargosa**	**2.77**	**135**		Pn	04 26 50.4	+1.0
AMDNV					Sg	04 27 33.2	0.0
GWY	**Greenwater Val**	**2.78**	**143**		Sb	04 27 30.9	+2.0
GWY	**Greenwater Val**	**2.78**	**143**	Pn	Pn	04 26 49.6	-0.1
MCY	**Mercury**	**2.82**	**128**		Pn	04 26 51.2	+1.0
MCY					Sb	04 27 27.9	-2.2
QSM	**Queen of Sheba**	**2.87**	**148**	Pn	Pn	04 26 51.2	+0.3
O03E	**Paynes Creek**	**3.02**	**309**	Pn	Pn	04 26 54.0	+1.1
O03E				IAML		04 27 46.3	
	comp=N,14nm,3.0s						
O03E				IAML		04 28 13.4	
	comp=E,17nm,2.5s						
PRN	**Pahroc Range**	**3.08**	**108**		Pn	04 26 54.4	+0.6
ELK	**Elko**	**3.55**	**48**		Pn	04 27 00.3	0.0

*KRNET **24** 04:26:22.2±0.1, 43.°35N×76.°11E, h11km, mb2.1*
*SOME **24** 04:26:25.9, 43.°30N×75.°95E*
*NNC **24** 04:26:26.4±0.3, 43.°27N×76.°00E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=2.7km s-min=1.6km az=4.0, Suspected Mining explosion.*
ISC 24 04:26:25.1±0.8, 43.°31N±0.°04×75.°96E±0.°02, h0km, n15, σ1§30/27, 6C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGS	**Degeres**	**0.15**	**244**	P	**Pg**	**04 26 29.5**	**+1.5**
	12nm,0.2s						
DGS				S	**Sg**	**04 26 31.8**	**+1.8**
	305nm,0.8s						
KST	**Kastek**	**0.27**	**180**	P	**Pg**	**04 26 31.0**	**+0.9**
	14nm,0.5s						
KST				S	**Sg**	**04 26 34.6**	**+1.0**
	38nm,0.8s						
MTBS	**Maitube**	**0.39**	**118**	P	**Pg**	**04 26 33.5**	**+1.0**
	3.7nm,0.2s						
MTBS				S	**Sg**	**04 26 39.0**	**+1.5**
	7.0nm,0.2s						
KRBS	**Karabastau**	**0.44**	**332**	P	**Pb**	**04 26 36.1**	**+0.3**
KRBS				S	**Sb**	**04 26 43.4**	**+0.4**
TKM2	**Tokmak 2**	**0.47**	**215**	⇓*eP*	**Pg**	**04 26 33.3**	**-0.8**
TKM2				⇓*eS*	**Sg**	**04 26 41.4**	**+1.2**
KTBS	**Karatobe**	**0.66**	**52**	P	**Pb**	**04 26 39.2**	**-0.3**
	2.7nm,0.2s						
KTBS				S	**Sb**	**04 26 48.6**	**-0.7**
	8.4nm,0.5s						
KNDC	**Almaty**	**0.74**	**97**	⇑P	**Pg**	**04 26 40.3**	**+1.1**
	21nm,0.5s						
KNDC				⇑S	**Sg**	**04 26 50.0**	**+1.2**
	22nm,0.3s						
CHMS	**Chumysh**	**0.94**	**251**	⇓*eP*	**Pg**	**04 26 42.3**	**-0.8**
CHMS				⇓*eS*	**Sg**	**04 26 56.9**	**+1.7**
USP	**Ospenovka**	**1.07**	**268**	⇓*eP*	**Pg**	**04 26 44.6**	**-1.0**
USP				⇓*eS*	**Sg**	**04 27 01.0**	**+1.6**
UCH	**Uchtor**	**1.52**	**225**	⇑*eP*	**Pn**	**04 26 52.6**	**-1.3**
UCH				⇑*eS*	**Sg**	**04 27 15.0**	**+1.1**
ARXS	**Arharly**	**1.62**	**56**	P	**Pb**	**04 26 56.4**	**+0.4**
	2.2nm,0.5s						
ARXS				S	**Sg**	**04 27 18.2**	**+0.9**
	15nm,1.0s						
MRKS	**Merke**	**2.08**	**255**	Pg	**Pb**	**04 27 04.8**	**+1.0**
	3.8nm,0.9s						
MRKS				Lg	Lg	04 27 33.3	
	6.9nm,0.5s						
TARG	**Taragay, Kyrgy**	**2.08**	**139**	⇑*eP*	**Pn**	**04 26 59.4**	**-2.3**
TARG				⇑*iS*	**Sn**	**04 27 26.6**	**-1.9**
BTLS	**Baital**	**2.21**	**322**	Pg	**Pb**	**04 27 07.3**	**+1.4**
	3.3nm,0.6s						
BTLS				Lg	Lg	04 27 36.9	
	3.2nm,0.5s						
PDGK	**Podgornoye**	**2.57**	**88**	⇓Pg	**Pb**	**04 27 13.5**	**+1.3**
	2.9nm,1.1s						
PDGK				⇓Lg	Lg	04 27 46.6	
	3.8nm,0.7s						

*IDC **24** 04:52:44.3±0.4, 37.°36N×142.°49E, h0km, mb4.9/39, mbtmp4.9/46, ML4.6/6, MS4.7/69, Error ellipse: s-maj=12.1km s-min=9.8km az=85.0*
*MOS **24** 04:52:45.1±1.1, 37.°44N×142.°43E, h35km, mb5.5/83, MS5.3/22, Error ellipse: s-maj=5.6km s-min=3.5km az=110.6*
*BJI **24** 04:52:45.3, 37.°38N×142.°11E, h10km, mB5.4/43, mb5.3/91, Ms5.2/93, Ms7 5.1/90*
*NIED **24** 04:52:46.5, 37.°39N×142.°42E, h25km, MW5.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07; $M_{\theta\theta}$-4.79; $M_{\phi\phi}$4.86; $M_{r\theta}$3.42; $M_{\theta\phi}$-0.03; $M_{\phi r}$3.34; Fault plane solution: M_o6.79000×10^{16} NP1: ϕ_s315.00000°, δ45.00000°, λ-179.00000°. NP2: ϕ_s225.00000°, δ90.00000°, λ-45.00000°.*
*JMA **24** 04:52:46.5±0.3, 37.°4N±0.°5×14.°2E±.°, h25km±4km, MD5.6/40, MW5.2/40, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*NEIC **24** 04:52:46.5±1.3, 37.°33N±0.°06×142.°50E±0.°09, h12km±3km, mb5.3/207, Mww5.1/14, Error ellipse: s-maj=10.8km s-min=7.7km az=109.0*
*NEIC **24** 04:52:47.4, 37.°37N×142.°53E, h18km*
*NEIC **24** 04:52:47.4, 37.°67N×142.°02E, h18km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}0.26; $M_{\theta\theta}$-4.17; $M_{\phi\phi}$3.90; $M_{r\theta}$0.61; $M_{\theta\phi}$-0.52; $M_{\phi r}$2.55; Fault plane solution: M_o4.84000×10^{16} NP1: ϕ_s307.74000°, δ62.62000°, λ168.02000°. NP2: ϕ_s43.31000°, δ79.38000

comp=N,557nm,1.6s,comp=E,544nm,5.5s
JOTO OTAMA OYAMA 1.68 275 P **Pn 04 53 15.5 -0.6**
JOTO OTAMA OYAMA 1.68 275 A A 04 53 15.5
comp=N,227nm,0.8s,comp=E,138nm,1.5s
JOU Okura 1.68 304 *i* P **Pn 04 53 15.8 -0.3**
JOU S **Sn 04 53 37.1 +0.1**
JOU Okura 1.68 304 A A 04 53 15.8
comp=N,290nm,0.9s,comp=E,261nm,1.2s
JHO Hitachi 1.71 242 A A 04 53 15.0
comp=N,109nm,2.4s,comp=E,66nm,1.1s
OFUJ Ofunato 1.74 340 A A 04 53 16.7
comp=N,43nm,3.4s,comp=E,71nm,2.2s
JMK Ichinoseki 1.79 328⇓*i*P **Pn 04 53 17.5 0.0**
JMK Ichinoseki 1.79 328 A A 04 53 17.5
comp=N,66nm,2.7s,comp=E,74nm,3.4s
JHYU Hitachinakayam 1.85 234 A A 04 53 16.9
comp=N,70nm,2.5s,comp=E,109nm,4.5s
JYAR Yonezawaarcadi 1.88 285 A A 04 53 18.0
comp=N,490nm,1.2s,comp=E,219nm,1.2s
JYS Shirataka 2.04 293 P **Pn 04 53 21.2 +0.3**
JYS Shirataka 2.04 293 A A 04 53 21.2
comp=N,158nm,1.3s,comp=E,163nm,1.8s
JSB Shiboa 2.07 258 A A 04 53 20.3
comp=N,237nm,2.3s,comp=E,208nm,1.1s
JIHU Itakohorinouch 2.13 227 A A 04 53 20.9
comp=N,469nm,6.1s,comp=E,488nm,3.0s
JYT Yasato 2.17 237 A A 04 53 21.6
comp=N,83nm,2.0s,comp=E,55nm,4.3s
JFY Yanaizu 2.18 270 *i* P **Pn 04 53 22.6 -0.4**
JFY Yanaizu 2.18 270 A A 04 53 22.6
comp=N,50nm,2.1s,comp=E,58nm,1.6s
MIYJ Miyakonagasawa 2.19 347 A A 04 53 23.1
comp=N,38nm,4.5s,comp=E,39nm,0.5s
JYK Kaneyama 2.21 313 *i* P **Pn 04 53 23.4 +0.1**
JYK Kaneyama 2.21 313 A A 04 53 23.4
comp=N,50nm,5.4s,comp=E,61nm,2.9s
JOM Ohasama 2.22 336 P **Pn 04 53 23.8 +0.3**
JOM Ohasama 2.22 336 A A 04 53 23.8
comp=N,40nm,2.5s,comp=E,30nm,2.7s
JSMT Sammumatsuo 2.41 222 A A 04 53 24.9
comp=N,162nm,5.3s,comp=E,233nm,2.5s
JRG Rokugo 2.41 324 A A 04 53 26.2
comp=N,86nm,3.5s,comp=E,76nm,3.5s
JYA Atsumi 2.44 299 A A 04 53 26.3
comp=N,72nm,1.1s,comp=E,60nm,1.0s
JNS Sasagawa 2.51 280 P **Pn 04 53 27.6 +0.1**
JNS Sasagawa 2.51 280 A A 04 53 27.6
comp=N,37nm,5.2s,comp=E,36nm,3.2s
JYYZ Yamagatayuza 2.52 309 A A 04 53 27.6
comp=N,154nm,5.3s,comp=E,136nm,2.6s
JTH Tanohata 2.53 350 A A 04 53 28.2
comp=N,26nm,1.9s,comp=E,35nm,2.9s
JSZI Iwateshizukuis 2.57 333 A A 04 53 28.6
comp=N,157nm,2.2s,comp=E,138nm,2.8s
JAG Ashikaga 2.60 248 *i* P **Pn 04 53 27.4 -1.3**
JAG Ashikaga 2.60 248 A A 04 53 27.4
comp=N,38nm,6.6s,comp=E,34nm,4.4s
JKT Katashina 2.64 256 A A 04 53 28.5
comp=N,48nm,5.3s,comp=E,30nm,4.9s
JKZ Kuzumaki 2.68 341 A A 04 53 30.3
comp=N,30nm,3.1s,comp=E,52nm,7.1s
JUON Uonuma 2.71 266 A A 04 53 29.6
comp=N,18nm,3.4s,comp=E,17nm,2.2s
JAW Awa shima 2.72 293 A A 04 53 30.2
comp=N,66nm,3.5s,comp=E,50nm,2.2s
JYW Yuwa 2.73 321 A A 04 53 30.7
comp=N,144nm,1.9s,comp=E,136nm,2.4s
TOK Tokyo 2.78 232 A A 04 53 30.3
comp=N,140nm,1.8s,comp=E,241nm,2.4s
JKEN Kujiedanarisaw 2.82 349 A A 04 53 32.2
comp=N,80nm,0.6s,comp=E,79nm,1.0s
JTB Tobi-shima 2.87 309 A A 04 53 32.5
comp=N,50nm,4.9s,comp=E,46nm,3.5s
JKUC kamogawauchiur 2.91 219 A A 04 53 32.0
comp=N,100nm,3.7s,comp=E,114nm,3.2s
JIZZ Izumozaki 2.97 273 A A 04 53 33.5
comp=N,64nm,1.7s,comp=E,83nm,5.5s
JANG Nango 3.01 346 A A 04 53 35.0
comp=N,23nm,2.3s,comp=E,38nm,5.9s
JAH Hinai 3.08 333 A A 04 53 35.9
comp=N,47nm,1.5s,comp=E,83nm,2.2s
JYO Yokosk 3.15 226 A A 04 53 35.5
comp=N,98nm,1.7s,comp=E,137nm,3.8s
JGK Kuni 3.17 255 A A 04 53 36.0
comp=N,71nm,3.3s,comp=E,51nm,3.4s
TATJ Tateyama 2 3.17 221 A A 04 53 35.7
comp=N,228nm,2.8s,comp=E,170nm,3.3s
JRY Ryogami san 3.18 244 A A 04 53 36.1
comp=N,49nm,3.1s,comp=E,32nm,1.3s
JSGW Sagamiharawaka 3.19 236 A A 04 53 36.1
comp=N,65nm,2.0s,comp=E,74nm,1.6s
JNTW Noshirotokiwa 3.34 328 A A 04 53 39.4
comp=N,178nm,2.1s,comp=E,224nm,4.1s
JSD Sado 3.37 281 P **Pn 04 53 39.9 +0.6**
JSD Sado 3.37 281 A A 04 53 39.2
comp=N,19nm,5.9s,comp=E,21nm,2.9s
JJN Nakama 3.43 266 A A 04 53 39.9
comp=N,39nm,4.3s,comp=E,28nm,3.4s
JOD2 Odawara 2 3.47 232 A A 04 53 40.1
comp=N,72nm,1.7s,comp=E,72nm,2.7s
JTM Tenmabayashi 3.50 343 Pn 04 53 42.0 +0.9
JTM Tenmabayashi 3.50 343 P **Pn 04 53 43.9 +2.8**
JTM Tenmabayashi 3.50 343 A A 04 53 42.0
comp=N,21nm,2.0s,comp=E,40nm,1.9s
MJAR Matsushiro Arr 3.51 256 Pn 04 53 41.8 +0.6
MJAR Matsushiro Arr 3.51 256 Pn **Pn 04 53 41.1 -0.1**
comp=E,29nm,0.3s,baz=77,slow=12,SNR=410
MJAR Sn **Sn 04 54 23.8 +1.7**
comp=E,9.1nm,0.3s,baz=84,slow=14,SNR=2.4
MJAR LR LR 04 55 20.2
comp=E,14μm,18.2s,baz=75,slow=44
comp=E,149nm,0.4s
MAJO Matsushiro 3.51 256 Pn 04 53 41.9 +0.7
MAJO Matsushiro 3.51 256 P **Pn 04 53 43.0 +1.8**
MAJO Matsushiro 3.51 256*c i*P **Pn 04 53 42.3 +1.1**
MJB9 Matsu-Tunnel 3.51 256 Pn 04 53 42.7 +1.4
JHHS Hirosakihyakuz 3.59 334 A A 04 53 43.0
comp=N,96nm,2.5s,comp=E,92nm,3.3s
JOG3 Oga3 3.61 314 A A 04 53 37.6
comp=N,74nm,8.8s,comp=E,90nm,5.7s
JNG Nsakai 3.63 255 A A 04 53 42.6
comp=N,30nm,3.6s,comp=E,16nm,2.6s
JIM2 Oshima 3 3.65 223 A A 04 53 42.6
comp=N,61nm,2.5s,comp=E,59nm,5.8s
JARK Aomorirokkasho 3.66 347 A A 04 53 44.1
comp=N,34nm,1.7s,comp=E,26nm,3.0s
JIW Iwasaki 3.67 333 A A 04 53 44.2
comp=N,37nm,3.3s,comp=E,52nm,5.6s
JYN Shimob 3.69 239 A A 04 53 43.3
comp=N,86nm,1.6s,comp=E,52nm,1.7s
JHTM Izuhatsuma 3.72 229 A A 04 53 43.6
comp=N,63nm,3.8s,comp=E,92nm,3.1s
JFNN Fujinakano 3.77 235 A A 04 53 44.4
comp=N,79nm,3.4s,comp=E,82nm,2.2s
JNT Takato 3.80 247 A A 04 53 44.9
comp=N,42nm,3.7s,comp=E,24nm,1.9s
JTHY Toshimahigashi 3.88 222 A A 04 53 45.7
comp=N,40nm,4.7s,comp=E,62nm,5.9s
JAHD Aomorihigashid 3.91 348 A A 04 53 47.7
comp=N,63nm,1.7s,comp=E,52nm,1.8s
JSI2 Shiura 2 3.94 337 A A 04 53 48.0
comp=N,32nm,2.0s,comp=E,41nm,2.0s
JIZS Izushimoda 3.97 228 A A 04 53 47.0
comp=N,22nm,1.8s,comp=E,23nm,1.6s
JNIO Niijimaoohara 4.01 221 A A 04 53 47.6
comp=N,43nm,3.5s,comp=E,49nm,2.6s
JSZ Suzu 4.04 272 A A 04 53 48.6
comp=N,12nm,2.2s,comp=E,12nm,2.2s
JSKK Shikinejimakit 4.06 221 A A 04 53 48.3
comp=N,25nm,4.4s,comp=E,39nm,2.1s
JOT Ohata 4.08 345 A A 04 53 50.1
comp=N,17nm,1.9s,comp=E,25nm,6.2s
JMYK Miyake Tsubota 4.12 216 A A 04 53 49.1
comp=N,29nm,3.6s,comp=E,34nm,3.8s
SHZ3 Shizuoka 3 4.16 237 A A 04 53 49.9
comp=N,36nm,1.6s,comp=E,27nm,2.0s
JTT Ttatey 4.17 260 A A 04 53 50.3
comp=N,36nm,6.6s,comp=E,32nm,2.1s
JKO Kozu shima 4.22 221 A A 04 53 50.5
comp=N,36nm,3.5s,comp=E,50nm,3.9s
JNY Yasuok 4.24 242 A A 04 53 51.0
comp=N,64nm,2.0s,comp=E,40nm,3.4s
JGN Niukaw 4.29 255 A A 04 53 51.9
comp=N,10.0nm,3.5s,comp=E,7.0nm,2.3s
JSR Shiriuchi 4.37 340 A A 04 53 54.1
comp=N,23nm,5.5s,comp=E,38nm,3.6s
JHG Hegura jima 4.40 277 A A 04 53 53.7
comp=N,11nm,2.5s,comp=E,8.0nm,2.3s

JSG Sagara 4.42 233 Pn 04 53 54.0 +0.3
JSG Sagara 4.42 233 P **Pn 04 53 55.1 +1.4**
JSG Sagara 4.42 233 A A 04 53 53.4
comp=N,55nm,4.0s,comp=E,53nm,3.4s
JGF Kuroka 4.49 247 Pn 04 53 55.8 +1.0
JGF Kuroka 4.49 247 P **Pn 04 53 56.4 +1.7**
JGF Kuroka 4.49 247 A A 04 53 54.6
comp=N,24nm,4.4s,comp=E,11nm,1.6s
JOMM Oshimamatsumae 4.49 336 A A 04 53 55.7
comp=N,18nm,3.1s,comp=E,19nm,4.9s
JKKS Kakegawashinom 4.50 235 A A 04 53 54.6
comp=N,42nm,4.5s,comp=E,49nm,2.7s
JJH Hakui 4.55 265 A A 04 53 55.7
comp=N,13nm,2.4s,comp=E,16nm,4.8s
JKB Kayabe 4.57 347 A A 04 53 57.0
comp=N,17nm,6.4s,comp=E,16nm,3.7s
ERM Erimo 4.60 7 Pn 04 53 55.4 -0.7
ERM Erimo 4.60 7 P **Pn 04 53 55.7 -0.5**
ERM Erimo 4.60 7*de*P **Pn 04 53 55.5 -0.7**
JEM Erimo 4.60 7 P **Pn 04 53 55.8 -0.4**
JEM Erimo 4.60 7 A A 04 53 57.5
comp=N,17nm,3.5s,comp=E,18nm,6.7s
HMMJ Hamamatsu 2 4.61 237 A A 04 53 56.2
comp=N,14nm,2.8s,comp=E,18nm,4.5s
JAO Obara 4.71 244 A A 04 53 57.7
comp=N,27nm,3.7s,comp=E,23nm,2.4s
JHJ2 Mitsune 4.83 207 Pn 04 53 56.8 -2.5
JHJ2 Mitsune 4.83 207 P Pn 04 53 56.9 -2.4
JHJ2 Mitsune 4.83 207 A A 04 53 59.0
comp=N,12nm,2.0s,comp=E,14nm,3.3s
JHJ Hachijo jima 2 4.83 208 Pn Pn 04 53 56.5 -2.8
comp=E,202nm,0.3s,baz=75,slow=22,SNR=15
JHJ Sn Sn 04 54 48.6 -6.1
comp=E,502nm,0.3s,baz=107,slow=21,SNR=3.3
JHJ LR LR 04 55 56.0
comp=E,3μm,19.8s,baz=358,slow=40
comp=E,787nm,0.3s
JNBK Urakawa-nobuka 4.84 3 A A 04 54 00.8
comp=N,33nm,4.2s,comp=E,30nm,4.3s
INU Inuyama 4.85 246 Pn 04 54 01.0 +1.3
INU Inuyama 4.85 246 P **Pn 04 54 00.9 +1.3**
JTHR Tokachihiroo 4.89 7 A A 04 54 01.5
comp=N,10.0nm,2.7s,comp=E,14nm,6.2s
JYM2 Yakumo 2 4.93 342 A A 04 54 02.0
comp=N,21nm,1.8s,comp=E,13nm,4.8s
JYTA Yamagatataniai 4.95 250 A A 04 54 01.1
comp=N,20nm,2.3s,comp=E,11nm,2.5s
JSHD Hidakashinhida 4.96 0 A A 04 54 02.5
comp=N,38nm,5.2s,comp=E,53nm,3.9s
TTO5 TONANKAI O.B.S 4.99 232 A A 04 54 01.4
comp=N,60nm,3.0s,comp=E,69nm,3.8s
JICN Ichinomiyachia 5.00 246 A A 04 54 01.7
comp=N,40nm,3.0s,comp=E,25nm,2.6s
JAA Atsumi 5.13 238 A A 04 54 03.5
comp=N,17nm,4.8s,comp=E,11nm,3.9s
JOSM Okushiri--Mats 5.17 335 A A 04 54 05.3
comp=N,14nm,4.8s,comp=E,16nm,7.5s
JIAM Iburiatsuma 5.19 356 A A 04 54 05.7
comp=N,41nm,4.6s,comp=E,34nm,5.0s
JCH Churui 5.21 7 A A 04 54 06.1
comp=N,15nm,2.1s,comp=E,16nm,5.4s
TTO4 TONANKAI O.B.S 5.26 231 A A 04 54 05.2
comp=N,30nm,7.0s,comp=E,49nm,2.7s
JBT2 Biratori 2 5.33 359 A A 04 54 07.7
comp=N,12nm,5.1s,comp=E,15nm,3.9s
JHST Hiyamasetana 5.35 339 A A 04 54 07.8
comp=N,13nm,3.9s,comp=E,23nm,4.0s
JEG Eigenji 5.40 247 A A 04 54 07.4
comp=N,12nm,5.3s,comp=E,7.0nm,5.0s
TTO3 TONANKAI O.B.S 5.44 230 A A 04 54 07.8
comp=N,52nm,3.1s,comp=E,47nm,2.4s
JFM Mihama 5.54 252 A A 04 54 09.4
comp=N,12nm,4.2s,comp=E,8.0nm,5.9s
JOB Onbets 5.56 11 A A 04 54 10.9
comp=N,29nm,1.7s,comp=E,21nm,4.3s
JIE Ise 5.56 239 A A 04 54 09.5
comp=N,11nm,2.6s,comp=E,9.0nm,6.3s
JFR Fuun 5.71 1 A A 04 54 13.1
comp=N,8.0nm,2.4s,comp=E,9.0nm,1.1s
JAK Akkeshi 5.81 17 A A 04 54 14.4
comp=N,17nm,3.1s,comp=E,17nm,3.3s
JAR Ashorobuto 5.93 9 A A 04 54 16.2
comp=N,16nm,2.5s,comp=E,10.0nm,2.1s
JAB Ashibetsu 6.06 358 A A 04 54 17.9
comp=N,19nm,2.5s,comp=E,22nm,3.7s
JSK Shakotan 6.09 346 A A 04 54 18.3
comp=N,12nm,2.2s,comp=E,18nm,2.5s
JKY Yasaka 6.18 255 A A 04 54 18.4
comp=N,10.0nm,4.2s,comp=E,6.0nm,3.1s
NMR Nemuro--Hokkai 6.43 22 *e*P **Pn 04 54 18.8 -2.5**
NMR *e*S **Sn 04 55 27.5 -6.5**
ASAJ Asahikawa 6.67 1 Pn **Pn 04 54 24.7 +0.2**
comp=E,21nm,0.3s,baz=219,slow=7.4,SNR=42
ASAJ Sn **Sn 04 55 39.6 -0.3**
comp=E,4.4nm,0.3s,baz=203,slow=22,SNR=0.9
ASAJ LR LR 04 57 21.8
comp=E,8μm,21.5s,baz=176,slow=41
comp=E,39nm,0.3s
ASAJ Asahikawa 6.67 1 P **Pn 04 54 24.9 +0.3**
JKA Kamikawa-asahi 6.67 1 Pn 04 54 24.9 +0.3
GLVR Golovnino 6.71 19 *e*P **Pn 04 54 23.5 -1.6**
GLVR S **Sn 04 55 36.6 -4.3**
GLVR pmax pmax
comp=Z,305nm,0.3s
GLVR pmax pmax
comp=E,96nm,0.1s
GLVR pmax pmax
comp=N,128nm,0.2s
RUSJ Misakicho 6.99 17 *e*P **Pn 04 54 27.9 -1.0**
RUSJ *e*S **Sn 04 55 44.9 -2.8**
YUK Yuzh-Kuril'sk 7.08 20*d i*P **Pn 04 54 28.9 -1.3**
YUK *e*S **Sn 04 55 45.2 -4.8**
YUK pmax pmax
comp=E,89nm,0.2s
YUK pmax pmax
comp=Z,580nm,0.2s
YUK MLR MLR
comp=Z,4μm,12.0s
YUK MLR MLR
comp=N,4μm,11.0s
JMN Monobe 7.90 245 Pn 04 54 42.4 +0.9
JMN Monobe 7.90 245 P **Pn 04 54 42.6 +1.0**
TEY Ternei 8.77 332⇑*e*P Pn 04 55 00.6 +7.3
TEY pmax pmax
comp=N,120nm,1.1s
TEY pmax pmax
comp=Z,130nm,1.1s
KUR Kuril'sk 8.78 26 *e*P **Pn 04 54 53.1 -0.5**
KUR *e*S **Sn 04 56 26.7 -5.2**
KUR pmax pmax
comp=Z,188nm,0.6s
KUR pmax pmax
comp=E,72nm,0.3s
KUR pmax pmax
comp=N,84nm,0.6s
KUR smax smax
comp=E,367nm,0.6s
KUR smax smax
comp=N,98nm,0.4s
KUR MLR MLR
comp=Z,2μm,12.0s
YSS Yuzhno-Sakhali 9.51 1 Pn 04 55 04.1 +0.6
YSS Yuzhno-Sakhali 9.51 1 P Pn 04 55 06.9 +3.4
YSS Yuzhno-Sakhali 9.51 1 *e*P **Pn 04 55 04.5 +1.0**
YSS *e*S **Sn 04 56 47.7 -2.0**
YSS pmax pmax
comp=Z,700nm,5.9s
YSS pmax pmax
comp=N,1μm,5.3s
YSS pmax pmax
comp=Z,260nm,0.8s
YSS pmax pmax
comp=N,270nm,1.0s
YSS pmax pmax
comp=E,90nm,0.9s
YSS smax smax
comp=N,700nm,3.5s
YSS smax smax
comp=E,300nm,3.5s
YSS smax smax
comp=N,90nm,1.0s
YSS smax smax
comp=E,50nm,1.0s
VLA Vladivostok 9.86 308*d i*P **Pn 04 55 10.1 +1.8**
JCJ Chichijima 10.32 181 Pn Pn 04 55 09.7 -5.0
JCJ Chichijima 10.32 181 Pn Pn 04 55 08.8 -6.0
comp=E,34nm,0.3s,baz=334,slow=9.6,SNR=19

JCJ Sn Sn 04 56 58.5 -11
comp=E,64nm,0.3s,baz=65,slow=23,SNR=11
JCJ LR LR 05 01 18.9
comp=E,739nm,20.1s,baz=358,slow=50
PSTR Posyet 10.32 304⇓*e*P **Pn 04 55 14.1 -0.6**
JNU Nakatsue 10.39 249 Pn 04 55 16.4 +0.7
JNU Nakatsue 10.39 249 Pn **Pn 04 55 16.5 +0.8**
comp=E,4.0nm,0.3s,baz=61,slow=9.2,SNR=32
JNU LR LR 04 59 34.7
comp=E,3μm,18.1s,baz=62,slow=40
comp=E,121nm,0.8s
JNU Nakatsue 10.39 249 P **Pn 04 55 17.1 +1.4**
USRK Ussuriysk Ar. 10.40 314 Pn **Pn 04 55 17.7 +1.9**
comp=E,5.2nm,0.3s,baz=128,slow=13,SNR=56
comp=E,50nm,0.8s
JTU Tsushima 10.96 258 P **Pn 04 55 24.8 +1.3**
KSRS Korea Array 11.54 274 Pn **Pn 04 55 35.0 +3.6**
comp=E,6.7nm,0.3s,baz=92,slow=12,SNR=150
KSAR Wonju Array Be 11.58 274 Pn 04 55 34.6 +2.7
KSAR Wonju Array Be 11.58 274 P **Pn 04 55 34.6 +2.7**
KS19 Wonju Array Si 11.59 275 Pn 04 55 34.1 +2.1
MDJ Mudanjiang 12.05 310 Pn 04 55 43.0 +4.6
MDJ Mudanjiang 12.05 310 P Pn 04 55 41.8 +3.4
MDJ S Sn 04 57 58.3 +6.2
MDJ pmax pmax
comp=E,63nm,1.6s
MDJ pmax pmax
comp=E,920nm,7.9s
MDJ LR LR
comp=E,7μm,14.4s
MDJ LR LR
comp=E,6μm,13.7s
MDJ LR LR
comp=E,9μm,15.8s
TJN Taejon 12.12 270 Pn 04 55 40.7 +1.4
TJN Taejon 12.12 270 P **Pn 04 55 41.3 +2.0**
TJN Taejon 12.12 270*ce*P **Pn 04 55 41.4 +2.1**
INCN Inchon 12.56 275 Pn 04 55 46.4 +1.0
INCN Inchon 12.56 275 P **Pn 04 55 47.3 +1.9**
INCN Inchon 12.56 275 P **Pn 04 55 46.4 +1.0**
TYV Tymovskoe 13.42 1 *e*P **P 04 56 02.4 -3.8**
TYV *e*S Sn 04 58 36.0 +11
TYV pmax pmax
comp=Z,56nm,1.2s
TYV pmax pmax
comp=Z,200nm,4.4s
TYV smax smax
comp=N,8.0nm,1.2s
TYV smax smax
comp=E,12nm,1.2s
TYV smax smax
comp=N,300nm,6.8s
TYV smax smax
comp=E,400nm,6.8s
TYV MLR MLR
comp=N,2μm,15.0s
TYV MLR MLR
comp=Z,2μm,14.0s
BNX BinXian 13.96 311⇓*i*P **Pn 04 56 03.1 -1.3**
BNX S **Sn 04 58 36.3 -2.4**
BNX pmax pmax
comp=Z,57nm,1.2s
BNX LR LR
comp=Z,5μm,15.2s
BNX LR LR
comp=Z,5μm,15.7s
BNX LR LR
comp=Z,7μm,14.6s
GRNR Gornyy 14.00 344⇑*i*P **P 04 56 10.8 -1.9**
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=N,3μm,15.0s
GRNR MLR MLR
comp=Z,4μm,14.0s
CN2 Changchun 14.37 302 *e*P **Pn 04 56 13.0 +2.9**
CN2 *e*S **Sn 04 58 49.3 +0.5**
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 pmax pmax
comp=Z,500nm,9.0s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,4μm,21.0s
SNY Shenyang 15.18 293⇓*i*P **Pn 04 56 20.1 -0.8**
SNY S **Sn 04 59 07.9 -0.4**
SNY pmax pmax
comp=Z,18nm,1.1s
SNY LR LR
comp=Z,4μm,11.9s
SNY LR LR
comp=Z,6μm,16.8s
SNY LR LR
comp=Z,7μm,18.0s
NKL Nikolayevsk 15.76 356 *e*P **Pn 04 56 30.1 +1.8**
NKL pmax pmax
comp=N,142nm,1.2s
NKL pmax pmax
comp=E,342nm,1.2s
NKL pmax pmax
comp=Z,429nm,1.2s
NKL MLR MLR
comp=E,11μm,12.0s
NKL MLR MLR
comp=N,8μm,15.0s
NKL MLR MLR
comp=Z,11μm,16.0s
JOW Kunigami 15.98 233 Pn 04 56 30.5 -0.9
JOW Kunigami 15.98 233 Pn **Pn 04 56 30.8 -0.7**
comp=Z,2.9nm,0.3s,baz=28,slow=9.0,SNR=5.4
JOW LR LR 05 02 34.1
comp=Z,550nm,20.0s,baz=122,slow=37
comp=Z,32nm,0.7s
JOW Kunigami 15.98 233 P **Pn 04 56 32.6 +1.2**
OKH Okha 16.11 1*de*P **Pn 04 56 30.6 -2.3**
OKH *e*S **Sn 04 59 25.2 -5.7**
OKH MLR MLR
comp=N,4μm,15.0s
OKH MLR MLR
comp=Z,2μm,15.0s
OKH MLR MLR
comp=E,6μm,16.0s
DL2 Dalian 16.43 281 P **Pn 04 56 36.6 -0.6**
DL2 S **Sn 04 59 37.8 -1.1**
DL2 pmax pmax
comp=E,290nm,1.8s
DL2 pmax pmax
comp=E,1μm,4.1s
DL2 LR LR
comp=E,2μm,11.4s
DL2 LR LR
comp=E,4μm,15.2s
DL2 LR LR
comp=E,5μm,15.0s
SKR Severo-Kuril's 16.45 32⇑*e*P **P 04 56 40.5 +0.6**
HEH HeiHe 16.73 325 *e*P **Pn 04 56 37.8 -3.1**
HEH S **Sn 04 59 43.1 -3.0**
HEH pmax pmax
comp=E,21nm,0.8s
HEH pmax pmax
comp=E,330nm,7.9s
HEH LR LR
comp=E,6μm,15.4s
HEH LR LR
comp=E,3μm,14.9s
HEH LR LR
comp=E,7μm,15.5s
SSE Sheshan 18.66 256 P **P 04 57 04.0 -0.4**
SSE S **Sn 05 00 32.3 -0.6**
SSE pmax pmax
comp=E,52nm,0.8s
SSE pmax pmax
comp=E,180nm,4.8s
SSE LR LR
comp=E,1μm,14.6s
SSE LR LR
comp=E,1μm,14.4s
PEA0B Petropavlovsk- 18.93 29 P **P 04 57 05.9 -1.3**
PEA0B Petropavlovsk- 18.93 29⇓*e*P **Pn 04 57 10.2 +2.3**
PETK Petropavlovsk- 18.93 29 P **P 04 57 06.7 -0.5**
PETK Petropavlovsk- 18.93 29 P **P 04 57 06.2 -1.0**
comp=E,9.5nm,0.9s,baz=209,slow=10,SNR=14
PETK LR LR 05 05 10.5

comp=E,1µm,18.3s,baz=215,slow=39
PETK Petropavlovsk- 18.93 29 P **P** **04 57 06.7 -0.5**
PET Petropavlovsk 19.24 31 P **P** **04 57 10.2 -0.4**
PET Petropavlovsk 19.24 31 P **Pn** **04 57 13.9 +2.2**
PET Petropavlovsk 19.24 31 *e*P **P** **04 57 11.0 +0.4**
PET *e*S Sn 05 00 34.7 -12
PET pmax pmax
comp=Z,73nm,1.2s
PET pmax pmax
comp=Z,300nm,6.3s
PET pmax pmax
comp=Z,400nm,4.8s
ZEA Zeya 19.39 332 *e*P **P** **04 57 11.9 -0.4**
ZEA pmax pmax
comp=Z,100nm,1.0s
ZEA pmax pmax
comp=E,50nm,0.8s
ZEA pmax pmax
comp=N,30nm,0.5s
ZEA pmax pmax
comp=Z,120nm,0.7s
ZEA MLR MLR
comp=N,3µm,15.0s
ZEA MLR MLR
comp=Z,4µm,16.0s
NJ2 Nanjing 20.09 261 ⇑P **P** **04 57 18.8 -1.3**
NJ2 pmax pmax
comp=Z,69nm,1.1s
NJ2 pmax pmax
comp=Z,280nm,3.5s
NJ2 LR LR
comp=Z,2µm,14.0s
NJ2 LR LR
comp=Z,3µm,13.5s
NJ2 LR LR
comp=Z,4µm,12.8s
TIA Tai'an 20.29 274 P **P** **04 57 19.3 -3.0**
TIA PP sP 04 57 43.8 +14
TIA PcP **PcP** **05 01 36.8 +1.5**
TIA pmax pmax
comp=Z,44nm,0.7s
TIA pmax pmax
comp=Z,830nm,3.5s
TIA LR LR
comp=Z,4µm,17.4s
TIA LR LR
comp=Z,5µm,13.1s
TIA LR LR
comp=Z,6µm,13.1s
BJI Beijing 20.63 285 P **P** **04 57 23.3 -2.6**
BJI pmax pmax
comp=Z,58nm,1.0s
BJI LR LR
comp=Z,1µm,11.8s
BJI LR LR
comp=Z,520nm,13.9s
XLT XiLinHaoTe 20.96 296 *e*P **P** **04 57 26.6 -2.9**
XLT pP Pn 04 57 31.5 -0.7
XLT S **S** **05 01 15.3 -6.9**
XLT pmax pmax
comp=Z,69nm,0.9s
XLT LR LR
comp=Z,3µm,16.9s
XLT LR LR
comp=Z,4µm,17.6s
HNS HongShan 22.00 278 ⇓P **P** **04 57 37.3 -3.4**
HNS S **S** **05 01 44.0 +1.5**
HNS pmax pmax
comp=Z,570nm,0.9s
HNS LR LR
comp=Z,1µm,12.2s
HNS LR LR
comp=Z,5µm,14.1s
HNS LR LR
comp=Z,5µm,13.5s
YHNB Yeheng 22.03 241 P **P** **04 57 38.8 -2.3**
YHNB IAmb IAmb 04 57 50.2
comp=Z,77nm,1.1s
MA2 Magadan 22.79 11 P **P** **04 57 47.7 -1.2**
MA2 IAmb IAmb 04 58 00.5
comp=Z,180nm,1.0s
MA2 Magadan 22.79 11 LR LR 05 07 32.8
comp=Z,1µm,18.9s,baz=200,slow=39
MA2 Magadan 22.79 11 P **P** **04 57 52.3 +3.4**
MA2 Magadan 22.79 11 *ce*P **P** **04 57 50.0 +1.1**
MA2 pmax pmax
comp=Z,201nm,1.0s
MA2 Magadan 22.79 11 P **P** **04 57 49.5 +0.6**
comp=Z,2µmcomp=Z,204nm,1.0s
TPUB Ta-pu 23.44 239 P **P** **04 57 52.2 -3.6**
TPUB IAmb IAmb 04 58 11.9
comp=Z,106nm,1.0s
TIY Taiyuan 23.74 280 *e*P **P** **04 57 55.4 -3.4**
TIY S **S** **05 02 14.1 +1.1**
TIY pmax pmax
comp=Z,33nm,0.6s
TIY LR LR
comp=Z,2µm,13.1s
TIY LR LR
comp=Z,3µm,15.1s
TIY LR LR
comp=Z,4µm,14.4s
GUMO Guam 23.86 174 P **P** **04 58 00.2 +0.3**
comp=Z,52nm,0.7s,baz=17,slow=20,SNR=2.1
GUMO LR LR 05 06 12.7
comp=Z,506nm,20.3s,baz=351,slow=34
comp=Z,52nm,0.7s
HHC Hu-ho-hao-te 24.12 288 *e*P **P** **04 58 00.9 -1.5**
HHC pP pP 04 58 05.3 -2.9
HHC sP sP 04 58 09.3 -1.3
HHC PP 04 58 32.3
HHC S **S** **05 02 13.6 -5.6**
HHC sS pS 05 02 25.4 -0.1
HHC SS **SnSn** **05 03 06.3 +5.5**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,250nm,6.1s
HHC LR LR
comp=Z,3µm,14.1s
HHC LR LR
comp=Z,3µm,14.9s
HHC LR LR
comp=Z,4µm,14.2s
WHN Wuhan 24.23 262 P **P** **04 58 02.0 -1.3**
WHN S **S** **05 02 16.8 -4.0**
WHN pmax pmax
comp=Z,220nm,0.6s
WHN LR LR
comp=Z,4µm,11.5s
WHN LR LR
comp=Z,11µm,14.0s
WHN LR LR
comp=Z,15µm,17.2s
KNMB Chin-men Tao 24.27 245 P **P** **04 58 00.4 -3.3**
KNMB IAmb IAmb 04 58 12.3
comp=Z,65nm,0.8s
LYN LuoYang 24.38 272 ⇓P **P** **04 58 04.0 -0.6**
LYN PP **PnPn** **04 58 41.4 +6.4**
LYN S **S** **05 02 19.4 -3.7**
LYN sS sS 05 02 31.5 -1.3
LYN pmax pmax
comp=Z,240nm,0.6s
LYN pmax pmax
comp=Z,770nm,5.2s
LYN LR LR
comp=Z,3µm,14.8s
LYN LR LR
comp=Z,4µm,13.7s
LYN LR LR
comp=Z,7µm,14.1s
CIT Chita 24.96 315 *e*P **P** **04 58 09.8 0.0**
CIT *e* 04 58 17.8
CIT pmax pmax
comp=Z,112nm,1.3s
BTO Baotou 25.31 287 *e*P **P** **04 58 13.0 -0.1**
BTO pP **pP** **04 58 17.3 -1.6**
BTO sP **sP** **04 58 19.9 -1.4**
BTO PP 04 58 52.6
BTO S **S** **05 02 40.3 +2.1**
BTO sS **pS** **05 02 45.8 +1.2**
BTO pmax pmax
comp=Z,76nm,1.6s
BTO pmax pmax
comp=Z,800nm,8.6s
BTO LR LR
comp=Z,7µm,13.5s
BTO LR LR
comp=Z,5µm,14.4s
BTO LR LR
comp=Z,3µm,20.6s,baz=152,slow=38
YAK Yakutsk 25.86 346 P **P** **04 58 16.4 -1.3**
YAK Yakutsk 25.86 346 LR LR 05 08 58.8
YAK Yakutsk 25.86 346 *e*P **P** **04 58 16.9 -0.8**
YAK *e* 04 58 51.6
YAK *e* 05 01 45.6
YAK *e*S **S** **05 02 49.0 +2.8**
YAK *e**SS **sS** **05 02 59.2 +3.3**
YAK *e*SS **SnSn** **05 03 42.7 +0.1**
YAK pmax pmax
comp=Z,47nm,0.8s
YAK pmax pmax
comp=N,25nm,1.5s
YAK pmax pmax
comp=Z,203nm,1.5s
YAK pmax pmax
comp=E,44nm,1.2s
YAK pmax pmax
comp=N,132nm,1.4s
YAK smax smax
comp=E,173nm,1.6s
YAK smax smax
comp=N,244nm,1.7s
YAK MLR MLR
comp=Z,5µm,14.0s
YAK MLR MLR
comp=N,2µm,12.0s
YAK MLR MLR
comp=E,1µm,13.0s
SEY Seymchan 26.24 10 LR LR 05 09 51.2
comp=E,1µm,18.3s,baz=194,slow=39
SEY Seymchan 26.24 10 *e*P **P** **04 58 21.1 0.0**
SEY pmax pmax
comp=Z,176nm,1.0s
CNSH ChangSha 26.38 258 P **P** **04 58 21.4 -1.4**
CNSH S **S** **05 02 49.5 -5.5**
CNSH pmax pmax
comp=Z,31nm,1.1s
CNSH LR LR
comp=Z,1µm,12.4s
CNSH LR LR
comp=Z,2µm,13.9s
CNSH LR LR
comp=Z,2µm,13.6s
SHEM Shemya Is, Ala 26.80 45 LR LR 05 07 48.0
comp=Z,272nm,19.8s,baz=206,slow=34
XAN Xi'an 27.34 273 ⇑P **P** **04 58 29.9 -1.6**
XAN pP pP 04 58 31.6 -5.7
XAN S **S** **05 03 07.3 -2.9**
XAN pmax pmax
comp=Z,170nm,0.5s
XAN pmax pmax
comp=Z,450nm,3.7s
XAN LR LR
comp=Z,2µm,12.4s
XAN LR LR
comp=Z,3µm,14.7s
XAN LR LR
comp=Z,4µm,14.4s
BOD Bodaibo 27.63 327 *e*P **P** **04 58 33.2 -0.5**
BOD pmax pmax
comp=Z,102nm,1.0s
H11N2 WAKE ISLAND Hy 27.67 123 T T 05 27 22.6
baz=316,slow=75,SNR=888
H11N1 WAKE ISLAND Hy 27.67 123 T T 05 27 27.2
baz=316,slow=75,SNR=646
H11N3 WAKE ISLAND Hy 27.68 123 T T 05 27 27.3
baz=316,slow=75,SNR=2396
ULN Ulaanbaatar 27.81 303 P **P** **04 58 35.2 -0.5**
ULN IAmb IAmb 04 58 38.0
comp=Z,49nm,0.8s
ULN Ulaanbaatar 27.81 303 *ci*P **P** **04 58 35.5 -0.2**
ULN pmax pmax
comp=Z,70nm,0.9s
SONM Songino Array 28.24 303 P **P** **04 58 39.0 -0.5**
SONM IAmb IAmb 04 58 41.0
comp=Z,77nm,0.8s
SONM Songino Array 28.24 303 P **P** **04 58 39.3 -0.2**
comp=Z,70nm,0.8s,baz=101,slow=9.1,SNR=279
SONM ScP **ScP** **05 05 32.5 +0.1**
comp=Z,0.8nm,0.4s,baz=151,slow=3.3,SNR=1.9
SONM LR LR 05 10 16.9
comp=Z,1µm,20.2s,baz=101,slow=37
comp=Z,70nm,0.8s
H11S1 WAKE ISLAND Hy 28.41 125 T T 05 28 16.9
baz=317,slow=76,SNR=764
H11S3 WAKE ISLAND Hy 28.41 125 T T 05 28 20.3
baz=317,slow=76,SNR=712
H11S2 WAKE ISLAND Hy 28.42 125 T T 05 28 20.9
baz=317,slow=76,SNR=900
IRK Irkutsk 30.44 311 *e*P P 04 58 48.4 -10
IRK pmax pmax
comp=Z,56nm,2.2s
LZH Lanzhou 30.81 279 ⇑P **P** **04 59 01.3 -1.1**
LZH sP pP 04 59 09.3 +1.0
LZH S **S** **05 04 03.5 -1.5**
LZH pmax pmax
comp=Z,210nm,1.0s
LZH pmax pmax
comp=Z,360nm,4.1s
LZH LR LR
comp=Z,2µm,15.3s
LZH LR LR
comp=Z,4µm,14.1s
LZH LR LR
comp=Z,4µm,15.1s
GYA Guiyang 32.10 261 ⇓P **P** **04 59 12.9 -0.9**
GYA pP pP 04 59 16.8 -2.9
GYA S **S** **05 04 24.8 -0.4**
GYA pmax pmax
comp=Z,58nm,0.8s
GYA LR LR
comp=Z,2µm,14.6s
GYA LR LR
comp=Z,2µm,16.8s
GYA LR LR
comp=Z,3µm,19.7s
MOY Mondy 32.31 310 *e*P **P** **04 59 15.4 0.0**
MOY pmax pmax
comp=Z,38nm,2.2s
CD2 Chengdu 32.49 270 P **P** **04 59 15.9 -1.3**
CD2 S **S** **05 04 30.1 -1.1**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 LR LR
comp=Z,4µm,12.7s
CD2 LR LR
comp=Z,5µm,14.0s
CD2 LR LR
comp=Z,4µm,14.0s
GTA Gaotai 33.23 287 P **P** **04 59 23.3 -0.3**
GTA pP pP 04 59 27.1 -2.4
GTA S **S** **05 04 40.9 -1.7**
GTA SS **SnSn** **05 06 36.9 -5.9**
GTA ScS **ScS** **05 09 49.1 -0.6**
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,280nm,9.2s
GTA LR LR
comp=Z,3µm,18.7s
GTA LR LR
comp=Z,2µm,16.3s
GTA LR LR
comp=Z,3µm,18.3s
BILL Bilibino 33.41 16 *ce*P **P** **04 59 26.9 +2.3**
BILL pmax pmax
comp=Z,25nm,1.1s
PATS Pohnpei 33.72 151 P **P** **04 59 27.8 0.0**
comp=Z,260nm,1.3s
QIZ Qiongzhong 33.84 246 P **P** **04 59 28.1 -0.9**
QIZ S **S** **05 04 55.5 +3.3**
QIZ pmax pmax
comp=Z,13nm,1.5s
QIZ LR LR
comp=Z,1µm,13.9s
QIZ LR LR
comp=Z,1µm,13.9s
QIZ LR LR
comp=Z,2µm,13.2s
DAV Davao City (W) 33.90 211 LR LR 05 14 22.2
comp=Z,309nm,18.8s,baz=46,slow=38
TIXI Tiksi 34.99 353 P **P** **04 59 38.5 +0.3**
TIXI Tiksi 34.99 353 LR LR 05 15 40.7
comp=Z,2µm,18.7s,baz=172,slow=39
TIXI Tiksi 34.99 353 ⇑*e*P **P** **04 59 40.9 +2.6**
TIXI pmax pmax
comp=Z,28nm,1.1s
KMI Kunming 35.83 262 ⇑P **P** **04 59 45.5 -0.9**
KMI S **S** **05 05 21.9 -1.3**
KMI pmax pmax
comp=Z,120nm,1.1s
KMI pmax pmax
comp=Z,210nm,3.3s
KMI LR LR
comp=Z,2µm,14.4s
KMI LR LR
comp=Z,2µm,18.7s
KMI LR LR
comp=Z,2µm,17.2s
PZH PanZhiHua 35.96 264 P **P** **04 59 46.4 -0.9**
PZH S **S** **05 05 24.5 -0.4**
PZH PcS **PcS** **05 06 04.3 +2.7**
PZH pmax pmax
comp=Z,40nm,0.5s
PZH LR LR
comp=Z,1µm,14.1s
PZH LR LR
comp=Z,2µm,17.8s
PZH LR LR
comp=Z,3µm,17.6s
SLVN Son La 36.93 255 **P** **04 59 54.0 -1.5**
SLVN Son La 36.93 255 P **P** **04 59 57.6 +2.0**
GOMU GeErMu 37.83 283 P **P** **05 00 03.3 -0.1**
GOMU S **S** **05 05 54.3 +0.6**
GOMU pmax pmax
comp=Z,68nm,1.0s
GOMU pmax pmax
comp=Z,150nm,4.8s
GOMU LR LR
comp=Z,840nm,13.2s
GOMU LR LR
comp=Z,1µm,14.2s
GOMU LR LR
comp=Z,980nm,14.3s
GAMB Gambell 37.94 31 P **P** **05 00 04.9 +1.3**
baz=248
MYLDM Lahad Datu 38.85 220 **P** **05 00 10.5 -1.2**
MYLDM IAmb IAmb 05 00 36.6
comp=Z,47nm,1.0s
MYLDM Lahad Datu 38.85 220 P **P** **05 00 13.7 +2.0**
TNTI Ternate 39.05 204 P **P** **05 00 12.1 -1.3**
TNTI IAmb IAmb 05 00 44.6
comp=Z,72nm,1.1s
TNCH TengChong 39.21 264 ⇑P **P** **05 00 14.8 -0.2**
TNCH pP pP 05 00 18.8 -2.1
TNCH sP sP 05 00 19.9 -3.4
TNCH PP **PP** **05 01 46.1 +1.2**
TNCH S **S** **05 06 14.9 +0.4**
TNCH sS pS 05 06 20.9 -0.6
TNCH pmax pmax
comp=Z,54nm,0.6s
TNCH LR LR
comp=Z,2µm,15.5s
TNCH LR LR
comp=Z,840nm,13.1s
TNCH LR LR
comp=Z,2µm,19.0s
SMPI Sarmi 39.39 186 P **P** **05 00 17.7 +1.5**
comp=Z,2µmcomp=Z,45nm,1.3s
DLV Lat 39.59 239 P **P** **05 00 16.7 -1.5**
DLV IAmb IAmb 05 00 31.6
comp=Z,118nm,1.4s
DLV Lat 39.59 239 P **P** **05 00 18.9 +0.7**
KMSI Cibinong 40.45 209 P **P** **05 00 27.5 +2.5**
K13K Kusilvak Mount 40.49 36 P **P** **05 00 26.4 +1.5**
baz=258
S12K Black Hills 41.04 45 P **P** **05 00 31.1 +1.6**
baz=267
J14K Nanvaranak Lak 41.17 34 P **P** **05 00 31.4 +0.9**
baz=258
FAKI Fak Fak 41.26 196 P **P** **05 00 30.9 -0.8**
FAKI IAmb IAmb 05 01 38.0
comp=Z,104nm,1.3s
TOLI2 Tolitoli 41.30 214 **P** **05 00 30.5 -1.6**
TOLI2 IAmb IAmb 05 00 54.2
comp=Z,64nm,1.6s
TOLI2 Tolitoli 41.30 214 P **P** **05 00 34.2 +2.1**
L14K Kuka Creek 41.31 37 P **P** **05 00 31.8 +0.2**
L14K IAmb IAmb 05 01 18.1
comp=Z,70nm,1.6s
L14K Kuka Creek 41.31 37 P **P** **05 00 32.7 +1.1**
baz=260
MRSI Marisa 41.37 212 P **P** **05 00 33.3 +0.7**
comp=Z,749nmcomp=Z,75nm,1.1s
WMQ Urumqi 41.39 297 *e*P **P** **05 00 34.5 +1.9**
WMQ S **S** **05 06 47.9 +1.5**
WMQ pmax pmax
comp=Z,45nm,0.9s
WMQ pmax pmax
comp=Z,380nm,3.7s
WMQ LR LR
comp=Z,2µm,17.9s
WMQ LR LR
comp=Z,1µm,16.9s
WMQ LR LR
comp=Z,900nm,21.7s
M14K Bethel 41.56 38 P **P** **05 00 35.0 +1.3**
baz=262
N14K Kuskokwak Cree 41.59 39 P **P** **05 00 35.8 +1.9**
baz=263
L15K Ungalak Mounta 41.93 36 P **P** **05 00 38.0 +1.3**
baz=261
SDPT Sand Point 41.93 46 P **P** **05 00 38.3 +1.5**
baz=269
C16K Lisburne Hills 41.97 26 P **P** **05 00 38.5 +1.6**
baz=250
K15K Wolf Creek Mou 42.01 35 P **P** **05 00 37.2 -0.1**
K15K Wolf Creek Mou 42.01 35 P **P** **05 00 38.6 +1.3**
baz=260
H16K Elim 42.15 32 P **P** **05 00 40.1 +1.6**
baz=257
SANI Sanana 42.16 205 P **P** **05 00 40.9 +1.9**
SANI Sanana 42.16 205 P **P** **05 00 37.2 -1.8**
comp=Z,62nm,1.0s
M15K Kasigluk River 42.18 38 P **P** **05 00 39.9 +1.2**
baz=263
CHTO Chiang Mai 42.19 256 **P** **05 00 38.1 -1.3**
CHTO Chiang Mai 42.19 256 P **P** **05 00 41.7 +2.3**
CHTO Chiang Mai 42.19 256 P **P** **05 00 38.1 -1.3**
CHTO pmax pmax
comp=Z,20nm,0.8s
ZAA0 Zalesovo Array 42.25 312 **P** **05 00 38.9 -0.5**
ZAA0 IAmb IAmb 05 00 48.5
comp=Z,66nm,1.1s
ZALV Zalesovo Beam 42.25 312 P **P** **05 00 39.0 -0.4**
ZALV Zalesovo Beam 42.25 312 P **P** **05 00 39.2 -0.2**
comp=Z,30nm,0.5s,baz=91,slow=7.2,SNR=144
ZALV PcP **PcP** **05 02 33.0 0.0**
comp=Z,20nm,0.8s,baz=104,slow=2.8,SNR=4.7
ZALV ScP **ScP** **05 06 23.3 +0.8**
comp=Z,0.7nm,0.5s,baz=134,slow=4.2,SNR=2.1
ZALV LR LR 05 18 53.7
comp=Z,2µm,19.9s,baz=86,slow=37
comp=Z,30nm,0.5s
G16K Koyuk River 42.27 31 P **P** **05 00 41.1 +1.6**
baz=256
CMAR Chiang Mai Arr 42.39 256 P **P** **05 00 41.2 +0.2**
comp=Z,3.5nm,0.7s,baz=47,slow=6.0,SNR=15
CMAR LR LR 05 19 35.0
comp=Z,889nm,19.4s,baz=35,slow=38
comp=Z,3.5nm,0.7s
CMAR Chiang Mai Arr 42.39 256 *ce*P **P** **05 00 41.2 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
RABL Rabaul 42.40 166 P **P** **05 00 40.1 -0.9**
N15K Kwethluk River 42.41 39 P **P** **05 00 42.0 +1.3**
baz=264
CHNA Chernabura Isl 42.44 47 P **P** **05 00 42.2 +1.3**
baz=270
O15K Ungalikthiuk R 42.46 40 P **P** **05 00 40.9 -0.2**
O15K IAmb IAmb 05 00 53.5
comp=Z,34nm,0.9s
O15K Ungalikthiuk R 42.46 40 P **P** **05 00 42.6 +1.6**
baz=266
S14K Fog Glacier 42.46 44 P **P** **05 00 42.4 +1.1**
baz=269
MSAI Masohi 42.48 200 P **P** **05 00 42.3 +0.6**

comp=Z,68nm,1.2s
D17K Noatak River 42.60 27 P P 05 00 43.4 +1.3
baz=253
APSI Ampana 42.74 212 P P 05 00 43.7 -0.1
comp=Z,1µmcomp=Z,93nm,1.1s
ZSN Zaisan 42.76 302 eP P 05 00 43.7 0.0
ZSN pmax pmax
comp=Z,40nm,1.1s
ZSN Zaisan 42.76 302 eP P 05 00 43.7 0.0
comp=Z,40nm,1.1s
RDOG Red Dog Mine 42.77 27 P P 05 00 45.1 +1.6
baz=253
C17K DeLong Mountai 42.80 26 P P 05 00 45.8 +2.1
baz=252
L16K Owhat River 42.88 36 P P 05 00 46.4 +2.0
baz=263
E17K Hotham Inlet 42.90 28 P P 05 00 46.7 +2.2
baz=255
F17K Baldwin Pennin 42.96 29 P P 05 00 45.6 +0.6
F17K Baldwin Pennin 42.96 29 P P 05 00 47.2 +2.2
baz=256
LSA Lhasa 42.99 275 P P 05 00 45.5 -0.8
LSA S S 05 07 11.0 -0.1
LSA pmax pmax
comp=Z,16nm,1.2s
LSA LR LR
comp=Z,600nm,15.7s
G17K Kiwalik Mounta 42.99 31 P P 05 00 47.8 +2.5
baz=258
M16K Timber Creek 43.05 38 P P 05 00 48.0 +2.1
baz=264
N16K Nishlik Lake 43.10 38 P P 05 00 48.2 +2.0
baz=265,SNR=5.8
CHGN Chignik 43.10 44 P P 05 00 48.3 +2.0
baz=270
H17K Granite Mounta 43.18 32 P P 05 00 49.2 +2.3
baz=259
J17K VABM Dome 43.29 34 P P 05 00 49.6 +1.9
baz=262
O16K Kokwok River B 43.37 40 P P 05 00 48.2 -0.3
O16K Kokwok River B 43.37 40 P P 05 00 49.8 +1.3
baz=267
P16K Nushagak River 43.39 40 P P 05 00 50.2 +1.6
baz=267
E18K Tukpahlearik C 43.44 28 P P 05 00 51.0 +2.1
baz=256
L17K Donlin 43.48 36 P P 05 00 50.8 +1.5
baz=264
B18K Kokolik River 43.54 25 P P 05 00 51.0 +1.3
baz=253
C18K Utukok River 43.55 26 IAmb IAmb 05 01 04.0
comp=Z,47nm,0.9s
C18K Utukok River 43.55 26 P P 05 00 50.9 +1.1
baz=254
K17K Iditarod 43.55 35 P P 05 00 51.6 +1.7
baz=263
R16K Pilot Point 43.57 43 P P 05 00 51.5 +1.4
baz=269
F18K Selawik 43.62 29 P P 05 00 51.7 +1.4
baz=258
M17K Holitna River 43.82 37 P P 05 00 53.6 +1.6
baz=265,SNR=5.7
H18K Honhosa River 43.87 32 P P 05 00 54.0 +1.6
baz=260
G18K Tagagawik 43.88 30 P P 05 00 54.5 +2.0
baz=259
N17K Nushagak Hills 43.88 38 P P 05 00 54.0 +1.4
baz=266
O17K Koliganek Bris 43.89 39 P P 05 00 54.4 +1.8
baz=267
A19K Wainwright 44.04 24 P P 05 00 54.8 +1.1
baz=253
Q16K King Salmon 44.08 41 P P 05 00 55.5 +1.4
baz=269
P17K Kvichak River 44.20 40 P P 05 00 56.7 +1.7
baz=268
C19K Lookout Ridge 44.23 26 P P 05 00 55.1 -0.2
C19K IAmb IAmb 05 01 09.4
comp=Z,57nm,0.9s
C19K Lookout Ridge 44.23 26 P P 05 00 56.7 +1.4
baz=255
L18K Granite Mounta 44.24 36 P P 05 00 56.9 +1.5
baz=265
J18K Innoko River 44.35 34 P P 05 00 58.0 +1.7
baz=264
F19K Shaleruckik Mo 44.40 29 P P 05 00 58.0 +1.4
baz=259
Q17K Contact Creek 44.48 42 P P 05 00 59.0 +1.6
baz=270
N18K Kilae Creek 44.53 38 P P 05 00 59.3 +1.5
baz=267,SNR=5.1
SBUM Sibu 44.53 226 P P 05 00 57.4 -0.9
SBUM Sibu 44.53 226 P P 05 01 00.2 +1.9
G19K Purcell Mounta 44.55 30 P P 05 00 59.8 +2.0
baz=261
MK31 Makanchi Array 44.60 302 cP P 05 00 58.1 -0.4
MKAR Makanchi Array 44.60 302 P P 05 00 58.4 -0.2
comp=Z,23nm,0.6s,baz=85,slow=10,SNR=104
MKAR S S 05 07 34.4 +1.0
comp=Z,0.7nm,0.8s,baz=107,slow=8.0,SNR=2.9
MKAR LR LR 05 19 20.3
comp=Z,814nm,21.3s,baz=76,slow=36
comp=Z,23nm,0.6s
MKAR Makanchi Array 44.60 302 ceP P 05 00 58.4 -0.2
MKAR pmax pmax
comp=Z,24nm,0.6s
M18K Stony River 44.60 37 P P 05 01 00.1 +1.8
baz=267
CHIR Chirikof Islan 44.67 45 P P 05 01 00.5 +1.6
baz=273
H19K Roundabout Mou 44.72 31 P P 05 00 59.9 +0.8
H19K IAmb IAmb 05 01 32.0
comp=Z,32nm,0.9s
H19K Roundabout Mou 44.72 31 P P 05 01 01.2 +2.0
baz=262
E19K Redstone River 44.72 28 P P 05 01 00.5 +1.3
baz=259
MAKZ Makanchi 44.81 302 P P 05 00 59.9 -0.3
MAKZ IAmb IAmb 05 01 09.1
comp=Z,59nm,0.9s
MAKZ Makanchi 44.81 302 P P 05 00 59.9 -0.3
MAKZ pmax pmax
comp=Z,59nm,0.9s
P18K Big Mountain, 44.82 40 P P 05 01 01.7 +1.6
baz=269
O18K Koktuh Hills 44.84 39 P P 05 01 00.8 +0.6
baz=269
J19K Poorman 44.89 33 P P 05 01 01.1 +0.5
J19K IAmb IAmb 05 01 31.2
comp=Z,28nm,1.2s
J19K Poorman 44.89 33 P P 05 01 01.3 +0.7
baz=264
Q18K Katmai Hardscr 44.94 41 P P 05 01 01.9 +0.8
baz=270
L19K White Mountain 45.10 36 P P 05 01 03.2 +0.9
baz=267
D20K Etivluk River 45.19 27 P P 05 01 03.9 +1.0
baz=259
N19K Bonanza Creek 45.22 38 P P 05 01 04.9 +1.5
baz=268
F20K Avaraart Lake 45.23 29 P P 05 01 04.7 +1.5
baz=261
R18K Karluk 45.25 43 P P 05 01 04.4 +0.9
baz=272
B20K Meade River 45.28 25 P P 05 01 05.2 +1.6
baz=257
M19K Big River Lodg 45.30 36 P P 05 01 05.3 +1.4
baz=268
H20K Anotleneega Mo 45.36 31 P P 05 01 06.4 +2.0
baz=264
I20K Naaghedeneel 45.46 32 P P 05 01 06.7 +1.6
baz=265
K20K Telida 45.53 34 P P 05 01 06.7 +1.1
baz=266
J20K Nowinta River 45.55 33 P P 05 01 07.2 +1.4
baz=266
L20K Farewell, AK 45.57 36 P P 05 01 07.5 +1.5
baz=267
TARA Tarawa 45.58 135 P P 05 01 09.0 +2.4
Q19K Cape Douglas, 45.64 41 P P 05 01 07.6 +1.0
baz=271
A21K Barrow 45.76 23 P P 05 01 08.6 +1.3
baz=256
BRDH Bariadhala 45.84 266 LR LR 05 21 34.5
comp=Z,850nm,20.2s,baz=120,slow=38
P19K Oil Pt 45.84 40 P P 05 01 09.0 +0.7
baz=271
IMAR Indian Mountai 45.88 31 P P 05 01 09.1 +0.6

OHAK Old Harbor 45.90 43 P P 05 01 09.5 +0.9
baz=273
M20K Styx River 45.90 37 P P 05 01 09.9 +1.2
baz=269
C21K Knifeblade Rid 45.92 26 P P 05 01 10.4 +1.7
baz=260
G21K Allakaket 46.03 30 P P 05 01 11.2 +1.6
baz=264
B21K Ikpikpuk River 46.06 26 P P 05 01 11.2 +1.5
baz=260
E21K Killik River 46.10 27 P P 05 01 11.4 +1.3
baz=262
F21K Alatna River 46.12 29 P P 05 01 11.5 +1.1
baz=263
A22K Sinclair Lake 46.21 24 P P 05 01 12.3 +1.4
baz=258
H21K Melozitna Rive 46.24 31 P P 05 01 12.3 +1.0
baz=265
KDAK Kodiak Island 46.24 42 P P 05 01 12.1 +0.8
KDAK IAmb IAmb 05 01 22.1
comp=Z,31nm,0.7s
KDAK Kodiak Island 46.24 42 P P 05 01 12.1 +0.8
KDAK pmax pmax
comp=Z,31nm,0.7s
KDAK Kodiak Island 46.24 42 P P 05 01 12.0 +0.7
baz=273
Q20K Shuyak Island 46.30 41 P P 05 01 12.7 +0.9
baz=262
KURK Kurchatov 46.33 308 P P 05 01 11.7 -0.4
KURK Kurchatov 46.33 308 cP P 05 01 11.5 -0.6
KURK pmax pmax
comp=Z,162nm,1.0s
SPCR Spurr Chakacha 46.33 37 P P 05 01 12.8 +0.7
baz=270
N20K Mount Spurr 46.34 37 P P 05 01 12.3 +0.1
baz=270
CHUM Lake Minchumin 46.34 34 P P 05 01 12.7 +0.7
baz=268
PPLA Purkeypile 46.36 35 P P 05 01 13.0 +0.5
baz=269
KURBB Kurchatov Arra 46.40 308 P P 05 01 12.4 -0.3
comp=Z,66nm,0.4s,baz=82,slow=8.0,SNR=195
KURBB S S 05 07 56.3 -2.8
comp=Z,0.9nm,0.2s,baz=82,slow=13,SNR=4.3
KURBB LR LR 05 21 26.6
comp=Z,2µm,19.0s,baz=71,slow=37
comp=Z,66nm,0.4s
KURBB Kurchatov Arra 46.40 308 P P 05 01 12.0 -0.7
CAST Castle Rocks 46.42 34 P P 05 01 13.2 +0.5
baz=268
KSM Kuching 46.43 227 P P 05 01 12.9 -0.4
KSM IAmb IAmb 05 01 23.8
comp=Z,24nm,0.9s
KSM Kuching 46.43 227 P P 05 01 15.6 +2.3
BNSI Bone 46.53 211 P P 05 01 14.5 +0.4
comp=Z,1µmcomp=Z,56nm,1.1s
I21K Tanana 46.55 32 P P 05 01 13.6 0.0
baz=267
B22K Teshekpuk Lake 46.59 25 P P 05 01 14.3 +0.4
baz=260
D22K Ayikyak River 46.63 27 P P 05 01 15.0 +0.7
baz=262
HOM Homer 46.65 40 P P 05 01 14.2 -0.3
baz=272
F22K John River 46.66 29 P P 05 01 15.4 +0.9
baz=264
SKT Skwentna 46.66 36 P P 05 01 15.1 +0.6
baz=270
PMG Port Moresby 46.81 174 P P 05 01 15.3 -0.9
PMG IAmb IAmb 05 01 19.6
comp=Z,63nm,1.2s
PMG Port Moresby 46.81 174 P P 05 01 13.8 -2.4
comp=Z,9.0nm,0.6s,baz=27,slow=2.3,SNR=5.7
comp=Z,9.0nm,0.6s
PMG Port Moresby 46.81 174 P P 05 01 18.8 +2.6
PMG Port Moresby 46.81 174 deP P 05 01 15.8 -0.4
PMG pmax pmax
comp=Z,62nm,1.2s
H22K Ishtalitna Cre 46.84 31 P P 05 01 15.8 -0.2
baz=266
CAPN Captain Cook N 46.86 38 P P 05 01 17.1 +1.1
baz=272
E22K Anaktuvuk Pass 46.86 28 P P 05 01 17.3 +1.2
baz=264
G22K Bettles 46.86 30 P P 05 01 17.5 +1.4
baz=265
STKI Sintang 46.91 225 P P 05 01 17.4 +0.4
comp=Z,39nm,0.7s
BPAW Bear Paw Mtn. 46.93 33 P P 05 01 17.4 +0.7
baz=268
SUA Susitna One 47.04 37 P P 05 01 18.5 +0.9
SUA IAmb IAmb 05 02 28.3
comp=Z,17nm,0.9s
SUA Susitna One 47.04 37 P P 05 01 18.4 +0.8
baz=271
MLY Manley 47.07 32 P P 05 01 19.1 +1.3
MLY IAmb IAmb 05 01 59.9
comp=Z,21nm,1.2s
MLY Manley 47.07 32 P P 05 01 18.6 +0.8
baz=268,SNR=9.1
TRF Thorofare Moun 47.23 34 P P 05 01 20.1 +0.9
TRF IAmb IAmb 05 02 19.2
comp=Z,19nm,1.1s
TRF Thorofare Moun 47.23 34 P P 05 01 20.5 +1.3
baz=270
KAPI Kappang 47.24 212 P P 05 01 19.5 -0.1
KAPI Kappang 47.24 212 P P 05 01 19.7 +0.1
comp=Z,24nm,1.1s,baz=110,slow=3.5,SNR=7.0
KAPI LR LR 05 21 27.0
comp=Z,104nm,20.3s,baz=12,slow=36
comp=Z,24nm,1.1s
KAPI Kappang 47.24 212 P P 05 01 21.8 +2.2
KAPI Kappang 47.24 212 ceP P 05 01 20.2 +0.6
KAPI pmax pmax
comp=Z,77nm,1.4s
M22K Willow 47.33 37 P P 05 01 20.0 +0.3
baz=272
D23K Nanushuk River 47.36 27 P P 05 01 20.6 +0.7
baz=264
BKSI Bulukumba 47.36 211 P P 05 01 20.5 0.0
comp=Z,602nmcomp=Z,28nm,0.9s
SHLS Shalkode 47.37 298 eP P 05 01 17.9 -2.7
SHLS pmax pmax
comp=Z,16nm,0.9s
SHLS Shalkode 47.37 298 eP P 05 01 17.9 -2.7
comp=Z,16nm,0.9s
COLD Coldfoot 47.40 29 P P 05 01 21.9 +1.7
baz=266
G23K Bananza Creek 47.44 30 P P 05 01 21.7 +1.1
baz=267
C23K Itkillik River 47.47 26 P P 05 01 21.9 +1.1
baz=264
RC01 Rabbit Creek A 47.54 38 P P 05 01 22.6 +1.2
baz=272
O22K Cooper Landing 47.57 38 P P 05 01 23.2 +1.5
baz=273
H23K Yukon River 47.59 31 P P 05 01 23.4 +1.5
baz=268
TDK Taldyqorghan 47.63 300 eP P 05 01 22.4 0.0
TDK pmax pmax
comp=Z,54nm,1.7s
TDK Taldyqorghan 47.63 300 eP P 05 01 22.4 0.0
comp=Z,54nm,1.7s
I23K Minto, Yukon-K 47.65 32 P P 05 01 23.6 +1.3
baz=269
E23K Chandalar 47.67 28 P P 05 01 23.3 +0.8
baz=266
UZB Uzynbulak 47.69 298 cP P 05 01 22.6 -0.4
UZB pmax pmax
comp=Z,27nm,1.7s
UZB Uzynbulak 47.69 298 ⇑iP P 05 01 22.6 -0.4
comp=Z,27nm,1.7s
SEW Seward 47.73 39 P P 05 01 23.7 +0.8
baz=274
TOLK Toolik Lake Re 47.73 27 P P 05 01 23.8 +0.9
baz=266
SURA Surathani 47.75 245 P P 05 01 26.0 +2.4
NEA2 Nenana 47.77 33 P P 05 01 24.2 +0.9
baz=270,SNR=5.4
PMR Palmer 47.81 37 P P 05 01 24.9 +1.4
PMR IAmb IAmb 05 01 46.1
comp=Z,17nm,1.0s
PMR Palmer 47.81 37 P P 05 01 26.1 +2.6
PMR Palmer 47.81 37 P P 05 01 24.9 +1.4
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 47.81 37 P P 05 01 24.5 +1.0

baz=272
MCK McKinley 47.84 34 P P 05 01 24.4 +0.7
baz=271
WAT1 Susitna Watana 48.03 35 P P 05 01 26.1 +0.9
baz=272
D24K Happy Valley 48.04 27 P P 05 01 26.6 +1.4
baz=266
E24K Your Creek 48.10 28 P P 05 01 26.5 +0.7
baz=267
C24K Franklin Bluff 48.12 26 P P 05 01 26.2 +0.4
baz=266
KNK Knik Glacier 48.14 37 P P 05 01 27.0 +0.8
baz=273
SATY Saty 48.15 298 eP P 05 01 26.4 -0.2
SATY pmax pmax
comp=Z,16nm,1.1s
SATY Saty 48.15 298 eP P 05 01 26.4 -0.2
comp=Z,16nm,1.1s
PWL Port Wells 48.23 38 P P 05 01 27.5 +0.6
baz=274
ARXS Arharly 48.24 299 eP P 05 01 26.8 -0.4
H24K Noodor Dome 48.28 31 P P 05 01 28.2 +1.0
baz=270
COLA College 48.29 32 P P 05 01 30.4 +3.2
COLA College 48.29 32 ‖eP P 05 01 29.4 +2.2
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 48.29 32 P P 05 01 28.3 +1.1
baz=271
F24K Squaw Lake 48.30 29 P P 05 01 28.0 +0.7
baz=268
PRZ Przheval'sk 48.31 297 P P 05 01 28.2 +0.3
PRZ Przheval'sk 48.31 297 P P 05 01 28.3 +0.3
PRZ pmax pmax
comp=Z,94nm,1.0s
WAT6 Susitna Watana 48.41 36 P P 05 01 28.9 +0.5
baz=273
G24K Hadweenzic Riv 48.45 30 P P 05 01 29.5 +1.1
baz=269
M23K Glacier View 48.46 37 P P 05 01 29.6 +1.0
baz=274
POKR Poker Plat Res 48.47 32 P P 05 01 29.9 +1.3
baz=271
DHY Denali Highway 48.56 35 P P 05 01 30.7 +1.2
DHY IAmb IAmb 05 02 02.9
comp=Z,16nm,0.9s
DHY Denali Highway 48.56 35 P P 05 01 29.7 +0.3
baz=273
SCM Sheep Creek Mo 48.65 37 P P 05 01 30.9 +0.8
SCM IAmb IAmb 05 02 39.2
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 48.65 37 P P 05 01 30.9 +0.8
SCM pmax pmax
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 48.65 37 P P 05 01 30.0 -0.1
baz=274
HDA Harding Lake 48.69 33 P P 05 01 30.8 +0.5
baz=272
ILAR Eielson Array 48.71 33 P P 05 01 31.1 +0.6
ILAR Eielson Array 48.71 33 P P 05 01 30.9 +0.4
comp=Z,4.0nm,0.8s,baz=267,slow=6.1,SNR=43
ILAR LR LR 05 23 20.2
comp=Z,294nm,20.0s,baz=260,slow=38
comp=Z,4.0nm,0.8s
P23K Montague Islan 48.76 39 P P 05 01 31.0 +0.1
baz=275
GLI Glacier Island 48.83 38 P P 05 01 32.1 +0.6
baz=275
CHKK Chushkaly 48.92 299 eP P 05 01 32.3 0.0
CHKK Chushkaly 48.92 299 eP P 05 01 32.4 0.0
D25K Kavik River 48.92 26 IAmb IAmb 05 02 15.3
comp=Z,24nm,0.9s
D25K Kavik River 48.92 26 P P 05 01 32.4 +0.4
baz=268
TARG Taragay, Kyrgy 48.96 296 P 05 01 33.2 0.0
TARG Taragay, Kyrgy 48.96 296 P P 05 01 33.2 0.0
TARG pmax pmax
comp=Z,52nm,0.7s
G25K Bearman Lake 48.99 30 P P 05 01 33.0 +0.4
baz=271
ALEG Aligegeo Malai 49.03 156 P P 05 01 35.4 +2.0
MDOK Medeo 49.07 298 eP P 05 01 33.5 -0.2
MDOK Medeo 49.07 298 eP P 05 01 33.5 -0.2
H25L Birch Creek 49.12 31 P P 05 01 33.8 +0.3
baz=271
AAA Alma-Ata 49.15 298 eP P 05 01 34.2 0.0
AAA pmax pmax
comp=Z,50nm,1.6s
AAA Alma-Ata 49.15 298 eP P 05 01 34.2 0.0
comp=Z,50nm,1.6s
F25K Christian Rive 49.17 29 P P 05 01 34.2 +0.2
baz=270
M24K Tolsona, Glenn 49.17 36 P P 05 01 34.2 +0.1
baz=274
TNSS Tian-Shan 49.18 298 eP P 05 01 34.3 -0.5
TNSS Tian-Shan 49.18 298 eP P 05 01 34.4 -0.5
K24K Donnelly Dome 49.23 34 P P 05 01 34.6 +0.1
baz=273
PRP Porcupine Dome 49.26 32 P P 05 01 35.0 +0.2
baz=272,SNR=6.0
KDJ Kajisay 49.28 297 P P 05 01 35.2 -0.2
KDJ IAmb IAmb 05 01 57.5
comp=Z,22nm,0.7s
KDJ Kajisay 49.28 297 P P 05 01 35.2 -0.2
KDJ pmax pmax
comp=Z,22nm,0.7s
KLU Klutina 49.35 37 P P 05 01 35.9 +0.4
baz=275
Q23K Middleton Isla 49.35 40 P P 05 01 35.3 -0.1
baz=277
KUU Kurty 49.36 299 eP P 05 01 35.6 -0.1
KUU pmax pmax
comp=Z,22nm,1.2s
KUU Kurty 49.36 299 eP P 05 01 35.7 -0.1
comp=Z,22nm,1.2s
J25K Salcha River, 49.37 33 P P 05 01 35.9 +0.3
baz=273
HNR Honiara 49.43 157 LR LR 05 21 39.9
comp=Z,954nm,19.9s,baz=336,slow=35
PAX Paxson 49.43 35 P P 05 01 36.4 +0.3
baz=274
C26K Camden Bay 49.45 26 P P 05 01 36.6 +0.6
baz=269
BMAR Burnt Mountain 49.58 29 P P 05 01 37.9 +0.8
HARP HAARP 49.62 36 P P 05 01 37.4 -0.1
baz=275
RIDG Independent Ri 49.65 34 P P 05 01 38.1 +0.3
baz=274
KULM Kulim 49.73 240 P P 05 01 38.0 -0.8
KULM IAmb IAmb 05 01 57.3
comp=Z,20nm,1.0s
F26K Sheenjek River 49.74 29 P P 05 01 38.2 -0.1
baz=272
C27K Jago River 49.86 26 P P 05 01 38.9 -0.3
baz=270
EDFI Ende, Flores 49.89 207 P P 05 01 39.0 -1.1
comp=Z,33nm,0.9s
G26K Porcupine Rive 49.90 30 P P 05 01 39.9 +0.4
baz=272
SOEI Soe 49.95 204 P P 05 01 39.7 -0.8
SOEI Soe 49.95 204 P P 05 01 42.7 +2.2
SOEI Soe 49.95 204 P P 05 01 47.4 +6.9
N25K Chitina, Valde 49.97 37 P P 05 01 39.9 -0.3
baz=276
SCRK Sand Creek 50.01 34 P P 05 01 40.3 -0.3
baz=275,SNR=6.0
BMRM Bremner River 50.03 37 P P 05 01 40.5 -0.1
baz=277
IPM Ipoh 50.06 239 P 05 01 40.6 -0.8
IPM IAmb IAmb 05 01 58.5
comp=Z,21nm,0.8s
IPM Ipoh 50.06 239 P P 05 01 41.2 -0.2
J26L Joseph Creek 50.15 33 P P 05 01 42.0 +0.4
baz=275
TKM2 Tokmak 2 50.16 298 P P 05 01 42.6 +0.6
SNR=65
BRZS Berezniki 50.20 308 eP P 05 01 42.9 +0.9
BRZS Berezniki 50.20 308 eP P 05 01 43.0 +0.9
MENT Mentasta 50.23 35 P P 05 01 45.6 +3.5
I26K Coal Creek Min 50.26 32 P P 05 01 42.7 +0.5
baz=274
KAIM Kayak Island 50.26 39 P P 05 01 42.0 -0.3
baz=278
L26K Log Cabin Wild 50.39 35 P P 05 01 43.2 -0.1
baz=276,SNR=5.3
BATI Baumata 50.56 204 P P 05 01 44.8 -0.3
comp=Z,27nm,0.3s,baz=27,slow=6.8,SNR=2.1

comp=Z,27nm,0.3s
BTLS Baital 50.60 301 *c i* P **P** 05 01 44.6 -0.5
BTLS pmax pmax
comp=Z,18nm,1.2s
BTLS Baital 50.60 301 ⇑ *i* P **P** 05 01 44.7 -0.5
comp=Z,18nm,1.2s
M26K Nabesna, AK 50.62 36 P **P** 05 01 44.9 -0.3
baz=277
E27K Coleen River 50.68 28 P **P** 05 01 45.6 +0.1
baz=274
KBK Karagaybulak 50.69 298 P **P** 05 01 46.9 +0.8
SNR=25
CHMS Chumysh 50.73 299 P **P** 05 01 50.1 +4.0
SNR=5.6
KDU Kakadu 50.74 193 P **P** 05 01 45.4 -0.9
comp=Z,38nm,1.1s
KDU Kakadu 50.74 193 P **P** 05 01 46.1 -0.2
MCARA McCarthy VSAT 50.74 37 P **P** 05 01 46.7 +0.7
MCARA IAmb IAmb 05 02 30.5
comp=Z,41nm,1.1s
MCARA McCarthy VSAT 50.74 37 P **P** 05 01 44.9 -1.0
baz=278
G27K Doyon Strip 50.75 30 P **P** 05 01 45.3 -0.7
baz=274
CRQE Cirque 50.80 38 P **P** 05 01 45.9 -0.7
baz=278
USP Ospenovka 50.82 299 P **P** 05 01 47.0 +0.1
SNR=24
D27M Malcolm River 50.84 27 P **P** 05 01 46.8 +0.1
baz=273
K27K Chicken 50.84 33 IAmb IAmb 05 02 20.9
comp=Z,39nm,1.1s
K27K Chicken 50.84 33 P **P** 05 01 46.2 -0.5
baz=276
H27K Steamboat Moun 50.85 30 P **P** 05 01 47.1 +0.3
baz=275
FRU1 Bishkek 50.87 299 P **P** 05 01 47.5 +0.2
FRU1 IAmb IAmb 05 01 51.6
comp=Z,63nm,1.0s
FRU1 Bishkek 50.87 299 P **P** 05 01 47.5 +0.2
FRU1 pmax pmax
comp=Z,63nm,1.0s
I27K Kandik River 50.88 31 P **P** 05 01 47.3 +0.3
baz=276
BVA0 Borovoye Array 50.91 312 *i* P **P** 05 01 46.9 -0.4
BVAR Borovoye Array 50.91 312 P **P** 05 01 47.4 +0.1
comp=Z,9.1nm,0.5s,baz=73,slow=7.7,SNR=44
BVAR PcP **PcP** 05 03 02.9 -0.7
comp=Z,10nm,0.8s,baz=72,slow=9.4,SNR=1.6
BVAR S **S** 05 09 06.9 +4.3
comp=Z,0.3nm,0.3s,baz=77,slow=14,SNR=1.7
BVAR LR LR 05 24 22.2
comp=Z,1μm,19.5s,baz=76,slow=37
comp=Z,9.1nm,0.5s
KSH Kashi 50.99 294 P **P** 05 01 52.3 +4.0
KSH pP sP 05 01 55.8 -0.9
KSH S **S** 05 09 10.3 +5.9
KSH pmax pmax
comp=Z,52nm,1.0s
KSH LR LR
comp=Z,2μm,16.1s
KSH LR LR
comp=Z,2μm,15.5s
KSH LR LR
comp=Z,3μm,15.2s
AAK Ala-Archa 51.02 298 **P** 05 01 48.2 -0.3
AAK IAmb IAmb 05 01 58.0
comp=Z,42nm,1.1s
AAK Ala-Archa 51.02 298 LR LR 05 25 08.6
comp=Z,2μm,18.2s,baz=70,slow=38
AAK Ala-Archa 51.02 298 P **P** 05 01 48.6 +0.1
SNR=16
AAK Ala-Archa 51.02 298 *c i* P **P** 05 01 48.1 -0.4
AAK pmax pmax
comp=Z,38nm,1.1s
L27K Beaver Creek, 51.07 35 P **P** 05 01 48.4 -0.1
baz=277,SNR=8.4
BCAR Beaver Creek A 51.09 35 **P** 05 01 49.3 +0.7
COEN Coen 51.13 179 P **P** 05 01 49.2 -0.1
comp=Z,53nm,1.1s
COEN Coen 51.13 179 **P** 05 01 48.3 -1.0
COEN IAmb IAmb 05 01 50.2
comp=Z,50nm,1.0s
COEN Coen 51.13 179 P **P** 05 01 49.5 +0.2
UCH Uchtor 51.13 298 P **P** 05 01 50.3 +0.5
SNR=23
MTN Manton Dam 51.14 194 P **P** 05 01 48.5 -0.8
comp=Z,38nm,0.8s
MTN Manton Dam 51.14 194 **P** 05 01 48.1 -1.3
MTN IAmb IAmb 05 01 50.0
comp=Z,40nm,1.0s
MTN Manton Dam 51.14 194 P **P** 05 01 48.7 -0.6
M27K Edge Creek, AK 51.15 35 P **P** 05 01 48.5 -0.7
baz=278
F28M Old Crow 51.37 29 P **P** 05 01 50.2 -0.4
baz=276
E28M Babbage River 51.41 27 P **P** 05 01 50.8 -0.1
baz=275
MESA MESA 51.45 38 P **P** 05 01 50.8 -0.8
baz=280
EKS2 Erkin-Say 51.51 299 P **P** 05 01 52.2 0.0
SNR=19
I28M Miner Creek 51.59 31 P **P** 05 01 51.8 -0.6
baz=277
BVCY Beaver Creek 51.61 35 P **P** 05 01 52.0 -0.5
baz=279
CTG Chitna Glacier 51.61 37 P **P** 05 01 51.8 -0.9
baz=280,SNR=5.1
YUK3 Moose Creek 51.90 36 P **P** 05 01 54.3 -0.6
baz=280
DAWY Dawson 52.01 33 P **P** 05 01 55.0 -0.5
baz=279
E29M Blow River 52.03 28 P **P** 05 01 55.4 -0.1
baz=277
H29M Whitestone 52.12 30 P **P** 05 01 55.9 -0.4
baz=278
G29M Pine Creek 52.17 29 P **P** 05 01 56.4 -0.2
baz=278
O28M Mount Upton 52.20 37 P **P** 05 01 56.6 -0.6
baz=281
I29M Ogilvie Camp, 52.27 31 P **P** 05 01 57.3 -0.1
baz=279,SNR=7.6
PINM Pinnacle 52.30 38 P **P** 05 01 57.1 -0.6
baz=281
YUK8 Steele Glacier 52.31 37 P **P** 05 01 57.5 -0.6
baz=280
ARSB Arslanbob 52.51 297 P **P** 05 02 00.0 +0.3
ARSB Arslanbob 52.51 297 P **P** 05 02 00.0 +0.3
ARSB pmax pmax
comp=Z,68nm,0.8s
M29M Somme Creek 52.70 35 P **P** 05 02 00.8 +0.1
baz=281
PSI Prapat 52.71 240 P **P** 05 02 03.5 +2.1
PSI Prapat 52.71 240 P **P** 05 02 01.0 -0.4
PSI pmax pmax
comp=Z,17nm,0.9s
L29M L29M 52.73 34 **P** 05 02 01.3 +0.5
L29M IAmb IAmb 05 02 48.0
comp=Z,34nm,1.1s
L29M L29M 52.73 34 P **P** 05 02 00.8 0.0
baz=280,SNR=8.4
EPYK Eagle Plains 52.76 30 P **P** 05 02 01.0 0.0
baz=279,SNR=10
RPSI Rantau Prapat 52.78 240 **P** 05 02 01.0 -0.7
PNL Peninsula 52.81 39 P **P** 05 02 01.3 -0.1
baz=282
YUK4 Talbot Arm 52.83 36 P **P** 05 02 01.8 +0.1
baz=281
G30M tAoh Zraii Nji 52.86 29 P **P** 05 02 02.3 +0.6
baz=279
K29M Barlow Dome 52.86 33 P **P** 05 02 02.1 +0.2
baz=280,SNR=10
F30M Barrier River 52.92 28 P **P** 05 02 02.7 +0.5
baz=279
YUK6 Outpost Mounta 53.04 37 P **P** 05 02 03.1 -0.3
baz=282
O29M Mount Kennedy 53.08 38 P **P** 05 02 03.8 +0.3
baz=282
I30M Mount Dempster 53.10 31 P **P** 05 02 04.0 +0.3
baz=280,SNR=19
J30M Hart River 53.24 32 P **P** 05 02 05.2 +0.6
baz=281
M30M Minto, Yukon 53.43 35 P **P** 05 02 06.2 +0.2
baz=282
HYT Haines Junctio 53.48 37 P **P** 05 02 06.3 -0.2
baz=283,SNR=8.7
N30M Aishikik Lake 53.54 36 P **P** 05 02 06.4 -0.4
baz=283
G31M Satah River 53.63 29 P **P** 05 02 07.1 -0.1
baz=281
KK31 Karatay Array 53.63 300 **P** 05 02 07.2 -0.5
KK31 Karatay Array 53.63 300 *i* P **P** 05 02 07.8 +0.1
KKAR Karatay Array 53.63 300 **P** 05 02 07.3 -0.4
KKAR Karatay Array 53.63 300 P **P** 05 02 07.3 -0.4
P29M Windy Craggy 53.64 38 P **P** 05 02 06.4 -1.1
baz=283
INK Inuvik 53.65 27 P **P** 05 02 07.6 +0.2
INK Inuvik 53.65 27 LR LR 05 26 32.9
comp=Z,492nm,21.6s,baz=276,slow=38
INK Inuvik 53.65 27 P **P** 05 02 07.6 +0.2
INK pmax pmax
comp=Z,15nm,1.1s
F31M Tsiigehtchic 53.73 28 P **P** 05 02 07.8 -0.2
baz=281
H31M Peel River 53.82 30 P **P** 05 02 08.1 -0.7
baz=282,SNR=11
P30M Million Dollar 53.90 38 P **P** 05 02 08.6 -0.9
baz=284
BRLS Borolday 54.12 300 *c i* P **P** 05 02 12.3 +1.0
BRLS pmax pmax
comp=Z,29nm,1.6s
BRLS Borolday 54.12 300 ⇑ *i* P **P** 05 02 12.3 +1.0
comp=Z,29nm,1.6s
N31M Braeburn, Yuko 54.14 36 P **P** 05 02 10.1 -1.1
baz=284
IUG Iuzhnay 54.30 299 *e* P **P** 05 02 12.4 -0.3
IUG pmax pmax
comp=Z,27nm,1.1s
IUG Iuzhnay 54.30 299 *e* P **P** 05 02 12.4 -0.3
comp=Z,27nm,1.1s
PLBC Pleasant Camp 54.36 38 P **P** 05 02 12.2 -0.6
baz=284
KNRA Kununurra 54.38 196 P **P** 05 02 12.8 -0.5
comp=Z,38nm,0.8s
KNRA Kununurra 54.38 196 **P** 05 02 12.3 -1.0
KNRA IAmb IAmb 05 02 34.5
comp=Z,26nm,0.8s
CHM Chimkent 54.53 300 *e* P **P** 05 02 14.2 -0.1
CHM Chimkent 54.53 300 *e* P **P** 05 02 14.2 -0.1
M31M Drury Creek, Y 54.61 35 P **P** 05 02 14.2 -0.4
baz=284
LHSI Lahat 54.71 230 P **P** 05 02 21.0 +5.2
GSI Gunungsitoli 54.72 240 **P** 05 02 15.2 -0.7
GSI Gunungsitoli 54.72 240 P **P** 05 02 18.3 +2.4
WHY Whitehorse 54.77 37 P **P** 05 02 14.9 -1.0
baz=285
S31K Pelican 54.81 40 P **P** 05 02 15.4 -0.6
baz=286
MDSI Maura Dua 54.83 229 P **P** 05 02 17.4 +0.7
comp=Z,49nm,1.5s
MASI Maura Aman, Be 54.97 232 P **P** 05 02 23.1 +5.3
GAR Garm 55.26 296 **P** 05 02 19.6 -0.2
NIL Nilore 55.27 288 P **P** 05 02 19.5 -0.3
NIL Nilore 55.27 288 P **P** 05 02 19.5 -0.3
NIL pmax pmax
comp=Z,61nm,0.8s
MTSU Mount Surprise 55.31 178 P **P** 05 02 19.8 -0.2
comp=Z,11nm,0.9s
MTSU Mount Surprise 55.31 178 P **P** 05 02 20.2 +0.2
SVE Sverdlovsk 55.38 319 *de* P **P** 05 02 20.6 +0.4
SVE pmax pmax
comp=Z,123nm,1.0s
SVE MLR MLR
comp=Z,3μm,16.0s
N32M Quiet Lake 55.49 36 P **P** 05 02 20.4 -0.6
baz=286
SIT Sitka 55.54 41 P **P** 05 02 21.5 +0.2
baz=287
R32K Eaglecrest 55.60 39 P **P** 05 02 21.6 -0.2
baz=287
P32M Atlin 55.62 38 P **P** 05 02 21.6 -0.4
baz=286
S32K Killisnoo 55.81 40 P **P** 05 02 22.9 -0.3
baz=287
P33M Teslin, Yukon 55.88 37 P **P** 05 02 23.4 -0.4
baz=287
MMPY Sheldon Lake, 55.90 34 P **P** 05 02 23.8 -0.1
baz=286
CHGR Chuyangaron 56.23 296 P **P** 05 02 26.5 -0.2
CHGR Chuyangaron 56.23 296 P **P** 05 02 26.5 -0.2
CHGR pmax pmax
comp=Z,231nm,0.8s
SIMJ Simiganj 56.34 296 **P** 05 02 27.2 -0.3
Q32M Nakina River 56.52 38 P **P** 05 02 27.9 -0.7
baz=288
ARTI Arti 56.70 319 **P** 05 02 29.6 0.0
ARTI Arti 56.70 319 P **P** 05 02 29.6 0.0
comp=Z,48nm,0.4s,baz=76,slow=4.0,SNR=57
ARTI S **S** 05 10 18.6 -2.4
comp=Z,1.0nm,0.3s,baz=147,slow=23,SNR=1.2
ARTI LR LR 05 29 04.5
comp=Z,2μm,19.4s,baz=71,slow=38
comp=Z,48nm,0.4s
ARTI Arti 56.70 319 *c i* P **P** 05 02 29.5 -0.2
ARTI 05 03 24.9
ARTI 05 04 33.2
ARTI S **S** 05 10 17.5 -3.4
ARTI 05 12 17.5
ARTI pmax pmax
comp=Z,34nm,0.5s
ARTI MLR MLR
comp=Z,2μm,16.0s
C36M Paulatuk 56.71 25 P **P** 05 02 29.7 +0.2
C36M IAmb IAmb 05 02 58.0
comp=Z,54nm,1.4s
C36M Paulatuk 56.71 25 P **P** 05 02 29.0 -0.5
baz=288
T33K Petersburg 56.85 41 P **P** 05 02 30.7 0.0
baz=289
U33K Whale Pass 56.99 42 P **P** 05 02 31.4 -0.3
baz=289
R33M Jennings River 57.02 38 P **P** 05 02 31.6 -0.4
baz=289
CRAG Craig 57.21 42 P **P** 05 02 32.6 -0.6
baz=290
WRAK Wrangell Islan 57.30 41 P **P** 05 02 33.1 -0.8
baz=290
CTAO Charters Tower 57.34 176 P **P** 05 02 33.2 -1.2
CTAO IAmb IAmb 05 03 03.5
comp=Z,36nm,1.7s
CTAO Charters Tower 57.34 176 P **P** 05 02 33.2 -1.2
CTAO pmax pmax
comp=Z,36nm,1.7s
WB0 Warramunga Arr 57.41 189 **P** 05 02 33.3 -1.6
S34M Telegraph Cree 57.42 39 P **P** 05 02 33.6 -1.1
baz=290
FITZ Fitzroy Crossi 57.47 199 P **P** 05 02 34.9 -0.5
comp=Z,4.6nm,1.3s
FITZ Fitzroy Crossi 57.47 199 **P** 05 02 34.8 -0.6
FITZ Fitzroy Crossi 57.47 199 P **P** 05 02 35.7 +0.3
SANVU Saraoutou 57.54 151 P **P** 05 02 34.4 -1.5
WRAB Tennant Creek 57.58 189 *d i* P **P** 05 02 34.6 -1.6
WRAB pmax pmax
comp=Z,80nm,1.0s
TGTN Hyland Airport 57.58 35 P **P** 05 02 35.1 -0.7
baz=289
WRA Warramunga Arr 57.59 189 **P** 05 02 34.0 -2.2
WRA Warramunga Arr 57.59 189 P **P** 05 02 34.6 -1.6
comp=Z,50nm,1.0s,baz=6.7,slow=7.3,SNR=201
WRA LR LR 05 26 13.3
comp=Z,296nm,20.7s,baz=352,slow=35
comp=Z,50nm,1.0s
WRA Warramunga Arr 57.59 189 *i* P **P** 05 02 34.5 -1.7
WRA pmax pmax
comp=Z,50nm,1.0s
WB1 Warramunga Ar. 57.60 189 P **P** 05 02 35.5 -0.8
QIS Mount Isa 57.75 183 P **P** 05 02 36.4 -1.0
comp=Z,22nm,1.4s
QIS Mount Isa 57.75 183 P **P** 05 02 39.5 +2.1
DLBC Dease Lake 57.80 38 P **P** 05 02 36.6 -0.9
baz=290
KBL Kabul 58.03 291 **P** 05 02 38.7 -1.0
KBL Kabul 58.03 291 P **P** 05 02 38.7 -1.0
KBL pmax pmax
comp=Z,54nm,1.0s
V35K Ketchikan 58.06 42 P **P** 05 02 38.5 -0.7
baz=291
T35M Bob Quinn 58.19 40 P **P** 05 02 39.8 -0.4
baz=291
AB31 Akbulak array 58.30 310 **P** 05 02 40.8 -0.2
AB31 IAmb IAmb 05 02 50.6
comp=Z,29nm,0.8s
AB31 Akbulak array 58.30 310 *i* P **P** 05 02 40.6 -0.4
ABKAR Akbulak array 58.30 310 **P** 05 02 40.7 -0.3
U35K Hyder 58.69 41 P **P** 05 02 43.8 +0.2
baz=291
AKTO Aktyubinsk 59.01 312 P **P** 05 02 46.0 0.0
comp=Z,9.6nm,0.8s,baz=67,slow=12,SNR=19
AKTO LR LR 05 29 20.0
comp=Z,1μm,19.7s,baz=50,slow=37
comp=Z,9.6nm,0.8s
AKTO Aktyubinsk 59.01 312 P **P** 05 02 46.0 0.0
HYB Hyderabad 59.03 269 *e* P **P** 05 02 46.7 +0.1
HYB *e* PcP **PcP** 05 03 35.2 -0.3
WRGLY Wrigley 59.07 32 P **P** 05 02 46.1 0.0
baz=292
HOPEN Hopen 59.84 346 *e* P **P** 05 02 52.4 +1.1
TOAD Toad River Com 59.97 37 P **P** 05 02 52.1 -0.4
baz=293
KOTAN Kotaneelee Air 60.02 35 P **P** 05 02 52.6 -0.1
baz=294
SPB2 Spitsbergen Ar 60.28 349 P **P** 05 02 55.0 +0.7
SPB2 IAmb IAmb 05 04 03.2
comp=Z,22nm,1.0s
SPITS Spitsbergen Ar 60.28 349 P **P** 05 02 54.9 +0.6
comp=Z,5.9nm,0.7s,baz=84,slow=8.7,SNR=15
SPITS LR LR 05 32 32.2
comp=Z,503nm,18.6s,baz=30,slow=40
comp=Z,5.9nm,0.7s
SPITS Spitsbergen Ar 60.28 349 P **P** 05 02 54.6 +0.3
SPITS pmax pmax
comp=Z,28nm,1.1s
KBS Kingsbay 60.39 350 P **P** 05 02 55.8 +0.8
KBS IAmb IAmb 05 03 05.7
comp=Z,43nm,1.0s
KBS Kingsbay 60.39 350 P **P** 05 02 55.8 +0.8
KBS pmax pmax
comp=Z,43nm,1.0s
KBS Kingsbay 60.39 350 *e* P **P** 05 02 53.3 -1.8
KIRV Kirov 60.42 323 P **P** 05 02 55.7 +0.2
comp=Z,36nm,0.4s,baz=84,slow=2.8,SNR=16
KIRV LR LR 05 33 14.1
comp=Z,1μm,18.6s,baz=59,slow=40
comp=Z,36nm,0.4s
KIRV Kirov 60.42 323 *c i* P **P** 05 02 55.4 0.0
BBB Bella Bella 61.20 45 LR LR 05 23 58.8
comp=Z,65nm,21.5s,baz=298,slow=31
HSPB Hornsund (broa 61.22 348 *e* P **P** 05 03 01.5 +0.8
HSPB *e* L L 05 31 58.3
comp=Z,1μm,19.9s
AS16 Alice Springs 61.28 189 P **P** 05 03 01.1 -0.6
comp=Z,26nm,1.0s
AS01 Alice Springs 61.30 189 P **P** 05 03 01.5 -0.4
AS31 Alice Springs 61.31 189 P **P** 05 03 01.3 -0.6
comp=Z,9.5nm,1.0s
AS31 Alice Springs 61.31 189 **P** 05 03 00.8 -1.1
ASAR Alice Springs 61.31 189 **P** 05 03 01.0 -1.0
ASAR Alice Springs 61.31 189 P **P** 05 03 00.8 -1.2
comp=Z,24nm,0.9s,baz=9.3,slow=5.4,SNR=121
ASAR LR LR 05 28 06.9
comp=Z,336nm,21.1s,baz=344,slow=35
comp=Z,24nm,0.9s
RES Resolute Bay 62.00 15 LR LR 05 33 59.1
comp=Z,270nm,18.0s,baz=11,slow=40
LVZ Lovozero 62.07 336 P **P** 05 03 06.7 +0.1
LVZ IAmb IAmb 05 03 18.4
comp=Z,26nm,1.0s
LVZ Lovozero 62.07 336 ⇓ *e* P **P** 05 03 06.7 +0.1
LVZ pmax pmax
comp=Z,43nm,1.2s
LVZ Lovozero 62.07 336 P **P** 05 03 05.9 -0.7
comp=Z,35nm,0.9s
LVZ pP **sP** 05 03 14.3 -0.9
comp=Z,35nm,0.9s
MBWA Marble Bar 62.09 204 P **P** 05 03 09.3 +2.1
PSA00 Pilbara Seismi 62.44 204 P **P** 05 03 12.0 +2.5
VADS Vadso 62.47 339 *e* P **P** 05 03 09.8 +0.6
APA Apatity 62.65 336 *e* P **P** 05 03 06.1 -4.3
APA *e* S **S** 05 11 36.4 -0.8
APA *e* SS **SS** 05 15 39.7 -1.2
APA MLR MLR
comp=Z,2μm,16.1s
EIDS Eidsvold 63.01 171 **P** 05 03 11.7 -1.5
EIDS IAmb IAmb 05 03 13.7
comp=Z,28nm,1.2s
EIDS Eidsvold 63.01 171 P **P** 05 03 13.4 +0.2
YKA Yellowknife Ar 63.04 31 P **P** 05 03 14.2 +1.1
comp=Z,1.7nm,0.8s,baz=306,slow=7.4,SNR=4.3
YKA LR LR 05 31 07.2
comp=Z,216nm,21.7s,baz=299,slow=36
comp=Z,1.7nm,0.8s
PALK Pallekele 63.26 258 LR LR 05 33 04.2
comp=Z,412nm,19.9s,baz=91,slow=38
KEV Kevo 63.35 339 **P** 05 03 15.4 +0.4
KEV IAmb IAmb 05 03 25.6
comp=Z,28nm,0.9s
KEV Kevo 63.35 339 P **P** 05 03 15.4 +0.4
KEV pmax pmax
comp=Z,28nm,0.9s
DZM Mont Dzumac 63.37 155 LR LR 05 28 24.5
comp=Z,764nm,21.0s,baz=354,slow=34
WRKA Warakurna 63.56 194 P **P** 05 03 16.6 -0.3
comp=Z,12nm,0.8s
QLP Quilpie 63.71 178 P **P** 05 03 17.2 -0.6
comp=Z,53nm,1.6s
QLP Quilpie 63.71 178 P **P** 05 03 18.5 +0.7
KLMR Klimovskoe 63.85 328 *e* P **P** 05 03 16.5 -1.9
KLMR *e** PP **sP** 05 03 26.1 -0.9
KLMR *e* 05 05 36.1
KLMR pmax pmax
comp=Z,49nm,1.6s
RMQ Roma 63.87 174 P **P** 05 03 20.5 +1.6
ARA0 ARCESS Array S 63.90 340 *e* P **P** 05 03 19.3 +0.6
ARCES ARCESS Array B 63.90 340 **P** 05 03 19.3 +0.6
ARCES IAmb IAmb 05 03 29.3
comp=Z,23nm,0.9s
ARCES ARCESS Array B 63.90 340 P **P** 05 03 19.1 +0.4
comp=Z,1.6nm,0.4s,baz=53,slow=7.6,SNR=40
ARCES LR LR 05 37 33.3
comp=Z,512nm,18.1s,baz=48,slow=42
comp=Z,1.6nm,0.4s
BELG Belogornoye 64.06 317 *c i* P **P** 05 03 19.8 -0.1
comp=Z,26nm,0.8s,baz=336,slow=3.6,SNR=8.7
comp=Z,26nm,0.8s
BELG Belogornoye 64.06 317 *c i* P **P** 05 03 19.4 -0.6
BELG pmax pmax
comp=Z,10.0nm,1.3s
KTK1 Kautokeino 64.86 340 *e* P **P** 05 03 25.9 +0.9
SGF Sodankyl 64.89 337 P **P** 05 03 26.5 +1.3
SGF pmax pmax
comp=Z,55nm,0.9s
NEEM North Greenlan 65.08 3 *i* P **P** 05 03 28.3 +1.7
NEEM IAmb IAmb 05 03 31.5
comp=Z,13nm,0.8s
TRO Tromso 65.59 341 *e* P **P** 05 03 29.9 +0.2
JOF Joensuu 65.99 332 *e* P **P** 05 03 32.5 +0.2
OUL Oulu 66.56 336 P **P** 05 03 36.7 +0.7
OUL pmax pmax
comp=Z,63nm,1.0s
MOS Moscow 67.41 324 *e* P **P** 05 03 40.4 -1.1
MOS *e* S **S** 05 12 43.2 +7.2
MOS pmax pmax
comp=Z,96nm,1.2s
MOS MLR MLR
comp=Z,1μm,15.0s
VRH Novokhopyorsk 67.83 318 *e* P **P** 05 03 40.8 -3.4
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,3μm,15.0s
ARMA Armidale 68.05 171 P **P** 05 03 46.0 +0.1
comp=Z,24nm,2.3s
ARMA Armidale 68.05 171 P **P** 05 03 44.9 -1.0
ARMA IAmb IAmb 05 03 48.6
comp=Z,37nm,1.4s
FAUS Fauske 68.14 341 *e* P **P** 05 03 46.6 +0.7
H04A Detroit Lake 68.22 50 **P** 05 03 46.9 0.0
H04A IAmb IAmb 05 04 05.6
comp=Z,20nm,1.2s
PUL Pulkovo 68.25 330 ⇑ *e* P **P** 05 03 47.8 +1.1
PUL pmax pmax
comp=Z,23nm,0.6s
OBN Obninsk 68.26 323 P **P** 05 03 46.9 0.0
OBN Obninsk 68.26 323 P **P** 05 03 46.7 -0.1
comp=Z,10nm,0.4s,baz=33,slow=6.7,SNR=9.4
OBN LR LR 05 36 09.7
comp=Z,841nm,20.3s,baz=30,slow=38
comp=Z,10nm,0.4s
OBN Obninsk 68.26 323 *c i* P **P** 05 03 46.0 -0.8

OBN *i* *PP **sP** **05 03 54.6 -0.8**
OBN *i* 05 04 06.3
OBN 05 06 22.0
OBN *i* S **S** **05 12 47.1 +0.9**
OBN *i* PS 05 13 27.5
OBN *i* SS **SS** **05 17 06.5 -1.9**
OBN *e*SSS SSS 05 20 07.7
OBN pmax pmax
comp=Z,58nm,1.5s
OBN MLR MLR
comp=Z,1μm,15.0s
LPSR Galich'ya Gora 68.51 320 *e*P **P** **05 03 46.6 -1.9**
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR MLR MLR
comp=Z,3μm,16.0s
BLKN Baker Lake 68.69 23 **P** **05 03 49.0 -0.4**
BLKN IAmb IAmb 05 04 08.8
comp=Z,24nm,0.9s
CMSA Cobar Meteorol 68.69 177 P **P** **05 03 50.0 +0.3**
comp=Z,24nm,1.4s
KEF Keuruu 68.80 333 *e*P **P** **05 03 49.9 -0.2**
FIA1 FINESS Array S 68.83 333 P **P** **05 03 50.8 +0.4**
FINES FINESS Array B 68.83 333 LR LR 05 35 09.3
comp=Z,752nm,21.2s,baz=46,slow=37
MAK Makhachkala 68.85 308 *e*P **P** **05 03 48.0 -2.8**
MAK *e*PPP PPP 05 08 01.6
MAK *e*S **S** **05 12 48.7 -4.9**
MAK *e*SS **SS** **05 17 21.1 +2.9**
MAK pmax pmax
comp=Z,164nm,1.2s
MAK MLR MLR
comp=Z,1μm,14.0s
VORR Voronezh 68.89 319 *e*P **P** **05 03 48.9 -2.0**
VORR pmax pmax
comp=Z,30nm,0.3s
VORR MLR MLR
comp=Z,2μm,12.0s
STKA Stephens Creek 68.97 181 P **P** **05 03 51.2 -0.2**
comp=Z,47nm,1.2s
STKA Stephens Creek 68.97 181 P **P** **05 03 50.5 -0.9**
comp=Z,5.1nm,0.9s,baz=342,slow=13,SNR=4.6
STKA LR LR 05 36 02.6
comp=Z,153nm,19.8s,baz=11,slow=38
comp=Z,5.1nm,0.9s
STKA Stephens Creek 68.97 181⇓ *e*P **P** **05 03 49.7 -1.7**
VAGH Vaagaholmen 69.16 341 *e*P **P** **05 03 51.9 -0.3**
VSR Storozhevoye 69.16 319 *e*P **P** **05 03 50.4 -2.2**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VSR MLR MLR
comp=Z,3μm,15.0s
VORD Divnogorie 69.24 319 *e*P **P** **05 03 51.3 -1.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD MLR MLR
comp=Z,2μm,16.0s
MOR8 Moi Rana 69.26 340 *e*P **P** **05 03 52.2 -0.8**
PINE Pine Mountain 69.45 50 **P** **05 03 54.8 0.0**
PINE IAmb IAmb 05 04 18.5
comp=Z,23nm,1.0s
AKT Akhty 69.49 307 *e*P **P** **05 03 52.4 -2.6**
AKT *e* 05 04 15.3
AKT *e* 05 06 35.4
AKT pmax pmax
comp=Z,26nm,0.7s
AKT MLR MLR
comp=Z,2μm,17.0s
JMIC Jan Mayen 69.88 350 LR LR 05 36 51.9
comp=Z,217nm,18.8s,baz=42,slow=38
SEKA Sheki 69.97 307 P **P** **05 03 57.7 -0.2**
BBOO Buckleboo 70.15 186 P **P** **05 03 58.2 -0.5**
comp=Z,26nm,1.0s
BBOO Buckleboo 70.15 186 P **P** **05 03 58.2 -0.5**
ARBE Arbavere 70.17 331 *e*P **P** **05 03 58.5 -0.2**
MEF Metsahovi 70.26 332 *e*P **P** **05 04 00.6 +1.4**
SUMG Summit 70.27 0 P **P** **05 04 00.0 +0.4**
SUMG IAmb IAmb 05 04 10.3
comp=Z,30nm,1.1s
SUMG Summit 70.27 0 P **P** **05 04 00.0 +0.4**
SUMG pmax pmax
comp=Z,30nm,1.1s
SUMG Summit 70.27 0 *i* P **P** **05 03 59.5 -0.1**
SUMG IAmb IAmb 05 04 01.5
comp=Z,9.1nm,0.5s
MNGR Mingechevir, A 70.28 307 P **P** **05 03 59.9 +0.2**
LKRN Lenkeran, Azer 70.29 304 P **P** **05 04 00.1 +0.4**
GOF Gofitskoye 70.43 312 *e*P P 05 04 07.3 +6.8
VSU Vasula 70.52 330 *de*P **P** **05 03 58.9 -1.9**
VSU pmax pmax
comp=Z,41nm,1.1s
VSU Vasula 70.52 330 *e*P **P** **05 04 01.2 +0.5**
HTT Hallett 70.59 183 P **P** **05 04 01.4 -0.1**
comp=Z,6.6nm,1.0s
MORW Morawa 70.64 204 P **P** **05 04 01.6 -0.2**
comp=Z,38nm,1.9s
MORW Morawa 70.64 204 P **P** **05 04 01.5 -0.3**
RAF Rauma 70.67 334 *e*P **P** **05 04 02.4 +0.8**
GANJ Ganja 70.84 307 P **P** **05 04 03.4 +0.3**
NCK Nalchik 70.97 310⇓ *e*P **P** **05 04 04.2 +0.4**
NCK pmax pmax
comp=Z,39nm,1.2s
NSS Namsos 71.19 340 *e*P **P** **05 04 04.9 +0.1**
KVAR Kislovodsk Arr 71.25 311 P **P** **05 04 06.0 +0.4**
comp=Z,20nm,1.0s,baz=17,slow=11,SNR=4.6
KVAR LR LR 05 37 52.5
comp=Z,539nm,18.4s,baz=270,slow=38
comp=Z,20nm,1.0s
KBZ Khabaz 71.26 311 P **P** **05 04 05.8 +0.3**
comp=Z,25nm,0.9s,baz=39,slow=3.3,SNR=52
KBZ LR LR 05 36 20.2
comp=Z,518nm,19.0s,baz=54,slow=37
comp=Z,25nm,0.9s
KBZ Khabaz 71.26 311 *ce*P **P** **05 04 05.4 -0.1**
KBZ pmax pmax
comp=Z,39nm,1.0s
KIV Kislovodsk 71.26 311 P **P** **05 04 06.1 +0.4**
KIV Kislovodsk 71.26 311 ⇑P **P** **05 04 06.6 +0.9**
KIV Kislovodsk 71.26 311 *e*P **P** **05 04 05.7 0.0**
KIV *e*S **S** **05 13 21.1 -0.9**
KIV *e*SS **SS** **05 17 56.5 +1.1**
KIV pmax pmax
comp=Z,23nm,3.3s
KIV pmax pmax
comp=Z,72nm,1.1s
KIV Kislovodsk 71.26 311 P **P** **05 04 05.6 -0.1**
comp=Z,702nmcomp=Z,67nm,1.1s
SHA1 Shidzhatmaz 71.39 311 *c* *i*P **P** **05 04 07.2 +0.5**
ERBR Yeremizino-Bor 71.55 314 *e*P **P** **05 04 08.0 +0.7**
ERBR *e*S **S** **05 13 27.5 +2.3**
ERBR pmax pmax
comp=Z,80nm,0.7s
ERBR MLR MLR
comp=Z,1μm,15.0s
WVOR Wild Horse Val 71.60 50 P **P** **05 04 07.8 0.0**
WVOR Wild Horse Val 71.60 50 P **P** **05 04 07.8 0.0**
WVOR pmax pmax
comp=Z,12nm,1.3s
PLID Pearl Lake 71.68 47 P **P** **05 04 08.1 -0.3**
TRLG Trialeti 71.74 309 P **P** **05 04 09.0 +0.2**
GNI Garni 72.12 307 P **P** **05 04 11.5 +0.5**
GNI IAmb IAmb 05 05 00.1
comp=Z,46nm,1.2s
GNI Garni 72.12 307 P **P** **05 04 12.0 +1.0**
comp=Z,7.2nm,0.7s,baz=61,slow=19,SNR=2.3
GNI LR LR 05 38 39.0
comp=Z,691nm,18.8s,baz=66,slow=38
comp=Z,7.2nm,0.7s
GNI Garni 72.12 307 *c* *i*P **P** **05 04 11.7 +0.7**
GNI pmax pmax
comp=Z,45nm,1.4s
GNI Garni 72.12 307 P **P** **05 04 11.0 0.0**
comp=Z,34nm,1.4s
NAX Nakhchivan 72.18 306 P **P** **05 04 11.4 +0.1**
UOSS Minazif 72.46 288 P **P** **05 04 13.0 -0.2**
UOSS IAmb IAmb 05 04 22.8
comp=Z,23nm,0.8s
MNK Minsk 72.61 326 *i* P **P** **05 04 14.1 +0.6**
comp=E,15nm,0.9s
MNK *i* P **P** **05 04 14.1 +0.6**
comp=N,22nm,0.8s
MNK *i* P **P** **05 04 14.1 +0.6**
comp=Z,22nm,0.9s,baz=49
MNK *i* PcP **PcP** **05 04 31.0 0.0**
MNK *i* PP **PP** **05 06 55.9 +1.4**

MNK *i* PPP PPP 05 08 40.3
MNK *i* S **S** **05 13 40.8 +3.8**
MNK *i* PS PnS 05 14 26.1 +18
MNK *i* SS **SS** **05 18 21.7 +6.4**
MNK *i* SSS SSS 05 21 42.3
MNK *i* LQ LQ 05 31 18.9
MNK *i* LR LR 05 36 37.7
MNK *i* LRM MLR 05 39 03.5
comp=N,1μm,16.3s
MNK *i* LRM MLR 05 39 08.9
comp=Z,1μm,15.2s
MNK *i* LRM MLR 05 39 13.8
comp=E,841nm,15.0s
MNK Minsk 72.61 326 *e*P **P** **05 04 14.0 +0.6**
ISAL Salakas 72.67 328 *e*P **P** **05 04 14.9 +1.1**
NACGM Naroch 72.83 327 *e*P **P** **05 04 15.3 +0.5**
FFC Flin Flon 72.92 33 P **P** **05 04 15.8 +0.5**
FFC IAmb IAmb 05 04 26.9
comp=Z,30nm,1.1s
FFC Flin Flon 72.92 33 P **P** **05 04 15.8 +0.5**
FFC pmax pmax
comp=Z,30nm,1.2s
UPP Uppsala 72.94 334 *e*P **P** **05 04 16.1 +0.8**
CMB Columbia Colle 72.96 55 P **P** **05 04 15.8 -0.2**
CMB Columbia Colle 72.96 55 P **P** **05 04 15.8 -0.2**
CMB pmax pmax
comp=Z,9.0nm,1.0s
SOC Sochi 73.23 312 *e*P **P** **05 04 15.9 -1.5**
SOC *e* 05 07 01.7
SOC *e*PPP PPP 05 08 42.6
SOC *e*S **S** **05 13 43.1 -1.4**
SOC *e*SS **SS** **05 18 28.7 +3.3**
SOC pmax pmax
comp=Z,35nm,0.9s
SOC MLR MLR
comp=Z,579nm,17.0s
LRM Limekiln Ridge 73.28 45 P **P** **05 04 17.7 -0.3**
HLID Hailey 73.49 48 P **P** **05 04 19.1 -0.1**
PABE Paberze 73.62 329 P **P** **05 04 19.8 +0.4**
PABE Paberze 73.62 329 *e*P **P** **05 04 20.0 +0.6**
ANN Anapa 73.83 314 *e*P **P** **05 04 18.3 -2.6**
ANN *e*S **SKiKP** **05 13 47.6 -1.1**
ANN pmax pmax
comp=Z,64nm,1.2s
ANN MLR MLR
comp=Z,897nm,16.0s
ANN MLR MLR
comp=E,711nm,16.0s
ANN MLR MLR
comp=N,1μm,18.0s
NWAO Narrogin (SRO) 73.85 202 P **P** **05 04 19.7 -1.2**
NWAO IAmb IAmb 05 04 50.8
comp=Z,66nm,1.4s
NWAO Narrogin (SRO) 73.85 202 P **P** **05 04 19.7 -1.2**
NWAO pmax pmax
comp=Z,66nm,1.5s
BOZ Bozeman (W) 73.87 45 P **P** **05 04 20.8 -0.5**
BOZ Bozeman (W) 73.87 45 P **P** **05 04 20.8 -0.5**
BOZ pmax pmax
comp=Z,9.0nm,0.9s
NC405 NORSAR Array S 73.91 337 P **P** **05 04 21.6 +0.5**
MOL Molde 73.95 340 *e*P **P** **05 04 22.4 +1.2**
DOMB Dombas 73.96 339 *e*P **P** **05 04 21.5 +0.2**
HFS Hagfors 74.05 336 P **P** **05 04 22.1 +0.2**
comp=Z,3.8nm,0.4s,baz=39,slow=7.2,SNR=67
HFS LR LR 05 39 56.0
comp=Z,3μm,18.4s,baz=32,slow=38
comp=Z,3.8nm,0.4s
LHV Little Huntoon 74.06 54 P **P** **05 04 22.3 0.0**
LHV IAmb IAmb 05 05 09.5
comp=Z,19nm,1.1s
NVAR Mina Array Bea 74.08 54 P **P** **05 04 22.8 0.0**
NVAR Mina Array Bea 74.08 54 P **P** **05 04 23.1 +0.3**
comp=Z,1.9nm,0.9s,baz=279,slow=4.7,SNR=13
comp=Z,1.9nm,0.9s
PBUR Paburge 74.09 330 *e*P **P** **05 04 23.8 +1.6**
NB2 NORSAR Subarra 74.12 338 P **P** **05 04 22.5 +0.1**
comp=Z,1.9nm,0.5s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.12 338 P **P** **05 04 19.7 -2.7**
NB2 NORSAR Subarra 74.12 338 P **P** **05 04 22.5 +0.1**
baz=39,slow=6.2
NOA NORSAR Array B 74.12 338 P **P** **05 04 22.3 0.0**
comp=Z,4.6nm,0.8s,baz=39,slow=5.9,SNR=22
NOA LR LR 05 39 29.6
comp=Z,1μm,21.0s,baz=35,slow=38
comp=Z,4.6nm,0.8s
NORES NORESS Array B 74.26 337 P **P** **05 04 26.5 +3.4**
AK03 Malin Array Si 74.46 323 P **P** **05 04 24.4 0.0**
AKASG Malin Array Be 74.47 323 P **P** **05 04 24.2 -0.2**
comp=Z,8.6nm,0.4s,baz=47,slow=6.0,SNR=114
AKASG LR LR 05 41 40.7
comp=Z,636nm,18.0s,baz=48,slow=39
comp=Z,8.6nm,0.4s
AKBB Malin Array Si 74.47 323 P **P** **05 04 24.3 -0.2**
AKBB IAmb IAmb 05 04 34.6
comp=Z,44nm,0.9s
AKBB Malin Array Si 74.47 323 *c* *i*P **P** **05 04 24.0 -0.5**
AKBB pmax pmax
comp=Z,43nm,1.1s
AKBB Malin Array Si 74.47 323 P **P** **05 04 24.2 -0.3**
AK01 Malin Array Si 74.48 323 P **P** **05 04 24.5 -0.1**
KIEV Kiev 74.48 323 P **P** **05 04 24.3 -0.3**
KIEV IAmb IAmb 05 04 34.1
comp=Z,42nm,0.9s
KIEV Kiev 74.48 323 ⇓P **P** **05 04 24.6 0.0**
KIEV Kiev 74.48 323 P **P** **05 04 24.3 -0.3**
KIEV pmax pmax
comp=Z,42nm,1.0s
KIEV Kiev 74.48 323 P **P** **05 04 24.2 -0.3**
comp=Z,2μmcomp=Z,217nm,1.0s
AK04 Malin Array Si 74.49 323 P **P** **05 04 24.5 -0.1**
AK09 Malin Array Si 74.50 323 P **P** **05 04 24.6 -0.1**
AK08 Malin Array Si 74.50 323 P **P** **05 04 24.6 -0.1**
AK22 Malin Array Si 74.51 323 P **P** **05 04 24.7 0.0**
AK02 Malin Array Si 74.51 323 P **P** **05 04 24.7 0.0**
ELK Elko 74.66 50 P **P** **05 04 28.9 +2.8**
GURO Guroymak-BITLI 74.75 307 P **P** **05 04 27.0 +0.5**
GURO IAmb IAmb 05 04 37.2
comp=Z,50nm,1.2s
KOPT Kop Dagi 74.86 309 P **P** **05 04 27.6 +0.3**
KOPT IAmb IAmb 05 04 37.6
comp=Z,25nm,1.0s
SUW Suwalki 74.98 328 *e*P P 05 04 34.7 +7.3
SUW *e*L L 05 40 04.6
comp=Z,2μm,17.6s
SUW Suwalki 74.98 328 P **P** **05 04 27.7 +0.3**
SUW Suwalki 74.98 328 P **P** **05 04 27.7 +0.3**
SUW Suwalki 74.98 328 *e*P **P** **05 04 27.9 +0.5**
TPH Tonopah 74.98 54 P **P** **05 04 28.0 0.0**
TPH Tonopah 74.98 54 P **P** **05 04 28.0 0.0**
TPH pmax pmax
comp=Z,12nm,1.0s
VES Vestal, Richgr 75.07 56 P **P** **05 04 27.7 -0.6**
VES IAmb IAmb 05 05 04.8
comp=Z,55nm,1.4s
SKAR Skarslia 75.27 339 *e*P **P** **05 04 30.0 +1.0**
SFJD Kangerlussuaq 75.41 5 P **P** **05 04 30.7 +1.1**
SFJD IAmb IAmb 05 04 40.0
comp=Z,26nm,0.9s
SFJD Kangerlussuaq 75.41 5 LR LR 05 39 31.6
comp=Z,384nm,20.4s,baz=345,slow=37
SFJD Kangerlussuaq 75.41 5 P **P** **05 04 30.7 +1.1**
SFJD pmax pmax
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 75.41 5 *i* P P 05 04 34.8 +5.2
GMN Gold Mountain 75.41 54 P **P** **05 04 29.9 -0.6**
HVU Hansel Valley 75.53 48 P **P** **05 04 31.1 +0.1**
HVU Hansel Valley 75.53 48 P **P** **05 04 31.1 +0.1**
HVU pmax pmax
comp=Z,8.0nm,1.1s
RNPP9 Sopachiv 75.57 325 P **P** **05 04 30.8 0.0**
SIM Simferopol' 75.61 316 *e*P **P** **05 04 29.3 -1.9**
RNPP8 Varash 75.64 325 P **P** **05 04 31.4 +0.2**
LUBAR Lubar, Ukraine 75.69 323 P **P** **05 04 31.0 -0.6**
RNPP5 Staryi Chortor 75.70 325 P **P** **05 04 31.2 -0.4**
STRU Stroemstad 75.71 336 *e*P **P** **05 04 31.9 +0.4**
FRB Frobisher Bay 76.19 14 LR LR 05 42 21.9
comp=Z,613nm,18.7s,baz=343,slow=39
BLEU Blekinge 76.23 333 *i* P **P** **05 04 34.2 -0.2**
BLEU IAmb IAmb 05 04 35.9
comp=Z,3.0nm,0.3s
BORU Boraas 76.29 335 *i* P **P** **05 04 35.1 +0.3**
HWUT Hardware Ranch 76.35 48 P **P** **05 04 35.8 +0.1**
HWUT IAmb IAmb 05 05 16.5

comp=Z,19nm,1.1s
TJOU Tjoern 76.36 336 *i* P **P** **05 04 35.5 +0.4**
GWY Greenwater Val 76.45 55 IAmb IAmb 05 04 47.9
comp=Z,46nm,1.7s
QSM Queen of Sheba 76.45 55 IAmb IAmb 05 04 53.0
comp=Z,23nm,1.2s
SORM Soroca 76.59 321⇓ P **P** **05 04 36.6 -0.1**
SORM Soroca 76.59 321 P **P** **05 04 36.5 -0.1**
PDAR Pinedale Array 76.79 46 P **P** **05 04 38.5 +0.3**
comp=Z,1.5nm,0.6s,baz=33,slow=1.0,SNR=9.5
FABU Falkenberg 76.80 334 *e*P **P** **05 04 37.0 -0.7**
DEL Delary 76.81 334 *i* P **P** **05 04 38.1 +0.4**
MILM Milestii Mici 77.17 320⇓ P **P** **05 04 39.6 -0.4**
MILM Milestii Mici 77.17 320 P **P** **05 04 39.5 -0.4**
BORG Borgarnes 77.35 353 LR LR 05 39 41.7
comp=Z,145nm,19.9s,baz=16,slow=36
BSD Bornholm Skovb 77.47 332 *e*P **P** **05 04 42.3 +0.8**
BSD Bornholm Skovb 77.47 332 *i* P **P** **05 04 41.0 -0.5**
BSD IAmb IAmb 05 04 51.5
comp=Z,62nm,1.0s
LVV L'vov 77.53 324 P **P** **05 04 41.7 -0.3**
LUNU Lund 77.61 333 *i* P **P** **05 04 42.6 +0.4**
COP Copenhagen 77.93 334 *i* P **P** **05 04 45.1 +1.1**
COP IAmb IAmb 05 04 55.5
comp=Z,99nm,0.8s
GKP Gorka Klasztor 77.97 330 *e*P **P** **05 04 47.6 +3.3**
MORS Morshin 78.07 324 P **P** **05 04 46.6 +1.6**
KSV Kosov 78.08 323 P **P** **05 04 45.6 +0.5**
NUUK Nuuk 78.09 6 *i* P **P** **05 04 45.9 +1.2**
PFO Pinyon Flats O 78.13 57 LR LR 05 32 14.4
comp=Z,184nm,20.4s,baz=298,slow=30
VLDR Vladesti 78.26 319⇓ P **P** **05 04 47.4 +1.3**
KWP Kalwaria Pacla 78.27 325 *e*P **P** **05 04 46.4 +0.3**
KWP *e*L L 05 42 18.2
comp=Z,991nm,19.1s
KWP Kalwaria Pacla 78.27 325 P **P** **05 04 46.4 +0.3**
comp=Z,1μmcomp=Z,136nm,1.1s
BNN Bunyan 78.42 310 IAmb IAmb 05 04 58.4
comp=Z,28nm,0.9s
BUR08 Bucovina Ar. S 78.48 322 IAmb IAmb 05 04 58.8
comp=Z,42nm,1.0s
BURAR Bucovina Array 78.50 322 P **P** **05 04 48.1 +0.6**
BURAR IAmb IAmb 05 04 59.2
comp=Z,44nm,0.9s
BURAR Bucovina Array 78.50 322⇑ P **P** **05 04 47.8 +0.2**
BURAR Bucovina Array 78.50 322 P **P** **05 04 47.7 +0.2**
TESR Tescani 78.54 321⇓ P **P** **05 04 48.2 +0.6**
TESR Tescani 78.54 321 P **P** **05 04 47.8 +0.1**
comp=Z,836nmcomp=Z,87nm,1.2s
GAZ Gaziantep 78.63 308 IAmb IAmb 05 04 59.8
comp=Z,40nm,1.0s
CFR Carcaliu 78.68 319⇓ P **P** **05 04 48.7 +0.3**
CFR Carcaliu 78.68 319 P **P** **05 04 48.7 +0.3**
ULM Lac du Bonnet 78.71 34 P **P** **05 04 48.7 +0.2**
comp=Z,3.1nm,0.7s,baz=281,slow=10,SNR=5.1
comp=Z,3.1nm,0.7s
PANC Panciu 78.72 320⇑ P **P** **05 04 50.3 +1.6**
TPGR Topolog 78.75 319⇓ P **P** **05 04 49.7 +0.8**
ONER Baraj Valea Uz 78.79 321⇓ P **P** **05 04 50.0 +0.9**
VRI Vrincioaia 78.94 320⇓ P **P** **05 04 50.2 +0.2**
VRI Vrincioaia 78.94 320 P **P** **05 04 50.1 +0.2**
KOLS Kolonicke sedl 78.97 324 *e*P **P** **05 04 50.7 +0.7**
KOLS *e* 05 05 00.6
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 78.97 324 *e*P **P** **05 04 50.7 +0.7**
KOLS *e* 05 05 00.6
RSSD Black Hills 78.97 42 P **P** **05 04 52.1 +1.7**
PLOR Plostina 78.99 320⇑ P **P** **05 04 50.1 -0.1**
PLOR Plostina 78.99 320 P **P** **05 04 50.0 -0.1**
SSRD Sdr. Stenderup 79.06 335 *i* P **P** **05 04 51.6 +1.4**
SSRD IAmb IAmb 05 05 00.7
comp=Z,74nm,1.0s
STHS Stebnicka Huta 79.09 325 *e*P **P** **05 04 50.6 -0.1**
STHS *e* 05 05 00.7
STHS pmax pmax
comp=Z,10.0nm,1.1s
STHS Stebnicka Huta 79.09 325 *e*P **P** **05 04 50.6 -0.1**
STHS *e* 05 05 00.7
U15A North Rim 79.11 52 IAmb IAmb 05 05 16.6
comp=Z,37nm,1.6s
HMU Henry Mountain 79.13 50 IAmb IAmb 05 05 07.6
comp=Z,16nm,0.8s
OJC Ojcow 79.15 327 *e*P **P** **05 04 51.2 +0.2**
OJC *e*L L 05 42 46.2
comp=Z,2μm,18.9s
TLBR Topalu 79.16 318⇑ P **P** **05 04 52.1 +1.1**
TURR Turia 79.17 321⇑ P **P** **05 04 52.5 +1.4**
BR131 Keskin Array S 79.19 312 IAmb IAmb 05 05 02.3
comp=Z,19nm,0.9s
BR131 Keskin Array S 79.19 312 *c* *i*P **P** **05 04 51.5 0.0**
BRTR Keskin Array B 79.19 312 P **P** **05 04 51.5 0.0**
BRTR Keskin Array B 79.19 312 P **P** **05 04 52.1 +0.6**
comp=Z,4.1nm,0.4s,baz=101,slow=4.0,SNR=18
BRTR LR LR 05 44 42.5
comp=Z,511nm,19.6s,baz=42,slow=39
comp=Z,4.1nm,0.4s
COVR Voineasa-Covas 79.22 320⇑ P **P** **05 04 52.1 +0.7**
TRSU Trosnyk 79.25 324 P **P** **05 04 53.1 +1.7**
OZUR 79.26 321⇓ P **P** **05 04 53.0 +1.3**
BMR Baia Mare 79.29 323 P **P** **05 04 52.3 +0.6**
NEHR Nehoiu 79.47 320⇓ P **P** **05 04 53.6 +0.8**
NIE Niedzica 79.52 326 *e*P **P** **05 04 53.9 +0.9**
NIE *e*L L 05 43 22.8
comp=Z,1μm,17.1s
ISR Istrita 79.55 320⇓ P **P** **05 04 54.6 +1.3**
ISR Istrita 79.55 320 P **P** **05 04 54.6 +1.3**
ISR Istrita 79.55 320 P **P** **05 04 53.0 -0.3**
DOPR Dopca 79.55 321⇓ P **P** **05 04 54.6 +1.4**
ICOR Ion Corvin 79.57 318⇓ P **P** **05 04 54.8 +1.4**
ANTO Ankara 79.60 313 P **P** **05 04 54.2 +0.5**
ANTO IAmb IAmb 05 05 04.6
comp=Z,37nm,0.9s
ANTO Ankara 79.60 313⇑ P **P** **05 04 54.4 +0.7**
ANTO Ankara 79.60 313 P **P** **05 04 54.2 +0.5**
ANTO pmax pmax
comp=Z,37nm,1.0s
MLR Muntele Rosu 79.60 320 IAmb IAmb 05 05 04.0
comp=Z,43nm,1.3s
MLR Muntele Rosu 79.60 320 P **P** **05 04 54.3 +0.6**
comp=Z,3.3nm,0.5s,baz=329,slow=9.2,SNR=8.0
MLR LR LR 05 44 23.5
comp=Z,1μm,18.4s,baz=41,slow=39
comp=Z,3.3nm,0.5s
MLR Muntele Rosu 79.60 320⇑ P **P** **05 04 53.7 +0.1**
MLR Muntele Rosu 79.60 320 P **P** **05 04 53.7 +0.1**
RAR Rarotonga 79.74 127 LR LR 05 33 08.7
comp=Z,411nm,20.3s,baz=309,slow=30
PV23 Carpenter Ridg 79.85 49 IAmb IAmb 05 05 35.4
comp=Z,43nm,1.2s
PV10 Paradox Valley 79.89 49 IAmb IAmb 05 05 08.2
comp=Z,49nm,1.0s
PV20 West Nyswonger 79.95 49 IAmb IAmb 05 05 32.7
comp=Z,30nm,0.9s
PV04 Paradox Valley 79.96 49 IAmb IAmb 05 05 12.9
comp=Z,40nm,1.6s
PV05 Paradox Valley 80.04 49 IAmb IAmb 05 05 08.8
comp=Z,30nm,1.0s
PV18 Skein Mesa, Pa 80.05 49 IAmb IAmb 05 05 22.1
comp=Z,36nm,1.1s
PV12 Saucer Basin, 80.07 49 IAmb IAmb 05 05 23.2
comp=Z,29nm,1.0s
PV03 Paradox Valley 80.08 49 IAmb IAmb 05 05 37.0
comp=Z,20nm,1.1s
LANS Liptovska Anna 80.08 326 *e*P **P** **05 04 57.2 +1.1**
LANS *e* 05 05 06.3
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 80.08 326 *e*P **P** **05 04 57.2 +1.1**
LANS *e* 05 05 06.3
OKC Ostrava-Krasne 80.16 327 AMS AMS 05 43 20.0
comp=Z,2μm,17.2s
PV13 Radium Mtn., P 80.16 49 IAmb IAmb 05 05 13.8
comp=Z,40nm,1.4s
MARR Marisel-Cluj 80.17 322⇑ P **P** **05 04 57.1 +0.4**
PV02 Paradox Valley 80.18 49 IAmb IAmb 05 05 21.3
comp=Z,28nm,1.1s
KSP Ksiaz 80.18 329 *e*P **P** **05 04 56.7 +0.2**
KSP *e*L L 05 43 25.8
comp=Z,1μm,16.8s
STEB Steborice 80.24 327 *e*P **P** **05 04 58.0 +1.1**
STEB *e*pP **sP** **05 05 06.2 +0.7**
DRGR 80.29 323⇑ P **P** **05 04 58.0 +0.8**
DRGR 80.29 323 P **P** **05 04 58.0 +0.8**

ARR	**Arges**	**80.35 321**	⇑P	**P**	**05 04 58.6**	**+0.9**
OSTC	**Ostas**	**80.43 329**	AMS	AMS	05 43 30.0	
	comp=Z,1μm,15.6s					
GORT1	**Trebel**	**80.46 333**	*e*P	**P**	**05 04 59.0**	**+1.1**
	comp=Z,57nm,1.2s,baz=36,slow=5.2					
MORC	**Moravsky Berou**	**80.46 327**	IAmb	IAmb	05 05 09.2	
	comp=Z,43nm,1.0s					
MORC	**Moravsky Berou**	**80.46 327**	*e*P	**P**	**05 04 58.6**	**+0.5**
MORC			*e*		05 05 05.9	
MORC	**Moravsky Berou**	**80.46 327**	⇑P	**P**	**05 04 58.5**	**+0.5**
MORC	**Moravsky Berou**	**80.46 327**	P	**P**	**05 04 58.5**	**+0.5**
CHVC	**Chvalec**	**80.47 329**	*e*P	**P**	**05 04 58.6**	**+0.5**
CHVC			*e**PP	**sP**	**05 05 06.6**	**-0.2**
CHVC			MLR	MLR		
	comp=Z,1μm,15.5s					
CHVC	**Chvalec**	**80.47 329**	*e*P	**P**	**05 04 58.6**	**+0.5**
CHVC			*e*pP	**sP**	**05 05 06.6**	**-0.2**
CHVC			AMS	AMS	05 43 30.0	
	comp=Z,1μm,15.5s					
DPC	**Dobruska-Polom**	**80.54 328**	*e*P	**P**	**05 04 59.6**	**+1.1**
DPC			*e**PP	**sP**	**05 05 08.2**	**+1.0**
DPC			*e*S	**S**	**05 15 03.0**	**-1.1**
DPC			MLR	MLR		
	comp=Z,1μm,15.5s					
DPC	**Dobruska-Polom**	**80.54 328**	*e*P	**P**	**05 04 59.6**	**+1.1**
DPC			*e*pP	**sP**	**05 05 08.2**	**+1.0**
DPC			*e*S	**S**	**05 15 03.0**	**-1.1**
DPC			AMS	AMS	05 43 30.0	
	comp=Z,1μm,15.5s					
UPC	**Upice**	**80.55 329**	AMS	AMS	05 43 30.0	
	comp=Z,1μm,15.2s					
KRLC	**Kraliky**	**80.56 328**	*e*P	**P**	**05 04 59.1**	**+0.5**
KRLC			MLR	MLR		
	comp=Z,1μm,16.3s					
KRLC	**Kraliky**	**80.56 328**	*e*P	**P**	**05 04 59.1**	**+0.5**
KRLC			AMS	AMS	05 43 40.0	
	comp=Z,1μm,16.3s					
PSZ	**Piszkesteto**	**80.80 325**	⇑P	**P**	**05 05 00.8**	**+0.9**
PSZ	**Piszkesteto**	**80.80 325**	P	**P**	**05 05 00.8**	**+0.9**
PSZ	**Piszkesteto**	**80.80 325**	*e*P	**P**	**05 05 00.8**	**+0.9**
VYHS	**Vyhne**	**80.85 326**	*e*P	**P**	**05 05 00.7**	**+0.5**
VYHS			*e*		05 05 09.4	
VYHS			pmax	pmax		
	comp=Z,9.0nm,0.8s					
VYHS	**Vyhne**	**80.85 326**	*e*P	**P**	**05 05 00.7**	**+0.5**
VYHS			*e*		05 05 09.4	
FLTG	**Flechtingen**	**81.01 332**	*e*P	**P**	**05 05 00.7**	**-0.2**
	comp=Z,39nm,1.0s,baz=36,slow=5.2					
JAVC	**Velka Javorina**	**81.09 327**	*e*P	**P**	**05 05 02.8**	**+1.3**
JAVC			*e*		05 05 10.2	
BRG	**Berggiesshubel**	**81.11 330**	*e*P	**P**	**05 05 02.7**	**+1.2**
	comp=Z,24nm,0.9s,baz=36,slow=5.2					
BRG	**Berggiesshubel**	**81.11 330**	*i* P	**P**	**05 05 03.2**	**+1.7**
BRG			Amp		05 05 04.2	
	comp=Z,7.3nm,1.0s					
BRG			⇑PP	**sP**	**05 05 10.6**	**+0.5**
BRG			Amp		05 05 13.6	
	comp=Z,24nm,0.9s					
BRG			PP	**PP**	**05 08 08.8**	**+2.9**
BRG			Amp		05 08 16.3	
	comp=Z,6.3nm,1.0s					
BRG	**Berggiesshubel**	**81.11 330**	S	**S**	**05 15 12.0**	**+2.1**
PVCC	**Panska Ves**	**81.13 329**	*e*P	**P**	**05 05 02.5**	**+0.9**
PVCC			*e*S	**S**	**05 15 11.6**	**+1.5**
PVCC			MLR	MLR		
	comp=Z,1μm,16.3s					
PVCC	**Panska Ves**	**81.13 329**	*e*P	**P**	**05 05 02.5**	**+0.9**
PVCC			*e*S	**S**	**05 15 11.6**	**+1.5**
PVCC			AMS	AMS	05 44 00.0	
	comp=Z,1μm,16.3s					
CLL	**Collm**	**81.15 331**	IAmb	IAmb	05 05 12.1	
	comp=Z,49nm,1.0s					
CLL	**Collm**	**81.15 331**	*i* P	**P**	**05 05 01.5**	**-0.2**
CLL			*i*		05 05 08.9	
CLL			*e*S	**S**	**05 15 12.0**	**+1.8**
CLL			pmax	pmax		
	comp=Z,50nm,1.0s					
CLL			MLR	MLR		
	comp=Z,2μm,18.1s					
CLL	**Collm**	**81.15 331**	*e*P	**P**	**05 05 01.5**	**-0.2**
	comp=Z,47nm,1.0s,baz=36,slow=5.2					
CLL			*e*L	L	05 44 07.7	
	comp=Z,1μm,18.1s					
SIRR	**Siria**	**81.17 323**	⇑P	**P**	**05 05 02.4**	**+0.4**
VRAC	**Vranov**	**81.22 328**	P	**P**	**05 05 02.2**	**+0.1**
	comp=Z,7.2nm,0.8s,baz=52,slow=6.1,SNR=14					
VRAC			LR	LR	05 45 03.3	
	comp=Z,943nm,18.3s,baz=32,slow=39					
	comp=Z,7.2nm,0.8s					
VRAC	**Vranov**	**81.22 328**	*e*P	**P**	**05 05 02.7**	**+0.6**
VRAC			*e*		05 05 10.1	
VRAC	**Vranov**	**81.22 328**	⇓P	**P**	**05 05 03.2**	**+1.1**
GZR	**Gura Zlata**	**81.26 322**	⇑P	**P**	**05 05 02.9**	**+0.4**
GZR	**Gura Zlata**	**81.26 322**	P	**P**	**05 05 02.8**	**+0.4**
RAYN	**Ar Rayn**	**81.26 293**	P	**P**	**05 05 02.3**	**-0.5**
RAYN			IAmb	IAmb	05 05 12.3	
	comp=Z,16nm,0.8s					
RAYN	**Ar Rayn**	**81.26 293**	P	**P**	**05 05 02.3**	**-0.5**
RAYN			pmax	pmax		
	comp=Z,16nm,0.8s					
NRDL	**Niedersach Rie**	**81.30 333**	*e*P	**P**	**05 05 02.2**	**-0.1**
	comp=Z,18nm,1.1s,baz=36,slow=5.2					
ASSE	**Asse, Remlinge**	**81.38 332**	*e*P	**P**	**05 05 03.1**	**+0.3**
	comp=Z,18nm,1.1s,baz=36,slow=5.2					
ELND	**Elena**	**81.41 318**	⇑P	**P**	**05 05 03.3**	**+0.1**
KRUC	**Moravsky**	**81.49 327**	*e*P	**P**	**05 05 03.7**	**+0.2**
KRUC			*e*		05 05 12.2	
HSKC	**Hora Svate Kat**	**81.53 330**	*e*P	**P**	**05 05 04.1**	**+0.4**
HSKC			*e*pP	**sP**	**05 05 13.0**	**+0.6**
HSKC			AMS	AMS	05 44 10.0	
	comp=Z,2μm,17.7s					
PRA	**Prague**	**81.54 329**	AMS	AMS	05 44 20.0	
	comp=Z,1μm,15.5s					
PRU	**Pruhonice**	**81.56 329**	*e*P	**P**	**05 05 04.6**	**+0.7**
PRU			*e**PP	**sP**	**05 05 13.6**	**+1.1**
PRU			*e*S	**S**	**05 15 14.5**	**-0.1**
PRU			MLR	MLR		
	comp=Z,1μm,16.8s					
PRU	**Pruhonice**	**81.56 329**	*e*P	**P**	**05 05 04.6**	**+0.7**
PRU			*e*pP	**sP**	**05 05 13.6**	**+1.1**
PRU			*e*S	**S**	**05 15 14.5**	**-0.1**
PRU			AMS	AMS	05 44 20.0	
	comp=Z,1μm,16.8s					
SRO	**Srobarova**	**81.59 326**	*e*P	**P**	**05 05 05.4**	**+1.3**
SRO			*e*		05 05 15.1	
SRO			pmax	pmax		
	comp=Z,12nm,0.9s					
SRO	**Srobarova**	**81.59 326**	*e*P	**P**	**05 05 05.4**	**+1.3**
SRO			*e*		05 05 15.0	
MODS	**Modra-Piesok**	**81.63 327**	*e*P	**P**	**05 05 01.5**	**-2.8**
MODS			*e*		05 05 10.6	
MODS			pmax	pmax		
	comp=Z,22nm,1.1s					
MODS	**Modra-Piesok**	**81.63 327**	*e*P	**P**	**05 05 01.5**	**-2.8**
MODS			*e*		05 05 10.6	
BZS	**Buzias**	**81.66 322**	⇑P	**P**	**05 05 04.5**	**0.0**
BZS	**Buzias**	**81.66 322**	P	**P**	**05 05 04.5**	**0.0**
NEUB	**Neuenburg**	**81.70 331**	*e*P	**P**	**05 05 04.8**	**+0.3**
	comp=Z,58nm,1.0s,baz=36,slow=5.2					
TREC	**Trest**	**81.70 328**	AMS	AMS	05 44 20.0	
	comp=Z,1μm,16.3s					
CLZ	**Clausthal**	**81.72 332**	*e*P	**P**	**05 05 05.1**	**+0.4**
	comp=Z,51nm,1.1s,baz=36,slow=5.2					
PLVB	**Pleven**	**81.75 319**	⇑P	**P**	**05 05 05.2**	**+0.3**
HERR	**Herculane**	**81.80 322**	⇓P	**P**	**05 05 04.8**	**-0.4**
URZ	**Urewera**	**81.84 153**	LR	LR	05 38 44.1	
	comp=Z,296nm,19.3s,baz=336,slow=34					
ASF	**Jabal al Asfar**	**81.96 304**	LR	LR	05 45 19.1	
	comp=Z,567nm,19.1s,baz=153,slow=38					
TANN	**Tannenbergstha**	**82.06 330**	*e*P	**P**	**05 05 06.7**	**+0.1**
	comp=Z,32nm,1.6s,baz=36,slow=5.2					
GTTG	**Gottingen**	**82.11 332**	*e*P	**P**	**05 05 07.1**	**+0.4**
	comp=Z,33nm,1.0s,baz=36,slow=5.2					
PLN	**Plauen**	**82.12 331**	*e*P	**P**	**05 05 07.3**	**+0.4**
	comp=Z,6.9nm,1.2s,baz=36,slow=5.2					
ZVC	**Zvikov**	**82.13 329**	*e*P	**P**	**05 05 07.7**	**+0.8**
ZVC			*e*pP	**sP**	**05 05 16.2**	**+0.7**
ZVC			AMS	AMS	05 44 40.0	
	comp=Z,1μm,15.3s					
MOX	**Moxa**	**82.21 331**	*e*P	**P**	**05 05 07.4**	**+0.1**
	comp=Z,19nm,1.0s,baz=36,slow=5.2					
MOX			*e*L	L	05 45 33.0	
	comp=Z,910nm,18.0s					
MDVR	**Moldovita**	**82.22 322**	⇓P	**P**	**05 05 07.3**	**-0.2**

MMAI	**Mount Meron Ar**	**82.39 306**	P	**P**	**05 05 09.2**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=53,slow=10,SNR=8.1					
MMAI			LR	LR	05 45 41.7	
	comp=Z,708nm,19.3s,baz=38,slow=38					
	comp=Z,4.9nm,0.7s					
MANZ	**Manzenberg**	**82.54 330**	*e*P	**P**	**05 05 09.3**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=36,slow=5.2					
CKRC	**Cesky Krumlov**	**82.56 328**	*e*P	**P**	**05 05 09.4**	**+0.2**
CKRC			*e*S	**S**	**05 15 23.8**	**-1.2**
CKRC			AMS	AMS	05 47 00.0	
	comp=Z,1μm,15.2s					
RONA	**Rosalia, Austr**	**82.57 327**	*i* pP	**P**	**05 05 09.9**	**+0.6**
	comp=Z,10nm,0.7s,SNR=7.9					
RONA			*i* PcP	**sP**	**05 05 18.1**	**+0.2**
	comp=Z,60nm,1.3s					
CONA	**Conrad Observa**	**82.59 327**	*i* pP	**P**	**05 05 10.0**	**+0.5**
	comp=Z,11nm,1.0s,SNR=7.4					
CONA			*i* PcP	**sP**	**05 05 17.8**	**-0.3**
	comp=Z,32nm,1.0s					
KHC	**Kasperske Hory**	**82.62 329**	*c* iP	**P**	**05 05 09.8**	**+0.3**
KHC			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KHC	**Kasperske Hory**	**82.62 329**	*e*P	**P**	**05 05 10.0**	**+0.5**
KHC			*e*pP	**sP**	**05 05 18.5**	**+0.3**
KHC			*e*S	**S**	**05 15 23.8**	**-1.8**
KHC			AMS	AMS	05 44 40.0	
	comp=Z,1μm,17.2s					
MORH	**Mrgy, Hungar**	**82.63 324**	⇑P	**P**	**05 05 09.4**	**-0.2**
ROTZ	**Rotzenmuhle**	**82.67 330**	*e*P	**P**	**05 05 10.3**	**+0.6**
	comp=Z,12nm,1.3s,baz=36,slow=5.2					
GEC2	**GERESS Array S**	**82.79 329**	IAmb	IAmb	05 05 20.5	
	comp=Z,15nm,0.9s					
GEC2	**GERESS Array S**	**82.79 329**	*e*P	**P**	**05 05 10.3**	**-0.2**
	comp=Z,15nm,0.9s,baz=36,slow=5.2					
GEC2			*e*L	L	05 46 04.3	
	comp=Z,953nm,18.7s					
GERES	**GERESS Array B**	**82.79 329**	P	**P**	**05 05 10.4**	**-0.1**
GERES	**GERESS Array B**	**82.79 329**	P	**P**	**05 05 10.7**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=32,slow=5.6,SNR=24					
GERES			LR	LR	05 46 14.7	
	comp=Z,988nm,18.5s,baz=32,slow=39					
	comp=Z,2.5nm,0.4s					
GERES	**GERESS Array B**	**82.79 329**	P	**P**	**05 05 10.4**	**-0.1**
WET	**Wettzell**	**82.89 329**	*e*P	**P**	**05 05 11.2**	**+0.2**
	comp=Z,30nm,1.2s,baz=36,slow=5.2					
WET			*e*L	L	05 45 06.2	
	comp=Z,2μm,19.4s					
KASTN	**Kahler Asten**	**82.96 333**	*e*P	**P**	**05 05 11.5**	**+0.3**
	comp=Z,19nm,1.2s,baz=36,slow=5.2					
EKA	**Eskdalemuir Ar**	**83.02 341**	P	**P**	**05 05 11.7**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=28,slow=4.2,SNR=13					
	comp=Z,1.9nm,0.6s					
BOVS	**Bovan**	**83.05 321**	⇑P	**P**	**05 05 11.5**	**-0.3**
GRF	**Grafenberg Arr**	**83.12 331**	*e*P	**P**	**05 05 12.7**	**+0.6**
	comp=Z,46nm,1.0s,baz=36,slow=5.2					
GRF			*e*L	L	05 45 17.4	
	comp=Z,870nm,19.2s					
GRFO	**Grafenberg**	**83.12 331**	P	**P**	**05 05 12.8**	**+0.7**
GRFO	**Grafenberg**	**83.12 331**	P	**P**	**05 05 12.8**	**+0.7**
GRFO			pmax	pmax		
	comp=Z,48nm,1.0s					
ARSA	**Arzberg**	**83.25 327**	IAmb	IAmb	05 05 23.3	
	comp=Z,18nm,1.0s					
ARSA	**Arzberg**	**83.25 327**	*i* P	**P**	**05 05 13.2**	**+0.4**
	comp=Z,3.5nm,0.6s,SNR=8.0					
ARSA			*i* PcP	**sP**	**05 05 21.3**	**-0.2**
	comp=Z,18nm,1.1s					
EZN	**Ezine**	**83.32 316**	⇑P	**P**	**05 05 14.2**	**+0.9**
EZN	**Ezine**	**83.32 316**	P	**P**	**05 05 14.1**	**+0.9**
MOA	**Molln**	**83.33 328**	*i* P	**P**	**05 05 13.4**	**+0.2**
	comp=Z,9.1nm,1.2s					
MOA			*i* PcP	**sP**	**05 05 21.3**	**-0.5**
	comp=Z,20nm,1.0s,SNR=9.0					
BIOA	**Bad Ischl, Aus**	**83.72 328**	*i* P	**P**	**05 05 15.6**	**+0.4**
	comp=Z,6.4nm,0.5s,SNR=6.5					
BIOA			*i* PcP	**sP**	**05 05 23.6**	**-0.2**
	comp=Z,47nm,1.2s					
TNS	**Taunus Mts**	**83.75 332**	*e*L	L	05 47 23.9	
	comp=Z,1μm,18.8s					
GROS	**Grobnik**	**83.87 326**	*e*P	**P**	**05 05 15.7**	**-0.3**
GROS			*e*PcP	**pP**	**05 05 23.1**	**+0.7**
PERS	**Pernice**	**83.90 327**	*e*P	**P**	**05 05 16.3**	**+0.1**
SOKA	**Soboth**	**83.91 327**	*e*P	**P**	**05 05 16.6**	**+0.3**
	comp=Z,5.2nm,0.6s,SNR=9.4					
SOKA			*i* PcP	**sP**	**05 05 24.6**	**-0.4**
	comp=Z,47nm,1.2s					
RJOB	**Jochberg**	**84.04 328**	*e*P	**P**	**05 05 17.4**	**+0.5**
	comp=Z,42nm,1.0s,baz=36,slow=5.2					
PPT	**Papete**	**84.09 117**	LR	LR	05 36 58.9	
	comp=Z,440nm,19.8s,baz=308,slow=32					
OBKA	**Obir**	**84.25 327**	*i* P	**P**	**05 05 18.2**	**+0.1**
	comp=Z,3.8nm,0.9s					
OBKA			*i* PcP	**sP**	**05 05 25.8**	**-0.9**
	comp=Z,9.3nm,0.9s					
BEBN	**Eben Emael**	**84.27 334**	*dx*	x	05 05 24.8	
VAY	**Valandovo**	**84.28 319**	*i* P	**P**	**05 05 18.8**	**+0.7**
BTNL	**Ternell**	**84.29 334**	*dP*	**P**	**05 05 18.0**	**0.0**
	comp=Z,11nm,1.2s					
BTNL			*dx*	x	05 05 26.5	
MEM	**Membach**	**84.31 334**	*dx*	x	05 05 26.5	
	comp=Z,13nm,1.0s					
FUR	**Furstenfeldbru**	**84.32 330**	*e*L	L	05 46 07.3	
	comp=Z,2μm,18.6s					
KBA	**Koelnbreinsper**	**84.32 328**	*i* pP	**P**	**05 05 19.5**	**+1.0**
	comp=Z,6.4nm,0.9s					
KBA			*i* PcP	**sP**	**05 05 27.5**	**+0.3**
	comp=Z,19nm,0.8s					
LESA	**Schwarzleotal**	**84.33 328**	*i* P	**P**	**05 05 18.5**	**0.0**
	comp=Z,7.8nm,1.0s					
LESA			*i* PcP	**sP**	**05 05 26.7**	**-0.4**
	comp=Z,30nm,1.0s,SNR=7.5					
LEGS	**Legarje**	**84.34 326**	*e*P	**P**	**05 05 18.1**	**-0.3**
SKO	**Skopje**	**84.39 320**	*i* P	**P**	**05 05 20.0**	**+1.3**
121A	**Cookes Peak, D**	**84.46 53**	IAmb	IAmb	05 05 36.6	
	comp=Z,20nm,1.2s					
BHOU	**Houvegnez**	**84.52 334**	*dP*	**P**	**05 05 19.3**	**0.0**
	comp=Z,9.4nm,1.1s					
BHOU			*dx*	x	05 05 27.4	
MYKA	**Terra Mystica**	**84.55 327**	*i* P	**P**	**05 05 19.3**	**-0.2**
	comp=Z,1.2nm,0.4s,SNR=5.4					
MYKA			*i* PcP	**pP**	**05 05 25.3**	**-0.6**
	comp=Z,16nm,0.7s					
SCHQ	**Schefferville**	**84.71 17**	P	**P**	**05 05 20.4**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=18,slow=3.2,SNR=8.2					
SCHQ			LR	LR	05 46 55.7	
	comp=Z,289nm,19.2s,baz=344,slow=38					
	comp=Z,3.7nm,0.8s					
BCLA	**Clavier**	**84.72 334**	*dP*	**P**	**05 05 21.0**	**+0.8**
	comp=Z,12nm,1.2s					
UCC	**Uccle**	**84.72 335**	*dx*	x	05 05 28.4	
EIL	**Elat**	**84.84 304**	LR	LR	05 47 47.1	
	comp=Z,439nm,18.0s,baz=66,slow=39					
WATA	**Walderalm**	**84.86 329**	*i* P	**P**	**05 05 21.2**	**+0.1**
	comp=Z,2.9nm,0.6s					
WATA			*i* PcP	**sP**	**05 05 28.9**	**-0.9**
	comp=Z,9.0nm,0.8s					
WTTA	**Wattenberg**	**84.89 329**	*i* P	**P**	**05 05 21.6**	**+0.2**
	comp=Z,1.8nm,0.5s					
WTTA			*i* PcP	**sP**	**05 05 30.0**	**0.0**
	comp=Z,10nm,0.8s					
ABTA	**Abfaltersbach**	**84.94 328**	*i* P	**P**	**05 05 20.9**	**-0.5**
	comp=Z,6.5nm,1.2s					
ABTA			*i* PcP	**pP**	**05 05 28.6**	**+0.7**
	comp=Z,11nm,1.1s,SNR=6.4					
RCHB	**Rochefort**	**84.96 334**	*dP*	**P**	**05 05 21.5**	**+0.1**
	comp=Z,15nm,1.1s					
RCHB			*dx*	x	05 05 29.8	
BMRD	**Maredsous**	**85.00 334**	*dP*	**P**	**05 05 21.9**	**+0.3**
	comp=Z,24nm,1.1s					
BMRD			*dx*	x	05 05 30.1	
MOTA	**Moosalm**	**85.05 329**	*i* P	**P**	**05 05 21.9**	**-0.2**
	comp=Z,8.1nm,1.0s,SNR=8.7					
MOTA			*i* PcP	**sP**	**05 05 30.2**	**-0.6**
	comp=Z,32nm,1.1s					
WLF	**Walferdange**	**85.05 333**	*dx*	x	05 05 30.2	
RETA	**Reutte**	**85.07 329**	*i* P	**P**	**05 05 22.3**	**+0.1**
	comp=Z,11nm,1.0s,SNR=5.7					
RETA			*i* PcP	**sP**	**05 05 30.6**	**-0.2**
	comp=Z,50nm,1.0s					
SQTA	**Sankt Quirin**	**85.10 329**	*i* P	**P**	**05 05 22.3**	**-0.1**
	comp=Z,4.8nm,0.9s					
SQTA			*i* PcP	**pP**	**05 05 29.2**	**+0.5**
	comp=Z,16nm,0.9s,SNR=6.1					
DOU	**Dourbes**	**85.23 334**	*dP*	**P**	**05 05 22.9**	**+0.1**
	comp=Z,9.1nm,1.1s					
DOU			*dx*	x	05 05 31.1	
BFO	**Black Forest**	**85.34 331**	P	**P**	**05 05 23.9**	**+0.6**

BFO	**Black Forest**	**85.34 331**	P	**P**	**05 05 24.0**	**+0.6**
BFO			pmax	pmax		
	comp=Z,46nm,1.0s					
BFO	**Black Forest**	**85.34 331**	*e*P	**P**	**05 05 23.5**	**+0.1**
	comp=Z,45nm,1.0s,baz=36,slow=5.2					
BFO			*e*L	L	05 46 58.2	
	comp=Z,943nm,18.8s					
OHR	**Ohrid**	**85.35 320**	*i* P	**P**	**05 05 24.3**	**+0.6**
FETA	**Feichten**	**85.46 329**	*i* P	**P**	**05 05 24.0**	**-0.1**
	comp=Z,8.6nm,1.2s,SNR=5.4					
FETA			*i* PcP	**pP**	**05 05 31.5**	**+0.9**
	comp=Z,24nm,1.0s					
DAVA	**Damuels**	**85.59 330**	*i* P	**P**	**05 05 24.7**	**-0.1**
	comp=Z,9.9nm,0.9s					
DAVA			*i* PcP	**sP**	**05 05 33.3**	**-0.1**
	comp=Z,40nm,1.5s,SNR=6.3					
ECH	**Echery**	**85.88 332**	IAmb	IAmb	05 05 36.0	
	comp=Z,26nm,1.0s					
ECH	**Echery**	**85.88 332**	P	**P**	**05 05 25.9**	**-0.2**
DAVOX	**Davos/Dischmat**	**86.00 330**	LR	LR	05 47 31.7	
	comp=Z,2μm,18.7s,baz=20,slow=38					
TUE	**Stuetta**	**86.46 330**	IAmb	IAmb	05 05 39.2	
	comp=Z,32nm,1.2s					
IDI	**Anoyia**	**87.31 313**	LR	LR	05 49 31.6	
	comp=Z,214nm,19.2s,baz=21,slow=39					
LPIG	**La Paz**	**88.27 61**	LR	LR	05 42 49.2	
	comp=Z,88nm,18.0s,baz=315,slow=34					
TIP	**Timpagrande**	**88.85 321**	IAmb	IAmb	05 05 53.0	
	comp=Z,37nm,1.2s					
TXAR	**Lajitas Array**	**89.22 53**	P	**P**	**05 05 42.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=316,slow=4.7,SNR=9.4					
	comp=Z,0.8nm,0.7s					
SADO	**Sadowa**	**89.95 28**	LR	LR	05 47 22.2	
	comp=Z,253nm,21.5s,baz=352,slow=36					
ATD	**Arta Tunnel**	**90.56 285**	LR	LR	05 51 19.3	
	comp=Z,9.9nm,18.9s,baz=183,slow=39					
DRIO	**Del Rio**	**91.07 51**	IAmb	IAmb	05 06 08.0	
	comp=Z,16nm,1.2s					
KEST	**Kesra**	**95.19 323**	P	**P**	**05 06 07.5**	**-2.6**
	comp=Z,0.9nm,0.5s,baz=63,slow=9.0,SNR=2.2					
KEST			LR	LR	05 54 19.6	
	comp=Z,1μm,18.2s,baz=33,slow=39					
ESDC	**Sonseca Array**	**97.28 334**	P	**P**	**05 06 19.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=12,slow=5.5,SNR=5.2					
ESDC			LR	LR	05 55 07.7	
	comp=Z,1μm,19.4s,baz=18,slow=38					
	comp=Z,0.5nm,0.7s					
VNDA	**Vanda**	**115.32 175**	PP	**PP**	**05 12 29.5**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=326,slow=6.1,SNR=5.6					
TORD	**Torodi Ar. Bea**	**117.62 316**	PKP	**PKPdf**	**05 11 31.7**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=34,slow=3.1,SNR=3.0					
MAW	**Mawson**	**120.26 206**	PKP	**PKPdf**	**05 11 35.5**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=63,slow=9.0,SNR=6.4					
DBIC	**Dimbokro**	**126.54 319**	PKP	**PKPdf**	**05 11 48.8**	**-1.3**
	comp=Z,2.2nm,0.9s,baz=0.0,slow=1.0,SNR=3.1					
QSPA	**South Pole Qui**	**127.19 180**	PKP	**PKiKP**	**05 11 50.0**	**-0.2**
	comp=Z,3.6nm,1.2s,baz=3.3,slow=1.3,SNR=8.8					
BOSA	**Boshof**	**127.46 260**	PKP	**PKPdf**	**05 11 51.5**	**0.0**
	comp=Z,1.1nm,0.6s,baz=117,slow=2.3,SNR=2.4					
SYO	**Syowa Base**	**128.94 207**	⇑*e*Pdiff	**Pdif**	**05 08 41.0**	**+1.8**
SYO	**Syowa Base**	**128.94 207**	⇓*e*Pdiff	**Pdif**	**05 08 44.0**	**+4.8**
TROLL	**Troll, Antarti**	**139.88 198**	PKPdf	PKPpre	05 12 06.2	
SNAA	**Sanae**	**141.38 197**	PKhKP	PKPpre	05 12 08.7	
	comp=Z,1.8nm,1.0s,baz=177,slow=7.8,SNR=6.5					
VNA2	**Neumayer--Watz**	**142.94 196**	PKPdf	**PKPdf**	**05 12 15.1**	**-3.7**
	baz=122,slow=4.1					
VNA3	**Neumayer Olymp**	**143.17 195**	⇑PKPdf	PKPab	05 12 15.1	+0.2
VNA3			⇓PKiKP	**PKiKP**	**05 12 23.7**	**+1.2**
VNA1	**Neumayer--Stat**	**143.34 196**	⇑PKPdf	PKPbc	05 12 16.1	-0.6
VNA1			⇓PKiKP	pPKPdf	05 12 24.6	-1.4
NPGB	**Novo Progresso**	**145.68 33**	*e*P	**PKPab**	**05 12 26.1**	**+0.2**
LPAZ	**La Paz**	**145.78 60**		**PKPdf**	**05 12 26.1**	**-0.1**
LPAZ	**La Paz**	**145.78 60**	PKPbc	**PKPdf**	**05 12 25.8**	**-0.4**
	comp=Z,5.9nm,1.0s,baz=273,slow=4.4,SNR=12					
LPAZ	**La Paz**	**145.78 60**	*e*P	**PKPdf**	**05 12 26.2**	**+0.1**
H03N2	**Juan Fernandez**	**146.25 96**	T	T	07 55 49.0	
	baz=292,slow=76,SNR=40					
H03N3	**Juan Fernandez**	**146.26 96**	T	T	07 55 50.0	
	baz=292,slow=76,SNR=64					
H03N1	**Juan Fernandez**	**146.26 96**	T	T	07 55 57.8	
	baz=292,slow=76,SNR=53					
NBPB	**Pedra_Branca-C**	**148.19 4**	*e*P	**PKPdf**	**05 12 29.2**	**-0.4**
CLDB	**Colider**	**148.87 36**	*e*P	**PKPdf**	**05 12 31.4**	**+0.8**
PDRB	**Porto dos Gac**	**149.06 39**	*e*P	**PKPdf**	**05 12 31.6**	**+0.7**
SMTB	**Santa Maria do**	**150.13 20**	*e*P	**PKPdf**	**05 12 33.3**	**+0.6**
PTLB	**Pontes e Lacer**	**150.93 47**		**PKPbc**	**05 12 38.6**	**-0.9**
PTLB	**Pontes e Lacer**	**150.93 47**	*e*P	**PKPdf**	**05 12 34.2**	**+0.4**
SNDB	**Serra Nova Dou**	**151.81 29**	*e*P	**PKPdf**	**05 12

BRDH Bariadhala 52.57 25 LR LR 05 46 54.1
comp=Z,321nm,18.1s,baz=168,slow=36
SOEI Soe 53.40 83 P **P** **05 24 51.1 +0.2**
RAYN Ar Rayn 54.77 332 P **P** **05 25 01.3 +0.8**
RAYN IAmb IAmb 05 25 01.9
comp=Z,5.2nm,1.1s
SHL Shillong 55.28 24 P **P** **05 25 05.2 +0.8**
ASAR Alice Springs 57.20 102 P **P** **05 25 17.5 -0.7**
ASAR Alice Springs 57.20 102 P **P** **05 25 17.0 -1.2**
comp=Z,2.7nm,0.8s,baz=253,slow=6.3,SNR=21
ASAR PcP **PcP** **05 26 11.4 -1.3**
comp=Z,1.1nm,0.8s,baz=268,slow=2.8,SNR=5.7
comp=Z,2.7nm,0.8s
AS31 Alice Springs 57.20 102 P **P** **05 25 17.5 -0.7**
MTN Manton Dam 58.33 89 P **P** **05 25 25.1 -1.0**
MTN IAmb IAmb 05 25 28.0
comp=Z,11nm,1.1s
TROLL Troll, Antarti 58.71 200 ⇑P **P** **05 25 28.1 +0.1**
comp=Z,280nm,0.8s
WRA Warramunga Arr 58.71 98 P **P** **05 25 28.9 +0.1**
WRA Warramunga Arr 58.71 98 P **P** **05 25 27.4 -1.4**
comp=Z,3.9nm,1.0s,baz=254,slow=6.9,SNR=12
WRA PcP **PcP** **05 26 17.2 -1.5**
comp=Z,0.9nm,0.8s,baz=264,slow=2.3,SNR=4.6
comp=Z,3.9nm,1.0s
KMI Kunming 59.65 34 P **P** **05 25 38.0 +2.7**
KMI sP pwP 05 25 42.8 +0.8
KMI pmax pmax
comp=Z,9.0nm,1.2s
KBL Kabul 60.19 359 P **P** **05 25 40.1 +1.3**
KBL IAmb IAmb 05 25 49.9
comp=Z,5.4nm,0.9s
PZH PanZhiHua 60.30 32 P P 05 25 45.8 +6.2
PZH pmax pmax
comp=Z,20nm,0.9s
SNAA Sanae 60.30 200 ⇑P **P** **05 25 39.1 +0.1**
comp=Z,120nm,0.8s
SNAA Sanae 60.30 200 P **P** **05 25 38.4 -0.6**
SNAA IAmb IAmb 05 25 40.0
comp=Z,6.5nm,0.9s
SNAA Sanae 60.30 200 P **P** **05 25 38.8 -0.3**
comp=Z,4.5nm,0.8s,baz=109,slow=7.6,SNR=22
comp=Z,4.5nm,0.8s
VNA2 Neumayer--Watz 61.71 201 ⇑P **P** **05 25 49.0 +0.5**
comp=Z,5.6nm,0.7s,baz=80,slow=6.0
VNA1 Neumayer--Stat 61.98 202 ⇑P **P** **05 25 50.9 +0.6**
comp=Z,7.1nm,0.9s
VNA3 Neumayer Olymp 62.46 201 ⇑P **P** **05 25 53.6 0.0**
comp=Z,6.7nm,0.8s
QSPA South Pole Qui 64.17 180 P **P** **05 26 05.4 +0.3**
comp=Z,2.7nm,0.7s,baz=276,slow=1.9,SNR=21
comp=Z,2.7nm,0.7s
VNDA Vanda 65.17 166 P **P** **05 26 10.0 -1.3**
comp=Z,3.1nm,1.0s,baz=268,slow=9.1,SNR=11
comp=Z,3.1nm,1.0s
SBA Scott Base 66.15 167 P **P** **05 26 18.2 +0.6**
MMAI Mount Meron Ar 67.44 329 P **P** **05 26 25.5 -1.0**
comp=Z,0.5nm,0.4s,baz=201,slow=12,SNR=3.6
comp=Z,0.5nm,0.4s
BELA Belgrano 2 67.89 193 **P** **05 26 27.8 -0.9**
BELA IAmb IAmb 05 26 30.3
comp=Z,3.6nm,0.9s
KKAR Karatay Array 68.73 0 **P** **05 26 34.6 +0.3**
MARD Mardin 68.82 335 P **P** **05 26 35.7 +0.5**
GURO Guroymak-BITLI 69.45 337 P **P** **05 26 39.6 +0.5**
GURO IAmb IAmb 05 26 47.2
comp=Z,8.3nm,1.0s
XAN Xi'an 70.00 33 P **P** **05 26 43.3 +0.9**
XAN pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 73.22 9 P **P** **05 27 00.1 -1.4**
MKAR Makanchi Array 73.22 9 P **P** **05 27 00.3 -1.1**
comp=Z,1.2nm,0.7s,baz=180,slow=4.9,SNR=6.9
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 73.79 331 P **P** **05 27 05.0 -0.2**
comp=Z,0.9nm,0.7s,baz=157,slow=7.8,SNR=4.2
comp=Z,0.9nm,0.7s
KBZ Khabaz 73.80 340 P **P** **05 27 04.8 0.0**
comp=Z,0.7nm,0.4s,baz=174,slow=10,SNR=2.0
comp=Z,0.7nm,0.4s
NJ2 Nanjing 73.94 41 *e*P **P** **05 27 08.8 +2.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
AB31 Akbulak array 75.46 353 P **P** **05 27 14.3 -0.1**
AB31 IAmb IAmb 05 27 31.6
comp=Z,8.4nm,1.4s
ABKAR Akbulak array 75.46 353 **P** **05 27 13.4 -1.0**
KURBB Kurchatov Arra 76.59 5 P **P** **05 27 20.4 -0.4**
comp=Z,1.1nm,0.9s,baz=200,slow=6.5,SNR=5.8
comp=Z,1.1nm,0.9s
HHC Hu-ho-hao-te 76.69 31 *e*P **P** **05 27 25.6 +3.8**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,82nm,6.0s
TORD Torodi Ar. Bea 77.27 292 P **P** **05 27 24.8 -0.7**
comp=Z,1μm,0.3s,baz=98,slow=9.1,SNR=4.1
SONM Songino Array 80.29 24 P **P** **05 27 41.4 -0.2**
SONM Songino Array 80.29 24 P **P** **05 27 40.2 -1.3**
comp=Z,0.8nm,0.8s,baz=201,slow=3.1,SNR=5.6
comp=Z,0.8nm,0.8s
ULN Ulaanbaatar 80.55 24 P **P** **05 27 42.6 -0.4**
ULN IAmb IAmb 05 27 50.3
comp=Z,9.5nm,1.4s
ZALV Zalesovo Beam 80.56 9 P **P** **05 27 41.4 -1.3**
comp=Z,1.0nm,0.6s,baz=195,slow=4.3,SNR=5.3
comp=Z,1.0nm,0.6s
KSRS Korea Array 83.07 43 P **P** **05 27 53.9 -2.4**
comp=Z,0.6nm,0.3s,baz=239,slow=5.9,SNR=4.5
comp=Z,0.6nm,0.3s
KEST Kesra 84.17 314 P **P** **05 28 02.4 +0.3**
comp=Z,1.1nm,0.5s,baz=207,slow=4.5,SNR=3.8
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 84.55 335 P **P** **05 28 02.9 -0.6**
comp=Z,0.7nm,0.6s,baz=151,slow=4.7,SNR=5.1
comp=Z,0.7nm,0.6s
ESDC Sonseca Array 95.12 312 P **P** **05 28 53.4 -0.6**
comp=Z,0.5nm,0.8s,baz=128,slow=5.3,SNR=2.8
comp=Z,0.5nm,0.8s
PDAR Pinedale Array 163.24 360 PKP **PKPdf** **05 35 32.4 -1.2**
comp=Z,0.2nm,0.8s,baz=293,slow=8.4,SNR=2.1
PDAR PKPab **PKPab** **05 36 22.5 -1.4**
comp=Z,0.2nm,0.6s,baz=41,slow=2.1,SNR=2.1
TXAR Lajitas Array 173.74 304 PKP **PKPdf** **05 35 40.3 -0.5**
comp=Z,0.1nm,0.4s,baz=24,slow=3.3,SNR=3.6

*DJA **24** 05:18:16.6±0.6,11˚S±5˚×11˚7E±˚, h10km, M4.3/13, mB5.0/1, mb4.5/4, MLv4.2/13, Mw(mB)4.3/1*
*IDC **24** 05:18:24.5±3.9, 11˚.35S×118˚.32E, h0km, mb4.0/2, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=257.3km s-min=28.3km az=47.0*
ISC 24 05:18:13.3±1.0, 11°.47S±0°.07×117°.20E±0°.05, h10km, n19, σ1s67/23, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.68**	**12**	P	**Pn**	**05 18 58.3**	**+1.7**
PLAI	**Plampang**	**2.68**	**12**	P	**Pn**	**05 18 58.4**	**+1.8**
PLAI				S	**Sn**	**05 19 27.1**	**-2.1**
TWSI	**Taliwang, Sumb**	**2.73**	**353**	P	**Pn**	**05 18 59.0**	**+1.8**
TWSI				S	**Sn**	**05 19 26.9**	**-3.4**
WBSI	**Waikabubak, Su**	**2.82**	**50**	P	**Pn**	**05 18 59.8**	**+1.3**
WBSI				S	**Sn**	**05 19 31.0**	**-1.6**
DNP	**Denpasar**	**3.39**	**325**	P	**Pn**	**05 19 07.3**	**+0.9**
DNP				S	**Sn**	**05 19 46.0**	**-0.7**
BASI	**Baing, Sumba**	**3.54**	**70**	P	**Pn**	**05 19 08.3**	**-0.2**
BASI				S	**Sn**	**05 19 50.0**	**-0.5**
SRBI	**Singaraja**	**3.89**	**330**	P	**Pn**	**05 19 14.4**	**+1.2**
SRBI				S	**Sn**	**05 19 57.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**4.23**	**315**	P	**Pn**	**05 19 18.2**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.23**	**315**	P	**Pn**	**05 19 18.3**	**+0.5**
GMJI	**Gumukmas**	**4.87**	**310**	P	**Pn**	**05 19 27.9**	**+1.2**
EDFI	**Ende, Flores**	**5.18**	**59**	P	**Pn**	**05 19 31.3**	**+0.2**
	0.1nm8.7nm,0.8s						
BSSI	**Bau Bau, Buton**	**6.21**	**32**	P	**Pn**	**05 19 46.4**	**+1.3**
	0.3nm82nm,2.0s						
BKSI	**Bulukumba**	**6.76**	**26**	P	**Pn**	**05 19 53.1**	**+0.5**
MBWA	**Marble Bar**	**9.94**	**166**	P	**Pn**	**05 20 34.3**	**-2.0**
PSA00	**Pilbara Seismi**	**10.37**	**166**	P	**Pn**	**05 20 40.4**	**-1.8**
WRA	**Warramunga Arr**	**18.52**	**119**	P	**P**	**05 22 30.8**	**+0.8**
	0.1nm,0.3s,baz=289,slow=14,SNR=2.3						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**20.00**	**130**	P	**Pn**	**05 22 51.2**	**+3.3**
	0.1nm,0.3s,baz=313,slow=12,SNR=4.4						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**65.87**	**334**	P	**P**	05 29 14.4	+15
	0.6nm,0.5s,baz=145,slow=6.2,SNR=4.9						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**70.73**	**340**	P	**P**	05 29 43.7	+14
	0.5nm,0.3s,baz=151,slow=3.3,SNR=2.4						
	0.5nm,0.3s						

*IDC **24** 05:30:53.2±0.6,26˚.03S×70˚.39E, h0km, mb4.0/14, mbtmp4.0/14, MS4.0/17, Error ellipse: s-maj=22.2km s-min=16.0km az=97.0*
*GCMT **24** 05:30:55.5±0.4,25˚.94S±0˚.04×70˚.43E±0˚.04, h28km, MW5.0/70, Moment Tensor Solution. s26,c31; s70,c82; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.93±.26; Mθθ 1.63±.17; Mϕϕ 2.30±.18; Mrθ 0.90±.26; Mϕr -1.12±.09; Mθr -0.93±.26; Best double couple: M◎3.75900×10^16 NP1: φs321.00000°, δ55.00000°, λ-92.00000°. Principal axes: T 3.3590, Plg10.0000°, Azm53.0000°; N 0.8010, Plg2.0000°, Azm322.0000°; P -4.1600, Plg80.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 05:30:55.5±1.2,26˚.1S±0˚.1×70˚.4E±0˚.1, h10km±1km, mb4.6/22 Error ellipse: s-maj=19.3km s-min=16.6km az=205.0*
ISC 24 05:30:55.0±0.5, 26°.06S±0°.09×70°.40E±0°.09, h10km, n70, σ0s73/44, mb4.4/24, MS4.0/18, 1C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCAM	**Rodrigues Isla**	**9.01**	**313**	Pn	**Pn**	**05 33 05.6**	**+0.4**
H08S1	**Diego Garcia H**	**18.42**	**7**	T	T	05 53 57.0	
	baz=186,slow=76,SNR=35						
H08S2	**Diego Garcia H**	**18.42**	**7**	T	T	05 53 57.1	
	baz=186,slow=76,SNR=49						
H08S3	**Diego Garcia H**	**18.44**	**7**	T	T	05 53 58.1	
	baz=186,slow=76,SNR=89						
FOMA	**Nahampoana Res**	**21.16**	**268**	P	**P**	**05 35 39.8**	**-0.6**
VOI	**Vohitsoka**	**21.95**	**276**	P	**P**	**05 35 49.2**	**+0.2**
VOI				IAmb	IAmb	05 36 04.4	
	comp=Z,26nm,1.2s						
H04N2	**CROZET ISLANDS**	**24.95**	**212**	T	T	06 02 14.9	
	baz=43,slow=73,SNR=68						
H04N1	**CROZET ISLANDS**	**24.96**	**212**	T	T	06 02 15.1	
	baz=43,slow=73,SNR=67						
H04N3	**CROZET ISLANDS**	**24.97**	**212**	T	T	06 02 13.8	
	baz=43,slow=73,SNR=66						
H04S1	**CROZET ISLANDS**	**25.40**	**210**	T	T	06 02 57.1	
	baz=48						
H04S3	**CROZET ISLANDS**	**25.41**	**211**	T	T	06 02 57.6	
	baz=48						
H04S2	**CROZET ISLANDS**	**25.42**	**210**	T	T	06 03 01.5	
	baz=48						
MSEY	**Mahe Island**	**25.62**	**324**	P	**P**	**05 36 25.9**	**+1.2**
PALK	**Pallekele**	**34.61**	**18**	LR	LR	05 48 57.0	
	comp=Z,188nm,19.7s,baz=202,slow=31						
H01W2	**Cape Leeuwin H**	**38.46**	**114**	T	T	06 18 57.0	
	baz=271,slow=75,SNR=89						
H01W3	**Cape Leeuwin H**	**38.46**	**114**	T	T	06 19 01.7	
	baz=271,slow=75,SNR=103						
H01W1	**Cape Leeuwin H**	**38.48**	**114**	T	T	06 19 02.9	
	baz=271,slow=75,SNR=109						
MATP	**Matopo**	**38.78**	**269**	LR	LR	05 51 29.7	
	comp=Z,209nm,20.8s,baz=66,slow=32						
PSI	**Prapat**	**39.81**	**48**	LR	LR	05 50 50.3	
	comp=Z,291nm,20.9s,baz=159,slow=30						
BOSA	**Boshof**	**40.01**	**256**	P	**P**	**05 38 29.5**	**-0.8**
BOSA	**Boshof**	**40.01**	**256**	P	**P**	**05 38 29.7**	**-0.6**
	comp=Z,3.8nm,1.1s,baz=124,slow=8.0,SNR=3.8						
BOSA				LR	LR	05 51 32.3	
	comp=Z,416nm,21.8s,baz=68,slow=31						
	comp=Z,3.8nm,1.1s						
LEM	**Lembang**	**40.28**	**68**	LR	LR	05 53 21.0	
	comp=Z,188nm,18.4s,baz=255,slow=34						
LBTB	**Lobatse**	**40.29**	**261**	P	**P**	**05 38 32.3**	**-0.3**
LBTB				IAmb	IAmb	05 38 35.4	
	comp=Z,12nm,1.3s						
LBTB	**Lobatse**	**40.29**	**261**	LR	LR	05 52 09.6	
	comp=Z,323nm,21.2s,baz=82,slow=32						
LSZ	**Lusaka**	**40.76**	**277**	P	**P**	**05 38 36.9**	**+0.2**
KDWAN	**Kaudwane**	**41.47**	**264**	P	**P**	**05 38 42.7**	**+0.2**
KDWAN				IAmb	IAmb	05 38 50.8	
	comp=Z,11nm,0.8s						
MAW	**Mawson**	**41.82**	**184**	P	**P**	**05 38 44.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=330,slow=12,SNR=3.2						
MAW				LR	LR	05 52 50.9	
	comp=Z,216nm,18.2s,baz=14,slow=32						
	comp=Z,1.9nm,0.8s						
KSANE	**Kasane**	**42.59**	**272**	P	**P**	**05 38 52.0**	**+0.4**
KSANE				IAmb	IAmb	05 39 00.7	
	comp=Z,9.3nm,1.1s						
GRTLG	**Ghanzi**	**45.07**	**265**	P	**P**	**05 39 10.9**	**-0.6**
GRTLG				IAmb	IAmb	05 39 23.5	
	comp=Z,5.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**51.49**	**93**	P	**P**	**05 40 01.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**51.49**	**93**	LR	LR	05 59 18.6	
	comp=Z,163nm,18.1s,baz=309,slow=33						
KAPI	**Kappang**	**51.56**	**75**	LR	LR	06 00 48.5	
	comp=Z,97nm,18.5s,baz=244,slow=35						
CMAR	**Chiang Mai Arr**	**52.23**	**35**	P	**P**	**05 40 07.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**52.23**	**35**	P	**P**	**05 40 07.2**	**+0.8**
	comp=Z,2.1nm,0.2s,baz=228,slow=7.3,SNR=12						
CMAR				LR	LR	05 58 25.7	
	comp=Z,81nm,21.7s,baz=215,slow=32						
	comp=Z,2.1nm,0.2s						
BRDH	**Bariadhala**	**52.64**	**25**	LR	LR	06 03 21.7	
	comp=Z,131nm,18.3s,baz=173,slow=37						
TOLI2	**Tolitoli**	**55.59**	**69**	P	**P**	**05 40 30.6**	**-0.6**
TOLI2				IAmb	IAmb	05 41 10.8	
	comp=Z,4.6nm,0.8s						
EVN	**Everest**	**55.98**	**18**	P	**P**	**05 40 35.1**	**+0.7**
EVN				IAmb	IAmb	05 40 56.9	
	comp=Z,10nm,1.4s						
MYLDM	**Lahad Datu**	**56.01**	**63**	P	**P**	**05 40 34.4**	**+0.3**
ASAR	**Alice Springs**	**57.16**	**102**	P	**P**	**05 40 41.6**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=254,slow=6.1,SNR=10						
	comp=Z,1.0nm,0.8s						
AS31	**Alice Springs**	**57.16**	**102**	P	**P**	**05 40 42.2**	**-0.2**
TROLL	**Troll, Antarti**	**58.63**	**200**	⇑P	**P**	**05 40 52.7**	**+0.7**
	comp=Z,104nm,0.8s						
WRA	**Warramunga Arr**	**58.68**	**98**	P	**P**	**05 40 54.8**	**+1.8**
WRA	**Warramunga Arr**	**58.68**	**98**	P	**P**	**05 40 52.3**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=255,slow=7.0,SNR=6.8						
	comp=Z,1.5nm,1.0s						
WB0	**Warramunga Arr**	**58.78**	**98**	P	**P**	**05 40 53.0**	**-0.8**
WB0				IAmb	IAmb	05 41 21.2	
	comp=Z,8.9nm,1.3s						
SNAA	**Sanae**	**60.23**	**200**	P	**P**	**05 41 03.5**	**+0.5**
SNAA	**Sanae**	**60.23**	**200**	P	**P**	**05 41 02.9**	**-0.1**
SNAA				IAmb	IAmb	05 41 16.2	
	comp=Z,3.3nm,0.8s						
SNAA	**Sanae**	**60.23**	**200**	P	**P**	**05 41 03.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=117,slow=7.0,SNR=13						
	comp=Z,1.7nm,0.7s						
VNA1	**Neumayer--Stat**	**61.91**	**202**	P	**P**	**05 41 15.7**	**+1.4**
VNA3	**Neumayer Olymp**	**62.38**	**201**	P	**P**	**05 41 18.3**	**+0.7**
DAV	**Davao City (W)**	**62.85**	**66**	LR	LR	06 05 19.7	
	comp=Z,80nm,21.6s,baz=160,slow=33						
QSPA	**South Pole Qui**	**64.08**	**180**	P	**P**	**05 41 28.9**	**0.0**
QSPA				IAmb	IAmb	05 41 41.5	
	comp=Z,6.3nm,1.3s						
QSPA	**South Pole Qui**	**64.08**	**180**	P	**P**	**05 41 29.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=270,slow=1.4,SNR=15						
	comp=Z,1.2nm,0.6s						
VNDA	**Vanda**	**65.07**	**166**	P	**P**	**05 41 34.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=280,slow=7.7,SNR=7.0						
	comp=Z,0.4nm,0.5s						
KK31	**Karatay Array**	**68.82**	**0**	P	**P**	**05 41 59.6**	**+0.3**
KK31				IAmb	IAmb	05 42 17.3	
	comp=Z,5.7nm,1.3s						
KKAR	**Karatay Array**	**68.82**	**0**	P	**P**	**05 41 59.6**	**+0.3**
YHNB	**Yeheng**	**70.49**	**49**	P	**P**	**05 42 09.9**	**-0.2**
MKAR	**Makanchi Array**	**73.30**	**9**	P	**P**	**05 42 26.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=199,slow=6.4,SNR=6.6						
	comp=Z,0.7nm,0.7s						
BRTR	**Keskin Array B**	**73.88**	**331**	P	**P**	**05 42 29.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=155,slow=11,SNR=2.0						
	comp=Z,0.4nm,0.5s						
KBZ	**Khabaz**	**73.89**	**340**	P	**P**	**05 42 30.3**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=172,slow=7.1,SNR=2.1						
	comp=Z,0.9nm,0.5s						
PMG	**Port Moresby**	**74.09**	**93**	LR	LR	06 13 12.4	
	comp=Z,86nm,20.1s,baz=180,slow=34						
AB31	**Akbulak array**	**75.55**	**353**	P	**P**	**05 42 38.7**	**-0.7**
AB31				IAmb	IAmb	05 42 40.9	
	comp=Z,5.1nm,1.3s						
ABKAR	**Akbulak array**	**75.55**	**353**	P	**P**	**05 42 38.3**	**-1.1**
KURBB	**Kurchatov Arra**	**76.68**	**5**	P	**P**	**05 42 47.1**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=198,slow=6.5,SNR=3.3						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.32**	**292**	P	**P**	**05 42 49.1**	**-1.1**
	comp=Z,1μm,0.3s,baz=120,slow=6.2,SNR=3.6						
BVAR	**Borovoye Array**	**78.75**	**360**	LR	LR	06 15 17.8	
	comp=Z,86nm,20.7s,baz=228,slow=34						
SONM	**Songino Array**	**80.36**	**24**	P	**P**	**05 43 05.5**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=195,slow=2.2,SNR=1.8						
SONM				LR	LR	06 22 44.0	
	comp=Z,64nm,18.1s,baz=211,slow=39						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**80.64**	**9**	P	**P**	**05 43 06.5**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=199,slow=3.1,SNR=2.4						
	comp=Z,0.6nm,0.5s						
JNU	**Nakatsue**	**82.28**	**47**	LR	LR	06 19 00.7	
	comp=Z,45nm,18.1s,baz=238,slow=35						
MJAR	**Matsushiro Arr**	**89.17**	**48**	LR	LR	06 24 57.8	
	comp=Z,44nm,18.3s,baz=244,slow=36						
RAO	**Raoul Island**	**94.48**	**125**	LR	LR	06 16 31.8	
	comp=Z,734nm,19.4s,baz=298,slow=29						

GCG 24 05:33:56.4±0.5, 13°.81N×90°.91W, h67km±11km, MD3.6, ML3.4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.58**	**8**	*i* P	Pn	05 34 10.1	+0.3
ESSG				*i* S	Sn	05 34 20.4	+0.7
FG16	**Alotenango, Sa**	**0.60**	**40**	*i* P	Pn	05 34 11.3	+1.1
FG16				*i* S	Sn	05 34 23.0	+2.6
FG16				IAML		05 34 23.5	
	comp=E,3μm,0.2s						
NUBE	**Las Nubes**	**1.10**	**85**	*i* P	Pn	05 34 16.3	+0.1
NUBE				*i* S	Sn	05 34 31.3	+0.4
SOKI	**Kika Raxquin**	**1.11**	**335**	*i* P	Pn	05 34 17.3	+0.7
SOKI				*i* S	Sn	05 34 33.7	+2.1
JAYA	**Jayaque - finc**	**1.43**	**96**	*i* P	Pn	05 34 20.4	-0.1
JAYA				*i* S	Sn	05 34 39.1	+0.5
SMCA	**Catarina**	**1.54**	**313**	*i* P	Pn	05 34 22.1	+0.3
SMCA				*i* S	Sn	05 34 41.6	+0.7
MTO3	**Montecristo**	**1.62**	**68**	*i* P	Pn	05 34 24.1	+1.0

TRN 24 05:41:44.5, 15°.00N×60°.59W, h51km, MD3.9, 3D, North-east of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAM	**Ilet Lapin Mar**	**0.36**	**231**	⇓*i* P	Pn	05 41 56.1	+1.8
ILAM				*e*S	Sn	05 42 03.6	+2.3
SVN	**Savane Anatole**	**0.58**	**255**	⇓*i* P	Pn	05 41 58.5	+1.6
SVN				*e*S	Sn	05 42 09.2	+3.3
BIM	**Bigot**	**0.67**	**225**	⇓*i* P	Pn	05 41 59.7	+1.7
BIM				*e*S	Sn	05 42 10.0	+2.3
DLPL	**La Plaine**	**0.72**	**298**	*e*P	Pn	05 42 00.1	+1.5
DLPL				*e*S	Sn	05 42 11.6	+2.8
DLDT	**Laudat, Domini**	**0.81**	**294**	*e*P	Pn	05 42 01.4	+1.6
DLDT				*e*S	Sn	05 42 12.8	+1.9
MDN	**Morne-Daniel**	**0.84**	**292**	*e*P	Pn	05 42 01.8	+1.7
MDN				*e*S	Sn	05 42 14.6	+3.0
DWS	**Wesley**	**0.90**	**309**	*e*P	Pn	05 42 02.1	+1.1
DWS				*e*S	Sn	05 42 14.6	+1.6
DSLB	**Salisbury**	**0.92**	**299**	*e*P	Pn	05 42 02.5	+1.3
DSLB				*e*S	Sn	05 42 15.5	+2.1
SLBI	**Saint Lucia, B**	**1.04**	**201**	*e*P	Pn	05 42 03.6	+0.8
SLBI				*e*S	Sn	05 42 17.6	+1.3
TBG	**Guadaloupe-3**	**1.33**	**310**	*e*P	Pn	05 42 08.0	+1.3
TBG				*e*S	Sn	05 42 24.5	+1.2
DSDZ	**La Diserade, G**	**1.39**	**341**	*e*P	Pn	05 42 08.4	+0.9
DSDZ				*e*S	Sn	05 42 26.4	+1.7
MMLZ	**Guadeloupe Bro**	**1.47**	**315**	*e*P	Pn	05 42 10.3	+1.7
MMLZ				*e*S	Sn	05 42 28.1	+1.3
ATGZ	**Broadband at L**	**1.55**	**315**	*e*P	Pn	05 42 11.6	+1.9
ATGZ				*e*S	Sn	05 42 30.8	+2.1
DHSZ	**Broadband at M**	**1.70**	**318**	*e*P	Pn	05 42 13.0	+1.2
DHSZ				*e*S	Sn	05 42 34.2	+1.8
SVB	**Belmont**	**1.83**	**201**	*e*P	Pn	05 42 15.4	+1.7
SVB				*e*S	Sn	05 42 36.7	+1.0
BBGH	**Gun Hill**	**2.10**	**151**	*e*P	Pn	05 42 19.1	+1.9
MBWH		**2.32**	**319**	*e*P	Pn	05 42 22.6	+2.3
MBWH				*e*S	Sn	05 42 50.1	+2.4
MBFL	**Flemmings, Mon**	**2.34**	**318**	*e*P	Pn	05 42 22.7	+2.1
MBFL				*e*S	Sn	05 42 50.4	+2.3
GCMP	**Grenada, Carri**	**2.63**	**198**	*e*P	Pn	05 42 25.8	+1.3
GCMP				*e*S	Sn	05 42 56.2	+1.1
ANWB	**Willy Bob**	**2.89**	**337**	*e*P	Pn	05 42 29.8	+1.7
GRW	**Mount Saint Ca**	**3.01**	**200**	*e*P	Pn	05 42 33.0	+3.3
GRW				*e*S	Sn	05 43 05.9	+1.2
GRGR	**Grenville**	**3.03**	**200**	*e*P	Pn	05 42 31.9	+1.8
GRGR				*e*S	Sn	05 43 07.4	+2.3
SKI	**Saint Kitts**	**3.11**	**319**	*e*P	Pn	05 42 34.0	+2.9
SKI				*e*S	Sn	05 43 08.9	+1.9
TRN	**Trinidad (W)**	**4.40**	**191**	*e*P	Pn	05 42 50.7	+2.0
TRN				*e*S	Sn	05 43 38.7	0.0

*NDI **24** 05:49:33.6±0.9, 30°.69N×87°.87E, h10km, ML3.7, MW3.9, mb4.1(NEIC)*
*IDC **24** 05:50:05.5±0.7, 30°.32N×87°.56E, h0km, mb3.8/13, mbtmp3.8/16, ML4.2/2, Error ellipse: s-maj=27.6km s-min=15.8km az=53.0*
*DMN **24** 05:50:07.1±0.0, 30°.99N×87°.92E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **24** 05:50:08.5±0.8, 30°.69N±0°.04×87°.9E±0°.1, h10km±1km, mb4.1/15, Error ellipse: s-maj=18.1km s-min=6.1km az=78.0*
ISC 24 05:50:11.8±0.5, 30°.65N±0°.05×87°.80E±0°.06, h41km, n53, σ1s38/60, mb3.8/19, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVN	**Everest**	**2.81**	**198**		**Pn**	**05 50 54.7**	**-0.1**
GUN	**Gumba**	**3.20**	**212**	Pg	**Pn**	**05 50 59.3**	**-0.6**
	baz=211,slow=0.0						
GUN				Sg	**Sn**	**05 51 39.2**

MKAR Makanchi Array 16.68 347 Pn **Pn** **05 53 58.1 -4.4**
MKAR Makanchi Array 16.68 347 Pn **P** **05 54 04.0 -0.4**
comp=Z,0.5nm,0.7s,baz=166,slow=11,SNR=2.8
CHGR Chuyangaron 17.27 303 **Pn** **05 54 07.2 -2.8**
CHGR IAmb IAmb 05 54 12.9
comp=Z,14nm,0.9s
SIMJ Simiganj 17.38 302 **Pn** **05 54 09.7 -1.7**
KK31 Karatay Array 18.55 317 P **P** **05 54 23.3 -1.8**
KKAR Karatay Array 18.55 317 P **P** **05 54 24.9 -0.1**
KURBB Kurchatov Arra 21.13 343 P **P** **05 54 54.2 +1.3**
comp=Z,1.8nm,0.8s,baz=160,slow=10,SNR=5.2
comp=Z,1.8nm,0.8s
SONM Songino Array 22.31 34 P **P** **05 55 09.8 +3.9**
comp=Z,2.8nm,0.9s,baz=221,slow=10,SNR=9.2
comp=Z,2.8nm,0.9s
ZALV Zalesovo Beam 23.39 356 P **P** **05 55 16.6 -0.2**
ZALV Zalesovo Beam 23.39 356 P **P** **05 55 19.1 +2.3**
comp=Z,0.6nm,0.4s,baz=180,slow=10,SNR=3.6
comp=Z,0.6nm,0.4s
BVAR Borovoye Array 25.72 335 P **P** **05 55 39.4 +1.3**
comp=Z,0.5nm,0.5s,baz=112,slow=12,SNR=3.8
comp=Z,0.5nm,0.5s
AB31 Akbulak array 28.07 319 **P** **05 55 59.7 +0.5**
AB31 IAmb IAmb 05 56 03.8
comp=Z,2.2nm,0.7s
ABKAR Akbulak array 28.07 319 **P** **05 55 59.7 +0.5**
ARTI Arti 32.96 330 **P** **05 56 42.6 +0.2**
KS19 Wonju Array Si 33.70 67 P **P** **05 56 48.9 -0.2**
KS19 IAmb IAmb 05 56 55.8
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 44.60 297 P **P** **05 58 21.0 +0.8**
comp=Z,0.9nm,0.8s,baz=103,slow=10,SNR=3.2
comp=Z,0.9nm,0.8s
AKASG Malin Array Be 47.37 312 P **P** **05 58 42.1 +0.4**
comp=Z,1.8nm,0.8s,baz=80,slow=7.5,SNR=8.7
comp=Z,1.8nm,0.8s
AKBB Malin Array Si 47.37 312 P **P** **05 58 43.0 +1.3**
AKBB IAmb IAmb 05 58 43.5
comp=Z,2.9nm,1.0s
KIEV Kiev 47.38 312 P **P** **05 58 42.3 +0.5**
KIEV IAmb IAmb 05 58 43.5
comp=Z,2.5nm,0.9s
MLR Muntele Rosu 49.72 306 **P** **05 59 01.2 +1.1**
BURAR Bucovina Array 50.06 308 P **P** **05 59 03.1 +0.6**
BURAR IAmb IAmb 05 59 06.1
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 51.99 337 P **P** **05 59 17.1 +0.5**
comp=Z,2.4nm,0.9s,baz=98,slow=7.5,SNR=6.2
comp=Z,2.4nm,0.9s
HFS Hagfors 56.13 325 **P** **05 59 46.9 0.0**
comp=Z,1.0nm,0.4s,baz=85,slow=9.1,SNR=6.7
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 57.29 326 P **P** **05 59 55.1 -0.1**
comp=Z,0.3nm,0.5s,baz=85,slow=6.9
NOA NORSAR Array B 57.29 326 P **P** **05 59 54.9 -0.3**
comp=Z,1.4nm,0.9s,baz=87,slow=6.9,SNR=5.5
comp=Z,1.4nm,0.9s
GEC2 GERESS Array S 57.53 311 P **P** **05 59 57.1 0.0**
GEC2 IAmb IAmb 06 00 05.7
comp=Z,3.7nm,1.4s
GERES GERESS Array B 57.53 311 P **P** **05 59 57.6 +0.5**
comp=Z,0.7nm,0.6s,baz=60,slow=5.3,SNR=6.1
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 67.31 132 P **P** **06 01 02.4 -0.3**
comp=Z,0.5nm,0.7s,baz=321,slow=6.6,SNR=5.3
comp=Z,0.5nm,0.7s
AS31 Alice Springs 69.79 135 P **P** **06 01 18.8 +0.7**
AS31 IAmb IAmb 06 01 48.7
comp=Z,1.8nm,1.4s
ASAR Alice Springs 69.79 135 P **P** **06 01 18.4 +0.3**
ASAR Alice Springs 69.79 135 P **P** **06 01 17.5 -0.7**
comp=Z,0.8nm,0.8s,baz=320,slow=5.9,SNR=7.7
comp=Z,0.8nm,0.8s
ILAR Eielson Array 75.84 21 P **P** **06 01 54.8 +1.4**
comp=Z,0.6nm,1.0s,baz=285,slow=3.4,SNR=4.8
comp=Z,0.6nm,1.0s
TORD Torodi Ar. Bea 80.11 279 P **P** **06 02 16.6 -1.4**
comp=Z,1.1nm,0.7s,baz=43,slow=5.7,SNR=7.3
TXAR Lajitas Array 119.36 11 PKP **PKiKP** **06 08 57.9 +0.5**
comp=Z,0.1nm,0.4s,baz=66,slow=0.5,SNR=6.5
QSPA South Pole Qui 120.44 180 PKP **PKiKP** **06 08 58.1 +0.1**
comp=Z,0.4nm,0.6s,baz=21,slow=1.9,SNR=2.1
LPAZ La Paz 153.77 298 PKP **PKPdf** **06 09 58.6 -1.4**
comp=Z,0.6nm,0.8s,baz=101,slow=5.2,SNR=2.5

*IDC **24** 05:51:37.5±0.6,25°.97S×70°.48E,h0km,mb3.8/15, mbtmp3.8/15,MS4.0/7,Error ellipse: s-maj=22.9km s-min=16.4km az=92.0*
*NEIC **24** 05:51:39.7±1.2,26°.1S±0°.1×70°.4E±0°.1,h10km±1km, mb4.4/14,Error ellipse: s-maj=24.5km s-min=20.9km az=150.0*
ISC 24 05:51:39.0±0.6,**26°.0S**±0°.1×**70°.4E**±0°.1,**h10**km,**n44,** σ1$**13**/34,**mb4.0**/21,**MS4.0**/7,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.34**	**6**	T	T	06 14 43.3	
	baz=186,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**18.35**	**6**	T	T	06 14 43.2	
	baz=186,slow=76,SNR=47						
H08S3	**Diego Garcia H**	**18.36**	**6**	T	T	06 14 45.6	
	baz=186,slow=76,SNR=128						
FOMA	**Nahampoana Res**	**21.20**	**268**		**P**	**05 56 26.5**	**+1.6**
FOMA				IAmb	IAmb	05 56 30.4	
	comp=Z,22nm,0.9s						
VOI	**Vohitsoka**	**21.98**	**276**	P	**P**	**05 56 34.0**	**+0.6**
VOI				IAmb	IAmb	05 56 34.9	
	comp=Z,16nm,1.0s						
H01W2	**Cape Leeuwin H**	**38.46**	**114**	T	T	06 39 53.3	
	baz=271,slow=75,SNR=99						
H01W3	**Cape Leeuwin H**	**38.46**	**114**	T	T	06 39 49.3	
	baz=271,slow=75,SNR=152						
H01W1	**Cape Leeuwin H**	**38.47**	**114**	T	T	06 39 55.7	
	baz=271,slow=75,SNR=118						
BOSA	**Boshof**	**40.06**	**256**	P	**P**	**05 59 13.9**	**-0.9**
BOSA	**Boshof**	**40.06**	**256**	P	**P**	**05 59 13.9**	**-0.9**
	comp=Z,4.2nm,1.1s,baz=88,slow=11,SNR=3.6						
BOSA				LR	LR	06 11 40.4	
	comp=Z,270nm,19.9s,baz=50,slow=30						
	comp=Z,4.2nm,1.1s						
LBTB	**Lobatse**	**40.33**	**261**	LR	LR	06 12 55.7	
	comp=Z,231nm,19.9s,baz=48,slow=32						
LSZ	**Lusaka**	**40.79**	**277**	LR	LR	06 14 12.6	
	comp=Z,196nm,18.2s,baz=14,slow=33						
KDWAN	**Kaudwane**	**41.52**	**263**	P	**P**	**05 59 26.2**	**-0.7**
MAW	**Mawson**	**41.89**	**184**	P	**P**	**05 59 28.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=17,slow=11,SNR=1.8						
	comp=Z,0.6nm,0.5s						
PHDHD	**Phuduhudu**	**42.45**	**268**	P	**P**	**05 59 34.1**	**-0.5**
GRTLG	**Ghanzi**	**45.11**	**265**	P	**P**	**05 59 55.0**	**-0.9**
GRTLG				IAmb	IAmb	06 00 02.3	
	comp=Z,3.1nm,0.9s						
KAPI	**Kappang**	**51.51**	**75**	LR	LR	06 20 41.0	
	comp=Z,75nm,18.5s,baz=202,slow=34						
CMAR	**Chiang Mai Arr**	**52.15**	**35**	P	**P**	**06 00 51.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**52.15**	**35**	P	**P**	**06 00 49.2**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=199,slow=7.8,SNR=5.5						
CMAR				LR	LR	06 21 08.9	
	comp=Z,90nm,18.1s,baz=215,slow=34						
	comp=Z,1.2nm,0.4s						
BRDH	**Bariadhala**	**52.56**	**25**	LR	LR	06 25 08.3	
	comp=Z,221nm,18.4s,baz=162,slow=38						
ASAR	**Alice Springs**	**57.14**	**102**	P	**P**	**06 01 25.5**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=252,slow=7.8,SNR=8.2						
ASAR				LR	LR	06 24 09.2	
	comp=Z,93nm,18.5s,baz=298,slow=34						
	comp=Z,0.8nm,0.9s						
MTN	**Manton Dam**	**58.27**	**89**	P	**P**	**06 01 33.5**	**-0.8**
MTN				IAmb	IAmb	06 01 41.7	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**58.65**	**98**	P	**P**	**06 01 37.9**	**+0.9**
WRA	**Warramunga Arr**	**58.65**	**98**	P	**P**	**06 01 36.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=248,slow=7.3,SNR=5.9						
	comp=Z,0.8nm,0.8s						
WRAB	**Tennant Creek**	**58.66**	**98**	P	**P**	**06 01 36.1**	**-0.9**
SNAA	**Sanae**	**60.31**	**200**	P	**P**	**06 01 47.4**	**-0.2**
SNAA				IAmb	IAmb	06 01 55.4	
	comp=Z,2.6nm,0.9s						
SNAA	**Sanae**	**60.31**	**200**	P	**P**	**06 01 47.5**	**-0.1**
	comp=Z,1.3nm,1.1s,baz=140,slow=9.0,SNR=3.8						
	comp=Z,1.3nm,1.1s						
QSPA	**South Pole Qui**	**64.14**	**180**	P	**P**	**06 02 13.4**	**-0.1**
QSPA				IAmb	IAmb	06 02 20.8	
	comp=Z,4.9nm,1.1s						
QSPA	**South Pole Qui**	**64.14**	**180**	P	**P**	**06 02 14.2**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=256,slow=2.1,SNR=12						
	comp=Z,1.2nm,1.0s						
VNDA	**Vanda 65.13 166**			P	**P**	**06 02 21.1**	**+1.5**
	comp=Z,0.9nm,0.9s,baz=269,slow=8.9,SNR=5.3						
	comp=Z,0.9nm,0.9s						
KK31	**Karatay Array 68.75 0**			P	**P**	**06 02 44.1**	**+1.1**
KK31				IAmb	IAmb	06 02 50.4	
	comp=Z,1.8nm,1.1s						
KKAR	**Karatay Array 68.75 0**			P	**P**	**06 02 43.8**	**+0.9**
MKAR	**Makanchi Array 73.23 8**			P	**P**	**06 03 08.8**	**-1.3**
MKAR	**Makanchi Array 73.23 8**			P	**P**	**06 03 09.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=204,slow=3.2,SNR=3.6						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B 73.83 331**			P	**P**	**06 03 14.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=148,slow=6.5,SNR=3.8						
	comp=Z,0.5nm,0.5s						
KBZ	**Khabaz 73.84 340**			P	**P**	**06 03 15.3**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=225,slow=2.9,SNR=1.9						
	comp=Z,0.7nm,0.4s						
AB31	**Akbulak array 75.48 353**			P	**P**	**06 03 22.1**	**-1.0**
AB31				IAmb	IAmb	06 03 29.9	
	comp=Z,2.3nm,0.9s						
ABKAR	**Akbulak array 75.48 353**			P	**P**	**06 03 21.5**	**-1.7**
KURBB	**Kurchatov Arra 76.61 5**			P	**P**	**06 03 31.3**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=203,slow=6.1,SNR=5.7						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea 77.33 291**			P	**P**	**06 03 33.2**	**-1.2**
	comp=Z,1.0nm,1.1s,baz=163,slow=3.4,SNR=3.0						
BVAR	**Borovoye Array 78.67 360**			P	**P**	**06 03 42.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=187,slow=6.8,SNR=1.4						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array 80.28 24**			P	**P**	**06 03 51.0**	**+1.0**
SONM	**Songino Array 80.28 24**			P	**P**	**06 03 48.3**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=174,slow=1.4,SNR=2.2						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam 80.57 9**			P	**P**	**06 03 50.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=157,slow=4.1,SNR=2.7						
	comp=Z,0.3nm,0.3s						

*NEIC **24** 06:26:25.3±1.3,2°.0N±0°.1×128°.3E±0°.1,h122km±7km, mb4.1/14,Error ellipse: s-maj=16.2km s-min=13.9km az=217.0*
*IDC **24** 06:26:26.6±2.4,2°.07N×128°.47E,h142km±22km,mb3.8/15, mbtmp4.2/15,Error ellipse: s-maj=34.2km s-min=11.2km az=74.0*
ISC 24 06:26:22.0±0.5,**2°.09N**±0°.07×**128°.46E**±0°.10,**h100**km,**n40,** σ1$**70**/43,**mb4.2**/20,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.70**	**220**		**Pn**	**06 26 53.3**	**+2.5**
FAKI	**Fak Fak**	**6.25**	**143**	Pn	**Pn**	**06 27 55.0**	**+3.2**
TOLI2	**Tolitoli**	**7.74**	**263**	Pn	**Pn**	**06 28 12.1**	**0.0**
MYLDM	**Lahad Datu**	**10.40**	**287**	Pn	**Pn**	**06 28 50.2**	**+1.9**
KAPI	**Kappang**	**11.20**	**231**	Pn	**Pn**	**06 28 59.6**	**+0.5**
MMRI	**Maumere**	**12.33**	**210**	Pn	**Pn**	**06 29 14.3**	**+0.2**
MTN	**Manton Dam**	**15.07**	**170**	Pn	**Pn**	**06 29 49.8**	**0.0**
MTN				IAmb	IAmb	06 30 11.2	
	comp=Z,16nm,1.5s						
KNRA	**Kununurra**	**17.65**	**179**	P	**Pn**	**06 30 22.1**	**+0.4**
KNRA				IAmb	IAmb	06 30 23.4	
	comp=Z,8.8nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.25**	**188**	P	**P**	**06 30 48.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**20.25**	**188**	P	**P**	**06 30 49.0**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=33,slow=6.9,SNR=5.7						
	comp=Z,1.1nm,0.6s						
WRA	**Warramunga Arr**	**22.64**	**166**	P	**P**	**06 31 13.9**	**-1.0**
WRA	**Warramunga Arr**	**22.64**	**166**	P	**P**	**06 31 15.9**	**+1.0**
	comp=Z,3.9nm,0.6s,baz=339,slow=11,SNR=43						
WRA				ScP	**ScP**	**06 38 27.0**	**-6.3**
	comp=Z,0.5nm,0.8s,baz=339,slow=2.6,SNR=2.0						
	comp=Z,3.9nm,0.6s						
WR8	**Warramunga Arr**	**22.69**	**165**	P	**P**	**06 31 15.9**	**+0.5**
WR8				IAmb	IAmb	06 31 17.2	
	comp=Z,11nm,1.2s						
AS31	**Alice Springs**	**26.14**	**169**	P	**P**	**06 31 47.6**	**+0.6**
ASAR	**Alice Springs**	**26.14**	**169**	P	**P**	**06 31 47.2**	**+0.2**
ASAR	**Alice Springs**	**26.14**	**169**	P	**P**	**06 31 48.0**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=355,slow=8.2,SNR=16						
ASAR				PcP	**PcP**	**06 35 11.4**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=324,slow=2.0,SNR=5.4						
ASAR				ScP	**ScP**	**06 38 38.6**	**-4.3**
	comp=Z,0.2nm,0.5s,baz=339,slow=3.1,SNR=2.0						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.19**	**301**	P	**P**	**06 32 50.4**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=181,slow=5.3,SNR=1.7						
	comp=Z,1.9nm,0.3s						
KSRS	**Korea Array 35.20 359**			P	**P**	**06 33 07.7**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=178,slow=8.8,SNR=2.3						
	comp=Z,0.6nm,0.5s						
MJAR	**Matsushiro Ar 35.45 14**			P	**P**	**06 33 08.7**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=188,slow=9.0,SNR=3.0						
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek 36.00 161**			P	**P**	**06 33 14.4**	**+0.8**
	comp=Z,2.0nm,0.4s,baz=341,slow=8.5,SNR=4.4						
	comp=Z,2.0nm,0.4s						
EVN	**Everest 47.35 307**			P	**P**	**06 34 47.4**	**+0.4**
EVN				IAmb	IAmb	06 34 48.9	
	comp=Z,6.2nm,0.6s						
SONM	**Songino Array 49.41 341**			P	**P**	**06 35 03.1**	**+1.4**
SONM				IAmb	IAmb	06 35 03.5	
	comp=Z,1.8nm,0.7s						
SONM	**Songino Array 49.41 341**			P	**P**	**06 35 02.9**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=153,slow=8.3,SNR=7.7						
	comp=Z,2.3nm,0.6s						
MKAR	**Makanchi Array 59.88 325**			P	**P**	**06 36 17.7**	**+0.3**
MKAR	**Makanchi Array 59.88 325**			P	**P**	**06 36 18.1**	**+0.7**
	comp=Z,5.1nm,0.4s,baz=116,slow=8.1,SNR=77						
	comp=Z,5.1nm,0.4s						
KDJ	**Kajisay 60.72 318**			P	**P**	**06 36 24.0**	**+0.6**
ZALV	**Zalesovo Beam 62.83 333**			P	**P**	**06 36 36.3**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=101,slow=7.7,SNR=4.3						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra 64.05 327**			P	**P**	**06 36 45.4**	**+0.2**
	comp=Z,12nm,1.0s,baz=128,slow=6.1,SNR=50						
	comp=Z,12nm,1.0s						
KURK	**Kurchatov 64.05 327**			P	**P**	**06 36 45.4**	**+0.3**
KKAR	**Karatay Array 65.61 317**			P	**P**	**06 36 54.6**	**-0.9**
BVAR	**Borovoye Array 69.63 327**			P	**P**	**06 37 20.6**	**0.0**
	comp=Z,2.2nm,0.5s,baz=126,slow=9.3,SNR=8.9						
	comp=Z,2.2nm,0.5s						
AB31	**Akbulak array 74.51 321**			P	**P**	**06 37 48.7**	**-1.0**
AB31				IAmb	IAmb	06 38 15.4	
	comp=Z,1.8nm,1.0s						
ABKAR	**Akbulak array 74.51 321**			P	**P**	**06 37 48.9**	**-0.9**
L18K	**Granite Mounta 81.12 27**			P	**P**	**06 38 27.6**	**+1.5**
L18K				IAmb	IAmb	06 38 37.7	
	comp=Z,6.0nm,1.4s						
J18K	**Innoko River 81.38 26**			P	**P**	**06 38 29.1**	**+1.6**
J18K				IAmb	IAmb	06 38 53.0	
	comp=Z,4.4nm,1.4s						
VNDA	**Vanda 81.59 173**			P	**P**	**06 38 24.8**	**-3.6**
	comp=Z,0.3nm,0.6s,baz=282,slow=9.7,SNR=1.6						
D19K	**Kuna River 82.03 21**			P	**P**	**06 38 32.0**	**+1.2**
ILAR	**Eielson Array 85.84 25**			P	**P**	**06 38 49.9**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=226,slow=2.4,SNR=5.0						
	comp=Z,2.0nm,0.4s						
SPITS	**Spitsbergen Ar 92.41 349**			P	**P**	**06 39 20.0**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=74,slow=15,SNR=6.0						
	comp=Z,2.8nm,0.7s						
ARCES	**ARCESS Array B 92.58 340**			P	**P**	**06 39 20.9**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=76,slow=5.1,SNR=7.3						
	comp=Z,1.7nm,0.7s						

*IDC **24** 07:03:32.5±1.3,9°.21S×123°.90E,h0km,mb3.6/3, mbtmp3.6/6,ML3.6/3,Error ellipse: s-maj=54.4km s-min=18.2km az=79.0*
*DJA **24** 07:03:36.8±1.0,9°.5S±5°×12°.4E±°,h77km±15km,M3.6/6, MLv3.6/6*
ISC 24 07:03:38.1±0.9,**9°.61S**±0°.08×**123°.52E**±0°.07,**h75**km,**n12,** σ3$**40**/18,**mb3.6**/3,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata 0.61 166**			Pn	**Pn**	**07 03 54.5**	**+2.0**
	91nm,0.3s,baz=43,slow=3.6,SNR=21						
BATI				Sn	**Sn**	**07 04 05.3**	**+2.2**
	54nm,0.3s,baz=302,slow=16,SNR=12						
BATI	**Baumata 0.61 166**			P	**Pn**	**07 03 53.9**	**+1.4**
SOEI	**Soe 0.75 101**			P	**Pn**	**07 03 53.4**	**-0.7**
SOEI				S	**Sn**	**07 04 08.2**	**+2.2**
MMRI	**Maumere 1.59 307**			P	**Pn**	**07 04 03.5**	**-0.9**
EDFI	**Ende, Flores 2.00 295**			P	**Pn**	**07 04 09.1**	**-0.8**
EDFI				S	**Sn**	**07 04 31.3**	**-2.8**
WBSI	**Waikabubak, Su 4.07 269**			P	**Pn**	**07 04 37.5**	**-0.5**
FITZ	**Fitzroy Crossi 8.69 167**			Pn	**Pn**	**07 05 43.2**	**+2.2**
	0.2nm,0.3s,baz=350,slow=9.8,SNR=12						
FITZ				Sn	**Sn**	**07 07 17.4**	**0.0**
	1.0nm,0.3s,baz=213,slow=3.4,SNR=15						
	1.0nm,0.4s						
WRA	**Warramunga Arr 14.65 136**			Pn	**Pn**	**07 06 60.0**	**-1.6**
	0.3nm,0.3s,baz=312,slow=15,SNR=19						
WRA				Sn	**Sn**	**07 09 35.5**	**-7.5**
	0.2nm,0.3s,baz=314,slow=23,SNR=5.2						
	0.7nm,0.5s						
ASAR	**Alice Springs 17.14 146**			P	**P**	**07 07 35.4**	**+1.8**
	0.3nm,0.3s,baz=316,slow=11,SNR=40						
ASAR				S	**Sn**	**07 10 36.2**	**-7.0**
	0.3nm,0.5s,baz=320,slow=25,SNR=2.8						
	2.0nm,0.6s						
MKAR	**Makanchi Array 67.10 331**			P	**P**	**07 14 27.6**	**+3.9**
	0.4nm,0.5s,baz=146,slow=6.4,SNR=4.4						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam 71.27 337**			P	**P**	**07 14 51.7**	**+2.5**
	0.3nm,0.3s,baz=142,slow=5.1,SNR=1.9						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra 71.55 332**			P	**P**	**07 14 54.2**	**+3.2**
	0.3nm,0.7s,baz=146,slow=4.6,SNR=4.3						
	0.3nm,0.7s						

*IDC **24** 07:58:12.7±1.4,6°.76S×130°.80E,h0km,mb4.0/4, mbtmp4.4/8,ML4.6/4,Error ellipse: s-maj=47.4km s-min=20.5km az=68.0*
*DJA **24** 07:58:24.1±0.3,7°.5S±2°×13°.1E±°,h127km±6km,M4.6/12, mB5.1/2,mb4.5/8,MLv4.7/12,Mw(mB)4.5/2*
ISC 24 07:58:23.6±0.8,**7°.10S**±0°.05×**130°.29E**±0°.06,**h100**km,**n23,** σ3$**23**/26,**mb3.8**/4,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki 1.33 131**			P	**Pn**	**07 58 50.2**	**+2.4**
SAUI	**Saumlaki 1.33 131**			P	**Pn**	**07 58 49.9**	**+2.1**
SAUI				S	**Sn**	**07 59 08.7**	**+2.6**
BNDI	**Bandanaira 2.59 351**			P	**Pn**	**07 59 04.1**	**+0.2**
BNDI	**Bandanaira 2.59 351**			P	**Pn**	**07 59 03.8**	**-0.1**
MSAI	**Masohi 3.97 340**			P	**Pn**	**07 59 23.9**	**+1.5**
FAKI	**Fak Fak 4.59 25**			P	**Pn**	**07 59 26.9**	**-3.9**
FAKI	**Fak Fak 4.59 25**			P	**Pn**	**07 59 26.8**	**-4.0**
KMPI	**Kaimana, Papua 4.82 45**			P	**Pn**	**07 59 29.7**	**-4.2**
DRS	**Darwin Rock St 5.33 174**			P	**Pn**	**07 59 43.3**	**+2.5**
MTN	**Manton Dam 5.77 172**			P	**Pn**	**07 59 49.2**	**+2.4**
KDU	**Kakadu 5.95 159**			P	**Pn**	**07 59 50.4**	**+1.1**
SWI	**Sorong 6.27 9**			P	**Pn**	**07 59 49.4**	**-4.2**
	0.3nm2µm46nm,0.6s						
SOEI	**Soe 6.51 246**			P	Pn	08 00 02.4	+5.4
	56nm,0.7s						
BATI	**Baumata 7.24 244**			Pn	**Pn**	**08 00 08.6**	**+1.8**
	7.1nm,0.3s,baz=95,slow=5.4,SNR=1.7						
BATI				Sn	**Sn**	**08 01 26.4**	**-1.2**
	16nm,0.3s,baz=136,slow=4.9,SNR=6.9						
	18nm,0.3s						
BATI	**Baumata 7.24 244**			P	**Pn**	**08 00 10.4**	**+3.6**
	0.5nm61nm,0.9s						
FITZ	**Fitzroy Crossi 11.83 202**			Pn	**Pn**	**08 01 09.0**	**-0.1**
	2.7nm,0.3s,baz=33,slow=11,SNR=99						
FITZ				Sn	**Sn**	**08 03 12.8**	**-6.5**
	5.8nm,0.3s,baz=60,slow=23,SNR=8.6						
	22nm,0.4s						
PLAI	**Plampang 12.51 261**			P	**Pn**	**08 01 21.0**	**+2.9**
	34nm,1.3s						
WRA	**Warramunga Arr 13.36 163**			Pn	**Pn**	**08 01 27.3**	**-2.0**
	3.3nm,0.3s,baz=351,slow=13,SNR=64						
WRA				Sn	Sn	08 03 46.1	-10
	2.7nm,0.3s,baz=345,slow=22,SNR=13						
	22nm,0.6s						
ASAR	**Alice Springs 16.83 168**			P	**P**	**08 02 13.8**	**0.0**
	2.2nm,0.3s,baz=344,slow=11,SNR=113						
ASAR				S	**Sn**	**08 05 13.4**	**-6.9**
	4.4nm,0.6s,baz=353,slow=24,SNR=6.1						
	8.9nm,0.6s						
STKA	**Stephens Creek 26.81 158**			P	**P**	**08 03 57.1**	**+2.6**
	0.8nm,0.3s,baz=347,slow=14,SNR=1.3						
	0.8nm,0.3s						
CMAR	**Chiang Mai Arr 40.02 310**			P	**P**	**08 05 51.2**	**+2.2**
	0.7nm,0.3s,baz=135,slow=7.0,SNR=5.4						
	0.7nm,0.3s						
MKAR	**Makanchi Array 68.47 327**			P	**P**	**08 09 16.9**	**+1.9**
	1.0nm,0.6s,baz=125,slow=7.6,SNR=13						
	1.0nm,0.6s						
QSPA	**South Pole Qui 82.88 180**			P	**P**	**08 10 39.7**	**+2.7**
	0.6nm,0.6s,baz=354,slow=8.6,SNR=7.1						
	0.6nm,0.6s						

*UPA **24** 08:35:12.2±0.9,13°.10N×81°.08W,h3km±8km*
*NEIC **24** 08:35:13.1±2.1,13°.13N±0°.08×81°.2W±0°.1,h10km±2km, mb4.1/7,Error ellipse: s-maj=21.4km s-min=6.0km az=50.0*
*RSNC **24** 08:35:13.2±0.0,13°.18N×81°.24W,h2km±1km,M4.5,mB5.5, mb4.5,ML3.7,Mw(mB)4.9*
*CATAC **24** 08:35:13.0±0.3,13°.N±2°×81°.1W±°,h13km±2km,M4.7/23, mB5.3/5,mb4.8/3,MLv4.6/23,Mw(mB)4.7/5,MwMwp4.9/1, Mwp5.2/1,Error ellipse: s-maj=3.7km s-min=3.1km az=3.0, confirmed*
*IDC **24** 08:35:15.8±0.8,13°.19N×81°.55W,h0km,mb3.7/8, mbtmp3.8/11,ML3.7/2,MS3.3/16,Error ellipse: s-maj=24.1km s-min=16.6km az=51.0*
ISC 24 08:35:12.9±1.3,**13°.15N**±0°.03×**81°.13W**±0°.04,**h7**km±8km, **n141,** σ

JTS S Sn 08 37 16.9 -2.4
JTS Las Juntas de 4.70 233 P Pn 08 36 24.2 -0.2
OCHAL Ojochal 4.72 212 S Sn 08 37 19.4 -0.4
OCHAL Ojochal 4.72 212 ⇑P Pn 08 36 25.8 +1.1
RCPN Sur Rio San Ju 4.85 275 ⇑P Pn 08 36 24.6 -1.9
CDITO Canoas 4.86 201 P Pn 08 37 27.1 +0.5
CDITO Canoas 4.86 201 S Sn 08 37 23.7 +0.5
RCVN Varillal2 4.95 276 S Sn 08 37 21.6 -3.9
RCVN Varillal2 4.95 276 ⇓P Pn 08 36 26.7 -1.2
TOTI Torti 5.02 146 *eP* **Pn 08 36 26.9 -1.9**
TOTI *eS* **Sn 08 37 24.3 -2.9**
OCON Estacion meteo 5.23 276 P Pn 08 36 30.8 -0.9
GMAL Guarumal, Vera 5.35 181 P Pn 08 36 31.9 -1.5
2µm62nm,0.8s
GMAL S **Sn 08 37 32.2 -3.1**
2µm62nm,0.8s
AZU Azuero 5.39 171 *eP* **Pn 08 36 32.7 -1.1**
AZU *eS* **Sn 08 37 34.0 -2.2**
AZU Azuero 5.39 171 P Pn 08 36 34.1 +0.3
32nm,1.4s
AZU S **Sn 08 37 32.8 -3.4**
32nm,1.4s
CNGN Cerro Negro 5.47 264 Pn **Pn 08 36 35.0 0.0**
CNGN Cerro Negro 5.47 264 P Pn 08 36 39.3 +4.3
UPD2 Meteti 5.50 146 *eP* **Pn 08 36 34.5 -0.8**
UPD2 *eS* **Sn 08 37 36.0 -3.0**
CACAO El Cacao, Vera 5.77 177 *eP* **Pn 08 36 38.0 -1.1**
CACAO *eS* **Sn 08 37 42.6 -3.1**
CACAO El Cacao, Vera 5.77 177 P Pn 08 36 39.4 +0.3
1µm82nm,0.7s
CACAO S **Sn 08 37 44.3 -1.4**
1µm82nm,0.7s
CAPC Capurgana 5.82 140 P Pn 08 36 40.6 +0.8
44nm,1.3s
CAPC S **Sn 08 37 45.8 -1.1**
44nm,1.3s
TGUH Tegucigalpa,Un 6.04 279 Pn 08 36 42.4 -0.6
TGUH Tegucigalpa,Un 6.04 279 P Pn 08 36 41.0 -1.9
1µm141nm,0.5s
MTDJ Mount Denham 6.12 34 Pn 08 36 44.6 +0.6
MTDJ Mount Denham 6.12 34 *i* P **Pn 08 36 44.4 +0.4**
MTDJ IVmB_BB 08 36 51.8
comp=Z,1µm,1.0s
MTDJ IAmb IAmb 08 36 52.2
comp=Z,83nm,0.9s
MTDJ Mount Denham 6.12 34 *i* P **Pn 08 36 45.1 +1.2**
MTDJ Mount Denham 6.12 34 P Pn 08 36 42.3 -1.7
FSCY Frank Sound, G 6.13 360 *i* P Pn 08 36 35.1 -8.9
FSCY IAmb IAmb 08 36 42.7
comp=Z,85nm,0.8s
LCBC Los crdobas, 6.33 132 P Pn 08 36 47.8 +1.1
LCBC S **Sn 08 38 01.0 +1.6**
HOJ Hope 6.41 41 ⇑*iP* **Pn 08 36 49.3 +1.4**
STH Stony Hill 6.43 40 ⇑*iP* **Pn 08 36 49.5 +1.4**
SJCC San Jacinto, C 6.67 118 P Pn 08 36 50.2 -1.3
SJCC San Jacinto, C 6.67 118 P Pn 08 36 49.5 -2.0
SJCC S **Sn 08 38 03.2 -4.6**
APAC Apartado, Choc 6.87 139 P Pn 08 36 54.9 +0.7
comp=Z,19nm,0.6s
APAC S **Sn 08 38 13.0 +0.2**
comp=Z,19nm,0.6s
SMRC Santa Marta, M 7.03 106 Pn **Pn 08 36 54.5 -2.0**
SMRC Santa Marta, M 7.03 106 P Pn 08 36 56.8 +0.3
comp=Z,26nm,0.8s
SMRC S **Sn 08 38 11.6 -5.2**
comp=Z,26nm,0.8s
SCLA Alcaldia de Sa 7.41 275 P Pn 08 37 01.1 -0.6
ARGC Ariguani, Magd 7.50 115 P Pn 08 37 02.7 -0.1
comp=Z,48nm,0.7s
ARGC S **Sn 08 38 26.8 -1.4**
comp=Z,48nm,0.7s
PILO Pilon 7.61 27 *i* P **Pn 08 37 03.5 -0.9**
PILO IAmb IAmb 08 37 06.1
comp=Z,43nm,0.9s
PILO IVmB_BB 08 37 53.0
comp=Z,6µm,1.0s
UREC San Jos de Ur 7.68 134 P Pn 08 37 06.5 +1.1
UREC S **Sn 08 38 29.3 -3.5**
DBBC Dabeiba 7.78 141 P Pn 08 37 06.8 0.0
comp=Z,16µmcomp=Z,8.5nm,0.8s
DBBC S **Sn 08 38 35.9 +0.6**
comp=Z,16µmcomp=Z,8.5nm,0.8s
LMGC Las Mercedes 7.93 29 *i* P **Pn 08 37 08.6 -0.2**
LMGC IVmB_BB 08 37 09.4
comp=Z,540nm,1.0s
LMGC IAmb IAmb 08 37 22.0
comp=Z,30nm,0.7s
CEDA San Andres 8.07 276 P Pn 08 37 09.3 -1.4
MTO3 Montecristo 8.09 280 Pn 08 37 09.3 -1.9
ESQI Esquipulas 8.10 281 Pn 08 37 11.6 +0.4
CHIV Chivirico 8.15 33 Pn **Pn 08 37 11.1 -0.8**
CHIV Chivirico 8.15 33 *i* P **Pn 08 37 10.7 -1.1**
CHIV IAmb IAmb 08 37 34.9
comp=Z,17nm,0.6s
CRJC Cerrejon, Guaj 8.34 104 P Pn 08 37 13.3 -1.2
CRJC S **Sn 08 38 43.7 -5.3**
ZARC Zaragoza, Cauc 8.35 132 P Pn 08 37 14.0 -0.5
comp=Z,8µmcomp=Z,26nm,0.7s
ZARC S **Sn 08 38 44.9 -4.2**
comp=Z,8µmcomp=Z,26nm,0.7s
MARVS Santiago de Cu 8.46 36 *i* P **Pn 08 37 15.7 -0.3**
MARVS IAmb IAmb 08 37 24.4
comp=Z,21nm,0.6s
RCC Rio Carpintero 8.57 37 *i* P **Pn 08 37 17.7 +0.2**
RCC IAmb IAmb 08 37 18.3
comp=Z,26nm,1.6s
LTUP Las Tunas 8.71 26 *i* P **Pn 08 37 20.6 +1.1**
LTUP IAmb IAmb 08 37 23.3
comp=Z,49nm,0.8s
CBOC Ciudad Bolivar 8.82 145 P Pn 08 37 21.8 +0.6
comp=Z,11nm,0.6s
CBOC S **Sn 08 38 59.9 -1.2**
comp=Z,11nm,0.6s
HELC Santa Helena 8.85 141 P Pn 08 37 23.8 +2.1
comp=Z,4.5nm,0.5s
HELC S **Sn 08 38 57.5 -4.4**
comp=Z,4.5nm,0.5s
GTBY Guantanamo Bay 8.87 40 Pn 08 37 22.4 +0.7
GTBY Guantanamo Bay 8.87 40 *i* P **Pn 08 37 22.4 +0.7**
GTBY IAmb IAmb 08 37 49.5
comp=Z,42nm,1.3s
GTBY Guantanamo Bay 8.87 40 P Pn 08 37 21.6 -0.1
comp=Z,41nm,1.3s
PINC Pinares de May 8.91 34 *i* P **Pn 08 37 23.2 +1.0**
URIC Uribia, Colomb 9.04 98 P Pn 08 37 20.6 -3.4
URIC S **Sn 08 39 00.9 -5.3**
OCAC Ocana 9.09 122 P Pn 08 37 25.0 +0.1
comp=Z,31nm,0.7s
OCAC S **Sn 08 39 06.5 -1.2**
comp=Z,31nm,0.7s
HLGC Holguin 9.10 32 *i* P **Pn 08 37 24.8 0.0**
HLGC IAmb IAmb 08 37 51.2
comp=Z,42nm,1.0s
PETF Flores 9.23 295 Pn 08 37 27.2 +0.6
QMBU Quimbuelo 9.26 40 *i* P **Pn 08 37 26.9 -0.1**
QMBU IVmB_BB 08 37 37.1
comp=Z,550nm,1.0s
QMBU IAmb IAmb 08 37 41.3
comp=Z,22nm,0.5s
PTBC PUERTO BERRIO, 9.29 134 P Pn 08 37 27.5 0.0
comp=Z,99nmcomp=Z,6.3nm,0.7s
PTBC S **Sn 08 39 08.7 -3.7**
comp=Z,99nmcomp=Z,6.3nm,0.7s
NMDO Nuevo Mundo 9.43 38 Pn 08 37 30.2 +0.9
NMDO Nuevo Mundo 9.43 38 *i* P **Pn 08 37 32.0 +2.7**
NMDO IAmb IAmb 08 37 34.3
comp=Z,48nm,0.7s
MOAC Moa 9.52 37 *i* P **Pn 08 37 33.4 +2.9**
MOAC IVmB_BB 08 37 34.8
comp=Z,990nm,1.0s
MOAC IAmb IAmb 08 37 34.9
comp=Z,120nm,0.8s
SOR Soroa 9.76 350 Pn Pn 08 37 33.9 +0.1
TEIG Tepich 9.82 317 Pn Pn 08 37 33.9 -0.8
baz=131,slow=24,SNR=10
TEIG Sn **Sn 08 39 19.1 -6.2**
baz=310,slow=24,SNR=1.8
CAMR Camarioca 9.86 359 Pn Pn 08 37 34.5 -0.7
PAMC Pamplona, Colo 10.10 124 P Pn 08 37 41.0 +1.9
PAMC S **Sn 08 39 31.3 -1.7**
BARC Barichara 10.18 129 P Pn 08 37 40.8 +0.9
BARC S **Sn 08 39 35.5 +0.9**
ROSC El Rosal 10.64 140 Sn **Sn 08 39 46.0 -0.2**
baz=354,slow=22
ROSC LR LR 08 42 16.0
comp=Z,195nm,20.3s,baz=270,slow=38
RUSC La Rusia 10.72 132 Pn Pn 08 37 45.1 -2.4
SDV Santo Domingo 11.14 111 Sn Sn 08 39 54.2 -3.8
comp=Z,4.5nm,0.3s,baz=7.1,slow=18,SNR=7.5
SDV LR LR 08 42 55.2
comp=Z,124nm,20.8s,baz=288,slow=40
BAUV El Baul 13.51 107 Pn Pn 08 38 23.3 -1.9
CMIG Matias Romero 13.85 288 Pn Pn 08 38 27.1 -2.7
comp=Z,0.4nm,0.3s,baz=102,slow=18,SNR=7.0
CMIG LR LR 08 44 15.3
comp=Z,150nm,19.7s,baz=138,slow=40
comp=Z,0.7nm,0.6s
SJG San Juan 15.24 69 Pn P 08 38 57.0 +3.2
comp=Z,20nm,0.9s,baz=267,slow=8.4,SNR=5.1
250A Grady 19.33 347 P P 08 39 38.1 -0.7
H05S1 Guadeloupe/Mar 19.75 84 T T 09 00 06.9
SNR=4.3
Z47A Carrollton 20.94 344 P P 08 39 57.2 +0.8
Z47A IAmb IAmb 08 40 05.0
comp=Z,7.0nm,0.9s
X48A Hartselle 21.88 347 P P 08 40 07.6 +1.1
X48A IAmb IAmb 08 40 12.9
comp=Z,7.0nm,1.1s
CZSB Cruzeiro do Su 22.37 158 P P 08 40 10.2 -1.8
TKL Tuckaleechee C 22.54 354 LR LR 08 47 55.4
comp=Z,37nm,19.0s,baz=170,slow=34
BOAV Boa Vista 23.02 116 P P 08 40 18.1 -0.8
BOAV IAmb IAmb 08 40 34.6
comp=Z,4.1nm,0.9s
ABTX Abilene, Hawle 25.74 322 P P 08 40 44.5 +0.1
ABTX IAmb IAmb 08 40 57.3
comp=Z,6.1nm,0.9s
TXAR Lajitas Array 26.39 311 P P 08 40 51.2 +0.9
comp=Z,1.3nm,0.9s,baz=135,slow=10,SNR=15
TXAR LR LR 08 53 22.6
comp=Z,26nm,18.1s,baz=118,slow=42
comp=Z,1.3nm,0.9s
TX31 Lajitas Ar. Si 26.39 311 P P 08 40 51.0 +0.7
TX31 IAmb IAmb 08 41 05.7
comp=Z,6.9nm,1.2s
MDP Montagnes des 29.21 103 LR LR 08 54 49.2
comp=Z,67nm,18.8s,baz=220,slow=40
LPIG La Paz 29.66 296 LR LR 08 53 56.4
comp=Z,85nm,19.9s,baz=122,slow=38
ANMO Albuquerque 31.55 318 LR LR 08 56 01.7
comp=Z,32nm,18.5s,baz=228,slow=40
SADO Sadowa 31.56 3 LR LR 08 54 16.1
comp=Z,62nm,19.4s,baz=161,slow=36
LPAZ La Paz 31.95 156 P P 08 41 46.0 +5.6
comp=Z,0.3nm,0.5s,baz=352,slow=8.4,SNR=1.9
comp=Z,0.3nm,0.5s
PFO Pinyon Flats O 38.02 308 LR LR 08 58 58.4
comp=Z,42nm,18.1s,baz=134,slow=38
PDAR Pinedale Array 38.39 326 P P 08 42 36.2 +0.9
comp=Z,0.7nm,0.8s,baz=123,slow=11,SNR=6.3
comp=Z,0.7nm,0.8s
ELK Elko 40.56 319 LR LR 09 02 58.9
comp=Z,39nm,18.6s,baz=184,slow=41
NVAR Mina Array Bea 41.45 314 P P 08 43 02.2 +1.4
comp=Z,0.8nm,0.9s,baz=108,slow=9.7,SNR=4.3
comp=Z,0.8nm,0.9s
BDFB Brasilia 43.49 130 P P 08 43 24.0 +6.5
comp=Z,3.9nm,1.0s,baz=269,slow=12,SNR=4.5
comp=Z,3.9nm,1.0s
PLCA Paso Flores 54.50 170 P P 08 44 47.1 +5.6
comp=Z,1.5nm,0.9s,baz=349,slow=12,SNR=3.1
comp=Z,1.5nm,0.9s
ILAR Eielson Array 67.94 335 P P 08 46 16.3 +4.0
comp=Z,0.8nm,0.8s,baz=114,slow=4.3,SNR=7.9
comp=Z,0.8nm,0.8s
ESDC Sonseca Array 71.90 52 P P 08 46 44.1 +6.9
comp=Z,0.5nm,0.7s,baz=269,slow=5.4,SNR=3.8
ESDC LR LR 09 13 44.6
comp=Z,43nm,19.8s,baz=138,slow=32
comp=Z,0.5nm,0.7s
DAVOX Davos/Dischmat 81.23 44 LR LR 09 19 32.0
comp=Z,22nm,20.0s,baz=76,slow=33
ARCES ARCESS Array B 83.48 20 P P 08 47 43.1 +1.9
comp=Z,2.8nm,1.0s,baz=299,slow=4.9,SNR=5.5
VRAC Vranov 85.11 41 LR LR 09 22 28.1
comp=Z,39nm,19.1s,baz=250,slow=33
MA2 Magadan 96.39 336 LR LR 09 37 03.2
comp=Z,44nm,18.1s,baz=174,slow=38
ASAR Alice Springs 145.24 247 PKP **PKPdf 08 54 53.5 +1.1**
comp=Z,1.5nm,0.8s,baz=104,slow=3.5,SNR=16
WRA Warramunga Arr 145.39 254 PKPbc **PKPab 08 54 52.8 0.0**
comp=Z,2.4nm,0.7s,baz=93,slow=3.3,SNR=7.1

*IDC **24** 08:48:46.9±0.8, 30.°67S×177.°43W, h0km, mb4.0/8, mbtmp4.0/8, MS3.5/2, Error ellipse: s-maj=26.8km s-min=17.6km az=81.0*
ISC 24 08:48:52.1±0.8, 30.°69S±0.°07×177.°6W±0.°2, h33km, n22, σ1s09/23, mb4.3/11, 5C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.47**	**349**	Pn	**Pn**	**08 49 15.3**	**-0.9**
	320nm,0.3s,baz=143,slow=16,SNR=4.9						
RAO				Sn	**Sb**	**08 49 36.7**	**-0.3**
	309nm,0.3s,baz=86,slow=22,SNR=5.7						
URZ	**Urewera**	**8.72**	**209**	Pn	Pn	08 50 50.0	-5.8
	0.5nm,0.3s,baz=14,slow=19,SNR=1.9						
URZ				Sn	**Sn**	**08 52 30.5**	**-2.5**
	0.4nm,0.3s,baz=268,slow=23,SNR=1.6						
DZM	**Mont Dzumac**	**16.67**	**297**	LR	LR	08 57 16.9	
	comp=Z,172nm,18.4s,baz=358,slow=30						
STKA	**Stephens Creek**	**34.76**	**257**	P	**P**	**08 55 40.7**	**+1.3**
	7.1nm,0.9s,baz=83,slow=11,SNR=7.5						
	7.1nm,0.9s						
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**08 56 52.9**	**+0.7**
	0.8nm,0.6s,baz=104,slow=7.6,SNR=11						
ASAR				PcP	**PcP**	**08 58 39.6**	**-0.5**
	0.9nm,0.9s,baz=107,slow=3.3,SNR=3.8						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**44.46**	**272**	P	**P**	**08 57 00.6**	**+0.2**
	4.5nm,0.9s,baz=112,slow=7.9,SNR=32						
WRA				PcP	**PcP**	**08 58 42.6**	**-1.0**
	0.8nm,0.9s,baz=115,slow=3.1,SNR=2.7						
	4.5nm,0.9s						
VNDA	**Vanda**	**47.84**	**186**	P	**P**	**08 57 27.0**	**+0.9**
	0.4nm,0.7s,baz=45,slow=6.2,SNR=1.9						
	0.4nm,0.7s						
JAY	**Jayapura**	**48.34**	**297**	LR	LR	09 15 18.7	
	comp=Z,42nm,19.9s,baz=7.0,slow=33						
QSPA	**South Pole Qui**	**59.42**	**180**	P	**P**	**08 58 52.8**	**+1.5**
	3.9nm,1.0s,baz=12,slow=3.1,SNR=7.3						
	3.9nm,1.0s						
TROLL	**Troll, Antarti**	**77.58**	**180**	⇑P	**P**	**09 00 44.3**	**-0.3**
	comp=Z,144nm,0.9s						
SNAA	**Sanae**	**77.85**	**178**	⇑P	**P**	**09 00 44.4**	**-1.6**
	comp=Z,51nm,1.0s						
SNAA	**Sanae**	**77.85**	**178**	P	**P**	**09 00 44.9**	**-1.0**
	comp=Z,2.4nm,1.0s,baz=201,slow=6.1,SNR=7.0						
	comp=Z,2.4nm,1.0s						
VNA3	**Neumayer Olymp**	**77.99**	**176**	⇑P	**P**	**09 00 45.9**	**-0.8**
	comp=Z,2.2nm,0.8s						
VNA2	**Neumayer--Watz**	**78.43**	**177**	⇑P	**P**	**09 00 49.1**	**0.0**
	comp=Z,5.5nm,0.9s,baz=166,slow=6.2						
VNA1	**Neumayer--Stat**	**78.66**	**176**	⇑P	**P**	**09 00 49.8**	**-0.5**
	comp=Z,4.8nm,1.0s						
KSRS	**Korea Array**	**84.80**	**319**	P	**P**	**09 01 24.6**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=146,slow=7.9,SNR=4.8						
	comp=Z,0.9nm,0.8s						
NVAR	**Mina Array Bea**	**88.22**	**42**	P	**P**	**09 01 40.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=222,slow=9.6,SNR=5.2						
	comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**145.54**	**340**	PKPbc	**PKPdf**	**09 08 25.1**	**-1.0**
	comp=Z,12nm,0.9s,baz=21,slow=3.8,SNR=9.5						
KBZ	**Khabaz**	**145.57**	**304**	PKPbc	**PKPab**	**09 08 27.6**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=183,slow=9.3,SNR=4.5						
NOA	**NORSAR Array B**	**149.09**	**352**	PKPbc	**PKPbc**	**09 08 35.2**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=15,slow=2.6,SNR=3.8						
HFS	**Hagfors**	**149.60**	**349**	PKPbc	**PKPbc**	**09 08 36.6**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=0.0,slow=5.8,SNR=2.4						
AKASG	**Malin Array Be**	**151.75**	**323**	PKPbc	**PKPbc**	**09 08 42.9**	**0.0**
	comp=Z,1.6nm,0.6s,baz=56,slow=2.5,SNR=7.1						

*DNK **24** 09:01:43.7±1.5, 80.°80N×2.°60W, h36km±13km, ML1.4*
*BER **24** 09:01:43.3±2.5, 80.°75N×2.°67W, h23km±158km, Mw3.1, ML2.6(DNK), Confirmed Earthquake*
ISC 24 09:01:39.0±1.4, 80.°66N±0.°08×2.°89W±0.°04, h10km, n8, σ2s32/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.33**	**300**	*i* P	**Pn**	**09 02 18.6**	**+1.2**
NOR				*i* S	**Sn**	**09 02 43.5**	**-2.5**
KBS	**Kingsbay**	**3.16**	**116**	*e*P	**Pn**	**09 02 30.1**	**+1.5**
KBS				*e*S	**Sn**	**09 03 03.9**	**-2.3**
KBS				IAML		09 03 05.5	
	comp=Z,1.6nm,0.5s						
KBS	**Kingsbay**	**3.16**	**116**	*i* P	**Pn**	**09 02 30.2**	**+1.5**
KBS				*i* S	**Sn**	**09 03 04.0**	**-2.3**
SPA0	**Spitsbergen Ar**	**4.32**	**115**	*e*P	**Pn**	**09 02 46.7**	**+2.1**
SPA0				*e*S	**Sn**	**09 03 32.8**	**-2.1**
DAG	**Danmarks Havn**	**4.96**	**226**	*i* P	**Pn**	**09 02 54.2**	**+0.8**
DAG				*e*S	**Sn**	**09 03 48.4**	**-2.3**
DAG				IAML		09 05 21.0	
	comp=Z,15nm,1.9s						
DAG	**Danmarks Havn**	**4.96**	**226**	*i* P	**Pn**	**09 02 55.5**	**+2.1**
DAG				*e*S	**Sn**	**09 03 48.4**	**-2.3**
DAG				IAML		09 03 54.2	
	comp=Z,2.5nm,0.2s						
DBG	**Daneborg**	**7.36**	**219**	*e*P	**Pn**	**09 03 28.7**	**+2.4**
DBG				*e*S	Sn	09 04 45.5	-4.2
DBG	**Daneborg**	**7.36**	**219**	*e*P	**Pn**	**09 03 28.7**	**+2.4**
DBG				*e*S	Sn	09 04 45.5	-4.2
DBG				IAML		09 04 49.3	
	comp=Z,0.7nm,0.2s						

*IDC **24** 09:28:07.2±2.2, 2.°49S×150.°25E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=225.3km s-min=29.7km az=123.0, New Ireland region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.29**	**221**	P	P	09 33 15.2	-1.7
	0.6nm,0.8s,baz=47,slow=9.2,SNR=7.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**26.33**	**216**	P	P	09 33 46.7	+1.6
	0.3nm,0.8s,baz=46,slow=8.4,SNR=4.4						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**81.01**	**23**	P	P	09 40 23.6	0.0
	0.3nm,0.7s,baz=252,slow=4.9,SNR=4.5						
	0.3nm,0.7s						

*IDC **24** 10:26:11.4±2.2, 29.°86S×177.°26W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=44.8km s-min=26.3km az=82.0*
ISC 24 10:26:16.6±1.9, 29.°76S±0.°09×177.°3W±0.°2, h35km, n9, σ1s31/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.72**	**315**	Pn	**Pn**	**10 26 30.9**	**+0.6**
	392nm,0.3s,baz=148,slow=20,SNR=28						
RAO				Sn	**Sn**	**10 26 39.3**	**-0.7**
	3µm,0.3s,baz=55,slow=20,SNR=39						
URZ	**Urewera**	**9.64**	**207**	Pn	**Pn**	**10 28 31.0**	**-1.8**
	0.2nm,0.3s,baz=185,slow=20,SNR=1.0						
URZ				Sn	**Sn**	**10 30 21.8**	**+1.9**
	1.2nm,0.3s,baz=82,slow=16,SNR=8.8						
	9.5nm,1.2s						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**10 34 19.1**	**+0.4**
	0.5nm,0.8s,baz=113,slow=8.1,SNR=5.1						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**44.65**	**271**	P	**P**	**10 34 25.6**	**-0.5**
	0.9nm,0.7s,baz=110,slow=7.9,SNR=7.3						
	0.9nm,0.7s						
H03S2	**Juan Fernandez**	**80.33**	**123**	T	T	12 07 58.5	
	baz=243						
H03S1	**Juan Fernandez**	**80.35**	**123**	T	T	12 08 06.0	
	baz=243						
H03S3	**Juan Fernandez**	**80.35**	**123**	T	T	12 08 01.2	
	baz=243						
FINES	**FINESS Array B**	**144.74**	**341**	PKP	**PKPab**	**10 45 48.2**	**+0.4**
	0.6nm,0.5s,baz=68,slow=5.9,SNR=6.5						
AKASG	**Malin Array Be**	**151.13**	**324**	PKPbc	**PKiKP**	**10 46 06.8**	**+0.5**
	1.1nm,0.6s,baz=47,slow=2.0,SNR=5.9						

IDC 24 10:38:32.9±7.2, 20.°19S×178.°21W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=325.6km s-min=110.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.40**	**256**	P	P	10 46 44.5	-1.1
	0.2nm,0.3s,baz=89,slow=7.8,SNR=6.0						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.45**	**262**	P	P	10 46 46.9	+0.8
	0.5nm,0.5s,baz=96,slow=8.5,SNR=9.6						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**142.65**	**331**	PKP	PKPdf	10 58 07.2	-0.7
	0.5nm,0.4s,baz=46,slow=3.7,SNR=4.1						

*IDC **24** 11:00:29.4±0.8, 26.°02N×142.°62E, h0km, mb3.9/12, mbtmp3.9/13, ML2.4/1, Error ellipse: s-maj=29.7km s-min=15.2km az=82.0*
*NEIC **24** 11:00:35.7±1.6, 26.°00N±0.°09×142.°2E±0.°2, h35km±2km, mb4.4/9, Error ellipse: s-maj=35.6km s-min=14.6km az=93.0*
ISC 24 11:00:34.8±0.8, 25.°98N±0.°09×142.°4E±0.°2, h36km, n33, σ1s02/28, mb4.1/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.13**	**349**	Pn	**Pn**	**11 00 54.7**	**+0.6**
JCJ	**Chichijima**	**1.13**	**349**	Pn	**Pn**	**11 00 53.4**	**-0.7**
	28nm,0.3s,baz=326,slow=21,SNR=7.2						
JCJ				Sn	**Sn**	**11 01 09.0**	**+0.6**
	87nm,0.3s,baz=108,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**11.13**	**342**	Pn	**Pn**	**11 03 11.7**	**+0.4**
	baz=154,slow=11,SNR=4.2						
	0.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**23.37**	**100**	T	T	11 29 20.4	
	baz=290,slow=74,SNR=36						
H11N1	**WAKE ISLAND Hy**	**23.38**	**100**	T	T	11 29 20.5	
	baz=290,slow=74,SNR=33						
H11N3	**WAKE ISLAND Hy**	**23.39**	**100**	T	T	11 29 21.9	
	baz=290,slow=74,SNR=50						
H11S3	**WAKE ISLAND Hy**	**23.64**	**103**	T	T	11 29 49.1	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**23.64**	**103**	T	T	11 29 48.9	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**23.66**	**103**	T	T	11 30 09.9	
	baz=294						
CMAR	**Chiang Mai Arr**	**40.80**	**269**	P	**P**	**11 08 13.5**	**+0.6**
	1.0nm,0.5s,baz=61,slow=6.6,SNR=5.3						
	1.0nm,0.5s						
SPIA	**Saint Paul Isl**	**45.76**	**34**	P	**P**	**11 08 53.7**	**+1.3**
WB0	**Warramunga Arr**	**46.14**	**191**	P	**P**	**11 08 56.0**	**+0.3**
WB0				IAmb	IAmb	11 09 00.0	
	comp=Z,4.5nm,0.7s						
WR8	**Warramunga Arr**	**46.30**	**190**	P	**P**	**11 08 57.3**	**+0.2**
WR8				IAmb	IAmb	11 09 01.5	
	comp=Z,5.5nm,0.7s						
WRAB	**Tennant Creek**	**46.31**	**191**	P	**P**	**11 08 57.3**	**+0.1**
WRAB				IAmb	IAmb	11 09 01.8	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**46.32**	**191**	P	**P**	**11 08 57.6**	**+0.4**
WRA	**Warramunga Arr**	**46.32**	**191**	P	**P**	**11 08 57.2**	**0.0**
	comp=Z,6.2nm,0.7s,baz=11,slow=8.5,SNR=54						
	comp=Z,6.2nm,0.7s						
AS31	**Alice Springs**	**50.04**	**190**	P	**P**	**11 09 25.8**	**-0.1**
ASAR	**Alice Springs**	**50.04**	**190**	P	**P**	**11 09 27.5**	**+1.6**
ASAR	**Alice Springs**	**50.04**	**190**	P	**P**	**11 09 26.9**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=17,slow=8.6,SNR=17						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**51.35**	**310**	P	**P**	**11 09 36.4**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=93,slow=7.3,SNR=3.0						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**53.97**	**315**	P	**P**	**11 09 55.5**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=92,slow=8.2,SNR=14						
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**58.59**	**28**	P	**P**	**11 10 25.7**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=270,slow=6.2,SNR=3.1						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**59.01**	**318**	P	**P**	**11 10 31.4**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=82,slow=6.1,SNR=12						
	comp=Z,2.0nm,0.5s						
KK31	**Karatay Array**	**59.91**	**306**	P	**P**	**11 10 35.1**	**-2.1**
KK31				IAmb	IAmb	11 10 52.3	
	comp=Z,1.3nm,0.7s						
KKAR	**Karatay Array**	**59.91**	**306**	P	**P**	**11 10 36.0**	**-1.2**
AB31	**Akbulak array**	**66.03**	**315**	P	**P**	**11 11 16.3**	**-1.3**
AB31				IAmb	IAmb	11 11 55.3	
	comp=Z,1.6nm,1.1s						
ABKAR	**Akbulak array**	**66.03**	**315

comp=Z,2.0nm,1.0s,baz=59,slow=5.7,SNR=2.1
comp=Z,2.0nm,1.0s

G04A	**Mulino**	**75.43**	**47**	P		**P**	**11 12 15.1**	**+0.2**
FINES	**FINESS Array B**	**79.04**	**334**	P		**P**	**11 12 35.0**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=81,slow=5.3,SNR=11							
	comp=Z,1.7nm,0.6s							
NVAR	**Mina Array Bea**	**81.04**	**52**	P		**P**	**11 12 46.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=284,slow=6.0,SNR=4.4							
	comp=Z,0.6nm,0.8s							
HFS	**Hagfors**	**84.53**	**337**	P		**P**	**11 13 04.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=60,slow=8.5,SNR=4.8							
	comp=Z,0.6nm,0.5s							
NOA	**NORSAR Array B**	**84.72**	**338**	P		**P**	**11 13 04.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=45,slow=5.1,SNR=2.1							
	comp=Z,0.4nm,0.6s							

NEIC ***24*** *11:02:20.0±1.2, 35.584N±0.006×117.424W±0.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=259.0*

PAS 24 11:02:20.7±1.0, 35°59.7′N±0.009×117°42.4′W±0.008, h5km±2km, ML3.5/100, ML3.2/140(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=159.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSHM	**Spangler Hills**	**0.06**	**272**	Pg	Pg	11 02 22.3	+0.1
CCCA	**Chr Cany lake**	**0.09**	**146**	Pg	Pg	11 02 23.0	+0.4
LRMC	**Laurel Mtn Rad**	**0.24**	**241**		Pg	11 02 25.5	0.0
CLC	**China Lake**	**0.26**	**327**		Pg	11 02 25.7	-0.1
CLC				IAML		11 02 29.9	
	comp=E,6μm,0.5s						
CLC				IAML		11 02 29.9	
	comp=N,3μm,0.3s						
SRTC	**Snort**	**0.28**	**290**		Pg	11 02 26.5	+0.4
SRTC					Sg	11 02 31.5	+1.6
TOW	**Tower One**	**0.35**	**307**		Pg	11 02 27.8	+0.4
TOW					Sb	11 02 33.6	-1.6
WNMM	**Nine Mile Cany**	**0.46**	**302**		Sg	11 02 36.1	+0.5
MPMC	**Manual Prospec**	**0.46**	**353**		Pg	11 02 29.4	-0.3
MPMC				Sg	Sg	11 02 35.9	+0.1
MPMC				IAML		11 02 36.3	
	comp=N,2μm,0.5s						
MPMC				IAML		11 02 36.4	
	comp=E,2μm,0.4s						
WVPM	**Volcano Peak E**	**0.47**	**318**		Pg	11 02 29.8	-0.1
WVPM					Sg	11 02 36.7	+0.6
DTP	**Desert Tortois**	**0.48**	**226**		Pg	11 02 29.6	-0.2
DTP					Sg	11 02 36.0	-0.1
JRC2	**Joshua Ridge**	**0.50**	**321**		Sg	11 02 37.4	+0.7
WCSM	**Coso Springs S**	**0.51**	**327**		Pg	11 02 30.4	-0.1
WCSM					Sg	11 02 37.5	+0.3
WRVM	**Rose V. Centra**	**0.56**	**317**		Pg	11 02 31.2	-0.2
WRVM					Sg	11 02 38.9	+0.2
QSM	**Queen of Sheba**	**0.58**	**51**		Pg	11 02 31.8	-0.1
QSM	**Queen of Sheba**	**0.58**	**51**		Sg	11 02 39.2	-0.2
QSM	**Queen of Sheba**	**0.58**	**51**	IAML		11 02 41.1	
	comp=E,927nm,0.5s						
QSM				IAML		11 02 44.7	
	comp=N,993nm,0.2s						
GSC	**Goldstone, Bar**	**0.58**	**120**		Pg	11 02 31.8	-0.2
WBSM	**Bird Springs**	**0.59**	**264**		Sg	11 02 39.8	+0.2
MFS	**McCloud Flat S**	**0.63**	**326**		Pg	11 02 32.5	-0.2
MFS					Sg	11 02 41.3	+0.3
CCAC	**Calif City Air**	**0.66**	**228**		Pg	11 02 33.0	-0.3
CCAC					Sg	11 02 42.0	+0.2
WORM	**Onyx Ranch**	**0.67**	**279**		Pg	11 02 33.2	-0.4
WORM					Sg	11 02 42.0	-0.4
HYS	**Haystack Butte**	**0.74**	**189**		Pg	11 02 34.3	-0.6
HYS					Sg	11 02 44.3	-0.3
WHFM	**Hanning Flat**	**0.76**	**278**		Pg	11 02 34.8	-0.5
WHFM					Sg	11 02 44.5	-0.7
RRX	**Edison Barstow**	**0.80**	**154**		Sg	11 02 46.5	+0.1
GWY	**Greenwater Val**	**0.85**	**46**		Pg	11 02 36.6	-0.4
GWY	**Greenwater Val**	**0.85**	**46**		Sg	11 02 47.6	-0.4
GWY	**Greenwater Val**	**0.85**	**46**	IAML		11 02 55.3	
	comp=N,659nm,0.6s						
GWY				IAML		11 02 58.2	
	comp=E,811nm,0.5s						
EDW2	**Edwards Air Fo**	**0.85**	**213**		Sg	11 02 47.6	-0.5
ISA	**Isabella, Lake**	**0.86**	**275**		Pg	11 02 36.5	-0.6
ISA				IAML		11 02 38.9	
	comp=N,903nm,0.1s						
ISA	**Isabella, Lake**	**0.86**	**275**		Sg	11 02 47.8	-0.5
ISA	**Isabella, Lake**	**0.86**	**275**	IAML		11 02 51.5	
	comp=E,669nm,0.3s						
WASM	**Alta Sierra Ca**	**0.93**	**279**		Pg	11 02 38.0	-0.6
WASM					Sg	11 02 50.4	-0.3
FURC	**Furnace Creek,**	**0.98**	**27**	Pg	Pg	11 02 39.2	-0.3
FURC				IAML		11 02 55.7	
	comp=N,872nm,0.8s						
FURC				IAML		11 02 55.8	
	comp=E,1μm,0.6s						
SHOC	**Shoshone, Teco**	**0.98**	**72**		Pg	11 02 39.1	-0.4
SHOC	**Shoshone, Teco**	**0.98**	**72**		Sg	11 02 52.3	+0.1
SHOC	**Shoshone, Teco**	**0.98**	**72**	IAML		11 02 54.4	
	comp=N,2μm,0.5s						
SHOC				IAML		11 03 00.3	
	comp=E,2μm,0.6s						
CWC	**Cottonwood Cre**	**0.99**	**328**		Pg	11 02 39.5	-0.3
CWC					Sg	11 02 52.6	-0.1
CWC				IAML		11 02 54.4	
	comp=E,574nm,0.2s						
CWC				IAML		11 02 55.2	
	comp=N,486nm,0.2s						
DSCC	**Desert Studies**	**1.17**	**112**		Pg	11 02 41.8	-1.3
TUQ	**Turquoise Moun**	**1.23**	**97**		Pg	11 02 43.4	-0.9
BFSC	**Mount Baldy Ra**	**1.37**	**188**		Pn	11 02 45.4	-1.1
BFSC				IAML		11 03 05.4	
	comp=E,212nm,0.5s						
BFSC				IAML		11 03 10.3	
	comp=N,208nm,0.7s						
VES	**Vestal, Richgr**	**1.37**	**281**		Pn	11 02 45.6	-0.9
VES				IAML		11 02 51.6	
	comp=E,493nm,0.8s						
VES				IAML		11 03 13.0	
	comp=N,552nm,0.7s						
MWC	**Mount Wilson**	**1.47**	**201**	IAML		11 03 09.2	
	comp=N,420nm,0.6s						
MWC				IAML		11 03 10.2	
	comp=E,378nm,0.6s						
PASC	**Pasadena Art C**	**1.55**	**204**		Pn	11 02 48.1	-0.9
PASC				IAML		11 03 14.6	
	comp=E,181nm,0.6s						
TIN	**Tinemaha, Big**	**1.59**	**336**	IAML		11 03 15.5	
	comp=E,425nm,0.6s						
TIN				IAML		11 03 18.9	
	comp=N,466nm,0.8s						
TPNV	**Topopah Spring**	**1.65**	**35**	IAML		11 03 14.6	
	comp=N,259nm,0.5s						
TPNV				IAML		11 03 15.5	
	comp=N,220nm,0.5s						
GMN	**Gold Mountain**	**1.71**	**4**	IAML		11 03 19.6	
	comp=N,130nm,0.6s						
DSP	**Deep Springs**	**1.82**	**346**		Pn	11 02 52.2	-0.4
DSP				IAML		11 03 19.4	
	comp=N,127nm,0.4s						
DSP				IAML		11 03 19.6	
	comp=E,166nm,0.4s						
DANC	**Danby, Needles**	**1.93**	**119**		Pn	11 02 52.2	-1.9
ELS	**Elsinore Mount**	**1.94**	**180**		Pn	11 02 53.6	-0.8
ELS				IAML		11 03 22.8	
	comp=E,120nm,0.3s						
BELC	**Belle Mtn. Jos**	**1.98**	**143**		Pn	11 02 53.5	-1.4
BELC				IAML		11 03 26.2	
	comp=E,218nm,0.3s						
BELC				IAML		11 03 27.0	
	comp=N,225nm,0.3s						
SHPR	**Sheep Range**	**2.05**	**63**		Pn	11 02 54.8	-1.1
V12A	**Nelson**	**2.10**	**86**		Pn	11 02 55.2	-1.3
V12A				IAML		11 03 28.1	
	comp=N,98nm,0.6s						
PMD	**Palm Desert**	**2.13**	**156**		Pn	11 02 55.4	-1.4
PMD				IAML		11 03 28.4	
	comp=E,97nm,0.4s						
PMD				IAML		11 03 30.9	
	comp=N,84nm,0.6s						
DNR	**Dunn Ranch,Anz**	**2.13**	**162**		Pn	11 02 56.3	-0.7
PFO	**Pinyon Flats O**	**2.13**	**158**		Pn	11 02 55.8	-1.2
XPFO	**Pinon Flat**	**2.14**	**158**		Pn	11 02 55.8	-1.3
IRM	**Iron Mountain**	**2.36**	**127**		Pn	11 02 57.9	-2.2
IRM				IAML		11 03 38.7	
	comp=N,106nm,0.3s						
IRM				IAML		11 03 40.0	
	comp=E,128nm,0.6s						

TPH	**Tonopah**	**2.48**	**4**		Pn	11 03 01.8	-0.1
TPH				IAML		11 03 42.5	
	comp=N,82nm,1.0s						
BC3	**Big Chuckawall**	**2.53**	**139**		Pn	11 03 00.6	-1.9
BC3				IAML		11 03 43.6	
	comp=E,90nm,0.4s						
BC3				IAML		11 03 46.1	
	comp=N,109nm,0.7s						
DPP	**Dos Picos Cty**	**2.62**	**171**		Pn	11 03 02.8	-0.8
DPP				IAML		11 03 43.4	
	comp=E,96nm,0.9s						
PRN	**Pahroc Range**	**2.63**	**46**		Pn	11 03 03.2	-0.7
PRN				IAML		11 03 49.6	
	comp=N,117nm,0.5s						
PRN				IAML		11 03 51.2	
	comp=E,138nm,0.5s						
LHV	**Little Huntoon**	**2.79**	**342**		Pn	11 03 06.2	+0.3
LHV				IAML		11 03 58.0	
	comp=E,67nm,0.8s						
LHV				IAML		11 04 02.3	
	comp=N,59nm,1.2s						
PMPB	**Monarch Peak**	**2.81**	**284**		Pn	11 03 05.6	-0.7
PMPB				IAML		11 04 00.6	
	comp=E,109nm,1.2s						
PMPB				IAML		11 04 02.1	
	comp=N,104nm,0.9s						
NVAR	**Mina Array Bea**	**2.91**	**346**		Pn	11 03 07.6	-0.2
W13A	**Hualapai Mount**	**2.94**	**99**		Pn	11 03 07.0	-1.1
W13A				IAML		11 04 00.8	
	comp=N,48nm,0.7s						
RYN	**Ryan**	**3.15**	**344**		Pn	11 03 11.3	+0.2
YUH	**Yuha Desert**	**3.19**	**157**	Pn	Pn	11 03 10.6	-0.9
GLA	**Glamis**	**3.33**	**139**		Pn	11 03 11.3	-2.0
GLA				IAML		11 04 16.1	
	comp=N,86nm,0.9s						
CBX	**Cerro Bola**	**3.34**	**169**		Pn	11 03 13.7	+0.1
CBX				IAML		11 04 09.3	
	comp=N,105nm,0.6s						
CMB	**Columbia Colle**	**3.40**	**317**		Pn	11 03 15.5	+1.1
CMB				IAML		11 04 13.8	
	comp=N,34nm,0.6s						
SAO	**San Andreas Ge**	**3.46**	**291**		Pn	11 03 14.8	-0.3
CCX	**Cicese**	**3.77**	**170**		Pn	11 03 19.9	+0.5
ESJX	**Sierra Juarez**	**3.79**	**161**		Pn	11 03 19.4	-0.4
ESJX				IAML		11 04 20.2	
	comp=E,22nm,0.5s						
CCUT	**Cedar City**	**3.81**	**58**		Pn	11 03 20.1	0.0
KNB	**Kanab**	**3.98**	**68**		Pn	11 03 22.3	-0.1
Y14A	**Wickenburg**	**4.00**	**113**		Pn	11 03 21.7	-0.9
Y14A				IAML		11 04 29.0	
	comp=E,47nm,0.6s						
Y14A				IAML		11 04 29.5	
	comp=N,52nm,0.8s						
SPR3	**Spring Creek 3**	**4.20**	**35**	Pn	Pn	11 03 25.6	0.0
MPK	**Martis Peak**	**4.23**	**331**	Pn	Pn	11 03 25.3	-0.7
MPK				IAML		11 04 45.7	
	comp=N,44nm,0.9s						
MPK				IAML		11 05 00.5	
	comp=E,28nm,1.3s						
U15A	**North Rim**	**4.24**	**77**		Pn	11 03 26.8	+0.7
U15A				IAML		11 04 37.8	
	comp=E,18nm,1.0s						
U15A				IAML		11 04 39.3	
	comp=N,21nm,1.1s						
PAHR	**Pah Rah Range**	**4.39**	**340**	Pn	Pn	11 03 29.1	+1.1
X16A	**Lo Mia Camp, P**	**5.05**	**102**	Pn	Pn	11 03 38.1	+0.9
X16A				IAML		11 05 03.5	
	comp=E,11nm,1.2s						
214A	**Organ Pipe Nat**	**5.29**	**132**	Pn	Pn	11 03 38.2	-2.1
214A				IAML		11 05 17.3	
	comp=E,12nm,1.1s						
214A				IAML		11 05 22.4	
	comp=N,10nm,1.5s						
ELK	**Elko**	**5.42**	**18**	Pn	Pn	11 03 42.6	+0.3

IDC ***24*** *11:27:10.6±4.0, 67.68N×31.25E, h0km, mbtmp2.8/2, ML1.9/2, Error ellipse: s-maj=66.3km s-min=15.5km az=73.0*

HEL ***24*** *11:27:11.8±0.1, 67.56N×30.46E, h0km, ML1.7, Explosion KOLA* ***24*** *11:27:12.3, 67.55N×30.52E, h0km, ML2.1, Error ellipse: s-maj=4.6km s-min=2.2km az=40.0, Kovdor City, Mines*

ISC 24 11:27:09.3±0.7, 67°61′N±0.02×30°32′E±0.02, h0km, n38, σ1s58/60, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.30**	**297**	PG	**Pb**	**11 27 18.4**	**+0.8**
	baz=116						
VRF				SG	**Sb**	**11 27 23.8**	**+0.6**
APA0	**Apatity Array**	**1.02**	**89**	P	**Pb**	**11 27 29.4**	**-0.4**
APA0				S	**Sg**	**11 27 41.9**	**-0.2**
RAJF	**Raja-Jooseppi**	**1.15**	**320**	PG	**Pn**	**11 27 33.9**	**+1.3**
RAJF				SG	**Sn**	**11 27 49.8**	**+0.7**
OLKF	**Oulanka, Finla**	**1.35**	**196**	PG	**Pn**	**11 27 35.7**	**+0.3**
OLKF				MSG		11 27 51.5	
	comp=Z,6.5nm,0.2s						
OLKF				SG	**Sg**	**11 27 52.7**	**+0.2**
KVDA	**Kovda**	**1.36**	**132**	P	**Pg**	**11 27 34.9**	**-0.5**
KVDA				S	**Sg**	**11 27 52.0**	**-0.8**
KU6	**Riekki**	**1.60**	**186**	PG	**Pb**	**11 27 39.7**	**0.0**
KU6				MSG		11 27 58.5	
	comp=Z,6.3nm,0.2s						
KU6				SG	**Sn**	**11 27 59.9**	**-0.3**
LVZ	**Lovozero**	**1.67**	**78**	S	**Sg**	**11 28 03.1**	**+0.2**
LVZ	**Lovozero**	**1.67**	**78**	PN	**Pg**	**11 27 41.4**	**0.0**
LVZ				SN	**Sg**	**11 28 03.4**	**+0.4**
MSF	**Maaselka**	**1.78**	**197**	PG	**Pb**	**11 27 43.4**	**+0.5**
MSF				SG	**Sb**	**11 28 06.0**	**+0.4**
RNF	**Rovaniemi**	**1.96**	**241**	PG	**Pg**	**11 27 46.9**	**0.0**
	baz=60						
RNF				SG	**Sg**	**11 28 12.7**	**+0.4**
KU1	**Kurvinen**	**2.08**	**189**	PG	**Pb**	**11 27 48.5**	**+0.6**
KU1				SG	**Sg**	**11 28 16.9**	**+0.9**
KU2	**Taivalkoski**	**2.08**	**205**	PG	**Pb**	**11 27 48.5**	**+0.6**
RANF	**Ranua**	**2.13**	**223**	PG	**Pb**	**11 27 49.6**	**+0.9**
	baz=39						
RANF				SG	**Sb**	**11 28 16.7**	**+1.1**
TERR	**Teriberka**	**2.38**	**46**	P	**Pb**	**11 27 52.9**	**-0.2**
TERR				S	**Sb**	**11 28 20.8**	**-2.1**
KEV	**Kevo**	**2.47**	**332**	PB	**Pb**	**11 27 54.4**	**-0.1**
KEV				SB	**Sg**	**11 28 27.3**	**-1.2**
VADS	**Vadso**	**2.54**	**353**	P	**Pb**	**11 27 54.7**	**-1.1**
VADS				S	**Sb**	**11 28 27.9**	**+0.4**
VADS	**Vadso**	**2.54**	**353**	eP	**Pb**	**11 27 54.3**	**-1.5**
ARA0	**ARCESS Array S**	**2.62**	**320**	PB	**Pb**	**11 27 57.0**	**0.0**
ARA0				SG	**Sg**	**11 28 32.7**	**-0.6**
ARCES	**ARCESS Array B**	**2.62**	**320**	Pn	**Pb**	**11 27 56.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=134,slow=15,SNR=38						
ARCES				Sn	**Sg**	**11 28 32.8**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=140,slow=27,SNR=9.8						
	comp=Z,0.6nm,0.2s						
ARCES	**ARCESS Array B**	**2.62**	**320**	P	**Pb**	**11 27 57.0**	**0.0**
ARCES				S	**Sb**	**11 28 30.6**	**+0.9**
HEF	**Hetta**	**2.63**	**291**	eP	**Pb**	**11 27 55.9**	**-1.4**
HEF	**Hetta**	**2.63**	**291**	PN	**Pb**	**11 27 56.3**	**-0.9**
	baz=101						
HEF				MSG		11 28 31.4	
	comp=Z,2.4nm,0.2s						
HEF				SB	**Sg**	**11 28 33.0**	**-0.7**
TOF	**Tornio**	**2.83**	**240**	PN	**Pn**	**11 27 58.0**	**+2.4**
TOF				MSG		11 28 35.5	
	comp=Z,1.5nm,0.2s						
TOF				SB	**Sb**	**11 28 37.0**	**+1.4**
PAJU	**Pajala**	**2.86**	**261**	PN	**Pb**	**11 27 59.0**	**-2.1**
	baz=71						
PAJU				SN	**Sb**	**11 28 34.8**	**-1.7**
KTK1	**Kautokeino**	**2.98**	**301**	PB	**Pb**	**11 28 01.8**	**-1.5**
KTK1				SG	**Sg**	**11 28 45.3**	**+0.3**
OUL	**Oulu**	**3.10**	**217**	PN	**Pb**	**11 28 02.8**	**-2.5**
	baz=33						
LANU	**Lannavaara**	**3.19**	**282**	PN	**Pb**	**11 28 05.0**	**-1.8**
KALU	**Kalix**	**3.28**	**241**	SG	**Sg**	**11 28 52.0**	**-2.4**
ERTU	**Ertsjaerv**	**3.35**	**255**	PN	**Pn**	**11 28 05.6**	**+2.7**
ERTU				SN	**Sb**	**11 28 47.9**	**-3.0**
RMF	**Romuvaara**	**3.41**	**183**	PN	**Pn**	**11 28 05.5**	**+1.8**
OBF4	**Vikkela, Lumij**	**3.52**	**219**	PN	**Pn**	**11 28 07.6**	**+2.5**
	baz=34						
KIF	**Kilpisjarvi**	**3.80**	**296**	PN	**Pn**	**11 28 12.7**	**+3.7**
OUF	**Merijarvi**	**3.98**	**218**	PN	**Pn**	**11 28 13.9**	**+2.5**
OBF8	**Ulkokalla**	**4.33**	**224**	PN	**Pn**	**11 28 18.5**	**+2.2**
I37NO	**I37NO**	**4.58**	**294**	I	I	11 56 50.0	
	baz=104,slow=330,SNR=2.5						

JOF	**Joensuu**	**4.73**	**174**	PN	**Pn**	**11 28 21.7**	**-0.1**
JOF				SG	**Sg**	**11 29 37.6**	**-3.6**
FAUS	**Fauske**	**5.78**	**275**	S	**Sn**	**11 29 39.5**	**-3.5**
FINES	**FINESS Array B**	**6.46**	**198**	Pn	**Pn**	**11 28 48.9**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=8.9,slow=10,SNR=2.2						
	comp=Z,2.2nm,1.0s						

NEIC 24 11:55:12.5±1.1, 37.05N±0.02×104.994W±0.009, h8km±8km, ML1.3/10, Error ellipse: s-maj=2.3km s-min=1.0km az=172.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.47**	**79**	Pg	Pg	11 55 22.2	+0.4
T25A				Sg	Sg	11 55 28.2	+0.1
T25A				IAML		11 55 28.5	
	comp=E,21nm,0.2s						
T25A				IAML		11 55 28.7	
	comp=N,18nm,0.2s						
SDCO	**Great Sand Dun**	**0.80**	**330**	Pg	Pg	11 55 28.2	+0.2
SDCO				IAML		11 55 39.5	
	comp=N,17nm,0.1s						
SDCO				IAML		11 55 39.9	
	comp=N,15nm,0.1s						
S22A	**4UR Ranch, Cre**	**1.62**	**296**	Pn	Pg	11 55 43.2	-0.4
RTBA	**Rita Blanca**	**1.91**	**108**	Pn	Pb	11 55 47.4	-0.3
RTBA					Sb	11 56 11.7	-0.1
Q24A	**Divide**	**1.92**	**356**	Pn	Pn	11 55 45.0	-0.7
MVCO	**Mesa Verde**	**2.81**	**274**	Pn	Pn	11 55 57.8	-0.1

IDC ***24*** *12:07:52.5±0.7, 30.64N×132.79E, h0km, mb3.8/14, mbtmp3.8/18, ML3.5/4, MS3.7/5, Error ellipse: s-maj=24.2km s-min=14.7km az=78.0*

NIED ***24*** *12:07:55.6, 30.59N×132.74E, h80km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.19; $M_{\theta\theta}$0.36; $M_{\phi\phi}$0.83; $M_{r\theta}$0.17; $M_{\theta\phi}$0.17; $M_{r\phi}$0.48; Fault plane solution: $M_0$1.15000×10^{15} NP1:ϕ_s18.00000°, δ32.00000°, λ-91.00000°. NP2:ϕ_s199.00000°, δ58.00000°, λ-89.00000°.*

NEIC ***24*** *12:07:55.3±1.2, 30.65N±0.07×132.7E±0.1, h10km±1km, mb4.5/21 Error ellipse: s-maj=14.8km s-min=11.6km az=100.0*

JMA ***24*** *12:07:55.6±0.2, 30.6N±0.6×132.7E±0.8, h80km, MV3.7/39, N PHILIPPINE BASIN*

ISC 24 12:07:57.5±0.6, 30°64′N±0.05×132°83′E±0.05, h35km, n80, σ1s76/89, mb4.2/25, MS3.5/4, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.59**	**271**	*i* P	**Pn**	**12 08 21.4**	**-1.9**
JTN				*e*S	**Sn**	**12 08 40.5**	**-2.1**
JNAR	**Kushima--Naru**	**1.60**	**304**	*i* P	**Pn**	**12 08 22.3**	**-1.1**
JNAR				S	**Sn**	**12 08 42.3**	**-0.6**
JNKG	**Nichinankitago**	**1.61**	**310**	*i* P	**Pn**	**12 08 22.5**	**-1.0**
JNKG				S	**Sn**	**12 08 42.2**	**-0.8**
JMTN	**Minamitane**	**1.68**	**262**	*i* P	**Pn**	**12 08 22.7**	**-1.7**
JMTN				S	**Sn**	**12 08 42.9**	**-1.9**
JTSR	**Tashiro 2**	**1.72**	**288**	*i* P	**Pn**	**12 08 23.5**	**-1.6**
JTSR				*e*S	**Sn**	**12 08 43.8**	**-2.0**
JTZ	**Takazaki**	**1.95**	**311**	*i* P	**Pn**	**12 08 26.9**	**-1.2**
JTZ				*e*S	**Sn**	**12 08 49.6**	**-1.9**
JTO	**Tosashimizu**	**2.22**	**359**	*i* P	**Pn**	**12 08 29.6**	**-2.2**
JNN	**Nakanoshima**	**2.68**	**254**	P	**Pn**	**12 09 06.3**	**-1.6**
JNN				S	**Sn**	**12 09 06.9**	**-2.4**
JSJ	**Shimokoshiki**	**2.86**	**292**	P	**Pn**	**12 08 38.5**	**-2.2**
JSJ				*e*S	**Sn**	**12 09 11.2**	**-2.8**
JNA	**Nagahama**	**2.93**	**354**	*i* P	**Pn**	**12 08 40.4**	**-1.2**
JNU	**Nakatsue**	**2.98**	**327**		**Pn**	**12 08 42.0**	**-0.4**
JNU	**Nakatsue**	**2.98**	**327**	Pn	**Pn**	**12 08 41.9**	**-0.5**
	15nm,0.3s,baz=218,slow=5.6,SNR=135						
JNU				Sn	**Sn**	**12 09 11.4**	**-5.6**
	16nm,0.3s,baz=54,slow=2.2,SNR=5.7						
	33nm,0.3s						
JNU	**Nakatsue**	**2.98**	**327**	P	**Pn**	**12 08 42.2**	**-0.2**
JNU	**Nakatsue**	**2.98**	**327**	S	**Sn**	**12 09 18.3**	**+1.4**
JMN	**Monobe**	**3.21**	**16**		**Pn**	**12 08 44.2**	**-1.2**
JMN	**Monobe**	**3.21**	**16**	P	**Pn**	**12 08 44.4**	**-1.1**
JMN	**Monobe**	**3.21**	**16**	P	**Pn**	**12 08 44.3**	**-1.2**
JAI	**Aioi**	**3.43**	**23**	P	**Pn**	**12 08 47.4**	**-1.2**
JAI				S	**Sn**	**12 09 22.5**	**-5.5**
JTAJ	**Takarajima**	**3.48**	**246**	P	**Pn**	**12 08 48.6**	**-0.5**
JTNC	**Tanabenakahech**	**3.95**	**36**	P	**Pn**	**12 08 54.9**	**-0.8**
JTNC				S	**Sn**	**12 09 36.2**	**-4.6**
JHT	**Toyohira**	**4.03**	**355**	*i* P	**Pn**	**12 08 56.0**	**-0.8**
JHT				*e*S	**Sn**	**12 09 38.4**	**-4.3**
JTK	**Tokunoshima**	**4.42**	**231**	P	**Pn**	**12 09 00.3**	**-1.9**
JTU	**Tsushima**	**4.84**	**324**	P	**Pn**	**12 09 06.7**	**-1.1**
JTU	**Tsushima**	**4.84**	**324**	S	**Sn**	**12 10 02.8**	**+0.2**
JOW	**Kunigami**	**5.51**	**228**	Pn	**Pn**	**12 09 15.8**	**-1.3**
	5.9nm,0.3s,baz=99,slow=24,SNR=30						
JOW				Sn	**Sn**	**12 10 14.3**	**-4.9**
	4.2nm,0.3s,baz=78,slow=30,SNR=6.7						
	10nm,0.3s						
JOW	**Kunigami**	**5.51**	**228**	P	**Pn**	**12 09 16.2**	**-0.9**
INU	**Inuyama**	**5.87**	**36**		**Pn**	**12 09 22.6**	**+0.5**
INU	**Inuyama**	**5.87**	**36**	P	**Pn**	**12 09 22.5**	**+0.5**
JGF	**Kuroka**	**6.24**	**36**	Pn	**Pn**	**12 09 27.1**	**-0.1**
JGF	**Kuroka**	**6.24**	**36**	P	**Pn**	**12 09 26.9**	**-0.3**
MAJO	**Matsushiro**	**7.40**	**36**	Pn	**Pn**	**12 09 44.0**	**+0.9**
MJAR	**Matsushiro Arr**	**7.40**	**36**	Pn	**Pn**	**12 09 43.3**	**+0.2**
	0.2nm,0.3s,baz=189,slow=12,SNR=11						
	1.9nm,0.4s						
KSRS	**Korea Array**	**7.92**	**330**	Pn	**Pn**	**12 09 49.9**	**-0.3**
	0.2nm,0.3s,baz=150,slow=14,SNR=5.2						
KSRS				Sn	**Sn**	**12 11 16.6**	**-2.0**
	0.5nm,0.3s,baz=147,slow=24,

	comp=Z,0.7nm,0.5s								
D19K	**Kuna River**	**54.20**	**25**	P		**P**		**12 17 20.6**	**+1.4**
E19K	**Redstone River**	**54.42**	**26**	P		**P**		**12 17 22.8**	**+2.0**
D20K	**Etivluk River**	**54.77**	**25**	P		**P**		**12 17 25.7**	**+2.3**
J19K	**Poorman**	**54.87**	**31**	P		**P**		**12 17 26.2**	**+2.0**
J19K				IAmb		IAmb		12 18 03.6	
	comp=Z,5.5nm,1.4s								
E22K	**Anaktuvuk Pass**	**56.51**	**26**	P		**P**		**12 17 38.0**	**+2.1**
E22K				IAmb		IAmb		12 18 20.7	
	comp=Z,6.0nm,1.1s								
ARTI	**Arti**	**56.63**	**320**	LR		LR		12 41 55.7	
	comp=Z,50nm,18.1s,baz=71,slow=36								
ABKAR	**Akbulak array**	**56.68**	**311**	P		**P**		**12 17 38.0**	**+0.6**
H23K	**Yukon River**	**57.45**	**29**	P		**P**		**12 17 44.4**	**+1.9**
E24K	**Your Creek**	**57.76**	**26**	P		**P**		**12 17 46.2**	**+1.4**
E24K				IAmb		IAmb		12 18 05.6	
	comp=Z,7.9nm,1.4s								
RND	**Reindeer**	**57.90**	**31**	P		**P**		**12 17 47.1**	**+1.3**
RND				IAmb		IAmb		12 17 47.4	
	comp=Z,3.4nm,0.8s								
F24K	**Squaw Lake**	**58.02**	**26**	P		**P**		**12 17 48.6**	**+2.0**
F24K				IAmb		IAmb		12 18 29.5	
	comp=Z,7.6nm,1.3s								
H24K	**Noodor Dome**	**58.13**	**28**	P		**P**		**12 17 49.6**	**+2.2**
ILAR	**Eielson Array**	**58.64**	**30**	P		**P**		**12 17 51.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=283,slow=8.4,SNR=6.7								
	comp=Z,0.5nm,0.8s								
F25K	**Christian Rive**	**58.87**	**26**	P		**P**		**12 17 54.1**	**+1.6**
F25K				IAmb		IAmb		12 18 26.2	
	comp=Z,3.3nm,1.1s								
F26K	**Sheenjek River**	**59.43**	**26**	P		**P**		**12 17 59.0**	**+2.7**
F26K				IAmb		IAmb		12 17 59.2	
	comp=Z,3.2nm,0.8s								
ARCES	**ARCESS Array B**	**67.39**	**339**	P		**P**		**12 18 48.7**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=35,slow=6.9,SNR=2.0								
	comp=Z,1.2nm,0.8s								
FINES	**FINESS Array B**	**71.02**	**331**	P		**P**		**12 19 11.8**	**+0.3**
FINES	**FINESS Array B**	**71.02**	**331**	P		**P**		**12 19 11.1**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=74,slow=3.7,SNR=9.8								
	comp=Z,1.5nm,0.8s								
AKASG	**Malin Array Be**	**74.79**	**320**	P		**P**		**12 19 33.9**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=54,slow=5.9,SNR=5.2								
	comp=Z,0.8nm,0.5s								
BRTR	**Keskin Array B**	**77.49**	**309**	P		**P**		**12 19 49.3**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=69,slow=7.9,SNR=1.7								
	comp=Z,0.4nm,0.7s								
GERES	**GERESS Array B**	**84.06**	**325**	P		**P**		**12 20 24.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=35,slow=3.9,SNR=2.5								
	comp=Z,0.4nm,0.5s								
NVAR	**Mina Array Bea**	**84.55**	**48**	P		**P**		**12 20 28.3**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=295,slow=5.3,SNR=7.8								
	comp=Z,0.6nm,0.6s								
QSPA	**South Pole Qui**	**120.40**	**180**	PKPdf		**PKiKP**		**12 26 46.0**	**+1.5**
QSPA	**South Pole Qui**	**120.40**	**180**	PKP		**PKiKP**		**12 26 45.3**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=244,slow=1.4,SNR=6.3								

NEIC ***24*** *12:10:17.7±0.8,24.96N±0.07×122.46E±0.05, h113km±2km, mb4.2/13, Error ellipse: s-maj=10.2km s-min=6.1km az=191.0*
TAP ***24*** *12:10:18.3,24.89N×122.45E,h114km, ML4.5, D*
JMA ***24*** *12:10:18.7±0.3,25.N±2.×122.4E±0.6,h113km±2km, MV3.1/12, TAIWAN REGION*
IDC ***24*** *12:10:19.4±3.4,24.99N×122.52E, h134km±33km, mb3.8/12, mbtmp4.2/14, Error ellipse: s-maj=28.3km s-min=11.3km az=62.0*
ISC 24 12:10:17.8±0.6,24.92N±0.03×122.42E±0.03,h119km±4km, n182,σ1s04/323,mb4.2/19,10D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.41**	**283**	*i*	P	**Pn**	**12 10 35.7**	**+0.7**
TWB1				*i*	S	**Sn**	**12 10 48.3**	**+0.2**
EGS		**0.45**	**261**		P	**Pn**	**12 10 34.8**	**-0.5**
EGS				*e*	S	**Sn**	**12 10 49.0**	**+0.4**
EOS2	**EOS2**	**0.52**	**199**	*e*	P	**Pn**	**12 10 36.5**	**+0.9**
EOS2				*e*	S	**Sn**	**12 10 51.1**	**+2.0**
SXI1	**Grass Mountain**	**0.53**	**290**	⇓*i*	P	**Pn**	**12 10 36.3**	**+0.4**
SXI1					S	**Sn**	**12 10 49.7**	**+0.1**
TIPB	**Shuangxi**	**0.55**	**276**	⇓*i*	P	**Pn**	**12 10 36.5**	**+0.6**
TIPB					S	**Sn**	**12 10 47.9**	**-1.8**
NWF	**Wu-fen Shan**	**0.60**	**285**	*i*	P	**Pn**	**12 10 36.8**	**+0.4**
NWF				*i*	S	**Sn**	**12 10 52.2**	**+1.8**
WFSB	**Wu-fen Shan**	**0.60**	**285**	*i*	P	**Pn**	**12 10 36.9**	**+0.6**
WFSB				*e*	S	**Sn**	**12 10 50.7**	**+0.4**
TWC	**Suao**	**0.60**	**240**	⇓*i*	P	**Pn**	**12 10 36.4**	**+0.1**
TWC					S	**Sn**	**12 10 48.1**	**-2.1**
ESAO	**Su ao**	**0.63**	**237**	⇓*i*	P	**Pn**	**12 10 36.7**	**+0.2**
ESAO				*e*	S	**Sn**	**12 10 48.6**	**-1.9**
ILA	**Ilan**	**0.63**	**256**	*i*	P	**Pn**	**12 10 36.9**	**+0.4**
ILA				*i*	S	**Sn**	**12 10 51.5**	**+0.9**
EOS3	**EOS3**	**0.63**	**189**	*e*	P	**Pn**	**12 10 37.3**	**+0.9**
EOS3				*e*	S	**Sn**	**12 10 52.0**	**+1.6**
TNOU	**National Taiwa**	**0.63**	**292**	*i*	P	**Pn**	**12 10 37.3**	**+0.8**
TNOU					S	**Sn**	**12 10 50.8**	**+0.1**
JYNG	**Yonagunijimaku**	**0.66**	**134**	*e*	S	**Sn**	**12 10 50.2**	**-0.9**
YOJ	**Yonaguni jima**	**0.70**	**130**		Pn	**Pn**	**12 10 36.4**	**-0.6**
YOJ						**Sn**	**12 10 50.1**	**-1.5**
YOJ	**Yonaguni jima**	**0.70**	**130**	*i*	P	**Pn**	**12 10 36.0**	**-1.0**
YOJ					S	**Sn**	**12 10 52.2**	**+0.7**
YOJ	**Yonaguni jima**	**0.70**	**130**	*i*	P	**Pn**	**12 10 37.6**	**+0.6**
YOJ				*e*	S	**Sn**	**12 10 51.6**	**+0.1**
TWE	**Neicheng**	**0.71**	**254**	⇓*i*	P	**Pn**	**12 10 37.6**	**+0.5**
TWE				*i*	S	**Sn**	**12 10 51.7**	**-0.1**
EWUT	**Wuta**	**0.75**	**232**	*i*	P	**Pn**	**12 10 37.8**	**+0.3**
EWUT				*e*	S	**Sn**	**12 10 52.3**	**0.0**
TWA	**Mucha**	**0.77**	**275**	*i*	P	**Pn**	**12 10 38.1**	**+0.5**
TWA				*i*	S	**Sn**	**12 10 52.0**	**-0.5**
FUSB	**Fushanzhiwuyua**	**0.78**	**259**	*i*	P	**Pn**	**12 10 38.2**	**+0.5**
FUSB					S	**Sn**	**12 10 53.0**	**+0.2**
ENA	**Nanau**	**0.79**	**232**	⇓*i*	P	**Pn**	**12 10 38.3**	**+0.5**
ENA				*i*	S	**Sn**	**12 10 53.2**	**+0.4**
EOS4	**EOS4**	**0.80**	**187**	*e*	P	**Pn**	**12 10 37.7**	**+0.3**
EOS4				*e*	S	**Sn**	**12 10 53.2**	**+0.9**
YM08	**YM08**	**0.80**	**290**	*i*	P	**Pn**	**12 10 38.8**	**+0.8**
YM08				*i*	S	**Sn**	**12 10 53.8**	**+0.6**
YM01	**YM01**	**0.81**	**287**	*i*	P	**Pn**	**12 10 38.7**	**+0.7**
YM01				*i*	S	**Sn**	**12 10 53.4**	**+0.1**
NHDH	**Xindian Distri**	**0.82**	**274**		P	**Pn**	**12 10 38.6**	**+0.6**
NHDH				*i*	S	**Sn**	**12 10 53.0**	**-0.3**
ENTT	**Nioudou**	**0.83**	**251**	*i*	P	**Pn**	**12 10 38.9**	**+0.7**
ENTT				*i*	S	**Sn**	**12 10 54.6**	**+1.1**
TWY	**Chenhua**	**0.83**	**296**	*i*	P	**Pn**	**12 10 39.0**	**+0.9**
TWY				*i*	S	**Sn**	**12 10 54.9**	**+1.5**
ZUZH	**Zhuzihu**	**0.83**	**287**	*i*	P	**Pn**	**12 10 39.0**	**+0.8**
ZUZH				*i*	S	**Sn**	**12 10 53.9**	**+0.2**
NWLT	**Wulai**	**0.85**	**261**	*i*	P	**Pn**	**12 10 38.5**	**+0.2**
NWLT					S	**Sn**	**12 10 54.2**	**+0.3**
TATO	**Taipei**	**0.85**	**274**			**Pn**	**12 10 38.8**	**+0.5**
TATO						**Sn**	**12 10 52.9**	**-0.9**
TATO	**Taipei**	**0.85**	**274**		P	**Pn**	**12 10 38.5**	**+0.2**
EAHA	**Aohua**	**0.85**	**227**	*i*	P	**Pn**	**12 10 38.6**	**+0.3**
EAHA				*i*	S	**Sn**	**12 10 54.0**	**+0.1**
ANP	**Anpu**	**0.86**	**288**	*i*	P	**Pn**	**12 10 38.8**	**+0.3**
ANP				*e*	S	**Sn**	**12 10 54.4**	**+0.2**
EHP	**Heping Village**	**0.87**	**226**		P	**Pn**	**12 10 38.3**	**-0.1**
EHP				*e*	S	**Sn**	**12 10 54.7**	**+0.6**
LATG	**Datong**	**0.90**	**245**	⇓*i*	P	**Pn**	**12 10 39.8**	**+0.9**
LATG				*i*	S	**Sn**	**12 10 55.5**	**+0.7**
NTST	**Danshui**	**0.92**	**286**	*i*	P	**Pn**	**12 10 40.0**	**+1.1**
NTST				*i*	S	**Sn**	**12 10 55.4**	**+0.5**
TWS1	**Kuangyinshan**	**0.93**	**282**	*i*	P	**Pn**	**12 10 39.9**	**+0.9**
TWS1				*i*	S	**Sn**	**12 10 55.4**	**+0.3**
YHNB	**Yeheng**	**0.98**	**256**			**Pn**	**12 10 40.4**	**+0.7**
YHNB					Sn	**Sn**	**12 10 56.1**	**-0.1**
YHNB	**Yeheng**	**0.98**	**256**		P	**Pn**	**12 10 40.5**	**+0.9**
YHNB	**Yeheng**	**0.98**	**256**	⇓*i*	P	**Pn**	**12 10 40.4**	**+0.7**
YHNB				*i*	S	**Sn**	**12 10 56.1**	**-0.1**
ETL	**Fush Village**	**1.05**	**224**	*i*	P	**Pn**	**12 10 40.4**	**+0.1**
ETL				*i*	S	**Sn**	**12 10 57.0**	**-0.2**
NACB	**Ninganchiao**	**1.06**	**226**			**Pn**	**12 10 40.2**	**-0.1**
NACB						**Sn**	**12 10 57.2**	**-0.2**
NACB	**Ninganchiao**	**1.06**	**226**	*i*	P	**Pn**	**12 10 40.3**	**0.0**
NACB				*i*	S	**Sn**	**12 10 57.2**	**-0.2**
NNSB	**Datong**	**1.06**	**243**	⇓*i*	P	**Pn**	**12 10 41.3**	**+0.8**
NNSB				*i*	S	**Sn**	**12 10 57.8**	**+0.1**
ETLH	**Xiulin Townshi**	**1.11**	**231**	*i*	P	**Pn**	**12 10 41.4**	**+0.5**
ETLH					S	**Sn**	**12 10 58.1**	**-0.4**
TWD	**Chiawan**	**1.12**	**222**	*i*	P	**Pn**	**12 10 40.9**	**-0.1**
TWD				*i*	S	**Sn**	**12 10 57.8**	**-0.7**
NCUH	**Zhongli**	**1.12**	**273**	*i*	P	**Pn**	**12 10 42.0**	**+1.0**
NCUH				*i*	S	**Sn**	**12 10 59.6**	**+1.0**
KSHI	**Guanxi Townshi**	**1.14**	**263**	*i*	P	**Pn**	**12 10 42.5**	**+1.3**
KSHI				*i*	S	**Sn**	**12 10 59.5**	**+0.7**
HWA	**Hwalien**	**1.20**	**219**		P	**Pn**	**12 10 42.2**	**+0.5**
HWA					S	**Sn**	**12 11 00.7**	**+0.8**
NFF	**Wufeng Townshi**	**1.22**	**257**	*i*	P	**Pn**	**12 10 42.8**	**+0.7**
NFF				*i*	S	**Sn**	**12 10 59.8**	**-0.7**
FUSS	**Fushou**	**1.26**	**238**	*i*	P	**Pn**	**12 10 43.6**	**+0.9**
FUSS				*i*	S	**Sn**	**12 11 02.1**	**+0.4**
ETM	**Tongmen**	**1.27**	**222**	*i*	P	**Pn**	**12 10 42.5**	**0.0**
ETM					S	**Sn**	**12 11 00.6**	**-0.7**
LXIB	**Xiulin Townshi**	**1.28**	**226**	*i*	P	**Pn**	**12 10 42.7**	**-0.2**
LXIB				*i*	S	**Sn**	**12 11 01.4**	**-0.4**
TEYL	**Yanliau Villag**	**1.29**	**216**	*e*	P	**Pn**	**12 10 43.0**	**+0.2**
TEYL				*i*	S	**Sn**	**12 11 01.2**	**-0.4**
WHF	**Hehuan Shan**	**1.30**	**234**	*i*	P	**Pn**	**12 10 43.9**	**+0.5**
WHF				*i*	S	**Sn**	**12 11 02.4**	**-0.3**
LIOB	**Emei**	**1.31**	**258**	*i*	P	**Pn**	**12 10 43.9**	**+0.9**
LIOB				*i*	S	**Sn**	**12 11 01.8**	**-0.3**
SBCB	**Hsinchu**	**1.31**	**265**	*i*	P	**Pn**	**12 10 44.0**	**+1.0**
SBCB				*i*	S	**Sn**	**12 11 01.2**	**-0.9**
TWT	**Tachien**	**1.31**	**240**	*i*	P	**Pn**	**12 10 44.5**	**+1.3**
TWT				*i*	S	**Sn**	**12 11 02.8**	**+0.3**
IRIF	**Iriomote-Funau**	**1.32**	**116**		P	**Pn**	**12 10 43.8**	**+0.7**
IRIF					S	**Sn**	**12 11 03.1**	**+0.8**
NSTT	**Nanjuang**	**1.32**	**258**	*i*	P	**Pn**	**12 10 44.0**	**+0.9**
NSTT				*i*	S	**Sn**	**12 11 00.7**	**-1.7**
HSN	**Hsinchu**	**1.32**	**265**	*i*	P	**Pn**	**12 10 43.4**	**+0.3**
HSN				*i*	S	**Sn**	**12 11 02.2**	**-0.2**
TDCB	**Techi**	**1.33**	**240**	⇓*i*	P	**Pn**	**12 10 44.5**	**+1.1**
TDCB				*i*	S	**Sn**	**12 11 02.5**	**-0.3**
SHUL	**Shoufeng**	**1.37**	**215**	*i*	P	**Pn**	**12 10 43.8**	**+0.1**
SHUL				*i*	S	**Sn**	**12 11 04.2**	**+0.8**
ESL	**Shilin**	**1.42**	**220**	*i*	P	**Pn**	**12 10 44.0**	**-0.3**
ESL				*e*	S	**Sn**	**12 11 02.8**	**-1.6**
TEGC	**Jichi Village**	**1.45**	**214**	*i*	P	**Pn**	**12 10 44.9**	**+0.4**
TEGC				*i*	S	**Sn**	**12 11 05.2**	**+0.4**
OWD	**Renai**	**1.49**	**230**	*i*	P	**Pn**	**12 10 45.8**	**+0.6**
OWD				*i*	S	**Sn**	**12 11 05.6**	**-0.4**
WHP	**Taichung City**	**1.49**	**245**	*i*	P	**Pn**	**12 10 46.4**	**+1.3**
WHP				*i*	S	**Sn**	**12 11 06.0**	**+0.2**
WARBT	**Fenglin Townsh**	**1.52**	**219**	*i*	P	**Pn**	**12 10 44.6**	**-0.8**
WARBT					S	**Sn**	**12 11 04.5**	**-2.0**
NMLH	**Miaoli**	**1.53**	**256**	*i*	P	**Pn**	**12 10 46.3**	**+0.8**
NMLH				*i*	S	**Sn**	**12 11 05.8**	**-0.8**
EGFH	**Guangfu**	**1.54**	**216**	*i*	P	**Pn**	**12 10 45.7**	**+0.1**
EGFH				*i*	S	**Sn**	**12 11 05.1**	**-1.7**
NSY	**Sanyi**	**1.59**	**252**	*i*	P	**Pn**	**12 10 47.5**	**+1.2**
NSY				*i*	S	**Sn**	**12 11 08.2**	**+0.3**
JKRS	**Kuro-shima**	**1.59**	**115**		P	**Pn**	**12 10 47.5**	**+1.2**
JKRS				*e*	S	**Sn**	**12 11 09.1**	**+1.2**
TWQ1	**Liyutan**	**1.60**	**250**	*i*	P	**Pn**	**12 10 47.4**	**+1.0**
TWQ1				*i*	S	**Sn**	**12 11 08.3**	**+0.1**
WCS	**Beigang Elemen**	**1.62**	**238**	*i*	P	**Pn**	**12 10 48.0**	**+1.5**
WCS				*i*	S	**Sn**	**12 11 09.2**	**+0.7**
JIJ	**Ishigaki jima**	**1.66**	**109**		P	**Pn**	**12 10 47.9**	**+0.9**
JIJ					S	**Sn**	**12 11 09.6**	**+0.4**
HGSD	**Ruisui**	**1.69**	**213**	*i*	P	**Pn**	**12 10 47.5**	**+0.1**
HGSD					S	**Sn**	**12 11 11.4**	**+1.5**
WDJ	**Dajia District**	**1.72**	**251**	*i*	P	**Pn**	**12 10 48.8**	**+1.1**
WDJ				*i*	S	**Sn**	**12 11 10.7**	**+0.1**
EHYH	**Wanrong**	**1.72**	**215**	*i*	P	**Pn**	**12 10 48.6**	**+0.8**
EHYH				*e*	S	**Sn**	**12 11 09.3**	**-1.4**
EHY	**Hungye**	**1.73**	**216**	*i*	P	**Pn**	**12 10 48.1**	**+0.2**
EHY				*e*	S	**Sn**	**12 11 09.0**	**-1.8**
SMLT	**Sun Moon Lake**	**1.73**	**234**	*i*	P	**Pn**	**12 10 49.5**	**+1.5**
SMLT				*i*	S	**Sn**	**12 11 12.5**	**+1.6**
JISG	**Ishigakijimahi**	**1.75**	**100**		P	**Pn**	**12 10 48.4**	**+0.3**
JISG					S	**Sn**	**12 11 12.1**	**+0.9**
TYC	**Yuchr**	**1.75**	**235**	*i*	P	**Pn**	**12 10 49.7**	**+1.6**
TYC				*i*	S	**Sn**	**12 11 12.5**	**+1.3**
TCU	**Taichung**	**1.77**	**245**	*i*	P	**Pn**	**12 10 49.5**	**+1.3**
TCU				*i*	S	**Sn**	**12 11 11.0**	**-0.6**
YULB	**Yu-li**	**1.83**	**214**			**Pn**	**12 10 48.7**	**-0.5**
YULB	**Yu-li**	**1.83**	**214**	*i*	P	**Pn**	**12 10 48.4**	**-0.8**
YULB				*e*	S	**Sn**	**12 11 11.4**	**-1.7**
EYUL	**Yuli**	**1.86**	**213**	*e*	P	**Pn**	**12 10 49.5**	**+0.1**
EYUL				*e*	S	**Sn**	**12 11 12.3**	**-1.3**
WHYT	**Xinyi Township**	**1.88**	**230**	*i*	P	**Pn**	**12 10 51.4**	**+1.7**
WHYT				*i*	S	**Sn**	**12 11 15.5**	**+1.4**
WJS	**Zhushan**	**1.89**	**235**	*i*	P	**Pn**	**12 10 51.4**	**+1.5**
WJS				*i*	S	**Sn**	**12 11 15.5**	**+1.2**
WCHH	**Zhanghua**	**1.89**	**244**	*i*	P	**Pn**	**12 10 50.8**	**+0.9**
WCHH				*i*	S	**Sn**	**12 11 13.9**	**-0.4**
WNT	**Mingjian**	**1.89**	**237**	*i*	P	**Pn**	**12 10 51.2**	**+1.4**
WNT				*i*	S	**Sn**	**12 11 14.8**	**+0.5**
WCH1	**Changhua City**	**1.91**	**244**	*e*	P	**Pn**	**12 10 49.9**	**-0.1**
WCH1				*i*	S	**Sn**	**12 11 15.0**	**+0.4**
CHKH	**Chenggong**	**1.96**	**209**	*i*	P	**Pn**	**12 10 50.8**	**+0.1**
CHKH				*i*	S	**Sn**	**12 11 15.0**	**-0.7**
FULB	**Fuli**	**2.00**	**211**	*i*	P	**Pn**	**12 10 51.7**	**+0.5**
FULB				*i*	S	**Sn**	**12 11 17.2**	**+0.4**
ALS	**Alishan**	**2.04**	**227**	*i*	P	**Pn**	**12 10 53.5**	**+1.5**
ALS				*i*	S	**Sn**	**12 11 19.7**	**+1.7**
CHN5	**Tsauling**	**2.06**	**231**	*i*	P	**Pn**	**12 10 53.6**	**+1.5**
CHN5				*i*	S	**Sn**	**12 11 19.2**	**+0.9**
WGK	**Gukeng**	**2.09**	**235**	*i*	P	**Pn**	**12 10 53.5**	**+1.2**
WGK				*i*	S	**Sn**	**12 11 20.5**	**+1.7**
WDL	**Douliou City**	**2.09**	**236**	*e*	P	**Pn**	**12 10 54.0**	**+1.7**
WDL					S	**Sn**	**12 11 20.8**	**+2.0**
WDLH	**Douliu**	**2.11**	**235**	*i*	P	**Pn**	**12 10 53.4**	**+0.9**
WDLH				*i*	S	**Sn**	**12 11 20.3**	**+1.1**
ELDTW	**Lidau**	**2.15**	**217**	*i*	P	**Pn**	**12 10 52.7**	**-0.5**
ELDTW				*e*	S	**Sn**	**12 11 20.7**	**+0.4**
EDH	**Donghe**	**2.19**	**208**	*i*	P	**Pn**	**12 10 53.4**	**-0.2**
EDH					S	**Sn**	**12 11 19.7**	**-1.3**
WCKO	**Fanlu**	**2.22**	**229**	*i*	P	**Pn**	**12 10 54.9**	**+0.9**
WCKO				*i*	S	**Sn**	**12 11 23.2**	**+1.5**
WTK	**Tuku**	**2.22**	**237**	*i*	P	**Pn**	**12 10 54.6**	**+0.6**
WTK				*i*	S	**Sn**	**12 11 21.9**	**+0.1**
CHN4	**Tsaushan**	**2.29**	**227**	*i*	P	**Pn**	**12 10 56.3**	**+1.5**
CHN4				*i*	S	**Sn**	**12 11 24.9**	**+1.7**
TPUB	**Ta-pu**	**2.30**	**226**			**Pn**	**12 10 55.9**	**+0.9**
TPUB	**Ta-pu**	**2.30**	**226**	*i*	P	**Pn**	**12 10 56.1**	**+1.1**
TPUB				*i*	S	**Sn**	**12 11 24.9**	**+1.4**
STYH	**Taoyuan**	**2.30**	**221**	*e*	P	**Pn**	**12 10 57.0**	**+2.1**
STYH					S	**Sn**	**12 11 24.9**	**+1.4**
CHY	**Chiayi**	**2.31**	**233**	*i*	P	**Pn**	**12 10 55.7**	**+0.6**
CHY				*i*	S	**Sn**	**12 11 24.0**	**+0.4**
LONT	**Longtian**	**2.32**	**211**	*i*	P	**Pn**	**12 10 55.1**	**+0.5**
LONT				*e*	S	**Sn**	**12 11 22.4**	**-1.7**
WTP	**Ta-pu**	**2.34**	**225**	*i*	P	**Pn**	**12 10 56.7**	**+1.1**
WTP				*i*	S	**Sn**	**12 11 25.1**	**+0.5**
WSF	**Szhu**	**2.38**	**238**		P	**Pn**	**12 10 56.4**	**+0.5**
WSF				*i*	S	**Sn**	**12 11 25.2**	**0.0**
LDUT	**Ludao**	**2.40**	**202**	*i*	P	**Pn**	**12 10 55.7**	**-0.5**
LDUT				*i*	S	**Sn**	**12 11 23.8**	**-1.9**
TWK	**Hsinying**	**2.41**	**228**	*i*	P	**Pn**	**12 10 57.4**	**+0.9**
TWK				*i*	S	**Sn**	**12 11 27.4**	**+1.2**
TWGBT	**Beinan**	**2.42**	**211**		P	**Pn**	**12 10 57.0**	**+0.4**
TWGBT	**Beinan**	**2.42**	**211**	*i*	P	**Pn**	**12 10 55.3**	**-1.2**
TWGBT					S	**Sn**	**12 11 24.8**	**-1.6**
TWG	**Pinlang**	**2.42**	**211**		Pn	**Pn**	**12 10 56.1**	**-0.5**
WSL	**Shuilin Townsh**	**2.44**	**236**	*i*	P	**Pn**	**12 10 57.1**	**+0.4**
WSL				*i*	S	**Sn**	**12 11 26.8**	**+0.2**
SNST	**Tainan City**	**2.44**	**227**	*i*	P	**Pn**	**12 10 57.9**	**+1.1**
SNST				*i*	S	**Sn**	**12 11 27.1**	**+0.4**
CHN1	**Nanshi**	**2.44**	**226**	*i*	P	**Pn**	**12 10 57.6**	**+0.7**
CHN1				*i*	S	**Sn**	**12 11 27.9**	**+1.1**
ICHU	**Yijhu**	**2.50**	**232**		P	**Pn**	**12 10 59.1**	**+1.6**
ICHU				*i*	S	**Sn**	**12 11 29.0**	**+1.0**
CHN8	**Yiju**	**2.56**	**233**	*i*	P	**Pn**	**12 10 59.6**	**+1.3**
CHN8				*i*	S	**Sn**	**12 11 29.8**	**+0.5**
SCLT	**Jiali**	**2.67**	**230**	*e*	P	**Pn**	**12 11 00.7**	**+0.9**
SCLT				*i*	S	**Sn**	**12 11 32.9**	**+0.8**
SCST	**Cishan**	**2.68**	**222**	*i*	P	**Pn**	**12 11 01.5**	**+1.6**
SCST				*i*	S	**Sn**	**12 11 34.4**	**+2.1**
VWUC	**VWUC**	**2.70**	**272**	*i*	P	**Pn**	**12 11 00.3**	**+0.2**
VWUC				*i*	S	**Sn**	**12 11 31.0**	**-1.7**
SSD	**Sandimen**	**2.71**	**218**	*i*	P	**Pn**	**12 11 01.7**	**+1.4**
SSD				*i*	S	**Sn**	**12 11 34.5**	**+1.5**
TSCK	**Chigu Township**	**2.77**	**231**	*i*	P	**Pn**	**12 11 01.6**	**+0.6**
TSCK				*i*	S	**Sn**	**12 11 33.7**	**-0.6**
TWM1	**Shoushan**	**2.77**	**222**	*i*	P	**Pn**	**12 11 03.5**	**+2.4**
TWM1				*i*	S	**Sn**	**12 11 36.1**	**+1.6**
SGLT	**Jiouru**	**2.81**	**219**	*e*	P	**Pn**	**12 11 05.0**	**+3.5**
SGLT				*i*	S	**Sn**	**12 11 39.0**	**+3.8**
MASBT	**Mashibuluo**	**2.82**	**216**	*i*	P	**Pn**	**12 11 03.3**	**+1.6**
MASBT				*i*	S	**Sn**	**12 11 35.5**	**0.0**
XPSS	**Dashiqiu**	**2.84**	**315**	*i*	P	**Pn**	**12 11 02.1**	**+0.2**
XPSS				*e*	S	**Sn**	**12 11 37.9**	**+2.0**
SNJT	**Kaohsiung City**	**2.88**	**222**	*e*	P	**Pn**	**12 11 04.6**	**+2.2**
SNJT				*e*	S	**Sn**	**12 11 38.5**	**+1.6**
PNG	**Penghu**	**2.94**	**243**	*i*	P	**Pn**	**12 11 02.9**	**-0.3**
PNG				*i*	S	**Sn**	**12 11 36.3**	**-2.0**
PHUB	**P'eng-hu**	**2.95**	**242**	*i*	P	**Pn**	**12 11 02.8**	**-0.6**
PHUB				*i*	S	**Sn**	**12 11 36.2**	**-2.4**
PTMZ	**Houxiangcun**	**3.00**	**273**	*i*	P	**Pn**	**12 11 04.3**	**+0.3**
PTMZ				*i*	S	**Sn**	**12 11 37.7**	**-2.0**
SCZT	**Fangliau**	**3.02**	**214**	*i*	P	**Pn**	**12 11 05.1**	**+0.7**
SCZT					S	**Sn**	**12 11 40.5**	**+0.3**
VCHM	**Qimei**	**3.22**	**239**		P	**Pn**	**12 11 06.8**	**-0.1**
VCHM				*i*	S	**Sn**	**12 11 42.6**	**-2.3**
HEN	**Hengchun**	**3.28**	**208**	*e*	P	**Pn**	**12 11 10.7**	**+2.9**
HEN				*e*	S	**Sn**	**12 11 46.1**	**-0.3**
MHZQ	**Yeshan**	**3.29**	**292**	*i*	P	**Pn**	**12 11 08.1**	**+0.4**
MHZQ				*e*	S	**Sn**	**12 11 48.4**	**+2.0**
KNM	**Kinmen**	**3.66**	**263**	*i*	P	**Pn**	**12 11 14.4**	**+1.6**
KNM				*e*	S	**Sn**	**12 11 56.8**	**+1.4**
KNMB	**Chin-men Tao**	**3.70**	**264**		Pn	**Pn**	**12 11 13.0**	**-0.3**
KNMB	**Chin-men Tao**	**3.70**	**264**	*i*	P	**Pn**	**12 11 12.9**	**-0.3**
KNMB				*e*	S	**Sn**	**12 11 54.4**	**-1.8**
AXDP	**Jialang**	**4.04**	**271**	*i*	P	**Pn**	**12 11 18.6**	**+0.8**
AXDP					S	**Sn**	**12 12 03.5**	**-1.0**
DSXP	**Dongshan**	**4.71**	**256**	*i*	P	**Pn**	**12 11 27.2**	**+0.3**
DSXP					S	**Sn**	**12 12 18.2**	**-2.4**
JOW	**Kunigami**	**5.61**	**69**		Pn	**Pn**	**12 11 38.3**	**-0.5**
JOW	**Kunigami**	**5.61**	**69**		P	**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.99**	**65**	P	**Pn**	**12 46 09.3**	**-1.9**
PCJI	**Pacitan**	**1.43**	**290**	P	**Pn**	**12 46 14.3**	**-2.1**
JAGI	**Jajag, Banyuwa**	**1.61**	**82**		**Pn**	**12 46 17.6**	**-1.2**
JAGI				Sn	**Sn**	**12 46 37.8**	**-1.7**
JAGI	**Jajag, Banyuwa**	**1.61**	**82**	P	**Pn**	**12 46 17.7**	**-1.1**
NGJI	**Ngawi**	**1.69**	**321**	P	**Pn**	**12 46 21.0**	**+1.3**
GRJI	**Gresik**	**1.77**	**358**	P	**Pn**	**12 46 21.1**	**+0.4**
WOJI	**Wonogiri, Jawa**	**1.81**	**298**	P	**Pn**	**12 46 19.8**	**-1.4**
TBJI	**Tambak Boyo**	**1.98**	**340**	P	**Pn**	**12 46 23.7**	**+0.2**
UGM	**Wanagama**	**2.13**	**291**		**Pn**	**12 46 24.5**	**-1.1**
UGM	**Wanagama**	**2.13**	**291**	P	**Pn**	**12 46 24.5**	**-1.1**
KMMI	**Kalianget**	**2.16**	**41**	P	**Pn**	**12 46 26.0**	**+0.1**
SMRI	**Semarang**	**2.64**	**308**		**Pn**	**12 46 31.9**	**-0.3**
SMRI	**Semarang**	**2.64**	**308**	P	**Pn**	**12 46 31.6**	**-0.6**
SRBI	**Singaraja**	**2.72**	**77**	P	**Pn**	**12 46 33.7**	**+0.4**
KPJI	**Karang Pucung**	**3.81**	**290**	P	**Pn**	**12 46 47.9**	**-0.2**
TWSI	**Taliwang, Sumb**	**4.30**	**91**	P	**Pn**	**12 46 53.6**	**-1.0**
PLAI	**Plampang** 0.4nm62nm,1.0s	**5.18**	**92**	P	**Pn**	**12 47 08.2**	**+1.5**
GIRL	**Giralia**	**13.97**	**173**	Pn	Pn	12 48 59.9	-5.5
MBWA	**Marble Bar**	**14.21**	**152**		Pn	12 49 03.2	-5.3
PSA00	**Pilbara Seismi**	**14.62**	**152**		Pn	12 49 09.2	-4.6
PSA00	**Pilbara Seismi**	**14.62**	**152**	Pn	**Pn**	**12 49 11.2**	**-2.7**
FITZ	**Fitzroy Crossi**	**15.80**	**128**		**Pn**	**12 49 26.6**	**-2.2**
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=303,slow=11,SNR=14	**15.80**	**128**	Pn	**Pn**	**12 49 25.8**	**-3.0**
FITZ	0.2nm,0.3s,baz=300,slow=4.1,SNR=3.5 4.9nm,0.9s			Sn	Sn	12 52 08.8	-15
KNRA	**Kununurra**	**17.31**	**115**	P	**P**	**12 49 47.7**	**+0.2**
KNRA	comp=Z,6.3nm,0.6s			IAmb	IAmb	12 49 49.2	
WB0	**Warramunga Arr**	**23.84**	**120**	P	**P**	**12 50 56.8**	**+0.2**
WB0	comp=Z,3.5nm,0.8s			IAmb	IAmb	12 51 17.7	
WRA	**Warramunga Arr** comp=Z,1.1nm,0.6s,baz=297,slow=11,SNR=65	**23.87**	**120**	P	**P**	**12 50 56.9**	**+0.1**
WRA	comp=Z,0.3nm,0.8s,baz=310,slow=2.9,SNR=5.5 comp=Z,1.1nm,0.6s			PcP	**PcP**	**12 54 37.1**	**-0.5**
WRAB	**Tennant Creek**	**23.88**	**120**	P	**P**	**12 50 57.1**	**+0.2**
WRAB	comp=Z,3.9nm,0.8s			IAmb	IAmb	12 51 01.1	
WR8	**Warramunga Arr**	**24.01**	**120**	P	**P**	**12 50 58.5**	**+0.4**
WR8	comp=Z,5.4nm,0.6s			IAmb	IAmb	12 50 59.4	
AS31	**Alice Springs**	**25.30**	**129**	P	**P**	**12 51 10.2**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.9nm,0.4s,baz=302,slow=9.0,SNR=14	**25.30**	**129**	P	**P**	**12 51 10.3**	**+0.6**
ASAR	comp=Z,0.5nm,0.5s,baz=306,slow=1.6,SNR=6.0 comp=Z,0.9nm,0.4s			PcP	**PcP**	**12 54 41.0**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.4s,baz=154,slow=8.7,SNR=1.9	**30.13**	**334**	P	**P**	**12 51 51.9**	**-1.0**
CMAR	comp=Z,0.6nm,0.6s,baz=125,slow=4.5,SNR=4.2 comp=Z,0.4nm,0.4s			PcP	**PcP**	**12 54 53.1**	**+0.7**
STKA	**Stephens Creek**	**35.50**	**135**	P	**P**	**12 52 40.8**	**+1.1**
STKA	**Stephens Creek** comp=Z,3.2nm,0.5s,baz=307,slow=8.8,SNR=9.4 comp=Z,3.2nm,0.5s	**35.50**	**135**	P	**P**	**12 52 40.6**	**+1.0**
H08S2	**Diego Garcia H** baz=92	**39.64**	**268**	T	T	13 35 10.2	
H08S3	**Diego Garcia H** baz=92	**39.65**	**269**	T	T	13 35 11.5	
H08S1	**Diego Carcia H** baz=92	**39.66**	**268**	T	T	13 34 42.4	
KSRS	**Korea Array** comp=Z,0.7nm,0.7s,baz=209,slow=9.3,SNR=3.5 comp=Z,0.7nm,0.7s	**48.11**	**16**	P	**P**	**12 54 22.1**	**0.0**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.7s,baz=205,slow=7.5,SNR=3.0 comp=Z,1.2nm,0.7s	**51.05**	**27**	P	**P**	**12 54 43.7**	**-0.9**
USRK	**Ussuriysk Ar.** comp=Z,2.0nm,0.5s,baz=205,slow=6.9,SNR=3.4 comp=Z,2.0nm,0.5s	**55.51**	**17**	P	**P**	**12 55 17.1**	**0.0**
SONM	**Songino Array**	**56.54**	**355**	P	**P**	**12 55 24.5**	**-0.1**
SONM	**Songino Array** comp=Z,0.7nm,0.6s,baz=178,slow=8.4,SNR=3.9 comp=Z,0.7nm,0.6s	**56.54**	**355**	P	**P**	**12 55 24.1**	**-0.4**
MK31	**Makanchi Array**	**61.46**	**337**	P	**P**	**12 55 57.8**	**-0.6**
MK31	comp=Z,1.3nm,0.8s			IAmb	IAmb	12 55 58.2	
MKAR	**Makanchi Array**	**61.46**	**337**	P	**P**	**12 55 57.6**	**-0.9**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.7s,baz=146,slow=7.3,SNR=14 comp=Z,1.4nm,0.7s	**61.46**	**337**	P	**P**	**12 55 57.8**	**-0.7**
H04N2	**CROZET ISLANDS** baz=73,slow=75,SNR=3.1	**63.65**	**223**	T	T	14 06 00.9	
H04N1	**CROZET ISLANDS** baz=73,slow=75,SNR=4.6	**63.66**	**223**	T	T	14 06 00.2	
H04N3	**CROZET ISLANDS** baz=73,slow=75,SNR=4.9	**63.66**	**223**	T	T	14 05 57.3	
KURBB	**Kurchatov Arra** comp=Z,0.7nm,0.7s,baz=159,slow=5.3,SNR=5.5 comp=Z,0.7nm,0.7s	**66.03**	**337**	P	**P**	**12 56 27.2**	**-1.1**
ZALV	**Zalesovo Beam** comp=Z,1.2nm,0.6s,baz=176,slow=4.2,SNR=7.0 comp=Z,1.2nm,0.6s	**66.66**	**343**	P	**P**	**12 56 31.1**	**-1.2**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.4s,baz=129,slow=12,SNR=3.6 comp=Z,0.6nm,0.4s	**71.15**	**335**	P	**P**	**12 56 58.8**	**-1.4**
AB31	**Akbulak array**	**73.73**	**327**	P	**P**	**12 57 15.0**	**-0.6**
AB31	comp=Z,2.6nm,0.8s			IAmb	IAmb	12 57 15.8	
ABKAR	**Akbulak array**	**73.73**	**327**	P	**P**	**12 57 15.0**	**-0.6**
QSPA	**South Pole Qui**	**81.31**	**180**	P	**P**	**12 58 00.5**	**+2.8**
QSPA	comp=Z,4.4nm,1.4s			IAmb	IAmb	12 58 20.5	
QSPA	**South Pole Qui** comp=Z,1.2nm,0.9s,baz=61,slow=0.1,SNR=7.1 comp=Z,1.2nm,0.9s	**81.31**	**180**	P	**P**	**12 57 59.7**	**+2.0**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.7s,baz=140,slow=6.1,SNR=3.6 comp=Z,0.7nm,0.7s	**87.06**	**311**	P	**P**	**12 58 27.6**	**+0.2**
SNAA	**Sanae**	**89.52**	**197**	P	**P**	**12 58 40.2**	**+1.9**
SNAA	**Sanae** comp=Z,0.6nm,0.8s,baz=144,slow=6.2,SNR=3.2 comp=Z,0.6nm,0.8s	**89.52**	**197**	P	**P**	**12 58 39.5**	**+1.2**
BELA	**Belgrano 2**	**91.66**	**187**	P	**P**	**12 58 49.7**	**+1.6**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.6s,baz=291,slow=2.9,SNR=2.8	**125.68**	**49**	PKP	**PKiKP**	**13 04 45.0**	**+1.4**

*LVSN **24** 13:00:22.1±2.7,59.0°N×24.0°3E, h0km±35km, ML2.0*
HEL 24 13:00:20.1±0.1, 60.44N×26.90E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.34**	**72**	*e*P	Pg	13 00 26.1	-0.5
VJF				*e*S	Sg	13 00 30.5	-0.5
PVF	**Pernaja**	**0.53**	**282**	*e*P	Pg	13 00 29.5	-0.6
PVF				*e*S	Sg	13 00 36.0	-0.9
HEL1	**Helsinki**	**1.04**	**256**	*e*P	Pg	13 00 38.7	-1.3
FIA0	**FINESS Array S**	**1.09**	**339**	*e*P	Pg	13 00 39.7	-1.2
FIA0				*e*S	Sg	13 00 54.1	-0.8
ARBE	**Arbavere**	**1.10**	**205**	*e*P	Pg	13 00 39.9	-1.3
ARBE				*e*S	Sg	13 00 55.2	-0.4
ARBE	comp=N,67nm,0.1s			AML	AML	13 01 01.5	
ARBE	comp=E,62nm,0.2s			AML	AML	13 01 02.6	
ARBE	comp=Z,31nm,0.5s			AML	AML	13 01 05.0	
ARBE	**Arbavere**	**1.10**	**205**	*e*P	Pg	13 00 39.9	-1.3
ARBE				*e*S	Sg	13 00 52.3	-3.2
NUR	**Nurmijarvi**	**1.12**	**275**	*e*P	Pg	13 00 40.1	-1.4
NUR				*e*S	Sg	13 00 53.7	-2.2
HEL5	**Espoo, Suvisaa**	**1.12**	**254**	*e*P	Pg	13 00 40.6	-1.0
HEL5				*e*S	Sb	13 00 57.1	-0.4
MEF	**Metsahovi**	**1.27**	**261**	*e*P	Pg	13 00 42.1	-2.2
MEF	**Metsahovi**	**1.27**	**261**	*e*P	Pg	13 00 42.8	-1.5
MEF				*e*S	Sg	13 00 59.6	-1.0
MEF	**Metsahovi**	**1.27**	**261**	*e*P	Pg	13 00 42.7	-1.6
MEF				*e*SB	Sg	13 00 59.3	-1.4
MEF	comp=Z,2.1nm,0.1s			MSG		13 01 05.4	
RUF	**Ruokolahti**	**1.41**	**44**	*e*P	Pn	13 00 44.7	-2.3
RUF				*e*SB	Sg	13 01 04.0	-1.3
RUF	comp=Z,2.7nm,0.1s			MSG		13 01 08.1	
KAF	**Kangasniemi**	**1.71**	**351**	*e*P	Pn	13 00 50.2	-0.9
KAF				*e*SN	Sn	13 01 13.4	-0.2
KAF	comp=Z,2.6nm,0.1s			MSG		13 01 16.4	
TVF	**Tvarminne**	**1.92**	**253**	*e*PN	Pn	13 00 54.0	0.0
TVF				*e*SN	Sn	13 01 18.7	-0.1
TVF	comp=Z,1.9nm,0.1s			MSG		13 01 22.6	
VSU	**Vasula**	**1.98**	**182**	*e*S	Sn	13 01 07.3	-13
KEF	**Keuruu**	**1.99**	**331**	*e*P	Pn	13 00 51.5	-3.5
KEF	**Keuruu**	**1.99**	**331**	*e*PG	Pn	13 00 55.7	+0.7
KEF				*e*SG	Sb	13 01 22.3	-0.2
KEF	comp=Z,1.9nm,0.1s			MSG		13 01 24.5	
SUF	**Sumiainen**	**2.32**	**351**	*e*PB	Pn	13 01 00.6	+1.1
SUF				*e*SG	Sb	13 01 31.2	-0.6
RAF	**Rauma**	**2.59**	**285**	*e*P	Pn	13 01 01.4	-1.8
RAF	**Rauma**	**2.59**	**285**	*e*P	Pn	13 01 04.0	+0.8
RAF				*e*SB	Sb	13 01 37.6	-2.1
KPF	**Kankaanpaa**	**2.73**	**303**	*e*PB	Pn	13 01 06.4	+1.3
KPF				*e*SB	Sb	13 01 42.1	-1.5
JOF	**Joensuu**	**3.26**	**38**	*e*P	Pn	13 01 00.2	-12
PABE	**Paberze**	**5.19**	**199**	*e*P	Pn	13 01 28.6	-10

*IDC **24** 13:01:57.2±1.2, 11.44N×86.44W, h128km±19km, mb3.3/2, mbtmp3.7/3, Error ellipse: s-maj=143.9km s-min=17.9km az=38.0*
*UCR **24** 13:01:58.3±1.0, 11.75N×86.13W, h121km±16km, MW4.1*
*CATAC **24** 13:01:59.9±0.3, 12.2°N×8.6°W±0.4°, h107km±3km, M3.6/26, MLv3.6/26, Error ellipse: s-maj=6.6km s-min=2.9km az=44.1, confirmed*
*SNET **24** 13:02:00.8±0.9, 11.44N×86.54W, h32km±921km, ML3.4*
ISC 24 13:01:57.6±0.8, 11.72N±0.05×86.20W±0.05, h130km±6km, n74, σ1.901/86, 21C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**0.17**	**79**	*e*P	**Pn**	**13 02 15.7**	**+0.3**
NANN	**Nandasmo**	**0.23**	**19**	S	**Sn**	**13 02 28.5**	**-0.8**
NANN	**Nandasmo**	**0.23**	**19**	↑P	**Pn**	**13 02 17.5**	**+1.9**
SABN	**Sabanita**	**0.24**	**9**	↑P	**Pn**	**13 02 15.6**	**-0.1**
MASN	**Masaya**	**0.27**	**10**	*e*P	**Pn**	**13 02 15.8**	**0.0**
MASN	**Masaya**	**0.27**	**10**	↑P	**Pn**	**13 02 16.3**	**+0.5**
UNAN	**Cigeo UNAN**	**0.40**	**350**	↑P	**Pn**	**13 02 17.0**	**+0.7**
UNAN				S	**Sn**	**13 02 30.3**	**-0.1**
ALLN	**Telcor Managua**	**0.44**	**351**	↑P	**Pn**	**13 02 17.4**	**+1.0**
WILN	**Americas 2**	**0.44**	**2**	↑P	**Pn**	**13 02 17.3**	**+0.9**
SAPS	**Ciudad Sandino**	**0.49**	**336**	↑P	**Pn**	**13 02 17.7**	**+1.0**
APQ2	**Apoyeque**	**0.49**	**346**	↓P	**Pn**	**13 02 17.7**	**+1.0**
APQ2	**Apoyeque**	**0.49**	**346**	↑P	**Pn**	**13 02 17.6**	**+1.0**
JAPN	**Al SSO del Vol**	**0.55**	**110**	↑P	**Pn**	**13 02 17.8**	**+0.8**
MORN	**Al O del Volca**	**0.57**	**107**	↑P	**Pn**	**13 02 18.1**	**+1.0**
MORN				S	**Sn**	**13 02 32.3**	**+0.4**
APQ3	**Volcan Apoyequ**	**0.58**	**344**	↑P	**Pn**	**13 02 18.0**	**+0.8**
CONN	**Concepcion**	**0.58**	**105**	↑P	**Pn**	**13 02 18.2**	**+1.0**
CONN				S	**Sn**	**13 02 32.4**	**+0.3**
COPN	**Copaltepe**	**0.60**	**320**	*e*P	**Pn**	**13 02 17.7**	**+0.3**
COPN	**Copaltepe**	**0.60**	**320**	↑P	**Pn**	**13 02 17.8**	**+0.5**
OMEN	**Al SSO del Vol**	**0.60**	**110**	↑P	**Pn**	**13 02 18.2**	**+0.9**
MOM2	**El Cardon**	**0.77**	**339**	↑P	**Pn**	**13 02 19.5**	**+1.0**
MOM2				S	**Sn**	**13 02 34.6**	**+0.2**
LCRUZ	**La Cruz**	**0.84**	**138**	*e*P	**Pn**	**13 02 19.7**	**+0.5**
CARN	**Rivas**	**0.85**	**128**	*e*P	**Pn**	**13 02 19.9**	**+0.7**
CARN	**Rivas**	**0.85**	**128**	↑P	**Pn**	**13 02 20.0**	**+0.7**
CARN				S	**Sn**	**13 02 35.4**	**-0.1**
BOAB	**BOACO BROADBAN**	**0.90**	**36**	S	**Sn**	**13 02 35.9**	**-0.5**
BOAB	**BOACO BROADBAN**	**0.90**	**36**	↓P	**Pn**	**13 02 20.4**	**+0.8**
CNGN	**Cerro Negro**	**0.92**	**328**	*e*P	**Pn**	**13 02 20.6**	**+0.7**
CNGN	**Cerro Negro**	**0.92**	**328**	S	**Sn**	**13 02 36.2**	**-0.6**
CNGN	**Cerro Negro**	**0.92**	**328**	↑P	**Pn**	**13 02 20.6**	**+0.8**
PLRN	**Geotermica Pol**	**1.02**	**327**	↓P	**Pn**	**13 02 21.1**	**+0.3**
PLRN				S	**Sn**	**13 02 37.8**	**-0.6**
ACON	**Acoyapa**	**1.04**	**76**	S	**Sn**	**13 02 37.4**	**-1.1**
ACON	**Acoyapa**	**1.04**	**76**	↓P	**Pn**	**13 02 20.9**	**0.0**
POLN	**Al Sur del Vol**	**1.10**	**327**	↓P	**Pn**	**13 02 21.8**	**+0.2**
LAPC	**Finca la Perla**	**1.21**	**141**	*e*P	**Pn**	**13 02 22.9**	**+0.2**
VRLE	**La Escondida,**	**1.23**	**138**	*e*P	**Pn**	**13 02 23.5**	**+0.5**
MATN	**Matagalpa**	**1.24**	**13**	P	**Pn**	**13 02 22.9**	**-0.1**
MATN	**Matagalpa**	**1.24**	**13**	S	**Sn**	**13 02 41.8**	**-0.5**
ELI1	**Hacienda Flor**	**1.24**	**149**	*e*P	**Pn**	**13 02 24.2**	**+1.2**
ELI1	**Hacienda Flor**	**1.24**	**149**	↓P	**Pn**	**13 02 24.0**	**+1.1**
CRIN	**San Cristobal**	**1.28**	**320**	*e*P	**Pn**	**13 02 24.1**	**+0.6**
CRIN	**San Cristobal**	**1.28**	**320**	S	**Sn**	**13 02 42.6**	**-0.5**
CRIN	**San Cristobal**	**1.28**	**320**	↑P	**Pn**	**13 02 24.3**	**+0.9**
ALIBA	**Liberia Airpor**	**1.29**	**150**	*e*P	**Pn**	**13 02 24.5**	**+1.0**
JUD3	**Juan Diaz 3**	**1.67**	**157**	*e*P	**Pn**	**13 02 28.6**	**+0.8**
CSGN	**Cosiguina Volc**	**1.82**	**314**	*e*P	**Pn**	**13 02 30.3**	**+0.8**
CSGN	**Cosiguina Volc**	**1.82**	**314**	↓P	**Pn**	**13 02 30.6**	**+1.0**
RCVN	**Varillal2**	**1.86**	**0**	S	**Sn**	**13 02 55.0**	**+0.2**
RCVN	**Varillal2**	**1.86**	**0**	↑P	**Pn**	**13 02 31.5**	**+1.4**
JTS	**Las Juntas de** 54nm,0.4s,baz=301,slow=8.2,SNR=45	**1.87**	**139**	P	**Pn**	**13 02 30.4**	**+0.3**
JTS	39nm,0.3s,baz=300,slow=20,SNR=8.2			S	**Sn**	**13 02 53.8**	**-1.1**
JTS	**Las Juntas de**	**1.87**	**139**	↓P	**Pn**	**13 02 31.1**	**+1.0**
JTS				S	**Sn**	**13 02 55.4**	**+0.4**
ARE1	**Arenal 1**	**1.92**	**130**	*e*P	**Pn**	**13 02 31.0**	**+0.4**
ESPN	**Las Esperanzas**	**1.92**	**75**	P	**Pn**	**13 02 31.3**	**+0.7**
ESPN	**Las Esperanzas**	**1.92**	**75**	S	**Sn**	**13 02 56.1**	**+0.2**
CHOHN	**Orocuina**	**1.99**	**332**	S	**Sn**	**13 02 56.2**	**+0.7**
CHOHN	**Orocuina**	**1.99**	**332**	↑P	**Pn**	**13 02 33.2**	**+1.6**
JCR1	**Jicaral**	**2.14**	**150**	*e*P	**Pn**	**13 02 34.0**	**+0.6**
CNCH	**Conchagua**	**2.22**	**314**	*e*P	**Pn**	**13 02 35.3**	**+0.8**
CNCH				*e*S	**Sn**	**13 03 03.5**	**+0.7**
CNCH	**Conchagua**	**2.22**	**314**	↓P	**Pn**	**13 02 35.6**	**+1.1**
LCND	**La Caada**	**2.29**	**314**	*e*S	**Sn**	**13 03 04.0**	**0.0**
LCND	comp=Z,257nm,0.3s			IAML		13 03 08.8	
YUSH	**Yuscaran**	**2.31**	**344**	↑P	**Pn**	**13 02 36.8**	**+1.3**
BLLM	**Bellamira**	**2.63**	**311**	*e*P	**Pn**	**13 02 41.0**	**+1.5**
BLLM	comp=Z,110nm,0.2s			IAML		13 03 17.4	
PACA	**Pacayal**	**2.71**	**310**	S	**Sn**	**13 03 15.3**	**+1.6**
PACA	**Pacayal**	**2.71**	**310**	↓P	**Pn**	**13 02 42.4**	**+1.8**
TECA	**Tecapa**	**2.86**	**308**	*e*P	**Pn**	**13 02 44.5**	**+1.9**
LCR2	**La Lucha 2**	**2.92**	**132**	P	**Pn**	**13 02 44.7**	**+1.3**
LCR2	**La Lucha 2**	**2.92**	**132**	S	**Sn**	**13 03 19.5**	**+0.9**
PQSS	**Presa 15 de Se**	**2.98**	**310**	*e*P	**Pn**	**13 02 45.0**	**+1.0**
LFRS	**El Faro**	**3.37**	**304**	*e*P	**Pn**	**13 02 51.3**	**+2.0**
JAYA	**Jayaque - finc**	**3.71**	**302**	*e*P	**Pn**	**13 02 54.3**	**+0.6**
JAYA				*e*S	**Sn**	**13 03 36.1**	**-1.0**
CEVE	**Cerro Verde**	**3.94**	**303**	*e*P	**Pn**	**13 02 59.0**	**+2.2**
CMIG	**Matias Romero** comp=Z,1.4nm,0.3s,baz=159,slow=11,SNR=9.0	**9.96**	**303**	P	**Pn**	**13 04 17.9**	**+0.4**
CMIG	comp=Z,1.4nm,0.4s,baz=142,slow=17,SNR=2.6			S	**Sn**	**13 06 04.2**	**-3.4**
TXAR	**Lajitas Array** comp=Z,1.7nm,0.5s,baz=140,slow=7.6,SNR=36 comp=Z,1.7nm,0.5s	**23.92**	**320**	P	**P**	**13 06 59.8**	**+0.1**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=124,slow=6.3,SNR=6.4	**39.06**	**319**	P	**P**	**13 09 12.6**	**+0.5**
NVAR	comp=Z,0.2nm,0.6s,baz=89,slow=3.7,SNR=2.5 comp=Z,0.4nm,0.6s			PcP	**PcP**	**13 11 19.1**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.2nm,0.4s,baz=103,slow=3.5,SNR=5.6	**140.12**	**247**	PKhKP	PKPpre	13 21 03.6	
ASAR	comp=Z,0.5nm,0.6s,baz=97,slow=1.9,SNR=10			PKP	**PKPdf**	**13 21 10.5**	**-1.2**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.7s,baz=91,slow=2.7,SNR=4.8	**140.23**	**253**	PKhKP	PKPpre	13 21 04.6	
WRA	comp=Z,0.7nm,0.6s,baz=92,slow=2.1,SNR=15			PKP	**PKPdf**	**13 21 10.1**	**-1.8**

*FUNV **24** 13:02:50.4, 10.57N×62.92W, h6km, MW3.3*
*TRN **24** 13:02:50.3, 10.34N×62.84W, h111km, MD3.6, Venezuela.*
ISC 24 13:02:48.8±1.7, 10.24N±0.08×62.82W±0.06, h119km±19km, n16, σ1.956/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**1.33**	**70**	*e*P	**Pn**	**13 03 14.4**	**+0.2**
DMDM				*e*S	**Sn**	**13 03 33.0**	**-0.4**
PSMG	**Mucurapo Girls**	**1.33**	**71**	*e*S	**Sn**	**13 03 34.2**	**+0.6**
PSKH	**Kent House, Po**	**1.35**	**71**	*e*P	**Pn**	**13 03 15.2**	**+0.8**
TRN	**Trinidad (W)**	**1.45**	**73**	*e*P	**Pn**	**13 03 17.1**	**+1.6**
TRN				*e*S	**Sn**	**13 03 36.8**	**+0.9**
PCRV	**Puerto La Cruz**	**1.79**	**268**	*e*P	**Pn**	**13 03 20.1**	**+0.4**
PCRV				*e*S	**Sn**	**13 03 42.5**	**-0.7**
PCRV	**Puerto La Cruz**	**1.79**	**268**	*e*P	**Pn**	**13 03 19.5**	**-0.2**
PCRV				*e*S	**Sn**	**13 03 43.9**	**+0.6**
GRFF	**Grenada Fort F**	**2.09**	**30**	*e*P	**Pn**	**13 03 23.1**	**-0.3**
GRFF				*e*S	**Sn**	**13 03 47.3**	**-2.5**
GRGR	**Grenville**	**2.20**	**31**	*e*P	**Pn**	**13 03 24.8**	**0.0**
GRGR				*e*S	**Sn**	**13 03 50.8**	**-1.6**
GRSS	**Sisters**	**2.37**	**30**	*e*P	**Pn**	**13 03 27.3**	**+0.5**
GRSS				*e*S	**Sn**	**13 03 53.8**	**-2.2**
GCMP	**Grenada, Carri**	**2.62**	**31**	*e*P	**Pn**	**13 03 30.5**	**+0.4**
GCMP				*e*S	**Sn**	**13 04 01.0**	**-0.8**
TACV	**Tcata**	**4.15**	**269**	*e*P	**Pn**	**13 03 52.5**	**+2.1**
TACV				*e*S	**Sn**	**13 04 37.3**	**-0.8**
SLBI	**Saint Lucia, B**	**4.17**	**25**	*e*P	**Pn**	**13 03 52.6**	**+1.9**
CACV	**CAICARA DEL OR**	**4.54**	**235**	*e*P	**Pn**	**13 03 54.5**	**-1.0**
CACV				*e*S	**Sn**	**13 04 43.1**	**-4.3**
BIM	**Bigot**	**4.58**	**22**	*e*P	**Pn**	**13 03 56.6**	**+0.4**
BENV	**Beln**	**4.72**	**267**	*e*P	**Pn**	**13 04 00.1**	**+2.0**
BENV				*e*S	**Sn**	**13 04 51.1**	**-0.7**
BAUV	**El Baul**	**5.31**	**256**	*e*P	**Pn**	**13 04 08.3**	**+2.3**
BAUV				*e*S	**Sn**	**13 05 06.1**	**+0.1**

*IDC **24** 13:38:21.2±5.4, 5.56S×151.18E, h47km±46km, mb3.5/8, mbtmp3.8/9, ML2.3/1, MS3.0/1, Error ellipse: s-maj=46.7km s-min=26.2km az=97.0*
ISC 24 13:38:23.0±0.9, 5.68S±0.2×151.1E±0.2, h65km, n12, σ0.668/12, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.48**	**226**	P	**Pn**	**13 39 42.6**	**+0.6**
PMG	5.6nm,0.3s,baz=46,slow=7.3,SNR=19 50nm,0.4s,baz=330,slow=22,SNR=9.4 39nm,0.8s			S	**Sn**	**13 40 43.1**	**-0.6**
HNR	**Honiara** comp=Z,87nm,18.6s,baz=34,slow=41	**9.55**	**114**	LR	LR	13 44 52.0	
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=51,slow=11,SNR=16 1.3nm,0.5s	**21.69**	**227**	P	**P**	**13 43 08.2**	**-0.5**
ASAR	**Alice Springs** 2.5nm,0.8s,baz=36,slow=10,SNR=25 2.5nm,0.8s	**24.47**	**221**	P	**P**	**13 43 36.3**	**+0.2**
VNDA	**Vanda** 0.4nm,0.7s,baz=307,slow=5.2,SNR=2.3 0.4nm,0.7s	**72.13**	**178**	P	**P**	**13 49 40.7**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=100,slow=7.5,SNR=1.7 0.2nm,0.7s	**79.81**	**319**	P	**P**	**13 50 25.5**	**+1.1**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=114,slow=7.1,SNR=3.8 0.5nm,0.3s	**80.87**	**327**	P	**P**	**13 50 29.0**	**-0.9**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=107,slow=3.1,SNR=1.9 0.2nm,0.4s	**83.38**	**322**	P	**P**	**13 50 43.3**	**+0.2**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=250,slow=4.6,SNR=11 0.8nm,0.7s	**83.50**	**22**	P	**P**	**13 50 43.0**	**-0.4**
QSPA	**South Pole Qui** 1.7nm,1.0s,baz=330,slow=2.8,SNR=3.0 1.7nm,1.0s	**84.39**	**180**	P	**P**	**13 50 47.6**	**-0.6**
GERES	**GERESS Array B** 0.2nm,0.3s,baz=59,slow=3.8,SNR=2.5	**123.82**	**327**	PKP	**PKiKP**	**13 57 14.6**	**+0.5**
TORD	**Torodi Ar. Bea** 1.8nm,0.7s,baz=74,slow=2.3,SNR=9.5	**148.94**	**286**	PKPbc	**PKiKP**	**13 58 05.7**	**-0.3**

*TEH **24** 13:48:46.8, 35.76N×44.77E, h8km, 70km*
*ISN **24** 13:48:47.2±0.9, 35.78N×44.36E, h9km±4km, ML3.4*
ISC 24 13:48:46.5±1.0, 35.80N±0.03×44.64E±0.05, h10km, n20, σ2.830/25, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.46**	**212**	*e*Pg	**Pg**	**13 48 55.0**	**-0.5**
IKRK				*e*Sg	**Sg**	**13 49 00.0**	**-1.7**
IKRK	comp=N,3μm,0.6s			AML	AML	13 49 08.4	
IKRK	comp=E,3μm,0.6s			AML	AML	13 49 11.8	
MAHB	**Mahabad**	**1.30**	**41**	Pg	**Pg**	**13 49 11.5**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**1.50**	**149**	Pg	**Pg**	**13 49 15.1**	**-0.3**
IDHR	**Dehrash**	**1.80**	**127**	Pg	**Pg**	**13 49 19.3**	**-1.7**
IDH

YLYR e 13 53 12.3
YLYR eSn **Sb** **13 53 34.0 -1.3**
YLYR eSg **Sg** **13 53 38.9 +0.2**
YLYR Smax 13 53 41.8
comp=N,1μm,0.7s
YLYR Ulyunkhan 2.17 45 ||*i*PN **Pb** **13 53 07.3 -1.0**
YLYR e 13 53 08.7
YLYR e 13 53 39.3
YLYR pmax pmax
comp=Z,649nm,0.7s
YLYR smax smax
comp=N,1μm,0.4s
VBR Suhoy Ruchey 2.19 225 *e*Pn **Pn** **13 53 05.4 +0.1**
VBR *e*Pg **Pb** **13 53 08.1 -0.4**
VBR eSg **Sg** **13 53 36.6 -2.5**
BGT Bolshoye Golou 2.30 236 *e*Pn **Pn** **13 53 06.9 0.0**
BGT *e*Pg **Pb** **13 53 10.1 -0.4**
BGT Pmax 13 53 10.9
comp=N,129nm,0.5s
BGT eSn **Sn** **13 53 34.4 -0.8**
BGT eSg **Sb** **13 53 39.2 +0.2**
BGT Smax 13 53 43.7
comp=N,1μm,0.8s
BGT Bolshoye Golou 2.30 236 *e*PN **Pn** **13 53 06.9 0.0**
BGT e 13 53 10.1
BGT e 13 53 39.8
BGT pmax pmax
comp=Z,128nm,0.5s
BGT smax smax
comp=E,1μm,0.6s
LSTR Listvyanka 2.69 237 *e*Pn **Pn** **13 53 12.4 +0.1**
LSTR *e*Pg **Pb** **13 53 16.3 -0.9**
LSTR Pmax 13 53 17.9
comp=E,99nm,0.6s
LSTR eSn **Sn** **13 53 44.2 -0.7**
LSTR eSg **Sb** **13 53 51.0 +0.8**
LSTR Smax 13 53 54.6
comp=E,977nm,1.3s
LSTR Listvyanka 2.69 237 *e*PN **Pn** **13 53 12.4 +0.1**
LSTR e 13 53 16.4
LSTR eS **Sn** **13 53 44.4 -0.5**
LSTR e 13 53 50.5
LSTR pmax pmax
comp=Z,99nm,0.6s
LSTR smax smax
comp=N,977nm,1.2s
IRK Irkutsk 2.80 248 *e*Sn **Sn** **13 53 45.8 -1.7**
IRK eSg **Sb** **13 53 54.4 +1.1**
IRK Smax 13 53 57.5
comp=N,2μm,0.4s
IRK Irkutsk 2.80 248 *e*PN **Pb** **13 53 19.0 0.0**
IRK e 13 53 54.4
IRK pmax pmax
comp=Z,98nm,0.2s
IRK smax smax
comp=N,2μm,0.4s
IVK Ivanovka 2.94 239 *e*Pn **Pn** **13 53 15.6 -0.1**
IVK *e*Pg **Pb** **13 53 21.3 -0.1**
IVK Pmax 13 53 30.3
comp=N,165nm,0.7s
IVK eSn **Sn** **13 53 51.0 -0.1**
IVK eSg **Sb** **13 53 58.3 +0.8**
IVK Smax 13 54 01.9
comp=N,2μm,0.8s
IVK Ivanovka 2.94 239 *e*PN **Pn** **13 53 16.1 +0.4**
IVK e 13 53 21.2
IVK e 13 53 58.3
IVK pmax pmax
comp=Z,129nm,0.5s
IVK smax smax
comp=N,2μm,0.7s
KMO Kumora 2.97 31 ||*i*Pn **Pn** **13 53 18.6 +2.6**
KMO *e*Pg **Pb** **13 53 23.5 +1.7**
KMO Pmax 13 53 24.6
comp=N,688nm,0.7s
KMO eSg **Sg** **13 54 03.8 -0.3**
KMO Smax 13 54 17.3
comp=N,1μm,1.1s
CIT Chita 3.37 112 *e* **Pb** **13 53 28.3 -0.4**
CIT *e*Pg **Pg** **13 53 30.2 -3.2**
CIT Pmax 13 53 32.8
comp=N,254nm,0.2s
CIT eSn **Sn** **13 54 01.5 -0.1**
CIT eSg **Sg** **13 54 13.2 -3.8**
CIT Smax 13 54 22.3
comp=N,1μm,0.3s
TLY Talaya 3.41 242 *e*Pn **Pn** **13 53 22.6 +0.4**
TLY *e*Pg **Pb** **13 53 29.9 +0.5**
TLY Pmax 13 53 47.8
comp=N,52nm,0.7s
TLY eSn **Sn** **13 54 02.2 -0.5**
TLY eSg **Sb** **13 54 13.1 +2.2**
TLY Smax 13 54 19.4
comp=N,500nm,0.9s
TLY Talaya 3.41 242 *e*PN **Pn** **13 53 22.1 -0.1**
TLY e 13 53 29.5
TLY e 13 54 13.1
TLY pmax pmax
comp=Z,42nm,0.5s
TLY smax smax
comp=E,497nm,0.9s
UKT Uakit 3.67 53 *e*Pn **Pn** **13 53 28.0 +2.2**
UKT *e*Pg **Pg** **13 53 36.6 -2.6**
UKT Pmax 13 53 38.9
comp=E,203nm,0.6s
UKT eSn **Sn** **13 54 11.1 +2.0**
UKT eSg **Sg** **13 54 24.9 -1.8**
UKT Smax 13 54 33.9
comp=E,558nm,0.8s
ARS Arshan 3.97 251 *e*Pn **Pn** **13 53 31.0 +1.1**
ARS *e*Pg **Pb** **13 53 39.9 +0.9**
ARS Pmax 13 53 46.8
comp=E,175nm,0.7s
ARS e 13 54 19.1
ARS eSg **Sb** **13 54 30.1 +3.0**
ARS Smax 13 54 35.0
comp=E,2μm,0.7s
ARS Arshan 3.97 251 *e*PN **Pn** **13 53 31.0 +1.1**
ARS e 13 53 40.2
ARS e 13 54 30.2
ARS pmax pmax
comp=Z,145nm,0.7s
ARS smax smax
comp=E,2μm,0.7s
ZAK Zakamensk 4.41 229 *e*Pn **Pn** **13 53 36.8 +0.9**
ZAK *e*Pg **Pb** **13 53 48.0 +1.6**
ZAK Pmax 13 53 50.7
comp=E,38nm,0.8s
ZAK eSn **Sn** **13 54 24.4 -2.9**
ZAK eSg **Sg** **13 54 44.1 -6.2**
ZAK Smax 13 54 50.0
comp=E,448nm,1.3s
ZAK Zakamensk 4.41 229 *e*PN **Pb** **13 53 45.8 -0.6**
ZAK e 13 54 45.2
ZAK pmax pmax
comp=Z,33nm,0.6s
ZAK smax smax
comp=N,444nm,1.3s
KPC Khapcheranga 4.41 145 *e*Pn **Pn** **13 53 35.1 -0.8**
KPC *e*Pg **Pb** **13 53 46.8 +0.3**
KPC Pmax 13 53 52.2
comp=N,64nm,0.8s
KPC e 13 54 22.8
KPC eSn **Sn** **13 54 25.7 -1.6**
KPC eSg **Sb** **13 54 42.9 +3.2**
KPC Smax 13 54 53.3
comp=N,889nm,1.5s
KPC e 13 55 00.9
KPC Khapcheranga 4.41 145 *e*PN **Pn** **13 53 35.3 -0.6**
KPC e 13 53 46.8
KPC e 13 54 42.7
KPC pmax pmax
comp=Z,64nm,0.6s
KPC smax smax
comp=E,889nm,1.8s
MOY Mondy 4.89 252 *e*Pn **Pn** **13 53 44.5 +2.0**
MOY *e*Pg **Pb** **13 53 55.6 +1.0**
MOY e 13 54 00.5
MOY max 13 54 04.2
comp=E,96nm,1.0s
MOY eSn **Sn** **13 54 37.7 -1.4**
MOY eSg **Sb** **13 54 57.8 +4.4**
MOY *e* 13 55 07.8
MOY max 13 55 12.5
comp=E,864nm,1.8s
MOY Mondy 4.89 252 *e*PN **Pn** **13 53 45.2 +2.7**
MOY *e* 13 53 58.6
MOY eS **Sn** **13 54 40.6 +1.5**
MOY *e* 13 54 59.3
NLYR Nelyaty 5.20 50 *e*Pn **Pn** **13 53 48.4 +1.7**
NLYR *e*Pg **Pb** **13 54 03.0 +3.2**
NLYR Pmax 13 54 11.2
comp=E,83nm,0.8s
NLYR eSn **Sn** **13 54 46.5 -0.2**
NLYR eSg **Sg** **13 55 11.8 -3.9**
NLYR Smax 13 55 17.8
comp=E,903nm,1.4s
ORL Orlik 5.31 264 *e*Pn **Pn** **13 53 50.5 +2.1**
ORL *e* 13 53 58.4
ORL max 13 54 00.1
comp=E,87nm,0.8s
ORL *e* 13 54 06.1
ORL eSn **Sn** **13 54 48.5 -1.1**
ORL eSg **Sg** **13 55 12.1 -7.2**
ORL Smax 13 55 17.0
comp=E,432nm,1.6s
ORL Orlik 5.31 264 *e*PN **Pn** **13 53 50.5 +2.1**
ORL *e* 13 54 05.7
ORL *e* 13 55 12.5
ORL pmax pmax
comp=Z,88nm,0.5s
ORL smax smax
comp=N,431nm,1.7s
BOD Bodaibo 5.44 33 *e*Pn **Pn** **13 53 51.9 +2.0**
BOD *e*Pg **Pb** **13 54 07.6 +3.7**
BOD Pmax 13 54 13.2
comp=N,73nm,1.3s
BOD eSg **Sg** **13 55 19.1 -4.2**
BOD Smax 13 55 36.7
comp=N,335nm,1.8s
ULN Ulaanbaatar 5.60 190⇑ *e*PN **Pn** **13 53 49.8 -2.5**
SONM Songino Array 5.71 194 Pn **Pn** **13 53 54.7 +0.9**
comp=N,1.3nm,0.3s,baz=11,slow=13,SNR=30
SONM Pg **Pb** **13 54 11.9 +3.3**
comp=N,4.8nm,0.3s,baz=5.2,slow=17,SNR=17
SONM Sn **Sn** **13 55 04.7 +5.2**
comp=N,3.9nm,0.3s,baz=9.8,slow=18,SNR=5.8
SONM Lg Lg 13 55 26.9
comp=N,14nm,0.3s,baz=8.8,slow=30,SNR=11
comp=N,6.0nm,0.5s
VTMR Vitim 6.48 19 *e*Pg Pg 13 54 27.2 -5.7
VTMR *e* 13 55 33.2
VTMR eSg **Sg** **13 55 51.9 -4.8**
CRS Chara 6.62 54 *e*Pn **Pn** **13 54 08.1 +1.8**
CRS *e* 13 54 26.3
CRS *e*Pg Pg 13 54 30.3 -5.3
CRS Pmax 13 54 34.7
comp=N,95nm,1.1s
CRS eSn **Sn** **13 55 22.7 +0.9**
CRS eSg **Sg** **13 55 56.5 -4.8**
CRS Smax 13 56 08.9
comp=N,381nm,1.3s
TUP Tupik 6.86 77 *e*Pn **Pn** **13 54 10.6 +1.1**
TUP *e*Pg Pb 13 54 33.0 +4.9
TUP Pmax 13 54 53.4
comp=N,21nm,0.9s
TUP *e* 13 55 42.4
TUP eSg **Sg** **13 56 02.9 -6.0**
TUP Smax 13 56 09.5
comp=N,1μm,1.4s
TUP Tupik 6.86 77 *e*PN **Pn** **13 54 10.5 +1.1**
TUP *e* 13 54 32.5
TUP *e* 13 56 01.8
TUP pmax pmax
comp=Z,20nm,1.0s
TUP smax smax
comp=N,1μm,1.4s
KHNR Khani 7.48 57 eSg **Sg** **13 56 23.0 -5.7**
YKLR Yuktali 8.23 62 eSg **Sg** **13 56 46.8 -5.9**
MINR Mina 8.53 286 *e* Pg 13 56 10.0 +58
MINR eSg **Sg** **13 56 53.9 -8.4**
ARDR Aradan 9.12 271 eSg Sn 13 57 11.1 +48
CLNS Chul'man 10.02 63 eSg Sn 13 57 40.7 +56
ZALV Zalesovo Beam 14.03 282 Pn **Pn** **13 55 49.1 +1.6**
comp=N,0.1nm,0.3s,baz=79,slow=15,SNR=5.7
ZALV Lg Lg 13 59 47.8
comp=N,0.1nm,0.3s,baz=86,slow=21,SNR=7.0
ZALV LR LR 14 01 21.4
comp=N,74nm,18.7s,baz=112,slow=38
comp=N,1.4nm,0.8s
YAK Yakutsk 14.20 44 Lg Lg 13 59 53.9
comp=N,1.2nm,0.3s,baz=320,slow=21,SNR=9.3
YAK Yakutsk 14.20 44 ||*e*P **Pn** **13 55 49.0 -0.8**
YAK pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 17.99 259⇑ *e*P **P** **13 56 39.9 +0.5**
MKAR Makanchi Array 17.99 259 P **P** **13 56 39.4 0.0**
comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=4.1
MKAR Lg Lg 14 01 53.3
baz=62,slow=25,SNR=2.0
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 17.99 259 *i* P **P** **13 56 39.9 +0.5**
KURK Kurchatov 18.50 274 ||*e*P **Pn** **13 56 44.8 -0.2**
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURBB Kurchatov Arra 18.58 274 P **P** **13 56 45.0 -0.8**
baz=66,slow=12,SNR=5.0
KURBB Lg Lg 14 02 08.1
baz=79,slow=27
comp=Z,0.6nm,0.6s
TIXI Tiksi 20.39 18 P Pn 13 57 07.3 -0.2
comp=Z,4.4nm,0.6s,baz=240,slow=7.6,SNR=6.9
TIXI Lg Lg 14 03 07.7
comp=Z,0.1nm,0.3s,baz=237,slow=13,SNR=4.0
TIXI LR LR 14 06 15.0
comp=Z,38nm,18.9s,baz=205,slow=40
comp=Z,4.4nm,0.6s
TIXI Tiksi 20.39 18⇑ *i*P Pn 13 57 06.4 -1.1
TIXI pmax pmax
comp=Z,5.0nm,0.8s
KSRS Korea Array 20.86 132 P Pn 13 57 13.6 +0.3
comp=Z,0.2nm,0.4s,baz=329,slow=11,SNR=1.8
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 22.65 285 P **P** **13 57 31.1 +1.2**
comp=Z,1.1nm,0.5s,baz=60,slow=12,SNR=4.6
comp=Z,1.1nm,0.5s
SEY Seymchan 24.57 50⇑ *e*P **P** **13 57 47.5 -1.0**
SEY pmax pmax
comp=Z,3.0nm,1.4s
ILAR Eielson Array 48.81 33 P **P** **14 01 16.0 +2.3**
comp=Z,0.6nm,0.9s,baz=300,slow=6.7,SNR=5.5
comp=Z,0.6nm,0.9s
VRAC Vranov 53.67 306 LR LR 14 26 34.1
comp=Z,13nm,19.6s,baz=56,slow=38
ESDC Sonseca Array 70.58 311 P **P** **14 03 45.5 +1.4**
comp=Z,0.1nm,0.5s,baz=48,slow=5.5,SNR=1.4
comp=Z,0.1nm,0.5s
WRA Warramunga Arr 76.37 155 P **P** **14 04 21.5 +3.4**
comp=Z,0.2nm,0.6s,baz=346,slow=6.3,SNR=1.5
comp=Z,0.2nm,0.6s
ASAR Alice Springs 79.83 156 P **P** **14 04 41.2 +3.9**
comp=Z,0.4nm,0.8s,baz=342,slow=5.3,SNR=2.8
comp=Z,0.4nm,0.8s
SNAA Sanae 145.94 212 PKPbc **PKiKP** **14 12 09.5 -1.0**
comp=Z,0.5nm,0.7s,baz=130,slow=7.1,SNR=1.3

*IDC **24** 14:37:46.3±2.2, 20°.31S×170°.46E, h0km, mb3.8/5, mbtmp3.7/6, ML3.2/1, MS3.6/2, Error ellipse: s-maj=119.1km s-min=24.3km az=153.0*
ISC 24 14:37:51.3±1.9, 20°.5S±0°.6×170°.5E±0°.3, h35km, n7, σ0s80/7, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.13**	**246**	Pn	**Pn**	**14 38 51.9**	**0.0**
	1.3nm,0.3s,baz=72,slow=20,SNR=18						
DZM				Sn	**Sn**	**14 39 39.6**	**+0.5**
	18nm,0.3s,baz=140,slow=20,SNR=9.5						
	6.8nm,0.5s						
STKA	**Stephens Creek**	**28.26**	**240**	LR	LR	14 53 43.7	
	comp=Z,109nm,18.6s,baz=48,slow=34						
WRA	**Warramunga Arr**	**33.92**	**264**	P	**P**	**14 44 30.0**	**-1.3**
	0.5nm,0.7s,baz=92,slow=9.0,SNR=2.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**34.03**	**258**	P	**P**	**14 44 32.2**	**0.0**
	2.8nm,0.8s,baz=86,slow=9.1,SNR=35						
ASAR				LR	LR	14 57 47.7	
	comp=Z,96nm,18.8s,baz=358,slow=35						
	2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**42.33**	**265**	P	**P**	**14 45 42.4**	**+0.2**
	1.3nm,0.6s,baz=112,slow=11,SNR=1.9						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**91.03**	**17**	P	**P**	**14 50 52.2**	**+0.8**
	0.2nm,0.8s,baz=238,slow=5.2,SNR=4.9						
	0.2nm,0.8s						
TXAR	**Lajitas Array**	**96.29**	**61**	P	**P**	**14 51 16.2**	**-0.3**
	0.1nm,0.2s,baz=210,slow=3.8,SNR=3.7						
	0.1nm,0.2s						

IDC 24 14:39:29.6±6.5, 22°.77S×178°.65W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=173.7km s-min=103.1km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.30**	**247**	P	P	14 46 34.0	-1.1
	1.3nm,0.5s,baz=98,slow=7.1,SNR=3.0						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**43.45**	**259**	P	P	14 47 34.6	-0.2
	0.3nm,0.5s,baz=100,slow=8.4,SNR=10						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.73**	**265**	P	P	14 47 37.5	+0.5
	0.5nm,0.4s,baz=100,slow=7.9,SNR=14						
	0.5nm,0.4s						
HFS	**Hagfors**	**141.66**	**350**	PKP	PKPdf	14 59 01.9	-0.6
	0.7nm,0.4s,baz=27,slow=0.3,SNR=7.9						

IDC 24 14:46:27.5±8.1, 15°.28S×173°.94W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=360.6km s-min=34.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.37**	**257**	P	P	14 55 19.2	0.0
	0.6nm,0.8s,baz=91,slow=6.9,SNR=7.0						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**49.65**	**252**	P	P	14 55 21.1	-0.2
	0.8nm,0.5s,baz=88,slow=8.1,SNR=29						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**82.43**	**11**	P	P	14 58 51.3	0.0
	0.3nm,0.6s,baz=228,slow=6.5,SNR=9.0						
	0.3nm,0.6s						

*IDC **24** 14:50:41.2±2.1, 15°.91S×173°.32W, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=125.9km s-min=24.1km az=150.0*
ISC 24 14:50:47.5±1.9, 15°.7S±0°.7×173°.5W±0°.4, h42km, n10, σ0s71/7, mb3.6/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N3	**WAKE ISLAND Hy**	**40.14**	**331**	T	T	15 41 33.6	
	baz=152						
H11N1	**WAKE ISLAND Hy**	**40.15**	**331**	T	T	15 41 35.7	
	baz=152						
H11N2	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	15 41 35.6	
	baz=152						
WRA	**Warramunga Arr**	**49.72**	**257**	P	**P**	**14 59 36.0**	**0.0**
	0.4nm,0.6s,baz=94,slow=6.2,SNR=8.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**49.96**	**252**	P	**P**	**14 59 37.6**	**-0.2**
	2.1nm,0.7s,baz=88,slow=8.6,SNR=26						
	2.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**58.09**	**258**	P	**P**	**15 00 37.4**	**+0.3**
	1.3nm,0.9s,baz=120,slow=8.1,SNR=1.6						
	1.3nm,0.9s						
TXAR	**Lajitas Array**	**80.83**	**56**	P	**P**	**15 02 58.2**	**+0.7**
	0.1nm,0.5s,baz=247,slow=5.7,SNR=2.3						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**82.53**	**42**	P	**P**	**15 03 05.3**	**-1.0**
	0.2nm,0.5s,baz=289,slow=3.2,SNR=2.2						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**15 03 07.0**	**+0.4**
	0.3nm,0.6s,baz=210,slow=4.9,SNR=8.2						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.35**	**321**	PKPbc	**PKiKP**	**15 10 26.9**	**-0.5**
	0.9nm,0.8s,baz=64,slow=3.4,SNR=4.7						

*NEIC **24** 14:51:28.2±0.5, 19°.20N±0°.02×155°.45W±0°.02, h40km±5km, Error ellipse: s-maj=3.4km s-min=2.6km az=171.0*
HVO 24 14:51:29.3±0.9, 19°.16N±0°.03×155°.42W±0°.02, h36km±1km, ML2.8/1, ML2.1/26(NEIC), Error ellipse: s-maj=4.3km s-min=2.6km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.08**	**16**		Pn	14 51 35.0	-0.4
HLP	**Hilina Pali**	**0.17**	**38**		Pn	14 51 35.5	-3.2
HLP	**Hilina Pali**	**0.17**	**38**		Sn	14 51 40.2	-7.4
HLP	**Hilina Pali**	**0.17**	**38**	IAML		14 51 37.7	
	comp=E,318nm,2.1s						
HLP				IAML		14 51 37.8	
	comp=N,260nm,3.6s						
KHU	**Kahuku**	**0.20**	**295**		Pn	14 51 35.5	-2.6
KHU					Sn	14 51 40.1	-6.2
SDHHI	**Sand Hill**	**0.26**	**28**		Pn	14 51 36.0	-1.6
SDHHI					Sn	14 51 41.0	-3.8
WRMHI	**West Rim**	**0.27**	**25**		Pn	14 51 36.0	-1.6
RIM	**Rim**	**0.27**	**31**		Pn	14 51 36.1	-1.5
KKO	**Keanakako'i**	**0.28**	**32**		Pn	14 51 36.1	-1.4
KKO					Sn	14 51 41.3	-3.3
OBL	**Observatory Le**	**0.28**	**27**		Pn	14 51 36.1	-1.4
UWE	**Uwekahuna**	**0.28**	**25**		Pn	14 51 36.1	-1.4
UWE	**Uwekahuna**	**0.28**	**25**	IAML		14 51 40.4	
	comp=E,255nm,2.5s						
UWE				IAML		14 51 49.4	
	comp=N,238nm,2.2s						
UWB	**Uwekahuna Bluf**	**0.29**	**27**		Pn	14 51 36.3	-1.2
SBLHI	**Steaming Bluff**	**0.30**	**29**		Pn	14 51 36.2	-1.4
SBLHI					Sn	14 51 41.5	-3.0
KNHH	**Kane Nui o Ham**	**0.32**	**48**		Pn	14 51 36.6	-1.0
RSD	**Rainshed**	**0.33**	**24**	Pn	Pn	14 51 36.0	-1.7
MLH	**Mauna Loa**	**0.33**	**6**		Pn	14 51 36.8	-1.1
MLH	**Mauna Loa**	**0.33**	**6**	IAML		14 51 47.6	
	comp=N,200nm,3.8s						
STCH	**Steam Cracks**	**0.36**	**51**		Pn	14 51 36.9	-1.0
STCH	**Steam Cracks**	**0.36**	**51**	IAML		14 51 50.6	
	comp=N,170nm,3.7s						
MWH	**Mokuaweoweo**	**0.36**	**333**	IAML		14 51 48.4	
	comp=E,152nm,1.8s						
MWH				IAML		14 51 50.0	
	comp=N,175nm,3.2s						
HMH	**Humu'ula Sheep**	**0.44**	**352**	IAML		14 51 42.3	
	comp=E,161nm,3.0s						
HMH				IAML		14 51 44.2	
	comp=N,109nm,3.9s						
JOKA	**Jonika Flow**	**0.48**	**55**	Pn	Pn	14 51 38.2	-1.4
HUH	**Hualalai**	**0.65**	**323**	Pn	Pn	14 51 40.6	-1.7
HUH				IAML		14 51 54.0	
	comp=E,100nm,2.9s						

IDC 24 14:51:33.5±1.8, 0°.73N×126°.32E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=181.4km s-min=22.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.00**	**159**	P	P	14 56 28.3	-1.2
	1.3nm,0.6s,baz=338,slow=10,SNR=6.9						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**25.35**	**164**	P	P	14 57 03.1	+0.6
	0.6nm,0.5s,baz=346,slow=11,SNR=16						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.79**	**326**	P	P	15 01 40.3	-0.3
	0.1nm,0.4s,baz=111,slow=8.0,SNR=2.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.04**	**328**	P	P	15 02 09.4	+0.3
	0.4nm,0.8s,baz=131,slow=6.6,SNR=3.8						
	0.4nm,0.8s						

*IDC **24** 14:58:16.2±0.8, 5°.55S×151°.30E, h0km, mb3.9/12, mbtmp3.9/13, ML2.4/1, MS3.2/2, Error ellipse: s-maj=33.7km s-min=16.6km az=117.0*
*NEIC **24** 14:58:19.6±2.4, 6°.08S±0°.07×152°.0E±0°.1, h27km±11km, mb4.1/11, Error ellipse: s-maj=17.1km s-min=9.8km az=97.0*
ISC 24 14:58:21.5±0.7, 5°.7S±0°.1×151°.4E±0°.2, h35km, n33, σ1s47/32, mb4.0/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.68**	**27**		**Pn**	**14 58 50.3**	**+1.9**
MANU	**Manus Island**	**5.41**	**312**		Pn	14 59 47.2	+7.4
PMG	**Port Moresby**	**5.58**	**228**		**Pn**	**14 59 44.7**	**+2.6**
PMG	**Port Moresby**	**5.58**	**228**	Pn	**Pn**	**14 59 43.0**	**+0.8**
	7.9nm,0.3s,baz=48,slow=12,SNR=29						
PMG				Sn	**Sn**	**15 00 45.5**	**+0.4**
	20nm,0.3s,baz=327,slow=22,SNR=12						
	29nm,0.4s						
HNR	**Honiara**	**9.26**	**114**	LR	LR	15 03 24.7	
	comp=Z,139nm,19.8s,baz=162,slow=33						
COEN	**Coen**	**11.53**	**224**	Pn	**Pn**	**15 01 04.2**	**+0.6**
MTN	**Manton Dam**	**21.21**	**249**	P	**P**	**15 03 04.3**	**-0.1**
MTN				IAmb	IAmb	15 03 20.8	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**21.66**	**228**	P	**P**	**15 03 08.9**	**-0.3**
WB0				IAmb	IAmb	15 03 15.0	
	comp=Z,9.3nm,0.9s						
WR8	**Warramunga Arr**	**21.70**	**228**	P	**P**	**15 03 08.7**	**-0.9**
WR8				IAmb	IAmb	15 03 21.8	
	comp=Z,6.0nm,0.8s						
WRAB	**Tennant Creek**	**21.79**	**228**	P	**P**	**15 03 09.9**	**-0.7**
WRAB				IAmb	IAmb	15 03 16.4	
	comp=Z,6.2nm,0.9s						
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**15 03 11.0**	**+0.3**
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**15 03 10.2**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=54,slow=10,SNR=30						
WRA				PcP	**PcP**	**15 07 10.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=52,slow=2.1,SNR=4.8						
	comp=Z,1.6nm,0.4s						
INKA	**Innaminka**	**24.15**	**204**	P	**P**	**15 03 32.1**	**-2.3**
INKA				IAmb	IAmb	15 03 57.1	
	comp=Z,7.2nm,1.3s						
KNRA	**Kununurra**	**24.32**	**244**	P	**P**	**15 03 38.1**	**+2.0**
KNRA				IAmb	IAmb	15 03 53.4	
	comp=Z,5.6nm,0.9s						
AS31	**Alice Springs**	**24.55**	**222**	P	**P**	**15 03 38.2**	**0.0**
AS31				IAmb	IAmb	15 03 54.5	
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**24.55**	**222**	P	**P**	**15 03 38.1**	**0.0**
ASAR	**Alice Springs**	**24.55**	**222**	P	**P**	**15 03 37.9**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=56,slow=8.4,SNR=36						
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**27.61**	**198**	P	**P**	**15 04 00.8**	**-5.0**
FITZ	**Fitzroy Crossi**	**28.00**	**242**	P	**P**	**15 04 09.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**28.00**	**242**	P	**P**	**15 04 08.7**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=43,slow=9.3,SNR=22						
	comp=Z,2.4nm,0.6s						
JCJ	**Chichijima**	**33.79**	**345**	LR	LR	15 16 39.8	
	comp=Z,37nm,20.6s,baz=200,slow=33						
MBWA	**Marble Bar**	**34.31**	**240**	P	**P**	**15 05 07.5**	**+2.6**
PETK	**Petropavlovsk-**	**58.82**	**4**	P	**P**	**15 08 15.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=225,slow=7.8,SNR=1.0						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**66.34**	**329**	P	**P**	**15 09 05.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=132,slow=2.2,SNR=3.6						
	comp=Z,0.5nm,0.4s						
VNDA	**Vanda**	**72.00**	**178**	P	**P**	**15 09 42.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=322,slow=2.9,SNR=3.7						
	comp=Z,0.5nm,0.8s						
MKAR	**Makanchi Array**	**80.08**	**319**	P	**P**	**15 10 27.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=90,slow=3.6,SNR=2.2						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**81.12**	**327**	P	**P**	**15 10 32.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=111,slow=8.3,SNR=1.9						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**83.51**	**22**	P	**P**	**15 10 44.2**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=248,slow=5.5,SNR=15						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**83.64**	**322**	P	**P**	**15 10 46.2**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=106,slow=3.9,SNR=4.4						
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	**84.27**	**180**	P	**P**	**15 10 51.0**	**+1.5**
	comp=Z,2.7nm,0.9s,baz=291,slow=2.4,SNR=3.8						
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**93.74**	**52**	P	**P**	**15 11 36.4**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=296,slow=3.6,SNR=2.5						
	comp=Z,0.5nm,0.7s						
GERES	**GERESS Array B**	**124.07**	**328**	PKP	**PKPdf**	**15 17 16.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=80,slow=1.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc	**PKPbc**	**15 18 07.3**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=47,slow=2.9,SNR=16						

*IDC **24** 15:03:23.7±2.0,9˚.15S×118˚.77E, h0km, mb3.1/2, mbtmp3.5/6, ML3.5/4, MS3.5/1, Error ellipse: s-maj=50.0km s-min=21.9km az=62.0*

*DJA **24** 15:03:35.9±0.3,9˚S±3˚×117˚9E±˚, h55km±13km, M4.0/13, mB5.0/1, mb4.0/7, MLv4.0/13, Mw(mB)4.3/1*

ISC 24 15:03:32.7±0.9,**9˚20S**±0.0˚05×**119˚30E**±0.0˚04,**h94**km,**n21,** σ3§**30**/26**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.45**	**169**	P	**Pn**	**15 03 48.7**	**+1.2**
WSI	**Waingapu**	**1.09**	**115**	P	**Pn**	**15 03 55.9**	**+2.3**
PLAI	**Plampang**	**1.55**	**284**	P	**Pn**	**15 04 00.6**	**+1.3**
PLAI				S	**Sn**	**15 04 19.8**	**+0.3**
BASI	**Baing, Sumba**	**1.61**	**129**	P	**Pn**	**15 04 03.5**	**+3.4**
EDFI	**Ende, Flores**	**2.40**	**79**	P	**Pn**	**15 04 13.9**	**+3.5**
TWSI	**Taliwang, Sumb**	**2.44**	**281**	P	**Pn**	**15 04 13.0**	**+2.3**
MMRI	**Maumere**	**2.95**	**79**	P	**Pn**	**15 04 21.2**	**+3.5**
BSSI	**Bau Bau, Buton**	**3.26**	**21**	P	**Pn**	**15 04 23.6**	**+1.8**
BKSI	**Bulukumba**	**3.94**	**12**	P	**Pn**	**15 04 33.0**	**+2.0**
BKSI				S	**Sn**	**15 05 16.0**	**-0.1**
KAPI	**Kappang**	**4.18**	**6**	Pn	**Pn**	**15 04 30.3**	**-4.0**
	3.0nm,0.3s,baz=175,slow=12,SNR=1.9						
KAPI				Sn	**Sn**	**15 05 19.5**	**-2.5**
	13nm,0.3s,baz=66,slow=22,SNR=12						
	7.5nm,0.4s						
BATI	**Baumata**	**4.41**	**103**	Pn	**Pn**	**15 04 39.7**	**+2.3**
	15nm,0.3s,baz=262,slow=1.4,SNR=19						
BATI				Sn	**Sn**	**15 05 26.6**	**-1.1**
	11nm,0.3s,baz=344,slow=24,SNR=6.2						
	45nm,0.4s						
BATI	**Baumata**	**4.41**	**103**	P	**Pn**	**15 04 40.1**	**+2.7**
JAGI	**Jajag, Banyuwa**	**5.14**	**278**	P	**Pn**	**15 04 49.6**	**+2.3**
SPSI	**Sidrap Palu**	**5.22**	**5**	P	**Pn**	**15 04 50.9**	**+2.5**
GMJI	**Gumukmas**	**5.86**	**279**	P	**Pn**	**15 04 59.1**	**+2.0**
	0.1nm20nm,0.7s						
TTSI	**Tana Toraja**	**6.14**	**5**	P	**Pn**	**15 05 04.0**	**+3.2**
	0.1nm12nm,1.2s						
FITZ	**Fitzroy Crossi**	**10.78**	**146**	Pn	**Pn**	**15 06 05.0**	**+1.0**
	0.2nm,0.3s,baz=324,slow=14,SNR=10						
FITZ				Sn	**Sn**	**15 07 58.6**	**-4.1**
	1.0nm,0.3s,baz=177,slow=20,SNR=11						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**18.03**	**128**	P	**Pn**	**15 07 40.3**	**+3.0**
	0.1nm,0.3s,baz=304,slow=13,SNR=6.1						
WRA				S	**S**	**15 10 48.2**	**-10**
	0.6nm,0.7s,baz=306,slow=23,SNR=5.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**20.05**	**138**	P	Pn	15 08 03.0	+1.9
	0.5nm,0.8s,baz=315,slow=9.2,SNR=7.7						
ASAR				S	**S**	**15 11 37.0**	**-1.8**
	0.7nm,0.9s,baz=302,slow=22,SNR=4.4						
	0.5nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.69**	**184**	LR	LR	15 16 51.8	
	comp=Z,111nm,20.9s,baz=268,slow=34						
MKAR	**Makanchi Array**	**64.77**	**333**	P	**P**	**15 14 02.0**	**+0.8**
	0.2nm,0.5s,baz=135,slow=6.6,SNR=3.0						
	0.2nm,0.5s						

*IDC **24** 15:04:55.6±6.5,24˚.99N×122˚.56E, h137km±70km, mb3.3/6, mbtmp3.8/7, Error ellipse: s-maj=59.7km s-min=20.9km az=58.0*

*JMA **24** 15:04:55.2±0.2,25˚N±1˚×122˚.4E±0˚.5, h110km±2km, MV3.0/11, NW OFF ISHIGAKIJIMA IS*

*TAP **24** 15:04:55.7,24˚.90N×122˚.38E, h106km, ML4.2, D*

ISC 24 15:04:54.2±0.8,**24˚.89N**±0˚.03×**122˚.41E**±0˚.03,**h119**km±5km, **n133,** σ6§**99**/226**, mb3.6**/6,**1C-18D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**287**	⇓*iP*	**Pn**	**15 05 11.7**	**+0.3**
TWB1				*eS*	**Sn**	**15 05 23.1**	**-1.3**
EOS2	**EOS2**	**0.50**	**199**	P	**Pn**	**15 05 12.5**	**+0.6**
EOS2				*eS*	**Sn**	**15 05 25.7**	**+0.5**
SXI1	**Grass Mountain**	**0.52**	**292**	⇓P	**Pn**	**15 05 12.5**	**+0.2**
SXI1				S	**Sn**	**15 05 25.5**	**-0.4**
TIPB	**Shuangxi**	**0.54**	**278**	⇓*iP*	**Pn**	**15 05 12.6**	**+0.3**
TIPB				*eS*	**Sn**	**15 05 25.2**	**-0.8**
TWC	**Suao**	**0.58**	**241**	⇓P	**Pn**	**15 05 12.5**	**0.0**
TWC				*eS*	**Sn**	**15 05 24.0**	**-2.4**
NWF	**Wu-fen Shan**	**0.60**	**287**	*eP*	**Pn**	**15 05 13.1**	**+0.3**
NWF				*eS*	**Sn**	**15 05 26.0**	**-0.7**
WFSB	**Wu-fen Shan**	**0.60**	**287**	*eS*	**Sn**	**15 05 26.4**	**-0.1**
ESAO	**Su ao**	**0.60**	**238**	⇓*iP*	**Pn**	**15 05 12.8**	**+0.1**
ESAO				*eS*	**Sn**	**15 05 24.6**	**-2.0**
EOS3	**EOS3**	**0.61**	**188**	⇓P	**Pn**	**15 05 13.5**	**+0.9**
EOS3				*eS*	**Sn**	**15 05 27.6**	**+1.1**
ILA	**Ilan**	**0.61**	**258**	*eP*	**Pn**	**15 05 13.3**	**+0.6**
ILA				*eS*	**Sn**	**15 05 26.6**	**-0.2**
TNOU	**National Taiwa**	**0.63**	**294**	*eP*	**Pn**	**15 05 12.4**	**-0.5**
TNOU				*eS*	**Sn**	**15 05 26.2**	**-0.8**
JYNG	**Yonagunijimaku**	**0.66**	**132**	*eP*	**Pn**	**15 05 13.4**	**+0.3**
JYNG				*eS*	**Sn**	**15 05 27.1**	**-0.2**
TWE	**Neicheng**	**0.70**	**256**	⇓P	**Pn**	**15 05 13.8**	**+0.4**
TWE				*eS*	**Sn**	**15 05 27.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.70**	**128**	P	**Pn**	**15 05 13.8**	**+0.4**
YOJ	**Yonaguni jima**	**0.70**	**128**	S	**Sn**	**15 05 28.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.70**	**128**	*eP*	**Pn**	**15 05 13.5**	**+0.1**
YOJ				*eS*	**Sn**	**15 05 27.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.70**	**128**	*eP*	**Pn**	**15 05 13.7**	**+0.2**
YOJ				*eS*	**Sn**	**15 05 27.8**	**-0.1**
EWUT	**Wuta**	**0.73**	**232**	*eP*	**Pn**	**15 05 14.2**	**+0.5**
EWUT				*eS*	**Sn**	**15 05 27.6**	**-0.7**
TWA	**Mucha**	**0.75**	**277**	⇓P	**Pn**	**15 05 14.2**	**+0.3**
TWA				*eS*	**Sn**	**15 05 28.2**	**-0.6**
FUSB	**Fushanzhiwuyua**	**0.76**	**260**	⇓*iP*	**Pn**	**15 05 14.2**	**+0.2**
FUSB				S	**Sn**	**15 05 27.7**	**-1.2**
ENA	**Nanau**	**0.77**	**233**	⇓P	**Pn**	**15 05 14.5**	**+0.5**
ENA				*eS*	**Sn**	**15 05 28.3**	**-0.6**
EOS4	**EOS4**	**0.78**	**186**	*eP*	**Pn**	**15 05 13.9**	**+0.3**
EOS4				*eS*	**Sn**	**15 05 27.9**	**-0.4**
YM08	**YM08**	**0.80**	**292**	*eP*	**Pn**	**15 05 14.7**	**+0.4**
YM08				*eS*	**Sn**	**15 05 29.0**	**-0.4**
YM01	**YM01**	**0.80**	**288**	⇓P	**Pn**	**15 05 14.8**	**+0.5**
YM01				*eS*	**Sn**	**15 05 29.4**	**-0.1**
NHDH	**Xindian Distri**	**0.81**	**275**	*eP*	**Pn**	**15 05 14.8**	**+0.5**
NHDH				*eS*	**Sn**	**15 05 28.6**	**-0.9**
ENTT	**Nioudou**	**0.81**	**252**	*eP*	**Pn**	**15 05 15.0**	**+0.7**
ENTT				*eS*	**Sn**	**15 05 29.8**	**+0.3**
TWY	**Chenhua**	**0.83**	**298**	*eP*	**Pn**	**15 05 14.7**	**+0.3**
TWY				*eS*	**Sn**	**15 05 29.9**	**+0.1**
ZUZH	**Zhuzihu**	**0.83**	**289**	*eP*	**Pn**	**15 05 15.0**	**+0.4**
ZUZH				*eS*	**Sn**	**15 05 29.4**	**-0.5**
EAHA	**Aohua**	**0.83**	**227**	*eP*	**Pn**	**15 05 15.0**	**+0.4**
EAHA				*eS*	**Sn**	**15 05 29.6**	**-0.3**
TAP	**Taipei**	**0.83**	**280**	*eS*	**Sn**	**15 05 29.2**	**-0.7**
TATO	**Taipei**	**0.84**	**276**	P	**Pn**	**15 05 14.9**	**+0.3**
TATO	**Taipei**	**0.84**	**276**	S	**Sn**	**15 05 29.3**	**-0.7**
LATG	**Datong**	**0.88**	**246**	⇓*iP*	**Pn**	**15 05 16.0**	**+0.9**
LATG				*eS*	**Sn**	**15 05 31.3**	**+0.4**
NTST	**Danshui**	**0.91**	**287**	*eP*	**Pn**	**15 05 16.2**	**+1.0**
NTST				S	**Sn**	**15 05 31.1**	**-0.1**
TWS1	**Kuangyinshan**	**0.92**	**283**	⇓P	**Pn**	**15 05 16.0**	**+0.7**
TWS1				*eS*	**Sn**	**15 05 31.2**	**-0.2**
YHNB	**Yeheng**	**0.96**	**257**	P	**Pn**	**15 05 16.4**	**+0.5**
YHNB	**Yeheng**	**0.96**	**257**	⇓P	**Pn**	**15 05 16.3**	**+0.5**
YHNB				S	**Sn**	**15 05 31.6**	**-0.7**
ETL	**Fush Village**	**1.02**	**225**	*eP*	**Pn**	**15 05 16.5**	**+0.1**
NACB	**Ninganchiao**	**1.03**	**226**	P	**Pn**	**15 05 16.8**	**+0.3**
NACB	**Ninganchiao**	**1.03**	**226**	*eP*	**Pn**	**15 05 16.4**	**-0.1**
NACB				*eS*	**Sn**	**15 05 32.3**	**-1.0**
NNSB	**Datong**	**1.04**	**244**	⇓P	**Pn**	**15 05 17.5**	**+0.8**
NNSB				*eS*	**Sn**	**15 05 33.4**	**-0.3**
ETLH	**Xiulin Townshi**	**1.09**	**231**	P	**Pn**	**15 05 17.4**	**+0.3**
ETLH				*eS*	**Sn**	**15 05 34.2**	**-0.3**
TWD	**Chiawan**	**1.10**	**223**	*eP*	**Pn**	**15 05 16.9**	**-0.2**
TWD				*eS*	**Sn**	**15 05 33.6**	**-0.9**
NCUH	**Zhongli**	**1.11**	**274**	*eP*	**Pn**	**15 05 18.4**	**+1.2**
NCUH				*eS*	**Sn**	**15 05 36.2**	**+1.4**
KSHI	**Guanxi Townshi**	**1.13**	**264**	*eP*	**Pn**	**15 05 18.5**	**+1.1**
KSHI				*eS*	**Sn**	**15 05 35.8**	**+0.8**
HWA	**Hwalien**	**1.17**	**219**	*eP*	**Pn**	**15 05 18.2**	**+0.3**
HWA				*eS*	**Sn**	**15 05 36.2**	**+0.4**
NFF	**Wufeng Townshi**	**1.20**	**258**	*eP*	**Pn**	**15 05 18.9**	**+0.6**
NFF				*eS*	**Sn**	**15 05 36.0**	**-0.5**
FUSS	**Fushou**	**1.24**	**239**	*eP*	**Pn**	**15 05 19.7**	**+0.8**
FUSS				*eS*	**Sn**	**15 05 37.9**	**+0.3**
ETM	**Tongmen**	**1.25**	**222**	*eP*	**Pn**	**15 05 18.6**	**-0.1**
ETM				*eS*	**Sn**	**15 05 35.7**	**-1.6**
LXIB	**Xiulin Townshi**	**1.26**	**226**	*eS*	**Sn**	**15 05 36.6**	**-1.1**
TEYL	**Yanliau Villag**	**1.26**	**216**	*eP*	**Pn**	**15 05 18.7**	**-0.2**
TEYL				*eS*	**Sn**	**15 05 36.6**	**-0.9**
WHF	**Hehuan Shan**	**1.28**	**235**	*eS*	**Sn**	**15 05 38.0**	**-0.7**
LIOB	**Emei**	**1.29**	**259**	⇑*iP*	**Pn**	**15 05 20.0**	**+0.8**
LIOB				*eS*	**Sn**	**15 05 37.8**	**-0.3**
TWT	**Tachien**	**1.29**	**241**	*eP*	**Pn**	**15 05 20.7**	**+1.3**
TWT				*eS*	**Sn**	**15 05 38.8**	**+0.4**
SBCB	**Hsinchu**	**1.30**	**266**	*eP*	**Pn**	**15 05 20.1**	**+0.8**
SBCB				*eS*	**Sn**	**15 05 37.8**	**-0.4**
TDCB	**Techi**	**1.30**	**241**	⇓P	**Pn**	**15 05 20.6**	**+1.1**
TDCB				*eS*	**Sn**	**15 05 38.9**	**+0.2**
NSTT	**Nanjuang**	**1.31**	**259**	*eP*	**Pn**	**15 05 19.9**	**+0.5**
NSTT				*eS*	**Sn**	**15 05 37.8**	**-0.7**
HSN	**Hsinchu**	**1.31**	**266**	*eP*	**Pn**	**15 05 19.6**	**+0.3**
HSN				*eS*	**Sn**	**15 05 37.7**	**-0.8**
IRIF	**Iriomote-Funau**	**1.33**	**115**	*eP*	**Pn**	**15 05 19.9**	**+0.4**
IRIF				*eS*	**Sn**	**15 05 38.9**	**+0.1**
SHUL	**Shoufeng**	**1.34**	**215**	*eP*	**Pn**	**15 05 20.0**	**+0.2**
SHUL				*eS*	**Sn**	**15 05 37.8**	**-1.4**
OWD	**Renai**	**1.46**	**230**	*eP*	**Pn**	**15 05 22.0**	**+0.8**
OWD				*eS*	**Sn**	**15 05 41.0**	**-0.9**
WHP	**Taichung City**	**1.47**	**246**	*eP*	**Pn**	**15 05 22.5**	**+1.2**
WHP				*eS*	**Sn**	**15 05 42.1**	**+0.3**
WARBT	**Fenglin Townsh**	**1.50**	**219**	*eP*	**Pn**	**15 05 21.0**	**-0.6**
WARBT				*eS*	**Sn**	**15 05 40.0**	**-2.3**
EGFH	**Guangfu**	**1.51**	**216**	*eP*	**Pn**	**15 05 21.6**	**-0.1**
EGFH				*eS*	**Sn**	**15 05 41.0**	**-1.7**
NMLH	**Miaoli**	**1.51**	**257**	*eP*	**Pn**	**15 05 22.6**	**+0.9**
NMLH				*eS*	**Sn**	**15 05 42.9**	**+0.2**
HATJ	**Hateruma jima**	**1.52**	**123**	*eS*	**Sn**	**15 05 43.0**	**+0.2**
NSY	**Sanyi**	**1.57**	**253**	⇓P	**Pn**	**15 05 23.6**	**+1.1**
NSY				*eS*	**Sn**	**15 05 44.1**	**+0.2**
TWQ1	**Liyutan**	**1.58**	**250**	*eP*	**Pn**	**15 05 23.2**	**+0.7**
TWQ1				*eS*	**Sn**	**15 05 44.0**	**-0.2**
JKRS	**Kuro-shima**	**1.60**	**114**	*eP*	**Pn**	**15 05 23.9**	**+1.2**
JKRS				*eS*	**Sn**	**15 05 45.1**	**+0.7**
HGSD	**Ruisui**	**1.66**	**213**	*eP*	**Pn**	**15 05 23.6**	**+0.2**
HGSD				*eS*	**Sn**	**15 05 44.8**	**-0.9**
JIJ	**Ishigaki jima**	**1.66**	**108**	P	**Pn**	**15 05 24.1**	**+0.6**
JIJ				*eS*	**Sn**	**15 05 44.9**	**+0.1**
EHYH	**Wanrong**	**1.70**	**215**	*eP*	**Pn**	**15 05 23.8**	**-0.1**
EHYH				*eS*	**Sn**	**15 05 44.5**	**-2.1**
WDJ	**Dajia District**	**1.70**	**252**	*eS*	**Sn**	**15 05 46.6**	**+0.1**
SMLT	**Sun Moon Lake**	**1.71**	**234**	*eP*	**Pn**	**15 05 25.7**	**+1.6**
SMLT				*eS*	**Sn**	**15 05 47.9**	**+1.0**
TYC	**Yuchr**	**1.72**	**235**	*eP*	**Pn**	**15 05 25.5**	**+1.3**
TYC				*eS*	**Sn**	**15 05 48.1**	**+1.0**
TCU	**Taichung**	**1.74**	**245**	*eP*	**Pn**	**15 05 25.5**	**+1.1**
TCU				*eS*	**Sn**	**15 05 46.8**	**-0.8**
JISG	**Ishigakijimahi**	**1.76**	**100**	P	**Pn**	**15 05 25.4**	**+0.8**
JISG				*eS*	**Sn**	**15 05 47.8**	**0.0**
YULB	**Yu-li**	**1.81**	**214**	P	**Pn**	**15 05 26.7**	**+1.4**
YULB	**Yu-li**	**1.81**	**214**	S	**Sn**	**15 05 47.4**	**-1.6**
YULB	**Yu-li**	**1.81**	**214**	*eP*	**Pn**	**15 05 25.0**	**-0.3**
YULB				*eS*	**Sn**	**15 05 47.0**	**-1.9**
WHYT	**Xinyi Township**	**1.85**	**230**	*eP*	**Pn**	**15 05 27.4**	**+1.6**
WHYT				*eS*	**Sn**	**15 05 51.6**	**+1.6**
WJS	**Zhushan**	**1.87**	**235**	*eP*	**Pn**	**15 05 28.0**	**+2.0**
WJS				*eS*	**Sn**	**15 05 51.9**	**+1.7**
WNT	**Mingjian**	**1.87**	**238**	*eP*	**Pn**	**15 05 27.3**	**+1.3**
WNT				*eS*	**Sn**	**15 05 51.0**	**+0.7**
WCH1	**Changhua City**	**1.88**	**245**	*eS*	**Sn**	**15 05 51.3**	**+0.8**
CHKH	**Chenggong**	**1.93**	**209**	*eS*	**Sn**	**15 05 49.8**	**-1.9**
FULB	**Fuli**	**1.97**	**211**	*eS*	**Sn**	**15 05 52.6**	**0.0**
ALS	**Alishan**	**2.01**	**227**	P	**Pn**	**15 05 29.7**	**+1.7**
ALS				*eS*	**Sn**	**15 05 56.0**	**+2.1**
CHN5	**Tsauling**	**2.04**	**231**	*eP*	**Pn**	**15 05 29.8**	**+1.6**
CHN5				*eS*	**Sn**	**15 05 55.0**	**+0.8**
WGK	**Gukeng**	**2.07**	**235**	*eP*	**Pn**	**15 05 30.0**	**+1.5**
WGK				*eS*	**Sn**	**15 05 56.5**	**+1.8**
WDL	**Douliou City**	**2.07**	**236**	*eS*	**Sn**	**15 05 56.7**	**+2.0**
WDLH	**Douliu**	**2.09**	**235**	*eP*	**Pn**	**15 05 29.9**	**+1.2**
WDLH				*eS*	**Sn**	**15 05 55.9**	**+0.8**
ELDTW	**Lidau**	**2.12**	**217**	*eS*	**Sn**	**15 05 55.0**	**-1.0**
EDH	**Donghe**	**2.16**	**208**	*eP*	**Pn**	**15 05 29.4**	**-0.3**
EDH				*eS*	**Sn**	**15 05 54.7**	**-2.1**
WCKO	**Fanlu**	**2.19**	**229**	*eP*	**Pn**	**15 05 31.0**	**+0.9**
WCKO				*eS*	**Sn**	**15 05 58.3**	**+0.8**
WTCT	**Ta-ch'eng**	**2.19**	**243**	*eS*	**Sn**	**15 05 57.3**	**-0.2**
WTK	**Tuku**	**2.20**	**237**	*eP*	**Pn**	**15 05 31.0**	**+0.9**
WTK				*eS*	**Sn**	**15 05 58.6**	**+1.0**
CHN4	**Tsaushan**	**2.26**	**228**	*eP*	**Pn**	**15 05 32.2**	**+1.3**
CHN4				*eS*	**Sn**	**15 06 00.1**	**+1.0**
TPUB	**Ta-pu**	**2.27**	**226**	P	**Pn**	**15 05 32.4**	**+1.3**
TPUB	**Ta-pu**	**2.27**	**226**	⇓P	**Pn**	**15 05 32.3**	**+1.2**
TPUB				*eS*	**Sn**	**15 05 59.7**	**+0.4**
CHY	**Chiayi**	**2.28**	**233**	*eP*	**Pn**	**15 05 32.2**	**+1.0**
CHY				*eS*	**Sn**	**15 05 59.8**	**+0.2**
LONT	**Longtian**	**2.30**	**211**	*eP*	**Pn**	**15 05 33.1**	**+1.7**
LONT				*eS*	**Sn**	**15 05 57.9**	**-2.0**
WTP	**Ta-pu**	**2.32**	**225**	P	**Pn**	**15 05 32.8**	**+1.1**
WTP				*eS*	**Sn**	**15 06 01.0**	**+0.5**
WSF	**Szhu**	**2.35**	**238**	*eP*	**Pn**	**15 05 33.7**	**+1.6**
WSF				*eS*	**Sn**	**15 06 00.7**	**-0.4**
LDUT	**Ludao**	**2.37**	**201**	*eS*	**Sn**	**15 05 59.4**	**-2.1**
TWK	**Hsinying**	**2.39**	**228**	*eP*	**Pn**	**15 05 33.6**	**+1.0**
TWK				*eS*	**Sn**	**15 06 02.6**	**+0.5**
TWGBT	**Beinan**	**2.40**	**211**	S	**Sn**	**15 06 00.4**	**-1.8**
TWGBT	**Beinan**	**2.40**	**211**	P	**Pn**	**15 05 32.6**	**-0.1**
TWGBT	**Beinan**	**2.40**	**211**	*eP*	**Pn**	**15 05 32.4**	**-0.2**
TWGBT				*eS*	**Sn**	**15 06 00.3**	**-1.9**
WSL	**Shuilin Townsh**	**2.41**	**236**	*eP*	**Pn**	**15 05 33.6**	**+0.8**
WSL				*eS*	**Sn**	**15 06 02.8**	**+0.3**
SNST	**Tainan City**	**2.42**	**227**	*eP*	**Pn**	**15 05 34.1**	**+1.2**
SNST				*eS*	**Sn**	**15 06 02.7**	**+0.2**
CHN1	**Nanshi**	**2.42**	**226**	*eP*	**Pn**	**15 05 34.0**	**+1.0**
CHN1				*eS*	**Sn**	**15 06 03.0**	**+0.3**
SCLT	**Jiali**	**2.65**	**230**	*eS*	**Sn**	**15 06 08.0**	**0.0**
SCST	**Cishan**	**2.66**	**222**	*eP*	**Pn**	**15 05 37.7**	**+1.7**
SSD	**Sandimen**	**2.69**	**218**	*eP*	**Pn**	**15 05 38.3**	**+1.9**
SSD				*eS*	**Sn**	**15 06 09.7**	**+0.9**
VWUC	**VWUC**	**2.69**	**273**	*eP*	**Pn**	**15 05 36.3**	**0.0**
VWUC				*eS*	**Sn**	**15 06 06.3**	**-2.5**
TSCK	**Chigu Township**	**2.75**	**231**	*eS*	**Sn**	**15 06 09.9**	**-0.3**
MASBT	**Mashibuluo**	**2.79**	**216**	*eP*	**Pn**	**15 05 39.3**	**+1.5**
MASBT				*eS*	**Sn**	**15 06 10.8**	**-0.5**
TAW	**Tawu**	**2.88**	**209**	*eP*	**Pn**	**15 05 38.9**	**0.0**
**TA

comp=Z,814nm,20.2s,baz=286,slow=31
RAR Rarotonga 13.05 92 P **Pn** 15 08 54.9 -2.8
FUNA Funafuti 14.50 331 Pn **Pn** 15 09 15.6 -1.9
DZM Mont Dzumac 18.39 264 P **P** 15 10 05.1 -1.8
6.1nm,0.6s,baz=91,slow=18
URZ Urewera 18.53 203 P **Pn** 15 10 09.2 +0.7
1.3nm,0.3s,baz=330,slow=1.8,SNR=7.0
URZ LR LR 15 16 55.3
comp=Z,341nm,19.2s,baz=28,slow=36
15nm,0.7s
URZ Urewera 18.53 203 P **Pn** 15 10 13.0 +4.4
BKZ Black Stump Fm 19.56 203 P **Pn** 15 10 23.3 +2.3
BFZ Birch Farm 20.99 202 P Pn 15 10 38.0 +0.3
SNZO South Karori 22.09 204 P **P** 15 10 50.8 +4.0
SNZO South Karori 22.09 204 S Sn 15 14 57.2 -3.1
TUWZ Tuamarina 22.49 205 P **P** 15 10 48.4 -2.6
QRZ Quartz Range 22.57 208 P **P** 15 10 56.2 +4.3
PPT Papeete 23.12 85 LR LR 15 17 27.4
comp=Z,362nm,21.2s,baz=257,slow=30
KHZ Kahutara 23.49 204 P **P** 15 10 57.6 -3.6
KHZ Kahutara 23.49 204 P **P** 15 11 05.5 +4.3
INZ Inchbonnie 24.59 207 P **P** 15 11 10.2 -1.2
INZ IAmb IAmb 15 11 28.4
comp=Z,35nm,1.0s
OXZ Oxford 24.84 205 P **P** 15 11 09.2 -4.5
OXZ IAmb IAmb 15 11 14.8
comp=Z,33nm,0.8s
RPZ Rata Peaks 25.56 206 P **P** 15 11 20.7 +0.4
comp=Z,11nm,0.9s,baz=35,slow=12,SNR=2.5
comp=Z,11nm,0.9s
RPZ Rata Peaks 25.56 206 P **P** 15 11 24.6 +4.3
FOZ Fox Glacier 25.94 208 P **P** 15 11 22.6 -1.1
FOZ IAmb IAmb 15 11 41.0
comp=Z,37nm,1.0s
JCZ Jackson Bay 26.82 209 P **P** 15 11 36.1 +4.3
HNR Honiara 27.94 291 LR LR 15 20 57.9
comp=Z,233nm,21.5s,baz=124,slow=33
ARMA Armidale 32.28 247 P **P** 15 12 18.6 -1.8
RABL Rabaul 37.23 293 P **P** 15 13 00.8 -2.4
CTAO Charters Tower 37.33 265 P **P** 15 13 02.3 -1.8
CTAO Charters Tower 37.33 265 P **P** 15 13 02.3 -1.8
CTAO pmax pmax
comp=Z,15nm,1.3s
PMG Port Moresby 39.40 282 ⇓*i*P **P** 15 13 20.2 -1.2
PMG pmax pmax
comp=Z,19nm,1.0s
STKA Stephens Creek 40.98 246 P **P** 15 13 32.5 -1.9
STKA IAmb IAmb 15 13 34.5
comp=Z,30nm,0.8s
STKA Stephens Creek 40.98 246 P **P** 15 13 33.5 -0.9
comp=Z,7.4nm,0.8s,baz=92,slow=8.5,SNR=8.7
comp=Z,7.4nm,0.8s
STKA Stephens Creek 40.98 246 ⇓*i*P **P** 15 13 34.1 -0.3
COEN Coen 41.58 273 P **P** 15 13 37.3 -2.2
INKA Innaminka 41.65 252 P **P** 15 13 38.3 -1.6
AS31 Alice Springs 48.15 257 **P** 15 14 30.2 -1.6
ASAR Alice Springs 48.16 257 **P** 15 14 29.7 -2.2
ASAR Alice Springs 48.16 257 P **P** 15 14 30.4 -1.4
comp=Z,16nm,0.8s,baz=101,slow=7.5,SNR=111
ASAR PcP **PcP** 15 15 60.0 +0.9
comp=Z,2.2nm,0.7s,baz=107,slow=4.3,SNR=5.1
ASAR S **S** 15 21 22.5 -6.3
comp=Z,1.0nm,0.9s,baz=96,slow=14,SNR=6.6
comp=Z,16nm,0.8s
WR8 Warramunga Arr 48.23 262 **P** 15 14 30.6 -1.8
WB0 Warramunga Arr 48.37 262 **P** 15 14 31.5 -2.0
WB0 IAmb IAmb 15 14 32.3
comp=Z,13nm,1.0s
WRAB Tennant Creek 48.37 262 ⇑*i*P **P** 15 14 31.3 -2.2
WRA Warramunga Arr 48.38 262 **P** 15 14 31.2 -2.4
WRA Warramunga Arr 48.38 262 P **P** 15 14 31.2 -2.4
comp=Z,7.5nm,0.8s,baz=99,slow=7.2,SNR=45
WRA PcP **PcP** 15 16 00.8 +0.9
comp=Z,2.6nm,0.8s,baz=100,slow=3.5,SNR=5.9
comp=Z,7.5nm,0.8s
MTN Manton Dam 53.11 270 P **P** 15 15 07.7 -1.6
KNRA Kununurra 54.53 266 **P** 15 15 18.4 -1.2
FITZ Fitzroy Crossi 56.81 262 P **P** 15 15 35.1 -1.0
FITZ Fitzroy Crossi 56.81 262 P **P** 15 15 35.0 -1.0
comp=Z,4.7nm,0.6s,baz=103,slow=6.3,SNR=16
comp=Z,4.7nm,0.6s
SBA Scott Base 57.25 185 P **P** 15 15 37.2 -1.0
SBA Scott Base 57.25 185 P **P** 15 15 37.2 -1.0
SBA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 57.38 186 P **P** 15 15 41.3 +2.2
comp=Z,1.9nm,0.9s,baz=18,slow=9.6,SNR=9.6
comp=Z,1.9nm,0.9s
RPN Rapa Nui 58.47 109 LR LR 15 35 38.6
comp=Z,128nm,19.3s,baz=301,slow=30
SOEI Soe 60.47 271 **P** 15 16 01.6 -0.1
PSA00 Pilbara Seismi 61.30 256 P **P** 15 16 06.2 -0.9
MBWA Marble Bar 61.50 257 P **P** 15 16 06.6 -1.9
MBWA IAmb IAmb 15 16 08.4
comp=Z,11nm,0.8s
MORW Morawa 63.13 247 P **P** 15 16 16.8 -2.5
MORW IAmb IAmb 15 16 20.7
comp=Z,18nm,0.9s
QSPA South Pole Qui 68.65 180 **P** 15 16 53.9 -0.4
QSPA IAmb IAmb 15 16 59.4
comp=Z,15nm,1.2s
QSPA South Pole Qui 68.65 180 P **P** 15 16 57.8 +3.5
comp=Z,7.0nm,1.0s,baz=41,slow=1.3,SNR=14
comp=Z,7.0nm,1.0s
ADK Adak 73.03 358 **P** 15 17 21.4 +0.7
ADK Adak 73.03 358 P **P** 15 17 21.4 +0.7
ADK pmax pmax
comp=Z,24nm,0.9s
MJAR Matsushiro Arr 73.34 321 **P** 15 17 22.8 -0.2
MJAR Matsushiro Arr 73.34 321 P **P** 15 17 23.0 0.0
comp=Z,2.0nm,0.6s,baz=126,slow=6.4,SNR=16
comp=Z,2.0nm,0.6s
MAJO Matsushiro 73.34 321 P **P** 15 17 22.4 -0.6
MAJO Matsushiro 73.34 321 P **P** 15 17 22.4 -0.6
MAJO pmax pmax
comp=Z,4.0nm,0.9s
JMN Monobe 74.12 317 **P** 15 17 26.1 -1.5
NIKH Nikolski High 74.20 3 P **P** 15 17 28.1 +0.5
baz=185
UNV Unalaska Valle 75.22 4 P **P** 15 17 34.3 +0.9
baz=187
JNU Nakatsue 75.69 315 P **P** 15 17 36.9 +0.2
comp=Z,9.1nm,0.9s,baz=170,slow=4.7,SNR=3.7
comp=Z,9.1nm,0.9s
YOJ Yonaguni jima 76.52 303 P **P** 15 17 41.6 +0.1
YOJ Yonaguni jima 76.52 303 P **P** 15 17 41.6 +0.1
YOJ pmax pmax
comp=Z,633nm,1.5s
SDPT Sand Point 77.30 8 P **P** 15 17 45.9 +0.6
baz=192
S12K Black Hills 77.46 7 P **P** 15 17 46.9 +0.8
baz=191
P08K Saint George I 77.80 2 P **P** 15 17 48.9 +1.0
baz=184
PET Petropavlovsk 77.91 343 ⇑*e*P **P** 15 17 47.7 -0.9
PET pmax pmax
comp=Z,14nm,0.9s
PEA0B Petropavlovsk- 78.24 343 *d*iP **P** 15 17 51.7 +1.2
PETK Petropavlovsk- 78.24 343 P **P** 15 17 50.6 0.0
comp=Z,17nm,0.9s,baz=124,slow=7.5,SNR=27
comp=Z,17nm,0.9s
S14K Fog Glacier 78.33 8 P **P** 15 17 51.8 +0.7
baz=193
SPIA Saint Paul Isl 78.35 2 P **P** 15 17 51.8 +0.8
baz=183
CHIR Chirikof Islan 78.47 10 P **P** 15 17 52.5 +0.8
baz=197
YSS Yuzhno-Sakhali 78.54 331 *e*P **P** 15 17 53.9 +1.6
YSS pmax pmax
comp=Z,30nm,0.9s
RYN Ryan 79.03 41 **P** 15 17 53.5 -2.0
NVAR Mina Array Bea 79.05 41 P **P** 15 17 54.3 -1.3
NVAR Mina Array Bea 79.05 41 P **P** 15 17 56.9 +1.3
comp=Z,5.5nm,1.1s,baz=222,slow=8.7,SNR=14
comp=Z,5.5nm,1.1s
SII Sitkinak Islan 79.42 11 P **P** 15 17 57.6 +0.7
baz=198
R17L Mt. Peulik Vol 80.09 9 P **P** 15 18 01.6 +1.0
baz=196
PLK4 Peulik 4 80.09 9 IAmb IAmb 15 18 03.0
comp=Z,24nm,0.9s
OHAK Old Harbor 80.21 11 P **P** 15 18 01.7 +0.6
baz=199
KSRS Korea Array 80.23 317 P **P** 15 17 57.6 -4.2
comp=Z,2.0nm,0.9s,baz=142,slow=5.6,SNR=8.8
R18K Karluk 80.33 10 P **P** 15 18 02.9 +1.1
baz=198
Q17K Contact Creek 80.77 9 P **P** 15 18 04.8 +0.4
baz=197
KDAK Kodiak Island 80.86 11 P **P** 15 18 05.8 +1.1
baz=200
O14K Tigyukauivet M 81.04 6 P **P** 15 18 06.4 +0.8
baz=192
Q16K King Salmon 81.05 9 P **P** 15 18 06.1 +0.5
baz=196
O15K Ungalikthiuk R 81.12 7 P **P** 15 18 06.8 +0.8
baz=193
P16K Nushagak River 81.21 8 P **P** 15 18 07.1 +0.6
baz=195
Q18K Katmai Hardscr 81.27 10 P **P** 15 18 07.7 +0.7
baz=197
TYV Tymovskoe 81.55 334 *e*P **P** 15 18 09.0 +0.5
TYV pmax pmax
comp=Z,12nm,1.3s
TYV pmax pmax
comp=Z,200nm,3.2s
P17K Kvichak River 81.58 9 P **P** 15 18 09.0 +0.6
baz=196
N14K Kuskokwak Cree 81.65 6 P **P** 15 18 10.3 +1.5
baz=191
Q20K Shuyak Island 81.68 11 P **P** 15 18 09.5 +0.5
baz=200
O16K Kokwok River B 81.74 8 **P** 15 18 06.8 -2.5
O16K IAmb IAmb 15 18 10.9
comp=Z,12nm,0.9s
O16K Kokwok River B 81.74 8 P **P** 15 18 09.8 +0.5
baz=194
M11K Mekoryuk 81.75 4 P **P** 15 18 10.7 +1.4
baz=187
Q19K Cape Douglas, 81.76 10 P **P** 15 18 09.8 +0.3
baz=199
P18K Big Mountain, 81.95 9 IAmb IAmb 15 18 12.4
comp=Z,39nm,1.5s
P18K Big Mountain, 81.95 9 P **P** 15 18 11.4 +0.9
baz=197
M13K Dall Lake 81.98 5 P **P** 15 18 11.5 +1.0
baz=190
MAW Mawson 82.00 199 P **P** 15 18 12.6 +1.8
comp=Z,4.0nm,0.8s,baz=134,slow=7.3,SNR=12
comp=Z,4.0nm,0.8s
O17K Koliganek Bris 82.05 8 P **P** 15 18 11.6 +0.7
baz=195
N15K Kwethluk River 82.06 7 P **P** 15 18 12.3 +1.3
baz=193
H03S2 Juan Fernandez 82.20 123 T T 16 50 38.7
baz=248,slow=75,SNR=74
H03S1 Juan Fernandez 82.21 123 T T 16 50 39.8
baz=248,slow=75,SNR=59
H03S3 Juan Fernandez 82.22 123 T T 16 50 38.5
baz=248,slow=75,SNR=67
H03N2 Juan Fernandez 82.33 123 T T 16 50 37.1
baz=252,slow=73
H03N3 Juan Fernandez 82.33 123 T T 16 50 40.0
baz=252,slow=73
H03N1 Juan Fernandez 82.35 123 T T 16 50 45.9
baz=252,slow=73
O18K Koktuh Hills 82.40 9 IAmb IAmb 15 18 15.9
comp=Z,22nm,1.1s
O18K Koktuh Hills 82.40 9 P **P** 15 18 14.2 +1.4
baz=197
M14K Bethel 82.44 6 P **P** 15 18 14.4 +1.5
baz=191
M15K Kasigluk River 82.51 6 P **P** 15 18 15.1 +1.8
baz=192,SNR=13
N16K Nishlik Lake 82.51 7 P **P** 15 18 14.7 +1.3
baz=194
P19K Oil Pt 82.52 10 P **P** 15 18 14.4 +1.0
baz=199
N17K Nushagak Hills 82.76 8 P **P** 15 18 15.8 +1.1
baz=195
HOM Homer 82.80 11 P **P** 15 18 15.4 +0.6
baz=200
O19K Port Alsworth 82.86 10 P **P** 15 18 16.0 +0.9
baz=198
L14K Kuka Creek 82.96 5 P **P** 15 18 17.8 +2.2
baz=190,SNR=8.1
M16K Timber Creek 83.02 7 P **P** 15 18 17.1 +1.1
baz=194,SNR=14
O20K Slope Mountain 83.03 10 P **P** 15 18 17.2 +1.1
baz=200
N18K Kilae Creek 83.09 9 P **P** 15 18 17.1 +0.7
baz=196
K13K Kusilvak Mount 83.39 4 P **P** 15 18 19.4 +1.5
baz=188
L15K Ungalak Mounta 83.40 6 P **P** 15 18 19.8 +2.0
baz=191,SNR=13
N19K Bonanza Creek 83.42 9 IAmb IAmb 15 18 20.0
comp=Z,17nm,1.1s
N19K Bonanza Creek 83.42 9 P **P** 15 18 18.7 +0.6
baz=198
NJ2 Nanjing 83.53 308 *e*P **P** 15 18 21.8 +2.5
NJ2 pmax pmax
comp=Z,7.0nm,0.8s
M17K Holitna River 83.58 8 P **P** 15 18 20.8 +2.0
baz=195,SNR=6.1
MDJ Mudanjiang 83.58 323 IAmb IAmb 15 18 22.2
comp=Z,13nm,1.1s
MDJ Mudanjiang 83.58 323 P **P** 15 18 20.8 +1.6
MDJ pmax pmax
comp=Z,13nm,1.1s
SEW Seward 83.62 12 P **P** 15 18 19.9 +0.9
baz=202
L16K Owhat River 83.64 7 **P** 15 18 18.1 -0.9
L16K IAmb IAmb 15 18 22.6
comp=Z,15nm,1.1s
L16K Owhat River 83.64 7 P **P** 15 18 20.0 +0.9
baz=193,SNR=7.7
Q23K Middleton Isla 83.65 14 P **P** 15 18 19.8 +0.6
baz=205
M18K Stony River 83.88 9 P **P** 15 18 21.5 +1.2
baz=197
O22K Cooper Landing 83.92 12 P **P** 15 18 21.4 +0.8
baz=202
P23K Montague Islan 83.94 13 P **P** 15 18 21.6 +0.9
baz=204
K15K Wolf Creek Mou 84.00 6 P **P** 15 18 22.3 +1.3
baz=191,SNR=24
CRAG Craig 84.03 22 P **P** 15 18 21.6 +0.4
baz=217
N20K Mount Spurr 84.15 10 P **P** 15 18 22.2 +0.3
baz=200
SPCR Spurr Chakacha 84.15 10 P **P** 15 18 22.2 +0.3
baz=200
L17K Donlin 84.18 7 P **P** 15 18 22.7 +0.8
baz=194,SNR=9.9
TXAR Lajitas Array 84.27 56 P **P** 15 18 24.8 +1.6
comp=Z,0.7nm,0.9s,baz=224,slow=6.6,SNR=7.1
comp=Z,0.7nm,0.9s
J14K Nanvaranak Lak 84.28 5 P **P** 15 18 23.2 +0.9
baz=189
F10A Beach Ranch, E 84.38 36 IAmb IAmb 15 18 25.9
comp=Z,13nm,1.1s
V35K Ketchikan 84.45 23 P **P** 15 18 23.7 +0.3
baz=219
L18K Granite Mounta 84.46 8 IAmb IAmb 15 18 26.6
comp=Z,13nm,1.1s
L18K Granite Mounta 84.46 8 P **P** 15 18 24.1 +0.7
baz=196,SNR=7.5
M19K Big River Lodg 84.48 9 P **P** 15 18 24.2 +0.8
baz=198
RC01 Rabbit Creek A 84.48 11 P **P** 15 18 24.1 +0.6
baz=202
STLK Strandline Lak 84.50 10 IAmb IAmb 15 18 25.0
comp=Z,10nm,1.0s
KAIM Kayak Island 84.53 14 P **P** 15 18 24.6 +0.9
baz=207
PWL Port Wells 84.54 12 IAmb IAmb 15 18 26.0
comp=Z,15nm,0.9s
PWL Port Wells 84.54 12 P **P** 15 18 24.5 +0.8
baz=203
U33K Whale Pass 84.54 22 P **P** 15 18 24.1 +0.3
baz=217
SIT Sitka 84.57 20 P **P** 15 18 24.6 +0.7
baz=215
M20K Styx River 84.65 10 P **P** 15 18 25.2 +0.8
baz=199
SUA Susitna One 84.65 11 IAmb IAmb 15 18 26.5
comp=Z,15nm,0.8s
SUA Susitna One 84.65 11 P **P** 15 18 25.0 +0.6
baz=201,SNR=6.2
L19K White Mountain 84.67 9 P **P** 15 18 25.4 +1.0
baz=197
K17K Iditarod 84.75 7 IAmb IAmb 15 18 28.2
comp=Z,26nm,1.4s
K17K Iditarod 84.75 7 P **P** 15 18 25.5 +0.7
baz=194
EYAK Cordova Ski Ar 84.79 13 P **P** 15 18 25.6 +0.6
baz=206
GLI Glacier Island 84.81 13 P **P** 15 18 25.8 +0.7
baz=205
GAMB Gambell 84.93 1 P **P** 15 18 26.7 +1.1
baz=182
BGLC Bering Glacier 84.97 15 P **P** 15 18 26.5 +0.6
baz=208
SKT Skwentna 85.00 10 P **P** 15 18 26.6 +0.6
baz=200
BSUT Blindstream Ca 85.00 43 **P** 15 18 25.8 -1.3
KNK Knik Glacier 85.02 12 IAmb IAmb 15 18 28.6
comp=Z,11nm,0.8s
KNK Knik Glacier 85.02 12 P **P** 15 18 27.1 +0.8
baz=203
M22K Willow 85.03 11 P **P** 15 18 27.3 +1.2
baz=202,SNR=6.7
S31K Pelican 85.03 19 P **P** 15 18 26.7 +0.4
baz=214
J16K Anvik River 85.06 6 P **P** 15 18 27.0 +0.7
baz=192
PMR Palmer 85.06 12 P **P** 15 18 27.5 +1.2
baz=203
L20K Farewell, AK 85.10 9 P **P** 15 18 27.4 +0.8
baz=198,SNR=6.3
S32K Killisnoo 85.15 20 P **P** 15 18 27.6 +0.7
baz=216
J17K VABM Dome 85.32 7 IAmb IAmb 15 18 30.4
comp=Z,12nm,1.1s
J17K VABM Dome 85.32 7 P **P** 15 18 28.9 +1.3
baz=194
MESA MESA 85.34 15 P **P** 15 18 28.9 +0.8
baz=209
BMRM Bremner River 85.42 14 IAmb IAmb 15 18 30.9
comp=Z,21nm,1.1s
BMRM Bremner River 85.42 14 P **P** 15 18 29.1 +0.8
baz=207
CN2 Changchun 85.47 321 *e*P **P** 15 18 29.9 +1.1
CN2 pmax pmax
comp=Z,20nm,1.2s
BNX BinXian 85.49 323 ⇓P **P** 15 18 30.4 +1.5
BNX pmax pmax
comp=Z,18nm,1.1s
M23K Glacier View 85.51 12 P **P** 15 18 29.8 +1.2
baz=204
PNL Peninsula 85.56 17 P **P** 15 18 29.8 +0.9
baz=212
CRQM Cirque 85.57 15 IAmb IAmb 15 18 32.0
comp=Z,21nm,1.1s
CRQE Cirque 85.57 15 P **P** 15 18 29.8 +0.7
baz=208
KLU Klutina 85.61 13 IAmb IAmb 15 18 31.8
comp=Z,17nm,1.3s
KLU Klutina 85.61 13 P **P** 15 18 30.2 +1.1
baz=206
CUT Chulitna 85.61 11 P **P** 15 18 30.1 +1.1
baz=202
SCM Sheep Creek Mo 85.63 12 P **P** 15 18 30.5 +1.2
baz=204,SNR=6.2
I17K Unalakleet 85.64 6 P **P** 15 18 30.1 +1.0
baz=192
J18K Innoko River 85.66 8 IAmb IAmb 15 18 32.3
comp=Z,18nm,1.1s
J18K Innoko River 85.66 8 P **P** 15 18 30.8 +1.5
baz=196,SNR=12
PINM Pinnacle 85.70 16 P **P** 15 18 30.2 +0.6
baz=211
PPLA Purkeypile 85.75 10 P **P** 15 18 31.2 +1.2
baz=200
GRNC Granite Creek 85.88 15 IAmb IAmb 15 18 33.6
comp=Z,24nm,1.1s
K20K Telida 85.91 9 IAmb IAmb 15 18 33.2
comp=Z,12nm,1.1s
K20K Telida 85.91 9 P **P** 15 18 31.9 +1.3
baz=198,SNR=9.6
VRDI Verde Repeater 85.91 14 IAmb IAmb 15 18 33.6
comp=Z,24nm,1.2s
P29M Windy Craggy 85.98 17 P **P** 15 18 31.6 +0.5
baz=213
N25K Chitina, Valde 85.99 14 IAmb IAmb 15 18 33.8
comp=Z,17nm,1.1s
N25K Chitina, Valde 85.99 14 P **P** 15 18 32.3 +1.2
baz=207
GLB Gilahina Butte 86.02 14 IAmb IAmb 15 18 34.0
comp=Z,26nm,1.4s
M24K Tolsona, Glenn 86.11 13 IAmb IAmb 15 18 34.8
comp=Z,23nm,1.1s
M24K Tolsona, Glenn 86.11 13 P **P** 15 18 32.9 +1.3
baz=205
LOGN Logan Glacier 86.14 15 IAmb IAmb 15 18 35.4
comp=Z,26nm,1.3s
MCARA McCarthy VSAT 86.14 14 IAmb IAmb 15 18 34.7
comp=Z,12nm,1.0s
MCARA McCarthy VSAT 86.14 14 P **P** 15 18 32.6 +0.9
baz=208
CTG Chitna Glacier 86.18 15 P **P** 15 18 32.9 +0.7
baz=210
CTGM Chitina Glacie 86.18 15 IAmb IAmb 15 18 35.0
comp=Z,22nm,1.1s
T35M Bob Quinn 86.22 22 P **P** 15 18 32.8 +0.6
baz=220
PLBC Pleasant Camp 86.23 18 P **P** 15 18 33.2 +1.0
baz=214
WAT6 Susitna Watana 86.23 12 P **P** 15 18 33.5 +1.1
baz=204,SNR=9.2
H16K Elim 86.25 5 P **P** 15 18 33.6 +1.4
baz=190
CAST Castle Rocks 86.26 10 P **P** 15 18 32.4 0.0
baz=200,SNR=9.2
O28M Mount Upton 86.30 16 IAmb IAmb 15 18 35.9
comp=Z,13nm,1.1s
O28M Mount Upton 86.30 16 P **P** 15 18 33.2 +0.3
baz=211
J19K Poorman 86.31 8 P **P** 15 18 33.4 +0.9
baz=197
WAT1 Susitna Watana 86.31 11 P **P** 15 18 33.6 +1.0
baz=203
O29M Mount Kennedy 86.32 17 P **P** 15 18 33.3 +0.5
baz=212
G15K Niukluk 86.47 4 P **P** 15 18 34.9 +1.6
baz=189
SKAG Skagway 86.53 19 P **P** 15 18 34.3 +0.7
baz=215
TRF Thorofare Moun 86.58 10 P **P** 15 18 34.6 +0.5
baz=202,SNR=20
HARP HAARP 86.58 13 P **P** 15 18 35.6 +1.7
baz=206
P30M Million Dollar 86.61 17 P **P** 15 18 34.6 +0.5
baz=214
S34M Telegraph Cree 86.63 21 P **P** 15 18 34.5 +0.3
baz=219
SYO Syowa Base 86.66 191 ⇑*e*PcP **P** 15 18 35.4 +1.0
CHUM Lake Minchumin 86.67 9 P **P** 15 18 35.3 +1.0
baz=200
J20K Nowinta River 86.68 8 IAmb IAmb 15 18 37.1
comp=Z,15nm,1.1s
J20K Nowinta River 86.68 8 P **P** 15 18 35.5 +1.2
baz=198,SNR=13
H17K Granite Mounta 86.75 6 P **P** 15 18 35.9 +1.3
baz=193
DHY Denali Highway 86.75 12 P **P** 15 18 35.7 +0.8
baz=204
TROLL Troll, Antarti 86.78 179 ⇑P **P** 15 18 36.8 +1.7
comp=Z,203nm,0.8s
F14K Arctic Creek 86.81 3 P **P** 15 18 36.0 +1.1
baz=187
TNA Tin City 86.82 2 P **P** 15 18 36.5 +1.6
baz=185
YUK8 Steele Glacier 86.84 16 P **P** 15 18 35.9 +0.4
baz=211,SNR=5.2
GCSA Galena City Sc 86.88 7 P **P** 15 18 37.1 +1.9
baz=196
YUK6 Outpost Mounta 86.92 16 P **P** 15 18 37.0 +1.1
baz=212
VNA3 Neumayer Olymp 86.92 175 ⇑P **P** 15 18 37.1 +1.4
comp=Z,7.9nm,0.8s
SNAA Sanae 86.94 177 ⇑P **P** 15 18 37.4 +1.5
comp=Z,96nm,0.9s
SNAA Sanae 86.94 177 P **P** 15 18 37.1 +1.2
comp=Z,4.1nm,0.9s,baz=208,slow=4.8,SNR=16
comp=Z,4.1nm,0.9s
PDAR Pinedale Array 86.97 42 P **P** 15 18 36.9 +0.3
comp=Z,0.9nm,0.9s,baz=160,slow=4.7,SNR=6.4
comp=Z,0.9nm,0.9s
G16K Koyuk River 86.98 5 P **P** 15 18 37.1 +1.4
baz=190

PAX **Paxson** 87.03 13 P P 15 18 37.1 +0.9
baz=206,SNR=5.3
HYT **Haines Junctio** 87.05 17 P P 15 18 37.2 +0.8
baz=213
M26K **Nabesna, AK** 87.05 14 IAmb IAmb 15 18 39.3
comp=Z,17nm,1.2s
M26K **Nabesna, AK** 87.05 14 P P 15 18 37.5 +1.2
baz=208,SNR=7.6
BPAW **Bear Paw Mtn.** 87.07 10 P P 15 18 36.6 +0.4
baz=201
MCK **McKinley** 87.07 11 P P 15 18 37.4 +1.1
baz=203,SNR=12
Q32M **Nakina River** 87.08 20 P P 15 18 37.2 +0.6
baz=218
YUK3 **Moose Creek** 87.09 15 P P 15 18 37.6 +1.0
baz=211,SNR=7.1
H18K **Honhosa River** 87.11 6 P P 15 18 37.1 +0.7
baz=194
P32M **Atlin** 87.12 19 P P 15 18 37.0 +0.3
baz=217
F15K **North Star Dit** 87.14 4 P P 15 18 37.6 +1.1
baz=188
YUK4 **Talbot Arm** 87.18 16 P P 15 18 38.4 +1.3
baz=212
I20K **Naaghedeneel** 87.23 8 P P 15 18 38.2 +1.3
baz=198
G17K **Kiwalik Mounta** 87.23 5 P P 15 18 38.3 +1.3
baz=192
M27K **Edge Creek, AK** 87.26 14 P P 15 18 38.8 +1.4
baz=209,SNR=13
MENT **Mentasta** 87.37 13 IAmb IAmb 15 18 40.9
comp=Z,16nm,1.2s
VNA2 **Neumayer--Watz** 87.41 176 ⇑P P 15 18 39.6 +1.6
comp=Z,3.8nm,0.7s,baz=190,slow=4.2
DLBC **Dease Lake** 87.41 21 P P 15 18 38.9 +0.8
baz=220
L26K **Log Cabin Wild** 87.52 13 P P 15 18 40.0 +1.5
baz=208
BVCY **Beaver Creek** 87.55 15 P P 15 18 39.9 +1.2
baz=210,SNR=5.7
VNA1 **Neumayer--Stat** 87.61 175 ⇑P P 15 18 40.4 +1.4
comp=Z,5.9nm,1.0s
WHY **Whitehorse** 87.64 18 IAmb IAmb 15 18 42.6
comp=Z,17nm,1.2s
WHY **Whitehorse** 87.64 18 P P 15 18 39.8 +0.6
baz=216
H19K **Roundabout Mou** 87.68 7 IAmb IAmb 15 18 42.3
comp=Z,15nm,1.1s
H19K **Roundabout Mou** 87.68 7 P P 15 18 40.5 +1.4
baz=196
N30M **Aishikik Lake** 87.69 17 P P 15 18 40.0 +0.6
baz=214
K24K **Donnelly Dome** 87.72 12 P P 15 18 41.0 +1.6
baz=206
G18K **Tagagawik** 87.80 6 P P 15 18 41.0 +1.2
baz=194
R33M **Jennings River** 87.84 20 P P 15 18 40.5 +0.4
baz=219
H20K **Anotleneega Mo** 87.84 8 P P 15 18 41.2 +1.3
baz=197
RIDG **Independent Ri** 87.85 12 IAmb IAmb 15 18 42.8
comp=Z,18nm,1.3s
RIDG **Independent Ri** 87.85 12 P P 15 18 41.1 +1.1
baz=207,SNR=5.2
L27K **Beaver Creek,** 87.89 14 IAmb IAmb 15 18 43.3
comp=Z,7.7nm,1.2s
L27K **Beaver Creek,** 87.89 14 P P 15 18 41.2 +0.9
baz=209,SNR=7.6
P33M **Teslin, Yukon** 87.89 19 P P 15 18 41.4 +1.0
baz=217
BCAR **Beaver Creek A** 87.90 14 P 15 18 40.3 -0.1
DOT **Dot Lake** 87.93 13 IAmb IAmb 15 18 43.1
comp=Z,10.0nm,1.0s
I21K **Tanana** 87.94 9 P P 15 18 41.5 +1.2
baz=200
MLY **Manley** 87.98 10 P P 15 18 42.0 +1.3
baz=201
HDA **Harding Lake** 88.05 11 IAmb IAmb 15 18 43.2
comp=Z,8.6nm,0.9s
HDA **Harding Lake** 88.05 11 P P 15 18 42.0 +1.1
baz=205,SNR=7.0
N31M **Braeburn, Yuko** 88.07 17 P P 15 18 42.2 +1.1
baz=215
M29M **Somme Creek** 88.16 16 P P 15 18 42.4 +0.7
baz=212
HEH **HeiHe** 88.21 327 *e*P P 15 18 42.8 +0.8
HEH pmax pmax
comp=Z,15nm,1.2s
G19K **Purcell Mounta** 88.21 7 IAmb IAmb 15 18 44.6
comp=Z,13nm,1.2s
G19K **Purcell Mounta** 88.21 7 P P 15 18 43.3 +1.7
baz=195
SEY **Seymchan** 88.22 345 *e*P P 15 18 40.7 -1.0
SEY pmax pmax
comp=Z,22nm,1.1s
SCRK **Sand Creek** 88.23 13 P P 15 18 42.8 +0.8
baz=207,SNR=7.3
H21K **Melozitna Rive** 88.27 9 IAmb IAmb 15 18 44.2
comp=Z,14nm,1.5s
H21K **Melozitna Rive** 88.27 9 P P 15 18 43.5 +1.5
baz=199
I23K **Minto, Yukon-K** 88.31 10 P P 15 18 43.3 +1.2
baz=202
COLA **College** 88.31 11 P P 15 18 41.5 -0.6
COLA IAmb IAmb 15 18 44.3
comp=Z,13nm,0.8s
COLA **College** 88.31 11 P P 15 18 41.5 -0.6
COLA pmax pmax
comp=Z,13nm,0.9s
COLA **College** 88.31 11 P P 15 18 42.9 +0.7
baz=204
IL31 88.39 11 IAmb IAmb 15 18 44.9
comp=Z,17nm,1.4s
ILAR **Eielson Array** 88.39 11 P P 15 18 42.8 +0.3
ILAR **Eielson Array** 88.39 11 P P 15 18 42.9 +0.4
comp=Z,4.5nm,1.1s,baz=214,slow=5.6,SNR=24
comp=Z,4.5nm,1.1s
F18K **Selawik** 88.40 6 P P 15 18 43.7 +1.2
baz=193
J25K **Salcha River,** 88.53 12 IAmb IAmb 15 18 46.0
comp=Z,8.4nm,1.0s
J25K **Salcha River,** 88.53 12 P P 15 18 44.7 +1.4
baz=206,SNR=9.8
N32M **Quiet Lake** 88.56 18 P P 15 18 44.1 +0.6
baz=217
POKR **Poker Plat Res** 88.61 11 P P 15 18 44.5 +0.9
baz=204
K27K **Chicken** 88.68 13 IAmb IAmb 15 18 47.5
comp=Z,13nm,1.2s
K27K **Chicken** 88.68 13 P P 15 18 45.3 +1.4
baz=209
E17K **Hotham Inlet** 88.69 5 P P 15 18 45.4 +1.6
baz=191
M30M **Minto, Yukon** 88.70 16 P P 15 18 45.4 +1.3
baz=214
H22K **Ishtalitna Cre** 88.70 9 P P 15 18 45.5 +1.5
baz=201
J26L **Joseph Creek** 88.79 13 P P 15 18 45.8 +1.3
baz=208,SNR=20
L29M **L29M** 88.80 15 P P 15 18 45.9 +1.3
baz=213,SNR=9.3
F19K **Shaleruckik Mo** 88.80 6 IAmb IAmb 15 18 47.0
comp=Z,11nm,1.1s
F19K **Shaleruckik Mo** 88.80 6 P P 15 18 45.8 +1.4
baz=195
H23K **Yukon River** 88.91 10 P P 15 18 46.3 +1.3
baz=202
G21K **Allakaket** 88.99 8 P P 15 18 46.6 +1.3
baz=199
M31M **Drury Creek, Y** 89.03 17 P P 15 18 46.6 +0.9
baz=216
E18K **Tukpahlearik C** 89.12 5 P P 15 18 47.5 +1.6
baz=192
H24K **Noodor Dome** 89.19 10 P P 15 18 46.9 +0.5
baz=204
D17K **Noatak River** 89.21 4 P P 15 18 47.3 +1.1
baz=190
F20K **Avaraart Lake** 89.23 7 P P 15 18 47.5 +1.1
baz=197
DAWY **Dawson** 89.31 14 IAmb IAmb 15 18 50.2
comp=Z,14nm,1.3s
DAWY **Dawson** 89.31 14 P P 15 18 47.3 +0.4
baz=212,SNR=7.0
PRP **Porcupine Dome** 89.32 11 IAmb IAmb 15 18 49.8
comp=Z,15nm,1.2s
PRP **Porcupine Dome** 89.32 11 P P 15 18 47.9 +0.8
baz=206,SNR=7.2
LYN **LuoYang** 89.42 308 P P 15 18 51.8 +3.7
LYN pmax pmax
comp=Z,16nm,0.5s
E19K **Redstone River** 89.47 6 IAmb IAmb 15 18 50.4
comp=Z,10nm,1.0s
E19K **Redstone River** 89.47 6 P P 15 18 48.6 +1.0
baz=195
LIRD **Liard River Hi** 89.50 22 P P 15 18 48.5 +0.7
baz=223
K29M **Barlow Dome** 89.57 15 IAmb IAmb 15 18 51.7
comp=Z,18nm,1.2s
K29M **Barlow Dome** 89.57 15 P P 15 18 49.1 +0.9
baz=213,SNR=8.4
RDOG **Red Dog Mine** 89.57 4 P P 15 18 48.8 +0.8
baz=190
I26K **Coal Creek Min** 89.58 12 IAmb IAmb 15 18 51.2
comp=Z,13nm,1.3s
I26K **Coal Creek Min** 89.58 12 P P 15 18 49.0 +0.9
baz=208
G22K **Bettles** 89.64 9 P P 15 18 49.1 +0.8
baz=200
C16K **Lisburne Hills** 89.65 3 P P 15 18 49.0 +0.7
baz=188
G23K **Bananza Creek** 89.66 9 P P 15 18 49.3 +0.7
baz=202
F21K **Alatna River** 89.67 8 P P 15 18 49.1 +0.5
baz=199
H25L **Birch Creek** 89.94 11 P P 15 18 50.6 +0.9
baz=206
C17K **DeLong Mountai** 89.97 4 P P 15 18 50.9 +1.0
baz=190
G24K **Hadweenzic Riv** 90.05 10 P P 15 18 51.2 +0.9
baz=204
F22K **John River** 90.11 8 P P 15 18 51.1 +0.5
baz=200
COLD **Coldfoot** 90.12 9 P P 15 18 51.7 +1.1
baz=202
I27K **Kandik River** 90.15 13 P P 15 18 51.5 +0.7
baz=210
MMPY **Sheldon Lake,** 90.25 18 P P 15 18 51.8 +0.4
baz=219
C18K **Utukok River** 90.28 5 P P 15 18 52.1 +0.7
baz=192
TGTN **Hyland Airport** 90.33 20 P P 15 18 52.1 +0.3
baz=221
G25K **Bearman Lake** 90.34 11 P P 15 18 52.5 +0.9
baz=205
E20K **Nigu River** 90.35 6 P P 15 18 52.6 +0.9
baz=196
I28M **Miner Creek** 90.38 13 P P 15 18 52.7 +0.8
baz=211
D19K **Kuna River** 90.39 6 P P 15 18 52.2 +0.3
baz=194
ZEA **Zeya** 90.39 329 *e*P P 15 18 53.2 +1.1
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
BILL **Bilibino** 90.40 353 *ce*P P 15 18 52.1 +0.2
BILL pmax pmax
comp=Z,7.0nm,1.2s
J30M **Hart River** 90.47 15 P P 15 18 52.9 +0.5
baz=214
I29M **Ogilvie Camp,** 90.66 14 P P 15 18 54.1 +0.9
baz=214
H27K **Steamboat Moun** 90.72 12 IAmb IAmb 15 18 56.8
comp=Z,13nm,1.3s
H27K **Steamboat Moun** 90.72 12 P P 15 18 54.3 +0.9
baz=210
F24K **Squaw Lake** 90.73 10 P P 15 18 54.6 +1.1
baz=204
KOTAN **Kotaneelee Air** 90.74 22 P P 15 18 54.2 +0.5
baz=225
D20K **Ettiviuk River** 90.74 6 P P 15 18 54.4 +0.9
baz=196
E22K **Anaktuvuk Pass** 90.74 8 P P 15 18 54.3 +0.7
baz=200
E21K **Killik River** 90.77 7 P P 15 18 54.7 +1.0
baz=198
C19K **Lookout Ridge** 90.85 5 P P 15 18 54.8 +0.7
baz=193
G26K **Porcupine Rive** 90.92 11 IAmb IAmb 15 18 57.8
comp=Z,13nm,1.2s
G26K **Porcupine Rive** 90.92 11 P P 15 18 54.8 +0.5
baz=208
B18K **Kokolik River** 90.94 4 P P 15 18 56.1 +1.8
baz=191
E23K **Chandalar** 90.97 9 P P 15 18 56.4 +1.8
baz=202
I30M **Mount Dempster** 91.00 15 IAmb IAmb 15 18 57.8
comp=Z,12nm,1.1s
I30M **Mount Dempster** 91.00 15 P P 15 18 56.5 +1.6
baz=214
E24K **Your Creek** 91.15 9 P P 15 18 57.1 +1.7
baz=203
F25K **Christian Rive** 91.17 10 P P 15 18 57.3 +1.7
baz=206
G27K **Doyon Strip** 91.20 12 P P 15 18 57.4 +1.7
baz=209
BMAR **Burnt Mountain** 91.20 11 P P 15 18 56.0 +0.3
D22K **Ayikyak River** 91.34 7 P P 15 18 58.4 +2.1
baz=199
C21K **Kniefblade Rid** 91.36 7 P P 15 18 58.1 +1.8
baz=197
H29M **Whitestone** 91.37 14 IAmb IAmb 15 18 59.4
comp=Z,10nm,1.1s
H29M **Whitestone** 91.37 14 P P 15 18 58.4 +1.9
baz=212
F26K **Sheenjek River** 91.52 11 P P 15 18 58.5 +1.4
baz=207
TOLK **Toolik Lake Re** 91.52 9 P P 15 18 58.6 +1.5
baz=202
E25K **Arctic Village** 91.66 10 P P 15 18 59.2 +1.4
baz=206
D23K **Nanushuk River** 91.67 8 P P 15 18 59.5 +1.8
baz=201
B21K **Ikpikpuk River** 91.82 7 P P 15 19 00.1 +1.7
baz=198
XAN **Xi'an** 91.85 306 ⇑P P 15 19 00.4 +0.9
XAN pP sP 15 19 11.8 +1.4
XAN pmax pmax
comp=Z,16nm,1.1s
EPYK **Eagle Plains** 91.87 14 P P 15 19 00.2 +1.4
baz=214
B20K **Meade River** 91.94 6 P P 15 19 00.8 +1.9
baz=195
H31M **Peel River** 91.96 15 P P 15 19 00.6 +1.4
baz=216
G29M **Pine Creek** 92.03 13 P P 15 19 00.9 +1.3
baz=213
F28M **Old Crow** 92.25 12 P P 15 19 02.0 +1.5
baz=211
E27K **Coleen River** 92.41 11 P P 15 19 02.5 +1.3
baz=210
G30M **tAoh Zraii Nji** 92.48 14 P P 15 19 02.8 +1.2
baz=214
C23K **Itkillik River** 92.50 8 P P 15 19 02.8 +1.3
baz=201
C24K **Franklin Bluff** 92.64 9 P P 15 19 03.5 +1.3
baz=203
HHC **Hu-ho-hao-te** 92.84 313 *e*P P 15 19 05.8 +1.8
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,70nm,5.8s
G31M **Satah River** 92.88 15 P P 15 19 04.6 +1.2
baz=216
F30M **Barrier River** 93.10 14 P P 15 19 05.2 +0.8
baz=215
E28M **Babbage River** 93.16 12 P P 15 19 06.0 +1.3
baz=211
E29M **Blow River** 93.30 13 P P 15 19 06.3 +1.0
baz=213
C27K **Jago River** 93.31 10 P P 15 19 06.5 +1.2
baz=208
C26K **Camden Bay** 93.38 10 P P 15 19 07.0 +1.4
baz=206
F31M **Tsiigehtchic** 93.42 14 P P 15 19 06.6 +0.8
baz=217
D27M **Malcolm River** 93.44 11 P P 15 19 07.0 +1.0
baz=210
CMAR **Chiang Mai Arr** 94.15 288 P 15 19 11.2 +0.8
CMAR **Chiang Mai Arr** 94.15 288 P P 15 19 11.9 +1.5
comp=Z,2.1nm,0.9s,baz=130,slow=2.8,SNR=12
comp=Z,2.1nm,0.9s
CMAR **Chiang Mai Arr** 94.15 288 *ce*P P 15 19 12.6 +2.2
CMAR pmax pmax
comp=Z,2.0nm,0.9s
YAK **Yakutsk** 94.48 337 *d i*P P 15 19 10.9 +0.1
YAK pmax pmax
comp=Z,5.0nm,0.6s
PZH **PanZhiHua** 94.64 297 P P 15 19 13.0 +0.4
C36M **Paulatuk** 97.22 16 P Pdif 15 19 23.6 +0.3
baz=226
A36M **Sachs Harbour** 98.81 14 P P 15 19 30.4 +0.2
baz=225
WMQ **Urumqi** 110.52 310 *e*PKP PKiKP 15 24 22.8 -0.8
ZALV **Zalesovo Beam** 113.69 321 PKiKP PKiKP 15 24 29.5 +0.3
comp=Z,1.4nm,0.6s,baz=97,slow=1.4,SNR=8.1
MK31 **Makanchi Array** 114.71 313 *c i*PKIKP PKiKP 15 24 31.8 +0.4
MKAR **Makanchi Array** 114.71 313 PKP PKPdf 15 24 31.0 -0.4
comp=Z,0.8nm,0.7s,baz=71,slow=1.8,SNR=8.4
MKAR **Makanchi Array** 114.71 313 *c i*PKIKP PKiKP 15 24 31.7 +0.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KURK **Kurchatov** 117.35 317 PKPdf 15 24 33.8 -2.5
KURK **Kurchatov** 117.35 317 *c i*PKIKP PKiKP 15 24 36.7 +0.4
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB **Kurchatov Arra** 117.41 317 PKP PKPdf 15 24 36.0 -0.4
comp=Z,1.6nm,0.7s,baz=90,slow=1.8,SNR=17
BVAR **Borovoye Array** 122.32 320 PKP PKiKP 15 24 46.2 +0.2
comp=Z,4.1nm,0.6s,baz=60,slow=3.6,SNR=25
BOSA **Boshof** 126.97 201 PKP PKiKP 15 24 57.1 +0.8
comp=Z,4.7nm,1.1s,baz=170,slow=4.8,SNR=4.9
ARTI **Arti** 128.29 326 PKP PKiKP 15 24 57.7 -0.1
comp=Z,8.8nm,1.0s,baz=51,slow=3.5,SNR=7.8
ARTI **Arti** 128.29 326 *i* PKIKP PKiKP 15 24 58.0 +0.2
ARTI 15 27 03.2
ARTI 15 32 06.1
ABKAR **Akbulak array** 129.46 317 PKPdf PKiKP 15 25 00.3 0.0
AKTO **Aktyubinsk** 130.37 319 PKP PKiKP 15 25 02.3 +0.2
comp=Z,2.0nm,0.7s,baz=26,slow=4.8,SNR=6.9
KLMR **Klimovskoe** 134.26 338 *e*PKIKP PKPdf 15 25 06.8 -1.5
KLMR pmax pmax
comp=Z,12nm,1.8s
OBN **Obninsk** 139.39 334 ⇓*e*PKIKP PKPdf 15 25 18.2 +0.3
OBN *i* 15 38 33.7
OBN SS SS 15 47 02.0 +34
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,185nm,19.0s
HFS **Hagfors** 140.96 354 PKP PKPdf 15 25 21.2 +0.5
comp=Z,1.2nm,0.7s,baz=346,slow=3.0,SNR=2.5
KIV **Kislovodsk** 142.41 315 *e*PKIKP PKPdf 15 25 24.8 +0.9
KIV pmax pmax
comp=Z,4.0nm,0.9s
ERBR **Yeremizino-Bor** 143.00 319 *i* PKIKP PKPbc 15 25 22.6 +1.0
ERBR pmax pmax
comp=Z,19nm,0.7s
GURO **Guroymak-BITLI** 144.87 307 PKPdf PKPdf 15 25 28.9 +0.4
SUW **Suwalki** 145.00 343 *e*PKP PKPdf 15 25 28.0 0.0
SUW **Suwalki** 145.00 343 PKPdf 15 25 28.1 +0.1
SUW **Suwalki** 145.00 343 PKIKP PKPdf 15 25 28.1 +0.1
ANN **Anapa** 145.32 320 *e*PKIKP PKPab 15 25 29.0 +0.2
ANN pmax pmax
comp=Z,70nm,0.9s
EKA **Eskdalemuir Ar** 145.41 9 PKPbc PKPbc 15 25 28.3 -0.3
comp=Z,3.9nm,1.1s,baz=346,slow=6.3,SNR=4.4
KOPT **Kop Dagi** 145.47 310 PKPbc PKiKP 15 25 32.0 -1.6
AK03 **Malin Array Si** 145.64 334 PKP PKPdf 15 25 29.3 +0.1
AK23 **Malin Array Si** 145.65 334 PKP PKPdf 15 25 29.3 +0.1
AKASG **Malin Array Be** 145.65 334 PKPdf PKPbc 15 25 29.7 +0.2
AKASG **Malin Array Be** 145.65 334 PKPbc PKPbc 15 25 29.8 +0.3
comp=Z,9.6nm,0.9s,baz=38,slow=3.7,SNR=44
AKASG **Malin Array Be** 145.65 334 PKP2 PKPbc 15 25 29.7 +0.2
AKBB **Malin Array Si** 145.65 334 PKPdf PKPab 15 25 29.9 +0.1
AKBB **Malin Array Si** 145.65 334 PKP2 PKPab 15 25 30.0 +0.1
AKBB **Malin Array Si** 145.65 334 PKP PKPdf 15 25 29.3 +0.1
AK04 **Malin Array Si** 145.66 334 PKP PKPdf 15 25 29.3 +0.1
KIEV **Kiev** 145.67 334 ⇓P PKPbc 15 25 29.9 +0.3
KIEV **Kiev** 145.67 334 PKP PKPdf 15 25 29.3 +0.1
AK01 **Malin Array Si** 145.67 334 PKP PKPdf 15 25 29.3 +0.1
AK21 **Malin Array Si** 145.67 334 PKP PKPdf 15 25 29.3 +0.1
AK22 **Malin Array Si** 145.67 334 PKP PKPdf 15 25 29.3 +0.1
AK08 **Malin Array Si** 145.69 334 PKP PKPdf 15 25 29.4 +0.1
AK02 **Malin Array Si** 145.69 334 PKP PKPdf 15 25 29.4 +0.1
AK09 **Malin Array Si** 145.69 334 PKP PKPdf 15 25 29.4 +0.1
AK11 **Malin Array Si** 145.69 334 PKP PKPdf 15 25 29.4 +0.1
AK15 **Malin Array Si** 145.70 334 PKP PKPdf 15 25 29.4 +0.1
AK18 **Malin Array Si** 145.70 334 PKP PKPdf 15 25 29.4 +0.1
AK20 **Malin Array Si** 145.71 334 PKP PKPdf 15 25 29.4 +0.1
AK10 **Malin Array Si** 145.72 334 PKP PKPdf 15 25 29.4 +0.1
AK05 **Malin Array Si** 145.72 334 PKP PKPdf 15 25 29.4 +0.1
AK19 **Malin Array Si** 145.72 334 PKP PKPdf 15 25 29.4 +0.1
AK12 **Malin Array Si** 145.73 334 PKP PKPdf 15 25 29.4 +0.1
AK16 **Malin Array Si** 145.73 334 PKP PKPdf 15 25 29.4 +0.1
AK17 **Malin Array Si** 145.74 334 PKP PKPdf 15 25 29.4 0.0
AK06 **Malin Array Si** 145.75 334 PKP PKPdf 15 25 29.5 +0.1
RNPP9 **Sopachiv** 146.37 338 PKP PKPdf 15 25 30.1 -0.3
RNPP8 **Varash** 146.44 338 PKP PKPdf 15 25 30.2 -0.3
LODK **Lodwar** 146.50 242 PKPbc PKPab 15 25 35.3 +1.0
RNPP5 **Staryi Chortor** 146.52 337 PKP PKPdf 15 25 30.8 +0.1
LUBAR **Lubar, Ukraine** 146.85 334 PKP PKPdf 15 25 31.7 +0.4
SIM **Simferopol'** 147.19 322 *e*PKHKP PKPpre 15 25 21.8
SIM pmax pmax
comp=Z,37nm,1.3s
MBAR **Mbarara** 147.56 231 PKPbc PKPab 15 25 37.8 -0.8
MBAR **Mbarara** 147.56 231 PKP2 PKPab 15 25 37.8 -0.8
SORM **Soroca** 147.97 332 ⇑P PKPbc 15 25 36.8 +0.5
FLTG **Flechtingen** 148.90 354 *e*PKPbc PKiKP 15 25 39.7 -0.2
baz=6.6,slow=2.3
FLTG *e*PKPab **pPKPdf** 15 25 43.3 +0.1
baz=8.6,slow=4.0
IBBN **Ibbenburen** 149.15 358 *e*PKPbc PKiKP 15 25 40.8 +0.4
baz=6.6,slow=2.3
IBBN *e*PKPab **sPKPdf** 15 25 44.9 -1.4
baz=8.6,slow=4.0
OJC **Ojcow** 149.33 343 *e*PKP PKiKP 15 25 41.5 +0.6
CLZ **Clausthal** 149.47 355 *e*PKPbc PKiKP 15 25 41.7 +0.6
baz=6.6,slow=2.3
CLZ *e*PKPab **sPKPdf** 15 25 46.0 -0.9
baz=8.6,slow=4.0
KSP **Ksiaz** 149.59 347 *e*PKP PKiKP 15 25 42.0 +0.5
STHS **Stebnicka Huta** 149.62 340 *e*PKP2 PKPab 15 25 46.8 +1.2
CLL **Collm** 149.71 352 ⇑*i*PKP2 PKiKP 15 25 41.8 +0.2
CLL pmax pmax
comp=Z,26nm,1.5s
CLL **Collm** 149.71 352 *e*PKPbc PKiKP 15 25 41.9 +0.2
baz=6.6,slow=2.3
CLL *e*PKPab **sPKPdf** 15 25 46.8 -0.4
baz=8.6,slow=4.0
CLL **Collm** 149.71 352 ⇑*i*PKPbc PKiKP 15 25 41.8 +0.2
comp=Z,26nm,1.5s
CLL ⇓*i*PKPab **sPKPdf** 15 25 46.8 -0.4
comp=Z,11nm,1.2s
CLL *e*pPKPab **sPKPbc** 15 25 51.0 -0.9
BURAR **Bucovina Array** 149.71 334 ⇑P PKiKP 15 25 42.4 +0.5
GTTG **Gottingen** 149.79 355 *e*PKPbc PKiKP 15 25 42.4 +0.7
baz=6.6,slow=2.3
GTTG *e*PKPab **sPKPdf** 15 25 47.7 +0.3
baz=8.6,slow=4.0
CHVC **Chvalec** 149.88 347 *e*PKP2 PKPab 15 25 47.3 +0.6
NIE **Niedzica** 149.91 342 *e*PKP PKiKP 15 25 43.4 +1.2
NEUB **Neuenburg** 149.96 353 *e*PKPbc PKiKP 15 25 42.9 +0.7
baz=6.6,slow=2.3
BRG **Berggiesshubel** 149.99 350 *e*PKPbc PKiKP 15 25 44.0 +1.8
baz=6.6,slow=2.3
BRG *e*PKPab **pPKPbc** 15 25 49.3 -0.5
baz=8.6,slow=4.0
BRG **Berggiesshubel** 149.99 350 *e*PKP PKiKP 15 25 44.0 +1.8
BRG Amp 15 25 44.8
comp=Z,7.2nm,0.9s
BRG **Berggiesshubel** 149.99 350 P PKPab 15 25 49.8 +2.7
BRG Amp 15 25 52.4
comp=Z,4.3nm,1.0s
DPC **Dobruska-Polom** 150.05 347 *e*PKP2 PKiKP 15 25 43.2 +0.8
DPC **Dobruska-Polom** 150.05 347 ⇑*e*PKP PKiKP 15 25 43.2 +0.8
STEB **Steborice** 150.12 345 ⇑*e*PKP PKiKP 15 25 43.4 +0.9
STEB *e*PKPAB **pPKPbc** 15 25 49.3 -0.8
KRLC **Kraliky** 150.21 346 *e*PKIKP PKiKP 15 25 43.6 +0.8
KRLC **Kraliky** 150.21 346 ⇑*e*PKP PKiKP 15 25 43.6 +0.8
KASTN **Kahler Asten** 150.23 357 *e*PKPbc PKiKP 15 25 43.2 +0.5
baz=6.6,slow=2.3
CFR **Carcaliu** 150.24 328 ⇑P PKiKP 15 25 43.1 +0.3
MORC **Moravsky Berou** 150.32 345 *e*PKP PKiKP 15 25 43.4 +0.4
MORC *e* 15 25 50.5
MORC **Moravsky Berou** 150.32 345 ⇑P PKPbc 15 25 41.8 -0.4
TPGR **Topolog** 150.32 327 ⇑P PKiKP 15 25 43.8 +0.7
BR131 **Keskin Array S** 150.35 314 PKPbc PKiKP 15 25 43.5 0.0
BR131 **Keskin Array S** 150.35 314 PKIKP PKiKP 15 25 43.5 0.0
BRTR **Keskin Array B** 150.35 314 PKPbc PKiKP 15 25 43.7 +0.2

comp=Z,8.1nm,0.8s,baz=128,slow=2.4,SNR=31
VRI Vrincioaia 150.41 330 ⇑P **PKPbc 15 25 42.4 -0.1**
KIRS Kirsehir-Merke 150.45 313 ⇑P **PKiKP 15 25 44.2 +0.5**
PLOR Plostina 150.46 330 ⇑P **PKPbc 15 25 42.5 -0.1**
MOX Moxa 150.53 353 *e*PKPbc **PKiKP 15 25 44.0 +0.6**
baz=6.6,slow=2.3
MOX *e*PKPab **pPKPbc 15 25 50.3 -0.9**
baz=8.6,slow=4.0
MOX *e*L L 16 40 02.7
comp=Z,229nm,22.0s
PLN Plauen 150.62 352 *e*PKPbc **PKiKP 15 25 44.2 +0.6**
baz=6.6,slow=2.3
PLN *e*PKPab **pPKPbc 15 25 50.6 -0.8**
baz=8.6,slow=4.0
MAUC Maruska 150.63 344⇑ *e*PKP **PKiKP 15 25 45.2 +1.5**
TANN Tannenbergstha 150.65 352 *e*PKPbc **PKiKP 15 25 44.2 +0.5**
baz=6.6,slow=2.3
TANN *e*PKPab **PKPab 15 25 50.6 +0.7**
baz=8.6,slow=4.0
ANTO Ankara 150.84 315 ⇑P **PKiKP 15 25 45.4 +1.0**
MEM Membach 150.87 0 *d*PKP **PKPbc 15 25 42.6 -0.8**
BSTI Sart Tilman 150.89 1 *d*PKP **PKiKP 15 25 45.1 +1.0**
BTNL Ternell 150.90 0 *d*PKP **PKiKP 15 25 45.5 +1.3**
VRAC Vranov 150.97 346 PKPbc **PKiKP 15 25 44.7 +0.4**
comp=Z,1.1nm,0.3s,baz=20,slow=2.6,SNR=8.3
VRAC Vranov 150.97 346 *e*PKP **PKiKP 15 25 45.2 +0.9**
VRAC *e* 15 25 52.3
VRAC Vranov 150.97 346 ⇑P **PKiKP 15 25 45.0 +0.7**
MLR Muntele Rosu 151.05 331 PKPdf **PKPdf 15 25 38.3 -0.1**
MLR Muntele Rosu 151.05 331 PKPbc **PKPbc 15 25 44.6 +0.4**
comp=Z,9.8nm,1.0s,baz=123,slow=1.7,SNR=9.1
MLR Muntele Rosu 151.05 331 ⇑P **PKiKP 15 25 44.9 +0.1**
MLR Muntele Rosu 151.05 331 PKIKP **PKPdf 15 25 38.3 -0.1**
MANZ Manzenberg 151.12 352 *e*PKPbc **PKiKP 15 25 45.6 +0.9**
baz=6.6,slow=2.3
JAVC Velka Javorina 151.14 344 *e*PKP **PKiKP 15 25 46.6 +1.9**
BMRD Maredsous 151.16 2 *d*PKP **PKiKP 15 25 44.7 0.0**
VYHS Vyhne 151.16 342 *e*PKIKP **PKiKP 15 25 45.5 +0.8**
VYHS Vyhne 151.16 342 *e*PKP **PKiKP 15 25 45.5 +0.8**
TNS Taunus Mts 151.21 357 *e*PKPbc **PKiKP 15 25 45.1 +0.3**
baz=6.6,slow=2.3
TNS *e*PKPab **pPKPbc 15 25 52.6 -0.3**
baz=8.6,slow=4.0
TREC Trest 151.23 347 *e*PKIKP **PKiKP 15 25 45.8 +0.9**
TREC Trest 151.23 347⇑ *e*PKP **PKiKP 15 25 45.8 +0.6**
KRUC Moravsky 151.25 346 *e*PKP **PKiKP 15 25 45.5 +0.6**
KRUC *e* 15 25 52.8
MARR Marisel-Cluj 151.31 335 ⇑P **PKPbc 15 25 45.0 +0.3**
ROTZ Rotzenmuhle 151.32 352 *e*PKPbc **PKiKP 15 25 45.8 +0.8**
baz=6.6,slow=2.3
ROTZ *e*PKPab **PKPab 15 25 53.5 +0.9**
baz=8.6,slow=4.0
ZVC Zvikov 151.33 349⇑ *e*PKP **PKiKP 15 25 45.2 +0.1**
ZVC *e*PKPAB **pPKPbc 15 25 52.3 -0.8**
DOU Dourbes 151.36 2 *d*PKP **PKiKP 15 25 46.2 +1.1**
DRGR 151.37 336 ⇑P **PKiKP 15 25 45.8 +0.5**
GRF Grafenberg Arr 151.51 353 *e*PKPbc **PKiKP 15 25 47.4 +1.9**
baz=6.6,slow=2.3
GRF *e*PKPab **sPKPbc 15 25 54.9 -1.4**
baz=8.6,slow=4.0
GRF *e*L L 16 36 59.5
comp=Z,368nm,20.9s
MODS Modra-Piesok 151.69 344 *e*PKIKP **PKPbc 15 25 43.2 -2.2**
MODS Modra-Piesok 151.69 344 *e*PKP **PKPbc 15 25 43.2 -2.2**
MMAI Mount Meron Ar 151.69 300 PKPbc **PKiKP 15 25 47.1 +0.7**
comp=Z,8.1nm,0.8s,baz=67,slow=6.4,SNR=10.0
ARR Arges 151.73 332 ⇑P **PKPdf 15 25 41.4 +2.0**
KHC Kasperske Hory 151.74 350 PKIKP **PKiKP 15 25 46.2 +0.2**
KHC Kasperske Hory 151.74 350 *e*PKP **PKiKP 15 25 47.0 +1.0**
WLF Walferdange 151.82 0 *d*PKP **PKiKP 15 25 47.8 +1.8**
WLF Walferdange 151.82 0 *e*PKPbc **PKiKP 15 25 47.6 +1.5**
baz=6.6,slow=2.3
WET Wettzell 151.83 351 *e*PKPbc **PKiKP 15 25 47.2 +1.1**
baz=6.6,slow=2.3
CKRC Cesky Krumlov 151.91 349⇑ *e*PKP **PKiKP 15 25 47.3 +1.0**
CKRC *e*PKPAB **sPKPbc 15 25 56.2 -1.1**
CKRC *ex* x 15 26 08.9
GEC2 GERESS Array S 151.99 349 *e*PKPbc **PKiKP 15 25 47.5 +0.9**
baz=6.6,slow=2.3
GEC2 *e*PKPab **PKPab 15 25 55.9 +0.3**
baz=8.6,slow=4.0
GERES GERESS Array B 151.99 349 PKPbc **PKiKP 15 25 46.9 +0.3**
comp=Z,3.8nm,1.1s,baz=349,slow=1.4,SNR=13
SIRR Siria 152.20 337 ⇑P **PKiKP 15 25 48.0 +1.0**
CONA Conrad Observa 152.44 346 *i* pPKP **pPKPdf 15 25 48.8 -0.1**
comp=Z,13nm,1.5s
CONA *i* pPKiKP sPKPbc 15 25 59.4 +0.8
comp=Z,9.6nm,1.4s
RONA Rosalia, Austr 152.55 345 *i* pPKP **pPKPdf 15 25 49.0 -0.1**
comp=Z,9.5nm,1.3s
RONA *i* pPKiKP sPKPbc 15 25 59.8 +1.0
comp=Z,8.2nm,1.0s
BZS Buzias 152.77 336 ⇑P **PKPbc 15 25 48.0 +0.1**
MOA Molln 152.85 348 *i* PKiKP **PKiKP 15 25 48.9 +0.7**
comp=Z,2.0nm,0.9s
MOA *i* pPKiKP **PKPab 15 26 01.6 +2.5**
comp=Z,5.0nm,1.3s
BFO Black Forest 153.10 357 *e*PKPbc **PKiKP 15 25 49.3 +0.5**
baz=6.6,slow=2.3
BFO *e*PKPab **PKPab 15 26 01.0 +0.9**
baz=8.6,slow=4.0
BIOA Bad Ischl, Aus 153.12 349 *i* PKiKP **PKiKP 15 25 49.3 +0.5**
comp=Z,1.6nm,0.7s
BIOA *i* pPKiKP **PKPab 15 26 02.1 +1.9**
comp=Z,11nm,1.2s
ARSA Arzberg 153.16 346 *e*PKiKP **PKiKP 15 25 49.7 +0.8**
comp=Z,2.0nm,0.9s
ARSA *i* pPKiKP **PKPab 15 26 02.2 +1.8**
comp=Z,4.3nm,1.0s
RJOB Jochberg 153.22 350 *e*PKPbc **PKiKP 15 25 49.7 +0.7**
baz=6.6,slow=2.3
RJOB *e*PKPab **PKPab 15 26 02.1 +1.5**
baz=8.6,slow=4.0
LESA Schwarzleotal 153.54 350 *i* PKiKP **PKPbc 15 25 49.4 -0.3**
comp=Z,4.7nm,1.7s
LESA *i* PKP **PKPab 15 26 03.4 +1.3**
comp=Z,6.2nm,1.3s
RETA Reutte 153.74 353 *e*pPKP **pPKPdf 15 25 51.0 +0.1**
comp=Z,2.1nm,0.5s
RETA *e*PKP **PKPab 15 26 04.0 +1.1**
comp=Z,2.3nm,0.6s
KBA Koelnbreinsper 153.76 349 *i* PKP **PKPab 15 26 04.2 +1.0**
comp=Z,1.4nm,0.4s
WATA Walderalm 153.79 352 *e*pPKP **pPKPdf 15 25 51.8 +0.7**
comp=Z,1.7nm,0.6s
WATA *e*PKP **PKPab 15 26 04.0 +0.8**
comp=Z,4.2nm,1.2s
SOKA Soboth 153.81 346 *i* pPKP **pPKPdf 15 25 50.9 0.0**
comp=Z,4.3nm,1.0s
SOKA *i* PKP **PKPab 15 26 04.4 +1.1**
comp=Z,6.2nm,1.0s
MOTA Moosalm 153.84 352 *e*pPKP **pPKPdf 15 25 51.6 +0.5**
comp=Z,7.1nm,1.2s
MOTA *e*PKP **PKPab 15 26 04.6 +1.1**
comp=Z,4.1nm,0.8s
WTTA Wattenberg 153.85 352 *e*pPKP **pPKPdf 15 25 51.4 +0.2**
comp=Z,3.3nm,0.9s
WTTA *e*PKP **PKPab 15 26 03.3 -0.2**
comp=Z,2.5nm,0.9s
SQTA Sankt Quirin 153.95 352 *e*pPKP **pPKPdf 15 25 51.7 +0.4**
comp=Z,1.9nm,0.9s
SQTA *e*PKP **PKPab 15 26 04.3 +0.5**
comp=Z,1.7nm,0.7s
DAVA Damuels 154.03 354 *e*PKiKP **PKPbc 15 25 50.5 -0.3**
comp=Z,2.8nm,1.2s
DAVA *e*PKP **PKPab 15 26 03.7 -0.5**
comp=Z,3.9nm,1.3s
OBKA Obir 154.07 347 *i* pPKP **PKiKP 15 25 54.9 +4.0**
comp=Z,4.6nm,1.4s
MYKA Terra Mystica 154.14 348 *i* pPKP **PKiKP 15 25 51.6 +0.6**
comp=Z,1.4nm,0.5s
MYKA *i* PKP **PKPab 15 26 05.7 +1.1**
comp=Z,6.0nm,1.1s
FETA Feichten 154.20 353 *i* pPKP **PKiKP 15 25 52.4 +1.1**
comp=Z,2.7nm,1.1s
FETA *i* PKP **PKPab 15 26 06.2 +1.2**
comp=Z,5.2nm,1.1s
ABTA Abfaltersbach 154.22 350 *i* pPKP **PKiKP 15 25 51.7 +0.4**
comp=Z,4.5nm,1.1s
ABTA *i* PKP **PKPab 15 26 05.4 +0.4**
comp=Z,6.8nm,1.3s
TORD Torodi Ar. Bea 170.70 152 PKP **PKPdf 15 26 00.1 0.0**
comp=Z,2.2nm,1.1s,baz=225,slow=1.8,SNR=5.6

NEIC ***24*** *15:18:30.2±1.1, 35°.89N±0°.01×117°.55W±0°.02, h10km±2km,*

Error ellipse: s-maj=3.2km s-min=2.9km az=243.0
PAS 24 15:18:30.9±0.8, 35°.872N±0°.004×117°.58W±0°.02, h9km±6km, ML3.1/234, **ML2.9**/82(NEIC), **Error ellipse: s-maj=2.9km s-min=0.7km az=87.0, Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLC	**China Lake**	**0.06**	**193**		Pg	15 18 32.9	0.0
CLC				IAML		15 18 34.9	
comp=E,9μm,0.1s							
TOW	**Tower One**	**0.16**	**247**		Pg	15 18 34.9	+0.5
TOW					Sg	15 18 38.2	+1.4
MPMC	**Manual Prospec**	**0.20**	**22**		Pg	15 18 35.0	-0.2
MPMC				IAML		15 18 38.2	
comp=E,2μm,0.4s							
MPMC				IAML		15 18 38.4	
comp=N,2μm,0.4s							
WVPM	**Volcano Peak E**	**0.21**	**292**		Pg	15 18 35.3	0.0
JRC2	**Joshua Ridge**	**0.21**	**301**		Pg	15 18 35.4	0.0
JRC2					Sg	15 18 38.8	+0.3
WCSM	**Coso Springs S**	**0.22**	**316**		Pg	15 18 35.3	-0.1
WCSM					Sg	15 18 38.4	-0.1
SRTC	**Snort**	**0.23**	**217**		Pg	15 18 35.8	+0.3
SRTC					Sg	15 18 40.1	+1.4
WNMM	**Nine Mile Cany**	**0.27**	**264**		Pg	15 18 36.2	-0.1
WNMM					Sg	15 18 40.5	+0.7
WSHM	**Spangler Hills**	**0.28**	**165**		Pg	15 18 36.4	-0.2
WRVM	**Rose V. Centra**	**0.28**	**299**		Pg	15 18 36.6	-0.1
MFS	**McCloud Flat S**	**0.33**	**318**		Pg	15 18 37.3	-0.2
MFS					Sg	15 18 42.0	0.0
CCCA	**Chr Cany lake**	**0.39**	**153**		Sg	15 18 44.5	+0.8
CCCA	**Chr Cany lake**	**0.39**	**153**		Pg	15 18 38.7	+0.1
CCCA				IAML		15 18 45.0	
comp=E,3μm,0.5s							
CCCA				IAML		15 18 46.5	
comp=N,3μm,0.4s							
LRMC	**Laurel Mtn Rad**	**0.40**	**192**		Pg	15 18 38.6	-0.2
LRMC				IAML		15 18 46.1	
comp=N,2μm,0.2s							
LRMC				IAML		15 18 46.5	
comp=E,1μm,0.2s							
WBSM	**Bird Springs**	**0.56**	**234**		Sg	15 18 49.0	-0.4
WORM	**Onyx Ranch**	**0.57**	**252**		Pg	15 18 41.4	-0.5
WORM					Sg	15 18 48.9	-0.4
QSM	**Queen of Sheba**	**0.59**	**81**		Pg	15 18 41.8	-0.5
QSM				IAML		15 18 50.3	
comp=E,604nm,0.3s							
QSM				IAML		15 18 51.2	
comp=N,743nm,0.2s							
QSM	**Queen of Sheba**	**0.59**	**81**		Sg	15 18 49.5	-0.5
DTP	**Desert Tortois**	**0.64**	**200**		Pg	15 18 42.7	-0.6
DTP					Sg	15 18 52.0	+0.2
WHFM	**Hanning Flat**	**0.65**	**255**		Pg	15 18 43.0	-0.5
WHFM					Sg	15 18 51.6	-0.4
CWC	**Cottonwood Cre**	**0.70**	**325**		Sg	15 18 53.3	-0.3
CWC	**Cottonwood Cre**	**0.70**	**325**		Pg	15 18 44.0	-0.4
CWC				IAML		15 18 53.6	
comp=E,557nm,0.2s							
CWC				IAML		15 18 53.6	
comp=N,502nm,0.2s							
CGO	**Cerro Gordo**	**0.70**	**345**		Sg	15 18 53.3	-0.5
ISA	**Isabella, Lake**	**0.76**	**254**		Sg	15 18 54.4	-1.0
ISA	**Isabella, Lake**	**0.76**	**254**		Pg	15 18 44.9	-0.6
ISA				IAML		15 18 55.5	
comp=N,532nm,0.2s							
ISA				IAML		15 18 57.7	
comp=E,485nm,0.2s							
CCAC	**Calif City Air**	**0.80**	**206**		Pg	15 18 45.8	-0.6
CCAC					Sg	15 18 57.0	+0.2
GWY	**Greenwater Val**	**0.80**	**67**		Pg	15 18 46.0	-0.5
GWY				IAML		15 18 60.0	
comp=N,666nm,0.3s							
GWY				IAML		15 19 00.3	
comp=E,868nm,0.3s							
GWY	**Greenwater Val**	**0.80**	**67**		Sg	15 18 56.7	-0.2
WASM	**Alta Sierra Ca**	**0.81**	**261**		Pg	15 18 45.9	-0.6
WASM					Sg	15 18 56.5	-0.5
GSC	**Goldstone, Bar**	**0.85**	**132**		Pn	15 18 57.9	+8.7
GSC	**Goldstone, Bar**	**0.85**	**132**	IAML		15 18 58.6	
comp=N,340nm,0.3s							
GSC				IAML		15 19 01.1	
comp=E,552nm,0.5s							
SPG2	**Springville 2**	**1.01**	**289**		Pg	15 18 49.4	-1.1
SPG2					Sg	15 19 02.4	-1.3
EDW2	**Edwards Air Fo**	**1.04**	**199**		Pg	15 18 49.9	-1.2
SHOC	**Shoshone, Teco**	**1.06**	**88**		Pg	15 18 50.1	-1.2
TPO	**Tropico Hills**	**1.12**	**208**		Pg	15 18 51.7	-0.8
TPO				IAML		15 19 09.0	
comp=E,386nm,0.6s							
TPO				IAML		15 19 09.6	
comp=N,245nm,0.5s							
SGV	**South Grapevin**	**1.19**	**22**		Pb	15 18 52.8	-1.1
WCT	**Wildcat Mounta**	**1.20**	**40**		Pb	15 18 52.6	-1.3
WCT				IAML		15 19 11.2	
comp=N,158nm,0.6s							
WCT				IAML		15 19 12.8	
comp=E,203nm,0.4s							
VES	**Vestal, Richgr**	**1.22**	**269**		Pn	15 18 53.4	-0.8
VES				IAML		15 19 10.5	
comp=N,242nm,0.4s							
VES				IAML		15 19 11.9	
comp=E,163nm,0.2s							
TIN	**Tinemaha, Big**	**1.29**	**336**		Pn	15 18 54.8	-0.5
TIN				IAML		15 19 14.7	
comp=N,282nm,0.6s							
TIN				IAML		15 19 16.3	
comp=E,354nm,0.6s							
TPNV	**Topopah Spring**	**1.52**	**45**		Pn	15 18 57.5	-1.0
TPNV				IAML		15 19 22.0	
comp=E,152nm,0.5s							
TPNV				IAML		15 19 25.0	
comp=E,134nm,0.7s							
VOG	**Valley Oaks Go**	**1.53**	**288**		Pb	15 18 58.9	-0.5
BFSC	**Mount Baldy Ra**	**1.63**	**182**		Pn	15 19 00.4	+0.5
BFSC				IAML		15 19 26.6	
comp=E,80nm,0.5s							
MTPC	**Mountain Pass**	**1.69**	**103**		Pn	15 18 59.3	-1.6
MTPC				IAML		15 19 27.0	
comp=N,85nm,0.3s							
MTPC				IAML		15 19 27.7	
comp=E,82nm,0.3s							
CRGC	**Crocker Grade**	**1.86**	**251**		Pb	15 19 05.0	-0.2
SHPR	**Sheep Range**	**2.06**	**71**		Pn	15 19 05.3	-0.5
MDPB	**Devils Postpil**	**2.13**	**326**	IAML		15 19 39.5	
comp=E,53nm,0.3s							
MDPB				IAML		15 19 41.1	
comp=N,54nm,0.8s							
TPH	**Tonopah**	**2.22**	**7**		Pb	15 19 12.4	+1.1
ELS	**Elsinore Mount**	**2.22**	**177**		Pn	15 19 07.8	-0.3
V12A	**Nelson**	**2.22**	**93**		Pn	15 19 06.7	-1.4
BELC	**Belle Mtn. Jos**	**2.27**	**145**		Pn	15 19 07.6	-1.2
BELC				IAML		15 19 44.1	
comp=N,67nm,0.6s							
BELC				IAML		15 19 45.5	
comp=E,63nm,0.5s							
PMD	**Palm Desert**	**2.43**	**156**		Pn	15 19 09.5	-1.3
PFO	**Pinyon Flats O**	**2.44**	**157**		Pn	15 19 10.0	-1.1
LHV	**Little Huntoon**	**2.49**	**343**		Pg	15 19 18.5	-0.1
PRN	**Pahroc Range**	**2.55**	**52**		Pn	15 19 12.1	-0.5
PRN				IAML		15 19 56.0	
comp=E,44nm,0.6s							
PRN				IAML		15 19 57.6	
comp=N,46nm,0.5s							
NVAR	**Mina Array Bea**	**2.62**	**347**		Pg	15 19 21.1	-0.1
MYLM	**Yosemite Lake**	**2.74**	**304**		Pb	15 19 19.4	-0.6
RYN	**Ryan**	**2.85**	**345**	Pn	Pn	15 19 16.6	-0.2
R11B	**Troy Canyon, C**	**2.94**	**32**		Pn	15 19 18.2	+0.2
W13A	**Hualapai Mount**	**3.11**	**103**		Pn	15 19 19.0	-1.4

IDC ***24*** *15:27:05.7±0.7, 19°.74S×169°.84E, h0km, mb4.3/16, mbtmp4.3/18, ML3.7/2, MS4.1/9, Error ellipse: s-maj=21.5km s-min=15.7km az=94.0*
NEIC ***24*** *15:27:06.8±1.9, 19°.82S±0°.08×170°.0E±0°.1, h10km±1km, mb4.6/23, Error ellipse: s-maj=19.1km s-min=12.6km az=110.0*
GCMT ***24*** *15:27:10.8±0.3, 19°.77S±0°.03×170°.00E±0°.03, h12km, MW5.0/58, Moment Tensor Solution. s25,c29; s58,c85; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.18±.13; Mθθ1.41±.14; Mϕϕ1.78±.11; Mrθ0.51±.38; Mϕθ-1.41±.10; Mϕr-1.36±.46; Best double couple: Mo3.41900×10¹⁶ NP1:ϕs131.00000°, δ34.00000°, λ-103.00000°. NP2: ϕs327.00000°, δ57.00000°, λ-82.00000°. Principal axes: T 3.3060, Plg12.0000°, Azm51.0000°; N 0.2370, Plg7.0000°, Azm142.0000°; P -3.5330, Plg76.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 15:27:10.3±0.4, 19°.82S±0°.06×169°.88E±0°.07, h30km, n101, σ1.52/100, mb4.5/34, MS4.1/6, 6C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**3.58**	**219**		**Pn**	**15 28 04.2**	**+0.3**
PINNC				Sn	**Sn**	**15 28 47.2**	**+1.9**
DZM	**Mont Dzumac**	**3.91**	**234**	Pn	**Pn**	**15 28 08.2**	**-0.3**
3.2nm,0.3s,baz=118,slow=17,SNR=44							
DZM				Sn	**Sn**	**15 28 55.5**	**+2.0**
26nm,0.3s,baz=115,slow=23,SNR=6.5							
DZM				LR	LR	15 29 33.9	
comp=Z,5μm,19.8s,baz=122,slow=38							
30nm,0.6s							
ONTNC	**Quen Toro**	**4.04**	**232**		**Pn**	**15 28 11.5**	**+1.3**
SANVU	**Saraoutou**	**5.04**	**329**		**Pn**	**15 28 24.5**	**+0.6**
MSVF	**Nonsavu**	**8.02**	**76**		**Pn**	**15 29 06.8**	**+1.8**
HNR	**Honiara**	**14.10**	**316**	LR	LR	15 35 19.2	
comp=Z,372nm,19.4s,baz=146,slow=35							
URZ	**Urewera**	**19.42**	**163**	P	**Pn**	**15 31 36.3**	**+0.9**
0.3nm,0.3s,baz=359,slow=3.3,SNR=4.2							
URZ				LR	LR	15 37 31.9	
comp=Z,641nm,19.4s,baz=341,slow=32							
18nm,0.9s							
ARMA	**Armidale**	**19.58**	**234**		**P**	**15 31 32.5**	**-3.6**
ARMA				IAmb	IAmb	15 31 45.8	
comp=Z,54nm,1.4s							
BKZ	**Black Stump Fm**	**20.11**	**165**	P	**P**	**15 31 38.6**	**-3.1**
BKZ				IAmb	IAmb	15 31 49.4	
comp=Z,61nm,1.2s							
MRZ	**Mangatainoka R**	**21.34**	**168**	P	**P**	**15 31 51.5**	**-3.4**
MRZ				IAmb	IAmb	15 32 21.0	
comp=Z,50nm,1.0s							
CTAO	**Charters Tower**	**22.20**	**265**	P	**P**	**15 32 06.7**	**+2.2**
CAN	**Canberra**	**24.03**	**226**	P	**P**	**15 32 19.6**	**-3.2**
CAN				IAmb	IAmb	15 32 32.9	
comp=Z,30nm,1.2s							
PMG	**Port Moresby**	**24.27**	**292**		**P**	**15 32 24.1**	**-1.0**
PMG	**Port Moresby**	**24.27**	**292**	LR	LR	15 40 34.0	
comp=Z,255nm,18.9s,baz=140,slow=33							
INKA	**Innaminka**	**27.75**	**248**	P	**P**	**15 32 56.4**	**0.0**
INKA				IAmb	IAmb	15 33 04.8	
comp=Z,9.5nm,1.1s							
STKA	**Stephens Creek**	**28.05**	**239**	P	**P**	**15 32 59.1**	**0.0**
comp=Z,2.2nm,0.6s,baz=66,slow=8.1,SNR=4.3							
STKA				LR	LR	15 43 42.9	
comp=Z,853nm,20.5s,baz=71,slow=36							
comp=Z,2.2nm,0.6s							
RAR	**Rarotonga**	**28.44**	**98**	LR	LR	15 41 48.8	
comp=Z,153nm,20.8s,baz=277,slow=31							
WR8	**Warramunga Arr**	**33.23**	**264**	P	**P**	**15 33 41.9**	**-3.1**
WR8				IAmb	IAmb	15 33 51.5	
comp=Z,7.9nm,1.1s							
JAY	**Jayapura**	**33.28**	**297**	P	**P**	**15 33 43.7**	**-1.8**
comp=Z,2.9nm,0.5s,baz=153,slow=16,SNR=6.5							
comp=Z,2.9nm,0.5s							
WB0	**Warramunga Arr**	**33.35**	**264**	P	**P**	**15 33 45.5**	**-0.6**
WB0				IAmb	IAmb	15 33 52.5	
comp=Z,11nm,1.0s							
WRA	**Warramunga Arr**	**33.38**	**264**	P	**P**	**15 33 44.0**	**-2.3**
WRA	**Warramunga Arr**	**33.38**	**264**	P	**P**	**15 33 45.3**	**-1.0**
comp=Z,9.5nm,1.3s,baz=91,slow=8.4,SNR=17							
WRA				LR	LR	15 46 50.2	
comp=Z,284nm,19.6s,baz=70,slow=36							
comp=Z,9.5nm,1.3s							
AS31	**Alice Springs**	**33.58**	**257**	P	**P**	**15 33 46.7**	**-1.4**
AS31				IAmb	IAmb	15 33 55.4	
comp=Z,5.6nm,0.8s							
ASAR	**Alice Springs**	**33.58**	**257**	P	**P**	**15 33 45.5**	**-2.5**
ASAR	**Alice Springs**	**33.58**	**257**	P	**P**	**15 33 47.5**	**-0.5**
comp=Z,12nm,0.8s,baz=87,slow=8.4,SNR=133							
ASAR				LR	LR	15 47 24.5	
comp=Z,771nm,19.4s,baz=94,slow=36							
comp=Z,12nm,0.8s							
GENI	**Genyem**	**33.69**	**297**	P	**P**	**15 33 51.5**	**+2.5**
MTN	**Manton Dam**	**37.76**	**275**	P	**P**	**15 34 22.6**	**-1.4**
MTN				IAmb	IAmb	15 34 55.3	
comp=Z,8.8nm,0.8s							
KNRA	**Kununurra**	**39.31**	**269**	P	**P**	**15 34 35.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**41.78**	**265**	P	**P**	**15 34 57.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.78**	**265**	LR	LR	15 52 37.4	
comp=Z,300nm,19.1s,baz=88,slow=37							
PSA00	**Pilbara Seismi**	**46.67**	**259**	P	**P**	**15 35 36.6**	**0.0**
PSA00	**Pilbara Seismi**	**46.67**	**259**	P	**P**	**15 35 35.4**	**-1.2**
PSA00				IAmb	IAmb	15 35 44.5	
comp=Z,7.0nm,0.9s							
MBWA	**Marble Bar**	**46.83**	**259**	P	**P**	**15 35 37.0**	**-0.9**
TTSI	**Tana Toraja**	**51.58**	**282**	P	**P**	**15 36 20.9**	**+6.7**
VNDA	**Vanda**	**57.87**	**182**	P	**P**	**15 36 58.0**	**-0.9**
VNDA				IAmb	IAmb	15 37 15.3	
comp=Z,6.7nm,1.3s							
VNDA	**Vanda**	**57.87**	**182**	P	**P**	**15 36 57.7**	**-1.2**
comp=Z,1.4nm,0.9s,baz=2.9,slow=9.7,SNR=4.6							
comp=Z,1.4nm,0.9s							
SBA	**Scott Base**	**58.09**	**181**	P	**P**	**15 37 01.4**	**+1.0**
DBJI	**Dramaga**	**62.55**	**273**	P	**P**	**15 37 33.1**	**+1.2**
MJAR	**Matsushiro Arr**	**63.55**	**332**	P	**P**	**15 37 37.3**	**-0.8**
MJAR				IAmb	IAmb	15 37 56.4	
comp=Z,6.4nm,1.5s							
MJAR	**Matsushiro Arr**	**63.55**	**332**	P	**P**	**15 37 37.7**	**-0.4**
comp=Z,3.2nm,1.1s,baz=162,slow=6.4,SNR=5.6							
comp=Z,3.2nm,1.1s							
MDSI	**Maura Dua**	**65.64**	**274**	P	**P**	**15 37 52.3**	**+0.1**
comp=Z,1μmcomp=Z,16nm,1.0s							
KSRS	**Korea Array**	**69.32**	**325**	P	**P**	**15 38 13.4**	**-1.6**
comp=Z,1.0nm,1.1s,baz=114,slow=4.2,SNR=2.1							
comp=Z,1.0nm,1.1s							
QSPA	**South Pole Qui**	**70.23**	**180**	P	**P**	**15 38 19.0**	**-1.4**
QSPA	**South Pole Qui**	**70.23**	**180**	P	**P**	**15 38 21.6**	**+1.2**
comp=Z,5.5nm,1.0s,baz=28,slow=2.8,SNR=8.8							
comp=Z,5.5nm,1.0s							
NJ2	**Nanjing**	**71.04**	**316**	*e*P	**P**	**15 38 27.4**	**+1.8**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**72.53**	**332**	P	**P**	**15 38 34.8**	**+0.5**
comp=Z,3.8nm,1.1s,baz=126,slow=7.4,SNR=5.5							
comp=Z,3.8nm,1.1s							
PETK	**Petropavlovsk-**	**73.39**	**352**	P	**P**	**15 38 38.4**	**-0.8**
PETK	**Petropavlovsk-**	**73.39**	**352**	P	**P**	**15 38 40.2**	**+1.0**
comp=Z,9.4nm,1.1s,baz=126,slow=7.5,SNR=9.0							
comp=Z,9.4nm,1.1s							
CN2	**Changchun**	**75.27**	**328**	*e*P	**P**	**15 38 51.3**	**+1.0**
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
MAW	**Mawson**	**78.12**	**202**	P	**P**	**15 39 08.0**	**+1.8**
comp=Z,3.3nm,0.9s,baz=88,slow=7.8,SNR=6.0							
comp=Z,3.3nm,0.9s				

comp=Z,0.4nm,0.5s,baz=195,slow=4.6,SNR=3.5
comp=Z,0.4nm,0.5s

VNA3	**Neumayer Olymp**	**89.17**	**180**	⇑P	**P**	**15 40 01.8**	**-1.0**
	comp=Z,1.7nm,0.9s						
VNA2	**Neumayer--Watz**	**89.47**	**181**	⇑P	**P**	**15 40 03.5**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=166,slow=5.2						
VNA1	**Neumayer--Stat**	**89.76**	**181**	⇑P	**P**	**15 40 05.4**	**-0.1**
	comp=Z,5.4nm,1.2s						
VNA1				⇓sP	**sP**	**15 40 22.3**	**+4.4**
ILAR	**Eielson Array**	**90.61**	**17**	P	**P**	**15 40 08.3**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=237,slow=5.6,SNR=5.4						
	comp=Z,0.7nm,0.9s						
TANN	**Tannenbergstha**	**144.61**	**335**	*e*PKPbc	**PKPdf**	**15 46 43.1**	**-0.9**
	baz=37,slow=2.8						
PLN	**Plauen**	**144.67**	**335**	*e*PKPbc	**PKPdf**	**15 46 43.0**	**-1.0**
	baz=37,slow=2.8						
MOX	**Moxa**	**144.76**	**336**	*e*PKPbc	**PKPdf**	**15 46 43.3**	**-0.9**
	baz=37,slow=2.8						
MOX				*e*L	L	16 49 16.9	
	comp=Z,199nm,21.8s						
RONA	**Rosalia, Austr**	**144.89**	**328**	*i* PKP	**PKPdf**	**15 46 44.6**	**0.0**
	comp=Z,11nm,1.6s						
CONA	**Conrad Observa**	**144.95**	**329**	*i* PKP	**PKPdf**	**15 46 45.3**	**+0.7**
	comp=Z,8.5nm,1.5s						
CKRC	**Cesky Krumlov**	**145.03**	**332**	*e*PKP	**PKiKP**	**15 46 48.3**	**-0.2**
MANZ	**Manzenberg**	**145.08**	**335**	*e*PKPbc	**PKPdf**	**15 46 44.5**	**-0.2**
	baz=37,slow=2.8						
KHC	**Kasperske Hory**	**145.13**	**332**	*e*PKP	**PKPdf**	**15 46 45.5**	**+0.6**
ROTZ	**Rotzenmuhle**	**145.22**	**334**	*e*PKPbc	**PKPdf**	**15 46 45.2**	**+0.2**
	baz=37,slow=2.8						
GEC2	**GERESS Array S**	**145.28**	**332**	*e*PKPbc	**PKPdf**	**15 46 45.0**	**-0.2**
	baz=37,slow=2.8						
GERES	**GERESS Array B**	**145.28**	**332**	PKPbc	**PKPdf**	**15 46 45.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=28,slow=3.8,SNR=6.4						
KASTN	**Kahler Asten**	**145.44**	**339**	*e*PKPbc	**PKPab**	**15 46 45.6**	**+0.1**
	baz=37,slow=2.8						
ARSA	**Arzberg**	**145.58**	**329**	*i* PKP	**PKPab**	**15 46 46.5**	**+0.3**
	comp=Z,8.1nm,1.3s						
GRF	**Grafenberg Arr**	**145.67**	**335**	*e*PKPbc	**PKPab**	**15 46 46.5**	**+0.1**
	baz=37,slow=2.8						
GRF				*e*L	L	16 55 08.4	
	comp=Z,225nm,21.6s						
MOA	**Molln**	**145.76**	**330**	*i* PKP	**PKPab**	**15 46 47.4**	**+0.6**
	comp=Z,13nm,1.2s						
BIOA	**Bad Ischl, Aus**	**146.17**	**331**	*i* PKP	**PKPdf**	**15 46 46.2**	**-0.4**
	comp=Z,1.0nm,0.5s						
SOKA	**Soboth**	**146.22**	**328**	*i* PKP	**PKPab**	**15 46 48.6**	**-0.1**
	comp=Z,3.8nm,1.0s						
TNS	**Taunus Mts**	**146.26**	**338**	*e*PKPbc	**PKPab**	**15 46 48.1**	**-0.6**
	baz=37,slow=2.8						
RJOB	**Jochberg**	**146.51**	**332**	*e*PKPbc	**PKPbc**	**15 46 48.3**	**-0.4**
	baz=37,slow=2.8						
OBKA	**Obir**	**146.58**	**328**	*e*PKP	**PKPbc**	**15 46 48.9**	**-0.2**
	comp=Z,2.7nm,0.6s						
KBA	**Koelnbreinsper**	**146.75**	**330**	*i* PKP	**PKPbc**	**15 46 49.6**	**0.0**
	comp=Z,4.9nm,1.2s						
LESA	**Schwarzleotal**	**146.80**	**331**	*i* PKP	**PKPab**	**15 46 50.1**	**-0.8**
	comp=Z,10nm,1.4s						
MYKA	**Terra Mystica**	**146.94**	**329**	*i* PKP	**PKPbc**	**15 46 49.6**	**-0.5**
	comp=Z,6.6nm,1.2s						
STU	**Stuttgart**	**147.20**	**336**	*e*PKPbc	**PKPab**	**15 46 51.2**	**-1.1**
	baz=37,slow=2.8						
WATA	**Walderalm**	**147.36**	**332**	*i* PKP	**PKPab**	**15 46 51.8**	**-1.4**
	comp=Z,7.6nm,1.2s						
ABTA	**Abfaltersbach**	**147.38**	**331**	*i* PKP	**PKPbc**	**15 46 51.0**	**-0.3**
	comp=Z,5.0nm,1.1s						
WTTA	**Wattenberg**	**147.39**	**332**	*i* PKP	**PKPbc**	**15 46 51.6**	**+0.2**
	comp=Z,13nm,1.4s						
WLF	**Walferdange**	**147.51**	**340**	*e*PKPbc	**PKPab**	**15 46 52.6**	**-0.9**
	baz=37,slow=2.8						
MOTA	**Moosalm**	**147.56**	**333**	*i* PKP	**PKPbc**	**15 46 51.4**	**-0.4**
	comp=Z,11nm,1.3s						
RETA	**Reutte**	**147.59**	**333**	*i* PKP	**PKiKP**	**15 46 53.1**	**-0.8**
	comp=Z,1.3nm,0.5s						
SQTA	**Sankt Quirin**	**147.61**	**332**	*i* PKP	**PKPbc**	**15 46 52.4**	**+0.5**
	comp=Z,9.9nm,1.5s						
BFO	**Black Forest**	**147.89**	**337**	*e*PKPbc	**PKPbc**	**15 46 52.5**	**-0.1**
	baz=37,slow=2.8						
FETA	**Feichten**	**147.97**	**333**	*i* PKiKP	**PKPbc**	**15 46 53.3**	**+0.3**
	comp=Z,7.9nm,1.2s						
DAVA	**Damuels**	**148.12**	**334**	*i* PKiKP	**PKiKP**	**15 46 53.9**	**-1.2**
	comp=Z,7.5nm,1.6s						
TORD	**Torodi Ar. Bea**	**166.87**	**241**	PKPab	**PKPab**	**15 48 17.0**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=134,slow=4.2,SNR=5.4						

*SJA **24** 15:37:23.6±0.5, 22°.27S×68°.75W, h125km±2km, ML3.4, MW3.5*
*GUC **24** 15:37:25.2±0.8, 22°.27S×68°.78W, h120km±4km, ML3.7*
ISC 24 15:37:24.9±1.3, 22°.30S±0°.03×68°.82W±0°.04, h124km±8km, n37, σ1°93/60, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**322**	⇑*i*P		**Pn**		**15 37 44.3**	**0.0**
PB09				*i* S		**Sn**		**15 37 58.3**	**-0.7**
PB09	**IPOC Station P**	**0.64**	**322**	*e*P		**Pn**		**15 37 43.7**	**-0.7**
PB09				*e*S		**Sn**		**15 37 58.9**	**-0.1**
PB09				IAML				15 38 01.0	
	comp=Z,933nm,0.2s								
PB06	**IPOC Station P**	**0.80**	**240**	⇑*i*P		**Pn**		**15 37 45.9**	**+0.2**
PB06				*i* S		**Sn**		**15 38 01.6**	**+0.3**
PB06				IAML				15 38 02.6	
	comp=N,2μm,0.1s								
PB06	**IPOC Station P**	**0.80**	**240**	*e*P		**Pn**		**15 37 45.8**	**+0.2**
PB06				*e*S		**Sn**		**15 38 02.3**	**+1.1**
PB06				IAML				15 38 05.3	
	comp=Z,1μm,0.2s								
AF01	**San Pedro de A**	**0.88**	**138**	⇓*i*P		**Pn**		**15 37 45.8**	**-0.6**
AF01				*i* S		**Sn**		**15 38 01.5**	**-1.2**
AF01	**San Pedro de A**	**0.88**	**138**	*e*P		**Pn**		**15 37 46.0**	**-0.4**
AF01				*e*S		**Sn**		**15 38 02.2**	**-0.5**
AF01				IAML				15 38 19.1	
	comp=Z,1μm,0.7s								
PB03	**IPOC Station P**	**0.90**	**286**	⇑*i*P		**Pn**		**15 37 46.7**	**+0.2**
PB03				*i* S		**Sn**		**15 38 02.5**	**-0.2**
PB03				IAML				15 38 04.4	
	comp=E,2μm,0.1s								
PB03	**IPOC Station P**	**0.90**	**286**	*e*P		**Pn**		**15 37 46.6**	**+0.2**
PB03				*e*S		**Sn**		**15 38 03.4**	**+0.7**
PB05	**IPOC Station P**	**1.39**	**246**	⇑*i*P		**Pn**		**15 37 52.0**	**+0.6**
PB05				*i* S		**Sn**		**15 38 11.8**	**+0.2**
PB05	**IPOC Station P**	**1.39**	**246**	*e*P		**Pn**		**15 37 52.0**	**+0.6**
PB05				*e*S		**Sn**		**15 38 13.4**	**+1.8**
PB05				IAML				15 38 17.4	
	comp=Z,267nm,0.2s								
PB01	**IPOC Station P**	**1.40**	**333**	⇑*i*P		**Pn**		**15 37 51.3**	**-0.2**
PB01				*i* S		**Sn**		**15 38 10.7**	**-0.9**
PB01				IAML				15 38 12.2	
	comp=E,1μm,0.2s								
PB01	**IPOC Station P**	**1.40**	**333**	*e*P		**Pn**		**15 37 51.2**	**-0.2**
PB01				*e*S		**Sn**		**15 38 11.3**	**-0.4**
PB01				IAML				15 38 12.1	
	comp=Z,393nm,0.2s								
PB02	**IPOC Station P**	**1.40**	**314**	⇑*i*P		**Pn**		**15 37 51.8**	**+0.3**
PB02				*i* S		**Sn**		**15 38 11.2**	**-0.5**
PB02				IAML				15 38 12.8	
	comp=E,1μm,0.3s								
PB02	**IPOC Station P**	**1.40**	**314**	*e*P		**Pn**		**15 37 51.6**	**+0.2**
PB02				*e*S		**Sn**		**15 38 11.8**	**+0.1**
PB02				IAML				15 38 16.1	
	comp=Z,1μm,0.2s								
PATCX	**Punta Patache**	**1.93**	**320**	*i* P		**Pn**		**15 37 57.5**	**-0.2**
PATCX	**Punta Patache**	**1.93**	**320**	*e*P		**Pn**		**15 37 57.6**	**-0.2**
PB10	**IPOC Station P**	**2.00**	**233**	*i* P		**Pn**		**15 37 58.9**	**+0.4**
PB10	**IPOC Station P**	**2.00**	**233**	*e*P		**Pn**		**15 37 59.2**	**+0.7**
PB10				*e*S		**Sn**		**15 38 25.4**	**+1.1**
PB10				IAML				15 38 27.1	
	comp=Z,98nm,0.2s								
TA01	**Diego Aracena**	**2.14**	**323**	*e*P		**Pn**		**15 38 00.1**	**-0.1**
TA01				*e*S		**Sn**		**15 38 29.4**	**+2.1**
TA01				IAML				15 38 29.9	
	comp=Z,87nm,0.3s								
PB08	**IPOC Station P**	**2.17**	**352**	*i* P		**Pn**		**15 38 01.5**	**+0.5**
PB08	**IPOC Station P**	**2.17**	**352**	*e*P		**Pn**		**15 38 01.5**	**+0.5**
PB08				*e*S		**Sn**		**15 38 32.6**	**+3.9**
PB08				IAML				15 38 32.7	
	comp=Z,57nm,0.2s								
HMBC	**Humberstone**	**2.25**	**333**	*e*P		**Pn**		**15 38 01.0**	**-0.7**
HMBC				*e*S		**Sn**		**15 38 28.0**	**-1.9**
HMBC				IAML				15 38 31.3	
	comp=E,241nm,0.2s								
HMBC	**Humberstone**	**2.25**	**333**	*e*P		**Pn**		**15 38 01.1**	**-0.7**
HMBC				*e*S		**Sn**		**15 38 29.6**	**-0.4**
HMBC				IAML				15 38 34.6	
	comp=Z,146nm,0.2s								

TA02	**Huaiquique**	**2.36**	**329**	*e*P	**Pn**	**15 38 05.8**	**+2.7**
TA02				*e*S	**Sn**	**15 38 23.9**	**-8.5**
TA02				IAML		15 38 34.1	
	comp=Z,167nm,0.1s						
GO01	**Chusmiza**	**2.64**	**352**	*e*P	**Pn**	**15 38 07.6**	**+0.4**
GO01	**Chusmiza**	**2.64**	**352**	*e*S	**Sn**	**15 38 41.1**	**+1.6**
GO01				IAML		15 38 42.9	
	comp=Z,65nm,0.1s						
PB11	**IPOC Station P**	**2.65**	**343**	*e*P	**Pn**	**15 38 06.2**	**-0.7**
PB11	**IPOC Station P**	**2.65**	**343**	*e*P	**Pn**	**15 38 06.6**	**-0.2**
PB11				IAML		15 38 44.4	
	comp=Z,106nm,0.6s						
PB14	**IPOC Station P**	**2.73**	**212**	*e*P	**Pn**	**15 38 08.5**	**+0.4**
PB14				*e*S	Sn	15 38 31.3	-10
PB14				IAML		15 38 42.4	
	comp=Z,158nm,0.2s						
GO02	**Mina Guanaco**	**2.94**	**194**	⇑*i*P	**Pn**	**15 38 11.0**	**+0.3**
GO02	**Mina Guanaco**	**2.94**	**194**	*e*P	**Pn**	**15 38 11.2**	**+0.5**
GO02				*e*S	**Sn**	**15 38 50.4**	**+4.3**
GO02				IAML		15 38 51.9	
	comp=Z,154nm,0.1s						
SALTA		**2.98**	**130**	*e*P	**Pn**	**15 38 14.1**	**+2.7**
SALTA				*e*S	**Sn**	**15 38 46.1**	**-1.2**
YJA	**Yavi**	**3.06**	**88**	*e*P	**Pn**	**15 38 13.8**	**+1.2**
AZAP	**Zapla**	**3.95**	**120**	*e*P	**Pn**	**15 38 24.5**	**+0.5**
PB16	**IPOC Station P**	**4.00**	**351**	*e*P	**Pn**	**15 38 25.8**	**+0.7**
PB16				*e*S	Sn	15 38 55.3	-16
AC01	**Pan de Azucar**	**4.16**	**203**	*e*P	**Pn**	**15 38 25.5**	**-1.1**
AC01				*e*S	Sn	15 39 00.7	-14
AC01				IAML		15 39 28.9	
	comp=Z,30nm,0.4s						
AC02	**Maricunga**	**4.52**	**184**	*e*P	**Pn**	**15 38 32.6**	**+0.6**
AC02				*e*S	**Sn**	**15 39 16.4**	**-7.6**
AC02				IAML		15 39 59.7	
	comp=Z,24nm,1.3s						

*IDC **24** 15:42:39.6±1.1, 33°.16N×141°.96E, h0km, mb3.9/10, mbtmp3.9/13, ML3.3/3, Error ellipse: s-maj=28.2km s-min=17.8km az=69.0*
*NIED **24** 15:42:41.5, 33°.17N×141°.90E, h18km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.40; Mθθ-0.06; Mφφ-0.34; Mrθ1.11; Mθφ0.19; Mφr-0.61; Fault plane solution: M₀1.33000×10¹⁵ NP1: φs352.00000°, δ12.00000°, λ140.00000°. NP2: φs121.00000°, δ82.00000°, λ81.00000°.*
*JMA **24** 15:42:41.2±0.4, 33°.2N±0°.9×14°.2E±°, h19km, MV3.7/24, E OFF HACHIJOJIMA ISLAND*
ISC 24 15:42:41.5±1.1, 33°.13N±0°.07×141°.91E±0°.10, h10km, n24, σ0°65/29, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.70**	**333**	*e*P		**Pn**		**15 43 10.7**	**-0.1**
BSO1				*e*S		**Sn**		**15 43 31.6**	**-0.8**
JHJ2	**Mitsune**	**1.75**	**270**	*e*P		**Pn**		**15 43 11.7**	**-0.3**
JHJ2				*e*S		**Sn**		**15 43 34.1**	**-0.2**
JHJ	**Hachijo jima 2**	**1.78**	**270**	Pn		**Pn**		**15 43 11.3**	**-1.0**
	36nm,0.3s,baz=76,slow=19,SNR=17								
JHJ				Sn		**Sn**		**15 43 34.5**	**-0.5**
	90nm,0.3s,baz=26,slow=22,SNR=9.9								
JAOM	**Aogashimamukai**	**1.92**	**250**	*e*P		**Pn**		**15 43 14.4**	**0.0**
BSO3	**Boso 3**	**2.03**	**326**	*e*P		**Pn**		**15 43 15.4**	**-0.2**
BSO3				*e*S		**Sn**		**15 43 41.1**	**+0.3**
JMKN	**Mikurajimanish**	**2.08**	**292**	*e*P		**Pn**		**15 43 16.8**	**+0.3**
JMKN				*e*S		**Sn**		**15 43 42.2**	**-0.2**
JMYK	**Miyake Tsubota**	**2.18**	**296**	*e*P		**Pn**		**15 43 17.5**	**-0.3**
JMYK				*e*S		**Sn**		**15 43 44.1**	**-0.7**
JIZS	**Izushimoda**	**2.97**	**303**	*e*P		**Pn**		**15 43 28.4**	**-0.4**
JOD2	**Odawara 2**	**3.16**	**313**	P		**Pn**		**15 43 30.5**	**-0.9**
JYN	**Shimob**	**3.65**	**311**	P		**Pn**		**15 43 38.3**	**+0.2**
JAG	**Ashikaga**	**3.86**	**329**	*e*P		**Pn**		**15 43 40.5**	**-0.4**
MJAR	**Matsushiro Arr**	**4.56**	**319**	Pn		**Pn**		**15 43 50.7**	**+0.1**
	0.9nm,0.3s,baz=180,slow=15,SNR=95								
	5.2nm,0.4s								
ASAJ	**Asahikawa**	**10.98**	**3**	Pn		Pn		15 45 16.1	-2.6
	0.6nm,0.3s,baz=201,slow=16,SNR=7.3								
	12nm,1.0s								
KSRS	**Korea Array**	**12.21**	**295**	Pn		**Pn**		**15 45 37.1**	**+1.7**
	0.1nm,0.3s,baz=107,slow=13,SNR=5.9								
	0.7nm,0.6s								
SONM	**Songino Array**	**30.44**	**309**	P		**P**		**15 48 55.4**	**+1.1**
	1.0nm,0.6s,baz=111,slow=7.9,SNR=1.7								
	1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**44.91**	**315**	P		**P**		**15 50 55.3**	**-0.9**
	1.0nm,0.8s,baz=87,slow=7.4,SNR=2.1								
	1.0nm,0.8s								
MKAR	**Makanchi Array**	**46.62**	**305**	P		**P**		**15 51 09.4**	**-0.5**
	0.6nm,0.5s,baz=86,slow=10,SNR=11								
	0.6nm,0.5s								
KURBB	**Kurchatov Arra**	**48.79**	**311**	P		**P**		**15 51 25.8**	**-0.7**
	1.6nm,0.2s,baz=83,slow=7.5,SNR=6.8								
	1.6nm,0.2s								
WRA	**Warramunga Arr**	**53.27**	**189**	P		**P**		**15 52 00.3**	**-0.2**
	1.5nm,0.5s,baz=5.0,slow=7.5,SNR=42								
	1.5nm,0.5s								
BVAR	**Borovoye Array**	**53.54**	**315**	P		**P**		**15 52 01.9**	**-0.4**
	0.6nm,0.6s,baz=86,slow=7.9,SNR=4.2								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**56.99**	**189**	P		**P**		**15 52 27.3**	**-0.1**
	0.3nm,0.5s,baz=17,slow=14,SNR=11								
	0.3nm,0.5s								
KBZ	**Khabaz**	**73.77**	**312**	P		**P**		**15 54 16.7**	**+0.7**
	2.6nm,0.8s,baz=116,slow=5.2,SNR=4.0								
	2.6nm,0.8s								
HFS	**Hagfors**	**77.81**	**336**	P		**P**		**15 54 38.2**	**-0.6**
	1.8nm,1.0s,baz=90,slow=1.6,SNR=2.2								
	1.8nm,1.0s								
NOA	**NORSAR Array B**	**77.94**	**338**	P		**P**		**15 54 39.1**	**-0.4**
	0.8nm,0.8s,baz=45,slow=9.9,SNR=3.4								
	0.8nm,0.8s								

*RSNC **24** 15:49:02.3±1.4, 11°.N±5°.×6°.8W±°, h21km±14km, M4.7, mB5.4, mb5.1, ML4.2, Mw(mB)4.8*
*NEIC **24** 15:49:23.7±2.7, 10°.37N±0°.03×69°.29W±0°.05, h10km±2km, mb4.1/6, Error ellipse: s-maj=7.8km s-min=4.4km az=71.0*
*IDC **24** 15:49:24.2±0.9, 10°.44N×69°.35W, h0km, mb3.6/6, mbtmp3.9/10, ML3.9/4, MS3.7/2, Error ellipse: s-maj=19.4km s-min=12.4km az=135.0*
*FUNV **24** 15:49:25.3, 10°.31N×69°.26W, h6km, MW4.2*
ISC 24 15:49:22.6±1.6, 10°.40N±0°.04×69°.24W±0°.03, h11km±11km, n66, σ2°29/75, mb3.6/6, 1C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.79**	**30**	⇑*e*P		**Pn**		**15 49 41.5**	**+1.8**
JACV				*e*S		**Sn**		**15 49 54.2**	**+2.7**
BENV	**Beln**	**1.67**	**105**	*e*P		**Pg**		**15 49 55.3**	**+0.7**
BENV				*e*S		**Sg**		**15 50 17.5**	**+1.2**
BAUV	**El Baul**	**1.87**	**141**			**Pb**		**15 49 55.9**	**-0.8**
BAUV				Sn		**Sn**		**15 50 19.5**	**+1.5**
BAUV	**El Baul**	**1.87**	**141**	⇓*i*P		**Pb**		**15 49 56.4**	**-0.3**
BAUV				*e*S		**Sn**		**15 50 19.7**	**+1.6**
SDV	**Santo Domingo**	**2.04**	**223**	Pn		**Pb**		**15 49 58.5**	**-1.4**
SDV				Sn		**Sn**		**15 50 22.7**	**0.0**
SDV	**Santo Domingo**	**2.04**	**223**	Pn		**Pb**		**15 49 59.2**	**-0.5**
	229nm,0.3s,baz=64,slow=11,SNR=108								
SDV				Lg		Lg		15 50 26.6	
	258nm,0.3s,baz=346,slow=20,SNR=11								
SDV				LR		LR		15 51 02.5	
	comp=Z,272nm,18.8s,baz=92,slow=49								
SDV	**Santo Domingo**	**2.04**	**223**	P		**Pb**		**15 49 59.3**	**-0.5**
TACV	**Tcata**	**2.19**	**97**	*e*P		**Pb**		**15 50 01.9**	**-0.3**
TACV				*e*S		**Sb**		**15 50 29.0**	**-0.4**
FUNV	**FUNVISIS**	**2.39**	**88**	*e*P		**Pn**		**15 50 02.6**	**+0.8**
FUNV				*e*S		**Sb**		**15 50 34.3**	**-0.9**
URIC	**Uribia, Colomb**	**3.00**	**296**	P		**Pn**		**15 50 11.4**	**+1.3**
MCQV	**Machiques**	**3.27**	**264**	*e*P		**Pn**		**15 50 15.5**	**+1.7**
MCQV				*e*S		**Sn**		**15 50 53.0**	**+0.3**
CRJC	**Cerrejon, Guaj**	**3.64**	**280**	P		**Pn**		**15 50 20.6**	**+1.7**
	4μm221nm,0.7s								
CACV	**CAICARA DEL OR**	**3.88**	**136**	*e*P		**Pb**		**15 50 28.5**	**-2.5**
CACV				*e*S		**Sb**		**15 51 17.0**	**-1.0**
CAPV	**Capacho**	**3.95**	**231**	*e*P		**Pn**		**15 50 25.3**	**+1.9**
CAPV				*e*S		**Sn**		**15 51 07.3**	**-2.5**
PCRV	**Puerto La Cruz**	**4.53**	**92**	Pn		**Pn**		**15 50 34.3**	**+3.1**
	7.0nm,0.3s,baz=284,slow=2.4,SNR=53								
PCRV				Sn		**Sn**		**15 51 26.4**	**+2.5**
	6.2nm,0.3s,baz=298,slow=13,SNR=3.6								
PCRV				Lg		Lg		15 51 51.1	
	9.0nm,0.3s,baz=78,slow=15,SNR=6.6								
PCRV				LR		LR		15 52 31.1	
	comp=Z,151nm,19.8s,slow=40								
	14nm,0.3s								
PCRV	**Puerto La Cruz**	**4.53**	**92**	*e*P		**Pn**		**15 50 33.8**	**+2.6**
PCRV				*e*S		**Sn**		**15 51 24.9**	**+1.0**
OCAC	**Ocana**	**4.57**	**242**	P		**Pn**		**15 50 34.2**	**+2.4**
	3μm402nm,0.6s								
PAMC	**Pamplona, Colo**	**4.58**	**229**	P		**Pn**		**15 50 34.2**	**+1.9**
SMRC	**Santa Marta, M**	**4.96**	**279**			**Pn**		**15 50 37.6**	**+0.6**
SMRC	**Santa Marta, M**	**4.96**	**279**	P		**Pn**		**15 50 38.1**	**+1.0**
	105nm,0.5s								
ARGC	**Ariguani, Magd**	**4.96**	**264**	P		**Pn**		**15 50 40.0**	**+2.9**
	4μm65nm,0.6s								
BARC	**Barichara**	**5.44**	**226**	P		**Pn**		**15 50 46.3**	**+2.5**
BRJC	**Barrancabermej**	**5.61**	**233**	P		**Pn**		**15 50 48.2**	**+2.2**
	1μm141nm,0.6s								
SJCC	**San Jacinto, C**	**5.87**	**266**	P		**Pn**		**15 50 52.7**	**+3.0**
	666nm72nm,0.9s								
RUSC	**La Rusia**	**5.88**	**221**			**Pn**		**15 50 51.1**	**+1.0**
RUSC	**La Rusia**	**5.88**	**221**	P		**Pn**		**15 50 51.5**	**+1.3**
ZARC	**Zaragoza, Cauc**	**6.26**	**243**	P		**Pn**		**15 50 56.4**	**+1.4**
PTBC	**PUERTO BERRIO,**	**6.43**	**234**	P		**Pn**		**15 50 57.6**	**+0.2**
UREC	**San Jos de Ur**	**6.75**	**248**	P		**Pn**		**15 51 05.2**	**+3.5**
NORC	**Norcasia**	**7.36**	**230**	P		**Pn**		**15 51 10.4**	**+0.2**
ROSC	**El Rosal**	**7.48**	**223**	Pn		**Pn**		**15 51 13.2**	**+1.2**
ROSC	**El Rosal**	**7.48**	**223**	Pn		**Pn**		**15 51 15.1**	**+3.0**
	12nm,0.3s,baz=69,slow=18,SNR=6.6								
ROSC				Sn		**Sn**		**15 52 42.1**	**+5.1**
	2.9nm,0.3s,baz=74,slow=23,SNR=1.0								
	30nm,0.3s								
ROSC	**El Rosal**	**7.48**	**223**	P		**Pn**		**15 51 15.6**	**+3.6**
HELC	**Santa Helena**	**7.50**	**237**	P		**Pn**		**15 51 15.6**	**+3.3**
	436nm27nm,0.7s								
CVER	**Cruz Verde, Cu**	**7.56**	**220**	P		**Pn**		**15 51 15.6**	**+2.4**
	4μm65nm,0.4s								
GRGR	**Grenville**	**7.63**	**76**	P		Pn		15 50 27.6	-46
	72nm,1.0s								
VILC	**Villavicencio,**	**7.66**	**216**	P		**Pn**		**15 51 15.0**	**+0.8**
DBBC	**Dabeiba**	**7.67**	**245**	P		**Pn**		**15 51 17.1**	**+2.7**
	27μm23nm,0.5s								
GUY2C	**Guyana, Caldas**	**7.96**	**230**	P		**Pn**		**15 51 20.1**	**+1.4**
	647nm67nm,0.6s								
OBIP	**Obispado Ponce**	**8.01**	**18**			**Pn**		**15 51 22.1**	**+3.1**
BANI	**BANI**	**8.02**	**352**	Pn		**Pn**		**15 51 19.9**	**+0.7**
CELP	**Cerrillos**	**8.05**	**18**			**Pn**		**15 51 20.6**	**+1.1**
PDPR	**Patillas Dam,**	**8.19**	**22**			**Pn**		**15 51 23.1**	**+1.7**
SJG	**San Juan**	**8.23**	**21**			**Pn**		**15 51 23.7**	**+1.8**
SJG	**San Juan**	**8.23**	**21**	Pn		**Pn**		**15 51 24.1**	**+2.1**
	6.8nm,0.3s,baz=187,slow=14,SNR=8.1								
SJG				Sn		**Sn**		**15 52 47.3**	**-7.6**
	9.5nm,0.3s,baz=9.2,slow=19,SNR=11								
	16nm,0.3s								
GCPR	**Guaynabo City**	**8.43**	**21**	Pn		**Pn**		**15 51 28.3**	**+3.5**
BIM	**Bigot**	**8.96**	**62**	Pn		**Pn**		**15 51 32.4**	**+0.4**
FDF	**Fort de France**	**8.99**	**61**			**Pn**		**15 51 31.5**	**-0.9**
FLOC	**Florencia**	**10.84**	**216**	Pn		**Pn**		**15 51 55.8**	**-2.0**
MTDJ	**Mount Denham**	**11.19**	**315**	Pn		**Pn**		**15 52 01.7**	**-1.0**
BOAV	**Boa Vista**	**11.75**	**132**			**Pn**		**15 52 08.7**	**-1.6**
OTAV	**Otavalo**	**13.64**	**223**	Pn		**Pn**		**15

-1.2092, Plg37.0000°, Azm351.0000°;
*IPGP **24** 15:51:27.0, 14°.32S×167°.18E, h120km, Mw6.0, Fault plane solution: NP1:φ=21.00000°, δ13.00000°, λ.32.00000°. NP2:φ=260.00000°, δ83.00000°, λ101.00000°.*
*MOS **24** 15:51:27.2±1.1, 14°.23S×167°.06E, h128km, mb6.1/36, Error ellipse: s-maj=6.9km s-min=5.8km az=124.3*
*NEIC **24** 15:51:27.6, 14°.31S×167°.24E, h122km*
*NEIC **24** 15:51:27.1±2.4, 14°.31S±0°.07×167°.19E±0°.09, h115km±1km, mb5.8/580, Mwb6.0/57, Mww6.0/53, Error ellipse: s-maj=14.7km s-min=11.8km az=106.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.26; Mθθ-0.34; Mφφ0.08; Mrθ-1.12; Mφθ-0.12; Mφr-0.22; Fault plane solution: M0 1.19000×10¹⁸ NP1:φs67.13000°, δ7.97000°, λ78.58000°. NP2:φs258.66000°, δ82.19000°, λ91.59000°. Principal axes: T 1.1277, Plg53.0000°, Azm171.0000°; N 0.1101, Plg2.0000°, Azm78.0000°; P -1.2377, Plg37.0000°, Azm347.0000°;*
*NOU **24** 15:51:28.3, 14°.33S×167°.15E, h125km, ML6.1/150, Vanuatu Islands*
*GCMT **24** 15:51:31.1±0.1, 14°.32S×167°.07E, h127km, MW6.0/162, Moment Tensor Solution. s161,c381; s162,c570; Duration: 26 Moment tensor: Scale 10¹⁸Nm; Mrr0.15±.01; Mθθ-0.23±.01; Mφφ0.08±.01; Mrt-1.41±.01; Mθφ-0.20±.01; Mθr-0.22±.01; Best double couple: M0 1.45100×10¹⁸ NP1:φ=29.00000°, δ7.00000°, λ38.00000°. NP2:φ=261.00000°, δ86.00000°, λ96.00000°. Principal axes: T 1.3840, Plg49.0000°, Azm177.0000°; N 0.1340, Plg6.0000°, Azm81.0000°; P -1.5180, Plg40.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 15:51:27.4±0.2, 14°.37S±0°.03×167°.17E±0°.03, h126km±1km, h126km:pP-P, n1923, σ1°.28/1917, mb5.8/460, 109C-82D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.07**	**178**		**Pn**	**15 51 49.5**	**-1.2**
SANVU				Sn	**Sn**	**15 52 09.1**	**+0.8**
SANVU	**Saraoutou**	**1.07**	**178**	P	**Pn**	**15 51 50.7**	**+0.1**
SANVU	**Saraoutou**	**1.07**	**178**	S	**Sn**	**15 52 10.2**	**+2.0**
DVP	**Devils Point**	**3.47**	**164**	P	**Pn**	**15 52 21.4**	**+1.3**
DVP	**Devils Point**	**3.47**	**164**	S	**Sn**	**15 53 03.0**	**+2.1**
LUES	**Luesalemba Tem**	**3.89**	**341**	P	**Pn**	**15 52 25.7**	**+0.1**
LUES	**Luesalemba Tem**	**3.89**	**341**	S	**Sn**	**15 53 10.8**	**+0.1**
INH	**Isangel**	**5.52**	**159**	P	**Pn**	**15 52 49.6**	**+2.1**
HURO	**Huro Makira**	**6.45**	**306**	P	**Pn**	**15 52 59.5**	**-0.5**
HURO	**Huro Makira**	**6.45**	**306**	S	**Sn**	**15 54 12.8**	**+0.5**
KOUNC	**Koumac, New Ca**	**6.73**	**204**	P	**Pn**	**15 53 05.9**	**+2.1**
KOUNC	**Koumac, New Ca**	**6.73**	**204**	S	**Sn**	**15 54 21.2**	**+2.1**
NGOA	**Tingoa Renbel**	**7.47**	**291**	P	**Pn**	**15 53 14.4**	**+0.6**
NGOA	**Tingoa Renbel**	**7.47**	**291**	S	**Sn**	**15 54 37.3**	**+0.2**
DZM	**Mont Dzumac**	**7.69**	**185**		**Pn**	**15 53 17.7**	**+1.0**
DZM	**Mont Dzumac**	**7.69**	**185**	P	**Pn**	**15 53 17.3**	**+0.5**
DZM	1μm,0.6s,baz=39,slow=19,SNR=288			S	**Sn**	**15 54 42.1**	**-0.2**
	2μm,1.0s,baz=289,slow=22,SNR=4.0						
DZM	**Mont Dzumac**	**7.69**	**185**	P	**Pn**	**15 53 17.5**	**+0.8**
DZM	**Mont Dzumac**	**7.69**	**185**	S	**Sn**	**15 54 44.8**	**+2.4**
ONTNC	**Ouen Toro**	**7.92**	**185**		**Pn**	**15 53 21.2**	**+1.4**
ONTNC	**Ouen Toro**	**7.92**	**185**	P	**Pn**	**15 53 21.4**	**+1.6**
ONTNC	**Ouen Toro**	**7.92**	**185**	S	**Sn**	**15 54 50.4**	**+2.5**
OUENC	**Ouen Island, N**	**8.01**	**182**	P	**Pn**	**15 53 21.9**	**+0.9**
PINNC	**Pines Island,**	**8.20**	**178**		**Pn**	**15 53 24.1**	**+0.6**
PINNC	**Pines Island,**	**8.20**	**178**	P	**Pn**	**15 53 24.5**	**+1.0**
PINNC	**Pines Island,**	**8.20**	**178**	S	**Sn**	**15 54 57.2**	**+2.6**
ALEG	**Aligegeo Malai**	**8.45**	**311**	P	**Pn**	**15 53 26.5**	**-0.5**
ALEG	**Aligegeo Malai**	**8.45**	**311**	S	**Sn**	**15 55 01.7**	**+0.9**
HNR	**Honiara**	**8.61**	**304**	Pn	**Pn**	**15 53 29.7**	**+0.6**
HNR	**Honiara**	**8.61**	**304**	P	**Pn**	**15 53 29.8**	**+0.7**
HNR	4μm,0.8s,baz=200,slow=3.1,SNR=63			S	**Sn**	**15 55 04.2**	**-0.4**
	8μm,0.8s,baz=72,slow=18,SNR=9.7						
HNR				LR	LR	15 56 42.8	
	comp=Z,10μm,20.3s,baz=95,slow=37						
HNR	**Honiara**		**8.61 304**	P	**Pn**	**15 53 30.7**	**+1.6**
HNR	**Honiara**		**8.61 304**	S	**Sn**	**15 55 05.4**	**+0.8**
HNR	**Honiara**		**8.61 304**	P	**Pn**	**15 53 28.9**	**-0.2**
SAVO	**Savo Central**		**8.88 305**	P	**Pn**	**15 53 35.0**	**+2.2**
SAVO	**Savo Central**		**8.88 305**	S	**Sn**	**15 55 12.1**	**+0.9**
MSVF	**Nonsavu**		**10.98 109**		**Pn**	**15 54 04.7**	**+3.6**
MSVF	**Nonsavu**		**10.98 109**	P	**Pn**	**15 54 02.4**	**+1.4**
MSVF	**Nonsavu**		**10.98 109**	*i* P	**Pn**	**15 54 04.6**	**+3.6**
TAVE	**Taveuni**		**12.67 102**	P	**Pn**	**15 54 25.2**	**+2.0**
FUNA	**Funafuti**		**13.14 65**		**Pn**	**15 54 30.7**	**+1.4**
FUTU	**Fugatoga**		**14.25 92**		**P**	**15 54 51.3**	**+4.2**
NFK	**Norfolk Island**		**14.62 177**	P	**Pn**	**15 54 48.6**	**+0.5**
	comp=Z,0.0nmcomp=Z,928nm,1.6s						
TARA	**Tarawa**		**16.63 20**	P	**P**	**15 55 14.9**	**+1.4**
RABL	**Rabaul**		**17.92 303**	P	**P**	**15 55 26.9**	**-0.8**
LHI	**Lord Howe Isla**		**18.62 202**	P	**Pn**	**15 55 36.8**	**-0.1**
	comp=Z,0.0nmcomp=Z,1μm,1.8s						
LHI	**Lord Howe Isla**		**18.62 202**	P	**Pn**	**15 55 36.4**	**-0.4**
EIDS	**Eidsvold**		**18.65 232**	P	**Pn**	**15 55 37.8**	**+0.4**
	comp=Z,0.0nmcomp=Z,3μm,1.4s						
EIDS	**Eidsvold**		**18.65 232**	P	**Pn**	**15 55 37.6**	**+0.3**
EIDS	**Eidsvold**		**18.65 232**	P	**Pn**	**15 55 37.7**	**+0.3**
TW1H	**Toowoomba 1 Ha**		**19.29 225**	P	**Pn**	**15 55 45.3**	**+0.4**
PMG	**Port Moresby**		**20.19 282**	P	**P**	**15 55 52.9**	**+0.6**
PMG	**Port Moresby**		**20.19 282**	P	**P**	**15 55 53.1**	**+0.8**
	comp=Z,560nm,0.8s,baz=91,slow=6.3,SNR=6.8						
PMG				LR	LR	16 03 04.2	
	comp=Z,10μm,18.0s,baz=104,slow=35						
PMG				ScP	**ScP**	**16 03 28.8**	**+2.0**
	comp=Z,63nm,1.1s,baz=156,slow=6.6,SNR=3.8 comp=Z,560nm,0.8s						
PMG	**Port Moresby**		**20.19 282**	*d iP*	**P**	**15 55 53.6**	**+1.2**
PMG				pmax	pmax		
	comp=Z,818nm,1.0s						
RAO	**Raoul Island**		**20.24 139**	P	**P**	**15 55 53.3**	**+0.6**
	comp=Z,349nm,0.4s,baz=189,slow=13,SNR=4.4 comp=Z,349nm,0.4s						
RAO	**Raoul Island**		**20.24 139**	P	Pn	15 55 55.4	-0.5
RAO				pmax	pmax		
	comp=Z,2μm,1.1s						
AFI	**Afiamalu**		**20.42 91**	P	Pn	15 55 57.0	-1.2
AFI	**Afiamalu**		**20.42 91**	P	**P**	**15 55 55.7**	**+0.8**
AFI	**Afiamalu**		**20.42 91**	P	Pn	15 55 57.0	-1.2
CTA	**Charters Tower**		**20.76 251**	P	**P**	**15 55 59.6**	**+1.1**
CTA	**Charters Tower**		**20.76 251**	P	**P**	**15 56 00.0**	**+1.6**
CTAO	**Charters Tower**		**20.76 251**	P	**P**	**15 55 59.9**	**+1.4**
CTAO	**Charters Tower**		**20.76 251**	P	**P**	**15 56 00.1**	**+1.6**
CTAO	**Charters Tower**		**20.76 251**	P	**P**	**15 55 59.9**	**+1.4**
RMQ	**Roma**		**21.02 232**	P	**P**	**15 56 03.0**	**+1.8**
	comp=Z,1μm,1.4s						
RMQ	**Roma**		**21.02 232**	P	**P**	**15 56 03.4**	**+2.3**
ARMA	**Armidale**		**21.44 219**	P	**P**	**15 56 07.4**	**+1.7**
	comp=Z,0.0nmcomp=Z,2μm,1.4s						
ARMA	**Armidale**		**21.44 219**	P	**P**	**15 56 07.0**	**+1.2**
ARMA	**Armidale**		**21.44 219**	P	**P**	**15 56 07.2**	**+1.4**
OUZ	**Omahuta**		**21.55 166**	P	**P**	**15 56 08.5**	**+1.8**
OUZ	**Omahuta**		**21.55 166**	P	**P**	**15 56 08.4**	**+1.7**
MTSU	**Mount Surprise**		**22.25 257**	P	**P**	**15 56 15.6**	**+1.3**
	comp=Z,737nm,0.8s						
NIUE	**Niue**		**22.42 105**	P	**P**	**15 56 16.4**	**+0.5**
	comp=Z,3μm,1.1s						
NIUE	**Niue**		**22.42 105**	P	**P**	**15 56 15.0**	**-0.9**
NIUE	**Niue**		**22.42 105**	P	**P**	**15 56 17.6**	**+1.7**
NIUE	**Niue**		**22.42 105**	P	**P**	**15 56 17.1**	**+1.2**
WCZ	**Waipu Caves**		**22.42 165**	P	**P**	**15 56 17.9**	**+2.2**
PATS	**Pohnpei**		**22.83 337**	P	**P**	**15 56 19.2**	**-0.7**
	comp=Z,0.0nmcomp=Z,8μm,1.4s						
PATS	**Pohnpei**		**22.83 337**	P	**P**	**15 56 19.8**	**-0.1**
GRZ	**Great Barrier**		**23.02 163**	P	**P**	**15 56 23.0**	**+1.6**
MANU	**Manus Island**		**23.08 300**	P	**P**	**15 56 22.4**	**+0.1**
NTLH	**Newcastle Hard**		**23.20 215**	P	**P**	**15 56 24.3**	**+1.1**
COEN	**Coen**		**23.27 268**	P	**P**	**15 56 25.0**	**+0.9**
	comp=Z,0.0nmcomp=Z,392nm,1.4s						
COEN	**Coen**		**23.27 268**	P	**P**	**15 56 25.5**	**+1.4**
COEN	**Coen**		**23.27 268**	P	**P**	**15 56 25.0**	**+0.9**
KUZ	**Kuaotunu**		**23.55 163**	P	**P**	**15 56 27.5**	**+1.1**
KUZ	**Kuaotunu**		**23.55 163**	P	**P**	**15 56 27.1**	**+0.7**
MGCD	**Mangrove Creek**		**23.77 215**	P	**P**	**15 56 29.8**	**+1.5**
	comp=Z,1μm,0.8s						
MGCD	**Mangrove Creek**		**23.77 215**	P	**P**	**15 56 30.3**	**+1.9**
RIV	**Riverview**		**24.20 214**	P	**P**	**15 56 33.8**	**+1.5**
	comp=Z,2μm,1.2s						
RIV	**Riverview**		**24.20 214**	P	**P**	**15 56 34.0**	**+1.7**
RIV	**Riverview**		**24.20 214**	P	**P**	**15 56 34.3**	**+2.0**
RIV				pmax	pmax		
	comp=Z,2μm,1.2s						
SYDH	**Sydney Hard Ro**		**24.38 215**	P	**P**	**15 56 35.5**	**+1.6**
TOZ	**Tahuroa Road**		**24.41 164**	P	**P**	**15 56 34.7**	**+0.6**
TOZ	**Tahuroa Road**		**24.41 164**	P	**P**	**15 56 34.8**	**+0.6**
TOZ				S	**S**	**16 00 48.5**	**+3.7**
TGRZ	**Tauranga**		**24.62 163**	P	**P**	**15 56 35.2**	**-0.9**
QLP	**Quilpie**		**24.63 237**	P	**P**	**15 56 36.9**	**+0.6**
	comp=Z,0.0nmcomp=Z,4μm,1.4s						
QLP	**Quilpie**		**24.63 237**	P	**P**	**15 56 37.5**	**+1.2**
QPRZ	**Ohinepanea**		**24.82 162**	P	**P**	**15 56 38.8**	**+1.0**
TLZ	**Tolley Road**		**24.99 164**	P	**P**	**15 56 40.5**	**+1.1**
HIZ	**Hauiti**		**24.99 166**	P	**P**	**15 56 41.1**	**+1.7**
HIZ	**Hauiti**		**24.99 166**	P	**P**	**15 56 41.4**	**+2.0**
OMRZ	**Omania**		**25.01 163**	P	**P**	**15 56 42.2**	**+2.6**
HAZ	**Te Kaha**		**25.12 160**	S	**S**	**16 01 00.8**	**+4.7**
MXZ	**Matakaoa Point**		**25.13 159**	P	**P**	**15 56 41.4**	**+0.7**
MXZ	**Matakaoa Point**		**25.13 159**	P	**P**	**15 56 42.2**	**+1.5**
GRRZ	**Galatos Road**		**25.16 163**	P	**P**	**15 56 44.9**	**+3.9**
RRRZ	**Republican Roa**		**25.27 163**	P	**P**	**15 56 42.6**	**+0.7**
RUGZ	**Raukumara Rang**		**25.28 160**	P	**P**	**15 56 42.7**	**+0.6**
RUGZ				S	**S**	**16 00 59.4**	**+0.5**
URZ	**Urewera**		**25.37 162**	P	**P**	**15 56 42.9**	**+0.1**
	comp=Z,44nm,0.9s,baz=307,slow=3.3,SNR=18						
URZ				ScP	**ScP**	**16 03 41.5**	**+1.6**
	comp=Z,96nm,1.0s,baz=234,slow=3.9,SNR=7.8						
URZ				LR	LR	16 05 51.2	
	comp=Z,2μm,19.7s,baz=330,slow=34 comp=Z,44nm,0.9s						
URZ	**Urewera**		**25.37 162**	P	**P**	**15 56 44.3**	**+1.5**
URZ	**Urewera**		**25.37 162**	P	**P**	**15 56 43.3**	**+0.5**
URZ				S	**S**	**16 01 00.7**	**+0.7**
PRRZ	**Plateau Road**		**25.38 163**	P	**P**	**15 56 41.9**	**-1.1**
ALRZ	**Allen Road**		**25.42 163**	P	**P**	**15 56 43.9**	**+0.6**
MUGZ	**Murupara**		**25.47 162**	P	**P**	**15 56 44.3**	**+0.6**
VRZ	**Vera Road**		**25.55 166**	P	**P**	**15 56 47.4**	**+3.0**
RATZ	**Rangitukua**		**25.55 164**	P	**P**	**15 56 45.9**	**+1.3**
PUZ	**Puketiti**		**25.57 159**	P	**P**	**15 56 44.4**	**-0.3**
RTZ	**Ruatahuna**		**25.66 162**	P	**P**	**15 56 44.7**	**-0.9**
RTZ	**Ruatahuna**		**25.66 162**	P	**P**	**15 56 45.3**	**-0.3**
RITZ	**Rihia Road**		**25.68 164**	P	**P**	**15 56 47.2**	**+1.5**
RAGZ	**Rawiri**		**25.68 161**	P	**P**	**15 56 46.5**	**+0.7**
MRHZ	**Matea Rd**		**25.70 163**	P	**P**	**15 56 47.5**	**+1.7**
WTVZ	**West Tongariro**		**25.74 165**	P	**P**	**15 56 50.7**	**+4.4**
NNVZ	**North Ngauruho**		**25.76 165**	P	**P**	**15 56 49.5**	**+2.9**
TKGZ	**Te Karaka**		**25.77 160**	P	**P**	**15 56 46.5**	**+0.1**
TMVZ	**Te Maari**		**25.77 165**	P	**P**	**15 56 51.0**	**+4.4**
NGZ	**Ngauruhoe**		**25.80 165**	P	**P**	**15 56 49.6**	**+2.7**
OTVZ	**Oturere**		**25.80 165**	P	**P**	**15 56 48.7**	**+1.7**
COVZ	**Chateau Observ**		**25.81 165**	P	**P**	**15 56 47.9**	**+1.0**
SNVZ	**South Ngauruho**		**25.82 165**	P	**P**	**15 56 49.8**	**+2.7**
MTHZ	**Maungataniwha**		**25.84 162**	P	**P**	**15 56 47.5**	**+0.4**
MTHZ				S	**S**	**16 01 08.5**	**+1.0**
PKVZ	**Pokaka**		**25.84 165**	P	**P**	**15 56 50.5**	**+3.3**
PKVZ				S	**S**	**16 01 05.0**	**-2.6**
FWVZ	**Far West T-bar**		**25.86 165**	P	**P**	**15 56 49.3**	**+1.7**
MAVZ	**Matarangi**		**25.88 165**	P	**P**	**15 56 50.0**	**+2.3**
WNVZ	**Wahianoa**		**25.94 165**	P	**P**	**15 56 51.4**	**+3.2**
BKZ	**Black Stump Fm**		**26.03 163**	P	**P**	**15 56 48.5**	**-0.3**
BKZ				IAmb	IAmb	15 57 25.3	
	comp=Z,198nm,0.9s						
BKZ	**Black Stump Fm**		**26.03 163**	P	**P**	**15 56 48.6**	**-0.3**
CMSA	**Cobar Meteorol**		**26.05 225**	P	**P**	**15 56 49.9**	**+0.8**
	comp=Z,0.0nmcomp=Z,2μm,1.2s						
CMSA	**Cobar Meteorol**		**26.05 225**	P	**P**	**15 56 50.0**	**+0.8**
MOVZ	**Moawhango**		**26.06 165**	P	**P**	**15 56 50.2**	**+1.1**
CNB	**Canberra Magne**		**26.30 214**	P	**P**	**15 56 52.4**	**+1.0**
	comp=Z,0.0nmcomp=Z,617nm,1.7s						
CNB	**Canberra Magne**		**26.30 214**	P	**P**	**15 56 52.6**	**+1.3**
CAN	**Canberra**		**26.50 215**	P	**P**	**15 56 54.2**	**+1.0**
	comp=Z,0.0nmcomp=Z,322nm,2.2s						
CAN	**Canberra**		**26.50 215**	P	**P**	**15 56 53.7**	**+0.6**
CAN	**Canberra**		**26.50 215**	P	**P**	**15 56 54.5**	**+1.3**
CAN	**Canberra**		**26.50 215**	P	**P**	**15 56 53.7**	**+0.6**
CAN				pmax	pmax		
	comp=Z,1μm,2.0s						
QRZ	**Quartz Range**		**26.77 171**	P	**P**	**15 56 56.9**	**+1.6**
QRZ	**Quartz Range**		**26.77 171**	P	**P**	**15 56 57.0**	**+1.6**
MMPI	**Merauke**		**26.89 280**	P	**P**	**15 56 57.4**	**+0.6**
	comp=Z,6μmcomp=Z,10μmcomp=Z,691nm,0.9s						
QIS	**Mount Isa**		**26.98 253**	P	**P**	**15 56 57.2**	**-0.4**
	comp=Z,0.0nmcomp=Z,181nm,1.4s						
QIS	**Mount Isa**		**26.98 253**	P	**P**	**15 56 58.1**	**+0.5**
MRZ	**Mangatainoka R**		**27.20 166**	IAmb	IAmb	15 57 51.2	
	comp=Z,313nm,1.1s						
BFZ	**Birch Farm**		**27.38 165**	IAmb	IAmb	15 57 32.4	
	comp=Z,320nm,1.3s						
BFZ	**Birch Farm**		**27.38 165**	P	**P**	**15 57 00.7**	**-0.2**
SNZO	**South Karori**		**27.63 168**	P	**P**	**15 57 04.0**	**+1.0**
SNZO	**South Karori**		**27.63 168**	P	**P**	**15 57 02.5**	**-0.5**
THZ	**Tophouse**		**27.74 171**	IAmb	IAmb	15 57 43.9	
	comp=Z,376nm,1.4s						
BHW	**Baring Head**		**27.76 168**	IAmb	IAmb	15 57 15.9	
	comp=Z,152nm,1.1s						
KHZ	**Kahutara**		**28.48 170**	IAmb	IAmb	15 57 52.4	
	comp=Z,466nm,1.5s						
KHZ	**Kahutara**		**28.48 170**	P	**P**	**15 57 11.6**	**+1.0**
LTZ	**Lake Taylor**		**28.65 172**	P	**P**	**15 57 12.0**	**-0.2**
JAY	**Jayapura**		**28.66 292**	P	**P**	**15 57 11.2**	**-1.5**
	comp=Z,6μmcomp=Z,2μmcomp=Z,113nm,1.0s						
GVZ	**Greta Valley S**		**28.94 171**	IAmb	IAmb	15 57 15.7	
	comp=Z,602nm,1.7s						
GENI	**Geneyem**		**29.11 291**	P	**P**	**15 57 16.4**	**-0.2**
	comp=Z,5μmcomp=Z,5μmcomp=Z,320nm,1.0s						
STKA	**Stephens Creek**		**29.15 229**	P	**P**	**15 57 18.2**	**+1.4**
	comp=Z,0.0nmcomp=Z,6μm,1.8s						
STKA	**Stephens Creek**		**29.15 229**	P	**P**	**15 57 17.7**	**+0.9**
	comp=Z,590nm,0.8s,baz=47,slow=7.8,SNR=634						
STKA				PcP	**PcP**	**16 00 21.5**	**+0.1**
	comp=Z,65nm,0.8s,baz=83,slow=4.9,SNR=3.9						
STKA				ScP	**ScP**	**16 03 53.2**	**+1.6**
	comp=Z,25nm,0.8s,baz=18,slow=5.4,SNR=4.4						
STKA				LR	LR	16 07 55.1	
	comp=Z,2μm,18.8s,baz=54,slow=34 comp=Z,590nm,0.8s						
STKA	**Stephens Creek**		**29.15 229**	P	**P**	**15 57 18.2**	**+1.4**
STKA	**Stephens Creek**		**29.15 229**	*i iP*	**P**	**15 57 18.4**	**+1.6**
RPZ	**Rata Peaks**		**29.43 174**	P	**P**	**15 57 18.8**	**-0.3**
	comp=Z,126nm,0.7s,baz=333,slow=2.7,SNR=45						
RPZ				LR	LR	16 07 55.5	
	comp=Z,5μm,20.3s,baz=347,slow=34 comp=Z,126nm,0.7s						
RPZ	**Rata Peaks**		**29.43 174**	P	**P**	**15 57 20.2**	**+1.1**
JCZ	**Jackson Bay**		**29.63 178**	P	**P**	**15 57 22.5**	**+1.6**
TOO	**Toolangi**		**30.08 216**	P	**P**	**15 57 26.1**	**+1.1**
	comp=Z,0.0nmcomp=Z,285nm,1.3s						
TOO	**Toolangi**		**30.08 216**	P	**P**	**15 57 26.0**	**+1.1**
TOO				IAmb	IAmb	15 57 27.8	
	comp=Z,380nm,1.3s						
TOO	**Toolangi**		**30.08 216**	P	**P**	**15 57 26.0**	**+1.1**
TOO				pmax	pmax		
	comp=Z,380nm,1.3s						
MSZ	**Milford Sound**		**30.21 179**	P	**P**	**15 57 26.8**	**+0.9**
SMPI	**Sarmi**		**30.69 291**	P	**P**	**15 57 31.3**	**+0.8**
ODZ	**Otahua Downs**		**30.71 175**	P	**P**	**15 57 30.0**	**-0.3**
MLZ	**Mavora Lakes**		**30.90 179**	P	**P**	**15 57 32.1**	**+0.1**
DCZ	**Deep Cove**		**30.99 180**	P	**P**	**15 57 33.7**	**+0.9**
GEXS	**Deakin Univers**		**31.20 216**	P	**P**	**15 57 36.5**	**+1.8**
GLAD	**Gladstone**		**31.33 209**	P	**P**	**15 57 36.7**	**+0.9**
WHZ	**Wether Hill Ro**		**31.43 179**	P	**P**	**15 57 37.0**	**+0.4**
TUZ	**Tuapeka**		**31.55 177**	P	**P**	**15 57 38.1**	**+0.4**
WR0	**Warramunga Arr**		**31.64 255**	P	**P**	**15 57 37.9**	**-0.9**
WR9	**Warramunga Arr**		**31.66 255**	P	**P**	**15 57 38.0**	**-1.0**
WR8	**Warramunga Arr**		**31.67 255**	P	**P**	**15 57 38.1**	**-1.0**
WR8	**Warramunga Arr**		**31.67 255**	P	**P**	**15 57 37.9**	**-1.3**
WR8				IAmb	IAmb	15 57 39.6	
	comp=Z,172nm,1.1s						
PYZ	**Puysegur Point**		**31.70 181**	IAmb	IAmb	15 57 47.2	
	comp=Z,183nm,0.9s						
ARPS	**Mount Arapiles**		**31.75 221**	P	**P**	**15 57 40.8**	**+1.2**
	comp=Z,0.0nmcomp=Z,421nm,1.0s						
WB0	**Warramunga Arr**		**31.76 256**	P	**P**	**15 57 38.9**	**-1.0**
WB0				IAmb	IAmb	15 57 41.3	
	comp=Z,206nm,0.9s						
WRAB	**Tennant Creek**		**31.81 255**	*c iP*	**P**	**15 57 39.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,217nm,1.0s						
WRA	**Warramunga Arr**		**31.82 255**	P	**P**	**15 57 39.4**	**-1.0**
WRA	**Warramunga Arr**		**31.82 255**	P	**P**	**15 57 39.6**	**-0.9**
	comp=Z,112nm,0.8s,baz=84,slow=8.7,SNR=230						
WRA				PcP	**PcP**	**16 00 29.2**	**+0.6**
	comp=Z,20nm,0.9s,baz=93,slow=2.4,SNR=3.6						
WRA				S	**S**	**16 02 36.6**	**-5.2**
	comp=Z,17nm,1.1s,baz=88,slow=13,SNR=3.5						
WRA				ScP	**ScP**	**16 04 02.2**	**+1.7**
	comp=Z,69nm,1.0s,baz=85,slow=3.3,SNR=16						
WRA				PKiKP	**PKiKP**	**16 07 56.6**	**-0.7**
	comp=Z,3.1nm,0.8s,baz=2.4,slow=0.5,SNR=6.0						
WRA				LR	LR	16 09 40.0	
	comp=Z,4μm,19.9s,baz=82,slow=34						
WRA				P3KPbc		16 29 10.2	
	comp=Z,6.3nm,0.9s,baz=274,slow=3.4,SNR=22 comp=Z,112nm,0.8s						
HTT	**Hallett**		**31.88 229**	P	**P**	**15 57 42.5**	**+1.6**
	comp=Z,339nm,1.2s						
HTT	**Hallett**		**31.88 229**	P	**P**	**15 57 41.7**	**+0.8**
HTT	**Hallett**		**31.88 229**	P	**P**	**15 57 42.4**	**+1.6**
CORO	**Coronation Par**		**32.10 209**	P	**P**	**15 57 43.8**	**+1.2**
SYZ	**Scrubby Hill**		**32.11 177**	P	**P**	**15 57 43.4**	**+0.9**
SYZ	**Scrubby Hill**		**32.11 177**	P	**P**	**15 57 43.2**	**+0.7**
RAR	**Rarotonga**		**32.16 107**	P	**P**	**15 57 45.3**	**+2.0**
RAR	**Rarotonga**		**32.16 107**	P	**P**	**15 57 44.9**	**+1.6**
APZ	**The Paps**		**32.37 179**	P	**P**	**15 57 44.7**	**-0.2**
PTPS	**Port Pirie**		**32.44 230**	P	**P**	**15 57 47.1**	**+1.5**
AS17	**Alice Springs**		**32.63 249**	P	**P**	**15 57 46.6**	**-0.9**
	comp=Z,224nm,1.1s						
H11S2	**WAKE ISLAND Hy**		**32.66 359**	P	**P**	**15 57 47.2**	**-0.2**
	baz=202,slow=6.6,SNR=7.3						
H11S3	**WAKE ISLAND Hy**		**32.66 359**	P	**P**	**15 57 47.6**	**+0.1**
	baz=202,slow=6.6,SNR=6.4						
AS01	**Alice Springs**		**32.67 249**	P	**P**	**15 57 47.5**	**-0.4**
H11S1	**WAKE ISLAND Hy**		**32.68 359**	P	**P**	**15 57 47.3**	**-0.3**
	baz=202,slow=6.6,SNR=4.3						
WHYH	**Whyalla**		**32.68 230**	P	**P**	**15 57 49.0**	**+1.2**
AS31	**Alice Springs**		**32.71 249**	P	**P**	**15 57 47.0**	**-1.2**
	comp=Z,73nm,1.3s						
AS31	**Alice Springs**		**32.71 249**	P	**P**	**15 57 47.6**	**-0.6**
AS31				IAmb	IAmb	15 57 48.6	
	comp=Z,220nm,1.7s						
ASAR	**Alice Springs**		**32.71 249**	P	**P**	**15 57 47.0**	**-1.2**
	comp=Z,169nm,0.9s,baz=73,slow=9.6,SNR=995						
ASAR				PcP	**PcP**	**16 00 31.9**	**+0.8**
	comp=Z,12nm,0.8s,baz=72,slow=2.7,SNR=1.8						
ASAR				S	**S**	**16 02 51.6**	**-4.1**
	comp=Z,15nm,1.0s,baz=75,slow=17,SNR=5.2						
ASAR				ScP	**ScP**	**16 04 04.8**	**+1.2**
	comp=Z,48nm,0.9s,baz=84,slow=3.4,SNR=15						
ASAR				LR	LR	16 09 33.3	
	comp=Z,3μm,20.8s,baz=83,slow=33						
ASAR				P3KPbc		16 29 06.7	
	comp=Z,1.2nm,0.9s,baz=265,slow=4.4,SNR=6.6 comp=Z,169nm,0.9s						
MOO	**Moorlands**		**32.86 208**	P	**P**	**15 57 50.5**	**+1.3**
	comp=Z,0.0nmcomp=Z,790nm,1.5s						
MOO	**Moorlands**		**32.86 208**	P	**P**	**15 57 51.0**	**+1.8**
MOO	**Moorlands**		**32.86 208**	P	**P**	**15 57 50.5**	**+1.3**
SRPI	**Serui, Papua**		**32.98 289**	P	**P**	**15 57

MBWA	**Marble Bar**		**45.55 254**	P		**P**		**15 59 35.3**	**+0.3**
	comp=Z,634nm,1.3s								
MBWA	**Marble Bar**		**45.55 254**	P		**P**		**15 59 35.0**	**+0.1**
MBWA	**Marble Bar**		**45.55 254**	P		**P**		**15 59 34.7**	**-0.2**
MBWA				S		**S**		**16 06 05.9**	**-2.0**
MBWA	**Marble Bar**		**45.55 254**	P		**P**		**15 59 35.1**	**+0.2**
MBWA	**Marble Bar**		**45.55 254**	P		**P**		**15 59 35.7**	**+0.8**
MBWA	**Marble Bar**		**45.55 254**	P		**P**		**15 59 35.0**	**+0.1**
MBWA				pP		**pP**		**16 00 01.3**	**-1.8**
MBWA				PP		**PP**		**16 01 22.6**	**-1.5**
BASI	**Baing, Sumba**		**45.66 270**	P		**P**		**15 59 37.2**	**+1.4**
	comp=Z,8µmcomp=Z,650nm,1.4s								
LUWI	**Luwuk**		**45.84 283**	P		**P**		**15 59 35.5**	**-1.7**
LUWI				S		**S**		**16 06 08.8**	**-3.3**
LUWI	**Luwuk**		**45.84 283**	P		**P**		**15 59 37.7**	**+0.5**
LUWI	**Luwuk**		**45.84 283**	P		**P**		**15 59 38.3**	**+1.1**
	comp=Z,6µmcomp=Z,329nm,1.6s								
WSI	**Waingapu**		**46.02 270**	P		**P**		**15 59 40.1**	**+1.4**
	comp=Z,9µmcomp=Z,422nm,1.0s								
DAV	**Davao City (W)**		**46.44 295**	LR		LR		16 16 28.8	
	comp=Z,1µm,19.2s,baz=125,slow=32								
BSSI	**Bau Bau, Buton**		**46.58 275**	P		**P**		**15 59 43.3**	**+0.2**
	comp=Z,3µmcomp=Z,195nm,0.8s								
MEEK	**Meekatharra**		**46.84 247**	P		**P**		**15 59 44.7**	**-0.3**
	comp=Z,769nm,1.2s								
MEEK	**Meekatharra**		**46.84 247**	P		**P**		**15 59 45.6**	**+0.6**
WBSI	**Waikabubak, Su**		**46.91 270**	P		**P**		**15 59 44.9**	**-0.8**
	comp=Z,3µmcomp=Z,294nm,0.8s								
APSI	**Ampana**		**46.94 282**	P		**P**		**15 59 47.2**	**+1.3**
	comp=Z,4µmcomp=Z,183nm,1.3s								
MRSI	**Marisa**		**47.12 284**	P		**P**		**15 59 48.1**	**+0.8**
	comp=Z,150nm,0.9s								
BKSI	**Bulukumba**		**47.14 276**	P		**P**		**15 59 48.8**	**+1.4**
	comp=Z,134nm,1.0s								
BNSI	**Bone**		**47.39 277**	P		**P**		**15 59 51.4**	**+2.0**
	comp=Z,5µmcomp=Z,355nm,1.1s								
KAPI	**Kappang**		**47.57 276**	P		**P**		**15 59 52.1**	**+1.3**
KAPI				IAmb		IAmb		16 00 26.4	
	comp=Z,249nm,1.1s								
KAPI	**Kappang**		**47.57 276**	P		**P**		**15 59 51.3**	**+0.5**
KAPI				S		**S**		**16 06 37.4**	**+0.5**
KAPI	**Kappang**		**47.57 276**	*d*	*i*P	**P**		**15 59 51.8**	**+1.0**
KAPI				pmax		pmax			
	comp=Z,251nm,1.0s								
KAPI	**Kappang**		**47.57 276**	P		**P**		**15 59 52.6**	**+1.8**
CBIJ	**Chichi jima**		**47.83 329**	P		**P**		**15 59 51.7**	**-0.8**
JCJ	**Chichijima**		**47.83 329**	P		**P**		**15 59 51.5**	**-0.9**
JCJ	**Chichijima**		**47.83 329**	LR		LR		16 19 34.0	
	comp=Z,735nm,19.6s,baz=158,slow=35								
JCJ	**Chichijima**		**47.83 329**	P		**P**		**15 59 52.3**	**-0.2**
SPSI	**Sidrap Palu**		**47.83 278**	P		**P**		**15 59 52.9**	**+0.1**
	comp=Z,2µmcomp=Z,136nm,0.8s								
TTSI	**Tana Toraja**		**48.04 279**	P		**P**		**15 59 55.1**	**+0.7**
	comp=Z,2µmcomp=Z,123nm,0.8s								
KLBR	**Kellerberrin**		**48.20 240**	P		**P**		**15 59 54.3**	**-1.1**
	comp=Z,527nm,1.1s								
KLBR	**Kellerberrin**		**48.20 240**	P		**P**		**15 59 54.6**	**-0.8**
TOLI2	**Tolitoli**		**48.43 285**	IAmb		IAmb		16 00 33.2	
	comp=Z,310nm,1.4s								
PLAI	**Plampang**		**48.63 271**	P		**P**		**16 00 00.2**	**+1.3**
PLAI	**Plampang**		**48.63 271**	P		**P**		**16 00 00.3**	**+1.3**
	comp=Z,5µmcomp=Z,274nm,1.3s								
PCI	**Palu**		**48.66 282**	P		**P**		**16 00 02.0**	**+2.8**
	comp=Z,9µmcomp=Z,539nm,0.9s								
NWAO	**Narrogin (SRO)**		**48.85 239**	P		**P**		**15 59 59.8**	**-0.6**
NWAO	**Narrogin (SRO)**		**48.85 239**	P		**P**		**15 59 59.8**	**-0.6**
NWAO	**Narrogin (SRO)**		**48.85 239**	LR		LR		16 18 56.7	
	comp=Z,1µm,18.5s,baz=74,slow=34								
NWAO	**Narrogin (SRO)**		**48.85 239**	P		**P**		**15 59 58.3**	**-2.0**
NWAO				S		**S**		**16 06 52.8**	**-1.7**
NWAO	**Narrogin (SRO)**		**48.85 239**	P		**P**		**16 00 00.0**	**-0.3**
NWAO	**Narrogin (SRO)**		**48.85 239**	P		**P**		**15 59 59.8**	**-0.6**
NWAO				pmax		pmax			
	comp=Z,903nm,1.4s								
NWAO	**Narrogin (SRO)**		**48.85 239**	P		**P**		**16 00 00.1**	**-0.3**
NWAO				sP		**sP**		**16 00 39.9**	**-3.4**
BLDU	**Ballidu**		**48.94 242**	P		**P**		**16 00 00.1**	**-1.0**
	comp=Z,175nm,1.8s								
BLDU	**Ballidu**		**48.94 242**	P		**P**		**16 00 00.9**	**-0.2**
MPSI	**Mapaga**		**49.00 283**	P		**P**		**16 00 02.8**	**+1.1**
KIP	**Kipapa**		**49.33 45**	*d*	*i*P	**P**		**16 00 04.1**	**+0.1**
KIP				pmax		pmax			
	comp=Z,294nm,0.9s								
MORW	**Morawa**		**49.34 244**	P		**P**		**16 00 04.0**	**-0.2**
MORW	**Morawa**		**49.34 244**	P		**P**		**16 00 04.4**	**+0.3**
TWSI	**Taliwang, Sumb**		**49.51 271**	P		**P**		**16 00 07.0**	**+1.4**
	comp=Z,7µmcomp=Z,655nm,1.2s								
MUN	**Mundaring**		**49.56 240**	P		**P**		**16 00 05.4**	**-0.4**
	comp=Z,486nm,1.6s								
MUN	**Mundaring**		**49.56 240**	P		**P**		**16 00 06.0**	**+0.2**
MUN	**Mundaring**		**49.56 240**	P		**P**		**16 00 05.7**	**-0.1**
POHA	**Pohakuloa**		**49.97 48**	P		**P**		**16 00 10.7**	**+1.5**
POHA	**Pohakuloa**		**49.97 48**	P		**P**		**16 00 09.9**	**+0.6**
KHLH	**Kahului Airpor**		**50.07 46**	P		**P**		**16 00 10.6**	**+0.9**
GIRL	**Giralia**		**50.66 252**	P		**P**		**16 00 15.1**	**+0.9**
	comp=Z,213nm,1.6s								
GIRL	**Giralia**		**50.66 252**	P		**P**		**16 00 15.4**	**+1.3**
DNP	**Denpasar**		**51.14 270**	P		**P**		**16 00 20.2**	**+2.3**
SRBI	**Singaraja**		**51.26 271**	P		**P**		**16 00 18.9**	**+0.1**
	comp=Z,5µmcomp=Z,142nm,0.8s								
SMKI	**Samarinda**		**51.30 281**	P		**P**		**16 00 22.2**	**+3.1**
	comp=Z,5µmcomp=Z,7µmcomp=Z,397nm,1.1s								
JAGI	**Jajag, Banyuwa**		**52.21 270**	P		**P**		**16 00 26.1**	**+0.2**
JAGI	**Jajag, Banyuwa**		**52.21 270**	P		**P**		**16 00 27.2**	**+1.3**
	comp=Z,4µmcomp=Z,253nm,1.2s								
KMMI	**Kalianget**		**52.69 272**	P		**P**		**16 00 30.2**	**+0.8**
	comp=Z,162nm,1.9s								
GMJI	**Gumukmas**		**52.94 270**	P		**P**		**16 00 30.1**	**-1.1**
JMZ	**Minamidaito 2**		**53.11 319**	P		**P**		**16 00 33.4**	**+1.2**
TGY	**Tagaytay City**		**53.80 300**	LR		LR		16 21 25.6	
	comp=Z,332nm,21.8s,baz=130,slow=34								
JHJ2	**Mitsune**		**53.97 332**	P		**P**		**16 00 38.4**	**+0.1**
JHJ2	**Mitsune**		**53.97 332**	P		**P**		**16 00 37.6**	**-0.7**
JHJ	**Hachijo jima 2**		**53.99 331**	P		**P**		**16 00 38.2**	**-0.3**
	comp=Z,315nm,0.7s,baz=221,slow=20,SNR=12								
	comp=Z,315nm,0.7s								
KKM	**Kota Kinabalu**		**54.46 288**	P		**P**		**16 00 42.5**	**+0.1**
KKM	**Kota Kinabalu**		**54.46 288**	P		**P**		**16 00 42.6**	**+0.2**
NGJI	**Ngawi**		**55.05 271**	P		**P**		**16 00 49.1**	**+2.6**
	comp=Z,213nm,1.0s								
PCJI	**Pacitan**		**55.15 270**	P		**P**		**16 00 47.7**	**+0.4**
	comp=Z,7µmcomp=Z,668nm,1.1s								
DRV	**Dumont d'Urvil**		**55.27 193**	P		**P**		**16 00 47.2**	**0.0**
DRV				pP		**pP**		**16 01 15.6**	**-1.5**
DRV				sP		**sP**		**16 01 27.2**	**-3.8**
WOJI	**Wonogiri, Jawa**		**55.47 270**	P		**P**		**16 00 49.7**	**+0.1**
	comp=Z,375nm,1.0s								
JOW	**Kunigami**		**55.72 317**	P		**P**		**16 00 52.1**	**+1.0**
	comp=Z,304nm,0.6s,baz=165,slow=7.6,SNR=64								
JOW				LR		LR		16 25 08.9	
	comp=Z,747nm,18.9s,baz=129,slow=36								
	comp=Z,304nm,0.6s								
JOW	**Kunigami**		**55.72 317**	P		**P**		**16 00 51.9**	**+0.8**
JOW	**Kunigami**		**55.72 317**	P		**P**		**16 00 51.8**	**+0.7**
UGM	**Wanagama**		**55.84 270**	P		**P**		**16 00 53.1**	**+0.8**
UGM	**Wanagama**		**55.84 270**	P		**P**		**16 00 52.3**	**0.0**
	comp=Z,273nm,1.0s								
JAM	**Amami Oshima**		**55.95 320**	P		**P**		**16 00 53.6**	**+0.9**
JSG	**Sagara**		**56.02 331**	P		**P**		**16 00 53.5**	**+0.4**
JSG	**Sagara**		**56.02 331**	P		**P**		**16 00 55.1**	**+2.1**
JOD2	**Odawara 2**		**56.09 332**	P		**P**		**16 00 52.8**	**-0.8**
SMRI	**Semarang**		**56.10 271**	P		**P**		**16 00 56.0**	**+1.9**
	comp=Z,7µmcomp=Z,381nm,0.9s								
JYT	**Yasato**		**56.42 334**	P		**P**		**16 00 56.1**	**+0.2**
JIE	**Ise**		**56.49 330**	P		**P**		**16 00 56.5**	**+0.1**
JRY	**Ryogami san**		**56.80 333**	P		**P**		**16 00 58.5**	**-0.2**
STKI	**Sintang**		**56.91 280**	P		**P**		**16 00 59.6**	**-0.3**
	comp=Z,198nm,1.1s								
SBUM	**Sibu**		**56.94 283**	P		**P**		**16 01 00.9**	**+0.9**
INU	**Inuyama**		**57.12 331**	P		**P**		**16 01 00.8**	**0.0**
JGF	**Kuroka**		**57.16 331**	P		**P**		**16 01 00.9**	**-0.3**
JGF	**Kuroka**		**57.16 331**	P		**P**		**16 01 00.6**	**-0.6**
JMN	**Monobe**		**57.40 327**	P		**P**		**16 01 03.4**	**+0.5**
JMN	**Monobe**		**57.40 327**	P		**P**		**16 01 03.2**	**+0.3**
KPJI	**Karang Pucung**		**57.50 270**	P		**P**		**16 01 04.4**	**+0.4**
	comp=Z,3µmcomp=Z,457nm,0.8s								
MJAR	**Matsushiro Arr**		**57.55 332**	P		**P**		**16 01 02.9**	**-0.9**
MJAR	**Matsushiro Arr**		**57.55 332**	P		**P**		**16 01 03.2**	**-0.7**
	comp=Z,119nm,0.8s,baz=164,slow=7.6,SNR=4.5								
MJAR				pP		**pP**		**16 01 32.4**	**-0.9**
	comp=Z,18nm,0.6s,baz=161,slow=7.9,SNR=2.5								
MJAR				LR		LR		16 24 01.0	
	comp=Z,380nm,19.2s,baz=134,slow=34								
MJAR				PKPPKP		**P'P'df**		**16 30 45.3**	**-2.4**
	comp=Z,3.0nm,1.1s,baz=23,slow=1.6,SNR=4.4								
	comp=Z,119nm,0.8s								
MAJO	**Matsushiro**		**57.55 332**	P		**P**		**16 01 03.2**	**-0.7**
MAJO	**Matsushiro**		**57.55 332**	P		**P**		**16 01 03.5**	**-0.3**
MAJO	**Matsushiro**		**57.55 332**	*d*	*i*P	**P**		**16 01 03.1**	**-0.8**
MAJO				pmax		pmax			
	comp=Z,549nm,1.6s								
MAJO	**Matsushiro**		**57.55 332**	P		**P**		**16 01 03.6**	**-0.3**
MAJO	**Matsushiro**		**57.55 332**	P		**P**		**16 01 03.0**	**-0.8**
MAJO				sP		**sP**		**16 01 43.9**	**-2.9**
MAT	**Matsushiro**		**57.55 332**	P		**P**		**16 01 03.1**	**-0.8**
JMM	**Marumori**		**57.56 335**	P		**P**		**16 01 04.1**	**+0.2**
JSU	**Suzuyama**		**57.64 323**	P		**P**		**16 01 04.7**	**0.0**
JGN	**Niukaw**		**57.69 332**	P		**P**		**16 01 04.1**	**-0.9**
JWT	**Wachi**		**57.84 329**	P		**P**		**16 01 05.9**	**-0.1**
YOJ	**Yonaguni jima**		**57.86 311**	P		**P**		**16 01 06.9**	**+0.7**
JAD	**Aida**		**58.19 328**	P		**P**		**16 01 08.5**	**+0.1**
TWGBT	**Beinan**		**58.33 309**	P		**P**		**16 01 10.4**	**+0.8**
KSM	**Kuching**		**58.45 281**	IAmb		IAmb		16 01 14.0	
	comp=Z,105nm,0.9s								
YULB	**Yu-li**		**58.50 309**	P		**P**		**16 01 11.2**	**+0.5**
JNU	**Nakatsue**		**58.58 324**	P		**P**		**16 01 11.0**	**-0.2**
	comp=Z,241nm,0.7s,baz=158,slow=0.8,SNR=167								
JNU				LR		LR		16 26 41.9	
	comp=Z,270nm,18.0s,baz=122,slow=36								
	comp=Z,241nm,0.7s								
JNU	**Nakatsue**		**58.58 324**	P		**P**		**16 01 10.3**	**-0.8**
JYA	**Atsumi**		**58.62 335**	P		**P**		**16 01 11.7**	**+0.4**
BBJI	**Bungbulang**		**58.72 270**	P		**P**		**16 01 13.0**	**+0.4**
JOM	**Ohasama**		**58.76 337**	P		**P**		**16 01 11.6**	**-0.5**
JSD	**Sado**		**58.77 333**	P		**P**		**16 01 13.2**	**+0.9**
JSD	**Sado**		**58.77 333**	P		**P**		**16 01 11.7**	**-0.6**
JHS	**Saijyo**		**58.78 327**	P		**P**		**16 01 12.4**	**0.0**
LEM	**Lembang**		**58.89 271**	LR		LR		16 27 16.4	
	comp=Z,740nm,20.7s,baz=106,slow=37								
LEM	**Lembang**		**58.89 271**	P		**P**		**16 01 15.8**	**+2.0**
	comp=Z,4µmcomp=Z,289nm,0.9s								
TPUB	**Ta-pu**		**58.95 309**	P		**P**		**16 01 14.2**	**+0.3**
YHNB	**Yeheng**		**59.18 311**	P		**P**		**16 01 16.7**	**+1.2**
CNJI	**Cibinong**		**59.26 270**	P		**P**		**16 01 16.0**	**-0.2**
	comp=Z,166nm,0.9s								
TATO	**Taipei**		**59.28 311**	P		**P**		**16 01 14.9**	**-1.1**
TATO	**Taipei**		**59.28 311**	P		**P**		**16 01 16.2**	**+0.1**
TATO	**Taipei**		**59.28 311**	P		**P**		**16 01 16.5**	**+0.4**
JFU	**Fukue jima 2**		**59.47 323**	P		**P**		**16 01 17.3**	**+0.1**
DBJI	**Dramaga**		**59.79 271**	P		**P**		**16 01 21.4**	**+1.6**
	comp=Z,7µmcomp=Z,338nm,1.4s								
TPI	**Tanjungpandan**		**59.81 275**	P		**P**		**16 01 21.0**	**+1.0**
	comp=Z,135nm,1.0s								
SKJI	**Sukabumi**		**59.88 270**	P		**P**		**16 01 20.2**	**-0.2**
JTM	**Tenmabayashi**		**59.98 337**	P		**P**		**16 01 20.4**	**-0.2**
JTM	**Tenmabayashi**		**59.98 337**	P		**P**		**16 01 21.5**	**+0.9**
JTM	**Tenmabayashi**		**59.98 337**	P		**P**		**16 01 20.4**	**-0.2**
ERM	**Erimo**		**60.32 340**	P		**P**		**16 01 23.8**	**+1.0**
ERM	**Erimo**		**60.32 340**	P		**P**		**16 01 24.3**	**+1.5**
ERM	**Erimo**		**60.32 340**	P		**P**		**16 01 23.8**	**+1.0**
ERM				pmax		pmax			
	comp=Z,147nm,0.7s								
ERM	**Erimo**		**60.32 340**	P		**P**		**16 01 24.6**	**+1.8**
JEM	**Erimo**		**60.32 340**	P		**P**		**16 01 24.5**	**+1.7**
JEM	**Erimo**		**60.32 340**	P		**P**		**16 01 23.7**	**+0.9**
JTU	**Tsushima**		**60.44 324**	P		**P**		**16 01 24.2**	**+0.4**
SBJI	**Serang**		**60.48 271**	P		**P**		**16 01 25.6**	**+1.0**
	comp=Z,358nm,1.2s								
JOT	**Ohata**		**60.51 338**	P		**P**		**16 01 24.0**	**-0.1**
CGJI	**Cibinong**		**60.80 270**	P		**P**		**16 01 28.0**	**+1.3**
	comp=Z,8µmcomp=Z,752nm,1.3s								
YUK	**Yuzh-Kuril'sk**		**61.30 343**	*d*	*i*P	**P**		**16 01 29.2**	**-0.2**
YUK				pmax		pmax			
	comp=Z,8.0nm,0.9s								
QZH	**Quanzhou**		**61.41 309**	ǁ	*i*P	**P**		**16 01 31.0**	**+0.4**
QZH				pP		**pwP**		**16 02 01.8**	**-1.6**
QZH				S		**S**		**16 09 43.4**	**+1.5**
QZH				sS		**sS**		**16 10 34.1**	**+1.7**
QZH				pmax		pmax			
	comp=Z,250nm,1.0s								
QZH				pmax		pmax			
	comp=Z,2µm,3.6s								
QZH				LR		LR			
	comp=Z,3µm,33.3s								
JEW	**Eniwo**		**61.64 339**	P		**P**		**16 01 32.1**	**+0.3**
KUR	**Kuril'sk**		**61.85 345**	*d*	*i*P	**P**		**16 01 32.0**	**-1.1**
KUR				S		**S**		**16 09 47.1**	**+0.4**
KUR				*e*				16 11 13.0	
KUR				pmax		pmax			
	comp=Z,3µm,1.3s								
KUR				pmax		pmax			
	comp=Z,6µm,4.3s								
JSH	**Shimam**		**61.97 338**	P		**P**		**16 01 34.6**	**+0.7**
KLI	**Kotabumi**		**62.00 272**	P		**P**		**16 01 35.8**	**+1.0**
	comp=Z,6µmcomp=Z,130nm,0.8s								
JMP	**Maruseppu**		**62.03 341**	P		**P**		**16 01 35.1**	**+0.7**
KASI	**Kota Agung**		**62.20 271**	P		**P**		**16 01 36.5**	**+0.4**
	comp=Z,2µmcomp=Z,175nm,0.8s								
ASAJ	**Asahikawa**		**62.38 340**	P		**P**		**16 01 37.6**	**+0.9**
	comp=Z,439nm,0.5s,baz=214,slow=8.0,SNR=388								
ASAJ				LR		LR		16 26 23.9	
	comp=Z,935nm,19.7s,baz=160,slow=34								
	comp=Z,439nm,0.5s								
ASAJ	**Asahikawa**		**62.38 340**	P		**P**		**16 01 37.9**	**+1.2**
LWLI	**Liwa**		**62.74 272**	P		**P**		**16 01 41.0**	**+1.1**
	comp=Z,4µmcomp=Z,377nm,0.7s								
MDSI	**Maura Dua**		**62.75 272**	P		**P**		**16 01 40.2**	**+0.4**
	comp=Z,2µmcomp=Z,127nm,0.9s								
TJN	**Taejon**		**62.93 325**	P		**P**		**16 01 41.0**	**+0.5**
SSE	**Sheshan**		**63.20 316**	P		**P**		**16 01 42.1**	**-0.3**
SSE				S		**S**		**16 10 03.9**	**-0.2**
SSE				pmax		pmax			
	comp=Z,94nm,1.1s								
SSE				pmax		pmax			
	comp=Z,760nm,3.5s								
SSE				LR		LR			
	comp=Z,700nm,18.8s								
SSE				LR		LR			
	comp=Z,370nm,18.6s								
VNDA	**Vanda**		**63.21 181**	P		**P**		**16 01 41.8**	**0.0**
VNDA	**Vanda**		**63.21 181**	P		**P**		**16 01 42.0**	**+0.2**
	comp=Z,97nm,0.7s,baz=354,slow=7.3,SNR=188								
VNDA				LR		LR		16 24 50.8	
	comp=Z,459nm,20.4s,baz=6.0,slow=32								
VNDA				PKPPKP		**P'P'df**		**16 30 35.8**	**-3.9**
	comp=Z,4.0nm,1.1s,baz=218,slow=3.5,SNR=4.1								
	comp=Z,97nm,0.7s								
VNDA	**Vanda**		**63.21 181**	P		**P**		**16 01 42.0**	**+0.2**
DSRI	**Dabo**		**63.38 277**	P		**P**		**16 01 43.1**	**-0.9**
	comp=Z,2µmcomp=Z,109nm,0.9s								
KSRS	**Korea Array**		**63.39 326**	P		**P**		**16 01 43.2**	**-0.3**
	comp=Z,92nm,0.8s,baz=140,slow=7.0,SNR=292								
KSRS				PKiKP		**PKiKP**		**16 08 29.4**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=268,slow=1.4,SNR=5.3								
KSRS				LR		LR		16 28 09.5	
	comp=Z,348µm,19.5s,baz=130,slow=35								
KSRS				PKPPKP		**P'P'df**		**16 30 36.2**	**-2.6**
	comp=Z,1.1nm,1.0s,baz=311,slow=3.1,SNR=5.1								
	comp=Z,92nm,0.8s								
KSAR	**Wonju Array Be**		**63.41 326**	P		**P**		**16 01 43.2**	**-0.4**
KSAR	**Wonju Array Be**		**63.41 326**	P		**P**		**16 01 43.2**	**-0.4**
KS19	**Wonju Array Si**		**63.46 326**	IAmb		IAmb		16 01 46.5	
	comp=Z,153nm,1.0s								
SBA	**Scott Base**		**63.49 180**	P		**P**		**16 01 44.2**	**+0.7**
SBA	**Scott Base**		**63.49 180**	P		**P**		**16 01 44.3**	**+0.7**
SBA				pmax		pmax			
	comp=Z,3µm,1.8s								
SBA	**Scott Base**		**63.49 180**	P		**P**		**16 01 44.7**	**+1.1**
LHSI	**Lahat**		**63.54 273**	P		**P**		**16 01 44.8**	**-0.2**
JWK2	**Keihoku**		**63.67 340**	P		**P**		**16 01 45.8**	**+0.6**
DLV	**Lae**		**63.76 291**	IAmb		IAmb		16 02 22.5	
	comp=Z,314nm,1.5s								
TPRI	**Tanjung Pinang**		**63.81 278**	P		**P**		**16 01 46.6**	**-0.2**
	comp=Z,84nm,0.7s								
CASY	**Casey**		**63.82 202**	P		**P**		**16 01 45.7**	**-0.3**
CASY				IAmb		IAmb		16 01 47.1	
	comp=Z,180nm,1.0s								
CASY	**Casey**		**63.82 202**	P		**P**		**16 01 45.8**	**-0.1**
MNAI	**Manna**		**63.96 272**	P		**P**		**16 01 48.2**	**+0.4**
INCN	**Inchon**		**64.13 325**	P		**P**		**16 01 48.6**	**+0.2**
INCN	**Inchon**		**64.13 325**	P		**P**		**16 01 49.1**	**+0.7**
INCN				S		**S**		**16 10 16.9**	**+1.4**
INCN	**Inchon**		**64.13 325**	P		**P**		**16 01 49.0**	**+0.6**
INCN	**Inchon**		**64.13 325**	P		**P**		**16 01 48.6**	**+0.2**
INCN				pmax		pmax			
	comp=Z,764nm,1.7s								
KSI	**Kapahiang**		**64.48 273**	P		**P**		**16 01 51.6**	**+0.3**
	comp=Z,121nm,0.8s								
GZH	**Guangzhou**		**64.50 305**	P		**P**		**16 01 52.4**	**+1.4**
GZH				pP		**pP**		**16 02 21.5**	**+0.6**
GZH				PP		**PP**		**16 04 19.8**	**+5.2**
GZH				S		**S**		**16 10 23.8**	**+3.3**
GZH				pmax		pmax			
	comp=Z,260nm,1.5s								
MYKOM	**Kota Tinggi**		**64.71 279**	P		**P**		**16 01 55.0**	**+2.4**
YSS	**Yuzhno-Sakhali**		**64.86 342**	P		**P**		**16 01 53.7**	**+0.8**
YSS	**Yuzhno-Sakhali**		**64.86 342**	P		**P**		**16 01 54.3**	**+1.4**
YSS	**Yuzhno-Sakhali**		**64.86 342**	*ke*	P	**P**		**16 01 53.8**	**+0.9**
YSS				*e*	*P	**pwP**		**16 02 25.8**	**+0.4**
YSS				*e*	*SP	**sP**		**16 02 39.2**	**+2.8**
YSS				*e*	S	**S**		**16 10 24.4**	**+0.4**
YSS				*e*				16 11 38.5	
YSS				pmax		pmax			
	comp=Z,5µm,3.7s								
YSS				pmax		pmax			
	comp=N,3µm,4.0s								
YSS				pmax		pmax			
	comp=E,1µm,3.5s								
YSS				pmax		pmax			
	comp=Z,1µm,1.1s								
YSS				smax		smax			
	comp=N,2µm,7.4s								
YSS				smax		smax			
	comp=E,2µm,6.0s								
YSS	**Yuzhno-Sakhali**		**64.86 342**	P		**P**		**16 01 54.0**	**+1.2**
MASI	**Maura Aman, Be**		**64.95 273**	P		**P**		**16 01 54.0**	**-0.3**
	comp=E,198nm,0.9s								
HJU	**Haeju**		**65.03 325**	P		**P**		**16 01 53.9**	**-0.3**
HJU				S		**S**		**16 10 26.5**	**+0.1**
HJU				AmB					
	comp=Z,1µm,2.6s								
HJU				AMS		AMS			
	comp=Z,120nm,2.7s								
CCD	**Concordia, Ant**		**65.23 191**	P		**P**		**16 01 55.5**	**+0.1**
TEY	**Ternei**		**65.31 337**	ǁ	*eP*	**P**		**16 01 56.3**	**+0.5**
TEY				*e*				16 10 19.4	
TEY				pmax		pmax			
	comp=E,200nm,2.3s								
TEY				pmax		pmax			
	comp=N,300nm,2.4s								
TEY				pmax		pmax			
	comp=Z,800nm,2.3s								
TEY				pmax		pmax			
	comp=N,40nm,1.8s								
TEY				pmax		pmax			
	comp=Z,120nm,1.8s								
TEY				pmax		pmax			
	comp=E,40nm,1.6s								
NJ2	**Nanjing**		**65.36 316**	ǁ	*i*P	**P**		**16 01 56.9**	**+0.5**
NJ2				PcP		**pP**		**16 02 26.6**	**+0.2**
NJ2				S		**S**		**16 10 30.3**	**-0.4**
NJ2				pmax		pmax			
	comp=E,190nm,1.1s								
NJ2				pmax		pmax			
	comp=E,760nm,5.5s								
HHU	**Hamhung**		**65.41 327**	P		**P**		**16 01 57.0**	**+0.5**
HHU				S		**S**		**16 10 32.4**	**+1.4**
HHU				AmB					
	comp=Z,2µm,2.1s								
HHU				AMS

DL2					pmax	pmax			
	comp=Z,570nm,1.0s								
DL2					pmax	pmax			
	comp=Z,2µm,5.3s								
IPM	**Ipoh**	**68.19**	**281**		IAmb	IAmb	16 02 50.7		
	comp=Z,183nm,1.1s								
IPM	**Ipoh**	**68.19**	**281**		P	**P**	**16 02 15.7**	**+0.9**	
ATKA	**Atka Island**	**68.24**	**12**		IAmb	IAmb	16 02 16.2		
	comp=Z,134nm,1.0s								
ATKA	**Atka Island**	**68.24**	**12**		P	**P**	**16 02 13.9**	**-0.3**	
TYV	**Tymovskoe**	**68.41**	**344**	*e*P		**P**	**16 02 16.4**	**+1.1**	
TYV				*e*S		**S**	**16 11 07.4**	**+0.8**	
TYV					pmax	pmax			
	comp=Z,314nm,1.3s								
TYV					pmax	pmax			
	comp=Z,2µm,3.9s								
TYV					smax	smax			
	comp=N,7.0nm,1.4s								
TYV					smax	smax			
	comp=N,1µm,7.3s								
TYV					smax	smax			
	comp=E,500nm,7.3s								
MNSI	**Mandailing Nat**	**68.53**	**277**		P	**P**	**16 02 17.0**	**0.0**	
	comp=E,2µmcomp=E,135nm,0.7s								
KULM	**Kulim**	**68.78**	**282**		P	**P**	**16 02 19.5**	**+1.0**	
SNY	**Shenyang**	**68.86**	**326**	⇓P		**P**	**16 02 18.1**	**-0.2**	
SNY				S		**S**	**16 11 12.8**	**+0.5**	
SNY					pmax	pmax			
	comp=E,81nm,0.9s								
SNY					pmax	pmax			
	comp=E,1µm,6.1s								
SNY					LR	LR			
	comp=E,390nm,13.7s								
SNY					LR	LR			
	comp=E,350nm,14.9s								
SNY					LR	LR			
	comp=E,610nm,17.9s								
TIA	**Tai'an**	**69.01**	**318**		P	**P**	**16 02 19.3**	**-0.2**	
TIA					S	**S**	**16 11 10.1**	**-4.3**	
TIA					pmax	pmax			
	comp=E,230nm,1.1s								
TIA					pmax	pmax			
	comp=E,2µm,3.7s								
TIA					LR	LR			
	comp=E,960nm,18.6s								
TIA					LR	LR			
	comp=E,990nm,12.9s								
TIA					LR	LR			
	comp=E,2µm,20.1s								
CN2	**Changchun**	**69.29**	**329**	*e*P		**P**	**16 02 21.3**	**+0.3**	
CN2				*e*pP		pP	16 02 51.4	+0.1	
CN2				*e*sP		sP	16 03 05.1	+0.4	
CN2				*e*S		**S**	**16 11 13.1**	**-4.3**	
CN2					pmax	pmax			
	comp=E,300nm,0.8s								
CN2					pmax	pmax			
	comp=E,400nm,5.0s								
CN2					LR	LR			
	comp=E,1µm,20.0s								
CN2					LR	LR			
	comp=E,800nm,20.0s								
CN2					LR	LR			
	comp=E,1µm,28.2s								
PBSI	**Pulau Batu**	**69.56**	**275**		P	**P**	**16 02 23.0**	**-0.3**	
	comp=E,266nm,1.4s								
RPSI	**Rantau Prapat**	**69.68**	**278**		P	**P**	**16 02 23.7**	**-0.3**	
RPSI					IAmb	IAmb	16 02 29.3		
	comp=Z,78nm,0.8s								
PSI	**Prapat**	**69.71**	**278**		P	**P**	**16 02 25.0**	**+0.6**	
PSI	**Prapat**	**69.71**	**278**		P	**P**	**16 02 23.7**	**-0.7**	
PSI					pmax	pmax			
	comp=Z,78nm,0.8s								
BNX	**BinXian**	**69.78**	**331**	⇓P		**P**	**16 02 23.8**	**-0.2**	
BNX					PcP	**PcP**	**16 02 46.8**	**+1.0**	
BNX					pP	**pP**	**16 02 54.0**	**-0.3**	
BNX					S	**S**	**16 11 22.8**	**-0.2**	
BNX					sS	**sS**	**16 12 15.9**	**+0.8**	
BNX					pmax	pmax			
	comp=Z,440nm,0.7s								
BNX					LR	LR			
	comp=Z,880nm,19.5s								
BNX					LR	LR			
	comp=Z,530nm,19.5s								
BNX					LR	LR			
	comp=Z,2µm,31.4s								
CLES	**Cleveland East**	**69.78**	**15**		IAmb	IAmb	16 02 26.6		
	comp=Z,350nm,1.3s								
NIKH	**Nikolski High**	**70.18**	**15**		P	**P**	**16 02 25.7**	**-0.5**	
NIKH	**Nikolski High**	**70.18**	**15**		P	**P**	**16 02 24.5**	**-1.7**	
	baz=205								
GRNR	**Gornyy**	**70.23**	**340**	⇓*i*P		**P**	**16 02 28.1**	**+1.5**	
GRNR				*e*			16 05 01.6		
GRNR				*e*S		**S**	**16 11 32.8**	**+4.7**	
GRNR					pmax	pmax			
	comp=E,130nm,1.1s								
GRNR					pmax	pmax			
	comp=N,180nm,1.3s								
GRNR					pmax	pmax			
	comp=Z,620nm,1.3s								
GRNR					smax	smax			
	comp=E,8.0nm,1.2s								
TSI	**Tuntungan**	**70.25**	**279**		P	**P**	**16 02 27.0**	**-0.5**	
	comp=E,201mm,0.8s								
GSI	**Gunungsitoli**	**70.60**	**277**		P	**P**	**16 02 30.6**	**+1.0**	
GSI					IAmb	IAmb	16 02 34.0		
	comp=Z,115nm,0.9s								
GSI	**Gunungsitoli**	**70.60**	**277**		P	**P**	**16 02 31.1**	**+1.4**	
GSI	**Gunungsitoli**	**70.60**	**277**		P	**P**	**16 02 29.7**	**0.0**	
	comp=Z,153nm,1.4s								
KLR	**Kul'dur**	**70.64**	**336**		LR	LR	16 30 41.4		
	comp=Z,267nm,20.4s,baz=191,slow=33								
SURA	**Surathani**	**70.94**	**285**		P	**P**	**16 02 32.5**	**+0.8**	
NKL	**Nikolayevsk**	**71.00**	**343**	*e*P		**P**	**16 02 30.2**	**-1.0**	
NKL				*e*S		**S**	**16 11 36.3**	**-0.6**	
NKL					pmax	pmax			
	comp=N,349nm,1.0s								
NKL					pmax	pmax			
	comp=E,758nm,1.2s								
NKL					pmax	pmax			
	comp=Z,3µm,1.2s								
NKL					smax	smax			
	comp=N,491nm,3.3s								
NKL					smax	smax			
	comp=E,1µm,3.3s								
KCSI	**Kotacane, Aceh**	**71.02**	**279**		P	**P**	**16 02 31.9**	**-0.3**	
ENH	**Enshi**	**71.07**	**309**		P	**P**	**16 02 31.9**	**-0.3**	
ENH					pP	**pP**	**16 03 02.5**	**-0.2**	
LYN	**LuoYang**	**71.16**	**315**	⇓P		**P**	**16 02 33.0**	**+0.4**	
LYN					pP	pP	16 03 04.1	+1.0	
LYN					PP	**PP**	**16 05 10.3**	**-1.9**	
LYN					S	**S**	**16 11 35.9**	**-3.6**	
LYN					SKS	**SKSac**	**16 12 15.8**	**-8.0**	
LYN					sS	ScS	16 12 26.1	+0.6	
LYN					pmax	pmax			
	comp=E,560nm,1.1s								
LYN					pmax	pmax			
	comp=E,800nm,4.5s								
HNS	**HongShan**	**71.28**	**318**	⇓P		**P**	**16 02 33.8**	**+0.6**	
HNS					pP	**pP**	**16 03 02.8**	**-0.8**	
HNS					sP	**sP**	**16 03 19.0**	**+2.1**	
HNS					S	**S**	**16 11 36.3**	**-4.4**	
HNS					sS	**ScS**	**16 12 26.6**	**+0.4**	
HNS					pmax	pmax			
	comp=E,3µm,3.6s								
HNS					LR	LR			
	comp=E,630nm,18.2s								
HNS					LR	LR			
	comp=E,940nm,17.1s								
HNS					LR	LR			
	comp=E,1µm,23.5s								
GYA	**Guiyang**	**71.44**	**305**	⇓P		**P**	**16 02 35.3**	**+0.7**	
GYA					pP	pP	16 03 05.9	+1.1	
GYA					S	**S**	**16 11 44.0**	**+0.7**	
GYA					pmax	pmax			
	comp=E,180nm,1.3s								
GYA					LR	LR			
	comp=E,2µm,33.6s								
UNV	**Unalaska Valle**	**71.58**	**16**		P	**P**	**16 02 32.5**	**-2.1**	
	baz=207,SNR=11								
BJT	**Baijiatuau**	**71.92**	**321**		IAmb	IAmb	16 02 39.1		
	comp=Z,250nm,1.1s								
BJI	**Beijing**	**71.93**	**321**		P	**P**	**16 02 37.5**	**+0.4**	
BJI					PcP	**PcP**	**16 02 55.4**	**+0.4**	
BJI					pP	**pP**	**16 03 07.5**	**-0.1**	
BJI					sP	**sP**	**16 03 20.6**	**-0.3**	
BJI					PP	**PP**	**16 05 19.6**	**+0.9**	
BJI					S	**S**	**16 11 46.4**	**-1.7**	
BJI					sS	**sS**	**16 12 42.4**	**+4.2**	
BJI					pmax	pmax			
	comp=Z,99nm,1.1s								
BJI					pmax	pmax			
	comp=Z,1µm,4.0s								
BJI					LR	LR			
	comp=Z,490nm,29.0s								
BJI					LR	LR			
	comp=Z,390nm,29.4s								
BJI					LR	LR			
	comp=Z,2µm,33.0s								
AKUT	**Akutan**	**72.03**	**16**		P	**P**	**16 02 37.9**	**+0.6**	
MLSI	**Meulaboh, Aceh**	**72.54**	**279**		P	**P**	**16 02 41.6**	**+0.3**	
	comp=Z,428nm,0.9s								
TIY	**Taiyuan**	**72.94**	**317**	*e*P		**P**	**16 02 44.3**	**+1.1**	
TIY					pP	**pP**	**16 03 13.6**	**-0.2**	
TIY					sP	**sP**	**16 03 29.3**	**+2.3**	
TIY					S	**S**	**16 12 01.4**	**+1.5**	
TIY					pmax	pmax			
	comp=Z,250nm,1.2s								
TIY					pmax	pmax			
	comp=Z,2µm,3.5s								
HEH	**HeiHe**	**73.20**	**335**	*e*P		**P**	**16 02 43.5**	**-0.8**	
HEH					sP	**sP**	**16 03 26.3**	**-2.0**	
HEH					PP	**PP**	**16 05 26.3**	**-3.0**	
HEH					S	**S**	**16 11 58.0**	**-4.1**	
HEH					pmax	pmax			
	comp=Z,280nm,1.4s								
HEH					pmax	pmax			
	comp=Z,2µm,5.8s								
FALS	**False Pass**	**73.33**	**17**		P	**P**	**16 02 42.5**	**-2.5**	
	baz=210								
P08K	**Saint George I**	**73.33**	**13**		P	**P**	**16 02 42.6**	**-2.4**	
	baz=204								
XAN	**Xi'an**	**73.38**	**313**	⇓P		**P**	**16 02 45.9**	**0.0**	
XAN					pP	pP	16 03 15.5	-1.0	
XAN					S	**SKiKP**	**16 12 01.0**	**-3.6**	
XAN					pmax	pmax			
	comp=Z,270nm,1.2s								
XAN					pmax	pmax			
	comp=Z,3µm,5.9s								
SPIA	**Saint Paul Isl**	**73.71**	**13**		P	**P**	**16 02 44.8**	**-2.4**	
	baz=203								
KMI	**Kunming**	**74.04**	**302**	⇓P		**P**	**16 02 51.6**	**+1.5**	
KMI					pP	pP	16 03 21.9	+1.3	
KMI					S	**S**	**16 12 15.8**	**+2.7**	
KMI					pmax	pmax			
	comp=Z,2µm,3.8s								
KMI					LR	LR			
	comp=Z,540nm,21.6s								
KMI					LR	LR			
	comp=Z,760nm,23.2s								
KMI					LR	LR			
	comp=Z,2µm,32.7s								
XLT	**XiLinHaoTe**	**74.36**	**324**	*e*P		**P**	**16 02 51.8**	**+0.4**	
XLT					pP	pP	16 03 22.1	-0.1	
XLT					S	**S**	**16 12 13.9**	**-1.8**	
XLT					ScS	**ScS**	**16 12 50.6**	**-0.3**	
XLT					SS	**SS**	**16 17 05.3**	**+0.5**	
XLT					pmax	pmax			
	comp=Z,240nm,1.2s								
S12K	**Black Hills**	**74.45**	**17**		IAmb	IAmb	16 02 52.3		
	comp=Z,157nm,1.0s								
S12K	**Black Hills**	**74.45**	**17**		P	**P**	**16 02 49.5**	**-2.1**	
	baz=211,SNR=13								
CNBA	**Chernabura Isl**	**74.46**	**19**		IAmb	IAmb	16 03 25.6		
	comp=Z,289nm,1.9s								
CHNA	**Chernabura Isl**	**74.47**	**19**		P	**P**	**16 02 49.7**	**-1.9**	
	baz=213,SNR=5.6								
SDPT	**Sand Point**	**74.63**	**18**		P	**P**	**16 02 52.8**	**+0.3**	
SDPT	**Sand Point**	**74.63**	**18**		P	**P**	**16 02 49.2**	**-3.3**	
	baz=212,SNR=5.8								
CM31	**Chiang Mai Arr**	**74.72**	**294**		P	**P**	**16 02 55.7**	**+1.8**	
	SNR=57								
CM31					S	**S**	**16 12 21.1**	**+0.6**	
CMAR	**Chiang Mai Arr**	**74.72**	**294**		P	**P**	**16 02 54.6**	**+0.7**	
CMAR	**Chiang Mai Arr**	**74.72**	**294**		P	**P**	**16 02 55.3**	**+1.3**	
	comp=Z,109nm,0.9s,baz=117,slow=4.3,SNR=261								
CMAR					pP	**pP**	**16 03 24.8**	**+0.2**	
	comp=Z,145nm,0.9s,baz=121,slow=4.5,SNR=3.8								
CMAR					PKKPbc	**PKKPbc**	**16 22 19.9**	**+0.7**	
	comp=Z,0.4nm,0.3s,baz=287,slow=3.2,SNR=4.5								
CMAR					PKPPKP	**P'P'df**	**16 30 19.1**	**-2.7**	
	comp=Z,1.2nm,0.9s,baz=296,slow=5.2,SNR=5.4								
CMAR					LR	LR	16 33 09.8		
	comp=Z,242nm,21.7s,baz=105,slow=34								
	comp=Z,109nm,0.9s								
CMAR	**Chiang Mai Arr**	**74.72**	**294**	*i* P		**P**	**16 02 55.2**	**+1.3**	
CMAR					pmax	pmax			
	comp=Z,112nm,0.9s								
CHTO	**Chiang Mai**	**74.85**	**294**		P	**P**	**16 02 55.5**	**+0.8**	
CHTO					IAmb	IAmb	16 03 31.0		
	comp=Z,297nm,1.1s								
CHTO	**Chiang Mai**	**74.85**	**294**		P	**P**	**16 02 56.0**	**+1.3**	
CHTO					S	**S**	**16 12 19.9**	**-1.9**	
CHTO	**Chiang Mai**	**74.85**	**294**		P	**P**	**16 02 55.5**	**+0.8**	
CHTO	**Chiang Mai**	**74.85**	**294**		P	**P**	**16 02 55.5**	**+0.8**	
CHTO					pmax	pmax			
	comp=Z,297nm,1.1s								
CHTO	**Chiang Mai**	**74.85**	**294**		P	**P**	**16 02 55.4**	**+0.8**	
MA2	**Magadan**	**74.88**	**351**		P	**P**	**16 02 53.2**	**-0.7**	
MA2	**Magadan**	**74.88**	**351**		LR	LR	16 31 20.8		
	comp=Z,868nm,21.8s,baz=168,slow=32								
MA2	**Magadan**	**74.88**	**351**		P	**P**	**16 02 54.2**	**+0.2**	
MA2	**Magadan**	**74.88**	**351**	*i* P		**P**	**16 02 54.8**	**+0.8**	
MA2	**Magadan**	**74.88**	**351**		P	**P**	**16 02 53.7**	**-0.3**	
	comp=Z,7µmcomp=Z,563nm,1.3s								
HHC	**Hu-ho-hao-te**	**75.25**	**320**	*e*P		**P**	**16 02 57.8**	**+1.1**	
HHC					pP	pP	16 03 28.4	+0.9	
HHC					sP	sP	16 03 39.3	-1.4	
HHC					PP	**PP**	**16 05 50.3**	**+3.2**	
HHC					S	**S**	**16 12 26.9**	**+1.1**	
HHC					SS	**SS**	**16 17 21.9**	**+3.4**	
HHC					pmax	pmax			
	comp=Z,150nm,0.8s								
HHC					pmax	pmax			
	comp=Z,650nm,4.1s								
PZH	**PanZhiHua**	**75.43**	**303**		P	**P**	**16 02 58.1**	**+0.1**	
PZH					pP	**pP**	**16 03 29.3**	**+0.8**	
PZH					sP	**sP**	**16 03 43.9**	**+2.3**	
PZH					PP	**PP**	**16 05 52.3**	**+3.4**	
PZH					S	**S**	**16 12 28.3**	**0.0**	
PZH					pmax	pmax			
	comp=Z,80nm,1.1s								
PZH					pmax	pmax			
	comp=Z,990nm,4.2s								
QSPA	**South Pole Qui**	**75.65**	**180**		P	**P**	**16 02 59.7**	**+1.0**	
QSPA	**South Pole Qui**	**75.65**	**180**		P	**P**	**16 02 59.6**	**+1.0**	
	comp=Z,294nm,0.9s,baz=5.3,slow=1.2,SNR=317								
QSPA					S	**S**	**16 12 31.5**	**+2.0**	
	comp=Z,8.6nm,1.1s,baz=304,slow=23,SNR=9.8								
QSPA					PKKPbc	**PKKPbc**	**16 22 16.4**	**-2.8**	
	comp=Z,4.8nm,0.8s,baz=262,slow=1.1,SNR=14								
QSPA					LR	LR	16 35 03.0		
	comp=Z,939nm,18.0s,baz=25,slow=35								
	comp=Z,294nm,0.9s								
S14K	**Fog Glacier**	**75.70**	**18**		P	**P**	**16 02 55.7**	**-3.1**	
	baz=213,SNR=6.7								
CD2	**Chengdu**	**75.72**	**308**		P	**P**	**16 03 00.1**	**+0.6**	
CD2					pP	pP	16 03 28.8	-1.4	
CD2					PP	**PP**	**16 05 50.0**	**-1.2**	
CD2					S	**S**	**16 12 31.4**	**+0.2**	
CD2					sS	sS	16 13 24.8	+1.9	
CD2					SS	**SS**	**16 17 29.8**	**+4.0**	
CD2					pmax	pmax			
	comp=Z,190nm,1.2s								
CD2					pmax	pmax			
	comp=Z,2µm,3.9s								
CD2					LR	LR			
	comp=Z,720nm,11.4s								
CD2					LR	LR			
	comp=Z,1µm,13.3s								
CD2					LR	LR			
	comp=Z,980nm,14.0s								
ZEA	**Zeya**	**75.93**	**337**	*e*P		**P**	**16 03 01.1**	**+1.0**	
ZEA				*e**PP		**pP**	**16 03 30.0**	**-0.9**	
ZEA				*e*S		**S**	**16 12 36.7**	**+4.3**	
ZEA					pmax	pmax			
	comp=E,300nm,3.6s								
ZEA					pmax	pmax			
	comp=N,400nm,2.1s								
ZEA					pmax	pmax			
	comp=Z,1µm,2.4s								
ZEA					pmax	pmax			
	comp=E,40nm,1.2s								
ZEA					pmax	pmax			
	comp=N,110nm,1.3s								
ZEA					pmax	pmax			
	comp=Z,260nm,1.3s								
ZEA					smax	smax			
	comp=N,900nm,12.7s								
ZEA					smax	smax			
	comp=E,2µm,9.2s								
CHGN	**Chignik**	**76.06**	**19**		IAmb	IAmb	16 03 04.0		
	comp=Z,90nm,0.9s								
CHGN	**Chignik**	**76.06**	**19**		P	**P**	**16 02 58.0**	**-2.7**	
	baz=214,SNR=23								
BTO	**Baotou**	**76.10**	**319**	*e*P		**P**	**16 03 03.0**	**+1.5**	
BTO					pP	**pwP**	**16 03 34.8**	**0.0**	
BTO					sP	**sP**	**16 03 48.8**	**+3.2**	
BTO					PP	**PP**	**16 05 58.1**	**+3.9**	
BTO					S	**S**	**16 12 37.0**	**+2.0**	
BTO					sS	**sS**	**16 13 32.3**	**+6.3**	
BTO					SS	**SS**	**16 17 35.3**	**+4.0**	
BTO					pmax	pmax			
	comp=Z,330nm,1.7s								
BTO					pmax	pmax			
	comp=Z,4µm,7.9s								
BTO					LR	LR			
	comp=Z,1µm,19.4s								
BTO					LR	LR			
	comp=Z,1µm,17.3s								
BTO					LR	LR			
	comp=Z,2µm,18.0s								
CHIR	**Chirikof Islan**	**76.59**	**21**		P	**P**	**16 03 00.3**	**-3.4**	
	baz=217								
R16K	**Pilot Point**	**77.37**	**19**		P	**P**	**16 03 05.4**	**-2.6**	
	baz=215								
TNCH	**TengChong**	**77.51**	**300**	⇓P		**P**	**16 03 10.0**	**+0.2**	
TNCH					pP	pP	16 03 38.9	-1.6	
TNCH					sP	sP	16 03 53.8	+0.2	
TNCH					S	**S**	**16 12 50.3**	**-0.9**	
TNCH					sS	sS	16 13 41.4	-2.5	
TNCH					pmax	pmax			
	comp=Z,180nm,1.2s								
TNCH					pmax	pmax			
	comp=Z,2µm,2.9s								
M11K	**Mekoryuk**	**77.51**	**13**		P	**P**	**16 03 08.9**	**+0.1**	
M11K					IAmb	IAmb	16 03 12.0		
	comp=Z,163nm,1.1s								
M11K	**Mekoryuk**	**77.51**	**13**		P	**P**	**16 03 06.8**	**-2.0**	
	baz=206,SNR=6.3								
SII	**Sitkinak Islan**	**77.66**	**21**		IAmb	IAmb	16 03 10.2		
	comp=Z,111nm,0.8s								
SII	**Sitkinak Islan**	**77.66**	**21**		P	**P**	**16 03 09.7**	**-0.1**	
SII	**Sitkinak Islan**	**77.66**	**21**		P	**P**	**16 03 07.3**	**-2.4**	
	baz=218,SNR=8.0								
O14K	**Tigyukauivet M**	**77.72**	**16**		P	**P**	**16 03 08.7**	**-1.2**	
	baz=211								
R17L	**Mt. Peulik Vol**	**77.80**	**19**		P	**P**	**16 03 08.7**	**-1.8**	
	baz=216,SNR=31								
PLK4	**Peulik 4**	**77.80**	**19**		IAmb	IAmb	16 03 16.7		
	comp=Z,140nm,0.9s								
RPN	**Rapa Nui**	**77.89**	**115**		LR	LR	16 29 02.9		
	comp=Z,470nm,21.5s,baz=256,slow=29								
SEY	**Seymchan**	**77.92**	**353**		P	**P**	**16 03 11.1**	**+0.1**	
	comp=Z,592nm,1.0s,baz=154,slow=5.7,SNR=708								
SEY					LR	LR	16 33 33.7		
	comp=Z,1µm,21.3s,baz=161,slow=32								
	comp=Z,592nm,1.0s								
SEY	**Seymchan**	**77.92**	**353**	*e*P		**P**	**16 03 06.9**	**-4.1**	
SEY					pmax	pmax			
	comp=Z,1µm,1.3s								
LZH	**Lanzhou**	**78.01**	**312**	⇓P		**P**	**16 03 13.6**	**+1.2**	
LZH					pP	pP	16 03 43.8	+0.5	
LZH					sP	sP	16 03 57.5	+1.0	
LZH					PP	**PP**	**16 06 08.4**	**-2.0**	
LZH					S	**S**	**16 12 58.3**	**+2.2**	
LZH					ScS	**ScS**	**16 13 19.0**	**-1.9**	
LZH					SS	**SS**	**16 17 58.3**	**-2.2**	
LZH					pmax	pmax			
	comp=Z,490nm,1.2s								
LZH					pmax	pmax			
	comp=Z,2µm,4.6s								
O15K	**Ungalikthiuk R**	**78.05**	**17**		P	**P**	**16 03 10.4**	**-1.4**	
	baz=213,SNR=11								
N14K	**Kuskokwak Cree**	**78.19**	**15**		IAmb	IAmb	16 03 24.8		
	comp=Z,107nm,0.9s								
N14K	**Kuskokwak Cree**	**78.19**	**15**		P	**P**	**16 03 12.3**	**-0.2**	
	baz=211,SNR=16								
M13K	**Dall Lake**	**78.20**	**14**		P	**P**	**16 03 12.3**	**-0.3**	
	baz=209,SNR=11								
R18K	**Karluk**	**78.37**	**20**		P	**P**	**16 03 12.5**	**-1.1**	
	baz=218								
P16K	**Nushagak River**	**78.45**	**18**		IAmb	IAmb	16 03 15.1		
	comp=Z,202nm,1.1s								
P16K	**Nushagak River**	**78.45**	**18**		P	**P**	**16 03 12.5**	**-1.5**	
	baz=214,SNR=18								
Q17K	**Contact Creek**	**78.46**	**19**		P	**P**	**16 03 12.8**	**-1.5**	
	baz=216								
OHAK	**Old Harbor**	**78.49**	**21**		IAmb	IAmb	16 03 15.0		
	comp=Z,96nm,0.9s								
OHAK	**Old Harbor**	**78.49**	**21**		P	**P**	**16 03 13.9**	**-0.3**	
OHAK	**Old Harbor**	**78.49**	**21**		P	**P**	**16 03 12.9**	**-1.4**	
	baz=219,SNR=25								
Q16K	**King Salmon**	**78.56**	**18**		P	**P**	**16 03 13.2**	**-1.4**	
	baz=216,SNR=27								
N15K	**Kwethluk River**	**78.82**	**16**		IAmb	IAmb	16 03 17.5		
	comp=Z,210nm,1.2s								
N15K	**Kwethluk River**	**78.82**	**16**		P	**P**	**16 03 15.2**	**-0.9**	
	baz=212,SNR=37								
M14K	**Bethel**	**78.83**	**15**		IAmb	IAmb	16 03 18.2		
	comp=Z,220nm,1.1s								
M14K	**Bethel**	**78.83**	**15**		P	**P**	**16 03 15.8**	**-0.3**	
	baz=210,SNR=72								
O16K	**Kokwok River B**	**78.89**	**17**		P	**P**	**16 03 14.5**	**-1.9**	
	baz=214,SNR=24								
P17K	**Kvichak River**	**79.05**	**18**		P	**P**	**16 03 15.7**	**-1.5**	
	baz=216,SNR=15								
Q18K	**Katmai Hardscr**	**79.05**	**19**		P	**P**	**16 03 16.2**	**-1.3**	
	baz=217,SNR=70								
M15K	**Kasigluk River**	**79.11**	**15**		P	**P**	**16 03 17.1**	**-0.5**	
	baz=212,SNR=77								
KDAK	**Kodiak Island**	**79.17**	**21**		P	**P**	**16 03 17.5**	**-0.4**	
KDAK	**Kodiak Island**	**79.17**	**21**	⇓*e*P		**P**	**16 03 16.9**	**-1.0**	
KDAK					pmax	pmax			
	comp=Z,89nm,0.9s								
KDAK	**Kodiak Island**	**79.17**	**21**		P	**P**	**16 03 16.7**	**-1.3**	
	baz=220								
L14K	**Kuka Creek**	**79.17**	**14**		IAmb	IAmb	16 03 19.3		
	comp=Z,142nm,1.1s								
L14K	**Kuka Creek**	**79.17**	**14**		P	**P**	**16 03 17.3**	**-0.6**	
	baz=210,SNR=50								
K13K	**Kusilvak Mount**	**79.24**	**13**		P	**P**	**16 03 18.1**	**-0.1**	
	baz=208,SNR=24								
O17K	**Koliganek Bris**	**79.32**	**17**		P	**P**	**16 03 17.6**	**-1.2**	
	baz=215,SNR=22								
N16K	**Nishlik Lake**	**79.43**	**16**		P	**P**	**16 03 19.3**	**-0.1**	
	baz=214,SNR=34								
P18K	**Big Mountain,**	**79.57**	**19**		IAmb	IAmb	16 03 25.4		
	comp=Z,181nm,1.1s								
P18K	**Big Mountain,**	**79.57**	**19**		P	**P**	**16 03 18.5**	**-1.7**	
	baz=217,SNR=32								
Q19K	**Cape Douglas,**	**79.71**	**19**		IAmb	IAmb	16 03 25.7		
	comp=Z,284nm,1.1s					

	comp=Z,157nm,1.6s							
L16K	**Owhat River**	**80.28**	**15**	P	**P**	**16 03 23.8**	**-0.1**	
	baz=213,SNR=25							
P19K	**Oil Pt**	**80.41**	**19**	IAmb	IAmb	16 03 27.3		
	comp=Z,221nm,0.9s							
P19K	**Oil Pt**	**80.41**	**19**	P	**P**	**16 03 23.6**	**-1.1**	
	baz=219,SNR=23							
N18K	**Kilae Creek**	**80.41**	**17**	P	**P**	**16 03 23.8**	**-0.8**	
	baz=216,SNR=13							
O19K	**Port Alsworth**	**80.49**	**18**	P	**P**	**16 03 23.9**	**-1.1**	
	baz=218							
M17K	**Holitna River**	**80.57**	**16**	P	**P**	**16 03 25.4**	**0.0**	
	baz=215,SNR=27							
ILSW	**Iliamna Southw**	**80.69**	**19**	IAmb	IAmb	16 03 30.0		
	comp=Z,184nm,1.2s							
CIT	**Chita**	**80.72**	**330**	*e*P	**P**	**16 03 27.0**	**+0.5**	
CIT				*e*		16 03 56.8		
CIT				*e*		16 04 12.4		
CIT				*e*		16 08 18.6		
CIT				*e*S	**S**	**16 13 24.2**	**+0.4**	
CIT				pmax	pmax			
	comp=Z,1μm,1.6s							
HOM	**Homer**	**80.92**	**20**	P	**P**	**16 03 26.9**	**-0.4**	
	baz=220							
O20K	**Slope Mountain**	**80.93**	**19**	P	**P**	**16 03 26.6**	**-0.9**	
	baz=219,SNR=6.2							
N19K	**Bonanza Creek**	**80.94**	**18**	P	**P**	**16 03 26.2**	**-1.3**	
	baz=218,SNR=26							
L17K	**Donlin**	**80.94**	**16**	P	**P**	**16 03 27.8**	**+0.3**	
	baz=214,SNR=57							
CNPM	**China Poot**	**80.96**	**20**	IAmb	IAmb	16 03 30.3		
	comp=Z,232nm,1.3s							
M18K	**Stony River**	**81.09**	**17**	P	**P**	**16 03 28.5**	**+0.3**	
	baz=216,SNR=125							
RED	**Redoubt Volcan**	**81.15**	**19**	IAmb	IAmb	16 03 30.3		
	comp=Z,183nm,1.2s							
BRLK	**Bradley Lake**	**81.25**	**20**	IAmb	IAmb	16 03 31.4		
	comp=Z,100nm,0.8s							
J16K	**Anvik River**	**81.34**	**14**	IAmb	IAmb	16 03 33.6		
	comp=Z,124nm,1.1s							
J16K	**Anvik River**	**81.34**	**14**	P	**P**	**16 03 29.8**	**+0.3**	
	baz=212,SNR=24							
K17K	**Iditarod**	**81.43**	**15**	P	**P**	**16 03 30.3**	**+0.3**	
	baz=214,SNR=27							
ANM	**Nome**	**81.44**	**12**	IAmb	IAmb	16 03 31.9		
	comp=Z,164nm,1.3s							
ANM	**Nome**	**81.44**	**12**	P	**P**	**16 03 30.1**	**+0.1**	
	baz=207							
L18K	**Granite Mounta**	**81.44**	**16**	P	**P**	**16 03 30.4**	**+0.4**	
	baz=215,SNR=62							
YAK	**Yakutsk**	**81.66**	**343**	P	**P**	**16 03 31.0**	**-0.1**	
YAK	**Yakutsk**	**81.66**	**343**	P	**P**	**16 03 31.6**	**+0.4**	
	comp=Z,986nm,1.0s,baz=81,slow=1.2,SNR=422							
YAK				LR	LR	16 40 28.5		
	comp=Z,252nm,18.4s,baz=144,slow=36							
	comp=Z,986nm,1.0s							
YAK	**Yakutsk**	**81.66**	**343**	*d* P	**P**	**16 03 31.1**	**-0.1**	
YAK				*e**PP	**pP**	**16 04 01.5**	**-1.0**	
YAK				*e*		16 06 38.4		
YAK				*e*S	**S**	**16 13 31.1**	**-1.9**	
YAK				*e*		16 13 40.9		
YAK				*e**SS	**sS**	**16 14 34.4**	**+7.0**	
YAK				*e*SSS	SSS	16 22 18.7		
YAK				pmax	pmax			
	comp=Z,1μm,1.0s							
YAK				pmax	pmax			
	comp=N,302nm,1.1s							
YAK				pmax	pmax			
	comp=E,182nm,1.3s							
YAK				pmax	pmax			
	comp=Z,195nm,1.8s							
YAK				pmax	pmax			
	comp=E,124nm,1.5s							
YAK				pmax	pmax			
	comp=N,92nm,1.8s							
YAK				smax	smax			
	comp=N,2μm,3.4s							
YAK				smax	smax			
	comp=E,534nm,2.3s							
ULN	**Ulaanbaatar**	**81.79**	**324**	P	**P**	**16 03 32.9**	**+0.4**	
ULN				IAmb	IAmb	16 03 35.6		
	comp=Z,348nm,1.4s							
ULN	**Ulaanbaatar**	**81.79**	**324**	P	**P**	**16 03 33.1**	**+0.7**	
ULN				S	**S**	**16 13 37.0**	**+1.6**	
ULN	**Ulaanbaatar**	**81.79**	**324**	*i* P	**P**	**16 03 32.8**	**+0.4**	
ULN				*i* *PP	**pP**	**16 04 02.2**	**-1.5**	
J17K	**VABM Dome**	**81.81**	**15**	P	**P**	**16 03 32.2**	**+0.3**	
	baz=213,SNR=31							
M19K	**Big River Lodg**	**81.83**	**17**	P	**P**	**16 03 32.1**	**0.0**	
	baz=218,SNR=55							
I17K	**Unalakleet**	**81.84**	**14**	P	**P**	**16 03 32.4**	**+0.3**	
	baz=211							
TNA	**Tin City**	**81.87**	**10**	IAmb	IAmb	16 03 33.9		
	comp=Z,155nm,1.3s							
TNA	**Tin City**	**81.87**	**10**	P	**P**	**16 03 32.0**	**-0.2**	
	baz=204,SNR=7.5							
L19K	**White Mountain**	**81.92**	**17**	P	**P**	**16 03 32.7**	**+0.1**	
	baz=217,SNR=47							
CAPN	**Captain Cook N**	**81.93**	**19**	P	**P**	**16 03 32.7**	**+0.1**	
	baz=221							
N20K	**Mount Spurr**	**81.93**	**19**	P	**P**	**16 03 31.1**	**-1.6**	
	baz=220							
SPCR	**Spurr Chakacha**	**81.93**	**19**	P	**P**	**16 03 31.2**	**-1.5**	
	baz=220,SNR=9.1							
SEW	**Seward**	**81.99**	**20**	P	**P**	**16 03 32.5**	**-0.4**	
	baz=222,SNR=16							
SLKM	**Skilak Lake**	**82.03**	**20**	IAmb	IAmb	16 04 33.1		
	comp=Z,212nm,1.0s							
F14K	**Arctic Creek**	**82.08**	**11**	P	**P**	**16 03 33.3**	**0.0**	
	baz=206,SNR=17							
G15K	**Niukluk**	**82.08**	**12**	P	**P**	**16 03 33.2**	**-0.2**	
	baz=208,SNR=17							
H16K	**Elim**	**82.14**	**13**	P	**P**	**16 03 33.6**	**-0.1**	
	baz=210,SNR=7.8							
SONM	**Songino Array**	**82.16**	**324**	P	**P**	**16 03 34.0**	**-0.3**	
SONM	**Songino Array**	**82.16**	**324**	P	**P**	**16 03 34.6**	**+0.2**	
	comp=Z,31nm,0.5s,baz=139,slow=4.6,SNR=107							
SONM				pP	**pP**	**16 04 05.8**	**+0.2**	
	comp=Z,53nm,0.9s,baz=149,slow=4.4,SNR=5.5							
SONM				S	**S**	**16 13 41.1**	**+2.1**	
	comp=Z,15nm,1.3s,baz=132,slow=2.2,SNR=8.3							
SONM				PKKPbc	**PKKPbc**	**16 22 02.9**	**-1.6**	
	comp=Z,2.5nm,0.9s,baz=270,slow=1.5,SNR=6.5							
SONM				LR	LR	16 38 00.1		
	comp=Z,457nm,21.9s,baz=131,slow=34							
	comp=Z,31nm,0.5s							
MAW	**Mawson**	**82.18**	**202**	P	**P**	**16 03 34.1**	**+0.1**	
	comp=Z,119nm,0.9s,baz=114,slow=6.1,SNR=163							
MAW				PKKP	**PKKPdf**	**16 21 56.2**	**+3.2**	
	comp=Z,3.9nm,0.9s,baz=307,slow=5.0,SNR=6.9							
MAW				PKPPKP	**P'P'df**	**16 30 03.4**	**-3.7**	
	comp=Z,2.3nm,1.0s,baz=288,slow=5.1,SNR=3.7							
MAW				LR	LR	16 35 05.5		
	comp=Z,2μm,20.4s,baz=98,slow=32							
	comp=Z,119nm,0.9s							
O22K	**Cooper Landing**	**82.18**	**20**	P	**P**	**16 03 33.3**	**-0.6**	
	baz=222,SNR=36							
M20K	**Styx River**	**82.18**	**18**	P	**P**	**16 03 33.0**	**-1.0**	
	baz=219,SNR=31							
BILL	**Bilibino**	**82.19**	**360**	⇓*i* P	**P**	**16 03 33.2**	**-0.6**	
BILL				pmax	pmax			
	comp=Z,770nm,0.9s							
GTA	**Gaotai**	**82.35**	**314**	⇓P	**P**	**16 03 36.8**	**+1.2**	
GTA				pP	pP	16 04 07.5	+0.7	
GTA				PP	**PP**	**16 06 46.0**	**-0.3**	
GTA				S	**S**	**16 13 43.8**	**+2.4**	
GTA				sS	sS	16 14 33.5	+0.2	
GTA				pmax	pmax			
	comp=Z,180nm,1.3s							
GTA				pmax	pmax			
	comp=Z,2μm,9.6s							
GTA				LR	LR			
	comp=Z,530nm,18.7s							
GTA				LR	LR			
	comp=Z,510nm,19.1s							
GTA				LR	LR			
	comp=Z,710nm,21.1s							
L20K	**Farewell, AK**	**82.43**	**17**	P	**P**	**16 03 35.2**	**0.0**	
	baz=218,SNR=146							
J18K	**Innoko River**	**82.46**	**15**	IAmb	IAmb	16 03 38.1		
	comp=Z,81nm,0.8s							
J18K	**Innoko River**	**82.46**	**15**	P	**P**	**16 03 35.1**	**-0.3**	
	baz=215,SNR=101							
SUA	**Susitna One**	**82.59**	**19**	P	**P**	**16 03 35.2**	**-1.0**	
	baz=221,SNR=50							
F15K	**North Star Dit**	**82.60**	**11**	P	**P**	**16 03 35.8**	**-0.2**	
	baz=208,SNR=8.4							
P23K	**Montague Islan**	**82.61**	**21**	IAmb	IAmb	16 03 38.1		
	comp=Z,225nm,1.1s							
P23K	**Montague Islan**	**82.61**	**21**	P	**P**	**16 03 35.8**	**-0.5**	
	baz=224,SNR=16							
RC01	**Rabbit Creek A**	**82.63**	**20**	IAmb	IAmb	16 03 38.2		
	comp=Z,268nm,1.2s							
RC01	**Rabbit Creek A**	**82.63**	**20**	P	**P**	**16 03 35.6**	**-0.7**	
	baz=222,SNR=64							
SKT	**Skwentna**	**82.74**	**18**	P	**P**	**16 03 34.9**	**-2.0**	
	baz=220,SNR=12							
G16K	**Koyuk River**	**82.78**	**12**	IAmb	IAmb	16 03 43.6		
	comp=Z,204nm,1.5s							
G16K	**Koyuk River**	**82.78**	**12**	P	**P**	**16 03 37.0**	**+0.1**	
	baz=210,SNR=17							
H17K	**Granite Mounta**	**82.91**	**13**	P	**P**	**16 03 37.6**	**-0.1**	
	baz=212,SNR=28							
PWL	**Port Wells**	**82.92**	**20**	P	**P**	**16 03 36.9**	**-0.9**	
	baz=223,SNR=117							
M22K	**Willow**	**83.00**	**19**	P	**P**	**16 03 37.2**	**-1.0**	
	baz=221,SNR=150							
K20K	**Telida**	**83.08**	**17**	IAmb	IAmb	16 04 36.0		
	comp=Z,144nm,1.3s							
K20K	**Telida**	**83.08**	**17**	P	**P**	**16 03 38.5**	**-0.1**	
	baz=218,SNR=62							
J19K	**Poorman**	**83.17**	**16**	P	**P**	**16 03 39.0**	**0.0**	
	baz=216,SNR=52							
PMR	**Palmer**	**83.20**	**19**	IAmb	IAmb	16 03 39.9		
	comp=Z,163nm,1.0s							
PMR	**Palmer**	**83.20**	**19**	P	**P**	**16 03 38.6**	**-0.6**	
	baz=222,SNR=42							
G17K	**Kiwalik Mounta**	**83.23**	**13**	P	**P**	**16 03 39.5**	**+0.1**	
	baz=211,SNR=27							
PPLA	**Purkeypile**	**83.25**	**17**	P	**P**	**16 03 38.0**	**-1.6**	
	baz=219,SNR=17							
KNK	**Knik Glacier**	**83.28**	**20**	P	**P**	**16 03 39.0**	**-0.7**	
	baz=223,SNR=71							
SHL	**Shillong**	**83.31**	**298**	P	**P**	**16 03 41.3**	**+0.4**	
	SNR=48							
GLI	**Glacier Island**	**83.35**	**21**	IAmb	IAmb	16 03 40.5		
	comp=Z,190nm,1.0s							
GLI	**Glacier Island**	**83.35**	**21**	P	**P**	**16 03 39.2**	**-0.8**	
	baz=224,SNR=50							
CUT	**Chulitna**	**83.45**	**18**	P	**P**	**16 03 38.8**	**-1.6**	
	baz=221							
H18K	**Honhosa River**	**83.45**	**14**	P	**P**	**16 03 39.9**	**-0.6**	
	baz=214,SNR=7.0							
GCSA	**Galena City Sc**	**83.47**	**15**	P	**P**	**16 03 40.7**	**+0.2**	
	baz=215,SNR=22							
FID	**Port Fidalgo**	**83.47**	**21**	IAmb	IAmb	16 03 41.5		
	comp=Z,175nm,1.0s							
EYAK	**Cordova Ski Ar**	**83.59**	**21**	P	**P**	**16 03 42.6**	**+1.4**	
EYAK	**Cordova Ski Ar**	**83.59**	**21**	P	**P**	**16 03 40.6**	**-0.6**	
	baz=226,SNR=20							
KAIM	**Kayak Island**	**83.63**	**22**	P	**P**	**16 03 40.4**	**-1.1**	
	baz=227,SNR=17							
MCCM	**Marconi Confer**	**83.67**	**48**	IAmb	IAmb	16 03 43.8		
	comp=Z,145nm,0.8s							
CAST	**Castle Rocks**	**83.68**	**17**	P	**P**	**16 03 40.5**	**-1.2**	
	baz=220,SNR=347							
PAF	**Port-aux-Franc**	**83.69**	**221**	P	**P**	**16 03 42.9**	**+0.7**	
PAF	**Port-aux-Franc**	**83.69**	**221**	P	**P**	**16 03 42.9**	**+0.7**	
PAF				pmax	pmax			
	comp=Z,405nm,1.0s							
J20K	**Nowinta River**	**83.71**	**16**	IAmb	IAmb	16 03 43.4		
	comp=Z,135nm,1.2s							
J20K	**Nowinta River**	**83.71**	**16**	P	**P**	**16 03 41.7**	**-0.1**	
	baz=218,SNR=106							
KMPM	**Mount Pierce**	**83.72**	**46**	IAmb	IAmb	16 03 44.1		
	comp=Z,103nm,0.9s							
M23K	**Glacier View**	**83.80**	**20**	P	**P**	**16 03 41.6**	**-0.7**	
	baz=224,SNR=28							
HOPS	**Hopland Field**	**83.87**	**47**	IAmb	IAmb	16 03 44.4		
	comp=Z,108nm,0.9s							
F17K	**Baldwin Pennin**	**83.92**	**12**	IAmb	IAmb	16 03 46.8		
	comp=Z,113nm,0.9s							
F17K	**Baldwin Pennin**	**83.92**	**12**	P	**P**	**16 03 43.1**	**+0.4**	
	baz=211,SNR=8.7							
KMRM	**Mail Ridge**	**83.93**	**46**	IAmb	IAmb	16 03 45.6		
	comp=Z,188nm,0.8s							
JCC	**Jacoby Creek,**	**83.95**	**45**	IAmb	IAmb	16 03 45.0		
	comp=Z,87nm,1.0s							
SCM	**Sheep Creek Mo**	**83.96**	**20**	P	**P**	**16 03 42.5**	**-0.7**	
	baz=224,SNR=67							
CHUM	**Lake Minchumin**	**83.98**	**17**	P	**P**	**16 03 42.4**	**-0.7**	
	baz=219							
DIV	**Divide**	**83.99**	**21**	IAmb	IAmb	16 03 44.4		
	comp=Z,98nm,0.9s							
G18K	**Tagagawik**	**84.01**	**13**	P	**P**	**16 03 43.1**	**-0.2**	
	baz=213,SNR=20							
KRPM	**Rodgers**	**84.10**	**45**	IAmb	IAmb	16 03 46.2		
	comp=Z,94nm,1.0s							
BOD	**Bodaibo**	**84.11**	**334**	*e*P	**P**	**16 03 43.2**	**-0.8**	
BOD				pmax	pmax			
	comp=Z,424nm,1.6s							
I20K	**Naaghedeneel**	**84.12**	**15**	P	**P**	**16 03 44.3**	**+0.5**	
	baz=217,SNR=12							
SAO	**San Andreas Ge**	**84.18**	**50**	IAmb	IAmb	16 03 46.8		
	comp=Z,88nm,0.8s							
KHMM	**Horse Mountain**	**84.18**	**45**	IAmb	IAmb	16 03 47.0		
	comp=Z,130nm,0.8s							
KLU	**Klutina**	**84.19**	**21**	IAmb	IAmb	16 03 46.1		
	comp=Z,136nm,1.3s							
KLU	**Klutina**	**84.19**	**21**	P	**P**	**16 03 43.5**	**-0.8**	
	baz=225,SNR=46							
H19K	**Roundabout Mou**	**84.22**	**14**	IAmb	IAmb	16 03 46.1		
	comp=Z,208nm,1.4s							
H19K	**Roundabout Mou**	**84.22**	**14**	P	**P**	**16 03 44.5**	**+0.2**	
	baz=215,SNR=63							
TRF	**Thorofare Moun**	**84.23**	**18**	IAmb	IAmb	16 03 46.0		
	comp=Z,169nm,0.9s							
TRF	**Thorofare Moun**	**84.23**	**18**	P	**P**	**16 03 43.2**	**-1.4**	
	baz=221,SNR=152							
BMRM	**Bremner River**	**84.28**	**21**	IAmb	IAmb	16 03 53.3		
	comp=Z,93nm,1.0s							
BMRM	**Bremner River**	**84.28**	**21**	P	**P**	**16 03 43.7**	**-1.2**	
	baz=227,SNR=23							
WAT1	**Susitna Watana**	**84.30**	**19**	P	**P**	**16 03 43.8**	**-1.0**	
	baz=223							
KRMB	**Red Mountain**	**84.33**	**45**	IAmb	IAmb	16 03 47.2		
	comp=Z,77nm,0.9s							
E17K	**Hotham Inlet**	**84.36**	**12**	P	**P**	**16 03 45.6**	**+0.7**	
	baz=210,SNR=40							
WAT6	**Susitna Watana**	**84.37**	**19**	P	**P**	**16 03 44.7**	**-0.7**	
	baz=224,SNR=96							
F18K	**Selawik**	**84.39**	**13**	P	**P**	**16 03 45.0**	**-0.1**	
	baz=212,SNR=27							
KBO	**Bosley Butte**	**84.40**	**44**	IAmb	IAmb	16 03 47.5		
	comp=Z,86nm,1.0s							
BBGB	**Big Mountain B**	**84.41**	**50**	IAmb	IAmb	16 03 50.3		
	comp=Z,198nm,0.9s							
PMPB	**Monarch Peak**	**84.45**	**51**	IAmb	IAmb	16 03 52.5		
	comp=Z,100nm,0.9s							
KSXB	**Camp Six Broad**	**84.48**	**44**	IAmb	IAmb	16 03 48.3		
	comp=Z,73nm,0.9s							
BPAW	**Bear Paw Mtn.**	**84.52**	**17**	IAmb	IAmb	16 03 45.8		
	comp=Z,94nm,1.1s							
BPAW	**Bear Paw Mtn.**	**84.52**	**17**	P	**P**	**16 03 44.3**	**-1.6**	
	baz=220,SNR=99							
M24K	**Tolsona, Glenn**	**84.54**	**20**	IAmb	IAmb	16 04 53.6		
	comp=Z,176nm,1.1s							
M24K	**Tolsona, Glenn**	**84.54**	**20**	P	**P**	**16 03 45.6**	**-0.5**	
	baz=225,SNR=27							
H20K	**Anotleneega Mo**	**84.57**	**15**	P	**P**	**16 03 46.4**	**+0.3**	
	baz=217,SNR=138							
G19K	**Purcell Mounta**	**84.57**	**14**	IAmb	IAmb	16 03 49.3		
	comp=Z,154nm,0.9s							
G19K	**Purcell Mounta**	**84.57**	**14**	P	**P**	**16 03 46.1**	**0.0**	
	baz=215,SNR=123							
KEBM	**Edson Butte**	**84.61**	**43**	IAmb	IAmb	16 03 48.7		
	comp=Z,126nm,1.0s							
D17K	**Noatak River**	**84.66**	**11**	P	**P**	**16 03 46.9**	**+0.5**	
	baz=209,SNR=26							
CRQE	**Cirque**	**84.68**	**22**	P	**P**	**16 03 45.9**	**-1.1**	
	baz=228,SNR=35							
GOMU	**GeErMu**	**84.69**	**309**	P	**P**	**16 03 48.3**	**+0.4**	
GOMU				pP	pP	16 04 19.6	+0.2	
GOMU				SS	SS	16 19 42.8	+2.5	
GOMU				pmax	pmax			
	comp=Z,1μm,7.0s							
MESA	**MESA**	**84.72**	**23**	IAmb	IAmb	16 03 48.6		
	comp=Z,138nm,0.8s							
MESA	**MESA**	**84.72**	**23**	P	**P**	**16 03 46.2**	**-1.1**	
	baz=229,SNR=26							
N25K	**Chitina, Valde**	**84.73**	**21**	IAmb	IAmb	16 03 48.0		
	comp=Z,77nm,0.8s							
N25K	**Chitina, Valde**	**84.73**	**21**	P	**P**	**16 03 46.2**	**-0.9**	
	baz=226,SNR=60							
DIB	**Dawson Inlet,**	**84.76**	**32**	IAmb	IAmb	16 03 48.5		
	comp=Z,110nm,1.0s							
C16K	**Lisburne Hills**	**84.77**	**10**	IAmb	IAmb	16 03 48.8		
	comp=Z,428nm,1.9s							
C16K	**Lisburne Hills**	**84.77**	**10**	P	**P**	**16 03 46.8**	**-0.2**	
	baz=207,SNR=9.3							
TGL	**Tana Glacier**	**84.78**	**22**	IAmb	IAmb	16 03 48.1		
	comp=Z,79nm,0.9s							
DHY	**Denali Highway**	**84.84**	**19**	P	**P**	**16 03 47.0**	**-0.7**	
	baz=224,SNR=68							
MCK	**McKinley**	**84.84**	**18**	IAmb	IAmb	16 03 49.0		
	comp=Z,224nm,1.0s							
MCK	**McKinley**	**84.84**	**18**	P	**P**	**16 03 46.3**	**-1.3**	
	baz=222,SNR=124							
ISLE	**Juniper Island**	**84.86**	**22**	IAmb	IAmb	16 03 48.8		
	comp=Z,109nm,0.8s							
E18K	**Tukpahlearik C**	**84.89**	**12**	IAmb	IAmb	16 03 49.6		
	comp=Z,147nm,1.2s							
E18K	**Tukpahlearik C**	**84.89**	**12**	P	**P**	**16 03 48.4**	**+0.8**	
	baz=211							
YAH	**Yahtse**	**84.92**	**23**	IAmb	IAmb	16 03 49.2		
	comp=Z,91nm,0.9s							
K02D	**Willamette Mer**	**84.98**	**44**	IAmb	IAmb	16 03 50.5		
	comp=Z,115nm,0.9s							
F19K	**Shaleruckik Mo**	**84.99**	**13**	IAmb	IAmb	16 03 49.7		
	comp=Z,204nm,1.1s							
F19K	**Shaleruckik Mo**	**84.99**	**13**	P	**P**	**16 03 48.5**	**+0.4**	
	baz=214,SNR=73							
J01E	**Myrtle Point**	**85.00**	**43**	IAmb	IAmb	16 03 50.5		
	comp=Z,133nm,0.9s							
RDOG	**Red Dog Mine**	**85.00**	**11**	IAmb	IAmb	16 03 50.2		
	comp=Z,190nm,1.2s							
RDOG	**Red Dog Mine**	**85.00**	**11**	P	**P**	**16 03 48.5**	**+0.3**	
	baz=209,SNR=22							
I21K	**Tanana**	**85.08**	**16**	P	**P**	**16 03 48.5**	**-0.1**	
	baz=220,SNR=257							
HARP	**HAARP**	**85.08**	**20**	P	**P**	**16 03 48.2**	**-0.6**	
	baz=226,SNR=24							
MCARA	**McCarthy VSAT**	**85.13**	**22**	IAmb	IAmb	16 03 55.1		
	comp=Z,90nm,1.0s							
MCARA	**McCarthy VSAT**	**85.13**	**22**	P	**P**	**16 03 48.3**	**-0.7**	
	baz=228,SNR=28							
GRNC	**Granite Creek**	**85.16**	**23**	IAmb	IAmb	16 03 50.5		
	comp=Z,74nm,0.8s							
TABL	**Table Mountain**	**85.20**	**23**	IAmb	IAmb	16 03 50.8		
	comp=Z,144nm,0.8s							
ZAK	**Zakamensk**	**85.21**	**325**	*e*P	**P**	**16 03 48.8**	**-1.0**	
ZAK				*e*		16 04 20.3		
ZAK				*e*		16 14 03.9		
ZAK				pmax	pmax			
	comp=Z,206nm,1.4s							
ZAK				pmax	pmax			
	comp=Z,181nm,1.6s							
ORV	**Oroville**	**85.22**	**47**	IAmb	IAmb	16 03 51.2		
	comp=Z,82nm,0.8s							
H21K	**Melozitna Rive**	**85.23**	**16**	IAmb	IAmb	16 03 51.1		
	comp=Z,145nm,1.1s							
H21K	**Melozitna Rive**	**85.23**	**16**	P	**P**	**16 03 49.6**	**+0.1**	
	baz=219,SNR=152							
YBH	**Yreka Blue Hor**	**85.23**	**45**	IAmb	IAmb	16 03 52.0		
	comp=Z,117nm,0.9s							
YBH	**Yreka Blue Hor**	**85.23**	**45**	LR	LR	16 33 07.0		
	comp=Z,27nm,20.4s,baz=258,slow=29							
IMAR	**Indian Mountai**	**85.25**	**15**	P	**P**	**16 03 48.7**	**-0.8**	
LSA	**Lhasa**	**85.29**	**302**	P	**P**	**16 03 50.3**	**-0.8**	
LSA				pmax	pmax			
	comp=Z,60nm,1.4s							
LSA				LR	LR			
	comp=Z,930nm,7.4s							
MLY	**Manley**	**85.30**	**17**	IAmb	IAmb	16 03 50.5		
	comp=Z,88nm,1.2s							
MLY	**Manley**	**85.30**	**17**	P	**P**	**16 03 48.8**	**-1.0**	
	baz=221,SNR=63							
PCA	**Pinnacle**	**85.32**	**24**	IAmb	IAmb	16 03 51.0		
	comp=Z,87nm,0.7s							
PINM	**Pinnacle**	**85.32**	**24**	P	**P**	**16 03 49.5**	**-0.5**	
	baz=230,SNR=20							
C17K	**DeLong Mountai**	**85.32**	**11**	P	**P**	**16 03 49.8**	**-0.1**	
	baz=209							
AFDM	**Forest Hills D**	**85.36**	**48**	IAmb	IAmb	16 03 52.0		
	comp=Z,126nm,0.8s							
PAX	**Paxson**	**85.38**	**20**	P	**P**	**16 03 48.8**	**-1.6**	
	baz=226,SNR=18							
PNL	**Peninsula**	**85.38**	**24**	P	**P**	**16 03 50.2**	**-0.1**	
PNL	**Peninsula**	**85.38**	**24**	P	**P**	**16 03 49.3**	**-1.0**	
	baz=231,SNR=6.0							
BARN	**Barnard Glacie**	**85.41**	**22**	IAmb	IAmb	16 03 52.0		
	comp=Z,127nm,0.9s							
CMB	**Columbia Colle**	**85.44**	**49**	IAmb	IAmb	16 03 52.4		
	comp=Z,97nm,0.8s							
NEA2	**Nenana**	**85.44**	**17**	IAmb	IAmb	16 03 60.0		
	comp=Z,102nm,1.2s							
NEA2	**Nenana**	**85.44**	**17**	P	**P**	**16 03 48.8**	**-1.7**	
	baz=222,SNR=78							
I02E	**Swisshome, OR**	**85.45**	**42**	IAmb	IAmb	16 03 52.5		
	comp=Z,95nm,0.9s							
CTG	**Chitna Glacier**	**85.47**	**23**	P	**P**	**16 03 50.3**	**-0.5**	
	baz=230,SNR=47							
CTGM	**Chitina Glacie**	**85.47**	**23**	IAmb	IAmb	16 03 52.1		
	comp=Z,133nm,0.8s							
LOGN	**Logan Glacier**	**85.50**	**23**	IAmb	IAmb	16 03 52.2		
	comp=Z,77nm,0.8s							
SIT	**Sitka**	**85.53**	**28**	P	**P**	**16 03 49.9**	**-1.1**	
	baz=235							
IRK	**Irkutsk**	**85.59**	**327**	*e*P	**P**	**16 03 50.3**	**-1.2**	
IRK				*e*		16 04 40.0		
IRK				*e*S	**SKSac**	**16 14 04.7**	**-0.3**	
IRK				pmax	pmax			
	comp=Z,368nm,2.0s							
VES	**Vestal, Richgr**	**85.61**	**51**	IAmb	IAmb	16 03 52.6		
	comp=Z,112nm,0.9s							
I03D	**Drain, OR**	**85.61**	**43**	IAmb	IAmb	16 03 52.9		
	comp=Z,80nm,0.9s							
E19K	**Redstone River**	**85.63**	**13**	IAmb	IAmb	16 03 53.3		
	comp=Z,175nm,1.0s							
E19K	**Redstone River**	**85.63**	**13**	P	**P**	**16 03 51.6**	**+0.3**	
	baz=214							
F20K	**Avaraart Lake**	**85.63**	**14**	IAmb	IAmb	16 03 53.1		
	comp=Z,145nm,1.1s							
F20K	**Avaraart Lake**	**85.63**	**14**	P	**P**	**16 03 51.8**	**+0.5**	

COLA College 86.01 18 P P 16 03 51.7 -1.5
U33K Whale Pass 86.02 29 P P 16 03 53.1 -0.4
baz=237
P29M Windy Craggy 86.02 25 P P 16 03 53.1 -0.4
baz=233,SNR=18
BUCK Buck Mountain 86.05 43 IAmb IAmb 16 03 55.9
comp=Z,145nm,1.0s
O29M Mount Kennedy 86.10 24 P P 16 03 52.6 -1.4
baz=232,SNR=7.6
S32K Killisnoo 86.10 27 P P 16 03 52.9 -0.9
baz=236
RIDG Independent Ri 86.12 19 P P 16 03 52.8 -1.1
baz=226,SNR=87
CCX Cicese 86.12 56 IAmb IAmb 16 03 56.3
comp=Z,118nm,0.9s
L26K Log Cabin Wild 86.12 20 IAmb IAmb 16 03 55.4
comp=Z,71nm,1.1s
L26K Log Cabin Wild 86.12 20 P P 16 03 52.4 -1.5
baz=228,SNR=35
R31K City Hall, Gus 86.13 26 P P 16 03 52.2 -1.8
baz=235
BFSC Mount Baldy Ra 86.14 53 IAmb IAmb 16 03 55.6
comp=Z,81nm,0.9s
MPK Martis Peak 86.17 48 IAmb IAmb 16 03 56.7
comp=Z,116nm,0.9s
M27K Edge Creek, AK 86.18 21 IAmb IAmb 16 03 55.9
comp=Z,74nm,1.0s
M27K Edge Creek, AK 86.18 21 P P 16 03 53.9 -0.4
baz=229,SNR=62
IL31 86.22 18 IAmb IAmb 16 03 54.6
comp=Z,97nm,0.8s
ILAR Eielson Array 86.22 18 P P 16 03 52.4 -1.9
ILAR Eielson Array 86.22 18 P P 16 03 53.6 -0.7
comp=Z,74nm,0.8s,baz=235,slow=5.2,SNR=387
ILAR S SKSac 16 14 07.9 -0.5
comp=Z,17nm,1.2s,baz=260,slow=8.6,SNR=13
ILAR PKKP PKKPdf 16 21 48.2 -0.2
comp=Z,1.2nm,0.4s,baz=3.7,slow=1.2,SNR=7.9
ILAR PKPPKP P'P'df 16 29 53.0 -4.7
comp=Z,1.3nm,0.9s,baz=6.1,slow=4.3,SNR=4.4
ILAR LR LR 16 36 01.2
comp=Z,1µm,21.9s,baz=219,slow=31
comp=Z,74nm,0.8s
H23K Yukon River 86.23 16 IAmb IAmb 16 04 57.5
comp=Z,87nm,1.1s
H23K Yukon River 86.23 16 P P 16 03 54.2 -0.1
baz=222,SNR=33
K04D Chiloquin, OR 86.24 44 IAmb IAmb 16 03 56.7
comp=Z,112nm,0.8s
YUK8 Steele Glacier 86.26 23 P P 16 03 53.6 -1.3
baz=231,SNR=55
CBX Cerro Bola 86.27 55 IAmb IAmb 16 03 57.2
comp=Z,86nm,0.9s
DPP Dos Picos Cty 86.28 55 IAmb IAmb 16 03 56.9
comp=Z,81nm,0.8s
G03D McMinnville, O 86.29 42 IAmb IAmb 16 03 56.9
comp=Z,155nm,0.8s
F21K Alatna River 86.30 14 IAmb IAmb 16 03 56.1
comp=Z,105nm,1.0s
F21K Alatna River 86.30 14 P P 16 03 54.6 0.0
baz=218,SNR=47
D19K Kuna River 86.31 12 IAmb IAmb 16 03 56.4
comp=Z,203nm,1.1s
D19K Kuna River 86.31 12 P P 16 03 54.9 +0.2
baz=214
POKR Poker Flat Res 86.31 18 IAmb IAmb 16 03 54.9
comp=Z,56nm,0.8s
POKR Poker Flat Res 86.31 18 P P 16 03 53.1 -1.6
baz=224,SNR=18
WAKR Walker 86.31 49 IAmb IAmb 16 03 57.5
comp=Z,109nm,1.0s
DOT Dot Lake 86.31 20 IAmb IAmb 16 03 57.2
comp=Z,90nm,1.0s
YUK3 Moose Creek 86.31 22 P P 16 03 54.2 -0.9
baz=230,SNR=46
V35K Ketchikan 86.31 30 P P 16 03 53.3 -1.7
baz=238
B18K Kokolik River 86.34 11 P P 16 03 55.3 +0.5
baz=210,SNR=10
H04D Lebanon 86.35 42 IAmb IAmb 16 03 57.1
comp=Z,118nm,0.9s
F03A Seaside 86.40 41 IAmb IAmb 16 03 57.3
comp=Z,152nm,0.9s
PLBC Pleasant Camp 86.48 25 P P 16 03 54.2 -1.5
baz=234,SNR=17
E20K Nigu River 86.51 13 P P 16 03 55.8 0.0
baz=215
OZB Mount Ozzard 86.52 38 IAmb IAmb 16 03 57.7
comp=Z,70nm,0.9s
C19K Lookout Ridge 86.53 11 P P 16 03 56.2 +0.4
baz=212
BBB Bella Bella 86.53 34 LR LR 16 38 17.6
comp=Z,1µm,18.5s,baz=247,slow=32
WRAK Wrangell Islan 86.55 29 P P 16 03 56.0 -0.1
baz=238,SNR=6.4
G22K Bettles 86.55 15 P P 16 03 55.8 0.0
baz=220
LRMC Laurel Mtn Rad 86.55 52 IAmb IAmb 16 03 58.0
comp=Z,80nm,0.9s
SCRK Sand Creek 86.56 19 IAmb IAmb 16 03 57.2
comp=Z,65nm,0.9s
SCRK Sand Creek 86.56 19 P P 16 03 55.5 -0.7
baz=227,SNR=120
J25K Salcha River, 86.57 19 IAmb IAmb 16 03 58.3
comp=Z,138nm,0.8s
J25K Salcha River, 86.57 19 P P 16 03 54.8 -1.3
baz=226,SNR=232
YUK6 Outpost Mounta 86.58 23 P P 16 03 55.6 -0.8
baz=232,SNR=11
BVCY Beaver Creek 86.58 22 P P 16 03 56.1 -0.1
baz=230,SNR=12
R32K Eaglecrest 86.58 27 P P 16 03 56.1 -0.1
baz=236,SNR=9.6
BESE Bessie Mountai 86.61 26 IAmb IAmb 16 03 57.5
comp=Z,69nm,1.0s
P30M Million Dollar 86.63 25 P P 16 03 56.4 -0.1
baz=233
JIS Juneau Island 86.64 27 P P 16 03 59.1 +2.6
L27K Beaver Creek, 86.67 21 P P 16 03 56.1 -0.5
baz=229,SNR=47
VTX Valle De La Tr 86.68 57 IAmb IAmb 16 03 59.5
comp=Z,80nm,0.9s
BCAR Beaver Creek A 86.68 21 P P 16 03 55.0 -1.7
H24K Noodor Dome 86.70 17 P P 16 03 55.0 -1.7
baz=223,SNR=17
DNR Dunn Ranch,Anz 86.72 54 IAmb IAmb 16 03 59.3
comp=Z,102nm,0.8s
YUK4 Talbot Arm 86.72 23 P P 16 03 56.2 -0.9
baz=232,SNR=19
CLC China Lake 86.73 52 IAmb IAmb 16 03 59.3
comp=Z,106nm,0.8s
WSHM Spangler Hills 86.73 52 IAmb IAmb 16 03 59.3
comp=Z,90nm,0.8s
G23K Bananza Creek 86.77 16 IAmb IAmb 16 03 58.8
comp=Z,81nm,1.1s
G23K Bananza Creek 86.77 16 P P 16 03 56.9 -0.1
baz=221,SNR=56
H04A Detroit Lake 86.77 42 IAmb IAmb 16 03 58.6
comp=Z,131nm,1.0s
PAHR Pah Rah Range 86.78 48 IAmb IAmb 16 03 59.0
comp=Z,80nm,1.0s
D20K Etivluk River 86.80 12 P P 16 03 57.4 +0.3
baz=215
NLWA Neilton Lookou 86.82 39 IAmb IAmb 16 03 59.6
comp=Z,64nm,0.9s
F22K John River 86.83 15 P P 16 03 57.3 +0.1
baz=219,SNR=18
HYT Haines Junctio 86.84 24 P P 16 03 56.0 -1.6
baz=233,SNR=20
K05A Summer Lake 86.86 45 IAmb IAmb 16 04 00.0
comp=Z,154nm,0.8s
PFO Pinyon Flats O 86.86 54 LR LR 16 34 29.9
comp=Z,1µm,21.5s,baz=256,slow=30
MPMC Manual Prospec 86.89 52 IAmb IAmb 16 04 00.1
comp=Z,56nm,0.8s
SKAG Skagway 86.91 26 P P 16 03 57.3 -0.4
baz=235,SNR=10
PMD Palm Desert 86.94 54 IAmb IAmb 16 04 00.1
comp=Z,75nm,0.8s
YUH Yuha Desert 86.97 55 IAmb IAmb 16 04 00.6
comp=Z,77nm,0.9s
DSP Deep Springs 86.98 50 IAmb IAmb 16 04 00.6
comp=Z,134nm,0.9s
RYN Ryan 87.02 49 IAmb IAmb 16 04 00.6
comp=Z,52nm,0.8s
J26L Joseph Creek 87.06 19 P P 16 03 57.6 -0.9
baz=227,SNR=60
CBB Campbell River 87.08 37 IAmb IAmb 16 04 01.1
comp=Z,111nm,1.0s
MOY Mondy 87.09 325 eP P 16 03 58.3 -0.7
MOY pmax pmax
comp=Z,249nm,3.0s
NVAR Mina Array Bea 87.11 49 P P 16 03 58.9 -0.6
NVAR Mina Array Bea 87.11 49 P P 16 03 59.2 -0.4
comp=Z,56nm,0.9s,baz=231,slow=7.5,SNR=208
NVAR PKKPbc PKKPbc 16 21 52.2 -0.1
comp=Z,1.6nm,0.7s,baz=76,slow=3.5,SNR=8.6
NVAR PKPPKP P'P'df 16 29 50.5 -7.8
comp=Z,0.6nm,0.7s,baz=111,slow=3.8,SNR=3.6
comp=Z,56nm,0.9s
COLD Coldfoot 87.11 15 P P 16 03 58.9 +0.3
baz=221,SNR=50
E21K Killik River 87.15 13 IAmb IAmb 16 04 00.5
comp=Z,160nm,1.1s
E21K Killik River 87.15 13 P P 16 03 58.9 0.0
baz=218,SNR=43
PRP Porcupine Dome 87.16 18 P P 16 03 57.3 -1.7
baz=226,SNR=29
A19K Wainwright 87.20 10 P P 16 03 58.9 0.0
baz=211
K27K Chicken 87.22 20 IAmb IAmb 16 04 00.9
comp=Z,72nm,1.1s
K27K Chicken 87.22 20 P P 16 03 58.9 -0.3
baz=229
PINE Pine Mountain 87.24 44 IAmb IAmb 16 04 01.9
comp=Z,136nm,0.9s
CLRS Cowichan Lake 87.27 38 IAmb IAmb 16 04 01.4
comp=Z,96nm,0.9s
B04A Port Angeles 87.33 39 IAmb IAmb 16 04 02.0
comp=Z,106nm,0.9s
QSM Queen of Sheba 87.33 52 IAmb IAmb 16 04 01.9
comp=Z,68nm,0.8s
BELC Belle Mtn. Jos 87.36 54 IAmb IAmb 16 04 02.5
comp=Z,142nm,0.8s
HOOD Mount Hood Mea 87.38 42 IAmb IAmb 16 04 01.9
comp=Z,151nm,0.9s
N30M Aishikik Lake 87.38 23 P P 16 03 59.2 -0.9
baz=233,SNR=8.2
U35K Hyder 87.39 30 P P 16 04 00.1 0.0
baz=240
E22K Anaktuvuk Pass 87.41 14 IAmb IAmb 16 04 01.9
comp=Z,125nm,1.2s
E22K Anaktuvuk Pass 87.41 14 P P 16 04 00.8 +0.7
baz=220,SNR=34
G24K Hadweenzic Riv 87.44 16 IAmb IAmb 16 04 05.1
comp=Z,77nm,1.1s
G24K Hadweenzic Riv 87.44 16 P P 16 03 59.9 -0.3
baz=224,SNR=41
M29M Somme Creek 87.47 22 P P 16 03 60.0 -0.6
baz=232,SNR=17
FURC Furnace Creek, 87.51 52 IAmb IAmb 16 04 03.0
comp=Z,143nm,0.8s
C21K Knifeblade Rid 87.55 13 P P 16 04 01.6 +1.0
baz=217,SNR=29
GWY Greenwater Val 87.56 52 IAmb IAmb 16 04 02.6
comp=Z,62nm,1.0s
H25L Birch Creek 87.60 17 P P 16 04 02.1 +1.2
baz=225
PGC Sidney 87.61 38 IAmb IAmb 16 04 02.9
comp=Z,115nm,1.0s
P32M Atlin 87.67 26 P P 16 04 02.1 +0.7
baz=236,SNR=13
BC3 Big Chuckawall 87.67 55 IAmb IAmb 16 04 03.8
comp=Z,93nm,1.0s
I26K Coal Creek Min 87.73 19 IAmb IAmb 16 04 03.6
comp=Z,145nm,1.4s
I26K Coal Creek Min 87.73 19 P P 16 04 01.1 -0.5
baz=228
B20K Meade River 87.76 12 IAmb IAmb 16 04 03.4
comp=Z,138nm,1.2s
B20K Meade River 87.76 12 P P 16 04 02.1 +0.5
baz=214,SNR=6.5
TPH Tonopah 87.78 50 IAmb IAmb 16 04 39.8
comp=Z,76nm,1.3s
WHY Whitehorse 87.79 25 P P 16 04 01.2 -0.9
baz=235,SNR=9.6
D22K Ayikyak River 87.79 14 IAmb IAmb 16 04 04.2
comp=Z,140nm,0.9s
D22K Ayikyak River 87.79 14 P P 16 04 02.7 +0.8
baz=219,SNR=31
WCT Wildcat Mounta 87.80 51 IAmb IAmb 16 04 03.9
comp=Z,80nm,0.9s
T35M Bob Quinn 87.83 29 P P 16 04 01.2 -1.1
baz=239
G25K Bearman Lake 87.87 17 P P 16 04 01.3 -0.9
baz=225,SNR=27
E23K Chandalar 87.89 15 IAmb IAmb 16 04 07.7
comp=Z,101nm,1.3s
E23K Chandalar 87.89 15 P P 16 04 02.2 -0.2
baz=222,SNR=25
S34M Telegraph Cree 87.90 28 P P 16 04 02.0 -0.6
baz=239,SNR=17
D05A Enumclaw 87.91 40 IAmb IAmb 16 04 04.4
comp=Z,164nm,1.0s
N31M Braeburn, Yuko 87.91 24 P P 16 04 01.9 -0.7
baz=234,SNR=14
F24K Squaw Lake 87.93 16 P P 16 04 02.8 +0.2
baz=223,SNR=32
Q32M Nakina River 87.94 27 P P 16 04 02.3 -0.7
baz=238,SNR=7.0
B21K Ikpikpuk River 87.95 13 IAmb IAmb 16 04 04.6
comp=Z,156nm,1.1s
B21K Ikpikpuk River 87.95 13 P P 16 04 02.4 -0.1
baz=217,SNR=15
GLA Glamis 87.98 55 IAmb IAmb 16 04 05.9
comp=Z,139nm,0.8s
L29M L29M 88.00 22 P P 16 04 01.9 -1.1
baz=232,SNR=19
DANC Danby, Needles 88.05 54 IAmb IAmb 16 04 05.8
comp=Z,101nm,0.8s
Q09A Carvers 88.08 49 IAmb IAmb 16 04 05.3
comp=Z,63nm,0.9s
IRM Iron Mountain 88.08 54 IAmb IAmb 16 04 06.1
comp=Z,123nm,0.9s
DAWY Dawson 88.15 21 P P 16 04 02.3 -1.4
baz=231,SNR=29
M30M Minto, Yukon 88.16 23 P P 16 04 02.4 -1.4
baz=234,SNR=23
E24K Your Creek 88.18 15 P P 16 04 04.2 +0.4
baz=223,SNR=9.8
MTPC Mountain Pass 88.19 53 IAmb IAmb 16 04 06.4
comp=Z,83nm,0.9s
WVOR Wild Horse Val 88.30 45 IAmb IAmb 16 04 06.4
comp=Z,108nm,1.4s
WVOR Wild Horse Val 88.30 45 P P 16 04 04.9 -0.1
D23K Nanushuk River 88.32 14 IAmb IAmb 16 04 06.9
comp=Z,144nm,0.9s
D23K Nanushuk River 88.32 14 P P 16 04 05.4 +1.1
baz=221,SNR=43
TOLK Toolik Lake Re 88.33 15 P P 16 04 04.7 +0.2
baz=222,SNR=11
PALK Pallekele 88.39 278 P P 16 04 07.2 +1.3
PALK IAmb IAmb 16 04 42.2
comp=Z,72nm,1.1s
PALK Pallekele 88.39 278 LR LR 16 45 00.9
comp=Z,420nm,20.0s,baz=104,slow=36
PALK Pallekele 88.39 278 P P 16 04 06.9 +1.0
PALK Pallekele 88.39 278 P P 16 04 07.3 +1.3
PALK pmax pmax
comp=Z,72nm,1.1s
PALK Pallekele 88.39 278 P P 16 04 07.7 +1.8
P33M Teslin, Yukon 88.39 26 P P 16 04 04.1 -0.9
baz=237,SNR=11
I27K Kandik River 88.41 19 P P 16 04 03.8 -1.1
baz=229,SNR=21
F25K Christian Rive 88.59 16 P P 16 04 06.0 +0.4
baz=225,SNR=23
PIX Pinacate 88.61 57 IAmb IAmb 16 04 07.7
comp=Z,48nm,0.9s
G26K Porcupine Rive 88.66 17 IAmb IAmb 16 04 09.0
comp=Z,135nm,1.0s
G26K Porcupine Rive 88.66 17 P P 16 04 05.7 -0.2
baz=227,SNR=101
K29M Barlow Dome 88.66 21 P P 16 04 05.5 -0.7
baz=233,SNR=15
DLBC Dease Lake 88.67 28 LR LR 16 34 49.0
comp=Z,697nm,21.1s,baz=227,slow=29
DLBC Dease Lake 88.67 28 P P 16 04 06.1 -0.2
baz=240,SNR=15
F07A Phinny Hill Vi 88.71 42 IAmb IAmb 16 04 08.3
comp=Z,81nm,0.9s
113A Mohawk Valley, 88.73 56 IAmb IAmb 16 04 08.6
comp=Z,65nm,0.9s
MXC Moxie City 88.74 41 IAmb IAmb 16 04 08.4
comp=Z,55nm,0.9s
R33M Jennings River 88.74 27 P P 16 04 05.8 -0.9
baz=239,SNR=13
LTY Liberty 88.76 40 IAmb IAmb 16 04 08.2
comp=Z,68nm,0.8s
BMAR Burnt Mountain 88.76 17 P P 16 04 06.1 -0.4
B22K Teshekpuk Lake 88.78 12 IAmb IAmb 16 04 09.1
comp=Z,163nm,1.1s
B22K Teshekpuk Lake 88.78 12 P P 16 04 04.2 -2.2
baz=218
N32M Quiet Lake 88.79 25 P P 16 04 04.1 -2.6
baz=237
V12A Nelson 88.80 53 IAmb IAmb 16 04 08.8
comp=Z,66nm,0.9s
SHPR Sheep Range 88.82 52 IAmb IAmb 16 04 09.2
comp=Z,55nm,1.0s
I28M Miner Creek 88.84 19 P P 16 04 05.0 -2.0
baz=231,SNR=11
H27K Steamboat Moun 88.85 18 P P 16 04 06.4 -0.6
baz=229,SNR=15
M31M Drury Creek, Y 88.86 24 P P 16 04 06.2 -0.9
baz=236
D24K Happy Valley 88.90 14 IAmb IAmb 16 04 24.3
comp=Z,71nm,1.1s
D24K Happy Valley 88.90 14 P P 16 04 07.0 -0.1
baz=222,SNR=7.5
A21K Barrow 88.94 11 P P 16 04 07.1 -0.1
baz=215
E25K Arctic Village 88.98 16 P P 16 04 07.1 -0.4
baz=225,SNR=7.0
A22K Sinclair Lake 89.00 12 P P 16 04 07.0 -0.4
baz=216
C23K Itkillik River 89.00 13 P P 16 04 07.2 -0.3
baz=221,SNR=27
SYO Syowa Base 89.02 197 ⇑ iP P 16 04 07.4 -0.3
SYO Syowa Base 89.02 197 ⇓ iPcP PcP 16 04 10.3 +1.2
SYO Syowa Base 89.02 197 ⇓ ipP pP 16 04 39.0 -0.9
SYO Syowa Base 89.02 197 ⇓ isP sP 16 04 50.4 -2.7
F26K Sheenjek River 89.07 17 P P 16 04 07.7 -0.2
baz=227,SNR=8.7
MAYO Mayo, Yukon 89.10 22 IAmb IAmb 16 04 22.3
comp=Z,41nm,0.8s
MAYO Mayo, Yukon 89.10 22 P P 16 04 06.8 -1.3
baz=234
LPIG La Paz 89.13 65 LR LR 16 35 28.7
comp=Z,362nm,21.2s,baz=260,slow=30
HAWA Hanford 89.15 42 IAmb IAmb 16 04 10.6
comp=Z,109nm,0.9s
G27K Doyon Strip 89.19 18 P P 16 04 07.8 -0.7
baz=229,SNR=12
214A Organ Pipe Nat 89.26 57 IAmb IAmb 16 04 11.4
comp=Z,80nm,1.0s
WAH2 Wahluke Slope 89.27 41 IAmb IAmb 16 04 10.9
comp=Z,88nm,0.9s
I29M Ogilvie Camp, 89.32 20 P P 16 04 07.4 -1.7
baz=232
LLLB Lillooet 89.34 37 IAmb IAmb 16 04 11.2
comp=Z,69nm,1.0s
C24K Franklin Bluff 89.35 14 IAmb IAmb 16 04 11.6
comp=Z,144nm,1.1s
C24K Franklin Bluff 89.35 14 P P 16 04 08.0 -1.1
baz=222,SNR=7.6
W13A Hualapai Mount 89.36 54 IAmb IAmb 16 04 12.2
comp=Z,101nm,0.9s
YPT Yellepit 89.39 42 IAmb IAmb 16 04 11.4
comp=Z,50nm,0.8s
J30M Hart River 89.52 21 P P 16 04 08.2 -2.0
baz=234
TIXI Tiksi 89.60 349 P P 16 04 09.5 -0.8
TIXI Tiksi 89.60 349 P P 16 04 09.6 -0.6
comp=Z,229nm,1.0s,baz=165,slow=5.0,SNR=186
TIXI LR LR 16 43 08.4
comp=Z,346nm,19.5s,baz=152,slow=35
comp=Z,229nm,1.0s
TIXI Tiksi 89.60 349 d iP P 16 04 09.6 -0.6
TIXI pmax pmax
comp=Z,259nm,1.0s
D25K Kavik River 89.62 15 P P 16 04 09.6 -0.9
baz=225
D08A Wollman Farm, 89.79 41 IAmb IAmb 16 04 13.4
comp=Z,90nm,1.0s
H29M Whitestone 89.83 19 P P 16 04 10.2 -1.2
baz=232,SNR=5.8
I30M Mount Dempster 89.89 21 P P 16 04 10.5 -1.4
baz=234,SNR=18
B08A Colville Reser 90.01 40 IAmb IAmb 16 04 14.0
comp=Z,104nm,1.1s
WTLY Watson Lake, Y 90.06 27 P P 16 04 11.4 -1.3
baz=241
BMO Blue Mountains 90.06 44 IAmb IAmb 16 04 14.6
comp=Z,104nm,0.9s
E27K Coleen River 90.11 17 P P 16 04 11.7 -1.1
baz=229,SNR=12
ELK Elko 90.12 48 IAmb IAmb 16 04 15.4
comp=Z,68nm,0.9s
ELK Elko 90.12 48 S SKSac 16 14 34.0 +0.6
comp=Z,1.0nm,0.7s,baz=316,slow=22,SNR=7.7
ELK PKKPbc PKKPbc 16 21 44.1 -1.0
comp=Z,1.5nm,0.6s,baz=354,slow=2.7,SNR=8.1
ELK LR LR 16 42 47.9
comp=Z,442nm,18.0s,baz=254,slow=34
ELK Elko 90.12 48 P P 16 04 13.5 -0.2
SPR3 Spring Creek 3 90.23 50 IAmb IAmb 16 04 15.9
comp=Z,110nm,0.8s
F28M Old Crow 90.24 18 P P 16 04 12.3 -1.1
baz=231,SNR=8.0
MMPY Sheldon Lake, 90.31 24 P P 16 04 12.6 -1.3
baz=238,SNR=7.1
G29M Pine Creek 90.37 19 IAmb IAmb 16 04 21.5
comp=Z,96nm,1.6s
G29M Pine Creek 90.37 19 P P 16 04 13.0 -0.9
baz=232,SNR=13
C26K Camden Bay 90.41 15 P P 16 04 12.9 -1.1
baz=226
LCMT Little Creek M 90.44 52 IAmb IAmb 16 04 17.1
comp=Z,117nm,0.9s
PSUT Pine Spring 90.44 50 IAmb IAmb 16 04 16.9
comp=Z,65nm,0.8s
EPYK Eagle Plains 90.45 20 P P 16 04 13.1 -1.3
baz=234,SNR=7.2
CCUT Cedar City 90.51 51 IAmb IAmb 16 04 17.8
comp=Z,65nm,0.8s
C27K Jago River 90.51 15 P P 16 04 13.6 -0.9
baz=227
MFID Camas Ranch 90.58 45 IAmb IAmb 16 04 17.2
comp=Z,92nm,0.8s
SZCU Shurtz Canyon 90.73 51 IAmb IAmb 16 04 18.1
comp=Z,60nm,0.9s
KNB Kanab 90.76 52 IAmb IAmb 16 04 18.4
comp=Z,86nm,1.0s
H31M Peel River 90.92 21 P P 16 04 15.4 -1.2
baz=236,SNR=11
LIRD Liard River Hi 90.92 28 P P 16 04 15.0 -1.7
baz=243,SNR=16
E28M Babbage River 90.97 17 P P 16 04 15.6 -1.1
baz=231,SNR=9.5
TGTN Hyland Airport 90.97 26 P P 16 04 16.0 -0.9
baz=241,SNR=7.7
G30M tAoh Zrail Nji 90.98 19 P P 16 04 15.1 -1.8
baz=234,SNR=18
D27M Malcolm River 90.98 16 P P 16 04 15.1 -1.7
baz=230
TUC Tucson 91.01 57 P P 16 04 18.4 +0.5
TUC Tucson 91.01 57 P P 16 04 18.4 +0.5
PLID Pearl Lake 91.01 44 IAmb IAmb 16 04 18.8
comp=Z,101nm,0.9s
TOAD Toad River Com 91.07 29 P P 16 04 15.4 -2.1
baz=244,SNR=5.9
X16A Lo Mia Camp, P 91.08 55 IAmb IAmb 16 04 20.5
comp=Z,70nm,0.9s
E29M Blow River 91.31 18 P P 16 04 16.7 -1.6
baz=232
NEW Newport 91.35 40 IAmb IAmb 16 04 20.2
comp=Z,77nm,0.9s
NEW Newport 91.35 40 LR LR 16 43 08.7
comp=Z,698nm,18.1s,baz=260,slow=34
NEW Newport 91.35 40 P P 16 04 18.4 -0.6
WUAZ Wupatki 91.44 54 IAmb IAmb 16 04 22.0
comp=Z,71nm,0.8s
F30M Barrier River 91.48 19 P P 16 04 17.3 -1.8
baz=234,SNR=7.7
TCRU Three Creeks R 91.51 51 IAmb IAmb 16 04 23.0
comp=Z,85nm,0.8s
MTPU Mount Pierson 91.55 51 IAmb IAmb 16 04 23.1
comp=Z,80nm,0.9s
G31M Satah River 91.57 20 P P 16 04 17.7 -1.8
baz=236,SNR=6.1
HLID Hailey 91.60 45 IAmb IAmb 16 04 22.3
comp=Z,37nm,0.9s
D28M Stokes Point 91.65 17 P P 16 04 18.5 -1.3

baz=232
BGU Big Grassy Mou 91.77 48 IAmb IAmb 16 04 58.7
comp=Z,64nm,1.4s
F31M Tsiigehtchic 92.03 19 IAmb IAmb 16 04 29.7
comp=Z,54nm,1.5s
F31M Tsiigehtchic 92.03 19 P **P** **16 04 19.9 -1.7**
baz=236,SNR=6.0
PMSA Palmer Station 92.13 160 P **P** **16 04 21.7 -0.5**
PMSA Palmer Station 92.13 160 LR LR 16 39 38.5
comp=Z,578nm,20.6s,baz=235,slow=31
PMSA Palmer Station 92.13 160 *e*P **P** **16 04 21.8 -0.5**
PMSA *e*pP **pP** **16 04 52.9 -1.2**
KOTAN Kotaneelee Air 92.17 28 P **P** **16 04 20.6 -1.8**
baz=245
HVU Hansel Valley 92.21 47 IAmb IAmb 16 05 00.8
comp=Z,132nm,1.6s
X18A Snowflake 92.29 55 IAmb IAmb 16 04 25.8
comp=Z,56nm,0.8s
WMQ Urumqi 92.41 315 P **P** **16 04 23.0 -1.0**
WMQ pP pP 16 04 56.0 0.0
WMQ sP sP 16 05 09.8 +0.8
WMQ PP **PP** **16 08 04.3 -2.6**
WMQ SKS **SKSac** **16 14 44.5 -1.4**
WMQ S **S** **16 15 13.1 -4.0**
WMQ pmax pmax
comp=Z,57nm,1.5s
WMQ pmax pmax
comp=Z,540nm,3.8s
WMQ LR LR
comp=Z,860nm,23.9s
WMQ LR LR
comp=Z,780nm,24.2s
MPU Maple Canyon 92.52 49 IAmb IAmb 16 05 02.5
comp=Z,82nm,1.5s
Q16A Castle Valley 92.56 51 IAmb IAmb 16 05 03.2
comp=Z,124nm,1.5s
INK Inuvik 92.58 19 LR LR 16 41 04.1
comp=Z,1μm,21.1s,baz=229,slow=32
INK Inuvik 92.58 19 P **P** **16 04 22.2 -1.9**
baz=236
HMU Henry Mountain 92.61 52 IAmb IAmb 16 04 31.4
comp=Z,28nm,0.9s
CTU Camp Tracy 92.63 49 IAmb IAmb 16 04 26.9
comp=Z,31nm,0.8s
TMUT Trail Mountain 92.64 50 IAmb IAmb 16 04 27.6
comp=Z,33nm,0.7s
JLU Jordanelle 92.83 49 IAmb IAmb 16 04 28.4
comp=Z,30nm,0.8s
HYB Hyderabad 92.93 287 *e*P **P** **16 04 27.3 +0.3**
HYB *e*pP **pP** **16 04 57.2 -1.5**
HYB *e*PP **PP** **16 08 11.0 -0.4**
HYB *e*SKSac **SKSac** **16 14 49.8 +0.1**
TCUT Toone Canyon 93.00 48 IAmb IAmb 16 04 33.3
comp=Z,44nm,0.8s
SRU San Rafael Swe 93.09 51 IAmb IAmb 16 04 29.0
comp=Z,26nm,0.8s
TROLL Troll, Antarti 93.21 185 ⇑P **P** **16 04 26.4 -1.0**
comp=Z,5μm,0.8s
TROLL ⇓pP **pP** **16 04 58.7 -0.8**
TROLL ⇑x x 16 21 34.3
comp=Z,780nm,0.9s
BSUT Blindstream Ca 93.31 49 IAmb IAmb 16 04 30.5
comp=Z,52nm,0.9s
DLMT Dillon 93.38 44 IAmb IAmb 16 04 30.6
comp=Z,54nm,0.8s
P18A Preston Nutter 93.44 50 IAmb IAmb 16 04 30.9
comp=Z,32nm,0.7s
WRGLY Wrigley 93.74 25 P **P** **16 04 26.7 -2.9**
baz=245
PV05 Paradox Valley 93.90 52 IAmb IAmb 16 04 32.9
comp=Z,38nm,0.8s
SNAA Sanae 93.90 183 ⇑P **P** **16 04 29.3 -1.2**
comp=Z,1μm,0.9s
SNAA ⇑pP **pP** **16 05 01.9 -0.7**
SNAA ⇑x x 16 21 31.4
comp=Z,127nm,0.8s
SNAA Sanae 93.90 183 P **P** **16 04 29.4 -1.1**
comp=Z,82nm,1.1s,baz=197,slow=5.7,SNR=131
SNAA PKKPbc **PKKPdf** **16 21 31.8 -1.3**
comp=Z,7.1nm,0.9s,baz=200,slow=1.8,SNR=16
SNAA SKKPbc SKKPbc 16 25 01.6 0.0
comp=Z,6.0nm,0.9s,baz=14,slow=0.4,SNR=12
SNAA LR LR 16 45 48.6
comp=Z,784nm,19.1s,baz=170,slow=35
comp=Z,82nm,1.1s
SNAA Sanae 93.90 183 ⇑*i*P **P** **16 04 29.5 -0.9**
SNAA pmax pmax
comp=Z,205nm,1.4s
PV14 Lion Creek, Pa 94.03 52 IAmb IAmb 16 04 33.1
comp=Z,36nm,0.8s
PV17 East Wray Mesa 94.06 52 IAmb IAmb 16 04 33.1
comp=Z,27nm,0.8s
PV16 Nyswonger Mesa 94.10 52 IAmb IAmb 16 04 34.9
comp=Z,23nm,0.8s
PV11 David Mesa, Pa 94.12 52 IAmb IAmb 16 04 38.8
comp=Z,31nm,0.8s
MVCO Mesa Verde 94.13 53 IAmb IAmb 16 08 19.4
comp=Z,42nm,1.4s
PV02 Paradox Valley 94.20 52 IAmb IAmb 16 04 33.8
comp=Z,42nm,0.8s
PV01 Paradox Valley 94.31 52 IAmb IAmb 16 04 34.2
comp=Z,29nm,0.8s
Y22A Socorro 94.53 56 IAmb IAmb 16 04 35.9
comp=Z,29nm,0.8s
VNA3 Neumayer Olymp 94.57 181 ⇑P **P** **16 04 32.1 -1.4**
comp=Z,115nm,0.7s
VNA3 ⇑pP **pP** **16 05 05.0 -0.6**
VNA3 ⇑x x 16 21 28.9
comp=Z,4.8nm,0.8s
Y22D IRIS PASSCAL I 94.60 56 P P 16 04 28.9 -5.5
baz=256
PDAR Pinedale Array 94.78 47 P **P** **16 04 33.5 -1.6**
PDAR Pinedale Array 94.78 47 P **P** **16 04 34.0 -1.1**
comp=Z,7.3nm,0.8s,baz=205,slow=4.1,SNR=21
PDAR PP **PP** **16 08 23.4 -2.2**
comp=Z,3.9nm,0.9s,baz=237,slow=5.1,SNR=4.3
PDAR S **SKSac** **16 14 59.8 +0.5**
comp=Z,0.2nm,0.5s,baz=256,slow=18,SNR=1.4
PDAR PKKPbc **PKKPdf** **16 21 30.9 -2.0**
comp=Z,3.2nm,0.8s,baz=86,slow=5.0,SNR=12
PDAR LR LR 16 46 06.0
comp=Z,210nm,18.1s,baz=247,slow=35
comp=Z,7.3nm,0.8s
VNA2 Neumayer--Watz 94.83 182 ⇑P **P** **16 04 33.6 -1.0**
comp=Z,80nm,0.7s,baz=184,slow=3.6
VNA2 ⇑pP **pP** **16 05 06.6 -0.3**
baz=159,slow=3.8
VNA2 ⇑x x 16 21 29.9
comp=Z,3.0nm,0.7s,baz=242,slow=29
O20A White River Ci 95.06 50 IAmb IAmb 16 04 37.7
comp=Z,43nm,0.8s
VNA1 Neumayer--Stat 95.13 182 ⇑P **P** **16 04 34.6 -1.4**
comp=Z,82nm,0.9s
VNA1 ⇑x x 16 21 29.2
comp=Z,6.6nm,1.0s
ANMO Albuquerque 95.18 55 P **P** **16 04 36.6 -0.5**
ANMO Albuquerque 95.18 55 LR LR 16 40 53.0
comp=Z,887nm,19.8s,baz=346,slow=31
ANMO Albuquerque 95.18 55 P **P** **16 04 36.7 -0.5**
ANMO pmax pmax
comp=Z,20nm,1.0s
ZSN Zaisan 95.34 318*d* *i*P **P** **16 04 37.3 0.0**
ZSN pmax pmax
comp=Z,114nm,2.5s
ZSN Zaisan 95.34 318 ⇓*i*P **P** **16 04 37.4 0.0**
comp=Z,114nm,2.5s
RLMT Red Lodge 95.58 45 IAmb IAmb 16 04 43.2
comp=Z,46nm,1.8s
HAYD Hayden 95.89 50 IAmb IAmb 16 04 41.7
comp=Z,20nm,0.9s
C36M Paulatuk 96.09 19 IAmb IAmb 16 04 39.9
comp=Z,42nm,0.8s
C36M Paulatuk 96.09 19 P **P** **16 04 37.5 -2.6**
baz=245
TXAR Lajitas Array 96.19 61 P **P** **16 04 41.7 0.0**
comp=Z,11nm,0.8s,baz=226,slow=5.1,SNR=111
TXAR PP **PP** **16 08 36.1 -0.5**
comp=Z,8.2nm,1.2s,baz=224,slow=8.8,SNR=5.5
TXAR S **SKSac** **16 15 07.6 +0.6**
comp=Z,2.2nm,1.0s,baz=316,slow=7.0,SNR=4.1
TXAR PKKPbc **PKKPbc** **16 21 25.7 -2.8**
comp=Z,1.2nm,0.8s,baz=93,slow=2.5,SNR=3.7
TXAR PKPPKP **P'P'df** **16 29 37.7 -4.3**
comp=Z,0.7nm,1.0s,baz=127,slow=3.8,SNR=3.8
comp=Z,11nm,0.8s
A36M Sachs Harbour 96.86 17 P **P** **16 04 41.0 -2.7**
baz=244

MK31 Makanchi Array 96.88 316 *i* P **P** **16 04 44.1 -0.3**
MK31 pmax pmax
comp=Z,110nm,1.2s
MKAR Makanchi Array 96.88 316 P **P** **16 04 43.7 -0.6**
MKAR Makanchi Array 96.88 316 P **P** **16 04 44.3 -0.1**
comp=Z,41nm,0.7s,baz=99,slow=6.3,SNR=193
MKAR pP **pP** **16 05 15.9 -0.5**
comp=Z,48nm,0.8s,baz=99,slow=6.3,SNR=6.7
MKAR PP **PP** **16 08 37.9 -3.5**
comp=Z,12nm,1.1s,baz=110,slow=6.6,SNR=3.1
MKAR PKiKP **PKiKP** **16 09 20.4 +0.3**
comp=Z,6.0nm,0.7s,baz=228,slow=0.9,SNR=21
MKAR S **SKSac** **16 15 10.1 +0.4**
comp=Z,12nm,0.8s,baz=114,slow=4.5,SNR=7.0
MKAR PKKPbc **PKKPbc** **16 21 24.9 -2.4**
comp=Z,4.7nm,0.9s,baz=281,slow=2.2,SNR=9.5
MKAR PKPPKP **P'P'df** **16 29 36.5 -2.8**
comp=Z,0.9nm,1.0s,baz=276,slow=3.3,SNR=4.3
MKAR LR LR 16 50 40.5
comp=Z,358nm,18.9s,baz=95,slow=37
comp=Z,41nm,0.7s
ZALV Zalesovo Beam 97.05 324 P **P** **16 04 43.6 -1.2**
comp=Z,35nm,0.9s,baz=108,slow=4.8,SNR=147
ZALV pP **pP** **16 05 15.2 -1.5**
comp=Z,28nm,0.9s,baz=111,slow=4.8,SNR=4.1
ZALV PP **PP** **16 08 39.7 -2.8**
comp=Z,5.1nm,0.9s,baz=106,slow=5.2,SNR=3.8
ZALV PKiKP **PKiKP** **16 09 20.0 -0.1**
comp=Z,5.5nm,0.7s,baz=174,slow=1.9,SNR=9.8
ZALV S **SKSac** **16 15 09.8 -0.2**
comp=Z,2.9nm,0.8s,baz=124,slow=0.5,SNR=8.5
ZALV LR LR 16 47 09.6
comp=Z,338nm,21.4s,baz=104,slow=34
comp=Z,35nm,0.9s
Q24A Divide 97.12 52 IAmb IAmb 16 04 47.3
comp=Z,19nm,0.9s
YKA Yellowknife Ar 97.28 27 P **P** **16 04 43.9 -1.7**
YKA Yellowknife Ar 97.28 27 P **P** **16 04 44.5 -1.2**
comp=Z,33nm,0.9s,baz=263,slow=4.5,SNR=80
YKA PKiKP **PKiKP** **16 09 20.1 -0.2**
comp=Z,2.8nm,0.8s,baz=276,slow=1.1,SNR=5.4
YKA S **SKSac** **16 15 11.9 +1.1**
comp=Z,6.9nm,1.1s,baz=270,slow=5.4,SNR=6.7
YKA PKKPbc **PKKPbc** **16 21 24.2 -2.6**
comp=Z,2.1nm,0.7s,baz=66,slow=2.5,SNR=9.8
YKA LR LR 16 44 26.1
comp=Z,541nm,19.5s,baz=266,slow=33
comp=Z,33nm,0.9s
YKAW3 Yellowknife Wh 97.29 27 IAmb IAmb 16 04 46.0
comp=Z,39nm,0.9s
YKAW1 Yellowknife Wh 97.33 27 IAmb IAmb 16 04 46.2
comp=Z,36nm,0.8s
SAND Sanderson 97.64 61 IAmb IAmb 16 04 49.5
comp=Z,16nm,0.8s
MSTX Muleshoe 97.93 57 IAmb IAmb 16 04 52.6
comp=Z,25nm,0.9s
LAO LASA Array 98.01 44 IAmb IAmb 16 08 49.1
comp=Z,30nm,1.2s
SHLS Shalkode 98.03 312 *e*P **P** **16 04 48.0 -1.7**
SHLS Shalkode 98.03 312 *e*P **P** **16 04 48.1 -1.7**
UZB Uzunbulak 98.35 312*d* *i*P **P** **16 04 50.8 -0.4**
UZB Uzunbulak 98.35 312 ⇓*i*P **P** **16 04 50.8 -0.4**
OZNA Ozona 98.68 60 IAmb IAmb 16 04 53.7
comp=Z,19nm,0.9s
SATY Saty 98.77 312 *e*P **P** **16 04 52.7 -0.4**
SATY Saty 98.77 312 *e*P **P** **16 04 52.7 -0.4**
DRIO Del Rio 98.81 62 IAmb IAmb 16 04 55.1
comp=Z,18nm,0.9s
RSSD Black Hills 99.00 47 P **P** **16 04 53.0 -1.2**
RSSD Black Hills 99.00 47 P **P** **16 04 53.0 -1.2**
RSSD pmax pmax
comp=Z,10.0nm,0.7s
TDK Taldyqorghan 99.15 314 *e*P **Pdif** **16 04 54.3 -0.3**
TDK Taldyqorghan 99.15 314 *e*P **Pdif** **16 04 54.3 -0.3**
ARXS Arharly 99.41 313 *e*P **Pdif** **16 04 52.5 -3.3**
MDOK Medeo 99.77 312 *e*P **Pdif** **16 04 57.0 -0.6**
MDOK pmax pmax
comp=Z,94nm,2.4s
MDOK Medeo 99.77 312 *e*P **Pdif** **16 04 57.0 -0.6**
comp=Z,94nm,2.4s
TNSS Tian-Shan 99.82 312 *e*P **Pdif** **16 04 57.2 -0.9**
TNSS Tian-Shan 99.82 312 *e*P **Pdif** **16 04 57.3 -0.9**
KSH Kashi 99.91 308 P **Pdif** **16 05 00.0 +1.8**
KSH PP **PP** **16 09 05.4 +0.5**
KSH SKS **SKSac** **16 15 28.3 +2.9**
KSH S **S** **16 16 24.3 +2.3**
KSH LR LR
comp=Z,610nm,19.6s
KSH LR LR
comp=Z,430nm,20.1s
KSH LR LR
comp=Z,550nm,18.4s
KURK Kurchatov 100.07 320 P **Pdif** **16 04 57.3 -1.1**
KURK Kurchatov 100.07 320*d* *i*P **Pdif** **16 04 57.2 -1.3**
KURK pmax pmax
comp=Z,43nm,1.6s
KURBB Kurchatov Arra 100.11 320 P **Pdif** **16 04 57.5 -1.1**
comp=Z,4.2nm,0.2s,baz=108,slow=3.3,SNR=33
KURBB PKiKP **PKiKP** **16 09 26.1 +0.5**
comp=Z,5.0nm,0.3s,baz=102,slow=7.7,SNR=9.3
KURBB S **SKSac** **16 15 25.4 -0.1**
comp=Z,5.6nm,0.9s,baz=124,slow=4.3,SNR=6.3
KURBB PKKPbc **PKKPbc** **16 21 16.2 -2.1**
comp=Z,4.0nm,0.8s,baz=284,slow=3.0,SNR=11
KURBB PKPPKP 16 29 32.5
comp=Z,0.4nm,0.3s,baz=290,slow=2.6,SNR=6.2
AAK Ala-Archa 101.53 311 S **SKSac** **16 15 34.2 +1.0**
comp=Z,9.0nm,1.0s,baz=248,slow=22,SNR=22
SGDS Sogindy 101.56 312 *e*P **Pdif** **16 05 05.0 -0.4**
BTLS Baital 102.21 314 *e*P **Pdif** **16 05 07.3 -0.8**
BTLS Baital 102.21 314 *e*P **Pdif** **16 05 07.3 -0.8**
PLCA Paso Flores 103.47 139 PKKPbc PKKPbc 16 21 07.4 -0.7
comp=Z,5.5nm,1.1s,baz=85,slow=5.3,SNR=4.0
DZA Taraz 103.87 311 *e*P **Pdif** **16 05 15.3 -0.3**
DZA Taraz 103.87 311 *e*Pdif **Pdif** **16 05 15.3 -0.3**
KK31 Karatay Array 104.49 311 *i* P **Pdif** **16 05 17.3 -1.1**
BVAR Borovoye Array 105.41 322 Pdiff **Pdif** **16 05 21.1 -1.1**
comp=Z,8.6nm,1.0s,baz=104,slow=3.1,SNR=29
BVAR PKiKP **PKiKP** **16 09 35.3 0.0**
comp=Z,14nm,0.5s,baz=131,slow=1.4,SNR=48
SVE Sverdlovsk 110.96 326 *e*PKiKP **PKiKP** **16 09 45.6 +0.1**
SVE pmax pmax
comp=Z,60nm,1.3s
JLN Jalan Bani Buh 111.50 288 P **PKiKP** **16 09 47.5 -0.1**
AB31 Akbulak array 111.99 318 *i* PKiKP **PKiKP** **16 09 48.0 +0.3**
ARTI Arti 112.25 325 PKiKP **PKiKP** **16 09 48.5 +0.5**
comp=Z,53nm,0.7s,baz=109,slow=1.4,SNR=65
ARTI Arti 112.25 325 *i* PKiKP **PKiKP** **16 09 47.8 -0.2**
ARTI 16 10 35.7
ARTI PPP PPP 16 13 01.2
ARTI 16 16 48.5
ARTI SP SP 16 19 53.7 -0.9
MHTO MHTO 112.69 287 P **PKiKP** **16 09 49.9 0.0**
JMDO Jabal Madar 112.73 288 P **PKiKP** **16 09 50.0 +0.1**
BIDO Bidbid 112.84 290 P **PKiKP** **16 09 50.5 +0.4**
SMDO Samad 112.86 289 P **PKiKP** **16 09 50.9 +0.6**
AKTO Aktyubinsk 113.14 319 PKiKP **PKiKP** **16 09 50.3 +0.4**
comp=Z,57nm,0.9s,baz=84,slow=1.7,SNR=65
NEEM North Greenlan 114.03 9 *i* P **PKiKP** **16 09 51.5 +0.3**
ARQ Araqi 114.29 289 P **PKiKP** **16 09 53.5 +0.5**
KBS Kingsbay 114.34 355 *e*PKPdf **PKiKP** **16 09 52.1 +0.7**
KBS *e*PP **PP** **16 10 50.1 +1.1**
KBS *e*SKSac **SKSac** **16 16 29.5 +3.0**
KBS *e*SP **SP** **16 20 14.8 +2.2**
KBS Kingsbay 114.34 355 *i* P **PKiKP** **16 09 52.1 +0.7**
SOHO SOHO 114.35 290 P PKPdf 16 09 52.9 -0.1
SOHO SOHO 114.35 290 *i* P PKPdf 16 09 53.0 0.0
SNR=33
SOHO SOHO 114.35 290 *i* PKiKP PKPdf 16 09 53.0 0.0
SNR=33
SPA0 Spitsbergen Ar 114.57 354 *e*PKPdf **PKiKP** **16 09 52.3 +0.4**
SPITS Spitsbergen Ar 114.57 354 PKP **PKiKP** **16 09 52.1 +0.1**
comp=Z,86nm,0.8s,baz=122,slow=12,SNR=75
SPITS SKP 16 13 16.7
comp=Z,22nm,0.9s,baz=38,slow=9.7,SNR=6.8
SPITS PKKPbc **PKKPbc** **16 20 30.1 -3.6**
comp=Z,4.8nm,0.8s,baz=160,slow=5.1,SNR=10
MDH Madha 114.67 291 P PKPdf 16 09 50.7 -2.9
MDH Madha 114.67 291 P PKPdf 16 09 52.7 -0.8
MDH Madha 114.67 291 PKPdf PKPdf 16 09 52.7 -0.8
UOSS Minazif 114.73 291 P PKPdf 16 09 53.3 -0.4
UOSS Minazif 114.73 291 *i* P PKPdf 16 09 52.8 -0.9
SNR=12
UOSS Minazif 114.73 291 *i* PKPdf PKPdf 16 09 52.8 -0.9
SNR=12

UOSS Minazif 114.73 291 PKP PKPdf 16 09 53.1 -0.6
HATD Hatta, Dubai 114.78 291 P PKPdf 16 09 53.7 -0.2
SNR=5.7
HATD Hatta, Dubai 114.78 291 *i* P PKPdf 16 09 53.8 -0.1
SNR=21
HATD Hatta, Dubai 114.78 291 *i* PKiKP PKPdf 16 09 53.8 -0.1
SNR=21
HOPEN Hopen 114.80 351 *e*PKPdf **PKiKP** **16 09 51.8 -0.5**
HOPEN *e*SKSac **SKSac** **16 16 30.9 +2.6**
HOPEN *e*SP **SP** **16 20 18.9 +2.0**
MSFE Esma-Masafi 114.80 292 *i* P PKPdf 16 09 53.6 -0.3
SNR=9.3
MSFE Esma-Masafi 114.80 292 *i* PKiKP PKPdf 16 09 53.6 -0.3
SNR=9.3
MASF Masafi 114.80 292 P **PKiKP** **16 09 54.0 +0.1**
ASHO Ashiyiah 114.83 291 P PKPdf 16 09 53.9 -0.1
SNR=5.1
ASHO Ashiyiah 114.83 291 *i* P PKPdf 16 09 53.6 -0.4
SNR=14
ASHO Ashiyiah 114.83 291 *i* PKiKP PKPdf 16 09 53.6 -0.4
SNR=14
SHME Shamm 114.87 292 P **PKiKP** **16 09 54.0 0.0**
SHME Shamm 114.87 292 *i* P PKPdf 16 09 53.8 -0.2
SNR=9.0
SHME Shamm 114.87 292 *i* PKiKP PKPdf 16 09 53.8 -0.2
SNR=9.0
KULLO Kullorsuaq 115.02 12 *i* P **PKiKP** **16 09 52.7 -0.1**
ALNE Al Ain 115.06 290 P **PKiKP** **16 09 54.7 +0.3**
SNR=7.2
ALNE Al Ain 115.06 290 *i* P **PKPdf** **16 09 54.1 -0.3**
SNR=13
ALNE Al Ain 115.06 290 *i* PKiKP **PKPdf** **16 09 54.1 -0.3**
SNR=13
DMTO DMTO 115.09 283 P **PKiKP** **16 09 54.7 +0.1**
NAZ Nazwa, Dubai 115.22 291 P **PKiKP** **16 09 54.9 +0.2**
NAZ Nazwa, Dubai 115.22 291 *i* P **PKiKP** **16 09 54.8 +0.2**
SNR=5.9
NAZ Nazwa, Dubai 115.22 291 *i* PKiKP **PKiKP** **16 09 54.8 +0.2**
SNR=5.9
UMQ Umm Al-Quwin 115.26 292 P **PKiKP** **16 09 55.5 +0.8**
UMQ Umm Al-Quwin 115.26 292 PKiKP **PKiKP** **16 09 55.5 +0.8**
FAQ Al Faqa, Dubai 115.26 291 P **PKiKP** **16 09 55.4 +0.6**
FAQ Al Faqa, Dubai 115.26 291 P **PKiKP** **16 09 55.8 +1.1**
FAQ Al Faqa, Dubai 115.26 291 PKiKP **PKiKP** **16 09 55.8 +1.1**
UMZA Um Al Zommool 115.47 289 P **PKiKP** **16 09 55.7 +0.6**
ASUD Al Ashush, Dub 115.49 291 P **PKiKP** **16 09 55.6 +0.4**
ASUD Al Ashush, Dub 115.49 291 *i* P **PKiKP** **16 09 55.4 +0.2**
SNR=11
ASUD Al Ashush, Dub 115.49 291 *i* PKiKP **PKiKP** **16 09 55.4 +0.2**
SNR=11
HSPB Hornsund (broa 115.68 353 *e*PKP **PKiKP** **16 09 54.0 -0.1**
HSPB *e*PP **PP** **16 10 56.3 -2.0**
RBK Rabkut 115.76 283 P **PKiKP** **16 09 56.5 +0.6**
AJN Ajban 115.80 291 P **PKPdf** **16 09 55.1 -0.6**
DOK Doka 115.98 284 P **PKiKP** **16 09 56.4 +0.2**
WHFO Wadi Hawf 116.22 283 P **PKPdf** **16 09 56.8 0.0**
UPNV Upernavik 116.45 13 *i* P **PKPdf** **16 09 55.5 -0.1**
KIRV Kirov 116.52 329 PKP **PKPdf** **16 09 56.0 -0.1**
comp=Z,87nm,0.4s,baz=119,slow=1.1,SNR=40
ABTO Aybut 116.60 282 P **PKiKP** **16 09 58.1 +0.5**
MZWR Madinat Zayed 116.74 290 P **PKiKP** **16 09 58.2 +0.6**
MZR Muzera 117.04 289 P **PKiKP** **16 09 59.1 +0.8**
SNR=7.2
MZR Muzera 117.04 289 *i* P **PKiKP** **16 09 58.5 +0.3**
SNR=26
MZR Muzera 117.04 289 *i* PKiKP **PKiKP** **16 09 58.5 +0.3**
SNR=26
BJO1 Bjornoya 117.32 351 *e*PKPdf **PKPdf** **16 09 56.5 -0.7**
BJO1 IVmB_BB 16 09 57.4
comp=Z,699nm,0.5s
BJO1 *e* 16 11 03.5
BJO1 *e*SP SP 16 20 42.6 +2.9
LPAZ La Paz 117.45 117 PKP **PKPdf** **16 09 59.5 -0.4**
comp=Z,9.2nm,1.0s,baz=339,slow=0.8,SNR=14
LPAZ PKKPbc **PKKPbc** **16 20 22.2 -0.6**
comp=Z,4.4nm,0.5s,baz=224,slow=2.5,SNR=9.8
LPAZ La Paz 117.45 117 PKP **PKiKP** **16 10 00.5 +0.5**
FRB Frobisher Bay 117.62 25 PKP **PKPdf** **16 09 57.5 -0.6**
comp=Z,29nm,0.9s,baz=10.0,slow=3.4,SNR=18
FRB SKP 16 13 24.1
comp=Z,29nm,1.0s,baz=22,slow=1.5,SNR=7.4
FRB PKKPab **PKKPbc** **16 20 21.9 -0.8**
comp=Z,4.3nm,0.8s,baz=49,slow=4.9,SNR=3.6
GHWR Ruwais 117.67 290 P **PKiKP** **16 09 59.9 +0.5**
JRN Qarnain Island 117.76 291 P **PKPdf** **16 09 59.5 0.0**
NUUG Nuugaatsiaq 117.97 14 *i* P **PKPdf** **16 09 58.0 -0.6**
NIAQ Niaqornat 118.39 14 *i* P **PKiKP** **16 09 59.8 +0.4**
LVZ Lovozero 118.44 342 PKPdf **16 09 59.2 -0.4**
LVZ Lovozero 118.44 342*c* *i*PKiKP **PKPdf** **16 09 59.5 -0.1**
LVZ pmax pmax
comp=Z,170nm,1.0s
VADS Vadso 118.52 345 *e*PKPdf **PKiKP** **16 09 59.8 +0.1**
VADS IVmB_BB 16 10 00.8
comp=Z,982nm,0.8s
VADS *e*PP **PP** **16 11 18.0 -0.2**
VADS *e*SP SP 16 20 53.8 +3.1
SAATT Saattut 118.85 14 *i* P **PKPdf** **16 09 59.9 -0.4**
APA Apatity 119.02 342 *i* PKiKP **PKPdf** **16 09 59.1 -1.6**
APA *e**PP **pPKPdf** **16 10 33.3 -0.6**
APA *e*PS **PKKPdf** **16 20 53.3 +5.6**
APA *e*SS SS 16 27 29.6 -2.0
BELG Belogornoye 119.20 322 PKP **PKPdf** **16 10 01.3 -0.1**
comp=Z,790nm,0.8s,baz=74,slow=0.3,SNR=107
BELG Belogornoye 119.20 322 *i* PKiKP **PKiKP** **16 10 02.1 +0.6**
TRNA Turayna 119.23 290 P **PKiKP** **16 10 02.7 +0.3**
SAQQ Saqqaq 119.35 14 *i* P **PKPdf** **16 10 00.8 -0.5**
KEV Kevo 119.36 345 **PKPdf** **16 10 01.2 -0.1**
KEV Kevo 119.36 345 PKiKP **PKPdf** **16 10 01.2 -0.1**
KEV Kevo 119.36 345 PKP **PKPdf** **16 10 01.0 -0.3**
HAMF Hammerfest 119.49 347 *e*PKPdf **PKPdf** **16 10 01.4 -0.1**
HAMF IVmB_BB 16 10 01.5
comp=Z,1μm,0.9s
HAMF *e*SKSac **SKSac** **16 16 47.8 +2.1**
HAMF *e*SP **SP** **16 21 01.8 +2.4**
GDH Godhavn 119.49 15 *i* P **PKiKP** **16 10 01.7 +0.1**
SHMA Al-Shehemyia 119.51 292 P **PKiKP** **16 10 03.5 +0.6**
SMRA Abu-Samra 119.59 290 P **PKiKP** **16 10 03.3 +0.2**
GRHM Grahamstown, E 119.63 218 **PKPdf** **16 10 03.0 -0.1**
PLTB Pedras Altas 119.73 140 PKP **PKPdf** **16 10 01.6 -1.6**
ARA0 ARCESS Array S 119.89 345 *e*PKPdf **PKPdf** **16 10 02.4 0.0**
ARCES ARCESS Array B 119.89 345 Pdiff **Pdif** **16 06 25.8 -0.5**
comp=Z,5.2nm,1.0s,baz=42,slow=9.8,SNR=6.9
ARCES PKP **PKPdf** **16 10 02.0 -0.3**
comp=Z,132nm,0.7s,baz=74,slow=1.9,SNR=360
ARCES SKP 16 13 28.6
comp=Z,19nm,0.9s,baz=27,slow=0.3,SNR=5.8
ARCES PKKPab **PKKPab** **16 20 11.1 -2.2**
comp=Z,3.7nm,0.9s,baz=221,slow=2.4,SNR=12
SUMG Summit 119.90 9 *i* P **PKiKP** **16 10 03.1 +0.3**
SAKB Bahrain 119.90 292 P **PKiKP** **16 10 04.0 +0.3**
DBG Daneborg 119.93 2 *i* P **PKiKP** **16 10 02.5 +0.2**
ILULI Ilulissat 120.13 15 *i* P **PKPdf** **16 10 02.5 -0.2**
KLMR Klimovskoe 120.33 333 *e*PKiKP **PKPdf** **16 10 01.5 -1.9**
KLMR *e* 16 10 33.9
KLMR *e* 16 11 29.7
KLMR *i* 16 16 48.4
KLMR SP SP 16 21 02.7 -4.7
KLMR pmax pmax
comp=Z,473nm,1.6s
CPSB Cacapava Do Su 120.75 139 PKP **PKPdf** **16 10 05.1 -0.1**
CPSB Cacapava Do Su 120.75 139 *e*P **PKPdf** **16 10 04.3 -0.9**
CPUP Villa Florida 120.76 133 **PKPdf** **16 10 04.7 -0.7**
CPUP Villa Florida 120.76 133 PKP **PKPdf** **16 10 05.2 -0.1**
comp=Z,4.7nm,0.9s,baz=150,slow=1.9,SNR=26
CPUP PKKPbc **PKKPbc** **16 20 09.0 -1.3**
comp=Z,0.9nm,0.9s,baz=270,slow=3.5,SNR=4.0
CPUP PKKP **PKKPdf** **16 20 42.2 -0.9**
comp=Z,2.3nm,1.0s,baz=356,slow=0.4,SNR=7.7
CPUP Villa Florida 120.76 133 PKP **PKPdf** **16 10 05.2 -0.1**
KTK1 Kautokeino 120.82 346 *e*PKPdf **PKPdf** **16 10 03.5 -0.7**
KTK1 IVmB_BB 16 10 04.2
comp=Z,671nm,0.7s
KTK1 *e*PP **PP** **16 11 33.9 -0.1**
KTK1 *e*SKSac **SKSac** **16 16 52.0 +1.6**
KTK1 *e*SP **SP** **16 21 12.7 +1.4**
JETT Jettan, Norway 121.05 347 *e*PKPdf **PKPdf** **16 10 04.1 -0.5**
TRO Tromso 121.30 348 *e*PKPdf **PKPdf** **16 10 04.7 -0.3**
TRO IVmB_BB 16 10 05.1
comp=Z,2μm,0.9s
TRO *e*PP **PP** **16 11 33.4 -3.8**
MAK Makhachkala 121.31 312 *i* P **Pdif** **16 06 31.6 -1.5**
MAK *i* 16 10 04.5
MAK *e* 16 10 37.2
MAK *e* 16 11 35.7

MAK				*e*			16 16 51.9		
MAK				*e*SS	SS		16 27 57.8	-4.9	
MAK				*e*SSS	SSS		16 32 29.5		
MAK				pmax	pmax				
	comp=Z,272nm,0.8s								
AKT	**Akhty**	**121.38**	**310**	*i* PKIKP	**PKiKP**		**16 10 06.6**	**+0.3**	
AKT				*e**PP	**pPKPdf**		**16 10 38.5**	**-1.0**	
AKT				*e*			16 11 38.5		
AKT				*e*			16 16 54.2		
AKT				*e*SP	SP		16 21 19.2	+0.9	
AKT				pmax	pmax				
	comp=Z,219nm,1.1s								
LDAQ	**Lac Daran**	**121.58**	**42**		**PKPdf**		**16 10 05.6**	**-0.7**	
SFJD	**Kangerlussuaq**	**121.86**	**16**	PKPdf	**PKPdf**		**16 10 05.0**	**-1.1**	
SFJD	**Kangerlussuaq**	**121.86**	**16**	PKIKP	**PKPdf**		**16 10 05.0**	**-1.1**	
SFJD	**Kangerlussuaq**	**121.86**	**16**	*i* P	**PKPdf**		**16 10 05.5**	**-0.7**	
SFJD	**Kangerlussuaq**	**121.86**	**16**	PKP	**PKPdf**		**16 10 05.7**	**-0.4**	
SCHQ	**Schefferville**	**122.05**	**34**	PKP	**PKPdf**		**16 10 06.8**	**-0.2**	
	comp=Z,9.9nm,0.8s,baz=9.6,slow=2.9,SNR=6.9								
SCHQ				PKKPbc	**PKKPbc**		**16 20 05.3**	**-0.9**	
	comp=Z,9.9nm,0.6s,baz=112,slow=3.3,SNR=22								
SJPY	**San Joaquin**	**122.45**	**133**	*e*P	**PKPdf**		**16 10 07.2**	**-1.4**	
LABB	**Lıbrea**	**122.55**	**111**	PKP	**PKPdf**		**16 10 07.8**	**-1.3**	
VRH	**Novokhopyorsk**	**123.05**	**322**	*e*PKIKP	**PKPdf**		**16 10 07.0**	**-1.9**	
VRH				pmax	pmax				
	comp=Z,390nm,0.9s								
CNLB	**Canela**	**123.13**	**140**	PKP	**PKPdf**		**16 10 10.0**	**+0.1**	
CNLB	**Canela**	**123.13**	**140**	*e*P	**PKPdf**		**16 10 09.9**	**0.0**	
SDV	**Santo Domingo**	**123.23**	**89**	PKP	**PKPdf**		**16 10 09.8**	**-0.8**	
SDV	**Santo Domingo**	**123.23**	**89**	*e*P	**PKPdf**		**16 10 08.8**	**-1.9**	
MURT	**Porto Murtinho**	**123.32**	**128**	*e*P	**PKPdf**		**16 10 10.1**	**-0.3**	
JNE	**Jan Mayen East**	**123.34**	**358**	*e*PP	**PP**		**16 11 51.4**	**+0.5**	
JNE				IVMs_BB	IVMs_BB		16 55 08.5		
	comp=Z,892nm,3.6s								
BBSD	**Serra de San D**	**123.37**	**122**	*e*P	**PKPdf**		**16 10 08.6**	**-2.0**	
M65A	**Busby, Falmout**	**123.39**	**50**	P	**PKPdf**		**16 10 06.1**	**-3.8**	
	baz=281								
DY2G	**Dye2**	**123.41**	**15**	*i* P	**PKiKP**		**16 10 09.7**	**0.0**	
JMI	**Jan Mayen**	**123.42**	**358**	*e*PKPdf	**PKiKP**		**16 10 10.4**	**+1.1**	
JMI				*e*PP	**PP**		**16 11 52.9**	**+1.5**	
STEI	**Steigen**	**123.47**	**348**	*e*PKPdf	**PKPdf**		**16 10 09.2**	**0.0**	
STEI				IVmB_BB			16 10 09.7		
	comp=Z,2μm,0.9s								
STEI				*e*PP	**PP**		**16 11 49.1**	**-2.8**	
STEI				*e*SP	SP		16 21 38.1	+3.4	
NUUK	**Nuuk**	**123.51**	**19**	*i* P	**PKiKP**		**16 10 09.7**	**+0.1**	
MOS	**Moscow**	**123.53**	**328**	*i* PKIKP	**PKPdf**		**16 10 08.9**	**-0.8**	
MOS				*e*			16 10 55.5		
MOS				*e*			16 16 57.1		
MOS				pmax	pmax				
	comp=Z,400nm,0.9s								
MOS				pmax	pmax				
	comp=Z,370nm,0.8s								
MOS				pmax	pmax				
	comp=N,132nm,1.0s								
BOSA	**Boshof**	**123.58**	**221**	PKP	**PKiKP**		**16 10 11.3**	**+0.2**	
	comp=N,30nm,0.8s,baz=124,slow=1.9,SNR=46								
BOSA				PKKPbc	**PKKPbc**		**16 19 59.3**	**-0.5**	
	comp=N,4.2nm,0.7s,baz=314,slow=3.2,SNR=10								
BOSA	**Boshof**	**123.58**	**221**	PKP	**PKiKP**		**16 10 11.4**	**+0.2**	
SCO	**Scoresbysund**	**123.64**	**4**		**PKPdf**		**16 10 09.3**	**-0.1**	
SCO	**Scoresbysund**	**123.64**	**4**	PKIKP	**PKPdf**		**16 10 09.4**	**-0.1**	
SCO	**Scoresbysund**	**123.64**	**4**	*i* P	**PKiKP**		**16 10 10.0**	**+0.3**	
LOF	**Lofoten**	**123.64**	**348**	*e*PKPdf	**PKPdf**		**16 10 09.1**	**-0.5**	
LOF				IVmB_BB			16 10 09.8		
	comp=Z,1μm,1.0s								
LOF				*e*SKSac	**SKSac**		**16 17 01.1**	**+1.3**	
ITAB	**Concordia**	**123.74**	**137**	PKP	**PKPdf**		**16 10 11.1**	**+0.1**	
ITAB	**Concordia**	**123.74**	**137**	*e*P	**PKPdf**		**16 10 10.7**	**-0.4**	
GNI	**Garni**	**123.83**	**309**		**PKiKP**		**16 10 12.1**	**+0.8**	
GNI	**Garni**	**123.83**	**309**	PKP	**PKiKP**		**16 10 11.4**	**+0.1**	
	comp=Z,129nm,0.9s,baz=355,slow=2.1,SNR=42								
GNI	**Garni**	**123.83**	**309**	P	**PKiKP**		**16 10 12.6**	**+1.3**	
GNI	**Garni**	**123.83**	**309**	P	**PKiKP**		**16 10 12.7**	**+1.5**	
GNI	**Garni**	**123.83**	**309**	PKiKP	**PKiKP**		**16 10 12.7**	**+1.5**	
FAUS	**Fauske**	**123.92**	**347**	*e*PKPdf	**PKPdf**		**16 10 09.7**	**-0.3**	
FAUS				*e*PP	**PP**		**16 11 54.7**	**-0.2**	
FAUS				*e*SKSac	**SKSac**		**16 17 03.3**	**+2.6**	
GOF	**Gofitskoye**	**124.01**	**315***c*	*i*PKIKP	**PKiKP**		**16 10 12.0**	**+0.8**	
LPSR	**Galich'ya Gora**	**124.15**	**325**	*e*PKIKP	**PKPdf**		**16 10 08.9**	**-2.0**	
LPSR				pmax	pmax				
	comp=Z,650nm,1.0s								
VORR	**Voronezh**	**124.35**	**324**	*e*PKIKP	**PKPdf**		**16 10 09.9**	**-1.5**	
VORR				pmax	pmax				
	comp=Z,750nm,0.9s								
OBN	**Obninsk**	**124.35**	**328**		**PKiKP**		**16 10 11.6**	**+0.1**	
OBN	**Obninsk**	**124.35**	**328**	PKP	**PKPdf**		**16 10 11.2**	**0.0**	
	comp=Z,210nm,0.7s,baz=360,slow=2.3,SNR=58								
OBN	**Obninsk**	**124.35**	**328**	⇑P	**PKPdf**		**16 10 11.1**	**-0.1**	
OBN	**Obninsk**	**124.35**	**328***d*	*i*PKIKP	**PKPdf**		**16 10 10.8**	**-0.4**	
OBN							16 10 43.0		
OBN							16 10 53.0		
OBN				*i*			16 11 56.4		
OBN				*i*			16 17 03.8		
OBN				*i* PS	**PS**		**16 21 53.4**	**-5.5**	
OBN				*i* PPS	PPS		16 23 23.6		
OBN				*i* SS	SS		16 28 41.1	+1.0	
OBN				*i* SSS	SSS		16 33 19.6		
OBN				pmax	pmax				
	comp=Z,5.0nm,0.3s								
RAYN	**Ar Rayn**	**124.40**	**289**		**PKiKP**		**16 10 12.8**	**+0.2**	
RAYN	**Ar Rayn**	**124.40**	**289**	⇓PKIKP	**PKiKP**		**16 10 12.9**	**+0.2**	
RAYN	**Ar Rayn**	**124.40**	**289**	*i* P	**PKiKP**		**16 10 13.3**	**+0.6**	
	SNR=52								
RAYN	**Ar Rayn**	**124.40**	**289**	*i* PKiKP	**PKiKP**		**16 10 13.3**	**+0.6**	
	SNR=52								
KBZ	**Khabaz**	**124.44**	**313**	PKP	**PKiKP**		**16 10 12.8**	**+0.7**	
	comp=Z,61nm,0.8s,baz=92,slow=1.4,SNR=55								
KBZ	**Khabaz**	**124.44**	**313***c*	*i*PKIKP	**PKiKP**		**16 10 12.1**	**0.0**	
AMBA	**Amambai (Brazi**	**124.52**	**131**	*e*P	**PKPdf**		**16 10 12.4**	**-0.3**	
KVAR	**Kislovodsk Arr**	**124.53**	**314**	PKP	**PKiKP**		**16 10 13.1**	**+0.6**	
	baz=14,slow=4.2								
KIV	**Kislovodsk**	**124.53**	**314**		**PKiKP**		**16 10 12.9**	**+0.5**	
KIV	**Kislovodsk**	**124.53**	**314**	P	**PKiKP**		**16 10 12.9**	**+0.5**	
KIV	**Kislovodsk**	**124.53**	**314**	⇑P	**PKPdf**		**16 10 11.6**	**-0.5**	
KIV	**Kislovodsk**	**124.53**	**314**	*i* PKIKP	**PKPdf**		**16 10 11.9**	**-0.2**	
KIV				*e*			16 11 58.5		
KIV				*e*PS	PS		16 21 59.8	-1.6	
KIV				*e*SS	SS		16 28 43.9	+0.2	
KIV				pmax	pmax				
	comp=Z,135nm,1.1s								
KIV	**Kislovodsk**	**124.53**	**314**	*i* P	**PKiKP**		**16 10 12.7**	**+0.2**	
	SNR=31								
KIV	**Kislovodsk**	**124.53**	**314**	*i* PKiKP	**PKiKP**		**16 10 12.7**	**+0.2**	
	SNR=31								
KIV	**Kislovodsk**	**124.53**	**314**	PKP	**PKiKP**		**16 10 12.7**	**+0.2**	
SGC2	**Sao Gabriel da**	**124.54**	**100**	PKP	**PKPdf**		**16 10 12.0**	**-0.9**	
VSR	**Storozhevoye**	**124.55**	**323**	*e*PKIKP	**PKPdf**		**16 10 09.6**	**-2.2**	
VSR				pmax	pmax				
	comp=Z,270nm,0.9s								
VORD	**Divnogorie**	**124.57**	**323**	*e*PKIKP	**PKPdf**		**16 10 09.0**	**-2.8**	
VORD				pmax	pmax				
	comp=Z,240nm,1.0s								
PUL	**Pulkovo**	**124.78**	**335***c*	*i*PKIKP	**PKiKP**		**16 10 12.7**	**+0.4**	
PUL				pmax	pmax				
	comp=Z,710nm,1.0s								
SOEG	**Soedalen**	**124.89**	**8**	*i* P	**PKiKP**		**16 10 12.2**	**0.0**	
VAGH	**Vaagaholmen**	**124.90**	**348**	*e*PKPdf	**PKPdf**		**16 10 11.6**	**-0.4**	
VAGH				IVmBBB			16 10 12.6		
	comp=Z,1μm,0.7s								
VAGH				*e*PP	**PP**		**16 12 01.1**	**-0.3**	
VAGH				*e*SKSac	**SKSac**		**16 17 06.2**	**+2.4**	
SAML	**Samuel**	**124.94**	**112**		**PKPdf**		**16 10 12.9**	**-0.8**	
SAML	**Samuel**	**124.94**	**112**	PKIKP	**PKPdf**		**16 10 12.9**	**-0.8**	
MOR8	**Moi Rana**	**125.12**	**347**	*e*PKPdf	**PKPdf**		**16 10 11.6**	**-0.9**	
MOR8				IVmB_BB			16 10 12.2		
	comp=Z,810nm,0.9s								
MOR8				*e*PP	**PP**		**16 12 01.1**	**-1.9**	
MOR8				*e*SKSac	**SKSac**		**16 17 05.6**	**+0.9**	
KONS	**Konsvik**	**125.13**	**348**	*e*PKPdf	**PKiKP**		**16 10 12.8**	**0.0**	
KONS				IVmB_BB			16 10 13.1		
	comp=Z,1μm,0.6s								
STOK	**Stokkvaagen**	**125.29**	**348**	*e*PKPdf	**PKPdf**		**16 10 12.8**	**+0.1**	
STOK				IVmB_BB			16 10 13.8		
	comp=Z,2μm,1.0s								
STOK				*e*PP	**PP**		**16 12 04.5**	**+0.5**	
STOK				*e*SKSac	**SKSac**		**16 17 07.4**	**+2.3**	
STOK				*e*			16 21 43.7		
FINES	**FINESS Array B**	**125.36**	**338**		**PKPdf**		**16 10 12.4**	**-0.6**	
FINES	**FINESS Array B**	**125.36**	**338**	PKP	**PKPdf**		**16 10 13.2**	**+0.1**	
	comp=Z,236nm,0.9s,baz=90,slow=5.7,SNR=181								
PTGB	**Pitanga**	**125.45**	**135**	PKP	**PKPdf**		**16 10 14.4**	**-0.1**	
PTGB	**Pitanga**	**125.45**	**135**	*e*P	**PKPdf**		**16 10 13.4**	**-1.1**	
AQDB	**Aquidauana**	**125.46**	**128**	PKP	**PKPdf**		**16 10 14.2**	**-0.2**	
LEIR	**Leirfjorden**	**125.46**	**347**	*e*PKPdf	**PKPdf**		**16 10 13.1**	**+0.1**	
LEIR				IVmB_BB			16 10 13.7		
	comp=Z,1μm,0.8s								
LEIR				*e*PP	**PP**		**16 12 06.0**	**+0.8**	
PTLB	**Pontes e Lacer**	**125.47**	**121**	PKP	**PKPdf**		**16 10 14.1**	**-0.4**	
ERBR	**Yeremizino-Bor**	**125.57**	**316**	*i* PKIKP	**PKPdf**		**16 10 13.9**	**0.0**	
ERBR				*e*			16 10 46.5		
ERBR				*e*			16 12 05.7		
ERBR				*e*			16 17 07.8		
ERBR				*e*SP	SP		16 21 54.2	-0.6	
ERBR				*e*SS	**SS**		**16 29 01.3**	**+5.0**	
ERBR				pmax	pmax				
	comp=Z,312nm,1.1s								
ERBR				pmax	pmax				
	comp=E,28nm,1.3s								
ERBR				pmax	pmax				
	comp=N,28nm,0.9s								
TEFE	**Tefe**	**125.67**	**105**	PKP	**PKPdf**		**16 10 14.6**	**-0.5**	
TEFE	**Tefe**	**125.67**	**105**	*e*P	**PKPdf**		**16 10 12.8**	**-2.2**	
ATD	**Arta Tunnel**	**125.77**	**274**	PKP	**PKiKP**		**16 10 16.5**	**+0.8**	
	comp=N,1.0nm,0.8s,baz=223,slow=0.6,SNR=8.7								
VILB	**Vilhena**	**125.79**	**118**	PKP	**PKPdf**		**16 10 15.3**	**0.0**	
ISOG	**Isortoq, Green**	**125.90**	**13**	*i* P	**PKPdf**		**16 10 13.7**	**-0.2**	
MREMI	**Moremi**	**126.11**	**228**	*i* P	**PKiKP**		**16 10 16.5**	**+0.2**	
ANGG	**Ammassalik, Gr**	**126.13**	**12**	*i* P	**PKPdf**		**16 10 13.6**	**-0.8**	
TRCB	**Terra Rica**	**126.30**	**133**	PKP	**PKPdf**		**16 10 15.2**	**-0.9**	
SOC	**Sochi**	**126.71**	**314**	*i* PKIKP	**PKPdf**		**16 10 14.9**	**-1.3**	
SOC				*e*			16 10 48.8		
SOC				*e*			16 12 11.8		
SOC				*e*PPP	PPP		16 14 56.1		
SOC				*e*			16 17 11.6		
SOC				*e*PS	**PS**		**16 22 17.1**	**-3.1**	
SOC				*e*SS	SS		16 29 03.4	-7.2	
SOC				*e*SSS	SSS		16 33 55.5		
SOC				pmax	pmax				
	comp=Z,118nm,1.0s								
IVI	**Ivigtut**	**126.77**	**20**	*i* P	**PKPdf**		**16 10 15.2**	**-0.5**	
POCN	**Pocone**	**126.82**	**124**	*e*P	**PKPdf**		**16 10 16.8**	**-0.3**	
LDASE	**Londrina, Braz**	**126.97**	**135**	*e*P	**PKPdf**		**16 10 17.0**	**-0.4**	
VSU	**Vasula**	**127.05**	**335***d*	*i*PKIKP	**PKPdf**		**16 10 15.3**	**-1.0**	
NSS	**Namsos**	**127.07**	**347**	*e*PKPdf	**PKPdf**		**16 10 16.1**	**-0.1**	
NSS				IVmB_BB			16 10 16.7		
	comp=Z,2μm,1.1s								
BROLN	**Tlhalogang**	**127.11**	**229**	*i* P	**PKPdf**		**16 10 17.9**	**+0.1**	
SKOMA	**Sekoma**	**127.26**	**223**	*i* P	**PKiKP**		**16 10 18.8**	**+0.3**	
NRS	**Narsarsuaq**	**127.71**	**19**		**PKPdf**		**16 10 16.7**	**-0.8**	
NRS	**Narsarsuaq**	**127.71**	**19**	PKIKP	**PKPdf**		**16 10 16.7**	**-0.8**	
NRS	**Narsarsuaq**	**127.71**	**19**	*i* P	**PKPdf**		**16 10 17.1**	**-0.4**	
ANN	**Anapa**	**127.90**	**316**	*i* PKIKP	**PKiKP**		**16 10 18.7**	**-0.3**	
ANN				*e*			16 10 50.4		
ANN				*e*			16 12 21.8		
ANN				*e*PPP	PPP		16 15 12.3		
ANN				*e*			16 17 14.9		
ANN				*e*SP	SP		16 22 08.6	-6.5	
ANN				pmax	pmax				
	comp=N,35nm,1.1s								
ANN				pmax	pmax				
	comp=Z,137nm,1.0s								
ANN				pmax	pmax				
	comp=E,28nm,0.9s								
SALV	**Santo Antonio**	**128.05**	**124**	PKP	**PKiKP**		**16 10 20.1**	**-0.1**	
SALV	**Santo Antonio**	**128.05**	**124**	*e*P	**PKPdf**		**16 10 17.8**	**-1.7**	
FRTB	**Fartura**	**128.07**	**136**	PKP	**PKiKP**		**16 10 19.9**	**-0.2**	
FRTB	**Fartura**	**128.07**	**136**	*e*P	**PKPdf**		**16 10 17.5**	**-2.0**	
KMBO	**Kilima Mbogo**	**128.09**	**257**	PKP	**PKiKP**		**16 10 21.0**	**+0.4**	
	comp=E,12nm,0.9s,baz=106,slow=2.0,SNR=12								
KMBO				SKP			16 13 36.5		
	comp=E,22nm,1.1s,baz=127,slow=5.5,SNR=3.2								
C2SB	**Chapadao do Su**	**128.64**	**129**	PKP	**PKiKP**		**16 10 21.7**	**+0.4**	
C2SB	**Chapadao do Su**	**128.64**	**129**	*e*P	**PKPdf**		**16 10 20.7**	**+0.1**	
MNK	**Minsk**	**128.96**	**331**	*i* PKIKP	**PKiKP**		**16 10 21.3**	**+0.5**	
MNK				*i*			16 10 54.6		
MNK				*i*			16 11 09.5		
MNK				*i*			16 12 30.8		
MNK				*i* PPP	PPP		16 15 17.7		
MNK				*i*			16 17 19.4		
MNK				*i* PS	PS		16 24 13.0	+94	
MNK				*i* SS	SS		16 29 40.3	+2.9	
MNK				pmax	pmax				
	comp=E,26nm,0.9s								
MNK				pmax	pmax				
	comp=N,34nm,1.0s								
MNK				pmax	pmax				
	comp=Z,201nm,0.9s								
MNK				pmax	pmax				
	comp=Z,266nm,0.8s								
SPB	**Sao Paulo**	**129.32**	**138**	*e*P	**PKiKP**		**16 10 22.3**	**-0.2**	
BORG	**Borgarnes**	**129.34**	**5**		**PKiKP**		**16 10 21.7**	**+0.5**	
BORG	**Borgarnes**	**129.34**	**5**	PKIKP	**PKiKP**		**16 10 21.7**	**+0.5**	
PDRB	**Porto dos Gac**	**129.41**	**118**	PKP	**PKPdf**		**16 10 22.3**	**+0.1**	
MACA	**Manacapuru-AM**	**129.48**	**106**	PKP	**PKPdf**		**16 10 22.2**	**-0.1**	
MACA	**Manacapuru-AM**	**129.48**	**106**	*e*P	**PKPdf**		**16 10 21.8**	**-0.5**	
KGCAE	**Kacgae**	**129.55**	**223**	*i* P	**PKPdf**		**16 10 22.6**	**+0.2**	
MOL	**Molde**	**129.74**	**348**	*e*PKPdf	**PKiKP**		**16 10 21.8**	**-0.3**	
MOL				IVmB_BB			16 10 22.7		
	comp=Z,971nm,1.0s								
DOMB	**Dombas**	**129.89**	**347**	*e*PKPdf	**PKPdf**		**16 10 21.0**	**-0.7**	
DOMB				IVmB_BB			16 10 24.0		
	comp=Z,1μm,1.2s								
DOMB				*e*PP	**PP**		**16 12 37.2**	**+2.9**	
ITRB	**Iturama**	**129.90**	**132**	PKP	**PKPdf**		**16 10 23.1**	**+0.1**	
ITRB	**Iturama**	**129.90**	**132**	*e*P	**PKPdf**		**16 10 22.4**	**-0.6**	
VABB	**Valinhos**	**130.03**	**138**	PKP	**PKPdf**		**16 10 23.5**	**+0.2**	
VAO	**Valinhos**	**130.03**	**138**	*e*P	**PKPdf**		**16 10 23.3**	**0.0**	
SIM	**Simferopol'**	**130.05**	**317**	*e*PKIKP	**PKiKP**		**16 10 23.8**	**+0.5**	
SIM				pmax	pmax				
	comp=Z,143nm,0.7s								
SIM				pmax	pmax				
	comp=Z,286nm,16.0s								
RCLB	**Rio Claro- Sao**	**130.07**	**136**	PKP	**PKPdf**		**16 10 23.7**	**+0.4**	
NC405	**NORSAR Array S**	**130.07**	**345**		**PKPdf**		**16 10 22.3**	**+0.3**	
NB2	**NORSAR Subarra**	**130.26**	**345**	PKPdf	**PKPdf**		**16 10 22.4**	**-0.1**	
	comp=Z,84nm,1.0s,baz=31,slow=1.9								
NB2				PP	**PP**		**16 12 38.8**	**+2.1**	
	comp=Z,156nm,1.7s,baz=32,slow=6.5								
NB2				pPKP			16 13 35.9		
	comp=Z,222nm,1.1s,baz=32,slow=3.2								
NB2	**NORSAR Subarra**	**130.26**	**345**	PKIKP	**PKiKP**		**16 10 23.1**	**-0.2**	
NB2	**NORSAR Subarra**	**130.26**	**345**	PKPdf	**PKPdf**		**16 10 22.4**	**-0.1**	
	baz=31,slow=1.9								
NOA	**NORSAR Array B**	**130.26**	**345**	PKhKP	PKPpre		16 10 08.8		
	comp=Z,7.9nm,1.1s,baz=55,slow=2.0,SNR=11								
NOA				PKP	**PKiKP**		**16 10 22.9**	**-0.4**	
	comp=Z,72nm,0.8s,baz=33,slow=2.0,SNR=123								
NOA				SKPbc	**SKPbc**		**16 13 35.7**	**+1.6**	
	comp=Z,86nm,0.9s,baz=32,slow=3.1,SNR=45								
NOA				SKKPbc	**SKKPbc**		**16 23 15.2**	**-1.8**	
	comp=Z,2.4nm,0.9s,baz=209,slow=3.6,SNR=3.3								
BB19B	**Bebedouro**	**130.31**	**134**	PKP	**PKiKP**		**16 10 24.3**	**-0.4**	
HFS	**Hagfors**	**130.36**	**343**	PKhKP	PKPpre		16 10 06.9		
	comp=Z,2.2nm,0.6s,baz=100,slow=8.1,SNR=5.7								
HFS				PKP	**PKPdf**		**16 10 22.3**	**-0.3**	
	comp=Z,106nm,0.9s,baz=122,slow=2.3,SNR=81								
HFS				SKPbc	**SKPbc**		**16 13 36.3**	**+1.8**	
	comp=Z,110nm,0.7s,baz=60,slow=8.5,SNR=44								
AK03	**Malin Array Si**	**130.38**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.2**	
AKASG	**Malin Array Be**	**130.39**	**326**	PKhKP	PKPpre		16 10 07.8		
	comp=Z,1.5nm,0.4s,baz=48,slow=4.4,SNR=16								
AKASG				PKP	**PKPdf**		**16 10 22.3**	**-0.6**	
	comp=Z,62nm,0.7s,baz=59,slow=2.1,SNR=54								
AKASG				SKPbc	**SKPbc**		**16 13 36.9**	**+2.0**	
	comp=Z,241nm,1.1s,baz=50,slow=4.1,SNR=51								
AKBB	**Malin Array Si**	**130.39**	**326***e*	PKIKP	**PKPdf**		**16 10 22.5**	**-0.4**	
AKBB	**Malin Array Si**	**130.39**	**326**	PKP	**PKPdf**		**16 10 22.6**	**-0.4**	
AK01	**Malin Array Si**	**130.40**	**326**	PKP	**PKPdf**		**16 10 22.6**	**-0.3**	
AK09	**Malin Array Si**	**130.40**	**326**	PKP	**PKPdf**		**16 10 22.6**	**-0.4**	
KIEV	**Kiev**	**130.40**	**326**		**PKPdf**		**16 10 22.8**	**-0.1**	
KIEV	**Kiev**	**130.40**	**326**	⇓P	**PKPdf**		**16 10 23.1**	**+0.2**	
KIEV	**Kiev**	**130.40**	**326**	⇓PKIKP	**PKPdf**		**16 10 23.1**	**+0.2**	
KIEV	**Kiev**	**130.40**	**326**	*i* P	**PKPdf**		**16 10 23.3**	**+0.4**	
	SNR=36								
KIEV	**Kiev**	**130.40**	**326**	*i* PKPdf	**PKPdf**		**16 10 23.3**	**+0.4**	
	SNR=36								
AK08	**Malin Array Si**	**130.41**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK04	**Malin Array Si**	**130.41**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK23	**Malin Array Si**	**130.41**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK02	**Malin Array Si**	**130.42**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK10	**Malin Array Si**	**130.43**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK11	**Malin Array Si**	**130.43**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
NC602	**NORSAR Array S**	**130.44**	**345**	*e*PKPdf	**PKPdf**		**16 10 22.9**	**+0.1**	
NORES	**NORESS Array B**	**130.44**	**345**	PKIKP	**PKPdf**		**16 10 22.4**	**-0.3**	
NORES				pmax	pmax				
	comp=Z,11nm,0.6s								
AK22	**Malin Array Si**	**130.44**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK05	**Malin Array Si**	**130.44**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
AK15	**Malin Array Si**	**130.45**	**326**	PKP	**PKPdf**		**16 10 22.7**	**-0.3**	
CLDB	**Colider**	**130.57**	**118**	PKP	**PKPdf**		**16 10 24.7**	**+0.3**	
CLDB	**Colider**	**130.57**	**118**	*e*P	**PKPdf**		**16 10 22.4**	**-1.9**	
PARB	**Paraibuna**	**130.66**	**139**	PKP	**PKiKP**		**16 10 25.2**	**-0.2**	
PARB	**Paraibuna**	**130.66**	**139**	*e*P	**PKPdf**		**16 10 23.3**	**-1.1**	
KOOLE	**Kule**	**130.76**	**222**	*i* P	**PKiKP**		**16 10 25.2**	**-0.4**	
MI28	**Mi28,Pidlybu**	**131.10**	**327**	PKP	**PKPdf**		**16 10 24.4**	**+0.1**	
FOO	**Floro**	**131.12**	**349**	*e*PKPdf	**PKPdf**		**16 10 24.4**	**+0.4**	
FOO				IVmB_BB			16 10 25.6		
	comp=Z,1μm,1.0s								
FOO				*i*			16 13 37.9		
BZK	**Bozkurt**	**131.21**	**314**	PKP	**PKPdf**		**16 10 25.2**	**+0.4**	
ARAG	**Araguaiana, MT**	**131.24**	**126**	*e*P	**PKPdf**		**16 10 23.6**	**-2.0**	
GRTLG	**Ghanzi**	**131.24**	**224**	*i* P	**PKPdf**		**16 10 24.9**	**-0.8**	
SKAR	**Skarslia**	**131.27**	**346**	*e*PKPdf	**PKiKP**		**16 10 25.3**	**0.0**	
HYA	**Hoyanger**	**131.29**	**348**	*e*PKPdf	**PKPdf**		**16 10 24.7**	**+0.4**	
HYA				*e*PP	**PP**		**16 12 45.1**	**+1.9**	
HYA				*e*SP	SP		16 22 42.5	-0.3	
OSL	**Oslo**	**131.33**	**344**	*e*PKPdf	**PKiKP**		**16 10 25.5**	**+0.1**	
OSL				IVmB_BB			16 10 28.5		
	comp=Z,926nm,2.3s								
SUW	**Suwalki**	**131.44**	**332**	*e*PKP	**PKPdf**		**16 10 24.9**	**+0.1**	
SUW				*e*PP	**PP**		**16 12 39.5**	**-5.1**	
BOAV	**Boa Vista**	**131.45**	**100**	PKP	**PKPdf**		**16 10 25.7**	**-0.3**	
BOAV	**Boa Vista**	**131.45**	**100**	*e*P	**PKPdf**		**16 10 23.0**	**-3.0**	
ASF	**Jabal al Asfar**	**131.45**	**300**	PKP	**PKiKP**		**16 10 26.7**	**0.0**	
	comp=Z,41nm,0.9s,baz=130,slow=1.6,SNR=40							

TIRR Tirgusor 133.95 319 ⇑P PKiKP 16 10 30.8 -0.4
TIRR Tirgusor 133.95 319 ⇑PKiKP PKiKP 16 10 30.8 -0.4
BEL Belsk 133.96 331 ePKP PKPdf 16 10 30.2 +0.6
BEL ePP PP 16 13 00.1 -0.7
COSR Cosmesti PH 133.96 321 ⇑P PKiKP 16 10 31.4 +0.2
EFOR EFORIE 133.98 318 ⇓P PKiKP 16 10 32.1 +0.8
BSD Bornholm Skovb 134.00 338 iP PKPdf 16 10 29.9 +0.3
TESR Tescani 134.03 322 ⇑P PKPdf 16 10 30.6 +0.6
PANC Panciu 134.05 321 ⇑P PKPdf 16 10 30.0 0.0
MFTR Murfatlar 134.07 319 ⇑P PKiKP 16 10 31.2 -0.2
LUNU Lund 134.10 340 iP PKPdf 16 10 30.0 +0.2
LUNU iP PKiKP 16 10 30.1 -1.0
MANR Mangalia 134.13 318 ⇑P PKPdf 16 10 30.3 +0.1
TLBR Topalu 134.14 319 ⇑P PKiKP 16 10 31.4 -0.2
HARR Harsova 134.15 320 ⇑P PKPdf 16 10 29.6 -0.6
HARR Harsova 134.15 320 ⇑PKiKP PKPdf 16 10 29.6 -0.6
ODBI Odobesti 134.16 321 ⇑P PKiKP 16 10 31.5 -0.1
BDFB Brasilia 134.19 129 PKP PKPdf 16 10 31.6 +0.3
comp=Z,18nm,0.7s,baz=215,slow=3.0,SNR=18
BDFB SKPab SKPbc 16 13 50.9 +1.5
comp=Z,71nm,1.1s,baz=220,slow=2.1,SNR=18
CVDA Cernavoda 134.25 319 ⇓P PKPdf 16 10 30.1 -0.3
BURAR Bucovina Array 134.27 324 ⇓P PKiKP 16 10 31.3 -0.6
BURAR Bucovina Array 134.27 324 ⇓PKiKP PKiKP 16 10 31.3 -0.6
VRI Vrincioaia 134.31 322 ⇑P PKPdf 16 10 29.7 -0.8
VRI Vrincioaia 134.31 322 ⇑PKiKP PKPdf 16 10 29.7 -0.8
PLOR Plostina 134.37 322 ⇓P PKPdf 16 10 30.9 +0.2
PLOR Plostina 134.37 322 ⇓PKiKP PKPdf 16 10 30.9 +0.2
COP Copenhagen 134.40 340 iP PKPdf 16 10 30.4 +0.1
KWP Kalwaria Pacla 134.44 328 ePKP PKPdf 16 10 30.8 +0.1
KWP ePP PP 16 13 03.8 -0.1
BISRR Bisoca 134.48 321 ⇓P PKPdf 16 10 31.6 +0.7
ICOR Ion Corvin 134.50 319 ⇑P PKiKP 16 10 31.7 -0.6
PSN Preselentsi 134.50 318 eP PKiKP 16 10 32.0 -0.3
GKP Gorka Klasztor 134.50 335 ePKP PKiKP 16 10 31.4 -0.6
GKP ePP PP 16 13 04.7 +0.6
AMRR Amara 134.56 320 ⇑P PKiKP 16 10 32.5 +0.1
AMRR Amara 134.56 320 ⇑PKiKP PKiKP 16 10 32.5 +0.1
PGOR Pogoanele 134.63 320 ⇑P PKiKP 16 10 33.2 +0.6
COVR Voineasa-Covas 134.64 322 ⇑P PKPdf 16 10 31.4 +0.2
MUD Monsted U'grnd 134.75 343 iP PKiKP 16 10 32.0 -0.4
NEHR Nehoiu 134.79 321 ⇑P PKPdf 16 10 27.8 -3.6
ISR Istrita 134.80 321 ⇓P PKPdf 16 10 29.6 -1.9
ISR Istrita 134.80 321 ⇓PKiKP PKPdf 16 10 29.6 -1.9
LEHL Lehliu 134.95 320 ⇑P PKiKP 16 10 32.8 -0.4
MLR Muntele Rosu 134.97 321 PKP PKPdf 16 10 32.3 +0.3
comp=Z,96nm,1.0s,baz=46,slow=3.7,SNR=40
MLR SKPbc SKPbc 16 13 52.9 +1.8
comp=Z,297nm,1.3s,baz=9.7,slow=3.4,SNR=21
MLR SKKPbc SKKPbc 16 23 00.1 +1.0
comp=Z,41nm,1.4s,baz=289,slow=5.6,SNR=9.9
MLR Muntele Rosu 134.97 321 ⇑P PKPdf 16 10 32.2 +0.3
RGN Rugen 135.02 339 eSKPdf SKPab 16 13 54.1 -0.5
ARCR ARCALIA 135.05 324 ⇓P PKiKP 16 10 32.9 -0.4
DOPR Dopca 135.06 322 ⇑P PKPdf 16 10 32.4 +0.5
KOLS Kolonicke sedl 135.09 328 ePKIKP PKiKP 16 10 33.3 -0.1
KOLS e 16 13 09.1
KOLS Kolonicke sedl 135.09 328 ePKP PKiKP 16 10 33.3 -0.1
KOLS ePP PP 16 13 09.1 +1.0
TSUM Tsumeb 135.17 223 SKKPbc SKKPbc 16 22 56.3 +0.2
comp=Z,5,0nm,1.1s,baz=328,slow=5.9,SNR=6.2
PRD Provadia 135.19 318 eP PKiKP 16 10 33.4 -0.3
BMR Baia Mare 135.19 325 ⇑P PKPdf 16 10 32.8 +0.7
BMR Baia Mare 135.19 325 ⇑PKiKP PKPdf 16 10 32.8 +0.7
SULR 135.20 320 ⇑P PKPdf 16 10 32.0 -0.1
NEF NEVSHA 135.23 318 eP PKPdf 16 10 33.0 +0.7
STHS Stebnicka Huta 135.32 329 ePKIKP PKPdf 16 10 32.4 +0.1
STHS Stebnicka Huta 135.32 329 ePKP PKPdf 16 10 32.4 +0.1
STHS e 16 13 53.5
OJC Ojcow 135.51 330 ePKP PKPdf 16 10 32.5 -0.1
OJC ePP PP 16 13 10.8 +0.2
DIAM Diamantina, MG 135.52 136 PKP PKPdf 16 10 33.8 0.0
DIAM Diamantina, MG 135.52 136 eP PKPdf 16 10 33.0 -0.8
MDB Medias 135.56 323 ⇑P PKiKP 16 10 34.9 +0.5
MDB Medias 135.56 323 ⇑PKiKP PKiKP 16 10 34.9 +0.5
RAZG Razgrad 135.58 319 ⇑P PKPdf 16 10 33.3 +0.3
CBBR Cluj-Babes-Bol 135.68 324 ⇑P PKiKP 16 10 34.2 -0.4
CJR Cluj-Napoca 135.69 324 ⇑P PKiKP 16 10 34.3 -0.5
CJR Cluj-Napoca 135.69 324 ⇑PKiKP PKiKP 16 10 34.3 -0.5
NIE Niedzica 135.79 329 ePKP PKiKP 16 10 34.6 -0.3
NIE ePP PP 16 13 12.0 -0.4
PHSR Pinarhisar 135.80 316 ⇑P PKiKP 16 10 34.6 -0.5
MESR Meseseni 135.80 325 ⇑P PKPdf 16 10 33.1 -0.1
ARR Arges 135.83 322 ⇑P PKiKP 16 10 34.5 -0.6
TNR Turnu Rosu 135.89 323 ⇑P PKiKP 16 10 34.4 -0.7
TNR Turnu Rosu 135.89 323 ⇑PKiKP PKiKP 16 10 34.4 -0.7
MAL2 Monte Alegre, 135.92 108 PKP PKPdf 16 10 32.3 -2.2
BAND Balkesir-Ban 135.94 314 ⇓P PKPdf 16 10 33.7 -0.1
MARR Marisel-Cluj 135.98 324 ⇑P PKPdf 16 10 33.7 -0.1
HUMR Humele 136.06 321 ⇑P PKPdf 16 10 34.3 +0.5
SZH Strazhitsa 136.06 319 eP PKiKP 16 10 34.8 -0.7
COPA Copaceanca 136.11 320 ⇑P PKPdf 16 10 34.6 +0.7
ELND Elena 136.29 318 ⇑P PKPdf 16 10 35.0 +0.7
LANS Liptovska Anna 136.38 329 ePKIKP PKiKP 16 10 35.9 -0.2
LANS e 16 13 16.5
LANS Liptovska Anna 136.38 329 ePKP PKiKP 16 10 35.9 -0.2
LANS ePP PP 16 13 16.5 +0.4
LANS e 16 13 58.2
LANS e 16 14 58.3
BORR Bors 136.48 326 ⇑P PKPdf 16 10 35.0 +0.5
RUE Ruedersdorf 136.48 337 ePKP PKPpre 16 10 25.0
baz=38,slow=2.8
RUE eSKPdf SKPdf 16 13 58.3 +0.5
OKC Ostrava-Krasne 136.55 331 ePKIKP PKiKP 16 10 35.8 -0.5
OKC Ostrava-Krasne 136.55 331 ePKPDF PKiKP 16 10 35.8 -0.5
OKC eSKP 16 13 58.6
DEV Deva 136.56 324 ⇓P PKPdf 16 10 35.1 +0.4
DEV Deva 136.56 324 ⇓PKIKP PKPdf 16 10 35.1 +0.4
STEB Steborice 136.66 331 ePKPpre PKPpre 16 10 23.6
STEB ePKPDF PKiKP 16 10 36.2 -0.3
STEB eSKP 16 13 59.5
KSP Ksiaz 136.68 333 ePKP PKPdf 16 10 35.3 +0.5
KSP ePP PP 16 13 15.7 -2.1
SJMB Sao Joao De Ma 136.86 139 PKP PKPdf 16 10 35.7 -0.4
SJMB Sao Joao De Ma 136.86 139 eP PKPdf 16 10 34.0 -2.1
PLVB Pleven 136.86 320 ⇓P PKPdf 16 10 36.2 +0.9
MORC Moravsky Berou 136.88 331 ePKP PKPdf 16 10 35.7 +0.5
MORC ePP PP 16 13 20.1 +0.9
MORC e 16 13 58.9
MORC e 16 14 57.0
MORC e 16 22 54.5
GZR Gura Zlata 136.91 323 ⇑P PKPdf 16 10 35.5 0.0
GZR Gura Zlata 136.91 323 ⇑PKIKP PKPdf 16 10 35.5 0.0
RIB01 Linhares ES 136.91 140 PKP PKPdf 16 10 36.3 +0.1
RIB01 Linhares ES 136.91 140 eP PKPdf 16 10 36.5 +0.3
DIM Dimitrovgrad 136.91 317 eP PKPdf 16 10 36.1 +0.7
OSTC Ostas 136.92 333 ePKHKP PKPpre 16 10 26.0
OSTC e 16 10 36.3
OSTC Ostas 136.92 333 ePKPpre PKPpre 16 10 26.0
OSTC ePKPDF PKiKP 16 10 36.3 -0.8
PSZ Piszkesteto 136.97 328 ⇑P PKPdf 16 10 35.2 -0.3
PSZ Piszkesteto 136.97 328 ⇑PKIKP PKPdf 16 10 35.2 -0.3
CHVC Chvalec 136.97 333 ePKIKP PKPpre 16 10 30.0
CHVC Chvalec 136.97 333 eSKP 16 13 59.3
GORT1 Trebel 136.98 339 ePKP PKPpre 16 10 25.9
baz=38,slow=2.8
BSFB Barra de Sao F 136.98 139 eP PKPdf 16 10 36.3 0.0
KRLC Kraliky 137.01 332 ePKHKP PKPpre 16 10 25.0
KRLC e 16 10 36.7
KRLC Kraliky 137.01 332 ePKPpre PKPpre 16 10 25.0
KRLC ePKPDF PKiKP 16 10 36.7 -0.6
KRLC eSKP 16 13 59.4
DPC Dobruska-Polom 137.02 333 ePKHKP PKPpre 16 10 25.6
DPC Dobruska-Polom 137.02 333 ePKPpre PKPpre 16 10 25.6
DPC eSKP 16 14 00.1
MAUC Maruska 137.03 331 ePKPDF PKiKP 16 10 37.2 -0.2
MAUC eSKP 16 13 59.9
SIRR Siria 137.04 325 ⇑P PKiKP 16 10 36.6 -0.8
UPC Upice 137.04 333 ePKHKP PKPpre 16 10 26.4
UPC e 16 10 37.1
UPC Upice 137.04 333 ePKPpre PKPpre 16 10 26.4
UPC ePKPDF PKiKP 16 10 37.1 -0.2
UPC eSKP 16 13 59.6
SRE Strehaia 137.06 322 ⇑P PKiKP 16 10 36.8 -0.7
SRE Strehaia 137.06 322 ⇑PKIKP PKiKP 16 10 36.8 -0.7
SURR Surduc 137.07 324 ⇓P PKPdf 16 10 36.3 +0.6
HLG Helgoland 137.08 342 ePKP PKPpre 16 10 25.7
baz=38,slow=2.8
HLG eSKPdf SKPdf 16 13 59.9 +1.1
VYHS Vyhne 137.13 329 ePKIKP PKPdf 16 10 36.4 +0.7
VYHS e 16 13 21.0
VYHS Vyhne 137.13 329 ePKP PKPdf 16 10 36.4 +0.7
VYHS ePP PP 16 13 21.0 +0.2
VYHS e 16 13 59.8
VYHS e 16 14 58.7
VYHS e 16 22 54.6
ATM1 UHE Belo Monte 137.19 111 PKP PKPpre 16 10 30.4
JANB Januaria 137.28 132 PKP PKPpre 16 10 29.1
JANB Januaria 137.28 132 eP PKPdf 16 10 36.8 -0.2
BMO2 UHE Belo Monte 137.38 111 PKP PKPpre 16 10 31.2
EZN Ezine 137.40 314 ⇑P PKPdf 16 10 36.7 +0.3
EZN Ezine 137.40 314 ⇑PKIKP PKPdf 16 10 36.7 +0.3
HERR Herculane 137.41 323 ⇑P PKPdf 16 10 36.9 +0.7
MPEP Malo Peshtene 137.43 320 eP PKiKP 16 10 37.5 -0.8
PUNG Punghina 137.43 322 ⇓P PKPdf 16 10 37.1 +0.8
BZS Buzias 137.44 324 ⇓P PKPdf 16 10 35.8 -0.5
BZS Buzias 137.44 324 ⇓PKIKP PKPdf 16 10 35.8 -0.5
VALD Valchedram 137.44 321 eP PKPdf 16 10 37.2 +0.8
JAVC Velka Javorina 137.45 330 ePKP PKiKP 16 10 38.0 -0.3
JAVC e 16 14 02.0
JAVC e 16 14 59.6
FLTG Flechtingen 137.54 338 ePKP PKPpre 16 10 25.8
baz=38,slow=2.8
FLTG eSKPdf SKPdf 16 14 01.0 +1.3
TIM Timisoara 137.60 324 ⇑P PKiKP 16 10 38.1 -0.5
TIM Timisoara 137.60 324 ⇑PKIKP PKiKP 16 10 38.1 -0.5
RZN Rozhen 137.62 317 eP PKPdf 16 10 36.2 -0.9
VRAC Vranov 137.64 331 PKhKP PKPpre 16 10 26.5
comp=Z,2.2nm,0.6s,baz=64,slow=4.9,SNR=5.6
VRAC PKP PKPdf 16 10 37.1 +0.5
comp=Z,64nm,1.0s,baz=52,slow=1.7,SNR=36
VRAC SKPbc SKPbc 16 14 00.6 +1.8
comp=Z,177nm,1.1s,baz=50,slow=2.1,SNR=23
VRAC SKKPbc SKKPbc 16 22 49.5 +0.4
comp=Z,1.7nm,0.4s,baz=232,slow=5.4,SNR=8.7
VRAC Vranov 137.64 331 ePKP PKPdf 16 10 37.1 +0.5
VRAC ePP PP 16 13 24.9 +1.0
VRAC e 16 14 01.3
VRAC e 16 14 59.6
VRAC e 16 22 49.9
VRAC Vranov 137.64 331 ⇑P PKPdf 16 10 34.0 -2.6
BRG Berggiesshubel 137.65 335 ePKP PKPpre 16 10 27.5
baz=38,slow=2.8
BRG eSKPdf SKiKP 16 14 02.4 -0.7
BRG Berggiesshubel 137.65 335 ePKP PKPpre 16 10 26.9
BRG Amp 16 10 30.8
comp=Z,14nm,0.9s
BRG Berggiesshubel 137.65 335 P PKiKP 16 10 38.6 0.0
BRG Amp 16 10 41.7
comp=Z,110nm,0.8s
BRG Berggiesshubel 137.65 335 SS SS 16 31 20.0 -2.1
PVCC Panska Ves 137.65 334 ePKIKP PKiKP 16 10 38.3 -0.2
PVCC Panska Ves 137.65 334 ePKPDF PKiKP 16 10 38.3 -0.2
PVCC eSKP 16 13 57.4
BMO1 UHE Belo Monte 137.67 111 PKP PKPpre 16 10 31.8
CLL Collm 137.69 336 ePKHKP PKPpre 16 10 29.0
CLL i 16 10 37.2
CLL e 16 11 12.0
CLL pmax pmax
comp=Z,16nm,0.9s
CLL pmax pmax
comp=Z,61nm,1.0s
CLL Collm 137.69 336 ePKP PKPpre 16 10 27.6
baz=38,slow=2.8
CLL eSKPdf SKiKP 16 14 01.8 -1.3
CLL eL L 17 13 41.5
comp=Z,540nm,20.5s
NRDL Niedersach Rie 137.81 339 ePKP PKPpre 16 10 26.9
baz=38,slow=2.8
NRDL eSKPdf SKPdf 16 14 01.1 +1.0
RICC Richard 137.84 335 ePKPDF PKiKP 16 10 38.5 -0.4
RICC eSKP 16 13 59.5
SRO Srobarova 137.84 329 ePKIKP PKPdf 16 10 37.5 +0.5
SRO e 16 13 25.8
SRO Srobarova 137.84 329 ePKP PKPdf 16 10 37.5 +0.5
SRO ePP PP 16 13 25.8 +0.6
SRO e 16 14 02.3
SRO e 16 15 01.2
RETH Rethem/Aller, 137.85 340 ePKP PKPpre 16 10 27.1
baz=38,slow=2.8
RETH eSKPdf SKPdf 16 14 01.7 +1.5
MDVR Moldovita 137.87 323 ⇓P PKPdf 16 10 37.4 +0.1
ASSE Asse, Remlinge 137.91 338 ePKP PKPpre 16 10 28.0
baz=38,slow=2.8
ASSE eSKPdf SKiKP 16 14 02.1 -1.4
KRUC Moravsky 137.91 331 ePKP PKPdf 16 10 37.3 +0.2
KRUC ePP PP 16 13 26.6 +1.0
KRUC e 16 14 01.8
KRUC e 16 14 59.9
KRUC e 16 22 47.5
PRPB Parauapebas 138.01 117 PKP PKPpre 16 10 33.3
PRPB Parauapebas 138.01 117 eP PKPdf 16 10 38.3 -0.1
HSKC Hora Svate Kat 138.06 335 ePKPpre PKPpre 16 10 28.6
HSKC ePKPDF PKiKP 16 10 38.7 -0.7
HSKC eSKP 16 14 01.6
PRU Pruhonice 138.06 334 ePKHKP PKPpre 16 10 28.2
PRU e 16 10 38.7
PRU MLR MLR
comp=Z,800nm,22.4s
PRU Pruhonice 138.06 334 ePKPpre PKPpre 16 10 28.2
PRU ePKPDF PKiKP 16 10 38.7 -0.7
PRU eSKP 16 14 00.4
PRU AMS AMS 17 04 20.0
comp=Z,800nm,22.4s
PLNA Plana 138.08 319 eP PKPdf 16 10 38.1 +0.3
VTS Vitosha 138.13 319 eP PKPdf 16 10 37.9 0.0
TREC Trest 138.16 332 eSKP 16 14 03.6
ZST Bratislava 138.18 330 ePKIKP PKPdf 16 10 38.5 +0.9
ZST 16 13 28.5
ZST Bratislava 138.18 330 ePKP PKPdf 16 10 38.5 +0.9
ZST ePP PP 16 13 28.5 +1.2
ZST e 16 14 04.0
ZST e 16 15 00.4
NEUB Neuenburg 138.25 337 ePKP PKPpre 16 10 27.6
baz=38,slow=2.8
NEUB eSKPdf SKiKP 16 14 02.9 -1.4
CLZ Clausthal 138.25 338 ePKP PKPpre 16 10 27.7
baz=38,slow=2.8
CLZ eSKPdf SKiKP 16 14 03.2 -1.2
MMB Musomishta 138.34 318 eP PKPpre 16 10 27.9
EKA Eskdalemuir Ar 138.44 352 PKhKP PKPpre 16 10 27.3
comp=Z,28nm,0.9s,baz=0.4,slow=2.6,SNR=25
EKA PKP PKPdf 16 10 37.5 -0.4
comp=Z,32nm,0.8s,baz=3.1,slow=1.7,SNR=17
EKA SKPbc SKPbc 16 14 02.2 +1.3
comp=Z,196nm,0.9s,baz=353,slow=2.3,SNR=57
EKA SKKPbc SKKPbc 16 22 46.8 +0.5
comp=Z,7.8nm,1.0s,baz=199,slow=4.4,SNR=9.1
SMTB Santa Maria do 138.51 122 PKP PKPpre 16 10 34.8
SMTB Santa Maria do 138.51 122 eP PKPdf 16 10 37.6 -1.7
BOVS Bovan 138.53 322 ⇓P PKPdf 16 10 38.5 +0.1
SDBA SAO DESIDERIO 138.55 128 eP PKPdf 16 10 37.8 -1.5
KKB Krupnik 138.60 318 eP PKPdf 16 10 38.5 -0.1
TANN Tannenbergstha 138.60 336 ePKP PKPpre 16 10 28.8
baz=38,slow=2.8
TANN eSKPdf SKiKP 16 14 03.8 -1.4
ZVC Zvikov 138.63 333 ePKPpre PKPpre 16 10 27.5
GTTG Gottingen 138.64 339 ePKP PKPpre 16 10 29.2
baz=38,slow=2.8
GTTG eSKPdf SKiKP 16 14 03.8 -1.3
PLN Plauen 138.67 336 ePKP PKPpre 16 10 28.7
baz=38,slow=2.8
PLN eSKPdf SKiKP 16 14 03.8 -1.5
MORH Mrgy, Hungar 138.72 327 eP PKPdf 16 10 38.9 +0.3
IBBN Ibbenburen 138.74 341 ePKP PKPpre 16 10 28.9
baz=38,slow=2.8
IBBN eSKPdf SKiKP 16 14 04.6 -0.6
MOX Moxa 138.76 336 ePKP PKPpre 16 10 29.0
baz=38,slow=2.8
MOX eSKPdf SKiKP 16 14 04.3 -1.1
MOX eL L 17 15 14.0
comp=Z,390nm,20.5s
RONA Rosalia, Austr 138.91 330 iPKP PKPpre 16 10 31.7
comp=Z,194nm,0.9s,SNR=26
RONA iPP PP 16 13 31.6 -0.3
comp=Z,50nm,1.8s
RONA iSKP 16 14 04.3
comp=Z,0.1nm,0.0s,SNR=16
RONA iSKKP 16 22 42.9
comp=Z,25nm,1.5s
CONA Conrad Observa 138.96 331 iPKP PKPpre 16 10 32.9
comp=Z,147nm,0.7s,SNR=13
CONA iPP PP 16 13 32.9 +0.7
comp=Z,41nm,1.9s
CONA iSKP 16 14 04.9
comp=Z,2μm,3.4s,SNR=17
CONA iSKKP 16 22 41.9
comp=Z,25nm,1.7s
CKRC Cesky Krumlov 139.03 333 ePKPpre PKPpre 16 10 30.0
CKRC ePKPDF PKiKP 16 10 40.9 -0.6
CKRC eSKP 16 14 04.8
MANZ Manzenberg 139.08 335 ePKP PKPpre 16 10 30.6
baz=38,slow=2.8
MANZ eSKPdf SKiKP 16 14 05.0 -1.1
KHC Kasperske Hory 139.12 333 ePKHKP PKPpre 16 10 31.9
KHC e 16 10 40.6
KHC MLR MLR
comp=Z,700nm,22.5s
KHC Kasperske Hory 139.12 333 ePKPpre PKPpre 16 10 31.9
KHC ePKPDF PKiKP 16 10 40.6 -1.1
KHC eSKP 16 14 05.1
KHC eSKKP 16 22 44.5
KHC AMS AMS 17 04 30.0
comp=Z,700nm,22.5s
TUC4 UHE Tucurui 139.17 114 PKP PKPdf 16 10 36.9 -3.5
IDGL Inch Island, C 139.18 355 PKP PKPdf 16 10 38.2 -1.0
ROTZ Rotzenmuhle 139.21 335 ePKP PKPpre 16 10 30.5
baz=38,slow=2.8
ROTZ eSKPdf SKiKP 16 14 05.6 -0.8
UBBA Unterbreizbach 139.22 338 ePKP PKPpre 16 10 30.6
baz=38,slow=2.8
UBBA eSKPdf SKiKP 16 14 05.1 -1.1
VAY Valandovo 139.22 318 iP PKPpre 16 10 32.8
GEC2 GERESS Array S 139.28 333 ePKP PKPpre 16 10 32.1
baz=38,slow=2.8
GEC2 eSKPdf SKiKP 16 14 05.6 -1.1
GERES GERESS Array B 139.28 333 PKP PKPdf 16 10 40.9 +1.1
comp=Z,1μm,0.4s,baz=77,slow=1.3,SNR=9.9
GERES SKPbc SKiKP 16 14 05.3 -1.4
comp=Z,135nm,1.0s,baz=90,slow=1.3,SNR=4.5
GERES SKKPbc SKKPbc 16 22 43.4 +0.6
comp=Z,2.7nm,1.2s,baz=208,slow=7.6,SNR=5.2
WET Wettzell 139.41 334 ePKP PKPpre 16 10 31.4
baz=38,slow=2.8
WET eSKPdf SKiKP 16 14 06.2 -0.6
WET eL L 17 08 51.2
comp=Z,366nm,20.8s
KASTN Kahler Asten 139.46 339 ePKP PKPpre 16 10 31.6
baz=38,slow=2.8
KASTN eSKPdf SKiKP 16 14 06.2 -0.7
BEHE Becsehely 139.52 328 eP PKPdf 16 10 39.1 -1.0
SKO Skopje 139.60 320 iP PKPpre 16 10 33.5
ARSA Arzberg 139.60 330 iPKP PKPpre 16 10 34.5
comp=Z,34nm,0.8s,SNR=6.2
ARSA iPP PP 16 13 37.3 +1.2
comp=Z,44nm,1.7s
ARSA iSKP 16 14 05.9
comp=Z,106nm,1.4s,SNR=7.0
ARSA iSKKP 16 22 41.1
comp=Z,21nm,1.7s,SNR=5.8
BUG Bochum--Univer 139.64 341 ePKP PKPpre 16 10 30.9
baz=38,slow=2.8
BUG eSKPdf SKiKP 16 14 05.9 -1.3
GRF Grafenberg Arr 139.67 336 ePKP PKPpre 16 10 32.1
baz=38,slow=2.8
GRF eSKPdf SKiKP 16 14 06.7 -0.6
GRF eL L 17 17 09.9
comp=Z,461nm,19.2s
GRFO Grafenberg 139.67 336 PKPpre 16 10 32.3
GRFO Grafenberg 139.67 336 PKHKP PKPpre 16 10 32.3
PAL01 Palmeiras do T 139.71 119 PKP PKPdf 16 10 37.9 -3.5
MOA Molln 139.77 332 iPKP PKPpre 16 10 35.5
comp=Z,71nm,0.9s,SNR=25
MOA iPP PP 16 13 37.9 +0.9
comp=Z,30nm,1.3s
MOA iSKP 16 14 06.2
comp=Z,132nm,1.4s,SNR=5.2
MOA iSKKP 16 22 39.3
comp=Z,11nm,1.6s
MOA Molln 139.77 332 iS SKPbc 16 14 06.2 +1.4
comp=Z,132nm,1.4s,SNR=5.2
PAL2 UHE Estreito - 139.85 119 PKP PKPpre 16 10 34.2
RUDO Rudo 139.92 323 eP PKPpre 16 10 34.7
MOSL Moslavina 140.11 327 eP PKPpre 16 10 32.6
ILTH Belurgan, Co L 140.11 354 PKP PKPdf 16 10 37.2 -3.7
BIOA Bad Ischl, Aus 140.17 332 iPKP PKPpre 16 10 36.9
comp=Z,144nm,1.1s
BIOA iPP PP 16 13 39.5 0.0
comp=Z,14nm,1.5s
BIOA iSKP 16 14 07.1
comp=Z,137nm,1.7s,SNR=7.6
BIOA iSKKP 16 22 38.5
comp=Z,20nm,1.2s
BIOA Bad Ischl, Aus 140.17 332 iS SKPbc 16 14 07.1 +1.1
comp=Z,137nm,1.7s,SNR=7.6
SOKA Soboth 140.25 330 iPKP PKPpre 16 10 36.7
comp=Z,111nm,1.1s,SNR=21
SOKA iPP PP 16 13 39.0 -1.1
comp=Z,42nm,1.9s
SOKA iSKP 16 14 06.9
comp=Z,207nm,1.2s,SNR=9.3
SOKA iSKKP 16 22 39.1
comp=Z,24nm,1.5s
IDI Anoyia 140.26 308 PKP PKPdf 16 10 39.4 -2.5
TNS Taunus Mts 140.28 339 ePKP PKPpre 16 10 34.0
baz=38,slow=2.8
TNS eSKPdf SKiKP 16 14 08.0 -0.6
TNS eL L 17 14 32.8
comp=Z,358nm,20.9s
CMC01 Camacan, BA 140.39 137 PKP PKPpre 16 10 37.0
CMC01 Camacan, BA 140.39 137 eP PKPdf 16 10 41.1 -1.5
A051A Mrakovica 140.42 326 ⇑iP PKPpre 16 10 35.2
BLY Banja Luka 140.45 326 ⇑iP PKPpre 16 10 35.3
BLY Banja Luka 140.45 326 ⇓P PKPpre 16 10 37.3
OHR Ohrid 140.47 319 iP PKPpre 16 10 35.6
RJOB Jochberg 140.52 333 ePKP PKPpre 16 10 35.4
baz=38,slow=2.8
RJOB eSKPdf SKPbc 16 14 08.0 +1.1
OBKA Obir 140.60 330 iPKP PKPpre 16 10 37.3
comp=Z,47nm,1.1s,SNR=12
OBKA iPP PP 16 13 42.0 -0.2
comp=Z,34nm,1.4s
OBKA iSKP 16 14 08.1
comp=Z,153nm,1.8s,SNR=5.3
OBKA iSKKP 16 22 35.0
comp=Z,25nm,1.7s
KLINJ Klinje 140.65 323 eP PKPdf 16 10 42.7 +0.3
PDG Podgorica 140.69 322 ⇓P PKPdf 16 10 40.8 -1.5
BEBN Eben Emael 140.70 341 dPKP PKPdf 16 10 42.5 +0.5
BEBN dPKiKP PKiKP 16 10 45.4 +0.7
BTNL Ternell 140.74 341 dPKP PKPdf 16 10 42.7 +0.5
KBA Koelnbreinsper 140.76 332 iPKP PKPpre 16 10 37.1
comp=Z,142nm,0.8s
KBA iPP PP 16 13 43.4 +0.1
comp=Z,44nm,1.7s
KBA iSKP 16 14 07.3
comp=Z,127nm,1.2s
KBA iSKKP 16 22 37.2
comp=Z,14nm,1.3s
MEM Membach 140.76 341 dPKP PKPdf 16 10 42.7 +0.4
OZLJ Ozalj 140.77 328 ⇑iP PKPpre 16 10 36.1
LESA Schwarzleotal 140.81 332 iPKP PKPpre 16 10 37.6
comp=Z,101nm,0.6s,SNR=38
LESA iPP PP 16 13 43.1 -0.3
comp=Z,19nm,0.9s
LESA iSKP 16 14 07.3
comp=Z,162nm,0.9s,SNR=7.5
LESA iSKKP 16 22 37.9
comp=Z,28nm,2.0s
LESA Schwarzleotal 140.81 332 iS SKPbc 16 14 07.3 -0.4
comp=Z,162nm,0.9s,SNR=7.5
FUR Furstenfeldbru 140.84 334 ePKP PKPpre 16 10 37.0
baz=38,slow=2.8
FUR eSKPdf SKiKP 16 14 09.2 -0.7
FUR eL L 17 21 48.4
comp=Z,405nm,19.3s
DSB Dublin 140.88 354 PKP PKPdf 16 10 41.4 -1.0
BSTI Sart Tilman 140.92 341 dPKP PKPdf 16 10 43.0 +0.5
LJU Ljubljana 140.94 329 iPKPdf PKPpre 16 10 38.4
LJU ePP PP 16 13 42.9 -1.4
LJU e 16 14 09.3
LJU e 16 15 06.8
LJU eSKKSac SKKSac 16 20 23.7 -2.4
IGLA Glengowla, Co 140.95 357 PKP PKPdf 16 10 41.5 -0.9
MYKA Terra Mystica 140.95 331 iPKP PKPpre 16 10 37.8
comp=Z,55nm,0.6s,SNR=20
MYKA iPP PP 16 13 43.5 -0.8
comp=Z,23nm,1.9s

MYKA				*i* SKP			16 14 07.7	
	comp=Z,70nm,0.9s							
MYKA				*i* SKKP			16 22 36.7	
	comp=Z,39nm,1.7s,SNR=6.5							
A050A	**Klekovaca**	**140.97**	**326**	*e*P	PKPpre	16 10 37.5		
BHOU	**Houvegnez**	**140.98**	**341**	*d*PKP	**PKPdf**	**16 10 43.2**	**+0.6**	
TREB	**Trebinje**	**141.06**	**323**	*e*P	PKPpre	16 10 37.5		
UCC	**Uccle**	**141.09**	**343**	*d*PKP	**PKPdf**	**16 10 43.4**	**+0.6**	
BCLA	**Clavier**	**141.15**	**341**	*d*PKP	**PKPdf**	**16 10 43.3**	**+0.3**	
STU	**Stuttgart**	**141.20**	**337**	*e*PKP	PKPpre	16 10 37.3		
	baz=38,slow=2.8							
STU				*e*SKPdf	**SKiKP**	**16 14 10.5**	**0.0**	
CEY	**Cerknica**	**141.21**	**329**	*e*PKPdf	PKPpre	16 10 36.9		
BGES	**Gesves**	**141.24**	**342**	*d*PKP	**PKPdf**	**16 10 43.8**	**+0.7**	
JAVS	**Javornik**	**141.28**	**330**	*e*PKPdf	PKPpre	16 10 37.2		
TMAB	**Tom-Au,PA,Br**	**141.30**	**113**	PKP	PKPpre	16 10 37.3		
TMAB	**Tom-Au,PA,Br**	**141.30**	**113**	*e*P	**PKPdf**	**16 10 40.8**	**-3.5**	
STON	**Ston**	**141.34**	**323**	*e*P	PKPpre	16 10 37.4		
KIJV	**Kijevo**	**141.35**	**326**⇑	*i*P	PKPpre	16 10 37.6		
WATA	**Walderalm**	**141.36**	**333**	*i* PKP	**PKPdf**	**16 10 40.0**	**-3.6**	
	comp=Z,54nm,0.7s,SNR=61							
WATA				*i* PP	**PP**	**16 13 45.6**	**-1.2**	
	comp=Z,43nm,1.4s							
WATA				*i* SKP		16 14 09.8		
	comp=Z,242nm,1.8s,SNR=6.6							
WATA				*i* SKKP		16 22 34.4		
	comp=Z,35nm,1.5s,SNR=7.9							
WATA	**Walderalm**	**141.36**	**333**	*i* S	**SKPbc**	**16 14 09.8**	**+0.6**	
	comp=Z,242nm,1.8s,SNR=6.6							
ABTA	**Abfaltersbach**	**141.39**	**332**	*i* PKP	PKPpre	16 10 38.5		
	comp=Z,195nm,0.8s,SNR=26							
ABTA				*i* PP	**PP**	**16 13 46.7**	**-0.3**	
	comp=Z,26nm,1.9s							
ABTA				*i* SKP		16 14 08.3		
	comp=Z,250nm,1.5s,SNR=8.5							
ABTA				*i* SKKP		16 22 35.3		
	comp=Z,55nm,1.7s,SNR=8.7							
WTTA	**Wattenberg**	**141.39**	**333**	*i* PKP	PKPpre	16 10 39.0		
	comp=Z,202nm,0.9s,SNR=85							
WTTA				*i* PP	**PP**	**16 13 45.7**	**-1.4**	
	comp=Z,50nm,1.8s							
WTTA				*e*SKP		16 14 09.8		
	comp=Z,266nm,1.7s,SNR=11							
WTTA				*i* SKKP		16 22 33.6		
	comp=Z,54nm,1.6s,SNR=6.6							
WTTA	**Wattenberg**	**141.39**	**333**	*e*S	**SKPbc**	**16 14 09.8**	**+0.5**	
	comp=Z,266nm,1.7s,SNR=11							
RCHB	**Rochefort**	**141.40**	**341**	*d*PKP	**PKPdf**	**16 10 43.8**	**+0.4**	
BMRD	**Maredsous**	**141.41**	**342**	*d*PKP	**PKPdf**	**16 10 44.4**	**+1.0**	
WLF	**Walferdange**	**141.53**	**340**	PKP	PKPpre	16 10 38.3		
WLF	**Walferdange**	**141.53**	**340**	*d*PKP	**PKPdf**	**16 10 43.9**	**+0.2**	
WLF	**Walferdange**	**141.53**	**340**	*e*PKP	PKPpre	16 10 38.7		
	baz=38,slow=2.8							
WLF				*e*SKPdf	**SKiKP**	**16 14 12.1**	**+1.0**	
MOTA	**Moosalm**	**141.56**	**334**	*i* PKP	PKPpre	16 10 39.3		
	comp=Z,213nm,0.9s,SNR=59							
MOTA				*i* PP	**PP**	**16 13 47.2**	**-0.9**	
	comp=Z,45nm,1.4s							
MOTA				*i* SKP		16 14 08.7		
	comp=Z,197nm,1.0s,SNR=7.6							
MOTA				*i* SKKP		16 22 34.8		
	comp=Z,27nm,1.6s							
MOTA	**Moosalm**	**141.56**	**334**	*i* S	**SKPbc**	**16 14 08.7**	**-1.0**	
	comp=Z,197nm,1.0s,SNR=7.6							
RETA	**Reutte**	**141.59**	**334**	*i* PKP	PKPpre	16 10 39.4		
	comp=Z,56nm,1.0s,SNR=21							
RETA				*i* PP	**PP**	**16 13 47.1**	**-1.1**	
	comp=Z,24nm,1.4s							
RETA				*i* SKP		16 14 09.2		
	comp=Z,186nm,1.7s,SNR=8.8							
RETA				*i* SKKP		16 22 34.8		
	comp=Z,49nm,1.6s,SNR=7.6							
RETA	**Reutte**	**141.59**	**334**	*i* S	**SKPbc**	**16 14 09.2**	**-0.5**	
	comp=Z,186nm,1.7s,SNR=8.8							
SQTA	**Sankt Quirin**	**141.61**	**333**	*i* PKP	PKPpre	16 10 39.2		
	comp=Z,87nm,0.9s,SNR=62							
SQTA				*i* PP	**PP**	**16 13 47.2**	**-1.1**	
	comp=Z,47nm,1.4s							
SQTA				*e*SKP		16 14 09.2		
	comp=Z,2μm,3.5s							
SQTA				*i* SKKP		16 22 34.0		
	comp=Z,29nm,1.3s							
DOU	**Dourbes**	**141.65**	**342**	*d*PKP	**PKPdf**	**16 10 44.7**	**+0.9**	
DOU				*d*PKiKP	**PKiKP**	**16 10 47.2**	**+0.5**	
IWEX	**Carrickbyrne,**	**141.78**	**354**	PKP	**PKPdf**	**16 10 43.9**	**-0.1**	
BFO	**Black Forest**	**141.89**	**337**		PKPpre	16 10 39.0		
BFO	**Black Forest**	**141.89**	**337**	PKHKP	PKPpre	16 10 39.0		
BFO	**Black Forest**	**141.89**	**337**	*e*PKP	PKPpre	16 10 38.7		
	baz=38,slow=2.8							
BFO				*e*SKPdf	**SKiKP**	**16 14 12.0**	**0.0**	
BFO				*e*L	L	17 17 16.1		
	comp=Z,343nm,20.3s							
FETA	**Feichten**	**141.97**	**334**	*i* PKP	PKPpre	16 10 40.3		
	comp=Z,233nm,1.1s,SNR=139							
FETA				*i* PP	**PP**	**16 13 49.5**	**-1.1**	
	comp=Z,22nm,1.1s							
FETA				*i* SKP		16 14 12.1		
	comp=Z,145nm,1.0s							
FETA				*i* SKKP		16 22 32.5		
	comp=Z,35nm,1.4s							
DAVA	**Damuels**	**142.12**	**335**	*e*PKP	PKPpre	16 10 40.2		
	comp=Z,122nm,0.8s,SNR=88							
DAVA				*i* PP	**PP**	**16 13 50.8**	**-0.7**	
	comp=Z,47nm,1.3s							
DAVA				*i* SKP		16 14 12.3		
	comp=Z,221nm,1.5s							
DAVA				*i* SKKP		16 22 32.6		
	comp=Z,61nm,1.2s,SNR=12							
BRJN	**Brijuni**	**142.13**	**329**	*e*P	PKPpre	16 10 40.0		
VAL	**Valentia**	**142.47**	**357**	PKP	**PKPdf**	**16 10 43.3**	**-1.9**	
VAL	**Valentia**	**142.47**	**357**	PKP	**PKPdf**	**16 10 43.8**	**-1.4**	
DAVOX	**Davos/Dischmat**	**142.52**	**334**	PKhKP	PKPpre	16 10 42.6		
	comp=Z,107nm,0.9s,baz=34,slow=0.8,SNR=107							
DAVOX				SKPbc	**SKiKP**	**16 14 13.9**	**+0.3**	
	comp=Z,102nm,0.8s,baz=358,slow=2.5,SNR=16							
DAVOX				SKKPbc	**SKKPab**	**16 22 28.8**	**-0.2**	
	comp=Z,10nm,1.0s,baz=191,slow=7.1,SNR=12							
SCTE	**Santa Cesarea**	**142.53**	**319**		**PKPdf**	**16 10 42.6**	**-3.1**	
AQU	**L'Aquila**	**144.09**	**326**	PKP	**PKPab**	**16 10 45.6**	**-0.7**	
AQU	**L'Aquila**	**144.09**	**326**	PKiKP	PKPbc	16 10 47.4	+0.6	
TIP	**Timpagrande**	**144.12**	**319**⇑	P	**PKPdf**	**16 10 48.0**	**-0.7**	
VLC	**Villacollemand**	**144.32**	**331**	PKP	**PKPab**	**16 10 46.3**	**-0.8**	
NBLA	**Lagarto - SE**	**144.68**	**134**	PKP	**PKPab**	**16 10 47.9**	**-1.4**	
NBLA	**Lagarto - SE**	**144.68**	**134**	*e*P	**PKPab**	**16 10 47.2**	**-2.1**	
NBPS	**Pedro II - PI**	**146.04**	**121**	*e*P	**PKPdf**	**16 10 52.3**	**-0.5**	
NBMA	**Muriti-CE**	**146.41**	**128**	PKP	**PKPdf**	**16 10 53.9**	**+0.6**	
NBMA	**Muriti-CE**	**146.41**	**128**	*e*P	**PKPdf**	**16 10 52.9**	**-0.3**	
NBAN	**Anadia - AL**	**146.66**	**134**	PKP	**PKPdf**	**16 10 53.9**	**+0.3**	
NBAN	**Anadia - AL**	**146.66**	**134**	*e*P	**PKPdf**	**16 10 53.5**	**-0.2**	
NBPB	**Pedra_Branca-C**	**146.90**	**125**	PKP	**PKPdf**	**16 10 54.7**	**+0.6**	
NBPB	**Pedra_Branca-C**	**146.90**	**125**	*e*P	**PKPdf**	**16 10 52.1**	**-2.0**	
SBBR	**Sobral**	**147.38**	**121**	PKP	**PKPdf**	**16 10 55.2**	**+0.3**	
NBBL	**Bica de Lurdes**	**148.14**	**135**	*e*P	**PKPdf**	**16 10 54.4**	**-1.7**	
NBPA	**Parau_RN**	**148.69**	**128**	PKP	**PKPdf**	**16 10 57.8**	**+0.8**	
NBPA	**Parau_RN**	**148.69**	**128**	*e*P	**PKPdf**	**16 10 57.1**	**0.0**	
NBCL	**Cascavel-CE**	**148.71**	**124**	PKP	**PKPdf**	**16 10 57.8**	**+0.8**	
NBCL	**Cascavel-CE**	**148.71**	**124**	*e*P	**PKPdf**	**16 10 57.1**	**0.0**	
EJON	**La Jonquera**	**148.91**	**337**	PKP	**PKPdf**	**16 10 56.5**	**0.0**	
SHEL	**Horse Pasture**	**149.06**	**193**		**PKiKP**	**16 11 02.9**	**-0.1**	
SHEL	**Horse Pasture**	**149.06**	**193**	PKP2	**PKiKP**	**16 11 02.9**	**-0.1**	
RCBR	**Riachuelo**	**149.56**	**130**	PKP	**PKPdf**	**16 10 59.1**	**+0.6**	
RCBR	**Riachuelo**	**149.56**	**130**	*e*P	**PKPdf**	**16 10 58.2**	**-0.2**	
NBPV	**Pedro Velho**	**149.62**	**131**	PKP	**PKPdf**	**16 10 59.6**	**+1.1**	
KEST	**Kesra**	**150.88**	**321**	PKP	**PKPdf**	**16 11 00.9**	**+1.0**	
	comp=Z,46nm,1.0s,baz=13,slow=0.8,SNR=37							
KEST	**Kesra**	**150.88**	**321**	P	**PKPdf**	**16 11 01.2**	**+1.2**	
	SNR=232							
ETOS	**Mallorca**	**151.22**	**334**	PKP	**PKPdf**	**16 11 00.6**	**+0.3**	
CBST	**Bordj Sabath**	**151.73**	**325**	P	**PKPbc**	**16 11 05.6**	**-2.1**	
ECAL	**Calabor**	**152.03**	**350**	PKP	**PKPdf**	**16 11 01.2**	**-0.3**	
PBRG	**Braganca**	**152.16**	**350**	*e*PKPdf	**PKPdf**	**16 11 01.7**	**0.0**	
PBRG				*e*PKPbc	**PKPbc**	**16 11 08.5**	**0.0**	
PBRG				*e*PKPab	**PKPab**	**16 11 19.1**	**+0.7**	
CASM	**Ain Smara**	**152.18**	**325**	P	**PKPdf**	**16 10 59.0**	**-2.9**	
PGAV	**Gavieira, Arco**	**152.22**	**353**	*e*PKPdf	**PKPdf**	**16 11 01.9**	**+0.1**	
PGAV				*e*PKPbc	**PKiKP**	**16 11 09.0**	**+0.1**	
PGAV				*e*PKPab	**PKPab**	**16 11 19.5**	**+0.8**	
PGAV				*e*PP	**PP**	**16 14 52.1**	**+1.9**	
PCAB	**Cabril**	**152.44**	**352**	*e*PKPdf	**PKPdf**	**16 11 02.1**	**0.0**	
PCAB				*e*PKPbc	**PKiKP**	**16 11 09.5**	**+0.2**	
PCAB				*e*PKPab	**PKPab**	**16 11 20.0**	**+0.5**	
PCAB				*e*PP	**PP**	**16 14 51.8**	**+0.5**	
EIBI	**Ibiza**	**152.44**	**336**	PKP	**PKPdf**	**16 11 01.9**	**-0.2**	
CBBAR	**Babar**	**152.57**	**322**	P	**PKPdf**	**16 11 01.6**	**-1.0**	
POLO	**Lamas de Olo**	**152.74**	**352**	*e*PKPdf	**PKPdf**	**16 11 03.0**	**+0.4**	
POLO				*e*PKPbc	**PKiKP**	**16 11 10.4**	**+0.4**	
POLO				*e*PKPab	**PKPab**	**16 11 21.9**	**+1.0**	
ECHE	**Chera**	**152.80**	**340**	PKP	**PKPdf**	**16 11 02.7**	**+0.1**	
SET	**Setif**	**152.82**	**326**	P	**PKPdf**	**16 11 06.0**	**+3.1**	
PVRL	**Vila Real**	**152.83**	**352**	*e*PKPdf	**PKPdf**	**16 11 03.4**	**+0.7**	
PVRL				*e*PKiKP	**PKiKP**	**16 11 10.8**	**+0.7**	
PVRL				*e*PKPab	**PKPab**	**16 11 22.1**	**+0.9**	
MVO	**Moncorvo**	**152.83**	**350**	*e*PKPdf	**PKPdf**	**16 11 03.3**	**+0.6**	
MVO				*e*PKPbc	**PKiKP**	**16 11 10.6**	**+0.4**	
MVO				*e*PKPab	**PKPab**	**16 11 22.0**	**+0.7**	
UCM	**Universidad Co**	**152.83**	**344**	PKP	**PKPdf**	**16 11 04.0**	**+1.3**	
CAZD	**Ain Tagrout**	**152.97**	**327**	P	**PKPdf**	**16 11 01.0**	**-2.1**	
ATKB	**Taksebt**	**153.12**	**329**	P	**PKiKP**	**16 11 13.8**	**+3.0**	
ABMS	**Boumerdes**	**153.38**	**330**	P	**PKPab**	**16 11 21.5**	**-2.1**	
PVIS	**Viseu**	**153.40**	**352**	*e*PKPdf	**PKPdf**	**16 11 03.5**	**0.0**	
PVIS				*e*PKPbc	**PKiKP**	**16 11 11.6**	**+0.3**	
PVIS				*e*PKPab	**PKPab**	**16 11 24.6**	**+0.9**	
AKED	**El Kharrouba**	**153.49**	**330**	P	**PKPab**	**16 11 20.6**	**-3.5**	
ESDC	**Sonseca Array**	**153.62**	**344**	PKP	**PKPdf**	**16 11 04.6**	**+0.7**	
	comp=Z,22nm,0.9s,baz=2.2,slow=2.7,SNR=107							
ESDC				PKPbc	**PKiKP**	**16 11 12.2**	**+0.4**	
	comp=Z,87nm,0.9s,baz=1.9,slow=2.7,SNR=56							
ESDC				PKPab	**PKPab**	**16 11 25.5**	**+0.9**	
	comp=Z,104nm,1.0s,baz=9.8,slow=3.9,SNR=14							
ESDC				PP	**PP**	**16 14 55.1**	**-3.0**	
	comp=Z,16nm,0.9s,baz=18,slow=6.3,SNR=5.2							
MTE	**Manteigas**	**153.66**	**351**	*e*PKPdf	**PKPdf**	**16 11 04.1**	**+0.2**	
MTE				*e*PKPbc	**PKiKP**	**16 11 12.3**	**+0.4**	
MTE				*e*PKPab	**PKPab**	**16 11 25.7**	**+0.9**	
MTE				*e*PP	**PP**	**16 14 58.6**	**+0.4**	
PAB	**San Pablo**	**153.84**	**345**		**PKPdf**	**16 11 04.8**	**+0.6**	
PAB	**San Pablo**	**153.84**	**345**	PKIKP	**PKPdf**	**16 11 04.8**	**+0.6**	
COI	**Coimbra**	**153.97**	**352**	*e*PKPdf	**PKPdf**	**16 11 04.3**	**+0.1**	
COI				*e*PKPbc	**PKiKP**	**16 11 12.5**	**+0.1**	
COI				*e*PKPab	**PKPab**	**16 11 26.6**	**+0.6**	
COI				*e*PP	**PP**	**16 15 00.2**	**+0.3**	
ABSD	**Ouled Sidi Bra**	**154.04**	**327**	P	**PKPdf**	**16 11 07.9**	**+3.3**	
PCAS	**Casmilo, Conde**	**154.14**	**352**	*e*PKPdf	**PKPdf**	**16 11 04.5**	**0.0**	
PCAS				*e*PKPbc	**PKiKP**	**16 11 13.2**	**+0.4**	
PCAS				*e*PKPab	**PKPab**	**16 11 27.5**	**+0.8**	
PCAS				*e*PP	**PP**	**16 15 01.2**	**+0.3**	
PCBR	**Castelo Branco**	**154.20**	**351**	*e*PKPdf	**PKPdf**	**16 11 05.0**	**+0.4**	
PCBR				*e*PKPbc	**PKiKP**	**16 11 13.5**	**+0.6**	
PCBR				*e*PKPab	**PKPab**	**16 11 27.7**	**+0.8**	
PCBR				*e*PP	**PP**	**16 15 01.8**	**+0.6**	
PSARD	**Sardoal**	**154.54**	**352**	*e*PKPdf	**PKPdf**	**16 11 05.3**	**+0.2**	
PSARD				*e*PKPbc	**PKiKP**	**16 11 14.2**	**+0.5**	
PSARD				*e*PKPab	**PKPab**	**16 11 29.2**	**+0.8**	
PSARD				*e*PP	**PP**	**16 15 03.1**	**0.0**	
PMRV	**Marv??o**	**154.59**	**350**	*e*PKPdf	**PKPdf**	**16 11 05.3**	**+0.2**	
PMRV				*e*PKPbc	**PKiKP**	**16 11 14.2**	**+0.5**	
PMRV				*e*PKPab	**PKPab**	**16 11 29.5**	**+0.8**	
PMTG	**Montargil**	**155.07**	**351**	*e*PKPdf	**PKPdf**	**16 11 05.6**	**-0.2**	
PMTG				*e*PKPbc	PKPbc	16 11 14.8		
PMTG				*e*PKPab	**PKPab**	**16 11 31.4**	**+0.7**	
PMTG				*e*PP	**PP**	**16 15 06.8**	**+0.7**	
PESTR	**Estremoz**	**155.17**	**350**	*e*PKPdf	**PKPdf**	**16 11 05.9**	**-0.1**	
PESTR				*e*PKPbc	PKPbc	16 11 15.3		
PESTR				*e*PKPab	**PKPab**	**16 11 31.9**	**+0.7**	
PESTR				*e*PP	**PP**	**16 15 06.2**	**-0.4**	
PMAFR	**Mafra**	**155.31**	**353**	*e*PKPdf	**PKPdf**	**16 11 06.6**	**+0.5**	
PMAFR				*e*PKPbc	PKPbc	16 11 16.2		
PMAFR				*e*PKPab	**PKPab**	**16 11 32.7**	**+1.0**	
PARRA	**Arraiolos**	**155.42**	**353**	*e*PKPdf	**PKPdf**	**16 11 06.4**	**+0.1**	
PARRA				*e*PKPbc	PKPbc	16 11 15.7		
PARRA				*e*PKPab	**PKPab**	**16 11 32.6**	**+0.3**	
LIS	**Lisbon**	**155.53**	**353**	*e*PKPab	**PKPab**	**16 11 33.8**	**+1.2**	
EVO	**Evora**	**155.56**	**351**	*e*PKPdf	**PKPdf**	**16 11 06.9**	**+0.4**	
EVO				*e*PKPab	**PKPab**	**16 11 33.9**	**+1.1**	
EVO				*e*PP	**PP**	**16 15 09.6**	**+0.8**	
PBAR	**Barrancos**	**155.74**	**349**	*e*PKPdf	**PKPdf**	**16 11 07.1**	**+0.3**	
PBAR				*e*PKPab	**PKPab**	**16 11 34.3**	**+0.7**	
PBEJ	**Beja**	**156.03**	**350**	*e*PKPdf	**PKPdf**	**16 11 07.9**	**+0.7**	
PBEJ				*e*PKPab	**PKPab**	**16 11 36.3**	**+1.4**	
MESJ	**Messejana**	**156.27**	**351**	*e*PKPdf	**PKPdf**	**16 11 08.0**	**+0.6**	
MESJ				*e*PKPab	**PKPab**	**16 11 37.1**	**+1.2**	
MESJ	**Messejana**	**156.27**	**351**	*e*PKPdf	**PKPdf**	**16 11 08.5**	**+1.0**	
MESJ				*e*PKPab	**PKPab**	**16 11 37.1**	**+1.2**	
PCVE	**Castro Verde**	**156.45**	**350**	*e*PKPdf	**PKPdf**	**16 11 08.1**	**+0.4**	
PCVE				*e*PKPab	**PKPab**	**16 11 38.1**	**+1.4**	
PVAQ	**Vaqueiros**	**156.62**	**350**	*e*PKPdf	**PKPdf**	**16 11 08.6**	**+0.7**	
PVAQ				*e*PKPab	**PKPab**	**16 11 38.4**	**+1.0**	
PVAQ				*e*PP	**PP**	**16 15 13.2**	**-1.5**	
PTEO	**Sao Teotonio**	**156.63**	**352**	*e*PKPdf	**PKPdf**	**16 11 08.9**	**+1.0**	
PTEO				*e*PKPab	**PKPab**	**16 11 38.9**	**+1.5**	
PBDV	**Barranco-do-Ve**	**156.81**	**350**	*e*PKPdf	**PKPdf**	**16 11 09.0**	**+0.8**	
PBDV				*e*PKPab	**PKPab**	**16 11 39.6**	**+1.3**	
MORF	**Marmelete**	**156.86**	**352**	*e*PKPdf	**PKPdf**	**16 11 08.8**	**+0.5**	
MORF				*e*PKPab	**PKPab**	**16 11 39.7**	**+1.2**	
PFVI	**Vila Bisbo**	**157.05**	**352**	*e*PKPdf	**PKPdf**	**16 11 09.6**	**+1.1**	
PFVI				*e*PKPab	**PKPab**	**16 11 40.4**	**+1.1**	
MDT	**Midelt**	**160.17**	**339**	PKP	**PKPdf**	**16 11 12.8**	**+0.3**	
	comp=Z,50nm,1.1s,baz=29,slow=1.9,SNR=30							
MDT				PKPab	**PKPab**	**16 11 53.5**	**+0.5**	
	comp=Z,113nm,1.1s,baz=42,slow=4.4,SNR=24							
MDT				PP	**PP**	**16 15 33.5**	**-1.0**	
	comp=Z,8.6nm,0.9s,baz=45,slow=6.8,SNR=3.7							
MD01	**Midelt array s**	**160.18**	**340**		**PKPdf**	**16 11 12.7**	**+0.2**	
PMPST	**Porto Santo, M**	**161.11**	**9**	*e*PKPdf	**PKPdf**	**16 11 14.6**	**+1.2**	
PMOZ	**Porto Moniz, M**	**161.21**	**11**	*e*PKPdf	**PKPdf**	**16 11 15.2**	**+1.6**	
PMAR	**Madeira**	**161.36**	**11**	*e*PKPdf	**PKPdf**	**16 11 15.2**	**+1.3**	
FUL	**Funchal**	**161.43**	**11**	*e*PKPdf	**PKPdf**	**16 11 15.3**	**+1.6**	
TORD	**Torodi Ar. Bea**	**165.84**	**267**		**PKPdf**	**16 11 17.3**	**-1.0**	
TORD	**Torodi Ar. Bea**	**165.84**	**267**	PKP	**PKPdf**	**16 11 17.9**	**-0.4**	
	comp=Z,7.2nm,0.7s,baz=44,slow=1.8,SNR=41							
TORD				PKPab	**PKPab**	**16 12 18.8**	**+0.2**	
	comp=Z,28nm,0.9s,baz=74,slow=4.2,SNR=13							
DBIC	**Dimbokro**	**169.05**	**226**	PKP	**PKPdf**	**16 11 20.1**	**-0.5**	
	comp=Z,15nm,0.9s,baz=165,slow=0.5,SNR=12							
DBIC				PKPab	**PKPab**	**16 12 33.5**	**+1.0**	
	comp=Z,14nm,0.7s,baz=153,slow=6.3,SNR=7.9							
DBIC	**Dimbokro**	**169.05**	**226**	PKP	**PKPdf**	**16 11 19.6**	**-1.1**	

*SDD **24** 15:57:08.9±2.9, 19°.96N×72°.50W, h34km±75km, MD3.3, ML3.0, MW2.9*
*SSNC **24** 15:57:10.7±1.4, 20°.08N×72°.31W, h14km±10km, MD3.6, ML2.8*
*OSPL **24** 15:57:12.9±1.6, 19°.86N×72°.47W, h0km±22km, ML2.6*

ISC 24 15:57:10.7±1.3, 19°.94N±0°.04×72°.49W±0°.03, h15km±11km, n28, σ1°.28/51, 7C-7D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**0.79**	**93**⇓	*e*Pg	**Pb**	**15 57 25.9**	**-0.2**
MCDR				IAML		15 57 41.6	
	comp=N,657nm,0.2s						
LOPP1	**Punta Rusia, P**	**1.22**	**94**	*i* P	**Pg**	**15 57 35.0**	**+0.7**
LOPP1				*e*S	**Sg**	**15 57 50.0**	**-0.2**
LOPP1				IAML		15 57 57.8	
	comp=Z,207nm,0.5s						
REDR	**Restauracion**	**1.29**	**126**⇓	*e*Pg	Pn	15 57 28.6	-5.6
REDR				⇑*e*Sg	Sb	15 57 40.6	-10
REDR				IAML		15 57 41.6	
	comp=N,795nm,0.2s						
PAPH	**Port-au-Prince**	**1.42**	**173**	*e*P	**Pn**	**15 57 35.7**	**-0.3**
PAPH				*e*S	**Sn**	**15 57 53.8**	**-0.6**
PAPH	**Port-au-Prince**	**1.42**	**173**	*i* P	**Pn**	**15 57 36.0**	**0.0**
PAPH				*e*S	**Sn**	**15 57 54.6**	**+0.2**
PAPH				IAML		15 57 57.2	
	comp=Z,94nm,0.2s						
JIDR	**Jimani**	**1.56**	**157**	*e*Pg	**Pn**	**15 57 37.7**	**-0.2**
JIDR				⇑*e*Sg	**Sb**	**15 57 59.6**	**+0.7**
JIDR				IAML		15 57 59.9	
	comp=N,324nm,0.4s						
MASC	**Masc**	**1.65**	**279**	*e*P	**Pn**	**15 57 40.3**	**+1.1**
MASC				*e*S	**Sn**	**15 58 01.0**	**+0.8**
MASC				*e*Sg	**Sb**	**15 58 03.2**	**+1.8**
MASC				IAML		15 58 06.1	
	comp=N,38nm,0.1s						
MASC				IAML		15 58 06.2	
	comp=E,65nm,0.1s						
MASC	**Masc**	**1.65**	**279**	*i* P	**Pb**	**15 57 40.6**	**-0.2**
MASC				*e*S	**Sg**	**15 58 03.4**	**-0.5**
MASC				IAML		15 58 04.6	
	comp=Z,73nm,0.3s						
MASC	**Masc**	**1.65**	**279**	*i* P	**Pn**	**15 57 38.8**	**-0.3**
MASC				*e*Pg	**Pb**	**15 57 39.9**	**-1.0**
MASC				IAML		15 58 04.7	
	comp=N,120nm,1.1s						
MASC				IAML		15 58 04.7	
	comp=N,120nm,1.1s						
LODU1	**El Espartillar**	**1.85**	**148**	*i* P	**Pb**	**15 57 43.6**	**-0.6**
LODU1				IAML		15 58 12.9	
	comp=Z,91nm,0.6s						
GRTK	**Grand Turk**	**2.02**	**39**	*e*Pg	**Pn**	**15 57 43.6**	**-0.7**
GRTK				*e*Sg	**Sb**	**15 58 11.5**	**-0.6**
GRTK				IAML		15 58 36.3	
	comp=N,88nm,2.0s						
ABDR	**Alto Bandera**	**2.09**	**122**⇑	*e*Pg	**Pb**	**15 57 47.2**	**-1.3**
ABDR				*e*Sg	**Sn**	**15 58 12.9**	**+1.4**
ABDR				IAML		15 58 17.6	
	comp=N,66nm,0.8s						
PODR	**Polo**	**2.10**	**147**⇓	*e*Pg	**Pb**	**15 57 47.9**	**-0.8**
PODR				⇓*e*Sg	**Sb**	**15 58 15.3**	**+0.6**
PODR				IAML		15 58 17.1	
	comp=N,47nm,0.3s						
QMBU	**Quimbuelo**	**2.19**	**277**⇑	*e*Pg	**Pn**	**15 57 47.4**	**+0.7**
QMBU				*e*S	**Sn**	**15 58 12.8**	**-0.8**
QMBU				IAML		15 58 20.9	
	comp=N,162nm,0.3s						
QMBU				IAML		15 58 21.8	
	comp=E,147nm,0.2s						
QMBU	**Quimbuelo**	**2.19**	**277**⇓	*e*Pg	**Pn**	**15 57 47.6**	**+0.9**
QMBU				⇑*e*Sg	**Sb**	**15 58 16.2**	**-1.0**
QMBU				IAML		15 58 20.7	
	comp=N,169nm,0.3s						
QMBU				IAML		15 58 20.7	
	comp=N,169nm,0.3s						
NMDO	**Nuevo Mundo**	**2.42**	**285**	*e*P	**Pn**	**15 57 49.6**	**-0.1**
NMDO				*e*S	**Sn**	**15 58 19.7**	**+0.6**
NMDO				IAML		15 58 27.4	
	comp=E,45nm,0.2s						
NMDO				IAML		15 58 27.4	
	comp=N,36nm,0.2s						
MOAC	**Moa**	**2.42**	**288**	*e*P	**Pn**	**15 57 49.6**	**-0.2**
MOAC				*e*S	**Sn**	**15 58 20.5**	**+1.3**
MOAC				IAML		15 58 26.9	
	comp=N,14nm,0.1s						
MOAC				IAML		15 58 27.1	
	comp=E,36nm,0.2s						
GTBY	**Guantanamo Bay**	**2.46**	**270**	*e*P	**Pn**	**15 57 50.5**	**+0.1**
GTBY				*e*S	**Sn**	**15 58 19.3**	**-0.9**
GTBY				IAML		15 58 25.5	

MKAR	**Makanchi Array**	**61.71**	**327**	P		P		16 38 46.0	-0.1
	0.3nm,0.6s,baz=114,slow=8.3,SNR=1.4								
	0.3nm,0.6s								

IDC 24 17:00:42.3±10.0, 61°92S×156°56E, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, MS3.9/4, Error ellipse: s-maj=576.0km s-min=26.4km az=77.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.77**	**176**	Pn	Pn	17 04 24.4	-0.9
	0.2nm,0.3s,baz=349,slow=13,SNR=24						
	1.7nm,0.6s						
RPZ	**Rata Peaks**	**20.14**	**32**	LR	LR	17 11 26.6	
	comp=Z,279nm,21.2s,baz=226,slow=32						
MAW	**Mawson**	**36.67**	**220**	LR	LR	17 22 10.6	
	comp=Z,155nm,18.8s,baz=72,slow=35						
H01W1	**Cape Leeuwin H**	**37.92**	**296**	T	T	17 47 39.9	
	baz=149,slow=76,SNR=44						
H01W2	**Cape Leeuwin H**	**37.92**	**296**	T	T	17 47 41.1	
	baz=149,slow=76,SNR=34						
H01W3	**Cape Leeuwin H**	**37.93**	**296**	T	T	17 47 42.0	
	baz=149,slow=76,SNR=42						
ASAR	**Alice Springs**	**41.23**	**328**	P	P	17 08 28.7	0.0
	1.2nm,0.9s,baz=175,slow=7.6,SNR=7.9						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**44.70**	**330**	P	P	17 08 56.5	-0.3
	0.7nm,0.9s,baz=166,slow=8.1,SNR=6.2						
	0.7nm,0.9s						
SNAA	**Sanae**	**45.92**	**189**	P	P	17 09 06.2	+0.2
	1.3nm,1.1s,baz=158,slow=6.3,SNR=3.1						
SNAA				LR	LR	17 28 52.8	
	comp=Z,171nm,18.5s,baz=108,slow=37						
	1.3nm,1.1s						
HNR	**Honiara**	**52.45**	**4**	LR	LR	17 28 08.1	
	comp=Z,114nm,21.1s,baz=244,slow=31						
H03S2	**Juan Fernandez**	**74.63**	**135**	T	T	18 35 32.7	
	baz=201,slow=74,SNR=41						
H03S1	**Juan Fernandez**	**74.63**	**135**	T	T	18 35 34.0	
	baz=201,slow=74,SNR=47						
H03S3	**Juan Fernandez**	**74.64**	**135**	T	T	18 35 29.2	
	baz=201,slow=74,SNR=41						
H08S2	**Diego Garcia H**	**80.51**	**272**	T	T	18 41 03.0	
	baz=150						
H08S1	**Diego Garcia H**	**80.52**	**272**	T	T	18 41 03.7	
H08S3	**Diego Garcia H**	**80.53**	**272**	T	T	18 41 03.9	
	baz=150						

IDC 24 17:40:05.4±2.0, 5°05N×126°65E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=202.9km s-min=20.7km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.96**	**163**	P	P	17 45 40.0	0.0
	0.6nm,1.0s,baz=342,slow=10,SNR=2.8						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**29.41**	**166**	P	P	17 46 10.8	0.0
	0.3nm,0.9s,baz=341,slow=6.9,SNR=5.7						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**56.43**	**325**	P	P	17 49 49.9	+0.9
	0.6nm,0.4s,baz=110,slow=7.7,SNR=14						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**59.38**	**333**	P	P	17 50 07.7	-1.8
	0.2nm,0.3s,baz=126,slow=7.3,SNR=2.4						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**60.59**	**327**	P	P	17 50 17.9	+0.1
	0.6nm,0.4s,baz=127,slow=6.5,SNR=8.1						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**66.17**	**327**	P	P	17 50 54.8	-0.1
	0.7nm,0.6s,baz=111,slow=7.9,SNR=5.1						
	0.7nm,0.6s						

*KRNET **24** 17:50:51.1±0.1, 41°60N×77°91E, mb2.4*
*SOME **24** 17:50:51.2, 41°75N×77°95E, h10km*
*NNC **24** 17:50:51.2±1.4, 41°73N×78°01E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=10.1km s-min=5.0km az=6.0, Suspected Mining explosion.*

ISC 24 17:50:51.9±1.3, 41°82N±0.05×77°97E±0.05, h0km, n17, σ0s67/29, 6C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.15**	**235**	⇑*eP*	**Pg**	**17 50 54.8**	**0.0**
TARG				⇑*eS*	**Sg**	**17 50 57.6**	**+0.9**
ULHL	**Ulahol**	**1.36**	**289**	⇓*eP*	**Pg**	**17 51 16.9**	**-1.0**
ULHL				⇓*eS*	**Sg**	**17 51 35.6**	**+0.1**
TNSS	**Tian-Shan**	**1.44**	**329**	P	**Pb**	**17 51 20.1**	**+0.2**
TNSS				S	**Sn**	**17 51 40.5**	**+1.1**
TNSS	**Tian-Shan**	**1.44**	**329**	*eP*	**Pb**	**17 51 19.9**	**+0.1**
	1.2nm,0.1s						
TNSS				*eS*	**Sn**	**17 51 40.1**	**+0.7**
	4.2nm,0.2s						
MDOK	**Medeo**	**1.51**	**333**	Pg	**Pb**	**17 51 21.0**	**+0.1**
	3.2nm,0.2s						
MDOK				Lg	Lg	17 51 42.2	
	3.8nm,0.3s						
KNDC	**Almaty**	**1.58**	**332**	⇓P	**Pn**	**17 51 21.0**	**-0.4**
	15nm,0.6s						
KNDC				⇑S	**Sg**	**17 51 44.1**	**+1.2**
	8.8nm,0.7s						
KPKS	**Kokpek**	**1.73**	**17**	P	**Pg**	**17 51 24.7**	**-0.4**
	0.6nm,0.5s						
KPKS				S	**Sg**	**17 51 48.7**	**+1.1**
	7.8nm,0.3s						
PDGK	**Podgornoye**	**1.88**	**36**	⇑Pn	**Pn**	**17 51 25.0**	**-0.5**
	1.8nm,0.7s						
PDGK				⇓Sn	**Sb**	**17 51 50.9**	**-0.6**
	6.8nm,0.8s						
KST	**Kastek**	**1.93**	**310**	Pg	**Pb**	**17 51 28.2**	**+0.2**
	1.0nm,0.2s						
KST				Lg	Lg	17 51 54.6	
	14nm,0.5s						
KST	**Kastek**	**1.93**	**310**	*eP*	**Pb**	**17 51 28.2**	**+0.2**
	1.0nm,0.2s						
KST				*eS*	**Sg**	**17 51 54.6**	**+0.8**
	14nm,0.5s						
TKM2	**Tokmak 2**	**2.08**	**303**	⇑*eP*	**Pn**	**17 51 29.0**	**+0.8**
TKM2				⇑*eS*	**Sb**	**17 51 56.7**	**-0.4**
KTBS	**Karatobe**	**2.12**	**334**	Pg	**Pb**	**17 51 31.6**	**+0.4**
	11nm,0.3s						
KTBS				Lg	Lg	17 52 00.4	
	13nm,0.3s						
DGS	**Degeres**	**2.16**	**312**	Pg	**Pb**	**17 51 31.7**	**-0.3**
	1.0nm,0.4s						
DGS				Lg	Lg	17 52 00.7	
	9.1nm,0.4s						
CHKK	**Chushkaly**	**2.16**	**341**	Pg	**Pg**	**17 51 32.7**	**-0.7**
	2.5nm,0.2s						
CHKK				Lg	Lg	17 52 02.3	
	13nm,0.2s						
CHKK	**Chushkaly**	**2.16**	**341**	*eP*	**Pg**	**17 51 32.7**	**-0.7**
	2.5nm,0.2s						
CHKK				*eS*	**Sg**	**17 52 02.3**	**+0.9**
	13nm,0.2s						
ARXS	**Arharly**	**2.40**	**358**	*eP*	**Pb**	**17 51 36.6**	**+0.5**
ARXS				*eS*	**Sg**	**17 52 08.7**	**-0.3**
UCH	**Uchtor**	**2.61**	**280**	⇓*eP*	**Pn**	**17 51 35.4**	**-0.4**
UCH				⇓*eS*	**Sn**	**17 52 07.5**	**-0.9**

IDC 24 18:05:03.5±1.7, 1°77S×136°53E, h0km, mb3.3/2, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=30.0km s-min=28.8km az=63.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.24**	**100**	Pn	Pn	18 06 10.2	+0.8
	0.7nm,0.3s,baz=206,slow=8.5,SNR=6.5						
JAY				Sn	Sn	18 06 59.4	-0.3
	1.5nm,0.3s,baz=102,slow=22,SNR=4.6						
	5.6nm,0.7s						
WRA	**Warramunga Arr**	**18.19**	**187**	P	P	18 09 18.1	+0.1
	0.2nm,0.3s,baz=8.8,slow=12,SNR=12						
WRA				S	Sn	18 12 23.2	-18
	0.3nm,0.6s,baz=6.0,slow=23,SNR=2.3						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.43**	**213**	P	P	18 09 31.4	-0.3
	baz=34,slow=11,SNR=3.1						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**21.92**	**186**	P	P	18 09 58.3	-0.3
	0.8nm,0.5s,baz=13,slow=11,SNR=21						
	0.8nm,0.5s						

MKAR	**Makanchi Array**	**67.72**	**323**	P		P		18 16 02.9	0.0
	0.1nm,0.6s,baz=104,slow=6.7,SNR=1.7								
	0.1nm,0.6s								

*FUNV **24** 18:10:27.8, 11°10N×71°32W, h5km, MW3.1*
*RSNC **24** 18:10:28.2±0.0, 11°N±4°×7°1W±°, h91km±6km, M2.8, ML2.8*

ISC 24 18:10:24.8±1.7, 11°35N±0°08×71°43W±0°04, h122km±14km, n18, σ1s37/36, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.65**	**302**	P	**Pn**	**18 10 44.5**	**+0.6**
URIC				P	**Pn**	**18 10 44.5**	**+0.6**
URIC				P	**Pn**	**18 10 44.5**	**+0.6**
URIC				S	**Sn**	**18 10 57.3**	**-1.0**
URIC	**Uribia, Colomb**	**0.65**	**302**	P	**Pn**	**18 10 44.4**	**+0.6**
URIC				S	**Sn**	**18 10 57.1**	**-1.2**
CRJC	**Cerrejon, Guaj**	**1.46**	**257**	P	**Pn**	**18 10 53.1**	**+1.1**
CRJC				P	**Pn**	**18 10 53.1**	**+1.1**
CRJC				P	**Pn**	**18 10 53.1**	**+1.1**
CRJC	**Cerrejon, Guaj**	**1.46**	**257**	P	**Pn**	**18 10 53.0**	**+1.1**
CRJC				S	**Sn**	**18 11 12.6**	**0.0**
MCQV	**Machiques**	**1.69**	**220**	*eP*	**Pn**	**18 10 56.0**	**+1.4**
MCQV				*eS*	**Sn**	**18 11 17.5**	**+0.2**
SDV	**Santo Domingo**	**2.58**	**162**	P	**Pn**	**18 11 08.0**	**+2.1**
SDV				S	**Sn**	**18 11 37.1**	**-0.3**
SMRC	**Santa Marta, M**	**2.75**	**266**	P	**Pn**	**18 11 07.4**	**-0.4**
SMRC				S	**Sn**	**18 11 40.2**	**-0.8**
ARGC	**Ariguani, Magd**	**3.14**	**242**	P	**Pn**	**18 11 13.9**	**+0.9**
ARGC				S	**Sn**	**18 11 50.0**	**-0.2**
ARGC	**Ariguani, Magd**	**3.14**	**242**	P	**Pn**	**18 11 13.5**	**+0.5**
ARGC				S	**Sn**	**18 11 49.5**	**-0.7**
CAPV	**Capacho**	**3.58**	**194**	*eP*	**Pn**	**18 11 20.0**	**+1.0**
CAPV				*eS*	**Sn**	**18 11 58.9**	**-1.9**
OCAC	**Ocana**	**3.61**	**211**	P	**Pn**	**18 11 20.3**	**+0.9**
OCAC				P		18 11 20.4	
OCAC				S	**Sn**	**18 11 59.6**	**-2.0**
BENV	**Beln**	**4.01**	**110**	*eP*	**Pn**	**18 11 26.9**	**+2.3**
BENV				*eS*	**Sn**	**18 12 09.9**	**-1.1**
BAUV	**El Baul**	**4.11**	**125**	*eP*	**Pn**	**18 11 26.5**	**+0.7**
BAUV				*eS*	**Sn**	**18 12 10.6**	**-2.7**
TACV	**Tcata**	**4.50**	**105**	*eP*	**Pn**	**18 11 32.1**	**+1.0**
TACV				*eS*	**Sn**	**18 12 21.5**	**-1.1**
BRJC	**Barrancabermej**	**4.92**	**208**	P	**Pn**	**18 11 37.9**	**+1.2**
BARC	**Barichara**	**5.04**	**200**	P	**Pn**	**18 11 37.3**	**-1.3**
BARC	**Barichara**	**5.04**	**200**	P	**Pn**	**18 11 37.1**	**-1.5**
UREC	**San Jos de Ur**	**5.40**	**229**	P	**Pn**	**18 11 46.4**	**+3.2**
UREC				S	**Sn**	**18 12 43.0**	**-1.3**

*NEIC **24** 18:43:27.2±1.3, 56°05S±0°1×27°5W±0°2, h82km±7km, mb4.1/13, Error ellipse: s-maj=17.2km s-min=12.4km az=173.0*
*IDC **24** 18:43:32.2±6.9, 56°00S×27°48W, h128km±62km, mb3.9/4, mbtmp4.2/6, Error ellipse: s-maj=30.8km s-min=20.8km az=66.0*

ISC 24 18:43:28.9±0.7, 56°0S±0°1×27°7W±0°1, h100km, n30, σ0s81/32, mb4.0/6, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.34**	**285**	Pn	**Pn**	**18 44 45.1**	**-1.0**
HOPE				Sn	**Sn**	**18 45 45.2**	**-1.0**
VNA1	**Neumayer--Stat**	**16.97**	**158**	⇑P	**Pn**	**18 47 19.5**	**-0.3**
	comp=Z,3.0nm,0.8s						
VNA3	**Neumayer Olymp**	**17.16**	**160**	⇑P	**Pn**	**18 47 21.8**	**-0.3**
	comp=Z,4.3nm,0.6s						
VNA2	**Neumayer--Watz**	**17.37**	**158**	⇑P	**P**	**18 47 23.8**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=315,slow=13						
SNAA	**Sanae**	**18.93**	**156**	⇑P	**P**	**18 47 41.1**	**-0.5**
	comp=Z,92nm,0.5s						
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**18 47 40.7**	**-0.9**
SNAA	**Sanae**	**18.93**	**156**	P	**P**	**18 47 41.1**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=310,slow=10.0,SNR=146						
SNAA				PcP	**PcP**	**18 52 02.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=89,slow=5.5,SNR=1.7						
PMSA	**Palmer Station**	**19.76**	**229**	P	**P**	**18 47 52.3**	**+1.8**
PMSA				IAmb	IAmb	18 47 55.1	
	comp=Z,24nm,1.2s						
PMSA	**Palmer Station**	**19.76**	**229**	P	**Pn**	**18 47 53.1**	**+0.2**
	comp=Z,8.9nm,0.6s,baz=68,slow=6.9,SNR=6.4						
TROLL	**Troll, Antarti**	**20.44**	**153**	⇑P	**P**	**18 47 57.4**	**-0.6**
	comp=Z,270nm,0.5s						
BELA	**Belgrano 2**	**22.14**	**184**	P	**P**	**18 48 14.9**	**-1.1**
BELA				IAmb	IAmb	18 48 17.0	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**18 50 06.6**	**+1.3**
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**18 50 05.5**	**+0.3**
	comp=Z,3.2nm,0.5s,baz=203,slow=2.4,SNR=49						
	comp=Z,3.2nm,0.5s						
SBA	**Scott Base**	**46.15**	**184**	P	**P**	**18 51 42.7**	**+0.1**
SBA				IAmb	IAmb	18 51 45.0	
	comp=Z,1.8nm,0.8s						
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**18 51 46.8**	**+0.3**
VNDA				IAmb	IAmb	18 51 48.5	
	comp=Z,2.3nm,0.7s						
VNDA	**Vanda**	**46.65**	**183**	P	**P**	**18 51 46.6**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=189,slow=5.8,SNR=22						
	comp=Z,2.1nm,0.7s						
GO01	**Chusmiza**	**47.68**	**302**	P	**P**	**18 51 56.8**	**+1.1**
PB16	**IPOC Station P**	**48.97**	**303**	P	**P**	**18 52 07.2**	**+1.4**
PB16				IAmb	IAmb	18 52 15.8	
	comp=Z,2.4nm,1.2s						
LPAZ	**La Paz**	**50.11**	**306**	P	**P**	**18 52 15.0**	**+0.5**
LPAZ				IAmb	IAmb	18 52 16.4	
	comp=Z,1.7nm,0.8s						
LPAZ	**La Paz**	**50.11**	**306**	P	**P**	**18 52 15.1**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=172,slow=8.6,SNR=9.0						
	comp=Z,1.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**73.11**	**30**	P	**P**	**18 54 48.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.11**	**30**	P	**P**	**18 54 48.8**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=201,slow=6.1,SNR=10						
	comp=Z,1.3nm,0.7s						
BILN	**Bilwi Airport**	**83.81**	**306**	P	**P**	**18 55 47.5**	**+0.5**
BILN				IAmb	IAmb	18 56 20.4	
	comp=Z,171nm,1.2s						
TOZ	**Tahuroa Road**	**84.60**	**198**	P	**P**	**18 55 51.1**	**+0.2**
L29M	**L29M**	**145.68**	**311**		**PKPdf**	**19 02 54.6**	**+0.5**
I26K	**Coal Creek Min**	**148.44**	**314**		**PKPbc**	**19 03 01.8**	**-0.4**
ILAR	**Eielson Array**	**149.86**	**312**		**PKPbc**	**19 03 04.6**	**-1.2**
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	**PKPbc**	**19 03 05.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=112,slow=3.1,SNR=12						
SONM	**Songino Array**	**150.99**	**87**	PKPbc	**PKPbc**	**19 03 08.3**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=222,slow=3.9,SNR=9.0						
BPAW	**Bear Paw Mtn.**	**151.47**	**310**		**PKPbc**	**19 03 09.0**	**-0.6**

*MOS **24** 18:51:00.9±1.0, 41°46N×142°00E, h56km, mb4.8/52, Error ellipse: s-maj=6.7km s-min=4.6km az=109.3*
*BJI **24** 18:51:00.1, 41°34N×142°19E, h67km, mB4.9/10, mb4.6/56, Ms7.4.4/1*
*JMA **24** 18:51:03.1±0.1, 41°5N±0°3×142°0E±0°5, h63km±1km, MD4.1/40, MW4.4/40, E OFF AOMORI PREF*
JMA Felt II J1 at E OFF AOMORI PREF.
*NIED **24** 18:51:03.1, 41°48N×142°03E, h63km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr3.42; Mθθ-0.68; Mφφ-2.74; Mrθ 0.90; Mθφ-0.28; Mφr 3.26; Fault plane solution: M0 4.58000×10^15 NP1: φs185.00000°, δ21.00000°, λ82.00000°. NP2: φs13.00000°, δ69.00000°, λ93.00000°.*
*NEIC **24** 18:51:03.0±1.6, 41°49N±0°05×142°02E±0°08, h58km±6km, mb4.7/149 Error ellipse: s-maj=10.6km s-min=5.3km az=129.0*
*IDC **24** 18:51:03.9±0.6, 41°46N×142°05E, h67km±5km, mb4.1/26, mbtmp4.4/31, MS3.5/26, Error ellipse: s-maj=13.6km s-min=8.0km az=102.0*
*BGR **24** 18:51:04.4, 42°77N×143°74E, h33km, mb4.4, Ms3.7*

ISC 24 18:51:02.0±0.4, 41°46N±0°03×142°13E±0°03, h57km±3km, h57km: pP-P, n667, σ1s33/643, mb4.6/171, MS3.5/24, 11C-39D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.63**	**252**	⇓*iP*	**Pn**	**18 51 16.3**	**+1.1**
JAHD				⇓S	**Sn**	**18 51 25.9**	**+1.2**
JAHD	**Aomorihigashid**	**0.63**	**252**	A	A	18 51 16.3	
	comp=N,106nm,0.7s,comp=E,112nm,1.3s						
JARK	**Aomorirokkasho**	**0.73**	**232**	⇓*iP*	**Pn**	**18 51 17.3**	**+0.9**
JARK				⇓S	**Sn**	**18 51 27.5**	**+0.4**
JARK	**Aomorirokkasho**	**0.73**	**232**	A	A	18 51 17.3	
	comp=N,16nm,0.9s,comp=E,21nm,0.9s						
JOT	**Ohata**	**0.82**	**265**	⇓*iP*	**Pn**	**18 51 18.0**	**+0.5**
JOT				⇓S	**Sn**	**18 51 29.1**	**+0.2**
JOT	**Ohata**	**0.82**	**265**	A	A	18 51 18.0	
	comp=N,14nm,0.8s,comp=E,9.0nm,0.8s						
JKB	**Kayabe**	**0.93**	**298**	⇓*iP*	**Pn**	**18 51 19.1**	**+0.2**
JKB				⇓*eS*	**Sn**	**18 51 31.0**	**-0.3**
JKB	**Kayabe**	**0.93**	**298**	A	A	18 51 19.1	
	comp=N,6.0nm,4.9s,comp=E,6.0nm,4.9s						
JNBK	**Urakawa-nobuka**	**0.94**	**29**	*iP*	**Pn**	**18 51 20.5**	**+1.4**
JNBK	**Urakawa-nobuka**	**0.94**	**29**	A	A	18 51 20.5	
	comp=N,28nm,1.3s,comp=E,26nm,1.3s						
ERM	**Erimo**	**0.95**	**54**		**Pn**	**18 51 21.3**	**+2.2**
ERM				Sn	**Sn**	**18 51 34.1**	**+2.2**
ERM	**Erimo**	**0.95**	**54**	P	**Pn**	**18 51 21.3**	**+2.2**
ERM						18 51 34.1	
JEM	**Erimo**	**0.95**	**54**	*i* P	**Pn**	**18 51 21.3**	**+2.2**
JEM				*eS*	**Sn**	**18 51 34.7**	**+2.8**
JEM	**Erimo**	**0.95**	**54**	A	A	18 51 21.3	
	comp=N,6.0nm,3.2s,comp=E,7.0nm,2.6s						
JSHD	**Hidakashinhida**	**0.98**	**15**	A	A	18 51 21.2	
	comp=N,16nm,1.8s,comp=E,18nm,1.8s						
JTM	**Tenmabayashi**	**1.05**	**230**		**Pn**	**18 51 21.6**	**+1.1**
JTM				Sn	**Sn**	**18 51 34.3**	**0.0**
JTM	**Tenmabayashi**	**1.05**	**230**	⇓*iP*	**Pn**	**18 51 21.7**	**+1.2**
JTM				⇓*eS*	**Sn**	**18 51 34.8**	**+0.5**
JTM	**Tenmabayashi**	**1.05**	**230**	A	A	18 51 21.7	
	comp=N,10.0nm,0.7s,comp=E,11nm,1.0s						
JIAM	**Iburiatsuma**	**1.17**	**352**	⇓*iP*	**Pn**	**18 51 24.1**	**+1.9**
JIAM	**Iburiatsuma**	**1.17**	**352**	A	A	18 51 24.1	
	comp=N,18nm,2.0s,comp=E,20nm,2.2s						
JANG	**Nango**	**1.18**	**203**	*iP*	**Pn**	**18 51 23.4**	**+1.1**
JANG				S	**Sn**	**18 51 38.3**	**+0.8**
JANG	**Nango**	**1.18**	**203**	A	A	18 51 23.4	
	comp=N,14nm,0.6s,comp=E,14nm,0.4s						
JTHR	**Tokachihiroo**	**1.20**	**46**	A	A	18 51 24.7	
	comp=N,11nm,0.6s,comp=E,11nm,1.0s						
JSR	**Shiriuchi**	**1.29**	**274**	⇓*iP*	**Pn**	**18 51 24.2**	**+0.5**
JNB	**Noboribetsu**	**1.29**	**321**	⇓*iP*	**Pn**	**18 51 23.9**	**+0.1**
JNB				⇓S	**Sn**	**18 51 39.7**	**-0.4**
JNB	**Noboribetsu**	**1.29**	**321**	A	A	18 51 23.9	
	comp=N,5.0nm,0.5s,comp=E,4.0nm,4.0s						
JKEN	**Kujiedanarisaw**	**1.30**	**194**	A	A	18 51 25.4	
	comp=N,40nm,0.3s,comp=E,33nm,0.4s						
JBT2	**Biratori 2**	**1.33**	**7**	⇓*iP*	**Pn**	**18 51 25.9**	**+1.7**
JBT2				⇓*eS*	**Sn**	**18 51 43.5**	**+2.6**
JBT2	**Biratori 2**	**1.33**	**7**	A	A	18 51 25.9	
	comp=N,4.0nm,4.3s,comp=E,6.0nm,1.1s						
JSI2	**Shiura 2**	**1.36**	**253**	A	A	18 51 25.4	
	comp=N,20nm,0.9s,comp=E,11nm,0.8s						
JEW	**Eniwo**	**1.47**	**340**	⇓*iP*	**Pn**	**18 51 27.3**	**+1.2**
JEW				⇓S	**Sn**	**18 51 45.3**	**+1.0**
JEW	**Eniwo**	**1.47**	**340**	A	A	18 51 27.3	
	comp=N,9.0nm,2.1s,comp=E,8.0nm,0.6s						
JYM2	**Yakumo 2**	**1.47**	**297**	⇓*iP*	**Pn**	**18 51 27.0**	**+0.9**
JYM2	**Yakumo 2**	**1.47**	**297**	A	A	18 51 27.0	
	comp=N,4.0nm,3.0s,comp=E,4.0nm,3.2s						
JCH	**Churui**	**1.47**	**38**	⇓*iP*	**Pn**	**18 51 28.8**	**+2.6**
JCH				⇓*eS*	**Sn**	**18 51 47.8**	**+3.4**
JCH	**Churui**	**1.47**	**38**	A	A	18 51 28.8	
	comp=N,6.0nm,2.3s,comp=E,6.0nm,2.8s						
JHHS	**Hirosakihyakuz**	**1.57**	**239**	A	A	18 51 28.4	
	comp=N,17nm,1.9s,comp=E,14nm,0.8s						
JKZ	**Kuzumaki**	**1.60**	**203**	A	A	18 51 29.4	
	comp=N,9.0nm,0.5s,comp=E,8.0nm,0.4s						
JOMM	**Oshimamatsumae**	**1.60**	**273**	⇓*iP*	**Pn**	**18 51 28.2**	**+0.3**
JAH	**Hinai**	**1.71**	**222**	⇓*iP*	**Pn**	**18 51 30.8**	**+1.4**
JAH	**Hinai**	**1.71**	**222**	A	A	18 51 30.8	
	comp=N,4.0nm,1.2s,comp=E,7.0nm,1.3s						
JKA	**Kamikawa-asahi**	**2.67**	**7**		**Pn**	**18 51 44.6**	**+2.1**
JKA				Sn	**Sn**	**18 52 15.9**	**+2.2**
ASAJ	**Asahikawa**	**2.67**	**7**	P	**Pn**	**18 51 44.9**	**+2.3**
	comp=E,89nm,0.3s,baz=220,slow=11,SNR=201						
ASAJ				S	**Sn**	**18 52 16.6**	**+2.8**
	comp=E,387nm,0.7s,baz=337,slow=30,SNR=11						
ASAJ	**Asahikawa**	**2.67**	**7**	P	**Pn**	**18 51 44.6**	**+2.0**
ASAJ						18 52 15.9	
NMR	**Nemuro--Hokkai**	**3.27**	**53**	⇓*iP*	**Pn**	**18 51 51.0**	**+0.2**
NMR				*i* S	**Sn**	**18 52 26.9**	**-1.5**
GLVR	**Golovnino**	**3.38**	**47**	⇑*iP*	**Pn**	**18 51 53.7**	**+1.5**
GLVR				*eS*	**Sn**	**18 52 31.6**	**+0.6**
GLVR				pmax	pmax		
	comp=E,84nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,1μm,0.3s						
GLVR				smax	smax		
	comp=E,866nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
RUSJ	**Misakicho**	**3.50**	**40**	⇓*iP*	**Pn**	**18 51 55.9**	**+2.1**
RUSJ				*i* S	**Sn**	**18 52 36.9**	**+3.0**
JMM	**Marumori**	**3.74**	**196**		**Pn**	**18 51 58.6**	**+1.5**
JMM				Sn	**Sn**	**18 52 38.5**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**3.76**	**46**	*d iP*	**Pn**	**18 51 58.9**	**+1.5**
YUK				*i* S	**Sn**	**18 52 39.6**	**-0.8**
YUK				pmax	pmax		
	comp=N,239nm,0.4s						
YUK				pmax	pmax		
	comp=E,288nm,0.4s						
YUK				pmax	pmax		
	comp=Z,780nm,0.4s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,4μm,0.6s						
TEY	**Ternei**	**5.39**	**313**	⇑*eP*	**Pn**	**18 52 20.5**	**+0.8**
TEY				pmax	pmax		
	comp=N,30nm,0.6s						
TEY				pmax	pmax		
	comp=E,30nm,0.6s						
TEY				pmax	pmax		

MDJ Mudanjiang 9.71 293 P **Pn** 18 53 21.9 +3.1
MDJ pmax pmax
comp=E,9.0nm,1.0s
GRNR Gornyy 10.11 339 ⇓*i*P **Pn** 18 53 27.5 +3.2
GRNR pmax pmax
comp=N,10.0nm,0.7s
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR MLR MLR
comp=E,110nm,11.0s
JMN Monobe 10.12 223 Pn **Pn** 18 53 25.5 +1.0
BNX BinXian 11.50 297 ⇓P **Pn** 18 53 46.1 +2.8
BNX pmax pmax
comp=E,15nm,0.8s
KSRS Korea Array 11.69 255 P **Pn** 18 53 49.8 +3.9
comp=E,16nm,0.6s,baz=64,slow=14,SNR=70
KSRS S **Sn** 18 56 01.7 +7.0
comp=E,13nm,0.8s,baz=68,slow=24,SNR=15
KS19 Wonju Array Si 11.71 255 **Pn** 18 53 45.5 -0.7
KSAR Wonju Array Be 11.72 255 **Pn** 18 53 46.7 +0.3
KSAR Wonju Array Be 11.72 255 P **Pn** 18 53 46.7 +0.3
JNU Nakatsue 12.22 231 Pn **Pn** 18 53 52.4 -0.8
JNU Nakatsue 12.22 231 P **Pn** 18 53 55.0 +1.8
comp=E,7.6nm,0.8s,baz=32,slow=11,SNR=5.9
JNU LR LR 18 58 25.8
comp=E,116nm,19.9s,baz=50,slow=36
TJN Taejon 12.57 251 **Pn** 18 53 57.8 -0.1
TJN Taejon 12.57 251 P **Pn** 18 53 57.8 -0.1
HEH HeiHe 13.49 316 *e*P **Pn** 18 54 12.3 +1.9
HEH pmax pmax
comp=E,8.0nm,0.9s
PEA0B Petropavlovsk- 15.68 37 Pn **Pn** 18 54 35.0 -4.1
PEA0B Petropavlovsk- 15.68 37 P **Pn** 18 54 35.0 -4.1
PEA0B pmax pmax
comp=Z,13nm,1.1s
PETK Petropavlovsk- 15.68 37 Pn **Pn** 18 54 36.3 -2.8
PETK Petropavlovsk- 15.68 37 P **Pn** 18 54 38.1 -1.0
comp=Z,1.4nm,0.7s,baz=227,slow=15,SNR=4.5
PETK Petropavlovsk- 15.68 37 P **Pn** 18 54 36.3 -2.8
ZEA Zeya 15.82 326 *e*P **Pn** 18 54 40.0 -0.8
ZEA pmax pmax
comp=E,10.0nm,1.4s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.7s
DL2 Dalian 15.88 267 P **P** 18 54 43.8 -0.6
DL2 S **Sn** 18 57 39.8 +3.2
DL2 pmax pmax
comp=Z,45nm,1.0s
DL2 pmax pmax
comp=Z,280nm,4.0s
MA2 Magadan 18.92 14 P **P** 18 55 13.9 -3.9
MA2 Magadan 18.92 14 LR LR 19 02 34.2
comp=Z,56nm,19.6s,baz=212,slow=36
MA2 Magadan 18.92 14 P **P** 18 55 13.9 -3.9
MA2 pmax pmax
comp=Z,25nm,1.0s
BJI Beijing 19.70 274 P **P** 18 55 26.3 -0.1
BJI pmax pmax
comp=Z,11nm,0.7s
TIA Tai'an 20.14 263 P **P** 18 55 30.6 -0.7
TIA pmax pmax
comp=Z,15nm,0.7s
NJ2 Nanjing 20.83 251 *e*P **P** 18 55 39.3 +0.5
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
HNS HongShan 21.53 268 ⇑P **P** 18 55 44.6 -1.6
HNS pmax pmax
comp=Z,12nm,0.4s
YAK Yakutsk 21.92 344 P 18 55 41.0 -9.1
YAK IAmb IAmb 18 55 49.3
comp=Z,25nm,0.7s
YAK Yakutsk 21.92 344 P **P** 18 55 47.4 -2.7
comp=Z,20nm,0.5s,baz=310,slow=1.7,SNR=15
YAK LR LR 19 04 20.8
comp=Z,64nm,18.5s,baz=159,slow=36
YAK Yakutsk 21.92 344 *e*P **P** 18 55 46.8 -3.3
YAK *e**PP **pP** 18 56 04.2 +1.6
YAK *e*S **S** 18 59 40.7 -8.0
YAK *e* 18 59 45.1
YAK *e*S Sn 19 00 02.6 +1.0
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK smax smax
comp=E,31nm,2.5s
YAK smax smax
comp=N,13nm,1.4s
SEY Seymchan 22.35 12 P **P** 18 55 53.0 -1.7
comp=N,3.3nm,0.7s,baz=187,slow=8.2,SNR=16
SEY LR LR 19 04 43.2
comp=N,80nm,20.3s,baz=176,slow=37
SEY Seymchan 22.35 12 *e*P **P** 18 55 51.9 -2.9
SEY pmax pmax
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 22.97 279 *e*P **P** 18 56 00.4 -1.3
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,81nm,4.7s
BTO Baotou 24.17 279 *e*P **P** 18 56 12.0 -0.9
BTO pP **pP** 18 56 26.3 -0.6
BTO sP **sP** 18 56 33.8 +0.1
BTO pmax pmax
comp=Z,24nm,1.4s
BTO pmax pmax
comp=Z,240nm,4.7s
SHEM Shemya Is, Ala 24.30 51 LR LR 19 06 09.2
comp=Z,34nm,20.8s,baz=289,slow=37
ULN Ulaanbaatar 25.60 296 **P** 18 56 23.4 -2.5
ULN Ulaanbaatar 25.60 296 ⇓*i*P **P** 18 56 25.2 -0.7
ULN pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 26.04 296 **P** 18 56 29.0 -0.9
SONM Songino Array 26.04 296 P **P** 18 56 30.0 +0.2
comp=Z,7.0nm,0.7s,baz=87,slow=8.3,SNR=44
SONM LR LR 19 07 27.9
comp=Z,54nm,21.6s,baz=74,slow=38
comp=Z,7.0nm,0.7s
XAN Xi'an 27.16 265 ⇑P **P** 18 56 38.9 -1.1
XAN pmax pmax
comp=Z,11nm,0.6s
ZAK Zakamensk 28.18 302 *e*P **P** 18 56 48.7 -0.3
ZAK pmax pmax
comp=Z,6.0nm,1.4s
BILL Bilibino 29.64 18 P **P** 18 57 00.9 -0.6
BILL IAmb IAmb 18 57 20.3
comp=Z,5.3nm,0.5s
BILL Bilibino 29.64 18 ⇓*i*P **P** 18 57 01.8 +0.2
BILL pmax pmax
comp=Z,3.0nm,0.9s
H11N2 WAKE ISLAND Hy 30.20 128 T T 19 28 36.4
baz=321,slow=75,SNR=342
H11N1 WAKE ISLAND Hy 30.21 128 T T 19 28 34.8
baz=321,slow=75,SNR=448
H11N3 WAKE ISLAND Hy 30.22 128 T T 19 29 00.2
baz=321,slow=75,SNR=308
TIXI Tiksi 30.98 352 LR LR 19 10 59.6
comp=Z,54nm,18.5s,baz=198,slow=39
H11S1 WAKE ISLAND Hy 31.05 130 T T 19 29 52.1
baz=322,slow=76,SNR=181
H11S3 WAKE ISLAND Hy 31.05 130 T T 19 29 54.2
baz=322,slow=76,SNR=162
H11S2 WAKE ISLAND Hy 31.06 130 T T 19 30 00.5
baz=322,slow=76,SNR=146
GTA Gaotai 32.04 281 P **P** 18 57 23.3 0.0
GTA pP pP 18 57 38.8 +1.5
GTA pmax pmax
comp=Z,7.0nm,1.0s
CD2 Chengdu 32.48 264 P **P** 18 57 25.8 -1.2
CD2 pmax pmax
comp=Z,20nm,0.7s
NIKH Nikolski High 34.57 54 P **P** 18 57 44.9 0.0
baz=271
GAMB Gambell 34.69 34 P **P** 18 57 44.5 -1.3
baz=252
UNV Unalaska Valle 35.96 52 P **P** 18 57 56.0 -0.8
baz=271
PZH PanZhiHua 36.32 259 P **P** 18 58 01.4 +1.1
PZH pmax pmax
comp=Z,10.0nm,1.0s

M11K Mekoryuk 36.48 41 P **P** 18 58 00.7 -0.5
M11K Mekoryuk 36.48 41 P **P** 18 58 00.7 -0.5
baz=263
TNA Tin City 36.77 32 P **P** 18 58 04.2 +0.6
TNA Tin City 36.77 32 P **P** 18 58 02.7 -0.8
baz=254
GOMU GeErMu 36.87 278 P **P** 18 58 01.4 -3.9
GOMU pmax pmax
comp=Z,9.0nm,0.8s
DAV Davao City (W) 37.28 208 LR LR 19 15 15.9
comp=Z,28nm,18.1s,baz=160,slow=39
F14K Arctic Creek 37.39 33 P **P** 18 58 09.0 +0.1
baz=256
K13K Kusilvak Mount 37.43 39 P **P** 18 58 08.8 -0.4
baz=262
M13K Dall Lake 37.89 41 P **P** 18 58 12.0 -1.1
baz=265
SLVN Son La 37.90 250 **P** 18 58 12.9 -0.8
SLVN IAmb IAmb 18 58 17.7
comp=Z,7.2nm,0.9s
J14K Nanvaranak Lak 38.06 37 P **P** 18 58 15.3 +0.9
J14K IAmb IAmb 18 58 24.3
comp=Z,14nm,1.2s
J14K Nanvaranak Lak 38.06 37 P **P** 18 58 13.2 -1.2
baz=262
F15K North Star Dit 38.12 32 P **P** 18 58 13.7 -1.4
baz=257
G15K Niukluk 38.22 34 P **P** 18 58 14.8 -1.1
baz=259
L14K Kuka Creek 38.30 40 P **P** 18 58 17.4 +0.8
L14K IAmb IAmb 18 58 34.4
comp=Z,18nm,1.5s
L14K Kuka Creek 38.30 40 P **P** 18 58 14.9 -1.6
baz=265
S12K Black Hills 38.48 49 P **P** 18 58 17.0 -1.2
baz=272
C16K Lisburne Hills 38.51 28 P **P** 18 58 18.2 -0.1
C16K Lisburne Hills 38.51 28 P **P** 18 58 17.3 -1.0
baz=253
M14K Bethel 38.60 41 P **P** 18 58 20.8 +1.7
M14K IAmb IAmb 18 58 32.1
comp=Z,6.1nm,0.9s
M14K Bethel 38.60 41 P **P** 18 58 18.2 -0.9
baz=266
N14K Kuskokwak Cree 38.69 42 P **P** 18 58 19.0 -0.8
baz=267
O14K Tigyukauivet M 38.88 43 P **P** 18 58 20.8 -0.6
baz=269
L15K Ungalak Mounta 38.90 39 P **P** 18 58 21.3 -0.3
baz=265
H16K Elim 38.92 34 P **P** 18 58 21.6 -0.1
baz=261
K15K Wolf Creek Mou 38.94 38 P **P** 18 58 23.3 +1.4
K15K IAmb IAmb 18 58 53.6
comp=Z,12nm,1.4s
K15K Wolf Creek Mou 38.94 38 P **P** 18 58 21.4 -0.5
baz=265
G16K Koyuk River 38.99 33 P **P** 18 58 23.8 +1.5
G16K IAmb IAmb 18 59 04.1
comp=Z,15nm,1.3s
G16K Koyuk River 38.99 33 P **P** 18 58 21.5 -0.8
baz=260
D17K Noatak River 39.19 30 P **P** 18 58 23.4 -0.5
baz=256
M15K Kasigluk River 39.22 41 P **P** 18 58 23.7 -0.6
baz=267
C17K DeLong Mountai 39.34 28 P **P** 18 58 24.8 -0.4
baz=255
SDPT Sand Point 39.40 49 P **P** 18 58 24.5 -1.3
baz=274
J16K Anvik River 39.46 37 P **P** 18 58 25.3 -1.0
baz=264
ZAA0 Zalesovo Array 39.47 308 **P** 18 58 26.6 +0.2
ZAA0 IAmb IAmb 18 58 27.9
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 39.47 308 **P** 18 58 26.2 -0.2
ZALV Zalesovo Beam 39.47 308 P **P** 18 58 26.9 +0.4
comp=Z,14nm,0.7s,baz=89,slow=8.2,SNR=56
ZALV PcP **PcP** 19 00 34.0 +0.8
comp=Z,3.3nm,0.6s,baz=99,slow=2.4,SNR=6.7
ZALV LR LR 19 15 30.9
comp=Z,48nm,18.1s,baz=130,slow=37
comp=Z,14nm,0.7s
I17K Unalakleet 39.48 36 P **P** 18 58 28.3 +1.9
I17K IAmb IAmb 18 58 29.7
comp=Z,9.5nm,0.8s
I17K Unalakleet 39.48 36 P **P** 18 58 25.3 -1.1
baz=263
N15K Kwethluk River 39.50 42 P **P** 18 58 28.8 +2.1
N15K IAmb IAmb 18 58 51.2
comp=Z,8.7nm,0.9s
N15K Kwethluk River 39.50 42 P **P** 18 58 26.0 -0.7
baz=268
WMQ Urumqi 39.51 292 *e*P **P** 18 58 28.4 +1.4
WMQ pmax pmax
comp=Z,32nm,0.7s
E17K Hotham Inlet 39.52 31 P **P** 18 58 26.3 -0.4
baz=258
TNCH TengChong 39.54 259 ⇓P **P** 18 58 29.0 +1.4
TNCH sP sP 18 58 48.3 -0.2
TNCH pmax pmax
comp=Z,27nm,0.9s
TNCH pmax pmax
comp=Z,83nm,2.6s
TNCH LR LR
comp=Z,180nm,6.2s
O15K Ungalikthiuk R 39.62 43 P **P** 18 58 26.9 -0.8
baz=270
F17K Baldwin Pennin 39.63 32 P **P** 18 58 28.8 +1.2
F17K IAmb IAmb 18 59 03.6
comp=Z,15nm,1.1s
F17K Baldwin Pennin 39.63 32 P **P** 18 58 26.7 -0.8
baz=260
G17K Kiwalik Mounta 39.72 33 P **P** 18 58 27.5 -0.9
baz=262
S14K Fog Glacier 39.85 48 P **P** 18 58 28.1 -1.6
baz=274
L16K Owhat River 39.86 39 P **P** 18 58 30.4 +0.8
L16K Owhat River 39.86 39 P **P** 18 58 28.7 -0.9
baz=267
CHNA Chernabura Isl 39.95 50 P **P** 18 58 28.9 -1.4
baz=275
H17K Granite Mounta 39.95 34 P **P** 18 58 31.6 +1.3
H17K Granite Mounta 39.95 34 P **P** 18 58 29.0 -1.2
baz=263
B18K Kokolik River 40.05 27 P **P** 18 58 29.6 -1.4
baz=256
E18K Tukpahlearik C 40.06 30 P **P** 18 58 29.7 -1.4
baz=259
M16K Timber Creek 40.08 40 P **P** 18 58 30.0 -1.5
baz=268
C18K Utukok River 40.09 28 P **P** 18 58 30.4 -1.1
baz=257
J17K VABM Dome 40.15 37 IAmb IAmb 18 58 35.7
comp=Z,8.5nm,0.9s
J17K VABM Dome 40.15 37 P **P** 18 58 31.1 -0.9
baz=266,SNR=5.3
N16K Nishlik Lake 40.16 41 P **P** 18 58 30.5 -1.6
baz=269
F18K Selawik 40.28 32 P **P** 18 58 32.4 -0.6
baz=261
L17K Donlin 40.44 39 P **P** 18 58 33.1 -1.2
baz=268
K17K Iditarod 40.46 38 IAmb IAmb 18 58 38.5
comp=Z,12nm,1.0s
K17K Iditarod 40.46 38 P **P** 18 58 33.8 -0.8
baz=267
ZSN Zaisan 40.51 298 *e*P **P** 18 58 35.0 -0.2
ZSN Zaisan 40.51 298 *e*P **P** 18 58 35.1 -0.2
P16K Nushagak River 40.57 43 P **P** 18 58 34.5 -1.0
baz=272
G18K Tagagawik 40.59 33 P **P** 18 58 34.2 -1.4
baz=263,SNR=6.3
H18K Honhosa River 40.62 34 P **P** 18 58 34.4 -1.5
baz=264
C19K Lookout Ridge 40.76 28 P **P** 18 58 36.1 -0.9
baz=258
M17K Holitna River 40.83 40 P **P** 18 58 36.9 -0.7
baz=269
N17K Nushagak Hills 40.95 41 P **P** 18 58 37.7 -0.9
baz=271
O17K Koliganek Bris 41.01 42 P **P** 18 58 37.5 -1.6
baz=272
F19K Shaleruckik Mo 41.06 31 P **P** 18 58 37.8 -1.6
baz=263
D19K Kuna River 41.17 29 P **P** 18 58 38.8 -1.5
baz=261

L18K Granite Mounta 41.19 39 P **P** 18 58 39.8 -0.8
baz=269
J18K Innoko River 41.22 37 **P** 18 58 42.3 +1.5
J18K Innoko River 41.22 37 P **P** 18 58 40.3 -0.5
baz=268
GCSA Galena City Sc 41.22 35 P **P** 18 58 40.1 -0.7
baz=266
G19K Purcell Mounta 41.25 33 P **P** 18 58 40.5 -0.5
baz=264
E19K Redstone River 41.35 31 P **P** 18 58 41.5 -0.3
baz=263
P17K Kvichak River 41.36 43 P **P** 18 58 41.7 -0.2
baz=273
H19K Roundabout Mou 41.46 34 IAmb IAmb 18 58 45.5
comp=Z,8.8nm,0.8s
H19K Roundabout Mou 41.46 34 P **P** 18 58 42.5 -0.2
baz=266,SNR=6.6
R17L Mt. Peulik Vol 41.50 46 P **P** 18 58 42.8 -0.4
baz=275
N18K Kilae Creek 41.58 41 P **P** 18 58 43.9 0.0
baz=272
M18K Stony River 41.60 40 P **P** 18 58 44.0 +0.1
baz=271
Q17K Contact Creek 41.71 45 P **P** 18 58 44.9 -0.1
baz=274
J19K Poorman 41.72 36 **P** 18 58 46.5 +1.6
J19K IAmb IAmb 18 58 48.3
comp=Z,13nm,0.9s
J19K Poorman 41.72 36 P **P** 18 58 44.3 -0.6
baz=268,SNR=16
D20K Etivluk River 41.75 29 P **P** 18 58 44.4 -0.8
baz=262
B20K Meade River 41.77 27 P **P** 18 58 44.5 -0.6
baz=260
E20K Nigu River 41.84 29 P **P** 18 58 44.9 -1.0
baz=263
F20K Avaraart Lake 41.88 31 P **P** 18 58 44.9 -1.2
baz=264
O18K Koktuh Hills 41.96 42 P **P** 18 58 45.0 -1.8
baz=273
P18K Big Mountain, 41.97 43 P **P** 18 58 46.1 -0.9
baz=274
L19K White Mountain 42.05 39 P **P** 18 58 46.5 -1.1
baz=271
CHIR Chirikof Islan 42.09 48 P **P** 18 58 47.3 -0.7
baz=277
H20K Anotleneega Mo 42.11 34 P **P** 18 58 47.6 -0.4
baz=267
Q18K Katmai Hardscr 42.14 44 P **P** 18 58 47.5 -1.0
baz=275
I20K Naaghedeneel 42.25 35 P **P** 18 58 48.9 -0.2
baz=268
N19K Bonanza Creek 42.27 41 P **P** 18 58 48.9 -0.6
baz=273
M19K Big River Lodg 42.28 39 P **P** 18 58 50.1 +0.6
baz=272
J20K Nowinta River 42.38 36 IAmb IAmb 18 58 54.0
comp=Z,13nm,0.8s
J20K Nowinta River 42.38 36 P **P** 18 58 50.4 +0.2
baz=269,SNR=14
MK31 Makanchi Array 42.38 298 *i*P **P** 18 58 50.2 -0.3
MK31 pmax pmax
comp=Z,12nm,0.7s
MKAR Makanchi Array 42.38 298 **P** 18 58 50.5 0.0
MKAR Makanchi Array 42.38 298 P **P** 18 58 50.7 +0.2
comp=Z,18nm,1.0s,baz=83,slow=12,SNR=29
MKAR PcP **PcP** 19 00 43.5 +0.7
comp=Z,0.9nm,0.5s,baz=64,slow=2.9,SNR=3.6
MKAR LR LR 19 17 54.0
comp=Z,45nm,18.5s,baz=106,slow=38
comp=Z,18nm,1.0s
K20K Telida 42.41 37 P **P** 18 58 50.3 -0.2
baz=270
C21K Knifeblade Rid 42.46 28 P **P** 18 58 50.6 -0.3
baz=263
L20K Farewell, AK 42.50 38 P **P** 18 58 51.1 -0.2
baz=271
B21K Ikpikpuk River 42.58 28 P **P** 18 58 51.7 -0.1
baz=263
IMAR Indian Mountai 42.60 33 P **P** 18 58 53.1 +1.1
E21K Killik River 42.68 29 P **P** 18 58 52.3 -0.3
baz=265
G21K Allakaket 42.72 32 P **P** 18 58 53.0 0.0
baz=267
F21K Alatna River 42.77 31 P **P** 18 58 52.2 -1.2
baz=266
SII Sitkinak Islan 42.80 47 P **P** 18 58 53.5 -0.2
baz=278
Q19K Cape Douglas, 42.82 43 P **P** 18 58 53.6 -0.4
baz=275
M20K Styx River 42.87 39 P **P** 18 58 53.7 -0.7
baz=273
P19K Oil Pt 42.97 42 P **P** 18 58 55.4 +0.3
baz=275
H21K Melozitna Rive 42.98 33 P **P** 18 58 54.8 -0.3
baz=269
CHTO Chiang Mai 43.07 252 P **P** 18 58 57.4 +1.0
CHTO Chiang Mai 43.07 252 P **P** 18 58 57.4 +1.0
CHTO pmax pmax
comp=Z,6.0nm,0.8s
B22K Teshekpuk Lake 43.08 27 P **P** 18 58 54.7 -1.1
baz=263
D22K Ayikyak River 43.19 29 P **P** 18 58 55.8 -1.0
baz=266
OHAK Old Harbor 43.20 46 P **P** 18 58 56.3 -0.6
baz=278
O20K Slope Mountain 43.24 42 P **P** 18 58 56.8 -0.5
baz=275
PPLA Purkeypile 43.27 38 P **P** 18 59 00.2 +2.6
PPLA IAmb IAmb 18 59 05.9
comp=Z,15nm,1.3s
PPLA Purkeypile 43.27 38 P **P** 18 58 56.8 -0.8
baz=272
F22K John River 43.29 31 P **P** 18 58 56.6 -1.0
baz=267
CAST Castle Rocks 43.30 37 **P** 18 58 59.7 +2.0
CAST Castle Rocks 43.30 37 P **P** 18 58 57.1 -0.6
baz=272,SNR=7.6
CMAR Chiang Mai Arr 43.30 251 P **P** 18 58 57.7 -0.6
CMAR Chiang Mai Arr 43.30 251 P **P** 18 58 59.5 +1.2
comp=Z,1.2nm,0.6s,baz=42,slow=7.9,SNR=9.9
CMAR LR LR 19 17 24.7
comp=Z,35nm,18.7s,baz=185,slow=37
comp=Z,1.2nm,0.6s
I21K Tanana 43.31 34 P **P** 18 58 57.4 -0.4
baz=270
E22K Anaktuvuk Pass 43.46 30 P **P** 18 58 58.7 -0.3
baz=267
Q20K Shuyak Island 43.50 44 P **P** 18 58 59.4 0.0
baz=277
KDAK Kodiak Island 43.50 45 P **P** 18 58 59.3 -0.1
baz=277
G22K Bettles 43.53 32 P **P** 18 58 59.4 -0.1
baz=269
H22K Ishtalitna Cre 43.57 33 P **P** 18 58 59.1 -0.8
baz=270
SKT Skwentna 43.62 39 P **P** 18 58 59.8 -0.6
baz=274
KURK Kurchatov 43.76 305 **P** 18 59 01.6 0.0
KURK IAmb IAmb 18 59 02.4
comp=Z,15nm,0.8s
KURK Kurchatov 43.76 305 P **P** 18 59 02.3 +0.8
KURK 19 00 48.2
BPAW Bear Paw Mtn. 43.76 36 P **P** 18 59 02.9 +1.5
BPAW Bear Paw Mtn. 43.76 36 P **P** 18 59 01.6 +0.2
baz=272,SNR=5.4
HOM Homer 43.77 42 P **P** 18 59 01.3 -0.2
baz=276
KTH Kantishna Hill 43.81 37 IAmb IAmb 18 59 06.1
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 43.83 305 P **P** 18 59 02.2 +0.1
comp=Z,15nm,0.6s,baz=78,slow=8.7,SNR=86
KURBB PcP **PcP** 19 00 48.2 +0.6
comp=Z,1.8nm,0.6s,baz=88,slow=3.1,SNR=3.6
comp=Z,15nm,0.6s
MLY Manley 43.84 34 **P** 18 59 03.3 +1.2
MLY Manley 43.84 34 P **P** 18 59 02.0 -0.1
baz=271,SNR=9.8
D23K Nanushuk River 43.92 29 P **P** 18 59 02.5 -0.1
baz=267
C23K Itkillik River 43.99 27 P **P** 18 59 02.7 -0.4
baz=266
SUA Susitna One 44.03 40 P **P** 18 59 03.2 -0.6
baz=275
COLD Coldfoot 44.05 31 P **P** 18 59 02.7 -0.9
baz=270
TRF Thorofare Moun 44.10 37 P **P** 18 59 05.0 +0.6
TRF Thorofare Moun 44.10 37 P **P** 18 59 03.0 -1.4

baz=273
G23K **Bananza Creek** 44.12 32 P P 18 59 04.0 -0.3
baz=270
CUT **Chulitna** 44.18 38 P P 18 59 04.4 -0.4
baz=274
E23K **Chandalar** 44.28 30 P P 18 59 05.6 -0.1
baz=269
TOLK **Toolik Lake Re** 44.31 29 P P 18 59 05.2 -0.6
baz=269
H23K **Yukon River** 44.32 33 IAmb IAmb 18 59 09.3
comp=Z,6.8nm,0.8s
H23K **Yukon River** 44.32 33 P P 18 59 05.5 -0.4
baz=272,SNR=6.4
I23K **Minto, Yukon-K** 44.42 34 P P 18 59 05.9 -0.8
baz=272,SNR=5.6
BWN **Browne** 44.43 36 P P 18 59 08.7 +2.0
RC01 **Rabbit Creek A** 44.56 40 P P 18 59 06.7 -1.1
baz=276
NEA2 **Nenana** 44.57 35 P P 18 59 08.6 +0.7
NEA2 IAmb IAmb 18 59 11.0
comp=Z,11nm,0.8s
NEA2 **Nenana** 44.57 35 P P 18 59 07.1 -0.8
baz=273,SNR=15
D24K **Happy Valley** 44.59 28 P P 18 59 07.5 -0.5
baz=269
C24K **Franklin Bluff** 44.65 28 P P 18 59 07.7 -0.7
baz=268
MCK **McKinley** 44.69 36 P P 18 59 08.2 -0.6
baz=274
E24K **Your Creek** 44.70 30 P P 18 59 08.2 -0.8
baz=270
SEW **Seward** 44.81 41 P P 18 59 08.8 -1.0
baz=278
WAT1 **Susitna Watana** 44.94 37 P P 18 59 10.2 -0.7
baz=276
F24K **Squaw Lake** 44.94 31 P P 18 59 10.3 -0.5
baz=271
WRH **Wood River Hil** 45.00 35 P P 18 59 13.5 +2.2
H24K **Noodor Dome** 45.01 33 P 18 59 12.3 +1.0
H24K IAmb IAmb 18 59 14.9
comp=Z,8.4nm,0.8s
H24K **Noodor Dome** 45.01 33 P P 18 59 10.2 -1.2
baz=273,SNR=9.7
COLA **College** 45.08 35*d* *i*P P 18 59 14.4 +2.5
COLA pmax pmax
comp=Z,15nm,0.9s
CCB **Clear Creek Bu** 45.11 35 P P 18 59 13.9 +1.8
G24K **Hadweenzic Riv** 45.13 32 P P 18 59 10.7 -1.6
baz=273
KNK **Knik Glacier** 45.13 39 P P 18 59 11.7 -0.8
baz=277
POKR **Poker Plat Res** 45.24 34 P P 18 59 11.5 -1.6
baz=274
PWL **Port Wells** 45.26 40 P P 18 59 12.4 -1.1
baz=278
WAT6 **Susitna Watana** 45.34 38 P P 18 59 13.5 -0.7
baz=276
SHLS **Shalkode** 45.41 294 *e*P P 18 59 12.3 -2.6
SHLS pmax pmax
comp=Z,5.0nm,0.6s
SHLS **Shalkode** 45.41 294 *e*P P 18 59 12.4 -2.6
comp=Z,5.0nm,0.6s
DHY **Denali Highway** 45.45 37 P P 18 59 16.5 +1.5
DHY **Denali Highway** 45.45 37 P P 18 59 14.1 -0.9
baz=276
D25K **Kavik River** 45.46 28 P P 18 59 14.3 -0.7
baz=271
IL31 45.50 35 IAmb IAmb 18 59 18.8
comp=Z,7.5nm,0.8s
ILAR **Eielson Array** 45.50 35 P P 18 59 16.5 +1.3
ILAR **Eielson Array** 45.50 35 P P 18 59 16.9 +1.7
comp=Z,8.0nm,1.0s,baz=272,slow=7.0,SNR=49
ILAR pP sP 18 59 34.8 -1.3
comp=Z,2.9nm,0.8s,baz=266,slow=6.4,SNR=6.1
comp=Z,8.0nm,1.0s
TDK **Taldyqorghan** 45.50 297 *e*P P 18 59 15.3 -0.2
TDK pmax pmax
comp=Z,13nm,0.7s
TDK **Taldyqorghan** 45.50 297 *e*P P 18 59 15.3 -0.2
comp=Z,13nm,0.7s
HDA **Harding Lake** 45.50 35 P P 18 59 15.2 -0.1
baz=275
SCM **Sheep Creek Mo** 45.62 39 P P 18 59 15.9 -0.4
baz=278
G25K **Bearman Lake** 45.67 32 P P 18 59 15.7 -0.8
baz=274
UZB **Uzynbulak** 45.71 294 *e*P P 18 59 17.0 -0.4
UZB **Uzynbulak** 45.71 294 *e*P P 18 59 17.1 -0.4
F25K **Christian Rive** 45.80 31 P P 18 59 16.7 -0.9
baz=273
H25L **Birch Creek** 45.82 32 P P 18 59 17.5 -0.2
baz=274,SNR=6.0
P23K **Montague Islan** 45.85 41 P P 18 59 17.3 -0.7
baz=279
GLI **Glacier Island** 45.86 40 P P 18 59 17.6 -0.5
baz=279
PRP **Porcupine Dome** 46.00 34 P 18 59 21.2 +1.9
PRP **Porcupine Dome** 46.00 34 P P 18 59 19.5 +0.1
baz=276,SNR=20
K24K **Donnelly Dome** 46.08 36 P P 18 59 19.4 -0.5
baz=277
M24K **Tolsona, Glenn** 46.12 38 P P 18 59 19.6 -0.6
baz=278
J25K **Salcha River,** 46.16 35 P P 18 59 19.9 -0.6
baz=276
SATY **Saty** 46.16 294 *e*P P 18 59 20.4 -0.5
SATY **Saty** 46.16 294 *e*P P 18 59 20.5 -0.5
BMAR **Burnt Mountain** 46.22 31 P P 18 59 23.4 +2.5
PAX **Paxson** 46.32 37 P P 18 59 21.2 -0.6
baz=278
KLU **Klutina** 46.33 39 P P 18 59 23.9 +2.0
KLU IAmb IAmb 18 59 50.0
comp=Z,5.0nm,0.8s
KLU **Klutina** 46.33 39 P P 18 59 21.2 -0.7
baz=279
F26K **Sheenjek River** 46.36 30 IAmb IAmb 18 59 38.2
comp=Z,10nm,1.3s
F26K **Sheenjek River** 46.36 30 P P 18 59 21.7 -0.3
baz=275
C27K **Jago River** 46.39 28 P P 18 59 21.3 -0.9
baz=273
Q23K **Middleton Isla** 46.47 42 P P 18 59 22.2 -0.7
baz=281
RIDG **Independent Ri** 46.50 36 P P 18 59 22.7 -0.5
baz=278
HARP **HAARP** 46.55 38 P P 18 59 23.0 -0.6
baz=279
EYAK **Cordova Ski Ar** 46.57 40 P P 18 59 23.6 0.0
baz=280
G26K **Porcupine Rive** 46.57 31 IAmb IAmb 18 59 27.2
comp=Z,8.0nm,0.9s
G26K **Porcupine Rive** 46.57 31 P P 18 59 23.5 0.0
baz=276,SNR=5.5
SCRK **Sand Creek** 46.84 36 IAmb IAmb 18 59 46.4
comp=Z,5.4nm,0.7s
SCRK **Sand Creek** 46.84 36 P P 18 59 25.5 -0.5
baz=278,SNR=6.9
N25K **Chitina, Valde** 46.94 39 P P 18 59 26.1 -0.5
baz=280
J26L **Joseph Creek** 46.95 35 P P 18 59 26.5 -0.2
baz=278
I26K **Coal Creek Min** 47.01 34 P P 18 59 26.2 -0.9
baz=278
BMRM **Bremner River** 47.05 40 P P 18 59 26.1 -1.4
baz=280
MDOK **Medeo** 47.05 295 *e*P P 18 59 27.5 -0.4
MDOK **Medeo** 47.05 295 *e*P P 18 59 27.5 -0.4
L26K **Log Cabin Wild** 47.27 37 IAmb IAmb 18 59 51.8
comp=Z,6.4nm,1.1s
L26K **Log Cabin Wild** 47.27 37 P P 18 59 28.4 -0.8
baz=280
E27K **Coleen River** 47.27 30 P P 18 59 28.4 -0.7
baz=276
KAIM **Kayak Island** 47.34 41 P P 18 59 28.9 -0.8
baz=282
D27M **Malcolm River** 47.39 28 P P 18 59 29.4 -0.6
baz=276
G27K **Doyon Strip** 47.42 31 P P 18 59 28.8 -1.5
baz=278
M26K **Nabesna, AK** 47.54 38 P P 18 59 29.8 -1.5
baz=280
H27K **Steamboat Moun** 47.55 32 IAmb IAmb 18 59 35.2
comp=Z,8.0nm,0.9s
H27K **Steamboat Moun** 47.55 32 P P 18 59 30.0 -1.3
baz=278,SNR=6.9
I27K **Kandik River** 47.61 33 P P 18 59 30.6 -1.2
baz=279
BRZS **Berezniki** 47.62 305 *e*P P 18 59 32.0 0.0
BRZS **Berezniki** 47.62 305 *e*P P 18 59 32.0 0.0
K27K **Chicken** 47.66 35 P P 18 59 31.3 -0.9
baz=280
MCARA **McCarthy VSAT** 47.72 39 P P 18 59 31.8 -0.9
baz=281
CRQE **Cirque** 47.81 40 P P 18 59 32.4 -1.2
baz=282
BGLC **Bering Glacier** 47.85 41 P P 18 59 32.8 -0.8
baz=282
L27K **Beaver Creek,** 47.95 37 IAmb IAmb 18 59 59.9
comp=Z,4.6nm,0.8s
L27K **Beaver Creek,** 47.95 37 P P 18 59 33.6 -0.9
baz=281
BCAR **Beaver Creek A** 47.97 37 P P 18 59 36.0 +1.5
E28M **Babbage River** 47.98 29 P P 18 59 33.8 -0.8
baz=278
F28M **Old Crow** 47.99 30 P P 18 59 34.0 -0.7
baz=278
M27K **Edge Creek, AK** 48.06 37 IAmb IAmb 18 59 58.6
comp=Z,4.9nm,0.8s
M27K **Edge Creek, AK** 48.06 37 P P 18 59 34.8 -0.6
baz=282
BVAR **Borovoye Array** 48.09 310 P P 18 59 36.4 +0.7
comp=Z,7.9nm,0.5s,baz=73,slow=9.0,SNR=60
BVAR PcP PcP 19 01 03.5 +1.0
comp=Z,2.4nm,0.6s,baz=84,slow=2.5,SNR=4.1
BVAR LR LR 19 19 12.0
comp=Z,52nm,19.2s,baz=93,slow=35
comp=Z,7.9nm,0.5s
I28M **Miner Creek** 48.32 33 P P 18 59 39.8 +2.4
I28M IAmb IAmb 18 59 41.6
comp=Z,6.4nm,0.8s
I28M **Miner Creek** 48.32 33 P P 18 59 36.8 -0.6
baz=280,SNR=7.5
BTLS **Baital** 48.39 298 *e*P P 18 59 37.8 -0.2
BTLS **Baital** 48.39 298 *e*P P 18 59 37.8 -0.2
MESA **MESA** 48.49 40 P P 18 59 38.0 -0.8
baz=283
SGDS **Sogindy** 48.59 296 *e*P P 18 59 39.4 -0.3
CTG **Chitna Glacier** 48.61 39 P P 18 59 39.0 -0.6
baz=283
E29M **Blow River** 48.61 29 P P 18 59 39.2 -0.2
baz=280
H29M **Whitestone** 48.81 32 P P 18 59 40.8 -0.3
baz=281
DAWY **Dawson** 48.82 35 P P 18 59 40.9 -0.2
baz=282
G29M **Pine Creek** 48.82 31 P P 18 59 43.9 +2.9
G29M **Pine Creek** 48.82 31 P P 18 59 40.7 -0.4
baz=281
YUK3 **Moose Creek** 48.84 38 P P 18 59 40.9 -0.6
baz=283
AAK **Ala-Archa** 48.99 295 LR LR 19 22 06.3
comp=Z,72nm,18.7s,baz=120,slow=38
I29M **Ogilvie Camp,** 49.01 33 P P 18 59 42.6 +0.1
baz=282
O28M **Mount Upton** 49.20 39 P P 18 59 44.1 -0.3
baz=284
YUK8 **Steele Glacier** 49.27 39 P P 18 59 44.7 -0.2
baz=284
PINM **Pinnacle** 49.34 40 P P 18 59 45.3 +0.1
baz=285
EPYK **Eagle Plains** 49.44 32 P P 18 59 45.8 0.0
baz=282,SNR=7.1
G30M **tAoh Zrail Nji** 49.50 31 P P 18 59 46.2 -0.1
baz=282,SNR=7.2
F30M **Barrier River** 49.54 30 P P 18 59 49.1 +2.6
F30M **Barrier River** 49.54 30 P P 18 59 47.0 +0.5
baz=282,SNR=7.3
L29M **L29M** 49.58 36 IAmb IAmb 19 00 12.6
comp=Z,6.6nm,0.9s
L29M **L29M** 49.58 36 P P 18 59 47.5 +0.6
baz=284
M29M **Somme Creek** 49.59 37 P P 18 59 46.3 -0.9
baz=284
K29M **Barlow Dome** 49.67 35 P P 18 59 47.1 -0.6
baz=284
YUK4 **Talbot Arm** 49.78 38 P P 18 59 47.5 -1.3
baz=285
I30M **Mount Dempster** 49.83 33 P P 18 59 47.9 -1.0
baz=284,SNR=11
PNL **Peninsula** 49.87 41 P P 18 59 48.2 -1.0
baz=286
J30M **Hart River** 50.00 34 P P 18 59 49.2 -1.1
baz=284
YUK6 **Outpost Mounta** 50.02 39 P P 18 59 49.3 -1.2
baz=285
O29M **Mount Kennedy** 50.09 40 P P 18 59 50.0 -1.0
baz=286
INK **Inuvik** 50.22 29 P P 18 59 51.0 -0.6
baz=283,SNR=6.0
G31M **Satah River** 50.26 31 P P 18 59 51.1 -0.9
baz=284
M30M **Minto, Yukon** 50.31 36 P P 18 59 51.2 -1.3
baz=285
F31M **Tsiigehtchic** 50.34 30 P P 18 59 51.6 -0.9
baz=284
HYT **Haines Junctio** 50.46 39 IAmb IAmb 19 00 16.4
comp=Z,9.9nm,0.9s
HYT **Haines Junctio** 50.46 39 P P 18 59 52.8 -0.9
baz=286,SNR=5.3
N30M **Aishikik Lake** 50.48 38 P P 18 59 52.8 -0.9
baz=286
H31M **Peel River** 50.51 32 P P 18 59 56.3 +2.4
H31M **Peel River** 50.51 32 P P 18 59 53.2 -0.8
baz=285,SNR=9.1
P29M **Windy Craggy** 50.69 40 P P 18 59 54.9 -0.4
baz=287
P30M **Million Dollar** 50.92 40 P P 18 59 55.5 -1.6
baz=287
DZA **Taraz** 51.02 297 *e*P P 18 59 58.0 -0.1
DZA pmax pmax
comp=Z,6.0nm,0.5s
DZA **Taraz** 51.02 297 *e*P P 18 59 58.0 -0.1
comp=Z,6.3nm,0.5s
PLBC **Pleasant Camp** 51.40 40 P P 19 00 00.3 -0.4
baz=288
KK31 **Karatay Array** 51.49 297 P P 19 00 01.3 -0.4
KK31 IAmb IAmb 19 00 02.5
comp=Z,5.1nm,0.7s
KK31 **Karatay Array** 51.49 297 *e*P P 19 00 01.2 -0.4
KKAR **Karatay Array** 51.49 297 P P 19 00 01.4 -0.2
KKAR **Karatay Array** 51.49 297 P P 19 00 01.4 -0.2
M31M **Drury Creek, Y** 51.49 37 P P 18 59 59.5 -1.8
baz=288
KULM **Kulim** 51.60 237 P P 19 00 03.3 +0.6
WHY **Whitehorse** 51.74 39 P P 19 00 01.9 -1.4
baz=288
SKAG **Skagway** 51.91 40 P P 19 00 03.2 -1.2
baz=289
S31K **Pelican** 51.95 42 P P 19 00 02.8 -2.0
baz=289
A36M **Sachs Harbour** 51.96 23 P P 19 00 02.6 -2.0
baz=288
BRLS **Borolday** 51.97 298 *e*P P 19 00 06.5 +1.4
BRLS **Borolday** 51.97 298 *e*P P 19 00 06.6 +1.4
IUG **luzhnay** 52.21 296 *e*P P 19 00 07.0 -0.1
IUG pmax pmax
comp=Z,6.0nm,0.8s
IUG **luzhnay** 52.21 296 *e*P P 19 00 07.0 -0.1
comp=Z,6.0nm,0.8s
SVE **Sverdlovsk** 52.26 317 *e*P P 19 00 08.2 +1.1
SVE pmax pmax
comp=Z,11nm,1.1s
SVE MLR MLR
comp=Z,149nm,17.0s
N32M **Quiet Lake** 52.41 38 P P 19 00 06.4 -1.9
baz=289
P32M **Atlin** 52.64 40 P P 19 00 08.6 -1.3
baz=290
R32K **Eaglecrest** 52.70 41 P P 19 00 08.2 -2.1
baz=290
SIT **Sitka** 52.72 43 P P 19 00 09.5 -0.9
baz=291
MMPY **Sheldon Lake,** 52.74 35 P P 19 00 12.4 +1.8
MMPY **Sheldon Lake,** 52.74 35 P P 19 00 09.3 -1.3
baz=290
P33M **Teslin, Yukon** 52.85 39 P P 19 00 13.1 +1.5
P33M IAmb IAmb 19 00 33.9
comp=Z,3.8nm,0.8s
P33M **Teslin, Yukon** 52.85 39 P P 19 00 09.7 -1.8
baz=290
S32K **Killisnoo** 52.95 42 P P 19 00 11.2 -1.0
baz=291
C36M **Paulatuk** 53.20 26 P P 19 00 13.2 -0.6
baz=291
GAR **Garm** 53.40 293 P P 19 00 15.2 -0.8
SOEI **Soe** 53.55 202 P P 19 00 15.6 -1.6
Q32M **Nakina River** 53.56 40 P P 19 00 15.5 -1.4
baz=291
ARTI **Arti** 53.58 317 P P 19 00 16.4 -0.4
ARTI **Arti** 53.58 317 LR LR 19 25 44.0
comp=Z,80nm,19.5s,baz=100,slow=39
ARTI **Arti** 53.58 317 *c* *i*P P 19 00 17.0 +0.2
ARTI *PP pP 19 00 34.1 +2.5
ARTI 19 01 22.1
ARTI 19 02 18.3
ARTI S S 19 07 48.1 +2.5
ARTI SS SKiKP 19 11 25.8 -0.4
ARTI pmax pmax
comp=Z,7.0nm,0.7s
NIL **Nilore** 53.86 286 P 19 00 18.9 -0.4
NIL IAmb IAmb 19 00 24.0
comp=Z,9.3nm,0.9s
NIL **Nilore** 53.86 286 P P 19 00 18.9 -0.4
NIL pmax pmax
comp=Z,9.0nm,0.9s
R33M **Jennings River** 54.02 39 P P 19 00 19.1 -1.1
baz=292
U33K **Whale Pass** 54.20 43 P P 19 00 20.1 -1.2
baz=293
CHGR **Chuyangaron** 54.36 293 P P 19 00 22.9 0.0
CHGR **Chuyangaron** 54.36 293 P P 19 00 22.9 0.0
CHGR pmax pmax
comp=Z,23nm,0.9s
CRAG **Craig** 54.45 44 P P 19 00 22.4 -0.7
baz=293
SIMJ **Simiganj** 54.47 293 P P 19 00 22.9 -0.8
SIMJ IAmb IAmb 19 00 24.6
comp=Z,11nm,0.9s
WRAK **Wrangell Islan** 54.48 43 P P 19 00 22.3 -1.0
baz=293
S34M **Telegraph Cree** 54.51 41 P P 19 00 22.4 -1.1
baz=293
WTLY **Watson Lake, Y** 54.76 38 P P 19 00 24.5 -0.9
baz=293
DLBC **Dease Lake** 54.84 40 P P 19 00 24.9 -1.1
baz=293
MTN **Manton Dam** 54.98 193 P P 19 00 27.9 +0.6
COEN **Coen** 55.15 179 P P 19 00 29.7 +1.2
V35K **Ketchikan** 55.29 44 P P 19 00 27.7 -1.6
baz=294
T35M **Bob Quinn** 55.31 42 P P 19 00 27.9 -1.5
baz=294
AB31 **Akbulak array** 55.58 308 P P 19 00 31.7 +0.3
AB31 **Akbulak array** 55.58 308 *i*P P 19 00 31.8 +0.4
ABKAR **Akbulak array** 55.58 308 P P 19 00 31.9 +0.5
U35K **Hyder** 55.87 43 P P 19 00 32.6 -0.8
baz=295
SPB2 **Spitsbergen Ar** 56.30 348 P P 19 00 36.0 -0.2
SPB2 IAmb IAmb 19 01 17.3
comp=Z,9.7nm,1.1s
SPITS **Spitsbergen Ar** 56.30 348 P P 19 00 36.7 +0.5
comp=Z,2.4nm,0.6s,baz=353,slow=10,SNR=2.5
comp=Z,2.4nm,0.6s
SPITS **Spitsbergen Ar** 56.30 348 P P 19 00 36.7 +0.5
SPITS pmax pmax
comp=Z,10.0nm,1.1s
KBL **Kabul** 56.44 289 P P 19 00 37.0 -1.1
KBL IAmb IAmb 19 00 43.8
comp=Z,9.5nm,1.1s
KBL **Kabul** 56.44 289 P P 19 00 37.0 -1.1
KBL pmax pmax
comp=Z,9.0nm,1.1s
KOTAN **Kotaneelee Air** 56.91 37 P P 19 00 40.3 -0.4
baz=297
KIRV **Kirov** 57.09 321 LR LR 19 28 17.0
comp=Z,43nm,19.7s,baz=126,slow=39
KIRV **Kirov** 57.09 321 *c* *i*P P 19 00 42.3 +0.3
KNRA **Kununurra** 58.18 195 P P 19 00 50.1 0.0
KNRA IAmb IAmb 19 01 14.3
comp=Z,5.4nm,0.9s
RES **Resolute Bay** 58.18 15 P P 19 00 50.3 +0.9
RES **Resolute Bay** 58.18 15 P P 19 00 50.3 +0.9
RES pmax pmax
comp=Z,37nm,1.1s
KEV **Kevo** 59.52 339 P P 19 00 59.0 +0.3
KEV **Kevo** 59.52 339 P P 19 00 59.0 +0.3
KEV pmax pmax
comp=Z,13nm,1.1s
YKAW3 **Yellowknife Wh** 59.69 31 P P 19 01 00.8 +0.8
YKAW3 IAmb IAmb 19 01 08.2
comp=Z,7.4nm,1.3s
YKA **Yellowknife Ar** 59.73 32 P P 19 01 00.6 +0.3
comp=Z,1.0nm,0.9s,baz=310,slow=7.0,SNR=5.3
comp=Z,1.0nm,0.9s
YKA **Yellowknife Ar** 59.73 32 *i*P P 19 01 01.6 +1.3
YKA pmax pmax
comp=Z,1.0nm,0.9s
ARCES **ARCESS Array B** 60.06 339 P P 19 01 02.0 -0.5
ARCES IAmb IAmb 19 01 08.9
comp=Z,12nm,1.5s
ARCES **ARCESS Array B** 60.06 339 P P 19 01 01.3 -1.2
comp=Z,1.6nm,0.8s,baz=46,slow=7.0,SNR=4.8
ARCES LR LR 19 32 01.6
comp=Z,31nm,18.1s,baz=96,slow=41
comp=Z,1.6nm,0.8s
KLMR **Klimovskoe** 60.34 327 *e*P P 19 01 03.1 -1.4
KLMR pmax pmax
comp=Z,13nm,1.2s
BELG **Belogornoye** 60.98 316 *c* *i*P P 19 01 09.3 +0.3
BELG pmax pmax
comp=Z,4.0nm,1.0s
FITZ **Fitzroy Crossi** 61.20 198 P P 19 01 10.9 +0.1
WB0 **Warramunga Arr** 61.34 188 P 19 01 11.7 0.0
WB0 IAmb IAmb 19 01 12.6
comp=Z,10nm,1.3s
WRAB **Tennant Creek** 61.51 188 ⇓ *i*P P 19 01 13.0 +0.1
WRAB pmax pmax
comp=Z,10.0nm,1.4s
WR8 **Warramunga Arr** 61.51 188 P 19 01 12.9 0.0
WR8 IAmb IAmb 19 01 30.8
comp=Z,7.9nm,1.1s
WB2 **Warramunga Arr** 61.52 188 P P 19 01 12.2 -0.7
WB2 IAmb IAmb 19 01 18.9
comp=Z,5.9nm,1.1s
WRA **Warramunga Arr** 61.52 188 P P 19 01 12.2 -0.8
WRA **Warramunga Arr** 61.52 188 P P 19 01 13.0 +0.1
comp=Z,1.5nm,0.4s,baz=6.4,slow=6.9,SNR=48
comp=Z,1.5nm,0.4s
NLWA **Neilton Lookou** 63.36 49 P P 19 01 27.2 +2.1
NLWA IAmb IAmb 19 01 37.5
comp=Z,14nm,1.3s
VRH **Novokhopyorsk** 64.70 317 *e*P P 19 01 31.9 -1.9
VRH pmax pmax
comp=Z,6.0nm,0.9s
OBN **Obninsk** 64.91 322 ⇓ *e*P P 19 01 35.4 +0.4
OBN *PP pP 19 01 51.0 +0.8
OBN *e*SP sP 19 01 57.1 +0.6
OBN 19 02 05.0
OBN *SS sS 19 10 32.0 -5.8
OBN SS SS 19 14 32.0 +8.6
OBN pmax pmax
comp=Z,5.0nm,0.6s
BLKN **Baker Lake** 65.11 24 P 19 01 37.1 +0.9
FIA1 **FINESS Array S** 65.17 332 P P 19 01 36.8 +0.1
FINES **FINESS Array B** 65.17 332 P P 19 01 36.5 -0.1
FINES **FINESS Array B** 65.17 332 P P 19 01 36.7 +0.1
comp=Z,8.1nm,0.7s,baz=46,slow=8.2,SNR=31
FINES LR LR 19 32 17.2
comp=Z,72nm,19.7s,baz=32,slow=38
comp=Z,8.1nm,0.7s
ASAR **Alice Springs** 65.25 188 P P 19 01 36.9 -0.6
ASAR **Alice Springs** 65.25 188 P P 19 01 38.4 +0.9
comp=Z,1.5nm,0.8s,baz=14,slow=12,SNR=19
ASAR pP 19 01 55.0 +2.3
comp=Z,2.3nm,0.9s,baz=7.6,slow=6.0,SNR=7.2
comp=Z,1.5nm,0.8s
LPSR **Galich'ya Gora** 65.29 319 *e*P P 19 01 35.5 -2.0
LPSR pmax pmax
comp=Z,7.0nm,0.8s
VORR **Voronezh** 65.70 318 *e*P P 19 01 38.6 -1.6
VORR pmax pmax
comp=Z,8.0nm,0.8s
VSR **Storozhevoye** 66.00 318 *e*P P 19 01 40.7 -1.4
VSR pmax pmax
comp=Z,6.0nm,0.9s
VORD **Divnogorie** 66.08 318 *e*P P 19 01 41.5 -1.2
VORD pmax pmax
comp=Z,7.0nm,0.9s
SUMG **Summit** 66.26 0 P 19 01 44.0 0.0

SUMG IAmb IAmb 19 02 19.8
comp=Z,17nm,1.5s
SUMG Summit 66.26 0 P **P** **19 01 44.0 0.0**
SUMG pmax pmax
comp=Z,17nm,1.5s
AKT Akhty 66.93 305 *eP* **P** **19 01 47.0 -1.4**
AKT pmax pmax
comp=Z,24nm,1.0s
VSU Vasula 66.94 329 ⇓ *iP* **P** **19 01 47.7 -0.3**
VSU pmax pmax
comp=Z,9.0nm,0.9s
GOF Gofitskoye 67.59 311 *ceP* **P** **19 01 53.4 +1.0**
KIV Kislovodsk 68.46 310 **P** **19 01 57.6 -0.4**
KIV Kislovodsk 68.46 310 *eP* **P** **19 01 58.9 +0.9**
KIV pmax pmax
comp=Z,24nm,1.0s
KBZ Khabaz 68.47 310 P **P** **19 01 58.9 +1.0**
comp=Z,6.1nm,0.8s,baz=51,slow=5.0,SNR=13
comp=Z,6.1nm,0.8s
KBZ Khabaz 68.47 310 *d iP* **P** **19 01 59.3 +1.4**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
GNI Garni 69.54 306 LR LR 19 34 46.5
comp=Z,47nm,20.5s,baz=154,slow=38
PABE Paberze 70.08 328 P **P** **19 02 07.6 -0.1**
PABE IAmb IAmb 19 02 27.6
comp=Z,17nm,1.2s
NC405 NORSAR Array S 70.12 337 P **P** **19 02 07.6 -0.2**
NC405 IAmb IAmb 19 02 34.3
comp=Z,6.3nm0,9s
NC204 NORSAR Array S 70.27 337 P **P** **19 02 08.7 -0.2**
NC204 IAmb IAmb 19 02 10.1
comp=Z,11nm,1.0s
HFS Hagfors 70.29 335 P **P** **19 02 09.3 +0.4**
comp=Z,4.0nm,0.6s,baz=46,slow=6.4,SNR=26
HFS LR LR 19 36 28.5
comp=Z,43nm,19.1s,baz=67,slow=39
comp=Z,4.0nm,0.6s
NB2 NORSAR Subarra 70.33 337 P **P** **19 02 09.3 +0.2**
comp=Z,1.2nm,0.5s,baz=35,slow=6.5
NOA NORSAR Array B 70.33 337 P **P** **19 02 09.3 +0.2**
comp=Z,4.0nm,0.8s,baz=37,slow=6.1,SNR=17
NOA pP **pP** **19 02 26.0 +1.4**
comp=Z,1.0nm,0.6s,baz=35,slow=6.3,SNR=3.3
NOA LR LR 19 36 11.1
comp=Z,20nm,21.6s,baz=30,slow=38
comp=Z,4.0nm,0.8s
NBO00 NORSAR Array S 70.46 337 P **P** **19 02 09.6 -0.4**
NBO00 IAmb IAmb 19 02 43.7
comp=Z,14nm,1.3s
NAO01 NORSAR Array S 70.58 337 P **P** **19 02 10.4 -0.2**
NAO01 IAmb IAmb 19 02 30.9
comp=Z,22nm,1.5s
DLMT Dillon 70.84 46 P **P** **19 02 12.8 +0.1**
UOSS Minazif 71.03 287 P **P** **19 02 13.7 -0.3**
UOSS IAmb IAmb 19 02 14.7
comp=Z,5.2nm,0.7s
AKASG Malin Array Be 71.15 322 P **P** **19 02 14.4 +0.1**
comp=Z,4.3nm,0.5s,baz=46,slow=6.1,SNR=39
comp=Z,4.3nm,0.5s
AKBB Malin Array Si 71.15 322 IAmb IAmb 19 02 15.2
comp=Z,9.8nm,0.8s
AKBB Malin Array Si 71.15 322 *c iP* **P** **19 02 14.3 0.0**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 71.15 322 P **P** **19 02 13.6 -0.7**
AK01 Malin Array Si 71.17 322 P **P** **19 02 14.2 -0.1**
AK04 Malin Array Si 71.17 322 P **P** **19 02 14.1 -0.2**
KIEV Kiev 71.17 322 **P** **19 02 13.8 -0.5**
KIEV IAmb IAmb 19 02 15.2
comp=Z,8.7nm,0.8s
KIEV Kiev 71.17 322 P **P** **19 02 13.8 -0.5**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 71.17 322 P **P** **19 02 13.6 -0.7**
AK09 Malin Array Si 71.18 322 P **P** **19 02 14.1 -0.4**
AK22 Malin Array Si 71.18 322 P **P** **19 02 14.2 -0.2**
AK08 Malin Array Si 71.18 322 P **P** **19 02 14.1 -0.4**
AK21 Malin Array Si 71.19 322 P **P** **19 02 14.1 -0.4**
AK02 Malin Array Si 71.19 322 P **P** **19 02 14.1 -0.4**
AK11 Malin Array Si 71.19 322 P **P** **19 02 14.1 -0.4**
AK15 Malin Array Si 71.20 322 P **P** **19 02 14.2 -0.4**
SFJD Kangerlussuaq 71.43 5 LR LR 19 33 49.3
comp=Z,36nm,21.6s,baz=325,slow=36
NVAR Mina Array Bea 71.93 55 P **P** **19 02 20.4 +0.9**
NVAR Mina Array Bea 71.93 55 P **P** **19 02 21.0 +1.5**
comp=Z,0.6nm,0.6s,baz=315,slow=6.5,SNR=4.4
NVAR pP **PcP** **19 02 38.3 +0.4**
comp=Z,1.7nm,0.7s,baz=308,slow=4.7,SNR=6.7
comp=Z,0.6nm,0.6s
RNPP9 Sopachiv 72.17 324 P **P** **19 02 19.8 -0.6**
GURO Guroymak-BITLI 72.18 306 IAmb IAmb 19 02 23.3
comp=Z,12nm,1.0s
RNPP8 Varash 72.24 324 P **P** **19 02 19.9 -0.9**
RNPP5 Staryi Chortor 72.31 324 P **P** **19 02 20.3 -0.9**
LUBAR Lubar, Ukraine 72.37 322 P **P** **19 02 20.7 -0.9**
SIM Simferopol' 72.58 315 *eP* **P** **19 02 22.7 -0.2**
SIM pmax pmax
comp=Z,20nm,0.8s
STKA Stephens Creek 72.98 180 P **P** **19 02 25.6 +0.4**
comp=Z,1.8nm,0.8s,baz=350,slow=17,SNR=2.9
comp=Z,1.8nm,0.8s
MARD Mardin 73.73 305 **P** **19 02 29.7 -0.3**
ARPR Arapgir-MALATY 74.05 308 P **P** **19 02 32.8 +0.9**
LRMC Laurel Mtn Rad 74.18 57 P **P** **19 02 34.4 +1.7**
PDAR Pinedale Array 74.19 47 P **P** **19 02 34.2 +1.4**
comp=Z,0.7nm,0.6s,baz=312,slow=4.5,SNR=6.9
PDAR pP **sP** **19 02 53.5 -1.1**
comp=Z,0.9nm,0.5s,baz=285,slow=2.3,SNR=5.0
comp=Z,0.7nm,0.6s
BUR08 Bucovina Ar. S 75.18 321 IAmb IAmb 19 02 40.0
comp=Z,4.6nm,0.8s
BURAR Bucovina Array 75.19 321 **P** **19 02 38.6 +0.3**
BURAR IAmb IAmb 19 02 40.3
comp=Z,5.4nm,0.7s
BURAR Bucovina Array 75.19 321 P **P** **19 02 38.6 +0.3**
BURAR pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 75.57 324 *eP* **P** **19 02 41.7 +1.3**
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 75.57 324 *eP* **P** **19 02 41.7 +1.3**
STHS Stebnicka Huta 75.67 325 *eP* **P** **19 02 41.6 +0.7**
STHS Stebnicka Huta 75.67 325 *eP* **P** **19 02 41.6 +0.7**
BNN Bunyan 75.67 309 IAmb IAmb 19 02 43.5
comp=Z,10nm,0.9s
OJC Ojcow 75.68 326 **P** **19 02 41.7 +0.8**
OJC Ojcow 75.68 326 P **P** **19 02 41.7 +0.8**
NIE Niedzica 76.07 325 P **P** **19 02 44.9 +1.7**
NIE pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 76.35 311 ⇑ *iP* **P** **19 02 45.8 +0.7**
BRTR Keskin Array B 76.35 311 **P** **19 02 45.2 +0.1**
BRTR Keskin Array B 76.35 311 P **P** **19 02 45.8 +0.7**
comp=Z,2.6nm,0.7s,baz=67,slow=4.8,SNR=15
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 76.35 311 *i P* **P** **19 02 46.0 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
KSP Ksiaz 76.64 328 P **P** **19 02 45.9 -0.4**
KSP pmax pmax
comp=Z,7.0nm,1.3s
ANTO Ankara 76.72 312 P **P** **19 02 47.1 -0.1**
ANTO Ankara 76.72 312 P **P** **19 02 47.1 -0.1**
ANTO pmax pmax
comp=Z,11nm,0.8s
STEB Steborice 76.74 327 *eP* **P** **19 02 48.2 +1.2**
CHVC Chvalec 76.93 328 *eP* **P** **19 02 49.4 +1.4**
CHVC Chvalec 76.93 328 *eP* **P** **19 02 49.4 +1.4**
MORC Moravsky Berou 76.96 327 IAmb IAmb 19 02 50.4
comp=Z,5.4nm,0.9s
MORC Moravsky Berou 76.96 327 *eP* **P** **19 02 49.4 +1.2**
MORC Moravsky Berou 76.96 327 P **P** **19 02 49.5 +1.2**
MORC pmax pmax
comp=Z,7.0nm,1.1s
DPC Dobruska-Polom 77.01 328 *eP* **P** **19 02 50.0 +1.5**
DPC Dobruska-Polom 77.01 328 *eP* **P** **19 02 50.0 +1.5**
KRLC Kraliky 77.04 327 *eP* **P** **19 02 50.3 +1.6**
KRLC Kraliky 77.04 327 *eP* **P** **19 02 50.3 +1.6**
FLTG Flechtingen 77.36 332 *eP* **P** **19 02 50.5 +0.2**
comp=Z,6.2nm,0.8s,baz=34,slow=5.5
VYHS Vyhne 77.40 325 *eP* **P** **19 02 52.0 +1.3**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 77.40 325 *eP* **P** **19 02 52.0 +1.3**

CLL Collm 77.54 330 *i P* **P** **19 02 51.6 +0.2**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 77.54 330 *eP* **P** **19 02 51.7 +0.3**
comp=Z,4.8nm,1.0s,baz=34,slow=5.5
CLL Collm 77.54 330 *i P* **P** **19 02 51.6 +0.2**
comp=Z,5.0nm,1.0s
CLL *ePP* **PP** **19 05 46.0 0.0**
JAVC Velka Javorina 77.62 326 *eP* **P** **19 02 53.9 +1.9**
VRAC Vranov 77.71 327 LR LR 19 40 15.2
comp=Z,39nm,18.2s,baz=42,slow=38
VRAC Vranov 77.71 327 *eP* **P** **19 02 53.8 +1.4**
PV13 Radium Mtn., P 77.73 50 P **P** **19 02 53.4 +0.4**
PV13 IAmb IAmb 19 02 56.0
comp=Z,8.9nm,1.3s
KRUC Moravsky 77.99 327 *eP* **P** **19 02 54.8 +0.9**
KRUC Moravsky 77.99 327 P **P** **19 02 55.5 +1.6**
KRUC pmax pmax
comp=Z,9.0nm,1.6s
PRU Pruhonice 78.00 328 P **P** **19 02 55.1 +1.1**
PRU pmax pmax
comp=Z,5.0nm,1.0s
CLZ Clausthal 78.07 332 *eP* **P** **19 02 55.4 +1.1**
comp=Z,4.7nm,0.8s,baz=34,slow=5.5
SRO Srobarova 78.15 325 *eP* **P** **19 02 56.8 +2.0**
SRO pmax pmax
comp=Z,8.0nm,0.9s
SRO Srobarova 78.15 325 *eP* **P** **19 02 56.8 +2.0**
TREC Trest 78.17 328 P **P** **19 02 54.6 -0.4**
TREC pmax pmax
comp=Z,4.0nm,1.1s
TANN Tannenbergstha 78.46 330 *eP* **P** **19 02 57.3 +0.7**
comp=Z,2.6nm,1.1s,baz=34,slow=5.5
MOX Moxa 78.59 330 *eL* L 19 36 50.5
comp=Z,42nm,21.1s
CKRC Cesky Krumlov 79.02 328 *eP* **P** **19 03 00.9 +1.2**
KHC Kasperske Hory 79.06 328 *c iP* **P** **19 03 00.9 +1.0**
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 79.06 328 *eP* **P** **19 03 01.0 +1.0**
ROTZ Rotzenmuhle 79.08 330 *eP* **P** **19 03 01.1 +1.1**
comp=Z,0.6nm,0.8s,baz=34,slow=5.5
RONA Ralia, Austr 79.10 326 *i P* **P** **19 03 01.4 +1.3**
comp=Z,6.9nm,0.8s
CONA Conrad Observa 79.10 326 *eP* **P** **19 03 01.6 +1.4**
comp=Z,3.6nm,1.1s
EKA Eskdalemuir Ar 79.14 341 P **P** **19 03 00.8 +0.6**
comp=Z,2.3nm,0.8s,baz=26,slow=4.7,SNR=8.8
comp=Z,2.3nm,0.8s
GEC2 GERESS Array S 79.25 328 *eP* **P** **19 03 01.6 +0.7**
comp=Z,1.7nm,0.7s,baz=34,slow=5.5
GERES GERESS Array B 79.25 328 P **P** **19 03 01.8 +0.8**
comp=Z,0.9nm,0.6s,baz=32,slow=5.5,SNR=12
GERES LR LR 19 41 54.6
comp=Z,46nm,18.2s,baz=64,slow=38
comp=Z,0.9nm,0.6s
WET Wettzell 79.33 329 P **P** **19 03 02.9 +1.6**
WET pmax pmax
comp=Z,6.0nm,1.0s
WET Wettzell 79.33 329 *eP* **P** **19 03 02.3 +1.0**
comp=Z,3.4nm,0.9s,baz=34,slow=5.5
RAYN Ar Rayn 79.50 292 **P** **19 03 02.8 0.0**
RAYN IAmb IAmb 19 03 03.9
comp=Z,4.9nm,0.8s
RAYN Ar Rayn 79.50 292 P **P** **19 03 02.8 0.0**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
GRF Grafenberg Arr 79.52 330 *eP* **P** **19 03 03.5 +1.2**
comp=Z,5.6nm,0.8s,baz=34,slow=5.5
GRF *eL* L 19 38 14.9
comp=Z,39nm,19.8s
RDO Rodhopi 79.73 317 IAmb IAmb 19 03 05.9
comp=Z,7.7nm,0.9s
ARSA Arzberg 79.77 326 *i P* **P** **19 03 05.4 +1.6**
comp=Z,2.6nm,1.0s
CSS Mathiatis 79.78 308 IAmb IAmb 19 03 05.7
comp=Z,8.0nm,0.7s
MOA Molln 79.81 327 *i P* **P** **19 03 04.5 +0.5**
comp=Z,1.2nm,0.8s
MMAI Mount Meron Ar 79.87 305 P **P** **19 03 06.2 +1.6**
comp=Z,5.3nm,0.7s,baz=29,slow=3.3,SNR=10
comp=Z,5.3nm,0.7s
BIOA Bad Ischl, Aus 80.20 328 *i P* **P** **19 03 07.4 +1.4**
comp=Z,3.8nm,0.9s
SOKA Soboth 80.43 326 *i P* **P** **19 03 07.3 -0.1**
comp=Z,6.0nm,1.7s,SNR=8.2
RJOB Jochberg 80.50 328 *eP* **P** **19 03 08.9 +1.1**
comp=Z,6.1nm,0.9s,baz=34,slow=5.5
OBKA Obir 80.77 326 *i P* **P** **19 03 09.8 +0.6**
comp=Z,2.2nm,0.6s,SNR=4.0
LESA Schwarzleotal 80.80 328 *i P* **P** **19 03 10.4 +1.1**
comp=Z,5.5nm,1.1s
KBA Koelnbreinsper 80.81 327 P **P** **19 03 09.1 -0.4**
KBA pmax pmax
comp=Z,8.0nm,1.1s
KBA Koelnbreinsper 80.81 327 *i P* **P** **19 03 11.0 +1.5**
comp=Z,5.5nm,0.9s
SCHQ Schefferville 80.93 16 P **P** **19 03 10.4 +0.5**
comp=Z,7.2nm,0.9s,baz=344,slow=6.5,SNR=3.8
comp=Z,7.2nm,0.9s
MYKA Terra Mystica 81.05 327 *i P* **P** **19 03 10.8 +0.1**
comp=Z,3.4nm,0.9s
BMRD Maredsous 81.28 334 *dP* **P** **19 03 12.4 +0.6**
WATA Walderalm 81.31 328 *i P* **P** **19 03 13.0 +0.9**
comp=Z,2.4nm,0.6s
WTTA Wattenberg 81.34 328 *i P* **P** **19 03 13.0 +0.6**
comp=Z,4.3nm,0.7s
WLF Walfersange 81.36 333 *dP* **P** **19 03 13.0 +0.8**
ABTA Abfaltersbach 81.41 328 *i P* **P** **19 03 12.5 -0.1**
comp=Z,4.3nm,1.3s
MOTA Moosalm 81.48 329 *i P* **P** **19 03 13.9 +0.8**
comp=Z,10.0nm,1.0s,SNR=5.2
RETA Reutte 81.50 329 *i P* **P** **19 03 13.9 +0.9**
comp=Z,4.5nm,0.8s,SNR=6.1
SQTA Sankt Quirin 81.54 329 *i P* **P** **19 03 14.0 +0.6**
comp=Z,2.6nm,0.6s
Y22D IRIS PASSCAL I 81.67 52 P **P** **19 03 14.3 0.0**
baz=315
BFO Black Forest 81.71 331 P **P** **19 03 14.4 +0.3**
BFO Black Forest 81.71 331 P **P** **19 03 14.4 +0.3**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 81.71 331 *eP* **P** **19 03 14.6 +0.4**
comp=Z,3.9nm,0.9s,baz=34,slow=5.5
STAL STALIGIAL 81.73 327 IAmb IAmb 19 03 14.5
comp=Z,8.6nm,1.2s
PDG Podgorica 81.87 321 IAmb IAmb 19 03 16.5
comp=Z,9.2nm,0.8s
FETA Feichten 81.89 329 *i P* **P** **19 03 15.8 +0.5**
comp=Z,4.3nm,1.0s
DAVA Damuels 82.00 329 *i P* **P** **19 03 16.5 +0.7**
comp=Z,9.5nm,0.9s
FUORN Ofenpass-Fuorn 82.41 329 **P** **19 03 18.8 +0.7**
DAVOX Davos/Dischmat 82.42 329 LR LR 19 42 19.7
comp=Z,33nm,18.6s,baz=85,slow=37
NRCA Norcia 84.33 325 P **P** **19 03 28.2 +0.4**
BNI Bardonecchia 85.09 330 IAmb IAmb 19 03 34.1
comp=Z,5.8nm,1.1s
ORIF Oris-en-Rattie 85.50 330 P **P** **19 03 34.0 +0.3**
ORIF pmax pmax
comp=Z,5.0nm,1.1s
SSB Saint Sauveur 85.68 331 **P** **19 03 33.7 -0.8**
SSB IAmb IAmb 19 03 36.2
comp=Z,4.6nm,0.9s
SSB Saint Sauveur 85.68 331 P **P** **19 03 33.7 -0.8**
SSB pmax pmax
comp=Z,5.0nm,0.9s
ESDC Sonseca Array 93.55 334 P **P** **19 04 12.1 +0.3**
comp=Z,1.2nm,0.8s,baz=23,slow=4.1,SNR=11
ESDC LR LR 19 51 26.9
comp=Z,48nm,18.2s,baz=46,slow=39
comp=Z,1.2nm,0.8s
H03N2 Juan Fernandez 146.68 90 T T 21 54 04.5
baz=300,slow=77,SNR=20
H03N3 Juan Fernandez 146.70 90 T T 21 54 06.4
baz=300,slow=77,SNR=18
H03N1 Juan Fernandez 146.70 90 T T 21 54 05.7
baz=300,slow=77,SNR=22

*BJI **24** 19:32:35.1, 18˚.69N×145˚.95E, h181km, mB4.8/10, mb4.6/43*
*NEIC **24** 19:32:40.2±1.6, 18˚.65N±0˚.07×145˚.7E±0˚.1, h197km±7km, mb4.8/117, Error ellipse: s-maj=16.1km s-min=10.1km az=92.0*
*IDC **24** 19:32:41.2±0.7, 18˚.65N×145˚.63E, h212km±6km, mb4.1/30, mbtmp4.7/35, Error ellipse: s-maj=11.1km s-min=7.1km az=89.0*
*DJA **24** 19:32:43.7±1.7, 19˚N±4˚×14˚E±˚, h236km±16km, M4.7/37, mb4.9/37, mB5.3/11, Mw(mB)4.7/11*
*GCMT **24** 19:32:43.2±0.4, 18˚.65N±0˚.03×145˚.77E±0˚.03, h188km±4km, MW5.0/75, Moment Tensor Solution. s21, c23; s75, c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.45±.20; Mθθ0.21±.21; Mφφ0.23±.23; Mrθ-2.24±.14; Mrφ-1.45±.23; Mθφ3.56±.17; Best double couple: M=4.36900×10^16^ NP1:φs274.00000°, δ11.00000°, λ-145.00000°. NP2:φs150.00000°, δ84.00000°, λ-81.00000°. Principal axes: T 4.9050, Plg38.0000°, Azm232.0000°; N -1.0720, Plg9.0000°, Azm329.0000°; P -3.8330, Plg51.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 19:32:40.6±0.5, 18˚.66N±0˚.04×145˚.61E±0˚.06, h206km±4km, h206km:pP-P, n494, σ1§9/518, mb4.7/107, 5C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.09**	**188**	Pn	**Pn**	**19 33 55.2**	**-1.2**
GUMO	**Guam**	**5.09**	**188**	P	**Pn**	**19 33 55.9**	**-0.5**
	47nm,0.3s,baz=141,slow=3.6,SNR=11						
GUMO				S	**S**	**19 34 51.9**	**-3.9**
	77nm,0.3s,baz=22,slow=16,SNR=3.9						
GUMO	**Guam**	**5.09**	**188**	P	**Pn**	**19 33 56.5**	**+0.1**
JCJ	**Chichijima**	**8.97**	**340**	Pn	**Pn**	**19 34 44.7**	**-1.8**
JCJ	**Chichijima**	**8.97**	**340**	P	**Pn**	**19 34 47.0**	**+0.4**
	77nm,0.3s,baz=134,slow=23,SNR=5.9						
JCJ				S	**S**	**19 36 20.0**	**-7.4**
	275nm,0.4s,baz=102,slow=22,SNR=10						
JCJ	**Chichijima**	**8.97**	**340**	P	**Pn**	**19 34 49.0**	**+2.5**
JHJ2	**Mitsune**	**15.31**	**341**		**Pn**	**19 36 05.1**	**-1.1**
JHJ2	**Mitsune**	**15.31**	**341**	P	**P**	**19 36 10.6**	**+4.1**
JHJ2	**Mitsune**	**15.31**	**341**	S	**S**	**19 39 00.3**	**+4.4**
JHJ	**Hachijo jima 2**	**15.32**	**341**	P	**P**	**19 36 08.5**	**+1.8**
	85nm,0.7s,baz=345,slow=21,SNR=14						
JHJ				S	**S**	**19 38 59.7**	**+3.4**
	119nm,0.6s,baz=73,slow=22,SNR=5.4						
PATS	**Pohnpei**	**17.05**	**132**	P	**Pn**	**19 36 31.3**	**+3.9**
JOW	**Kunigami**	**17.93**	**300**	P	**Pn**	**19 36 37.7**	**+0.1**
	92nm,0.5s,baz=147,slow=10.0,SNR=29						
JOW	**Kunigami**	**17.93**	**300**	P	**Pn**	**19 36 38.4**	**+0.8**
INU	**Inuyama**	**18.29**	**337**		**P**	**19 36 39.0**	**-0.1**
INU	**Inuyama**	**18.29**	**337**	P	**Pn**	**19 36 41.1**	**-0.6**
JMN	**Monobe**	**18.31**	**327**	P	**Pn**	**19 36 43.4**	**+1.4**
JGF	**Kuroka**	**18.39**	**338**		**P**	**19 36 40.7**	**+0.3**
JGF	**Kuroka**	**18.39**	**338**	P	**Pn**	**19 36 41.6**	**-1.4**
MJAR	**Matsushiro Arr**	**18.98**	**341**	P	**P**	**19 36 46.2**	**-0.4**
MJAR	**Matsushiro Arr**	**18.98**	**341**	P	**P**	**19 36 45.8**	**-0.8**
	23nm,0.7s,baz=161,slow=9.9,SNR=44						
MJAR				S	**S**	**19 40 06.6**	**-4.4**
	16nm,0.9s,baz=173,slow=16,SNR=12						
MJAR				ScP	**ScP**	**19 44 16.0**	**-3.1**
	1.8nm,0.9s,baz=159,slow=2.5,SNR=4.5						
MAJO	**Matsushiro**	**18.98**	**341**		**P**	**19 36 46.5**	**-0.1**
JMM	**Marumori**	**19.60**	**349**		**P**	**19 36 54.1**	**+0.9**
JMM	**Marumori**	**19.60**	**349**	P	**Pn**	**19 36 55.6**	**-1.6**
H11S3	**WAKE ISLAND Hy**	**19.98**	**87**	T	T	19 58 16.6	
	baz=276,slow=74,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**19.99**	**87**	T	T	19 58 18.4	
	baz=276,slow=74,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**20.00**	**87**	T	T	19 58 10.9	
	baz=276,slow=74,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**20.12**	**84**	T	T	19 58 33.6	
	baz=266,slow=74,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**20.13**	**83**	T	T	19 58 20.1	
	baz=266,slow=74,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**20.14**	**84**	T	T	19 58 27.9	
	baz=266,slow=74,SNR=7.5						
JSD	**Sado**	**20.35**	**343**	P	Pn	19 37 04.8	-1.6
MANU	**Manus Island**	**20.64**	**175**	P	**P**	**19 37 03.4**	**-1.2**
JAY	**Jayapura**	**21.59**	**193**	P	**P**	**19 37 14.5**	**0.0**
	23nm,0.8s,baz=236,slow=4.1,SNR=17						
	23nm,0.8s						
JAY	**Jayapura**	**21.59**	**193**	P	**P**	**19 37 13.9**	**-0.6**
SMPI	**Sarmi**	**21.61**	**199**	P	**P**	**19 37 15.5**	**+0.8**
GENI	**Genyem**	**21.78**	**195**	P	**P**	**19 37 17.8**	**+1.4**
GENI	**Genyem**	**21.78**	**195**	P	**P**	**19 37 16.4**	**0.0**
	1μm120nm,0.9s						
BAKI	**Biak**	**21.82**	**206**	P	**P**	**19 37 17.9**	**+1.1**
	161nm,1.4s						
SRPI	**Serui, Papua**	**22.38**	**205**	P	**P**	**19 37 24.4**	**+2.3**
	2μm126nm,1.1s						
JTM	**Tenmabayashi**	**22.40**	**351**	P	**P**	**19 37 22.7**	**+0.8**
YHNB	**Yeheng**	**23.29**	**289**	P	**P**	**19 37 31.8**	**+1.6**
ERM	**Erimo**	**23.38**	**355**	P	**P**	**19 37 33.0**	**+2.2**
JEM	**Erimo**	**23.38**	**355**	P	**P**	**19 37 34.9**	**+4.1**
WAMI	**Wamena**	**23.41**	**198**	P	**P**	**19 37 35.1**	**+3.8**
	59nm,0.6s						
SWI	**Sorong**	**23.98**	**218**	P	**P**	**19 37 37.9**	**+1.3**
	41nm,1.0s						
KSRS	**Korea Array**	**24.30**	**324**	P	**P**	**19 37 39.0**	**-0.2**
	3.5nm,0.7s,baz=147,slow=8.8,SNR=28						
KSRS				pP	**pP**	**19 38 18.5**	**+1.0**
	10nm,0.9s,baz=143,slow=9.3,SNR=3.3						
KSRS				ScP	**ScP**	**19 44 31.1**	**-1.4**
	2.0nm,0.8s,baz=138,slow=3.3,SNR=9.5						
	3.5nm,0.7s						
KSAR	**Wonju Array Be**	**24.32**	**324**	P	**P**	**19 37 39.2**	**-0.2**
KS19	**Wonju Array Si**	**24.37**	**324**	P	**P**	**19 37 39.3**	**-0.6**
KS19				IAmb	IAmb	19 38 04.5	
	comp=Z,18nm,0.8s						
FAKI	**Fak Fak**	**25.15**	**213**	P	**P**	**19 37 47.7**	**+0.5**
FAKI	**Fak Fak**	**25.15**	**213**	P	**P**	**19 37 48.7**	**+1.6**
FAKI	**Fak Fak**	**25.15**	**213**	P	**P**	**19 37 48.8**	**+1.6**
ASAJ	**Asahikawa**	**25.51**	**355**	P	**P**	**19 37 51.4**	**+1.3**
	comp=Z,11nm,0.7s,baz=206,slow=13,SNR=17						
	comp=Z,11nm,0.7s						
NJ2	**Nanjing**	**27.53**	**304**	*eP*	**P**	**19 38 09.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.92**	**339**	P	**P**	**19 38 12.2**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=145,slow=5.6,SNR=10						
	comp=Z,4.7nm,0.7s						
PMG	**Port Moresby**	**27.93**	**177**	P	**P**	**19 38 10.8**	**-1.1**
YSS	**Yuzhno-Sakhali**	**28.32**	**356**	P	**P**	**19 38 14.9**	**-0.1**
MRSI	**Marisa**	**29.43**	**235**	P	**P**	**19 38 27.2**	**+1.9**
	comp=Z,558nmcomp=Z,61nm,1.0s						
MYLDM	**Lahad Datu**	**29.65**	**247**		**P**	**19 38 29.8**	**+2.5**
MYLDM				IAmb	IAmb	19 38 31.2	
	comp=Z,22nm,1.0s						
LUWI	**Luwuk**	**29.79**	**231**	P	**P**	**19 38 28.2**	**-0.2**
LUWI	**Luwuk**	**29.79**	**231**	P	**P**	**19 38 29.3**	**+0.9**
	comp=Z,950nmcomp=Z,64nm,1.2s						
TOLI2	**Tolitoli**	**29.95**	**237**		**P**	**19 38 30.9**	**+1.0**
TOLI2				IAmb	IAmb	19 38 32.5	
	comp=Z,26nm,0.9s						
APSI	**Ampana**	**30.54**	**233**	P	**P**	**19 38 36.6**	**+1.5**
	comp=Z,43nm,1.1s						
BNX	**BinXian**	**30.94**	**335** ⇑	P	**P**	**19 38 38.5**	**+0.3**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKM	**Kota Kinabalu**	**31.27**	**250**	P	**P**	**19 38 42.3**	**+0.7**
KKM				IAmb	IAmb	19 38 44.6	
	comp=Z,24nm,0.9s						
PCI	**Palu**	**31.93**	**235**	P	**P**	**19 38 48.5**	**+1.2**
	comp=Z,18nm,1.0s						
COEN	**Coen**	**32.50**	**184**		**P**	**19 38 51.9**	**-0.2**
COEN				IAmb	IAmb	19 38 54.0	
	comp=Z,16nm,0.5s						
TTSI	**Tana Toraja**	**33.31**	**232**	P	**P**	**19 39 01.0**	**+1.7**
SPSI	**Sidrap Palu**	**33.96**	**231**	P	**P**	**19 39 06.3**	**+1.5**
	comp=Z,846nmcomp=Z,77nm,1.0s						
BNSI	**Bone**	**34.01**	**230**	P	**P**	**19 39 07.6**	**+2.4**
	comp=Z,82nm,1.2s						
MTN	**Manton Dam**	**34.40**	**206**		**P**	**19 39 08.6**	**+0.1**
BKSI	**Bulukumba**	**34.63**	**229**	P	**P**	**19 39 12.6**	**+2.1**
	comp=Z,29nm,1.0s						
KAPI	**Kappang**	**34.68**	**230**	P	**P**	**19 39 11.8**	**+0.8**
KAPI				IAmb	IAmb	19 39 13.7	
	comp=Z,27nm,0.9s						
HEH	**HeiHe**	**34.72**	**339**	*eP*	**P**	**19 39 10.3**	**-0.6**
HEH				pmax	pmax		
	comp=Z,16nm,0.8s						
SOEI	**Soe**	**35.22**	**218**		**P**	**19 39 14.9**	**-0.8**
SOEI				IAmb	IAmb	19 39 22.8	
	comp=Z,24nm,0.9s						
PEA0B	**Petropavlovsk-**	**35.65**	**13**	P	**P**	**19 39 19.2**	**+0.4**
PEA0B				IAmb	IAmb	19 39 32.7	
	comp=Z,17nm,0.9s						

PETK Petropavlovsk- 35.65 13 P P 19 39 18.6 -0.2
PETK Petropavlovsk- 35.65 13 P P 19 39 19.6 +0.8
comp=Z,9.2nm,0.8s,baz=143,slow=5.8,SNR=13
comp=Z,9.2nm,0.8s
SBUM Sibu 36.45 248 P P 19 39 27.1 +1.0
SBUM IAmb IAmb 19 39 29.6
comp=Z,28nm,1.2s
HHC Hu-ho-hao-te 36.57 315 eP P 19 39 29.4 +2.4
HHC pmax pmax
comp=Z,4.0nm,0.5s
HHC pmax pmax
comp=Z,93nm,4.7s
KNRA Kununurra 37.94 207 P 19 39 39.1 +0.7
CTAO Charters Tower 38.51 179 P P 19 39 43.2 -0.1
CTAO IAmb IAmb 19 40 24.0
comp=Z,20nm,1.4s
KSM Kuching 38.59 248 P P 19 39 44.2 +0.1
KSM IAmb IAmb 19 39 46.3
comp=Z,21nm,1.0s
SLVN Son La 39.21 281 P P 19 39 50.1 +0.9
WB0 Warramunga Arr 39.74 197 P P 19 39 53.4 0.0
WB0 IAmb IAmb 19 39 54.9
comp=Z,55nm,1.2s
WRA Warramunga Arr 39.92 197 P P 19 39 53.9 -1.0
WRA Warramunga Arr 39.92 197 P P 19 39 55.7 +0.7
comp=Z,12nm,0.4s,baz=7.0,slow=8.6,SNR=202
WRA PcP PcP 19 41 56.1 -0.1
comp=Z,1.8nm,0.4s,baz=18,slow=3.6,SNR=4.6
WRA ScP ScP 19 45 25.7 0.0
comp=Z,2.9nm,0.9s,baz=16,slow=4.2,SNR=11
comp=Z,12nm,0.4s
SHEM Shemya Is, Ala 40.61 26 P P 19 40 01.4 +1.3
comp=Z,15nm,0.5s,baz=318,slow=5.8,SNR=5.9
comp=Z,15nm,0.5s
SMY Shemya 40.61 26 P P 19 40 00.7 +0.6
MA2 Magadan 41.04 4 P P 19 40 03.6 0.0
MA2 Magadan 41.04 4 P P 19 40 04.1 +0.5
comp=Z,9.5nm,0.8s,baz=146,slow=7.9,SNR=5.3
comp=Z,9.5nm,0.8s
PZH PanZhiHua 41.10 289 P P 19 40 06.3 +1.6
PZH pmax pmax
comp=Z,20nm,0.8s
JAGI Jajag, Banyuwa 41.11 232 P 19 40 04.5 -0.2
JAGI IAmb IAmb 19 40 06.4
comp=Z,45nm,1.0s
JAGI Jajag, Banyuwa 41.11 232 P P 19 40 04.9 +0.2
comp=Z,48nm,1.1s
FITZ Fitzroy Crossi 41.46 209 P P 19 40 08.6 +1.1
ULN Ulaanbaatar 42.75 322 P P 19 40 17.2 -0.6
SONM Songino Array 43.13 321 P 19 40 20.8 0.0
SONM Songino Array 43.13 321 P P 19 40 20.9 0.0
comp=Z,2.5nm,0.6s,baz=133,slow=7.6,SNR=17
SONM ScP ScP 19 45 36.9 -1.4
comp=Z,1.0nm,0.8s,baz=136,slow=3.8,SNR=4.7
comp=Z,2.5nm,0.6s
AS31 Alice Springs 43.59 196 P 19 40 25.1 +0.4
ASAR Alice Springs 43.59 196 P P 19 40 24.8 +0.2
ASAR Alice Springs 43.59 196 P P 19 40 24.4 -0.3
comp=Z,2.3nm,0.3s,baz=12,slow=6.6,SNR=192
ASAR PcP PcP 19 42 08.7 +0.3
comp=Z,1.9nm,0.8s,baz=5.3,slow=3.6,SNR=7.0
ASAR ScP ScP 19 45 40.0 -0.3
comp=Z,1.4nm,0.9s,baz=20,slow=4.6,SNR=6.7
comp=Z,2.3nm,0.3s
TNCH TengChong 44.00 287 P P 19 40 28.4 +0.2
TNCH pP pP 19 41 11.3 -0.1
TNCH PcP PcP 19 42 11.3 +1.2
TNCH S S 19 46 41.3 -3.5
TNCH sS sS 19 47 56.1 -5.1
TNCH SS ScS 19 50 01.3 -3.9
TNCH pmax pmax
comp=Z,10.0nm,1.7s
TNCH pmax pmax
comp=Z,130nm,3.8s
EIDS Eidsvold 44.08 173 P P 19 40 27.5 -1.0
CMAR Chiang Mai Arr 44.14 278 P 19 40 29.8 +0.6
CMAR Chiang Mai Arr 44.14 278 P P 19 40 30.7 +1.5
comp=Z,2.7nm,0.6s,baz=69,slow=7.1,SNR=20
CMAR PcP PcP 19 42 11.3 +0.9
comp=Z,2.6nm,0.9s,baz=99,slow=1.4,SNR=6.0
comp=Z,2.7nm,0.6s
KIWB Kanaga Island 44.14 33 P P 19 40 28.9 +0.3
MYKOM Kota Tinggi 44.22 253 P P 19 40 31.2 +1.5
MYKOM IAmb IAmb 19 40 33.6
comp=Z,33nm,1.1s
ADK Adak 44.40 33 P P 19 40 30.0 -0.7
ADK IAmb IAmb 19 40 32.3
comp=Z,49nm,0.9s
ADK Adak 44.40 33 P P 19 40 30.7 0.0
ADK pP pP 19 41 12.9 -0.8
KPJI Karang Pucung 44.45 238 P P 19 40 31.3 -0.3
comp=Z,50nm,1.2s
SEY Seymchan 44.48 4 P P 19 40 32.1 +0.9
comp=Z,4.1nm,0.7s,baz=182,slow=9.2,SNR=20
comp=Z,4.1nm,0.7s
GTA Gaotai 44.51 308 eP P 19 40 33.0 +1.0
GTA PcP PcP 19 42 12.4 +0.8
GTA ScP ScP 19 45 43.9 -0.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
YAK Yakutsk 44.75 349 P P 19 40 33.1 -0.1
YAK Yakutsk 44.75 349 P P 19 40 33.1 -0.1
comp=Z,53nm,0.6s,baz=148,slow=0.5,SNR=34
comp=Z,53nm,0.6s
YAK Yakutsk 44.75 349 P P 19 40 33.0 -0.1
YAK pP pP 19 41 14.8 -2.1
IPM Ipoh 45.74 258 P P 19 40 43.8 +1.9
KULM Kulim 45.80 259 P P 19 40 44.0 +1.7
ATKA Atka Island 45.87 34 P P 19 40 41.8 -0.4
ATKA IAmb IAmb 19 40 43.1
comp=Z,45nm,1.0s
MBWA Marble Bar 46.99 214 P P 19 40 52.0 +0.6
MBWA IAmb IAmb 19 40 53.3
comp=Z,13nm,0.5s
PSA00 Pilbara Seismi 47.27 213 P 19 40 54.1 +0.6
PSA00 IAmb IAmb 19 40 55.8
comp=Z,36nm,1.2s
PSA00 Pilbara Seismi 47.27 213 P P 19 40 54.1 +0.6
PSA00 IAmb IAmb 19 40 55.7
comp=Z,31nm,1.3s
GOMU GeErMu 47.80 302 P P 19 40 57.8 -0.2
GOMU pmax pmax
comp=Z,15nm,0.9s
NIKH Nikolski High 49.09 35 P P 19 41 06.3 -0.7
NIKH Nikolski High 49.09 35 P P 19 41 06.7 -0.3
baz=243
SHL Shillong 49.98 288 P P 19 41 14.3 -0.1
GSI Gunungsitoli 50.14 256 P P 19 41 16.7 +1.2
GSI IAmb IAmb 19 41 25.9
comp=Z,43nm,1.0s
STKA Stephens Creek 50.39 184 P P 19 41 15.8 -1.3
comp=Z,1.6nm,0.4s,baz=354,slow=9.8,SNR=5.2
comp=Z,1.6nm,0.4s
SPIA Saint Paul Isl 50.41 29 P P 19 41 16.7 -0.2
baz=239
P08K Saint George I 50.45 30 P P 19 41 16.7 -0.5
baz=240
LSA Lhasa 50.49 293 P P 19 41 19.4 +0.9
LSA pmax pmax
comp=Z,13nm,0.9s
UNV Unalaska Valle 50.74 35 P P 19 41 18.8 -0.5
UNV IAmb IAmb 19 41 20.0
comp=Z,32nm,1.1s
UNV Unalaska Valle 50.74 35 P P 19 41 18.9 -0.4
baz=245
BILL Bilibino 51.08 10 P P 19 41 21.5 -0.2
BILL IAmb IAmb 19 41 23.2
comp=Z,50nm,1.2s
BILL Bilibino 51.08 10 P P 19 41 22.3 +0.7
BILL pP pP 19 42 06.0 -0.3
BILL PcP PcP 19 42 34.8 +0.4
AKUT Akutan 51.25 34 P P 19 41 22.8 -0.3
S12K Black Hills 53.84 34 P P 19 41 42.1 -0.1
baz=248
M11K Mekoryuk 53.85 27 P P 19 41 42.3 +0.2
baz=241
TIXI Tiksi 53.90 354 P P 19 41 41.6 -0.8
TIXI Tiksi 53.90 354 eSg P 19 41 41.3 -1.0
comp=Z,5.3nm,0.2s
TIXI Tiksi 53.90 354 eSg P 19 41 41.3 -1.0
comp=Z,6.1nm,0.2s
WMQ Urumqi 54.28 311 eP P 19 41 47.8 +2.2
EVN Everest 54.35 291 P P 19 41 46.9 -0.3
SDPT Sand Point 54.55 35 P P 19 41 47.3 0.0
baz=250,SNR=9.7
CNBA Chernabura Isl 54.86 35 P P 19 41 49.0 -0.5
CHNA Chernabura Isl 54.86 35 P P 19 41 49.4 -0.1
baz=251
M13K Dall Lake 55.12 28 P 19 41 51.9 +0.7
M13K Dall Lake 55.12 28 P P 19 41 52.8 +1.6
baz=244,SNR=8.8
K13K Kusilvak Mount 55.25 26 P P 19 41 53.4 +1.3
baz=242,SNR=14
S14K Fog Glacier 55.36 34 P P 19 41 53.4 +0.2
baz=250
MORW Morawa 55.38 212 P P 19 41 53.9 +0.4
O14K Tigyukauivet M 55.59 30 P P 19 41 55.3 +0.6
baz=247
N14K Kuskokwak Cree 55.66 29 P P 19 41 56.0 +0.8
baz=246,SNR=9.1
L14K Kuka Creek 55.82 27 P 19 41 56.6 +0.4
L14K IAmb IAmb 19 41 58.3
comp=Z,32nm,1.1s
L14K Kuka Creek 55.82 27 P P 19 41 57.2 +1.0
baz=244,SNR=12
M14K Bethel 55.88 28 P P 19 41 57.8 +1.1
baz=245,SNR=14
J14K Nanvaranak Lak 56.09 25 P P 19 41 59.2 +1.1
baz=242,SNR=6.7
O15K Ungalikthiuk R 56.25 30 P P 19 41 59.3 0.0
O15K Ungalikthiuk R 56.25 30 P P 19 42 00.2 +0.9
baz=248,SNR=15
ANM Nome 56.27 23 P P 19 42 00.1 +0.8
baz=239
F14K Arctic Creek 56.40 22 P P 19 42 01.4 +1.2
baz=238,SNR=6.6
M15K Kasigluk River 56.43 28 P P 19 42 01.0 +0.4
baz=246,SNR=11
L15K Ungalak Mounta 56.48 27 P P 19 42 01.2 +0.3
baz=245,SNR=7.8
N15K Kwethluk River 56.49 29 P P 19 42 02.1 +1.1
baz=247,SNR=22
K15K Wolf Creek Mou 56.73 26 P P 19 42 03.5 +0.8
baz=244,SNR=13
G15K Niukluk 56.98 23 P P 19 42 05.1 +0.7
baz=240
P16K Nushagak River 57.08 31 P P 19 42 06.2 +1.1
baz=250,SNR=11
F15K North Star Dit 57.12 22 P P 19 42 06.1 +0.8
baz=239
N16K Nishlik Lake 57.22 29 P P 19 42 07.1 +1.0
baz=248,SNR=17
O16K Kokwok River B 57.22 30 P P 19 42 06.9 +0.8
baz=250,SNR=12
CHIR Chirikof Islan 57.32 35 P P 19 42 07.6 +0.7
baz=254
M16K Timber Creek 57.34 28 P P 19 42 07.8 +0.8
baz=248,SNR=12
L16K Owhat River 57.37 28 P P 19 42 07.6 +0.4
baz=247,SNR=8.0
R17L Mt. Peulik Vol 57.45 33 P P 19 42 07.5 -0.3
baz=252
PLK4 Peulik 4 57.45 33 P P 19 42 07.1 -0.8
PLK4 IAmb IAmb 19 42 08.8
comp=Z,23nm,1.0s
H16K Elim 57.48 24 P P 19 42 08.2 +0.3
baz=242
J16K Anvik River 57.53 26 P P 19 42 09.3 +1.1
baz=245,SNR=8.1
Q16K King Salmon 57.62 32 P P 19 42 09.4 +0.5
baz=252
I17K Unalakleet 57.75 25 P P 19 42 10.9 +1.2
baz=244,SNR=7.2
O17K Koliganek Bris 57.76 30 P P 19 42 10.8 +0.9
baz=250,SNR=24
G16K Koyuk River 57.79 23 P P 19 42 10.0 0.0
baz=242
Q17K Contact Creek 57.88 32 P P 19 42 10.2 -0.7
baz=252,SNR=5.6
P17K Kvichak River 57.89 31 P P 19 42 10.6 -0.2
baz=251
N17K Nushagak Hills 57.97 29 P P 19 42 12.7 +1.3
baz=250,SNR=18
ZAA0 Zalesovo Array 58.00 323 P 19 42 11.4 -0.3
ZALV Zalesovo Beam 58.00 323 P P 19 42 10.9 -0.8
comp=Z,4.4nm,0.4s,baz=102,slow=7.7,SNR=31
comp=Z,4.4nm,0.4s
NWAO Narrogin (SRO) 58.03 208 P P 19 42 12.0 0.0
L17K Donlin 58.05 27 P P 19 42 13.1 +1.2
baz=248,SNR=16
M17K Holitna River 58.16 28 P P 19 42 13.9 +1.2
baz=249,SNR=15
J17K VABM Dome 58.21 26 P P 19 42 14.2 +1.3
baz=246,SNR=14
C16K Lisburne Hills 58.23 19 P P 19 42 13.5 +0.5
baz=237
K17K Iditarod 58.27 27 P P 19 42 14.8 +1.4
baz=248,SNR=24
SII Sitkinak Islan 58.29 34 P 19 42 13.9 +0.3
SII Sitkinak Islan 58.29 34 P P 19 42 14.5 +0.9
baz=255,SNR=7.7
R18K Karluk 58.41 33 P P 19 42 14.8 +0.4
baz=254
Q18K Katmai Hardscr 58.43 32 P P 19 42 13.8 -0.9
baz=253,SNR=7.5
MKAR Makanchi Array 58.43 314 P P 19 42 14.8 -0.1
MKAR Makanchi Array 58.43 314 P P 19 42 15.1 +0.2
comp=Z,5.1nm,0.6s,baz=90,slow=9.0,SNR=56
MKAR pP PcP 19 43 03.2 0.0
comp=Z,1.5nm,0.6s,baz=98,slow=7.5,SNR=2.3
MKAR ScP ScP 19 46 43.0 -0.9
comp=Z,1.1nm,0.8s,baz=99,slow=6.3,SNR=4.2
MKAR S S 19 50 01.6 0.0
comp=Z,0.8nm,0.9s,baz=97,slow=20,SNR=4.5
comp=Z,5.1nm,0.6s
G17K Kiwalik Mounta 58.48 23 P P 19 42 15.5 +0.7
baz=244,SNR=8.5
H17K Granite Mounta 58.51 24 P P 19 42 16.0 +0.9
baz=245,SNR=16
P18K Big Mountain, 58.54 31 P P 19 42 15.0 -0.4
baz=252
N18K Kilae Creek 58.63 29 P P 19 42 16.9 +1.0
baz=251,SNR=9.8
MAKZ Makanchi 58.65 314 P P 19 42 16.5 +0.1
MAKZ pP pP 19 43 00.8 -1.2
MAKZ sP sP 19 43 23.3 -0.8
D17K Noatak River 58.66 20 P P 19 42 16.8 +0.8
baz=240,SNR=7.4
F17K Baldwin Pennin 58.69 22 P P 19 42 16.8 +0.6
baz=242
O18K Koktuh Hills 58.69 30 P P 19 42 17.2 +0.8
baz=252,SNR=12
E17K Hotham Inlet 58.78 21 P P 19 42 17.7 +0.8
baz=242,SNR=5.3
L18K Granite Mounta 58.78 28 P P 19 42 17.8 +0.9
baz=249,SNR=9.8
RDOG Red Dog Mine 58.90 20 P P 19 42 18.0 +0.4
baz=240
M18K Stony River 58.92 29 P P 19 42 19.1 +1.2
baz=251,SNR=13
OHAK Old Harbor 58.93 34 P 19 42 18.1 +0.1
OHAK IAmb IAmb 19 42 19.5
comp=Z,23nm,0.8s
OHAK Old Harbor 58.93 34 P P 19 42 18.6 +0.6
baz=256,SNR=5.5
C17K DeLong Mountai 59.02 20 P P 19 42 19.4 +0.8
baz=239
Q19K Cape Douglas, 59.19 32 P P 19 42 19.8 -0.1
baz=254
H18K Honhosa River 59.20 24 P P 19 42 20.3 +0.5
baz=246,SNR=11
J18K Innoko River 59.22 26 P P 19 42 20.1 +0.2
baz=249,SNR=7.3
N19K Bonanza Creek 59.32 30 P P 19 42 21.9 +1.1
baz=252,SNR=19
F18K Selawik 59.33 22 P P 19 42 21.0 +0.4
baz=244
E18K Tukpahlearik C 59.36 21 P P 19 42 21.9 +1.0
baz=243
G18K Tagagawik 59.39 23 P P 19 42 21.6 +0.5
baz=245,SNR=13
KDAK Kodiak Island 59.44 33 P P 19 42 21.8 +0.3
KDAK IAmb IAmb 19 42 22.8
comp=Z,23nm,1.0s
KDAK Kodiak Island 59.44 33 P P 19 42 21.9 +0.4
comp=Z,8.2nm,0.5s,baz=188,slow=0.9,SNR=36
comp=Z,8.2nm,0.5s
KDAK Kodiak Island 59.44 33 P P 19 42 21.7 +0.3
baz=256
L19K White Mountain 59.58 28 P P 19 42 23.0 +0.5
baz=251,SNR=13
P19K Oil Pt 59.59 31 P P 19 42 22.4 -0.1
baz=254
GCSA Galena City Sc 59.62 25 P P 19 42 22.8 +0.2
baz=248
M19K Big River Lodg 59.70 28 P P 19 42 24.2 +1.0
baz=252,SNR=6.4
Q20K Shuyak Island 59.74 32 P P 19 42 23.5 -0.1
baz=256
C18K Utukok River 59.74 20 P P 19 42 23.7 +0.2
baz=241
J19K Poorman 59.86 26 P P 19 42 24.5 +0.2
baz=250,SNR=14
B18K Kokolik River 59.90 19 P P 19 42 24.3 -0.1
baz=240
O20K Slope Mountain 60.00 31 P P 19 42 25.1 -0.3
baz=255
G19K Purcell Mounta 60.08 23 P P 19 42 26.4 +0.6
baz=247,SNR=13
H19K Roundabout Mou 60.09 24 P P 19 42 26.6 +0.8
baz=248,SNR=14
F19K Shaleruckik Mo 60.10 22 P P 19 42 26.0 +0.2
baz=246
L20K Farewell, AK 60.11 28 P P 19 42 26.7 +0.6
baz=252,SNR=9.6
M20K Styx River 60.26 29 P P 19 42 28.2 +1.1
baz=253,SNR=10
K20K Telida 60.30 27 P P 19 42 28.5 +1.2
baz=251
HOM Homer 60.37 31 P P 19 42 28.5 +0.7
baz=256
C19K Lookout Ridge 60.47 20 P P 19 42 29.5 +1.1
baz=243
N20K Mount Spurr 60.50 29 P P 19 42 29.7 +0.9
baz=254
SPCR Spurr Chakacha 60.50 29 P P 19 42 29.5 +0.8
baz=254
J20K Nowinta River 60.53 26 P P 19 42 29.8 +0.9
baz=251,SNR=28
A19K Wainwright 60.53 18 P P 19 42 29.9 +1.1
baz=241
CNPM China Poot 60.54 31 P P 19 42 28.5 -0.5
E19K Redstone River 60.55 22 P P 19 42 29.7 +0.8
baz=246
I20K Naaghedeneel 60.60 25 P P 19 42 30.6 +1.3
baz=250,SNR=7.0
D19K Kuna River 60.68 21 P P 19 42 30.2 +0.4
baz=245
H20K Anotleeega Mo 60.68 24 P P 19 42 30.9 +1.0
baz=249,SNR=14
STLK Strandline Lak 60.75 29 P P 19 42 29.9 -0.6
BRLK Bradley Lake 60.77 31 P P 19 42 29.7 -0.8
CAPN Captain Cook N 60.88 30 P P 19 42 31.2 0.0
baz=256
F20K Avaraart Lake 60.93 23 P P 19 42 32.2 +0.8
baz=248,SNR=7.2
PPLA Purkeypile 60.98 28 P P 19 42 32.7 +0.6
baz=253,SNR=6.1
SKT Skwentna 61.02 29 P P 19 42 31.9 -0.2
baz=255,SNR=16
CAST Castle Rocks 61.17 27 P P 19 42 33.9 +0.7
baz=253,SNR=36
E20K Nigu River 61.23 21 P P 19 42 34.4 +0.8
baz=247
SUA Susitna One 61.25 29 P P 19 42 33.5 -0.4
SUA IAmb IAmb 19 42 34.9
comp=Z,12nm,0.8s
SUA Susitna One 61.25 29 P P 19 42 33.7 -0.1
baz=256,SNR=5.7
KURK Kurchatov 61.25 318 P P 19 42 33.4 -0.5
KURK IAmb IAmb 19 42 35.3
comp=Z,15nm,0.9s
KURK Kurchatov 61.25 318 P P 19 42 32.9 -1.0
D20K Etivluk River 61.27 21 P P 19 42 34.1 +0.3
baz=246,SNR=6.9
IMAR Indian Mountai 61.29 24 P P 19 42 34.0 +0.1
KURBB Kurchatov Arra 61.30 318 P P 19 42 33.8 -0.4
comp=Z,14nm,0.7s,baz=97,slow=7.2,SNR=49
KURBB pP pP 19 43 21.6 +1.3
comp=Z,3.7nm,0.7s,baz=100,slow=6.6,SNR=1.9
KURBB S S 19 50 37.4 -0.5
comp=Z,0.7nm,0.2s,baz=94,slow=9.9,SNR=5.2
comp=Z,14nm,0.7s
O22K Cooper Landing 61.50 31 P P 19 42 35.2 -0.1
baz=257
SEW Seward 61.55 31 P P 19 42 35.8 +0.1
baz=258,SNR=5.6
H21K Meloziina Rive 61.55 24 P P 19 42 36.5 +0.8
baz=251,SNR=11
G21K Allakaket 61.56 23 P P 19 42 36.3 +0.6
baz=250,SNR=8.6
M22K Willow 61.61 29 P P 19 42 36.5 +0.5
baz=256
RC01 Rabbit Creek A 61.63 30 P P 19 42 35.9 -0.4
baz=257,SNR=8.4
B20K Meade River 61.64 19 P P 19 42 37.0 +0.9
baz=245
I21K Tanana 61.73 25 P P 19 42 37.7 +0.9
baz=252,SNR=14
F21K Alatna River 61.81 23 P P 19 42 37.7 +0.2
baz=250
BPAW Bear Paw Mtn. 61.83 26 P P 19 42 37.6 +0.1
BPAW Bear Paw Mtn. 61.83 26 P P 19 42 38.1 +0.5
baz=254,SNR=27
KDJ Kajisay 61.85 308 P P 19 42 39.5 +1.2
TRF Thorofare Moun 61.95 27 P P 19 42 38.4 -0.2
baz=255,SNR=13
PMR Palmer 62.03 29 P P 19 42 38.8 -0.1
baz=257
C21K Knifeblade Rid 62.06 20 P P 19 42 39.7 +0.7
baz=248
E21K Killik River 62.07 21 P P 19 42 39.4 +0.3
baz=249
H22K Ishtalitna Cre 62.19 24 P P 19 42 40.6 +0.7
baz=253,SNR=5.3
MLY Manley 62.19 25 P P 19 42 40.5 +0.5
baz=254,SNR=28
PWL Port Wells 62.25 30 P P 19 42 40.5 0.0
baz=258,SNR=11
B21K Ikpikpuk River 62.29 20 P P 19 42 40.0 -0.5
baz=248
KNK Knik Glacier 62.31 30 P P 19 42 40.8 0.0
baz=258,SNR=10
F22K John River 62.38 23 P P 19 42 42.1 +0.9
baz=251,SNR=9.5
G22K Bettles 62.45 23 P P 19 42 42.1 +0.5
baz=252
P23K Montague Islan 62.54 31 P P 19 42 42.3 0.0
baz=259
WAT1 Susitna Watana 62.57 28 P P 19 42 42.2 -0.3
baz=257
MCK McKinley 62.61 27 P P 19 42 42.3 -0.5
baz=256,SNR=5.2
D22K Ayikyak River 62.66 21 P P 19 42 44.1 +1.0
baz=250
E22K Anaktuvuk Pass 62.72 22 P P 19 42 44.2 +0.8
baz=251,SNR=7.2
M23K Glacier View 62.73 29 P P 19 42 43.7 +0.1
baz=258,SNR=8.8
NEA2 Nenana 62.77 26 P P 19 42 43.3 -0.4
NEA2 IAmb IAmb 19 42 45.7
comp=Z,13nm,1.0s
NEA2 Nenana 62.77 26 P P 19 42 44.3 +0.5
baz=256,SNR=9.9
I23K Minto, Yukon-K 62.78 26 P P 19 42 44.3 +0.5
baz=255,SNR=15
KSH Kashi 62.83 305 P P 19 42 48.3 +3.5
KSH pmax pmax
comp=Z,7.0nm,0.9s
GLI Glacier Island 62.85 30 P P 19 42 44.0 -0.3
GLI IAmb IAmb 19 42 45.0
comp=Z,12nm,0.6s
GLI Glacier Island 62.85 30 P P 19 42 44.5 +0.2
baz=259
WAT6 Susitna Watana 62.88 29 P P 19 42 44.7 -0.1
baz=258,SNR=14
H23K Yukon River 62.89 25 P P 19 42 45.2 +0.7
baz=254,SNR=10
SCM Sheep Creek Mo 62.92 29 P P 19 42 45.2 +0.3
baz=259,SNR=20
B22K Teshekpuk Lake 62.94 19 P P 19 42 45.0 +0.3
baz=248
G23K Bananza Creek 62.95 24 P P 19 42 45.7 +0.8
baz=254,SNR=9.0
Q23K Middleton Isla 62.97 32 P P 19 42 45.0 -0.1
baz=261
COLD Coldfoot 63.03 23 P P 19 42 46.1 +0.7
COLD Coldfoot 63.03 23 P P 19 42 46.2 +0.8
baz=253,SNR=6.2
DHY Denali Highway 63.15 28 P P 19 42 46.2 -0.3
baz=258,SNR=9.4
CCB Clear Creek Bu 63.31 26 P 19 42 46.7 -0.6

CCB IAmb IAmb 19 42 48.4
comp=Z,18nm,1.5s
D23K Nanushuk River 63.38 21 P P 19 42 48.3 +0.6
baz=252
EYAK Cordova Ski Ar 63.44 31 P P 19 42 48.3 +0.1
baz=261
E23K Chandalar 63.48 22 P P 19 42 49.5 +1.0
baz=253,SNR=9.4
M24K Tolsona, Glenn 63.51 29 P P 19 42 49.4 +0.7
baz=260
KLU Klutina 63.52 30 P P 19 42 49.2 +0.4
baz=260,SNR=10
H24K Noodor Dome 63.56 25 P P 19 42 49.5 +0.5
baz=256
POKR Poker Plat Res 63.57 26 P P 19 42 48.5 -0.5
baz=257
HDA Harding Lake 63.62 27 P P 19 42 48.3 -1.1
baz=258,SNR=7.8
TOLK Toolik Lake Re 63.66 22 P P 19 42 49.6 0.0
TOLK IAmb IAmb 19 42 51.6
comp=Z,18nm,1.1s
TOLK Toolik Lake Re 63.66 22 P P 19 42 50.4 +0.8
baz=253
C23K Itkillik River 63.67 20 P P 19 42 50.4 +0.8
baz=252
ILAR Eielson Array 63.72 26 P P 19 42 48.6 -1.4
ILAR Eielson Array 63.72 26 P P 19 42 48.9 -1.1
comp=Z,6.7nm,0.9s,baz=260,slow=5.2,SNR=40
comp=Z,6.7nm,0.9s
E24K Your Creek 63.89 22 P P 19 42 52.0 +0.9
baz=254,SNR=6.0
G24K Hadweenzic Riv 63.92 24 P P 19 42 51.9 +0.5
baz=256,SNR=6.8
F24K Squaw Lake 63.97 23 P P 19 42 52.5 +0.9
baz=255
PAX Paxson 63.98 28 P 19 42 52.0 +0.2
PAX IAmb IAmb 19 42 53.1
comp=Z,34nm,1.5s
PAX Paxson 63.98 28 P P 19 42 52.1 +0.3
baz=260,SNR=12
K24K Donnelly Dome 64.00 27 P P 19 42 51.7 -0.2
baz=259
KAIM Kayak Island 64.01 32 P P 19 42 51.8 -0.2
baz=262
HARP HAARP 64.03 29 P P 19 42 52.5 +0.4
baz=260,SNR=5.7
BMRM Bremner River 64.06 31 P 19 42 52.2 -0.2
BMRM Bremner River 64.06 31 P P 19 42 52.9 +0.5
baz=262,SNR=9.7
D24K Happy Valley 64.07 21 P P 19 42 53.2 +1.0
baz=254
RTZ Ruatahuna 64.11 153 P P 19 42 51.8 -1.2
N25K Chitina, Valde 64.16 30 P P 19 42 53.2 +0.2
baz=261
C24K Franklin Bluff 64.27 21 P P 19 42 53.7 +0.3
baz=253
J25K Salcha River, 64.33 27 P P 19 42 53.0 -1.1
baz=259,SNR=5.5
BKZ Black Stump Fm 64.37 154 P P 19 42 53.6 -1.0
RIDG Independent Ri 64.39 28 P P 19 42 54.5 0.0
baz=260,SNR=12
PRP Porcupine Dome 64.44 26 P P 19 42 55.1 +0.2
baz=258
G25K Bearman Lake 64.47 24 P P 19 42 55.6 +0.8
baz=257
H25L Birch Creek 64.47 25 P P 19 42 55.5 +0.6
baz=258,SNR=7.2
BGLC Bering Glacier 64.60 32 P P 19 42 56.0 +0.3
baz=263
CRQE Cirque 64.77 31 P P 19 42 57.5 +0.4
baz=263,SNR=7.2
SCRK Sand Creek 64.81 27 P P 19 42 57.0 -0.3
SCRK IAmb IAmb 19 42 58.3
comp=Z,13nm,0.9s
SCRK Sand Creek 64.81 27 P P 19 42 57.2 0.0
baz=261,SNR=20
F25K Christian Rive 64.82 23 P P 19 42 58.3 +1.1
baz=257,SNR=9.8
MCARA McCarthy VSAT 64.88 30 P P 19 42 58.3 +0.7
baz=263,SNR=6.9
L26K Log Cabin Wild 64.95 28 P P 19 42 58.6 +0.6
baz=262,SNR=7.3
D25K Kavik River 64.96 21 P P 19 42 58.9 +0.8
baz=256
E25K Arctic Village 64.97 23 P P 19 42 58.9 +0.8
baz=257
ARSB Arslanbob 65.02 308 P P 19 42 59.4 +0.3
ARSB IAmb IAmb 19 43 00.5
comp=Z,9.9nm,0.9s
M26K Nabesna, AK 65.02 29 P P 19 42 58.8 +0.2
baz=262
J26L Joseph Creek 65.08 27 P P 19 42 58.8 -0.2
baz=261,SNR=21
BMAR Burnt Mountain 65.19 24 P P 19 43 00.1 +0.6
MESA MESA 65.27 32 P P 19 42 59.8 -0.6
baz=264
I26K Coal Creek Min 65.38 26 P P 19 43 00.7 0.0
baz=261
G26K Porcupine Rive 65.40 24 P P 19 43 01.6 +0.7
baz=260,SNR=7.7
F26K Sheenjek River 65.40 23 P P 19 43 01.7 +0.8
baz=259,SNR=8.6
GRNC Granite Creek 65.42 31 P P 19 43 01.0 -0.3
GRNC IAmb IAmb 19 43 02.9
comp=Z,22nm,0.9s
NIL Nilore 65.48 299 P 19 43 02.5 +0.5
NIL IAmb IAmb 19 43 04.2
comp=Z,15nm,0.8s
M27K Edge Creek, AK 65.53 29 P P 19 43 02.3 +0.3
baz=263,SNR=6.5
L27K Beaver Creek, 65.64 28 P P 19 43 03.0 +0.5
baz=263,SNR=6.1
CTG Chitna Glacier 65.64 31 P P 19 43 02.4 -0.3
baz=264,SNR=7.1
K27K Chicken 65.65 27 P P 19 43 03.1 +0.7
baz=262
BCAR Beaver Creek A 65.66 28 P P 19 43 02.3 -0.4
C27K Jago River 65.94 21 P P 19 43 05.0 +0.7
baz=258
BVCY Beaver Creek 66.01 29 P P 19 43 05.3 +0.5
baz=264
I27K Kandik River 66.06 26 P P 19 43 05.0 -0.1
baz=262
PINM Pinnacle 66.11 32 P P 19 43 06.2 +0.6
baz=266
YUK3 Moose Creek 66.14 30 P P 19 43 06.6 +0.7
baz=265,SNR=9.2
H27K Steamboat Moun 66.18 25 P P 19 43 06.5 +0.6
baz=262,SNR=12
O28M Mount Upton 66.19 31 P P 19 43 07.2 +0.9
baz=266,SNR=10
G27K Doyon Strip 66.21 24 P P 19 43 06.6 +0.6
baz=262
YUK8 Steele Glacier 66.43 31 P P 19 43 08.9 +1.1
baz=266,SNR=8.7
E27K Coleen River 66.44 23 P P 19 43 08.1 +0.6
baz=261
BVAR Borovoye Array 66.46 320 P P 19 43 07.6 -0.2
comp=Z,16nm,0.5s,baz=95,slow=7.3,SNR=71
comp=Z,16nm,0.5s
PNL Peninsula 66.51 32 P P 19 43 08.7 +0.6
baz=267
I28M Miner Creek 66.73 26 P P 19 43 09.8 +0.4
baz=264,SNR=5.0
KK31 Karatay Array 66.73 310 P 19 43 10.2 +0.4
KK31 IAmb IAmb 19 43 11.4
comp=Z,12nm,0.8s
KKAR Karatay Array 66.73 310 P P 19 43 09.9 +0.1
D27M Malcolm River 66.83 22 P P 19 43 11.0 +1.0
baz=261
DAWY Dawson 66.83 28 P P 19 43 10.1 +0.1
DAWY Dawson 66.83 28 P P 19 43 10.9 +0.8
baz=265,SNR=7.3
O29M Mount Kennedy 66.95 32 P P 19 43 12.3 +1.3
baz=267,SNR=8.2
YUK4 Talbot Arm 66.97 31 P P 19 43 12.5 +1.3
baz=267,SNR=5.8
F28M Old Crow 67.00 24 P P 19 43 11.8 +0.7
baz=263
YUK6 Outpost Mounta 67.09 31 P P 19 43 12.8 +0.9
baz=267
M29M Somme Creek 67.13 29 P P 19 43 13.0 +1.0
baz=266,SNR=11
GAR Garm 67.25 305 P P 19 43 13.3 +0.1
GAR IAmb IAmb 19 43 14.3
comp=Z,17nm,1.0s
E28M Babbage River 67.25 23 P P 19 43 13.1 +0.5
baz=263

L29M L29M 67.32 29 P P 19 43 14.4 +1.2
baz=266,SNR=12
P29M Windy Craggy 67.35 32 P P 19 43 14.7 +1.3
baz=268,SNR=5.5
I29M Ogilvie Camp, 67.40 26 P P 19 43 14.0 +0.4
baz=265
H29M Whitestone 67.45 25 P P 19 43 14.4 +0.6
baz=265
HYT Haines Junctio 67.50 31 P 19 43 14.5 0.0
HYT IAmb IAmb 19 43 16.8
comp=Z,24nm,1.1s
HYT Haines Junctio 67.50 31 P P 19 43 15.4 +0.9
baz=268,SNR=13
D28M Stokes Point 67.62 22 P P 19 43 15.9 +1.1
baz=263
K29M Barlow Dome 67.64 28 P P 19 43 16.2 +1.0
baz=267,SNR=9.4
G29M Pine Creek 67.65 24 P P 19 43 16.1 +1.0
baz=265,SNR=5.1
N30M Aishikik Lake 67.73 30 P P 19 43 16.8 +1.1
baz=268,SNR=7.6
P30M Million Dollar 67.75 32 P P 19 43 16.9 +1.0
baz=269
E29M Blow River 67.83 23 P P 19 43 16.5 +0.4
baz=264
M30M Minto, Yukon 67.91 29 P P 19 43 17.4 +0.6
baz=268,SNR=6.5
PLBC Pleasant Camp 68.05 33 P P 19 43 18.8 +1.1
baz=270,SNR=6.4
EPYK Eagle Plains 68.12 25 P P 19 43 18.4 +0.3
baz=266
CHGR Chuyangaron 68.18 305 P P 19 43 19.3 +0.3
J30M Hart River 68.19 27 P P 19 43 19.2 +0.5
baz=267
I30M Mount Dempster 68.20 26 P P 19 43 18.9 +0.2
baz=267
SIMJ Simiganj 68.30 305 P P 19 43 19.5 -0.4
SIMJ IAmb IAmb 19 43 21.3
comp=Z,10.0nm,0.8s
SIMJ Simiganj 68.30 305 P P 19 43 19.5 -0.4
SIMJ PcP PcP 19 43 44.5 +0.5
G30M tAoh Zraii Nji 68.36 24 P P 19 43 20.2 +0.6
baz=267
R31K City Hall, Gus 68.37 34 P P 19 43 20.0 +0.3
baz=270
F30M Barrier River 68.56 24 P P 19 43 21.5 +0.7
baz=267,SNR=6.2
SKAG Skagway 68.58 33 P P 19 43 21.6 +0.6
baz=270
WHY Whitehorse 68.79 31 P 19 43 22.9 +0.4
WHY IAmb IAmb 19 43 24.5
comp=Z,33nm,1.2s
WHY Whitehorse 68.79 31 P P 19 43 23.2 +0.8
baz=270,SNR=7.6
KBL Kabul 68.82 301 P P 19 43 23.0 -0.3
KBL IAmb IAmb 19 43 24.7
comp=Z,14nm,1.0s
S32K Killisnoo 69.01 35 P P 19 43 23.9 +0.3
baz=272
M31M Drury Creek, Y 69.02 30 P P 19 43 24.2 +0.5
baz=270,SNR=6.6
R32K Eaglecrest 69.02 34 P P 19 43 24.2 +0.5
baz=272
H31M Peel River 69.07 26 P P 19 43 24.5 +0.5
baz=269,SNR=5.3
G31M Satah River 69.12 25 P P 19 43 24.5 +0.3
baz=268,SNR=6.2
F31M Tsiigehtchic 69.34 24 P P 19 43 25.9 +0.5
baz=269
P32M Atlin 69.40 32 P P 19 43 26.2 +0.1
baz=272
INK Inuvik 69.44 23 P P 19 43 26.7 +0.6
baz=269
N32M Quiet Lake 69.66 31 P P 19 43 28.1 +0.4
baz=272
P33M Teslin, Yukon 69.83 32 P P 19 43 29.1 +0.3
baz=272
U33K Whale Pass 69.88 36 P P 19 43 29.4 +0.5
baz=274
CRAG Craig 69.92 37 P P 19 43 29.6 +0.3
baz=274
Q32M Nakina River 70.17 33 P P 19 43 31.6 +0.7
baz=273
WRAK Wrangell Islan 70.29 36 P P 19 43 32.3 +0.9
baz=274
MMPY Sheldon Lake, 70.46 29 P P 19 43 33.3 +0.8
baz=273
V35K Ketchikan 70.79 37 P P 19 43 34.8 +0.3
baz=275
R33M Jennings River 70.81 33 P P 19 43 35.3 +0.5
baz=274
S34M Telegraph Cree 70.83 34 P P 19 43 35.7 +0.9
baz=274
DLBC Deasy Lake 71.37 34 P P 19 43 38.8 +0.7
baz=275
T35M Bob Quinn 71.39 35 P P 19 43 38.7 +0.5
baz=276
TGTN Hyland Airport 71.95 30 P P 19 43 42.1 +0.6
baz=276
ARTI Arti 73.16 325 P 19 43 48.1 -0.5
AB31 Akbulak array 73.32 317 P 19 43 49.0 -0.7
AB31 IAmb IAmb 19 43 50.0
comp=Z,10nm,0.8s
ABKAR Akbulak array 73.32 317 P 19 43 48.8 -0.8
TOAD Toad River Com 73.81 33 P P 19 43 53.0 +0.6
baz=279
KOTAN Kotaneelee Air 74.19 31 P P 19 43 54.5 0.0
baz=280
NLWA Neilton Lookou 76.85 44 P P 19 44 11.0 +1.0
NLWA IAmb IAmb 19 44 59.1
comp=Z,13nm,1.1s
GNW Green Mountain 77.50 44 P 19 44 13.9 +0.4
GNW IAmb IAmb 19 44 15.8
comp=Z,18nm,1.3s
YKA Yellowknife Ar 78.06 28 P P 19 44 16.1 -0.2
comp=Z,4.0nm,0.8s,baz=295,slow=5.8,SNR=17
comp=Z,4.0nm,0.8s
BUCK Buck Mountain 78.22 47 P P 19 44 17.7 +0.1
BUCK IAmb IAmb 19 44 19.4
comp=Z,15nm,0.9s
KCPM Cahto Peak 78.93 52 P P 19 44 22.0 +0.3
M02C Callahan 79.03 50 P P 19 44 22.6 +0.5
SPITS Spitsbergen Ar 79.20 351 P P 19 44 22.9 +0.6
comp=Z,1.0nm,0.4s,baz=88,slow=4.6,SNR=14
comp=Z,1.0nm,0.4s
HAWA Hanford 79.98 44 P 19 44 27.2 +0.1
NEW Newport 81.00 42 P 19 44 32.4 -0.1
WVOR Wild Horse Val 81.75 48 P P 19 44 36.6 0.0
BMO Blue Mountains 81.93 45 P 19 44 37.3 -0.2
KEV Kevo 81.95 342 P P 19 44 35.7 -1.3
ARCES ARCESS Array B 82.51 342 P 19 44 39.3 -0.6
ARCES IAmb IAmb 19 46 11.6
comp=Z,27nm,1.8s
ARCES ARCESS Array B 82.51 342 P P 19 44 39.9 0.0
comp=Z,5.3nm,0.8s,baz=65,slow=6.1,SNR=40
comp=Z,5.3nm,0.8s
RYN Ryan 83.00 52 P P 19 44 42.0 -1.2
NVAR Mina Array Bea 83.23 52 P 19 44 43.9 -0.7
NVAR Mina Array Bea 83.23 52 P P 19 44 45.1 +0.6
comp=Z,7.9nm,0.7s,baz=264,slow=6.2,SNR=32
comp=Z,7.9nm,0.7s
TPH Tonopah 84.15 52 P 19 44 48.8 -0.4
LRMC Laurel Mtn Rad 84.64 55 P P 19 44 51.4 -0.2
ELK Elko 84.71 49 P 19 44 52.0 0.0
LRM Limekiln Ridge 84.83 43 P P 19 44 52.0 -0.4
TPNV Topopah Spring 85.25 53 P P 19 44 54.6 0.0
BOZ Bozeman (W) 85.44 43 P P 19 44 55.5 +0.1
BOZ IAmb IAmb 19 44 56.0
comp=Z,24nm,1.9s
ILON Igloolik, Nuna 85.98 15 P P 19 44 56.6 -0.7
YHL Hebgen Lake 86.02 44 P P 19 44 58.7 +0.3
YHL IAmb IAmb 19 45 00.4
comp=Z,12nm,0.9s
KBZ Khabaz 86.12 315 P P 19 44 57.2 -1.3
comp=Z,4.2nm,0.9s,baz=128,slow=1.6,SNR=7.7
comp=Z,4.2nm,0.9s
PSUT Pine Spring 86.48 51 P 19 45 00.4 -0.3
PSUT IAmb IAmb 19 45 02.0
comp=Z,10.0nm,1.0s
FIA1 FINESS Array S 86.89 335 P 19 45 00.1 -1.8
FIA1 IAmb IAmb 19 45 01.0
comp=Z,24nm,1.0s
FINES FINESS Array B 86.89 335 P P 19 45 00.0 -1.9
comp=Z,4.1nm,0.3s,baz=63,slow=4.3,SNR=80
comp=Z,4.1nm,0.3s
HWUT Hardware Ranch 86.99 47 P 19 45 02.8 -0.2
HWUT IAmb IAmb 19 45 04.3
comp=Z,9.0nm,0.9s
FFC Flin Flon 87.17 32 P 19 45 03.0 -0.4
FFC IAmb IAmb 19 45 05.0
comp=Z,11nm,1.0s
PDAR Pinedale Array 87.91 45 P P 19 45 07.0 -0.5
comp=Z,0.5nm,0.3s,baz=339,slow=8.5,SNR=4.9
comp=Z,0.5nm,0.3s
U15A North Rim 88.41 52 P 19 45 09.6 -0.4
GURO Guroymak-BITLI 88.69 310 P P 19 45 10.6 -0.5
MARD Mardin 90.09 310 P P 19 45 16.6 -1.1
MARD IAmb IAmb 19 45 18.0
comp=Z,10.0nm,1.3s
HFS Hagfors 92.39 338 P P 19 45 26.1 -1.5
comp=Z,1.0nm,0.3s,baz=60,slow=6.8,SNR=22
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 92.58 340 P P 19 45 26.9 -1.7
comp=Z,0.7nm,0.8s,baz=43,slow=4.6
NOA NORSAR Array B 92.58 340 P P 19 45 27.6 -1.0
comp=Z,0.2nm,0.6s,baz=36,slow=4.6,SNR=4.2
comp=Z,0.2nm,0.6s
ANMO Albuquerque 93.35 52 P 19 45 32.5 -0.4
ANMO IAmb IAmb 19 46 22.8
comp=Z,6.9nm,1.2s
BR131 Keskin Array S 94.08 314 P 19 45 34.6 -1.5
BRTR Keskin Array B 94.08 314 P P 19 45 35.0 -1.1
comp=Z,2.7nm,0.8s,baz=88,slow=2.5,SNR=15
comp=Z,2.7nm,0.8s
CLL Collm 98.94 332 *e*Pdif P 19 45 56.0 -1.5
CLL *e*PP PP 19 50 08.0 +6.7
GERES GERESS Array B 100.35 330 P Pdif 19 46 03.0 -1.0
comp=Z,0.2nm,0.4s,baz=81,slow=7.7,SNR=3.4
ESDC Sonseca Array 115.39 334 PP PP 19 51 59.5 -1.9
comp=Z,0.5nm,0.9s,baz=19,slow=8,2,SNR=4.2
TROLL Troll, Antarti 122.53 193 ⇑PKPdf PKPdf 19 51 10.3 -0.7
comp=Z,137nm,0.9s
SNAA Sanae 123.87 192 ⇓PKPdf PKPdf 19 51 12.8 -0.7
comp=Z,29nm,0.6s
SNAA Sanae 123.87 192 PKP PKiKP 19 51 14.5 +0.7
comp=Z,1.7nm,0.8s,baz=217,slow=6.9,SNR=14
VNA2 Neumayer--Watz 125.31 191 ⇑PKPdf PKPdf 19 51 16.0 -0.2
comp=Z,3.5nm,0.7s,baz=120,slow=2.2
VNA3 Neumayer Olymp 125.41 190 ⇑PKPdf PKPdf 19 51 15.8 -0.5
comp=Z,2.6nm,0.8s
VNA1 Neumayer--Stat 125.70 190 ⇑PKPdf PKPdf 19 51 16.8 -0.1
comp=Z,3.4nm,0.9s
TORD Torodi Ar. Bea 132.42 309 PKP PKPdf 19 51 31.6 +0.3
comp=Z,0.5nm,0.7s,baz=25,slow=1.1,SNR=5.0
TORD SKPbc **SKPbc 19 54 37.4 -1.5**
comp=Z,2.1nm,0.8s,baz=24,slow=3.9,SNR=11
DBIC Dimbokro 141.51 308 PKhKP PKPpre 19 51 42.0
comp=Z,2.6nm,0.7s,baz=94,slow=4.8,SNR=4.3
LPAZ La Paz 147.75 91 PKPbc PKPdf 19 52 00.6 +1.0
comp=Z,2.8nm,0.7s,baz=3.6,slow=5.8,SNR=9.8

*NEIC **24** 20:01:14.4±1.2, 5.0S±0.1×150.4E±0.2, h297km±8km, mb4.1/18, Error ellipse: s-maj=24.0km s-min=16.5km az=113.0*
*IDC **24** 20:01:14.1±1.7, 4.98S×150.23E, h298km±13km, mb3.3/5, mbtmp4.0/6, Error ellipse: s-maj=45.5km s-min=13.8km az=122.0*

ISC 24 20:01:14.1±0.7, 5.04S±0.1×150.3E±0.1, h300km, n30, σ0.90/35, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**216**			**Pn**	**20 02 36.3**	**+0.5**
PMG	**Port Moresby**	**5.36**	**216**	P		**Pn**	**20 02 36.6**	**+0.7**
	26nm,0.4s,baz=40,slow=5.4,SNR=29							
PMG				S		**S**	**20 03 39.8**	**-1.9**
	8.0nm,0.4s,baz=32,slow=4.7,SNR=3.1							
COEN	**Coen**	**11.33**	**218**			**P**	**20 03 51.5**	**+0.8**
CTAO	**Charters Tower**	**15.47**	**195**	P		**Pn**	**20 04 38.1**	**-0.1**
CTAO				IAmb		IAmb	20 04 40.6	
	comp=Z,17nm,1.1s							
EIDS	**Eidsvold**	**20.22**	**178**	P		**P**	**20 05 26.7**	**-0.7**
EIDS				IAmb		IAmb	20 06 09.0	
	comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**21.34**	**225**	P		**P**	**20 05 38.1**	**-0.2**
WRA	**Warramunga Arr**	**21.49**	**225**	P		**P**	**20 05 38.0**	**-1.7**
WRA	**Warramunga Arr**	**21.49**	**225**	P		**P**	**20 05 40.0**	**+0.3**
	comp=Z,5.2nm,0.4s,baz=50,slow=9.9,SNR=113							
WRA				S		**S**	**20 09 17.9**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=46,slow=15,SNR=4.8							
WRA				PcP		**PcP**	**20 09 32.0**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=47,slow=2.3,SNR=1.3							
WRA				ScP		**ScP**	**20 12 37.2**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=64,slow=2.3,SNR=4.7							
	comp=Z,5.2nm,0.4s							
DZM	**Mont Dzumac**	**23.01**	**139**	P		**P**	**20 05 53.2**	**-0.3**
KNRA	**Kununurra**	**23.68**	**242**	P		**P**	**20 06 01.4**	**+1.8**
KNRA				IAmb		IAmb	20 06 02.7	
	comp=Z,5.8nm,0.5s							
INKA	**Innaminka**	**24.35**	**201**	P		**P**	**20 06 04.9**	**-0.6**
AS31	**Alice Springs**	**24.37**	**219**	P		**P**	**20 06 05.7**	**0.0**
AS31				IAmb		IAmb	20 06 06.3	
	comp=Z,1.8nm,0.3s							
ASAR	**Alice Springs**	**24.37**	**219**	P		**P**	**20 06 05.2**	**-0.6**
ASAR	**Alice Springs**	**24.37**	**219**	P		**P**	**20 06 05.9**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=51,slow=8.6,SNR=41							
ASAR				S		**S**	**20 10 02.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=199,slow=17,SNR=4.1							
	comp=Z,2.0nm,0.4s							
ARMA	**Armidale**	**25.27**	**177**	P		**P**	**20 06 14.7**	**+0.8**
ARMA				IAmb		IAmb	20 06 18.8	
	comp=Z,9.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**27.40**	**240**	P		**P**	**20 06 32.0**	**-0.8**
RTZ	**Ruatahuna**	**41.25**	**148**	P		**P**	**20 08 30.6**	**-0.1**
TUWZ	**Tuamarina**	**41.93**	**153**	P		**P**	**20 08 35.8**	**-0.2**
KIWB	**Kanaga Island**	**63.09**	**22**	P		**P**	**20 11 10.0**	**0.0**
VNDA	**Vanda**	**72.69**	**177**	P		**P**	**20 12 09.2**	**+0.1**
VNDA				IAmb		IAmb	20 12 42.3	
	comp=Z,4.9nm,1.5s							
K15K	**Wolf Creek Mou**	**76.49**	**21**	P		**P**	**20 12 31.4**	**+0.4**
K15K				IAmb		IAmb	20 12 56.3	
	comp=Z,5.9nm,1.2s							
J17K	**VABM Dome**	**78.06**	**21**	P		**P**	**20 12 40.1**	**+0.5**
J17K				IAmb		IAmb	20 13 18.0	
	comp=Z,8.4nm,1.4s							
MKAR	**Makanchi Array**	**78.91**	**320**	P		**P**	**20 12 43.9**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=116,slow=6.6,SNR=2.3							
	comp=Z,0.2nm,0.7s							
J18K	**Innoko River**	**78.95**	**21**	P		**P**	**20 12 44.7**	**+0.2**
J18K				IAmb		IAmb	20 13 01.3	
	comp=Z,3.3nm,1.3s							
C19K	**Lookout Ridge**	**81.50**	**16**	P		**P**	**20 12 58.7**	**+0.7**
ILAR	**Eielson Array**	**83.31**	**23**	P		**P**	**20 13 05.9**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=253,slow=5.5,SNR=7.7							
	comp=Z,0.8nm,0.8s							
QSPA	**South Pole Qui**	**84.92**	**180**	P		**P**	**20 13 15.7**	**+0.1**
QSPA				IAmb		IAmb	20 13 46.5	
	comp=Z,5.0nm,1.5s							
QSPA	**South Pole Qui**	**84.92**	**180**	P		**P**	**20 13 16.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=30,slow=1.1,SNR=6.1							
	comp=Z,0.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**148.04**	**287**	PKPbc		**PKPbc**	**20 20 24.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**148.04**	**287**	PKPbc		**PKPbc**	**20 20 25.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=92,slow=3.2,SNR=5.9							

IDC 24 20:09:47.9±2.2, 30.63N×140.33E, h0km, mb3.7/3, mbtmp3.6/5, ML2.4/2, Error ellipse: s-maj=109.1km s-min=20.5km az=80.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.52**	**350**	Pn		Pn	20 10 30.0	-0.2
	3.1nm,0.3s,baz=66,slow=19,SNR=6.1							
JHJ				Sn		Sn	20 10 55.8	-5.8
	10nm,0.3s,baz=240,slow=20,SNR=2.2							
	196nm,1.1s							
MJAR	**Matsushiro Arr**	**6.16**	**344**	Pn		Pn	20 11 20.5	+0.5
	0.1nm,0.3s,baz=158,slow=13,SNR=6.5							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**49.44**	**312**	P		P	20 18 39.1	-0.4
	0.3nm,0.6s,baz=86,slow=7.3,SNR=4.8							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**50.61**	**187**	P		P	20 18 48.6	0.0
	0.8nm,0.3s,baz=6.1,slow=7.7,SNR=44							
	0.8nm,0.3s							
ASAR	**Alice Springs**	**54.34**	**187**	P		P	20 19 16.2	-0.1
	0.2nm,0.3s,baz=0.5,slow=5.0,SNR=16							
	0.2nm,0.3s							

*IDC **24** 20:14:18.5±9.8, 34.46N×70.54E, h93km±79km, mb3.2/3,*

mbtmp3.5/7,ML3.1/4,Error ellipse: s-maj=99.8km s-min=47.1km az=76.0
ISC 24 20:14:19.0±2.3,**34°5N**±0.1×**70°5E**±0.5,**h100**km,**n7,**
σ0°73/8,mb3.5/3,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.70**	**20**	P		**Pn**		**20 16 21.9**	**-0.2**
	0.5nm,0.3s,baz=51,slow=23,SNR=2.2								
AAK				S		**Sn**		**20 17 59.4**	**+0.9**
	2.1nm,0.4s,baz=44,slow=23,SNR=1.4								
	2.6nm,0.5s								
MKAR	**Makanchi Array**	**15.17**	**32**	P		**P**		**20 17 49.3**	**-1.2**
	0.2nm,0.3s,baz=208,slow=11,SNR=9.9								
	0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**17.15**	**18**	P		**Pn**		**20 18 11.8**	**-0.4**
	baz=209,slow=10,SNR=4.7								
	0.3nm,0.7s								
BVAR	**Borovoye Array**	**18.53**	**360**	P		**P**		**20 18 27.6**	**+0.2**
	baz=173,slow=9.8,SNR=6.9								
	0.4nm,0.5s								
ZALV	**Zalesovo Beam**	**21.90**	**23**	P		**P**		**20 19 03.8**	**0.0**
	0.6nm,0.3s,baz=218,slow=9.9,SNR=4.9								
	0.6nm,0.3s								
WRA	**Warramunga Arr**	**81.27**	**121**	P		**P**		**20 26 24.7**	**+0.4**
	0.3nm,0.8s,baz=314,slow=5.4,SNR=1.6								
	0.3nm,0.8s								
ASAR	**Alice Springs**	**83.43**	**124**	P		**P**		**20 26 35.9**	**+0.3**
	0.3nm,0.5s,baz=314,slow=5.3,SNR=8.6								
	0.3nm,0.5s								

*FUNV **24** 20:39:10.0, 7°.32N×72°.06W, h5km, MW3.2*
*RSNC **24** 20:39:13.7±0.0, 7°.N±4°×7°.2W±°, h0km±7km, M2.4, ML2.2*
ISC 24 20:39:08.9±1.5,**7°.31N**±0°.04×**72°.05W**±0°.04,**h4**km±12km,
n14,σ1°31/25,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.61**	**335**	*eP*		**Pg**		**20 39 20.5**	**-0.2**
CAPV				*eS*		**Sg**		**20 39 30.1**	**+1.4**
PAMC	**Pamplona, Colo**	**0.65**	**273**	P		**Pg**		**20 39 20.2**	**-1.1**
PAMC				S		**Sg**		**20 39 28.1**	**-1.7**
PAMC	**Pamplona, Colo**	**0.65**	**273**	P		**Pg**		**20 39 20.3**	**-1.1**
PAMC				S		**Sg**		**20 39 28.9**	**-0.9**
BARC	**Barichara**	**1.33**	**238**	P		**Pg**		**20 39 34.1**	**-0.3**
BARC				S		**Sn**		**20 39 55.9**	**+3.1**
BARC	**Barichara**	**1.33**	**238**	P		**Pb**		**20 39 35.0**	**+0.4**
OCAC	**Ocana**	**1.56**	**306**	P		**Pn**		**20 39 37.5**	**-0.2**
OCAC				S		**Sb**		**20 39 59.0**	**+0.2**
OCAC	**Ocana**	**1.56**	**306**	P		**Pg**		**20 39 39.4**	**+0.5**
OCAC				S		**Sg**		**20 40 00.2**	**+1.0**
BRJC	**Barrancabermej**	**1.71**	**259**	P		**Pb**		**20 39 40.8**	**-0.3**
BRJC	**Barrancabermej**	**1.71**	**259**	P		**Pb**		**20 39 40.7**	**-0.3**
RUSC	**La Rusia**	**1.74**	**216**	P		**Pn**		**20 39 40.7**	**+0.3**
RUSC				S		**Sb**		**20 40 04.3**	**+0.1**
RUSC	**La Rusia**	**1.74**	**216**	P		**Pn**		**20 39 41.1**	**+0.7**
RUSC				S		**Sn**		**20 40 03.6**	**+0.3**
SDV	**Santo Domingo**	**2.10**	**42**	P		**Pg**		**20 39 50.9**	**+1.6**
SDV				S		**Sb**		**20 40 14.5**	**+0.1**
MCQV	**Machiques**	**2.77**	**350**	*eP*		**Pn**		**20 39 54.0**	**-0.1**
MCQV				*eS*		**Sn**		**20 40 27.4**	**-0.7**
BAUV	**El Baul**	**4.29**	**67**	*eP*		**Pn**		**20 40 14.5**	**-0.5**
BAUV				*eS*		**Sn**		**20 41 02.0**	**-3.6**

*IDC **24** 20:40:56.4±2.1, 19°.59S×177°.71W, h351km±19km, mb3.7/16, mbtmp4.4/18, Error ellipse: s-maj=15.0km s-min=11.5km az=105.0*
*NEIC **24** 20:40:57.6±2.2, 19°.7S±0°.1×177°.52W±0°.10, h361km±6km, mb4.4/51, Error ellipse: s-maj=15.3km s-min=12.8km az=149.0*
ISC 24 20:40:56.0±0.4,**19°.77S**±0°.06×**177°.51W**±0°.07,**h350**km,
n128,σ1°12/139,mb4.4/46,13C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.67**	**295**			**Pn**		**20 42 15.2**	**+3.0**
FUTU	**Fugatoga**	**5.46**	**354**			**Pn**		**20 42 22.5**	**+1.6**
AFI	**Afiamalu**	**8.01**	**44**			**Pn**		**20 42 48.1**	**-2.2**
RAO	**Raoul Island**	**9.45**	**182**	S		**S**		**20 44 54.8**	**+0.1**
	682nm,0.3s,baz=28,slow=22,SNR=2.8								
PINNC	**Pines Island,**	**14.31**	**256**	P		**Pn**		**20 44 05.3**	**+0.4**
DZM	**Mont Dzumac**	**15.17**	**259**	P		**Pn**		**20 44 14.6**	**-0.3**
DZM				IAmb		IAmb		20 44 16.9	
	comp=Z,20nm,0.8s								
DZM	**Mont Dzumac**	**15.17**	**259**	P		**P**		**20 44 12.9**	**+0.4**
	comp=Z,23nm,0.9s,baz=82,slow=18,SNR=6.1								
TOZ	**Tahuroa Road**	**18.90**	**197**	P		**P**		**20 44 54.0**	**+1.6**
URZ	**Urewera**	**19.01**	**193**	P		**P**		**20 44 55.4**	**+2.0**
	comp=Z,6.9nm,0.3s,baz=348,slow=5.5,SNR=14								
URZ				S		**S**		**20 48 07.3**	**-2.9**
	comp=Z,18nm,0.8s,baz=97,slow=20,SNR=6.6								
EIDS	**Eidsvold**	**29.49**	**253**	P		**P**		**20 46 29.1**	**0.0**
EIDS				IAmb		IAmb		20 46 30.0	
	comp=Z,21nm,1.4s								
ARMA	**Armidale**	**29.80**	**243**	P		**P**		**20 46 31.7**	**-0.2**
CAN	**Canberra**	**33.30**	**235**	P		**P**		**20 47 02.3**	**+0.2**
CAN				IAmb		IAmb		20 47 03.4	
	comp=Z,26nm,1.3s								
CTAO	**Charters Tower**	**34.03**	**263**	P		**P**		**20 47 08.1**	**-0.4**
TOO	**Toolangi**	**36.70**	**233**	P		**P**		**20 47 30.9**	**0.0**
TAU	**Tasmania Unive**	**37.47**	**224**	P		**P**		**20 47 37.5**	**+0.4**
STKA	**Stephens Creek**	**38.52**	**243**			**P**		**20 47 46.0**	**0.0**
STKA	**Stephens Creek**	**38.52**	**243**	P		**P**		**20 47 46.2**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=74,slow=8.7,SNR=7.0								
STKA				PcP		**PcP**		**20 49 50.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=90,slow=5.0,SNR=3.8								
	comp=Z,5.2nm,0.8s								
BBOO	**Buckleboo**	**43.28**	**243**	P		**P**		**20 48 24.1**	**-0.4**
BBOO				IAmb		IAmb		20 48 24.8	
	comp=Z,29nm,1.1s								
KEKH	**Kekaha**	**45.00**	**24**	P		**P**		**20 48 37.7**	**-0.2**
AS31	**Alice Springs**	**45.14**	**256**			**P**		**20 48 38.5**	**-0.8**
ASAR	**Alice Springs**	**45.14**	**256**	P		**P**		**20 48 37.9**	**-1.3**
ASAR	**Alice Springs**	**45.14**	**256**	P		**P**		**20 48 38.4**	**-0.8**
	comp=Z,11nm,0.7s,baz=92,slow=8.3,SNR=162								
ASAR				PcP		**PcP**		**20 50 12.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=94,slow=3.6,SNR=7.4								
ASAR				ScP		**ScP**		**20 53 31.6**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=104,slow=4.2,SNR=7.1								
	comp=Z,11nm,0.7s								
WB0	**Warramunga Arr**	**45.14**	**261**	P		**P**		**20 48 38.2**	**-1.0**
WRA	**Warramunga Arr**	**45.16**	**261**	P		**P**		**20 48 38.2**	**-1.2**
WRA	**Warramunga Arr**	**45.16**	**261**	P		**P**		**20 48 37.8**	**-1.6**
	comp=Z,3.6nm,0.7s,baz=97,slow=8.5,SNR=46								
WRA				PcP		**PcP**		**20 50 12.9**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=99,slow=3.2,SNR=4.8								
WRA				ScP		**ScP**		**20 53 31.9**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=98,slow=7.7,SNR=2.6								
WRA				S		**S**		**20 54 46.9**	**-5.4**
	comp=Z,0.5nm,0.9s,baz=97,slow=14,SNR=2.5								
	comp=Z,3.6nm,0.7s								
KNRA	**Kununurra**	**51.17**	**265**	P		**P**		**20 49 24.0**	**-1.0**
SOEI	**Soe**	**56.94**	**271**	P		**P**		**20 50 06.3**	**-0.2**
SOEI				IAmb		IAmb		20 50 16.9	
	comp=Z,16nm,0.8s								
PSA00	**Pilbara Seismi**	**58.28**	**256**	P		**P**		**20 50 14.4**	**-1.1**
PSA00				IAmb		IAmb		20 50 15.5	
	comp=Z,9.0nm,0.8s								
PSA00	**Pilbara Seismi**	**58.28**	**256**	P		**P**		**20 50 14.4**	**-1.1**
PSA00				IAmb		IAmb		20 50 15.5	
	comp=Z,4.6nm,0.8s								
SBA	**Scott Base**	**58.62**	**184**	P		**P**		**20 50 19.2**	**+2.4**
SBA				IAmb		IAmb		20 50 21.7	
	comp=Z,14nm,1.2s								
VNDA	**Vanda**	**58.67**	**185**			**P**		**20 50 18.8**	**+1.6**
VNDA	**Vanda**	**58.67**	**185**	P		**P**		**20 50 19.1**	**+1.9**
	comp=Z,1.9nm,0.7s,baz=3.8,slow=6.9,SNR=9.8								
	comp=Z,1.9nm,0.7s								
NWAO	**Narrogin (SRO)**	**59.11**	**243**	P		**P**		**20 50 20.3**	**-0.7**
NWAO	**Narrogin (SRO)**	**59.11**	**243**	P		**P**		**20 50 20.1**	**-0.8**
	comp=Z,3.3nm,0.6s,baz=84,slow=8.2,SNR=5.3								
	comp=Z,3.3nm,0.6s								
CASY	**Casey**	**64.82**	**205**			**P**		**20 50 58.0**	**+0.1**
CASY				IAmb		IAmb		20 50 58.9	
	comp=Z,12nm,0.9s								
JGF	**Kuroka**	**69.72**	**322**	P		**P**		**20 51 29.3**	**+0.3**
JGF				IAmb		IAmb		20 51 29.7	
	comp=Z,7.3nm,0.8s								
MJAR	**Matsushiro Arr**	**69.90**	**323**	P		**P**		**20 51 29.3**	**-0.7**
MJAR				IAmb		IAmb		20 51 30.9	
	comp=Z,3.6nm,0.7s								
MJAR	**Matsushiro Arr**	**69.90**	**323**	P		**P**		**20 51 29.2**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=153,slow=6.0,SNR=22								
	comp=Z,7.9nm,0.8s								
MAJO	**Matsushiro**	**69.90**	**323**			**P**		**20 51 29.4**	**-0.6**
MJB9	**Matsu-Tunnel**	**69.91**	**323**	P		**P**		**20 51 30.1**	**+0.1**
QSPA	**South Pole Qui**	**70.29**	**180**	P		**P**		**20 51 33.8**	**+1.7**
QSPA				IAmb		IAmb		20 51 35.0	
	comp=Z,10nm,0.8s								
QSPA	**South Pole Qui**	**70.29**	**180**	P		**P**		**20 51 34.0**	**+1.9**
	comp=Z,8.3nm,0.7s,baz=37,slow=2.2,SNR=67								
	comp=Z,8.3nm,0.7s								
KIWB	**Kanaga Island**	**71.31**	**0**			**P**		**20 51 36.8**	**-1.3**
PEA0B	**Petropavlovsk-**	**75.69**	**345**	P		**P**		**20 52 03.3**	**0.0**
PEA0B				IAmb		IAmb		20 52 06.5	
	comp=Z,18nm,1.4s								
PETK	**Petropavlovsk-**	**75.69**	**345**	P		**P**		**20 52 03.3**	**0.0**
PETK	**Petropavlovsk-**	**75.69**	**345**	P		**P**		**20 52 02.0**	**-1.3**
	comp=Z,4.0nm,0.6s,baz=113,slow=7.2,SNR=28								
	comp=Z,4.0nm,0.6s								
S12K	**Black Hills**	**76.31**	**9**	P		**P**		**20 52 05.3**	**-1.5**
KSRS	**Korea Array**	**76.65**	**318**	P		**P**		**20 52 07.1**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=141,slow=5.1,SNR=4.4								
	comp=Z,0.9nm,0.8s								
CMB	**Columbia Colle**	**78.62**	**43**			**P**		**20 52 20.0**	**+0.1**
CMB				IAmb		IAmb		20 52 21.5	
	comp=Z,4.7nm,0.9s								
BELC	**Belle Mtn. Jos**	**79.28**	**48**	P		**P**		**20 52 24.4**	**+0.7**
BELC				IAmb		IAmb		20 52 25.7	
	comp=Z,4.7nm,0.7s								
OHAK	**Old Harbor**	**79.34**	**13**	P		**P**		**20 52 22.4**	**-0.8**
OHAK				IAmb		IAmb		20 52 50.4	
	comp=Z,11nm,1.3s								
YBH	**Yreka Blue Hor**	**79.44**	**38**	P		**P**		**20 52 25.3**	**+1.0**
WAKR	**Walker**	**79.50**	**43**			**P**		**20 52 25.5**	**+0.7**
WAKR				IAmb		IAmb		20 52 26.9	
	comp=Z,5.9nm,0.9s								
NVAR	**Mina Array Bea**	**80.18**	**43**	P		**P**		**20 52 28.6**	**+0.2**
NVAR	**Mina Array Bea**	**80.18**	**43**	P		**P**		**20 52 29.3**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=224,slow=8.8,SNR=17								
	comp=Z,1.8nm,0.7s								
MDJ	**Mudanjiang**	**80.19**	**325**	P		**P**		**20 52 28.1**	**0.0**
BELA	**Belgrano 2**	**80.22**	**173**			**P**		**20 52 27.7**	**-0.1**
BELA				IAmb		IAmb		20 52 28.4	
	comp=Z,5.6nm,0.8s								
N14K	**Kuskokwak Cree**	**80.45**	**8**	P		**P**		**20 52 28.7**	**-0.3**
N15K	**Kwethluk River**	**80.91**	**9**	P		**P**		**20 52 31.3**	**-0.2**
N15K				IAmb		IAmb		20 52 34.8	
	comp=Z,4.9nm,0.7s								
K05A	**Summer Lake**	**81.11**	**39**	P		**P**		**20 52 33.6**	**+0.4**
K05A				IAmb		IAmb		20 52 38.0	
	comp=Z,10nm,1.1s								
O18K	**Koktuh Hills**	**81.40**	**11**	P		**P**		**20 52 33.1**	**-1.0**
PINE	**Pine Mountain**	**81.73**	**38**			**P**		**20 52 36.6**	**+0.2**
PINE				IAmb		IAmb		20 52 38.5	
	comp=Z,7.3nm,0.9s								
BNX	**BinXian**	**82.10**	**325**	⇓P		**P**		**20 52 38.3**	**+0.3**
BNX				pmax		pmax			
	comp=Z,11nm,0.9s								
MAW	**Mawson**	**82.40**	**200**	P		**P**		**20 52 39.2**	**0.0**
	comp=Z,5.0nm,1.0s,baz=122,slow=4.8,SNR=6.4								
	comp=Z,5.0nm,1.0s								
M17K	**Holitna River**	**82.48**	**10**			**P**		**20 52 39.3**	**-0.3**
M17K				IAmb		IAmb		20 52 42.2	
	comp=Z,9.9nm,0.9s								
U15A	**North Rim**	**83.13**	**48**	P		**P**		**20 52 44.4**	**+0.6**
U15A				IAmb		IAmb		20 52 46.3	
	comp=Z,6.4nm,0.8s								
ELK	**Elko**	**83.44**	**43**			**P**		**20 52 44.8**	**-0.5**
SUA	**Susitna One**	**83.75**	**13**	P		**P**		**20 52 44.7**	**-1.5**
SUA				IAmb		IAmb		20 52 45.6	
	comp=Z,5.0nm,0.8s								
GHO	**Glory Hole Cre**	**84.41**	**13**	P		**P**		**20 52 48.5**	**-0.9**
GHO				IAmb		IAmb		20 52 50.6	
	comp=Z,5.9nm,0.6s								
J18K	**Innoko River**	**84.55**	**9**			**P**		**20 52 49.5**	**-0.5**
J18K				IAmb		IAmb		20 52 51.4	
	comp=Z,4.4nm,0.9s								
HEH	**HeiHe**	**84.94**	**328**	*eP*		**P**		**20 52 52.3**	**+0.1**
HEH				pmax		pmax			
	comp=Z,7.0nm,1.2s								
SRU	**San Rafael Swe**	**85.69**	**46**	P		**P**		**20 52 55.5**	**-0.9**
SRU				IAmb		IAmb		20 52 57.8	
	comp=Z,3.2nm,0.7s								
VHRN	**Van Horn**	**85.86**	**55**			**P**		**20 52 58.1**	**+0.7**
VHRN				IAmb		IAmb		20 52 59.4	
	comp=Z,2.8nm,0.7s								
TXAR	**Lajitas Array**	**86.28**	**57**	P		**P**		**20 53 00.9**	**+1.6**
TXAR	**Lajitas Array**	**86.28**	**57**	P		**P**		**20 53 01.2**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=221,slow=5.9,SNR=20								
	comp=Z,1.4nm,0.7s								
ILAR	**Eielson Array**	**87.50**	**13**	P		**P**		**20 53 02.6**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=225,slow=4.9,SNR=9.3								
	comp=Z,1.1nm,0.8s								
PDAR	**Pinedale Array**	**88.12**	**43**	P		**P**		**20 53 08.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=246,slow=5.0,SNR=4.9								
	comp=Z,0.7nm,0.7s								
BOZ	**Bozeman (W)**	**88.24**	**40**	P		**P**		**20 53 08.7**	**+0.3**
TROLL	**Troll, Antarti**	**88.46**	**180**	⇑P		**P**		**20 53 08.1**	**-0.9**
	comp=Z,75nm,0.6s								
SNAA	**Sanae**	**88.72**	**178**	⇑P		**P**		**20 53 09.0**	**-1.1**
	comp=Z,16nm,0.6s								
SNAA	**Sanae**	**88.72**	**178**	P		**P**		**20 53 09.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=207,slow=8.2,SNR=13								
	comp=Z,0.5nm,0.5s								
VNA3	**Neumayer Olymp**	**88.83**	**176**	⇑P		**P**		**20 53 09.8**	**-0.8**
	comp=Z,13nm,0.6s								
HHC	**Hu-ho-hao-te**	**89.18**	**314**	*eP*		**P**		**20 53 15.3**	**+2.5**
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,27nm,5.7s								
VNA2	**Neumayer--Watz**	**89.28**	**177**	⇑P		**P**		**20 53 12.1**	**-0.5**
	comp=Z,8.6nm,0.6s,baz=186,slow=3.6								
VNA1	**Neumayer--Stat**	**89.51**	**176**	⇑P		**P**		**20 53 13.3**	**-0.4**
	comp=Z,5.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**90.31**	**289**	P		**P**		**20 53 19.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=96,slow=3.8,SNR=4.3								
	comp=Z,0.3nm,0.3s								
PZH	**PanZhiHua**	**90.78**	**298**	P		**P**		**20 53 20.8**	**+0.2**
BVAR	**Borovoye Array**	**118.82**	**320**	PKP		**PKPdf**		**20 59 01.2**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=90,slow=4.2,SNR=3.3								
ARCES	**ARCESS Array B**	**128.29**	**350**	PKP		**PKPdf**		**20 59 18.5**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=34,slow=2.9,SNR=4.6								
FINES	**FINESS Array B**	**135.20**	**344**	PKP		**PKPdf**		**20 59 33.3**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=106,slow=13,SNR=2.5								
AKASG	**Malin Array Be**	**142.60**	**332**	PKhKP		PKPpre		20 59 42.8	
	comp=Z,0.2nm,0.3s,baz=253,slow=24,SNR=2.8								
LODK	**Lodwar**	**144.05**	**247**			**PKPab**		**20 59 49.7**	**-0.2**
EKA	**Eskdalemuir Ar**	**144.24**	**6**	PKP		**PKPab**		**20 59 48.2**	**-1.1**
	comp=Z,5.0nm,0.8s,baz=349,slow=2.9,SNR=15								
ESK	**Eskdalemuir**	**144.25**	**6**	PKPbc		**PKPab**		**20 59 48.9**	**-0.4**
BURR08	**Bucovina Ar. S**	**146.63**	**332**			**PKPdf**		**20 59 56.3**	**+1.6**
BURAR	**Bucovina Array**	**146.65**	**332**			**PKPdf**		**20 59 55.7**	**+0.9**
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc		**PKPbc**		**20 59 56.8**	**-0.7**
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc		**PKPdf**		**20 59 56.5**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=32,slow=5.8,SNR=9.5								
CLL	**Collm**	**147.46**	**348**			**PKPdf**		**20 59 57.5**	**+1.6**
STEB	**Steborice**	**147.53**	**342**	*e*PKP		**PKPbc**		**20 59 59.4**	**+0.2**
STEB				*e*PKPAB		**PKPab**		**21 00 04.1**	**+1.8**
DPC	**Dobruska-Polom**	**147.57**	**343**	*e*PKP		**PKPbc**		**20 59 59.5**	**+0.2**
DPC				*e*PKPAB		**PKPab**		**21 00 03.3**	**+0.8**
KRLC	**Kraliky**	**147.69**	**343**	*e*PKP		**PKPbc**		**21 00 00.1**	**+0.4**
MMAI	**Mount Meron Ar**	**147.84**	**301**	PKPbc		**PKPbc**		**21 00 00.5**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=74,slow=3.0,SNR=8.4								
MAUC	**Maruska**	**148.02**	**341**	*e*PKP		**PKPbc**		**21 00 01.5**	**+1.0**
PRU	**Pruhonice**	**148.35**	**341**	*e*PKP		**PKPbc**		**21 00 01.8**	**+0.5**
ZVC	**Zvikov**	**148.95**	**341**	*e*PKP		**PKPbc**		**21 00 03.8**	**+1.0**
KHC	**Kasperske Hory**	**149.38**	**346**	*e*PKP		**PKPbc**		**21 00 03.9**	**0.0**
KHC				*e*PKPAB		**PKPab**		**21 00 10.6**	**+0.7**
CKRC	**Cesky Krumlov**	**149.50**	**345**	*e*PKP		**PKPbc**		**21 00 03.5**	**-0.7**
GERES	**GERESS Array B**	**149.62**	**345**	PKPbc		**PKPbc**		**21 00 04.2**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=5.7,slow=2.7,SNR=16								
GERES				PKPab		**PKPab**		**21 00 10.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=347,slow=29,SNR=3.5								
CONA	**Conrad Observa**	**149.89**	**342**	*i* PKP		**PKPbc**		**21 00 04.8**	**-0.4**
	comp=Z,6.1nm,1.2s								
RONA	**Rosalia, Austr**	**149.97**	**341**	*i* PKP		**PKPbc**		**21 00 05.1**	**-0.3**
	comp=Z,5.5nm,1.1s								
WLF	**Walferdange**	**150.03**	**355**			**PKPbc**		**21 00 04.6**	**-0.8**
MOA	**Molln**	**150.40**	**344**	*i* PKiKP		**PKPbc**		**21 00 06.5**	**+0.1**
	comp=Z,1.7nm,0.9s								
ARSA	**Arzberg**	**150.60**	**342**	*e*PKP		**PKPbc**		**21 00 05.5**	**-1.3**
	comp=Z,1.0nm,0.5s								
BIOA	**Bad Ischl, Aus**	**150.71**	**345**	*i* PKP		**PKPbc**		**21 00 07.1**	**0.0**
	comp=Z,8.0nm,1.3s								
LESA	**Schwarzleotal**	**151.19**	**346**	*i* PKP		**PKPbc**		**21 00 08.1**	**-0.2**
	comp=Z,2.5nm,0.7s								
SOKA	**Soboth**	**151.26**	**342**	*i* PKiKP		**PKPbc**		**21 00 08.4**	**-0.1**
	comp=Z,4.7nm,1.7s								
WATA	**Walderalm**	**151.52**	**347**	*i* PKP		**PKPbc**		**21 00 08.8**	**-0.3**
	comp=Z,2.7nm,0.7s								
RETA	**Reutte**	**151.54**	**348**	*i* PKP		**PKPbc**		**21 00 07.8**	**-1.3**
	comp=Z,3.3nm,1.4s								
WTTA	**Wattenberg**	**151.58**	**347**	*i* PKP		**PKPbc**		**21 00 08.8**	**-0.5**
	comp=Z,6.1nm,0.7s								
MOTA	**Moosalm**	**151.61**	**348**	*e*PKP		**PKPbc**		**21 00 09.1**	**-0.3**
	comp=Z,4.3nm,0.9s								
MYKA	**Terra Mystica**	**151.69**	**344**	*i* PKP		**PKPbc**		**21 00 08.5**	**-0.9**
	comp=Z,2.0nm,0.7s								
SQTA	**Sankt Quirin**	**151.71**	**347**	*i* PKP		**PKPbc**		**21 00 09.0**	**-0.5**
	comp=Z,3.4nm,0.7s								
ABTA	**Abfaltersbach**	**151.87**	**345**	*i* PKP		**PKPbc**		**21 00 08.8**	**-1.1**
	comp=Z,3.9nm,0.6s								
DAVA	**Damuels**	**151.90**	**349**	*e*PKP		**PKPbc**		**21 00 08.8**	**-1.2**
	comp=Z,2.9nm,1.0s								
FETA	**Feichten**	**152.00**	**348**	*i* PKP		**PKPbc**		**21 00 08.4**	**-1.8**
	comp=Z,3.9nm,1.4s								
FUORN	**Ofenpass-Fuorn**	**152.47**	**348**			**PKPbc**		**21 00 10.3**	**-1.1**
ESDC	**Sonseca Array**	**159.40**	**14**	PKP		**PKPdf**		**21 00 13.8**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=18,slow=1.7,SNR=1.8								
ESDC				PKPab		**PKPab**		**21 00 51.9**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=321,slow=7.5,SNR=2.6								

*MOS **24** 20:45:50.7±0.5, 56°.19N×160°.90E, h14km, mb3.9/2, Error ellipse: s-maj=12.7km s-min=5.6km az=70.1*
MOS Felt (II-III) at Klyuchi.
*KRSC **24** 20:45:52.0±0.2, 56°.19N×160°.93E, h15km±4km, Ml4.2, Felt [III-IV] at Kluchi.*
ISC 24 20:45:51.3±1.2,**56°.19N**±0°.03×**160°.94E**±0°.03,**h18**km±8km,
n47,σ0°70/68,3C-4D,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CIRR	**Tsirk**	**0.13**	**233**	PN		**Pb**		**20 45 55.8**	**+0.6**
CIRR	**Tsirk**	**0.13**	**233**	*eP*		**Pb**		**20 45 55.8**	**+0.6**
LGNR	**Loginova**	**0.18**	**231**	PN		**Pb**		**20 45 56.7**	**+0.6**
LGNR	**Loginova**	**0.18**	**231**	*eP*		**Pb**		**20 45 56.8**	**+0.6**
ZLN	**Zelenaya**	**0.19**	**202**	PN		**Pb**		**20 45 56.7**	**+0.4**
ZLN	**Zelenaya**	**0.19**	**202**	*eP*		**Pb**		**20 45 56.8**	**+0.4**
KLY	**Klyuchi**	**0.20**	**307**	PN		**Pg**		**20 45 56.1**	**-0.1**
KLY				S		**Sb**		**20 45 59.5**	**-0.2**
KLY	**Klyuchi**	**0.20**	**307**	*eP*		**Pg**		**20 45 56.1**	**-0.1

BOSA				IAmb	IAmb	20 58 05.6	
	comp=Z,5.9nm,1.1s						
BOSA	**Boshof**	**34.56**	**71**	LR	LR	21 09 19.3	
	comp=Z,250nm,21.2s,baz=229,slow=32						
USHA	**Ushuaia**	**35.25**	**236**	LR	LR	21 11 12.5	
	comp=Z,1μm,18.8s,baz=196,slow=34						
TSUM	**Tsumeb**	**37.09**	**51**	P	**P**	**20 58 26.8**	**-0.2**
TSUM				IAmb	IAmb	20 58 28.9	
	comp=Z,21nm,1.3s						
TSUM	**Tsumeb**	**37.09**	**51**	LR	LR	21 09 57.0	
	comp=Z,312nm,20.8s,baz=226,slow=31						
TRQA	**Tornquist**	**37.10**	**266**	P	**P**	**20 58 26.1**	**-0.7**
TRQA				IAmb	IAmb	20 58 27.2	
	comp=Z,8.6nm,1.2s						
H10S2	**ASCENSION HYDR**	**38.15**	**356**	T	T	21 39 38.7	
	baz=178,slow=74,SNR=56						
H10S3	**ASCENSION HYDR**	**38.16**	**356**	T	T	21 39 39.1	
	baz=42,slow=74,SNR=56						
H10N1	**ASCENSION HYDR**	**39.25**	**357**	T	T	21 41 04.9	
	baz=195						
H10N3	**ASCENSION HYDR**	**39.25**	**357**	T	T	21 41 01.2	
	baz=195						
H10N2	**ASCENSION HYDR**	**39.26**	**357**	T	T	21 40 59.1	
	baz=195						
CPUP	**Villa Florida**	**40.93**	**284**	LR	LR	21 13 01.8	
	comp=Z,62nm,21.6s,baz=357,slow=32						
PLCA	**Paso Flores**	**41.55**	**257**	LR	LR	21 12 22.0	
	comp=Z,353nm,21.9s,baz=115,slow=30						
MAW	**Mawson**	**42.08**	**146**	LR	LR	21 12 53.7	
	comp=Z,174nm,21.9s,baz=264,slow=31						
MATP	**Matopo**	**42.47**	**65**	LR	LR	21 14 00.4	
	comp=Z,368nm,19.6s,baz=214,slow=32						
H04S2	**CROZET ISLANDS**	**42.66**	**114**	T	T	21 45 40.2	
	baz=247,slow=75						
H04S3	**CROZET ISLANDS**	**42.66**	**114**	T	T	21 45 41.6	
	baz=247,slow=75						
H04S1	**CROZET ISLANDS**	**42.68**	**114**	T	T	21 45 40.6	
	baz=247,slow=75						
QSPA	**South Pole Qui**	**43.07**	**180**	P	**P**	**20 59 15.8**	**-0.4**
QSPA	**South Pole Qui**	**43.07**	**180**	P	**P**	**20 59 17.1**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=216,slow=3.1,SNR=9.9						
QSPA				LR	LR	21 15 18.7	
	comp=Z,344nm,19.4s,baz=204,slow=34						
	comp=Z,2.5nm,0.9s						
BDFB	**Brasilia**	**43.14**	**305**	LR	LR	21 13 49.0	
	comp=Z,350nm,21.1s,baz=155,slow=31						
CFA	**Coronel Fontan**	**44.96**	**270**	LR	LR	21 16 48.1	
	comp=Z,171nm,18.9s,baz=158,slow=34						
MT09	**Talagante**	**45.55**	**265**	P	**P**	**20 59 36.0**	**-0.5**
MT09				IAmb	IAmb	20 59 48.3	
	comp=Z,25nm,1.4s						
RCBR	**Riachuelo**	**45.91**	**326**	LR	LR	21 15 20.1	
	comp=Z,82nm,18.2s,baz=172,slow=31						
LSZ	**Lusaka**	**46.23**	**60**	P	**P**	**20 59 39.9**	**-2.0**
LSZ				IAmb	IAmb	20 59 43.0	
	comp=Z,5.4nm,1.1s						
LSZ	**Lusaka**	**46.23**	**60**	LR	LR	21 16 59.3	
	comp=Z,388nm,19.0s,baz=213,slow=34						
CO03	**El Pedregal**	**47.09**	**269**	P	**P**	**20 59 47.9**	**-0.6**
GO04	**Tololo Observa**	**47.57**	**269**	P	**P**	**20 59 52.0**	**-0.4**
GO02	**Mina Guanaco**	**49.94**	**275**	P	**P**	**21 00 10.9**	**+0.1**
SIV	**San Ignacio**	**50.74**	**291**	LR	LR	21 20 30.1	
	comp=Z,310nm,18.2s,baz=137,slow=34						
PB05	**IPOC Station P**	**51.90**	**277**	P	**P**	**21 00 24.6**	**-0.7**
PB05				IAmb	IAmb	21 00 38.7	
	comp=Z,14nm,1.1s						
VILB	**Vilhena**	**52.48**	**294**	P	**P**	**21 00 29.3**	**-0.3**
VILB				IAmb	IAmb	21 00 32.1	
	comp=Z,14nm,1.2s						
GO01	**Chusmiza**	**53.41**	**281**	P	**P**	**21 00 36.6**	**-0.4**
GO01				IAmb	IAmb	21 01 10.4	
	comp=Z,5.4nm,1.2s						
DBIC	**Dimbokro**	**54.03**	**9**	LR	LR	21 17 44.0	
	comp=Z,191nm,21.5s,baz=194,slow=29						
LPAZ	**La Paz**	**55.10**	**284**	LR	LR	21 22 45.5	
	comp=Z,217nm,21.9s,baz=118,slow=34						
VNDA	**Vanda**	**55.51**	**178**	P	**P**	**21 00 51.6**	**+0.6**
VNDA	**Vanda**	**55.51**	**178**	P	**P**	**21 00 53.6**	**+2.7**
	comp=Z,0.7nm,0.8s,baz=182,slow=16,SNR=3.9						
VNDA				LR	LR	21 22 43.5	
	comp=Z,293nm,19.5s,baz=168,slow=34						
	comp=Z,0.7nm,0.8s						
SAML	**Samuel**	**57.42**	**295**	P	**P**	**21 01 04.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**61.36**	**16**	P	**P**	**21 01 32.1**	**-0.3**
TORD				IAmb	IAmb	21 01 57.3	
	comp=Z,3.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**61.36**	**16**	P	**P**	**21 01 31.8**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=195,slow=7.7,SNR=20						
TORD				LR	LR	21 22 11.1	
	comp=Z,245nm,20.6s,baz=158,slow=30						
	comp=Z,1.2nm,0.5s						
KMBO	**Kilima Mbogo**	**62.85**	**59**	LR	LR	21 26 04.4	
	comp=Z,204nm,22.0s,baz=105,slow=34						
MDP	**Montagnes des**	**63.03**	**314**	LR	LR	21 25 41.8	
	comp=Z,217nm,21.0s,baz=148,slow=33						
NNA	**Nana**	**64.02**	**281**	LR	LR	21 26 31.6	
	comp=Z,140nm,21.4s,baz=152,slow=33						
ATAH	**Atahualpa**	**68.60**	**283**	LR	LR	21 29 55.8	
	comp=Z,116nm,21.5s,baz=147,slow=34						
TAM	**Tamanrasset**	**71.50**	**17**	P	**P**	**21 02 38.6**	**+1.3**
PCRV	**Puerto La Cruz**	**73.61**	**306**	LR	LR	21 32 31.5	
	comp=Z,362nm,20.2s,slow=34						
ROSC	**El Rosal**	**75.05**	**294**	LR	LR	21 34 36.7	
	comp=Z,237nm,18.2s,baz=99,slow=34						
SDV	**Santo Domingo**	**76.00**	**300**	LR	LR	21 35 01.8	
	comp=Z,82nm,19.6s,baz=124,slow=34						
ATD	**Arta Tunnel**	**76.33**	**56**	LR	LR	21 35 19.9	
	comp=Z,5.6nm,18.1s,baz=192,slow=35						
MDT	**Midelt**	**79.94**	**7**	LR	LR	21 34 20.4	
	comp=Z,193nm,19.7s,baz=182,slow=32						
SJG	**San Juan**	**80.97**	**309**	LR	LR	21 37 43.6	
	comp=Z,46nm,18.7s,baz=148,slow=34						
KEST	**Kesra**	**84.81**	**18**	P	**P**	**21 03 52.8**	**+2.0**
	comp=Z,2.4nm,0.9s,baz=192,slow=19,SNR=4.0						
KEST				LR	LR	21 38 25.9	
	comp=Z,134nm,18.7s,baz=36,slow=33						
	comp=Z,2.4nm,0.9s						
H01W2	**Cape Leeuwin H**	**85.22**	**138**	T	T	22 39 31.4	
	baz=205,slow=75						
H01W1	**Cape Leeuwin H**	**85.24**	**138**	T	T	22 39 32.4	
	baz=205,slow=75						
H01W3	**Cape Leeuwin H**	**85.24**	**138**	T	T	22 39 32.5	
	baz=205,slow=75						
ESDC	**Sonseca Array**	**86.80**	**6**	P	**P**	**21 04 01.0**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=178,slow=8.5,SNR=6.3						
ESDC				LR	LR	21 38 50.2	
	comp=Z,72nm,19.8s,baz=158,slow=33						
	comp=Z,0.9nm,1.0s						
EIL	**Elat**	**87.57**	**40**	LR	LR	21 40 17.2	
	comp=Z,118nm,19.7s,baz=246,slow=34						
ASF	**Jabal al Asfar**	**90.56**	**40**	LR	LR	21 41 03.5	
	comp=Z,168nm,21.4s,baz=151,slow=33						
MMAI	**Mount Meron Ar**	**90.64**	**38**	P	**P**	**21 04 18.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=211,slow=19,SNR=2.6						
MMAI				LR	LR	21 41 56.9	
	comp=Z,246nm,21.1s,baz=184,slow=34						
	comp=Z,0.8nm,0.6s						
DAVOX	**Davos/Dischmat**	**95.59**	**15**	LR	LR	21 44 23.1	
	comp=Z,73nm,19.3s,baz=239,slow=33						
BRTR	**Keskin Array B**	**95.74**	**34**	P	**P**	**21 04 43.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=222,slow=1.9,SNR=3.7						
	comp=Z,0.2nm,0.3s						
STKA	**Stephens Creek**	**97.87**	**158**	LR	LR	21 45 09.7	
	comp=Z,316nm,20.6s,baz=70,slow=33						
MLR	**Muntele Rosu**	**98.23**	**26**	LR	LR	21 49 10.8	
	comp=Z,68nm,18.4s,baz=204,slow=36						
GERES	**GERESS Array B**	**98.29**	**17**	LR	LR	21 46 17.1	
	comp=Z,106nm,20.3s,baz=182,slow=34						
PDAR	**Pinedale Array**	**123.91**	**298**	PKP	**PKiKP**	**21 10 17.1**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=160,slow=15,SNR=4.2						
MKAR	**Makanchi Array**	**124.69**	**56**	PKP	**PKPdf**	**21 10 14.7**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=246,slow=14,SNR=1.9						
KSRS	**Korea Array**	**149.34**	**94**	PKPbc	**PKPbc**	**21 11 03.1**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=244,slow=35,SNR=1.9						
ILAR	**Eielson Array**	**149.97**	**322**	PKPbc	**PKiKP**	**21 11 06.4**	**-0.2**
ILAR	**Eielson Array**	**149.97**	**322**	PKPbc	**PKPbc**	**21 11 06.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=87,slow=19,SNR=6.9						
G23K	**Bananza Creek**	**150.64**	**327**	PKPbc	**PKiKP**	**21 11 07.8**	**-0.3**
E22K	**Anaktuvuk Pass**	**150.72**	**330**		**PKPbc**	**21 11 06.9**	**-0.6**
SKT	**Skwentna**	**152.68**	**318**	PKPbc	**PKiKP**	**21 11 12.8**	**+0.4**
PPLA	**Purkeypile**	**152.73**	**320**	PKPbc	**PKPbc**	**21 11 12.3**	**-0.1**

IDC 24 21:12:21.5±2.5, 29°.65S×179°.13W, h0^{km}, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=198.0km s-min=17.2km az=165.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.13**	**70**	Pn	Pb	21 12 43.8	-0.1
	62nm,0.3s,baz=69,slow=23,SNR=1.8						
RAO				Sn	Sn	21 13 03.3	+2.5
	596nm,0.3s,baz=196,slow=22,SNR=10.0						
STKA	**Stephens Creek**	**33.70**	**256**	P	P	21 19 04.5	0.0
	2.6nm,0.8s,baz=97,slow=10,SNR=4.3						
	2.6nm,0.8s						
ASAR	**Alice Springs**	**42.17**	**267**	P	P	21 20 16.9	+0.7
	0.4nm,0.3s,baz=105,slow=7.1,SNR=14						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**43.09**	**272**	P	P	21 20 22.7	-0.9
	1.0nm,0.3s,baz=110,slow=8.2,SNR=41						
	1.0nm,0.3s						

MOS ***24*** *21:21:23.8±0.9, 20°.12S×175°.81W, h193^{km}, mb5.5/53, Error ellipse: s-maj=7.5km s-min=6.9km az=88.3*

IDC ***24*** *21:21:23.4±1.5, 20°.12S×175°.77W, h180^{km}±13^{km}, mb5.0/23, mbtmp5.5/26, Error ellipse: s-maj=10.1km s-min=9.1km az=104.0*

BJI ***24*** *21:21:25.9, 19°.86S×175°.38W, h217^{km}, mB5.5/24, mb5.3/66*

NOU ***24*** *21:21:26.9, 20°.31S×175°.52W, h224^{km}, ML5.3/141, Tonga Islands*

NEIC ***24*** *21:21:27.5±1.9, 20°.19S±0°.09×175°.63W±0°.09, h215^{km}±3^{km}, mb5.4/190, Mww5.5/26, Error ellipse: s-maj=13.1km s-min=12.2km az=115.0*

NEIC ***24*** *21:21:28.1, 20°.19S×175°.61W, h240^{km}*

NEIC ***24*** *21:21:28.1, 20°.19S×175°.29W, h240^{km}, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.52; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$-0.93; $M_{r\theta}$1.03; $M_{\theta\phi}$-0.72; $M_{\phi r}$1.23; Fault plane solution: M_{o}2.20000×10^{17} NP1: ϕ_s217.19000°, δ21.70000°, λ87.87000°. NP2:ϕ_s39.48000°, δ68.32000°, λ90.85000°. Principal axes: T 2.2128, Plg67.0000°, Azm311.0000°; N -0.0273, Plg1.0000°, Azm219.0000°; P -2.1854, Plg23.0000°, Azm129.0000°;*

GCMT ***24*** *21:21:28.5±0.1, 20°.25S±0°.01×175°.36W±0°.01, h221^{km}, MW5.5/150, Moment Tensor Solution. s135, c239; s150, c284; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.41±.02; $M_{\theta\theta}$-0.24±.02; $M_{\phi\phi}$-1.17±.02; $M_{r\theta}$0.85±.02; $M_{\theta\phi}$-0.71±.02; $M_{\phi r}$1.13±.02; Best double couple: M_{o}2.05200×10^{17} NP1:ϕ_s201.00000°, δ24.00000°, λ78.00000°. NP2:ϕ_s35.00000°, δ67.00000°, λ95.00000°. Principal axes: T 1.9870, Plg68.0000°, Azm315.0000°; N 0.1290, Plg5.0000°, Azm213.0000°; P -2.1170, Plg22.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 21:21:26.3±0.3, 20°.30S±0°.03×175°.61W±0°.04, h213^{km}±2^{km}, h214^{km}:pP-P, n1462, σ1^{s}09/1604, mb5.5/241, 131C-66D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**3.66**	**304**	P	**Pn**	**21 22 26.4**	**+1.9**
TAVE	**Taveuni**	**5.42**	**311**	P	**Pn**	**21 22 47.7**	**+1.3**
NIUE	**Niue**	**5.49**	**78**	P	**Pn**	**21 22 44.1**	**-3.1**
NIUE	**Niue**	**5.49**	**78**		**Pn**	**21 22 44.1**	**-3.1**
NIUE	**Niue**	**5.49**	**78**	P	**Pn**	**21 22 45.2**	**-2.0**
DGTI	**Dogotuki**	**5.95**	**311**	P	**Pn**	**21 22 54.0**	**+0.8**
FUTU	**Fugatoga**	**6.43**	**338**		**Pn**	**21 22 59.3**	**+0.1**
FUTU	**Fugatoga**	**6.43**	**338**	P	**Pn**	**21 23 00.0**	**+0.7**
MSVF	**Nonsavu**	**6.52**	**292**		**Pn**	**21 23 02.5**	**+2.0**
MSVF	**Nonsavu**	**6.52**	**292**	P	**Pn**	**21 23 03.1**	**+2.5**
MSVF	**Nonsavu**	**6.52**	**292**	*d* iP	**Pn**	**21 23 02.6**	**+2.0**
AFI	**Afiamalu**	**7.33**	**31**		Pn	21 23 04.8	-6.3
YSA	**Yasawairara**	**7.39**	**298**	P	**Pn**	**21 23 13.2**	**+1.5**
RIZ	**Raoul Island**	**9.15**	**193**	P	**Pn**	**21 23 35.3**	**+0.9**
RIZ				S	**S**	**21 25 14.1**	**-3.2**
RAO	**Raoul Island**	**9.16**	**193**	P	**Pn**	**21 23 35.3**	**+0.9**
	362nm,0.4s,baz=66,slow=22,SNR=2.1						
RAO				S	S	21 25 07.5	-10
	857nm,0.5s,baz=5.6,slow=18,SNR=5.1						
GLKZ	**Green Lake**	**9.17**	**193**	P	**Pn**	**21 23 33.3**	**-1.2**
GLKZ				S	**S**	**21 25 10.6**	**-7.0**
FUNA	**Funafuti**	**12.74**	**336**		**Pn**	**21 24 19.1**	**-1.1**
RAR	**Rarotonga**	**14.84**	**96**	P	**Pn**	**21 24 46.0**	**0.0**
RAR	**Rarotonga**	**14.84**	**96**	P	**P**	**21 24 47.4**	**+0.8**
	368nm,1.2s,baz=237,slow=7.0,SNR=20						
RAR				S	**S**	**21 27 30.5**	**+0.2**
	47nm,0.5s,baz=77,slow=19,SNR=4.8						
RAR	**Rarotonga**	**14.84**	**96**	P	**Pn**	**21 24 46.5**	**+0.5**
RAR	**Rarotonga**	**14.84**	**96**	S	**S**	**21 27 27.1**	**-3.2**
DVP	**Devils Point**	**15.54**	**277**	P	**Pn**	**21 24 57.6**	**+3.0**
PINNC	**Pines Island,**	**15.95**	**259**		**Pn**	**21 25 01.1**	**+1.7**
PINNC	**Pines Island,**	**15.95**	**259**	P	**Pn**	**21 25 01.7**	**+2.3**
OUENC	**Ouen Island, N**	**16.49**	**260**	P	**Pn**	**21 25 07.6**	**+1.7**
DZM	**Mont Dzumac**	**16.84**	**261**		**Pn**	**21 25 10.6**	**+0.5**
DZM	**Mont Dzumac**	**16.84**	**261**	P	**Pn**	**21 25 11.2**	**+1.1**
ONTNC	**Ouen Toro**	**16.84**	**260**		**Pn**	**21 25 10.3**	**+0.3**
ONTNC	**Ouen Toro**	**16.84**	**260**	P	**Pn**	**21 25 11.2**	**+1.2**
SANVU	**Saraoutou**	**17.06**	**284**		**P**	**21 25 11.9**	**+0.8**
SANVU	**Saraoutou**	**17.06**	**284**	P	**Pn**	**21 25 13.5**	**+0.8**
NFK	**Norfolk Island**	**17.29**	**237**	P	**Pn**	**21 25 15.1**	**-0.2**
	comp=Z,273nm,1.0s						
OUZ	**Omahuta**	**17.65**	**210**	P	**Pn**	**21 25 20.0**	**+0.6**
GRZ	**Great Barrier**	**17.72**	**204**	P	**Pn**	**21 25 20.4**	**+0.2**
WCZ	**Waipu Caves**	**17.91**	**207**	P	**Pn**	**21 25 22.5**	**+0.1**
MXZ	**Matakaoa Point**	**18.00**	**196**	P	**Pn**	**21 25 24.2**	**+0.7**
MXZ				S	**S**	**21 28 27.4**	**-8.9**
KUZ	**Kuaotunu**	**18.05**	**203**	P	**Pn**	**21 25 24.3**	**+0.1**
KUZ	**Kuaotunu**	**18.05**	**203**	P	**Pn**	**21 25 24.4**	**+0.3**
HAZ	**Te Kaha**	**18.32**	**197**	P	**P**	**21 25 24.5**	**0.0**
HAZ				S	**S**	**21 28 36.1**	**-6.5**
PUZ	**Puketiti**	**18.49**	**195**	P	**P**	**21 25 26.9**	**+0.4**
RUGZ	**Raukumara Rang**	**18.54**	**197**	P	**P**	**21 25 28.5**	**+1.4**
WHRZ	**Whale Island**	**18.64**	**199**	P	**Pn**	**21 25 31.0**	**-0.1**
TGRZ	**Tauranga**	**18.75**	**200**	P	**Pn**	**21 25 31.5**	**-0.8**
OPRZ	**Ohinepanea**	**18.76**	**200**	P	**Pn**	**21 25 31.2**	**-1.3**
CNGZ	**Carnagh Statio**	**18.89**	**195**	P	**Pn**	**21 25 33.9**	**-0.2**
URZ	**Urewera**	**18.98**	**198**	P	**P**	**21 25 32.3**	**+0.6**
	comp=Z,141nm,0.4s,baz=313,slow=2.1,SNR=158						
URZ				S	**S**	**21 28 50.8**	**-4.8**
	comp=Z,63nm,0.5s,baz=42,slow=23,SNR=14						
URZ	**Urewera**	**18.98**	**198**	P	**P**	**21 25 31.4**	**-0.3**
URZ	**Urewera**	**18.98**	**198**	P	**P**	**21 25 30.8**	**-0.9**
URZ				S	**S**	**21 28 48.5**	**-7.1**
KARZ	**Kaharoa**	**19.02**	**200**	P	**Pn**	**21 25 35.6**	**+0.1**
OMRZ	**Omania**	**19.06**	**200**	P	**P**	**21 25 34.0**	**+1.4**
RAGZ	**Rawiri**	**19.11**	**197**	P	**Pn**	**21 25 35.2**	**-1.5**
RIGZ	**Rimuhau**	**19.22**	**196**	P	**Pn**	**21 25 37.0**	**-0.9**
MUGZ	**Murupara**	**19.28**	**198**	P	**P**	**21 25 36.2**	**+1.3**
RTZ	**Ruatahuna**	**19.34**	**198**	P	**P**	**21 25 37.1**	**+1.4**
HRRZ	**Handcock Road**	**19.35**	**200**	P	**Pn**	**21 25 38.1**	**-1.4**
GRRZ	**Galatos Road**	**19.36**	**200**	P	**Pn**	**21 25 40.0**	**+0.3**
PRGZ	**Paritu Road**	**19.39**	**195**	P	**Pn**	**21 25 39.1**	**-0.8**
SNGZ	**Shannon Statio**	**19.40**	**197**	P	**P**	**21 25 37.3**	**+1.1**
PRRZ	**Plateau Road**	**19.41**	**199**	P	**P**	**21 25 38.0**	**+1.6**
ALRZ	**Allen Road**	**19.49**	**199**	P	**P**	**21 25 38.8**	**+1.6**
WPRZ	**Whakapapatarin**	**19.50**	**200**	P	**Pn**	**21 25 39.5**	**-1.8**
TLZ	**Tolley Road**	**19.54**	**201**	P	**Pn**	**21 25 40.6**	**-1.2**
KNZ	**Kokohu**	**19.54**	**196**	P	**P**	**21 25 39.5**	**+1.8**
RAHZ	**Arahi**	**19.60**	**197**	P	**P**	**21 25 38.9**	**+0.5**
MHGZ	**Mahia Peninsul**	**19.60**	**195**	P	**P**	**21 25 40.5**	**+2.1**
MTHZ	**Maungataniwha**	**19.61**	**198**	P	**P**	**21 25 40.3**	**+1.8**
WHHZ	**Waihua**	**19.70**	**197**	P	**P**	**21 25 41.3**	**+1.8**
NMHZ	**Naumai**	**19.84**	**198**	P	**P**	**21 25 41.8**	**+0.8**
HIZ	**Hauiti**	**19.94**	**202**	P	**P**	**21 25 43.5**	**+1.5**
HIZ	**Hauiti**	**19.94**	**202**	P	**Pn**	**21 25 44.6**	**-2.0**
ARHZ	**Aropaoanui**	**19.94**	**197**	P	**P**	**21 25 44.1**	**+2.1**
RATZ	**Rangitukua**	**19.94**	**200**	P	**P**	**21 25 42.4**	**+0.3**
BKZ	**Black Stump Fm**	**20.00**	**198**	P	**P**	**21 25 41.4**	**-1.3**
BKZ	**Black Stump Fm**	**20.00**	**198**	P	**P**	**21 25 41.3**	**-1.4**
MCHZ	**McNeil Hill**	**20.20**	**197**	P	**P**	**21 25 45.2**	**+0.4**
ETVZ	**East Tongariro**	**20.21**	**200**	P	**P**	**21 25 45.5**	**+0.5**
TWVZ	**Taurewa**	**20.24**	**201**	P	**P**	**21 25 46.4**	**+1.1**
NGZ	**Ngauruhoe**	**20.28**	**200**	P	**P**	**21 25 46.8**	**+0.9**
CKHZ	**Cape Kidnapper**	**20.29**	**196**	P	Pn	21 25 48.5	-2.3
FWVZ	**Far West T-bar**	**20.37**	**200**	P	**P**	**21 25 46.2**	**-0.6**
MAVZ	**Matarangi**	**20.38**	**200**	P	**P**	**21 25 47.2**	**+0.2**
WHVZ	**Whangaehu Hut**	**20.38**	**200**	P	**P**	**21 25 46.3**	**-0.7**
WNVZ	**Wahianoa**	**20.42**	**200**	P	**P**	**21 25 46.4**	**-0.9**
MOVZ	**Moawhango**	**20.44**	**199**	P	**P**	**21 25 47.1**	**-0.4**
PKVZ	**Pokaka**	**20.47**	**200**	P	**P**	**21 25 46.9**	**-0.8**
KAHZ	**Kahuranaki**	**20.47**	**197**	P	**P**	**21 25 48.4**	**+0.7**
KRHZ	**Kereru**	**20.48**	**198**	P	**P**	**21 25 46.8**	**-1.0**
PXZ	**Pawanui**	**20.70**	**197**	P	**P**	**21 25 50.8**	**+0.8**
PNHZ	**Pukenui**	**20.77**	**198**	P	**P**	**21 25 49.0**	**-1.9**
BFZ	**Birch Farm**	**21.47**	**197**	P	**P**	**21 25 59.2**	**+1.1**
BFZ	**Birch Farm**	**21.47**	**197**	S	**S**	**21 29 40.7**	**-1.3**
SNZO	**South Karori**	**22.51**	**199**	P	**P**	**21 26 07.7**	**-0.2**
SNZO	**South Karori**	**22.51**	**199**	S	**S**	**21 29 59.2**	**+0.8**
QRZ	**Quartz Range**	**22.82**	**204**	P	**P**	**21 26 11.6**	**+0.8**
QRZ	**Quartz Range**	**22.82**	**204**	S	**S**	**21 30 04.4**	**+0.7**
KHZ	**Kahutara**	**23.88**	**200**	P	**P**	**21 26 20.9**	**+0.6**
KHZ	**Kahutara**	**23.88**	**200**	S	**S**	**21 30 20.3**	**-0.1**
TARA	**Tarawa**	**24.28**	**331**	P	**P**	**21 26 22.4**	**-1.9**
LHI	**Lord Howe Isla**	**25.32**	**239**	P	**P**	**21 26 34.5**	**+1.0**
	comp=Z,97nm,1.8s						
LHI	**Lord Howe Isla**	**25.32**	**239**	P	**P**	**21 26 34.5**	**+1.0**
LHI				IAmb	IAmb	21 26 35.7	
	comp=Z,96nm,1.0s						
ALEG	**Aligegeo Malai**	**25.61**	**293**	P	**P**	**21 26 34.8**	**-1.5**
RPZ	**Rata Peaks**	**25.87**	**203**	P	**P**	**21 26 38.6**	**+0.2**
RPZ	**Rata Peaks**	**25.87**	**203**	P	**P**	**21 26 40.0**	**+1.6**
HNR	**Honiara**	**25.94**	**291**	P	**P**	**21 26 38.0**	**-1.2**
HNR	**Honiara**	**25.94**	**291**	P	**P**	**21 26 38.1**	**-1.2**
HNR				pmax	pmax		
	comp=Z,438nm,1.2s						
SAVO	**Savo Central**	**26.19**	**291**	P	**P**	**21 26 42.3**	**+0.8**
TATA	**Tatamba Isabel**	**26.56**	**293**	P	**P**	**21 26 43.1**	**-1.7**
JCZ	**Jackson Bay**	**27.04**	**205**	P	**P**	**21 26 48.7**	**-0.2**
ODZ	**Otahua Downs**	**27.18**	**202**	P	**P**	**21 26 50.2**	**+0.3**
GC1S	**Gold Coast 1 S**	**29.17**	**248**	P	**P**	**21 27 08.7**	**+0.9**
TW1H	**Toowoomba 1 Ha**	**30.44**	**250**	P	**P**	**21 27 20.1**	**+1.0**
EIDS	**Eidsvold**	**31.06**	**254**	P	**P**	**21 27 24.4**	**-0.2**
	comp=Z,85nm,1.5s						
EIDS	**Eidsvold**	**31.06**	**254**	P	**P**	**21 27 24.6**	**0.0**
EIDS				IAmb	IAmb	21 27 26.4	
	comp=Z,72nm,1.1s						
EIDS	**Eidsvold**	**31.06**	**254**	P	**P**	**21 27 24.8**	**+0.2**
ARMA	**Armidale**	**31.18**	**245**	P	**P**	**21 27 26.0**	**+0.4**
	comp=Z,116nm,0.9s						
ARMA	**Armidale**	**31.18**	**245**	P	**P**	**21 27 26.0**	**+0.4**
ARMA				IAmb	IAmb	21 27 27.3	
	comp=Z,82nm,0.8s						
ARMA	**Armidale**	**31.18**	**245**	P	**P**	**21 27 26.1**	**+0.5**
NTLH	**Newcastle Hard**	**31.68**	**240**	P	**P**	**21 27 30.5**	**+0.7**
MGCD	**Mangrove Creek**	**32.24**	**240**	P	**P**	**21 27 34.9**	**+0.2**
	comp=Z,155nm,0.7s						
MGCD	**Mangrove Creek**	**32.24**	**240**	P	**P**	**21 27 35.6**	**+0.9**
RIV	**Riverview**	**32.37**	**238**	P	**P**	**21 27 36.2**	**+0.4**
	comp=Z,99nm,1.0s						
RIV	**Riverview**	**32.37**	**238**	P	**P**	**21 27 37.3**	**+1.5**
SYDH	**Sydney Hard Ro**	**32.68**	**239**	P	**P**	**21 27 38.6**	**+0.1**
CNB	**Canberra Magne**	**34.20**	**237**	P	**P**	**21 27 51.8**	**0.0**
	comp=Z,205nm,0.8s						
CNB	**Canberra Magne**	**34.20**	**237**	P	**P**	**21 27 52.0**	**+0.2**
CAN	**Canberra**	**34.49**	**237**	P	**P**	**21 27 54.2**	**0.0**
	comp=Z,170nm,1.2s						
CAN	**Canberra**	**34.

KIP Kipapa 44.89 24 P P 21 29 20.3 +0.5
JAY Jayapura 46.12 287 P P 21 29 29.6 -0.2
comp=Z,657nm,0.6s,baz=146,slow=3.3,SNR=600
JAY S S 21 35 59.6 +0.1
comp=Z,16nm,1.0s,baz=89,slow=22,SNR=10
JAY Jayapura 46.12 287 P P 21 29 29.8 0.0
GENI Genyem 46.57 286 P P 21 29 33.5 +0.3
GENI Genyem 46.57 286 P P 21 29 33.8 +0.6
WR0 Warramunga Arr 46.66 261 P P 21 29 32.7 -1.2
AS17 Alice Springs 46.67 256 P P 21 29 32.8 -1.1
comp=Z,266nm,0.9s
AS01 Alice Springs 46.71 256 P P 21 29 33.2 -1.0
AS31 Alice Springs 46.75 256 P P 21 29 33.3 -1.3
comp=Z,54nm,0.9s
AS31 Alice Springs 46.75 256 P P 21 29 33.6 -0.9
AS31 PcP PcP 21 31 04.6 +0.3
ASAR Alice Springs 46.75 256 P P 21 29 33.2 -1.3
comp=Z,190nm,0.9s,baz=86,slow=8.3,SNR=469
ASAR PcP PcP 21 31 04.5 +0.1
comp=Z,56nm,0.7s,baz=102,slow=3.9,SNR=20
ASAR S S 21 36 04.6 -3.6
comp=Z,7.5nm,0.9s,baz=92,slow=15,SNR=12
ASAR PKiKP PKiKP 21 37 56.9 -1.2
comp=Z,0.6nm,0.5s,baz=95,slow=1.1,SNR=4.7
ASAR ScS ScS 21 39 08.8 +2.0
comp=Z,0.7nm,0.9s,baz=72,slow=6.9,SNR=4.4
comp=Z,190nm,0.9s
WB0 Warramunga Arr 46.83 262 P P 21 29 33.6 -1.5
WB0 IAmb IAmb 21 29 35.0
comp=Z,117nm,0.6s
WRAB Tennant Creek 46.84 261 *c iP P 21 29 33.8 -1.5
WRAB pmax pmax
comp=Z,214nm,1.3s
WRA Warramunga Arr 46.85 261 P P 21 29 33.4 -2.0
WRA PcP PcP 21 31 05.2 +0.5
WRA Warramunga Arr 46.85 261 P P 21 29 33.4 -2.0
comp=Z,38nm,0.3s,baz=96,slow=7.4,SNR=777
WRA PcP PcP 21 31 04.8 +0.1
comp=Z,35nm,0.8s,baz=93,slow=3.7,SNR=14
WRA S S 21 36 04.8 -4.9
comp=Z,5.1nm,0.9s,baz=97,slow=14,SNR=7.7
WRA PKiKP PKiKP 21 37 57.3 -0.9
comp=Z,0.8nm,0.6s,baz=76,slow=0.8,SNR=2.2
comp=Z,38nm,0.3s
SMPI Sarmi 48.15 286 P P 21 29 45.3 0.0
comp=Z,4μmcomp=Z,414nm,1.0s
KDU Kakadu 50.19 270 P P 21 29 59.4 -1.4
comp=Z,119nm,1.1s
KDU Kakadu 50.19 270 P P 21 29 59.5 -1.3
SRPI Serui, Papua 50.43 285 P P 21 30 02.5 -0.1
comp=Z,161nm,1.5s
BAKI Biak 50.84 286 P P 21 30 07.2 +1.6
comp=Z,4μmcomp=Z,373nm,1.0s
MTN Manton Dam 51.41 270 P P 21 30 08.3 -1.5
comp=Z,174nm,0.7s
MTN Manton Dam 51.41 270 P P 21 30 08.3 -1.5
MTN Manton Dam 51.41 270 P P 21 30 08.5 -1.4
GUMO Guam 51.43 308 P P 21 30 08.4 -1.5
GUMO Guam 51.43 308 P P 21 30 10.1 +0.2
GUMO Guam 51.43 308 P P 21 30 08.4 -1.5
GUMO pmax pmax
comp=Z,389nm,1.0s
WRKA Warakurna 51.68 254 P P 21 30 10.2 -1.6
comp=Z,76nm,1.0s
DRS Darwin Rock St 51.74 270 P P 21 30 11.4 -0.9
RKPI Ransiki, Papua 52.45 284 P P 21 30 17.4 -0.2
comp=Z,3μmcomp=Z,95nm,1.1s
KNRA Kununurra 52.91 265 P P 21 30 20.0 -0.9
comp=Z,167nm,1.2s
KNRA Kununurra 52.91 265 P P 21 30 20.1 -0.9
KNRA IAmb IAmb 21 30 21.4
comp=Z,108nm,0.8s
FAKI Fak Fak 53.65 282 P P 21 30 25.3 -1.0
FAKI IAmb IAmb 21 30 28.1
comp=Z,129nm,1.2s
FAKI Fak Fak 53.65 282 P P 21 30 25.4 -0.9
FAKI Fak Fak 53.65 282 P P 21 30 25.4 -0.9
comp=Z,2μmcomp=Z,107nm,1.0s
DRV Dumont d'Urvil 54.30 200 P P 21 30 31.4 +1.2
DRV pP pP 21 31 19.0 +2.0
FITZ Fitzroy Crossi 55.28 262 P P 21 30 37.0 -0.9
comp=Z,28nm,1.9s
FITZ Fitzroy Crossi 55.28 262 P P 21 30 37.2 -0.8
FITZ Fitzroy Crossi 55.28 262 P P 21 30 37.2 -0.8
SWI Sorong 55.37 284 P P 21 30 38.6 -0.1
MSAI Masohi 56.55 280 P P 21 30 46.9 -0.2
comp=Z,5μmcomp=Z,200nm,0.6s
AAI Ambon 57.10 279 P P 21 30 50.3 -0.6
comp=Z,2μmcomp=Z,147nm,0.6s
SBA Scott Base 58.23 184 P P 21 31 00.2 +2.5
SBA Scott Base 58.23 184 P P 21 31 00.2 +2.5
SBA pmax pmax
comp=Z,32nm,1.0s
NLAI Namlea 58.28 279 P P 21 30 58.6 -0.5
comp=Z,2μmcomp=Z,197nm,1.1s
VNDA Vanda 58.32 186 P P 21 31 00.8 +2.4
VNDA Vanda 58.32 186 P P 21 31 01.0 +2.6
comp=Z,9.5nm,0.8s,baz=4.6,slow=6.8,SNR=50
VNDA PcP pP 21 31 49.0 +2.8
comp=Z,5.3nm,0.8s,baz=344,slow=4.7,SNR=5.3
comp=Z,9.5nm,0.8s
VNDA Vanda 58.32 186 P P 21 31 01.0 +2.6
VNDA 21 31 49.0
VNDA Vanda 58.32 186 P P 21 31 00.9 +2.6
VNDA pP pP 21 31 49.0 +2.8
SOEI Soe 58.74 271 P P 21 31 03.0 +0.5
SOEI Soe 58.74 271 P P 21 31 03.1 +0.6
SOEI Soe 58.74 271 P P 21 31 03.6 +1.1
BATI Baumata 59.17 270 P P 21 31 04.1 -1.2
comp=Z,2μmcomp=Z,268nm,0.8s
TNTI Ternate 59.59 283 P P 21 31 07.5 -0.6
TNTI Ternate 59.59 283 P P 21 31 07.9 -0.2
TNTI Ternate 59.59 283 P P 21 31 07.9 -0.2
comp=Z,2μmcomp=Z,164nm,1.1s
SANI Sanana 59.76 280 P P 21 31 08.5 -0.8
SANI Sanana 59.76 280 P P 21 31 08.5 -0.8
comp=Z,2μmcomp=Z,135nm,1.0s
PSAC2 Pilbara Seismi 59.85 256 P P 21 31 08.3 -1.5
comp=Z,133nm,1.1s
PSAB3 Pilbara Seismi 59.89 256 P P 21 31 08.6 -1.5
comp=Z,153nm,1.1s
PSA00 Pilbara Seismi 59.90 256 P P 21 31 09.0 -1.2
PSA00 IAmb IAmb 21 31 10.9
comp=Z,116nm,1.0s
PSA00 Pilbara Seismi 59.90 256 P P 21 31 08.8 -1.4
PSA00 IAmb IAmb 21 31 10.9
comp=Z,73nm,1.1s
PSA00 Pilbara Seismi 59.90 256 P P 21 31 08.8 -1.4
MBWA Marble Bar 60.09 257 P P 21 31 09.6 -1.9
comp=Z,126nm,1.2s
MBWA Marble Bar 60.09 257 P P 21 31 10.2 -1.2
MBWA IAmb IAmb 21 31 12.1
comp=Z,104nm,1.0s
MBWA Marble Bar 60.09 257 P P 21 31 10.0 -1.4
MBWA Marble Bar 60.09 257 P P 21 31 09.8 -1.6
MBWA PcP PcP 21 31 55.1 0.0
MBWA pP pP 21 31 59.6 +0.4
MBWA sP sP 21 32 24.0 +1.7
MBWA PP PP 21 33 25.6 -0.9
MEEK Meekatharra 60.10 250 P P 21 31 09.6 -1.9
comp=Z,46nm,0.8s
MEEK Meekatharra 60.10 250 P P 21 31 09.9 -1.6
KLBR Kellerberrin 60.17 245 P P 21 31 10.6 -1.3
comp=Z,283nm,0.8s
KLBR Kellerberrin 60.17 245 P P 21 31 10.8 -1.1
NWAO Narrogin (SRO) 60.46 243 P P 21 31 12.7 -1.1
comp=Z,68nm,1.1s
NWAO Narrogin (SRO) 60.46 243 P P 21 31 12.8 -1.1
NWAO Narrogin (SRO) 60.46 243 P P 21 31 12.9 -0.9
NWAO Narrogin (SRO) 60.46 243 P P 21 31 12.7 -1.1
NWAO Narrogin (SRO) 60.46 243 P P 21 31 12.8 -1.1
NWAO pmax pmax
comp=Z,34nm,0.9s
RKGY Rocky Gully 60.51 241 P P 21 31 13.4 -0.7
comp=Z,100nm,1.1s
MMRI Maumere 60.99 271 P P 21 31 16.6 -1.1
MMRI Maumere 60.99 271 P P 21 31 16.8 -0.8
MMRI Maumere 60.99 271 P P 21 31 17.1 -0.5
comp=Z,3μmcomp=Z,313nm,0.9s
BLDU Ballidu 61.18 246 P P 21 31 17.3 -1.4
comp=Z,74nm,0.8s
BLDU Ballidu 61.18 246 P P 21 31 17.5 -1.2
MUN Mundaring 61.43 244 P P 21 31 19.5 -0.8
comp=Z,97nm,1.0s
MUN Mundaring 61.43 244 P P 21 31 19.8 -0.6

EDFI Ende, Flores 61.47 271 P P 21 31 20.1 -0.9
comp=Z,2μmcomp=Z,241nm,0.9s
BBSI Bau Bau 61.71 275 P P 21 31 23.0 +0.6
comp=Z,109nm,1.0s
MTKN Mount Kenneth 61.80 244 P P 21 31 24.3 +1.5
MORW Morawa 61.98 247 P P 21 31 22.6 -1.5
comp=Z,69nm,1.3s
MORW Morawa 61.98 247 P P 21 31 22.9 -1.2
MORW IAmb IAmb 21 31 23.8
comp=Z,41nm,0.7s
MORW Morawa 61.98 247 P P 21 31 23.1 -0.9
BASI Baing, Sumba 62.06 269 P P 21 31 25.0 +0.2
SGSI Sangihe 62.47 286 P P 21 31 26.8 -0.6
WSI Waingapu 62.49 269 P P 21 31 27.1 -0.5
KMSI Cibinong 62.62 282 P P 21 31 28.4 0.0
comp=Z,200nm,1.0s
H01W1 Cape Leeuwin H 62.79 240 P P 21 31 29.9 +0.9
baz=114,slow=7.0,SNR=16
H01W2 Cape Leeuwin H 62.81 240 P P 21 31 30.1 +1.0
baz=114,slow=7.0,SNR=11
H01W3 Cape Leeuwin H 62.81 240 P P 21 31 29.9 +0.8
baz=114,slow=7.0,SNR=16
LUWI Luwuk 63.11 279 P P 21 31 31.5 -0.3
LUWI Luwuk 63.11 279 P P 21 31 32.1 +0.4
LUWI Luwuk 63.11 279 P P 21 31 31.3 -0.4
comp=Z,3μmcomp=Z,225nm,1.4s
CCD Concordia, Ant 63.22 195 P P 21 31 33.5 +1.5
CCD pP pwP 21 32 23.2 +0.2
WBSI Waikabubak, Su 63.35 269 P P 21 31 33.5 +0.1
comp=Z,2μmcomp=Z,139nm,0.9s
BNSI Bau Bau, Buton 63.44 273 P P 21 31 33.2 -0.7
comp=Z,2μmcomp=Z,142nm,1.2s
DAV Davao City (W) 63.88 289 P P 21 31 36.3 -0.4
BKSI Bulukumba 64.06 274 P P 21 31 36.7 -1.2
comp=Z,1μmcomp=Z,56nm,0.6s
APSI Ampana 64.20 279 P P 21 31 39.7 +0.9
comp=Z,2μmcomp=Z,176nm,1.1s
BNSI Bone 64.39 275 P P 21 31 39.5 -0.5
comp=Z,2μmcomp=Z,206nm,1.2s
MRSI Marisa 64.46 281 P P 21 31 39.8 -0.7
comp=Z,66nm,1.1s
KAPI Kappang 64.51 274 P P 21 31 40.2 -0.6
KAPI Kappang 64.51 274 P P 21 31 40.6 -0.2
KAPI Kappang 64.51 274 *c iP P 21 31 39.7 -1.1
KAPI pmax pmax
comp=Z,139nm,1.7s
KAPI Kappang 64.51 274 P P 21 31 39.7 -1.1
GIRL Giralia 64.77 254 P P 21 31 42.0 -0.4
comp=Z,93nm,1.5s
SPSI Sidrap Palu 64.85 275 P P 21 31 41.6 -1.4
comp=Z,112nm,0.9s
CASY Casey 65.10 205 P P 21 31 44.9 +1.2
CASY IAmb IAmb 21 31 46.5
comp=Z,90nm,0.9s
CASY Casey 65.10 205 P P 21 31 45.0 +1.2
CASY pP pwP 21 32 35.3 0.0
PLAI Plampang 65.12 270 P P 21 31 43.7 -1.1
PLAI Plampang 65.12 270 P P 21 31 43.6 -1.2
TTSI Tana Toraja 65.13 276 P P 21 31 44.4 -0.4
comp=Z,43nm,0.7s
TOLI2 Tolitoli 65.77 281 P P 21 31 48.5 -0.4
TOLI2 IAmb IAmb 21 31 49.5
comp=Z,104nm,0.9s
TOLI2 Tolitoli 65.77 281 P P 21 31 48.4 -0.5
PCI Palu 65.88 278 P P 21 31 50.6 +0.9
DNP Denpasar 67.58 269 P P 21 32 00.4 +0.1
SRBI Singaraja 67.76 269 P P 21 32 00.3 -1.2
comp=Z,3μmcomp=Z,231nm,0.9s
JHJ2 Mitsune 68.06 321 P P 21 32 02.5 -0.4
JHJ Hachijo jima 2 68.09 321 P P 21 32 02.6 -0.5
comp=Z,134nm,0.4s,baz=18,slow=9.6,SNR=12
comp=Z,134nm,0.4s
SMKI Samarinda 68.49 278 P P 21 32 08.4 +2.3
comp=Z,6μmcomp=Z,226nm,1.1s
JAGI Jajag, Banyuwa 68.63 269 P P 21 32 05.4 -1.5
JAGI Jajag, Banyuwa 68.63 269 P P 21 32 05.3 -1.6
JAGI Jajag, Banyuwa 68.63 269 P P 21 32 05.1 -1.9
comp=Z,234nm,0.8s
KMMI Kalianget 69.26 270 P P 21 32 10.4 -0.4
comp=Z,195nm,0.9s
GMJI Gumukmas 69.36 269 P P 21 32 10.3 -1.1
comp=Z,105nm,0.9s
MYLDM Lahad Datu 69.46 284 P P 21 32 13.0 +1.0
MYLDM IAmb IAmb 21 32 34.7
comp=Z,72nm,0.9s
MYLDM Lahad Datu 69.46 284 P P 21 32 13.4 +1.4
QSPA South Pole Qui 69.77 180 P P 21 32 15.6 +2.5
QSPA IAmb IAmb 21 32 17.6
comp=Z,51nm,0.8s
QSPA South Pole Qui 69.77 180 P P 21 32 16.0 +2.8
comp=Z,44nm,0.8s,baz=353,slow=0.4,SNR=177
QSPA S S 21 41 10.6 +6.0
comp=Z,1.9nm,1.1s,baz=190,slow=22,SNR=9.1
comp=Z,44nm,0.8s
QSPA South Pole Qui 69.77 180 P P 21 32 16.4 +3.2
QSPA pP pP 21 33 06.5 +3.6
JSG Sagara 70.12 321 P P 21 32 15.2 -0.4
JMM Marumori 70.91 325 P P 21 32 19.8 -0.4
JMM Marumori 70.91 325 P P 21 32 20.2 0.0
JGF Kuroka 71.25 321 P P 21 32 21.9 -0.6
JGF Kuroka 71.25 321 P P 21 32 22.1 -0.3
INU Inuyama 71.28 321 P P 21 32 21.8 -0.8
INU Inuyama 71.28 321 P P 21 32 23.3 +0.8
MJAR Matsushiro Arr 71.41 322 P P 21 32 22.4 -1.0
MJAR IAmb IAmb 21 32 23.4
comp=Z,31nm,0.7s
MJAR Matsushiro Arr 71.41 322 P P 21 32 22.2 -1.0
comp=Z,27nm,0.6s,baz=156,slow=6.0,SNR=119
MJAR PcP PcP 21 32 42.3 +0.7
comp=Z,17nm,0.8s,baz=158,slow=4.0,SNR=9.4
comp=Z,27nm,0.6s
MJAR Matsushiro Arr 71.41 322 P P 21 32 22.4 -1.0
MJAR pmax pmax
comp=Z,31nm,0.7s
MAJO Matsushiro 71.41 322 P P 21 32 22.4 -0.9
MAJO IAmb IAmb 21 32 23.5
comp=Z,48nm,0.6s
MAJO Matsushiro 71.41 322 P P 21 32 22.6 -0.7
MAJO Matsushiro 71.41 322 ↑ *c iP P 21 32 22.6 -0.7
MAJO pmax pmax
comp=Z,37nm,0.6s
MAJO Matsushiro 71.41 322 P P 21 32 22.5 -0.9
MAJO PcP PcP 21 32 42.7 +1.1
MJB9 Matsu-Tunnel 71.41 322 P P 21 32 23.3 -0.1
MJB9 IAmb IAmb 21 32 24.4
comp=Z,45nm,0.6s
AMKA Amchitka 71.51 357 P P 21 32 22.9 -0.6
NGJI Ngawi 71.51 269 P P 21 32 24.8 +0.4
comp=Z,128nm,0.8s
PCJI Pacitan 71.51 268 P P 21 32 23.9 -0.5
JOW Kunigami 71.78 309 P P 21 32 25.2 -0.5
JOW IAmb IAmb 21 32 27.4
comp=Z,64nm,1.0s
JOW Kunigami 71.78 309 P P 21 32 25.4 -0.3
comp=Z,41nm,0.8s,baz=122,slow=5.7,SNR=7.0
comp=Z,41nm,0.8s
JOW Kunigami 71.78 309 P P 21 32 26.2 +0.5
KIWB Kanaga Island 71.86 359 P P 21 32 25.0 -0.6
KIWB IAmb IAmb 21 32 26.7
comp=Z,132nm,1.0s
WOJI Wonogiri, Jawa 71.86 268 P P 21 32 26.0 -0.5
comp=Z,283nm,1.1s
ADK Adak 71.88 359 P P 21 32 24.7 -1.0
ADK Adak 71.88 359 P P 21 32 25.2 -0.5
ADK Adak 71.88 359 P P 21 32 24.7 -1.0
ADK pmax pmax
comp=Z,231nm,1.4s
ADK Adak 71.88 359 P P 21 32 24.6 -1.0
ADK PcP PcP 21 32 43.5 +0.4
KKM Kota Kinabalu 71.89 284 P P 21 32 25.9 -0.8
KKM IAmb IAmb 21 32 27.2
comp=Z,74nm,0.6s
KKM Kota Kinabalu 71.89 284 P P 21 32 26.4 -0.4
GSTR Great Sitkin T 72.08 360 P P 21 32 26.1 -0.8
JMN Monobe 72.13 317 P P 21 32 27.9 +0.1
JMN IAmb IAmb 21 32 29.4
comp=Z,112nm,1.1s
JMN Monobe 72.13 317 P P 21 32 28.1 +0.4
ATKA Atka Island 72.20 1 P P 21 32 27.1 -0.5
ATKA Atka Island 72.20 1 P P 21 32 27.0 -0.5
UGM Wanagama 72.21 268 P P 21 32 28.0 -0.7
JSD Sado 72.42 323 P P 21 32 29.3 0.0
SMRI Semarang 72.57 269 P P 21 32 30.4 -0.4
SMRI Semarang 72.57 269 P P 21 32 31.1 +0.4
SMRI Semarang 72.57 269 P P 21 32 30.2 -0.5
comp=Z,230nm,0.9s
JTM Tenmabayashi 72.90 327 P P 21 32 31.8 -0.2
JTM IAmb IAmb 21 32 50.9
comp=Z,74nm,1.2s
NIKH Nikolski High 73.20 4 P P 21 32 32.7 -0.8
NIKH Nikolski High 73.20 4 P P 21 32 33.3 -0.2
NIKH Nikolski High 73.20 4 P P 21 32 32.6 -0.8
baz=187
SMY Shemya 73.27 353 P P 21 32 33.8 -0.1
SMY Shemya 73.27 353 P P 21 32 33.5 -0.4
SMY pmax pmax
comp=Z,177nm,1.1s
JNU Nakatsue 73.69 315 P P 21 32 36.3 -0.6
JNU IAmb IAmb 21 32 37.7
comp=Z,52nm,1.0s
JNU Nakatsue 73.69 315 P P 21 32 36.1 -0.8
comp=Z,28nm,0.8s,baz=95,slow=5.4,SNR=17
comp=Z,28nm,0.8s
JNU Nakatsue 73.69 315 P P 21 32 36.3 -0.6
KPJI Karang Pucung 73.89 268 P P 21 32 38.4 0.0
comp=Z,155nm,1.0s
STKI Sintang 74.02 276 P P 21 32 39.6 +0.4
comp=Z,172nm,0.9s
SBUM Sibu 74.19 279 P P 21 32 40.2 0.0
SBUM Sibu 74.19 279 P P 21 32 40.8 +0.6
UNV Unalaska Valle 74.25 6 P P 21 32 38.7 -0.9
baz=189
YOJ Yonaguni jima 74.48 304 P P 21 32 40.7 -0.8
YOJ Yonaguni jima 74.48 304 P P 21 32 40.7 -0.8
YOJ pmax pmax
comp=Z,356nm,1.2s
JKA Kamikawa-asahi 74.65 330 P P 21 32 43.0 +0.9
JKA IAmb IAmb 21 32 44.1
comp=Z,47nm,0.6s
ASAJ Asahikawa 74.65 330 P P 21 32 43.0 +0.9
ASAJ pmax pmax
comp=Z,47nm,0.6s
BBJI Bungbulang 75.05 267 P P 21 32 44.2 -1.0
YULB Yu-li 75.28 302 P P 21 32 44.7 -1.5
YULB IAmb IAmb 21 32 45.3
comp=Z,184nm,1.5s
NACB Ninganchiao 75.44 303 P P 21 32 47.3 +0.2
FALS False Pass 75.58 7 P P 21 32 46.4 -0.7
baz=192
CNJI Cibinong 75.59 267 P P 21 32 47.3 -0.9
comp=Z,1μmcomp=Z,113nm,1.7s
KSM Kuching 75.61 277 P P 21 32 48.2 -0.1
KSM Kuching 75.61 277 P P 21 32 48.5 +0.2
SSLB Suanglung 75.75 302 P P 21 32 47.4 -1.5
TPUB Ta-pu 75.77 302 P P 21 32 47.2 -1.7
TPUB Ta-pu 75.77 302 P P 21 32 47.3 -1.7
YHNB Yeheng 75.86 303 P P 21 32 48.8 -0.7
TATO Taipei 75.93 304 P P 21 32 49.2 -0.6
CNBA Chernabura Isl 76.06 9 P P 21 32 49.1 -0.8
CNBA IAmb IAmb 21 32 50.8
comp=Z,76nm,1.2s
CHNA Chernabura Isl 76.07 9 P P 21 32 49.1 -0.8
CHNA Chernabura Isl 76.07 9 P P 21 32 49.3 -0.6
baz=195,SNR=5.8
DBJI Dramaga 76.19 268 P P 21 32 50.8 -0.8
comp=Z,4μmcomp=Z,299nm,1.0s
PET Petropavlovsk 76.36 344 P P 21 32 51.0 -0.6
PET Petropavlovsk 76.36 344 *eP P 21 32 50.8 -0.7
PET *ePP pP 21 33 40.7 -0.9
PET *eSP sP 21 34 00.4 -3.5
PET *eS S 21 42 19.8 +1.4
PET pmax pmax
comp=Z,52nm,0.7s
PET pmax pmax
comp=Z,400nm,5.0s
PET pmax pmax
comp=Z,200nm,8.8s
PET Petropavlovsk 76.36 344 P P 21 32 50.8 -0.7
comp=Z,1μmcomp=Z,58nm,1.0s
SAO San Andreas Ge 76.36 42 P P 21 32 53.1 +1.1
SAO IAmb IAmb 21 32 54.7
comp=Z,56nm,0.9s
SAO San Andreas Ge 76.36 42 P P 21 32 53.1 +1.1
SAO pmax pmax
comp=Z,56nm,1.0s
PMPB Monarch Peak 76.43 43 P P 21 32 53.6 +1.1
PMPB IAmb IAmb 21 32 55.5
comp=Z,118nm,1.3s
SDPT Sand Point 76.44 9 P P 21 32 51.1 -0.9
SDPT IAmb IAmb 21 32 52.6
comp=Z,166nm,1.3s
SDPT Sand Point 76.44 9 P P 21 32 51.0 -1.0
SDPT Sand Point 76.44 9 P P 21 32 51.4 -0.6
baz=195,SNR=8.8
S12K Black Hills 76.57 8 P P 21 32 52.1 -0.6
baz=193,SNR=5.6
TPI Tanjungpandan 76.61 272 P P 21 32 53.0 -1.0
comp=Z,1μmcomp=Z,117nm,0.9s
PEA0B Petropavlovsk- 76.68 344 P P 21 32 53.0 -0.4
PEA0B Petropavlovsk- 76.68 344 *c iP P 21 32 53.6 +0.2
PETK Petropavlovsk- 76.68 344 P P 21 32 52.7 -0.7
PETK Petropavlovsk- 76.68 344 P P 21 32 52.5 -0.9
comp=Z,62nm,0.7s,baz=120,slow=7.5,SNR=83
PETK PKiKP PKiKP 21 38 34.7 -0.2
comp=Z,0.9nm,0.5s,baz=210,slow=34,SNR=1.7
comp=Z,62nm,0.7s
PETK Petropavlovsk- 76.68 344 P P 21 32 52.7 -0.7
YSS Yuzhno-Sakhali 76.75 332 P P 21 32 54.3 +0.5
YSS Yuzhno-Sakhali 76.75 332 P P 21 32 55.2 +1.3
YSS Yuzhno-Sakhali 76.75 332 *eP P 21 32 55.0 +1.1
YSS *eS S 21 42 25.7 +2.8
YSS *eSS SS 21 47 25.7 +1.4
YSS pmax pmax
comp=Z,210nm,0.9s
YSS pmax pmax
comp=Z,700nm,4.7s
YSS pmax pmax
comp=E,500nm,4.9s
P08K Saint George I 76.77 3 P P 21 32 53.4 -0.3
baz=186
CBX Cerro Bola 76.91 48 P P 21 32 56.0 +0.7
CBX IAmb IAmb 21 32 58.0
comp=Z,109nm,1.5s
SBJI Serang 76.92 268 P P 21 32 55.1 -0.5
comp=Z,5μmcomp=Z,391nm,1.3s
MWC Mount Wilson 77.04 46 P P 21 32 56.4 +0.3
MWC IAmb IAmb 21 32 58.5
comp=Z,69nm,1.2s
MWC Mount Wilson 77.04 46 P P 21 32 56.4 +0.3
MWC pmax pmax
comp=Z,69nm,1.3s
CGJI Cibinong 77.17 268 P P 21 32 56.0 -1.0
comp=Z,2μmcomp=Z,278nm,1.1s
SPIA Saint Paul Isl 77.31 3 P P 21 32 56.5 -0.2
baz=185
S14K Fog Glacier 77.48 9 P P 21 32 57.9 0.0
baz=195
CHGN Chignik 77.67 10 P P 21 32 58.5 -0.3
baz=196
CHIR Chirikof Islan 77.70 11 P P 21 32 58.9 0.0
baz=199
PFO Pinyon Flats O 77.78 47 P P 21 33 01.4 +1.3
PFO Pinyon Flats O 77.78 47 P P 21 33 01.4 +1.3
PFO pmax pmax
comp=Z,50nm,1.2s
TJN Taejon 77.96 316 P P 21 33 01.1 +0.2
TJN IAmb IAmb 21 33 04.8
comp=Z,120nm,1.0s
TJN Taejon 77.96 316 P P 21 33 02.2 +1.3
TJN Taejon 77.96 316 P P 21 33 01.1 +0.2
TJN pmax pmax
comp=Z,120nm,1.0s
QZH Quanzhou 78.19 302 P P 21 33 02.8 +0.4
QZH pmax pmax
comp=Z,170nm,1.0s
KSRS Korea Array 78.25 317 P P 21 33 02.9 +0.4
comp=Z,8.1nm,0.6s,baz=129,slow=6.6,SNR=55
comp=Z,8.1nm,0.6s
KSAR Wonju Array Be 78.26 317 P P 21 33 02.4 -0.1
KSAR Wonju Array Be 78.26 317 P P 21 33 02.4 -0.1
KS19 Wonju Array Si 78.31 317 P P 21 33 02.7 -0.1
L02F Cave Junction 78.51 37 P P 21 33 03.9 0.0
KLI Kotabumi 78.53 269 P P 21 33 03.7 -0.9
comp=Z,154nm,1.0s
KASI Kota Agung 78.65 268 P P 21 33 04.1 -1.1
comp=Z,199nm,1.0s
SII Sitkinak Islan 78.66 12 P P 21 33 04.5 +0.3
SII IAmb IAmb 21 33 05.8
comp=Z,154nm,1.3s
SII Sitkinak Islan 78.66 12 P P 21 33 04.2 -0.1

SII Sitkinak Islan 78.66 12 P P 21 33 04.6 +0.3
baz=200

WAKR Walker 78.69 42 P P 21 33 06.0 +0.9
WAKR IAmb IAmb 21 33 07.9
comp=Z,74nm,0.9s

R16K Pilot Point 79.02 10 P P 21 33 06.3 +0.1
baz=197

INCN Inchon 79.09 317 P P 21 33 07.2 +0.1
INCN IAmb IAmb 21 33 10.6
comp=Z,77nm,1.4s

INCN Inchon 79.09 317 P P 21 33 07.2 +0.1

INCN Inchon 79.09 317 P P 21 33 07.2 +0.1
INCN pmax pmax
comp=Z,77nm,1.4s

113A Mohawk Valley, 79.20 49 P P 21 33 08.7 +1.0

LWLI Liwa 79.23 269 P P 21 33 07.4 -1.1

PMBI Palembang 79.26 271 P P 21 33 09.0 +0.5

PMBI Palembang 79.26 271 P P 21 33 09.3 +0.8

R17L Mt. Peulik Vol 79.28 10 P P 21 33 07.8 +0.1
baz=198

MDSI Maura Dua 79.29 269 P P 21 33 07.1 -1.6
comp=Z,143nm,1.0s

HSIG 79.31 54 P P 21 33 08.4 -0.1

NVAR Mina Array Bea 79.35 42 P P 21 33 09.6 +0.8

NVAR Mina Array Bea 79.35 42 P P 21 33 09.8 +1.0
comp=Z,30nm,0.7s,baz=224,slow=8.8,SNR=183
comp=Z,30nm,0.7s

VLA Vladivostok 79.43 324*d i* P P 21 33 09.7 +1.0
VLA pmax pmax
comp=Z,70nm,1.2s

BELA Belgrano 2 79.46 172 P P 21 33 09.2 +0.7

OHAK Old Harbor 79.46 12 P P 21 33 08.5 0.0

OHAK Old Harbor 79.46 12 P P 21 33 09.0 +0.5
baz=201

BBOR Butler Butte 79.51 37 P P 21 33 10.1 +0.7

R18K Karluk 79.56 11 P P 21 33 09.3 +0.2
baz=200

PSTR Posyet 79.74 323*c i* P P 21 33 11.0 +0.6

TYV Tymovskoe 79.80 335 *e* P P 21 33 11.2 +0.7
TYV pmax pmax
comp=Z,400nm,2.4s
TYV pmax pmax
comp=Z,59nm,1.3s

TPNV Topopah Spring 79.81 44 P P 21 33 11.9 +0.7
TPNV IAmb IAmb 21 33 14.0
comp=Z,51nm,0.9s

TPNV Topopah Spring 79.81 44 P P 21 33 11.9 +0.7
TPNV pmax pmax
comp=Z,51nm,1.0s

TPH Tonopah 79.83 43 P P 21 33 11.9 +0.7
TPH IAmb IAmb 21 33 13.9
comp=Z,130nm,1.5s

TPH Tonopah 79.83 43 P P 21 33 12.0 +0.7
TPH pmax pmax
comp=Z,130nm,1.5s

Q17K Contact Creek 79.96 10 P P 21 33 11.2 -0.2
baz=199

USA0B Ussuriysk Arra 80.08 325 P P 21 33 12.7 +0.5
USA0B IAmb IAmb 21 33 14.7
comp=Z,124nm,1.2s

USA0B Ussuriysk Arra 80.08 325 P P 21 33 12.7 +0.5
USA0B pmax pmax
comp=Z,124nm,1.3s

USRK Ussuriysk Ar. 80.08 325 P P 21 33 13.5 +1.3
comp=Z,26nm,0.9s,baz=124,slow=3.4,SNR=78
comp=Z,26nm,0.9s

KDAK Kodiak Island 80.12 12⇓ *i* P P 21 33 12.3 +0.2
KDAK pmax pmax
comp=Z,162nm,1.5s

KDAK Kodiak Island 80.12 12 P P 21 33 12.6 +0.5
baz=202

LHSI Lahat 80.13 270 P P 21 33 12.4 -0.8
comp=Z,121nm,1.1s

O14K Tigyukauivet M 80.14 7 P P 21 33 12.1 0.0
baz=194,SNR=5.8

Q16K King Salmon 80.23 10 P P 21 33 12.8 +0.2
baz=198,SNR=15

O15K Ungalikthiuk R 80.24 8 P P 21 33 12.5 -0.2
baz=195,SNR=5.2

COR Corvallis 80.28 35 P P 21 33 13.2 -0.1
COR IAmb IAmb 21 33 16.1
comp=Z,102nm,1.4s

COR Corvallis 80.28 35 P P 21 33 13.2 -0.1
COR pmax pmax
comp=Z,102nm,1.5s

DSRI Dabo 80.28 273 P P 21 33 14.2 +0.2
comp=Z,1µmcomp=Z,75nm,1.3s

P16K Nushagak River 80.36 9 P P 21 33 13.3 0.0
baz=197,SNR=25

Q18K Katmai Hardscr 80.48 11 P P 21 33 13.9 -0.2
baz=200

MNAI Manna 80.48 269 P P 21 33 14.5 -0.6

HKPS Hong Kong Po S 80.58 298 P P 21 33 15.4 0.0

HKPS Hong Kong Po S 80.58 298 P P 21 33 15.8 +0.4

N14K Kuskokwak Cree 80.74 7 P P 21 33 16.0 +0.7

N14K Kuskokwak Cree 80.74 7 P P 21 33 15.8 +0.5
baz=193,SNR=21

M11K Mekoryuk 80.76 5 P P 21 33 16.1 +0.7
baz=189

P17K Kvichak River 80.76 10 P P 21 33 15.4 -0.1
baz=198,SNR=30

TPRI Tanjung Pinang 80.82 274 P P 21 33 17.4 +0.5
comp=Z,2µmcomp=Z,103nm,1.1s

O16K Kokwok River B 80.89 9 P P 21 33 15.5 -0.6
baz=197,SNR=24

Q20K Shuyak Island 80.93 12 P P 21 33 16.1 -0.2
baz=202

Q19K Cape Douglas, 80.99 11 P P 21 33 16.8 +0.1
baz=201

M13K Dall Lake 81.04 6 P P 21 33 17.7 +0.8
baz=192,SNR=7.1

KSI Kapahiang 81.06 269 P P 21 33 17.2 -1.0
comp=Z,223nm,0.9s

TUC Tucson 81.10 51 P P 21 33 19.0 +1.0
TUC IAmb IAmb 21 33 21.5
comp=Z,72nm,1.2s

TUC Tucson 81.10 51 P P 21 33 19.0 +1.0
TUC pmax pmax
comp=Z,73nm,1.2s

P18K Big Mountain, 81.15 10 P P 21 33 17.2 -0.3
baz=199,SNR=23

N15K Kwethluk River 81.17 8 P P 21 33 18.0 +0.3
baz=195,SNR=16

O17K Koliganek Bris 81.21 9 P P 21 33 17.6 -0.2
baz=198,SNR=19

DLV Lat 81.22 286 P P 21 33 19.2 +0.1
DLV IAmb IAmb 21 33 21.0
comp=Z,70nm,1.1s

DLV Lat 81.22 286 P P 21 33 19.5 +0.4

NJ2 Nanjing 81.50 309⇑ *i* P P 21 33 20.8 +0.8
NJ2 pmax pmax
comp=Z,54nm,0.9s

M14K Bethel 81.52 7 P P 21 33 20.2 +0.8
baz=193,SNR=22

WVOR Wild Horse Val 81.55 39 P P 21 33 20.8 +0.6
WVOR IAmb IAmb 21 33 22.8
comp=Z,74nm,1.1s

WVOR Wild Horse Val 81.55 39 P P 21 33 20.8 +0.6
WVOR pmax pmax
comp=Z,74nm,1.1s

MASI Maura Aman, Be 81.56 270 P P 21 33 20.3 -0.6
comp=Z,233nm,1.6s

O18K Koktuh Hills 81.59 10 P P 21 33 19.8 -0.1
baz=199,SNR=22

M15K Kasigluk River 81.61 7 P P 21 33 20.4 +0.5
baz=194,SNR=48

N16K Nishlik Lake 81.64 8 P P 21 33 20.6 +0.5
baz=196,SNR=26

MDJ Mudanjiang 81.67 324 P P 21 33 21.0 +0.4

MDJ Mudanjiang 81.67 324 P P 21 33 21.4 +0.8
MDJ S SKSac 21 43 17.4 -2.4
MDJ sS sS 21 44 48.0 +4.2
MDJ pmax pmax
comp=Z,200nm,1.0s
MDJ pmax pmax
comp=Z,880nm,3.6s

BTDF Bukit Timah Da 81.68 275 P P 21 33 21.7 +0.3

P19K Oil Pt 81.74 11 P P 21 33 20.4 -0.2
baz=201,SNR=7.9

MYKOM Kota Tinggi 81.75 275 P P 21 33 21.5 -0.2
MYKOM IAmb IAmb 21 33 23.2
comp=Z,101nm,1.1s

MYKOM Kota Tinggi 81.75 275 P P 21 33 22.0 +0.2

NLWA Neilton Lookou 81.84 33 P P 21 33 22.3 +0.8
NLWA IAmb IAmb 21 33 24.2
comp=Z,69nm,1.2s

N17K Nushagak Hills 81.92 9 P P 21 33 21.6 +0.1
baz=197,SNR=13

L14K Kuka Creek 82.02 6 P P 21 33 23.0 +1.0
baz=192,SNR=20

HOM Homer 82.05 12 P P 21 33 22.6 +0.4
baz=203

O19K Port Alsworth 82.06 11 P P 21 33 21.9 -0.3
baz=200,SNR=9.5

HOLB Holberg 82.07 28 P P 21 33 23.1 +0.5
HOLB IAmb IAmb 21 33 24.7
comp=Z,194nm,1.5s

MG05 Puerto Natales 82.10 142 P P 21 33 23.9 +1.0
MG05 IAmb IAmb 21 35 47.3
comp=Z,98nm,1.7s

M16K Timber Creek 82.14 8 P P 21 33 23.8 +1.1
baz=196,SNR=51

O20K Slope Mountain 82.26 11 P P 21 33 23.3 -0.1
baz=202,SNR=7.3

N18K Kilae Creek 82.26 10 P P 21 33 23.1 -0.2
baz=199,SNR=7.4

BRLK Bradley Lake 82.30 12 P P 21 33 23.3 -0.3
BRLK IAmb IAmb 21 33 24.9
comp=Z,102nm,1.1s

WUAZ Wupatki 82.33 48 P P 21 33 25.2 +0.7
WUAZ IAmb IAmb 21 33 27.8
comp=Z,144nm,1.3s

GRNR Gornyy 82.38 332⇑ *i* P P 21 33 24.7 +0.5
GRNR pmax pmax
comp=Z,70nm,1.2s

MG03 Isla Dawson 82.38 145 P P 21 33 25.5 +1.2
MG03 IAmb IAmb 21 36 12.1
comp=Z,86nm,1.6s

HPIG 82.41 58 P P 21 33 25.6 +0.5

K13K Kusilvak Mount 82.42 5 P P 21 33 25.4 +1.3
baz=190,SNR=14

L15K Ungalak Mounta 82.47 7 P P 21 33 24.9 +0.5
baz=193,SNR=61

MAW Mawson 82.50 199 P P 21 33 25.8 +1.2
comp=Z,35nm,0.6s,baz=135,slow=5.4,SNR=195
comp=Z,35nm,0.6s

N19K Bonanza Creek 82.61 10 P P 21 33 24.8 -0.5
baz=200,SNR=18

ELK Elko 82.62 42 P P 21 33 26.6 +0.6
ELK IAmb IAmb 21 33 28.4
comp=Z,53nm,1.1s

ELK Elko 82.62 42 P P 21 33 26.6 +0.6
ELK pmax pmax
comp=Z,53nm,1.1s

M17K Holitna River 82.72 9 P P 21 33 26.7 +1.1
baz=197,SNR=21

L16K Owhat River 82.74 8 P P 21 33 26.6 +0.9
baz=195,SNR=50

QIZ Qiongzhong 82.83 293 P P 21 33 27.3 +0.1
QIZ sP sP 21 34 40.1 -0.3
QIZ S SKSac 21 43 28.6 -0.1
QIZ pmax pmax
comp=Z,21nm,1.4s
QIZ pmax pmax
comp=Z,380nm,3.0s

PGC Sidney 82.89 32 P P 21 33 27.3 +0.5
PGC IAmb IAmb 21 33 29.1
comp=Z,107nm,1.3s

SEW Seward 82.90 13 P P 21 33 26.5 -0.1
baz=205,SNR=9.3

Q23K Middleton Isla 82.98 15 P P 21 33 27.5 +0.5
baz=208

M18K Stony River 83.04 9 P P 21 33 27.6 +0.3
baz=199,SNR=11

K15K Wolf Creek Mou 83.07 7 P P 21 33 28.7 +1.2
baz=193,SNR=103

ZAIG Zacatecas 83.11 63 P P 21 33 28.6 -0.3

DL2 Dalian 83.14 316 P P 21 33 28.8 +0.5
DL2 sP sP 21 34 39.4 -2.0
DL2 S SKSac 21 43 30.3 +0.5
DL2 pmax pmax
comp=Z,49nm,1.0s
DL2 pmax pmax
comp=Z,600nm,5.3s

O22K Cooper Landing 83.19 13 P P 21 33 28.3 +0.3
baz=204

P23K Montague Islan 83.25 14 P P 21 33 28.5 +0.1
baz=206,SNR=7.0

L17K Donlin 83.30 8 P P 21 33 30.0 +1.4
baz=196,SNR=52

J14K Nanvaranak Lak 83.32 6 P P 21 33 29.4 +0.8
baz=191,SNR=9.5

N20K Mount Spurr 83.37 11 P P 21 33 28.3 -0.8
baz=202,SNR=9.0

SPCR Spurr Chakacha 83.37 11 P P 21 33 28.4 -0.7
baz=202,SNR=7.6

121A Cookes Peak, D 83.41 52 P P 21 33 31.0 +0.9
121A IAmb IAmb 21 33 33.7
comp=Z,88nm,1.2s

HAWA Hanford 83.47 35 P P 21 33 30.7 +0.9
HAWA IAmb IAmb 21 33 32.4
comp=Z,117nm,1.1s

SNY Shenyang 83.52 319⇓ P P 21 33 30.5 +0.3
SNY pmax pmax
comp=Z,24nm,0.6s

CN2 Changchun 83.53 321 *e* P P 21 33 30.3 +0.1
CN2 eS SKSac 21 43 32.8 +0.6
CN2 *e*sS sS 21 45 08.6 +5.7
CN2 SS SS 21 49 07.8 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,11.0s

BNX BinXian 83.58 324⇑ P P 21 33 30.3 -0.1
BNX S S 21 43 34.1 0.0
BNX sS sS 21 45 02.8 -0.6
BNX pmax pmax
comp=Z,170nm,1.0s
BNX pmax pmax
comp=Z,640nm,2.6s

L18K Granite Mounta 83.61 9 P P 21 33 31.0 +0.8
baz=198,SNR=36

CRAG Craig 83.65 23 P P 21 33 31.2 +0.7
baz=220

M19K Big River Lodg 83.66 10 P P 21 33 30.4 0.0
baz=200,SNR=19

RC01 Rabbit Creek A 83.74 12 P P 21 33 31.0 +0.1
baz=204,SNR=22

BMO Blue Mountains 83.78 37 P P 21 33 31.8 +0.2
BMO IAmb IAmb 21 33 33.7
comp=Z,238nm,2.0s

BMO Blue Mountains 83.78 37 P P 21 33 31.8 +0.2
BMO pmax pmax
comp=Z,238nm,2.0s

MFID Camas Ranch 83.80 39 P P 21 33 32.9 +1.2
MFID IAmb IAmb 21 33 34.1
comp=Z,61nm,1.1s

PWL Port Wells 83.82 13 P P 21 33 31.1 -0.2
PWL IAmb IAmb 21 33 32.5
comp=Z,107nm,1.0s

PWL Port Wells 83.82 13 P P 21 33 31.1 -0.2
baz=206,SNR=34

L19K White Mountain 83.85 10 P P 21 33 31.6 +0.1
baz=200,SNR=16

M20K Styx River 83.85 10 P P 21 33 30.9 -0.6
baz=201,SNR=14

K17K Iditarod 83.86 8 P P 21 33 32.2 +0.8
baz=196,SNR=28

BKNI Bangkinang 83.88 273 P P 21 33 32.2 -0.5
BKNI IAmb IAmb 21 33 33.6
comp=Z,124nm,1.2s

KAIM Kayak Island 83.89 15 P P 21 33 31.9 +0.3
KAIM IAmb IAmb 21 33 33.7
comp=Z,99nm,0.9s

KAIM Kayak Island 83.89 15 P P 21 33 32.2 +0.5
baz=209,SNR=5.8

SUA Susitna One 83.89 12 P P 21 33 31.5 -0.2
baz=203,SNR=38

PDSI Padang 83.99 271 P P 21 33 31.6 -1.7
comp=Z,49nm,1.0s

EPT El Paso 84.00 53 P P 21 33 34.0 +0.9
EPT IAmb IAmb 21 33 36.2
comp=Z,73nm,1.2s

JRQG Juriquilla Cam 84.04 65 P P 21 33 34.1 +0.5

V35K Ketchikan 84.09 24 P P 21 33 33.7 +0.9
baz=221

GLI Glacier Island 84.11 14 P P 21 33 32.9 +0.2
baz=207,SNR=39

EYAK Cordova Ski Ar 84.12 14 P P 21 33 32.8 +0.1

EYAK Cordova Ski Ar 84.12 14 P P 21 33 32.9 +0.1
baz=208,SNR=7.2

SIT Sitka 84.12 21 P P 21 33 33.4 +0.5
baz=218

J16K Anvik River 84.14 7 P P 21 33 33.8 +0.9
baz=194,SNR=24

U33K Whale Pass 84.15 22 P P 21 33 33.7 +0.7
baz=220

MA2 Magadan 84.21 344 P P 21 33 32.4 -0.9

MA2 Magadan 84.21 344 P P 21 33 32.9 -0.4

MA2 Magadan 84.21 344⇓ *i* P P 21 33 32.7 -0.6
MA2 pmax pmax
comp=Z,86nm,1.8s

MA2 Magadan 84.21 344 P P 21 33 32.4 -0.9
comp=Z,1µmcomp=Z,62nm,0.9s

SKT Skwentna 84.22 11 P P 21 33 32.0 -1.3

SKT Skwentna 84.22 11 P P 21 33 32.0 -1.3
baz=203,SNR=23

RAGM Ragged Mountai 84.23 15 P P 21 33 33.4 0.0
RAGM IAmb IAmb 21 33 35.1
comp=Z,97nm,1.2s

H03S2 Juan Fernandez 84.24 124 T T 23 06 28.4
baz=248,slow=74,SNR=792

H03S1 Juan Fernandez 84.26 124 T T 23 06 29.5
baz=248,slow=74,SNR=853

H03S3 Juan Fernandez 84.26 124 T T 23 06 28.2
baz=248,slow=74,SNR=906

M22K Willow 84.28 12 P P 21 33 33.2 -0.3
baz=204,SNR=9.5

L20K Farewell, AK 84.28 10 P P 21 33 33.5 -0.1
baz=200,SNR=29

KNK Knik Glacier 84.30 13 P P 21 33 33.9 +0.2
baz=206,SNR=20

PMR Palmer 84.32 12 P P 21 33 33.9 +0.1

PMR Palmer 84.32 12 P P 21 33 33.6 -0.2
baz=205,SNR=9.6

BGLC Bering Glacier 84.34 16 P P 21 33 34.4 +0.6
baz=210

H03N2 Juan Fernandez 84.38 123 T T 23 06 20.5
baz=258,slow=71,SNR=501

H03N3 Juan Fernandez 84.38 123 T T 23 06 41.7
baz=258,slow=71,SNR=354

H03N1 Juan Fernandez 84.39 123 T T 23 06 27.0
baz=258,slow=71,SNR=229

TLIG Tlapa 84.41 69 P P 21 33 36.0 +0.6

J17K VABM Dome 84.42 7 P P 21 33 35.0 +0.7
baz=196,SNR=26

S31K Pelican 84.55 20 P P 21 33 35.8 +0.8
baz=217

WRAK Wrangell Islan 84.66 22 P P 21 33 36.7 +1.1
baz=220

S32K Killisnoo 84.70 21 P P 21 33 36.2 +0.5
baz=218

VHRN Van Horn 84.70 55 P P 21 33 37.3 +0.7
VHRN IAmb IAmb 21 33 39.6
comp=Z,214nm,1.9s

I17K Unalakleet 84.72 7 P P 21 33 36.5 +0.8
baz=194,SNR=6.4

HLID Hailey 84.72 40 P P 21 33 37.7 +1.2
HLID IAmb IAmb 21 33 39.2
comp=Z,49nm,0.9s

MESA MESA 84.73 16 P P 21 33 36.8 +0.7
baz=212,SNR=20

BMRM Bremner River 84.76 15 P P 21 33 36.4 +0.4
baz=209,SNR=30

Y22D IRIS PASSCAL I 84.79 51 P P 21 33 39.0 +2.0
baz=241

J18K Innoko River 84.79 8 P P 21 33 36.6 +0.4
baz=198,SNR=78

M23K Glacier View 84.79 13 P P 21 33 36.0 -0.2
baz=206,SNR=12

TIA Tai'an 84.81 311 P P 21 33 37.4 +0.5
TIA pmax pmax
comp=Z,44nm,1.6s
TIA pmax pmax
comp=Z,590nm,3.7s

CUT Chulitna 84.85 12 P P 21 33 36.2 -0.1
baz=204,SNR=18

SCM Sheep Creek Mo 84.92 13 P P 21 33 36.9 0.0
baz=206,SNR=36

KLU Klutina 84.92 14 P P 21 33 37.1 +0.2
baz=208,SNR=24

CRQE Cirque 84.94 15 P P 21 33 37.4 +0.4
baz=210,SNR=24

YAH Yahtse 84.94 16 P P 21 33 37.6 +0.4

LLLB Lillooet 84.95 31 P P 21 33 37.8 +0.6

PPLA Purkeypile 84.96 11 P P 21 33 35.4 -1.7
baz=202,SNR=8.4

ANM Nome 84.96 4 P P 21 33 37.5 +0.6
baz=190

PNL Peninsula 85.00 18 P P 21 33 37.8 +0.5

PNL Peninsula 85.00 18 P P 21 33 37.8 +0.5
baz=214,SNR=10

TXAR Lajitas Array 85.07 56 P P 21 33 39.4 +1.0

TXAR Lajitas Array 85.07 56 P P 21 33 39.8 +1.3
comp=Z,24nm,1.0s,baz=216,slow=6.0,SNR=108
TXAR PKKPbc **PKKPbc** 21 51 45.8 +1.1
comp=Z,0.3nm,0.5s,baz=64,slow=1.5,SNR=7.2
comp=Z,24nm,1.0s

K20K Telida 85.08 10 P P 21 33 37.7 +0.1
baz=200,SNR=55

PINM Pinnacle 85.12 17 P P 21 33 38.2 +0.3
baz=213,SNR=6.4

MVCO Mesa Verde 85.19 48 P P 21 33 39.7 +0.6

H16K Elim 85.29 6 P P 21 33 39.2 +0.7
baz=193,SNR=11

N25K Chitina, Valde 85.32 14 P P 21 33 39.1 +0.2
baz=209,SNR=53

IPM Ipoh 85.34 276 P P 21 33 39.7 -0.3
IPM IAmb IAmb 21 33 41.4
comp=Z,73nm,0.7s

IPM Ipoh 85.34 276 P P 21 33 40.2 +0.2

R32K Eaglecrest 85.35 20 P P 21 33 39.5 +0.5
baz=218,SNR=6.2

JIS Juneau Island 85.40 20 P P 21 33 39.1 -0.1

M24K Toisona, Glenn 85.41 13 P P 21 33 40.1 +0.8
baz=208,SNR=28

MNSI Mandailing Nat 85.41 273 P P 21 33 39.1 -1.2
comp=Z,42nm,0.9s

HWUT Hardware Ranch 85.41 43 P P 21 33 39.7 -0.3

P29M Windy Craggy 85.44 18 P P 21 33 40.4 +1.0
baz=215,SNR=14

J19K Poorman 85.45 9 P P 21 33 39.6 +0.2
J19K IAmb IAmb 21 33 42.6
comp=Z,184nm,1.9s

J19K Poorman 85.45 9 P P 21 33 40.0 +0.6
baz=199,SNR=33

CAST Castle Rocks 85.46 10 P P 21 33 38.0 -1.5
baz=202,SNR=70

BESE Bessie Mountai 85.48 20 P P 21 33 40.2 +0.5
BESE IAmb IAmb 21 33 42.0
comp=Z,64nm,1.2s

G15K Niukluk 85.49 5 P P 21 33 39.9 +0.4
baz=191,SNR=11

MCARA McCarthy VSAT 85.50 15 P P 21 33 39.9 +0.2
MCARA IAmb IAmb 21 33 41.5
comp=Z,99nm,1.2s

MCARA McCarthy VSAT 85.50 15 P P 21 33 39.9 +0.2
baz=210,SNR=18

WAT6 Susitna Watana 85.50 13 P P 21 33 39.6 -0.2
baz=206,SNR=76

ANMO Albuquerque 85.54 50 P P 21 33 41.5 +0.8

ANMO Albuquerque 85.54 50 P P 21 33 41.6 +0.8
ANMO pmax pmax
comp=Z,43nm,1.1s

CTG Chitna Glacier 85.56 16 P P 21 33 40.5 +0.3
baz=212,SNR=25

WAT1 Susitna Watana 85.56 12 P P 21 33 39.8 -0.3
baz=205

O28M Mount Upton 85.70 17 P P 21 33 41.3 +0.2
baz=213,SNR=27

PLBC Pleasant Camp 85.71 19 P P 21 33 41.7 +1.0
baz=216,SNR=14

O29M Mount Kennedy 85.75 17 P P 21 33 42.0 +0.8
baz=214,SNR=16

TNA Tin City 85.79 3 P P 21 33 41.5 +0.5
TNA IAmb IAmb 21 33 42.7
comp=Z,62nm,0.9s

TNA Tin City 85.79 3 P P 21 33 41.4 +0.4
baz=187,SNR=8.9

F14K Arctic Creek 85.80 4 P P 21 33 41.5 +0.5
baz=189,SNR=8.0

TRF Thorofare Moun 85.80 11 P P 21 33 40.7 -0.6

TRF Thorofare Moun 85.80 11 P P 21 33 40.7 -0.6
baz=204,SNR=100

H17K Granite Mounta 85.82 7 P P 21 33 41.5 +0.4

baz=195,SNR=19
J20K Nowinta River 85.84 9 P P 21 33 41.5 +0.2
baz=200,SNR=60
T35M Bob Quinn 85.84 23 P P 21 33 42.9 +1.4
baz=222
CHUM Lake Minchumin 85.85 10 P P 21 33 40.8 -0.5
baz=202,SNR=37
LL02 Futaleuf 85.87 135 P P 21 33 43.0 +0.8
HARP HAARP 85.89 14 P P 21 33 42.3 +0.7
baz=208,SNR=7.6
NEW Newport 85.91 35 P P 21 33 42.1 +0.1
NEW Newport 85.91 35 P P 21 33 42.2 +0.1
NEW pmax pmax
comp=Z,18nm,0.9s
KULM Kulim 85.97 277 P P 21 33 43.3 +0.2
KULM IAmb IAmb 21 33 44.8
comp=Z,61nm,1.0s
KULM Kulim 85.97 277 P P 21 33 43.4 +0.3
GCSA Galena City Sc 86.00 8 P P 21 33 42.6 +0.6
baz=198
DHY Denali Highway 86.02 12 P P 21 33 42.1 -0.2
baz=206,SNR=34
G16K Koyuk River 86.02 6 P P 21 33 42.7 +0.6
baz=192,SNR=9.1
SKAG Skagway 86.03 19 P P 21 33 42.1 -0.2
SKAG Skagway 86.03 19 P P 21 33 43.5 +1.2
baz=217,SNR=8.4
P30M Million Dollar 86.07 18 P P 21 33 43.4 +0.8
baz=216
F15K North Star Dit 86.14 5 P P 21 33 42.7 0.0
baz=190
H18K Honhosa River 86.20 7 P P 21 33 43.0 -0.1
baz=196,SNR=18
S34M Telegraph Cree 86.22 22 P P 21 33 44.5 +1.3
baz=221,SNR=18
YUK8 Steele Glacier 86.25 16 P P 21 33 44.2 +0.5
baz=213,SNR=30
BPAW Bear Paw Mtn. 86.28 11 P P 21 33 42.3 -1.2
baz=203,SNR=25
G17K Kiwalik Mounta 86.29 6 P P 21 33 43.7 +0.3
baz=194,SNR=17
MCK McKinley 86.31 12 P P 21 33 43.3 -0.3
baz=205,SNR=45
AHID Auburn Hatcher 86.32 42 P P 21 33 44.7 +0.3
PAX Paxson 86.33 13 P P 21 33 43.5 -0.3
baz=208,SNR=24
HEH HeiHe 86.34 327 *e*P P 21 33 44.0 0.0
HEH sP **sP** 21 34 54.3 -3.0
HEH S **S** 21 44 03.0 +1.9
HEH sS **sS** 21 45 29.4 -1.5
HEH pmax pmax
comp=Z,110nm,1.4s
HEH pmax pmax
comp=Z,640nm,4.3s
YUK6 Outpost Mounta 86.34 17 P P 21 33 44.6 +0.5
baz=215,SNR=11
MCMT McKenzie Canyo 86.36 39 P P 21 33 45.2 +0.6
I20K Naaghedeneel 86.38 9 P P 21 33 44.3 +0.4
baz=200,SNR=21
M26K Nabesna, AK 86.39 15 P P 21 33 44.3 +0.2
baz=210,SNR=51
YUK3 Moose Creek 86.48 16 P P 21 33 45.0 +0.3
baz=213,SNR=64
HYT Haines Junctio 86.49 18 P P 21 33 45.1 +0.4
HYT Haines Junctio 86.49 18 P P 21 33 45.3 +0.6
baz=215,SNR=20
YUK4 Talbot Arm 86.60 17 P P 21 33 46.2 +0.9
baz=214,SNR=6.2
M27K Edge Creek, AK 86.62 15 P P 21 33 46.0 +0.7
baz=211,SNR=80
Q32M Nakina River 86.63 21 P P 21 33 46.5 +1.0
baz=220,SNR=13
P32M Atlin 86.64 20 P P 21 33 46.3 +0.9
baz=219,SNR=9.9
RPSI Rantau Prapat 86.68 274 P P 21 33 46.0 -0.6
RPSI IAmb IAmb 21 33 47.2
comp=Z,53nm,1.0s
MENT Mentasta 86.69 14 P P 21 33 45.2 -0.3
SEY Seymchan 86.71 346 *c i*P P 21 33 45.6 +0.1
SEY pmax pmax
comp=Z,130nm,1.1s
PSI Prapat 86.72 274 P P 21 33 47.1 +0.2
PSI Prapat 86.72 274 P P 21 33 46.0 -0.9
PSI pmax pmax
comp=Z,53nm,1.0s
H19K Roundabout Mou 86.80 8 P P 21 33 46.5 +0.6
baz=198,SNR=51
L26K Log Cabin Wild 86.85 14 P P 21 33 46.7 +0.5
baz=210,SNR=15
G18K Tagagawik 86.89 7 P P 21 33 46.4 0.0
baz=196,SNR=21
BVCY Beaver Creek 86.92 15 P P 21 33 46.9 +0.3
baz=212,SNR=28
H20K Anotleneega Mo 86.98 8 P P 21 33 47.4 +0.6
baz=199,SNR=42
K24K Donnelly Dome 87.00 13 P P 21 33 47.6 +0.6
baz=208,SNR=26
DLBC Dease Lake 87.01 22 P P 21 33 48.0 +0.9
baz=222,SNR=12
NEA2 Nenana 87.07 11 P P 21 33 46.7 -0.6
baz=205
HNS HongShan 87.08 312 ⇑P P 21 33 48.8 +0.9
HNS pmax pmax
comp=Z,47nm,1.0s
I21K Tanana 87.11 10 P P 21 33 47.4 0.0
baz=202,SNR=51
N30M Aishikik Lake 87.12 17 P P 21 33 48.4 +0.8
baz=216,SNR=8.5
WHY Whitehorse 87.12 19 P P 21 33 48.6 +0.9
baz=218,SNR=15
RIDG Independent Ri 87.14 13 P P 21 33 47.8 +0.1
baz=209,SNR=23
WRH Wood River Hil 87.14 12 P P 21 33 47.3 -0.3
F17K Baldwin Pennin 87.15 6 P P 21 33 47.6 +0.1
baz=194
MLY Manley 87.18 10 P P 21 33 47.0 -0.8
baz=203,SNR=45
L27K Beaver Creek, 87.23 15 P P 21 33 48.6 +0.5
baz=212,SNR=32
BCAR Beaver Creek A 87.25 15 P P 21 33 48.6 +0.4
PDAR Pinedale Array 87.29 42 P P 21 33 49.0 -0.2
PDAR Pinedale Array 87.29 42 P P 21 33 49.6 +0.5
comp=Z,5.6nm,0.8s,baz=212,slow=3.2,SNR=53
PDAR PKKPbc **PKKPbc** 21 51 38.9 -1.5
comp=Z,0.7nm,0.5s,baz=77,slow=4.0,SNR=7.4
PDAR PKPPKP **P'P'df** 21 59 47.7 +2.1
comp=Z,0.2nm,0.5s,baz=66,slow=3.6,SNR=4.1
comp=Z,5.6nm,0.8s
HDA Harding Lake 87.30 12 P P 21 33 48.2 -0.2
baz=207,SNR=34
G19K Purcell Mounta 87.31 7 P P 21 33 48.8 +0.4
baz=197,SNR=39
BJT Baijiatuau 87.34 314 P P 21 33 49.4 +0.3
BJT IAmb IAmb 21 33 51.3
comp=Z,166nm,1.8s
BJT Baijiatuau 87.34 314 P P 21 33 49.4 +0.3
BJT pmax pmax
comp=Z,166nm,1.8s
BJI Beijing 87.34 314 P P 21 33 48.9 -0.2
BJI pP **pP** 21 34 42.6 +2.2
BJI S **S** 21 44 17.1 +5.9
BJI pmax pmax
comp=Z,19nm,1.5s
BJI pmax pmax
comp=Z,270nm,3.5s
CCB Clear Creek Bu 87.35 12 P P 21 33 47.9 -0.6
YHL Hebgen Lake 87.37 40 P P 21 33 50.7 +1.2
YHL IAmb IAmb 21 33 52.6
comp=Z,135nm,1.7s
LYN LuoYang 87.39 308 P P 21 33 50.8 +1.3
LYN pmax pmax
comp=Z,180nm,0.9s
R33M Jennings River 87.40 21 P P 21 33 50.2 +1.1
baz=221,SNR=11
SYO Syowa Base 87.40 192 ⇑ *i*P P 21 33 49.4 +0.5
SYO Syowa Base 87.40 192 ⇓ *e*PcP **PcP** 21 33 52.0 +1.3
SYO Syowa Base 87.40 192 ⇓ *e*pP pP 21 34 41.6 +1.0
P33M Teslin, Yukon 87.41 20 P P 21 33 49.8 +0.7
baz=220,SNR=12
H21K Melozitna Rive 87.43 9 P P 21 33 49.5 +0.5
baz=201,SNR=38
GSI Gunungsitoli 87.46 272 P P 21 33 50.6 +0.3
GSI Gunungsitoli 87.46 272 P P 21 33 51.2 +0.9
GSI Gunungsitoli 87.46 272 P P 21 33 51.5 +1.2
comp=Z,132nm,1.6s
F18K Selawik 87.46 6 P P 21 33 48.9 -0.2
baz=195,SNR=9.0

DRIO Del Rio 87.50 58 P P 21 33 50.9 +0.8
DRIO IAmb IAmb 21 33 52.5
comp=Z,57nm,1.2s
I23K Minto, Yukon-K 87.52 11 P P 21 33 48.8 -0.6
baz=204,SNR=21
SCRK Sand Creek 87.53 13 P P 21 33 49.8 +0.2
baz=210,SNR=28
SDCO Great Sand Dun 87.54 48 P P 21 33 51.2 +0.7
COLA College 87.55 11 P P 21 33 49.1 -0.4
COLA College 87.55 11 P P 21 33 49.4 -0.1
COLA College 87.55 11 *c i*P P 21 33 48.9 -0.6
COLA pmax pmax
comp=Z,67nm,1.0s
COLA College 87.55 11 P P 21 33 49.1 -0.4
baz=206
M29M Somme Creek 87.56 16 P P 21 33 50.2 +0.5
baz=214,SNR=38
IMAR Indian Mountai 87.60 9 P P 21 33 49.9 +0.2
ILAR Eielson Array 87.64 12 P P 21 33 49.4 -0.5
ILAR Eielson Array 87.64 12 P P 21 33 49.3 -0.7
comp=Z,15nm,0.8s,baz=204,slow=5.1,SNR=108
ILAR PKiKP **PKiKP** 21 38 52.6 +0.7
comp=Z,0.6nm,0.8s,baz=202,slow=3.9,SNR=4.5
comp=Z,15nm,0.8s
ILAR Eielson Array 87.64 12 P P 21 33 49.4 -0.5
HAYD Hayden 87.66 45 P P 21 33 51.5 +0.5
E17K Hotham Inlet 87.73 5 P P 21 33 50.8 +0.5
baz=193,SNR=13
PLCA Paso Flores 87.77 133 P P 21 33 53.6 +2.1
comp=Z,4.9nm,1.0s,baz=251,slow=4.6,SNR=5.1
comp=Z,4.9nm,1.0s
ENH Enshi 87.80 303 P P 21 33 51.8 +0.3
J25K Salcha River, 87.80 13 P P 21 33 50.5 -0.3
J25K IAmb IAmb 21 33 52.4
comp=Z,151nm,1.6s
J25K Salcha River, 87.80 13 P P 21 33 50.7 -0.1
baz=208,SNR=47
POKR Poker Plat Res 87.85 12 P P 21 33 50.6 -0.3
baz=206,SNR=12
H22K Ishtalina Cre 87.87 10 P P 21 33 51.1 +0.1
baz=203,SNR=36
F19K Shaleruckik Mo 87.89 7 P P 21 33 51.2 +0.1
baz=197,SNR=23
TROLL Troll, Antarti 87.92 179 ⇑P P 21 33 51.9 +0.3
comp=Z,714nm,0.5s
TROLL ⇓SKSac **SKSac** 21 43 55.8 -3.5
TROLL ⇑S **ScS** 21 44 18.2 -3.5
TROLL ⇑x x 21 51 36.2
comp=Z,63nm,0.6s
K27K Chicken 88.00 14 P P 21 33 52.6 +1.0
baz=211
N32M Quiet Lake 88.06 19 P P 21 33 52.9 +0.8
baz=219
J26L Joseph Creek 88.08 13 P P 21 33 53.1 +1.0
baz=210,SNR=104
H23K Yukon River 88.11 10 P P 21 33 51.6 -0.6
baz=204,SNR=7.5
M30M Minto, Yukon 88.11 17 P P 21 33 52.8 +0.5
baz=216,SNR=32
SNAA Sanae 88.13 178 ⇑P P 21 33 52.6 +0.2
comp=Z,382nm,0.7s
SNAA ⇓SKSac **SKSac** 21 44 01.8 +1.4
SNAA ⇑S **S** 21 44 19.5 +1.5
SNAA ⇑x x 21 51 33.5
comp=Z,40nm,1.1s
SNAA Sanae 88.13 178 P P 21 33 52.7 +0.2
SNAA Sanae 88.13 178 P P 21 33 53.3 +0.8
comp=Z,14nm,0.7s,baz=207,slow=6.9,SNR=156
comp=Z,14nm,0.7s
SNAA Sanae 88.13 178 *i* P P 21 33 53.9 +1.4
SNAA *i* *PP **pP** 21 34 45.7 +1.5
G21K Allakaket 88.14 9 P P 21 33 52.5 +0.3
baz=201,SNR=35
E18K Tukpahlearik C 88.17 6 P P 21 33 52.8 +0.4
baz=194
VNA3 Neumayer Olymp 88.18 175 ⇑P P 21 33 52.8 +0.1
comp=Z,35nm,0.6s
VNA3 ⇑SKSac **SKSac** 21 44 01.0 +0.5
VNA3 ⇑S **S** 21 44 19.5 +1.2
VNA3 ⇑x x 21 51 34.5
comp=Z,1.9nm,0.8s
L29M L29M 88.19 16 P P 21 33 53.7 +1.0
baz=215,SNR=64
D17K Noatak River 88.23 5 P P 21 33 53.0 +0.4
baz=192
SURA Surathani 88.28 280 P P 21 33 55.3 +1.2
F20K Avaraart Lake 88.34 8 P P 21 33 53.6 +0.4
baz=199,SNR=21
H24K Noodor Dome 88.41 11 P P 21 33 52.6 -1.1
baz=206,SNR=5.6
ISCO Idaho Springs 88.42 46 P P 21 33 55.2 +0.5
ISCO Idaho Springs 88.42 46 P P 21 33 55.2 +0.5
ISCO pmax pmax
comp=Z,45nm,2.0s
M31M Drury Creek, Y 88.49 18 P P 21 33 54.3 +0.2
baz=218,SNR=14
GYA Guiyang 88.51 299 ⇑P P 21 33 55.8 +0.7
GYA pmax pmax
comp=Z,20nm,1.0s
E19K Redstone River 88.55 7 P P 21 33 54.6 +0.4
baz=197,SNR=37
ZEA Zeya 88.56 330 *e*P P 21 33 54.9 +0.4
ZEA *e* 21 45 32.0
ZEA pmax pmax
comp=N,100nm,1.8s
ZEA pmax pmax
comp=Z,300nm,1.9s
ZEA pmax pmax
comp=E,20nm,1.4s
ZEA pmax pmax
comp=N,40nm,1.1s
ZEA pmax pmax
comp=Z,90nm,1.3s
PRP Porcupine Dome 88.57 12 P P 21 33 54.3 -0.2
baz=208,SNR=36
JCT Junction City 88.59 57 P P 21 33 55.2 -0.1
JCT IAmb IAmb 21 33 57.4
comp=Z,74nm,1.8s
JCT Junction City 88.59 57 P P 21 33 55.2 -0.1
JCT pmax pmax
comp=Z,74nm,1.8s
RDOG Red Dog Mine 88.59 5 P P 21 33 54.4 +0.1
baz=192
C16K Lisburne Hills 88.64 4 P P 21 33 54.5 0.0
baz=190
VNA2 Neumayer--Watz 88.64 176 ⇑P P 21 33 55.5 +0.6
comp=Z,44nm,0.6s,baz=189,slow=3.5
VNA2 ⇑SKSac **SKSac** 21 44 03.8 +0.5
baz=256,slow=31
VNA2 ⇑S **S** 21 44 23.1 +0.4
baz=256,slow=31
VNA2 ⇑x x 21 51 33.2
comp=Z,1.2nm,0.7s,baz=0.6,slow=5.6
DAWY Dawson 88.67 15 P P 21 33 54.9 0.0
DAWY IAmb IAmb 21 33 56.9
comp=Z,55nm,1.0s
DAWY Dawson 88.67 15 P P 21 33 55.5 +0.6
baz=214,SNR=42
WTLY Watson Lake, Y 88.67 21 P P 21 33 55.6 +0.6
baz=223
F21K Matna River 88.80 8 P P 21 33 55.4 0.0
baz=201,SNR=13
G22K Bettles 88.81 9 P P 21 33 56.0 +0.6
baz=202,SNR=20
G23K Bananza Creek 88.84 10 P P 21 33 56.1 +0.5
baz=204,SNR=19
VNA1 Neumayer--Stat 88.86 176 ⇑P P 21 33 56.5 +0.7
comp=Z,54nm,0.9s
VNA1 ⇑x x 21 51 33.7
comp=Z,3.6nm,1.0s
SLVN Son La 88.86 293 P P 21 33 57.3 +0.5
SLVN Son La 88.86 293 P P 21 33 57.4 +0.6
I26K Coal Creek Min 88.87 13 P P 21 33 56.4 +0.7
baz=210
K29M Barlow Dome 88.95 16 P P 21 33 57.0 +0.7
baz=215,SNR=41
C17K DeLong Mountai 88.98 5 P P 21 33 56.7 +0.5
baz=192
TOAD Toad River Com 89.05 24 P P 21 33 57.9 +1.2
baz=226,SNR=14
BILL Bilibino 89.08 353 P P 21 33 56.6 -0.1
BILL Bilibino 89.08 353 *i* P P 21 33 56.7 0.0
BILL *i* *PP **pP** 21 34 48.3 0.0
LIRD Liard River Hi 89.12 23 P P 21 33 58.4 +1.3
baz=226,SNR=9.4
H25L Birch Creek 89.18 12 P P 21 33 56.7 -0.4
baz=208

MAYO Mayo, Yukon 89.18 17 P P 21 33 58.4 +1.1
baz=217
F22K John River 89.25 9 P P 21 33 58.2 +0.7
baz=202
G24K Hadweenzic Riv 89.27 11 P P 21 33 57.1 -0.5
baz=206,SNR=5.6
J29N Klondike Camp 89.28 15 P P 21 33 58.8 +1.1
baz=215
XLT XiLinHaoTe 89.29 318 *e*P P 21 33 58.4 +0.1
XLT pmax pmax
comp=Z,71nm,1.3s
COLD Coldfoot 89.29 10 P P 21 33 58.3 +0.7
COLD IAmb IAmb 21 33 59.7
comp=Z,36nm,0.9s
COLD Coldfoot 89.29 10 P P 21 33 58.6 +0.9
baz=204,SNR=23
C18K Utukok River 89.31 5 P P 21 33 57.7 -0.1
baz=194
E20K Nigu River 89.44 7 P P 21 33 58.8 +0.4
baz=198
I27K Kandik River 89.45 13 P P 21 33 58.7 +0.2
baz=212,SNR=22
D19K Kuna River 89.46 6 P P 21 33 58.3 -0.1
baz=196
G25K Bearman Lake 89.57 11 P P 21 33 58.6 -0.3
baz=208
MLSI Meulaboh, Aceh 89.58 275 P P 21 34 01.0 +0.7
comp=Z,195nm,1.1s
CCIG Comitan 89.63 73 P P 21 34 00.8 +0.2
I28M Miner Creek 89.70 14 P P 21 33 59.9 +0.2
baz=213,SNR=20
MMPY Sheldon Lake, 89.74 19 P P 21 34 00.7 +0.7
baz=221,SNR=28
XAN Xi'an 89.81 307 P P 21 34 01.4 +0.5
XAN pP pwP 21 34 58.0 +2.2
XAN pmax pmax
comp=Z,140nm,1.0s
XAN pmax pmax
comp=Z,350nm,4.5s
D20K Etivluk River 89.83 7 P P 21 34 00.9 +0.7
baz=198,SNR=19
HIA Hailar 89.85 324 P P 21 34 00.6 -0.1
HIA IAmb IAmb 21 34 02.5
comp=Z,90nm,1.4s
HIA Hailar 89.85 324 P P 21 34 00.6 -0.1
HIA pmax pmax
comp=Z,90nm,1.4s
J30M Hart River 89.85 16 P P 21 34 01.3 +0.8
baz=216,SNR=22
EGMT Eagleton 89.88 38 P P 21 34 00.7 -0.2
EGMT IAmb IAmb 21 34 03.3
comp=Z,100nm,1.6s
TGTN Hyland Airport 89.88 21 P P 21 34 02.0 +1.4
baz=224,SNR=7.1
E21K Killik River 89.89 8 P P 21 34 00.8 +0.3
baz=200
E22K Anaktuvuk Pass 89.89 9 P P 21 34 01.3 +0.8
baz=202,SNR=24
C19K Lookout Ridge 89.90 6 P P 21 34 01.4 +0.9
baz=195
F24K Squaw Lake 89.93 10 P P 21 34 01.2 +0.5
baz=206,SNR=19
B18K Kokolik River 89.96 5 P P 21 34 01.4 +0.7
baz=193
I29M Ogilvie Camp, 90.01 15 P P 21 34 01.5 +0.4
baz=215
H27K Steamboat Moun 90.01 13 P P 21 34 01.9 +0.8
baz=212,SNR=28
MT01 Popeta 90.13 126 P P 21 34 03.4 +0.8
MT01 IAmb IAmb 21 34 19.3
comp=Z,47nm,1.4s
E23K Chandalar 90.14 9 P P 21 34 02.3 +0.6
baz=204,SNR=15
G26K Porcupine Rive 90.17 12 P P 21 34 03.0 +1.3
baz=210,SNR=20
E24K Your Creek 90.34 10 P P 21 34 03.3 +0.7
baz=205,SNR=8.4
I30M Mount Dempster 90.36 15 P P 21 34 03.4 +0.6
baz=216,SNR=38
KOTAN Kotaneelee Air 90.37 23 P P 21 34 03.8 +1.0
baz=227
F25K Christian Rive 90.39 11 P P 21 34 03.7 +0.9
baz=208,SNR=12
BMAR Burnt Mountain 90.44 11 P P 21 34 04.0 +0.9
C21K Knifeblade Rid 90.46 7 P P 21 34 03.8 +0.7
baz=200
D22K Ayikyak River 90.47 8 P P 21 34 04.0 +0.9
baz=201,SNR=14
G27K Doyon Strip 90.48 13 P P 21 34 04.1 +0.9
baz=212,SNR=15
TOLK Toolik Lake Re 90.69 9 P P 21 34 04.8 +0.6
baz=204,SNR=6.5
H29M Whitestone 90.70 14 P P 21 34 05.1 +0.9
baz=215,SNR=25
F26K Sheenjek River 90.75 11 P P 21 34 05.5 +1.0
baz=209,SNR=13
D23K Nanushuk River 90.82 9 P P 21 34 05.7 +0.9
baz=203,SNR=9.5
HHC Hu-ho-hao-te 90.83 314 *e*P P 21 34 06.0 +0.4
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,94nm,5.0s
A19K Wainwright 90.84 5 P P 21 34 05.6 +0.8
baz=194
E25K Arctic Village 90.87 11 P P 21 34 05.7 +0.7
baz=208,SNR=9.3
B21K Ikpikpuk River 90.92 7 P P 21 34 05.8 +0.6
baz=200
B20K Meade River 91.01 6 P P 21 34 06.3 +0.7
baz=197
WMOK Wichita Mounta 91.11 53 P P 21 34 07.2 +0.2
WMOK Wichita Mounta 91.11 53 P P 21 34 07.2 +0.2
WMOK pmax pmax
comp=Z,33nm,1.6s
EPYK Eagle Plains 91.21 15 P P 21 34 07.3 +0.6
baz=216,SNR=15
D24K Happy Valley 91.27 9 P P 21 34 07.6 +0.8
baz=205
KMI Kunming 91.27 296 ⇑P P 21 34 09.5 +1.4
KMI pmax pmax
comp=Z,57nm,0.9s
H31M Peel River 91.34 16 P P 21 34 07.6 +0.3
baz=218,SNR=12
G29M Pine Creek 91.35 14 P P 21 34 07.9 +0.7
baz=215,SNR=14
MTO3 Montecristo 91.47 75 P P 21 34 09.1 -0.2
HKT Hockley 91.53 59 P P 21 34 09.0 +0.2
HKT IAmb IAmb 21 34 12.3
comp=Z,40nm,1.2s
HKT Hockley 91.53 59 P P 21 34 09.0 +0.2
HKT pmax pmax
comp=Z,40nm,1.3s
F28M Old Crow 91.53 13 P P 21 34 08.8 +0.7
baz=213,SNR=18
C23K Itkillik River 91.63 8 P P 21 34 09.4 +1.0
baz=203
E27K Coleen River 91.67 12 P P 21 34 09.7 +1.0
baz=212,SNR=14
B22K Teshekpuk Lake 91.74 7 P P 21 34 10.6 +1.7
baz=201
BTO Baotou 91.78 313 *e*P P 21 34 11.9 +1.9
BTO pP **pwP** 21 35 06.4 +1.3
BTO sP **sP** 21 35 29.9 +6.3
BTO S **S** 21 44 52.0 -0.4
BTO pmax pmax
comp=Z,72nm,1.2s
BTO pmax pmax
comp=Z,660nm,6.5s
C24K Franklin Bluff 91.80 9 P P 21 34 10.3 +1.1
baz=205
D25K Kavik River 91.80 10 P P 21 34 09.3 -0.1
baz=207
G30M tAoh Zraii Nji 91.82 14 P P 21 34 09.8 +0.4
baz=217,SNR=42
PETF Flores 91.89 73 P P 21 34 10.8 -0.1
PETF IAmb IAmb 21 35 14.8
comp=Z,22nm,0.6s
CM31 Chiang Mai Arr 92.17 289 P P 21 34 12.9 +0.8
CM31 IAmb IAmb 21 34 14.6
comp=Z,55nm,1.1s
CMAR Chiang Mai Arr 92.17 289 P P 21 34 13.1 +0.9
comp=Z,22nm,0.9s,baz=121,slow=2.8,SNR=109
CMAR PP **PP** 21 37 55.3 -0.4
comp=Z,2.4nm,0.9s,baz=122,slow=6.1,SNR=6.4
CMAR PKiKP **PKiKP** 21 39 02.2 +1.3
comp=Z,0.6nm,0.6s,baz=194,slow=0.7,SNR=1.5

CMAR PKKPbc **PKKPbc** 21 51 27.4 +0.8
comp=Z,0.5nm,0.5s,baz=271,slow=4.5,SNR=4.3
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 92.17 289 *i* P **P** 21 34 13.1 +0.9
CMAR pmax pmax
comp=Z,24nm,0.9s
A22K Sinclair Lake 92.19 7 P **P** 21 34 11.7 +0.8
baz=199
G31M Satah River 92.24 15 P **P** 21 34 11.9 +0.6
baz=218,SNR=25
CHTO Chiang Mai 92.30 289 P **P** 21 34 12.9 +0.2
CHTO Chiang Mai 92.30 289 P **P** 21 34 13.3 +0.6
CHTO Chiang Mai 92.30 289 P **P** 21 34 12.9 +0.2
A21K Barrow 92.32 6 P **P** 21 34 12.7 +1.1
baz=198
F30M Barrier River 92.43 14 P **P** 21 34 12.7 +0.5
baz=217,SNR=8.3
E28M Babbage River 92.43 12 P **P** 21 34 13.0 +0.8
baz=214,SNR=20
C27K Jago River 92.52 11 P **P** 21 34 13.3 +0.7
baz=210
CD2 Chengdu 92.58 302 P **P** 21 34 14.8 +0.9
CD2 pmax pmax
comp=Z,20nm,0.7s
E29M Blow River 92.59 13 P **P** 21 34 13.1 +0.1
baz=215,SNR=13
PZH PanZhiHua 92.61 297 P **P** 21 34 14.6 +0.4
PZH pmax pmax
comp=Z,30nm,0.9s
WRGLY Wrigley 92.67 21 P **P** 21 34 14.0 +0.7
baz=228
D27M Malcolm River 92.69 12 P **P** 21 34 14.0 +0.6
baz=212
F31M Tsiigehtchic 92.78 15 P **P** 21 34 14.3 +0.5
baz=219,SNR=18
YAK Yakutsk 92.78 337 P **P** 21 34 12.5 -1.4
YAK IAmb IAmb 21 34 14.1
comp=Z,35nm,0.7s
YAK Yakutsk 92.78 337 P **P** 21 34 13.2 -0.7
comp=Z,32nm,0.6s,baz=115,slow=8.1,SNR=17
YAK PP **PP** 21 37 56.1 -3.4
comp=Z,5.9nm,0.7s,baz=143,slow=18,SNR=5.5
comp=Z,32nm,0.6s
YAK Yakutsk 92.78 337 *e*P **P** 21 34 12.7 -1.2
YAK *e**PP **pP** 21 35 00.6 -5.0
YAK *e* 21 37 54.4
YAK *e*S **SKSac** 21 44 27.2 +0.6
YAK *e*SS **SS** 21 51 25.4 +6.3
YAK pmax pmax
comp=Z,25nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,37nm,2.0s
YAK pmax pmax
comp=Z,106nm,2.2s
YAK pmax pmax
comp=N,33nm,1.8s
YAK pmax pmax
comp=E,39nm,1.9s
YAK smax smax
comp=E,6.0nm,1.4s
YAK smax smax
comp=N,45nm,3.5s
D28M Stokes Point 93.20 12 P **P** 21 34 15.8 +0.2
baz=214
DGMT Dagmar 93.34 39 P **P** 21 34 17.4 +0.5
INK Inuvik 93.51 14 P **P** 21 34 17.1 0.0
INK IAmb IAmb 21 34 18.4
comp=Z,48nm,1.1s
INK Inuvik 93.51 14 P **P** 21 34 17.1 0.0
INK pmax pmax
comp=Z,48nm,1.1s
INK Inuvik 93.51 14 P **P** 21 34 17.4 +0.3
baz=219
JTS Las Juntas de 94.11 81 P **P** 21 34 21.6 +0.4
JTS Las Juntas de 94.11 81 P **P** 21 34 21.6 +0.4
JTS pmax pmax
comp=Z,18nm,1.1s
LZH Lanzhou 94.44 307 *e*P **P** 21 34 23.4 +1.0
LZH pmax pmax
comp=Z,53nm,1.1s
CIT Chita 94.64 324 *e*P **P** 21 34 23.4 +0.6
CIT *e* 21 35 30.6
CIT pmax pmax
comp=Z,106nm,1.9s
TNCH TengChong 94.81 295 ⇑P **P** 21 34 25.1 +0.7
TNCH pP pP 21 35 18.3 +2.1
TNCH sP sP 21 35 36.8 -1.4
TNCH SKS **SKSac** 21 44 36.8 -3.0
TNCH S **ScS** 21 45 19.9 -0.7
TNCH pmax pmax
comp=Z,19nm,1.4s
TNCH pmax pmax
comp=Z,230nm,6.4s
YKA Yellowknife Ar 95.40 24 P **P** 21 34 25.6 -0.3
YKA Yellowknife Ar 95.40 24 P **P** 21 34 25.9 +0.1
comp=Z,6.6nm,0.8s,baz=249,slow=4.3,SNR=33
YKA PP **PP** 21 38 19.7 -0.1
comp=Z,1.0nm,0.9s,baz=229,slow=6.4,SNR=5.3
YKA PKKPbc **PKKPbc** 21 51 15.1 -5.0
comp=Z,0.4nm,0.5s,baz=146,slow=5.8,SNR=6.6
comp=Z,6.6nm,0.8s
YKA Yellowknife Ar 95.40 24 P **P** 21 34 26.0 +0.1
ECSD EROS Data Cent 96.18 46 P **P** 21 34 29.8 -0.2
C36M Paulatuk 96.62 16 P **P** 21 34 31.5 +0.2
baz=228
ULN Ulaanbaatar 96.69 319 P **P** 21 34 32.2 -0.2
ULN Ulaanbaatar 96.69 319 P **P** 21 34 32.2 -0.2
ULN pmax pmax
comp=Z,59nm,1.5s
MGMO Mountain Grove 96.92 53 P **P** 21 34 33.3 -0.2
MGMO IAmb IAmb 21 34 35.1
comp=Z,20nm,1.1s
SONM Songino Array 97.09 318 P **P** 21 34 33.4 -0.7
SONM IAmb IAmb 21 34 36.2
comp=Z,35nm,1.5s
SONM Songino Array 97.09 318 P Pdif 21 34 34.3 +0.1
comp=Z,4.1nm,0.6s,baz=137,slow=3.6,SNR=34
SONM PP **PP** 21 38 35.3 +1.9
comp=Z,0.4nm,0.5s,baz=103,slow=6.4,SNR=3.9
comp=Z,4.1nm,0.6s
A36M Sachs Harbour 98.13 14 P Pdif 21 34 38.2 +0.2
baz=227
AGMN Agassiz Nation 98.34 42 P **P** 21 34 38.8 -0.8
AGMN IAmb IAmb 21 34 41.5
comp=Z,14nm,1.2s
GTA Gaotai 98.59 309 *e*P **P** 21 34 42.0 +0.9
GTA pP pP 21 35 34.8 +1.9
GTA pmax pmax
comp=Z,8.0nm,1.1s
TIXI Tiksi 99.14 345 ⇑*i*P **Pdif** 21 34 41.8 -0.7
TIXI pmax pmax
comp=Z,5.0nm,1.3s
ZAK Zakamensk 99.91 320 *e*P **Pdif** 21 34 45.9 -0.7
ZAK pmax pmax
comp=Z,7.0nm,1.5s
GOMU GeErMu 101.38 304 P **Pdif** 21 34 53.4 -0.4
GOMU pmax pmax
comp=Z,4.0nm,0.7s
WMQ Urumqi 108.50 311 Pdif **Pdif** 21 35 25.6 +0.7
WMQ LR LR
comp=Z,77nm,24.2s
HYB Hyderabad 110.32 282 *e*PKiKP **PKiKP** 21 39 34.7 +1.0
ZSN Zaisan 111.02 314 *i* PKIKP **PKiKP** 21 39 33.6 -0.5
ZSN Zaisan 111.02 314 *e*PKiKP **PKiKP** 21 39 33.6 -0.5
ZALV Zalesovo Beam 111.75 321 Pdiff **Pdif** 21 35 38.5 -0.6
comp=Z,0.6nm,0.6s,baz=128,slow=9.6,SNR=5.9
ZALV PKKPbc **PKKPbc** 21 50 30.0 -0.8
comp=Z,0.6nm,0.6s,baz=273,slow=5.5,SNR=3.8
MK31 Makanchi Array 112.70 313 *c i*PKIKP **PKiKP** 21 39 36.1 -1.3
MKAR Makanchi Array 112.70 313 Pdiff **Pdif** 21 35 44.9 +1.4
comp=Z,0.4nm,0.5s,baz=82,slow=5.8,SNR=6.3
MKAR PKIKP **PKiKP** 21 39 36.3 -1.0
comp=Z,4.8nm,0.5s,baz=81,slow=1.3,SNR=87
MKAR PKKPbc **PKKPbc** 21 50 27.2 -0.3
comp=Z,0.9nm,0.6s,baz=278,slow=4.3,SNR=9.1
SHLS Shalkode 114.33 309 *i* PKIKP PKPdf 21 39 39.3 -1.4
SHLS Shalkode 114.33 309 *e*PKiKP PKPdf 21 39 39.4 -1.4
UZB Uzynbulak 114.66 309 *i* PKIKP PKPdf 21 39 40.6 -0.8
UZB Uzynbulak 114.66 309 *e*PKiKP PKPdf 21 39 40.7 -0.7
SATY Saty 115.10 309 *i* PKIKP **PKPdf** 21 39 41.3 -0.9
SATY Saty 115.10 309 *e*PKiKP **PKPdf** 21 39 41.3 -0.9
TDK Taldyqorghan 115.25 311 *i* PKIKP **PKPdf** 21 39 41.5 -0.8
TDK Taldyqorghan 115.25 311 *e*PKiKP **PKPdf** 21 39 41.6 -0.8
KURK Kurchatov 115.37 317 PKPdf 21 39 41.2 -1.0

KURK Kurchatov 115.37 317 *c i*PKIKP **PKPdf** 21 39 41.3 -1.0
KURK pmax pmax
comp=Z,16nm,1.0s
TARG Taragay, Kyrgy 115.42 307 **PKPdf** 21 39 42.4 -0.9
TARG Taragay, Kyrgy 115.42 307 PKIKP **PKPdf** 21 39 42.4 -0.9
KURBB Kurchatov Arra 115.42 317 PKP **PKPdf** 21 39 41.4 -1.0
comp=Z,8.5nm,0.8s,baz=96,slow=1.8,SNR=66
KURBB PP **PP** 21 40 46.7 -0.7
comp=Z,1.9nm,0.9s,baz=96,slow=5.9,SNR=4.3
MDOK Medeo 116.10 309 *i* PKIKP **PKPdf** 21 39 43.3 -0.8
MDOK Medeo 116.10 309 *e*PKiKP **PKPdf** 21 39 43.4 -0.8
KSH Kashi 116.62 305 PKP **PKiKP** 21 39 45.9 +0.6
KSH AMB AMB
comp=Z,210nm,8.4s
ULHL Ulahol 116.63 308 P **PKPdf** 21 39 44.9 -0.4
SNR=5.4
NEEM North Greenlan 116.94 12 *i* P **PKPdf** 21 39 44.1 -0.9
TKM2 Tokmak 2 117.14 309 P **PKPdf** 21 39 45.4 -0.8
SNR=16
BDFB Brasilia 117.34 121 PKP **PKiKP** 21 39 47.7 +0.4
comp=Z,1.2nm,0.5s,baz=246,slow=6.9,SNR=3.5
BDFB PKKPbc **PKKPbc** 21 50 11.8 +0.8
comp=Z,6.5nm,0.7s,baz=102,slow=4.4,SNR=12
KBK Karagaybulak 117.61 308 P **PKPdf** 21 39 46.8 -0.4
SNR=6.6
CHMS Chumysh 117.77 309 P **PKPdf** 21 39 46.5 -0.7
SNR=9.8
SGDS Sogindy 117.87 309 *e*PKiKP **PKPdf** 21 39 46.7 -0.8
SGDS *e*PP **PP** 21 41 03.2 -1.5
UCH Uchtor 117.91 308 P **PKiKP** 21 39 48.1 0.0
SNR=17
AAK Ala-Archa 117.94 308 **PKPdf** 21 39 47.3 -0.5
AAK Ala-Archa 117.94 308 *c i*PKIKP **PKiKP** 21 39 47.7 -0.1
AAK pmax pmax
comp=Z,11nm,1.3s
USP Ospenovka 117.96 309 P **PKPdf** 21 39 47.1 -0.5
SNR=14
EKS2 Erkin-Say 118.47 308 P **PKiKP** 21 39 48.8 0.0
SNR=11
ARSB Arslanbob 119.01 307 **PKPdf** 21 39 49.3 -0.6
ARSB Arslanbob 119.01 307 PKIKP **PKPdf** 21 39 49.3 -0.6
SAQQ Saqqaq 120.18 19 *i* P **PKPdf** 21 39 50.9 0.0
DZA Taraz 120.28 308 *i* PKIKP **PKPdf** 21 39 51.4 -0.6
DZA Taraz 120.28 308 *e*PKiKP **PKPdf** 21 39 51.5 -0.6
BVA0 Borovoye Array 120.37 320 *i* PKIKP **PKPdf** 21 39 50.9 -1.0
BVAR Borovoye Array 120.37 320 PKP **PKPdf** 21 39 51.2 -0.6
comp=Z,13nm,0.6s,baz=103,slow=1.3,SNR=68
BVAR PKKPbc **PKKPbc** 21 50 00.4 -0.2
comp=Z,0.5nm,0.7s,baz=266,slow=4.5,SNR=4.7
ILULI Ilulissat 120.80 20 **PKPdf** 21 39 51.6 -0.6
ILULI Ilulissat 120.80 20 PKIKP **PKPdf** 21 39 51.6 -0.6
ILULI Ilulissat 120.80 20 *i* P **PKPdf** 21 39 51.7 -0.5
KK31 Karatay Array 120.88 309 **PKPdf** 21 39 52.4 -0.9
KK31 Karatay Array 120.88 309 *i* PKIKP **PKPdf** 21 39 52.3 -0.9
KKAR Karatay Array 120.88 309 **PKPdf** 21 39 52.1 -1.1
KKAR Karatay Array 120.88 309 PKIKP **PKPdf** 21 39 52.1 -1.1
GAR Garm 120.97 304 **PKPdf** 21 39 52.9 -0.8
VOI Vohitsoka 121.05 227 PKPdf **PKPdf** 21 39 54.0 -0.4
KBS Kingsbay 121.22 358 PKPdf **PKPdf** 21 39 52.8 0.0
KBS Kingsbay 121.22 358 PKIKP **PKPdf** 21 39 52.8 0.0
IUG luzhnay 121.23 308 *i* PKIKP **PKPdf** 21 39 53.2 -0.8
IUG *e* 21 41 26.2
IUG luzhnay 121.23 308 *e*PKiKP **PKPdf** 21 39 53.3 -0.8
IUG *e*PP **PP** 21 41 26.2 -1.7
SDBA SAO DESIDERIO 121.62 120 *e*P **PKiKP** 21 40 01.6 +5.9
KBL Kabul 121.77 299 **PKPdf** 21 39 55.3 -0.1
KBL Kabul 121.77 299 PKIKP **PKPdf** 21 39 55.3 -0.1
SPA0 Spitsbergen Ar 121.79 357 *e*P **PKPdf** 21 39 53.6 -0.4
SPITS Spitsbergen Ar 121.79 357 PKP **PKPdf** 21 39 53.7 -0.4
comp=Z,26nm,0.8s,baz=60,slow=4.9,SNR=32
SPB2 Spitsbergen Ar 121.79 357 **PKPdf** 21 39 53.5 -0.4
SFJD Kangerlussuaq 121.92 22 *i* P **PKPdf** 21 39 53.3 -1.1
SIMJ Simiganj 121.98 304 **PKPdf** 21 39 54.9 -0.7
DAG Danmarks Havn 122.31 6 *i* P **PKPdf** 21 39 53.7 -1.3
SUMG Summit 122.42 14 **PKPdf** 21 39 55.3 -0.5
SUMG Summit 122.42 14 PKIKP **PKPdf** 21 39 55.3 -0.5
SUMG Summit 122.42 14 *i* P **PKPdf** 21 39 55.7 -0.1
ABPO Ambohimpanom 122.65 230 PKPdf **PKPdf** 21 39 57.3 -0.3
ABPO Ambohimpanom 122.65 230 PKIKP **PKPdf** 21 39 57.3 -0.3
GRHM Grahamstown, E 122.74 202 PKPdf **PKiKP** 21 39 57.2 -0.2
OPO Ambohidratompo 122.97 230 PKP **PKiKP** 21 39 58.8 +0.4
comp=Z,14nm,0.7s,baz=148,slow=1.7,SNR=16
DY2G Dye2 123.69 22 *i* P **PKPdf** 21 39 57.5 -0.7
DBG Daneborg 124.34 8 *i* P **PKPdf** 21 39 58.3 -0.6
SVE Sverdlovsk 125.09 326 *d i*PKIKP **PKPdf** 21 40 00.8 0.0
SVE pmax pmax
comp=Z,32nm,1.2s
IVI Ivigtut 125.31 28 *i* P **PKPdf** 21 40 00.2 -0.8
SUR Sutherland 125.31 197 PKPdf **PKPdf** 21 40 02.3 -0.1
POGA Pongola 125.75 210 **PKiKP** 21 40 03.3 -0.2
ARTI Arti 126.41 326 **PKPdf** 21 40 03.0 -0.3
ARTI Arti 126.41 326 *i* PKIKP **PKPdf** 21 40 02.7 -0.6
ARTI 21 42 00.1
ARTI 21 46 52.8
NRS Narsarsuaq 126.53 27 *i* P **PKPdf** 21 40 03.0 -0.4
ISOG Isortoq, Green 126.70 21 *i* P **PKPdf** 21 40 03.2 -0.4
BOSA Boshof 127.36 203 **PKiKP** 21 40 06.8 -0.1
BOSA Boshof 127.36 203 PKP **PKiKP** 21 40 07.3 +0.5
comp=Z,5.9nm,0.5s,baz=182,slow=2.3,SNR=27
AB31 Akbulak array 127.48 317 **PKPdf** 21 40 05.3 -0.3
AB31 Akbulak array 127.48 317 *i* PKIKP **PKPdf** 21 40 05.9 -0.3
HAMF Hammerfest 128.36 352 *e*P **PKPdf** 21 40 06.0 -0.7
KEV Kevo 128.68 350 **PKPdf** 21 40 06.5 -0.8
KEV Kevo 128.68 350 PKIKP **PKPdf** 21 40 06.5 -0.8
ARA0 ARCESS Array S 129.11 351 *e*P **PKPdf** 21 40 08.0 -0.2
ARCES ARCESS Array B 129.11 351 PKhKP PKPpre 21 39 55.2
comp=Z,1.1nm,0.8s,baz=228,slow=1.5,SNR=5.6
ARCES PKP **PKPdf** 21 40 07.7 -0.4
comp=Z,5.4nm,0.4s,baz=12,slow=1.4,SNR=68
JETT Jettan, Norway 129.78 353 *e*P **PKPdf** 21 40 08.4 -1.1
TRO Tromso 129.88 353 *e*P **PKPdf** 21 40 09.3 -0.2
KIRV Kirov 129.89 331 *c i*PKIKP **PKPdf** 21 40 09.6 -0.3
PHPEN Phepeng 131.09 202 *i* P **PKiKP** 21 40 14.8 +0.4
SKOMA Sekoma 131.56 204 *i* P **PKiKP** 21 40 15.9 +0.6
SOHO SOHO 131.80 285 *i* PKPdf **PKPdf** 21 40 14.2 -0.3
SNR=17
MREMI Moremi 131.81 209 *i* P **PKiKP** 21 40 15.4 -0.5
STEI Steigen 131.89 355 *e*P **PKPdf** 21 40 13.1 -0.3
UOSS Minazif 132.18 286 PKPdf **PKPdf** 21 40 14.8 -0.5
HATD Hatta, Dubai 132.24 285 *i* PKPdf **PKPdf** 21 40 15.5 +0.1
SNR=6.7
MSFE Esma-Masafi 132.26 286 PKPdf **PKPdf** 21 40 15.2 -0.2
ASHO Ashiyiah 132.29 285 *i* PKiKP **PKPdf** 21 40 15.9 +0.3
SNR=6.7
FAUS Fauske 132.42 354 *e*P **PKPdf** 21 40 14.1 -0.3
ALNE Al Ain 132.50 284 *i* PKPdf **PKPdf** 21 40 15.8 -0.1
SNR=7.8
KLMR Klimovskoe 132.58 338 *e*PKiKP **PKPdf** 21 40 14.8 -0.1
KLMR pmax pmax
comp=Z,18nm,1.2s
NAZ Nazwa, Dubai 132.68 286 PKPdf **PKPdf** 21 40 16.3 +0.1
BROLN Tlhalogang 133.13 210 *i* P **PKiKP** 21 40 18.0 -0.6
MATP Matopo 133.15 212 PKhKP PKPpre 21 40 02.7
comp=Z,0.9nm,0.5s,baz=143,slow=3.2,SNR=6.2
MATP PKP **PKiKP** 21 40 19.1 +0.4
comp=Z,3.2nm,0.6s,baz=150,slow=5.5,SNR=4.7
MATP SKPab **SKiKP** 21 43 31.3 -3.2
comp=Z,8.4nm,1.1s,baz=126,slow=4.3,SNR=5.2
MATP SKP 21 43 37.9
comp=Z,3.4nm,0.7s,baz=137,slow=2.3,SNR=6.7
VAGH Vaagaholmen 133.23 355 *e*P **PKPdf** 21 40 16.0 0.0
STOK Stokkvaagen 133.65 355 *e*P **PKPdf** 21 40 16.8 +0.1
KGCAE Kacgae 133.72 203 *i* P **PKiKP** 21 40 20.6 +0.8
KOOLE Kule 134.29 201 *i* P **PKPdf** 21 40 19.8 +0.2
MZR Muzera 134.47 283 *i* PKPdf **PKPdf** 21 40 19.2 -0.5
SNR=8.5
GRTLG Ghanzi 135.45 203 *i* P **PKiKP** 21 40 23.7 +0.4
WIN Windhoek 135.62 197 **PKPdf** 21 40 22.0 -0.2
WIN Windhoek 135.62 197 PKIKP **PKPdf** 21 40 22.0 -0.2
FINES FINESS Array B 136.19 345 **PKPdf** 21 40 21.0 -0.6
FINES FINESS Array B 136.19 345 PKhKP PKPpre 21 40 10.3
comp=Z,1.7nm,0.5s,baz=85,slow=3.6,SNR=17
FINES PKP **PKiKP** 21 40 22.6 -0.7
comp=Z,4.0nm,0.5s,baz=59,slow=3.9,SNR=8.7
MOS Moscow 136.76 333 *e*PKiKP **PKPdf** 21 40 22.5 -0.4
MAK Makhachkala 137.50 312 *i* P **Pdif** 21 37 28.1 -5.7
MAK *i* 21 40 24.0
MAK *e* 21 47 16.1
MAK *e*SS SS 22 01 01.3 -2.4
MAK pmax pmax
comp=Z,269nm,1.7s
VRH Novokhopyorsk 137.53 326 *e*PKiKP **PKPdf** 21 40 21.8 -2.6
VRH pmax pmax
comp=Z,10.0nm,1.0s
LSZ Lusaka 137.61 215 **PKPdf** 21 40 25.5 -0.4
LSZ Lusaka 137.61 215 PKhKP PKPpre 21 40 16.8
comp=Z,1.3nm,0.5s,baz=94,slow=3.8,SNR=5.3
LSZ PKP **PKiKP** 21 40 28.7 +0.9
comp=Z,13nm,0.9s,baz=66,slow=2.1,SNR=18
OBN Obninsk 137.63 333 *c i*PKIKP **PKPdf** 21 40 24.7 +0.2
OBN *i* 21 43 09.4
OBN *e*PPP PPP 21 46 21.2
OBN 21 47 16.0
OBN PS **PS** 21 53 46.0 +2.3
OBN *e*SS SS 22 01 06.5 +2.7
OBN SSS SSS 22 06 14.0
OBN pmax pmax
comp=Z,30nm,1.1s
AKT Akhty 137.78 310 *e*PKIKP **PKPdf** 21 40 23.2 -2.2
AKT *e* 21 43 11.2
AKT pmax pmax
comp=Z,26nm,1.1s
LPSR Galich'ya Gora 138.16 329 *e*PKHKP PKPpre 21 40 17.7
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSU Vasula 138.57 342 *d i*PKIKP **PKPdf** 21 40 27.1 +1.0
VORR Voronezh 138.57 328 *e*PKIKP **PKPdf** 21 40 23.1 -3.2
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 138.86 327 *e*PKIKP **PKPdf** 21 40 24.1 -2.8
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 138.94 327 *e*PKIKP **PKPdf** 21 40 24.5 -2.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
NB2 NORSAR Subarra 139.02 355 PKP PKPpre 21 40 16.5
comp=Z,2.0nm,0.7s,baz=7.8,slow=3.4
NB2 NORSAR Subarra 139.02 355 PKP PKPpre 21 40 16.5
baz=7.8,slow=3.4
NOA NORSAR Array B 139.02 355 PKhKP PKPpre 21 40 17.0
comp=Z,2.8nm,0.8s,baz=15,slow=2.4,SNR=12
NOA PKP **PKiKP** 21 40 28.5 -0.7
comp=Z,1.9nm,0.7s,baz=40,slow=1.2,SNR=11
HFS Hagfors 139.66 353 PKhKP PKPpre 21 40 19.0
comp=Z,3.4nm,0.5s,baz=72,slow=4.8,SNR=11
HFS PKP **PKPdf** 21 40 27.7 -0.4
comp=Z,3.4nm,0.5s,baz=28,slow=3.4,SNR=20
HFS PP **PP** 21 43 22.2 -3.0
comp=Z,2.2nm,0.9s,baz=182,slow=40,SNR=3.2
KBZ Khabaz 140.36 315 PKhKP PKPpre 21 40 24.5
comp=Z,1.7nm,0.6s,baz=145,slow=2.2,SNR=7.7
KBZ PKP **PKiKP** 21 40 32.1 -0.4
comp=Z,3.3nm,0.7s,baz=140,slow=6.2,SNR=4.6
KBZ Khabaz 140.36 315 ⇑*i*PKIKP **PKPdf** 21 40 30.1 +0.3
KIV Kislovodsk 140.41 315 *i* PKIKP **PKiKP** 21 40 32.4 -0.3
KIV *e* 21 43 30.1
KIV *e*SS SS 22 01 37.8 -0.1
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,84nm,24.0s
ERBR Yeremizino-Bor 141.04 319 *i* PKHKP PKPpre 21 40 25.1
ERBR pmax pmax
comp=Z,37nm,0.9s
KMBO Kilima Mbogo 141.41 240 PKP **PKPdf** 21 40 34.3 +1.3
comp=Z,5.1nm,0.6s,baz=76,slow=2.5,SNR=6.9
MNK Minsk 141.47 338 *i* PKHKP PKPpre 21 40 27.0
MNK *i* 21 40 30.4
MNK *i* 21 43 33.8
MNK *i* PPP PPP 21 46 42.6
MNK *i* 21 47 13.6
MNK *i* SS SS 22 01 46.0 -2.5
MNK *i* SSS SSS 22 07 06.8
MNK pmax pmax
comp=Z,21nm,0.8s
MNK pmax pmax
comp=N,3.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
RAYN Ar Rayn 141.82 283 ⇑PKHKP PKPpre 21 40 27.7
RAYN Ar Rayn 141.82 283 *i* PKPdf **PKPdf** 21 40 28.3 -4.9
SNR=18
HOMB Homborsund 141.96 356 *e*P **PKPdf** 21 40 27.0 -5.3
HOMB Homborsund 141.96 356 *i* P **PKPdf** 21 40 26.9 -5.4
ATD Arta Tunnel 142.09 263 PKhKP PKPpre 21 40 31.2
comp=Z,0.2nm,0.4s,baz=76,slow=6.5,SNR=4.7
SOC Sochi 142.51 316 *e*PKHKP PKPpre 21 40 29.2
SOC *e*PPP PPP 21 46 52.4
SOC *e*SS SS 22 02 01.0 -0.9
SOC pmax pmax
comp=Z,19nm,1.0s
GURO Guroymak-BITLI 142.83 308 **PKPdf** 21 40 32.3 -2.3
FABU Falkenberg 142.84 352 *i* P **PKPdf** 21 40 29.0 -4.9
BLEU Blekinge 143.05 349 *i* P PKPab 21 40 29.3 -0.8
DEL Delary 143.20 351 *i* P PKPab 21 40 30.9 +0.2
ANN Anapa 143.36 319 *i* PKHKP PKPpre 21 40 31.6
ANN pmax pmax
comp=Z,54nm,1.0s
SUW Suwalki 143.41 341 *e*PKP PKPbc 21 40 32.6 -0.2
SUW Suwalki 143.41 341 PKPbc 21 40 32.6 -0.2
SUW Suwalki 143.41 341 PKIKP PKPbc 21 40 32.6 -0.2
KOPT Kop Dagi 143.45 311 PKPbc 21 40 34.5 +0.8
BJUU Bjuv 143.70 352 *i* P PKPab 21 40 32.4 -0.3
MUD Monsted U'grnd 143.72 356 *i* P PKPab 21 40 32.6 -0.1
AKASG Malin Array Be 143.89 333 PKhKP PKPpre 21 40 33.1
comp=Z,16nm,0.5s,baz=43,slow=4.5,SNR=153
AKASG SKP 21 43 53.1
comp=Z,0.3nm,0.4s,baz=59,slow=1.9,SNR=2.4
AKBB Malin Array Si 143.89 333 PKPab 21 40 33.0 -0.6
AKBB Malin Array Si 143.89 333 PKIKP PKPab 21 40 33.0 -0.6
KIEV Kiev 143.90 333 ⇓P PKPab 21 40 33.0 -0.6
KIEV Kiev 143.90 333 ⇓PKIKP PKPab 21 40 33.0 -0.7
KIEV Kiev 143.90 333 *i* PKPdf PKPab 21 40 33.5 -0.1
SNR=11
LUNU Lund 144.07 351 *i* P **PKPab** 21 40 33.4 -0.7
IDGL Inch Island, C 144.13 12 PKPdf **PKPab** 21 40 34.3 -0.1
BSD Bornholm Skovb 144.34 350 *i* P **PKPab** 21 40 34.9 -0.3
MI28 Mi28,Pidlybu 144.36 335 PKP **PKPab** 21 40 35.1 -0.3
EKA Eskdalemuir Ar 144.56 7 PKP **PKPab** 21 40 35.5 -0.6
comp=Z,35nm,0.6s,baz=327,slow=2.7,SNR=258
ESK Eskdalemuir 144.57 7 **PKPab** 21 40 35.8 -0.3
ESK Eskdalemuir 144.57 7 PKIKP **PKPab** 21 40 35.8 -0.3
RNPP9 Sopachiv 144.67 337 PKP **PKPab** 21 40 36.1 -0.5
RNPP2 Kostyukhnivka 144.74 337 PKP PKPbc 21 40 36.5 -0.4
RNPP8 Varash 144.75 337 PKP PKPbc 21 40 36.4 -0.4
RNPP5 Staryi Chortor 144.82 336 PKP PKPbc 21 40 36.6 -0.5
LUBAR Lubar, Ukraine 145.10 333 PKP **PKPdf** 21 40 36.8 -1.2
RGN Rugen 145.14 351 PKPbc **PKPdf** 21 40 37.5 -0.4
IGLA Glengowla, Co 145.28 14 PKPbc **PKPdf** 21 40 38.3 -0.1
ILTH Belurgan, Co L 145.34 11 PKPdf **PKPdf** 21 40 38.1 -0.2
LODK Lodwar 145.48 245 **PKPdf** 21 40 40.0 +0.1
R9F13 Warsaw-Wawer 145.57 342 *e*PKP **PKPab** 21 40 40.4 +0.5
GKP Gorka Klasztor 145.63 346 *e*PKP **PKPbc** 21 40 39.8 +0.3
BAL3X Bal3x, Balta 145.73 329 PKP **PKPbc** 21 40 39.7 -0.3
BEL Belsk 146.02 342 *e*PKP **PKPbc** 21 40 40.6 -0.1
HLG Helgoland 146.07 356 *e*PKPbc **PKPab** 21 40 41.9 +0.2
baz=13,slow=2.5
DSB Dublin 146.08 12 PKP **PKPab** 21 40 41.1 -0.8
DSB PKPdf **PKPbc** 21 40 40.3 -0.6
DSB Dublin 146.08 12 **PKPbc** 21 40 40.6 -0.3
PCED Cedros 146.13 50 *e*PKP **PKPbc** 21 40 41.6 +0.1
CALA Caldeira 146.15 50 *e*PKP **PKPab** 21 40 42.5 -0.3
SORM Soroca 146.17 331 ⇑P **PKPdf** 21 40 40.2 +0.3
SORM Soroca 146.17 331 ⇑PKIKP **PKPdf** 21 40 40.8 +0.3
PCAN Candelaria 146.35 50 *e*PKP **PKPbc** 21 40 42.8 +0.6
PICO Pico 146.38 50 *e*PKP **PKPbc** 21 40 42.6 +0.3
VAL Valentia 146.42 16 PKPdf **PKPbc** 21 40 41.6 -0.3
ROSA Rosais 146.43 50 *e*PKP **PKPab** 21 40 43.1 -0.6
PPNO Prainha do Nor 146.51 50 *e*PKP **PKPab** 21 40 43.8 -0.4
PURM Purcari 146.57 327 ⇑P **PKPbc** 21 40 42.4 -0.1
PMAN Manadas 146.57 50 *e*PKP **PKPbc** 21 40 43.3 +0.5
PID Ribeirinha 146.63 50 *e*PKP **PKPab** 21 40 44.0 -0.6
LVV L'vov 146.66 337 PKP2 **PKPbc** 21 40 42.7 0.0
KIS Kishinev 146.76 329 *e*PKP **PKPbc** 21 40 42.0 -1.0
comp=Z,110nm,1.0s
KIS *i* APKP **pPKPdf** 21 41 36.0 +0.6
KIS Kishinev 146.76 329 ⇑P **PKPbc** 21 40 42.7 -0.4
KIS Kishinev 146.76 329 *e*PKIKP **PKPbc** 21 40 42.0 -1.0
KIS *i* 21 41 36.0
KIS pmax pmax
comp=Z,110nm,1.0s
MILM Milestii Mici 146.82 329 *e*PKP **PKPdf** 21 40 42.0 +0.9
comp=Z,290nm,1.1s
MILM *i* pPKP **pPKPdf** 21 41 36.0 +0.5

MILM **Milestii Mici** 146.82 329 ⇓P PKPbc 21 40 42.2 -1.0
MILM **Milestii Mici** 146.82 329 *e*PKIKP PKPdf 21 40 42.0 +0.9
MILM *i* 21 41 36.0
MILM pmax pmax
comp=Z,290nm,1.1s
IWEX **Carrickbyrne,** 146.83 13 PKPdf PKPbc 21 40 43.1 +0.1
MBAR **Mbarara** 146.88 234 PKPdf 21 40 43.1 +0.7
MBAR **Mbarara** 146.88 234 PKIKP PKPdf 21 40 43.1 +0.7
GORT1 **Trebel** 146.94 352 *e*PKPdf PKPdf 21 40 41.4 +0.4
baz=9.0,slow=1.6
GORT1 *e*PKPbc PKPbc 21 40 44.0 +0.7
baz=13,slow=2.5
BZK **Bozkurt** 146.97 317 ⇑P PKPbc 21 40 43.3 -0.5
PSBA **Serra de Santa** 147.06 49 *e*PKP PKPdf 21 40 42.6 +0.9
RUE **Ruedersdorf** 147.06 349 *e*PKPbc PKPbc 21 40 44.2 +0.6
baz=13,slow=2.5
PAGU **Agualva, Azore** 147.16 49 *e*PKP PKPbc 21 40 44.7 +0.2
BNN **Bunyan** 147.22 311 PKPdf 21 40 41.6 -0.5
MORS **Morshin** 147.27 336 PKP2 PKPbc 21 40 44.5 +0.1
KWP **Kalwaria Pacla** 147.29 338 *e*PKP PKPdf 21 40 42.9 +1.1
RETH **Rethem/Aller,** 147.40 354 *e*PKPbc PKPbc 21 40 45.3 +0.8
baz=13,slow=2.5
KSV **Kosov** 147.46 334 PKIKP PKPbc 21 40 43.7 -1.3
VASR **Vaslui** 147.51 329 ⇓P PKPbc 21 40 45.8 +0.6
NRDL **Niedersach Rie** 147.56 353 *e*PKPdf PKPdf 21 40 42.4 +0.4
baz=9.0,slow=1.6
NRDL *e*PKPbc PKPbc 21 40 45.7 +0.8
baz=13,slow=2.5
FLTG **Flechtingen** 147.59 352 *e*PKPdf PKPdf 21 40 42.5 +0.3
baz=9.0,slow=1.6
FLTG *e*PKPbc PKPbc 21 40 45.3 +0.2
baz=13,slow=2.5
CIDE **Kastamonu/Cide** 147.68 318 ⇓P PKPdf 21 40 41.3 -1.3
PRAR **RASCA** 147.70 332 ⇑P PKPbc 21 40 45.2 -0.5
OJC **Ojcow** 147.74 341 *e*PKP PKPdf 21 40 43.1 +0.6
OJC **Ojcow** 147.74 341 PKPdf 21 40 42.3 -0.2
OJC **Ojcow** 147.74 341 PKIKP PKPdf 21 40 42.3 -0.2
ASSE **Asse, Remlinge** 147.86 353 *e*PKPbc PKPbc 21 40 46.5 +0.8
baz=13,slow=2.5
BIR **Birlad** 147.86 329 ⇑P PKPbc 21 40 46.4 +0.3
BIR **Birlad** 147.86 329 ⇑PKP2 PKPbc 21 40 46.4 +0.3
BUR08 **Bucovina Ar. S** 147.93 333 PKPdf 21 40 43.3 +0.2
VLDR **Vladesti** 147.94 328 ⇑P PKPbc 21 40 46.7 +0.5
BURAR **Bucovina Array** 147.95 333 PKPdf 21 40 43.0 -0.1
BURAR **Bucovina Array** 147.95 333 ⇑P PKPdf 21 40 44.2 +1.1
BURAR **Bucovina Array** 147.95 333 ⇑PKIKP PKPdf 21 40 44.2 +1.1
IBBN **Ibbenburen** 147.95 356 *e*PKPdf PKPdf 21 40 43.2 +0.5
baz=9.0,slow=1.6
IBBN *e*PKPbc PKPbc 21 40 46.6 +0.6
baz=13,slow=2.5
STHS **Stebnicka Huta** 147.98 339 *e*PKP2 PKPbc 21 40 46.1 -0.2
STHS **Stebnicka Huta** 147.98 339 *e*PKP PKPbc 21 40 46.1 -0.2
STHS *e* 21 40 50.4
TLCR 148.02 326 ⇓P PKPbc 21 40 45.0 -1.5
TLCR 148.02 326 ⇓PKIKP PKPbc 21 40 45.0 -1.5
KOLS **Kolonicke sedl** 148.03 338 *e*PKIKP PKPdf 21 40 43.6 +0.5
KOLS *e* 21 40 47.3
KOLS **Kolonicke sedl** 148.03 338 *e*PKP PKPdf 21 40 43.6 +0.5
KOLS *e* 21 40 47.3
SCTR **Scanteiesti** 148.10 328 ⇑P PKPbc 21 40 46.5 -0.2
KSP **Ksiaz** 148.11 346 *e*PKP PKPdf 21 40 44.4 +1.3
GHRR 148.12 329 ⇓P PKiKP 21 40 47.9 -0.5
TESR **Tescani** 148.15 330 ⇑P PKPdf 21 40 43.6 +0.3
CLZ **Clausthal** 148.18 353 *e*PKPdf PKPdf 21 40 43.6 +0.4
baz=9.0,slow=1.6
CLZ *e*PKPbc PKPbc 21 40 47.3 +0.6
baz=13,slow=2.5
JURR **Jurilovca** 148.28 326 ⇑P PKPbc 21 40 47.5 +0.3
NIE **Niedzica** 148.29 340 *e*PKP PKPdf 21 40 44.2 +0.7
IZVR **Izvoarele** 148.31 328 ⇑P PKPbc 21 40 47.5 +0.3
COSR **Cosmesti PH** 148.31 329 ⇓P PKiKP 21 40 48.1 -0.6
CLL **Collm** 148.32 350 PKPdf 21 40 42.9 -0.5
CLL **Collm** 148.32 350 ⇓*i*PKIKP PKPdf 21 40 44.2 +0.8
CLL *i* 21 40 50.5
CLL pmax pmax
comp=Z,96nm,0.8s
CLL pmax pmax
comp=Z,73nm,1.2s
CLL **Collm** 148.32 350 *e*PKPdf PKPdf 21 40 43.9 +0.5
baz=9.0,slow=1.6
CLL *e*PKPbc PKPbc 21 40 47.4 +0.3
baz=13,slow=2.5
BR131 **Keskin Array S** 148.34 314 PKPdf 21 40 43.4 -0.6
BR131 **Keskin Array S** 148.34 314 PKIKP PKPdf 21 40 43.4 -0.6
BRTR **Keskin Array B** 148.34 314 PKPdf 21 40 43.0 -1.0
BRTR **Keskin Array B** 148.34 314 PKPbc PKPbc 21 40 47.3 -0.5
comp=Z,19nm,0.6s,baz=64,slow=2.9,SNR=66
CFR **Carcaliu** 148.38 327 ⇓P PKPdf 21 40 44.3 +0.6
CFR **Carcaliu** 148.38 327 ⇓PKIKP PKPdf 21 40 44.3 +0.6
PANC **Panciu** 148.38 329 ⇑P PKPbc 21 40 48.0 +0.6
OSTC **Ostas** 148.39 346 *e*PKIKP PKPdf 21 40 44.3 +0.7
OSTC *e* 21 40 48.7
OSTC **Ostas** 148.39 346 *e*PKPDF PKPdf 21 40 44.3 +0.7
OSTC ⇑*e*PKP PKiKP 21 40 48.7 -0.1
ONER **Baraj Valea Uz** 148.40 330 ⇑P PKPbc 21 40 47.7 +0.3
CHVC **Chvalec** 148.40 346 *e*PKP2 PKPbc 21 40 47.2 -0.2
CHVC **Chvalec** 148.40 346 *e*PKPDF PKPdf 21 40 43.6 0.0
CHVC ⇑*e*PKP PKPbc 21 40 47.8 +0.4
KIRS **Kirsehir-Merke** 148.44 313 ⇓P PKPdf 21 40 44.3 +0.2
TPGR **Topolog** 148.45 326 ⇑P PKPbc 21 40 47.3 -0.4
TRSU **Trosnyk** 148.48 336 PKP2 PKPbc 21 40 48.1 +0.5
FKH **Fakeheh** 148.48 303 *e*P PKPbc 21 40 48.5 +0.2
UPC **Upice** 148.49 346 *e*PKP2 PKPbc 21 40 48.1 +0.5
UPC **Upice** 148.49 346 ⇑*e*PKP PKPbc 21 40 48.1 +0.5
ODBI **Odobesti** 148.50 329 ⇑P PKiKP 21 40 49.1 -0.1
GTTG **Gottingen** 148.51 353 *e*PKPdf PKPdf 21 40 44.1 +0.3
baz=9.0,slow=1.6
GTTG *e*PKPbc PKPbc 21 40 48.1 +0.5
baz=13,slow=2.5
DPC **Dobruska-Polom** 148.56 345 *e*PKIKP PKPdf 21 40 44.9 +1.0
DPC *e* 21 40 48.5
DPC **Dobruska-Polom** 148.56 345 *e*PKPDF PKPdf 21 40 44.9 +1.0
DPC ⇑*e*PKP PKiKP 21 40 48.5 -0.7
DPC *e*PKPAB PKPab 21 40 53.0 +1.1
OKC **Ostrava-Krasne** 148.56 343 *e*PKP2 PKPbc 21 40 47.9 +0.2
OKC **Ostrava-Krasne** 148.56 343⇑*e*PKP PKPbc 21 40 47.9 +0.2
BEIL **Beino** 148.57 303 *e*P PKPbc 21 40 48.5 +0.3
STEB **Steborice** 148.57 343 *e*PKPDF PKPdf 21 40 44.4 +0.5
STEB ⇑*e*PKP PKPbc 21 40 48.3 +0.5
BRG **Berggiesshubel** 148.57 348 *e*PKPdf PKPdf 21 40 45.5 +1.7
baz=9.0,slow=1.6
BRG *e*PKPbc PKiKP 21 40 49.4 +0.3
baz=13,slow=2.5
BRG **Berggiesshubel** 148.57 348 P PKPab 21 41 00.3 +8.5
BRG Amp 21 41 01.3
comp=Z,10.0nm,0.8s
VRI **Vrincioaia** 148.59 329 ⇑P PKPbc 21 40 47.7 -0.3
VRI **Vrincioaia** 148.59 329 ⇑PKP2 PKPbc 21 40 47.7 -0.3
BMR **Baia Mare** 148.61 335 ⇑P PKPbc 21 40 47.0 -0.9
BMR **Baia Mare** 148.61 335 ⇑PKIKP PKPbc 21 40 47.0 -0.9
NEUB **Neuenburg** 148.61 351 *e*PKPdf PKPdf 21 40 44.3 +0.4
baz=9.0,slow=1.6
NEUB *e*PKPbc PKPbc 21 40 48.3 +0.5
baz=13,slow=2.5
PLOR **Plostina** 148.63 329 ⇓P PKPbc 21 40 47.7 -0.4
PLOR **Plostina** 148.63 329 ⇓PKP2 PKPbc 21 40 47.7 -0.4
KRLC **Kraliky** 148.70 345 *e*PKIKP PKPdf 21 40 44.8 +0.7
KRLC *e* 21 40 48.9
KRLC **Kraliky** 148.70 345 *e*PKPDF PKPdf 21 40 44.8 +0.7
KRLC ⇑*e*PKP PKiKP 21 40 48.9 -0.6
ARCR **ARCALIA** 148.73 333 ⇓P PKPdf 21 40 45.0 +0.7
TIRR **Tirgusor** 148.73 326 PKPdf 21 40 44.6 +0.3
TIRR **Tirgusor** 148.73 326 ⇑P PKPbc 21 40 48.6 +0.3
TIRR **Tirgusor** 148.73 326 ⇑PKP2 PKPbc 21 40 48.6 +0.3
CMLA **Cha da Macela** 148.77 50 *e*PKP PKPdf 21 40 43.3 -1.3
MORC **Moravsky Berou** 148.78 343 *e*PKP PKPdf 21 40 45.1 +0.8
MORC *e* 21 40 49.1
MORC **Moravsky Berou** 148.78 343 ⇑P PKPdf 21 40 45.4 +1.1
MORC **Moravsky Berou** 148.78 343 ⇓PKIKP PKPdf 21 40 45.4 +1.1
PVCC **Panska Ves** 148.78 347 *e*PKIKP PKPdf 21 40 44.5 +0.3
PVCC *e* 21 40 48.9
PVCC **Panska Ves** 148.78 347 *e*PKPDF PKPdf 21 40 44.5 +0.3
PVCC ⇑*e*PKP PKiKP 21 40 48.9 -0.7
TURR **Turia** 148.78 330 ⇑P PKPbc 21 40 48.2 -0.3
LANS **Liptovska Anna** 148.79 341 *e*PKIKP PKPdf 21 40 45.3 +1.0
LANS *e* 21 40 49.4
LANS **Liptovska Anna** 148.79 341 *e*PKP PKPdf 21 40 45.3 +1.0
LANS *e* 21 40 49.4
LANS *e* 21 41 45.0
GRER 148.82 328 ⇑P PKiKP 21 40 49.3 -0.5
HARR **Harsova** 148.82 327 ⇓P PKPbc 21 40 48.4 -0.2
HARR **Harsova** 148.82 327 ⇓PKP2 PKPbc 21 40 48.4 -0.2

ANTO **Ankara** 148.84 315 PKPdf 21 40 44.4 -0.3
ANTO **Ankara** 148.84 315 ⇑P PKPdf 21 40 45.6 +0.9
ANTO **Ankara** 148.84 315 ⇑PKIKP PKPdf 21 40 45.6 +0.9
HWQ **Hawqa** 148.84 303 *e*P PKPbc 21 40 49.4 +0.2
BUG **Bochum--Univer** 148.84 357 *e*PKPdf PKPdf 21 40 44.6 +0.4
baz=9.0,slow=1.6
BUG *e*PKPbc PKPbc 21 40 48.9 +0.6
baz=13,slow=2.5
COVR **Voineasa-Covas** 148.85 330 ⇓P PKPdf 21 40 44.3 -0.2
OZUR 148.86 331 ⇑P PKPbc 21 40 48.3 -0.4
RICC **Richard** 148.86 348⇑*e*PKP PKiKP 21 40 49.1 -0.6
TLBR **Topalu** 148.86 326 ⇑P PKPbc 21 40 48.9 +0.2
PGRON **Lagoa das Cont** 148.87 50 *e*PKP PKPdf 21 40 43.3 -1.5
MFTR **Murfatlar** 148.91 325 ⇓P PKPbc 21 40 49.1 +0.3
HSKC **Hora Svate Kat** 148.92 349⇑*e*PKP PKPbc 21 40 48.8 +0.1
KASTN **Kahler Asten** 149.00 355 *e*PKPdf PKPdf 21 40 44.7 +0.1
baz=9.0,slow=1.6
KASTN *e*PKPbc PKPbc 21 40 49.2 +0.3
baz=13,slow=2.5
BART **Pico Bartolome** 149.02 49 *e*PKP PKPdf 21 40 41.3 -3.8
KECS **Kecovo** 149.04 339 *e*PKP2 PKiKP 21 40 49.6 -0.6
KECS **Kecovo** 149.04 339 *e*PKP PKiKP 21 40 49.6 -0.6
KECS *e* 21 40 55.5
MANC **Mangalia** 149.06 325 ⇓P PKPbc 21 40 48.2 -1.0
MAUC **Maruska** 149.07 343 *e*PKPDF PKPdf 21 40 45.7 +0.9
MAUC ⇑*e*PKP PKiKP 21 40 49.9 -0.4
NEHR **Nehoiu** 149.11 329 ⇓P PKPbc 21 40 49.7 +0.3
DOPR **Dopca** 149.13 331 ⇓P PKPdf 21 40 45.8 +0.9
BHL **Bhannes** 149.19 303 *e*P PKPbc 21 40 50.1 +0.2
MOX **Moxa** 149.19 351 *e*PKPdf PKPdf 21 40 44.9 +0.1
baz=9.0,slow=1.6
MOX *e*PKPbc PKPbc 21 40 49.7 +0.4
baz=13,slow=2.5
MOX *e*L L 22 42 23.3
comp=Z,49nm,20.5s
ISR **Istrita** 149.22 329 ⇑P PKPdf 21 40 46.1 +1.0
ISR **Istrita** 149.22 329 ⇑PKHKP PKPpre 21 40 46.1
UBBA **Unterbreizbach** 149.22 353 *e*PKPdf PKPdf 21 40 44.7 -0.1
baz=9.0,slow=1.6
UBBA *e*PKPbc PKPbc 21 40 49.6 +0.4
baz=13,slow=2.5
MLR **Muntele Rosu** 149.23 330 PKPdf 21 40 43.5 -1.8
MLR **Muntele Rosu** 149.23 330 ⇑P PKPbc 21 40 49.9 +0.2
MLR **Muntele Rosu** 149.23 330 ⇑PKP2 PKPbc 21 40 49.9 +0.2
PRA **Prague** 149.24 347 *e*PKP2 PKiKP 21 40 50.0 -0.5
PRA **Prague** 149.24 347⇑*e*PKP PKiKP 21 40 50.0 -0.5
MESR **Meseseni** 149.25 335 ⇑P PKiKP 21 40 50.4 -0.3
PLN **Plauen** 149.26 350 *e*PKPdf PKPdf 21 40 45.2 +0.3
baz=9.0,slow=1.6
PLN *e*PKPbc PKPbc 21 40 49.9 +0.4
baz=13,slow=2.5
TANN **Tannenbergstha** 149.28 350 *e*PKPdf PKPdf 21 40 45.5 +0.4
baz=9.0,slow=1.6
TANN *e*PKPbc PKPbc 21 40 50.1 +0.5
baz=13,slow=2.5
ICOR **Ion Corvin** 149.28 326 ⇑P PKPbc 21 40 49.4 -0.4
PRU **Pruhonice** 149.30 347 *e*PKHKP PKPpre 21 40 45.2
PRU **Pruhonice** 149.30 347 *e*PKPDF PKPdf 21 40 45.2 +0.2
PRU ⇑*e*PKP PKiKP 21 40 50.1 -0.5
CBBR **Cluj-Babes-Bol** 149.31 334 ⇑P PKPbc 21 40 49.3 -0.4
CJR **Cluj-Napoca** 149.34 334 ⇑P PKPbc 21 40 49.4 +1.1
CJR **Cluj-Napoca** 149.34 334 ⇑PKHKP PKPpre 21 40 46.4
PSMN **Pico do Norte,** 149.42 51 *e*PKP PKPdf 21 40 45.6 -0.1
MDB **Medias** 149.45 332 ⇑P PKPbc 21 40 49.8 -0.3
MDB **Medias** 149.45 332 ⇑PKP2 PKPbc 21 40 49.8 -0.3
VRAC **Vranov** 149.46 344 *e*PKP PKPdf 21 40 45.8 +0.5
VRAC *e* 21 40 50.3
VRAC *e* 21 40 56.2
VRAC **Vranov** 149.46 344 ⇑P PKPdf 21 40 46.4 +1.1
VRAC **Vranov** 149.46 344 ⇑PKHKP PKPpre 21 40 46.4
LEHL **Lehliu** 149.54 327 ⇑P PKiKP 21 40 51.1 -0.2
BEBN **Eben Emael** 149.55 358 *d*PKP PKPbc 21 40 50.0 -0.1
MDUB **Mudurnu** 149.56 317 PKPdf 21 40 44.5 -1.4
SAHE **Sakarya_HENDEK** 149.56 318 ⇑P PKPbc 21 40 48.5 -2.0
VYHS **Vyhne** 149.56 341 *e*PKHKP PKPpre 21 40 45.9
VYHS **Vyhne** 149.56 341 *e*PKP PKPdf 21 40 45.9 +0.4
VYHS *e* 21 40 50.7
VYHS *e* 21 40 56.8
UCC **Uccle** 149.57 0 PKPdf 21 40 44.0 -1.4
UCC **Uccle** 149.57 0 PKIKP PKPdf 21 40 44.0 -1.4
UCC **Uccle** 149.57 0 *d*PKP PKPbc 21 40 50.5 +0.3
MARR **Marisel-Cluj** 149.57 334 ⇓P PKPdf 21 40 46.1 +0.4
JAVC **Velka Javorina** 149.58 343 *e*PKP PKPdf 21 40 47.0 +1.4
JAVC *e* 21 40 51.8
PLAR **PLOIESTI** 149.62 329 ⇑P PKPbc 21 40 49.9 -0.7
CICN **Ciocanesti** 149.63 327 ⇓P PKPbc 21 40 49.9 -0.6
DRGR 149.64 335 ⇑P PKPdf 21 40 46.5 +0.8
DRGR 149.64 335 ⇑PKHKP PKPpre 21 40 46.5
MMAI **Mount Meron Ar** 149.65 301 PKPbc PKiKP 21 40 51.9 -0.2
comp=Z,26nm,0.5s,baz=72,slow=5.4,SNR=134
SULR 149.68 328 ⇑P PKPbc 21 40 50.4 -0.3
PSZ **Piszkesteto** 149.73 339 PKPdf 21 40 45.5 -0.3
PSZ **Piszkesteto** 149.73 339 ⇑P PKPbc 21 40 50.2 -0.6
PSZ **Piszkesteto** 149.73 339 ⇑PKHKP PKPpre 21 40 50.2
MEM **Membach** 149.73 358 *d*PKPdf PKPbc 21 40 46.0 +0.3
MEM *d*PKP PKPbc 21 40 50.5 -0.1
KRUC **Moravsky** 149.73 344 *e*PKP PKPdf 21 40 46.1 +0.3
KRUC *e* 21 40 50.7
KRUC *e* 21 40 57.1
TREC **Trest** 149.74 346 *e*PKP2 PKPbc 21 40 51.1 +0.4
TREC **Trest** 149.74 346⇑*e*PKP PKPbc 21 40 51.1 +0.4
BTNL **Ternell** 149.75 358 *d*PKPdf PKPdf 21 40 45.6 -0.1
BTNL *d*PKP PKPbc 21 40 50.7 0.0
MANZ **Manzenberg** 149.75 350 *e*PKPdf PKPdf 21 40 46.3 +0.5
baz=9.0,slow=1.6
MANZ *e*PKPbc PKiKP 21 40 51.2 -0.4
baz=13,slow=2.5
BORR **Bors** 149.75 336 ⇑P PKiKP 21 40 51.5 -0.1
BSTI **Sart Tilman** 149.77 359 *d*PKP PKiKP 21 40 51.2 -0.4
TNR **Turnu Rosu** 149.88 332 ⇓P PKPbc 21 40 51.2 0.0
TNR **Turnu Rosu** 149.88 332 ⇓PKP2 PKPbc 21 40 51.2 0.0
ZVC **Zvikov** 149.89 347⇑*e*PKP PKiKP 21 40 51.6 -0.3
ARR **Arges** 149.94 331 ⇑P PKPdf 21 40 47.6 +1.3
BCLA **Clavier** 149.94 359 *d*PKP PKPbc 21 40 51.3 +0.2
ROTZ **Rotzenmuhle** 149.95 350 *e*PKPdf PKPdf 21 40 46.4 +0.4
baz=9.0,slow=1.6
ROTZ *e*PKPbc PKiKP 21 40 51.8 -0.2
baz=13,slow=2.5
TNS **Taunus Mts** 149.97 355 *e*PKPdf PKPdf 21 40 46.5 +0.3
baz=9.0,slow=1.6
TNS *e*PKPbc PKiKP 21 40 51.8 -0.3
baz=13,slow=2.5
BGES **Gesves** 149.97 359 *d*PKP PKPbc 21 40 51.4 +0.1
BHOU **Houvegnez** 149.98 358 *d*PKP PKiKP 21 40 51.6 -0.4
BMRD **Maredsous** 150.06 360 *d*PKPdf PKPdf 21 40 46.4 +0.2
BMRD *d*PKP PKPbc 21 40 51.5 +0.1
BSZH **Besenyszg** 150.13 338 ⇑P PKiKP 21 40 52.7 +0.3
GRF **Grafenberg Arr** 150.17 351 *e*PKPdf PKPdf 21 40 46.8 +0.4
baz=9.0,slow=1.6
GRF *e*PKPbc PKiKP 21 40 52.4 -0.1
baz=13,slow=2.5
GRF *e*L L 22 43 02.7
comp=Z,46nm,20.5s
GRFO **Grafenberg** 150.17 351 PKPdf 21 40 45.7 -0.7
GRFO **Grafenberg** 150.17 351 PKIKP PKPdf 21 40 45.7 -0.7
RCHB **Rochefort** 150.20 359 *d*PKPdf PKPdf 21 40 46.2 -0.2
RCHB *d*PKP PKPbc 21 40 51.7 -0.1
LOT **Lotru** 150.26 332 ⇓P PKPdf 21 40 46.5 -0.3
DOU **Dourbes** 150.27 360 *d*PKP PKPbc 21 40 52.1 +0.2
DOU *d*PKPab PKPab 21 40 58.6 -0.2
DEV **Deva** 150.29 333 ⇑P PKPdf 21 40 47.2 +0.5
DEV **Deva** 150.29 333 ⇑PKIKP PKPdf 21 40 47.2 +0.5
KHC **Kasperske Hory** 150.31 348 *e*PKIKP PKPdf 21 40 47.3 +0.6
KHC *e* 22 04 46.6
KHC **Kasperske Hory** 150.31 348 *e*PKPDF PKPdf 21 40 47.3 +0.6
KHC ⇑*e*PKP PKiKP 21 40 52.6 -0.2
KHC *ex* x 22 04 46.6
KHC *ex* x 22 13 43.6
SRO **Srobarova** 150.33 341 *e*PKIKP PKiKP 21 40 52.7 -0.1
SRO **Srobarova** 150.33 341 *e*PKP PKiKP 21 40 52.7 -0.1
SRO *e* 21 41 00.5
RAZG **Razgrad** 150.34 326 ⇑P PKPbc 21 40 52.3 0.0
ZST **Bratislava** 150.34 343 *e*PKIKP PKiKP 21 40 53.6 +0.8
ZST **Bratislava** 150.34 343 *e*PKP PKiKP 21 40 53.6 +0.8
HUMR **Humele** 150.41 329 ⇓P PKPbc 21 40 52.2 -0.2
WET **Wettzell** 150.43 349 *e*PKPdf PKPdf 21 40 47.1 +0.2
baz=9.0,slow=1.6
WET *e*PKPbc PKiKP 21 40 53.0 -0.1
baz=13,slow=2.5
LOZB **Loznitsa** 150.43 326 ⇓P PKPbc 21 40 49.8 -2.7
CKRC **Cesky Krumlov** 150.45 347 *e*PKPDF PKPdf 21 40 47.2 +0.3
CKRC ⇑*e*PKP PKiKP 21 40 52.9 -0.2

SIRR **Siria** 150.49 335 ⇑P PKPdf 21 40 47.8 +0.8
GEC2 **GERESS Array S** 150.56 347 *e*PKPdf PKPdf 21 40 47.4 +0.2
baz=9.0,slow=1.6
GEC2 *e*PKPbc PKiKP 21 40 53.1 -0.4
baz=13,slow=2.5
GERES **GERESS Array B** 150.56 347 PKP PKPdf 21 40 47.4 +0.2
comp=Z,2.3nm,0.7s,baz=18,slow=3.7,SNR=30
GERES PKPbc PKiKP 21 40 53.0 -0.4
comp=Z,43nm,0.8s,baz=45,slow=1.5,SNR=190
CSS **Mathiatis** 150.63 306 PKPdf 21 40 47.1 -0.5
WLF **Walferdange** 150.67 358 PKPdf 21 40 46.6 -0.6
WLF **Walferdange** 150.67 358 PKIKP PKPdf 21 40 46.6 -0.6
WLF **Walferdange** 150.67 358 *d*PKPdf PKPdf 21 40 47.5 +0.3
WLF *d*PKP PKPbc 21 40 53.1 +0.3
WLF **Walferdange** 150.67 358 *e*PKPdf PKPdf 21 40 47.7 +0.5
baz=9.0,slow=1.6
WLF *e*PKPbc PKiKP 21 40 54.1 +0.6
baz=13,slow=2.5
SURR **Surduc** 150.72 334 ⇑P PKPbc 21 40 52.9 -0.2
GZR **Gura Zlata** 150.74 333 ⇓P PKPdf 21 40 47.7 +0.2
GZR **Gura Zlata** 150.74 333 ⇓PKIKP PKPdf 21 40 47.7 +0.2
ZIMR 150.86 328 ⇑P PKiKP 21 40 53.8 -0.2
ZIMR 150.86 328 ⇑PKIKP PKiKP 21 40 53.8 -0.2
CONA **Conrad Observa** 150.92 344 *i* PKP PKPdf 21 40 48.2 +0.4
comp=Z,20nm,1.5s,SNR=12
CONA *i* PKiKP PKiKP 21 40 54.1 0.0
comp=Z,92nm,1.1s
RONA **Rosalia, Austr** 151.01 343 *i* PKP PKPdf 21 40 48.3 +0.5
comp=Z,14nm,1.2s,SNR=14
RONA *i* PKiKP PKiKP 21 40 54.2 -0.1
comp=Z,105nm,1.1s
BZS **Buzias** 151.04 335 ⇑P PKPdf 21 40 48.1 +0.2
BZS **Buzias** 151.04 335 ⇑PKIKP PKPdf 21 40 48.1 +0.2
VLAD **Vladila** 151.08 329 ⇑P PKPbc 21 40 54.1 +0.1
SRE **Strehaia** 151.12 332 ⇑P PKiKP 21 40 54.6 0.0
SRE **Strehaia** 151.12 332 ⇑PKIKP PKiKP 21 40 54.6 0.0
HERR **Herculane** 151.30 333 ⇑P PKPdf 21 40 48.7 +0.4
STU **Stuttgart** 151.33 353 PKPdf 21 40 48.1 -0.2
STU **Stuttgart** 151.33 353 PKIKP PKPdf 21 40 48.1 -0.2
STU **Stuttgart** 151.33 353 *e*PKPdf PKPdf 21 40 48.7 +0.5
baz=9.0,slow=1.6
STU *e*PKPbc PKiKP 21 40 54.9 0.0
baz=13,slow=2.5
MOA **Molln** 151.38 346 *i* PKP PKPdf 21 40 48.5 +0.1
comp=Z,6.2nm,1.0s,SNR=13
MOA *i* PKP PKPbc 21 40 54.6 -0.1
comp=Z,50nm,1.2s
ISP **Isparta** 151.40 313 PKPbc 21 40 53.7 -1.4
ISP **Isparta** 151.40 313 PKIKP PKPbc 21 40 53.7 -1.4
BANR **Banloc** 151.42 335 ⇑P PKPbc 21 40 54.6 -0.1
PLVB **Pleven** 151.42 328 ⇑P PKPdf 21 40 49.3 +0.7
BAND **Balkesir-Ban** 151.55 320 ⇑P PKPbc 21 40 54.7 -0.6
ARSA **Arzberg** 151.63 344 PKPdf 21 40 47.9 -0.9
ARSA PKPbc PKiKP 21 40 55.5 -0.1
ARSA **Arzberg** 151.63 344 *i* PKP PKPdf 21 40 48.9 +0.1
comp=Z,8.6nm,1.2s,SNR=5.0
ARSA *i* PKP PKPbc 21 40 54.8 -0.4
comp=Z,5.9nm,0.7s
MORH **Mrgy, Hungar** 151.63 339 *e*P PKPbc 21 40 54.7 -0.5
MORH **Mrgy, Hungar** 151.63 339 ⇑P PKPdf 21 40 49.6 +0.8
FUR **Furstenfeldbru** 151.65 350 *e*PKPdf PKPdf 21 40 49.0 +0.2
baz=9.0,slow=1.6
FUR *e*PKPbc PKiKP 21 40 55.5 -0.1
baz=13,slow=2.5
BIOA **Bad Ischl, Aus** 151.67 347 *i* PKP PKPdf 21 40 48.5 -0.3
comp=Z,6.7nm,1.0s,SNR=7.3
BIOA *i* PKP PKPbc 21 40 55.0 -0.3
comp=Z,36nm,0.9s,SNR=12
MDVR **Moldovita** 151.68 333 ⇓P PKPdf 21 40 49.8 +0.8
RJOB **Jochberg** 151.79 348 *e*PKPdf PKPdf 21 40 48.9 -0.2
baz=9.0,slow=1.6
RJOB *e*PKPbc PKiKP 21 40 55.8 -0.2
baz=13,slow=2.5
BFO **Black Forest** 151.86 354 PKPdf 21 40 48.6 -0.5
BFO PKPbc PKiKP 21 40 56.0 0.0
BFO **Black Forest** 151.86 354 PKIKP PKiKP 21 40 56.0 0.0
BFO **Black Forest** 151.86 354 *e*PKPdf PKPdf 21 40 49.1 0.0
baz=9.0,slow=1.6
BFO *e*PKPbc PKiKP 21 40 56.1 +0.1
baz=13,slow=2.5
BEHE **Becsehely** 152.00 342 *e*P PKPbc 21 40 55.7 -0.3
LESA **Schwarzleotal** 152.12 348 *i* PKP PKPdf 21 40 49.7 +0.1
comp=Z,22nm,1.7s,SNR=12
LESA *i* PKiKP PKiKP 21 40 56.7 0.0
comp=Z,28nm,0.8s
CLF **Chambon-Foret** 152.29 3 PKPdf 21 40 49.6 0.0
CLF PKPbc PKiKP 21 40 57.3 +0.5
SOKA **Soboth** 152.29 344 *i* PKP PKPdf 21 40 49.7 -0.2
comp=Z,13nm,1.1s,SNR=6.6
SOKA *i* PKP PKPbc 21 40 56.5 -0.3
comp=Z,41nm,1.0s
PERS **Pernice** 152.31 344 *i* PKPdf PKPdf 21 40 49.3 -0.6
PERS *i* PKPbc PKPbc 21 40 56.5 -0.3
PERS *i* PKPab PKPab 21 41 07.5 -0.1
KBA **Koelnbreinsper** 152.31 347 *i* PKP PKPdf 21 40 49.7 -0.3
comp=Z,10.0nm,1.2s
KBA *i* PKiKP PKiKP 21 40 57.1 -0.1
comp=Z,51nm,1.1s
RETA **Reutte** 152.39 351 *e*PKP PKPdf 21 40 50.2 +0.2
comp=Z,7.6nm,1.2s
RETA *i* PKP PKPbc 21 40 57.0 0.0
comp=Z,58nm,1.3s
WATA **Walderalm** 152.41 349 *i* PKP PKPdf 21 40 50.4 +0.3
comp=Z,14nm,1.1s,SNR=8.5
WATA *i* PKP PKPbc 21 40 56.9 -0.2
comp=Z,66nm,1.2s
WTTA **Wattenberg** 152.47 349 *i* PKP PKPdf 21 40 50.5 +0.3
comp=Z,20nm,1.3s,SNR=11
WTTA *i* PKiKP PKPbc 21 40 57.3 0.0
comp=Z,85nm,0.7s
MOTA **Moosalm** 152.48 350 *i* PKP PKPdf 21 40 50.3 +0.1
comp=Z,22nm,1.2s,SNR=12
MOTA *i* PKiKP PKiKP 21 40 57.4 -0.1
comp=Z,74nm,1.0s
RDO **Rodhopi** 152.53 324 PKPdf 21 40 49.1 -1.1
RDO PKPbc PKPbc 21 40 57.0 -0.3
OBKA **Obir** 152.57 345 *i* PKP PKPdf 21 40 50.2 -0.1
comp=Z,6.9nm,0.9s
OBKA *i* PKP PKPbc 21 40 57.1 -0.4
comp=Z,17nm,1.1s,SNR=5.8
SQTA **Sankt Quirin** 152.58 350 *i* PKP PKPdf 21 40 50.6 +0.3
comp=Z,18nm,1.1s,SNR=10
SQTA *i* PKP PKPbc 21 40 57.4 0.0
comp=Z,53nm,0.8s
BOVS **Bovan** 152.60 332 ⇓P PKPdf 21 40 50.4 +0.1
MYKA **Terra Mystica** 152.67 346 *i* PKP PKPdf 21 40 49.8 -0.6
comp=Z,6.7nm,1.0s
MYKA *i* PKP PKPbc 21 40 56.9 -0.7
comp=Z,38nm,1.1s,SNR=7.9
DAVA **Damuels** 152.71 352 *i* PKP PKPdf 21 40 50.9 +0.3
comp=Z,15nm,1.7s,SNR=6.9
DAVA *i* PKiKP PKiKP 21 40 58.1 +0.1
comp=Z,83nm,1.1s
MOSL **Moslavina** 152.78 341 *e*P PKPbc 21 40 57.3 -0.5
ABTA **Abfaltersbach** 152.80 348 *i* PKP PKPdf 21 40 50.6 0.0
comp=Z,14nm,0.7s,SNR=15
ABTA *i* PKP PKPbc 21 40 57.4 -0.6
comp=Z,48nm,0.8s
FETA **Feichten** 152.85 350 *i* PKP PKPdf 21 40 51.3 +0.5
comp=Z,9.9nm,0.7s,SNR=14
FETA *i* PKiKP PKiKP 21 40 58.4 +0.1
comp=Z,50nm,0.9s
LJU **Ljubljana** 153.01 344 *i* PKPdf PKPdf 21 40 50.6 -0.2
LJU *i* PKPbc PKiKP 21 40 58.5 0.0
OZLJ **Ozalj** 153.15 343 *e*P PKiKP 21 40 58.9 +0.2
VOJS **Vojsko** 153.18 345 *e*PKPdf PKPdf 21 40 50.4 -0.8
A051A **Mrakovica** 153.27 340 *e*P PKPbc 21 40 58.3 -0.7
FUORN **Ofenpass-Fuorn** 153.31 351 PKPdf 21 40 50.6 -1.0
FUORN PKPbc PKiKP 21 40 59.9 +0.5
BLY **Banja Luka** 153.41 339 *e*P PKiKP 21 40 59.4 +0.1
BLY **Banja Luka** 153.41 339 ⇓P PKiKP 21 40 59.3 +0.1
TUE **Stuetta** 153.58 352 PKPdf 21 40 51.1 -0.8
TUE PKPbc PKiKP 21 41 00.0 +0.1
RUDO **Rudo** 153.59 335 *e*P P

PGAV	**Gavieira, Arco**	**155.89**	**24**	*e*PKPdf	**PKPdf**	**21 40 55.7**	**+0.6**
PGAV				*e*PKPab	**PKPab**	**21 41 23.1**	**+0.1**
MURB	**Monte Urbino**	**156.11**	**345**		**PKPdf**	**21 40 54.5**	**-0.8**
PCAB	**Cabril**	**156.20**	**24**	*e*PKPab	**PKPab**	**21 41 23.8**	**-0.4**
PBRG	**Braganca**	**156.58**	**21**	*e*PKPab	**PKPab**	**21 41 26.2**	**+0.3**
POLO	**Lamas de Olo**	**156.58**	**24**	*e*PKPab	**PKPab**	**21 41 26.3**	**+0.4**
PVRL	**Vila Real**	**156.69**	**24**	*e*PKPab	**PKPab**	**21 41 26.6**	**+0.2**
MVO	**Moncorvo**	**157.04**	**23**	*e*PKPdf	**PKPdf**	**21 40 57.3**	**+0.7**
MVO				*e*PKPab	**PKPab**	**21 41 28.2**	**+0.3**
PVIS	**Viseu**	**157.11**	**25**	*e*PKPdf	**PKPdf**	**21 40 56.2**	**-0.4**
PVIS				*e*PKPab	**PKPab**	**21 41 28.6**	**+0.3**
COI	**Coimbra**	**157.33**	**26**	*e*PKPab	**PKPab**	**21 41 29.1**	**+0.1**
PCAS	**Casmilo, Conde**	**157.43**	**26**	*e*PKPab	**PKPab**	**21 41 29.9**	**+0.3**
MTE	**Manteigas**	**157.51**	**24**		**PKPdf**	**21 40 57.1**	**-0.1**
MTE	**Manteigas**	**157.51**	**24**	*e*PKPdf	**PKPdf**	**21 40 57.7**	**+0.5**
MTE				*e*PKPab	**PKPab**	**21 41 30.4**	**+0.4**
CEST	**Esterri de Car**	**157.61**	**6**	PKPdf	**PKPdf**	**21 40 56.3**	**-1.0**
PSARD	**Sardoal**	**157.94**	**27**	*e*PKPdf	**PKPdf**	**21 40 58.5**	**+0.9**
PSARD				*e*PKPab	**PKPab**	**21 41 31.7**	**-0.1**
PMAFR	**Mafra**	**157.98**	**29**	*e*PKPab	**PKPab**	**21 41 29.9**	**-2.1**
PCBR	**Castelo Branco**	**158.02**	**25**	*e*PKPdf	**PKPdf**	**21 40 58.6**	**+0.9**
PCBR				*e*PKPab	**PKPab**	**21 41 31.3**	**-0.8**
PARRA	**Arraiolos**	**158.21**	**29**	*e*PKPdf	**PKPdf**	**21 40 58.9**	**+0.9**
PARRA				*e*PKPab	**PKPab**	**21 41 35.1**	**+2.1**
PMTG	**Montargil**	**158.36**	**27**	*e*PKPdf	**PKPdf**	**21 40 58.5**	**+0.3**
PMTG				*e*PKPab	**PKPab**	**21 41 33.7**	**+0.1**
PMRV	**Marv??o**	**158.41**	**25**	*e*PKPdf	**PKPdf**	**21 40 58.6**	**+0.4**
PMRV				*e*PKPab	**PKPab**	**21 41 33.9**	**+0.1**
PESTR	**Estremoz**	**158.80**	**27**	*e*PKPdf	**PKPdf**	**21 40 59.6**	**+0.9**
PESTR				*e*PKPab	**PKPab**	**21 41 35.5**	**-0.1**
EVO	**Evora**	**158.90**	**28**	*e*PKPdf	**PKPdf**	**21 41 00.2**	**+1.4**
MESJ	**Messejana**	**159.37**	**29**	*e*PKP	**PKPdf**	**21 41 00.6**	**+1.2**
MESJ	**Messejana**	**159.37**	**29**	*e*PKPdf	**PKPdf**	**21 41 01.1**	**+1.7**
MESJ				*e*PKPab	**PKPab**	**21 41 37.8**	**-0.3**
PBEJ	**Beja**	**159.38**	**28**	*e*PKPdf	**PKPdf**	**21 41 01.0**	**+1.7**
ESBB	**Sonseca Array**	**159.40**	**19**	PKPdf	**PKPdf**	**21 40 59.5**	**0.0**
PAB	**San Pablo**	**159.40**	**20**	⇑PKIKP	**PKPdf**	**21 40 59.8**	**+0.3**
ESDC	**Sonseca Array**	**159.40**	**19**		**PKPdf**	**21 40 59.3**	**-0.1**
ESDC				PKPab	**PKPab**	**21 41 38.1**	**0.0**
ESDC	**Sonseca Array**	**159.40**	**19**	PKP	**PKPdf**	**21 41 00.6**	**+1.2**
	comp=Z,3.8nm,0.9s,baz=342,slow=3.0,SNR=24						
ESDC				PKPab	**PKPab**	**21 41 38.8**	**+0.7**
	comp=Z,13nm,0.8s,baz=330,slow=3.9,SNR=34						
MORF	**Marmelete**	**159.60**	**31**	*e*PKP	**PKPdf**	**21 41 01.1**	**+1.3**
MORF	**Marmelete**	**159.60**	**31**	*e*PKPdf	**PKPdf**	**21 41 01.5**	**+1.8**
MORF	**Marmelete**	**159.60**	**31**	*e*PKIKP	**PKPdf**	**21 41 01.3**	**+1.6**
PBAR	**Barrancos**	**159.62**	**27**	*e*PKPdf	**PKPdf**	**21 41 00.8**	**+1.1**
PBAR				*e*PKPab	**PKPab**	**21 41 39.9**	**+0.8**
PCVE	**Castro Verde**	**159.62**	**29**	*e*PKPab	**PKPab**	**21 41 39.8**	**+0.7**
PFVI	**Vila Bisbo**	**159.65**	**32**	*e*PKPdf	**PKPdf**	**21 41 01.8**	**+2.1**
PFVI				*e*PKPab	**PKPab**	**21 41 40.4**	**+1.1**
PVAQ	**Vaqueiros**	**159.96**	**29**	*e*PKPdf	**PKPdf**	**21 41 01.6**	**+1.5**
PVAQ				*e*PKPab	**PKPab**	**21 41 41.4**	**+0.8**
PBDV	**Barranco-do-Ve**	**159.99**	**30**	*e*PKPdf	**PKPdf**	**21 41 02.1**	**+1.9**
EDA	**Edea**	**162.65**	**200**		**PKPdf**	**21 41 01.9**	**-1.7**
EDA					**PKPab**	**21 41 53.0**	**+0.1**
DBIC	**Dimbokro**	**163.75**	**145**		**PKPdf**	**21 41 03.6**	**-1.0**
DBIC	**Dimbokro**	**163.75**	**145**	PKP	**PKPdf**	**21 41 04.8**	**+0.2**
	comp=Z,12nm,0.9s,baz=71,slow=1.2,SNR=9.8						
KEST	**Kesra**	**164.02**	**345**		**PKPdf**	**21 41 04.1**	**-0.2**
KEST	**Kesra**	**164.02**	**345**	PKP	**PKPdf**	**21 41 05.3**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=22,slow=4.4,SNR=8.3						
KEST				PKPab	**PKPab**	**21 41 58.8**	**+0.3**
	comp=Z,18nm,1.1s,baz=70,slow=3.9,SNR=9.7						
MD01	**Midelt array s**	**165.05**	**31**		**PKPdf**	**21 41 05.8**	**+0.4**
MD01					**PKPab**	**21 42 03.3**	**0.0**
TORD	**Torodi Ar. Bea**	**172.43**	**160**		**PKPdf**	**21 41 08.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**172.43**	**160**	PKP	**PKPdf**	**21 41 09.5**	**-1.0**
	comp=Z,7.3nm,1.1s,baz=212,slow=1.9,SNR=25						
TORD				PKPab	**PKPab**	**21 42 36.5**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=189,slow=2.2,SNR=13						
TAM	**Tamanrasset**	**177.31**	**337**	PKPdf	**PKPdf**	**21 41 12.2**	**+0.3**
TAM				PKPab		21 42 57.7	-0.1
TAM	**Tamanrasset**	**177.31**	**337**	PKIKP	**PKPdf**	**21 41 12.2**	**+0.3**
TAM						21 42 57.7	

*KRNET **24** 21:22:08.3±0.1,39°.22N×72°.15E,mb3.5*
*SOME **24** 21:22:10.3,39°.73N×71°.53E,h5km*
*NNC **24** 21:22:17.9±5.4,39°.85N×72°.06E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=43.5km s-min=20.1km az=178.0
ISC 24 21:22:06.3±1.7,39°.23N±0°.09×72°.19E±0°.06,h15km±16km, n15,σ1s52/23,11C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**1.48**	**262**	⇓*e*P	**Pg**	**21 22 35.3**	**+0.6**
GAR				*e*S	**Sg**	**21 22 55.1**	**+1.0**
SALK	**Salom-Alik**	**2.08**	**37**	⇑*e*P	**Pg**	**21 22 46.3**	**+0.1**
SALK				⇑*e*S	**Sg**	**21 23 14.0**	**+0.9**
ARSB	**Arslanbob**	**2.18**	**16**	⇑*e*P	**Pg**	**21 22 47.6**	**-0.6**
ARSB				⇑*e*S	**Sg**	**21 23 16.3**	**-0.2**
CHGR	**Chuyangaron**	**2.43**	**257**	⇑*e*P	**Pg**	**21 22 50.5**	**-2.5**
CHGR				⇑*e*S	**Sb**	**21 23 21.3**	**+1.6**
TRKS	**Terek-Say**	**2.44**	**341**	⇓*e*P	**Pb**	**21 22 50.0**	**0.0**
TRKS				⇓*e*S	**Sb**	**21 23 20.4**	**+0.5**
IUG	**Iuzhnay**	**3.35**	**331**	Pg	**Pb**	**21 23 06.7**	**+1.3**
	19nm,0.3s						
IUG				Lg	Lg	21 23 47.1	
	38nm,0.5s						
UCH	**Uchtor**	**3.48**	**30**	⇑*e*P	**Pb**	**21 23 05.9**	**-2.0**
UCH				⇑*e*S	**Sb**	**21 23 48.1**	**-2.0**
MRKS	**Merke**	**3.60**	**12**	*e*P	**Pb**	**21 23 11.4**	**+1.6**
	6.7nm,0.3s						
MRKS				*e*S	**Sb**	**21 23 54.8**	**+1.4**
	18nm,0.3s						
AAK	**Ala-Archa**	**3.83**	**26**	⇑Pg	**Pb**	**21 23 14.9**	**+1.2**
	3.3nm,0.6s						
AAK				⇓Lg	Lg	21 23 58.9	
	4.9nm,0.6s						
KK31	**Karatay Array**	**4.08**	**342**	⇑Pn	**Pb**	**21 23 14.8**	**-3.0**
	7.3nm,0.7s,baz=161,slow=13,SNR=17						
KK31				⇑Lg	Lg	21 24 06.4	
	3.8nm,0.4s						
KST	**Kastek**	**4.76**	**36**	Pg	**Pg**	**21 23 38.0**	**+0.6**
	2.7nm,0.4s						
KST				Lg	Lg	21 24 40.8	
	11nm,0.7s						
KST	**Kastek**	**4.76**	**36**	*e*P	**Pg**	**21 23 37.9**	**+0.4**
	2.7nm,0.4s						
KST				*e*S	**Sg**	**21 24 40.3**	**+1.2**
	3.5nm,0.3s						
DGS	**Degeres**	**4.84**	**33**	Pg	**Pg**	**21 23 38.8**	**-0.2**
	2.3nm,0.5s						
DGS				Lg	Lg	21 24 42.6	
	10.0nm,0.7s						
KRBS	**Karabastau**	**5.18**	**29**	Pg	**Pg**	**21 23 43.3**	**-2.2**
	6.1nm,0.4s						
KRBS				Lg	Lg	21 24 50.1	
	1.2nm,0.6s						
KTBS	**Karatobe**	**5.61**	**36**	Pg	**Pg**	**21 23 53.1**	**-0.6**
	2.2nm,0.7s						
KTBS				Lg	Lg	21 25 06.7	
	10nm,0.6s						

*WEL **24** 21:35:50.4±0.5,42°.5±3°×17°.4E±°,h9km±3km,M3.0/13,*
ML3.4/13,MLv3.0/13,Error ellipse: s-maj=4.4km
s-min=2.6km az=149.9,confirmed
*NOU **24** 21:35:53.1,41°.69S×174°.31E,h0km,MLv3.6/9,Cook*
Strait, New Zealand
ISC 24 21:35:50.9±1.0,41°.62S±0°.03×174°.42E±0°.02,h18km±3km, n27,σ0s70/37,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.20**	**230**	P	**Pb**	**21 35 55.3**	**-0.4**
CMWZ				S	**Sg**	**21 35 59.9**	**+0.5**
SEDS	**Seddon Fire St**	**0.27**	**258**	P	**Pb**	**21 36 56.3**	**-0.8**
SEDS				S	**Sg**	**21 36 01.7**	**+0.8**
WDFS	**Ward Fire Stat**	**0.30**	**226**	P	**Pg**	**21 35 57.1**	**-0.3**
WDFS				S	**Sg**	**21 36 03.2**	**+1.4**
BHW	**Baring Head**	**0.40**	**58**	P	**Pg**	**21 35 58.5**	**-0.6**
BHW				S	**Sg**	**21 36 05.0**	**+0.3**
TUWZ	**Tuamarina**	**0.41**	**298**	P	**Pg**	**21 35 58.8**	**-0.5**
TUWZ				S	**Sg**	**21 36 04.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.42**	**257**	P	**Pg**	**21 35 58.9**	**-0.6**
BSWZ				S	**Sg**	**21 36 05.6**	**+0.2**
TCW	**Tory Channel**	**0.42**	**345**	P	**Pg**	**21 35 58.9**	**-0.7**
TCW				S	**Sg**	**21 36 04.9**	**-0.5**
WEL	**Wellington**	**0.42**	**38**	P	**Pg**	**21 35 59.1**	**-0.5**
WEL				S	**Sg**	**21 36 05.6**	**+0.2**
BWRS	**Waikakaho Road**	**0.43**	**295**	P	**Pg**	**21 35 59.0**	**-0.7**
BWRS				S	**Sg**	**21 36 05.2**	**-0.4**
PLWZ	**Palliser**	**0.63**	**86**	P	**Pb**	**21 36 03.1**	**-0.2**
MSWZ	**Moikau Station**	**0.65**	**72**	P	**Pb**	**21 36 03.4**	**-0.4**
CAW	**Cannon Point**	**0.70**	**44**	P	**Pb**	**21 36 03.9**	**-0.7**
CAW				S	**Sb**	**21 36 13.7**	**-0.2**
NNZ	**Nelson**	**0.88**	**297**	P	**Pb**	**21 36 07.1**	**-0.6**
MTW	**Mount Morrison**	**0.93**	**61**	P	**Pb**	**21 36 08.3**	**-0.3**
KHZ	**Kahutara**	**1.03**	**219**	P	**Pb**	**21 36 09.6**	**-0.6**
KHZ	**Kahutara**	**1.03**	**219**	S	**Sn**	**21 36 24.6**	**+0.2**
KHZ	**Kahutara**	**1.03**	**219**	P	**Pb**	**21 36 09.7**	**-0.5**
THZ	**Tophouse**	**1.15**	**262**	P	**Pn**	**21 36 11.7**	**-0.4**
MRZ	**Mangatainoka R**	**1.30**	**43**	P	**Pn**	**21 36 13.8**	**-0.3**
QRZ	**Quartz Range**	**1.63**	**298**	P	**Pb**	**21 36 20.1**	**-0.4**
QRZ	**Quartz Range**	**1.63**	**298**	S	**Sb**	**21 36 42.5**	**+1.8**
QRZ	**Quartz Range**	**1.63**	**298**	P	**Pn**	**21 36 19.7**	**+0.9**
BFZ	**Birch Farm**	**1.67**	**56**	P	**Pg**	**21 36 23.0**	**0.0**
KHEZ	**Kahui Hut**	**2.34**	**352**	P	**Pb**	**21 36 34.2**	**+1.6**
KHEZ	**Kahui Hut**	**2.34**	**352**	S	**Sg**	**21 37 06.0**	**-0.3**
BKZ	**Black Stump Fm**	**2.92**	**33**	P	**Pb**	**21 36 43.0**	**+0.6**
HIZ	**Hauiti**	**3.12**	**6**	P	**Pb**	**21 36 45.1**	**-0.7**

*IDC **24** 21:41:56.8±1.6,6°.68S×130°.86E,h0km,mb3.6/3,*
mbtmp3.9/7,ML4.0/4,Error ellipse: s-maj=52.6km
s-min=24.1km az=87.0
ISC 24 21:42:05.7±1.1,7°.16S±0°.08×130°.7E±0°.1,h78km,n7, σ2s12/11,mb3.6/3,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.57**	**246**	Pn	**Pn**	**21 43 55.3**	**+1.9**
	2.1nm,0.3s,baz=229,slow=14,SNR=1.9						
BATI				Sn	**Sn**	**21 45 16.0**	**-1.7**
	3.9nm,0.3s,baz=352,slow=23,SNR=2.2						
	5.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.93**	**204**	Pn	**Pn**	**21 44 54.0**	**+1.2**
	0.9nm,0.3s,baz=30,slow=10,SNR=53						
FITZ				Sn	**Sn**	**21 47 02.1**	**-2.0**
	1.7nm,0.3s,baz=256,slow=19,SNR=9.7						
	2.0nm,0.2s						
WRA	**Warramunga Ar**	**13.19**	**165**	Pn	**Pn**	**21 45 10.7**	**+0.8**
	0.7nm,0.3s,baz=348,slow=13,SNR=19						
WRA				Sn	**Sn**	**21 47 31.3**	**-3.6**
	2.0nm,0.3s,baz=344,slow=24,SNR=16						
	2.4nm,0.6s						
ASAR	**Alice Springs**	**16.70**	**170**	P	**P**	**21 45 58.9**	**+2.9**
	0.6nm,0.3s,baz=351,slow=11,SNR=38						
ASAR				S	**Sn**	**21 48 59.8**	**-0.1**
	1.7nm,0.6s,baz=356,slow=27,SNR=7.1						
	1.3nm,0.5s						
SONM	**Songino Array**	**58.81**	**341**	P	**P**	**21 51 55.5**	**-0.6**
	0.3nm,0.5s,baz=151,slow=7.0,SNR=2.5						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**68.73**	**327**	P	**P**	**21 53 00.2**	**-1.0**
	0.5nm,0.5s,baz=121,slow=6.6,SNR=12						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**73.00**	**328**	P	**P**	**21 53 25.9**	**-1.0**
	0.2nm,0.4s,baz=111,slow=5.2,SNR=1.9						
	0.2nm,0.4s						

*FUNV **24** 21:57:29.7,7°.32N×72°.05W,h5km,MW3.3*
*RSNC **24** 21:57:31.1±0.0,7°.1N±3°×7°.2W±°,h0km±5km,M2.5,ML2.3*
ISC 24 21:57:28.7±1.5,7°.34N±0°.04×72°.03W±0°.04,h2km±11km, n23,σ2s14/40,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.60**	**332**	*e*P	**Pg**	**21 57 40.7**	**+0.5**
CAPV				*e*S	**Sg**	**21 57 49.3**	**+1.4**
PAMC	**Pamplona, Colo**	**0.67**	**270**	P	**Pg**	**21 57 40.6**	**-1.0**
PAMC				S	**Sg**	**21 57 48.3**	**-1.9**
PAMC	**Pamplona, Colo**	**0.67**	**270**	P	**Pg**	**21 57 40.5**	**-1.0**
PAMC				S	**Sg**	**21 57 48.2**	**-1.9**
BARC	**Barichara**	**1.36**	**237**	P	**Pn**	**21 57 53.3**	**-1.7**
BARC				S	**Sg**	**21 58 15.7**	**+3.1**
BARC	**Barichara**	**1.36**	**237**	P	**Pn**	**21 57 53.4**	**-1.6**
BARC				S	**Sg**	**21 58 15.8**	**+3.1**
OCAC	**Ocana**	**1.56**	**305**	P	**Pn**	**21 57 58.0**	**+0.3**
OCAC				S	**Sg**	**21 58 19.2**	**+0.2**
OCAC	**Ocana**	**1.56**	**305**	P	**Pn**	**21 57 57.9**	**+0.3**
OCAC				S	**Sg**	**21 58 19.2**	**+0.2**
BRJC	**Barrancabermej**	**1.74**	**258**	P	**Pn**	**21 58 00.4**	**+0.4**
BRJC				S	**Sb**	**21 58 23.0**	**-0.7**
RUSC	**La Rusia**	**1.78**	**216**	P	**Pn**	**21 58 00.7**	**-0.2**
RUSC				S	**Sn**	**21 58 24.2**	**-0.1**
RUSC	**La Rusia**	**1.78**	**216**	P	**Pn**	**21 58 00.7**	**-0.2**
RUSC				S	**Sn**	**21 58 23.7**	**-0.6**
SDV	**Santo Domingo**	**2.07**	**42**	P	**Pn**	**21 58 06.5**	**+1.8**
SDV				S	**Sn**	**21 58 33.3**	**+2.2**
PTBC	**PUERTO BERRIO,**	**2.54**	**252**	P	**Pn**	**21 58 10.6**	**-0.3**
PTBC				S	**Sn**	**21 58 42.9**	**+0.5**
PTBC	**PUERTO BERRIO,**	**2.54**	**252**	P	**Pn**	**21 58 10.7**	**-0.2**
ZARC	**Zaragoza, Cauc**	**2.81**	**273**	P	**Pn**	**21 58 14.9**	**+0.2**
ZARC				S	**Sn**	**21 58 50.3**	**+1.1**
ZARC	**Zaragoza, Cauc**	**2.81**	**273**	P	**Pn**	**21 58 14.8**	**+0.1**
ZARC				S	**Sn**	**21 58 50.4**	**+1.2**
NORC	**Norcasia**	**3.33**	**238**	P	**Pn**	**21 58 23.3**	**+1.4**
HELC	**Santa Helena**	**3.66**	**252**	P	**Pn**	**21 58 28.5**	**+1.8**
SJCC	**San Jacinto, C**	**4.02**	**309**	P	**Pn**	**21 58 31.9**	**+0.5**
SJCC	**San Jacinto, C**	**4.02**	**309**	P	**Pn**	**21 58 31.2**	**-0.2**
BAUV	**El Baul**	**4.26**	**68**	*e*P	**Pn**	**21 58 32.7**	**-1.9**
BAUV				*e*S	**Sn**	**21 59 22.2**	**-2.7**
BENV	**Beln**	**5.10**	**59**	*e*P	**Pn**	**21 58 45.9**	**-0.4**
BENV				*e*S	**Sn**	**21 59 42.0**	**-3.7**
CACV	**CAICARA DEL OR**	**5.45**	**87**	*e*P	Pn	21 58 57.0	+6.1
CACV				*e*S	**Sn**	**22 00 02.3**	**+8.1**
TACV	**Tcata**	**5.67**	**60**	*e*P	**Pn**	**21 58 53.1**	**-1.1**
TACV				*e*S	**Sn**	**21 59 55.6**	**-4.4**

*AFAD **24** 22:41:41.1,38°.51N×44°.78E,h6km±2km,ML2.4*
*ISK **24** 22:41:41.9,38°.30N×44°.99E,h26km,ML2.5/8*
*TEH **24** 22:41:42.8,38°.62N×44°.64E,h10km±109km*
*AZER **24** 22:41:47.0,38°.74N×44°.87E,h6km,ml2.5*
ISC 24 22:41:42.8±1.1,38°.56N±0°.03×44°.75E±0°.02,h7km±10km, n39,σ1s65/56,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OZAP	**Van, Ozalp-Mer**	**0.60**	**280**	P	**Pg**	**22 41 53.9**	**-0.5**
ISHB	**Shabestar**	**0.74**	**112**	Pg	**Pn**	**22 41 59.0**	**-0.9**
IMRD	**Marand**	**0.77**	**78**	Pg	**Pn**	**22 41 59.8**	**-0.4**
MAKU	**Maku**	**0.79**	**356**	Pg	**Pg**	**22 41 57.2**	**-0.9**
NAX	**Nakhchivan**	**0.84**	**44**	P	**Pn**	**22 42 00.6**	**-0.6**
NAX				S	**Sn**	**22 42 14.0**	**0.0**
CLDR	**Caldiran**	**0.87**	**312**	P	Pg	22 41 46.9	-13
CLDR				S	Sg	22 41 57.7	-13
CLDR				*i* IAML		22 42 00.0	
	comp=N,316nm,0.3s						
CLDR				*i* IAML		22 42 04.0	
	comp=E,233nm,0.3s						
VMUR	**Van-Muradiye**	**1.01**	**295**	P	**Pg**	**22 42 01.1**	**-1.2**
VMUR				S	**Sg**	**22 42 15.2**	**-0.1**
VMUR				*i* IAML		22 42 18.0	
	comp=N,100nm,0.7s						
VMUR				*i* IAML		22 42 22.0	
	comp=E,96nm,0.4s						
ORD	**Ordubad**	**1.04**	**69**	P	**Pn**	**22 42 04.7**	**+0.7**
ORD				S	**Sn**	**22 42 20.4**	**+1.6**
SBZ	**Shahbuz**	**1.04**	**37**	P	**Pn**	**22 42 03.7**	**-0.3**
SBZ				S	**Sn**	**22 42 19.3**	**+0.4**
TVAN	**Van**	**1.05**	**269**	P	**Pb**	**22 42 01.9**	**-1.6**
ITBZ	**Tabriz**	**1.15**	**106**	Pg	**Pn**	**22 42 06.3**	**+0.8**
HYR	**Heyderabad**	**1.16**	**4**	P	**Pn**	**22 42 04.8**	**-0.7**
HYR				S	**Sn**	**22 42 22.8**	**+1.1**
HAKT	**HAKKARI**	**1.30**	**220**	P	**Pb**	**22 42 09.3**	**+1.7**
IAZR	**Azarshahr**	**1.31**	**132**	Pg	**Pg**	**22 42 10.7**	**+2.7**
GEVA	**Gevas**	**1.35**	**260**	P	**Pn**	**22 42 06.8**	**-1.5**
GEVA				S	**Sn**	**22 42 26.6**	**+0.1**
GEVA				*i* IAML		22 42 33.0	
	comp=E,68nm,0.6s						
IGDI	**IGDIR**	**1.40**	**339**	P	**Pb**	**22 42 08.7**	**-0.7**
AKDM	**Akdamar-Van**	**1.41**	**261**	Pn	**Pn**	**22 42 08.9**	**-0.1**
AKDM				Sn	**Sn**	**22 42 28.5**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.47**	**345**	Pn	**Pg**	**22 42 11.5**	**+0.5**
GNI	**Garni**	**1.58**	**360**	Pn	**Pg**	**22 42 12.9**	**-0.3**
GNI				Sn	**Sg**	**22 42 35.4**	**+1.6**
CUKT	**Cukurca**	**1.59**	**215**	Pn	**Pn**	**22 42 07.9**	**-3.6**
CUKT				Sn	**Sn**	**22 42 26.7**	**-5.7**
CUKT	**Cukurca**	**1.59**	**215**	P	**Pn**	**22 42 08.0**	**-3.5**
ADCV	**BITLIS_Adilcev**	**1.60**	**279**	P	**Pn**	**22 42 13.2**	**+1.5**
ADCV				S	**Sb**	**22 42 35.7**	**+2.4**
ADCV				*i* IAML		22 42 37.0	
	comp=N,21nm,0.8s						
ADCV				*i* IAML		22 42 38.0	
	comp=E,68nm,0.7s						
AGRB	**Hanur-Agry**	**1.70**	**307**	Pn	**Pb**	**22 42 14.8**	**+0.3**
AGRB				Sn	**Sg**	**22 42 39.3**	**+1.9**
KOTA	**Agri, Merkez-K**	**1.72**	**316**	P	**Pb**	**22 42 14.8**	**-0.1**
DORK	**Agr/Tutak/Do**	**1.74**	**299**	P	**Pn**	**22 42 13.8**	**+0.2**
MLAZ	**Malazgirt-MUS**	**1.81**	**289**	Pn	**Pg**	**22 42 16.1**	**+1.5**
IHRS	**Heris**	**1.82**	**97**	Pn	**Pg**	**22 42 18.9**	**+1.2**
PERV	**Siirt/Pervari-**	**1.84**	**251**	P	**Pg**	**22 42 19.5**	**+1.4**
GURO	**Guroymak-BITLI**	**2.13**	**271**	Pn	**Pn**	**22 42 19.9**	**+1.0**
QRD	**Qoradiz**	**2.20**	**65**	P	**Pg**	**22 42 26.0**	**+1.1**
QRD				S	**Sg**	**22 42 55.9**	**+2.5**
GDB	**GEDABAY**	**2.29**	**20**	P	**Pg**	**22 42 25.6**	**-1.1**
GDB				S	**Sg**	**22 42 54.7**	**-1.7**
SRTM	**Siirt_Merkez**	**2.29**	**256**	P	**Pb**	**22 42 25.1**	**+0.5**
AGDM	**Agdam**	**2.40**	**49**	P	**Pg**	**22 42 27.8**	**-0.9**
AGDM				S	**Sg**	**22 42 59.8**	**0.0**
GANJ	**Ganja**	**2.41**	**30**	P	**Pg**	**22 42 28.4**	**-0.6**
GANJ				S	**Sg**	**22 42 59.8**	**-0.5**
QZX	**Qazax, Azerbai**	**2.54**	**11**	P	**Pg**	**22 42 30.1**	**-1.3**
QZX				S	**Sg**	**22 43 03.1**	**-1.3**
KOPR	**Koprukoy-ERZUR**	**2.66**	**303**	Pn	**Pn**	**22 42 28.9**	**+2.6**
SENK	**Senkaya-Erzuru**	**2.72**	**318**	Pn	**Pb**	**22 42 29.9**	**-2.0**
YRD	**Yardimli**	**2.76**	**82**	P	**Pg**	**22 42 33.2**	**-2.4**
YRD				S	**Sg**	**22 43 10.1**	**-1.2**
LRK	**Lerik**	**2.82**	**87**	P	**Pg**	**22 42 35.5**	**-1.3**
LRK				S	**Sg**	**22 43 12.6**	**-0.7**

*GCG **24** 22:54:50.0±1.2,16°.74N×91°.12W,h14km±14km,MD3.9,*
ML3.5
*MEX **24** 22:54:52.5±0.5,16°.77N×91°.13W,h10km,MD4.2*
ISC 24 22:54:49.9±1.5,16°.78N±0°.03×91°.15W±0°.03,h16km±11km, n24,σ1s74/41,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.07**	**243**	*e*P	**Pg**	**22 55 10.2**	**-0.4**
CCIG				*e*S	**Sg**	**22 55 24.7**	**+0.1**
CCIG	**Comitan**	**1.07**	**243**	*i* P	**Pg**	**22 55 09.8**	**-0.8**
CCIG				IAML		22 55 29.4	
	comp=N,332nm,0.4s						
PETF	**Flores**	**1.24**	**83**	*e*P	**Pn**	**22 55 11.5**	**-1.0**
PETF				*e*S	**Sb**	**22 55 29.2**	**+0.7**
PETF	**Flores**	**1.24**	**83**	*i* P	**Pn**	**22 55 11.8**	**-0.6**
PETF				*i* S	**Sb**	**22 55 30.0**	**+1.5**
PETF				IAML		22 55 33.0	
	comp=N,2μm,0.8s						
QUIS	**Sacapulas**	**1.48**	**178**	*i* P	**Pn**	**22 55 15.3**	**-0.7**
QUIS				*i* S	**Sn**	**22 55 33.7**	**-1.3**
QUIS				IAML		22 55 38.3	
	comp=N,2μm,0.6s						
HUEH	**Huehuetenango**	**1.49**	**193**	*e*P	**Pn**	**22 55 15.7**	**-0.5**
HUEH				*e*S	**Sn**	**22 55 34.4**	**-1.1**
HUEH	**Huehuetenango**	**1.49**	**193**	*i* P	**Pn**	**22 55 15.9**	**-0.3**
HUEH				*i* S	**Sn**	**22

σ1♀73/69, **mb4.2/8, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.53**	**179**		**Pn**	**23 23 54.1**	**+0.1**
SOEI				Sn	**Sn**	**23 24 04.8**	**+3.0**
SOEI	**Soe**	**0.53**	**179**	P	**Pn**	**23 23 54.1**	**+0.1**
SOEI	**Soe**	**0.53**	**179**	P	**Pn**	**23 23 53.6**	**-0.4**
BATI	**Baumata**	**1.14**	**211**	Pg	**Pn**	**23 24 04.8**	**+2.5**
	1μm,0.3s,baz=52,slow=3.9,SNR=690						
BATI				Lg	Lg	23 24 23.4	
	524nm,0.3s,baz=199,slow=6.7,SNR=80						
BATI	**Baumata**	**1.14**	**211**	P	**Pn**	**23 24 04.4**	**+2.0**
MMRI	**Maumere**	**2.08**	**286**		**Pn**	**23 24 14.8**	**-0.5**
MMRI				Sn	**Sn**	**23 24 39.2**	**-0.8**
MMRI	**Maumere**	**2.08**	**286**	P	**Pn**	**23 24 15.1**	**-0.2**
MMRI	**Maumere**	**2.08**	**286**	S	**Sn**	**23 24 39.7**	**-0.3**
MMRI	**Maumere**	**2.08**	**286**	P	**Pn**	**23 24 14.8**	**-0.5**
EDFI	**Ende, Flores**	**2.58**	**280**	P	**Pn**	**23 24 21.1**	**-1.2**
BASI	**Baing, Sumba**	**3.76**	**254**	P	**Pn**	**23 24 40.6**	**+2.2**
WSI	**Waingapu**	**3.93**	**263**	P	**Pn**	**23 24 40.0**	**-0.8**
BBSI	**Bau Bau**	**4.07**	**336**	P	**Pn**	**23 24 43.5**	**+0.8**
WBSI	**Waikabubak, Su**	**4.82**	**265**	P	**Pn**	**23 24 52.0**	**-1.0**
BSSI	**Bau Bau, Buton**	**4.83**	**309**	P	**Pn**	**23 24 53.6**	**+0.5**
BKSI	**Bulukumba**	**5.65**	**313**	P	**Pn**	**23 25 05.9**	**+1.6**
	14nm,0.9s						
PLAI	**Plampang**	**6.42**	**273**	P	**Pn**	**23 25 15.5**	**+0.6**
PLAI	**Plampang**	**6.42**	**273**	S	**Sn**	**23 26 27.2**	**+0.2**
PLAI	**Plampang**	**6.42**	**273**	P	**Pn**	**23 25 15.3**	**+0.4**
	0.4nm1μm111nm,0.7s						
DRS	**Darwin Rock St**	**7.26**	**117**	P	**Pn**	**23 25 27.7**	**+1.2**
SANI	**Sanana**	**7.33**	**14**	P	Pn	23 25 30.9	+3.4
MTN	**Manton Dam**	**7.64**	**119**		**Pn**	**23 25 32.7**	**+0.8**
MTN	**Manton Dam**	**7.64**	**119**	P	**Pn**	**23 25 32.6**	**+0.8**
KNRA	**Kununurra**	**7.78**	**146**		**Pn**	**23 25 33.7**	**+0.1**
LUWI	**Luwuk**	**8.26**	**350**	Pn	**Pn**	**23 25 39.0**	**-1.2**
KDU	**Kakadu**	**8.77**	**114**	P	**Pn**	**23 25 47.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**8.92**	**172**		**Pn**	**23 25 49.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**8.92**	**172**	Pn	**Pn**	**23 25 49.3**	**-0.1**
	9.5nm,0.3s,baz=359,slow=9.2,SNR=236						
FITZ				Sn	**Sn**	**23 27 26.2**	**-2.5**
	11nm,0.3s,baz=175,slow=16,SNR=8.5						
	18nm,0.3s						
FITZ	**Fitzroy Crossi**	**8.92**	**172**	P	**Pn**	**23 25 49.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**10.02**	**274**	Pn	**Pn**	**23 26 02.5**	**-1.9**
JAGI	**Jajag, Banyuwa**	**10.02**	**274**	P	**Pn**	**23 26 03.7**	**-0.7**
FAKI	**Fak Fak**	**10.11**	**52**	Pn	**Pn**	**23 26 07.0**	**+1.3**
FAKI	**Fak Fak**	**10.11**	**52**	P	Pn	23 26 09.0	+3.3
TOLI2	**Tolitoli**	**10.84**	**341**	Pn	**Pn**	**23 26 13.6**	**-2.0**
MBWA	**Marble Bar**	**12.64**	**200**	Pn	**Pn**	**23 26 39.6**	**-0.7**
PSA00	**Pilbara Seismi**	**12.99**	**199**	Pn	**Pn**	**23 26 43.3**	**-1.8**
WB0	**Warramunga Arr**	**14.35**	**138**		**Pn**	**23 27 00.4**	**-3.2**
WRA	**Warramunga Arr**	**14.44**	**139**		**Pn**	**23 27 00.3**	**-4.5**
WRA	**Warramunga Arr**	**14.44**	**139**	Pn	**Pn**	**23 27 02.1**	**-2.7**
	3.1nm,0.3s,baz=316,slow=13,SNR=82						
WRA				Sn	Sn	23 29 34.6	-9.1
	1.1nm,0.3s,baz=311,slow=23,SNR=20						
	6.4nm,0.4s						
AS31	**Alice Springs**	**17.07**	**148**		**Pn**	**23 27 37.5**	**-1.4**
ASAR	**Alice Springs**	**17.07**	**148**		**Pn**	**23 27 37.0**	**-1.9**
ASAR	**Alice Springs**	**17.07**	**148**	Pn	**Pn**	**23 27 37.5**	**-1.4**
	1.6nm,0.3s,baz=319,slow=11,SNR=132						
ASAR				Sn	**Sn**	**23 30 40.0**	**-7.8**
	0.4nm,0.3s,baz=311,slow=22,SNR=6.1						
	12nm,0.7s						
AS01	**Alice Springs**	**17.09**	**148**	P	**Pn**	**23 27 37.7**	**-1.5**
QIS	**Mount Isa**	**18.61**	**129**	P	**Pn**	**23 27 57.6**	**-0.2**
COEN	**Coen**	**19.11**	**106**		**P**	**23 28 02.4**	**-0.5**
COEN				IAmb	IAmb	23 28 28.3	
	comp=Z,13nm,1.2s						
COEN	**Coen**	**19.11**	**106**	P	**Pn**	**23 28 04.6**	**+0.6**
MORW	**Morawa**	**21.20**	**200**	P	**P**	**23 28 24.5**	**-1.0**
MORW				IAmb	IAmb	23 28 40.4	
	comp=Z,36nm,1.4s						
MORW	**Morawa**	**21.20**	**200**	P	**P**	**23 28 26.6**	**+1.1**
BLDU	**Ballidu**	**22.42**	**197**	P	**P**	**23 28 39.5**	**+0.9**
KLBR	**Kellerberrin**	**23.06**	**194**	P	**P**	**23 28 45.7**	**+0.4**
BBOO	**Buckleboo**	**25.88**	**157**	P	**P**	**23 29 11.8**	**+0.3**
PTPS	**Port Pirie**	**26.99**	**154**	P	**P**	**23 29 21.8**	**+0.3**
COCO	**West Island**	**27.10**	**261**	P	**P**	**23 29 23.2**	**+0.5**
HTT	**Hallett**	**27.62**	**153**	P	**P**	**23 29 28.6**	**+1.4**
STKA	**Stephens Creek**	**27.69**	**147**	P	**P**	**23 29 29.9**	**+2.1**
	comp=Z,2.8nm,0.7s,baz=308,slow=8.3,SNR=4.6						
	comp=Z,2.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**51.18**	**348**	*e*P	**P**	**23 32 44.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,58nm,4.3s						
MKAR	**Makanchi Array**	**67.13**	**330**	P	**P**	**23 34 31.2**	**-1.9**
MKAR	**Makanchi Array**	**67.13**	**330**	P	**P**	**23 34 33.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=142,slow=6.0,SNR=5.8						
	comp=Z,0.6nm,0.7s						
ARSB	**Arslanbob**	**68.88**	**321**	P	**P**	**23 34 42.1**	**-2.2**
ARSB				IAmb	IAmb	23 34 57.9	
	comp=Z,4.0nm,1.2s						
VNDA	**Vanda**	**71.00**	**172**	P	**P**	**23 34 55.9**	**-0.7**
VNDA				IAmb	IAmb	23 35 20.6	
	comp=Z,1.9nm,1.1s						
VNDA	**Vanda**	**71.00**	**172**	P	**P**	**23 34 58.5**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=318,slow=10,SNR=5.4						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**71.57**	**331**	P	**P**	**23 35 00.2**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=145,slow=5.1,SNR=4.8						
	comp=Z,0.2nm,0.7s						
KURK	**Kurchatov**	**71.59**	**331**	P	**P**	**23 34 58.7**	**-1.7**
QSPA	**South Pole Qui**	**80.77**	**180**	P	**P**	**23 35 52.8**	**+0.2**
QSPA				IAmb	IAmb	23 35 55.8	
	comp=Z,4.2nm,1.1s						
QSPA	**South Pole Qui**	**80.77**	**180**	P	**P**	**23 35 54.6**	**+1.9**
	comp=Z,2.4nm,1.0s,baz=143,slow=2.1,SNR=5.7						
	comp=Z,2.4nm,1.0s						
SNAA	**Sanae**	**92.14**	**195**	P	**P**	**23 36 49.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**123.62**	**280**	PKP	**PKiKP**	**23 42 37.4**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=42,slow=1.6,SNR=4.5						

*NNC **24** 23:26:52.9±1.8, 44.°02N×79.°93E, h0km, mb3.6, mpv2.5, Error ellipse: s-maj=13.1km s-min=5.5km az=74.0*
*SOME **24** 23:26:52.9, 44.°03N×80.°02E, h15km*

ISC 24 23:26:50.7±3.0, 44.°00N±0.°06×80.°2E±0.°1, h7km±13km, n8, σ0°60/15, 2C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**0.79**	**297**	P	**Pg**	**23 27 06.1**	**+0.1**
	1.5nm,0.1s						
KNOS				S	**Sg**	**23 27 15.4**	**-0.9**
	19nm,0.2s						
PDGK	**Podgornoye**	**0.83**	**216**	⇑P	**Pb**	**23 27 07.7**	**+0.1**
	1.1nm,0.8s						
PDGK				⇓S	**Sb**	**23 27 18.3**	**-0.6**
	2.0nm,0.5s						
SHLS	**Shalkode**	**0.98**	**211**	P	**Pb**	**23 27 09.7**	**-0.4**
	1.8nm,0.2s						
SHLS				S	**Sg**	**23 27 21.8**	**-0.5**
	4.0nm,0.1s						
SHLS	**Shalkode**	**0.98**	**211**	*e*P	**Pb**	**23 27 09.7**	**-0.4**
	1.8nm,0.2s						
SHLS				*e*S	**Sg**	**23 27 21.8**	**-0.5**
	4.0nm,0.1s						
KPKS	**Kokpek**	**1.20**	**244**	P	**Pb**	**23 27 13.9**	**+0.1**
	0.3nm,0.2s						
KPKS				S	**Sg**	**23 27 29.2**	**0.0**
	17nm,0.4s						
SATY	**Saty**	**1.59**	**234**	P	**Pg**	**23 27 21.5**	**+0.4**
	1.3nm,0.1s						
SATY				S	**Sg**	**23 27 42.2**	**+0.5**
	13nm,0.2s						
ARXS	**Arharly**	**1.70**	**278**	P	**Pn**	**23 27 21.5**	**+0.7**
	0.7nm,0.1s						
ARXS				S	**Sn**	**23 27 42.3**	**-0.6**
	2.7nm,0.1s						
KNDC	**Almaty**	**2.45**	**253**	⇑Pg	**Pn**	**23 27 31.9**	**+0.6**
	6.5nm,0.5s						
KNDC				⇓Lg	Lg	23 28 03.9	
	5.8nm,0.6s						

*RSNC **24** 23:26:25.3±3.9, 44.°S±55.°×7.°3W±2.°5, h0km, M5.1, mB5.6, mb5.2, mBc6.5, Ms(BB)5.1, Mw(mB)5.1*
*IDC **24** 23:26:30.9±0.4, 43.°16S×74.°04W, h0km, mb4.9/14, mbtmp4.9/15, ML4.2/1, MS4.5/34, Error ellipse: s-maj=19.9km s-min=12.8km az=96.0*
*VAO **24** 23:26:33.6±0.7, 43.°08S×73.°79W, h10km, mb5.1*

*NEIC **24** 23:36:34.2±1.5, 43.°14S±0.°05×74.°31W±0.°06, h20km±3km, mb5.3/118, Mwr5.0/30, Mww5.1/20, Mwr5.1/(GUC), Error ellipse: s-maj=7.8km s-min=5.0km az=145.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.92; Mθθ0.51; Mφφ-2.43; Mrθ-0.34; Mθφ-1.22; Mrφ-3.05; Fault plane solution: M₀3.98000×10¹⁶ NP1: φs186.70000°, δ71.77000°, λ78.01000°. NP2:φs40.87000°, δ21.71000°, λ122.24000°. Principal axes: T 3.5125, Plg61.0000°, Azm79.0000°; N 0.8076, Plg11.0000°, Azm190.0000°; P -4.3201, Plg26.0000°, Azm286.0000°;*
*NEIC **24** 23:36:34.8, 43.°22S×74.°45W, h24km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10¹⁶Nm; Mrr3.92; Mθθ-0.22; Mφφ-3.71; Mrθ-0.77; Mθφ-1.89; Mrφ-3.92; Fault plane solution: M₀5.84000×10¹⁶ NP1: φs34.79000°, δ24.44000°, λ108.71000°. NP2: φs194.38000°, δ66.93000°, λ81.71000°. Principal axes: T 5.5770, Plg67.0000°, Azm89.0000°; N 0.4909, Plg8.0000°, Azm198.0000°; P -6.0679, Plg22.0000°, Azm291.0000°;*
*NEIC **24** 23:36:34.8, 43.°12S×74.°31W, h24km*
*NEIC **24** 23:36:34.1, 43.°15S×74.°38W, h20km*
*GUC **24** 23:36:35.7±0.5, 43.°24S×74.°24W, h29km±2km, ML4.9*
*GCMT **24** 23:36:38.2±0.2, 43.°14S±0.°01×74.°42W±0.°02, h32km, MW5.2/103, Moment Tensor Solution. s78,c117; s103,c147; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.98±. 16; Mθθ-0.50±.12; Mφφ-5.48±.13; Mrθ-1.22±.16; Mθφ-1.45±.09; Mrφ-4.22±.19; Best double couple: M₀7.37600×10¹⁶ NP1:φs15.00000°, δ27.00000°, λ89.00000°. NP2:φs196.00000°, δ63.00000°, λ91.00000°. Principal axes: T 7.4310, Plg72.0000°, Azm107.0000°; N -0.1060, Plg0.0000°, Azm15.0000°; P -7.3220, Plg18.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **24** 23:36:38.8±1.1, 43.°02S×73.°93W, h25km, mb5.5/24 Error ellipse: s-maj=14.5km s-min=7.6km az=86.7*

ISC 24 23:36:33.2±0.7, 43.°19S±0.°03×74.°18W±0.°04, h18km±3km, n525, σ1♀11/528, mb5.3/91, MS4.6/36, 27C-9D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.38**	**79**		**Pn**	**23 36 44.5**	**+0.7**
GO07				Sg	**Sn**	**23 36 51.7**	**+0.9**
GO07	**Milladeo Hill,**	**0.38**	**79**	⇓*i*P	**Pn**	**23 36 44.6**	**+0.7**
LL06	**Loncomilla**	**1.05**	**23**	⇑*i*P	**Pg**	**23 36 54.6**	**+1.1**
LL06				*e*S	**Sg**	**23 37 09.4**	**+2.0**
LL06				IAML		23 37 13.0	
	comp=E,135μm,0.3s						
VNTQ	**Ventisquero**	**1.30**	**77**	*i* P	**Pg**	**23 36 58.4**	**+0.2**
VNTQ				*i* S	**Sg**	**23 37 15.8**	**+0.5**
PDRA	**Piedra**	**1.38**	**77**	⇓*i*P	**Pg**	**23 36 60.0**	**+0.1**
PDRA				*e*S	**Sg**	**23 37 18.4**	**+0.5**
PDRA				IAML		23 37 21.1	
	comp=N,16μm,0.7s						
LL01	**San Ignacio de**	**1.53**	**59**		**Pg**	**23 37 02.2**	**-0.5**
LL01				Sn	**Sg**	**23 37 23.0**	**+0.4**
LL01	**San Ignacio de**	**1.53**	**59**	⇑*i*P	**Pg**	**23 37 02.2**	**-0.5**
LL01				*e*S	**Sg**	**23 37 22.3**	**-0.3**
LL01				IAML		23 37 30.4	
	comp=N,21μm,0.5s						
LL02	**Futaleuf**	**1.70**	**91**		**Pg**	**23 37 05.1**	**-0.8**
LL02	**Futaleuf**	**1.70**	**91**	⇓*i*P	**Pb**	**23 37 05.0**	**+1.0**
LL02				*i* S	**Sn**	**23 37 23.9**	**+0.5**
LL02				IAML		23 37 35.2	
	comp=N,9μm,0.5s						
MGDN	**Magdalena**	**1.71**	**148**	⇑*i*P	**Pb**	**23 37 03.2**	**-0.8**
MGDN				*i* S	**Sb**	**23 37 24.7**	**-0.5**
MGDN				IAML		23 37 29.0	
	comp=N,11μm,0.7s						
LL05	**Los Muermos**	**1.86**	**17**		**Pn**	**23 37 05.0**	**+0.9**
LL05	**Los Muermos**	**1.86**	**17**	⇓*i*P	**Pn**	**23 37 05.1**	**+0.9**
LL05				*e*S	**Sb**	**23 37 30.7**	**+1.2**
LL05				IAML		23 37 40.4	
	comp=N,20μm,0.6s						
USPA	**Uspallante**	**1.93**	**157**	IAML		23 37 39.4	
	comp=E,9μm,0.8s						
ETRA	**Estrella**	**2.08**	**163**	⇑*i*P	**Pn**	**23 37 07.6**	**+0.5**
LL03	**Petrohue**	**2.44**	**33**		**Pn**	**23 37 14.0**	**+1.9**
LL03	**Petrohue**	**2.44**	**33**	⇑*i*P	**Pn**	**23 37 13.8**	**+1.7**
LL03				*e*S	**Sb**	**23 37 44.7**	**-1.5**
LL03				IAML		23 37 55.3	
	comp=E,20μm,0.5s						
COYC	**Coyhaique**	**2.82**	**148**		**Pn**	**23 37 19.4**	**+2.0**
COYC	**Coyhaique**	**2.82**	**148**	⇑*e*P	**Pn**	**23 37 19.4**	**+2.0**
COYC				*e*S	**Sb**	**23 37 57.2**	**+0.1**
COYC				IAML		23 38 07.1	
	comp=E,7μm,0.6s						
LR05	**Currie**	**3.37**	**30**		**Pn**	**23 37 26.7**	**+1.7**
LR05	**Currie**	**3.37**	**30**	⇑*i*P	**Pn**	**23 37 27.2**	**+2.2**
LR05				*e*S	**Sn**	**23 38 08.4**	**+3.8**
LR05				IAML		23 38 20.5	
	comp=E,2μm,0.6s						
LR02	**Universidad Au**	**3.45**	**12**	*e*P	**Pn**	**23 37 28.9**	**+2.9**
LR02				*e*S	**Sn**	**23 38 09.9**	**+3.5**
PLCA	**Paso Flores**	**3.65**	**49**		**Pn**	**23 37 31.8**	**+2.9**
PLCA	**Paso Flores**	**3.65**	**49**	Pn	**Pn**	**23 37 32.3**	**+3.4**
	comp=E,16nm,0.3s,baz=227,slow=12,SNR=517						
PLCA				Pg	**Pg**	**23 37 41.2**	**-1.9**
	comp=E,42nm,0.3s,baz=240,slow=15,SNR=22						
PLCA				Lg	Lg	23 38 29.4	
	comp=E,62nm,0.3s,baz=142,slow=15,SNR=6.2						
PLCA	**Paso Flores**	**3.65**	**49**	P	**Pn**	**23 37 31.8**	**+2.9**
PLCA	**Paso Flores**	**3.65**	**49**	*e*P	**Pn**	**23 37 26.8**	**-2.1**
LR03	**Panguipulli**	**3.81**	**22**		**Pn**	**23 37 32.1**	**+1.1**
LR03	**Panguipulli**	**3.81**	**22**	*e*P	**Pn**	**23 37 32.3**	**+1.3**
GO06	**Curarrehue**	**4.14**	**30**	⇑*i*P	**Pn**	**23 37 38.4**	**+2.8**
AY03	**Cochrane**	**4.22**	**165**		**Pn**	**23 37 37.9**	**+1.3**
LC02	**Puerto Saavedr**	**4.43**	**8**		**Pn**	**23 37 41.2**	**+1.6**
BI05	**Punta Hualpn**	**6.48**	**7**		**Pn**	**23 38 08.0**	**+0.4**
BI02	**San Fabin de**	**6.89**	**20**		**Pn**	**23 38 14.5**	**+1.1**
ML02	**Panimavida**	**7.72**	**17**		**Pn**	**23 38 25.6**	**+0.9**
MG05	**Puerto Natales**	**8.57**	**173**		**Pn**	**23 38 38.3**	**+2.0**
BO02	**Sierra Bellavi**	**8.79**	**19**		**Pn**	**23 38 39.2**	**-0.2**
BO01	**Tunca**	**9.11**	**16**		**Pn**	**23 38 43.0**	**-0.7**
MT01	**Popeta**	**9.59**	**15**		**Pn**	**23 38 49.0**	**-1.3**
BO04	**La Punta**	**9.60**	**18**		**Pn**	**23 38 50.0**	**-0.5**
LMEL	**Las Melosas**	**9.83**	**20**		**Pn**	**23 38 53.5**	**-0.3**
MG04	**Isla Riesco**	**9.83**	**171**	Pn	**Pn**	**23 38 56.1**	**+2.6**
MT13	**San Alfonso**	**9.91**	**19**		**Pn**	**23 38 54.2**	**-0.7**
H03S1	**Juan Fernandez**	**10.04**	**337**	T	T	23 49 02.0	
	baz=160,slow=74,SNR=1084						
H03S2	**Juan Fernandez**	**10.05**	**337**	T	T	23 49 01.2	
	baz=160,slow=74,SNR=1315						
H03S3	**Juan Fernandez**	**10.05**	**337**	T	T	23 49 02.5	
	baz=160,slow=74,SNR=1204						
MG02	**Cerro Sombrero**	**10.15**	**163**	Pn	**Pn**	**23 38 60.0**	**+2.0**
MT02	**Curacav**	**10.20**	**15**		**Pn**	**23 38 57.5**	**-1.2**
VA04	**Juan Fernndez**	**10.20**	**338**		**Pn**	**23 38 58.7**	**0.0**
MT08	**Bocatoma Ro**	**10.26**	**20**		**Pn**	**23 39 00.3**	**+0.5**
PEL	**Peldehue**	**10.40**	**16**	P	**Pn**	**23 39 00.0**	**-1.5**
PEL				pmax	pmax		
	comp=Z,69nm,0.7s						
TRQA	**Tornquist**	**10.59**	**65**		**Pn**	**23 39 06.4**	**+2.3**
TRQA	**Tornquist**	**10.59**	**65**	P	**Pn**	**23 39 06.4**	**+2.3**
MG03	**Isla Dawson**	**10.95**	**168**		**Pn**	**23 39 11.6**	**+2.8**
CO02	**Combarbal**	**12.23**	**13**		**Pn**	**23 39 26.4**	**-0.1**
USHA	**Ushuaia**	**12.24**	**164**	Pn	**Pn**	**23 39 30.6**	**+4.1**
	comp=Z,1.3nm,0.3s,baz=108,slow=0.9,SNR=12						
CFA	**Coronel Fontan**	**12.48**	**24**	Pn	**Pn**	**23 39 27.5**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=209,slow=13,SNR=13						
CFA				Sn	**Sn**	**23 41 54.9**	**+6.2**
	comp=Z,0.6nm,0.3s,baz=335,slow=15,SNR=4.2						
CFA				LR	LR	23 44 55.2	
	comp=Z,2μm,19.2s,baz=194,slow=41						
	comp=Z,2.8nm,0.3s						
MG01	**Puerto William**	**12.51**	**162**		**Pn**	**23 39 32.4**	**+2.3**
CO03	**El Pedregal**	**12.64**	**14**	Pn	**Pn**	**23 39 29.9**	**-2.2**
CO01	**Juntas del Tor**	**13.58**	**15**		**Pn**	**23 39 45.4**	**+0.2**
EFI	**East Falkland**	**13.80**	**134**	⇑*e*P	**Pn**	**23 39 50.4**	**+2.7**
LCO	**Las Campanas**	**14.42**	**12**	*e*P	**Pn**	**23 39 57.9**	**+1.2**
GO03	**Copiapo**	**15.88**	**13**		**Pn**	**23 40 17.0**	**+1.1**
AC02	**Maricunga**	**16.82**	**16**	Pn	**Pn**	**23 40 28.5**	**+0.2**
PSAL	**Palomas, Salto**	**17.86**	**53**	*e*P	**Pn**	**23 40 38.5**	**-2.3**
PLTB	**Pedras Altas**	**19.86**	**62**	P	**P**	**23 41 00.6**	**-2.7**
PLTB	**Pedras Altas**	**19.86**	**62**	*e*P	**P**	**23 40 59.6**	**-3.6**
PB05	**IPOC Station P**	**20.55**	**10**	P	**P**	**23 41 10.2**	**-0.8**
PB06	**IPOC Station P**	**20.78**	**12**	P	**P**	**23 41 13.2**	**-0.2**
CPSB	**Cacapava Do Su**	**20.87**	**59**	*e*P	**P**	**23 41 10.2**	**-4.1**
CPUP	**Villa Florida**	**21.71**	**45**	P	**P**	**23 41 22.9**	**-0.4**
CPUP	**Villa Florida**	**21.71**	**45**	P	**P**	**23 41 23.2**	**-0.1**
	comp=Z,25nm,0.7s,baz=83,slow=9.0,SNR=80						
CPUP				LR	LR	23 50 49.5	
	comp=Z,778nm,19.9s,baz=74,slow=40						
	comp=Z,25nm,0.7s						
PB02	**IPOC Station P**	**22.10**	**11**	P	**P**	**23 41 27.8**	**+0.2**
PMSA	**Palmer Station**	**22.38**	**169**	P	**P**	**23 41 31.0**	**+0.9**
PMSA	**Palmer Station**	**22.38**	**169**	LR	LR	23 49 11.4	
	comp=Z,1μm,18.4s,baz=336,slow=34						
ESPZ	**Base Esperanza**	**22.55**	**160**	P	**P**	**23 41 32.5**	**+0.4**
TA01	**Diego Aracena**	**22.80**	**10**	P	**P**	**23 41 34.0**	**-1.0**
HMBC	**Humberstone**	**23.12**	**10**	P	**P**	**23 41 37.0**	**-1.5**
SJPY	**San Joaquin**	**23.43**	**45**	*e*P	**P**	**23 41 41.0**	**-0.4**
PB11	**IPOC Station P**	**23.67**	**11**	P	**P**	**23 41 43.5**	**-0.4**
ITAB	**Concordia**	**23.93**	**55**	P	**P**	**23 41 45.3**	**-0.9**
MURT	**Porto Murtinho**	**25.53**	**38**	*e*P	**P**	**23 41 59.5**	**-1.3**
AMBA	**Amambai (Brazi**	**25.71**	**44**	*e*P	**P**	**23 42 00.8**	**-1.7**
PB18	**Visviri**	**25.83**	**10**	P	**P**	**23 42 04.3**	**+0.2**
PB18				IAmb	IAmb	23 42 10.1	
	comp=Z,95nm,1.1s						
PTGB	**Pitanga**	**25.87**	**52**	*e*P	**P**	**23 42 01.8**	**-2.2**
BDQN	**Bodoquena, MS**	**26.97**	**38**	*e*P	**P**	**23 42 12.1**	**-1.7**
TRCB	**Terra Rica**	**27.06**	**48**	P	**P**	**23 42 13.6**	**-1.1**
TRCB	**Terra Rica**	**27.06**	**48**	*e*P	**P**	**23 42 13.2**	**-1.6**
LPAZ	**La Paz**	**27.30**	**13**	P	**P**	**23 42 16.6**	**-0.9**
LPAZ	**La Paz**	**27.30**	**13**	P	**P**	**23 42 18.3**	**+0.7**
	comp=Z,14nm,0.7s,baz=170,slow=8.5,SNR=12						
LPAZ				PcP	**PcP**	**23 45 37.7**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=170,slow=3.6,SNR=4.0						
	comp=Z,14nm,0.7s						
LPAZ	**La Paz**	**27.30**	**13**	P	**P**	**23 42 16.6**	**-0.9**
LPAZ				pmax	pmax		
	comp=Z,38nm,1.2s						
LPAZ	**La Paz**	**27.30**	**13**	*e*P	**P**	**23 42 17.3**	**-0.2**
LPAZ	**La Paz**	**27.30**	**13**	P	**P**	**23 42 17.6**	**+0.1**
	comp=Z,30nm,1.0s						
AQDB	**Aquidauana**	**27.43**	**40**	P	**P**	**23 42 16.6**	**-1.4**
AQDB				IAmb	IAmb	23 42 30.0	
	comp=Z,57nm,1.2s						
AQDB	**Aquidauana**	**27.43**	**40**	*e*P	**P**	**23 42 16.8**	**-1.2**
RPRD	**Ribas do Rio P**	**28.41**	**44**	*e*P	**P**	**23 42 26.4**	**-0.3**
SIV	**San Ignacio**	**29.33**	**26**	LR	LR	23 55 34.1	
	comp=Z,523nm,18.5s,baz=216,slow=39						
VAO	**Valinhos**	**30.20**	**57**	P	**P**	**23 42 41.9**	**-0.7**
PTLB	**Pontes e Lacer**	**30.50**	**30**	P	**P**	**23 42 45.0**	**-0.1**
PTLB				IAmb	IAmb	23 42 48.0	
	comp=Z,50nm,1.1s						
PTLB	**Pontes e Lacer**	**30.50**	**30**	*e*P	**P**	**23 42 45.1**	**-0.1**
BB19B	**Bebedouro**	**30.74**	**52**	*e*P	**P**	**23 42 46.9**	**-0.5**
ITRB	**Iturama**	**30.80**	**48**	*e*P	**P**	**23 42 48.2**	**+0.3**
NNA	**Nana**	**31.17**	**355**	P	**P**	**23 42 50.6**	**-0.6**
NNA	**Nana**	**31.17**	**355**	LR	LR	23 52 28.4	
	comp=Z,732nm,21.6s,baz=162,slow=31						
NNA	**Nana**	**31.17**	**355**	⇓*e*P	**P**	**23 42 51.1**	**-0.2**
NNA				pmax	pmax		
	comp=Z,29nm,1.0s						
SALV	**Santo Antonio**	**31.45**	**36**	*e*P	**P**	**23 42 53.0**	**-0.6**
VILB	**Vilhena**	**32.46**	**26**	P	**P**	**23 43 01.4**	**-1.2**
VILB	**Vilhena**	**32.46**	**26**	*e*P	**P**	**23 43 02.0**	**-0.5**
RPN	**Rapa Nui**	**32.62**	**288**	LR	LR	23 52 42.0	
	comp=Z,1μm,18.4s,baz=142,slow=30						
PMNB	**Patos De Minas**	**33.94**	**52**	*e*P	**P**	**23 43 14.7**	**-0.8**
PDRB	**Porto dos Gac**	**34.91**	**31**	*e*P	**P**	**23 43 23.6**	**-0.3**
CZSB	**Cruzeiro do Su**	**35.34**	**3**	P	**P**	**23 43 26.5**	**-1.1**
CZSB	**

ROSC El Rosal 47.80 360 P **P** **23 45 12.1 +2.1**
comp=Z,20nm,0.8s,baz=158,slow=6.7,SNR=12
ROSC LR LR 00 03 34.1
comp=Z,580nm,20.6s,baz=227,slow=34
comp=Z,20nm,0.8s
ROSC El Rosal 47.80 360 P **P** **23 45 09.5 -0.6**
ROSC pmax pmax
comp=Z,59nm,1.3s
PLMC San Jos del P 47.91 357 P **P** **23 45 11.0 +0.5**
comp=Z,462nmcomp=Z,33nm,1.5s
GUY2C Guyana, Caldas 48.20 358 P **P** **23 45 14.0 +0.8**
comp=Z,516nmcomp=Z,51nm,1.0s
CBOC Ciudad Bolivar 48.85 358 P **P** **23 45 17.7 -0.2**
comp=Z,60nm,0.9s
RUSC La Rusia 48.86 1 P **P** **23 45 17.9 -0.4**
HELC Santa Helena 49.16 358 P **P** **23 45 20.7 +0.2**
NBCL Cascavel-CE 50.14 50 *eP* **P** **23 45 28.0 +0.4**
RCBR Riachuelo 50.21 53 P **P** **23 45 27.8 -0.4**
RCBR IAmb IAmb 23 45 29.5
comp=Z,45nm,1.1s
RCBR Riachuelo 50.21 53 LR LR 00 07 41.9
comp=Z,648nm,18.6s,baz=210,slow=37
RCBR Riachuelo 50.21 53 P **P** **23 45 27.8 -0.4**
RCBR pmax pmax
comp=Z,45nm,1.1s
RCBR Riachuelo 50.21 53 *eP* **P** **23 45 27.5 -0.7**
MDP Montagnes des 51.87 28 LR LR 00 10 58.9
comp=Z,461nm,20.2s,baz=197,slow=40
SDV Santo Domingo 51.92 4 P **P** **23 45 40.0 -1.1**
SDV IAmb IAmb 23 45 52.4
comp=Z,31nm,1.1s
BAUV El Baul 52.18 8 P **P** **23 45 42.4 -0.4**
SBA Scott Base 53.76 193 P **P** **23 45 55.4 +1.6**
SBA Scott Base 53.76 193 P **P** **23 45 55.4 +1.6**
SBA pmax pmax
comp=Z,15nm,1.0s
PCRV Puerto La Cruz 53.82 12 LR LR 00 12 41.0
comp=Z,772nm,18.2s,slow=40
SMRC Santa Marta, M 54.09 360 P **P** **23 45 56.3 -0.5**
SMRC IAmb IAmb 23 46 05.7
comp=Z,41nm,1.0s
JTS Las Juntas de 54.12 347 P **P** **23 45 56.9 -0.2**
JTS IAmb IAmb 23 46 08.1
comp=Z,40nm,1.6s
JTS Las Juntas de 54.12 347⇑ *eP* **P** **23 45 57.0 -0.2**
JTS pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 54.78 193 P **P** **23 46 02.7 +1.5**
VNDA Vanda 54.78 193 P **P** **23 46 03.2 +2.0**
comp=Z,12nm,1.1s,baz=139,slow=5.7,SNR=39
VNDA PcP **PcP** **23 47 04.6 +1.2**
comp=Z,3.8nm,0.9s,baz=158,slow=5.5,SNR=1.9
VNDA LR LR 00 06 11.0
comp=Z,192nm,19.3s,baz=144,slow=32
comp=Z,12nm,1.1s
VNDA Vanda 54.78 193 P **P** **23 46 02.7 +1.5**
VNDA pmax pmax
comp=Z,24nm,1.2s
ACON Acoyapa 55.80 347 P **P** **23 46 08.6 -0.7**
ESPN Las Esperanzas 55.89 348 P **P** **23 46 09.5 -0.3**
ESPN IAmb IAmb 23 46 19.2
comp=Z,31nm,1.0s
BOAB BOACO BROADBAN 56.36 346 P **P** **23 46 12.5 -0.7**
SIUN Universidad Ur 57.45 348 P **P** **23 46 20.8 -0.2**
SIUN IAmb IAmb 23 46 30.7
comp=Z,18nm,1.0s
SYO Syowa Base 58.00 157⇑ *iP* **P** **23 46 24.6 +0.4**
SYO Syowa Base 58.00 157⇓ *ep* pP pP 23 46 28.2 -1.7
TGUH Tegucigalpa,Un 58.22 345 P **P** **23 46 24.8 -1.7**
TGUH IAmb IAmb 23 46 36.6
comp=Z,32nm,0.9s
MTO3 Montecristo 58.97 343 P **P** **23 46 31.8 -0.1**
MTO3 IAmb IAmb 23 46 41.4
comp=Z,41nm,1.1s
OBIP Obispado Ponce 61.32 8 P **P** **23 46 46.8 -0.8**
CELP Cerrillos 61.36 8 P **P** **23 46 46.6 -1.3**
CCIG Comitan 61.43 340 P **P** **23 46 47.2 -1.5**
CCIG IAmb IAmb 23 46 58.0
comp=Z,41nm,1.4s
SJG San Juan 61.44 9 P **P** **23 46 47.4 -1.1**
SJG IAmb IAmb 23 46 55.7
comp=Z,26nm,0.9s
SJG San Juan 61.44 9 P **P** **23 46 47.4 -1.1**
SJG pmax pmax
comp=Z,26nm,1.0s
PETF Flores 61.52 343 P **P** **23 46 48.5 -0.5**
CMIG Matias Romero 62.93 338 LR LR 00 08 49.9
comp=Z,495nm,18.3s,baz=166,slow=31
TEIG Tepich 64.42 345 P **P** **23 47 07.3 -0.9**
TEIG IAmb IAmb 23 47 16.8
comp=Z,27nm,0.8s
TLIG Tlapa 64.47 334 P **P** **23 47 08.6 -0.2**
TLIG IAmb IAmb 23 47 20.1
comp=Z,32nm,1.3s
MAW Mawson 64.86 163 P **P** **23 47 11.9 +1.3**
comp=Z,5.1nm,1.4s
MAW Mawson 64.86 163 P **P** **23 47 11.2 +0.6**
comp=Z,17nm,1.0s,baz=213,slow=7.8,SNR=26
MAW LR LR 00 16 07.9
comp=Z,732nm,18.2s,baz=221,slow=37
comp=Z,17nm,1.0s
SOR Soroa 66.15 351 P **P** **23 47 19.1 -0.3**
SOR Soroa 66.15 351 P **P** **23 47 19.2 -0.3**
SOR pmax pmax
comp=Z,117nm,1.5s
PPT Papeete 67.64 267 LR LR 00 09 20.6
comp=Z,269nm,20.2s,baz=198,slow=29
ZAIG Zacatecas 70.64 332 P **P** **23 47 48.9 +1.0**
ZAIG IAmb IAmb 23 47 59.0
comp=Z,32nm,1.2s
CASY Casey 70.81 182 **P** **23 47 48.8 +0.7**
CASY IAmb IAmb 23 47 50.2
comp=Z,20nm,0.9s
SUR Sutherland 71.96 118 P **P** **23 47 56.2 +0.3**
656A Willston 72.61 352 P **P** **23 47 59.0 -0.2**
656A IAmb IAmb 23 48 07.5
comp=Z,39nm,1.1s
RAR Rarotonga 72.68 257 LR LR 00 11 45.8
comp=Z,371nm,18.5s,baz=120,slow=29
LPIG La Paz 74.76 326 LR LR 00 13 46.1
comp=Z,488nm,18.6s,baz=179,slow=30
833A Chaparral WMA, 74.84 337 **P** **23 48 12.1 -0.3**
833A IAmb IAmb 23 48 22.5
comp=Z,65nm,1.5s
GRHM Grahamstown, E 74.92 121 **P** **23 48 13.3 +0.2**
GRHM IAmb IAmb 23 48 14.3
comp=Z,46nm,1.0s
352A Blakely 74.96 351 P **P** **23 48 12.5 -0.4**
352A IAmb IAmb 23 48 21.9
comp=Z,17nm,0.7s
HKT Hockley 75.45 341⇑ *eP* **P** **23 48 14.1 -1.7**
HKT pmax pmax
comp=Z,8.0nm,1.1s
HPIG 75.55 331 P **P** **23 48 16.8 0.0**
HPIG IAmb IAmb 23 48 27.1
comp=Z,40nm,1.0s
WIN Windhoek 75.81 108 **P** **23 48 18.6 0.0**
WIN IAmb IAmb 23 48 20.3
comp=Z,49nm,1.1s
WIN Windhoek 75.81 108 P **P** **23 48 18.6 0.0**
WIN pmax pmax
comp=Z,49nm,1.1s
NHSC New Hope 76.13 355 P **P** **23 48 19.7 +0.1**
URZ Urewera 76.36 230 LR LR 00 14 45.2
comp=Z,303nm,18.1s,baz=147,slow=30
GOGA Godfrey 76.70 352 P **P** **23 48 22.9 0.0**
GOGA IAmb IAmb 23 48 32.1
comp=Z,25nm,1.1s
GOGA Godfrey 76.70 352 P **P** **23 48 22.9 0.0**
GOGA pmax pmax
comp=Z,25nm,1.2s
LRAL Lakeview Retre 76.76 349 P **P** **23 48 23.4 +0.1**
LRAL IAmb IAmb 23 48 32.8
comp=Z,26nm,1.1s
QRZ Quartz Range 77.02 226 P **P** **23 48 25.0 +0.1**
TXAR Lajitas Array 77.08 334 **P** **23 48 26.3 +1.0**
TXAR Lajitas Array 77.08 334 P **P** **23 48 26.4 +1.1**
comp=Z,8.3nm,0.9s,baz=149,slow=7.9,SNR=50
TXAR LR LR 00 16 18.0
comp=Z,219nm,21.6s,baz=119,slow=31
comp=Z,8.3nm,0.9s
TXAR Lajitas Array 77.08 334 P **P** **23 48 26.3 +1.0**
TX31 Lajitas Ar. Si 77.08 334 P **P** **23 48 26.1 +0.8**
TX31 IAmb IAmb 23 48 35.5
comp=Z,36nm,1.2s
BOSA Boshof 77.32 117 **P** **23 48 26.8 -0.2**

BOSA Boshof 77.32 117 P **P** **23 48 26.5 -0.5**
comp=Z,38nm,0.9s,baz=226,slow=5.5,SNR=43
BOSA LR LR 00 17 28.9
comp=Z,353nm,21.2s,baz=215,slow=32
comp=Z,38nm,0.9s
BOSA Boshof 77.32 117 P **P** **23 48 26.8 -0.2**
BOSA pmax pmax
comp=Z,74nm,1.2s
HODGE Hodges 77.40 353 P **P** **23 48 26.8 0.0**
HODGE IAmb IAmb 23 48 36.0
comp=Z,31nm,1.3s
KOOLE Kule 77.67 110 *iP* **P** **23 48 29.2 +0.1**
Z41A Richland Creek 77.97 344 P **P** **23 48 30.1 +0.1**
FPAL Fort Paine 78.06 350 P **P** **23 48 30.6 0.0**
FPAL IAmb IAmb 23 48 40.5
comp=Z,38nm,1.7s
TSUM Tsumeb 78.36 105 **P** **23 48 32.7 -0.2**
TSUM IAmb IAmb 23 48 34.4
comp=Z,38nm,1.6s
TSUM Tsumeb 78.36 105 LR LR 00 18 02.4
comp=Z,379nm,20.1s,baz=178,slow=32
PLAL Pickwick Lake 78.83 348 P **P** **23 48 34.0 -0.7**
TKL Tuckaleechee C 78.96 352 P **P** **23 48 34.9 -0.5**
TKL Tuckaleechee C 78.96 352 P **P** **23 48 34.9 -0.5**
TKL pmax pmax
comp=Z,20nm,1.4s
SKOMA Sekoma 79.20 113 *iP* **P** **23 48 37.0 -0.4**
GRTLG Ghanzi 79.46 109 *iP* **P** **23 48 38.9 0.0**
DBIC Dimbokro 79.75 71 P **P** **23 48 40.4 0.0**
DBIC Dimbokro 79.75 71 P **P** **23 48 40.5 +0.2**
comp=Z,24nm,0.6s,baz=243,slow=6.0,SNR=36
DBIC LR LR 00 19 51.5
comp=Z,240nm,20.1s,baz=220,slow=33
comp=Z,24nm,0.6s
TZTN Tazewell 79.81 352 P **P** **23 48 39.9 -0.2**
TZTN IAmb IAmb 23 48 49.7
comp=Z,28nm,1.1s
WVT Waverly 79.92 349 P **P** **23 48 40.4 -0.3**
WVT IAmb IAmb 23 48 50.1
comp=Z,27nm,1.1s
WVT Waverly 79.92 349 P **P** **23 48 40.4 -0.3**
WVT pmax pmax
comp=Z,27nm,1.2s
WMOK Wichita Mounta 80.75 340 P **P** **23 48 45.0 -0.2**
WMOK IAmb IAmb 23 48 55.1
comp=Z,35nm,1.2s
WMOK Wichita Mounta 80.75 340 P **P** **23 48 45.0 -0.2**
WMOK pmax pmax
comp=Z,35nm,1.3s
CKGRV CKGRV 81.19 111 *iP* **P** **23 48 48.1 -0.1**
TUC Tucson 82.28 329 P **P** **23 48 53.8 +0.4**
TUC IAmb IAmb 23 49 05.0
comp=Z,36nm,1.6s
TUC Tucson 82.28 329 P **P** **23 48 53.8 +0.4**
TUC pmax pmax
comp=Z,36nm,1.6s
ACRG Accra 82.28 75 P **P** **23 48 54.0 +0.2**
ACRG IAmb IAmb 23 48 55.2
comp=Z,34nm,1.1s
POGA Pongola 82.33 120 **P** **23 48 53.7 -0.3**
CCM Cathedral Cave 82.34 346 P **P** **23 48 53.4 -0.1**
CCM IAmb IAmb 23 48 54.9
comp=Z,29nm,0.8s
CCM Cathedral Cave 82.34 346 P **P** **23 48 53.4 -0.1**
CCM pmax pmax
comp=Z,29nm,0.8s
Y22A Socorro 82.40 333 **P** **23 48 55.1 +1.0**
Y22A IAmb IAmb 23 49 04.8
comp=Z,31nm,1.1s
WUPA West Chester U 82.75 359 P **P** **23 48 56.1 +0.5**
MREMI Moremi 82.88 114 *iP* **P** **23 48 57.3 +0.3**
SLIND Selinda 82.89 109 *iP* **P** **23 48 58.4 +1.2**
ANMO Albuquerque 83.16 334 **P** **23 48 58.6 +0.5**
ANMO Albuquerque 83.16 334 LR LR 00 20 33.3
comp=Z,244nm,18.3s,baz=248,slow=32
ANMO Albuquerque 83.16 334 *ciP* **P** **23 48 59.2 +1.1**
ANMO pmax pmax
comp=Z,21nm,1.1s
ACSO Alum Creek Sta 83.42 353 P **P** **23 48 58.4 -0.7**
ACSO IAmb IAmb 23 48 59.4
comp=Z,28nm,1.0s
SSPA Standing Stone 83.51 357 P **P** **23 48 59.4 -0.1**
SSPA IAmb IAmb 23 49 09.6
comp=Z,22nm,1.2s
BROLN Tlhalogang 83.81 113 *iP* **P** **23 49 01.3 -0.6**
X18A Snowflake 83.97 331 P **P** **23 49 02.9 +0.7**
X18A IAmb IAmb 23 49 14.1
comp=Z,34nm,1.3s
HDIL Hopedale 84.47 348 P **P** **23 49 04.2 -0.1**
T25A Trinidad 84.55 336 P **P** **23 49 04.9 -0.2**
KSANE Kasane 84.60 109 *iP* **P** **23 49 06.5 +0.5**
CBKS Cedar Bluff 84.85 340 **P** **23 49 06.9 +0.5**
CBKS Cedar Bluff 84.85 340 P **P** **23 49 06.9 +0.5**
CBKS pmax pmax
comp=Z,81nm,1.3s
SDCO Great Sand Dun 85.44 336 **P** **23 49 09.7 0.0**
SDCO IAmb IAmb 23 49 20.4
comp=Z,20nm,1.2s
PFO Pinyon Flats O 85.65 326 P **P** **23 49 11.4 +0.7**
PFO IAmb IAmb 23 49 22.0
comp=Z,21nm,1.3s
PFO Pinyon Flats O 85.65 326 LR LR 00 19 38.4
comp=Z,272nm,18.6s,baz=142,slow=30
PFO Pinyon Flats O 85.65 326⇑ *eP* **P** **23 49 12.2 +1.5**
PFO pmax pmax
comp=Z,9.0nm,0.9s
V12A Nelson 86.85 328 **P** **23 49 16.8 +0.3**
V12A IAmb IAmb 23 49 27.1
comp=Z,19nm,1.0s
TPO Tropico Hills 87.48 325 P **P** **23 49 20.4 +0.8**
SADO Sadowa 87.69 356 LR LR 00 29 46.9
comp=Z,121nm,20.9s,baz=162,slow=36
SZCU Shurtz Canyon 87.83 330 P **P** **23 49 21.9 +0.5**
QSM Queen of Sheba 87.86 327 P **P** **23 49 22.4 +1.2**
QSM IAmb IAmb 23 49 32.0
comp=Z,21nm,1.2s
EDA Edea 88.43 83 P **P** **23 49 25.0 +0.5**
EDA IAmb IAmb 23 49 28.2
comp=Z,17nm,1.1s
LSZ Lusaka 88.43 109 **P** **23 49 25.1 +0.4**
LSZ IAmb IAmb 23 49 26.6
comp=Z,20nm,1.0s
LSZ Lusaka 88.43 109 LR LR 00 26 33.2
comp=Z,426nm,19.5s,baz=192,slow=34
LSZ Lusaka 88.43 109 P **P** **23 49 25.1 +0.4**
LSZ pmax pmax
comp=Z,20nm,1.0s
TPNV Topopah Spring 88.47 328 P **P** **23 49 25.2 +0.9**
TPNV IAmb IAmb 23 49 35.6
comp=Z,26nm,1.4s
TPNV Topopah Spring 88.47 328 P **P** **23 49 25.2 +0.9**
TPNV pmax pmax
comp=Z,26nm,1.4s
ECSD EROS Data Cent 88.84 344 **P** **23 49 25.5 -0.2**
TORD Torodi Ar. Bea 88.87 71 P **P** **23 49 26.0 -0.5**
TORD Torodi Ar. Bea 88.87 71 P **P** **23 49 26.2 -0.3**
comp=Z,9.7nm,0.9s,baz=265,slow=2.8,SNR=58
TORD LR LR 00 27 08.0
comp=Z,246nm,18.5s,baz=200,slow=34
comp=Z,9.7nm,0.9s
TRQ Mont Tremblant 89.03 360 P **P** **23 49 26.4 -0.2**
TRQ IAmb IAmb 23 49 35.5
comp=Z,20nm,1.0s
LMN Caledonia Moun 89.05 7 P **P** **23 49 26.9 +0.3**
TPH Tonopah 89.83 327 **P** **23 49 32.1 +1.4**
TPH Tonopah 89.83 327 P **P** **23 49 32.1 +1.4**
TPH pmax pmax
comp=Z,53nm,1.3s
LMQ La Malbaie 90.42 3 P **P** **23 49 32.8 -0.2**
LMQ IAmb IAmb 23 49 33.8
comp=Z,23nm,1.2s
NVAR Mina Array Bea 90.56 327 **P** **23 49 35.1 +0.9**
NVAR Mina Array Bea 90.56 327 P **P** **23 49 35.5 +1.3**
comp=Z,3.4nm,1.0s,baz=163,slow=3.1,SNR=12
comp=Z,3.4nm,1.0s
HWUT Hardware Ranch 90.88 333 **P** **23 49 35.5 0.0**
HWUT IAmb IAmb 23 49 46.1
comp=Z,23nm,1.1s
RSSD Black Hills 90.93 339 P **P** **23 49 35.0 -0.7**
PD31 Pinedale Array 91.28 335 P **P** **23 49 37.2 -0.1**
PD31 IAmb IAmb 23 49 47.5
comp=Z,19nm,1.3s
PDAR Pinedale Array 91.28 335 P **P** **23 49 37.2 -0.1**
PDAR Pinedale Array 91.28 335 P **P** **23 49 37.5 +0.2**
comp=Z,1.7nm,0.6s,baz=146,slow=5.9,SNR=16

PDAR LR LR 00 25 52.6
comp=Z,189nm,18.2s,baz=156,slow=32
comp=Z,1.7nm,0.6s
TPAW Teton Pass 92.37 334 **P** **23 49 42.8 +0.3**
TPAW IAmb IAmb 23 49 52.9
comp=Z,19nm,1.4s
RLMT Red Lodge 93.32 336 **P** **23 49 47.0 +0.3**
RLMT IAmb IAmb 23 49 57.0
comp=Z,22nm,1.3s
YHH Holmes Hill 93.50 335 P **P** **23 49 48.5 +0.8**
HLID Hailey 93.58 332 P **P** **23 49 48.5 +0.5**
MCMT McKenzie Canyo 94.17 334 P **P** **23 49 50.9 +0.2**
BOZ Bozeman (W) 94.47 335 P **P** **23 49 53.6 +1.6**
ULM Lac du Bonnet 94.97 346⇑ *eP* **P** **23 49 51.7 -2.2**
STKA Stephens Creek 98.42 210 LR LR 00 27 00.4
comp=Z,151nm,19.0s,baz=191,slow=31
STKA Stephens Creek 98.42 210⇑ *eP* Pdif 23 50 11.4 +1.1
NEW Newport 98.61 333 LR LR 00 30 00.5
comp=Z,87nm,19.0s,baz=131,slow=32
MDT Midelt 98.79 53 LR LR 00 32 59.9
comp=Z,393nm,21.8s,baz=238,slow=34
MBAR Mbarara 100.44 101⇑ *eP* **Pdif** **23 50 18.2 -1.6**
MBAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 108.63 207 PKKP 00 06 23.4
comp=Z,1.0nm,0.8s,baz=336,slow=5.9,SNR=4.2
WRA Warramunga Arr 111.92 209 PKiKP **PKiKP** **23 55 06.6 -0.9**
comp=Z,1.0nm,0.8s,baz=176,slow=1.6,SNR=3.4
BFO Black Forest 116.38 48 *e*PKPdf **PKPdf** **23 55 15.0 -0.1**
baz=229,slow=1.8
BFO *e*L L 00 42 41.9
comp=Z,437nm,21.1s
DAVA Damuels 116.61 49 *i* PKP **PKiKP** **23 55 17.1 +1.4**
comp=Z,4.8nm,1.2s
FETA Feichten 116.93 50 *i* PKP **PKiKP** **23 55 17.4 +1.0**
comp=Z,4.6nm,1.2s
RETA Reutte 117.22 49 *i* PKP **PKiKP** **23 55 18.0 +1.2**
comp=Z,2.6nm,1.1s
SQTA Sankt Quirin 117.31 50 *i* PKP **PKiKP** **23 55 18.0 +1.0**
comp=Z,1.8nm,0.7s
MOTA Moosalm 117.33 50 *i* PKP **PKiKP** **23 55 17.3 +0.2**
comp=Z,2.7nm,1.3s
TNS Taunus Mts 117.54 46 *e*L L 00 47 12.2
comp=Z,298nm,18.0s
WTTA Wattenberg 117.58 50 *i* PKP **PKiKP** **23 55 17.9 +0.3**
comp=Z,6.3nm,1.3s
WATA Walderalm 117.59 50 *i* PKP **PKiKP** **23 55 17.6 0.0**
comp=Z,4.5nm,1.7s
BUG Bochum-Univer 117.63 44 *e*PKPdf **PKiKP** **23 55 18.5 +1.2**
baz=229,slow=1.8
ABTA Abfaltersbach 117.78 51 *i* PKP **PKiKP** **23 55 17.9 0.0**
comp=Z,3.1nm,1.1s
FUR Furstenfeldbru 117.89 49 *e*L L 00 48 24.6
comp=Z,393nm,18.2s
LESA Schwarzleotal 118.25 50 *i* PKP **PKPdf** **23 55 18.7 0.0**
comp=Z,4.2nm,1.4s
KBA Koelnbreinsper 118.44 51 *e*PKiKP **PKiKP** **23 55 22.2 +2.9**
comp=Z,6.2nm,1.1s
GRF Grafenberg Arr 118.72 48 *e*PKPdf **PKiKP** **23 55 20.7 +1.1**
baz=229,slow=1.8
GRF *e*L L 00 44 21.0
comp=Z,211nm,21.7s
OBKA Obir 118.81 52 *i* PKP **PKiKP** **23 55 20.3 +0.4**
comp=Z,4.3nm,1.0s
BIOA Bad Ischl, Aus 118.94 50 *i* PKP **PKiKP** **23 55 20.1 0.0**
comp=Z,4.5nm,1.4s
GTTG Gottingen 119.08 45 *e*PKPdf **PKiKP** **23 55 21.3 +1.2**
baz=229,slow=1.8
SOKA Soboth 119.18 52 *i* PKP **PKPdf** **23 55 17.5 -3.0**
comp=Z,4.9nm,1.7s
WET Wettzell 119.32 49 *e*L L 00 46 39.4
comp=Z,292nm,18.6s
MANZ Manzenberg 119.36 48 *e*PKPdf **PKiKP** **23 55 21.0 +0.2**
baz=229,slow=1.8
MOA Molln 119.39 51 *i* PKP **PKiKP** **23 55 21.0 +0.1**
comp=Z,1.2nm,0.7s
MOX Moxa 119.45 47 *e*L L 00 47 28.6
comp=Z,322nm,18.8s
GEC2 GERESS Array S 119.61 49 **PKPdf** **23 55 21.0 -0.4**
GEC2 GERESS Array S 119.61 49 *e*PKPdf **PKPdf** **23 55 20.8 -0.5**
baz=229,slow=1.8
GEC2 *e*L L 00 44 26.5
comp=Z,398nm,21.6s
GERES GERESS Array B 119.61 49 PKP **PKPdf** **23 55 21.4 0.0**
comp=Z,1.5nm,0.9s,baz=256,slow=3.7,SNR=12
PLN Plauen 119.66 47 *e*PKPdf **PKPdf** **23 55 21.3 0.0**
baz=229,slow=1.8
ARSA Arzberg 119.78 52 *i* PKP **PKiKP** **23 55 21.7 0.0**
comp=Z,3.8nm,1.1s
TANN Tannenbergstha 119.78 47 *e*PKPdf **PKiKP** **23 55 22.0 +0.3**
baz=229,slow=1.8
NEUB Neuenburg 119.84 46 *e*PKPdf **PKiKP** **23 55 22.2 +0.5**
baz=229,slow=1.8
CONA Conrad Observa 120.33 51 *i* PKP **PKiKP** **23 55 23.1 +0.2**
comp=Z,2.7nm,1.2s
RONA Rosalia, Austr 120.46 52 *i* PKP **PKPdf** **23 55 22.4 -0.6**
comp=Z,2.8nm,1.2s
CLL Collm 120.55 47 *i* PKIKP **PKPdf** **23 55 22.9 0.0**
CLL pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 120.55 47 PKP **PKPdf** **23 55 22.4 -0.5**
CLL Collm 120.55 47 *e*PKPdf **PKiKP** **23 55 23.0 0.0**
baz=229,slow=1.8
CLL *e*L L 00 48 20.1
comp=Z,308nm,18.7s
CLL Collm 120.55 47 *i* PKPdf **PKPdf** **23 55 22.9 0.0**
comp=Z,8.0nm,1.3s
CLL *i* pPKPdf **sPKPdf** **23 55 30.9 -0.2**
comp=Z,5.0nm,1.1s
CLL *e*PP **PP** **23 56 48.0 -3.0**
CLL *e*Sdif Sdif 00 04 48.0 +6.7
CLL *e*PS **PS** **00 06 44.0 +2.7**
CLL *e*PPS PPS 00 08 06.0
CLL LmH 00 45 00.0
comp=N,100nm,21.1s
CLL LmH 00 45 00.0
comp=E,300nm,21.9s
CLL Lm MLR 00 51 00.0
comp=N,200nm,18.6s
CLL Lm MLR 00 51 00.0
comp=E,200nm,18.1s
GORT1 Trebel 120.56 44 *e*PKPdf **PKiKP** **23 55 23.3 +0.4**
baz=229,slow=1.8
BRG Berggiesshubel 120.82 48 *e*PKP **PKiKP** **23 55 24.9 +1.3**
BRG Amp 23 55 26.2
comp=Z,2.6nm,1.0s
MORH Mrgy, Hungar 121.05 54 PKP **PKPdf** **23 55 23.6 -0.4**
SUA Susitna One 121.11 327 **PKiKP** **23 55 24.4 +0.4**
KRUC Moravsky 121.23 50 *e*PKP **PKPdf** **23 55 24.0 -0.3**
VRAC Vranov 121.47 50 *e*PKP **PKPdf** **23 55 24.8 0.0**
ILAR Eielson Array 121.53 331 **PKPdf** **23 55 23.9 -0.5**
ILAR Eielson Array 121.53 331 PKP **PKPdf** **23 55 24.3 -0.1**
comp=Z,1.9nm,0.8s,baz=168,slow=1.9,SNR=20
ILAR Eielson Array 121.53 331 PKiKP **PKPdf** **23 55 23.9 -0.5**
RUE Ruedersdorf 121.57 46 *e*L L 00 50 09.6
comp=Z,283nm,18.1s
JAVC Velka Javorina 121.85 51 *e*PKP **PKiKP** **23 55 26.4 +0.6**
DPC Dobruska-Polom 121.85 49 PKP **PKiKP** **23 55 26.1 +0.4**
KSP Ksiaz 122.09 48 *e*PKP PKiKP 23 55 35.1 +9.1
MORC Moravsky Berou 122.24 50 *e*PKP **PKiKP** **23 55 26.6 +0.1**
MORC *e* 23 55 34.9
VYHS Vyhne 122.33 52 *e*PKIKP **PKiKP** **23 55 26.9 +0.2**
VYHS Vyhne 122.33 52 *e*PKP **PKiKP** **23 55 26.9 +0.2**
VYHS *e* 23 55 35.1
NIE Niedzica 123.62 51 *e*PKP **PKiKP** **23 55 30.4 +1.1**
OJC Ojcow 123.72 50 *e*PKP **PKiKP** **23 55 29.9 +0.6**
KOLS Kolonicke sedl 124.53 53 *e*PKP PKiKP 23 55 40.9 +10
TOLK Toolik Lake Re 124.54 335 **PKiKP** **23 55 30.3 -0.1**
NB2 NORSAR Subarra 124.55 36 PKPdf **PKPdf** **23 55 30.4 0.0**
comp=Z,10nm,1.2s,baz=243,slow=1.9
NB2 NORSAR Subarra 124.55 36 PKPdf **PKPdf** **23 55 30.4 0.0**
baz=243,slow=1.9
NOA NORSAR Array B 124.55 36 PKP **PKiKP** **23 55 30.6 -0.1**
comp=Z,3.0nm,1.0s,baz=240,slow=1.9,SNR=6.9
IMAR Indian Mountai 124.61 331 **PKiKP** **23 55 30.9 +0.3**
JAY Jayapura 124.73 224 PKP **PKiKP** **23 55 37.4 +4.8**
GENI Genyem 124.93 223 PKP **PKiKP** **23 55 36.4 +3.5**
GENI PKP **pPKPdf** **23 55 38.7 0.0**
KWP Kalwaria Pacla 125.11 52 *e*PKP **PKiKP** **23 55 32.6 +0.5**
KWP Kalwaria Pacla 125.11 52 PKP **PKPdf** **23 55 31.7 -0.1**
MLR Muntele Rosu 125.11 58 **PKPdf** **23 55 31.7 -0.4**
MLR Muntele Rosu 125.11 58 PKP **PKPdf** **23 55 32.2 +0.1**
comp=Z,2.4nm,0.8s,baz=273,slow=6.4,SNR=5.6
MLR Muntele Rosu 125.11 58 PKiKP **PKPdf** **23 55 31.7 -0.4**
MMAI Mount Meron Ar 125.15 76 PKP **PKiKP** **23 55 33.1 +0.2**
comp=Z,1.3nm,0.6s,baz=218,slow=9.4,SNR=2.4

HFS	**Hagfors**	**125.23**	**38**	PKP	**PKPdf**	**23 55 30.7**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=211,slow=2.6,SNR=5.3						
BISRR	**Bisoca**	**125.61**	**58**	PKP	**PKPdf**	**23 55 32.9**	**0.0**
BURAR	**Bucovina Array**	**125.66**	**55**		**PKPdf**	**23 55 33.0**	**-0.1**
PLOR5	**Plostina Array**	**125.72**	**58**	PKP	**PKPdf**	**23 55 32.4**	**-0.7**
VRI	**Vrincioaia**	**125.77**	**58**	PKP	**PKPdf**	**23 55 32.8**	**-0.4**
TESR	**Tescani**	**126.02**	**57**	PKP	**PKPdf**	**23 55 33.3**	**-0.3**
RAYN	**Ar Rayn**	**127.09**	**91**		**PKiKP**	**23 55 36.8**	**-0.2**
RAYN	**Ar Rayn**	**127.09**	**91**	PKIKP	**PKiKP**	**23 55 36.8**	**-0.2**
SUW	**Suwalki**	**127.29**	**47**	*e*PKP	**PKPdf**	**23 55 35.5**	**-0.3**
BR105	**Keskin Array S**	**127.33**	**67**	PKP	**PKPdf**	**23 55 36.7**	**+0.2**
BR106	**Keskin Array S**	**127.34**	**67**	PKP	**PKPdf**	**23 55 36.6**	**+0.1**
BR104	**Keskin Array S**	**127.34**	**67**	PKP	**PKPdf**	**23 55 36.0**	**-0.5**
BR131	**Keskin Array S**	**127.35**	**67**		**PKPdf**	**23 55 36.3**	**-0.3**
BR131	**Keskin Array S**	**127.35**	**67**	PKIKP	**PKPdf**	**23 55 36.3**	**-0.3**
BRTR	**Keskin Array B**	**127.35**	**67**		**PKPdf**	**23 55 36.7**	**+0.1**
BRTR	**Keskin Array B**	**127.35**	**67**	PKP	**PKiKP**	**23 55 36.9**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=211,slow=3.5,SNR=16						
BRTR	**Keskin Array B**	**127.35**	**67**	PKIKP	**PKPdf**	**23 55 36.7**	**+0.1**
RNPP5	**Staryi Chortor**	**127.64**	**51**	PKP	**PKPdf**	**23 55 36.2**	**-0.3**
RNPP8	**Varash**	**127.66**	**51**	PKP	**PKPdf**	**23 55 36.7**	**+0.1**
RNPP9	**Sopachiv**	**127.72**	**51**	PKP	**PKPdf**	**23 55 36.7**	**+0.1**
SORM	**Soroca**	**127.78**	**56**	PKP	**PKPdf**	**23 55 36.0**	**-0.9**
LUBAR	**Lubar, Ukraine**	**128.18**	**54**	PKP	**PKPdf**	**23 55 36.7**	**-0.9**
PABE	**Paberze**	**128.30**	**46**	PKPdf	**PKPdf**	**23 55 37.8**	**+0.2**
BNN	**Bunyan**	**128.43**	**69**		**PKPdf**	**23 55 38.6**	**-0.1**
BAL3X	**Bal3x, Balta**	**128.45**	**57**	PKP	**PKPdf**	**23 55 38.2**	**0.0**
MI28	**MI28,Pidlybu**	**128.54**	**52**	PKP	**PKPdf**	**23 55 38.2**	**0.0**
AK13	**Malin Array Si**	**129.22**	**53**	PKP	**PKPdf**	**23 55 39.1**	**-0.5**
AK17	**Malin Array Si**	**129.25**	**53**	PKP	**PKPdf**	**23 55 39.3**	**-0.3**
AK14	**Malin Array Si**	**129.26**	**53**	PKP	**PKPdf**	**23 55 39.1**	**-0.5**
AK16	**Malin Array Si**	**129.27**	**53**	PKP	**PKPdf**	**23 55 39.0**	**-0.6**
AK22	**Malin Array Si**	**129.29**	**53**	PKP	**PKPdf**	**23 55 39.3**	**-0.4**
AK05	**Malin Array Si**	**129.31**	**53**	PKP	**PKPdf**	**23 55 39.3**	**-0.4**
AK02	**Malin Array Si**	**129.33**	**53**	PKP	**PKPdf**	**23 55 39.4**	**-0.3**
KIEV	**Kiev**	**129.34**	**53**		**PKPdf**	**23 55 39.1**	**-0.7**
KIEV	**Kiev**	**129.34**	**53**	PKIKP	**PKPdf**	**23 55 39.1**	**-0.7**
KIEV	**Kiev**	**129.34**	**53**	PKP	**PKPdf**	**23 55 38.9**	**-0.9**
AK01	**Malin Array Si**	**129.34**	**53**	PKP	**PKPdf**	**23 55 39.5**	**-0.3**
AK08	**Malin Array Si**	**129.34**	**53**	PKP	**PKPdf**	**23 55 39.6**	**-0.2**
AKASG	**Malin Array Be**	**129.35**	**53**		**PKPdf**	**23 55 38.9**	**-0.9**
AKASG	**Malin Array Be**	**129.35**	**53**	PKP	**PKPdf**	**23 55 39.3**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=271,slow=2.3,SNR=9.4						
AKASG	**Malin Array Be**	**129.35**	**53**	PKIKP	**PKPdf**	**23 55 38.9**	**-0.9**
AKBB	**Malin Array Si**	**129.35**	**53**	*i*PKIKP	**PKPdf**	**23 55 39.5**	**-0.3**
AKBB	**Malin Array Si**	**129.35**	**53**	PKP	**PKPdf**	**23 55 39.0**	**-0.8**
MNK	**Minsk**	**130.02**	**48**	*i* PKIKP	**PKPdf**	**23 55 40.8**	**-0.1**
MNK				*i*		23 57 53.1	
MNK				*i* PPP	PPP	00 00 40.7	
MNK				*i*		00 02 48.9	
MNK				*i* PS	**PS**	**00 08 03.9**	**-0.8**
MNK				*i* SS	SS	00 15 16.3	-2.3
MNK				pmax	pmax		
	comp=N,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,201nm,19.0s						
MNK				MLR	MLR		
	comp=Z,300nm,18.0s						
MNK				MLR	MLR		
	comp=N,201nm,19.0s						
MARD	**Mardin**	**131.12**	**74**	PKPdf	**PKiKP**	**23 55 44.5**	**-0.3**
FINES	**FINESS Array B**	**131.35**	**39**	PKP	**PKiKP**	**23 55 44.3**	**+0.1**
	comp=N,0.9nm,0.7s,baz=247,slow=3.9,SNR=4.0						
SPITS	**Spitsbergen Ar**	**131.97**	**16**	PKP	**PKiKP**	**23 55 45.2**	**+0.1**
	comp=N,2.2nm,0.6s,baz=134,slow=2.4,SNR=4.6						
KOPT	**Kop Dagi**	**132.16**	**70**	PKPdf	**PKiKP**	**23 55 47.0**	**+0.1**
ARCES	**ARCESS Array B**	**132.97**	**28**	PKP	**PKPdf**	**23 55 46.2**	**0.0**
	comp=N,2.3nm,0.8s,baz=297,slow=4.0,SNR=4.5						
KIV	**Kislovodsk**	**135.27**	**66**	*i* PKIKP	**PKPdf**	**23 55 51.7**	**+0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBZ	**Khabaz**	**135.32**	**67**	*e*PKIKP	**PKPdf**	**23 55 49.7**	**-1.6**
VSR	**Storozhevoye**	**135.44**	**55**	*e*PKIKP	**PKPdf**	**23 55 49.0**	**-2.3**
VSR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VORD	**Divnogorie**	**135.44**	**56**	*e*PKIKP	**PKPdf**	**23 55 49.2**	**-2.1**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPSR	**Galich'ya Gora**	**135.68**	**53**	*e*PKIKP	**PKPdf**	**23 55 50.9**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOS	**Moscow**	**135.73**	**49**	*e*PKIKP	**PKPdf**	**23 55 50.7**	**-0.9**
VRH	**Novokhopyorsk**	**136.98**	**56**	*e*PKIKP	**PKPdf**	**23 55 52.0**	**-2.1**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KLMR	**Klimovskoe**	**137.61**	**42**	*e*PKIKP	**PKPdf**	**23 55 53.4**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,21nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,467nm,19.0s						
AKT	**Akhty**	**137.77**	**72**	*e*PKIKP	**PKPdf**	**23 55 54.5**	**-1.6**
AKT				pmax	pmax		
	comp=Z,13nm,1.2s						
MAK	**Makhachkala**	**138.16**	**69**	*i* P	**Pdif**	**23 53 05.7**	**-0.8**
MAK				*i*		23 55 55.1	
MAK				*e*		00 03 03.9	
MAK				*e*SS	SS	00 16 52.9	-4.5
MAK				pmax	pmax		
	comp=Z,138nm,1.1s						
BILL	**Bilibino**	**140.13**	**329**	*e*PKIKP	**PKPdf**	**23 55 59.1**	**-0.3**
KIRV	**Kirov**	**142.46**	**46**	PKhKP	PKPpre	23 55 59.0	
	comp=Z,9.8nm,0.7s,baz=280,slow=3.4,SNR=9.0						
PET	**Petropavlovsk**	**144.13**	**305**	*e*PKIKP	PKPbc	23 56 05.7	+0.6
PEA0B	**Petropavlovsk-**	**144.72**	**305**		PKPbc	23 56 07.2	+0.1
PEA0B	**Petropavlovsk-**	**144.72**	**305**	PKIKP	PKPbc	23 56 07.2	+0.2
PETK	**Petropavlovsk-**	**144.72**	**305**		**PKPab**	**23 56 06.9**	**0.0**
PETK	**Petropavlovsk-**	**144.72**	**305**	PKP	PKPbc	23 56 07.1	+0.1
	comp=Z,13nm,0.8s,baz=87,slow=7.6,SNR=14						
PETK	**Petropavlovsk-**	**144.72**	**305**	PKIKP	**PKPab**	**23 56 06.9**	**0.0**
HYB	**Hyderabad**	**145.44**	**130**	*e*PKPab	**PKPab**	**23 56 10.6**	**0.0**
HYB				*e*SKSdf	**SKSdf**	**00 03 18.4**	**-0.5**
SEY	**Seymchan**	**146.77**	**323**	*i* PKIKP	**PKPdf**	**23 56 11.3**	**+0.1**
SEY				pmax	pmax		
	comp=Z,29nm,1.0s						
AKTO	**Aktyubinsk**	**146.97**	**60**	PKPbc	**PKPbc**	**23 56 14.0**	**0.0**
	comp=Z,20nm,0.9s,baz=265,slow=2.7,SNR=41						
ARTI	**Arti**	**147.34**	**49**		**PKPdf**	**23 56 12.6**	**+0.2**
ARTI	**Arti**	**147.34**	**49**	PKPbc	**PKPbc**	**23 56 14.8**	**-0.1**
	comp=Z,31nm,0.9s,baz=242,slow=1.5,SNR=45						
ARTI	**Arti**	**147.34**	**49**	*i* PKIKP	**PKPdf**	**23 56 12.8**	**+0.4**
ARTI						23 59 37.3	
AB31	**Akbulak array**	**148.08**	**63**		**PKPdf**	**23 56 13.5**	**-0.3**
AB31				PKPbc	**PKPbc**	**23 56 17.2**	**+0.1**
AB31	**Akbulak array**	**148.08**	**63**	*i* PKIKP	**PKPdf**	**23 56 13.8**	**0.0**
ABKAR	**Akbulak array**	**148.08**	**63**		**PKPdf**	**23 56 13.1**	**-0.7**
ABKAR				PKPbc	**PKPbc**	**23 56 17.1**	**+0.1**
MA2	**Magadan**	**148.26**	**317**		**PKPbc**	**23 56 16.9**	**-0.3**
MA2	**Magadan**	**148.26**	**317**	*e*PKIKP	**PKPdf**	**23 56 13.3**	**-0.5**
SVE	**Sverdlovsk**	**148.54**	**48**	*d* iPKP2	**PKPbc**	**23 56 18.7**	**+0.7**
SVE				pmax	pmax		
	comp=Z,44nm,1.6s						
TIXI	**Tiksi**	**149.32**	**346**	PKPdf	**PKPdf**	**23 56 14.6**	**-0.6**
TIXI					**PKPbc**	**23 56 18.6**	**-1.0**
TIXI	**Tiksi**	**149.32**	**346**	PKPbc	**PKPbc**	**23 56 18.5**	**-1.1**
	comp=Z,10nm,0.8s,baz=46,slow=3.0,SNR=6.1						
TIXI	**Tiksi**	**149.32**	**346**	*e*PKIKP	PKPpre	23 56 15.1	
KBL	**Kabul**	**150.28**	**94**		**PKPbc**	**23 56 22.3**	**-1.1**
KBL	**Kabul**	**150.28**	**94**	PKIKP	**PKPbc**	**23 56 22.3**	**-1.1**
SIMJ	**Simiganj**	**151.97**	**87**		**PKPbc**	**23 56 26.4**	**-0.7**
CHGR	**Chuyangaron**	**152.08**	**87**		**PKPbc**	**23 56 26.5**	**-0.7**
CHGR	**Chuyangaron**	**152.08**	**87**	PKIKP	**PKPbc**	**23 56 26.5**	**-0.7**
NIL	**Nilore**	**152.91**	**100**		**PKPbc**	**23 56 28.5**	**-0.6**
NIL	**Nilore**	**152.91**	**100**	PKIKP	**PKPbc**	**23 56 28.5**	**-0.6**
GAR	**Garm**	**153.04**	**87**	PKPdf	**PKPdf**	**23 56 22.0**	**-0.1**
GAR					**PKPbc**	**23 56 29.1**	**-0.3**
YSS	**Yuzhno-Sakhali**	**153.81**	**291**	*i* PKIKP	**PKPdf**	**23 56 24.2**	**+1.5**
KK31	**Karatay Array**	**154.35**	**78**		**PKPdf**	**23 56 23.0**	**-0.6**
KK31	**Karatay Array**	**154.35**	**78**	PKIKP	**PKPdf**	**23 56 23.0**	**-0.6**
KKAR	**Karatay Array**	**154.35**	**78**		**PKPdf**	**23 56 23.0**	**-0.7**
KKAR	**Karatay Array**	**154.35**	**78**	PKIKP	**PKPdf**	**23 56 23.0**	**-0.7**
MJAR	**Matsushiro Arr**	**154.38**	**266**	PKPbc	**PKPbc**	**23 56 32.0**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=75,slow=1.4,SNR=4.3						
MJAR				PKPab	**PKPab**	**23 56 46.8**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=160,slow=4.1,SNR=7.5						
MAJO	**Matsushiro**	**154.38**	**266**		**PKPab**	**23 56 45.6**	**-1.0**
MAJO	**Matsushiro**	**154.38**	**266**	PKP2	**PKPab**	**23 56 45.6**	**-1.0**
BVA0	**Borovoye Array**	**154.62**	**55**	*i* PKIKP	**PKPdf**	**23 56 22.6**	**-1.1**
BVAR	**Borovoye Array**	**154.62**	**55**	PKP	**PKPdf**	**23 56 24.1**	**+0.4**
	comp=Z,4.3nm,1.0s,baz=288,slow=1.4,SNR=14						
BVAR				PKPbc	**PKiKP**	**23 56 33.9**	**+1.7**
	comp=Z,6.3nm,1.0s,baz=232,slow=1.7,SNR=12						
CMAR	**Chiang Mai Arr**	**154.67**	**165**		**PKPdf**	**23 56 23.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**154.67**	**165**	PKP	**PKPdf**	**23 56 25.2**	**+0.4**
	comp=Z,2.9nm,1.1s,baz=248,slow=1.9,SNR=9.2						
CMAR				PKPbc	**sPKPdf**	**23 56 33.1**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=236,slow=3.2,SNR=8.2						
CMAR				PKPab	**PKPab**	**23 56 48.1**	**+0.1**
	comp=Z,3.9nm,1.0s,baz=215,slow=4.5,SNR=6.9						
CMAR	**Chiang Mai Arr**	**154.67**	**165**	PKIKP	**PKPdf**	**23 56 23.9**	**-0.9**
ARSB	**Arslanbob**	**155.70**	**83**		**PKPdf**	**23 56 25.1**	**-0.7**
ARSB	**Arslanbob**	**155.70**	**83**	PKIKP	**PKPdf**	**23 56 25.1**	**-0.7**
YAK	**Yakutsk**	**156.46**	**331**	*e*PKIKP	**PKPdf**	**23 56 27.0**	**+1.2**
YAK				*e*		00 00 34.1	
YAK				pmax	pmax		
	comp=Z,13nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,147nm,6.2s						
YAK				pmax	pmax		
	comp=N,74nm,5.3s						
YAK				pmax	pmax		
	comp=E,63nm,5.3s						
AAK	**Ala-Archa**	**157.11**	**81**		**PKPab**	**23 56 57.6**	**-0.7**
AAK	**Ala-Archa**	**157.11**	**81**	PKP2	**PKPab**	**23 56 57.6**	**-0.7**
KSH	**Kashi**	**157.35**	**89**	PKP	**PKPdf**	**23 56 28.3**	**+0.4**
KSH				pPKP	sPKPdf	23 56 37.0	+0.9
SHL	**Shillong**	**159.04**	**143**		**PKPab**	**23 57 05.9**	**-1.0**
SHL	**Shillong**	**159.04**	**143**	PKP2	**PKPab**	**23 57 05.9**	**-1.0**
TARG	**Taragay, Kyrgy**	**159.31**	**84**	PKPdf	**PKPdf**	**23 56 30.0**	**-0.6**
TARG					**PKPab**	**23 57 07.7**	**-0.5**
TARG	**Taragay, Kyrgy**	**159.31**	**84**	PKIKP	**PKPdf**	**23 56 30.0**	**-0.6**
TARG						23 57 07.7	
KURBB	**Kurchatov Arra**	**160.01**	**59**	PKP	**PKPdf**	**23 56 30.6**	**+0.1**
	comp=E,3.7nm,0.9s,baz=276,slow=1.0,SNR=28						
KURBB				PKPab	**PKPab**	**23 57 10.4**	**+0.1**
	comp=E,7.4nm,0.9s,baz=284,slow=5.0,SNR=20						
KURBB				PP	**PP**	**00 00 52.2**	**-0.6**
	comp=E,2.3nm,1.1s,baz=280,slow=6.2,SNR=8.0						
KURK	**Kurchatov**	**160.04**	**58**		**PKPdf**	**23 56 30.4**	**-0.1**
KURK					**PKPab**	**23 57 10.2**	**-0.3**
KURK	**Kurchatov**	**160.04**	**58**	PKIKP	**PKPdf**	**23 56 30.6**	**+0.1**
KURK						23 57 10.5	
KSRS	**Korea Array**	**162.22**	**259**	PKP	**PKPdf**	**23 56 32.3**	**-1.0**
	comp=E,2.1nm,0.9s,baz=208,slow=0.3,SNR=12						
KSRS				PKPab	**PKPab**	**23 57 21.6**	**+1.1**
	comp=E,1.9nm,1.0s,baz=115,slow=5.9,SNR=5.0						
KSAR	**Wonju Array Be**	**162.24**	**259**		**PKPdf**	**23 56 31.6**	**-1.7**
KSAR	**Wonju Array Be**	**162.24**	**259**	PKIKP	**PKPdf**	**23 56 31.7**	**-1.7**
ZAA0	**Zalesovo Array**	**162.49**	**45**		**PKPdf**	**23 56 32.1**	**-1.0**
ZALV	**Zalesovo Beam**	**162.49**	**45**		**PKPdf**	**23 56 32.1**	**-0.9**
ZALV	**Zalesovo Beam**	**162.49**	**45**	PKP	**PKPdf**	**23 56 32.5**	**-0.5**
	comp=E,6.4nm,0.9s,baz=270,slow=1.5,SNR=26						
ZALV				PKPab	**PKPab**	**23 57 21.5**	**+0.4**
	comp=E,3.7nm,0.9s,baz=286,slow=6.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**162.49**	**45**	PKIKP	**PKPdf**	**23 56 32.1**	**-0.9**
MDJ	**Mudanjiang**	**162.82**	**283**	PKPdf	**PKPdf**	**23 56 32.3**	**-1.4**
MK31	**Makanchi Array**	**162.99**	**70**	PKPdf	**PKPdf**	**23 56 33.3**	**-0.5**
MK31				PKPab	**PKPab**	**23 57 23.5**	**-0.1**
MK31	**Makanchi Array**	**162.99**	**70**	PKIKP	**PKPdf**	**23 56 33.3**	**-0.5**
MK31						23 57 23.5	
MKAR	**Makanchi Array**	**162.99**	**70**		**PKPdf**	**23 56 33.2**	**-0.5**
MKAR					**PKPab**	**23 57 23.1**	**-0.4**
MKAR	**Makanchi Array**	**162.99**	**70**	PKP	**PKPdf**	**23 56 33.9**	**+0.1**
	comp=E,1.2nm,0.8s,baz=146,slow=0.9,SNR=8.7						
MKAR				PKPab	**PKPab**	**23 57 23.7**	**+0.1**
	comp=E,19nm,0.9s,baz=270,slow=4.0,SNR=53						
MKAR				PP	**PP**	**00 01 08.5**	**-0.6**
	comp=E,2.8nm,1.0s,baz=298,slow=3.1,SNR=8.9						
MKAR	**Makanchi Array**	**162.99**	**70**	PKIKP	**PKPdf**	**23 56 33.3**	**-0.5**
PZH	**PanZhiHua**	**163.02**	**167**	PKP	**PKPdf**	**23 56 34.3**	**-0.3**
HEH	**HeiHe**	**163.63**	**303**	PKP	**PKPdf**	**23 56 31.9**	**-2.3**
NJ2	**Nanjing**	**164.85**	**227**	*e*PKP	**PKPdf**	**23 56 36.6**	**+0.7**
WMQ	**Urumqi**	**166.82**	**81**	*e*PKP	**PKPdf**	**23 56 38.6**	**+1.3**
WMQ				LR	LR		
	comp=E,260nm,12.7s						
WMQ				LR	LR		
	comp=E,400nm,22.9s						
XAN	**Xi'an**	**170.55**	**196**	PKP	**PKPdf**	**23 56 39.0**	**-1.0**
ZAK	**Zakamensk**	**172.60**	**13**	*e*PKIKP	**PKPdf**	**23 56 39.4**	**-1.1**
ZAK				*e*		23 58 05.4	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA	**Gaotai**	**174.11**	**128**	PKP	**PKPdf**	**23 56 42.3**	**+0.8**
GTA				pPKP	sPKPdf	23 56 50.3	+0.6
HHC	**Hu-ho-hao-te**	**175.13**	**243**	*e*PKP	**PKPdf**	**23 56 41.0**	**-0.7**
SONM	**Songino Array**	**175.34**	**355**		**PKPdf**	**23 56 40.2**	**-1.4**
SONM					**PKPab**	**23 58 17.9**	**-0.3**
SONM	**Songino Array**	**175.34**	**355**	PKP	**PKPdf**	**23 56 40.8**	**-0.8**
	comp=Z,1.8nm,1.0s,baz=352,slow=0.6,SNR=8.8						
SONM				PKPab	**PKPab**	**23 58 18.2**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=338,slow=3.9,SNR=7.0						
SONM	**Songino Array**	**175.34**	**355**	PKIKP	**PKPdf**	**23 56 40.2**	**-1.4**
SONM						23 58 17.9	

IDC 24 23:56:24.0±2.3, 4.74S×151.79E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=156.3km s-min=29.8km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC h m s	ISC
WRA	**Warramunga Arr**	**22.74**	**227**	P	P	00 01 28.8	+0.8
	1.2nm,0.9s,baz=52,slow=9.8,SNR=6.8						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**25.52**	**221**	P	P	00 01 53.7	-0.9
	0.3nm,0.4s,baz=51,slow=9.8,SNR=5.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**82.49**	**22**	P	P	00 08 48.1	-0.1
	0.4nm,0.7s,baz=246,slow=5.1,SNR=4.1						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.33**	**288**	PKPbc	PKPbc	00 16 15.9	-0.1
	0.3nm,0.5s,baz=76,slow=3.5,SNR=5.4						

*STR **25** 00:02:13.7±0.6, 46°N±4°×°±°, h5km, MLv0.7/5, LOCSAT earthModelID alpes_taup-2.11 preliminary*
*LDG **25** 00:02:13.4±0.1, 45.86N×7.03E, h10km, Md1.3/2, Ml1.3/4, Error ellipse: s-maj=1.6km s-min=1.3km az=120.0*
ZUR 25 00:02:13.8, 45.88N×7.01E, h2km±1km, MLh0.5/9, 4C-1D, Error ellipse: s-maj=2230.9km s-min=731.3km az=230.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC h m s	ISC
MFERR	**Prayon, Val Fe**	**0.10**	**47**	↓P	Pg	00 02 16.1	+0.3
MFERR					Sg	00 02 17.6	+0.4
REMY	**Saint-Rhmy-en**	**0.11**	**113**	↑Pg	Pg	00 02 16.4	+0.4
REMY					Sg	00 02 18.3	+0.7
REMY	**Saint-Rhmy-en**	**0.11**	**113**	Pg	Pg	00 02 16.4	+0.4
REMY					Sg	00 02 18.2	+0.7
MRGE	**Morge**	**0.12**	**162**	↑Pg	Pg	00 02 16.3	+0.2
MRGE					Sg	00 02 18.1	+0.4
OGSI	**Sixt**	**0.26**	**316**	Pg	Pg	00 02 18.8	+0.1
OGSI					Sg	00 02 22.4	+0.4
SALAN	**Lac Salanfe**	**0.26**	**355**	↑Pg	Pg	00 02 19.3	+0.4
SALAN					Sg	00 02 22.8	+0.5
FULLY	**Reservoir Maze**	**0.29**	**18**	↑Pg	Pg	00 02 19.7	+0.3
FULLY					Sg	00 02 23.4	+0.3
RSL	**Roselend**	**0.33**	**234**	Pg	Pg	00 02 19.9	-0.2
RSL					Sg	00 02 24.2	-0.2
DIX	**Grande Dixence**	**0.34**	**55**	Pg	Pg	00 02 20.0	-0.4
DIX					Sg	00 02 25.0	+0.1
LPL	**La Plagne**	**0.41**	**208**	*e*Pg	Pg	00 02 21.6	-0.2
LPL				*e*Sg	Sg	00 02 25.8	-1.3
	1.1nm,0.2s						
LPG	**La Plagne**	**0.42**	**205**	*e*Pg	Pg	00 02 22.0	0.0
LPG				*e*Sg	Sg	00 02 27.1	-0.4
	1.2nm,0.1s						
GIMEL	**St. Georges /**	**0.83**	**322**	Pg	Pg	00 02 29.5	-0.2
CABF	**La Chapelle**	**0.97**	**319**	*e*Pg	Pb	00 02 33.1	-0.3
CABF				*e*Sg	Sb	00 02 46.1	-0.6
	1.5nm,0.4s						
MBDF	**Montbardon**	**1.17**	**188**	*e*Sg	Sg	00 02 50.1	-1.2
	0.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.25**	**220**	*e*Sg	Sg	00 02 53.2	-0.7
	0.8nm,0.3s						

ZUR 25 00:03:10.0, 46.42N×7.54E, h1km±2km, MLh0.4/13, 4C, Error ellipse: s-maj=3806.2km s-min=696.1km az=34.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC h m s	ISC
RAW1	**Lenk, BE**	**0.07**	**270**	↑Pg	Pg	00 03 11.7	+0.3
RAW1					Sg	00 03 12.9	+0.5
LKBD2	**Leukerbad 2**	**0.09**	**122**	↑Pg	Pg	00 03 12.1	+0.3
LKBD2					Sg	00 03 13.4	+0.4
STSW2	**Zeuzier, Staus**	**0.10**	**223**	Sg	Sg	00 03 13.9	+0.5
LAUCH	**Lauchernalp**	**0.16**	**92**	↑Pg	Pg	00 03 13.5	+0.3
LAUCH					Sg	00 03 15.9	+0.5
RAW2	**Sanetsch, VS**	**0.19**	**235**	↑Pg	Pg	00 03 13.7	+0.1
NIE01	**Niedergesteln,**	**0.20**	**122**	Sg	Sg	00 03 17.0	+0.4
RAR01	**Raron, Gemeind**	**0.21**	**121**	Sg	Sg	00 03 17.7	+0.8
JAUN	**Jaun, Euschels**	**0.27**	**322**	Pg	Pg	00 03 15.6	+0.4

*IDC **25** 00:12:00.6±3.2, 22°.31N×143°.61E, h107km±25km, mb3.5/10, mbtmp3.9/11, Error ellipse: s-maj=52.3km s-min=18.2km az=78.0*
ISC 25 00:12:01.5±1.3, 22°.3N±0°.1×143°.6E±0°.4, h118km, n16, σ1°10/13, mb3.9/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						Op ISC h m s	ISC
JCJ	**Chichijima**	**4.94**	**345**	P	**Pn**	**00 13 14.5**	**+0.9**
	32nm,0.4s,baz=285,slow=23,SNR=4.7						
JCJ				S	**Sn**	**00 14 07.6**	**-2.1**
	32nm,0.3s,baz=282,slow=23,SNR=2.1						
KSRS	**Korea Array**	**20.28**	**322**	P	Pn	00 16 32.6	+1.7
	1.2nm,0.5s,baz=143,slow=8.2,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**21.93**	**96**	T	T	00 39 23.6	
	baz=283,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**21.94**	**96**	T	T	00 39 24.2	
	baz=283,slow=75,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**21.95**	**96**	T	T	00 39 24.7	
	baz=283,slow=75,SNR=5.7						
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**00 19 18.7**	**+1.0**
	0.2nm,0.3s,baz=137,slow=7.4,SNR=2.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**42.97**	**193**	P	**P**	**00 19 47.7**	**-1.5**
	0.2nm,0.3s,baz=14,slow=8.3,SNR=1.6						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**46.68**	**192**	P	**P**	**00 20 18.8**	**+0.3**
	0.2nm,0.8s,baz=9.8,slow=6.8,SNR=1.7						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**53.99**	**321**	P	**P**	**00 21 13.7**	**+0.5**
	0.9nm

GLVR				A	A	00 22 07.1
	330nm,0.2s					
GLVR				A	A	00 22 07.1
	580nm,0.2s					
JRA	**Rausu**	**3.15**	**266**	P	**Pn**	**00 21 37.5 +2.3**
JRA				S	**Sn**	**00 22 11.5 0.0**
JNK	**Nakash**	**3.50**	**261**	P	**Pn**	**00 21 41.9 +2.0**
AKK	**Akkeshi**	**3.57**	**252**	*i* P	**Pn**	**00 21 42.4 +1.4**
AKK				eS	**Sn**	**00 22 21.4 -0.5**
JAK	**Akkeshi**	**3.68**	**252**	P	**Pn**	**00 21 43.8 +1.3**
JAK				S	**Sn**	**00 22 23.0 -1.6**
JAR	**Ashorobuto**	**4.24**	**259**	P	**Pn**	**00 21 52.6 +2.4**
JAR				S	**Sn**	**00 22 37.9 -0.4**
JOB	**Onbets**	**4.31**	**254**	P	**Pn**	**00 21 53.0 +2.0**
JOB				S	**Sn**	**00 22 38.6 -1.4**
JCH	**Churui**	**4.73**	**252**	P	**Pn**	**00 21 59.3 +2.4**
JCH				S	**Sn**	**00 22 49.2 -1.3**
JNBK	**Urakawa-nobuka**	**5.28**	**251**	P	**Pn**	**00 22 05.8 +1.4**
YSS	**Yuzhno-Sakhali**	**5.46**	**302**	*e*P	**Pn**	**00 22 08.5 +1.7**
YSS				AMB	AMB	00 22 08.8
	20nm,0.3s					
JANG	**Nango**	**7.04**	**240**	P	**Pn**	**00 22 28.9 +0.2**
JANG				S	**Sn**	**00 23 41.8 -5.6**

*NNC **25** 00:34:41.5±1.2, 42°.39N×79°.23E, h0km, mb3.1, mpv3.0,*
Error ellipse: s-maj=8.9km s-min=4.7km az=167.0
SOME 25 00:34:56.7, 42°.95N×78°.22E, h20km, 2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.18**	**52**	P	Pb	00 34 59.2	-2.5
	12nm,0.1s						
SATY				S	Sb	00 35 10.7	+5.6
	210nm,0.1s						
KPKS	**Kokpek**	**0.62**	**33**	P	Pb	00 35 02.2	-6.7
	0.5nm,0.2s						
UZB	**Uzynbulak**	**0.62**	**71**	*e*P	Pb	00 35 07.1	-1.9
	2.3nm,0.1s						
UZB				eS	Sb	00 35 14.8	-2.6
	7.2nm,0.2s						
KOTS	**Kotyrbulak**	**0.86**	**290**	P	Pn	00 35 15.5	+1.7
	2.3nm,0.1s						
KOTS				S	Sn	00 35 38.7	+13
	34nm,0.2s						
KOTS	**Kotyrbulak**	**0.86**	**290**	*e*P	Pb	00 35 12.8	-0.2
	2.5nm,0.2s						
KOTS				eS	Sb	00 35 24.9	+0.7
	8.4nm,0.3s						
MDOK	**Medeo**	**0.88**	**284**	Pg	Pn	00 35 14.2	+0.1
	0.6nm,0.2s						
MDOK				Lg	Lg	00 35 38.7	
	6.0nm,0.2s						
SHLS	**Shalkode**	**0.94**	**77**	P	Pb	00 34 58.0	-16
	4.5nm,0.2s						
SHLS				P	Pn	00 34 59.2	-16
	4.5nm,0.2s						
SHLS	**Shalkode**	**0.94**	**77**	*e*P	Pn	00 35 19.4	+4.6
	2.9nm,0.1s						
SHLS				eS	Sn	00 35 35.7	+7.9
	11nm,0.4s						
TNSS	**Tian-Shan**	**0.94**	**276**	Pg	Pb	00 35 14.6	+0.1
	0.6nm,0.2s						
TNSS				Lg	Lg	00 35 40.8	
	1.9nm,0.2s						
TNSS	**Tian-Shan**	**0.94**	**276**	*e*P	Pb	00 35 14.3	-0.2
	0.3nm,0.1s						
TNSS				eS	Sb	00 35 27.0	+0.4
	0.9nm,0.2s						
CHKK	**Chushkaly**	**1.27**	**316**	Pg	Pb	00 35 21.9	+1.9
	4.2nm,0.2s						
CHKK				Lg	Lg	00 35 51.1	
	19nm,0.3s						
CHKK	**Chushkaly**	**1.27**	**316**	*e*P	Pb	00 35 19.8	-0.2
	2.9nm,0.2s						
CHKK				eS	Sb	00 35 36.3	+0.4
	11nm,0.2s						
ARXS	**Arharly**	**1.29**	**347**	Pg	Pn	00 35 20.0	+0.3
	2.5nm,0.1s						
ARXS				Pg	Pb	00 35 21.1	+0.7
	3.1nm,0.2s						
ARXS				Lg	Lg	00 35 46.6	
	12nm,0.2s						
ARXS				Lg	Lg	00 35 52.0	
	10.0nm,0.1s						
ARXS	**Arharly**	**1.29**	**347**	*e*P	Pn	00 35 20.0	+0.3
ARXS				eS	Sn	00 35 36.5	0.0
MTBS	**Maitube**	**1.32**	**278**	Pg	Pn	00 35 20.4	+0.3
	0.9nm,0.1s						
MTBS				Lg	Lg	00 35 50.7	
	3.1nm,0.2s						
MTBS	**Maitube**	**1.32**	**278**	*e*P	Pn	00 35 20.4	+0.3
	0.9nm,0.1s						
KTBS	**Karatobe**	**1.35**	**305**	Pg	Pb	00 35 23.4	+1.9
	1.6nm,0.2s						
KTBS				Lg	Lg	00 35 53.7	
	17nm,0.3s						
KNOS	**Konyrlen**	**1.57**	**26**	P	Pn	00 35 17.3	-6.3
	0.5nm,0.2s						
KNOS				Pg	Pb	00 35 18.5	-6.7
	0.3nm,0.1s						
KNOS				S	Sn	00 35 41.7	-1.8
	6.7nm,0.1s						
KNOS				Lg	Lg	00 35 47.4	
	5.8nm,0.1s						
KST	**Kastek**	**1.66**	**274**	Pg	Pn	00 35 25.3	+0.6
	1.3nm,0.3s						
KST				Lg	Lg	00 35 59.2	
	2.2nm,0.2s						
KST	**Kastek**	**1.66**	**274**	*e*P	Pb	00 35 27.1	+0.5
	0.9nm,0.2s						
KST				eS	Sb	00 35 48.9	+1.8
	3.0nm,0.4s						
KUU	**Kurty**	**1.66**	**305**	Pg	Pb	00 35 28.9	+2.2
	2.3nm,0.1s						
KUU				Lg	Lg	00 36 04.1	
	27nm,0.2s						
KUU	**Kurty**	**1.66**	**305**	*e*P	Pb	00 35 26.1	-0.5
	1.6nm,0.1s						
KUU				eS	Sb	00 35 46.7	-0.4
	8.9nm,0.6s						
DGS	**Degeres**	**1.81**	**280**	Pg	Pb	00 35 29.1	-0.2
	1.1nm,0.4s						
DGS				Lg	Lg	00 36 05.8	
	3.5nm,0.3s						
KRBS	**Karabastau**	**2.00**	**293**	Pg	Pb	00 35 33.6	+1.1
	6.8nm,0.2s						
KRBS				Lg	Lg	00 36 13.4	
	3.2nm,0.4s						
TDK	**Taldyqorghan**	**2.06**	**4**	Pg	Pn	00 35 30.6	+0.4
	16nm,0.2s						
TDK				Lg	Lg	00 36 04.8	
	13nm,0.2s						
AAK	**Ala-Archa**	**2.76**	**265**	⇓Lg	Lg	00 36 33.6	
	4.0nm,0.7s						
KK31	**Karatay Array**	**5.65**	**274**	⇓Lg	Lg	00 38 06.2	
	0.5nm,0.5s,baz=86,slow=27,SNR=4.5						

*SOME **25** 00:35:12.2, 42°.93N×78°.22E, h10km*
*KRNET **25** 00:35:13.2±0.1, 42°.87N×78°.07E, h12km, mb2.6*
ISC 25 00:35:11.3±1.2, 42°.90N±0°.03×78°.13E±0°.02, h4km±11km, n20, σ1°98/40, 16C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.46**	**154**	⇑*i*P	**Pn**	**00 35 22.1**	**-2.7**
PRZ				⇑*i*S	**Sb**	**00 35 28.6**	**-0.9**
UZB	**Uzynbulak**	**0.70**	**69**	*e*P	**Pg**	**00 35 23.5**	**-1.9**
UZB				eS	**Sg**	**00 35 31.6**	**-2.3**
KOTS	**Kotyrbulak**	**0.82**	**295**	*e*P	**Pn**	**00 35 28.8**	**-0.9**
	8.2nm,0.4s						
KOTS				eS	**Sn**	**00 35 40.9**	**-1.4**
	54nm,0.4s						
TNSS	**Tian-Shan**	**0.88**	**280**	*e*P	**Pn**	**00 35 30.2**	**-0.6**
	0.3nm,0.1s						
TNSS				eS	**Sn**	**00 35 43.1**	**-1.1**
	2.5nm,0.3s						
SHLS	**Shalkode**	**1.01**	**75**	*e*P	**Pn**	**00 35 34.8**	**+2.4**
	12nm,0.1s						
SHLS				eS	**Sn**	**00 35 51.6**	**+4.5**
	24nm,0.2s						
KDJ	**Kajisay**	**1.04**	**223**	⇑*i*P	**Pg**	**00 35 32.1**	**+0.9**
KDJ				⇑*i*S	**Sb**	**00 35 46.0**	**+0.1**
TARG	**Taragay, Kyrgy**	**1.19**	**192**	⇓*i*P	**Pg**	**00 35 35.3**	**+1.2**
TARG				⇓*i*S	**Sg**	**00 35 51.5**	**+2.0**
MTBS	**Maitube**	**1.27**	**281**	*e*P	**Pg**	**00 35 37.1**	**+1.5**
	1.4nm,0.2s						
MTBS				eS	**Sg**	**00 35 55.5**	**+3.4**
	15nm,0.5s						
ARXS	**Arharly**	**1.34**	**351**	*e*P	**Pg**	**00 35 38.4**	**+1.5**
ARXS				eS	**Sg**	**00 35 57.7**	**+3.5**
ULHL	**Ulahol**	**1.54**	**246**	⇑*i*P	**Pg**	**00 35 41.4**	**+0.7**
ULHL				⇑*i*S	**Sg**	**00 36 01.9**	**+1.2**
KUU	**Kurty**	**1.64**	**308**	*e*P	**Pg**	**00 35 42.8**	**0.0**
	2.3nm,0.2s						
KUU				eS	**Sg**	**00 36 04.8**	**+0.7**
	27nm,0.2s						
TKM2	**Tokmak 2**	**1.86**	**272**	⇑*i*P	**Pg**	**00 35 47.2**	**+0.3**
TKM2				⇑*i*S	**Sg**	**00 36 12.1**	**+1.1**
KBK	**Karagaybulak**	**2.35**	**265**	⇓*i*P	**Pb**	**00 35 54.8**	**+0.5**
KBK				⇓*i*S	**Sb**	**00 36 25.1**	**+1.3**
CHMS	**Chumysh**	**2.48**	**274**	⇓*i*P	**Pb**	**00 35 56.5**	**+0.1**
CHMS				⇓*i*S	**Sb**	**00 36 28.0**	**+0.7**
USP	**Ospenovka**	**2.68**	**279**	⇑*i*P	**Pb**	**00 35 59.1**	**-0.8**
USP				⇑*i*S	**Sb**	**00 36 32.8**	**-0.4**
AAK	**Ala-Archa**	**2.69**	**266**	⇑*i*P	**Pb**	**00 35 59.4**	**-0.6**
AAK				⇑*i*S	**Sb**	**00 36 33.0**	**-0.4**
UCH	**Uchtor**	**2.75**	**257**	⇓*e*P	**Pb**	**00 36 00.5**	**-0.8**
UCH				⇓*i*S	**Sb**	**00 36 35.0**	**-0.5**
EKS2	**Erkin-Say**	**3.21**	**267**	⇑*i*P	**Pb**	**00 36 06.8**	**-2.1**
EKS2				⇑*i*S	**Sb**	**00 36 45.6**	**-2.8**
BTLS	**Baital**	**3.65**	**307**	*e*P	**Pg**	**00 36 18.6**	**-2.5**
	0.8nm,0.5s						
BTLS				eS	**Sg**	**00 37 06.2**	**-2.1**
	1.8nm,0.5s						
SALK	**Salom-Alik**	**3.79**	**239**	⇑*i*P	**Pb**	**00 36 14.7**	**-4.1**
SALK				⇑*i*S	**Sn**	**00 36 59.4**	**+3.7**

*IDC **25** 00:38:39.0±1.3, 16°.11S×69°.64W, h200km±10km, mb3.3/7,*
mbtmp3.8/8, Error ellipse: s-maj=26.2km s-min=17.9km
az=85.0
ISC 25 00:38:40.0±0.8, 16°.1S±0°.2×69°.5W±0°.1, h213km, n11,
σ0°93/12, mb3.6/6, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.35**	**99**	P	**Pn**	**00 39 13.5**	**-0.8**
	107nm,0.3s,baz=297,slow=6.9,SNR=1044						
LPAZ				S	**S**	**00 39 39.3**	**-1.4**
	68nm,0.7s,baz=351,slow=24,SNR=14						
SIV	**San Ignacio**	**8.12**	**91**	P	**Pn**	**00 40 34.6**	**-0.3**
	0.6nm,0.5s,baz=268,slow=9.0,SNR=5.8						
PLCA	**Paso Flores**	**24.58**	**182**	P	**P**	**00 43 40.8**	**+0.1**
	0.7nm,0.3s,baz=81,slow=22,SNR=9.3						
	0.7nm,0.3s						
TXAR	**Lajitas Array**	**55.91**	**324**	P	**P**	**00 47 55.8**	**-0.4**
	0.2nm,0.6s,baz=146,slow=9.1,SNR=3.9						
	0.2nm,0.6s						
SNAA	**Sanae**	**67.57**	**162**	P	**P**	**00 49 12.6**	**-0.6**
	0.3nm,0.5s,baz=287,slow=9.4,SNR=5.3						
	0.3nm,0.5s						
DBIC	**Dimbokro**	**67.85**	**76**	P	**P**	**00 49 17.4**	**+1.5**
	2.0nm,0.8s,baz=9.7,slow=13,SNR=1.3						
	2.0nm,0.8s						
ULM	**Lac du Bonnet**	**70.00**	**342**	P	**P**	**00 49 27.8**	**-0.6**
	1.9nm,0.5s,baz=159,slow=5.8,SNR=4.8						
	1.9nm,0.5s						
QSPA	**South Pole Qui**	**74.08**	**180**	P	**P**	**00 49 53.3**	**+0.7**
	0.6nm,0.6s,baz=154,slow=1.9,SNR=2.5						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.15**	**72**	P	**P**	**00 50 06.3**	**+1.2**
	0.4nm,0.5s,baz=272,slow=4.5,SNR=6.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**137.24**	**22**	PKP	**PKiKP**	**00 57 39.3**	**-0.3**
	0.4nm,0.5s,baz=325,slow=2.3,SNR=2.3						
SONM	**Songino Array**	**148.15**	**5**	PKPbc	**PKiKP**	**00 58 02.1**	**-0.3**
	1.1nm,0.4s,baz=322,slow=3.2,SNR=6.0						

*CATAC **25** 00:53:20.9±0.8, 14°.7×93°.3W±°, h10km, M4.2/25,*
MLv4.2/25, confirmed
*MEX **25** 00:53:24.4±0.8, 14°.38N×92°.98W, h17km±39km, MD4.4*
*GCG **25** 00:53:25.1±1.8, 14°.55N×92°.73W, h65km±21km, MD4.0,*
ML3.9
ISC 25 00:53:20.9±1.5, 14°.39N±0°.05×92°.94W±0°.03, h15km±10km,
n75, σ2°67/110, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.83**	**52**	*e*P	**Pb**	**00 53 37.6**	**+0.5**
THIG				eS	**Sg**	**00 53 47.9**	**-0.2**
THIG		**0.83**	**52**	*i* P	**Pb**	**00 53 37.6**	**+0.5**
THIG				IAML		00 53 49.5	
	comp=E,5μm,0.4s						
SMCA	**Catarina**	**0.96**	**61**	*e*P	**Pg**	**00 53 39.4**	**-0.1**
SMCA				eS	**Sg**	**00 53 51.3**	**-0.8**
SMCA				IAML		00 53 52.2	
	comp=N,3μm,0.1s						
RTAL	**Retalhuleu**	**1.22**	**83**	*e*P	**Pn**	**00 53 43.6**	**+0.2**
RTAL				eS	**Sb**	**00 53 58.6**	**-0.5**
RTAL	**Retalhuleu**	**1.22**	**83**	P	**Pn**	**00 53 43.5**	**+0.1**
RTAL	**Retalhuleu**	**1.22**	**83**	S	**Sg**	**00 54 01.2**	**+0.9**
SMSP	**San Marcos**	**1.27**	**63**	*e*P	**Pn**	**00 53 43.2**	**-1.1**
SMSP				eS	**Sb**	**00 53 58.6**	**-2.2**
PCIG		**1.33**	**349**	*e*P	**Pn**	**00 53 44.2**	**-0.7**
PCIG				eS	**Sb**	**00 53 59.8**	**-2.7**
SOKI	**Kika Raxquin**	**1.55**	**74**	*i* P	**Pn**	**00 53 49.0**	**+0.7**
HUEH	**Huehuetenango**	**1.67**	**56**	*e*P	**Pn**	**00 53 50.4**	**+0.6**
HUEH				eS	**Sb**	**00 54 13.0**	**+0.6**
HUEH	**Huehuetenango**	**1.67**	**56**	P	**Pn**	**00 53 51.0**	**+1.2**
QUIS	**Sacapulas**	**2.00**	**63**	*e*P	**Pn**	**00 53 55.9**	**+1.7**
QUIS				eS	**Sb**	**00 54 21.5**	**-0.4**
QUIS				IAML		00 54 28.0	
	comp=E,1μm,0.4s						
CCIG	**Comitan**	**2.04**	**22**	*e*P	**Pb**	**00 53 56.6**	**-1.1**
CCIG				eS	**Sn**	**00 54 20.8**	**+0.7**
CCIG	**Comitan**	**2.04**	**22**	P	**Pb**	**00 53 56.6**	**-1.1**
CCIG	**Comitan**	**2.04**	**22**	S	**Sb**	**00 54 21.8**	**-1.2**
ESSG	**Sabana Grande**	**2.05**	**90**	*e*P	**Pn**	**00 53 54.9**	**0.0**
ESSG				*i* S	**Sn**	**00 54 17.8**	**-2.4**
ESSG				IAML		00 54 18.8	
	comp=N,712nm,0.2s						
FG16	**Alotenango, Sa**	**2.36**	**92**	*e*P	Pn	00 53 54.7	-4.6
TGBT	**Tuxtla Gutierr**	**2.38**	**357**	*e*P	**Pn**	**00 53 59.5**	**+0.1**
TGBT				eS	**Sn**	**00 54 27.9**	**-0.3**
TGIG		**2.38**	**356**	*e*P	**Pn**	**00 54 00.1**	**+0.7**
TGIG				eS	**Sn**	**00 54 27.5**	**-1.0**
TGIG		**2.38**	**356**	*e*P	**Pn**	**00 54 00.0**	**+0.6**
TGIG				eS	**Sn**	**00 54 27.3**	**-1.1**
TGIG				IAML		00 54 37.8	
	comp=E,338nm,0.4s						
FAME	**Alcaldia de Sa**	**2.89**	**100**	P	**Pn**	**00 54 07.5**	**+1.1**
SLOZ	**Alcaldia de Sa**	**3.08**	**96**	P	**Pn**	**00 54 10.3**	**+1.2**
LOAL	**Lomas de Alarc**	**3.09**	**97**	P	**Pn**	**00 54 10.2**	**+1.0**
NUBE	**Las Nubes**	**3.11**	**99**	*e*P	**Pn**	**00 54 10.8**	**+1.3**
NUBE				eS	**Sn**	**00 54 43.2**	**-3.2**
NUBE	**Las Nubes**	**3.11**	**99**	P	**Pn**	**00 54 10.7**	**+1.2**
NUBE	**Las Nubes**	**3.11**	**99**	S	**Sn**	**00 54 49.1**	**+2.6**
UXUV	**UXUV**	**3.13**	**338**	*e*P	**Pn**	**00 54 11.7**	**+2.0**
UXUV				eS	**Sn**	**00 54 49.4**	**+2.5**
CEVE	**Cerro Verde**	**3.27**	**99**	P	**Pn**	**00 54 13.5**	**+1.6**
CEVE	**Cerro Verde**	**3.27**	**99**	S	**Sn**	**00 54 53.1**	**+2.5**
CMIG	**Matias Romero**	**3.27**	**325**	*e*P	**Pn**	**00 54 12.3**	**+0.7**
CMIG				eS	**Sn**	**00 54 48.9**	**-1.4**
HUIG	**Huatulco**	**3.35**	**295**	*e*P	**Pn**	**00 54 13.1**	**+0.4**
HUIG				eS	**Sn**	**00 54 46.8**	**-5.4**
JAYA	**Jayaque - finc**	**3.47**	**102**	*e*P	**Pn**	**00 54 15.4**	**+0.9**
JAYA				eS	**Sn**	**00 54 52.7**	**-2.7**
JAYA	**Jayaque - finc**	**3.47**	**102**	P	**Pn**	**00 54 15.7**	**+1.2**
MTO3	**Montecristo**	**3.47**	**89**	P	**Pn**	**00 54 15.5**	**+0.9**
CEDA	**San Andres**	**3.49**	**99**	P	**Pn**	**00 54 15.8**	**+1.1**
ESQI	**Esquipulas**	**3.49**	**87**	P	**Pn**	**00 54 16.0**	**+1.3**
PMON	**Piamonte**	**3.58**	**100**	P	**Pn**	**00 54 17.5**	**+1.5**
PETF	**Flores**	**3.89**	**49**	*e*P	**Pn**	**00 54 21.5**	**+1.3**
PETF				eS	**Sn**	**00 55 02.9**	**-2.6**
PETF	**Flores**	**3.89**	**49**	P	**Pn**	**00 54 21.4**	**+1.3**
TUIG	**Tuzandepetl**	**3.89**	**339**	*e*P	**Pn**	**00 54 20.3**	**+0.1**
TUIG				eS	**Sn**	**00 55 07.8**	**+2.1**
TUIG	**Tuzandepetl**	**3.89**	**339**	P	**Pn**	**00 54 20.6**	**+0.4**
PAVA	**Las Pavas**	**3.94**	**99**	P	**Pn**	**00 54 22.1**	**+1.1**
NEUV	**Arroyo Zacate**	**4.30**	**321**	*e*P	**Pn**	**00 54 25.9**	**+0.1**
NEUV				eS	**Sn**	**00 55 11.2**	**-4.4**
PEIG	**Puerto Escondi**	**4.36**	**292**	*e*P	**Pn**	**00 54 27.4**	**+0.7**
PEIG				eS	**Sn**	**00 55 09.8**	**-7.5**
VHO	**Vista Hermosa**	**4.52**	**307**	*e*P	**Pn**	**00 54 32.4**	**+3.4**
VHO				eS	**Sn**	**00 55 21.9**	**+0.4**
PACA	**Pacayal**	**4.58**	**101**	P	**Pn**	**00 54 31.0**	**+1.3**
RANC	**El Ranchito**	**4.62**	**101**	P	**Pn**	**00 54 31.2**	**+0.9**
PMUV	**Sontecomapan**	**4.63**	**333**	*e*S	**Sn**	**00 55 28.0**	**+4.0**
SCIG	**Sabancuy**	**4.85**	**20**	*e*P	**Pn**	**00 54 34.2**	**+0.8**
SCIG				eS	**Sn**	**00 55 24.4**	**-5.0**
SCIG	**Sabancuy**	**4.85**	**20**	P	**Pn**	**00 54 34.6**	**+1.2**
LCND	**La Caada**	**5.02**	**102**	P	**Pn**	**00 54 36.9**	**+1.1**
YOIG	**Yosondua**	**5.07**	**300**	*e*P	**Pn**	**00 54 39.7**	**+3.1**
YOIG				eS	**Sn**	**00 55 34.1**	**-1.0**
CNCH	**Conchagua**	**5.08**	**102**	P	**Pn**	**00 54 37.7**	**+1.0**
PNIG	**Pinotepa**	**5.38**	**292**	*e*P	**Pn**	**00 54 42.5**	**+1.8**
PNIG				eS	**Sn**	**00 55 35.0**	**-7.4**
TOIG	**Toxpalan**	**5.41**	**314**	*e*P	**Pn**	**00 54 40.6**	**-0.5**
TOIG				eS	**Sn**	**00 55 40.4**	**-2.8**
TXIG	**Tlaxiaco**	**5.45**	**302**	*e*P	**Pn**	**00 54 44.9**	**+3.1**
TXIG				eS	**Sn**	**00 55 45.7**	**+1.3**
TGUH	**Tegucigalpa,Un**	**5.51**	**93**	P	**Pn**	**00 54 43.4**	**+0.9**
HLIG	**Huajuapan de L**	**5.79**	**307**	*e*P	Pn	00 54 51.5	+5.1
HLIG				eS	**Sn**	**00 55 58.2**	**+5.5**
TPIG	**Tehuac#an**	**5.83**	**314**	*e*P	**Pn**	**00 54 51.1**	**+4.0**
TPIG				eS	**Sn**	**00 56 00.1**	**+6.3**
FTIG	**Fresnillo de T**	**6.09**	**306**	*e*P	**Pn**	**00 54 53.9**	**+3.4**
FTIG				eS	**Sn**	**00 55 57.8**	**-2.3**
JAUV	**Jalcomulco**	**6.18**	**324**	*e*P	**Pn**	**00 54 51.7**	**+0.1**
JAUV				eS	**Sn**	**00 55 56.4**	**-5.7**
POHV	**Veracruz**	**6.24**	**319**	*e*P	**Pn**	**00 54 55.0**	**+2.0**
TLIG	**Tlapa**	**6.26**	**301**	*e*P	**Pn**	**00 54 55.1**	**+2.3**
CRIG	**Cruz Grande**	**6.40**	**292**	*e*P	**Pn**	**00 54 56.9**	**+2.2**
CRIG				eS	**Sn**	**00 55 59.6**	**-8.0**
DAIG	**Los Arroyos**	**6.97**	**293**	*e*P	**Pn**	**00 55 04.0**	**+1.5**
PPM	**Popocatepetl**	**7.16**	**311**	*e*P	Pn	00 55 13.4	+7.9
PPM				eS	**Sn**	**00 56 32.2**	**+5.3**
MYIG	**Merida**	**7.21**	**25**	eS	**Sn**	**00 56 23.0**	**-4.5**
CXUV	**Coxquihui**	**7.26**	**323**	*e*P	**Pn**	**00 55 06.1**	**-0.4**
CXUV				eS	**Sn**	**00 56 27.5**	**-1.3**
MEIG	**Mezcala**	**7.32**	**300**	*e*P	**Pn**	**00 55 10.4**	**+3.1**
MEIG				eS	**Sn**	**00 56 29.4**	**-0.8**
TEIG	**Tepich**	**7.32**	**37**	*e*P	**Pn**	**00 55 05.8**	**-1.5**
TEIG				eS	**Sn**	**00 56 24.6**	**-5.5**
TEIG	**Tepich**	**7.32**	**37**	P	**Pn**	**00 55 08.2**	**+1.0**
BOAB	**BOACO BROADBAN**	**7.34**	**104**	P	**Pn**	**00 55 08.8**	**+1.3**
YAIG	**Yautepec**	**7.36**	**308**	*e*P	**Pn**	**00 55 11.6**	**+3.5**
YAIG				eS	**Sn**	**00 56 26.2**	**-5.3**
CAIG	**El Cayaco**	**7.53**	**292**	*e*P	**Pn**	**00 55 11.9**	**+1.7**
CAIG				eS	**Sn**	**00 56 30.1**	**-5.2**
ARIG	**Puente Sto Nin**	**8.09**	**300**	*e*P	Pn	00 55 22.1	+4.2
ARIG				eS	**Sn**	**00 56 46.6**	**-2.6**

IDC 25 01:03:30.2±1.9, 0°.57N×126°.49E, h0km, mb3.3/4,
mbtmp3.3/4, Error ellipse: s-maj=190.9km
s-min=24.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.79**	**160**	P	P	01 08 23.1	-0.8
	0.3nm,0.4s,baz=338,slow=11,SNR=1.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.14**	**164**	P	P	01 08 57.8	+0.5
	0.3nm,0.4s,baz=345,slow=11,SNR=4.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**60.02**	**326**	P	P	01 13 37.4	-1.5
	0.1nm,0.4s,baz=128,slow=8.3,SNR=1.6						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**64.27**	**328**	P	P	01 14 08.6	+1.3
	0.2nm,0.5s,baz=128,slow=8.5,SNR=2.0						
	0.2nm,0.5s						

*ISK **25** 01:05:27.6, 34°.27N×32°.29E, h8km, ML2.9/19*
*NIC **25** 01:05:29.8, 34°.38N×32°.17E, h30km±1km, Ml2.8/11*
*AFAD **25** 01:05:35.0, 34°.37N×31°.45E, h50km, ML2.7*
ISC 25 01:05:29.7±1.5, 34°.37N±0°.06×32°.15E±0°.03, h30km±12km,
n47, σ1°99/71, 6C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATA	**Nata**	**0.54**	**40**	⇑*i*P	**Pb**	**01 05 40.9**	**+0.2**
NATA				S	**Sn**	**01 05 49.8**	**+0.4**
NATA				AML	AML	01 06 01.1	
	3.4nm,1.1s						
NATA				AML	AML	01 06 02.9	
	3.4nm,0.7s						
APOL	**The Sanctuary**	**0.66**	**62**	⇑*i*P	**Pb**	**01 05 42.6**	**-0.2**
APOL				S	**Sn**	**01 05 52.2**	**-0.2**
APOL				AML	AML	01 05 54.0	
	2.6nm,0.4s						
APOL				AML	AML	01 05 54.7	
	2.2nm,0.4s						
AKMS	**Akamas**	**0.67**	**13**	⇑*i*P	**Pb**	**01 05 42.6**	**-0.3**
AKMS				S	**Sn**	**01 05 53.1**	**+0.5**
AKMS				AML	AML	01 05 53.6	
	3.8nm,0.4s						
AKMS				AML	AML	01 05 54.1	
	1.8nm,0.4s						
TROD	**Troodos**	**0.83**	**45**	⇑*i*P	**Pn**	**01 05 44.7**	**-0.8**
TROD				S	**Sb**	**01 05 56.3**	**-0.2**
TROD				AML	AML	01 06 02.2	
	0.7nm,0.4s						
TROD				AML	AML	01 06 02.6	
	0.6nm,0.5s						
ALFC	**Alefka**	**0.87**	**25**	⇑*i*

KNIK	**Mula-Seydike**	**3.25**	**320**	P	**Pn**	**01 06 21.5**	**+2.9**
KNIK				S	**Sn**	**01 06 57.9**	**+1.5**
BEIL	**Beino**	**3.34**	**86**	*e*P	**Pn**	**01 06 21.3**	**+1.5**
CAME	**Cameli-Denizli**	**3.46**	**319**	Pn	**Pn**	**01 06 25.4**	**+3.7**
GOLH	**Golhisar**	**3.56**	**324**	P	**Pn**	**01 06 26.7**	**+3.8**
GOLH				S	**Sn**	**01 07 05.5**	**+1.5**
SABU	**Mula-Dalaman**	**3.57**	**314**	P	**Pn**	**01 06 25.8**	**+2.7**
SABU				S	**Sn**	**01 07 03.3**	**-0.9**
SABU				*i* IAML		01 07 10.0	
	comp=N,21nm,0.3s						
SABU				*i* IAML		01 07 12.0	
	comp=E,13nm,0.3s						
CAEL	**Denizli, Camel**	**3.59**	**321**	P	**Pb**	**01 06 29.6**	**-2.9**
CAEL				S	**Sn**	**01 07 05.9**	**+1.1**
LADK	**Ladik-KONYA**	**3.83**	**3**	Pn	**Pn**	**01 06 30.1**	**+3.4**
TAHT	**Tahtakopru-Hat**	**3.86**	**58**	Pn	**Pn**	**01 06 28.5**	**+1.5**
DNZT	**Denizli-Tavas-**	**3.86**	**320**	P	**Pn**	**01 06 30.2**	**+3.1**
DNZT				S	**Sn**	**01 07 09.1**	**-2.4**
APMY	**Acipayam-Deniz**	**3.87**	**324**	Pn	**Pn**	**01 06 31.2**	**+4.0**
BASM	**Basmaki-Afyon**	**3.93**	**335**	Pn	**Pn**	**01 06 32.1**	**+4.0**
TURN	**Turunc**	**3.99**	**308**	P	**Pn**	**01 06 29.9**	**+1.2**
TURN				S	**Sn**	**01 07 13.4**	**-1.1**
TURN				*i* IAML		01 07 25.0	
	comp=E,10nm,0.3s						
CMRD	**Camardi-Nigde**	**4.01**	**34**	Pn	**Pn**	**01 06 31.6**	**+2.4**
DNIZ	**Denizli-Tavas-**	**4.12**	**323**	P	**Pn**	**01 06 33.6**	**+3.0**
DNIZ				S	**Sn**	**01 07 15.3**	**-2.5**
DNIZ				*i* IAML		01 07 22.0	
	comp=N,24nm,0.3s						
DNIZ				*i* IAML		01 07 24.0	
	comp=E,32nm,0.3s						
MULA	**Mugla, Merkez-**	**4.24**	**314**	P	**Pn**	**01 06 33.5**	**+1.1**
YAZI	**Mula-Dat§a-**	**4.47**	**302**	P	**Pn**	**01 06 37.2**	**+1.8**
YAZI				S	**Sn**	**01 07 23.3**	**-3.2**
YAZI				*i* IAML		01 07 29.0	
	comp=N,19nm,0.3s						
ESEN	**Aydn-Nazilli**	**4.61**	**319**	P	**Pn**	**01 06 38.1**	**+0.9**
AYDN	**Tasoluk**	**4.78**	**315**	P	**Pn**	**01 06 41.4**	**+1.7**
KIRA	**zmir-Kiraz**	**4.88**	**323**	P	**Pn**	**01 06 43.0**	**+1.9**
KIRA				S	**Sn**	**01 07 31.7**	**-4.9**

*IGIL **25** 01:09:41.2, 37˚.02N×5˚.29W, h7km*
*INMG **25** 01:09:41.6±1.8, 36˚.95N×5˚.29W, h16km±3km, ML2.0, Error ellipse: s-maj=2.4km s-min=2.3km az=169.0, #DIST_RANGE: REGIONAL #IPMA_REGION: SE Sevilha (ESP)*
*MDD **25** 01:09:41.1±0.3, 37˚.02N×5˚.29W, h7km±2km, mb_Lg2.4/15, Error ellipse: s-maj=2.5km s-min=1.6km az=173.0*
*SFS **25** 01:09:42.0, 36˚.98N×5˚.30W, h17km, ML2.5/10, ML2.5/11, MLv2.5/11*
*CNRM **25** 01:09:42.1, 36˚.70N×5˚.88W, h87km, ML1.4*

ISC 25 01:09:40.0±1.0, **36˚.99N**±0˚.02×**5˚.29W**±0˚.02, **h17**km±8km, **n69**, σ1s**37**/122, **1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.47**	**256**	Pg	**Pn**	**01 09 51.3**	**-0.7**
ESPR				Sg	**Sb**	**01 09 57.8**	**+1.3**
ESPR	**Espera**	**0.47**	**256**	Pg	**Pn**	**01 09 51.3**	**-0.7**
ESPR				Sg	**Sb**	**01 09 57.8**	**+1.3**
ESPR				*i* IVmb_Lg		01 10 07.0	
EJIF	**Jimena Fronter**	**0.55**	**195**	Pg	**Pb**	**01 09 51.0**	**-0.2**
EJIF				Sg	**Sg**	**01 09 58.3**	**-0.1**
EMAL	**Malaga-Limoner**	**0.72**	**108**	Sg	**Sn**	**01 10 06.0**	**0.0**
EMAL				Pg	**Pb**	**01 09 53.6**	**-0.5**
EGOR	**Sierra Gorda,**	**0.95**	**82**	Pg	**Pn**	**01 09 59.4**	**+0.7**
EGOR				Sg	**Sn**	**01 10 13.9**	**+2.1**
EGOR	**Sierra Gorda,**	**0.95**	**82**	Pg	**Pn**	**01 09 59.3**	**+0.7**
EGOR				Sg	**Sn**	**01 10 12.5**	**+0.6**
EGOR				*i* IVmb_Lg		01 10 18.0	
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pg**	**01 10 01.5**	**+0.3**
ECAB				Sg	**Sg**	**01 10 16.4**	**+0.9**
ECAB	**El Cabril**	**1.09**	**354**	Pg	**Pg**	**01 10 01.6**	**+0.5**
ECAB				Sg	**Sg**	**01 10 16.1**	**+0.6**
ECAB				*i* IVmb_Lg		01 10 18.0	
SMIR	**Smir Dam**	**1.30**	**183**	P	**Pn**	**01 10 04.4**	**+1.0**
SMIR	**Smir Dam**	**1.30**	**183**	S	**Sn**	**01 10 18.8**	**-1.5**
EADA	**Adamuz**	**1.31**	**25**	Pn	**Pb**	**01 10 04.1**	**0.0**
EADA				Sn	**Sg**	**01 10 21.4**	**-0.9**
EADA	**Adamuz**	**1.31**	**25**	Pg	**Pb**	**01 10 04.2**	**0.0**
EADA				Sg	**Sg**	**01 10 21.4**	**-0.9**
ELGU	**Los Guajares,**	**1.33**	**95**	Pn	**Pb**	**01 09 55.0**	**+0.4**
ELGU	**Los Guajares,**	**1.33**	**95**	Pg	**Pb**	**01 10 05.4**	**+0.8**
ELGU				Sg	**Sg**	**01 10 24.0**	**+0.8**
ELGU				*i* IVmb_Lg		01 10 31.0	
EMIN	**Mina Concepcio**	**1.35**	**306**	Pn	**Pn**	**01 10 04.2**	**+0.2**
EMIN				Sn	**Sg**	**01 10 23.0**	**-0.7**
EMIN	**Mina Concepcio**	**1.35**	**306**	Pg	**Pn**	**01 10 04.3**	**+0.2**
EMIN				Sg	**Sg**	**01 10 24.0**	**+0.3**
EMIN				*i* IVmb_Lg		01 10 26.6	
E0803	**Jimena (Jaen)**	**1.68**	**59**	Pg	**Pb**	**01 10 10.4**	**+0.1**
E0803				Sg	**Sg**	**01 10 33.6**	**-0.5**
PBAR	**Barrancos**	**1.83**	**311**	Pn	**Pn**	**01 10 10.8**	**+0.2**
PBAR				Sn	**Sn**	**01 10 34.0**	**+0.7**
PBAR	**Barrancos**	**1.83**	**311**	*e*Pn	**Pn**	**01 10 10.9**	**+0.3**
PBAR				*e*Sg	**Sg**	**01 10 39.1**	**+0.2**
PBAR				*i* IAML		01 10 41.3	
PBAR				*i* IAML		01 10 42.3	
PBAR				*i* IAML		01 10 47.9	
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**01 10 11.0**	**+0.3**
EGRO	**El Granado**	**1.84**	**288**	Pn	**Pn**	**01 10 11.0**	**+0.3**
EGRO				Pg	**Pb**	**01 10 14.1**	**+1.0**
EGRO				Sg	**Sg**	**01 10 39.4**	**+0.2**
EGRO				*i* IVmb_Lg		01 10 43.4	
E0802	**Ubeda,Jaen**	**1.84**	**55**	Pg	**Pb**	**01 10 14.1**	**+0.9**
E0802				Sg	**Sg**	**01 10 39.6**	**+0.3**
EQES	**Quesada**	**1.94**	**65**	Pn	**Pb**	**01 10 14.0**	**-1.0**
EQES				Pg	**Pg**	**01 10 16.5**	**-0.9**
EQES				Sn	**Sb**	**01 10 38.2**	**-0.8**
EQES				Sg	**Sg**	**01 10 43.8**	**+1.2**
EQES				*i* IVmb_Lg		01 10 45.7	
PVAQ	**Vaqueiros**	**1.99**	**283**	Pn	**Pn**	**01 10 13.0**	**+0.2**
PVAQ	**Vaqueiros**	**1.99**	**283**	⇓*e*Pn	**Pn**	**01 10 13.0**	**+0.2**
PVAQ				*e*Pg	**Pg**	**01 10 17.7**	**-0.4**
PVAQ				*e*Sn	**Sn**	**01 10 36.9**	**-0.3**
PVAQ				*e*Sg	**Sg**	**01 10 45.3**	**+1.3**
PVAQ				*i* IAML		01 10 48.9	
PVAQ				*i* IAML		01 10 51.7	
PVAQ				*i* IAML		01 10 57.6	
PBDV	**Barranco-do-Ve**	**2.13**	**278**	Pn	**Pn**	**01 10 15.3**	**+0.5**
PBDV				Sn	**Sn**	**01 10 41.4**	**+0.5**
PBDV	**Barranco-do-Ve**	**2.13**	**278**	*e*Pn	**Pn**	**01 10 15.3**	**+0.5**
PBDV				*e*Sn	**Sn**	**01 10 41.3**	**+0.5**
PBDV				*i* IAML		01 10 54.1	
PBDV				*i* IAML		01 10 55.0	
PBDV				*i* IAML		01 11 01.5	
PSIM	**Granatula de C**	**2.19**	**33**	Pn	**Pn**	**01 10 16.8**	**+1.1**
PSIM				Pg	**Pb**	**01 10 20.4**	**+1.1**
PSIM				Sn	**Sn**	**01 10 43.6**	**+1.2**
PSIM				Sg	**Sg**	**01 10 49.3**	**-1.3**
EBAD	**Badajoz**	**2.23**	**323**	Pn	**Pn**	**01 10 16.4**	**+0.2**
EBAD				Sn	**Sn**	**01 10 44.2**	**+0.8**
EBAD	**Badajoz**	**2.23**	**323**	Pn	**Pn**	**01 10 16.7**	**+0.5**
EBAD				Sn	**Sn**	**01 10 43.1**	**-0.2**
EBAD				Sg	**Sg**	**01 10 50.1**	**-1.7**
PCVE	**Castro Verde**	**2.29**	**287**	Pn	**Pn**	**01 10 17.2**	**+0.3**
PCVE	**Castro Verde**	**2.29**	**287**	*e*Pn	**Pn**	**01 10 17.3**	**+0.4**
PCVE				*i* IAML		01 10 56.3	
PCVE				*i* IAML		01 11 00.4	
PCVE				*i* IAML		01 11 02.3	
PBEJ	**Beja**	**2.30**	**298**	*e*Pn	**Pn**	**01 10 17.8**	**+0.7**
PBEJ				*e*Sg	**Sg**	**01 10 54.1**	**+0.2**
PBEJ				*i* IAML		01 10 59.1	
PBEJ				*i* IAML		01 10 59.9	
PBEJ				*i* IAML		01 11 02.5	
MESJ	**Messejana**	**2.49**	**291**	*e*P	**Pn**	**01 10 20.1**	**+0.4**
MESJ	**Messejana**	**2.49**	**291**	*e*Pn	**Pn**	**01 10 20.3**	**+0.6**
GOG	**Mont Gurugu**	**2.56**	**133**	P	**Pb**	**01 10 26.3**	**+0.9**
GOG	**Mont Gurugu**	**2.56**	**133**	S	**Sb**	**01 10 59.0**	**+2.3**
PESTR	**Estremoz**	**2.62**	**317**	*e*Sn	**Sn**	**01 10 53.4**	**+0.5**
PESTR				*e*Sg	**Sg**	**01 11 03.7**	**-0.4**
PESTR				*i* IAML		01 11 05.3	
PESTR				*i* IAML		01 11 06.3	
PESTR				*i* IAML		01 11 10.3	
PESTR	**Estremoz**	**2.62**	**317**	P	**Pn**	**01 10 22.9**	**+1.5**
PESTR	**Estremoz**	**2.62**	**317**	S	**Sn**	**01 10 53.2**	**+0.4**
PAB	**San Pablo**	**2.66**	**16**	Pn	**Pn**	**01 10 24.3**	**+2.1**
PAB				Pg	**Pg**	**01 10 30.5**	**-0.5**
PAB				Sn	**Sn**	**01 10 52.6**	**-1.4**
PAB				Sg	**Sg**	**01 11 04.8**	**-0.7**
PAB				*i* IVmb_Lg		01 11 08.3	
MORF	**Marmelete**	**2.71**	**278**	*e*P	**Pn**	**01 10 23.2**	**+0.5**
MORF	**Marmelete**	**2.71**	**278**	*e*Pn	**Pn**	**01 10 24.2**	**+1.4**
MORF				*e*Sn	**Sn**	**01 10 56.1**	**+1.0**
MORF				*i* IAML		01 10 59.8	
MORF				*i* IAML		01 11 14.0	
MORF				*i* IAML		01 11 21.0	
AKLM	**AKL**	**2.73**	**154**	P	**Pn**	**01 10 23.1**	**+0.1**
AKLM	**AKL**	**2.73**	**154**	S	**Sn**	**01 10 55.3**	**-0.4**
PTEO	**Sao Teotonio**	**2.80**	**283**	*e*Pn	**Pn**	**01 10 24.6**	**+0.7**
PTEO				*e*Sn	**Sn**	**01 10 57.6**	**+0.3**
PTEO				*i* IAML		01 11 09.9	
PTEO				*i* IAML		01 11 15.2	
PTEO				*i* IAML		01 11 20.4	
PFVI	**Vila Bisbo**	**2.84**	**274**	*e*Sn	**Sn**	**01 10 59.2**	**+1.0**
ESDC	**Sonseca Array**	**2.88**	**21**	Sg	**Sg**	**01 11 11.7**	**-0.8**
ESBB	**Sonseca Array**	**2.88**	**21**	Sg	**Sg**	**01 11 11.1**	**-1.4**
PMRV	**Marv??o**	**2.95**	**326**	*e*Pn	**Pn**	**01 10 26.8**	**+0.8**
PMRV				*e*Sn	**Sn**	**01 11 01.0**	**0.0**
PMRV				*e*Sg	**Sg**	**01 11 12.8**	**-1.9**
PMRV				*i* IAML		01 11 17.7	
PMRV				*i* IAML		01 11 17.7	
PMRV				*i* IAML		01 11 23.3	
PMTG	**Montargil**	**3.12**	**313**	*e*Pn	**Pn**	**01 10 29.9**	**+1.6**
PMTG				*e*Sg	**Sg**	**01 11 18.7**	**-1.4**
PMTG				*i* IAML		01 11 25.9	
PMTG				*i* IAML		01 11 26.3	
PMTG				*i* IAML		01 11 28.7	
EPLA	**Plasencia**	**3.13**	**349**	Pn	**Pn**	**01 10 30.0**	**+1.4**
EPLA				Sn	**Sn**	**01 11 03.7**	**-2.0**
EPLA				Sg	**Sg**	**01 11 18.7**	**-2.0**
EPLA				*i* IVmb_Lg		01 11 23.0	
JBK	**JBK**	**3.45**	**139**	P	**Pn**	**01 10 36.6**	**+3.5**
JBK	**JBK**	**3.45**	**139**	S	**Sn**	**01 11 17.2**	**+3.5**
PSARD	**Sardoal**	**3.45**	**320**	*e*Pn	**Pn**	**01 10 34.6**	**+1.6**
PSARD				*e*Sn	**Sn**	**01 11 12.8**	**-0.6**
PSARD				*e*Sg	**Sg**	**01 11 27.8**	**-3.2**
PSARD				*i* IAML		01 11 31.4	
PSARD				*i* IAML		01 11 34.4	
PSARD				*i* IAML		01 11 38.0	
CART	**Cartagena**	**3.47**	**79**	P	**Pb**	**01 10 40.6**	**-0.3**
CART	**Cartagena**	**3.47**	**79**	S	**Sg**	**01 11 27.4**	**-4.1**
PARRA	**Arraiolos**	**3.49**	**303**	*e*Pn	Pn	01 10 24.9	-8.5
PARRA				*e*Pg	Pb	01 10 32.6	-8.6
PARRA				*e*Sn	Sn	01 10 59.4	-15
PARRA				*i* IAML		01 11 13.9	
PARRA				*i* IAML		01 11 14.3	
PARRA				*i* IAML		01 11 20.9	
GUD	**Guadarrama**	**3.76**	**13**	Pn	**Pn**	**01 10 38.4**	**+1.2**
GUD				Pg	**Pg**	**01 10 50.6**	**-1.3**
GUD				Sn	**Sn**	**01 11 19.7**	**-1.4**
GUD				Sg	**Sg**	**01 11 35.8**	**-4.8**
MTE	**Manteigas**	**3.84**	**333**	*e*Sg	**Sg**	**01 11 39.7**	**-3.6**
MTE				*i* IAML		01 11 47.9	
MTE				*i* IAML		01 11 48.6	
MTE				*i* IAML		01 11 50.4	
CZD	**Col de Zad**	**3.95**	**177**	P	**Pn**	**01 10 37.7**	**-2.4**
CZD	**Col de Zad**	**3.95**	**177**	S	**Sn**	**01 11 22.2**	**-4.0**
MD31	**MD31**	**4.13**	**174**	P	**Pn**	**01 10 41.9**	**-0.5**
MD31	**MD31**	**4.13**	**174**	S	**Sn**	**01 11 26.4**	**-3.9**
PVIS	**Viseu**	**4.24**	**332**	*e*Sn	**Sn**	**01 11 33.1**	**+0.1**
MVO	**Moncorvo**	**4.39**	**343**	*e*Pn	**Pn**	**01 10 46.9**	**+1.0**
MVO				*e*Sn	**Sn**	**01 11 36.6**	**0.0**
MVO				*e*Sg	**Sg**	**01 11 59.2**	**-1.7**
MVO				*i* IAML		01 12 04.6	
MVO				*i* IAML		01 12 07.4	
MVO				*i* IAML		01 12 08.2	
ETOR	**Torete**	**4.58**	**32**	Pn	**Pn**	**01 10 49.3**	**+0.7**
ETOR				Sn	**Sn**	**01 11 39.7**	**-1.7**
ETOR				Sg	**Sg**	**01 12 07.4**	**+0.3**
ETOR				*i* IVmb_Lg		01 13 20.2	
POLO	**Lamas de Olo**	**4.79**	**337**	*e*Sn	**Sn**	**01 11 46.5**	**-0.2**
PCAB	**Cabril**	**5.17**	**337**	*e*Sn	**Sn**	**01 11 55.0**	**-0.8**

*SOME **25** 01:14:53.2, 43˚.43N×85˚.47E, h20km*
*NNC **25** 01:14:54.9±2.1, 43˚.48N×85˚.40E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=15.6km s-min=7.4km az=128.0*

ISC 25 01:14:50.8±3.1, **43˚.3N**±0˚.1×**85˚.5E**±0˚.1, **h10**km, **n18**, σ2s**14**/21, **4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.15**	**328**	Pg	**Pg**	**01 16 08.2**	**-2.1**
	0.3nm,0.2s,baz=150,slow=16,SNR=18						
MK31				Lg	Lg	01 17 02.0	
	6.9nm,0.6s,baz=142,slow=30,SNR=8.1						
ZSN	**Zaisan**	**4.15**	**354**	Pg	**Pb**	**01 16 06.7**	**+2.8**
	2.8nm,0.2s						
ZSN				Lg	Lg	01 16 59.9	
	3.9nm,0.3s						
ZSN	**Zaisan**	**4.15**	**354**	*e*P	**Pb**	**01 16 06.7**	**+2.8**
	2.8nm,0.2s						
ZSN				*e*S	**Sg**	**01 16 59.9**	**-4.2**
	3.9nm,0.3s						
MAKZ	**Makanchi**	**4.29**	**326**	⇓Pg	**Pg**	**01 16 10.8**	**-2.0**
	3.9nm,1.1s						
MAKZ				⇓Lg	Lg	01 17 07.7	
	3.3nm,0.5s						
PDGK	**Podgornoye**	**4.39**	**272**	⇓Pg	**Pg**	**01 16 14.3**	**-0.5**
	1.8nm,0.7s						
PDGK				⇓Lg	Lg	01 17 11.1	
	4.2nm,0.3s						
SHLS	**Shalkode**	**4.42**	**270**	Pg	**Pb**	**01 16 08.4**	**-0.2**
	3.9nm,0.3s						
SHLS				Lg	Lg	01 17 02.6	
	52nm,0.5s						
SHLS	**Shalkode**	**4.42**	**270**	*e*P	**Pb**	**01 16 08.3**	**-0.2**
	3.9nm,0.3s						
SHLS				*e*S	**Sb**	**01 17 02.6**	**+0.7**
	52nm,0.5s						
KNOS	**Konyrlen**	**4.69**	**285**	Pg	**Pb**	**01 16 17.3**	**+4.0**
	1.5nm,0.1s						
KNOS				Lg	Lg	01 17 18.1	
	6.2nm,0.3s						
UZB	**Uzynbulak**	**4.74**	**270**	*e*P	**Pg**	**01 16 20.5**	**-1.0**
	1.4nm,0.1s						
UZB				*e*S	**Sg**	**01 17 23.0**	**0.0**
	5.9nm,0.5s						
KPKS	**Kokpek**	**4.97**	**274**	Pg	Pb	01 16 23.7	+5.7
	0.4nm,0.2s						
KPKS				Lg	Lg	01 17 28.9	
	12nm,0.5s						
SATY	**Saty**	**5.20**	**270**	Pg	Pb	01 16 27.3	+5.5
	1.4nm,0.1s						
SATY				Lg	Lg	01 17 35.2	
	4.8nm,0.2s						
TDK	**Taldyqorghan**	**5.38**	**291**	Pg	**Pg**	**01 16 32.6**	**-1.1**
	20nm,0.4s						
TDK				Lg	Lg	01 17 44.4	
	38nm,0.4s						
TDK	**Taldyqorghan**	**5.38**	**291**	*e*P	**Pg**	**01 16 32.6**	**-1.1**
	20nm,0.4s						
TDK				*e*S	**Sg**	**01 17 44.4**	**+1.1**
	38nm,0.4s						
ARXS	**Arharly**	**5.63**	**282**	Pg	**Pg**	**01 16 36.7**	**-1.9**
	1.3nm,0.3s						
ARXS				Lg	Lg	01 17 50.9	
	6.5nm,0.6s						
KOTS	**Kotyrbulak**	**6.13**	**272**	Pg	**Pg**	**01 16 46.3**	**-1.8**
	2.7nm,0.3s						
KOTS				Lg	Lg	01 18 07.9	
	5.6nm,0.6s						
KOTS	**Kotyrbulak**	**6.13**	**272**	*e*P	**Pg**	**01 16 46.3**	**-1.8**
	2.7nm,0.3s						
KOTS				*e*S	**Sg**	**01 18 07.9**	**+0.4**
	5.6nm,0.6s						
KTBS	**Karatobe**	**6.43**	**276**	Pg	**Pg**	**01 16 51.9**	**-1.9**
	0.9nm,0.5s						
KTBS				Lg	Lg	01 18 17.7	
	5.2nm,0.4s						
DGS	**Degeres**	**7.10**	**273**	Pg	**Pg**	**01 17 04.4**	**-2.3**
	1.1nm,0.4s						
DGS				Lg	Lg	01 18 38.8	
	3.0nm,0.6s						

*IDC **25** 01:32:19.6±1.1, 2˚.06N×96˚.46E, h0km, mb3.9/10, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=35.0km s-min=16.6km az=48.0*

ISC 25 01:32:24.1±1.1, **2˚.1N**±0˚.1×**96˚.5E**±0˚.1, **h28**km, **n24**, σ0s**58**/13, **mb4.0**/10, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.52**	**73**	Pn	**Pn**	**01 33 02.6**	**-0.7**
	2.7nm,0.3s,baz=274,slow=6.4,SNR=7.4						
PSI				Sn	**Sn**	**01 33 33.5**	**+0.4**
	3.9nm,0.3s,baz=150,slow=21,SNR=8.2						
	5.9nm,0.2s						
CMAR	**Chiang Mai Arr**	**16.45**	**8**	Pn	**Pn**	**01 36 14.0**	**+0.9**
	0.2nm,0.3s,baz=260,slow=32,SNR=1.6						
	0.5nm,0.3s						
H08S2	**Diego Garcia H**	**25.83**	**248**	T	T	02 04 44.7	
	baz=68,slow=75,SNR=31						
H08S3	**Diego Garcia H**	**25.83**	**248**	T	T	02 04 49.0	
	baz=68,slow=75,SNR=222						
H08S1	**Diego Garcia H**	**25.85**	**248**	T	T	02 04 42.8	
	baz=68,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**40.31**	**157**	T	T	02 22 50.3	
	baz=332,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**40.33**	**157**	T	T	02 22 47.3	
	baz=332,slow=76,SNR=32						
H01W1	**Cape Leeuwin H**	**40.33**	**157**	T	T	02 22 54.8	
	baz=332,slow=76,SNR=40						
WRA	**Warramunga Arr**	**43.09**	**122**	P	**P**	**01 40 21.5**	**-0.6**
	0.4nm,0.4s,baz=298,slow=8.4,SNR=6.0						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.47**	**127**	P	**P**	**01 40 33.0**	**-0.2**
	0.3nm,0.5s,baz=297,slow=8.6,SNR=6.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**01 40 46.7**	**-0.1**
	1.1nm,0.4s,baz=162,slow=7.2,SNR=8.8						
	1.1nm,0.4s						
SONM	**Songino Array**	**46.38**	**9**	P	**P**	**01 40 48.0**	**0.0**
	0.7nm,0.4s,baz=191,slow=9.1,SNR=4.1						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**50.71**	**345**	P	**P**	**01 41 21.1**	**-0.1**
	0.9nm,0.6s,baz=162,slow=6.8,SNR=8.0						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**52.59**	**351**	P	**P**	**01 41 34.8**	**-0.4**
	3.6nm,0.5s,baz=169,slow=6.7,SNR=20						
	3.6nm,0.5s						
STKA	**Stephens Creek**	**54.45**	**132**	P	**P**	**01 41 50.2**	**+1.0**
	0.7nm,0.5s,baz=356,slow=21,SNR=1.5						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**55.20**	**341**	P	**P**	**01 41 53.6**	**-0.6**
	1.0nm,0.6s,baz=142,slow=11,SNR=7.8						
	1.0nm,0.6s						
H04N2	**CROZET ISLANDS**	**62.11**	**214**	T	T	02 50 09.4	
	baz=53						
H04N1	**CROZET ISLANDS**	**62.12**	**214**	T	T	02 50 10.0	
	baz=53						
H04N3	**CROZET ISLANDS**	**62.13**	**214**	T	T	02 50 09.4	
	baz=53						
H04S1	**CROZET ISLANDS**	**62.46**	**213**	T	T	02 50 31.4	
	baz=52,slow=75,SNR=41						
H04S3	**CROZET ISLANDS**	**62.47**	**213**	T	T	02 50 35.6	
	baz=52,slow=75,SNR=65						
H04S2	**CROZET ISLANDS**	**62.48**	**213**	T	T	02 50 46.1	
	baz=52,slow=75,SNR=27						
FINES	**FINESS Array B**	**78.91**	**333**	P	**P**	**01 44 24.3**	**-0.3**
	0.7nm,0.8s,baz=108,slow=3.2,SNR=5.9						
	0.7nm,0.8s						
ARCES	**ARCESS Array B**	**81.48**	**340**	P	**P**	**01 44 38.7**	**+0.2**
	2.1nm,1.1s,baz=100,slow=5.8,SNR=6.7						
	2.1nm,1.1s						

*SJA **25** 01:55:58.5±0.6, 32˚.51S×71˚.92W, h24km±2km, ML3.4, MW3.7*
*GUC **25** 01:56:00.4±0.8, 32˚.48S×71˚.86W, h35km±2km, ML3.4*

ISC 25 01:55:58.2±1.5, **32˚.51S**±0˚.02×**71˚.93W**±0˚.05, **h8**km±10km, **n57**, σ1s**27**/105, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.54**	**96**	*e*P	**Pb**	**01 56 10.1**	**+0.2**
VA06				*i* S	**Sb**	**01 56 17.2**	**-0.6**
VA06				IAML		01 56 20.3	
	comp=N,7µm,0.4s						
VA01	**Torpederas**	**0.57**	**155**	*e*P	**Pb**	**01 56 11.3**	**+0.9**
VA01				*i* S	**Sb**	**01 56 19.0**	**+0.4**
VA01				IAML		01 56 20.7	
	comp=N,3µm,0.1s						
VA01	**Torpederas**	**0.57**	**155**	*e*P	**Pb**	**01 56 11.5**	**+1.1**
ROC1	**El Roble**	**0.90**	**122**	*e*P	**Pb**	**01 56 16.4**	**+0.1**
ROC1				*e*S	**Sg**	**01 56 27.0**	**-0.4**
ROCH	**El Roble**	**0.90**	**121**	*e*P	**Pb**	**01 56 16.4**	**+0.1**
ROCH				*e*P	**Pb**	**01 56 16.4**	**+0.1**
ROCH				*i* S	**Sb**	**01 56 28.0**	**-0.5**
ROCH				*i* S	**Sb**	**01 56 28.1**	**-0.5**
ROCH				IAML		01 56 29.4	
	comp=N,1µm,0.5s						
MT02	**Curacav**	**1.00**	**139**	*e*P	**Pg**	**01 56 17.9**	**+0.3**
MT02				*i* S	**Sg**	**01 56 30.9**	**+0.2**
MT02	**Curacav**	**1.00**	**139**	*e*P	**Pg**	**01 56 17.9**	**+0.3**
MT02				*e*S	**Sb**	**01 56 31.6**	**+0.4**
MT02				IAML		01 56 32.5	
	comp=Z,535nm,0.2s						
VA03	**San Esteban**	**1.19**	**103**

MT12				*i* S		Sn	01 56 50.6	+0.8	
MT12				IAML			01 56 55.8		
	comp=N,925nm,0.5s								
MT04	**Ro Olivares**	**1.75**	**121**	*e*P		Pn	**01 56 29.9**	**+0.7**	
MT04				*i* S		Sn	**01 56 52.4**	**+0.6**	
MT04				IAML			01 56 54.8		
	comp=N,416nm,0.3s								
MT04	**Ro Olivares**	**1.75**	**121**	*e*P		Pn	**01 56 29.8**	**+0.7**	
MT04				*e*S		Sb	**01 56 52.8**	**-0.3**	
MT04				IAML			01 56 54.4		
	comp=Z,354nm,0.2s								
CO06	**Fray Jorge**	**1.84**	**8**	*e*P		Pn	**01 56 29.1**	**-1.1**	
CO06				*i* S		Sb	**01 56 56.0**	**+0.7**	
CO06				IAML			01 57 01.9		
	comp=E,418nm,0.4s								
BO04	**La Punta**	**1.85**	**144**	*e*P		Pn	**01 56 31.5**	**+1.2**	
BO04				*i* S		Sn	**01 56 55.0**	**+1.1**	
BO04				IAML			01 57 01.3		
	comp=E,502nm,0.6s								
MT13	**San Alfonso**	**1.85**	**132**	*e*P		Pn	**01 56 31.5**	**+1.1**	
MT13				*i* S		Sb	**01 56 55.1**	**-0.7**	
MT13				IAML			01 56 59.4		
	comp=E,662nm,0.3s								
MT13	**San Alfonso**	**1.85**	**132**	*e*P		Pn	**01 56 31.6**	**+1.3**	
MT13				*e*S		Sb	**01 56 56.0**	**+0.2**	
MT13				IAML			01 57 01.0		
	comp=Z,252nm,0.2s								
MT08	**Bocatoma Ro**	**1.86**	**121**	*e*P		Pb	**01 56 31.9**	**-0.8**	
MT08				*i* S		Sn	**01 56 54.5**	**+0.1**	
MT08	**Bocatoma Ro**	**1.86**	**121**	*e*P		Pb	**01 56 32.1**	**-0.6**	
MT08				*e*S		Sn	**01 56 55.2**	**+0.8**	
MT08				IAML			01 57 02.3		
	comp=Z,155nm,0.6s								
CO03	**El Pedregal**	**1.97**	**33**	*e*P		Pn	**01 56 32.5**	**+0.5**	
CO03				*i* S		Sn	**01 56 57.0**	**+0.1**	
CO03				IAML			01 57 01.5		
	comp=E,508nm,0.4s								
CO03	**El Pedregal**	**1.97**	**33**	*e*P		Pn	**01 56 32.7**	**+0.7**	
CO03				*e*S		Sb	**01 56 58.2**	**-1.0**	
CO03				IAML			01 57 02.0		
	comp=Z,318nm,0.9s								
LMEL	**Las Melosas**	**1.97**	**133**	*e*P		Pn	**01 56 33.4**	**+1.3**	
LMEL				*i* S		Sn	**01 56 58.0**	**+0.9**	
LMEL				IAML			01 57 03.4		
	comp=N,470nm,0.3s								
LMEL	**Las Melosas**	**1.97**	**133**	*e*P		Pb	**01 56 33.8**	**-0.7**	
LMEL				*e*S		Sb	**01 56 59.5**	**+0.3**	
LMEL				IAML			01 57 04.5		
	comp=Z,268nm,0.1s								
BO03	**Pichilemu**	**1.98**	**181**	*e*P		Pn	**01 56 32.0**	**-0.1**	
BO03				*i* S		Sn	**01 56 55.0**	**-2.1**	
BO01	**Tunca**	**2.01**	**160**	*e*P		Pn	**01 56 32.9**	**+0.5**	
BO01				*i* S		Sn	**01 56 58.4**	**+0.7**	
BO01	**Tunca**	**2.01**	**160**	*e*P		Pn	**01 56 32.9**	**+0.5**	
BO01				*e*S		Sn	**01 56 56.6**	**-1.1**	
BO01				IAML			01 57 03.3		
	comp=Z,170nm,0.4s								
RTLS	**Leoncito**	**2.34**	**73**	*e*P		Pb	**01 56 40.3**	**-0.5**	
RTLS				*e*S		Sg	**01 57 12.1**	**-1.5**	
RTLS				IAML			01 57 15.1		
	comp=Z,658nm,0.7s								
BO02	**Sierra Bellavi**	**2.47**	**158**	*e*P		Pn	**01 56 39.8**	**+0.9**	
BO02				*i* S		Sn	**01 57 10.5**	**+1.2**	
BO02				IAML			01 57 19.1		
	comp=N,490nm,0.3s								
BO02	**Sierra Bellavi**	**2.47**	**158**	*e*P		Pn	**01 56 40.0**	**+1.2**	
BO02				*e*S		Sn	**01 57 10.4**	**+1.2**	
BO02				IAML			01 57 21.1		
	comp=Z,294nm,0.8s								
GO05	**Hualane**	**2.50**	**180**	*e*P		Pn	**01 56 39.9**	**+0.7**	
GO05				*i* S		Sn	**01 57 08.7**	**-1.1**	
GO05				IAML			01 57 09.9		
	comp=E,141nm,0.3s								
GO05	**Hualane**	**2.50**	**180**	*e*P		Pn	**01 56 40.1**	**+1.0**	
GO05				*e*S		Sn	**01 57 09.3**	**-0.5**	
GO04	**Tololo Observa**	**2.52**	**23**	*e*P		Pn	**01 56 39.4**	**-0.2**	
GO04	**Tololo Observa**	**2.52**	**23**	*e*P		Pn	**01 56 39.3**	**-0.4**	
GO04				*e*S		Sb	**01 57 14.5**	**-0.6**	
GO04				IAML			01 57 19.7		
	comp=Z,508nm,0.6s								
ARCO	**CERRO ARCO**	**2.55**	**98**	*e*P		Pb	**01 56 44.3**	**-0.1**	
ARCO				*e*S		Sb	**01 57 16.3**	**+0.4**	
ARCO				IAML			01 57 26.8		
	comp=Z,67nm,1.3s								
ASAL	**Salagasta**	**2.62**	**93**	*e*P		Pn	**01 56 41.0**	**+0.2**	
ASAL				*e*S		Sb	**01 57 15.0**	**-2.7**	
AAGR	**Agrelo**	**2.68**	**103**	*e*P		Pb	**01 56 46.5**	**0.0**	
AAGR				IAML			01 57 35.3		
	comp=Z,82nm,0.4s								
CO01	**Juntas del Tor**	**2.97**	**32**	*e*P		Pn	**01 56 47.3**	**+1.4**	
CO01				IAML			01 57 33.5		
	comp=Z,77nm,0.3s								
SJA	**San Juan**	**3.02**	**72**	*e*P		Pg	**01 57 00.5**	**+4.3**	
SJA				IAML			01 57 57.0		
	comp=Z,45nm,0.4s								
AVIZ	**Vizcacheras**	**3.03**	**109**	*e*P		Pb	**01 56 49.7**	**-2.7**	
AROD	**Rodeo**	**3.14**	**43**	*e*P		Pn	**01 56 51.3**	**+3.1**	
RTLL	**Cerro Villicun**	**3.16**	**69**	*e*P		Pn	**01 56 49.5**	**+1.2**	
RTLL				IAML			01 57 41.5		
	comp=Z,112nm,0.9s								
CFA	**Coronel Fontan**	**3.26**	**75**	*e*P		Pn	01 56 38.0	-12	

*NOU **25** 02:17:21.4, 36˚.94S×177˚.14E, h259km, MLv4.5/15, Off E. Coast of N. Island, N.Z.*
*IDC **25** 02:17:22.2±2.2, 36˚.44S×177˚.41E, h217km±13km, mb3.8/5, mbtmp4.4/5, Error ellipse: s-maj=41.2km s-min=15.6km az=52.0*
*NEIC **25** 02:17:24.8±2.4, 37˚.08S±0˚.08×177˚.1E±0˚.1, h228km±8km, mb4.1/17, Error ellipse: s-maj=13.1km s-min=10.9km az=116.0*
*WEL **25** 02:17:25.4±1.0, 37˚S±10˚×17˚7E±˚, h211km±9km, M3.8/23, MLv3.8/23, Error ellipse: s-maj=13.8km s-min=6.6km az=24.4, confirmed*

ISC 25 02:17:25.2±0.8, 36˚.99S±0˚.08×177˚.04E±0˚.07, h232km±5km, n237, σ1§88/244, mb4.1/16, 4C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.70**	**246**	P	**Pn**	**02 17 56.0**	**-0.7**
WHRZ	**Whale Island**	**0.86**	**184**	P	**Pn**	**02 17 57.4**	**-0.1**
OPRZ	**Ohinepanea**	**0.94**	**204**	P	**Pn**	**02 17 57.6**	**-0.3**
OPRZ				S	**S**	**02 18 22.5**	**-1.2**
HAZ	**Te Kaha**	**0.96**	**143**	P	**Pn**	**02 17 56.8**	**-1.3**
HAZ				S	**S**	**02 18 20.3**	**-3.6**
TGRZ	**Tauranga**	**0.96**	**220**	P	**Pn**	**02 17 57.6**	**-0.4**
TGRZ				S	**S**	**02 18 23.9**	**+0.1**
MARZ	**Manawahe**	**1.03**	**196**	P	**Pn**	**02 17 58.5**	**0.0**
OPCS	**Opotiki Colleg**	**1.04**	**169**	S	**S**	**02 18 21.6**	**-3.1**
KUZ	**Kuaotunu**	**1.09**	**283**	P	**Pn**	**02 17 57.3**	**-1.5**
KUZ	**Kuaotunu**	**1.09**	**283**	P	**Pn**	**02 17 57.3**	**-1.5**
RUGZ	**Raukumara Rang**	**1.09**	**153**	P	**Pn**	**02 17 57.4**	**-1.6**
RUGZ				S	**S**	**02 18 22.0**	**-3.6**
EDRZ	**Edgecumbe**	**1.14**	**192**	P	**Pn**	**02 17 59.2**	**-0.1**
EDRZ				S	**S**	**02 18 28.2**	**+2.2**
MXZ	**Matakaoa Point**	**1.16**	**120**	Pn	**Pn**	**02 17 57.9**	**-1.3**
MXZ				Sn	**S**	**02 18 23.9**	**-2.0**
MXZ	**Matakaoa Point**	**1.16**	**120**	P	**Pn**	**02 17 58.1**	**-1.2**
MXZ	**Matakaoa Point**	**1.16**	**120**	P	**Pn**	**02 17 58.0**	**-1.3**
MXZ				S	**S**	**02 18 23.6**	**-2.4**
PKGZ	**Pakihiroa**	**1.20**	**137**	P	**Pn**	**02 17 59.1**	**-0.5**
PKGZ				S	**S**	**02 18 24.6**	**-2.0**
KARZ	**Kaharoa**	**1.21**	**212**	P	**Pn**	**02 17 59.9**	**+0.2**
OMRZ	**Omania**	**1.23**	**205**	P	**Pn**	**02 17 59.9**	**0.0**
URZ	**Urewera**	**1.27**	**178**	P	**Pn**	**02 17 59.1**	**-0.9**
	94nm,0.3s,baz=261,slow=3.5,SNR=522						
URZ				S	**S**	**02 18 24.7**	**-2.7**
	388nm,0.4s,baz=220,slow=22,SNR=18						
URZ	**Urewera**	**1.27**	**178**	P	**Pn**	**02 17 59.1**	**-0.9**
URZ	**Urewera**	**1.27**	**178**	P	**Pn**	**02 17 59.1**	**-0.9**
UTU	**Utuhina**	**1.36**	**209**	P	**Pn**	**02 18 01.3**	**+0.6**
WMGZ	**Waiomatatini S**	**1.37**	**128**	P	**Pn**	**02 18 00.1**	**-0.7**
WMGZ				S	**S**	**02 18 26.3**	**-2.4**
HLRZ	**Highlands Stat**	**1.37**	**203**	P	**Pn**	**02 18 01.2**	**+0.4**
RRRZ	**Republican Roa**	**1.41**	**197**	P	**Pn**	**02 18 01.1**	**0.0**
TOZ	**Tahuroa Road**	**1.43**	**239**		**Pn**	**02 18 01.2**	**0.0**
TOZ	**Tahuroa Road**	**1.43**	**239**	P	**Pn**	**02 18 01.3**	**0.0**
PUZ	**Puketiti**	**1.45**	**139**	P	**Pn**	**02 18 00.8**	**-0.6**
HSRZ	**Hossack Road**	**1.46**	**205**	P	**Pn**	**02 18 02.4**	**+0.9**
GRZ	**Great Barrier**	**1.48**	**300**	P	**Pn**	**02 17 59.8**	**-1.9**
MUGZ	**Murupara**	**1.50**	**188**	P	**Pn**	**02 18 01.3**	**-0.5**
MKAZ	**Moumakai**	**1.51**	**265**	P	**Pn**	**02 18 01.4**	**-0.5**
HRRZ	**Handcock Road**	**1.52**	**203**	P	**Pn**	**02 18 02.5**	**+0.5**
RAGZ	**Rawiri**	**1.53**	**169**	P	**Pn**	**02 18 01.7**	**-0.4**
WIAZ	**Waiheke Island**	**1.54**	**277**	P	**Pn**	**02 18 01.4**	**-0.8**
GRRZ	**Galatos Road**	**1.54**	**208**	P	**Pn**	**02 18 02.6**	**+0.5**
TKGZ	**Te Karaka**	**1.58**	**156**	P	**Pn**	**02 18 02.1**	**-0.3**
PRRZ	**Plateau Road**	**1.59**	**199**	P	**Pn**	**02 18 02.5**	**0.0**
RTZ	**Ruatahuna**	**1.62**	**182**		**Pn**	**02 18 02.1**	**-0.8**
RTZ				Sn	**S**	**02 18 30.4**	**-2.1**
RTZ	**Ruatahuna**	**1.62**	**182**	P	**Pn**	**02 18 02.3**	**-0.6**
ALRZ	**Allen Road**	**1.66**	**199**	P	**Pn**	**02 18 03.2**	**0.0**
ETAZ	**East Tamaki Re**	**1.69**	**271**	P	**Pn**	**02 18 03.0**	**-0.4**
MBAZ	**Motutapu North**	**1.73**	**277**	P	**Pn**	**02 18 03.2**	**-0.5**
CNGZ	**Carnagh Statio**	**1.75**	**149**	P	**Pn**	**02 18 04.0**	**+0.2**
KUTZ	**Kaahu Road**	**1.78**	**213**	P	**Pn**	**02 18 05.0**	**+0.8**
TLZ	**Tolley Road**	**1.79**	**221**	P	**Pn**	**02 18 05.2**	**+0.9**
SNGZ	**Shannon Statio**	**1.80**	**173**	P	**Pn**	**02 18 04.1**	**-0.2**
RIGZ	**Rimuhau**	**1.80**	**162**	P	**Pn**	**02 18 04.2**	**-0.2**
ABAZ	**Army Bay**	**1.82**	**282**	P	**Pn**	**02 18 03.9**	**-0.6**
EPAZ	**Eden Park BICE**	**1.85**	**273**	P	**Pn**	**02 18 04.3**	**-0.4**
HBAZ	**Herne Bay Bore**	**1.86**	**274**	P	**Pn**	**02 18 04.3**	**-0.5**
MTHZ	**Maungataniwha**	**1.86**	**185**	P	**Pn**	**02 18 04.4**	**-0.5**
MRHZ	**Matea Rd**	**1.91**	**195**	P	**Pn**	**02 18 05.2**	**-0.1**
AWAZ	**Awhitu Peninsu**	**1.92**	**267**	P	**Pn**	**02 18 04.9**	**-0.5**
RAHZ	**Arahi**	**1.92**	**179**	P	**Pn**	**02 18 05.4**	**-0.1**
WTAZ	**Waiatarua**	**1.98**	**271**	P	**Pn**	**02 18 05.5**	**-0.5**
RVAZ	**Riverhead Bore**	**1.99**	**276**	P	**Pn**	**02 18 05.2**	**-0.9**
WATZ	**Wairara**	**2.00**	**211**	P	**Pn**	**02 18 06.6**	**+0.4**
PRGZ	**Paritu Road**	**2.04**	**161**	P	**Pn**	**02 18 06.0**	**-0.5**
HATZ	**Hinemaiaia**	**2.04**	**201**	P	**Pn**	**02 18 06.6**	**+0.1**
KNZ	**Kokohu**	**2.09**	**166**	P	**Pn**	**02 18 06.5**	**-0.4**
WHHZ	**Waihua**	**2.09**	**176**	P	**Pn**	**02 18 06.9**	**0.0**
NMHZ	**Naumai**	**2.11**	**185**	P	**Pn**	**02 18 07.4**	**+0.1**
RATZ	**Rangitukua**	**2.12**	**208**	P	**Pn**	**02 18 07.7**	**+0.3**
RITZ	**Rihia Road**	**2.19**	**205**	P	**Pn**	**02 18 08.4**	**+0.3**
BKZ	**Black Stump Fm**	**2.21**	**191**		**Pn**	**02 18 07.3**	**-1.0**
BKZ	**Black Stump Fm**	**2.21**	**191**	P	**Pn**	**02 18 07.5**	**-0.8**
BKZ	**Black Stump Fm**	**2.21**	**191**	P	**Pn**	**02 18 07.5**	**-0.8**
KATZ	**Kakaramea**	**2.25**	**208**	P	**Pn**	**02 18 10.7**	**+1.9**
MHGZ	**Mahia Peninsul**	**2.26**	**163**	P	**Pn**	**02 18 08.4**	**-0.3**
ARHZ	**Aropaoanui**	**2.27**	**181**	P	**Pn**	**02 18 08.7**	**0.0**
HIZ	**Hauiti**	**2.31**	**228**	Pn	**Pn**	**02 18 10.2**	**+1.0**
HIZ	**Hauiti**	**2.31**	**228**	P	**Pn**	**02 18 09.2**	**+0.1**
HIZ	**Hauiti**	**2.31**	**228**	P	**Pn**	**02 18 10.0**	**+0.8**
TMVZ	**Te Maari**	**2.37**	**206**	P	**Pn**	**02 18 10.1**	**+0.2**
ETVZ	**East Tongariro**	**2.38**	**206**	P	**Pn**	**02 18 10.2**	**+0.1**
WTVZ	**West Tongariro**	**2.41**	**208**	P	**Pn**	**02 18 10.7**	**+0.4**
NNVZ	**North Ngauruho**	**2.42**	**207**	P	**Pn**	**02 18 10.7**	**+0.3**
WCZ	**Waipu Caves**	**2.42**	**295**	P	**Pn**	**02 18 08.8**	**-1.5**
OTVZ	**Oturere**	**2.43**	**206**	P	**Pn**	**02 18 10.9**	**+0.3**
TWVZ	**Taurewa**	**2.43**	**211**	P	**Pn**	**02 18 10.8**	**+0.3**
SNVZ	**South Ngauruho**	**2.46**	**206**	P	**Pn**	**02 18 11.2**	**+0.4**
NGZ	**Ngauruhoe**	**2.46**	**207**	P	**Pn**	**02 18 11.5**	**+0.6**
MCHZ	**McNeill Hill**	**2.46**	**186**	P	**Pn**	**02 18 10.7**	**0.0**
KWHZ	**Kaweka Forest**	**2.48**	**191**	P	**Pn**	**02 18 10.5**	**-0.4**
COVZ	**Chateau Observ**	**2.50**	**208**	P	**Pn**	**02 18 11.5**	**+0.3**
TUVZ	**Tukino**	**2.52**	**205**	P	**Pn**	**02 18 11.6**	**+0.1**
MAVZ	**Matarangi**	**2.56**	**207**	P	**Pn**	**02 18 12.1**	**0.0**
WHVZ	**Whangaehu Hut**	**2.56**	**206**	P	**Pn**	**02 18 11.8**	**-0.2**
TRVZ	**Turoa**	**2.59**	**207**	P	**Pn**	**02 18 12.7**	**+0.4**
WNVZ	**Wahianoa**	**2.59**	**206**	P	**Pn**	**02 18 12.0**	**-0.3**
MOVZ	**Moawhango**	**2.62**	**202**	P	**Pn**	**02 18 11.6**	**-0.9**
PKVZ	**Pokaka**	**2.66**	**210**	P	**Pn**	**02 18 12.7**	**-0.1**
CKHZ	**Cape Kidnapper**	**2.66**	**179**	P	**Pn**	**02 18 12.4**	**-0.4**
MTVZ	**Mangateitei**	**2.69**	**207**	P	**Pn**	**02 18 13.2**	**0.0**
KRHZ	**Kereru**	**2.71**	**191**	P	**Pn**	**02 18 12.5**	**-0.8**
VRZ	**Vera Road**	**2.79**	**220**	P	**Pn**	**02 18 15.2**	**+1.0**
KAHZ	**Kahuranaki**	**2.80**	**183**	P	**Pn**	**02 18 13.9**	**-0.4**
PNHZ	**Pukenui**	**2.99**	**193**	P	**Pn**	**02 18 15.4**	**-1.1**
PXZ	**Pawanui**	**3.04**	**183**	P	**Pn**	**02 18 16.0**	**-0.9**
WPHZ	**Waipukurau**	**3.10**	**189**	P	**Pn**	**02 18 16.7**	**-1.0**
DREZ	**Durham Road**	**3.14**	**225**	P	**Pn**	**02 18 19.7**	**+1.7**
TSZ	**Takapari Road**	**3.18**	**195**	P	**Pn**	**02 18 17.5**	**-1.1**
WAZ	**Wanganui**	**3.20**	**210**	P	**Pn**	**02 18 18.6**	**-0.2**
LREZ	**Lake Rotokare**	**3.23**	**219**	P	**Pn**	**02 18 19.9**	**+0.9**
NEZ	**North Egmont**	**3.25**	**225**	P	**Pn**	**02 18 21.3**	**+1.8**
PKE	**Pukeiti**	**3.26**	**227**	P	**Pn**	**02 18 21.2**	**+1.7**
PRHZ	**Porangahau**	**3.29**	**185**	P	**Pn**	**02 18 18.8**	**-0.9**
OUZ	**Omahuta**	**3.30**	**301**	P	**Pn**	**02 18 18.7**	**-1.3**
OUZ	**Omahuta**	**3.30**	**301**	P	**Pn**	**02 18 18.7**	**-1.3**
KHEZ	**Kahui Hut**	**3.31**	**225**	P	**Pn**	**02 18 20.3**	**+0.1**
KHEZ	**Kahui Hut**	**3.31**	**225**	P	**Pn**	**02 18 21.6**	**+1.4**
DVHZ	**Dannevirke**	**3.37**	**191**	P	**Pn**	**02 18 19.4**	**-1.4**
NBEZ	**Newall Road No**	**3.38**	**227**	P	**Pn**	**02 18 21.4**	**+1.3**
NMEZ	**Nama Road**	**3.47**	**225**	P	**Pn**	**02 18 24.2**	**+2.3**
OHWZ	**Ohakea**	**3.48**	**202**	P	**Pn**	**02 18 21.6**	**-0.3**
ANWZ	**Angora Road**	**3.49**	**187**	P	**Pn**	**02 18 21.2**	**-0.9**
POWZ	**Post Office Ro**	**3.54**	**196**	P	**Pn**	**02 18 21.4**	**-1.3**
PRWZ	**Pori Road**	**3.66**	**193**	P	**Pn**	**02 18 23.0**	**-1.1**
BFZ	**Birch Farm**	**3.74**	**189**		**Pn**	**02 18 23.0**	**-2.0**
BFZ	**Birch Farm**	**3.74**	**189**	P	**Pn**	**02 18 23.5**	**-1.5**
BFZ	**Birch Farm**	**3.74**	**189**	P	**Pn**	**02 18 23.6**	**-1.5**
MRZ	**Mangatainoka R**	**3.84**	**197**		**Pn**	**02 18 24.3**	**-1.9**
MRZ	**Mangatainoka R**	**3.84**	**197**	P	**Pn**	**02 18 24.3**	**-1.9**
TIWZ	**Tintock**	**3.88**	**193**	P	**Pn**	**02 18 25.5**	**-1.3**
CPWZ	**Castlepoint**	**3.97**	**189**	P	**Pn**	**02 18 27.4**	**-0.3**
HOWZ	**Holdsworth Sta**	**4.08**	**197**	P	**Pn**	**02 18 26.9**	**-2.2**
OGWZ	**Otaki Gorge**	**4.09**	**200**	P	**Pn**	**02 18 27.3**	**-1.9**
TMWZ	**Te Maipa**	**4.21**	**192**	P	**Pn**	**02 18 28.4**	**-2.2**
KIW	**Kapiti Island**	**4.21**	**203**	P	**Pn**	**02 18 28.4**	**-2.2**
MTW	**Mount Morrison**	**4.33**	**196**	P	**Pn**	**02 18 29.8**	**-2.4**
CAW	**Cannon Point**	**4.39**	**200**	P	**Pn**	**02 18 30.4**	**-2.4**
DUWZ	**D'Urville Isla**	**4.52**	**212**	P	**Pn**	**02 18 32.1**	**-2.3**
TRWZ	**Traveller**	**4.53**	**193**	P	**Pn**	**02 18 32.4**	**-2.0**
PAWZ	**Paruwai Farm**	**4.56**	**195**	P	**Pn**	**02 18 32.5**	**-2.5**
MSWZ	**Moikau Station**	**4.63**	**197**		**Pn**	**02 18 33.1**	**-2.6**
MSWZ	**Moikau Station**	**4.63**	**197**	P	**Pn**	**02 18 33.2**	**-2.6**
WEL	**Wellington**	**4.64**	**202**	P	**Pn**	**02 18 33.6**	**-2.2**
SNZO	**South Karori**	**4.68**	**202**		**Pn**	**02 18 34.1**	**-2.2**
SNZO	**South Karori**	**4.68**	**202**	P	**Pn**	**02 18 33.8**	**-2.5**
BHW	**Baring Head**	**4.72**	**200**		**Pn**	**02 18 34.2**	**-2.7**
BHW	**Baring Head**	**4.72**	**200**	P	**Pn**	**02 18 34.0**	**-2.9**
TCW	**Tory Channel**	**4.73**	**206**		**Pn**	**02 18 34.0**	**-3.0**
TCW	**Tory Channel**	**4.73**	**206**	P	**Pn**	**02 18 34.6**	**-2.4**
PLWZ	**Palliser**	**4.78**	**196**		**Pn**	**02 18 35.0**	**-2.7**
PLWZ	**Palliser**	**4.78**	**196**	P	**Pn**	**02 18 34.8**	**-2.9**
TUWZ	**Tuamarina**	**5.04**	**208**		**Pn**	**02 18 38.6**	**-2.3**
TUWZ	**Tuamarina**	**5.04**	**208**	P	**Pn**	**02 18 38.5**	**-2.3**
NNZ	**Nelson**	**5.09**	**213**		**Pn**	**02 18 38.5**	**-2.9**
NNZ	**Nelson**	**5.09**	**213**	P	**Pn**	**02 18 38.5**	**-2.9**
TKNZ	**Takaka Hill**	**5.14**	**217**	P	**Pn**	**02 18 37.9**	**-4.1**
QRZ	**Quartz Range**	**5.20**	**221**	Pn	**Pn**	**02 18 40.5**	**-2.3**
QRZ	**Quartz Range**	**5.20**	**221**	P	**Pn**	**02 18 40.0**	**-2.8**
QRZ	**Quartz Range**	**5.20**	**221**	P	**Pn**	**02 18 40.2**	**-2.6**
CMWZ	**Cape Campbell**	**5.23**	**204**	P	**Pn**	**02 18 42.5**	**-0.7**
BSWZ	**Blackbirch Sta**	**5.32**	**207**		**Pn**	**02 18 42.2**	**-2.1**
BSWZ	**Blackbirch Sta**	**5.32**	**207**	P	**Pn**	**02 18 42.0**	**-2.3**
MRNZ	**Matariki Terra**	**5.52**	**216**		**Pn**	**02 18 44.4**	**-2.4**
MRNZ	**Matariki Terra**	**5.52**	**216**	P	**Pn**	**02 18 44.1**	**-2.7**
THZ	**Tophouse**	**5.74**	**213**	Pn	**Pn**	**02 18 47.3**	**-2.4**
THZ	**Tophouse**	**5.74**	**213**	P	**Pn**	**02 18 47.1**	**-2.5**
KHZ	**Kahutara**	**6.05**	**205**		**Pn**	**02 18 50.9**	**-2.7**
KHZ	**Kahutara**	**6.05**	**205**	P	**Pn**	**02 18 50.7**	**-2.8**
KHZ	**Kahutara**	**6.05**	**205**	P	**Pn**	**02 18 50.8**	**-2.7**
DSZ	**Denniston Nort**	**6.24**	**219**	P	**Pn**	**02 18 52.4**	**-3.6**
GVZ	**Greta Valley S**	**6.71**	**206**	P	**Pn**	**02 18 59.1**	**-2.8**
LTZ	**Lake Taylor**	**6.85**	**211**		**Pn**	**02 19 01.1**	**-2.6**
LTZ	**Lake Taylor**	**6.85**	**211**	P	**Pn**	**02 19 00.4**	**-3.2**
AMCZ	**Amberley**	**7.03**	**207**	P	**Pn**	**02 19 04.0**	**-2.0**
INZ	**Inchbonnie**	**7.16**	**215**	P	**Pn**	**02 19 03.6**	**-4.0**
OKCZ	**Okains Bay**	**7.38**	**203**	P	**Pn**	**02 19 07.8**	**-2.6**
OXZ	**Oxford**	**7.40**	**210**	P	**Pn**	**02 19 07.1**	**-3.5**
MQZ	**McQueen's Vall**	**7.50**	**205**	P	**Pn**	**02 19 08.0**	**-3.8**
AKCZ	**Akaroa Harbour**	**7.56**	**203**	P	**Pn**	**02 19 10.0**	**-2.7**
RACZ	**Rakaia**	**7.70**	**208**	P	**Pn**	**02 19 11.3**	**-3.1**
MHCZ	**Mount Hutt**	**7.76**	**211**	P	**Pn**	**02 19 12.0**	**-3.3**
WVZ	**Waitaha Valley**	**7.76**	**217**	P	**Pn**	**02 19 12.2**	**-3.1**
WACZ	**Wakanui South**	**7.99**	**208**	P	**Pn**	**02 19 15.2**	**-3.0**
RPZ	**Rata Peaks**	**8.12**	**212**		**Pn**	**02 19 16.7**	**-3.2**
RPZ	**Rata Peaks**	**8.12**	**212**	P	**Pn**	**02 19 17.0**	**-2.9**
	35nm,0.4s,baz=317,slow=1.3,SNR=32						
RPZ				S		02 20 45.3	-6.7
	63nm,0.4s,baz=14,slow=11,SNR=16						
RPZ	**Rata Peaks**	**8.12**	**212**	P	**Pn**	**02 19 16.7**	**-3.2**
RPZ	**Rata Peaks**	**8.12**	**212**	P	**Pn**	**02 19 16.4**	**-3.4**
GCSZ	**Gaunt Creek Bo**	**8.14**	**217**	P	**Pn**	**02 19 17.2**	**-2.9**
ARCZ	**Arundel**	**8.26**	**211**	P	**Pn**	**02 19 18.3**	**-3.3**
FOZ	**Fox Glacier**	**8.55**	**218**	Pn	**Pn**	**02 19 22.6**	**-2.7**
FOZ	**Fox Glacier**	**8.55**	**218**	P	**Pn**	**02 19 22.5**	**-2.9**
TMZ	**Timaru**	**8.69**	**210**	P	**Pn**	**02 19 23.6**	**-3.6**
LBZ	**Lake Benmore**	**9.04**	**213**	P	**Pn**	**02 19 28.2**	**-3.3**
ODZ	**Otahua Downs**	**9.38**	**209**		**Pn**	**02 19 33.7**	**-2.2**
ODZ	**Otahua Downs**	**9.38**	**209**	P	**Pn**	**02 19 33.7**	**-2.2**
ODZ	**Otahua Downs**	**9.38**	**209**	P	**Pn**	**02 19 33.7**	**-2.2**
JCZ	**Jackson Bay**	**9.46**	**219**	P	Pn	02 19 32.4	-4.6
JCZ	**Jackson Bay**	**9.46**	**219**	P	**Pn**	**02 19 32.8**	**-4.2**
WKZ	**Wanaka**	**9.90**	**215**	P	**Pn**	**02 19 38.8**	**-3.8**
EAZ	**Earnscleugh**	**10.09**	**213**	P	**Pn**	**02 19 41.3**	**-3.6**
HHSZ	**Highcliff Hill**	**10.11**	**207**	P	**Pn**	**02 19 44.3**	**-0.9**
MSZ	**Milford Sound**	**10.32**	**219**	P	**Pn**	**02 19 43.7**	**-4.1**
TUZ	**Tuapeka**	**10.54**	**209**	P	**Pn**	**02 19 48.8**	**-1.8**
MLZ	**Matora Lakes**	**10.73**	**216**	P	**Pn**	**02 19 50.0**	**-3.1**
WHZ	**Wether Hill Ro**	**11.20**	**215**	P	**Pn**	**02 19 55.8**	**-3.3**
SYZ	**Scrubby Hill**	**11.21**	**209**	P	**Pn**	**02 19 57.5**	**-1.6**
SYZ	**Scrubby Hill**	**11.21**	**209**	P	**Pn**	**02 19 57.6**	**-1.5**
APZ	**The Paps**	**11.91**	**212**	P	**Pn**	**02 20 05.5**	**-2.5**
DZM	**Mont Dzumac**	**17.48**	**325**	P	**Pn**	**02 21 11.9**	**-3.7**
TOO	**Toolangi**	**25.06**	**259**	P	**P**	**02 22 29.6**	**+1.3**
TOO				IAmb	IAmb	02 22 57.9	
	comp=Z,7.2nm,1.1s						
BBOO	**Buckleboo**	**33.69**	**265**	P	**P**	**02

*MEX **25** 02:26:48.9±0.9, 14°.22N×92°.69W, h25$^{km}_{\pm}$29^{km}, MD4.0*
*GCG **25** 02:26:49.0±1.5, 14°.26N×92°.49W, h31$^{km}_{\pm}$9^{km}, MD3.4, MW3.0*

ISC 25 02:26:45.8±2.3,**14°.24N**±0°.09×**92°.67W**±0°.07,**h15**$^{km}_{\pm}$11^{km}, **n14**,σ1§**59**/22,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.77**	**30**	*eP*	**Pg**	**02 27 01.2**	**+0.3**
THIG				*eS*	**Sg**	**02 27 10.6**	**-0.5**
THIG		**0.77**	**30**	*i P*	**Pb**	**02 27 01.5**	**+0.5**
THIG				*i S*	**Sb**	**02 27 11.9**	**+0.6**
SMCA	**Catarina**	**0.84**	**43**	*i P*	**Pg**	**02 27 02.1**	**-0.1**
SMCA				*i S*	**Sg**	**02 27 12.4**	**-1.0**
RTAL	**Retalhuleu**	**0.99**	**73**	*eP*	**Pg**	**02 27 04.4**	**-0.5**
RTAL				*eS*	**Sb**	**02 27 16.6**	**-1.0**
PCIG		**1.55**	**340**	*eP*	**Pn**	**02 27 12.6**	**-0.3**
PCIG				*eS*	**Sn**	**02 27 30.6**	**-2.3**
FG16	**Alotenango, Sa**	**2.10**	**89**	*i P*	Pn	02 27 15.5	-5.2
CCIG	**Comitan**	**2.10**	**14**	*eP*	**Pn**	**02 27 21.8**	**+1.2**
CCIG				*eS*	**Sn**	**02 27 46.0**	**-0.6**
CCIG	**Comitan**	**2.10**	**14**	*i P*	**Pn**	**02 27 22.2**	**+1.6**
CCIG				*i S*	**Sn**	**02 27 49.0**	**+2.4**
TGIG		**2.56**	**350**	*eP*	**Pn**	**02 27 27.0**	**+0.1**
TGIG				*eS*	**Sn**	**02 27 55.3**	**-2.6**
TGIG		**2.56**	**350**	*i P*	**Pn**	**02 27 28.8**	**+1.9**
NUBE	**Las Nubes**	**2.83**	**96**	*i P*	**Pn**	**02 27 31.3**	**+0.7**
UXUV	**UXUV**	**3.38**	**335**	*eP*	**Pn**	**02 27 40.1**	**+2.0**
UXUV				*eS*	**Sn**	**02 28 15.2**	**-2.7**
CMIG	**Matias Romero**	**3.55**	**323**	*eP*	**Pn**	**02 27 42.2**	**+1.8**
CMIG				*eS*	Sn	02 28 15.7	-6.5
NEUV	**Arroyo Zacate**	**4.58**	**319**	*eP*	**Pn**	**02 27 56.0**	**+1.3**
NEUV				*eS*	Sn	02 28 37.2	-11

*IDC **25** 03:01:21.0±47.0, 16°.32S×177°.92W, h0^{km}, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=877.9km s-min=164.2km az=77.0*
*NEIC **25** 03:02:37.6±1.4, 17°.9S±0°.2×178°.3E±0°.2, h488$^{km}_{\pm}$12^{km}, mb4.4/13, Error ellipse: s-maj=40.2km s-min=17.9km az=140.0*

ISC 25 03:02:36.7±1.3,**18°.0S**±0°.2×**178°.5E**±0°.2,**h500**^{km},**n23**, σ1§**10**/23,**mb4.2/8**,**Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**0.45**	**299**	P	**P**	**03 03 36.0**	**-1.1**
FUTU	**Fugatoga**	**4.89**	**43**	P	**P**	**03 04 01.7**	**-1.1**
DZM	**Mont Dzumac**	**12.01**	**248**	P	**P**	**03 05 13.4**	**-2.1**
STKA	**Stephens Creek**	**36.01**	**240**	P	**P**	**03 08 56.6**	**+1.6**
STKA				IAmb	IAmb	03 09 26.4	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**36.01**	**240**	P	**P**	**03 08 56.6**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=95,slow=12,SNR=4.1						
	comp=Z,1.8nm,0.7s						
BBOO	**Buckleboo**	**40.78**	**240**	P	**P**	**03 09 34.4**	**+0.4**
BBOO				IAmb	IAmb	03 09 56.8	
	comp=Z,26nm,1.3s						
WR8	**Warramunga Arr**	**41.54**	**260**	P	**P**	**03 09 40.3**	**+0.1**
WB0	**Warramunga Arr**	**41.65**	**260**	P	**P**	**03 09 41.3**	**+0.2**
WB0				IAmb	IAmb	03 10 10.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**41.69**	**260**	P	**P**	**03 09 41.4**	**0.0**
	comp=Z,0.3nm,0.2s,baz=94,slow=7.9,SNR=5.9						
	comp=Z,0.3nm,0.2s						
AS31	**Alice Springs**	**41.91**	**254**	P	**P**	**03 09 43.9**	**+0.8**
ASAR	**Alice Springs**	**41.91**	**254**	P	**P**	**03 09 42.8**	**-0.2**
ASAR	**Alice Springs**	**41.91**	**254**	P	**P**	**03 09 43.8**	**+0.7**
	comp=Z,3.6nm,0.5s,baz=88,slow=8.1,SNR=73						
	comp=Z,3.6nm,0.5s						
DHH	**Diamond Head**	**45.39**	**32**	P	**P**	**03 10 11.4**	**+1.4**
KNRA	**Kununurra**	**47.52**	**265**	P	**P**	**03 10 26.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.08**	**261**	P	**P**	**03 10 45.1**	**-0.3**
SOEI	**Soe**	**53.09**	**271**	P	**P**	**03 11 09.2**	**+1.8**
SOEI				IAmb	IAmb	03 11 41.0	
	comp=Z,26nm,1.3s						
JCJ	**Chichijima**	**56.95**	**321**	P	**P**	**03 11 33.9**	**-0.1**
JCJ				IAmb	IAmb	03 11 36.8	
	comp=Z,18nm,0.9s						
MYLDM	**Lahad Datu**	**63.44**	**285**	P	**P**	**03 12 18.0**	**+0.6**
MAJO	**Matsushiro**	**66.20**	**325**	P	**P**	**03 12 34.4**	**-0.1**
MAJO				IAmb	IAmb	03 12 38.7	
	comp=Z,7.2nm,1.1s						
JNU	**Nakatsue**	**68.14**	**318**	P	**P**	**03 12 47.5**	**+1.0**
YOJ	**Yonaguni jima**	**68.54**	**306**	P	**P**	**03 12 47.2**	**-1.8**
WLF	**Walferdange**	**147.76**	**351**	PKPbc	**PKPbc**	**03 21 24.8**	**0.0**
CART	**Cartagena**	**160.43**	**359**	PKPdf	**PKPdf**	**03 21 37.9**	**-1.1**

*IDC **25** 03:04:22.0±0.8, 14°.29N×145°.30E, h159$^{km}_{\pm}$4^{km}, mb3.6/14, mbtmp4.1/14, Error ellipse: s-maj=28.6km s-min=11.6km az=84.0*
*NEIC **25** 03:04:24.4±1.3, 14°.18N±0°.04×144°.9E±0°.1, h165$^{km}_{\pm}$5^{km}, mb4.4/30, Error ellipse: s-maj=15.7km s-min=5.3km az=93.0*

ISC 25 03:04:21.9±0.5,**14°.23N**±0°.07×**145°.1E**±0°.1,**h150**^{km},**n55**, σ1§**29**/54,**mb4.2**/29,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.67**	**197**	P	Pn	03 04 48.0	+3.8
	2μm,0.3s,baz=168,slow=4.7,SNR=69						
GUMO				S	**Sn**	**03 05 05.3**	**+4.1**
	904nm,0.3s,baz=274,slow=22,SNR=22						
H11S3	**WAKE ISLAND Hy**	**21.17**	**76**	T	T	03 30 23.3	
	baz=263,slow=74,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**21.18**	**75**	T	T	03 30 24.2	
	baz=263,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**21.18**	**76**	T	T	03 30 47.7	
	baz=263						
FAKI	**Fak Fak**	**21.26**	**218**	P	**P**	**03 08 57.8**	**+1.3**
JMN	**Monobe**	**21.91**	**334**	P	**P**	**03 09 06.7**	**+3.5**
JMN				IAmb	IAmb	03 09 11.2	
	comp=Z,23nm,1.3s						
JNU	**Nakatsue**	**22.81**	**328**	P	**P**	**03 09 13.4**	**+1.4**
JNU				IAmb	IAmb	03 09 47.4	
	comp=Z,10nm,1.1s						
MJAR	**Matsushiro Arr**	**23.05**	**346**	P	**P**	**03 09 12.9**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=161,slow=9.3,SNR=6.2						
	comp=Z,2.4nm,0.8s						
MAJO	**Matsushiro**	**23.05**	**346**	P	**P**	**03 09 14.7**	**+0.6**
MAJO				IAmb	IAmb	03 09 19.6	
	comp=Z,8.5nm,1.0s						
MJB9	**Matsu-Tunnel**	**23.06**	**346**	P	**P**	**03 09 14.7**	**+0.5**
KSRS	**Korea Array**	**27.71**	**330**	P	**P**	**03 09 56.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=148,slow=9.6,SNR=5.5						
	comp=Z,0.6nm,0.6s						
KNRA	**Kununurra**	**33.81**	**209**	P	**P**	**03 10 48.4**	**-1.4**
WB0	**Warramunga Arr**	**35.38**	**198**	P	**P**	**03 11 02.9**	**-0.5**
WB0				IAmb	IAmb	03 11 03.5	
	comp=Z,4.3nm,0.5s						
WR8	**Warramunga Arr**	**35.53**	**197**	P	**P**	**03 11 04.4**	**-0.2**
WR8				IAmb	IAmb	03 11 26.0	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**35.56**	**198**	P	**P**	**03 11 04.7**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=24,slow=9.5,SNR=22						
WRA				PcP	**PcP**	**03 13 31.3**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=10,slow=2.9,SNR=7.9						
	comp=Z,1.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**37.40**	**211**	P	**P**	**03 11 20.4**	**-0.1**
AS31	**Alice Springs**	**39.21**	**196**	P	**P**	**03 11 35.5**	**-0.2**
AS31				IAmb	IAmb	03 11 37.0	
	comp=Z,2.3nm,0.4s						
ASAR	**Alice Springs**	**39.22**	**196**	P	**P**	**03 11 35.4**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=17,slow=12,SNR=54						
ASAR				PcP	**PcP**	**03 13 42.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=31,slow=2.5,SNR=5.6						
	comp=Z,1.3nm,0.4s						
PEA0B	**Petropavlovsk-**	**40.06**	**12**	P	**P**	**03 11 43.5**	**+1.2**
DZM	**Mont Dzumac**	**41.72**	**149**	P	**P**	**03 11 57.6**	**+1.3**
DZM				IAmb	IAmb	03 12 00.9	
	comp=Z,22nm,1.1s						
MBWA	**Marble Bar**	**43.08**	**216**	P	**P**	**03 12 06.4**	**-0.9**
MBWA				IAmb	IAmb	03 12 42.0	
	comp=Z,12nm,1.2s						
PSA00	**Pilbara Seismi**	**43.34**	**215**	P	**P**	**03 12 09.2**	**-0.1**
PSA00				IAmb	IAmb	03 12 23.1	
	comp=Z,7.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.37**	**282**	P	**P**	**03 12 18.5**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=101,slow=7.7,SNR=1.7						
	comp=Z,1.3nm,0.3s						
STKA	**Stephens Creek**	**45.96**	**184**	P	**P**	**03 12 29.9**	**-0.1**
STKA	**Stephens Creek**	**45.96**	**184**	P	**P**	**03 12 29.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=26,slow=8.9,SNR=4.0						
	comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**46.33**	**324**	P	**P**	**03 12 33.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=125,slow=8.0,SNR=3.5						
	comp=Z,0.7nm,0.6s						
BBOO	**Buckleboo**	**47.56**	**190**	P	**P**	**03 12 42.2**	**-0.1**
BBOO				IAmb	IAmb	03 12 43.2	
	comp=Z,23nm,1.2s						
KIWB	**Kanaga Island**	**48.17**	**31**	P	**P**	**03 12 48.1**	**+1.3**
MORW	**Morawa**	**51.38**	**213**	P	**P**	**03 13 10.3**	**-1.1**
QRZ	**Quartz Range**	**60.40**	**156**	P	**P**	**03 14 16.1**	**+0.7**
N15K	**Kwethluk River**	**60.61**	**28**	P	**P**	**03 14 16.6**	**+0.1**
N15K				IAmb	IAmb	03 14 33.0	
	comp=Z,6.7nm,1.3s						
MKAR	**Makanchi Array**	**61.17**	**316**	P	**P**	**03 14 21.0**	**+0.4**
MKAR	**Makanchi Array**	**61.17**	**316**	P	**P**	**03 14 20.9**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=104,slow=7.0,SNR=13						
	comp=Z,1.4nm,0.6s						
M16K	**Timber Creek**	**61.47**	**27**	P	**P**	**03 14 22.6**	**+0.3**
M16K				IAmb	IAmb	03 14 31.4	
	comp=Z,4.4nm,1.2s						
N17K	**Nushagak Hills**	**62.08**	**28**	P	**P**	**03 14 27.1**	**+0.7**
N17K				IAmb	IAmb	03 14 47.2	
	comp=Z,5.8nm,1.3s						
KURBB	**Kurchatov Arra**	**64.27**	**320**	P	**P**	**03 14 40.7**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=101,slow=6.7,SNR=25						
	comp=Z,2.5nm,0.7s						
CAST	**Castle Rocks**	**65.34**	**26**	P	**P**	**03 14 47.8**	**0.0**
PWL	**Port Wells**	**66.33**	**29**	P	**P**	**03 14 54.1**	**0.0**
PWL				IAmb	IAmb	03 15 06.4	
	comp=Z,6.2nm,1.1s						
ILAR	**Eielson Array**	**67.91**	**25**	P	**P**	**03 15 01.9**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=251,slow=5.6,SNR=11						
	comp=Z,0.5nm,0.6s						
KKAR	**Karatay Array**	**69.18**	**311**	P	**P**	**03 15 12.6**	**+0.3**
J26L	**Joseph Creek**	**69.25**	**26**	P	**P**	**03 15 12.2**	**-0.3**
BVAR	**Borovoye Array**	**69.55**	**322**	P	**P**	**03 15 13.8**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=106,slow=7.6,SNR=11						
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**76.20**	**318**	P	**P**	**03 15 52.9**	**-0.8**
M02C	**Callahan**	**82.27**	**49**	P	**P**	**03 16 28.4**	**+1.5**
YBH	**Yreka Blue Hor**	**82.31**	**49**	P	**P**	**03 16 27.9**	**+0.8**
PINE	**Pine Mountain**	**83.13**	**47**	P	**P**	**03 16 32.5**	**+1.1**
PINE				IAmb	IAmb	03 16 33.2	
	comp=Z,3.8nm,0.6s						
PLID	**Pearl Lake**	**86.23**	**45**	P	**P**	**03 16 46.4**	**-0.5**
ARCES	**ARCESS Array B**	**86.54**	**342**	P	**P**	**03 16 46.8**	**-0.8**
ARCES				IAmb	IAmb	03 17 27.6	
	comp=Z,7.4nm,1.4s						
ARCES	**ARCESS Array B**	**86.54**	**342**	P	**P**	**03 16 46.4**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=74,slow=8.9,SNR=10						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**90.67**	**335**	P	**P**	**03 17 04.9**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=76,slow=4.6,SNR=9.5						
	comp=Z,0.6nm,0.4s						
VNDA	**Vanda**	**92.09**	**176**	P	**P**	**03 17 11.8**	**-1.5**
	comp=Z,1.0nm,1.0s,baz=34,slow=1.7,SNR=4.1						
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**134.66**	**305**	PKPab	**PKiKP**	**03 23 23.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**134.66**	**305**	PKP	**PKiKP**	**03 23 23.6**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=54,slow=1.8,SNR=4.3						
DBIC	**Dimbokro**	**143.65**	**303**	PKP	**PKPdf**	**03 23 37.0**	**-3.0**
	comp=Z,2.1nm,0.4s,baz=79,slow=3.2,SNR=11						
LPAZ	**La Paz**	**147.92**	**98**	PKPbc	**PKPab**	**03 23 51.9**	**-2.3**
	comp=Z,1.2nm,0.5s,baz=282,slow=1.6,SNR=11						

*IDC **25** 03:32:46.5±7.3, 37°.29N×71°.90E, h122$^{km}_{\pm}$57^{km}, mb3.2/5, mbtmp3.8/9, Error ellipse: s-maj=67.0km s-min=49.6km az=148.0*
*NNC **25** 03:32:47.4±2.7, 37°.49N×71°.35E, h81$^{km}_{\pm}$52^{km}, mb3.9, mpv4.3, Error ellipse: s-maj=23.8km s-min=20.1km az=27.0*

ISC 25 03:32:46.5±1.6,**37°.4N**±0°.1×**71°.6E**±0°.1,**h109**^{km},**n31**, σ1§**82**/33,**mb3.7**/5,**5C-3D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.28**	**24**	P	**Pn**	**03 34 05.1**	**+1.7**
	SNR=32						
MRKS	**Merke**	**5.44**	**13**	Lg	Lg	03 35 05.5	
	40nm,0.4s						
EKS2	**Erkin-Say**	**5.47**	**17**	P	**Pn**	**03 34 08.0**	**+2.2**
	SNR=48						
AAK	**Ala-Archa**	**5.64**	**22**	P	**Pn**	**03 34 10.3**	**+2.2**
	49nm,0.4s,baz=185,slow=5.9,SNR=96						
AAK				S	**Sn**	**03 35 13.6**	**+2.0**
	17nm,0.5s,baz=146,slow=23,SNR=11						
AAK	**Ala-Archa**	**5.64**	**22**	P	**Pn**	**03 34 10.3**	**+2.2**
	SNR=57						
AAK	**Ala-Archa**	**5.64**	**22**	⇓P	**Pn**	**03 34 10.2**	**+2.0**
	8.9nm,0.4s						
AAK				⇓S	**Sn**	**03 35 14.2**	**+2.6**
	2.2nm,0.3s						
KK31	**Karatay Array**	**5.71**	**352**	⇑P	**Pn**	**03 34 10.0**	**+1.0**
	86nm,0.3s,baz=178,slow=13,SNR=836						
KK31				S	**Sn**	**03 35 12.2**	**-1.0**
	16nm,0.2s,baz=190,slow=26,SNR=8.6						
BRLS	**Boroldoy**	**5.74**	**347**	Lg	Lg	03 35 08.6	
	53nm,0.7s						
KBK	**Karagaybulak**	**5.80**	**25**	P	**Pn**	**03 34 12.1**	**+1.8**
	SNR=94						
CHMS	**Chumysh**	**6.05**	**22**	P	**Pn**	**03 34 15.3**	**+1.8**
	SNR=12						
USP	**Ospenovka**	**6.22**	**20**	P	**Pn**	**03 34 17.0**	**+1.1**
	SNR=14						
TKM2	**Tokmak 2**	**6.27**	**28**	P	**Pn**	**03 34 18.2**	**+1.6**
	SNR=37						
DGS	**Degeres**	**6.61**	**27**	P	**Pn**	**03 34 22.4**	**+1.3**
	19nm,0.7s						
MTBS	**Maitube**	**6.77**	**31**	P	**Pn**	**03 34 24.6**	**+1.2**
	15nm,0.6s						
KTBS	**Karatobe**	**7.36**	**30**	P	**Pn**	**03 34 31.3**	**0.0**
	2.9nm,0.6s						
BTLS	**Baital**	**7.81**	**13**	P	**Pn**	**03 34 38.1**	**+0.8**
	7.2nm,0.3s						
ARXS	**Arharly**	**8.24**	**33**	P	**Pn**	**03 34 42.6**	**-0.7**
	3.8nm,0.5s						
MK31	**Makanchi Array**	**12.25**	**37**	⇓P	**P**	**03 35 41.2**	**-3.7**
	0.2nm,0.3s,baz=224,slow=12,SNR=7.7						
MKAR	**Makanchi Array**	**12.25**	**37**	P	**Pn**	**03 35 35.3**	**-1.8**
	1.0nm,0.8s,baz=222,slow=14,SNR=6.7						
KURBB	**Kurchatov Arra**	**14.08**	**18**	P	**Pn**	**03 35 57.6**	**-3.3**
	1.6nm,0.4s,baz=207,slow=12,SNR=9.8						
KURBB	**Kurchatov Arra**	**14.08**	**18**	⇑P	**P**	**03 36 04.5**	**-0.6**
	3.0nm,0.7s						
AB31	**Akbulak array**	**14.52**	**328**	⇑P	**Pn**	**03 36 06.8**	**+0.3**
	1.0nm,0.4s,baz=142,slow=11,SNR=35						
AB31				S	**Sn**	**03 38 42.1**	**-4.4**
	5.5nm,0.6s,baz=155,slow=20,SNR=16						
BVA0	**Borovoye Array**	**15.61**	**357**	⇑P	**Pn**	**03 36 20.4**	**+0.2**
	2.2nm,0.6s,baz=154,slow=12,SNR=11						
BVAR	**Borovoye Array**	**15.61**	**357**	P	**Pn**	**03 36 19.6**	**-0.6**
	2.1nm,0.5s,baz=151,slow=11,SNR=9.9						
AKTO	**Aktyubinsk**	**16.23**	**327**	⇑P	**P**	**03 36 29.7**	**+0.7**
	2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**18.86**	**25**	P	**P**	**03 36 57.5**	**-0.3**
	2.0nm,0.3s,baz=218,slow=10,SNR=12						
FINES	**FINESS Array B**	**36.98**	**325**	P	**P**	**03 39 46.1**	**+1.1**
	0.9nm,0.7s,baz=109,slow=10,SNR=5.1						
	0.9nm,0.7s						
ARCES	**ARCESS Array B**	**40.46**	**337**	P	**P**	**03 40 14.9**	**+0.9**
	0.6nm,0.5s,baz=119,slow=8.1,SNR=6.7						
	0.6nm,0.5s						
HFS	**Hagfors**	**42.63**	**321**	P	**P**	**03 40 32.4**	**+0.6**
	1.2nm,0.5s,baz=103,slow=8.7,SNR=10						
	1.2nm,0.5s						
NOA	**NORSAR Array B**	**43.92**	**322**	P	**P**	**03 40 42.5**	**+0.3**
	0.5nm,0.8s,baz=112,slow=6.2,SNR=1.1						
	0.5nm,0.8s						
ESDC	**Sonseca Array**	**57.45**	**298**	P	**P**	**03 42 24.0**	**0.0**
	0.2nm,0.5s,baz=64,slow=6.4,SNR=1.7						
	0.2nm,0.5s						

*NEIC **25** 04:05:05.1±0.7, 3°.10N±0°.07×128°.5E±0°.2, h132$^{km}_{\pm}$7^{km}, mb4.1/10, Error ellipse: s-maj=25.1km s-min=10.2km az=82.0*
*IDC **25** 04:05:10.4±5.3, 3°.04N×128°.72E, h197$^{km}_{\pm}$55^{km}, mb3.4/12, mbtmp3.9/12, Error ellipse: s-maj=30.5km s-min=12.3km az=76.0*
*DJA **25** 04:05:14.0±0.8, 3°.N±6°.×12°.8E±°, h204$^{km}_{\pm}$5^{km}, M4.1/8, mB5.1/1, mb4.3/1, MLv4.0/8, Mw(mB)4.4/1*

ISC 25 04:05:11.1±0.6,**3°.02N**±0°.07×**128°.6E**±0°.1,**h200**^{km},**n29**, σ1§**07**/30,**mb3.9**/16,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.53**	**208**	P	**Pn**	**04 05 58.6**	**+3.2**
SGSI	**Sangihe**	**3.10**	**282**	P	**Pn**	**04 06 02.7**	**+0.7**
SGSI				S	**Sn**	**04 06 41.2**	**-0.5**
DAV	**Davao City (W)**	**5.01**	**324**	Pn	Pn	04 06 17.0	-8.6
KMSI	**Cibinong**	**5.18**	**242**	P	**Pn**	**04 06 28.6**	**+0.7**
SANI	**Sanana**	**5.65**	**207**	P	**Pn**	**04 06 33.5**	**-0.4**
KNRA	**Kununurra**	**18.57**	**179**	P	**P**	**04 09 12.2**	**-1.1**
KNRA				IAmb	IAmb	04 09 15.5	
	comp=Z,9.6nm,0.9s						
UGM	**Wanagama**	**21.02**	**239**	P	**P**	**04 09 39.5**	**0.0**
FITZ	**Fitzroy Crossi**	**21.18**	**188**	P	**P**	**04 09 39.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**21.18**	**188**	P	**P**	**04 09 40.0**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=15,slow=7.3,SNR=15						
	comp=Z,1.9nm,0.5s						
WB0	**Warramunga Arr**	**23.35**	**166**	P	**P**	**04 10 01.6**	**-0.1**
WB0				IAmb	IAmb	04 10 26.0	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**23.51**	**166**	P	**P**	**04 10 02.8**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=343,slow=10,SNR=12						
	comp=Z,0.7nm,0.5s						
WR8	**Warramunga Arr**	**23.56**	**166**	P	**P**	**04 10 03.6**	**0.0**
WR8				IAmb	IAmb	04 10 16.6	
	comp=Z,6.3nm,1.1s						
AS31	**Alice Springs**	**27.02**	**169**	P	**P**	**04 10 34.1**	**-0.8**
ASAR	**Alice Springs**	**27.02**	**169**	P	**P**	**04 10 34.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=355,slow=13,SNR=4.5						
ASAR				PcP	**PcP**	**04 13 51.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=341,slow=2.2,SNR=4.9						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.81**	**300**	P	**P**	**04 11 27.6**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=97,slow=6.5,SNR=6.5						
	comp=Z,0.8nm,0.3s						
KSRS	**Korea Array**	**34.28**	**359**	P	**P**	**04 11 38.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=174,slow=10,SNR=5.7						
	comp=Z,1.0nm,0.5s						
MJAR	**Matsushiro Arr**	**34.53**	**14**	P	**P**	**04 11 39.8**	**-0.7**
MJAR				IAmb	IAmb	04 12 14.5	
	comp=Z,3.5nm,1.4s						
MJAR	**Matsushiro Arr**	**34.53**	**14**	P	**P**	**04 11 39.5**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=186,slow=9.4,SNR=7.2						
	comp=Z,1.6nm,0.5s						
BBOO	**Buckleboo**	**36.33**	**169**	P	**P**	**04 11 56.4**	**+0.5**
STKA	**Stephens Creek**	**36.84**	**161**	P	**P**	**04 12 00.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=338,slow=8.5,SNR=3.6						
	comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**48.57**	**340**	P	**P**	**04 13 34.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=146,slow=8.0,SNR=2.1						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**59.19**	**325**	P	**P**	**04 14 51.0**	**-0.1**
MKAR	**Makanchi Array**	**59.19**	**325**	P	**P**	**04 14 51.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=122,slow=7.8,SNR=11						
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**63.33**	**327**	P	**P**	**04 15 18.6**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=126,slow=6.1,SNR=18						
	comp=Z,1.5nm,0.6s						
BVAR	**Borovoye Array**	**68.92**	**327**	P	**P**	**04 15 54.0**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=116,slow=6.6,SNR=7.0						
	comp=Z,1.5nm,0.6s						
ABKAR	**Akbulak array**	**73.86**	**321**	P	**P**	**04 16 22.7**	**-1.3**
H19K	**Roundabout Mou**	**81.07**	**24**	P	**P**	**04 17 05.1**	**+1.6**
H19K				IAmb	IAmb	04 17 20.6	
	comp=Z,3.5nm,1.2s						
D19K	**Kuna River**	**81.13**	**21**	P	**P**	**04 17 05.0**	**+1.2**
D19K				IAmb	IAmb	04 17 30.8	
	comp=Z,13nm,1.3s						
ARCES	**ARCESS Array B**	**91.75**	**340**	P	**P**	**04 17 54.2**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=75,slow=6.6,SNR=4.5						
	comp=Z,1.5nm,0.9s						

*SJA **25** 04:25:48.3±0.7, 20°.72S×68°.86W, h112$^{km}_{\pm}$4^{km}, ML3.7, MW3.7*
*GUC **25** 04:25:49.6±0.9, 20°.75S×68°.90W, h102$^{km}_{\pm}$4^{km}, ML3.7*
*IDC **25** 04:26:05.2±7.2, 19°.47S×67°.95W, h198$^{km}_{\pm}$45^{km}, mb3.6/1, mbtmp3.7/3, Error ellipse: s-maj=95.5km s-min=38.8km az=30.0*

**

AF01	**San Pedro de A**	**2.31**	**164**	*e*P		**Pn**	**04 26 28.8**	**+2.2**
AF01				*e*S		**Sn**	**04 26 55.2**	**+0.2**
AF01				IAML			04 27 22.6	
	comp=Z,156nm,0.6s							
PB05	**IPOC Station P**	**2.46**	**210**	*e*P		**Pn**	**04 26 28.5**	**+0.3**
PB05				IAML			04 27 06.7	
	comp=E,341nm,0.2s							
PB05	**IPOC Station P**	**2.46**	**210**	*e*P		**Pn**	**04 26 28.6**	**+0.3**
PB05				*e*S		Sn	04 26 48.4	-10
PB05				IAML			04 27 06.7	
	comp=Z,147nm,0.6s							
AP01	**Chacalluta**	**2.72**	**329**	*e*P		**Pn**	**04 26 35.4**	**+3.9**
AP01				IAML			04 27 16.4	
	comp=Z,504nm,0.2s							
PB10	**IPOC Station P**	**3.19**	**209**	*e*P		**Pn**	**04 26 38.0**	**+0.2**
PB10				IAML			04 27 27.4	
	comp=N,125nm,0.3s							
PB10	**IPOC Station P**	**3.19**	**209**	*e*P		**Pn**	**04 26 38.1**	**+0.3**
PB10				*e*S		Sn	04 27 27.6	+12
PB10				IAML			04 27 28.3	
	comp=Z,78nm,0.3s							
YJA	**Yavi**	**3.44**	**116**	*e*P		**Pn**	**04 26 43.7**	**+2.1**
LPAZ	**La Paz**	**4.46**	**9**	P		**Pn**	**04 26 57.7**	**+2.3**
	comp=Z,2.1nm,0.3s,baz=229,slow=5.4,SNR=24							
LPAZ				S		**Sn**	**04 27 38.6**	**-8.0**
	comp=Z,3.3nm,0.6s,baz=205,slow=6.4,SNR=4.6							
LPAZ	**La Paz**	**4.46**	**9**	*e*P		**Pn**	**04 26 58.1**	**+2.7**
SIV	**San Ignacio**	**8.77**	**59**	P		**Pn**	**04 27 50.6**	**-2.6**
	comp=Z,2.7nm,0.4s,baz=231,slow=13,SNR=29							
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P		**P**	**04 37 30.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=256,slow=5.3,SNR=14							
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**144.97**	**35**	PKP		**PKPdf**	**04 45 14.3**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=320,slow=3.2,SNR=4.3							

*CNRM **25** 04:42:34.3,35˚.97N×10˚.65W,h77km,ML2.9*
*MDD **25** 04:42:35.5±0.7,35˚.97N×10˚.67W,h39km±24km,Mb4.0/10, Error ellipse: s-maj=8.5km s-min=4.7km az=75.0*
*INMG **25** 04:42:36.8±1.6,35˚.98N×10˚.64W,h31km±15km,ML2.1, Error ellipse: s-maj=10.5km s-min=4.8km az=66.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Mar de Marrocos*
*IGIL **25** 04:42:36.0,35˚.97N×10˚.64W,h29km,ML2.1*

ISC 25 04:42:35.4±1.6,36˚.03N±0˚.05×10˚.58W±0˚.09,h35km,n77,
σ1§59/125,13C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.79**	**51**	P		**Pn**	**04 43 04.7**	**+0.9**
PFVI				S		**Sn**	**04 43 26.2**	**+0.8**
PFVI	**Vila Bisbo**	**1.79**	**51**	*e*P		**Pn**	**04 43 04.8**	**+1.0**
PFVI				*e*S		**Sn**	**04 43 26.1**	**+0.8**
PFVI				*i* IAML			04 43 26.9	
PFVI				*i* IAML			04 43 27.2	
PFVI				*i* IAML			04 43 27.2	
PFVI	**Vila Bisbo**	**1.79**	**51**	P		**Pn**	**04 43 04.9**	**+1.0**
PFVI	**Vila Bisbo**	**1.79**	**51**	S		**Sn**	**04 43 28.3**	**+2.9**
MORF	**Marmelete**	**2.01**	**50**	*e*P		**Pn**	**04 43 07.9**	**+1.1**
MORF				*e*S		**Sn**	**04 43 30.7**	**0.0**
MORF				IAML			04 43 34.4	
	comp=N,32nm,0.2s							
MORF	**Marmelete**	**2.01**	**50**	⇑*e*P		**Pn**	**04 43 07.9**	**+1.1**
MORF				*e*S		**Sn**	**04 43 30.7**	**0.0**
MORF				*i* IAML			04 43 32.0	
MORF				*i* IAML			04 43 34.2	
MORF				*i* IAML			04 43 34.4	
PTEO	**Sao Teotonio**	**2.12**	**44**	*e*P		**Pn**	**04 43 09.3**	**+0.9**
PTEO				*e*S		**Sn**	**04 43 34.3**	**+0.7**
PTEO				*i* IAML			04 43 35.4	
PTEO				*i* IAML			04 43 35.6	
PTEO				*i* IAML			04 43 42.2	
PBDV	**Barranco-do-Ve**	**2.45**	**60**	P		**Pn**	**04 43 14.1**	**+1.2**
PBDV				S		**Sn**	**04 43 42.8**	**+1.1**
PBDV	**Barranco-do-Ve**	**2.45**	**60**	⇑*e*P		**Pn**	**04 43 14.3**	**+1.3**
PBDV				*e*S		**Sn**	**04 43 42.0**	**+0.3**
PBDV				*i* IAML			04 43 43.3	
PBDV				*i* IAML			04 43 44.7	
PBDV				*i* IAML			04 43 57.9	
PCVE	**Castro Verde**	**2.59**	**51**	*e*P		**Pn**	**04 43 16.1**	**+1.2**
PCVE				*e*S		**Sn**	**04 43 46.1**	**+0.9**
PCVE				*i* IAML			04 43 47.9	
PCVE				*i* IAML			04 43 48.2	
PCVE				*i* IAML			04 43 48.4	
MESJ	**Messejana**	**2.62**	**46**	*e*P		**Pn**	**04 43 16.0**	**+0.8**
MESJ				*e*S		**Sn**	**04 43 45.3**	**-0.5**
MESJ				IAML			04 43 47.5	
	comp=E,3.6nm,0.2s							
MESJ	**Messejana**	**2.62**	**46**	*e*P		**Pn**	**04 43 16.1**	**+0.9**
MESJ				*e*S		**Sn**	**04 43 46.0**	**+0.2**
MESJ				*i* IAML			04 43 48.1	
MESJ				*i* IAML			04 43 49.2	
MESJ				*i* IAML			04 43 50.1	
PVAQ	**Vaqueiros**	**2.68**	**58**	P		**Pn**	**04 43 17.0**	**+1.0**
PVAQ	**Vaqueiros**	**2.68**	**58**	⇑*e*P		**Pn**	**04 43 17.3**	**+1.2**
PVAQ				*e*S		**Sn**	**04 43 47.5**	**+0.2**
PVAQ				*i* IAML			04 43 48.7	
PVAQ				*i* IAML			04 43 49.1	
PVAQ				*i* IAML			04 43 50.2	
EGRO	**El Granado**	**2.91**	**58**	P		**Pn**	**04 43 17.4**	**+1.3**
EGRO				S		**Sn**	**04 43 53.1**	**+0.2**
EGRO	**El Granado**	**2.91**	**58**	Pn		**Pn**	**04 43 20.2**	**+1.1**
EGRO				⇑*i*Vmb_VC			04 43 22.1	
	comp=E,212nm,SNR=1.8							
EGRO				Sn		**Sn**	**04 43 51.9**	**-0.9**
PBEJ	**Beja**	**2.95**	**47**	*e*P		**Pn**	**04 43 20.4**	**+0.6**
PBEJ				*e*S		**Sn**	**04 43 53.8**	**-0.1**
PBEJ				*i* IAML			04 43 55.6	
PBEJ				*i* IAML			04 43 55.7	
PBEJ				*i* IAML			04 43 57.0	
PARRA	**Arraiolos**	**3.04**	**23**	*e*P		Pn	04 43 26.9	+5.9
PARRA				*e*S		Sn	04 44 05.6	+9.4
PARRA				*i* IAML			04 44 07.5	
PARRA				*i* IAML			04 44 07.9	
PARRA				*i* IAML			04 44 09.9	
PMAFR	**Mafra**	**3.10**	**19**	P		**Pn**	**04 43 22.1**	**+0.3**
PMAFR				S		**Sn**	**04 43 57.7**	**0.0**
PMAFR	**Mafra**	**3.10**	**19**	*e*P		**Pn**	**04 43 22.2**	**+0.3**
PMAFR				*e*S		**Sn**	**04 43 57.2**	**-0.4**
PMAFR				*i* IAML			04 43 58.4	
PMAFR				*i* IAML			04 44 02.8	
PMAFR				*i* IAML			04 44 04.5	
EVO	**Evora**	**3.23**	**39**	P		**Pn**	**04 43 24.0**	**+0.3**
EVO				S		**Sn**	**04 44 00.3**	**-0.5**
EVO	**Evora**	**3.23**	**39**	*e*P		**Pn**	**04 43 24.2**	**+0.6**
EVO				*e*S		**Sn**	**04 44 00.5**	**-0.4**
EVO				*i* IAML			04 44 01.6	
EVO				*i* IAML			04 44 03.7	
EVO				*i* IAML			04 44 05.2	
PBAR	**Barrancos**	**3.55**	**52**	P		**Pn**	**04 43 29.1**	**+1.1**
PBAR				S		**Sn**	**04 44 09.1**	**+0.3**
PBAR	**Barrancos**	**3.55**	**52**	*e*P		**Pn**	**04 43 29.1**	**+1.1**
PBAR				*e*S		**Sn**	**04 44 08.6**	**-0.1**
PBAR				*i* IAML			04 44 10.8	
PBAR				*i* IAML			04 44 11.7	
PBAR				*i* IAML			04 44 12.7	
PMTG	**Montargil**	**3.56**	**31**	*e*P		**Pn**	**04 43 29.0**	**+0.8**
PMTG				*e*S		**Sn**	**04 44 08.3**	**-0.8**
PMTG				*i* IAML			04 44 10.5	
PMTG				*i* IAML			04 44 11.2	
PMTG				*i* IAML			04 44 13.9	
EMIN	**Mina Concepcio**	**3.58**	**60**	P		**Pn**	**04 43 29.3**	**+0.8**
EMIN				S		**Sn**	**04 44 09.2**	**-0.3**
EMIN	**Mina Concepcio**	**3.58**	**60**	Pn		**Pn**	**04 43 29.2**	**+0.8**
EMIN				⇑*i*Vmb_VC			04 43 30.2	
	comp=E,78nm,SNR=1.1							
EMIN				Sn		**Sn**	**04 44 08.9**	**-0.6**
PESTR	**Estremoz**	**3.70**	**39**	P		**Pn**	**04 43 30.8**	**+0.7**
PESTR				S		**Sn**	**04 44 10.1**	**+0.6**
PESTR	**Estremoz**	**3.70**	**39**	*e*P		**Pn**	**04 43 31.1**	**+1.0**
PESTR				*e*S		**Sn**	**04 44 12.1**	**-0.4**
PESTR				*i* IAML			04 44 14.7	
PESTR				*i* IAML			04 44 14.9	
PESTR				*i* IAML			04 44 16.1	
PESTR	**Estremoz**	**3.70**	**39**	P		**Pn**	**04 43 30.4**	**+0.3**
ESPR	**Espera**	**3.90**	**76**	S		**Sn**	**04 44 17.8**	**+0.5**
ESPR				P		**Pn**	**04 43 34.3**	**+1.5**
ESPR	**Espera**	**3.90**	**76**	Pn		**Pn**	**04 43 34.5**	**+1.7**
ESPR				⇑*i*Vmb_VC			04 43 34.7	
	comp=E,160nm,SNR=2.4							
ESPR				Sn		**Sn**	**04 44 16.3**	**-1.0**
EBAD	**Badajoz**	**3.93**	**45**	S		**Sn**	**04 44 17.1**	**-1.2**
EBAD				P		**Pn**	**04 43 33.3**	**0.0**
EBAD	**Badajoz**	**3.93**	**45**	Pn		**Pn**	**04 43 33.5**	**+0.2**
EBAD				⇑*i*Vmb_VC			04 43 34.2	
	comp=E,115nm,SNR=1.8							
EBAD				Sn		**Sn**	**04 44 16.4**	**-1.9**
PSARD	**Sardoal**	**4.05**	**28**	*e*P		**Pn**	**04 43 35.9**	**+1.0**
PSARD				*e*S		**Sn**	**04 44 20.6**	**-0.4**
PSARD				*i* IAML			04 44 22.9	
PSARD				*i* IAML			04 44 23.5	
PSARD				*i* IAML			04 44 23.6	
SRHM	**Skhour des Reh**	**4.19**	**147**	P		**Pn**	**04 43 37.2**	**+0.4**
SRHM	**Skhour des Reh**	**4.19**	**147**	S		**Sn**	**04 44 27.6**	**+3.0**
PMRV	**Marv??o**	**4.23**	**36**	*e*P		**Pn**	**04 43 38.2**	**+0.8**
PMRV				*e*S		**Sn**	**04 44 24.3**	**-1.3**
PMRV				*i* IAML			04 44 25.9	
PMRV				*i* IAML			04 44 26.2	
PMRV				*i* IAML			04 44 27.1	
SMIR	**Smir Dam**	**4.24**	**93**	P		**Pn**	**04 43 36.6**	**-0.9**
SMIR	**Smir Dam**	**4.24**	**93**	S		**Sn**	**04 44 23.7**	**-2.0**
PCAS	**Casmilo, Conde**	**4.34**	**22**	*e*S		**Sn**	**04 44 27.8**	**-0.5**
PCAS				*i* IAML			04 44 29.2	
PCAS				*i* IAML			04 44 29.4	
PCAS				*i* IAML			04 44 30.1	
PCBR	**Castelo Branco**	**4.53**	**32**	*e*P		**Pn**	**04 43 42.3**	**+0.8**
PCBR				*e*S		**Sn**	**04 44 31.7**	**-1.2**
PCBR				*i* IAML			04 44 35.6	
PCBR				*i* IAML			04 44 35.9	
PCBR				*i* IAML			04 44 39.2	
ECAB	**El Cabril**	**4.61**	**62**	P		**Pn**	**04 43 43.4**	**+0.8**
ECAB				S		**Sn**	**04 44 33.6**	**-1.2**
ECAB	**El Cabril**	**4.61**	**62**	Pn		**Pn**	**04 43 43.4**	**+0.8**
ECAB				⇑*i*Vmb_VC			04 43 51.2	
	comp=E,58nm,SNR=1.3							
ECAB				Sn		**Sn**	**04 44 32.0**	**-2.8**
MTE	**Manteigas**	**4.98**	**28**	*e*P		**Pn**	**04 43 48.6**	**+0.9**
MTE				*e*S		**Sn**	**04 44 42.9**	**-1.1**
MTE				*i* IAML			04 44 46.0	
MTE				*i* IAML			04 44 46.1	
MTE				*i* IAML			04 44 48.2	
PVIS	**Viseu**	**5.13**	**23**	*e*P		**Pn**	**04 43 50.8**	**+1.0**
EADA	**Adamuz**	**5.25**	**64**	P		**Pn**	**04 43 52.2**	**+0.7**
EADA				S		**Sn**	**04 44 49.1**	**-1.7**
EADA	**Adamuz**	**5.25**	**64**	Pn		**Pn**	**04 43 52.2**	**+0.7**
EADA				⇑*i*Vmb_VC			04 43 52.9	
	comp=E,64nm,SNR=2.0							
EADA				Sn		**Sn**	**04 44 48.1**	**-2.7**
OUK	**Oukaimeden**	**5.32**	**154**	P		**Pn**	**04 43 50.6**	**-2.0**
OUK	**Oukaimeden**	**5.32**	**154**	S		**Sn**	**04 44 49.8**	**-3.0**
EPLA	**Plasencia**	**5.37**	**40**	Pn		**Pn**	**04 43 53.7**	**+0.6**
EPLA				⇑*i*Vmb_VC			04 43 56.4	
	comp=E,65nm,SNR=1.5							
EPLA				Sn		**Sn**	**04 44 50.2**	**-3.5**
TISM	**Timmit**	**5.50**	**140**	P		**Pn**	**04 43 53.6**	**-1.3**
TISM	**Timmit**	**5.50**	**140**	S		**Sn**	**04 44 57.0**	**0.0**
AKLM	**AKL**	**5.70**	**103**	P		Pn	04 43 54.5	-3.1
AKLM	**AKL**	**5.70**	**103**	S		**Sn**	**04 45 00.5**	**-1.5**
MD31	**MD31**	**5.75**	**122**	P		**Pn**	**04 43 58.1**	**-0.3**
MD31	**MD31**	**5.75**	**122**	S		**Sn**	**04 45 03.1**	**-0.1**
POLO	**Lamas de Olo**	**5.76**	**21**	*e*P		**Pn**	**04 43 58.8**	**+0.2**
POLO				*e*S		**Sn**	**04 45 00.2**	**-3.2**
POLO				*i* IAML			04 45 03.0	
POLO				*i* IAML			04 45 03.6	
POLO				*i* IAML			04 45 04.0	
TIO	**Tiouine**	**5.79**	**150**	P		**Pn**	**04 43 57.7**	**-1.4**
TIO				S		**Sn**	**04 45 00.6**	**-3.8**
TIO	**Tiouine**	**5.79**	**150**	P		**Pn**	**04 43 58.3**	**-0.7**
TIO	**Tiouine**	**5.79**	**150**	S		**Sn**	**04 45 03.9**	**-0.5**
MVO	**Moncorvo**	**5.83**	**27**	*e*P		**Pn**	**04 43 59.2**	**-0.2**
MVO				*e*S		**Sn**	**04 45 02.9**	**-2.2**
MVO				*i* IAML			04 45 05.5	
MVO				*i* IAML			04 45 06.5	
MVO				*i* IAML			04 45 06.6	
MDT	**Midelt**	**5.89**	**121**	P		**Pn**	**04 43 59.8**	**-0.4**
MDT	**Midelt**	**5.89**	**121**	S		**Sn**	**04 45 06.0**	**-0.5**
PCAB	**Cabril**	**6.01**	**19**	*e*P		**Pn**	**04 44 01.6**	**-0.3**
PCAB				*e*S		**Sn**	**04 45 05.4**	**-4.1**
PCAB				*i* IAML			04 45 08.9	
PCAB				*i* IAML			04 45 12.1	
PCAB				*i* IAML			04 45 15.1	
OUZM	**OUZ**	**6.02**	**147**	P		**Pn**	**04 44 01.3**	**-0.8**
OUZM	**OUZ**	**6.02**	**147**	S		**Sn**	**04 45 10.5**	**+0.6**
PAB	**San Pablo**	**6.06**	**53**	Pn		**Pn**	**04 44 03.3**	**+0.7**
PAB				Sn		**Sn**	**04 45 06.4**	**-4.3**
PSIM	**Granatula de C**	**6.10**	**61**	Pn		**Pn**	**04 44 04.6**	**+1.4**
PSIM				Sn		**Sn**	**04 45 07.9**	**-3.9**
ELOB	**Lobios**	**6.15**	**18**	Pn		**Pn**	**04 44 04.8**	**+1.0**
ELOB				Sn		**Sn**	**04 45 09.3**	**-3.7**
PGAV	**Gavieira, Arco**	**6.20**	**16**	*e*P		**Pn**	**04 44 04.8**	**+0.3**
PGAV				*e*S		**Sn**	**04 45 10.2**	**-3.9**
PGAV				*i* IAML			04 45 14.3	
PGAV				*i* IAML			04 45 23.2	
PGAV				*i* IAML			04 45 26.8	
EQES	**Quesada**	**6.27**	**71**	Pn		**Pn**	**04 44 04.8**	**-0.7**
EQES				⇑*i*Vmb_VC			04 44 08.8	
	comp=E,68nm,SNR=1.8							
EQES				Sn		**Sn**	**04 45 14.7**	**-1.3**
EZAM	**Zamans**	**6.29**	**13**	Sn		**Sn**	**04 45 12.4**	**-3.8**
PBRG	**Braganca**	**6.50**	**26**	*e*S		**Sn**	**04 45 18.3**	**-3.1**
PBRG				*i* IAML			04 45 21.0	
PBRG				*i* IAML			04 45 21.2	
PBRG				*i* IAML			04 45 22.0	
ECAL	**Calabor**	**6.62**	**26**	Pn		**Pn**	**04 44 12.8**	**+2.5**
ECAL				Sn		**Sn**	**04 45 21.5**	**-3.0**
EAGO	**Agolada(Pontev**	**7.03**	**15**	⇑*i*Vmb_VC			04 44 15.5	
	comp=E,83nm,SNR=1.2							
EAGO				Pn		**Pn**	**04 44 15.7**	**-0.2**
EAGO				Sn		**Sn**	**04 45 30.0**	**-4.7**
UCM	**Universidad Co**	**7.18**	**51**	P		**Pn**	**04 44 18.9**	**+0.9**
UCM				S		**Sn**	**04 45 36.4**	**-2.0**

*IDC **25** 04:49:14.3±0.8,0˚.52N×125˚.97E,h0km,mb4.2/9, mbtmp4.1/10,ML3.7/1,MS3.2/3,Error ellipse: s-maj=46.8km s-min=15.1km az=77.0*
*DJA **25** 04:49:18.4±0.2,1˚.3×12˚.6E±˚,h10km,M4.2/18,mB4.9/1, mb4.2/7,MLv4.2/18,Mw(mB)4.2/1*
*NEIC **25** 04:49:19.9±1.3,0˚.6N±0˚.1×126˚.18E±0˚.07,h35km±2km, mb4.4/13,Error ellipse: s-maj=17.8km s-min=11.3km az=3.0*

ISC 25 04:49:20.5±0.6,0˚.55N±0˚.05×126˚.19E±0˚.06,h44km,n48,
σ1§13/46,mb4.3/14,MS3.1/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.20**	**79**			**Pn**	**04 49 39.9**	**-1.0**
TNTI	**Ternate**	**1.20**	**79**	P		**Pn**	**04 49 39.6**	**-1.2**
KMSI	**Cibinong**	**2.21**	**271**	P		**Pn**	**04 49 53.8**	**-0.9**
SANI	**Sanana**	**2.59**	**184**	P		**Pn**	**04 49 58.5**	**-1.5**
SGSI	**Sangihe**	**3.18**	**348**	P		**Pn**	**04 50 08.5**	**+0.4**
LUWI	**Luwuk**	**3.77**	**245**	Pn		Pn	04 50 20.0	+3.9
LUWI	**Luwuk**	**3.77**	**245**	P		**Pn**	**04 50 18.1**	**+2.8**
NLAI	**Namlea**	**3.87**	**166**	P		**Pn**	**04 50 17.5**	**-0.1**
MRSI	**Marisa**	**4.25**	**269**	P		**Pn**	**04 50 22.9**	**+0.1**
AAI	**Ambon**	**4.66**	**155**	P		**Pn**	**04 50 29.3**	**+0.8**
MSAI	**Masohi**	**4.74**	**145**	P		**Pn**	**04 50 32.1**	**+2.6**
APSI	**Ampana**	**4.77**	**252**	P		**Pn**	**04 50 29.6**	**-0.3**
TOLI2	**Tolitoli**	**5.44**	**276**			**Pn**	**04 50 38.1**	**-1.0**
KDI	**Kendari**	**5.73**	**219**	P		**Pn**	**04 50 42.9**	**-0.2**
FAKI	**Fak Fak**	**6.97**	**120**	Pn		**Pn**	**04 51 00.4**	**+0.3**
FAKI	**Fak Fak**	**6.97**	**120**	P		**Pn**	**04 51 00.5**	**+0.3**
	0.1nm32nm,1.4s							
TTSI	**Tana Toraja**	**7.30**	**241**	P		**Pn**	**04 51 04.4**	**-0.3**
	0.1nm776nm21nm,1.1s							
BNSI	**Bone**	**7.82**	**231**	P		**Pn**	**04 51 11.7**	**-0.1**
SPSI	**Sidrap Palu**	**7.83**	**235**	P		**Pn**	**04 51 12.5**	**+0.6**
MTN	**Manton Dam**	**14.18**	**160**	Pn		**Pn**	**04 52 36.8**	**-2.1**
KNRA	**Kununurra**	**16.32**	**171**	Pn		**Pn**	**04 53 06.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**18.54**	**182**	P		**P**	**04 53 33.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.54**	**182**	P		**P**	**04 53 33.1**	**-0.5**
	0.2nm,0.3s,baz=356,slow=6.8,SNR=8.5							
FITZ				S		Sn	04 56 49.1	-11
	2.9nm,1.1s,baz=174,slow=1.8,SNR=2.2							
	2.0nm,0.7s							
WB0	**Warramunga Arr**	**21.74**	**159**	P		**P**	**04 54 07.3**	**-1.0**
WB0				IAmb		IAmb	04 54 12.5	
	comp=Z,15nm,1.1s							
WRA	**Warramunga Arr**	**21.88**	**159**	P		**P**	**04 54 08.8**	**-1.0**
	comp=Z,7.1nm,0.6s,baz=339,slow=12,SNR=40							
WRA				S		**S**	**04 58 07.3**	**-2.0**
	comp=Z,0.5nm,0.9s,baz=139,slow=35,SNR=5.1							
	comp=Z,7.1nm,0.6s							
WR8	**Warramunga Arr**	**21.95**	**159**	P		**P**	**04 54 09.6**	**-1.0**
WR8				IAmb		IAmb	04 54 15.4	
	comp=Z,8.6nm,0.6s							
AS31	**Alice Springs**	**25.21**	**163**	P		**P**	**04 54 42.4**	**0.0**
AS31				IAmb		IAmb	04 54 44.5	
	comp=Z,3.7nm,0.3s							
ASAR	**Alice Springs**	**25.21**	**163**	P		**P**	**04 54 42.4**	**0.0**
ASAR	**Alice Springs**	**25.21**	**163**	P		**P**	**04 54 42.2**	**-0.2**
	comp=Z,3.3nm,0.4s,baz=345,slow=9.2,SNR=84							
ASAR				S		**S**	**04 59 06.3**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=354,slow=22,SNR=6.7							
	comp=Z,3.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**32.13**	**305**	LR		LR	05 09 31.4	
	comp=Z,23nm,18.5s,baz=215,slow=38							
BBOO	**Buckleboo**	**34.47**	**165**	P		**P**	**04 56 02.7**	**-1.6**
STKA	**Stephens Creek**	**35.40**	**157**	P		**P**	**04 56 12.3**	**0.0**
STKA	**Stephens Creek**	**35.40**	**157**	P		**P**	**04 56 12.3**	**0.0**
	comp=Z,1.9nm,0.4s,baz=342,slow=7.3,SNR=7.9							
	comp=Z,1.9nm,0.4s							
MJAR	**Matsushiro Arr**	**37.50**	**16**	P		**P**	**04 56 30.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=195,slow=10,SNR=2.7							
	comp=Z,0.7nm,0.5s							
PETK	**Petropavlovsk-**	**58.56**	**22**	P		**P**	**04 59 14.1**	**+1.5**
	comp=Z,3.6nm,1.0s,baz=195,slow=6.8,SNR=6.6							
	comp=Z,3.6nm,1.0s							
MKAR	**Makanchi Array**	**59.87**	**327**	P		**P**	**04 59 21.2**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=119,slow=8.0,SNR=26							
	comp=Z,2.0nm,0.5s							
MA2	**Magadan**	**61.90**	**14**	LR		LR	05 27 33.0	
	comp=Z,13nm,19.9s,baz=234,slow=37							
KURBB	**Kurchatov Arra**	**64.13**	**328**	P		**P**	**04 59 49.3**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=128,slow=6.4,SNR=8.5							
	comp=Z,0.9nm,0.4s							
KURK	**Kurchatov**	**64.13**	**329**	P		**P**	**04 59 49.6**	**-0.7**
KURK				IAmb		IAmb	04 59 51.5	
	comp=Z,3.2nm,0.6s							
AB31	**Akbulak array**	**74.27**	**321**	P		**P**	**05 00 52.6**	**-0.6**
ABKAR	**Akbulak array**	**74.27**	**321**	P		**P**	**05 00 52.8**	**-0.3**
VNDA	**Vanda**	**80.36**	**173**	P		**P**	**05 01 26.4**	**-0.4**
VNDA				IAmb		IAmb	05 01 49.0	
	comp=Z,2.7nm,1.4s							
VNDA	**Vanda**	**80.36**	**173**	P		**P**	**05 01 26.3**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=296,slow=6.6,SNR=4.0							
	comp=Z,0.4nm,0.6s							
D19K	**Kuna River**	**84.26**	**21**	P		**P**	**05 01 48.9**	**+1.5**
H19K	**Roundabout Mou**	**84.27**	**24**	P		**P**	**05 01 48.9**	**+1.6**
H19K				IAmb		IAmb	05 02 32.3	
	comp=Z,6.8nm,1.4s							
QSPA	**South Pole Qui**	**90.48**	**180**	P		**P**	**05 02 19.5**	**+2.0**
QSPA				IAmb		IAmb	05 02 42.6	
	comp=Z,4.8nm,1.3s							
QSPA	**South Pole Qui**	**90.48**	**180**	P		**P**	**05 02 19.0**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=299,slow=1.7,SNR=9.4							
	comp=Z,1.0nm,0.8s							
DLBC	**Dease Lake**	**96.73**	**31**	LR		LR	05 43 29.7	
	comp=Z,25nm,19.4s,baz=173,slow=34							

*SDD **25** 04:53:23.8±1.6,19˚.88N×71˚.20W,h31km±32km,MD3.4, ML2.5,MW2.9*
*OSPL **25** 04:53:24.6±1.1,19˚.81N×71˚.25W,h7km±999km,ML1.8*

ISC 25 04:53:22.3±1.5,19˚.9N±0˚.1×71˚.15W±0˚.06,h18km±6km,n10,
σ0§74/19,2C-9D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LOPP1	**Punta Rusia, P**	**0.05**	**259**	*i* P		**Pg**	**04 53 26.2**	**+0.6**
LOPP1				*e*S		**Sg**	**04 53 27.3**	**-0.6**
LOPP1				IAML			04 53 31.3	
	comp=Z,467nm,0.4s							
SC01	**Santiago de lo**	**0.59**	**138**	*i* P		**Pn**	**04 53 35.3**	**-0.5**
SC01				*e*S		**Sn**	**04 53 44.5**	**-0.4**
SC01				IAML			04 53 45.9	
	comp=Z,64nm,0.2s							
SC01	**Santiago de lo**	**0.59**	**138**	⇑*e*Pg		**Pb**	**04 53 34.6**

TWY	**Chenhua**	**0.49**	**325**	P		**Pn**	**05 02 00.2 0.0**	**JISG**	**Ishigakijimahi**	**2.20**	**97**	*eP*		**Pn**	**05 02 19.4 +0.7**	TEY			AMB	AMB	05 14 57.0
TWY				S		**Sn**	**05 02 14.0 +0.9**	JISG				*eS*		**Sn**	**05 02 45.4 -0.6**		60nm,0.6s				
TWS1	**Kuangyinshan**	**0.51**	**297**	*i* P		**Pn**	**05 02 00.7 +0.4**	**LDUT**	**Ludao**	**2.23**	**191**	*eP*		**Pn**	**05 02 18.8 -0.3**	TEY			*eS*	**S**	**05 15 28.1 -0.1**
TWS1				*i* S		**Sn**	**05 02 13.5 +0.3**	LDUT				*eS*		**Sn**	**05 02 45.0 -1.6**	TEY			A	A	05 15 28.9
NTST	**Danshui**	**0.51**	**305**	P		**Pn**	**05 02 00.6 +0.3**	**VWUC**	**VWUC**	**2.24**	**274**	*eP*		**Pn**	**05 02 19.3 +0.1**		240nm,0.8s				
NTST				S		**Sn**	**05 02 13.7 +0.4**	VWUC				*eS*		**Sn**	**05 02 45.5 -1.5**	TEY			A	A	05 15 28.9
YHNB	**Yeheng**	**0.53**	**248**	P		**Pn**	**05 02 00.3 -0.2**	**SCLT**	**Jiali**	**2.31**	**223**	*eP*		**Pn**	**05 02 20.2 +0.1**		150nm,0.8s				
YHNB	**Yeheng**	**0.53**	**248**	S		**Sn**	**05 02 12.9 -0.8**	SCLT				*eS*		**Sn**	**05 02 49.5 +1.0**	**JSS**	**Shosan**	**2.05**	**79**	*eP*	**Pn**	**05 14 56.7 +1.6**
YHNB	**Yeheng**	**0.53**	**248**	*eP*		**Pn**	**05 02 00.4 -0.1**	**SCST**	**Cishan**	**2.37**	**214**	*eP*		**Pn**	**05 02 22.2 +1.3**	JSS			*eS*	**S**	**05 15 31.6 +2.5**
YHNB				S		**Sn**	**05 02 12.6 -1.1**	**TSCK**	**Chigu Township**	**2.40**	**225**	*eP*		**Pn**	**05 02 21.7 +0.5**	**JEW**	**Eniwo**	**2.13**	**124**	⇓P	**Pn**	**05 14 57.3 +1.4**
EOS2	**EOS2**	**0.54**	**147**	*i* P		**Pn**	**05 02 01.0 +0.7**	TSCK				S		**Sn**	**05 02 50.6 +0.1**	JEW			⇓*e*S	**S**	**05 15 32.9 +2.4**
EOS2				S		**Sn**	**05 02 13.9 +0.6**	**SSD**	**Sandimen**	**2.42**	**209**	*eP*		**Pn**	**05 02 22.8 +1.2**	**JWK2**	**Keihoku**	**2.40**	**57**	P	**Pn**	**05 15 00.3 +2.0**
EAHA	**Aohua**	**0.56**	**196**	*eP*		**Pn**	**05 02 00.5 -0.2**	**PNG**	**Penghu**	**2.51**	**239**	*eP*		**Pn**	**05 02 22.4 -0.3**	**ASAJ**	**Asahikawa**	**2.57**	**87**	P	**Pn**	**05 15 01.1 +1.1**
EAHA				*eS*		**Sn**	**05 02 14.5 +0.6**	PNG				S		**Sn**	**05 02 51.8 -1.5**		131nm,0.3s,baz=283,slow=6.6,SNR=383				
NNSB	**Datong**	**0.65**	**228**	P		**Pn**	**05 02 01.7 +0.2**	**PHUB**	**P'eng-hu**	**2.53**	**238**	*eP*		**Pn**	**05 02 21.9 -1.0**	ASAJ			S	**S**	**05 15 39.7 +1.7**
NNSB				*i* S		**Sn**	**05 02 14.7 -0.6**	PHUB				*eS*		**Sn**	**05 02 51.8 -1.8**		105nm,0.7s,baz=126,slow=28,SNR=21				
NCUH	**Zhongli**	**0.67**	**278**	*eP*		**Pn**	**05 02 01.8 +0.4**	**MASBT**	**Mashibuluo**	**2.54**	**208**	*eP*		**Pn**	**05 02 24.1 +1.0**	**JKA**	**Kamikawa-asahi**	**2.57**	**87**		**Pn**	**05 15 01.0 +1.0**
NCUH				*i* S		**Sn**	**05 02 15.2 -0.2**	MASBT				*eS*		**Sn**	**05 02 54.6 +0.8**	JKA			Sn	**S**	**05 15 38.6 +0.5**
KSHI	**Guanxi Townshi**	**0.68**	**262**	*i* P		**Pn**	**05 02 01.9 +0.4**	**PTMZ**	**Houxiangcun**	**2.54**	**274**	*eP*		**Pn**	**05 02 23.0 -0.1**	**JOMM**	**Oshimamatsumae**	**2.62**	**164**	⇓P	**Pn**	**05 15 01.6 +0.9**
KSHI				*eS*		**Sn**	**05 02 15.4 0.0**	**JTJ**	**Tarama**	**2.54**	**95**	*eP*		**Pn**	**05 02 24.2 +1.1**	**JKK2**	**Kamakawa 2**	**2.69**	**93**	⇓P	**Pn**	**05 15 02.4 +1.2**
EOS3	**EOS3**	**0.69**	**148**	*eP*		**Pn**	**05 02 02.3 +0.9**	**WDGT**	**Dungji**	**2.61**	**233**	*eP*		**Pn**	**05 02 23.9 -0.1**	JKK2			⇓*e*S	**S**	**05 15 42.5 +2.2**
EOS3				*eS*		**Sn**	**05 02 15.9 +0.6**	**SCZT**	**Fangliau**	**2.76**	**206**	*eP*		**Pn**	**05 02 26.8 +0.9**	**JSE**	**Soyaes**	**2.70**	**69**	P	**Pn**	**05 15 02.6 +1.3**
NACB	**Ninganchiao**	**0.75**	**203**	P		**Pn**	**05 02 03.2 +1.0**	**VCHM**	**Qimei**	**2.81**	**234**	*eP*		**Pn**	**05 02 26.1 -0.6**	JSE			*eS*	**S**	**05 15 41.7 +1.4**
NACB	**Ninganchiao**	**0.75**	**203**	*eP*		**Pn**	**05 02 01.1 -1.0**	VCHM				*eS*		**Sn**	**05 02 58.5 -1.7**	**JOT**	**Ohata**	**3.05**	**150**	⇓*eP*	**Pn**	**05 15 05.0 -0.1**
NACB				*eS*		**Sn**	**05 02 15.6 -0.9**	**MHZQ**	**Yeshan**	**2.88**	**296**	*eP*		**Pn**	**05 02 28.1 +0.6**	**JNBK**	**Urakawa-nobuka**	**3.24**	**122**	*eP*	**Pn**	**05 15 07.5 +0.3**
ETL	**Fush Village**	**0.76**	**201**	*eP*		**Pn**	**05 02 02.5 +0.2**	**KNMB**	**Chin-men Tao**	**3.23**	**264**	*eP*		**Pn**	**05 02 32.0 -0.1**	JNBK			*eS*	**S**	**05 15 52.2 +1.1**
ETL				*eS*		**Sn**	**05 02 15.7 -1.0**	**AXDP**	**Jialang**	**3.58**	**271**	*eP*		**Pn**	**05 02 37.2 +0.4**	**JCH**	**Churui**	**3.47**	**113**	*eP*	**Pn**	**05 15 08.5 -1.1**
NFF	**Wufeng Townshi**	**0.76**	**252**	*i* P		**Pn**	**05 02 02.3 0.0**									JCH			*eS*	**S**	**05 15 52.4 -3.1**
NFF				*i* S		**Sn**	**05 02 15.8 -1.0**									**JAR**	**Ashorobuto**	**3.52**	**101**	⇓P	**Pn**	**05 15 11.0 +0.8**
ETLH	**Xiulin Townshi**	**0.77**	**211**	*eP*		**Pn**	**05 02 02.8 +0.4**									JAR			⇓*e*S	**S**	**05 15 57.2 +0.7**
ETLH				*eS*		**Sn**	**05 02 16.4 -0.6**									**JTM**	**Tenmabayashi**	**3.59**	**155**		**Pn**	**05 15 10.9 -0.3**
EOS4	**EOS4**	**0.83**	**154**	P		**Pn**	**05 02 16.6 +0.2**									JTM			Sn	**S**	**05 15 57.1 -1.1**
EOS4				*eS*		**Sn**	**05 02 16.3 -0.8**									**ERM**	**Erimo**	**3.64**	**123**		**Pn**	**05 15 11.9 +0.3**
TWD	**Chiawan**	**0.84**	**200**	*eP*		**Pn**	**05 02 02.8 -0.1**									**ERM**	**Erimo**	**3.64**	**123**	*ce*PN	**Pn**	**05 15 12.3 +0.6**
TWD				S		**Sn**	**05 02 16.6 -1.3**									ERM			pmax	pmax	
LIOB	**Emei**	**0.85**	**255**	*i* P		**Pn**	**05 02 03.4 +0.4**										comp=Z,406nm,1.7s				
LIOB				*eS*		**Sn**	**05 02 18.0 -0.1**									**KHLM**	**Kholmsk**	**3.68**	**34**	*eP*	**Pn**	**05 15 13.2 +1.3**
SBCB	**Hsinchu**	**0.85**	**265**	P		**Pn**	**05 02 03.4 +0.4**									KHLM			AMB	AMB	05 15 13.4
SBCB				*eS*		**Sn**	**05 02 17.8 -0.3**										comp=Z,1μm,0.5s				
HSN	**Hsinchu**	**0.86**	**266**	P		**Pn**	**05 02 02.9 -0.2**									**YSS**	**Yuzhno-Sakhali**	**3.91**	**41**		**Pn**	**05 15 15.2 +0.6**
HSN				*eS*		**Sn**	**05 02 17.5 -0.7**									**YSS**	**Yuzhno-Sakhali**	**3.91**	**41**	*a i*PN	**Pn**	**05 15 15.6 +1.0**
NSTT	**Nanjuang**	**0.86**	**254**	*i* P		**Pn**	**05 02 03.4 +0.3**									YSS			*eS*	**S**	**05 16 04.3 -0.2**
NSTT				*i* S		**Sn**	**05 02 17.7 -0.7**									YSS			pmax	pmax	
FUSS	**Fushou**	**0.87**	**225**	*eP*		**Pn**	**05 02 04.3 +0.8**										comp=Z,910nm,0.8s				
FUSS				*eS*		**Sn**	**05 02 19.3 +0.4**									YSS			smax	smax	
TWT	**Tachien**	**0.91**	**228**	*eP*		**Pn**	**05 02 04.8 +1.0**										comp=N,90nm,0.9s				
TWT				S		**Sn**	**05 02 20.1 +0.6**									YSS			smax	smax	
TDCB	**Techi**	**0.92**	**228**	*eP*		**Pn**	**05 02 04.6 +0.7**										comp=E,160nm,0.9s				
TDCB				S		**Sn**	**05 02 19.6 0.0**									**YSS**	**Yuzhno-Sakhali**	**3.91**	**41**	*i* P	**Pn**	**05 15 15.6 +1.0**
HWA	**Hwalien**	**0.93**	**198**	S		**Sn**	**05 02 19.3 -0.2**									YSS			AMB	AMB	05 15 16.8
WHF	**Hehuan Shan**	**0.93**	**219**	*eP*		**Pn**	**05 02 05.0 +0.7**										comp=E,1μm,0.5s				
WHF				*eS*		**Sn**	**05 02 19.9 -0.4**									YSS			*eS*	**S**	**05 16 05.4 +0.9**
LXIB	**Xiulin Townshi**	**0.96**	**208**	*eP*		**Pn**	**05 02 04.8 +0.5**									YSS			A	A	05 16 07.1
LXIB				*eS*		**Sn**	**05 02 19.5 -0.8**										comp=E,100nm,0.7s				
JYNG	**Yonagunijimaku**	**1.03**	**114**	*eS*		**Sn**	**05 02 20.8 -0.3**									YSS			A	A	05 16 07.1
WHP	**Taichung City**	**1.06**	**236**	P		**Pn**	**05 02 05.8 +0.6**										comp=E,50nm,0.7s				
WHP				*eS*		**Sn**	**05 02 21.8 -0.1**									**JANG**	**Nango**	**4.11**	**153**	P	**Pn**	**05 15 16.0 -1.1**
NMLH	**Miaoli**	**1.07**	**252**	*eP*		**Pn**	**05 02 05.9 +0.6**									**JAK**	**Akkeshi**	**4.25**	**102**	P	**Pn**	**05 15 18.1 -0.6**
NMLH				*i* S		**Sn**	**05 02 21.9 -0.1**									**AKK**	**Akkeshi**	**4.35**	**102**	*eP*	**Pn**	**05 15 19.2 -0.7**
YOJ	**Yonaguni jima**	**1.08**	**112**	P		**Pn**	**05 02 05.7 +0.4**									**JRA**	**Rausu**	**4.39**	**89**	P	**Pn**	**05 15 21.4 +1.0**
YOJ	**Yonaguni jima**	**1.08**	**112**	S		**Sn**	**05 02 21.6 -0.5**									**RUSJ**	**Misakicho**	**4.48**	**87**	*e*PN	**Pn**	**05 15 22.8 +1.4**
YOJ	**Yonaguni jima**	**1.08**	**112**	P		**Pn**	**05 02 05.5 +0.2**									RUSJ			S	**S**	**05 16 17.7 +1.0**
YOJ				*eS*		**Sn**	**05 02 21.9 -0.2**									**GLVR**	**Golovnino**	**4.70**	**92**	*e*PN	**Pn**	**05 15 24.6 +0.6**
YOJ	**Yonaguni jima**	**1.08**	**112**	*eP*		**Pn**	**05 02 05.5 +0.2**									GLVR			*i* S	**S**	**05 16 21.0 -0.5**
SHUL	**Shoufeng**	**1.12**	**197**	*eP*		**Pn**	**05 02 06.2 +0.4**									GLVR			pmax	pmax	
SHUL				*eS*		**Sn**	**05 02 22.8 -0.2**										comp=N,114nm,0.4s				
OWD	**Renai**	**1.13**	**217**	*eP*		**Pn**	**05 02 06.9 +0.9**									GLVR			pmax	pmax	
OWD				*i* S		**Sn**	**05 02 23.3 -0.1**										comp=Z,578nm,0.4s				
WUSB	**Renai**	**1.14**	**220**	*eP*		**Pn**	**05 02 07.2 +1.1**									GLVR			pmax	pmax	
WUSB				*eS*		**Sn**	**05 02 23.6 +0.1**										comp=E,170nm,0.5s				
ESL	**Shilin**	**1.14**	**203**	*eP*		**Pn**	**05 02 05.1 -0.9**									GLVR			smax	smax	
ESL				*eS*		**Sn**	**05 02 21.1 -2.2**										comp=N,1μm,0.2s				
NSY	**Sanyi**	**1.14**	**247**	P		**Pn**	**05 02 06.7 +0.7**									GLVR			smax	smax	
NSY				*i* S		**Sn**	**05 02 23.8 +0.5**										comp=E,955nm,0.3s				
WARBT	**Fenglin Townsh**	**1.24**	**203**	*eP*		**Pn**	**05 02 06.2 -1.0**									**GLVR**	**Golovnino**	**4.70**	**92**	*e*P	**Pn**	**05 15 24.6 +0.6**
WARBT				*i* S		**Sn**	**05 02 23.9 -1.5**									GLVR			AMB	AMB	05 15 25.1
WDJ	**Dajia District**	**1.27**	**246**	*eP*		**Pn**	**05 02 07.9 +0.5**										comp=E,580nm,0.4s				
WDJ				S		**Sn**	**05 02 26.1 +0.2**									GLVR			*i* S	**S**	**05 16 21.0 -0.5**
EGFH	**Guangfu**	**1.28**	**200**	*eP*		**Pn**	**05 02 08.0 +0.5**									GLVR			A	A	05 16 33.3
EGFH				*eS*		**Sn**	**05 02 24.2 -1.8**										comp=E,1μm,0.3s				
TCU	**Taichung**	**1.34**	**238**	*eP*		**Pn**	**05 02 08.8 +0.7**									GLVR			A	A	05 16 33.3
SMLT	**Sun Moon Lake**	**1.35**	**223**	P		**Pn**	**05 02 09.2 +0.8**										comp=E,960nm,0.3s				
SMLT				*eS*		**Sn**	**05 02 28.2 +0.6**									**NMR**	**Nemuro--Hokkai**	**4.90**	**96**	*e*PN	**Pn**	**05 15 24.9 -1.6**
SSLB	**Suanglung**	**1.39**	**219**	P		**Pn**	**05 02 09.9 +1.1**									NMR			*i* S	**S**	**05 16 20.6 -5.3**
SSLB	**Suanglung**	**1.39**	**219**	P		**Pn**	**05 02 09.7 +0.8**									**NMR**	**Nemuro--Hokkai**	**4.90**	**96**	*e*P	**Pn**	**05 15 24.9 -1.6**
SSLB				*i* S		**Sn**	**05 02 29.0 +0.7**									**NEM2**	**Nemuro 2**	**4.91**	**96**	*e*P	**Pn**	**05 15 25.1 -1.5**
HGSD	**Ruisui**	**1.44**	**198**	*eP*		**Pn**	**05 02 10.5 +1.2**									**YUK**	**Yuzh-Kuril'sk**	**4.92**	**88**	*e*PN	**Pn**	**05 15 26.8 +0.1**
HGSD				*eS*		**Sn**	**05 02 30.5 +1.1**									YUK			S	**S**	**05 16 27.7 +1.3**
EHY	**Hungye**	**1.46**	**202**	*eP*		**Pn**	**05 02 09.7 +0.1**									YUK			pmax	pmax	
EHYH	**Wanrong**	**1.47**	**201**	*eP*		**Pn**	**05 02 09.6 -0.1**										comp=Z,543nm,0.5s				
WNT	**Mingjian**	**1.50**	**229**	*eP*		**Pn**	**05 02 10.8 +0.9**									YUK			pmax	pmax	
WNT				*eS*		**Sn**	**05 02 30.7 +0.2**										comp=N,77nm,0.2s				
WJS	**Zhushan**	**1.50**	**226**	P		**Pn**	**05 02 11.1 +1.0**									YUK			pmax	pmax	
WJS				*i* S		**Sn**	**05 02 31.3 +0.7**										comp=E,57nm,0.2s				
WHYT	**Xinyi Township**	**1.52**	**220**	*i* P		**Pn**	**05 02 11.2 +0.9**									YUK			smax	smax	
WHYT				S		**Sn**	**05 02 31.8 +0.8**										comp=N,314nm,0.4s				
YULB	**Yu-li**	**1.58**	**201**	P		**Pn**	**05 02 11.0 0.0**									YUK			smax	smax	
YULB	**Yu-li**	**1.58**	**201**	S		**Sn**	**05 02 31.3 -0.9**										comp=E,611nm,0.4s				
YULB	**Yu-li**	**1.58**	**201**	*eP*		**Pn**	**05 02 11.1 +0.1**									**YUK**	**Yuzh-Kuril'sk**	**4.92**	**88**	*e*P	**Pn**	**05 15 27.6 +0.9**
YULB				*eS*		**Sn**	**05 02 30.9 -1.3**									YUK			AMB	AMB	05 15 27.8
ECBN	**Changbin**	**1.60**	**195**	*eP*		**Pn**	**05 02 11.3 0.0**										comp=E,590nm,0.4s				
ECBN				*eS*		**Sn**	**05 02 32.5 -0.3**									YUK			*eS*	**S**	**05 16 26.9 +0.5**
ALS	**Alishan**	**1.69**	**217**	*eP*		**Pn**	**05 02 13.7 +1.0**									YUK			A	A	05 16 27.3
ALS				*eS*		**Sn**	**05 02 35.8 +0.7**										comp=E,1μm,0.9s				
CHN5	**Tsauling**	**1.70**	**222**	P		**Pn**	**05 02 13.2 +0.7**									YUK			A	A	05 16 27.3
CHN5				S		**Sn**	**05 02 35.6 +0.6**										comp=E,620nm,0.9s				
WGK	**Gukeng**	**1.71**	**227**	*eP*		**Pn**	**05 02 13.1 +0.5**									**USA0B**	**Ussuriysk Arra**	**5.08**	**274**		**Pn**	**05 15 29.5 +0.9**
WDLH	**Douliu**	**1.72**	**227**	*eP*		**Pn**	**05 02 13.5 +0.8**									**USA0B**	**Ussuriysk Arra**	**5.08**	**274**	PN	**Pn**	**05 15 29.5 +0.9**
WDLH				S		**Sn**	**05 02 35.9 +0.6**									**USRK**	**Ussuriysk Ar.**	**5.08**	**274**	P	**Pn**	**05 15 29.6 +0.9**
CHKH	**Chenggong**	**1.74**	**196**	*eP*		**Pn**	**05 02 12.6 -0.3**										comp=E,70nm,0.6s,baz=84,slow=15,SNR=103				
CHKH				*eS*		**Sn**	**05 02 35.2 -0.4**									USRK			S	**S**	**05 16 30.6 +0.7**
IRIF	**Iriomote-Funau**	**1.74**	**108**	P		**Pn**	**05 02 13.4 +0.5**										comp=E,8.8nm,0.7s,baz=97,slow=23,SNR=1.3				
IRIF				*eS*		**Sn**	**05 02 35.0 -0.7**									**JMK**	**Ichinoseki**	**5.35**	**161**	P	**Pn**	**05 15 31.0 -1.1**
FULB	**Fuli**	**1.76**	**199**	*i* P		**Pn**	**05 02 14.0 +0.8**									**SHO**	**Shikotan**	**5.63**	**89**	*i* P	**Pn**	**05 15 37.4 +2.0**
FULB				*eS*		**Sn**	**05 02 36.1 -0.1**									SHO			AMB	AMB	05 15 39.8
WTK	**Tuku**	**1.82**	**230**	*eP*		**Pn**	**05 02 14.4 +0.4**										comp=E,70nm,0.5s				
WTK				*i* S		**Sn**	**05 02 37.4 -0.1**									SHO			*eS*	**S**	**05 16 41.5 -0.7**
EHD	**Haiduan**	**1.83**	**201**	*eP*		**Pn**	**05 02 14.1 0.0**									SHO			A	A	05 16 43.5
CHKT	**Chengkung**	**1.83**	**196**	*eP*		**Pn**	**05 02 14.7 +0.6**										comp=E,490nm,0.4s				
CHKT				*i* S		**Sn**	**05 02 35.5 -2.3**									SHO			A	A	05 16 43.5
WCKO	**Fanlu**	**1.86**	**220**	*i* P		**Pn**	**05 02 14.9 +0.4**										comp=E,370nm,0.4s				
WCKO				*i* S		**Sn**	**05 02 38.7 +0.3**									**JMM**	**Marumori**	**6.32**	**167**		**Pn**	**05 15 42.7 -1.4**
ELDTW	**Lidau**	**1.86**	**206**	*eP*		**Pn**	**05 02 15.1 +0.5**									**KUR**	**Kuril'sk**	**6.41**	**76**	*e*PN	**Pn**	**05 15 45.1 0.0**
ELDTW				*eS*		**Sn**	**05 02 39.6 +0.9**									KUR			S	**S**	**05 17 01.4 +1.6**
HATJ	**Hateruma jima**	**1.90**	**115**	*eS*		**Sn**	**05 02 38.5 -0.8**									KUR			pmax	pmax	
CHY	**Chiayi**	**1.93**	**225**	*i* P		**Pn**	**05 02 15.9 +0.7**										comp=Z,163nm,0.9s				
CHY				*i* S		**Sn**	**05 02 40.2 +0.3**									KUR			pmax	pmax	
CHN4	**Tsaushan**	**1.94**	**219**	*eP*		**Pn**	**05 02 16.5 +1.1**										comp=N,56nm,0.8s				
TPUB	**Ta-pu**	**1.96**	**217**	P		**Pn**	**05 02 16.3 +0.7**									KUR			pmax	pmax	
TPUB	**Ta-pu**	**1.96**	**217**	S		**Sn**	**05 02 40.7 +0.2**										comp=E,51nm,0.8s				
TPUB	**Ta-pu**	**1.96**	**217**	*i* P		**Pn**	**05 02 16.4 +0.8**									**KUR**	**Kuril'sk**	**6.41**	**76**	*e*P	**Pn**	**05 15 46.2 +1.1**
TPUB				*eS*		**Sn**	**05 02 41.2 +0.7**									KUR			AMB	AMB	05 15 48.1
EDH	**Donghe**	**1.97**	**197**	*eP*		**Pn**	**05 02 16.2 +0.4**										comp=E,370nm,0.8s				
EDH				*eS*		**Sn**	**05 02 40.2 -0.6**									KUR			*eS*	**S**	**05 17 01.4 +1.6**
WSF	**Szhu**	**1.97**	**232**	*eP*		**Pn**	**05 02 16.2 +0.4**									KUR			A	A	05 17 07.9
WSF				*eS*		**Sn**	**05 02 41.6 +0.8**										comp=E,130nm,0.7s				
WTP	**Ta-pu**	**2.01**	**217**	*eP*		**Pn**	**05 02 16.9 +0.6**									KUR			A	A	05 17 07.9
WTP				*eS*		**Sn**	**05 02 40.9 -0.8**										comp=E,110nm,0.7s				
JKRS	**Kuro-shima**	**2.01**	**108**	*eP*		**Pn**	**05 02 16.9 +0.6**									**MDJ**	**Mudanjiang**	**6.80**	**278**	P	**Pn**	**05 15 51.4 +1.4**
JKRS				*eS*		**Sn**	**05 02 41.7 0.0**									MDJ			S	**S**	**05 17 10.0 +1.3**
WSL	**Shuilin Townsh**	**2.04**	**229**	*eP*		**Pn**	**05 02 17.1 +0.4**									**GRNR**	**Gornyy**	**6.95**	**346**	⇓*i*PN	**Pn**	**05 15 52.3 +0.5**
WSL				*eS*		**Sn**	**05 02 41.6 -0.8**									GRNR			pmax	pmax	
TWK	**Hsinying**	**2.06**	**220**	*eP*		**Pn**	**05 02 17.4 +0.4**										comp=E,60nm,0.8s				
TWK				*eS*		**Sn**	**05 02 43.3 +0.3**									GRNR			pmax	pmax	
LONT	**Longtian**	**2.08**	**200**	*eP*		**Pn**	**05 02 18.3 +1.1**										comp=N,110nm,0.9s				
LONT				*eS*		**Sn**	**05 02 42.5 -0.8**									GRNR			pmax	pmax	
JIJ	**Ishigaki jima**	**2.09**	**104**	P		**Pn**	**05 02 17.6 +0.3**										comp=Z,120nm,0.8s				
JIJ				*eS*		**Sn**	**05 02 42.9 -0.7**									**GRNR**	**Gornyy**	**6.95**	**346**	*i* P	**Pn**	**05 15 52.3 +0.5**
SNST	**Tainan City**	**2.09**	**219**	*eP*		**Pn**	**05 02 17.6 +0.2**									GRNR			AMB	AMB	05 15 53.3
SNST				*eS*		**Sn**	**05 02 43.5 -0.1**										comp=Z,120nm,0.8s				
CHN1	**Nanshi**	**2.10**	**217**	*eP*		**Pn**	**05 02 18.3 +0.8**									**TYV**	**Tymovskoe**	**7.24**	**18**	*e*PN	**Pn**	**05 15 56.5 +1.1**
CHN1				*eS*		**Sn**	**05 02 43.9 +0.1**									TYV			*eS*	**S**	**05 17 19.4 +0.7**
CHN8	**Yiju**	**2.17**	**226**	*eP*		**Pn**	**05 02 18.8 +0.4**									TYV			pmax	pmax	
TWG	**Pinlang**	**2.18**	**201**	*eP*		**Pn**	**05 02 18.4 -0.1**										comp=Z,100nm,3.0s				
TWG				*eS*		**Sn**	**05 02 43.9 -1.7**									TYV			pmax	pmax	
TWGBT	**Beinan**	**2.18**	**201**	P		**Pn**	**05 02 21.1 +2.6**										comp=Z,12nm,1.0s				
TWGBT	**Beinan**	**2.18**	**201**	*eP*		**Pn**	**05 02 18.0 -0.5**									TYV			smax	smax	
TWGBT				*eS*		**Sn**	**05 02 44.1 -1.5**										comp=N,100nm,4.7s				
MATB	**Ma-tsu**	**2.19**	**306**	*eP*		**Pn**	**05 02 18.7 +0.2**									TYV			smax	smax	
																	comp=E,300nm,4.7s				
																TYV			smax	smax	
																	comp=N,6.0nm,1.4s				
																TYV			smax	smax	
																	comp=E,9.0nm,1.4s				
																TYV	**Tymovskoe**	**7.24**	**18**	*e*P	**Pn**	**05 15 56.6 +1.1**

*NEIC **25** 05:03:39.3±0.9, 17.6S±0.2×177.6W±0.1, h410km±11km, mb4.0/17, Error ellipse: s-maj=35.1km s-min=3.8km az=151.0*
*IDC **25** 05:03:42.2±3.0, 18.03S×178.02W, h405km±30km, mb3.2/7, mbtmp4.0/8, Error ellipse: s-maj=28.5km s-min=13.7km az=154.0*
ISC 25 05:03:39.0±0.6, 17.5S±0.2×177.7W±0.1, h400km, n36, σ1§60/37, mb3.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**3.18**	**352**	P	**Pn**	**05 04 43.1**	**-0.8**
MSVF	**Nonsavu**	**4.07**	**266**	P	**Pn**	**05 04 56.0**	**+4.1**
AFI	**Afiamalu**	**6.71**	**59**	P	**P**	**05 05 20.5**	**+0.3**
AFI	**Afiamalu**	**6.71**	**59**	S	**S**	**05 06 40.7**	**-0.9**
PINNC	**Pines Island,**	**14.87**	**247**	P	**P**	**05 06 50.4**	**+0.3**
DZM	**Mont Dzumac**	**15.61**	**250**	P	**P**	**05 06 57.8**	**-0.5**
DZM	**Mont Dzumac**	**15.61**	**250**	P	**P**	**05 06 57.4**	**-0.9**
	4.6nm,0.8s,baz=106,slow=7.4,SNR=1.4						
ARMA	**Armidale**	**30.75**	**240**	P	**P**	**05 09 18.9**	**-0.5**
ARMA				IAmb	IAmb	05 09 38.3	
	comp=Z,17nm,1.4s						
TOO	**Toolangi**	**37.97**	**231**	P	**P**	**05 10 19.5**	**-1.0**
TOO				IAmb	IAmb	05 10 26.8	
	comp=Z,5.3nm,1.1s						
STKA	**Stephens Creek**	**39.44**	**241**	P	**P**	**05 10 31.9**	**-0.6**
STKA	**Stephens Creek**	**39.44**	**241**	P	**P**	**05 10 31.0**	**-1.5**
	comp=Z,1.8nm,0.4s,baz=81,slow=9.4,SNR=9.1						
	comp=Z,1.8nm,0.4s						
BBOO	**Buckleboo**	**44.21**	**241**	P	**P**	**05 11 09.7**	**-0.9**
BBOO				IAmb	IAmb	05 11 28.6	
	comp=Z,8.6nm,1.1s						
WR8	**Warramunga Arr**	**45.23**	**259**	P	**P**	**05 11 18.0**	**-0.8**
WB0	**Warramunga Arr**	**45.35**	**259**	P	**P**	**05 11 18.9**	**

TYV AMB AMB 05 15 59.5
comp=E,100nm,3.0s
TYV AMB AMB 05 16 02.5
comp=E,10.0nm,0.7s
TYV eS S 05 17 19.4 +0.7
TYV A A 05 17 20.0
comp=E,100nm,4.7s
TYV A A 05 17 20.0
comp=E,300nm,4.7s
TYV A A 05 17 38.6
comp=E,10.0nm,0.4s
TYV A A 05 17 38.6
comp=E,10.0nm,0.4s
MJB9 Matsu-Tunnel 7.52 185 Pn **Pn 05 15 59.6 +0.3**
MAJO Matsushiro 7.53 185 **Pn 05 15 59.4 +0.1**
MAJO Matsushiro 7.53 185 PN **Pn 05 15 59.4 +0.1**
MJAR Matsushiro Arr 7.53 185 P **Pn 05 15 59.8 +0.5**
comp=E,24nm,0.7s,baz=5.3,slow=13,SNR=82
MJAR S **S 05 17 25.2 -0.5**
comp=E,3.4nm,0.3s,baz=2.8,slow=27,SNR=2.4
BNX BinXian 8.43 286 ⇑P **Pn 05 16 11.4 +0.9**
BNX S **S 05 17 43.3 -3.0**
BNX pmax pmax
comp=E,21nm,0.7s
JGF Kuroka 8.54 189 **Pn 05 16 12.2 +0.2**
INU Inuyama 8.83 191 **Pn 05 16 15.4 -0.3**
NKL Nikolayevsk 9.17 6 *e*P **Pn 05 16 19.6 -0.1**
NKL AMB AMB 05 16 19.7
comp=E,20nm,0.5s
CN2 Changchun 9.81 273 *e*P **Pn 05 16 28.4 +0.5**
CN2 pmax pmax
comp=E,30nm,0.9s
OKH Okha 9.85 14 *de*PN **Pn 05 16 28.2 0.0**
OKH *e*S **S 05 18 16.0 -2.9**
OKH Okha 9.85 14 *e*P **Pn 05 16 29.7 +1.5**
OKH AMB AMB 05 16 31.2
comp=E,60nm,0.4s
HEH HeiHe 10.05 312 *e*P **Pn 05 16 28.8 -2.1**
HEH pmax pmax
comp=E,29nm,0.8s
KSRS Korea Array 10.69 236 P **Pn 05 16 40.5 +1.4**
comp=E,19nm,0.8s,baz=50,slow=12,SNR=84
KSRS ScP **ScP 05 25 26.1 +1.7**
comp=E,1.2nm,0.8s,baz=58,slow=1.7,SNR=7.4
KS19 Wonju Array Si 10.70 236 **Pn 05 16 39.8 +0.6**
KSAR Wonju Array Be 10.72 236 **Pn 05 16 39.9 +0.4**
KSAR Wonju Array Be 10.72 236 PN **Pn 05 16 39.9 +0.4**
JHJ Hachijo jima 2 10.93 177 P **Pn 05 16 38.9 -3.2**
comp=E,60nm,0.3s,baz=317,slow=19,SNR=26
JHJ S S 05 18 34.2 -10
comp=E,108nm,0.3s,baz=87,slow=23,SNR=12
JMN Monobe 11.06 203 **Pn 05 16 42.9 -0.9**
INCN Inchon 11.46 239 Pn **Pn 05 16 48.8 +0.1**
INCN Inchon 11.46 239 PN **Pn 05 16 48.8 +0.1**
TJN Taejon 11.75 233 **Pn 05 16 52.9 +0.6**
TJN Taejon 11.75 233 PN **Pn 05 16 52.9 +0.6**
ZEA Zeya 12.40 326 *e*PN **Pn 05 16 59.6 -0.5**
ZEA pmax pmax
comp=Z,100nm,1.3s
ZEA pmax pmax
comp=E,40nm,0.5s
ZEA pmax pmax
comp=N,30nm,0.7s
ZEA pmax pmax
comp=Z,110nm,0.6s
ZEA Zeya 12.40 326 *e*P **Pn 05 17 00.0 -0.1**
ZEA AMB AMB 05 17 04.0
comp=Z,90nm,0.4s
JNU Nakatsue 12.63 213 **Pn 05 17 03.5 +0.3**
JNU Nakatsue 12.63 213 P **P 05 17 04.8 -0.6**
comp=Z,38nm,0.7s,baz=8.5,slow=3.7,SNR=37
SKR Severo-Kuril's 13.33 54 *e*P **P 05 17 13.6 +0.8**
SKR AMB AMB 05 17 15.5
comp=E,60nm,0.6s
DL2 Dalian 14.02 254 P **P 05 17 21.5 +0.9**
DL2 pmax pmax
comp=Z,62nm,1.1s
PAU Pauzhetka 14.05 52 *e*P **P 05 17 21.8 +1.1**
PETK Petropavlovsk- 15.28 47 P **P 05 17 33.4 -0.9**
comp=Z,6.5nm,0.7s,baz=207,slow=9.3,SNR=5.5
JCJ Chichijima 17.11 170 P **Pn 05 17 55.9 -1.0**
comp=Z,30nm,0.3s,baz=40,slow=18,SNR=5.2
JCJ S **S 05 20 55.9 -3.8**
comp=Z,39nm,0.3s,baz=294,slow=22,SNR=5.8
MA2 Magadan 17.11 21 **P 05 17 54.3 0.0**
MA2 Magadan 17.11 21 P **P 05 17 54.3 0.0**
comp=Z,27nm,0.6s,baz=205,slow=14,SNR=9.9
MA2 Magadan 17.11 21 *d i*P **P 05 17 53.6 -0.7**
MA2 pmax pmax
comp=Z,30nm,0.7s
MA2 Magadan 17.11 21 P **P 05 17 53.7 -0.6**
comp=Z,368nmcomp=Z,52nm,0.9s
TIA Tai'an 18.46 252 P **P 05 18 08.6 -0.6**
TIA pmax pmax
comp=Z,13nm,0.8s
YAK Yakutsk 18.83 346 P **P 05 18 10.9 -1.9**
YAK Yakutsk 18.83 346 P **P 05 18 10.9 -1.9**
comp=Z,109nm,0.7s,baz=354,slow=7.4,SNR=28
YAK S **S 05 21 27.6 -5.4**
comp=Z,8.8nm,0.4s,baz=201,slow=23,SNR=7.6
YAK Yakutsk 18.83 346 *d i*P **P 05 18 10.7 -2.1**
YAK *e*S **S 05 21 28.8 -4.2**
YAK pmax pmax
comp=Z,103nm,0.9s
YAK pmax pmax
comp=N,39nm,1.0s
YAK pmax pmax
comp=E,16nm,1.1s
YAK smax smax
comp=N,119nm,2.0s
YAK smax smax
comp=E,57nm,1.9s
JOW Kunigami 19.26 210 P **Pn 05 18 20.4 -1.6**
comp=E,26nm,0.3s,baz=52,slow=4.8,SNR=5.8
HNS HongShan 19.56 259 ⇑P **P 05 18 21.9 +1.0**
HNS pmax pmax
comp=E,14nm,0.8s
SEY Seymchan 20.43 18 P **P 05 18 29.1 -0.9**
comp=E,8.1nm,0.6s,baz=214,slow=8.9,SNR=32
comp=E,8.1nm,0.6s
SEY Seymchan 20.43 18 *e*P **P 05 18 26.6 -3.3**
SEY pmax pmax
comp=Z,8.0nm,0.8s
HHC Hu-ho-hao-te 20.49 271 *e*P **P 05 18 30.6 -0.3**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,58nm,5.0s
BOD Bodaibo 20.78 320 *e*P **P 05 18 30.9 -2.7**
BOD pmax pmax
comp=Z,20nm,1.1s
ULN Ulaanbaatar 22.47 291 **P 05 18 49.2 -0.6**
ULN Ulaanbaatar 22.47 291 P **P 05 18 49.2 -0.6**
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 22.47 291 *e*P **P 05 18 49.2 -0.6**
LYN LuoYang 22.56 254 P **P 05 18 50.8 +0.2**
LYN pmax pmax
comp=Z,17nm,0.6s
SONM Songino Array 22.91 291 **P 05 18 53.5 -0.3**
SONM Songino Array 22.91 291 P **P 05 18 53.6 -0.3**
comp=Z,12nm,0.6s,baz=87,slow=9.1,SNR=47
SONM S **S 05 22 43.8 -0.6**
comp=Z,0.7nm,0.6s,baz=94,slow=19,SNR=2.3
SONM ScP **ScP 05 25 49.8 +0.8**
comp=Z,0.8nm,0.5s,baz=96,slow=1.5,SNR=4.4
comp=Z,12nm,0.6s
WHN Wuhan 23.71 244 P **P 05 19 03.4 +2.3**
SMY Shemya 24.64 57 P **P 05 19 10.5 +1.3**
SMY Shemya 24.64 57 P **P 05 19 10.5 +1.3**
SMY pmax pmax
comp=Z,24nm,0.8s
ZAK Zakamensk 24.92 297 *e*P **P 05 19 11.4 -0.6**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
ZAK Zakamensk 24.92 297 *e*P **P 05 19 11.4 -0.6**
TPUB Ta-pu 25.64 222 P **P 05 19 18.2 -0.4**
AMKA Amchitka 27.78 60 **P 05 19 38.1 +0.8**
BILL Bilibino 27.98 22 ǁ *i*P **P 05 19 40.3 +1.5**
BILL pmax pmax
comp=Z,2.0nm,0.4s
BILL Bilibino 27.98 22 *e*P **P 05 19 40.3 +1.5**
TIXI Tiksi 28.11 353 IAmb IAmb 05 19 38.3
TIXI
comp=Z,6.9nm,1.1s
TIXI Tiksi 28.11 353 ⇑ *e*P **P 05 19 37.8 -2.2**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
KIWB Kanaga Island 29.98 59 P **P 05 19 56.8 +0.1**
GAMB Gambell 33.92 37 P **P 05 20 29.7 -1.1**
baz=258
SPIA Saint Paul Isl 33.93 49 P **P 05 20 29.5 -1.5**
baz=269
P08K Saint George I 34.31 50 P **P 05 20 32.9 -1.4**
baz=271
PZH PanZhiHua 34.76 252 P **P 05 20 37.8 -0.8**
NIKH Nikolski High 34.95 56 P **P 05 20 38.6 -1.1**
baz=277
TNA Tin City 35.86 35 P **P 05 20 45.3 -1.9**
baz=260
ZAA0 Zalesovo Array 36.09 306 **P 05 20 49.8 +0.4**
ZALV Zalesovo Beam 36.09 306 **P 05 20 49.8 +0.4**
ZALV Zalesovo Beam 36.09 306 P **P 05 20 49.5 +0.1**
comp=Z,22nm,0.5s,baz=89,slow=9.0,SNR=91
ZALV PcP **PcP 05 23 10.0 +0.7**
comp=Z,2.0nm,0.5s,baz=64,slow=3.4,SNR=4.3
ZALV ScP **ScP 05 26 31.7 +0.7**
comp=Z,2.1nm,0.6s,baz=92,slow=2.9,SNR=8.4
comp=Z,22nm,0.5s
M11K Mekoryuk 36.10 44 P **P 05 20 48.2 -1.1**
baz=268
UNV Unalaska Valle 36.24 55 P **P 05 20 49.3 -1.4**
baz=277
WMQ Urumqi 36.48 288 *e*P **P 05 20 51.6 -1.3**
WMQ pmax pmax
comp=Z,62nm,0.7s
WMQ LR LR
comp=Z,520nm,13.3s
WMQ LR LR
comp=Z,430nm,14.1s
WMQ LR LR
comp=Z,140nm,18.5s
F14K Arctic Creek 36.50 35 P **P 05 20 51.0 -1.8**
baz=261
ANM Nome 36.78 37 P **P 05 20 53.6 -1.5**
baz=263
SLVN Son La 36.83 243 **P 05 20 58.7 +2.6**
K13K Kusilvak Mount 36.90 41 P **P 05 20 55.2 -0.9**
baz=268
F15K North Star Dit 37.23 35 P **P 05 20 57.6 -1.2**
baz=263
ZSN Zaisan 37.31 295 *e*P **P 05 21 00.4 +0.6**
ZSN Zaisan 37.31 295 *e*P **P 05 21 00.4 +0.6**
C16K Lisburne Hills 37.38 30 P **P 05 20 58.8 -1.1**
baz=259
G15K Niukluk 37.40 36 P **P 05 20 59.0 -1.2**
baz=264
J14K Nanvaranak Lak 37.45 40 P **P 05 20 59.2 -1.5**
baz=268
M13K Dall Lake 37.51 43 P **P 05 20 59.6 -1.6**
baz=271
L14K Kuka Creek 37.83 42 P **P 05 21 02.4 -1.5**
baz=270
D17K Noatak River 38.12 32 P **P 05 21 05.0 -1.2**
baz=262
H16K Elim 38.14 37 P **P 05 21 04.6 -1.8**
baz=266
G16K Koyuk River 38.14 35 P **P 05 21 05.5 -0.9**
baz=265
M14K Bethel 38.19 43 **P 05 21 09.0 +2.1**
M14K IAmb IAmb 05 21 09.9
comp=Z,7.6nm,0.8s
M14K Bethel 38.19 43 P **P 05 21 06.0 -0.8**
baz=272
C17K DeLong Mountai 38.20 30 P **P 05 21 05.6 -1.4**
baz=260
N14K Kuskokwak Cree 38.36 44 P **P 05 21 07.3 -1.0**
baz=273
K15K Wolf Creek Mou 38.38 40 P **P 05 21 08.5 +0.1**
K15K Wolf Creek Mou 38.38 40 P **P 05 21 07.1 -1.3**
baz=270
L15K Ungalak Mounta 38.40 41 P **P 05 21 07.7 -1.0**
baz=271
E17K Hotham Inlet 38.52 33 P **P 05 21 08.9 -0.7**
baz=264
S12K Black Hills 38.56 51 P **P 05 21 09.1 -0.9**
baz=278
O14K Tigyukauivet M 38.62 45 P **P 05 21 09.5 -0.9**
baz=274
F17K Baldwin Pennin 38.68 34 P **P 05 21 10.0 -0.9**
baz=265
I17K Unalakleet 38.78 38 P **P 05 21 11.0 -0.7**
baz=269
J16K Anvik River 38.81 39 P **P 05 21 11.5 -0.5**
baz=270
M15K Kasigluk River 38.82 43 P **P 05 21 11.5 -0.6**
baz=273
B18K Kokolik River 38.84 29 P **P 05 21 11.9 -0.3**
baz=261
G17K Kiwalik Mounta 38.86 35 P **P 05 21 11.8 -0.6**
baz=267
C18K Utukok River 38.95 30 P **P 05 21 12.2 -1.0**
baz=262
E18K Tukpahlearik C 39.03 32 P **P 05 21 12.9 -0.8**
baz=264
N15K Kwethluk River 39.15 44 P **P 05 21 13.5 -1.3**
baz=274
H17K Granite Mounta 39.15 36 P **P 05 21 14.0 -0.8**
baz=268
MK31 Makanchi Array 39.19 295 *i*P **P 05 21 15.7 +0.3**
MK31 pmax pmax
comp=Z,19nm,0.8s
MKAR Makanchi Array 39.19 295 **P 05 21 15.8 +0.5**
MKAR Makanchi Array 39.19 295 P **P 05 21 16.1 +0.7**
comp=Z,9.8nm,0.7s,baz=81,slow=9.5,SNR=4.6
MKAR ScP **ScP 05 26 44.4 +1.5**
comp=Z,0.2nm,0.5s,baz=66,slow=3.6,SNR=1.3
comp=Z,9.8nm,0.7s
A19K Wainwright 39.23 28 P **P 05 21 14.8 -0.5**
baz=260
F18K Selawik 39.33 34 P **P 05 21 15.3 -0.9**
baz=266
O15K Ungalikthiuk R 39.36 45 P **P 05 21 15.2 -1.4**
baz=275
L16K Owhat River 39.36 41 P **P 05 21 17.5 +1.0**
L16K Owhat River 39.36 41 P **P 05 21 15.9 -0.7**
baz=272
MAKZ Makanchi 39.39 295 P **P 05 21 14.5 -2.5**
J17K VABM Dome 39.50 39 P **P 05 21 18.8 +1.1**
J17K IAmb IAmb 05 21 19.2
comp=Z,3.5nm,0.8s
J17K VABM Dome 39.50 39 P **P 05 21 17.0 -0.7**
baz=271
SDPT Sand Point 39.50 51 P **P 05 21 17.1 -0.6**
baz=279
C19K Lookout Ridge 39.59 30 P **P 05 21 17.1 -1.3**
baz=263
M16K Timber Creek 39.65 42 P **P 05 21 17.5 -1.4**
baz=274
G18K Tagagawik 39.70 35 **P 05 21 19.1 -0.2**
G18K IAmb IAmb 05 21 20.4
comp=Z,3.5nm,0.6s
G18K Tagagawik 39.70 35 P **P 05 21 18.4 -1.0**
baz=268,SNR=5.4
N16K Nishlik Lake 39.78 43 P **P 05 21 19.0 -1.1**
baz=275
H18K Honhosa River 39.81 36 P **P 05 21 20.1 -0.1**
H18K IAmb IAmb 05 21 20.7
comp=Z,8.6nm,1.4s
H18K Honhosa River 39.81 36 P **P 05 21 19.3 -0.9**
baz=269
S14K Fog Glacier 39.87 50 P **P 05 21 19.6 -1.2**
baz=279
K17K Iditarod 39.87 40 **P 05 21 21.7 +1.0**
K17K IAmb IAmb 05 21 22.9
comp=Z,6.6nm,0.9s
K17K Iditarod 39.87 40 P **P 05 21 20.3 -0.5**
baz=272,SNR=5.2
L17K Donlin 39.90 41 P **P 05 21 20.4 -0.6**
baz=273
D19K Kuna River 40.06 31 P **P 05 21 21.9 -0.3**
D19K IAmb IAmb 05 21 24.8
comp=Z,16nm,1.2s
D19K Kuna River 40.06 31 P **P 05 21 21.9 -0.3**
baz=266
F19K Shaleruckik Mo 40.09 33 P **P 05 21 21.9 -0.6**
baz=268
CHNA Chernabura Isl 40.09 52 P **P 05 21 22.2 -0.4**
baz=281
O16K Kokwok River B 40.20 45 P **P 05 21 22.5 -1.0**
baz=276
E19K Redstone River 40.33 32 **P 05 21 24.5 +0.1**
E19K IAmb IAmb 05 21 24.8
comp=Z,5.1nm,0.6s
E19K Redstone River 40.33 32 P **P 05 21 23.7 -0.8**
baz=268
G19K Purcell Mounta 40.35 34 P **P 05 21 24.5 -0.1**
baz=269
M17K Holitna River 40.35 42 **P 05 21 26.3 +1.6**
M17K IAmb IAmb 05 21 28.1
comp=Z,8.4nm,0.8s
M17K Holitna River 40.35 42 P **P 05 21 24.4 -0.3**
baz=275,SNR=6.6
KURK Kurchatov 40.43 302 **P 05 21 26.6 +1.1**
KURK Kurchatov 40.43 302 *d i*P **P 05 21 26.1 +0.6**
KURK pmax pmax
comp=Z,77nm,0.7s
KURK Kurchatov 40.43 302 *e*P **P 05 21 26.1 +0.6**
KURBB Kurchatov Arra 40.51 301 P **P 05 21 26.8 +0.7**
comp=Z,93nm,0.5s,baz=74,slow=9.1,SNR=380
KURBB S **S 05 27 15.2 -0.3**
comp=Z,1.0nm,0.9s,baz=74,slow=14,SNR=6.7
KURBB Kurchatov Arra 40.51 301 P **P 05 21 26.4 +0.3**
B20K Meade River 40.53 28 P **P 05 21 25.1 -0.9**
baz=265
N17K Nushagak Hills 40.55 43 P **P 05 21 25.7 -0.6**
baz=276
J18K Innoko River 40.56 38 P **P 05 21 25.4 -1.0**
baz=273
H19K Roundabout Mou 40.61 35 **P 05 21 27.0 +0.2**
H19K IAmb IAmb 05 21 30.9
comp=Z,6.2nm,0.8s
H19K Roundabout Mou 40.61 35 P **P 05 21 25.9 -0.9**
baz=271,SNR=7.2
D20K Etivluk River 40.62 30 P **P 05 21 26.2 -0.7**
baz=267
L18K Granite Mounta 40.65 40 P **P 05 21 28.3 +1.2**
L18K IAmb IAmb 05 21 28.7
comp=Z,3.2nm,0.7s
L18K Granite Mounta 40.65 40 P **P 05 21 26.8 -0.3**
baz=274
O17K Koliganek Bris 40.68 44 P **P 05 21 26.9 -0.5**
baz=277
E20K Nigu River 40.76 31 P **P 05 21 27.4 -0.6**
baz=268
F20K Avaraart Lake 40.90 33 P **P 05 21 28.5 -0.6**
baz=269
J19K Poorman 41.02 38 P **P 05 21 29.2 -0.8**
baz=273
M18K Stony River 41.12 41 P **P 05 21 30.3 -0.6**
baz=276
N18K Kilae Creek 41.17 43 P **P 05 21 30.9 -0.6**
baz=277
H20K Anotleneega Mo 41.27 35 P **P 05 21 30.8 -1.3**
baz=272
C21K Knifeblade Rid 41.30 30 P **P 05 21 32.1 -0.3**
baz=268
A22K Sinclair Lake 41.34 27 P **P 05 21 32.0 -0.6**
baz=266
R17L Mt. Peulik Vol 41.37 47 P **P 05 21 31.9 -1.2**
baz=280
B21K Ikpikpuk River 41.38 29 P **P 05 21 31.7 -1.3**
baz=268
I20K Naaghedeneel 41.47 36 P **P 05 21 32.8 -0.9**
baz=273
L19K White Mountain 41.51 40 P **P 05 21 33.2 -0.9**
baz=276
Q17K Contact Creek 41.52 46 P **P 05 21 33.7 -0.6**
baz=279
E21K Killik River 41.58 31 P **P 05 21 33.4 -1.3**
baz=270
O18K Koktuh Hills 41.62 44 P **P 05 21 34.0 -1.0**
baz=278
J20K Nowinta River 41.65 37 IAmb IAmb 05 21 36.6
comp=Z,4.4nm,0.8s
J20K Nowinta River 41.65 37 P **P 05 21 34.5 -0.7**
baz=274,SNR=5.3
P18K Big Mountain, 41.67 45 P **P 05 21 34.4 -1.1**
baz=279
IMAR Indian Mountai 41.71 35 P **P 05 21 35.6 -0.1**
K20K Telida 41.75 39 **P 05 21 36.9 +0.8**
K20K IAmb IAmb 05 21 37.5
comp=Z,3.4nm,0.7s
K20K Telida 41.75 39 P **P 05 21 35.1 -1.0**
baz=275
M19K Big River Lodg 41.75 41 P **P 05 21 34.6 -1.5**
baz=276
F21K Alatna River 41.78 33 P **P 05 21 36.6 +0.3**
F21K IAmb IAmb 05 21 38.1
comp=Z,4.3nm,0.8s
F21K Alatna River 41.78 33 P **P 05 21 34.3 -2.0**
baz=271
G21K Allakaket 41.79 34 P **P 05 21 34.8 -1.5**
baz=272,SNR=6.2
B22K Teshekpuk Lake 41.82 28 P **P 05 21 35.4 -1.0**
baz=268
N19K Bonanza Creek 41.84 42 P **P 05 21 35.3 -1.6**
baz=278
CHTO Chiang Mai 41.88 246 P **P 05 21 39.1 +1.5**
CHTO Chiang Mai 41.88 246 P **P 05 21 39.1 +1.5**
CHTO pmax pmax
comp=Z,19nm,0.7s
Q18K Katmai Randscr 41.91 46 P **P 05 21 35.8 -1.6**
baz=280
L20K Farewell, AK 41.93 40 P **P 05 21 36.5 -1.0**
baz=276
D22K Ayikyak River 42.06 30 P **P 05 21 37.4 -1.0**
baz=270
H21K Melozitna Rive 42.12 35 P **P 05 21 38.7 -0.3**
baz=274
CMAR Chiang Mai Arr 42.13 246 **P 05 21 41.1 +1.5**
CMAR Chiang Mai Arr 42.13 246 P **P 05 21 41.5 +1.8**
comp=Z,5.1nm,0.8s,baz=35,slow=6.7,SNR=30
CMAR ScP **ScP 05 26 56.4 +1.5**
comp=Z,0.6nm,0.4s,baz=0.2,slow=2.3,SNR=4.7
comp=Z,5.1nm,0.8s
CMAR Chiang Mai Arr 42.13 246 *i*P **P 05 21 41.5 +1.8**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
PDGK Podgornoye 42.23 291 P **P 05 21 40.0 -0.4**
SHL Shillong 42.25 260 **P 05 21 41.6 +0.9**
SHL Shillong 42.25 260 P **P 05 21 41.6 +0.9**
F22K John River 42.27 32 P **P 05 21 39.6 -0.6**
baz=272
SHLS Shalkode 42.32 290 *e*P **P 05 21 39.1 -1.9**
SHLS Shalkode 42.32 290 *e*P **P 05 21 39.1 -1.9**
TDK Taldyqorghan 42.34 293 *e*P **P 05 21 41.7 +0.7**
TDK pmax pmax
comp=Z,25nm,0.5s
TDK Taldyqorghan 42.34 293 *e*P **P 05 21 41.8 +0.7**
comp=Z,25nm,0.5s
M20K Styx River 42.35 41 P **P 05 21 40.2 -0.8**
baz=278
E22K Anaktuvuk Pass 42.39 31 IAmb IAmb 05 21 41.6
comp=Z,8.1nm,0.6s
E22K Anaktuvuk Pass 42.39 31 P **P 05 21 40.2 -1.0**
baz=272,SNR=6.5
R18K Karluk 42.39 47 P **P 05 21 40.4 -0.8**
baz=281
CHUM Lake Minchumin 42.48 38 P **P 05 21 40.9 -1.0**
baz=276
I21K Tanana 42.50 36 P **P 05 21 41.0 -0.9**
baz=275
Q19K Cape Douglas, 42.56 45 P **P 05 21 41.5 -1.1**
baz=280
G22K Bettles 42.56 33 P **P 05 21 41.6 -0.9**
baz=273
UZB Uzynbulak 42.62 291 *e*P **P 05 21 43.8 +0.3**
UZB Uzynbulak 42.62 291 *e*P **P 05 21 43.8 +0.3**
CAST Castle Rocks 42.63 38 **P 05 21 44.1 +0.9**
CAST IAmb IAmb 05 21 44.8
comp=Z,6.8nm,0.7s
CAST Castle Rocks 42.63 38 P **P 05 21 42.2 -0.9**
baz=277,SNR=12
P19K Oil Pt 42.64 44 P **P 05 21 41.9 -1.3**
baz=280
PPLA Purkeypile 42.65 39 IAmb IAmb 05 21 45.5
comp=Z,3.9nm,0.7s
PPLA Purkeypile 42.65 39 P **P 05 21 42.0 -1.4**
baz=277
H22K Ishtalitna Cre 42.69 35 P **P 05 21 42.6 -1.0**
baz=275
SII Sitkinak Islan 42.74 49 P **P 05 21 43.2 -0.9**
baz=282
D23K Nanushuk River 42.78 30 P **P 05 21 42.7 -1.5**
baz=272
C23K Itkillik River 42.78 29 P **P 05 21 43.3 -0.9**
baz=271
BPAW Bear Paw Mtn. 43.04 37 P **P 05 21 45.5 -0.9**

baz=277
MLY Manley 43.04 36 P P 05 21 45.3 -1.1
baz=276
COLD Coldfoot 43.05 33 P P 05 21 46.2 -0.3
baz=274
SATY Saty 43.07 291 eP P 05 21 47.4 +0.4
SATY Saty 43.07 291 eP P 05 21 47.4 +0.4
OHAK Old Harbor 43.08 47 P P 05 21 46.3 -0.5
baz=282
SKT Skwentna 43.08 40 P P 05 21 46.1 -0.6
baz=279
KTH Kantishna Hill 43.13 38 IAmb IAmb 05 21 49.0
comp=Z,7.2nm,0.8s
G23K Bananza Creek 43.17 33 P P 05 21 46.4 -1.0
baz=275
TOLK Toolik Lake Re 43.20 30 P P 05 21 47.4 -0.2
baz=273
E23K Chandalar 43.22 31 IAmb IAmb 05 21 49.6
comp=Z,6.6nm,0.7s
E23K Chandalar 43.22 31 P P 05 21 47.2 -0.6
baz=274,SNR=5.9
Q20K Shuyak Island 43.26 45 P P 05 21 47.4 -0.7
baz=282
KDAK Kodiak Island 43.33 47 P P 05 21 48.7 0.0
baz=282
HOM Homer 43.43 44 P P 05 21 49.1 -0.4
baz=281
TRF Thorofare Moun 43.43 38 P P 05 21 48.5 -1.2
baz=278
D24K Happy Valley 43.44 30 P P 05 21 49.3 -0.1
baz=273
H23K Yukon River 43.45 35 P P 05 21 48.0 -1.6
baz=276
C24K Franklin Bluff 43.45 29 P P 05 21 49.1 -0.4
baz=273
SUA Susitna One 43.53 41 P P 05 21 49.6 -0.9
baz=280
CUT Chulitna 43.60 40 P P 05 21 50.2 -0.6
baz=279
I23K Minto, Yukon-K 43.60 36 P P 05 21 50.4 -0.4
baz=277
E24K Your Creek 43.64 31 P P 05 21 51.0 -0.1
baz=275
NEA2 Nenana 43.80 36 P P 05 21 51.8 -0.6
baz=278
F24K Squaw Lake 43.92 32 IAmb IAmb 05 21 54.6
comp=Z,6.3nm,0.7s
F24K Squaw Lake 43.92 32 P P 05 21 52.7 -0.7
baz=276,SNR=5.6
MDOK Medeo 43.94 291 eP P 05 21 54.3 +0.3
MDOK Medeo 43.94 291 eP P 05 21 54.3 +0.3
MCK McKinley 43.99 38 P P 05 21 53.3 -0.6
baz=279
TARG Taragay, Kyrgy 44.01 289 P P 05 21 56.7 +1.8
TARG IAmb IAmb 05 21 58.2
comp=Z,4.3nm,0.6s
TARG Taragay, Kyrgy 44.01 289 P P 05 21 56.7 +1.8
TARG pmax pmax
comp=Z,4.0nm,0.6s
RND Reindeer 44.08 38 P P 05 21 55.1 +0.5
RND Reindeer 44.08 38 P P 05 21 55.2 +0.5
RND pmax pmax
comp=Z,3.0nm,0.8s
RC01 Rabbit Creek A 44.08 41 P P 05 21 54.2 -0.5
baz=281
H24K Noodor Dome 44.13 34 P P 05 21 54.3 -0.7
baz=278
PMR Palmer 44.27 41 P P 05 21 55.8 -0.3
baz=281
COLA College 44.28 36 P P 05 21 56.9 +0.8
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 44.28 36 P P 05 21 55.8 -0.3
baz=279
BRZS Berezniki 44.29 302 eP P 05 21 57.1 +0.6
BRZS Berezniki 44.29 302 eP P 05 21 57.1 +0.6
D25K Kavik River 44.29 29 P P 05 21 55.4 -0.9
baz=276
WAT1 Susitna Watana 44.31 39 P P 05 21 56.1 -0.4
baz=280
GHO Glory Hole Cre 44.34 40 P P 05 21 57.6 +0.8
GHO IAmb IAmb 05 21 58.5
comp=Z,12nm,0.9s
POKR Poker Plat Res 44.41 35 P P 05 21 56.6 -0.7
baz=279
SEW Seward 44.42 43 P P 05 21 57.0 -0.4
baz=282
KNK Knik Glacier 44.62 41 P P 05 21 58.4 -0.5
baz=282
ILAR Eielson Array 44.70 36 P P 05 21 59.5 0.0
comp=Z,2.0nm,0.7s,baz=282,slow=6.5,SNR=36
comp=Z,2.0nm,0.7s
BVA0 Borovoye Array 44.70 307 i P P 05 22 00.1 +0.4
BVAR Borovoye Array 44.70 307 P P 05 22 00.7 +1.0
comp=Z,47nm,0.4s,baz=75,slow=9.6,SNR=310
BVAR S S 05 28 13.9 -2.5
comp=Z,1.6nm,0.9s,baz=85,slow=16,SNR=4.4
G25K Bearman Lake 44.71 33 P P 05 21 59.1 -0.4
baz=278
E25K Arctic Village 44.72 31 P P 05 21 59.2 -0.5
baz=277
WAT6 Susitna Watana 44.72 39 P P 05 21 59.1 -0.8
baz=281
HDA Harding Lake 44.74 36 P P 05 21 59.2 -0.6
baz=280
F25K Christian River 44.77 32 P P 05 21 59.9 -0.2
baz=278
DHY Denali Highway 44.79 38 IAmb IAmb 05 22 01.3
comp=Z,7.9nm,0.6s
DHY Denali Highway 44.79 38 P P 05 21 60.0 -0.5
baz=281,SNR=9.6
PWL Port Wells 44.80 42 P P 05 22 00.3 -0.1
baz=282
M23K Glacier View 44.89 40 P P 05 22 00.6 -0.4
baz=282
H25L Birch Creek 44.89 34 P P 05 22 01.1 +0.2
baz=279
SCM Sheep Creek Mo 45.06 40 P P 05 22 01.8 -0.7
baz=282
FYU Fort Yukon 45.08 33 IAmb IAmb 05 22 04.8
comp=Z,11nm,0.9s
PRP Porcupine Dome 45.14 35 IAmb IAmb 05 22 04.7
comp=Z,3.9nm,0.7s
PRP Porcupine Dome 45.14 35 P P 05 22 02.3 -0.8
baz=280,SNR=7.1
BTLS Baital 45.19 295 eP P 05 22 04.0 +0.4
BTLS Baital 45.19 295 eP P 05 22 04.1 +0.4
C27K Jago River 45.19 29 P P 05 22 03.0 -0.3
baz=278
F26K Sheenjek River 45.32 32 P P 05 22 04.0 -0.4
baz=279
K24K Donnelly Dome 45.35 37 IAmb IAmb 05 22 05.7
comp=Z,10nm,0.9s
K24K Donnelly Dome 45.35 37 P P 05 22 03.0 -1.7
baz=282,SNR=5.3
J25K Salcha River, 45.37 36 P P 05 22 04.2 -0.7
baz=281
P23K Montague Islan 45.45 43 P P 05 22 03.7 -1.7
baz=284
M24K Tolsona, Glenn 45.54 39 P P 05 22 05.2 -0.9
baz=283
G26K Porcupine Rive 45.58 33 IAmb IAmb 05 22 08.3
comp=Z,5.7nm,0.6s
G26K Porcupine Rive 45.58 33 P P 05 22 05.6 -0.8
baz=280,SNR=6.3
PAX Paxson 45.66 38 P P 05 22 06.0 -1.2
baz=283
RIDG Independent Ri 45.77 37 IAmb IAmb 05 22 15.1
comp=Z,7.1nm,1.2s
RIDG Independent Ri 45.77 37 P P 05 22 07.1 -0.9
baz=282
KLU Klutina 45.80 40 P P 05 22 06.8 -1.4
baz=284
AAK Ala-Archa 45.87 292 P P 05 22 10.1 +0.9
AAK IAmb IAmb 05 22 13.5
comp=Z,7.3nm,0.5s
AAK Ala-Archa 45.87 292 i P P 05 22 10.0 +0.9
AAK pmax pmax
comp=Z,20nm,0.4s
AAK Ala-Archa 45.87 292 eP P 05 22 10.0 +0.9
HARP HAARP 45.93 39 P P 05 22 08.2 -1.0
baz=283,SNR=5.5
SCRK Sand Creek 46.09 37 P P 05 22 10.6 0.0
SCRK IAmb IAmb 05 22 11.1
comp=Z,8.3nm,0.5s
SCRK Sand Creek 46.09 37 P P 05 22 09.9 -0.7
baz=283,SNR=12

EYAK Cordova Ski Ar 46.11 42 P P 05 22 10.2 -0.3
baz=285
I26K Coal Creek Min 46.15 35 P P 05 22 10.5 -0.4
baz=282
J26L Joseph Creek 46.16 36 P P 05 22 10.9 -0.1
baz=283
E27K Coleen River 46.18 31 P P 05 22 10.6 -0.5
baz=281
D27M Malcolm River 46.21 29 P P 05 22 11.0 -0.3
baz=280
KSH Kashi 46.23 287 P P 05 22 18.0 +6.0
KSH pmax pmax
comp=Z,5.0nm,0.9s
N25K Chitina, Valde 46.38 40 P P 05 22 12.3 -0.4
baz=285
G27K Doyon Strip 46.43 32 P P 05 22 12.3 -0.8
baz=282
BMRM Bremner River 46.54 41 P P 05 22 13.9 -0.1
baz=285
L26K Log Cabin Wild 46.59 38 P P 05 22 14.7 +0.3
baz=284
H27K Steamboat Moun 46.61 33 P P 05 22 14.8 +0.4
baz=283
I27K Kandik River 46.71 34 P P 05 22 15.1 -0.1
baz=283
E28M Babbage River 46.84 30 P P 05 22 15.9 -0.3
baz=282
K27K Chicken 46.90 36 P P 05 22 16.7 0.0
baz=284
KAIM Kayak Island 46.91 42 P P 05 22 17.2 +0.5
baz=286
F28M Old Crow 46.94 31 P P 05 22 17.2 +0.3
baz=283
MCARA McCarthy VSAT 47.17 40 P P 05 22 19.2 +0.5
baz=286
L27K Beaver Creek, 47.26 38 IAmb IAmb 05 22 22.2
comp=Z,6.1nm,0.8s
L27K Beaver Creek, 47.26 38 P P 05 22 19.6 +0.2
baz=285,SNR=10
BCAR Beaver Creek A 47.27 38 P 05 22 20.7 +1.1
CRQE Cirque 47.31 41 P P 05 22 19.4 -0.6
baz=286
M27K Edge Creek, AK 47.42 38 P P 05 22 20.9 +0.1
baz=286,SNR=5.5
I28M Miner Creek 47.43 34 P P 05 22 21.2 +0.4
baz=285,SNR=16
E29M Blow River 47.48 30 P P 05 22 21.4 +0.3
baz=284
G29M Pine Creek 47.80 32 P P 05 22 24.0 +0.5
baz=285
H29M Whitestone 47.85 33 IAmb IAmb 05 22 26.0
comp=Z,4.3nm,0.5s
H29M Whitestone 47.85 33 P P 05 22 25.0 +1.1
baz=285
BVCY Beaver Creek 47.86 38 P P 05 22 24.9 +0.9
baz=287
DZA Taraz 47.86 294 eP P 05 22 24.9 +0.6
DZA Taraz 47.86 294 eP P 05 22 25.0 +0.6
MESA MESA 48.02 41 P P 05 22 25.3 -0.3
baz=288
DAWY Dawson 48.03 36 P P 05 22 25.3 -0.1
baz=286
CTG Chitna Glacier 48.07 40 P P 05 22 26.7 +0.8
baz=288,SNR=5.5
I29M Ogilvie Camp, 48.11 34 P P 05 22 26.0 +0.1
baz=286
YUK3 Moose Creek 48.23 39 P P 05 22 27.0 -0.2
baz=288
KK31 Karatay Array 48.31 294 P 05 22 28.1 +0.3
KK31 IAmb IAmb 05 22 29.2
comp=Z,7.0nm,0.8s
KK31 Karatay Array 48.31 294 eP P 05 22 28.0 +0.3
KKAR Karatay Array 48.31 294 P 05 22 28.3 +0.5
KKAR Karatay Array 48.31 294 P P 05 22 28.3 +0.5
EPYK Eagle Plains 48.45 32 P P 05 22 29.5 +1.0
baz=288,SNR=13
F30M Barrier River 48.45 31 P P 05 22 29.3 +0.8
baz=286,SNR=6.3
G30M tAoh Zraii Nji 48.47 32 IAmb IAmb 05 22 30.6
comp=Z,17nm,1.3s
G30M tAoh Zraii Nji 48.47 32 P P 05 22 29.7 +1.0
baz=286
O28M Mount Upton 48.67 40 P P 05 22 30.8 +0.3
baz=289
YUK8 Steele Glacier 48.70 39 P P 05 22 31.7 +0.9
baz=288
BRLS Borolday 48.79 294 eP P 05 22 33.6 +2.2
BRLS Borolday 48.79 294 eP P 05 22 33.7 +2.2
SVE Sverdlovsk 48.81 314 ceP P 05 22 32.5 +1.2
SVE pmax pmax
comp=Z,61nm,0.7s
SVE Sverdlovsk 48.81 314 eP P 05 22 32.5 +1.2
L29M L29M 48.85 37 P P 05 22 33.4 +1.7
baz=288,SNR=16
PINM Pinnacle 48.86 41 P P 05 22 33.2 +1.5
baz=289
K29M Barlow Dome 48.88 36 P P 05 22 32.7 +0.8
baz=288,SNR=16
M29M Somme Creek 48.92 38 P P 05 22 33.6 +1.4
baz=288,SNR=16
I30M Mount Dempster 48.93 34 IAmb IAmb 05 22 34.9
comp=Z,4.9nm,0.6s
I30M Mount Dempster 48.93 34 P P 05 22 32.9 +0.7
baz=288,SNR=7.9
IUG Iuzhnay 49.05 293 eP P 05 22 34.0 +0.5
IUG Iuzhnay 49.05 293 eP P 05 22 34.1 +0.5
INK Inuvik 49.07 29 P P 05 22 33.2 +0.2
INK Inuvik 49.07 29 P P 05 22 33.4 +0.3
baz=288,SNR=10
J30M Hart River 49.15 35 P P 05 22 34.3 +0.4
baz=288,SNR=5.3
YUK4 Talbot Arm 49.19 39 P P 05 22 34.4 +0.1
baz=289
G31M Satah River 49.22 31 IAmb IAmb 05 22 35.4
comp=Z,9.1nm,1.0s
G31M Satah River 49.22 31 P P 05 22 34.0 -0.3
baz=288
F31M Tsiigehtchic 49.25 31 P P 05 22 34.4 0.0
baz=288
CHM Chimkent 49.26 294 eP P 05 22 35.6 +0.6
CHM Chimkent 49.26 294 eP P 05 22 35.6 +0.6
YUK6 Outpost Mounta 49.45 40 P P 05 22 36.7 +0.2
baz=290
H31M Peel River 49.55 33 IAmb IAmb 05 22 39.0
comp=Z,12nm,0.9s
H31M Peel River 49.55 33 P P 05 22 36.8 0.0
baz=289,SNR=6.9
O29M Mount Kennedy 49.58 40 P P 05 22 37.7 +0.5
baz=290
M30M Minto, Yukon 49.60 37 P P 05 22 38.0 +0.7
baz=290,SNR=10
MAYO Mayo, Yukon 49.65 36 P P 05 22 38.6 +1.0
baz=290
HYT Haines Junctio 49.89 40 P P 05 22 40.4 +0.8
baz=290,SNR=12
ARTI Arti 50.13 314 d iP P 05 22 41.8 +0.5
ARTI *PP pP 05 23 34.0 -1.4
ARTI 05 23 56.6
ARTI 05 24 38.4
ARTI S S 05 29 36.4 +3.7
ARTI SS SS 05 33 10.8 +2.1
ARTI pmax pmax
comp=Z,43nm,0.7s
P29M Windy Craggy 50.21 41 P P 05 22 42.6 +0.8
baz=291,SNR=7.3
P30M Million Dollar 50.40 40 P P 05 22 44.0 +0.8
baz=291
M31M Dry Creek, Y 50.78 37 P P 05 22 47.0 +0.9
baz=292,SNR=6.1
PLBC Pleasant Camp 50.92 41 P P 05 22 47.5 +0.4
baz=292
WHY Whitehorse 51.15 39 P P 05 22 48.7 -0.2
baz=292
CHGR Chuyangaron 51.30 290 P P 05 22 50.9 +0.6
CHGR pmax pmax
comp=Z,43nm,0.7s
SKAG Skagway 51.41 41 P P 05 22 51.0 +0.3
baz=293
N32M Quiet Lake 51.77 38 P P 05 22 53.7 +0.3
baz=294
C36M Paulatuk 51.90 27 P P 05 22 54.6 +0.5
baz=294
MMPY Sheldon Lake, 51.97 36 P P 05 22 55.5 +0.7
baz=294,SNR=7.3
AB31 Akbulak array 52.21 305 i P P 05 22 57.4 +0.7
P33M Teslin, Yukon 52.27 39 P P 05 22 57.8 +0.7
baz=294,SNR=6.4

R32K Eaglecrest 52.27 42 P P 05 22 58.0 +0.9
baz=294
SIT Sitka 52.39 43 P P 05 22 59.0 +1.1
baz=295
S32K Killisnoo 52.59 43 P P 05 23 00.2 +0.9
baz=295
AKTO Aktyubinsk 52.80 308 P P 05 23 01.2 +0.2
Q32M Nakina River 53.05 40 P P 05 23 03.4 +0.4
baz=296
SPITS Spitsbergen Ar 53.29 347 P P 05 23 03.9 -0.4
comp=Z,4.6nm,0.6s,baz=70,slow=7.3,SNR=22
comp=Z,4.6nm,0.6s
R33M Jennings River 53.46 40 P P 05 23 06.5 +0.6
baz=296
KIRV Kirov 53.65 319 d iP P 05 23 07.6 +0.6
TGTN Hyland Airport 53.71 36 P P 05 23 08.3 +0.7
baz=297,SNR=6.3
U33K Whale Pass 53.90 44 P P 05 23 09.6 +0.7
baz=297
WTLY Watson Lake, Y 54.12 38 P P 05 23 11.5 +1.0
baz=297
DLBC Dease Lake 54.33 40 P P 05 23 13.0 +0.9
baz=298
T35M Bob Quinn 54.91 42 P P 05 23 16.5 +0.3
baz=298
V35K Ketchikan 55.02 44 P P 05 23 17.4 +0.5
baz=298
VADS Vadso 55.39 337 eP P 05 23 19.2 -0.1
KOTAN Kotaneelee Air 56.19 37 P P 05 23 25.8 +0.5
baz=300
TOAD Toad River Com 56.33 38 P P 05 23 26.9 +0.7
baz=300,SNR=7.0
ARA0 ARCESS Array S 56.81 337 eP P 05 23 29.4 0.0
ARCES ARCESS Array B 56.81 337 P P 05 23 29.0 -0.4
comp=Z,3.1nm,0.4s,baz=45,slow=9.0,SNR=44
comp=Z,3.1nm,0.4s
KLMR Klimovskoe 56.92 325 eP P 05 23 29.6 -0.7
KLMR pmax pmax
comp=Z,54nm,1.3s
KTK1 Kautokeino 57.77 337 eP P 05 23 36.2 +0.1
SGF Sodankyl 57.81 335 P P 05 23 36.4 0.0
SGF pmax pmax
comp=Z,18nm,0.7s
MSF Maaselka 57.95 333 P P 05 23 35.2 -2.2
MSF pmax pmax
comp=Z,33nm,0.8s
JETT Jettan, Norway 58.18 339 eP P 05 23 39.2 +0.2
TRO Tromso 58.51 339 eP P 05 23 40.7 -0.4
NEEM North Greenlan 58.61 3 iP P 05 23 41.2 -1.0
YKA Yellowknife Ar 58.71 31 P P 05 23 43.0 +0.4
comp=Z,2.7nm,0.5s,baz=318,slow=17,SNR=73
comp=Z,2.7nm,0.5s
YKA Yellowknife Ar 58.71 31 i P P 05 23 43.0 +0.4
YKA pmax pmax
comp=Z,2.0nm,0.3s
OUL Oulu 59.49 333 P P 05 23 47.9 0.0
OUL pmax pmax
comp=Z,46nm,1.0s
MOS Moscow 60.61 320 eP P 05 23 55.0 -0.7
MOS pmax pmax
comp=Z,36nm,0.8s
MOS Moscow 60.61 320 eP P 05 23 55.0 -0.7
STEI Steigen 60.66 339 eP P 05 23 55.4 -0.4
FAUS Fauske 61.05 338 eP P 05 23 58.6 +0.1
VRH Novokhopyorsk 61.26 315 eP P 05 23 58.9 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 61.47 320 d iP P 05 24 01.6 +0.2
OBN i 05 24 39.0
OBN i 05 26 19.8
OBN pmax pmax
comp=Z,21nm,0.6s
OBN Obninsk 61.47 320 eP P 05 24 01.6 +0.2
OBN Obninsk 61.47 320 P P 05 24 01.4 0.0
comp=Z,37nm,0.9s
FINES FINESS Array B 61.80 330 P P 05 24 03.5 0.0
comp=Z,39nm,0.4s,baz=60,slow=8.0,SNR=570
LPSR Galich'ya Gora 61.84 317 eP P 05 24 02.9 -1.1
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOR8 Moi Rana 62.17 338 eP P 05 24 04.6 -1.3
VORR Voronezh 62.26 316 eP P 05 24 06.1 -0.6
VORR pmax pmax
comp=Z,10.0nm,1.0s
KONS Konsvik 62.28 338 eP P 05 24 06.4 -0.2
VSR Storozhevoye 62.55 316 eP P 05 24 07.5 -1.2
VSR pmax pmax
comp=Z,10.0nm,0.8s
LEIR Leirfjorden 62.58 338 eP P 05 24 08.0 -0.5
VORD Divnogorie 62.64 315 eP P 05 24 08.0 -1.2
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSU Vasula 63.54 327 d iP P 05 24 14.3 -0.7
VSU pmax pmax
comp=Z,42nm,0.7s
AKT Akhty 63.59 303 eP P 05 24 14.7 -1.1
AKT pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 63.66 359 P P 05 24 16.9 +0.8
SUMG pmax pmax
comp=Z,52nm,0.9s
SUMG Summit 63.66 359 i P P 05 24 16.0 -0.1
WRA Warramunga Arr 63.82 185 P P 05 24 17.6 +0.2
comp=Z,1.5nm,0.5s,baz=1.8,slow=7.0,SNR=39
comp=Z,1.5nm,0.5s
KIV Kislovodsk 65.06 308 ⇑P P 05 24 27.2 +1.9
KIV Kislovodsk 65.06 308 eP P 05 24 26.6 +1.3
KIV pmax pmax
comp=Z,42nm,1.0s
KIV Kislovodsk 65.06 308 P P 05 24 25.9 +0.6
comp=Z,335nmcomp=Z,49nm,0.9s
KBZ Khabaz 65.08 307 P P 05 24 26.4 +1.2
comp=Z,12nm,0.7s,baz=39,slow=5.7,SNR=37
comp=Z,12nm,0.7s
ERBR Yeremizino-Bor 65.21 310 eP P 05 24 26.6 +0.5
ERBR pmax pmax
comp=Z,38nm,0.6s
MNK Minsk 65.73 323 i P P 05 24 30.4 +1.2
MNK i *PP pP 05 25 27.1 +1.1
MNK i *SP sP 05 25 54.8 +1.6
MNK i 05 26 58.8
MNK i PPP PPP 05 28 32.7
MNK i S S 05 32 57.3 +3.0
MNK i SS SS 05 37 18.1 +5.3
MNK pmax pmax
comp=N,14nm,1.3s
MNK pmax pmax
comp=Z,50nm,0.8s
MNK pmax pmax
comp=E,38nm,1.1s
DOMB Dombas 66.87 337 eP P 05 24 36.6 +0.2
HFS Hagfors 66.98 334 P P 05 24 36.9 -0.1
comp=E,10nm,0.3s,baz=41,slow=4.1,SNR=148
comp=E,10nm,0.3s
NB2 NORSAR Subarra 67.04 335 P P 05 24 37.2 -0.2
comp=Z,1.5nm,0.7s,baz=37,slow=6.5
NB2 NORSAR Subarra 67.04 335 P P 05 24 37.2 -0.2
baz=37,slow=6.5
NOA NORSAR Array B 67.04 335 P P 05 24 37.3 -0.1
comp=Z,12nm,0.7s,baz=38,slow=6.3,SNR=69
comp=Z,12nm,0.7s
NC602 NORSAR Array S 67.18 335 eP P 05 24 38.1 -0.2
ANN Anapa 67.46 311 eP P 05 24 39.7 -0.6
ANN pmax pmax
comp=Z,40nm,1.0s
ASAR Alice Springs 67.55 185 P P 05 24 42.4 +1.4
comp=Z,1.7nm,0.7s,baz=1.8,slow=5.0,SNR=23
comp=Z,1.7nm,0.7s
AK03 Malin Array Si 67.69 320 P P 05 24 41.8 +0.2
AKASG Malin Array Be 67.71 320 P P 05 24 42.0 +0.3
comp=Z,8.4nm,0.5s,baz=45,slow=6.5,SNR=89
comp=Z,8.4nm,0.5s
AKASG Malin Array Be 67.71 320 i P P 05 24 42.0 +0.3
AKASG pmax pmax
comp=Z,8.0nm,0.4s
AKBB Malin Array Si 67.71 320 d iP P 05 24 41.9 +0.2
AKBB pmax pmax
comp=Z,18nm,0.7s
AK23 Malin Array Si 67.71 320 P P 05 24 42.0 +0.3
AK01 Malin Array Si 67.72 320 P P 05 24 42.0 +0.2
KIEV Kiev 67.72 320 ⇓P P 05 24 41.9 +0.2
KIEV Kiev 67.72 320 P P 05 24 41.9 +0.2
KIEV Kiev 67.72 320 P P 05 24 42.0 +0.2
comp=Z,101nm,0.7s
AK09 Malin Array Si 67.74 320 P P 05 24 42.1 +0.2
AK22 Malin Array Si 67.74 320 P P 05 24 42.0 +0.1

AK08	Malin Array Si	67.74 320	P	P	05 24 42.1	+0.2
AK20	Malin Array Si	67.78 320	P	P	05 24 42.3	+0.1
AK07	Malin Array Si	67.82 320	P	P	05 24 42.7	+0.3
AK13	Malin Array Si	67.84 320	P	P	05 24 42.8	+0.2
OSL	Oslo	68.06 335	*eP*	P	05 24 44.4	+0.6
SKAR	Skarslia	68.19 336	*eP*	P	05 24 45.4	+0.8
MI28	Mi28,Pidlybu	68.27 321	P	P	05 24 45.7	+0.5
KONO	Kongsberg	68.64 335	P	P	05 24 48.2	+0.9
KONO	Kongsberg	68.64 335	*eP*	P	05 24 47.7	+0.4
STRU	Stroemstad	68.64 334	*i* P	P	05 24 47.6	+0.4
RNPP9	Sopachiv	68.74 322	P	P	05 24 48.4	+0.3
RNPP8	Varash	68.81 322	P	P	05 24 48.8	+0.3
RNPP5	Staryi Chortor	68.87 322	P	P	05 24 49.2	+0.3
LUBAR	Lubar, Ukraine	68.93 320	P	P	05 24 49.3	0.0
BLEU	Blekinge	69.20 330	*i* P	P	05 24 50.2	-0.6
BLEU			IAmb	IAmb	05 24 50.8	
	comp=Z,10nm,0.4s					
BLEU	Blekinge	69.20 330	*i* P	P	05 24 50.2	-0.6
BORU	Boraas	69.23 332	*i* P	P	05 24 50.6	-0.3
BORU	Boraas	69.23 332	*i* P	P	05 24 50.6	-0.3
TJOU	Tjoern	69.29 333	*i* P	P	05 24 51.3	0.0
ODD1	Odda	69.30 337	*eP*	P	05 24 51.8	+0.4
ONAU	Onsala	69.70 333	*i* P	P	05 24 53.5	-0.3
DY2G	Dye2	69.73 2	*i* P	P	05 24 53.8	-0.4
FABU	Falkenberg	69.74 332	*i* P	P	05 24 53.5	-0.5
DEL	Delary	69.76 331	*i* P	P	05 24 54.0	-0.3
DEL	Delary	69.76 331	*i* P	P	05 24 53.0	-1.2
SORM	Soroca	69.89 318	⇓P	P	05 24 55.4	+0.2
SORM	Soroca	69.89 318	P	P	05 24 55.3	+0.2
SORM	Soroca	69.89 318	P	P	05 24 55.2	0.0
	comp=Z,2μmcomp=Z,17nm,0.8s					
HOMB	Homborsund	70.09 335	*i* P	P	05 24 56.5	+0.3
BJUU	Bjuv	70.37 331	*i* P	P	05 24 58.3	+0.4
SNART	Snartemo	70.43 335	*eP*	P	05 24 59.1	+0.9
SNART	Snartemo	70.43 335	*i* P	P	05 24 58.9	+0.7
BSD	Bornholm Skovb	70.44 330	*i* P	P	05 24 58.5	+0.1
BSD			IAmb	IAmb	05 24 59.0	
	comp=Z,11nm,0.3s					
BSD	Bornholm Skovb	70.44 330	*i* P	P	05 24 58.5	+0.1
LUNU	Lund	70.57 331	*i* P	P	05 24 59.6	+0.5
LVV	L'vov	70.70 322	P	P	05 25 01.0	+0.9
KSV	Kosov	71.31 320	P	P	05 25 04.5	+0.7
BURAR	Bucovina Array	71.75 319	⇑P	P	05 25 07.6	+1.0
BURAR	Bucovina Array	71.75 319	P	P	05 25 07.5	+1.0
TESR	Tescani	71.86 318	⇓P	P	05 25 07.8	+0.8
TESR	Tescani	71.86 318	P	P	05 25 07.2	+0.2
	comp=Z,818nmcomp=Z,20nm,0.8s					
CFR	Carcaliu	72.07 316	⇑P	P	05 25 09.1	+0.9
CFR	Carcaliu	72.07 316	P	P	05 25 09.1	+0.9
KOLS	Kolonicke sedl	72.14 322	*eP*	P	05 25 09.7	+1.0
KOLS			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KOLS	Kolonicke sedl	72.14 322	*eP*	P	05 25 09.7	+1.0
TPGR	Topolog	72.15 316	⇑P	P	05 25 10.0	+1.2
STHS	Stebnicka Huta	72.23 323	*eP*	P	05 25 09.9	+0.7
STHS			pmax	pmax		
	comp=Z,4.0nm,0.6s					
STHS	Stebnicka Huta	72.23 323	*eP*	P	05 25 09.9	+0.7
NVAR	Mina Array Bea	72.26 54	P	P	05 25 11.5	+1.7
	comp=Z,0.9nm,0.7s,baz=299,slow=5.1,SNR=11					
	comp=Z,0.9nm,0.7s					
OJC	Ojcow	72.26 324	P	P	05 25 09.6	+0.3
	comp=Z,20nm,1.0s					
VRI	Vrincioaia	72.28 317	⇑P	P	05 25 10.9	+1.4
VRI	Vrincioaia	72.28 317	P	P	05 25 10.9	+1.4
TRSU	Trosnyk	72.44 321	P	P	05 25 11.6	+1.2
BMR	Baia Mare	72.51 320	⇓P	P	05 25 12.8	+2.0
BMR	Baia Mare	72.51 320	P	P	05 25 12.8	+2.0
OZUR		72.57 318	⇑P	P	05 25 13.3	+2.0
DOPR	Dopca	72.86 318	⇑P	P	05 25 15.5	+2.5
MLR	Muntele Rosu	72.93 317	⇓P	P	05 25 15.6	+2.0
MLR	Muntele Rosu	72.93 317	P	P	05 25 15.5	+2.0
BR131	Keskin Array S	72.94 309	⇓*i*P	P	05 25 14.3	+0.6
BRTR	Keskin Array B	72.94 309	P	P	05 25 14.5	+0.8
	comp=Z,2.5nm,0.7s,baz=80,slow=3.2,SNR=14					
	comp=Z,2.5nm,0.7s					
BR106	Keskin Array S	72.94 309	P	P	05 25 14.3	+0.6
	comp=Z,3.7nm,0.8s					
BR104	Keskin Array S	72.95 309	P	P	05 25 14.4	+0.6
	comp=Z,4.5nm,0.8s					
BR105	Keskin Array S	72.95 309	P	P	05 25 14.4	+0.6
	comp=Z,3.8nm,0.8s					
KIRS	Kirsehir-Merke	73.19 308	⇑P	P	05 25 16.5	+1.4
LANS	Liptovska Anna	73.20 323	*eP*	P	05 25 16.9	+1.9
LANS			pmax	pmax		
	comp=Z,4.0nm,0.9s					
LANS	Liptovska Anna	73.20 323	*eP*	P	05 25 16.9	+1.9
KSP	Ksiaz	73.23 326	P	P	05 25 15.7	+0.7
	comp=Z,9.9nm,1.0s					
STEB	Steborice	73.32 325	*eP*	P	05 25 17.0	+1.4
MARR	Marisel-Cluj	73.41 320	⇓P	P	05 25 17.3	+1.0
GORT1	Trebel	73.43 330	*eP*	P	05 25 17.2	+1.2
	comp=Z,13nm,1.0s,baz=35,slow=5.7					
OSTC	Ostas	73.48 326	*eP*	P	05 25 17.8	+1.3
OSTC	Ostas	73.48 326	*eP*	P	05 25 17.8	+1.3
DRGR		73.52 320	⇑P	P	05 25 18.1	+1.2
DRGR		73.52 320	P	P	05 25 18.0	+1.2
CHVC	Chvalec	73.52 326	*eP*	P	05 25 17.9	+1.1
CHVC	Chvalec	73.52 326	*eP*	P	05 25 17.9	+1.1
MORC	Moravsky Berou	73.54 325	*eP*	P	05 25 18.0	+1.1
MORC	Moravsky Berou	73.54 325	⇓P	P	05 25 18.2	+1.3
MORC	Moravsky Berou	73.54 325	P	P	05 25 18.2	+1.3
DPC	Dobruska-Polom	73.60 326	*eP*	P	05 25 18.8	+1.6
DPC	Dobruska-Polom	73.60 326	*eP*	P	05 25 18.8	+1.6
DPC	Dobruska-Polom	73.60 326	P	P	05 25 18.0	+0.8
	comp=Z,8.7nm,1.1s					
UPC	Upice	73.60 326	*eP*	P	05 25 18.5	+1.3
UPC	Upice	73.60 326	*eP*	P	05 25 18.5	+1.3
KRLC	Kraliky	73.62 325	*eP*	P	05 25 18.6	+1.2
KRLC	Kraliky	73.62 325	*eP*	P	05 25 18.6	+1.2
ARR	Arges	73.66 318	⇑P	P	05 25 19.8	+2.1
MAUC	Maruska	73.74 324	*eP*	P	05 25 19.2	+1.2
VYHS	Vyhne	73.97 323	*eP*	P	05 25 20.4	+1.0
VYHS			pmax	pmax		
	comp=Z,4.0nm,0.8s					
VYHS	Vyhne	73.97 323	*eP*	P	05 25 20.4	+1.0
FLTG	Flechtingen	73.99 330	*eP*	P	05 25 19.8	+0.4
	comp=Z,21nm,0.9s,baz=35,slow=5.7					
PDAR	Pinedale Array	74.04 45	P	P	05 25 21.1	+1.0
	comp=Z,2.1nm,0.6s,baz=320,slow=1.9,SNR=28					
	comp=Z,2.1nm,0.6s					
BRG	Berggiesshubel	74.13 327	*eP*	P	05 25 22.1	+1.9
	comp=Z,6.7nm,1.0s,baz=35,slow=5.7					
BRG	Berggiesshubel	74.13 327	*eP*	P	05 25 22.2	+1.9
BRG			Amp		05 25 23.4	
	comp=Z,3.9nm,0.8s					
CLL	Collm	74.15 328	⇓*i*P	P	05 25 20.9	+0.6
CLL			pmax	pmax		
	comp=Z,12nm,0.6s					
CLL	Collm	74.15 328	P	P	05 25 20.7	+0.4
	comp=Z,21nm,1.0s					
CLL	Collm	74.15 328	*eP*	P	05 25 21.0	+0.6
	comp=Z,25nm,1.1s,baz=35,slow=5.7					
CLL	Collm	74.15 328	⇓*i*P	P	05 25 20.9	+0.6
	comp=Z,12nm,0.6s					
JAVC	Velka Javorina	74.19 324	*eP*	P	05 25 22.9	+2.2
NRDL	Niedersach Rie	74.26 330	*eP*	P	05 25 21.8	+0.9
	comp=Z,7.9nm,1.1s,baz=35,slow=5.7					
VRAC	Vranov	74.30 325	*eP*	P	05 25 22.4	+1.2
ASSE	Asse, Remlinge	74.35 330	*eP*	P	05 25 21.9	+0.5
	comp=Z,5.0nm,0.9s,baz=35,slow=5.7					
SIRR	Siria	74.39 320	⇑P	P	05 25 23.2	+1.3
HSKC	Hora Svate Kat	74.54 327	*eP*	P	05 25 23.8	+1.2
SURR	Surduc	74.56 320	⇓P	P	05 25 23.8	+1.0
KRUC	Moravsky	74.57 325	*eP*	P	05 25 24.0	+1.2
PRU	Pruhonice	74.60 327	*eP*	P	05 25 24.2	+1.3
PRU	Pruhonice	74.60 327	*eP*	P	05 25 24.2	+1.3
ULM	Lac du Bonnet	74.62 33	P	P	05 25 23.1	+0.1
	comp=Z,11nm,0.6s,baz=324,slow=5.6,SNR=13					
	comp=Z,11nm,0.6s					
NEUB	Neuenburg	74.69 329	*eP*	P	05 25 24.1	+0.7
	comp=Z,18nm,1.0s,baz=35,slow=5.7					
CLZ	Clausthal	74.70 330	*eP*	P	05 25 24.6	+1.1
	comp=Z,12nm,1.0s,baz=35,slow=5.7					
SRO	Srobarova	74.72 323	*eP*	P	05 25 25.3	+1.7
SRO			pmax	pmax		
	comp=Z,11nm,0.8s					
SRO	Srobarova	74.72 323	*eP*	P	05 25 25.3	+1.7
ELND	Elena	74.82 316	⇑P	P	05 25 25.4	+1.1
BZS	Buzias	74.90 320	⇑P	P	05 25 25.7	+0.9
BZS	Buzias	74.90 320	P	P	05 25 25.6	+0.9
TANN	Tannenbergstha	75.07 328	*eP*	P	05 25 26.3	+0.6
	comp=Z,4.1nm,1.1s,baz=35,slow=5.7					
GTTG	Gottingen	75.09 330	*eP*	P	05 25 26.7	+1.1
	comp=Z,19nm,1.4s,baz=35,slow=5.7					
PLN	Plauen	75.13 328	*eP*	P	05 25 26.7	+0.7
	comp=Z,3.3nm,1.6s,baz=35,slow=5.7					
ZVC	Zvikov	75.17 326	*eP*	P	05 25 27.4	+1.2
MOX	Moxa	75.21 328	*eP*	P	05 25 27.1	+0.7
	comp=Z,8.3nm,1.3s,baz=35,slow=5.7					
IBBN	Ibbenburen	75.24 332	*eP*	P	05 25 27.1	+0.6
	comp=Z,6.4nm,0.6s,baz=35,slow=5.7					
IBBN			*eL*	L	06 03 23.3	
	comp=Z,30nm,18.9s					
MANZ	Manzenberg	75.55 328	*eP*	P	05 25 29.2	+0.8
	comp=Z,2.2nm,1.3s,baz=35,slow=5.7					
CKRC	Cesky Krumlov	75.61 326	*eP*	P	05 25 30.8	+2.0
KHC	Kasperske Hory	75.66 326	*d iP*	P	05 25 30.2	+1.2
KHC			pmax	pmax		
	comp=Z,6.0nm,0.6s					
KHC	Kasperske Hory	75.66 326	*eP*	P	05 25 30.3	+1.2
KHC	Kasperske Hory	75.66 326	P	P	05 25 29.7	+0.7
	comp=Z,12nm,1.2s					
RONA	Rosalia, Austr	75.67 324	*i* P	P	05 25 30.8	+1.7
	comp=Z,4.5nm,0.6s,SNR=5.9					
CONA	Conrad Observa	75.67 324	*eP*	P	05 25 30.8	+1.6
	comp=Z,3.1nm,0.6s					
ROTZ	Rotzenmuhle	75.69 328	*eP*	P	05 25 30.3	+1.2
	comp=Z,1.3nm,0.9s,baz=35,slow=5.7					
MORH	Mrgy, Hungar	75.80 322	⇑P	P	05 25 30.5	+0.7
MORH	Mrgy, Hungar	75.80 322	P	P	05 25 30.1	+0.3
	comp=Z,4.8nm,0.9s					
GEC2	GERESS Array S	75.84 326	*eP*	P	05 25 30.8	+0.7
	comp=Z,3.3nm,0.7s,baz=35,slow=5.7					
GERES	GERESS Array B	75.84 326	P	P	05 25 30.9	+0.7
	comp=Z,2.5nm,0.7s,baz=18,slow=4.8,SNR=20					
	comp=Z,2.5nm,0.7s					
KASTN	Kahler Asten	75.92 331	*eP*	P	05 25 31.2	+0.8
	comp=Z,4.6nm,0.7s,baz=35,slow=5.7					
WET	Wettzell	75.93 327	*eP*	P	05 25 31.8	+1.3
	comp=Z,5.6nm,0.9s,baz=35,slow=5.7					
EKA	Eskdalemuir Ar	75.93 339	P	P	05 25 30.9	+0.5
	comp=Z,2.9nm,0.5s,baz=27,slow=4.9,SNR=29					
	comp=Z,2.9nm,0.5s					
GRF	Grafenberg Arr	76.13 328	*eP*	P	05 25 32.9	+1.3
	comp=Z,27nm,1.3s,baz=35,slow=5.7					
GRF			*eL*	L	05 56 03.2	
	comp=Z,16nm,21.7s					
BUG	Bochum–Univer	76.13 331	*eP*	P	05 25 32.2	+0.7
	comp=Z,12nm,1.1s,baz=35,slow=5.7					
BOVS	Bovan	76.34 318	⇓P	P	05 25 33.3	+0.4
ARSA	Arzberg	76.35 324	*eP*	P	05 25 34.2	+1.3
	comp=Z,1.5nm,0.5s					
MOA	Molln	76.40 325	*i* P	P	05 25 34.3	+1.1
	comp=Z,2.8nm,0.7s					
MMAI	Mount Meron Ar	76.53 303	P	P	05 25 35.5	+1.2
	comp=Z,1.1nm,0.4s,baz=64,slow=3.8,SNR=5.5					
	comp=Z,1.1nm,0.4s					
BIOA	Bad Ischl, Aus	76.78 326	*eP*	P	05 25 36.5	+1.1
	comp=Z,2.8nm,0.5s					
GROS	Grobnik	76.98 324	*i* P	P	05 25 37.1	+0.6
GROS			*i* pP	PcP	05 25 41.7	-4.7
SOKA	Soboth	77.01 324	*eP*	P	05 25 37.6	+0.9
	comp=Z,2.8nm,0.6s					
RJOB	Jochberg	77.09 326	*eP*	P	05 25 38.4	+1.3
	comp=Z,6.3nm,0.8s,baz=35,slow=5.7					
FUR	Furstenfeldbru	77.34 327	*eP*	P	05 25 39.6	+1.2
	comp=Z,11nm,0.7s,baz=35,slow=5.7					
OBKA	Obir	77.34 324	*eP*	P	05 25 39.4	+0.8
	comp=Z,5.1nm,0.6s					
LESA	Schwarzleotal	77.39 326	*eP*	P	05 25 40.0	+1.2
	comp=Z,2.4nm,0.6s					
KBA	Koelnbreinsper	77.39 325	*eP*	P	05 25 40.4	+1.4
	comp=Z,6.1nm,0.5s					
MYKA	Terra Mystica	77.63 325	*i* P	P	05 25 40.6	+0.4
	comp=Z,2.2nm,0.4s					
GBAS	Gorenja Brezov	77.85 324	*i* P	P	05 25 41.4	+0.1
WATA	Wanderalm	77.90 326	*i* P	P	05 25 42.6	+0.9
	comp=Z,4.4nm,0.6s					
WTTA	Wattenberg	77.93 326	*i* P	P	05 25 42.9	+0.9
	comp=Z,6.0nm,0.5s,SNR=5.7					
ABTA	Abfaltersbach	78.00 326	*eP*	P	05 25 42.8	+0.6
	comp=Z,3.0nm,1.1s					
JAVS	Javornik	78.04 324	*i* P	P	05 25 42.3	-0.1
MOTA	Moosalm	78.08 327	*i* P	P	05 25 43.6	+0.9
	comp=Z,5.8nm,0.6s,SNR=11					
RETA	Reutte	78.10 327	*i* P	P	05 25 43.6	+0.9
	comp=Z,9.9nm,1.1s,SNR=6.2					
SQTA	Sankt Quirin	78.14 327	*i* P	P	05 25 43.9	+0.9
	comp=Z,3.1nm,0.5s					
BFO	Black Forest	78.33 329	*eP*	P	05 25 44.5	+0.6
	comp=Z,6.1nm,0.9s,baz=35,slow=5.7					
FETA	Feichten	78.49 327	*i* P	P	05 25 45.9	+0.9
	comp=Z,6.5nm,0.9s					
DAVA	Damuels	78.61 327	*i* P	P	05 25 46.4	+0.8
	comp=Z,6.5nm,0.5s,SNR=7.9					
SCHQ	Schefferville	79.05 15	P	P	05 25 48.1	+0.4
	comp=Z,2.9nm,0.4s,baz=329,slow=4.5,SNR=9.3					
	comp=Z,2.9nm,0.4s					
TUE	Stuetta	79.48 327	P	P	05 25 50.6	+0.2
TXAR	Lajitas Array	87.19 51	P	P	05 26 30.9	+1.2
	comp=Z,0.4nm,0.7s,baz=278,slow=2.7,SNR=6.4					
	comp=Z,0.4nm,0.7s					
ESDC	Sonseca Array	90.22 332	P	P	05 26 43.9	+0.2
	comp=Z,0.6nm,0.6s,baz=21,slow=3.7,SNR=11					
ESDC			PP	PP	05 30 19.6	-0.7
	comp=Z,0.6nm,0.8s,baz=27,slow=8.0,SNR=5.8					
	comp=Z,0.6nm,0.6s					
TORD	Torodi Ar. Bea	111.10 315	PP	PP	05 32 55.8	-1.9
	comp=Z,2.3nm,0.9s,baz=20,slow=7.1,SNR=10					
DSLB	Salisbury	117.92 22	*eP*	PKPdf	05 32 21.0	-7.6
LPAZ	La Paz	144.02 48	PKP	PKPbc	05 33 17.1	+0.3
	comp=Z,0.5nm,0.6s,baz=3.2,slow=2.7,SNR=2.3					
SNAA	Sanae	146.80 201	PKPbc	PKPab	05 33 24.2	-0.6
	comp=Z,0.6nm,0.6s,baz=184,slow=8.8,SNR=5.8					
BDFB	Brasilia	151.06 14	PKPbc	PKPbc	05 33 35.2	0.0
	comp=Z,1.1nm,0.5s,baz=330,slow=5.2,SNR=5.6					

*SJA **25** 05:45:54.1±0.6,22.˚80S×66.˚45W,h246$^{km}_{\pm 4}$km,ML4.8, MW4.6*

*GUC **25** 05:45:55.8±0.7,22.˚85S×66.˚57W,h225$^{km}_{\pm 6}$km,ML4.7*

*NEIC **25** 05:45:55.8±1.9,22.˚82S±0.˚06×66.˚41W±0.˚08,h228$^{km}_{\pm 5}$km, mb4.7/347,Mww4.9/23,Mwr4.9(GUC),Error ellipse: s-maj=10.5km s-min=9.2km az=75.0*

*NEIC **25** 05:45:55.2,22.˚84S×66.˚38W,h240^{km}*

*NEIC **25** 05:45:55.2,22.˚84S×66.˚38W,h240^{km},Moment Tensor Solution. Duration: 1^{s}3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.48; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$0.00; $M_{r\theta}$-0.71; $M_{\theta\phi}$0.55; $M_{\phi r}$-2.14; Fault plane solution: M_o2.37000×10^{16} NP1: ϕ_s293.67000°,δ10.11000°,λ10.60000°. NP2: ϕ_s193.23000°,δ88.15000°,λ99.94000°. Principal axes: T 2.6520, Plg46.0000°, Azm113.0000°; N -0.7345, Plg10.0000°, Azm13.0000°; P -1.9175, Plg42.0000°, Azm274.0000°;*

*VAO **25** 05:45:56.0±0.5,22.˚78S×66.˚32W,h235$^{km}_{\pm 4}$km,mb5.0*

*IDC **25** 05:45:57.3±0.7,22.˚72S×66.˚19W,h236$^{km}_{\pm 6}$km,mb4.1/16, mbtmp4.7/23,Error ellipse: s-maj=13.0km s-min=8.8km az=61.0*

ISC 25 05:45:54.8±0.4,**22.˚84S**±0.˚03×**66.˚44W**±0.˚04,**h222**$^{km}_{\pm 3}$km, **h223**^{km};**pP-P,n401,**σ1°**39**/317,**mb4.7**/182,**15C-3D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.08	52	*eP*		Pn		05 46 30.5	+2.5
YJA	Yavi	1.08	52	*eP*		Pn		05 46 30.5	+2.5
YJA				*eS*		S		05 46 56.9	+3.2
SALTA		1.38	176	*eP*		Pn		05 46 32.8	+2.6
SALTA				*eS*		S		05 47 00.8	+3.1
SALTA		1.38	176	*eP*		Pn		05 46 27.1	-3.0
SALTA				*eP*				05 46 32.7	
SALTA				*eS*		S		05 46 50.5	-7.2
AF01	San Pedro de A	1.61	266			Pn		05 46 34.5	+2.7
AF01	San Pedro de A	1.61	266	*eP*		Pn		05 46 34.5	+2.7
AF01				IAML				05 47 19.0	
	comp=N,2μm,0.4s								
AF01	San Pedro de A	1.61	266	*eP*		Pn		05 46 29.9	-1.9
AF01				*eS*		S		05 47 22.0	+22
AZAP	Zapla	1.87	138	*eP*		Pn		05 46 35.9	+1.8
AZAP				*eS*		S		05 47 07.5	+2.9
SLA	San Lorenzo	2.06	156	⇓*eP*		Pn		05 46 38.4	+2.7
SLA	San Lorenzo	2.06	156	*eP*		Pn		05 46 38.5	+2.7
SLA				*eS*		S		05 47 02.6	-5.1
ALOL	LOMAS DE OLMED	2.46	114	*eP*		Pn		05 46 41.2	+1.5
PB09	IPOC Station P	2.80	291			Pn		05 46 45.6	+2.0
PB09					Sn	S		05 47 22.8	+1.2
PB09	IPOC Station P	2.80	291⇑	*eP*		Pn		05 46 45.5	+1.9
PB09				*eS*		S		05 47 22.4	+0.9
PB09				IAML				05 47 26.0	
	comp=N,2μm,0.2s								
PB09	IPOC Station P	2.80	291	*eP*		Pn		05 46 44.8	+1.2
PB09				*eS*		S		05 47 23.9	+2.3
PB09				IAML				05 47 25.5	
	comp=Z,1μm,0.6s								
PB06	IPOC Station P	2.90	272			Pn		05 46 45.7	+1.0
PB06					Sn	S		05 47 23.4	0.0
PB06	IPOC Station P	2.90	272⇑	*eP*		Pn		05 46 45.7	+1.0
PB06				*eS*		S		05 47 23.7	+0.2
PB06	IPOC Station P	2.90	272	*eP*		Pn		05 46 45.5	+0.9
PB06				*eS*		S		05 47 24.2	+0.7
PB06				IAML				05 47 26.8	
	comp=Z,2μm,0.1s								
PB03	IPOC Station P	3.17	284			Pn		05 46 48.7	+0.9
PB03	IPOC Station P	3.17	284⇑	*eP*		Pn		05 46 48.7	+0.9
PB03				*eS*		S		05 47 28.3	-0.8
PB03	IPOC Station P	3.17	284	*eP*		Pn		05 46 48.0	+0.2
PB03				*eS*		S		05 47 28.7	-0.4
FSA	Cafayete	3.28	173	*eP*		Pn		05 46 51.0	+2.0
PB01	IPOC Station P	3.35	302			Pn		05 46 50.9	+1.1
PB01					Sn	S		05 47 32.6	-0.2
PB01	IPOC Station P	3.35	302⇑	*eP*		Pn		05 46 50.9	+1.1
PB01	IPOC Station P	3.35	302	*eP*		Pn		05 46 50.8	+1.0
PB01				*eS*		S		05 47 33.0	+0.2
PB05	IPOC Station P	3.47	269			Pn		05 46 52.0	+0.7
PB05	IPOC Station P	3.47	269⇑	*eP*		Pn		05 46 51.9	+0.6
PB05	IPOC Station P	3.47	269	*eP*		Pn		05 46 52.0	+0.7
PB05				*eS*		S		05 47 34.9	-0.5
PB02	IPOC Station P	3.55	295			Pn		05 46 52.8	+0.6
PB02					Sn	S		05 47 35.1	-1.9
PB02	IPOC Station P	3.55	295	*eP*		Pn		05 46 52.8	+0.6
PB02	IPOC Station P	3.55	295	*eP*		Pn		05 46 52.8	+0.6
PB02				*eS*		S		05 47 35.9	-1.1
PB08	IPOC Station P	3.69	316			Pn		05 46 56.1	+2.0
PB08	IPOC Station P	3.69	316	*eP*		Pn		05 46 56.0	+1.8
PB08	IPOC Station P	3.69	316	*eP*		Pn		05 46 56.1	+2.0
PB08				*eS*		S		05 47 41.6	+1.0
PB08				IAML				05 47 43.1	
	comp=Z,1μm,0.4s								
GO02	Mina Guanaco	3.69	231			Pn		05 46 55.1	+1.0
GO02	Mina Guanaco	3.69	231	*eP*		Pn		05 46 55.1	+1.0
GO02	Mina Guanaco	3.69	231	*eP*		Pn		05 46 55.2	+1.1
GO02				*eS*		S		05 47 41.2	+0.7
PB10	IPOC Station P	3.84	259			Pn		05 46 56.3	+0.7
PB10	IPOC Station P	3.84	259⇑	*eP*		Pn		05 46 56.3	+0.7
PB10	IPOC Station P	3.84	259	*eP*		Pn		05 46 56.3	+0.7
PB10				*eS*		S		05 47 41.4	-1.9
PB10				IAML				05 47 43.7	
	comp=Z,1μm,0.5s								
PATCX	Punta Patache	3.99	300			Pn		05 46 58.0	+0.5
PATCX	Punta Patache	3.99	300⇑	*eP*		Pn		05 46 57.7	+0.2
PB14	IPOC Station P	4.04	243			Pn		05 46 58.7	+0.4
PB14	IPOC Station P	4.04	243⇑	*eP*		Pn		05 46 58.9	+0.6
PB14	IPOC Station P	4.04	243	*eP*		Pn		05 46 58.8	+0.6
PB14				*eS*		S		05 47 46.5	-1.6
PB14				IAML				05 47 50.4	
	comp=Z,1μm,0.4s								
GO01	Chusmiza	4.07	320			Pn		05 47 00.3	+1.5
GO01	Chusmiza	4.07	320⇑	*eP*		Pn		05 47 00.2	+1.3
GO01	Chusmiza	4.07	320	*eP*		Pn		05 46 59.7	+0.9
GO01				*eS*		S		05 47 51.8	+2.7
GO01				IAML				05 47 54.0	
	comp=Z,1μm,0.1s								
TA01	Diego Aracena	4.15	302			Pn		05 46 59.5	+0.2
TA01	Diego Aracena	4.15	302	*eP*		Pn		05 46 59.1	-0.2
TA01	Diego Aracena	4.15	302	*eP*		Pn		05 46 59.4	0.0
TA01				*eS*		S		05 47 48.4	-1.7
TA02	Huaiquique	4.28	306	*eP*		Pn		05 47 01.3	+0.4
PB11	IPOC Station P	4.29	315			Pn		05 47 01.4	+0.1
PB11	IPOC Station P	4.29	315⇑	*eP*		Pn		05 47 01.3	+0.1
PB11	IPOC Station P	4.29	315	*eP*		Pn		05 47 01.5	+0.3

comp=Z,2.7nm,0.5s,baz=19,slow=9.0,SNR=26
PLCA S **S** 05 53 06.0 -1.3
comp=Z,0.9nm,0.3s,baz=177,slow=21,SNR=1.2
PLCA ScP **ScP** 05 57 27.1 -0.8
comp=Z,2.0nm,0.9s,baz=350,slow=6.1,SNR=3.3
PLCA Paso Flores 18.17 190 *eP* **P** 05 49 52.3 +1.2
BDFB Brasilia 18.80 71 P **P** 05 49 58.3 +0.2
comp=Z,166nm,0.8s,baz=249,slow=12,SNR=239
TBTG Tabatinga, AM 18.85 349 P **P** 05 49 59.5 +1.0
TBTG Tabatinga, AM 18.85 349 *eP* **P** 05 49 59.3 +0.8
NPGB Novo Progresso 18.99 36 *eP* **P** 05 49 57.8 -2.2
PARB Paraibuna 19.16 96 *eP* **P** 05 50 00.1 -1.8
PMNB Patos De Minas 19.19 81 *eP* **P** 05 50 00.9 -1.3
TEFE Tefe 19.30 5 *eP* **P** 05 50 02.4 -0.9
ATAH Atahualpa 19.40 322 P **Pn** 05 50 07.8 -1.0
comp=Z,12nm,0.8s,baz=194,slow=6.8,SNR=11
LL05 Los Muermos 19.43 196 P **P** 05 50 04.8 +0.4
BSCB Bom Sucesso 20.18 89 *eP* **P** 05 50 12.4 -0.4
LL02 Futaleuf 20.79 191 **P** 05 50 19.1 +0.1
ITTB Itaituba 21.08 31 *eP* **P** 05 50 20.2 -2.1
GO07 Milladeo Hill, 21.09 195 P **P** 05 50 22.1 +0.1
DIAM Diamantina, MG 21.78 82 *eP* **P** 05 50 28.9 -0.5
JANB Januaria 22.30 74 *eP* **P** 05 50 33.0 -1.1
SMTB Santa Maria do 22.81 55 *eP* **P** 05 50 37.0 -1.7
SDBA SAO DESIDERIO 22.97 67 *eP* **P** 05 50 39.0 -1.2
PRPB Parauapebas 23.06 47 *eP* **P** 05 50 39.1 -1.8
MAL2 Monte Alegre, 23.88 32 **P** 05 50 47.2 -1.1
SJMB Sao Joao De Ma 23.96 85 *eP* **P** 05 50 47.0 -2.1
BOAV Boa Vista 25.74 14 **P** 05 51 04.7 -0.4
BOAV Boa Vista 25.74 14 *eP* **P** 05 51 04.5 -0.7
OTAV Otavalo 25.75 331 **P** 05 51 06.1 +0.4
OTAV Otavalo 25.75 331 *eP* **P** 05 51 06.5 +0.8
FLOC Florencia 25.89 338 **P** 05 51 06.6 +0.1
ROSC El Rosal 28.57 343 P **P** 05 51 31.1 +0.3
comp=Z,2.1nm,0.3s,baz=175,slow=11,SNR=1.4
comp=Z,2.1nm,0.3s
RUSC La Rusia 29.29 346 **P** 05 51 36.1 -1.1
RUSC IAmb IAmb 05 51 45.2
comp=Z,21nm,1.0s
MPGF Montagnes des 30.88 28 P **P** 05 51 49.5 -1.3
MPGF pP **pP** 05 52 35.5 -1.3
MPGF sP **sP** 05 53 00.9 -1.7
MPGF PcP **PcP** 05 54 40.4 -1.5
NBPB Pedra_Branca-C 31.10 61 *eP* **P** 05 51 51.6 -1.2
NBAN Anadia - AL 31.70 71 *eP* **P** 05 51 55.9 -2.1
NBCL Cascavel-CE 32.92 60 *eP* **P** 05 52 07.8 -0.8
RCBR Riachuelo 33.96 65 P **P** 05 52 17.3 -0.2
RCBR Riachuelo 33.96 65 *eP* **P** 05 52 16.9 -0.6
LCR2 La Lucha 2 36.67 330 IAmb IAmb 05 52 44.5
comp=Z,21nm,0.9s
BIM Bigot 37.50 9 P **P** 05 52 47.0 -0.5
JTS Las Juntas de 37.59 329 P **P** 05 52 50.0 +1.7
JTS IAmb IAmb 05 52 52.2
comp=Z,22nm,1.1s
JTS Las Juntas de 37.59 329 P **P** 05 52 50.1 +1.7
ESPN Las Esperanzas 38.97 332 IAmb IAmb 05 53 03.1
comp=Z,20nm,0.9s
UUPR Utuado, UPR, P 40.84 360 P **P** 05 53 14.2 -0.9
ESPZ Base Esperanza 41.03 174 P **P** 05 53 17.9 +1.8
ESPZ IAmb IAmb 05 53 20.4
comp=Z,16nm,0.7s
TGUH Tegucigalpa,Un 41.97 329 P **P** 05 53 24.7 +0.3
TGUH IAmb IAmb 05 53 26.7
comp=Z,30nm,0.9s
MTO3 Montecristo 43.29 327 P **P** 05 53 35.9 +0.8
MTO3 IAmb IAmb 05 53 37.5
comp=Z,20nm,0.8s
ESQI Esquipulas 43.41 327 IAmb IAmb 05 53 38.4
comp=Z,24nm,0.9s
TEIG Tepich 47.82 332 P **P** 05 54 10.5 +0.3
TEIG Tepich 47.82 332 P **P** 05 54 09.9 -0.3
TEIG pP **pP** 05 54 58.8 -0.8
CAMR Camarioca 47.88 341 P **P** 05 54 11.2 +0.5
CAMR IAmb IAmb 05 54 12.2
comp=Z,80nm,1.4s
BELA Belgrano 2 57.11 172 **P** 05 55 18.8 +1.1
BELA IAmb IAmb 05 55 25.5
comp=Z,12nm,0.8s
ZAIG Zacatecas 57.37 320 P **P** 05 55 21.9 +1.4
ZAIG IAmb IAmb 05 55 23.6
comp=Z,15nm,0.9s
VNA3 Neumayer Olymp 58.08 161 ⇑P **P** 05 55 25.7 +1.2
comp=Z,15nm,0.7s
VNA1 Neumayer--Stat 58.26 161 ⇑P **P** 05 55 27.4 +1.7
comp=Z,22nm,0.9s
VNA2 Neumayer--Watz 58.63 161 ⇑P **P** 05 55 29.7 +1.4
comp=Z,22nm,0.7s,baz=285,slow=8.6
BIRD Birdtown, Kers 58.70 346 IAmb IAmb 05 55 30.2
comp=Z,12nm,0.8s
Y52A Lilburn 58.84 343 IAmb IAmb 05 55 30.8
comp=Z,20nm,1.1s
LRAL Lakeview Retre 58.93 340 IAmb IAmb 05 55 31.3
comp=Z,16nm,1.1s
W57A Gilead 59.09 347 IAmb IAmb 05 55 33.1
comp=Z,20nm,1.0s
PAULI Pauline 59.17 345 IAmb IAmb 05 55 33.9
comp=Z,14nm,0.7s
146A Union 59.25 338 IAmb IAmb 05 55 34.0
comp=Z,25nm,1.0s
KMSC Kings Mountain 59.37 346 IAmb IAmb 05 55 35.2
comp=Z,19nm,0.8s
Z47A Carrollton 59.42 339 IAmb IAmb 05 55 34.7
comp=Z,19nm,0.7s
Y49A Blount Mountai 59.51 341 IAmb IAmb 05 55 35.3
comp=Z,19nm,1.0s
BG3 Lake Jocassee 59.61 344 IAmb IAmb 05 55 36.8
comp=Z,17nm,0.8s
HKT Hockley 59.61 330 P **P** 05 55 35.7 +0.3
HKT IAmb IAmb 05 55 37.6
comp=Z,20nm,1.3s
735A Kenedy 59.63 328 P **P** 05 55 36.5 +0.9
X51A Calhoun 59.71 342 P **P** 05 55 36.4 +0.3
FPAL Fort Paine 59.90 342 P **P** 05 55 36.4 -1.0
W52A Murphy 59.96 343 IAmb IAmb 05 55 38.9
comp=Z,13nm,0.9s
833A Chaparral WMA, 59.98 326 **P** 05 55 39.0 +1.0
143A Socs Landing, 60.16 336 IAmb IAmb 05 55 41.3
comp=Z,27nm,1.2s
V53A Saluda 60.22 345 IAmb IAmb 05 55 40.8
comp=Z,15nm,0.8s
SNAA Sanae 60.27 161 ⇑P **P** 05 55 40.6 +1.1
comp=Z,219nm,0.6s
SNAA Sanae 60.27 161 **P** 05 55 40.1 +0.6
SNAA IAmb IAmb 05 55 41.9
comp=Z,14nm,0.9s
SNAA Sanae 60.27 161 P **P** 05 55 40.7 +1.1
comp=Z,12nm,0.8s,baz=285,slow=7.1,SNR=59
comp=Z,12nm,0.8s
W50A Signal Mountai 60.44 342 IAmb IAmb 05 55 42.0
comp=Z,23nm,1.0s
CPCT Cooper Cave 60.45 343 IAmb IAmb 05 55 42.0
comp=Z,13nm,0.9s
TKL Tuckaleechee C 60.45 344 IAmb IAmb 05 55 41.9
comp=Z,20nm,0.9s
HNDO Hondo 60.91 327 P **P** 05 55 44.8 +0.5
HNDO IAmb IAmb 05 55 46.0
comp=Z,17nm,0.8s
PLAL Pickwick Lake 61.06 340 IAmb IAmb 05 55 45.5
comp=Z,18nm,1.0s
435B Jarrell 61.12 329 IAmb IAmb 05 55 47.3
comp=Z,11nm,0.8s
Z41A Richland Creek 61.19 335 IAmb IAmb 05 55 47.2
comp=Z,12nm,0.7s
V48A Smith Brothers 61.38 341 IAmb IAmb 05 55 48.0
comp=Z,16nm,0.7s
DRIO Del Rio 61.50 326 IAmb IAmb 05 55 49.6
comp=Z,20nm,1.1s
JCT Junction City 61.94 327 P **P** 05 55 51.6 +0.4
JCT IAmb IAmb 05 55 52.7
comp=Z,20nm,0.8s
TROLL Troll, Antarti 61.98 161 ⇑P **P** 05 55 52.5 +1.4
comp=Z,863nm,0.6s
WVT Waverly 62.04 340 P **P** 05 55 51.3 -0.4
WVT Waverly 62.04 340 P **P** 05 55 51.0 -0.7
WHTX Lake Whitney, 62.08 330 IAmb IAmb 05 55 53.5
comp=Z,13nm,0.8s
BRDY Brady 62.21 329 IAmb IAmb 05 55 54.2
comp=Z,9.6nm,0.9s
HPIG 62.35 320 IAmb IAmb 05 55 56.4
comp=Z,12nm,0.8s
UALR University of 62.36 336 IAmb IAmb 05 55 54.7
comp=Z,28nm,1.4s
FW13 Cleburne 62.37 331 IAmb IAmb 05 55 55.3
comp=Z,11nm,0.5s
MIAR Mount Ida 62.63 335 IAmb IAmb 05 55 56.8
comp=Z,15nm,1.1s
SAND Sanderson 62.71 325 **P** 05 55 56.7 +0.4
SAND IAmb IAmb 05 55 58.3
comp=Z,23nm,1.0s
HICK Hickman 62.86 339 P **P** 05 55 57.4 +0.3
PVMO Portageville 62.90 339 P **P** 05 55 57.6 +0.3
FW06 Azle 62.95 331 IAmb IAmb 05 55 59.5
comp=Z,32nm,1.6s
Q54A Coxs Mills 62.96 347 IAmb IAmb 05 55 58.9
comp=Z,23nm,1.1s
OZNA Ozona 62.97 327 **P** 05 55 58.2 +0.2
OZNA IAmb IAmb 05 55 59.3
comp=Z,15nm,0.8s
TXAR Lajitas Array 63.05 324 **P** 05 55 59.0 +0.3
TXAR Lajitas Array 63.05 324 P **P** 05 55 59.2 +0.6
comp=Z,2.7nm,0.7s,baz=151,slow=8.3,SNR=46
comp=Z,2.7nm,0.7s
LCAR Lake Charles 63.08 338 IAmb IAmb 05 55 59.3
comp=Z,19nm,1.4s
PLPT Palo Pinto 63.16 330 IAmb IAmb 05 56 00.7
comp=Z,15nm,0.8s
WCI Wyandotte Cave 63.55 343 P **P** 05 56 00.2 -1.4
WCI Wyandotte Cave 63.55 343 P **P** 05 56 00.4 -1.2
WCI pP **pP** 05 56 52.0 -1.9
Q51A Peebles 63.55 345 IAmb IAmb 05 56 02.4
comp=Z,13nm,1.1s
ABTX Abilene, Hawle 63.62 329 IAmb IAmb 05 56 03.6
comp=Z,25nm,1.5s
S44A Carbondale 63.93 340 IAmb IAmb 05 56 04.4
comp=Z,30nm,1.4s
SIUC Southern Illin 63.93 340 IAmb IAmb 05 56 04.4
comp=Z,25nm,1.4s
O52A Adamsville 64.26 347 IAmb IAmb 05 56 07.1
comp=Z,16nm,0.7s
O53A New Philadelph 64.26 347 IAmb IAmb 05 56 07.3
comp=Z,14nm,0.7s
HHAR Hobbs 64.29 336 IAmb IAmb 05 56 07.5
comp=Z,13nm,0.9s
APMT Aspermont 64.43 329 IAmb IAmb 05 56 08.9
comp=Z,16nm,0.8s
MGMO Mountain Grove 64.45 337 IAmb IAmb 05 56 08.5
comp=Z,12nm,0.8s
U38A Gravette 64.60 335 IAmb IAmb 05 56 09.5
comp=Z,36nm,1.9s
SN07 Snyder 07 64.61 328 IAmb IAmb 05 56 09.8
comp=Z,9.7nm,0.8s
RLO Rose Lookout 64.61 335 IAmb IAmb 05 56 10.0
comp=Z,17nm,1.1s
ODSA Odessa 64.65 326 IAmb IAmb 05 56 10.1
comp=Z,16nm,0.7s
TUL3 Leonard 64.70 334 IAmb IAmb 05 56 10.4
comp=Z,25nm,1.4s
POST Post 64.88 328 IAmb IAmb 05 56 12.8
comp=Z,11nm,0.9s
O49A Covington 64.89 345 IAmb IAmb 05 56 10.7
comp=Z,17nm,0.8s
VHRN Van Horn 64.89 324 IAmb IAmb 05 56 12.4
comp=Z,17nm,0.8s
CCM Cathedral Cave 64.91 339 P **P** 05 56 10.1 -0.3
CCM Cathedral Cave 64.91 339 P **P** 05 56 09.9 -0.5
CCM pP **pP** 05 57 02.0 -1.0
R40A Maddies Statio 65.47 338 IAmb IAmb 05 56 14.6
comp=Z,9.7nm,0.7s
T35A Sooner Cattle 65.86 334 IAmb IAmb 05 56 18.5
comp=Z,14nm,0.9s
P40A Paris 66.50 339 IAmb IAmb 05 56 21.2
comp=Z,20nm,1.0s
J57A Williamstown 66.51 352 IAmb IAmb 05 56 21.9
comp=Z,13nm,1.0s
DBIC Dimbokro 66.95 72 P **P** 05 56 22.9 -1.1
DBIC comp=Z,16nm,0.7s,baz=261,slow=7.6,SNR=25 pP **pP** 05 57 17.4 +0.6
comp=Z,4.5nm,0.7s,baz=272,slow=5.5,SNR=4.0
comp=Z,16nm,0.7s
DBIC Dimbokro 66.95 72 P **P** 05 56 22.7 -1.3
PECO Prince Edward 67.15 352 IAmb IAmb 05 56 25.9
comp=Z,19nm,0.8s
QSPA South Pole Qui 67.36 180 P **P** 05 56 29.0 +3.1
QSPA IAmb IAmb 05 56 36.2
comp=Z,7.2nm,0.6s
QSPA South Pole Qui 67.36 180 P **P** 05 56 28.8 +3.0
comp=Z,4.2nm,0.6s,baz=158,slow=1.5,SNR=26
comp=Z,4.2nm,0.6s
QSPA South Pole Qui 67.36 180 P **P** 05 56 28.9 +3.0
QSPA PcP **PcP** 05 56 52.5 +0.7
LONY Lake Ozonia 67.54 354 P **P** 05 56 27.1 0.0
121A Cookes Peak, D 67.76 323 IAmb IAmb 05 56 31.9
comp=Z,19nm,0.9s
WBO Williamsburg 67.99 353 IAmb IAmb 05 56 31.4
comp=Z,11nm,0.8s
RTBA Rita Blanca 68.20 329 IAmb IAmb 05 56 34.7
comp=Z,12nm,1.1s
SADO Sadowa 68.28 350 IAmb IAmb 05 56 32.5
comp=Z,12nm,0.8s
L40A Anamosa 68.53 340 IAmb IAmb 05 56 34.3
comp=Z,21nm,0.9s
ANMO Albuquerque 68.88 326 **P** 05 56 37.0 +1.2
ANMO IAmb IAmb 05 56 38.3
comp=Z,12nm,0.9s
ANMO Albuquerque 68.88 326 P **P** 05 56 37.0 +1.2
N35A Tabor 68.95 337 IAmb IAmb 05 56 36.6
comp=Z,11nm,0.7s
BUKO Buck Lake 68.97 350 IAmb IAmb 05 56 37.2
comp=Z,18nm,1.0s
TUC Tucson 69.31 321 P **P** 05 56 38.8 +0.5
TUC Tucson 69.31 321 P **P** 05 56 39.4 +1.1
SDCO Great Sand Dun 70.58 328 IAmb IAmb 05 56 48.8
comp=Z,14nm,1.0s
W18A Petrified Fore 70.77 323 IAmb IAmb 05 56 50.1
comp=Z,20nm,1.1s
I37A Lemond, Waseca 70.97 340 IAmb IAmb 05 56 49.0
comp=Z,21nm,1.0s
X16A Lo Mia Camp, P 71.21 322 IAmb IAmb 05 56 53.0
comp=Z,12nm,1.1s
Q24A Divide 71.37 329 IAmb IAmb 05 56 53.5
comp=Z,15nm,0.9s
MVCO Mesa Verde 71.68 326 IAmb IAmb 05 56 55.4
comp=Z,17nm,1.1s
VTX Valle De La Tr 71.70 317 P **P** 05 56 53.6 +0.8
VTX IAmb IAmb 05 56 55.9
comp=Z,24nm,1.3s
ECSD EROS Data Cent 71.81 337 IAmb IAmb 05 56 54.2
comp=Z,16nm,1.4s
SPMN Marine on St. 71.88 341 IAmb IAmb 05 56 54.1
comp=Z,22nm,1.3s
WUAZ Wupatki 71.97 323 IAmb IAmb 05 56 57.6
comp=Z,16nm,0.9s
K30B Basset 72.02 335 IAmb IAmb 05 56 56.6
comp=Z,23nm,0.9s
PV15 Paradox Valley 72.53 326 IAmb IAmb 05 57 00.9
comp=Z,22nm,1.1s
PV02 Paradox Valley 72.55 326 IAmb IAmb 05 57 00.7
comp=Z,22nm,1.3s
PV13 Radium Mtn., P 72.56 326 IAmb IAmb 05 57 00.6
comp=Z,11nm,1.0s
PV05 Paradox Valley 72.64 326 IAmb IAmb 05 57 00.9
comp=Z,13nm,1.1s
PV12 Saucer Basin, 72.67 326 IAmb IAmb 05 57 01.3
comp=Z,12nm,0.9s
PV18 Skein Mesa, Pa 72.67 326 IAmb IAmb 05 57 01.2
comp=Z,12nm,1.0s
PV20 West Nyswonger 72.77 326 IAmb IAmb 05 57 01.8
comp=Z,16nm,1.2s
PV22 Blue Mesa, Par 72.83 326 IAmb IAmb 05 57 02.2
comp=Z,16nm,1.0s
PV10 Paradox Valley 72.84 326 IAmb IAmb 05 57 01.8
comp=Z,18nm,1.0s
CBX Cerro Bola 72.88 317 IAmb IAmb 05 57 03.0
comp=Z,17nm,1.1s
PV23 Carpenter Ridg 72.88 326 IAmb IAmb 05 57 02.5
comp=Z,16nm,1.0s
BC3 Big Chuckawall 73.04 319 **P** 05 57 03.0 +2.3
U15A North Rim 73.14 323 IAmb IAmb 05 57 04.9
comp=Z,14nm,0.9s
HMU Henry Mountain 73.40 325 IAmb IAmb 05 57 06.2
comp=Z,21nm,1.2s
DNR Dunn Ranch,Anz 73.70 318 IAmb IAmb 05 57 07.8
comp=Z,14nm,1.0s
O20A White River Ci 73.78 328 IAmb IAmb 05 57 07.7
comp=Z,17nm,0.9s
SRU San Rafael Swe 74.16 326 IAmb IAmb 05 57 09.7
comp=Z,16nm,0.8s
ELS Elsinore Mount 74.24 318 P **P** 05 57 09.8 +2.2
Q16A Castle Valley 74.35 325 IAmb IAmb 05 57 11.4
comp=Z,29nm,1.7s
P18A Preston Nutter 74.40 326 IAmb IAmb 05 57 11.6
comp=Z,15nm,0.8s
SZCU Shurtz Canyon 74.42 323 IAmb IAmb 05 57 12.1
comp=Z,28nm,1.7s
SYO Syowa Base 74.44 159‖ *eP* **P** 05 57 09.0 +0.9
SYO Syowa Base 74.44 159‖ *ePcP* **PcP** 05 57 23.2 +1.6
P17A Butcher Ranch, 74.54 326 IAmb IAmb 05 57 12.1
comp=Z,21nm,1.0s
CCUT Cedar City 74.54 323 IAmb IAmb 05 57 13.1
comp=Z,17nm,0.9s
GSC Goldstone, Bar 74.97 319 IAmb IAmb 05 57 15.0
comp=Z,17nm,1.3s
RSSD Black Hills 75.01 333 P **P** 05 57 11.6 -0.4
MWC Mount Wilson 75.02 318 P **P** 05 57 12.0 -0.3
MWC IAmb IAmb 05 57 15.2
comp=Z,22nm,1.6s
BSUT Blindstream Ca 75.34 327 IAmb IAmb 05 57 17.1
comp=Z,16nm,0.9s
PRN Pahroc Range 75.39 322 IAmb IAmb 05 57 17.7
comp=Z,15nm,1.2s
MPU Maple Canyon 75.40 326 IAmb IAmb 05 57 17.1
comp=Z,11nm,1.0s
CCCA Chr Cany lake 75.46 319 IAmb IAmb 05 57 17.7
comp=Z,22nm,0.9s
GWY Greenwater Val 75.49 320 IAmb IAmb 05 57 17.5
comp=Z,14nm,0.9s
PSUT Pine Spring 75.52 323 IAmb IAmb 05 57 18.0
comp=Z,9.2nm,0.8s
TPO Tropico Hills 75.56 318 IAmb IAmb 05 57 17.8
comp=Z,25nm,1.4s
WSHM Spangler Hills 75.59 319 IAmb IAmb 05 57 18.1
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 75.67 69 P **P** 05 57 14.8 -1.3
TORD IAmb IAmb 05 57 16.1
comp=Z,9.1nm,0.8s
TORD Torodi Ar. Bea 75.67 69 P **P** 05 57 15.2 -1.0
comp=Z,12nm,0.5s,baz=254,slow=5.2,SNR=123
TORD pP **pP** 05 58 11.4 +1.3
comp=Z,4.9nm,0.8s,baz=276,slow=4.7,SNR=2.4
comp=Z,12nm,0.5s
JLU Jordanelle 75.74 326 IAmb IAmb 05 57 19.0
comp=Z,16nm,1.1s
TPNV Topopah Spring 75.77 321 IAmb IAmb 05 57 19.8
comp=Z,17nm,1.1s
CLC China Lake 75.80 319 IAmb IAmb 05 58 29.9
comp=Z,9.7nm,0.4s
FURC Furnace Creek, 75.80 320 IAmb IAmb 05 57 19.6
comp=Z,18nm,0.9s
WCT Wildcat Mounta 75.88 321 IAmb IAmb 05 57 20.4
comp=Z,15nm,1.0s
WIN Windhoek 75.92 109 **P** 05 57 17.0 -0.7
VNDA Vanda 75.92 190 P **P** 05 57 19.0 +2.5
comp=Z,0.6nm,0.7s,baz=347,slow=3.6,SNR=4.8
comp=Z,0.6nm,0.7s
ISA Isabella, Lake 76.23 319 IAmb IAmb 05 57 22.0
comp=Z,12nm,0.9s
PDAR Pinedale Array 76.42 329 P **P** 05 57 20.6 +0.6
PDAR Pinedale Array 76.42 329 P **P** 05 57 20.9 +0.9
comp=Z,1.5nm,0.7s,baz=132,slow=7.8,SNR=16
comp=Z,1.5nm,0.7s
VES Vestal, Richgr 76.72 318 IAmb IAmb 05 57 24.4
comp=Z,21nm,0.9s
TPH Tonopah 77.10 321 IAmb IAmb 05 57 26.8
comp=Z,13nm,1.1s
AHID Auburn Hatcher 77.17 328 IAmb IAmb 05 57 26.6
comp=Z,20nm,0.9s
ULM Lac du Bonnet 77.30 341 P **P** 05 57 24.8 +0.4
comp=Z,6.0nm,0.7s,baz=170,slow=5.9,SNR=6.3
comp=Z,6.0nm,0.7s
SCHQ Schefferville 77.36 360 P **P** 05 57 24.7 +0.1
comp=Z,4.6nm,0.7s,baz=211,slow=5.7,SNR=5.8
comp=Z,4.6nm,0.7s
TSUM Tsumeb 77.47 106 **P** 05 57 26.1 -0.3
TSUM IAmb IAmb 05 57 27.7
comp=Z,16nm,0.8s
LOHW Long Hollow 77.56 329 IAmb IAmb 05 57 28.9
comp=Z,29nm,1.7s
NVAR Mina Array Bea 77.97 321 **P** 05 57 30.1 +1.4
NVAR Mina Array Bea 77.97 321 P **P** 05 57 30.7 +2.0
comp=Z,5.4nm,0.9s,baz=157,slow=6.4,SNR=31
comp=Z,5.4nm,0.9s
LAO LASA Array 77.99 333 IAmb IAmb 05 57 30.6
comp=Z,16nm,1.2s
RLMT Red Lodge 78.09 331 IAmb IAmb 05 57 31.7
comp=Z,23nm,1.5s
YNE Yellowstone No 78.34 330 IAmb IAmb 05 57 33.1
comp=Z,11nm,0.8s
DGMT Dagmar 78.62 335 IAmb IAmb 05 57 34.3
comp=Z,17nm,1.1s
YHL Hebgen Lake 78.77 329 IAmb IAmb 05 57 36.1
comp=Z,27nm,1.6s
HLID Hailey 79.40 327 IAmb IAmb 05 57 39.5
comp=Z,16nm,0.8s
EGMT Eagleton 80.53 332 IAmb IAmb 05 57 44.1
comp=Z,16nm,1.3s
ORV Oroville 80.58 320 IAmb IAmb 05 57 45.4
comp=Z,20nm,1.1s
BOSA Boshof 80.80 117 P **P** 05 57 43.8 -0.5
comp=Z,4.3nm,0.7s,baz=247,slow=2.7,SNR=12
comp=Z,4.3nm,0.7s
MD01 Midelt array s 80.80 49 P **P** 05 57 44.2 +0.1
MORF Marmelete 80.84 43 *eP* **P** 05 57 44.6 +0.5
MORF IAmb IAmb 05 57 45.5
comp=Z,26nm,1.2s
MORF Marmelete 80.84 43 *eP* **P** 05 57 44.5 +0.5
PTEO Sao Teotonio 80.94 43 *eP* **P** 05 57 46.1 +1.7
PBDV Barranco-do-Ve 81.26 44 *eP* **P** 05 57 47.4 +1.2
PLID Pearl Lake 81.29 327 IAmb IAmb 05 57 48.9
comp=Z,16nm,0.9s
HATC Hat Creek Radi 81.37 321 IAmb IAmb 05 57 49.0
comp=Z,16nm,0.8s
PCVE Castro Verde 81.43 43 *eP* **P** 05 57 48.0 +1.0
PCVE *i* IAmb IAmb 05 57 49.7
comp=Z,37nm,1.6s
MESJ Messejana 81.44 43 *eP* **P** 05 57 47.6 +0.6
MESJ IAmb IAmb 05 57 49.0
comp=Z,9.8nm,0.7s
MESJ Messejana 81.44 43 *eP* **P** 05 57 48.1 +1.0
PVAQ Vaqueiros 81.49 43 *eP* **P** 05 57 48.0 +0.6
PARRA Arraiolos 81.53 42 *eP* **P** 05 57 51.8 +4.3
PARRA *i* IAmb IAmb 05 57 53.0
comp=Z,18nm,1.2s
PBEJ Beja 81.77 43 *eP* **P** 05 57 49.9 +1.1
PBEJ *i* IAmb IAmb 05 57 51.7
comp=Z,35nm,2.1s
BMO Blue Mountains 81.79 326 IAmb IAmb 05 57 51.4
comp=Z,18nm,1.4s
EVO Evora 81.99 42 *eP* **P** 05 57 51.1 +1.2
PMTG Montargil 82.18 42 *eP* **P** 05 57 51.5 +0.6
PMTG *i* IAmb IAmb 05 57 52.2
comp=Z,17nm,1.0s
MAW Mawson 82.38 163 P **P** 05 57 52.8 +1.3
comp=Z,5.4nm,0.8s,baz=226,slow=7.6,SNR=13
comp=Z,5.4nm,0.8s
PBAR Barrancos 82.38 43 *eP* **P** 05 57 52.6 +0.6
PBAR *i* IAmb IAmb 05 57 54.3
comp=Z,11nm,1.2s
PESTR Estremoz 82.45 42 P **P** 05 57 52.8 +0.4
PESTR IAmb IAmb 05 57 54.1
comp=Z,18nm,1.2s
PESTR Estremoz 82.45 42 *eP* **P** 05 57 53.1 +0.7
PESTR *i* IAmb IAmb 05 57 55.0
comp=Z,16nm,0.7s
PSARD Sardoal 82.55 42 *eP* **P** 05 57 53.5 +0.6
PSARD *i* IAmb IAmb 05 57 54.9
comp=Z,22nm,1.6s
PCAS Casmilo, Conde 82.62 41 *eP* **P** 05 57 54.0 +0.8
PCAS *i* IAmb IAmb 05 57 55.7
comp=Z,20nm,1.6s
COI Coimbra 82.77 41 *eP* **P** 05 57 54.6 +0.7
COI *i* IAmb IAmb 05 58 00.4
comp=Z,32nm,1.2s
PMRV Marv??o 82.92 42 *eP* **P** 05 57 54.5 -0.2
PMRV *i* IAmb IAmb 05 57 55.5
comp=Z,13nm,1.1s
PINE Pine Mountain 83.01 324 IAmb IAmb 05 57 58.1
comp=Z,12nm,0.9s
PCBR Castelo Branco 83.11 42 *eP* **P** 05 57 56.1 +0.4
PCBR *i* IAmb IAmb 05 57 58.2
comp=Z,16nm,2.4s
PVIS Viseu 83.39 41 *eP* **P** 05 57 57.5 +0.3
MTE Manteigas 83.41 41 IAmb IAmb 05 57 58.7
comp=Z,12nm,1.0s
MTE Manteigas 83.41 41 *eP* **P** 05 57 57.7 +0.4
MTE *i* IAmb IAmb 05 57 59.6
comp=Z,19nm,1.4s
K02D Willamette Mer 83.84 321 IAmb IAmb 05 58 02.1
comp=Z,18nm,1.0s
PVRL Vila Real 83.84 40 *eP* **P** 05 58 00.4 +1.0

PVRL				*i* IAmb	IAmb	05 58 01.6			
	comp=Z,24nm,1.4s								
POLO	**Lamas de Olo**	**83.85**	**40**	*e*P	**P**	**05 57 59.4**	**-0.1**		
PCAB	**Cabril**	**83.92**	**40**	*e*P	**P**	**05 58 00.1**	**+0.3**		
PCAB				*i* IAmb	IAmb	05 58 02.1			
	comp=Z,26nm,1.5s								
MVO	**Moncorvo**	**84.18**	**41**	*e*P	**P**	**05 58 01.9**	**+0.7**		
MVO				*i* IAmb	IAmb	05 58 03.7			
	comp=Z,18nm,1.2s								
PBRG	**Braganca**	**84.74**	**40**	*e*P	**P**	**05 58 05.3**	**+1.4**		
PBRG				*i* IAmb	IAmb	05 58 06.4			
	comp=Z,16nm,1.4s								
PAB	**San Pablo**	**84.89**	**43**		**P**	**05 58 05.1**	**+0.3**		
PAB				IAmb	IAmb	05 58 06.4			
	comp=Z,20nm,1.1s								
ESDC	**Sonseca Array**	**85.20**	**43**	P	**P**	**05 58 06.5**	**+0.1**		
ESDC				IAmb	IAmb	05 58 08.1			
	comp=Z,12nm,1.1s								
ESDC	**Sonseca Array**	**85.20**	**43**	P	**P**	**05 58 07.0**	**+0.6**		
	comp=Z,11nm,1.0s,baz=239,slow=4.7,SNR=51								
	comp=Z,11nm,1.0s								
ESBB	**Sonseca Array**	**85.21**	**43**	IAmb	IAmb	05 58 08.0			
	comp=Z,13nm,1.1s								
LSZ	**Lusaka**	**88.32**	**106**		**P**	**05 58 21.6**	**-0.5**		
KEST	**Kesra**	**92.30**	**52**	IAmb	IAmb	05 58 42.3			
	comp=Z,5.7nm,0.9s								
KEST	**Kesra**	**92.30**	**52**	P	**P**	**05 58 39.0**	**-1.0**		
	comp=Z,5.2nm,1.0s,baz=162,slow=2.7,SNR=7.0								
	comp=Z,5.2nm,1.0s								
YKA	**Yellowknife Ar**	**93.22**	**340**	P	**P**	**05 58 44.1**	**+0.7**		
	comp=Z,1.5nm,0.7s,baz=128,slow=3.9,SNR=18								
YKA				pP	**pP**	**05 59 43.1**	**+3.6**		
	comp=Z,0.8nm,0.8s,baz=120,slow=4.1,SNR=4.6								
	comp=Z,1.5nm,0.7s								
CLL	**Collm**	**101.21**	**39**	*e*PP	**PP**	**06 03 32.0**	**0.0**		
ASAR	**Alice Springs**	**129.72**	**204**	PKP	**PKPdf**	**06 04 38.6**	**+0.3**		
	comp=Z,0.9nm,0.5s,baz=142,slow=2.1,SNR=13								
ASAR				SKPbc	SKPbc	06 07 39.5	+0.2		
	comp=Z,3.0nm,0.9s,baz=143,slow=4.4,SNR=18								
WRA	**Warramunga Arr**	**132.89**	**207**	PKP	**PKiKP**	**06 04 45.2**	**-0.2**		
	comp=Z,1.1nm,0.6s,baz=164,slow=1.7,SNR=20								
WRA				SKPbc	**SKPbc**	**06 07 50.6**	**-0.2**		
	comp=Z,8.6nm,1.0s,baz=152,slow=3.1,SNR=30								
PETK	**Petropavlovsk-**	**135.00**	**324**	SKPbc	**SKPbc**	**06 07 55.9**	**-0.7**		
	comp=Z,6.0nm,0.9s,baz=94,slow=4.5,SNR=5.9								
KURBB	**Kurchatov Arra**	**141.14**	**36**	PKP	**PKPdf**	**06 04 59.2**	**+0.7**		
	comp=Z,0.3nm,0.3s,baz=305,slow=2.8,SNR=5.2								
ZALV	**Zalesovo Beam**	**142.13**	**28**	PKhKP	PKPpre	06 04 57.1			
	comp=Z,2.6nm,0.8s,baz=307,slow=2.8,SNR=5.9								
ZALV				SKPbc	**SKPbc**	**06 08 14.4**	**-2.2**		
	comp=Z,0.8nm,0.5s,baz=283,slow=2.6,SNR=4.2								
KSH	**Kashi**	**144.10**	**54**	PKP	PKPbc	06 05 03.1	+0.2		
MKAR	**Makanchi Array**	**145.31**	**39**	PKPbc	**PKPab**	**06 05 07.1**	**+0.4**		
	comp=Z,8.1nm,0.7s,baz=307,slow=3.7,SNR=47								
MKAR				SKPbc	**SKPbc**	**06 08 22.7**	**-1.7**		
	comp=Z,1.3nm,0.8s,baz=300,slow=2.4,SNR=4.6								
SONM	**Songino Array**	**154.41**	**11**	PKPbc	**PKiKP**	**06 05 29.6**	**+0.7**		
	comp=Z,1.1nm,0.7s,baz=106,slow=4.8,SNR=3.6								
SONM				PKPab	**PKPab**	**06 05 44.6**	**+0.6**		
	comp=Z,1.1nm,0.5s,baz=336,slow=4.2,SNR=3.1								
MJAR	**Matsushiro Arr**	**154.70**	**308**	PKPbc	**PKiKP**	**06 05 29.9**	**+0.2**		
	comp=Z,0.9nm,0.3s,baz=96,slow=38,SNR=2.1								
MJAR				PKPab	**PKPab**	**06 05 46.0**	**+0.5**		
	comp=Z,2.3nm,0.8s,baz=50,slow=3.3,SNR=6.5								
KSRS	**Korea Array**	**160.90**	**323**	PKPab	**PKPab**	**06 06 13.6**	**+1.4**		
	comp=Z,0.7nm,0.7s,baz=37,slow=5.0,SNR=4.2								
HHC	**Hu-ho-hao-te**	**161.97**	**5**	*e*P	**PKPdf**	**06 05 29.8**	**+0.1**		
HHC				pmax	pmax				
	comp=Z,28nm,0.6s								
HHC				pmax	pmax				
	comp=Z,98nm,5.1s								
CMAR	**Chiang Mai Arr**	**165.64**	**105**	PKPab	**PKPab**	**06 06 34.1**	**+0.4**		
	comp=Z,3.6nm,0.7s,baz=251,slow=5.7,SNR=15								
PZH	**PanZhiHua**	**168.65**	**69**	PKP	**PKPdf**	**06 05 34.6**	**-1.1**		

*IDC **25** 05:56:40.2±0.9,25°.14N×99°.68E,h0km,mb3.8/10, mbtmp3.8/11,ML3.7/1,MS3.1/1,Error ellipse: s-maj=43.0km s-min=15.4km az=73.0*
ISC 25 05:56:41.7±0.9,25°.1N±0°.1×99°.6E±0°.3,h10km,n11, σ0s61/10,mb3.9/10,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.65**	**186**	Pn	**Pn**	**05 58 19.7**	**+0.2**
	0.4nm,0.3s,baz=0.0,slow=12,SNR=6.1						
CMAR				Pg	Pb	05 58 45.4	+8.0
	1.1nm,0.3s,baz=356,slow=18,SNR=24						
CMAR				Lg	Lg	06 00 14.6	
	1.6nm,0.3s,baz=3.1,slow=28,SNR=9.9						
	1.2nm,0.4s						
SONM	**Songino Array**	**23.31**	**12**	P	**P**	**06 01 50.1**	**+0.2**
	0.5nm,0.5s,baz=194,slow=12,SNR=1.7						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**25.69**	**332**	P	**P**	**06 02 12.5**	**+0.6**
	2.0nm,0.8s,baz=140,slow=9.6,SNR=15						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**30.23**	**333**	P	**P**	**06 02 53.1**	**+0.6**
	0.5nm,0.2s,baz=147,slow=8.7,SNR=1.8						
	0.5nm,0.2s						
ZALV	**Zalesovo Beam**	**30.86**	**343**	P	**P**	**06 02 58.3**	**+0.3**
	0.7nm,0.6s,baz=148,slow=8.5,SNR=3.6						
ZALV				LR	LR	06 15 01.4	
	comp=Z,31nm,19.7s,baz=178,slow=36						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**35.51**	**329**	P	**P**	**06 03 39.1**	**+0.5**
	0.7nm,0.6s,baz=120,slow=8.8,SNR=4.0						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**56.07**	**140**	P	**P**	**06 06 21.0**	**-0.3**
	1.3nm,0.9s,baz=329,slow=7.5,SNR=5.5						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**58.76**	**143**	P	**P**	**06 06 40.4**	**+0.2**
	0.6nm,1.0s,baz=315,slow=6.5,SNR=2.9						
	0.6nm,1.0s						
FINES	**FINESS Array B**	**60.45**	**328**	P	**P**	**06 06 50.7**	**-0.6**
	1.7nm,0.9s,baz=66,slow=4.9,SNR=2.7						
	1.7nm,0.9s						
HFS	**Hagfors**	**66.59**	**327**	P	**P**	**06 07 31.0**	**-1.0**
	0.7nm,0.7s,baz=90,slow=7.2,SNR=1.6						
	0.7nm,0.7s						
NOA	**NORSAR Array B**	**67.62**	**328**	P	P	06 07 37.1	-1.5
	0.9nm,0.7s,baz=78,slow=6.3,SNR=3.9						
	0.9nm,0.7s						

*IDC **25** 06:31:27.9±0.5,14°.70S×177°.39W,h0km,mb4.3/14, mbtmp4.3/15,ML3.5/1,MS4.3/42,Error ellipse: s-maj=26.7km s-min=15.7km az=132.0*
*NEIC **25** 06:31:31.1±1.1,14°.4S±0°.1×177°.61W±0°.05,h10km±1km, mb4.8/129,Error ellipse: s-maj=21.0km s-min=7.6km az=180.0*
*GCMT **25** 06:31:34.1±0.1,14°.60S±0°.01×177°.32W±0°.01,h12km, MW5.0/116,Moment Tensor Solution. s49,c69; s116,c191; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.25±.08; Mθθ-3.03±.08; Mφφ-1.21±.07; Mrθ0.15±.23; Mθφ1.83±.06; Mφr-1.80±.26; Best double couple: Mo4.55900×10^16^ NP1:φs287.00000°,δ40.00000°, λ65.00000°. NP2:φs138.00000°,δ55.00000°,λ110.00000°. Principal axes: T 4.8090, Plg72.0000°, Azm100.0000°; N -0.4910, Plg16.0000°, Azm307.0000°; P -4.3080, Plg8.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 06:31:32.7±0.7,14°.69S±0°.10×177°.4W±0°.1,h28km±4km, h27km:pP-P,n470,σ0s71/387,mb4.8/84,MS4.5/39,5C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**0.77**	**299**		Pn	06 31 41.0	-6.7
MSVF	**Nonsavu**	**5.29**	**234**	Pn	**Pn**	**06 32 51.2**	**+1.2**
FUNA	**Funafuti**	**6.96**	**331**	Pn	Pn	06 33 05.2	-7.6
RAO	**Raoul Island**	**14.50**	**182**	LR	LR	06 38 30.3	
	comp=Z,300nm,21.3s,baz=60,slow=29						
DZM	**Mont Dzumac**	**16.97**	**242**	Pn	**Pn**	**06 35 27.5**	**-0.8**
DZM	**Mont Dzumac**	**16.97**	**242**	Pn	**Pn**	**06 35 28.2**	**0.0**
	0.2nm,0.3s,baz=76,slow=15,SNR=5.2						
DZM				LR	LR	06 40 51.0	
	comp=Z,2μm,21.3s,baz=54,slow=33						
	12nm,1.1s						
RAR	**Rarotonga**	**18.00**	**114**	LR	LR	06 41 26.3	
	comp=Z,250nm,18.3s,baz=302,slow=33						
HNR	**Honiara**	**22.73**	**281**	LR	LR	06 44 10.5	
	comp=Z,430nm,19.6s,baz=120,slow=34						
URZ	**Urewera**	**23.97**	**191**	LR	LR	06 44 56.3	
	comp=Z,2μm,19.5s,baz=31,slow=34						
PPT	**Papeete**	**26.90**	**100**	LR	LR	06 45 26.6	
	comp=Z,175nm,18.8s,baz=283,slow=31						
EIDS	**Eidsvold**	**31.36**	**245**	P	**P**	**06 37 50.2**	**-0.9**
PMG	**Port Moresby**	**35.00**	**275**	LR	LR	06 50 32.4	
	comp=Z,252nm,18.8s,baz=150,slow=33						
H11S2	**WAKE ISLAND Hy**	**36.49**	**334**	T	T	07 17 15.1	
	baz=154,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**36.50**	**334**	T	T	07 17 14.7	
	baz=154,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**36.51**	**334**	T	T	07 17 15.0	
	baz=154,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**37.50**	**335**	T	T	07 18 23.4	
	baz=154,slow=77,SNR=19						
H11N1	**WAKE ISLAND Hy**	**37.50**	**335**	T	T	07 18 24.0	
	baz=154,slow=77,SNR=41						
H11N2	**WAKE ISLAND Hy**	**37.52**	**335**	T	T	07 18 25.4	
	baz=154,slow=77,SNR=31						
STKA	**Stephens Creek**	**41.06**	**238**		**P**	**06 39 15.3**	**+1.3**
STKA				IAmb	IAmb	06 39 37.1	
	comp=Z,30nm,1.1s						
STKA	**Stephens Creek**	**41.06**	**238**	P	**P**	**06 39 14.2**	**+0.2**
	comp=Z,6.4nm,1.1s,baz=90,slow=9.1,SNR=4.8						
STKA				LR	LR	06 54 38.8	
	comp=Z,946nm,19.9s,baz=62,slow=34						
	comp=Z,6.4nm,1.1s						
JAY	**Jayapura**	**43.03**	**282**	LR	LR	06 57 15.5	
	comp=Z,130nm,19.7s,baz=235,slow=36						
WR8	**Warramunga Arr**	**46.07**	**256**	P	**P**	**06 39 53.3**	**-1.2**
WB0	**Warramunga Arr**	**46.18**	**257**	P	**P**	**06 39 54.3**	**-1.1**
WRA	**Warramunga Arr**	**46.22**	**256**	P	**P**	**06 39 54.8**	**-0.9**
WRA	**Warramunga Arr**	**46.22**	**256**	P	**P**	**06 39 55.0**	**-0.7**
	comp=Z,1.7nm,1.1s,baz=91,slow=7.3,SNR=6.9						
WRA				PcP	**PcP**	**06 41 30.8**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=94,slow=3.9,SNR=4.1						
WRA				LR	LR	06 57 14.6	
	comp=Z,275nm,21.0s,baz=149,slow=33						
	comp=Z,1.7nm,1.1s						
AS31	**Alice Springs**	**46.64**	**251**		**P**	**06 39 58.0**	**-1.0**
ASAR	**Alice Springs**	**46.64**	**251**		**P**	**06 39 58.1**	**-0.9**
ASAR	**Alice Springs**	**46.64**	**251**	P	**P**	**06 39 58.2**	**-0.7**
	comp=Z,5.8nm,0.7s,baz=83,slow=7.8,SNR=36						
ASAR				PcP	**PcP**	**06 41 32.6**	**0.0**
	comp=Z,1.5nm,1.0s,baz=85,slow=3.6,SNR=5.4						
ASAR				LR	LR	06 57 38.7	
	comp=Z,302nm,21.0s,baz=100,slow=34						
	comp=Z,5.8nm,0.7s						
GUMO	**Guam**	**46.71**	**305**	LR	LR	06 57 09.7	
	comp=Z,51nm,18.7s,baz=118,slow=33						
FITZ	**Fitzroy Crossi**	**54.55**	**258**	LR	LR	07 05 10.3	
	comp=Z,276nm,18.4s,baz=101,slow=37						
JCJ	**Chichijima**	**57.11**	**317**	LR	LR	07 00 17.4	
	comp=Z,114nm,21.6s,baz=126,slow=30						
BATI	**Baumata**	**57.57**	**267**	LR	LR	07 03 56.2	
	comp=Z,218nm,19.5s,baz=180,slow=34						
NWAO	**Narrogin (SRO)**	**61.58**	**240**	LR	LR	07 07 54.0	
	comp=Z,589nm,18.8s,baz=94,slow=36						
KAPI	**Kappang**	**62.47**	**272**	LR	LR	07 08 25.9	
	comp=Z,91nm,19.3s,baz=86,slow=36						
MORW	**Morawa**	**62.67**	**245**	P	**P**	**06 41 55.5**	**+0.3**
VNDA	**Vanda**	**63.72**	**185**	P	**P**	**06 42 05.5**	**+4.2**
VNDA	**Vanda**	**63.72**	**185**	P	**P**	**06 42 00.7**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=36,slow=6.8,SNR=3.5						
VNDA				LR	LR	07 05 39.7	
	comp=Z,113nm,18.6s,baz=9.5,slow=32						
	comp=Z,0.9nm,1.0s						
NIKH	**Nikolski High**	**67.78**	**6**	P	**P**	**06 42 27.3**	**-0.4**
	baz=189						
UNV	**Unalaska Valle**	**68.89**	**7**	P	**P**	**06 42 35.0**	**+0.4**
	baz=192						
FALS	**False Pass**	**70.28**	**9**	P	**P**	**06 42 42.5**	**-0.7**
	baz=195						
CHNA	**Chernabura Isl**	**70.88**	**11**	P	**P**	**06 42 46.3**	**-0.5**
	baz=199						
SDPT	**Sand Point**	**71.22**	**10**	P	**P**	**06 42 48.7**	**-0.1**
	baz=198						
S12K	**Black Hills**	**71.31**	**9**	P	**P**	**06 42 49.3**	**-0.1**
	baz=196						
P08K	**Saint George I**	**71.32**	**5**	P	**P**	**06 42 48.9**	**-0.5**
	baz=188						
SPIA	**Saint Paul Isl**	**71.84**	**4**	P	**P**	**06 42 52.7**	**+0.1**
	baz=188						
S14K	**Fog Glacier**	**72.27**	**10**	P	**P**	**06 42 55.4**	**+0.1**
	baz=199						
CHGN	**Chignik**	**72.49**	**11**	P	**P**	**06 42 57.3**	**+0.8**
	baz=200						
CHIR	**Chirikof Islan**	**72.60**	**13**	P	**P**	**06 42 57.5**	**+0.4**
	baz=202						
KSRS	**Korea Array**	**72.96**	**317**	P	**P**	**06 43 00.3**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=127,slow=8.0,SNR=4.1						
	comp=Z,0.8nm,0.7s						
SII	**Sitkinak Islan**	**73.59**	**13**	P	**P**	**06 43 03.3**	**+0.3**
	baz=204						
R16K	**Pilot Point**	**73.84**	**11**	P	**P**	**06 43 03.9**	**-0.5**
	baz=200						
R17L	**Mt. Peulik Vol**	**74.13**	**12**	P	**P**	**06 43 05.6**	**-0.6**
	baz=202						
OHAK	**Old Harbor**	**74.40**	**13**	P	**P**	**06 43 07.6**	**0.0**
	baz=205						
R18K	**Karluk**	**74.46**	**13**	P	**P**	**06 43 07.9**	**-0.1**
	baz=204						
VES	**Vestal, Richgr**	**74.59**	**46**	P	**P**	**06 43 09.7**	**+0.5**
VES				IAmb	IAmb	06 43 12.1	
	comp=Z,12nm,1.1s						
VTX	**Valle De La Tr**	**74.78**	**51**	P	**P**	**06 43 11.2**	**+0.6**
VTX				IAmb	IAmb	06 43 23.6	
	comp=Z,7.4nm,1.2s						
Q17K	**Contact Creek**	**74.82**	**12**	P	**P**	**06 43 09.9**	**-0.3**
	baz=202						
O14K	**Tigyukauivet M**	**74.85**	**9**	P	**P**	**06 43 09.5**	**-0.7**
	baz=197						
CMB	**Columbia Colle**	**74.86**	**43**		**P**	**06 43 10.9**	**0.0**
ISA	**Isabella, Lake**	**74.92**	**46**	P	**P**	**06 43 11.2**	**-0.2**
AFDM	**Forest Hills D**	**74.97**	**42**		**P**	**06 43 11.3**	**-0.2**
O15K	**Ungalikthiuk R**	**74.99**	**9**	P	**P**	**06 43 10.4**	**-0.7**
	baz=198						
Q16K	**King Salmon**	**75.06**	**11**	P	**P**	**06 43 11.3**	**-0.2**
	baz=201						
KDAK	**Kodiak Island**	**75.07**	**13**	LR	LR	07 09 33.5	
	comp=Z,294nm,20.9s,baz=229,slow=30						
KDAK	**Kodiak Island**	**75.07**	**13**	P	**P**	**06 43 11.4**	**-0.1**
	baz=205						
P16K	**Nushagak River**	**75.15**	**10**	P	**P**	**06 43 10.4**	**-1.6**
P16K	**Nushagak River**	**75.15**	**10**	P	**P**	**06 43 11.6**	**-0.4**
	baz=200						
PFO	**Pinyon Flats O**	**75.34**	**49**	LR	LR	07 09 01.1	
	comp=Z,406nm,19.9s,baz=248,slow=30						
Q18K	**Katmai Hardscr**	**75.35**	**12**	P	**P**	**06 43 12.8**	**-0.4**
	baz=203						
QSPA	**South Pole Qui**	**75.35**	**180**	P	**P**	**06 43 14.5**	**+1.1**
QSPA	**South Pole Qui**	**75.35**	**180**	P	**P**	**06 43 13.2**	**-0.1**
	comp=Z,2.8nm,1.0s,baz=18,slow=0.9,SNR=5.6						
QSPA				LR	LR	07 11 13.9	
	comp=Z,274nm,21.7s,baz=43,slow=32						
	comp=Z,2.8nm,1.0s						
M11K	**Mekoryuk**	**75.36**	**6**	P	**P**	**06 43 12.1**	**-1.0**
	baz=192						
N14K	**Kuskokwak Cree**	**75.43**	**8**	P	**P**	**06 43 13.6**	**0.0**
	baz=196						
YBH	**Yreka Blue Hor**	**75.44**	**39**		**P**	**06 43 14.5**	**+0.3**
YBH				IAmb	IAmb	06 43 16.2	
	comp=Z,10nm,0.9s						
YBH	**Yreka Blue Hor**	**75.44**	**39**	LR	LR	07 08 30.9	
	comp=Z,29nm,21.6s,baz=267,slow=30						
P17K	**Kvichak River**	**75.58**	**11**	P	**P**	**06 43 13.9**	**-0.5**
	baz=201						
O16K	**Kokwok River B**	**75.67**	**10**	P	**P**	**06 43 13.9**	**-1.0**
O16K	**Kokwok River B**	**75.67**	**10**	P	**P**	**06 43 14.3**	**-0.7**
	baz=200						
M13K	**Dall Lake**	**75.69**	**7**	P	**P**	**06 43 14.6**	**-0.5**
	baz=194						
WAKR	**Walker**	**75.74**	**43**		**P**	**06 43 16.3**	**+0.1**
Q20K	**Shuyak Island**	**75.86**	**13**	P	**P**	**06 43 15.7**	**-0.3**
	baz=205						
N15K	**Kwethluk River**	**75.90**	**9**	P	**P**	**06 43 15.4**	**-0.8**
	baz=198						
P18K	**Big Mountain,**	**75.99**	**11**	IAmb	IAmb	06 43 16.7	
	comp=Z,12nm,0.9s						
P18K	**Big Mountain,**	**75.99**	**11**	P	**P**	**06 43 16.4**	**-0.5**
	baz=202						
O17K	**Koliganek Bris**	**76.01**	**10**	P	**P**	**06 43 16.7**	**-0.2**
	baz=201						
LPIG	**La Paz**	**76.02**	**60**	LR	LR	07 08 18.4	
	comp=Z,344nm,21.2s,baz=238,slow=29						
DSP	**Deep Springs**	**76.14**	**45**	IAmb	IAmb	06 43 21.8	
	comp=Z,14nm,1.5s						
M14K	**Bethel**	**76.20**	**8**	P	**P**	**06 43 17.7**	**-0.2**
	baz=196						
M15K	**Kasigluk River**	**76.31**	**8**	P	**P**	**06 43 18.3**	**-0.3**
	baz=197						
N16K	**Nishlik Lake**	**76.39**	**9**	P	**P**	**06 43 18.8**	**-0.3**
	baz=199						
PAHR	**Pah Rah Range**	**76.42**	**42**	IAmb	IAmb	06 43 22.3	
	comp=Z,11nm,1.2s						
O18K	**Koktuh Hills**	**76.43**	**11**	IAmb	IAmb	06 43 28.9	
	comp=Z,16nm,1.2s						
O18K	**Koktuh Hills**	**76.43**	**11**	P	**P**	**06 43 19.2**	**-0.1**
	baz=202						
FURC	**Furnace Creek,**	**76.45**	**46**	P	**P**	**06 43 20.1**	**+0.2**
NVAR	**Mina Array Bea**	**76.46**	**44**		**P**	**06 43 20.3**	**0.0**
NVAR	**Mina Array Bea**	**76.46**	**44**	P	**P**	**06 43 19.9**	**-0.4**
	comp=Z,5.7nm,1.0s,baz=229,slow=9.1,SNR=26						
	comp=Z,5.7nm,1.0s						
P19K	**Oil Pt**	**76.63**	**12**	P	**P**	**06 43 20.3**	**-0.2**
	baz=204						
NJ2	**Nanjing**	**76.65**	**309**	*e*P	**P**	**06 43 21.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
L14K	**Kuka Creek**	**76.68**	**7**	P	**P**	**06 43 20.2**	**-0.5**
	baz=195						
N17K	**Nushagak Hills**	**76.70**	**10**	P	**P**	**06 43 20.7**	**-0.1**
	baz=200						
M16K	**Timber Creek**	**76.88**	**9**	P	**P**	**06 43 22.1**	**+0.2**
	baz=199						
O19K	**Port Alsworth**	**76.91**	**12**	P	**P**	**06 43 22.3**	**+0.3**
	baz=203						
TPH	**Tonopah**	**77.01**	**45**	IAmb	IAmb	06 43 25.0	
	comp=Z,8.3nm,1.1s						
K13K	**Kusilvak Mount**	**77.03**	**6**	P	**P**	**06 43 22.3**	**-0.3**
	baz=193						
N18K	**Kilae Creek**	**77.07**	**11**	P	**P**	**06 43 22.7**	**-0.2**
	baz=202						
O20K	**Slope Mountain**	**77.15**	**12**	P	**P**	**06 43 23.8**	**+0.3**
	baz=205						
L15K	**Unglaak Mounta**	**77.15**	**8**	P	**P**	**06 43 23.7**	**+0.3**
	baz=196						
N19K	**Bonanza Creek**	**77.45**	**11**	IAmb	IAmb	06 43 28.2	
	comp=Z,8.7nm,1.2s						
N19K	**Bonanza Creek**	**77.45**	**11**	P	**P**	**06 43 25.2**	**0.0**
	baz=203						
L16K	**Owhat River**	**77.46**	**9**	IAmb	IAmb	06 43 28.6	
	comp=Z,18nm,1.4s						
L16K	**Owhat River**	**77.46**	**9**	P	**P**	**06 43 25.0**	**-0.1**
	baz=198						
M17K	**Holitna River**	**77.48**	**10**	P	**P**	**06 43 25.3**	**+0.1**
	baz=200						
PINE	**Pine Mountain**	**77.69**	**38**		**P**	**06 43 27.0**	**0.0**
PINE				IAmb	IAmb	06 43 28.9	
	comp=Z,13nm,0.9s						
K15K	**Wolf Creek Mou**	**77.74**	**8**	P	**P**	**06 43 26.6**	**0.0**
	baz=196						
M18K	**Stony River**	**77.84**	**10**	P	**P**	**06 43 27.3**	**+0.2**
	baz=202						
KLR	**Kul'dur**	**77.85**	**329**	LR	LR	07 12 09.2	
	comp=Z,115nm,21.8s,baz=199,slow=31						
SEW	**Seward**	**77.87**	**14**	P	**P**	**06 43 27.5**	**+0.2**
	baz=208						
W13A	**Hualapai Mount**	**77.92**	**49**	IAmb	IAmb	06 43 31.9	
	comp=Z,7.7nm,1.2s						
J14K	**Nanvaranak Lak**	**77.95**	**6**	P	**P**	**06 43 27.7**	**0.0**
	baz=194						
L17K	**Donlin**	**78.04**	**9**	P	**P**	**06 43 28.4**	**+0.1**
	baz=199						
Q23K	**Middleton Isla**	**78.05**	**16**	P	**P**	**06 43 28.7**	**+0.4**
	baz=211						
CN2	**Changchun**	**78.08**	**322**	*e*P	**P**	**06 43 28.5**	**-0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
N20K	**Mount Spurr**	**78.26**	**12**	P	**P**	**06 43 29.5**	**-0.1**
	baz=205						
SPCR	**Spurr Chakacha**	**78.26**	**12**	P	**P**	**06 43 29.4**	**-0.2**
	baz=205						
R11B	**Troy Canyon, C**	**78.27**	**45**	IAmb	IAmb	06 43 33.5	
	comp=Z,7.7nm,1.3s						
P23K	**Montague Islan**	**78.27**	**15**	P	**P**	**06 43 29.5**	**-0.1**
	baz=210						
L18K	**Granite Mounta**	**78.38**	**10**	P	**P**	**06 43 29.8**	**-0.3**
	baz=201						
M19K	**Big River Lodg**	**78.48**	**11**	P	**P**	**06 43 30.3**	**-0.4**
	baz=203						
K17K	**Iditarod**	**78.59**	**9**	P	**P**	**06 43 31.5**	**+0.1**
	baz=199						
L19K	**White Mountain**	**78.66**	**11**	P	**P**	**06 43 31.9**	**+0.1**
	baz=203						
RC01	**Rabbit Creek A**	**78.69**	**13**	P	**P**	**06 43 31.6**	**-0.2**
	baz=208						
M20K	**Styx River**	**78.70**	**11**	P	**P**	**06 43 31.7**	**-0.4**
	baz=204						
GNW	**Green Mountain**	**78.80**	**34**	IAmb	IAmb	06 43 36.0	
	comp=Z,17nm,1.5s						
SUA	**Susitna One**	**78.80**	**13**	P	**P**	**06 43 32.3**	**-0.4**
	baz=207						
**PWL

CRQE **Cirque** 80.04 16 P P 06 43 39.5 0.0
baz=214
G15K **Niukluk** 80.09 6 P P 06 43 39.2 -0.3
baz=194
PKCU **Pink Cliffs** 80.12 47 IAmb IAmb 06 43 42.8
comp=Z,12nm,1.2s
S32K **Killisnoo** 80.13 22 P P 06 43 40.3 +0.5
baz=222
WRAK **Wrangell Islan** 80.20 24 P P 06 43 40.3 +0.2
baz=224
J19K **Poorman** 80.21 10 IAmb IAmb 06 43 43.8
comp=Z,10nm,1.2s
J19K **Poorman** 80.21 10 P P 06 43 40.3 +0.1
baz=202
PNL **Peninsula** 80.22 18 P P 06 43 40.2 -0.1
baz=218
E08A **Dider Farm, El** 80.30 37 IAmb IAmb 06 43 41.9
comp=Z,6.8nm,0.9s
CAST **Castle Rocks** 80.30 11 P P 06 43 39.7 -1.0
baz=205
PINM **Pinnacle** 80.31 18 P P 06 43 40.7 -0.1
baz=217
TNA **Tin City** 80.33 4 P P 06 43 40.2 -0.5
baz=190
F14K **Arctic Creek** 80.36 5 P P 06 43 40.2 -0.6
baz=191
N25K **Chitina, Valde** 80.36 15 P P 06 43 41.2 +0.1
baz=213
M24K **Tolsona, Glenn** 80.40 14 P P 06 43 41.0 -0.3
baz=211
R31K **City Hall, Gus** 80.44 21 P P 06 43 41.8 +0.4
baz=221
WAT6 **Susitna Watana** 80.45 13 P P 06 43 41.0 -0.6
baz=210,SNR=7.8
WAT1 **Susitna Watana** 80.49 13 P P 06 43 41.3 -0.4
baz=209
H17K **Granite Mounta** 80.49 7 P P 06 43 41.6 0.0
baz=198
MCARA **McCarthy VSAT** 80.58 16 P P 06 43 42.2 0.0
baz=214
J20K **Nowinta River** 80.63 10 IAmb IAmb 06 43 46.4
comp=Z,21nm,1.5s
J20K **Nowinta River** 80.63 10 P P 06 43 42.2 -0.2
baz=203,SNR=8.0
G16K **Koyuk River** 80.65 6 P P 06 43 42.2 -0.2
baz=195
TRF **Thorofare Moun** 80.68 12 IAmb IAmb 06 43 43.8
comp=Z,8.4nm,0.9s
TRF **Thorofare Moun** 80.68 12 P P 06 43 42.0 -0.9
baz=207,SNR=8.4
CHUM **Lake Minchumin** 80.68 11 P P 06 43 42.5 -0.1
baz=205
D08A **Wollman Farm,** 80.69 36 IAmb IAmb 06 43 46.3
comp=Z,12nm,1.3s
CTG **Chitna Glacier** 80.70 17 P P 06 43 42.2 -0.8
baz=216
P29M **Windy Craggy** 80.71 19 IAmb IAmb 06 43 44.1
comp=Z,6.8nm,0.8s
P29M **Windy Craggy** 80.71 19 P P 06 43 43.0 0.0
baz=219
GCSA **Galena City Sc** 80.73 9 P P 06 43 43.0 +0.2
baz=200
F15K **North Star Dit** 80.73 5 P P 06 43 42.9 0.0
baz=193
R32K **Eaglecrest** 80.76 21 P P 06 43 43.5 +0.3
baz=222
O28M **Mount Upton** 80.87 18 P P 06 43 43.5 -0.7
baz=217,SNR=6.5
HARP **HAARP** 80.90 15 P P 06 43 43.2 -0.7
baz=212
H18K **Honhosa River** 80.90 8 P P 06 43 43.7 -0.1
baz=199
G17K **Kiwalik Mounta** 80.95 7 P P 06 43 43.3 -0.7
baz=197
DHY **Denali Highway** 80.97 13 P P 06 43 44.0 -0.4
baz=210
O29M **Mount Kennedy** 80.98 18 P P 06 43 44.1 -0.4
baz=218
PLBC **Pleasant Camp** 81.02 20 P P 06 43 44.0 -0.5
baz=220
BPAW **Bear Paw Mtn.** 81.13 11 P P 06 43 44.6 -0.5
baz=206
I20K **Naaghedeneel** 81.15 10 P P 06 43 44.8 -0.3
baz=203
MCK **McKinley** 81.21 12 IAmb IAmb 06 43 45.6
comp=Z,8.7nm,0.8s
MCK **McKinley** 81.21 12 P P 06 43 45.5 0.0
baz=208,SNR=5.9
PAX **Paxson** 81.31 14 P P 06 43 45.5 -0.7
baz=212
P30M **Million Dollar** 81.34 19 P P 06 43 46.1 -0.3
baz=220
SKAG **Skagway** 81.37 20 P P 06 43 46.5 +0.1
baz=221
YUK8 **Steele Glacier** 81.41 17 P P 06 43 46.6 -0.3
baz=217,SNR=5.8
T35M **Bob Quinn** 81.41 24 P P 06 43 47.2 +0.4
baz=226
M26K **Nabesna, AK** 81.44 15 P P 06 43 46.2 -0.6
baz=214,SNR=7.2
H19K **Roundabout Mou** 81.53 9 IAmb IAmb 06 43 50.6
comp=Z,13nm,1.1s
H19K **Roundabout Mou** 81.53 9 P P 06 43 46.9 -0.2
baz=201
YUK6 **Outpost Mounta** 81.55 18 P P 06 43 47.1 -0.5
baz=218
G18K **Tagagawik** 81.57 8 P P 06 43 46.8 -0.6
baz=199
YUK3 **Moose Creek** 81.61 17 P P 06 43 47.4 -0.5
baz=216,SNR=8.6
M27K **Edge Creek, AK** 81.70 16 P P 06 43 48.0 -0.3
baz=215,SNR=7.7
HYT **Haines Junctio** 81.72 19 P P 06 43 47.9 -0.5
baz=219
TMUT **Trail Mountain** 81.73 46 IAmb IAmb 06 43 51.3
comp=Z,8.8nm,0.9s
S34M **Telegraph Cree** 81.73 23 IAmb IAmb 06 43 50.2
comp=Z,9.4nm,0.9s
S34M **Telegraph Cree** 81.73 23 P P 06 43 48.1 -0.2
baz=225
H20K **Anotleneega Mo** 81.73 9 P P 06 43 47.5 -0.7
baz=202
YUK4 **Talbot Arm** 81.78 18 P P 06 43 49.1 +0.3
baz=218
F17K **Baldwin Pennin** 81.79 6 P P 06 43 47.9 -0.6
baz=196
HVU **Hansel Valley** 81.80 43 IAmb IAmb 06 43 59.6
comp=Z,9.7nm,1.4s
L26K **Log Cabin Wild** 81.88 15 P P 06 43 49.0 -0.1
baz=214
I21K **Tanana** 81.93 11 P P 06 43 49.0 -0.3
baz=205
NEA2 **Nenana** 81.95 12 P P 06 43 48.3 -1.0
baz=208,SNR=5.1
K24K **Donnelly Dome** 81.96 14 P P 06 43 48.8 -0.7
baz=211
P32M **Atlin** 82.01 21 P P 06 43 49.7 -0.2
baz=223
G19K **Purcell Mounta** 82.02 8 P P 06 43 48.7 -1.0
baz=200
MLY **Manley** 82.02 11 IAmb IAmb 06 43 50.0
comp=Z,4.9nm,0.8s
MLY **Manley** 82.02 11 P P 06 43 49.0 -0.8
baz=206,SNR=10.0
BVCY **Beaver Creek** 82.02 16 P P 06 43 49.8 -0.1
baz=216,SNR=6.5
Q32M **Nakina River** 82.06 22 P P 06 43 49.7 -0.6
baz=224
RIDG **Independent Ri** 82.12 14 P P 06 43 50.1 -0.3
baz=212,SNR=5.5
F18K **Selawik** 82.12 7 P P 06 43 49.6 -0.5
baz=198
H21K **Melozitna Rive** 82.22 10 P P 06 43 51.2 +0.4
baz=204
HDA **Harding Lake** 82.22 13 P P 06 43 51.2 +0.4
baz=210,SNR=7.2
CCB **Clear Creek Bu** 82.25 12 IAmb IAmb 06 43 50.8
comp=Z,8.0nm,0.9s
L27K **Beaver Creek,** 82.29 16 P P 06 43 51.2 0.0
baz=215,SNR=5.9
BCAR **Beaver Creek A** 82.31 16 P 06 43 50.7 -0.6
N30M **Aishikik Lake** 82.34 18 P P 06 43 51.6 0.0
baz=220
E17K **Hotham Inlet** 82.34 6 P P 06 43 51.3 0.0
baz=196
NEW **Newport** 82.36 36 LR LR 07 13 17.3
comp=Z,193nm,20.9s,baz=232,slow=30
IMAR **Indian Mountai** 82.36 10 P P 06 43 50.9 -0.6

I23K **Minto, Yukon-K** 82.38 12 P P 06 43 50.9 -0.7
baz=208
WHY **Whitehorse** 82.42 20 P 06 43 51.8 -0.3
WHY IAmb IAmb 06 43 53.0
comp=Z,9.4nm,0.8s
WHY **Whitehorse** 82.42 20 P P 06 43 51.9 -0.2
baz=222
COLA **College** 82.44 12 P P 06 43 50.9 -1.0
COLA **College** 82.44 12 P P 06 43 51.7 -0.2
baz=209
DLBC **Dease Lake** 82.52 23 LR LR 07 15 50.6
comp=Z,518nm,18.6s,baz=219,slow=32
DLBC **Dease Lake** 82.52 23 P P 06 43 52.0 -0.6
baz=226
SCRK **Sand Creek** 82.52 14 IAmb IAmb 06 43 53.0
comp=Z,5.0nm,0.9s
SCRK **Sand Creek** 82.52 14 P P 06 43 52.2 -0.4
baz=213,SNR=7.2
ILAR **Eielson Array** 82.55 13 P P 06 43 51.8 -0.7
comp=Z,2.8nm,0.8s,baz=232,slow=6.5,SNR=35
ILAR LR LR 07 13 31.4
comp=Z,208nm,21.8s,baz=232,slow=31
comp=Z,2.8nm,0.8s
F19K **Shaleruckik Mo** 82.58 8 IAmb IAmb 06 44 00.6
comp=Z,7.1nm,1.2s
F19K **Shaleruckik Mo** 82.58 8 P P 06 43 52.2 -0.4
baz=200
BSUT **Blindstream Ca** 82.59 45 IAmb IAmb 06 43 57.1
comp=Z,11nm,1.2s
Y22D **IRIS PASSCAL I** 82.67 52 P P 06 43 55.1 +1.1
baz=247
H22K **Ishtalitna Cre** 82.68 10 P P 06 43 52.8 -0.4
baz=206,SNR=6.0
M29M **Somme Creek** 82.71 17 P P 06 43 53.6 +0.1
baz=218
POKR **Poker Flat Res** 82.74 12 P P 06 43 53.2 -0.4
baz=210
J25K **Salcha River,** 82.75 13 P P 06 43 53.6 -0.1
baz=212,SNR=9.2
P33M **Teslin, Yukon** 82.78 21 IAmb IAmb 06 43 58.1
comp=Z,11nm,1.5s
P33M **Teslin, Yukon** 82.78 21 P P 06 43 54.3 +0.4
baz=224
E18K **Tukpahlearik C** 82.80 6 P P 06 43 54.4 +0.7
baz=197
D17K **Noatak River** 82.82 5 P P 06 43 54.0 +0.2
baz=194
R33M **Jennings River** 82.84 22 P P 06 43 54.7 +0.4
baz=225
G21K **Allakaket** 82.89 9 IAmb IAmb 06 43 55.3
comp=Z,7.1nm,1.0s
G21K **Allakaket** 82.89 9 P P 06 43 54.2 -0.1
baz=204
H23K **Yukon River** 82.95 11 P P 06 43 54.3 -0.3
baz=208
K27K **Chicken** 83.03 15 P P 06 43 55.7 +0.6
baz=215
F20K **Avaraart Lake** 83.06 8 P P 06 43 55.6 +0.5
baz=202
J26L **Joseph Creek** 83.07 14 P P 06 43 55.7 +0.4
baz=213,SNR=8.1
PV22 **Blue Mesa, Par** 83.10 47 IAmb IAmb 06 43 57.4
comp=Z,6.2nm,1.1s
RDOG **Red Dog Mine** 83.18 5 P P 06 43 55.9 +0.2
baz=194
C16K **Lisburne Hills** 83.19 5 P P 06 43 55.9 +0.2
baz=192
E19K **Redstone River** 83.24 8 P P 06 43 56.0 0.0
baz=200
PV15 **Paradox Valley** 83.24 48 P P 06 43 57.1 0.0
PV15 IAmb IAmb 06 43 58.0
comp=Z,10nm,1.1s
H24K **Noodor Dome** 83.28 12 P P 06 43 56.2 -0.2
baz=209
M30M **Minto, Yukon** 83.30 18 IAmb IAmb 06 43 59.2
comp=Z,8.7nm,1.1s
M30M **Minto, Yukon** 83.30 18 P P 06 43 56.2 -0.3
baz=220,SNR=5.3
L29M **L29M** 83.33 17 P P 06 43 57.2 +0.5
baz=218,SNR=12
AHID **Auburn Hatcher** 83.36 43 P P 06 43 57.3 -0.2
AHID IAmb IAmb 06 43 58.5
comp=Z,11nm,1.3s
ANMO **Albuquerque** 83.36 51 P 06 43 58.3 +0.6
ANMO **Albuquerque** 83.36 51 LR LR 07 14 14.6
comp=Z,517nm,19.6s,baz=342,slow=31
N32M **Quiet Lake** 83.38 20 P P 06 43 56.9 0.0
baz=223
TXAR **Lajitas Array** 83.48 58 P 06 43 58.8 +0.5
TXAR **Lajitas Array** 83.48 58 P P 06 43 58.9 +0.6
comp=Z,9.0nm,1.0s,baz=235,slow=4.4,SNR=46
TXAR LR LR 07 14 14.5
comp=Z,300nm,19.2s,baz=235,slow=31
comp=Z,9.0nm,1.0s
MSO **Missoula** 83.49 38 IAmb IAmb 06 44 22.4
comp=Z,11nm,1.4s
PRP **Porcupine Dome** 83.49 13 IAmb IAmb 06 44 00.2
comp=Z,11nm,1.2s
PRP **Porcupine Dome** 83.49 13 P P 06 43 57.3 -0.2
baz=211,SNR=7.0
F21K **Alatna River** 83.55 9 IAmb IAmb 06 44 00.6
comp=Z,13nm,1.4s
F21K **Alatna River** 83.55 9 P P 06 43 57.7 0.0
baz=204
C17K **DeLong Mountai** 83.57 5 P P 06 43 57.2 -0.5
baz=194
BPMT **Black Pine Rid** 83.59 39 P 06 43 58.6 -0.1
G22K **Bettles** 83.59 10 P P 06 43 58.0 +0.2
baz=206
DLMT **Dillon** 83.60 40 P P 06 43 58.7 +0.1
G23K **Bananza Creek** 83.66 11 IAmb IAmb 06 43 59.8
comp=Z,6.7nm,1.0s
G23K **Bananza Creek** 83.66 11 P P 06 43 57.8 -0.5
baz=207,SNR=5.7
M31M **Drury Creek, Y** 83.74 19 P P 06 43 58.0 -0.7
M31M IAmb IAmb 06 43 58.9
comp=Z,5.9nm,1.2s
M31M **Drury Creek, Y** 83.74 19 P P 06 43 58.7 0.0
baz=222
DAWY **Dawson** 83.75 16 P P 06 43 58.5 -0.3
DAWY **Dawson** 83.75 16 P P 06 43 58.9 +0.1
baz=217,SNR=8.9
TPAW **Teton Pass** 83.78 42 IAmb IAmb 06 44 01.0
comp=Z,10.0nm,1.1s
I26K **Coal Creek Min** 83.84 14 P P 06 43 59.4 +0.3
baz=214
C18K **Utukok River** 83.92 6 P P 06 43 59.8 +0.2
baz=196
F22K **John River** 84.02 9 P P 06 44 00.4 +0.4
baz=205
LOHW **Long Hollow** 84.06 42 IAmb IAmb 06 44 02.2
comp=Z,5.7nm,1.0s
H25L **Birch Creek** 84.08 12 P P 06 44 00.7 +0.4
baz=211
K29M **Barlow Dome** 84.08 17 IAmb IAmb 06 44 01.6
comp=Z,8.2nm,1.1s
K29M **Barlow Dome** 84.08 17 P P 06 44 01.0 +0.4
baz=219,SNR=7.8
COLD **Coldfoot** 84.09 10 P P 06 44 01.2 +0.8
baz=207,SNR=7.9
D19K **Kuna River** 84.11 7 P P 06 44 00.6 0.0
baz=199
G24K **Hadweenzic Riv** 84.12 12 P P 06 44 00.6 0.0
baz=210
E20K **Nigu River** 84.13 8 P P 06 44 00.9 +0.3
baz=201
WTLY **Watson Lake, Y** 84.13 22 P P 06 44 01.4 +0.6
baz=227
MAYO **Mayo, Yukon** 84.35 17 P P 06 44 02.4 +0.6
baz=221
J29N **Klondike Camp** 84.37 16 P P 06 44 02.5 +0.5
baz=218
PDAR **Pinedale Array** 84.38 43 P P 06 44 02.2 -0.5
comp=Z,4.1nm,0.9s,baz=225,slow=3.8,SNR=28
PDAR LR LR 07 14 38.0
comp=Z,142nm,20.8s,baz=244,slow=31
comp=Z,4.1nm,0.9s
I27K **Kandik River** 84.45 14 P P 06 44 02.6 +0.3
baz=215
G25K **Bearman Lake** 84.45 12 P P 06 44 02.9 +0.7
baz=211
D20K **Etivluk River** 84.50 7 P P 06 44 02.9 +0.4
baz=201
C19K **Lookout Ridge** 84.53 6 P P 06 44 03.0 +0.4
baz=198
B18K **Kokolik River** 84.56 6 P P 06 44 03.1 +0.4
baz=196
E21K **Killik River** 84.61 8 P P 06 44 03.5 +0.4
baz=203
E22K **Anaktuvuk Pass** 84.65 9 P P 06 44 03.4 +0.1
baz=205
TOAD **Toad River Com** 84.66 24 P P 06 44 03.9 +0.4
baz=231
LIRD **Liard River Hi** 84.68 24 P P 06 44 04.1 +0.6
baz=230
I28M **Miner Creek** 84.72 15 IAmb IAmb 06 44 07.3
comp=Z,8.7nm,1.1s
I28M **Miner Creek** 84.72 15 P P 06 44 03.6 -0.2
baz=217,SNR=5.1
F24K **Squaw Lake** 84.77 11 P P 06 44 04.3 +0.5
baz=209
E23K **Chandalar** 84.94 10 P P 06 44 05.4 +0.6
baz=207
J30M **Hart River** 84.98 17 P P 06 44 05.5 +0.4
baz=220
H27K **Steamboat Moun** 84.98 14 IAmb IAmb 06 44 06.5
comp=Z,7.6nm,1.1s
H27K **Steamboat Moun** 84.98 14 P P 06 44 05.1 +0.1
baz=215,SNR=5.0
MMPY **Sheldon Lake,** 85.04 20 IAmb IAmb 06 44 06.4
comp=Z,9.3nm,0.9s
MMPY **Sheldon Lake,** 85.04 20 P P 06 44 05.8 +0.4
baz=225
I29M **Ogilvie Camp,** 85.07 15 P P 06 44 06.0 +0.6
baz=218
XAN **Xi'an** 85.08 307 P P 06 44 05.8 -0.4
XAN pmax pmax
comp=Z,6.0nm,0.9s
G26K **Porcupine Rive** 85.09 13 P P 06 44 05.9 +0.5
baz=213
E24K **Your Creek** 85.15 11 P P 06 44 05.9 +0.1
baz=208
C21K **Knifeblade Rid** 85.16 8 P P 06 44 06.0 +0.2
baz=202
SDCO **Great Sand Dun** 85.16 49 IAmb IAmb 06 44 10.6
comp=Z,15nm,1.5s
D22K **Ayikyak River** 85.20 9 P P 06 44 06.4 +0.4
baz=204
BELA **Belgrano 2** 85.22 173 P P 06 44 06.5 +0.3
BELA IAmb IAmb 06 44 11.9
comp=Z,6.4nm,1.0s
F25K **Christian Rive** 85.26 12 P P 06 44 06.5 +0.1
baz=211
TGTN **Hyland Airport** 85.29 21 P P 06 44 07.1 +0.4
baz=228
BMAR **Burnt Mountain** 85.33 12 P 06 44 06.7 0.0
G27K **Doyon Strip** 85.43 13 P P 06 44 07.5 +0.3
baz=215
A19K **Wainwright** 85.44 6 P P 06 44 07.8 +0.7
baz=196
I30M **Mount Dempster** 85.47 16 IAmb IAmb 06 44 10.8
comp=Z,8.3nm,1.1s
I30M **Mount Dempster** 85.47 16 P P 06 44 07.7 +0.1
baz=220
TOLK **Toolik Lake Re** 85.47 10 P P 06 44 07.7 +0.3
baz=207
D23K **Nanushuk River** 85.58 9 P P 06 44 08.0 +0.1
baz=206
B21K **Ikpikpuk River** 85.61 8 P P 06 44 08.1 +0.2
baz=202
F26K **Sheenjek River** 85.64 12 P P 06 44 08.8 +0.5
baz=218
B20K **Meade River** 85.66 7 P P 06 44 08.1 -0.1
baz=200
HHC **Hu-ho-hao-te** 85.71 314 eP P 06 44 08.0 -1.3
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.0s
E25K **Arctic Village** 85.73 11 P P 06 44 09.0 +0.4
baz=211
H29M **Whitestone** 85.73 15 P P 06 44 08.8 +0.1
baz=218
KOTAN **Kotaneelee Air** 85.94 24 P P 06 44 10.4 +0.6
baz=232
D24K **Happy Valley** 86.05 10 P P 06 44 10.4 +0.2
baz=208
EPYK **Eagle Plains** 86.27 15 P P 06 44 11.6 +0.2
baz=220
K22A **Casper** 86.36 44 IAmb IAmb 06 44 16.3
comp=Z,12nm,1.2s
G29M **Pine Creek** 86.37 15 P P 06 44 12.2 +0.3
baz=218
H31M **Peel River** 86.46 16 P P 06 44 12.8 +0.5
baz=222
F28M **Old Crow** 86.50 14 P P 06 44 12.5 +0.1
baz=217
C24K **Franklin Bluff** 86.57 10 P P 06 44 12.8 +0.1
baz=208
E27K **Coleen River** 86.59 13 P P 06 44 13.3 +0.4
baz=215
D25K **Kavik River** 86.62 11 P P 06 44 13.7 +0.7
baz=210
BTO **Baotou** 86.70 313 eP P 06 44 16.8 +2.6
BTO pP pP 06 44 23.3 +0.5
BTO sP pwP 06 44 26.0 +3.2
BTO pmax pmax
comp=Z,23nm,1.3s
BTO pmax pmax
comp=Z,190nm,4.2s
G30M **tAoh Zraii Nji** 86.86 15 P P 06 44 14.7 +0.4
baz=220
MAW **Mawson** 87.19 199 P P 06 44 14.9 -1.0
comp=Z,3.0nm,0.9s,baz=117,slow=7.3,SNR=5.4
MAW LR LR 07 20 14.5
comp=Z,270nm,20.5s,baz=102,slow=34
comp=Z,3.0nm,0.9s
G31M **Satah River** 87.32 16 P P 06 44 17.0 +0.6
baz=222
CMIG **Matias Romero** 87.33 72 LR LR 07 14 27.4
comp=Z,228nm,20.0s,baz=238,slow=30
C27K **Jago River** 87.37 11 P P 06 44 16.8 +0.2
baz=213
E28M **Babbage River** 87.37 13 P P 06 44 17.1 +0.4
baz=217
C26K **Camden Bay** 87.40 11 P P 06 44 17.4 +0.7
baz=212
F30M **Barrier River** 87.46 15 P P 06 44 17.4 +0.3
baz=220
E29M **Blow River** 87.56 14 P P 06 44 17.4 -0.2
baz=218
D27M **Malcolm River** 87.59 12 P P 06 44 17.6 -0.2
baz=216
F31M **Tsiigehtchic** 87.85 15 P P 06 44 19.5 +0.6
baz=222
WRGLY **Wrigley** 88.10 21 P P 06 44 20.8 +0.5
baz=232
D28M **Stokes Point** 88.13 13 P P 06 44 20.6 +0.4
baz=218
PZH **PanZhiHua** 88.49 298 P P 06 44 21.3 -1.8
INK **Inuvik** 88.55 15 LR LR 07 16 55.0
comp=Z,182nm,21.9s,baz=241,slow=31
INK **Inuvik** 88.55 15 P P 06 44 22.2 0.0
baz=223
RSSD **Black Hills** 88.60 44 P 06 44 22.9 -0.5
LZH **Lanzhou** 89.69 307 eP P 06 44 30.5 +1.9
LZH sP pwP 06 44 40.3 +1.1
LZH pmax pmax
comp=Z,31nm,1.0s
DGMT **Dagmar** 90.13 40 P 06 44 30.8 +0.6
YKA **Yellowknife Ar** 91.03 24 P P 06 44 32.8 -1.2
comp=Z,0.5nm,0.9s,baz=254,slow=5.0,SNR=4.7
YKA LR LR 07 19 12.9
comp=Z,536nm,20.2s,baz=266,slow=32
comp=Z,0.5nm,0.9s
SONM **Songino Array** 91.74 319 P 06 44 36.4 -1.4
SONM IAmb IAmb 06 44 42.8
comp=Z,4.0nm,1.2s
SONM **Songino Array** 91.74 319 P P 06 44 37.7 -0.1
comp=Z,1.3nm,0.9s,baz=158,slow=4.3,SNR=7.3
comp=Z,1.3nm,0.9s
C36M **Paulatuk** 91.76 17 P P 06 44 37.1 0.0
baz=231
SYO **Syowa Base** 92.49 193 ⇓ eP P 06 44 40.6 -0.2
PLCA **Paso Flores** 92.85 133 LR LR 07 18 48.9
comp=Z,60nm,18.3s,baz=194,slow=31
TIXI **Tiksi** 93.30 345 LR LR 07 20 58.4
comp=Z,200nm,21.9s,baz=140,slow=32
TROLL **Troll, Antarti** 93.51 180 ⇑ P P 06 44 44.8 -0.9
comp=Z,178nm,1.0s
SNAA **Sanae** 93.77 178 ⇑ P P 06 44 47.2 +0.4
comp=Z,39nm,1.1s
SNAA **Sanae** 93.77 178 P P 06 44 46.6 -0.2
comp=Z,2.7nm,1.2s,baz=129,slow=4.0,SNR=4.8
SNAA LR LR 07 24 46.4
comp=Z,95nm,19.3s,baz=150,slow=34

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.7nm,1.2s						
VNA3	Neumayer Olymp	93.87	176	⇑P	P	06 44 47.0	-0.2
	comp=Z,2.7nm,0.9s						
VNA2	Neumayer--Watz	94.33	177	⇑P	P	06 44 49.2	0.0
	comp=Z,2.7nm,1.0s,baz=176,slow=3.0						
WHAR	Wooly Hollow	94.46	55		P	06 44 51.1	+0.6
WHAR				IAmb	IAmb	06 44 51.6	
	comp=Z,6.4nm,0.9s						
VNA1	Neumayer--Stat	94.55	176	⇑P	P	06 44 51.0	+0.8
	comp=Z,5.8nm,1.1s						
JTS	Las Juntas de	94.93	81	LR	LR	07 19 34.4	
	comp=Z,169nm,18.2s,baz=275,slow=30						
SPMN	Marine on St.	96.56	45		P	06 44 59.7	-0.1
ATAH	Atahualpa	96.88	99	LR	LR	07 19 16.0	
	comp=Z,119nm,20.5s,baz=264,slow=30						
NNA	Nana	97.01	104	LR	LR	07 20 35.4	
	comp=Z,34nm,18.3s,baz=239,slow=30						
BVAR	Borovoye Array	114.93	322	PKP	PKiKP	06 50 09.5	-1.2
	comp=Z,0.2nm,0.3s,baz=101,slow=1.5,SNR=2.1						
ARCES	ARCESS Array B	123.32	351	PKP	PKPdf	06 50 26.3	-0.1
	comp=Z,2.5nm,0.8s,baz=352,slow=2.5,SNR=7.0						
FINES	FINESS Array B	130.34	345	PKP	PKiKP	06 50 40.7	-0.1
	comp=Z,1.5nm,0.9s,baz=104,slow=6.1,SNR=3.8						
OKC	Ostrava-Krasne	142.71	343	ePKP	PKPdf	06 51 04.6	+1.3
BRG	Berggiesshubel	142.75	348	ePKPbc	PKPdf	06 51 04.3	+1.0
	baz=15,slow=3.1						
BRTR	Keskin Array B	143.10	318	PKP	PKPbc	06 51 02.2	+0.9
	comp=Z,1.3nm,0.8s,baz=48,slow=1.8,SNR=6.9						
MOX	Moxa	143.39	350	eL	L	08 03 28.8	
	comp=Z,180nm,20.7s						
MANZ	Manzenberg	143.95	350	ePKPbc	PKPdf	06 51 05.5	0.0
	baz=15,slow=3.1						
ZVC	Zvikov	144.06	347	ePKP	PKPdf	06 51 06.0	+0.3
ROTZ	Rotzenmuhle	144.14	349	ePKPbc	PKPdf	06 51 05.1	-0.7
	baz=15,slow=3.1						
TNS	Taunus Mts	144.24	354	ePKPbc	PKPdf	06 51 05.8	-0.3
	baz=15,slow=3.1						
GRF	Grafenberg Arr	144.38	350	ePKPbc	PKPdf	06 51 06.3	+0.1
	baz=15,slow=3.1						
GRF				eL	L	08 04 42.9	
	comp=Z,155nm,21.2s						
KHC	Kasperske Hory	144.48	348	ePKP	PKPdf	06 51 06.1	-0.4
WET	Wettzell	144.61	348	ePKPbc	PKPdf	06 51 05.9	-0.8
	baz=15,slow=3.1						
CKRC	Cesky Krumlov	144.62	347	ePKP	PKPdf	06 51 06.7	0.0
GEC2	GERESS Array S	144.73	347	ePKPbc	PKPab	06 51 05.4	-0.3
	baz=15,slow=3.1						
GERES	GERESS Array B	144.73	347	PKP	PKPdf	06 51 06.2	-0.8
	comp=Z,2.1nm,1.1s,baz=25,slow=3.5,SNR=6.8						
WLF	Walferdange	145.00	356		PKPdf	06 51 06.7	-0.5
WLF	Walferdange	145.00	356	ePKPbc	PKPdf	06 51 07.2	-0.1
	baz=15,slow=3.1						
MMAI	Mount Meron Ar	145.07	307	PKPbc	PKPdf	06 51 08.0	0.0
	comp=Z,15nm,0.8s,baz=47,slow=3.8,SNR=18						
CONA	Conrad Observa	145.07	344	i PKP	PKPab	06 51 07.1	+0.1
	comp=Z,8.2nm,0.9s,SNR=15						
RONA	Rosalia, Austr	145.16	344	ePKP	PKPdf	06 51 07.5	-0.2
	comp=Z,12nm,1.0s,SNR=10						
MOA	Molln	145.54	346	ePKP	PKPab	06 51 08.5	-0.1
	comp=Z,8.1nm,1.0s,SNR=13						
STU	Stuttgart	145.57	352		PKPdf	06 51 08.0	-0.3
STU	Stuttgart	145.57	352	ePKPbc	PKPab	06 51 08.5	-0.2
	baz=15,slow=3.1						
ARSA	Arzberg	145.78	344	ePKP	PKPab	06 51 09.4	-0.2
	comp=Z,7.5nm,1.1s						
BIOA	Bad Ischl, Aus	145.83	347	ePKP	PKPab	06 51 09.4	-0.4
	comp=Z,16nm,1.6s						
FUR	Furstenfeldbru	145.85	350	ePKPbc	PKPab	06 51 09.6	-0.1
	baz=15,slow=3.1						
RJOB	Jochberg	145.97	348	ePKPbc	PKPbc	06 51 09.7	-0.1
	baz=15,slow=3.1						
BFO	Black Forest	146.12	353	ePKPbc	PKPbc	06 51 09.7	-0.5
	baz=15,slow=3.1						
LESA	Schwarzleotal	146.29	348	ePKP	PKPbc	06 51 10.8	-0.1
	comp=Z,14nm,1.6s,SNR=12						
SOKA	Soboth	146.44	344	i PKP	PKPbc	06 51 10.9	-0.4
	comp=Z,7.1nm,1.0s,SNR=7.7						
KBA	Koelnbreinsper	146.48	347	i PKP	PKPbc	06 51 10.9	-0.6
	comp=Z,8.4nm,1.1s						
RETA	Reutte	146.59	350	i PKP	PKPbc	06 51 11.7	0.0
	comp=Z,7.4nm,0.9s,SNR=9.6						
WATA	Walderalm	146.59	349	i PKP	PKPbc	06 51 11.7	-0.1
	comp=Z,8.0nm,1.2s						
WTTA	Wattenberg	146.65	349	ePKP	PKPbc	06 51 12.0	-0.1
	comp=Z,11nm,0.8s,SNR=7.2						
MOTA	Moosalm	146.67	349	i PKP	PKPbc	06 51 11.9	-0.1
	comp=Z,9.3nm,0.9s,SNR=6.8						
OBKA	Obir	146.72	345	ePKP	PKPbc	06 51 11.6	-0.5
	comp=Z,4.5nm,0.9s						
SQTA	Sankt Quirin	146.77	349	i PKP	PKPbc	06 51 12.3	+0.1
	comp=Z,5.9nm,0.9s						
MYKA	Terra Mystica	146.83	346	i PKP	PKPdf	06 51 11.3	+0.7
	comp=Z,5.7nm,0.8s						
DAVA	Damuels	146.93	351	ePKP	PKPbc	06 51 12.9	+0.1
	comp=Z,12nm,1.0s,SNR=7.3						
ABTA	Abfaltersbach	146.97	347	i PKP	PKPbc	06 51 12.2	-0.6
	comp=Z,9.5nm,0.9s						
FETA	Feichten	147.05	350	ePKP	PKPbc	06 51 13.2	+0.1
	comp=Z,9.6nm,1.1s,SNR=5.9						
DAVOX	Davos/Dischmat	147.42	351	PKPbc	PKPdf	06 51 11.3	-0.4
	comp=Z,6.2nm,0.8s,baz=20,slow=6.8,SNR=16						
FUORN	Ofenpass-Fuorn	147.52	350		PKPdf	06 51 12.2	+0.2
FUORN				PKPbc	PKPbc	06 51 15.3	+0.7
TUE	Stuetta	147.81	351		PKPdf	06 51 12.1	-0.3
ESDC	Sonseca Array	154.45	12	PKP	PKPdf	06 51 22.5	-0.1
	comp=Z,0.4nm,0.6s,baz=336,slow=3.3,SNR=4.0						
ESDC				PKPbc	pPKPdf	06 51 31.5	-0.1
	comp=Z,0.1nm,0.6s,baz=228,slow=4.1,SNR=2.8						
ESDC				PKPab	sPKPbc	06 51 44.0	+1.2
	comp=Z,0.1nm,0.4s,baz=100,slow=23,SNR=2.1						
KEST	Kesra	158.18	345	PKPab	PKPab	06 52 01.6	+0.4
	comp=Z,2.4nm,0.8s,baz=326,slow=3.6,SNR=3.6						
MDT	Midelt	160.81	19	PKPab	PKPab	06 52 13.4	+0.6
	comp=Z,4.3nm,0.9s,baz=360,slow=6.5,SNR=3.8						
TORD	Torodi Ar. Bea	178.25	151	PKP	PKPdf	06 51 40.7	-0.8
	comp=Z,0.7nm,0.9s,baz=219,slow=1.8,SNR=5.0						
TORD				PKPab	pPKPab	06 53 31.1	-7.8
	comp=Z,0.8nm,0.9s,baz=236,slow=1.6,SNR=4.1						

---

*IDC **25** 06:56:19.8±1.4, 1.°95N×66.°90E, h0km, mb3.7/8, mbtmp3.7/8, MS3.3/2, Error ellipse: s-maj=47.0km s-min=25.8km az=52.0*

ISC 25 06:56:20.8±1.5**, 1.°9N**±0.°3×**66.°8E**±0.°3**, h10**km**, n17, σ0.s67**/9**, mb3.7**/8**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	29.70	264	LR	LR	07 13 44.2	
	comp=Z,54nm,18.1s,baz=110,slow=35						
CMAR	Chiang Mai Arr	35.54	60	LR	LR	07 16 45.8	
	comp=Z,50nm,19.9s,baz=270,slow=35						
MKAR	Makanchi Array	46.71	15	P	P	07 04 49.0	-1.0
	0.2nm,0.4s,baz=191,slow=6.9,SNR=2.8						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	49.55	10	P	P	07 05 12.0	+0.2
	0.2nm,0.4s,baz=208,slow=7.0,SNR=1.7						
	0.2nm,0.4s						
H04N2	CROZET ISLANDS	49.66	194	T	T	07 58 26.9	
	baz=19,slow=75,SNR=7.3						
H04N1	CROZET ISLANDS	49.67	194	T	T	07 58 31.8	
	baz=19,slow=75,SNR=5.0						
H04N3	CROZET ISLANDS	49.68	194	T	T	07 58 30.9	
	baz=19,slow=75,SNR=5.2						
ZALV	Zalesovo Beam	53.96	13	P	P	07 05 44.1	-0.6
	0.5nm,0.3s,baz=201,slow=12,SNR=5.0						
	0.5nm,0.3s						
SONM	Songino Array	57.09	31	P	P	07 06 08.4	+0.9
	0.4nm,0.7s,baz=240,slow=4.8,SNR=1.7						
	0.4nm,0.7s						
H01W3	Cape Leeuwin H	57.45	134	T	T	08 07 59.1	
	baz=300,slow=75,SNR=219						
H01W2	Cape Leeuwin H	57.45	134	T	T	08 07 59.6	
	baz=300,slow=75,SNR=179						
H01W1	Cape Leeuwin H	57.46	134	T	T	08 08 00.7	
	baz=300,slow=75,SNR=110						
WRA	Warramunga Arr	69.63	112	P	P	07 07 31.0	0.0
	1.1nm,0.9s,baz=290,slow=5.9,SNR=6.2						
	1.1nm,0.9s						
ASAR	Alice Springs	69.92	116	P	P	07 07 32.6	-0.1
	0.7nm,0.9s,baz=290,slow=5.6,SNR=4.8						
	0.7nm,0.9s						
HFS	Hagfors	70.80	335	P	P	07 07 37.5	+0.1
	1.1nm,0.7s,baz=79,slow=3.2,SNR=3.6						
	1.1nm,0.7s						
ESDC	Sonseca Array	74.03	311	P	P	07 07 57.5	+0.2
	0.5nm,0.7s,baz=87,slow=5.4,SNR=3.7						
	0.5nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TXAR	Lajitas Array	147.63	344	PKPbc	PKPab	07 16 07.8	-0.7
	1.7nm,0.7s,baz=65,slow=3.1,SNR=25						

---

*KRSC **25** 07:16:12.8±1.6, 50.°25N×159.°25E, h43km±36km, Ml5.6, Felt [III-IV] at Severo-Kurilsk; [II-III] at Paratunka; [II] at Petropavlovsk.*

*MOS **25** 07:16:13.7±0.9, 50.°15N×158.°87E, h43km, mb5.2/75, MS4.3/12, Error ellipse: s-maj=6.2km s-min=2.6km az=94.5*

MOS Felt (III-IV) at Severo-Kuril'sk.

*BJI **25** 07:16:14.3, 50.°29N×158.°43E, h32km, mB4.8/21, mb4.8/63, Ms4.5/43, Ms7 4.3/45*

*BGR **25** 07:16:16.6, 50.°40N×159.°31E, h33km, mb4.7*

*IDC **25** 07:16:17.4±1.3, 50.°20N×158.°88E, h61km±11km, mb4.4/30, mbtmp4.7/35, MS4.0/55, Error ellipse: s-maj=9.7km s-min=8.7km az=82.0*

*GCMT **25** 07:16:18.1±0.3, 50.°15N±0.°02×158.°96E±0.°03, h39km, MW4.9/85, Moment Tensor Solution. s44,c54; s85,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.85±.17; Mθθ-1.26±.12; Mφφ-1.60±.12; Mrθ-0.41±.10; Mθφ-1.65±.06; Mφr1.28±.08; Best double couple: M0 3.26100×10^16 NP1:φs241.00000°,δ42.00000°,λ121.00000°. NP2: φs23.00000°,δ55.00000°,λ65.00000°. Principal axes: T 3.3520, Plg69.0000°, Azm238.0000°; N -0.1910, Plg20.0000°, Azm37.0000°; P -3.1710, Plg7.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **25** 07:16:19.1±2.0, 50.°44N±0.°06×157.°81E±0.°06, h35km±2km, mb5.0/95 Error ellipse: s-maj=11.8km s-min=3.0km az=209.0*

ISC 25 07:16:15.5±0.4**, 50.°11N**±0.°04×**158.°79E**±0.°04**, h44**km±2km**, h45**km**:pP-P, n934, σ2.s50**/882**, mb4.9**/214**, MS4.2**/75**, 63C-28D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.80	290	⇓iPN	Pn	07 16 44.2	+0.2
SKR				i S	Sn	07 17 06.5	+0.8
SKR				pmax	pmax		
	comp=Z,14µm,0.5s						
SKR				smax	smax		
	comp=E,27µm,0.5s						
SKR				smax	smax		
	comp=N,47µm,0.5s						
SKR	Severo-Kuril's	1.80	290	eP	Pn	07 16 44.4	+0.3
PAU	Pauzhetka	1.85	318	PN	Pn	07 16 45.2	+0.5
PAU	Pauzhetka	1.85	318	eP	Pn	07 16 45.2	+0.5
RUS	Russkaya	2.33	356	PN	Pn	07 16 49.8	-1.5
RUS				S	Sn	07 17 16.3	-2.5
RUS	Russkaya	2.33	356	eP	Pn	07 16 49.9	-1.5
RUS				eS	Sn	07 17 16.3	-2.5
ASAK	Asacha	2.34	347	PN	Pn	07 16 50.9	-0.7
ASAK	Asacha	2.34	347	eP	Pn	07 16 50.9	-0.7
MTVR	Mutnovka	2.41	351	PN	Pn	07 16 51.6	-0.9
MTVR	Mutnovka	2.41	351	eP	Pn	07 16 51.7	-0.9
GRL	Gorelyy	2.49	350	PN	Pn	07 16 52.9	-0.7
GRL				S	Sn	07 17 22.0	-0.8
GRL	Gorelyy	2.49	350	eP	Pn	07 16 53.0	-0.7
GRL				eS	Sn	07 17 22.0	-0.8
MIPR	Malaya Ipel'ka	2.52	330	PN	Pn	07 16 54.1	+0.2
MIPR	Malaya Ipel'ka	2.52	330	eP	Pn	07 16 54.2	+0.2
PET	Petropavlovsk	2.92	358		Pn	07 16 58.0	-1.5
PET				Sn	Sn	07 17 30.5	-2.8
PET	Petropavlovsk	2.92	358	P	Pn	07 16 58.4	-1.0
PET	Petropavlovsk	2.92	358	ePN	Pn	07 16 57.9	-1.5
PET				eS	Sn	07 17 30.4	-2.8
PET				pmax	pmax		
	comp=Z,2µm,0.4s						
PET				smax	smax		
	comp=N,5µm,0.5s						
PET				smax	smax		
	comp=E,4µm,0.6s						
PET				MLR	MLR		
	comp=Z,3µm,14.0s						
PET	Petropavlovsk	2.92	358	eP	Pn	07 16 58.4	-1.0
PET				eS	Sn	07 17 30.9	-2.3
PET	Petropavlovsk	2.92	358	P	Pn	07 16 57.1	-2.3
DALK	Dalny	2.93	360	PN	Pn	07 16 57.9	-1.5
DALK				S	Sn	07 17 31.0	-2.3
DALK	Dalny	2.93	360	eP	Pn	07 16 58.0	-1.5
DALK				eS	Sn	07 17 31.0	-2.3
INSR	Institute	2.96	358	PN	Pn	07 16 59.5	-0.5
INSR				S	Sn	07 17 32.8	-1.5
INSR	Institute	2.96	358	eP	Pn	07 16 59.5	-0.5
INSR				eS	Sn	07 17 32.9	-1.5
APC	Apacha	3.00	341	PN	Pn	07 17 02.3	+1.9
APC				S	Sn	07 17 37.4	+2.3
APC	Apacha	3.00	341	eP	Pn	07 17 02.4	+1.9
APC				eS	Sn	07 17 37.5	+2.3
PEA0B	Petropavlovsk-	3.08	348		Pn	07 17 01.4	-0.2
PEA0B	Petropavlovsk-	3.08	348	PN	Pn	07 17 01.4	-0.2
PEA0B				S	Sn	07 17 36.4	-0.8
PETK	Petropavlovsk-	3.08	348		Pn	07 17 00.6	-1.0
PETK	Petropavlovsk-	3.08	348	P	Pn	07 17 01.3	-0.3
	comp=Z,721nm,0.5s,baz=142,slow=14,SNR=1169						
PETK				S	Sn	07 17 38.6	+1.4
	comp=Z,545nm,0.5s,baz=280,slow=30,SNR=8.6						
PETK				LR	LR	07 18 35.7	
	comp=Z,3µm,21.3s,baz=165,slow=46						
NLC	Nalytchevo	3.09	6	PN	Pn	07 16 59.5	-2.2
NLC	Nalytchevo	3.09	6	eP	Pn	07 16 59.5	-2.2
SPN	Mys Shipunski	3.09	14	PN	Pn	07 17 00.1	-1.6
SPN				S	Sn	07 17 33.9	-3.5
SPN	Mys Shipunski	3.09	14	eP	Pn	07 17 00.2	-1.6
SPN				eS	Sn	07 17 33.9	-3.5
UGLR	Uglovaya	3.10	0	PN	Pn	07 17 00.9	-1.1
UGLR	Uglovaya	3.10	0	eP	Pn	07 17 00.9	-1.1
SMAR	Somma	3.16	0	PN	Pn	07 17 02.0	-0.9
SMAR	Somma	3.16	0	eP	Pn	07 17 02.0	-0.9
AVH	Avacha	3.16	359	PN	Pn	07 17 02.1	-0.7
AVH	Avacha	3.16	359	eP	Pn	07 17 02.2	-0.7
SDLR	Sedlovina	3.17	1	PN	Pn	07 17 01.3	-1.7
SDLR	Sedlovina	3.17	1	eP	Pn	07 17 01.3	-1.7
KOK	Koryaka	3.19	358	PN	Pn	07 17 02.7	-0.5
KOK				S	Sn	07 17 39.1	-0.9
KOK	Koryaka	3.19	358	eP	Pn	07 17 02.8	-0.5
KOK				eS	Sn	07 17 39.2	-0.9
KRER	Koryakskii	3.20	360	PN	Pn	07 17 02.9	-0.5
KRER				S	Sn	07 17 39.6	-0.8
KRER	Koryakskii	3.20	360	eP	Pn	07 17 02.9	-0.5
KRER				eS	Sn	07 17 39.6	-0.8
KRX	Arik	3.26	359	PN	Pn	07 17 03.4	-0.7
KRX	Arik	3.26	359	eP	Pn	07 17 03.5	-0.7
GNL	Ganaly	3.63	352	PN	Pn	07 17 09.1	-0.2
GNL	Ganaly	3.63	352	eP	Pn	07 17 09.1	-0.2
KII	Karymskiy	3.96	6	PN	Pn	07 17 13.6	-0.1
KII	Karymskiy	3.96	6	eP	Pn	07 17 13.6	-0.1
MKZ	Mys Kozlova	4.81	21	PN	Pn	07 17 22.5	-2.7
MKZ	Mys Kozlova	4.81	21	eP	Pn	07 17 22.6	-2.7
MKZ				eS	Sn	07 18 12.8	-6.8
TUMD	Tumrok D	5.20	10	PN	Pn	07 17 30.0	-0.7
TUMD	Tumrok D	5.20	10	eP	Pn	07 17 30.0	-0.7
TUMD				eS	Sn	07 18 26.1	-3.2
KMNR	Kamenistaya	5.72	8	PN	Pn	07 17 38.6	+0.7
KMNR	Kamenistaya	5.72	8	eP	Pn	07 17 38.7	+0.7
ESO	Esso	5.83	360	PN	Pn	07 17 39.2	-0.1
ESO	Esso	5.83	360	eP	Pn	07 17 39.2	-0.1
BZP	Bezymyannyi-Pe	5.91	10	PN	Pn	07 17 41.0	+0.5
BZP	Bezymyannyi-Pe	5.91	10	eP	Pn	07 17 41.1	+0.5
BZMR	Bezymyannaya	5.93	9	PN	Pn	07 17 41.3	+0.5
BZMR	Bezymyannaya	5.93	9	eP	Pn	07 17 41.3	+0.5
KIRR	Kirishev	5.93	9	PN	Pn	07 17 41.0	+0.2
KIRR	Kirishev	5.93	9	eP	Pn	07 17 41.0	+0.2
KPT	Kopyto	5.93	8	PN	Pn	07 17 41.0	+0.2
KPT	Kopyto	5.93	8	eP	Pn	07 17 41.1	+0.2
BZGR	Bezymyannyi-Gr	5.95	10	PN	Pn	07 17 41.4	+0.3
BZGR	Bezymyannyi-Gr	5.95	10	eP	Pn	07 17 41.5	+0.3
BZWR	Bezymyannyi-We	5.96	9	PN	Pn	07 17 42.0	+0.8
BZWR	Bezymyannyi-We	5.96	9	eP	Pn	07 17 42.0	+0.8
KOZ	Kozyrevsk	6.00	6	PN	Pn	07 17 41.8	+0.2
KOZ	Kozyrevsk	6.00	6	eP	Pn	07 17 41.9	+0.2
ZLN	Zelenaya	6.04	11	PN	Pn	07 17 43.0	+0.7
ZLN	Zelenaya	6.04	11	eP	Pn	07 17 43.0	+0.7
SRDR	Sredinnyy	6.25	5	PN	Pn	07 17 44.6	-0.4
SRDR	Sredinnyy	6.25	5	eP	Pn	07 17 44.7	-0.4
KLY	Klyuchi	6.32	9	PN	Pn	07 17 46.2	+0.3
KLY	Klyuchi	6.32	9	eP	Pn	07 17 46.3	+0.3
KLY				eS	Sn	07 18 55.7	-1.0
KBTR	Krutoberegovo	6.57	20	PN	Pn	07 17 47.8	-1.7
KBTR	Krutoberegovo	6.57	20	eP	Pn	07 17 47.8	-1.7
KBTR				eS	Sn	07 18 57.3	-5.8
KBG	Krutoberegovo	6.59	19	PN	Pn	07 17 48.4	-1.3
KBG	Krutoberegovo	6.59	19	eP	Pn	07 17 48.5	-1.3
KBG				eS	Sn	07 18 58.8	-4.7
SMKR	Semkarok	6.68	13	PN	Pn	07 17 50.8	-0.2
SMKR	Semkarok	6.68	13	eP	Pn	07 17 50.9	-0.2
BKI	Bering	6.72	38	PN	Pn	07 17 48.6	-2.8
BKI	Bering	6.72	38	eP	Pn	07 17 48.6	-2.8
KUR	Kuril'sk	8.83	241	ePN	Pn	07 18 21.7	+1.2
KUR				pmax	pmax		
	comp=Z,102nm,0.7s						
KUR				pmax	pmax		
	comp=E,39nm,0.5s						
KUR				pmax	pmax		
	comp=N,52nm,0.4s						
OSSR	Ossora	9.49	13	PN	Pn	07 18 27.6	-1.7
OSSR	Ossora	9.49	13	eP	Pn	07 18 27.6	-1.7
SHEM	Shemya Is, Ala	9.92	69	P	Pn	07 18 32.8	-2.5
	comp=N,184nm,0.4s,baz=270,slow=2.4,SNR=155						
SHEM				S	Sn	07 20 14.5	-11
	comp=N,246nm,0.4s,baz=355,slow=21,SNR=12						
SHEM				LR	LR	07 22 01.5	
	comp=N,743nm,21.2s,baz=288,slow=35						
SMY	Shemya	9.92	69	P	Pn	07 18 32.9	-2.4
SMY	Shemya	9.92	69	PN	Pn	07 18 32.7	-2.6
TYV	Tymovskoe	10.31	280	ePN	Pn	07 18 44.4	+3.7
TYV				pmax	pmax		
	comp=Z,200nm,2.3s						
TYV				pmax	pmax		
	comp=Z,37nm,1.1s						
MA2	Magadan	10.54	337		Pn	07 18 38.8	-5.1
MA2	Magadan	10.54	337	P	Pn	07 18 43.8	-0.1
	comp=Z,16nm,0.6s,baz=135,slow=10.0,SNR=14						
MA2				LR	LR	07 23 20.1	
	comp=Z,682nm,19.8s,baz=170,slow=40						
MA2	Magadan	10.54	337	P	Pn	07 18 44.4	+0.6
MA2	Magadan	10.54	337	cePN	Pn	07 18 43.0	-0.8
MA2				pmax	pmax		
	comp=Z,17nm,0.6s						
MA2	Magadan	10.54	337	P	Pn	07 18 42.5	-1.3
	comp=Z,427nmcomp=Z,30nm,0.7s						
UGL	Uglegorsk	10.91	271	ePN	Pn	07 18 53.6	+4.8
UGL				pmax	pmax		
	comp=Z,300nm,0.8s						
RUSJ	Misakicho	11.00	242	PN	Pn	07 18 51.9	+1.7
YSS	Yuzhno-Sakhali	11.09	260	ePN	Pn	07 18 54.6	+3.3
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
NMR	Nemuro--Hokkai	11.20	238	ePN	Pn	07 18 49.5	-3.4
JKA	Kamikawa-asahi	12.54	248		Pn	07 19 08.8	-2.3
ASAJ	Asahikawa	12.54	248	P	Pn	07 19 12.6	+1.4
	comp=Z,10nm,0.6s,baz=85,slow=16,SNR=16						
ASAJ				LR	LR	07 23 33.1	
	comp=Z,633nm,21.1s,baz=64,slow=34						
SEY	Seymchan	13.32	347	P	Pn	07 19 21.9	+0.2
	comp=Z,4.3nm,0.8s,baz=142,slow=12,SNR=9.6						
SEY				LR	LR	07 24 59.9	
	comp=Z,659nm,19.0s,baz=160,slow=39						
SEY	Seymchan	13.32	347	ePN	Pn	07 19 20.0	-1.7
SEY				pmax	pmax		
	comp=Z,12nm,0.8s						
JEM	Erimo	13.52	239	P	Pn	07 19 23.3	-1.2
ERM	Erimo	13.52	239	Pn	Pn	07 19 22.5	-2.0
ERM	Erimo	13.52	239	P	Pn	07 19 23.3	-1.2
ERM	Erimo	13.52	239	P	Pn	07 19 22.5	-2.0
GRNR	Gornyy	14.26	281	⇓iP	Pn	07 19 36.0	+1.4
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ADK	Adak	15.53	74	P	P	07 19 52.9	-2.0
TEY	Ternei	15.79	260	eP	Pn	07 19 54.0	-0.5
TEY				e		07 22 57.4	
JMM	Marumori	17.76	233	P	P	07 20 21.0	+1.3
BILL	Bilibino	18.36	9		P	07 20 26.0	-0.2
BILL	Bilibino	18.36	9	i P	P	07 20 25.5	-0.6
BILL				pmax	pmax		
	comp=Z,22nm,0.7s						
USA0B	Ussuriysk Arra	19.10	262	P	P	07 20 31.9	-2.5
USA0B	Ussuriysk Arra	19.10	262	i P	Pn	07 20 35.1	-0.4
USRK	Ussuriysk Ar.	19.10	262	P	P	07 20 31.9	-2.5
USRK	Ussuriysk Ar.	19.10	262	P	P	07 20 34.8	+0.4
	comp=Z,5.0nm,0.6s,baz=62,slow=11,SNR=6.9						
USRK				LR	LR	07 27 43.7	
	comp=Z,440nm,21.0s,baz=65,slow=36						
SPIA	Saint Paul Isl	19.54	57	P	Pn	07 20 47.5	+6.9
	baz=264						
VLA	Vladivostok	19.69	260	i P	P	07 20 39.8	-1.0
ZEA	Zeya	19.70	293	eP	P	07 20 40.6	-0.2
ZEA				eS	S	07 24 06.0	-14
ZEA				pmax	pmax		
	comp=E,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.5s						
ZEA				smax	smax		
	comp=E,200nm,3.2s						
ZEA				MLR	MLR		
	comp=E,300nm,16.0s						
ZEA				MLR	MLR		
	comp=N,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,15.0s						
P08K	Saint George I	19.86	59	P	Pn	07 20 51.7	+7.4
	baz=266						
YAK	Yakutsk	19.95	318		P	07 20 41.2	-2.3
YAK	Yakutsk	19.95	318	P	P	07 20 41.6	-1.8
	comp=Z,402nm,0.6s,baz=333,slow=0.1,SNR=84						
YAK				S	S	07 24 19.5	-5.7
	comp=Z,21nm,0.4s,baz=234,slow=23,SNR=5.7						
YAK				LR	LR	07 29 06.4	
	comp=Z,827nm,19.0s,baz=110,slow=39						
YAK	Yakutsk	19.95	318	eP	P	07 20 41.1	-2.4
YAK				eS	S	07 24 21.8	-3.4
YAK				pmax	pmax		
	comp=Z,330nm,1.0s						
YAK				pmax	pmax		
	comp=N,36nm,1.3s						
YAK				pmax	pmax		
	comp=E,77nm,1.3s						
YAK				smax	smax		
	comp=E,322nm,3.5s						
YAK				smax	smax		
	comp=N,272nm,2.1s						
HEH	HeiHe	20.02	283	eP	P	07 20 42.0	-2.4
HEH				pP	pP	07 20 51.3	-2.5
HEH				S	S	07 24 14.5	-12
HEH				sS	Sn	07 24 31.5	+1.0
HEH				pmax	pmax		
	comp=N,63nm,0.9s						
HEH				pmax	pmax		
	comp=N,170nm,6.0s						
HEH				LR	LR		
	comp=N,470nm,18.5s						
HEH				LR	LR		
	comp=N,460nm,21.1s						
HEH				LR	LR		
	comp=N,640nm,21.6s						
MAJO	Matsushiro	20.11	235		P	07 20 46.2	+0.8
MAJO	Matsushiro	20.11	235	P	P	07 20 46.2	+0.8
MAJO				pmax	pmax		
	comp=Z,29nm,0.8s						
MJAR	Matsushiro Arr	20.11	235	P	P	07 20 46.5	+1.0
MJAR	Matsushiro Arr	20.11	235	P	Pn	07 20 47.1	-0.5
	comp=Z,21nm,1.0s,baz=32,slow=9.6,SNR=28						
MJAR				LR	LR	07 29 30.4	
	comp=Z,164nm,20.3s,baz=24,slow=39						
	comp=Z,21nm,1.0s						
MJB9	Matsu-Tunnel	20.11	235	P	P	07 20 46.2	+0.8
NIKH	Nikolski High	20.24	69	P	Pn	07 20 56.7	+7.8
	baz=277						
MDJ	Mudanjiang	20.45	266	P	P	07 20 46.1	-3.0
MDJ	Mudanjiang	20.45	266	P	P	07 20 45.5	-3.5
MDJ				S	S	07 24 30.0	-5.4
MDJ				LR	LR		
	comp=Z,410nm,20.6s						
MDJ				LR	LR		
	comp=Z,610nm,22.0s						
MDJ				LR	LR		
	comp=Z,750nm,21.3s						
PSTR	Posyet	20.61	260	i P	P	07 20 49.3	-1.5
GAMB	Gambell	20.86	38	P	Pn	07 20 58.9	+2.7

baz=245
JGF Kuroka 21.27 235 P P 07 20 58.7 +0.7
BNX BinXian 21.39 270 ⇓P P 07 20 58.5 -0.7
BNX pP pP 07 21 07.8 -0.7
BNX sP pwP 07 21 13.8 -0.7
BNX S S 07 24 52.0 -2.0
BNX PcP PcP 07 25 00.5 -0.8
BNX pmax pmax
comp=Z,13nm,1.4s
BNX LR LR
comp=Z,660nm,20.9s
BNX LR LR
comp=Z,500nm,21.7s
BNX LR LR
comp=Z,800nm,18.4s
UNV Unalaska Valle 21.57 67 P P 07 21 11.2 +10
baz=276
INU Inuyama 21.64 235 P P 07 21 02.2 +0.3
INU IAmb IAmb 07 21 20.5
comp=Z,68nm,1.0s
M11K Mekoryuk 22.18 49 P P 07 21 15.4 +7.9
baz=260
TNA Tin City 23.12 36 P P 07 21 23.3 +6.1
baz=246
K13K Kusilvak Mount 23.25 46 P P 07 21 26.4 +7.7
baz=258
FALS False Pass 23.30 64 P P 07 21 27.9 +8.8
baz=276
CN2 Changchun 23.48 267 eP P 07 21 19.8 -1.2
CN2 eS S 07 25 29.0 -2.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.5s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,500nm,18.6s
M13K Dall Lake 23.58 50 P P 07 21 27.8 +6.1
baz=263
F14K Arctic Creek 23.69 36 P P 07 21 27.9 +5.1
baz=248
ANM Nome 23.72 39 P P 07 21 28.2 +5.1
ANM Nome 23.72 39 P P 07 21 28.2 +5.1
ANM pmax pmax
comp=Z,31nm,1.1s
ANM Nome 23.72 39 P P 07 21 28.7 +5.6
baz=252
J14K Nanvaranak Lak 23.95 44 P P 07 21 31.9 +6.7
baz=258
S12K Black Hills 24.02 61 P P 07 21 33.6 +7.6
S12K Black Hills 24.02 61 P P 07 21 34.4 +8.4
baz=275
L14K Kuka Creek 24.05 47 P P 07 21 32.0 +5.8
L14K IAmb IAmb 07 21 45.3
comp=Z,41nm,1.2s
L14K Kuka Creek 24.05 47 P P 07 21 32.6 +6.4
baz=262,SNR=5.1
M14K Bethel 24.31 49 P P 07 21 35.0 +6.5
M14K IAmb IAmb 07 21 47.8
comp=Z,38nm,1.1s
M14K Bethel 24.31 49 P P 07 21 35.0 +6.5
baz=264
N14K Kuskokwak Cree 24.34 51 P P 07 21 35.8 +7.0
baz=266,SNR=5.4
G15K Niukluk 24.41 38 P P 07 21 35.1 +5.7
baz=252
F15K North Star Dit 24.42 37 P P 07 21 35.4 +5.8
baz=250
O14K Tigyukauivet M 24.49 53 P P 07 21 37.5 +7.3
baz=268
JMN Monobe 24.55 238 P P 07 21 32.0 +0.9
JMN IAmb IAmb 07 22 00.8
comp=Z,35nm,1.1s
L15K Ungalak Mounta 24.68 47 P P 07 21 38.5 +6.6
baz=262,SNR=5.9
K15K Wolf Creek Mou 24.77 45 P P 07 21 39.1 +6.4
baz=261
M15K Kasigluk River 24.92 49 P P 07 21 40.6 +6.6
baz=265,SNR=9.6
SDPT Sand Point 24.95 62 P P 07 21 42.3 +8.0
baz=277
H16K Elim 25.03 40 P P 07 21 40.5 +5.5
baz=255
N15K Kwethluk River 25.16 51 P P 07 21 42.9 +6.7
baz=267,SNR=5.4
G16K Koyuk River 25.21 38 P P 07 21 42.0 +5.3
baz=253
O15K Ungalikthiuk R 25.23 53 P P 07 21 43.6 +6.7
baz=269
C16K Lisburne Hills 25.26 31 P P 07 21 41.2 +4.1
baz=244
J16K Anvik River 25.39 43 P P 07 21 44.1 +5.8
baz=260
KSRS Korea Array 25.42 252 P P 07 21 41.2 +2.4
comp=Z,16nm,0.8s,baz=54,slow=8.9,SNR=66
comp=Z,16nm,0.8s
KS19 Wonju Array Si 25.43 252 P P 07 21 39.4 +0.5
KS19 IAmb IAmb 07 22 03.6
comp=Z,38nm,1.1s
KSAR Wonju Array Be 25.45 252 P P 07 21 40.6 +1.5
KSAR Wonju Array Be 25.45 252 P P 07 21 40.6 +1.5
I17K Unalakleet 25.48 42 P P 07 21 45.2 +6.1
baz=258
CHNA Chernabura Isl 25.51 63 P P 07 21 47.7 +8.3
baz=278
TIXI Tiksi 25.51 338 P P 07 21 38.5 -0.9
TIXI Tiksi 25.51 338 P P 07 21 38.9 -0.4
comp=Z,53nm,0.3s,baz=141,slow=8.3,SNR=129
TIXI S S 07 26 01.2 -2.1
comp=Z,1.0nm,0.3s,baz=280,slow=22,SNR=9.2
TIXI LR LR 07 33 08.8
comp=Z,674nm,19.1s,baz=142,slow=40
TIXI Tiksi 25.51 338 eP P 07 21 38.4 -0.9
TIXI pmax pmax
comp=Z,151nm,0.9s
L16K Owhat River 25.63 47 P P 07 21 47.3 +6.8
baz=264
D17K Noatak River 25.77 33 P P 07 21 46.7 +4.9
baz=248
M16K Timber Creek 25.80 49 P P 07 21 49.0 +7.0
M16K IAmb IAmb 07 22 02.3
comp=Z,38nm,1.1s
M16K Timber Creek 25.80 49 P P 07 21 48.6 +6.5
baz=266,SNR=6.4
N16K Nishlik Lake 25.84 50 P P 07 21 48.1 +5.6
baz=267,SNR=6.9
G17K Kiwalik Mounta 25.92 38 P P 07 21 48.9 +5.8
baz=255
F17K Baldwin Pennin 25.98 36 P P 07 21 48.0 +4.4
baz=253
RDOG Red Dog Mine 25.98 32 P P 07 21 48.3 +4.7
baz=248
E17K Hotham Inlet 25.99 35 P P 07 21 48.8 +5.1
baz=251
H17K Granite Mounta 26.07 40 P P 07 21 49.8 +5.4
baz=257
C17K DeLong Mountai 26.07 31 P P 07 21 48.5 +4.1
baz=246
J17K VABM Dome 26.08 43 P P 07 21 50.2 +5.6
baz=261
O16K Kokwok River B 26.13 52 P P 07 21 51.4 +6.4
baz=270
P16K Nushagak River 26.17 53 P P 07 21 52.1 +6.8
baz=271
INCN Inchon 26.20 254 P P 07 21 45.5 -0.4
INCN Inchon 26.20 254 P P 07 21 45.5 -0.4
INCN pmax pmax
comp=Z,23nm,0.8s
L17K Donlin 26.24 46 P P 07 21 51.6 +5.6
baz=264
JCJ Chichijima 26.27 215 LR LR 07 30 02.6
comp=Z,102nm,21.7s,baz=23,slow=31
K17K Iditarod 26.32 45 P P 07 21 52.7 +6.0
baz=263
R16K Pilot Point 26.41 57 P P 07 21 54.3 +6.8
baz=274
TJN Taejon 26.46 251 P P 07 21 48.0 -0.2
TJN Taejon 26.46 251 P P 07 21 48.1 -0.2
TJN pmax pmax
comp=Z,143nm,1.1s
E18K Tukpahlearik C 26.55 34 P P 07 21 53.0 +4.2
E18K Tukpahlearik C 26.55 34 P P 07 21 53.1 +4.3
baz=251
M17K Holitna River 26.56 48 P P 07 21 54.6 +5.6
baz=267,SNR=5.9
N17K Nushagak Hills 26.62 50 P P 07 21 56.4 +6.9
N17K Nushagak Hills 26.62 50 P P 07 21 55.0 +5.5
baz=269,SNR=6.9
F18K Selawik 26.64 36 P P 07 21 54.1 +4.6
baz=254
O17K Koliganek Bris 26.64 52 P P 07 21 55.6 +6.0
baz=270
JNU Nakatsue 26.67 241 P P 07 21 51.4 +1.1
JNU IAmb IAmb 07 22 20.0
comp=Z,34nm,1.0s
JNU Nakatsue 26.67 241 LR LR 07 32 53.5
comp=Z,122nm,20.8s,baz=56,slow=37
H18K Honhosa River 26.76 40 P P 07 21 55.0 +4.3
baz=258
C18K Utukok River 26.80 31 P P 07 21 54.5 +3.4
baz=248
Q16K King Salmon 26.86 54 P P 07 21 57.8 +6.1
baz=273
B18K Kokolik River 26.90 30 P P 07 21 55.1 +3.2
baz=246
P17K Kvichak River 26.97 53 P P 07 21 58.8 +6.2
baz=272,SNR=5.8
L18K Granite Mounta 27.00 46 P P 07 21 58.4 +5.5
baz=266
R17L Mt. Peulik Vol 27.06 57 P P 07 21 59.4 +6.0
baz=275
J18K Innoko River 27.14 44 P P 07 21 59.2 +5.1
baz=263
N18K Kilae Creek 27.27 50 P P 07 22 01.2 +5.9
baz=270,SNR=5.3
Q17K Contact Creek 27.28 55 P P 07 22 02.3 +6.7
baz=274
GCSA Galena City Sc 27.29 41 P P 07 22 00.1 +4.7
baz=261
M18K Stony River 27.34 48 P P 07 22 02.1 +6.2
baz=268
F19K Shaleruckik Mo 27.42 36 P P 07 22 00.9 +4.3
baz=256
A19K Wainwright 27.50 28 P P 07 22 01.0 +3.8
baz=246
G19K Purcell Mounta 27.51 38 P P 07 22 02.3 +5.0
baz=258
C19K Lookout Ridge 27.52 31 P P 07 22 01.6 +4.1
baz=250
P18K Big Mountain, 27.59 53 P P 07 22 04.3 +6.0
baz=272
O18K Koktuh Hills 27.59 52 P P 07 22 04.3 +6.1
baz=272
H19K Roundabout Mou 27.62 39 P P 07 22 03.4 +5.0
baz=260
CHIR Chirikof Islan 27.64 60 P P 07 22 04.1 +5.5
baz=279
J19K Poorman 27.70 43 P P 07 22 04.0 +4.8
baz=263
Q18K Katmai Hardscr 27.72 54 P P 07 22 04.9 +5.3
baz=274
E19K Redstone River 27.80 35 P P 07 22 03.8 +3.8
baz=255
D19K Kuna River 27.80 33 P P 07 22 03.8 +3.7
baz=252
L19K White Mountain 27.85 47 P P 07 22 04.9 +4.3
baz=268
N19K Bonanza Creek 27.96 50 P P 07 22 06.9 +5.3
baz=270
O19K Port Alsworth 28.04 51 P P 07 22 06.9 +4.8
baz=272
M19K Big River Lodg 28.05 47 P P 07 22 06.4 +4.1
baz=268
R18K Karluk 28.09 56 P P 07 22 08.7 +6.1
baz=276
F20K Avaraart Lake 28.25 36 P P 07 22 07.5 +3.5
baz=256
H20K Anotleneega Mo 28.26 40 P P 07 22 08.0 +3.9
baz=261
K20K Telida 28.31 44 P P 07 22 09.0 +4.4
baz=266
I20K Naaghedeneel 28.31 41 P P 07 22 08.5 +4.0
baz=263
L20K Farewell, AK 28.32 46 P P 07 22 09.6 +4.8
baz=268
SII Sitkinak Islan 28.34 59 P P 07 22 10.9 +6.0
baz=279
J20K Nowinta River 28.37 42 P P 07 22 09.5 +4.5
baz=264
D20K Etivluk River 28.39 33 P P 07 22 08.1 +2.8
baz=254
E20K Nigu River 28.41 34 P P 07 22 08.3 +2.9
baz=255
Q19K Cape Douglas, 28.42 54 P P 07 22 11.2 +5.6
baz=275
P19K Oil Pt 28.60 52 P P 07 22 12.8 +5.6
baz=274
M20K Styx River 28.64 47 P P 07 22 12.4 +4.8
baz=270
OHAK Old Harbor 28.75 57 P P 07 22 14.6 +6.1
baz=278
O20K Slope Mountain 28.89 51 P P 07 22 15.5 +5.7
baz=273
G21K Aliakaket 29.00 38 P P 07 22 14.9 +4.2
baz=261
KDAK Kodiak Island 29.07 56 P P 07 22 17.9 +6.5
baz=278
N20K Mount Spurr 29.08 49 P P 07 22 17.0 +5.5
baz=272
SPCR Spurr Chakacha 29.08 49 P P 07 22 16.8 +5.3
baz=272
Q20K Shuyak Island 29.09 54 P P 07 22 17.1 +5.5
baz=276
PPLA Puupuile 29.13 45 P P 07 22 16.3 +4.3
baz=269
H21K Melozitna Rive 29.14 40 P P 07 22 15.6 +3.7
baz=263,SNR=5.5
CHUM Lake Minchumin 29.14 43 P P 07 22 16.6 +4.8
baz=267
F21K Alatna River 29.15 36 P P 07 22 15.8 +3.8
baz=260
C21K Knifeblade Rid 29.16 32 P P 07 22 15.5 +3.4
baz=255
CAST Castle Rocks 29.21 44 P P 07 22 17.8 +5.3
baz=268
E21K Killik River 29.25 34 P P 07 22 16.3 +3.5
baz=257
A21K Barrow 29.30 28 P P 07 22 16.2 +2.9
baz=249
B21K Ikpikpuk River 29.35 31 P P 07 22 16.9 +3.1
baz=254
HOM Homer 29.40 52 P P 07 22 20.0 +5.7
baz=275
SKT Skwentna 29.40 47 P P 07 22 19.2 +4.9
baz=271
I21K Tanana 29.41 41 P P 07 22 18.4 +4.1
baz=265
XLT XiLinHaoTe 29.46 274 eP P 07 22 18.8 +3.7
XLT pP pP 07 22 26.5 +1.1
XLT pmax pmax
comp=Z,20nm,0.8s
XLT pmax pmax
comp=Z,63nm,4.7s
XLT LR LR
comp=Z,470nm,19.9s
XLT LR LR
comp=Z,640nm,17.4s
A22K Sinclair Lake 29.68 29 P P 07 22 19.2 +2.6
baz=252
F22K John River 29.70 36 P P 07 22 20.5 +3.6
baz=260
BPAW Bear Paw Mtn. 29.74 43 P P 07 22 22.3 +5.1
baz=268
H22K Ishtalitna Cre 29.75 39 P P 07 22 21.3 +4.0
baz=264
SUA Susitna One 29.78 48 P P 07 22 23.0 +5.2
baz=272
D22K Ayikyak River 29.81 33 P P 07 22 21.3 +3.4
baz=258
G22K Bettles 29.85 37 P P 07 22 22.6 +4.5
baz=262
MLY Manley 29.92 41 P P 07 22 23.0 +4.1
baz=266
E22K Anaktuvuk Pass 29.96 35 P P 07 22 22.4 +3.2
baz=260
TRF Thorofare Moun 30.01 44 P P 07 22 23.9 +4.0
baz=269
M22K Willow 30.07 48 P P 07 22 24.6 +4.4
baz=272
RC01 Rabbit Creek A 30.28 49 P P 07 22 26.5 +4.5
baz=274
O22K Cooper Landing 30.32 50 P P 07 22 27.6 +5.3
baz=275
G23K Bananza Creek 30.40 38 P P 07 22 26.5 +3.4
baz=264
COLD Coldfoot 30.41 37 P P 07 22 26.9 +3.8
baz=263
SEW Seward 30.48 51 P P 07 22 29.3 +5.6
baz=276
H23K Yukon River 30.49 40 P P 07 22 27.6 +3.6
baz=266
I23K Minto, Yukon-K 30.51 41 P P 07 22 28.3 +4.3
baz=267
D23K Nanushuk River 30.54 33 P P 07 22 27.1 +2.8
baz=260
PMR Palmer 30.55 48 P P 07 22 28.9 +4.6
baz=274
NEA2 Nenana 30.60 42 P P 07 22 28.9 +4.1
baz=269
MCK McKinley 30.63 44 P P 07 22 29.1 +4.0
baz=270
C23K Itkillik River 30.75 32 P P 07 22 29.4 +3.3
baz=258
E23K Chandalar 30.76 35 P P 07 22 29.0 +2.7
baz=262
WAT1 Susitna Watana 30.79 45 P P 07 22 30.7 +4.1
baz=272
TOLK Toolik Lake Re 30.87 34 P P 07 22 29.6 +2.4
baz=261
KNK Knik Glacier 30.88 48 P P 07 22 31.4 +4.0
baz=274
PWL Port Wells 30.97 49 P P 07 22 32.2 +4.1
baz=276
H11N2 WAKE ISLAND Hy 30.99 165 T T 07 55 06.9
baz=350,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 31.01 165 T T 07 55 05.1
baz=350,slow=76,SNR=28
H11N1 WAKE ISLAND Hy 31.01 165 T T 07 55 09.9
baz=350,slow=76,SNR=20
COLA College 31.14 41 i P P 07 22 29.3 -0.2
COLA pmax pmax
comp=Z,8.0nm,1.4s
WAT6 Susitna Watana 31.17 46 P P 07 22 33.8 +3.7
baz=273
E24K Your Creek 31.18 35 P P 07 22 32.3 +2.4
baz=263
H24K Noodor Dome 31.18 40 P P 07 22 32.9 +2.9
baz=268
D24K Happy Valley 31.23 33 P P 07 22 32.9 +2.6
baz=261
POKR Poker Plat Res 31.32 41 P P 07 22 34.5 +3.3
baz=269
DHY Denali Highway 31.33 45 P P 07 22 34.7 +3.3
baz=273
F24K Squaw Lake 31.33 36 P P 07 22 34.0 +2.7
baz=265
C24K Franklin Bluff 31.38 32 P P 07 22 34.0 +2.4
baz=260
SCM Sheep Creek Mo 31.40 47 P P 07 22 35.5 +3.5
baz=275
G24K Hadweenzic Riv 31.41 38 P P 07 22 34.5 +2.5
baz=267
P23K Montague Islan 31.51 51 P P 07 22 36.8 +3.9
baz=278
HDA Harding Lake 31.51 42 P P 07 22 36.3 +3.4
baz=271
ILAR Eielson Array 31.55 42 P P 07 22 31.7 -1.5
comp=Z,0.9nm,0.5s,baz=251,slow=6.6,SNR=8.2
ILAR PcP PcP 07 25 22.7 -2.0
comp=Z,1.0nm,0.7s,baz=286,slow=3.3,SNR=4.7
ILAR LR LR 07 35 05.7
comp=Z,238nm,21.6s,baz=259,slow=36
GLI Glacier Island 31.58 49 P P 07 22 37.4 +3.9
baz=276
M24K Tolsona, Glenn 31.92 47 P P 07 22 41.3 +4.7
baz=275
G25K Bearman Lake 31.96 38 P P 07 22 39.4 +2.6
baz=268
K24K Donnelly Dome 32.03 44 P P 07 22 42.5 +5.0
baz=273
H25L Birch Creek 32.04 39 P P 07 22 42.0 +4.6
baz=269
KLU Klutina 32.09 48 P P 07 22 43.3 +5.2
baz=276
Q23K Middleton Isla 32.11 52 P P 07 22 43.1 +5.0
baz=279
D25K Kavik River 32.12 33 P P 07 22 41.8 +3.6
baz=263
PRP Porcupine Dome 32.14 40 P P 07 22 42.8 +4.3
baz=270
H11S1 WAKE ISLAND Hy 32.16 166 T T 07 56 37.2
baz=350,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 32.17 166 T T 07 56 27.0
baz=350,slow=76,SNR=21
H11S2 WAKE ISLAND Hy 32.18 166 T T 07 56 36.0
baz=350,slow=76,SNR=23
F25K Christian Rive 32.20 36 P P 07 22 42.8 +3.9
baz=267
J25K Salcha River, 32.20 42 P P 07 22 42.7 +3.8
baz=272
PAX Paxson 32.20 45 P P 07 22 43.4 +4.3
baz=274
EYAK Cordova Ski Ar 32.27 50 P P 07 22 44.6 +5.1
baz=278
E25K Arctic Village 32.27 35 P P 07 22 42.5 +2.9
baz=266
HARP HAARP 32.38 46 P P 07 22 45.2 +4.6
baz=276
RIDG Independent Ri 32.45 44 P P 07 22 45.8 +4.6
baz=274
C26K Camden Bay 32.71 32 P P 07 22 46.5 +3.3
baz=264
N25K Chitina, Valde 32.71 48 P P 07 22 47.5 +4.0
baz=277
F26K Sheenjek River 32.77 36 P P 07 22 46.7 +2.8
baz=268
BMRM Bremner River 32.78 49 P P 07 22 48.6 +4.5
baz=278
SCRK Sand Creek 32.82 43 P P 07 22 47.9 +3.4
baz=274
G26K Porcupine Rive 32.88 38 P P 07 22 47.6 +2.8
baz=270
JOW Kunigami 32.95 237 LR LR 07 36 58.1
comp=Z,125nm,22.0s,baz=324,slow=38
J26L Joseph Creek 32.98 42 P P 07 22 49.3 +3.5
baz=274
KAIM Kayak Island 33.01 51 P P 07 22 50.7 +4.7
baz=280
C27K Jago River 33.09 33 P P 07 22 49.1 +2.5
baz=266
I26K Coal Creek Min 33.13 41 P P 07 22 50.8 +3.8
baz=273
L26K Log Cabin Wild 33.16 45 P P 07 22 51.7 +4.3
baz=276
M26K Nabesna, AK 33.38 46 P P 07 22 53.3 +3.9
baz=277
ULN Ulaanbaatar 33.47 287 i P P 07 22 51.1 +0.7
ULN pmax pmax
comp=Z,7.0nm,0.9s
MCARA McCarthy VSAT 33.49 48 P P 07 22 54.4 +4.2
baz=279
CRQE Cirque 33.54 49 P P 07 22 55.0 +4.2
baz=280
K27K Chicken 33.65 43 P P 07 22 55.6 +4.0
baz=276
G27K Doyon Strip 33.72 38 P P 07 22 56.1 +3.9
baz=272
E27K Coleen River 33.76 35 P P 07 22 55.8 +3.3
baz=270
I27K Kandik River 33.76 40 P P 07 22 56.5 +3.9
baz=274
H27K Steamboat Moun 33.78 39 P P 07 22 56.2 +3.5
baz=273
HNS HongShan 33.79 265 ⇓P P 07 22 55.0 +2.0
HNS pmax pmax
comp=Z,22nm,0.9s
HNS LR LR
comp=Z,200nm,11.2s
HNS LR LR
comp=Z,370nm,14.3s
HNS LR LR
comp=Z,260nm,18.7s
L27K Beaver Creek, 33.85 45 P P 07 22 57.7 +4.4
baz=277,SNR=6.0
HHC Hu-ho-hao-te 33.88 273 eP P 07 22 54.0 +0.1
HHC PP PnPn 07 24 02.8 -4.6
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,66nm,4.1s

HHC LR LR
comp=Z,380nm,15.5s
HHC LR LR
comp=Z,370nm,16.0s
HHC LR LR
comp=Z,520nm,16.0s
SONM Songino Array 33.89 287 P **P** **07 22 52.5 -1.4**
SONM Songino Array 33.89 287 P **P** **07 22 54.0 0.0**
comp=Z,1.6nm,0.5s,baz=70,slow=7.0,SNR=10.0
SONM PcP **PcP** **07 25 30.8 -0.8**
comp=Z,1.7nm,0.7s,baz=141,slow=3.2,SNR=4.4
SONM LR LR 07 37 52.7
comp=Z,366nm,20.0s,baz=66,slow=38
comp=Z,1.6nm,0.5s
M27K Edge Creek, AK 33.90 46 P **P** **07 22 58.2 +4.3**
baz=278
D27M Malcolm River 34.03 34 P **P** **07 22 58.2 +3.4**
baz=269
MESA MESA 34.19 50 P **P** **07 23 00.7 +4.2**
baz=281
CTG Chitna Glacier 34.35 48 P **P** **07 23 01.7 +3.8**
baz=281
BVCY Beaver Creek 34.37 46 P **P** **07 23 01.8 +4.0**
baz=279
F28M Old Crow 34.41 37 P **P** **07 23 01.5 +3.4**
baz=272
I28M Miner Creek 34.47 40 P **P** **07 23 01.0 +2.3**
baz=275
E28M Babbage River 34.53 35 P **P** **07 23 01.2 +2.1**
baz=271
NJ2 Nanjing 34.58 254 *eP* **P** **07 23 01.5 +1.6**
NJ2 pmax pmax
comp=Z,17nm,0.5s
YUK3 Moose Creek 34.65 47 P **P** **07 23 03.8 +3.3**
baz=280
ZAK Zakamensk 34.79 292 *eP* **P** **07 23 01.4 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
D28M Stokes Point 34.82 33 P **P** **07 23 04.4 +2.8**
baz=271
DAWY Dawson 34.83 43 P **P** **07 23 05.5 +3.7**
baz=278
O28M Mount Upton 34.94 49 P **P** **07 23 06.9 +3.8**
baz=282,SNR=5.1
PINM Pinnacle 35.04 50 P **P** **07 23 08.1 +4.4**
baz=283
YUK8 Steele Glacier 35.05 48 P **P** **07 23 08.3 +4.2**
baz=281
H29M Whitestone 35.06 39 P **P** **07 23 06.5 +2.8**
baz=276
E29M Blow River 35.13 35 P **P** **07 23 07.2 +2.9**
baz=273
G29M Pine Creek 35.15 38 P **P** **07 23 07.7 +3.2**
baz=275
I29M Ogilvie Camp, 35.16 40 P **P** **07 23 08.0 +3.4**
baz=277
J29N Klondike Camp 35.29 42 P **P** **07 23 09.4 +3.6**
baz=278
M29M Somme Creek 35.47 45 P **P** **07 23 11.3 +3.9**
baz=281
L29M L29M 35.51 44 P **P** **07 23 11.1 +3.4**
baz=280
PNL Peninsula 35.55 50 P **P** **07 23 12.5 +4.4**
baz=284
YUK4 Talbot Arm 35.57 47 P **P** **07 23 12.2 +3.8**
baz=282
K29M Barlow Dome 35.67 43 P **P** **07 23 12.8 +3.6**
baz=280
EPYK Eagle Plains 35.71 39 P **P** **07 23 13.1 +3.8**
baz=277
YUK6 Outpost Mounta 35.79 48 P **P** **07 23 14.1 +3.8**
baz=283
O29M Mount Kennedy 35.82 49 P **P** **07 23 14.6 +4.2**
baz=284
G30M tAoh Zraii Nji 35.85 37 P **P** **07 23 13.3 +2.7**
baz=276
F30M Barrier River 35.97 36 P **P** **07 23 14.3 +2.8**
baz=276
I30M Mount Dempster 35.98 40 P **P** **07 23 15.3 +3.5**
baz=279
J30M Hart River 36.09 42 P **P** **07 23 15.9 +3.2**
baz=280
M30M Minto, Yukon 36.21 45 P **P** **07 23 17.6 +3.9**
baz=282
HYT Haines Junctio 36.22 48 P **P** **07 23 18.2 +4.3**
baz=284,SNR=5.7
N30M Aishikik Lake 36.29 47 P **P** **07 23 18.5 +4.1**
baz=283
P29M Windy Craggy 36.38 50 P **P** **07 23 19.5 +4.4**
baz=285
G31M Satah River 36.62 37 P **P** **07 23 20.2 +3.1**
baz=278
P30M Million Dollar 36.64 49 P P 07 23 22.7 +5.2
baz=285
H31M Peel River 36.74 39 P **P** **07 23 21.7 +3.6**
baz=280
INK Inuvik 36.76 35 LR LR 07 40 15.1
comp=Z,119nm,21.8s,baz=246,slow=39
INK Inuvik 36.76 35 P **P** **07 23 20.6 +2.4**
baz=277
F31M Tsiigehtchic 36.77 37 P **P** **07 23 21.1 +2.8**
baz=278
PLBC Pleasant Camp 37.10 50 P P 07 23 26.4 +5.2
baz=286
M31M Drury Creek, Y 37.38 45 P **P** **07 23 27.8 +4.2**
baz=284
WHY Whitehorse 37.52 48 P **P** **07 23 29.3 +4.4**
baz=286
S31K Pelican 37.58 52 P P 07 23 30.1 +4.9
baz=288
SKAG Skagway 37.61 50 P P 07 23 30.2 +4.7
baz=287
N32M Quiet Lake 38.24 47 P **P** **07 23 34.4 +3.5**
baz=286
SIT Sitka 38.32 54 P P 07 23 36.4 +4.9
baz=290
R32K Eaglecrest 38.35 51 P P 07 23 36.9 +5.0
baz=289
P32M Atlin 38.36 49 P **P** **07 23 36.2 +4.3**
baz=288
WHN Wuhan 38.41 256 P **P** **07 23 33.5 +0.9**
S32K Killisnoo 38.58 53 P P 07 23 38.5 +4.9
baz=290
P33M Teslin, Yukon 38.62 48 P **P** **07 23 38.1 +4.0**
baz=288
MMPY Sheldon Lake, 38.69 44 P **P** **07 23 38.8 +4.1**
baz=286
Q32M Nakina River 39.26 50 P **P** **07 23 43.3 +3.7**
baz=290
XAN Xi'an 39.56 265 ⇑P **P** **07 23 37.8 -4.4**
XAN pmax pmax
comp=Z,10.0nm,0.8s
T33K Petersburg 39.63 53 P P 07 23 47.3 +4.9
baz=292
R33M Jennings River 39.76 49 P **P** **07 23 47.8 +4.1**
baz=290
U33K Whale Pass 39.79 54 P **P** **07 23 48.0 +4.2**
baz=292
C36M Paulatuk 39.99 33 P **P** **07 23 48.0 +2.7**
baz=284
CRAG Craig 40.02 55 P P 07 23 50.7 +5.0
baz=293
WRAK Wrangell Islan 40.08 54 P P 07 23 51.0 +4.8
baz=292
S34M Telegraph Cree 40.17 51 P **P** **07 23 51.6 +4.6**
baz=291
TGTN Hyland Airport 40.35 45 P **P** **07 23 52.0 +3.5**
baz=289
DLBC Dease Lake 40.54 50 LR LR 07 42 07.3
comp=Z,154nm,20.4s,baz=305,slow=38
DLBC Dease Lake 40.54 50 P **P** **07 23 53.9 +3.8**
baz=292
WTLY Watson Lake, Y 40.56 47 P **P** **07 23 54.0 +3.7**
baz=290
V35K Ketchikan 40.87 55 P **P** **07 23 56.7 +4.0**
baz=294
T35M Bob Quinn 40.95 52 P **P** **07 23 57.1 +3.6**
baz=293
LZH Lanzhou 41.56 272 *eP* **P** **07 24 00.8 +1.9**
LZH pP pP 07 24 10.0 +0.6
LZH sP pwP 07 24 16.3 +0.3
LZH pmax pmax
comp=Z,31nm,0.8s
LZH LR LR
comp=Z,330nm,17.5s
LZH LR LR
comp=Z,500nm,16.5s
LZH LR LR
comp=Z,530nm,18.0s
WRGLY Wrigley 41.92 41 P **P** **07 24 03.8 +2.5**
baz=291
GTA Gaotai 42.19 279 *eP* **P** **07 24 04.5 +0.6**
GTA pP pP 07 24 13.5 -0.9
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,240nm,15.5s
GTA LR LR
comp=Z,300nm,14.7s
GTA LR LR
comp=Z,470nm,14.7s
KOTAN Kotaneelee Air 42.78 46 P **P** **07 24 11.2 +2.9**
baz=294
ZAA0 Zalesovo Array 43.76 305 P **P** **07 24 14.1 -2.2**
ZALV Zalesovo Beam 43.76 305 P **P** **07 24 13.8 -2.5**
ZALV Zalesovo Beam 43.76 305 P **P** **07 24 16.0 -0.3**
comp=Z,3.8nm,0.5s,baz=55,slow=7.3,SNR=22
ZALV PcP **PcP** **07 26 02.0 -0.3**
comp=Z,3.3nm,0.8s,baz=48,slow=2.2,SNR=4.1
comp=Z,3.8nm,0.5s
ZALV Zalesovo Beam 43.76 305 *i* P **P** **07 24 16.0 -0.3**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
BBB Bella Bella 44.10 58 LR LR 07 43 00.4
comp=Z,73nm,18.0s,baz=279,slow=36
CD2 Chengdu 44.90 266 P **P** **07 24 27.3 +1.5**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 LR LR
comp=Z,730nm,7.7s
CD2 LR LR
comp=Z,510nm,11.4s
CD2 LR LR
comp=Z,280nm,12.7s
YKA Yellowknife Ar 45.95 40 P **P** **07 24 33.0 -0.5**
comp=Z,2.4nm,0.9s,baz=301,slow=8.1,SNR=13
YKA PcP **PcP** **07 26 09.4 -0.2**
comp=Z,1.8nm,0.9s,baz=305,slow=3.9,SNR=5.3
comp=Z,2.4nm,0.9s
YKA Yellowknife Ar 45.95 40 *i* P **P** **07 24 33.5 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.9s
GYA Guiyang 46.09 259 ⇑P **P** **07 24 36.8 +1.5**
GYA pmax pmax
comp=Z,29nm,0.9s
ZSN Zaisan 46.92 297 *eP* **P** **07 24 41.2 -0.2**
ZSN Zaisan 46.92 297 *eP* **P** **07 24 41.3 -0.2**
WMQ Urumqi 47.24 291 *eP* **P** **07 24 45.0 +1.0**
WMQ LR LR
comp=Z,470nm,17.7s
WMQ LR LR
comp=Z,380nm,17.7s
WMQ LR LR
comp=Z,230nm,17.9s
GOMU GeErMu 47.28 278 P **P** **07 24 44.0 -0.8**
GOMU pP pP 07 24 54.0 -1.4
GOMU PcP **PcP** **07 26 16.8 +1.5**
GOMU S **S** **07 31 30.5 -4.7**
GOMU SS **SS** **07 34 56.5 -6.1**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,110nm,5.7s
GOMU LR LR
comp=Z,140nm,16.6s
GOMU LR LR
comp=Z,150nm,14.1s
GOMU LR LR
comp=Z,250nm,14.2s
KURK Kurchatov 48.66 303 P **P** **07 24 54.5 -0.3**
KURK lAmb lAmb 07 24 57.0
comp=Z,31nm,0.9s
KURK Kurchatov 48.66 303 *ce*P **P** **07 24 54.2 -0.6**
KURK pmax pmax
comp=Z,47nm,1.3s
KURK Kurchatov 48.66 303 P **P** **07 24 54.0 -0.8**
KURBB Kurchatov Arra 48.76 303 P **P** **07 24 55.1 -0.4**
comp=Z,8.0nm,0.4s,baz=56,slow=7.0,SNR=32
KURBB PcP **PcP** **07 26 18.1 -1.8**
comp=Z,4.3nm,1.1s,baz=60,slow=5.5,SNR=1.2
KURBB S **S** **07 31 53.8 -1.1**
comp=Z,0.5nm,0.6s,baz=52,slow=14,SNR=6.0
KURBB LR LR 07 46 50.1
comp=Z,94nm,18.3s,baz=172,slow=38
comp=Z,8.0nm,0.4s
MK31 Makanchi Array 48.76 297 P **P** **07 24 55.2 -0.4**
MK31 Makanchi Array 48.76 297 *ce*P **P** **07 24 55.3 -0.4**
MKAR Makanchi Array 48.76 297 P **P** **07 24 55.4 -0.3**
comp=Z,3.2nm,0.6s,baz=61,slow=6.8,SNR=39
MKAR PcP **PcP** **07 26 19.5 -0.5**
comp=Z,1.3nm,0.7s,baz=65,slow=5.1,SNR=1.0
MKAR S **S** **07 31 55.8 +0.6**
comp=Z,0.3nm,0.4s,baz=66,slow=14,SNR=1.7
MKAR LR LR 07 46 25.8
comp=Z,300nm,20.4s,baz=48,slow=37
comp=Z,3.2nm,0.6s
MAKZ Makanchi 48.93 297 P **P** **07 24 56.5 -0.5**
MAKZ lAmb lAmb 07 25 07.0
comp=Z,9.4nm,0.8s
MAKZ Makanchi 48.93 297 P **P** **07 24 56.5 -0.5**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 48.93 297 P **P** **07 24 56.3 -0.7**
MAKZ sP **sP** **07 25 11.0 -1.2**
PZH PanZhiHua 49.20 263 P **P** **07 24 59.8 +0.4**
PZH pmax pmax
comp=Z,30nm,1.2s
KMI Kunming 49.53 261 P **P** **07 25 03.3 +1.3**
KMI pP sP 07 25 15.0 -2.1
KMI sP pwP 07 25 19.8 +0.1
KMI pmax pmax
comp=Z,18nm,0.7s
KMI LR LR
comp=Z,340nm,20.6s
KMI LR LR
comp=Z,280nm,11.3s
KMI LR LR
comp=Z,220nm,21.8s
QIZ Qiongzhong 49.60 249 P **P** **07 25 04.5 +2.1**
QIZ sP **sP** **07 25 18.0 +0.5**
QIZ S **S** **07 32 07.5 0.0**
QIZ pmax pmax
comp=Z,21nm,0.8s
SPITS Spitsbergen Ar 49.95 351 P **P** **07 25 04.3 0.0**
comp=Z,10nm,0.4s,baz=54,slow=8.4,SNR=116
comp=Z,10nm,0.4s
SPB2 Spitsbergen Ar 49.95 351 P **P** **07 25 05.8 +1.5**
NEEM North Greenlan 51.36 8 *i* P P 07 25 20.3 +5.1
NEEM lAmb lAmb 07 25 29.2
comp=Z,23nm,1.1s
SLVN Son La 51.53 257 P **P** **07 25 18.7 +1.7**
SLVN lAmb lAmb 07 25 19.8
comp=Z,23nm,1.0s
BVAR Borovoye Array 51.64 310 P **P** **07 25 16.6 -0.7**
comp=Z,16nm,0.5s,baz=59,slow=8.4,SNR=67
BVAR PcP **PcP** **07 26 30.0 -0.4**
comp=Z,1.9nm,0.4s,baz=53,slow=4.4,SNR=1.1
BVAR LR LR 07 48 28.7
comp=Z,230nm,21.6s,baz=67,slow=37
comp=Z,16nm,0.5s
TDK Taldyqorghan 52.01 297 *eP* **P** **07 25 19.8 -0.4**
TDK pmax pmax
comp=Z,9.0nm,0.4s
TDK Taldyqorghan 52.01 297 *eP* **P** **07 25 19.9 -0.4**
comp=Z,9.4nm,0.4s
NEW Newport 52.15 57 LR LR 07 48 13.7
comp=Z,70nm,18.8s,baz=312,slow=37
NEW Newport 52.15 57 P **P** **07 25 20.5 -0.8**
NEW pmax pmax
comp=Z,8.0nm,1.4s
BRZS Berezniki 52.23 305 *eP* **P** **07 25 21.4 -0.4**
BRZS Berezniki 52.23 305 *eP* **P** **07 25 21.4 -0.4**
SHLS Shalkode 52.50 295 *eP* **P** **07 25 21.9 -2.1**
SHLS Shalkode 52.50 295 *eP* **P** **07 25 22.0 -2.1**
UZB Uzynbulak 52.76 295 *eP* **P** **07 25 25.6 -0.4**
UZB Uzynbulak 52.76 295 *eP* **P** **07 25 25.7 -0.4**
YBH Yreka Blue Hor 52.88 67 LR LR 07 43 41.6
comp=Z,6.4nm,21.5s,baz=296,slow=31
SATY Saty 53.17 295 *eP* **P** **07 25 28.6 -0.4**
SATY Saty 53.17 295 *eP* **P** **07 25 28.6 -0.4**
DAG Danmarks Havn 53.38 359 *i* P **P** **07 25 33.5 +3.6**
DAG lAmb lAmb 07 25 35.4
comp=Z,13nm,0.8s
MDOK Medeo 53.90 296 *eP* **P** **07 25 33.7 -0.6**
MDOK Medeo 53.90 296 *eP* **P** **07 25 33.7 -0.6**
SVE Sverdlovsk 53.92 318 *eP* **P** **07 25 34.7 +0.6**
SVE pmax pmax
comp=Z,54nm,0.8s
AAA Alma-Ata 53.95 296 *eP* **P** **07 25 34.1 -0.5**
AAA pmax pmax
comp=Z,7.0nm,0.4s
AAA Alma-Ata 53.95 296 *eP* **P** **07 25 34.1 -0.5**
comp=Z,7.1nm,0.4s
TARG Taragay, Kyrgy 54.34 295 P **P** **07 25 38.6 +0.7**
TARG pmax pmax
comp=Z,7.0nm,0.9s
BTLS Baital 54.45 300 *eP* **P** **07 25 37.7 -0.4**
BTLS Baital 54.45 300 *eP* **P** **07 25 37.7 -0.4**
KDJ Kajisay 54.46 295 P **P** **07 25 38.5 0.0**
KDJ pmax pmax
comp=Z,15nm,0.9s
JAY Jayapura 54.68 202 LR LR 07 45 15.6
comp=Z,73nm,21.6s,baz=342,slow=32
WVOR Wild Horse Val 54.83 64 P **P** **07 25 41.8 +0.7**
WVOR pmax pmax
comp=Z,12nm,1.2s
SGDS Sogindy 55.10 298 *eP* **P** **07 25 42.4 -0.6**
comp=Z,12nm,1.3s
LVZ Lovozero 55.15 338 P **P** **07 25 42.8 -0.1**
LVZ lAmb lAmb 07 25 56.0
comp=Z,30nm,1.4s
LVZ Lovozero 55.15 338 P **P** **07 25 42.8 -0.1**
LVZ pmax pmax
comp=Z,30nm,1.4s
LVZ Lovozero 55.15 338 P **P** **07 25 41.9 -1.0**
comp=Z,9.6nm,1.1s
ARTI Arti 55.16 318 P **P** **07 25 43.4 +0.3**
ARTI Arti 55.16 318 LR LR 07 52 23.6
comp=Z,286nm,18.2s,baz=40,slow=39
ARTI Arti 55.16 318 *c i*P **P** **07 25 43.4 +0.3**
ARTI *PP **pwP** **07 26 01.1 +0.1**
ARTI 07 26 41.8
ARTI 07 27 45.6
ARTI S **S** **07 33 25.6 +2.9**
ARTI SS **SS** **07 37 10.4 +4.0**
ARTI pmax pmax
comp=Z,28nm,0.7s
ARTI Arti 55.16 318 P **P** **07 25 43.3 +0.3**
FRU1 Bishkek 55.51 297 P **P** **07 25 46.1 +0.2**
FRU1 Bishkek 55.51 297 P **P** **07 25 46.1 +0.2**
FRU1 pmax pmax
comp=Z,26nm,0.7s
AAK Ala-Archa 55.69 297 P **P** **07 25 46.7 -0.6**
AAK lAmb lAmb 07 25 59.3
comp=Z,11nm,0.7s
AAK Ala-Archa 55.69 297 LR LR 07 51 07.1
comp=Z,180nm,18.0s,baz=58,slow=38
AAK Ala-Archa 55.69 297 *ce*P **P** **07 25 47.7 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 55.69 297 P **P** **07 25 47.7 +0.4**
AAK pP **pP** **07 25 57.9 -0.4**
AAK sP **sP** **07 26 02.5 -0.2**
ARCES ARCESS Array B 55.88 342 P **P** **07 25 48.1 +0.1**
comp=Z,3.2nm,0.8s,baz=42,slow=7.9,SNR=32
ARCES LR LR 07 53 31.5
comp=Z,151nm,20.4s,baz=40,slow=40
comp=Z,3.2nm,0.8s
MYLDM Lahad Datu 56.10 231 P **P** **07 25 52.9 +2.7**
SHL Shillong 56.18 270 P **P** **07 25 52.0 +0.9**
SHL pmax pmax
comp=Z,54nm,1.1s
CHTO Chiang Mai 56.52 259 P **P** **07 25 54.6 +1.3**
CHTO Chiang Mai 56.52 259 P **P** **07 25 54.6 +1.3**
CHTO pmax pmax
comp=Z,56nm,1.5s
CHTO Chiang Mai 56.52 259 P **P** **07 25 54.9 +1.6**
CHTO sP **pwP** **07 26 09.4 -2.2**
BOZ Bozeman (W) 56.76 57 P **P** **07 25 55.0 +0.1**
CM31 Chiang Mai Arr 56.78 259 P **P** **07 25 55.9 +0.7**
CM31 lAmb lAmb 07 26 15.4
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 56.78 259 P **P** **07 25 56.5 +1.3**
CMAR Chiang Mai Arr 56.78 259 P **P** **07 25 57.4 +2.2**
comp=Z,7.3nm,0.9s,baz=28,slow=7.1,SNR=29
CMAR LR LR 07 51 03.6
comp=Z,123nm,21.9s,baz=50,slow=37
comp=Z,7.3nm,0.9s
KSH Kashi 56.82 294 P **P** **07 25 59.8 +4.4**
KSH pmax pmax
comp=Z,6.0nm,1.1s
SUMG Summit 57.02 6 P **P** **07 25 57.0 +0.4**
SUMG pmax pmax
comp=Z,27nm,1.2s
SUMG Summit 57.02 6 *i* P **P** **07 25 55.5 -1.2**
SUMG lAmb lAmb 07 25 57.8
comp=Z,12nm,0.9s
KIRV Kirov 57.32 324 LR LR 07 52 41.4
comp=Z,306nm,21.6s,baz=36,slow=38
KIRV Kirov 57.32 324 *ce*P **P** **07 25 59.0 +0.6**
SGF Sodankyl 57.40 340 P **P** **07 25 59.2 +0.4**
SGF pmax pmax
comp=Z,17nm,0.9s
NVAR Mina Array Bea 57.59 67 P **P** **07 26 00.5 -0.4**
comp=Z,1.6nm,0.8s,baz=292,slow=7.6,SNR=14
comp=Z,1.6nm,0.8s
KK31 Karatay Array 57.65 300 P **P** **07 26 00.8 -0.2**
KK31 lAmb lAmb 07 26 12.6
comp=Z,7.7nm,0.7s
KK31 Karatay Array 57.65 300 P **P** **07 26 00.8 -0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 57.65 300 P **P** **07 26 00.3 -0.7**
KKAR Karatay Array 57.65 300 P **P** **07 26 00.3 -0.7**
ELK Elko 57.87 64 LR LR 07 47 27.5
comp=Z,77nm,21.8s,baz=324,slow=32
BRLS Borolday 58.07 300 *eP* **P** **07 26 05.6 +1.6**
BRLS Borolday 58.07 300 *eP* **P** **07 26 05.6 +1.6**
TRKS Terek-Say 58.31 298 P **P** **07 26 06.0 +0.1**
TRKS pmax pmax
comp=Z,5.0nm,0.8s
BRDH Bariadhala 58.38 268 LR LR 07 53 13.3
comp=Z,176nm,19.2s,baz=56,slow=38
AB31 Akbulak array 59.12 311 P **P** **07 26 10.4 -0.8**
AB31 lAmb lAmb 07 26 22.2
comp=Z,13nm,0.8s
ABKAR Akbulak array 59.12 311 P **P** **07 26 10.7 -0.5**
KLMR Klimovskoe 59.13 330 *eP* **P** **07 26 09.5 -1.5**
KLMR pmax pmax
comp=Z,16nm,0.7s
KLMR MLR MLR
comp=Z,234nm,15.0s
AKTO Aktyubinsk 59.25 313 LR LR 07 54 26.7
comp=Z,209nm,18.7s,baz=61,slow=39
HNR Honiara 59.30 179 LR LR 07 47 52.8
comp=Z,178nm,21.7s,baz=10.0,slow=32
PDAR Pinedale Array 59.74 58 P **P** **07 26 15.9 0.0**
comp=Z,3.0nm,0.8s,baz=312,slow=2.9,SNR=29
comp=Z,3.0nm,0.8s
PMG Port Moresby 60.13 193 LR LR 07 48 30.2
comp=Z,119nm,19.4s,baz=168,slow=32
PMG Port Moresby 60.13 193 P **P** **07 26 19.0 +0.6**
FRB Frobisher Bay 60.58 22 LR LR 07 56 37.7
comp=Z,103nm,18.7s,baz=320,slow=40
CHGR Chuyangaron 61.36 297 P **P** **07 26 27.0 +0.2**
CHGR pmax pmax
comp=Z,62nm,1.0s
SIMJ Simiganj 61.45 297 P **P** **07 26 27.2 -0.2**
ULM Lac du Bonnet 61.49 45 P **P** **07 26 26.6 -0.7**
comp=Z,2.5nm,0.5s,baz=286,slow=5.8,SNR=5.9
comp=Z,2.5nm,0.5s
SBUM Sibu 61.66 236 P **P** **07 26 30.7 +1.8**
RSSD Black Hills 61.78 54 P **P** **07 26 29.8 +0.1**
RSSD pmax pmax
comp=Z,25nm,1.5s
PFO Pinyon Flats O 61.92 70 LR LR 07 49 05.9
comp=Z,97nm,20.8s,baz=308,slow=32
NIL Nilore 62.37 290 P **P** **07 26 34.3 +0.8**
NIL Nilore 62.37 290 P **P** **07 26 34.3 +0.8**
NIL pmax pmax
comp=Z,39nm,0.9s
BELG Belogornoye 62.47 320 *i* P **P** **07 26 33.4 -0.4**
BELG pmax pmax
comp=Z,7.0nm,0.8s
FIA1 FINESS Array S 62.54 337 P **P** **07 26 34.0 -0.2**
FINES FINESS Array B 62.54 337 P **P** **07 26 34.0 -0.1**
FINES FINESS Array B 62.54 337 P **P** **07 26 33.4 -0.7**
comp=Z,15nm,0.8s,baz=41,slow=6.8,SNR=40
FINES LR LR 07 57 23.9

comp=Z,258nm,20.1s,baz=28,slow=40
comp=Z,15nm,0.8s
SPSI Sidrap Palu 63.48 225 P **P** **07 26 42.4 +1.4**
MOS Moscow 63.73 327 *e*P **P** **07 26 40.6 -1.6**
MOS *e*S **S** **07 35 12.1 -1.1**
MOS pmax pmax
comp=Z,43nm,1.1s
ISCO Idaho Springs 63.93 59 P **P** **07 26 44.9 +0.7**
ISCO pmax pmax
comp=Z,9.0nm,1.2s
KBL Kabul 64.26 294 P **P** **07 26 45.3 -1.0**
KBL IAmb IAmb 07 26 47.2
comp=Z,19nm,1.2s
KBL Kabul 64.26 294 P **P** **07 26 43.3 -3.0**
SNR=8.3
KBL Kabul 64.26 294 P **P** **07 26 45.3 -1.0**
KBL pmax pmax
comp=Z,19nm,1.2s
KAPI Kappang 64.42 224 LR LR 07 53 54.8
comp=Z,34nm,22.0s,baz=338,slow=35
OBN Obninsk 64.59 327 LR LR 07 57 49.3
comp=Z,174nm,22.0s,baz=294,slow=39
OBN Obninsk 64.59 327 *i* P **P** **07 26 47.7 -0.1**
OBN *i* 07 27 03.2
OBN pmax pmax
comp=Z,43nm,1.2s
OBN MLR MLR
comp=Z,149nm,21.0s
VSU Vasula 64.90 334 *ce*P **P** **07 26 48.3 -1.4**
VSU pmax pmax
comp=Z,46nm,2.5s
COEN Coen 65.25 197 P **P** **07 26 52.2 -0.3**
comp=Z,25nm,1.2s
LPSR Galich'ya Gora 65.74 325 *e*P **P** **07 26 54.8 -0.5**
LPSR pmax pmax
comp=Z,50nm,0.8s
VRH Novokhopyorsk 65.77 322 *e*P **P** **07 26 53.8 -1.7**
VRH pmax pmax
comp=Z,20nm,0.9s
NC405 NORSAR Array S 66.02 343 P **P** **07 26 57.4 +0.4**
NC405 IAmb IAmb 07 27 08.9
comp=Z,29nm,1.1s
NB2 NORSAR Subarra 66.18 343 P **P** **07 26 57.5 -0.6**
comp=Z,2.5nm,0.5s,baz=24,slow=6.9
NB2 NORSAR Subarra 66.18 343 P **P** **07 26 55.7 -2.4**
NOA NORSAR Array B 66.18 343 P **P** **07 26 57.8 -0.3**
comp=Z,4.0nm,0.6s,baz=22,slow=6.6,SNR=24
NOA LR LR 08 01 10.0
comp=Z,76nm,19.3s,baz=25,slow=41
comp=Z,4.0nm,0.6s
VORR Voronezh 66.37 324 *e*P **P** **07 26 57.4 -2.0**
VORR pmax pmax
comp=Z,30nm,0.4s
NORES NORESS Array B 66.40 343 P **P** **07 27 01.3 +1.9**
HFS Hagfors 66.54 342 P **P** **07 26 60.0 -0.3**
comp=Z,4.5nm,0.5s,baz=46,slow=4.7,SNR=39
HFS LR LR 07 58 54.6
comp=Z,228nm,21.5s,baz=21,slow=38
comp=Z,4.5nm,0.5s
HFS Hagfors 66.54 342 P **P** **07 27 00.0 -0.3**
KDU Kakadu 66.65 208 P **P** **07 27 01.9 +0.4**
comp=Z,23nm,1.2s
VSR Storozhevoye 66.75 323 *e*P **P** **07 27 00.5 -1.3**
VSR pmax pmax
comp=Z,40nm,0.9s
ANMO Albuquerque 66.89 63 LR LR 07 52 37.2
comp=Z,76nm,21.4s,baz=56,slow=33
ANMO Albuquerque 66.89 63 *i* P **P** **07 27 02.5 -0.8**
VORD Divnogorie 66.90 323 *e*P **P** **07 27 01.7 -1.0**
VORD pmax pmax
comp=Z,70nm,0.5s
MTN Manton Dam 67.22 209 P **P** **07 27 04.4 -0.7**
comp=Z,29nm,1.1s
Y22D IRIS PASSCAL I 67.25 64 P **P** **07 27 10.1 +4.6**
baz=317
MNK Minsk 67.94 332 *i* P **P** **07 27 09.8 +0.6**
MNK *i* *PP **sP** **07 27 23.8 -0.7**
MNK *i* 07 29 40.8
MNK *i* PPP PPP 07 31 16.9
MNK *i* S **S** **07 36 05.3 +0.9**
MNK *i* *SS **sS** **07 36 29.5 +5.5**
MNK *i* SS **SS** **07 40 28.5 +2.7**
MNK pmax pmax
comp=Z,66nm,0.8s
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=E,42nm,1.1s
MNK MLR MLR
comp=E,240nm,21.0s
MNK MLR MLR
comp=Z,292nm,19.0s
MNK MLR MLR
comp=N,136nm,18.0s
STRU Stroemstad 68.05 343 *i* P **P** **07 27 10.2 +0.3**
STRU IAmb IAmb 07 27 10.9
comp=Z,3.2nm,0.8s
SCHQ Schefferville 68.68 26 P **P** **07 27 12.9 -1.1**
comp=Z,3.0nm,0.8s,baz=339,slow=8.6,SNR=2.7
SCHQ LR LR 08 01 04.2
comp=Z,55nm,19.5s,baz=350,slow=39
comp=Z,3.0nm,0.8s
TJOU Tjoern 68.90 342 *i* P **P** **07 27 15.2 0.0**
BORU Boraas 69.03 341 *e*P **P** **07 27 16.1 +0.1**
MTSU Mount Surprise 69.14 195 P **P** **07 27 17.5 +0.5**
comp=Z,10nm,0.9s
ONAU Onsala 69.43 342 *i* P **P** **07 27 17.5 -0.9**
BLEU Blekinge 69.59 339 *i* P **P** **07 27 18.7 -0.7**
MAK Makhachkala 69.63 313 *e*P **P** **07 27 19.4 -0.6**
MAK *e* 07 29 52.0
MAK *e*PPP PPP 07 31 34.0
MAK *e*S **S** **07 36 25.9 +1.0**
MAK *e*SS **SS** **07 41 00.5 +8.0**
MAK pmax pmax
comp=Z,133nm,1.2s
MAK MLR MLR
comp=Z,190nm,14.0s
SUW Suwalki 69.75 334 *e*P **P** **07 27 20.1 -0.4**
SUW Suwalki 69.75 334 P **P** **07 27 20.2 -0.3**
SUW pmax pmax
comp=Z,45nm,1.0s
DEL Delary 69.87 340 *i* P **P** **07 27 19.1 -2.1**
GOF Gofitskoye 70.03 317 *ce*P **P** **07 27 22.9 +0.5**
BJUU Bjuv 70.42 340 *i* P **P** **07 27 22.1 -2.4**
HYB Hyderabad 70.61 274 *e*P **P** **07 27 27.0 +0.6**
AKT Akhty 70.67 312 *e*P **P** **07 27 26.2 -0.3**
AKT *e* 07 27 48.1
AKT pmax pmax
comp=Z,30nm,0.8s
AKT MLR MLR
comp=Z,238nm,20.0s
AK03 Malin Array Si 70.73 329 P **P** **07 27 25.2 -1.3**
AK23 Malin Array Si 70.73 329 P **P** **07 27 25.2 -1.4**
AK21 Malin Array Si 70.75 329 P **P** **07 27 25.7 -0.9**
AK22 Malin Array Si 70.75 329 P **P** **07 27 25.7 -1.0**
AKASG Malin Array Be 70.75 329 P **P** **07 27 25.7 -1.0**
AKASG Malin Array Be 70.75 329 P **P** **07 27 25.7 -1.0**
comp=Z,8.2nm,0.4s,baz=33,slow=6.1,SNR=55
AKASG LR LR 08 01 54.6
comp=Z,243nm,20.2s,baz=30,slow=39
comp=Z,8.2nm,0.4s
AKASG Malin Array Be 70.75 329 P **P** **07 27 25.7 -1.0**
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKBB Malin Array Si 70.75 329 P **P** **07 27 25.8 -0.9**
AKBB Malin Array Si 70.75 329 *ce*P **P** **07 27 26.0 -0.7**
AKBB pmax pmax
comp=Z,33nm,0.8s
AKBB Malin Array Si 70.75 329 P **P** **07 27 25.4 -1.3**
AK04 Malin Array Si 70.75 329 P **P** **07 27 25.4 -1.3**
KIEV Kiev 70.76 329 P **P** **07 27 25.5 -1.2**
KIEV Kiev 70.76 329 P **P** **07 27 25.5 -1.2**
KIEV pmax pmax
comp=Z,27nm,0.9s
KIEV Kiev 70.76 329 P **P** **07 27 25.9 -0.8**
KIEV sP **sP** **07 27 40.8 -1.5**
AK01 Malin Array Si 70.76 329 P **P** **07 27 25.5 -1.2**
CTAO Charters Tower 70.76 192 P **P** **07 27 25.7 -1.3**
AK18 Malin Array Si 70.78 329 P **P** **07 27 25.6 -1.3**
AK11 Malin Array Si 70.79 329 P **P** **07 27 25.6 -1.3**
AK19 Malin Array Si 70.80 329 P **P** **07 27 25.7 -1.3**
AK10 Malin Array Si 70.83 329 P **P** **07 27 25.9 -1.2**
AK06 Malin Array Si 70.86 329 P **P** **07 27 26.0 -1.3**
AK13 Malin Array Si 70.88 329 P **P** **07 27 26.2 -1.3**
AK07 Malin Array Si 70.88 329 P **P** **07 27 26.2 -1.3**

NCK Nalchik 71.01 316 *i* P **P** **07 27 29.2 +0.7**
NCK pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 71.06 317 P **P** **07 27 29.2 +0.4**
KIV Kislovodsk 71.06 317 *e*P **P** **07 27 29.0 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,86nm,18.0s
KIV Kislovodsk 71.06 317 P **P** **07 27 29.6 +0.8**
KIV pP **pP** **07 27 40.5 +0.6**
MI28 Mi28,Pidlybu 71.06 330 P **P** **07 27 27.7 -0.9**
SEKA Sheki 71.13 312 P **P** **07 27 29.9 +0.6**
KBZ Khabaz 71.14 316 P **P** **07 27 29.9 +0.8**
comp=Z,28nm,0.9s,baz=74,slow=3.2,SNR=54
KBZ LR LR 08 01 56.0
comp=Z,158nm,21.4s,baz=39,slow=38
comp=Z,28nm,0.9s
KBZ Khabaz 71.14 316 *ce*P **P** **07 27 29.6 +0.4**
KBZ pmax pmax
comp=Z,36nm,0.9s
RNPP9 Sopachiv 71.21 331 P **P** **07 27 28.7 -0.8**
SHA1 Shidzhatmaz 71.24 317 *i* P **P** **07 27 29.7 -0.4**
RNPP8 Varash 71.29 331 P **P** **07 27 29.3 -0.6**
WMOK Wichita Mounta 71.35 58 P **P** **07 27 29.9 -0.7**
RNPP5 Staryi Chortor 71.37 331 P **P** **07 27 29.8 -0.7**
MNGR Mingechevir, A 71.52 312 P **P** **07 27 32.5 +1.0**
LUBAR Lubar, Ukraine 71.90 329 P **P** **07 27 32.3 -1.4**
GANJ Ganja 71.98 312 P **P** **07 27 34.9 +0.5**
LKRN Lenkeran, Azer 72.29 309 P **P** **07 27 37.2 +1.0**
BEL Belsk 72.35 334 *e*P **P** **07 27 36.5 +0.2**
QIS Mount Isa 72.38 199 P P 07 27 32.0 -4.7
LPIG La Paz 72.46 73 LR LR 07 55 10.2
comp=Z,38nm,18.6s,baz=298,slow=32
TXAR Lajitas Array 72.60 65 P **P** **07 27 37.8 -0.5**
comp=Z,6.4nm,0.6s,baz=301,slow=4.6,SNR=108
comp=Z,6.4nm,0.6s
VSLR Vesyoloye 72.61 318 *i* P **P** **07 27 38.5 +0.5**
VSLR pmax pmax
comp=Z,71nm,1.2s
SOC Sochi 72.64 318 *e*P **P** **07 27 37.0 -1.2**
SOC *e* 07 30 15.7
SOC *e*PPP PPP 07 32 00.6
SOC *e*S **S** **07 36 58.7 -1.0**
SOC *e*SS **SS** **07 41 38.9 +0.4**
SOC *e*SSS SSS 07 44 58.2
SOC MLR MLR
comp=Z,96nm,21.0s
SADO Sadowa 72.93 39 LR LR 08 03 00.1
comp=Z,64nm,19.5s,baz=308,slow=38
WRAB Tennant Creek 73.01 204 *i* P **P** **07 27 40.6 +0.1**
WRAB pmax pmax
comp=Z,46nm,1.0s
WRA Warramunga Arr 73.02 204 P **P** **07 27 40.8 +0.2**
comp=Z,32nm,0.9s,baz=20,slow=6.2,SNR=105
WRA LR LR 07 56 46.0
comp=Z,53nm,21.9s,baz=4.0,slow=33
comp=Z,32nm,0.9s
WRA Warramunga Arr 73.02 204 *i* P **P** **07 27 40.2 -0.4**
WRA pmax pmax
comp=Z,33nm,0.9s
GNI Garni 73.12 313 P **P** **07 27 42.0 +0.7**
GNI IAmb IAmb 07 27 59.3
comp=Z,26nm,0.9s
GNI Garni 73.12 313 LR LR 08 03 25.6
comp=Z,150nm,19.9s,baz=28,slow=39
GNI Garni 73.12 313 *i* P **P** **07 27 43.0 +1.7**
GNI pmax pmax
comp=Z,20nm,1.0s
LVV L'vov 73.18 331 P **P** **07 27 41.8 +0.5**
SORM Soroca 73.24 328 ⇑P **P** **07 27 41.5 -0.1**
SORM Soroca 73.24 328 ⇑P **P** **07 27 41.5 -0.1**
NAX Nakhchivan 73.53 312 P **P** **07 27 44.5 +0.9**
KWP Kalwaria Pacla 73.75 332 *e*P **P** **07 27 45.0 +0.3**
KWP Kalwaria Pacla 73.75 332 P **P** **07 27 45.0 +0.3**
KWP pmax pmax
comp=Z,88nm,1.0s
SIM Simferopol' 73.82 323 *e*P **P** **07 27 45.6 +0.5**
SIM pmax pmax
comp=Z,14nm,0.9s
EKA Eskdalemuir Ar 73.85 349 P **P** **07 27 44.8 -0.3**
comp=Z,3.1nm,0.4s,baz=16,slow=5.0,SNR=48
comp=Z,3.1nm,0.4s
FITZ Fitzroy Crossi 73.95 213 P **P** **07 27 45.7 -0.3**
comp=Z,7.1nm,1.0s
OJC Ojcow 74.08 334 *e*P **P** **07 27 46.9 +0.4**
OJC Ojcow 74.08 334 P **P** **07 27 47.0 +0.4**
OJC pmax pmax
comp=Z,22nm,1.3s
MILM Milestii Mici 74.12 327 ⇑*e*P **P** **07 27 45.0 -1.8**
comp=Z,60nm,1.2s
MILM *e*L L 07 58 38.0
MILM LRM MLR 08 03 40.0
comp=Z,200nm,18.0s
MILM Milestii Mici 74.12 327 *ce*P **P** **07 27 45.0 -1.8**
MILM pmax pmax
comp=Z,60nm,1.2s
KSV Kosov 74.18 330 P **P** **07 27 46.7 -0.5**
MIAR Mount Ida 74.28 55 P **P** **07 27 47.5 -0.5**
MIAR pmax pmax
comp=Z,16nm,1.1s
FLTG Flechtingen 74.30 340 *e*P **P** **07 27 47.2 -0.5**
comp=Z,6.3nm,0.9s,baz=20,slow=5.7
STHS Stebnicka Huta 74.38 333 *e*P **P** **07 27 48.5 +0.1**
STHS *e* 07 28 09.8
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 74.38 333 *e*P **P** **07 27 48.5 +0.1**
STHS *e* 07 28 09.8
KSP Ksiaz 74.46 336 *e*P **P** **07 27 48.9 +0.1**
KSP Ksiaz 74.46 336 P **P** **07 27 48.7 -0.1**
KSP pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 74.51 332 *e*P **P** **07 27 49.7 +0.6**
KOLS pmax pmax
comp=Z,17nm,0.9s
KOLS Kolonicke sedl 74.51 332 *e*P **P** **07 27 49.6 +0.5**
PARMO Parma 74.61 51 P P 07 27 57.9 +8.1
ASSE Asse, Remlinge 74.61 340 *e*P **P** **07 27 49.5 0.0**
comp=Z,7.2nm,1.1s,baz=20,slow=5.7
NIE Niedzica 74.66 333 *e*P **P** **07 27 50.9 +0.9**
NIE Niedzica 74.66 333 P **P** **07 27 50.4 +0.4**
NIE pmax pmax
comp=Z,8.0nm,1.1s
BUR08 Bucovina Ar. S 74.72 329 IAmb IAmb 07 28 02.6
comp=Z,16nm,0.8s
BURAR Bucovina Array 74.74 329 P **P** **07 27 50.7 +0.1**
BURAR IAmb IAmb 07 28 02.5
comp=Z,24nm,0.7s
BURAR Bucovina Array 74.74 329 ⇓P **P** **07 27 50.9 +0.3**
BURAR Bucovina Array 74.74 329 ⇓P **P** **07 27 50.9 +0.3**
OSTC Ostas 74.74 336 AMS AMS 08 05 00.0
comp=Z,200nm,16.6s
CHVC Chvalec 74.76 336 *e*P **P** **07 27 50.9 +0.4**
CHVC MLR MLR
comp=Z,200nm,18.0s
CHVC Chvalec 74.76 336 *e*P **P** **07 27 50.9 +0.4**
CHVC AMS AMS 08 05 10.0
comp=Z,200nm,18.0s
UPC Upice 74.84 336 *e*P **P** **07 27 51.3 +0.3**
UPC MLR MLR
comp=Z,200nm,17.8s
UPC Upice 74.84 336 *e*P **P** **07 27 51.3 +0.3**
UPC AMS AMS 08 05 20.0
comp=Z,200nm,17.8s
CLL Collm 74.84 339 IAmb IAmb 07 28 03.4
comp=Z,11nm,0.9s
CLL Collm 74.84 339 ⇓*i*P **P** **07 27 50.8 -0.2**
CLL *i* 07 28 01.8
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 74.84 339 *e*P **P** **07 27 50.8 -0.2**
comp=Z,13nm,1.0s,baz=20,slow=5.7
CLL Collm 74.84 339 ⇓*i*P **P** **07 27 50.8 -0.2**
comp=Z,15nm,1.1s
CLL *i* pP **pP** **07 28 01.8 -0.3**
comp=Z,15nm,1.0s
CLL *e*(PcP) **PcP** **07 28 05.0 +0.2**
CLL *e*PP **PP** **07 30 39.0 +1.0**
CLL Lm MLR 08 03 00.0
comp=N,100nm,21.6s
CLL Lm MLR 08 03 00.0
comp=E,100nm,20.3s
CLL Lm MLR 08 03 00.0
comp=Z,100nm,21.2s

OKC Ostrava-Krasne 74.89 335 P **P** **07 27 51.8 +0.6**
OKC pmax pmax
comp=Z,16nm,1.0s
OKC Ostrava-Krasne 74.89 335 AMS AMS 08 03 40.0
comp=Z,300nm,21.3s
STEB Steborice 74.90 335 *e*P **P** **07 27 51.8 +0.5**
DPC Dobruska-Polom 74.91 336 *e*P **P** **07 27 51.8 +0.4**
DPC MLR MLR
comp=Z,200nm,17.5s
DPC Dobruska-Polom 74.91 336 *e*P **P** **07 27 51.8 +0.4**
DPC AMS AMS 08 07 20.0
comp=Z,200nm,17.5s
CLZ Clausthal 74.94 340 *e*P **P** **07 27 51.8 +0.2**
comp=Z,16nm,1.2s,baz=20,slow=5.7
BRG Berggiesshubel 75.02 338 P **P** **07 27 53.3 +1.3**
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG Berggiesshubel 75.02 338 *e*P **P** **07 27 52.8 +0.8**
comp=Z,7.7nm,1.2s,baz=20,slow=5.7
BRG Berggiesshubel 75.02 338 *e*P **P** **07 27 53.1 +1.1**
BRG Amp 07 27 54.6
comp=Z,5.1nm,1.1s
KRLC Kraliky 75.04 336 *e*P **P** **07 27 52.5 +0.3**
KRLC MLR MLR
comp=Z,200nm,19.3s
KRLC Kraliky 75.04 336 *e*P **P** **07 27 52.5 +0.3**
KRLC AMS AMS 08 04 30.0
comp=Z,200nm,19.3s
TRSU Trosnyk 75.04 331 P **P** **07 27 53.0 +0.9**
IBBN Ibbenburen 75.05 342 *e*P **P** **07 27 51.9 -0.2**
comp=Z,8.6nm,0.9s,baz=20,slow=5.7
MORC Moravsky Berou 75.10 335 P **P** **07 27 52.9 +0.3**
MORC IAmb IAmb 07 27 53.9
comp=Z,19nm,1.1s
MORC Moravsky Berou 75.10 335 *e*P **P** **07 27 52.4 -0.2**
MORC Moravsky Berou 75.10 335 ⇓P **P** **07 27 53.4 +0.9**
MORC Moravsky Berou 75.10 335 P **P** **07 27 52.9 +0.3**
MORC pmax pmax
comp=Z,19nm,1.1s
LANS Liptovska Anna 75.14 334 *e*P **P** **07 27 54.2 +1.4**
LANS *e* 07 28 05.7
LANS *e* 07 28 14.7
LANS pmax pmax
comp=Z,15nm,0.9s
LANS Liptovska Anna 75.14 334 *e*P **P** **07 27 54.1 +1.3**
LANS *e* 07 28 05.6
LANS *e* 07 28 14.7
KOPT Kop Dagi 75.18 316 P **P** **07 27 53.7 +0.2**
KOPT IAmb IAmb 07 28 08.8
comp=Z,27nm,0.8s
PVCC Panska Ves 75.19 337 P **P** **07 27 53.0 0.0**
PVCC pmax pmax
comp=Z,10.0nm,0.9s
PVCC Panska Ves 75.19 337 AMS AMS 08 05 00.0
comp=Z,200nm,19.7s
TESR Tescani 75.23 328 ⇑P **P** **07 27 53.6 +0.3**
GHRR 75.36 327 ⇑P **P** **07 27 55.2 +1.2**
GEVA Gevas 75.37 313 P **P** **07 27 55.3 +0.8**
GEVA IAmb IAmb 07 28 07.5
comp=Z,17nm,1.0s
HSKC Hora Svate Kat 75.39 338 *e*P **P** **07 27 53.6 -0.6**
HSKC AMS AMS 08 06 50.0
comp=Z,100nm,14.8s
EIDS Eidsvold 75.45 187 P **P** **07 27 54.5 -0.1**
comp=Z,15nm,1.4s
ONER Baraj Valea Uz 75.47 328 ⇓P **P** **07 27 55.2 +0.6**
ARCR ARCALIA 75.49 330 ⇓P **P** **07 27 55.9 +1.1**
TATR Tatarca 75.53 327 ⇑P **P** **07 27 56.7 +1.7**
PANC Panciu 75.61 327 ⇑P **P** **07 27 56.4 +0.9**
TLCR 75.61 326 ⇑P **P** **07 27 55.9 +0.4**
TLCR 75.61 326 ⇑P **P** **07 27 55.9 +0.4**
PRA Prague 75.64 337 AMS AMS 08 05 30.0
comp=Z,200nm,20.3s
GURO Guroymak-BITLI 75.66 314 P **P** **07 27 56.8 +0.8**
GURO IAmb IAmb 07 28 09.4
comp=Z,20nm,0.9s
PRU Pruhonice 75.69 337 *e*P **P** **07 27 56.1 +0.2**
PRU *e* 07 28 07.9
PRU MLR MLR
comp=Z,200nm,20.7s
PRU Pruhonice 75.69 337 *e*P **P** **07 27 56.1 +0.2**
PRU *ep*P **PcP** **07 28 07.9 -0.6**
PRU AMS AMS 08 05 30.0
comp=Z,200nm,20.7s
ODBI Odobesti 75.74 327 ⇑P **P** **07 27 57.6 +1.5**
VRI Vrincioaia 75.76 328 ⇑P **P** **07 27 56.9 +0.6**
VRI Vrincioaia 75.76 328 ⇑P **P** **07 27 56.9 +0.6**
MOX Moxa 75.78 339 P **P** **07 27 56.3 -0.1**
MOX pmax pmax
comp=Z,6.0nm,1.3s
MOX Moxa 75.78 339 *e*P **P** **07 27 56.2 -0.1**
comp=Z,11nm,1.3s,baz=20,slow=5.7
VRAC Vranov 75.79 336 LR LR 08 05 38.5
comp=Z,259nm,19.4s,baz=14,slow=39
VRAC Vranov 75.79 336 *e*P **P** **07 27 56.5 +0.1**
VRAC Vranov 75.79 336 ⇑P **P** **07 27 56.7 +0.3**
VRAC Vranov 75.79 336 ⇑P **P** **07 27 56.7 +0.3**
PLOR Plostina 75.80 328 ⇑P **P** **07 27 57.1 +0.5**
PLOR Plostina 75.80 328 ⇑P **P** **07 27 57.1 +0.5**
TANN Tannenbergstha 75.80 339 *e*P **P** **07 27 56.4 -0.2**
comp=Z,4.1nm,1.1s,baz=20,slow=5.7
PLN Plauen 75.81 339 *e*P **P** **07 27 56.4 -0.2**
comp=Z,3.1nm,1.2s,baz=20,slow=5.7
TURR Turia 75.84 328 ⇑P **P** **07 27 58.2 +1.4**
CFR Carcaliu 75.86 326 ⇑P **P** **07 27 57.2 +0.3**
CFR Carcaliu 75.86 326 ⇑P **P** **07 27 57.2 +0.3**
MESR Meseseni 75.88 331 ⇑P **P** **07 27 57.6 +0.6**
OZUR 75.88 328 ⇑P **P** **07 27 58.2 +1.1**
JAVC Velka Javorina 75.90 335 *e*P **P** **07 27 58.1 +0.9**
VYHS Vyhne 75.91 334 *e*P **P** **07 27 57.4 +0.2**
VYHS *e* 07 28 09.8
VYHS *e* 07 28 19.1
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 75.91 334 *e*P **P** **07 27 57.4 +0.2**
VYHS *e* 07 28 09.8
VYHS *e* 07 28 19.1
KASTN Kahler Asten 75.96 341 *e*P **P** **07 27 57.5 +0.1**
comp=Z,8.7nm,1.0s,baz=20,slow=5.7
COVR Voineasa-Covas 75.96 328 ⇓P **P** **07 27 58.2 +0.7**
BUG Bochum--Univer 75.96 342 P **P** **07 27 57.6 +0.3**
BUG pmax pmax
comp=Z,13nm,1.1s
BUG Bochum--Univer 75.96 342 *e*P **P** **07 27 57.5 +0.1**
comp=Z,14nm,1.1s,baz=20,slow=5.7
TPGR Topolog 76.04 326 ⇑P **P** **07 27 58.7 +0.7**
CJR Cluj-Napoca 76.06 330 ⇑P **P** **07 27 59.0 +0.9**
CJR Cluj-Napoca 76.06 330 ⇑P **P** **07 27 59.0 +0.9**
KRUC Moravsky 76.06 336 *e*P **P** **07 27 58.0 0.0**
KRUC Moravsky 76.06 336 P **P** **07 27 58.3 +0.3**
KRUC pmax pmax
comp=Z,14nm,1.3s
TREC Trest 76.09 336 *e*P **P** **07 27 58.5 +0.3**
TREC *e* 07 28 08.8
TREC Trest 76.09 336 *e*P **P** **07 27 58.5 +0.3**
TREC *ep*P **pP** **07 28 08.8 -0.5**
PSZ Piszkesteto 76.12 333 IAmb IAmb 07 28 20.9
comp=Z,20nm,1.1s
PSZ Piszkesteto 76.12 333 ⇓P **P** **07 27 58.7 +0.2**
DOPR Dopca 76.13 329 ⇓P **P** **07 27 59.3 +0.9**
MARR Marisel-Cluj 76.25 330 ⇑P **P** **07 27 59.7 +0.5**
DRGR 76.27 331 ⇑P **P** **07 27 59.6 +0.3**
DRGR 76.27 331 ⇑P **P** **07 27 59.6 +0.3**
ZVC Zvikov 76.29 337 *e*P **P** **07 27 59.4 +0.1**
ZVC *ep*P **PcP** **07 28 11.7 +0.6**
ZVC AMS AMS 08 05 50.0
comp=Z,600nm,3.2s
MLR Muntele Rosu 76.36 328 IAmb IAmb 07 28 23.4
comp=Z,22nm,0.6s
MLR Muntele Rosu 76.36 328 LR LR 08 05 34.5
comp=Z,174nm,18.1s,baz=49,slow=39
MLR Muntele Rosu 76.36 328 ⇑P **P** **07 28 00.3 +0.4**
MLR Muntele Rosu 76.36 328 ⇑P **P** **07 28 00.3 +0.4**
TIRR Tirgusor 76.39 326 ⇑P **P** **07 28 00.5 +0.6**
TIRR Tirgusor 76.39 326 ⇑P **P** **07 28 00.5 +0.6**
ROTZ Rotzenmuhle 76.47 338 *e*P **P** **07 28 00.3 0.0**
comp=Z,2.5nm,1.1s,baz=20,slow=5.7
SRO Srobarova 76.67 334 *e*P **P** **07 28 02.4 +0.9**
SRO pmax pmax
comp=Z,19nm,1.4s
SRO Srobarova 76.67 334 *e*P **P** **07 28 02.4 +0.9**
ASAR Alice Springs 76.69 203 P **P** **07 28 02.7 +0.9**
comp=Z,5.3nm,0.4s,baz=16,slow=5.2,SNR=80
ASAR LR LR 07 58 49.8

comp=Z,48nm,21.8s,baz=327,slow=33
comp=Z,5.3nm,0.4s
KHC **Kasperske Hory** 76.72 337 *e*P **P** 07 28 02.0 +0.2
KHC *e* 07 28 13.9
KHC MLR MLR
comp=Z,200nm,20.0s
KHC **Kasperske Hory** 76.72 337 *e*P **P** 07 28 02.0 +0.2
KHC *e*pP **PcP** 07 28 13.9 +0.9
KHC AMS AMS 08 06 20.0
comp=Z,200nm,20.0s
GRA1 **Grafenberg Arr** 76.77 339 IAmb IAmb 07 28 03.4
comp=Z,18nm,0.9s
GRF **Grafenberg Arr** 76.77 339 *e*P **P** 07 28 02.3 +0.3
comp=Z,16nm,0.9s,baz=20,slow=5.7
GRFO **Grafenberg** 76.77 339 P **P** 07 28 02.4 +0.4
GRFO IAmb IAmb 07 28 03.3
comp=Z,16nm,0.9s
GRFO **Grafenberg** 76.77 339 P **P** 07 28 02.4 +0.4
GRFO pmax pmax
comp=Z,16nm,0.9s
CKRC **Cesky Krumlov** 76.83 337 *e*P **P** 07 28 03.6 +1.2
CKRC AMS AMS 08 06 40.0
comp=Z,200nm,15.7s
TNS **Taunus Mts** 76.88 341 P **P** 07 28 03.1 +0.4
TNS pmax pmax
comp=Z,11nm,0.9s
TNS **Taunus Mts** 76.88 341 *e*P **P** 07 28 02.7 0.0
comp=Z,6.6nm,0.8s,baz=20,slow=5.7
WET **Wettzell** 76.89 338 P **P** 07 28 03.5 +0.8
WET pmax pmax
comp=Z,15nm,1.2s
WET **Wettzell** 76.89 338 *e*P **P** 07 28 02.8 +0.1
comp=Z,12nm,0.9s,baz=20,slow=5.7
BEBN **Eben Emael** 76.89 343 *d*P **P** 07 28 02.9 +0.3
ICOR **Ion Corvin** 76.90 326 ⇑P **P** 07 28 03.9 +1.1
ARR **Arges** 76.91 329 ⇑P **P** 07 28 04.2 +1.3
GEC2 **GERESS Array S** 76.96 337 *e*P **P** 07 28 03.0 -0.2
comp=Z,6.2nm,0.8s,baz=20,slow=5.7
GERES **GERESS Array B** 76.96 337 P **P** 07 28 03.4 +0.2
comp=Z,3.4nm,0.6s,baz=39,slow=5.5,SNR=24
comp=Z,3.4nm,0.6s
BTNL **Ternell** 77.00 343 *d*P **P** 07 28 03.3 0.0
comp=Z,11nm,1.0s
MEM **Membach** 77.00 343 *d*P **P** 07 28 03.0 -0.2
comp=Z,17nm,1.0s
SIRR **Siria** 77.07 331 ⇑P **P** 07 28 04.4 +0.6
BSTI **Sart Tilman** 77.11 343 *d*P **P** 07 28 04.4 +0.5
comp=Z,2.9nm,1.1s
UCC **Uccle** 77.13 344 *d*P **P** 07 28 03.9 -0.1
MARD **Mardin** 77.25 314 P **P** 07 28 05.5 +0.5
BHOU **Houvegnez** 77.25 343 *d*P **P** 07 28 05.3 +0.6
CONA **Conrad Observa** 77.25 335 *i*P **P** 07 28 05.3 +0.4
comp=Z,8.6nm,0.8s,SNR=8.2
SOP **Sopron** 77.28 335 P **P** 07 28 06.1 +1.2
SOP pmax pmax
comp=Z,15nm,1.2s
BCLA **Clavier** 77.32 343 *d*P **P** 07 28 05.2 +0.1
comp=Z,6.9nm,1.0s
RONA **Rosalia, Austr** 77.34 335 *i*P **P** 07 28 06.0 +0.8
comp=Z,9.1nm,1.0s,SNR=8.7
SURR **Surduc** 77.38 331 ⇓P **P** 07 28 05.6 +0.1
BGES **Gesves** 77.39 343 *d*P **P** 07 28 05.8 +0.3
QLP **Quilpie** 77.44 193 P **P** 07 28 05.9 +0.1
comp=Z,53nm,1.1s
GZR **Gura Zlata** 77.50 330 ⇑P **P** 07 28 06.4 +0.2
GZR **Gura Zlata** 77.50 330 ⇑P **P** 07 28 06.4 +0.2
BMRD **Maredsous** 77.53 343 *d*P **P** 07 28 06.5 +0.2
comp=Z,11nm,1.1s
RCHB **Rochefort** 77.58 343 *d*P **P** 07 28 06.5 0.0
comp=Z,7.4nm,1.1s
BZS **Buzias** 77.67 331 ⇑P **P** 07 28 07.2 +0.1
BZS **Buzias** 77.67 331 ⇑P **P** 07 28 07.2 +0.1
MOA **Molln** 77.74 336 *i*P **P** 07 28 07.5 0.0
comp=Z,5.8nm,0.8s,SNR=6.0
DOU **Dourbes** 77.76 343 *d*P **P** 07 28 07.5 0.0
comp=Z,5.3nm,1.0s
RAZG **Razgrad** 77.84 327 ⇑P **P** 07 28 08.1 0.0
WLF **Walferdange** 77.88 342 *d*P **P** 07 28 08.5 +0.4
comp=Z,5.1nm,1.1s
ARSA **Arzberg** 77.96 335 IAmb IAmb 07 28 28.3
comp=Z,18nm,1.4s
ARSA **Arzberg** 77.96 335 *i*P **P** 07 28 09.2 +0.5
comp=Z,6.9nm,1.1s,SNR=5.8
MORH **Mrgy, Hungar** 78.03 333 ⇑P **P** 07 28 09.1 +0.1
SHME **Shamm** 78.03 296 P **P** 07 28 09.3 -0.1
SNR=6.0
BANOM **Banah** 78.03 296 P **P** 07 28 07.6 -1.9
BIOA **Bad Ischl, Aus** 78.05 337 *i*P **P** 07 28 09.6 +0.4
comp=Z,7.7nm,0.9s
HERR **Herculane** 78.07 330 ⇑P **P** 07 28 09.2 -0.2
BNN **Bunyan** 78.19 318 IAmb IAmb 07 28 23.1
comp=Z,28nm,1.1s
RJOB **Jochberg** 78.21 337 *e*P **P** 07 28 10.3 +0.1
comp=Z,7.5nm,1.2s,baz=20,slow=5.7
TKL **Tuckaleechee C** 78.32 48 LR LR 08 02 20.2
comp=Z,156nm,21.7s,baz=332,slow=35
BR131 **Keskin Array S** 78.39 320 P **P** 07 28 11.4 0.0
BR131 IAmb IAmb 07 28 24.0
comp=Z,15nm,0.9s
BR131 **Keskin Array S** 78.39 320 P **P** 07 28 11.4 0.0
BR131 pmax pmax
comp=Z,15nm,1.0s
BRTR **Keskin Array B** 78.39 320 P **P** 07 28 11.2 -0.2
BRTR **Keskin Array B** 78.39 320 P **P** 07 28 11.6 +0.1
comp=Z,3.3nm,0.9s,baz=68,slow=3.3,SNR=16
comp=Z,3.3nm,0.9s
MDH **Madha** 78.51 296 P **P** 07 28 11.7 -0.4
LESA **Schwarzleotal** 78.53 337 *i*P **P** 07 28 12.3 +0.4
comp=Z,6.6nm,0.7s,SNR=10
MASF **Masafi** 78.54 296 P **P** 07 28 12.2 -0.1
SOKA **Soboth** 78.62 335 *i*P **P** 07 28 12.4 0.0
comp=Z,15nm,0.9s,SNR=13
PERS **Pernice** 78.63 335 *i*P **P** 07 28 12.5 0.0
PLVB **Pleven** 78.66 328 ⇑P **P** 07 28 13.0 +0.4
KBA **Koelnbreinsper** 78.69 337 P **P** 07 28 13.6 +0.7
KBA pmax pmax
comp=Z,45nm,0.9s
KBA **Koelnbreinsper** 78.69 337 *i*P **P** 07 28 13.6 +0.7
comp=Z,19nm,0.7s
BFO **Black Forest** 78.69 340 P **P** 07 28 12.5 -0.2
BFO **Black Forest** 78.69 340 P **P** 07 28 12.5 -0.2
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO **Black Forest** 78.69 340 *e*P **P** 07 28 12.4 -0.4
comp=Z,6.5nm,1.1s,baz=20,slow=5.7
KIRS **Kirsehir-Merke** 78.78 319 ⇑P **P** 07 28 14.2 +0.8
UOSS **Minazif** 78.84 295 P **P** 07 28 13.2 -0.7
UOSS IAmb IAmb 07 28 32.0
comp=Z,34nm,1.1s
UOSS **Minazif** 78.84 295 P **P** 07 28 13.6 -0.3
WATA **Walderalm** 78.89 338 *i*P **P** 07 28 14.4 +0.4
comp=Z,9.6nm,0.8s,SNR=7.9
OBKA **Obir** 78.90 336 *i*P **P** 07 28 14.1 +0.1
comp=Z,8.4nm,0.9s
MBWA **Marble Bar** 78.92 217 P **P** 07 28 14.4 +0.2
comp=Z,21nm,1.2s
RETA **Reutte** 78.94 339 *i*P **P** 07 28 14.2 0.0
comp=Z,4.3nm,0.8s
WTTA **Wattenberg** 78.94 338 P **P** 07 28 15.3 +1.0
WTTA pmax pmax
comp=Z,30nm,1.1s
WTTA **Wattenberg** 78.94 338 *i*P **P** 07 28 14.6 +0.3
comp=Z,12nm,0.8s,SNR=8.9
HATD **Hatta, Dubai** 78.97 295 P **P** 07 28 14.0 -0.6
GAZ **Gaziantep** 78.99 316 P **P** 07 28 15.3 +0.7
GAZ IAmb IAmb 07 28 39.5
comp=Z,22nm,1.0s
MOTA **Moosalm** 78.99 338 *i*P **P** 07 28 14.6 0.0
comp=Z,11nm,0.8s,SNR=13
MYKA **Terra Mystica** 79.03 336 *i*P **P** 07 28 14.4 -0.3
comp=Z,12nm,1.7s
ECH **Echery** 79.05 341 IAmb IAmb 07 28 39.2
comp=Z,13nm,1.2s
ECH **Echery** 79.05 341 P **P** 07 28 14.5 -0.2
ECH pmax pmax
comp=Z,10.0nm,1.2s
SQTA **Sankt Quirin** 79.08 338 *i*P **P** 07 28 15.2 +0.1
comp=Z,11nm,0.8s,SNR=7.3
ASHO **Ashiyiah** 79.12 295 P **P** 07 28 15.3 -0.2
SMDO **Samad** 79.19 293 P **P** 07 28 07.1 -8.9
GCIS **Gornji Cirnik** 79.20 335 *i*P **P** 07 28 15.2 -0.3
GCIS *e*pP **pwP** 07 28 33.1 -1.0
ABTA **Abfaltersbach** 79.21 337 *i*P **P** 07 28 15.4 -0.3
comp=Z,12nm,0.9s,SNR=6.5
SOHO **SOHO** 79.27 295 P **P** 07 28 15.7 -0.5
DAVA **Damuels** 79.33 339 *i*P **P** 07 28 16.0 -0.4
comp=Z,7.3nm,1.2s
LJU **Ljubljana** 79.34 336 *e*P **P** 07 28 15.3 -1.0
FETA **Feichten** 79.39 338 *i*P **P** 07 28 17.0 +0.3
comp=Z,6.8nm,0.9s,SNR=5.1
BOVS **Bovan** 79.41 330 ⇑P **P** 07 28 16.5 -0.2
WRKA **Warakurna** 79.56 208 P **P** 07 28 15.7 -1.9
comp=Z,11nm,1.6s
GBRS **Gornja Briga** 79.74 335 *i*pP pP 07 28 36.3 +6.6
FUORN **Ofenpass-Fuorn** 79.87 339 P **P** 07 28 20.4 +0.9
FUORN IAmb IAmb 07 28 38.7
comp=Z,20nm,1.2s
ARQ **Araqi** 79.88 294 P **P** 07 28 19.3 -0.3
BSY **Bisya** 79.94 293 P **P** 07 28 18.0 -2.0
SNR=6.9
CLF **Chambon-Foret** 80.17 344 IAmb IAmb 07 28 40.8
comp=Z,46nm,1.4s
TUE **Stuetta** 80.22 339 P **P** 07 28 21.7 +0.4
TUE IAmb IAmb 07 28 41.0
comp=Z,25nm,1.1s
RDO **Rodhopi** 80.31 326 IAmb IAmb 07 28 40.4
comp=Z,19nm,1.0s
ARMA **Armidale** 80.42 186 P **P** 07 28 23.6 +1.4
comp=Z,19nm,1.1s
MHTO **MHTO** 80.82 292 P **P** 07 28 24.9 +0.2
KNT **Kendrikon** 81.22 328 P **P** 07 28 26.6 +0.1
KNT pmax pmax
comp=Z,24nm,1.5s
PDG **Podgorica** 81.28 331 IAmb IAmb 07 28 45.0
comp=Z,17nm,0.8s
PPT **Papeete** 81.28 131 LR LR 07 56 02.8
comp=Z,60nm,21.8s,baz=324,slow=29
MANT **Manisa** 81.49 323 IAmb IAmb 07 28 46.5
comp=Z,15nm,0.9s
CMSA **Cobar Meteorol** 82.11 191 P **P** 07 28 31.2 +0.2
comp=Z,24nm,1.4s
BNI **Bardonecchia** 82.16 340 P **P** 07 28 32.4 +0.8
BNI pmax pmax
comp=Z,11nm,0.9s
SSB **Saint Sauveur** 82.39 342 P **P** 07 28 33.4 +0.8
SSB pmax pmax
comp=Z,12nm,1.0s
ORIF **Oris-en-Rattie** 82.46 341 P **P** 07 28 34.2 +1.1
ORIF pmax pmax
comp=Z,9.0nm,0.7s
OSSC **Osservatorio P** 82.54 337 IAmb IAmb 07 28 52.3
comp=Z,20nm,1.1s
ISO **Isola** 82.91 340 P **P** 07 28 36.0 +0.6
ISO pmax pmax
comp=Z,8.0nm,1.1s
STKA **Stephens Creek** 83.04 195 P **P** 07 28 36.1 +0.2
comp=Z,89nm,2.2s
STKA **Stephens Creek** 83.04 195 P **P** 07 28 36.6 +0.8
comp=Z,9.4nm,0.8s,baz=347,slow=7.3,SNR=17
STKA LR LR 08 00 33.4
comp=Z,61nm,20.7s,baz=20,slow=32
comp=Z,9.4nm,0.8s
CESX **Cesi** 83.05 336 IAmb IAmb 07 28 55.0
comp=Z,15nm,0.9s
MMAI **Mount Meron Ar** 83.27 315 P **P** 07 28 38.0 +0.5
comp=Z,1.2nm,0.3s,baz=31,slow=3.9,SNR=7.1
comp=Z,1.2nm,0.3s
ASF **Jabal al Asfar** 83.28 314 LR LR 08 09 26.6
comp=Z,147nm,20.6s,baz=329,slow=38
MEEK **Meekatharra** 84.31 215 P **P** 07 28 41.1 -1.4
comp=Z,25nm,1.4s
BBOO **Buckleboo** 84.98 199 P **P** 07 28 45.4 -0.3
comp=Z,32nm,1.1s
TIP **Timpagrande** 85.01 331 IAmb IAmb 07 29 04.9
comp=Z,15nm,0.9s
TIP **Timpagrande** 85.01 331 ⇓P **P** 07 28 46.5 +0.3
HTT **Hallett** 85.02 197 P **P** 07 28 45.3 -0.6
comp=Z,5.5nm,1.4s
HTT **Hallett** 85.02 197 P **P** 07 28 47.0 +1.1
RAYN **Ar Rayn** 85.98 302 P **P** 07 28 51.1 -0.2
RAYN IAmb IAmb 07 29 09.5
comp=Z,11nm,0.7s
RAYN **Ar Rayn** 85.98 302 P **P** 07 28 51.1 -0.2
RAYN pmax pmax
comp=Z,11nm,0.7s
PGAV **Gavieira, Arco** 87.61 350 *e*PP PP 07 32 54.4 +31
PGAV *e*LR LR 07 47 21.6
PGAV *i* IAMs_20 IAMs_20 07 56 03.0
comp=Z,224nm,20.0s
MVO **Moncorvo** 88.26 349 *e*LR LR 07 48 38.7
MVO *i* IAMs_20 IAMs_20 07 54 18.6
comp=Z,204nm,22.0s
MTE **Manteigas** 89.07 350 *e*LQ LQ 07 45 05.6
MTE *e*LR LR 07 48 01.1
MTE *i* IAMs_20 IAMs_20 07 55 55.6
comp=Z,234nm,18.0s
ESBB **Sonseca Array** 89.31 347 IAmb IAmb 07 29 07.6
comp=Z,7.2nm,1.1s
ESDC **Sonseca Array** 89.31 347 P **P** 07 29 06.2 -0.8
ESDC IAmb IAmb 07 29 07.0
comp=Z,5.9nm,1.0s
ESDC **Sonseca Array** 89.31 347 P **P** 07 29 06.3 -0.6
comp=Z,4.9nm,0.9s,baz=3.4,slow=4.0,SNR=33
comp=Z,4.9nm,0.9s
URZ **Urewera** 89.46 166 LR LR 08 00 50.4
comp=Z,11nm,20.1s,baz=326,slow=30
PMRV **Marv??o** 90.01 349 *e*P P 07 28 56.3 -14
PMRV *e*PP PP 07 31 50.9 -52
PMRV *e*LR LR 07 48 22.1
PMRV *i* IAMs_20 IAMs_20 07 53 37.4
comp=Z,174nm,22.0s
KEST **Kesra** 90.36 336 IAmb IAmb 07 29 32.6
comp=Z,7.1nm,0.8s
KEST **Kesra** 90.36 336 P **P** 07 29 11.7 -0.2
comp=Z,2.9nm,0.4s,baz=342,slow=20,SNR=15
comp=Z,2.9nm,0.4s
PVAQ **Vaqueiros** 92.05 349 *e*LQ LQ 07 44 27.2
PVAQ *e*LR LR 07 47 54.0
PVAQ *i* IAMs_20 IAMs_20 07 56 26.7
comp=Z,292nm,20.0s
PMOZ **Porto Moniz, M** 97.36 357 *e*LR LR 07 48 45.0
PMOZ *i* IAMs_20 IAMs_20 07 52 26.3
comp=Z,76nm,20.0s
DSLB **Salisbury** 105.77 40 *e*P **PKiKP** **07 34 28.1 -6.3**
MDN **Morne-Daniel** 105.89 40 *e*P **PKiKP** **07 34 26.9 -7.7**
DLDT **Laudat, Domini** 105.90 40 *e*P PKiKP 07 34 25.3 -9.3
VNDA **Vanda** 127.37 179 PKP **PKPdf** **07 35 12.8 -0.7**
comp=Z,0.5nm,0.7s,baz=335,slow=4.4,SNR=6.0
LPAZ **La Paz** 129.47 65 PKP **PKPdf** **07 35 19.7 -0.5**
comp=Z,1.7nm,0.8s,baz=46,slow=3.5,SNR=6.9
H03N2 **Juan Fernandez** 135.01 91 T T 10 06 23.9
baz=314,slow=77,SNR=336
H03N1 **Juan Fernandez** 135.02 91 T T 10 06 28.2
baz=314,slow=77,SNR=332
H03N3 **Juan Fernandez** 135.02 91 T T 10 06 24.6
baz=314,slow=77,SNR=322
MAW **Mawson** 137.07 214 PKhKP PKPpre 07 35 25.9
comp=Z,1.5nm,0.7s,baz=57,slow=1.5,SNR=4.8
BDFB **Brasilia** 139.35 42 PKP **PKPdf** **07 35 35.8 -2.2**
comp=Z,2.9nm,0.8s,baz=0.0,slow=1.0,SNR=5.9
QSPA **South Pole Qui** 139.85 180 PKhKP PKPpre 07 35 28.6
comp=Z,5.4nm,0.9s,baz=238,slow=1.4,SNR=16
CPUP **Villa Florida** 143.55 63 PKP PKPbc 07 35 42.4 -0.2
comp=Z,0.7nm,0.9s,baz=51,slow=1.4,SNR=4.1
PLCA **Paso Flores** 144.70 94 PKP **PKPab** **07 35 45.4 -0.4**
comp=Z,9.8nm,0.8s,baz=289,slow=3.9,SNR=24
TROLL **Troll, Antarti** 155.56 198 ⇑P **PKPab** **07 36 28.9 -0.3**
comp=Z,363nm,0.9s
SNAA **Sanae** 156.80 195 ⇑P **PKPab** **07 36 33.4 -1.0**
comp=Z,20nm,0.5s
SNAA **Sanae** 156.80 195 PKP **PKPdf** **07 36 04.7 +0.3**
comp=Z,0.4nm,0.5s,baz=117,slow=4.5,SNR=3.2
SNAA PKPab **PKPab** **07 36 33.8 -0.6**
comp=Z,1.2nm,0.8s,baz=196,slow=7.9,SNR=5.1
VNA3 **Neumayer Olymp** 158.14 190 ⇑P **PKPab** **07 36 38.9 -1.2**
comp=Z,12nm,0.8s
VNA2 **Neumayer--Watz** 158.15 192 ⇑P **PKPab** **07 36 39.5 -0.6**
comp=Z,3.1nm,0.6s,baz=169,slow=3.0
VNA1 **Neumayer--Stat** 158.52 192 ⇑P **PKPab** **07 36 41.4 -0.3**
comp=Z,5.2nm,1.1s
comp=E,7.4nm,0.9s
GLG1 **Gilan-e-Gharb** 0.56 18 Pg **Pg** **07 20 22.7 -1.2**
IGHG **Ghaleghazi** 1.04 44 Pg **Pb** **07 20 32.7 -0.2**
BHD **Baghdad** 1.15 254 *e*Pn **Pn** **07 20 35.0 +0.3**
BHD *e*Sn **Sn** **07 20 51.0 +0.7**
IDHR **Dehrash** 1.25 27 Pg **Pn** **07 20 36.4 0.0**
KCHF **Cheshme Sefid,** 1.31 58 Pg **Pn** **07 20 37.8 +0.6**
RAFI **Al-Rafai** 1.89 169 *e*Pn **Pn** **07 20 46.0 +1.1**
RAFI *e*Sn **Sb** **07 21 11.0 +0.2**
IBZA **Bozab** 2.00 63 Pn **Pn** **07 20 48.7 +1.9**
SNQR **Sonqor, Kerman** 2.04 51 Pn **Pb** **07 20 49.5 -0.6**
IKRK **Kirkuk** 2.13 329 *e*Pn **Pn** **07 20 49.0 +0.7**
IKRK *e*Sn **Sn** **07 21 16.0 +1.4**

GCG ***25*** *07:39:06.8±1.5, 13°.62N×92°.84W, h35km±999km, MD3.7*
MEX ***25*** *07:39:09.5±0.8, 13°.89N×93°.19W, h5km, MD4.0*
ISC 25 07:39:07.1±2.9, 13°.9N±0°.2×93°.06W±0°.08, h10km, n12,
σ1°89/16, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.26**	**37**	*i* P	Pn	07 39 28.8	-2.0
PCIG		**1.80**	**355**	*e*P	**Pn**	**07 39 37.3**	**-0.9**
PCIG				*e*S	**Sn**	**07 39 59.8**	**-1.4**
CCIG	**Comitan**	**2.53**	**20**	*i* P	**Pn**	**07 39 50.2**	**+1.8**
TGIG		**2.86**	**359**	*e*P	**Pn**	**07 39 53.8**	**+0.9**
TGIG				*e*S	**Sn**	**07 40 28.0**	**+0.5**
TGIG		**2.86**	**359**	*i* P	**Pn**	**07 39 54.0**	**+1.0**
TGIG				*i* S	**Sn**	**07 40 31.0**	**+3.5**
UXUV	**UXUV**	**3.56**	**343**	*e*P	**Pn**	**07 40 04.2**	**+1.8**
UXUV				*e*S	**Sn**	**07 40 44.2**	**-0.4**
CMIG	**Matias Romero**	**3.63**	**331**	*e*P	**Pn**	**07 40 03.7**	**+0.2**
CMIG				*e*S	**Sn**	**07 40 44.1**	**-2.2**
PETF	**Flores**	**4.29**	**45**	*i* P	**Pn**	**07 40 11.9**	**-0.7**
NEUV	**Arroyo Zacate**	**4.62**	**325**	*e*P	Pn	07 40 12.2	-4.9
NEUV				*e*S	**Sn**	**07 41 07.5**	**-3.3**
YOIG	**Yosondua**	**5.23**	**305**	*e*P	**Pn**	**07 40 28.0**	**+2.3**
SCIG	**Sabancuy**	**5.35**	**19**	*e*P	**Pn**	**07 40 26.4**	**-0.7**
PNIG	**Pinotepa**	**5.49**	**297**	*e*P	**Pn**	**07 40 29.2**	**+0.1**

IDC ***25*** *07:40:53.1±5.6, 29°.84N×142°.58E, h91km±31km, mb3.4/5, mbtmp3.7/7, Error ellipse: s-maj=169.4km s-min=16.6km az=84.0*
ISC 25 07:40:46.4±1.7, 29°.97N±0°.09×143°.7E±0°.3, h50km, n7,
σ1°41/8, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.15**	**205**	P	**Pn**	**07 41 35.0**	**+1.4**
	19nm,0.3s,baz=94,slow=24,SNR=7.2						
JCJ				S	**Sn**	**07 42 08.8**	**-1.2**
	79nm,0.3s,baz=276,slow=22,SNR=6.1						
MJAR	**Matsushiro Arr**	**8.00**	**326**	P	**Pn**	**07 42 40.4**	**+0.3**
	0.4nm,0.3s,baz=162,slow=12,SNR=1.9						
WRA	**Warramunga Arr**	**50.43**	**191**	P	**P**	**07 49 38.8**	**-0.3**
	0.8nm,0.8s,baz=4.8,slow=7.8,SNR=6.4						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**54.15**	**191**	P	**P**	**07 50 06.8**	**+0.1**
	0.3nm,0.8s,baz=4.8,slow=5.5,SNR=2.4						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**75.96**	**334**	P	**P**	**07 52 29.3**	**+1.6**
	0.6nm,0.4s,baz=77,slow=6.6,SNR=11						
	0.6nm,0.4s						
NOA	**NORSAR Array B**	**81.43**	**339**	P	**P**	**07 52 57.5**	**-0.4**
	0.6nm,0.9s,baz=49,slow=4.7,SNR=1.6						
	0.6nm,0.9s						
BRTR	**Keskin Array B**	**85.01**	**313**	P	**P**	**07 53 15.1**	**-1.8**
	1.1nm,0.8s,baz=31,slow=3.9,SNR=4.8						
	1.1nm,0.8s						

NEIC ***25*** *07:45:45.8±0.7, 11°.30S±0°.04×166°.5E±0°.2, h183km±12km, mb4.2/20, Error ellipse: s-maj=34.3km s-min=5.2km az=85.0*
IDC ***25*** *07:45:52.7±8.4, 11°.59S×166°.50E, h264km±92km, mb3.4/5, mbtmp4.1/6, Error ellipse: s-maj=79.2km s-min=26.3km az=155.0*
ISC 25 07:45:41.7±1.1, 11°.1S±0°.1×166°.4E±0°.2, h150km, n30,
σ1°04/24, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.44**	**170**		**Pn**	**07 46 49.1**	**+1.4**
DZM	**Mont Dzumac**	**10.96**	**180**	Pn	**Pn**	**07 48 14.5**	**-0.1**
DZM	**Mont Dzumac**	**10.96**	**180**	P	**Pn**	**07 48 16.7**	**+2.1**
	3.3nm,0.3s,baz=68,slow=6.0,SNR=9.3						
EIDS	**Eidsvold**	**20.36**	**224**		**P**	**07 50 06.6**	**0.0**
CTAO	**Charters Tower**	**21.41**	**243**	P	**P**	**07 50 18.4**	**+0.5**
CTAO				IAmb	IAmb	07 50 19.8	
	comp=Z,7.3nm,0.9s						
COEN	**Coen**	**22.90**	**260**	P	**P**	**07 50 33.4**	**+0.7**
COEN				IAmb	IAmb	07 50 42.7	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**23.69**	**213**	P	**P**	**07 50 37.7**	**-2.2**
STKA	**Stephens Creek**	**30.91**	**224**	P	**P**	**07 51 43.1**	**-1.3**
STKA	**Stephens Creek**	**30.91**	**224**	P	P	07 51 42.4	-2.0
	comp=Z,1.6nm,0.7s,baz=63,slow=9.0,SNR=4.0						
	comp=Z,1.6nm,0.7s						
WR8	**Warramunga Arr**	**31.98**	**250**	P	**P**	**07 51 53.6**	**-0.3**
WR8				IAmb	IAmb	07 52 01.1	
	comp=Z,10.0nm,1.5s						
WB0	**Warramunga Arr**	**32.04**	**250**	P	**P**	**07 51 54.6**	**+0.1**
WB0				IAmb	IAmb	07 51 54.9	
	comp=Z,4.3nm,0.7s						
WRAB	**Tennant Creek**	**32.11**	**250**	P	P	07 51 54.3	-0.8
WRAB				IAmb	IAmb	07 52 00.7	
	comp=Z,7.1nm,1.4s						
WB2	**Warramunga Arr**	**32.12**	**250**	P	**P**	**07 51 55.0**	**-0.1**
WB2				IAmb	IAmb	07 52 10.3	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**32.13**	**250**	P	**P**	**07 51 54.7**	**-0.5**
WRA	**Warramunga Arr**	**32.13**	**250**	P	**P**	**07 51 54.8**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=84,slow=8.8,SNR=18						
	comp=Z,1.2nm,0.5s						
TOO	**Toolangi**	**32.43**	**212**	P	**P**	**07 51 56.4**	**-1.2**
AS31	**Alice Springs**	**33.40**	**244**	P	P	07 52 05.3	-1.0
ASAR	**Alice Springs**	**33.40**	**244**	P	**P**	**07 52 06.0**	**-0.3**
ASAR	**Alice Springs**	**33.40**	**244**	P	P	07 52 04.9	-1.4
	comp=Z,1.4nm,0.6s,baz=72,slow=10,SNR=22						
	comp=Z,1.4nm,0.6s						
BBOO	**Buckleboo**	**35.33**	**227**	P	P	07 52 21.1	-1.6
KNRA	**Kununurra**	**36.91**	**259**	P	**P**	**07 52 37.2**	**+0.8**
KNRA				IAmb	IAmb	07 52 51.9	
	comp=Z,5.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.04**	**255**	P	**P**	**07 53 02.9**	**+0.5**
PSA00	**Pilbara Seismi**	**45.78**	**251**	P	**P**	**07 53 48.7**	**+0.1**
PSA00				IAmb	IAmb	07 53 53.1	
	comp=Z,7.8nm,1.5s						
MBWA	**Marble Bar**	**45.84**	**251**	P	**P**	**07 53 49.7**	**+0.5**
MBWA				IAmb	IAmb	07 53 50.6	
	comp=Z,16nm,1.4s						
JNU	**Nakatsue**	**55.48**	**324**	P	P	07 55 01.4	+0.2
CASY	**Casey**	**66.63**	**201**	P	**P**	**07 56 15.1**	**-0.6**
CASY				IAmb	IAmb	07 56 28.2	
	comp=Z,7.1nm,1.3s						
QSPA	**South Pole Qui**	**78.96**	**180**	P	**P**	**07 57 27.9**	**-0.8**
ILAR	**Eielson Array**	**83.30**	**18**	P	**P**	**07 57 51.7**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=233,slow=5.6,SNR=11						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**93.99**	**317**	P	**P**	**07 58 43.8**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=95,slow=6.1,SNR=4.0						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**116.51**	**346**	PKP	**PKPdf**	**08 04 05.4**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=66,slow=2.2,SNR=3.6						

IDC 25 07:57:32.3±1.6, 3°.18N×126°.06E, h0km, mb3.7/5,
mbtmp3.7/5, Error ellipse: s-maj=117.7km
s-min=20.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.15**	**181**	P	P	08 02 19.3	+0.2
	1.3nm,0.6s,baz=11,slow=11,SNR=7.0						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**24.38**	**161**	P	P	08 02 52.4	0.0
	2.1nm,0.8s,baz=339,slow=10,SNR=16						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**27.76**	**164**	P	P	08 03 23.0	+0.1
	0.5nm,0.4s,baz=343,slow=7.2,SNR=14						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**57.63**	**326**	P	P	08 07 25.3	+1.0
	0.3nm,0.3s,baz=121,slow=8.4,SNR=5.6						

ISN ***25*** *07:20:11.5±0.8, 33°.57N×45°.62E, h9km±4km, ML2.5*
TEH ***25*** *07:20:12.4, 33°.60N×45°.68E, h10km±55km*
ISC 25 07:20:13.0±0.9, 33°.58N±0°.04×45°.70E±0°.05, h13km, n11,
σ1°02/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILBA	**Ilam Banvizeh**	**0.43**	**84**	Pg	**Pg**	**07 20 20.8**	**-0.7**
IBDR	**Badra**	**0.51**	**158**	*e*Pg	**Pg**	**07 20 22.0**	**-1.0**
IBDR				*e*Sg	**Sg**	**07 20 29.0**	**-0.8**
IBDR				AML	AML	07 20 42.2	

0.3nm,0.3s
KURBB Kurchatov Arra 61.84 328 P P 08 07 52.0 -1.2
0.3nm,0.4s,baz=131,slow=5.9,SNR=4.8
0.3nm,0.4s

NEIC ***25*** *08:15:12.8±1.0,36°.115N±0°.003×117°.84W±0°.01, h4km±3km, Error ellipse: s-maj=1.4km s-min=0.3km az=81.0*

PAS 25 08:15:12.9±0.9, 36°.119N±0°.010×117°.85W±0°.01, h2km±1km, ML3.1/254, ML2.9/112(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=184.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.01**	**252**		Pg	08 15 14.2	+0.7
WCSM	**Coso Springs S**	**0.11**	**145**		Pg	08 15 15.4	+0.3
WCSM					Sg	08 15 17.3	+0.6
WRVM	**Rose V. Centra**	**0.12**	**197**		Pg	08 15 17.4	+2.2
JRC2	**Joshua Ridge**	**0.14**	**167**		Pg	08 15 18.1	+2.4
WVPM	**Volcano Peak E**	**0.17**	**172**		Pg	08 15 19.0	+2.8
WNMM	**Nine Mile Cany**	**0.28**	**190**		Pg	08 15 18.4	+0.1
WNMM					Sg	08 15 22.6	+0.7
MPMC	**Manual Prospec**	**0.30**	**102**		Pg	08 15 18.7	+0.1
MPMC				IAML		08 15 23.6	
	comp=E,2µm,0.5s						
MPMC				IAML		08 15 26.7	
	comp=N,2µm,0.5s						
TOW	**Tower One**	**0.32**	**168**		Pn	08 15 24.4	-0.2
CLC	**China Lake**	**0.36**	**146**		Pg	08 15 20.0	0.0
CLC					Sg	08 15 25.3	+0.7
CWC	**Cottonwood Cre**	**0.37**	**330**		Pg	08 15 20.1	0.0
CWC					Sg	08 15 25.6	+0.6
CWC				IAML		08 15 25.9	
	comp=E,2µm,0.2s						
CWC				IAML		08 15 30.6	
	comp=N,1µm,0.2s						
CGO	**Cerro Gordo**	**0.43**	**5**		Pg	08 15 21.2	-0.1
SRTC	**Snort**	**0.43**	**169**		Pg	08 15 21.9	+0.6
SRTC					Sb	08 15 28.9	-1.5
WORM	**Onyx Ranch**	**0.53**	**217**		Pg	08 15 23.0	-0.1
WORM					Sg	08 15 30.3	+0.3
WHFM	**Hanning Flat**	**0.59**	**224**		Pg	08 15 24.1	0.0
WHFM					Sg	08 15 32.2	+0.4
WSHM	**Spangler Hills**	**0.59**	**151**		Pg	08 15 24.2	-0.1
WSHM					Sg	08 15 32.7	+0.7
WSHM				IAML		08 15 33.2	
	comp=N,1µm,0.3s						
WSHM				IAML		08 15 33.3	
	comp=N,914nm,0.3s						
WBSM	**Bird Springs**	**0.63**	**202**		Pg	08 15 25.0	0.0
WBSM					Sg	08 15 33.5	+0.4
LRMC	**Laurel Mtn Rad**	**0.65**	**168**		Pg	08 15 25.3	-0.1
LRMC					Sg	08 15 34.4	+0.5
LRMC				IAML		08 15 35.6	
	comp=E,620nm,0.2s						
LRMC				IAML		08 15 36.4	
	comp=N,639nm,0.2s						
ISA	**Isabella, Lake**	**0.68**	**228**		Pg	08 15 25.9	-0.1
ISA				IAML		08 15 36.2	
	comp=E,1µm,0.3s						
ISA	**Isabella, Lake**	**0.68**	**228**		Sg	08 15 35.4	+0.5
WASM	**Alta Sierra Ca**	**0.69**	**237**		Pg	08 15 26.2	0.0
WASM					Sg	08 15 35.7	+0.5
CCCA	**Chr Cany lake**	**0.71**	**146**		Pg	08 15 26.9	+0.3
CCCA				IAML		08 15 42.0	
	comp=E,1µm,0.7s						
CCCA	**Chr Cany lake**	**0.71**	**146**		Sb	08 15 37.2	-1.1
SPG2	**Springville 2**	**0.75**	**277**		Pg	08 15 27.0	-0.3
SPG2					Sg	08 15 36.9	-0.1
QSM	**Queen of Sheba**	**0.81**	**101**		Pg	08 15 28.3	-0.2
QSM					Sg	08 15 39.2	+0.3
DTP	**Desert Tortois**	**0.85**	**180**		Pg	08 15 28.9	-0.3
DTP					Sg	08 15 40.4	+0.2
FURC	**Furnace Creek,**	**0.87**	**66**		Pg	08 15 29.7	+0.1
FURC					Sg	08 15 41.7	+0.9
FURC				IAML		08 15 45.3	
	comp=E,681nm,0.7s						
FURC				IAML		08 15 52.8	
	comp=N,674nm,0.7s						
GWY	**Greenwater Val**	**0.96**	**86**		Pg	08 15 31.0	-0.3
GWY					Sg	08 15 44.0	+0.4
GWY				IAML		08 15 49.6	
	comp=N,493nm,0.6s						
GWY				IAML		08 15 50.9	
	comp=E,571nm,0.6s						
CCAC	**Calif City Air**	**0.97**	**188**		Pg	08 15 31.3	-0.3
CCAC					Sg	08 15 44.5	+0.3
TIN	**Tinemaha, Big**	**0.98**	**342**		Pg	08 15 31.5	-0.3
VES	**Vestal, Richgr**	**1.04**	**255**		Pg	08 15 32.6	-0.3
VES					Sg	08 15 46.7	+0.3
SGV	**South Grapevin**	**1.08**	**37**		Pg	08 15 33.5	-0.2
TEJ	**El Tejon**	**1.12**	**218**		Pg	08 15 33.7	-0.7
TEJ					Sg	08 15 48.8	-0.1
LCH	**Last Change Ra**	**1.12**	**8**		Sg	08 15 49.3	+0.2
GSC	**Goldstone, Bar**	**1.18**	**134**		Pg	08 15 34.7	-0.8
GSC				IAML		08 15 54.6	
	comp=N,286nm,0.8s						
GSC	**Goldstone, Bar**	**1.18**	**134**		Sg	08 15 50.7	0.0
WCT	**Wildcat Mounta**	**1.19**	**55**		Pg	08 15 35.1	-0.7
WCT				IAML		08 15 56.3	
	comp=E,190nm,0.9s						
EDW2	**Edwards Air Fo**	**1.24**	**186**		Pg	08 15 35.8	-0.9
EDW2					Sg	08 15 52.3	-0.5
DSP	**Deep Springs**	**1.25**	**356**		Pg	08 15 36.2	-0.8
DSP					Sg	08 15 53.2	0.0
VOG	**Valley Oaks Go**	**1.26**	**280**		Pg	08 15 36.5	-0.5
VOG					Sg	08 15 53.5	+0.1
ARVC	**Arvin**	**1.27**	**219**		Pg	08 15 36.9	-0.4
ARVC					Sg	08 15 53.6	-0.3
HYS	**Haystack Butte**	**1.27**	**170**		Pg	08 15 36.6	-0.8
TPO	**Tropico Hills**	**1.28**	**194**		Pg	08 15 36.8	-0.6
TPO					Sg	08 15 53.9	-0.1
TPO				IAML		08 15 54.4	
	comp=E,279nm,0.4s						
TPO				IAML		08 15 56.2	
	comp=N,248nm,0.7s						
SHOC	**Shoshone, Teco**	**1.29**	**99**		Pg	08 15 37.0	-0.7
AMDNV	**Amargosa**	**1.31**	**75**		Pg	08 15 37.1	-0.9
MTUM	**Tungsten Hills**	**1.36**	**335**		Pg	08 15 38.3	-0.7
THC	**Tehachapi Micr**	**1.38**	**209**		Pg	08 15 38.3	-1.1
SBB	**Saddle Back Bu**	**1.43**	**179**		Pn	08 15 39.8	-0.2
TPNV	**Topopah Spring**	**1.53**	**57**		Pn	08 15 41.0	-0.5
TPNV				IAML		08 16 04.9	
	comp=N,141nm,0.5s						
TPNV				IAML		08 16 11.2	
	comp=N,130nm,1.1s						
LEOC	**Leona Valley**	**1.53**	**194**		Pn	08 15 41.2	-0.3
HOLC	**Holcomb Ridge**	**1.66**	**180**		Pn	08 15 42.5	-0.7
JNH	**Juniper Hills**	**1.67**	**183**		Pn	08 15 42.7	-0.7
KCC	**Kaiser Creek**	**1.69**	**316**		Pn	08 15 43.8	+0.3
KCC					Sn	08 16 05.4	-0.4
MLAC	**Mammoth, Mammo**	**1.70**	**333**		Pb	08 15 44.7	-0.4
TUQ	**Turquoise Moun**	**1.71**	**113**		Pn	08 15 42.8	-1.1
BCW	**Bitter Crk WRg**	**1.74**	**228**		Pn	08 15 44.7	+0.4
MCSM	**Casa Diablo Ho**	**1.75**	**331**		Pb	08 15 45.6	-0.4
CRGC	**Crocker Grade**	**1.76**	**241**		Pb	08 15 45.6	-0.5
MDPB	**Devils Postpil**	**1.81**	**327**		Pb	08 15 46.3	-0.6
MDPB				IAML		08 16 10.4	
	comp=N,117nm,0.3s						
MDPB				IAML		08 16 10.6	
	comp=E,146nm,0.3s						
BFSC	**Mount Baldy Ra**	**1.88**	**175**		Pn	08 15 46.1	-0.2
SSK	**Sunset Peak**	**1.91**	**176**		Pn	08 15 47.2	+0.5
SMMC	**Simmler**	**1.92**	**246**		Pn	08 15 47.7	+0.9
PASC	**Pasadena Art C**	**1.96**	**188**		Pn	08 15 47.3	0.0
MTPC	**Mountain Pass**	**1.97**	**108**		Pn	08 15 46.4	-1.1
MTPC				IAML		08 16 17.8	
	comp=E,161nm,0.3s						
MTPC				IAML		08 16 19.6	
	comp=N,99nm,0.5s						
LHV	**Little Huntoon**	**2.19**	**346**		Pn	08 15 51.1	+0.7
LHV				IAML		08 16 30.1	
	comp=E,63nm,1.0s						
LHV				IAML		08 16 34.3	
	comp=N,59nm,1.4s						
SHPR	**Sheep Range**	**2.20**	**79**		Pn	08 15 51.0	+0.3
PSMM	**Smith Mountain**	**2.23**	**270**		Pn	08 15 52.2	+1.2
GMRC	**Granite Mounta**	**2.23**	**126**		Pn	08 15 49.5	-1.6
MYLM	**Yosemite Lake**	**2.42**	**302**		Pb	08 15 56.2	-1.0
ELS	**Elsinore Mount**	**2.49**	**172**		Pn	08 15 54.3	-0.3
TPC	**Twentynine Pal**	**2.49**	**143**		Pn	08 15 54.0	-0.7
RAMR	**Ramage Ranch**	**2.50**	**260**		Pn	08 15 55.7	+1.0
POB	**Polly Butte**	**2.54**	**162**		Pn	08 15 55.5	+0.2
BELC	**Belle Mtn. Jos**	**2.60**	**144**		Pn	08 15 55.4	-0.8
BELC				IAML		08 16 41.3	
	comp=N,42nm,0.5s						
BELC				IAML		08 16 43.9	
	comp=E,39nm,0.5s						
PCCM	**Crazy Canyon**	**2.69**	**270**		Pn	08 15 58.7	+1.4
DNR	**Dunn Ranch,Anz**	**2.74**	**158**		Pn	08 15 58.1	0.0
DNR				IAML		08 16 44.4	
	comp=N,60nm,0.7s						
PMD	**Palm Desert**	**2.75**	**153**		Pn	08 15 57.4	-0.7
PFO	**Pinyon Flats O**	**2.75**	**155**		Pn	08 15 57.6	-0.6
BSGM	**Shirttail Gulc**	**2.77**	**277**		Pn	08 15 58.9	+0.5
IRM	**Iron Mountain**	**2.96**	**131**	Pn	Pn	08 15 59.6	-1.4
DPP	**Dos Picos Cty**	**3.20**	**166**		Pn	08 16 04.1	-0.3
W13A	**Hualapai Mount**	**3.38**	**106**	IAML		08 17 01.6	
	comp=N,19nm,0.6s						
W13A				IAML		08 17 04.1	
	comp=E,19nm,0.7s						
CBX	**Cerro Bola**	**3.92**	**165**		Pn	08 16 14.9	+0.6
CBX				IAML		08 17 27.4	
	comp=N,32nm,1.5s						
PSUT	**Pine Spring**	**3.99**	**52**	IAML		08 17 28.6	
	comp=E,16nm,1.1s						
PSUT				IAML		08 17 32.5	
	comp=N,15nm,1.3s						
SPR3	**Spring Creek 3**	**4.01**	**43**	IAML		08 17 22.7	
	comp=N,11nm,0.9s						
KNB	**Kanab**	**4.14**	**76**	Pn	Pn	08 16 18.5	+1.0
KNB				IAML		08 17 30.4	
	comp=E,10nm,3.2s						
ESJX	**Sierra Juarez**	**4.40**	**158**	Pn	Pn	08 16 21.2	+0.2
ESJX				IAML		08 17 34.0	
	comp=E,10.0nm,4.5s						
ESJX				IAML		08 18 47.1	
	comp=N,13nm,4.9s						
U15A	**North Rim**	**4.50**	**84**	IAML		08 17 43.4	
	comp=N,7.8nm,3.9s						
U15A				IAML		08 17 45.8	
	comp=E,14nm,1.1s						
Y14A	**Wickenburg**	**4.53**	**117**	IAML		08 17 41.7	
	comp=E,13nm,0.4s						
PKCU	**Pink Cliffs**	**4.64**	**72**	IAML		08 17 52.0	
	comp=N,19nm,2.8s						
113A	**Mohawk Valley,**	**4.75**	**134**	IAML		08 18 00.8	
	comp=E,7.7nm,4.9s						
MTPU	**Mount Pierson**	**4.92**	**65**	IAML		08 18 06.2	
	comp=N,6.0nm,3.0s						
MTPU				IAML		08 18 32.8	
	comp=E,10.0nm,4.8s						

IDC 25 08:18:23.5±1.8, 2°.91N×128°.20E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=106.1km s-min=20.9km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.02**	**187**	P	P	08 23 10.6	+1.7
	3.2nm,1.2s,baz=358,slow=11,SNR=2.0						
	3.2nm,1.2s						
WRA	**Warramunga Arr**	**23.49**	**165**	P	P	08 23 35.2	0.0
	0.4nm,0.4s,baz=344,slow=10,SNR=8.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**26.99**	**168**	P	P	08 24 05.8	-1.4
	0.2nm,0.4s,baz=353,slow=6.9,SNR=6.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.07**	**325**	P	P	08 28 25.6	0.0
	0.3nm,0.4s,baz=114,slow=7.0,SNR=4.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.22**	**327**	P	P	08 28 54.0	+0.3
	0.6nm,0.4s,baz=130,slow=6.6,SNR=4.4						
	0.6nm,0.4s						

OSPL ***25*** *08:19:26.7±0.4, 19°.32N×69°.72W, h109km±4km, ML2.2*
SDD ***25*** *08:19:28.5±0.9, 19°.59N×69°.73W, h86km±8km, MD3.0, ML2.6, MW2.7*

ISC 25 08:19:27.9±2.3, 19°.4N±0°.2×69°.8W±0°.1, h93km±13km, n8, σ0s55/15, 4C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONA1	**Toro Cenizo, N**	**0.06**	**264**	*i* P	**Pn**	**08 19 41.1**	**+0.2**
LONA1				*e*S	**Sn**	**08 19 51.6**	**+1.0**
NADR	**Nagua**	**0.06**	**237**	↑*e*Pg	**Pn**	**08 19 41.0**	**+0.1**
NADR				↓*e*Sg	**Sn**	**08 19 49.5**	**-1.1**
NADR				IAML		08 19 52.3	
	comp=N,164nm,0.2s						
SFDR	**San Fco. de Ma**	**0.43**	**257**	↑*e*Pg	**Pn**	**08 19 42.2**	**-0.2**
SFDR				↓*e*Sg	**Sn**	**08 19 52.7**	**-0.5**
SFDR				IAML		08 19 53.7	
	comp=N,200nm,0.1s						
MIDR	**Miches**	**0.82**	**119**	↓*e*Pg	**Pn**	**08 19 45.6**	**-0.2**
MIDR				IAML		08 19 59.6	
	comp=N,148nm,0.1s						
SC01	**Santiago de lo**	**0.87**	**273**	*i* P	**Pn**	**08 19 46.6**	**+0.2**
SC01				*e*S	**Sn**	**08 20 01.0**	**+0.6**
SC01				IAML		08 20 03.4	
	comp=Z,30nm,0.5s						
SC01	**Santiago de lo**	**0.87**	**273**	↑*e*Pg	**Pn**	**08 19 46.4**	**0.0**
SC01				↓*e*Sg	**Sn**	**08 20 00.5**	**+0.1**
SC01				IAML		08 20 02.2	
	comp=N,67nm,0.2s						
HIDR	**Higuey Centro**	**1.30**	**127**	↑*e*Pg	**Pn**	**08 19 51.5**	**+0.2**
HIDR				↓*e*Sg	**Sn**	**08 20 08.9**	**0.0**
HIDR				IAML		08 20 10.1	
	comp=N,116nm,0.3s						
LOPP1	**Punta Rusia, P**	**1.40**	**290**	*i* P	**Pn**	**08 19 52.0**	**-0.4**
LOPP1				*e*S	**Sn**	**08 20 11.3**	**+0.2**
LOPP1				IAML		08 20 12.0	
	comp=Z,24nm,1.0s						

NEIC ***25*** *08:27:54.3±1.9,50°.14N±0°.06×159°.0E±0°.2, h10km±1km, mb4.2/6, Error ellipse: s-maj=17.2km s-min=9.0km az=73.0*
KRSC ***25*** *08:27:55.8±1.7,50°.29N×159°.18E, h47km±32km, Ml4.6*
MOS ***25*** *08:27:56.9±0.7,50°.22N×159°.03E, h58km, mb4.3/7, Error ellipse: s-maj=13.5km s-min=3.3km az=89.9*
IDC ***25*** *08:27:59.0±2.3,50°.25N×158°.99E, h59km±19km, mb3.5/12, mbtmp3.8/15, MS2.5/2, Error ellipse: s-maj=20.4km s-min=15.4km az=108.0*

ISC 25 08:27:55.8±0.7, 50°.11N±0°.06×159°.06E±0°.05, h35km, n124, σ1s27/98, mb4.0/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.97**	**314**	PN	**Pn**	**08 28 27.3**	**+0.6**
PAU				S	**Sn**	**08 28 49.5**	**-0.6**
PAU	**Pauzhetka**	**1.97**	**314**	*e*P	**Pn**	**08 28 27.3**	**+0.6**
PAU				*e*S	**Sn**	**08 28 49.6**	**-0.6**
SKR	**Severo-Kuril's**	**1.97**	**288**	PN	**Pn**	**08 28 26.5**	**-0.2**
SKR	**Severo-Kuril's**	**1.97**	**288**	*e*P	**Pn**	**08 28 26.5**	**-0.2**
RUS	**Russkaya**	**2.35**	**352**	PN	**Pn**	**08 28 32.2**	**+0.4**
RUS				S	**Sn**	**08 28 58.2**	**-1.3**
RUS	**Russkaya**	**2.35**	**352**	*e*P	**Pn**	**08 28 32.3**	**+0.4**
RUS				*e*S	**Sn**	**08 28 58.2**	**-1.3**
ASAK	**Asacha**	**2.39**	**343**	PN	**Pn**	**08 28 33.2**	**+0.7**
ASAK				S	**Sn**	**08 29 00.3**	**-0.3**
ASAK	**Asacha**	**2.39**	**343**	*e*P	**Pn**	**08 28 33.3**	**+0.7**
ASAK				*e*S	**Sn**	**08 29 00.4**	**-0.3**
MTVR	**Mutnovka**	**2.44**	**347**	PN	**Pn**	**08 28 33.7**	**+0.5**
MTVR				S	**Sn**	**08 29 01.0**	**-0.8**
MTVR	**Mutnovka**	**2.44**	**347**	*e*P	**Pn**	**08 28 33.8**	**+0.5**
MTVR				*e*S	**Sn**	**08 29 01.1**	**-0.8**
GRL	**Gorelyy**	**2.52**	**346**	PN	**Pn**	**08 28 35.3**	**+1.0**
GRL				S	**Sn**	**08 29 03.8**	**-0.1**
GRL	**Gorelyy**	**2.52**	**346**	*e*P	**Pn**	**08 28 35.4**	**+1.0**
GRL				*e*S	**Sn**	**08 29 03.8**	**-0.1**
PET	**Petropavlovsk**	**2.93**	**355**	PN	**Pn**	**08 28 40.4**	**+0.6**
PET	**Petropavlovsk**	**2.93**	**355**	*e*PN	**Pn**	**08 28 40.3**	**+0.6**
PET				*e*S	**Sn**	**08 29 13.2**	**-0.5**
PET				pmax	pmax		
	comp=Z,207nm,0.3s						
PET				smax	smax		
	comp=N,436nm,0.5s						
PET				smax	smax		
	comp=E,198nm,0.6s						
PET	**Petropavlovsk**	**2.93**	**355**	*e*P	**Pn**	**08 28 40.4**	**+0.6**
PET				*e*S	**Sn**	**08 29 13.1**	**-0.5**
DALK	**Dalny**	**2.93**	**356**	PN	**Pn**	**08 28 40.4**	**+0.6**
DALK				S	**Sn**	**08 29 12.2**	**-1.5**
DALK	**Dalny**	**2.93**	**356**	*e*P	**Pn**	**08 28 40.5**	**+0.6**
DALK				*e*S	**Sn**	**08 29 12.3**	**-1.5**
INSR	**Institute**	**2.97**	**355**	PN	**Pn**	**08 28 41.3**	**+0.9**
INSR				S	**Sn**	**08 29 14.0**	**-0.8**
INSR	**Institute**	**2.97**	**355**	*e*P	**Pn**	**08 28 41.3**	**+0.9**
INSR				*e*S	**Sn**	**08 29 14.0**	**-0.8**
SPN	**Mys Shipunski**	**3.05**	**11**	PN	**Pn**	**08 28 42.1**	**+0.7**
SPN				S	**Sn**	**08 29 15.5**	**-1.2**
SPN	**Mys Shipunski**	**3.05**	**11**	*e*P	**Pn**	**08 28 42.2**	**+0.7**
SPN				*e*S	**Sn**	**08 29 15.6**	**-1.2**
APC	**Apacha**	**3.06**	**338**	PN	Pn	08 28 44.6	+3.0
APC				S	**Sn**	**08 29 19.2**	**+2.3**
APC	**Apacha**	**3.06**	**338**	*e*P	Pn	08 28 44.6	+3.0
APC				*e*S	**Sn**	**08 29 19.2**	**+2.3**
NLC	**Nalytchevo**	**3.07**	**3**	PN	**Pn**	**08 28 41.6**	**-0.1**
NLC	**Nalytchevo**	**3.07**	**3**	*e*P	**Pn**	**08 28 41.6**	**-0.1**
UGLR	**Uglovaya**	**3.10**	**357**	PN	**Pn**	**08 28 43.1**	**+0.8**
UGLR	**Uglovaya**	**3.10**	**357**	*e*P	**Pn**	**08 28 43.2**	**+0.8**
PEA0B	**Petropavlovsk-**	**3.12**	**345**		**Pn**	**08 28 43.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**3.12**	**345**	*i* PN	**Pn**	**08 28 43.6**	**+1.1**
PETK	**Petropavlovsk-**	**3.12**	**345**	P	**Pn**	**08 28 42.7**	**+0.2**
	comp=E,62nm,0.4s,baz=151,slow=16,SNR=462						
PETK				S	**Sn**	**08 29 19.4**	**+0.9**
	comp=E,47nm,0.6s,baz=169,slow=31,SNR=6.5						
PETK				LR	LR	08 30 25.0	
	comp=E,67nm,21.3s,baz=157,slow=49						
SMAR	**Somma**	**3.16**	**357**	PN	**Pn**	**08 28 43.9**	**+0.7**
SMAR	**Somma**	**3.16**	**357**	*e*P	**Pn**	**08 28 43.9**	**+0.7**
AVH	**Avacha**	**3.16**	**356**	PN	**Pn**	**08 28 44.1**	**+1.0**
AVH	**Avacha**	**3.16**	**356**	*e*P	**Pn**	**08 28 44.2**	**+1.0**
SDLR	**Sedlovina**	**3.17**	**358**	PN	**Pn**	**08 28 43.6**	**+0.3**
SDLR	**Sedlovina**	**3.17**	**358**	*e*P	**Pn**	**08 28 43.7**	**+0.3**
KOK	**Koryaka**	**3.20**	**355**	PN	Pn	08 28 44.9	+1.3
KOK	**Koryaka**	**3.20**	**355**	*e*P	Pn	08 28 44.9	+1.3
KRER	**Koryakskii**	**3.20**	**357**	PN	**Pn**	**08 28 44.8**	**+1.0**
KRER	**Koryakskii**	**3.20**	**357**	*e*P	**Pn**	**08 28 44.9**	**+1.0**
KRX	**Arik**	**3.26**	**356**	PN	**Pn**	**08 28 45.4**	**+0.9**
KRX	**Arik**	**3.26**	**356**	*e*P	**Pn**	**08 28 45.5**	**+0.9**
GNL	**Ganaly**	**3.66**	**349**	PN	Pn	08 28 51.3	+1.4
GNL	**Ganaly**	**3.66**	**349**	*e*P	Pn	08 28 51.4	+1.4
KII	**Karymskiy**	**3.94**	**3**	PN	Pn	08 28 55.6	+1.8
KII	**Karymskiy**	**3.94**	**3**	*e*P	Pn	08 28 55.6	+1.8
MKZ	**Mys Kozlova**	**4.74**	**19**	PN	**Pn**	**08 29 04.9**	**+0.2**
MKZ	**Mys Kozlova**	**4.74**	**19**	*e*P	**Pn**	**08 29 04.9**	**+0.2**
MKZ				*e*S	**Sn**	**08 29 55.0**	**-3.4**
TUMD	**Tumrok D**	**5.16**	**9**	PN	Pn	08 29 12.1	+1.5
TUMD				S	**Sn**	**08 30 08.1**	**-0.8**
TUMD	**Tumrok D**	**5.16**	**9**	*e*P	Pn	08 29 12.1	+1.5
TUMD				*e*S	**Sn**	**08 30 08.1**	**-0.8**
KMNR	**Kamenistaya**	**5.70**	**7**	PN	Pn	08 29 20.7	+2.7
KMNR	**Kamenistaya**	**5.70**	**7**	*e*P	Pn	08 29 20.7	+2.7
ESO	**Esso**	**5.83**	**358**	PN	Pn	08 29 21.3	+1.6
ESO	**Esso**	**5.83**	**358**	*e*P	Pn	08 29 21.3	+1.6
BZP	**Bezymyannyi-Pe**	**5.88**	**8**	PN	Pn	08 29 22.9	+2.4
BZP	**Bezymyannyi-Pe**	**5.88**	**8**	*e*P	Pn	08 29 22.9	+2.4
BZMR	**Bezymyannaya**	**5.90**	**8**	PN	Pn	08 29 23.4	+2.7
BZMR	**Bezymyannaya**	**5.90**	**8**	*e*P	Pn	08 29 23.4	+2.7
KIRR	**Kirishev**	**5.90**	**7**	PN	Pn	08 29 23.0	+2.2
KIRR	**Kirishev**	**5.90**	**7**	*e*P	Pn	08 29 23.0	+2.2
KPT	**Kopyto**	**5.91**	**6**	PN	Pn	08 29 23.0	+2.2
KPT	**Kopyto**	**5.91**	**6**	*e*P	Pn	08 29 23.1	+2.2
BZGR	**Bezymyannyi-Gr**	**5.92**	**9**	PN	Pn	08 29 23.5	+2.5
BZGR	**Bezymyannyi-Gr**	**5.92**	**9**	*e*P	Pn	08 29 23.6	+2.5
BZWR	**Bezymyannyi-We**	**5.93**	**8**	PN	Pn	08 29 23.9	+2.8
BZWR	**Bezymyannyi-We**	**5.93**	**8**	*e*P	Pn	08 29 24.0	+2.8
KOZ	**Kozyrevsk**	**5.98**	**4**	PN	Pn	08 29 23.9	+2.2
KOZ	**Kozyrevsk**	**5.98**	**4**	*e*P	Pn	08 29 24.0	+2.2
ZLN	**Zelenaya**	**6.01**	**9**	PN	Pn	08 29 25.0	+2.8
ZLN	**Zelenaya**	**6.01**	**9**	*e*P	Pn	08 29 25.0	+2.8
SRDR	**Sredinnyy**	**6.23**	**3**	PN	Pn	08 29 26.9	+1.7
SRDR	**Sredinnyy**	**6.23**	**3**	*e*P	Pn	08 29 27.0	+1.7
KLY	**Klyuchi**	**6.29**	**8**	PN	Pn	08 29 28.3	+2.4
KLY	**Klyuchi**	**6.29**	**8**	*e*P	Pn	08 29 28.3	+2.4
KBTR	**Krutoberegovo**	**6.51**	**19**	PN	Pn	08 29 30.1	+1.1
KBTR	**Krutoberegovo**	**6.51**	**19**	*e*P	Pn	08 29 30.1	+1.1
SMKR	**Semkarok**	**6.64**	**12**	PN	Pn	08 29 32.5	+1.7
SMKR	**Semkarok**	**6.64**	**12**	*e*P	Pn	08 29 32.6	+1.7
SHEM	**Shemya Is, Ala**	**9.75**	**69**	P	**Pn**	**08 30 15.1**	**+1.6**
	comp=E,40nm,0.4s,baz=298,slow=1.2,SNR=20						
SHEM				S	**Sn**	**08 31 56.1**	**-5.5**
	comp=E,12nm,0.4s,baz=200,slow=19,SNR=7.2						
SHEM				LR	LR	08 33 22.0	
	comp=E,33nm,21.6s,baz=17,slow=33						
SMY	**Shemya**	**9.75**	**69**		**Pn**	**08 30 15.0**	**+1.6**
SMY	**Shemya**	**9.75**	**69**	PN	**Pn**	**08 30 15.0**	**+1.6**
JKA	**Kamikawa-asahi**	**12.71**	**248**	Pn	**Pn**	**08 30 54.0**	**+0.2**
ASAJ	**Asahikawa**	**12.71**	**248**	P	**Pn**	**08 30 55.7**	**+1.8**
	comp=E,4.0nm,0.7s,baz=160,slow=28,SNR=2.1						
AMKA	**Amchitka**	**12.88**	**77**	P

NOA NORSAR Array B 66.23 344 P **P** **08 38 39.2 -0.4**
comp=Z,0.4nm,0.5s,baz=22,slow=6.5,SNR=3.5
comp=Z,0.4nm,0.5s
HFS Hagfors 66.59 342 P **P** **08 38 41.1 -0.8**
comp=Z,0.7nm,0.6s,baz=72,slow=11,SNR=5.1
comp=Z,0.7nm,0.6s
AKASG Malin Array Be 70.84 329 P **P** **08 39 07.8 -0.7**
comp=Z,1.1nm,0.5s,baz=32,slow=6.4,SNR=5.5
comp=Z,1.1nm,0.5s
TXAR Lajitas Array 72.43 65 P **P** **08 39 19.9 +1.2**
comp=Z,0.1nm,0.4s,baz=307,slow=4.7,SNR=5.3
comp=Z,0.1nm,0.4s
WRA Warramunga Arr 73.10 204 P **P** **08 39 22.9 +0.6**
comp=Z,0.3nm,1.0s,baz=16,slow=6.2,SNR=1.5
comp=Z,0.3nm,1.0s
EKA Eskdalemuir Ar 73.88 350 P **P** **08 39 26.8 +0.2**
comp=Z,0.4nm,0.4s,baz=16,slow=5.1,SNR=7.5
comp=Z,0.4nm,0.4s
H03N2 Juan Fernandez 134.83 91 T T 11 18 12.4
baz=314,slow=77,SNR=12
H03N1 Juan Fernandez 134.84 91 T T 11 18 01.7
baz=314,slow=77,SNR=10
H03N3 Juan Fernandez 134.84 91 T T 11 18 13.1
baz=314,slow=77,SNR=14

---

*KRNET **25** 08:29:29.9±0.1,40.°20N×77.°18E,mb3.8*
*SOME **25** 08:29:32.2,40.°52N×77.°08E,h10km*
*NNC **25** 08:29:33.7±0.6,40.°57N×77.°06E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=3.9km s-min=2.6km az=161.0
ISC 25 08:29:32.9±1.6,40.°45N±0.°08×77.°00E±0.°04,h10km,n55,
σ1s85/75,17C-15D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.42**	**25**	⇓*iP*	**Pn**	**08 29 58.5**	**-0.6**
TARG				⇓*iS*	**Sg**	**08 30 19.5**	**+0.9**
KDJ	**Kajisay**	**1.69**	**5**	⇓*iP*	**Pn**	**08 30 03.2**	**-0.9**
KDJ				⇓*iS*	**Sg**	**08 30 27.4**	**+0.2**
ULHL	**Ulahol**	**1.89**	**343**	P	**Pb**	**08 30 06.4**	**-1.1**
	SNR=57						
ULHL	**Ulahol**	**1.89**	**343**	⇓*iP*	**Pb**	**08 30 06.4**	**-1.1**
ULHL				⇓*iS*	**Sg**	**08 30 33.0**	**-0.5**
SALK	**Salom-Alik**	**2.46**	**281**	⇑*iP*	**Pn**	**08 30 13.1**	**-0.1**
SALK				⇑*iS*	**Sn**	**08 30 44.6**	**+1.3**
UCH	**Uchtor**	**2.58**	**314**	P	**Pn**	**08 30 16.1**	**+0.9**
	SNR=15						
UCH	**Uchtor**	**2.58**	**314**	⇓*iP*	**Pn**	**08 30 16.3**	**+1.1**
UCH				⇓*iS*	**Sb**	**08 30 50.0**	**-1.5**
TNSS	**Tian-Shan**	**2.59**	**359**	Pg	**Pb**	**08 30 18.7**	**-0.9**
	23nm,0.3s						
TNSS				Lg	Lg	08 30 52.3	
	16nm,0.4s						
TNSS	**Tian-Shan**	**2.59**	**359**	*eP*	**Pb**	**08 30 18.7**	**-0.9**
	23nm,0.3s						
TNSS				*eS*	**Sb**	**08 30 52.3**	**+0.6**
	16nm,0.4s						
TKM2	**Tokmak 2**	**2.69**	**337**	P	**Pb**	**08 30 18.2**	**-2.9**
	SNR=25						
TKM2	**Tokmak 2**	**2.69**	**337**	⇑*iP*	**Pn**	**08 30 17.5**	**+1.1**
TKM2				⇑*iS*	**Sb**	**08 30 52.4**	**-1.9**
KBK	**Karagaybulak**	**2.69**	**326**	P	**Pb**	**08 30 20.9**	**-0.4**
	SNR=18						
KBK	**Karagaybulak**	**2.69**	**326**	⇑*iP*	**Pn**	**08 30 17.8**	**+1.4**
KBK				⇑*iS*	**Sb**	**08 30 52.4**	**-2.0**
KST	**Kastek**	**2.71**	**344**	Pg	**Pb**	**08 30 21.4**	**-0.1**
	19nm,0.5s						
KST				Lg	Lg	08 30 57.0	
	58nm,0.5s						
KST	**Kastek**	**2.71**	**344**	*eP*	**Pb**	**08 30 21.4**	**-0.1**
	19nm,0.5s						
KST				*eS*	**Sb**	**08 30 57.0**	**+2.2**
	58nm,0.5s						
MDOK	**Medeo**	**2.71**	**1**	Pg	**Pb**	**08 30 20.8**	**-0.9**
	21nm,0.5s						
MDOK				Lg	Lg	08 30 55.9	
	37nm,0.6s						
MTBS	**Maitube**	**2.71**	**351**	Pg	**Pb**	**08 30 20.9**	**-0.7**
	22nm,0.5s						
MTBS				Lg	Lg	08 30 56.2	
	70nm,0.6s						
MTBS	**Maitube**	**2.71**	**351**	*eP*	**Pb**	**08 30 20.9**	**-0.7**
	22nm,0.5s						
MTBS				*eS*	**Sb**	**08 30 56.2**	**+1.2**
	70nm,0.6s						
AAA	**Alma-Ata**	**2.76**	**359**	Pg	**Pb**	**08 30 22.3**	**-0.1**
	79nm,0.3s						
AAA				Lg	Lg	08 30 58.2	
	8.1nm,0.2s						
AAA	**Alma-Ata**	**2.76**	**359**	*eP*	**Pb**	**08 30 22.3**	**-0.1**
	79nm,0.3s						
AAA				*eS*	**Sb**	**08 30 58.2**	**+2.0**
	8.1nm,0.2s						
KNDC	**Almaty**	**2.77**	**359**	⇓Pg	**Pb**	**08 30 22.5**	**0.0**
	100nm,0.8s						
KNDC				⇑Lg	Lg	08 30 58.1	
	163nm,0.6s						
SATY	**Saty**	**2.81**	**21**	Pg	**Pb**	**08 30 23.1**	**-0.2**
	26nm,0.4s						
SATY				Lg	Lg	08 30 59.8	
	94nm,0.6s						
AAK	**Ala-Archa**	**2.89**	**320**	P	**Pb**	**08 30 25.8**	**+1.2**
	SNR=15						
AAK	**Ala-Archa**	**2.89**	**320**	⇑Pg	**Pb**	**08 30 24.9**	**+0.4**
	8.9nm,0.5s						
AAK				⇑Lg	Lg	08 31 02.9	
	62nm,0.9s						
AAK	**Ala-Archa**	**2.89**	**320**	⇓*iP*	**Pn**	**08 30 20.2**	**+1.1**
AAK				⇓*iS*	**Sb**	**08 30 57.2**	**-2.8**
DGS	**Degeres**	**2.94**	**342**	Pg	**Pb**	**08 30 25.6**	**+0.2**
	55nm,0.7s						
DGS				Lg	Lg	08 31 04.1	
	35nm,0.2s						
CHMS	**Chumysh**	**3.06**	**327**	⇓*eP*	**Pn**	**08 30 22.5**	**+1.2**
CHMS				⇓*iS*	**Sn**	**08 31 01.0**	**+3.1**
UZB	**Uzynbulak**	**3.09**	**29**	*eP*	**Pb**	**08 30 28.4**	**+0.4**
	11nm,0.6s						
UZB				*eS*	**Sg**	**08 31 08.7**	**-3.5**
	61nm,0.3s						
KPKS	**Kokpek**	**3.27**	**22**	Pg	**Pb**	**08 30 30.0**	**-1.0**
	0.5nm,0.2s						
KPKS				Lg	Lg	08 31 11.4	
	101nm,0.5s						
KTBS	**Karatobe**	**3.27**	**356**	Pg	**Pb**	**08 30 30.9**	**-0.2**
	34nm,0.4s						
KTBS				Lg	Lg	08 31 13.5	
	61nm,0.4s						
SHLS	**Shalkode**	**3.27**	**33**	Pg	**Pg**	**08 30 33.9**	**-1.7**
	21nm,0.5s						
SHLS				Lg	Lg	08 31 18.5	
	70nm,0.7s						
SHLS	**Shalkode**	**3.27**	**33**	*eP*	**Pg**	**08 30 33.9**	**-1.7**
	21nm,0.5s						
SHLS				*eS*	**Sg**	**08 31 18.5**	**+0.5**
	70nm,0.7s						
EKS2	**Erkin-Say**	**3.28**	**314**	⇑*iP*	**Pn**	**08 30 25.6**	**+1.2**
EKS2				⇑*iS*	**Sn**	**08 31 06.3**	**+2.8**
USP	**Ospenovka**	**3.38**	**327**	P	**Pb**	**08 30 33.0**	**0.0**
	SNR=13						
USP	**Ospenovka**	**3.38**	**327**	⇑*iP*	**Pn**	**08 30 27.2**	**+1.4**
USP				⇑*iS*	**Sn**	**08 31 08.9**	**+3.0**
KRBS	**Karabastau**	**3.39**	**344**	Pg	**Pb**	**08 30 33.5**	**+0.4**
	10nm,0.5s						
KRBS				Lg	Lg	08 31 17.7	
	4.8nm,0.4s						
CHKK	**Chushkaly**	**3.41**	**360**	Pg	**Pb**	**08 30 33.6**	**+0.3**
	35nm,0.5s						
CHKK				Lg	Lg	08 31 17.9	
	37nm,0.5s						
CHKK	**Chushkaly**	**3.41**	**360**	*eP*	**Pb**	**08 30 33.6**	**+0.3**
	35nm,0.5s						
CHKK				*eS*	**Sb**	**08 31 17.9**	**+3.1**
	37nm,0.5s						
PDGK	**Podgornoye**	**3.43**	**32**	⇓Pg	**Pb**	**08 30 34.0**	**+0.3**
	17nm,0.6s						
PDGK				⇑Lg	Lg	08 31 20.0	
	78nm,0.7s						
KUU	**Kurty**	**3.48**	**352**	Pg	**Pb**	**08 30 34.9**	**+0.4**
	13nm,0.4s						
KUU				Lg	Lg	08 31 20.3	
	38nm,0.5s						
KUU	**Kurty**	**3.48**	**352**	*eP*	**Pb**	**08 30 34.9**	**+0.4**
	13nm,0.4s						
KUU				*eS*	**Sb**	**08 31 20.3**	**+3.4**
	38nm,0.5s						
MRKS	**Merke**	**3.65**	**310**	Pg	**Pb**	**08 30 39.5**	**+2.1**
	13nm,0.6s						
MRKS				Lg	Lg	08 31 27.9	
	22nm,0.5s						
MRKS	**Merke**	**3.65**	**310**	*eP*	**Pb**	**08 30 39.5**	**+2.1**
	13nm,0.6s						
MRKS				*eS*	**Sg**	**08 31 27.9**	**-2.0**
	22nm,0.5s						
ARXS	**Arharly**	**3.81**	**9**	Pg	**Pb**	**08 30 40.8**	**+0.5**
	14nm,0.4s						
ARXS				Lg	Lg	08 31 30.1	
	37nm,0.5s						
TDK	**Taldyqorghan**	**4.67**	**12**	Pg	**Pb**	**08 30 56.7**	**+1.9**
	36nm,0.4s						
TDK				Lg	Lg	08 31 57.6	
	39nm,0.3s						
TDK	**Taldyqorghan**	**4.67**	**12**	*eP*	**Pb**	**08 30 56.8**	**+1.9**
	36nm,0.4s						
TDK				*eS*	**Sg**	**08 31 57.6**	**-5.1**
	39nm,0.3s						
BTLS	**Baital**	**5.08**	**336**	Pg	**Pb**	**08 31 05.4**	**+3.6**
	2.9nm,0.5s						
BTLS				Lg	Lg	08 32 12.3	
	3.1nm,0.4s						
BTLS	**Baital**	**5.08**	**336**	*eP*	**Pb**	**08 31 05.4**	**+3.6**
	2.9nm,0.5s						
BTLS				*eS*	**Sg**	**08 32 12.3**	**-3.7**
	3.1nm,0.4s						
IUG	**Iuzhnay**	**5.52**	**290**	Pg	**Pg**	**08 31 15.5**	**-3.0**
	12nm,0.5s						
IUG				Lg	Lg	08 32 29.4	
	31nm,0.3s						
KK31	**Karatay Array**	**5.53**	**301**	⇑Pg	**Pb**	**08 31 12.1**	**+2.6**
	4.4nm,0.7s,baz=127,slow=16,SNR=4.7						
KK31				Lg	Lg	08 32 28.7	
	8.2nm,0.7s,baz=120,slow=25,SNR=4.0						
BRLS	**Borolday**	**5.95**	**298**	Pg	**Pg**	**08 31 23.8**	**-2.9**
	1.8nm,0.3s						
BRLS				Lg	Lg	08 32 43.9	
	4.3nm,0.7s						
BRLS	**Borolday**	**5.95**	**298**	*eP*	**Pg**	**08 31 23.8**	**-2.9**
	1.8nm,0.3s						
BRLS				*eS*	**Sg**	**08 32 43.9**	**+0.1**
	4.3nm,0.7s						
MAKZ	**Makanchi**	**7.31**	**28**	⇑Lg	Lg	08 33 21.4	
	2.3nm,0.7s						
MK31	**Makanchi Array**	**7.41**	**29**	⇑Lg	Lg	08 33 26.4	
	2.5nm,0.8s,baz=207,slow=25,SNR=4.6						
KURK	**Kurchatov**	**10.33**	**6**	⇓Lg	Lg	08 34 58.0	
	4.3nm,0.8s						

---

*NNC **25** 09:07:20.5±12.0,36.°86N×69.°78E,h72km±390km,mb3.9,*
mpv4.1,Error ellipse: s-maj=182.6km s-min=87.6km
az=72.0
*IDC **25** 09:07:36.5±1.0,38.°37N×70.°73E,h0km,mb3.6/9,*
mbtmp3.6/15,ML3.3/5,Error ellipse: s-maj=17.2km
s-min=13.6km az=145.0
ISC 25 09:07:38.7±1.1,38.°40N±0.°09×70.°41E±0.°09,h10km,n25,
σ2s14/24,mb3.5/8,2C-1D,Afghanistan-Tajikistan border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.70**	**1**	⇑P	**Pn**	**09 08 49.7**	**+0.1**
	7.5nm,0.3s,baz=175,slow=11,SNR=106						
KK31				S	**Sb**	**09 10 00.1**	**+2.4**
	62nm,0.5s,baz=164,slow=27,SNR=11						
UCH	**Uchtor**	**4.94**	**38**	P	**Pn**	**09 08 54.1**	**+0.6**
	SNR=10						
EKS2	**Erkin-Say**	**4.97**	**30**	P	**Pn**	**09 08 55.4**	**+1.9**
	SNR=41						
AAK	**Ala-Archa**	**5.25**	**35**	Pn	**Pn**	**09 08 57.5**	**+0.1**
	5.5nm,0.3s,baz=212,slow=6.2,SNR=30						
AAK				Sn	**Sn**	**09 09 57.3**	**-0.8**
	2.5nm,0.3s,baz=195,slow=19,SNR=2.0						
	23nm,0.5s						
AAK	**Ala-Archa**	**5.25**	**35**	P	**Pn**	**09 08 59.3**	**+1.9**
	SNR=25						
AAK	**Ala-Archa**	**5.25**	**35**	⇓P	**Pn**	**09 08 57.3**	**-0.1**
	6.8nm,0.5s						
KBK	**Karagaybulak**	**5.48**	**38**	P	**Pn**	**09 09 03.8**	**+3.3**
	SNR=8.3						
CHMS	**Chumysh**	**5.65**	**34**	P	**Pn**	**09 09 04.8**	**+2.0**
	SNR=8.5						
USP	**Ospenovka**	**5.76**	**31**	P	**Pn**	**09 09 05.7**	**+1.4**
	SNR=18						
TKM2	**Tokmak 2**	**5.99**	**39**	P	**Pn**	**09 09 10.5**	**+2.9**
	SNR=20						
MKAR	**Makanchi Array**	**12.11**	**42**	Pn	**Pn**	**09 10 29.3**	**-2.0**
	1.6nm,0.6s,baz=230,slow=13,SNR=6.8						
MKAR				Lg	Lg	09 13 43.0	
	0.1nm,0.3s,baz=236,slow=26,SNR=2.0						
AB31	**Akbulak array**	**13.21**	**329**	P	Pn	09 10 40.6	-5.7
	1.1nm,0.5s,baz=164,slow=11,SNR=35						
AB31				⇑S	**Sn**	**09 13 15.4**	**+2.3**
	1.9nm,0.6s,baz=119,slow=24,SNR=4.9						
KURBB	**Kurchatov Arra**	**13.51**	**23**	Pn	Pn	09 10 47.4	-2.9
	baz=212,slow=11,SNR=4.9						
KURBB				Lg	Lg	09 14 35.9	
	baz=216,slow=30,SNR=4.6						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**14.62**	**360**	Pn	Pn	09 11 03.4	-2.2
	0.1nm,0.3s,baz=157,slow=10,SNR=4.7						
BVAR				Lg	Lg	09 15 10.2	
	baz=174,slow=30,SNR=1.6						
	0.6nm,0.5s						
AKTO	**Aktyubinsk**	**14.91**	**328**	Pn	**Pn**	**09 11 09.4**	**-0.1**
	0.3nm,0.3s,baz=137,slow=12,SNR=5.9						
AKTO				Sn	**Sn**	**09 13 49.0**	**-5.6**
	0.3nm,0.3s,baz=166,slow=4.2,SNR=4.0						
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**18.41**	**28**	P	**Pn**	**09 11 50.4**	**-3.5**
	0.3nm,0.3s,baz=215,slow=10,SNR=4.4						
	1.0nm,0.5s						
KBZ	**Khabaz**	**21.37**	**293**	P	**P**	**09 12 27.2**	**+1.1**
	1.0nm,0.4s,baz=109,slow=10,SNR=4.6						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**35.65**	**325**	P	**P**	**09 14 37.3**	**+0.7**
	0.8nm,0.7s,baz=100,slow=7.9,SNR=2.1						
	0.8nm,0.7s						
ARCES	**ARCESS Array B**	**39.21**	**337**	P	**P**	**09 15 06.8**	**+0.2**
	0.9nm,0.7s,baz=121,slow=7.0,SNR=1.7						
	0.9nm,0.7s						
HFS	**Hagfors**	**41.29**	**321**	P	**P**	**09 15 23.3**	**-0.7**
	1.4nm,0.7s,baz=89,slow=11,SNR=4.7						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**42.59**	**322**	P	**P**	**09 15 34.0**	**-0.7**
	0.4nm,0.7s,baz=93,slow=8.1,SNR=1.7						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**65.32**	**267**	P	**P**	**09 18 22.4**	**+1.1**
	0.3nm,0.5s,baz=46,slow=10,SNR=3.0						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**79.37**	**2**	P	P	09 19 42.6	-1.8
	0.3nm,0.8s,baz=359,slow=14,SNR=5.9						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**83.39**	**122**	P	P	09 20 05.4	-1.0
	0.3nm,0.6s,baz=319,slow=5.3,SNR=5.7						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**85.72**	**125**	P	**P**	**09 20 17.4**	**-0.7**
	0.1nm,0.5s,baz=318,slow=5.2,SNR=1.4						
	0.1nm,0.5s						

IDC 25 09:28:34.4±70.0,16.°90S×177.°21W,h0km,mb4.0/3,
mbtmp4.0/3,Error ellipse: s-maj=1299.0km
s-min=181.7km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.12**	**240**	P	P	09 36 12.7	+0.6
	1.1nm,0.6s,baz=95,slow=11,SNR=3.0						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**45.95**	**258**	P	P	09 36 59.0	-0.4
	0.3nm,0.3s,baz=97,slow=7.4,SNR=8.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**46.17**	**253**	P	P	09 37 00.9	-0.3
	2.7nm,0.5s,baz=92,slow=7.6,SNR=78						
	2.7nm,0.5s						

---

*TXNET **25** 09:32:06.4,31.°1N±0.°6×103.°3W±0.°6,h4km±1km,ML3.0/22,*
Error ellipse: s-maj=0.9km s-min=0.8km az=133.4,final
NEIC 25 09:32:06.4±0.8,31.°10N±0.°01×103.°27W±0.°02,h5km±2km,
mb_Lg2.9/71,ML2.9/64,Error ellipse: s-maj=3.0km
s-min=2.7km az=118.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPB16	**Coyonosa**	**0.03**	**33**	P	Pg	09 32 07.3	-0.3
TPB16				S	Sg	09 32 07.7	-0.7
TPB04	**Verhalen**	**0.09**	**1**	P	Pg	09 32 08.3	-0.1
TPB04				S	Sg	09 32 10.0	+0.2
TPB05	**Hovey Rd**	**0.18**	**194**	P	Pg	09 32 11.1	+1.0
TPB05				S	Sg	09 32 14.6	+2.0
TPB15	**Southwest of C**	**0.20**	**55**	P	Pg	09 32 10.7	+0.4
TPB15				S	Sg	09 32 15.7	+2.8
TPB03	**Saragosa**	**0.21**	**266**	P	Pg	09 32 11.6	+1.0
TPB03				S	Sg	09 32 15.1	+1.8
LWM2	**Layne Water Mi**	**0.32**	**302**	P	Pb	09 32 13.9	-0.7
LWM2				S	Sb	09 32 19.6	-0.6
LWM1	**Layne Water Mi**	**0.33**	**293**	P	Pb	09 32 14.2	-0.7
LWM1				S	Sb	09 32 20.1	-0.6
PCOS	**Crockett Middl**	**0.37**	**327**	P	Pb	09 32 15.2	-0.3
PCOS				S	Sb	09 32 20.7	-1.0
TPB08	**Permian Basin**	**0.38**	**123**	P	Pb	09 32 15.1	-0.5
TPB08				S	Sb	09 32 21.4	-0.4
TPB10	**Southeast of T**	**0.45**	**294**	P	Pb	09 32 16.2	-0.8
TPB01	**Permian Basin**	**0.46**	**251**	P	Pg	09 32 16.1	+0.7
TPB01				S	Sb	09 32 23.3	-1.0
TPB27	**North of Pyote**	**0.49**	**14**	P	Pb	09 32 16.8	-0.8
TPB27				S	Sb	09 32 24.0	-1.1
MNHN	**Monahans**	**0.50**	**61**		Pg	09 32 16.1	+0.1
MNHN				IAML		09 32 31.3	
	768nm,0.8s						
MNHN	**Monahans**	**0.50**	**61**	P	Pg	09 32 16.3	+0.2
MNHN				S	Sg	09 32 23.9	+1.3
TPB06	**Permian Basin**	**0.55**	**5**	P	Pg	09 32 17.6	+0.6
TPB06				S	Sb	09 32 25.7	-1.1
PECS	**Pecos**	**0.58**	**298**		Pg	09 32 17.5	-0.1
PECS				IAML		09 32 31.5	
	522nm,0.6s						
PECS				IAML		09 32 35.9	
	672nm,0.8s						
PECS	**Pecos**	**0.58**	**298**	P	Pg	09 32 18.0	+0.4
PECS				S	Sb	09 32 26.6	-1.1
TPB07	**Mentone**	**0.59**	**325**	P	Pg	09 32 18.3	+0.6
TPB07				S	Sb	09 32 26.9	-1.0
TPB12	**Southwest of T**	**0.60**	**281**	P	Pb	09 32 19.0	-0.5
TPB12				S	Sb	09 32 27.4	-0.8
ALPN	**Alpine**	**0.79**	**204**		Pg	09 32 21.4	-0.2
ALPN				IAML		09 32 38.3	
	463nm,0.6s						
ALPN				IAML		09 32 43.7	
	330nm,0.6s						
ALPN	**Alpine**	**0.79**	**204**	P	Pg	09 32 22.1	+0.6
ALPN				S	Sb	09 32 33.3	-0.5
TPB11	**China Draw**	**1.06**	**322**	P	Pg	09 32 26.7	0.0
TPB11				S	Sb	09 32 41.5	0.0
TPB09	**Culberson Coun**	**1.11**	**308**	P	Pg	09 32 27.6	-0.1
TPB09				S	Sb	09 32 42.8	-0.2
TMB01	**Midkiff**	**1.16**	**61**	P	Pg	09 32 28.8	0.0
TMB01				S	Sb	09 32 45.0	+0.4
ODSA	**Odessa**	**1.19**	**31**		Pg	09 32 28.6	-0.7
ODSA	**Odessa**	**1.19**	**31**	P	Pg	09 32 28.7	-0.6
ODSA				S	Sb	09 32 45.2	-0.1
NM01	**Eunice**	**1.26**	**355**	S	Sb	09 32 47.6	+0.4
CLNB	**Carlsbad**	**1.27**	**336**	P	Pg	09 32 30.0	-0.1
CLNB				S	Sn	09 32 48.5	0.0
CLN7	**Carlsbad 7**	**1.39**	**341**		Pn	09 32 32.2	-0.3
CLN7	**Carlsbad 7**	**1.39**	**341**	P	Pb	09 32 32.9	-0.1
HTMS	**Hat Mesa**	**1.40**	**347**		Pn	09 32 31.8	-1.0
HTMS	**Hat Mesa**	**1.40**	**347**	P	Pb	09 32 33.2	0.0
HTMS				S	Sn	09 32 52.8	+1.0
HTMS	**Hat Mesa**	**1.40**	**347**	P	Pb	09 32 33.1	-0.1
CBET	**Carlsbad E Tow**	**1.45**	**335**	P	Pb	09 32 34.1	0.0
VHRN	**Van Horn**	**1.50**	**258**		Pb	09 32 34.7	-0.3
VHRN				IAML		09 32 58.5	
	184nm,0.6s						
VHRN				IAML		09 32 58.7	
	173nm,0.3s						
VHRN	**Van Horn**	**1.50**	**258**	P	Pb	09 32 34.7	-0.2
VHRN				S	Sg	09 32 55.2	+0.4
SAND	**Sanderson**	**1.51**	**139**		Pn	09 32 33.9	-0.3
SAND	**Sanderson**	**1.51**	**139**	P	Pb	09 32 35.1	+0.1
SAND				S	Sg	09 32 56.9	+1.9
TMB06	**Greenwood**	**1.53**	**55**	P	Pb	09 32 35.1	-0.2
TMB06				S	Sg	09 32 56.2	+0.5
TMB04	**Seminole**	**1.66**	**23**	P	Pn	09 32 36.7	+0.3
TMB04				S	Sg	09 32 59.4	-0.4
TX31	**Lajitas Ar. Si**	**1.79**	**191**		Pb	09 32 39.1	-0.7
TX31	**Lajitas Ar. Si**	**1.79**	**191**	P	Pb	09 32 39.9	0.0
TX31				S	Sg	09 33 04.5	+0.4
TXAR	**Lajitas Array**	**1.79**	**191**		Pb	09 32 39.5	-0.3
OZNA	**Ozona**	**1.85**	**95**		Pb	09 32 39.9	-0.9
OZNA	**Ozona**	**1.85**	**95**	P	Pb	09 32 40.5	-0.3
OZNA				S	Sg	09 33 05.6	-0.3
MNTX	**Cornudas Mount**	**1.90**	**289**		Pn	09 32 39.8	+0.2
MNTX				IAML		09 33 08.6	
	78nm,0.8s						
MNTX				IAmb_Lg		09 33 11.7	
	comp=Z,42nm,0.8s						
CPRX	**Cap Rock**	**1.99**	**345**		Pn	09 32 41.7	+0.8
SGCY	**Sterling City**	**2.00**	**66**		Pb	09 32 42.7	-0.8
POST	**Post**	**2.47**	**37**		Pn	09 32 47.9	+0.4
SN07	**Snyder 07**	**2.83**	**45**	Pn	Pn	09 32 53.1	+0.7
DRIO	**Del Rio**	**2.84**	**125**	IAmb_Lg		09 33 40.6	
	comp=Z,60nm,0.8s						
MSTX	**Muleshoe**	**2.89**	**8**	Pn	Pn	09 32 54.1	+0.8
MSTX				IAmb_Lg		09 33 42.0	
	comp=Z,32nm,0.8s						
JCT	**Junction City**	**3.05**	**101**		Pn	09 32 55.0	-0.3
DKNS	**Dickens**	**3.24**	**37**		Pn	09 32 58.3	+0.3
ABTX	**Abilene, Hawle**	**3.44**	**63**		Pn	09 33 00.3	-0.4
ABTX				IAmb_Lg		09 34 01.2	
	comp=Z,39nm,0.7s						
APMT	**Aspermont**	**3.47**	**49**		Pn	09 33 01.9	+0.7
APMT				IAmb_Lg		09 34 03.9	
	comp=Z,32nm,0.7s						
BRDY	**Brady**	**3.67**	**86**		Pn	09 33 05.4	+1.6
BRDY				IAmb_Lg		09 34 07.4	
	comp=Z,41nm,0.7s						
AMTX	**Amarillo**	**4.00**	**19**	IAmb_Lg		09 34 19.1	
	comp=Z,33nm,0.9s						
LENM	**Lemitar**	**4.37**	**315**	Pn	Pn	09 33 14.9	+1.3
PLPT	**Palo Pinto**	**4.54**	**67**		Pn	09 33 16.2	+0.3
PLPT				IAmb_Lg		09 34 34.4	
	comp=Z,33nm,1.2s						
HPIG		**4.65**	**207**	Pn	Pn	09 33 18.4	+0.9
HPIG				IAML		09 34 54.3	
	comp=N,9.7nm,0.8s						
ANMO	**Albuquerque**	**4.68**

LL03	**Petrohue**	**0.45**	**145**	*eP*		**Pn**	**10 13 03.4**	**-0.4**
LL03				*i* S		**Sn**	**10 13 13.8**	**-0.6**
LL03				IAML			10 13 31.2	
	comp=E,2μm,0.7s							
LL03	**Petrohue**	**0.45**	**145**	*eP*		**Pn**	**10 13 03.5**	**-0.2**
LL03				*eS*		**Sn**	**10 13 14.7**	**+0.3**
LL03				IAML			10 13 20.2	
	comp=Z,716nm,0.4s							
LR05	**Currie**	**0.79**	**46**	*eP*		**Pn**	**10 13 06.4**	**-0.4**
LR05				*i* S		**Sn**	**10 13 19.3**	**-0.4**
LR05				IAML			10 13 20.2	
	comp=E,1μm,0.3s							
LR05	**Currie**	**0.79**	**46**	*eP*		**Pn**	**10 13 06.5**	**-0.4**
LR05				*eS*		**Sn**	**10 13 19.8**	**+0.1**
LR05				IAML			10 13 21.3	
	comp=Z,408nm,0.8s							
LL05	**Los Muermos**	**0.84**	**221**	*eP*		**Pn**	**10 13 07.5**	**+0.1**
LL05				*i* S		**Sn**	**10 13 20.8**	**+0.1**
LL05				IAML			10 13 22.3	
	comp=E,2μm,0.2s							
LR02	**Universidad Au**	**1.04**	**338**	*eP*		**Pn**	**10 13 10.5**	**+0.9**
LR02				*i* S		**Sn**	**10 13 25.4**	**+0.8**
LR03	**Panguipulli**	**1.18**	**15**	*eP*		**Pn**	**10 13 11.3**	**0.0**
LR03				*i* S		**Sn**	**10 13 27.7**	**+0.1**
LR03				IAML			10 13 29.5	
	comp=E,3μm,0.8s							
LR03	**Panguipulli**	**1.18**	**15**	*eP*		**Pn**	**10 13 11.8**	**+0.5**
LR03				*eS*		**Sn**	**10 13 28.0**	**+0.4**
LR03				IAML			10 13 36.6	
	comp=Z,715nm,0.3s							
GO06	**Curarrehue**	**1.54**	**40**	*eP*		**Pn**	**10 13 15.5**	**-0.3**
GO06				*i* S		**Sn**	**10 13 35.7**	**-0.1**
GO06	**Curarrehue**	**1.54**	**40**	*eP*		**Pn**	**10 13 15.6**	**-0.3**
LL01	**San Ignacio de**	**1.62**	**171**	*eP*		**Pn**	**10 13 17.1**	**+0.4**
LL01				*i* S		**Sn**	**10 13 38.5**	**+1.1**
LL01	**San Ignacio de**	**1.62**	**171**	*eP*		**Pn**	**10 13 17.3**	**+0.6**
LL01				*eS*		**Sn**	**10 13 38.9**	**+1.5**
PLCA	**Paso Flores**	**1.67**	**89**	*eP*		**Pn**	**10 13 16.9**	**-0.5**
PLCA				*eS*		**Sn**	**10 13 38.2**	**-0.5**
LC01	**Cunco**	**1.99**	**20**	*eP*		**Pn**	**10 13 21.4**	**-0.2**
LC01				*i* S		**Sn**	**10 13 45.2**	**-0.8**
LC01				IAML			10 13 46.1	
	comp=E,256nm,0.1s							
LC02	**Puerto Saavedr**	**2.04**	**346**	*i* S		**Sn**	**10 13 46.0**	**-1.1**
PDRA	**Piedra**	**2.10**	**172**	*eP*		**Pn**	**10 13 23.5**	**+0.3**
GO07	**Milladeo Hill,**	**2.44**	**196**	*eP*		**Pn**	**10 13 27.2**	**-0.2**
GO07				*i* S		**Sn**	**10 13 54.5**	**-2.0**
GO07				IAML			10 13 57.3	
	comp=N,359nm,0.2s							
GO07	**Milladeo Hill,**	**2.44**	**196**	*eP*		**Pn**	**10 13 26.6**	**-0.9**
GO07				IAML			10 13 59.5	
	comp=Z,334nm,0.3s							
LL02	**Futaleuf**	**2.51**	**165**	*eP*		**Pn**	**10 13 29.0**	**+0.6**
LL02				*eS*		Sn	10 13 46.4	-12
CANA	**Caviahue**	**3.17**	**25**	*eP*		**Pn**	**10 13 38.3**	**+0.9**
CANA				*eS*		**Sn**	**10 14 19.9**	**+5.6**
BI02	**San Fabin de**	**4.26**	**16**	*i* S		**Sn**	**10 14 40.6**	**-0.2**
ML02	**Panimavida**	**5.11**	**12**	*eP*		**Pn**	**10 14 02.8**	**-0.9**
ML02				*eS*		**Sn**	**10 14 58.5**	**-2.8**
ML02				IAML			10 15 06.6	
	comp=Z,21nm,0.6s							

UCR ***25*** *10:16:05.2±1.1, 7.°11N×82.°35W, h6km±9km, MW3.4*
CATAC ***25*** *10:16:06.5±1.0, 7.°1N±9.°8×8.°2W±.°, h16km±11km, M3.4/8, MLv3.4/8, Error ellipse: s-maj=20.0km s-min=4.8km az=17.9, confirmed*
UPA ***25*** *10:16:07.0±0.9, 7.°07N×82.°34W, h29km±10km, MW4.0*
ISC 25 10:16:03.7±2.1, 7.°11N±0.°09×82.°35W±0.°04, h6km±13km, n56, σ1§15/71, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTPA	**Petro Terminal**	**1.20**	**335**	*eP*	**Pg**	**10 16 26.7**	**-0.1**
RMDIO	**Remedios, Chir**	**1.23**	**25**	*eP*	**Pg**	**10 16 27.1**	**-0.2**
GMAL	**Guarumal, Vera**	**1.29**	**59**	*eP*	**Pb**	**10 16 28.1**	**-0.3**
GMAL				*eS*	**Sb**	**10 16 45.0**	**-0.2**
GMAL	**Guarumal, Vera**	**1.29**	**59**	*eP*	**Pb**	**10 16 28.1**	**-0.3**
GMAL				*eS*	**Sb**	**10 16 45.0**	**-0.2**
DVD	**David**	**1.32**	**356**	*eP*	**Pn**	**10 16 29.0**	**+0.3**
DVD				⇑*eS*	**Sb**	**10 16 45.3**	**-1.0**
CGUAY	**Guayabal, Coch**	**1.34**	**0**	*eP*	**Pn**	**10 16 29.3**	**+0.3**
CGUAY				*eS*	**Sb**	**10 16 46.4**	**-0.4**
CACAO	**El Cacao, Vera**	**1.50**	**81**	*eP*	**Pn**	**10 16 31.4**	**+0.3**
CACAO				*eS*	**Sn**	**10 16 50.0**	**-1.0**
CDITO	**Canoas**	**1.55**	**341**	P	**Pn**	**10 16 31.7**	**-0.1**
CDITO	**Canoas**	**1.55**	**341**	S	**Sn**	**10 16 50.4**	**-1.8**
BQSF3	**Alto Boquete,**	**1.63**	**357**	*eP*	**Pb**	**10 16 34.2**	**0.0**
BQSF3				*eS*	**Sn**	**10 16 53.8**	**-0.6**
NELY	**Ciudad Neily**	**1.64**	**339**	*eP*	**Pn**	**10 16 33.2**	**0.0**
NELY				*eS*	**Sn**	**10 16 53.7**	**-0.9**
BRU2	**Volcan**	**1.71**	**349**	*eP*	**Pn**	**10 16 34.3**	**+0.1**
BRU2				*eS*	**Sb**	**10 16 57.4**	**-0.1**
BRU2	**Volcan**	**1.71**	**349**	*eP*	**Pn**	**10 16 34.4**	**+0.1**
BRU2				*eS*	**Sb**	**10 16 57.0**	**-0.5**
BRU2	**Volcan**	**1.71**	**349**	P	**Pn**	**10 16 34.5**	**+0.3**
BC3P	**Paso Ancho**	**1.72**	**351**	*eP*	**Pb**	**10 16 35.8**	**0.0**
EDAD	**Golfito**	**1.73**	**332**	*eP*	**Pn**	**10 16 33.8**	**-0.7**
RBALA	**Bur**	**1.77**	**6**	*eP*	**Pb**	**10 16 36.2**	**-0.4**
RBALA				*eS*	**Sn**	**10 16 57.8**	**+0.1**
PBNVO	**Pueblo Nuevo,**	**1.78**	**5**	*eP*	**Pn**	**10 16 35.5**	**+0.5**
CHGR2	**Aguacate**	**1.83**	**6**	*eP*	**Pn**	**10 16 36.9**	**+1.1**
CHGR2				*eS*	**Sb**	**10 17 00.1**	**-0.7**
ALCO	**Alturas Coton,**	**1.89**	**345**	*eP*	**Pn**	**10 16 36.8**	**0.0**
CRIS3	**El Cristo, Coc**	**2.06**	**56**	*eP*	**Pn**	**10 16 40.1**	**+1.1**
CRIS3				*eS*	**Sn**	**10 17 05.2**	**+0.3**
EDP2	**Potrero Grande**	**2.06**	**337**	*eP*	**Pn**	**10 16 40.2**	**+1.2**
FIMO	**Fila Mora**	**2.12**	**332**	*eP*	**Pn**	**10 16 40.5**	**+0.7**
AZU	**Azuero**	**2.17**	**72**	*eP*	**Pn**	**10 16 41.1**	**+0.8**
AZU				*eS*	**Sn**	**10 17 06.0**	**-1.6**
AZU	**Azuero**	**2.17**	**72**	*eP*	**Pn**	**10 16 41.2**	**+0.8**
ACHO3	**Achotines, Los**	**2.18**	**82**	*eP*	**Pn**	**10 16 41.1**	**+0.5**
ACHO3				*eS*	**Sn**	**10 17 06.8**	**-1.1**
BURE	**Buenos Aires**	**2.27**	**335**	*eP*	**Pn**	**10 16 42.7**	**+0.8**
OCHAL	**Ojochal**	**2.36**	**327**	P	**Pn**	**10 16 43.3**	**+0.3**
OCHAL	**Ojochal**	**2.36**	**327**	S	**Sn**	**10 17 12.2**	**-0.1**
EDPE	**Pejibaye, P**	**2.37**	**329**	*eP*	**Pn**	**10 16 44.1**	**+0.9**
SAJE	**San Jermim**	**2.50**	**333**	*eP*	**Pn**	**10 16 45.6**	**+0.5**
CEUA	**Cerro Uatsi, L**	**2.57**	**347**	*eP*	**Pb**	**10 16 49.5**	**-0.7**
VERH	**Veragua Rainfo**	**2.92**	**344**	*eP*	**Pn**	**10 16 53.0**	**+2.2**
PIEC	**Cerro El Cedra**	**2.96**	**328**	*eP*	**Pn**	**10 16 52.8**	**+1.2**
RAZU	**San Marcos de**	**3.03**	**327**	*eP*	**Pn**	**10 16 53.6**	**+1.3**
ZANG	**Zanguenga, Cho**	**3.07**	**53**	*eP*	**Pn**	**10 16 54.6**	**+1.8**
LCR2	**La Lucha 2**	**3.09**	**328**	*eP*	**Pn**	**10 16 54.2**	**+1.0**
LCR2	**La Lucha 2**	**3.09**	**328**	P	**Pn**	**10 16 54.0**	**+0.8**
LCR2	**La Lucha 2**	**3.09**	**328**	S	**Sn**	**10 17 30.6**	**+0.1**
PICV	**PH. Pirrs**	**3.10**	**324**	*eP*	**Pn**	**10 16 53.8**	**+0.6**
PAR1A	**Puntarenas Pro**	**3.11**	**323**	*eP*	**Pn**	**10 16 54.1**	**+0.7**
RESJ	**San Isidro (Tu**	**3.17**	**336**	*eP*	**Pn**	**10 16 56.4**	**+2.1**
CVTV	**Tajo**	**3.19**	**334**	*eP*	**Pn**	**10 16 56.6**	**+1.8**
CVTQ	**Turrialba Volc**	**3.20**	**334**	*eP*	**Pn**	**10 16 56.8**	**+1.9**
VTR0	**Volcan Turrial**	**3.21**	**334**	*eP*	**Pn**	**10 16 57.2**	**+2.1**
CVTR	**Volcan Turrial**	**3.21**	**334**	*eP*	**Pn**	**10 16 56.8**	**+1.6**
BCIP	**Isla Barro Col**	**3.22**	**50**	*eP*	**Pn**	**10 16 56.4**	**+1.5**
BCIP	**Isla Barro Col**	**3.22**	**50**	*eP*	**Pn**	**10 16 56.4**	**+1.5**
BCIP	**Isla Barro Col**	**3.22**	**50**	P	**Pn**	**10 16 56.3**	**+1.4**
BCIP				S	**Sn**	**10 17 34.8**	**+1.2**
GAMB1	**Gamboa**	**3.29**	**52**	*eP*	**Pn**	**10 16 56.4**	**+0.6**
HDC	**Heredia**	**3.36**	**329**	*eP*	**Pn**	**10 16 58.7**	**+1.8**
PILE	**Guapiles**	**3.40**	**335**	*eP*	**Pn**	**10 17 00.5**	**+3.1**
CAZU	**Cerro Azul, Pa**	**3.60**	**54**	*eP*	**Pn**	**10 17 01.6**	**+1.4**
JCR1	**Jicaral**	**3.86**	**315**	*eP*	**Pn**	**10 17 04.8**	**+1.1**
ARE1	**Arenal 1**	**4.07**	**325**	*eP*	**Pn**	**10 17 10.0**	**+3.4**
JTS	**Las Juntas de**	**4.08**	**321**	*eP*	**Pn**	**10 17 07.4**	**+0.7**

AUST 25 10:24:21.2±0.9, 18.°S±11.°×12.°0E±.°, h10km, mb4.0/4, ML3.0/3, ML3.8/3, Error ellipse: s-maj=26.7km s-min=8.5km az=146.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.85**	**86**	P	Pg	10 24 56.3	-0.4
AUBRM				S	Sg	10 25 20.4	-0.2
MBWA	**Marble Bar**	**3.11**	**190**	P	Pn	10 25 10.9	+0.6
PSA00	**Pilbara Seismi**	**3.50**	**187**	P	Pn	10 25 15.6	-0.1
FITZ	**Fitzroy Crossi**	**5.08**	**91**	P	Pn	10 25 37.9	+0.4
FITZ	**Fitzroy Crossi**	**5.08**	**91**	S	Sn	10 26 35.5	-0.9
GIRL	**Giralia**	**7.27**	**230**	P	Pn	10 26 08.6	+1.0
	comp=Z,0.1nmcomp=Z,157μmcomp=Z,48nm,1.6s						
KNRA	**Kununurra**	**8.45**	**75**	P	Pn	10 26 23.4	-0.4
	comp=Z,0.0nmcomp=Z,6.7nm,1.6s						
CVQOZ	**Cooralya Stati**	**8.58**	**221**	P	Pn	10 26 24.4	-1.2
	comp=Z,212nm,1.8s,comp=Z,0.8nm						
MEEK	**Meekatharra**	**8.66**	**190**	P	Pn	10 26 26.1	-0.5
	comp=Z,10nm,2.7s,comp=Z,0.1nm						
MORW	**Morawa**	**11.61**	**199**	P	Pn	10 27 03.6	-3.5
BLDU	**Ballidu**	**12.90**	**194**	P	Pn	10 27 22.5	-2.2

CATAC ***25*** *10:30:52.1±0.7, 15.°N±8.°×9.°3W±.°, h47km±7km, M3.0/10, MLv3.0/10, Error ellipse: s-maj=19.2km s-min=4.7km az=34.0, confirmed*
MEX ***25*** *10:30:53.3±0.6, 14.°66N×92.°46W, h80km±7km, MD4.0*
GCG ***25*** *10:30:53.3±0.6, 14.°64N×92.°40W, h67km±4km, MD3.8, ML3.1*
ISC 25 10:30:51.1±1.6, 14.°62N±0.°07×92.°51W±0.°06, h79km±9km, n18, σ1§41/31, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.37**	**39**	*eP*	**Pn**	**10 31 04.0**	**+0.3**
THIG				*eS*	**Sn**	**10 31 12.8**	**-0.2**
THIG		**0.37**	**39**	*eP*	**Pn**	**10 31 03.9**	**+0.2**
THIG				*eS*	**Sn**	**10 31 12.6**	**-0.4**
THIG				IAML		10 31 14.6	
	comp=E,809nm,0.2s						
SMCA	**Catarina**	**0.48**	**61**	*eP*	**Pn**	**10 31 04.5**	**0.0**
SMCA				*eS*	**Sn**	**10 31 13.6**	**-0.9**
SMCA				IAML		10 31 15.2	
	comp=N,5μm,0.1s						
RTAL	**Retalhuleu**	**0.79**	**97**	*eP*	**Pn**	**10 31 08.1**	**+0.4**
RTAL				*eS*	**Sn**	**10 31 20.1**	**+0.1**
RTAL	**Retalhuleu**	**0.79**	**97**	P	**Pn**	**10 31 08.0**	**+0.3**
RTAL	**Retalhuleu**	**0.79**	**97**	S	**Sn**	**10 31 19.8**	**-0.2**
HUEH	**Huehuetenango**	**1.19**	**54**	*i* P	**Pn**	**10 31 13.4**	**+0.7**
HUEH				*eS*	**Sn**	**10 31 28.7**	**-0.1**
HUEH	**Huehuetenango**	**1.19**	**54**	P	**Pn**	**10 31 13.8**	**+1.1**
PCIG		**1.28**	**328**	*eP*	**Pn**	**10 31 14.6**	**+1.1**
PCIG				*eS*	**Sn**	**10 31 30.5**	**+0.2**
CCIG	**Comitan**	**1.69**	**12**	*eP*	**Pn**	**10 31 20.8**	**+1.8**
CCIG				*eS*	**Sn**	**10 31 39.5**	**-0.7**
CCIG	**Comitan**	**1.69**	**12**	*eP*	**Pn**	**10 31 21.2**	**+2.2**
CCIG	**Comitan**	**1.69**	**12**	P	**Pn**	**10 31 21.1**	**+2.0**
TGIG		**2.22**	**345**	*eP*	**Pn**	**10 31 27.1**	**+1.1**
TGIG				*eS*	**Sn**	**10 31 52.6**	**-0.1**
FAME	**Alcaldia de Sa**	**2.54**	**107**	P	**Pn**	**10 31 30.4**	**+0.2**
FAME				S	**Sn**	**10 32 00.1**	**-0.1**
UXUV	**UXUV**	**3.11**	**330**	*eP*	**Pn**	**10 31 39.7**	**+1.8**
UXUV				*eS*	**Sn**	**10 32 10.7**	**-3.4**
CMIG	**Matias Romero**	**3.35**	**317**	*eP*	**Pn**	**10 31 42.5**	**+1.3**
CMIG				*eS*	**Sn**	**10 32 18.3**	**-1.7**
NEUV	**Arroyo Zacate**	**4.41**	**315**	*eP*	**Pn**	**10 31 57.1**	**+1.5**
NEUV				*eS*	**Sn**	**10 32 43.6**	**-2.2**
SCIG	**Sabancuy**	**4.50**	**16**	*eP*	**Pn**	**10 31 56.9**	**+0.1**
SCIG				*eS*	**Sn**	**10 32 45.0**	**-3.0**

IDC ***25*** *10:35:09.3±1.9, 4.°47S×134.°34E, h0km, mb3.9/4, mbtmp4.1/6, ML4.4/2, MS3.3/2, Error ellipse: s-maj=96.2km s-min=23.9km az=78.0*
DJA ***25*** *10:35:10.9±0.4, 4.°S±4.°×13.°5E±.°, h10km, M4.3/12, mb4.4/6, MLv4.3/12*
ISC 25 10:35:08.0±0.8, 4.°62S±0.°07×135.°26E±0.°06, h20km, n19, σ2§68/18, mb3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.82**	**301**	P	**Pb**	**10 35 39.6**	**-1.1**
SRPI	**Serui, Papua**	**2.90**	**20**	P	**Pn**	**10 35 49.6**	**-3.5**
RKPI	**Ransiki, Papua**	**3.27**	**341**	P	**Pn**	**10 35 55.7**	**-2.5**
BAKI	**Biak**	**3.51**	**14**	P	**Pn**	**10 36 00.2**	**-1.2**
WAMI	**Wamena**	**3.52**	**78**	P	**Pb**	**10 36 08.5**	**-1.0**
SMPI	**Sarmi**	**4.32**	**53**	P	**Pn**	**10 36 13.6**	**+1.0**
GENI	**Genyem**	**5.29**	**68**	P	**Pn**	**10 36 29.2**	**+3.2**
	0.4nm31nm,1.0s						
BNDI	**Bandanaira**	**5.34**	**271**	P	**Pn**	**10 36 31.3**	**+4.6**
SWI	**Sorong**	**5.47**	**313**	P	**Pn**	**10 36 26.2**	**-2.2**
	0.2nm35nm,0.7s						
AAI	**Ambon**	**7.11**	**277**	P	**Pn**	**10 36 51.9**	**+0.9**
	0.2nm28nm,1.0s						
WRA	**Warramunga Arr**	**15.26**	**183**	Pn	**Pn**	**10 38 43.5**	**+1.1**
	0.3nm,0.3s,baz=3.2,slow=13,SNR=13						
WRA				Sn	**Sn**	**10 41 27.6**	**-3.3**
	0.6nm,0.3s,baz=359,slow=24,SNR=7.0						
FITZ	**Fitzroy Crossi**	**16.37**	**214**	Pn	**Pn**	**10 38 56.3**	**-0.5**
	2.0nm,0.3s,baz=37,slow=12,SNR=49						
FITZ				Sn	Sn	10 41 49.3	-8.7
	0.8nm,0.3s,baz=125,slow=19,SNR=5.8						
	6.5nm,0.4s						
ASAR	**Alice Springs**	**18.98**	**184**	P	**Pn**	**10 39 33.5**	**+4.4**
	0.4nm,0.3s,baz=1.9,slow=12,SNR=32						
ASAR				S	**Sn**	**10 42 58.0**	**-3.3**
	1.7nm,0.5s,baz=360,slow=26,SNR=6.3						
	4.4nm,0.6s						
GUMO	**Guam**	**20.45**	**28**	LR	LR	10 49 31.1	
	comp=Z,23nm,18.4s,baz=222,slow=42						
STKA	**Stephens Creek**	**27.76**	**168**	P	P	10 41 03.0	+7.6
	0.9nm,0.6s,baz=344,slow=15,SNR=1.7						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**69.25**	**324**	P	**P**	**10 46 13.4**	**-0.3**
	0.3nm,0.6s,baz=111,slow=7.9,SNR=2.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**73.35**	**326**	P	**P**	**10 46 39.5**	**+1.2**
	1.1nm,0.3s,baz=114,slow=4.4,SNR=1.5						
	1.1nm,0.3s						
BVAR	**Borovoye Array**	**78.94**	**326**	P	**P**	**10 47 11.9**	**+1.7**
	0.7nm,0.6s,baz=117,slow=5.0,SNR=3.8						
	0.7nm,0.6s						
OPO	**Ambohidratompo**	**86.73**	**252**	LR	LR	11 19 32.7	
	comp=Z,60nm,20.8s,baz=148,slow=31						

ASRS ***25*** *10:38:05.0±1.4, 53.°74N×90.°15E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 25 10:38:11.3±4.0, 53.°69N×89.°87E, h0km, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=36.4km s-min=23.0km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.00**	**277**	I	I	10 58 00.0	
	0.1nm,1.1s,baz=92,slow=321,SNR=6.8						
ZALV	**Zalesovo Beam**	**3.00**	**277**	Pn	Pn	10 39 01.5	+1.4
	2.1nm,0.3s,baz=92,slow=14,SNR=26						
ZALV				Lg	Lg	10 39 45.4	
	2.3nm,0.3s,baz=93,slow=23,SNR=9.1						
	6.3nm,0.4s						
KURBB	**Kurchatov Arra**	**7.62**	**251**	Pn	Pn	10 40 03.8	+0.3
	0.2nm,0.3s,baz=66,slow=14,SNR=2.9						
	1.5nm,0.3s						
MKAR	**Makanchi Array**	**8.43**	**218**	Pn	Pn	10 40 15.1	+0.4
	0.2nm,0.3s,baz=30,slow=12,SNR=7.2						
MKAR				Sn	Sn	10 41 50.3	-0.2
	0.2nm,0.3s,baz=38,slow=26,SNR=5.1						
	0.3nm,0.3s						

IDC ***25*** *10:48:09.1±1.0, 32.°31S×71.°77W, h0km, mb4.0/5, mbtmp3.8/7, ML3.9/2, MS4.0/3, Error ellipse: s-maj=39.0km s-min=22.7km az=103.0*
SJA ***25*** *10:48:10.9±0.7, 32.°51S×71.°91W, h13km±1km, ML3.9, MW3.7*
NEIC ***25*** *10:48:11.2±1.1, 32.°51S±0.°04×72.°04W±0.°08, h14km±5km, mb4.3/5, ML4.0(GUC), Error ellipse: s-maj=9.9km s-min=5.6km az=70.0*
GUC ***25*** *10:48:13.5±0.8, 32.°53S×71.°87W, h18km±3km, ML4.0*
ISC 25 10:48:09.5±1.2, 32.°50S±0.°02×71.°96W±0.°03, h8km±8km, n136, σ1§54/192, mb4.1/7, MS4.1/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA06	**Catapilco**	**0.56**	**96**		**Pn**	**10 48 23.3**	**-0.6**
VA06	**Catapilco**	**0.56**	**96**	*eP*	**Pn**	**10 48 23.5**	**-0.4**
VA06				*i* S	**Sb**	**10 48 30.8**	**+0.9**
VA06				IAML		10 48 31.5	
	comp=N,13μm,0.5s						
VA01	**Torpederas**	**0.58**	**153**		**Pn**	**10 48 23.3**	**-0.9**
VA01	**Torpederas**	**0.58**	**153**	*eP*	**Pn**	**10 48 23.8**	**-0.4**
VA01				*i* S	**Sb**	**10 48 31.4**	**+0.8**
VA01				IAML		10 48 31.8	
	comp=N,10μm,0.1s						
VA01	**Torpederas**	**0.58**	**153**	*eP*	**Pb**	**10 48 23.1**	**+1.1**
ROC1	**El Roble**	**0.93**	**121**	*eP*	**Pn**	**10 48 28.6**	**-0.6**
ROC1				*eS*	**Sb**	**10 48 41.1**	**+0.4**
ROCH	**El Roble**	**0.93**	**121**	*eP*	**Pn**	**10 48 29.3**	**+0.1**
ROCH				*eP*	**Pn**	**10 48 29.3**	**+0.1**
ROCH				*i* S	**Sb**	**10 48 40.9**	**+0.2**
ROCH				*i* S	**Sb**	**10 48 40.9**	**+0.2**
ROCH				IAML		10 48 43.8	
	comp=N,6μm,0.6s						
MT02	**Curacav**	**1.03**	**138**		**Pn**	**10 48 30.7**	**+0.4**
MT02	**Curacav**	**1.03**	**138**	*eP*	**Pn**	**10 48 30.6**	**+0.3**
MT02				*i* S	**Sb**	**10 48 43.0**	**-0.3**
MT02	**Curacav**	**1.03**	**138**	*eP*	**Pn**	**10 48 30.5**	**+0.3**
MT02				*eS*	**Sb**	**10 48 43.2**	**0.0**
MT02				IAML		10 48 47.0	
	comp=Z,2μm,0.5s						
VA03	**San Esteban**	**1.22**	**103**		**Pg**	**10 48 33.3**	**+0.4**
VA03	**San Esteban**	**1.22**	**103**	*eP*	**Pg**	**10 48 33.6**	**+0.7**
VA03				*i* S	**Sg**	**10 48 48.7**	**0.0**
VA03				IAML		10 48 51.1	
	comp=E,8μm,0.2s						
VA03	**San Esteban**	**1.22**	**103**	*eP*	**Pg**	**10 48 33.6**	**+0.7**
VA03				*eS*	**Sn**	**10 48 49.6**	**-0.1**
VA03				IAML		10 48 54.0	
	comp=Z,3μm,0.7s						
PEL	**Peldehue**	**1.25**	**121**		**Pg**	**10 48 34.4**	**+0.9**
PEL	**Peldehue**	**1.25**	**121**	*eP*	**Pg**	**10 48 34.2**	**+0.7**
PEL				*i* S	**Sn**	**10 48 50.2**	**-0.3**
PEL				IAML		10 48 54.1	
	comp=E,5μm,0.2s						
PEL	**Peldehue**	**1.25**	**121**	*eP*	**Pg**	**10 48 34.5**	**+0.9**
PEL				*eS*	**Sn**	**10 48 51.0**	**+0.5**
PEL				IAML		10 48 53.4	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**1.36**	**131**		**Pg**	**10 48 36.3**	**+0.7**
MT05	**Renca**	**1.36**	**131**	*eP*	**Pg**	**10 48 36.2**	**+0.6**
MT05				*i* S	**Sg**	**10 48 53.5**	**+0.3**
MT05				IAML		10 48 55.9	
	comp=E,5μm,0.4s						
MT05	**Renca**	**1.36**	**131**	*eP*	**Pg**	**10 48 36.2**	**+0.6**
MT05				*eS*	**Sg**	**10 48 55.8**	**+2.5**
MT05				IAML		10 48 55.9	
	comp=Z,1μm,0.2s						
MT10	**Hacienda Santa**	**1.42**	**123**	*eP*	**Pg**	**10 48 37.2**	**+0.4**
MT10				*i* S	**Sg**	**10 48 55.0**	**-0.3**
MT10				IAML		10 48 59.0	
	comp=E,5μm,0.2s						
MT01	**Popeta**	**1.48**	**157**		**Pb**	**10 48 37.4**	**0.0**
MT01	**Popeta**	**1.48**	**157**	*eP*	**Pb**	**10 48 37.7**	**+0.2**
MT01				*i* S	**Sn**	**10 48 55.9**	**-0.3**
MT01	**Popeta**	**1.48**	**157**	*eP*	**Pb**	**10 48 37.6**	**+0.2**
MT01				*eS*	**Sb**	**10 48 56.6**	**+0.1**
MT01				IAML		10 49 00.7	
	comp=Z,2μm,0.5s						
MT14	**Cerro Cal¡n**	**1.49**	**127**	*eP*	**Pg**	**10 48 38.3**	**+0.1**
MT14				*i* S	**Sg**	**10 48 57.0**	**-0.6**
MT14				IAML		10 49 00.4	
	comp=E,5μm,0.8s						
MT09	**Talagante**	**1.51**	**148**		**Pg**	**10 48 38.8**	**+0.3**
MT09	**Talagante**	**1.51**	**148**	*eP*	**Pg**	**10 48 38.5**	**0.0**
MT09				*i* S	**Sb**	**10 48 57.3**	**0.0**
MT09				IAML		10 49 03.9	
	comp=N,3μm,0.1s						
MT16	**CCHEN**	**1.52**	**128**		**Pg**	**10 48 38.6**	**-0.2**
MT16	**CCHEN**	**1.52**	**128**	*eP*	**Pg**	**10 48 38.7**	**0.0**
MT16				*i* S	**Sg**	**10 48 58.0**	**-0.5**
CO02	**Combarbal**	**1.53**	**33**		**Pg**	**10 48 39.4**	**+0.6**
CO02	**Combarbal**	**1.53**	**33**	*eP*	**Pg**	**10 48 39.2**	**+0.4**
CO02				*i* S	**Sg**	**10 48 59.5**	**+0.8**
CO02				IAML		10 49 05.8	
	comp=E,6μm,0.5s						
CO02	**Combarbal**	**1.53**	**33**	*eP*	**Pg**	**10 48 39.2**	**+0.4**
CO02				*eS*

BO02					IAML			10 49 32.9	
	comp=Z,739nm,0.4s								
GO05	**Hualane**	**2.50**	**179**	*eP*		**Pn**		**10 48 52.2**	**+1.5**
GO05	**Hualane**	**2.50**	**179**	*eP*		**Pn**		**10 48 52.1**	**+1.5**
GO05				*eS*		**Sn**		**10 49 22.5**	**+1.1**
GO05				*eS*		**Sb**		**10 49 23.4**	**-2.4**
GO04	**Tololo Observa**	**2.52**	**23**			**Pn**		**10 48 52.2**	**+1.2**
GO04	**Tololo Observa**	**2.52**	**23**	*eP*		**Pn**		**10 48 52.9**	**+1.9**
GO04				*i S*		**Sb**		**10 49 28.0**	**+1.4**
GO04	**Tololo Observa**	**2.52**	**23**	*eP*		**Pn**		**10 48 53.0**	**+1.9**
GO04				*eS*		**Sn**		**10 49 22.5**	**+0.3**
GO04				IAML				10 49 32.9	
	comp=Z,990nm,0.4s								
ARCO	**CERRO ARCO**	**2.58**	**98**	*eP*		**Pg**		**10 48 57.6**	**-1.3**
ARCO				*eS*		**Sb**		**10 49 26.9**	**-1.1**
ARCO				IAML				10 49 40.2	
	comp=Z,384nm,0.8s								
ASAL	**Salagasta**	**2.64**	**93**	*eP*		**Pb**		**10 48 58.5**	**+1.3**
ASAL				*eS*		**Sb**		**10 49 29.5**	**-0.3**
CO05	**La Serena**	**2.65**	**14**			**Pn**		**10 48 55.0**	**+2.5**
CO05	**La Serena**	**2.65**	**14**	IAML				10 49 39.0	
	comp=E,663nm,0.1s								
AAGR	**Agrelo**	**2.70**	**103**	*eP*		**Pb**		**10 48 59.0**	**+0.7**
AAGR				*eS*		**Sg**		**10 49 37.8**	**+1.4**
AAGR				IAML				10 49 42.4	
	comp=Z,285nm,0.5s								
CO01	**Juntas del Tor**	**2.98**	**33**			**Pn**		**10 48 59.1**	**+1.7**
CO01	**Juntas del Tor**	**2.98**	**33**	*eP*		**Pb**		**10 49 01.8**	**-1.2**
CO01				*i S*		**Sb**		**10 49 38.9**	**-0.8**
CO01				IAML				10 49 46.5	
	comp=E,311nm,0.7s								
CO01	**Juntas del Tor**	**2.98**	**33**	*eP*		**Pb**		**10 49 00.5**	**-2.5**
CO01				*eS*		**Sb**		**10 49 37.0**	**-2.7**
CO01				IAML				10 49 47.7	
	comp=Z,189nm,0.7s								
SJA	**San Juan**	**3.05**	**72**	*eP*		Pn		10 48 46.4	-12
SJA				*eS*		**Sg**		**10 49 50.0**	**+2.6**
AVIZ	**Vizcacheras**	**3.05**	**109**	*eP*		**Pb**		**10 49 01.4**	**-2.8**
ACCO	**Cerro Coronel**	**3.12**	**53**	*eP*		**Pb**		**10 49 04.1**	**-1.4**
ACCO				*eS*		**Sg**		**10 49 52.4**	**+2.6**
AROD	**Rodeo**	**3.15**	**43**	*eP*		**Pb**		**10 49 04.4**	**-1.7**
AROD				*eS*		**Sb**		**10 49 46.8**	**+2.0**
RTLL	**Cerro Villicun**	**3.19**	**69**	*eP*		**Pn**		**10 49 02.7**	**+2.7**
RTLL				*eS*		**Sb**		**10 49 42.5**	**-2.9**
RTLL				IAML				10 49 50.1	
	comp=Z,313nm,0.4s								
CFA	**Coronel Fontan**	**3.28**	**75**	*eP*		**Pb**		**10 49 05.3**	**-2.8**
CFA				*eS*		**Sb**		**10 49 46.0**	**-2.3**
ML02	**Panimavida**	**3.29**	**172**			**Pn**		**10 49 00.7**	**-0.7**
ML02	**Panimavida**	**3.29**	**172**	*eP*		**Pn**		**10 49 02.4**	**+1.0**
ML02				*i S*		**Sb**		**10 49 44.8**	**-3.6**
ML02				IAML				10 49 57.7	
	comp=E,438nm,0.4s								
ML02	**Panimavida**	**3.29**	**172**	*eP*		**Pn**		**10 49 03.1**	**+1.8**
ML02				*eS*		**Sn**		**10 49 41.2**	**+0.6**
ML02				IAML				10 50 04.2	
	comp=Z,163nm,1.8s								
ACDV	**Cuesta del Vie**	**3.36**	**47**	*eP*		**Pb**		**10 49 07.3**	**-2.2**
ACDV				*eS*		**Sn**		**10 49 45.8**	**+3.0**
ACDV				IAML				10 50 00.1	
	comp=Z,150nm,0.5s								
LCO	**Las Campanas**	**3.64**	**18**			**Pn**		**10 49 07.7**	**+1.2**
LCO	**Las Campanas**	**3.64**	**18**	*eP*		**Pn**		**10 49 08.3**	**+1.8**
LCO				*eS*		**Sb**		**10 49 54.9**	**-3.9**
LCO				IAML				10 50 08.5	
	comp=Z,248nm,0.7s								
RFA	**San Rafael**	**3.69**	**129**	*eP*		**Pn**		**10 49 08.4**	**+1.4**
RFA				*eS*		**Sg**		**10 50 04.6**	**-3.5**
ACAN	**Cantantal**	**4.04**	**88**	*eP*		**Pn**		**10 49 14.6**	**+2.8**
ACAN				IAML				10 50 19.9	
	comp=Z,435nm,0.4s								
BI02	**San Fabin de**	**4.19**	**172**			**Pn**		**10 49 15.2**	**+1.3**
BI02	**San Fabin de**	**4.19**	**172**	*eP*		**Pn**		**10 49 15.1**	**+1.2**
BI02				IAML				10 50 29.5	
	comp=Z,58nm,0.7s								
AGUA	**GUANDACOL**	**4.23**	**46**	*eP*		**Pn**		**10 49 18.9**	**+4.5**
AGUA				*eS*		**Sg**		**10 50 21.6**	**-3.8**
AGUA				IAML				10 50 26.3	
	comp=Z,191nm,0.5s								
AVFE	**Valle Fertil**	**4.26**	**66**	*eP*		**Pn**		**10 49 13.9**	**-0.9**
AVFE				*eP*		Pb		10 49 19.4	-5.3
AVFE				*eS*		**Sb**		**10 50 13.9**	**-2.5**
AVFE				IAML				10 50 19.6	
	comp=Z,173nm,0.5s								
AC04	**Llanos de Chal**	**4.35**	**10**			**Pn**		**10 49 16.4**	**+0.5**
AC04	**Llanos de Chal**	**4.35**	**10**	*eP*		**Pn**		**10 49 16.8**	**+0.8**
AC04				*eS*		**Sb**		**10 50 20.5**	**+1.6**
AC04				IAML				10 50 31.2	
	comp=Z,80nm,0.8s								
ACHE	**Chepes**	**4.70**	**75**	*eP*		**Pn**		**10 49 25.5**	**+4.6**
ACHE				*eS*		**Sb**		**10 50 22.4**	**-6.8**
VCA	**Vinchina**	**4.95**	**42**	*eP*		**Pn**		**10 49 24.9**	**+0.4**
VCA				*eS*		**Sb**		**10 50 36.4**	**-0.1**
VCA				IAML				10 50 47.9	
	comp=Z,225nm,0.5s								
APLL	**PUNTA DE LOS L**	**5.09**	**67**	*eP*		**Pn**		**10 49 30.3**	**+4.0**
APLL				*eS*		**Sn**		**10 50 27.4**	**+2.1**
GO03	**Copiapo**	**5.11**	**17**			**Pn**		**10 49 26.8**	**+0.3**
GO03	**Copiapo**	**5.11**	**17**	*eP*		**Pn**		**10 49 29.4**	**+2.8**
GO03				*eS*		**Sb**		**10 50 40.4**	**-0.6**
GO03				IAML				10 50 54.7	
	comp=Z,85nm,0.7s								
AC06	**Mina Casimiro**	**5.31**	**16**			**Pn**		**10 49 29.0**	**-0.2**
H03N1	**Juan Fernandez**	**5.92**	**259**	T		T		10 56 22.2	
	baz=87,slow=73,SNR=863								
H03N3	**Juan Fernandez**	**5.93**	**259**	T		T		10 56 13.3	
	baz=87,slow=73,SNR=797								
H03N2	**Juan Fernandez**	**5.94**	**259**	T		T		10 56 23.1	
	baz=87,slow=73,SNR=851								
H03S3	**Juan Fernandez**	**5.98**	**255**	T		T		10 56 04.0	
	baz=82,slow=75,SNR=53								
H03S1	**Juan Fernandez**	**5.98**	**255**	T		T		10 56 02.5	
	baz=82,slow=75,SNR=39								
H03S2	**Juan Fernandez**	**5.99**	**255**	T		T		10 56 03.5	
	baz=82,slow=75,SNR=44								
AC02	**Maricunga**	**6.16**	**24**			**Pn**		**10 49 42.7**	**+1.4**
PLCA	**Paso Flores**	**8.29**	**173**	Pn		**Pn**		**10 50 10.9**	**+0.7**
PLCA	**Paso Flores**	**8.29**	**173**	Pn		**Pn**		**10 50 11.8**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=21,slow=14,SNR=18								
	comp=Z,1.7nm,0.4s								
TRQA	**Tornquist**	**9.86**	**127**	Pn		**Pn**		**10 50 34.1**	**+2.5**
CPUP	**Villa Florida**	**14.15**	**68**	Pn		**Pn**		**10 51 27.7**	**-2.7**
	baz=252,slow=11,SNR=1.9								
	comp=Z,0.2nm,0.3s								
USHA	**Ushuaia**	**22.46**	**175**	LR		LR		11 02 22.7	
	comp=Z,732nm,19.5s,baz=191,slow=38								
BDFB	**Brasilia**	**27.46**	**58**	P		**P**		**10 53 55.9**	**-0.5**
BDFB	**Brasilia**	**27.46**	**58**	P		**P**		**10 53 53.1**	**-3.3**
	comp=Z,1.5nm,0.5s,baz=234,slow=19,SNR=3.1								
	comp=Z,1.5nm,0.5s								
BELA	**Belgrano 2**	**48.34**	**170**	P		**P**		**10 56 51.7**	**+0.5**
BELA				IAmb		IAmb		10 56 58.3	
	comp=Z,6.0nm,1.5s								
SNAA	**Sanae**	**52.95**	**158**	P		**P**		**10 57 26.9**	**+0.8**
SNAA				IAmb		IAmb		10 57 28.9	
	comp=Z,5.7nm,1.4s								
SNAA	**Sanae**	**52.95**	**158**	P		**P**		**10 57 26.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=275,slow=12,SNR=11								
	comp=Z,0.6nm,0.6s								
QSPA	**South Pole Qui**	**57.73**	**180**	P		**P**		**10 58 03.7**	**+2.9**
	comp=Z,1.9nm,1.0s,baz=160,slow=1.6,SNR=5.8								
	comp=Z,1.9nm,1.0s								
VNDA	**Vanda**	**65.58**	**191**	P		**P**		**10 58 53.8**	**+0.5**
VNDA				IAmb		IAmb		10 59 20.6	
	comp=Z,3.2nm,1.5s								
DBIC	**Dimbokro**	**74.64**	**72**	P		**P**		**10 59 49.7**	**-0.1**
DBIC	**Dimbokro**	**74.64**	**72**	P		**P**		**10 59 49.8**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=256,slow=9.5,SNR=2.4								
	comp=Z,3.4nm,0.8s								
NVAR	**Mina Array Bea**	**82.69**	**325**	P		**P**		**11 00 32.8**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=152,slow=2.4,SNR=2.5								
	comp=Z,0.3nm,0.8s								
ELK	**Elko**	**83.12**	**328**	LR		LR		11 33 46.9	
	comp=Z,95nm,20.4s,baz=91,slow=33								
TORD	**Torodi Ar. Bea**	**83.64**	**70**	P		**P**		**11 00 39.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=225,slow=5.5,SNR=7.0								
TORD				LR		LR		11 37 52.6	
	comp=Z,37nm,19.0s,baz=303,slow=36								
H11S2	**WAKE ISLAND Hy**	**125.85**	**270**	T		T		13 26 12.1	
	baz=118,slow=75,SNR=28								
H11S1	**WAKE ISLAND Hy**	**125.86**	**270**	T		T		13 26 13.2	
	baz=118,slow=75,SNR=31								
H11S3	**WAKE ISLAND Hy**	**125.86**	**270**	T		T		13 26 11.6	
	baz=118,slow=75,SNR=25								
H11N3	**WAKE ISLAND Hy**	**126.22**	**272**	T		T		13 26 39.0	
	baz=117								
H11N1	**WAKE ISLAND Hy**	**126.23**	**272**	T		T		13 26 41.5	
	baz=117								
H11N2	**WAKE ISLAND Hy**	**126.24**	**272**	T		T		13 26 41.7	
	baz=117,SNR=8.4								
BVAR	**Borovoye Array**	**146.13**	**41**	PKPbc		**PKPab**		**11 07 50.9**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=293,slow=3.3,SNR=6.6								
KURBB	**Kurchatov Arra**	**151.72**	**41**	PKPbc		**PKiKP**		**11 08 05.5**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=301,slow=2.9,SNR=6.8								
ZALV	**Zalesovo Beam**	**152.92**	**31**	PKPbc		**PKPbc**		**11 08 06.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=325,slow=2.3,SNR=4.7								
MKAR	**Makanchi Array**	**155.71**	**47**	PKP		**PKPdf**		**11 08 03.4**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=270,slow=0.3,SNR=1.6								
MKAR				PKPab		**PKPab**		**11 08 29.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=308,slow=3.8,SNR=3.1								

*IDC **25** 10:54:00.7±2.0, 10°.71S×162°.09E, h0km, mb3.7/7, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=51.8km s-min=26.3km az=131.0*

ISC 25 10:54:09.8±1.3, 10°.5S±0°.2×161°.8E±0°.1, h54km, n11, σ0°82/9, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.08**	**301**	Pn	**Pn**	**10 54 42.9**	**+0.6**
	46nm,0.3s,baz=172,slow=7.5,SNR=10						
HNR				Sn	**Sn**	**10 55 06.5**	**-0.6**
	273nm,0.3s,baz=159,slow=17,SNR=19						
	134nm,0.4s						
WRA	**Warramunga Arr**	**28.03**	**247**	P	**P**	**10 59 55.7**	**-0.4**
	0.6nm,0.7s,baz=75,slow=8.5,SNR=11						
	0.6nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.23**	**10**	T	T	11 31 28.8	
	baz=190						
H11S3	**WAKE ISLAND Hy**	**29.23**	**10**	T	T	11 31 26.8	
	baz=190						
H11S1	**WAKE ISLAND Hy**	**29.25**	**10**	T	T	11 31 29.1	
	baz=190						
ASAR	**Alice Springs**	**29.59**	**240**	P	**P**	**11 00 10.3**	**+0.3**
	0.3nm,0.8s,baz=70,slow=9.1,SNR=2.7						
	0.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.75**	**254**	P	**P**	**11 01 03.6**	**-0.1**
	1.0nm,0.4s,baz=86,slow=15,SNR=10						
	1.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**60.79**	**336**	P	**P**	**11 04 17.0**	**+0.8**
	0.6nm,0.6s,baz=148,slow=8.5,SNR=2.9						
	0.6nm,0.6s						
SONM	**Songino Array**	**75.96**	**325**	P	**P**	**11 05 51.4**	**+0.2**
	0.6nm,0.5s,baz=133,slow=6.1,SNR=4.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**84.30**	**20**	P	**P**	**11 06 35.4**	**0.0**
	0.5nm,1.0s,baz=243,slow=4.0,SNR=4.7						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**90.47**	**318**	P	**P**	**11 07 04.3**	**-1.5**
	0.4nm,0.7s,baz=91,slow=6.6,SNR=4.0						
	0.4nm,0.7s						

*DNK **25** 11:06:21.8±2.9, 79°.52N×3°.93E, h13km±21km, ML1.5*
*BER **25** 11:06:23.0±3.4, 79°.63N×3°.54E, h10km, Mw3.6, ML1.6(DNK), Confirmed Earthquake*
*KOLA **25** 11:06:24.1, 79°.88N×6°.34E, h0km, ML2.5, Error ellipse: s-maj=65.4km s-min=21.7km az=30.0, Greenland sea*
*FCIAR **25** 11:06:26.0, 79°.39N×4°.26E, h10km, station ZFI2 has station magnitude of 3.30 station OMEGA has station magnitude of 3.30*

ISC 25 11:06:19.8±1.0, 79°.58N±0°.05×3°.57E±0°.05, h10km, n28, σ26°61/47, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.70**	**108**	P	**Pn**	**11 06 50.6**	**+1.3**
KBS				S	**Sn**	**11 07 09.9**	**-1.3**
KBS	**Kingsbay**	**1.70**	**108**	*i* P	**Pn**	**11 06 50.9**	**+1.5**
KBS				*eS*	**Sn**	**11 07 09.8**	**-1.3**
KBS				IAML		11 07 17.9	
	comp=Z,53nm,0.5s						
KBS	**Kingsbay**	**1.70**	**108**	*i* P	**Pn**	**11 06 50.6**	**+1.3**
KBS				*i S*	**Sn**	**11 07 10.4**	**-0.7**
BRBB	**Barentsburg B**	**2.55**	**120**	S	**Sn**	**11 07 32.8**	**+0.8**
BRBB	**Barentsburg B**	**2.55**	**120**	*eP*	**Pn**	**11 07 03.9**	**+2.9**
SPA0	**Spitsbergen Ar**	**2.85**	**113**	*i* P	**Pn**	**11 07 07.6**	**+2.4**
SPA0				*i S*	**Sn**	**11 07 38.6**	**-0.9**
SPA0	**Spitsbergen Ar**	**2.85**	**113**	*eP*	**Pn**	**11 07 07.6**	**+2.4**
SPA0				*eS*	**Sn**	**11 07 39.0**	**-0.4**
SPA0				IAML		11 07 44.6	
	comp=Z,15nm,0.4s						
SPITS	**Spitsbergen Ar**	**2.85**	**113**	P	**Pn**	**11 07 07.4**	**+2.3**
SPITS				S	**Sn**	**11 07 39.1**	**-0.3**
HSPB	**Hornsund (broa**	**3.55**	**131**	P	**Pn**	**11 07 17.1**	**+2.4**
HSPB				*S*	**Sn**	**11 07 54.8**	**-1.9**
HSPB	**Hornsund (broa**	**3.55**	**131**	*eP*	**Pn**	**11 07 17.0**	**+2.2**
HSPB				*eS*	**Sn**	**11 07 54.6**	**-2.1**
HSPB	**Hornsund (broa**	**3.55**	**131**	*eP*	**Pn**	**11 07 17.1**	**+2.4**
HSPB				*eS*	**Sn**	**11 07 54.3**	**-2.3**
HSPB				IAML		11 07 57.7	
	comp=Z,18nm,0.4s						
NOR	**Nord**	**3.88**	**311**	*eP*	**Pn**	**11 07 21.8**	**+2.6**
NOR	**Nord**	**3.88**	**311**	*i* P	**Pn**	**11 07 21.8**	**+2.6**
NOR				IAML		11 08 05.0	
	comp=Z,2.2nm,0.2s						
NOR				*eS*	**Sn**	**11 08 05.4**	**+0.7**
DAG	**Danmarks Havn**	**5.33**	**250**	*eP*	**Pn**	**11 07 40.7**	**+1.4**
DAG				*eS*	**Sn**	**11 08 35.6**	**-5.0**
DAG				IAML		11 08 41.3	
	comp=Z,4.4nm,0.3s						
DAG	**Danmarks Havn**	**5.33**	**250**	*i* P	**Pn**	**11 07 40.0**	**+0.8**
DAG				*i S*	**Sn**	**11 08 37.2**	**-3.4**
DAG				IAML		11 08 41.3	
	comp=Z,4.4nm,0.3s						
HOPEN	**Hopen**	**5.38**	**114**	*eP*	**Pn**	**11 07 41.6**	**+1.7**
HOPEN				*eS*	**Sn**	**11 08 37.8**	**-3.9**
HOPEN	**Hopen**	**5.38**	**114**	*eP*	**Pn**	**11 07 42.3**	**+2.4**
HOPEN				*eS*	**Sn**	**11 08 38.9**	**-2.9**
HOPEN				IAML		11 08 44.1	
	comp=Z,7.3nm,0.3s						
BJO1	**Bjornoya**	**6.14**	**138**	*eP*	**Pn**	**11 07 53.4**	**+3.1**
BJO1				*eS*	**Sn**	**11 08 57.3**	**-3.0**
BJO1	**Bjornoya**	**6.14**	**138**	*eP*	**Pn**	**11 07 53.7**	**+3.4**
BJO1				*eS*	**Sn**	**11 08 59.5**	**-0.8**
ZFI2	**Zemlya Franca-**	**7.47**	**59**	*eP*	**Pn**	**11 08 10.4**	**+2.0**
ZFI2				*eS*	**Sn**	**11 09 28.1**	**-4.9**
	comp=Z,9.0nm,2.3s						
DBG	**Daneborg**	**7.47**	**238**	*eP*	**Pn**	**11 08 10.4**	**+1.8**
DBG				*eS*	**Sn**	**11 09 28.1**	**-5.1**
DBG				IAML		11 09 36.8	
	comp=Z,1.7nm,0.4s						
DBG	**Daneborg**	**7.47**	**238**	*i* P	**Pn**	**11 08 09.8**	**+1.2**
DBG				*i S*	**Sn**	**11 09 28.1**	**-5.1**
DBG				IAML		11 09 32.1	
	comp=Z,1.0nm,0.2s						
OMEGA	**Omega**	**7.49**	**60**	*eP*	**Pn**	**11 08 10.5**	**+1.8**
OMEGA				*eS*	**Sn**	**11 09 28.6**	**-4.8**
	comp=Z,9.5nm,2.1s						
NEEM	**North Greenlan**	**10.73**	**287**	*i* P	**Pn**	**11 08 52.8**	**-0.6**
NEEM				*i S*	Sn	11 10 44.6	-8.8
NEEM	**North Greenlan**	**10.73**	**287**	*i* P	**Pn**	**11 08 52.8**	**-0.6**
NEEM				*i* S	Sn	11 10 44.6	-8.8
NEEM	**North Greenlan**	**10.73**	**287**	*i* P	**Pn**	**11 08 54.5**	**+1.1**
SUMG	**Summit**	**11.94**	**257**	*i* P	Pn	11 09 07.6	-2.5
SUMG				*eS*	Sn	11 11 13.8	-10
SUMG	**Summit**	**11.94**	**257**	*i* P	**Pn**	**11 09 12.2**	**+2.1**

*IDC **25** 11:19:29.1±1.0, 11°.91N×94°.86E, h0km, mb3.7/12, mbtmp3.6/13, ML3.3/1, Error ellipse: s-maj=38.5km s-min=19.5km az=55.0*

ISC 25 11:19:32.4±1.0, 11°.9N±0°.2×94°.9E±0°.2, h21km, n13, σ0°84/13, mb3.6/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.61**	**31**	Pn	**Pn**	**11 21 22.7**	**+0.5**
	0.1nm,0.3s,baz=216,slow=14,SNR=5.5						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**36.36**	**345**	P	**P**	**11 26 35.6**	**+0.5**
	0.4nm,0.8s,baz=162,slow=8.6,SNR=3.2						
	0.4nm,0.8s						
SONM	**Songino Array**	**37.09**	**13**	P	**P**	**11 26 40.2**	**-1.2**
	0.2nm,0.3s,baz=179,slow=11,SNR=2.1						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**40.85**	**344**	P	**P**	**11 27 11.7**	**-1.0**
	0.7nm,0.8s,baz=155,slow=7.5,SNR=4.9						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**42.69**	**351**	P	**P**	**11 27 27.9**	**+0.3**
	0.3nm,0.3s,baz=155,slow=9.0,SNR=1.9						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**45.45**	**339**	P	**P**	**11 27 48.8**	**-1.0**
	0.4nm,0.4s,baz=130,slow=10,SNR=1.7						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**50.12**	**129**	P	**P**	**11 28 26.4**	**-0.1**
	0.8nm,1.0s,baz=302,slow=7.2,SNR=6.2						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**52.04**	**133**	P	**P**	**11 28 40.8**	**-0.1**
	0.4nm,0.6s,baz=310,slow=6.6,SNR=5.5						
	0.4nm,0.6s						
BRTR	**Keskin Array B**	**60.40**	**309**	P	**P**	**11 29 40.3**	**-0.4**
	0.8nm,0.6s,baz=112,slow=8.4,SNR=5.2						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**69.51**	**331**	P	**P**	**11 30 40.2**	**+0.9**
	1.2nm,0.8s,baz=96,slow=5.6,SNR=4.9						
	1.2nm,0.8s						
GERES	**GERESS Array B**	**75.33**	**318**	P	**P**	**11 31 14.1**	**-0.3**
	0.2nm,0.2s,baz=91,slow=5.3,SNR=3.5						
	0.2nm,0.2s						
HFS	**Hagfors**	**75.36**	**329**	P	**P**	**11 31 15.5**	**+1.3**
	1.0nm,0.6s,baz=80,slow=10,SNR=1.7						
	1.0nm,0.6s						
ESDC	**Sonseca Array**	**89.17**	**310**	P	**P**	**11 32 27.5**	**+0.5**
	0.2nm,0.6s,baz=71,slow=3.9,SNR=1.7						
	0.2nm,0.6s						

AUST 25 11:26:35.4±1.0, 18°S±11°×12°0E±°, h10km, mb4.3/2, ML2.7/3, ML3.6/5, Error ellipse: s-maj=27.6km s-min=6.4km az=148.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.86**	**82**	P	Pn	11 27 08.0	+0.7
AUBRM				S	Sb	11 27 32.1	-0.7
MBWA	**Marble Bar**	**2.95**	**190**	P	Pn	11 27 22.6	+0.2
PSAC1	**Pilbara Seismi**	**3.31**	**188**	P	Pn	11 27 27.4	+0.2
PSA00	**Pilbara Seismi**	**3.34**	**187**	P	Pn	11 27 27.5	-0.2
FITZ	**Fitzroy Crossi**	**5.08**	**89**	P	Pn	11 27 49.8	-1.8
GIRL	**Giralia**	**7.18**	**231**	P	Pn	11 28 20.6	+0.2
	comp=Z,169µmcomp=Z,82nm,1.6s,comp=Z,0.2nm						
MEEK	**Meekatharra**	**8.50**	**190**	P	Pn	11 28 38.4	-0.2
	comp=Z,9.6nm,1.5s,comp=Z,0.1nm						

*NEIC **25** 11:42:11.7±1.0, 15°.10S±0°.07×173°.6W±0°.1, h10km±1km, mb4.3/14, Error ellipse: s-maj=22.1km s-min=7.5km az=112.0*
*IDC **25** 11:42:11.3±0.9, 15°.05S×173°.78W, h0km, mb4.1/8, mbtmp4.2/9, ML3.2/1, MS3.4/8, Error ellipse: s-maj=30.4km s-min=25.0km az=155.0*

ISC 25 11:42:15.0±0.6, 15°.13S±0°.09×173°.63W±0°.09, h30km, n41, σ1°19/30, mb4.3/16, MS3.5/8, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.17**	**56**		**Pn**	**11 42 46.7**	**-2.4**
NIUE	**Niue**	**5.28**	**138**	Pn	**Pn**	**11 43 29.8**	**-2.1**
RAR	**Rarotonga**	**14.48**	**117**	Pn	**Pn**	**11 45 38.4**	**+0.4**
	1.0nm,0.3s,baz=292,slow=19,SNR=1.8						
RAR				Sn	Sn	11 48 02.5	-15
	0.8nm,0.3s,baz=20,slow=15,SNR=1.8						
	6.6nm,0.6s						
SANVU	**Saraoutou**	**18.50**	**267**	P	**Pn**	**11 46 29.1**	**0.0**
DZM	**Mont Dzumac**	**20.10**	**247**	LR	LR	11 53 50.4	
	comp=Z,159nm,18.1s,baz=58,slow=35						
BKZ	**Black Stump Fm**	**25.47**	**198**	P	**P**	**11 47 38.7**	**-1.8**
ARMA	**Armidale**	**35.29**	**238**	P	**P**	**11 49 06.1**	**-1.4**
ARMA				IAmb	IAmb	11 49 12.0	
	comp=Z,4.5nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	12 31 14.2	
	baz=146,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	12 31 29.8	
	baz=146,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	12 31 29.7	
	baz=146,slow=76,SNR=8.3						
STKA	**Stephens Creek**	**43.98**	**240**	P	**P**	**11 50 20.1**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=80,slow=11,SNR=2.8						
	comp=Z,1.2nm

KMSI	**Cibinong**	**3.60**	**238**	P	**Pn**	11 53 35.1	**-0.7**
SANI	**Sanana**	**4.66**	**193**	P	**Pn**	11 53 50.2	**-0.1**
MRSI	**Marisa**	**5.46**	**248**	P	**Pn**	11 54 02.9	**+1.4**
FITZ	**Fitzroy Crossi**	**20.53**	**184**	P	**P**	11 57 16.0	**-0.7**
	1.0nm,0.4s,baz=7.8,slow=8.4,SNR=12						
FITZ				S	S	12 00 48.8	-15
	1.8nm,1.0s,baz=335,slow=19,SNR=2.3						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**23.45**	**162**	P	**P**	11 57 45.9	**-1.6**
	0.9nm,0.5s,baz=340,slow=10,SNR=7.1						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**26.88**	**166**	P	**P**	11 58 17.7	**-0.9**
	0.3nm,0.6s,baz=343,slow=8.9,SNR=11						
ASAR				PcP	**PcP**	12 01 40.9	**+0.8**
	0.2nm,0.6s,baz=346,slow=2.3,SNR=5.2						
	0.3nm,0.6s						
KSRS	**Korea Array**	**34.77**	**1**	P	**P**	11 59 29.0	**+1.0**
	0.4nm,0.5s,baz=172,slow=9.8,SNR=2.4						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**36.91**	**159**	P	**P**	11 59 46.4	**+0.1**
	1.6nm,0.6s,baz=335,slow=14,SNR=3.0						
	1.6nm,0.6s						
SONM	**Songino Array**	**48.53**	**342**	P	**P**	12 01 21.1	**+0.7**
	0.3nm,0.4s,baz=159,slow=4.5,SNR=1.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.71**	**326**	P	**P**	12 02 33.9	**-0.9**
	0.4nm,0.4s,baz=125,slow=8.1,SNR=7.9						
	0.4nm,0.4s						
YAK	**Yakutsk**	**59.40**	**1**	LR	LR	12 31 32.5	
	comp=Z,26nm,18.1s,baz=222,slow=39						
KURBB	**Kurchatov Arra**	**62.91**	**328**	P	**P**	12 03 02.8	**-0.4**
	0.8nm,0.5s,baz=129,slow=6.2,SNR=14						
	0.8nm,0.5s						
VNDA	**Vanda**	**82.20**	**173**	LR	LR	12 39 07.9	
	comp=Z,41nm,20.0s,baz=226,slow=34						

IDC 25 12:13:23.6±3.3, 6°45S×147°70E, h0km, mb3.2/1, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=77.1km s-min=35.9km az=95.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.99**	**190**	Pn	Pn	12 14 12.2	0.0
	8.9nm,0.3s,baz=23,slow=10,SNR=15						
PMG				Sn	Sn	12 14 50.4	+1.6
	4.4nm,0.3s,baz=6.5,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**18.66**	**223**	P	P	12 17 43.0	-0.4
	0.1nm,0.3s,baz=48,slow=11,SNR=7.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**21.66**	**216**	P	P	12 18 15.3	-0.6
	0.7nm,0.6s,baz=39,slow=11,SNR=30						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.87**	**284**	PKPbc	PKPbc	12 33 05.9	-0.1
	0.2nm,0.3s,baz=100,slow=3.8,SNR=2.4						

HEL 25 12:18:58.1±0.6, 67°85N×20°29E, h0km, ML0.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.67**	**72**	PG	Pg	12 19 10.3	-0.7
LANU				SG	Sg	12 19 19.4	-0.3
KIF	**Kilpisjarvi**	**1.18**	**9**	MSG		12 19 34.9	
	comp=Z,0.9nm,0.2s						
KIF				SB	Sg	12 19 35.9	+0.1
PAJU	**Pajala**	**1.37**	**126**	PG	Pg	12 19 22.1	-2.2
	baz=305						
PAJU				SG	Sg	12 19 40.5	-1.5
HEF	**Hetta**	**1.38**	**65**	MSG		12 19 39.8	
	comp=Z,0.5nm,0.2s						
HEF				SN	Sn	12 19 45.4	+1.9
ERTU	**Ertsjaerv**	**1.50**	**149**	PG	Pn	12 19 25.6	-0.6
	baz=328						
ERTU				SN	Sg	12 19 46.0	-0.2
KTK1	**Kautokeino**	**1.60**	**42**	SN	Sg	12 19 49.9	+0.6
RNF	**Rovaniemi**	**2.55**	**117**	SG	Sb	12 20 16.2	-0.4
KU6	**Riekki**	**4.20**	**111**	SB	Sb	12 21 00.9	-2.9

IDC 25 12:25:33.9±3.8, 24°91N×143°17E, h65km±27km, mb3.4/5, mbtmp3.6/8, ML3.2/3, MS2.9/1, Error ellipse: s-maj=160.6km s-min=18.2km az=74.0

ISC 25 12:25:31.8±2.0, 24°6N±0°1×142°6E±0°5, h25km, n15, σ1s66/9, mb3.7/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.47**	**352**	P	**Pn**	**12 26 11.9**	**+1.4**
	24nm,0.3s,baz=90,slow=22,SNR=11						
JCJ				S	**Sn**	**12 26 38.1**	**-1.7**
	79nm,0.4s,baz=85,slow=22,SNR=5.8						
	46nm,0.3s						
JHJ	**Hachijo jima 2**	**8.79**	**344**	LR	LR	12 30 25.6	
	comp=Z,84nm,20.9s,baz=292,slow=34						
MJAR	**Matsushiro Arr**	**12.44**	**343**	P	**Pn**	**12 28 27.8**	**+0.5**
	baz=163,slow=11,SNR=2.4						
	0.4nm,0.5s						
KSRS	**Korea Array**	**17.88**	**319**	P	**P**	**12 29 41.3**	**+1.9**
	0.1nm,0.3s,baz=113,slow=9.4,SNR=2.2						
	0.6nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**23.03**	**97**	T	T	12 52 46.3	
	baz=291,slow=74						
H11N2	**WAKE ISLAND Hy**	**23.03**	**97**	T	T	12 52 54.8	
	baz=291						
H11N3	**WAKE ISLAND Hy**	**23.04**	**97**	T	T	12 52 57.7	
	baz=291,slow=74						
H11S3	**WAKE ISLAND Hy**	**23.22**	**101**	T	T	12 52 49.1	
	baz=291,slow=74						
H11S1	**WAKE ISLAND Hy**	**23.23**	**101**	T	T	12 52 50.9	
	baz=291,slow=74						
H11S2	**WAKE ISLAND Hy**	**23.24**	**101**	T	T	12 52 49.8	
	baz=291						
WRA	**Warramunga Arr**	**45.04**	**191**	P	**P**	**12 33 46.0**	**+0.3**
	1.6nm,0.7s,baz=13,slow=8.6,SNR=26						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**48.76**	**191**	P	**P**	**12 34 14.6**	**-0.2**
	0.4nm,0.7s,baz=11,slow=5.6,SNR=12						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**51.58**	**320**	P	**P**	**12 34 33.8**	**-2.0**
	0.4nm,0.4s,baz=90,slow=5.8,SNR=1.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**55.02**	**316**	P	**P**	**12 34 60.0**	**-1.2**
	0.3nm,0.4s,baz=92,slow=8.8,SNR=4.4						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**60.10**	**318**	P	**P**	**12 35 35.5**	**-1.4**
	1.2nm,0.6s,baz=93,slow=8.7,SNR=8.2						
	1.2nm,0.6s						

OSPL 25 12:30:11.5±0.8, 18°71N×72°13W, h36km±10km, ML2.3
SDD 25 12:30:13.0±0.5, 18°52N×72°03W, h16km±5km, MD2.8, ML2.0, MW2.4

ISC 25 12:30:12.1±1.2, 18°62N±0°07×72°01W±0°04, h19km±3km, n6, σ0s27/12, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.20**	**132**	*i* P	**Pg**	**12 30 17.1**	**-0.1**
JIDR				*i* S	**Sg**	**12 30 20.8**	**+0.2**
JIDR				IAML		12 30 23.7	
	comp=N,366nm,0.5s						
PAPH	**Port-au-Prince**	**0.29**	**250**	*i* P	**Pg**	**12 30 18.4**	**-0.3**
PAPH				*e*S	**Sg**	**12 30 23.5**	**+0.4**
PAPH				IAML		12 30 24.8	
	comp=Z,437nm,0.3s						
LODU1	**El Espartillar**	**0.57**	**118**	*i* P	**Pg**	**12 30 23.7**	**+0.1**
LODU1				*e*S	**Sn**	**12 30 33.9**	**-0.3**
LODU1				IAML		12 30 34.6	
	comp=Z,74nm,0.4s						
REDR	**Restauracion**	**0.79**	**47**	*i* P	**Pn**	**12 30 28.5**	**+0.2**
REDR				*i* S	**Sn**	**12 30 39.5**	**-0.2**
REDR				IAML		12 30 40.9	
	comp=N,36nm,0.1s						
PODR	**Polo**	**0.83**	**123**	*i* P	**Pg**	**12 30 28.2**	**-0.2**
PODR				*i* S	**Sg**	**12 30 39.2**	**-0.2**
PODR				IAML		12 30 59.0	
	comp=N,54nm,2.7s						
LOBH	**Bahia de las A**	**0.84**	**155**	*i* P	**Pb**	**12 30 28.0**	**0.0**
LOBH				*e*S	**Sb**	**12 30 39.2**	**+0.3**

DJA 25 12:48:45.2±0.2, 8°S±3°×10°9E±°, h74km±3km, M4.8/31, mb4.7/31, mB5.5/5, MLv4.8/29, Mw(mB)4.9/5
NEIC 25 12:48:46.8±1.1, 7°91S±0°06×108°97E±0°06, h104km±5km, mb4.5/32, Error ellipse: s-maj=8.4km s-min=7.6km az=223.0

IDC 25 12:48:47.8±1.0, 7°75S×109°07E, h115km±9km, mb3.8/17, mbtmp4.1/18, MS3.2/3, Error ellipse: s-maj=18.7km s-min=9.9km az=50.0

ISC 25 12:48:45.8±0.4, 8°04S±0°05×108°93E±0°04, h100km, n143, σ1s45/143, mb4.4/34, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**0.70**	**0**	P	**Pn**	**12 49 02.8**	**-0.5**
KPJI				S	**Sn**	**12 49 16.6**	**+0.2**
BBJI	**Bungbulang**	**1.39**	**294**	P	**Pn**	**12 49 09.5**	**-1.4**
UGM	**Wanagama**	**1.58**	**85**		**Pn**	**12 49 12.4**	**-0.7**
UGM				Sn	**Sn**	**12 49 32.8**	**-1.1**
UGM	**Wanagama**	**1.58**	**85**	P	**Pn**	**12 49 12.8**	**-0.3**
UGM	**Wanagama**	**1.58**	**85**	S	**Sn**	**12 49 32.9**	**-1.0**
UGM	**Wanagama**	**1.58**	**85**	P	**Pn**	**12 49 12.3**	**-0.8**
LEM	**Lembang**	**1.78**	**313**	P	**Pn**	**12 49 16.1**	**+0.4**
	410nm,0.6s,baz=92,slow=12,SNR=27						
LEM				S	**Sn**	**12 49 40.6**	**+2.2**
	1µm,0.9s,baz=330,slow=18,SNR=15						
LEM	**Lembang**	**1.78**	**313**	P	**Pn**	**12 49 16.4**	**+0.7**
SMRI	**Semarang**	**1.79**	**57**		**Pn**	**12 49 16.8**	**+1.0**
SMRI	**Semarang**	**1.79**	**57**	P	**Pn**	**12 49 17.6**	**+1.8**
SMRI	**Semarang**	**1.79**	**57**	S	**Sn**	**12 49 40.6**	**+2.0**
SMRI	**Semarang**	**1.79**	**57**	P	**Pn**	**12 49 16.6**	**+0.8**
CNJI	**Cibinong**	**1.93**	**292**	P	**Pn**	**12 49 16.1**	**-1.4**
WOJI	**Wonogiri, Jawa**	**1.98**	**84**	P	**Pn**	**12 49 17.3**	**-0.9**
PCJI	**Pacitan**	**2.23**	**94**	P	**Pn**	**12 49 21.0**	**-0.4**
SKJI	**Sukabumi**	**2.57**	**293**	P	**Pn**	**12 49 25.4**	**-0.5**
NGJI	**Ngawi**	**2.60**	**75**	P	**Pn**	**12 49 27.7**	**+1.5**
DBJI	**Dramaga**	**2.62**	**304**	P	**Pn**	**12 49 27.0**	**+0.4**
TBJI	**Tambak Boyo**	**3.14**	**67**	P	**Pn**	**12 49 34.4**	**+1.0**
CGJI	**Cibinong**	**3.51**	**294**	P	**Pn**	**12 49 38.0**	**-0.5**
GRJI	**Gresik**	**3.69**	**73**	P	**Pn**	**12 49 41.2**	**+0.3**
BWJI	**Bawean**	**4.29**	**60**	P	**Pn**	**12 49 49.5**	**+0.5**
GMJI	**Gumukmas**	**4.47**	**93**	P	**Pn**	**12 49 52.2**	**+0.8**
KMMI	**Kaliangket**	**5.09**	**79**	P	**Pn**	**12 50 00.2**	**+0.4**
	0.4nm53nm,0.7s						
JAGI	**Jajag, Banyuwa**	**5.18**	**95**		**Pn**	**12 50 01.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**5.18**	**95**	P	**Pn**	**12 50 02.7**	**+1.6**
JAGI	**Jajag, Banyuwa**	**5.18**	**95**	S	**Sn**	**12 50 59.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**5.18**	**95**	P	**Pn**	**12 50 01.6**	**+0.5**
	1.4nm4µm100nm,0.7s						
ABJI	**Asem Bagus**	**5.26**	**88**	P	**Pn**	**12 50 02.2**	**+0.1**
	0.9nm108nm,0.7s						
TPI	**Tanjungpandan**	**5.40**	**346**	P	**Pn**	**12 50 05.4**	**+1.3**
	0.3nm42nm,0.8s						
MDSI	**Maura Dua**	**5.90**	**307**	P	**Pn**	**12 50 13.0**	**+2.2**
	39nm,0.7s						
SRBI	**Singaraja**	**6.22**	**91**	P	**Pn**	**12 50 17.2**	**+2.0**
	0.6nm82nm,0.5s						
MNAI	**Manna**	**6.98**	**301**	Pn	**Pn**	**12 50 25.7**	**+0.3**
MNAI	**Manna**	**6.98**	**301**	P	**Pn**	**12 50 26.7**	**+1.2**
MNAI	**Manna**	**6.98**	**301**	P	**Pn**	**12 50 26.4**	**+0.9**
	253nm,1.3s						
KSI	**Kapahiang**	**7.67**	**304**	P	**Pn**	**12 50 35.2**	**+0.3**
TWSI	**Taliwang, Sumb**	**7.90**	**96**	P	**Pn**	**12 50 38.4**	**+0.4**
	50nm,0.7s						
MASI	**Maura Aman, Be**	**8.25**	**306**	P	**Pn**	**12 50 43.8**	**+1.0**
	84nm,1.3s						
PLAI	**Plampang**	**8.79**	**96**	P	**Pn**	**12 50 50.0**	**-0.1**
PLAI	**Plampang**	**8.79**	**96**	P	**Pn**	**12 50 50.0**	**-0.1**
	59nm,1.1s						
WBSI	**Waikabubak, Su**	**10.46**	**100**	P	**Pn**	**12 51 09.2**	**-3.7**
	37nm,0.9s						
SBUM	**Sibu**	**10.93**	**18**	Pn	**Pn**	**12 51 19.7**	**+0.5**
KAPI	**Kappang**	**11.16**	**75**	Pn	**Pn**	**12 51 22.2**	**-0.2**
KAPI	**Kappang**	**11.16**	**75**	LR	LR	12 55 59.5	
	comp=Z,103nm,18.3s,baz=272,slow=39						
BSSI	**Bau Bau, Buton**	**11.63**	**81**	P	**Pn**	**12 51 30.2**	**+1.6**
	68nm,1.6s						
BASI	**Baing, Sumba**	**11.70**	**102**	P	**Pn**	**12 51 29.5**	**-0.1**
	139nm,1.4s						
MMRI	**Maumere**	**13.18**	**94**	Pn	**Pn**	**12 51 49.7**	**+0.5**
PSI	**Prapat**	**14.69**	**317**	LR	LR	12 57 48.9	
	comp=Z,134nm,20.8s,baz=181,slow=37						
BATI	**Baumata**	**14.71**	**100**	P	**Pn**	**12 52 05.2**	**-3.7**
	16nm,0.3s,baz=280,slow=14,SNR=4.7						
BATI				S	Sn	12 54 39.4	-12
	11nm,0.5s,baz=17,slow=16,SNR=1.5						
IPM	**Ipoh**	**14.73**	**327**	Pn	**Pn**	**12 52 08.0**	**-1.3**
TOLI2	**Tolitoli**	**14.91**	**53**	Pn	**Pn**	**12 52 09.5**	**-2.1**
TOLI2	**Tolitoli**	**14.91**	**53**	P	**P**	**12 52 16.4**	**+1.7**
SOEI	**Soe**	**15.25**	**98**		**Pn**	**12 52 13.5**	**-2.5**
SOEI	**Soe**	**15.25**	**98**	P	**Pn**	**12 52 17.0**	**+1.1**
SOEI	**Soe**	**15.25**	**98**	P	**Pn**	**12 52 13.8**	**-2.1**
	70nm,0.8s						
KULM	**Kulim**	**15.61**	**328**	Pn	**Pn**	**12 52 18.9**	**-1.5**
KULM				IAmb	IAmb	12 52 53.3	
	comp=Z,19nm,1.3s						
KKM	**Kota Kinabalu**	**15.77**	**28**	Pn	**Pn**	**12 52 19.3**	**-3.1**
KKM				IAmb	IAmb	12 52 43.3	
	comp=Z,31nm,1.2s						
MBWA	**Marble Bar**	**16.70**	**142**	Pn	**Pn**	**12 52 33.2**	**-0.6**
MBWA	**Marble Bar**	**16.70**	**142**	P	**Pn**	**12 52 33.8**	**0.0**
PSA00	**Pilbara Seismi**	**17.08**	**143**	P	**Pn**	**12 52 38.1**	**-0.4**
LHMI	**Lhok Sumawe**	**17.80**	**317**	P	**P**	**12 52 46.0**	**-0.6**
NLAI	**Namlea**	**18.70**	**76**	P	**Pn**	**12 52 59.2**	**+1.2**
	comp=Z,46nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.08**	**123**	P	**P**	**12 53 01.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.08**	**123**	P	**P**	**12 53 02.1**	**+1.4**
	comp=Z,4.0nm,0.8s,baz=286,slow=8.4,SNR=10						
FITZ				S	S	12 56 21.4	-11
	comp=Z,3.5nm,0.5s,baz=186,slow=18,SNR=5.8						
AAI	**Ambon**	**19.64**	**78**	P	**Pn**	**12 53 08.4**	**-0.7**
MEEK	**Meekatharra**	**20.65**	**155**	P	**P**	**12 53 18.7**	**+1.0**
KNRA	**Kununurra**	**20.82**	**113**		**P**	**12 53 20.6**	**+1.1**
KNRA				IAmb	IAmb	12 53 21.2	
	comp=Z,21nm,1.1s						
MTN	**Manton Dam**	**22.34**	**104**		**P**	**12 53 35.6**	**-0.1**
MTN				IAmb	IAmb	12 54 03.4	
	comp=Z,20nm,1.1s						
MTN	**Manton Dam**	**22.34**	**104**	P	**P**	**12 53 36.1**	**+0.4**
DAV	**Davao City (W)**	**22.38**	**48**	P	**P**	**12 53 34.6**	**-1.5**
DAV	**Davao City (W)**	**22.38**	**48**	P	**P**	**12 53 32.7**	**-3.4**
	comp=Z,59nm,0.3s,baz=227,slow=19,SNR=1.1						
KDU	**Kakadu**	**23.61**	**103**	P	**P**	**12 53 48.4**	**+0.5**
FAKI	**Fak Fak**	**23.75**	**79**	P	**P**	**12 53 47.9**	**-1.4**
FAKI				IAmb	IAmb	12 53 50.6	
	comp=Z,43nm,1.2s						
WRA	**Warramunga Arr**	**27.30**	**118**	P	**P**	**12 54 21.8**	**+0.5**
WRA	**Warramunga Arr**	**27.30**	**118**	P	**P**	**12 54 21.8**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=292,slow=11,SNR=23						
WRA				PcP	**PcP**	**12 57 39.3**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=281,slow=1.4,SNR=3.5						
	comp=Z,3.2nm,0.9s						
WB1	**Warramunga Ar.**	**27.31**	**118**	P	**P**	**12 54 23.0**	**+1.6**
WR8	**Warramunga Arr**	**27.44**	**118**		**P**	**12 54 23.9**	**+1.3**
WR8				IAmb	IAmb	12 54 25.4	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.12**	**340**	P	**P**	**12 54 27.5**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=167,slow=9.1,SNR=6.2						
CMAR				PcP	**PcP**	**12 57 40.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=138,slow=3.1,SNR=2.3						
CMAR				LR	LR	13 06 07.2	
	comp=Z,54nm,21.6s,baz=175,slow=37						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**28.53**	**126**	P	**P**	**12 54 33.1**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=307,slow=9.3,SNR=82						
ASAR				PcP	**PcP**	**12 57 42.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=316,slow=2.6,SNR=4.6						
	comp=Z,2.8nm,0.7s						
AS31	**Alice Springs**	**28.53**	**126**		**P**	**12 54 32.9**	**+0.6**
AS01	**Alice Springs**	**28.57**	**126**	P	**P**	**12 54 34.0**	**+1.4**
SLVN	**Son La**	**29.61**	**350**	P	**P**	**12 54 46.2**	**+4.4**
QIS	**Mount Isa**	**32.15**	**116**	P	**P**	**12 55 05.8**	**+1.6**
COEN	**Coen**	**34.10**	**103**	P	**P**	**12 55 21.8**	**+0.5**
COEN				IAmb	IAmb	12 55 22.6	
	comp=Z,11nm,0.8s						
COEN	**Coen**	**34.10**	**103**	P	**P**	**12 55 21.8**	**+0.5**
PZH	**PanZhiHua**	**35.04**	**349**	P	**P**	**12 55 31.0**	**+1.7**
BBOO	**Buckleboo**	**35.20**	**138**	P	**P**	**12 55 30.7**	**+0.2**
BBOO	**Buckleboo**	**35.20**	**138**	P	**P**	**12 55 32.1**	**+1.6**
MTSU	**Mount Surprise**	**35.83**	**110**	P	**P**	**12 55 38.1**	**+2.0**
H08S2	**Diego Garcia H**	**36.09**	**268**	T	T	13 33 42.3	
	baz=93,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**36.10**	**268**	T	T	13 33 43.0	
	baz=93,slow=75,SNR=60						
H08S1	**Diego Garcia H**	**36.11**	**268**	T	T	13 33 44.1	
	baz=93,slow=75,SNR=3.1						
PMG	**Port Moresby**	**37.80**	**95**	P	**P**	**12 55 53.4**	**+0.6**
CTAO	**Charters Tower**	**38.03**	**112**	P	**P**	**12 55 55.5**	**+0.7**
CTAO				IAmb	IAmb	12 55 57.7	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**38.53**	**133**	P	**P**	**12 55 58.7**	**-0.1**
STKA	**Stephens Creek**	**38.53**	**133**	P	**P**	**12 56 00.3**	**+1.6**
	comp=Z,5.1nm,0.7s,baz=310,slow=10,SNR=8.7						
	comp=Z,5.1nm,0.7s						
WHN	**Wuhan**	**38.72**	**7**	⇑P	**P**	**12 56 01.8**	**+1.6**
JMZ	**Minamidaito 2**	**40.04**	**32**	P	**P**	**12 56 15.7**	**+4.4**
NJ2	**Nanjing**	**40.98**	**13**	*e*P	**P**	**12 56 21.0**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	**Xi'an**	**41.85**	**360**	⇓P	**P**	**12 56 30.8**	**+4.7**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
LZH	**Lanzhou**	**44.15**	**354**	*e*P	**P**	**12 56 43.8**	**-1.0**
LZH				pP	pP	12 57 11.5	+3.2
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
HHC	**Hu-ho-hao-te**	**48.71**	**3**	*e*P	**P**	**12 57 22.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,87nm,5.4s						
MJAR	**Matsushiro Arr**	**52.18**	**30**	P	**P**	**12 57 43.9**	**-2.4**
	comp=Z,3.0nm,0.8s,baz=204,slow=7.2,SNR=9.7						
MJAR				PcP	**PcP**	**12 58 57.7**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=218,slow=5.1,SNR=5.1						
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**55.68**	**358**	P	**P**	**12 58 11.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=180,slow=8.5,SNR=3.9						
SONM				PcP	**PcP**	**12 59 09.8**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=172,slow=4.5,SNR=3.7						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**59.52**	**339**	P	**P**	**12 58 37.3**	**-1.3**
MKAR	**Makanchi Array**	**59.52**	**339**	P	**P**	**12 58 36.9**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=142,slow=8.0,SNR=12						
MKAR				PcP	**PcP**	**12 59 23.5**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=158,slow=5.9,SNR=5.0						
	comp=Z,1.2nm,0.6s						
JKA	**Kamikawa-asahi**	**60.19**	**27**	P	**P**	**12 58 42.0**	**-1.2**
HEH	**HeiHe**	**60.24**	**14**	*e*P	**P**	**12 58 42.0**	**-1.4**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
H04N2	**CROZET ISLANDS**	**61.74**	**222**	T	T	14 06 09.5	
	baz=71,slow=75,SNR=81						
H04N1	**CROZET ISLANDS**	**61.75**	**222**	T	T	14 06 08.5	
	baz=71,slow=75,SNR=70						
H04N3	**CROZET ISLANDS**	**61.76**	**222**	T	T	14 06 10.9	
	baz=71,slow=75,SNR=84						
CRZF	**Crozet Islands**	**61.79**	**221**	P	**P**	**12 58 54.5**	**+0.4**
H04S1	**CROZET ISLANDS**	**61.89**	**221**	T	T	14 06 13.0	
	baz=74						
H04S3	**CROZET ISLANDS**	**61.91**	**221**	T	T	14 06 19.9	
	baz=74						
H04S2	**CROZET ISLANDS**	**61.91**	**221**	T	T	14 06 09.7	
	baz=74						
KURBB	**Kurchatov Arra**	**64.09**	**339**	P	**P**	**12 59 07.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=158,slow=5.8,SNR=5.0						
KURBB				PcP	**PcP**	**12 59 43.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=138,slow=3.1,SNR=6.6						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**65.03**	**345**	P	**P**	**12 59 13.1**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=182,slow=4.5,SNR=3.7						
	comp=Z,0.6nm,0.3s						
BVAR	**Borovoye Array**	**69.08**	**336**	P	**P**	**12 59 39.0**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=134,slow=8.5,SNR=7.7						
BVAR				PcP	**PcP**	**13 00 03.2**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=142,slow=7.3,SNR=4.0						
	comp=Z,1.3nm,0.7s						
AB31	**Akbulak array**	**71.29**	**329**	P	**P**	**12 59 54.0**	**-0.4**
ABKAR	**Akbulak array**	**71.29**	**329**	P	**P**	**12 59 53.8**	**-0.7**
AKTO	**Aktyubinsk**	**73.00**	**329**	P	**P**	**13 00 04.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=117,slow=2.3,SNR=1.4						
	comp=Z,0.7nm,0.3s						
PETK	**Petropavlovsk-**	**73.58**	**28**	P	**P**	**13 00 06.3**	**-1.7**
	comp=Z,2.5nm,0.8s,baz=147,slow=2.9,SNR=2.4						
	comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**74.60**	**170**	P	**P**	**13 00 14.9**	**+1.4**
VNDA	**Vanda**	**74.60**	**170**	P	**P**	**13 00 14.9**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=338,slow=4.2,SNR=2.6						
	comp=Z,0.6nm,0.8s						
GURO	**Guroymak-BITLI**	**77.39**	**312**	P	**P**	**13 00 30.1**	**-0.2**
GURO				IAmb	IAmb	13 00 31.4	
	comp=Z,7.8nm,0.5s						
MARD	**Mardin**	**77.88**	**311**	P	**

RIM	**Rim**	**0.03 250**		Pg		13 05 52.2 +0.7
RIM				Sg		13 05 53.0 +0.9
SBLHI	**Steaming Bluff**	**0.03 310**		Pg		13 05 52.0 +0.5
SBLHI				Sg		13 05 52.8 +0.7
UWB	**Uwekahuna Bluf**	**0.04 298**		Pg		13 05 52.2 +0.5
UWB				Sg		13 05 53.1 +0.8
OBL	**Observatory Le**	**0.04 286**		Pg		13 05 52.4 +0.6
OBL				Sg		13 05 53.5 +1.1
PUH	**Pauahi**	**0.04 142**		Pg		13 05 52.5 +0.8
PUH	**Pauahi**	**0.04 142**		Sg		13 05 53.5 +1.2
PUH	**Pauahi**	**0.04 142**	IAML			13 05 53.0
	comp=N,3µm,0.1s					
PUH			IAML			13 05 53.1
	comp=E,3µm,0.2s					
UWE	**Uwekahuna**	**0.05 287**		Pg		13 05 52.5 +0.7
UWE	**Uwekahuna**	**0.05 287**		Sg		13 05 53.4 +0.7
UWE	**Uwekahuna**	**0.05 287**	IAML			13 05 52.8
	comp=N,356nm,2.3s					
UWE			IAML			13 05 53.0
	comp=E,412nm,0.3s					
SDHHI	**Sand Hill**	**0.05 251**		Pg		13 05 52.5 +0.6
SDHHI				Sg		13 05 53.8 +1.1
WRMHI	**West Rim**	**0.06 270**		Pg		13 05 52.6 +0.7
WRMHI				Sg		13 05 54.0 +1.2
RSD	**Rainshed**	**0.07 329**		Pg		13 05 52.2 0.0
RSD	**Rainshed**	**0.07 329**		Sg		13 05 53.9 +0.7
KNHH	**Kane Nui o Ham**	**0.07 111**		Pg		13 05 53.1 +0.8
STCH	**Steam Cracks**	**0.11 101**		Pg		13 05 53.7 +0.7
STCH				Sg		13 05 55.6 +1.1
STCH	**Steam Cracks**	**0.11 101**	IAML			13 05 55.9
	comp=N,2µm,0.1s					
STCH			IAML			13 05 56.2
	comp=E,2µm,0.1s					
HLP	**Hilina Pali**	**0.13 210**		Pg		13 05 54.0 +0.8
HLP				Sg		13 05 56.1 +1.2
HLP	**Hilina Pali**	**0.13 210**	IAML			13 05 56.6
	comp=N,1µm,0.4s					
HLP			IAML			13 05 56.7
	comp=E,2µm,0.4s					
NPOC	**North of Pu'u**	**0.13 96**		Pg		13 05 53.9 +0.7
NPOC				Sg		13 05 56.1 +1.2
JCUZ	**Jacuzzi**	**0.14 99**		Pg		13 05 54.1 +0.7
JCUZ				Sg		13 05 56.3 +1.1
MLH	**Mauna Loa**	**0.16 303**		Pg		13 05 54.7 +0.7
MLH				Sg		13 05 57.5 +1.4
MLH	**Mauna Loa**	**0.16 303**	IAML			13 05 57.8
	comp=E,448nm,0.7s					
MLH			IAML			13 05 58.1
	comp=N,445nm,0.4s					
AIN	**Ainahou**	**0.21 261**	Pg	Pg		13 05 55.5 +0.7
AIN			IAML			13 05 59.6
	comp=N,317nm,0.5s					
HTC	**Hot Caves**	**0.22 221**		Pg		13 05 55.7 +0.7
JOKA	**Jonika Flow**	**0.23 83**		Pg		13 05 55.4 +0.3
JOKA				Sg		13 05 58.8 +0.7
JOKA	**Jonika Flow**	**0.23 83**	IAML			13 06 03.1
	comp=N,361nm,1.6s					
JOKA			IAML			13 06 03.1
	comp=E,188nm,0.7s					
HMH	**Humu'ula Sheep**	**0.30 311**		Pg		13 05 57.0 +0.4
HMH			IAML			13 06 06.1
	comp=E,245nm,0.8s					
HMH			IAML			13 06 06.7
	comp=N,210nm,1.5s					
HMH	**Humu'ula Sheep**	**0.30 311**		Sg		13 06 01.7 +1.1
MWH	**Mokuaweoweo**	**0.34 283**		Pg		13 05 57.9 +0.4
MWH				Sg		13 06 03.4 +1.4
MWH	**Mokuaweoweo**	**0.34 283**	IAML			13 06 08.8
	comp=N,257nm,0.8s					
KHU	**Kahuku**	**0.39 246**		Pg		13 05 58.2 0.0
KHU				Sg		13 06 04.2 +0.9
ALEP	**Alea Permanent**	**0.40 290**		Pg		13 05 58.7 +0.1
ALEP				Sg		13 06 04.6 +0.8
POHA	**Pohakuloa**	**0.44 322**		Pg		13 05 59.1 -0.3
POHA			IAML			13 06 06.6
	comp=N,246nm,0.5s					
POHA			IAML			13 06 06.7
	comp=N,228nm,0.4s					
POHA	**Pohakuloa**	**0.44 322**		Sg		13 06 06.0 +0.9
HUH	**Hualalai**	**0.62 296**		Sb		13 06 14.5 +0.6
HUH	**Hualalai**	**0.62 296**		Pg		13 06 02.8 +0.1
CPH	**Captain Cook**	**0.64 277**		Pg		13 06 02.6 -0.5

*IDC **25** 13:23:59.7±2.8, 32°.01S×178°.00W, h0km, mb3.9/2, mbtmp3.9/3, ML3.6/1, MS3.5/1, Error ellipse: s-maj=67.3km s-min=35.4km az=117.0*
*NEIC **25** 13:24:01.1±0.9, 31°.83S±0°.05×177°.9W±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=24.5km s-min=8.7km az=92.0*
ISC 25 13:24:02.6±0.8, 31°.87S±0°.09×177°.9W±0°.1, h24km, n21, σ1ş37/21, mb4.3/9, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.61**	**360**	Pn	**Pn**	**13 24 43.4**	**+0.2**
URZ	**Urewera**	**7.57**	**211**	Pn	**Pn**	**13 25 49.0**	**-2.4**
	0.9nm,0.3s,baz=256,slow=5.0,SNR=10						
URZ				Sn	**Sn**	**13 27 14.8**	**-1.6**
	1.9nm,0.3s,baz=262,slow=6.2,SNR=10.0						
	2.6nm,0.3s						
DZM	**Mont Dzumac**	**17.00**	**301**	LR	LR	13 32 14.7	
	comp=Z,168nm,21.0s,baz=76,slow=29						
AFI	**Afiamalu**	**18.74**	**19**	P	**P**	**13 28 17.5**	**-2.3**
AFI				IAmb	IAmb	13 28 25.5	
	comp=Z,50nm,1.1s						
RAR	**Rarotonga**	**19.36**	**61**	P	**P**	**13 28 25.8**	**-0.8**
RAR				IAmb	IAmb	13 29 02.6	
	comp=Z,83nm,1.5s						
SANVU	**Saraoutou**	**21.25**	**317**	P	**P**	**13 28 46.4**	**-0.6**
INKA	**Innaminka**	**35.96**	**266**	P	**P**	**13 31 04.1**	**+2.7**
INKA				IAmb	IAmb	13 31 37.6	
	comp=Z,6.0nm,1.4s						
AS31	**Alice Springs**	**43.12**	**268**	P	**P**	**13 32 01.4**	**+0.1**
ASAR	**Alice Springs**	**43.13**	**268**	P	**P**	**13 32 01.1**	**-0.2**
ASAR	**Alice Springs**	**43.13**	**268**	P	**P**	**13 32 01.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=110,slow=7.7,SNR=31						
	comp=Z,0.5nm,0.3s						
WR8	**Warramunga Arr**	**44.10**	**274**	P	**P**	**13 32 09.2**	**0.0**
WR8				IAmb	IAmb	13 32 26.8	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**44.25**	**274**	P	**P**	**13 32 10.3**	**0.0**
	comp=Z,0.9nm,0.3s,baz=112,slow=8.0,SNR=29						
	comp=Z,0.9nm,0.3s						
WB0	**Warramunga Arr**	**44.28**	**274**	P	**P**	**13 32 10.3**	**-0.3**
WB0				IAmb	IAmb	13 32 34.7	
	comp=Z,11nm,1.3s						
KNRA	**Kununurra**	**50.91**	**275**	P	**P**	**13 33 01.9**	**-0.2**
KNRA				IAmb	IAmb	13 33 35.0	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.45**	**271**	P	**P**	**13 33 13.8**	**+0.2**
CASY	**Casey**	**53.88**	**208**	P	**P**	**13 33 24.7**	**+1.2**
CASY				IAmb	IAmb	13 33 34.3	
	comp=Z,3.5nm,1.0s						
PMSA	**Palmer Station**	**70.90**	**155**	P	**P**	**13 35 17.5**	**+0.2**
SNAA	**Sanae**	**76.69**	**178**	⇑P	**P**	**13 35 52.1**	**+0.9**
	comp=Z,25nm,1.1s						
VNA3	**Neumayer Olymp**	**76.84**	**176**	⇑P	**P**	**13 35 53.6**	**+1.6**
	comp=Z,3.5nm,0.8s						
VNA2	**Neumayer--Watz**	**77.27**	**177**	⇑P	**P**	**13 35 57.0**	**+2.6**
	comp=Z,1.5nm,0.7s,baz=171,slow=5.1						
FINES	**FINESS Array B**	**146.54**	**339**	PKPbc	**PKPab**	**13 43 41.7**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=47,slow=4.0,SNR=12						

*NOU **25** 13:38:13.0, 41°.01S×172°.84E, h208km, MLv3.6/18, South Island, New Zealand*
*WEL **25** 13:38:15.7±0.8, 41°.3S±7°×17°.3E±°, h193km±5km, M2.7/10, MLv2.7/10, Error ellipse: s-maj=8.8km s-min=6.9km az=3.1, confirmed*
ISC 25 13:38:11.3±1.6, 40°.96S±0°.05×172°.78E±0°.06, h227km±8km, n66, σ1ş29/81, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKNZ	**Takaka Hill**	**0.16**	**118**	P	**Pn**	**13 38 42.1**	**+1.3**
TKNZ				S	**S**	**13 39 02.2**	**-1.6**
QRZ	**Quartz Range**	**0.23**	**305**	P	**Pn**	**13 38 42.0**	**+1.1**
QRZ	**Quartz Range**	**0.23**	**305**	S	**S**	**13 39 02.6**	**-1.3**
QRZ	**Quartz Range**	**0.23**	**305**	P	**Pn**	**13 38 42.2**	**+1.4**
QRZ				S	**S**	**13 39 02.4**	**-1.6**
MOTS	**Motueka DOC wo**	**0.24**	**133**	P	**Pn**	**13 38 41.7**	**+1.0**
MOTS				S	**S**	**13 39 02.6**	**-1.4**
KHLK	**Kaihoka Lakes**	**0.42**	**343**	P	**Pn**	**13 38 42.4**	**+1.1**
KHLK				S	**S**	**13 39 03.8**	**-0.9**
MRNZ	**Matariki Terra**	**0.44**	**182**	P	**Pn**	**13 38 42.6**	**+1.3**
MRNZ				S	**S**	**13 39 03.4**	**-1.5**
MATW	**Matariki Wadsw**	**0.47**	**187**	P	**Pn**	**13 38 42.9**	**+1.5**
MATW				S	**S**	**13 39 03.7**	**-1.4**
NNZ	**Nelson**	**0.52**	**120**	P	**Pn**	**13 38 43.0**	**+1.5**
NNZ				S	**S**	**13 39 03.7**	**-1.5**
KASC	**Karamea School**	**0.58**	**240**	P	**Pn**	**13 38 43.4**	**+1.7**
KASC				S	**S**	**13 39 05.0**	**-0.5**
THZ	**Tophouse**	**0.81**	**173**	P	**Pn**	**13 38 44.5**	**+1.7**
THZ				S	**S**	**13 39 06.2**	**-1.4**
HAVS	**Havelock**	**0.82**	**113**	P	**Pn**	**13 38 44.4**	**+1.7**
HAVS				S	**S**	**13 39 05.7**	**-1.7**
DUWZ	**D'Urville Isla**	**0.88**	**80**	P	**Pn**	**13 38 44.6**	**+1.4**
DUWZ				S	**S**	**13 39 07.0**	**-1.1**
TUWZ	**Tuamarina**	**1.00**	**118**	P	**Pn**	**13 38 45.7**	**+1.9**
TUWZ				S	**S**	**13 39 08.1**	**-1.1**
DSZ	**Denniston Nort**	**1.07**	**223**	P	**Pn**	**13 38 45.5**	**+1.2**
DSZ				S	**S**	**13 39 08.4**	**-1.8**
BSWZ	**Blackbirch Sta**	**1.12**	**133**	P	**Pn**	**13 38 46.1**	**+1.6**
BSWZ				S	**S**	**13 39 10.0**	**-0.6**
TCW	**Tory Channel**	**1.16**	**103**	P	**Pn**	**13 38 46.3**	**+1.5**
TCW				S	**S**	**13 39 09.6**	**-1.4**
MKBS	**Makara Bunker**	**1.48**	**101**	P	**Pn**	**13 38 48.6**	**+1.4**
SNZO	**South Karori**	**1.50**	**104**	P	**Pn**	**13 38 48.5**	**+1.2**
SNZO	**South Karori**	**1.50**	**104**	S	**S**	**13 39 13.9**	**-1.5**
WEL	**Wellington**	**1.54**	**103**	P	**Pn**	**13 38 48.8**	**+1.1**
KHZ	**Kahutara**	**1.56**	**159**	P	**Pn**	**13 38 48.7**	**+0.9**
KHZ	**Kahutara**	**1.56**	**159**	S	**S**	**13 39 15.1**	**-1.4**
KHZ	**Kahutara**	**1.56**	**159**	P	**Pn**	**13 38 49.0**	**+1.2**
PTOS	**Petone Overbri**	**1.60**	**100**	P	**Pn**	**13 38 50.0**	**+1.9**
KIW	**Kapiti Island**	**1.62**	**87**	P	**Pn**	**13 38 49.6**	**+1.2**
BHW	**Baring Head**	**1.64**	**107**	P	**Pn**	**13 38 49.6**	**+1.1**
CAW	**Cannon Point**	**1.74**	**96**	P	**Pn**	**13 38 50.6**	**+1.2**
OGWZ	**Otaki Gorge**	**1.82**	**86**	P	**Pn**	**13 38 51.6**	**+1.5**
LTZ	**Lake Taylor**	**1.86**	**192**	P	**Pn**	**13 38 51.9**	**+1.4**
NBEZ	**Newall Road No**	**1.89**	**27**	P	**Pn**	**13 38 52.1**	**+1.3**
KHEZ	**Kahui Hut**	**1.91**	**30**	P	**Pn**	**13 38 52.2**	**+1.0**
KHEZ	**Kahui Hut**	**1.91**	**30**	S	**S**	**13 39 22.7**	**+0.5**
KHEZ	**Kahui Hut**	**1.91**	**30**	P	**Pn**	**13 38 52.3**	**+1.1**
MSWZ	**Moikau Station**	**1.92**	**105**	P	**Pn**	**13 38 52.2**	**+1.2**
PREZ	**Palmer Road**	**1.93**	**34**	P	**Pn**	**13 38 52.4**	**+1.1**
PLWZ	**Palliser**	**1.96**	**109**	P	**Pn**	**13 38 52.7**	**+1.2**
PKE	**Pukeiti**	**1.99**	**28**	P	**Pn**	**13 38 52.9**	**+1.0**
GVZ	**Greta Valley S**	**2.02**	**175**	P	**Pn**	**13 38 53.1**	**+1.2**
INZ	**Inchbonnie**	**2.03**	**209**	P	**Pn**	**13 38 53.3**	**+1.3**
MTW	**Mount Morrison**	**2.07**	**96**	P	**Pn**	**13 38 53.7**	**+1.2**
WAZ	**Wanganui**	**2.07**	**55**	P	**Pn**	**13 38 54.2**	**+1.7**
MRZ	**Mangatainoka R**	**2.15**	**83**	P	**Pn**	**13 38 54.4**	**+1.2**
AMCZ	**Amberley**	**2.22**	**182**	P	**Pn**	**13 38 55.1**	**+1.2**
POWZ	**Post Office Ro**	**2.34**	**77**	P	**Pn**	**13 38 56.6**	**+1.3**
VRZ	**Vera Road**	**2.38**	**40**	P	**Pn**	**13 38 56.1**	**+0.4**
OXZ	**Oxford**	**2.43**	**193**	P	**Pn**	**13 38 56.9**	**+0.9**
PKVZ	**Pokaka**	**2.58**	**51**	P	**Pn**	**13 38 58.6**	**+0.8**
WVZ	**Waitaha Valley**	**2.60**	**215**	P	**Pn**	**13 38 58.9**	**+1.0**
BFZ	**Birch Farm**	**2.65**	**85**	P	**Pn**	**13 38 60.0**	**+1.5**
WNVZ	**Wahianoa**	**2.71**	**54**	P	**Pn**	**13 39 00.1**	**+0.8**
FWVZ	**Far West T-bar**	**2.73**	**52**	P	**Pn**	**13 39 00.2**	**+0.6**
TUVZ	**Tukino**	**2.78**	**53**	P	**Pn**	**13 39 01.2**	**+1.1**
TWVZ	**Taurewa**	**2.78**	**48**	P	**Pn**	**13 39 00.1**	**0.0**
PNHZ	**Pukenui**	**2.81**	**69**	P	**Pn**	**13 39 01.6**	**+1.3**
NNVZ	**North Ngauruho**	**2.84**	**51**	P	**Pn**	**13 39 01.4**	**+0.6**
HIZ	**Hauiti**	**2.92**	**34**	P	**Pn**	**13 39 01.8**	**+0.3**
HIZ	**Hauiti**	**2.92**	**34**	P	**S**	**13 39 40.2**	**-0.6**
RPZ	**Rata Peaks**	**3.04**	**204**	P	**Pn**	**13 39 03.9**	**+1.2**
RPZ	**Rata Peaks**	**3.04**	**204**	P	**S**	**13 39 41.7**	**-1.4**
BKZ	**Black Stump Fm**	**3.37**	**59**	P	**Pn**	**13 39 07.2**	**+0.6**
BKZ	**Black Stump Fm**	**3.37**	**59**	P	**S**	**13 39 48.4**	**-1.6**
JCZ	**Jackson Bay**	**4.29**	**222**	P	**Pn**	**13 39 18.6**	**+1.0**
URZ	**Urewera**	**4.30**	**53**	P	**Pn**	**13 39 18.3**	**+0.6**
ODZ	**Otahua Downs**	**4.37**	**200**	P	**Pn**	**13 39 19.7**	**+1.2**
ODZ	**Otahua Downs**	**4.37**	**200**	S	**S**	**13 40 10.1**	**-1.5**

*SOME **25** 13:53:03.6, 39°.07N×71°.32E, h5km*
*NNC **25** 13:53:06.0±3.7, 39°.09N×71°.23E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=26.0km s-min=17.5km az=19.0*
ISC 25 13:53:02.9±3.1, 39°.0N±0°.1×71°.35E±0°.08, h10km, n12, σ2ş91/17, 3C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**3.27**	**343**	Pg	**Pg**	**13 54 03.5**	**-2.1**
	7.7nm,0.2s						
IUG				Lg	Lg	13 54 46.7	
	59nm,0.5s						
MRKS	**Merke**	**3.98**	**20**	Pg	**Pg**	**13 54 19.1**	**0.0**
	1.2nm,0.2s						
MRKS				Lg	Lg	13 55 14.2	
	12nm,0.5s						
MRKS	**Merke**	**3.98**	**20**	*eP*	**Pg**	**13 54 19.1**	**0.0**
	1.2nm,0.2s						
MRKS				*eS*	**Sg**	**13 55 13.5**	**+2.9**
	12nm,0.5s						
KK31	**Karatay Array**	**4.12**	**351**	⇓Pn	**Pn**	**13 54 10.6**	**+4.7**
	0.3nm,0.1s,baz=192,slow=11,SNR=21						
KK31				⇑Pg	**Pg**	**13 54 20.6**	**-1.3**
	3.2nm,0.5s						
KK31				⇑Sn	**Sn**	**13 54 59.2**	**+4.9**
	4.6nm,0.7s,baz=199,slow=35,SNR=4.0						
KK31				⇑Lg	Lg	13 55 16.7	
	20nm,0.8s,baz=193,slow=27,SNR=7.9						
BRLS	**Borolday**	**4.16**	**344**	Pg	**Pb**	**13 54 13.5**	**-2.7**
	0.9nm,0.1s						
BRLS				Lg	Lg	13 55 03.8	
	16nm,0.5s						
BRLS	**Borolday**	**4.16**	**344**	*eP*	**Pb**	**13 54 13.5**	**-2.7**
	0.9nm,0.1s						
BRLS				*eS*	**Sb**	**13 55 03.8**	**-2.8**
	16nm,0.5s						
KST	**Kastek**	**5.32**	**40**	Pg	**Pg**	**13 54 42.3**	**-2.4**
	0.9nm,0.3s						
KST				Lg	Lg	13 55 53.5	
	4.9nm,0.4s						
KST	**Kastek**	**5.32**	**40**	*eP*	**Pg**	**13 54 42.3**	**-2.4**
	0.9nm,0.3s						
KST				*eS*	**Sg**	**13 55 53.5**	**0.0**
	4.9nm,0.4s						
DGS	**Degeres**	**5.37**	**37**	Pg	**Pg**	**13 54 44.6**	**-1.2**
	1.5nm,0.6s						
DGS				Lg	Lg	13 55 57.4	
	3.0nm,0.5s						
KTBS	**Karatobe**	**6.16**	**39**	Pg	Pg	13 54 56.2	-4.6
	0.4nm,0.5s						
KTBS				Lg	Lg	13 56 16.8	
	1.6nm,0.8s						
BTLS	**Baital**	**6.34**	**18**	Pg	**Pg**	**13 55 01.0**	**-3.2**
	2.3nm,0.2s						
BTLS				Lg	Lg	13 56 24.9	
	2.1nm,0.5s						
BTLS	**Baital**	**6.34**	**18**	*eP*	**Pg**	**13 55 01.0**	**-3.2**
	2.3nm,0.2s						
BTLS				*eS*	**Sg**	**13 56 24.9**	**-1.3**
	2.1nm,0.5s						

*IDC **25** 14:17:36.7±1.6, 5°.44S×101°.87E, h0km, mb4.0/12, mbtmp4.0/12, MS3.4/9, Error ellipse: s-maj=55.8km s-min=15.6km az=53.0*
*DJA **25** 14:17:43.2±0.3, 5°S±5°×10°2E±°, h32km±6km, M4.4/16, mB4.8/1, mb4.5/8, MLv4.3/16, Mw(mB)4.1/1*
*NEIC **25** 14:17:45.1±1.2, 5.0S±0°.1×102°.42E±0°.08, h45km±7km, mb4.4/9, Error ellipse: s-maj=17.1km s-min=9.6km az=209.0*
ISC 25 14:17:44.7±0.7, 5°.11S±0°.08×102°.41E±0°.08, h44km, n67, σ1ş33/49, mb4.3/16, MS3.3/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.93**	**36**		**Pn**	**14 18 00.9**	**-0.4**
MNAI	**Manna**	**0.93**	**36**	P	**Pn**	**14 18 01.1**	**-0.3**
MNAI				S	**Sn**	**14 18 09.4**	**-4.2**
KSI	**Kapahiang**	**1.47**	**7**	P	**Pn**	**14 18 08.6**	**-0.2**
LWLI	**Liwa**	**1.65**	**87**	P	**Pn**	**14 18 12.0**	**+0.6**
LHSI	**Lahat**	**1.70**	**41**	P	**Pn**	**14 18 12.6**	**+0.7**
MDSI	**Maura Dua**	**1.87**	**71**	P	**Pn**	**14 18 14.9**	**+0.6**
MASI	**Maura Aman, Be**	**1.97**	**355**	P	**Pn**	**14 18 15.8**	**+0.1**
KASI	**Kota Agung**	**2.12**	**101**	P	**Pn**	**14 18 17.2**	**-0.5**
KRJI	**Kerinci**	**3.15**	**343**	P	**Pn**	**14 18 35.8**	**+3.9**
CGJI	**Cibinong**	**3.59**	**115**	P	**Pn**	**14 18 36.3**	**-1.7**
PDSI	**Padang**	**4.60**	**335**	P	**Pn**	**14 18 51.9**	**0.0**
SISI	**Saibi**	**5.01**	**319**	P	**Pn**	**14 18 57.3**	**-0.1**
	0.5nm80nm,1.1s						
CNJI	**Cibinong**	**5.18**	**115**	P	**Pn**	**14 18 58.3**	**-1.4**
LEM	**Lembang**	**5.46**	**108**	LR	LR	14 21 43.6	
	comp=Z,267nm,19.8s,baz=183,slow=42						
TPI	**Tanjungpandan**	**5.74**	**66**	P	**Pn**	**14 19 08.3**	**+0.9**
	0.1nm30nm,1.4s						
PBSI	**Pulau Batu**	**6.50**	**321**	P	**Pn**	**14 19 17.5**	**-0.4**
KPJI	**Karang Pucung**	**6.85**	**109**	P	**Pn**	**14 19 22.8**	**+0.1**
	0.2nm21nm,0.7s						
MYKOM	**Kota Tinggi**	**7.01**	**12**	Pn	**Pn**	**14 19 24.6**	**-0.3**
GSI	**Gunungsitoli**	**8.00**	**323**	Pn	**Pn**	**14 19 37.3**	**-1.1**
GSI	**Gunungsitoli**	**8.00**	**323**	P	**Pn**	**14 19 36.6**	**-1.8**
	45nm,2.2s						
UGM	**Wanagama**	**8.53**	**109**	Pn	**Pn**	**14 19 46.0**	**+0.2**
UGM	**Wanagama**	**8.53**	**109**	P	**Pn**	**14 19 45.3**	**-0.5**
	115nm,1.7s						
PSI	**Prapat**	**8.60**	**336**	LR	LR	14 23 27.6	
	comp=Z,258nm,20.0s,baz=132,slow=41						
PCJI	**Pacitan**	**9.23**	**110**	P	**Pn**	**14 19 55.0**	**-0.4**
	92nm,1.3s						
JAGI	**Jajag, Banyuwa**	**12.13**	**107**	Pn	**Pn**	**14 20 35.1**	**+0.1**
KAPI	**Kappang**	**17.28**	**90**	LR	LR	14 28 58.2	
	comp=Z,139nm,19.3s,baz=264,slow=38						
TOLI2	**Tolitoli**	**19.37**	**72**	Pn	**P**	**14 22 07.5**	**+0.6**
BATI	**Baumata**	**21.66**	**105**	P	**P**	**14 22 32.0**	**+0.2**
	21nm,0.8s,baz=309,slow=14,SNR=2.1						
	21nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.67**	**352**	P	**P**	**14 22 50.8**	**-1.7**
	1.1nm,0.4s,baz=177,slow=7.7,SNR=7.6						
CMAR				LR	LR	14 32 18.6	
	comp=Z,75nm,18.9s,baz=170,slow=37						
	1.1nm,0.4s						
DAV	**Davao City (W)**	**26.10**	**63**	LR	LR	14 34 59.6	
	comp=Z,65nm,20.1s,baz=204,slow=39						
KNRA	**Kununurra**	**27.93**	**114**	P	**P**	**14 23 30.3**	**-0.8**
KNRA				IAmb	IAmb	14 24 00.7	
	comp=Z,12nm,1.4s						
MTN	**Manton Dam**	**29.37**	**107**	P	**P**	**14 23 43.2**	**-0.8**
MTN				IAmb	IAmb	14 24 10.0	
	comp=Z,16nm,1.2s						
H08S2	**Diego Garcia H**	**29.83**	**264**	T	T	14 54 47.4	
	baz=87,slow=75,SNR=32						
H08S3	**Diego Garcia H**	**29.84**	**264**	T	T	14 54 48.0	
	baz=87,slow=75,SNR=67						
H08S1	**Diego Carcia H**	**29.85**	**264**	T	T	14 54 36.0	
	baz=87,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**31.55**	**161**	T	T	14 56 52.8	
	baz=340,slow=76						
H01W2	**Cape Leeuwin H**	**31.56**	**161**	T	T	14 56 48.3	
	baz=340,slow=76						
H01W1	**Cape Leeuwin H**	**31.56**	**161**	T	T	14 56 48.8	
	baz=340,slow=76						
SHL	**Shillong**	**32.16**	**342**	P	**P**	**14 24 08.2**	**-0.4**
SHL				IAmb	IAmb	14 24 08.8	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**34.38**	**118**	P	**P**	**14 24 27.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=305,slow=9.1,SNR=7.7						
	comp=Z,0.3nm,0.5s						
WR8	**Warramunga Arr**	**34.53**	**118**	P	**P**	**14 24 28.8**	**-0.5**
ASAR	**Alice Springs**	**35.51**	**124**	P	**P**	**14 24 37.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=296,slow=8.0,SNR=9.1						
ASAR				LR	LR	14 40 54.5	
	comp=Z,59nm,18.2s,baz=284,slow=39						
	comp=Z,0.3nm,0.5s						
STKA	**Stephens Creek**	**45.30**	**131**	P	**P**	**14 25 59.2**	**+0.7**
STKA	**Stephens Creek**	**45.30**	**131**	P	**P**	**14 25 58.7**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=312,slow=6.2,SNR=5.3						
	comp=Z,2.3nm,0.6s						
JHJ	**Hachijo jima 2**	**51.97**	**40**	LR	LR	14 50 53.3	
	comp=Z,15nm,18.4s,baz=75,slow=38						
SONM	**Songino Array**	**52.84**	**3**	P	**P**	**14 26 56.3**	**+0.3**
SONM				IAmb	IAmb	14 27 10.1	
	comp=Z,2.6nm,0.8s						
SONM	**Songino Array**	**52.84**	**3**	P	**P**	**14 26 56.3**	**+0.3**
	comp=Z,7.7nm,1.2s,baz=186,slow=9.2,SNR=11						
	comp=Z,7.7nm,1.2s						
MJAR	**Matsushiro Arr**	**53.27**	**36**	P	**P**	**14 27 03.2**	**+3.9**
	comp=Z,1.0nm,0.9s,baz=207,slow=6.2,SNR=4.4						
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**54.67**	**343**	P	**P**	**14 27 08.3**	**-0.9**
MKAR	**Makanchi Array**	**54.67**	**343**	P	**P**	**14 27 09.0**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=146,slow=8.9,SNR=17						
	comp=Z,0.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**55.84**	**25**	P	**P**	**14 27 20.2**	**+2.5**
	comp=Z,3.6nm,0.9s,baz=233,slow=7.5,SNR=6.1						
	comp=Z,3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**59.21**	**343**	P	**P**	**14 27 40.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=160,slow=7.0,SNR=5.2				

QIZ					IAmb	IAmb	14 25 39.4		
	comp=Z,24nm,1.4s								
H08S2	**Diego Garcia H**	**29.82**	**264**		T	T	14 56 48.5		
	baz=87,slow=75,SNR=18								
H08S3	**Diego Garcia H**	**29.83**	**264**		T	T	14 56 51.4		
	baz=87,slow=75,SNR=26								
H08S1	**Diego Garcia H**	**29.84**	**264**		T	T	14 56 47.4		
	baz=87,slow=75,SNR=16								
NWAO	**Narrogin (SRO)**	**30.93**	**155**		LR	LR	14 38 23.5		
	comp=Z,82nm,19.9s,baz=210,slow=36								
H01W3	**Cape Leeuwin H**	**31.54**	**161**		T	T	14 58 59.9		
	baz=338,slow=76								
H01W2	**Cape Leeuwin H**	**31.55**	**161**		T	T	14 59 00.6		
	baz=338,slow=76								
H01W1	**Cape Leeuwin H**	**31.56**	**161**		T	T	14 59 02.5		
	baz=338,slow=76								
WB0	**Warramunga Arr**	**34.37**	**118**		P	**P**	**14 26 31.9**	**-0.5**	
WB0					IAmb	IAmb	14 26 49.0		
	comp=Z,6.8nm,1.4s								
WRA	**Warramunga Arr**	**34.39**	**118**		P	**P**	**14 26 32.0**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=288,slow=9.9,SNR=5.3								
WRA					PcP	**PcP**	**14 29 08.1**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=299,slow=2.4,SNR=2.1								
	comp=Z,0.7nm,0.8s								
WR8	**Warramunga Arr**	**34.53**	**118**		P	**P**	**14 26 33.7**	**-0.1**	
ASAR	**Alice Springs**	**35.51**	**124**		P	**P**	**14 26 42.7**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=301,slow=8.4,SNR=4.9								
ASAR					PcP	**PcP**	**14 29 11.7**	**+0.7**	
	comp=Z,0.2nm,0.6s,baz=267,slow=1.9,SNR=2.0								
	comp=Z,0.5nm,0.6s								
PMG	**Port Moresby**	**44.58**	**98**		LR	LR	14 48 38.8		
	comp=Z,32nm,20.1s,baz=202,slow=39								
STKA	**Stephens Creek**	**45.30**	**131**		P	**P**	**14 28 03.8**	**+0.8**	
STKA					IAmb	IAmb	14 28 04.8		
	comp=Z,18nm,0.7s								
STKA	**Stephens Creek**	**45.30**	**131**		P	**P**	**14 28 03.9**	**+0.8**	
	comp=Z,3.6nm,0.6s,baz=304,slow=8.6,SNR=8.8								
	comp=Z,3.6nm,0.6s								
JNU	**Nakatsue**	**46.65**	**33**		P	**P**	**14 28 12.0**	**-1.6**	
JNU					IAmb	IAmb	14 28 24.0		
	comp=Z,15nm,1.4s								
KSRS	**Korea Array**	**48.58**	**27**		P	**P**	**14 28 28.5**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=215,slow=6.5,SNR=2.7								
	comp=Z,0.4nm,0.5s								
SONM	**Songino Array**	**52.85**	**3**		P	**P**	**14 29 00.9**	**+0.3**	
SONM					IAmb	IAmb	14 29 02.9		
	comp=Z,3.7nm,0.8s								
SONM	**Songino Array**	**52.85**	**3**		P	**P**	**14 29 01.6**	**+1.0**	
	comp=Z,3.4nm,0.7s,baz=186,slow=8.8,SNR=12								
	comp=Z,3.4nm,0.7s								
MKAR	**Makanchi Array**	**54.68**	**343**		P	**P**	**14 29 13.8**	**0.0**	
MKAR	**Makanchi Array**	**54.68**	**343**		P	**P**	**14 29 14.1**	**+0.2**	
	comp=Z,1.0nm,0.4s,baz=142,slow=8.7,SNR=8.7								
	comp=Z,1.0nm,0.4s								
USA0B	**Ussuriysk Arra**	**55.85**	**25**		P	**P**	**14 29 22.0**	**-0.3**	
USA0B					IAmb	IAmb	14 29 24.0		
	comp=Z,3.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**55.85**	**25**		P	**P**	**14 29 22.3**	**-0.1**	
	comp=Z,2.6nm,0.7s,baz=224,slow=4.0,SNR=6.8								
	comp=Z,2.6nm,0.7s								
KURBB	**Kurchatov Array**	**59.22**	**343**		P	**P**	**14 29 45.6**	**-0.2**	
	comp=Z,0.8nm,0.7s,baz=161,slow=6.9,SNR=5.8								
	comp=Z,0.8nm,0.7s								
H04N2	**CROZET ISLANDS**	**59.78**	**218**		T	T	15 34 16.8		
	baz=64,slow=75,SNR=20								
H04N1	**CROZET ISLANDS**	**59.80**	**218**		T	T	15 34 18.6		
	baz=64,slow=75,SNR=20								
H04N3	**CROZET ISLANDS**	**59.80**	**218**		T	T	15 34 19.3		
	baz=64,slow=75,SNR=16								
H04S1	**CROZET ISLANDS**	**60.02**	**218**		T	T	15 34 25.0		
	baz=62,slow=75,SNR=16								
H04S3	**CROZET ISLANDS**	**60.04**	**218**		T	T	15 34 24.7		
	baz=62,slow=75,SNR=39								
H04S2	**CROZET ISLANDS**	**60.04**	**218**		T	T	15 34 27.1		
	baz=62,slow=75,SNR=22								
ZAA0	**Zalesovo Array**	**60.68**	**348**		P	**P**	**14 29 54.6**	**-1.2**	
ZAA0					IAmb	IAmb	14 30 09.2		
	comp=Z,4.7nm,0.9s								
ZALV	**Zalesovo Beam**	**60.68**	**348**		P	**P**	**14 29 54.8**	**-1.1**	
ZALV	**Zalesovo Beam**	**60.68**	**348**		P	**P**	**14 29 56.0**	**+0.1**	
	comp=Z,1.6nm,0.4s,baz=158,slow=5.9,SNR=8.4								
	comp=Z,1.6nm,0.4s								
CASY	**Casey**	**61.31**	**176**		P	**P**	**14 29 58.8**	**-1.2**	
CASY					IAmb	IAmb	14 30 41.3		
	comp=Z,7.8nm,1.4s								
BVAR	**Borovoye Array**	**63.93**	**339**		P	**P**	**14 30 17.8**	**+0.1**	
	comp=Z,1.8nm,0.6s,baz=143,slow=8.1,SNR=8.0								
	comp=Z,1.8nm,0.6s								
AB31	**Akbulak array**	**65.51**	**331**		P	**P**	**14 30 28.0**	**-0.1**	
ABKAR	**Akbulak array**	**65.51**	**331**		P	**P**	**14 30 27.9**	**-0.2**	
FOZ	**Fox Glacier**	**70.18**	**134**		P	**P**	**14 30 56.1**	**-1.5**	
LBZ	**Lake Benmore**	**70.62**	**135**		P	**P**	**14 30 58.9**	**-1.4**	
PET	**Petropavlovsk**	**74.72**	**31**		P	**P**	**14 31 24.2**	**-0.1**	
FINES	**FINESS Array B**	**87.97**	**332**		P	**P**	**14 32 34.5**	**+0.1**	
FINES	**FINESS Array B**	**87.97**	**332**		P	**P**	**14 32 35.1**	**+0.8**	
	comp=Z,1.0nm,0.7s,baz=108,slow=4.5,SNR=4.1								
	comp=Z,1.0nm,0.7s								
TXAR	**Lajitas Array**	**145.54**	**43**		PKPbc	**PKPab**	**14 39 24.8**	**+0.8**	
	comp=Z,2.4nm,0.6s,baz=288,slow=1.1,SNR=23								

WEL ***25*** *14:27:20.6±0.7,32°S±5°×17°8W±1°7,h12km,M4.9/12, mB4.9/3,ML5.3/14,MLv5.0/12,Mw(mB)4.2/3, Error ellipse: s-maj=22.9km s-min=3.1km az=106.5,confirmed*

IDC ***25*** *14:27:24.6±1.4,31°60S×178°60W,h101km±12km, mb4.1/5, mbtmp4.4/8,MS3.3/2, Error ellipse: s-maj=25.9km s-min=11.2km az=116.0*

NEIC ***25*** *14:27:25.1±0.3,31°6S±0°1×178°5W±0°2,h104km±10km, mb4.7/15, Error ellipse: s-maj=23.9km s-min=16.8km az=66.0*

ISC 25 14:27:24.0±0.7, 31°68S±0°06×178°4W±0°1, h100km, n58, σ1837/68, mb4.7/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.44**	**9**	P	**Pn**	**14 28 01.8**	**-0.5**
GLKZ				S	**Sn**	**14 28 29.5**	**-2.1**
RAO	**Raoul Island**	**2.45**	**9**	Pn	**Pn**	**14 28 03.9**	**+1.4**
RAO	**Raoul Island**	**2.45**	**9**	P	**Pn**	**14 28 04.4**	**+1.9**
	460nm,0.2s,baz=86,slow=23,SNR=5.4						
RAO				S	**Sn**	**14 28 31.8**	**-0.1**
	2µm,0.3s,baz=75,slow=22,SNR=9.4						
RIZ	**Raoul Island**	**2.45**	**9**	P	**Pn**	**14 28 02.4**	**-0.1**
RIZ				S	**Sn**	**14 28 31.0**	**-1.0**
MXZ	**Matakaoa Point**	**6.48**	**204**	P	**Pn**	**14 28 57.6**	**+0.8**
MXZ				S	**Sn**	**14 30 10.4**	**+1.2**
WMGZ	**Waiomatatini S**	**6.68**	**203**	P	**Pn**	**14 28 59.9**	**+0.5**
WMGZ				S	**Sn**	**14 30 15.6**	**+1.7**
PKGZ	**Pakihiroa**	**6.83**	**204**	P	**Pn**	**14 29 01.8**	**+0.2**
PKGZ				S	**Sn**	**14 30 17.1**	**-0.7**
HAZ	**Te Kaha**	**6.84**	**207**	P	**Pn**	**14 29 01.8**	**+0.1**
HAZ				S	**Sn**	**14 30 19.6**	**+1.6**
PUZ	**Puketiti**	**6.96**	**203**	P	**Pn**	**14 29 02.5**	**-0.7**
PUZ				S	**Sn**	**14 30 19.5**	**-1.4**
RUGZ	**Raukumara Rang**	**7.07**	**206**	P	**Pn**	**14 29 04.0**	**-0.9**
RUGZ				S	**Sn**	**14 30 24.3**	**+0.7**
TWGZ	**Tauwhareparae**	**7.14**	**204**	P	**Pn**	**14 29 05.0**	**-0.8**
TWGZ				S	**Sn**	**14 30 26.5**	**+1.0**
CNGZ	**Carnagh Statio**	**7.35**	**202**	P	**Pn**	**14 29 09.0**	**+0.4**
WCZ	**Waipu Caves**	**7.41**	**233**	P	**Pn**	**14 29 13.5**	**+4.1**
TKGZ	**Te Karaka**	**7.43**	**204**	P	**Pn**	**14 29 08.2**	**-1.4**
TKGZ				S	**Sn**	**14 30 31.5**	**-0.7**
URZ	**Urewera**	**7.54**	**208**	P	**Pn**	**14 29 09.7**	**-1.5**
	6.7nm,0.9s,baz=260,slow=5.4,SNR=18						
URZ				S	**Sn**	**14 30 35.8**	**+0.7**
	25nm,0.4s,baz=140,slow=23,SNR=16						
URZ	**Urewera**	**7.54**	**208**	P	**Pn**	**14 29 09.8**	**-1.3**
URZ				S	**Sn**	**14 30 35.8**	**+0.7**
OUZ	**Omahuta**	**7.59**	**240**	P	**Pn**	**14 29 14.3**	**+2.4**
RAGZ	**Rawiri**	**7.63**	**206**	P	**Pn**	**14 29 12.9**	**+0.4**
RAGZ				S	**Sn**	**14 30 38.0**	**+0.7**
RIGZ	**Rimuhau**	**7.70**	**203**	P	**Pn**	**14 29 12.3**	**-1.0**
RIGZ				S	**Sn**	**14 30 39.1**	**+0.3**
PRGZ	**Paritu Road**	**7.85**	**202**	S	**Sn**	**14 30 41.0**	**-1.6**
MUGZ	**Murupara**	**7.87**	**209**	P	**Pn**	**14 29 14.0**	**-1.6**
MUGZ				S	**Sn**	**14 30 42.2**	**-0.8**
RTZ	**Ruatahuna**	**7.90**	**208**	Pn	**Pn**	**14 29 14.5**	**-1.6**
SNGZ	**Shannon Statio**	**7.91**	**205**	P	**Pn**	**14 29 14.6**	**-1.6**
SNGZ				S	**Sn**	**14 30 45.1**	**+1.1**
NMHZ	**Naumai**	**8.39**	**207**	P	**Pn**	**14 29 21.6**	**-1.1**
NMHZ				S	**Sn**	**14 30 55.3**	**-0.4**
BKZ	**Black Stump Fm**	**8.57**	**208**	Pn	**Pn**	**14 29 23.9**	**-1.3**
BKZ	**Black Stump Fm**	**8.57**	**208**	P	**Pn**	**14 29 23.0**	**-2.2**
RPZ	**Rata Peaks**	**14.63**	**212**	P	**Pn**	**14 30 44.6**	**-1.3**

	4.5nm,0.3s,baz=332,slow=1.6,SNR=5.8								
AFI	**Afiamalu**	**18.69**	**20**		P	**P**	**14 31 34.0**	**-0.5**	
AFI					IAmb	IAmb	14 32 14.6		
	comp=Z,78nm,1.2s								
RAR	**Rarotonga**	**19.61**	**62**		LR	LR	14 40 45.5		
	comp=Z,58nm,18.4s,baz=175,slow=41								
TAU	**Tasmania Unive**	**29.32**	**238**		P	**P**	**14 33 16.4**	**-0.6**	
TAU					IAmb	IAmb	14 33 36.8		
	comp=Z,34nm,1.2s								
CTAO	**Charters Tower**	**33.72**	**281**		P	**P**	**14 33 54.8**	**-1.2**	
CTAO					IAmb	IAmb	14 33 56.9		
	comp=Z,8.5nm,0.7s								
STKA	**Stephens Creek**	**33.91**	**259**			**P**	**14 33 57.5**	**+0.1**	
STKA	**Stephens Creek**	**33.91**	**259**		P	**P**	**14 33 57.4**	**-0.1**	
	comp=Z,5.8nm,0.8s,baz=100,slow=12,SNR=12								
	comp=Z,5.8nm,0.8s								
INKA	**Innaminka**	**35.59**	**266**		P	**P**	**14 34 12.3**	**+0.4**	
INKA					IAmb	IAmb	14 34 13.3		
	comp=Z,10nm,0.9s								
BBOO	**Buckleboo**	**38.34**	**256**		P	**P**	**14 34 34.0**	**-1.2**	
COEN	**Coen**	**39.34**	**288**		P	**P**	**14 34 42.7**	**-1.1**	
COEN					IAmb	IAmb	14 34 44.7		
	comp=Z,9.4nm,1.0s								
AS31	**Alice Springs**	**42.75**	**268**		P	**P**	**14 35 10.3**	**-1.3**	
ASAR	**Alice Springs**	**42.75**	**268**		P	**P**	**14 35 09.9**	**-1.7**	
ASAR	**Alice Springs**	**42.75**	**268**		P	**P**	**14 35 10.4**	**-1.2**	
	comp=Z,4.7nm,0.7s,baz=107,slow=7.8,SNR=72								
ASAR					ScP	**ScP**	**14 40 40.1**	**-3.2**	
	comp=Z,0.4nm,0.8s,baz=108,slow=3.8,SNR=5.1								
	comp=Z,4.7nm,0.7s								
WR8	**Warramunga Arr**	**43.71**	**274**			**P**	**14 35 18.1**	**-1.3**	
WR8					IAmb	IAmb	14 35 18.7		
	comp=Z,11nm,0.7s								
WRAB	**Tennant Creek**	**43.85**	**274**		P	**P**	**14 35 19.0**	**-1.5**	
WRAB					IAmb	IAmb	14 35 19.8		
	comp=Z,10nm,0.6s								
WRA	**Warramunga Arr**	**43.85**	**274**		P	**P**	**14 35 19.1**	**-1.5**	
	comp=Z,8.0nm,0.4s,baz=111,slow=8.1,SNR=146								
	comp=Z,8.0nm,0.4s								
WB0	**Warramunga Arr**	**43.88**	**274**			**P**	**14 35 19.4**	**-1.3**	
KNRA	**Kununurra**	**50.51**	**276**		P	**P**	**14 36 10.9**	**-1.3**	
KNRA					IAmb	IAmb	14 36 31.9		
	comp=Z,7.4nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.06**	**271**		P	**P**	**14 36 22.5**	**-1.3**	
QSPA	**South Pole Qui**	**58.44**	**180**		P	**P**	**14 37 10.2**	**+1.1**	
QSPA					IAmb	IAmb	14 37 18.9		
	comp=Z,5.2nm,0.8s								
QSPA	**South Pole Qui**	**58.44**	**180**		P	P	14 37 14.6	+5.6	
	comp=Z,6.3nm,0.8s,baz=32,slow=2.8,SNR=27								
BELA	**Belgrano 2**	**68.56**	**172**		P	**P**	**14 38 17.4**	**+2.0**	
H03S2	**Juan Fernandez**	**80.02**	**124**		T	T	16 08 57.5		
	baz=238,slow=74,SNR=13								
H03S1	**Juan Fernandez**	**80.03**	**124**		T	T	16 09 01.8		
	baz=238,slow=74,SNR=12								
H03S3	**Juan Fernandez**	**80.04**	**124**		T	T	16 09 01.7		
	baz=238,slow=74,SNR=11								
H03N3	**Juan Fernandez**	**80.22**	**123**		T	T	16 08 31.1		
	baz=241,slow=72,SNR=5.8								
H03N2	**Juan Fernandez**	**80.22**	**123**		T	T	16 08 29.7		
	baz=241,slow=72,SNR=5.5								
H03N1	**Juan Fernandez**	**80.23**	**123**		T	T	16 08 29.7		
	baz=241,slow=72,SNR=9.2								
PLCA	**Paso Flores**	**81.86**	**133**		P	**P**	**14 39 34.5**	**+2.1**	
	comp=Z,1.8nm,0.9s,baz=264,slow=10,SNR=3.3								
	comp=Z,1.8nm,0.9s								
ASAJ	**Asahikawa**	**83.43**	**333**		LR	LR	15 10 58.8		
	comp=Z,20nm,19.2s,baz=212,slow=31								
NVAR	**Mina Array Bea**	**89.38**	**43**		P	**P**	**14 40 10.8**	**+1.2**	
	comp=Z,0.8nm,0.8s,baz=248,slow=3.9,SNR=3.8								
	comp=Z,0.8nm,0.8s								
FINES	**FINESS Array B**	**146.23**	**339**		PKPbc	**PKPdf**	**14 46 50.9**	**+0.1**	
	comp=Z,0.8nm,0.5s,baz=357,slow=2.8,SNR=6.3								

DJA 25 14:30:44.7±1.4, 9°S±4°×10°9E±°, h26km±15km, M3.8/12, mb4.1/1, MLv3.7/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**1.27**	**11**	P	Pb	14 31 07.8	-0.2
UGM	**Wanagama**	**1.94**	**70**	P	Pn	14 31 15.3	-0.7
CNJI	**Cibinong**	**2.00**	**309**	P	Pn	14 31 16.7	-0.2
WOJI	**Wonogiri, Jawa**	**2.33**	**71**	P	Pn	14 31 19.7	-1.7
PCJI	**Pacitan**	**2.49**	**81**	P	Pn	14 31 23.6	0.0
CGJI	**Cibinong**	**3.56**	**303**	P	Pn	14 31 39.2	+0.9
GMJI	**Gumukmas**	**4.71**	**87**	P	Pn	14 31 57.9	+3.7
JAGI	**Jajag, Banyuwa**	**5.40**	**89**	P	Pn	14 32 04.8	+1.1

NEIC ***25*** *14:35:24.3±2.1,50°3N±0°1×158°9E±0°1,h10km±2km, mb4.6/9, Error ellipse: s-maj=19.4km s-min=11.3km az=203.0*

MOS ***25*** *14:35:25.9±0.6,50°13N×159°12E,h54km,mb4.5/6, Error ellipse: s-maj=16.0km s-min=3.5km az=91.3*

KRSC ***25*** *14:35:25.1±1.8,50°26N×159°27E,h41km±36km,Ml4.6*

IDC ***25*** *14:35:28.4±2.9,50°20N×159°12E,h57km±23km,mb3.5/9, mbtmp3.8/10,ML4.0/2,MS2.6/2, Error ellipse: s-maj=26.6km s-min=19.4km az=99.0*

ISC 25 14:35:26.7±1.9, 50°17N±0°10×159°21E±0°06, h42km±16km, n120, σ1962/133, mb4.1/12, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**2.00**	**311**	PN	**Pn**	**14 35 57.6**	**-0.3**
PAU				S	**Sn**	**14 36 19.8**	**-1.9**
PAU	**Pauzhetka**	**2.00**	**311**	*e*P	**Pn**	**14 35 57.6**	**-0.3**
PAU				*e*S	**Sn**	**14 36 19.9**	**-1.9**
SKR	**Severo-Kuril's**	**2.04**	**286**	*i* Pn	Pn	14 35 57.0	-1.5
SKR	**Severo-Kuril's**	**2.04**	**286**	*e*P	Pn	14 35 56.7	-1.8
RUS	**Russkaya**	**2.31**	**349**	PN	**Pn**	**14 36 02.4**	**+0.2**
RUS				S	**Sn**	**14 36 28.2**	**-1.1**
RUS	**Russkaya**	**2.31**	**349**	*e*P	**Pn**	**14 36 02.5**	**+0.2**
RUS				*e*S	**Sn**	**14 36 28.3**	**-1.1**
ASAK	**Asacha**	**2.36**	**340**	PN	**Pn**	**14 36 03.4**	**+0.3**
ASAK				S	**Sn**	**14 36 30.0**	**-0.8**
ASAK	**Asacha**	**2.36**	**340**	*e*P	**Pn**	**14 36 03.4**	**+0.3**
ASAK				*e*S	**Sn**	**14 36 30.0**	**-0.8**
MTVR	**Mutnovka**	**2.40**	**345**	PN	**Pn**	**14 36 04.0**	**+0.4**
MTVR				S	**Sn**	**14 36 31.0**	**-0.9**
MTVR	**Mutnovka**	**2.40**	**345**	*e*P	**Pn**	**14 36 04.1**	**+0.4**
MTVR				*e*S	**Sn**	**14 36 31.0**	**-0.9**
GRL	**Gorelyy**	**2.49**	**344**	PN	**Pn**	**14 36 05.6**	**+0.8**
GRL				S	**Sn**	**14 36 33.8**	**-0.2**
GRL	**Gorelyy**	**2.49**	**344**	*e*P	**Pn**	**14 36 05.6**	**+0.8**
GRL				*e*S	**Sn**	**14 36 33.9**	**-0.2**
DALK	**Dalny**	**2.88**	**355**	PN	**Pn**	**14 36 10.4**	**+0.4**
DALK				S	**Sn**	**14 36 42.4**	**-1.0**
DALK	**Dalny**	**2.88**	**355**	*e*P	**Pn**	**14 36 10.5**	**+0.4**
DALK				*e*S	**Sn**	**14 36 42.5**	**-1.0**
PET	**Petropavlovsk**	**2.88**	**353**		Pn	14 36 08.1	-1.9
PET	**Petropavlovsk**	**2.88**	**353**	*e*PN	**Pn**	**14 36 10.5**	**+0.5**
PET				*e*S	**Sn**	**14 36 42.7**	**-0.7**
PET				pmax	pmax		
	comp=Z,184nm,0.5s						
PET				smax	smax		
	comp=N,580nm,0.8s						
PET				smax	smax		
	comp=E,330nm,0.6s						
PET	**Petropavlovsk**	**2.88**	**353**	*e*P	**Pn**	**14 36 10.4**	**+0.3**
PET				*e*S	**Sn**	**14 36 42.9**	**-0.5**
INSR	**Institute**	**2.93**	**353**	PN	**Pn**	**14 36 11.3**	**+0.7**
INSR				S	**Sn**	**14 36 44.8**	**+0.3**
INSR	**Institute**	**2.93**	**353**	*e*P	**Pn**	**14 36 11.4**	**+0.7**
INSR				*e*S	**Sn**	**14 36 44.8**	**+0.3**
SPN	**Mys Shipunski**	**2.98**	**10**	PN	**Pn**	**14 36 12.2**	**+0.9**
SPN				S	**Sn**	**14 36 46.1**	**+0.3**
SPN	**Mys Shipunski**	**2.98**	**10**	*e*P	**Pn**	**14 36 12.3**	**+0.9**
SPN				*e*S	**Sn**	**14 36 46.1**	**+0.3**
NLC	**Nalytchevo**	**3.01**	**2**	PN	**Pn**	**14 36 11.6**	**-0.2**
NLC				S	**Sn**	**14 36 44.7**	**-1.8**
NLC	**Nalytchevo**	**3.01**	**2**	*e*P	**Pn**	**14 36 11.6**	**-0.2**
NLC				*e*S	**Sn**	**14 36 44.7**	**-1.8**
APC	**Apacha**	**3.04**	**336**	PN	**Pn**	**14 36 14.6**	**+2.4**
APC				S	**Sn**	**14 36 49.0**	**+1.6**
APC	**Apacha**	**3.04**	**336**	*e*P	**Pn**	**14 36 14.7**	**+2.4**
APC				*e*S	**Sn**	**14 36 49.0**	**+1.6**
UGLR	**Uglovaya**	**3.05**	**356**	PN	**Pn**	**14 36 12.4**	**-0.1**
UGLR	**Uglovaya**	**3.05**	**356**	*e*P	**Pn**	**14 36 12.5**	**-0.1**
PEA0B	**Petropavlovsk-**	**3.09**	**343**	*i* PN	**Pn**	**14 36 14.3**	**+1.4**
PETK	**Petropavlovsk-**	**3.09**	**343**		Pn	14 36 10.6	-2.4
PETK	**Petropavlovsk-**	**3.09**	**343**	P	**Pn**	**14 36 13.5**	**+0.6**
	comp=E,20nm,0.3s,baz=139,slow=16,SNR=178						
PETK				S	**Sn**	**14 36 49.9**	**+1.3**
	comp=E,67nm,0.7s,baz=152,slow=23,SNR=9.8						
PETK				LR	LR	14 37 42.9	
	comp=E,97nm,19.9s,baz=132,slow=44						
	comp=E,44nm,0.5s						
SMAR	**Somma**	**3.11**	**356**	PN	**Pn**	**14 36 14.9**	**+1.5**
SMAR	**Somma**	**3.11**	**356**	*e*P	**Pn**	**14 36 14.9**	**+1.5**
AVH	**Avacha**	**3.11**	**355**	PN	**Pn**	**14 36 14.4**	**+1.1**
AVH	**Avacha**	**3.11**	**355**	*e*P	**Pn**	**14 36 14.4**	**+1.1**
SDLR	**Sedlovina**	**3.12**	**356**	PN	**Pn**	**14 36 13.8**	**+0.4**
SDLR	**Sedlovina**	**3.12**	**356**	*e*P	**Pn**	**14 36 13.9**	**+0.4**
KOK	**Koryaka**	**3.15**	**354**	PN	**Pn**	**14 36 15.1**	**+1.3**
KOK	**Koryaka**	**3.15**	**354**	*e*P	**Pn**	**14 36 15.1**	**+1.3**
KRER	**Koryakskii**	**3.15**	**355**	PN	**Pn**	**14 36 14.8**	**+0.8**
KRER	**Koryakskii**	**3.15**	**355**	*e*P	**Pn**	**14 36 14.8**	**+0.8**
KRX	**Arik**	**3.21**	**354**	PN	**Pn**	**14 36 15.7**	**+0.9**
KRX	**Arik**	**3.21**	**354**	*e*P	**Pn**	**14 36 15.7**	**+0.9**
KII	**Karymskiy**	**3.88**	**2**	PN	**Pn**	**14 36 25.7**	**+1.9**
KII				S	**Sn**	**14 37 09.5**	**+1.5**
KII	**Karymskiy**	**3.88**	**2**	*e*P	**Pn**	**14 36 25.7**	**+1.9**
KII				*e*S	**Sn**	**14 37 09.6**	**+1.5**
MKZ	**Mys Kozlova**	**4.66**	**18**	PN	**Pn**	**14 36 35.0**	**+0.6**
MKZ	**Mys Kozlova**	**4.66**	**18**	*e*P	**Pn**	**14 36 35.0**	**+0.6**
MKZ				*e*S	**Sn**	**14 37 25.5**	**-1.7**
TUMD	**Tumrok D**	**5.09**	**8**	PN	**Pn**	**14 36 41.9**	**+1.4**
TUMD	**Tumrok D**	**5.09**	**8**	*e*P	**Pn**	**14 36 41.9**	**+1.4**
TUMD				*e*S	**Sn**	**14 37 38.2**	**+0.3**
KMNR	**Kamenistaya**	**5.63**	**6**	PN	**Pn**	**14 36 51.1**	**+3.2**
KMNR	**Kamenistaya**	**5.63**	**6**	*e*P	**Pn**	**14 36 51.1**	**+3.2**
ESO	**Esso**	**5.78**	**357**	PN	**Pn**	**14 36 51.3**	**+1.6**
ESO	**Esso**	**5.78**	**357**	*e*P	**Pn**	**14 36 51.4**	**+1.6**
BZMR	**Bezymyannaya**	**5.83**	**7**	PN	**Pn**	**14 36 53.4**	**+2.8**
BZMR	**Bezymyannaya**	**5.83**	**7**	*e*P	**Pn**	**14 36 53.5**	**+2.8**
KIRR	**Kirishev**	**5.83**	**6**	PN	**Pn**	**14 36 53.1**	**+2.4**
KIRR	**Kirishev**	**5.83**	**6**	*e*P	**Pn**	**14 36 53.2**	**+2.4**
KPT	**Kopyto**	**5.84**	**6**	PN	**Pn**	**14 36 53.2**	**+2.5**
KPT	**Kopyto**	**5.84**	**6**	*e*P	**Pn**	**14 36 53.3**	**+2.5**
BZGR	**Bezymyannyi-Gr**	**5.85**	**8**	PN	**Pn**	**14 36 54.1**	**+3.2**
BZGR	**Bezymyannyi-Gr**	**5.85**	**8**	*e*P	**Pn**	**14 36 54.2**	**+3.2**
BZWR	**Bezymyannyi-We**	**5.86**	**7**	PN	**Pn**	**14 36 54.0**	**+3.0**
BZWR	**Bezymyannyi-We**	**5.86**	**7**	*e*P	**Pn**	**14 36 54.1**	**+3.0**
KOZ	**Kozyrevsk**	**5.91**	**4**	PN	**Pn**	**14 36 54.0**	**+2.4**
KOZ	**Kozyrevsk**	**5.91**	**4**	*e*P	**Pn**	**14 36 54.1**	**+2.4**
ZLN	**Zelenaya**	**5.94**	**9**	PN	**Pn**	**14 36 55.1**	**+3.0**
ZLN	**Zelenaya**	**5.94**	**9**	*e*P	**Pn**	**14 36 55.1**	**+3.0**
SRDR	**Sredinnyy**	**6.17**	**3**	PN	**Pn**	**14 36 57.0**	**+1.8**
SRDR	**Sredinnyy**	**6.17**	**3**	*e*P	**Pn**	**14 36 57.1**	**+1.8**
KLY	**Klyuchi**	**6.22**	**7**	PN	**Pn**	**14 36 58.1**	**+2.3**
KLY	**Klyuchi**	**6.22**	**7**	*e*P	**Pn**	**14 36 58.2**	**+2.3**

*IDC **25** 14:54:48.8±0.4,8˚.57N×39˚.51W, h0km, mb4.4/26, mbtmp4.4/28, ML4.0/2, MS3.8/60, Error ellipse: s-maj=14.7km s-min=11.5km azc=126.0*
*NEIC **25** 14:54:51.9±2.0,8˚.49N±0˚.06×39˚.51W±0˚.09, h10km±1km, mb4.9/204, Error ellipse: s-maj=15.1km s-min=9.3km az=106.0*
*INMG **25** 14:54:52.0±1.8,8˚.48N×39˚.41W, h10km, M4.9, mb4.7, Ms3.5, #DIST_RANGE: DISTANT*
*BGR **25** 14:54:53.4,8˚.33N×38˚.58W, h10km, mb4.6, Ms3.6*
*GCMT **25** 14:54:53.9±0.3,8˚.56N±0˚.03×39˚.45W±0˚.02, h13km±1km, MW4.8/102, Moment Tensor Solution. s23,c31; s102,c141; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.50±.15; Mθθ 0.64±.09; Mϕϕ 1.87±.10; Mrθ-0.40±.30; Mθϕ 0.73±.06; Mϕr-0.03±.26; Best double couple: M₀2.38500×10¹⁶ NP1:ϕs198.00000°, δ43.00000°, λ-100.00000°. NP2:ϕs32.00000°, δ48.00000°, λ-81.00000°. Principal axes: T 2.2190, Plg2.0000°, Azm115.0000°; N 0.3370, Plg7.0000°, Azm206.0000°; P -2.5510, Plg83.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 14:54:51.5±0.3,8˚.57N±0˚.06×39˚.53W±0˚.06, h15km, n592, σ1.935/472, mb4.8/177, MS3.8/58, 20C-11D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.47**	**256**	Pn	**Pn**	**14 57 59.7**	**-2.6**
	1.1nm,0.3s,baz=75,slow=13,SNR=8.4						
MDP				Sn	Sn	15 00 16.1	-16
	0.7nm,0.3s,baz=131,slow=21,SNR=5.1						
MDP				LR	LR	15 02 14.8	
	comp=Z,534nm,21.7s,baz=81,slow=33						
	8.1nm,0.8s						
RCBR	**Riachuelo**	**14.75**	**166**	Pn	**Pn**	**14 58 19.6**	**-0.2**
RCBR	**Riachuelo**	**14.75**	**166**	Pn	**Pn**	**14 58 18.0**	**-1.8**
	0.4nm,0.3s,baz=3.2,slow=20,SNR=7.7						
RCBR				Sn	Sn	15 00 50.2	-13
	0.1nm,0.3s,baz=329,slow=23,SNR=2.0						
RCBR				LR	LR	15 02 32.4	
	comp=Z,250nm,20.8s,baz=6.0,slow=31						
	3.4nm,0.8s						
PRPB	**Parauapebas**	**17.88**	**215**	*eP*	**P**	**14 59 03.4**	**+2.9**
MAL2	**Monte Alegre,**	**18.00**	**235**	Pn	**Pn**	**14 58 59.1**	**-2.3**
SMTB	**Santa Maria do**	**19.09**	**205**	*eP*	**Pn**	**14 59 16.2**	**+1.6**
ITTB	**Itaituba**	**20.65**	**232**	*eP*	Pn	14 59 32.3	-0.9
SDBA	**SAO DESIDERIO**	**21.51**	**194**	*eP*	**P**	**14 59 40.7**	**+0.6**
H05S1	**Guadeloupe/Mar**	**21.67**	**288**	T	T	15 21 51.3	
	SNR=110						
MPOM	**Morne Pois Mar**	**21.70**	**288**	P	**P**	**14 59 43.8**	**+1.7**
MPOM				IAmb	IAmb	14 59 49.4	
	comp=Z,54nm,0.9s						
BOAV	**Boa Vista**	**21.77**	**255**		**P**	**14 59 43.3**	**+0.3**
BOAV				IAmb	IAmb	14 59 50.4	
	comp=Z,29nm,0.9s						
BOAV	**Boa Vista**	**21.77**	**255**	*eP*	**P**	**14 59 43.7**	**+0.7**
ILAM	**Ilet Lapin Mar**	**21.79**	**288**	P	**P**	**14 59 44.8**	**+1.7**
SVN	**Savane Anatole**	**22.08**	**288**	P	**P**	**14 59 46.4**	**-0.9**
NPGB	**Novo Progresso**	**22.13**	**226**	*eP*	**P**	**14 59 48.6**	**+1.8**
H05N1	**Guadeloupe/Mar**	**22.38**	**292**	T	T	15 22 43.9	
	SNR=20						
GDSD	**La Dsirade Is**	**22.38**	**292**	P	**P**	**14 59 50.2**	**+0.7**
GDSD				IAmb	IAmb	14 59 52.6	
	comp=Z,57nm,1.1s						
CMC01	**Camacan, BA**	**23.77**	**180**	*eP*	**P**	**15 00 04.6**	**+0.9**
JANB	**Januaria**	**23.95**	**191**	*eP*	**P**	**15 00 04.8**	**-0.6**
CLDB	**Colider**	**25.20**	**220**	*eP*	**P**	**15 00 19.2**	**+2.4**
BDFB	**Brasilia**	**25.48**	**199**	P	**P**	**15 00 19.8**	**+0.4**
BDFB	**Brasilia**	**25.48**	**199**	P	**P**	**15 00 19.2**	**-0.2**
	comp=Z,10nm,0.9s,baz=15,slow=6.0,SNR=13						
BDFB				LR	LR	15 09 51.2	
	comp=Z,343nm,18.6s,baz=40,slow=35						
	comp=Z,10nm,0.9s						
PDRB	**Porto dos Gac**	**26.36**	**221**	*eP*	**P**	**15 00 28.3**	**+1.0**
ARAG	**Araguaiana, MT**	**27.01**	**207**	*eP*	**P**	**15 00 34.0**	**+0.8**
SJG	**San Juan**	**27.55**	**293**	LR	LR	15 09 27.5	
	comp=Z,426nm,20.7s,baz=146,slow=32						
CELP	**Cerrillos**	**27.93**	**293**	P	**P**	**15 00 42.3**	**+0.8**
CELP				IAmb	IAmb	15 00 43.0	
	comp=Z,17nm,0.8s						
BAUV	**El Baul**	**28.18**	**273**		**P**	**15 00 44.9**	**+1.1**
BAUV				IAmb	IAmb	15 00 56.6	
	comp=Z,24nm,1.1s						
SALV	**Santo Antonio**	**29.11**	**213**	*eP*	**P**	**15 00 52.5**	**+0.6**
SAML	**Samuel**	**29.29**	**234**		**P**	**15 00 55.0**	**+1.4**
SAML	**Samuel**	**29.29**	**234**	*eP*	**P**	**15 00 54.6**	**+1.0**
H10N3	**ASCENSION HYDR**	**29.79**	**122**	T	T	15 32 20.5	
	baz=302,slow=75,SNR=240						
H10N2	**ASCENSION HYDR**	**29.80**	**122**	T	T	15 32 22.0	
	baz=302,slow=75,SNR=342						
H10N1	**ASCENSION HYDR**	**29.81**	**122**	T	T	15 32 23.2	
	baz=302,slow=75,SNR=332						
H10S3	**ASCENSION HYDR**	**30.27**	**125**	T	T	15 32 54.9	
	baz=300,slow=74,SNR=215						
H10S2	**ASCENSION HYDR**	**30.29**	**124**	T	T	15 32 56.6	
	baz=280,slow=74,SNR=171						
SDV	**Santo Domingo**	**30.75**	**273**	LR	LR	15 13 49.5	
	comp=Z,121nm,20.0s,baz=76,slow=37						
PTLB	**Pontes e Lacer**	**30.77**	**219**		**P**	**15 01 08.5**	**+1.9**
PTLB	**Pontes e Lacer**	**30.77**	**219**	*eP*	**P**	**15 01 08.6**	**+1.9**
BANI	**BANI**	**31.48**	**291**	P	**P**	**15 01 13.7**	**+0.6**
PMOZ	**Porto Moniz, M**	**31.77**	**37**	*i* IAMs_20	IAMs_20	15 10 38.8	
	comp=Z,55nm,20.0s						
PMOZ				*eT*	T	15 33 58.8	
FUL	**Funchal**	**31.84**	**38**	*eT*	T	15 33 59.9	
PMAR	**Madeira**	**31.88**	**38**	*eT*	T	15 33 42.4	
RPRD	**Ribas do Rio P**	**32.06**	**206**	*eP*	**P**	**15 01 19.3**	**+1.3**
SIV	**San Ignacio**	**32.41**	**221**	LR	LR	15 13 55.0	
	comp=Z,165nm,20.1s,baz=115,slow=35						
AQDB	**Aquidauana**	**32.95**	**209**	P	**P**	**15 01 25.3**	**-0.5**
AQDB				IAmb	IAmb	15 01 28.2	
	comp=Z,28nm,1.8s						
TRCB	**Terra Rica**	**33.71**	**202**	P	**P**	**15 01 33.5**	**+1.1**
TRCB	**Terra Rica**	**33.71**	**202**	*eP*	**P**	**15 01 33.5**	**+1.4**
LDASE	**Londrina, Braz**	**33.73**	**199**	*eP*	**P**	**15 01 33.5**	**+0.9**
DBIC	**Dimbokro**	**34.41**	**91**		**P**	**15 01 37.5**	**-1.1**
DBIC	**Dimbokro**	**34.41**	**91**	P	**P**	**15 01 37.6**	**-1.0**
	comp=Z,18nm,0.8s,baz=301,slow=9.8,SNR=19						
DBIC				LR	LR	15 13 12.0	
	comp=Z,287nm,19.4s,baz=326,slow=32						
	comp=Z,18nm,0.8s						
ROSC	**El Rosal**	**34.74**	**266**	P	**P**		**15 01 44.0**	**+2.0**
	comp=Z,7.2nm,0.3s,baz=132,slow=15,SNR=4.5						
ROSC				LR	LR	15 17 36.7	
	comp=Z,274nm,18.1s,baz=63,slow=39						
AMBA	**Amambai (Brazi**	**34.77**	**206**	*eP*	**P**	**15 01 42.5**	**+0.9**
MURT	**Porto Murtinho**	**34.89**	**210**	*eP*	**P**	**15 01 44.3**	**+1.6**
PTGB	**Pitanga**	**35.27**	**200**	*eP*	**P**	**15 01 47.2**	**+1.3**
SJPY	**San Joaquin**	**37.07**	**205**	*eP*	**P**	**15 02 02.2**	**+1.0**
LPAZ	**La Paz**	**37.57**	**229**		**P**	**15 02 07.7**	**+1.4**
LPAZ				IAmb	IAmb	15 02 10.7	
	comp=Z,9.8nm,0.7s						
LPAZ	**La Paz**	**37.57**	**229**	P	**P**	**15 02 07.6**	**+1.3**
	comp=Z,8.0nm,0.6s,baz=43,slow=6.0,SNR=40						
	comp=Z,8.0nm,0.6s						
LPAZ	**La Paz**	**37.57**	**229**	*eP*	**P**	**15 02 07.9**	**+1.6**
CPUP	**Villa Florida**	**38.76**	**206**	P	**P**	**15 02 15.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=1.8,slow=5.5,SNR=1.9						
	comp=Z,0.2nm,0.4s						
PB16	**IPOC Station P**	**39.88**	**228**	P	**P**	**15 02 24.6**	**-1.1**
MORF	**Marmelete**	**39.99**	**40**	*eP*	**P**	**15 02 26.8**	**+1.0**
MD01	**Midelt array s**	**40.21**	**48**	P	**P**	**15 02 28.9**	**+1.0**
MD31	**MD31**	**40.21**	**48**	P	**P**	**15 02 28.9**	**+1.1**
MDT	**Midelt**	**40.30**	**48**	LR	LR	15 18 34.1	
	comp=Z,81nm,18.0s,baz=232,slow=35						
PBDV	**Barranco-do-Ve**	**40.41**	**40**	*eP*	**P**	**15 02 30.6**	**+1.3**
MESJ	**Messejana**	**40.59**	**39**	*eP*	**P**	**15 02 31.8**	**+1.1**
PVAQ	**Vaqueiros**	**40.64**	**40**	*eP*	**P**	**15 02 32.1**	**+1.0**
PVAQ				*i* IAmb	IAmb	15 02 35.5	
	comp=Z,31nm,2.3s						
PVAQ				*i* IAMs_20	IAMs_20	15 15 56.6	
	comp=Z,102nm,20.0s						
PARRA	**Arraiolos**	**40.70**	**37**	*eP*	P	15 02 37.5	+6.0
PARRA				*i* IAmb	IAmb	15 02 41.6	
	comp=Z,17nm,1.5s						
TORD	**Torodi Ar. Bea**	**40.70**	**80**	P	**P**	**15 02 30.2**	**-1.7**
	comp=Z,11nm,0.3s,baz=279,slow=10.0,SNR=29						
TORD				PcP	**PcP**	**15 04 32.6**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=267,slow=5.6,SNR=3.6						
TORD				LR	LR	15 17 27.6	
	comp=Z,341nm,19.7s,baz=284,slow=33						
	comp=Z,11nm,0.3s						
PB11	**IPOC Station P**	**40.90**	**226**	P	**P**		**15 02 33.2**	**-0.5**
PBEJ	**Beja**	**40.92**	**39**	*eP*	**P**	**15 02 34.0**	**+0.5**
PBEJ				*i* IAmb	IAmb	15 02 37.9	
	comp=Z,23nm,2.6s						
COHC	**Cochancay**	**41.10**	**256**	P	**P**	**15 02 34.8**	**-0.4**
EVO	**Evora**	**41.14**	**39**	*eP*	**P**	**15 02 36.6**	**+1.3**
EVO				*i* IAmb	IAmb	15 02 37.2	
	comp=Z,17nm,1.0s						
PMTG	**Montargil**	**41.35**	**38**	*eP*	**P**	**15 02 38.0**	**+1.0**
HMBC	**Humberstone**	**41.40**	**226**	P	**P**	**15 02 36.6**	**-1.1**
HMBC				IAmb	IAmb	15 02 38.0	
	comp=Z,11nm,0.6s						
PSARD	**Sardoal**	**41.72**	**37**	*eP*	**P**	**15 02 41.3**	**+1.2**
PSARD				*i* IAmb	IAmb	15 02 41.7	
	comp=Z,16nm,0.9s						
ATAH	**Atahualpa**	**41.77**	**249**	LR	LR	15 20 56.8	
	comp=Z,66nm,19.4s,baz=63,slow=38						
PCAS	**Casmilo, Conde**	**41.81**	**36**	*eP*	**P**	**15 02 41.3**	**+0.6**
PCAS				*i* IAmb	IAmb	15 02 55.6	
	comp=Z,27nm,1.1s						
PATCX	**Punta Patache**	**41.94**	**225**	P	**P**	**15 02 42.0**	**-0.1**
PATCX				IAmb	IAmb	15 02 50.7	
	comp=Z,19nm,0.8s						
PMRV	**Marv??o**	**42.08**	**38**	*eP*	**P**	**15 02 44.4**	**+1.5**
PMRV				*i* IAmb	IAmb	15 02 46.2	
	comp=Z,22nm,1.5s						
PCBR	**Castelo Branco**	**42.28**	**37**	*eP*	**P**	**15 02 45.9**	**+1.4**
PCBR				*i* IAmb	IAmb	15 02 48.6	
	comp=Z,18nm,1.2s						
NNA	**Nana**	**42.35**	**242**	LR	LR	15 20 15.1	
	comp=Z,122nm,20.9s,baz=14,slow=36						
PVIS	**Viseu**	**42.59**	**36**	*eP*	**P**	**15 02 48.3**	**+1.2**
MTE	**Manteigas**	**42.59**	**37**	*eP*	**P**	**15 02 48.4**	**+1.2**
MTE				*i* IAMs_20	IAMs_20	15 16 32.9	
	comp=Z,67nm,22.0s						
PSAL	**Palomas, Salto**	**43.06**	**203**	*eP*	**P**	**15 02 51.5**	**+0.5**
PGAV	**Gavieira, Arco**	**43.19**	**34**	*eP*	**P**	**15 02 53.1**	**+1.1**
PGAV				*i* IAMs_20	IAMs_20	15 16 44.8	
	comp=Z,66nm,22.0s						
PB05	**IPOC Station P**	**43.33**	**223**	P	**P**	**15 02 52.9**	**-0.4**
PB05				IAmb	IAmb	15 03 06.2	
	comp=Z,20nm,1.2s						
MVO	**Moncorvo**	**43.38**	**36**	*eP*	**P**	**15 02 54.6**	**+1.0**
PBRG	**Braganca**	**43.95**	**36**	*eP*	**P**	**15 02 59.5**	**+1.3**
ESDC	**Sonseca Array**	**44.35**	**40**	P	**P**	**15 03 01.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=241,slow=8.8,SNR=11						
ESDC				PcP	**PcP**	**15 04 46.3**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=336,slow=1.7,SNR=3.2						
ESDC				LR	LR	15 18 16.1	
	comp=Z,101nm,19.8s,baz=262,slow=32						
	comp=Z,1.8nm,0.9s						
GO02	**Mina Guanaco**	**44.52**	**220**		**P**	**15 03 03.1**	**0.0**
JTS	**Las Juntas de**	**44.82**	**276**	LR	LR	15 23 10.9	
	comp=Z,77nm,20.1s,baz=92,slow=38						
AC02	**Maricunga**	**45.42**	**218**		**P**	**15 03 08.9**	**-1.7**
AC02				IAmb	IAmb	15 03 12.5	
	comp=Z,17nm,1.2s						
TAM	**Tamanrasset**	**45.43**	**66**		**P**	**15 03 11.4**	**+1.1**
BLA	**Blacksburg**	**46.69**	**314**	P	**P**	**15 03 20.9**	**+0.9**
R55A	**Marlinton**	**46.98**	**316**	P	**P**	**15 03 24.6**	**+2.5**
R55A				IAmb	IAmb	15 04 29.3	
	comp=Z,15nm,1.1s						
BG3	**Lake Jocassee**	**47.59**	**310**	P	**P**	**15 03 27.2**	**+0.2**
BG3				IAmb	IAmb	15 03 43.3	
	comp=Z,12nm,1.0s						
P53A	**Whipple**	**48.42**	**316**	P	**P**	**15 03 33.9**	**+0.6**
TKL	**Tuckaleechee C**	**48.49**	**311**	LR	LR	15 19 46.7	
	comp=Z,326nm,21.8s,baz=127,slow=31						
N53A	**Lisbon**	**48.68**	**318**	P	**P**	**15 03 36.5**	**+1.2**
N53A				IAmb	IAmb	15 03 43.6	
	comp=Z,9.7nm,0.8s						
CEST	**Esterri de Car**	**49.25**	**40**	IAmb	IAmb	15 03 42.7	
	comp=Z,17nm,1.4s						
W50A	**Signal Mountai**	**49.48**	**309**	P	**P**	**15 03 42.5**	**+1.0**
W50A				IAmb	IAmb	15 03 49.4	
	comp=Z,9.4nm,1.0s						
SADO	**Sadowa**	**49.72**	**323**	LR	LR	15 23 10.1	
	comp=Z,55nm,18.4s,baz=130,slow=34						
MT08	**Bocatoma Ro**	**50.85**	**213**	P	**P**	**15 03 53.0**	**+0.9**
MT08				IAmb	IAmb	15 04 00.2	
	comp=Z,27nm,1.4s						
SCHQ	**Schefferville**	**51.01**	**340**	P	**P**	**15 03 50.6**	**-2.1**
	comp=Z,3.9nm,0.7s,baz=114,slow=9.0,SNR=3.6						
SCHQ				LR	LR	15 21 44.5	
	comp=Z,158nm,21.3s,baz=114,slow=32						
	comp=Z,3.9nm,0.7s						
BO04	**La Punta**	**51.58**	**213**	P	**P**	**15 03 57.3**	**-0.1**
WVT	**Waverly**	**51.72**	**310**	P	**P**	**15 03 59.2**	**+0.8**
KEST	**Kesra**	**52.03**	**51**	IAmb	IAmb	15 04 04.2	
	comp=Z,8.2nm,0.9s						
KEST	**Kesra**	**52.03**	**51**	P	**P**	**15 04 01.6**	**+0.8**
	comp=Z,7.4nm,0.9s,baz=253,slow=5.2,SNR=9.0						
KEST				LR	LR	15 26 11.8	
	comp=Z,79nm,18.6s,baz=239,slow=36						
	comp=Z,7.4nm,0.9s						
H09W1	**TRISTAN DA CUN**	**52.09**	**152**	T	T	16 00 10.0	
	SNR=7.5						
BO02	**Sierra Bellavi**	**52.28**	**213**	IAmb	IAmb	15 04 03.6	
	comp=Z,18nm,1.1s						
OLIL	**Olney**	**52.84**	**313**	IAmb	IAmb	15 04 14.5	
	comp=Z,19nm,0.9s						
SIUC	**Southern Illin**	**53.31**	**311**	P	**P**	**15 04 11.1**	**+1.0**
SIUC				IAmb	IAmb	15 04 14.0	
	comp=Z,11nm,0.8s						
BNI	**Bardonecchia**	**53.88**	**39**	P	**P**	**15 04 16.0**	**+1.6**
BNI				IAmb	IAmb	15 04 17.2	
	comp=Z,10nm,1.1s						
CMIG	**Matias Romero**	**54.49**	**285**	LR	LR	15 24 10.8	
	comp=Z,57nm,21.6s,baz=62,slow=32						
EKA	**Eskdalemuir Ar**	**54.80**	**24**	P	**P**	**15 04 20.2**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=214,slow=5.8,SNR=6.2						
EKA				PcP	**PcP**	**15 05 23.0**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=232,slow=3.4,SNR=5.1						
	comp=Z,1.8nm,0.8s						
DOU	**Dourbes**	**55.22**	**33**	*dP*	**P**	**15 04 24.3**	**+0.5**
	comp=Z,4.8nm,1.2s						
MGMO	**Mountain Grove**	**55.43**	**309**	IAmb	IAmb	15 06 22.2	
	comp=Z,29nm,1.9s						
RCHB	**Rochefort**	**55.59**	**33**	*dP*	**P**	**15 04 26.9**	**+0.3**
	comp=Z,4.5nm,1.0s						
ECH	**Echery**	**55.68**	**36**	P	**P**	**15 04 27.5**	**+0.2**
ECH				IAmb	IAmb	15 04 28.8	
	comp=Z,11nm,1.0s						
R40A	**Maddies Statio**	**55.77**	**311**	IAmb	IAmb	15 04 34.6	
	comp=Z,5.6nm,0.7s						
BCLA	**Clavier**	**55.78**	**33**	*dP*	**P**	**15 04 28.7**	**+0.8**
	comp=Z,4.0nm,1.1s						
P40A	**Paris**	**56.00**	**312**	IAmb	IAmb	15 04 36.7	
	comp=Z,8.6nm,0.7s						
MEM	**Membach**	**56.26**	**33**	*dP*	**P**	**15 04 31.4**	**+0.1**
	comp=Z,4.6nm,0.9s						
BFO	**Black Forest**	**56.42**	**36**	P	**P**	**15 04 33.2**	**+0.6**
BFO				IAmb	IAmb	15 04 34.2	
	comp=Z,13nm,0.9s						
BFO	**Black Forest**	**56.42**	**36**	*eP*	**P**	**15 04 33.0**	**+0.5**
	comp=Z,14nm,0.9s,baz=242,slow=7.0						
BFO				*eL*	L	15 27 28.7	
	comp=Z,39nm,20.2s						
DAVOX	**Davos/Dischmat**	**56.65**	**39**	LR	LR	15 25 16.1	
	comp=Z,87nm,21.2s,baz=261,slow=32						
CESX	**Cesi**	**56.75**	**44**	IAmb	IAmb	15 04 39.9	
	comp=Z,16nm,1.2s						
PLCA	**Paso Flores**	**56.78**	**208**	IAmb	IAmb	15 04 36.3	
	comp=Z,10nm,0.9s						
PLCA	**Paso Flores**	**56.78**	**208**	P	**P**	**15 04 35.0**	**-0.3**
	comp=Z,7.7nm,0.8s,baz=28,slow=7.9,SNR=16						
PLCA				LR	LR	15 29 45.8	
	comp=Z,181nm,20.0s,baz=66,slow=37						
	comp=Z,7.7nm,0.8s						
PLCA	**Paso Flores**	**56.78**	**208**	*eP*	**P**	**15 04 35.4**	**+0.2**
DAVA	**Damuels**	**56.87**	**38**	*eP*	**P**	**15 04 36.7**	**+0.7**
	comp=Z,14nm,0.9s,SNR=11						
STU	**Stuttgart**	**57.14**	**36**	*eP*	**P**	**15 04 38.0**	**+0.4**
	baz=242,slow=7.0						
NRCA	**Norcia**	**57.20**	**44**	IAmb	IAmb	15 04 51.8	
	comp=Z,6.5nm,0.9s						
FETA	**Feichten**	**57.28**	**39**	*eP*	**P**	**15 04 39.0**	**+0.1**
	comp=Z,8.1nm,0.9s,SNR=9.8						
BUG	**Bochum--Univer**	**57.37**	**33**	*eP*	**P**	**15 04 39.8**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=242,slow=7.0						
TNS	**Taunus Mts**	**57.40**	**34**	*eP*	**P**	**15 04 40.1**	**+0.6**
	comp=Z,14nm,1.6s,baz=242,slow=7.0						
TNS				*eL*	L	15 27 27.3	
	comp=Z,69nm,19.0s						
RETA	**Reutte**	**57.50**	**38**	*i* P	**P**	**15 04 40.6**	**+0.3**
	comp=Z,13nm,1.2s,SNR=8.9						
BORG	**Borgarnes**	**57.54**	**9**	LR	LR	15 23 44.9	
	comp=Z,90nm,20.3s,baz=172,slow=30						
MOTA	**Moosalm**	**57.65**	**38**	*eP*	**P**	**15 04 41.4**	**-0.1**
	comp=Z,11nm,1.1s,SNR=7.3						
SQTA	**Sankt Quirin**	**57.66**	**39**	*eP*	**P**	**15 04 41.5**	**0.0**
	comp=Z,6.9nm,0.7s,SNR=9.6						
KASTN	**Kahler Asten**	**57.87**	**33**	*eP*	**P**	**15 04 43.2**	**+0.4**
	comp=Z,6.8nm,1.2s,baz=242,slow=7.0						
WATA	**Walderalm**	**57.94**	**39**	*i* P	**P**	**15 04 43.4**	**-0.1**
	comp=Z,9.3nm,1.0s,SNR=8.2						
WTTA	**Wattenberg**	**57.94**	**39**	*i* P	**P**	**15 04 43.6**	**+0.1**
	comp=Z,13nm,0.8s,SNR=8.0						
IBBN	**Ibbenburen**	**58.08**	**32**	*eP*	**P**	**15 04 44.5**	**+0.4**
	baz=242,slow=7.0						
FUR	**Furstenfeldbru**	**58.10**	**38**	*eP*	**P**	**15 04 45.2**	**+0.8**
	comp=Z,16nm,0.8s,baz=242,slow=7.0						
FUR				*eL*	L	15 24 14.6	
	comp=Z,52nm,20.4s						
ABTA	**Abfaltersbach**	**58.28**	**40**	*eP*	**P**	**15 04 46.0**	**+0.2**
	comp=Z,8.2nm,0.8s,SNR=6.4						
Z35A	**Perchaven, San**	**58.46**	**304**	P	**P**	**15 04 47.8**	**+0.6**
LESA	**Schwarzleotal**	**58.65**	**39**	*eP*	**P**	**15 04 48.4**	**+0.1**
	comp=Z,14nm,1.0s,SNR=11						
GRF	**Grafenberg Arr**	**58.74**	**36**	*eP*	**P**	**15 04 49.3**	**+0.5**
	comp=Z,8.3nm,0.8s,baz=242,slow=7.0						
GRF				*eL*	L	15 25 09.8	
	comp=Z,33nm,21.4s						
SFJD	**Kangerlussuaq**	**58.84**	**355**	LR	LR	15 25 03.8	
	comp=Z,56nm,21.3s,baz=150,slow=31						
RJOB	**Jochberg**	**58.85**	**39**	*eP*	**P**	**15 04 49.7**	**0.0**
	comp=Z,12nm,1.0s,baz=242,slow=7.0						
FRB	**Frobisher Bay**	**58.86**	**345**	LR	LR	15 26 32.3	
	comp=Z,163nm,20.4s,baz=132,slow=32						
GTTG	**Gottingen**	**58.89**	**34**	*eP*	**P**	**15 04 50.7**	**+0.9**
	comp=Z,16nm,1.3s,baz=242,slow=7.0						
KBA	**Koelnbreinsper**	**58.93**	**40**	*eP*	**P**	**15 04 50.4**	**0.0**
	comp=Z,5.0nm,0.7s						
MYKA	**Terra Mystica**	**58.95**	**40**	*eP*	**P**	**15 04 51.0**	**+0.6**
	comp=Z,11nm,0.8s,SNR=12						
RETH	**Rethem/Aller,**	**59.14**	**32**	*eP*	**P**	**15 04 52.4**	**+0.9**
	comp=Z,7.0nm,1.4s,baz=242,slow=7.0						
CLZ	**Clausthal**	**59.25**	**34**	*eP*	**P**	**15 04 52.4**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=242,slow=7.0						
ROTZ	**Rotzenmuhle**	**59.35**	**36**	*eP*	**P**	**15 04 53.4**	**+0.3**
	comp=Z,2.4nm,1.2s,baz=242,slow=7.0						
BIOA	**Bad Ischl, Aus**	**59.36**	**39**	*eP*	**P**	**15 04 52.9**	**-0.3**
	comp=Z,10nm,0.9s,SNR=6.9						
MANZ	**Manzenberg**	**59.38**	**36**	*eP*	**P**	**15 04 53.4**	**0.0**
	comp=Z,0.8nm,0.9s,baz=242,slow=7.0						
MOX	**Moxa**	**59.39**	**35**	*eP*	**P**	**15 04 54.0**	**+0.6**
	comp=Z,5.5nm,1.0s,baz=242,slow=7.0						
MOX				*eL*	L	15 30 40.8	
	comp=Z,41nm,20.7s						
NRDL	**Niedersach Rie**	**59.42**	**33**	*eP*	**P**	**15 04 54.4**	**+1.0**
	comp=Z,10nm,1.2s,baz=242,slow=7.0						
WET	**Wettzell**	**59.48**	**37**	*eP*	**P**	**15 04 53.5**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=242,slow=7.0						
WET				*eL*	L	15 28 52.6	
	comp=Z,37nm,20.2s						
OBKA	**Obir**	**59.48**	**40**	*eP*	**P**	**15 04 54.9**	**+0.7**
	comp=Z,14nm,1.0s,SNR=11						
BRDY	**Brady**	**59.57**	**301**	IAmb	IAmb	15 05 01.1	
	comp=Z,7.4nm,1.0s						
PLN	**Plauen**	**59.63**	**36**	*eP*	**P**	**15 04 55.6**	**+0.6**
	comp=Z,5.6nm,1.5s,baz=242,slow=7.0						
TANN	**Tannenbergstha**	**59.78**	**36**	*eP*	**P**	**15 04 56.7**	**+0.6**
	comp=Z,8.9nm,1.3s,baz=242,slow=7.0						
MOA	**Molln**	**59.81**	**39**	*i* P	**P**	**15 04 56.2**	**-0.1**
	comp=Z,7.5nm,0.9s,SNR=11						
GEC2	**GERESS Array S**	**59.85**	**38**	*eP*	**P**	**15 04 56.5**	**-0.1**
	comp=Z,4.6nm,1.2s,baz=242,slow=7.0						
GERES	**GERESS Array B**	**59.85**	**38**	P	**P**	**15 04 56.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=267,slow=2.0,SNR=4.1	

EZN **Ezine** 66.05 50 ⇑P P 15 05 38.4 +0.5
EZN **Ezine** 66.05 50 P P 15 05 39.1 +1.2
ISCO **Idaho Springs** 66.22 310 IAmb IAmb 15 05 50.4
comp=Z,7.1nm,1.2s
ELND **Elena** 66.25 47 ⇑P P 15 05 41.1 +1.9
ANMO **Albuquerque** 66.25 304 LR LR 15 31 23.5
comp=Z,130nm,21.4s,baz=184,slow=33
DOPR **Dopca** 66.52 44 ⇑P P 15 05 41.9 +1.0
BURAR **Bucovina Array** 66.77 42 ⇑P P 15 05 43.2 +0.7
MLR **Muntele Rosu** 66.80 44 ⇓P P 15 05 43.8 +1.0
MLR **Muntele Rosu** 66.80 44 P P 15 05 44.0 +1.2
comp=Z,304nmcomp=Z,18nm,1.4s
OZUR 66.81 43 ⇑P P 15 05 44.1 +1.3
RAZG **Razgrad** 66.82 46 ⇓P P 15 05 43.1 +0.3
S22A **4UR Ranch, Cre** 66.88 307 IAmb IAmb 15 05 48.0
comp=Z,6.6nm,1.3s
COVR **Voineasa-Covas** 67.05 44 ⇑P P 15 05 45.0 +0.8
121A **Cookes Peak, D** 67.13 302 IAmb IAmb 15 05 49.2
comp=Z,17nm,1.6s
FFC **Flin Flon** 67.30 326 P P 15 05 46.0 +0.4
VRI **Vrincioaia** 67.41 44 ⇑P P 15 05 46.6 +0.1
VRI **Vrincioaia** 67.41 44 P P 15 05 47.6 +1.1
comp=Z,639nmcomp=Z,8.3nm,0.9s
RNPP1 **Kostyukhnivka** 68.01 38 P P 15 05 51.9 +1.8
MVCO **Mesa Verde** 68.14 307 P P 15 05 53.1 +1.5
319A **Douglas** 68.32 300 IAmb IAmb 15 06 00.7
comp=Z,7.9nm,1.0s
PV02 **Paradox Valley** 68.43 308 IAmb IAmb 15 06 01.1
comp=Z,6.9nm,1.0s
PV13 **Radium Mtn., P** 68.49 308 IAmb IAmb 15 06 01.0
comp=Z,6.9nm,1.1s
LPIG **La Paz** 69.05 292 LR LR 15 37 19.1
comp=Z,42nm,18.7s,baz=48,slow=37
MI28 **Mi28,Pidlybu** 69.08 39 P P 15 05 57.7 +0.9
PDAR **Pinedale Array** 69.58 312 P P 15 06 00.0 -0.5
comp=Z,0.4nm,0.3s,baz=136,slow=8.1,SNR=4.0
PDAR LR LR 15 32 44.7
comp=Z,200nm,21.8s,baz=122,slow=33
comp=Z,0.4nm,0.3s
P18A **Preston Nutter** 69.75 309 IAmb IAmb 15 06 05.7
comp=Z,8.3nm,1.3s
KIEV **Kiev** 69.98 39 ⇓P P 15 06 02.5 +0.1
AKASG **Malin Array Be** 69.99 39 P P 15 06 00.6 -2.0
comp=Z,2.0nm,0.7s,baz=263,slow=5.5,SNR=6.9
AKASG LR LR 15 33 38.3
comp=Z,34nm,22.0s,baz=250,slow=33
comp=Z,2.0nm,0.7s
AKBB **Malin Array Si** 69.99 39 P P 15 06 04.5 +2.0
WUAZ **Wupatki** 70.31 305 IAmb IAmb 15 06 13.3
comp=Z,10nm,0.8s
HWUT **Hardware Ranch** 70.94 311 IAmb IAmb 15 06 19.1
comp=Z,8.2nm,1.0s
FINES **FINESS Array B** 70.97 28 LR LR 15 35 50.2
comp=Z,42nm,19.0s,baz=236,slow=35
ANTO **Ankara** 71.00 51 P P 15 06 10.2 +1.2
comp=Z,135nmcomp=Z,5.5nm,0.8s
YHB **Horse Butte** 71.01 314 IAmb IAmb 15 06 20.3
comp=Z,16nm,1.2s
YHL **Hebgen Lake** 71.01 314 IAmb IAmb 15 06 20.7
comp=Z,8.6nm,1.1s
LSZ **Lusaka** 71.14 109 P P 15 06 11.1 +0.8
LSZ IAmb IAmb 15 06 19.3
comp=Z,25nm,1.9s
LSZ **Lusaka** 71.14 109 LR LR 15 30 45.7
comp=Z,126nm,21.1s,baz=311,slow=30
BR105 **Keskin Array S** 71.62 51 P P 15 06 13.7 +0.9
comp=Z,92nmcomp=Z,12nm,1.1s
BR106 **Keskin Array S** 71.62 51 P P 15 06 13.8 +1.0
comp=Z,73nmcomp=Z,9.2nm,0.9s
BR131 **Keskin Array S** 71.63 51 IAmb IAmb 15 06 14.7
comp=Z,9.0nm,0.8s
BRTR **Keskin Array B** 71.63 51 P P 15 06 13.6 +0.6
BRTR **Keskin Array B** 71.63 51 P P 15 06 13.8 +0.8
comp=Z,6.3nm,0.8s,baz=251,slow=6.0,SNR=31
comp=Z,6.3nm,0.8s
BR104 **Keskin Array S** 71.63 51 P P 15 06 13.9 +1.0
comp=Z,83nmcomp=Z,10nm,1.0s
KIRS **Kirsehir-Merke** 71.81 52 ⇑P P 15 06 14.5 +0.5
DLMT **Dillon** 72.06 315 IAmb IAmb 15 06 19.2
comp=Z,16nm,1.2s
EIL **Elat** 72.35 62 LR LR 15 37 50.9
comp=Z,33nm,19.3s,baz=247,slow=36
BOSA **Boshof** 72.54 124 P P 15 06 18.2 -0.3
BOSA **Boshof** 72.54 124 P P 15 06 17.7 -0.8
comp=Z,5.0nm,0.8s,baz=97,slow=3.1,SNR=4.6
BOSA LR LR 15 31 58.5
comp=Z,129nm,21.4s,baz=340,slow=31
comp=Z,5.0nm,0.8s
MMAI **Mount Meron Ar** 72.76 58 P P 15 06 20.9 +1.1
comp=Z,11nm,0.9s,baz=269,slow=6.7,SNR=8.5
MMAI LR LR 15 39 14.5
comp=Z,32nm,20.0s,baz=221,slow=37
comp=Z,11nm,0.9s
ESPZ **Base Esperanza** 72.99 188 P P 15 06 20.0 -0.1
RES **Resolute Bay** 73.02 347 LR LR 15 35 53.3
comp=Z,82nm,19.2s,baz=40,slow=34
BNN **Bunyan** 73.29 52 IAmb IAmb 15 06 24.7
comp=Z,9.9nm,0.8s
ARCES **ARCESS Array B** 73.42 19 LR LR 15 33 37.2
comp=Z,44nm,19.9s,baz=216,slow=32
ELK **Elko** 73.64 310 LR LR 15 35 50.2
comp=Z,225nm,21.8s,baz=105,slow=33
ASF **Jabal al Asfar** 74.02 59 LR LR 15 40 57.1
comp=Z,47nm,18.8s,baz=174,slow=37
BELC **Belle Mtn. Jos** 74.06 303 IAmb IAmb 15 06 32.1
comp=Z,11nm,1.5s
TPNV **Topopah Spring** 74.31 306 IAmb IAmb 15 06 32.9
comp=Z,20nm,1.9s
PFO **Pinyon Flats O** 74.45 302 LR LR 15 39 32.7
comp=Z,56nm,18.3s,baz=83,slow=36
LODK **Lodwar** 74.56 89 P P 15 06 31.1 +0.5
QSM **Queen of Sheba** 74.79 305 IAmb IAmb 15 06 36.1
comp=Z,18nm,1.6s
SPITS **Spitsbergen Ar** 74.98 10 LR LR 15 32 12.8
comp=Z,47nm,20.1s,baz=172,slow=30
TPH **Tonopah** 75.10 307 IAmb IAmb 15 06 37.7
comp=Z,15nm,1.6s
NEW **Newport** 75.40 318 LR LR 15 37 34.1
comp=Z,170nm,19.5s,baz=99,slow=34
YKA **Yellowknife Ar** 75.56 332 P P 15 06 34.9 -0.5
comp=Z,2.4nm,0.7s,baz=97,slow=5.5,SNR=19
YKA LR LR 15 38 11.0
comp=Z,144nm,18.6s,baz=128,slow=34
comp=Z,2.4nm,0.7s
NVAR **Mina Array Bea** 75.95 307 P P 15 06 38.8 +0.4
comp=Z,0.2nm,0.3s,baz=64,slow=6.0,SNR=2.3
comp=Z,0.2nm,0.3s
ISA **Isabella, Lake** 76.10 305 IAmb IAmb 15 06 44.0
comp=Z,11nm,1.5s
WAKR **Walker** 76.84 308 IAmb IAmb 15 06 58.6
comp=Z,15nm,1.8s
PMPB **Monarch Peak** 77.97 305 IAmb IAmb 15 06 57.2
comp=Z,12nm,1.1s
KIV **Kislovodsk** 78.51 47 P P 15 06 53.2 +0.7
KIV **Kislovodsk** 78.51 47 P P 15 06 53.8 +1.3
comp=Z,13nm,1.2s
KBZ **Khabaz** 78.67 47 P P 15 06 52.8 -0.5
comp=Z,8.7nm,1.0s,baz=336,slow=1.8,SNR=16
comp=Z,8.7nm,1.0s
YBH **Yreka Blue Hor** 79.28 311 LR LR 15 38 51.1
comp=Z,9.3nm,21.6s,baz=89,slow=33
GNI **Garni** 80.17 51 LR LR 15 43 51.7
comp=Z,28nm,20.0s,baz=177,slow=37
TOAD **Toad River Com** 80.51 328 P P 15 07 04.3 +1.4
baz=89
LIRD **Liard River Hi** 80.94 329 P P 15 07 06.5 +1.3
baz=89
VNA1 **Neumayer--Stat** 81.82 170 ⇑P P 15 07 10.6 +1.0
comp=Z,7.7nm,0.9s
TGTN **Hyland Airport** 81.94 331 P P 15 07 11.0 +0.4
baz=87
VNA3 **Neumayer Olymp** 82.10 171 ⇑P P 15 07 11.7 +0.6
comp=Z,8.4nm,0.8s
RAYN **Ar Rayn** 82.10 67 P P 15 07 13.1 +0.9
RAYN IAmb IAmb 15 07 14.5
comp=Z,6.2nm,1.0s
VNA2 **Neumayer--Watz** 82.21 170 ⇑P P 15 07 12.2 +0.6
comp=Z,3.7nm,0.9s,baz=339,slow=5.1
WTLY **Watson Lake, Y** 82.28 330 IAmb IAmb 15 07 16.2
comp=Z,7.6nm,1.0s
WTLY **Watson Lake, Y** 82.28 330 P P 15 07 12.7 +0.4
baz=86
BBB **Bella Bella** 82.44 322 LR LR 15 44 21.8
comp=Z,58nm,18.1s,baz=64,slow=36
DLBC **Dease Lake** 83.03 328 LR LR 15 42 29.0
comp=Z,56nm,18.3s,baz=57,slow=34
DLBC **Dease Lake** 83.03 328 P P 15 07 17.1 +0.7
baz=85

MMPY **Sheldon Lake,** 83.26 332 P P 15 07 17.7 +0.3
baz=84
T35M **Bob Quinn** 83.28 327 P P 15 07 18.0 +0.4
baz=85
R33M **Jennings River** 83.43 329 IAmb IAmb 15 07 23.1
comp=Z,9.3nm,1.1s
R33M **Jennings River** 83.43 329 P P 15 07 18.2 -0.2
baz=84,SNR=8.0
INK **Inuvik** 83.58 338 IAmb IAmb 15 07 22.1
comp=Z,16nm,1.3s
INK **Inuvik** 83.58 338 LR LR 15 41 40.7
comp=Z,226nm,20.0s,baz=72,slow=34
INK **Inuvik** 83.58 338 P P 15 07 19.3 +0.5
baz=83
SNAA **Sanae** 83.65 169 ⇑P P 15 07 19.5 +0.3
comp=Z,157nm,0.8s
SNAA **Sanae** 83.65 169 P P 15 07 18.8 -0.3
SNAA **Sanae** 83.65 169 P P 15 07 18.8 -0.3
comp=Z,8.5nm,0.9s,baz=329,slow=5.2,SNR=27
SNAA LR LR 15 35 30.2
comp=Z,90nm,20.9s,baz=10.0,slow=29
comp=Z,8.5nm,0.9s
S34M **Telegraph Cree** 83.66 328 P P 15 07 20.0 +0.5
baz=84
F31M **Tsiigehtchic** 83.77 337 P P 15 07 20.2 +0.3
baz=83
G31M **Satah River** 84.05 337 IAmb IAmb 15 07 23.1
comp=Z,8.1nm,0.8s
G31M **Satah River** 84.05 337 P P 15 07 21.9 +0.7
baz=82
Q32M **Nakina River** 84.14 329 P P 15 07 22.3 +0.1
baz=83
V35K **Ketchikan** 84.21 325 P P 15 07 22.3 0.0
baz=82
H31M **Peel River** 84.23 336 P P 15 07 22.8 +0.5
baz=82
P33M **Teslin, Yukon** 84.27 330 IAmb IAmb 15 07 26.8
comp=Z,19nm,1.8s
P33M **Teslin, Yukon** 84.27 330 P P 15 07 22.9 +0.3
baz=83
N32M **Quiet Lake** 84.28 331 P P 15 07 23.4 +0.8
baz=83
WRAK **Wrangell Islan** 84.49 326 P P 15 07 24.1 +0.3
baz=83
F30M **Barrier River** 84.53 338 P P 15 07 24.3 +0.6
baz=81
M31M **Drury Creek, Y** 84.76 332 IAmb IAmb 15 07 28.6
comp=Z,11nm,0.9s
M31M **Drury Creek, Y** 84.76 332 P P 15 07 24.9 -0.1
baz=82,SNR=10.0
G30M **tAoh Zraii Nji** 84.80 337 P P 15 07 25.5 +0.3
baz=80
P32M **Atlin** 84.80 329 P P 15 07 25.7 +0.4
baz=82
U33K **Whale Pass** 84.96 326 P P 15 07 26.1 0.0
baz=82
TROLL **Troll, Antarti** 84.98 168 ⇑P P 15 07 26.5 +0.5
comp=Z,176nm,0.8s
CRAG **Craig** 85.05 325 P P 15 07 27.0 +0.4
baz=82
EPYK **Eagle Plains** 85.09 336 P P 15 07 27.1 +0.4
baz=80
I30M **Mount Dempster** 85.15 335 IAmb IAmb 15 07 30.7
comp=Z,8.5nm,0.9s
I30M **Mount Dempster** 85.15 335 P P 15 07 27.1 0.0
baz=80,SNR=7.5
E29M **Blow River** 85.17 338 IAmb IAmb 15 07 29.4
comp=Z,4.2nm,0.8s
E29M **Blow River** 85.17 338 P P 15 07 27.5 +0.5
baz=79
WHY **Whitehorse** 85.22 331 P P 15 07 27.4 -0.1
baz=81
J30M **Hart River** 85.25 335 IAmb IAmb 15 07 31.7
comp=Z,4.4nm,0.8s
J30M **Hart River** 85.25 335 P P 15 07 27.4 -0.2
baz=80
D28M **Stokes Point** 85.29 339 P P 15 07 27.6 +0.1
baz=78
R32K **Eaglecrest** 85.40 328 P P 15 07 28.1 -0.2
baz=81
G29M **Pine Creek** 85.51 337 IAmb IAmb 15 07 30.6
comp=Z,7.3nm,0.9s
G29M **Pine Creek** 85.51 337 P P 15 07 29.0 +0.3
baz=79
S32K **Killisnoo** 85.56 327 P P 15 07 28.7 -0.3
baz=81
SKAG **Skagway** 85.63 329 P P 15 07 28.7 -0.7
baz=81
E28M **Babbage River** 85.72 339 P P 15 07 29.6 -0.1
baz=78
H29M **Whitestone** 85.78 336 P P 15 07 30.4 +0.4
baz=78,SNR=11
M30M **Minto, Yukon** 85.80 333 IAmb IAmb 15 07 34.1
comp=Z,7.5nm,0.8s
M30M **Minto, Yukon** 85.80 333 P P 15 07 30.9 +0.6
baz=80,SNR=9.0
K29M **Barlow Dome** 85.89 334 IAmb IAmb 15 07 33.0
comp=Z,8.0nm,0.9s
K29M **Barlow Dome** 85.89 334 P P 15 07 31.2 +0.4
baz=79,SNR=9.2
I29M **Ogilvie Camp,** 85.92 335 IAmb IAmb 15 07 34.3
comp=Z,8.2nm,1.0s
I29M **Ogilvie Camp,** 85.92 335 P P 15 07 31.3 +0.5
baz=78
SIT **Sitka** 86.02 327 P P 15 07 31.4 +0.1
baz=80
F28M **Old Crow** 86.06 338 P P 15 07 31.6 +0.2
baz=77
D27M **Malcolm River** 86.08 339 P P 15 07 31.1 -0.4
baz=76
N30M **Aishikik Lake** 86.14 332 IAmb IAmb 15 07 36.0
comp=Z,6.3nm,1.0s
N30M **Aishikik Lake** 86.14 332 P P 15 07 31.7 -0.3
baz=79
PLBC **Pleasant Camp** 86.15 329 P P 15 07 31.9 -0.1
baz=80
L29M **L29M** 86.30 333 IAmb IAmb 15 07 36.7
comp=Z,8.3nm,0.9s
L29M **L29M** 86.30 333 P P 15 07 33.2 +0.5
baz=78,SNR=6.5
P30M **Million Dollar** 86.33 330 P P 15 07 33.0 +0.1
baz=79
BELA **Belgrano 2** 86.35 179 P P 15 07 32.1 -0.5
BELA IAmb IAmb 15 07 33.0
comp=Z,5.0nm,0.7s
S31K **Pelican** 86.35 328 P P 15 07 33.4 +0.4
baz=80
HYT **Haines Junctio** 86.46 331 IAmb IAmb 15 07 36.3
comp=Z,4.8nm,0.8s
HYT **Haines Junctio** 86.46 331 P P 15 07 33.7 0.0
baz=79,SNR=5.3
E27K **Coleen River** 86.56 339 P P 15 07 33.9 0.0
baz=76,SNR=7.4
I28M **Miner Creek** 86.57 336 IAmb IAmb 15 07 45.4
comp=Z,11nm,1.4s
I28M **Miner Creek** 86.57 336 P P 15 07 34.2 +0.1
baz=77
M29M **Somme Creek** 86.59 333 IAmb IAmb 15 07 38.1
comp=Z,6.7nm,1.0s
M29M **Somme Creek** 86.59 333 P P 15 07 34.8 +0.5
baz=78,SNR=6.2
DAWY **Dawson** 86.65 334 IAmb IAmb 15 07 38.3
comp=Z,12nm,1.2s
DAWY **Dawson** 86.65 334 P P 15 07 34.7 +0.3
baz=77,SNR=8.1
P29M **Windy Craggy** 86.81 330 IAmb IAmb 15 07 39.7
comp=Z,8.2nm,0.8s
P29M **Windy Craggy** 86.81 330 P P 15 07 35.4 +0.1
baz=79
YUK6 **Outpost Mounta** 86.85 331 P P 15 07 35.8 +0.1
baz=78
YUK4 **Talbot Arm** 86.90 332 P P 15 07 35.4 -0.5
baz=78
C27K **Jago River** 86.92 340 P P 15 07 36.1 +0.5
baz=74
G27K **Doyon Strip** 86.93 337 IAmb IAmb 15 07 44.4
comp=Z,4.8nm,1.0s
G27K **Doyon Strip** 86.93 337 P P 15 07 35.5 -0.2
baz=76
H27K **Steamboat Moun** 87.02 337 IAmb IAmb 15 07 38.0
comp=Z,7.5nm,0.9s
H27K **Steamboat Moun** 87.02 337 P P 15 07 36.5 +0.3
baz=76,SNR=9.7
O29M **Mount Kennedy** 87.08 331 IAmb IAmb 15 07 45.0
comp=Z,7.3nm,0.8s
O29M **Mount Kennedy** 87.08 331 P P 15 07 36.6 -0.1
baz=78
I27K **Kandik River** 87.22 336 P P 15 07 37.3 +0.2
baz=76
C26K **Camden Bay** 87.23 341 P P 15 07 37.4 +0.3
baz=73
ARTI **Arti** 87.29 33 P P 15 07 38.2 +0.6
ARTI IAmb IAmb 15 07 39.7
comp=Z,7.0nm,0.8s
ARTI **Arti** 87.29 33 LR LR 15 44 29.7
comp=Z,34nm,20.4s,baz=216,slow=34
YUK8 **Steele Glacier** 87.44 332 P P 15 07 38.1 -0.5
baz=77
F26K **Sheenjek River** 87.62 338 P P 15 07 39.0 0.0
baz=73
PNL **Peninsula** 87.62 330 P P 15 07 39.2 0.0
baz=77
YUK3 **Moose Creek** 87.65 332 P P 15 07 39.3 -0.2
baz=76
BVCY **Beaver Creek** 87.68 333 P P 15 07 38.8 -0.7
baz=76
G26K **Porcupine Rive** 87.70 338 IAmb IAmb 15 07 47.7
comp=Z,5.3nm,0.8s
G26K **Porcupine Rive** 87.70 338 P P 15 07 38.3 -1.1
baz=74
O28M **Mount Upton** 87.76 331 P P 15 07 39.4 -0.8
baz=76
K27K **Chicken** 87.81 335 P P 15 07 39.1 -0.8
baz=75
BMAR **Burnt Mountain** 87.86 338 P P 15 07 40.3 +0.1
I26K **Coal Creek Min** 87.91 336 P P 15 07 39.6 -0.8
baz=74
BCAR **Beaver Creek A** 87.93 334 P P 15 07 40.9 +0.3
PINM **Pinnacle** 87.95 330 P P 15 07 39.8 -1.0
baz=76
L27K **Beaver Creek,** 87.95 334 IAmb IAmb 15 07 44.1
comp=Z,5.3nm,1.2s
L27K **Beaver Creek,** 87.95 334 P P 15 07 40.5 -0.2
baz=75
E25K **Arctic Village** 88.01 339 P P 15 07 40.1 -0.8
baz=72
M27K **Edge Creek, AK** 88.15 333 P P 15 07 40.5 -1.3
baz=75
CTG **Chitna Glacier** 88.26 331 P P 15 07 41.5 -0.9
baz=76
J26L **Joseph Creek** 88.31 335 IAmb IAmb 15 07 44.0
comp=Z,3.7nm,0.8s
J26L **Joseph Creek** 88.31 335 P P 15 07 41.8 -0.6
baz=74,SNR=5.8
C24K **Franklin Bluff** 88.54 341 P P 15 07 43.4 +0.1
baz=69
G25K **Bearman Lake** 88.63 338 P P 15 07 44.4 +0.6
baz=72
SCRK **Sand Creek** 88.63 335 IAmb IAmb 15 07 47.7
comp=Z,5.0nm,1.1s
SCRK **Sand Creek** 88.63 335 P P 15 07 44.4 +0.3
baz=73
M26K **Nabesna, AK** 88.64 333 P P 15 07 44.4 +0.4
baz=74
H25L **Birch Creek** 88.68 337 P P 15 07 44.5 +0.5
baz=72
MESA **MESA** 88.75 331 P P 15 07 44.8 +0.1
baz=75
D24K **Happy Valley** 88.79 340 P P 15 07 45.4 +0.9
baz=69
PRP **Porcupine Dome** 88.80 336 IAmb IAmb 15 07 48.7
comp=Z,3.8nm,0.9s
PRP **Porcupine Dome** 88.80 336 P P 15 07 44.8 0.0
baz=72
MCARA **McCarthy VSAT** 88.94 332 P P 15 07 45.5 +0.1
baz=74
J25K **Salcha River,** 89.02 335 P P 15 07 46.1 +0.3
baz=72
F24K **Squaw Lake** 89.04 339 P P 15 07 46.5 +0.7
baz=70
E24K **Your Creek** 89.06 339 P P 15 07 46.5 +0.6
baz=69
RIDG **Independent Ri** 89.07 335 P P 15 07 46.1 +0.1
baz=72
C23K **Itkillik River** 89.12 341 P P 15 07 46.3 +0.3
baz=67
CRQE **Cirque** 89.14 331 P P 15 07 46.7 +0.2
baz=74
G24K **Hadweenzic Riv** 89.17 338 P P 15 07 46.1 -0.3
baz=70
TOLK **Toolik Lake Re** 89.23 340 P P 15 07 46.5 -0.2
baz=68
K24K **Donnelly Dome** 89.44 335 P P 15 07 47.4 -0.4
baz=72
E23K **Chandalar** 89.46 339 P P 15 07 47.8 0.0
baz=68
D23K **Nanushuk River** 89.48 340 P P 15 07 47.7 0.0
baz=67
PAX **Paxson** 89.57 334 P P 15 07 48.0 -0.5
baz=72
ILAR **Eielson Array** 89.59 336 P P 15 07 48.3 0.0
ILAR **Eielson Array** 89.59 336 P P 15 07 48.6 +0.3
comp=Z,2.3nm,0.9s,baz=64,slow=4.3,SNR=25
ILAR LR LR 15 46 15.7
comp=Z,59nm,19.1s,baz=54,slow=34
comp=Z,2.3nm,0.9s
N25K **Chitina, Valde** 89.60 333 P P 15 07 48.1 -0.5
baz=73
HARP **HAARP** 89.61 333 P P 15 07 47.7 -0.8
baz=72
H24K **Noodor Dome** 89.62 337 P P 15 07 47.8 -0.7
baz=70
POKR **Poker Plat Res** 89.69 336 P P 15 07 48.4 -0.4
baz=70
AB31 **Akbulak array** 89.70 40 IAmb IAmb 15 07 51.9
comp=Z,11nm,1.1s
ABKAR **Akbulak array** 89.70 40 P P 15 07 50.1 +0.9
HDA **Harding Lake** 89.73 336 P P 15 07 48.8 -0.2
baz=71
B22K **Teshekpuk Lake** 89.79 342 P P 15 07 48.7 -0.4
baz=65
BMRM **Bremner River** 89.79 332 P P 15 07 48.3 -1.1
baz=73
COLA **College** 89.94 336 P P 15 07 48.7 -1.3
baz=70
A22K **Sinclair Lake** 89.96 343 P P 15 07 49.1 -0.9
baz=63
COLD **Coldfoot** 89.98 339 P P 15 07 48.9 -1.2
baz=68
KAIM **Kayak Island** 90.01 331 P P 15 07 49.1 -1.3
baz=73
G23K **Bananza Creek** 90.11 338 P P 15 07 49.8 -1.0
baz=68
M24K **Tolsona, Glenn** 90.15 333 P P 15 07 49.1 -2.1
baz=71
D22K **Ayikyak River** 90.17 341 P P 15 07 49.3 -1.8
baz=65
E22K **Anaktuvuk Pass** 90.19 340 P P 15 07 48.9 -2.3
baz=66
KLU **Klutina** 90.23 333 P P 15 07 48.1 -3.5
baz=72
H23K **Yukon River** 90.26 337 P P 15 07 49.1 -2.4
baz=68
A21K **Barrow** 90.29 343 P P 15 07 49.1 -2.4
baz=62
DHY **Denali Highway** 90.36 334 P P 15 07 49.6 -2.6
baz=70
I23K **Minto, Yukon-K** 90.44 337 P P 15 07 52.6 +0.3
baz=68
EYAK **Cordova Ski Ar** 90.45 332 P P 15 07 52.4 0.0
baz=72
B21K **Ikpikpuk River** 90.47 342 P P 15 07 52.0 -0.3
baz=64
NEA2 **Nenana** 90.53 336 P P 15 07 52.7 0.0
baz=69
G22K **Bettles** 90.57 339 P P 15 07 52.9 +0.1
baz=66
F22K **John River** 90.57 339 P P 15 07 52.4 -0.6
baz=66
WAT6 **Susitna Watana** 90.68 334 P P 15 07 53.4 -0.4
baz=70
C21K **Knifeblade Rid** 90.74 341 P P 15 07 53.9 +0.3
baz=63
SCM **Sheep Creek Mo** 90.76 333 P P 15 07 54.0 +0.1
baz=70
MCK **McKinley** 90.78 335 P P 15 07 53.6 -0.4
baz=69
E21K **Killik River** 90.79 340 P P 15 07 53.2 -0.7
baz=64
H22K **Ishtalitna Cre** 90.93 338 P P 15 07 54.4 -0.3
baz=67
WAT1 **Susitna Watana** 90.95 334 P P 15 07 54.5 -0.3
baz=69
GLI **Glacier Island** 90.97 332 P P 15 07 54.8 -0.1
baz=70
MLY **Manley** 91.03 337 P P 15 07 54.5 -0.6

	baz=67						
B20K	**Meade River**	91.08 342	P	P	15 07 54.7	-0.5	
	baz=61						
Q23K	**Middleton Isla**	91.09 331	P	P	15 07 54.9	-0.5	
	baz=71						
F21K	**Alatna River**	91.15 339	P	P	15 07 55.1	-0.5	
	baz=65						
KNK	**Knik Glacier**	91.41 333	P	P	15 07 56.5	-0.5	
	baz=69						
P23K	**Montague Islan**	91.41 331	P	P	15 07 56.4	-0.5	
	baz=70						
I21K	**Tanana**	91.45 337	P	P	15 07 56.5	-0.5	
	baz=66						
TRF	**Thorofare Moun**	91.45 335	P	P	15 07 56.1	-1.2	
	baz=68						
G21K	**Allakaket**	91.46 339	P	P	15 07 56.1	-0.9	
	baz=65						
BPAW	**Bear Paw Mtn.**	91.49 336	P	P	15 07 55.1	-2.1	
	baz=67						
D20K	**Etivluk River**	91.53 341	P	P	15 07 55.5	-1.8	
	baz=62						
PWL	**Port Wells**	91.55 332	P	P	15 07 56.0	-1.6	
	baz=70						
H21K	**Melozitna Rive**	91.57 338	P	P	15 07 55.4	-2.2	
	baz=65						
E20K	**Nigu River**	91.61 341	P	P	15 07 56.0	-1.8	
	baz=62						
PMR	**Palmer**	91.65 333	P	P	15 07 56.5	-1.4	
	baz=69						
CUT	**Chulitna**	91.84 334	P	P	15 07 57.8	-1.1	
	baz=68						
F20K	**Avaraart Lake**	92.01 339	P	P	15 07 58.3	-1.2	
	baz=63						
RC01	**Rabbit Creek A**	92.10 333	P	P	15 07 59.0	-1.1	
	baz=68						
CHUM	**Lake Minchumin**	92.11 336	P	P	15 07 58.4	-1.6	
	baz=66						
D19K	**Kuna River**	92.12 341	P	P	15 07 58.9	-1.2	
	baz=60						
A19K	**Wainwright**	92.13 343	P	P	15 07 58.6	-1.4	
	baz=58						
CAST	**Castle Rocks**	92.21 335	P	P	15 07 59.0	-1.6	
	baz=66						
C19K	**Lookout Ridge**	92.27 342	P	P	15 07 58.8	-2.0	
	baz=59						
E19K	**Redstone River**	92.33 340	P	P	15 07 59.2	-1.9	
	baz=61						
SEW	**Seward**	92.34 332	P	P	15 07 58.8	-2.4	
	baz=68						
SUA	**Susitna One**	92.41 333	P	P	15 07 59.9	-1.8	
	baz=67						
H20K	**Anotleneega Mo**	92.42 338	P	P	15 07 58.9	-2.6	
	baz=63						
PPLA	**Purkeypile**	92.46 335	P	P	15 08 00.4	-1.5	
	baz=66						
SKT	**Skwentna**	92.55 334	P	P	15 08 01.2	-1.1	
	baz=67						
I20K	**Naaghedeneel**	92.57 337	P	P	15 08 00.7	-1.5	
	baz=64						
J20K	**Nowinta River**	92.72 337	P	P	15 08 00.6	-2.2	
	baz=64						
F19K	**Shaleruckik Mo**	92.83 340	P	P	15 08 01.5	-1.8	
	baz=61						
G19K	**Purcell Mounta**	92.92 339	P	P	15 08 01.8	-2.0	
	baz=61						
H19K	**Roundabout Mou**	92.98 338	P	P	15 08 02.4	-1.6	
	baz=62						
C18K	**Utukok River**	93.01 342	P	P	15 08 03.3	-0.9	
	baz=57						
K20K	**Telida**	93.05 336	P	P	15 08 03.4	-1.1	
	baz=64						
M20K	**Styx River**	93.28 334	P	P	15 08 03.7	-2.0	
	baz=65						
L20K	**Farewell, AK**	93.35 335	P	P	15 08 03.4	-2.5	
	baz=64						
J19K	**Poorman**	93.38 337	P	P	15 08 05.1	-0.8	
	baz=63						
E18K	**Tukpahlearik C**	93.48 341	P	P	15 08 04.8	-1.5	
	baz=58						
F18K	**Selawik**	93.59 340	P	P	15 08 04.4	-2.4	
	baz=59						
G18K	**Tagagawik**	93.60 339	P	P	15 08 05.9	-1.0	
	baz=60						
C17K	**DeLong Mountai**	93.71 342	P	P	15 08 05.6	-1.8	
	baz=56						
O20K	**Slope Mountain**	93.81 332	P	P	15 08 06.4	-1.6	
	baz=66						
M19K	**Big River Lodg**	93.81 335	P	P	15 08 06.8	-1.2	
	baz=64						
H18K	**Honhosa River**	93.87 338	P	P	15 08 06.3	-1.9	
	baz=60						
L19K	**White Mountain**	93.89 335	P	P	15 08 06.4	-1.9	
	baz=64						
J18K	**Innoko River**	94.06 336	P	P	15 08 07.3	-1.8	
	baz=62						
E17K	**Hotham Inlet**	94.06 341	P	P	15 08 07.0	-2.0	
	baz=57						
D17K	**Noatak River**	94.12 341	P	P	15 08 06.9	-2.4	
	baz=56						
F17K	**Baldwin Pennin**	94.22 340	P	P	15 08 08.6	-1.1	
	baz=58						
P19K	**Oil Pt**	94.27 332	P	P	15 08 08.6	-1.5	
	baz=65						
Q20K	**Shuyak Island**	94.31 331	P	P	15 08 08.7	-1.6	
	baz=66						
N19K	**Bonanza Creek**	94.33 334	P	P	15 08 09.1	-1.5	
	baz=64						
C16K	**Lisburne Hills**	94.48 342	P	P	15 08 09.0	-1.9	
	baz=54						
G17K	**Kiwalik Mounta**	94.51 339	P	P	15 08 09.8	-1.3	
	baz=58						
O19K	**Port Alsworth**	94.53 333	P	P	15 08 09.8	-1.4	
	baz=64						
H17K	**Granite Mounta**	94.54 338	P	P	15 08 10.0	-1.3	
	baz=59						
M18K	**Stony River**	94.61 334	P	P	15 08 09.7	-1.9	
	baz=63						
L18K	**Granite Mounta**	94.64 335	P	P	15 08 09.7	-2.0	
	baz=62						
KDAK	**Kodiak Island**	94.73 330	LR	LR	15 48 12.1		
	comp=Z,93nm,21.5s,baz=62,slow=34						
KDAK	**Kodiak Island**	94.73 330	P	P	15 08 10.2	-2.1	
	baz=66						
Q19K	**Cape Douglas,**	94.77 332	P	P	15 08 11.0	-1.4	
	baz=65						
BVAR	**Borovoye Array**	94.91 35	LR	LR	15 50 18.4		
	comp=Z,45nm,19.3s,baz=190,slow=35						
N18K	**Kilae Creek**	95.01 334	P	P	15 08 11.4	-2.1	
	baz=63						
J17K	**VABM Dome**	95.02 337	P	P	15 08 11.1	-2.4	
	baz=60						
K17K	**Iditarod**	95.05 336	P	P	15 08 12.1	-1.6	
	baz=60						
O18K	**Koktuh Hills**	95.08 333	P	P	15 08 11.8	-2.1	
	baz=64						
G16K	**Koyuk River**	95.17 339	P	P	15 08 11.8	-2.3	
	baz=56						
P18K	**Big Mountain,**	95.30 332	P	P	15 08 12.6	-2.3	
	baz=64						
OHAK	**Old Harbor**	95.31 330	P	P	15 08 12.4	-2.5	
	baz=65						
L17K	**Donlin**	95.34 336	P	P	15 08 12.8	-2.2	
	baz=60						
M17K	**Holitna River**	95.34 335	P	P	15 08 12.8	-2.2	
	baz=61						
I17K	**Unalakleet**	95.38 338	P	P	15 08 13.1	-2.0	
	baz=58						
Q18K	**Katmai Hardscr**	95.53 332	P	P	15 08 13.5	-2.6	
	baz=64						
H16K	**Elim**	95.55 339	P	P	15 08 13.8	-2.0	
	baz=57						
N17K	**Nushagak Hills**	95.65 334	P	P	15 08 14.6	-1.9	
	baz=62						
J16K	**Anvik River**	95.67 337	P	P	15 08 14.4	-2.1	
	baz=58						
R18K	**Karluk**	95.74 331	P	P	15 08 14.6	-2.2	
	baz=64						
F15K	**North Star Dit**	95.78 340	P	P	15 08 14.2	-2.7	
	baz=54						
P17K	**Kvichak River**	95.94 333	P	P	15 08 15.0	-2.8	
	baz=62						
O17K	**Koliganek Bris**	95.97 333	P	P	15 08 15.5	-2.3	
	baz=62						
G15K	**Niukluk**	95.98 339	P	P	15 08 16.0	-1.8	
	baz=55						
L16K	**Owhat River**	96.03 335	P	P	15 08 15.6	-2.5	
	baz=60						
SII	**Sitkinak Islan**	96.04 330	P	P	15 08 15.7	-2.6	
	baz=65						
Q17K	**Contact Creek**	96.11 332	P	P	15 08 16.0	-2.7	
	baz=63						
M16K	**Timber Creek**	96.17 335	P	P	15 08 16.2	-2.6	
	baz=60						
F14K	**Arctic Creek**	96.48 340	P	P	15 08 17.6	-2.5	
	baz=53						
O16K	**Kokwok River B**	96.50 333	P	P	15 08 17.8	-2.5	
	baz=61						
K15K	**Wolf Creek Mou**	96.56 336	P	P	15 08 18.3	-2.2	
	baz=58						
R17L	**Mt. Peulik Vol**	96.63 331	P	P	15 08 18.7	-2.2	
	baz=63						
ANM	**Nome**	96.70 339	P	P	15 08 18.1	-3.0	
	baz=54						
P16K	**Nushagak River**	96.72 333	P	P	15 08 18.5	-2.8	
	baz=61						
L15K	**Ungalak Mounta**	96.87 336	P	P	15 08 20.0	-1.9	
	baz=58						
TNA	**Tin City**	96.95 341	P	P	15 08 19.9	-2.3	
	baz=51						
M15K	**Kasigluk River**	97.06 335	P	P	15 08 19.9	-2.9	
	baz=58						
N15K	**Kwethluk River**	97.08 334	P	P	15 08 20.0	-3.0	
	baz=59						
J14K	**Nanvaranak Lak**	97.09 337	P	P	15 08 19.5	-3.3	
	baz=56						
R16K	**Pilot Point**	97.23 331	P	P	15 08 21.2	-2.4	
	baz=62						
O15K	**Ungalikthiuk R**	97.47 333	P	P	15 08 22.1	-2.7	
	baz=59						
L14K	**Kuka Creek**	97.53 336	P	P	15 08 22.6	-2.2	
	baz=57						
M14K	**Bethel**	97.56 335	P	P	15 08 22.4	-2.6	
	baz=57						
N14K	**Kuskokwak Cree**	97.89 335	P	P	15 08 23.8	-2.7	
	baz=58						
K13K	**Kusilvak Mount**	97.98 337	P	P	15 08 23.2	-3.7	
	baz=55						
O14K	**Tigyukauivet M**	98.07 334	P	P	15 08 23.4	-3.9	
	baz=58						
M13K	**Dall Lake**	98.32 335	P	P	15 08 24.9	-3.6	
	baz=56						
QSPA	**South Pole Qui**	98.58 180	P	Pdif	15 08 29.9	+0.3	
	comp=Z,0.8nm,0.9s,baz=205,slow=1.0,SNR=7.1						
QSPA			LR	LR	15 51 41.9		
	comp=Z,47nm,18.9s,baz=230,slow=35						
	comp=Z,0.8nm,0.9s						
S14K	**Fog Glacier**	98.81 331	P	P	15 08 26.7	-4.2	
	baz=60						
M11K	**Mekoryuk**	99.49 336	P	Pdif	15 08 29.5	-4.2	
	baz=54						
CHNA	**Chernabura Isl**	99.55 329	P	Pdif	15 08 29.6	-4.5	
	baz=60						
TIXI	**Tiksi**	99.58 4	LR	LR	15 47 17.8		
	comp=Z,22nm,18.9s,baz=353,slow=32						
SDPT	**Sand Point**	99.73 330	P	Pdif	15 08 30.8	-4.1	
	baz=59						
P08K	**Saint George I**	103.21 334	P	Pdif	15 08 46.4	-3.9	
	baz=51						
UNV	**Unalaska Valle**	103.49 331	P	Pdif	15 08 47.4	-4.2	
	baz=54						
CMAR	**Chiang Mai Arr**	131.01 57	PKP	PKPdf	15 14 03.6	-0.1	
	comp=Z,1.3nm,0.8s,baz=287,slow=2.4,SNR=6.8						
H01W2	**Cape Leeuwin H**	144.37 141	T	T	17 56 08.1		
	baz=238						
H01W3	**Cape Leeuwin H**	144.38 141	T	T	17 56 05.8		
	baz=238						
H01W1	**Cape Leeuwin H**	144.39 141	T	T	17 56 17.9		
	baz=238						
FITZ	**Fitzroy Crossi**	162.75 125	PKP	PKPdf	15 14 52.8	-1.2	
	comp=Z,2.4nm,0.9s,baz=297,slow=4.5,SNR=3.0						
ASAR	**Alice Springs**	163.72 158	PKP	PKPdf	15 14 53.2	-1.7	
	comp=Z,1.3nm,1.1s,baz=221,slow=0.6,SNR=6.2						
ASAR			PKPab	PKPab	15 15 46.0	-0.6	
	comp=Z,1.4nm,0.9s,baz=208,slow=4.2,SNR=8.7						
WRA	**Warramunga Arr**	167.23 153	PKP	PKPdf	15 14 56.4	-1.5	
	comp=Z,1.7nm,1.1s,baz=267,slow=0.9,SNR=8.1						
WRA			PKPab	PKPab	15 15 59.5	-2.7	
	comp=Z,1.6nm,1.0s,baz=210,slow=3.2,SNR=4.5						

GCG 25 14:56:18.1±0.3, 14°42N×90°99W, h122km±4km, MD3.5, ML3.4, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	0.15	102	*i* P	Pn	14 56 35.1	+0.2
FG16	**Alotenango, Sa**	0.48	107	*i* P	Pn	14 56 35.5	-0.9
FG16				IAML		14 56 58.6	
	comp=N,2μm,0.3s						
SOKI	**Kika Raxquin**	0.57	315	*i* P	Pn	14 56 38.2	+1.0

*NIED **25** 15:05:21.5, 40.16N×142.42E, h35km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.12; Mθθ0.34; Mφφ-1.46; Mrθ0.75; Mrφ-0.24; Mθφ1.18; Fault plane solution: M₀1.94000×10¹⁴ NP1: φs164.00000°, δ27.00000°, λ50.00000°. NP2:φs27.00000°, δ70.00000°, λ108.00000°.*

*JMA **25** 15:05:21.5±0.1, 40.2N±0.3×142.4E±0.7, h35km±1km, MV3.6/40, NE OFF IWATE PREF*

*IDC **25** 15:05:22.5±2.1, 40.58N×141.46E, h0km, mb3.6/5, mbtmp3.6/6, ML2.5/1, MS2.8/1, Error ellipse: s-maj=43.2km s-min=26.4km az=116.0*

ISC 25 15:05:20.5±2.1, 40.18N±0.04×142.4E±0.1, h27km±12km, n25, σ1°19/27, mb3.4/5, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	0.49	240	⇓*i* P	Pn	15 05 31.7	0.0
JTH				⇓*e* S	Sn	15 05 39.1	-0.3
JKEN	**Kujiedanarisaw**	0.54	272	⇓*i* P	Pn	15 05 32.4	0.0
JKEN				⇓*e* S	Sn	15 05 40.0	-0.7
JANG	**Nango**	0.71	286	⇓*i* P	Pn	15 05 35.0	+0.2
JANG				⇓*e* S	Sn	15 05 44.5	-0.5
MIYJ	**Miyakonagasawa**	0.76	217	*i* P	Pn	15 05 35.2	-0.3
MIYJ				*e* S	Sn	15 05 45.1	-0.9
JKZ	**Kuzumaki**	0.86	257	⇓*i* P	Pn	15 05 37.3	+0.5
JKZ				⇓*e* S	Sn	15 05 48.6	+0.1
JOM	**Ohasama**	1.12	231	⇓P	Pb	15 05 41.2	0.0
JOM				⇓*e* S	Sn	15 05 55.4	+0.4
JARK	**Aomorirokkasho**	1.15	316	P	Pb	15 05 41.7	0.0
JTM	**Tenmabayashi**	1.19	301	⇓P	Pb	15 05 42.5	+0.1
JTM				⇓*e* S	Sb	15 05 57.7	+0.4
OFUJ	**Ofunato**	1.24	208	P	Pb	15 05 42.6	-0.7
OFUJ				*e* S	Sb	15 05 58.0	-0.9
JAH	**Hinai**	1.36	271	⇓*e* P	Pb	15 05 45.0	-0.3
JAH				⇓*e* S	Sb	15 06 01.9	-0.4
JMK	**Ichinoseki**	1.54	217	*e* P	Pb	15 05 46.0	-2.2
JRG	**Rokugo**	1.58	241	*e* P	Pb	15 05 47.8	-1.3
MJAR	**Matsushiro Arr**	4.91	224	Pn	Pn	15 06 35.7	+3.1
	0.2nm,0.3s,baz=30,slow=13,SNR=29						
MJAR				Pg	Pb	15 06 49.0	+3.2
	0.1nm,0.3s,baz=27,slow=14,SNR=6.5						
	4.4nm,0.6s						
USRK	**Ussuriysk Ar.**	8.72	301	LR	LR	15 10 24.2	
	comp=Z,62nm,18.1s,baz=279,slow=38						
H11N2	**WAKE ISLAND Hy**	29.25	127	T	T	15 41 59.9	
	baz=319,slow=75,SNR=71						
H11N1	**WAKE ISLAND Hy**	29.26	127	T	T	15 42 02.4	
	baz=319,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	29.27	127	T	T	15 42 04.6	
	baz=319,slow=75,SNR=69						
H11S1	**WAKE ISLAND Hy**	30.07	129	T	T	15 43 24.1	
	baz=321,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	30.07	129	T	T	15 43 23.8	
	baz=321,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	30.08	129	T	T	15 43 25.3	
	baz=321,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	40.44	310	P	P	15 12 55.6	-0.7
	0.3nm,0.3s,baz=92,slow=10,SNR=2.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	43.18	299	P	P	15 13 18.6	-0.4
	0.4nm,0.7s,baz=87,slow=9.1,SNR=4.5						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	44.74	306	P	P	15 13 30.2	-1.1
	1.4nm,0.6s,baz=81,slow=8.6,SNR=7.7						
	1.4nm,0.6s						
ILAR	**Eielson Array**	46.43	34	P	P	15 13 51.0	+6.5
	0.2nm,0.8s,baz=262,slow=9.2,SNR=2.8						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	49.08	311	P	P	15 14 04.7	-0.5
	0.9nm,0.5s,baz=56,slow=10,SNR=3.7						
	0.9nm,0.5s						

IDC 25 15:22:06.7±2.9, 0.18N×125.87E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=337.3km s-min=28.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	21.65	158	P	P	15 26 57.4	-1.6
	0.4nm,0.5s,baz=336,slow=9.6,SNR=3.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	24.95	162	P	P	15 27 32.9	+0.8
	0.4nm,0.5s,baz=343,slow=8.9,SNR=16						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	60.01	327	P	P	15 32 15.1	-0.2
	0.2nm,0.6s,baz=133,slow=8.5,SNR=2.3						
	0.2nm,0.6s						

*SJA **25** 15:23:35.5±0.7, 28.60S×70.84W, h85km±10km, ML3.5, MW3.5*

*GUC **25** 15:23:36.8±0.8, 28.65S×70.67W, h93km±5km, ML3.8*

ISC 25 15:23:36.6±1.5, 28.62S±0.03×70.78W±0.08, h92km±11km, n29, σ0.64/33, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	0.40	170	*i* P	Pn	15 23 50.9	-0.4
LCO				*i* S	Sn	15 24 01.5	-0.6
AC04	**Llanos de Chal**	0.49	328	⇑*i* P	Pn	15 23 52.5	+1.0
AC04				*i* S	Sn	15 24 03.3	+0.7
AC04				IAML		15 24 04.2	
	comp=N,8μm,0.1s						
GO03	**Copiapo**	1.13	25	*i* P	Pn	15 23 58.1	0.0
GO03				*i* S	Sn	15 24 13.3	-0.8
GO03				IAML		15 24 15.3	
	comp=E,2μm,0.3s						
GO03	**Copiapo**	1.13	25	*i* P	Pn	15 23 58.1	0.0
GO03				*i* S	Sn	15 24 14.0	-0.2
GO03				IAML		15 24 15.5	
	comp=Z,1μm,0.1s						
AC06	**Mina Casimiro**	1.31	17	*i* P	Pn	15 24 00.6	+0.3
AC06				*i* S	Sn	15 24 17.4	-0.6
AC06				IAML		15 24 18.6	
	comp=N,2μm,0.3s						
CO05	**La Serena**	1.35	197	*i* P	Pn	15 24 00.6	-0.1
CO05				*i* S	Sn	15 24 18.3	-0.5
CO05				IAML		15 24 20.0	
	comp=N,1μm,0.2s						
CO01	**Juntas del Tor**	1.48	156	⇑*i* P	Pn	15 24 02.5	0.0
CO01				*i* S	Sn	15 24 20.6	-1.4
CO01	**Juntas del Tor**	1.48	156	*i* P	Pn	15 24 02.5	0.0
CO01				*i* S	Sn	15 24 22.9	+0.9
CO01				IAML		15 24 27.9	
	comp=Z,159nm,0.4s						
GO04	**Tololo Observa**	1.55	181	*i* P	Pn	15 24 03.5	+0.1
GO04				*i* S	Sn	15 24 22.8	-0.7
GO04	**Tololo Observa**	1.55	181	*i* P	Pn	15 24 03.3	0.0
GO04				*i* S	Sn	15 24 23.9	+0.4
GO04				IAML		15 24 26.5	
	comp=Z,1μm,0.2s						
CO06	**Fray Jorge**	2.18	200	*e* P	Pn	15 24 10.6	-0.7
AGUA	**GUANDACOL**	2.18	114	IAML		15 24 43.1	
	comp=Z,424nm,0.5s						
CO03	**El Pedregal**	2.21	178	IAML		15 24 39.7	
	comp=E,925nm,0.2s						
CO03	**El Pedregal**	2.21	178	*i* P	Pn	15 24 12.2	+0.4
CO03				*i* S	Sn	15 24 39.9	+1.2
CO03				IAML		15 24 40.7	
	comp=Z,323nm,0.2s						
VCA	**Vinchina**	2.27	94	IAML		15 24 45.2	
	comp=Z,347nm,0.2s						
AC02	**Maricunga**	2.30	40	⇓*i* P	Pn	15 24 13.9	+0.5
AC02				*e* S	Sn	15 24 40.9	-0.6
AC02	**Maricunga**	2.30	40	*i* P	Pn	15 24 13.9	+0.5
AC02				*i* S	Sn	15 24 42.3	+0.9
AC02				IAML		15 24 42.4	
	comp=Z,204nm,0.2s						
AC01	**Pan de Azucar**	2.47	4	*e* P	Pn	15 24 14.6	-0.5
AC01	**Pan de Azucar**	2.47	4	*i* P	Pn	15 24 14.6	-0.5
AC01				*i* S	Sn	15 24 44.7	0.0
AC01				IAML		15 24 55.8	
	comp=Z,111nm,0.2s						
CO02	**Combarbal**	2.58	184	*e* P	Pn	15 24 16.6	-0.1
CO02	**Combarbal**	2.58	184	*i* P	Pn	15 24 16.9	+0.2
CO02				*i* S	Sn	15 24 48.0	+0.6
CO02				IAML		15 24 54.5	
	comp=Z,210nm,0.3s						
RTLL	**Cerro Villicun**	3.36	144	IAML		15 25 16.7	
	comp=Z,89nm,0.9s						
RTLS	**Leoncito**	3.42	158	IAML		15 25 12.3	
	comp=Z,109nm,0.9s						
ACLC	**CERRO LA CRUZ**	3.45	104	IAML		15 25 09.5	
	comp=Z,42nm,0.4s						
SJA	**San Juan**	3.48	147	IAML		15 25 36.5	
	comp=Z,64nm,0.1s						
AVFE	**Valle Fertil**	3.54	126	IAML		15 25 12.0	
	comp=Z,71nm,0.4s						
PB14	**IPOO Station P**	3.99	5	IAML		15 25 41.1	
	comp=Z,43nm,0.4s						
CYA	**Choya**	4.38	89	IAML		15 25 29.0	
	comp=Z,21nm,0.3s						
ACAN	**Cantantal**	4.78	140	IAML		15 25 42.1	
	comp=Z,46nm,0.4s						

IDC 25 15:54:03.6±9.0, 31.34S×179.19W, h260km±89km, mb3.0/2, mbtmp3.7/3, Error ellipse: s-maj=86.6km s-min=38.3km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	7.55	203	P	Pn	15 55 51.0	-0.1
	2.6nm,0.4s,baz=271,slow=3.6,SNR=9.5						
URZ				S	S	15 57 18.2	+0.5
	12nm,0.5s,baz=274,slow=23,SNR=12						
ASAR	**Alice Springs**	42.05	269	P	P	16 01 30.2	-0.1
	0.3nm,0.7s,baz=106,slow=7.0,SNR=11						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	43.13	274	P	P	16 01 38.7	-0.2
	0.5nm,0.3s,baz=111,slow=8.1,SNR=9.6						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	120.99	313	PKP	PKPdf	16 12 23.8	-0.9
	0.4nm,0.7s,baz=111,slow=2.2,SNR=4.5						
FINES	**FINESS Array B**	145.66	339	PKPbc	PKPdf	16 13 10.5	+0.3
	2.8nm,0.6s,baz=65,slow=4.4,SNR=10						

ROM 25 16:35:22.0, 37.74N×15.08E, h6km, ML1.2, Sicily

ROM 25 16:36:13.9±0.1, 37.735N±0.004×15.136E±0.008, h7km, ML2.8/74, 7C-4D, Error ellipse: s-maj=0.6km s-min=0.5km az=292.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVRN	**Santa Venerina**	0.05	180	⇑P	Pg	16 36 16.0	+0.6
EVRN				S	Sg	16 36 18.4	+1.8
EMCN	**Etna Monte Con**	0.10	305	⇓P	Pg	16 36 16.3	0.0
EMCN				S	Sg	16 36 18.5	+0.4
EMCN				AML	AML		
	comp=N,83600μm,0.4s						
EMCN				AML	AML		
	comp=E,71800μm,0.5s						
EPIT	**Pozzo Pitarron**	0.10	320	⇑P	Pg	16 36 16.5	+0.2
EPIT				S	Sg	16 36 19.1	+1.1
ESLN	**Serra La Nave**	0.14	252	⇓P	Pg	16 36 16.6	-0.2
ESLN				S	Sg	16 36 19.0	+0.1
ESLN				AML	AML		
	comp=E,13000μm,0.4s						
ESLN				AML	AML		
	comp=N,14960μm,0.4s						
ECTS	**Castiglione**	0.15	355	⇑P	Pg	16 36 17.2	+0.2
ECTS				S	Sg	16 36 20.4	+1.2
ECTS				AML	AML		
	comp=E,9885μm,0.5s						
ECTS				AML	AML		
	comp=E,9870μm,0.5s						
ECTS				AML	AML		
	comp=N,8670μm,1.2s						
ECTS			

comp=E,26500μm,0.5s
EMSG AML AML
comp=N,22900μm,0.4s
ECHR Santa Chiara 0.18 255 P Pg 16 36 17.7 +0.1
ESML S. M. di Licod 0.24 240 ⇓P Pg 16 36 19.0 +0.4
ESML AML AML
comp=N,4075μm,0.6s
ESML AML AML
comp=N,3785μm,0.8s
ESML AML AML
comp=E,5405μm,1.4s
ESML AML AML
comp=N,3535μm,1.6s
EPZF Pizzo Felice 0.24 292 P Pg 16 36 18.9 +0.3
EPZF S Sg 16 36 23.7 +1.8
EPZF AML AML
comp=E,11800μm,0.4s
EPZF AML AML
comp=N,9560μm,1.2s
EPZF AML AML
comp=N,9560μm,0.8s
EPZF AML AML
comp=E,11800μm,1.6s
AIO Antillo 0.25 18 P Pg 16 36 19.4 +0.5
AIO S Sg 16 36 24.4 +2.3
AIO AML AML
comp=E,5740μm,0.5s
AIO AML AML
comp=N,7315μm,0.8s
MUCR Ucria 0.37 326 ⇑P Pg 16 36 21.6 +0.4
MUCR AML AML
comp=E,2840μm,0.4s
MUCR AML AML
comp=N,2530μm,1.0s
MUCR AML AML
comp=N,2530μm,1.0s
MNO Monte Soro 0.40 300 ⇑P Pg 16 36 22.4 +0.6
MNO S Sb 16 36 29.4 -0.4
MNO AML AML
comp=E,2995μm,0.6s
MNO AML AML
comp=N,4500μm,0.6s
MNO AML AML
comp=E,2995μm,1.4s
MNO AML AML
comp=N,4500μm,1.4s
HLNI Lentini 0.44 209 P Pg 16 36 22.3 -0.1
HLNI AML AML
comp=E,330μm,0.3s
HLNI AML AML
comp=N,416μm,0.6s
MPNC Port Mandanici 0.44 23 ⇓P Pg 16 36 23.1 +0.6
MPNC S Sb 16 36 30.3 -0.6
MPNC AML AML
comp=E,5335μm,0.3s
MPNC AML AML
comp=N,2845μm,0.4s
MPNC AML AML
comp=N,2845μm,1.6s
HAGA Augusta 0.45 178 P Pg 16 36 23.2 +0.6
HAGA S Sb 16 36 31.2 +0.2
HAGA AML AML
comp=E,944μm,1.2s
HAGA AML AML
comp=N,1098μm,0.4s
GALF Gagliano Caste 0.45 267 P Pb 16 36 23.5 -0.7
GALF AML AML
comp=N,4670μm,0.6s
GALF AML AML
comp=E,4075μm,0.4s
GALF AML AML
comp=N,4670μm,1.4s
AGST Augusta-Monte 0.48 171 P Pg 16 36 23.8 +0.6
AGST S Sb 16 36 32.3 +0.3
AGST AML AML
comp=E,2370μm,0.8s
AGST AML AML
comp=N,2190μm,0.9s
AGST AML AML
comp=E,2370μm,1.2s
MTTG Motta San Giov 0.52 59 P Pb 16 36 24.9 -0.4
CAGR Agira 0.52 258 P Pb 16 36 25.6 +0.3
MSFR San Fratello 0.52 305 P Pg 16 36 24.6 +0.6
MSFR AML AML
comp=E,477μm,1.1s
MSFR AML AML
comp=E,477μm,0.9s
MSFR AML AML
comp=N,536μm,1.0s
MILZ Milazzo 0.54 8 P Pg 16 36 24.8 +0.5
MILZ AML AML
comp=E,3385μm,0.4s
MILZ AML AML
comp=N,2080μm,0.8s
SSY Sortino 0.58 185 ⇑P Pg 16 36 25.5 +0.4
SSY S Sb 16 36 35.2 +0.3
SSY AML AML
comp=E,2670μm,0.5s
SSY AML AML
comp=N,6150μm,0.6s
MSRU Castanea 0.60 29 P Pg 16 36 26.0 +0.5
MSRU AML AML
comp=E,1014μm,1.4s
MSRU AML AML
comp=N,1167μm,0.4s
MSRU AML AML
comp=E,1014μm,0.6s
HVZN Vizzini 0.65 211 P Pg 16 36 26.8 +0.4
VPL Vulcano Piano 0.65 349 P Pg 16 36 26.8 +0.3
VPL AML AML
comp=N,2450μm,0.5s
VPL AML AML
comp=E,3140μm,0.4s
IVGP Vulcano Grotta 0.68 348 P Pg 16 36 27.2 +0.3
SICLA Scilla 0.69 41 P Pg 16 36 27.5 +0.3
CEL Celeste 0.80 49 P Pg 16 36 29.3 +0.1
CEL AML AML
comp=E,400μm,1.0s
CEL AML AML
comp=N,558μm,0.6s
CEL AML AML
comp=E,403μm,1.0s
CEL AML AML
comp=N,558μm,1.0s
CEL AML AML
comp=E,403μm,1.0s
CEL AML AML
comp=N,558μm,1.0s
CEL AML AML
comp=E,400μm,1.0s
RAFF Raffo Rosso 0.80 230 P Pg 16 36 29.3 0.0
RAFF AML AML
comp=E,446μm,0.8s
RAFF AML AML
comp=N,462μm,0.4s
RAFF AML AML
comp=E,446μm,1.2s
SOI Samo 0.80 65 P Pg 16 36 29.7 +0.4
SOI AML AML
comp=E,390μm,0.5s
SOI AML AML
comp=N,370μm,0.7s
SOI AML AML
comp=N,370μm,1.3s
PETRA Petralia Sopra 0.81 277 P Pb 16 36 30.6 +0.1
PETRA AML AML
comp=N,513μm,0.7s
PETRA AML AML
comp=E,476μm,0.6s
PLLN Pollina 0.83 288 P Pn 16 36 31.4 -0.5
PLLN AML AML
comp=E,948μm,0.9s
PLLN AML AML
comp=N,1435μm,0.6s
CSLB Castelbuono 0.88 284 P Pg 16 36 31.0 +0.3
CSLB AML AML
comp=E,142μm,1.1s
CSLB AML AML
comp=N,224μm,0.7s
CSLB AML AML
comp=N,224μm,1.3s
GIB Gibilmanna 0.91 286 P Pb 16 36 32.6 +0.5
GIB AML AML
comp=E,912μm,0.8s
GIB AML AML
comp=N,696μm,0.6s

IFIL Filicudi I Eol 0.94 332 P Pb 16 36 32.7 +0.2
ISPIC ISPICA 0.97 191 P Pg 16 36 32.3 -0.2
ISPIC AML AML
comp=E,340μm,1.6s
ISPIC AML AML
comp=E,340μm,0.4s
ISPIC AML AML
comp=N,330μm,0.5s
IACL Alicudi 1.01 323 P Pg 16 36 32.6 -0.6
IACL AML AML
comp=N,594μm,0.5s
IACL AML AML
comp=N,594μm,1.5s
IACL AML AML
comp=E,670μm,0.5s
CLTA Licata 1.10 239 P Pg 16 36 35.0 +0.1
PLAC Placanica 1.25 55 P Pg 16 36 37.9 +0.1
PLAC AML AML
comp=E,342μm,0.6s
PLAC AML AML
comp=E,285μm,0.9s
PLAC AML AML
comp=N,352μm,0.6s
PLAC AML AML
comp=N,274μm,0.9s
CAR1 CAROLEI 1.73 29 P Pn 16 36 43.9 -0.6
CAR1 AML AML
comp=E,305μm,1.0s
CAR1 AML AML
comp=N,314μm,1.4s
CAR1 AML AML
comp=E,340μm,0.6s
CAR1 AML AML
comp=E,305μm,1.0s
CAR1 AML AML
comp=N,228μm,0.5s
CUC Castrocucco 2.32 13 P Pn 16 36 52.6 +0.1
CUC AML AML
comp=E,162μm,1.5s
CUC AML AML
comp=N,120μm,1.5s
CUC AML AML
comp=E,73μm,0.7s
CUC AML AML
comp=N,64μm,0.6s
CUC AML AML
comp=N,120μm,0.5s
CUC AML AML
comp=E,162μm,0.5s
SALB San Lorenzo Be 2.34 23 P Pn 16 36 54.4 +1.6
SALB AML AML
comp=E,62μm,0.6s
SALB AML AML
comp=N,66μm,0.7s
SALB AML AML
comp=E,62μm,1.4s
AMUR Altamura 3.37 19 P Pn 16 37 07.9 +1.0
AMUR AML AML
comp=E,33μm,1.6s
AMUR AML AML
comp=N,31μm,0.6s
AMUR AML AML
comp=E,33μm,0.4s

OMAN 25 16:36:47.4±0.5, 16°86N×59°85E, h35km, ml3.9/5, Error ellipse: s-maj=4.2km s-min=1.9km az=131.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**3.76**	**325**	P	Pn	16 37 43.8	+0.8
DQM				S	Sn	16 38 27.3	+1.3
SHAO	**Shalim**	**4.20**	**287**	P	Pn	16 37 48.4	-0.6
SHAO				S	Sn	16 38 37.0	+0.2
MHTO	**MHTO** SNR=24	**4.48**	**337**	P	Pn	16 37 53.0	+0.2
MHTO				S	Sn	16 38 45.0	+1.3
DMTO	**DMTO** SNR=45	**4.76**	**281**	P	Pn	16 37 57.0	+0.3
DMTO				S	Sn	16 38 51.1	+0.4
JLN	**Jalan Bani Buh**	**5.28**	**356**	P	Pn	16 38 04.2	+0.4
JLN				S	Sn	16 39 05.1	+1.6
RBK	**Rabkut**	**5.43**	**278**	P	Pn	16 38 06.2	+0.2
RBK				S	Sn	16 39 07.6	+0.2
DOK	**Doka**	**5.72**	**289**	P	Pn	16 38 10.6	+0.6
DOK				S	Sn	16 39 15.4	+0.9
JMDO	**Jabal Madar** SNR=9.6	**5.73**	**344**	P	Pn	16 38 11.2	+1.2
JMDO				S	Sn	16 39 16.3	+1.7
WHFO	**Wadi Hawf**	**5.90**	**281**	P	Pn	16 38 12.1	-0.4
WHFO				S	Sn	16 39 19.2	+0.3
ABTO	**Aybut**	**6.29**	**275**	P	Pn	16 38 17.2	-0.5
ABTO				S	Sn	16 39 29.6	+1.2
SMDO	**Samad** SNR=16	**6.40**	**345**	P	Pn	16 38 20.4	+1.1
SMDO				S	Sn	16 39 31.8	+0.6
WSAR	**Wadi Sarin**	**6.45**	**350**	P	Pn	16 38 20.8	+0.8
WSAR				S	Sn	16 39 33.1	+0.7
BIDO	**Bidbid**	**6.82**	**347**	P	Pn	16 38 25.0	-0.1
BIDO				S	Sn	16 39 43.1	+1.5
ARQ	**Araqi**	**7.16**	**335**	P	Pn	16 38 29.9	+0.2
ARQ				S	Sn	16 39 51.3	+1.3

*SNET **25** 16:42:09.1±1.3, 12°.94N×89°.45W, h38km, ML3.4*
*CATAC **25** 16:42:10.0±0.5, 13°.N±3°.×8°.9W±°, h30km±3km, M3.3/16, MLv3.3/16, Error ellipse: s-maj=7.1km s-min=3.9km az=28.3, confirmed*
*GCG **25** 16:42:11.6±1.2, 13°.12N×89°.44W, h48km±11km, MD3.7, ML2.7*

ISC 25 16:42:10.3±1.8, 13°.04N±0°.08×89°.37W±0°.05, h23km±14km, n54, σ0°64/61, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.45**	**6**	*e*P	**Pn**	**16 42 21.2**	**-0.1**
LALI				*e*S	**Sn**	**16 42 29.3**	**+0.6**
LALI	**Alcalda de L**	**0.45**	**6**	*e*P	**Pn**	**16 42 21.2**	**-0.1**
LALI				*e*S	**Sn**	**16 42 29.1**	**+0.4**
LALI				IAML		16 42 31.1	
	comp=E,408nm,0.4s						
LALI	**Alcalda de L**	**0.45**	**6**	P	**Pn**	**16 42 21.1**	**-0.3**
JAYA	**Jayaque - finc**	**0.62**	**353**	*e*P	**Pb**	**16 42 23.1**	**+0.5**
JAYA				*e*S	**Sn**	**16 42 33.6**	**+0.5**
JAYA	**Jayaque - finc**	**0.62**	**353**	*e*P	**Pb**	**16 42 23.0**	**+0.4**
JAYA				*e*S	**Sn**	**16 42 32.6**	**-0.5**
JAYA	**Jayaque - finc**	**0.62**	**353**	P	**Pb**	**16 42 23.2**	**+0.6**
LOMA	**Loma Larga**	**0.64**	**18**	*e*P	**Pn**	**16 42 23.6**	**-0.4**
LOMA	**Loma Larga**	**0.64**	**18**	P	**Pn**	**16 42 23.8**	**-0.1**
LOMA	**Loma Larga**	**0.64**	**18**	S	**Sn**	**16 42 34.1**	**+0.6**
LFRS	**El Faro**	**0.66**	**27**	*e*P	**Pn**	**16 42 23.9**	**-0.4**
PMON	**Piamonte**	**0.68**	**5**	S	**Sn**	**16 42 34.8**	**+0.4**
PMON	**Piamonte**	**0.68**	**5**	P	**Pb**	**16 42 23.8**	**+0.3**
UEES	**Universidad Ev**	**0.69**	**11**	P	**Pn**	**16 42 24.6**	**-0.1**
UEES	**Universidad Ev**	**0.69**	**11**	S	**Sn**	**16 42 34.9**	**+0.2**
BOQS	**Boqueron**	**0.70**	**7**	*e*P	**Pn**	**16 42 24.6**	**-0.4**
LFU	**La Fuente**	**0.75**	**19**	*e*S	**Sn**	**16 42 37.0**	**+0.7**
TECO	**Alcaldia de Te**	**0.76**	**49**	S	**Sn**	**16 42 36.4**	**+0.1**
TECO	**Alcaldia de Te**	**0.76**	**49**	P	**Pb**	**16 42 24.9**	**+0.1**
CEDA	**San Andres**	**0.76**	**358**	P	**Pn**	**16 42 25.8**	**+0.1**
CEDA	**San Andres**	**0.76**	**358**	S	**Sn**	**16 42 36.8**	**+0.3**
LBRS	**Las Brisas**	**0.77**	**24**	*e*P	**Pn**	**16 42 26.0**	**+0.2**
PAVA	**Las Pavas**	**0.80**	**32**	S	**Sn**	**16 42 37.8**	**+0.5**
PAVA	**Las Pavas**	**0.80**	**32**	P	**Pn**	**16 42 26.0**	**-0.2**
CEVE	**Cerro Verde**	**0.83**	**343**	*e*P	**Pb**	**16 42 26.0**	**-0.2**
CEVE				*e*S	**Sn**	**16 42 38.0**	**-0.3**
CEVE	**Cerro Verde**	**0.83**	**343**	P	**Pb**	**16 42 26.2**	**+0.1**
CEVE	**Cerro Verde**	**0.83**	**343**	S	**Sn**	**16 42 38.0**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.91**	**43**	S	**Sn**	**16 42 40.8**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.91**	**43**	P	**Pb**	**16 42 27.6**	**+0.1**
NUBE	**Las Nubes**	**0.95**	**335**	*i* P	**Pb**	**16 42 27.1**	**-1.1**
NUBE				*e*S	**Sb**	**16 42 39.8**	**-0.6**
NUBE	**Las Nubes**	**0.95**	**335**	P	**Pb**	**16 42 27.3**	**-0.9**
UNIC	**Universidad Ca**	**0.96**	**350**	S	**Sn**	**16 42 41.6**	**+0.3**
UNIC	**Universidad Ca**	**0.96**	**350**	P	**Pn**	**16 42 28.4**	**0.0**
PQSS	**Presa 15 de Se**	**0.98**	**53**	P	**Pn**	**16 42 28.2**	**-0.4**
PQSS	**Presa 15 de Se**	**0.98**	**53**	S	**Sn**	**16 42 42.0**	**+0.2**
FAME	**Alcaldia de Sa**	**1.02**	**322**	P	**Pn**	**16 42 27.9**	**-1.3**
PACA	**Pacayal**	**1.11**	**67**	P	**Pb**	**16 42 31.0**	**+0.2**
PACA	**Pacayal**	**1.11**	**67**	S	**Sn**	**16 42 45.9**	**+0.9**
BLLM	**Bellamira**	**1.17**	**70**	*e*P	**Pn**	**16 42 31.5**	**+0.2**
LLGN	**La Laguna**	**1.20**	**20**	S	**Sn**	**16 42 47.4**	**+0.2**
LLGN	**La Laguna**	**1.20**	**20**	P	**Pn**	**16 42 31.0**	**-0.7**
CAHU	**Cacacuatique**	**1.34**	**57**	*e*P	**Pn**	**16 42 33.4**	**-0.4**
MTO3	**Montecristo**	**1.36**	**0**	*e*P	**Pn**	**16 42 33.1**	**-0.8**
MTO3	**Montecristo**	**1.36**	**0**	*e*P	**Pn**	**16 42 33.2**	**-0.8**
MTO3	**Montecristo**	**1.36**	**0**	P	**Pn**	**16 42 33.1**	**-0.8**
MTO3	**Montecristo**	**1.36**	**0**	S	**Sn**	**16 42 51.0**	**-0.4**
CNCH	**Conchagua**	**1.52**	**81**	*e*S	**Sb**	**16 42 56.4**	**-0.2**
CNCH	**Conchagua**	**1.52**	**81**	S	**Sn**	**16 42 55.1**	**0.0**
CNCH	**Conchagua**	**1.52**	**81**	P	**Pn**	**16 42 35.7**	**-0.4**
ESQI	**Esquipulas**	**1.52**	**1**	*e*P	**Pn**	**16 42 35.6**	**-0.5**
ESQI	**Esquipulas**	**1.52**	**1**	P	**Pn**	**16 42 35.5**	**-0.5**
ESQI	**Esquipulas**	**1.52**	**1**	S	**Sn**	**16 42 55.1**	**0.0**
FG16	**Alotenango, Sa**	**1.66**	**318**	*e*P	**Pb**	**16 42 43.3**	**+3.0**
CSGN	**Cosiguina Volc**	**1.77**	**92**	P	**Pn**	**16 42 39.1**	**-0.3**
CSGN				S	**Sn**	**16 43 00.5**	**-0.8**
SARH	**Santa Rosa de**	**1.83**	**19**	*i* P	**Pn**	**16 42 40.4**	**+0.1**

*IDC **25** 16:47:17.2±1.1, 25°.89N×141°.89E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=47.0km s-min=16.5km az=98.0*

ISC 25 16:47:22.2±1.2, 25°.9N±0°.1×141°.9E±0°.3, h35km, n7, σ1§45/8, mb3.6/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** comp=Z,38nm,19.5s,baz=147,slow=15	**1.25**	**12**	LR	LR	16 47 36.0	
JCJ	18nm,0.3s,baz=232,slow=19,SNR=6.8			Pn	**Pn**	**16 47 41.1**	**-2.1**
JCJ	84nm,0.3s,baz=276,slow=23,SNR=18			Sn	**Sn**	**16 48 01.2**	**+2.3**
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=11,slow=8.4,SNR=16	**46.12**	**190**	P	**P**	**16 55 43.4**	**+0.2**
ASAR	**Alice Springs** 0.1nm,0.5s,baz=11,slow=8.7,SNR=6.4	**49.84**	**190**	P	**P**	**16 56 12.5**	**+0.5**
KURBB	**Kurchatov Arra** 0.2nm,0.6s,baz=89,slow=8.0,SNR=2.6	**53.73**	**315**	P	**P**	**16 56 40.3**	**-0.4**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=77,slow=5.7,SNR=2.8	**58.78**	**318**	P	**P**	**16 57 17.4**	**+0.7**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=236,slow=6.4,SNR=3.2	**58.91**	**28**	P	**P**	**16 57 17.7**	**+0.3**
FINES	**FINESS Array B** 0.9nm,0.7s,baz=72,slow=4.3,SNR=4.4	**78.94**	**334**	P	**P**	**16 59 21.9**	**0.0**

IDC 25 17:07:12.6±10.0, 9°.73N×92°.70E, h0km, mb3.5/2, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=236.6km s-min=45.1km az=96.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=221,slow=15,SNR=6.1	**10.57**	**34**	Pn	Pn	17 09 45.8	+0.2
	1.1nm,0.6s						
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=306,slow=8.5,SNR=6.6	**50.49**	**126**	P	P	17 16 12.7	-0.1
	0.3nm,0.5s						
ASAR	**Alice Springs** 0.4nm,0.6s,baz=310,slow=6.4,SNR=14	**52.19**	**130**	P	P	17 16 25.4	-0.1
	0.4nm,0.6s						

*JMA **25** 17:17:23.7±0.2, 24°.0N±1°.0×122°.6E±0°.8, h43km, MV1.8/10, NW OFF ISHIGAKIJIMA IS*
*TAP **25** 17:17:24.3, 24°.12N×122°.60E, h39km, ML2.6, C*

ISC 25 17:17:21.9±1.1, 24°.04N±0°.02×122°.63E±0°.02, h13km±9km, n69, σ1§14/132, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.29**	**286**	P	**Pn**	**17 17 32.3**	**+0.8**
EOS4				*i* S	**Sb**	**17 17 38.3**	**+4.9**
EOS3	**EOS3**	**0.38**	**311**	*e*P	**Pn**	**17 17 33.5**	**+0.7**
EOS3				*e*S	**Sb**	**17 17 40.7**	**+4.8**
JYNG	**Yonagunijimaku**	**0.50**	**35**	P	**Pn**	**17 17 34.8**	**0.0**
JYNG				*e*S	**Sb**	**17 17 42.7**	**+2.9**
EOS2	**EOS2**	**0.52**	**317**	*e*P	**Pn**	**17 17 35.8**	**+0.9**
EOS2				*e*S	**Sn**	**17 17 44.7**	**+1.1**
YOJ	**Yonaguni jima**	**0.55**	**40**	*e*P	**Pn**	**17 17 35.5**	**+0.1**
YOJ				*i* S	**Sn**	**17 17 43.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.55**	**40**	P	**Pn**	**17 17 35.3**	**-0.1**
YOJ				S	**Sn**	**17 17 43.7**	**-0.7**
EWUT	**Wuta**	**0.87**	**298**	P	**Pn**	**17 17 39.6**	**-0.3**
EWUT				*i* S	**Sn**	**17 17 51.7**	**-0.7**
TWC	**Suao**	**0.91**	**309**	P	**Pb**	**17 17 40.0**	**+0.5**
TWC				*i* S	**Sb**	**17 17 52.0**	**+0.5**
ETL	**Fush Village**	**0.92**	**278**	*i* P	**Pn**	**17 17 41.0**	**+0.5**
ETL				S	**Sb**	**17 17 53.1**	**+1.2**
NACB	**Ninganchiao**	**0.95**	**278**	P	**Pn**	**17 17 41.3**	**+0.4**
NACB				*e*S	**Sb**	**17 17 53.1**	**+0.3**
SHUL	**Shoufeng**	**1.00**	**256**	P	**Pn**	**17 17 42.8**	**+1.2**
SHUL				*e*S	**Sg**	**17 17 54.6**	**+0.2**
ETM	**Tongmen**	**1.04**	**266**	*e*P	**Pg**	**17 17 41.6**	**-0.4**
ETM				*e*S	**Sg**	**17 17 54.6**	**-0.9**
IRIF	**Iriomote-Funau**	**1.05**	**73**	P	**Pn**	**17 17 42.8**	**+0.5**
IRIF				S	**Sn**	**17 17 56.9**	**+0.1**
ETLH	**Xiulin Townshi**	**1.06**	**279**	*e*P	**Pg**	**17 17 42.3**	**-0.1**
ETLH				*e*S	**Sg**	**17 17 55.4**	**-0.8**
TWE	**Neicheng**	**1.11**	**308**	*e*P	**Pn**	**17 17 43.4**	**+0.4**
LXIB	**Xiulin Townshi**	**1.11**	**269**	P	**Pn**	**17 17 44.0**	**+0.8**
LXIB				*e*S	**Sg**	**17 17 57.0**	**-0.8**
LATG	**Datong**	**1.12**	**297**	*e*P	**Pn**	**17 17 43.5**	**+0.1**
LATG				*e*S	**Sb**	**17 17 57.0**	**-0.7**
ENTT	**Nioudou**	**1.14**	**302**	*e*P	**Pb**	**17 17 43.3**	**-0.1**
ENTT				*e*S	**Sb**	**17 17 57.0**	**-1.1**
EGFH	**Guangfu**	**1.16**	**252**	P	**Pg**	**17 17 45.1**	**+0.9**
EGFH				*e*S	**Sb**	**17 17 58.1**	**-0.5**
WARBT	**Fenglin Townsh**	**1.18**	**255**	*i* P	**Pg**	**17 17 45.3**	**+0.7**
WARBT				*e*S	**Sb**	**17 17 58.3**	**-1.0**
TIPB	**Shuangxi**	**1.18**	**322**	P	**Pn**	**17 17 44.2**	**+0.1**
TIPB				S	**Sb**	**17 17 58.9**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.19**	**307**	*e*P	**Pg**	**17 17 45.7**	**+0.9**
FUSB				S	**Sb**	**17 17 59.3**	**-0.3**
NNSB	**Datong**	**1.20**	**289**	*i* P	**Pg**	**17 17 44.9**	**-0.2**
NNSB				S	**Sb**	**17 17 59.5**	**-0.5**
HGSD	**Ruisui**	**1.23**	**244**	P	**Pg**	**17 17 46.4**	**+0.9**
HGSD				*e*S	**Sb**	**17 17 59.4**	**-1.3**
SXI1	**Grass Mountain**	**1.25**	**327**	*e*P	**Pn**	**17 17 45.3**	**+0.1**
SXI1				*i* S	**Sb**	**17 18 00.5**	**-1.0**
NWLT	**Wulai**	**1.26**	**306**	*e*P	**Pg**	**17 17 46.2**	**0.0**
NWLT				S	**Sb**	**17 18 01.9**	**+0.3**
JKRS	**Kuro-shima**	**1.28**	**81**	*e*S	**Sg**	**17 18 03.0**	**-0.2**
EHVH	**Wanrong**	**1.29**	**245**	*e*S	**Sb**	**17 18 01.1**	**-1.1**
ECBN	**Changbin**	**1.29**	**237**	P	**Pg**	**17 17 47.7**	**+0.9**
ECBN				*e*S	**Sb**	**17 18 00.7**	**-1.9**
YHNB	**Yeheng**	**1.30**	**299**	*e*P	**Pb**	**17 17 46.4**	**+0.1**
YHNB				S	**Sb**	**17 18 01.8**	**-1.1**
OWD	**Renai**	**1.33**	**267**	*e*P	**Pn**	**17 17 46.4**	**+0.1**
OWD				*e*S	**Sb**	**17 18 02.1**	**-1.7**
YULB	**Yu-li**	**1.38**	**242**	*e*P	**Pn**	**17 17 46.7**	**-0.1**
YULB				*e*S	**Sn**	**17 18 03.3**	**-1.6**
WUSB	**Renai**	**1.38**	**268**	*e*P	**Pn**	**17 17 47.3**	**+0.4**
WUSB				*e*S	**Sb**	**17 18 03.8**	**-1.4**
NHY	**Taipei**	**1.39**	**316**	*e*P	**Pn**	**17 17 45.4**	**-1.5**
CHKH	**Chenggong**	**1.41**	**234**	*i* P	**Pg**	**17 17 48.9**	**-0.1**
CHKH				S	**Sb**	**17 18 07.0**	**+1.1**
JIJ	**Ishigaki jima**	**1.42**	**77**	S	**Sn**	**17 18 04.7**	**-1.3**
YM01	**YM01**	**1.46**	**319**	P	**Pn**	**17 17 48.1**	**+0.1**
YM01				S	**Sn**	**17 18 05.0**	**-2.1**
FULB	**Fuli**	**1.48**	**236**	P	**Pn**	**17 17 49.7**	**+0.4**
FULB				*e*S	**Sn**	**17 18 05.9**	**-1.5**
ZUZH	**Zhuzihu**	**1.49**	**319**	P	**Pn**	**17 17 48.2**	**-0.2**
ZUZH				S	**Sn**	**17 18 06.7**	**-1.0**
NFF	**Wufeng Townshi**	**1.50**	**294**	*e*P	**Pb**	**17 17 50.0**	**+0.5**
NFF				*e*S	**Sn**	**17 18 08.3**	**+0.3**
KSHI	**Guanxi Townshi**	**1.51**	**299**	*e*P	**Pb**	**17 17 49.8**	**0.0**
KSHI				S	**Sn**	**17 18 06.8**	**-1.4**
ANP	**Anpu**	**1.52**	**319**	*e*S	**Sn**	**17 18 08.5**	**-0.1**

TWS1	**Kuangyinshan**	**1.53**	**314**	*e*P	**Pn**	**17 17 46.9**	**-1.9**
TWS1				*e*S	**Sn**	**17 18 07.2**	**-1.3**
WHP	**Taichung City**	**1.55**	**279**	*e*P	**Pg**	**17 17 51.5**	**-0.2**
WHP				*i* S	**Sn**	**17 18 09.0**	**-0.4**
DPDB	**Guoxing**	**1.55**	**270**	P	**Pb**	**17 17 50.3**	**-0.2**
DPDB				S	**Sn**	**17 18 09.1**	**-0.2**
SMLT	**Sun Moon Lake**	**1.59**	**265**	*e*P	**Pb**	**17 17 51.4**	**+0.2**
SMLT				*e*S	**Sn**	**17 18 09.5**	**-0.7**
LIOB	**Emei**	**1.59**	**293**	*e*P	**Pb**	**17 17 51.3**	**+0.2**
LIOB				*e*S	**Sn**	**17 18 10.7**	**+0.6**
TYC	**Yuchr**	**1.62**	**266**	P	**Pb**	**17 17 51.7**	**0.0**
TYC				*i* S	**Sn**	**17 18 10.7**	**-0.2**
YUS	**Yu-Shan**	**1.63**	**251**	*i* P	**Pn**	**17 17 51.5**	**+0.8**
YUS				S	**Sn**	**17 18 10.8**	**-0.9**
JISG	**Ishigakijimahi**	**1.63**	**70**	P	**Pn**	**17 17 50.5**	**+0.3**
JISG				*e*S	**Sn**	**17 18 09.8**	**-1.4**
WHYT	**Xinyi Township**	**1.66**	**259**	*e*P	**Pn**	**17 17 50.7**	**0.0**
WHYT				*e*S	**Sn**	**17 18 11.2**	**-0.6**
ELDTW	**Lidau**	**1.70**	**241**	P	**Pn**	**17 17 52.4**	**+1.0**
ELDTW				*e*S	**Sn**	**17 18 10.8**	**-2.2**
ALS	**Alishan**	**1.75**	**253**	P	**Pn**	**17 17 52.8**	**+0.7**
ALS				*e*S	**Sn**	**17 18 13.6**	**-0.9**
WWF	**Wufeng**	**1.76**	**271**	*e*P	**Pb**	**17 17 54.2**	**+0.2**
WWF				*i* S	**Sn**	**17 18 14.3**	**-0.1**
CHN5	**Tsauling**	**1.84**	**257**	P	**Pb**	**17 17 55.2**	**-0.1**
CHN5				S	**Sn**	**17 18 16.9**	**+0.6**
TWGBT	**Beinan**	**1.87**	**230**	P	**Pn**	**17 17 54.9**	**+1.4**
TWGBT				*e*S	**Sn**	**17 18 14.9**	**-2.1**
TWG	**Pinlang**	**1.87**	**230**	*i* P	**Pn**	**17 17 55.2**	**+1.6**
TWG				*e*S	**Sn**	**17 18 14.9**	**-2.2**
WDLH	**Douliu**	**1.94**	**260**	*e*P	**Pb**	**17 17 56.7**	**-0.4**
WDLH				*e*S	**Sb**	**17 18 22.4**	**+1.1**
WCKO	**Fanlu**	**1.95**	**253**	*e*P	**Pb**	**17 17 56.8**	**-0.4**
WCKO				*e*S	**Sn**	**17 18 20.1**	**+1.2**
TPUB	**Ta-pu**	**1.97**	**249**	P	**Pb**	**17 17 56.8**	**-0.8**
TPUB				S	**Sn**	**17 18 20.5**	**+0.9**
CHN4	**Tsaushan**	**1.98**	**250**	*e*P	**Pb**	**17 17 57.5**	**-0.3**
CHN4				*e*S	**Sb**	**17 18 22.1**	**-0.4**
WTP	**Ta-pu**	**2.01**	**247**	P	**Pb**	**17 17 57.5**	**-0.7**
WTP				*e*S	**Sn**	**17 18 21.6**	**+1.1**
RLNB	**Erlin**	**2.08**	**266**	*e*P	**Pb**	**17 17 58.5**	**-0.9**
RLNB				*e*S	**Sb**	**17 18 24.3**	**-0.8**
WTK	**Tuku**	**2.08**	**261**	P	**Pb**	**17 17 58.4**	**-1.0**
WTK				*e*S	**Sn**	**17 18 23.1**	**+1.0**
CHN1	**Nanshi**	**2.10**	**247**	*e*P	**Pn**	**17 17 58.6**	**+1.8**
CHN1				*e*S	**Sn**	**17 18 24.7**	**+1.9**
TWK	**Hsinying**	**2.10**	**249**	*e*P	**Pb**	**17 17 59.0**	**-0.9**
TWK				*e*S	**Sn**	**17 18 24.8**	**+1.9**
SNST	**Tainan City**	**2.12**	**248**	P	**Pb**	**17 17 59.0**	**-1.1**
SNST				*e*S	**Sn**	**17 18 24.8**	**+1.7**
SSD	**Sandimen**	**2.24**	**235**	P	**Sn**	**17 18 00.4**	**+1.8**
SSD				S	**Sn**	**17 18 26.0**	**-0.1**
MASBT	**Mashibuluo**	**2.32**	**233**	*e*P	**Pb**	**17 18 02.8**	**-0.7**
MASBT				*e*S	**Sn**	**17 18 29.2**	**+1.1**

TAP 25 17:21:17.4, 23.73N×121.48E, h3km, ML1.2, 2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
TEGC	**Jichi Village**	**0.06**	**108**	P		Pg	17 21 19.1	+0.5
TEGC					*i* S	Sg	17 21 20.9	+1.4
EGFH	**Guangfu**	**0.08**	**221**	*i* P		Pg	17 21 19.7	+0.8
EGFH					*i* S	Sg	17 21 21.3	+1.3
WARBT	**Fenglin Townsh**	**0.09**	**265**	||*i* P		Pg	17 21 20.1	+0.9
WARBT					*i* S	Sg	17 21 21.9	+1.5
SHUL	**Shoufeng**	**0.10**	**50**	P		Pg	17 21 20.1	+0.7
SHUL				S		Sg	17 21 22.5	+1.9
ESL	**Shilin**	**0.10**	**333**	||*i* P		Pg	17 21 20.1	+0.7
ESL				S		Sg	17 21 21.8	+1.1
HGSD	**Ruisui**	**0.24**	**193**	*e*P		Pg	17 21 23.6	+1.6
HGSD				S		Sg	17 21 27.2	+2.1
YULB	**Yu-li**	**0.37**	**207**	P		Pb	17 21 26.3	-0.4
YULB				*e*S		Sg	17 21 29.6	+0.1
WUSB	**Renai**	**0.43**	**308**	*e*P		Pg	17 21 26.6	+0.9

*IDC **25** 17:26:28.7±1.1, 14.10N×145.37E, h91km±9km, mb3.4/11, mbtmp3.7/11, Error ellipse: s-maj=29.7km s-min=17.5km az=90.0*
*NEIC **25** 17:26:29.8±0.8, 13.93N±0.06×145.4E±0.1, h102km±7km, mb4.3/9, Error ellipse: s-maj=18.6km s-min=6.5km az=106.0*

ISC 25 17:26:29.4±0.7, 14.02N±0.10×145.4E±0.1, h100km, n30, σ0.89 d/25, mb3.8/16, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
GUMO	**Guam**	**0.68**	**231**	LR		LR	17 26 33.9	
	comp=Z,33nm,18.5s,baz=80,slow=7.3							
GUMO				P		**Pn**	**17 26 46.7**	**0.0**
	5µm,0.3s,baz=38,slow=1.9,SNR=695							
GUMO				S		**Sn**	**17 26 59.1**	**-0.5**
	4µm,0.3s,baz=321,slow=22,SNR=16							
PATS	**Pohnpei**	**14.55**	**118**	Pn		**Pn**	**17 29 49.9**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**20.90**	**75**	T		T	17 52 42.2	
	baz=263,slow=74,SNR=19							
H11S1	**WAKE ISLAND Hy**	**20.91**	**75**	T		T	17 52 25.4	
	baz=263,slow=74,SNR=21							
H11S2	**WAKE ISLAND Hy**	**20.92**	**75**	T		T	17 52 25.7	
	baz=263,slow=74,SNR=26							
FAKI	**Fak Fak**	**21.30**	**219**	P		**P**	**17 31 08.9**	**+0.8**
FAKI				IAmb		IAmb	17 31 14.7	
	comp=Z,26nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**21.31**	**72**	T		T	17 53 30.1	
	baz=258,slow=75,SNR=20							
H11N2	**WAKE ISLAND Hy**	**21.32**	**72**	T		T	17 53 31.9	
	baz=258,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**21.33**	**72**	T		T	17 53 40.9	
	baz=258,slow=75,SNR=22							
JMN	**Monobe**	**22.24**	**334**	P		**P**	**17 31 19.7**	**+1.7**
JMN				IAmb		IAmb	17 31 21.3	
	comp=Z,14nm,1.1s							
JGF	**Kuroka**	**22.68**	**343**	P		**P**	**17 31 23.2**	**+0.7**
JNU	**Nakatsue**	**23.17**	**328**	P		**P**	**17 31 27.2**	**-0.1**
JNU				IAmb		IAmb	17 31 40.0	
	comp=Z,4.8nm,0.9s							
MJAR	**Matsushiro Arr**	**23.34**	**345**	P		**P**	**17 31 28.3**	**-0.5**
MJAR	**Matsushiro Arr**	**23.34**	**345**	P		**P**	**17 31 28.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=162,slow=9.5,SNR=1.6							
	comp=Z,0.4nm,0.4s							
KSRS	**Korea Array**	**28.06**	**329**	P		**P**	**17 32 11.8**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=148,slow=9.2,SNR=4.9							
	comp=Z,0.5nm,0.5s							
WB0	**Warramunga Arr**	**35.28**	**198**	P		**P**	**17 33 13.9**	**-1.0**
WB0				IAmb		IAmb	17 33 17.4	
	comp=Z,3.1nm,1.1s							
WRA	**Warramunga Arr**	**35.46**	**198**	P		**P**	**17 33 17.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=19,slow=9.0,SNR=12							
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**39.11**	**197**	P		**P**	**17 33 48.0**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=23,slow=8.0,SNR=5.5							
	comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**61.55**	**316**	P		**P**	**17 36 35.7**	**-0.3**
MKAR	**Makanchi Array**	**61.55**	**316**	P		**P**	**17 36 36.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.2,SNR=9.9							
	comp=Z,0.4nm,0.4s							
KURK	**Kurchatov**	**64.60**	**320**	P		**P**	**17 36 55.3**	**-0.8**
CNPM	**China Poot**	**64.60**	**30**	P		**P**	**17 36 56.1**	**+0.2**
KURBB	**Kurchatov Arra**	**64.64**	**320**	P		**P**	**17 36 56.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=101,slow=6.2,SNR=6.2							
	comp=Z,0.4nm,0.5s							
BRLK	**Bradley Lake**	**64.83**	**30**	P		**P**	**17 36 57.9**	**+0.3**
ILAR	**Eielson Array**	**67.95**	**25**	P		**P**	**17 37 16.2**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=251,slow=6.0,SNR=10							
	comp=Z,1.0nm,0.6s							
GRNC	**Granite Creek**	**69.49**	**30**	P		**P**	**17 37 28.0**	**+0.8**
GRNC				IAmb		IAmb	17 37 29.0	
	comp=Z,7.1nm,0.6s							
BVAR	**Borovoye Array**	**69.92**	**322**	P		**P**	**17 37 28.2**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.7,SNR=5.9							
	comp=Z,0.4nm,0.4s							
NVAR	**Mina Array Bea**	**86.24**	**51**	P		**P**	**17 39 02.0**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=282,slow=4.3,SNR=4.5							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**90.99**	**335**	P		**P**	**17 39 20.7**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=65,slow=4.5,SNR=5.6							
	comp=Z,1.8nm,0.9s							
PDAR	**Pinedale Array**	**91.29**	**45**	P		**P**	**17 39 24.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=291,slow=4.3,SNR=2.5							
	comp=Z,0.3nm,0.7s							

*MOS **25** 17:28:48.4±1.1, 7.89S×159.15E, h37km, mb5.4/41, Error ellipse: s-maj=7.6km s-min=5.7km az=111.2*
*NEIC **25** 17:28:49.7±2.6, 7.89S±0.08×159.2E±0.1, h34km±3km, mb5.2/312, Mww5.1/12, Error ellipse: s-maj=16.3km s-min=9.8km az=65.0*
*NEIC **25** 17:28:50.5, 8.02S×159.21E, h36km, Moment Tensor Solution. Duration: 19 Moment tensor: Scale 1016Nm; Mrr5.14; Mθθ-2.57; Mϕϕ-2.57; Mrθ0.81; Mrϕ4.14; Mθϕ-0.15; Fault plane solution: M06.13000×1016 NP1: ϕs322.40000°, δ42.21000°, λ100.72000°. NP2: ϕs128.07000°, δ48.69000°, λ80.43000°. Principal axes: T 5.2336, Plg82.0000°, Azm339.0000°; N 1.5155, Plg7.0000°, Azm134.0000°; P -6.7492, Plg3.0000°, Azm225.0000°;*
*GCMT **25** 17:28:50.7±0.2, 7.88S±0.01×159.33E±0.01, h34km, MW5.1/107, Moment Tensor Solution. s97,c135; s107,c149; Duration: 0 Moment tensor: Scale 1016Nm; Mrr6.03±.14; Mθθ-2.42±.10; Mϕϕ-3.62±.11; Mrθ0.52±.12; Mθϕ3.34±.07; Mϕr0.73±.13; Best double couple: M06.29100×1016 NP1:ϕs132.00000°, δ45.00000°, λ78.00000°. NP2:ϕs329.00000°, δ47.00000°, λ102.00000°. Principal axes: T 6.1640, Plg81.0000°, Azm313.0000°; N 0.2430, Plg9.0000°, Azm140.0000°; P -6.4170, Plg1.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **25** 17:28:50.1, 7.39S×159.31E, h40km, mB5.3/35, mb5.2/79, Ms4.8/45, Ms7 4.6/47*
*NEIC **25** 17:28:50.5, 7.92S×159.31E, h36km*
*IDC **25** 17:28:50.1±1.5, 7.95S×159.23E, h40km±13km, mb4.8/24, mbtmp5.0/27, ML1.5/1, MS4.4/56, Error ellipse: s-maj=14.5km s-min=8.1km az=62.0*
ISC 25 17:28:49.2±0.4, 7.90S±0.03×159.24E±0.04, h34km±1km, h34km:pP-P, n1009, σ1.00/858, mb5.2/255, MS4.5/74, 45C-21D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
				ID			h m s	ISC
TATA	**Tatamba Isabel**	**0.74**	**131**	P		**Pn**	**17 29 02.9**	**-0.3**
SAVO	**Savo Central**	**1.36**	**156**	P		**Pn**	**17 29 12.7**	**+0.8**
SAVO	**Savo Central**	**1.36**	**156**	S		**Sn**	**17 29 29.5**	**+0.7**
ALEG	**Aligegeo Malai**	**1.67**	**121**	P		**Pn**	**17 29 17.2**	**+1.2**
ALEG	**Aligegeo Malai**	**1.67**	**121**	S		**Sn**	**17 29 37.3**	**+1.0**
HNR	**Honiara**	**1.67**	**155**	Pn		**Pn**	**17 29 16.9**	**+0.8**
HNR				Sn		**Sb**	**17 29 38.7**	**-1.5**
HNR	**Honiara**	**1.67**	**155**	P		**Pn**	**17 29 16.9**	**+0.8**
	7µm,0.7s,baz=197,slow=6.0,SNR=222							
HNR				S		**Sn**	**17 29 38.3**	**+1.9**
	10µm,0.4s,baz=230,slow=5.1,SNR=11							
HNR				LR		LR	17 30 00.6	
	comp=Z,10µm,19.9s,baz=294,slow=43							
HNR	**Honiara**	**1.67**	**155**	P		**Pn**	**17 29 17.5**	**+1.4**
HNR	**Honiara**	**1.67**	**155**	S		**Sb**	**17 29 38.6**	**-1.5**
HNR	**Honiara**	**1.67**	**155**	P		**Pn**	**17 29 16.9**	**+0.8**
HNR							17 29 38.7	
HURO	**Huro Makira**	**3.66**	**134**	P		**Pn**	**17 29 45.7**	**+2.3**
NGOA	**Tingoa Renbel**	**3.72**	**168**	P		**Pn**	**17 29 46.7**	**+2.4**
NGOA	**Tingoa Renbel**	**3.72**	**168**	S		**Sn**	**17 30 30.0**	**+3.1**
LUES	**Luesalemba Tem**	**7.13**	**113**	P		**Pn**	**17 30 32.9**	**+1.7**
RABL	**Rabaul**	**7.95**	**297**			**Pn**	**17 30 46.2**	**+3.8**
SANVU	**Saraoutou**	**10.81**	**135**			**Pn**	**17 31 18.2**	**-3.5**
SANVU	**Saraoutou**	**10.81**	**135**	P		**Pn**	**17 31 24.4**	**+2.7**
PMG	**Port Moresby**	**12.04**	**262**			**Pn**	**17 31 40.0**	**+1.4**
PMG	**Port Moresby**	**12.04**	**262**	P		**Pn**	**17 31 40.2**	**+1.7**
	0.1nm,0.3s,baz=33,slow=18,SNR=5.2							
PMG				LR		LR	17 36 21.2	
	comp=Z,2µm,19.2s,baz=84,slow=38							
	7.6nm,0.8s							
PMG	**Port Moresby**	**12.04**	**262**	P		**Pn**	**17 31 39.8**	**+1.3**
PMG	**Port Moresby**	**12.04**	**262**	P		**Pn**	**17 31 39.5**	**+1.0**
PMG	**Port Moresby**	**12.04**	**262**	*i* P		**Pn**	**17 31 39.9**	**+1.4**
PATS	**Pohnpei**	**14.67**	**356**	P		**P**	**17 32 20.8**	**+0.6**
DZM	**Mont Dzumac**	**15.70**	**155**			**Pn**	**17 32 29.8**	**+1.7**
DZM				IAmb		IAmb	17 32 36.0	
	comp=Z,153nm,1.0s							
DZM	**Mont Dzumac**	**15.70**	**155**	P		**Pn**	**17 32 28.8**	**+0.7**
	comp=Z,27nm,1.0s,baz=172,slow=19,SNR=32							
DZM				S		**Sn**	**17 35 23.0**	**+1.8**
	comp=Z,15nm,1.0s,baz=347,slow=22,SNR=2.2							
DZM				LR		LR	17 38 15.9	
	comp=Z,2µm,19.2s,baz=320,slow=36							
DZM	**Mont Dzumac**	**15.70**	**155**	P		**P**	**17 32 31.4**	**-0.4**
ONTNC	**Ouen Toro**	**15.92**	**155**			**Pn**	**17 32 26.9**	**-3.8**
ONTNC	**Ouen Toro**	**15.92**	**155**	P		**Pn**	**17 32 31.8**	**+1.1**
OUENC	**Ouen Island, N**	**16.18**	**154**	P		**P**	**17 32 38.1**	**+1.1**
TARA	**Tarawa**	**16.45**	**57**	Pn		**Pn**	**17 32 34.4**	**-3.2**
TARA				IAmb		IAmb	17 32 43.8	
	comp=Z,289nm,1.1s							
TARA	**Tarawa**	**16.45**	**57**	P		**Pn**	**17 32 38.0**	**+0.4**
PINNC	**Pines Island,**	**16.62**	**153**			**Pn**	**17 32 38.5**	**-1.1**
PINNC	**Pines Island,**	**16.62**	**153**	P		**P**	**17 32 43.2**	**+1.4**
COEN	**Coen**	**16.88**	**248**	P		**P**	**17 32 48.6**	**+3.8**
COEN	**Coen**	**16.88**	**248**			**P**	**17 32 47.7**	**+2.9**
CTA	**Charters Tower**	**17.46**	**225**	P		**P**	**17 32 52.2**	**+1.0**
CTA	**Charters Tower**	**17.46**	**225**	P		**P**	**17 32 53.9**	**+2.7**
CTAO	**Charters Tower**	**17.46**	**225**			**Pn**	**17 32 50.6**	**+0.3**
CTAO	**Charters Tower**	**17.46**	**225**	P		**P**	**17 32 52.6**	**+1.4**
CTAO	**Charters Tower**	**17.46**	**225**	P		**Pn**	**17 32 50.6**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,66nm,1.2s							
GD1S	**Gladstone Soft**	**17.64**	**205**	P		**P**	**17 32 54.1**	**+1.0**
MTSU	**Mount Surprise**	**17.73**	**234**	P		**P**	**17 32 57.4**	**+3.2**
MTSU	**Mount Surprise**	**17.73**	**234**	P		**P**	**17 32 56.5**	**+2.3**
EIDS	**Eidsvold**	**19.04**	**203**	P		**Pn**	**17 33 10.7**	**+1.3**
	comp=Z,106nm,0.9s							
EIDS	**Eidsvold**	**19.04**	**203**	P		**Pn**	**17 33 10.7**	**+1.3**
EIDS	**Eidsvold**	**19.04**	**203**	P		**Pn**	**17 33 11.5**	**+2.1**
JAY	**Jayapura**	**19.22**	**285**	P		**Pn**	**17 33 11.7**	**0.0**
	comp=Z,45nm,0.7s,baz=135,slow=5.5,SNR=20							
JAY	**Jayapura**	**19.22**	**285**	P		**Pn**	**17 33 11.5**	**-0.2**
	comp=Z,2µmcomp=Z,105nm,1.4s							
GENI	**Genyem**	**19.71**	**284**	P		**P**	**17 33 16.3**	**+0.4**
GENI	**Genyem**	**19.71**	**284**	P		**Pn**	**17 33 17.0**	**-0.6**
	comp=Z,4µmcomp=Z,304nm,1.4s							
TW1H	**Toowoomba 1 Ha**	**20.72**	**199**	P		Pn	17 33 28.3	-1.0
MSVF	**Nonsavu**	**20.76**	**120**	P		Pn	17 33 28.9	-1.0
MSVF	**Nonsavu**	**20.76**	**120**	*i* P		**P**	**17 33 28.7**	**+1.3**
GC1S	**Gold Coast 1 S**	**20.87**	**194**	P		Pn	17 33 31.2	+0.2
SMPI	**Sarmi**	**21.27**	**285**	P		**P**	**17 33 33.1**	**+0.2**
	comp=Z,3µmcomp=Z,205nm,1.4s							
DGTI	**Dogotuki**	**21.69**	**115**	P		**P**	**17 33 38.1**	**+0.7**
QIS	**Mount Isa**	**22.78**	**234**	P		**P**	**17 33 49.7**	**+0.6**
	comp=Z,97nm,0.9s							
QIS	**Mount Isa**	**22.78**	**234**	P		**P**	**17 33 50.2**	**+1.1**
FUTU	**Fugatoga**	**23.09**	**108**	P		**P**	**17 33 53.3**	**+1.0**
QLP	**Quilpie**	**23.42**	**216**	P		**P**	**17 33 55.6**	**+0.2**
	comp=Z,304nm,1.1s							
QLP	**Quilpie**	**23.42**	**216**	P		**P**	**17 33 56.1**	**+0.7**
LHI	**Lord Howe Isla**	**23.50**	**180**	P		**P**	**17 33 55.4**	**-0.7**
LHI				IAmb		IAmb	17 34 16.5	
	comp=Z,125nm,1.2s							
ARMA	**Armidale**	**23.51**	**197**	P		**P**	**17 33 57.1**	**+0.7**
	comp=Z,176nm,1.0s							
ARMA	**Armidale**	**23.51**	**197**	P		**P**	**17 33 57.2**	**+0.8**
ARMA	**Armidale**	**23.51**	**197**	P		**P**	**17 33 57.7**	**+1.3**
GUMO	**Guam**	**25.68**	**326**	LR		LR	17 43 42.8	
	comp=Z,808nm,21.3s,baz=153,slow=35							
GUMO	**Guam**	**25.68**	**326**	P		**P**	**17 34 16.0**	**-0.3**
GUMO	**Guam**	**25.68**	**326**	P		**P**	**17 34 15.6**	**-0.7**
GUMO				pmax		pmax		
	comp=Z,346nm,1.3s							
NTLH	**Newcastle Hard**	**25.84**	**195**	P		**P**	**17 34 19.5**	**+2.0**
CMSA	**Cobar Meteorol**	**26.70**	**206**	P		**P**	**17 34 25.0**	**-0.4**
	comp=Z,43nm,1.0s							
CMSA	**Cobar Meteorol**	**26.70**	**206**	P		**P**	**17 34 25.5**	**+0.1**
KDU	**Kakadu**	**26.76**	**258**	P		**P**	**17 34 25.4**	**-0.6**
	comp=Z,55nm,1.1s							
KDU	**Kakadu**	**26.76**	**258**	P		**P**	**17 34 26.1**	**+0.1**
WR8	**Warramunga Arr**	**26.79**	**241**	P		**P**	**17 34 25.9**	**-0.5**
WB0	**Warramunga Arr**	**26.81**	**241**	P		**P**	**17 34 26.1**	**-0.4**
SYDH	**Sydney Hard Ro**	**26.91**	**196**	P		**P**	**17 34 28.4**	**+1.2**
WRAB	**Tennant Creek**	**26.91**	**241**	P		**P**	**17 34 26.2**	**-1.3**
WRAB	**Tennant Creek**	**26.91**	**241**	*i* P		**P**	**17 34 27.2**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,107nm,1.0s							
WRA	**Warramunga Arr**	**26.93**	**241**	P		**P**	**17 34 26.6**	**-1.0**
WRA	**Warramunga Arr**	**26.93**	**241**	P		**P**	**17 34 27.5**	**-0.1**
	comp=Z,34nm,0.4s,baz=65,slow=8.9,SNR=128							
WRA				PcP		**PcP**	**17 37 49.0**	**-0.2**
	comp=Z,6.6nm,0.9s,baz=73,slow=1.6,SNR=5.7							
WRA				ScP		**ScP**	**17 41 24.8**	**-2.3**
	comp=Z,1.2nm,0.9s,baz=71,slow=3.0,SNR=4.1							
WRA				LR		LR	17 45 02.9	
	comp=Z,3µm,18.9s,baz=50,slow=36							
	comp=Z,34nm,0.4s							
WRA	**Warramunga Arr**	**26.93**	**241**	*i* P		**P**	**17 34 26.0**	**-1.6**
WRA				pmax		pmax		
	comp=Z,98nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**27.24**	**16**	T		T	18 03 02.4	
	baz=195,slow=76,SNR=668							
H11S2	**WAKE ISLAND Hy**	**27.24**	**16**	T		T	18 03 02.5	
	baz=195,slow=76,SNR=1160							
H11S1	**WAKE ISLAND Hy**	**27.25**	**16**	T		T	18 02 59.2	
	baz=195,slow=76,SNR=559							
MTN	**Manton Dam**	**28.07**	**258**	P		**P**	**17 34 37.3**	**-0.5**
	comp=Z,33nm,1.1s							
MTN	**Manton Dam**	**28.07**	**258**	P		**P**	**17 34 38.4**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**28.45**	**15**	T		T	18 04 30.5	
	baz=196,slow=76,SNR=1522							
H11N3	**WAKE ISLAND Hy**	**28.46**	**15**	T		T	18 04 31.2	
	baz=196,slow=76,SNR=1275							
H11N2	**WAKE ISLAND Hy**	**28.47**	**15**	T		T	18 04 31.9	
	baz=196,slow=76,SNR=1231							
CNB	**Canberra Magne**	**28.75**	**197**	P		**P**	**17 34 44.4**	**+0.6**
	comp=Z,54nm,1.4s							
CNB	**Canberra Magne**	**28.75**	**197**	P		**P**	**17 34 45.1**	**+1.3**
CAN	**Canberra**	**28.86**	**198**	P		**P**	**17 34 45.6**	**+0.8**
	comp=Z,54nm,1.1s							
CAN	**Canberra**	**28.86**	**198**	P		**P**	**17 34 45.7**	**+1.0**
CAN	**Canberra**	**28.86**	**198**	P		**P**	**17 34 44.9**	**+0.2**
CAN				pmax		pmax		
	comp=Z,54nm,1.1s							
AS01	**Alice Springs**	**28.87**	**234**	P		**P**	**17 34 44.5**	**-0.4**
AS31	**Alice Springs**	**28.91**	**234**	P		**P**	**17 34 44.2**	**-1.1**
	comp=Z,13nm,0.5s							
AS31	**Alice Springs**	**28.91**	**234**	P		**P**	**17 34 43.9**	**-1.4**
ASAR	**Alice Springs**	**28.91**	**234**	P		**P**	**17 34 44.0**	**-1.3**
ASAR	**Alice Springs**	**28.91**	**234**	P		**P**	**17 34 44.5**	**-0.8**
	comp=Z,14nm,0.4s,baz=62,slow=9.8,SNR=351							
ASAR				PcP		**PcP**	**17 37 53.7**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=80,slow=2.9,SNR=3.4							
ASAR				ScP		**ScP**	**17 41 31.4**	**-1.8**
	comp=Z,1.6nm,0.9s,baz=54,slow=4.7,SNR=5.7							
ASAR				LR		LR	17 45 55.6	
	comp=Z,2µm,20.3s,baz=62,slow=36							
	comp=Z,14nm,0.4s							
STKA	**Stephens Creek**	**28.97**	**212**	P		**P**	**17 34 45.2**	**-0.5**
	comp=Z,112nm,0.6s							
STKA	**Stephens Creek**	**28.97**	**212**	P		**P**	**17 34 45.7**	**+0.1**
STKA	**Stephens Creek**	**28.97**	**212**	P		**P**	**17 34 45.5**	**-0.2**
	comp=Z,24nm,0.9s,baz=20,slow=9.6,SNR=37							
STKA				LR		LR	17 46 15.8	
	comp=Z,2µm,19.8s,baz=24,slow=36							
	comp=Z,24nm,0.9s							
STKA	**Stephens Creek**	**28.97**	**212**	P		**P**	**17 34 46.1**	**+0.4**
STKA	**Stephens Creek**	**28.97**	**212**	*i* P		**P**	**17 34 45.0**	**-0.7**
AFI	**Afiamalu**	**29.06**	**104**	P		**P**	**17 34 47.5**	**+0.8**
RAO	**Raoul Island**	**30.21**	**138**	LR		LR	17 45 21.2	
	comp=Z,499nm,21.0s,baz=306,slow=33							
OUZ	**Omahuta**	**30.21**	**156**	P		**P**	**17 34 56.9**	**+0.3**
KNRA	**Kununurra**	**30.79**	**253**	P		**P**	**17 35 01.2**	**-0.7**
	comp=Z,51nm,1.0s							
KNRA	**Kununurra**	**30.79**	**253**	P		**P**	**17 35 01.1**	**-0.9**
KNRA				IAmb		IAmb	17 35 02.8	
	comp=Z,50nm,1.0s							
WCZ	**Wa

JCJ LR LR 17 50 18.3
comp=Z,645nm,20.2s,baz=164,slow=33
comp=Z,92nm,1.1s
WHZ Wether Hill Ro 38.59 170 P P 17 36 07.7 -1.3
BKSI Bulukumba 38.94 271 P P 17 36 22.1 +10
TUZ Tuapeka 38.96 168 P P 17 36 11.5 -0.4
BNSI Bone 39.05 273 P P 17 36 13.4 +0.1
comp=Z,932nm,comp=Z,63nm,1.1s
KAPI Kappang 39.34 272 LR LR 17 55 35.2
comp=Z,466nm,18.0s,baz=114,slow=41
KAPI Kappang 39.34 272 *i* P **P 17 36 15.9 +0.3**
KAPI pmax pmax
comp=Z,36nm,1.1s
KAPI Kappang 39.34 272 P **P 17 36 15.0 -0.6**
KAPI pP **pP 17 36 25.3 -0.3**
TOLI2 Tolitoli 39.38 281 P P 17 36 15.0 -1.0
TOLI2 Tolitoli 39.38 281 P P 17 36 15.1 -1.0
SYZ Scrubby Hill 39.42 169 P P 17 36 15.0 -0.9
SYZ Scrubby Hill 39.42 169 P P 17 36 14.2 -1.7
SPSI Sidrap Palu 39.44 273 P P 17 36 26.0 +9.5
APZ The Paps 39.51 171 P P 17 36 14.8 -1.9
PCI Palu 39.87 278 P P 17 36 21.1 +1.0
PSA00 Pilbara Seismi 40.32 246 P P 17 36 22.3 -1.4
comp=Z,66nm,1.1s
PSA00 Pilbara Seismi 40.32 246 P P 17 36 22.4 -1.4
PSA00 IAmb IAmb 17 36 23.9
comp=Z,69nm,1.1s
PSA00 Pilbara Seismi 40.32 246 P P 17 36 23.0 -0.7
MBWA Marble Bar 40.33 247 P P 17 36 22.2 -1.6
comp=Z,46nm,1.2s
MBWA Marble Bar 40.33 247 P P 17 36 21.8 -2.0
MBWA IAmb IAmb 17 36 23.8
comp=Z,35nm,0.8s
MBWA Marble Bar 40.33 247 P P 17 36 23.0 -0.8
MBWA Marble Bar 40.33 247 P P 17 36 22.7 -1.1
MBWA sP **sP 17 36 37.4 +0.2**
PLAI Plampang 41.02 266 P P 17 36 30.4 +0.8
PLAI Plampang 41.02 266 P P 17 36 39.4 +10
RAR Rarotonga 41.68 113 LR LR 17 49 25.8
comp=Z,224nm,20.4s,baz=302,slow=30
MYLDM Lahad Datu 42.67 286 P P 17 36 43.6 +0.5
MEEK Meekatharra 42.79 239 P P 17 36 43.2 -0.8
comp=Z,128nm,1.0s
MEEK Meekatharra 42.79 239 P P 17 36 44.0 0.0
TGY Tagaytay City 43.85 300 LR LR 17 52 33.7
comp=Z,301nm,21.8s,baz=178,slow=32
JAGI Jajag, Banyuwa 44.62 266 P P 17 36 56.8 -2.0
JAGI Jajag, Banyuwa 44.62 266 P P 17 36 56.2 -2.6
comp=Z,121nm,1.2s
JHJ Hachijo jima 2 44.80 337 LR LR 17 54 13.7
comp=Z,215nm,20.8s,baz=132,slow=34
KLBR Kellerberrin 45.22 233 P P 17 37 02.4 -0.9
comp=Z,105nm,0.9s
KLBR Kellerberrin 45.22 233 P P 17 37 02.6 -0.7
BLDU Ballidu 45.69 235 P P 17 37 06.5 -0.6
comp=Z,55nm,1.1s
BLDU Ballidu 45.69 235 P P 17 37 06.9 -0.2
MORW Morawa 45.72 237 P P 17 37 06.3 -1.0
comp=Z,59nm,0.9s
MORW Morawa 45.72 237 P P 17 37 06.4 -1.0
MORW IAmb IAmb 17 37 08.0
comp=Z,46nm,0.8s
MORW Morawa 45.72 237 P P 17 37 07.5 +0.1
JOW Kunigami 45.76 320 P P 17 37 08.2 +0.5
comp=Z,25nm,1.1s,baz=132,slow=12,SNR=3.7
comp=Z,25nm,1.1s
NWAO Narrogin (SRO) 46.14 231 P P 17 37 09.7 -0.9
comp=Z,135nm,1.0s
NWAO Narrogin (SRO) 46.14 231 P P 17 37 10.2 -0.4
NWAO Narrogin (SRO) 46.14 231 LR LR 17 56 33.4
comp=Z,1µm,21.1s,baz=76,slow=36
NWAO Narrogin (SRO) 46.14 231 P P 17 37 10.6 0.0
NWAO Narrogin (SRO) 46.14 231 P P 17 37 10.5 0.0
NWAO Narrogin (SRO) 46.14 231 P P 17 37 10.2 -0.4
NWAO pmax pmax
comp=Z,78nm,1.0s
NWAO Narrogin (SRO) 46.14 231 P P 17 37 09.9 -0.7
NWAO sP **sP 17 37 24.3 +0.1**
MUN Mundaring 46.58 233 P P 17 37 13.3 -0.8
comp=Z,58nm,1.3s
MUN Mundaring 46.58 233 P P 17 37 14.1 0.0
MUN Mundaring 46.58 233 P P 17 37 14.3 +0.2
RKGY Rocky Gully 47.01 229 P P 17 37 17.7 +0.3
comp=Z,112nm,1.3s
PCJI Pacitan 47.57 266 P P 17 37 21.2 -0.8
INU Inuyama 47.86 335 P P 17 37 23.4 -0.4
INU IAmb IAmb 17 37 25.9
comp=Z,34nm,1.1s
INU Inuyama 47.86 335 P P 17 37 24.6 +0.7
INU Inuyama 47.86 335 P P 17 37 24.5 +0.7
JMN Monobe 47.89 331 P P 17 37 25.0 +0.8
JMN Monobe 47.89 331 P P 17 37 25.2 +1.0
STKI Sintang 48.26 277 P P 17 37 28.3 +0.9
comp=Z,23nm,1.2s
MJAR Matsushiro Arr 48.42 337 P P 17 37 27.9 -0.3
comp=Z,9.7nm,0.9s,baz=166,slow=8.2,SNR=26
MJAR PcP **PcP 17 38 54.5 +0.3**
comp=Z,3.9nm,1.0s,baz=176,slow=4.6,SNR=4.3
MJAR LR LR 17 57 58.4
comp=Z,174nm,20.2s,baz=166,slow=36
comp=Z,9.7nm,0.9s
MAJO Matsushiro 48.42 337 P P 17 37 28.3 +0.1
MAJO Matsushiro 48.42 337 *i* P **P 17 37 27.8 -0.4**
MAJO pmax pmax
comp=Z,14nm,0.8s
MJB9 Matsu-Tunnel 48.42 337 P P 17 37 28.0 -0.3
JNU Nakatsue 48.91 328 P P 17 37 30.6 -1.5
JNU Nakatsue 48.91 328 P P 17 37 32.5 +0.5
comp=Z,27nm,0.9s,baz=132,slow=4.2,SNR=20
JNU LR LR 17 57 34.1
comp=Z,49nm,18.1s,baz=154,slow=35
comp=Z,27nm,0.9s
JNU Nakatsue 48.91 328 P P 17 37 32.8 +0.7
KSM Kuching 49.68 279 P P 17 37 36.7 -1.6
KSM IAmb IAmb 17 37 38.9
comp=Z,18nm,0.9s
KSM Kuching 49.68 279 P P 17 37 38.0 -0.3
PPT Papeete 50.70 106 P P 17 37 46.3 +0.3
comp=Z,40nm,0.9s,baz=335,slow=8.8,SNR=7.5
PPT LR LR 17 54 08.5
comp=Z,194nm,21.6s,baz=297,slow=30
comp=Z,40nm,0.9s
PPTF Pamatai, Papee 50.71 106 P P 17 37 47.6 +1.4
LEM Lembang 51.19 268 LR LR 18 02 18.9
comp=Z,525nm,18.2s,baz=120,slow=39
TJN Taejon 53.26 328 P P 17 38 04.9 +0.3
TJN Taejon 53.26 328 *i* P **P 17 38 05.4 +0.8**
KSRS Korea Array 53.79 329 P P 17 38 09.2 +0.8
comp=Z,15nm,1.0s,baz=147,slow=8.0,SNR=71
comp=Z,15nm,1.0s
KSAR Wonju Array Be 53.80 329 P P 17 38 09.4 +0.8
KSAR Wonju Array Be 53.80 329 P P 17 38 09.4 +0.8
KS19 Wonju Array Si 53.85 329 P P 17 38 08.9 -0.1
KS19 IAmb IAmb 17 38 10.5
comp=Z,45nm,1.2s
ASAJ Asahikawa 53.92 345 LR LR 17 59 37.3
comp=Z,419nm,21.1s,baz=180,slow=34
INCN Inchon 54.47 328 P P 17 38 14.1 +0.5
INCN Inchon 54.47 328 P P 17 38 14.6 +1.0
INCN Inchon 54.47 328 P P 17 38 14.1 +0.5
INCN pmax pmax
comp=Z,129nm,1.3s
INCN Inchon 54.47 328 P P 17 38 14.4 +0.8
NJ2 Nanjing 55.35 318 *eP* **P 17 38 21.5 +1.6**
NJ2 pmax pmax
comp=Z,24nm,1.1s
QIZ Qiongzhong 55.55 299 P P 17 38 22.8 +1.1
QIZ S **S 17 46 07.0 +1.7**
QIZ pmax pmax
comp=Z,28nm,1.1s
QIZ pmax pmax
comp=Z,230nm,3.8s
QIZ LR LR
comp=Z,180nm,9.8s
QIZ LR LR
comp=Z,230nm,10.4s
QIZ LR LR
comp=Z,300nm,18.4s
VLA Vladivostok 56.55 336 *i* P **P 17 38 28.9 +0.6**
VLA pmax pmax
comp=Z,24nm,1.2s
YSS Yuzhno-Sakhali 56.55 347 *eP* **P 17 38 29.0 +0.8**
YSS *e* 17 39 25.2
YSS *eS* **S 17 46 17.3 -0.2**
YSS pmax pmax
comp=Z,100nm,5.5s
YSS pmax pmax
comp=Z,10.0nm,0.9s
PSTR Posyet 56.60 335 *i* P **P 17 38 29.6 +0.9**
USA0B Ussuriysk Arra 57.42 337 P **P 17 38 34.6 +0.1**
USA0B Ussuriysk Arra 57.42 337 *i* P **P 17 38 35.2 +0.8**
USRK Ussuriysk Ar. 57.42 337 P **P 17 38 34.3 -0.1**
USRK Ussuriysk Ar. 57.42 337 P **P 17 38 35.2 +0.8**
comp=Z,25nm,0.8s,baz=142,slow=6.8,SNR=56
USRK LR LR 18 00 58.6
comp=Z,243nm,20.9s,baz=150,slow=34
comp=Z,25nm,0.8s
WHN Wuhan 57.56 314 ⇑P **P 17 38 36.0 +0.3**
WHN pmax pmax
comp=Z,62nm,0.8s
DL2 Dalian 58.21 326 P **P 17 38 40.8 +0.7**
DL2 S **S 17 46 43.5 +3.8**
DL2 pmax pmax
comp=Z,36nm,1.2s
DL2 pmax pmax
comp=Z,300nm,5.2s
DL2 LR LR
comp=Z,310nm,17.2s
DL2 LR LR
comp=Z,230nm,18.9s
DL2 LR LR
comp=Z,330nm,16.7s
MDJ Mudanjiang 58.72 336 IAmb IAmb 17 38 45.5
comp=Z,35nm,1.0s
MDJ Mudanjiang 58.72 336 P **P 17 38 44.0 +0.4**
MDJ pmax pmax
comp=Z,43nm,1.0s
MDJ LR LR
comp=Z,380nm,20.6s
MDJ LR LR
comp=Z,230nm,18.6s
MDJ LR LR
comp=Z,730nm,19.2s
MDJ Mudanjiang 58.72 336 P **P 17 38 44.2 +0.6**
MDJ pP **pP 17 38 55.3 +1.6**
TIA Tai'an 59.07 321 P **P 17 38 46.3 +0.1**
TIA pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 59.88 332 *eP* **P 17 38 51.8 +0.2**
CN2 *e*pP pP 17 39 03.5 +1.8
CN2 *eS* **S 17 46 59.5 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,18.6s
MNSI Mandailing Nat 60.10 275 P **P 17 38 52.4 -1.4**
comp=Z,51nm,1.1s
DRV Dumont d'Urvil 60.14 189 P **P 17 38 52.9 -0.2**
TYV Tymovskoe 60.26 348 *eP* **P 17 38 54.5 +0.4**
TYV *eS* **S 17 47 08.8 +3.0**
TYV pmax pmax
comp=Z,10.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,3.0s
TYV smax smax
comp=N,100nm,3.7s
TYV smax smax
comp=E,100nm,3.7s
BNX BinXian 60.53 335 ⇑P **P 17 38 56.0 -0.1**
BNX pP **pP 17 39 06.8 +0.6**
BNX pmax pmax
comp=E,56nm,1.0s
PET Petropavlovsk 60.69 360 *eP* **P 17 39 00.7 +3.8**
PET *eS* **S 17 47 12.0 +0.8**
PET MLR MLR
comp=Z,300nm,15.0s
PEA0B Petropavlovsk- 60.79 359 *ceP* **P 17 38 58.2 +0.6**
PETK Petropavlovsk- 60.79 359 P **P 17 38 57.1 -0.5**
comp=Z,26nm,1.0s,baz=160,slow=6.1,SNR=11
PETK LR LR 18 01 15.4
comp=Z,345nm,21.4s,baz=171,slow=32
comp=Z,26nm,1.0s
ENH Enshi 60.98 311 PcP **PcP 17 39 42.0 -0.6**
PSI Prapat 61.10 278 LR LR 18 10 10.0
comp=Z,280nm,18.3s,baz=125,slow=41
PSI Prapat 61.10 278 P **P 17 38 59.3 -1.4**
LYN LuoYang 61.13 317 P **P 17 39 00.5 +0.2**
LYN pmax pmax
comp=Z,37nm,0.6s
LYN pmax pmax
comp=Z,240nm,6.7s
LYN LR LR
comp=Z,390nm,17.2s
LYN LR LR
comp=Z,290nm,16.8s
LYN LR LR
comp=Z,630nm,19.2s
HNS HongShan 61.33 320 ⇑P **P 17 39 02.3 +0.7**
HNS S **S 17 47 14.3 -5.7**
HNS pmax pmax
comp=Z,42nm,1.2s
HNS LR LR
comp=Z,240nm,16.8s
HNS LR LR
comp=Z,160nm,13.8s
HNS LR LR
comp=Z,190nm,18.6s
GYA Guiyang 61.37 306 ⇑P **P 17 39 03.5 +1.2**
GYA pmax pmax
comp=Z,33nm,1.4s
AMKA Amchitka 61.52 14 P **P 17 39 01.1 -1.5**
SLVN Son La 61.58 299 P **P 17 39 05.0 +1.3**
SLVN IAmb IAmb 17 39 06.6
comp=Z,27nm,1.2s
SLVN Son La 61.58 299 P **P 17 39 05.4 +1.6**
GRNR Gornyy 61.69 344 ⇑*i*P **P 17 39 04.4 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
SHEM Shemya Is, Ala 61.71 10 LR LR 18 00 50.6
comp=Z,269nm,22.0s,baz=144,slow=31
SMY Shemya 61.71 10 P **P 17 39 04.2 +0.3**
BJI Beijing 62.09 324 P **P 17 39 07.5 +0.8**
BJI pmax pmax
comp=Z,5.0nm,1.3s
GSI Gunungsitoli 62.16 276 P **P 17 39 06.8 -1.0**
GSI Gunungsitoli 62.16 276 P **P 17 39 06.1 -1.7**
KIWB Kanaga Island 62.88 16 P **P 17 39 12.6 +0.9**
ADK Adak 63.03 16 P **P 17 39 13.3 +0.5**
ADK Adak 63.03 16 P **P 17 39 13.4 +0.7**
ADK pmax pmax
comp=Z,57nm,1.2s
ADK Adak 63.03 16 P **P 17 39 13.2 +0.5**
ADK pP **pP 17 39 24.2 +1.4**
ADK PcP **PcP 17 39 50.4 0.0**
XAN Xi'an 63.31 314 ⇓P **P 17 39 14.5 -0.6**
XAN pP pP 17 39 27.5 +2.1
XAN sP sP 17 39 35.8 +6.3
XAN pmax pmax
comp=Z,49nm,1.1s
XAN LR LR
comp=Z,260nm,11.6s
XAN LR LR
comp=Z,350nm,9.0s
XAN LR LR
comp=Z,500nm,18.6s
KMI Kunming 64.03 303 ⇑P **P 17 39 22.0 +1.8**
KMI pP sP 17 39 34.0 -0.5
KMI pmax pmax
comp=Z,52nm,1.3s
KMI LR LR
comp=Z,220nm,15.4s
KMI LR LR
comp=Z,270nm,16.2s
KMI LR LR
comp=Z,230nm,23.3s
HEH HeiHe 64.18 338 *eP* **P 17 39 20.3 0.0**
HEH sP **sP 17 39 36.0 +1.2**
HEH pmax pmax
comp=Z,32nm,1.0s
HEH pmax pmax
comp=Z,180nm,6.0s
HEH LR LR
comp=Z,240nm,20.0s
HEH LR LR
comp=Z,140nm,19.6s
HEH LR LR
comp=Z,360nm,18.9s
XLT XiLinHaoTe 64.66 327 *eP* **P 17 39 24.8 +1.0**
XLT pP sP 17 39 36.5 -1.8
XLT pmax pmax
comp=Z,66nm,1.4s
XLT pmax pmax
comp=Z,93nm,3.7s
XLT LR LR
comp=Z,220nm,16.9s
XLT LR LR
comp=Z,260nm,21.1s
CM31 Chiang Mai Arr 64.98 295 P **P 17 39 27.3 +1.0**
CMAR Chiang Mai Arr 64.98 295 P **P 17 39 27.1 +0.8**
CMAR Chiang Mai Arr 64.98 295 P **P 17 39 27.2 +1.0**
comp=Z,41nm,1.1s,baz=112,slow=4.6,SNR=105
CMAR LR LR 18 07 36.4
comp=Z,83nm,19.0s,baz=115,slow=36
comp=Z,41nm,1.1s
CMAR Chiang Mai Arr 64.98 295 *ceP* **P 17 39 27.7 +1.4**
CMAR pmax pmax
comp=Z,46nm,1.1s
CHTO Chiang Mai 65.09 295 P **P 17 39 27.3 +0.3**
CHTO Chiang Mai 65.09 295 P **P 17 39 28.4 +1.4**
CHTO Chiang Mai 65.09 295 P **P 17 39 27.3 +0.3**
CHTO pmax pmax
comp=Z,97nm,1.3s
CHTO Chiang Mai 65.09 295 P **P 17 39 28.1 +1.1**
HHC Hu-ho-hao-te 65.36 322 *eP* **P 17 39 29.3 +0.9**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,100nm,4.9s
HHC LR LR
comp=Z,120nm,16.8s
HHC LR LR
comp=Z,170nm,16.8s
HHC LR LR
comp=Z,260nm,17.6s
PZH PanZhiHua 65.40 304 P **P 17 39 29.5 +0.5**
PZH pmax pmax
comp=Z,20nm,1.3s
CD2 Chengdu 65.63 309 P **P 17 39 31.0 +0.7**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,270nm,14.0s
CD2 LR LR
comp=Z,280nm,14.6s
CD2 LR LR
comp=Z,360nm,17.8s
BTO Baotou 66.17 321 *eP* **P 17 39 36.0 +2.4**
BTO pP **sP 17 39 49.3 +1.2**
BTO sP PcP 17 39 54.3 -9.4
BTO pmax pmax
comp=Z,45nm,1.8s
BTO pmax pmax
comp=Z,130nm,4.4s
BTO LR LR
comp=Z,440nm,18.5s
BTO LR LR
comp=Z,350nm,14.6s
BTO LR LR
comp=Z,320nm,16.7s
NIKH Nikolski High 66.43 20 P **P 17 39 34.8 -0.1**
baz=215
HIA Hailar 66.58 333 P **P 17 39 36.8 +0.8**
HIA pP **pP 17 39 47.6 +1.5**
CASY Casey 67.09 199 P **P 17 39 37.7 -1.2**
CASY Casey 67.09 199 P **P 17 39 38.2 -0.7**
ZEA Zeya 67.09 340 *eP* **P 17 39 39.9 +0.8**
ZEA pmax pmax
comp=Z,100nm,1.7s
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=Z,40nm,1.4s
TNCH TengChong 67.54 301 ⇑*i*P **P 17 39 44.0 +1.2**
TNCH pP sP 17 39 55.3 -1.9
TNCH pmax pmax
comp=Z,58nm,1.5s
MA2 Magadan 67.60 355 P **P 17 39 40.5 -1.7**
MA2 IAmb IAmb 17 39 43.0
comp=Z,33nm,1.1s
MA2 Magadan 67.60 355 LR LR 18 05 38.0
comp=Z,264nm,21.7s,baz=178,slow=33
MA2 Magadan 67.60 355 P **P 17 39 42.0 -0.2**
MA2 Magadan 67.60 355 *ceP* **P 17 39 41.8 -0.4**
MA2 pmax pmax
comp=Z,38nm,1.2s
MA2 Magadan 67.60 355 P **P 17 39 41.8 -0.4**
MA2 pP **pP 17 39 52.9 +0.4**
LZH Lanzhou 67.94 314 ⇑P **P 17 39 47.0 +1.9**
LZH pP sP 17 39 59.8 +0.2
LZH S **S 17 48 44.0 +2.0**
LZH SS **SS 17 52 59.8 -4.8**
LZH pmax pmax
comp=Z,58nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.8s
LZH LR LR
comp=Z,150nm,17.0s
LZH LR LR
comp=Z,310nm,16.8s
LZH LR LR
comp=Z,460nm,18.2s
UNV Unalaska Valle 67.96 21 P **P 17 39 44.4 -0.1**
baz=217
SPIA Saint Paul Isl 69.49 17 P **P 17 39 53.9 -0.1**
baz=212
VNDA Vanda 69.60 179 P **P 17 39 54.1 -0.4**
VNDA IAmb IAmb 17 39 55.5
comp=Z,26nm,1.1s
VNDA Vanda 69.60 179 P **P 17 39 54.3 -0.2**
comp=Z,15nm,1.0s,baz=336,slow=6.7,SNR=38
VNDA LR LR 18 05 01.8
comp=Z,610nm,20.9s,baz=3.5,slow=31
comp=Z,15nm,1.0s
VNDA Vanda 69.60 179 P **P 17 39 54.3 -0.2**
FALS False Pass 69.88 22 P **P 17 39 56.1 -0.4**
baz=220
SBA Scott Base 70.03 178 P **P 17 39 58.4 +1.3**
CCD Concordia, Ant 70.16 189 P **P 17 39 58.2 -0.3**
SEY Seymchan 70.82 357 LR LR 18 09 12.4
comp=Z,636nm,20.4s,baz=159,slow=34
SEY Seymchan 70.82 357 *eP* **P 17 40 00.5 -1.6**
SEY pmax pmax
comp=Z,38nm,1.6s
S12K Black Hills 71.03 22 P **P 17 40 03.0 -0.5**
baz=221
CIT Chita 71.32 332 *eP* **P 17 40 06.4 +1.0**
CIT *e* 17 40 12.6
CIT *e* 17 40 24.8
CIT pmax pmax
comp=Z,117nm,1.8s
CHNA Chernabura Isl 71.33 24 P **P 17 40 04.8 -0.5**
baz=223
SDPT Sand Point 71.36 23 P **P 17 40 05.2 -0.2**
baz=222
ULN Ulaanbaatar 72.06 326 P **P 17 40 10.6 +0.5**
ULN Ulaanbaatar 72.06 326 *i* P **P 17 40 10.7 +0.6**
ULN pmax pmax
comp=Z,24nm,1.0s
GTA Gaotai 72.30 316 P **P 17 40 12.0 +0.3**
GTA pP sP 17 40 26.0 -0.1
GTA pmax pmax
comp=Z,45nm,0.9s
GTA pmax pmax
comp=Z,210nm,10.4s
GTA LR LR
comp=Z,140nm,14.3s
GTA LR LR
comp=Z,200nm,17.5s
GTA LR LR
comp=Z,270nm,19.1s
S14K Fog Glacier 72.41 23 P **P 17 40 11.7 -0.1**
baz=223
SONM Songino Array 72.41 326 P **P 17 40 12.7 +0.5**
SONM IAmb IAmb 17 40 14.6
comp=Z,44nm,1.1s
SONM Songino Array 72.41 326 P **P 17 40 13.2 +1.0**
comp=Z,23nm,0.9s,baz=136,slow=5.7,SNR=104
SONM LR LR 18 13 54.2
comp=Z,120nm,18.2s,baz=160,slow=37
comp=Z,23nm,0.9s

CHGN	Chignik	72.86	23	P	P	17 40 14.1	-0.3		
	baz=224								
M11K	Mekoryuk	73.34	17	P	P	17 40 17.3	+0.1		
	baz=216								
YAK	Yakutsk	73.39	346	P	P	17 40 16.8	-0.6		
YAK	Yakutsk	73.39	346	LR	LR	18 11 13.4			
	comp=Z,219nm,20.3s,baz=149,slow=35								
YAK	Yakutsk	73.39	346	*c i*P	P	17 40 17.5	0.0		
YAK				*e*		17 40 32.7			
YAK				*e*		17 43 01.0			
YAK				*e*PPP	PPP	17 44 45.7			
YAK				*e*S	SKiKP	17 49 47.7	+1.6		
YAK				*e*		17 50 25.9			
YAK				*e*SS	SS	17 54 31.2	+4.2		
YAK				pmax	pmax				
	comp=Z,47nm,1.3s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.3s								
YAK				pmax	pmax				
	comp=N,14nm,1.4s								
YAK				pmax	pmax				
	comp=Z,96nm,6.1s								
YAK				pmax	pmax				
	comp=N,69nm,5.0s								
YAK				pmax	pmax				
	comp=E,42nm,5.2s								
YAK				smax	smax				
	comp=N,23nm,4.0s								
YAK				smax	smax				
	comp=E,21nm,4.0s								
YAK				MLR	MLR				
	comp=Z,275nm,23.0s								
YAK				MLR	MLR				
	comp=N,105nm,13.0s								
CHIR	Chirikof Islan	73.64	25	P	P	17 40 19.0	0.0		
	baz=227								
O14K	Tigyukauivet M	74.00	20	P	P	17 40 21.2	+0.1		
	baz=221								
M13K	Dail Lake	74.22	18	P	P	17 40 22.8	+0.4		
	baz=219								
N14K	Kuskokwak Cree	74.37	19	P	P	17 40 23.5	+0.2		
	baz=220								
O15K	Ungalikthiuk R	74.44	20	P	P	17 40 23.6	0.0		
	baz=222								
R17L	Mt. Peulik Vol	74.59	23	P	P	17 40 24.6	0.0		
	baz=226,SNR=6.1								
PLK4	Peulik 4	74.60	23	IAmb	IAmb	17 40 25.6			
	comp=Z,34nm,0.9s								
GOMU	GeErMu	74.60	311	P	P	17 40 25.5	-0.1		
GOMU				sP	sP	17 40 47.0	+6.9		
GOMU				pmax	pmax				
	comp=Z,5.0nm,1.2s								
GOMU				LR	LR				
	comp=Z,120nm,22.6s								
GOMU				LR	LR				
	comp=Z,140nm,17.3s								
GOMU				LR	LR				
	comp=Z,200nm,21.9s								
SII	Sitkinak Islan	74.73	25	P	P	17 40 25.4	-0.1		
	baz=226								
GAMB	Gambell	74.79	13	P	P	17 40 25.9	+0.3		
	baz=210								
M14K	Bethel	74.92	19	P	P	17 40 26.7	+0.3		
	baz=220								
P16K	Nushagak River	74.98	21	P	P	17 40 26.1	-0.7		
	baz=224								
K13K	Kusilvak Mount	75.03	17	P	P	17 40 27.6	+0.6		
	baz=217								
BOD	Bodaibo	75.05	337	*e*P	P	17 40 26.1	-1.1		
BOD				pmax	pmax				
	comp=Z,42nm,1.2s								
N15K	Kwethluk River	75.08	20	P	P	17 40 26.5	-0.9		
N15K				IAmb	IAmb	17 40 40.2			
	comp=Z,24nm,1.1s								
N15K	Kwethluk River	75.08	20	P	P	17 40 27.7	+0.3		
	baz=222								
L14K	Kuka Creek	75.15	18	IAmb	IAmb	17 40 40.1			
	comp=Z,30nm,1.2s								
L14K	Kuka Creek	75.15	18	P	P	17 40 28.3	+0.5		
	baz=219								
Q16K	King Salmon	75.22	22	P	P	17 40 27.9	-0.3		
	baz=225								
Q17K	Contact Creek	75.22	23	P	P	17 40 27.8	-0.6		
	baz=226								
LSA	Lhasa	75.27	303	P	P	17 40 30.0	+0.3		
LSA				pmax	pmax				
	comp=Z,25nm,1.2s								
M15K	Kasigluk River	75.28	19	P	P	17 40 28.5	0.0		
	baz=221								
R18K	Karluk	75.30	24	P	P	17 40 28.3	-0.3		
	baz=228								
O16K	Kokwok River B	75.35	21	P	P	17 40 28.5	-0.4		
	baz=224								
ZAK	Zakamensk	75.52	327	*e*P	P	17 40 30.5	+0.2		
ZAK				pmax	pmax				
	comp=Z,24nm,1.4s								
OHAK	Old Harbor	75.54	24	P	P	17 40 30.2	+0.1		
OHAK	Old Harbor	75.54	24	P	P	17 40 30.1	+0.1		
	baz=229,SNR=6.2								
P17K	Kvichak River	75.66	22	P	P	17 40 30.6	-0.1		
	baz=225								
N16K	Nishlik Lake	75.75	20	P	P	17 40 32.0	+0.7		
	baz=223								
L15K	Ungalak Mounta	75.78	18	P	P	17 40 31.4	+0.1		
	baz=220								
Q18K	Katmai Hardscr	75.82	23	P	P	17 40 31.3	-0.5		
	baz=227,SNR=17								
O17K	Koliganek Bris	75.83	21	P	P	17 40 31.1	-0.5		
	baz=225,SNR=5.8								
BILL	Bilibino	75.92	3	*i* P	P	17 40 31.9	-0.1		
BILL				pmax	pmax				
	comp=Z,33nm,1.0s								
J14K	Nanvaranak Lak	76.00	17	IAmb	IAmb	17 40 34.0			
	comp=Z,23nm,0.9s								
J14K	Nanvaranak Lak	76.00	17	P	P	17 40 33.3	+0.7		
	baz=218								
IRK	Irkutsk	76.00	329	*e*P	P	17 40 31.8	-1.0		
IRK				pmax	pmax				
	comp=Z,60nm,2.5s								
M16K	Timber Creek	76.09	20	IAmb	IAmb	17 40 45.6			
	comp=Z,34nm,1.1s								
M16K	Timber Creek	76.09	20	P	P	17 40 34.0	+0.8		
	baz=223,SNR=10								
KDAK	Kodiak Island	76.20	24	P	P	17 40 33.5	-0.3		
KDAK	Kodiak Island	76.20	24	LR	LR	18 11 44.0			
	comp=Z,265nm,19.0s,baz=231,slow=34								
KDAK	Kodiak Island	76.20	24	*i* P	P	17 40 34.2	+0.4		
KDAK				pmax	pmax				
	comp=Z,22nm,0.9s								
KDAK	Kodiak Island	76.20	24	P	P	17 40 33.8	0.0		
	baz=229								
K15K	Wolf Creek Mou	76.23	18	IAmb	IAmb	17 40 47.0			
	comp=Z,40nm,1.0s								
K15K	Wolf Creek Mou	76.23	18	P	P	17 40 34.8	+0.8		
	baz=220,SNR=11								
P18K	Big Mountain,	76.24	22	P	P	17 40 33.3	-0.8		
	baz=227								
N17K	Nushagak Hills	76.33	21	IAmb	IAmb	17 40 47.0			
	comp=Z,26nm,1.1s								
N17K	Nushagak Hills	76.33	21	P	P	17 40 35.5	+0.9		
	baz=224,SNR=7.4								
L16K	Owhat River	76.43	19	P	P	17 40 35.4	+0.3		
	baz=222,SNR=6.3								
Q19K	Cape Douglas,	76.53	23	P	P	17 40 35.2	-0.5		
	baz=228,SNR=8.0								
O18K	Koktuh Hills	76.57	22	P	P	17 40 35.2	-0.7		
	baz=226								
Q20K	Shuyak Island	76.81	24	P	P	17 40 37.5	+0.3		
	baz=229								
SYI	Shuyak Island	76.81	24	IAmb	IAmb	17 40 38.5			
	comp=Z,26nm,1.1s								
M17K	Holitna River	76.88	20	IAmb	IAmb	17 40 42.2			
	comp=Z,28nm,1.4s								
M17K	Holitna River	76.88	20	P	P	17 40 38.7	+1.1		
	baz=224,SNR=8.4								
N18K	Kilae Creek	76.90	21	P	P	17 40 38.3	+0.5		
	baz=226,SNR=9.5								
ANM	Nome	76.96	15	P	P	17 40 38.6	+0.6		
	baz=216								
L17K	Donlin	77.12	19	P	P	17 40 40.0	+1.0		
	baz=223,SNR=8.1								
TNA	Tin City	77.17	13	P	P	17 40 39.2	+0.1		
	baz=213								
P19K	Oil Pt	77.17	23	P	P	17 40 39.1	-0.2		
	baz=228,SNR=6.5								
J16K	Anvik River	77.27	17	IAmb	IAmb	17 40 53.1			
	comp=Z,35nm,1.1s								
J16K	Anvik River	77.27	17	P	P	17 40 40.9	+1.1		
	baz=221,SNR=6.3								
ILSW	Iliamna Southw	77.42	22	IAmb	IAmb	17 40 52.2			
	comp=Z,21nm,1.0s								
M18K	Stony River	77.49	20	P	P	17 40 42.0	+1.0		
	baz=226,SNR=9.3								
N19K	Bonanza Creek	77.49	21	P	P	17 40 40.8	-0.3		
	baz=227								
K17K	Iditarod	77.55	19	P	P	17 40 42.0	+0.7		
	baz=223,SNR=8.9								
G15K	Niukluk	77.65	15	P	P	17 40 42.3	+0.4		
	baz=217								
O20K	Slope Mountain	77.69	22	P	P	17 40 42.0	-0.3		
	baz=229								
I17K	Unalakleet	77.70	17	P	P	17 40 42.5	+0.4		
	baz=221								
L18K	Granite Mounta	77.71	19	IAmb	IAmb	17 40 55.0			
	comp=Z,27nm,1.1s								
L18K	Granite Mounta	77.71	19	P	P	17 40 43.2	+1.0		
	baz=225,SNR=17								
HOM	Homer	77.79	23	P	P	17 40 43.0	+0.3		
	baz=230								
J17K	VABM Dome	77.81	18	P	P	17 40 43.8	+1.0		
	baz=222,SNR=6.5								
H16K	Elim	77.84	16	P	P	17 40 43.4	+0.5		
	baz=219								
CNPM	China Poot	77.86	23	IAmb	IAmb	17 40 44.5			
	comp=Z,48nm,1.1s								
F15K	North Star Dit	78.07	14	P	P	17 40 44.5	+0.4		
	baz=216								
M19K	Big River Lodg	78.27	20	IAmb	IAmb	17 40 58.0			
	comp=Z,29nm,1.1s								
M19K	Big River Lodg	78.27	20	P	P	17 40 46.3	+0.9		
	baz=227,SNR=20								
L19K	White Mountain	78.30	20	IAmb	IAmb	17 40 58.0			
	comp=Z,23nm,1.0s								
L19K	White Mountain	78.30	20	P	P	17 40 46.6	+1.0		
	baz=226,SNR=19								
G16K	Koyuk River	78.40	15	IAmb	IAmb	17 40 59.0			
	comp=Z,21nm,1.0s								
G16K	Koyuk River	78.40	15	P	P	17 40 46.8	+0.8		
	baz=219,SNR=5.7								
J18K	Innoko River	78.59	19	P	P	17 40 47.5	+0.4		
	baz=224,SNR=10								
M20K	Styx River	78.69	21	P	P	17 40 48.2	+0.4		
	baz=228,SNR=6.9								
H17K	Granite Mounta	78.72	17	P	P	17 40 48.4	+0.6		
	baz=221								
L20K	Farewell, AK	78.83	20	P	P	17 40 49.3	+0.8		
	baz=227,SNR=12								
SLKM	Skilak Lake	78.88	23	IAmb	IAmb	17 40 49.8			
	comp=Z,27nm,1.0s								
SEW	Seward	78.93	23	IAmb	IAmb	17 41 00.8			
	comp=Z,38nm,1.0s								
SEW	Seward	78.93	23	P	P	17 40 49.3	+0.3		
	baz=232								
G17K	Kiwalik Mounta	78.94	16	P	P	17 40 49.4	+0.4		
	baz=220								
O22K	Cooper Landing	79.05	23	P	P	17 40 49.7	+0.1		
	baz=232								
SUA	Susitna One	79.28	22	IAmb	IAmb	17 40 54.0			
	comp=Z,36nm,1.5s								
SUA	Susitna One	79.28	22	P	P	17 40 50.5	-0.6		
	baz=230								
J19K	Poorman	79.31	19	P	P	17 40 51.8	+0.7		
	baz=226,SNR=8.3								
H18K	Honhosa River	79.32	17	P	P	17 40 51.1	0.0		
	baz=223								
SKT	Skwentna	79.33	21	P	P	17 40 51.6	+0.3		
	baz=230								
K20K	Telida	79.37	19	P	P	17 40 52.1	+0.7		
	baz=227,SNR=14								
RC01	Rabbit Creek A	79.43	23	IAmb	IAmb	17 41 04.0			
	comp=Z,45nm,1.3s								
RC01	Rabbit Creek A	79.43	23	P	P	17 40 51.8	+0.1		
	baz=231,SNR=5.1								
GCSA	Galena City Sc	79.46	18	P	P	17 40 52.3	+0.5		
	baz=224								
F17K	Baldwin Pennin	79.50	15	P	P	17 40 52.6	+0.6		
	baz=220								
P23K	Montague Islan	79.68	24	P	P	17 40 53.3	+0.1		
	baz=234								
PPLA	Purkeypile	79.70	20	IAmb	IAmb	17 40 54.0			
	comp=Z,33nm,1.5s								
PPLA	Purkeypile	79.70	20	P	P	17 40 53.0	-0.4		
	baz=229								
M22K	Willow	79.70	22	IAmb	IAmb	17 41 05.0			
	comp=Z,46nm,1.1s								
M22K	Willow	79.70	22	P	P	17 40 52.8	-0.4		
	baz=231								
G18K	Tagagawik	79.78	16	P	P	17 40 53.3	-0.3		
	baz=222,SNR=6.5								
Q23K	Middleton Isla	79.78	25	P	P	17 40 53.8	+0.2		
	baz=235								
PWL	Port Wells	79.83	23	P	P	17 40 54.1	+0.2		
	baz=233,SNR=8.8								
E17K	Hotham Inlet	79.85	14	P	P	17 40 54.8	+0.8		
	baz=219,SNR=8.0								
J20K	Nowinta River	79.90	19	P	P	17 40 54.8	+0.5		
	baz=227,SNR=14								
PMR	Palmer	79.97	22	IAmb	IAmb	17 41 06.2			
	comp=Z,23nm,1.0s								
PMR	Palmer	79.97	22	P	P	17 40 54.7	+0.1		
PMR	Palmer	79.97	22	P	P	17 40 54.4	-0.3		
	baz=232								
C16K	Lisburne Hills	79.99	13	P	P	17 40 54.8	+0.2		
	baz=216								
D17K	Noatak River	80.03	14	P	P	17 40 55.4	+0.6		
	baz=218								
F18K	Selawik	80.04	15	P	P	17 40 55.3	+0.4		
	baz=221								
CUT	Chulitna	80.06	21	IAmb	IAmb	17 41 06.7			
	comp=Z,45nm,1.3s								
CUT	Chulitna	80.06	21	P	P	17 40 55.3	+0.2		
	baz=231								
CAST	Castle Rocks	80.08	20	P	P	17 40 54.7	-0.5		
	baz=229,SNR=20								
KNK	Knik Glacier	80.11	23	IAmb	IAmb	17 41 08.1			
	comp=Z,42nm,1.5s								
KNK	Knik Glacier	80.11	23	P	P	17 40 55.8	+0.3		
	baz=233								
H19K	Roundabout Mou	80.14	17	P	P	17 40 55.9	+0.4		
	baz=224,SNR=9.2								
I20K	Naaghedeneel	80.23	18	IAmb	IAmb	17 41 09.1			
	comp=Z,31nm,1.1s								
I20K	Naaghedeneel	80.23	18	P	P	17 40 56.5	+0.6		
	baz=226,SNR=5.7								
CHUM	Lake Minchumin	80.30	20	P	P	17 40 56.5	+0.1		
	baz=229,SNR=11								
GLI	Glacier Island	80.33	24	P	P	17 40 56.7	0.0		
	baz=234								
RDOG	Red Dog Mine	80.36	14	P	P	17 40 57.3	+0.6		
	baz=218								
G19K	Purcell Mounta	80.40	17	P	P	17 40 57.4	+0.5		
	baz=224,SNR=8.4								
E18K	Tukpahlearik C	80.42	15	P	P	17 40 57.4	+0.4		
	baz=232								
KTH	Kantishna Hill	80.56	20	IAmb	IAmb	17 41 09.2			
	comp=Z,22nm,1.0s								
H20K	Anotleneega Mo	80.58	18	P	P	17 40 58.4	+0.4		
	baz=226,SNR=11								
M23K	Glacier View	80.62	23	P	P	17 40 58.4	+0.2		
	baz=233								
C17K	DeLong Mountai	80.63	13	P	P	17 40 58.6	+0.5		
	baz=218								
EYAK	Cordova Ski Ar	80.67	24	P	P	17 40 58.2	-0.3		
	baz=235								
TRF	Thorofare Moun	80.71	21	P	P	17 40 58.0	-0.8		
	baz=231,SNR=8.5								
F19K	Shaleruckik Mo	80.72	16	P	P	17 40 58.9	+0.3		
	baz=223,SNR=5.9								
SCM	Sheep Creek Mo	80.80	23	IAmb	IAmb	17 41 11.7			
	comp=Z,30nm,1.0s								
SCM	Sheep Creek Mo	80.80	23	P	P	17 40 59.4	+0.1		
	baz=234,SNR=6.1								
KAIM	Kayak Island	80.88	25	P	P	17 40 59.8	+0.2		
	baz=236								
BPAW	Bear Paw Mtn.	80.89	20	P	P	17 40 58.9	-0.7		
	baz=230								
WAT6	Susitna Watana	81.09	22	P	P	17 41 00.8	-0.1		
	baz=233,SNR=7.7								
KLU	Klutina	81.15	23	P	P	17 41 01.4	+0.3		
	baz=235								
RND	Reindeer	81.19	21	IAmb	IAmb	17 41 12.4			
	comp=Z,26nm,1.1s								
C18K	Utukok River	81.22	14	IAmb	IAmb	17 41 02.7			
	comp=Z,41nm,1.4s								
C18K	Utukok River	81.22	14	P	P	17 41 01.2	-0.2		
	baz=220								
IMAR	Indian Mountai	81.26	18	P	P	17 41 00.8	-0.7		
I21K	Tanana	81.27	19	P	P	17 41 02.1	+0.5		
	baz=229								
E19K	Redstone River	81.32	16	IAmb	IAmb	17 41 03.6			
	comp=Z,26nm,1.0s								
E19K	Redstone River	81.32	16	P	P	17 41 02.5	+0.7		
	baz=224,SNR=13								
H21K	Melozitna Rive	81.33	18	P	P	17 41 02.3	+0.4		
	baz=228,SNR=6.7								
MCK	McKinley	81.36	21	IAmb	IAmb	17 41 13.7			
	comp=Z,43nm,1.0s								
MCK	McKinley	81.36	21	P	P	17 41 01.5	-0.6		
	baz=232,SNR=17								
BMRM	Bremner River	81.38	24	P	P	17 41 02.3	0.0		
	baz=236								
M24K	Toisona, Glenn	81.40	23	P	P	17 41 03.1	+0.7		
	baz=235,SNR=8.2								
F20K	Avaraart Lake	81.43	16	P	P	17 41 02.9	+0.5		
	baz=225								
DHY	Denali Highway	81.52	22	P	P	17 41 03.2	0.0		
	baz=233,SNR=7.0								
MLY	Manley	81.57	19	P	P	17 41 02.9	-0.3		
	baz=230,SNR=17								
B18K	Kokolik River	81.64	13	P	P	17 41 04.0	+0.6		
	baz=219								
G21K	Allakaket	81.70	17	P	P	17 41 04.1	+0.3		
	baz=227								
N25K	Chitina, Valde	81.73	24	IAmb	IAmb	17 41 08.0			
	comp=Z,33nm,1.6s								
N25K	Chitina, Valde	81.73	24	P	P	17 41 04.7	+0.4		
	baz=236								
D19K	Kuna River	81.85	15	IAmb	IAmb	17 41 35.6			
	comp=Z,32nm,1.4s								
D19K	Kuna River	81.85	15	P	P	17 41 04.8	+0.2		
	baz=223								
NEA2	Nenana	81.85	20	IAmb	IAmb	17 41 15.5			
	comp=Z,23nm,1.1s								
NEA2	Nenana	81.85	20	P	P	17 41 03.9	-0.8		
	baz=232,SNR=16								
CRQE	Cirque	81.88	25	P	P	17 41 05.1	+0.1		
	baz=238								
TIXI	Tiksi	81.88	351	P	P	17 41 05.0	+0.3		
TIXI				IAmb	IAmb	17 41 05.8			
	comp=Z,54nm,1.6s								
TIXI	Tiksi	81.88	351	LR	LR	18 21 44.0			
	comp=Z,201nm,18.0s,baz=176,slow=39								
TIXI	Tiksi	81.88	351	*ce*P	P	17 41 04.3	-0.4		
TIXI				pmax	pmax				
	comp=Z,21nm,0.9s								
H22K	Ishtalitna Cre	81.93	18	P	P	17 41 05.4	+0.3		
	baz=229,SNR=8.0								
C19K	Lookout Ridge	81.95	14	P	P	17 41 05.9	+0.7		
	baz=221								
GLB	Gilahina Butte	81.96	24	IAmb	IAmb	17 41 06.6			
	comp=Z,32nm,1.5s								
HARP	HAARP	81.96	23	P	P	17 41 05.5	+0.2		
	baz=236								
QSPA	South Pole Qui	82.08	180	P	P	17 41 06.2	+0.1		
QSPA				IAmb	IAmb	17 41 08.9			
	comp=Z,22nm,1.1s								
QSPA	South Pole Qui	82.08	180	P	P	17 41 05.3	-0.8		
	comp=Z,13nm,1.0s,baz=345,slow=3.2,SNR=24								
QSPA				LR	LR	18 13 08.9			
	comp=Z,248nm,20.4s,baz=14,slow=32								
	comp=Z,13nm,1.0s								
I23K	Minto, Yukon-K	82.10	19	P	P	17 41 05.4	-0.5		
	baz=231								
PAX	Paxson	82.17	22	P	P	17 41 06.3	-0.2		
	baz=235								
E20K	Nigu River	82.17	15	P	P	17 41 07.0	+0.7		
	baz=224,SNR=10								
F21K	Alatna River	82.19	17	P	P	17 41 06.9	+0.5		
	baz=227,SNR=6.3								
MCARA	McCarthy VSAT	82.25	24	P	P	17 41 07.1	+0.3		
	baz=238								
WMQ	Urumqi	82.37	316	*e*P	P	17 41 09.5	+1.5		
WMQ				pmax	pmax				
	comp=Z,30nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,190nm,3.6s								
D20K	Etivluk River	82.39	15	P	P	17 41 07.6	+0.1		
D20K	Etivluk River	82.39	15	P	P	17 41 07.7	+0.3		
	baz=224								
COLA	College	82.44	20	P	P	17 41 06.8	-0.9		
COLA	College	82.44	20	*i* P	P	17 41 06.8	-0.9		
COLA				pmax	pmax				
	comp=Z,29nm,1.0s								
COLA	College	82.44	20	P	P	17 41 06.9	-0.8		
	baz=233								
A19K	Wainwright	82.45	13	P	P	17 41 08.4	+0.7		
	baz=220								
H23K	Yukon River	82.47	19	P	P	17 41 08.1	+0.2		
	baz=231,SNR=14								
HDA	Harding Lake	82.47	21	IAmb	IAmb	17 41 19.8			
	comp=Z,23nm,1.2s								
HDA	Harding Lake	82.47	21	P	P	17 41 07.7	-0.2		
	baz=234,SNR=13								
K24K	Donnelly Dome	82.53	22	IAmb	IAmb	17 41 11.0			
	comp=Z,18nm,0.9s								
K24K	Donnelly Dome	82.53	22	P	P	17 41 08.6	+0.3		
	baz=235,SNR=7.9								
G22K	Bettles	82.56	18	P	P	17 41 08.5	+0.2		
	baz=229								
BARN	Barnard Glacie	82.64	25	IAmb	IAmb	17 41 44.2			
	comp=Z,16nm,0.9s								
ILAR	Eielson Array	82.71	20	P	P	17 41 08.0	-1.2		
	comp=Z,11nm,1.1s,baz=255,slow=4.7,SNR=43								
ILAR				LR	LR	18 14 11.0			
	comp=Z,331nm,20.1s,baz=235,slow=33								
	comp=Z,11nm,1.1s								
ILAR	Eielson Array	82.71	20	P	P	17 41 08.0	-1.2		
CTG	Chitna Glacier	82.72	25	P	P	17 41 09.9	+0.4		
	baz=239,SNR=5.4								
CTGM	Chitina Glacie	82.72	25	IAmb	IAmb	17 41 31.4			
	comp=Z,17nm,1.0s								
PINM	Pinnacle	82.75	26	P	P	17 41 09.8	+0.3		
	baz=240								
F22K	John River	82.75	17	P	P	17 41 10.0	+0.7		
	baz=228								
M26K	Nabesna, AK	82.80	23	P	P	17 41 10.1	+0.3		
	baz=238,SNR=10								
MENT	Mentasta	82.81	23	P	P	17 41 10.7	+0.9		
RIDG	Independent Ri	82.84	22	IAmb	IAmb	17 41 22.3			
	comp=Z,38nm,1.1s								
RIDG	Independent Ri	82.84	22	P	P	17 41 10.0	+0.1		
	baz=236,SNR=15								
G23K	Bananza Creek	82.88	18	P	P	17 41 10.5	+0.5		
	baz=230,SNR=8.8								
E21K	Killik River	82.89	16	IAmb	IAmb	17 41 22.3			
	comp=Z,29nm,1.3s								
E21K	Killik River	82.89	16	P	P	17 41 10.4	+0.3		
	baz=227,SNR=5.3								
PNL	Peninsula	82.92	27	P	P	17 41 10.6	+0.2		
	baz=241								
L26K	Log Cabin Wild	83.00	23	P	P	17 41 11.3	+0.6		
	baz=237,SNR=9.9								
H24K	Noodor Dome	83.01	19	P	P	17 41 11.3	+0.5		
	baz=233								
DOT	Dot Lake	83.08	22	IAmb	IAmb	17 41 23.5			
	comp=Z,32nm,1.1s								
O28M	Mount Upton	83.11	26	IAmb	IAmb	17 41 33.5			
	comp=Z,15nm,0.8s								
O28M	Mount Upton	83.11	26	P	P	17 41

baz=228
B21K Ikpikpuk River 83.54 15 P P 17 41 14.0 +0.7
baz=226
YUK8 Steele Glacier 83.55 25 P P 17 41 14.6 +0.7
baz=240,SNR=8.5
HYB Hyderabad 83.55 289 *e*P P 17 41 14.2 -0.3
HYB *e*pP **pP** 17 41 25.0 -0.3
HYB *e*PP **PP** 17 44 26.5 -0.9
O29M Mount Kennedy 83.58 26 P P 17 41 14.5 +0.6
baz=242,SNR=5.8
S31K Pelican 83.59 29 P P 17 41 14.4 +0.6
baz=244
L27K Beaver Creek, 83.61 23 IAmb IAmb 17 41 27.0
comp=Z,25nm,1.2s
L27K Beaver Creek, 83.61 23 P P 17 41 14.6 +0.7
baz=238,SNR=18
BCAR Beaver Creek A 83.63 23 P P 17 41 12.7 -1.3
P29M Windy Craggy 83.64 27 P P 17 41 14.5 +0.4
baz=242,SNR=5.4
BVCY Beaver Creek 83.66 24 P P 17 41 14.9 +0.8
baz=239
G24K Hadweenzic Riv 83.67 19 IAmb IAmb 17 41 26.8
comp=Z,30nm,1.1s
G24K Hadweenzic Riv 83.67 19 P P 17 41 14.5 +0.4
baz=233,SNR=12
J26L Joseph Creek 83.73 21 P P 17 41 14.9 +0.4
baz=237,SNR=9.6
E23K Chandalar 83.86 17 IAmb IAmb 17 41 45.5
comp=Z,44nm,1.8s
E23K Chandalar 83.86 17 P P 17 41 15.6 +0.5
baz=231
H25L Birch Creek 83.95 19 P P 17 41 16.4 +1.0
baz=234
YUK6 Outpost Mounta 83.98 26 P P 17 41 16.7 +0.6
baz=242,SNR=5.6
K27K Chicken 84.02 22 IAmb IAmb 17 41 29.4
comp=Z,20nm,1.1s
K27K Chicken 84.02 22 P P 17 41 17.0 +1.0
baz=238
F24K Squaw Lake 84.03 18 P P 17 41 16.9 +0.9
baz=232
YUK4 Talbot Arm 84.05 25 P P 17 41 17.6 +1.2
baz=242,SNR=10
CRAG Craig 84.12 32 P P 17 41 17.1 +0.5
baz=247
D23K Nanushuk River 84.14 16 IAmb IAmb 17 41 18.7
comp=Z,37nm,1.4s
D23K Nanushuk River 84.14 16 P P 17 41 17.4 +1.0
baz=230
G25K Bearman Lake 84.14 19 P P 17 41 17.1 +0.6
baz=234
PLBC Pleasant Camp 84.19 28 P P 17 41 17.2 +0.4
baz=244,SNR=5.4
S32K Killisnoo 84.19 30 P P 17 41 17.4 +0.6
baz=246
E24K Your Creek 84.20 17 P P 17 41 17.1 +0.3
baz=232
P30M Million Dollar 84.22 27 P P 17 41 17.9 +0.8
baz=243
TOLK Toolik Lake Re 84.24 17 P P 17 41 17.5 +0.6
baz=231
HYT Haines Junctio 84.30 26 P P 17 41 18.5 +0.9
baz=243,SNR=13
FYU Fort Yukon 84.31 19 IAmb IAmb 17 43 50.3
comp=Z,37nm,1.2s
I26K Coal Creek Min 84.32 21 IAmb IAmb 17 41 19.0
comp=Z,27nm,1.4s
I26K Coal Creek Min 84.32 21 P P 17 41 18.0 +0.6
baz=237
B22K Teshekpuk Lake 84.33 14 P P 17 41 17.9 +0.6
baz=227
U33K Whale Pass 84.38 31 P P 17 41 18.6 +0.8
baz=247
A22K Sinclair Lake 84.42 14 P P 17 41 18.3 +0.5
baz=225
BESE Bessie Mountai 84.52 29 IAmb IAmb 17 41 31.3
comp=Z,27nm,1.2s
R32K Eaglecrest 84.55 29 P P 17 41 19.4 +0.7
baz=246
JIS Juneau Island 84.61 29 P P 17 41 20.0 +1.0
M29M Somme Creek 84.65 24 P P 17 41 19.9 +0.7
baz=242
SKAG Skagway 84.67 28 P P 17 41 20.2 +1.0
baz=245
C23K Itkillik River 84.72 16 P P 17 41 20.3 +1.0
baz=230
N30M Aishikik Lake 84.76 26 P P 17 41 20.5 +0.6
baz=243
D24K Happy Valley 84.77 16 P P 17 41 20.5 +0.9
baz=231
F25K Christian Rive 84.77 18 P P 17 41 20.7 +1.0
baz=235,SNR=5.6
V35K Ketchikan 84.86 32 IAmb IAmb 17 41 32.7
comp=Z,25nm,1.1s
V35K Ketchikan 84.86 32 P P 17 41 21.0 +0.7
baz=248
WRAK Wrangell Islan 84.89 31 P P 17 41 21.3 +0.8
baz=248
G26K Porcupine Rive 85.00 19 P P 17 41 21.8 +1.0
baz=236,SNR=18
BMAR Burnt Mountain 85.02 19 P P 17 41 21.2 +0.2
I27K Kandik River 85.02 21 P P 17 41 21.6 +0.6
baz=238,SNR=16
DAWY Dawson 85.06 23 P P 17 41 21.9 +0.7
baz=241,SNR=6.0
L29M L29M 85.10 24 IAmb IAmb 17 41 52.9
comp=Z,17nm,1.2s
L29M L29M 85.10 24 P P 17 41 22.3 +0.8
baz=242,SNR=5.9
E25K Arctic Village 85.10 18 P P 17 41 22.1 +0.7
baz=235
C24K Franklin Bluff 85.16 16 P P 17 41 22.5 +1.0
baz=232
MAW Mawson 85.18 202 P P 17 41 21.6 -0.1
comp=Z,19nm,1.0s,baz=96,slow=4.7,SNR=17
MAW LR LR 18 14 56.4
comp=Z,286nm,21.7s,baz=82,slow=32
comp=Z,19nm,1.0s
KMRM Mail Ridge 85.29 48 IAmb IAmb 17 41 45.8
comp=Z,30nm,1.1s
F26K Sheenjek River 85.30 19 P P 17 41 23.4 +1.0
baz=236
N31M Braeburn, Yuko 85.34 26 IAmb IAmb 17 41 35.4
comp=Z,30nm,1.1s
N31M Braeburn, Yuko 85.34 26 P P 17 41 23.6 +0.9
baz=244
ZSN Zaisan 85.37 319 *e*P P 17 41 23.0 -0.1
ZSN pmax pmax
comp=Z,15nm,1.6s
ZSN Zaisan 85.37 319 *e*P P 17 41 23.1 -0.1
comp=Z,15nm,1.6s
H27K Steamboat Moun 85.38 20 IAmb IAmb 17 41 26.3
comp=Z,14nm,1.0s
H27K Steamboat Moun 85.38 20 P P 17 41 23.7 +0.9
baz=238,SNR=10
WHY Whitehorse 85.38 27 IAmb IAmb 17 41 35.9
comp=Z,30nm,1.1s
WHY Whitehorse 85.38 27 P P 17 41 23.6 +0.6
baz=245,SNR=6.9
M30M Minto, Yukon 85.39 25 P P 17 41 23.6 +0.7
baz=243,SNR=7.3
KHMM Horse Mountain 85.43 48 IAmb IAmb 17 41 40.0
comp=Z,27nm,1.0s
P32M Atlin 85.47 28 IAmb IAmb 17 41 35.9
comp=Z,20nm,1.1s
P32M Atlin 85.47 28 P P 17 41 24.2 +0.8
baz=246,SNR=7.4
I28M Miner Creek 85.54 21 P P 17 41 23.9 +0.2
baz=240
D25K Kavik River 85.57 17 P P 17 41 23.8 +0.2
baz=234
G27K Doyon Strip 85.64 20 P P 17 41 24.9 +0.9
baz=238
K29M Barlow Dome 85.68 23 IAmb IAmb 17 41 37.9
comp=Z,19nm,1.2s
K29M Barlow Dome 85.68 23 P P 17 41 25.3 +0.9
baz=242,SNR=8.2
BBB Bella Bella 85.74 36 LR LR 18 12 04.1
comp=Z,290nm,21.3s,baz=243,slow=30
Q32M Nakina River 85.90 29 IAmb IAmb 17 41 38.5
comp=Z,32nm,1.6s
Q32M Nakina River 85.90 29 P P 17 41 26.4 +0.7
baz=247
S34M Telegraph Cree 86.06 30 IAmb IAmb 17 41 39.0
comp=Z,28nm,1.4s
S34M Telegraph Cree 86.06 30 P P 17 41 27.1 +0.8
baz=248
I29M Ogilvie Camp, 86.09 22 IAmb IAmb 17 41 38.5
comp=Z,18nm,1.1s
I29M Ogilvie Camp, 86.09 22 P P 17 41 26.8 +0.5
baz=242,SNR=14
P33M Teslin, Yukon 86.13 28 IAmb IAmb 17 41 28.3
comp=Z,20nm,1.4s
P33M Teslin, Yukon 86.13 28 P P 17 41 27.1 +0.4
baz=247,SNR=6.7
T35M Bob Quinn 86.17 31 P P 17 41 27.4 +0.5
baz=249
SAO San Andreas Ge 86.20 52 IAmb IAmb 17 41 48.4
comp=Z,15nm,1.1s
MAYO Mayo, Yukon 86.22 24 P P 17 41 27.9 +0.9
baz=244
M31M Drury Creek, Y 86.24 25 IAmb IAmb 17 41 39.9
comp=Z,24nm,1.2s
M31M Drury Creek, Y 86.24 25 P P 17 41 27.6 +0.4
baz=245,SNR=11
E27K Coleen River 86.38 19 IAmb IAmb 17 41 40.7
comp=Z,16nm,1.1s
E27K Coleen River 86.38 19 P P 17 41 28.9 +1.2
baz=238,SNR=5.7
N32M Quiet Lake 86.38 27 P P 17 41 28.5 +0.6
baz=246,SNR=21
YBH Yreka Blue Hor 86.39 47 LR LR 18 15 58.5
comp=Z,22nm,19.1s,baz=255,slow=33
J30M Hart River 86.48 23 P P 17 41 29.3 +0.9
baz=243,SNR=7.3
H29M Whitestone 86.48 21 P P 17 41 28.7 +0.5
baz=241
C27K Jago River 86.51 17 P P 17 41 29.1 +0.8
baz=236
F28M Old Crow 86.65 20 IAmb IAmb 17 43 56.7
comp=Z,10nm,0.8s
F28M Old Crow 86.65 20 P P 17 41 29.8 +0.8
baz=240
R33M Jennings River 86.69 29 IAmb IAmb 17 41 31.8
comp=Z,29nm,1.6s
R33M Jennings River 86.69 29 P P 17 41 30.2 +0.7
baz=248,SNR=6.3
I30M Mount Dempster 86.75 22 IAmb IAmb 17 41 41.9
comp=Z,14nm,1.0s
I30M Mount Dempster 86.75 22 P P 17 41 30.2 +0.5
baz=243,SNR=11
DLBC Dease Lake 86.80 30 LR LR 18 14 28.7
comp=Z,22nm,20.0s,baz=242,slow=32
DLBC Dease Lake 86.80 30 P P 17 41 30.5 +0.5
baz=249
MK31 Makanchi Array 86.88 318 *ce*P P 17 41 30.5 -0.1
MKAR Makanchi Array 86.88 318 P P 17 41 30.5 -0.1
MKAR Makanchi Array 86.88 318 P P 17 41 30.7 +0.1
comp=Z,14nm,0.9s,baz=103,slow=5.7,SNR=84
MKAR PKKPbc **PKKPbc** 17 59 23.9 -2.2
comp=Z,0.8nm,0.8s,baz=298,slow=2.6,SNR=7.1
MKAR LR LR 18 22 58.6
comp=Z,89nm,18.4s,baz=114,slow=37
comp=Z,14nm,0.9s
G29M Pine Creek 86.93 21 IAmb IAmb 17 41 31.6
comp=Z,16nm,0.9s
G29M Pine Creek 86.93 21 P P 17 41 31.0 +0.6
baz=242,SNR=8.9
D27M Malcolm River 87.13 18 IAmb IAmb 17 41 33.2
comp=Z,17nm,1.1s
D27M Malcolm River 87.13 18 P P 17 41 32.4 +1.1
baz=239,SNR=6.0
EPYK Eagle Plains 87.14 21 P P 17 41 32.2 +0.7
baz=243
J04A Umpqua Nationa 87.17 46 IAmb IAmb 17 41 35.9
comp=Z,22nm,1.0s
E28M Babbage River 87.25 19 IAmb IAmb 17 41 44.9
comp=Z,22nm,1.1s
E28M Babbage River 87.25 19 P P 17 41 32.7 +0.8
baz=240,SNR=7.5
ZALV Zalesovo Beam 87.30 325 P P 17 41 31.7 -0.7
comp=Z,2.8nm,0.7s,baz=103,slow=4.7,SNR=15
ZALV LR LR 18 21 17.5
comp=Z,70nm,19.9s,baz=94,slow=36
comp=Z,2.8nm,0.7s
G30M tAoh Zraii Nji 87.59 21 IAmb IAmb 17 41 54.0
comp=Z,23nm,1.2s
G30M tAoh Zraii Nji 87.59 21 P P 17 41 33.9 +0.3
baz=243
E29M Blow River 87.67 19 P P 17 41 34.5 +0.6
baz=242
RPN Rapa Nui 87.71 117 LR LR 18 12 49.5
comp=Z,198nm,21.6s,baz=248,slow=30
MMPY Sheldon Lake, 87.74 26 IAmb IAmb 17 41 47.0
comp=Z,24nm,1.2s
MMPY Sheldon Lake, 87.74 26 P P 17 41 35.0 +0.5
baz=248,SNR=13
H31M Peel River 87.77 22 P P 17 41 34.7 +0.3
baz=245
J05D Fort Rock, OR 87.81 46 IAmb IAmb 17 41 48.4
comp=Z,16nm,1.2s
D28M Stokes Point 87.86 18 P P 17 41 35.4 +0.7
baz=241
K05A Summer Lake 87.93 47 IAmb IAmb 17 41 57.8
comp=Z,26nm,1.2s
SHLS Shalkode 87.96 314 *e*P P 17 41 34.3 -1.7
SHLS Shalkode 87.96 314 *e*P P 17 41 34.4 -1.7
I05D Terrebonne, OR 87.97 45 IAmb IAmb 17 41 38.4
comp=Z,11nm,1.0s
WTLY Watson Lake, Y 87.97 28 P P 17 41 36.0 +0.5
baz=250
F30M Barrier River 88.03 20 P P 17 41 36.1 +0.5
baz=244
PINE Pine Mountain 88.13 45 IAmb IAmb 17 41 50.8
comp=Z,21nm,1.3s
G31M Satah River 88.26 21 IAmb IAmb 17 41 49.0
comp=Z,23nm,1.2s
G31M Satah River 88.26 21 P P 17 41 37.3 +0.6
baz=245
UZB Uzynbulak 88.28 314 *e*P P 17 41 37.3 -0.3
UZB Uzynbulak 88.28 314 *e*P P 17 41 37.3 -0.3
MWC Mount Wilson 88.40 55 IAmb IAmb 17 41 54.9
comp=Z,20nm,1.0s
PAHR Pah Rah Range 88.41 50 IAmb IAmb 17 41 51.1
comp=Z,13nm,1.1s
F31M Tsiigehtchic 88.67 21 P P 17 41 39.1 +0.5
baz=246
TGTN Inuvik Regional 88.68 27 P P 17 41 39.2 +0.3
baz=251
SATY Saty 88.70 314 *e*P P 17 41 39.1 -0.4
SATY pmax pmax
comp=Z,12nm,1.7s
SATY Saty 88.70 314 *e*P P 17 41 39.1 -0.4
comp=Z,12nm,1.7s
CWC Cottonwood Cre 88.79 53 IAmb IAmb 17 41 43.9
comp=Z,36nm,1.9s
RYN Ryan 88.86 51 IAmb IAmb 17 42 02.1
comp=Z,14nm,1.2s
TARG Taragay, Kyrgy 88.86 312 IAmb IAmb 17 41 42.6
comp=Z,19nm,1.5s
NVAR Mina Array Bea 88.99 51 P P 17 41 41.2 +0.1
NVAR Mina Array Bea 88.99 51 P P 17 41 41.4 +0.3
comp=Z,3.2nm,0.8s,baz=242,slow=8.3,SNR=20
comp=Z,3.2nm,0.8s
LIRD Liard River Hi 89.04 30 P P 17 41 40.8 +0.2
baz=253
DSP Deep Springs 89.05 52 IAmb IAmb 17 42 02.4
comp=Z,31nm,1.6s
CLC China Lake 89.06 54 IAmb IAmb 17 41 54.3
comp=Z,12nm,1.1s
INK Inuvik 89.10 20 LR LR 18 19 11.6
comp=Z,289nm,19.6s,baz=244,slow=34
INK Inuvik 89.10 20 P P 17 41 41.4 +0.8
baz=246
TDK Taldyqorghan 89.10 316 *e*P P 17 41 41.0 -0.2
TDK pmax pmax
comp=Z,12nm,1.5s
TDK Taldyqorghan 89.10 316 *e*P P 17 41 41.0 -0.2
comp=Z,12nm,1.5s
WSHM Spangler Hills 89.11 54 IAmb IAmb 17 41 58.2
comp=Z,13nm,1.2s
MPMC Manual Prospec 89.19 54 IAmb IAmb 17 41 46.0
comp=Z,33nm,1.8s
KDJ Kajisay 89.40 313 IAmb IAmb 17 42 08.4
comp=Z,15nm,0.9s
WVOR Wild Horse Val 89.50 47 IAmb IAmb 17 41 46.0
comp=Z,39nm,1.6s
WVOR Wild Horse Val 89.50 47 P P 17 41 44.3 +1.0
WVOR pmax pmax
comp=Z,14nm,2.0s
PFO Pinyon Flats O 89.60 56 P P 17 41 43.5 -0.5
PFO IAmb IAmb 17 41 46.7
comp=Z,26nm,1.5s
PFO Pinyon Flats O 89.60 56 LR LR 18 14 18.0
comp=Z,782nm,20.3s,baz=278,slow=30
PFO Pinyon Flats O 89.60 56 *i* P P 17 41 44.6 +0.6
PFO pmax pmax
comp=Z,5.0nm,1.2s
GSC Goldstone, Bar 89.61 54 IAmb IAmb 17 41 56.8
comp=Z,19nm,1.5s
PMD Palm Desert 89.68 56 IAmb IAmb 17 41 46.7
comp=Z,18nm,1.3s
MDOK Medeo 89.69 314 *e*P P 17 41 43.7 -0.5
MDOK Medeo 89.69 314 *e*P P 17 41 43.7 -0.5
TPH Tonopah 89.76 52 IAmb IAmb 17 41 47.3
comp=Z,28nm,1.6s
AAA Alma-Ata 89.80 314 *e*P P 17 41 44.3 -0.3
AAA pmax pmax
comp=Z,9.0nm,1.0s
AAA Alma-Ata 89.80 314 *e*P P 17 41 44.3 -0.3
comp=Z,9.2nm,1.0s
KSH Kashi 89.81 310 P P 17 41 46.5 +1.7
KSH pmax pmax
comp=Z,8.0nm,1.5s
GWY Greenwater Val 89.87 54 IAmb IAmb 17 41 48.7
comp=Z,46nm,1.9s
WCT Wildcat Mounta 90.01 53 IAmb IAmb 17 41 48.5
comp=Z,21nm,1.4s
SHOC Shoshone, Teco 90.14 54 IAmb IAmb 17 42 07.7
comp=Z,20nm,1.2s
KURK Kurchatov 90.16 321 P P 17 41 45.1 -0.9
KURK IAmb IAmb 17 41 46.7
comp=Z,26nm,1.6s
KURK Kurchatov 90.16 321 P P 17 41 45.2 -0.8
KURBB Kurchatov Arra 90.20 321 P P 17 41 45.2 -0.9
comp=Z,2.0nm,0.8s,baz=102,slow=3.7,SNR=17
KURBB PKKPbc **PKKPbc** 17 59 16.4 -1.6
comp=Z,0.7nm,0.4s,baz=292,slow=3.3,SNR=6.5
KURBB LR LR 18 24 06.3
comp=Z,72nm,19.3s,baz=170,slow=37
comp=Z,2.0nm,0.8s
MTPC Mountain Pass 90.65 54 IAmb IAmb 17 42 09.8
comp=Z,15nm,1.3s
R11B Troy Canyon, C 91.08 52 IAmb IAmb 17 42 03.8
comp=Z,19nm,1.2s
F10A Beach Ranch, E 91.15 44 IAmb IAmb 17 42 14.7
comp=Z,9.1nm,0.8s
WRGLY Wrigley 91.32 26 P P 17 41 51.5 +0.4
baz=255
AAK Ala-Archa 91.45 313 P P 17 41 52.2 -0.2
AAK Ala-Archa 91.45 313 LR LR 18 24 02.3
comp=Z,116nm,20.3s,baz=113,slow=36
AAK Ala-Archa 91.45 313 *ce*P P 17 41 52.6 +0.2
AAK pmax pmax
comp=Z,10.0nm,1.7s
NEW Newport 91.62 42 LR LR 18 15 58.2
comp=Z,476nm,20.8s,baz=224,slow=31
MFID Camas Ranch 91.70 47 IAmb IAmb 17 42 14.3
comp=Z,19nm,1.5s
113A Mohawk Valley, 91.70 57 IAmb IAmb 17 42 06.8
comp=Z,13nm,1.4s
ELK Elko 91.72 49 LR LR 18 15 49.4
comp=Z,182nm,21.6s,baz=286,slow=31
ELK Elko 91.72 49 P P 17 41 55.1 +1.3
W13A Hualapai Mount 91.94 55 IAmb IAmb 17 42 08.1
comp=Z,13nm,1.0s
BTLS Baital 92.15 315 *e*P P 17 41 55.1 -0.3
BTLS pmax pmax
comp=Z,9.0nm,1.6s
BTLS Baital 92.15 315 *e*P P 17 41 55.1 -0.3
comp=Z,9.5nm,1.6s
PSUT Pine Spring 92.45 52 IAmb IAmb 17 42 14.7
comp=Z,23nm,1.4s
HLID Hailey 92.74 47 IAmb IAmb 17 42 11.4
comp=Z,10nm,1.1s
SYO Syowa Base 92.82 198⇑ *e*P P 17 41 58.2 +0.2
BGU Big Grassy Mou 93.40 49 IAmb IAmb 17 42 18.6
comp=Z,9.8nm,1.1s
LPIG La Paz 93.58 66 LR LR 18 18 20.7
comp=Z,171nm,18.7s,baz=234,slow=32
DZA Taraz 93.79 313 *e*P P 17 42 02.6 -0.4
DZA Taraz 93.79 313 *e*P P 17 42 02.7 -0.4
BELA Belgrano 2 94.00 177 IAmb IAmb 17 42 02.8
comp=Z,11nm,0.9s
DLMT Dillon 94.27 45 IAmb IAmb 17 42 08.5
comp=Z,32nm,1.9s
KKAR Karatay Array 94.41 313 P P 17 42 04.5 -1.4
KKAR Karatay Array 94.41 313 P P 17 42 04.5 -1.4
JLU Jordanelle 94.55 50 IAmb IAmb 17 42 19.9
comp=Z,14nm,1.1s
Q16A Castle Valley 94.58 51 IAmb IAmb 17 42 10.2
comp=Z,24nm,1.5s
TMUT Trail Mountain 94.59 51 IAmb IAmb 17 42 24.7
comp=Z,11nm,1.2s
IUG Iuzhnay 94.66 312 *e*P P 17 42 06.6 -0.5
IUG Iuzhnay 94.66 312 *e*P P 17 42 06.7 -0.5
HMU Henry Mountain 94.81 53 IAmb IAmb 17 42 10.8
comp=Z,19nm,1.5s
CHGR Chuyangaron 94.94 308 P P 17 42 08.4 -0.1
CHGR pmax pmax
comp=Z,21nm,1.0s
P17A Butcher Ranch, 94.97 51 IAmb IAmb 17 42 21.9
comp=Z,14nm,1.3s
CHM Chimkent 94.99 312 *e*P P 17 42 08.0 -0.5
CHM Chimkent 94.99 312 *e*P P 17 42 08.1 -0.5
SIMJ Simiganj 95.06 308 P P 17 42 08.6 -0.5
SIMJ IAmb IAmb 17 42 10.1
comp=Z,13nm,1.2s
BSUT Blindstream Ca 95.07 50 IAmb IAmb 17 42 11.7
comp=Z,15nm,1.4s
YKA Yellowknife Ar 95.17 28 P P 17 42 07.9 -0.9
YKA Yellowknife Ar 95.17 28 P P 17 42 08.8 -0.1
comp=Z,7.3nm,0.9s,baz=267,slow=4.5,SNR=38
YKA LR LR 18 19 53.9
comp=Z,390nm,19.8s,baz=286,slow=32
comp=Z,7.3nm,0.9s
YKAW3 Yellowknife Wh 95.17 28 IAmb IAmb 17 42 10.0
comp=Z,19nm,1.1s
YKAW1 Yellowknife Wh 95.22 28 IAmb IAmb 17 42 10.2
comp=Z,13nm,1.0s
P18A Preston Nutter 95.37 51 IAmb IAmb 17 42 28.0
comp=Z,10nm,1.2s
BVAR Borovoye Array 95.56 323 P P 17 42 10.0 -0.9
comp=Z,4.8nm,0.8s,baz=100,slow=5.0,SNR=26
BVAR PKKPbc **PKKPbc** 17 59 02.2 -2.0
comp=Z,0.6nm,0.6s,baz=316,slow=8.2,SNR=4.0
BVAR LR LR 18 28 12.0
comp=Z,61nm,18.1s,baz=86,slow=37
comp=Z,4.8nm,0.8s
BVAR Borovoye Array 95.56 323 P P 17 42 10.0 -0.9
PV05 Paradox Valley 96.11 52 IAmb IAmb 17 42 17.1
comp=Z,12nm,1.3s
PD31 Pinedale Array 96.18 48 IAmb IAmb 17 42 26.2
comp=Z,13nm,1.6s
PDAR Pinedale Array 96.18 48 P P 17 42 13.0 -1.2
PDAR Pinedale Array 96.18 48 P P 17 42 14.6 +0.3
comp=Z,1.1nm,0.7s,baz=219,slow=1.5,SNR=11
PDAR LR LR 18 24 07.9
comp=Z,112nm,18.0s,baz=291,slow=34
comp=Z,1.1nm,0.7s
PV19 Morning Glory 96.22 52 IAmb IAmb 17 42 17.2
comp=Z,12nm,1.0s
PV20 West Nyswonger 96.24 52 IAmb IAmb 17 42 30.3
comp=Z,13nm,1.1s
PV16 Nyswonger Mesa 96.28 52 IAmb IAmb 17 42 17.5
comp=Z,12nm,1.3s
PV18 Skein Mesa, Pa 96.28 52 IAmb IAmb 17 42 30.3
comp=Z,11nm,1.1s
PV02 Paradox Valley 96.41 52 IAmb IAmb 17 42 17.9
comp=Z,9.8nm,1.1s
PV01 Paradox Valley 96.53 52 IAmb IAmb 17 43 27.1
comp=Z,19nm,1.6s
ANMO Albuquerque 97.98 56 LR LR 18 19 46.1
comp=Z,568nm,20.4s,baz=20,slow=31
TROLL Troll, Antarti 98.80 187 ⇑P Pdif 17 42 26.1 +0.7
comp=Z,91nm,0.8s
SNAA Sanae 99.71 186 ⇑P **Pdif** 17 42 28.5 -0.9
comp=Z,29nm,0.9s
SNAA Sanae 99.71 186 LR LR 18 23 55.5
comp=Z,311nm,21.5s,baz=214,slow=33
TXAR Lajitas Array 99.98 62 P **Pdif** 17 42 31.6 +0.1
comp=Z,0.3nm,0.8s,baz=259,slow=4.5,SNR=3.7
VNA3 Neumayer Olymp 100.68 184 ⇑P **Pdif** 17 42 30.5 -3.1
comp=Z,2.0nm,0.7s
ARCES **ARCESS Array B** 111.64 344 PKiKP **PKiKP** 17 47 19.5 -0.3
comp=Z,0.9nm,0.8s,baz=56,slow=1.5,SNR=4.5
KIV Kislovodsk 114.48 315 *i* PKiKP **PKiKP** 17 47 26.3 +0.3
KIV pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 116.45 337 PKP **PKPdf** 17 47 29.1 -0.1
comp=Z,3.3nm,0.9s,baz=22,slow=2.1,SNR=6.3
MNK Minsk 119.52 330 *i* PKIKP **PKPdf** 17 47 32.6 -2.7
MNK *i* 17 48 56.5

MNK			*i* PPP	PPP	17 51 28.4		
MNK			*i*		17 54 30.1		
MNK			*i* SS	SS	18 05 19.7	+1.8	
MNK			pmax	pmax			
	comp=E,5.0nm,0.8s						
MNK			pmax	pmax			
	comp=Z,4.0nm,1.1s						
MNK			pmax	pmax			
	comp=N,6.0nm,0.8s						
AKASG	**Malin Array Be**	120.70 326	PKP	**PKPdf**	**17 47 37.5**	**-0.1**	
	comp=N,2.4nm,0.6s,baz=64,slow=1.9,SNR=8.9						
AKBB	**Malin Array Si**	120.70 326*c*	*i* PKIKP	**PKiKP**	**17 47 38.0**	**+0.3**	
HFS	**Hagfors**	121.81 341	PKP	**PKPdf**	**17 47 38.9**	**-0.7**	
	comp=N,1.9nm,0.7s,baz=63,slow=1.8,SNR=5.3						
NB2	**NORSAR Subarra**	121.89 342	PKPdf	**PKPdf**	**17 47 39.3**	**-0.4**	
	comp=Z,0.8nm,0.7s,baz=38,slow=1.8						
NOA	**NORSAR Array B**	121.89 342	PKP	**PKPdf**	**17 47 39.3**	**-0.4**	
	comp=Z,1.9nm,0.9s,baz=40,slow=1.9,SNR=4.3						
OTAV	**Otavalo**	122.00 95	*e*P	**PKPdf**	**17 47 40.8**	**-1.1**	
SUW	**Suwalki**	122.09 331	*e*PKP	**PKiKP**	**17 47 41.2**	**+0.8**	
BRTR	**Keskin Array B**	122.12 312	PKP	**PKPdf**	**17 47 40.8**	**-0.2**	
	comp=Z,2.3nm,1.0s,baz=90,slow=2.0,SNR=11						
BRTR			PKKPbc	**PKKPbc**	**17 57 38.6**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=224,slow=3.4,SNR=6.1						
SORM	**Soroca**	122.40 323	⇓P	**PKPdf**	**17 47 40.8**	**-0.2**	
SORM	**Soroca**	122.40 323	⇓PKIKP	**PKPdf**	**17 47 40.8**	**-0.2**	
MMAI	**Mount Meron Ar**	122.52 304	PKP	**PKPdf**	**17 47 41.7**	**-0.1**	
	comp=Z,5.5nm,1.0s,baz=74,slow=2.1,SNR=3.4						
MILM	**Milestii Mici**	122.67 322	⇑P	**PKPdf**	**17 47 37.7**	**-3.9**	
MILM	**Milestii Mici**	122.67 322	⇑PKIKP	**PKPdf**	**17 47 37.7**	**-3.9**	
BOSA	**Boshof**	122.67 329	PKP	**PKPdf**	**17 47 41.7**	**-0.6**	
	comp=Z,2.3nm,0.7s,baz=130,slow=1.6,SNR=6.0						
CFR	**Carcaliu**	123.86 320	⇑P	**PKPdf**	**17 47 44.0**	**+0.1**	
CFR	**Carcaliu**	123.86 320	⇑PKIKP	**PKPdf**	**17 47 44.0**	**+0.1**	
COSR	**Cosmesti PH**	124.08 321	⇑P	**PKPdf**	**17 47 43.4**	**-0.8**	
HARR	**Harsova**	124.21 320	⇑P	**PKiKP**	**17 47 45.1**	**+0.3**	
HARR	**Harsova**	124.21 320	⇑PKIKP	**PKiKP**	**17 47 45.1**	**+0.3**	
BURAR	**Bucovina Array**	124.50 324		**PKiKP**	**17 47 45.8**	**+0.3**	
BURAR	**Bucovina Array**	124.50 324	⇑P	**PKiKP**	**17 47 46.3**	**+0.8**	
BURAR	**Bucovina Array**	124.50 324	⇑PKIKP	**PKiKP**	**17 47 46.3**	**+0.8**	
BEL	**Belsk**	124.55 330	*e*PKP	**PKiKP**	**17 47 45.9**	**+0.6**	
TURR	**Turia**	124.78 322	⇑P	**PKiKP**	**17 47 46.8**	**+0.7**	
KWP	**Kalwaria Pacla**	124.84 327	*e*PKP	**PKiKP**	**17 47 46.4**	**+0.4**	
FLOC	**Florencia**	124.97 94		**PKPdf**	**17 47 46.6**	**-0.5**	
ISP	**Isparta**	125.04 311*c*	*i* PKIKP	**PKiKP**	**17 47 47.0**	**+0.1**	
ISP			pmax	pmax			
	comp=Z,11nm,2.5s						
MLR	**Muntele Rosu**	125.10 321	⇑P	**PKPdf**	**17 47 45.8**	**-0.7**	
MLR	**Muntele Rosu**	125.10 321	⇑PKIKP	**PKPdf**	**17 47 45.8**	**-0.7**	
KOLS	**Kolonicke sedl**	125.46 326	*e*PKIKP	**PKiKP**	**17 47 48.4**	**+1.1**	
KOLS	**Kolonicke sedl**	125.46 326	*e*PKP	**PKiKP**	**17 47 48.4**	**+1.1**	
LOZB	**Loznitsa**	125.65 319	⇓P	**PKiKP**	**17 47 48.0**	**+0.2**	
CZSB	**Cruzeiro do Su**	125.94 105	*e*P	**PKPdf**	**17 47 48.2**	**-0.6**	
ARR	**Arges**	125.96 322	⇓P	**PKiKP**	**17 47 49.2**	**+0.7**	
OJC	**Ojcow**	126.03 329	*e*PKP	**PKPdf**	**17 47 48.2**	**+0.2**	
MARR	**Marisel-Cluj**	126.21 324	⇑P	**PKPdf**	**17 47 48.3**	**-0.2**	
NIE	**Niedzica**	126.25 328	*e*PKP	**PKiKP**	**17 47 50.2**	**+1.4**	
ELND	**Elena**	126.32 318	⇓P	**PKiKP**	**17 47 49.7**	**+0.5**	
LOT	**Lotru**	126.45 322	⇓P	**PKPdf**	**17 47 49.2**	**+0.1**	
GZR	**Gura Zlata**	127.08 323	⇓P	**PKPdf**	**17 47 50.4**	**+0.2**	
GZR	**Gura Zlata**	127.08 323	⇓PKIKP	**PKPdf**	**17 47 50.4**	**+0.2**	
OKC	**Ostrava-Krasne**	127.10 329	AMS	AMS	18 49 00.0		
	comp=Z,200nm,24.9s						
STEB	**Steborice**	127.23 330	*e*PKPDF	**PKiKP**	**17 47 51.2**	**+0.5**	
SURR	**Surduc**	127.28 323	⇓P	**PKiKP**	**17 47 51.1**	**+0.1**	
EZN	**Ezine**	127.34 315	⇑P	**PKPdf**	**17 47 49.9**	**-0.8**	
EZN	**Ezine**	127.34 315	⇑PKIKP	**PKPdf**	**17 47 49.9**	**-0.8**	
PSZ	**Piszkesteto**	127.34 327	⇑P	**PKiKP**	**17 47 51.7**	**+0.6**	
PSZ	**Piszkesteto**	127.34 327	⇑PKIKP	**PKiKP**	**17 47 51.7**	**+0.6**	
KSP	**Ksiaz**	127.36 331	*e*PKP	**PKiKP**	**17 47 51.3**	**+0.3**	
MORC	**Moravsky Berou**	127.44 330	*e*PKIKP	**PKiKP**	**17 47 51.3**	**+0.1**	
MORC	**Moravsky Berou**	127.44 330	⇑P	**PKiKP**	**17 47 51.4**	**+0.1**	
MORC	**Moravsky Berou**	127.44 330	⇑PKIKP	**PKiKP**	**17 47 51.4**	**+0.2**	
MAUC	**Maruska**	127.56 329	*e*PKPDF	**PKiKP**	**17 47 52.2**	**+0.7**	
HERR	**Herculane**	127.56 322	⇑P	**PKiKP**	**17 47 51.9**	**+0.3**	
VYHS	**Vyhne**	127.57 328	*e*PKIKP	**PKPdf**	**17 47 51.3**	**+0.3**	
VYHS	**Vyhne**	127.57 328	*e*PKP	**PKPdf**	**17 47 51.3**	**+0.3**	
KRLC	**Kraliky**	127.63 330	*e*PKIKP	**PKiKP**	**17 47 51.9**	**+0.3**	
KRLC	**Kraliky**	127.63 330	*e*PKPDF	**PKiKP**	**17 47 51.9**	**+0.3**	
CHVC	**Chvalec**	127.64 331	*e*PKIKP	**PKiKP**	**17 47 56.7**	**+5.1**	
CHVC			MLR	MLR			
	comp=Z,200nm,23.1s						
CHVC	**Chvalec**	127.64 331	AMS	AMS	18 47 10.0		
	comp=Z,300nm,15.0s						
BZS	**Buzias**	127.66 323	⇓P	**PKiKP**	**17 47 51.7**	**0.0**	
BZS	**Buzias**	127.66 323	⇓PKIKP	**PKiKP**	**17 47 51.7**	**0.0**	
DPC	**Dobruska-Polom**	127.67 331	AMS	AMS	18 46 50.0		
	comp=Z,200nm,16.8s						
UPC	**Upice**	127.72 331	AMS	AMS	18 47 40.0		
	comp=Z,300nm,19.6s						
JAVC	**Velka Javorina**	127.96 329	*e*PKIKP	**PKiKP**	**17 47 53.5**	**+1.2**	
RUSC	**La Rusia**	128.04 89		**PKPdf**	**17 47 52.6**	**-0.8**	
MDVR	**Moldovita**	128.04 322	⇓P	**PKiKP**	**17 47 52.4**	**-0.2**	
GORT1	**Trebel**	128.05 336	*e*PKPdf	**PKiKP**	**17 47 52.5**	**+0.4**	
	baz=44,slow=2.0						
VRAC	**Vranov**	128.22 330	*e*PKIKP	**PKiKP**	**17 47 52.8**	**0.0**	
BRG	**Berggiesshubel**	128.44 333	*e*PKPdf	**PKiKP**	**17 47 54.3**	**+1.2**	
	baz=44,slow=2.0						
BRG	**Berggiesshubel**	128.44 333	*e*PKP	**PKiKP**	**17 47 54.4**	**+1.2**	
BRG			Amp		17 47 56.4		
	comp=Z,12nm,1.2s						
KRUC	**Moravsky**	128.48 330	*e*PKIKP	**PKiKP**	**17 47 53.1**	**-0.2**	
CLL	**Collm**	128.56 334	*i* PKIKP	**PKPdf**	**17 47 52.4**	**-0.3**	
CLL			*e*		17 48 05.0		
CLL			pmax	pmax			
	comp=Z,13nm,1.2s						
CLL	**Collm**	128.56 334	*e*PKPdf	**PKPdf**	**17 47 52.1**	**-0.6**	
	baz=44,slow=2.0						
CLL			*e*L	L	18 47 40.9		
	comp=Z,130nm,19.2s						
CLL	**Collm**	128.56 334	*i* PKPdf	**PKPdf**	**17 47 52.4**	**-0.3**	
	comp=Z,13nm,1.2s						
CLL			*ex*	x	17 48 00.0		
CLL			*ex*	x	17 48 37.0		
CLL			*e*PP	**PP**	**17 49 55.0**	**-2.7**	
CLL			LmV		18 51 00.0		
	comp=Z,200nm,18.7s						
FLTG	**Flechtingen**	128.56 335	*e*PKPdf	**PKiKP**	**17 47 53.2**	**-0.1**	
	baz=44,slow=2.0						
BOVS	**Bovan**	128.65 321	⇓P	**PKPdf**	**17 47 52.9**	**-0.2**	
PRA	**Prague**	128.76 332	AMS	AMS	18 49 20.0		
	comp=Z,300nm,21.4s						
PRU	**Pruhonice**	128.77 331	AMS	AMS	18 49 00.0		
	comp=Z,200nm,19.5s						
NRDL	**Niedersach Rie**	128.90 336	*e*PKPdf	**PKiKP**	**17 47 53.7**	**-0.2**	
	baz=44,slow=2.0						
ASSE	**Asse, Remlinge**	128.95 336	*e*PKPdf	**PKiKP**	**17 47 53.9**	**-0.1**	
	baz=44,slow=2.0						
RETH	**Rethem/Aller,**	129.01 337	*e*PKPdf	**PKiKP**	**17 47 54.4**	**+0.2**	
	baz=44,slow=2.0						
MORH	**Mrgy, Hungar**	129.04 325	⇑P	**PKPdf**	**17 47 53.9**	**+0.1**	
CLZ	**Clausthal**	129.29 336	*e*PKPdf	**PKiKP**	**17 47 55.0**	**+0.2**	
	baz=44,slow=2.0						
ZVC	**Zvikov**	129.31 331	AMS	AMS	18 49 00.0		
	comp=Z,300nm,21.1s						
RONA	**Rosalia, Austr**	129.40 328	*e*PKiKP	**PKPdf**	**17 47 54.9**	**+0.4**	
	comp=Z,12nm,1.1s,SNR=8.2						
TANN	**Tannenbergstha**	129.43 333	*e*PKPdf	**PKiKP**	**17 47 55.3**	**+0.1**	
	baz=44,slow=2.0						
CONA	**Conrad Observa**	129.48 329	*i* PKiKP	**PKPdf**	**17 47 54.9**	**+0.2**	
	comp=Z,10nm,1.4s,SNR=9.2						
PLN	**Plauen**	129.52 333	*e*PKPdf	**PKPdf**	**17 47 55.0**	**+0.4**	
	baz=44,slow=2.0						
MOX	**Moxa**	129.64 334	*e*PKPdf	**PKiKP**	**17 47 55.3**	**-0.3**	
	baz=44,slow=2.0						
MOX			*e*L	L	18 48 48.8		
	comp=Z,188nm,21.0s						
CKRC	**Cesky Krumlov**	129.67 330	*e*PKPDF	**PKiKP**	**17 47 56.7**	**+1.0**	
CKRC			AMS	AMS	18 50 10.0		
	comp=Z,200nm,23.1s						
GTTG	**Gottingen**	129.68 336	*e*PKPdf	**PKiKP**	**17 47 55.6**	**0.0**	
	baz=44,slow=2.0						
KHC	**Kasperske Hory**	129.81 331*c*	*i* PKIKP	**PKiKP**	**17 47 56.3**	**+0.3**	
KHC			pmax	pmax			
	comp=Z,14nm,1.3s						
KHC	**Kasperske Hory**	129.81 331	*e*PKPDF	**PKPdf**	**17 47 55.5**	**+0.3**	
KHC			*ep*PKP	**pPKPdf**	**17 48 05.1**	**-1.2**	
KHC			AMS	AMS	18 49 30.0		
	comp=Z,300nm,22.0s						
MANZ	**Manzenberg**	129.90 333	*e*PKPdf	**PKiKP**	**17 47 55.9**	**-0.2**	
	baz=44,slow=2.0						
GEC2	**GERESS Array S**	129.95 331	*e*PKPdf	**PKiKP**	**17 47 56.1**	**-0.3**	
	baz=44,slow=2.0						
GEC2			*e*L	L	18 49 41.0		
	comp=Z,269nm,20.0s						
GERES	**GERESS Array B**	129.95 331	PKP	**PKiKP**	**17 47 56.1**	**-0.3**	
	comp=Z,2.2nm,0.7s,baz=62,slow=3.2,SNR=28						
IBBN	**Ibbenburen**	129.96 338	*e*PKPdf	**PKPdf**	**17 47 55.7**	**+0.4**	
	baz=44,slow=2.0						
ROTZ	**Rotzenmuhle**	130.01 333	*e*PKPdf	**PKPdf**	**17 47 55.7**	**+0.2**	
	baz=44,slow=2.0						
ARSA	**Arzberg**	130.09 328	*e*PKiKP	**PKPdf**	**17 47 55.9**	**+0.1**	
	comp=Z,4.3nm,1.7s						
WET	**Wettzell**	130.14 332	*e*PKPdf	**PKiKP**	**17 47 56.4**	**-0.3**	
	baz=44,slow=2.0						
WET			*e*L	L	18 49 07.9		
	comp=Z,145nm,20.7s						
UBBA	**Unterbreizbach**	130.21 335	*e*PKPdf	**PKiKP**	**17 47 56.9**	**+0.3**	
	baz=44,slow=2.0						
FNA	**Florina**	130.29 318		**PKPdf**	**17 47 56.3**	**-0.1**	
FNA	**Florina**	130.29 318	PKIKP	**PKPdf**	**17 47 56.3**	**-0.1**	
MOA	**Molln**	130.34 330	*i* PKiKP	**PKPdf**	**17 47 56.7**	**+0.4**	
	comp=Z,2.7nm,0.8s						
GRF	**Grafenberg Arr**	130.51 333	*e*L	L	18 50 21.5		
	comp=Z,162nm,19.8s						
KASTN	**Kahler Asten**	130.57 336	*e*PKPdf	**PKiKP**	**17 47 57.4**	**0.0**	
	baz=44,slow=2.0						
CPSB	**Cacapava Do Su**	130.66 142	*e*P	**PKPdf**	**17 47 57.0**	**-0.4**	
EKA	**Eskdalemuir Ar**	130.66 347	PKP	**PKPdf**	**17 47 57.0**	**+0.4**	
	comp=Z,0.7nm,0.5s,baz=18,slow=3.0,SNR=5.0						
SDV	**Santo Domingo**	130.68 85		**PKPdf**	**17 47 58.3**	**+0.3**	
SOKA	**Soboth**	130.72 328	*e*PKiKP	**PKPdf**	**17 47 56.8**	**-0.3**	
	comp=Z,8.3nm,1.6s,SNR=6.5						
BIOA	**Bad Ischl, Aus**	130.76 330	*e*PKiKP	**PKPdf**	**17 47 57.2**	**+0.1**	
	comp=Z,4.6nm,1.0s,SNR=5.3						
CPUP	**Villa Florida**	130.82 135	PKP	**PKPdf**	**17 47 56.9**	**-0.9**	
	comp=Z,3.4nm,1.1s,baz=253,slow=0.2,SNR=9.3						
RJOB	**Jochberg**	131.15 330	*e*PKPdf	**PKPdf**	**17 47 57.8**	**0.0**	
	baz=44,slow=2.0						
TNS	**Taunus Mts**	131.31 335	*e*PKPdf	**PKiKP**	**17 47 58.9**	**-0.1**	
	baz=44,slow=2.0						
TNS			*e*L	L	18 46 26.5		
	comp=Z,203nm,21.6s						
BOJS	**Bojanci**	131.35 327	*i* PKPdf	**PKPdf**	**17 47 58.5**	**+0.4**	
LJU	**Ljubljana**	131.39 328	*i* PKPdf	**PKPdf**	**17 47 58.3**	**0.0**	
LESA	**Schwarzleotal**	131.42 330	*e*PKP	**PKPdf**	**17 47 57.4**	**-1.0**	
	comp=Z,4.9nm,0.8s						
MYKA	**Terra Mystica**	131.47 329	*e*PKiKP	**PKPdf**	**17 47 58.1**	**-0.4**	
	comp=Z,2.5nm,0.6s						
FUR	**Furstenfeldbru**	131.58 332	*e*L	L	18 46 37.8		
	comp=Z,151nm,21.7s						
BTNL	**Ternell**	131.95 337	*d*P	**PKiKP**	**17 48 00.8**	**+0.6**	
ABTA	**Abfaltersbach**	131.97 330	*e*PKiKP	**PKPdf**	**17 47 59.1**	**-0.4**	
	comp=Z,12nm,1.6s,SNR=5.6						
MEM	**Membach**	131.97 337	*d*PKP	**PKiKP**	**17 48 00.7**	**+0.5**	
WATA	**Walderalm**	132.02 331	*e*PKiKP	**PKPdf**	**17 47 59.9**	**+0.3**	
	comp=Z,6.6nm,0.9s,SNR=5.6						
WTTA	**Wattenberg**	132.04 331	*e*PKiKP	**PKPdf**	**17 47 59.9**	**+0.2**	
	comp=Z,18nm,1.3s,SNR=12						
STU	**Stuttgart**	132.09 334	*e*PKPdf	**PKiKP**	**17 48 01.3**	**+0.8**	
	baz=44,slow=2.0						
MOTA	**Moosalm**	132.24 331	*e*PKiKP	**PKPdf**	**17 48 00.2**	**+0.1**	
	comp=Z,12nm,1.2s,SNR=6.6						
SQTA	**Sankt Quirin**	132.28 331	*e*PKiKP	**PKiKP**	**17 48 00.8**	**-0.3**	
	comp=Z,6.5nm,1.1s						
RETA	**Reutte**	132.31 331	*e*PKiKP	**PKPdf**	**17 48 00.3**	**+0.2**	
	comp=Z,6.2nm,1.4s						
BCLA	**Clavier**	132.40 338	*d*PKP	**PKPdf**	**17 47 59.6**	**-0.4**	
RCHB	**Rochefort**	132.64 337	*d*PKP	**PKiKP**	**17 48 01.2**	**-0.4**	
FETA	**Feichten**	132.65 331	*e*PKiKP	**PKPdf**	**17 48 01.0**	**+0.2**	
	comp=Z,6.0nm,1.0s,SNR=5.5						
WLF	**Walferdange**	132.67 336	*d*PKP	**PKiKP**	**17 48 01.9**	**+0.2**	
WLF	**Walferdange**	132.67 336	*e*PKPdf	**PKiKP**	**17 48 01.6**	**-0.1**	
	baz=44,slow=2.0						
BMRD	**Maredsous**	132.69 338	*d*PKP	**PKiKP**	**17 48 01.4**	**-0.3**	
BFO	**Black Forest**	132.80 334	*e*PKPdf	**PKPdf**	**17 48 00.8**	**-0.1**	
	baz=44,slow=2.0						
BFO			*e*L	L	18 50 07.1		
	comp=Z,120nm,20.9s						
DAVA	**Damuels**	132.87 332	*e*PKiKP	**PKPdf**	**17 48 01.2**	**0.0**	
	comp=Z,5.4nm,1.1s						
DOU	**Doubes**	132.92 338	*d*PKP	**PKPdf**	**17 48 01.2**	**+0.2**	
MURT	**Porto Murtinho**	133.41 130	*e*P	**PKPdf**	**17 48 02.2**	**-0.5**	
TUE	**Stuetta**	133.71 331		**PKiKP**	**17 48 03.6**	**-0.5**	
SAML	**Samuel**	134.53 111		**PKPdf**	**17 48 04.0**	**-1.1**	
SAML	**Samuel**	134.53 111	PKIKP	**PKPdf**	**17 48 04.0**	**-1.1**	
PTGB	**Pitanga**	135.48 138	*e*P	**PKPdf**	**17 48 06.5**	**-0.3**	
BOAV	**Boa Vista**	140.04 96		**PKPdf**	**17 48 14.9**	**-0.4**	
BDFB	**Brasilia**	144.28 131		**PKPab**	**17 48 20.4**	**-0.4**	
BDFB	**Brasilia**	144.28 131	PKP	**PKPab**	**17 48 20.7**	**-0.1**	
	comp=Z,35nm,0.7s,baz=234,slow=2.7,SNR=72						
BDFB	**Brasilia**	144.28 131	PKIKP	**PKPab**	**17 48 20.4**	**-0.4**	
PCAB	**Cabril**	144.49 343	*e*PKP	PKPbc	17 48 21.8	+0.8	
MVO	**Moncorvo**	144.70 342	*e*PKP	PKPbc	17 48 22.0	+0.2	
POLO	**Lamas de Olo**	144.73 343	*e*PKP	PKPbc	17 48 22.2	+0.3	
ESDC	**Sonseca Array**	144.96 337		PKPbc	17 48 22.9	+0.3	
ESDC	**Sonseca Array**	144.96 337	PKPbc	PKPbc	17 48 22.8	+0.2	
	comp=Z,7.4nm,0.9s,baz=19,slow=3.5,SNR=40						
PAB	**San Pablo**	145.22 337	⇑PKIKP	**PKPdf**	**17 48 24.9**	**+1.0**	
PVIS	**Viseu**	145.37 343	*e*PKP	**PKPdf**	**17 48 24.4**	**+0.4**	
MTE	**Manteigas**	145.55 342	*e*PKP	**PKPab**	**17 48 25.3**	**+0.6**	
COI	**Coimbra**	145.99 343		**PKPbc**	**17 48 25.6**	**-0.1**	
COI	**Coimbra**	145.99 343	*e*PKP	**PKPbc**	**17 48 26.0**	**+0.2**	
COI	**Coimbra**	145.99 343	PKP2	**PKPbc**	**17 48 25.6**	**-0.1**	
PCBR	**Castelo Branco**	146.04 342	*e*PKP	**PKPab**	**17 48 26.5**	**0.0**	
PCAS	**Casmilo, Conde**	146.16 343	*e*PKP	**PKPbc**	**17 48 26.3**	**0.0**	
PMRV	**Marv??o**	146.39 341	*e*PKP	**PKPab**	**17 48 27.9**	**0.0**	
PSARD	**Sardoal**	146.48 342	*e*PKP	**PKPab**	**17 48 28.1**	**-0.1**	
PESTR	**Estremoz**	146.97 341	*e*PKP	**PKPbc**	**17 48 29.1**	**+0.3**	
PMTG	**Montargil**	146.98 342	*e*PKP	**PKPbc**	**17 48 29.0**	**+0.2**	
PMAFR	**Mafra**	147.40 343	*e*PKP	**PKPbc**	**17 48 30.7**	**+0.8**	
EVO	**Evora**	147.41 341	*e*PKP	**PKPbc**	**17 48 30.8**	**+0.9**	
PBAR	**Barrancos**	147.41 340	*e*PKP	**PKPbc**	**17 48 30.5**	**+0.6**	
PARRA	**Arraiolos**	147.46 343	*e*PKP	**PKPbc**	**17 48 29.4**	**-0.6**	
PBEJ	**Beja**	147.82 341	*e*PKP	**PKPdf**	**17 48 29.3**	**+1.1**	
MESJ	**Messejana**	148.11 341	*e*PKiKP	**PKPbc**	**17 48 32.7**	**+0.9**	
MESJ			IAMs_20	IAMs_20	19 07 52.4		
	comp=Z,349nm,22.5s						
MESJ	**Messejana**	148.11 341	*e*PKP	**PKPbc**	**17 48 32.6**	**+0.7**	
PCVE	**Castro Verde**	148.24 341	*e*PKP	**PKiKP**	**17 48 33.2**	**-0.7**	
PVAQ	**Vaqueiros**	148.34 340	*e*PKP	**PKPbc**	**17 48 33.3**	**+0.9**	
PTEO	**Sao Teotonio**	148.53 341	*e*PKP	**PKiKP**	**17 48 33.8**	**-0.7**	
PBDV	**Barranco-do-Ve**	148.55 340	*e*PKP	**PKiKP**	**17 48 34.2**	**-0.4**	
MORF	**Marmelete**	148.73 341	*e*PKiKP	**PKPbc**	**17 48 34.0**	**+0.4**	
MORF			IAMs_20	IAMs_20	19 08 39.4		
	comp=Z,583nm,20.0s						
MORF	**Marmelete**	148.73 341	*e*PKP	**PKPbc**	**17 48 33.9**	**+0.4**	
PFVI	**Vila Bisbo**	148.95 341	*e*PKP	**PKPdf**	**17 48 28.3**	**-1.7**	
EDA	**Edea**	148.99 264		**PKPbc**	**17 48 33.3**	**-1.5**	
PMAR	**Madeira**	155.04 352	*e*PKPdf	**PKPdf**	**17 48 36.5**	**-3.0**	
TORD	**Torodi Ar. Bea**	157.33 285	PKP	**PKPdf**	**17 48 42.3**	**-0.5**	
	comp=Z,5.5nm,1.0s,baz=76,slow=1.2,SNR=17						
TORD			PKPab	**PKPab**	**17 49 14.2**	**+0.1**	
	comp=Z,6.5nm,0.9s,baz=59,slow=4.7,SNR=12						

JMA 25 17:36:46.4±0.1, 32.5N±0.2×130.6E±0.2, h11km,
SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU3	**Izumi3**	0.16	88	*e*P	Pg	17 36 50.1	+0.1
JIU3				S	Sg	17 36 52.9	+0.4
JZO	**Okuchi**	0.40	183	*e*S	Sg	17 36 59.7	0.0
JHD	**Hondo**	0.42	259	*e*P	Pg	17 36 54.5	-0.2
JHD				*e*S	Sb	17 37 01.3	-0.9

*SJA **25** 18:00:40.4±0.7, 20.59S×69.09W, h102km±5km, ML3.5, MW3.5*
*GUC **25** 18:00:42.1±0.7, 20.58S×69.07W, h99km±4km, ML3.4*
ISC 25 18:00:41.7±1.8, 20.58S±0.04×69.11W±0.07,
h101km±11km, n29, σ0.972/49, 9C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	0.44	355	⇓*i*P	**Pn**	**18 00 57.5**	**-0.2**
PB08				*i* S	**Sn**	**18 01 09.4**	**-0.1**
PB08				IAML		18 01 09.8	
	comp=N,3μm,0.1s						
PB08	**IPOC Station P**	0.44	355	*e*P	**Pn**	**18 00 57.3**	**-0.4**
PB08				*e*S	**Sn**	**18 01 09.4**	**-0.1**
PB08				IAML		18 01 09.9	
	comp=Z,3μm,0.1s						
PX03	**IPOC Station P**	0.52	290	*e*P	**Pn**	**18 00 56.9**	**-0.9**
PX03				*i* S	**Sn**	**18 01 09.2**	**-0.7**
PB01	**IPOC Station P**	0.57	217	⇑*i*P	**Pn**	**18 00 58.1**	**-0.2**
PB01				*i* S	**Sn**	**18 01 10.8**	**+0.1**
PB01				IAML		18 01 11.5	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	0.57	217	*e*P	**Pn**	**18 00 57.9**	**-0.3**
PB01				IAML		18 01 11.4	
	comp=Z,1μm,0.2s						
HMBC	**Humberstone**	0.79	293	⇑*i*P	**Pn**	**18 00 59.9**	**-0.3**
HMBC				*i* S	**Sn**	**18 01 14.1**	**+0.1**
HMBC				IAML		18 01 14.7	
	comp=N,964nm,0.2s						
HMBC	**Humberstone**	0.79	293	*e*P	**Pn**	**18 00 59.8**	**-0.3**
HMBC				*e*S	**Sn**	**18 01 14.5**	**+0.5**
HMBC				IAML		18 01 16.2	
	comp=Z,755nm,0.2s						
GO01	**Chusmiza**	0.91	355	⇓*i*P	**Pn**	**18 01 01.9**	**+0.1**
GO01				*i* S	**Sn**	**18 01 17.1**	**+0.2**
GO01				IAML		18 01 18.9	
	comp=N,12μm,0.1s						
GO01	**Chusmiza**	0.91	355	*e*P	**Pn**	**18 01 01.2**	**-0.6**
GO01				*e*S	Sn	18 01 02.0	-15
GO01				IAML		18 01 19.2	
	comp=Z,844nm,0.2s						
PB11	**IPOC Station P**	0.96	328	⇑*i*P	**Pn**	**18 01 01.8**	**-0.2**
PB11				*i* S	**Sn**	**18 01 17.4**	**+0.3**
PB11				IAML		18 01 18.6	
	comp=N,3μm,0.2s						
PB11	**IPOC Station P**	0.96	328	*e*P	**Pn**	**18 01 01.7**	**-0.3**
PB11				IAML		18 01 18.8	
	comp=Z,775nm,0.1s						
TA01	**Diego Aracena**	1.00	271	⇑*i*P	**Pn**	**18 01 02.0**	**-0.2**
TA01				*i* S	**Sn**	**18 01 17.4**	**-0.2**
TA01				IAML		18 01 18.3	
	comp=E,569nm,0.3s						
TA01	**Diego Aracena**	1.00	271	*e*P	**Pn**	**18 01 01.3**	**-0.9**
TA01				*e*S	**Sn**	**18 01 18.0**	**+0.5**
PATCX	**Punta Patache**	1.00	256	⇑*i*P	**Pn**	**18 01 02.4**	**+0.1**
PATCX				*i* S	**Sn**	**18 01 18.4**	**+0.7**
PATCX				IAML		18 01 19.4	
	comp=E,633nm,0.3s						
PATCX	**Punta Patache**	1.00	256	*e*P	**Pn**	**18 01 01.8**	**-0.5**
PATCX				*e*S	**Sn**	**18 01 19.0**	**+1.2**
PATCX				IAML		18 01 20.3	
	comp=Z,376nm,0.3s						
TA02	**Huaiquique**	1.00	288	⇑*i*P	**Pn**	**18 01 02.4**	**+0.2**
TA02				*i

SABU					*i* IAML			18 29 01.0		
	comp=N,19nm,1.9s									
IZZE	**Mula-Seydike**	**4.75**	**71**	P		**Pn**	**18 27 37.2**	**+0.3**		
IZZE				S		Sn	18 28 21.7	-10		
IZZE				*i* IAML			18 28 37.0			
	comp=N,19nm,0.6s									
IZZE				*i* IAML			18 28 40.0			
	comp=E,21nm,0.4s									
DNZT	**Denizli-Tavas-**	**4.90**	**61**	P		**Pn**	**18 27 41.5**	**+2.5**		
DNZT				S		**Sn**	**18 28 30.3**	**-5.2**		
TAVA	**DENIZLI_Tavas**	**4.90**	**59**	P		Pb	18 27 46.0	-5.4		
TAVA				*i* IAML			18 29 00.0			
	comp=N,8.9nm,1.6s									
TAVA				*i* IAML			18 29 42.0			
	comp=E,8.6nm,1.8s									
KNIK	**Mula-Seydike**	**5.14**	**68**	P		**Pn**	**18 27 43.1**	**+0.8**		
KNIK				S		Sn	18 28 29.8	-12		
GOLH	**Golhisar**	**5.27**	**64**	P		**Pn**	**18 27 45.6**	**+1.5**		
GOLH				S		Sn	18 28 35.1	-10		
GOLH				*i* IAML			18 28 48.0			
	comp=N,16nm,1.3s									
GOLH				*i* IAML			18 28 49.0			
	comp=E,16nm,0.6s									
BRTR	**Keskin Array B**	**9.23**	**57**	Pn		Pn	18 28 43.8	+5.3		
	0.1nm,0.3s,baz=240,slow=13,SNR=6.5 1.0nm,0.8s									
MMAI	**Mount Meron Ar**	**9.96**	**98**	Pn		**Pn**	**18 28 50.2**	**+1.7**		
	0.5nm,0.3s,baz=278,slow=14,SNR=2.3 0.4nm,0.3s									
GERES	**GERESS Array B**	**15.64**	**335**	Pn		**P**	**18 30 08.3**	**-1.5**		
	baz=149,slow=14,SNR=5.1 0.4nm,0.5s									
HFS	**Hagfors**	**25.94**	**349**	P		**P**	**18 31 56.6**	**-0.7**		
	1.1nm,0.8s,baz=157,slow=9.4,SNR=5.8 1.1nm,0.8s									
EKA	**Eskdalemuir Ar**	**27.44**	**326**	P		**P**	**18 32 10.7**	**-0.1**		
	0.2nm,0.4s,baz=128,slow=8.7,SNR=3.8 0.2nm,0.4s									
MKAR	**Makanchi Array**	**44.88**	**56**	P		**P**	**18 34 42.4**	**+2.8**		
	0.4nm,0.5s,baz=282,slow=7.2,SNR=4.3 0.4nm,0.5s									
ZALV	**Zalesovo Beam**	**45.99**	**46**	P		**P**	**18 34 51.2**	**+3.0**		
	0.4nm,0.3s,baz=268,slow=7.4,SNR=1.3 0.4nm,0.3s									

IDC ***25*** *18:31:41.7±0.7, 8.59N×39.32W, h0km, mb4.0/13, mbtmp4.0/13, MS3.6/2, Error ellipse: s-maj=23.6km s-min=17.9km az=146.0*

BGR ***25*** *18:31:43.4, 8.25N×39.24W, h10km, mb4.6, Ms3.9*

NEIC ***25*** *18:31:43.5±2.5, 8.5N±0.1×39.6W±0.1, h10km±1km, mb4.6/51, Error ellipse: s-maj=21.1km s-min=16.8km az=138.0*

ISC 25 18:31:43.5±0.4**, 8.55N**±0.08×**39.50W**±0.08**, h15**km**, n111, σ1§14/91, mb4.5**/66**, 4C-3D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MDP	**Montagnes des**	**13.49**	**256**	LR		LR	18 39 17.9	
	comp=Z,203nm,20.9s,baz=68,slow=33							
PRPB	**Paraupepbas**	**17.88**	**215**	*e*P		**P**	**18 35 55.2**	**+2.7**
BBGH	**Gun Hill**	**20.22**	**285**	P		P	18 36 11.7	-6.5
ITTB	**Itaituba**	**20.66**	**232**	*e*P		**P**	**18 36 24.3**	**+1.3**
SDBA	**SAO DESIDERIO**	**21.50**	**195**	*e*P		**P**	**18 36 34.3**	**+2.2**
H05S1	**Guadeloupe/Mar**	**21.70**	**288**	T		T	18 58 49.8	
	SNR=15							
BOAV	**Boa Vista**	**21.80**	**255**			**P**	**18 36 32.6**	**-2.6**
BOAV	**Boa Vista**	**21.80**	**255**	*e*P		**P**	**18 36 34.5**	**-0.8**
NPGB	**Novo Progresso**	**22.14**	**226**	*e*P		**P**	**18 36 40.5**	**+1.6**
H05N1	**Guadeloupe/Mar**	**22.41**	**292**	T		T	18 59 35.2	
	SNR=3.9							
SNDB	**Serra Nova Dou**	**23.52**	**210**	*e*P		**P**	**18 36 54.9**	**+1.6**
BDFB	**Brasilia**	**25.47**	**199**	P		**P**	**18 37 10.2**	**-1.2**
BDFB	**Brasilia**	**25.47**	**199**	P		**P**	**18 37 10.4**	**-1.0**
	1.2nm,0.5s,baz=8.2,slow=13,SNR=3.4							
PDRB	**Porto dos Gac**	**26.36**	**221**	*e*P		**P**	**18 37 19.0**	**-0.4**
ARAG	**Araguaiana, MT**	**27.01**	**207**	*e*P		**P**	**18 37 24.8**	**-0.4**
SJG	**San Juan**	**27.59**	**293**	LR		LR	18 46 41.3	
	comp=Z,151nm,20.6s,baz=263,slow=32							
CELP	**Cerrillos**	**27.97**	**293**	P		**P**	**18 37 33.8**	**-0.1**
SAML	**Samuel**	**29.31**	**234**	P		**P**	**18 37 47.7**	**+1.9**
SAML				IAmb		IAmb	18 37 50.1	
	comp=Z,10nm,1.2s							
H10N3	**ASCENSION HYDR**	**29.76**	**122**	T		T	19 09 21.8	
	baz=302,slow=75,SNR=30							
H10N2	**ASCENSION HYDR**	**29.76**	**122**	T		T	19 09 22.2	
	baz=302,slow=75,SNR=32							
H10N1	**ASCENSION HYDR**	**29.78**	**122**	T		T	19 09 16.1	
	baz=302,slow=75,SNR=35							
H10S3	**ASCENSION HYDR**	**30.24**	**125**	T		T	19 09 47.6	
	baz=299,slow=74,SNR=23							
H10S2	**ASCENSION HYDR**	**30.25**	**125**	T		T	19 09 48.6	
	baz=281,slow=74,SNR=18							
PTLB	**Pontes e Lacer**	**30.78**	**219**			**P**	**18 37 58.6**	**-0.1**
PTLB				IAmb		IAmb	18 38 02.8	
	comp=Z,12nm,1.4s							
PTLB	**Pontes e Lacer**	**30.78**	**219**	*e*P		**P**	**18 37 59.7**	**+0.9**
PMOZ	**Porto Moniz, M**	**31.77**	**37**	P		**P**	**18 38 07.5**	**0.0**
AQDB	**Aquidauana**	**32.95**	**209**	P		**P**	**18 38 15.6**	**-2.2**
BBSR	**BB Station**	**33.28**	**319**	P		**P**	**18 38 20.8**	**+0.2**
RUSC	**La Rusia**	**33.42**	**268**	P		**P**	**18 38 21.7**	**-0.9**
SMRC	**Santa Marta, M**	**34.30**	**277**	P		**P**	**18 38 28.8**	**-1.0**
DBIC	**Dimbokro**	**34.38**	**91**	P		**P**	**18 38 29.3**	**-1.1**
	comp=Z,6.3nm,0.8s,baz=272,slow=7.5,SNR=4.7 comp=Z,6.3nm,0.8s							
CZSB	**Cruzeiro do Su**	**36.84**	**245**	P		**P**	**18 38 51.4**	**-0.1**
CZSB				IAmb		IAmb	18 38 59.0	
	comp=Z,11nm,0.8s							
LPAZ	**La Paz**	**37.58**	**229**			**P**	**18 38 58.9**	**+0.4**
LPAZ				IAmb		IAmb	18 39 02.9	
	comp=Z,13nm,1.2s							
LPAZ	**La Paz**	**37.58**	**229**	P		**P**	**18 39 01.1**	**+2.6**
	comp=Z,9.9nm,1.2s,baz=32,slow=7.2,SNR=15 comp=Z,9.9nm,1.2s							
LPAZ	**La Paz**	**37.58**	**229**	*e*P		**P**	**18 38 57.4**	**-1.0**
ITAB	**Concordia**	**37.62**	**199**	P		**P**	**18 38 58.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**40.68**	**80**	P		**P**	**18 39 22.7**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=277,slow=6.9,SNR=4.5 comp=Z,0.7nm,0.8s							
PB11	**IPOC Station P**	**40.91**	**226**	P		**P**	**18 39 24.5**	**-1.3**
PB11				IAmb		IAmb	18 39 31.3	
	comp=Z,21nm,1.4s							
COHC	**Cochancay**	**41.12**	**256**	P		**P**	**18 39 27.6**	**+0.1**
HAL	**Halifax**	**41.59**	**334**	P		**P**	**18 39 29.5**	**-1.3**
ESDC	**Sonseca Array**	**44.35**	**40**	P		P	18 39 59.2	+5.8
	comp=Z,0.8nm,0.8s,baz=244,slow=9.0,SNR=5.9							
MTO3	**Montecristo**	**49.14**	**282**	P		**P**	**18 40 32.4**	**+1.0**
MTO3				IAmb		IAmb	18 40 38.8	
	comp=Z,5.9nm,1.0s							
MT08	**Bocatoma Ro**	**50.85**	**213**	P		**P**	**18 40 43.4**	**-0.7**
MT08				IAmb		IAmb	18 40 52.8	
	comp=Z,10nm,1.2s							
EKA	**Eskdalemuir Ar**	**54.80**	**24**	P		**P**	**18 41 13.4**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=221,slow=7.5,SNR=5.1 comp=Z,0.9nm,0.7s							
DOU	**Dourbes**	**55.22**	**33**	*d*P		**P**	**18 41 16.7**	**+0.8**
	comp=Z,2.4nm,1.3s							
RCHB	**Rochefort**	**55.59**	**33**	*d*P		**P**	**18 41 19.8**	**+1.3**
ECH	**Echery**	**55.68**	**36**			**P**	**18 41 19.5**	**+0.2**
ECH				IAmb		IAmb	18 41 27.9	
	comp=Z,5.4nm,1.0s							
OSSC	**Osservatorio P**	**56.18**	**43**	P		**P**	**18 41 23.2**	**+0.3**
OSSC				IAmb		IAmb	18 41 32.3	
	comp=Z,11nm,1.0s							
MEM	**Membach**	**56.26**	**33**	*d*P		**P**	**18 41 24.8**	**+1.4**
	comp=Z,5.6nm,1.0s							
BFO	**Black Forest**	**56.42**	**36**			**P**	**18 41 24.4**	**-0.2**
BFO				IAmb		IAmb	18 41 32.9	
	comp=Z,5.1nm,0.8s							
BFO	**Black Forest**	**56.42**	**36**	*e*P		**P**	**18 41 25.9**	**+1.3**
	comp=Z,12nm,1.5s,baz=242,slow=6.8							
PLCA	**Paso Flores**	**56.78**	**208**	P		**P**	**18 41 28.5**	**+1.2**
	comp=Z,4.1nm,1.0s,baz=39,slow=6.0,SNR=5.2 comp=Z,4.1nm,1.0s							
PLCA	**Paso Flores**	**56.78**	**208**	*e*P		**P**	**18 41 24.3**	**-2.9**
DAVA	**Damuels**	**56.87**	**38**	*e*P		**P**	**18 41 28.9**	**+0.9**
	comp=Z,8.4nm,1.3s							
FETA	**Feichten**	**57.27**	**39**	*e*P		**P**	**18 41 31.9**	**+1.0**
	comp=Z,4.1nm,1.0s							
RETA	**Reutte**	**57.50**	**38**	*e*P		**P**	**18 41 33.0**	**+0.8**
	comp=Z,3.1nm,1.1s							
MOTA	**Moosalm**	**57.64**	**38**	*e*P		**P**	**18 41 34.4**	**+1.0**
	comp=Z,2.4nm,0.9s							
SQTA	**Sankt Quirin**	**57.66**	**39**	*e*P		**P**	**18 41 34.1**	**+0.6**
	comp=Z,1.9nm,0.8s							
WATA	**Walderalm**	**57.93**	**39**	*e*P		**P**	**18 41 36.0**	**+0.6**
	comp=Z,6.4nm,1.3s							
WTTA	**Wattenberg**	**57.94**	**39**	*e*P		**P**	**18 41 36.6**	**+1.1**
	comp=Z,1.9nm,0.7s							
ABTA	**Abfaltersbach**	**58.27**	**40**	*e*P		**P**	**18 41 38.3**	**+0.5**
	comp=Z,4.6nm,1.1s							
LESA	**Schwarzleotal**	**58.65**	**39**	*e*P		**P**	**18 41 41.2**	**+0.8**
	comp=Z,2.3nm,0.7s							
GRF	**Grafenberg Arr**	**58.74**	**36**	*e*P		**P**	**18 41 42.3**	**+1.4**
	comp=Z,4.0nm,0.8s,baz=242,slow=6.8							
GRF				*e*L		L	19 05 14.9	
	comp=Z,77nm,20.3s							
RJOB	**Jochberg**	**58.85**	**39**	*e*P		**P**	**18 41 42.9**	**+1.1**
	comp=Z,14nm,1.8s,baz=242,slow=6.8							
KBA	**Koelnbreinsper**	**58.93**	**39**	*e*P		**P**	**18 41 43.3**	**+0.8**
	comp=Z,5.0nm,1.4s							
MYKA	**Terra Mystica**	**58.94**	**40**	*e*P		**P**	**18 41 43.5**	**+1.1**
	comp=Z,6.2nm,0.9s							
ROTZ	**Rotzenmuhle**	**59.34**	**36**	*e*P		**P**	**18 41 46.0**	**+0.9**
	comp=Z,1.6nm,1.4s,baz=242,slow=6.8							
BIOA	**Bad Ischl, Aus**	**59.35**	**39**	*e*P		**P**	**18 41 45.5**	**+0.3**
	comp=Z,2.6nm,0.8s							
MOX	**Moxa**	**59.39**	**35**	*e*P		**P**	**18 41 46.5**	**+1.2**
	comp=Z,14nm,1.8s,baz=242,slow=6.8							
MOX				*e*L		L	19 01 37.9	
	comp=Z,89nm,19.3s							
NRDL	**Nittersach Rie**	**59.42**	**33**	*e*P		**P**	**18 41 47.8**	**+2.4**
	comp=Z,11nm,1.4s,baz=242,slow=6.8							
OBKA	**Obir**	**59.48**	**40**	*e*P		**P**	**18 41 47.1**	**+1.0**
	comp=Z,13nm,1.5s							
WET	**Wettzell**	**59.48**	**37**	*e*P		**P**	**18 41 47.0**	**+0.9**
	comp=Z,18nm,2.1s,baz=242,slow=6.8							
BRDY	**Brady**	**59.60**	**301**	P		**P**	**18 41 46.5**	**-0.7**
BRDY				IAmb		IAmb	18 41 49.3	
	comp=Z,5.9nm,1.2s							
TANN	**Tannenbergstha**	**59.77**	**36**	*e*P		**P**	**18 41 49.6**	**+1.5**
	comp=Z,10nm,1.6s,baz=242,slow=6.8							
MOA	**Molln**	**59.80**	**39**	*e*P		**P**	**18 41 48.9**	**+0.6**
	comp=Z,1.5nm,0.5s							
GERES	**GERESS Array B**	**59.85**	**38**	P		**P**	**18 41 48.5**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=260,slow=5.3,SNR=5.6 comp=Z,0.1nm,0.4s							
CONA	**Conrad Observa**	**60.83**	**39**	*e*P		**P**	**18 41 55.9**	**+0.5**
	comp=Z,2.0nm,1.0s							
RONA	**Rosalia, Austr**	**61.02**	**40**	*e*P		**P**	**18 41 57.1**	**+0.5**
	comp=Z,1.9nm,0.7s							
TXAR	**Lajitas Array**	**63.37**	**298**	P		**P**	**18 42 14.2**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=102,slow=6.4,SNR=6.5 comp=Z,0.4nm,0.6s							
SUMG	**Summit**	**63.98**	**0**	*i* P		**P**	**18 42 17.0**	**+0.6**
VHRN	**Van Horn**	**64.64**	**300**			**P**	**18 42 21.0**	**-0.2**
VHRN				IAmb		IAmb	18 42 28.8	
	comp=Z,5.9nm,1.4s							
ISCO	**Idaho Springs**	**66.26**	**310**			**P**	**18 42 33.2**	**+1.4**
ISCO				IAmb		IAmb	18 42 35.5	
	comp=Z,4.1nm,1.1s							
MLR	**Muntele Rosu**	**66.79**	**44**			**P**	**18 42 35.6**	**+0.8**
P18A	**Preston Nutter**	**69.78**	**309**	P		**P**	**18 42 53.0**	**-0.9**
X16A	**Lo Mia Camp, P**	**70.34**	**303**			**P**	**18 42 58.9**	**+1.7**
X16A				IAmb		IAmb	18 43 06.9	
	comp=Z,6.6nm,1.5s							
WUAZ	**Wupatki**	**70.34**	**305**			**P**	**18 42 58.1**	**+0.8**
WUAZ				IAmb		IAmb	18 43 01.3	
	comp=Z,7.9nm,1.3s							
MMAI	**Mount Meron Ar**	**72.75**	**58**	P		**P**	**18 43 11.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=264,slow=5.1,SNR=2.4 comp=Z,0.3nm,0.3s							
IRM	**Iron Mountain**	**73.39**	**303**	IAmb		IAmb	18 43 19.8	
	comp=Z,7.2nm,1.4s							
ELK	**Elko**	**73.68**	**310**	P		**P**	**18 43 18.5**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=83,slow=4.8,SNR=3.4 comp=Z,0.5nm,0.6s							
BELC	**Belle Mtn. Jos**	**74.10**	**303**	IAmb		IAmb	18 43 24.0	
	comp=Z,7.5nm,1.4s							
QSM	**Queen of Sheba**	**74.83**	**305**	IAmb		IAmb	18 43 28.7	
	comp=Z,10nm,1.5s							
BMO	**Blue Mountains**	**75.38**	**314**	IAmb		IAmb	18 43 52.8	
	comp=Z,6.1nm,0.6s							
YKA	**Yellowknife Ar**	**75.59**	**332**	P		**P**	**18 43 27.9**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=98,slow=5.6,SNR=7.3 comp=Z,1.2nm,0.8s							
DSP	**Deep Springs**	**75.72**	**306**	IAmb		IAmb	18 43 32.7	
	comp=Z,7.0nm,1.5s							
LHV	**Little Huntoon**	**76.14**	**307**	IAmb		IAmb	18 43 41.6	
	comp=Z,6.8nm,1.2s							
KBZ	**Khabaz**	**78.66**	**47**	P		**P**	**18 43 45.4**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=260,slow=3.8,SNR=5.7 comp=Z,1.1nm,0.7s							
VNA1	**Neumayer--Stat**	**81.80**	**170**	⇑P		**P**	**18 44 02.9**	**+1.5**
	comp=Z,3.0nm,0.9s							
VNA3	**Neumayer Olymp**	**82.08**	**171**	⇑P		**P**	**18 44 02.8**	**-0.2**
	comp=Z,3.7nm,0.8s							
R33M	**Jennings River**	**83.46**	**329**	IAmb		IAmb	18 44 15.4	
	comp=Z,10nm,1.4s							
SNAA	**Sanae**	**83.63**	**169**	⇑P		**P**	**18 44 11.3**	**+0.2**
	comp=Z,57nm,0.7s							
SNAA	**Sanae**	**83.63**	**169**			**P**	**18 44 10.8**	**-0.2**
SNAA				IAmb		IAmb	18 44 13.5	
	comp=Z,3.7nm,0.9s							
SNAA	**Sanae**	**83.63**	**169**	P		**P**	**18 44 11.0**	**0.0**
	comp=Z,3.0nm,0.8s,baz=317,slow=5.6,SNR=10 comp=Z,3.0nm,0.8s							
TROLL	**Troll, Antarti**	**84.95**	**168**	⇑P		**P**	**18 44 19.5**	**+1.6**
	comp=Z,101nm,0.9s							
E29M	**Blow River**	**85.20**	**338**	P		**P**	**18 44 18.8**	**-0.3**
E29M				IAmb		IAmb	18 44 28.3	
	comp=Z,6.6nm,1.2s							
H29M	**Whitestone**	**85.81**	**336**	P		**P**	**18 44 22.4**	**+0.2**
I29M	**Ogilvie Camp,**	**85.95**	**335**	IAmb		IAmb	18 44 25.4	
	comp=Z,4.7nm,1.1s							
I26K	**Coal Creek Min**	**87.94**	**336**	IAmb		IAmb	18 44 36.7	
	comp=Z,7.2nm,1.3s							
ILAR	**Eielson Array**	**89.61**	**336**	P		**P**	**18 44 40.1**	**-0.5**
ILAR	**Eielson Array**	**89.61**	**336**	P		**P**	**18 44 40.6**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=59,slow=3.3,SNR=7.1 comp=Z,1.0nm,1.0s							
AB31	**Akbulak array**	**89.70**	**40**	P		**P**	**18 44 42.1**	**+0.9**
AB31				IAmb		IAmb	18 44 50.7	
	comp=Z,3.9nm,1.1s							
ABKAR	**Akbulak array**	**89.70**	**40**			**P**	**18 44 41.2**	**0.0**

IDC 25 18:40:31.5±9.2**, 3.41S**×**152.68E, h136**km±54km**, mb3.6**/3**, mbtmp4.2**/4**, Error ellipse: s-maj=172.6km s-min=22.5km az=103.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**8.10**	**222**	P		Pn	18 42 26.3	+0.1
	54nm,0.5s,baz=24,slow=12,SNR=24							
PMG				S		Sn	18 43 40.3	-16
	9.8nm,0.7s,baz=127,slow=17,SNR=1.4							
WRA	**Warramunga Arr**	**24.29**	**226**	P		P	18 45 36.1	-0.4
	1.6nm,0.4s,baz=52,slow=9.8,SNR=45 1.6nm,0.4s							
ASAR	**Alice Springs**	**27.11**	**220**	P		P	18 46 02.1	+0.3
	0.7nm,0.4s,baz=53,slow=9.1,SNR=63 0.7nm,0.4s							
MJAR	**Matushiro Arr**	**41.98**	**342**	P		P	18 48 08.8	-0.3
	1.2nm,0.5s,baz=157,slow=9.1,SNR=13 1.2nm,0.5s							

NEIC ***25*** *18:42:26.6±0.7, 40.07N±0.03×32.76E±0.03, h2km±11km, ML3.3/16, Error ellipse: s-maj=4.9km s-min=3.3km az=150.0*

ISK ***25*** *18:42:26.3, 40.02N×32.75E, h5km, ML3.5/21*

AFAD ***25*** *18:42:26.8, 40.02N×32.77E, h7km±1km, MW3.5*

ISC 25 18:42:26.9±1.0**, 40.03N**±0.02×**32.77E**±0.02**, h7**km±8km**, n72, σ0§75/92, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANTO	**Ankara**	**0.16**	**173**			**Pg**	**18 42 30.4**	**+0.2**
ANTO				Sg		**Sg**	**18 42 33.2**	**+0.7**
CMDR	**Camlidere-ANKA**	**0.52**	**335**	P		**Pg**	**18 42 36.9**	**0.0**
GOKD	**Ankara-Kalecik**	**0.55**	**85**	P		**Pg**	**18 42 37.7**	**+0.3**
GOKD				S		**Sg**	**18 42 45.3**	**+0.7**
BBAL	**Bala**	**0.55**	**150**	P		**Pb**	**18 42 38.1**	**-0.9**
BBAL				S		**Sg**	**18 42 44.4**	**-0.5**
POLA	**Polatl-ANKAR**	**0.56**	**235**	Pg		**Pg**	**18 42 38.0**	**+0.2**
POLA				Sg		**Sb**	**18 42 46.9**	**-0.5**
AFSR	**Afar-Bala (An**	**0.62**	**158**	Pg		**Pb**	**18 42 39.4**	**-0.7**
AFSR				Sg		**Sb**	**18 42 49.4**	**+0.3**
ELDT	**Eldivan**	**0.69**	**47**	P		**Pg**	**18 42 40.1**	**0.0**
ELDT				S		**Sg**	**18 42 49.0**	**0.0**
BR131	**Keskin Array S**	**0.73**	**114**			**Pg**	**18 42 40.9**	**-0.1**
BR131				Sg		**Sb**	**18 42 51.5**	**-0.8**
BRTR	**Keskin Array B**	**0.73**	**114**			**Pg**	**18 42 41.0**	**-0.1**
KESK	**Krkkale-Ke**	**0.74**	**122**	P		**Pg**	**18 42 41.1**	**+0.1**
KIBS	**BOLU**	**0.80**	**300**	P		**Pg**	**18 42 42.5**	**+0.2**
DERS	**Karabk-Eskip**	**0.84**	**349**	P		**Pg**	**18 42 43.0**	**-0.1**
DERS				S		**Sb**	**18 42 55.5**	**+0.1**
KKUL	**Konya-Kulu**	**0.86**	**172**	S		**Sb**	**18 42 55.9**	**0.0**
DELI	**KIRIKKALE**	**0.89**	**91**	P		**Pg**	**18 42 43.9**	**0.0**
YUVA	**Yuva-Kibriscik**	**0.90**	**294**	Pg		**Pb**	**18 42 44.6**	**-0.3**
BCAM	**Yenicaga**	**0.95**	**326**	P		**Pg**	**18 42 45.0**	**-0.2**
KAMT	**Kaman**	**0.98**	**132**	Pg		**Pg**	**18 42 45.5**	**-0.2**
YENC	**ankr-Yen**	**1.05**	**51**	P		**Pg**	**18 42 46.9**	**-0.2**
AKPI	**Kirsehir/Akpin**	**1.08**	**118**	P		**Pg**	**18 42 47.1**	**-0.5**
AKPI				S		**Sb**	**18 43 02.3**	**0.0**
BOLU	**Bolu-Merkez-Mu**	**1.12**	**312**	P		**Pg**	**18 42 48.3**	**-0.1**
BOLU				S		**Sb**	**18 43 04.2**	**+0.7**
SUNG	**orum-Sungurl**	**1.15**	**81**	P		**Pb**	**18 42 48.9**	**-0.1**
SUNG				S		**Sb**	**18 43 04.6**	**+0.5**
KBUK	**KARABUK-Merkez**	**1.22**	**355**	P		**Pg**	**18 42 49.8**	**-0.4**
SAFT	**Safranbolu**	**1.22**	**357**	Pn		**Pn**	**18 42 50.9**	**+0.6**
KIRS	**Kirsehir-Merke**	**1.26**	**135**	P		**Pg**	**18 42 50.2**	**-0.8**
KIRS				S		**Sg**	**18 43 06.2**	**-1.1**
DEVR	**Zonguldak/Devr**	**1.27**	**332**	P		**Pg**	**18 42 50.3**	**-0.9**
MDUB	**Mudurnu**	**1.28**	**291**	Pn		**Pn**	**18 42 51.8**	**+0.6**
MDUB	**Mudurnu**	**1.28**	**291**	Pn		**Pg**	**18 42 50.7**	**-0.8**
CDAG	**Cicekdag**	**1.30**	**107**	P		**Pn**	**18 42 50.6**	**-0.9**
CDAG				S		**Sg**	**18 43 08.5**	**-0.1**
CTIK	**Konya-Celtik**	**1.32**	**222**	P		**Pn**	**18 42 51.5**	**-0.3**
CBEY	**Konya-Cihanbey**	**1.33**	**180**	P		**Pg**	**18 42 52.7**	**+0.2**
CBEY				S		**Sn**	**18 43 10.9**	**+0.9**
TOS	**Tosya**	**1.39**	**43**	Pn		**Pg**	**18 42 53.9**	**+0.3**
CIFT	**Cifteler, Eski**	**1.47**	**244**	Pn		**Pb**	**18 42 54.5**	**-0.1**
KMON	**Kastamonu**	**1.55**	**30**	Pn		**Pg**	**18 42 56.4**	**+0.3**
AKSY	**AKSARAY - Alti**	**1.57**	**150**	P		**Pn**	**18 42 55.5**	**+0.3**
YOZG	**Bozok Univ. Me**	**1.58**	**98**	P		**Pb**	**18 42 56.1**	**-0.4**
YOZG				S		**Sn**	**18 43 16.2**	**+0.1**
KDHN	**Kadinhani**	**1.58**	**199**	P		**Pn**	**18 42 55.8**	**+0.4**
MCUR	**KIREHR**	**1.61**	**122**	P		**Pn**	**18 42 56.3**	**+0.5**
MCUR				S		**Sn**	**18 43 17.0**	**+0.2**
BTIN	**Bartın**	**1.66**	**346**	P		**Pb**	**18 42 57.3**	**-0.4**
KAGI	**orum-Kargı**	**1.71**	**49**	P		**Pn**	**18 42 57.8**	**+0.7**
KAGI				S		**Sn**	**18 43 19.5**	**+0.3**
COAL	**Corum-Alaca**	**1.72**	**82**	P		**Pb**	**18 42 58.4**	**-0.4**
COAL				S		**Sn**	**18 43 19.9**	**+0.4**
AYAZ	**Ayas K¶y, M**	**1.73**	**67**	P		**Pn**	**18 42 58.1**	**+0.7**
AYAZ				S		**Sn**	**18 43 20.2**	**+0.5**
SEYI	**Kastamonu-Seyd**	**1.77**	**24**	P		**Pn**	**18 42 58.6**	**+0.6**
GULT	**Gulveren**	**1.77**	**284**	Pn		**Pb**	**18 42 59.0**	**-0.7**
KOZK	**Kozakli-Nevseh**	**1.81**	**116**	Pn		**Pb**	**18 43 00.3**	**-0.1**
KURC	**Kurucasile-Bar**	**1.82**	**359**	Pn		**Pb**	**18 42 59.9**	**-0.5**
LADK	**Ladik-KONYA**	**1.85**	**190**	Pn		**Pb**	**18 43 00.5**	**-0.5**
CIDE	**Kastamonu/Cide**	**1.86**	**4**	P		**Pb**	**18 43 00.2**	**-1.0**
GPA	**Golpazari**	**1.90**	**279**	Pn		**Pb**	**18 43 01.0**	**-0.9**
SIRC	**Yozgat**	**1.96**	**110**	P		**Pb**	**18 43 02.2**	**-0.8**
SIRC				S		**Sb**	**18 43 27.3**	**-0.3**
SAUV	**Serdivan-Sakar**	**2.00**	**292**	Pn		**Pb**	**18 42 02.3**	**-1.2**
YOZ	**Yozgat**	**2.00**	**100**	Pn		**Pb**	**18 43 02.9**	**-0.8**
AVNS	**Nevsehir-Avano**	**2.02**	**126**	P		**Pb**	**18 43 02.9**	**-1.1**
BOYA	**Sinop/Boyabat-**	**2.

comp=Z,3.4nm,0.7s,baz=10,slow=11,SNR=6.8
BDFB LR LR 19 01 42.0
comp=Z,280nm,21.2s,baz=19,slow=35
comp=Z,3.4nm,0.7s
BDFB Brasilia 25.51 200 P **P** **18 52 17.4 -1.7**
BDFB pmax pmax
comp=Z,26nm,1.2s
PDRB Porto dos Gac 26.42 221 *eP* **P** **18 52 27.1 -0.1**
DIAM Diamantina, MG 27.02 189 *eP* **P** **18 52 32.2 -0.5**
ARAG Araguaiana, MT 27.06 207 *eP* **P** **18 52 33.8 +0.9**
SJMB Sao Joao De Ma 27.15 184 *eP* **P** **18 52 34.6 +0.8**
HUMP Col San Antoni 27.38 293 P **P** **18 52 39.1 +3.2**
SJG San Juan 27.65 293 P **P** **18 52 37.7 -0.6**
SJG IAmb IAmb 18 52 54.0
comp=Z,28nm,1.2s
SJG San Juan 27.65 293 LR LR 19 01 47.2
comp=Z,744nm,20.7s,baz=141,slow=32
SJG San Juan 27.65 293 P **P** **18 52 37.7 -0.6**
SJG pmax pmax
comp=Z,28nm,1.2s
RIB01 Linhares ES 27.72 182 *eP* **P** **18 52 39.7 +0.9**
IPMB Ipameri, GO 27.77 198 *eP* **P** **18 52 40.0 +0.6**
CELP Cerrillos 28.03 292 P **P** **18 52 42.9 +1.2**
CELP IAmb IAmb 18 52 48.5
comp=Z,65nm,1.6s
BAUV El Baul 28.29 273 **P** **18 52 42.8 -1.3**
SALV Santo Antonio 29.16 214 *eP* **P** **18 52 52.5 +0.7**
H10N3 ASCENSION HYDR 29.70 123 T T 19 24 24.3
baz=302,slow=75,SNR=16
H10N2 ASCENSION HYDR 29.71 123 T T 19 24 23.8
baz=302,slow=75,SNR=17
VILB Vilhena 29.71 224 *eP* **P** **18 52 57.3 +0.6**
H10N1 ASCENSION HYDR 29.73 123 T T 19 24 25.5
baz=302,slow=75,SNR=16
PP1B Ponte de Pedra 30.15 210 *eP* **P** **18 53 01.3 +0.7**
H10S3 ASCENSION HYDR 30.18 125 T T 19 24 54.9
baz=297,slow=74,SNR=11
H10S2 ASCENSION HYDR 30.20 125 T T 19 24 58.1
baz=283,slow=74,SNR=15
BB19B Bebedouro 30.77 197 *eP* **P** **18 53 07.7 +1.6**
PTLB Pontes e Lacer 30.83 219 **P** **18 53 07.9 +1.3**
PTLB IAmb IAmb 18 53 15.1
comp=Z,30nm,1.6s
PTLB Pontes e Lacer 30.83 219 *eP* **P** **18 53 07.9 +1.3**
SDV Santo Domingo 30.85 273 LR LR 19 05 48.5
comp=Z,347nm,20.1s,baz=98,slow=37
VAS01 Vassouras-RJ 30.90 187 *eP* **P** **18 53 07.9 +0.8**
PMOZ Porto Moniz, M 31.72 37 *e*LQ LQ 19 00 02.3
PMOZ *e*LR LR 19 01 25.8
PMOZ *i* IAMs_20 IAMs_20 19 02 22.6
comp=Z,211nm,20.0s
RPRD Ribas do Rio P 32.10 206 *eP* **P** **18 53 18.6 +1.0**
SIV San Ignacio 32.48 221 LR LR 19 06 05.2
comp=Z,573nm,20.8s,baz=94,slow=36
BDQN Bodoquena, MS 33.49 210 *eP* **P** **18 53 31.4 +1.5**
PET01 Itanhaem-SP 33.54 193 *eP* **P** **18 53 31.0 +0.8**
LDASE Londrina, Braz 33.76 200 *eP* **P** **18 53 33.2 +1.0**
DBIC Dimbokro 34.31 91 P **P** **18 53 35.8 -1.3**
DBIC Dimbokro 34.31 91 P **P** **18 53 36.1 -1.0**
comp=Z,11nm,0.9s,baz=304,slow=11,SNR=9.2
DBIC LR LR 19 04 00.6
comp=Z,595nm,21.6s,baz=275,slow=30
comp=Z,11nm,0.9s
DBIC Dimbokro 34.31 91 P **P** **18 53 35.8 -1.3**
DBIC pmax pmax
comp=Z,68nm,1.7s
AMBA Amambai (Brazi 34.81 206 *eP* **P** **18 53 41.9 +0.5**
ROSC El Rosal 34.84 266 P **P** **18 53 41.6 -0.6**
ROSC El Rosal 34.84 266 P **P** **18 53 42.9 +0.6**
comp=Z,9.8nm,0.7s,baz=116,slow=5.8,SNR=4.3
ROSC LR LR 19 07 44.2
comp=Z,841nm,22.0s,baz=62,slow=36
comp=Z,9.8nm,0.7s
ROSC El Rosal 34.84 266 P **P** **18 53 41.6 -0.6**
ROSC pmax pmax
comp=Z,77nm,1.9s
MURT Porto Murtinho 34.94 210 *eP* **P** **18 53 43.8 +1.4**
PTGB Pitanga 35.30 200 *eP* **P** **18 53 45.4 -0.2**
FLOC Florencia 36.72 261 P **P** **18 53 59.2 +1.3**
CZSB Cruzeiro do Su 36.91 245 **P** **18 53 57.6 -1.8**
CZSB IAmb IAmb 18 54 06.8
comp=Z,28nm,1.0s
CZSB Cruzeiro do Su 36.91 245 *eP* **P** **18 54 00.3 +0.8**
SJPY San Joaquin 37.11 206 *eP* **P** **18 54 01.9 +0.9**
LPAZ La Paz 37.64 229 **P** **18 54 06.7 +0.3**
LPAZ La Paz 37.64 229 P **P** **18 54 07.4 +1.0**
comp=Z,3.9nm,0.8s,baz=36,slow=6.4,SNR=13
LPAZ LR LR 19 09 15.9
comp=Z,251nm,20.7s,baz=53,slow=36
comp=Z,3.9nm,0.8s
LPAZ La Paz 37.64 229 P **P** **18 54 06.7 +0.3**
LPAZ pmax pmax
comp=Z,25nm,1.2s
LPAZ La Paz 37.64 229 *eP* **P** **18 54 07.1 +0.8**
ITAB Concordia 37.66 199 *eP* **P** **18 54 07.0 +1.4**
CPUP Villa Florida 38.80 206 P **P** **18 54 14.8 -0.5**
CPUP Villa Florida 38.80 206 P **P** **18 54 15.0 -0.2**
comp=Z,0.5nm,0.8s,baz=270,slow=7.3,SNR=4.0
CPUP LR LR 19 10 19.4
comp=Z,112nm,18.4s,baz=244,slow=36
comp=Z,0.5nm,0.8s
CPUP Villa Florida 38.80 206 P **P** **18 54 14.8 -0.5**
CPUP pmax pmax
comp=Z,3.0nm,1.5s
CPUP Villa Florida 38.80 206 *eP* **P** **18 54 15.9 +0.7**
ACRG Accra 39.01 92 P **P** **18 54 15.7 -1.6**
ACRG IAmb IAmb 18 54 29.3
comp=Z,36nm,1.2s
CNLB Canela 39.23 196 *eP* **P** **18 54 19.4 +0.4**
OTAV Otavalo 39.74 260 **P** **18 54 25.3 +1.4**
OTAV Otavalo 39.74 260 P **P** **18 54 25.3 +1.4**
OTAV pmax pmax
comp=Z,11nm,1.3s
OTAV Otavalo 39.74 260 *eP* **P** **18 54 25.4 +1.4**
PB16 IPOC Station P 39.95 228 P **P** **18 54 25.5 -0.1**
MD01 Midelt array s 40.14 48 P **P** **18 54 26.4 -0.2**
MDT Midelt 40.22 48 P **P** **18 54 27.0 -0.3**
comp=Z,1.1nm,0.4s,baz=268,slow=9.9,SNR=4.9
MDT LR LR 19 09 11.6
comp=Z,248nm,19.5s,baz=238,slow=33
comp=Z,1.1nm,0.4s
PBDV Barranco-do-Ve 40.35 40 *eP* P 18 54 35.7 +7.6
PVAQ Vaqueiros 40.58 40 *e*LQ LQ 19 03 44.8
PVAQ *e*LR LR 19 05 21.4
PVAQ *i* IAMs_20 IAMs_20 19 10 38.8
comp=Z,334nm,18.0s
TORD Torodi Ar. Bea 40.60 80 P **P** **18 54 29.8 -0.7**
TORD Torodi Ar. Bea 40.60 80 P **P** **18 54 29.0 -1.5**
comp=Z,1.5nm,0.8s,baz=277,slow=9.8,SNR=9.9
TORD LR LR 19 09 25.6
comp=Z,824nm,19.5s,baz=268,slow=33
comp=Z,1.5nm,0.8s
PARRA Arraiolos 40.64 37 *eP* P 18 54 43.8 +13
EVO Evora 41.08 38 *eP* P 18 54 42.2 +8.1
COHC Cochancay 41.20 256 **P** **18 54 33.9 -1.5**
PMTG Montargil 41.29 38 *eP* **P** **18 54 40.1 +4.3**
PBAR Barrancos 41.47 40 *eP* **P** **18 54 39.1 +1.8**
ATAH Atahualpa 41.86 249 LR LR 19 13 06.9
comp=Z,207nm,19.1s,baz=60,slow=38
PMRV Marv??o 42.02 38 *eP* P 18 54 50.9 +9.1
PMRV *e*LQ LQ 19 02 51.0
PMRV *e*LR LR 19 05 45.6
PMRV *i* IAMs_20 IAMs_20 19 08 03.1
comp=Z,173nm,22.0s
PB09 IPOC Station P 42.03 224 P **P** **18 54 41.6 -0.7**
NNA Nana 42.44 242 LR LR 19 12 14.3
comp=Z,376nm,21.5s,baz=68,slow=36
NNA Nana 42.44 242 *i* P **P** **18 54 44.9 -0.7**
PVIS Viseu 42.53 36 *eP* P 18 54 54.2 +8.1
MTE Manteigas 42.53 37 *eP* P 18 54 54.6 +8.6
MTE *e*LQ LQ 19 04 09.5
MTE *e*LR LR 19 05 40.6
MTE *i* IAMs_20 IAMs_20 19 08 28.8
comp=Z,186nm,22.0s
POLO Lamas de Olo 43.02 35 *eP* P 18 54 57.9 +7.9
PSAL Palomas, Salto 43.10 203 *eP* **P** **18 54 51.4 +0.8**
PGAV Gavieira, Arco 43.13 34 *e*LQ LQ 19 04 38.8
PGAV *e*LR LR 19 06 38.3
PGAV *i* IAMs_20 IAMs_20 19 08 18.9
comp=Z,199nm,20.0s
MVO Moncorvo 43.32 36 *e*LQ LQ 19 04 28.4
MVO *e*LR LR 19 06 21.2
MVO *i* IAMs_20 IAMs_20 19 09 22.4
comp=Z,167nm,20.0s
ESDC Sonseca Array 44.29 40 **P** **18 54 58.6 -1.7**
comp=Z,8.9nm,1.1s
TUL3 Leonard 57.92 307 IAmb IAmb 18 56 44.5
comp=Z,10nm,0.8s
FUR Furstenfeldbru 58.05 38 *e*P **P** **18 56 44.9 +1.5**
comp=Z,78nm,1.9s,baz=242,slow=7.0
FUR *e*L L 19 18 48.7
comp=Z,130nm,19.5s
ABTA Abfaltersbach 58.22 40 *e*P **P** **18 56 45.2 +0.5**
comp=Z,13nm,1.4s,SNR=8.8
LESA Schwarzleotal 58.59 39 *e*P **P** **18 56 48.6 +1.3**
comp=Z,9.0nm,1.3s,SNR=9.0
GRFO Grafenberg 58.68 36 P **P** **18 56 49.7 +1.9**
GRFO IAmb IAmb 18 56 50.5
comp=Z,21nm,1.4s
GRFO Grafenberg 58.68 36 P **P** **18 56 49.7 +1.9**
GRFO pmax pmax
comp=Z,21nm,1.4s
GRF Grafenberg Arr 58.68 36 *e*P **P** **18 56 49.2 +1.4**
comp=Z,22nm,1.4s,baz=242,slow=7.0
GRF *e*L L 19 21 35.7
comp=Z,72nm,20.9s
OK052 Battle Ridge R 58.74 307 IAmb IAmb 18 56 55.5
comp=Z,20nm,1.2s
RJOB Jochberg 58.79 39 *e*P **P** **18 56 48.9 +0.2**
comp=Z,8.8nm,1.2s,baz=242,slow=7.0
KBA Koelnbreinsper 58.87 39 *e*P **P** **18 56 50.3 +0.9**
comp=Z,3.9nm,0.6s
MYKA Terra Mystica 58.88 40 *e*P **P** **18 56 49.9 +0.6**
comp=Z,15nm,1.2s,SNR=10
FRB Frobisher Bay 58.89 345 LR LR 19 18 41.1
comp=Z,135nm,20.6s,baz=134,slow=32
RETH Rethem/Aller, 59.09 32 *e*P **P** **18 56 52.4 +1.9**
comp=Z,61nm,2.2s,baz=242,slow=7.0
ROTZ Rotzenmuhle 59.29 36 *e*P **P** **18 56 53.3 +1.2**
comp=Z,5.7nm,1.6s,baz=242,slow=7.0
BIOA Bad Ischl, Aus 59.30 39 *e*P **P** **18 56 52.7 +0.6**
comp=Z,6.6nm,1.0s,SNR=10
MANZ Manzenberg 59.33 36 *e*P **P** **18 56 53.5 +1.2**
comp=Z,2.5nm,1.6s,baz=242,slow=7.0
PLPT Palo Pinto 59.33 303 IAmb IAmb 18 56 59.4
comp=Z,14nm,1.1s
MOX Moxa 59.34 35 P **P** **18 56 54.4 +2.1**
MOX Moxa 59.34 35 *e*P **P** **18 56 53.9 +1.5**
comp=Z,20nm,1.7s,baz=242,slow=7.0
MOX *e*L L 19 20 38.5
comp=Z,142nm,20.2s
NRDL Niedersach Rie 59.37 33 *e*P **P** **18 56 54.7 +2.3**
comp=Z,48nm,1.9s,baz=242,slow=7.0
OBKA Obir 59.42 40 *e*P **P** **18 56 54.5 +1.4**
comp=Z,20nm,1.5s
WET Wettzell 59.42 37 *e*L L 19 16 26.1
comp=Z,132nm,21.7s
ASSE Asse, Remlinge 59.50 33 *e*P **P** **18 56 55.0 +1.7**
comp=Z,69nm,2.3s,baz=242,slow=7.0
PLN Plauen 59.58 35 *e*P **P** **18 56 55.5 +1.5**
comp=Z,5.8nm,1.5s,baz=242,slow=7.0
BRDY Brady 59.66 301 P **P** **18 56 53.0 -1.9**
BRDY IAmb IAmb 18 57 01.6
comp=Z,9.5nm,0.9s
TANN Tannenbergstha 59.72 36 *e*P **P** **18 56 56.8 +1.7**
comp=Z,28nm,1.6s,baz=242,slow=7.0
MOA Molln 59.75 39 *e*P **P** **18 56 55.8 +0.6**
comp=Z,6.9nm,1.1s,SNR=8.4
SOKA Soboth 59.79 40 *e*P **P** **18 56 55.8 +0.1**
comp=Z,7.2nm,1.3s
GEC2 GERESS Array S 59.79 38 *e*P **P** **18 56 56.6 +0.9**
comp=Z,19nm,1.9s,baz=242,slow=7.0
GERES GERESS Array B 59.79 38 P **P** **18 56 56.2 +0.6**
comp=Z,0.4nm,0.7s,baz=238,slow=6.3,SNR=5.9
GERES LR LR 19 21 44.8
comp=Z,92nm,18.3s,baz=258,slow=35
comp=Z,0.4nm,0.7s
KHC Kasperske Hory 59.84 37 *ce*P **P** **18 56 57.8 +1.9**
KHC pmax pmax
comp=Z,10.0nm,2.5s
CKRC Cesky Krumlov 60.15 38 AMS AMS 19 21 30.0
comp=Z,100nm,14.5s
JCT Junction City 60.22 300 P **P** **18 56 58.5 -0.3**
JCT Junction City 60.22 300 P **P** **18 56 58.5 -0.3**
JCT pmax pmax
comp=Z,9.0nm,1.0s
GORT1 Trebel 60.25 33 *e*P **P** **18 57 00.2 +1.8**
comp=Z,35nm,1.6s,baz=242,slow=7.0
CLL Collm 60.41 35 *i* P **P** **18 57 01.7 +2.0**
CLL *i* 18 57 06.6
CLL pmax pmax
comp=Z,20nm,2.0s
CLL Collm 60.41 35 *e*P **P** **18 57 00.9 +1.2**
comp=Z,23nm,2.0s,baz=242,slow=7.0
CLL *e*L L 19 20 50.7
comp=Z,160nm,18.2s
CLL Collm 60.41 35 *i* P **P** **18 57 01.7 +2.0**
comp=Z,20nm,2.0s
CLL *i* x x 18 57 06.6
comp=Z,23nm,1.9s
CLL LmV 19 20 00.0
comp=Z,200nm,18.2s
PRU Pruhonice 60.76 37 AMS AMS 19 21 30.0
comp=Z,100nm,21.3s
BRG Berggiesshubel 60.77 36 *e*P **P** **18 57 04.9 +2.7**
comp=Z,17nm,1.7s,baz=242,slow=7.0
BRG Berggiesshubel 60.77 36 *e*P **P** **18 57 05.6 +3.4**
BRG Amp 18 57 07.1
comp=Z,17nm,1.7s
BRG Berggiesshubel 60.77 36 P P 18 57 10.4 +8.3
BRG Amp 18 57 12.1
comp=Z,11nm,1.5s
CONA Conrad Observa 60.77 39 *e*P **P** **18 57 02.7 +0.3**
comp=Z,9.0nm,1.4s,SNR=7.5
APMT Aspermont 60.91 303 P **P** **18 57 02.6 -0.9**
APMT IAmb IAmb 18 57 10.4
comp=Z,11nm,0.9s
RONA Rosalia, Austr 60.96 40 *e*P **P** **18 57 04.2 +0.6**
comp=Z,7.3nm,1.3s,SNR=8.4
PDG Podgorica 61.31 46 IAmb IAmb 18 57 15.9
comp=Z,14nm,1.0s
KRUC Moravsky 61.52 38 *e*P **P** **18 57 08.0 +0.7**
VRAC Vranov 61.73 38 P **P** **18 57 09.3 +0.6**
comp=Z,2.9nm,0.8s,baz=257,slow=6.8,SNR=9.2
VRAC LR LR 19 21 55.2
comp=Z,119nm,19.5s,baz=242,slow=34
comp=Z,2.9nm,0.8s
VRAC Vranov 61.73 38 *e*P **P** **18 57 09.8 +1.1**
KSP Ksiaz 62.12 36 *e*P **P** **18 57 12.7 +1.4**
SAND Sanderson 62.15 299 IAmb IAmb 18 57 19.4
comp=Z,15nm,1.3s
JAVC Velka Javorina 62.23 39 *e*P **P** **18 57 13.2 +1.1**
SRO Srobarova 62.28 40 *e*P **P** **18 57 14.3 +1.9**
SRO Srobarova 62.28 40 *e*P **P** **18 57 14.3 +1.9**
ULM Lac du Bonnet 62.34 323 P **P** **18 57 11.1 -1.7**
comp=Z,5.2nm,0.8s,baz=108,slow=6.3,SNR=7.7
comp=Z,5.2nm,0.8s
ULM Lac du Bonnet 62.34 323 *i* P **P** **18 57 16.3 +3.6**
MORC Moravsky Berou 62.47 38 *e*P **P** **18 57 14.9 +1.2**
TSUM Tsumeb 62.57 117 LR LR 19 18 04.7
comp=Z,687nm,21.1s,baz=294,slow=30
VYHS Vyhne 62.84 39 *e*P **P** **18 57 18.1 +2.0**
VYHS Vyhne 62.84 39 *e*P **P** **18 57 18.1 +2.0**
MNHN Monahans 62.85 301 IAmb IAmb 18 57 18.2
comp=Z,13nm,1.4s
MSTX Muleshoe 63.20 304 IAmb IAmb 18 57 26.3
comp=Z,14nm,1.2s
TXAR Lajitas Array 63.43 298 **P** **18 57 20.2 -0.3**
TXAR Lajitas Array 63.43 298 P **P** **18 57 20.4 -0.1**
comp=Z,0.9nm,0.6s,baz=106,slow=6.7,SNR=19
TXAR LR LR 19 25 18.5
comp=Z,21nm,21.5s,baz=70,slow=36
comp=Z,0.9nm,0.6s
TXAR Lajitas Array 63.43 298 P **P** **18 57 20.2 -0.3**
TX31 Lajitas Ar. Si 63.43 298 IAmb IAmb 18 57 27.5
comp=Z,28nm,2.0s
LANS Liptovska Anna 63.44 39 *e*P **P** **18 57 23.9 +3.7**
LANS Liptovska Anna 63.44 39 *e*P **P** **18 57 23.9 +3.7**
ALPN Alpine 63.50 300 IAmb IAmb 18 57 28.7
comp=Z,22nm,1.4s
RTBA Rita Blanca 63.54 306 IAmb IAmb 18 57 27.7
comp=Z,21nm,1.4s
SUMG Summit 63.96 0 P **P** **18 57 24.4 +0.8**
SUMG Summit 63.96 0 P **P** **18 57 24.4 +0.8**
SUMG pmax pmax
comp=Z,20nm,0.8s
SUMG Summit 63.96 0 *i* P **P** **18 57 23.0 -0.6**
OJC Ojcow 63.99 38 *e*P **P** **18 57 27.0 +3.2**
NIE Niedzica 64.05 39 *e*P **P** **18 57 27.0 +2.8**
NOA NORSAR Array B 64.25 25 P **P** **18 57 25.8 +0.6**
comp=Z,0.5nm,0.8s,baz=239,slow=6.8,SNR=2.4
NOA LR LR 19 21 15.0

comp=Z,77nm,20.1s,baz=235,slow=32
comp=Z,0.5nm,0.8s
HFS Hagfors 64.84 26 P **P 18 57 29.5 +0.4**
comp=Z,2.8nm,0.9s,baz=302,slow=2.8,SNR=4.2
HFS LR LR 19 23 48.2
comp=Z,70nm,18.5s,baz=234,slow=34
comp=Z,2.8nm,0.9s
RDO Rodhopi 65.60 49 IAmb IAmb 18 57 43.4
comp=Z,21nm,1.3s
ISCO Idaho Springs 66.30 310 IAmb IAmb 18 57 46.9
comp=Z,18nm,1.4s
ISCO Idaho Springs 66.30 310 P **P 18 57 42.3 +2.9**
ANMO Albuquerque 66.34 304 LR LR 19 23 21.8
comp=Z,310nm,21.6s,baz=186,slow=33
ANMO Albuquerque 66.34 304 *i* P **P 18 57 40.0 +0.5**
ANMO pmax pmax
comp=Z,11nm,1.9s
BURAR Bucovina Array 66.70 42 P **P 18 57 42.1 +0.6**
BURAR Bucovina Array 66.70 42 P **P 18 57 42.1 +0.6**
BURAR pmax pmax
comp=Z,3.0nm,1.1s
MLR Muntele Rosu 66.73 44 LR LR 19 25 50.5
comp=Z,50nm,18.9s,baz=258,slow=35
S22A 4UR Ranch, Cre 66.96 307 IAmb IAmb 18 57 52.0
comp=Z,20nm,1.4s
SUW Suwalki 67.17 35 *e*P **P 18 57 46.5 +2.3**
121A Cookes Peak, D 67.22 302 IAmb IAmb 18 57 48.7
comp=Z,11nm,1.2s
FFC Flin Flon 67.36 326 **P 18 57 45.9 +0.5**
FFC IAmb IAmb 18 57 52.7
comp=Z,19nm,1.1s
FFC Flin Flon 67.36 326 P **P 18 57 45.9 +0.5**
FFC pmax pmax
comp=Z,19nm,1.2s
MVCO Mesa Verde 68.22 307 IAmb IAmb 18 58 11.2
comp=Z,14nm,1.3s
O20A White River Ci 68.35 310 IAmb IAmb 18 58 00.2
comp=Z,14nm,1.1s
PV18 Skein Mesa, Pa 68.65 308 IAmb IAmb 18 57 57.1
comp=Z,18nm,1.3s
PV20 West Nyswonger 68.70 308 IAmb IAmb 18 58 02.7
comp=Z,25nm,1.6s
ISP Isparta 68.97 53 *i* P **P 18 57 57.9 +1.9**
ISP pmax pmax
comp=Z,6.0nm,1.1s
LPIG La Paz 69.14 292 LR LR 19 29 25.4
comp=Z,52nm,18.4s,baz=54,slow=37
X18A Snowflake 69.17 304 IAmb IAmb 18 58 05.1
comp=Z,29nm,1.6s
PDAR Pinedale Array 69.66 312 P **P 18 57 59.9 -0.5**
PDAR Pinedale Array 69.66 312 P **P 18 58 00.6 +0.2**
comp=Z,0.5nm,0.8s,baz=103,slow=6.6,SNR=5.8
PDAR LR LR 19 24 42.8
comp=Z,266nm,21.7s,baz=108,slow=33
comp=Z,0.5nm,0.8s
RLMT Red Lodge 69.77 315 IAmb IAmb 18 58 08.3
comp=Z,16nm,1.4s
P18A Preston Nutter 69.83 309 IAmb IAmb 18 58 09.9
comp=Z,27nm,1.4s
AKASG Malin Array Be 69.93 39 P **P 18 58 01.8 +0.3**
comp=Z,0.3nm,0.4s,baz=254,slow=6.8,SNR=5.8
AKASG LR LR 19 25 36.2
comp=Z,95nm,22.0s,baz=263,slow=33
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 69.93 39*ce*P **P 18 58 02.9 +1.4**
AKBB Malin Array Si 69.93 39 *i* P **P 18 58 03.3 +1.8**
AKBB pmax pmax
comp=Z,2.0nm,0.6s
SRU San Rafael Swe 69.99 308 IAmb IAmb 18 58 09.7
comp=Z,23nm,1.7s
HMU Henry Mountain 70.06 307 IAmb IAmb 18 58 11.3
comp=Z,26nm,1.5s
BSUT Blindstream Ca 70.31 310 IAmb IAmb 18 58 11.9
comp=Z,20nm,1.4s
X16A Lo Mia Camp, P 70.39 303 IAmb IAmb 18 58 13.0
comp=Z,20nm,1.6s
WUAZ Wupatki 70.40 305 IAmb IAmb 18 58 13.7
comp=Z,16nm,1.1s
FINES FINESS Array B 70.92 28 P **P 18 58 07.5 +0.1**
comp=Z,2.3nm,1.1s,baz=262,slow=13,SNR=4.3
FINES LR LR 19 27 56.3
comp=Z,75nm,19.1s,baz=240,slow=35
comp=Z,2.3nm,1.1s
HWUT Hardware Ranch 71.02 311 IAmb IAmb 18 58 15.7
comp=Z,29nm,1.5s
LSZ Lusaka 71.05 109 LR LR 19 24 05.1
comp=Z,178nm,18.9s,baz=318,slow=32
MTPU Mount Pierson 71.20 307 IAmb IAmb 18 58 18.0
comp=Z,22nm,1.7s
BR131 Keskin Array S 71.56 51 IAmb IAmb 18 58 20.7
comp=Z,17nm,1.3s
BR131 Keskin Array S 71.56 51 *i* P **P 18 58 13.2 +1.4**
BRTR Keskin Array B 71.56 51 **P 18 58 12.3 +0.5**
BRTR Keskin Array B 71.56 51 P **P 18 58 12.2 +0.3**
comp=Z,1.4nm,0.9s,baz=256,slow=5.0,SNR=12
comp=Z,1.4nm,0.9s
BRTR Keskin Array B 71.56 51*c i*P **P 18 58 13.3 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
HVU Hansel Valley 71.94 311 IAmb IAmb 18 58 21.2
comp=Z,20nm,1.5s
CCUT Cedar City 72.11 307 IAmb IAmb 18 58 23.4
comp=Z,20nm,1.7s
EIL Elat 72.26 62 LR LR 19 28 57.4
comp=Z,194nm,21.4s,baz=247,slow=35
W13A Hualapai Mount 72.43 304 IAmb IAmb 18 58 25.6
comp=Z,24nm,1.8s
BOSA Boshof 72.46 124 P **P 18 58 17.7 +0.3**
comp=Z,6.1nm,1.2s,baz=305,slow=2.7,SNR=4.1
BOSA LR LR 19 23 58.2
comp=Z,204nm,21.2s,baz=314,slow=31
comp=Z,6.1nm,1.2s
MMAI Mount Meron Ar 72.68 58 LR LR 19 30 51.1
comp=Z,95nm,20.3s,baz=268,slow=36
SPR3 Spring Creek 3 72.94 308 IAmb IAmb 18 58 29.1
comp=Z,17nm,1.5s
ESPZ Base Esperanza 73.00 188 P **P 18 58 19.1 -0.5**
RES Resolute Bay 73.05 347 LR LR 19 27 42.1
comp=Z,109nm,19.5s,baz=88,slow=34
BNN Bunyan 73.22 52 IAmb IAmb 18 58 30.7
comp=Z,20nm,1.4s
HLID Hailey 73.28 313 IAmb IAmb 18 58 29.8
comp=Z,18nm,1.4s
IRM Iron Mountain 73.44 303 IAmb IAmb 18 58 32.0
comp=Z,16nm,1.3s
BC3 Big Chuckawall 73.70 303 IAmb IAmb 18 58 32.5
comp=Z,26nm,1.6s
ELK Elko 73.72 310 IAmb IAmb 18 58 32.5
comp=Z,20nm,1.5s
ELK Elko 73.72 310 LR LR 19 27 04.4
comp=Z,276nm,22.0s,baz=82,slow=33
ELK Elko 73.72 310 P **P 18 58 25.6 +0.8**
VTX Valle De La Tr 73.97 300 IAmb IAmb 18 58 34.8
comp=Z,34nm,1.8s
YUH Yuha Desert 74.09 301 IAmb IAmb 18 58 35.9
comp=Z,22nm,1.5s
BELC Belle Mtn. Jos 74.15 303 IAmb IAmb 18 58 35.5
comp=Z,26nm,1.7s
TPNV Topopah Spring 74.39 306 IAmb IAmb 18 58 36.9
comp=Z,25nm,1.9s
PMD Palm Desert 74.47 302 IAmb IAmb 18 58 37.2
comp=Z,35nm,1.8s
PLID Pearl Lake 74.51 314 P **P 18 58 28.2 -1.2**
PFO Pinyon Flats O 74.53 302 LR LR 19 31 31.8
comp=Z,84nm,18.2s,baz=84,slow=36
PFO Pinyon Flats O 74.53 302 *i* P **P 18 58 32.6 +3.0**
WCT Wildcat Mounta 74.69 306 P **P 18 58 30.1 -0.2**
WCT IAmb IAmb 18 58 38.7
comp=Z,19nm,1.5s
FURC Furnace Creek, 74.88 305 IAmb IAmb 18 58 39.8
comp=Z,24nm,1.6s
OBN Obninsk 75.01 35 *e*P **P 18 58 33.0 +1.3**
OBN *i* 18 58 38.2
OBN pmax pmax
comp=Z,28nm,1.8s
OBN MLR MLR
comp=Z,73nm,18.0s
ARPR Arapgir-MALATY 75.16 52 P **P 18 58 31.4 -1.7**
TPH Tonopah 75.18 307 IAmb IAmb 18 58 41.8
comp=Z,18nm,1.3s
NEW Newport 75.47 318 LR LR 19 29 32.2
comp=Z,214nm,19.4s,baz=114,slow=34
NEW Newport 75.47 318 P **P 18 58 34.2 -0.4**
LRMC Laurel Mtn Rad 75.54 304 IAmb IAmb 18 58 43.2
comp=Z,30nm,1.9s
YKA Yellowknife Ar 75.61 332 P **P 18 58 33.2 -1.9**
YKA Yellowknife Ar 75.61 332 P **P 18 58 34.1 -0.9**
comp=Z,2.4nm,0.8s,baz=97,slow=5.5,SNR=12
YKA LR LR 19 29 59.8
comp=Z,150nm,18.4s,baz=116,slow=34
comp=Z,2.4nm,0.8s
MOS Moscow 75.68 35 *e*P **P 18 58 36.1 +0.6**
DSP Deep Springs 75.77 306 IAmb IAmb 18 58 44.8
comp=Z,30nm,1.7s
CWC Cottonwood Cre 75.86 305 IAmb IAmb 18 58 45.3
comp=Z,27nm,1.9s
NVAR Mina Array Bea 76.03 307 **P 18 58 38.2 0.0**
NVAR Mina Array Bea 76.03 307 P **P 18 58 38.0 -0.3**
comp=Z,0.7nm,0.8s,baz=90,slow=6.5,SNR=6.5
comp=Z,0.7nm,0.8s
ISA Isabella, Lake 76.18 305 IAmb IAmb 18 58 48.1
comp=Z,14nm,1.2s
LHV Little Huntoon 76.19 307 IAmb IAmb 18 58 47.8
comp=Z,15nm,1.3s
WVOR Wild Horse Val 76.32 312 IAmb IAmb 18 58 48.2
comp=Z,18nm,1.5s
WVOR Wild Horse Val 76.32 312 P **P 18 58 40.5 +0.8**
RPN Rapa Nui 76.37 239 LR LR 19 28 22.0
comp=Z,109nm,21.7s,baz=76,slow=33
KOPT Kop Dagi 76.84 51 IAmb IAmb 18 58 52.9
comp=Z,27nm,1.3s
WAKR Walker 76.92 308 IAmb IAmb 18 58 51.8
comp=Z,18nm,1.5s
KMBO Kilima Mbogo 77.00 93 LR LR 19 31 10.3
comp=Z,220nm,18.4s,baz=97,slow=35
KLMR Klimovskoe 77.18 30 *e*P **P 18 58 44.2 +0.3**
KLMR pmax pmax
comp=Z,22nm,1.6s
G06A Carlson Farm, 77.79 314 IAmb IAmb 18 58 56.8
comp=Z,26nm,1.4s
PINE Pine Mountain 78.02 313 IAmb IAmb 18 58 57.8
comp=Z,43nm,1.9s
KIV Kislovodsk 78.44 47 **P 18 58 53.3 +1.8**
KIV IAmb IAmb 18 59 00.6
comp=Z,23nm,1.3s
KIV Kislovodsk 78.44 47 *e*P **P 18 58 53.3 +1.8**
KIV pmax pmax
comp=Z,11nm,1.1s
KVAR Kislovodsk Arr 78.45 47 LR LR 19 34 32.1
comp=Z,33nm,19.6s,baz=34,slow=36
KBZ Khabaz 78.60 47 P **P 18 58 53.5 +1.4**
comp=Z,2.1nm,0.9s,baz=270,slow=7.9,SNR=4.4
comp=Z,2.1nm,0.9s
KBZ Khabaz 78.60 47*ce*P **P 18 58 53.4 +1.2**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
GOF Gofitskoye 78.68 46*ce*P **P 18 58 55.2 +2.5**
YBH Yreka Blue Hor 79.36 311 LR LR 19 30 48.9
comp=Z,13nm,21.6s,baz=92,slow=33
WRGLY Wrigley 79.72 333 IAmb IAmb 18 59 05.2
comp=Z,22nm,1.2s
WRGLY Wrigley 79.72 333 P **P 18 58 57.8 -0.1**
baz=91
KOTAN Kotaneelee Air 79.96 330 P **P 18 58 59.1 -0.2**
baz=90
GNI Garni 80.09 51 LR LR 19 36 22.6
comp=Z,44nm,19.8s,baz=272,slow=37
C36M Paulatuk 80.15 339 P **P 18 58 59.7 -0.4**
baz=92
A36M Sachs Harbour 80.62 342 P **P 18 59 02.2 -0.4**
baz=91
NAX Nakhchivan 80.72 52 P **P 18 59 07.3 +3.3**
ATD Arta Tunnel 80.81 80 LR LR 19 34 08.8
comp=Z,8.4nm,19.4s,baz=314,slow=35
GANJ Ganja 81.27 50 P **P 18 59 09.9 +3.1**
MNGR Mingechevir, A 81.84 50 P **P 18 59 13.1 +3.4**
SEKA Sheki 81.89 50 P **P 18 59 13.9 +3.8**
TGTN Hyland Airport 81.99 331 P **P 18 59 10.1 -0.1**
baz=87
RAYN Ar Rayn 82.01 67 **P 18 59 11.6 +0.5**
RAYN Ar Rayn 82.01 67 P **P 18 59 11.6 +0.5**
RAYN pmax pmax
comp=Z,48nm,2.0s
VNA3 Neumayer Olymp 82.08 171 ⇑P **P 18 59 10.9 +0.6**
comp=Z,8.9nm,0.8s
KIRV Kirov 82.15 32 LR LR 19 32 15.2
comp=Z,85nm,21.6s,baz=275,slow=33
KIRV Kirov 82.15 32 *i* P **P 18 59 12.8 +1.8**
VNA2 Neumayer--Watz 82.19 170 ⇑P **P 18 59 10.7 -0.1**
comp=Z,4.4nm,1.3s,baz=329,slow=7.0
AKT Akhty 82.27 49 *e*P **P 18 59 11.9 -0.3**
AKT *e* 18 59 17.4
AKT *e* 19 02 21.6
AKT pmax pmax
comp=Z,10.0nm,1.8s
BBB Bella Bella 82.50 322 LR LR 19 34 53.4
comp=Z,90nm,19.2s,baz=81,slow=35
DLBC Dease Lake 83.09 328 LR LR 19 33 01.9
comp=Z,78nm,20.7s,baz=116,slow=33
DLBC Dease Lake 83.09 328 P **P 18 59 15.8 -0.2**
baz=85,SNR=7.2
MMPY Sheldon Lake, 83.31 332 P **P 18 59 17.0 -0.1**
baz=84
LKRN Lenkeran, Azer 83.31 52 P **P 18 59 20.5 +3.0**
T35M Bob Quinn 83.34 327 P **P 18 59 17.1 -0.2**
baz=85
R33M Jennings River 83.49 329 IAmb IAmb 18 59 27.6
comp=Z,18nm,1.1s
R33M Jennings River 83.49 329 P **P 18 59 17.1 -1.0**
baz=84,SNR=7.7
INK Inuvik 83.63 338 LR LR 19 33 39.0
comp=Z,216nm,20.2s,baz=70,slow=34
INK Inuvik 83.63 338 P **P 18 59 18.1 -0.3**
baz=83
SNAA Sanae 83.63 169 ⇑P **P 18 59 18.0 -0.4**
comp=Z,154nm,0.7s
SNAA Sanae 83.63 169 **P 18 59 17.4 -1.0**
SNAA IAmb IAmb 18 59 26.4
comp=Z,11nm,1.0s
SNAA Sanae 83.63 169 P **P 18 59 18.2 -0.2**
comp=Z,5.4nm,1.0s,baz=337,slow=5.4,SNR=15
SNAA LR LR 19 28 28.5
comp=Z,96nm,20.6s,baz=18,slow=30
comp=Z,5.4nm,1.0s
SNAA Sanae 83.63 169*ce*P **P 18 59 17.7 -0.7**
SNAA pmax pmax
comp=Z,30nm,2.5s
S34M Telegraph Cree 83.72 328 IAmb IAmb 18 59 22.8
comp=Z,12nm,1.1s
S34M Telegraph Cree 83.72 328 P **P 18 59 18.3 -0.8**
baz=84
F31M Tsiigehtchic 83.82 337 P **P 18 59 19.3 -0.1**
baz=83
G31M Satah River 84.09 337 IAmb IAmb 18 59 23.7
comp=Z,12nm,1.0s
G31M Satah River 84.09 337 P **P 18 59 20.5 -0.4**
baz=82
Q32M Nakina River 84.20 329 IAmb IAmb 18 59 25.5
comp=Z,9.6nm,1.1s
Q32M Nakina River 84.20 329 P **P 18 59 21.5 -0.3**
baz=83
H31M Peel River 84.27 336 P **P 18 59 21.6 -0.2**
baz=82
V35K Ketchikan 84.27 325 P **P 18 59 21.9 -0.1**
baz=83
P33M Teslin, Yukon 84.32 330 IAmb IAmb 18 59 30.9
comp=Z,10nm,1.1s
P33M Teslin, Yukon 84.32 330 P **P 18 59 21.7 -0.6**
baz=83
WRAK Wrangell Islan 84.55 326 P **P 18 59 23.3 -0.1**
baz=83
F30M Barrier River 84.57 338 P **P 18 59 22.6 -0.8**
baz=81
M31M Drury Creek, Y 84.81 332 P **P 18 59 24.5 -0.2**
baz=82,SNR=11
T33K Petersburg 84.83 327 P **P 18 59 24.4 -0.4**
baz=82
G30M tAoh Zraii Nji 84.84 337 P **P 18 59 24.4 -0.4**
baz=80
P32M Atlin 84.85 329 P **P 18 59 24.7 -0.3**
baz=82
TROLL Troll, Antarti 84.95 168 ⇑P **P 18 59 25.7 +0.4**
comp=Z,120nm,0.6s
U33K Whale Pass 85.02 326 P **P 18 59 25.2 -0.5**
baz=82
CRAG Craig 85.11 325 P **P 18 59 25.7 -0.5**
baz=82
EPYK Eagle Plains 85.14 336 P **P 18 59 26.0 -0.3**
baz=80
I30M Mount Dempster 85.20 335 IAmb IAmb 18 59 34.8
comp=Z,11nm,1.0s
I30M Mount Dempster 85.20 335 P **P 18 59 26.4 -0.3**
baz=80
E29M Blow River 85.22 338 P **P 18 59 26.3 -0.2**
baz=79
WHY Whitehorse 85.27 331 **P 18 59 28.2 +1.1**
WHY Whitehorse 85.27 331 P **P 18 59 26.7 -0.4**
baz=81
J30M Hart River 85.29 335 IAmb IAmb 18 59 35.7
comp=Z,8.7nm,1.1s
J30M Hart River 85.29 335 P **P 18 59 26.6 -0.5**
baz=80
D28M Stokes Point 85.33 339 P **P 18 59 26.6 -0.5**
baz=78
R32K Eaglecrest 85.46 328 P **P 18 59 27.1 -0.9**
baz=81
G29M Pine Creek 85.55 337 P **P 18 59 28.0 -0.3**
baz=79
N31M Braeburn, Yuko 85.57 331 IAmb IAmb 18 59 31.6
comp=Z,16nm,1.2s
N31M Braeburn, Yuko 85.57 331 P **P 18 59 28.2 -0.4**
baz=80
S32K Killisnoo 85.61 327 P **P 18 59 28.4 -0.3**
baz=81
SKAG Skagway 85.69 329 P **P 18 59 28.6 -0.4**
baz=80
E28M Babbage River 85.76 339 P **P 18 59 28.4 -0.9**
baz=77
H29M Whitestone 85.82 336 P **P 18 59 28.3 -1.3**
baz=78
M30M Minto, Yukon 85.85 333 IAmb IAmb 18 59 38.2
comp=Z,13nm,1.1s
M30M Minto, Yukon 85.85 333 P **P 18 59 29.1 -0.8**
baz=80,SNR=11
K29M Barlow Dome 85.94 334 IAmb IAmb 18 59 39.0
comp=Z,15nm,1.1s
K29M Barlow Dome 85.94 334 P **P 18 59 29.9 -0.4**
baz=79,SNR=10
I29M Ogilvie Camp, 85.97 335 P **P 18 59 29.9 -0.5**
baz=78
SIT Sitka 86.08 327 P **P 18 59 29.6 -1.5**
baz=80
F28M Old Crow 86.11 338 IAmb IAmb 19 00 51.4
comp=Z,12nm,0.8s
F28M Old Crow 86.11 338 P **P 18 59 30.3 -0.7**
baz=77
J29N Klondike Camp 86.12 335 P **P 18 59 30.8 -0.4**
baz=78
D27M Malcolm River 86.12 340 P **P 18 59 30.8 -0.3**
baz=76
N30M Aishikik Lake 86.19 332 IAmb IAmb 18 59 40.2
comp=Z,9.3nm,1.1s
N30M Aishikik Lake 86.19 332 P **P 18 59 31.2 -0.4**
baz=79
PLBC Pleasant Camp 86.21 329 P **P 18 59 31.1 -0.6**
baz=80
BELA Belgrano 2 86.34 179 P **P 18 59 30.9 -1.0**
BELA IAmb IAmb 18 59 39.0
comp=Z,13nm,1.2s
L29M L29M 86.35 333 IAmb IAmb 18 59 40.7
comp=Z,14nm,1.1s
L29M L29M 86.35 333 P **P 18 59 32.0 -0.4**
baz=78,SNR=7.7
P30M Million Dollar 86.38 330 P **P 18 59 31.7 -0.9**
baz=79
S31K Pelican 86.41 328 P **P 18 59 32.2 -0.4**
baz=80
HYT Haines Junctio 86.51 331 **P 18 59 33.7 +0.4**
HYT IAmb IAmb 18 59 42.2
comp=Z,12nm,1.1s
HYT Haines Junctio 86.51 331 P **P 18 59 31.9 -1.4**
baz=79,SNR=7.2
E27K Coleen River 86.60 339 P **P 18 59 32.5 -1.0**
baz=76
I28M Miner Creek 86.62 336 IAmb IAmb 18 59 36.2
comp=Z,13nm,1.4s
I28M Miner Creek 86.62 336 P **P 18 59 32.6 -1.1**
baz=77
M29M Somme Creek 86.64 333 P **P 18 59 32.8 -1.0**
baz=78
DAWY Dawson 86.70 334 IAmb IAmb 18 59 37.1
comp=Z,23nm,1.4s
DAWY Dawson 86.70 334 P **P 18 59 33.1 -0.9**
baz=77,SNR=11
P29M Windy Craggy 86.86 330 IAmb IAmb 18 59 38.5
comp=Z,15nm,1.1s
P29M Windy Craggy 86.86 330 P **P 18 59 34.1 -0.8**
baz=78
YUK6 Outpost Mounta 86.90 331 P **P 18 59 34.5 -0.8**
baz=78
YUK4 Talbot Arm 86.95 332 P **P 18 59 33.9 -1.6**
baz=78
G27K Doyon Strip 86.97 337 P **P 18 59 34.4 -0.9**
baz=75
H27K Steamboat Moun 87.07 337 IAmb IAmb 18 59 44.0
comp=Z,12nm,1.0s
H27K Steamboat Moun 87.07 337 P **P 18 59 35.0 -0.8**
baz=76
O29M Mount Kennedy 87.14 331 IAmb IAmb 18 59 40.0
comp=Z,18nm,1.2s
O29M Mount Kennedy 87.14 331 P **P 18 59 35.8 -0.5**
baz=78
ARTI Arti 87.24 33 LR LR 19 39 09.6
comp=Z,78nm,18.1s,baz=256,slow=36
ARTI Arti 87.24 33 P **P 18 59 39.4 +2.7**
ARTI 19 02 56.8
ARTI S **SKSac 19 10 06.3 +2.6**
ARTI SS **SS 19 16 01.3 +1.6**
I27K Kandik River 87.26 336 P **P 18 59 35.6 -1.2**
baz=75
YUK8 Steele Glacier 87.49 332 P **P 18 59 37.6 -0.6**
baz=77
F26K Sheenjek River 87.66 338 P **P 18 59 38.4 -0.2**
baz=73
PNL Peninsula 87.68 330 P **P 18 59 37.7 -1.1**
baz=77
YUK3 Moose Creek 87.70 332 P **P 18 59 37.8 -1.4**
baz=76
BVCY Beaver Creek 87.73 333 P **P 18 59 38.3 -0.8**
baz=76
G26K Porcupine Rive 87.74 338 P **P 18 59 38.0 -1.0**
baz=73
O28M Mount Upton 87.81 331 P **P 18 59 38.2 -1.6**
baz=76
K27K Chicken 87.86 335 P **P 18 59 38.4 -1.2**
baz=75
BMAR Burnt Mountain 87.90 338 **P 18 59 39.3 -0.4**
D25K Kavik River 87.95 340 P **P 18 59 39.5 -0.5**
baz=71
I26K Coal Creek Min 87.96 336 P **P 18 59 39.5 -0.6**
baz=74
BCAR Beaver Creek A 87.98 334 **P 18 59 40.3 0.0**
L27K Beaver Creek, 88.00 334 IAmb IAmb 18 59 48.0
comp=Z,17nm,1.6s
L27K Beaver Creek, 88.00 334 P **P 18 59 39.0 -1.4**
baz=75
PINM Pinnacle 88.00 330 P **P 18 59 39.3 -1.1**
baz=76
E25K Arctic Village 88.05 339 P **P 18 59 39.5 -0.9**
baz=72
AKTO Aktyubinsk 88.18 39 LR LR 19 39 42.7
comp=Z,46nm,18.3s,baz=260,slow=36
M27K Edge Creek, AK 88.20 333 IAmb IAmb 18 59 49.9
comp=Z,9.9nm,1.2s
M27K Edge Creek, AK 88.20 333 P **P 18 59 40.5 -0.9**
baz=75
F25K Christian Rive 88.24 338 P **P 18 59 40.4 -1.0**
baz=72
CTG Chitna Glacier 88.31 331 P **P 18 59 41.0 -0.9**
baz=75
J26L Joseph Creek 88.35 335 P **P 18 59 41.2 -0.8**
baz=74
C24K Franklin Bluff 88.58 341 P **P 18 59 42.4 -0.4**
baz=69
G25K Bearman Lake 88.67 338 P **P 18 59 42.6 -0.8**
baz=71
L26K Log Cabin Wild 88.68 334 P **P 18 59 43.2 -0.3**
baz=74
SCRK Sand Creek 88.68 335 P **P 18 59 42.6 -1.0**
baz=73
M26K Nabesna, AK 88.69 333 P **P 18 59 43.0 -0.6**
baz=74
H25L Birch Creek 88.72 337 P **P 18 59 42.7 -0.9**
baz=72
MESA MESA 88.80 331 P **P 18 59 43.5 -0.9**
baz=75
D24K Happy Valley 88.82 340 P **P 18 59 43.5 -0.6**
baz=69
PRP Porcupine Dome 88.84 336 P **P 18 59 43.6 -0.8**
baz=72
MCARA McCarthy VSAT 88.99 332 P **P 18 59 44.5 -0.4**
baz=74
J25K Salcha River, 89.06 336 P **P 18 59 44.8 -0.6**

	baz=72						
F24K	**Squaw Lake**	89.08 339	P	P	18 59 44.6	-0.8	
	baz=70						
E24K	**Your Creek**	89.10 339	P	P	18 59 44.6	-0.8	
	baz=69						
RIDG	**Independent Ri**	89.11 335	P	P	18 59 44.8	-0.8	
	baz=72						
C23K	**Itkillik River**	89.15 341	P	P	18 59 44.9	-0.7	
	baz=67						
CRQE	**Cirque**	89.19 331	P	P	18 59 44.9	-1.2	
	baz=74						
G24K	**Hadweenzic Riv**	89.21 338	P	P	18 59 45.5	-0.4	
	baz=70						
TOLK	**Toolik Lake Re**	89.27 340	P	P	18 59 45.5	-0.7	
	baz=68						
K24K	**Donnelly Dome**	89.49 335	P	P	18 59 46.6	-0.7	
	baz=72						
E23K	**Chandalar**	89.50 339	P	P	18 59 46.5	-0.8	
	baz=68						
D23K	**Nanushuk River**	89.51 340	P	P	18 59 47.0	-0.3	
	baz=67						
PAX	**Paxson**	89.62 334	P	P	18 59 46.1	-1.9	
PAX	**Paxson**	89.62 334	P	P	18 59 46.1	-1.9	
PAX			pmax	pmax			
	comp=Z,7.0nm,1.3s						
PAX	**Paxson**	89.62 334	P	P	18 59 47.2	-0.8	
	baz=72						
ILAR	**Eielson Array**	89.63 336	P	P	18 59 47.7	-0.2	
ILAR	**Eielson Array**	89.63 336	P	P	18 59 48.0	+0.1	
	comp=Z,1.6nm,0.9s,baz=63,slow=3.6,SNR=10						
ILAR			LR	LR	19 36 48.9		
	comp=Z,64nm,22.0s,baz=49,slow=34						
	comp=Z,1.6nm,0.9s						
ILAR	**Eielson Array**	89.63 336	P	P	18 59 47.7	-0.2	
ABKAR	**Akbulak array**	89.64 40		P	18 59 48.2	0.0	
N25K	**Chitina, Valde**	89.65 333	P	P	18 59 47.5	-0.7	
	baz=73						
HARP	**HAARP**	89.66 333	P	P	18 59 47.3	-0.8	
	baz=72						
H24K	**Noodor Dome**	89.66 337	P	P	18 59 47.5	-0.6	
	baz=70						
POKR	**Poker Plat Res**	89.73 336	P	P	18 59 47.6	-0.8	
	baz=70						
HDA	**Harding Lake**	89.78 336	P	P	18 59 47.6	-1.0	
	baz=70						
BMRM	**Bremner River**	89.84 332	P	P	18 59 48.1	-1.0	
	baz=73						
A22K	**Sinclair Lake**	90.00 343	P	P	18 59 48.7	-0.8	
	baz=63						
COLD	**Coldfoot**	90.02 339	P	P	18 59 48.9	-0.7	
	baz=68						
CCB	**Clear Creek Bu**	90.04 336		P	18 59 49.2	-0.7	
CCB			IAmb	IAmb	18 59 56.8		
	comp=Z,13nm,1.6s						
KAIM	**Kayak Island**	90.06 331	P	P	18 59 50.3	+0.3	
	baz=73						
G23K	**Bananza Creek**	90.15 338	P	P	18 59 49.3	-1.0	
	baz=68						
M24K	**Tolsona, Glenn**	90.20 333	P	P	18 59 50.4	-0.3	
	baz=71						
D22K	**Ayikyak River**	90.21 341	P	P	18 59 50.3	-0.3	
	baz=65						
E22K	**Anaktuvuk Pass**	90.23 340	P	P	18 59 49.9	-0.8	
	baz=66						
KLU	**Klutina**	90.28 333	P	P	18 59 50.1	-1.0	
	baz=71						
H23K	**Yukon River**	90.30 337	P	P	18 59 50.5	-0.6	
	baz=68						
A21K	**Barrow**	90.32 343	P	P	18 59 50.1	-0.9	
	baz=62						
DHY	**Denali Highway**	90.41 334	P	P	18 59 51.3	-0.4	
	baz=70						
I23K	**Minto, Yukon-K**	90.48 337	P	P	18 59 51.7	-0.2	
	baz=68						
EYAK	**Cordova Ski Ar**	90.50 332	P	P	18 59 51.8	-0.2	
	baz=72						
B21K	**Ikpikpuk River**	90.51 342	P	P	18 59 51.1	-0.8	
	baz=63						
NEA2	**Nenana**	90.57 336	P	P	18 59 51.9	-0.5	
	baz=69						
G22K	**Bettles**	90.61 339	P	P	18 59 52.0	-0.4	
	baz=66						
F22K	**John River**	90.61 339	P	P	18 59 51.6	-0.9	
	baz=66						
WAT6	**Susitna Watana**	90.73 334	P	P	18 59 52.9	-0.5	
	baz=70						
C21K	**Knifeblade Rid**	90.77 341	P	P	18 59 53.0	-0.2	
	baz=63						
SCM	**Sheep Creek Mo**	90.81 333	P	P	18 59 53.1	-0.5	
	baz=70						
E21K	**Killik River**	90.83 340	P	P	18 59 52.8	-0.7	
	baz=64						
MCK	**McKinley**	90.83 335	P	P	18 59 52.9	-0.7	
	baz=69						
H22K	**Ishtalitna Cre**	90.97 338	P	P	18 59 53.7	-0.5	
	baz=66						
WAT1	**Susitna Watana**	91.00 334	P	P	18 59 53.4	-1.0	
	baz=69						
GLI	**Glacier Island**	91.02 332	P	P	18 59 53.8	-0.7	
	baz=70						
MLY	**Manley**	91.07 337	P	P	18 59 54.1	-0.6	
	baz=67						
B20K	**Meade River**	91.11 342	P	P	18 59 54.1	-0.6	
	baz=61						
Q23K	**Middleton Isla**	91.15 331	P	P	18 59 54.3	-0.7	
	baz=71						
F21K	**Alatna River**	91.19 339	P	P	18 59 54.0	-1.2	
	baz=64						
KNK	**Knik Glacier**	91.46 333	P	P	18 59 55.0	-1.6	
	baz=69						
P23K	**Montague Islan**	91.46 331	P	P	18 59 54.5	-2.0	
	baz=70						
I21K	**Tanana**	91.49 337	P	P	18 59 55.2	-1.4	
	baz=66						
TRF	**Thorofare Moun**	91.50 335	P	P	18 59 54.7	-2.2	
	baz=68						
G21K	**Allakaket**	91.50 339	P	P	18 59 55.5	-1.2	
	baz=64						
BPAW	**Bear Paw Mtn.**	91.53 336	P	P	18 59 54.9	-1.9	
	baz=67						
D20K	**Etivluk River**	91.56 341	P	P	18 59 55.3	-1.6	
	baz=62						
PWL	**Port Wells**	91.60 332	P	P	18 59 55.6	-1.6	
	baz=69						
H21K	**Melozitna Rive**	91.61 338	P	P	18 59 55.5	-1.6	
	baz=65						
E20K	**Nigu River**	91.64 341	P	P	18 59 55.9	-1.5	
	baz=62						
PMR	**Palmer**	91.69 333	P	P	18 59 56.0	-1.5	
	baz=69						
CUT	**Chulitna**	91.89 334	P	P	18 59 57.0	-1.4	
	baz=68						
F20K	**Avaraart Lake**	92.05 339	P	P	18 59 57.3	-1.8	
	baz=62						
RC01	**Rabbit Creek A**	92.15 333	P	P	18 59 58.2	-1.6	
	baz=68						
D19K	**Kuna River**	92.15 341	P	P	18 59 57.6	-2.0	
	baz=60						
A19K	**Wainwright**	92.16 343	P	P	18 59 57.9	-1.7	
	baz=57						
CAST	**Castle Rocks**	92.25 335	P	P	18 59 58.1	-2.0	
	baz=66						
C19K	**Lookout Ridge**	92.30 342	P	P	18 59 58.1	-2.2	
	baz=59						
E19K	**Redstone River**	92.37 340	P	P	18 59 59.0	-1.6	
	baz=61						
O22K	**Cooper Landing**	92.37 332	P	P	18 59 59.4	-1.3	
	baz=68						
SEW	**Seward**	92.39 332	P	P	18 59 59.4	-1.4	
	baz=68						
H20K	**Anotleneega Mo**	92.46 338	P	P	18 59 59.6	-1.4	
	baz=63						
SUA	**Susitna One**	92.46 333	P	P	19 00 00.0	-1.3	
	baz=67						
PPLA	**Purkeypile**	92.51 335	P	P	19 00 00.2	-1.3	
	baz=66						
SKT	**Skwentna**	92.60 334	P	P	19 00 00.5	-1.3	
	baz=66						
I20K	**Naaghedeneel**	92.62 337	P	P	19 00 00.8	-0.9	
	baz=64						
J20K	**Nowinta River**	92.76 337	P	P	19 00 00.9	-1.6	
	baz=64						
B18K	**Kokolik River**	92.83 343	P	P	19 00 01.4	-1.3	
	baz=57						
F19K	**Shaleruckik Mo**	92.86 340	P	P	19 00 01.7	-1.2	
	baz=60						
G19K	**Purcell Mounta**	92.96 339	P	P	19 00 01.9	-1.4	
	baz=61						
H19K	**Roundabout Mou**	93.02 338	P	P	19 00 02.7	-0.9	
	baz=62						
C18K	**Utukok River**	93.04 342	P	P	19 00 02.8	-0.9	
	baz=57						
K20K	**Telida**	93.09 336	P	P	19 00 02.8	-1.3	
	baz=64						
N20K	**Mount Spurr**	93.21 333	P	P	19 00 03.5	-1.3	
	baz=66						
SPCR	**Spurr Chakacha**	93.21 333	P	P	19 00 03.3	-1.4	
	baz=66						
M20K	**Styx River**	93.33 334	P	P	19 00 04.3	-0.9	
	baz=65						
L20K	**Farewell, AK**	93.39 335	P	P	19 00 03.9	-1.5	
	baz=64						
J19K	**Poorman**	93.42 337	P	P	19 00 04.2	-1.4	
	baz=63						
E18K	**Tukpahlearik C**	93.51 341	P	P	19 00 04.8	-1.1	
	baz=58						
GCSA	**Galena City Sc**	93.55 338	P	P	19 00 04.1	-2.0	
	baz=62						
HOM	**Homer**	93.58 332	P	P	19 00 04.7	-1.6	
	baz=66						
F18K	**Selawik**	93.63 340	P	P	19 00 04.6	-1.8	
	baz=59						
G18K	**Tagagawik**	93.64 339	P	P	19 00 05.0	-1.5	
	baz=60						
C17K	**DeLong Mountai**	93.75 342	P	P	19 00 05.1	-1.8	
	baz=55						
O20K	**Slope Mountain**	93.86 332	P	P	19 00 06.1	-1.6	
	baz=66						
M19K	**Big River Lodg**	93.86 335	P	P	19 00 05.8	-1.8	
	baz=64						
RDOG	**Red Dog Mine**	93.90 342	P	P	19 00 05.8	-1.8	
	baz=56						
H18K	**Honhosa River**	93.91 338	P	P	19 00 05.6	-2.2	
	baz=60						
L19K	**White Mountain**	93.93 335	P	P	19 00 05.6	-2.4	
	baz=64						
SYO	**Syowa Base**	94.02 159	*e*P	P	19 00 07.6	-0.4	
SYO	**Syowa Base**	94.02 159	*e*pP	pP	19 00 11.0	-0.9	
E17K	**Hotham Inlet**	94.10 341	P	P	19 00 05.9	-2.6	
	baz=57						
J18K	**Innoko River**	94.10 336	P	P	19 00 06.1	-2.6	
	baz=62						
D17K	**Noatak River**	94.16 341	P	P	19 00 06.8	-2.0	
	baz=56						
F17K	**Baldwin Pennin**	94.25 340	P	P	19 00 06.9	-2.4	
	baz=57						
P19K	**Oil Pt**	94.32 332	P	P	19 00 07.0	-2.7	
	baz=65						
Q20K	**Shuyak Island**	94.36 331	P	P	19 00 07.2	-2.7	
	baz=66						
N19K	**Bonanza Creek**	94.38 334	P	P	19 00 07.3	-2.8	
	baz=64						
C16K	**Lisburne Hills**	94.52 342	P	P	19 00 07.3	-3.2	
	baz=59						
G17K	**Kiwalik Mounta**	94.55 339	P	P	19 00 07.8	-2.9	
	baz=58						
H17K	**Granite Mounta**	94.58 338	P	P	19 00 07.7	-3.1	
	baz=59						
M18K	**Stony River**	94.66 334	P	P	19 00 08.0	-3.3	
	baz=63						
L18K	**Granite Mounta**	94.68 335	P	P	19 00 08.1	-3.3	
	baz=62						
KDAK	**Kodiak Island**	94.79 330	LR	LR	19 41 40.1		
	comp=Z,95nm,20.5s,baz=63,slow=35						
Q19K	**Cape Douglas,**	94.82 332	P	P	19 00 10.0	-2.1	
	baz=65						
N18K	**Kilae Creek**	95.06 334	P	P	19 00 11.1	-2.1	
	baz=63						
J17K	**VABM Dome**	95.06 337	P	P	19 00 10.5	-2.6	
	baz=60						
K17K	**Iditarod**	95.10 336	P	P	19 00 10.4	-2.8	
	baz=60						
O18K	**Koktuh Hills**	95.13 333	P	P	19 00 10.6	-2.9	
	baz=63						
G16K	**Koyuk River**	95.21 339	P	P	19 00 11.7	-2.0	
	baz=56						
P18K	**Big Mountain,**	95.35 332	P	P	19 00 12.4	-2.1	
	baz=63						
OHAK	**Old Harbor**	95.37 330	P	P	19 00 12.0	-2.5	
	baz=65						
L17K	**Donlin**	95.38 336	P	P	19 00 12.3	-2.3	
	baz=60						
M17K	**Holitna River**	95.39 335	P	P	19 00 11.9	-2.6	
	baz=61						
I17K	**Unalakleet**	95.42 338	P	P	19 00 12.0	-2.7	
	baz=58						
Q18K	**Katmai Hardscr**	95.58 332	P	P	19 00 12.7	-2.9	
	baz=64						
H16K	**Elim**	95.59 339	P	P	19 00 12.7	-2.7	
	baz=56						
N17K	**Nushagak Hills**	95.70 334	P	P	19 00 13.7	-2.3	
	baz=62						
J16K	**Anvik River**	95.71 337	P	P	19 00 13.3	-2.7	
	baz=58						
R18K	**Karluk**	95.79 331	P	P	19 00 14.4	-2.1	
	baz=64						
F15K	**North Star Dit**	95.81 340	P	P	19 00 14.3	-2.2	
	baz=54						
P17K	**Kvichak River**	95.99 333	P	P	19 00 15.4	-1.9	
	baz=62						
O17K	**Koliganek Bris**	96.02 333	P	P	19 00 15.3	-2.2	
	baz=62						
G15K	**Niukluk**	96.02 339	P	P	19 00 14.7	-2.7	
	baz=55						
L16K	**Owhat River**	96.08 336	P	P	19 00 15.1	-2.6	
	baz=59						
SII	**Sitkinak Islan**	96.09 330	P	P	19 00 15.9	-2.0	
	baz=64						
Q17K	**Contact Creek**	96.17 332	P	P	19 00 15.6	-2.7	
	baz=63						
M16K	**Timber Creek**	96.21 335	P	P	19 00 15.8	-2.6	
	baz=60						
Q16K	**King Salmon**	96.33 332	P	P	19 00 16.6	-2.3	
	baz=62						
N16K	**Nishlik Lake**	96.41 334	P	P	19 00 16.9	-2.4	
	baz=60						
F14K	**Arctic Creek**	96.52 340	P	P	19 00 17.3	-2.3	
	baz=53						
O16K	**Kokwok River B**	96.55 333	P	P	19 00 17.2	-2.7	
	baz=61						
K15K	**Wolf Creek Mou**	96.60 337	P	P	19 00 17.6	-2.5	
	baz=57						
R17L	**Mt. Peulik Vol**	96.68 331	P	P	19 00 18.5	-2.1	
	baz=62						
ANM	**Nome**	96.74 339	P	P	19 00 18.7	-2.0	
	baz=54						
P16K	**Nushagak River**	96.77 333	P	P	19 00 18.6	-2.3	
	baz=61						
L15K	**Ungalak Mounta**	96.91 336	P	P	19 00 19.0	-2.5	
	baz=58						
TNA	**Tin City**	96.99 341	P	P	19 00 19.4	-2.3	
	baz=51						
M15K	**Kasigluk River**	97.11 335	P	P	19 00 20.1	-2.2	
	baz=58						
N15K	**Kwethluk River**	97.13 334	P	P	19 00 20.0	-2.5	
	baz=59						
J14K	**Nanvaranak Lak**	97.13 337	P	P	19 00 20.0	-2.4	
	baz=56						
CHIR	**Chirikof Islan**	97.14 329	P	P	19 00 20.1	-2.5	
	baz=63						
R16K	**Pilot Point**	97.29 331	P	P	19 00 21.2	-2.0	
	baz=61						
O15K	**Ungalikthiuk R**	97.52 333	P	P	19 00 21.8	-2.5	
	baz=59						
L14K	**Kuka Creek**	97.58 336	P	P	19 00 21.9	-2.6	
	baz=56						
M14K	**Bethel**	97.61 335	P	P	19 00 22.7	-1.9	
	baz=57						
N14K	**Kuskokwak Cree**	97.94 335	P	P	19 00 24.1	-2.0	
	baz=58						
K13K	**Kusilvak Mount**	98.02 337	P	P	19 00 24.3	-2.2	
	baz=55						
O14K	**Tigyukauivet M**	98.11 334	P	P	19 00 24.7	-2.2	
	baz=58						
M13K	**Dall Lake**	98.37 335	P	P	19 00 25.8	-2.2	
	baz=56						
S14K	**Fog Glacier**	98.86 331	P	P	19 00 27.6	-2.9	
	baz=60						
M11K	**Mekoryuk**	99.54 336	P	Pdif	19 00 30.8	-2.5	
	baz=53						
CHNA	**Chernabura Isl**	99.61 330	P	Pdif	19 00 31.3	-2.4	
	baz=60						
SDPT	**Sand Point**	99.79 330	P	Pdif	19 00 31.9	-2.5	
	baz=59						
S12K	**Black Hills**	100.37 331	P	Pdif	19 00 34.5	-2.6	
	baz=58						
SPIA	**Saint Paul Isl**	103.18 335	P	Pdif	19 00 47.0	-2.5	
	baz=50						
P08K	**Saint George I**	103.25 334	P	Pdif	19 00 47.3	-2.5	
	baz=51						
UNV	**Unalaska Valle**	103.54 331	P	Pdif	19 00 48.1	-3.1	
	baz=54						
NIKH	**Nikolski High**	105.19 331	P	PKiKP	19 05 10.8	-2.1	
	baz=52						
WMQ	**Urumqi**	109.26 38	Pdif	Pdif	19 01 19.0	+1.9	
CMAR	**Chiang Mai Arr**	130.93 57	*c* iPKIKP	PKiKP	19 06 04.9	+1.1	
CMAR			pmax	pmax			
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	163.68 158	PKP	PKPdf	19 06 55.0	+0.7	
	comp=Z,1.0nm,1.1s,baz=206,slow=3.1,SNR=4.6						
ASAR			PKPab	PKPab	19 07 45.9	0.0	
	comp=Z,0.4nm,0.8s,baz=187,slow=3.6,SNR=2.2						
WRA	**Warramunga Arr**	167.18 153	PKP	PKPdf	19 06 56.3	-0.9	
	comp=Z,1.6nm,1.0s,baz=258,slow=1.3,SNR=5.7						
WRA			PKPab	PKPab	19 08 01.0	-0.4	
	comp=Z,0.3nm,0.6s,baz=224,slow=5.1,SNR=2.1						

NIED ***25*** *18:49:55.9, 37.˚93N×144.˚55E, h48km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.10; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$1.61; $M_{r\theta}$0.13; $M_{r\phi}$0.13; $M_{\theta\phi}$0.55; Fault plane solution: $M_0$1.48000×10^{14} NP1: ϕ_s355.00000°, δ34.00000°, λ-103.00000°. NP2: ϕ_s190.00000°, δ57.00000°, λ-82.00000°.*
JMA ***25*** *18:49:55.9±0.2, 37.˚9N±0.˚7×144.˚6E±0.˚9, h48km, MV3.9/31, FAR E OFF NORTH HONSHU*

ISC 25 18:49:53.9±2.8, 37.˚9N±0.˚1×144.˚8E±0.˚1, h35km, n20, σ1ˢ90/31, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	2.65	279	*e*P		Pn	18 50 34.7	+0.7
JIKH				S		Sn	18 51 03.4	-1.4
OFUJ	**Ofunato**	2.70	296	P		Pn	18 50 35.7	+1.0
OFUJ				*e*S		Sn	18 51 05.9	-0.3
JKMT	**Kesennumamotoy**	2.75	289	P		Pn	18 50 36.3	+1.0
JKMT				*e*S		Sn	18 51 06.5	-0.8
JIO	**Ouri**	2.76	282	P		Pn	18 50 36.5	+0.9
JIO				S		Sn	18 51 06.8	-0.8
JMK	**Ichinoseki**	2.98	291	*i* P		Pn	18 50 39.7	+1.1
JMK				S		Sn	18 51 12.8	-0.3
JOM	**Ohasama**	3.13	300	P		Pn	18 50 42.2	+1.5
JOM				S		Sn	18 51 17.3	+0.4
JMM	**Marumori**	3.16	270	P		Pn	18 50 42.0	+0.9
JMM	**Marumori**	3.16	270	S		Sn	18 51 15.9	-1.6
JANG	**Nango**	3.52	315	*e*P		Pn	18 50 47.5	+1.5
JOTO	**OTAMA OYAMA**	3.55	265	P		Pn	18 50 48.0	+1.5
JOTO				S		Sn	18 51 26.6	-0.7
JYK	**Kaneyama**	3.61	287	P		Pn	18 50 49.1	+1.8
JYK				*e*S		Sn	18 51 29.0	+0.3
JOT	**Ohata**	4.49	321	*e*P		Pn	18 51 01.4	+2.1
JOT				*e*S		Sn	18 51 48.8	-1.4
JCH	**Churui**	4.79	347	P		Pn	18 51 04.6	+1.1
JCH				*e*S		Sn	18 51 55.8	-2.0
JRY	**Ryogami san**	5.09	250	P		Pn	18 51 08.3	+0.6
JRY				*e*S		Sn	18 52 01.4	-3.8
JOD2	**Odawara 2**	5.30	241	*e*S		Sn	18 52 05.8	-4.7
NEM2	**Nemuro 2**	5.47	7	*e*P		Pn	18 51 12.2	-0.6
NEM2				*e*S		Sn	18 52 10.3	-4.1
JOSM	**Okushiri--Mats**	5.81	317	*e*P		Pn	18 51 19.9	+2.4
JTKR	**Abashiri--Toko**	6.06	354	P		Pn	18 51 22.1	+1.2
JGF	**Kuroka**	6.40	251	P		Pn	18 51 29.0	+3.3
INU	**Inuyama**	6.76	250	P		Pn	18 51 33.0	+2.4

BGR ***25*** *18:55:06.6, 5.˚92N×40.˚19W, h10km, mb4.3*
IDC ***25*** *18:55:23.7±0.8, 8.˚69N×39.˚62W, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=27.5km s-min=19.5km az=130.0*
NEIC ***25*** *18:55:24.3±2.5, 8.˚6N±0.˚1×39.˚6W±0.˚1, h10km±1km, mb4.5/17, Error ellipse: s-maj=20.5km s-min=19.8km az=5.0*

ISC 25 18:55:25.1±0.6, 8.˚7N±0.˚1×39.˚7W±0.˚1, h15km, n49, σ1ˢ40/43, mb4.4/31, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar**	21.47	287	T		T	19 22 29.8	
	SNR=7.1							
BOAV	**Boa Vista**	21.64	254	P		P	19 00 14.7	-0.5
BOAV				IAmb		IAmb	19 00 19.1	
	comp=Z,14nm,1.1s							
BDFB	**Brasilia**	25.54	199			P	19 00 52.5	-1.1
BDFB	**Brasilia**	25.54	199	P		P	19 00 54.6	+1.0
	comp=Z,1.2nm,0.4s,baz=5.6,slow=6.9,SNR=4.2							
	comp=Z,1.2nm,0.4s							
BAUV	**El Baul**	28.00	273	P		P	19 01 14.2	-1.6
BAUV				IAmb		IAmb	19 01 16.6	
	comp=Z,9.7nm,1.0s							
SAML	**Samuel**	29.23	234	P		P	19 01 24.8	-1.9
SAML				IAmb		IAmb	19 01 29.2	
	comp=Z,8.1nm,1.2s							
VILB	**Vilhena**	29.61	224	P		P	19 01 29.2	-0.9
VILB				IAmb		IAmb	19 01 31.2	
	comp=Z,9.1nm,1.2s							
H10N3	**ASCENSION HYDR**	30.00	122	T		T	19 32 45.2	
	baz=302,slow=75,SNR=17							
H10N2	**ASCENSION HYDR**	30.01	122	T		T	19 32 47.0	
	baz=302,slow=75,SNR=16							
H10N1	**ASCENSION HYDR**	30.02	122	T		T	19 32 46.8	
	baz=302,slow=75,SNR=22							
H10S3	**ASCENSION HYDR**	30.48	124	T		T	19 33 25.7	
	baz=298,slow=74,SNR=11							
H10S2	**ASCENSION HYDR**	30.50	124	T		T	19 33 41.1	
	baz=282,slow=74,SNR=7.2							
PTLB	**Pontes e Lacer**	30.76	219	P		P	19 01 37.7	-2.5
CMLA	**Cha da Macela**	31.65	22	P		P	19 01 44.6	-3.3
LPAZ	**La Paz**	37.52	229	P		P	19 02 41.8	+2.2
LPAZ				IAmb		IAmb	19 02 43.5	
	comp=Z,9.9nm,1.2s							
LPAZ	**La Paz**	37.52	229	P		P	19 02 41.7	+2.2
	comp=Z,2.7nm,0.8s,baz=28,slow=7.8,SNR=9.9							
	comp=Z,2.7nm,0.8s							
TORD	**Torodi Ar. Bea**	40.85	80	P		P	19 03 08.5	+1.7
	comp=Z,1.2nm,1.1s,baz=278,slow=10.0,SNR=4.6							
	comp=Z,1.2nm,1.1s							
ML02	**Panimavida**	53.37	212	P		P	19 04 44.4	+0.3
ECH	**Echery**	55.69	36	P		P	19 05 00.1	-0.8
ECH				IAmb		IAmb	19 05 08.6	
	comp=Z,3.3nm,1.0s							
DAVOX	**Davos/Dischmat**	56.66	39	P		P	19 05 08.8	+0.7
	comp=Z,1.3nm,0.9s,baz=252,slow=7.0,SNR=5.3							
	comp=Z,1.3nm,0.9s							
FETA	**Feichten**	57.29	39	*e*P		P	19 05 12.3	-0.2
	comp=Z,2.4nm,1.0s							
RETA	**Reutte**	57.51	38	*e*P		P	19 05 14.1	+0.1
	comp=Z,1.6nm,0.8s							
MOTA	**Moosalm**	57.66	39	*e*P		P	19 05 15.1	0.0
	comp=Z,4.6nm,1.1s							
SQTA	**Sankt Quirin**	57.67	39	*e*P		P	19 05 15.1	-0.1
	comp=Z,2.4nm,0.6s							
ABTA	**Abfaltersbach**	58.29	40	*e*P		P	19 05 17.5	-2.0
	comp=Z,2.6nm,1.1s							
LESA	**Schwarzleotal**	58.67	39	*e*P		P	19 05 20.8	-1.3
	comp=Z,3.6nm,1.0s							
GRF	**Grafenberg Arr**	58.74	36	*e*P		P	19 05 22.5	0.0
	comp=Z,7.5nm,1.4s,baz=242,slow=6.8							
KBA	**Koelnbreinsper**	58.95	40	*e*P		P	19 05 24.4	+0.3
	comp=Z,4.2nm,1.0s							
MYKA	**Terra Mystica**	58.97	40	*e*P		P	19 05 24.6	+0.4
	comp=Z,9.8nm,1.6s							
BRDY	**Brady**	59.35	301	P		P	19 05 26.9	-0.2
BIOA	**Bad Ischl, Aus**	59.37	39	*e*P		P	19 05 26.6	-0.3
	comp=Z,1.7nm,0.8s							
MOA	**Molln**	59.82	39	*e*P		P	19 05 28.9	-1.1
	comp=Z,4.9nm,1.6s							
CONA	**Conrad Observa**	60.85

PV10	**Paradox Valley**	**68.47**	**308**	P	**P**	**19 06 27.7**	**+0.4**
BRTR	**Keskin Array B**	**71.69**	**51**	P	**P**	**19 06 47.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=247,slow=6.3,SNR=4.7						
	comp=Z,0.7nm,0.8s						
BGU	**Big Grassy Mou**	**71.77**	**310**	P	**P**	**19 06 48.1**	**+0.7**
BGU				IAmb	IAmb	19 06 51.4	
	comp=Z,10nm,1.4s						
HLID	**Hailey**	**72.99**	**313**	P	**P**	**19 06 57.0**	**+2.3**
YKA	**Yellowknife Ar**	**75.38**	**332**	P	**P**	**19 07 08.8**	**+0.8**
	comp=Z,1.0nm,1.0s,baz=106,slow=5.8,SNR=4.0						
	comp=Z,1.0nm,1.0s						
DLBC	**Dease Lake**	**82.84**	**328**	P	**P**	**19 07 51.0**	**+2.1**
	comp=Z,1.1nm,0.4s,baz=80,slow=7.7,SNR=3.7						
	comp=Z,1.1nm,0.4s						
SNAA	**Sanae**	**83.81**	**169**	P	**P**	**19 07 53.4**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=308,slow=5.9,SNR=8.3						
	comp=Z,2.0nm,0.8s						
I29M	**Ogilvie Camp,**	**85.74**	**335**	P	**P**	**19 08 04.5**	**+1.0**
I29M				IAmb	IAmb	19 08 06.5	
	comp=Z,6.2nm,1.2s						
BMAR	**Burnt Mountain**	**87.68**	**338**	P	**P**	**19 08 14.0**	**+1.0**
ILAR	**Eielson Array**	**89.40**	**336**	P	**P**	**19 08 19.0**	**-2.1**
ILAR	**Eielson Array**	**89.40**	**336**	P	**P**	**19 08 21.5**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=60,slow=3.4,SNR=4.8						
	comp=Z,0.8nm,1.0s						

*DJA **25** 18:58:46.6±1.0,2˝N±2˝×12˝7E±˝, h15km±9km, M4.0/12, mb4.3/1, MLv3.9/12*
*NEIC **25** 18:58:49.7±1.9,2˝.24N±0˝.07×127˝.11E±0˝.10, h72km±5km, mb4.2/22, Error ellipse: s-maj=14.7km s-min=8.1km az=65.0*
*IDC **25** 18:58:51.7±5.3,2˝.26N×127˝.23E, h84km±49km, mb3.6/13, mbtmp4.0/14, ML4.4/1, Error ellipse: s-maj=41.0km s-min=13.8km az=73.0*

ISC 25 18:58:47.6±0.5,2˝.27N±0˝.05×127˝.03E±0˝.08, h53km, n54, σ1§53/56, mb4.0/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.53**	**167**		**Pn**	**18 59 13.6**	**+1.0**
TNTI				Sn	**Sn**	**18 59 31.7**	**+0.4**
TNTI	**Ternate**	**1.53**	**167**	P	**Pn**	**18 59 13.5**	**+1.0**
TNTI				S	**Sn**	**18 59 34.0**	**+2.7**
SGSI	**Sangihe**	**2.06**	**313**	P	**Pn**	**18 59 19.8**	**0.0**
KMSI	**Cibinong**	**3.49**	**241**	P	Pn	18 59 44.6	+5.2
SANI	**Sanana**	**4.42**	**194**	P	**Pn**	**18 59 53.1**	**+0.9**
DAV	**Davao City (W)**	**4.98**	**343**	Pn	**Pn**	**19 00 02.4**	**+2.5**
DAV				Sn	**Sn**	**19 00 56.5**	**+0.3**
SWI	**Sorong**	**5.25**	**126**	P	**Pn**	**19 00 06.7**	**+3.1**
LUWI	**Luwuk**	**5.38**	**232**	Pn	**Pn**	**19 00 08.2**	**+2.8**
NLAI	**Namlea**	**5.47**	**179**	P	**Pn**	**19 00 08.1**	**+1.4**
TOLI2	**Tolitoli**	**6.36**	**260**		**Pn**	**19 00 20.1**	**+1.3**
FAKI	**Fak Fak**	**7.33**	**135**	Pn	**Pn**	**19 00 34.0**	**+1.9**
MYLDM	**Lahad Datu**	**8.99**	**289**	Pn	**Pn**	**19 00 58.6**	**+3.8**
BATI	**Baumata**	**12.84**	**195**	P	**P**	**19 01 52.8**	**-4.1**
	1.8nm,0.3s,baz=292,slow=17,SNR=1.6						
	18nm,0.9s						
SBUM	**Sibu**	**14.80**	**271**	P	**P**	**19 02 18.7**	**+0.1**
MTN	**Manton Dam**	**15.56**	**165**	P	**P**	**19 02 25.3**	**-1.8**
MTN				IAmb	IAmb	19 02 57.0	
	comp=Z,19nm,1.4s						
JAGI	**Jajag, Banyuwa**	**16.70**	**230**	P	**P**	**19 02 40.5**	**+0.7**
JAGI				IAmb	IAmb	19 03 23.6	
	comp=Z,63nm,1.5s						
KNRA	**Kununurra**	**17.92**	**175**		**Pn**	**19 02 53.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.29**	**184**	P	**P**	**19 03 19.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.29**	**184**	P	Pn	19 03 21.9	+0.4
	comp=Z,1.4nm,0.5s,baz=14,slow=9.5,SNR=6.7						
	comp=Z,1.4nm,0.5s						
WB0	**Warramunga Arr**	**23.06**	**162**		**P**	**19 03 48.5**	**-0.3**
WB0				IAmb	IAmb	19 04 09.2	
	comp=Z,7.9nm,1.2s						
WRA	**Warramunga Arr**	**23.21**	**162**	P	**P**	**19 03 48.7**	**-1.5**
WRA	**Warramunga Arr**	**23.21**	**162**	P	**P**	**19 03 50.3**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=343,slow=11,SNR=33						
WRA				PcP	**PcP**	**19 07 37.1**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=349,slow=2.2,SNR=1.6						
	comp=Z,2.1nm,0.6s						
WR8	**Warramunga Arr**	**23.27**	**162**		**P**	**19 03 51.0**	**+0.2**
AS31	**Alice Springs**	**26.64**	**166**	P	**P**	**19 04 20.3**	**-1.2**
ASAR	**Alice Springs**	**26.64**	**166**	P	**P**	**19 04 20.7**	**-0.8**
ASAR	**Alice Springs**	**26.64**	**166**	P	**P**	**19 04 21.8**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=342,slow=9.0,SNR=12						
	comp=Z,0.4nm,0.4s						
ENH	**Enshi**	**32.44**	**331**	P	**P**	**19 05 10.1**	**-2.7**
ENH				IAmb	IAmb	19 05 14.3	
	comp=Z,7.9nm,1.3s						
KSRS	**Korea Array**	**35.02**	**1**	P	**P**	**19 05 36.6**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=177,slow=9.0,SNR=6.3						
	comp=Z,0.8nm,0.8s						
BBOO	**Buckleboo**	**35.92**	**167**	P	**P**	**19 05 41.5**	**-1.5**
NWAO	**Narrogin (SRO)**	**36.22**	**194**	P	**P**	**19 05 44.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**36.22**	**194**	P	**P**	**19 05 47.1**	**+1.6**
	comp=Z,2.0nm,0.6s,baz=6.5,slow=21,SNR=6.8						
	comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**36.67**	**159**	P	**P**	**19 05 48.4**	**-0.9**
STKA				IAmb	IAmb	19 06 32.6	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**36.67**	**159**	P	**P**	**19 05 49.4**	**0.0**
	comp=Z,3.8nm,0.6s,baz=350,slow=6.2,SNR=9.6						
	comp=Z,3.8nm,0.6s						
ARMA	**Armidale**	**40.09**	**146**	P	**P**	**19 06 16.8**	**-1.5**
CAN	**Canberra**	**42.68**	**153**	P	**P**	**19 06 38.2**	**-1.1**
SONM	**Songino Array**	**48.77**	**342**	P	**P**	**19 07 27.1**	**-0.2**
SONM				IAmb	IAmb	19 07 48.7	
	comp=Z,1.9nm,1.4s						
SONM	**Songino Array**	**48.77**	**342**	P	**P**	**19 07 29.0**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=161,slow=9.2,SNR=2.6						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**58.92**	**326**	P	**P**	**19 08 41.3**	**-0.1**
MK31				IAmb	IAmb	19 09 22.2	
	comp=Z,1.3nm,1.1s						
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**19 08 41.6**	**+0.2**
MKAR	**Makanchi Array**	**58.92**	**326**	P	**P**	**19 08 42.4**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=118,slow=7.3,SNR=14						
	comp=Z,0.6nm,0.4s						
MAKZ	**Makanchi**	**59.10**	**325**	P	**P**	**19 08 43.6**	**+0.9**
MAKZ				IAmb	IAmb	19 09 09.1	
	comp=Z,4.1nm,1.5s						
LBZ	**Lake Benmore**	**60.31**	**146**	P	**P**	**19 08 50.6**	**-0.4**
ZALV	**Zalesovo Beam**	**62.02**	**333**	P	**P**	**19 09 03.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=127,slow=7.1,SNR=2.0						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.12**	**328**	P	**P**	**19 09 11.1**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=129,slow=6.3,SNR=7.3						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**63.13**	**328**	P	**P**	**19 09 09.2**	**-0.6**
KURK				IAmb	IAmb	19 09 15.6	
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**68.70**	**327**	P	**P**	**19 09 47.0**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=124,slow=8.0,SNR=4.7						
	comp=Z,0.7nm,0.6s						
AB31	**Akbulak array**	**73.47**	**321**	P	**P**	**19 10 13.6**	**-0.9**
AB31				IAmb	IAmb	19 10 17.4	
	comp=Z,1.4nm,0.7s						
ABKAR	**Akbulak array**	**73.47**	**321**	P	**P**	**19 10 13.3**	**-1.2**
VNDA	**Vanda**	**81.95**	**173**	P	**P**	**19 10 59.7**	**-1.5**
VNDA				IAmb	IAmb	19 11 13.6	
	comp=Z,5.0nm,1.4s						
KDAK	**Kodiak Island**	**82.95**	**32**	P	**P**	**19 11 06.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=111,slow=22,SNR=1.9						
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**91.91**	**340**	P	**P**	**19 11 50.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=76,slow=5.1,SNR=3.6						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**92.19**	**180**	P	**P**	**19 11 48.9**	**-2.5**
QSPA				IAmb	IAmb	19 11 59.1	
	comp=Z,2.4nm,1.2s						
TXAR	**Lajitas Array**	**122.24**	**53**	PKP	**PKiKP**	**19 17 39.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=298,slow=1.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**123.65**	**287**	PKP	**PKPdf**	**19 17 40.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=62,slow=2.8,SNR=2.3						

*IDC **25** 19:05:33.4±0.6,8˝.60N×39˝.45W, h0km, mb3.9/17, mbtmp3.9/19, ML3.5/2, MS3.9/61, Error ellipse: s-maj=19.3km s-min=15.3km az=143.0*
*NEIC **25** 19:05:35.6±2.4,8˝.7N±0˝.1×39˝.6W±0˝.1, h10km±1km, mb4.6/38, Error ellipse: s-maj=22.3km s-min=17.2km az=148.0*
*GCMT **25** 19:05:37.6±0.3,8˝.52N±0˝.03×39˝.44W±0˝.01, h12km, MW4.9/102, Moment Tensor Solution. s22,c25; s102,c144; Duration: 0 Moment tensor: Scale 10¹⁶Nm;*
Mrr-2.56±.08; Mθθ-0.31±.08; Mϕϕ2.87±.07; Mrθ-0.86±.39; Mθϕ-0.02±.07; Mrϕ0.23±.27; Best double couple: M₀2.87100×10¹⁶ NP1:ϕ₁17.00000°, δ45.00000°, λ-63.00000°. NP2:ϕ₂162.00000°, δ50.00000°, λ-114.00000°. Principal axes: T 2.8810, Plg3.0000°, Azm269.0000°; N -0.0230, Plg19.0000°, Azm178.0000°; P -2.8600, Plg71.0000°, Azm7.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*BGR **25** 19:05:37.3,8˝.69N×39˝.09W, h10km, mb4.7, Ms3.9*

ISC 25 19:05:35.4±0.4,8˝.68N±0˝.07×39˝.53W±0˝.08, h15km, n178, σ1§19/105, mb4.5/62, MS4.0/59, 3C-2D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.49**	**256**	Pn	**Pn**	**19 08 47.3**	**+0.8**
	0.2nm,0.3s,baz=71,slow=22,SNR=1.3						
MDP				LR	LR	19 12 59.6	
	comp=Z,974nm,21.9s,baz=102,slow=33						
	5.1nm,0.9s						
RCBR	**Riachuelo**	**14.85**	**166**	Pn	**Pn**	**19 09 04.9**	**-0.3**
RCBR	**Riachuelo**	**14.85**	**166**	Pn	**Pn**	**19 09 03.8**	**-1.3**
	0.2nm,0.3s,baz=301,slow=17,SNR=2.2						
RCBR				LR	LR	19 13 29.1	
	comp=Z,150nm,18.1s,baz=22,slow=32						
	5.2nm,1.0s						
PRPB	**Parauapebas**	**17.96**	**215**	*eP*	**P**	**19 09 46.4**	**+1.0**
SMTB	**Santa Maria do**	**19.18**	**205**	*eP*	**P**	**19 09 59.2**	**+0.4**
ITTB	**Itaituba**	**20.71**	**232**	*eP*	**P**	**19 10 16.3**	**+0.8**
SDBA	**SAO DESIDERIO**	**21.62**	**194**	*eP*	**P**	**19 10 25.2**	**0.0**
H05S1	**Guadeloupe/Mar**	**21.64**	**287**	T	T	19 32 45.7	
	SNR=51						
BOAV	**Boa Vista**	**21.80**	**255**		**P**	**19 10 26.1**	**-1.1**
BOAV	**Boa Vista**	**21.80**	**255**	*eP*	**P**	**19 10 28.5**	**+1.3**
NPGB	**Novo Progresso**	**22.20**	**226**	*eP*	**P**	**19 10 31.5**	**0.0**
GDU01	**Guandu, BA**	**22.25**	**180**	*eP*	**P**	**19 10 33.0**	**+1.0**
SNDB	**Serra Nova Dou**	**23.61**	**210**	*eP*	**P**	**19 10 46.8**	**+0.7**
CMC01	**Camacan, BA**	**23.88**	**180**	*eP*	**P**	**19 10 49.6**	**+1.0**
JANB	**Januaria**	**24.05**	**191**	*eP*	**P**	**19 10 49.2**	**-1.1**
PCRV	**Puerto La Cruz**	**24.81**	**275**	LR	LR	19 21 21.2	
	comp=Z,266nm,19.1s,slow=38						
GUA01	**Guaratinga, BA**	**25.10**	**181**	*eP*	**P**	**19 10 59.3**	**-0.4**
BDFB	**Brasilia**	**25.58**	**199**	P	**P**	**19 11 01.7**	**-2.6**
BDFB				IAmb	IAmb	19 11 22.0	
	comp=Z,14nm,1.3s						
BDFB	**Brasilia**	**25.58**	**199**	P	**P**	**19 11 03.8**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=35,slow=10.0,SNR=4.8						
BDFB				LR	LR	19 20 16.3	
	comp=Z,227nm,21.9s,baz=355,slow=35						
	comp=Z,1.6nm,0.4s						
PDRB	**Porto dos Gac**	**26.44**	**221**	*eP*	**P**	**19 11 12.5**	**+0.5**
ABR01	**Abrolhos, BA**	**26.48**	**178**	*eP*	**P**	**19 11 12.7**	**+0.4**
ARAG	**Araguiana, MT**	**27.11**	**207**	*eP*	**P**	**19 11 18.3**	**+0.3**
DIAM	**Diamantina, MG**	**27.11**	**189**	*eP*	**P**	**19 11 17.9**	**-0.3**
SJG	**San Juan**	**27.51**	**293**	LR	LR	19 20 32.0	
	comp=Z,559nm,20.4s,baz=134,slow=32						
IPMB	**Ipameri, GO**	**27.84**	**198**	*eP*	**P**	**19 11 26.2**	**+1.6**
SALV	**Santo Antonio**	**29.20**	**213**	*eP*	**P**	**19 11 37.6**	**+1.0**
SAML	**Samuel**	**29.36**	**234**		**P**	**19 11 37.9**	**-0.2**
SAML				IAmb	IAmb	19 11 46.6	
	comp=Z,6.7nm,0.8s						
SAML	**Samuel**	**29.36**	**234**	*eP*	**P**	**19 11 39.6**	**+1.5**
H10N3	**ASCENSION HYDR**	**29.85**	**123**	T	T	19 43 04.9	
	baz=302,slow=75,SNR=90						
H10N2	**ASCENSION HYDR**	**29.86**	**123**	T	T	19 43 05.3	
	baz=302,slow=75,SNR=101						
H10N1	**ASCENSION HYDR**	**29.87**	**123**	T	T	19 43 06.4	
	baz=302,slow=75,SNR=94						
H10S3	**ASCENSION HYDR**	**30.33**	**125**	T	T	19 43 41.4	
	baz=300,slow=74,SNR=61						
H10S2	**ASCENSION HYDR**	**30.35**	**125**	T	T	19 43 42.7	
	baz=280,slow=74,SNR=57						
SDV	**Santo Domingo**	**30.74**	**273**	LR	LR	19 24 33.5	
	comp=Z,220nm,21.0s,baz=96,slow=37						
PTLB	**Pontes e Lacer**	**30.85**	**219**		**P**	**19 11 51.0**	**-0.3**
PTLB				IAmb	IAmb	19 11 53.6	
	comp=Z,9.4nm,1.4s						
PTLB	**Pontes e Lacer**	**30.85**	**219**	*eP*	**P**	**19 11 52.9**	**+1.5**
PMOZ	**Porto Moniz, M**	**31.69**	**38**	*eT*	T	19 44 45.8	
FUL	**Funchal**	**31.75**	**38**	*eT*	T	19 44 51.5	
PMAR	**Madeira**	**31.79**	**38**	*eT*	T	19 44 51.9	
VAO	**Valinhos**	**32.31**	**193**	*eP*	**P**	**19 12 05.1**	**+0.9**
SIV	**San Ignacio**	**32.49**	**221**	LR	LR	19 24 50.2	
	comp=Z,335nm,18.7s,baz=97,slow=36						
FRTB	**Fartura**	**33.30**	**197**	*eP*	**P**	**19 12 13.5**	**+0.7**
RUSC	**La Rusia**	**33.39**	**268**	P	P	19 12 07.5	-6.8
RUSC				IAmb	IAmb	19 12 31.4	
	comp=Z,17nm,1.4s						
BDQN	**Bodoquena, MS**	**33.53**	**210**	*eP*	**P**	**19 12 16.1**	**+1.3**
DBIC	**Dimbokro**	**34.41**	**91**	P	**P**	**19 12 21.3**	**-1.3**
	comp=Z,4.7nm,0.7s,baz=294,slow=7.5,SNR=6.1						
DBIC				LR	LR	19 23 14.3	
	comp=Z,297nm,18.9s,baz=320,slow=31						
	comp=Z,4.7nm,0.7s						
ROSC	**El Rosal**	**34.75**	**266**	LR	LR	19 28 20.5	
	comp=Z,591nm,18.1s,baz=71,slow=39						
AMBA	**Amambai (Brazi**	**34.87**	**205**	*eP*	**P**	**19 12 26.2**	**-0.2**
MURT	**Porto Murtinho**	**34.98**	**210**	*eP*	**P**	**19 12 28.1**	**+0.8**
CZSB	**Cruzeiro do Su**	**36.86**	**245**	P	**P**	**19 12 42.6**	**-1.0**
CZSB				IAmb	IAmb	19 12 50.9	
	comp=Z,12nm,0.8s						
CZSB	**Cruzeiro do Su**	**36.86**	**245**	*eP*	**P**	**19 12 44.6**	**+1.0**
SJPY	**San Joaquin**	**37.16**	**205**	*eP*	**P**	**19 12 46.9**	**+0.8**
LPAZ	**La Paz**	**37.64**	**229**		**P**	**19 12 51.5**	**+0.6**
LPAZ				IAmb	IAmb	19 12 53.5	
	comp=Z,13nm,1.2s						
LPAZ	**La Paz**	**37.64**	**229**	P	**P**	**19 12 52.3**	**+1.5**
	comp=Z,6.9nm,1.1s,baz=30,slow=8.6,SNR=14						
LPAZ				LR	LR	19 28 02.0	
	comp=Z,168nm,19.4s,baz=45,slow=36						
	comp=Z,6.9nm,1.1s						
LPAZ	**La Paz**	**37.64**	**229**	*eP*	**P**	**19 12 51.8**	**+0.9**
CPUP	**Villa Florida**	**38.86**	**206**	LR	LR	19 28 56.7	
	comp=Z,59nm,18.1s,baz=242,slow=36						
PB18	**Visviri**	**39.46**	**229**	P	**P**	**19 13 04.8**	**-1.3**
PB18				IAmb	IAmb	19 13 34.4	
	comp=Z,13nm,0.9s						
OTAV	**Otavalo**	**39.66**	**260**	P	**P**	**19 13 04.6**	**-3.2**
MDT	**Midelt**	**40.23**	**48**	LR	LR	19 27 56.0	
	comp=Z,179nm,18.5s,baz=245,slow=33						
TORD	**Torodi Ar. Bea**	**40.69**	**80**	P	**P**	**19 13 14.3**	**-1.4**
	comp=Z,1.8nm,1.1s,baz=278,slow=9.1,SNR=7.4						
TORD				LR	LR	19 28 10.7	
	comp=Z,622nm,19.4s,baz=290,slow=33						
	comp=Z,1.8nm,1.1s						
COHC	**Cochancay**	**41.12**	**256**		**P**	**19 13 18.3**	**-1.0**
ATAH	**Atahualpa**	**41.80**	**249**	LR	LR	19 31 53.1	
	comp=Z,128nm,19.4s,baz=59,slow=38						
NNA	**Nana**	**42.40**	**242**	LR	LR	19 31 10.2	
	comp=Z,224nm,20.5s,baz=60,slow=36						
ESDC	**Sonseca Array**	**44.27**	**40**	P	**P**	**19 13 41.7**	**-3.0**
ESDC	**Sonseca Array**	**44.27**	**40**	P	**P**	**19 13 45.4**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=238,slow=8.5,SNR=4.4						
	comp=Z,0.7nm,1.0s						
JTS	**Las Juntas de**	**44.80**	**276**	LR	LR	19 33 54.8	
	comp=Z,122nm,19.5s,baz=96,slow=38						
BG3	**Lake Jocassee**	**47.52**	**310**	P	**P**	**19 14 08.7**	**-1.7**
TKL	**Tuckaleechee C**	**48.41**	**311**	LR	LR	19 30 29.5	
	comp=Z,359nm,21.8s,baz=112,slow=31						
SADO	**Sadowa**	**49.63**	**323**	LR	LR	19 32 15.7	
	comp=Z,94nm,21.6s,baz=145,slow=32						
SCHQ	**Schefferville**	**50.91**	**340**	LR	LR	19 33 25.4	
	comp=Z,100nm,20.7s,baz=117,slow=33						
KEST	**Kesra**	**51.96**	**51**	LR	LR	19 36 26.4	
	comp=Z,191nm,19.4s,baz=244,slow=36						
H09N1	**TRISTAN DA CUN**	**52.17**	**152**	T	T	20 10 52.3	
	SNR=4.1						
H09W1	**TRISTAN DA CUN**	**52.18**	**152**	T	T	20 10 54.5	
	SNR=5.2						
BNI	**Bardonecchia**	**53.79**	**39**		**P**	**19 15 00.2**	**+2.5**
CMIG	**Matias Romero**	**54.46**	**285**	LR	LR	19 34 43.0	
	comp=Z,69nm,21.8s,baz=92,slow=32						
EKA	**Eskdalemuir Ar**	**54.70**	**25**	P	**P**	**19 15 03.6**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=218,slow=5.8,SNR=7.0						
	comp=Z,1.2nm,0.8s						
DOU	**Dourbes**	**55.13**	**33**	*dP*	**P**	**19 15 07.9**	**+0.8**
OSSC	**Osservatorio P**	**56.11**	**43**	P	**P**	**19 15 14.6**	**+0.2**
BTNL	**Ternell**	**56.22**	**33**	*dP*	**P**	**19 15 16.9**	**+1.9**
BFO	**Black Forest**	**56.34**	**36**	P	**P**	**19 15 15.4**	**-0.5**
BFO				IAmb	IAmb	19 15 30.6	
	comp=Z,4.3nm,0.9s						
BFO	**Black Forest**	**56.34**	**36**	*eL*	L	19 37 32.8	
	comp=Z,87nm,18.4s						
DAVOX	**Davos/Dischmat**	**56.57**	**39**	LR	LR	19 38 40.9	
	comp=Z,115nm,18.1s,baz=251,slow=35						
DAVA	**Damuels**	**56.79**	**38**	*ep*P	pP	19 15 22.4	-0.5
	comp=Z,2.5nm,0.8s						
PLCA	**Paso Flores**	**56.88**	**208**	LR	LR	19 40 52.1	
	comp=Z,162nm,18.4s,baz=51,slow=37						
FETA	**Feichten**	**57.20**	**39**	*eP*	**P**	**19 15 23.5**	**+1.3**
	comp=Z,1.9nm,0.9s						
TNS	**Taunus Mts**	**57.32**	**35**	*eL*	L	19 36 05.6	
	comp=Z,115nm,19.8s						
RETA	**Reutte**	**57.42**	**38**	*eP*	**P**	**19 15 24.5**	**+0.8**
	comp=Z,7.1nm,1.7s						
MOTA	**Moosalm**	**57.56**	**39**	*eP*	**P**	**19 15 24.9**	**+0.1**
	comp=Z,3.4nm,1.0s						
SQTA	**Sankt Quirin**	**57.58**	**39**	*eP*	**P**	**19 15 24.8**	**0.0**
	comp=Z,3.7nm,1.0s						
KASTN	**Kahler Asten**	**57.78**	**34**	*eP*	**P**	**19 15 27.3**	**+1.2**
	comp=Z,12nm,1.6s,baz=242,slow=6.7						
WATA	**Walderalm**	**57.85**	**39**	*eP*	**P**	**19 15 27.0**	**+0.2**
	comp=Z,4.9nm,1.3s						
WTTA	**Wattenberg**	**57.86**	**39**	*eP*	**P**	**19 15 27.4**	**+0.5**
	comp=Z,1.8nm,0.7s						
FUR	**Furstenfeldbru**	**58.02**	**38**	*eL*	L	19 35 09.9	
	comp=Z,99nm,21.5s						
ABTA	**Abfaltersbach**	**58.20**	**40**	*eP*	**P**	**19 15 30.1**	**+1.0**
	comp=Z,3.5nm,0.8s						
LESA	**Schwarzleotal**	**58.57**	**39**	*eP*	**P**	**19 15 32.2**	**+0.4**
	comp=Z,4.5nm,0.8s						
GRF	**Grafenberg Arr**	**58.65**	**36**	*eP*	**P**	**19 15 32.8**	**+0.6**
	comp=Z,26nm,1.8s,baz=242,slow=6.7						
GRF				*eL*	L	19 40 30.1	
	comp=Z,74nm,18.6s						
FRB	**Frobisher Bay**	**58.75**	**345**	LR	LR	19 37 36.2	
	comp=Z,108nm,21.0s,baz=128,slow=33						
RJOB	**Jochberg**	**58.77**	**39**	*eP*	**P**	**19 15 34.6**	**+1.5**
	comp=Z,3.0nm,0.9s,baz=242,slow=6.7						
KBA	**Koelnbreinsper**	**58.85**	**40**	*eP*	**P**	**19 15 34.0**	**+0.2**
	comp=Z,2.0nm,0.2s						
MYKA	**Terra Mystica**	**58.87**	**40**	*eP*	**P**	**19 15 33.8**	**0.0**
	comp=Z,11nm,1.7s						
RETH	**Rethem/Aller,**	**59.05**	**32**	*eP*	**P**	**19 15 36.7**	**+1.9**
	comp=Z,7.9nm,1.3s,baz=242,slow=6.7						
ROTZ	**Rotzenmuhle**	**59.26**	**36**	*eP*	**P**	**19 15 37.5**	**+1.1**
	comp=Z,4.5nm,1.9s,baz=242,slow=6.7						
BIOA	**Bad Ischl, Aus**	**59.27**	**39**	*eP*	**P**	**19 15 36.8**	**+0.2**
	comp=Z,4.3nm,0.9s						
MOX	**Moxa**	**59.30**	**35**	*eP*	**P**	**19 15 37.5**	**+0.8**
	comp=Z,18nm,1.8s,baz=242,slow=6.7						
MOX				*eL*	L	19 40 11.2	
	comp=Z,100nm,19.1s						
NRDL	**Niedersach Rie**	**59.33**	**33**	*eP*	**P**	**19 15 38.6**	**+1.9**
	comp=Z,13nm,1.5s,baz=242,slow=6.7						
WET	**Wettzell**	**59.40**	**37**	*eP*	**P**	**19 15 38.7**	**+1.3**
	comp=Z,54nm,2.9s,baz=242,slow=6.7						
WET				*eL*	L	19 40 30.3	
	comp=Z,119nm,18.7s						
OBKA	**Obir**	**59.40**	**41**	*eP*	**P**	**19 15 38.7**	**+1.1**
	comp=Z,6.2nm,1.2s						
BRDY	**Brady**	**59.51**	**301**	P	**P**	**19 15 35.1**	**-3.4**
BRDY				IAmb	IAmb	19 15 45.8	
	comp=Z,3.9nm,0.9s						
PLN	**Plauen**	**59.54**	**36**	*eP*	**P**	**19 15 39.6**	**+1.3**
	comp=Z,7.7nm,2.0s,baz=242,slow=6.7						
TANN	**Tannenbergstha**	**59.69**	**36**	*eP*	**P**	**19 15 40.0**	**+0.7**
	comp=Z,22nm,1.9s,baz=242,slow=6.7						
MOA	**Molln**	**59.73**	**39**	*eP*	**P**	**19 15 39.9**	**+0.2**
	comp=Z,2.9nm,0.8s						
GEC2	**GERESS Array S**	**59.77**	**38**	*eL*	L	19 34 40.8	
	comp=Z,116nm,21.9s						
GERES	**GERESS Array B**	**

LHV	**Little Huntoon**	**76.04**	**307**	IAmb	IAmb	19 17 42.5	
	comp=Z,4.8nm,1.1s						
RPN	**Rapa Nui**	**76.34**	**239**	LR	LR	19 46 44.2	
	comp=Z,77nm,21.7s,baz=84,slow=32						
KMBO	**Kilima Mbogo**	**77.11**	**93**	LR	LR	19 47 42.2	
	comp=Z,126nm,20.8s,baz=99,slow=33						
YBH	**Yreka Blue Hor**	**79.21**	**311**	LR	LR	19 50 14.9	
	comp=Z,8.5nm,20.2s,baz=96,slow=34						
GNI	**Garni**	**80.10**	**51**	LR	LR	19 54 02.2	
	comp=Z,31nm,21.7s,baz=270,slow=36						
VNA1	**Neumayer--Stat**	**81.93**	**170**	⇑P	**P**	**19 17 54.6**	**+0.6**
	comp=Z,3.9nm,0.9s						
KIRV	**Kirov**	**82.11**	**32**	LR	LR	19 51 00.9	
	comp=Z,43nm,21.5s,baz=280,slow=33						
BBB	**Bella Bella**	**82.35**	**322**	LR	LR	19 53 29.0	
	comp=Z,65nm,20.2s,baz=90,slow=35						
DLBC	**Dease Lake**	**82.94**	**328**	LR	LR	19 51 30.2	
	comp=Z,33nm,20.0s,baz=132,slow=33						
R33M	**Jennings River**	**83.34**	**329**	IAmb	IAmb	19 18 05.2	
	comp=Z,7.6nm,1.1s						
INK	**Inuvik**	**83.48**	**338**	LR	LR	19 53 11.4	
	comp=Z,139nm,19.1s,baz=68,slow=34						
SNAA	**Sanae**	**83.76**	**169**	⇑P	**P**	**19 18 03.3**	**-0.3**
	comp=Z,45nm,0.6s						
SNAA	**Sanae**	**83.76**	**169**	P	**P**	**19 18 03.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=288,slow=7.1,SNR=13						
SNAA			LR		LR	19 47 48.4	
	comp=Z,66nm,21.7s,baz=20,slow=30						
	comp=Z,1.7nm,0.6s						
I30M	**Mount Dempster**	**85.05**	**335**	IAmb	IAmb	19 18 12.9	
	comp=Z,5.8nm,1.2s						
TROLL	**Troll, Antarti**	**85.08**	**168**	⇑P	**P**	**19 18 10.6**	**+0.1**
	comp=Z,126nm,1.1s						
J30M	**Hart River**	**85.15**	**335**	IAmb	IAmb	19 18 26.9	
	comp=Z,6.7nm,1.4s						
K29M	**Barlow Dome**	**85.79**	**334**		**P**	**19 18 15.7**	**+1.4**
E27K	**Coleen River**	**86.46**	**339**		**P**	**19 18 18.3**	**+1.0**
E27K				IAmb	IAmb	19 18 19.9	
	comp=Z,7.3nm,1.1s						
DAWY	**Dawson**	**86.55**	**334**	P	**P**	**19 18 18.6**	**+0.7**
DAWY				IAmb	IAmb	19 18 57.6	
	comp=Z,4.5nm,1.2s						
ARTI	**Arti**	**87.20**	**33**	LR	LR	19 54 50.3	
	comp=Z,74nm,20.7s,baz=244,slow=34						
AKTO	**Aktyubinsk**	**88.16**	**39**	LR	LR	19 58 46.2	
	comp=Z,30nm,18.1s,baz=345,slow=36						
J26L	**Joseph Creek**	**88.21**	**335**	IAmb	IAmb	19 18 35.9	
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**89.49**	**336**	P	**P**	**19 18 32.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=59,slow=3.4,SNR=5.7						
	comp=Z,0.5nm,0.7s						
AB31	**Akbulak array**	**89.62**	**40**		**P**	**19 18 32.5**	**-0.2**
ABKAR	**Akbulak array**	**89.62**	**40**		**P**	**19 18 33.9**	**+1.1**
BVAR	**Borovoye Array**	**94.82**	**35**	LR	LR	20 01 08.1	
	comp=Z,88nm,18.8s,baz=272,slow=35						
QSPA	**South Pole Qui**	**98.69**	**180**	LR	LR	20 05 16.6	
	comp=Z,51nm,18.0s,baz=232,slow=36						

*ATH **25** 19:15:39.7, 36˚.70N×22˚.95E, h14^{km}±1^{km}, ML3.2/24, Manual Solution by A.Plessa First location: 2019/08/25 19:16:41, This location: 2019/08/25 19:42:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*

*THE **25** 19:15:40.3, 37˚N±1˚×2˚.3E±˚, h9^{km}±1^{km}, M3.1/33, MLh3.1/33*

*IDC **25** 19:15:40.1±2.4, 37˚.13N×23˚.35E, h0^{km}, mb3.6/6, mbtmp3.6/7, ML4.0/1, MS3.7/3, Error ellipse: s-maj=56.2km s-min=22.2km az=12.0*

ISC 25 19:15:39.7±0.7, 36˚.70N±0˚.02×22˚.98E±0˚.03, h17km±4km, n100, σ1§13/115, mb3.5/6, MS3.7/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.04**	**300**	P	**Pg**	**19 15 42.3**	**-0.6**
VLI				S	**Sg**	**19 15 43.8**	**-1.1**
VLI	**Veliai**	**0.04**	**300**	P	**Pg**	**19 15 42.3**	**-0.6**
VLI				S	**Sg**	**19 15 43.9**	**-1.1**
MNVA	**Monemvasia**	**0.04**	**103**	P	**Pg**	**19 15 44.0**	**+1.2**
KTHA	**Kythira Island**	**0.44**	**172**	P	**Pb**	**19 15 49.2**	**+0.1**
KTHA	**Kythira Island**	**0.44**	**172**	P	**Pb**	**19 15 49.0**	**0.0**
YDRA	**Hydra**	**0.76**	**31**	P	**Pn**	**19 15 55.1**	**-0.5**
ANKY	**Antikythira Is**	**0.87**	**163**	P	**Pn**	**19 15 56.8**	**-0.3**
ANKY				S	**Sn**	**19 16 09.2**	**-0.1**
ANKY	**Antikythira Is**	**0.87**	**163**	P	**Pn**	**19 15 56.8**	**-0.3**
MET6	**Megalochori,Me**	**0.94**	**18**	P	**Pn**	**19 15 58.0**	**-0.2**
MET2	**Kameni Chora,**	**0.95**	**17**	P	**Pn**	**19 15 58.0**	**-0.3**
ARS1	**Argos**	**0.96**	**348**	P	**Pn**	**19 15 58.2**	**-0.2**
MET5	**Makryloggos,Me**	**0.97**	**18**	P	**Pn**	**19 15 58.6**	**+0.1**
ITM	**Ithomi**	**0.97**	**300**	P	**Pb**	**19 15 57.2**	**-0.8**
ITM				S	**Sg**	**19 16 08.6**	**-2.8**
ITM	**Ithomi**	**0.97**	**300**	P	**Pb**	**19 15 57.3**	**-0.8**
MET4	**Agioi Theodoro**	**0.98**	**20**	P	**Pn**	**19 15 59.0**	**+0.3**
PYL2	**Kinigos**	**1.03**	**282**	P	**Pg**	**19 15 57.8**	**-1.9**
MTHA	**Methoni**	**1.03**	**277**	P	**Pb**	**19 15 58.9**	**-0.2**
MHLO	**Agia Marina, M**	**1.14**	**90**	P	**Pn**	**19 16 01.4**	**+0.6**
MHLO				S	**Sn**	**19 16 17.5**	**+1.4**
MHLO	**Agia Marina, M**	**1.14**	**90**	P	**Pn**	**19 16 01.2**	**+0.4**
LOUT	**Loutraki**	**1.29**	**360**	P	**Pb**	**19 16 03.7**	**+0.2**
AMT	**Artemida-Makis**	**1.32**	**310**	P	**Pb**	**19 16 03.5**	**-0.4**
VLY	**Voula,Athens**	**1.32**	**29**	P	**Pg**	**19 16 03.9**	**-1.4**
VLY	**Voula,Athens**	**1.32**	**29**	P	**Pn**	**19 16 03.4**	**0.0**
LTK	**Loutraki**	**1.32**	**359**	P	**Pb**	**19 16 04.2**	**+0.1**
LTK				S	**Sn**	**19 16 23.5**	**+2.8**
LTK	**Loutraki**	**1.32**	**359**	P	**Pb**	**19 16 03.9**	**-0.2**
LVRA	**Laurium**	**1.33**	**40**	P	**Pg**	**19 16 03.8**	**-1.5**
GUR	**Goura**	**1.34**	**338**	P	**Pb**	**19 16 04.0**	**-0.3**
GUR	**Goura**	**1.34**	**338**	P	**Pg**	**19 16 03.8**	**-1.8**
ATH	**Athens Observa**	**1.40**	**24**	P	**Pg**	**19 16 05.4**	**-1.3**
ATH				S	**Sn**	**19 16 24.7**	**+2.2**
ATH	**Athens Observa**	**1.40**	**24**	P	**Pg**	**19 16 05.4**	**-1.3**
ATHU	**Athens Univers**	**1.42**	**27**	P	**Pb**	**19 16 05.2**	**-0.5**
PARN3	**Mandra,Attica,**	**1.43**	**17**	P	**Pb**	**19 16 05.3**	**-0.6**
MAGU	**Magoula**	**1.44**	**17**	P	**Pg**	**19 16 05.8**	**-1.7**
CHAN	**Chania**	**1.46**	**144**	P	**Pn**	**19 16 05.4**	**+0.2**
CHAN	**Chania**	**1.46**	**144**	P	**Pn**	**19 16 05.4**	**+0.2**
VILL	**Villia**	**1.49**	**10**	P	**Pb**	**19 16 06.2**	**-0.7**
KLV	**Kalavryta, Ach**	**1.50**	**334**	P	**Pb**	**19 16 06.5**	**-0.6**
KLV				S	**Sg**	**19 16 26.8**	**-1.3**
KLV	**Kalavryta, Ach**	**1.50**	**334**	P	**Pb**	**19 16 06.4**	**-0.7**
PARN1	**Fyli,Attica,Gr**	**1.51**	**21**	P	**Pb**	**19 16 06.6**	**-0.6**
FILI	**Fyli**	**1.52**	**21**	P	**Pb**	**19 16 06.9**	**-0.5**
PTL	**Penteli**	**1.52**	**27**	P	**Pb**	**19 16 06.8**	**-0.6**
PTL				S	**Sn**	**19 16 26.2**	**+0.7**
PTL	**Penteli**	**1.52**	**27**	P	**Pb**	**19 16 06.8**	**-0.6**
VIL2	**Platees**	**1.53**	**8**	P	**Pn**	**19 16 06.1**	**-0.2**
PARN2	**Moni Osiou Mel**	**1.54**	**14**	P	**Pn**	**19 16 06.9**	**+0.5**
STFN	**Stefani**	**1.54**	**17**	P	**Pb**	**19 16 07.0**	**-0.9**
KNDR	**Palaiochora Ch**	**1.57**	**158**	P	**Pg**	**19 16 08.3**	**-1.6**
KNDR				S	**Sg**	**19 16 28.8**	**-1.5**
KNDR	**Palaiochora Ch**	**1.57**	**158**	P	**Pg**	**19 16 08.4**	**-1.4**
DION	**Dionisos Attik**	**1.57**	**28**	P	**Pb**	**19 16 07.5**	**-0.8**
DION				S	**Sn**	**19 16 27.4**	**+0.6**
DION	**Dionisos Attik**	**1.57**	**28**	P	**Pn**	**19 16 07.3**	**+0.4**
DRO	**Drossia**	**1.61**	**321**	P	**Pg**	**19 16 09.1**	**-1.7**
DRO	**Drossia**	**1.61**	**321**	P	**Pg**	**19 16 08.8**	**-1.9**
KARY	**Karystos**	**1.77**	**41**	P	**Pn**	**19 16 10.1**	**+0.6**
KARY				S	**Sn**	**19 16 32.5**	**+1.0**
KARY	**Karystos**	**1.77**	**41**	P	**Pn**	**19 16 10.0**	**+0.6**
PRNS	**Prines Rethymn**	**1.81**	**137**	P	**Pn**	**19 16 10.0**	**-0.1**
PRNS	**Prines Rethymn**	**1.81**	**137**	P	**Pn**	**19 16 10.0**	**-0.1**
RLS	**Riolos of Patr**	**1.82**	**319**	P	**Pb**	**19 16 11.7**	**-0.8**
RLS	**Riolos of Patr**	**1.82**	**319**	P	**Pb**	**19 16 11.8**	**-0.7**
KALE	**Kalithea**	**1.82**	**339**	P	**Pn**	**19 16 10.5**	**+0.3**
KALE	**Kalithea**	**1.82**	**339**	P	**Pn**	**19 16 10.8**	**+0.6**
SERG	**Sergoula**	**1.86**	**337**	P	**Pn**	**19 16 11.7**	**+0.8**
SERG				S	**Sn**	**19 16 35.5**	**+1.4**
SERG	**Sergoula**	**1.86**	**337**	P	**Pn**	**19 16 11.6**	**+0.8**
SAP3	**Santorini-Thir**	**1.92**	**97**	P	**Pn**	**19 16 12.7**	**+1.1**
SAP3	**Santorini-Thir**	**1.92**	**97**	P	**Pb**	**19 16 12.9**	**-1.4**
THR5	**Thira Island,**	**1.93**	**98**	P	**Pn**	**19 16 12.7**	**+1.1**
THR5	**Thira Island,**	**1.93**	**98**	P	**Pb**	**19 16 12.8**	**+1.1**
EFP	**Efpalio**	**1.93**	**334**	P	**Pb**	**19 16 13.3**	**-1.1**
EFP	**Efpalio**	**1.93**	**334**	P	**Pb**	**19 16 13.2**	**-1.1**
LKR	**Lokris**	**1.95**	**0**	P	**Pn**	**19 16 12.6**	**+0.6**
LKR				S	**Sn**	**19 16 37.8**	**+1.7**
LKR	**Lokris**	**1.95**	**0**	P	**Pn**	**19 16 12.6**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.96**	**98**	P	**Pn**	**19 16 12.8**	**+0.7**
THR3	**Thira Island,**	**1.97**	**98**	P	**Pb**	**19 16 13.7**	**-1.4**
THR6	**Thira Island,**	**1.97**	**99**	P	**Pb**	**19 16 13.9**	**-1.3**

LTHK	**Lithakia**	**1.99**	**301**	P	**Pb**	**19 16 14.6**	**-0.8**
ATAL	**Atalanti**	**1.99**	**1**	P	**Pn**	**19 16 13.1**	**+0.5**
THERA	**Ancient Thera,**	**2.03**	**99**	P	**Pn**	**19 16 14.2**	**+1.0**
ANX	**Ano Chora**	**2.07**	**336**	P	**Pn**	**19 16 14.9**	**+1.1**
ANX				S	**Sb**	**19 16 41.9**	**-0.5**
ANX	**Ano Chora**	**2.07**	**336**	P	**Pn**	**19 16 14.4**	**+0.7**
AXAR	**Agios Charalam**	**2.08**	**353**	P	**Pn**	**19 16 14.8**	**+1.0**
AXAR	**Agios Charalam**	**2.08**	**353**	P	**Pn**	**19 16 15.0**	**+1.1**
IDI	**Anoyia**	**2.09**	**132**	P	**Pn**	**19 16 14.1**	**+0.1**
IDI	**Anoyia**	**2.09**	**132**	P	**Pn**	**19 16 14.0**	**+0.1**
KYMI	**Kymi, Euboea I**	**2.13**	**24**	P	**Pn**	**19 16 15.2**	**+0.8**
KYMI				S	**Sn**	**19 16 41.7**	**+1.3**
KYMI	**Kymi, Euboea I**	**2.13**	**24**	P	**Pn**	**19 16 15.1**	**+0.7**
AGG	**Agios Georgios**	**2.38**	**348**	P	**Pn**	**19 16 19.0**	**+1.1**
EVR	**Evrytania**	**2.40**	**338**	P	**Pn**	**19 16 19.5**	**+1.2**
EVR	**Evrytania**	**2.40**	**338**	P	**Pn**	**19 16 19.5**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.41**	**344**	P	**Pn**	**19 16 19.9**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.41**	**344**	P	**Pn**	**19 16 20.0**	**+1.7**
AOS	**Alonnisos**	**2.57**	**16**	P	**Pn**	**19 16 20.5**	**0.0**
NPS	**Neapolis**	**2.57**	**123**	P	**Pn**	**19 16 21.8**	**+1.3**
THL	**Klokotos Trika**	**2.96**	**345**	P	**Pn**	**19 16 27.0**	**+1.1**
KARP	**Karpathos**	**3.57**	**108**	P	**Pn**	**19 16 36.1**	**+1.7**
MMAI	**Mount Meron Ar**	**10.84**	**106**	Pn	**Pn**	**19 18 14.2**	**0.0**
	1.2nm,0.3s,baz=295,slow=12,SNR=5.6						
	0.5nm,0.3s						
ESDC	**Sonseca Array**	**21.36**	**286**	P	**P**	**19 20 30.5**	**+4.4**
	0.5nm,0.5s,baz=78,slow=9.7,SNR=7.7						
	0.5nm,0.5s						
HFS	**Hagfors**	**24.20**	**349**	P	**P**	**19 20 53.9**	**-1.1**
	0.7nm,0.4s,baz=159,slow=11,SNR=5.6						
	0.7nm,0.4s						
EKA	**Eskdalemuir Ar**	**25.77**	**325**	P	**P**	**19 21 11.3**	**+2.0**
	2.3nm,0.6s,baz=124,slow=9.1,SNR=14						
	2.3nm,0.6s						
KURBB	**Kurchatov Arra**	**41.56**	**52**	P	**P**	**19 23 25.0**	**-1.1**
	0.3nm,0.4s,baz=272,slow=8.0,SNR=2.2						
KURBB				LR	LR	19 45 22.2	
	comp=Z,79nm,18.2s,baz=170,slow=43						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.42**	**58**	P	**P**	**19 23 48.8**	**-0.7**
	0.4nm,0.7s,baz=274,slow=7.6,SNR=5.2						
MKAR				LR	LR	19 46 15.6	
	comp=Z,97nm,19.8s,baz=284,slow=42						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**45.24**	**47**	P	**P**	**19 23 54.7**	**-1.1**
	0.6nm,0.4s,baz=273,slow=7.4,SNR=3.9						
	0.6nm,0.4s						
SHEM	**Shemya Is, Ala**	**87.46**	**17**	LR	LR	20 13 28.4	
	comp=Z,50nm,18.4s,baz=104,slow=40						

IDC 25 19:17:29.1±3.5, 20˚.09N×121˚.10E, h0^{km}, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=313.1km s-min=21.9km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.30**	**319**	P	P	19 25 16.7	+0.3
	0.4nm,0.5s,baz=118,slow=9.8,SNR=4.9						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**41.84**	**161**	P	P	19 25 20.4	-0.6
	0.7nm,0.7s,baz=342,slow=8.3,SNR=4.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**45.24**	**163**	P	P	19 25 48.6	+0.2
	0.9nm,0.7s,baz=342,slow=7.0,SNR=14						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**45.24**	**323**	P	P	19 25 47.7	-0.5
	0.7nm,0.7s,baz=124,slow=7.5,SNR=6.9						
	0.7nm,0.7s						

*MOS **25** 20:30:18.9±1.0, 2˚.73N×78˚.03W, h67^{km}, mb5.1/43, Error ellipse: s-maj=9.6km s-min=6.0km az=85.2*

*RSNC **25** 20:30:19.8±0.0, 3˚N±1˚×7˚8W±˚, h58^{km}±6^{km}, M5.1, mb5.7, mB5.8, ML4.7, Mw5.0, Mw(mB)5.3, MwMwp4.7, Mwp5.0*

*VAO **25** 20:30:19.3±0.5, 2˚.72N×77˚.85W, h52^{km}±4^{km}, mb5.0*

*NEIC **25** 20:30:20.3, 2˚.75N×77˚.85W, h60^{km}, Moment Tensor Solution. Duration: 19§6 Moment tensor: Scale 10^{16}Nm; M_{rr}0.22; $M_{\theta\theta}$-2.01; $M_{\phi\phi}$1.79; $M_{r\theta}$1.29; $M_{\theta\phi}$-2.64; $M_{\phi r}$-0.95; Fault plane solution: $M_0$3.63000×10^{16} NP1: ϕ_s199.82000°, δ65.40000°, λ8.04000°. NP2: ϕ_s106.46000°, δ82.70000°, λ155.19000°. Principal axes: T 3.7383, Plg23.0000°, Azm60.0000°; N -0.2260, Plg64.0000°, Azm271.0000°; P -3.5122, Plg12.0000°, Azm155.0000°;*

*NEIC **25** 20:30:20.2±2.2, 2˚.73N±0.07˚×78˚.04W±0.08, h61^{km}±6^{km}, mb5.1/167, Mww5.0/20 Error ellipse: s-maj=12.8km s-min=9.2km az=114.0*

*NEIC **25** 20:30:20.3, 2˚.75N×77˚.95W, h60^{km}*

*IDC **25** 20:30:21.2±0.7, 2˚.74N×77˚.97W, h75^{km}±5^{km}, mb4.2/27, mbtmp4.7/33, MS3.6/43, Error ellipse: s-maj=10.4km s-min=8.9km az=59.0*

*GCMT **25** 20:30:23.2±0.2, 2˚.83N±0.01˚×78˚.01W±0.02, h57^{km}±2^{km}, MW5.0/96, Moment Tensor Solution. s43,c49; s96,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.03±.14; $M_{\theta\theta}$-2.51±.10; $M_{\phi\phi}$2.48±.13; $M_{r\theta}$1.78±.07; $M_{\theta\phi}$-1.90±.08; $M_{\phi r}$-1.17±.10; Best double couple: $M_0$3.78600×10^{16} NP1: ϕ_s208.00000°, δ56.00000°, λ2.00000°. NP2: ϕ_s116.00000°, δ88.00000°, λ146.00000°. Principal axes: T 3.8980, Plg25.0000°, Azm66.0000°; N -0.2230, Plg56.0000°, Azm293.0000°; P -3.6750, Plg22.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **25** 20:30:34.8, 4˚.60N×74˚.61W, h33^{km}, mb5.0, Ms3.8*

ISC 25 20:30:18.6±0.4, 2˚.78N±0˚.03×78˚.05W±0˚.03, h53^{km}±3^{km}, h53^{km}:pP-P, n521, σ1§58/494, mb5.0/187, MS3.7/39, 2C-15D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**0.25**	**332**	P	**Pn**	**20 30 29.7**	**+2.0**
GR1C				S	**Sn**	**20 30 37.3**	**+3.2**
BBAC	**Balboa, Cauca**	**1.10**	**133**	P	**Pn**	**20 30 38.8**	**+0.8**
BBAC				S	**Sn**	**20 30 53.1**	**+0.8**
POPC	**Popayan, Colom**	**1.39**	**100**	P	**Pn**	**20 30 42.5**	**+0.5**
POPC				S	**Sn**	**20 31 00.6**	**+1.2**
JAMC	**Jamundi, Valle**	**1.44**	**72**	P	**Pn**	**20 30 43.0**	**+0.4**
JAMC				S	**Sn**	**20 31 00.4**	**-0.2**
CRUC	**La Cruz**	**1.63**	**138**	P	**Pn**	**20 30 47.5**	**+2.2**
CRUC				S	**Sn**	**20 31 08.0**	**+2.7**
CMBC	**Cumbal**	**1.84**	**173**	P	**Pn**	**20 30 49.4**	**+1.0**
CMBC				S	**Sn**	**20 31 11.3**	**+0.7**
TULM	**Tulcn-Chalpat**	**2.06**	**173**	P	**Pn**	**20 30 53.8**	**+2.4**
TULM				S	**Sn**	**20 31 18.7**	**+2.5**
YOTC	**Yotoco, Valle**	**2.08**	**55**	P	**Pn**	**20 30 50.9**	**-0.4**
YOTC				S	**Sn**	**20 31 14.6**	**-1.5**
BONI	**La Bonita**	**2.37**	**167**	P	**Pn**	**20 30 58.0**	**+2.7**
CUSE	**Cuicocha Este**	**2.48**	**188**	P	**Pn**	**20 30 58.5**	**+1.5**
CUSE				S	**Sn**	**20 31 26.8**	**+0.5**
OTAV	**Otavalo**	**2.56**	**189**		**Pn**	**20 30 59.5**	**+1.5**
OTAV				Sn	**Sn**	**20 31 28.9**	**+0.7**
OTAV	**Otavalo**	**2.56**	**189**	P	**Pn**	**20 30 59.1**	**+1.0**
OTAV	**Otavalo**	**2.56**	**189**	*eP*	**Pn**	**20 30 58.6**	**+0.5**
PAC1	**Pacto, Paraso**	**2.60**	**197**	P	**Pn**	**20 30 58.4**	**0.0**
PAC1				S	**Sn**	**20 31 27.4**	**-1.5**
GARC	**Garzon, Huila**	**2.62**	**103**	P	**Pn**	**20 31 01.6**	**+2.8**
GARC				S	**Sn**	**20 31 32.5**	**+3.0**
FLOC	**Florencia**	**2.67**	**116**		**Pn**	**20 31 01.7**	**+2.4**
FLOC	**Florencia**	**2.67**	**116**	P	**Pn**	**20 31 02.0**	**+2.7**
FLOC				S	**Sn**	**20 31 33.1**	**+2.6**
PLMC	**San Jos del P**	**2.75**	**40**	P	**Pn**	**20 31 00.1**	**-0.3**
PLMC				S	**Sn**	**20 31 32.0**	**-0.5**
ORTC	**Ortega, Tolima**	**3.02**	**68**	P	**Pn**	**20 31 06.3**	**+2.3**
ORTC				S	**Sn**	**20 31 44.1**	**+5.1**
ANIL	**Santa Ana**	**3.14**	**57**	P	**Pn**	**20 31 07.4**	**+1.5**
ANIL				S	**Sn**	**20 31 44.5**	**+2.1**
PRAC	**Prado**	**3.29**	**74**	P	**Pn**	**20 31 10.4**	**+2.6**
PRAC				S	**Sn**	**20 31 49.0**	**+3.2**
NIZA	**Niza - Manizal**	**3.43**	**49**	P	**Pn**	**20 31 11.8**	**+1.9**
NIZA				S	**Sn**	**20 31 51.3**	**+1.9**
RECRC	**Villamaria, Ca**	**3.46**	**51**	P	**Pn**	**20 31 12.3**	**+1.8**
RECRC				S	**Sn**	**20 31 52.2**	**+1.7**
SOLC	**Bahia Solano**	**3.48**	**11**	P	**Pn**	**20 31 10.6**	**+0.2**
SOLC				S	**Sn**	**20 31 48.1**	**-2.3**
GUY2C	**Guyana, Caldas**	**3.62**	**48**	P	**Pn**	**20 31 14.5**	**+1.9**
GUY2C				S	**Sn**	**20 31 57.9**	**+3.6**
CBOC	**Ciudad Bolivar**	**3.68**	**33**	P	**Pn**	**20 31 12.0**	**-1.2**
CBOC				S	**Sn**	**20 31 54.1**	**-1.3**
URMC	**La Uribe, Meta**	**3.70**	**83**	P	**Pn**	**20 31 15.4**	**+2.1**
URMC				S	**Sn**	**20 32 07.6**	**+12**
MAPC	**Malpelo**	**3.75**	**289**	P	**Pn**	**20 31 15.2**	**+1.1**
MAPC				S	**Sn**	**20 31 54.6**	**-2.4**
PIAT	**Ana Tenorio**	**3.76**	**183**	P	**Pn**	**20 31 17.4**	**+2.9**
PIAT				S	**Sn**	**20 32 04.1**	**+6.5**
NORC	**Norcasia**	**4.21**	**49**	P	**Pn**	**20 31 22.1**	**+1.7**
NORC				S	**Sn**	**20 32 10.7**	**+2.4**
HELC	**Santa Helena**	**4.22**	**36**	P	**Pn**	**20 31 21.8**	**+1.0**
HELC				S	**Sn**	**20 32 09.2**	**+0.2**
MACC	**Macarena, Meta**	**4.25**	**98**	P	**Pn**	**20 31 22.9**	**+2.1**
MACC				S	**Sn**	**20 32 09.5**	**+0.3**
ROSC	**El Rosal**	**4.25**	**61**	P	**Pn**	**20 31 24.4**	**+3.2**
	2µm,0.7s,baz=242,slow=2.1,SNR=474						
ROSC				S	**Sn**	**20 32 13.2**	**+3.5**
	666nm,0.6s,baz=82,slow=22,SNR=4.9						
ROSC				LR	LR	20 33 16.1	
	comp=Z,2µm,19.4s,baz=241,slow=42						
ROSC	**El Rosal**	**4.25**	**61**	P	**Pn**	**20 31 24.3**	**+3.1**
CVER	**Cruz Verde, Cu**	**4.33**	**66**	P	**Pn**	**20 31 24.6**	**+2.2**
CVER				S	**Sn**	**20 32 21.5**	**+10**
PTAC	**Punta Ardita,**	**4.35**	**3**	P	**Pn**	**20 31 23.4**	**+1.2**
PTAC				S	**Sn**	**20 32 07.6**	**-4.0**
VILC	**Villavicencio,**	**4.55**	**73**	P	**Pn**	**20 31 28.5**	**+3.4**
VILC				S	**Sn**	**20 32 23.7**	**+7.0**
DBBC	**Dabeiba**	**4.59**	**23**	P	**Pn**	**20 31 27.6**	**+1.9**
DBBC				S	**Sn**	**20 32 21.2**	**+3.4**
PPLP	**Puerto Lpez**	**5.09**	**212**	P	**Pn**	**20 31 33.2**	**+0.8**
PPLP				S	**Sn**	**20 32 29.0**	**-0.9**
PTBC	**PUERTO BERRIO,**	**5.18**	**44**	P	**Pn**	**20 31 36.7**	**+3.1**
	4µm490nm,0.8s						
PTBC				S	**Sn**	**20 32 33.5**	**+1.4**
	4µm490nm,0.8s						
APAC	**Apartado, Choc**	**5.29**	**16**	P	Pn	20 31 40.2	+5.0
	6µm594nm,0.9s						
APAC				S	**Sn**	**20 32 41.0**	**+6.1**
	6µm594nm,0.9s						
CACAO	**El Cacao, Vera**	**5.33**	**328**	P	**Pn**	**20 31 36.1**	**+0.4**
	11µm654nm,0.7s						
CACAO				S	**Sn**	**20 32 33.4**	**-2.4**
	11µm654nm,0.7s						
COHC	**Cochancay**	**5.35**	**193**		**Pn**	**20 31 36.5**	**+0.6**
AZU	**Azuero**	**5.45**	**336**	P	**Pn**	**20 31 38.4**	**+1.1**
	20µm657nm,0.6s						
AZU				S	**Sn**	**20 32 37.2**	**-1.6**
	20µm657nm,0.6s						
UREC	**San Jos de Ur**	**5.54**	**27**	P	**Pn**	**20 31 41.0**	**+2.4**
UREC				S	**Sn**	**20 32 42.3**	**+1.3**
ZARC	**Zaragoza, Cauc**	**5.66**	**34**	P	**Pn**	**20 31 43.9**	**+3.7**
	4µm551nm,0.7s						
ZARC				S	**Sn**	**20 32 45.6**	**+1.6**
	4µm551nm,0.7s						
RUSC	**La Rusia**	**5.84**	**58**		**Pn**	**20 31 44.9**	**+1.8**
CAPC	**Capurgana**	**5.86**	**7**	P	**Pn**	**20 31 45.6**	**+2.6**
	20µm819nm,0.5s						
CAPC				S	**Sn**	**20 32 48.2**	**-0.7**
	20µm819nm,0.5s						
BRJC	**Barrancabermej**	**5.98**	**46**	P	**Pn**	**20 31 46.8**	**+2.2**
	3µm7µm368nm,0.7s						
BRJC				S	**Sn**	**20 32 51.4**	**-0.4**
	3µm7µm368nm,0.7s						
LCBC	**Los crdobas,**	**6.27**	**15**	P	**Pn**	**20 31 53.2**	**+4.7**

ILAM	**Ilet Lapin Mar**	**20.72**	**54**	P		**P**		**20 34 52.1**	**-2.7**
ILAM	**Ilet Lapin Mar**	**20.72**	**54**	*e*P		**P**		**20 34 54.5**	**-0.3**
TBG	**Guadaloupe-3**	**20.73**	**50**	*e*P		**P**		**20 34 53.6**	**-1.3**
DLPL	**La Plaine**	**20.73**	**52**	*e*P		**P**		**20 34 55.8**	**+0.8**
ATGZ	**Broadband at L**	**20.82**	**49**	*e*P		**P**		**20 34 55.5**	**-0.3**
MMLZ	**Guadeloupe Bro**	**20.83**	**50**	*e*P		**P**		**20 34 54.0**	**-1.9**
SKOC	**St. Kitts, UWI**	**20.84**	**45**	*e*P		**P**		**20 34 55.7**	**-0.3**
SKOC	**St. Kitts, UWI**	**20.84**	**45**	*e*P		**P**		**20 34 55.9**	**-0.2**
MLYT	**Lee's Yard**	**20.86**	**47**	*e*P		**P**		**20 34 55.5**	**-0.9**
MBFL	**Flemmings, Mon**	**20.86**	**47**	*e*P		**P**		**20 34 56.1**	**-0.3**
SKI	**Saint Kitts**	**20.86**	**45**	*e*P		**P**		**20 34 57.3**	**+1.0**
CBE	**Ff, Capester**	**20.89**	**50**	P		**P**		**20 34 56.5**	**-0.2**
DHSZ	**Broadband at M**	**20.89**	**49**	*e*P		**P**		**20 34 55.5**	**-1.1**
BBGH	**Gun Hill**	**20.99**	**60**	P		**P**		**20 34 57.4**	**-0.4**
MAGL	**Barre de l'ile**	**21.07**	**51**	P		**P**		**20 34 56.0**	**-2.6**
LPAZ	**La Paz**	**21.33**	**153**			**P**		**20 35 01.4**	**-0.7**
LPAZ					IAmb	IAmb		20 35 03.0	
	comp=Z,86nm,0.9s								
LPAZ	**La Paz**	**21.33**	**153**	P		**P**		**20 35 02.2**	**+0.2**
	comp=Z,66nm,0.8s,baz=336,slow=8.1,SNR=242								
	comp=Z,66nm,0.8s								
LPAZ	**La Paz**	**21.33**	**153**	*e*P		**P**		**20 35 01.7**	**-0.3**
LPAZ					pmax	pmax			
	comp=Z,66nm,0.8s								
LPAZ	**La Paz**	**21.33**	**153**	*e*P		**P**		**20 35 02.0**	**0.0**
DSDZ	**La Diserade, G**	**21.45**	**50**	*e*P		**P**		**20 35 01.9**	**-0.8**
GDSD	**La Dsirade Is**	**21.45**	**50**	IAmb		IAmb		20 35 05.8	
	comp=Z,84nm,0.8s								
ANWB	**Willy Bob**	**21.76**	**46**	*e*P		**P**		**20 35 04.4**	**-1.6**
CMIG	**Matías Romero**	**21.81**	**312**	P		**P**		**20 35 09.7**	**+3.2**
	comp=Z,1.7nm,0.7s,baz=138,slow=11,SNR=4.6								
ITTB	**Itaituba**	**23.40**	**108**	*e*P		**P**		**20 35 21.9**	**-1.2**
VILB	**Vilhena**	**23.63**	**132**	*e*P		**P**		**20 35 24.6**	**-0.6**
PB11	**IPOC Station P**	**23.87**	**160**			**P**		**20 35 28.1**	**+0.5**
MAL2	**Monte Alegre,**	**24.33**	**101**	P		**P**		**20 35 31.8**	**+0.1**
PB08	**IPOC Station P**	**24.39**	**159**	IAmb		IAmb		20 35 44.1	
	comp=Z,132nm,1.2s								
NPGB	**Novo Progresso**	**24.66**	**113**	*e*P		**P**		**20 35 34.1**	**-0.6**
SIV	**San Ignacio**	**25.09**	**139**	LR		LR		20 45 22.7	
	comp=Z,294nm,18.1s,baz=314,slow=36								
PB01	**IPOC Station P**	**25.12**	**161**	IAmb		IAmb		20 35 44.0	
	comp=Z,121nm,1.2s								
PB02	**IPOC Station P**	**25.25**	**162**	P		**P**		**20 35 41.1**	**+1.1**
MDP	**Montagnes des**	**25.45**	**84**	LR		LR		20 46 57.2	
	comp=Z,118nm,21.1s,baz=242,slow=39								
PDRB	**Porto dos Gac**	**25.57**	**124**	*e*P		**P**		**20 35 42.1**	**-0.9**
CLDB	**Colider**	**25.97**	**122**	*e*P		**P**		**20 35 47.3**	**+0.8**
PTLB	**Pontes e Lacer**	**26.04**	**135**	P		**P**		**20 35 46.3**	**-0.9**
PTLB	**Pontes e Lacer**	**26.04**	**135**	*e*P		**P**		**20 35 46.2**	**-0.9**
PB05	**IPOC Station P**	**26.60**	**164**	IAmb		IAmb		20 36 01.3	
	comp=Z,45nm,0.7s								
PB14	**IPOC Station P**	**28.23**	**165**	IAmb		IAmb		20 36 09.8	
	comp=Z,51nm,1.2s								
SALV	**Santo Antonio**	**28.87**	**131**	*e*P		**P**		**20 36 11.7**	**-0.8**
GO02	**Mina Guanaco**	**28.96**	**164**	IAmb		IAmb		20 36 17.6	
	comp=Z,35nm,0.7s								
BRAL	**Brewton**	**29.49**	**344**	IAmb		IAmb		20 36 25.0	
	comp=Z,34nm,0.5s								
PRPB	**Parauapebas**	**29.56**	**108**	*e*P		**P**		**20 36 17.8**	**-0.9**
AC01	**Pan de Azucar**	**29.65**	**166**	IAmb		IAmb		20 36 21.6	
	comp=Z,34nm,0.9s								
SNDB	**Serra Nova Dou**	**30.37**	**119**	*e*P		**P**		**20 36 24.4**	**-1.4**
TMAB	**Tom-Au,PA,Br**	**30.38**	**99**	*e*P		**P**		**20 36 26.1**	**+0.2**
PP1B	**Ponte de Pedra**	**30.53**	**132**	*e*P		**P**		**20 36 26.8**	**-0.5**
AC02	**Maricunga**	**30.68**	**164**	IAmb		IAmb		20 36 32.3	
	comp=Z,39nm,0.8s								
AC06	**Mina Casimiro**	**30.87**	**167**	IAmb		IAmb		20 36 32.5	
	comp=Z,25nm,0.8s								
GOGA	**Godfrey**	**30.89**	**351**	P		**P**		**20 36 31.5**	**+1.3**
GOGA	**Godfrey**	**30.89**	**351**	P		**P**		**20 36 31.5**	**+1.3**
GOGA					pmax	pmax			
	comp=Z,13nm,0.9s								
GO03	**Copiapo**	**31.12**	**166**	IAmb		IAmb		20 36 34.8	
	comp=Z,23nm,0.9s								
AC04	**Llanos de Chal**	**31.53**	**168**	P		**P**		**20 36 36.8**	**+0.9**
AC04					IAmb	IAmb		20 37 19.3	
	comp=Z,75nm,1.6s								
HODGE	**Hodges**	**31.54**	**353**	P		**P**		**20 36 34.5**	**-1.3**
ARAG	**Araguaiana, MT**	**31.80**	**126**	*e*P		**P**		**20 36 36.9**	**-1.5**
AQDB	**Aquidauana**	**31.85**	**138**	*e*P		**P**		**20 36 37.9**	**-0.9**
HKT	**Hockley**	**31.85**	**330**	*i* P		**P**		**20 36 40.3**	**+1.7**
HKT					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BBSR	**BB Station**	**32.00**	**22**	P		**P**		**20 36 38.6**	**-1.3**
BBSR					IAmb	IAmb		20 36 45.0	
	comp=Z,26nm,0.9s								
BG3	**Lake Jocassee**	**32.37**	**353**	IAmb		IAmb		20 36 46.0	
	comp=Z,23nm,1.1s								
LCO	**Las Campanas**	**32.38**	**168**	P		**P**		**20 36 44.0**	**+0.3**
LCO					IAmb	IAmb		20 36 45.7	
	comp=Z,28nm,0.8s								
LCO	**Las Campanas**	**32.38**	**168**	P		**P**		**20 36 44.0**	**+0.3**
LCO					pmax	pmax			
	comp=Z,28nm,0.8s								
LCO	**Las Campanas**	**32.38**	**168**	P		**P**		**20 36 45.1**	**+1.4**
SMTB	**Santa Maria do**	**32.49**	**111**	*e*P		**P**		**20 36 44.1**	**-0.4**
V58A	**Windy Hill, Pi**	**32.87**	**358**	IAmb		IAmb		20 36 49.9	
	comp=Z,20nm,0.9s								
V53A	**Saluda**	**33.02**	**353**	P		**P**		**20 36 49.5**	**+0.5**
V53A					IAmb	IAmb		20 36 51.4	
	comp=Z,30nm,1.5s								
RPRD	**Ribas do Rio P**	**33.24**	**135**	*e*P		**P**		**20 36 49.8**	**-1.2**
U56A	**King**	**33.47**	**357**	IAmb		IAmb		20 38 06.6	
	comp=Z,30nm,1.2s								
GO04	**Tololo Observa**	**33.49**	**169**	IAmb		IAmb		20 37 07.8	
	comp=Z,36nm,0.8s								
V48A	**Smith Brothers**	**33.79**	**347**	IAmb		IAmb		20 37 17.6	
	comp=Z,21nm,1.1s								
TZTN	**Tazewell**	**33.98**	**352**	P		**P**		**20 36 57.5**	**+0.2**
TZTN					IAmb	IAmb		20 37 24.4	
	comp=Z,59nm,1.8s								
AMBA	**Amambai (Brazi**	**34.04**	**140**	*e*P		**P**		**20 36 56.5**	**-1.5**
T57A	**Hurt**	**34.07**	**358**	IAmb		IAmb		20 37 00.5	
	comp=Z,26nm,0.9s								
WVT	**Waverly**	**34.40**	**346**	P		**P**		**20 37 00.6**	**-0.2**
WVT					PcP	**PcP**		**20 39 36.3**	**+0.7**
SJPY	**San Joaquin**	**34.87**	**144**	*e*P		**P**		**20 37 03.2**	**-1.9**
BDFB	**Brasilia**	**34.90**	**123**	P		**P**		**20 37 05.2**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=281,slow=8.9,SNR=8.1								
BDFB					LR	LR		20 50 49.9	
	comp=Z,111nm,19.4s,baz=325,slow=35								
	comp=Z,1.7nm,0.7s								
CPUP	**Villa Florida**	**35.20**	**147**	P		**P**		**20 37 06.2**	**-1.7**
CPUP	**Villa Florida**	**35.20**	**147**	P		**P**		**20 37 06.2**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=195,slow=9.6,SNR=11								
CPUP					LR	LR		20 53 50.1	
	comp=Z,54nm,20.2s,baz=180,slow=40								
	comp=Z,1.2nm,0.7s								
CPUP	**Villa Florida**	**35.20**	**147**	P		**P**		**20 37 06.2**	**-1.7**
CPUP					pmax	pmax			
	comp=Z,10.0nm,1.7s								
CPUP	**Villa Florida**	**35.20**	**147**	P		**P**		**20 37 05.9**	**-2.0**
VA06	**Catapilco**	**35.73**	**170**	P		**P**		**20 37 12.4**	**+0.1**
TXAR	**Lajitas Array**	**35.91**	**320**	P		**P**		**20 37 15.9**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=135,slow=7.9,SNR=8.4								
TXAR					PcP	**PcP**		**20 39 42.1**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=140,slow=5.9,SNR=4.8								
TXAR					LR	LR		20 52 02.8	
	comp=Z,40nm,21.6s,baz=120,slow=36								
	comp=Z,0.8nm,0.8s								
VA03	**San Esteban**	**36.05**	**169**	P		**P**		**20 37 15.9**	**+0.7**
WCI	**Wyandotte Cave**	**36.08**	**349**	P		**P**		**20 37 15.3**	**0.0**
SDBA	**SAO DESIDERIO**	**36.22**	**115**	*e*P		**P**		**20 37 16.0**	**-0.9**
PEL	**Peldehue**	**36.40**	**170**	P		**P**		**20 37 18.2**	**+0.1**
PEL					pmax	pmax			
	comp=Z,91nm,1.0s								
PEL	**Peldehue**	**36.40**	**170**	P		**P**		**20 37 19.8**	**+1.7**
MT02	**Curacav**	**36.43**	**170**	IAmb		IAmb		20 37 23.6	
	comp=Z,34nm,0.9s								
MGMO	**Mountain Grove**	**36.63**	**341**	P		**P**		**20 37 18.9**	**-1.1**
MT03	**Universidad Ad**	**36.77**	**169**	P		**P**		**20 37 18.9**	**-2.5**
OLIL	**Olney**	**36.94**	**347**	IAmb		IAmb		20 37 23.2	
	comp=Z,17nm,0.8s								
MT01	**Popeta**	**37.01**	**171**	IAmb		IAmb		20 37 27.6	
	comp=Z,21nm,0.9s								
BLO	**Bloomington**	**37.04**	**349**	IAmb		IAmb		20 37 24.3	
	comp=Z,26nm,0.7s								
MVL	**Millersville**	**37.08**	**2**	P		**P**		**20 37 23.1**	**-0.6**
MVL					IAmb	IAmb		20 37 27.0	
	comp=Z,25nm,0.9s								
P48A	**Milroy**	**37.12**	**351**	IAmb		IAmb		20 37 24.3	
	comp=Z,12nm,0.7s								
CCM	**Cathedral Cave**	**37.13**	**343**	P		**P**		**20 37 22.7**	**-1.6**
CCM					IAmb	IAmb		20 37 47.2	
	comp=Z,19nm,0.8s								
CCM	**Cathedral Cave**	**37.13**	**343**	P		**P**		**20 37 22.7**	**-1.6**
CCM					pmax	pmax			
	comp=Z,19nm,0.8s								
PTGB	**Pitanga**	**37.20**	**139**	*e*P		**P**		**20 37 22.9**	**-2.2**
BO01	**Tunca**	**37.55**	**171**	P		**P**		**20 37 27.4**	**-0.4**
BO01					IAmb	IAmb		20 37 30.4	
	comp=Z,55nm,1.2s								
PMNB	**Patos De Minas**	**37.64**	**125**	*e*P		**P**		**20 37 29.4**	**+0.4**
VHRN	**Van Horn**	**37.73**	**320**	IAmb		IAmb		20 37 50.2	
	comp=Z,35nm,2.0s								
O48B	**Farmland**	**37.86**	**351**	IAmb		IAmb		20 37 31.1	
	comp=Z,13nm,0.7s								
M57A	**Sunshine Farm,**	**38.40**	**1**	IAmb		IAmb		20 37 38.1	
	comp=Z,26nm,0.9s								
PAOC	**Oil Creek Stat**	**38.59**	**358**	IAmb		IAmb		20 37 39.1	
	comp=Z,22nm,1.0s								
PSAL	**Palomas, Salto**	**38.90**	**151**	*e*P		**P**		**20 37 38.2**	**-0.9**
ITAB	**Concordia**	**38.92**	**142**	IAmb		IAmb		20 37 40.1	
	comp=Z,26nm,0.8s								
ITAB	**Concordia**	**38.92**	**142**	*e*P		**P**		**20 37 37.7**	**-1.8**
HDIL	**Hopedale**	**38.96**	**346**	IAmb		IAmb		20 37 39.2	
	comp=Z,20nm,0.5s								
BINY	**Binghamton**	**39.29**	**2**	P		**P**		**20 37 42.5**	**+0.1**
BINY					IAmb	IAmb		20 37 45.5	
	comp=Z,29nm,1.0s								
BI02	**San Fabin de**	**39.74**	**171**	IAmb		IAmb		20 37 50.7	
	comp=Z,15nm,0.8s								
K57A	**Scipio Center**	**39.80**	**2**	IAmb		IAmb		20 37 49.2	
	comp=Z,30nm,0.9s								
DIAM	**Diamantina, MG**	**39.81**	**123**	*e*P		**P**		**20 37 45.2**	**-2.0**
J57A	**Williamstown**	**40.50**	**2**	P		**P**		**20 37 53.9**	**+1.6**
J57A					IAmb	IAmb		20 37 54.7	
	comp=Z,21nm,0.8s								
CPSB	**Cacapava Do Su**	**40.51**	**146**	*e*P		**P**		**20 37 49.7**	**-2.9**
J59A	**Piesco**	**40.63**	**4**			**P**		**20 37 55.3**	**+1.8**
J59A					IAmb	IAmb		20 37 56.2	
	comp=Z,36nm,0.9s								
NCB	**Newcomb**	**41.16**	**4**	P		**P**		**20 37 59.1**	**+1.3**
NCB					IAmb	IAmb		20 38 00.5	
	comp=Z,27nm,1.1s								
ANMO	**Albuquerque**	**41.48**	**324**	P		**P**		**20 38 02.2**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=227,slow=8.6,SNR=11								
ANMO					LR	LR		20 57 52.9	
	comp=Z,74nm,19.9s,baz=226,slow=40								
	comp=Z,3.6nm,0.8s								
ANMO	**Albuquerque**	**41.48**	**324**	*i* P		**P**		**20 38 02.7**	**+1.9**
ANMO					pmax	pmax			
	comp=Z,4.0nm,0.9s								
ANMO	**Albuquerque**	**41.48**	**324**	P		**P**		**20 38 01.9**	**+1.1**
LBNH	**Lisbon**	**41.64**	**7**	IAmb		IAmb		20 38 04.3	
	comp=Z,22nm,0.8s								
SADO	**Sasowa**	**41.83**	**359**	LR		LR		20 57 27.2	
	comp=Z,58nm,19.4s,baz=159,slow=39								
FRNY	**Flat Rock**	**42.07**	**5**	IAmb		IAmb		20 38 08.0	
	comp=Z,37nm,1.1s								
CMC01	**Camacan, BA**	**42.17**	**116**	*e*P		**P**		**20 38 05.1**	**-1.4**
RPN	**Rapa Nui**	**42.36**	**223**	LR		LR		20 51 23.6	
	comp=Z,240nm,21.5s,baz=46,slow=30								
MNTQ	**Montreal, Queb**	**42.73**	**5**	IAmb		IAmb		20 38 13.2	
	comp=Z,49nm,1.0s								
G62A	**West of Eustis**	**42.78**	**8**	IAmb		IAmb		20 38 14.1	
	comp=Z,37nm,1.2s								
RCBR	**Riachuelo**	**42.95**	**102**	LR		LR		20 55 18.8	
	comp=Z,78nm,18.9s,baz=274,slow=35								
LR05	**Currie**	**43.16**	**173**			**P**		**20 38 14.7**	**+0.7**
LR05					IAmb	IAmb		20 38 16.0	
	comp=Z,32nm,0.7s								
TRQA	**Tornquist**	**43.27**	**161**			**P**		**20 38 15.2**	**+0.1**
TRQA					IAmb	IAmb		20 38 16.5	
	comp=Z,35nm,1.0s								
TRQA	**Tornquist**	**43.27**	**161**	P		**P**		**20 38 15.2**	**+0.1**
TRQA					pmax	pmax			
	comp=Z,35nm,1.0s								
GGN	**Saint George**	**43.30**	**12**	IAmb		IAmb		20 38 17.9	
	comp=Z,24nm,1.0s								
NBAN	**Anadia - AL**	**43.41**	**107**	*e*P		**P**		**20 38 15.3**	**-1.3**
F64A	**Sherman**	**43.74**	**10**	IAmb		IAmb		20 38 21.2	
	comp=Z,20nm,0.8s								
PLCA	**Paso Flores**	**43.84**	**172**			**P**		**20 38 20.9**	**+1.2**
PLCA					IAmb	IAmb		20 38 21.8	
	comp=Z,35nm,0.9s								
PLCA	**Paso Flores**	**43.84**	**172**	P		**P**		**20 38 20.5**	**+0.8**
	comp=Z,25nm,0.7s,baz=346,slow=9.2,SNR=77								
PLCA					LR	LR		20 55 53.7	
	comp=Z,52nm,21.3s,baz=352,slow=35								
	comp=Z,25nm,0.7s								
PLCA	**Paso Flores**	**43.84**	**172**	*e*P		**P**		**20 38 20.8**	**+1.1**
PLCA					pmax	pmax			
	comp=Z,25nm,0.7s								
PLCA	**Paso Flores**	**43.84**	**172**	P		**P**		**20 38 20.6**	**+0.9**
PLCA	**Paso Flores**	**43.84**	**172**	*e*P		**P**		**20 38 20.3**	**+0.6**
E62A	**Clayton Lake**	**44.30**	**8**	IAmb		IAmb		20 38 26.2	
	comp=Z,36nm,1.0s								
LMN	**Caledonia Moun**	**44.44**	**13**	IAmb		IAmb		20 38 26.1	
	comp=Z,20nm,0.7s								
ISCO	**Idaho Springs**	**44.53**	**329**	P		**P**		**20 38 27.3**	**+1.7**
ISCO					pmax	pmax			
	comp=Z,5.0nm,1.6s								
D62A	**Allapoint, All**	**44.82**	**9**	IAmb		IAmb		20 38 30.2	
	comp=Z,38nm,1.2s								
LMQ	**La Malbaie**	**45.09**	**7**	P		**P**		**20 38 31.1**	**+1.5**
LL01	**San Ignacio de**	**45.24**	**174**	IAmb		IAmb		20 38 31.7	
	comp=Z,12nm,0.6s								
LDAQ	**Lac Daran**	**45.39**	**6**	IAmb		IAmb		20 38 34.3	
	comp=Z,63nm,1.5s								
BATG	**Bathurst New B**	**45.53**	**11**	IAmb		IAmb		20 38 35.5	
	comp=Z,31nm,0.8s								
GLA	**Glamis**	**45.73**	**315**	P		**P**		**20 38 31.6**	**-3.3**
GLA					IAmb	IAmb		20 38 33.6	
	comp=Z,14nm,0.8s								
GLA	**Glamis**	**45.73**	**315**	P		**P**		**20 38 31.6**	**-3.3**
GLA					pmax	pmax			
	comp=Z,14nm,0.8s								
RSSD	**Black Hills**	**47.15**	**335**			**P**		**20 38 47.2**	**+1.1**
RSSD	**Black Hills**	**47.15**	**335**	P		**P**		**20 38 47.2**	**+1.1**
RSSD					pmax	pmax			
	comp=Z,12nm,0.8s								
RSSD	**Black Hills**	**47.15**	**335**	P		**P**		**20 38 47.3**	**+1.3**
PFO	**Pinyon Flats O**	**47.18**	**315**	LR		LR		20 57 56.4	
	comp=Z,77nm,19.3s,baz=127,slow=35								
EPLO	**Experimental L**	**48.59**	**346**	P		**P**		**20 38 56.5**	**-0.3**
EPLO					IAmb	IAmb		20 39 19.7	
	comp=Z,18nm,0.9s								
PDAR	**Pinedale Array**	**48.73**	**329**	P		**P**		**20 38 58.9**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=120,slow=8.8,SNR=8.2								
PDAR					pP	**sP**		**20 39 17.7**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=113,slow=10,SNR=6.9								
PDAR					LR	LR		21 00 37.5	
	comp=Z,51nm,21.7s,baz=118,slow=37								
	comp=Z,1.0nm,0.8s								
TPNV	**Topopah Spring**	**48.88**	**319**	P		**P**		**20 39 02.5**	**+3.0**
TPNV	**Topopah Spring**	**48.88**	**319**	P		**P**		**20 39 02.5**	**+3.0**
TPNV					pmax	pmax			
	comp=Z,5.0nm,0.9s								
DRLN	**Deer Lake**	**49.52**	**18**	P		**P**		**20 39 04.0**	**+0.1**
ULM	**Lac du Bonnet**	**49.66**	**345**	P		**P**		**20 39 04.2**	**-0.7**
	comp=Z,9.6nm,0.7s,baz=150,slow=8.2,SNR=12								
	comp=Z,9.6nm,0.7s								
RLMT	**Red Lodge**	**50.30**	**332**			**P**		**20 39 11.1**	**+0.9**
NVAR	**Mina Array Bea**	**51.06**	**319**	P		**P**		**20 39 16.9**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=131,slow=7.2,SNR=9.3								
NVAR					pP	**sP**		**20 39 37.0**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=130,slow=6.6,SNR=10								
	comp=Z,1.2nm,0.7s								
BOZ	**Bozeman (W)**	**51.79**	**330**	P		**P**		**20 39 22.7**	**+1.4**
SCHQ	**Schefferville**	**52.69**	**8**	P		**P**		**20 39 28.2**	**+0.6**
	comp=Z,15nm,0.7s,baz=199,slow=5.4,SNR=12								
SCHQ					LR	LR		21 01 35.5	
	comp=Z,62nm,21.4s,baz=190,slow=36								
	comp=Z,15nm,0.7s								
FFC	**Flin Flon**	**55.33**	**343**	P		**P**		**20 39 46.4**	**-0.4**
YBH	**Yreka Blue Hor**	**55.69**	**320**	LR		LR		21 04 50.4	
	comp=Z,5.4nm,19.7s,baz=118,slow=37								
NEW	**Newport**	**56.36**	**330**	LR		LR		21 06 25.1	
	comp=Z,39nm,18.9s,baz=130,slow=38								
NEW	**Newport**	**56.36**	**330**	P		**P**		**20 39 54.0**	**-0.4**
NEW					P	**sP**		**20 40 13.1**	**-1.8**
NEW					pmax	pmax			
	comp=Z,7.0nm,1.0s								
FRB	**Frobisher Bay**	**61.23**	**5**	LR		LR		21 07 56.9	
	comp=Z,67nm,21.1s,baz=214,slow=37								
BBB	**Bella Bella**	**64.36**	**328**	LR		LR		21 11 03.6	
	comp=Z,45nm,20.5s,baz=83,slow=38								
YKA	**Yellowknife Ar**	**65.47**	**342**	P		**P**		**20 40 55.5**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=134,slow=5.7,SNR=18								
YKA					pP	**sP**		**20 41 14.7**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=132,slow=5.9,SNR=8.8								
YKA					LR	LR		21 12 46.6	
	comp=Z,41nm,18.5s,baz=140,slow=39								
	comp=Z,2.1nm,0.7s								
YKA	**Yellowknife Ar**	**65.47**	**342**	*e*P		**P**		**20 40 55.4**	**-0.5**
YKA					pmax	pmax			
	comp=Z,3.0nm,0.8s								
YKAW3	**Yellowknife Wh**	**65.52**	**342**	P		**P**		**20 40 55.4**	**-0.9**
YKAW3					IAmb	IAmb		20 41 15.8	
	comp=Z,8.3nm,0.9s								
SFJD	**Kangerlussuaq**	**66.88**	**11**	LR		LR		21 08 46.8	
	comp=Z,49nm,21.5s,baz=210,slow=34								
ISOG	**Isortoq, Green**	**68.50**	**16**	*i* P		**P**		**20 41 14.8**	**-0.2**
ISOG					IAmb	IAmb		20 41 15.7	
	comp=Z,85nm,0.9s								
DLBC	**Dease Lake**	**68.62**	**334**	P		**P**		**20 41 16.9**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=91,slow=15,SNR=4.4								
DLBC					LR	LR		21 15 03.5	
	comp=Z,53nm,19.1s,baz=99,slow=39								
	comp=Z,2.2nm,0.7s								
ANGG	**Ammassalik, Gr**	**68.93**	**17**	*i* P		**P**		**20 41 17.0**	**-0.7**
SAQQ	**Saqqaq**	**69.29**	**9**	*i* P		**P**		**20 41 20.1**	**+0.2**
SAQQ					IAmb	IAmb		20 41 20.9	
	comp=Z,18nm,0.9s								
NIAQ	**Niaqornat**	**69.72**	**8**	*i* P		**P**		**20 41 24.7**	**+2.1**
NIAQ					IAmb	IAmb		20 41 26.2	
	comp=Z,67nm,1.3s								
SAATT	**Saattut**	**70.05**	**9**	*i* P		**P**		**20 41 24.9**	**+0.4**
NUUG	**Nuugaatsiaq**	**70.46**	**8**	*i* P		**P**		**20 41 27.8**	**+0.7**
NUUG					IAmb	IAmb		20 41 28.5	
	comp=Z,17nm,0.8s								
PFVI	**Vila Bisbo**	**71.81**	**52**	*e*P		**P**		**20 41 36.3**	**+0.3**
PARRA	**Arraiolos**	**71.97**	**50**	*e*P		**P**		**20 41 40.7**	**+3.9**
PTEO	**Sao Teotonio**	**71.97**	**51**	*e*P		**P**		**20 41 37.8**	**+0.9**
PTEO					*i* IAmb	IAmb		20 41 38.5	
	comp=Z,63nm,1.5s								
MORF	**Marmelete**	**71.98**	**52**	*e*P		**P**		**20 41 36.9**	**-0.1**
MORF					IAmb	IAmb		20 41 38.4	
	comp=Z,45nm,1.1s								
MORF	**Marmelete**	**71.98**	**52**	IAmb		IAmb		20 41 38.7	
	comp=Z,36nm,1.0s								
MORF	**Marmelete**	**71.98**	**52**	*e*P		**P**		**20 41 37.6**	**+0.5**
MORF					*i* IAmb	IAmb		20 41 39.5	
	comp=Z,58nm,1.6s								
MORF	**Marmelete**	**71.98**	**52**	*e*P		**P**		**20 41 36.9**	**-0.1**
MESJ	**Messejana**	**72.42**	**51**	*e*P		**P**		**20 41 39.3**	**-0.3**
MESJ					IAmb	IAmb		20 41 41.3	
	comp=Z,28nm,1.2s								
MESJ	**Messejana**	**72.42**	**51**	*e*P		**P**		**20 41 39.9**	**+0.3**
MESJ					*i* IAmb	IAmb		20 41 41.2	
	comp=Z,42nm,1.5s								
MESJ	**Messejana**	**72.42**	**51**	*e*P		**P**		**20 41 39.3**	**-0.3**
RES	**Resolute

SSB pmax pmax
comp=Z,13nm,0.9s
TAM Tamanrasset 83.01 68 P **P 20 42 38.9 -0.2**
TAM pmax pmax
comp=Z,11nm,1.1s
DOU Dourbes 83.16 40 *d*P **P 20 42 39.0 -0.1**
comp=Z,12nm,0.9s
NOR Nord 83.22 7 *i* P **P 20 42 39.4 +0.6**
NOR IAmb IAmb 20 42 40.5
comp=Z,5.0nm,0.8s
BMRD Maredsous 83.28 40 *d*P **P 20 42 39.8 +0.1**
comp=Z,5.9nm,0.9s
RCHB Rochefort 83.56 40 *d*P **P 20 42 41.2 +0.1**
comp=Z,10nm,0.9s
BCLA Clavier 83.63 40 *d*P **P 20 42 41.5 0.0**
comp=Z,4.4nm,0.9s
ORIF Oris-en-Rattie 83.75 45 P **P 20 42 42.7 +0.4**
ORIF pmax pmax
comp=Z,10.0nm,1.2s
BSTI Sart Tilman 83.81 40 *d*P **P 20 42 42.3 0.0**
comp=Z,2.7nm,1.0s
BELA Belgrano 2 83.90 172 **P 20 42 42.5 +0.2**
BHOU Houvegnez 84.07 40 *d*P **P 20 42 43.7 -0.1**
comp=Z,8.4nm,0.9s
MEM Membach 84.09 40 P **P 20 42 44.1 +0.3**
MEM pmax pmax
comp=Z,12nm,1.0s
MEM Membach 84.09 40 *d*P **P 20 42 43.5 -0.3**
comp=Z,7.5nm,1.1s
WLF Walferdange 84.14 41 IAmb IAmb 20 42 45.6
comp=Z,22nm,0.9s
WLF Walferdange 84.14 41 P **P 20 42 44.7 +0.6**
WLF pmax pmax
comp=Z,28nm,1.2s
WLF Walferdange 84.14 41 *d*P **P 20 42 44.5 +0.4**
comp=Z,17nm,0.9s
WLF Walferdange 84.14 41 *e*P **P 20 42 44.5 +0.4**
comp=Z,21nm,0.9s,baz=270,slow=5.1
BTNL Ternell 84.17 40 *d*P **P 20 42 44.5 +0.2**
comp=Z,4.5nm,1.1s
KMY Karmoy 84.19 31 *e*P **P 20 42 44.3 +0.2**
BNI Bardonecchia 84.32 45 P **P 20 42 46.3 +1.0**
BNI pmax pmax
comp=Z,7.0nm,1.2s
ISO Isola 84.56 46 P **P 20 42 46.9 +0.5**
ISO pmax pmax
comp=Z,12nm,1.1s
ECH Echery 84.75 42 **P 20 42 47.0 -0.2**
ECH IAmb IAmb 20 42 48.4
comp=Z,12nm,1.0s
ECH Echery 84.75 42 P **P 20 42 47.0 -0.2**
ECH pmax pmax
comp=Z,12nm,1.0s
BLS5 Blasjo 84.82 31 *e*P **P 20 42 48.3 +1.0**
BUG Bochum--Univer 84.92 39 P **P 20 42 48.5 +0.6**
BUG pmax pmax
comp=Z,15nm,1.4s
BUG Bochum--Univer 84.92 39 *e*P **P 20 42 48.3 +0.4**
comp=Z,52nm,1.8s,baz=270,slow=5.1
ODD1 Odda 84.94 30 *e*P **P 20 42 48.9 +0.9**
SNART Snartemo 85.16 32 *e*P **P 20 42 49.9 +0.9**
IBBN Ibbenburen 85.25 38 *e*P **P 20 42 49.7 +0.1**
comp=Z,39nm,1.5s,baz=270,slow=5.1
BFO Black Forest 85.53 42 P **P 20 42 50.8 -0.3**
BFO Black Forest 85.53 42 *e*P **P 20 42 50.8 -0.3**
comp=Z,4.3nm,0.9s,baz=270,slow=5.1
BFO *e*L L 21 15 48.8
comp=Z,28nm,21.5s
KASTN Kahler Asten 85.63 39 *e*P **P 20 42 51.6 0.0**
comp=Z,11nm,1.2s,baz=270,slow=5.1
TNS Taunus Mts 85.64 40 P **P 20 42 52.2 +0.5**
TNS pmax pmax
comp=Z,18nm,1.1s
TNS Taunus Mts 85.64 40 *e*P **P 20 42 52.0 +0.3**
comp=Z,19nm,1.1s,baz=270,slow=5.1
TNS *e*L L 21 15 28.8
comp=Z,35nm,21.3s
VNA3 Neumayer Olymp 85.79 162 ⇓P **P 20 42 52.1 +0.2**
comp=Z,9.6nm,0.9s
SKAR Skarslia 85.80 30 *e*P **P 20 42 53.0 +0.8**
VNA1 Neumayer--Stat 86.01 162 ⇓P **P 20 42 53.7 +0.8**
comp=Z,5.3nm,0.8s
MUD Monsted U'grnd 86.16 34 *i* P **P 20 42 55.2 +1.2**
MUD IAmb IAmb 20 42 55.9
comp=Z,17nm,0.6s
TUE Stuetta 86.21 44 IAmb IAmb 20 42 56.4
comp=Z,14nm,0.8s
RETH Rethem/Aller, 86.24 37 *e*P **P 20 42 55.1 +0.7**
comp=Z,32nm,1.2s,baz=270,slow=5.1
VSL Villasalto 86.26 51 IAmb IAmb 20 42 57.1
comp=Z,24nm,1.0s
KEST Kesra 86.28 55 P **P 20 42 56.4 +1.2**
comp=Z,4.4nm,0.8s,baz=272,slow=5.1,SNR=5.6
KEST LR LR 21 16 22.2
comp=Z,35nm,21.0s,baz=286,slow=32
comp=Z,4.4nm,0.8s
VNA2 Neumayer--Watz 86.37 162 ⇓P **P 20 42 55.1 +0.3**
comp=Z,3.9nm,0.6s,baz=303,slow=5.3
SSRD Sdr. Stenderup 86.41 35 *i* P **P 20 42 56.1 +0.8**
SSRD IAmb IAmb 20 42 57.0
comp=Z,33nm,0.8s
DAVA Damuels 86.57 43 *e*PcP **P 20 42 56.9 +0.5**
comp=Z,11nm,0.7s,SNR=15
DAVOX Davos/Dischmat 86.57 43 LR LR 21 17 43.9
comp=Z,13nm,18.4s,baz=262,slow=33
GTTG Gottingen 86.61 39 *e*P **P 20 42 57.2 +0.8**
comp=Z,22nm,1.1s,baz=270,slow=5.1
NRDL Niedersach Rie 86.69 38 *e*P **P 20 42 57.8 +1.1**
comp=Z,11nm,0.9s,baz=270,slow=5.1
FUORN Ofenpass-Fuorn 86.84 44 IAmb IAmb 20 42 59.6
comp=Z,12nm,1.1s
CLZ Clausthal 86.86 38 *e*P **P 20 42 58.5 +0.9**
comp=Z,18nm,0.9s,baz=270,slow=5.1
NC204 NORSAR Array S 87.01 29 IAmb IAmb 20 42 59.8
comp=Z,8.1nm,0.8s
FETA Feichten 87.15 43 *i* PcP **P 20 42 59.8 +0.5**
comp=Z,7.9nm,0.8s,SNR=12
RETA Reutte 87.17 43 *i* PcP **P 20 42 59.5 +0.3**
comp=Z,6.7nm,1.0s,SNR=6.4
NB2 NORSAR Subarra 87.23 29 P **P 20 42 59.7 +0.5**
comp=Z,13nm,0.9s,baz=269,slow=4.6
NB2 NORSAR Subarra 87.23 29 P **P 20 42 59.7 +0.5**
baz=269,slow=4.6
NOA NORSAR Array B 87.23 29 P **P 20 42 59.5 +0.3**
comp=Z,5.8nm,0.8s,baz=269,slow=4.8,SNR=20
comp=Z,5.8nm,0.8s
NOA NORSAR Array B 87.23 29 *e*P **P 20 42 59.7 +0.5**
NOA pmax pmax
comp=Z,6.0nm,0.8s
ZCCA Zocca 87.38 46 IAmb IAmb 20 43 01.6
comp=Z,17nm,1.0s
FLTG Flechtingen 87.38 38 *e*P **P 20 43 00.6 +0.5**
comp=Z,9.9nm,0.7s,baz=270,slow=5.1
NC602 NORSAR Array S 87.40 29 P **P 20 43 00.6 +0.6**
NC602 IAmb IAmb 20 43 02.0
comp=Z,8.5nm,0.8s
NC602 NORSAR Array S 87.40 29 *e*P **P 20 43 00.4 +0.4**
NORES NORESS Array B 87.40 29 P **P 20 43 00.9 +0.9**
NORES pmax pmax
comp=Z,1.0nm,0.7s
MOTA Moosalm 87.40 43 *e*PcP **P 20 43 00.6 +0.1**
comp=Z,5.8nm,0.7s,SNR=7.4
GRFO Grafenberg 87.43 41 P **P 20 42 59.1 -1.3**
GRFO pmax pmax
comp=Z,15nm,1.1s
GRF Grafenberg Arr 87.43 41 P **P 20 42 59.0 -1.4**
GRF pmax pmax
comp=Z,15nm,1.1s
GRF Grafenberg Arr 87.43 41 *e*P **P 20 43 01.2 +0.8**
comp=Z,14nm,1.1s,baz=270,slow=5.1
GRF *e*L L 21 15 46.9
comp=Z,51nm,22.0s
NC405 NORSAR Array S 87.47 29 **P 20 43 01.5 +1.1**
NC405 IAmb IAmb 20 43 02.0
comp=Z,14nm,0.9s
SQTA Sankt Quirin 87.48 43 *i* PcP **P 20 43 01.2 +0.3**
comp=Z,7.1nm,0.6s,SNR=7.7
FUR Furstenfeldbru 87.50 42 *e*L L 21 18 55.9
comp=Z,34nm,19.5s
GRC1 Grafenberg Arr 87.64 41 P **P 20 43 01.8 +0.3**
GRC1 pmax pmax
comp=Z,5.0nm,1.0s
MOX Moxa 87.66 40 P **P 20 43 01.4 -0.1**
MOX pmax pmax
comp=Z,8.0nm,1.3s
MOX Moxa 87.66 40 *e*P **P 20 43 02.0 +0.5**
comp=Z,15nm,1.5s,baz=270,slow=5.1

MOX *e*L L 21 16 17.1
comp=Z,45nm,21.6s
WATA Walderalm 87.72 43 *i* PcP **P 20 43 02.0 0.0**
comp=Z,3.6nm,0.7s
WTTA Wattenberg 87.77 43 *i* PcP **P 20 43 02.6 +0.3**
comp=Z,6.3nm,0.7s,SNR=7.2
MANZ Manzenberg 88.00 40 *e*P **P 20 43 04.0 +0.9**
comp=Z,1.7nm,0.8s,baz=270,slow=5.1
SNAA Sanae 88.00 162 ⇓P **P 20 43 03.0 +0.3**
comp=Z,167nm,0.5s
SNAA Sanae 88.00 162 P **P 20 43 02.8 +0.1**
comp=Z,7.6nm,0.6s,baz=267,slow=5.8,SNR=68
comp=Z,7.6nm,0.6s
SNAA Sanae 88.00 162 *i* P **P 20 43 02.8 +0.1**
SNAA pmax pmax
comp=Z,21nm,1.7s
PLN Plauen 88.01 40 *e*P **P 20 43 03.9 +0.7**
comp=Z,4.5nm,1.1s,baz=270,slow=5.1
ROTZ Rotzenmuhle 88.07 40 *e*P **P 20 43 04.3 +0.8**
comp=Z,2.5nm,1.4s,baz=270,slow=5.1
TANN Tannenbergstha 88.21 40 *e*P **P 20 43 05.1 +0.9**
comp=Z,15nm,1.0s,baz=270,slow=5.1
SPITS Spitsbergen Ar 88.21 12 P **P 20 43 03.7 +0.1**
comp=Z,2.0nm,0.5s,baz=284,slow=5.8,SNR=11
SPITS LR LR 21 21 46.7
comp=Z,29nm,21.9s,baz=280,slow=35
comp=Z,2.0nm,0.5s
ABTA Abfaltersbach 88.38 43 *i* PcP **P 20 43 05.5 +0.3**
comp=Z,14nm,0.9s,SNR=10
LESA Schwarzleotal 88.47 43 *i* PcP **P 20 43 05.8 +0.3**
comp=Z,7.8nm,0.6s,SNR=14
HFS Hagfors 88.48 30 P **P 20 43 05.3 +0.1**
comp=Z,5.6nm,0.7s,baz=251,slow=4.5,SNR=14
HFS LR LR 21 17 27.9
comp=Z,28nm,20.5s,baz=264,slow=32
comp=Z,5.6nm,0.7s
CLL Collm 88.51 39 ⇑*i* P **P 20 43 06.1 +0.6**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 88.51 39 *e*P **P 20 43 06.2 +0.8**
comp=Z,7.2nm,0.8s,baz=270,slow=5.1
CLL *e*L L 21 17 04.4
comp=Z,56nm,21.7s
CLL Collm 88.51 39 ⇑*i* P **P 20 43 06.1 +0.6**
comp=Z,9.0nm,0.8s
WET Wettzell 88.53 41 P **P 20 43 06.5 +0.8**
WET pmax pmax
comp=Z,15nm,1.1s
WET Wettzell 88.53 41 *e*P **P 20 43 06.5 +0.8**
comp=Z,15nm,1.0s,baz=270,slow=5.1
WET *e*L L 21 17 07.0
comp=Z,40nm,21.2s
RJOB Jochberg 88.53 42 *e*P **P 20 43 06.3 +0.5**
comp=Z,11nm,0.7s,baz=270,slow=5.1
KHC Kasperske Hory 88.99 41 *i* P **P 20 43 08.2 +0.3**
KHC pmax pmax
comp=Z,12nm,1.2s
KHC Kasperske Hory 88.99 41 *e*P **P 20 43 08.1 +0.2**
KHC AMS AMS 21 15 00.0
comp=Z,100nm,15.7s
GEC2 GERESS Array S 89.08 41 *e*P **P 20 43 08.7 +0.3**
comp=Z,4.6nm,0.9s,baz=270,slow=5.1
GERES GERESS Array B 89.08 41 P **P 20 43 08.5 +0.1**
comp=Z,5.0nm,0.8s,baz=298,slow=2.9,SNR=23
comp=Z,2.5nm,0.8s
BIOA Bad Ischl, Aus 89.11 42 *e*PcP **P 20 43 08.6 +0.2**
comp=Z,7.0nm,0.9s,SNR=9.8
BRG Berggiesshubel 89.13 39 P **P 20 43 08.9 +0.5**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG Berggiesshubel 89.13 39 *e*P **P 20 43 10.6 +2.2**
comp=Z,6.9nm,1.1s,baz=270,slow=5.1
BRG Berggiesshubel 89.13 39 *e*P **P 20 43 10.6 +2.2**
BRG Amp 20 43 11.7
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 89.13 39 S **S 20 53 55.0 +1.8**
MYKA Terra Mystica 89.17 44 *i* PcP **P 20 43 09.2 +0.4**
comp=Z,7.1nm,0.6s,SNR=5.2
CKRC Cesky Krumlov 89.49 41 *e*P **P 20 43 11.6 +1.4**
MOA Molln 89.52 42 *e*PcP **P 20 43 10.6 +0.3**
comp=Z,2.3nm,0.7s,SNR=6.7
PRU Pruhonice 89.56 40 P **P 20 43 11.1 +0.6**
PRU pmax pmax
comp=Z,6.0nm,1.4s
TROLL Troll, Antarti 89.71 162 ⇓P **P 20 43 11.6 +0.7**
comp=Z,610nm,0.5s
TREC Trest 90.23 41 P **P 20 43 14.3 +0.7**
TREC pmax pmax
comp=Z,5.0nm,1.0s
ARSA Arzberg 90.41 43 *e*PcP **P 20 43 14.8 +0.3**
comp=Z,2.1nm,0.6s
UPC Upice 90.47 40 P **P 20 43 15.6 +0.9**
UPC pmax pmax
comp=Z,6.0nm,1.5s
CHVC Chvalec 90.49 39 *e*P **P 20 43 11.6 -3.2**
CONA Conrad Observa 90.58 42 *e*PcP **P 20 43 15.9 +0.5**
comp=Z,3.8nm,0.8s
OSTC Ostas 90.59 40 *e*P **P 20 43 16.2 +0.9**
OSTC Ostas 90.59 40 *e*P **P 20 43 16.2 +0.9**
KSP Ksiaz 90.61 39 P **P 20 43 15.5 +0.1**
KSP pmax pmax
comp=Z,5.0nm,2.1s
DPC Dobruska-Polom 90.68 40 *e*P **P 20 43 16.9 +1.2**
DPC Dobruska-Polom 90.68 40 *e*P **P 20 43 16.9 +1.2**
KRUC Moravsky 90.84 41 *e*P **P 20 43 17.1 +0.7**
KRUC Moravsky 90.84 41 P **P 20 43 16.7 +0.3**
KRUC pmax pmax
comp=Z,5.0nm,1.4s
RONA Rosalia, Austr 90.90 42 *e*PcP **P 20 43 17.2 +0.4**
comp=Z,2.5nm,0.8s
VRAC Vranov 90.95 41 LR LR 21 19 51.1
comp=Z,28nm,21.7s,baz=266,slow=33
VRAC Vranov 90.95 41 *e*P **P 20 43 17.4 +0.4**
VRAC Vranov 90.95 41 P **P 20 43 17.6 +0.6**
VRAC pmax pmax
comp=Z,4.0nm,1.4s
KRLC Kraliky 91.00 40 *e*P **P 20 43 18.8 +1.6**
KRLC Kraliky 91.00 40 *e*P **P 20 43 18.8 +1.6**
MORC Moravsky Berou 91.52 40 *e*P **P 20 43 20.6 +1.0**
JAVC Velka Javorina 91.70 41 *e*P **P 20 43 22.0 +1.5**
ARCES ARCESS Array B 92.14 20 P **P 20 43 21.7 -0.4**
comp=Z,1.7nm,0.7s,baz=289,slow=4.8,SNR=6.0
ARCES LR LR 21 21 40.7
comp=Z,18nm,21.7s,baz=288,slow=33
comp=Z,1.7nm,0.7s
ARCES ARCESS Array B 92.14 20 *e*P **P 20 43 21.2 -0.8**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
QSPA South Pole Qui 92.81 180 **P 20 43 27.4 +2.1**
QSPA IAmb IAmb 20 43 28.2
comp=Z,8.5nm,0.8s
QSPA South Pole Qui 92.81 180 P **P 20 43 26.8 +1.5**
comp=Z,6.9nm,0.8s,baz=166,slow=1.6,SNR=31
comp=Z,6.9nm,0.8s
LANS Liptovska Anna 92.84 41 *e*P **P 20 43 28.8 +3.0**
LANS Liptovska Anna 92.84 41 *e*P **P 20 43 28.8 +3.0**
FINES FINESS Array B 94.30 28 P **P 20 43 31.9 -0.2**
comp=Z,1.8nm,0.8s,baz=244,slow=6.0,SNR=4.3
comp=Z,1.8nm,0.8s
FINES FINESS Array B 94.30 28 *i* P **P 20 43 30.6 -1.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
BZS Buzias 94.78 44 P **P 20 43 35.2 +0.5**
BZS pmax pmax
comp=Z,10.0nm,1.3s
DRGR 95.35 43 P **P 20 43 37.2 -0.2**
DRGR pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 96.79 340 *i* P **P 20 43 43.5 +0.2**
BILL pmax pmax
comp=Z,5.0nm,1.1s
BURAR Bucovina Array 96.87 42 P **P 20 43 45.6 +1.3**
MLR Muntele Rosu 97.80 44 LR LR 21 24 56.4
comp=Z,26nm,18.9s,baz=266,slow=34
AKASG Malin Array Be 98.71 38 LR LR 21 27 16.7
comp=Z,24nm,18.3s,baz=246,slow=35
VNDA Vanda 98.97 191 LR LR 21 24 10.0
comp=Z,79nm,18.1s,baz=154,slow=33
H11N3 WAKE ISLAND Hy 112.47 293 T T 22 50 55.1
baz=78,slow=75,SNR=9.4
H11N2 WAKE ISLAND Hy 112.47 293 T T 22 50 55.9
baz=78,slow=75,SNR=8.2
H11N1 WAKE ISLAND Hy 112.48 293 T T 22 50 55.1
baz=78,slow=75,SNR=6.4
ZALV Zalesovo Beam 121.69 12 PKP **PKPdf 20 49 05.8 -0.8**
comp=Z,1.3nm,0.4s,baz=342,slow=0.6,SNR=8.4
ZALV Zalesovo Beam 121.69 12 *e*PKIKP **PKPdf 20 49 06.0 -0.6**

ZALV pmax pmax
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 123.14 18 PKP **PKPdf 20 49 09.2 -0.3**
comp=Z,2.3nm,0.3s,baz=312,slow=2.1,SNR=6.3
MKAR Makanchi Array 127.68 17 PKP **PKPdf 20 49 17.9 -0.4**
comp=Z,1.1nm,0.6s,baz=344,slow=1.9,SNR=12
TRKS Terek-Say 127.76 29 PKIKP **PKiKP 20 49 20.4 +1.0**
SONM Songino Array 129.45 356 PKP **PKPdf 20 49 21.8 0.0**
comp=Z,0.6nm,0.7s,baz=12,slow=1.7,SNR=4.4
KSH Kashi 131.61 27 PKP **PKiKP 20 49 28.5 +1.3**
WMQ Urumqi 131.88 14 *e*PKP **PKPdf 20 49 22.5 -4.0**
WMQ sPKP 20 49 53.8
WMQ LR LR
comp=Z,160nm,23.8s
KSRS Korea Array 133.27 331 PKP **PKPdf 20 49 29.6 +0.4**
comp=Z,0.5nm,0.6s,baz=14,slow=1.8,SNR=4.0
KSRS Korea Array 133.27 331 *e*PKIKP **PKiKP 20 49 31.2 +0.9**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 135.70 350 *e*PKP **PKPdf 20 49 29.8 -4.0**
GTA Gaotai 137.97 2 PKP **PKPdf 20 49 37.5 -0.6**
LZH Lanzhou 141.30 358 *e*PKP **PKPdf 20 49 38.5 -5.8**
NJ2 Nanjing 141.82 336 *e*PKP **PKPdf 20 49 44.3 -0.8**
ASAR Alice Springs 142.78 233 PKhKP PKPpre 20 49 42.4
comp=Z,3.0nm,0.5s,baz=119,slow=3.7,SNR=63
XAN Xi'an 142.79 350 PKP **PKPdf 20 49 42.0 -4.8**
WR8 Warramunga Arr 143.93 239 PKPbc 20 49 46.9 -0.1
WRA Warramunga Arr 144.08 239 **PKPab 20 49 47.2 +0.2**
WRA Warramunga Arr 144.08 239 PKP **PKPab 20 49 46.8 -0.1**
comp=Z,16nm,0.9s,baz=113,slow=3.1,SNR=98
WRA Warramunga Arr 144.08 239 *e*PKIKP **PKPab 20 49 47.1 +0.2**
WRA pmax pmax
comp=Z,16nm,0.9s
WB0 Warramunga Arr 144.10 240 **PKPab 20 49 47.2 +0.2**
HYB Hyderabad 149.42 48 *e*PKiKP **PKPbc 20 50 03.3 +0.4**
HYB *es*PKiKP **sPKPab 20 50 28.3 -0.7**
PZH PanZhiHua 150.89 0 PKPbc **PKPdf 20 49 58.8 -1.9**
FITZ Fitzroy Crossi 152.23 235 PKPbc **PKPbc 20 50 09.2 -0.3**
comp=Z,8.2nm,0.6s,baz=145,slow=1.7,SNR=42
CMAR Chiang Mai Arr 158.69 8 PKPab **PKPab 20 50 46.4 -0.3**
comp=Z,3.1nm,0.7s,baz=329,slow=5.5,SNR=13

---

*JMA **25** 20:41:31.4±0.1, 24°.0N±0°.3×12°.2E±°, h8km±1km, MV3.4/11, TAIWAN REGION*
*TAP **25** 20:41:31.6, 24°.00N×121°.56E, h13km, ML3.9, B*
ISC 25 20:41:31.7±0.7, 23°.98N±0°.01×121°.58E±0°.02, h14km±4km, n150, ₀0°67/255, 13C-30D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.02**	**99**	⇑*i*	P	**Pg**	**20 41 34.8**	**+0.6**
HWA				*i*	S	**Sg**	**20 41 35.9**	**+0.1**
ETM	**Tongmen**	**0.08**	**260**	⇑*i*	P	**Pg**	**20 41 34.5**	**-0.2**
ETM				*i*	S	**Sg**	**20 41 35.3**	**-1.3**
TWD	**Chiawan**	**0.10**	**7**	⇑*i*	P	**Pg**	**20 41 34.8**	**0.0**
TWD				*i*	S	**Sg**	**20 41 36.8**	**-0.2**
TEYL	**Yanliau Villag**	**0.11**	**172**	⇑*i*	P	**Pb**	**20 41 35.1**	**-0.5**
TEYL				*i*	S	**Sg**	**20 41 37.1**	**+0.5**
LXIB	**Xiulin Townshi**	**0.16**	**285**	⇑*i*	P	**Pg**	**20 41 35.3**	**-0.4**
LXIB				*i*	S	**Sg**	**20 41 37.4**	**-1.1**
ETL	**Fush Village**	**0.18**	**12**	⇓*i*	P	**Pg**	**20 41 35.8**	**-0.2**
ETL				*i*	S	**Sg**	**20 41 38.1**	**-0.8**
NACB	**Ninganchiao**	**0.19**	**3**	P		**Pg**	**20 41 35.8**	**-0.3**
NACB	**Ninganchiao**	**0.19**	**3**	S		**Sg**	**20 41 38.6**	**-0.6**
NACB	**Ninganchiao**	**0.19**	**3**	⇓*i*	P	**Pg**	**20 41 35.9**	**-0.3**
NACB				*i*	S	**Sg**	**20 41 38.5**	**-0.7**
SHUL	**Shoufeng**	**0.19**	**185**	⇑*i*	P	**Pb**	**20 41 36.8**	**-0.2**
SHUL				*i*	S	**Sg**	**20 41 40.5**	**+1.4**
ETLH	**Xiulin Townshi**	**0.24**	**338**	⇓*i*	P	**Pg**	**20 41 36.8**	**-0.2**
ETLH				*e*	S	**Sg**	**20 41 40.1**	**-0.6**
TEGC	**Jichi Village**	**0.27**	**188**	⇑*i*	P	**Pb**	**20 41 38.2**	**-0.1**
TEGC				*e*	S	**Sb**	**20 41 42.6**	**-0.2**
WARBT	**Fenglin Townsh**	**0.32**	**214**	⇑*i*	P	**Pg**	**20 41 37.8**	**-0.4**
WARBT					S	**Sg**	**20 41 42.1**	**-0.6**
WHF	**Hehuan Shan**	**0.33**	**300**	⇓*i*	P	**Pg**	**20 41 38.4**	**-0.3**
WHF					S	**Sg**	**20 41 42.5**	**-1.0**
EGFH	**Guangfu**	**0.34**	**205**	*i*	P	**Pg**	**20 41 38.5**	**-0.1**
EGFH				*e*	S	**Pg**	**20 41 43.6**	**+0.2**
EHP	**Heping Village**	**0.36**	**24**	*e*	P	**Pg**	**20 41 39.1**	**+0.1**
EHP				*e*	S	**Sg**	**20 41 44.0**	**0.0**
OWD	**Renai**	**0.37**	**266**	⇓*i*	P	**Pg**	**20 41 39.1**	**-0.1**
OWD				*e*	S	**Sg**	**20 41 43.5**	**-0.9**
EAHA	**Aohua**	**0.38**	**22**	⇓*i*	P	**Pg**	**20 41 39.2**	**-0.1**
EAHA				*e*	S	**Sg**	**20 41 44.0**	**-0.4**
FUSS	**Fushou**	**0.41**	**311**	⇓*i*	P	**Pg**	**20 41 40.0**	**0.0**
FUSS				*e*	S	**Sg**	**20 41 45.5**	**-0.1**
WUSB	**Renai**	**0.42**	**272**	⇓*i*	P	**Pb**	**20 41 40.4**	**-0.7**
WUSB					S	**Sg**	**20 41 45.6**	**-0.4**
TWT	**Tachien**	**0.46**	**306**	⇓*i*	P	**Pb**	**20 41 41.1**	**-0.6**
TWT					S	**Sg**	**20 41 47.4**	**+0.3**
ENA	**Nanau**	**0.47**	**18**	⇓*i*	P	**Pg**	**20 41 40.9**	**-0.1**
ENA				*e*	S	**Sg**	**20 41 46.7**	**-0.6**
TDCB	**Techi**	**0.47**	**305**	⇓*i*	P	**Pg**	**20 41 41.1**	**0.0**
TDCB				*e*	S	**Sg**	**20 41 47.2**	**-0.3**
NNSB	**Datong**	**0.48**	**338**	⇓*i*	P	**Pg**	**20 41 41.3**	**0.0**
NNSB				*e*	S	**Sg**	**20 41 47.1**	**-0.7**
EWUT	**Wuta**	**0.50**	**21**	⇓*i*	P	**Pg**	**20 41 41.4**	**-0.1**
EWUT					S	**Sg**	**20 41 48.0**	**-0.1**
HGSD	**Ruisui**	**0.51**	**197**	*e*	P	**Pb**	**20 41 42.1**	**-0.2**
EHY	**Hungye**	**0.53**	**207**	⇑*i*	P	**Pg**	**20 41 41.7**	**-0.4**
EHY				*e*	S	**Sb**	**20 41 49.5**	**-0.7**
EHYH	**Wanrong**	**0.53**	**204**	⇑*i*	P	**Pg**	**20 41 41.9**	**-0.3**
EHYH				*e*	S	**Sg**	**20 41 49.0**	**-0.2**
LATG	**Datong**	**0.56**	**355**	⇓*i*	P	**Pg**	**20 41 42.5**	**-0.2**
LATG				*e*	S	**Sg**	**20 41 49.5**	**-0.5**
SSLB	**Suanglung**	**0.61**	**252**	P		**Pb**	**20 41 43.7**	**-0.4**
SSLB	**Suanglung**	**0.61**	**252**	S		**Sg**	**20 41 50.8**	**-0.8**
SSLB	**Suanglung**	**0.61**	**252**	P		**Pg**	**20 41 43.5**	**-0.1**
SSLB				S		**Sg**	**20 41 50.6**	**-1.0**
SMLT	**Sun Moon Lake**	**0.63**	**261**	⇓*i*	P	**Pg**	**20 41 43.9**	**-0.1**
SMLT				*i*	S	**Sg**	**20 41 52.3**	**-0.2**
ESAO	**Su ao**	**0.64**	**22**	*e*	P	**Pg**	**20 41 44.0**	**-0.2**
ESAO				*e*	S	**Sg**	**20 41 51.8**	**-0.9**
YULB	**Yu-li**	**0.64**	**204**	P		**Pg**	**20 41 43.8**	**-0.4**
YULB	**Yu-li**	**0.64**	**204**	S		**Sb**	**20 41 53.4**	**-0.1**
YULB	**Yu-li**	**0.64**	**204**	P		**Pg**	**20 41 43.3**	**-0.9**
YULB				*e*	S	**Sg**	**20 41 52.2**	**-0.5**
WHP	**Taichung City**	**0.65**	**297**	⇓*i*	P	**Pb**	**20 41 44.5**	**-0.3**
WHP					S	**Sb**	**20 41 53.2**	**-0.7**
ENTT	**Nioudou**	**0.66**	**359**	⇓P		**Pg**	**20 41 44.5**	**-0.1**
ENTT				*e*	S	**Sg**	**20 41 53.2**	**0.0**
TYC	**Yuchr**	**0.67**	**264**	⇓*i*	P	**Pg**	**20 41 44.4**	**-0.3**
TYC					S	**Sg**	**20 41 52.6**	**-0.9**
ECBN	**Changbin**	**0.67**	**190**	*e*	P	**Pb**	**20 41 45.6**	**+0.4**
ECBN				*e*	S	**Sn**	**20 41 56.5**	**-0.5**
TWC	**Suao**	**0.67**	**21**	⇓*i*	P	**Pg**	**20 41 44.7**	**-0.1**
TWC				*e*	S	**Sg**	**20 41 52.4**	**-1.3**
EYUL	**Yuli**	**0.68**	**201**	⇓*i*	P	**Pg**	**20 41 44.8**	**0.0**
EYUL				*e*	S	**Sg**	**20 41 53.7**	**0.0**
EOS4	**EOS4**	**0.69**	**78**	*e*	P	**Pb**	**20 41 46.1**	**+0.9**
YHNB	**Yeheng**	**0.71**	**345**	P		**Pg**	**20 41 45.5**	**-0.1**
YHNB	**Yeheng**	**0.71**	**345**	S		**Sg**	**20 41 54.9**	**-0.1**
YHNB	**Yeheng**	**0.71**	**345**	⇓*i*	P	**Pg**	**20 41 45.6**	**-0.1**
YHNB					S	**Sg**	**20 41 54.3**	**-0.7**
WHYT	**Xinyi Township**	**0.72**	**247**	*e*	P	**Pb**	**20 41 45.7**	**-0.4**
WHYT				*e*	S	**Sb**	**20 41 55.3**	**-0.6**
EOS2	**EOS2**	**0.74**	**54**	*e*	P	**Pn**	**20 41 48.0**	**+0.5**
EOS3	**EOS3**	**0.74**	**65**	*e*	P	**Pn**	**20 41 47.7**	**+0.2**
TWE	**Neicheng**	**0.74**	**6**	⇓*i*	P	**Pg**	**20 41 46.0**	**-0.2**
TWE				*i*	S	**Sg**	**20 41 55.6**	**-0.3**
NFF	**Wufeng Townshi**	**0.78**	**327**	⇓*i*	P	**Pb**	**20 41 46.8**	**-0.2**
NFF				*e*	S	**Sg**	**20 41 56.8**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.78**	**0**	⇓*i*	P	**Pg**	**20 41 46.5**	**-0.3**
FUSB				*e*	S	**Sg**	**20 41 55.9**	**-1.1**
ILA	**Ilan**	**0.80**	**11**	P		**Pb**	**20 41 47.4**	**+0.1**
ILA				*e*	S	**Sg**	**20 41 57.0**	**0.0**
NWLT	**Wulai**	**0.80**	**355**	⇓P		**Pg**	**20 41 47.0**	**-0.2**
NWLT				*e*	S	**Sg**	**20 41 56.7**	**-1.0**
WJS	**Zhushan**	**0.80**	**259**	*e*	P	**Pn**	**20 41 48.1**	**-0.4**
WJS				*e*	S	**Sb**	**20 41 58.9**	**+0.9**
CHKH	**Chenggong**	**0.80**	**192**	*e*	P	**Pb**	**20 41 47.3**	**-0.1**
CHKH				*e*	S	**Sb**	**20 41 59.2**	**+1.1**
FULB	**Fuli**	**0.82**	**199**	*e*	P	**Pb**	**20 41 47.9**	**+0.1**
FULB				*e*	S	**Sb**	**20 41 59.1**	**+0.4**
TWQ1	**Liyutan**	**0.82**	**297**	⇑P		**Pb**	**20 41 48.0**	**+0.2**
TWQ1				*e*	S	**Sb**	**20 41 59.0**	**+0.3**
WNT	**Mingjian**	**0.83**	**263**	⇓P		**Pn**	**20 41 48.6**	**-0.3**
WNT				*e*	S	**Sn**	**20 42 00.0**	**-0.9**
NSTT	**Nanjuang**	**0.84

LIOB	**Emei**	**0.84**	**322**	⇓*iP*	**Pb**	**20 41 48.3**	**+0.2**
LIOB				*eS*	**Sb**	**20 41 59.7**	**+0.4**
ALS	**Alishan**	**0.85**	**237**	⇑*iP*	**Pb**	**20 41 48.1**	**-0.3**
ALS				*eS*	**Sb**	**20 41 59.4**	**-0.4**
NSY	**Sanyi**	**0.87**	**300**	⇓P	**Pn**	**20 41 49.2**	**-0.2**
NSY				*eS*	**Sb**	**20 42 00.8**	**+0.8**
KSHI	**Guanxi Townshi**	**0.88**	**335**	*eP*	**Pb**	**20 41 49.2**	**+0.6**
KSHI				*eS*	**Sb**	**20 42 00.2**	**0.0**
EHD	**Haiduan**	**0.90**	**203**	P	**Pg**	**20 41 48.4**	**-0.7**
EHD				*eS*	**Sg**	**20 42 00.4**	**-0.4**
CHKT	**Chengkung**	**0.90**	**193**	*eP*	**Pg**	**20 41 48.7**	**-0.3**
CHKT				*eS*	**Sn**	**20 42 02.2**	**-0.4**
NMLH	**Miaoli**	**0.91**	**308**	*eP*	**Pn**	**20 41 50.4**	**+0.3**
NMLH				*eS*	**Sn**	**20 42 02.3**	**-0.7**
CHN5	**Tsauling**	**0.91**	**245**	⇓*iP*	**Pn**	**20 42 50.0**	**-0.1**
CHN5				*i S*	**Sb**	**20 42 02.2**	**+0.9**
EGS		**0.92**	**20**	*eP*	**Pb**	**20 41 49.9**	**+0.5**
WDJ	**Dajia District**	**0.94**	**293**	*eP*	**Pn**	**20 41 51.1**	**+0.8**
WDJ				*eS*	**Sn**	**20 42 05.1**	**+1.6**
WCHH	**Zhanghua**	**0.94**	**276**	P	**Pn**	**20 41 50.9**	**+0.4**
WCHH				*eS*	**Sn**	**20 42 04.3**	**+0.6**
ELDTW	**Lidau**	**0.94**	**213**	*eP*	**Pg**	**20 41 48.9**	**-1.1**
ELDTW				*eS*	**Sg**	**20 42 01.5**	**-0.8**
WCH1	**Changhua City**	**0.95**	**276**	*eP*	**Pn**	**20 41 51.1**	**+0.5**
WCH1				*eS*	**Sn**	**20 42 04.5**	**+0.6**
SBCB	**Hsinchu**	**0.97**	**326**	*eP*	**Pn**	**20 41 51.7**	**+0.8**
SBCB				*eS*	**Sn**	**20 42 04.1**	**-0.5**
WGK	**Gukeng**	**0.98**	**253**	*eP*	**Pn**	**20 41 51.4**	**+0.4**
WGK				*eS*	**Sn**	**20 42 05.2**	**+0.5**
HSN	**Hsinchu**	**0.99**	**326**	*eP*	**Pn**	**20 41 51.5**	**+0.4**
HSN				*eS*	**Sn**	**20 42 05.5**	**+0.6**
WDL	**Douliou City**	**0.99**	**255**	*eP*	**Pn**	**20 41 51.7**	**+0.5**
WDL				*eS*	**Sn**	**20 42 05.0**	**+0.1**
TATO	**Taipei**	**0.99**	**355**	P	**Pn**	**20 41 51.4**	**+0.2**
TATO	**Taipei**	**0.99**	**355**	S	**Sb**	**20 42 04.0**	**+0.3**
TWA	**Mucha**	**1.00**	**0**	*eP*	**Pb**	**20 41 51.2**	**+0.5**
TWA				*eS*	**Sg**	**20 42 02.8**	**-1.2**
WDLH	**Douliu**	**1.00**	**253**	*eP*	**Pn**	**20 41 51.8**	**+0.5**
WDLH				*i S*	**Sn**	**20 42 06.1**	**+1.0**
TIPB	**Shuangxi**	**1.01**	**13**	P	**Pg**	**20 41 51.0**	**-0.3**
TIPB				*eS*	**Sg**	**20 42 03.4**	**-1.1**
EDH	**Donghe**	**1.03**	**194**	P	**Pg**	**20 41 51.1**	**-0.6**
EDH				*eS*	**Sb**	**20 42 05.0**	**+0.2**
WCKO	**Fanlu**	**1.04**	**239**	*eP*	**Pn**	**20 41 51.9**	**0.0**
WCKO				*i S*	**Sn**	**20 42 06.5**	**+0.1**
NCUH	**Zhongli**	**1.05**	**340**	*eP*	**Pn**	**20 41 52.8**	**+0.8**
NCUH				*eS*	**Sn**	**20 42 07.2**	**+0.8**
TAP	**Taipei**	**1.06**	**356**	*eP*	**Pn**	**20 41 52.7**	**+0.6**
TAP				*eS*	**Sg**	**20 42 05.3**	**-0.6**
TWB1	**Santiao Chiao**	**1.09**	**20**	*eP*	**Pg**	**20 41 52.7**	**0.0**
TWB1				S	**Sg**	**20 42 06.4**	**-0.5**
STYH	**Taoyuan**	**1.09**	**223**	*eP*	**Pn**	**20 41 52.9**	**+0.4**
STYH				*eS*	**Sb**	**20 42 06.7**	**+0.2**
NWF	**Wu-fen Shan**	**1.10**	**9**	*i P*	**Pn**	**20 41 53.3**	**+0.5**
NWF				S	**Sg**	**20 42 06.7**	**-0.6**
WFSB	**Wu-fen Shan**	**1.10**	**9**	*eP*	**Pn**	**20 41 53.1**	**+0.4**
WFSB				*eS*	**Sb**	**20 42 05.6**	**-1.2**
CHN4	**Tsaushan**	**1.10**	**236**	*eP*	**Pn**	**20 41 53.6**	**+0.9**
CHN4				*eS*	**Sn**	**20 42 08.4**	**+0.7**
TPUB	**Ta-pu**	**1.10**	**232**	P	**Pn**	**20 41 53.4**	**+0.7**
TPUB	**Ta-pu**	**1.10**	**232**	P	**Pn**	**20 41 53.3**	**+0.5**
TPUB				*eS*	**Sn**	**20 42 07.5**	**-0.3**
CHN2	**Minshiung**	**1.11**	**246**	*eP*	**Pn**	**20 41 53.8**	**+1.0**
CHN2				*eS*	**Sn**	**20 42 09.3**	**+1.5**
TWS1	**Kuangyinshan**	**1.13**	**352**	*eP*	**Pn**	**20 41 53.8**	**+0.8**
TWS1				*eS*	**Sn**	**20 42 08.4**	**+0.2**
WTK	**Tuku**	**1.13**	**255**	*eP*	**Pn**	**20 41 54.1**	**+1.0**
WTK				*eS*	**Sn**	**20 42 10.0**	**+1.6**
SXI1	**Grass Mountain**	**1.14**	**13**	⇑P	**Pb**	**20 41 53.4**	**+0.1**
SXI1				*eS*	**Sb**	**20 42 07.2**	**-0.8**
LONT	**Longtian**	**1.15**	**201**	*eP*	**Pb**	**20 41 52.7**	**-0.6**
LONT				*eS*	**Sn**	**20 42 09.8**	**+0.9**
WTP	**Ta-pu**	**1.15**	**231**	*i P*	**Pn**	**20 41 54.1**	**+0.8**
WTP				*eS*	**Sn**	**20 42 10.0**	**+1.0**
YM01	**YM01**	**1.16**	**359**	*eP*	**Pb**	**20 41 53.6**	**+0.1**
YM01				*eS*	**Sb**	**20 42 08.7**	**+0.2**
CHY	**Chiayi**	**1.17**	**246**	P	**Pg**	**20 41 54.5**	**+0.4**
CHY				*i S*	**Sn**	**20 42 10.7**	**+1.5**
ZUZH	**Zhuzihu**	**1.18**	**358**	*eP*	**Pb**	**20 41 53.4**	**-0.5**
ZUZH				*eS*	**Sb**	**20 42 09.1**	**+0.1**
TNOU	**National Taiwa**	**1.18**	**8**	*eP*	**Pg**	**20 41 54.3**	**-0.1**
TNOU				*eS*	**Sb**	**20 42 08.7**	**-0.2**
NTST	**Danshui**	**1.19**	**354**	*eP*	**Pg**	**20 41 54.4**	**-0.1**
NTST				*eS*	**Sn**	**20 42 10.8**	**+1.0**
WTCT	**Ta-ch'eng**	**1.20**	**265**	*eP*	**Pg**	**20 41 54.8**	**+0.1**
WTCT				*eS*	**Sn**	**20 42 11.2**	**+1.2**
ANP	**Anpu**	**1.20**	**357**	*eP*	**Pg**	**20 41 54.6**	**-0.3**
ANP				*eS*	**Sb**	**20 42 08.6**	**-1.2**
YM08	**YM08**	**1.20**	**0**	*eP*	**Pn**	**20 41 53.3**	**-0.8**
TWK	**Hsinying**	**1.23**	**235**	*eP*	**Pg**	**20 41 55.9**	**+0.6**
TWK				*eS*	**Sn**	**20 42 13.5**	**+2.6**
TWG	**Pinlang**	**1.25**	**202**	*eP*	**Pn**	**20 41 54.5**	**-0.2**
TWGBT	**Beinan**	**1.25**	**202**	P	**Pg**	**20 41 55.5**	**-0.2**
TWGBT	**Beinan**	**1.25**	**202**	*eP*	**Pn**	**20 41 54.6**	**-0.1**
CHN1	**Nanshi**	**1.25**	**231**	P	**Pg**	**20 41 56.2**	**+0.5**
CHN1				*eS*	**Sn**	**20 42 13.1**	**+1.7**
SNST	**Tainan City**	**1.25**	**233**	*eP*	**Pg**	**20 41 56.0**	**+0.2**
SNST				S	**Sn**	**20 42 12.8**	**+1.4**
WSF	**Szhu**	**1.29**	**255**	*eP*	**Pg**	**20 41 56.3**	**-0.2**
WSF				*eS*	**Sg**	**20 42 13.4**	**+0.1**
LDUT	**Ludao**	**1.30**	**185**	*eP*	**Pn**	**20 41 53.3**	**-2.1**
WSL	**Shuilin Townsh**	**1.32**	**250**	*eP*	**Pg**	**20 41 56.9**	**-0.2**
WSL				*i S*	**Sg**	**20 42 15.6**	**+1.2**
JYNG	**Yonagunijimaku**	**1.33**	**69**	P	**Pn**	**20 41 55.9**	**+0.1**
JYNG				S	**Sb**	**20 42 13.6**	**+0.3**
YOJ	**Yonaguni jima**	**1.39**	**70**	P	**Pn**	**20 41 56.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.39**	**70**	*eP*	**Pn**	**20 41 56.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.39**	**70**	P	**Pn**	**20 41 56.8**	**+0.2**
CHN8	**Yiju**	**1.41**	**244**	*eP*	**Pg**	**20 41 58.3**	**-0.4**
CHN8				*eS*	**Sg**	**20 42 18.1**	**+1.1**
SCST	**Cishan**	**1.48**	**223**	*eP*	**Pg**	**20 42 00.4**	**+0.3**
ECL	**Taimali**	**1.49**	**203**	*eP*	**Pn**	**20 41 57.2**	**-0.9**
SSD	**Sandimen**	**1.51**	**216**	*eP*	**Pg**	**20 42 00.0**	**-0.6**
SSD				*eS*	**Sb**	**20 42 19.1**	**+0.7**
TWM1	**Shoushan**	**1.57**	**223**	*eP*	**Pg**	**20 42 01.9**	**0.0**
MASBT	**Mashibuluo**	**1.62**	**213**	*eP*	**Pn**	**20 42 00.2**	**+0.5**
PCYT	**Pengchaiyu**	**1.70**	**15**	*eP*	**Pn**	**20 42 01.9**	**+0.9**
PCYT				*eS*	**Sb**	**20 42 24.3**	**+0.3**
TAW	**Tawu**	**1.73**	**201**	*eP*	**Pn**	**20 42 00.6**	**-0.7**
TAWH	**Dawu Township**	**1.75**	**202**	*eP*	**Pn**	**20 42 00.1**	**-1.2**
SCZT	**Fangliau**	**1.83**	**209**	*eP*	**Pb**	**20 42 05.0**	**+0.1**
PHUB	**P'eng-hu**	**1.90**	**256**	*eP*	**Pn**	**20 42 04.3**	**+0.7**
PHUB				*eS*	**Sb**	**20 42 30.0**	**+0.3**
PNG	**Penghu**	**1.90**	**258**	*eP*	**Pn**	**20 42 04.3**	**+0.7**
PNG				S	**Sb**	**20 42 28.9**	**-0.9**
WDGT	**Dungji**	**1.90**	**248**	*eP*	**Pn**	**20 42 04.3**	**+0.7**
LAY	**Lan-yu**	**1.93**	**181**	*eP*	**Pn**	**20 42 02.3**	**-1.8**
IRIF	**Iriomote-Funau**	**1.99**	**79**	P	**Pn**	**20 42 05.3**	**+0.4**
IRIF				*eS*	**Sn**	**20 42 30.9**	**+1.1**
HEN	**Hengchun**	**2.11**	**202**	*eP*	**Pb**	**20 42 10.1**	**+0.3**
VCHM	**Qimei**	**2.12**	**249**	*eP*	**Pn**	**20 42 06.8**	**+0.1**
VCHM				*eS*	**Sb**	**20 42 35.6**	**-0.4**
VWUC	**VWUC**	**2.19**	**298**	*eP*	**Pn**	**20 42 06.5**	**-1.1**
JIJ	**Ishigaki jima**	**2.37**	**80**	P	**Pn**	**20 42 10.2**	**+0.1**
JIJ				*eS*	**Sn**	**20 42 38.3**	**-0.7**
PTMZ	**Houxiangcun**	**2.48**	**296**	*eP*	**Pn**	**20 42 11.1**	**-0.5**
JISG	**Ishigakijimahi**	**2.56**	**76**	P	**Pn**	**20 42 12.8**	**+0.1**
MATB	**Ma-tsu**	**2.62**	**326**	*eP*	**Pn**	**20 42 14.4**	**+0.8**
KNM	**Kinmen**	**2.91**	**279**	*eP*	**Pn**	**20 42 19.2**	**+1.7**
KNMB	**Chin-men Tao**	**2.96**	**280**	*eP*	**Pn**	**20 42 17.6**	**-0.6**
MHZQ	**Yeshan**	**3.13**	**313**	*eP*	**Pn**	**20 42 21.1**	**+0.5**
AXDP	**Jialang**	**3.42**	**286**	*eP*	**Pn**	**20 42 23.5**	**-1.0**
ZPLA	**Ao Xicun**	**3.51**	**270**	*eP*	**Pn**	**20 42 25.5**	**-0.2**
DSXP	**Dongshan**	**3.81**	**267**	*eP*	**Pn**	**20 42 29.9**	**-0.1**
SXFK	**Yanhouchang**	**4.30**	**305**	*eP*	**Pn**	**20 42 35.7**	**-1.1**

SCB 25 20:52:41.9±1.1, 22°.02S×67°.29W, h173km±12km, ML3.5/3, MW2.9, Error ellipse: s-maj=4.3km s-min=3.6km az=2.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.66**	**96**	Pg	Pn	20 53 16.1	+0.8
MOCB	**Mochara**	**1.72**	**64**	Pg	Pn	20 53 16.5	+0.5
PB09	**IPOC Station P**	**1.82**	**277**	Pg	Pn	20 53 17.9	+1.1
PB01	**IPOC Station P**	**2.26**	**295**	Pg	Pn	20 53 22.4	+0.8
PB01				Sg	Sn	20 53 53.0	+0.7
PB01				IAML		20 53 54.0	
	110nm,0.2s						
PB02	**IPOC Station P**	**2.52**	**286**	Pg	Pn	20 53 25.3	+0.7
PB02				Sg	Sn	20 53 57.7	0.0
PB02				IAML		20 53 58.4	
	212nm,0.3s						
PB08	**IPOC Station P**	**2.56**	**317**	Pg	Pn	20 53 26.3	+1.0
PB05	**IPOC Station P**	**2.81**	**252**	Pg	Pn	20 53 28.9	+0.8
GO01	**Chusmiza**	**2.94**	**322**	Pg	Pn	20 53 30.8	+0.7
PB11	**IPOC Station P**	**3.15**	**315**	Pg	Pn	20 53 32.1	-0.2
PB11				Sg	Sn	20 54 10.5	-1.1
PB11				IAML		20 54 12.9	
	76nm,0.2s						
PB10	**IPOC Station P**	**3.35**	**243**	Pg	Pn	20 53 35.5	+0.9
SOEO	**Opoqueri**	**3.49**	**351**	Pg	Pn	20 53 37.8	+1.0
PB14	**IPOC Station P**	**3.86**	**227**	Pg	Pn	20 53 41.4	+0.1
SOET	**ToroToro**	**4.13**	**20**	Pg	Pn	20 53 44.6	-0.3
BBOJ	**La Paz, Jacaqu**	**5.09**	**350**	Pg	Pn	20 53 58.2	+0.7
BBOE	**La Paz, Chanca**	**5.22**	**353**	Pg	Pn	20 53 59.9	+0.6
BBOD	**La Paz, Gloria**	**5.50**	**347**	Pg	Pn	20 54 03.5	+0.7
LPAZ	**La Paz**	**5.76**	**352**	Pg	Pn	20 54 06.3	0.0
BBOB	**La Paz, Bander**	**5.91**	**352**	Pg	Pn	20 54 08.2	+0.1

*IDC **25** 20:55:47.0±4.9, 6°.77S×129°.92E, h60km±42km, mb3.8/8, mbtmp4.3/12, ML4.6/4, Error ellipse: s-maj=56.9km s-min=15.0km az=61.0*
*NEIC **25** 20:55:53.8±2.4, 6°.90S±0°.05×129°.62E±0°.08, h119km±10km, mb4.2/18, Error ellipse: s-maj=12.5km s-min=5.4km az=62.0*

ISC 25 20:55:55.1±0.5, 7°.01S±0°.06×129°.67E±0°.05, h139km, n78, σ1s69/71, mb4.1/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.88**	**121**		**Pn**	**20 56 27.1**	**-1.0**
SAUI				Sn	**Sn**	**20 56 50.9**	**-2.5**
SAUI	**Saumlaki**	**1.88**	**121**	P	**Pn**	**20 56 27.4**	**-0.7**
SAUI	**Saumlaki**	**1.88**	**121**	S	**Sn**	**20 56 51.0**	**-2.5**
FAKI	**Fak Fak**	**4.81**	**32**		**Pn**	**20 57 03.0**	**-2.8**
FAKI				Sn	**Sn**	**20 57 55.6**	**-5.4**
FAKI	**Fak Fak**	**4.81**	**32**	P	**Pn**	**20 57 02.9**	**-2.9**
DRS	**Darwin Rock St**	**5.52**	**167**	P	**Pn**	**20 57 13.0**	**-2.2**
DRS	**Darwin Rock St**	**5.52**	**167**	S	Sn	20 58 10.5	-7.3
MTN	**Manton Dam**	**5.97**	**166**		**Pn**	**20 57 18.9**	**-2.3**
MTN	**Manton Dam**	**5.97**	**166**	P	**Pn**	**20 57 19.0**	**-2.3**
MTN	**Manton Dam**	**5.97**	**166**	S	Sn	20 58 21.5	-7.1
SOEI	**Soe**	**6.00**	**243**		**Pn**	**20 57 19.9**	**-1.9**
SOEI				Sn	**Sn**	**20 58 26.9**	**-2.7**
SOEI	**Soe**	**6.00**	**243**	P	**Pn**	**20 57 20.9**	**-0.9**
SOEI	**Soe**	**6.00**	**243**	P	**Pn**	**20 57 20.5**	**-1.3**
SOEI	**Soe**	**6.00**	**243**	S	**Sn**	**20 58 26.2**	**-3.3**
KDU	**Kakadu**	**6.28**	**154**	P	Pn	20 57 22.6	-2.8
KDU	**Kakadu**	**6.28**	**154**	S	Sn	20 58 30.2	-5.8
BATI	**Baumata**	**6.73**	**241**	P	**Pn**	**20 57 29.2**	**-2.3**
	27nm,0.3s,baz=71,slow=3.3,SNR=27						
BATI				S	**Sn**	**20 58 43.3**	**-3.7**
	78nm,0.3s,baz=118,slow=23,SNR=15						
	76nm,0.4s						
KNRA	**Kununurra**	**8.65**	**186**		Pn	20 57 53.9	-3.4
FITZ	**Fitzroy Crossi**	**11.70**	**199**		Pn	20 58 33.3	-4.4
FITZ	**Fitzroy Crossi**	**11.70**	**199**	P	Pn	20 58 34.1	-3.6
	3.7nm,0.3s,baz=16,slow=9.5,SNR=101						
FITZ				S	Sn	21 00 32.8	-14
	24nm,0.3s,baz=55,slow=18,SNR=11						
	9.2nm,0.3s						
PLAI	**Plampang**	**11.92**	**261**	P	**Pn**	**20 58 42.8**	**+2.1**
PLAI	**Plampang**	**11.92**	**261**	S	**Sn**	**21 00 52.9**	**+0.6**
WB0	**Warramunga Arr**	**13.48**	**161**		Pn	20 58 56.4	-4.5
WRA	**Warramunga Arr**	**13.63**	**161**		Pn	20 58 58.3	-4.4
WRA	**Warramunga Arr**	**13.63**	**161**	P	Pn	20 58 58.0	-4.8
	1.4nm,0.3s,baz=343,slow=13,SNR=29						
WRA				S	Sn	21 01 21.2	-12
	6.5nm,0.5s,baz=334,slow=23,SNR=11						
	2.5nm,0.5s						
WB2	**Warramunga Arr**	**13.63**	**161**	Pn	Pn	20 58 58.2	-4.6
WR8	**Warramunga Arr**	**13.69**	**160**		Pn	20 58 59.4	-4.2
COEN	**Coen**	**14.96**	**119**	Pn	**Pn**	**20 59 18.5**	**-1.1**
COEN				IAmb	IAmb	20 59 29.4	
	comp=Z,10nm,0.9s						
COEN	**Coen**	**14.96**	**119**	P	**Pn**	**20 59 20.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**15.44**	**264**	Pn	**Pn**	**20 59 23.5**	**-2.1**
JAGI				IAmb	IAmb	20 59 27.2	
	comp=Z,18nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.44**	**264**	P	**P**	**20 59 26.8**	**-0.3**
QIS	**Mount Isa**	**16.55**	**145**	P	**P**	**20 59 39.6**	**+0.3**
MBWA	**Marble Bar**	**17.03**	**213**		**P**	**20 59 43.6**	**-1.0**
MBWA				IAmb	IAmb	20 59 46.1	
	comp=Z,10nm,0.7s						
MBWA	**Marble Bar**	**17.03**	**213**	P	**P**	**20 59 43.7**	**-0.9**
AS31	**Alice Springs**	**17.05**	**167**		**P**	**20 59 44.8**	**0.0**
ASAR	**Alice Springs**	**17.05**	**167**	P	**P**	**20 59 44.6**	**-0.2**
ASAR	**Alice Springs**	**17.05**	**167**	P	**P**	**20 59 44.1**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=344,slow=9.4,SNR=151						
ASAR				S	S	21 02 45.1	-10
	comp=Z,1.8nm,0.7s,baz=345,slow=23,SNR=5.8						
ASAR				ScP	**ScP**	**21 07 47.0**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=346,slow=2.2,SNR=9.0						
	comp=Z,5.4nm,0.3s						
AS01	**Alice Springs**	**17.06**	**167**	P	**P**	**20 59 44.0**	**-0.9**
PSA00	**Pilbara Seismi**	**17.31**	**212**	P	**P**	**20 59 46.9**	**-0.7**
PSA00	**Pilbara Seismi**	**17.31**	**212**	P	**P**	**20 59 47.8**	**+0.2**
MEEK	**Meekatharra**	**22.17**	**207**	P	**P**	**21 00 41.1**	**+1.1**
INKA	**Innaminka**	**23.14**	**154**	P	**P**	**21 00 50.9**	**+1.8**
INKA				IAmb	IAmb	21 00 52.8	
	comp=Z,6.6nm,0.8s						
QLP	**Quilpie**	**23.89**	**146**	P	**P**	**21 00 59.0**	**+3.0**
MORW	**Morawa**	**25.43**	**209**	P	**P**	**21 01 10.2**	**+0.3**
MORW				IAmb	IAmb	21 01 13.3	
	comp=Z,9.2nm,0.8s						
MORW	**Morawa**	**25.43**	**209**	P	**P**	**21 01 10.5**	**+0.6**
BBOO	**Buckleboo**	**26.35**	**168**	P	**P**	**21 01 19.0**	**+0.8**
BBOO				IAmb	IAmb	21 01 23.0	
	comp=Z,8.5nm,0.8s						
BBOO	**Buckleboo**	**26.35**	**168**	P	**P**	**21 01 19.1**	**+0.9**
BLDU	**Ballidu**	**26.44**	**206**	P	**P**	**21 01 19.5**	**+0.5**
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**21 01 26.3**	**+1.2**
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**21 01 26.2**	**+1.1**
	comp=Z,2.7nm,0.4s,baz=333,slow=8.6,SNR=14						
	comp=Z,2.7nm,0.4s						
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**21 01 26.5**	**+1.3**
HTT	**Hallett**	**27.65**	**163**	P	**P**	**21 01 31.5**	**+1.6**
NWAO	**Narrogin (SRO)**	**28.25**	**202**	P	**P**	**21 01 34.6**	**-0.6**
NWAO	**Narrogin (SRO)**	**28.25**	**202**	P	**P**	**21 01 36.3**	**+1.1**
CMSA	**Cobar Meteorol**	**28.62**	**151**	P	**P**	**21 01 40.5**	**+2.0**
CMAR	**Chiang Mai Arr**	**39.49**	**310**	P	**P**	**21 03 12.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**39.49**	**310**	P	**P**	**21 03 12.4**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=137,slow=6.8,SNR=16						
	comp=Z,1.5nm,0.6s						
CHTO	**Chiang Mai**	**39.70**	**311**	P	**P**	**21 03 13.7**	**-0.4**
CHTO				IAmb	IAmb	21 03 15.1	
	comp=Z,3.3nm,0.7s						
PZH	**PanZhiHua**	**42.94**	**322**	P	**P**	**21 03 42.3**	**+1.8**
HHC	**Hu-ho-hao-te**	**50.46**	**342**	*eP*	**P**	**21 04 41.0**	**+2.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,78nm,4.9s						
SONM	**Songino Array**	**58.35**	**342**	P	**P**	**21 05 36.9**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=168,slow=7.5,SNR=4.0						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**68.06**	**327**	P	**P**	**21 06 40.6**	**+0.9**
MK31				IAmb	IAmb	21 06 41.4	
	comp=Z,1.5nm,0.6s						
MKAR	**Makanchi Array**	**68.06**	**327**	P	**P**	**21 06 40.1**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=116,slow=8.2,SNR=38						
	comp=Z,2.3nm,0.5s						
MAKZ	**Makanchi**	**68.24**	**327**	P	**P**	**21 06 41.6**	**+0.8**
MAKZ				IAmb	IAmb	21 06 42.4	
	comp=Z,2.0nm,0.6s						
ARSB	**Arslanbob**	**70.68**	**318**	P	**P**	**21 06 57.2**	**+1.1**
ARSB				IAmb	IAmb	21 06 58.1	
	comp=Z,2.6nm,0.6s						
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**21 07 00.1**	**-0.1**
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**21 06 58.4**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=116,slow=3.4,SNR=5.0						
	comp=Z,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**72.35**	**329**	P	**P**	**21 07 05.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=129,slow=4.9,SNR=8.5						
	comp=Z,0.9nm,0.5s						
KURK	**Kurchatov**	**72.36**	**329**	P	**P**	**21 07 05.6**	**-0.1**
KK31	**Karatay Array**	**73.14**	**319**	P	**P**	**21 07 10.9**	**+0.5**
KKAR	**Karatay Array**	**73.14**	**319**	P	**P**	**21 07 09.9**	**-0.5**
BVAR	**Borovoye Array**	**77.90**	**328**	P	**P**	**21 07 37.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=132,slow=2.1,SNR=4.0						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**21 08 06.0**	**+1.6**
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**21 08 06.6**	**+2.2**
	comp=Z,2.6nm,0.8s,baz=292,slow=2.1,SNR=9.0						
	comp=Z,2.6nm,0.8s						
TXAR	**Lajitas Array**	**125.22**	**59**	PKP	**PKPdf**	**21 14 40.9**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=241,slow=1.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**128.49**	**281**	PKP	**PKiKP**	**21 14 47.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=104,slow=2.7,SNR=3.1						
CPUP	**Villa Florida**	**146.16**	**169**	PKPbc	**PKPbc**	**21 15 21.3**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=243,slow=2.3,SNR=8.1						
LPAZ	**La Paz**	**150.91**	**143**	PKPbc	**PKiKP**	**21 15 34.8**	**+1.1**
	comp=Z,1.7nm,0.4s,baz=214,slow=2.1,SNR=15						

*SJA **25** 20:57:32.8±0.8, 29°.78S×72°.43W, h15km±33km, ML3.2, MW3.5*
*GUC **25** 20:57:38.9±0.6, 30°.11S×72°.02W, h24km±12km, ML2.8*

ISC 25 20:57:37.9±2.0, 30°.06S±0°.05×71°.93W±0°.08, h5km±11km, n19, σ2s35/36, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.62**	**77**	⇓*iP*	**Pb**	**20 57 51.9**	**+0.7**
CO05				*i* S	**Sn**	**20 58 01.4**	**-2.2**
CO05				IAML		20 58 04.4	
	comp=E,823nm,0.4s						
CO06	**Fray Jorge**	**0.66**	**157**	⇓*iP*	**Pg**	**20 57 50.6**	**0.0**
CO06				*i* S	**Sg**	**20 57 59.0**	**-0.2**
CO06				IAML		20 58 02.9	
	comp=E,602nm,0.3s						
GO04	**Tololo Observa**	**0.98**	**97**	⇓*iP*	**Pb**	**20 57 57.7**	**0.0**
GO04				*i* S	**Sn**	**20 58 12.1**	**-1.0**
CO03	**El Pedregal**	**1.32**	**126**	*i* P	**Pg**	**20 58 02.2**	**-1.0**
CO03				*i* S	**Sn**	**20 58 19.9**	**-1.3**
CO03				IAML		20 58 25.6	
	comp=N,285nm,0.4s						
CO02	**Combarbal**	**1.39**	**145**	⇑*iP*	**Pg**	**20 58 03.3**	**-1.3**
CO02				*i* S	**Sg**	**20 58 21.0**	**-1.6**
CO02				IAML		20 58 26.5	
	comp=N,736nm,0.3s						
LCO	**Las Campanas**	**1.50**	**46**	*i* P	**Pn**	**20 58 05.5**	**-0.3**
LCO				*i* S	**Sn**	**20 58 26.6**	**+0.9**
CO01	**Juntas del Tor**	**1.59**	**87**	*eP*	**Pb**	**20 58 07.8**	**-0.2**
CO01				*eS*	**Sn**	**20

UZB				*e*S	**Sg**	**21 02 05.1**	**-2.1**
	6.8nm,0.8s							
CHKK	**Chushkaly**	**4.83**	**13**	Pg	**Pg**	**21 01 01.5**	**-4.7**
	7.4nm,0.4s							
CHKK				Lg	Lg	21 02 07.5		
	5.2nm,0.2s							
CHKK	**Chushkaly**	**4.83**	**13**	*e*P	**Pg**	**21 01 01.5**	**-4.7**
	7.4nm,0.4s							
CHKK				*e*S	**Sg**	**21 02 07.5**	**-1.2**
	5.2nm,0.2s							
KPKS	**Kokpek**	**4.92**	**28**	Pg	Pg	21 01 02.7	-5.3	
	0.3nm,0.1s							
KPKS				Lg	Lg	21 02 09.4		
	12nm,0.5s							
SHLS	**Shalkode**	**4.98**	**35**	Pg	**Pg**	**21 01 08.4**	**-0.8**
	11nm,0.6s							
SHLS				Lg	Lg	21 02 18.7		
	9.1nm,0.6s							
SHLS	**Shalkode**	**4.98**	**35**	*e*P	**Pg**	**21 01 08.3**	**-0.8**
	11nm,0.6s							
SHLS				*e*S	**Sg**	**21 02 18.7**	**+5.1**
	9.1nm,0.6s							
IUG	**Iuzhnay**	**5.15**	**307**	Pg	**Pg**	**21 01 07.9**	**-4.5**
	8.8nm,0.3s							
IUG				Lg	Lg	21 02 17.9		
	24nm,0.8s							
ARXS	**Arharly**	**5.34**	**18**	Pg	**Pb**	**21 01 10.1**	**+2.8**
	1.9nm,0.4s							
ARXS				Lg	Lg	21 02 21.9		
	6.8nm,0.7s							
KK31	**Karatay Array**	**5.48**	**318**	Pn	**Pn**	**21 00 54.9**	**-0.6**
	0.3nm,0.2s,baz=127,slow=12,SNR=30							
KK31				↑Sn	**Sn**	**21 02 02.1**	**+3.6**
	2.2nm,0.4s,baz=145,slow=24,SNR=3.4							
BRLS	**Boroldaу**	**5.80**	**314**	Pg	**Pg**	**21 01 20.6**	**-4.2**
	1.6nm,0.3s							
BRLS				Lg	Lg	21 02 39.9		
	0.4nm,0.3s							
BRLS	**Boroldaу**	**5.80**	**314**	*e*P	**Pg**	**21 01 20.6**	**-4.2**
	1.6nm,0.3s							
BRLS				*e*S	**Sg**	**21 02 39.9**	**+0.1**
	0.4nm,0.3s							
BTLS	**Baital**	**5.99**	**350**	Pg	Pg	21 01 22.9	-5.6	
	0.6nm,0.2s							
BTLS				Lg	Lg	21 02 43.6		
	2.3nm,0.5s							
BTLS	**Baital**	**5.99**	**350**	*e*P	Pg	21 01 22.9	-5.6	
	0.6nm,0.2s							
BTLS				*e*S	**Sg**	**21 02 43.6**	**-2.5**
	2.3nm,0.5s							

TRN 25 21:01:34.6,15°.23N×61°.19W,h150km,MD3.5,Near South-east of Dominica.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.12**	**332**	*e*P	Pn	21 01 56.0	+1.3
DLPL				*e*S	Sn	21 02 10.9	+0.8
DLDT	**Laudat, Domini**	**0.18**	**304**	*e*P	Pn	21 01 56.4	+1.5
DLDT				*e*S	Sn	21 02 12.1	+1.8
MDN	**Morne-Daniel**	**0.21**	**295**	*e*P	Pn	21 01 56.1	+1.2
MDN				*e*S	Sn	21 02 11.7	+1.4
DSLB	**Salisbury**	**0.30**	**313**	*e*P	Pn	21 01 56.6	+1.5
DSLB				*e*S	Sn	21 02 12.2	+1.4
DWS	**Wesley**	**0.36**	**341**	*e*P	Pn	21 01 56.8	+1.5
DWS				*e*S	Sn	21 02 12.4	+1.3
SVN	**Savane Anatole**	**0.39**	**177**	*e*P	Pn	21 01 56.5	+1.0
ILAM	**Ilet Lapin Mar**	**0.55**	**146**	*e*P	Pn	21 01 57.1	+0.9
ILAM				*e*S	Sn	21 02 12.6	0.0
BIM	**Bigot**	**0.72**	**171**	*e*P	Pn	21 01 58.3	+1.0
BIM				*e*S	Sn	21 02 15.6	+1.1
TBG	**Guadaloupe-3**	**0.76**	**325**	*e*P	Pn	21 01 58.6	+1.1
TBG				*e*S	Sn	21 02 15.5	+0.5
MMLZ	**Guadeloupe Bro**	**0.93**	**330**	*e*P	Pn	21 02 00.3	+1.5
MMLZ				*e*S	Sn	21 02 18.4	+1.1
ATGZ	**Broadband at L**	**1.01**	**329**	*e*P	Pn	21 02 00.9	+1.5
ATGZ				*e*S	Sn	21 02 20.2	+1.9
DSDZ	**La Diserade, G**	**1.08**	**6**	*e*P	Pn	21 02 01.3	+1.2
DSDZ				*e*S	Sn	21 02 19.7	+0.1
DHSZ	**Broadband at M**	**1.18**	**332**	*e*P	Pn	21 02 02.6	+1.7
DHSZ				*e*S	Sn	21 02 22.8	+1.7
SLBI	**Saint Lucia, B**	**1.22**	**170**	*e*P	Pn	21 01 58.8	+0.4
SLBI				*e*S	Sn	21 02 21.2	-0.5
MBWH		**1.79**	**328**	*e*P	Pn	21 02 08.5	+1.2
MBWH				*e*S	Sn	21 02 33.3	+0.9
MBFL	**Flemmings, Mon**	**1.80**	**327**	*e*P	Pn	21 02 08.8	+1.3
MBFL				*e*S	Sn	21 02 33.1	+0.3
SVB	**Belmont**	**1.95**	**182**	*e*P	Pn	21 02 09.7	+0.5
SVB				*e*S	Sn	21 02 35.8	+0.1
ANWB	**Willy Bob**	**2.49**	**347**	*e*P	Pn	21 02 16.3	+0.7
ANWB				*e*S	Sn	21 02 46.6	-0.7
BBGH	**Gun Hill**	**2.61**	**142**	*e*P	Pn	21 02 18.7	+1.7
BBGH				*e*S	Sn	21 02 51.8	+2.0
GCMP	**Grenada, Carri**	**2.74**	**185**	*e*P	Pn	21 02 19.2	+0.5
GCMP				*e*S	Sn	21 02 52.8	+0.1
GRW	**Mount Saint Ca**	**3.08**	**189**	*e*P	Pn	21 02 23.7	+0.5
GRW				*e*S	Sn	21 03 01.5	+0.8
GRGR	**Grenville**	**3.11**	**188**	*e*P	Pn	21 02 23.9	+0.5
GRGR				*e*S	Sn	21 03 01.6	+0.4

*AEIC **25** 21:12:41.2±1.6,54°.05N±0°.05×163°.72W±0°.07, h41km±10km, Error ellipse: s-maj=7.5km s-min=5.1km az=148.0*

NEIC 25 21:12:41.6±1.2,54°.05N±0°.05×163°.73W±0°.03,h35km±2km, ML2.5/16,ML2.3(AEIC), Error ellipse: s-maj=9.2km s-min=3.1km az=343.0,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**0.68**	**347**		Pn	21 12 54.4	-0.4
SSLS					Sn	21 13 04.6	+0.3
SSBA	**Shishaldin**	**0.76**	**342**		Pn	21 12 55.2	-0.6
SSBA					Sn	21 13 06.7	+0.5
ISNN	**Isanotski Nort**	**0.79**	**358**		Pn	21 12 56.3	+0.1
ISNN					Sn	21 13 08.0	+1.3
WEBT	**Westdahl Beart**	**0.81**	**312**		Pn	21 12 56.1	-0.4
FALS	**False Pass**	**0.83**	**12**		Pn	21 12 55.9	-0.8
FALS					Sn	21 13 07.6	-0.1
AKUT	**Akutan**	**1.21**	**275**		Pn	21 13 01.9	0.0
AKUT	**Akutan**	**1.21**	**275**	IAML		21 13 17.4	
	comp=N,87nm,0.5s						
AKUT				IAML		21 13 17.5	
	comp=E,118nm,0.3s						
AHB	**Akutan Harbor**	**1.23**	**274**		Pn	21 13 01.9	-0.3
AKBBA	**Akutan Broad B**	**1.30**	**273**		Pn	21 13 03.2	+0.1
ZRO	**Akutan Zero**	**1.33**	**273**		Pn	21 13 03.4	-0.2
ZRO					Sn	21 13 20.3	+0.3
AKGG	**Akutan Green G**	**1.34**	**277**		Pn	21 13 04.1	+0.3
DT1	**Dutton Round H**	**1.35**	**38**		Pn	21 13 03.0	-1.0
DT1					Sn	21 13 20.7	0.0
LVA	**Lava Point**	**1.36**	**276**	Pn	Pn	21 13 03.9	-0.2
LVA				IAML		21 13 26.1	
	comp=N,164nm,0.9s						
LVA				IAML		21 13 34.1	
	comp=E,95nm,1.0s						
DOL	**Dolgoi Island**	**1.54**	**44**		Pn	21 13 05.8	-0.8
DOL					Sn	21 13 25.3	-0.1
HAG	**Hague Volcano**	**1.65**	**39**		Pn	21 13 08.5	+0.4
UNV	**Unalaska Valle**	**1.65**	**264**	Pn	Pn	21 13 06.8	-1.2
S12K	**Black Hills**	**1.92**	**29**		Pn	21 13 11.8	+0.2
S12K	**Black Hills**	**1.92**	**29**	IAML		21 13 39.5	
	comp=E,28nm,0.8s						
S12K				IAML		21 13 45.5	
	comp=N,23nm,0.7s						
SDPT	**Sand Point**	**2.29**	**54**	Pn	Pn	21 13 16.2	-0.6
SDPT				IAML		21 13 46.5	
	comp=E,16nm,1.2s						
SDPT				IAML		21 14 32.8	
	comp=N,18nm,1.1s						
CNBA	**Chernabura Isl**	**2.54**	**71**	Pn	Pn	21 13 19.2	-1.0
CHGN	**Chignik**	**3.79**	**51**	Pn	Pn	21 13 37.8	+0.4
O15K	**Ungalikthiuk R**	**5.57**	**21**	Pn	Pn	21 14 01.1	-0.8
P16K	**Nushagak River**	**5.92**	**30**	Pn	Pn	21 14 06.5	-0.1
O16K	**Kokwok River B**	**6.36**	**27**	Pn	Pn	21 14 13.2	+0.6

*NEIC **25** 21:18:11.1±0.9,4°.87S±0°.08×152°.74E±0°.10,h69km±7km, mb4.2/27, Error ellipse: s-maj=14.1km s-min=11.1km az=69.0*

*IDC **25** 21:18:12.3±4.5,4°.88S×152°.65E,h81km±41km,mb3.7/7, mbtmp4.0/8,ML2.0/1, Error ellipse: s-maj=30.4km s-min=23.3km az=142.0*

ISC 25 21:18:08.0±0.6,4°.91S±0°.06×152°.90E±0°.10,h43km,n41, σ18°15/43,mb4.3/22,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.02**	**314**	Pn	**Pn**	**21 18 27.8**	**+1.8**
RABL				Sn	**Sn**	**21 18 41.9**	**+2.6**
PMG	**Port Moresby**	**7.24**	**232**	Pn	**Pn**	**21 19 52.4**	**+1.1**
PMG	**Port Moresby**	**7.24**	**232**	P	**Pn**	**21 19 54.2**	**+2.8**
	1.6nm,0.3s,baz=47,slow=14,SNR=2.8						
PMG				S	**Sn**	**21 21 11.4**	**-0.8**
	31nm,0.3s,baz=141,slow=13,SNR=10						
	4.0nm,0.3s						
EIDS	**Eidsvold**	**20.42**	**185**	P	**P**	**21 22 42.6**	**+1.0**
DZM	**Mont Dzumac**	**21.52**	**144**	P	**P**	**21 22 55.2**	**+1.6**
DZM	**Mont Dzumac**	**21.52**	**144**	P	**P**	**21 22 56.8**	**+3.1**
	7.0nm,0.6s,baz=324,slow=14,SNR=6.9						
	7.0nm,0.6s						
WB0	**Warramunga Arr**	**23.30**	**229**	P	**P**	**21 23 11.2**	**-1.2**
WR8	**Warramunga Arr**	**23.33**	**229**	P	**P**	**21 23 12.2**	**-0.5**
WR8				IAmb	IAmb	21 23 13.9	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.45**	**229**	P	**P**	**21 23 13.2**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=53,slow=9.8,SNR=27						
	comp=Z,2.4nm,0.5s						
ASAR	**Alice Springs**	**26.14**	**223**	P	**P**	**21 23 38.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=54,slow=8.9,SNR=7.7						
	comp=Z,0.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.69**	**242**	P	**P**	**21 24 08.4**	**-1.8**
	comp=Z,1.6nm,0.4s,baz=65,slow=11,SNR=5.7						
	comp=Z,1.6nm,0.4s						
PETK	**Petropavlovsk-**	**57.94**	**3**	P	**P**	**21 27 56.5**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=178,slow=8.2,SNR=4.5						
	comp=Z,2.9nm,0.8s						
SONM	**Songino Array**	**66.47**	**328**	P	**P**	**21 28 51.3**	**-2.0**
CASY	**Casey**	**67.94**	**197**	P	**P**	**21 29 02.5**	**+0.4**
CASY				IAmb	IAmb	21 29 04.4	
	comp=Z,4.8nm,1.5s						
S12K	**Black Hills**	**70.83**	**25**	P	**P**	**21 29 19.8**	**-0.3**
VNDA	**Vanda**	**72.72**	**178**	P	**P**	**21 29 30.3**	**-0.8**
VNDA				IAmb	IAmb	21 29 35.1	
	comp=Z,2.7nm,1.2s						
IMAR	**Indian Mountai**	**80.45**	**19**	P	**P**	**21 30 14.9**	**-0.1**
F20K	**Avaraart Lake**	**80.46**	**18**	P	**P**	**21 30 15.6**	**+0.6**
F20K				IAmb	IAmb	21 30 22.5	
	comp=Z,4.8nm,1.2s						
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**21 30 14.7**	**-0.9**
C19K	**Lookout Ridge**	**80.67**	**16**	P	**P**	**21 30 16.8**	**+0.6**
D19K	**Kuna River**	**80.67**	**16**	P	**P**	**21 30 15.8**	**-0.4**
MLY	**Manley**	**80.95**	**21**	P	**P**	**21 30 18.0**	**+0.3**
MLY				IAmb	IAmb	21 30 18.6	
	comp=Z,1.7nm,0.4s						
ZALV	**Zalesovo Beam**	**81.30**	**326**	P	**P**	**21 30 19.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=116,slow=6.6,SNR=2.7						
	comp=Z,0.6nm,0.5s						
NEA2	**Nenana**	**81.32**	**22**	P	**P**	**21 30 19.5**	**-0.2**
NEA2				IAmb	IAmb	21 30 25.1	
	comp=Z,3.4nm,1.4s						
I23K	**Minto, Yukon-K**	**81.51**	**21**	P	**P**	**21 30 20.5**	**-0.1**
I23K				IAmb	IAmb	21 30 21.8	
	comp=Z,7.0nm,1.4s						
E21K	**Killik River**	**81.84**	**17**	P	**P**	**21 30 23.4**	**+1.0**
E21K				IAmb	IAmb	21 30 23.6	
	comp=Z,3.7nm,0.9s						
B20K	**Meade River**	**81.91**	**15**	P	**P**	**21 30 22.9**	**+0.3**
G23K	**Bananza Creek**	**82.11**	**20**	P	**P**	**21 30 24.1**	**+0.3**
G23K				IAmb	IAmb	21 30 25.8	
	comp=Z,3.1nm,1.3s						
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**21 30 23.5**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=259,slow=5.1,SNR=4.6						
	comp=Z,0.4nm,0.6s						
BARN	**Barnard Glacie**	**82.70**	**26**	P	**P**	**21 30 28.3**	**+1.1**
BARN				IAmb	IAmb	21 30 34.8	
	comp=Z,4.9nm,1.1s						
J25K	**Salcha River,**	**82.72**	**23**	P	**P**	**21 30 26.5**	**-0.6**
J25K				IAmb	IAmb	21 30 27.7	
	comp=Z,1.6nm,0.5s						
DOT	**Dot Lake**	**82.79**	**24**	P	**P**	**21 30 27.6**	**+0.1**
CTGM	**Chitina Glacie**	**82.80**	**27**	P	**P**	**21 30 27.4**	**-0.3**
CTGM				IAmb	IAmb	21 30 29.1	
	comp=Z,3.1nm,0.8s						
M27K	**Edge Creek, AK**	**83.14**	**25**	P	**P**	**21 30 29.2**	**-0.2**
M27K				IAmb	IAmb	21 30 31.1	
	comp=Z,3.9nm,1.4s						
L29M	**L29M**	**85.02**	**25**	P	**P**	**21 30 38.0**	**-0.9**
L29M				IAmb	IAmb	21 30 43.2	
	comp=Z,1.8nm,1.2s						
QSPA	**South Pole Qui**	**85.05**	**180**	P	**P**	**21 30 39.1**	**0.0**
QSPA				IAmb	IAmb	21 30 43.0	
	comp=Z,3.1nm,1.3s						
I28M	**Miner Creek**	**85.16**	**23**	P	**P**	**21 30 39.6**	**0.0**
D27M	**Malcolm River**	**86.32**	**19**	P	**P**	**21 30 45.6**	**+0.4**
E28M	**Babbage River**	**86.54**	**20**	P	**P**	**21 30 46.3**	**+0.1**
ABKAR	**Akbulak array**	**95.62**	**319**	P	**P**	**21 31 27.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**150.44**	**288**	PKPbc	**PKPbc**	**21 37 55.0**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=69,slow=3.4,SNR=8.1						

*NEIC **25** 21:19:51.6±2.2,21°.5N±0°.2×143°.57E±0°.08,h205km±14km, mb4.2/26, Error ellipse: s-maj=30.2km s-min=8.4km az=165.0*

*IDC **25** 21:20:12.7±18.0,22°.60N×143°.42E,h361km±134km, mb3.4/11, mbtmp4.1/12, Error ellipse: s-maj=161.0km s-min=26.4km az=172.0*

ISC 25 21:20:04.1±1.6,22°.2N±0°.3×143°.4E±0°.1,h300km,n41, σ1°34/43,mb3.9/25,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**11.32**	**344**	Pn	**Pn**	**21 22 36.2**	**-2.1**
JMN	**Monobe**	**14.23**	**326**		**Pn**	**21 23 14.2**	**+0.8**
KSRS	**Korea Array**	**20.24**	**322**	P	**P**	**21 24 18.9**	**+1.5**
	4.9nm,0.8s,baz=147,slow=8.7,SNR=28						
SONM	**Songino Array**	**39.09**	**320**	P	**P**	**21 27 04.1**	**+1.1**
	0.7nm,0.6s,baz=137,slow=7.9,SNR=5.9						
	0.7nm,0.6s						
CLES	**Cleveland East**	**46.81**	**37**	P	**P**	**21 28 03.2**	**-0.9**
EVN	**Everest**	**51.20**	**289**	P	**P**	**21 28 35.4**	**-3.1**
EVN				IAmb	IAmb	21 28 39.3	
	comp=Z,4.4nm,0.4s						
ZALV	**Zalesovo Beam**	**53.95**	**321**	P	**P**	**21 28 57.9**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=103,slow=8.2,SNR=6.6						
	comp=Z,1.1nm,0.4s						
O15K	**Ungalikthiuk R**	**54.29**	**32**	P	**P**	**21 28 58.6**	**-1.0**
O15K				IAmb	IAmb	21 29 06.0	
	comp=Z,7.3nm,1.1s						
N15K	**Kwethluk River**	**54.47**	**31**	P	**P**	**21 29 02.1**	**+1.3**
N15K				IAmb	IAmb	21 29 07.4	
	comp=Z,4.5nm,1.0s						
MKAR	**Makanchi Array**	**54.52**	**312**	P	**P**	**21 29 02.7**	**+1.2**
MKAR				PcP	**PcP**	**21 30 00.9**	**+0.2**
MKAR	**Makanchi Array**	**54.52**	**312**	P	**P**	**21 29 02.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=91,slow=8.6,SNR=7.9						
MKAR				PcP	**pP**	**21 30 01.4**	**-4.0**
	comp=Z,0.5nm,0.5s,baz=82,slow=3.5,SNR=8.0						
	comp=Z,0.4nm,0.3s						
K15K	**Wolf Creek Mou**	**54.53**	**28**	P	**P**	**21 28 59.6**	**-1.7**
K15K				IAmb	IAmb	21 29 00.1	
	comp=Z,11nm,1.4s						
L16K	**Owhat River**	**55.25**	**29**	P	**P**	**21 29 05.9**	**-0.5**
M16K	**Timber Creek**	**55.27**	**30**	P	**P**	**21 29 06.1**	**-0.5**
K17K	**Iditarod**	**56.09**	**28**	P	**P**	**21 29 13.1**	**+0.8**
K17K				IAmb	IAmb	21 29 14.8	
	comp=Z,4.1nm,1.0s						
SII	**Sitkinak Islan**	**56.59**	**36**	P	**P**	**21 29 14.7**	**-1.3**
L18K	**Granite Mounta**	**56.65**	**29**	P	**P**	**21 29 16.5**	**+0.2**
G18K	**Tagagawik**	**57.00**	**25**	P	**P**	**21 29 19.1**	**+0.4**
G18K				IAmb	IAmb	21 29 19.4	
	comp=Z,4.1nm,1.4s						
OHAK	**Old Harbor**	**57.20**	**35**	P	**P**	**21 29 19.0**	**-1.1**
OHAK				IAmb	IAmb	21 29 23.8	
	comp=Z,4.9nm,1.2s						
KURK	**Kurchatov**	**57.25**	**317**	P	**P**	**21 29 21.4**	**+0.8**
KURK				IAmb	IAmb	21 29 21.8	
	comp=Z,6.6nm,1.4s						
KURBB	**Kurchatov Arra**	**57.30**	**317**	P	**P**	**21 29 21.9**	**+1.0**
	comp=Z,3.2nm,0.4s,baz=92,slow=7.6,SNR=57						
	comp=Z,3.2nm,0.4s						
KDAK	**Kodiak Island**	**57.67**	**35**	P	**P**	**21 29 23.7**	**+0.3**
KDAK				IAmb	IAmb	21 29 28.3	
	comp=Z,11nm,1.3s						
H19K	**Roundabout Mou**	**57.74**	**25**	P	**P**	**21 29 25.2**	**+1.5**
C19K	**Lookout Ridge**	**57.88**	**21**	P	**P**	**21 29 25.3**	**+0.6**
SYI	**Shuyak Island**	**57.91**	**34**	P	**P**	**21 29 25.4**	**+0.4**
E19K	**Redstone River**	**58.08**	**23**	P	**P**	**21 29 27.8**	**+1.7**
E19K				IAmb	IAmb	21 29 34.6	
	comp=Z,4.3nm,1.4s						
D20K	**Etivluk River**	**58.73**	**22**	P	**P**	**21 29 31.9**	**+1.3**
D20K				IAmb	IAmb	21 29 40.5	
	comp=Z,10nm,1.4s						
SKT	**Skwentna**	**58.95**	**30**	P	**P**	**21 29 33.0**	**+0.8**
B20K	**Meade River**	**59.01**	**20**	P	**P**	**21 29 34.5**	**+2.1**
F21K	**Alatna River**	**59.38**	**24**	P	**P**	**21 29 35.1**	**+0.1**
F21K				IAmb	IAmb	21 29 40.0	
	comp=Z,3.6nm,1.2s						
D23K	**Nanushuk River**	**60.86**	**22**	P	**P**	**21 29 44.9**	**-0.1**
D23K				IAmb	IAmb	21 29 44.9	
	comp=Z,17nm,1.4s						
HIN	**Hinchinbrook I**	**61.13**	**32**	P	**P**	**21 29 46.3**	**-0.7**
TOLK	**Toolik Lake Re**	**61.17**	**23**	P	**P**	**21 29 49.3**	**+2.2**
TOLK				IAmb	IAmb	21 29 49.6	
	comp=Z,2.6nm,0.7s						
ILAR	**Eielson Array**	**61.49**	**27**	P	**P**	**21 29 49.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=248,slow=6.0,SNR=4.3						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**62.43**	**319**	P	**P**	**21 29 56.9**	**+1.2**
	comp=Z,4.6nm,0.5s,baz=88,slow=8.5,SNR=23						
	comp=Z,4.6nm,0.5s						
AB31	**Akbulak array**	**69.34**	**316**	P	**P**	**21 30 40.2**	**+0.7**
YKA	**Yellowknife Ar**	**75.91**	**28**	P	**P**	**21 31 18.6**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=299,slow=6.3,SNR=10						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**78.51**	**342**	P	**P**	**21 31 32.8**	**+0.7**
	comp=Z,5.0nm,1.0s,baz=76,slow=8.5,SNR=9.1						
	comp=Z,5.0nm,1.0s						
KBZ	**Khabaz**	**82.17**	**314**	P	**P**	**21 31 53.1**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=104,slow=5.2,SNR=4.6						
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**82.82**	**335**	P	**P**	**21 31 54.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=58,slow=4.6,SNR=14						
	comp=Z,0.8nm,0.3s						
HFS	**Hagfors**	**88.35**	**337**	P	**P**	**21 32 21.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=76,slow=6.3,SNR=6.5						
	comp=Z,0.4nm,0.3s						

IDC 25 21:25:57.8±2.0,18°.38S×175°.58W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=58.5km s-min=48.1km az=17.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.20**	**260**	P	P	21 34 32.5	-0.2
	1.1nm,0.4s,baz=97,slow=7.9,SNR=22						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**47.26**	**254**	P	P	21 34 33.3	0.0
	1.3nm,0.4s,baz=88,slow=8.2,SNR=38						
	1.3nm,0.4s						
QSPA	**South Pole Qui**	**71.68**	**180**	P	P	21 37 21.5	+0.1
	1.2nm,0.9s,baz=305,slow=8.3,SNR=2.5						
	1.2nm,0.9s						
BRTR	**Keskin Array B**	**147.00**	**316**	PKPbc	PKPdf	21 45 42.0	+1.0
	0.4nm,0.5s,baz=190,slow=3.4,SNR=3.5						
MMAI	**Mount Meron Ar**	**148.65**	**304**	PKPbc	PKPbc	21 45 47.0	-0.5
	0.4nm,0.4s,baz=95,slow=3.5,SNR=1.8						

*IDC **25** 21:39:24.8±1.2,32°.39N×137°.53E,h398km±28km,mb2.8/6, mbtmp3.6/8, Error ellipse: s-maj=67.2km s-min=17.4km az=67.0*

ISC 25 21:39:24.7±1.0,32°.4N±0°.2×137°.5E±0°.2,h394km,n8, σ0°60/9,mb3.0/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.09**	**69**	P	**Pn**	**21 40 20.4**	**-0.3**
	99nm,0.9s,baz=261,slow=9.5,SNR=2.0						
JHJ				S	**S**	**21 41 06.6**	**+0.8**
	34nm,0.4s,baz=88,slow=23,SNR=6.3						
MJAR	**Matsushiro Arr**	**4.19**	**8**	P	**Pn**	**21 40 37.3**	**-0.9**
	4.0nm,0.5s,baz=190,slow=11,SNR=18						
SONM	**Songino Array**	**28.09**	**312**	P	**P**	**21 44 42.6**	**+0.6**
	0.2nm,0.4s,baz=99,slow=5.4,SNR=2.4						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**42.82**	**316**	P	**P**	**21 46 45.9**	**+0.4**
	0.3nm,0.3s,baz=92,slow=10,SNR=1.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.00**	**306**	P	**P**	**21 46 55.1**	**+0.2**
	0.3nm,0.4s,baz=89,slow=9.9,SNR=5.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**46.44**	**311**	P	**P**	**21 47 13.4**	**-0.3**
	0.3nm,0.4s,baz=91,slow=9.4,SNR=6.4						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**52.12**	**184**	P	**P**	**21 47 56.1**	**-0.4**
	0.4nm,0.3s,baz=359,slow=7.6,SNR=8.8						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**71.38**	**332**	P	**P**	**21 50 02.7**	**0.0**
	0.6nm,0.5s,baz=65,slow=4.7,SNR=6.5						
	0.6nm,0.5s						

TRN 25 21:50:29.2,13°.51N×60°.13W,h17km,MD3.5,North-west of Barbados.,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.67**	**123**	*e*P	Pn	21 50 44.4	+0.5
SLBI	**Saint Lucia, B**	**0.96**	**302**	*e*P	Pn	21 50 49.0	+1.0
SLBI				x	x	21 51 00.3	
SLBI				*e*S	Sn	21 51

SYI	Shuyak Island	3.17	321			Pn	21 52 39.8	-0.6
SYI	Shuyak Island	3.17	321			Sn	21 53 16.1	-2.0
SYI						Lg	21 53 16.9	
Q23K	Middleton Isla	3.45	19		Pn	Pn	21 52 43.1	-1.1
Q23K					IAML		21 53 23.9	
	comp=E,299nm,0.8s							
Q23K	Middleton Isla	3.45	19			Sn	21 53 21.9	-3.2
R18K	Karluk	3.49	295			Sn	21 53 23.8	-2.3
CNPM	China Poot	3.62	338			Pn	21 52 46.0	-0.6
BRLK	Bradley Lake	3.77	342			Pn	21 52 47.8	-0.9
BRLK					IAML		21 53 36.9	
	comp=N,223nm,0.4s							
BRLK					IAML		21 53 37.0	
	comp=E,190nm,0.4s							
HOM	Homer	3.83	336			Pn	21 52 49.3	-0.1
HOM					IAML		21 53 44.9	
	comp=N,358nm,0.5s							
Q19K	Cape Douglas,	3.86	317			Pn	21 52 49.8	-0.1
Q19K					IAML		21 53 48.6	
	comp=E,287nm,0.8s							
Q19K					IAML		21 53 50.7	
	comp=N,361nm,0.8s							
P23K	Montague Islan	3.86	9			Pn	21 52 49.4	-0.4
P23K					IAML		21 53 33.5	
	comp=E,272nm,0.4s							
P23K					IAML		21 53 33.5	
	comp=N,306nm,0.3s							
P23K	Montague Islan	3.86	9			Sn	21 53 31.5	-3.6
SEW	Seward	3.94	354			Pn	21 52 50.2	-0.7
KAHG	Katmai Hook Gl	3.96	308			Pn	21 52 52.2	+0.9
CHIR	Chirikof Islan	3.96	267			Pn	21 52 50.4	-0.8
CHIR					IAML		21 53 37.4	
	comp=N,205nm,0.6s							
CHIR					IAML		21 53 41.9	
	comp=E,238nm,0.6s							
CHIR	Chirikof Islan	3.96	267			Sn	21 53 33.6	-4.2
AU22	Augustine Moun	4.07	323			Pn	21 52 53.4	+0.6
AGU	Augustine-Summ	4.09	323			Pn	21 52 53.6	+0.5
KAKN	Katmai Knife C	4.09	304			Pn	21 52 53.5	+0.3
AUCH	Augustine Cone	4.10	323			Pn	21 52 54.3	+1.1
ACHA	Angle Creek He	4.18	302			Pn	21 52 54.7	+0.4
KABU	Katmai Buttres	4.18	302			Pn	21 52 55.5	+1.1
KAHC	Katmai Hardscr	4.25	308			Pn	21 52 55.8	+0.5
P19K	Oil Pt	4.25	326			Pn	21 52 55.5	+0.2
ANCK	Angle Creek	4.25	301			Pn	21 52 55.9	+0.6
O22K	Cooper Landing	4.33	353			Pn	21 52 55.9	-0.5
KAIM	Kayak Island	4.34	29			Pn	21 52 56.1	-0.4
KAIM					IAML		21 53 49.1	
	comp=N,203nm,0.8s							
KAIM					IAML		21 53 53.1	
	comp=E,218nm,1.6s							
HIN	Hinchinbrook I	4.35	14			Pn	21 52 56.2	-0.4
SLKM	Skilak Lake	4.40	349			Pn	21 52 56.5	-0.9
SLKM					IAML		21 53 47.9	
	comp=E,255nm,0.3s							
O20K	Slope Mountain	4.44	333			Pn	21 52 57.6	-0.3
CNTC	Contact Creek	4.47	301			Pn	21 52 59.0	+0.7
PLK4	Peulik 4	4.49	292			Pn	21 52 58.3	-0.3
PLK4					IAML		21 53 54.4	
	comp=E,191nm,0.6s							
PLK4					IAML		21 53 56.6	
	comp=N,139nm,0.6s							
ILSW	Iliamna Southw	4.49	329			Pn	21 52 58.0	-0.7
ILSW					IAML		21 53 53.7	
	comp=N,127nm,0.8s							
EYAK	Cordova Ski Ar	4.61	18			Pn	21 52 59.5	-0.6
EYAK					IAML		21 53 54.9	
	comp=E,172nm,0.7s							
EYAK	Cordova Ski Ar	4.61	18	P		Pn	21 53 00.2	+0.1
EYAK	Cordova Ski Ar	4.61	18	S		Sn	21 53 50.8	-2.8
SUCK	Suckling Hills	4.64	31			Pn	21 53 00.3	-0.3
SUCK					IAML		21 53 57.4	
	comp=N,190nm,1.4s							
SUCK					IAML		21 53 60.0	
	comp=E,136nm,1.2s							
PLK1	Peulik 1	4.67	293			Pn	21 53 01.2	+0.3
PWL	Port Wells	4.67	2			Pn	21 53 00.7	-0.3
PWL					IAML		21 53 54.5	
	comp=E,134nm,0.7s							
PWL					IAML		21 53 58.0	
	comp=N,152nm,0.6s							
RAGM	Ragged Mountai	4.68	25			Pn	21 53 00.9	-0.3
FID	Port Fidalgo	4.69	13			Pn	21 53 00.8	-0.6
FID					IAML		21 53 54.5	
	comp=E,117nm,0.5s							
FID					IAML		21 54 01.4	
	comp=N,111nm,0.5s							
NICHA	Nichawak Mount	4.73	29			Pn	21 53 01.5	-0.3
HMT	Hamilton	4.73	27			Pn	21 53 01.7	-0.2
PLBL	Peulik Blue Cr	4.75	292			Pn	21 53 02.6	+0.5
GLI	Glacier Island	4.76	9	Pn		Pn	21 53 01.7	-0.5
GLI					IAML		21 53 58.6	
	comp=E,99nm,0.6s							
RED	Redoubt Volcan	4.77	334			Pn	21 53 01.5	-0.9
RED					IAML		21 54 02.0	
	comp=E,98nm,0.4s							
RED					IAML		21 54 03.1	
	comp=N,128nm,0.8s							
CAPN	Captain Cook N	4.77	345	Pn		Pn	21 53 02.6	+0.3
P18K	Big Mountain,	4.78	315			Pn	21 53 01.8	-0.7
RDSO	Redoubt South	4.79	335			Pn	21 53 01.8	-1.0
RDWB	Redoubt West	4.84	334			Pn	21 53 02.5	-1.0
DFR	Drift River	4.90	336			Pn	21 53 03.1	-1.1
RDJH	Redoubt Jeurge	4.93	335			Pn	21 53 03.8	-0.8
NCT	North Crescent	4.93	334			Pn	21 53 04.0	-0.7
RC01	Rabbit Creek A	4.94	354			Pn	21 53 04.3	-0.4
RC01					IAML		21 54 01.3	
	comp=E,101nm,0.5s							
RC01					IAML		21 54 02.9	
	comp=N,120nm,0.6s							
SNH	Sunshine Point	5.02	35			Pn	21 53 05.5	-0.3
SNH					IAML		21 54 10.0	
	comp=N,90nm,1.1s							
SNH					IAML		21 54 17.0	
	comp=E,94nm,0.7s							
O19K	Port Alsworth	5.02	325			Pn	21 53 05.2	-0.6
O18K	Koktuh Hills	5.07	319			Pn	21 53 06.0	-0.5
R16K	Pilot Point	5.11	289	Pn		Pn	21 53 07.5	+0.4
R16K					IAML		21 54 52.6	
	comp=N,100nm,1.3s							
R16K					IAML		21 56 23.8	
	comp=E,76nm,1.2s							
DIV	Divide	5.16	15			Pn	21 53 07.8	0.0
BMRM	Bremner River	5.21	22			Pn	21 53 08.1	-0.4
BMRM					IAML		21 54 07.8	
	comp=N,85nm,0.7s							
BMRM					IAML		21 54 12.6	
	comp=E,95nm,0.5s							
WAX	Waxell Ridge	5.22	33			Pn	21 53 08.2	-0.4
KNK	Knik Glacier	5.23	1			Pn	21 53 09.1	+0.5
KNK					IAML		21 54 08.0	
	comp=N,65nm,0.5s							
KNK					IAML		21 54 14.8	
	comp=E,79nm,0.7s							
SPU	Mount Spurr	5.31	342			Pn	21 53 09.4	-0.4
MESA	MESA	5.31	39			Pn	21 53 09.6	-0.4
MESA					IAML		21 55 15.4	
	comp=E,125nm,0.9s							
MESA					IAML		21 55 15.9	
	comp=N,107nm,0.7s							
CRQM	Cirque	5.39	30			Pn	21 53 10.5	-0.6
SUA	Susitna One	5.39	349			Pn	21 53 10.9	-0.2
PMR	Palmer	5.41	357			Pn	21 53 11.3	+0.1
PMR	Palmer	5.41	357	P		Pn	21 53 11.7	+0.5
PMR	Palmer	5.41	357	S		Sn	21 54 09.6	-3.8
TGL	Tana Glacier	5.47	31			Pn	21 53 11.5	-0.6
CHGN	Chignik	5.48	275			Pn	21 53 11.5	-0.5
KLU	Klutina	5.48	14			Pn	21 53 12.3	0.0
ISLE	Juniper Island	5.50	34			Pn	21 53 12.2	-0.3
N19K	Bonanza Creek	5.56	329			Pn	21 53 12.7	-0.6
STLK	Strandline Lak	5.57	344			Pn	21 53 13.6	+0.2
GHO	Glory Hole Cre	5.59	358			Pn	21 53 14.3	+0.6
M22K	Willow	5.62	353			Pn	21 53 14.1	+0.1
SCM	Sheep Creek Mo	5.69	6			Pn	21 53 14.9	-0.1
VRDI	Verde Repeater	5.71	26			Pn	21 53 15.0	-0.4
TABL	Table Mountain	5.78	40			Pn	21 53 15.9	-0.6
GRNC	Granite Creek	5.79	35			Pn	21 53 15.6	-1.0
P16K	Nushagak River	5.79	303			Pn	21 53 15.0	-1.4
N25K	Chitina, Valde	5.80	19			Pn	21 53 16.6	0.0
YKU2	Yakutat	5.80	51	Pn		Pn	21 53 17.1	+0.6
GLB	Gilahina Butte	5.81	23			Pn	21 53 16.6	-0.1
PCA	Pinnacle	5.89	45			Pn	21 53 17.8	0.0
N18K	Kilae Creek	5.90	323			Pn	21 53 17.1	-0.8
MCARA	McCarthy VSAT	5.95	27			Pn	21 53 18.2	-0.3
SKT	Skwentna	5.99	347			Pn	21 53 18.6	-0.5
M24K	Tolsona, Glenn	6.05	11			Pn	21 53 20.1	+0.1
BCPM	Bancas Point	6.06	48			Pn	21 53 19.8	-0.2
BARN	Barnard Glacie	6.07	34			Pn	21 53 20.4	+0.1
CTGM	Chitina Glacie	6.10	35			Pn	21 53 20.4	-0.3
O16K	Kokwok River B	6.10	308			Pn	21 53 20.6	0.0
LOGN	Logan Glacier	6.11	37			Pn	21 53 20.5	-0.3
M20K	Styx River	6.16	340			Pn	21 53 20.9	-0.5
N17K	Nushagak Hills	6.26	317			Pn	21 53 22.4	-0.4
CUT	Chulitna	6.28	353	Pn		Pn	21 53 21.4	-1.6
O28M	Mount Upton	6.35	40			Pn	21 53 22.2	-2.1
CHNA	Chernabura Isl	6.40	262	P		Pn	21 53 23.6	-1.1
CNBA	Chernabura Isl	6.40	262			Pn	21 53 23.6	-1.1
M19K	Big River Lodg	6.45	335			Pn	21 53 24.6	-0.8
O29M	Mount Kennedy	6.69	48			Pn	21 53 29.0	+0.1
O15K	Ungalikthiuk R	6.72	301			Pn	21 53 29.6	+0.5
P29M	Windy Craggy	6.72	55			Pn	21 53 28.4	-0.8
SDPT	Sand Point	6.76	268	Pn		Pn	21 53 28.9	-0.8
SDPT	Sand Point	6.76	268	P		Pn	21 53 29.7	+0.1
L19K	White Mountain	6.80	334			Pn	21 53 29.3	-0.9
M26K	Nabesna, AK	6.84	22			Pn	21 53 31.1	+0.3
DHY	Denali Highway	6.92	5			Pn	21 53 32.0	0.0
M17K	Holitna River	6.94	322			Pn	21 53 31.5	-0.7
PPLA	Purkeypile	6.96	346			Pn	21 53 33.0	+0.5
S31K	Pelican	6.96	70			Pn	21 53 29.3	-3.1
PAX	Paxson	6.97	12			Pn	21 53 33.1	+0.4
M27K	Edge Creek, AK	7.06	26			Pn	21 53 34.2	+0.2
MENT	Mentasta	7.19	18			Pn	21 53 36.4	+0.7
MENT	Mentasta	7.19	18	P		Pn	21 53 37.2	+1.6
RND	Reindeer	7.23	359			Pn	21 53 36.8	+0.6
M16K	Timber Creek	7.25	316			Pn	21 53 36.3	-0.1
N15K	Swethluk River	7.26	308			Pn	21 53 36.6	+0.1
L18K	Granite Mounta	7.32	329			Pn	21 53 36.6	-0.7
TRF	Thorofare Moun	7.32	354			Pn	21 53 37.7	+0.2
HYT	Haines Junctio	7.42	47			Pn	21 53 39.1	+0.2
O14K	Tigyukauivet M	7.44	299			Pn	21 53 38.9	-0.1
CAST	Castle Rocks	7.45	348			Pn	21 53 39.2	0.0
KTH	Kantishna Hill	7.47	352			Pn	21 53 39.5	+0.1
MCK	McKinley	7.56	359			Pn	21 53 40.3	-0.3
L27K	Beaver Creek,	7.68	24			Pn	21 53 40.6	-1.7
K20K	Telida	7.69	341			Pn	21 53 41.5	-0.9
BCAR	Beaver Creek A	7.70	24			Pn	21 53 41.7	-0.8
K24K	Donnelly Dome	7.75	9			Pn	21 53 43.9	+0.6
RIDG	Independent Ri	7.79	12			Pn	21 53 44.8	+0.9
S32K	Killisnoo	7.79	75			Pn	21 53 41.8	-2.0
SKAG	Skagway	7.79	60			Pn	21 53 43.4	-0.4
SKAG	Skagway	7.79	60	P		Pn	21 53 45.4	+1.6
BESE	Bessie Mountai	7.80	67			Pn	21 53 43.2	-0.7
DOT	Dot Lake	7.81	15			Pn	21 53 44.6	+0.6
L16K	Owhat River	7.88	319			Pn	21 53 44.8	-0.1
N14K	Kuskokwak Cree	7.88	304			Pn	21 53 45.8	+0.9
R32K	Eaglecrest	7.91	69			Pn	21 53 44.7	-0.8
N30M	Aishikik Lake	7.96	44			Pn	21 53 46.6	+0.5
BPAW	Bear Paw Mtn.	8.01	352			Pn	21 53 47.0	+0.1
M29M	Somme Creek	8.12	35			Pn	21 53 48.2	-0.1
SCRK	Sand Creek	8.13	15			Pn	21 53 48.0	-0.5
K17K	Iditarod	8.18	327			Pn	21 53 48.0	-1.2
HDA	Harding Lake	8.27	5			Pn	21 53 50.5	+0.1
J18K	Innoko River	8.35	334			Pn	21 53 50.9	-0.5
M14K	Bethel	8.35	309			Pn	21 53 51.5	+0.1
NEA2	Nenana	8.42	359			Pn	21 53 52.8	+0.4
J20K	Nowinta River	8.46	343			Pn	21 53 52.8	-0.2
WHY	Whitehorse	8.46	52			Pn	21 53 52.9	-0.2
CCB	Clear Creek Bu	8.48	2			Pn	21 53 53.5	+0.3
N31M	Braeburn, Yuko	8.49	46			Pn	21 53 52.6	-0.8
J19K	Foorman	8.56	339			Pn	21 53 54.4	-1.0
J25K	Salcha River,	8.59	9			Pn	21 53 54.6	-0.2
P32M	Atlin	8.62	61			Pn	21 53 54.4	-0.8
IL31		8.64	5			Pn	21 53 55.5	+0.1
ILAR	Eielson Airray	8.64	5			Pn	21 53 55.6	+0.2
ILAR	Eielson Airray	8.64	5	Pn		Pn	21 53 55.4	0.0
	comp=N,0.6nm,0.3s,baz=193,slow=14,SNR=19							
ILAR						Sn	Sn	
	comp=N,0.8nm,0.3s,baz=188,slow=22,SNR=12							
ILAR						LR	LR	21 57 17.3
	comp=N,89nm,19.3s,baz=271,slow=38							
	comp=N,1.0nm,0.4s							
J26L	Joseph Creek	8.69	15			Pn	21 53 55.6	-0.5
L29M	L29M	8.71	33			Pn	21 53 56.6	+0.2
M30M	Minto, Yukon	8.77	38			Pn	21 53 57.0	-0.3
MLY	Manley	8.92	354			Pn	21 53 59.8	+0.5
J17K	VABM Dome	8.93	328			Pn	21 53 58.6	-0.8
I23K	Minto, Yukon-K	8.98	358			Pn	21 54 00.6	+0.5
Q32M	Nakina River	9.19	66			Pn	21 54 02.9	-0.3
P33M	Teslin, Yukon	9.24	58			Pn	21 54 03.4	-0.3
M31M	Drury Creek, Y	9.43	45			Pn	21 54 06.9	+0.6
K29M	Barlow Dome	9.44	31			Pn	21 54 06.9	+0.4
H23K	Yukon River	9.67	358			Pn	21 54 09.9	+0.4
H24K	Noodor Dome	9.67	2			Pn	21 54 10.4	+0.8
H21K	Melozitna Rive	9.70	350			Pn	21 54 10.8	+0.8
R33M	Jennings River	9.93	64			Pn	21 54 12.4	-0.9
H19K	Roundabout Mou	10.10	341			Pn	21 54 16.1	+0.8
IMAR	Indian Mountai	10.12	348			Pn	21 54 15.2	-0.4
H18K	Honhosa River	10.16	336			Pn	21 54 15.1	-1.2
I28M	Minto Creek	10.18	21			Pn	21 54 17.4	+0.8
DLBC	Dease Lake	10.28	70	Pn		Pn	21 54 18.3	+0.3
	comp=N,0.6nm,0.3s,baz=240,slow=12,SNR=8.7							
DLBC						LR	LR	21 57 37.2
	comp=N,91nm,21.6s,baz=248,slow=34							
	comp=N,1.7nm,0.3s							
J30M	Hart River	10.34	31			Pn	21 54 19.1	+0.3
H17K	Granite Mounta	10.36	332			Pn	21 54 17.8	-1.2
FYU	Fort Yukon	10.52	7			Pn	21 54 19.6	-1.6
UNV	Unalaska Valle	10.55	265	Pn		Pn	21 54 20.5	-1.0
G23K	Bananza Creek	10.57	357			Pn	21 54 22.0	+0.2
G21K	Allakaket	10.61	349			Pn	21 54 22.3	-0.1
I30M	Mount Dempster	10.82	28			Pn	21 54 25.6	+0.2
G18K	Tagagawik	10.86	338	Pn		Pn	21 54 25.3	-0.5
F21K	Alatna River	11.29	350	Pn		Pn	21 54 30.9	-0.8
F20K	Avaraart Lake	11.39	346			Pn	21 54 32.7	-0.3
NIKH	Nikolski High	12.18	263	Pn		Pn	21 54 43.8	-0.1
E21K	Killik River	12.53	351	Pn		Pn	21 54 49.3	+0.7
BBB	Bella Bella	12.63	100	LR		LR	21 58 13.0	
	comp=N,104nm,18.5s,baz=324,slow=30							
INK	Inuvik	13.96	24			Pn	21 55 08.6	+0.6
INK	Inuvik	13.96	24	Pn		Pn	21 55 09.7	+1.6
	comp=N,0.5nm,0.3s,baz=225,slow=7.6,SNR=4.1							
INK						LR	LR	22 00 40.9
	comp=N,87nm,18.6s,baz=18,slow=38							
	comp=N,4.1nm,0.9s							
C16K	Lisburne Hills	14.33	334	Pn		Pn	21 55 12.7	-0.4
B20K	Meade River	14.36	348	Pn		Pn	21 55 13.0	-0.6
ADK	Adak	16.99	267			Pn	21 55 47.5	-0.5
ADK						IAmb	IAmb	21 56 10.0
	comp=Z,16nm,1.1s							
KIWB	Kanaga Island	17.27	267			Pn	21 55 50.8	-0.6
KIWB						IAmb	IAmb	21 55 59.3
	comp=Z,17nm,1.3s							
YKA	Yellowknife Ar	18.27	56	P		P	21 56 03.6	-0.3
YKA	Yellowknife Ar	18.27	56	P		P	21 56 04.6	+0.7
	comp=Z,0.1nm,0.3s,baz=268,slow=9.8,SNR=9.1							
YKA						LR	LR	22 02 19.0
	comp=Z,82nm,21.2s,baz=328,slow=34							
	comp=Z,1.9nm,0.9s							
YKAW3	Yellowknife Wh	18.27	56	P		P	21 56 03.5	-0.4
YKAW3						IAmb	IAmb	21 56 15.0
	comp=Z,9.4nm,1.1s							
YKAW1	Yellowknife Wh	18.32	56			Pn	21 56 03.2	-1.1
YKAW1						IAmb	IAmb	21 56 15.5
	comp=Z,6.0nm,1.0s							
NEW	Newport	20.70	99	LR		LR	22 02 28.7	
	comp=Z,52nm,20.9s,baz=309,slow=31							
BLKN	Baker Lake	26.58	51	P		P	21 57 28.7	+0.5
BLKN						IAmb	IAmb	21 57 54.0
	comp=Z,24nm,1.4s							
NVAR	Mina Array Bea	26.84	119	P		P	21 57 32.8	+1.7
	comp=Z,0.5nm,0.7s,baz=311,slow=7.7,SNR=3.8							
	comp=Z,0.5nm,0.7s							
HVU	Hansel Valley	27.20	107	P		P	21 57 31.5	-2.8
HVU						IAmb	IAmb	21 57 31.8
	comp=Z,1.4nm,0.5s							
RES	Resolute Bay	27.45	28	LR		LR	22 09 01.9	
	comp=Z,60nm,18.6s,baz=218,slow=38							
PD31	Pinedale Array	28.27	102	P		P	21 57 41.1	-2.9
MA2	Magadan	31.43	302	LR		LR	22 11 12.9	
	comp=Z,38nm,18.6s,baz=87,slow=37							
PFO	Pinyon Flats O	31.59	122	LR		LR	22 08 42.0	
	comp=Z,49nm,18.6s,baz=309,slow=32							
TIXI	Tiksi	35.95	328	LR		LR	22 14 07.7	
	comp=Z,38nm,18.6s,baz=221,slow=37							
SFJD	Kangerlussuaq	42.94	35	LR		LR	22 17 28.1	
	comp=Z,52nm,19.1s,baz=350,slow=36							
SCHQ	Schefferville	43.72	56	LR		LR	22 16 37.2	
	comp=Z,26nm,18.4s,baz=293,slow=34							
GLAT	Glass	44.03	91	P		P	21 59 56.5	-1.6
H11N2	WAKE ISLAND Hy	49.18	241	T		T	22 54 29.0	
	baz=30,slow=76,SNR=19							
H11N3	WAKE ISLAND Hy	49.18	241	T		T	22 54 28.9	
	baz=30,slow=76,SNR=20							
H11N1	WAKE ISLAND Hy	49.20	241	T		T	22 54 27.5	
	baz=30,slow=76,SNR=14							
H11S1	WAKE ISLAND Hy	50.32	240	T		T	22 56 14.7	
	baz=29,slow=76,SNR=32							
H11S2	WAKE ISLAND Hy	50.33	240	T		T	22 55 58.1	
	baz=29,slow=76,SNR=23							
H11S3	WAKE ISLAND Hy	50.33	240	T		T	22 55 53.2	
	baz=29,slow=76,SNR=19							
ARCES	ARCESS Array B	54.49	3	P		P	22 01 18.0	+0.3
	comp=Z,1.4nm,0.8s,baz=355,slow=4.8,SNR=4.5							
	comp=Z,1.4nm,0.8s							
SONM	Songino Array	58.98	311	P		P	22 01 51.8	+1.9
	comp=Z,1.5nm,0.9s,baz=54,slow=7.5,SNR=7.4							
	comp=Z,1.5nm,0.9s							
ESQI	Esquipulas	61.06	108	P		P	22 02 02.8	-1.8
NC204	NORSAR Array S	61.74	11	P		P	22 02 08.3	-0.2
NC204						IAmb	IAmb	22 02 22.2
	comp=Z,5.1nm,1.0s							
ZALV	Zalesovo Beam	61.84	327	P		P	22 02 10.5	+1.3
	comp=Z,0.3nm,0.3s,baz=44,slow=6.4,SNR=2.2							
	comp=Z,0.3nm,0.3s							
NOA	NORSAR Array B	62.02	11	P		P	22 02 12.7	+2.3
	comp=Z,0.8nm,1.0s,baz=349,slow=6.8,SNR=2.6							
	comp=Z,0.8nm,1.0s							
FINES	FINESS Array B	62.62	3	P		P	22 02 14.8	+0.5
FINES	FINESS Array B	62.62	3	P		P	22 02 15.3	+1.0
	comp=Z,3.1nm,1.0s,baz=330,slow=11,SNR=5.4							
	comp=Z,3.1nm,1.0s							
EKA	Eskdalemuir Ar	65.31	21	P		P	22 02 34.5	+2.3
	comp=Z,0.2nm,0.5s,baz=5.4,slow=5.5,SNR=1.4							
	comp=Z,0.2nm,0.5s							
ARTI	Arti	65.66	344	P		P	22 02 35.3	+1.0
KURK	Kurchatov	66.50	329	P		P	22 02 40.3	+0.5
KURK						IAmb	IAmb	22 03 17.4
	comp=Z,1.8nm,1.1s							
MKAR	Makanchi Array	68.88	325	P		P	22 02 54.6	-0.4
MKAR	Makanchi Array	68.88	325	P		P	22 02 55.8	+0.8
	comp=Z,0.2nm,0.4s,baz=28,slow=6.4,SNR=6.3							
	comp=Z,0.2nm,0.4s							
ABKAR	Akbulak array	72.25	341	P		P	22 03 15.8	+0.4
AKASG	Malin Array Be	73.45	1	P		P	22 03 23.7	+1.2
	comp=Z,0.8nm,0.5s,baz=359,slow=6.2,SNR=5.2							
	comp=Z,0.8nm,0.5s							
GERES	GERESS Array B	74.28	12	P		P	22 03 30.2	+2.6
	comp=Z,0.2nm,0.5s,baz=349,slow=4.8,SNR=3.4							
	comp=Z,0.2nm,0.5s							
DAVOX	Davos/Dischmat	75.81	15	LR		LR	22 42 03.0	
	comp=Z,18nm,18.1s,baz=88,slow=40							
ESDC	Sonseca Array	79.89	27	P		P	22 04 00.7	+1.6
	comp=Z,0.5nm,0.9s,baz=312,slow=4.2,SNR=2.4							
	comp=Z,0.5nm,0.9s							
BRTR	Keskin Array B	84.42	358	P		P	22 04 24.4	+1.3
	comp=Z,0.2nm,0.4s,baz=335,slow=6.4,SNR=1.9							
	comp=Z,0.2nm,0.4s							
QSPA	South Pole Qui	146.00	180	PKPbc		PKiKP	22 11 31.3	-0.9
	comp=Z,0.8nm,0.8s,baz=65,slow=1.8,SNR=5.0							

DJA ***25*** *22:32:05.3±2.1,3°N±11°×12°7E±°, h21km±27km, M3.4/5, MLv3.4/5*

IDC 25 22:32:00.5±2.3, 3°08N×126°95E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=226.1km s-min=23.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.54	293	P	Pg	22 32 32.9	+2.9
WRA	Warramunga Arr	24.00	163	P	P	22 37 16.6	-0.6
	0.5nm,0.4s,baz=341,slow=10,SNR=5.6						
	0.5nm,0.4s						
ASAR	Alice Springs	27.43	166	P	P	22 37 49.1	+0.8
	0.2nm,0.4s,baz=345,slow=8.0,SNR=1.4						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.21	325	P	P	22 41 57.2	+0.6
	0.

MNHN					Sb		23 01 01.6	+0.2
MNHN				IAML			23 01 04.5	
	196nm,0.3s							
MNHN				IAML			23 01 05.3	
	246nm,0.3s							
MNHN	**Monahans**	**1.35**	**103**	P	Pn		23 00 42.9	-0.6
MNHN				S	Sb		23 01 01.6	+0.2
ALPN	**Alpine**	**1.39**	**156**		Pn		23 00 43.2	-1.0
ALPN					Sb		23 01 00.8	-1.8
ALPN				IAML			23 01 06.7	
	240nm,0.3s							
ALPN				IAML			23 01 08.7	
	231nm,0.3s							
ALPN	**Alpine**	**1.39**	**156**	P	Pn		23 00 43.2	-1.0
ALPN				S	Sb		23 01 00.8	-1.8
TPB08	**Permian Basin**	**1.41**	**122**	P	Pg		23 00 45.1	+0.1
TPB08				S	Sn		23 01 03.6	+0.2
CPRX	**Cap Rock**	**1.43**	**15**		Pn		23 00 44.4	-0.2
CPRX					Sn		23 01 04.3	+0.5
CPRX	**Cap Rock**	**1.43**	**15**	P	Pn		23 00 44.6	0.0
ODSA	**Odessa**	**1.56**	**72**		Pn		23 00 46.7	+0.2
ODSA					Sg		23 01 08.2	+0.1
ODSA				IAML			23 01 11.6	
	278nm,0.3s							
ODSA	**Odessa**	**1.56**	**72**	P	Pn		23 00 46.6	+0.2
ODSA				S	Sn		23 01 06.9	-0.3
TMB04	**Seminole**	**1.82**	**57**	P	Pb		23 00 51.1	-0.6
TMB04				S	Sg		23 01 15.7	-0.7
EPT	**El Paso**	**1.88**	**274**		Pb		23 00 52.3	-0.6
EPT					Sg		23 01 19.0	+0.5
EPT	**El Paso**	**1.88**	**274**	S	Sg		23 01 18.9	+0.4
TMB01	**Midkiff**	**1.89**	**89**	P	Pb		23 00 52.3	-0.7
TMB01				S	Sb		23 01 17.5	+0.6
TMB06	**Greenwood**	**2.15**	**81**	P	Pb		23 00 56.0	-1.4
TMB06				S	Sb		23 01 24.1	-0.4
TMB05	**Klondike**	**2.29**	**64**	P	Pn		23 00 57.8	+1.4
TMB05				S	Sb		23 01 28.2	-0.2
TX31	**Lajitas Ar. Si**	**2.37**	**167**		Pn		23 00 58.7	+1.1
TX31					Sb		23 01 31.9	+1.1
TX31	**Lajitas Ar. Si**	**2.37**	**167**	P	Pn		23 00 58.7	+1.1
TX31	**Lajitas Ar. Si**	**2.37**	**167**	S	Sb		23 01 31.9	+1.1
TXAR	**Lajitas Array**	**2.37**	**167**		Pn		23 00 58.2	+0.6
SAND	**Sanderson**	**2.52**	**131**		Pn		23 01 01.1	+1.5
SAND				IAML			23 01 39.1	
	60nm,0.5s							
SAND				IAML			23 01 40.2	
	79nm,0.6s							
MSTX	**Muleshoe**	**2.65**	**29**		Pn		23 01 02.8	+1.4
SGCY	**Sterling City**	**2.71**	**84**		Pn		23 01 03.2	+0.9
SGCY				IAmb_Lg			23 01 42.2	
	comp=Z,30nm,0.8s							
SGCY				IAML			23 01 45.0	
	comp=Z,62nm,0.6s							
SGCY				IAML			23 01 45.1	
	comp=Z,89nm,0.8s							
POST	**Post**	**2.76**	**58**		Pn		23 01 04.0	+1.1
POST				IAmb_Lg			23 01 43.5	
	comp=Z,25nm,0.8s							
POST				IAML			23 01 48.2	
	comp=Z,118nm,0.5s							
OZNA	**Ozona**	**2.81**	**104**		Pn		23 01 03.5	-0.1
OZNA				IAML			23 01 49.3	
	comp=Z,58nm,0.7s							
OZNA				IAML			23 01 51.3	
	comp=Z,40nm,0.4s							
OZNA				IAmb_Lg			23 01 52.8	
	comp=Z,36nm,1.0s							
121A	**Cookes Peak, D**	**3.09**	**287**		Pn		23 01 08.0	+0.5
121A				IAmb_Lg			23 02 01.0	
	comp=Z,20nm,1.1s							
121A				IAML			23 02 06.4	
	comp=E,22nm,0.5s							
BNM	**Barren Site**	**3.17**	**322**		Pn		23 01 09.2	+0.5
Y22A	**Socorro**	**3.20**	**316**		Pn		23 01 10.5	+1.5
Y22A				IAML			23 01 59.8	
	comp=N,22nm,0.4s							
Y22A				IAML			23 02 11.4	
	comp=E,34nm,0.4s							
SN07	**Snyder 07**	**3.22**	**63**		Pn		23 01 10.1	+0.8
SBM	**South Baldy**	**3.36**	**314**		Pn		23 01 12.5	+1.1
LENM	**Lemitar**	**3.37**	**319**		Pn		23 01 12.5	+1.1
DKNS	**Dickens**	**3.49**	**54**		Pn		23 01 13.9	+1.0
DKNS				IAmb_Lg			23 02 14.0	
	comp=Z,24nm,0.7s							
ANMO	**Albuquerque**	**3.75**	**332**		Pb		23 01 26.5	+1.7
ANMO				IAML			23 02 14.5	
	comp=Z,12nm,0.5s							
DRIO	**Del Rio**	**3.87**	**124**		Pn		23 01 18.7	+0.5
DRIO				IAmb_Lg			23 02 23.7	
	comp=Z,16nm,0.7s							
APMT	**Aspermont**	**3.91**	**64**		Pn		23 01 18.9	+0.2
APMT				IAmb_Lg			23 02 25.8	
	comp=Z,26nm,0.9s							
JCT	**Junction City**	**4.03**	**106**	Pn	Pn		23 01 20.4	0.0
ABTX	**Abilene, Hawle**	**4.07**	**75**		Pn		23 01 21.3	+0.5
DUN6	**Lazy B Ranch**	**4.16**	**284**	IAmb_Lg			23 02 32.6	
	comp=Z,12nm,0.8s							
BRDY	**Brady**	**4.54**	**93**	IAmb_Lg			23 02 43.9	
	comp=Z,20nm,1.0s							
RTBA	**Rita Blanca**	**4.95**	**15**	IAmb_Lg			23 03 05.2	
	comp=Z,16nm,1.0s							
PLPT	**Palo Pinto**	**5.20**	**76**	IAmb_Lg			23 03 04.9	
	comp=Z,17nm,1.3s							
T25A	**Trinidad**	**5.48**	**359**	IAmb_Lg			23 03 13.5	
	comp=Z,8.8nm,1.0s							
WMOK	**Wichita Mounta**	**5.56**	**55**	IAmb_Lg			23 03 20.4	
	comp=Z,13nm,0.7s							
W18A	**Petrified Fore**	**5.71**	**309**	IAmb_Lg			23 03 34.8	
	comp=Z,9.6nm,0.9s							
435B	**Jarrell**	**5.82**	**97**	IAmb_Lg			23 03 33.7	
	comp=Z,12nm,0.8s							
WHTX	**Lake Whitney,**	**5.83**	**85**	IAmb_Lg			23 03 34.2	
	comp=Z,11nm,0.7s							
ELIS	**Ellis County**	**5.99**	**41**	IAmb_Lg			23 03 34.7	
	comp=Z,12nm,0.7s							
Z35A	**Perchaven, San**	**6.18**	**72**	IAmb_Lg			23 03 47.1	
	comp=Z,12nm,0.8s							
TREL	**Terrell**	**7.04**	**79**	IAmb_Lg			23 04 18.4	
	comp=Z,12nm,0.8s							
PV17	**East Wray Mesa**	**7.64**	**331**	IAmb_Lg			23 04 26.2	
	comp=Z,9.9nm,0.7s							

*NEIC **25** 23:37:28.9±2.1, 17°.9S±0°.1×178°.5W±0°.1, h595km±8km, mb4.2/37, Error ellipse: s-maj=19.1km s-min=18.3km az=93.0*
*IDC **25** 23:37:29.9±4.6, 17°.85S×178°.62W, h601km±55km, mb3.4/9, mbtmp4.4/10, Error ellipse: s-maj=28.7km s-min=20.0km az=132.0*

ISC 25 23:37:27.9±0.6, 18°.0S±0°.1×178°.5W±0°.1, h579km, n54, σ1§08/56, mb4.2/27, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**274**		**P**	**23 38 49.4**	**+2.1**
SANVU	**Saraoutou**	**13.93**	**278**	P	**P**	**23 40 27.9**	**+1.5**
PINNC	**Pines Island,**	**13.97**	**248**	P	**P**	**23 40 27.3**	**+0.6**
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**23 40 34.0**	**-0.2**
DZM	**Mont Dzumac**	**14.73**	**251**	P	**P**	**23 40 34.5**	**+0.2**
	7.1nm,0.6s						
SNZO	**South Karori**	**23.98**	**193**	P	**P**	**23 41 59.3**	**+1.3**
THZ	**Tophouse**	**24.83**	**195**	P	**P**	**23 42 05.1**	**-0.5**
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**23 44 02.6**	**+0.7**
	5.9nm,0.5s,baz=86,slow=10,SNR=14 5.9nm,0.5s						
WR8	**Warramunga Arr**	**44.39**	**260**		**P**	**23 44 47.4**	**-0.9**
WR8				IAmb	IAmb	23 45 27.5	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**44.51**	**260**		**P**	**23 44 48.4**	**-0.8**
WB0				IAmb	IAmb	23 44 49.1	
	comp=Z,6.9nm,0.6s						
WRA	**Warramunga Arr**	**44.54**	**260**		**P**	**23 44 48.6**	**-0.9**
WRA	**Warramunga Arr**	**44.54**	**260**	P	**P**	**23 44 48.7**	**-0.8**
	comp=Z,6.5nm,0.6s,baz=95,slow=7.0,SNR=66						
WRA				PcP	**PcP**	**23 46 19.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=95,slow=3.8,SNR=2.2 comp=Z,6.5nm,0.6s						
AS31	**Alice Springs**	**44.70**	**254**		**P**	**23 44 50.5**	**-0.1**
ASAR	**Alice Springs**	**44.70**	**254**		**P**	**23 44 50.4**	**-0.2**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**23 44 50.5**	**-0.1**
	comp=Z,33nm,0.6s,baz=88,slow=8.5,SNR=458						
ASAR				PcP	**PcP**	**23 46 19.4**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=97,slow=3.4,SNR=3.2 comp=Z,33nm,0.6s						
MTN	**Manton Dam**	**48.72**	**269**	P	**P**	**23 45 20.2**	**-0.7**
KNRA	**Kununurra**	**50.40**	**264**	P	**P**	**23 45 32.8**	**-0.5**
KNRA				IAmb	IAmb	23 45 33.5	
	comp=Z,8.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.94**	**261**	P	**P**	**23 45 51.4**	**-0.1**
SOEI	**Soe**	**55.99**	**270**	P	**P**	**23 46 14.1**	**+1.1**
PSA00	**Pilbara Seismi**	**57.81**	**255**	P	**P**	**23 46 24.7**	**-0.6**
PSA00				IAmb	IAmb	23 46 36.6	
	comp=Z,6.7nm,0.9s						
PSA00	**Pilbara Seismi**	**57.81**	**255**	P	**P**	**23 46 24.5**	**-0.8**
PSA00				IAmb	IAmb	23 46 24.9	
	comp=Z,2.4nm,0.6s						
MBWA	**Marble Bar**	**57.98**	**256**	P	**P**	**23 46 25.7**	**-0.7**
MBWA				IAmb	IAmb	23 46 50.0	
	comp=Z,20nm,1.3s						
NWAO	**Narrogin (SRO)**	**59.11**	**242**	P	**P**	**23 46 31.4**	**-2.4**
NWAO				IAmb	IAmb	23 46 48.5	
	comp=Z,26nm,1.4s						
MORW	**Morawa**	**60.38**	**246**	P	**P**	**23 46 41.0**	**-1.2**
MORW				IAmb	IAmb	23 46 47.6	
	comp=Z,32nm,1.5s						
GIRL	**Giralia**	**62.80**	**253**	P	**P**	**23 46 58.1**	**0.0**
QSPA	**South Pole Qui**	**72.09**	**180**	P	**P**	**23 47 54.4**	**+0.2**
QSPA	**South Pole Qui**	**72.09**	**180**	P	**P**	**23 47 55.3**	**+1.2**
	comp=Z,3.1nm,1.0s,baz=302,slow=1.0,SNR=8.5 comp=Z,3.1nm,1.0s						
TPUB	**Ta-pu**	**72.22**	**302**	P	**P**	**23 47 54.1**	**-1.4**
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**23 48 35.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=217,slow=8.1,SNR=7.7 comp=Z,1.4nm,0.8s						
PWL	**Port Wells**	**82.22**	**14**	P	**P**	**23 48 47.5**	**-1.3**
PWL				IAmb	IAmb	23 49 13.8	
	comp=Z,12nm,0.9s						
J17K	**VABM Dome**	**82.51**	**9**	P	**P**	**23 48 50.0**	**-0.1**
J17K				IAmb	IAmb	23 49 26.9	
	comp=Z,9.7nm,1.4s						
PSUT	**Pine Spring**	**82.56**	**46**	P	**P**	**23 48 51.5**	**+0.3**
U15A	**North Rim**	**82.62**	**48**	P	**P**	**23 48 52.1**	**+0.3**
GHO	**Glory Hole Cre**	**82.89**	**14**	P	**P**	**23 48 51.5**	**-0.7**
GHO				IAmb	IAmb	23 48 51.8	
	comp=Z,5.5nm,0.7s						
J18K	**Innoko River**	**82.93**	**10**	P	**P**	**23 48 52.1**	**-0.2**
K20K	**Telida**	**83.28**	**11**	P	**P**	**23 48 53.6**	**-0.5**
CAST	**Castle Rocks**	**83.70**	**12**	P	**P**	**23 48 54.4**	**-1.7**
CAST				IAmb	IAmb	23 48 55.3	
	comp=Z,2.3nm,0.7s						
PCA	**Pinnacle**	**83.73**	**18**		**P**	**23 48 57.7**	**+1.3**
PCA				IAmb	IAmb	23 49 10.9	
	comp=Z,13nm,1.1s						
TABL	**Table Mountain**	**83.75**	**18**	P	**P**	**23 48 56.0**	**-0.7**
TABL				IAmb	IAmb	23 48 57.6	
	comp=Z,11nm,1.0s						
N25K	**Chitina, Valde**	**83.78**	**16**	P	**P**	**23 48 55.5**	**-1.1**
N25K				IAmb	IAmb	23 48 56.7	
	comp=Z,3.6nm,0.8s						
GLB	**Gilahina Butte**	**83.85**	**16**	P	**P**	**23 48 56.3**	**-0.6**
GLB				IAmb	IAmb	23 49 26.8	
	comp=Z,6.9nm,1.3s						
CTGM	**Chitina Glacie**	**84.12**	**17**	P	**P**	**23 49 00.4**	**+2.0**
CTGM				IAmb	IAmb	23 49 03.4	
	comp=Z,5.9nm,0.8s						
R32K	**Eaglecrest**	**84.17**	**22**	P	**P**	**23 48 57.1**	**-1.4**
DHY	**Denali Highway**	**84.38**	**14**	P	**P**	**23 48 57.4**	**-2.2**
DHY				IAmb	IAmb	23 48 59.7	
	comp=Z,5.7nm,1.2s						
BPAW	**Bear Paw Mtn.**	**84.53**	**12**	P	**P**	**23 48 59.0**	**-1.2**
BPAW				IAmb	IAmb	23 49 01.0	
	comp=Z,5.5nm,1.1s						
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**23 49 04.9**	**-2.1**
ILAR	**Eielson Array**	**85.96**	**13**	P	**P**	**23 49 05.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=223,slow=5.3,SNR=12 comp=Z,0.4nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.10**	**58**	P	**P**	**23 49 09.4**	**+0.8**
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**23 49 09.9**	**+1.2**
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**23 49 09.8**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=215,slow=6.6,SNR=18 comp=Z,1.4nm,0.8s						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**23 49 14.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=239,slow=3.0,SNR=6.8 comp=Z,0.7nm,0.6s						
FYU	**Fort Yukon**	**87.86**	**13**	P	**P**	**23 49 17.5**	**+1.6**
SNAA	**Sanae**	**90.54**	**179**	P	**P**	**23 49 27.7**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=210,slow=9.6,SNR=6.3 comp=Z,0.3nm,0.6s						
MMAI	**Mount Meron Ar**	**146.11**	**303**	PKPbc	**PKPbc**	**23 56 04.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=80,slow=9.4,SNR=3.5						

*NEIC **26** 00:07:43.1±1.4, 56°.12N±0°.07×148°.6W±0°.1, h10km±2km, ML3.5/66, ML3.2(AEIC), Error ellipse: s-maj=12.5km s-min=10.0km az=167.0*
*AEIC **26** 00:07:48.2±1.5, 56°.17N±0°.08×148°.56W±0°.08, h11km±7km, Error ellipse: s-maj=12.3km s-min=6.4km az=179.0*

ISC 26 00:07:42.5±1.3, 56°.18N±0°.09×148°.62W±0°.06, h10km, n158, σ1§46/158, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.70**	**308**		**Pn**	**00 08 27.1**	**+1.2**
KDAK					**Sn**	**00 08 57.0**	**-1.7**
OHAK	**Old Harbor**	**2.78**	**294**		**Pn**	**00 08 27.4**	**+0.5**
OHAK	**Old Harbor**	**2.78**	**294**		**Sn**	**00 08 58.5**	**-2.1**
OHAK	**Old Harbor**	**2.78**	**294**	P	**Pn**	**00 08 27.6**	**+0.6**
SII	**Sitkinak Islan**	**3.12**	**279**		**Sn**	**00 09 06.9**	**-2.1**
SII	**Sitkinak Islan**	**3.12**	**279**	Pn	**Pn**	**00 08 32.6**	**+0.9**
SII				IAML		00 09 16.6	
	comp=E,96nm,0.6s						
SII				IAML		00 09 23.1	
	comp=N,84nm,0.7s						
SII	**Sitkinak Islan**	**3.12**	**279**	P	**Pn**	**00 08 33.0**	**+1.3**
SYI	**Shuyak Island**	**3.18**	**322**		**Pn**	**00 08 33.8**	**+1.3**
SYI	**Shuyak Island**	**3.18**	**322**		**Sn**	**00 09 10.3**	**-0.1**
Q23K	**Middleton Isla**	**3.48**	**19**	Pn	**Pn**	**00 08 37.2**	**+0.6**
Q23K				IAML		00 09 16.4	
	comp=E,88nm,0.9s						
Q23K				IAML		00 09 23.2	
	comp=N,92nm,1.0s						
R18K	**Karluk**	**3.49**	**296**		**Pn**	**00 08 38.0**	**+1.2**
R18K					**Sn**	**00 09 17.5**	**-0.6**
R18K	**Karluk**	**3.49**	**296**	IAML		00 09 22.0	
	comp=N,88nm,0.4s						
R18K				IAML		00 09 30.6	
	comp=E,111nm,0.4s						
CNPM	**China Poot**	**3.64**	**338**		**Pn**	**00 08 39.8**	**+1.0**
BRLK	**Bradley Lake**	**3.79**	**342**		**Pn**	**00 08 41.7**	**+0.7**
BRLK				IAML		00 09 30.5	
	comp=N,50nm,0.2s						
Q19K	**Cape Douglas,**	**3.86**	**318**		**Pn**	**00 08 44.0**	**+2.0**
Q19K				IAML		00 09 33.5	
	comp=N,66nm,0.7s						
Q19K				IAML		00 09 44.9	
	comp=E,87nm,1.0s						
P23K	**Montague Islan**	**3.88**	**9**	Pn	**Pn**	**00 08 42.7**	**+0.5**
P23K				IAML		00 09 26.1	
	comp=N,67nm,0.5s						
P23K				IAML		00 09 30.0	
	comp=E,83nm,1.0s						
CHIR	**Chirikof Islan**	**3.95**	**268**	Pn	**Pn**	**00 08 44.2**	**+1.1**
CHIR				IAML		00 09 28.0	
	comp=N,50nm,0.5s						
CHIR				IAML		00 09 28.6	
	comp=E,46nm,1.1s						
CHIR	**Chirikof Islan**	**3.95**	**268**		**Sn**	**00 09 27.3**	**-2.1**
CHIR	**Chirikof Islan**	**3.95**	**268**	P	**Pn**	**00 08 44.1**	**+1.0**
SEW	**Seward**	**3.96**	**354**		**Sn**	**00 09 26.5**	**-3.2**
SEW	**Seward**	**3.96**	**354**	Pn	**Pn**	**00 08 43.7**	**+0.5**
KAKN	**Katmai Knife C**	**4.09**	**304**		**Pn**	**00 08 47.3**	**+2.1**
ACHA	**Angle Creek He**	**4.18**	**302**		**Pn**	**00 08 48.7**	**+2.4**
KAHC	**Katmai Hardscr**	**4.25**	**308**		**Pn**	**00 08 49.3**	**+2.0**
P19K	**Oil Pt**	**4.26**	**327**		**Pn**	**00 08 49.5**	**+2.0**
P19K				IAML		00 09 43.4	
	comp=N,63nm,0.5s						
KAIM	**Kayak Island**	**4.37**	**29**	Pn	**Pn**	**00 08 50.0**	**+1.1**
KAIM				IAML		00 09 59.6	
	comp=E,58nm,1.1s						
HIN	**Hinchinbrook I**	**4.38**	**14**	Pn	**Pn**	**00 08 50.4**	**+1.4**
SLKM	**Skilak Lake**	**4.42**	**350**		**Pn**	**00 08 50.8**	**+1.2**
SLKM				IAML		00 09 40.6	
	comp=N,54nm,0.2s						
SLKM	**Skilak Lake**	**4.42**	**350**		**Sn**	**00 09 39.5**	**-1.6**
O20K	**Slope Mountain**	**4.45**	**333**		**Pn**	**00 08 50.8**	**+0.8**
PLK3	**Peulik 3**	**4.46**	**293**		**Pn**	**00 08 51.8**	**+1.8**
ILS	**Iliamna Low So**	**4.46**	**330**		**Pn**	**00 08 51.4**	**+1.1**
PLK4	**Peulik 4**	**4.49**	**292**		**Pn**	**00 08 52.5**	**+1.9**
PLK4				IAML		00 09 47.8	
	comp=N,42nm,0.5s						
PLK4				IAML		00 09 51.2	
	comp=E,48nm,0.8s						
ILSW	**Iliamna Southw**	**4.51**	**330**		**Pn**	**00 08 51.8**	**+0.9**
ILSW				IAML		00 09 46.9	
	comp=N,32nm,0.9s						
EYAK	**Cordova Ski Ar**	**4.64**	**18**		**Pn**	**00 08 53.7**	**+1.2**
EYAK				IAML		00 09 48.5	
	comp=E,49nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.64**	**18**	P	**Pn**	**00 08 54.0**	**+1.5**
PLK1	**Peulik 1**	**4.66**	**294**		**Pn**	**00 08 54.6**	**+1.7**
SUCK	**Suckling Hills**	**4.67**	**31**	Pn	**Pn**	**00 08 53.8**	**+0.8**
SUCK				IAML		00 09 53.7	
	comp=E,37nm,0.7s						
PWL	**Port Wells**	**4.70**	**2**	Pn	**Pn**	**00 08 54.4**	**+1.0**
PWL				IAML		00 09 46.3	
	comp=E,35nm,0.8s						
PWL				IAML		00 09 54.0	
	comp=N,25nm,0.6s						
FID	**Port Fidalgo**	**4.72**	**13**	Pn	**Pn**	**00 08 54.9**	**+1.2**
FID				IAML		00 09 47.6	
	comp=N,30nm,0.6s						
FID				IAML		00 09 48.1	
	comp=E,38nm,0.5s						
PLBL	**Peulik Blue Cr**	**4.74**	**292**		**Pn**	**00 08 56.2**	**+2.2**
NICHA	**Nichawak Mount**	**4.75**	**29**		**Pn**	**00 08 55.0**	**+0.8**
HMT	**Hamilton**	**4.76**	**27**	Pn	**Pn**	**00 08 55.5**	**+1.3**
GLI	**Glacier Island**	**4.78**	**9**	Pn	**Pn**	**00 08 55.3**	**+0.8**
GLI				IAML		00 10 05.8	
	comp=E,36nm,0.6s						
GLI				IAML		00 11 25.0	
	comp=N,38nm,1.2s						
RED	**Redoubt Volcan**	**4.78**	**334**		**Pn**	**00 08 55.4**	**+0.7**
RED				IAML		00 09 53.7	
	comp=N,25nm,0.7s						
RED				IAML		00 09 57.8	
	comp=E,28nm,0.7s						
P18K	**Big Mountain,**	**4.78**	**315**		**Pn**	**00 08 55.7**	**+1.1**
RDWB	**Redoubt West**	**4.86**	**335**		**Pn**	**00 08 56.1**	**+0.4**
BERG	**Berg Lake**	**4.96**	**30**		**Pn**	**00 08 58.0**	**+1.1**
GRIN	**Grindle Hills**	**4.98**	**32**		**Pn**	**00 08 58.1**	**+0.9**
O19K	**Port Alsworth**	**5.03**	**326**		**Pn**	**00 08 59.0**	**+1.1**
SNH	**Sunshine Point**	**5.04**	**35**	Pn	**Pn**	**00 08 59.2**	**+1.0**
SNH				IAML		00 10 01.0	
	comp=N,28nm,1.2s						
SNH				IAML		00 10 03.9	
	comp=E,23nm,1.1s						
O18K	**Koktuh Hills**	**5.08**	**319**		**Pn**	**00 08 59.8**	**+1.1**
P17K	**Kvichak River**	**5.17**	**309**		**Pn**	**00 09 01.8**	**+2.0**
BMRM	**Bremner River**	**5.24**	**22**		**Pn**	**00 09 02.1**	**+1.2**
BMRM				IAML		00 10 04.3	
	comp=E,21nm,0.4s						
BMRM				IAML		00 10 10.9	
	comp=N,29nm,0.7s						
WAX	**Waxell Ridge**	**5.25**	**33**		**Pn**	**00 09 02.0**	**+1.0**
ANNE	**Aniakchak Nort**	**5.28**	**282**		**Pn**	**00 09 03.5**	**+2.2**
BARK	**Barkley Ridge**	**5.33**	**35**		**Pn**	**00 09 02.8**	**+0.7**
SPU	**Mount Spurr**	**5.33**	**342**		**Pn**	**00 09 02.9**	**+0.9**
MESA	**MESA**	**5.34**	**39**	Pn	**Pn**	**00 09 03.5**	**+1.1**
MESA				IAML		00 10 20.9	
	comp=E,26nm,1.0s						
ANPB	**Aniakchak Plen**	**5.39**	**281**		**Pn**	**00 09 05.3**	**+2.4**
CRQM	**Cirque**	**5.42**	**30**		**Pn**	**00 09 04.2**	**+0.8**
PMR	**Palmer**	**5.44**	**357**		**Pn**	**00 09 04.6**	**+1.1**
PMR	**Palmer**	**5.44**	**357**	P	**Pn**	**00 09 05.8**	**+2.3**
CHGN	**Chignik**	**5.46**	**275**	Pn	**Pn**	**00 09 05.5**	**+1.7**
TGL	**Tana Glacier**	**5.50**	**31**	Pn	**Pn**	**00 09 06.1**	**+1.6**
KLU	**Klutina**	**5.51**	**14**		**Pn**	**00 09 05.7**	**+1.1**
BAGL	**Bagley Icefiel**	**5.52**	**36**		**Pn**	**00 09 05.6**	**+0.9**
ISLE	**Juniper Island**	**5.53**	**34**		**Pn**	**00 09 05.8**	**+0.9**
YAH	**Yahtse**	**5.54**	**38**		**Pn**	**00 09 06.0**	**+0.8**
N19K	**Bonanza Creek**	**5.57**	**329**		**Pn**	**00 09 06.4**	**+0.9**
STLK	**Strandline Lak**	**5.59**	**344**		**Pn**	**00 09 06.8**	**+1.1**
GHO	**Glory Hole Cre**	**5.61**	**359**		**Pn**	**00 09 07.9**	**+1.9**
SCM	**Sheep Creek Mo**	**5.71**	**6**	Pn	**Pn**	**00 09 09.5**	**+2.1**
SAMH	**Samovar Hills**	**5.74**	**43**		**Pn**	**00 09 09.2**	**+1.5**
KIAG	**Kiagna River**	**5.78**	**32**		**Pn**	**00 09 09.1**	**+0.7**
P16K	**Nushagak River**	**5.79**	**303**	Pn	**Pn**	**00 09 09.4**	**+1.1**
GRNC	**Granite Creek**	**5.81**	**35**		**Pn**	**00 09 10.5**	**+1.6**
N25K	**Chitina, Valde**	**5.83**	**19**		**Pn**	**00 09 10.1**	**+1.1**
GLB	**Gilahina Butte**	**5.84**	**23**		**Pn**	**00 09 10.3**	**+1.2**
N18K	**Kilae Creek**	**5.91**	**323**		**Pn**	**00 09 11.0**	**+1.0**
PCA	**Pinnacle**	**5.92**	**45**	Pn	**Pn**	**00 09 11.8**	**+1.6**
PTPK	**Patty Peak**	**5.96**	**30**		**Pn**	**00 09 11.8**	**+0.9**
PNL	**Peninsula**	**6.03**	**51**	P	**Pn**	**00 09 13.1**	**+1.4**
M22K	**Talsona, Glenn**	**6.08**	**11**	Pn	**Pn**	**00 09 14.6**	**+2.2**
BCPM	**Bancas Point**	**6.08**	**48**	Pn	**Pn**	**00 09 14.0**	**+1.6**
BARN	**Barnard Glacie**	**6.09**	**34**		**Pn**	**00 09 14.0**	**+1.3**
O16K	**Kokwok River B**	**6.10**	**308**		**Pn**	**00 09 14.2**	**+1.6**
CTGM	**Chitina Glacie**	**6.13**	**35**	Pn	**Pn**

*NOU **26** 00:29:28.9, 18°.92S×167°.51E, h0km, MLv4.6/10, Vanuatu Islands*
*IDC **26** 00:29:29.3±1.0, 18°.99S×167°.59E, h0km, mb4.1/9, mbtmp4.1/10, ML3.9/1, MS3.4/12, Error ellipse: s-maj=40.2km s-min=21.3km az=136.0*
*NEIC **26** 00:29:30.8±2.7, 18°.87S±0°.05×167°.6E±0°.1, h10km±1km, mb4.7/18, Error ellipse: s-maj=21.6km s-min=8.6km az=277.0*

ISC 26 00:29:33.5±0.5, **18°.89S**±0°.04×**167°.50E**±0°.07, **h28**km, **n91**, σ1**9**25/85, **mb4.5**/20, **MS3.5**/10, **3C-9D**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DVP	**Devils Point**	**1.33**	**29**	P		**Pn**	**00 29 54.0**	**-2.2**
DVP	**Devils Point**	**1.33**	**29**	S		**Sn**	**00 30 11.2**	**-1.8**
INH	**Isangel**	**1.79**	**112**	P		**Pn**	**00 30 01.9**	**-0.7**
DZM	**Mont Dzumac**	**3.32**	**197**			**Pn**	**00 30 22.1**	**-1.6**
DZM					Sn	**Sn**	**00 30 59.8**	**-2.5**
DZM	**Mont Dzumac**	**3.32**	**197**	Pn		**Pn**	**00 30 21.5**	**-2.2**
	12nm,0.3s,baz=70,slow=9.7,SNR=250							
DZM					Sn	**Sn**	**00 30 58.4**	**-3.9**
	6.9nm,0.3s,baz=63,slow=23,SNR=4.7							
DZM				LR		LR	00 31 02.0	
	comp=Z,243nm,20.0s,baz=294,slow=29							
	27nm,0.3s							
DZM	**Mont Dzumac**	**3.32**	**197**	P		**Pn**	**00 30 21.9**	**-1.8**
DZM	**Mont Dzumac**	**3.32**	**197**	S		**Sn**	**00 31 00.1**	**-2.1**
SANVU	**Saraoutou**	**3.44**	**355**			**Pn**	**00 30 23.0**	**-2.2**
SANVU					Sn	**Sn**	**00 31 01.6**	**-3.4**
KOUNC	**Koumac, New Ca**	**3.45**	**241**	P		**Pn**	**00 30 25.0**	**-0.4**
ONTNC	**Ouen Toro**	**3.54**	**196**			**Pn**	**00 30 25.0**	**-1.6**
ONTNC					Sn	**Sn**	**00 31 05.5**	**-2.0**
ONTNC	**Ouen Toro**	**3.54**	**196**	P		**Pn**	**00 30 25.7**	**-0.9**
ONTNC	**Ouen Toro**	**3.54**	**196**	S		**Sn**	**00 31 05.8**	**-1.8**
OUENC	**Ouen Island, N**	**3.56**	**190**	P		**Pn**	**00 30 26.2**	**-0.8**
PINNC	**Pines Island,**	**3.70**	**181**	Pn		**Pn**	**00 30 27.2**	**-1.7**
HNR	**Honiara**	**11.92**	**321**	LR		LR	00 35 41.6	
	comp=Z,87nm,21.4s,baz=140,slow=31							
CTAO	**Charters Tower**	**20.07**	**263**	P		**P**	**00 34 05.1**	**+0.2**
STKA	**Stephens Creek**	**26.66**	**236**	P		**P**	**00 35 11.9**	**+1.8**
STKA	**Stephens Creek**	**26.66**	**236**	P		**P**	**00 35 11.1**	**+1.0**
	1.2nm,0.7s,baz=62,slow=11,SNR=2.9							
STKA				LR		LR	00 44 49.1	
	comp=Z,79nm,18.2s,baz=208,slow=34							
	1.2nm,0.7s							
RAR	**Rarotonga**	**30.80**	**100**	LR		LR	00 48 15.4	
	comp=Z,77nm,18.0s,baz=214,slow=37							
WRA	**Warramunga Arr**	**31.27**	**263**	P		**P**	**00 35 50.5**	**-0.8**
	0.2nm,0.2s,baz=82,slow=6.1,SNR=1.8							
WRA				LR		LR	00 48 08.8	
	comp=Z,100nm,18.7s,baz=316,slow=36							
	0.2nm,0.2s							
AS31	**Alice Springs**	**31.62**	**255**	P		**P**	**00 35 53.6**	**-0.8**
ASAR	**Alice Springs**	**31.62**	**255**	P		**P**	**00 35 53.7**	**-0.7**
ASAR	**Alice Springs**	**31.62**	**255**	P		**P**	**00 35 54.1**	**-0.2**
	2.4nm,0.7s,baz=83,slow=8.9,SNR=24							
ASAR				LR		LR	00 46 57.9	
	comp=Z,147nm,20.9s,baz=250,slow=33							
	2.4nm,0.7s							
KNRA	**Kununurra**	**37.08**	**269**	P		**P**	**00 36 41.4**	**-0.3**
PPT	**Papeete**	**40.72**	**95**	LR		LR	00 52 20.0	
	comp=Z,77nm,19.6s,baz=180,slow=34							
SHEM	**Shemya Is, Ala**	**71.55**	**4**	LR		LR	01 04 30.5	
	comp=Z,20nm,21.7s,baz=316,slow=29							
KIWB	**Kanaga Island**	**71.71**	**10**	P		**P**	**00 40 53.0**	**+0.3**
KIWB				IAmb		IAmb	00 40 54.4	
	comp=Z,7.3nm,0.8s							
PEA0B	**Petropavlovsk-**	**72.20**	**354**	P		**P**	**00 40 54.8**	**-0.8**
PETK	**Petropavlovsk-**	**72.20**	**354**	P		**P**	**00 40 56.7**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=157,slow=5.2,SNR=2.4							
	comp=Z,3.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**76.87**	**295**	P		**P**	**00 41 25.8**	**+2.2**
	comp=Z,1.1nm,0.3s,baz=105,slow=6.8,SNR=1.9							
	comp=Z,1.1nm,0.3s							
BELA	**Belgrano 2**	**82.58**	**175**	P		**P**	**00 41 53.1**	**-0.4**
OHAK	**Old Harbor**	**82.59**	**20**	P		**P**	**00 41 54.4**	**+0.8**
OHAK				IAmb		IAmb	00 42 07.5	
	comp=Z,4.6nm,1.0s							
ACHA	**Angle Creek He**	**82.74**	**19**	P		**P**	**00 41 55.6**	**+1.1**
ACHA				IAmb		IAmb	00 41 56.8	
	comp=Z,4.0nm,1.0s							
N15K	**Kwethluk River**	**83.05**	**16**	P		**P**	**00 41 56.3**	**+0.3**
N15K				IAmb		IAmb	00 41 57.2	
	comp=Z,5.2nm,1.0s							
M16K	**Timber Creek**	**84.08**	**16**	P		**P**	**00 42 01.4**	**+0.1**
M16K				IAmb		IAmb	00 42 17.3	
	comp=Z,5.8nm,1.1s							
O18K	**Koktuh Hills**	**84.12**	**18**	P		**P**	**00 42 01.7**	**+0.1**
O18K				IAmb		IAmb	00 42 02.0	
	comp=Z,5.1nm,1.2s							
K15K	**Wolf Creek Mou**	**84.55**	**14**	P		**P**	**00 42 03.6**	**0.0**
K15K				IAmb		IAmb	00 42 06.6	
	comp=Z,11nm,1.4s							
N18K	**Kilae Creek**	**84.61**	**17**	P		**P**	**00 42 03.6**	**-0.4**
N18K				IAmb		IAmb	00 42 11.4	
	comp=Z,5.1nm,1.2s							
ILSW	**Iliamna Southw**	**84.84**	**19**	P		**P**	**00 42 05.1**	**-0.3**
K17K	**Iditarod**	**85.68**	**15**	P		**P**	**00 42 10.3**	**+1.0**
K17K				IAmb		IAmb	00 42 12.1	
	comp=Z,8.0nm,1.1s							
SONM	**Songino Array**	**85.96**	**324**	P		**P**	**00 42 12.4**	**+1.2**
SONM				IAmb		IAmb	00 42 13.1	
	comp=Z,3.8nm,1.0s							
SONM	**Songino Array**	**85.96**	**324**	P		**P**	**00 42 12.3**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=132,slow=6.0,SNR=10							
	comp=Z,2.6nm,0.9s							
PFO	**Pinyon Flats O**	**89.23**	**54**	LR		LR	01 14 42.1	
	comp=Z,266nm,20.9s,baz=236,slow=30							
NVAR	**Mina Array Bea**	**89.81**	**49**	P		**P**	**00 42 31.1**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=252,slow=6.7,SNR=4.3							
	comp=Z,0.8nm,0.8s							
VNA3	**Neumayer Olymp**	**90.08**	**181**	⇑P		**P**	**00 42 30.1**	**-0.4**
	comp=Z,1.7nm,0.8s							
VNA2	**Neumayer--Watz**	**90.35**	**182**	⇑P		**P**	**00 42 31.9**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=181,slow=4.5							
ILAR	**Eielson Array**	**90.39**	**18**	P		**P**	**00 42 30.7**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=233,slow=5.4,SNR=8.1							
ILAR				LR		LR	01 20 17.6	
	comp=Z,20nm,18.0s,baz=244,slow=34							
	comp=Z,0.5nm,0.6s							
VNA1	**Neumayer--Stat**	**90.65**	**181**	⇑P		**P**	**00 42 33.2**	**+0.1**
	comp=Z,1.4nm,0.7s							
ELK	**Elko**	**92.90**	**48**	LR		LR	01 15 04.0	
	comp=Z,23nm,20.9s,baz=188,slow=29							
PV10	**Paradox Valley**	**96.56**	**52**	P		**P**	**00 43 03.4**	**+2.3**
TXAR	**Lajitas Array**	**98.05**	**62**	P		Pdif	00 43 08.7	+0.8
	comp=Z,0.3nm,0.8s,baz=246,slow=1.5,SNR=3.1							
TXAR				LR		LR	01 18 43.3	
	comp=Z,13nm,21.4s,baz=264,slow=30							
	comp=Z,0.3nm,0.8s							
MKAR	**Makanchi Array**	**100.34**	**316**	P		**Pdif**	**00 43 20.0**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=93,slow=6.5,SNR=1.7							
AKASG	**Malin Array Be**	**134.25**	**324**	PKP		**PKPdf**	**00 48 48.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=65,slow=1.5,SNR=1.6							
RONA	**Rosalia, Austr**	**142.92**	**327**	*i* PKP		**PKPdf**	**00 49 04.3**	**-0.3**
	comp=Z,5.2nm,1.7s							
EKA	**Eskdalemuir Ar**	**142.93**	**351**	PKP		**PKPdf**	**00 49 02.1**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=24,slow=2.5,SNR=3.6							
MOX	**Moxa**	**142.97**	**334**	*e*L		L	01 48 49.2	
	comp=Z,21nm,20.7s							
CONA	**Conrad Observa**	**142.99**	**328**	*i* PKP		**PKPdf**	**00 49 03.0**	**-1.8**
	comp=Z,2.7nm,1.2s							
GERES	**GERESS Array B**	**143.40**	**331**	PKP		PKPbc	00 49 03.5	+0.9
	comp=Z,0.5nm,0.8s,baz=29,slow=2.4,SNR=5.0							
ARSA	**Arzberg**	**143.61**	**327**	*i* PKP		**PKPdf**	**00 49 05.5**	**-0.3**
	comp=Z,0.8nm,0.4s							
MOA	**Molln**	**143.83**	**329**	*i* PKP		**PKPdf**	**00 49 05.1**	**-1.0**
	comp=Z,2.8nm,0.7s							
GRF	**Grafenberg Arr**	**143.87**	**334**	*e*PKPbc		PKPbc	00 49 03.9	0.0
	baz=40,slow=3.3							
GRF				*e*L		L	01 57 19.9	
	comp=Z,23nm,18.3s							
SOKA	**Soboth**	**144.24**	**327**	*i* PKP		PKPbc	00 49 05.5	+0.3
	comp=Z,6.4nm,1.3s							
BIOA	**Bad Ischl, Aus**	**144.25**	**329**	*i* PKP		**PKPdf**	**00 49 06.0**	**-0.9**
	comp=Z,1.3nm,0.9s							
TNS	**Taunus Mts**	**144.55**	**337**	*e*PKPbc		**PKPdf**	**00 49 07.0**	**-0.4**
	baz=40,slow=3.3							
OBKA	**Obir**	**144.60**	**327**	*i* PKP		**PKPdf**	**00 49 06.7**	**-0.9**
	comp=Z,4.0nm,0.8s							
RJOB	**Jochberg**	**144.62**	**330**	*e*PKPbc		**PKPdf**	**00 49 07.0**	**-0.5**
	baz=40,slow=3.3							
KBA	**Koelnbreinsper**	**144.82**	**329**	*i* PKP		**PKPdf**	**00 49 08.1**	**0.0**
	comp=Z,7.7nm,1.1s							
LESA	**Schwarzleotal**	**144.90**	**330**	*i* PKP		**PKPdf**	**00 49 08.1**	**0.0**
	comp=Z,17nm,1.3s,SNR=9.6							
MYKA	**Terra Mystica**	**144.98**	**328**	*i* PKP		**PKPab**	**00 49 07.4**	**-0.2**
	comp=Z,3.4nm,0.5s							
FUR	**Furstenfeldbru**	**145.00**	**332**	*e*PKPbc		**PKPdf**	**00 49 08.4**	**+0.2**
	baz=40,slow=3.3							
BTNL	**Ternell**	**145.07**	**339**	*d*PKP		**PKPdf**	**00 49 08.6**	**+0.4**
MEM	**Membach**	**145.09**	**339**	*d*P		**PKPdf**	**00 49 08.6**	**+0.4**
BSTI	**Sart Tilman**	**145.26**	**340**	*d*PKP		**PKPdf**	**00 49 09.3**	**+0.8**
BHOU	**Houyegnez**	**145.31**	**339**	*d*PKP		**PKPab**	**00 49 09.7**	**+1.2**
STU	**Stuttgart**	**145.42**	**334**	*e*PKPbc		**PKPab**	**00 49 10.0**	**+1.0**
	baz=40,slow=3.3							
ABTA	**Abfaltersbach**	**145.46**	**329**	*i* PKP		**PKPab**	**00 49 09.2**	**-0.1**
	comp=Z,16nm,1.0s,SNR=10							
UCC	**Uccle**	**145.46**	**341**	*d*PKP		**PKPab**	**00 49 09.4**	**+0.4**
WATA	**Walderalm**	**145.47**	**331**	*i* PKP		**PKPab**	**00 49 10.0**	**+0.6**
	comp=Z,6.3nm,1.1s,SNR=5.1							
WTTA	**Wattenberg**	**145.50**	**331**	*i* PKP		**PKPab**	**00 49 10.1**	**+0.5**
	comp=Z,8.7nm,0.8s,SNR=6.9							
MOTA	**Moosalm**	**145.69**	**331**	*i* PKP		**PKPab**	**00 49 10.6**	**+0.4**
	comp=Z,2nm,1.0s,SNR=9.8							
SQTA	**Sankt Quirin**	**145.73**	**331**	*i* PKP		**PKPab**	**00 49 11.0**	**+0.7**
	comp=Z,17nm,0.9s,SNR=11							
RETA	**Reutte**	**145.74**	**332**	*i* PKP		**PKPab**	**00 49 10.5**	**+0.2**
	comp=Z,12nm,1.1s,SNR=11							
RCHB	**Rochefort**	**145.74**	**340**	*d*PKP		**PKPab**	**00 49 10.5**	**+0.4**
BMRD	**Maredsous**	**145.76**	**340**	*d*PKP		**PKPab**	**00 49 10.5**	**+0.3**
WLF	**Walferdange**	**145.85**	**338**	*d*PKP		**PKPab**	**00 49 11.2**	**+0.7**
WLF	**Walferdange**	**145.85**	**338**	*e*PKPbc		**PKPab**	**00 49 11.7**	**+1.1**
	baz=40,slow=3.3							
DOU	**Dourbes**	**146.00**	**340**	*d*PKP		**PKPbc**	**00 49 09.9**	**-0.7**
FETA	**Feichten**	**146.10**	**331**	*i* pPKP		**PKPab**	**00 49 12.4**	**+0.6**
	comp=Z,16nm,1.0s,SNR=10							
BFO	**Black Forest**	**146.12**	**335**	*e*PKPbc		**PKPab**	**00 49 11.9**	**+0.3**
	baz=40,slow=3.3							
DAVA	**Damuels**	**146.28**	**332**	*i* pPKP		**PKPab**	**00 49 12.8**	**+0.3**
	comp=Z,6.4nm,0.9s,SNR=5.5							
TORD	**Torodi Ar. Bea**	**165.22**	**249**	PKP		**PKPdf**	**00 49 35.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=233,slow=2.7,SNR=2.3							
TORD				PKPab		**PKPab**	**00 50 34.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=249,slow=21,SNR=3.8							

*IDC **26** 00:34:19.7±1.0, 12°.46N×141°.59E, h0km, mb4.3/10, mbtmp4.3/10, Error ellipse: s-maj=42.7km s-min=17.0km az=76.0*

ISC 26 00:34:24.7±1.2, **12°.4N**±0°.2×**141°.6E**±0°.3, **h33**km, **n12**, σ0**8**81/12, **mb4.3**/11, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.95**	**193**	P		**P**	**00 40 56.2**	**-0.2**
	0.6nm,0.5s,baz=112,slow=27,SNR=6.4							
	0.6nm,0.5s							
ASAR	**Alice Springs**	**36.65**	**192**	P		**P**	**00 41 28.1**	**-0.3**
	0.7nm,0.5s,baz=19,slow=12,SNR=19							
	0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**41.51**	**284**	P		**P**	**00 42 08.8**	**-0.4**
	2.2nm,0.5s,baz=86,slow=6.7,SNR=9.2							
	2.2nm,0.5s							
STKA	**Stephens Creek**	**44.04**	**180**	P		**P**	**00 42 29.9**	**+0.5**
	1.0nm,0.4s,baz=332,slow=7.7,SNR=4.8							
	1.0nm,0.4s							
GTA	**Gaotai**	**45.64**	**314**	*e*P		**P**	**00 42 43.5**	**+1.2**
GTA				pP		pP	00 42 50.0	-1.0
GTA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MKAR	**Makanchi Array**	**60.16**	**317**	P		**P**	**00 44 29.4**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=106,slow=8.1,SNR=11							
	comp=Z,1.6nm,0.8s							
ZALV	**Zalesovo Beam**	**60.76**	**325**	P		**P**	**00 44 33.4**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=110,slow=6.6,SNR=7.5							
	comp=Z,1.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.49**	**321**	P		**P**	**00 44 51.6**	**0.0**
	comp=Z,6.2nm,0.6s,baz=104,slow=6.9,SNR=29							
	comp=Z,6.2nm,0.6s							
BVAR	**Borovoye Array**	**68.89**	**322**	P		**P**	**00 45 26.1**	**-0.1**
	comp=Z,4.6nm,0.4s,baz=106,slow=7.3,SNR=42							
	comp=Z,4.6nm,0.4s							
ARCES	**ARCESS Array B**	**87.20**	**342**	P		**P**	**00 47 07.1**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=82,slow=7.9,SNR=7.0							
	comp=Z,1.6nm,0.8s							
FINES	**FINESS Array B**	**90.86**	**334**	P		**P**	**00 47 22.8**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=61,slow=4.7,SNR=23							
	comp=Z,1.3nm,0.3s							
LPAZ	**La Paz**	**150.93**	**101**	PKPbc		**PKiKP**	**00 54 16.9**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=313,slow=3.3,SNR=9.9							

*NEIC **26** 01:49:40.7±0.9, 18°.4S±0°.2×178°.1W±0°.1, h591km±11km, mb4.2/19, Error ellipse: s-maj=26.6km s-min=14.9km az=191.0*
*IDC **26** 01:49:41.2±4.7, 17°.86S×178°.23W, h601km±55km, mb3.3/6, mbtmp4.3/7, Error ellipse: s-maj=43.0km s-min=24.8km az=154.0*

ISC 26 01:49:39.6±0.7, **18°.1S**±0°.2×**178°.0W**±0°.1, **h590**km, **n36**, σ1**9**05/38, **mb4.3**/16, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.78**	**275**	P		**P**	**01 51 04.5**	**+1.6**
FUTU	**Fugatoga**	**3.81**	**358**	P		**P**	**01 51 05.0**	**+1.9**
AFI	**Afiamalu**	**7.31**	**56**	P		**P**	**01 51 29.9**	**-2.4**
PINNC	**Pines Island,**	**14.35**	**249**	P		**P**	**01 52 41.6**	**-0.5**
DZM	**Mont Dzumac**	**15.12**	**252**	P		**P**	**01 52 49.0**	**-0.5**
DZM					IAmb	IAmb	01 52 53.0	
	comp=Z,5.3nm,0.7s							
DZM	**Mont Dzumac**	**15.12**	**252**	P		**P**	**01 52 50.0**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=92,slow=19,SNR=1.8							
LTZ	**Lake Taylor**	**25.92**	**197**	P		**P**	**01 54 24.2**	**-2.1**
EIDS	**Eidsvold**	**29.55**	**250**	P		**P**	**01 54 57.6**	**-0.5**
EIDS					IAmb	IAmb	01 54 58.6	
	comp=Z,5.8nm,0.7s							
CTAO	**Charters Tower**	**33.79**	**261**	P		**P**	**01 55 34.1**	**-0.2**
CTAO					IAmb	IAmb	01 55 34.7	
	comp=Z,6.5nm,0.8s							
CAN	**Canberra**	**33.88**	**233**	P		**P**	**01 55 35.5**	**+0.8**
TOO	**Toolangi**	**37.33**	**231**	P		**P**	**01 56 03.5**	**+0.3**
TOO					IAmb	IAmb	01 56 04.7	
	comp=Z,5.2nm,0.9s							
COEN	**Coen**	**37.49**	**271**	P		**P**	**01 56 04.7**	**-0.1**
STKA	**Stephens Creek**	**38.86**	**242**	P		**P**	**01 56 15.7**	**+0.1**
STKA	**Stephens Creek**	**38.86**	**242**	P		**P**	**01 56 16.2**	**+0.6**
	comp=Z,8.6nm,0.5s,baz=99,slow=9.0,SNR=24							
	comp=Z,8.6nm,0.5s							
INKA	**Innaminka**	**39.02**	**248**	P		**P**	**01 56 17.6**	**+0.6**
INKA					IAmb	IAmb	01 56 18.7	
	comp=Z,5.5nm,0.6s							
BBOO	**Buckleboo**	**43.64**	**241**	P		**P**	**01 56 53.0**	**-0.3**
BBOO					IAmb	IAmb	01 56 54.0	
	comp=Z,13nm,0.8s							
WR8	**Warramunga Arr**	**44.82**	**260**	P		**P**	**01 57 01.5**	**-1.1**
WR8					IAmb	IAmb	01 57 04.5	
	comp=Z,3.1nm,0.7s							
WB0	**Warramunga Arr**	**44.94**	**260**	P		**P**	**01 57 02.8**	**-0.7**
WB0					IAmb	IAmb	01 57 03.3	
	comp=Z,7.5nm,0.5s							
WRA	**Warramunga Arr**	**44.97**	**260**	P		**P**	**01 57 02.7**	**-1.0**
WRA	**Warramunga Arr**	**44.97**	**260**	P		**P**	**01 57 02.8**	**-1.0**
	comp=Z,4.9nm,0.5s,baz=96,slow=6.8,SNR=4.7							
WRA				PcP		**PcP**	**01 58 31.1**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=93,slow=2.0,SNR=2.7							
	comp=Z,4.9nm,0.5s							
AS31	**Alice Springs**	**45.10**	**254**	P		**P**	**01 57 03.9**	**-0.8**
AS31					IAmb	IAmb	01 57 05.4	
	comp=Z,7.6nm,0.5s							
ASAR	**Alice Springs**	**45.10**	**254**	P		**P**	**01 57 03.9**	**-0.8**
ASAR	**Alice Springs**	**45.10**	**254**	P		**P**	**01 57 04.3**	**-0.4**
	comp=Z,20nm,0.6s,baz=86,slow=8.7,SNR=194							
ASAR				PcP		**PcP**	**01 58 32.1**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=101,slow=3.6,SNR=4.7							
	comp=Z,20nm,0.6s							
KNRA	**Kununurra**	**50.85**	**264**	P		**P**	**01 57 46.4**	**-1.0**
KNRA					IAmb	IAmb	01 57 47.4	
	comp=Z,8.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.37**	**261**	P		**P**	**01 58 05.0**	**-0.5**
PSA00	**Pilbara Seismi**	**58.23**	**255**	P		**P**	**01 58 37.9**	**-1.1**
PSA00					IAmb	IAmb	01 58 38.8	
	comp=Z,7.0nm,0.9s							
MBWA	**Marble Bar**	**58.40**	**256**	P		**P**	**01 58 39.1**	**-1.0**
QSPA	**South Pole Qui**	**71.92**	**180**			**P**	**02 00 05.6**	**+1.6**
QSPA	**South Pole Qui**	**71.92**	**180**	P		**P**	**02 00 06.1**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=96,slow=8.9,SNR=1.2							
	comp=Z,0.5nm,0.7s							
NVAR	**Mina Array Bea**	**79.32**	**44**	P		**P**	**02 00 45.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=241,slow=7.2,SNR=3.9							
	comp=Z,0.3nm,0.5s							
BELA	**Belgrano 2**	**81.89**	**173**	P		**P**	**02 00 57.9**	**+0.1**
TXAR	**Lajitas Array**	**85.79**	**57**	P		**P**	**02 01 18.9**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=219,slow=6.2,SNR=13							
	comp=Z,0.8nm,0.7s							
BURAR	**Bucovina Array**	**144.99**	**332**	PKPbc		**PKPdf**	**02 08 11.5**	**+0.9**
BRTR	**Keskin Array B**	**145.22**	**315**	PKPbc		**PKPdf**	**02 08 11.4**	**+0.1**
BRTR	**Keskin Array B**	**145.22**	**315**	PKP		**PKPdf**	**02 08 11.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=84,slow=3.5,SNR=5.6							
MMAI	**Mount Meron Ar**	**146.59**	**303**	PKPbc		**PKPbc**	**02 08 15.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=72,slow=2.7,SNR=4.1							

*NOU **26** 01:54:18.1, 16°.71S×167°.85E, h7km, MLv4.4/13, Vanuatu Islands*
*IDC **26** 01:54:19.9±14.0, 16°.85S×167°.15E, h0km, mb3.9/3, mbtmp4.0/4, ML4.4/1, MS3.2/1, Error ellipse: s-maj=242.5km s-min=39.5km az=67.0*

ISC 26 01:54:19.8±1.2, **16°.77S**±0°.08×**167°.7E**±0°.1, **h25**km, **n15**, σ1**9**29/15, **mb3.7**/3, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DVP	**Devils Point**	**1.05**	**154**	P		**Pb**	**01 54 38.4**	**-1.0**
DVP	**Devils Point**	**1.05**	**154**	S		**Sn**	**01 54 53.6**	**+0.7**
SANVU	**Saraoutou**	**1.40**	**340**	P		**Pn**	**01 54 43.3**	**-0.4**
SANVU	**Saraoutou**	**1.40**	**340**	S		**Sb**	**01 55 03.3**	**+0.5**
KOUNC	**Koumac, New Ca**	**4.96**	**220**	P		**Pn**	**01 55 34.8**	**+2.1**
DZM	**Mont Dzumac**	**5.40**	**193**	Pn		**Pn**	**01 55 39.9**	**+1.0**
	12nm,0.3s,baz=78,slow=13,SNR=138							
DZM					Sn	**Sn**	**01 56 40.8**	**+0.4**
	2.8nm,0.3s,baz=306,slow=23,SNR=6.5							
	27nm,0.4s							
DZM	**Mont Dzumac**	**5.40**	**193**	P		**Pn**	**01 55 39.4**	**+0.5**
ONTNC	**Ouen Toro**	**5.63**	**192**	P		**Pn**	**01 55 43.5**	**+1.6**
OUENC	**Ouen Island, N**	**5.68**	**188**	P		**Pn**	**01 55 44.3**	**+1.8**
PINNC	**Pines Island,**	**5.82**	**182**	P		**Pn**	**01 55 46.3**	**+1.9**
NGOA	**Tingoa Renbel**	**9.04**	**304**	P		**Pn**	**01 56 29.9**	**+1.1**
STKA	**Stephens Creek**	**28.04**	**233**	P		**P**	**02 00 08.3**	**-0.9**
	1.0nm,0.6s,baz=55,slow=18,SNR=2.0							
	1.0nm,0.6s							
WRA	**Warramunga Arr**	**31.80**	**259**	P		**P**	**02 00 41.7**	**-0.8**
	0.5nm,0.7s,baz=86,slow=9.1,SNR=2.6							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**32.39**	**252**	P		**P**	**02 00 47.2**	**-0.6**
	1.2nm,0.4s,baz=78,slow=8.9,SNR=13							
	1.2nm,0.4s							
JOW	**Kunigami**	**57.83**	**318**	LR		LR	02 28 14.7	
	comp=Z,20nm,18.8s,baz=326,slow=35							

IDC 26 02:04:32.3±23.0, **21°.72S×179°.19E**, **h650**km±315km, **mb3.1**/3, **mbtmp4.1**/3, **Error ellipse: s-maj=234.5km s-min=104.4km az=166.0**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**41.70**	**258**	P		P	02 11 26.8	-0.5
	2.2nm,0.6s,baz=94,slow=7.9,SNR=22							
	2.2nm,0.6s							
WRA	**Warramunga Arr**	**41.85**	**264**

JOD2	Odawara 2	0.88	240	⇓P	Pn	Pn	02 29 20.3	-0.7
JRY	Ryogami san	0.96	289	*i*P	Pn	Pn	02 29 21.6	-0.5
BSO3	Boso 3	0.99	156	P	Pn	Pn	02 29 21.6	-0.5
BSO3				*e*S	Sn	Sn	02 29 36.5	+1.2
JIM2	Oshima 3	1.10	206	P	Pn	Pn	02 29 23.1	-0.8
JIM2				*e*S	Sn	Sn	02 29 36.6	-1.7
JYN	Shimob	1.22	261	⇓P	Pn	Pn	02 29 24.9	-0.5
JKT	Katashina	1.23	330	P	Pn	Pn	02 29 24.6	-0.9
BSO1	Boso 1	1.31	143	*e*P	Pn	Pn	02 29 25.1	-0.9
MJAR	Matsushiro Arr	1.69	300	P	Pn	Pn	02 29 30.5	-1.1
	22nm,0.5s,baz=128,slow=15,SNR=43							
MJAR				S	Sn	Sn	02 29 52.6	+0.4
	24nm,0.5s,baz=136,slow=21,SNR=11							
MAJO	Matsushiro	1.69	300	P	Pn	Pn	02 29 32.1	+0.5
JGF	Kuroka	2.17	268	P	Pn	Pn	02 29 39.1	+0.9
JGF	Kuroka	2.17	268	S	Sn	Sn	02 30 05.7	+1.7
JMM	Marumori	2.24	16	P	Pn	Pn	02 29 39.1	+0.1
JMM	Marumori	2.24	16	S	Sn	Sn	02 30 06.0	+0.4
INU	Inuyama	2.48	263	P	Pn	Pn	02 29 42.8	+0.6
JHJ2	Mitsune	2.60	184	P	Pn	Pn	02 29 43.2	-0.7
JSD	Sado	2.72	329	P	Pn	Pn	02 29 45.3	-0.3
MKAR	Makanchi Array	43.88	303	P	P	P	02 37 04.6	+0.3
	0.4nm,0.6s,baz=79,slow=13,SNR=3.5							
	0.4nm,0.6s							
KURBB	Kurchatov Arra	45.94	309	P	P	P	02 37 20.6	+0.1
	0.8nm,0.4s,baz=87,slow=7.8,SNR=13							
	0.8nm,0.4s							
WRA	Warramunga Arr	55.61	186	P	P	P	02 38 33.0	-0.3
	0.4nm,0.8s,baz=5.1,slow=7.4,SNR=2.1							
	0.4nm,0.8s							
ARCES	ARCESS Array B	64.84	339	P	P	P	02 39 36.2	+0.3
	3.5nm,1.0s,baz=54,slow=5.9,SNR=2.1							
	3.5nm,1.0s							

NDI ***26*** *02:49:11.5±1.3,26°.42N×96°.09E,h30km±32km,ML4.6, MW4.6,mb4.7(NEIC)*

BJI ***26*** *02:49:14.7,26°.53N×96°.14E,h102km,mB4.8/18,mb4.8/53*

IDC ***26*** *02:49:15.4±0.7,26°.43N×96°.24E,h100km±5km,mb3.8/19, mbtmp4.2/21,MS3.5/7,Error ellipse: s-maj=15.0km s-min=10.0km az=49.0*

MOS ***26*** *02:49:15.9±1.0,26°.35N×96°.11E,h121km,mb4.7/20,Error ellipse: s-maj=8.9km s-min=5.6km az=114.9*

NEIC ***26*** *02:49:16.7±1.4,26°.46N±0°.07×96°.11E±0°.07,h106km±6km, mb4.7/115,Error ellipse: s-maj=10.1km s-min=8.3km az=161.0*

BKK ***26*** *02:49:16.7±2.1,26°N±17°×9°6E±°,h102km±42km,M4.9/22, mb4.5/22,MLv5.1/10*

BGR ***26*** *02:49:32.6,25°.96N×96°.08E,h33km,mb4.5,Ms3.4*

ISC 26 02:49:15.1±0.4,26°.51N±0°.04×96°.08E±0°.03,h96km±3km, h96km:pP-P,n571,σ1§82/624,mb4.7/118,11C-7D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LKP	Lekhapani	0.85	346	*e*P		Pn	02 49 27.8	-5.9
LKP				*e*S		Sn	02 49 43.2	-4.4
LKP				IAML			02 49 43.8	
	comp=N,31μm,0.2s							
LKP				IAML			02 49 44.1	
	comp=E,23μm,0.3s							
KOHI	KOHIMA	1.94	247	*e*P		Pn	02 49 42.6	-4.4
KOHI				*e*S		Sn	02 50 05.4	-5.8
KOHI				IAML			02 50 13.9	
	comp=N,7μm,0.3s							
ZIRO	ZIRO	2.24	298	*e*P		Pn	02 49 47.6	-3.3
TNCH	TengChong	2.64	123	⇑*i*P		Pn	02 49 57.0	+0.8
TNCH				S		Sn	02 50 26.5	-1.3
TNCH				smax	smax			
	comp=N,1μm,0.8s							
TNCH				smax	smax			
	comp=N,2μm,1.2s							
TEZP	TEZPUR	2.94	273	*e*P		Pn	02 49 56.5	-3.6
TEZP				*e*S		Sn	02 50 29.6	-5.0
TEZP				IAML			02 50 33.2	
	comp=N,5μm,0.2s							
SILR	SILCHAR	3.42	241	*e*P		Pn	02 50 02.9	-3.6
SILR				*e*S		Sn	02 50 39.9	-6.2
SILR				IAML			02 50 47.3	
	comp=N,2μm,0.3s							
SHL	Shillong	3.89	257			Pn	02 50 12.4	-0.6
SHL	Shillong	3.89	257	*e*P		Pn	02 50 08.2	-4.8
SHL				*e*S		Sn	02 50 49.1	-8.6
SHL				IAML			02 50 55.5	
	comp=E,2μm,0.1s							
SHL				IAML			02 50 56.0	
	comp=N,3μm,0.1s							
SHL	Shillong	3.89	257	P		Pn	02 50 12.4	-0.6
GUWA	GUWAHATI	3.95	266	*e*P		Pn	02 50 10.3	-3.3
GUWA				*e*S		Sn	02 50 53.0	-5.9
AZL	Aizawl	4.13	229	*e*P		Pn	02 50 12.1	-4.0
AZL				*e*S		Sn	02 50 55.9	-7.5
PZH	PanZhiHua	5.07	89	P		Pn	02 50 31.0	+2.1
PZH				S		Sn	02 51 26.8	+0.5
PZH				pmax	pmax			
	comp=N,100nm,0.5s							
PZH				pmax	pmax			
	comp=N,200nm,3.6s							
PZH				LR	LR			
	comp=N,240nm,3.8s							
PZH				LR	LR			
	comp=N,340nm,3.8s							
PZH				LR	LR			
	comp=N,280nm,7.1s							
LSA	Lhasa	5.39	307	P		Pn	02 50 35.3	+1.7
LSA				S		Sn	02 51 33.5	-1.1
LSA				smax	smax			
	comp=N,360nm,0.4s							
BRDH	Bariadhala	5.55	228	P		Pn	02 50 35.0	-0.3
	comp=N,101nm,0.3s,baz=78,slow=14,SNR=3.9							
BRDH				S		Sn	02 51 33.5	-4.4
	comp=N,485nm,0.3s,baz=53,slow=22,SNR=15							
KMI	Kunming	6.16	101	P		Pn	02 50 46.0	+2.3
KMI				S		Sn	02 51 54.3	+1.4
KMI				smax	smax			
	comp=N,77nm,1.3s							
KMI				smax	smax			
	comp=N,78nm,1.2s							
KMI				LR	LR			
	comp=N,450nm,4.6s							
KMI				LR	LR			
	comp=N,370nm,4.3s							
KMI				LR	LR			
	comp=N,290nm,11.1s							
GTK	Tadong	6.73	279	*e*P		Pn	02 50 48.1	-3.4
GTK				*e*S		Sn	02 51 58.2	-8.5
ODAN	Odare	7.78	275	Pn		Pn	02 51 05.2	-0.7
	baz=273,slow=0.0							
ODAN				Sn		Sn	02 52 29.9	-2.7
	comp=N,1μm,0.4s,baz=273,slow=0.0							
ODAN	Odare	7.78	275	Pn		Pn	02 51 05.4	-0.5
	baz=271,slow=0.0							
ODAN				Sn		Sn	02 52 30.2	-2.4
	comp=N,1μm,0.4s,baz=271,slow=0.0							
ODAN	Odare	7.78	275	Pn		Pn	02 51 05.6	-0.3
	baz=269,slow=0.0							
ODAN				Sn		Sn	02 52 28.7	-3.9
	comp=N,1μm,0.4s,baz=269,slow=0.0							
CHTO	Chiang Mai	8.10	160			Pn	02 51 11.0	+1.0
CHTO	Chiang Mai	8.10	160	P		Pn	02 51 12.0	+2.0
CHTO	Chiang Mai	8.10	160	P		Pn	02 51 11.0	+1.0
CHTO	Chiang Mai	8.10	160	P		Pn	02 51 10.3	+0.3
	comp=N,27nm,1.1s							
EVN	Everest	8.37	282			Pn	02 51 14.2	-0.1
CM31	Chiang Mai Arr	8.44	161	Pn		Pn	02 51 16.6	+2.0
CMAR	Chiang Mai Arr	8.44	161			Pn	02 51 15.3	+0.7
CMAR	Chiang Mai Arr	8.44	161	P		Pn	02 51 12.8	-1.8
	comp=N,5.7nm,0.4s,baz=334,slow=14,SNR=44							
CMAR	Chiang Mai Arr	8.44	161	P		Pn	02 51 15.3	+0.7
CM02	Chiang Mai Arr	8.46	161	P		Pn	02 51 14.5	-0.4
	comp=N,26nm,1.0s							
CM13	Chiang Mai Arr	8.46	161	P		Pn	02 51 15.9	+1.0
	comp=N,15nm,0.7s							
CM09	Chiang Mai Arr	8.46	161	P		Pn	02 51 16.4	+1.4
	comp=N,23nm,0.9s							
MHMT	Maesarieng	8.46	168	P		Pn	02 51 16.4	+1.4
	comp=N,41nm,0.6s							
CM05	Chiang Mai Arr	8.49	161	P		Pn	02 51 15.8	+0.5
	comp=N,19nm,1.0s							
RAMN	Ramite	8.49	275	Pn		Pn	02 51 15.8	+0.3
	baz=273,slow=0.0							
RAMN				Sn		Sn	02 52 46.8	-3.0
	comp=N,938nm,0.4s,baz=273,slow=0.0							
RAMN	Ramite	8.49	275	Pn		Pn	02 51 15.1	-0.4
	baz=272,slow=0.0							
RAMN				Sn		Sn	02 52 45.9	-3.9
	baz=272,slow=0.0							
RAMN	Ramite	8.49	275	Pn		Pn	02 51 15.1	-0.4
	baz=270,slow=0.0							
RAMN				Sn		Sn	02 52 45.7	-4.1
	comp=N,938nm,0.4s,baz=270,slow=0.0							
CM04	Chiang Mai Arr	8.50	161	P		Pn	02 51 16.8	+1.3
	comp=N,20nm,0.9s							
LAMP	Lampang	8.60	157	P		Pn	02 51 17.7	+0.9
	comp=N,54nm,1.0s							
SLVN	Son La	8.81	124			Pn	02 51 20.5	+0.7
SLVN	Son La	8.81	124	P		Pn	02 51 21.3	+1.5
GUN	Gumba	9.19	281	Pn		Pn	02 51 24.5	-0.7
	baz=279,slow=0.0							
GUN				Sn		Sn	02 53 04.1	-2.9
	comp=N,1μm,0.4s,baz=279,slow=0.0							
GUN	Gumba	9.19	281	Pn		Pn	02 51 24.4	-0.7
	baz=278,slow=0.0							
GUN				Sn		Sn	02 53 00.5	-6.5
	baz=278,slow=0.0							
GUN	Gumba	9.19	281	Pn		Pn	02 51 24.3	-0.9
	baz=276,slow=0.0							
GUN				Sn		Sn	02 53 00.9	-6.1
	comp=N,1μm,0.4s,baz=276,slow=0.0							
PKI	Pulchoki	9.58	279	Pn		Pn	02 51 28.9	-1.5
	baz=276,slow=0.0							
PKI				Sn		Sn	02 53 09.9	-6.5
	baz=276,slow=0.0							
PKI	Pulchoki	9.58	279	Pn		Pn	02 51 28.9	-1.5
	baz=274,slow=0.0							
PKI				Sn		Sn	02 53 10.7	-5.7
	comp=N,503nm,0.4s,baz=274,slow=0.0							
PKIN	Phulchoki	9.59	279	Pn		Pn	02 51 29.9	-0.6
	baz=277,slow=0.0							
PKIN				Sn		Sn	02 53 12.8	-3.8
	comp=N,529nm,0.4s,baz=277,slow=0.0							
PKIN	Phulchoki	9.59	279	Pn		Pn	02 51 29.2	-1.2
	baz=276,slow=0.0							
PKIN				Sn		Sn	02 53 11.4	-5.2
	baz=276,slow=0.0							
PKIN	Phulchoki	9.59	279	Pn		Pn	02 51 29.3	-1.2
	baz=274,slow=0.0							
PKIN				Sn		Sn	02 53 10.9	-5.7
	comp=N,529nm,0.4s,baz=274,slow=0.0							
KKN	Kakani	9.71	280	Pn		Pn	02 51 31.5	-0.6
	baz=278,slow=0.0							
KKN				Sn		Sn	02 53 15.5	-3.9
	comp=N,598nm,0.4s,baz=278,slow=0.0							
KKN	Kakani	9.71	280	Pn		Pn	02 51 31.3	-0.8
	baz=277,slow=0.0							
KKN				Sn		Sn	02 53 14.2	-5.2
	baz=277,slow=0.0							
KKN	Kakani	9.71	280	Pn		Pn	02 51 31.2	-0.8
	baz=276,slow=0.0							
KKN				Sn		Sn	02 53 12.8	-6.6
	comp=N,598nm,0.4s,baz=276,slow=0.0							
GOMU	GeErMu	9.72	354	P		Pn	02 51 31.0	-1.4
GOMU				S		Sn	02 53 16.8	-3.1
GOMU				pmax	pmax			
	comp=N,14nm,0.9s							
DMN	Daman	9.85	279	Pn		Pn	02 51 32.4	-1.6
	baz=277,slow=0.0							
DMN				Sn		Sn	02 53 18.7	-4.2
	comp=N,345nm,0.3s,baz=277,slow=0.0							
DMN	Daman	9.85	279	Pn		Pn	02 51 32.6	-1.4
	baz=276,slow=0.0							
DMN				Sn		Sn	02 53 18.7	-4.2
	baz=276,slow=0.0							
DMN	Daman	9.85	279	Pn		Pn	02 51 32.8	-1.2
	baz=275,slow=0.0							
DMN				Sn		Sn	02 53 17.2	-5.7
	comp=N,345nm,0.3s,baz=275,slow=0.0							
DANN	Dangsing	11.10	282	Pn		Pn	02 51 47.6	-3.5
	baz=280,slow=0.0							
DANN				Sn		Sn	02 53 45.9	-7.5
	comp=N,458nm,0.4s,baz=280,slow=0.0							
DANN	Dangsing	11.10	282	Pn		Pn	02 51 48.6	-2.5
	baz=279,slow=0.0							
DANN				Sn		Sn	02 53 45.7	-7.7
	comp=N,502nm,0.4s,baz=279,slow=0.0							
LZH	Lanzhou	11.62	33	*e*P		Pn	02 51 58.0	0.0
LZH				pP			02 52 10.5	
LZH				sP			02 52 26.3	
LZH				pmax	pmax			
	comp=N,140nm,1.0s							
LZH				pmax	pmax			
	comp=N,300nm,4.3s							
LZH				LR	LR			
	comp=N,270nm,9.1s							
LZH				LR	LR			
	comp=N,440nm,7.9s							
LZH				LR	LR			
	comp=N,270nm,8.2s							
ENH	Enshi	12.38	69	Pn		Pn	02 52 06.3	-1.7
GTA	Gaotai	13.24	13	*e*P		Pn	02 52 19.5	+0.1
GTA				pP		P	02 52 28.8	+3.1
GTA				pmax	pmax			
	comp=N,5.0nm,0.6s							
GTA				LR	LR			
	comp=N,180nm,15.1s							
GTA				LR	LR			
	comp=N,390nm,15.1s							
GTA				LR	LR			
	comp=N,200nm,15.5s							
XAN	Xi'an	13.39	53	P		Pn	02 52 18.8	-2.5
XAN				S		Sn	02 54 42.3	-6.2
XAN				pmax	pmax			
	comp=N,28nm,0.9s							
XAN				pmax	pmax			
	comp=N,110nm,3.8s							
QIZ	Qiongzhong	14.70	118	P		P	02 52 42.3	+0.4
QIZ	Qiongzhong	14.70	118	P		P	02 52 42.5	+0.6
QIZ				S		Sn	02 55 25.0	+4.5
QIZ				pmax	pmax			
	comp=N,48nm,1.1s							
QIZ				pmax	pmax			
	comp=N,240nm,2.6s							
QIZ				LR	LR			
	comp=N,81nm,7.1s							
QIZ				LR	LR			
	comp=N,100nm,7.3s							
QIZ				LR	LR			
	comp=N,85nm,6.3s							
PBA	Port Blair	15.10	193	Pn		Pn	02 52 44.4	+1.0
WHN	Wuhan	16.55	72	P		P	02 53 02.0	-0.3
BTO	Baotou	18.20	36	*e*P		Pn	02 53 21.8	+0.2
BTO				pP		pP	02 53 37.8	-1.4
BTO				sP		sP	02 53 51.3	-0.3
BTO				S		S	02 56 38.0	-5.8
BTO				pmax	pmax			
	comp=N,30nm,1.2s							
BTO				pmax	pmax			
	comp=N,250nm,7.4s							
WMQ	Urumqi	18.57	341	*e*P		Pn	02 53 28.0	+2.2
HYB	Hyderabad	18.59	244	*e*P		Pn	02 53 25.7	-0.6
HYB				*es*P		sP	02 54 07.4	+11
HYB				*e*S		Sn	02 57 03.0	+8.8
DLV	Lat	18.61	139	P		Pn	02 53 26.2	-0.4
DLV				IAmb		IAmb	02 53 30.2	
	comp=Z,72nm,1.2s							
HNS	HongShan	19.14	51	⇓P		Pn	02 53 33.5	+0.9
HNS				S		Sn	02 57 06.0	-1.1
HNS				pmax	pmax			
	comp=Z,19nm,0.8s							
HHC	Hu-ho-hao-te	19.21	38	⇓*i*P		Pn	02 53 35.5	+2.0
HHC				pP		pP	02 53 53.0	+2.8
HHC				S		Sn	02 57 07.0	-1.9
HHC				pmax	pmax			
	comp=Z,33nm,1.0s							
HHC				pmax	pmax			
	comp=Z,74nm,5.9s							
HHC				LR	LR			
	comp=Z,140nm,10.9s							
HHC				LR	LR			
	comp=Z,110nm,10.9s							
HHC				LR	LR			
	comp=Z,220nm,12.6s							
TIA	Tai'an	20.37	57	P		P	02 53 44.0	-0.1
TIA				pmax	pmax			
	comp=Z,53nm,0.9s							
NJ2	Nanjing	20.60	69	⇓P		P	02 53 46.5	-0.1
NJ2				pmax	pmax			
	comp=Z,46nm,0.7s							
NIL	Nilore	20.98	295	P		P	02 53 51.2	+0.5
NIL				pmax	pmax			
	comp=Z,45nm,0.7s							
KSH	Kashi	21.22	313	P		P	02 53 56.5	+3.2
KSH				pmax	pmax			
	comp=Z,29nm,0.8s							
TARG	Taragay, Kyrgy	21.37	320	P		P	02 53 56.2	+1.0
TARG				IAmb		IAmb	02 54 05.9	
	comp=Z,44nm,1.4s							
TARG	Taragay, Kyrgy	21.37	320	P		P	02 53 56.2	+1.0
TARG				pmax	pmax			
	comp=Z,45nm,1.4s							
BJT	Baijiatuau	21.47	46	P		P	02 53 57.0	+1.2
BJT	Baijiatuau	21.47	46	P		P	02 53 57.0	+1.2
BJT				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BJI	Beijing	21.48	46	P		P	02 53 57.8	+1.9
BJI				S		S	02 57 51.3	+2.5
BJI				pmax	pmax			
	comp=Z,7.0nm,0.7s							
PRZ	Przheval'sk	21.53	322	P		P	02 53 59.3	+2.7
PRZ	Przheval'sk	21.53	322	P		P	02 53 59.3	+2.7
PRZ				pmax	pmax			
	comp=Z,113nm,1.5s							
KDJ	Kajisay	21.98	320	P		P	02 54 04.1	+2.6
KDJ	Kajisay	21.98	320	P		P	02 54 04.1	+2.6
KDJ				pmax	pmax			
	comp=Z,19nm,0.9s							
SONM	Songino Array	22.78	18	P		P	02 54 10.0	+0.4
SONM	Songino Array	22.78	18	P		P	02 54 10.1	+0.4
	comp=Z,2.7nm,0.5s,baz=200,slow=10,SNR=11							
SONM				LR		LR	03 04 25.8	
	comp=Z,97nm,19.7s,baz=112,slow=40							
	comp=Z,2.7nm,0.5s							
ULN	Ulaanbaatar	23.00	19	P		P	02 54 11.5	-0.3
ULN	Ulaanbaatar	23.00	19	*i*P		P	02 54 13.1	+1.3
ULN				pmax	pmax			
	comp=Z,11nm,1.0s							
MK31	Makanchi Array	23.01	335	P		P	02 54 12.5	+0.7
MK31				PcP		PcP	02 57 57.8	-0.4
MK31	Makanchi Array	23.01	335	*ce*P		P	02 54 14.1	+2.3
MKAR	Makanchi Array	23.01	335	P		P	02 54 13.6	+1.8
MKAR				PcP		PcP	02 57 58.0	-0.2
MKAR	Makanchi Array	23.01	335	P		P	02 54 13.4	+1.6
	comp=Z,2.0nm,0.4s,baz=144,slow=8.6,SNR=22							
MKAR				PcP		PcP	02 57 58.4	+0.2
	comp=Z,0.9nm,0.6s,baz=172,slow=2.8,SNR=3.3							
MKAR				ScP		ScP	03 01 26.5	-0.9
	comp=Z,1.5nm,0.6s,baz=104,slow=5.1,SNR=12							
	comp=Z,2.0nm,0.4s							
MKAR	Makanchi Array	23.01	335	*ce*P		P	02 54 14.3	+2.5
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MAKZ	Makanchi	23.14	335	P		P	02 54 15.4	+2.4
MAKZ	Makanchi	23.14	335	P		P	02 54 15.4	+2.4
MAKZ				pmax	pmax			
	comp=Z,13nm,1.3s							
XLT	XiLinHaoTe	23.73	38	*e*P		P	02 54 20.0	+1.5
XLT				pP		pP	02 54 43.5	+4.2
XLT				sP		sP	02 54 55.0	+3.7
XLT				S		S	02 58 31.3	+4.6
XLT				pmax	pmax			
	comp=Z,8.0nm,0.8s							
AAK	Ala-Archa	23.88	318	P		P	02 54 20.1	+0.2
AAK	Ala-Archa	23.88	318	*ce*P		P	02 54 22.5	+2.6
AAK				pmax	pmax			
	comp=Z,21nm,1.6s							
ARSB	Arslanbob	24.11	314	P		P	02 54 22.0	0.0
ARSB				IAmb		IAmb	02 54 55.5	
	comp=Z,26nm,1.4s							
ARSB	Arslanbob	24.11	314	P		P	02 54 22.0	0.0
ARSB				pmax	pmax			
	comp=Z,26nm,1.4s							
ZAK	Zakamensk	24.47	11	*e*P		P	02 54 27.0	+1.9
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KBL	Kabul	24.58	296	P		P	02 54 26.6	+0.2
KBL				IAmb		IAmb	02 54 51.9	
	comp=Z,30nm,0.9s							
KBL	Kabul	24.58	296	P		P	02 54 26.6	+0.2
KBL				pmax	pmax			
	comp=Z,30nm,0.9s							
GAR	Garm	24.90	306	P		P	02 54 30.4	+1.2
GSI	Gunungsitoli	25.10	176	P		P	02 54 30.7	-0.4
GSI				IAmb		IAmb	02 55 11.6	
	comp=Z,29nm,1.0s							
TRKS	Terek-Say	25.41	312	P		P	02 54 35.8	+1.9
TRKS				pmax	pmax			
	comp=Z,5.0nm,0.7s							
CHGR	Chuyangaron	25.62	305	P		P	02 54 36.1	+0.4
CHGR				IAmb		IAmb	02 54 53.2	
	comp=Z,40nm,1.3s							
CHGR	Chuyangaron	25.62	305	P		P	02 54 36.1	+0.4
CHGR				pmax	pmax			
	comp=Z,40nm,1.3s							
SIMJ	Simiganj	25.73	305	P		P	02 54 37.3	+0.5
KKAR	Karatay Array	26.59	315	P		P	02 54 45.1	+0.8
KKAR	Karatay Array	26.59	315	P		P	02 54 45.1	+0.8
KURBB	Kurchatov Arra	27.58	335	P		P	02 54 55.0	+2.0
	comp=Z,0.5nm,0.4s,baz=145,slow=9.6,SNR=10							
KURBB				PcP		PcP	02 58 08.4	+0.1
	comp=Z,2.2nm,0.2s,baz=155,slow=2.2,SNR=4.7							
KURBB				ScP		ScP	03 01 38.7	-1.6
	comp=Z,1.6nm,0.3s,baz=160,slow=2.7,SNR=7.5							
	comp=Z,0.5nm,0.4s							
KURK	Kurchatov	27.62	336	P		P	02 54 53.8	+0.5
KURK	Kurchatov	27.62	336	*i*P		P	02 54 54.9	+1.5
KURK				pmax	pmax			
	comp=Z,5.0nm,1.1s							
SBUM	Sibu	28.50	144	P		P	02 55 01.4	-0.1
ZALV	Zalesovo Beam	28.66	346	P		P	02 55 03.2	+0.7
ZALV	Zalesovo Beam	28.66	346	P		P	02 55 05.3	+2.7
	comp=Z,1.1nm,0.5s,baz=162,slow=9.1,SNR=5.2							
	comp=Z,1.1nm,0.5s							
KSRS	Korea Array	29.00	60	P		P	02 55 04.1	-1.7
	comp=Z,2.0nm,0.6s,baz=248,slow=9.2,SNR=10							
	comp=Z,2.0nm,0.6s							
HIA	Hailar	29.19	33	P		P	02 55 08.5	+1.1
HIA	Hailar	29.19	33	P		P	02 55 08.5	+1.1
HIA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
HMDM	Hanimaadhoo	29.34	232	P		P	02 55 10.0	+1.0
MYLDM	Lahad Datu	30.14	131	P		P	02 55 16.6	+0.6
MYLDM				IAmb		IAmb	02 55 18.6	
	comp=Z,29nm,1.3s							
JNU	Nakatsue	30.80	69	P		P	02 55 20.5	-1.4
JNU				IAmb		IAmb	02 55 21.7	
	comp=Z,12nm,0.8s							
BNX	BinXian	31.47	44	⇓P		P	02 55 28.0	+0.5
BNX				pmax	pmax			
	comp=Z,22nm,0.9s							
MDJ	Mudanjiang	32.40	47	P		P	02 55 35.5	-0.2
MDJ				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BVAR	Borovoye Array	32.70	331	P		P	02 55 39.5	+1.3
	comp=Z,1.5nm,0.6s,baz=134,slow=8.6,SNR=7.8							
BVAR				PcP		PcP	02 58 21.9	+0.2
	comp=Z,1.6nm,0.6s,baz=144,slow=4.8,SNR=6.2							
BVAR				ScP		ScP	03 01 55.2	-1.8
	comp=Z,4.6nm,0.7s,baz=145,slow=3.6,SNR=19							
	comp=Z,1.5nm,0.6s							
VLA	Vladivostok	33.44	51	*i*P		P	02 55

MAJO **Matsushiro** 37.02 64 P P 02 56 14.7 -1.0
MAJO IAmb IAmb 02 56 15.3
comp=Z,12nm,0.8s
MAJO **Matsushiro** 37.02 64 *i* P P 02 56 15.0 -0.6
MAJO pmax pmax
comp=Z,21nm,1.4s
MJAR **Matsushiro Arr** 37.02 64 P P 02 56 14.4 -1.3
MJAR IAmb IAmb 02 56 16.5
comp=Z,12nm,1.2s
MJAR **Matsushiro Arr** 37.02 64 P P 02 56 14.0 -1.7
comp=Z,6.2nm,0.6s,baz=270,slow=8.7,SNR=22
MJAR LR LR 03 12 45.5
comp=Z,34nm,18.3s,baz=251,slow=38
comp=Z,6.2nm,0.6s
MJAR **Matsushiro Arr** 37.02 64 P P 02 56 14.4 -1.3
MJAR pmax pmax
comp=Z,12nm,1.2s
JMM **Marumori** 39.16 62 P P 02 56 32.7 -0.8
ARTI **Arti** 40.25 328 P P 02 56 43.2 +0.9
ARTI ScP **ScP** 03 02 22.2 -2.6
ARTI **Arti** 40.25 328 *d* P P 02 56 44.1 +1.8
ARTI *PP **pP** 02 57 07.4 +2.4
ARTI 02 58 17.9
ARTI S **S** 03 02 47.2 +4.9
ARTI SS **SS** 03 05 47.0 +3.0
ARTI pmax pmax
comp=Z,2.0nm,0.5s
ASAJ **Asahikawa** 41.23 52 P P 02 56 51.0 +0.5
ASAJ pmax pmax
comp=Z,17nm,0.7s
JKA **Kamikawa-asahi** 41.23 52 P P 02 56 51.0 +0.5
YSS **Yuzhno-Sakhali** 41.88 48 *e* P P 02 56 55.9 +0.1
YSS *eS **S** 03 03 02.0 -4.6
YSS *eSS **SS** 03 06 06.4 -10
YSS pmax pmax
comp=Z,20nm,0.7s
YSS pmax pmax
comp=Z,100nm,4.2s
MMRI **Maumere** 43.19 140 P P 02 57 05.7 -1.0
SOEI **Soe** 45.26 139 P P 02 57 21.7 -1.7
KIRV **Kirov** 45.56 328 *ce* P P 02 57 26.7 +1.7
RAYN **Ar Rayn** 45.70 278 P P 02 57 27.4 +0.6
RAYN IAmb IAmb 02 57 28.3
comp=Z,7.8nm,0.9s
RAYN **Ar Rayn** 45.70 278 P P 02 57 27.4 +0.6
RAYN pmax pmax
comp=Z,8.0nm,0.9s
GURO **Guroymak-BITLI** 46.53 299 P P 02 57 33.3 +0.1
MARD **Mardín** 47.58 297 P P 02 57 41.9 +0.5
MARD IAmb IAmb 02 58 08.9
comp=Z,13nm,1.1s
ARPR **Arapgir-MALATY** 49.39 300 P P 02 57 55.4 +0.1
KLMR **Klimovskoe** 51.04 328 *e* P P 02 58 06.8 -0.4
KLMR *e*PP **pP** 02 58 30.1 -0.7
KLMR pmax pmax
comp=Z,11nm,1.6s
SEY **Seymchan** 51.52 29 LR LR 03 22 12.5
comp=Z,93nm,20.9s,baz=233,slow=38
PEA0B **Petropavlovsk-** 52.34 42 *ce* P P 02 58 19.1 +2.1
PETK **Petropavlovsk-** 52.34 42 P P 02 58 16.3 -0.7
comp=Z,4.3nm,0.9s,baz=151,slow=3.4,SNR=3.5
comp=Z,4.3nm,0.9s
MMAI **Mount Meron Ar** 52.45 292 LR LR 03 24 04.4
comp=Z,36nm,18.4s,baz=110,slow=40
KNRA **Kununurra** 52.60 139 P P 02 58 18.1 -1.2
comp=Z,59nm,0.8s
KNRA **Kununurra** 52.60 139 P P 02 58 18.2 -1.1
KDU **Kakadu** 52.62 133 P P 02 58 17.6 -1.9
comp=Z,25nm,1.1s
MBWA **Marble Bar** 52.64 152 P P 02 58 18.7 -0.8
comp=Z,21nm,0.7s
MBWA **Marble Bar** 52.64 152 P P 02 58 18.3 -1.2
KIRS **Kirsehir-Merke** 52.81 300 ⇓P P 02 58 22.1 +1.3
FITZ **Fitzroy Crossi** 52.82 144 P P 02 58 19.7 -1.1
comp=Z,5.9nm,1.4s
FITZ **Fitzroy Crossi** 52.82 144 P P 02 58 19.3 -1.6
BR131 **Keskin Array S** 52.97 301 P P 02 58 22.1 +0.1
BR131 **Keskin Array S** 52.97 301 P P 02 58 22.1 +0.1
BR131 pmax pmax
comp=Z,6.0nm,1.5s
BRTR **Keskin Array B** 52.97 301 P P 02 58 22.7 +0.7
BRTR **Keskin Array B** 52.97 301 P P 02 58 22.5 +0.5
comp=Z,0.6nm,0.6s,baz=112,slow=7.2,SNR=6.1
BRTR ScP **ScP** 03 03 17.4 -1.0
comp=Z,1.3nm,0.9s,baz=95,slow=4.2,SNR=7.6
comp=Z,0.6nm,0.6s
PSA00 **Pilbara Seismi** 53.05 152 P P 02 58 21.4 -1.1
comp=Z,18nm,0.7s
PSA00 **Pilbara Seismi** 53.05 152 P P 02 58 21.7 -0.9
PSA00 IAmb IAmb 02 58 22.3
comp=Z,6.2nm,0.8s
APA **Apatity** 55.41 336 *e* P P 02 58 38.1 -1.0
APA *e* 02 59 37.9
APA MLR MLR
comp=Z,370nm,5.0s
AKASG **Malin Array Be** 55.49 315 P P 02 58 40.1 +0.1
comp=Z,1.7nm,0.4s,baz=78,slow=6.5,SNR=14
AKASG pP **pP** 02 59 04.6 +0.6
comp=Z,2.0nm,0.5s,baz=78,slow=6.6,SNR=5.1
comp=Z,1.7nm,0.4s
AKASG **Malin Array Be** 55.49 315 *ce* P P 02 58 40.0 +0.1
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB **Malin Array Si** 55.49 315 *ce* P P 02 58 40.9 +1.0
ISP **Isparta** 55.62 299 *ce* P P 02 58 43.2 +1.9
ISP pmax pmax
comp=Z,8.0nm,1.7s
PLOR **Plostina** 57.49 309 ⇑P P 02 58 56.1 +1.8
FINES **FINESS Array B** 57.55 328 P P 02 58 54.5 +0.2
comp=Z,0.9nm,0.5s,baz=93,slow=7.2,SNR=8.4
FINES pP **pP** 02 59 19.3 +0.9
comp=Z,1.1nm,0.5s,baz=74,slow=6.8,SNR=2.2
comp=Z,0.9nm,0.5s
MLR **Muntele Rosu** 58.02 309 ⇑P P 02 58 59.7 +1.6
BURAR **Bucovina Array** 58.29 311 P P 02 59 00.3 +0.4
BURAR **Bucovina Array** 58.29 311 ⇓P P 02 59 01.1 +1.2
MORW **Morawa** 58.48 159 P P 02 59 00.1 -1.1
ARCES **ARCESS Array B** 58.65 337 P P 02 59 03.0 +1.1
comp=Z,1.4nm,0.8s,baz=99,slow=7.6,SNR=5.5
comp=Z,1.4nm,0.8s
ARCES **ARCESS Array B** 58.65 337 P P 02 59 03.0 +1.1
WB0 **Warramunga Arr** 59.14 137 P P 02 59 04.6 -1.3
WRAB **Tennant Creek** 59.24 137 P P 02 59 05.7 -0.9
WRAB **Tennant Creek** 59.24 137 P P 02 59 05.7 -0.9
WRAB pmax pmax
comp=Z,80nm,0.8s
WRA **Warramunga Arr** 59.24 137 P P 02 59 05.2 -1.4
WRA **Warramunga Arr** 59.24 137 P P 02 59 05.9 -0.8
comp=Z,66nm,0.7s,baz=327,slow=7.5,SNR=236
WR8 **Warramunga Arr** 59.35 137 P P 02 59 06.3 -1.1
WRKA **Warakurna** 59.94 146 P P 02 59 10.9 -0.5
comp=Z,24nm,0.9s
MTKN **Mount Kenneth** 61.07 161 P P 02 59 17.2 -1.7
AS31 **Alice Springs** 61.85 140 P P 02 59 23.3 -1.1
ASAR **Alice Springs** 61.85 140 P P 02 59 23.5 -0.9
ASAR **Alice Springs** 61.85 140 P P 02 59 23.8 -0.6
comp=Z,21nm,0.6s,baz=324,slow=6.6,SNR=247
QIS **Mount Isa** 63.00 134 P P 02 59 30.9 -1.2
comp=Z,22nm,0.9s
HFS **Hagfors** 63.66 326 P P 02 59 36.9 +1.0
comp=Z,1.3nm,0.3s,baz=104,slow=6.3,SNR=21
HFS pP **pP** 03 00 01.6 +1.2
comp=Z,1.7nm,0.6s,baz=109,slow=6.9,SNR=3.0
comp=Z,1.3nm,0.3s
RONA **Rosalia, Austr** 64.24 312 *i* pP pP 03 00 06.0 +1.6
comp=Z,2.1nm,0.8s
CONA **Conrad Observa** 64.48 313 *e* pP pP 03 00 08.3 +2.2
comp=Z,3.7nm,1.0s
NORES **NORESS Array B** 64.63 327 P P 02 59 43.1 +0.9
NB2 **NORSAR Subarra** 64.74 328 P P 02 59 43.5 +0.5
comp=Z,0.7nm,0.3s,baz=89,slow=5.6
NB2 **NORSAR Subarra** 64.74 328 P P 02 59 44.3 +1.3
NOA **NORSAR Array B** 64.74 328 P P 02 59 43.6 +0.6
comp=Z,0.9nm,0.5s,baz=82,slow=6.4,SNR=8.2
NOA pP **pP** 03 00 07.7 +0.2
comp=Z,1.0nm,0.5s,baz=82,slow=6.4,SNR=5.7
comp=Z,0.9nm,0.5s
SOKA **Soboth** 65.30 312 *i* pP pP 03 00 12.2 +0.7
comp=Z,4.7nm,1.5s
MOA **Molln** 65.54 313 *e* pP pP 03 00 15.2 +2.2
comp=Z,5.4nm,1.2s
CLL **Collm** 65.59 317 *e* P P 02 59 51.0 +2.4
CLL *e*PP **pP** 03 00 14.0 +1.0
CLL **Collm** 65.59 317 *e* P **pP** 03 00 14.2 +1.2
comp=Z,4.7nm,1.4s,baz=82,slow=5.7
CLL *e* L 03 25 55.2
comp=Z,32nm,18.7s
CLL **Collm** 65.59 317 *e* P P 02 59 51.0 +2.4
CLL *e* pP **pP** 03 00 14.0 +1.0
comp=Z,5.0nm,1.4s
AMKA **Amchitka** 65.66 43 P P 02 59 48.0 -1.0
GEC2 **GERESS Array S** 65.69 314 P P 02 59 49.5 0.0
GEC2 **GERESS Array S** 65.69 314 *e* P pP 03 00 16.3 +2.3
comp=Z,5.0nm,1.1s,baz=82,slow=5.7
GERES **GERESS Array B** 65.69 314 P P 02 59 49.6 +0.2
comp=Z,0.6nm,0.4s,baz=62,slow=3.6,SNR=6.6
comp=Z,0.6nm,0.4s
WET **Wettzell** 66.15 315 *e* P pP 03 00 19.3 +2.6
comp=Z,2.6nm,0.8s,baz=82,slow=5.7
ROTZ **Rotzenmuhle** 66.43 315 *e* P pP 03 00 20.9 +2.4
comp=Z,1.2nm,0.9s,baz=82,slow=5.7
MANZ **Manzenberg** 66.44 316 *e* P pP 03 00 21.3 +2.7
comp=Z,1.1nm,1.2s,baz=82,slow=5.7
MOX **Moxa** 66.59 316 *e* L L 03 33 33.3
comp=Z,19nm,21.1s
ABTA **Abfaltersbach** 66.97 312 *i* pP pP 03 00 23.5 +1.3
comp=Z,1.8nm,0.6s
CLZ **Clausthal** 67.06 318 *e* P pP 03 00 25.2 +2.6
comp=Z,8.7nm,1.2s,baz=82,slow=5.7
GRF **Grafenberg Arr** 67.07 315 *e* P **pP** 03 00 24.5 +1.9
comp=Z,11nm,1.5s,baz=82,slow=5.7
GRF *e* L L 03 29 47.9
comp=Z,28nm,20.3s
CTAO **Charters Tower** 67.18 128 P P 02 59 58.2 -0.9
CTAO IAmb IAmb 02 59 59.6
comp=Z,10nm,0.8s
CTAO **Charters Tower** 67.18 128 P P 02 59 58.2 -0.9
CTAO pmax pmax
comp=Z,10.0nm,0.8s
WTTA **Wattenberg** 67.41 313 *e* PcP **PcP** 03 00 27.0 -0.4
comp=Z,6.9nm,1.3s
SQTA **Sankt Quirin** 67.71 313 *e* PcP **PcP** 03 00 28.1 -0.4
comp=Z,1.6nm,0.4s
MOTA **Moosalm** 67.74 313 *i* PcP **PcP** 03 00 28.6 -0.1
comp=Z,1.9nm,0.6s
RETA **Reutte** 67.93 313 *e* PcP **PcP** 03 00 29.9 +0.5
comp=Z,2.2nm,0.6s
FETA **Feichten** 68.08 313 *i* PcP **PcP** 03 00 30.7 +0.6
comp=Z,3.6nm,0.9s
DAVA **Damuels** 68.56 313 *i* pP pP 03 00 34.3 +2.0
comp=Z,4.2nm,1.2s
TNA **Tin City** 68.61 26 P P 03 00 07.9 +0.5
baz=287
DAVOX **Davos/Dischmat** 68.70 313 LR LR 03 32 54.4
comp=Z,26nm,19.1s,baz=78,slow=38
C16K **Lisburne Hills** 68.76 23 P P 03 00 09.0 +0.7
baz=288
F14K **Arctic Creek** 69.27 26 P P 03 00 12.3 +0.7
baz=288
C17K **DeLong Mountai** 69.45 23 P P 03 00 13.1 +0.4
baz=290
A19K **Wainwright** 69.55 21 P P 03 00 13.6 +0.5
baz=291
B18K **Kokolik River** 69.61 22 P P 03 00 14.1 +0.5
baz=291
RDOG **Red Dog Mine** 69.69 23 P P 03 00 15.4 +1.3
baz=290
D17K **Noatak River** 69.76 24 P P 03 00 15.8 +1.3
baz=290,SNR=7.0
F15K **North Star Dit** 69.85 26 P P 03 00 16.0 +0.8
baz=290
ANM **Nome** 69.95 27 P P 03 00 16.3 +0.6
baz=289
SPIA **Saint Paul Isl** 70.06 35 P P 03 00 17.4 +0.9
baz=288
C18K **Utukok River** 70.08 22 P P 03 00 17.4 +0.9
baz=292
BBOO **Buckleboo** 70.19 145 P P 03 00 16.4 -1.2
comp=Z,36nm,0.8s
BBOO **Buckleboo** 70.19 145 P P 03 00 16.1 -1.5
QLP **Quilpie** 70.26 135 P P 03 00 18.5 +0.4
comp=Z,76nm,1.1s
G15K **Niukluk** 70.34 26 P P 03 00 19.1 +1.1
baz=290
E17K **Hotham Inlet** 70.43 24 P P 03 00 20.1 +1.5
baz=292,SNR=7.3
C19K **Lookout Ridge** 70.44 22 P P 03 00 20.2 +1.5
baz=293
A21K **Barrow** 70.47 19 P P 03 00 19.8 +1.0
baz=295
P08K **Saint George I** 70.61 36 P P 03 00 20.6 +0.8
baz=289
E18K **Tukpahlearik C** 70.75 23 P **P** 03 00 21.5 +1.0
E18K IAmb IAmb 03 00 22.6
comp=Z,12nm,0.8s
E18K **Tukpahlearik C** 70.75 23 P P 03 00 21.5 +1.0
baz=293,SNR=7.3
B20K **Meade River** 70.86 20 P P 03 00 22.2 +1.1
baz=295
G16K **Koyuk River** 70.86 26 P P 03 00 22.2 +1.0
baz=292
F17K **Baldwin Pennin** 70.88 25 P 03 00 22.2 +0.9
F17K **Baldwin Pennin** 70.88 25 P P 03 00 22.4 +1.1
baz=292,SNR=6.5
M11K **Mekoryuk** 71.00 31 P P 03 00 22.7 +0.6
baz=290
A22K **Sinclair Lake** 71.08 19 P P 03 00 22.8 +0.3
baz=296
K13K **Kusilvak Mount** 71.16 30 P P 03 00 23.4 +0.3
baz=291
D19K **Kuna River** 71.18 22 P P 03 00 23.5 +0.3
D19K IAmb IAmb 03 00 25.2
comp=Z,9.7nm,0.8s
D19K **Kuna River** 71.18 22 P P 03 00 23.8 +0.6
baz=294
H16K **Elim** 71.19 26 P P 03 00 23.7 +0.5
baz=292
J14K **Nanvaranak Lak** 71.34 29 P P 03 00 24.4 +0.2
J14K **Nanvaranak Lak** 71.34 29 P P 03 00 24.7 +0.5
baz=292
F18K **Selawik** 71.41 24 P P 03 00 25.4 +0.9
baz=294
G17K **Kiwalik Mounta** 71.47 25 P P 03 00 25.7 +0.8
baz=293
D20K **Etivluk River** 71.58 22 P 03 00 26.7 +1.1
D20K IAmb IAmb 03 00 27.9
comp=Z,15nm,0.8s
D20K **Etivluk River** 71.58 22 P P 03 00 26.4 +0.8
baz=296,SNR=5.1
B21K **Ikpikpuk River** 71.82 20 P P 03 00 28.2 +1.2
baz=297
B22K **Teshekpuk Lake** 71.85 19 P P 03 00 28.1 +1.0
baz=298
E19K **Redstone River** 71.92 23 P P 03 00 28.4 +0.8
baz=296,SNR=5.8
E20K **Nigu River** 71.92 22 P P 03 00 28.7 +1.0
baz=296
C21K **Knifeblade Rid** 71.98 21 P P 03 00 28.3 +0.4
baz=297
H17K **Granite Mounta** 71.99 26 P 03 00 28.2 +0.2
H17K IAmb IAmb 03 00 30.1
comp=Z,9.6nm,0.8s
H17K **Granite Mounta** 71.99 26 P P 03 00 28.9 +0.8
baz=294,SNR=5.3
F19K **Shaleruckik Mo** 72.00 24 P 03 00 28.7 +0.7
F19K IAmb IAmb 03 00 29.5
comp=Z,12nm,0.9s
F19K **Shaleruckik Mo** 72.00 24 P P 03 00 28.8 +0.7
baz=295,SNR=8.6
G18K **Tagagawik** 72.07 25 P P 03 00 29.0 +0.4
baz=295
I17K **Unalakleet** 72.10 27 P P 03 00 28.9 +0.2
baz=294
HTT **Hallett** 72.18 143 P P 03 00 29.5 -0.2
comp=Z,4.7nm,1.0s
HTT **Hallett** 72.18 143 P P 03 00 29.4 -0.2
NIKH **Nikolski High** 72.20 39 P P 03 00 30.2 +0.7
baz=290
L14K **Kuka Creek** 72.26 30 P P 03 00 29.6 -0.1
L14K IAmb IAmb 03 00 31.4
comp=Z,9.8nm,0.8s
L14K **Kuka Creek** 72.26 30 P P 03 00 30.5 +0.8
baz=293
M13K **Dall Lake** 72.31 31 P P 03 00 31.0 +1.0
baz=292
J16K **Anvik River** 72.38 27 P P 03 00 31.2 +0.8
baz=294
K15K **Wolf Creek Mou** 72.39 29 P P 03 00 31.5 +1.0
baz=293
STKA **Stephens Creek** 72.49 140 P P 03 00 30.4 -1.0
STKA **Stephens Creek** 72.49 140 P P 03 00 30.8 -0.6
comp=Z,17nm,0.6s,baz=320,slow=7.2,SNR=50
H18K **Honhosa River** 72.49 25 P P 03 00 31.7 +0.6
baz=295,SNR=5.8
G19K **Purcell Mounta** 72.54 24 P P 03 00 32.0 +0.7
baz=296
KEST **Kesra** 72.57 302 P P 03 00 32.7 +0.5
KEST IAmb IAmb 03 01 00.6
comp=Z,21nm,1.4s
E21K **Killik River** 72.57 21 P P 03 00 32.5 +0.9
baz=298
F20K **Avaraart Lake** 72.62 23 P P 03 00 32.5 +0.7
baz=297
L15K **Ungalak Mounta** 72.65 29 P P 03 00 32.5 +0.4
baz=294
D22K **Ayikyak River** 72.78 21 P P 03 00 33.8 +1.1
baz=299
M14K **Bethel** 72.81 30 P P 03 00 33.0 0.0
M14K IAmb IAmb 03 00 34.6
comp=Z,14nm,0.8s
M14K **Bethel** 72.81 30 P P 03 00 33.8 +0.8
baz=294
C23K **Itkillik River** 72.94 19 P 03 00 35.2 +1.7
C23K **Itkillik River** 72.94 19 P P 03 00 34.9 +1.3
baz=301,SNR=5.3
J17K **VABM Dome** 72.96 27 P 03 00 34.7 +0.9
J17K **VABM Dome** 72.96 27 P P 03 00 34.8 +0.9
baz=295
H19K **Roundabout Mou** 73.05 25 P 03 00 35.3 +1.0
H19K IAmb IAmb 03 00 36.5
comp=Z,14nm,0.9s
H19K **Roundabout Mou** 73.05 25 P P 03 00 35.4 +1.1
baz=297,SNR=11
UNV **Unalaska Valle** 73.20 38 P P 03 00 36.0 +0.6
baz=292
GCSA **Galena City Sc** 73.24 25 P P 03 00 36.3 +0.8
baz=297
N14K **Kuskokwak Cree** 73.27 31 P P 03 00 36.4 +0.7
baz=294
F21K **Alatna River** 73.32 22 P 03 00 36.9 +1.0
F21K IAmb IAmb 03 00 37.8
comp=Z,14nm,0.8s
F21K **Alatna River** 73.32 22 P P 03 00 36.8 +0.8
baz=299,SNR=11
D23K **Nanushuk River** 73.36 20 P P 03 00 37.8 +1.6
D23K IAmb IAmb 03 00 38.7
comp=Z,13nm,0.9s
D23K **Nanushuk River** 73.36 20 P P 03 00 37.2 +1.1
baz=301
M15K **Kasigluk River** 73.41 30 P P 03 00 37.1 +0.6
baz=294,SNR=7.3
E22K **Anaktuvuk Pass** 73.42 21 P P 03 00 37.2 +0.6
baz=300
L16K **Owhat River** 73.51 29 P P 03 00 37.8 +0.6
baz=295
C24K **Franklin Bluff** 73.56 19 P P 03 00 38.1 +0.8
baz=302
K17K **Iditarod** 73.57 28 P 03 00 38.5 +1.0
K17K IAmb IAmb 03 00 39.5
comp=Z,13nm,0.9s
K17K **Iditarod** 73.57 28 P P 03 00 38.5 +1.0
baz=296,SNR=7.9
EKA **Eskdalemuir Ar** 73.62 324 P P 03 00 38.7 +0.9
comp=Z,0.8nm,0.5s,baz=68,slow=5.5,SNR=9.8
EKA pP **pP** 03 01 05.3 +2.4
comp=Z,0.3nm,0.4s,baz=70,slow=4.9,SNR=2.5
comp=Z,0.8nm,0.5s
F22K **John River** 73.62 22 P P 03 00 38.8 +1.1
baz=300
H20K **Anotleneega Mo** 73.65 24 P P 03 00 38.8 +0.9
baz=298,SNR=7.3
G21K **Allakaket** 73.65 23 P 03 00 38.5 +0.7
G21K IAmb IAmb 03 00 39.5
comp=Z,10nm,0.8s
G21K **Allakaket** 73.65 23 P P 03 00 38.7 +0.8
baz=299,SNR=7.8
O14K **Tigyukauivet M** 73.74 31 P P 03 00 39.1 +0.6
baz=294
L17K **Donlin** 73.83 28 P P 03 00 40.0 +1.0
baz=296
D24K **Happy Valley** 73.83 20 P P 03 00 39.4 +0.6
baz=302
TOLK **Toolik Lake Re** 73.88 20 P P 03 00 40.2 +1.0
baz=302
J18K **Innoko River** 73.88 27 P P 03 00 39.8 +0.5
baz=297,SNR=6.9
N15K **Kwethluk River** 73.90 30 P P 03 00 40.1 +0.7
baz=295
EIDS **Eidsvold** 73.99 130 P 03 00 40.4 -0.1
M16K **Timber Creek** 74.03 29 P P 03 00 41.1 +0.9
baz=296
J19K **Poorman** 74.07 26 P 03 00 41.4 +1.0
J19K IAmb IAmb 03 00 42.4
comp=Z,9.6nm,0.9s
J19K **Poorman** 74.07 26 P P 03 00 41.3 +1.0
baz=298,SNR=9.1
I20K **Naaghedeneel** 74.13 25 P P 03 00 41.9 +1.2
baz=299
E23K **Chandalar** 74.17 21 P P 03 00 42.1 +1.1
baz=302
H21K **Melozitna Rive** 74.33 24 P P 03 00 42.9 +1.1
baz=300,SNR=6.2
N16K **Nishlik Lake** 74.36 30 P P 03 00 42.7 +0.6
baz=296
COLD **Coldfoot** 74.42 22 P P 03 00 42.9 +0.5
baz=302
O15K **Ungalikthiuk R** 74.44 31 P P 03 00 42.7 +0.1
baz=296
L18K **Granite Mounta** 74.47 28 P P 03 00 43.7 +1.0
baz=297
D25K **Kavik River** 74.47 19 P P 03 00 43.7 +1.0
baz=304
FALS **False Pass** 74.47 36 P P 03 00 43.8 +1.0
baz=294
E24K **Your Creek** 74.52 21 P P 03 00 44.0 +1.0
baz=303
M17K **Holitna River** 74.53 29 P 03 00 44.0 +1.0
M17K IAmb IAmb 03 00 45.4
comp=Z,9.4nm,0.9s
M17K **Holitna River** 74.53 29 P P 03 00 44.2 +1.1
baz=297,SNR=5.2
C26K **Camden Bay** 74.54 18 P P 03 00 44.3 +1.3
baz=306
J20K **Nowinta River** 74.56 25 P 03 00 44.2 +1.1
J20K IAmb IAmb 03 00 45.4
comp=Z,7.0nm,0.9s
J20K **Nowinta River** 74.56 25 P P 03 00 44.3 +1.1
baz=299,SNR=6.1
H22K **Ishtalitna Cre** 74.71 23 P P 03 00 45.1 +1.0
baz=301,SNR=8.7
G23K **Bananza Creek** 74.75 22 P 03 00 45.2 +0.9
G23K **Bananza Creek** 74.75 22 P P 03 00 45.3 +0.9
baz=302
S12K **Black Hills** 74.83 35 P P 03 00 45.7 +0.8
baz=295
I21K **Tanana** 74.86 24 P P 03 00 46.1 +1.2
baz=301
K20K **Telida** 74.98 26 P P 03 00 46.8 +1.1
baz=299,SNR=9.2
F24K **Squaw Lake** 75.02 21 P P 03 00 46.8 +0.9
baz=304
N17K **Nushagak Hills** 75.03 29 P P 03 00 46.9 +0.9
baz=297
C27K **Jago River** 75.05 18 P P 03 00 46.6 +0.7
baz=307
O16K **Kokwok River B** 75.06 30 P P 03 00 46.9 +0.8
baz=297
M18K **Stony River** 75.17 28 P P 03 00 47.7 +0.9
baz=298
L19K **White Mountain** 75.24 27 P P 03 00 48.2 +1.0
baz=299,SNR=6.4
P16K **Nushagak River** 75.36 31 P P 03 00 48.3 +0.4
baz=297
H23K **Yukon River** 75.39 23 P P 03 00 49.3 +1.3
baz=302
MLY **Manley** 75.39 24 P 03 00 48.9 +0.9
MLY IAmb IAmb 03 00 50.6
comp=Z,14nm,1.2s
MLY **Manley** 75.39 24 P P 03 00 49.0 +1.0
baz=302,SNR=10
E25K **Arctic Village** 75.40 20 P P 03 00 49.1 +1.1
baz=305
CHUM **Lake Minchumin** 75.40 25 P P 03 00 48.9 +0.9
baz=301
O17K **Koliganek Bris** 75.42 30 P P 03 00 48.7 +0.5
baz=298
L20K **Farewell, AK** 75.49 27 P P 03 00 49.3 +0.6
baz=300
N18K **Kilae Creek** 75.53 29 P P 03 00 49.5 +0.6
baz=298
M19K **Big River Lodg** 75.57 27 P P 03 00 49.9 +0.8

baz=299
G24K **Hadweenzic Riv** 75.61 22 P P 03 00 50.2 +1.0
baz=304
F25K **Christian Rive** 75.69 20 P P 03 00 51.1 +1.4
baz=306,SNR=9.2
CAST **Castle Rocks** 75.73 26 P 03 00 50.9 +0.9
CAST IAmb IAmb 03 00 51.9
comp=Z,9.4nm,0.8s
CAST **Castle Rocks** 75.73 26 P P 03 00 50.9 +0.9
baz=301,SNR=14
BPAW **Bear Paw Mtn.** 75.79 25 P P 03 00 51.1 +0.8
baz=302,SNR=9.0
SDPT **Sand Point** 75.79 35 P P 03 00 51.2 +0.8
baz=296
I23K **Minto, Yukon-K** 75.82 23 P P 03 00 51.4 +1.0
baz=303
S14K **Fog Glacier** 75.85 34 P P 03 00 51.2 +0.3
baz=296
PPLA **Purkeypile** 75.96 26 P P 03 00 52.2 +0.8
baz=301
H24K **Noodor Dome** 75.96 22 P 03 00 51.9 +0.6
H24K **Noodor Dome** 75.96 22 P P 03 00 51.9 +0.6
baz=304
P17K **Kvichak River** 75.99 30 P P 03 00 51.7 +0.3
baz=298
G25K **Bearman Lake** 76.02 21 P P 03 00 52.5 +1.0
baz=305
D27M **Malcolm River** 76.06 18 P P 03 00 53.0 +1.2
baz=309
N19K **Bonanza Creek** 76.07 28 P P 03 00 52.8 +0.8
baz=300
F26K **Sheenjek River** 76.09 20 P P 03 00 53.2 +1.3
baz=307
M20K **Styx River** 76.10 27 P P 03 00 53.0 +0.8
baz=300
BMAR **Burnt Mountain** 76.11 20 P 03 00 53.6 +1.5
Q16K **King Salmon** 76.14 31 P P 03 00 53.2 +1.0
baz=298
O18K **Koktuh Hills** 76.22 29 P P 03 00 53.6 +0.8
baz=299
NEA2 **Nenana** 76.23 24 P P 03 00 53.4 +0.6
baz=303,SNR=5.3
TRF **Thorofare Moun** 76.40 25 P 03 00 54.8 +0.8
TRF **Thorofare Moun** 76.40 25 P P 03 00 54.5 +0.5
baz=302
H25L **Birch Creek** 76.40 22 P P 03 00 54.5 +0.9
baz=306
P18K **Big Mountain,** 76.44 30 P P 03 00 54.4 +0.3
baz=299
CHNA **Chernabura Isl** 76.48 35 P P 03 00 54.5 +0.2
baz=297
POKR **Poker Plat Res** 76.52 23 P P 03 00 54.8 +0.4
baz=304
E27K **Coleen River** 76.55 19 P 03 00 55.6 +1.1
E27K IAmb IAmb 03 00 56.9
comp=Z,13nm,1.1s
E27K **Coleen River** 76.55 19 P P 03 00 55.3 +0.8
baz=309
D28M **Stokes Point** 76.61 17 P P 03 00 55.2 +0.4
baz=311
G26K **Porcupine Rive** 76.65 20 P 03 00 56.9 +1.9
G26K IAmb IAmb 03 00 57.9
comp=Z,17nm,1.1s
G26K **Porcupine Rive** 76.65 20 P P 03 00 56.4 +1.4
baz=307,SNR=7.2
CCB **Clear Creek Bu** 76.65 23 P 03 00 55.2 +0.1
Q17K **Contact Creek** 76.69 31 P P 03 00 55.4 -0.2
baz=299
SKT **Skwentna** 76.70 27 P 03 00 55.6 +0.1
SKT IAmb IAmb 03 00 56.3
comp=Z,13nm,0.9s
SKT **Skwentna** 76.70 27 P P 03 00 55.4 0.0
baz=302,SNR=12
MCK **McKinley** 76.75 24 P P 03 00 56.2 +0.4
baz=304
R17L **Mt. Peulik Vol** 76.77 32 P P 03 00 57.2 +1.2
baz=299
SPCR **Spurr Chakacha** 76.83 28 P P 03 00 57.0 +0.7
baz=301
N20K **Mount Spurr** 76.83 28 P P 03 00 56.3 0.0
baz=301
E28M **Babbage River** 76.86 18 P 03 00 57.0 +0.8
E28M IAmb IAmb 03 00 58.7
comp=Z,8.6nm,0.8s
E28M **Babbage River** 76.86 18 P P 03 00 57.6 +1.4
baz=311,SNR=8.1
Q18K **Katmai Hardscr** 76.91 31 P P 03 00 57.1 +0.3
baz=300
ILAR **Eielson Array** 76.91 23 P P 03 00 55.9 -0.7
comp=Z,2.0nm,0.8s,baz=301,slow=5.0,SNR=26
comp=Z,2.0nm,0.8s
PRP **Porcupine Dome** 76.94 22 P P 03 00 57.2 +0.3
baz=306
RND **Reindeer** 76.97 25 P 03 00 57.5 +0.5
RND IAmb IAmb 03 00 57.8
comp=Z,9.6nm,1.2s
RND **Reindeer** 76.97 25 P P 03 00 57.5 +0.5
RND pmax pmax
comp=Z,10.0nm,1.2s
HDA **Harding Lake** 77.09 23 P P 03 00 57.0 -0.6
baz=305
O20K **Slope Mountain** 77.23 29 P P 03 00 58.4 -0.2
baz=301
SUA **Susitna One** 77.29 27 P P 03 00 58.6 -0.3
baz=302
M22K **Willow** 77.38 26 P P 03 00 59.7 +0.5
baz=303
G27K **Doyon Strip** 77.40 20 P 03 01 00.6 +1.3
G27K IAmb IAmb 03 01 01.7
comp=Z,7.0nm,0.9s
G27K **Doyon Strip** 77.40 20 P P 03 01 00.3 +1.0
baz=309,SNR=11
WAT1 **Susitna Watana** 77.40 25 P P 03 00 58.8 -0.6
baz=304
F28M **Old Crow** 77.42 19 P P 03 01 00.1 +0.7
baz=310
E29M **Blow River** 77.46 18 P 03 01 00.8 +1.2
E29M IAmb IAmb 03 01 02.0
comp=Z,8.0nm,0.9s
E29M **Blow River** 77.46 18 P P 03 01 00.5 +0.9
baz=312,SNR=6.1
J25K **Salcha River,** 77.53 23 P 03 00 59.8 -0.3
J25K **Salcha River,** 77.53 23 P P 03 00 59.8 -0.3
baz=306,SNR=5.3
R18K **Karluk** 77.70 31 P P 03 01 00.6 -0.4
baz=300
DHY **Denali Highway** 77.70 25 P P 03 01 01.2 -0.1
baz=305
H27K **Steamboat Moun** 77.81 20 P 03 01 02.8 +1.2
H27K **Steamboat Moun** 77.81 20 P P 03 01 02.9 +1.2
baz=309,SNR=11
WAT6 **Susitna Watana** 77.85 25 P P 03 01 01.9 -0.2
baz=305
I26K **Coal Creek Min** 77.86 22 P P 03 01 02.4 +0.5
baz=308
K24K **Donnelly Dome** 77.86 24 P P 03 01 01.8 -0.1
baz=306,SNR=14
PMR **Palmer** 77.87 26 P P 03 01 01.9 0.0
baz=304,SNR=7.2
RC01 **Rabbit Creek A** 77.90 27 P P 03 01 02.4 +0.2
baz=303
CHIR **Chirikof Islan** 78.01 33 P P 03 01 02.9 +0.1
baz=300
Q20K **Shuyak Island** 78.10 30 P P 03 01 04.0 +0.7
baz=302
I27K **Kandik River** 78.18 21 P P 03 01 04.7 +1.1
baz=309,SNR=14
J26L **Joseph Creek** 78.22 22 P 03 01 04.3 +0.3
J26L IAmb IAmb 03 01 05.2
comp=Z,11nm,1.1s
J26L **Joseph Creek** 78.22 22 P P 03 01 04.1 +0.1
baz=308,SNR=12
KNK **Knik Glacier** 78.23 26 P P 03 01 04.6 +0.5
baz=304
RIDG **Independent Ri** 78.24 23 P P 03 01 04.1 +0.1
baz=307,SNR=7.7
M23K **Glacier View** 78.31 26 P P 03 01 04.9 +0.5
baz=305
SII **Sitkinak Islan** 78.34 32 P P 03 01 05.3 +0.6
baz=301
SCRK **Sand Creek** 78.40 23 P 03 01 05.4 +0.4
SCRK IAmb IAmb 03 01 06.3
comp=Z,14nm,1.3s
SCRK **Sand Creek** 78.40 23 P P 03 01 05.4 +0.4
baz=308,SNR=8.8
OHAK **Old Harbor** 78.42 31 P P 03 01 05.4 +0.3
baz=301
G29M **Pine Creek** 78.42 19 P P 03 01 05.7 +0.8
baz=312
SCM **Sheep Creek Mo** 78.44 26 P P 03 01 05.6 +0.4
baz=305
KDAK **Kodiak Island** 78.45 31 LR LR 03 37 27.9
comp=Z,42nm,18.8s,baz=295,slow=37
KDAK **Kodiak Island** 78.45 31 P P 03 01 05.3 +0.1
baz=302
PAX **Paxson** 78.47 24 P P 03 01 06.1 +0.6
baz=306
SEW **Seward** 78.56 28 P P 03 01 06.4 +0.6
baz=304
F30M **Barrier River** 78.58 18 P 03 01 06.5 +0.7
F30M **Barrier River** 78.58 18 P P 03 01 06.7 +0.9
baz=314,SNR=5.1
PWL **Port Wells** 78.60 27 P P 03 01 06.0 0.0
baz=304
INK **Inuvik** 78.69 17 P 03 01 07.0 +0.7
INK IAmb IAmb 03 01 08.1
comp=Z,10nm,0.9s
INK **Inuvik** 78.69 17 P P 03 01 07.0 +0.7
INK pmax pmax
comp=Z,10.0nm,0.9s
INK **Inuvik** 78.69 17 P P 03 01 06.8 +0.5
baz=316
M24K **Tolsona, Glenn** 78.72 25 P P 03 01 07.2 +0.5
baz=306
H29M **Whitestone** 78.78 20 P P 03 01 07.7 +0.7
baz=312,SNR=5.6
I28M **Miner Creek** 78.81 21 P 03 01 07.8 +0.5
I28M IAmb IAmb 03 01 09.1
comp=Z,9.7nm,0.8s
I28M **Miner Creek** 78.81 21 P P 03 01 08.0 +0.7
baz=311,SNR=14
G30M **tAoh Zraii Nji** 78.89 18 P 03 01 08.2 +0.6
G30M **tAoh Zraii Nji** 78.89 18 P P 03 01 08.5 +0.9
baz=314,SNR=10
HARP **HAARP** 78.93 25 P P 03 01 08.6 +0.7
baz=307
K27K **Chicken** 79.02 22 P P 03 01 09.1 +0.8
baz=309
EPYK **Eagle Plains** 79.17 19 P P 03 01 09.5 +0.4
baz=313
KLU **Klutina** 79.18 26 P P 03 01 09.8 +0.5
baz=306,SNR=10
F31M **Tsiigehtchic** 79.25 17 P 03 01 10.2 +0.7
F31M IAmb IAmb 03 01 11.1
comp=Z,9.2nm,0.8s
F31M **Tsiigehtchic** 79.25 17 P P 03 01 09.9 +0.4
baz=316
I29M **Ogilvie Camp,** 79.38 20 P P 03 01 10.4 +0.2
baz=312
P23K **Montague Islan** 79.47 27 P P 03 01 11.4 +0.7
baz=305
G31M **Satah River** 79.48 18 P P 03 01 11.2 +0.5
baz=316
N25K **Chitina, Valde** 79.62 25 P P 03 01 12.5 +0.8
baz=307,SNR=7.1
L27K **Beaver Creek,** 79.72 23 P 03 01 13.5 +1.3
L27K IAmb IAmb 03 01 14.7
comp=Z,9.5nm,0.8s
L27K **Beaver Creek,** 79.72 23 P P 03 01 13.8 +1.6
baz=310,SNR=15
M26K **Nabesna, AK** 79.72 24 P P 03 01 13.3 +1.1
baz=309
BCAR **Beaver Creek A** 79.74 23 P 03 01 13.4 +1.1
EYAK **Cordova Ski Ar** 79.81 26 P P 03 01 13.3 +0.7
baz=307
DAWY **Dawson** 79.90 22 P P 03 01 13.8 +0.7
baz=312,SNR=6.6
BMRM **Bremner River** 80.01 26 P 03 01 14.4 +0.7
BMRM **Bremner River** 80.01 26 P P 03 01 14.5 +0.7
baz=308,SNR=7.3
J29N **Klondike Camp** 80.02 21 P P 03 01 14.5 +0.7
baz=312
I30M **Mount Dempster** 80.07 20 P 03 01 14.5 +0.4
I30M IAmb IAmb 03 01 15.6
comp=Z,9.8nm,0.8s
I30M **Mount Dempster** 80.07 20 P P 03 01 14.5 +0.4
baz=314,SNR=11
C36M **Paulatuk** 80.09 13 P P 03 01 14.1 +0.2
baz=324
M27K **Edge Creek, AK** 80.16 24 P P 03 01 15.7 +1.1
baz=310,SNR=7.1
Q23K **Middleton Isla** 80.24 27 P P 03 01 16.2 +1.3
baz=306
H31M **Peel River** 80.26 19 P 03 01 15.4 +0.4
H31M IAmb IAmb 03 01 16.6
comp=Z,17nm,0.9s
H31M **Peel River** 80.26 19 P P 03 01 15.7 +0.7
baz=316,SNR=7.6
MCARA **McCarthy VSAT** 80.35 25 P P 03 01 16.4 +0.8
baz=309
BVCY **Beaver Creek** 80.48 23 P P 03 01 17.6 +1.3
baz=310
J30M **Hart River** 80.53 20 P 03 01 17.1 +0.5
J30M **Hart River** 80.53 20 P P 03 01 17.4 +0.8
baz=314,SNR=5.6
K29M **Barlow Dome** 80.66 21 P 03 01 18.4 +1.1
K29M IAmb IAmb 03 01 19.3
comp=Z,9.5nm,0.8s
K29M **Barlow Dome** 80.66 21 P P 03 01 18.4 +1.1
baz=313,SNR=11
CRQE **Cirque** 80.72 25 P P 03 01 18.4 +0.7
baz=309
L29M **L29M** 80.96 22 P 03 01 19.9 +1.1
L29M IAmb IAmb 03 01 21.1
comp=Z,13nm,0.9s
L29M **L29M** 80.96 22 P P 03 01 20.1 +1.3
baz=313,SNR=9.8
YUK3 **Moose Creek** 81.04 24 P P 03 01 20.2 +0.7
baz=311
BGLC **Bering Glacier** 81.05 26 P P 03 01 19.7 +0.6
baz=309
CTG **Chitna Glacier** 81.25 25 P P 03 01 21.7 +1.2
baz=310
M29M **Somme Creek** 81.30 23 P P 03 01 22.0 +1.3
baz=312,SNR=16
MESA **MESA** 81.53 25 P P 03 01 23.1 +1.0
baz=310
YUK8 **Steele Glacier** 81.62 24 P P 03 01 23.4 +0.8
baz=312
M30M **Minto, Yukon** 81.78 22 P 03 01 24.2 +1.1
M30M **Minto, Yukon** 81.78 22 P P 03 01 24.2 +1.1
baz=314,SNR=5.7
O28M **Mount Upton** 81.80 24 P P 03 01 24.5 +0.9
baz=311
YUK4 **Talbot Arm** 81.98 23 P P 03 01 25.3 +0.9
baz=312
PINM **Pinnacle** 82.23 25 P P 03 01 26.7 +1.2
baz=311
YUK6 **Outpost Mounta** 82.35 24 P P 03 01 27.6 +1.2
baz=313
N30M **Aishikik Lake** 82.45 23 P P 03 01 28.2 +1.5
baz=314,SNR=11
O29M **Mount Kennedy** 82.71 24 P P 03 01 29.0 +0.8
baz=313
HYT **Haines Junctio** 82.74 23 P 03 01 29.4 +1.1
HYT IAmb IAmb 03 01 30.5
comp=Z,8.9nm,0.9s
HYT **Haines Junctio** 82.74 23 P P 03 01 29.3 +1.1
baz=313,SNR=9.8
M31M **Drury Creek, Y** 82.83 21 P P 03 01 29.5 +0.9
baz=316
PNL **Peninsula** 82.83 25 P P 03 01 29.9 +1.2
baz=312
N31M **Braeburn, Yuko** 82.88 22 P P 03 01 30.0 +1.1
baz=315,SNR=8.3
P30M **Million Dollar** 83.42 24 P P 03 01 32.8 +1.1
baz=314
P29M **Windy Craggy** 83.48 24 P 03 01 32.9 +0.9
P29M IAmb IAmb 03 01 34.1
comp=Z,9.4nm,0.8s
P29M **Windy Craggy** 83.48 24 P P 03 01 32.9 +0.9
baz=313,SNR=5.0
MMPY **Sheldon Lake,** 83.52 20 P 03 01 33.5 +1.3
MMPY IAmb IAmb 03 01 34.6
comp=Z,9.6nm,0.8s
MMPY **Sheldon Lake,** 83.52 20 P P 03 01 33.4 +1.3
baz=318,SNR=11
WHY **Whitehorse** 83.78 23 P 03 01 34.2 +0.6
WHY IAmb IAmb 03 01 34.9
comp=Z,12nm,0.9s
WHY **Whitehorse** 83.78 23 P P 03 01 34.4 +0.8
baz=316,SNR=5.8
N32M **Quiet Lake** 84.03 22 P P 03 01 35.7 +0.9
baz=317
PLBC **Pleasant Camp** 84.11 24 P P 03 01 36.0 +0.9
baz=314
SKAG **Skagway** 84.48 24 P P 03 01 38.3 +1.3
baz=315,SNR=5.3
P33M **Teslin, Yukon** 84.81 22 P P 03 01 40.1 +1.3
baz=317
P32M **Atlin** 84.96 23 P P 03 01 40.9 +1.4
baz=317
R31K **City Hall, Gus** 85.07 25 P P 03 01 41.4 +1.4
baz=315
WRGLY **Wrigley** 85.25 17 P P 03 01 41.7 +1.0
baz=325
TGTN **Hyland Airport** 85.26 20 P P 03 01 42.4 +1.4
baz=321
R32K **Eaglecrest** 85.62 24 P P 03 01 44.0 +1.3
baz=316
Q32M **Nakina River** 85.92 23 P P 03 01 45.2 +0.7
baz=318
R33M **Jennings River** 86.04 22 P 03 01 45.7 +0.7
R33M IAmb IAmb 03 01 47.4
comp=Z,5.4nm,0.9s
R33M **Jennings River** 86.04 22 P P 03 01 46.0 +1.0
baz=319,SNR=5.2
S32K **Killisnoo** 86.18 25 P P 03 01 46.3 +0.8
baz=316
SIT **Sitka** 86.19 25 P P 03 01 46.2 +0.7
baz=316
WTLY **Watson Lake, Y** 86.20 21 P P 03 01 46.7 +1.0
baz=321
DLBC **Dease Lake** 87.09 22 LR LR 03 45 53.6
comp=Z,43nm,20.2s,baz=250,slow=39
DLBC **Dease Lake** 87.09 22 P P 03 01 50.7 +0.6
baz=320
S34M **Telegraph Cree** 87.11 23 P P 03 01 51.2 +1.1
baz=319
U33K **Whale Pass** 87.72 25 P P 03 01 53.9 +1.0
baz=317
WRAK **Wrangell Islan** 87.78 25 P P 03 01 54.1 +0.8
baz=318
YKA **Yellowknife Ar** 87.97 14 P P 03 01 53.7 -0.3
comp=Z,1.4nm,0.9s,baz=338,slow=4.9,SNR=6.5
comp=Z,1.4nm,0.9s
T35M **Bob Quinn** 88.12 23 P P 03 01 56.3 +1.3
baz=320
CRAG **Craig** 88.19 26 P P 03 01 56.1 +0.9
baz=317
TOAD **Toad River Com** 88.32 20 P P 03 01 56.0 +0.2
baz=324
QSPA **South Pole Qui** 116.31 180 PKPdf PKPdf 03 07 45.8 -0.9
QSPA **South Pole Qui** 116.31 180 PKP PKPdf 03 07 45.5 -1.1
comp=Z,1.3nm,0.8s,baz=281,slow=1.9,SNR=4.6
TZTN **Tazewell** 117.29 360 PKPdf PKPdf 03 07 48.0 -1.7
TXAR **Lajitas Array** 121.34 20 PKP PKPdf 03 07 56.7 -1.0
comp=Z,1.0nm,0.9s,baz=237,slow=1.2,SNR=9.3
BDFB **Brasilia** 144.91 281 PKPbc PKPdf 03 08 41.8 -0.1
comp=Z,1.6nm,0.6s,baz=139,slow=3.9,SNR=3.1
ZARC **Zaragoza, Cauc** 145.08 344 P PKPbc 03 08 41.2 -0.5
DBBC **Dabeiba** 145.85 346 P PKPab 03 08 44.6 -0.1
PTBC **PUERTO BERRIO** 145.89 343 P PKPdf 03 08 42.6 -1.0
RUSC **La Rusia** 146.12 340 P PKPdf 03 08 45.0 +0.5
HELC **Santa Helena** 146.50 345 P PKPdf 03 08 45.7 +0.7
NORC **Norcasia** 146.94 343 P PKPbc 03 08 46.6 -0.8
GUY2C **Guyana, Caldas** 147.39 344 P PKPbc 03 08 48.4 -0.8
ROSC **El Rosal** 147.48 342 PKPbc PKPab 03 08 50.5 -1.0
comp=Z,23nm,0.7s,baz=142,slow=7.7,SNR=13
ROSC **El Rosal** 147.48 342 P PKPbc 03 08 49.7 +0.4
PLMC **San Jos del P** 147.91 346 P PKPbc 03 08 49.2 -0.9
PRAC **Prado** 148.71 342 P PKPbc 03 08 51.2 -0.9

IDC 26 03:06:21.0±2.3, 17°44S×176°71W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=130.6km s-min=29.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	46.31	259	P	P	03 14 48.4	-0.6
	0.2nm,0.3s,baz=99,slow=8.3,SNR=2.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	46.48	254	P	P	03 14 50.6	+0.3
	1.7nm,0.5s,baz=89,slow=8.3,SNR=30						
	1.7nm,0.5s						
TXAR	**Lajitas Array**	84.38	57	P	P	03 18 56.4	+0.7
	0.3nm,0.9s,baz=246,slow=6.2,SNR=3.4						
	0.3nm,0.9s						
ILAR	**Eielson Array**	85.07	12	P	P	03 18 57.6	-0.6
	0.2nm,0.4s,baz=222,slow=5.2,SNR=7.9						
	0.2nm,0.4s						

*BUC **26** 03:08:28.5±0.2, 45°67N×26°60E, h139km±1km, ml3.5/56, Error ellipse: s-maj=1.5km s-min=1.3km az=176.0*

ISC 26 03:08:27.4±1.5, 45°70N±0°03×26°61E±0°03, h149km±8km, n64, σ0°62/97, 63C-33D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	0.16	11	⇑P	Pn	03 08 47.6	+0.2
PLOR				⇑S	Sn	03 09 02.2	-0.7
BISRR	**Bisoca**	0.17	153	⇑P	Pn	03 08 48.2	+0.6
BISRR				⇑S	Sn	03 09 02.7	-0.1
COVR	**Voineasa-Covas**	0.32	298	⇑P	Pn	03 08 47.9	+0.1
COVR				⇓S	Sn	03 09 02.8	-0.7
ODBI	**Odobesti**	0.32	78	⇓P	Pn	03 08 48.7	+0.9
NEHR	**Nehoiu**	0.35	219	⇓P	Pn	03 08 48.5	+0.6
NEHR				⇑S	Sn	03 09 03.6	+0.1
GRER		0.41	140	⇑S	Sn	03 09 03.7	-0.2
PANC	**Panciu**	0.42	65	⇓P	Pn	03 08 49.0	+0.8
PANC				⇑S	Sn	03 09 03.7	-0.3
MLR	**Muntele Rosu**	0.51	246	⇑P	Pn	03 08 49.1	+0.4
MLR				⇑S	Sn	03 09 04.4	-0.6
COSR	**Cosmesti PH**	0.52	72	⇑S	Sn	03 09 04.6	-0.2
TURR	**Turia**	0.55	311	⇑P	Pn	03 08 49.1	+0.3
TURR				⇑S	Sn	03 09 04.2	-1.0
ISR	**Istrita**	0.58	184	⇑P	Pn	03 08 49.9	+0.8
ISR				⇓S	Sn	03 09 05.8	+0.2
ONER	**Baraj Valea Uz**	0.66	347	⇑P	Pn	03 08 50.0	+0.5
ONER				⇑S	Sn	03 09 06.0	-0.4
GHRR		0.67	57	⇑P	Pn	03 08 50.4	+0.9
GHRR				⇓S	Sn	03 09 06.2	-0.2
OZUR		0.70	305	⇑P	Pn	03 08 49.8	0.0
TUDR		0.75	97	⇓P	Pn	03 08 50.5	+0.5
TUDR				⇑S	Sn	03 09 07.1	-0.2
TESR	**Tescani**	0.82	2	⇑P	Pn	03 08 50.6	+0.1
IZVR	**Izvoarele**	0.83	100	⇑P	Pn	03 08 51.1	+0.5
IZVR				⇑S	Sn	03 09 07.2	-1.1
PGOR	**Pogoanele**	0.83	161	⇑S	Sn	03 09 08.0	-0.4
PLAR	**PLOIESTI**	0.88	208	⇑P	Pn	03 08 51.6	+0.5
PLAR				⇑S	Sn	03 09 09.3	+0.2
SCHL	**Schela**	0.88	102	⇓S	Sn	03 09 08.9	-0.1
SCHLR	**Schela**	0.89	104	⇑P	Pn	03 08 51.4	+0.4
SCHLR				⇓S	Sn	03 09 08.5	-0.7
SCHLR	**Schela**	0.89	104	⇑P	Pn	03 08 51.4	+0.4
SCHLR				⇓S	Sn	03 09 08.5	-0.7
DOPR	**Dopca**	0.89	288	⇑P	Pn	03 08 51.6	+0.4
DOPR				⇓S	Sn	03 09 08.6	-0.7
VARL	**Varlezi**	0.89	76	⇑S	Sn	03 09 08.8	-0.4
NEGRR	**Negrea**	0.91	100	⇓P	Pn	03 08 51.8	+0.6
NEGRR				⇑S	Sn	03 09 09.0	-0.4
BIR	**Birlad**	0.91	51	⇑P	Pn	03 08 52.1	+0.8
BIR				⇓S	Sn	03 09 09.2	-0.3
SCTR	**Scanteiesti**	0.97	91	⇓P	Pn	03 08 52.6	+0.8
SCTR				⇑S	Sn	03 09 10.0	-0.4
TATR	**Tatarca**	1.02	95	⇓P	Pn	03 08 52.9	+0.7
TATR				⇑S	Sn	03 09 10.6	-0.4
VLDR	**Vladesti**	1.04	81	⇓P	Pn	03 08 53.1	+0.8
VLDR				⇑S	Sn	03 09 10.8	-0.6
SULR		1.05	194	⇑P	Pn	03 08 52.9	+0.5
SULR				⇑S	Sn	03 09 10.4	-1.1
GISR	**Galati**	1.05	104	⇓S	Sn	03 09 10.5	-0.9
GIUM	**Giurgiulesti**	1.15	100	⇑P	Pn	03 08 53.2	0.0
GIUM				⇑S	Sn	03 09 12.4	-0.6
MTUR	**Matau**	1.18	247	⇑P	Pn	03 08 53.4	-0.3
CFR	**Carcaliu**	1.20	115	⇑P	Pn	03 08 54.0	+0.3
CFR				⇑S	Sn	03 09 13.1	-0.8
AMRR	**Amara**	1.20	154	⇑P	Pn	03 08 54.4	+0.6
AMRR				⇓S	Sn	03 09 13.9	-0.1
VASR	**Vaslui**	1.25	41	⇓P	Pn	03 08 55.2	+0.9
BIZ	**Bicaz**	1.29	345	⇑S	Sn	03 09 15.2	-0.5
CIOR	**Ciorogarla**	1.35	203	⇑S	Sn	03 09 16.5	-0.1
HARR	**Harsova**	1.38	137	⇓P	Pn	03 08 56.1	+0.6
BUC1	**Bucharest**	1.41	197	⇑P	Pn	03 08 55.7	-0.2
BUC1				⇓S	Sn	03 09 17.2	-0.4
ARR	**Arges**	1.42	257	⇑P	Pn	03 08 56.6	+0.5
ARR				⇑S	Sn	03 09 18.3	+0.2

CICN	**Ciocanesti**	**1.53**	**169**	⇑S		**Sn**	**03 09 19.3**	**-0.6**
TPGR	**Topolog**	**1.53**	**123**	⇓P		**Pn**	**03 08 57.5**	**+0.3**
TPGR				⇑S		**Sn**	**03 09 18.9**	**-1.1**
TLBR	**Tpalu**	**1.54**	**138**	⇑S		**Sn**	**03 09 19.4**	**-0.6**
TLCR		**1.64**	**107**	⇓P		**Pn**	**03 08 58.8**	**+0.5**
TLCR				⇓S		**Sn**	**03 09 21.6**	**-0.3**
HUMR	**Humele**	**1.64**	**225**	⇑P		**Pn**	**03 08 58.6**	**+0.3**
HUMR				⇓S		**Sn**	**03 09 21.0**	**-1.0**
CVDA	**Cernavoda**	**1.70**	**143**	⇑S		**Sn**	**03 09 22.6**	**-0.5**
TIRR	**Tirgusor**	**1.78**	**133**	⇓P		**Pn**	**03 09 00.5**	**+0.6**
ICOR	**Ion Corvin**	**1.79**	**151**	⇑S		**Sn**	**03 09 24.2**	**-0.8**
COPA	**Copaceanca**	**1.85**	**213**	⇑S		**Sn**	**03 09 24.9**	**-1.2**
MILM	**Milestii Mici**	**1.96**	**51**	⇓P		**Pn**	**03 09 02.1**	**+0.3**
MILM	**Milestii Mici**	**1.96**	**51**	⇓P		**Pn**	**03 09 02.0**	**+0.1**
	15nm,0.1s							
MILM				*i* S		**Sn**	**03 09 26.5**	**-1.9**
	54nm,0.2s							
MFTR	**Murfatlar**	**1.99**	**139**	⇓P		**Pn**	**03 09 03.0**	**+0.7**
LOT	**Lotru**	**2.01**	**264**	⇓P		**Pn**	**03 09 03.2**	**+0.6**
LOT				⇑S		**Sn**	**03 09 29.4**	**-0.3**
KIS	**Kishinev**	**2.01**	**49**	⇓P		**Pn**	**03 09 02.8**	**+0.3**
LOZB	**Loznitsa**	**2.33**	**180**	⇑P		**Pn**	**03 09 06.7**	**+0.4**
LOZB				⇑S		**Sn**	**03 09 36.1**	**-0.1**
MANR	**Mangalia**	**2.35**	**142**	⇑S		**Sn**	**03 09 36.1**	**-0.6**
PURM	**Purcari**	**2.42**	**69**	⇓P		**Pn**	**03 09 08.4**	**+1.0**
MARR	**Marisel-Cluj**	**2.61**	**293**	⇑P		**Pn**	**03 09 10.8**	**+1.0**
PLVB	**Pleven**	**2.71**	**212**	⇑P		**Pn**	**03 09 11.4**	**+0.4**
SORM	**Soroca**	**2.72**	**26**	⇓P		**Pn**	**03 09 11.6**	**+0.6**
DRGR		**2.92**	**293**	⇓P		**Pn**	**03 09 13.9**	**+0.2**
HERR	**Herculane**	**3.07**	**256**	⇓P		**Pn**	**03 09 15.7**	**+0.2**
MDVR	**Moldovita**	**3.58**	**257**	⇑P		**Pn**	**03 09 22.8**	**+0.8**

BGSI ***26*** *03:31:07.1±2.1,29˚.71S×27˚.69E,h15km±300km,ML3.5*
PRE ***26*** *03:31:40.6±1.2,26˚.92S×26˚.77E,h2km,ML2.4*
ISC 26 03:31:40.9±0.9,26˚.91S±0.04×26˚.76E±0.05,h6km,n22,
σ1°63/37,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**1.31**	**39**	*e*P	**Pg**	**03 32 06.7**	**+0.6**
HRAO				*e*S	**Sb**	**03 32 23.6**	**+0.3**
HRAO				IAML		03 32 26.6	
	comp=Z,115nm,0.2s						
BOSA	**Boshof**	**2.15**	**218**	*e*P	**Pn**	**03 32 18.5**	**+0.9**
BOSA				*e*S	**Sn**	**03 32 45.9**	**+1.2**
BOSA				IAML		03 32 49.1	
	comp=Z,24nm,0.2s						
BOSA	**Boshof**	**2.15**	**218**	*i* P	**Pn**	**03 32 18.2**	**+0.6**
BOSA				*i* S	**Sn**	**03 32 45.7**	**+1.1**
CRLN	**Carolina, Mapu**	**3.07**	**73**	*e*P	**Pn**	**03 32 30.8**	**+0.7**
CRLN				*e*S	**Sn**	**03 33 07.4**	**+0.2**
CRLN				IAML		03 33 18.9	
	comp=Z,16nm,0.5s						
LEPH	**Lephalale, Lim**	**3.18**	**17**	*e*P	**Pn**	**03 32 33.4**	**+1.8**
LEPH				*e*S	**Sn**	**03 33 09.7**	**-0.2**
LEPH				IAML		03 33 23.2	
	comp=Z,14nm,0.3s						
SKOMA	**Sekoma**	**3.49**	**313**	*i* P	**Pn**	**03 32 36.9**	**+1.0**
PHPEN	**Phepeng**	**3.79**	**291**	*i* P	Pn	03 32 32.6	-7.3
PHPEN				*i* S	**Sb**	**03 33 37.2**	**+2.8**
KSTD	**Kokstad**	**4.32**	**149**	*e*P	**Pn**	**03 32 48.4**	**+1.1**
KSTD				*e*S	**Sn**	**03 33 37.6**	**-0.5**
KSTD				IAML		03 34 04.5	
	comp=Z,9.6nm,0.4s						
MREMI	**Moremi**	**4.37**	**8**	*i* P	**Pn**	**03 32 47.4**	**-0.5**
MREMI				IAML		03 33 58.8	
	comp=E,67nm,0.3s						
ALKP	**Alkanpan, Nort**	**4.99**	**232**	*e*P	**Pn**	**03 32 57.0**	**+0.5**
ALKP				*e*S	**Sn**	**03 33 53.4**	**-1.1**
ALKP				IAML		03 34 16.3	
	comp=Z,12nm,0.4s						
MUSN	**Musina, Limpop**	**5.40**	**32**	*e*P	**Pn**	**03 33 03.2**	**+1.1**
MUSN				*e*S	**Sn**	**03 34 04.2**	**-0.5**
MUSN				IAML		03 34 29.7	
	comp=Z,7.4nm,0.4s						
MUSN	**Musina, Limpop**	**5.40**	**32**	*i* P	Pn	03 32 55.8	-6.3
MUSN				*i* S	Sn	03 33 52.7	-12
KEIM	**Keimoes**	**5.43**	**249**	*e*P	**Pn**	**03 33 04.2**	**+1.7**
KEIM				*e*S	**Sn**	**03 34 05.1**	**-0.3**
KEIM				IAML		03 34 37.0	
	comp=Z,8.5nm,0.3s						
BFON	**Badsfontein, M**	**5.56**	**208**	*e*P	**Pn**	**03 33 05.3**	**+1.0**
BFON				*e*S	**Sn**	**03 34 06.2**	**-2.4**
BFON				IAML		03 34 38.7	
	comp=Z,8.3nm,0.4s						
GRAF	**Camdeboo Natio**	**5.70**	**200**	*e*P	**Pn**	**03 33 07.9**	**+1.6**
GRAF				*e*S	**Sn**	**03 34 11.3**	**-0.7**
GRAF				IAML		03 34 42.3	
	comp=Z,7.0nm,0.4s						
BRAK	**Brakfontein**	**5.91**	**214**	*e*P	**Pn**	**03 33 10.7**	**+1.6**
BRAK				*e*S	**Sn**	**03 34 15.0**	**-2.2**
BRAK				IAML		03 34 47.8	
	comp=Z,7.6nm,0.5s						
GRHM	**Grahamstown, E**	**6.35**	**183**	*e*P	**Pn**	**03 33 16.1**	**+0.9**
GRHM				*e*S	**Sn**	**03 34 25.6**	**-2.5**
GRHM				IAML		03 34 34.1	
	comp=Z,2.7nm,0.8s						
GRAN	**Grantham**	**6.69**	**216**	*e*P	**Pn**	**03 33 21.4**	**+1.5**
GRAN				*e*S	**Sn**	**03 34 34.1**	**-2.3**
GRAN				IAML		03 35 16.9	
	comp=Z,6.2nm,0.5s						
FRAZ	**Fraserburg**	**6.84**	**222**	*e*P	**Pn**	**03 33 22.9**	**+1.1**
FRAZ				*e*S	**Sn**	**03 34 37.0**	**-3.2**
FRAZ				IAML		03 35 15.1	
	comp=Z,5.5nm,0.6s						
BLWY	**Bulawayo**	**6.95**	**15**	*i* P	**Pn**	**03 33 20.1**	**-3.4**
BLWY				*i* S	Sn	03 34 34.3	-8.7
MERW	**Merweville**	**7.32**	**217**	*e*P	**Pn**	**03 33 29.8**	**+1.2**
MERW				*e*S	**Sn**	**03 34 49.0**	**-3.0**
MERW				IAML		03 34 53.2	
	comp=Z,2.4nm,0.4s						
CVNA	**Calvinia**	**7.62**	**232**	*e*P	**Pn**	**03 33 33.0**	**+0.3**
CVNA				IAML		03 35 43.7	
	comp=Z,12nm,0.4s						

GCG ***26*** *03:50:32.6±0.7, 12˚.12N×89˚.04W,h36km±119km,MD4.0, ML3.3*
CATAC ***26*** *03:50:34.3±0.4, 12˚N±2˚×8˚9W±˚,h13km±2km,M3.6/24, MLv3.6/24,Error ellipse: s-maj=5.0km s-min=2.2km az=30.2,confirmed*
SNET ***26*** *03:50:37.3±2.9, 12˚.54N×88˚.92W,h10km,ML3.5*
ISC 26 03:50:35.1±1.8,12˚.40N±0˚.07×88˚.96W±0˚.04,h20km±6km,
n80,σ0°63/90,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.14**	**342**	*i* P	**Pb**	**03 50 54.7**	**-1.4**
LALI	**Alcalda de L**	**1.14**	**342**	S	**Sb**	**03 51 10.3**	**-0.2**
LALI	**Alcalda de L**	**1.14**	**342**	P	**Pb**	**03 50 55.4**	**-0.8**
TECO	**Alcaldia de Te**	**1.15**	**9**	P	**Pb**	**03 50 54.7**	**-1.6**
TECO	**Alcaldia de Te**	**1.15**	**9**	S	**Sb**	**03 51 10.8**	**+0.1**
LFRS	**El Faro**	**1.22**	**355**	*e*P	**Pn**	**03 50 56.4**	**-0.9**
PANCS	**Alcalda de**	**1.23**	**350**	P	**Pn**	**03 50 56.6**	**-0.6**
PANCS	**Alcalda de**	**1.23**	**350**	S	**Sb**	**03 51 13.3**	**+0.2**
PACA	**Pacayal**	**1.23**	**30**	*e*P	**Pn**	**03 50 57.1**	**-0.2**
PACA				*e*S	**Sg**	**03 51 14.5**	**-0.8**
PACA	**Pacayal**	**1.23**	**30**	S	**Sn**	**03 51 13.8**	**+0.3**
PACA	**Pacayal**	**1.23**	**30**	P	**Pn**	**03 50 57.1**	**-0.2**
BLLM	**Bellamira**	**1.25**	**34**	*e*P	**Pn**	**03 50 57.1**	**-0.5**
LOMA	**Loma Larga**	**1.26**	**351**	*e*P	**Pn**	**03 50 57.5**	**-0.2**
LOMA				*e*S	**Sg**	**03 51 16.1**	**+0.1**
LOMA	**Loma Larga**	**1.26**	**351**	P	**Pn**	**03 50 56.8**	**-0.9**
LOMA	**Loma Larga**	**1.26**	**351**	S	**Sn**	**03 51 14.5**	**+0.4**
PQSS	**Presa 15 de Se**	**1.28**	**18**	S	**Sb**	**03 51 14.5**	**-0.1**
PQSS	**Presa 15 de Se**	**1.28**	**18**	P	**Pn**	**03 50 57.5**	**-0.4**
PAVA	**Las Pavas**	**1.31**	**1**	S	**Sn**	**03 51 16.0**	**+0.6**
PAVA	**Las Pavas**	**1.31**	**1**	P	**Pn**	**03 50 58.0**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.32**	**10**	P	**Pn**	**03 50 58.3**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.32**	**10**	S	**Sn**	**03 51 16.2**	**+0.7**
UTEC	**Universidad Te**	**1.32**	**350**	S	**Sn**	**03 51 16.1**	**+0.6**
UTEC	**Universidad Te**	**1.32**	**350**	P	**Pn**	**03 50 57.9**	**-0.5**
CNRM	**Centro Naciona**	**1.32**	**36**	P	**Pn**	**03 50 58.3**	**-0.1**
CNRM	**Centro Naciona**	**1.32**	**36**	S	**Sn**	**03 51 15.9**	**+0.4**
UDBS	**Universidad Do**	**1.32**	**352**	P	**Pn**	**03 50 58.0**	**-0.5**
UDBS	**Universidad Do**	**1.32**	**352**	S	**Sn**	**03 51 16.3**	**+0.6**
LBRS	**Las Brisas**	**1.33**	**356**	*e*P	**Pn**	**03 50 58.5**	**-0.3**
JAYA	**Jayaque - finc**	**1.34**	**339**	*e*P	**Pn**	**03 50 57.9**	**-0.9**
JAYA				*e*S	**Sn**	**03 51 16.7**	**+0.5**
JAYA	**Jayaque - finc**	**1.34**	**339**	*e*P	**Pn**	**03 50 57.9**	**-0.9**
JAYA				*e*S	**Sg**	**03 51 17.9**	**-0.8**
JAYA	**Jayaque - finc**	**1.34**	**339**	P	**Pn**	**03 50 58.0**	**-0.9**
UEES	**Universidad Ev**	**1.34**	**348**	P	**Pn**	**03 50 58.0**	**-0.8**
UEES	**Universidad Ev**	**1.34**	**348**	S	**Sb**	**03 51 16.5**	**+0.1**
PMON	**Piamonte**	**1.35**	**345**	S	**Sb**	**03 51 16.2**	**-0.6**
PMON	**Piamonte**	**1.35**	**345**	P	**Pn**	**03 50 58.6**	**-0.4**
BOQS	**Boqueron**	**1.36**	**347**	*e*P	**Pn**	**03 50 58.8**	**-0.5**
LCND	**La Caada**	**1.38**	**49**	*e*P	**Pn**	**03 50 58.5**	**-0.9**
LCND	**La Caada**	**1.38**	**49**	S	**Sn**	**03 51 16.8**	**-0.2**
LCND	**La Caada**	**1.38**	**49**	P	**Pn**	**03 50 58.4**	**-0.9**
CNCH	**Conchagua**	**1.40**	**51**	P	**Pn**	**03 50 59.3**	**-0.4**
CNCH	**Conchagua**	**1.40**	**51**	S	**Sn**	**03 51 18.0**	**+0.3**
CEDA	**San Andres**	**1.46**	**343**	S	**Sn**	**03 51 19.7**	**+0.6**
CEDA	**San Andres**	**1.46**	**343**	P	**Pn**	**03 51 00.2**	**-0.2**
CSGN	**Cosiguina Volc**	**1.48**	**67**	P	**Pn**	**03 51 00.8**	**0.0**
CSGN				S	**Sn**	**03 51 20.0**	**+0.4**
POTN	**Potosi Cosigui**	**1.54**	**67**	P	**Pn**	**03 51 01.0**	**-0.4**
POTN				S	**Sb**	**03 51 21.8**	**-0.3**
CEVE	**Cerro Verde**	**1.56**	**336**	*e*P	**Pg**	**03 51 06.1**	**+0.8**
CEVE	**Cerro Verde**	**1.56**	**336**	P	**Pn**	**03 51 02.5**	**+0.5**
CEVE	**Cerro Verde**	**1.56**	**336**	S	**Sb**	**03 51 23.2**	**+0.2**
UNIC	**Universidad Ca**	**1.68**	**340**	S	**Sn**	**03 51 25.3**	**+0.9**
UNIC	**Universidad Ca**	**1.68**	**340**	P	**Pn**	**03 51 03.6**	**+0.1**
NUBE	**Las Nubes**	**1.69**	**332**	*e*P	**Pn**	**03 51 03.4**	**-0.4**
NUBE				*e*S	**Sb**	**03 51 26.9**	**+0.2**
NUBE	**Las Nubes**	**1.69**	**332**	*i* P	**Pn**	**03 51 03.4**	**-0.4**
NUBE	**Las Nubes**	**1.69**	**332**	P	**Pn**	**03 51 03.2**	**-0.6**
NUBE	**Las Nubes**	**1.69**	**332**	S	**Sn**	**03 51 25.2**	**+0.2**
LLGN	**La Laguna**	**1.75**	**0**	P	**Pn**	**03 51 05.1**	**+0.6**
LLGN	**La Laguna**	**1.75**	**0**	S	**Sb**	**03 51 27.8**	**-0.6**
FAME	**Alcaldia de Sa**	**1.77**	**325**	P	**Pn**	**03 51 04.6**	**-0.1**
FAME	**Alcaldia de Sa**	**1.77**	**325**	S	**Sn**	**03 51 26.8**	**+0.2**
LOAL	**Lomas de Alarc**	**1.78**	**333**	P	**Pn**	**03 51 04.7**	**-0.1**
LOAL	**Lomas de Alarc**	**1.78**	**333**	S	**Sn**	**03 51 28.1**	**+1.2**
SLOZ	**Alcaldia de Sa**	**1.81**	**334**	S	**Sn**	**03 51 28.9**	**+1.3**
SLOZ	**Alcaldia de Sa**	**1.81**	**334**	P	**Pn**	**03 51 05.8**	**+0.6**
CRIN	**San Cristobal**	**1.89**	**81**	S	**Sn**	**03 51 30.5**	**+0.8**
CRIN	**San Cristobal**	**1.89**	**81**	P	**Pn**	**03 51 06.9**	**+0.5**
MARCA	**Marcala la Paz**	**1.97**	**27**	*e*P	**Pn**	**03 51 08.0**	**+0.5**
MARCA				*e*S	**Sb**	**03 51 35.4**	**+0.9**
MARCA	**Marcala la Paz**	**1.97**	**27**	P	**Pn**	**03 51 08.1**	**+0.6**
MARCA	**Marcala la Paz**	**1.97**	**27**	S	**Sn**	**03 51 33.2**	**+1.5**
MTO3	**Montecristo**	**2.03**	**349**	*i* P	**Pn**	**03 51 08.8**	**+0.4**
MTO3	**Montecristo**	**2.03**	**349**	S	**Sn**	**03 51 33.9**	**+0.6**
MTO3	**Montecristo**	**2.03**	**349**	P	**Pn**	**03 51 08.9**	**+0.4**
CHOHN	**Orocuina**	**2.06**	**58**	P	**Pn**	**03 51 08.9**	**+0.1**
CHOHN	**Orocuina**	**2.06**	**58**	S	**Sn**	**03 51 35.2**	**+1.2**
PLRN	**Geotermica Pol**	**2.15**	**85**	P	**Pn**	**03 51 09.8**	**0.0**
PLRN				S	**Sn**	**03 51 36.3**	**+0.3**
ESQI	**Esquipulas**	**2.18**	**350**	S	**Sn**	**03 51 37.9**	**+1.0**
ESQI	**Esquipulas**	**2.18**	**350**	P	**Pn**	**03 51 10.7**	**+0.3**
CNGN	**Cerro Negro**	**2.21**	**87**	P	**Pn**	**03 51 10.6**	**-0.2**
CNGN	**Cerro Negro**	**2.21**	**87**	S	**Sn**	**03 51 38.2**	**+0.6**
ILCN	**San Idelfonso**	**2.21**	**85**	P	**Pn**	**03 51 10.8**	**0.0**
ILCN				S	**Sn**	**03 51 38.4**	**+0.8**
SARH	**Santa Rosa de**	**2.37**	**5**	P	**Pn**	**03 51 13.6**	**+0.6**
YUSH	**Yuscaran**	**2.58**	**53**	P	**Pn**	**03 51 15.9**	**+0.1**

SNET ***26*** *04:02:21.7±2.0, 12˚.45N×88˚.93W,h15km,ML2.9*
CATAC 26 04:02:21.0±0.5,12˚N±3˚×8˚9W±˚,h19km±5km,M2.9/19,
MLv2.9/19,Error ellipse: s-maj=6.5km s-min=2.6km
az=30.7,confirmed,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**1.13**	**9**	S	**Sb**	**04 02 56.2**	**-0.1**
TECO	**Alcaldia de Te**	**1.13**	**9**	P	Pn	04 02 41.4	-0.5
PACA	**Pacayal**	**1.23**	**31**	*e*P	Pn	04 02 42.6	-0.6
PACA	**Pacayal**	**1.23**	**31**	S	Sb	04 02 59.1	0.0
PACA	**Pacayal**	**1.23**	**31**	P	Pn	04 02 42.9	-0.3
LOMA	**Loma Larga**	**1.24**	**351**	P	Pn	04 02 42.9	-0.5
LOMA	**Loma Larga**	**1.24**	**351**	S	Sn	04 03 00.3	+0.6
PAVA	**Las Pavas**	**1.29**	**2**	S	Sn	04 03 00.5	-0.5
PAVA	**Las Pavas**	**1.29**	**2**	P	Pn	04 02 43.6	-0.5
SCLA	**Alcaldia de Sa**	**1.30**	**11**	P	Pn	04 02 43.9	-0.3
SCLA	**Alcaldia de Sa**	**1.30**	**11**	S	Sn	04 03 01.2	+0.1
JAYA	**Jayaque - finc**	**1.32**	**339**	*e*P	Pn	04 02 43.5	-1.0
JAYA				*e*S	Sg	04 03 03.9	+0.1
JAYA	**Jayaque - finc**	**1.32**	**339**	S	Sb	04 03 01.8	0.0
JAYA	**Jayaque - finc**	**1.32**	**339**	P	Pn	04 02 43.9	-0.6
UEES	**Universidad Ev**	**1.32**	**349**	S	Sn	04 03 01.6	0.0
UEES	**Universidad Ev**	**1.32**	**349**	P	Pn	04 02 44.0	-0.5
PMON	**Piamonte**	**1.33**	**346**	*e*P	Pn	04 02 44.4	-0.3
PMON	**Piamonte**	**1.33**	**346**	P	Pn	04 02 44.2	-0.5
PMON	**Piamonte**	**1.33**	**346**	S	Sn	04 03 01.8	-0.1
LCND	**La Caada**	**1.38**	**50**	*e*P	Pn	04 02 44.5	-0.7
LCND	**La Caada**	**1.38**	**50**	P	Pn	04 02 45.6	+0.4
LCND	**La Caada**	**1.38**	**50**	S	Sn	04 03 03.2	+0.2
CNCH	**Conchagua**	**1.40**	**52**	S	Sb	04 03 04.6	+0.4
CNCH	**Conchagua**	**1.40**	**52**	P	Pn	04 02 45.2	-0.5
CEDA	**San Andres**	**1.44**	**343**	P	Pn	04 02 46.0	-0.1
CEDA	**San Andres**	**1.44**	**343**	S	Sb	04 03 05.2	0.0
CSGN	**Cosiguina Volc**	**1.49**	**68**	P	Pb	04 02 47.5	-0.6
CSGN				S	Sn	04 03 05.8	0.0
CEVE	**Cerro Verde**	**1.54**	**336**	P	Pn	04 02 47.8	+0.1
CEVE	**Cerro Verde**	**1.54**	**336**	S	Sn	04 03 07.5	+0.2
POTN	**Potosi Cosigui**	**1.54**	**68**	P	Pn	04 02 47.4	0.0
POTN				S	Sb	04 03 07.8	-0.3
UNIC	**Universidad Ca**	**1.66**	**340**	P	Pn	04 02 48.8	-0.3
UNIC	**Universidad Ca**	**1.66**	**340**	S	Sn	04 03 10.3	+0.4
NUBE	**Las Nubes**	**1.68**	**332**	P	Pn	04 02 49.4	0.0
NUBE	**Las Nubes**	**1.68**	**332**	S	Sn	04 03 10.4	-0.1
FAME	**Alcaldia de Sa**	**1.75**	**325**	P	Pn	04 02 50.4	+0.1
FAME	**Alcaldia de Sa**	**1.75**	**325**	S	Sn	04 03 12.2	+0.2
MARCA	**Marcala la Paz**	**1.96**	**28**	P	Pn	04 02 53.4	+0.1
MARCA	**Marcala la Paz**	**1.96**	**28**	S	Sb	04 03 19.0	-1.3
MTO3	**Montecristo**	**2.01**	**349**	S	Sn	04 03 19.6	+0.8
MTO3	**Montecristo**	**2.01**	**349**	P	Pn	04 02 54.4	+0.3
CHOHN	**Orocuina**	**2.06**	**59**	P	Pn	04 02 53.9	-0.8
CHOHN	**Orocuina**	**2.06**	**59**	S	Sn	04 03 20.6	+0.6
INTHN	**La Esperanza I**	**2.07**	**24**	P	Pn	04 02 55.3	+0.4
INTHN	**La Esperanza I**	**2.07**	**24**	S	Sn	04 03 21.4	+1.1
PLRN	**Geotermica Pol**	**2.16**	**85**	P	Pn	04 02 56.1	+0.1
PLRN				S	Sn	04 03 22.0	-0.2
ESQI	**Esquipulas**	**2.16**	**350**	P	Pn	04 02 56.3	+0.2
ESQI	**Esquipulas**	**2.16**	**350**	S	Sn	04 03 23.2	+0.8
CNGN	**Cerro Negro**	**2.22**	**88**	P	Pn	04 02 57.4	+0.5
CNGN	**Cerro Negro**	**2.22**	**88**	S	Sn	04 03 24.1	+0.3
ILCN	**San Idelfonso**	**2.23**	**86**	P	Pn	04 02 57.3	+0.5
ILCN				S	Sn	04 03 24.0	+0.2
TGUH	**Tegucigalpa,Un**	**2.33**	**45**	P	Pn	04 02 59.0	+0.6
TGUH				S	Sn	04 03 27.4	+0.9
COPN	**Copaltepe**	**2.34**	**95**	P	Pn	04 02 58.8	+0.4
YUSH	**Yuscaran**	**2.58**	**53**	P	Pn	04 03 01.5	-0.3

IDC ***26*** *04:19:02.6±1.3,31˚.98S×177˚.74W,h0km,mb4.1/3, mbtmp4.2/6,ML4.0/3,MS3.6/2,Error ellipse: s-maj=40.7km s-min=26.3km az=135.0*
NEIC ***26*** *04:19:06.6±2.3,31˚.7S±0˚.1×178˚.05W±0˚.05,h10km±1km, mb4.4/13,Error ellipse: s-maj=18.7km s-min=8.0km az=175.0*
ISC 26 04:19:06.8±0.9,31˚.88S±0˚.07×178˚.0W±0˚.2,h24km,n43,
σ1°36/42,mb4.4/12,4D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.62**	**1**	Pn	**Pn**	**04 19 46.7**	**-0.9**
RAO	**Raoul Island**	**2.62**	**1**	Pn	**Pn**	**04 19 46.2**	**-1.5**
	74nm,0.3s,baz=139,slow=9.9,SNR=5.3						
RAO				Sn	**Sn**	**04 20 16.5**	**-2.1**
	147nm,0.3s,baz=52,slow=22,SNR=3.7						
	256nm,0.2s						
URZ	**Urewera**	**7.54**	**211**	Pn	**Pn**	**04 20 52.4**	**-2.9**
	1.2nm,0.3s,baz=250,slow=4.7,SNR=9.1						
URZ				Sn	**Sn**	**04 22 17.5**	**-2.5**
	6.3nm,0.3s,baz=247,slow=9.6,SNR=16						
	8.2nm,0.7s						
RTZ	**Ruatahuna**	**7.90**	**210**	Pn	**Pn**	**04 20 59.6**	**-0.6**
BKZ	**Black Stump Fm**	**8.56**	**210**	Pn	**Pn**	**04 21 07.6**	**-1.7**
MRZ	**Mangatainoka R**	**10.20**	**209**	Pn	**Pn**	**04 21 29.7**	**-1.9**
KHZ	**Kahutara**	**12.51**	**210**	Pn	**Pn**	**04 22 00.8**	**-2.4**
DZM	**Mont Dzumac**	**16.98**	**301**	P	**P**	**04 23 05.8**	**+1.1**
	0.3nm,0.3s,baz=119,slow=12,SNR=8.0						
	4.8nm,0.8s						
RAR	**Rarotonga**	**19.39**	**61**	LR	LR	04 31 54.7	
	comp=Z,62nm,18.6s,baz=306,slow=40						
STKA	**Stephens Creek**	**34.22**	**259**	P	**P**	**04 25 51.2**	**+0.5**
STKA	**Stephens Creek**	**34.22**	**259**	P	**P**	**04 25 52.4**	**+1.8**
	0.8nm,0.4s,baz=71,slow=10,SNR=3.6						
	0.8nm,0.4s						
INKA	**Innaminka**	**35.93**	**266**	P	**P**	**04 26 07.5**	**+2.1**
INKA				IAmb	IAmb	04 26 21.6	
	comp=Z,2.0nm,0.8s						
BBOO	**Buckleboo**	**38.63**	**256**	P	**P**	**04 26 28.8**	**+0.4**
BBOO				IAmb	IAmb	04 26 41.3	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**39.74**	**288**	P	**P**	**04 26 39.5**	**+1.8**
AS31	**Alice Springs**	**43.10**	**268**	P	**P**	**04 27 05.8**	**+0.5**
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**	**04 27 06.2**	**+0.9**
ASAR	**Alice Springs**	**43.10**	**268**	P	**P**	**04 27 05.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=107,slow=7.6,SNR=29						
	comp=Z,1.5nm,0.4s						
WR8	**Warramunga Arr**	**44.08**	**274**	P	**P**	**04 27 12.3**	**-0.9**
WR8				IAmb	IAmb	04 27 33.5	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**44.21**	**274**	P	**P**	**04 27 13.8**	**-0.5**
WRAB				IAmb	IAmb	04 27 51.7	
	comp=Z,5.9nm,1.0s						
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**04 27 13.7**	**-0.6**
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**04 27 14.6**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=112,slow=8.0,SNR=36						
	comp=Z,1.6nm,0.3s						
WB0	**Warramunga Arr**	**44.25**	**274**	P	**P**	**04 27 14.2**	**-0.4**
WB0				IAmb	IAmb	04 27 35.4	
	comp=Z,5.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.42**	**271**	P	**P**	**04 28 17.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.42**	**271**	LR	LR	04 48 41.0	
	comp=Z,131nm,19.6s,baz=262,slow=34						
CASY	**Casey**	**53.86**	**208**	P	**P**	**04 28 28.6**	**+1.1**
CASY				IAmb	IAmb	04 28 29.7	
	comp=Z,4.4nm,0.7s						
QSPA	**South Pole Qui**	**58.23**	**180**	P	P	04 29 04.1	+5.1
TROLL	**Troll, Antarti**	**76.40**	**180**	⇓P	**P**	**04 30 55.4**	**+1.5**
	comp=Z,110nm,0.8s						
SNAA	**Sanae**	**76.68**	**178**	⇓P	**P**	**04 30 57.2**	**+1.8**
	comp=Z,23nm,0.5s						
SNAA	**Sanae**	**76.68**	**178**	P	**P**	**04 30 57.6**	**+2.2**
SNAA				IAmb	IAmb	04 31 22.4	
	comp=Z,4.0nm,1.1s						
VNA3	**Neumayer Olymp**	**76.83**	**176**	⇓P	**P**	**04 30 57.5**	**+1.3**
	comp=Z,4.4nm,0.6s						
VNA2	**Neumayer--Watz**	**77.26**	**177**	⇓P	**P**	**04 31 00.3**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=172,slow=4.1						
VNA1	**Neumayer--Stat**	**77.49**	**176**	P	**P**	**04 31 01.2**	**+1.3**
BVAR	**Borovoye Array**	**127.49**	**315**	PKP	**PKPdf**	**04

BZMR	**Bezymyannaya**	**5.83**	**8**	PN	**Pn**	**04 31 08.9**	**+4.6**
BZMR	**Bezymyannaya**	**5.83**	**8**	*e*P	**Pn**	**04 31 09.0**	**+4.6**
KIRR	**Kirishev**	**5.83**	**7**	PN	**Pn**	**04 31 08.6**	**+4.2**
KIRR	**Kirishev**	**5.83**	**7**	*e*P	**Pn**	**04 31 08.6**	**+4.2**
KPT	**Kopyto**	**5.84**	**6**	PN	**Pn**	**04 31 08.7**	**+4.3**
KPT	**Kopyto**	**5.84**	**6**	*e*P	**Pn**	**04 31 08.7**	**+4.3**
BZGR	**Bezymyannyi-Gr**	**5.85**	**9**	PN	Pn	04 31 09.4	+4.7
BZGR	**Bezymyannyi-Gr**	**5.85**	**9**	*e*P	Pn	04 31 09.4	+4.7
BZGR				*e*S	**Sn**	**04 32 13.8**	**+1.8**
BZWR	**Bezymyannyi-We**	**5.86**	**8**	PN	Pn	04 31 09.7	+4.9
BZWR	**Bezymyannyi-We**	**5.86**	**8**	*e*P	Pn	04 31 09.8	+4.9
KOZ	**Kozyrevsk**	**5.91**	**4**	PN	**Pn**	**04 31 09.3**	**+4.0**
KOZ	**Kozyrevsk**	**5.91**	**4**	*e*P	**Pn**	**04 31 09.3**	**+4.0**
KBTR	**Krutoberegovo**	**6.45**	**19**	PN	**Pn**	**04 31 15.5**	**+2.8**
KBTR	**Krutoberegovo**	**6.45**	**19**	*e*P	**Pn**	**04 31 15.6**	**+2.8**
SMKR	**Semkarok**	**6.57**	**12**	PN	**Pn**	**04 31 17.8**	**+3.3**
SMKR	**Semkarok**	**6.57**	**12**	*e*P	**Pn**	**04 31 17.9**	**+3.3**
SHEM	**Shemya Is, Ala**	**9.73**	**69**	Pn	**Pn**	**04 31 59.8**	**+2.0**
	comp=Z,5.4nm,0.3s,baz=302,slow=9.5,SNR=8.6						
SHEM				Sn	**Sn**	**04 33 40.4**	**-6.8**
	comp=Z,12nm,0.3s,baz=230,slow=23,SNR=18						
	comp=Z,29nm,0.6s						
SMY	**Shemya**	**9.73**	**69**	PN	**Pn**	**04 32 00.3**	**+2.6**
MA2	**Magadan**	**10.54**	**336**	LR	LR	04 35 54.0	
	comp=Z,38nm,21.0s,baz=262,slow=35						
TXAR	**Lajitas Array**	**72.41**	**65**	P	**P**	**04 41 05.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=300,slow=4.6,SNR=5.3						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**73.16**	**204**	P	**P**	**04 41 08.1**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=11,slow=8.1,SNR=1.9						
	comp=Z,0.3nm,0.6s						

*BER **26** 05:17:09.9±3.1, 76°49N×7°23E, h10km, Mw3.9, ML2.7(NAO), Confirmed Earthquake*
*NAO **26** 05:17:10.5±1.0, 76°58N×7°75E, h10km, ML2.7*
*KOLA **26** 05:17:15.1, 76°91N×8°97E, h0km, ML2.0, Error ellipse: s-maj=17.5km s-min=10.6km az=50.0, Greenland sea,Knipovich ridge, middle*
*FCIAR **26** 05:17:15.0, 76°50N×8°49E, h10km, station SPA0 has station magnitude of 2.75*

ISC 26 05:17:06.7±1.2, 76°50N±0°04×7°68E±0°06, h10km, n33, σ2s74/60, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSPB	**Hornsund (broa**	**1.88**	**71**	Pn		**Pg**	**05 17 43.0**	**+0.4**
HSPB				Sn		**Sb**	**05 18 04.5**	**0.0**
HSPB	**Hornsund (broa**	**1.88**	**71**	P		**Pg**	**05 17 42.8**	**+0.2**
HSPB				S		**Sn**	**05 18 00.5**	**-2.0**
HSPB	**Hornsund (broa**	**1.88**	**71**	P		**Pg**	**05 17 42.6**	**0.0**
HSPB				S		**Sn**	**05 18 01.7**	**-0.8**
HSPB	**Hornsund (broa**	**1.88**	**71**	*e*P		**Pg**	**05 17 42.6**	**0.0**
HSPB				*e*S		**Sb**	**05 18 03.9**	**-0.5**
HSPB	**Hornsund (broa**	**1.88**	**71**	*e*P		**Pg**	**05 17 43.1**	**+0.5**
HSPB				*e*S		**Sb**	**05 18 03.9**	**-0.5**
HSPB				IAML			05 18 04.9	
	comp=Z,15nm,0.1s							
BRBB	**Barentsburg B**	**2.16**	**39**	Pn		**Pb**	**05 17 45.4**	**-0.4**
BRBB				Sn		**Sn**	**05 18 07.8**	**-1.5**
BRBB	**Barentsburg B**	**2.16**	**39**	P		**Pb**	**05 17 45.4**	**-0.4**
BRBB	**Barentsburg B**	**2.16**	**39**	P		**Pb**	**05 17 45.6**	**-0.2**
BRBB				S		**Sn**	**05 18 07.5**	**-1.8**
BRBB	**Barentsburg B**	**2.16**	**39**	*e*P		**Pb**	**05 17 45.8**	**0.0**
BRBB				*e*S		**Sn**	**05 18 08.2**	**-1.1**
SPA0	**Spitsbergen Ar**	**2.55**	**44**	Pn		**Pb**	**05 17 52.6**	**+0.1**
	baz=225,slow=16							
SPA0				Sn		**Sb**	**05 18 21.6**	**-2.3**
	baz=238,slow=22							
SPA0	**Spitsbergen Ar**	**2.55**	**44**	⇑*i*P		**Pb**	**05 17 52.5**	**+0.1**
SPA0				*e*S		**Sn**	**05 18 21.1**	**+2.1**
SPA0	**Spitsbergen Ar**	**2.55**	**44**	Pn		**Pb**	**05 17 52.6**	**+0.1**
	baz=225,slow=16							
SPA0				Sn		**Sb**	**05 18 21.6**	**-2.3**
	baz=238,slow=22							
SPITS	**Spitsbergen Ar**	**2.55**	**44**	P		**Pb**	**05 17 52.3**	**-0.2**
SPITS				S		**Sn**	**05 18 11.2**	**-7.9**
SPITS	**Spitsbergen Ar**	**2.55**	**44**	P		**Pb**	**05 17 52.4**	**-0.1**
SPITS				S		**Sn**	**05 18 19.8**	**+0.7**
KBS	**Kingsbay**	**2.61**	**18**	Pn		**Pb**	**05 17 51.9**	**-1.4**
KBS				Sn		**Sn**	**05 18 19.8**	**-0.6**
KBS	**Kingsbay**	**2.61**	**18**	P		**Pb**	**05 17 51.5**	**-1.8**
KBS	**Kingsbay**	**2.61**	**18**	P		**Pb**	**05 17 51.7**	**-1.7**
KBS				S		**Sn**	**05 18 17.4**	**-3.0**
KBS	**Kingsbay**	**2.61**	**18**	*e*P		**Pb**	**05 17 51.6**	**-1.7**
BJO1	**Bjornoya**	**3.48**	**120**	Sn		**Sn**	**05 18 42.0**	**+0.2**
BJO1	**Bjornoya**	**3.48**	**120**	P		**Pb**	**05 18 05.6**	**-2.6**
BJO1				*e*S		**Sn**	**05 18 42.3**	**+0.5**
BJO1	**Bjornoya**	**3.48**	**120**	Sn		**Sn**	**05 18 42.0**	**+0.2**
BEA6	**Bear Island, N**	**3.48**	**120**	Pn		**Pn**	**05 18 04.2**	**+3.4**
BEA6				Sn		**Sn**	**05 18 42.1**	**+0.2**
HOPEN	**Hopen**	**4.05**	**81**	Pn		**Pn**	**05 18 13.3**	**+4.7**
HOPEN				Sn		**Sn**	**05 18 57.5**	**+1.5**
HOPEN	**Hopen**	**4.05**	**81**	*e*P		**Pn**	**05 18 13.3**	**+4.7**
HOPEN				*e*S		**Sn**	**05 18 56.5**	**+0.5**
HOPEN	**Hopen**	**4.05**	**81**	*e*P		**Pb**	**05 18 13.6**	**-4.5**
HOPEN				*e*S		**Sn**	**05 18 57.9**	**+1.9**
HOPEN				IAML			05 19 00.0	
	comp=Z,30nm,0.2s							
NOR	**Nord**	**6.83**	**329**	Pn		**Pn**	**05 18 47.0**	**+0.4**
NOR				Sn		**Sn**	**05 19 59.1**	**-5.1**
NOR	**Nord**	**6.83**	**329**	Pn		**Pn**	**05 18 47.0**	**+0.4**
NOR				Sn		**Sn**	**05 19 59.1**	**-5.1**
ARA0	**ARCESS Array S**	**8.67**	**134**	Pn		**Pn**	**05 19 15.2**	**+3.3**
	baz=333,slow=14							
ARA0				Sn		**Sn**	**05 20 46.0**	**-3.5**
	baz=333,slow=28							
ARA0	**ARCESS Array S**	**8.67**	**134**	Pn		**Pn**	**05 19 15.2**	**+3.3**
	baz=333,slow=14							
ARA0				Sn		**Sn**	**05 20 46.0**	**-3.5**
	baz=333,slow=28							
ARCES	**ARCESS Array B**	**8.67**	**134**	P		**Pn**	**05 19 15.8**	**+3.9**
ARCES				S		**Sn**	**05 20 44.4**	**-5.1**
ZFI2	**Zemlya Franca-**	**8.77**	**43**	*e*P		**Pn**	**05 19 17.7**	**+4.4**
ZFI2				S		**Sn**	**05 20 47.5**	**-4.4**
	comp=Z,6.9nm,2.2s							
OMEGA	**Omega**	**8.78**	**43**	*e*P		**Pn**	**05 19 18.0**	**+4.7**
OMEGA				S		**Sn**	**05 20 47.8**	**-4.3**
VADS	**Vadso**	**8.86**	**125**	S		**Sn**	**05 20 51.4**	**-2.8**

*IDC **26** 05:30:59.9±1.3, 76°54N×7°46E, h0km, mb3.6/4, mbtmp3.5/8, ML2.6/3, MS3.1/14, Error ellipse: s-maj=21.1km s-min=15.5km az=100.0*
*DNK **26** 05:30:59.4±2.7, 76°35N×7°67E, h36km±36km, ML2.4*
*NAO **26** 05:31:00.3±0.8, 76°58N×7°47E, h12km±6km, ML3.4*
*BER **26** 05:31:00.8±4.2, 76°66N×7°16E, h10km, Mw4.4, ML3.4(NAO), Confirmed Earthquake*
*KOLA **26** 05:31:04.2, 76°93N×8°76E, h0km, ML2.3, Error ellipse: s-maj=17.5km s-min=10.2km az=40.0, Greenland sea,Knipovich ridge, middle*
*FCIAR **26** 05:31:05.0, 76°41N×8°84E, h10km, station SPA0 has station magnitude of 3.42*

ISC 26 05:30:58.3±2.9, 76°60N±0°05×7°33E±0°05, h8km±20km, n69, σ3s00/87, mb3.7/4, MS3.2/9, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSPB	**Hornsund (broa**	**1.93**	**74**	Pn		**Pn**	**05 31 32.0**	**+0.7**
HSPB				Sn		**Sn**	**05 31 52.6**	**-3.0**
HSPB	**Hornsund (broa**	**1.93**	**74**	P		**Pn**	**05 31 31.8**	**+0.5**
HSPB				S		**Sn**	**05 31 52.6**	**-3.0**
HSPB	**Hornsund (broa**	**1.93**	**74**	*e*P		**Pn**	**05 31 31.4**	**+0.1**
HSPB				*e*S		**Sn**	**05 31 51.9**	**-3.7**
HSPB	**Hornsund (broa**	**1.93**	**74**	*e*P		**Pn**	**05 31 31.8**	**+0.5**
HSPB				*e*S		**Sn**	**05 31 52.4**	**-3.3**
HSPB				IAML			05 32 00.6	
	comp=Z,38nm,0.4s							
BRBB	**Barentsburg B**	**2.13**	**42**	Pn		**Pn**	**05 31 35.0**	**+0.9**
BRBB				Sn		**Sn**	**05 31 58.2**	**-2.5**
BRBB	**Barentsburg B**	**2.13**	**42**	P		**Pn**	**05 31 34.5**	**+0.4**
BRBB				S		**Sn**	**05 31 56.9**	**-3.9**
BRBB	**Barentsburg B**	**2.13**	**42**	*e*P		**Pn**	**05 31 34.6**	**+0.5**
BRBB				*e*S		**Sn**	**05 31 57.1**	**-3.6**
KBS	**Kingsbay**	**2.54**	**21**	Pn		**Pn**	**05 31 40.2**	**+0.5**
KBS				Sn		**Sn**	**05 32 08.6**	**-2.1**
KBS	**Kingsbay**	**2.54**	**21**	P		**Pn**	**05 31 40.0**	**+0.3**
KBS				S		**Sn**	**05 32 07.3**	**-3.4**
KBS	**Kingsbay**	**2.54**	**21**	*e*P		**Pn**	**05 31 40.2**	**+0.5**
KBS				*i* P		**Pn**	**05 31 40.9**	**+1.2**
KBS				*i* S		**Sn**	**05 32 08.0**	**-2.6**
KBS				*e*S		**Sn**	**05 32 08.5**	**-2.1**
KBS				IAML			05 32 11.3	
	comp=Z,21nm,0.3s							
KBS	**Kingsbay**	**2.54**	**21**	*i* P		**Pn**	**05 31 40.9**	**+1.2**
KBS				*i* S		**Sn**	**05 32 08.0**	**-2.6**
SPA0	**Spitsbergen Ar**	**2.54**	**47**	Pn		**Pb**	**05 31 41.5**	**-2.5**
	baz=225,slow=16							
SPA0				Sn		**Sn**	**05 32 10.5**	**-0.3**
	baz=225,slow=37							
SPA0	**Spitsbergen Ar**	**2.54**	**47**	⇑*i*P		**Pb**	**05 31 41.5**	**-2.5**
SPA0				*e*S		**Sn**	**05 32 10.4**	**-0.3**
SPA0	**Spitsbergen Ar**	**2.54**	**47**	Pn		**Pb**	**05 31 41.5**	**-2.5**
	baz=225,slow=16							
SPA0				Sn		**Sn**	**05 32 10.5**	**-0.3**
	baz=225,slow=37							
SPITS	**Spitsbergen Ar**	**2.54**	**47**	Pn		**Pb**	**05 31 41.5**	**-2.5**
	comp=Z,16nm,0.3s,baz=219,slow=15,SNR=615							
SPITS				Sn		**Sn**	**05 32 10.4**	**-0.3**
	baz=235,slow=22							
SPITS	**Spitsbergen Ar**	**2.54**	**47**	P		**Pn**	**05 31 41.1**	**+1.4**
SPITS				S		**Sn**	**05 32 10.3**	**-0.4**
BJO1	**Bjornoya**	**3.60**	**120**	*e*P		**Pn**	**05 31 54.3**	**0.0**
BJO1				*e*S		**Sn**	**05 32 30.2**	**-6.7**
BJO1	**Bjornoya**	**3.60**	**120**	*e*P		**Pn**	**05 31 54.6**	**+0.3**
BJO1				*e*S		**Sn**	**05 32 30.6**	**-6.3**
BJO1				IAML			05 32 35.4	
	comp=Z,41nm,0.3s							
BEA6	**Bear Island, N**	**3.61**	**120**	Pn		**Pn**	**05 31 54.8**	**+0.5**
BEA6				Sn		**Sn**	**05 32 31.0**	**-6.0**
HOPEN	**Hopen**	**4.12**	**83**	Pn		**Pn**	**05 32 02.4**	**+0.9**
HOPEN				Sn		**Sn**	**05 32 46.8**	**-2.9**
HOPEN	**Hopen**	**4.12**	**83**	*e*P		**Pn**	**05 32 02.1**	**+0.7**
HOPEN				*e*S		**Sn**	**05 32 45.0**	**-4.7**
HOPEN	**Hopen**	**4.12**	**83**	*e*P		**Pn**	**05 32 02.3**	**+0.9**
HOPEN				*e*S		**Sn**	**05 32 46.9**	**-2.9**
HOPEN				IAML			05 33 03.1	
	comp=Z,47nm,0.4s							
DAG	**Danmarks Havn**	**5.97**	**284**	*e*P		**Pn**	**05 32 26.2**	**-0.7**
DAG				*e*S		**Sn**	**05 33 27.1**	**-8.2**
DAG				IAML			05 33 32.6	
	comp=Z,17nm,0.5s							
DAG	**Danmarks Havn**	**5.97**	**284**	*e*P		**Pn**	**05 32 25.8**	**-1.0**
DAG				*e*S		**Sn**	**05 33 28.3**	**-7.0**
DAG				IAML			05 33 32.6	
	comp=Z,17nm,0.5s							
NOR	**Nord**	**6.70**	**329**	Pn		**Pn**	**05 32 36.9**	**+0.1**
NOR				Sn		**Sn**	**05 33 49.3**	**-3.7**
NOR	**Nord**	**6.70**	**329**	*e*P		**Pn**	**05 32 36.0**	**-0.8**
NOR				*e*S		**Sn**	**05 33 47.6**	**-5.4**
NOR				IAML			05 33 52.4	
	comp=Z,13nm,0.4s							
NOR	**Nord**	**6.70**	**329**	*e*P		**Pn**	**05 32 36.0**	**-0.8**
NOR				*e*S		**Sn**	**05 33 50.0**	**-3.0**
NOR				IAML			05 33 52.4	
	comp=Z,13nm,0.4s							
JMIC	**Jan Mayen**	**7.14**	**226**	LR		LR	05 34 45.6	
	comp=Z,73nm,21.6s,baz=302,slow=32							
DBG	**Daneborg**	**7.25**	**265**	*e*P		**Pn**	**05 32 41.8**	**-2.6**
DBG				*e*S		Sn	05 33 56.0	-11
DBG				IAML			05 34 02.6	
	comp=Z,11nm,1.0s							
DBG	**Daneborg**	**7.25**	**265**	*e*P		**Pn**	**05 32 41.8**	**-2.6**
DBG				*e*S		Sn	05 33 56.0	-11
DBG				IAML			05 34 02.6	
	comp=Z,11nm,1.0s							
JETT	**Jettan, Norway**	**8.01**	**145**	Pn		**Pn**	**05 32 55.1**	**+0.3**
JETT				Sn		Sn	05 34 17.2	-8.2
JETT	**Jettan, Norway**	**8.01**	**145**	*e*P		**Pn**	**05 32 55.1**	**+0.3**
JETT				*e*S		Sn	05 34 16.2	-9.3
JETT				IAML			05 34 19.8	
	comp=Z,7.8nm,0.3s							
KIF	**Kilpisjarvi**	**8.58**	**146**	Pn		**Pn**	**05 33 01.7**	**-0.8**
KIF				Sn		**Sn**	**05 34 31.4**	**-7.9**
KIF	**Kilpisjarvi**	**8.58**	**146**	*e*P		**Pn**	**05 33 02.5**	**0.0**
KIF				*e*S		Sn	05 34 30.1	-9.1
ZFI2	**Zemlya Franca-**	**8.75**	**43**	P		**Pn**	**05 33 06.7**	**+1.8**
ZFI2				*e*S		**Sn**	**05 34 36.3**	**-7.2**
	comp=Z,9.2nm,1.5s							
OMEGA	**Omega**	**8.76**	**43**	*e*P		**Pn**	**05 33 06.8**	**+1.8**
OMEGA				S		**Sn**	**05 34 36.5**	**-7.1**
ARA0	**ARCESS Array S**	**8.80**	**134**	Pn		**Pn**	**05 33 04.7**	**-0.9**
	baz=332,slow=14							
ARA0				Sn		Sn	05 34 35.4	-9.4
	baz=335,slow=28							
ARA0	**ARCESS Array S**	**8.80**	**134**	*e*P		**Pn**	**05 33 05.4**	**-0.2**
ARA0				*e*S		Sn	05 34 35.5	-9.3
ARA0				IAML			05 34 39.4	
	comp=Z,6.1nm,0.3s							
ARCES	**ARCESS Array B**	**8.80**	**134**	Pn		**Pn**	**05 33 04.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=326,slow=12,SNR=22							
ARCES				Sn		Sn	05 34 35.7	-9.1
	comp=Z,2.3nm,0.3s,baz=330,slow=18,SNR=18							
ARCES				LR		LR	05 36 39.0	
	comp=Z,68nm,18.1s,baz=346,slow=39							
	comp=Z,0.5nm,0.4s							
ARCES	**ARCESS Array B**	**8.80**	**134**	P		**Pn**	**05 33 05.1**	**-0.5**
ARCES				S		Sn	05 34 33.4	-11
KEV	**Kevo**	**8.87**	**130**	*e*P		**Pn**	**05 33 06.5**	**+0.1**
KEV				*e*S		Sn	05 34 36.0	-10
KTK1	**Kautokeino**	**8.91**	**140**	*e*P		**Pn**	**05 33 08.2**	**+1.1**
VADS	**Vadso**	**8.99**	**125**	P		**Pn**	**05 33 09.3**	**+1.2**
VADS				S		Sn	05 34 39.1	-10
VADS	**Vadso**	**8.99**	**125**	*e*P		**Pn**	**05 33 09.1**	**+1.0**
STEI	**Steigen**	**9.03**	**161**	*e*P		**Pn**	**05 33 11.3**	**+2.6**
HEF	**Hetta**	**9.53**	**141**	*e*P		**Pn**	**05 33 15.5**	**-0.1**
SALU	**Saltoluokta**	**9.86**	**154**	*e*P		**Pn**	**05 33 23.4**	**+3.3**
VAGH	**Vaagaholmen**	**10.09**	**166**	*e*P		**Pn**	**05 33 24.5**	**+1.3**
KONS	**Konsvik**	**10.31**	**167**	*e*P		**Pn**	**05 33 28.3**	**+2.1**
STOK	**Stokkvaagen**	**10.47**	**167**	*e*P		**Pn**	**05 33 31.0**	**+2.6**
TERR	**Teriberka**	**10.89**	**118**	S		Sn	05 35 24.3	-12
APA0	**Apatity Array**	**11.83**	**126**	S		Sn	05 35 47.3	-12
KVDA	**Kovda**	**12.62**	**128**	S		Sn	05 36 06.4	-12
NOA	**NORSAR Array B**	**15.69**	**173**	Pn		**P**	**05 34 44.6**	**+1.1**
	baz=351,slow=12,SNR=7.2							
NOA				LR		LR	05 39 47.1	
	comp=Z,22nm,19.4s,baz=5.0,slow=34							
	comp=Z,0.6nm,0.8s							
FINES	**FINESS Array B**	**16.48**	**147**	LR		LR	05 41 19.2	
	comp=Z,46nm,18.9s,baz=24,slow=38							
HFS	**Hagfors**	**16.69**	**169**	Pn		**P**	**05 34 55.3**	**+0.8**
	baz=359,slow=12,SNR=4.2							
	comp=Z,1.5nm,0.7s							
SFJD	**Kangerlussuaq**	**19.47**	**272**	LR		LR	05 43 13.9	
	comp=Z,15nm,19.5s,baz=20,slow=38							
KIRV	**Kirov**	**23.22**	**117**	LR		LR	05 45 29.8	
	comp=Z,80nm,19.8s,baz=38,slow=38							
FRB	**Frobisher Bay**	**26.33**	**283**	LR		LR	05 46 12.6	
	comp=Z,64nm,19.9s,baz=16,slow=35							
AKASG	**Malin Array Be**	**27.37**	**149**	LR		LR	05 47 41.7	
	comp=Z,55nm,19.5s,baz=21,slow=37							
VRAC	**Vranov**	**27.64**	**167**	LR		LR	05 47 23.3	
	comp=Z,26nm,18.7s,baz=74,slow=36							
AKTO	**Aktyubinsk**	**32.64**	**113**	LR		LR	05 51 40.1	
	comp=Z,73nm,18.1s,baz=138,slow=38							
BVAR	**Borovoye Array**	**32.99**	**98**	P		**P**	**05 37 37.2**	**+4.0**
	comp=Z,0.8nm,0.5s,baz=322,slow=9.4,SNR=3.6							
BVAR				LR		LR	05 54 10.5	
	comp=Z,42nm,19.3s,baz=200,slow=42							
	comp=Z,0.8nm,0.5s							
SCHQ	**Schefferville**	**33.90**	**274**	LR		LR	05 51 30.0	
	comp=Z,25nm,20.8s,baz=42,slow=36							
KBZ	**Khabaz**	**36.16**	**134**	LR		LR	05 53 33.1	
	comp=Z,35nm,19.3s,baz=359,slow=38							
KURBB	**Kurchatov Arra**	**37.11**	**92**	P		**P**	**05 38 11.8**	**+3.2**
	comp=Z,0.4nm,0.2s,baz=341,slow=8.1,SNR=4.1							
	comp=Z,0.4nm,0.2s							
GNI	**Garni**	**39.96**	**134**	LR		LR	05 55 20.0	
	comp=Z,32nm,19.6s,baz=142,slow=37							
MKAR	**Makanchi Array**	**41.57**	**90**	P		**P**	**05 38 49.7**	**+3.7**
	comp=Z,0.2nm,0.5s,baz=358,slow=9.8,SNR=2.9							
	comp=Z,0.2nm,0.5s							
TXAR	**Lajitas Array**	**66.36**	**297**	P		**P**	**05 41 49.6**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=35,slow=7.0,SNR=4.7							
	comp=Z,0.3nm,0.7s							

*BER **26** 05:49:18.7±3.1, 76°52N×7°31E, h10km, Mw4.5, ML3.4(NAO), Confirmed Earthquake*
*IDC **26** 05:49:19.6±1.1, 76°51N×7°95E, h0km, mb3.5/6, mbtmp3.6/11, ML2.7/4, MS3.4/30, Error ellipse: s-maj=19.2km s-min=12.4km az=98.0*
*NAO **26** 05:49:20.5±1.3, 76°60N×7°91E, h18km±10km, ML3.4*
*KOLA **26** 05:49:21.5, 76°72N×9°49E, h0km, ML2.5, Error ellipse: s-maj=118.1km s-min=41.6km az=30.0, Greenland sea*
*DNK **26** 05:49:22.0±3.3, 76°60N×7°05E, h36km±38km, ML2.5*
*FCIAR **26** 05:49:24.0, 76°58N×8°44E, h10km, station SPA0 has station magnitude of 3.40*

ISC 26 05:49:19.7±0.8, 76°51N±0°05×8°75E±0°06, h10km, n90, σ3s11/92, mb3.5/6, MS3.4/25, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HSPB	**Hornsund (broa**	**1.64**	**69**	Pn		**Pb**	**05 49 50.7**	**+0.7**
HSPB				Sb		**Sb**	**05 50 12.0**	**+1.4**
HSPB	**Hornsund (broa**	**1.64**	**69**	P		**Pn**	**05 49 49.9**	**+1.4**
HSPB				S		**Sn**	**05 50 10.3**	**+0.7**
HSPB	**Hornsund (broa**	**1.64**	**69**	*e*P		**Pb**	**05 49 50.4**	**+0.5**
HSPB				*e*S		**Sn**	**05 50 10.5**	**+0.9**
HSPB	**Hornsund (broa**	**1.64**	**69**	*e*P		**Pb**	**05 49 50.6**	**+0.7**
HSPB				*e*S		**Sb**	**05 50 12.1**	**+1.4**
HSPB				IAML			05 50 19.2	
	comp=Z,49nm,0.4s							
BRBB	**Barentsburg B**	**2.00**	**35**	Pn		**Pn**	**05 49 53.5**	**0.0**
BRBB	**Barentsburg B**	**2.00**	**35**	P		**Pn**	**05 49 53.4**	**0.0**
BRBB				S		**Sn**	**05 50 15.8**	**-2.6**
BRBB	**Barentsburg B**	**2.00**	**35**	*e*P		**Pn**	**05 49 53.5**	**0.0**
BRBB				*i*			05 49 55.8	
BRBB				*e*			05 50 15.7	
SPA0	**Spitsbergen Ar**	**2.37**	**41**	Pn		**Pn**	**05 50 00.4**	**+1.8**
	baz=226,slow=14							
SPA0				Sn		**Sn**	**05 50 29.4**	**+1.7**
	baz=239,slow=22							
SPA0	**Spitsbergen Ar**	**2.37**	**41**	⇑*i*P		**Pn**	**05 50 00.3**	**+1.8**
SPA0				*i* S		**Sn**	**05 50 28.9**	**+1.2**
SPA0	**Spitsbergen Ar**	**2.37**	**41**	Pn		**Pn**	**05 50 00.4**	**+1.8**
	baz=226,slow=14							
SPA0				Sn		**Sn**	**05 50 29.4**	**+1.7**
	baz=239,slow=22							
SPITS	**Spitsbergen Ar**	**2.37**	**41**	Pn		**Pn**	**05 50 00.3**	**+1.8**
	comp=Z,22nm,0.2s,baz=216,slow=16,SNR=716							
SPITS				Sn		**Sn**	**05 50 30.2**	**+2.5**
	baz=235,slow=22							
SPITS	**Spitsbergen Ar**	**2.37**	**41**	P		**Pn**	**05 49 60.0**	**+1.4**
SPITS				S		**Sn**	**05 50 27.6**	**-0.1**
KBS	**Kingsbay**	**2.52**	**14**	Pn		**Pn**	**05 49 59.4**	**-1.3**
KBS				Sn		**Sn**	**05 50 27.6**	**-3.8**
KBS	**Kingsbay**	**2.52**	**14**	P		**Pn**	**05 49 59.0**	**-1.6**
KBS				S		**Sn**	**05 50 24.9**	**-6.5**
KBS	**Kingsbay**	**2.52**	**14**	*e*P		**Pn**	**05 49 59.1**	**-1.6**
KBS				*e*S		**Sn**	**05 50 27.3**	**-4.1**
KBS				IAML			05 50 31.0	
	comp=Z,23nm,0.5s							
KBS	**Kingsbay**	**2.52**	**14**	*i* P		**Pn**	**05 49 59.8**	**-0.9**
KBS				*e*S		**Sn**	**05 50 26.8**	**-4.6**
BJO1	**Bjornoya**	**3.27**	**123**	Pn		**Pn**	**05 50 13.8**	**+2.8**
BJO1				Sn		**Sn**	**05 50 49.9**	**+0.1**
BJO1	**Bjornoya**	**3.27**	**123**	*e*P		**Pn**	**05 50 11.2**	**+0.3**
BJO1				*e*S		**Sn**	**05 50 49.5**	**-0.3**
BJO1	**Bjornoya**	**3.27**	**123**	*e*P		**Pn**	**05 50 13.7**	**+2.8**
BJO1				*e*S		**Sn**	**05 50 49.5**	**-0.3**
BJO1				IAML			05 50 51.5	
	comp=Z,64nm,0.3s							
BEA6	**Bear Island, N**	**3.28**	**123**	Pn		**Pn**	**05 50 13.1**	**+2.1**
BEA6				Sn		**Sn**	**05 50 49.7**	**-0.3**
HOPEN	**Hopen**	**3.81**	**82**	Pn		**Pn**	**05 50 21.2**	**+3.0**
HOPEN				Sn		**Sn**	**05 51 06.4**	**+3.0**
HOPEN	**Hopen**	**3.81**	**82**	*e*P		**Pn**	**05 50 21.0**	**+2.8**
HOPEN				*e*S		**Sn**	**05 51 04.0**	**+1.1**
HOPEN	**Hopen**	**3.81**	**82**	*e*P		**Pn**	**05 50 21.1**	**+2.8**
HOPEN		

comp=Z,42nm,19.1s,baz=350,slow=34
comp=Z,1.2nm,0.9s
FINES FINESS Array B 16.23 149 Pn **Pn 05 53 07.9 +0.5**
comp=Z,0.1nm,0.3s,baz=355,slow=14,SNR=1.2
FINES LR LR 05 59 39.7
comp=Z,87nm,19.3s,baz=345,slow=38
comp=Z,0.7nm,0.7s
HFS Hagfors 16.54 171 Pn **P 05 53 14.3 +0.2**
comp=Z,0.1nm,0.3s,baz=2.2,slow=7.7,SNR=6.1
HFS LR LR 05 58 50.1
comp=Z,74nm,21.0s,baz=20,slow=34
comp=Z,3.4nm,0.8s
EKA Eskdalemuir Ar 21.72 199 P **P 05 54 12.4 +1.9**
comp=Z,1.9nm,0.8s,baz=12,slow=12,SNR=4.7
comp=Z,1.9nm,0.8s
RES Resolute Bay 22.72 318 LR LR 06 03 01.4
comp=Z,72nm,19.6s,baz=308,slow=36
KIRV Kirov 22.88 119 LR LR 06 03 57.2
comp=Z,73nm,18.1s,baz=333,slow=38
OBN Obninsk 23.81 138 LR LR 06 04 43.2
comp=Z,79nm,21.2s,baz=292,slow=39
FRB Frobisher Bay 26.67 285 LR LR 06 05 28.6
comp=Z,96nm,20.0s,baz=66,slow=37
AKASG Malin Array Be 27.12 151 LR LR 06 05 59.7
comp=Z,61nm,21.1s,baz=338,slow=37
VRAC Vranov 27.48 169 LR LR 06 05 29.5
comp=Z,38nm,19.9s,baz=48,slow=35
GERES GERESS Array B 27.84 173 LR LR 06 06 03.6
comp=Z,35nm,18.7s,baz=334,slow=36
DAVOX Davos/Dischmat 29.84 178 LR LR 06 08 27.2
comp=Z,27nm,18.3s,baz=8.5,slow=38
MLR Muntele Rosu 31.93 157 LR LR 06 09 53.2
comp=Z,44nm,20.4s,baz=46,slow=38
AKTO Aktyubinsk 32.30 115 LR LR 06 09 41.7
comp=Z,47nm,19.6s,baz=166,slow=38
BVAR Borovoye Array 32.64 100 LR LR 06 12 20.1
comp=Z,59nm,18.6s,baz=341,slow=42
SCHQ Schefferville 34.24 275 LR LR 06 08 37.3
comp=Z,72nm,19.5s,baz=36,slow=34
KURBB Kurchatov Arra 36.77 93 P **P 05 56 29.9 +3.0**
comp=Z,0.3nm,0.3s,baz=336,slow=8.4,SNR=4.8
KURBB LR LR 06 14 38.1
comp=Z,74nm,19.7s,baz=174,slow=41
comp=Z,0.3nm,0.3s
YKA Yellowknife Ar 36.77 320 P **P 05 56 25.5 -1.3**
comp=Z,1.0nm,1.1s,baz=19,slow=9.0,SNR=4.2
comp=Z,1.0nm,1.1s
ILAR Eielson Array 38.13 343 P **P 05 56 39.5 +1.2**
comp=Z,0.3nm,0.8s,baz=15,slow=8.5,SNR=2.5
comp=Z,0.3nm,0.8s
GNI Garni 39.66 135 LR LR 06 14 32.6
comp=Z,63nm,19.8s,baz=166,slow=38
MKAR Makanchi Array 41.24 92 P **P 05 57 07.3 +2.9**
comp=Z,0.5nm,0.7s,baz=336,slow=6.3,SNR=2.5
MKAR LR LR 06 17 52.3
comp=Z,63nm,18.8s,baz=115,slow=41
comp=Z,0.5nm,0.7s
DLBC Dease Lake 42.79 329 LR LR 06 16 17.6
comp=Z,47nm,18.1s,baz=338,slow=38
AAK Ala-Archa 43.35 101 LR LR 06 19 16.6
comp=Z,56nm,20.0s,baz=196,slow=41
SONM Songino Array 45.79 69 P **P 05 57 44.4 +3.3**
comp=Z,0.4nm,0.5s,baz=339,slow=7.7,SNR=2.5
comp=Z,0.4nm,0.5s
SADO Sadowa 46.50 281 LR LR 06 16 23.6
comp=Z,57nm,19.8s,baz=21,slow=35
EIL Elat 48.54 149 LR LR 06 20 19.8
comp=Z,39nm,18.7s,baz=69,slow=38
NEW Newport 50.85 316 LR LR 06 19 49.8
comp=Z,49nm,18.6s,baz=337,slow=36
PDAR Pinedale Array 54.85 308 LR LR 06 22 03.2
comp=Z,41nm,18.7s,baz=3.5,slow=36
TKL Tuckaleechee C 56.24 282 LR LR 06 22 15.7
comp=Z,56nm,18.9s,baz=3.0,slow=35
ANMO Albuquerque 61.83 303 LR LR 06 27 09.2
comp=Z,58nm,18.4s,baz=78,slow=37
TXAR Lajitas Array 66.70 298 LR LR 06 30 31.0
comp=Z,36nm,18.2s,baz=332,slow=37
LPIG La Paz 73.11 303 LR LR 06 34 15.7
comp=Z,37nm,18.3s,baz=194,slow=37

*BER **26** 05:54:25.4±2.8, 76°.47N×7°.24E, h10km, Mw3.9, ML3.0(NAO), Confirmed Earthquake*
*IDC **26** 05:54:26.5±1.5, 76°.43N×8°.06E, h0km, mb3.1/1, mbtmp3.3/5, ML2.8/3, Error ellipse: s-maj=23.5km s-min=14.7km az=76.0*
*DNK **26** 05:54:27.7±2.1, 76°.59N×5°.91E, h7km±60km, ML2.1*
*NAO **26** 05:54:27.0±1.7, 76°.53N×7°.43E, h27km±16km, ML3.0*
*KOLA **26** 05:54:30.5, 76°.83N×9°.15E, h0km, ML2.0, Error ellipse: s-maj=18.2km s-min=12.0km az=40.0, Greenland sea*
ISC 26 05:54:26.9±1.2, 76°.56N±0°.05×8°.24E±0°.08, h10km, n30, σ1°51/39, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.74**	**72**	Pn		**Pn**	**05 54 57.8**	**+0.7**
HSPB				Sn		**Sn**	**05 55 19.1**	**-0.1**
HSPB	**Hornsund (broa**	**1.74**	**72**	P		**Pn**	**05 54 57.7**	**+0.7**
HSPB				S		**Sn**	**05 55 17.1**	**-2.2**
HSPB	**Hornsund (broa**	**1.74**	**72**	*e*P		**Pn**	**05 54 57.7**	**+0.7**
HSPB				*e*S		**Sn**	**05 55 18.6**	**-0.7**
HSPB				IAML			05 55 21.4	
	comp=Z,15nm,0.4s							
BRBB	**Barentsburg B**	**2.03**	**38**	Pn		**Pn**	**05 55 01.3**	**+0.2**
BRBB				Sn		**Sn**	**05 55 24.5**	**-1.9**
BRBB	**Barentsburg B**	**2.03**	**38**	P		**Pn**	**05 55 01.3**	**+0.2**
BRBB				S		**Sn**	**05 55 23.8**	**-2.6**
BRBB	**Barentsburg B**	**2.03**	**38**	*e*P		**Pn**	**05 55 01.1**	**0.0**
BRBB				*e*S		**Sn**	**05 55 25.4**	**-1.1**
SPA0	**Spitsbergen Ar**	**2.42**	**44**	Pn		**Pn**	**05 55 07.7**	**+1.3**
	baz=226,slow=16							
SPA0				Sn		**Sn**	**05 55 37.1**	**+1.1**
	baz=223,slow=28							
SPA0	**Spitsbergen Ar**	**2.42**	**44**	Pn		**Pn**	**05 55 07.7**	**+1.3**
	baz=226,slow=16							
SPA0				Sn		**Sn**	**05 55 37.1**	**+1.1**
	baz=223,slow=28							
SPITS	**Spitsbergen Ar**	**2.42**	**44**	Pn		**Pn**	**05 55 07.7**	**+1.3**
	baz=218,slow=16							
	comp=Z,5.2nm,0.3s							
SPITS	**Spitsbergen Ar**	**2.42**	**44**	P		**Pn**	**05 55 07.8**	**+1.3**
SPITS				S		**Sn**	**05 55 34.2**	**-1.8**
KBS	**Kingsbay**	**2.51**	**17**	Pn		**Pn**	**05 55 06.9**	**-0.8**
KBS				Sn		**Sn**	**05 55 37.1**	**-1.1**
KBS	**Kingsbay**	**2.51**	**17**	P		**Pn**	**05 55 07.2**	**-0.5**
KBS				S		**Sn**	**05 55 36.0**	**-2.3**
KBS	**Kingsbay**	**2.51**	**17**	*e*P		**Pn**	**05 55 07.5**	**-0.2**
BJO1	**Bjornoya**	**3.40**	**122**	Pn		**Pn**	**05 55 21.1**	**+1.2**
BJO1				Sn		**Sn**	**05 55 56.5**	**-3.6**
BJO1	**Bjornoya**	**3.40**	**122**	*e*P		**Pn**	**05 55 21.9**	**+2.0**
BJO1				*e*S		**Sn**	**05 55 56.6**	**-3.6**
BJO1				IAML			05 55 59.4	
	comp=Z,22nm,0.4s							
BEA6	**Bear Island, N**	**3.40**	**122**	Sn		**Sn**	**05 55 57.7**	**-2.6**
HOPEN	**Hopen**	**3.92**	**83**	Pn		**Pn**	**05 55 26.7**	**-0.3**
HOPEN				Sn		**Sn**	**05 56 12.8**	**-0.1**
HOPEN	**Hopen**	**3.92**	**83**	*e*P		**Pn**	**05 55 28.6**	**+1.5**
HOPEN				*e*S		**Sn**	**05 56 12.9**	**-0.1**
HOPEN				IAML			05 56 16.6	
	comp=Z,15nm,0.3s							
DAG	**Danmarks Havn**	**6.19**	**285**	*e*P		Pn	05 55 52.1	-6.1
DAG				*e*S		Sn	05 56 53.7	-15
DAG	**Danmarks Havn**	**6.19**	**285**	*e*P		Pn	05 55 51.1	-7.0
DAG				*i* S		Sn	05 56 52.8	-16
DAG				IAML			05 56 57.3	
	comp=Z,9.4nm,0.8s							
NOR	**Nord**	**6.84**	**329**	Pn		Pn	05 56 01.4	-5.6
NOR				Sn		Sn	05 57 13.9	-11
NOR	**Nord**	**6.84**	**329**	*e*P		Pn	05 56 02.0	-5.1
NOR				*e*S		Sn	05 57 14.2	-11
NOR	**Nord**	**6.84**	**329**	*i* P		Pn	05 56 01.8	-5.3
NOR				*i*S		Sn	05 57 14.3	-11
NOR				IAML			05 57 17.9	
	comp=Z,4.7nm,0.4s							
DBG	**Daneborg**	**7.46**	**267**	*e*P		Pn	05 56 09.3	-6.3
DBG				*e*S		Sn	05 57 21.7	-18
DBG				IAML			05 57 31.8	
	comp=Z,8.1nm,0.8s							
ARA0	**ARCESS Array S**	**8.62**	**136**	Pn		**Pn**	**05 56 31.4**	**-0.2**
	baz=326,slow=11							
ARA0				Sn		Sn	05 58 01.3	-7.3
	baz=330,slow=22							
ARA0	**ARCESS Array S**	**8.62**	**136**	Pn		**Pn**	**05 56 31.4**	**-0.2**
	baz=326,slow=11							
ARA0				Sn		Sn	05 58 01.3	-7.3
	baz=330,slow=22							
ARCES	**ARCESS Array B**	**8.62**	**136**	Pn		**Pn**	**05 56 30.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=330,slow=14,SNR=4.6							
ARCES				Sn		Sn	05 58 01.1	-7.6
	comp=Z,0.7nm,0.3s,baz=332,slow=19,SNR=12							
	comp=Z,0.8nm,0.5s							
NOA	**NORSAR Array B**	**15.63**	**175**	Pn		**Pn**	**05 58 08.5**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=353,slow=12,SNR=4.2							
HFS	**Hagfors 16.61 170**			Pn		**Pn**	**05 58 20.6**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=356,slow=10,SNR=2.5							
	comp=Z,1.1nm,0.6s							
TXAR	**Lajitas Array 66.57 298**			P		**P**	**06 05 16.8**	**0.0**
	comp=Z,0.1nm,0.6s,baz=14,slow=6.8,SNR=2.5							
	comp=Z,0.1nm,0.6s							

IDC 26 06:07:26.3±8.9, 5°.09S×150°.58E, h0km, mb3.8/3, mbtmp3.8/4, ML1.7/1, MS3.3/3, Error ellipse: s-maj=135.1km s-min=86.5km az=17.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby 5.47 218**			Pn		Pn	06 08 48.3	-0.8
	1.7nm,0.3s,baz=49,slow=9.3,SNR=3.2							
PMG				Sn		Sn	06 09 44.5	-8.3
	3.0nm,0.3s,baz=313,slow=1.0,SNR=8.9							
	5.1nm,0.4s							
WRA	**Warramunga Arr 21.63 226**			P		P	06 12 18.1	-0.2
	2.3nm,0.6s,baz=51,slow=10.0,SNR=16							
	2.3nm,0.6s							
DZM	**Mont Dzumac 22.82 139**			LR		LR	06 19 23.5	
	comp=Z,59nm,18.3s,baz=264,slow=31							
ASAR	**Alice Springs 24.48 219**			P		P	06 12 48.0	+0.5
	1.0nm,0.7s,baz=57,slow=8.4,SNR=13							
	1.0nm,0.7s							
STKA	**Stephens Creek 27.95 196**			P		P	06 13 18.3	-0.2
	1.5nm,0.8s,baz=25,slow=8.9,SNR=3.1							
	1.5nm,0.8s							
PPT	**Papeete 59.75 107**			LR		LR	06 41 14.1	
	comp=Z,26nm,18.2s,baz=170,slow=34							
DLBC	**Dease Lake 88.77 31**			LR		LR	06 50 14.6	
	comp=Z,15nm,21.8s,baz=6.0,slow=29							

*IDC **26** 06:09:31.1±1.6, 50°.63N×158°.62E, h0km, mb3.4/2, mbtmp3.3/3, ML2.0/1, Error ellipse: s-maj=53.0km s-min=28.1km az=86.0*
*MOS **26** 06:09:35.3±0.5, 50°.82N×158°.72E, h43km, mb3.9/1, Error ellipse: s-maj=22.7km s-min=6.3km az=93.8*
*KRSC **26** 06:09:35.8±1.0, 50°.87N×158°.64E, h58km±23km, Ml3.8*
ISC 26 06:09:33.8±3.2, 50.79N±0°.07×158.68E±0°.06, h16km±21km, n41, σ1°12/51, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka 1.35 301**			PN		**Pb**	**06 09 58.9**	**+0.2**
PAU				S		**Sn**	**06 10 14.8**	**-0.8**
PAU	**Pauzhetka 1.35 301**			*e*P		**Pb**	**06 09 59.0**	**+0.2**
PAU				*e*S		**Sn**	**06 10 14.8**	**-0.8**
SKR	**Severo-Kuril's 1.63 267**			PN		**Pn**	**06 10 02.6**	**+0.9**
SKR	**Severo-Kuril's 1.63 267**			*e*P		**Pn**	**06 10 02.7**	**+0.9**
RUS	**Russkaya 1.65 357**			PN		**Pb**	**06 10 03.1**	**-0.6**
RUS				S		**Sn**	**06 10 21.9**	**-0.8**
RUS	**Russkaya 1.65 357**			*e*P		**Pb**	**06 10 03.2**	**-0.6**
RUS				*e*S		**Sn**	**06 10 21.9**	**-0.8**
ASAK	**Asacha 1.66 343**			PN		**Pb**	**06 10 03.7**	**-0.3**
ASAK				S		**Sn**	**06 10 22.8**	**-0.5**
ASAK	**Asacha 1.66 343**			*e*P		**Pb**	**06 10 03.8**	**-0.3**
ASAK				*e*S		**Sn**	**06 10 22.9**	**-0.5**
MTVR	**Mutnovka 1.72 350**			PN		**Pb**	**06 10 04.6**	**-0.4**
MTVR				S		**Sn**	**06 10 24.5**	**-0.3**
MTVR	**Mutnovka 1.72 350**			*e*P		**Pb**	**06 10 04.7**	**-0.4**
MTVR				*e*S		**Sn**	**06 10 24.5**	**-0.3**
GRL	**Gorelyy 1.80 348**			PN		**Pb**	**06 10 06.2**	**-0.2**
GRL				S		**Sn**	**06 10 27.1**	**+0.3**
GRL	**Gorelyy 1.80 348**			*e*P		**Pb**	**06 10 06.2**	**-0.2**
GRL				*e*S		**Sn**	**06 10 27.1**	**+0.3**
MIPR	**Malaya Ipel'ka 1.91 322**			PN		**Pb**	**06 10 07.3**	**-0.8**
MIPR				S		**Sn**	**06 10 29.5**	**+0.3**
MIPR	**Malaya Ipel'ka 1.91 322**			*e*P		**Pb**	**06 10 07.4**	**-0.8**
MIPR				*e*S		**Sn**	**06 10 29.5**	**+0.3**
PET	**Petropavlovsk 2.23 360**			*e*P		**Pn**	**06 10 11.8**	**+1.7**
PET				*e*S		**Sn**	**06 10 37.4**	**+0.1**
PET				smax		smax		
	comp=N,73nm,0.6s							
PET				smax		smax		
	comp=E,49nm,0.5s							
PET	**Petropavlovsk 2.23 360**			*e*P		**Pn**	**06 10 11.5**	**+1.4**
PET				*e*S		**Sn**	**06 10 37.3**	**0.0**
DALK	**Dalny 2.24 1**			PN		**Pb**	**06 10 11.8**	**+1.7**
DALK				S		**Sn**	**06 10 37.3**	**-0.1**
DALK	**Dalny 2.24 1**			*e*P		**Pn**	**06 10 11.9**	**+1.7**
DALK				*e*S		**Sn**	**06 10 37.4**	**-0.1**
PEA0B	**Petropavlovsk- 2.40 346**			PN		**Pn**	**06 10 14.2**	**+1.9**
PETK	**Petropavlovsk- 2.40 346**			Pn		**Pn**	**06 10 14.5**	**+2.2**
	comp=E,1.6nm,0.3s,baz=149,slow=16,SNR=27							
PETK				Sn		**Sb**	**06 10 44.5**	**-1.3**
	comp=E,3.1nm,0.3s,baz=235,slow=12,SNR=5.2							
	comp=E,4.8nm,0.5s							
SPN	**Mys Shipunski 2.46 19**			PN		**Pn**	**06 10 14.8**	**+1.7**
SPN				S		**Sn**	**06 10 42.6**	**-0.1**
SPN	**Mys Shipunski 2.46 19**			*e*P		**Pn**	**06 10 14.8**	**+1.7**
SPN				*e*S		**Sn**	**06 10 42.6**	**-0.1**
SDLR	**Sedlovina 2.49 3**			PN		**Pn**	**06 10 15.1**	**+1.4**
SDLR	**Sedlovina 2.49 3**			*e*P		**Pn**	**06 10 15.1**	**+1.4**
KOK	**Koryaka 2.50 359**			PN		**Pb**	**06 10 16.3**	**-2.1**
KOK	**Koryaka 2.50 359**			*e*P		**Pb**	**06 10 16.3**	**-2.1**
KRX	**Arik 2.57 360**			PN		**Pn**	**06 10 16.7**	**+1.9**
KRX	**Arik 2.57 360**			*e*P		**Pn**	**06 10 16.8**	**+1.9**
MKZ	**Mys Kozlova 4.20 25**			PN		**Pn**	**06 10 38.4**	**+1.4**
MKZ	**Mys Kozlova 4.20 25**			*e*P		**Pn**	**06 10 38.5**	**+1.4**
H11N2	**WAKE ISLAND Hy 31.67 165**			T		T	06 49 55.9	
	baz=349,slow=76,SNR=57							
H11N3	**WAKE ISLAND Hy 31.69 165**			T		T	06 49 55.9	
	baz=349,slow=76,SNR=61							
H11N1	**WAKE ISLAND Hy 31.69 165**			T		T	06 49 55.9	
	baz=349,slow=76,SNR=44							
H11S1	**WAKE ISLAND Hy 32.84 166**			T		T	06 51 22.2	
	baz=350,slow=76,SNR=23							
H11S3	**WAKE ISLAND Hy 32.85 166**			T		T	06 51 22.8	
	baz=350,slow=76,SNR=31							
H11S2	**WAKE ISLAND Hy 32.86 166**			T		T	06 51 23.6	
	baz=350,slow=76,SNR=16							
TXAR	**Lajitas Array 72.37 65**			P		**P**	**06 20 59.5**	**+0.5**
	comp=E,0.2nm,0.5s,baz=306,slow=4.5,SNR=5.0							
	comp=E,0.2nm,0.5s							
WRA	**Warramunga Arr 73.62 204**			P		**P**	**06 21 05.2**	**-1.0**
	comp=E,0.4nm,0.9s,baz=8.3,slow=5.9,SNR=2.4							
	comp=E,0.4nm,0.9s							
H03N2	**Juan Fernandez 135.09 90**			T		T	08 59 18.5	
	baz=314,slow=77,SNR=12							
H03N1	**Juan Fernandez 135.10 90**			T		T	08 59 19.9	
	baz=314,slow=77,SNR=15							
H03N3	**Juan Fernandez 135.10 90**			T		T	08 59 19.2	
	baz=314,slow=77,SNR=15							

RSNC 26 06:36:45.5±0.0, 5°N±1°×7°4W±°, h147km±2km, M3.0, mB4.6, mb3.9, ML2.7, MLv3.3, Mw(mB)3.8, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal 0.71 232**			P		Pn	06 37 09.0	+0.8
ROSC				S		Sn	06 37 26.0	+0.6
CVER	**Cruz Verde, Cu 0.82 203**			P		Pn	06 37 09.5	+0.4
CVER				S		Sn	06 37 26.0	-1.0
RUSC	**La Rusia 0.91 48**			P		Pn	06 37 09.7	-0.1
RUSC				S		Sn	06 37 27.8	-0.4
NORC	**Norcasia 1.14 284**			P		Pn	06 37 10.9	-0.4
NORC				S		Sn	06 37 30.5	-0.5
VILC	**Villavicencio, 1.16 177**			P		Pn	06 37 10.8	-0.8
VILC				S		Sn	06 37 30.9	-0.7
BARC	**Barichara 1.43 24**			P		Pn	06 37 13.7	-0.6
BARC				S		Sn	06 37 34.8	-1.6
PTBC	**PUERTO BERRIO, 1.43 331**			P		Pn	06 37 13.0	-1.1
PTBC				S		Sn	06 37 34.8	-1.3
GUY2C	**Guyana, Caldas 1.60 268**			P		Pn	06 37 15.9	-0.5
GUY2C				S		Sn	06 37 40.7	+0.7
RECRC	**Villamaria, Ca 1.62 259**			P		Pn	06 37 17.0	+0.3
RECRC				S		Sn	06 37 41.4	+1.0
BRJC	**Barrancabermej 1.68 1**			P		Pn	06 37 16.7	-0.1
BRJC				S		Sn	06 37 41.1	+0.2
NIZA	**Niza - Manizal 1.72 263**			P		Pn	06 37 18.7	+1.2
NIZA				S		Sn	06 37 43.2	+1.2
ANIL	**Santa Ana 1.81 244**			P		Pn	06 37 18.2	-0.4
ANIL				S		Sn	06 37 43.8	-0.2
PRAC	**Prado 1.92 216**			P		Pn	06 37 19.1	-0.5
PRAC				S		Sn	06 37 44.9	-0.8
HELC	**Santa Helena 1.98 297**			P		Pn	06 37 20.3	-0.3
HELC				S		Sn	06 37 46.5	-0.9
ORTC	**Ortega, Tolima 2.01 227**			P		Pn	06 37 20.0	-0.7
ORTC				S		Sn	06 37 46.8	-0.8
MEDEC	**Medelln, Ant 2.07 299**			P		Pn	06 37 20.3	-1.2
URMC	**La Uribe, Meta 2.11 197**			P		Pn	06 37 21.7	-0.2
URMC				S		Sn	06 37 49.3	-0.6
PAMC	**Pamplona, Colo 2.30 27**			P		Pn	06 37 24.7	+0.1
PAMC				S		Sn	06 37 54.0	-0.6
CBOC	**Ciudad Bolivar 2.31 285**			P		Pn	06 37 24.2	-0.2
CBOC				S		Sn	06 37 54.1	-0.2
ZARC	**Zaragoza, Cauc 2.45 334**			P		Pn	06 37 24.0	-1.9
ZARC				S		Sn	06 37 55.1	-2.0
PLMC	**San Jos del P 2.54 262**			P		Pn	06 37 27.5	+0.4
PLMC				S		Sn	06 38 00.5	+1.4
YOTC	**Yotoco, Valle 2.88 244**			P		Pn	06 37 30.4	-1.0
YOTC				S		Sn	06 38 08.0	+1.2
OCAC	**Ocana 2.97 8**			P		Pn	06 37 31.9	-0.7
OCAC				S		Sn	06 38 08.1	-0.9
DBBC	**Dabeiba 2.98 305**			P		Pn	06 37 32.5	-0.2
DBBC				S		Sn	06 38 09.0	-0.1
UREC	**San Jos de Ur 3.02 324**			P		Pn	06 37 30.7	-2.4
UREC				S		Sn	06 38 06.3	-3.6
MACC	**Macarena, Meta 3.12 182**			P		Pn	06 37 32.3	-2.0
MACC				S		Sn	06 38 08.5	-3.5
GARC	**Garzon, Huila 3.53 209**			P		Pn	06 37 38.5	-1.3
GARC				S		Sn	06 38 19.5	-2.3
JAMC	**Jamundi, Valle 3.56 235**			P		Pn	06 37 40.1	0.0
JAMC				S		Sn	06 38 23.0	+0.6
APAC	**Apartado, Choc 3.82 313**			P		Pn	06 37 42.5	-0.9
APAC				S		Sn	06 38 27.6	-0.8
POPC	**Popayan, Colom 3.98 227**			P		Pn	06 37 45.6	-0.1
FLOC	**Florencia 4.13 207**			P		Pn	06 37 46.6	-0.9
FLOC				S		Sn	06 38 33.7	-1.9
ARGC	**Ariguani, Magd 4.57 354**			P		Pn	06 37 52.8	-0.5
ARGC				S		Sn	06 38 43.2	-2.9
BBAC	**Balboa, Cauca 4.75 227**			P		Pn	06 37 56.1	+0.3
SJCC	**San Jacinto, C 4.80 343**			P		Pn	06 37 52.8	-3.5
SJCC				S		Sn	06 38 46.0	-5.5
CAPC	**Capurgana 4.88 313**			P		Pn	06 37 55.7	-1.6
CAPC				S		Sn	06 38 49.6	-3.7
CRJC	**Cerrejon, Guaj 5.77 9**			P		Pn	06 38 08.2	-1.0
	757nm13nm,0.8s							
CRJC				S		Sn	06 39 08.3	-6.4
	757nm13nm,0.8s							
URIC	**Uribia, Colomb 6.62 15**			P		Pn	06 38 18.7	-1.7
	21nm,1.2s							
URIC				S		Sn	06 39 27.7	-7.1
	21nm,1.2s							
SGC2	**Sao Gabriel da 8.66 128**			P		Pn	06 38 42.8	-5.0
SGC2				S		Sn	06 40 14.6	-9.5

*CATAC **26** 06:58:16.7±0.3, 12°.N±2°×87°.W±°, h59km±3km, M3.9/32, MLv3.9/32, Error ellipse: s-maj=6.2km s-min=2.9km az=40.4, confirmed*
*UCR **26** 06:58:16.8±1.2, 12°.27N×87°.06W, h72km±8km, MW3.9*
*SNET **26** 06:58:17.3±2.1, 12°.43N×87°.01W, h66km, ML3.3*
ISC 26 06:58:16.8±1.3, 12°.23N±0°.05×87°.13W±0°.04, h75km±8km, n73, σ0°77/98, 1C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ALEN	**Leon 0.34**	**48**		P		**Pn**	**06 58 28.3**	**-0.6**
ALEN	**Leon 0.34**	**48**		S		**Sn**	**06 58 37.5**	**-0.2**
CRIN	**San Cristobal 0.47**	**10**		*i*P		**Pn**	**06 58 29.9**	**-0.2**
CRIN				*e*S		**Sn**	**06 58 40.9**	**+1.2**
CRIN	**San Cristobal 0.47**	**10**		P		**Pn**	**06 58 29.8**	**-0.2**
CRIN	**San Cristobal 0.47**	**10**		S		**Sn**	**06 58 39.3**	**-0.4**
PLRN	**Geotermica Pol 0.50**	**45**		P		**Pn**	**06 58 29.5**	**-0.7**
PLRN				S		**Sn**	**06 58 40.3**	**+0.3**
CNGN	**Cerro Negro 0.50**	**57**		P		**Pn**	**06 58 29.7**	**-0.5**
CNGN	**Cerro Negro 0.50**	**57**		S		**Sn**	**06 58 41.2**	**+1.1**
COPN	**Copaltepe 0.53**	**95**		*i*P		**Pn**	**06 58 29.7**	**-0.7**
COPN				*e*S		**Sn**	**06 58 39.3**	**-1.1**
COPN	**Copaltepe 0.53**	**95**		P		**Pn**	**06 58 29.7**	**-0.7**
BC84	**Volcan Momotom 0.60**	**74**		P		**Pn**	**06 58 30.9**	**-0.2**
BC84	**Volcan Momotom 0.60**	**74**		S		**Sn**	**06 58 42.3**	**+0.6**
MOM2	**El Cardon 0.66**	**72**		P		**Pn**	**06 58 31.4**	**-0.3**
MOM2				S		**Sn**	**06 58 43.9**	**+1.1**
AMTN	**Mateare 0.68**	**89**		P		**Pn**	**06 58 31.9**	**0.0**
AMTN	**Mateare 0.68**	**89**		S		**Sn**	**06 58 43.8**	**+0.7**
SAPS	**Ciudad Sandino 0.71**	**95**		S		**Sn**	**06 58 44.6**	**+0.9**
SAPS	**Ciudad Sandino 0.71**	**95**		P		**Pn**	**06 58 32.1**	**-0.2**
APQ3	**Volcan Apoyequ 0.75**	**87**		P		**Pn**	**06 58 32.4**	**-0.2**
APQ3				S		**Sn**	**06 58 45.2**	**+0.9**
ABCN	**Banco Central 0.81**	**97**		P		**Pn**	**06 58 32.9**	**-0.4**
ABCN	**Banco Central 0.81**	**97**		S		**Sn**	**06 58 46.0**	**+0.3**
ALLN	**Telcor Managua 0.84**	**95**		S		**Sn**	**06 58 47.0**	**+0.7**
ALLN	**Telcor Managua 0.84**	**95**		P		**Pn**	**06 58 33.6**	**-0.1**
UNAN	**Cigeo UNAN 0.85**	**98**		P		**Pn**	**06 58 33.6**	**-0.2**
UNAN				S		**Sn**	**06 58 47.1**	**+0.7**
POTN	**Potosi Cosigui 0.85**	**334**		*i*P		**Pn**	**06 58 33.3**	**-0.5**
POTN				*e*S		**Sn**	**06 58

NICO	Nicoya	2.66	141	*e*P		Pn	06 58 57.6 +0.1
JAYA	Jayaque - finc	2.67	302	*e*P		Pn	06 58 58.0 +0.3
JAYA				*e*S		Sn	06 59 27.4 -1.8
ESPN	Las Esperanzas	2.77	90	*e*P		Pn	06 58 59.1 +0.2
ESPN	Las Esperanzas	2.77	90	S		Sn	06 59 32.2 +0.8
ESPN	Las Esperanzas	2.77	90	P		Pn	06 58 59.1 +0.2
JTS	Las Juntas de	2.88	132	*e*P		Pn	06 59 01.0 +0.5
VARE2	V. Arenal	2.95	126	*e*P		Pn	06 59 05.2 +3.7

BER ***26*** *07:10:56.8±3.0, 76.4°N×7.3°E, h10km, Mw4.6, ML3.4(NAO), Confirmed Earthquake*
NAO ***26*** *07:10:57.0±1.2, 76.5°N×7.7°E, h10km, ML3.4*
IDC ***26*** *07:10:58.2±1.0, 76.5°N×7.6°E, h0km, mb3.5/6, mbtmp3.5/11, ML2.8/4, MS3.4/27, Error ellipse: s-maj=17.6km s-min=13.4km az=93.0*
DNK ***26*** *07:10:59.0±3.3, 76.4°N×7.4°E, h36km±40km, ML2.4*
KOLA ***26*** *07:11:00.7, 76.8°N×8.9°E, h0km, ML2.5, Error ellipse: s-maj=17.6km s-min=13.9km az=50.0, Greenland sea, Knipovich ridge, middle*
FCIAR ***26*** *07:11:00.0, 76.4°N×8.0°E, h10km, station SPA0 has station magnitude of 3.38*

ISC 26 07:10:54.1±1.7, 76.6°N±0.0°×7.5°E±0.0°, h7km±11km, n70, σ2°84/82, mb3.6/6, MS3.4/23, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.86**	**75**	Pn	**Pg**	**07 11 29.3**	**-0.4**
HSPB				Sn	**Sb**	**07 11 50.7**	**-1.0**
HSPB	**Hornsund (broa**	**1.86**	**75**	P	**Pg**	**07 11 28.8**	**-0.9**
HSPB				S	**Sn**	**07 11 46.1**	**-3.9**
HSPB	**Hornsund (broa**	**1.86**	**75**	P	**Pb**	**07 11 28.4**	**+0.1**
HSPB				S	**Sn**	**07 11 47.6**	**-2.4**
HSPB	**Hornsund (broa**	**1.86**	**75**	*e*P	**Pn**	**07 11 25.4**	**-0.9**
HSPB				*e*S	**Sn**	**07 11 45.7**	**-4.2**
HSPB	**Hornsund (broa**	**1.86**	**75**	*e*P	**Pg**	**07 11 29.1**	**-0.6**
HSPB				*e*		07 11 46.8	
HSPB				*e*S	**Sb**	**07 11 50.1**	**-1.7**
HSPB				IAML		07 11 51.6	
	comp=Z,125nm,0.1s						
BRBB	**Barentsburg B**	**2.06**	**42**	Pn	**Pb**	**07 11 32.2**	**+0.4**
BRBB				Sn	**Sb**	**07 11 55.7**	**-1.8**
BRBB	**Barentsburg B**	**2.06**	**42**	P	**Pb**	**07 11 31.7**	**0.0**
BRBB				S	**Sn**	**07 11 52.7**	**-2.2**
BRBB	**Barentsburg B**	**2.06**	**42**	P	**Pb**	**07 11 32.1**	**+0.3**
BRBB				S	**Sn**	**07 11 54.0**	**-1.0**
BRBB	**Barentsburg B**	**2.06**	**42**	*e*P	**Pb**	**07 11 32.2**	**+0.4**
BRBB				*e*S	**Sb**	**07 11 56.4**	**-1.1**
SPA0	**Spitsbergen Ar**	**2.47**	**47**	Pn	**Pb**	**07 11 38.9**	**+0.3**
	baz=226,slow=16						
SPA0				Sn	**Sb**	**07 12 08.4**	**-0.8**
	baz=238,slow=22						
SPA0	**Spitsbergen Ar**	**2.47**	**47⇑**	*i*P	**Pb**	**07 11 38.9**	**+0.3**
SPA0				*i* S	**Sb**	**07 12 07.6**	**-1.6**
SPA0	**Spitsbergen Ar**	**2.47**	**47**	Pn	**Pb**	**07 11 38.9**	**+0.3**
	baz=226,slow=16						
SPA0				Sn	**Sb**	**07 12 08.4**	**-0.8**
	baz=238,slow=22						
SPITS	**Spitsbergen Ar**	**2.47**	**47**	Pn	**Pb**	**07 11 39.0**	**+0.3**
	comp=Z,16nm,0.2s,baz=218,slow=16,SNR=187						
SPITS				Sn	**Sb**	**07 12 08.1**	**-1.1**
	baz=231,slow=20						
SPITS	**Spitsbergen Ar**	**2.47**	**47**	P	**Pb**	**07 11 38.7**	**0.0**
SPITS	**Spitsbergen Ar**	**2.47**	**47**	P	**Pb**	**07 11 38.0**	**-0.7**
SPITS				S	**Sn**	**07 12 05.9**	**+0.9**
KBS	**Kingsbay**	**2.48**	**20**	Pn	**Pb**	**07 11 37.8**	**-1.0**
KBS				Sn	**Sb**	**07 12 08.4**	**-1.0**
KBS	**Kingsbay**	**2.48**	**20**	P	**Pb**	**07 11 37.9**	**-1.0**
KBS	**Kingsbay**	**2.48**	**20**	P	**Pb**	**07 11 37.7**	**-1.1**
KBS				S	**Sn**	**07 12 03.4**	**-1.8**
KBS	**Kingsbay**	**2.48**	**20**	*e*P	**Pb**	**07 11 37.8**	**-1.0**
KBS				*e*P	**Pg**	**07 11 38.0**	**-3.5**
KBS				*i* S	**Sn**	**07 12 05.8**	**+0.6**
KBS				*e*S	**Sb**	**07 12 06.7**	**-2.8**
KBS	**Kingsbay**	**2.48**	**20**	*e*P	**Pb**	**07 11 37.8**	**-1.0**
KBS				*i* S	**Sn**	**07 12 05.8**	**+0.6**
BJO1	**Bjornoya**	**3.58**	**121**	Sn	**Sn**	**07 12 28.1**	**-4.1**
BJO1	**Bjornoya**	**3.58**	**121**	*e*P	**Pn**	**07 11 50.3**	**+0.5**
BJO1				*e*S	**Sn**	**07 12 28.3**	**-3.9**
BJO1	**Bjornoya**	**3.58**	**121**	*e*P	**Pn**	**07 11 50.4**	**+0.5**
BJO1				*e*S	**Sn**	**07 12 28.6**	**-3.6**
BJO1				IAML		07 12 30.1	
	comp=Z,30nm,0.7s						
BEA6	**Bear Island, N**	**3.58**	**121**	Pn	**Pn**	**07 11 52.6**	**+2.7**
BEA6				Sn	**Sn**	**07 12 28.3**	**-4.0**
HOPEN	**Hopen**	**4.06**	**83**	Pn	**Pn**	**07 11 59.7**	**+3.2**
HOPEN				Sn	**Sn**	**07 12 43.8**	**-0.4**
HOPEN	**Hopen**	**4.06**	**83**	*e*P	**Pn**	**07 11 59.7**	**+3.2**
HOPEN				*e*S	**Sn**	**07 12 43.7**	**-0.4**
HOPEN	**Hopen**	**4.06**	**83**	*e*P	**Pn**	**07 11 60.0**	**+3.5**
HOPEN				*e*S	**Sn**	**07 12 44.2**	**0.0**
HOPEN				IAML		07 13 00.6	
	comp=Z,68nm,0.5s						
DAG	**Danmarks Havn**	**6.02**	**284**	*e*P	**Pn**	**07 12 23.2**	**-0.1**
DAG				*e*S	**Sn**	**07 13 25.4**	**-6.9**
DAG				IAML		07 13 29.4	
	comp=Z,15nm,0.5s						
DAG	**Danmarks Havn**	**6.02**	**284**	*e*P	**Pn**	**07 12 23.7**	**+0.4**
DAG				*e*S	**Sn**	**07 13 25.0**	**-7.3**
DAG				IAML		07 13 29.4	
	comp=Z,15nm,0.5s						
NOR	**Nord**	**6.69**	**329**	Pn	**Pn**	**07 12 33.0**	**+0.5**
NOR				Sn	**Sn**	**07 13 45.6**	**-3.1**
NOR	**Nord**	**6.69**	**329**	*e*P	**Pn**	**07 12 33.1**	**+0.6**
NOR				*e*S	**Sn**	**07 13 46.6**	**-2.1**
NOR				IAML		07 13 49.1	
	comp=Z,10nm,0.4s						
NOR	**Nord**	**6.69**	**329**	*e*P	**Pn**	**07 12 33.4**	**+0.9**
NOR				*e*S	**Sn**	**07 13 45.4**	**-3.3**
NOR				IAML		07 13 49.1	
	comp=Z,10nm,0.4s						
DBG	**Daneborg**	**7.31**	**265**	*e*P	**Pn**	**07 12 42.3**	**+1.2**
DBG				*e*S	Sn	07 13 53.9	-10
DBG				IAML		07 14 05.0	
	comp=Z,8.6nm,1.1s						
DBG	**Daneborg**	**7.31**	**265**	*e*P	**Pn**	**07 12 42.3**	**+1.2**
DBG				*e*S	Sn	07 13 53.9	-10
DBG				IAML		07 14 05.0	
	comp=Z,8.6nm,1.1s						
ZFI2	**Zemlya Franca-**	**8.68**	**43**	*e*P	**Pn**	**07 13 03.9**	**+4.2**
ZFI2				*e*S	**Sn**	**07 14 34.5**	**-3.1**
OMEGA	**Omega**	**8.69**	**43**	*e*P	**Pn**	**07 13 04.2**	**+4.3**
OMEGA				*e*S	**Sn**	**07 14 34.6**	**-3.3**
	comp=Z,21nm,1.0s						
ARA0	**ARCESS Array S**	**8.79**	**135**	Pn	**Pn**	**07 13 02.9**	**+1.5**
	baz=326,slow=12						
ARA0				Sn	**Sn**	**07 14 32.2**	**-8.3**
	baz=328,slow=22						
ARA0	**ARCESS Array S**	**8.79**	**135**	Pn	**Pn**	**07 13 02.9**	**+1.5**
	baz=326,slow=12						
ARA0				Sn	**Sn**	**07 14 32.2**	**-8.3**
	baz=328,slow=22						
ARCES	**ARCESS Array B**	**8.79**	**135**	Pn	**Pn**	**07 13 02.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=322,slow=11,SNR=16						
ARCES				Sn	**Sn**	**07 14 33.8**	**-6.7**
	comp=Z,0.4nm,0.3s,baz=335,slow=23,SNR=8.9						
ARCES				LR	LR	07 16 27.2	
	comp=Z,120nm,19.5s,baz=328,slow=38						
	comp=Z,1.3nm,0.5s						
NEEM	**North Greenlan**	**12.71**	**302**	*e*P	**Pn**	**07 13 53.4**	**-1.7**
NEEM				*e*S	Sn	07 16 02.4	-14
NEEM				IAML		07 16 22.9	
	comp=Z,6.4nm,0.9s						
NEEM	**North Greenlan**	**12.71**	**302**	*e*P	**Pn**	**07 13 53.4**	**-1.7**
NEEM				*e*S	Sn	07 16 02.4	-14
NEEM				IAML		07 16 22.9	
	comp=Z,6.4nm,0.9s						
NOA	**NORSAR Array B**	**15.73**	**173**	Pn	**P**	**07 14 38.8**	**-1.0**
	baz=351,slow=12,SNR=3.4						
NOA				LR	LR	07 20 04.2	
	comp=Z,41nm,18.4s,baz=355,slow=35						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**16.48**	**147**	Pn	**P**	**07 14 48.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=13,slow=13,SNR=3.4						
FINES				LR	LR	07 21 17.0	
	comp=Z,92nm,19.1s,baz=350,slow=38						
	comp=Z,1.9nm,1.0s						
HFS	**Hagfors**	**16.72**	**169**	Pn	**P**	**07 14 53.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=351,slow=18,SNR=4.5						
HFS				LR	LR	07 20 26.8	
	comp=Z,45nm,19.1s,baz=38,slow=34						
	comp=Z,2.4nm,0.8s						

EKA	**Eskdalemuir Ar**	**21.77**	**197**	P		**P**	**07 15 51.5**	**+5.6**
	comp=Z,0.8nm,0.7s,baz=356,slow=12,SNR=3.7							
	comp=Z,0.8nm,0.7s							
RES	**Resolute Bay**	**22.44**	**317**	LR		LR	07 23 37.5	
	comp=Z,45nm,18.9s,baz=36,slow=34							
KIRV	**Kirov**	**23.19**	**117**	LR		LR	07 25 26.5	
	comp=Z,106nm,19.8s,baz=343,slow=38							
FRB	**Frobisher Bay**	**26.37**	**284**	LR		LR	07 27 06.7	
	comp=Z,93nm,19.5s,baz=30,slow=37							
AKASG	**Malin Array Be**	**27.38**	**149**	LR		LR	07 27 16.0	
	comp=Z,70nm,20.5s,baz=5.0,slow=36							
VRAC	**Vranov**	**27.67**	**167**	LR		LR	07 27 53.8	
	comp=Z,36nm,18.1s,baz=12,slow=37							
DAVOX	**Davos/Dischmat**	**29.98**	**177**	LR		LR	07 27 38.1	
	comp=Z,25nm,20.7s,baz=55,slow=34							
AKTO	**Aktyubinsk**	**32.61**	**114**	LR		LR	07 31 28.4	
	comp=Z,70nm,18.6s,baz=352,slow=38							
BVAR	**Borovoye Array**	**32.94**	**99**	P		P	07 17 35.2	+6.6
	comp=Z,1.9nm,0.8s,baz=339,slow=7.9,SNR=4.3							
BVAR				LR		LR	07 34 15.8	
	comp=Z,42nm,18.1s,baz=273,slow=42							
	comp=Z,1.9nm,0.8s							
SCHQ	**Schefferville**	**33.96**	**274**	LR		LR	07 30 27.7	
	comp=Z,66nm,19.8s,baz=32,slow=34							
ZALV	**Zalesovo Beam**	**35.43**	**84**	LR		LR	07 37 24.7	
	comp=Z,43nm,18.2s,baz=166,slow=45							
KURBB	**Kurchatov Arra**	**37.05**	**92**	P		P	07 18 09.9	+5.8
	comp=Z,1.1nm,0.9s,baz=336,slow=7.7,SNR=8.2							
	comp=Z,1.1nm,0.9s							
ILAR	**Eielson Array**	**37.92**	**342**	P		P	07 18 18.7	+7.4
	comp=Z,0.2nm,0.8s,baz=13,slow=5.9,SNR=5.8							
	comp=Z,0.2nm,0.8s							
GNI	**Garni**	**39.95**	**134**	LR		LR	07 35 49.8	
	comp=Z,39nm,21.3s,baz=25,slow=37							
MKAR	**Makanchi Array**	**41.52**	**91**	P		P	07 18 46.5	+5.1
	comp=Z,1.0nm,0.7s,baz=326,slow=6.3,SNR=6.4							
MKAR				LR		LR	07 39 21.0	
	comp=Z,75nm,18.6s,baz=166,slow=41							
	comp=Z,1.0nm,0.7s							
DLBC	**Dease Lake**	**42.53**	**328**	LR		LR	07 37 39.4	
	comp=Z,59nm,18.1s,baz=342,slow=38							
AAK	**Ala-Archa**	**43.65**	**100**	LR		LR	07 43 02.5	
	comp=Z,50nm,18.0s,baz=209,slow=44							
SADO	**Sadowa**	**46.20**	**280**	LR		LR	07 37 52.1	
	comp=Z,57nm,19.8s,baz=40,slow=35							
NEW	**Newport**	**50.56**	**315**	LR		LR	07 41 17.0	
	comp=Z,35nm,18.1s,baz=351,slow=36							
PDAR	**Pinedale Array**	**54.55**	**306**	LR		LR	07 43 43.7	
	comp=Z,31nm,19.1s,baz=358,slow=36							
TKL	**Tuckaleechee C**	**55.94**	**281**	LR		LR	07 43 32.1	
	comp=Z,52nm,20.3s,baz=11,slow=35							
ANMO	**Albuquerque**	**61.52**	**301**	LR		LR	07 48 48.2	
	comp=Z,77nm,18.3s,baz=91,slow=37							
PFO	**Pinyon Flats O**	**64.70**	**310**	LR		LR	07 50 32.8	
	comp=Z,45nm,18.6s,baz=320,slow=37							
TXAR	**Lajitas Array**	**66.39**	**297**	P		**P**	**07 21 47.2**	**+3.9**
	comp=Z,0.4nm,0.8s,baz=52,slow=5.4,SNR=6.0							
TXAR				LR		LR	07 51 43.3	
	comp=Z,28nm,18.1s,baz=311,slow=37							
	comp=Z,0.4nm,0.8s							
LPIG	**La Paz**	**72.81**	**302**	LR		LR	07 55 05.4	
	comp=Z,40nm,19.2s,baz=223,slow=36							
CMIG	**Matias Romero**	**76.34**	**286**	LR		LR	07 58 44.8	
	comp=Z,14nm,19.9s,baz=6.5,slow=38							

DNK ***26*** *07:29:54.4±1.5, 76.3°N×7.5°E, h36km±34km, ML1.3*
BER ***26*** *07:29:55.6±2.7, 76.4°N×7.3°E, h10km, Mw3.7, ML2.6(NAO), Confirmed Earthquake*
NAO ***26*** *07:29:56.5±1.9, 76.5°N×7.6°E, h14km±15km, ML2.6*
KOLA ***26*** *07:30:00.6, 76.7°N×9.2°E, h0km, ML1.9, Error ellipse: s-maj=19.0km s-min=11.8km az=50.0, Greenland sea*

ISC 26 07:29:51.1±1.2, 76.4°N±0.0°×6.9°E±0.0°, h10km, n21, σ2°75/39, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.05**	**71**	Pn	**Pn**	**07 30 28.2**	**+2.7**
HSPB				Sn	**Sn**	**07 30 48.5**	**-2.6**
HSPB	**Hornsund (broa**	**2.05**	**71**	P	**Pn**	**07 30 27.1**	**+1.6**
HSPB				S	**Sn**	**07 30 46.5**	**-4.7**
HSPB	**Hornsund (broa**	**2.05**	**71**	*e*P	**Pn**	**07 30 28.2**	**+2.7**
HSPB				*e*		07 30 44.8	
HSPB				*e*S	**Sn**	**07 30 48.7**	**-2.4**
HSPB				IAML		07 30 50.3	
	comp=Z,16nm,0.2s						
BRBB	**Barentsburg B**	**2.29**	**41**	Pn	**Pn**	**07 30 30.9**	**+2.0**
BRBB				Sn	**Sn**	**07 30 54.8**	**-2.3**
BRBB	**Barentsburg B**	**2.29**	**41**	P	**Pn**	**07 30 31.2**	**+2.3**
BRBB				S	**Sn**	**07 30 54.1**	**-3.0**
BRBB	**Barentsburg B**	**2.29**	**41**	*e*P	**Pn**	**07 30 33.2**	**+4.3**
BRBB				*e*S	**Sn**	**07 30 55.0**	**-2.1**
KBS	**Kingsbay**	**2.69**	**21**	Pn	**Pn**	**07 30 34.7**	**+0.3**
KBS				Sn	**Sn**	**07 31 06.0**	**-1.1**
KBS	**Kingsbay**	**2.69**	**21**	*e*P	**Pn**	**07 30 35.2**	**+0.8**
KBS				*e*S	**Sn**	**07 31 06.4**	**-0.6**
KBS	**Kingsbay**	**2.69**	**21**	*e*P	**Pn**	**07 30 34.7**	**+0.3**
KBS				*e*S	**Sn**	**07 31 06.4**	**-0.6**
SPA0	**Spitsbergen Ar**	**2.69**	**46**	Pn	**Pn**	**07 30 37.8**	**+3.3**
	baz=226,slow=16						
SPA0				Sn	**Sn**	**07 31 07.3**	**+0.3**
	baz=233,slow=22						
SPA0	**Spitsbergen Ar**	**2.69**	**46**	Pn	**Pn**	**07 30 37.8**	**+3.3**
	baz=226,slow=16						
SPA0				Sn	**Sn**	**07 31 07.3**	**+0.3**
	baz=233,slow=22						
SPITS	**Spitsbergen Ar**	**2.69**	**46**	P	**Pn**	**07 30 37.7**	**+3.2**
SPITS				S	**Sn**	**07 31 05.3**	**-1.8**
HOPEN	**Hopen**	**4.23**	**81**	Pn	**Pn**	**07 30 58.9**	**+3.4**
HOPEN				Sn	**Sn**	**07 31 42.7**	**-2.0**
HOPEN	**Hopen**	**4.23**	**81**	*e*P	**Pn**	**07 30 58.7**	**+3.2**
HOPEN				*e*S	**Sn**	**07 31 43.0**	**-1.8**
HOPEN				IAML		07 31 45.2	
	comp=Z,18nm,0.1s						
DAG	**Danmarks Havn**	**5.93**	**285**	*e*P	**Pn**	**07 31 22.1**	**+3.3**
DAG				*e*S	Sn	07 32 24.6	-1.9
DAG				IAML		07 32 26.5	
	comp=Z,1.6nm,0.3s						
DAG	**Danmarks Havn**	**5.93**	**285**	*e*P	**Pn**	**07 31 21.1**	**+2.3**
DAG				*e*S	Sn	07 32 23.1	-3.4
DAG				IAML		07 32 26.5	
	comp=Z,1.6nm,0.3s						
NOR	**Nord**	**6.77**	**330**	Pn	**Pn**	**07 31 31.8**	**+1.5**
NOR				Sn	**Sn**	**07 32 45.5**	**-1.7**
NOR	**Nord**	**6.77**	**330**	*e*P	**Pn**	**07 31 32.1**	**+1.7**
NOR				*e*S	**Sn**	**07 32 45.2**	**-2.1**
NOR				IAML		07 32 47.9	
	comp=Z,0.7nm,0.3s						
NOR	**Nord**	**6.77**	**330**	*i* P	**Pn**	**07 31 32.0**	**+1.7**
NOR				*e*S	Sn	07 32 43.9	-3.4
NOR				IAML		07 32 47.9	
	comp=Z,0.7nm,0.3s						
ARA0	**ARCESS Array S**	**8.77**	**133**	Pn	**Pn**	**07 32 01.0**	**+3.3**
	baz=334,slow=14						
ARA0				Sn	**Sn**	**07 33 31.4**	**-5.1**
	baz=340,slow=22						
ARA0	**ARCESS Array S**	**8.77**	**133**	Pn	**Pn**	**07 32 01.0**	**+3.3**
	baz=334,slow=14						
ARA0				Sn	**Sn**	**07 33 31.4**	**-5.1**
	baz=340,slow=22						

PRE ***26*** *07:33:42.8±1.8, 8.5°S×27.7°E, h5km, ML3.9*
NEIC ***26*** *07:33:51.6±0.9, 8.5°S±0.0°×30.0°E±0.1, h10km±2km, mb4.3/17, Error ellipse: s-maj=20.8km s-min=11.4km az=291.0*
IDC ***26*** *07:33:52.2±0.9, 8.5°S×30.0°E, h0km, mb3.7/7, mbtmp3.9/11, ML2.3/1, MS3.3/6, Error ellipse: s-maj=34.0km s-min=14.5km az=110.0*
BGSI ***26*** *07:35:43.9±0.3, 16.2°S×26.0°E, h177km±58km, ML3.5*

ISC 26 07:33:51.4±0.5, 8.7°S±0.0°×30.1°E±0.0°, h10km, n53, σ2°95/54, mb3.9/6, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**6.77**	**196**	Pn	Pn	07 35 37.0	+6.0
	13nm,0.3s,baz=24,slow=13,SNR=37						
LSZ				Sn	**Sn**	**07 36 51.7**	**+3.4**
	18nm,0.3s,baz=107,slow=22,SNR=15						
LSZ				Lg	Lg	07 37 35.4	
	43nm,0.3s,baz=305,slow=8.3,SNR=15						
LSZ				LR	LR	07 38 31.0	
	comp=Z,235nm,18.6s,baz=4.5,slow=40						
LSZ	**Lusaka**	**6.77**	**196**	*e*P	Pn	07 35 22.5	-8.5
LSZ				*e*S	Sn	07 36 36.3	-12
LSZ				IAML		07 37 46.4	
	comp=Z,321nm,0.5s						
MBAR	**Mbarara**	**8.10**	**5**	Pn	**Pn**	**07 35 47.0**	**-2.2**
MBAR	**Mbarara**	**8.10**	**5**	*e*P	**Pn**	**07 35 48.0**	**-1.3**
MBAR				*e*S	**Sn**	**07 37 18.6**	**-2.5**
MBAR				IAML		07 37 28.1	
	comp=Z,54nm,0.2s						
KIBK	**Kibwezi**	**10.14**	**52**	Pn	**Pn**	**07 36 16.0**	**-1.2**
KSANE	**Kasane**	**10.22**	**208**	Pn	**Pn**	**07 36 20.1**	**+1.8**
KMBO	**Kilima Mbogo**	**10.38**	**44**	Pn	**Pn**	**07 36 20.1**	**-0.6**
	comp=Z,4.3nm,0.3s,baz=220,slow=17,SNR=7.6						
KMBO				Sn	Sn	07 38 07.6	-10
	comp=Z,3.2nm,0.3s,baz=270,slow=10,SNR=4.3						
KMBO				Lg	Lg	07 39 17.2	
	comp=Z,8.0nm,0.3s,baz=329,slow=16,SNR=7.7						
KMBO				LR	LR	07 39 38.0	
	comp=Z,62nm,20.4s,baz=96,slow=34						
BROLN	**Tlhalogang**	**12.59**	**192**	*i* P	**Pn**	**07 36 55.3**	**+4.6**
BROLN				IAML		07 40 45.7	
	comp=E,67nm,1.3s						
PHDHD	**Phuduhudu**	**12.61**	**205**	Pn	**Pn**	**07 36 52.4**	**+1.4**
LODK	**Lodwar**	**13.16**	**24**	Pn	**Pn**	**07 36 56.2**	**-2.3**
MUSN	**Musina, Limpop**	**13.49**	**181**	*e*P	**Pn**	**07 37 01.4**	**-1.5**
MUSN				*e*S	**Sn**	**07 39 26.0**	**-7.0**
MUSN				IAML		07 39 33.6	
	comp=Z,14nm,0.7s						
MREMI	**Moremi**	**14.00**	**190**	*i* P	**Pn**	**07 37 13.8**	**+3.9**
MREMI				IAML		07 41 32.0	
	comp=E,174nm,1.3s						
MREMI	**Moremi**	**14.00**	**190**	Pn	**Pn**	**07 37 11.4**	**+1.4**
CKGRV	**CKGRV**	**14.00**	**205**	*i* P	Pn	07 37 02.9	-7.1
CKGRV				IAML		07 41 52.2	
	comp=N,195nm,0.7s						
MOPA	**Mopani**	**14.76**	**175**	*e*P	**Pn**	**07 37 21.5**	**+1.2**
LPHEP	**Lephephe**	**15.11**	**195**	Pn	**Pn**	**07 37 26.3**	**+1.1**
LPHEP				IAmb	IAmb	07 37 40.5	
	comp=Z,14nm,0.8s						
GRTLG	**Ghanzi**	**15.20**	**213**	*i* P	**Pn**	**07 37 19.4**	**-6.9**
GRTLG				IAML		07 42 23.3	
	comp=E,29nm,1.1s						
GRTLG	**Ghanzi**	**15.20**	**213**	Pn	**Pn**	**07 37 27.2**	**+0.8**
GRTLG				IAmb	IAmb	07 37 41.2	
	comp=Z,13nm,0.6s						
LEPH	**Lephalale, Lim**	**15.21**	**188**	*e*P	**Pn**	**07 37 21.6**	**-4.8**
KDWAN	**Kaudwane**	**15.47**	**199**	Pn	**Pn**	**07 37 30.4**	**+0.5**
KGCAE	**Kacgae**	**15.96**	**207**	Pn	**Pn**	**07 37 36.9**	**+0.7**
KGCAE				IAmb	IAmb	07 37 51.1	
	comp=Z,39nm,1.3s						
TSUM	**Tsumeb**	**15.98**	**228**	Pn	**Pn**	**07 37 36.1**	**-0.5**
TSUM	**Tsumeb**	**15.98**	**228**	Pn	**P**	**07 37 38.7**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=36,slow=13,SNR=5.7						
TSUM				Sn	**Sn**	**07 40 31.5**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=135,slow=12,SNR=3.6						
TSUM				LR	LR	07 44 31.0	
	comp=Z,114nm,20.6s,baz=60,slow=40						
	comp=Z,2.5nm,0.4s						
PILG	**Pilgrimsrest,**	**16.13**	**178**	*e*P	**Pn**	**07 37 39.0**	**+0.5**
PILG				IAML		07 41 18.7	
	comp=Z,12nm,0.5s						
LBTB	**Lobatse**	**16.76**	**194**	Pn	**Pn**	**07 37 45.9**	**-0.5**
LBTB	**Lobatse**	**16.76**	**194**	Pn	**P**	**07 37 48.5**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=12,slow=14,SNR=12						
LBTB				Sn	**Sn**	**07 40 47.9**	**-4.9**
	comp=Z,1.1nm,0.3s,baz=101,slow=21,SNR=3.7						
LBTB				Lg		07 42 48.5	
	comp=Z,0.7nm,0.3s,baz=263,slow=21,SNR=4.8						
LBTB				LR	LR	07 43 19.8	
	comp=Z,37nm,20.7s,baz=43,slow=34						
HRAO	**HartRAO**	**17.22**	**187**	*e*P	**Pn**	**07 37 49.2**	**-3.1**
PRYS	**Parys**	**18.29**	**188**	*e*P	**P**	**07 38 07.3**	**+1.7**
WIN	**Windhoek**	**18.58**	**221**	P	**Pn**	**07 38 08.9**	**-0.2**
WIN				IAmb	IAmb	07 38 48.0	
	comp=Z,26nm,1.5s						
POGA	**Pongola**	**18.58**	**175**	P	**Pn**	**07 38 09.8**	**+0.9**
POGA				IAmb	IAmb	07 38 49.5	
	comp=Z,24nm,1.3s						
POGA	**Pongola**	**18.58**	**175**	*e*P	**Pn**	**07 38 15.0**	**+6.0**
NWCL	**Newcastle**	**18.91**	**181**	*e*P	**Pn**	**07 38 16.7**	**+3.7**
SNKL	**Senekal, Frees**	**19.57**	**186**	*e*P	**Pn**	**07 38 26.1**	**+5.1**
SNKL				*e*S	**Pn**	**07 38 26.7**	**+5.7**
SNKL				IAML		07 40 12.3	
	comp=Z,4.1nm,0.5s						
BOSA	**Boshof**	**20.30**	**192**	P	**P**	**07 38 28.6**	**+0.9**
BOSA				IAmb	IAmb	07 38 48.7	
	comp=Z,12nm,1.0s						
BOSA	**Boshof**	**20.30**	**192**	P	Pn	07 38 30.9

*GCG **26** 08:00:50.8±0.7, 13°.71N×90°.80W, h33$^{km}_{\pm 14}$, MD3.8, ML2.9*
*CATAC **26** 08:00:50.7±0.6, 14°N±4°×9°1W±°, h23$^{km}_{\pm 5}$, M2.8/13, MLv2.8/13, Error ellipse: s-maj=8.9km s-min=7.7km az=28.4, confirmed*

ISC 26 08:00:50.1±1.8, **13°.64N**±0°.09×**90°.83W**±0°.07, **h29**^{km}, **n36, σ0^{s}.81/39, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.71**	**26**	*i* P	**Pn**	**08 01 05.6**	**+1.2**
FG16				*i* S	**Sn**	**08 01 17.1**	**+2.6**
FG16				IAML		08 01 20.7	
	comp=E,1μm,0.1s						
ESSG	**Sabana Grande**	**0.74**	**0**	*i* P	**Pb**	**08 01 04.1**	**-0.5**
ESSG				*i* S	**Sn**	**08 01 14.3**	**-0.8**
ESSG				IAML		08 01 17.0	
	comp=N,204nm,0.1s						
FAME	**Alcaldia de Sa**	**0.82**	**75**	P	**Pb**	**08 01 05.5**	**-0.4**
FAME	**Alcaldia de Sa**	**0.82**	**75**	S	**Sn**	**08 01 16.3**	**-0.6**
NUBE	**Las Nubes**	**1.06**	**75**	*i* P	**Pn**	**08 01 09.2**	**0.0**
NUBE				*i* S	**Sb**	**08 01 23.1**	**-0.4**
NUBE	**Las Nubes**	**1.06**	**75**	P	**Pn**	**08 01 09.0**	**-0.1**
LOAL	**Lomas de Alarc**	**1.08**	**70**	P	**Pn**	**08 01 09.7**	**+0.3**
LOAL	**Lomas de Alarc**	**1.08**	**70**	S	**Sb**	**08 01 23.9**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.09**	**69**	P	**Pb**	**08 01 09.9**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.09**	**69**	S	**Sb**	**08 01 24.5**	**+0.2**
CEVE	**Cerro Verde**	**1.19**	**81**	P	**Pn**	**08 01 10.3**	**-0.8**
CEVE	**Cerro Verde**	**1.19**	**81**	S	**Sb**	**08 01 27.5**	**+0.2**
UNIC	**Universidad Ca**	**1.29**	**74**	S	**Sb**	**08 01 29.7**	**-0.4**
UNIC	**Universidad Ca**	**1.29**	**74**	P	**Pn**	**08 01 12.8**	**+0.5**
JAYA	**Jayaque - finc**	**1.34**	**89**	*i* P	**Pn**	**08 01 13.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.34**	**89**	P	**Pn**	**08 01 12.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.34**	**89**	S	**Sn**	**08 01 30.4**	**+0.3**
PMON	**Piamonte**	**1.48**	**87**	S	**Sn**	**08 01 34.0**	**+0.7**
PMON	**Piamonte**	**1.48**	**87**	P	**Pn**	**08 01 15.2**	**+0.4**
UEES	**Universidad Ev**	**1.55**	**87**	P	**Pn**	**08 01 16.3**	**+0.4**
UEES	**Universidad Ev**	**1.55**	**87**	S	**Sb**	**08 01 36.1**	**-1.4**
LOMA	**Loma Larga**	**1.61**	**89**	P	**Pn**	**08 01 17.1**	**+0.4**
LOMA	**Loma Larga**	**1.61**	**89**	S	**Sn**	**08 01 37.5**	**+0.8**
MTO3	**Montecristo**	**1.62**	**62**	P	**Pn**	**08 01 16.9**	**0.0**
MTO3	**Montecristo**	**1.62**	**62**	S	**Sn**	**08 01 36.0**	**-0.9**
UDBS	**Universidad Do**	**1.63**	**87**	S	**Sb**	**08 01 38.4**	**-1.4**
UDBS	**Universidad Do**	**1.63**	**87**	P	**Pn**	**08 01 17.4**	**+0.4**
SMCA	**Catarina**	**1.71**	**315**	*i* P	**Pn**	**08 01 18.1**	**+0.1**
ESQI	**Esquipulas**	**1.71**	**57**	P	**Pn**	**08 01 18.3**	**+0.2**
ESQI	**Esquipulas**	**1.71**	**57**	S	**Sn**	**08 01 39.1**	**0.0**
PAVA	**Las Pavas**	**1.84**	**87**	P	**Pn**	**08 01 20.8**	**+0.8**
PAVA	**Las Pavas**	**1.84**	**87**	S	**Sn**	**08 01 42.7**	**+0.3**
TECO	**Alcaldia de Te**	**2.00**	**93**	P	**Pn**	**08 01 23.0**	**+1.0**
TECO	**Alcaldia de Te**	**2.00**	**93**	S	**Sn**	**08 01 47.1**	**+1.1**
PACA	**Pacayal**	**2.44**	**94**	P	**Pn**	**08 01 29.5**	**+1.3**
PACA	**Pacayal**	**2.44**	**94**	S	**Sn**	**08 01 58.0**	**+0.8**

*ISK **26** 08:02:03.7, 37°.83N×29°.58E, h8^{km}, ML3.2/23*
*IDC **26** 08:02:03.9±1.5, 37°.43N×29°.91E, h0^{km}, mb3.8/2, mbtmp3.6/4, ML2.1/2, Error ellipse: s-maj=73.8km s-min=17.0km az=145.0*
*AFAD **26** 08:02:04.3, 37°.83N×29°.56E, h7$^{km}_{\pm 3}$, ML3.1*

ISC 26 08:02:04.7±0.9, **37°.83N**±0°.02×**29°.57E**±0°.02, **h7**$^{km}_{\pm 7}$, **km, n50, σ1^{s}36/78, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.12**	**178**	P	**Pg**	**08 02 07.1**	**-0.1**
INCE				S	**Sg**	**08 02 10.1**	**+1.0**
INCE				*i* IAML		08 02 11.0	
	comp=E,8μm,0.3s						
INCE				*i* IAML		08 02 13.0	
	comp=N,8μm,0.4s						
BASM	**Basmaki-Afyon**	**0.39**	**76**	Pg	**Pg**	**08 02 11.5**	**-0.8**
BASM				Sg	**Sg**	**08 02 17.1**	**-0.4**
BRDR	**BURDUR-Merkez**	**0.41**	**108**	P	**Pg**	**08 02 12.1**	**-0.5**
BRDR				S	**Sb**	**08 02 19.7**	**-1.2**
BRDR				*i* IAML		08 02 21.0	
	comp=N,1μm,0.9s						
BRDR				*i* IAML		08 02 21.0	
	comp=E,2μm,0.5s						
APMY	**Acipayam-Deniz**	**0.41**	**211**	Pg	**Pg**	**08 02 12.2**	**-0.5**
APMY				Sg	**Sg**	**08 02 18.8**	**+0.6**
DNIZ	**Denizli-Tavas-**	**0.47**	**245**	P	**Pg**	**08 02 13.7**	**0.0**
DNIZ				S	**Sb**	**08 02 21.5**	**-1.0**
DNIZ				*i* IAML		08 02 22.0	
	comp=N,1μm,0.4s						
DNIZ				*i* IAML		08 02 22.0	
	comp=E,10μm,0.4s						
KHL	**Karahalli**	**0.50**	**356**	Pg	**Pg**	**08 02 13.9**	**-0.4**
KHL				Sg	**Sg**	**08 02 21.3**	**+0.5**
KZIL	**AFYON_Kizioren**	**0.62**	**46**	P	**Pg**	**08 02 16.1**	**-0.6**
KZIL				S	**Sn**	**08 02 29.3**	**-1.1**
KZIL				*i* IAML		08 02 30.0	
	comp=N,1μm,0.4s						
KZIL				*i* IAML		08 02 33.0	
	comp=E,1μm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.63**	**236**	P	**Pg**	**08 02 16.2**	**-0.8**
TAVA				S	**Sb**	**08 02 26.0**	**-1.3**
TAVA				*i* IAML		08 02 26.0	
	comp=N,913nm,0.2s						
TAVA				*i* IAML		08 02 28.0	
	comp=E,796nm,0.3s						
DNZT	**Denizli-Tavas-**	**0.70**	**219**	P	**Pg**	**08 02 17.5**	**-0.6**
DNZT				S	**Sb**	**08 02 28.9**	**-0.2**
CAEL	**Denizli, Camel**	**0.73**	**196**	P	**Pb**	**08 02 18.6**	**-1.2**
CAEL				S	**Sg**	**08 02 28.2**	**0.0**
CAEL				*i* IAML		08 02 33.0	
	comp=N,1μm,0.9s						
CAEL				*i* IAML		08 02 37.0	
	comp=E,715nm,0.7s						
ISP	**Isparta**	**0.75**	**90**	Pg	**Pg**	**08 02 18.5**	**-0.7**
ISP				Sg	**Sb**	**08 02 29.3**	**-1.5**
AFYN	**Afyon-Dinar-K**	**0.86**	**59**	P	**Pg**	**08 02 20.3**	**-0.9**
AFYN				S	**Sn**	**08 02 36.0**	**-0.2**
AFYN				*i* IAML		08 02 39.0	
	comp=N,570nm,0.6s						
AFYN				*i* IAML		08 02 44.0	
	comp=E,726nm,0.7s						
BNAZ	**Uak-Banaz**	**0.89**	**16**	P	**Pb**	**08 02 21.5**	**-1.0**
BNAZ				S	**Sn**	**08 02 35.7**	**-1.2**
BNAZ				*i* IAML		08 02 40.0	
	comp=E,5μm,0.7s						
BNAZ				*i* IAML		08 02 41.0	
	comp=N,4μm,0.6s						
CAME	**Cameli-Denizli**	**0.91**	**194**	Pg	**Pg**	**08 02 21.4**	**-0.7**
ESEN	**Aydn-Nazilli**	**0.97**	**269**	P	**Pg**	**08 02 22.4**	**-0.9**
ESEN				S	**Sb**	**08 02 36.6**	**-0.2**
ESEN				*i* IAML		08 02 39.0	
	comp=E,322nm,0.6s						
ESEN				*i* IAML		08 02 41.0	
	comp=N,269nm,0.3s						
KNIK	**Mula-Seydike**	**0.98**	**180**	P	**Pn**	**08 02 23.8**	**-1.2**
KNIK				S	**Sn**	**08 02 38.2**	**-1.1**
USAK	**Uak-Merkez**	**0.99**	**334**	P	**Pg**	**08 02 23.2**	**-0.5**
USAK				S	**Sb**	**08 02 37.8**	**+0.3**
USAK				*i* IAML		08 02 42.0	
	comp=N,382nm,0.3s						
USAK				*i* IAML		08 02 42.0	
	comp=E,347nm,0.3s						
KULA	**Kula-Manisa**	**0.99**	**314**	Pg	**Pb**	**08 02 23.5**	**-0.8**
KIRA	**zmir-Kiraz**	**1.00**	**292**	P	**Pg**	**08 02 23.2**	**-0.6**
KIRA				S	**Sn**	**08 02 39.1**	**-0.5**
KIRA				*i* IAML		08 02 41.0	
	comp=N,355nm,0.6s						
KIRA				*i* IAML		08 02 42.0	
	comp=E,556nm,0.2s						
NAZL	**Nazilli-Aydin**	**1.02**	**278**	Pg	**Pb**	**08 02 24.0**	**-0.8**
MANT	**Manisa**	**1.04**	**310**	P	**Pb**	**08 02 24.4**	**-0.7**
MANT				S	**Sn**	**08 02 39.5**	**-1.4**
MANT				*i* IAML		08 02 42.0	
	comp=E,695nm,0.4s						
MANT				*i* IAML		08 02 44.0	
	comp=N,686nm,0.3s						
MULA	**Mugla, Merkez-**	**1.15**	**241**	P	**Pg**	**08 02 25.6**	**-1.0**
MULA				S	**Sn**	**08 02 42.8**	**-0.5**
MULA				*i* IAML		08 02 45.0	
	comp=E,288nm,0.6s						
MULA				*i* IAML		08 02 50.0	
	comp=N,198nm,0.5s						
GEDZ	**Gediz**	**1.22**	**354**	Pn	**Pb**	**08 02 27.5**	**-0.7**
SHAP	**Saphane-Kutahy**	**1.23**	**347**	Pn	**Pn**	**08 02 27.7**	**-0.7**
ODEM	**Odemis-Izmir**	**1.26**	**291**	Pn	**Pn**	**08 02 28.2**	**-0.7**
ANTB	**Antalya**	**1.27**	**137**	Pn	**Pg**	**08 02 28.0**	**-1.0**
IZMR	**zmir-demi**	**1.32**	**284**	P	**Pn**	**08 02 28.5**	**-1.0**
IZMR				S	**Sn**	**08 02 47.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.33**	**276**	Pn	**Pn**	**08 02 28.9**	**-1.0**
SMAA	**Simav-Kutahya**	**1.35**	**340**	Pn	**Pn**	**08 02 29.5**	**-0.6**
KURO	**Afyon-Bolvadin**	**1.40**	**49**	P	**Pb**	**08 02 30.5**	**-0.8**
KURO				S	**Sg**	**08 02 51.9**	**+2.0**
KURO				*i* IAML		08 02 55.0	
	comp=E,150nm,0.7s						
KURO				*i* IAML		08 02 57.0	
	comp=N,138nm,0.5s						
GORD	**Gordes-Manisa**	**1.54**	**315**	Pn	**Pn**	**08 02 32.2**	**-0.5**
EMET	**Ktahya-Emet**	**1.56**	**353**	P	**Pg**	**08 02 34.2**	**-0.4**
EMET				S	**Sg**	**08 02 55.0**	**+0.2**
EMET				*i* IAML		08 03 04.0	
	comp=N,396nm,0.9s						
EMET				*i* IAML		08 03 05.0	
	comp=E,411nm,0.9s						
GOMA	**Golmarmara-Man**	**1.57**	**305**	Pn	**Pn**	**08 02 32.8**	**-0.2**
BYAT	**Afyon-Bayat**	**1.58**	**44**	P	**Pb**	**08 02 33.5**	**-0.8**
BYAT				S	**Sg**	**08 02 59.8**	**+4.5**
BYAT				*i* IAML		08 03 00.0	
	comp=E,247nm,0.6s						
BYAT				*i* IAML		08 03 01.0	
	comp=N,259nm,1.3s						
AKUM	**Antalya-Kumluc**	**1.62**	**157**	P	**Pg**	**08 02 36.4**	**+0.5**
AKUM				S	**Sg**	**08 03 01.6**	**+4.7**
TVSB	**Tavsanli**	**1.62**	**357**	Pn	**Pn**	**08 02 33.3**	**-0.6**
UCKU	**Afyonkarahisar**	**1.67**	**60**	P	**Pn**	**08 02 33.4**	**-1.1**
UCKU				S	**Sg**	**08 03 03.1**	**+4.8**
ANDZ	**Kutahya, Merke**	**1.70**	**9**	P	**Pn**	**08 02 32.8**	**-2.1**
AKS	**Akhisar**	**1.74**	**308**	Pn	**Pn**	**08 02 35.0**	**-0.3**
SEDI	**Konya, Seydise**	**1.77**	**102**	P	**Pb**	**08 02 35.9**	**-1.8**
SEDI				S	**Sg**	**08 03 00.3**	**-1.4**
SEYD	**Seydisehir-KON**	**1.85**	**102**	Pn	**Pn**	**08 02 36.4**	**-0.6**
DAT	**Datca**	**1.93**	**236**	Pn	**Pn**	**08 02 37.9**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.95**	**250**	Pn	**Pn**	**08 02 38.3**	**0.0**
ARG	**Arkhangelos**	**1.98**	**216**	Pn	**Pn**	**08 02 38.6**	**-0.1**
BLCB	**Balcova**	**2.07**	**286**	Pn	**Pn**	**08 02 39.9**	**0.0**
SOMA	**Soma-Manisa**	**2.08**	**310**	Pn	**Pn**	**08 02 39.9**	**-0.1**
BRTR	**Keskin Array B**	**3.70**	**58**	Pn	**Pn**	**08 03 02.6**	**+0.1**
	0.7nm,0.3s,baz=234,slow=15,SNR=9.8						
BRTR				Sn	**Sn**	**08 03 48.9**	**+2.4**
	0.7nm,0.3s,baz=234,slow=26,SNR=7.0						
	2.8nm,0.5s						
IDI	**Anoyia**	**4.54**	**237**	Pn	**Pn**	**08 03 14.8**	**+0.8**
	0.8nm,0.3s,baz=48,slow=14,SNR=7.7						
IDI				Sn	**Sn**	**08 04 10.2**	**+3.1**
	0.8nm,0.3s,baz=20,slow=22,SNR=1.9						
	3.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**34.93**	**233**	P	**P**	**08 08 56.7**	**-0.6**
	0.5nm,0.4s,baz=33,slow=9.3,SNR=7.0						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**40.59**	**48**	P	**P**	**08 09 47.2**	**+2.4**
	0.5nm,0.3s,baz=266,slow=9.1,SNR=4.1						
	0.5nm,0.3s						

*IDC **26** 08:22:40.7±3.6, 53°.71N×90°.83E, h0^{km}, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=33.6km s-min=26.1km az=26.0*

ASRS 26 08:22:33.0±2.3, **53°.75N×91°.01E, h0**^{km}, **M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.67**	**276**	I	I	08 44 50.0	
	baz=89,slow=317,SNR=8.3						
ZALV	**Zalesovo Beam**	**3.67**	**276**	Pn	Pb	08 23 39.1	+0.4
	0.5nm,0.3s,baz=96,slow=15,SNR=6.9						
ZALV				Lg	Lg	08 24 31.5	
	0.8nm,0.3s,baz=93,slow=26,SNR=12						
	1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**8.28**	**253**	Pn	Pn	08 24 39.5	+5.3
	baz=68,slow=15,SNR=6.2						
KURBB				Sn	Sn	08 26 13.2	+4.7
	baz=70,slow=28,SNR=7.5						
KURBB				Lg	Lg	08 26 59.1	
	0.1nm,0.3s,baz=61,slow=33,SNR=12						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**8.92**	**222**	Pn	Pn	08 24 50.3	+7.2
	0.1nm,0.3s,baz=39,slow=12,SNR=2.2						
MKAR				Lg	Lg	08 27 19.8	
	0.1nm,0.3s,baz=42,slow=33,SNR=2.9						
	0.2nm,0.4s						

*ASRS **26** 08:31:10.0±1.1, 54°.17N×86°.43E, h0^{km}, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 26 08:31:10.5±2.7, **54°.14N×86°.53E, h0**^{km}, **mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=21.8km s-min=13.8km az=54.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**260**	I	I	08 37 50.0	
	baz=79,slow=314,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.03**	**260**	Pg	Pg	08 31 28.5	-1.7
	1.5nm,0.3s,baz=77,slow=18,SNR=12						
ZALV				Lg	Lg	08 31 44.9	
	3.0nm,0.3s,baz=81,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.03**	**238**	Pn	Pn	08 32 41.7	+0.8
	0.2nm,0.3s,baz=54,slow=13,SNR=7.9						
KURBB				Lg	Lg	08 34 24.4	
	baz=53,slow=34,SNR=3.6						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	08 33 06.8	+1.2
	0.4nm,0.3s,baz=25,slow=14,SNR=8.0						
	0.4nm,0.3s						

*RSNC **26** 08:39:27.1±0.0, 7°N±1°×7°3W±°, h146$^{km}_{\pm 2}$, M3.4, mB4.8, mb3.5, ML3.1, MLv3.8, Mw(mB)4.0*
*IDC **26** 08:39:28.0±6.6, 6°.69N×73°.24W, h178$^{km}_{\pm 7}$, mbtmp4.0/1, Error ellipse: s-maj=986.7km s-min=87.6km az=124.0*

ISC 26 08:39:25.2±1.1, **6°.86N**±0°.03×**73°.15W**±0°.04, **h154**$^{km}_{\pm 6}$, **km, n56, σ1^{s}43/104, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**188**	P	**Pn**	**08 39 46.8**	**+0.3**
BARC				S	**Sn**	**08 40 02.0**	**-0.7**
BARC	**Barichara**	**0.27**	**188**	P	**Pn**	**08 39 46.8**	**+0.3**
BARC				S	**Sn**	**08 40 02.6**	**-0.1**
BRJC	**Barrancabermej**	**0.60**	**281**	P	**Pn**	**08 39 48.5**	**+0.9**
BRJC				S	**Sn**	**08 40 05.3**	**+0.7**
BRJC	**Barrancabermej**	**0.60**	**281**	P	**Pn**	**08 39 48.4**	**+0.9**
BRJC				S	**Sn**	**08 40 05.4**	**+0.8**
PAMC	**Pamplona, Colo**	**0.65**	**43**	P	**Pn**	**08 39 49.6**	**+1.2**
PAMC				S	**Sn**	**08 40 06.9**	**+0.8**
PAMC	**Pamplona, Colo**	**0.65**	**43**	P	**Pn**	**08 39 49.6**	**+1.2**
PAMC				S	**Sn**	**08 40 06.8**	**+0.7**
RUSC	**La Rusia**	**0.96**	**176**	P	**Pn**	**08 39 50.8**	**+0.1**
RUSC				S	**Sn**	**08 40 09.4**	**-0.6**
RUSC	**La Rusia**	**0.96**	**176**	P	**Pn**	**08 39 50.8**	**+0.1**
RUSC				S	**Sn**	**08 40 09.5**	**-0.6**
PTBC	**PUERTO BERRIO,**	**1.34**	**256**	P	**Pn**	**08 39 53.2**	**-0.3**
PTBC				S	**Sn**	**08 40 14.5**	**-0.6**
PTBC	**PUERTO BERRIO,**	**1.34**	**256**	P	**Pn**	**08 39 53.2**	**-0.3**
PTBC				S	**Sn**	**08 40 14.3**	**-0.8**
OCAC	**Ocana**	**1.38**	**353**	P	**Pn**	**08 39 55.1**	**+1.0**
OCAC				S	**Sn**	**08 40 16.9**	**+0.7**
OCAC	**Ocana**	**1.38**	**353**	P	**Pn**	**08 39 55.1**	**+1.0**
OCAC				S	**Sn**	**08 40 17.0**	**+0.7**
ZARC	**Zaragoza, Cauc**	**1.81**	**290**	P	**Pn**	**08 39 59.1**	**+0.6**
ZARC				S	**Sn**	**08 40 24.6**	**+0.6**
ZARC	**Zaragoza, Cauc**	**1.81**	**290**	P	**Pn**	**08 39 59.2**	**+0.7**
ZARC				S	**Sn**	**08 40 24.7**	**+0.7**
NORC	**Norcasia**	**2.14**	**233**	P	**Pn**	**08 40 02.6**	**+0.3**
NORC				S	**Sn**	**08 40 30.9**	**0.0**
NORC	**Norcasia**	**2.14**	**233**	P	**Pn**	**08 40 02.6**	**+0.3**
NORC				S	**Sn**	**08 40 30.5**	**-0.4**
ROSC	**El Rosal**	**2.32**	**210**	P	**Pn**	**08 40 06.8**	**+1.9**
	80nm,0.3s,baz=301,slow=24,SNR=184						
ROSC				S	**Sn**	**08 40 37.1**	**+1.8**
	268nm,0.3s,baz=92,slow=18,SNR=9.1						
ROSC	**El Rosal**	**2.32**	**210**	P	**Pn**	**08 40 06.7**	**+1.9**
ROSC				S	**Sn**	**08 40 36.1**	**+0.8**
ROSC	**El Rosal**	**2.32**	**210**	P	**Pn**	**08 40 06.7**	**+1.9**
ROSC				S	**Sn**	**08 40 36.2**	**+0.9**
HELC	**Santa Helena**	**2.46**	**254**	P	**Pn**	**08 40 07.5**	**+1.1**
HELC				S	**Sn**	**08 40 37.8**	**-0.3**
HELC	**Santa Helena**	**2.46**	**254**	P	**Pn**	**08 40 07.5**	**+1.1**
HELC				S	**Sn**	**08 40 38.6**	**+0.5**
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P	**Pn**	**08 40 08.3**	**+1.3**
CVER				S	**Sn**	**08 40 40.6**	**+1.4**
CVER	**Cruz Verde, Cu**	**2.50**	**202**	P	**Pn**	**08 40 08.3**	**+1.3**
CVER				S	**Sn**	**08 40 39.1**	**-0.1**
UREC	**San Jos de Ur**	**2.53**	**291**	P	**Pn**	**08 40 06.6**	**-0.3**
UREC				S	**Sn**	**08 40 37.4**	**-1.7**
UREC	**San Jos de Ur**	**2.53**	**291**	P	**Pn**	**08 40 06.8**	**-0.1**
UREC				S	**Sn**	**08 40 37.7**	**-1.4**
GUY2C	**Guyana, Caldas**	**2.74**	**234**	P	**Pn**	**08 40 11.1**	**+1.1**
GUY2C				S	**Sn**	**08 40 43.2**	**+2.8**
VILC	**Villavicencio,**	**2.78**	**191**	P	**Pn**	**08 40 10.5**	**+0.3**
VILC				S	**Sn**	**08 40 44.1**	**-0.9**
RECRC	**Villamaria, Ca**	**2.89**	**229**	P	**Pn**	**08 40 15.5**	**+3.5**
RECRC				S	**Sn**	**08 40 51.5**	**+3.5**
NIZA	**Niza - Manizal**	**2.92**	**232**	P	**Pn**	**08 40 16.3**	**+4.2**
NIZA				S	**Sn**	**08 40 51.0**	**+2.7**
CBOC	**Ciudad Bolivar**	**3.02**	**251**	P	**Pn**	**08 40 14.4**	**+1.3**
CBOC				S	**Sn**	**08 40 51.0**	**+0.9**
DBBC	**Dabeiba**	**3.05**	**273**	P	**Pn**	**08 40 14.2**	**+0.8**
DBBC				S	**Sn**	**08 40 48.9**	**-1.8**
ARGC	**Ariguani, Magd**	**3.17**	**340**	P	**Pn**	**08 40 16.8**	**+1.8**
ARGC				S	**Sn**	**08 40 58.0**	**+4.5**
SDV	**Santo Domingo**	**3.20**	**51**	S	**Sn**	**08 40 55.5**	**+1.1**
	25nm,0.4s,baz=108,slow=23,SNR=14						
ANIL	**Santa Ana**	**3.25**	**224**	P	**Pn**	**08 40 18.2**	**+1.9**
ANIL				S	**Sn**	**08 40 57.8**	**+2.0**
APAC	**Apartado, Choc**	**3.56**	**287**	P	**Pn**	**08 40 20.6**	**+0.7**
APAC				S	**Sn**	**08 41 02.2**	**-0.1**
PRAC	**Prado**	**3.57**	**209**	P	**Pn**	**08 40 20.1**	**0.0**
PRAC				S	**Sn**	**08 41 02.4**	**-0.4**
ORTC	**Ortega, Tolima**	**3.60**	**216**	P	**Pn**	**08 40 20.9**	**+0.4**
ORTC				S	**Sn**	**08 41 04.3**	**+0.9**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**08 40 20.5**	**-0.3**
SJCC				S	**Sn**	**08 41 03.7**	**-0.3**
PLMC	**San Jos del P**	**3.67**	**238**	P	**Pn**	**08 40 22.4**	**+0.9**
PLMC				S	**Sn**	**08 41 06.1**	**+1.0**
URMC	**La Uribe, Meta**	**3.79**	**199**	P	**Pn**	**08 40 23.9**	**+0.9**
URMC				S	**Sn**	**08 41 07.6**	**-0.3**
CRJC	**Cerrejon, Guaj**	**4.14**	**4**	P	**Pn**	**08 40 27.2**	**-0.4**
CRJC				S	**Sn**	**08 41 15.2**	**-0.9**
YOTC	**Yotoco, Valle**	**4.28**	**228**	P	**Pn**	**08 40 29.4**	**0.0**
YOTC				S	**Sn**	**08 41 22.5**	**+3.2**
SMRC	**Santa Marta, M**	**4.41**	**346**	P	**Pn**	**08 40 32.2**	**+1.3**
SMRC				S	**Sn**	**08 41 20.6**	**-1.6**
CAPC	**Capurgana**	**4.53**	**293**	P	**Pn**	**08 40 31.2**	**-1.3**
CAPC				S	Sn	08 41 16.9	-8.0
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**08 40 34.0**	**-1.3**
MACC				S	**Sn**	**08 41 24.6**	**-5.3**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**08 40 37.7**	**-0.3**
URIC				S	**Sn**	**08 41 34.5**	**-0.3**
GARC	**Garzon, Huila**	**5.20**	**207**	P	**Pn**	**08 40 40.9**	**-0.7**
GARC				S	**Sn**	**08 41 40.1**	**-1.1**
GARC	**Garzon, Huila**	**5.20**	**207**	P	**Pn**	**08 40 40.7**	**-0.9**
POPC	**Popayan, Colom**	**5.55**	**220**	P	**Pn**	**08 40 47.1**	**+0.9**
	3.8nm,0.7s						
POPC				S	**Sn**	**08 41 48.6**	**-0.9**
	3.8nm,0.7s						
POPC	**Popayan, Colom**	**5.55**	**220**	P	**Pn**	**08 40 46.9**	**+0.7**
	3.8nm,0.7s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**08 40 49.1**	**-0.4**
	4.1nm,0.7s						
FLOC				S	**Sn**	**08 41 54.6**	**-0.8**
	4.1nm,0.7s						
FLOC	**Florencia**	**5.81**	**206**	P	**Pn**	**08 40 49.4**	**-0.1**
BBAC	**Balboa, Cauca**	**6.31**	**221**	P	**Pn**	**08 40 57.8**	**+1.5**
	460nm6.0nm,0.6s						
BBAC				S	**Sn**	**08 42 07.1**	**-0.6**
	460nm6.0nm,0.6s						
SGC2	**Sao Gabriel da**	**9.29**	**138**	P	**Pn**	**08 41 35.5**	**-0.4**
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc	**PKPbc**	**08 58 55.2**	**-1.1**
	0.3nm,0.6s,baz=129,slow=2.5,SNR=5.5						
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc	**PKPbc**	**08 58 58.2**	**-1.0**
	0.2nm,0.5s,baz=110,slow=2.4,SNR=7.5						

*CATAC **26** 09:00:16.6±0.5, 13°N±3°×9°0W±°, h23$^{km}_{\pm 2}$, M3.1/20, MLv3.1/20, Error ellipse: s-maj=6.1km s-min=3.7km az=26.6, confirmed*
*SNET **26** 09:00:16.9±1.0, 13°.11N×89°.66W, h35^{km}, ML3.0*
*GCG **26** 09:00:17.6±0.7, 13°.15N×89°.71W, h32$^{km}_{\pm 5}$, MD4.0, ML2.6, MW3.0*

**

	comp=N,140nm,0.2s								
CNCH	**Conchagua**	1.74	85	*e*P		Pn	09 00 45.5	-0.6
CNCH				*e*S		Sn	09 01 07.3	-0.1
CNCH	**Conchagua**	1.74	85	P		Pn	09 00 45.9	-0.3
SARH	**Santa Rosa de**	1.83	27	⇑*i*P		Pn	09 00 47.5	+0.2

*GII **26** 09:13:26.7±0.0, 33°.644N±0°.002×35°.672E±0°.001, h1km, Mws2.4, confirmed*
*GRAL **26** 09:13:28.2±0.2, 33°.62N×35°.67E, h4km±2km, MD3.0*
*JSO **26** 09:13:28.1±0.9, 34°N±6°×3°.6E±°, h0km, M2.8/12, Md3.3/12, ML3.0/10, MLv2.8/12, MLv2.8/12*

ISC 26 09:13:27.2±0.9, 33°.63N±0°.02×35°.69E±0°.04, h12km±5km, n58, σ0s62/62, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	0.08	182	*e*P	Pg	09 13 29.7	-0.1
QRWL				*e*S	Sg	09 13 30.9	-0.9
DQRL	**Deir Qamar**	0.12	309	*e*P	Pg	09 13 30.6	+0.2
RCY	**Rachaya**	0.18	136	*e*P	Pg	09 13 31.7	+0.4
RCY				*e*S	Sg	09 13 34.3	+0.1
BHL	**Bhannes**	0.28	355	*e*P	Pg	09 13 33.3	+0.4
BHL				*e*S	Sg	09 13 37.2	+0.4
ZAHL	**Zahle**	0.28	36	*e*P	Pg	09 13 33.7	+0.6
SHBL	**Chebaa**	0.28	170	*e*P	Pg	09 13 33.3	+0.2
MTLA	**Metula**	0.36	194	P	Pg	09 13 34.8	+0.4
MTLA	**Metula**	0.36	194	S	Sb	09 13 41.3	+0.1
NATI	**Neve Ativ**	0.37	173	P	Pg	09 13 34.9	+0.4
NATI				S	Sb	09 13 40.9	+0.5
NATI	**Neve Ativ**	0.37	173	P	Pg	09 13 34.9	+0.4
NATI	**Neve Ativ**	0.37	173	S	Sb	09 13 41.3	0.0
MSAM	**Misgav Am**	0.40	197	P	Pg	09 13 35.6	+0.5
GEM	**Giv'at Ha'Em**	0.42	183	P	Pg	09 13 35.8	+0.4
GEM	**Giv'at Ha'Em**	0.42	183	P	Pg	09 13 35.9	+0.5
GEM	**Giv'at Ha'Em**	0.42	183	S	Sb	09 13 43.4	+0.6
KIRY	**Kiryat Shemona**	0.43	193	P	Pb	09 13 36.4	-0.4
LVBS	**Lehavot Habash**	0.49	184	P	Pg	09 13 37.2	+0.5
LVBS	**Lehavot Habash**	0.49	184	S	Sb	09 13 45.3	+0.5
YFTH	**Yftach**	0.51	193	P	Pb	09 13 38.0	-0.1
YFTH	**Yftach**	0.51	193	S	Sb	09 13 46.5	+1.0
KDZV	**Kedmat Zvi**	0.60	179	P	Pb	09 13 39.6	0.0
KDZV	**Kedmat Zvi**	0.60	179	S	Sb	09 13 49.2	+1.2
ZRT	**Zar'it**	0.62	212	P	Pg	09 13 39.3	0.0
KSHT	**Keshet**	0.65	171	P	Pb	09 13 40.8	+0.2
KSHT	**Keshet**	0.65	171	S	Sn	09 13 51.3	-1.3
MMC7	**Mount Meron ar**	0.65	202	P	Pb	09 13 40.4	-0.2
MMA0B	**Mount Meron ar**	0.66	201	P	Pg	09 13 40.4	+0.4
MMA0B	**Mount Meron ar**	0.66	201	S	Sn	09 13 52.0	-0.8
RSPN	**Rosh Pina**	0.67	190	P	Pg	09 13 40.6	+0.5
RSPN	**Rosh Pina**	0.67	190	S	Sn	09 13 51.3	-1.6
HWQ	**Hawqa**	0.68	18	*e*P	Pg	09 13 40.7	+0.2
HNTI	**Hanita**	0.69	218	P	Pb	09 13 41.4	+0.2
HNTI	**Hanita**	0.69	218	P	Pb	09 13 41.1	-0.1
HNTI	**Hanita**	0.69	218	S	Sn	09 13 51.7	-1.8
HDNS	**Had-Ness**	0.70	183	P	Pb	09 13 41.5	+0.2
HDNS	**Had-Ness**	0.70	183	S	Sn	09 13 53.0	-0.7
AMID	**Amiad**	0.71	190	P	Pg	09 13 41.2	+0.2
AMID	**Amiad**	0.71	190	S	Sn	09 13 53.2	-0.8
KNHM	**Kefar Nahum**	0.75	187	P	Pg	09 13 41.9	+0.3
KNHM	**Kefar Nahum**	0.75	187	S	Sn	09 13 54.0	-0.8
FKH	**Fakeheh**	0.86	44	*e*P	Pg	09 13 44.0	+0.2
GOLA	**Golan Heights**	0.91	182	P	Pn	09 13 45.6	-0.2
BLGI	**Bet Lehem HaGe**	0.98	205	P	Pn	09 13 46.6	-0.3
BLGI	**Bet Lehem HaGe**	0.98	205	P	Pn	09 13 46.5	-0.3
BEIL	**Beino**	1.00	24	*e*P	Pg	09 13 46.5	0.0
BTOR	**Bet Oren**	1.06	213	P	Pg	09 13 47.8	+0.2
BTOR	**Bet Oren**	1.06	213	S	Sn	09 14 02.8	+0.1
OFRI	**`Ofer**	1.16	211	P	Pb	09 13 49.3	0.0
OFRI	**`Ofer**	1.16	211	P	Pb	09 13 49.4	0.0
OFRI	**`Ofer**	1.16	211	S	Sg	09 14 06.3	+1.6
QRNJ	**Al-Qirein**	1.29	184	P	Pg	09 13 51.9	-0.1
HMDT	**Nahal Hemdat**	1.38	186	P	Pb	09 13 53.1	+0.2
HMDT	**Nahal Hemdat**	1.38	186	P	Pb	09 13 53.1	+0.2
HMDT	**Nahal Hemdat**	1.38	186	S	Sg	09 14 12.6	+1.0
SLTI	**Sal'it**	1.49	202	P	Pb	09 13 55.2	+0.4
SALP	**Salfit**	1.61	195	P	Pb	09 13 57.5	+0.6
ASF	**Jabal al Asfar**	1.77	145	P	Pb	09 14 00.1	+0.4
DSI	**Dead Sea**	2.07	187	P	Pb	09 14 04.1	-0.6

IDC 26 09:15:47.9±1.6, 50°.33S×139°.11E, h0km, mb3.7/3, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=181.2km s-min=23.0km az=87.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	18.53	7	P	Pn	09 20 06.2	+0.3
	0.1nm,0.3s,baz=173,slow=11,SNR=4.5 1.6nm,0.7s						
H01W1	**Cape Leeuwin H**	23.83	301	T	T	09 45 59.4	
	baz=136,slow=74,SNR=60						
H01W2	**Cape Leeuwin H**	23.83	301	T	T	09 46 00.3	
	baz=136,slow=74,SNR=53						
H01W3	**Cape Leeuwin H**	23.84	301	T	T	09 45 57.8	
	baz=136,slow=74,SNR=68						
ASAR	**Alice Springs**	26.93	349	P	P	09 21 30.7	0.0
	0.5nm,0.7s,baz=167,slow=9.9,SNR=9.2 0.5nm,0.7s						
WRA	**Warramunga Arr**	30.56	351	P	P	09 22 02.9	-0.2
	0.6nm,0.6s,baz=168,slow=8.0,SNR=7.7 0.6nm,0.6s						
QSPA	**South Pole Qui**	39.78	180	P	P	09 23 22.2	-0.1
	0.9nm,0.6s,baz=306,slow=2.5,SNR=8.5 0.9nm,0.6s						
H04S1	**CROZET ISLANDS**	54.57	237	T	T	10 25 05.9	
	baz=128,slow=75,SNR=20						
H04S2	**CROZET ISLANDS**	54.57	237	T	T	10 25 00.5	
	baz=128,slow=75,SNR=20						
H04S3	**CROZET ISLANDS**	54.59	237	T	T	10 24 58.6	
	baz=128,slow=75,SNR=21						

*GCG **26** 09:33:18.5±0.8, 13°.13N×90°.16W, h18km±10km, MD4.4, ML3.5*
*CATAC **26** 09:33:18.6±0.4, 13°N±2°×9°0W±°, h11km±2km, M3.7/28, MLv3.7/28, Error ellipse: s-maj=4.4km s-min=2.7km az=23.4, confirmed*
*SNET **26** 09:33:19.8±1.1, 13°.10N×89°.99W, h10km, ML3.5*

ISC 26 09:33:19.5±1.6, 13°.12N±0°.05×89°.98W±0°.04, h11km±10km, n74, σ0s88/80, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	0.72	358	P	Pg	09 33 33.2	-0.1
FAME	**Alcaldia de Sa**	0.72	358	S	Sb	09 33 44.1	+0.2
LALI	**Alcalda de L**	0.74	61	*e*P	Pb	09 33 34.8	+0.3
LALI				*e*S	Sb	09 33 44.6	+0.1
LALI	**Alcalda de L**	0.74	61	⇓*i*P	Pb	09 33 34.4	0.0
LALI				IAML		09 33 49.6	
	comp=E,378nm,0.2s						
LALI	**Alcalda de L**	0.74	61	S	Sb	09 33 45.4	+0.8
LALI	**Alcalda de L**	0.74	61	P	Pb	09 33 34.5	+0.1
JAYA	**Jayaque - finc**	0.74	45	*e*P	Pb	09 33 34.6	0.0
JAYA				⇑*i*S	Sb	09 33 46.0	+1.2
JAYA	**Jayaque - finc**	0.74	45	P	Pb	09 33 34.5	0.0
CEVE	**Cerro Verde**	0.78	27	*e*P	Pb	09 33 35.1	-0.2
CEVE				*e*S	Sn	09 33 48.9	+0.2
CEVE	**Cerro Verde**	0.78	27	S	Sn	09 33 47.6	-1.1
CEVE	**Cerro Verde**	0.78	27	P	Pb	09 33 35.3	0.0
NUBE	**Las Nubes**	0.80	14	*e*P	Pg	09 33 35.0	0.0
NUBE	**Las Nubes**	0.80	14	P	Pb	09 33 35.1	-0.4
NUBE	**Las Nubes**	0.80	14	S	Sb	09 33 47.1	+0.6
PMON	**Piamonte**	0.88	48	S	Sn	09 33 50.2	-0.6
PMON	**Piamonte**	0.88	48	P	Pb	09 33 36.9	+0.1
CEDA	**San Andres**	0.89	40	P	Pb	09 33 37.0	+0.1
CEDA	**San Andres**	0.89	40	S	Sn	09 33 50.1	-0.8
LOAL	**Lomas de Alarc**	0.89	13	P	Pb	09 33 36.9	-0.2
LOAL	**Lomas de Alarc**	0.89	13	S	Sb	09 33 50.0	+1.0
BOQS	**Boqueron**	0.92	48	*e*P	Pb	09 33 37.6	0.0
SLOZ	**Alcaldia de Sa**	0.92	12	P	Pb	09 33 37.1	-0.4
SLOZ	**Alcaldia de Sa**	0.92	12	S	Sn	09 33 50.8	-1.0
PANCS	**Alcalda de**	0.92	58	P	Pg	09 33 37.2	0.0
PANCS	**Alcalda de**	0.92	58	S	Sb	09 33 50.5	+0.6
UEES	**Universidad Ev**	0.93	51	S	Sn	09 33 51.5	-0.7
UEES	**Universidad Ev**	0.93	51	P	Pg	09 33 37.5	0.0
SEMO	**Seminario San**	0.94	52	S	Sn	09 33 51.5	-0.7
SEMO	**Seminario San**	0.94	52	P	Pg	09 33 37.5	-0.1
LOMA	**Loma Larga**	0.94	57	P	Pg	09 33 37.5	-0.2
LOMA	**Loma Larga**	0.94	57	S	Sb	09 33 51.6	+0.9
UNIC	**Universidad Ca**	0.95	26	S	Sb	09 33 51.7	+0.9
UNIC	**Universidad Ca**	0.95	26	P	Pg	09 33 37.6	-0.2
UTEC	**Universidad Te**	0.95	53	P	Pn	09 33 38.3	-0.6
UTEC	**Universidad Te**	0.95	53	S	Sb	09 33 51.8	+0.9
UDBS	**Universidad Do**	1.00	54	S	Sn	09 33 53.2	-0.5
UDBS	**Universidad Do**	1.00	54	P	Pb	09 33 38.7	-0.2
LFRS	**El Faro**	1.03	61	*e*P	Pb	09 33 38.9	-0.5
PAVA	**Las Pavas**	1.18	60	P	Pn	09 33 41.6	-0.4
PAVA	**Las Pavas**	1.18	60	S	Sg	09 33 58.0	+0.6
TECO	**Alcaldia de Te**	1.24	71	P	Pn	09 33 41.6	-1.2
TECO	**Alcaldia de Te**	1.24	71	S	Sb	09 33 59.3	+0.3
FG16	**Alotenango, Sa**	1.25	336	*i*P	Pg	09 33 44.5	+0.9
FG16				*i*S	Sn	09 34 05.0	+4.8
FG16				IAML		09 34 10.7	
	comp=N,3μm,0.2s						
SCLA	**Alcaldia de Sa**	1.35	65	P	Pn	09 33 44.0	-0.4
SCLA	**Alcaldia de Sa**	1.35	65	S	Sg	09 34 03.3	+0.3
MTO3	**Montecristo**	1.41	25	*i*P	Pn	09 33 44.7	-0.6
MTO3	**Montecristo**	1.41	25	P	Pn	09 33 44.8	-0.5
MTO3	**Montecristo**	1.41	25	S	Sg	09 34 04.7	-0.1
LLGN	**La Laguna**	1.45	44	P	Pn	09 33 45.3	-0.5
LLGN	**La Laguna**	1.45	44	S	Sb	09 34 05.6	+0.6
PQSS	**Presa 15 de Se**	1.47	70	S	Sb	09 34 05.8	+0.1
PQSS	**Presa 15 de Se**	1.47	70	P	Pn	09 33 45.6	-0.5
ESSG	**Sabana Grande**	1.50	327	⇓*i*P	Pn	09 33 43.1	-3.3
ESSG				IAML		09 34 05.8	
	comp=E,450nm,0.2s						
ESQI	**Esquipulas**	1.56	24	S	Sn	09 34 07.6	0.0
ESQI	**Esquipulas**	1.56	24	P	Pn	09 33 47.0	-0.3
PACA	**Pacayal**	1.65	78	S	Sn	09 34 10.4	+0.4
PACA	**Pacayal**	1.65	78	P	Pn	09 33 48.3	-0.4
LCY	**Lacayo**	1.67	80	*e*P	Pn	09 33 49.2	+0.3
CNRM	**Centro Naciona**	1.80	79	S	Sn	09 34 14.0	+0.6
CNRM	**Centro Naciona**	1.80	79	P	Pn	09 33 50.0	-0.5
LCND	**La Caada**	2.05	85	*e*P	Pn	09 33 53.5	-0.5
LCND	**La Caada**	2.05	85	S	Sn	09 34 20.5	+1.0
LCND	**La Caada**	2.05	85	P	Pn	09 33 53.4	-0.5
CNCH	**Conchagua**	2.10	86	P	Pn	09 33 54.3	-0.4
CNCH	**Conchagua**	2.10	86	S	Sn	09 34 21.9	+0.9
RTAL	**Retalhuleu**	2.17	310	P	Pn	09 33 55.5	-0.1
RTAL	**Retalhuleu**	2.17	310	S	Sn	09 34 22.2	-0.3
CSGN	**Cosiguina Volc**	2.37	93	P	Pn	09 33 58.2	-0.3
CSGN				S	Sn	09 34 28.3	+0.7
POTN	**Potosi Cosigui**	2.42	93	P	Pn	09 33 58.6	-0.4
POTN				S	Sn	09 34 28.5	-0.1
CNGN	**Cerro Negro**	3.26	101	S	Sn	09 34 50.0	+0.3
CNGN	**Cerro Negro**	3.26	101	P	Pn	09 34 09.7	-1.1
COPN	**Copaltepe**	3.44	105	P	Pn	09 34 12.2	-0.9
BOAB	**BOACO BROADBAN**	3.26	99	P	Pn	09 34 23.1	-1.4
BOAB	**BOACO BROADBAN**	3.26	99	S	Sn	09 35 14.4	+0.1

*IDC **26** 09:33:51.9±0.8, 52°.02N×160°.12E, h0km, mb3.7/18, mbtmp3.8/21, ML3.3/3, MS3.1/3, Error ellipse: s-maj=18.0km s-min=17.3km az=165.0*
*KRSC **26** 09:33:51.9±1.8, 51°.83N×160°.57E, h60km±25km, Ml4.3*
*MOS **26** 09:33:58.0±0.8, 52°.04N×160°.60E, h54km, mb4.4/6, Error ellipse: s-maj=11.9km s-min=5.2km az=108.8*

ISC 26 09:33:55.4±2.4, 51°.93N±0°.06×160°.39E±0°.05, h28km±16km, n78, σ1s25/87, mb3.8/21, 8C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	1.19	349	PN	Pn	09 34 15.8	-0.4
SPN				S	Sn	09 34 32.2	+0.7
SPN	**Mys Shipunski**	1.19	349	*e*P	Pn	09 34 15.8	-0.4
SPN				*e*S	Sn	09 34 32.2	+0.7
RUS	**Russkaya**	1.26	294	PN	Pn	09 34 15.9	-1.2
RUS				S	Sn	09 34 33.3	+0.2
RUS	**Russkaya**	1.26	294	*e*P	Pn	09 34 16.0	-1.2
RUS				*e*S	Sn	09 34 33.3	+0.2
NLC	**Nalytchevo**	1.40	333	PN	Pn	09 34 19.5	+0.5
NLC				S	Sb	09 34 38.7	+0.5
NLC	**Nalytchevo**	1.40	333	*e*P	Pn	09 34 19.6	+0.5
NLC				*e*S	Sb	09 34 38.8	+0.5
MTVR	**Mutnovka**	1.47	293	PN	Pn	09 34 19.5	-0.6
MTVR				S	Sn	09 34 38.4	0.0
MTVR	**Mutnovka**	1.47	293	*e*P	Pn	09 34 19.5	-0.6
MTVR				*e*S	Sn	09 34 38.4	0.0
DALK	**Dalny**	1.49	319	PN	Pn	09 34 20.3	+0.1
DALK	**Dalny**	1.49	319	*e*P	Pn	09 34 20.3	+0.1
PET	**Petropavlovsk**	1.53	317	⇓*i*PN	Pn	09 34 20.9	+0.1
PET				pmax	pmax		
	comp=Z,728nm,0.6s						
PET	**Petropavlovsk**	1.53	317	*e*P	Pn	09 34 20.9	+0.1
GRL	**Gorelyy**	1.56	295	PN	Pn	09 34 21.7	+0.5
GRL	**Gorelyy**	1.56	295	*e*P	Pn	09 34 21.8	+0.5
INSR	**Institute**	1.58	317	PN	Pn	09 34 21.6	+0.2
INSR	**Institute**	1.58	317	*e*P	Pn	09 34 21.7	+0.2
ASAK	**Asacha**	1.60	288	PN	Pn	09 34 21.5	-0.3
ASAK				S	Sn	09 34 42.5	+0.9
ASAK	**Asacha**	1.60	288	*e*P	Pn	09 34 21.6	-0.3
ASAK				*e*S	Sn	09 34 42.6	+0.9
UGLR	**Uglovaya**	1.60	324	PN	Pn	09 34 22.5	+0.6
UGLR	**Uglovaya**	1.60	324	*e*P	Pn	09 34 22.5	+0.6
SDLR	**Sedlovina**	1.63	326	PN	Pn	09 34 23.0	+0.6
SDLR	**Sedlovina**	1.63	326	*e*P	Pn	09 34 23.0	+0.6
AVH	**Avacha**	1.68	324	PN	Pn	09 34 23.7	+0.8
AVH	**Avacha**	1.68	324	*e*P	Pn	09 34 23.8	+0.8
KRER	**Koryakskii**	1.70	325	PN	Pn	09 34 24.1	+0.8
KRER	**Koryakskii**	1.70	325	*e*P	Pn	09 34 24.2	+0.8
KOK	**Koryaka**	1.73	323	PN	Pn	09 34 24.5	+0.8
KOK	**Koryaka**	1.73	323	*e*P	Pn	09 34 24.5	+0.8
KRX	**Arik**	1.78	324	PN	Pn	09 34 25.1	+0.7
KRX	**Arik**	1.78	324	*e*P	Pn	09 34 25.1	+0.7
PEA0B	**Petropavlovsk-**	2.02	307	⇑*i*PN	Pn	09 34 28.1	+0.5
PETK	**Petropavlovsk-**	2.02	307	Pn	Pn	09 34 26.7	-0.9
	comp=Z,12nm,0.3s,baz=114,slow=18,SNR=218						
PETK				Sn	Sn	09 34 52.6	+0.6
	comp=Z,26nm,0.3s,baz=120,slow=17,SNR=5.7						
MIPR	**Malaya Ipel'ka**	2.27	280	PN	Pn	09 34 31.5	+0.6
MIPR	**Malaya Ipel'ka**	2.27	280	*e*P	Pn	09 34 31.6	+0.6
SKR	**Severo-Kuril's**	2.96	247	*e*PN	Pn	09 34 42.7	+2.3
SKR				pmax	pmax		
	comp=Z,77nm,0.6s						
TUMD	**Tumrok D**	3.28	0	PN	Pn	09 34 45.7	+0.8
TUMD				S	Sn	09 35 24.4	+1.4
TUMD	**Tumrok D**	3.28	0	*e*P	Pn	09 34 45.7	+0.8
TUMD				*e*S	Sn	09 35 24.5	+1.4
ESO	**Esso**	4.13	347	PN	Pn	09 34 58.2	+1.7
ESO	**Esso**	4.13	347	*e*P	Pn	09 34 58.3	+1.7
BKI	**Bering**	4.67	43	*e*S	Sn	09 35 52.5	-4.7
SHEM	**Shemya Is, Ala**	8.44	79	Pn	Pn	09 35 55.6	0.0
	comp=Z,2.8nm,0.3s,baz=299,slow=4.5,SNR=4.9 comp=Z,13nm,0.4s						
MA2	**Magadan**	9.38	329	LR	LR	09 40 34.7	
	comp=Z,95nm,19.2s,baz=153,slow=44						
SEY	**Seymchan**	11.83	342	Pn	Pn	09 36 41.5	-0.5
	comp=Z,0.1nm,0.3s,baz=159,slow=10.0,SNR=3.5						
SEY				LR	LR	09 41 39.4	
	comp=Z,120nm,18.2s,baz=150,slow=40 comp=Z,0.6nm,0.6s						
SEY	**Seymchan**	11.83	342	*e*PN	Pn	09 36 43.6	+1.5
SEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ASAJ	**Asahikawa**	14.21	244	Pn	Pn	09 37 13.8	-0.9
	comp=Z,0.1nm,0.3s,baz=220,slow=23,SNR=2.6 comp=Z,2.5nm,0.8s						
BILL	**Bilibino**	16.41	8	*e*P	P	09 37 45.8	-0.2
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	19.36	313	⇑*e*P	P	09 38 17.5	-0.9
YAK				pmax	pmax		
	comp=Z,16nm,0.5s						
USA0B	**Ussuriysk Arra**	20.40	259	‖*e*P	P	09 38 28.1	-1.8
MJAR	**Matsushiro Arr**	21.99	234	P	P	09 38 46.6	-0.4
	comp=Z,1.3nm,0.7s,baz=18,slow=12,SNR=5.7 comp=Z,1.3nm,0.7s						
TIXI	**Tiksi**	24.22	336	P	P	09 39 08.7	-0.5
	comp=Z,4.7nm,0.4s,baz=132,slow=9.8,SNR=7.5						
TIXI				LR	LR	09 48 24.7	
	comp=Z,40nm,18.2s,baz=198,slow=36 comp=Z,4.7nm,0.4s						
TIXI	**Tiksi**	24.22	336	⇑*i*P	P	09 39 08.9	-0.3
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	32.53	169	T	T	10 14 33.2	
	baz=353						
H11N3	**WAKE ISLAND Hy**	32.55	169	T	T	10 14 51.1	
	baz=353						
H11N1	**WAKE ISLAND Hy**	32.55	169	T	T	10 14 34.2	
	baz=353,SNR=7.7						
SPITS	**Spitsbergen Ar**	48.32	351	P	P	09 42 32.5	-1.1
	comp=Z,3.1nm,0.5s,baz=334,slow=5.6,SNR=16 comp=Z,3.1nm,0.5s						
KURK	**Kurchatov**	48.51	303	‖*e*P	P	09 42 33.3	-2.1
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Arra**	48.61	303	P	P	09 42 34.0	-2.1
	comp=Z,0.6nm,0.2s,baz=62,slow=7.5,SNR=4.1 comp=Z,0.6nm,0.2s						
MK31	**Makanchi Array**	48.83	297	⇑*e*P	P	09 42 35.4	-2.6
MKAR	**Makanchi Array**	48.83	297	P	P	09 42 35.2	-2.8
	comp=Z,0.3nm,0.5s,baz=57,slow=6.5,SNR=4.5 comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	48.83	297	*e*P	P	09 42 36.0	-2.0
BVAR	**Borovoye Array**	51.26	309	P	P	09 42 54.0	-2.2
	comp=Z,0.6nm,0.4s,baz=46,slow=8.5,SNR=4.0 comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	54.45	342	P	P	09 43 18.8	-0.8
	comp=Z,0.6nm,0.6s,baz=38,slow=10.0,SNR=4.0 comp=Z,0.6nm,0.6s						
AAK	**Ala-Archa**	55.76	297	⇑*e*P	P	09 43 28.8	-0.8
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVAR	**Mina Array Bea**	55.98	70	P	P	09 43 33.3	+2.0
	comp=Z,0.2nm,0.7s,baz=311,slow=7.5,SNR=2.2 comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	57.94	60	P	P	09 43 47.6	+2.4
	comp=Z,0.1nm,0.4s,baz=336,slow=6.0,SNR=1.6 comp=Z,0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	58.13	259	P	P	09 43 46.3	-0.2
	comp=Z,0.9nm,0.3s,baz=40,slow=4.8,SNR=2.3 comp=Z,0.9nm,0.3s						
FINES	**FINESS Array B**	61.26	337	P	P	09 44 07.0	-0.4
	comp=Z,1.0nm,0.6s,baz=46,slow=8.2,SNR=4.5 comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	61.26	337	*e*P	P	09 44 07.8	+0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BELG	**Belogornoye**	61.73	320	⇑*e*P	P	09 44 08.4	-2.3
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	64.71	344	P	P	09 44 32.9	+2.5
	comp=Z,0.6nm,0.6s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	64.71	344	P	P	09 44 31.8	+1.3
	comp=Z,0.4nm,0.6s,baz=25,slow=6.8,SNR=1.8 comp=Z,0.4nm,0.6s						
AKASG	**Malin Array Be**	69.71	329	P	P	09 45 03.3	+1.2
	comp=Z,0.2nm,0.3s,baz=28,slow=6.3,SNR=5.7 comp=Z,0.2nm,0.3s						
KBZ	**Khabaz**	70.51	317	P	P	09 45 07.3	+0.2
	comp=Z,2.4nm,0.9s,baz=159,slow=2.7,SNR=3.9 comp=Z,2.4nm,0.9s						
KBZ	**Khabaz**	70.51	317	⇑*e*P	P	09 45 07.1	-0.1
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TXAR	**Lajitas Array**	70.93	67	P	P	09 45 11.2	+1.0
	comp=Z,0.8nm,1.2s,baz=270,slow=3.4,SNR=3.6 comp=Z,0.8nm,1.2s						
WRA	**Warramunga Arr**	75.10	205	P	P	09 45 35.3	+0.7
	comp=Z,0.2nm,0.7s,baz=16,slow=5.9,SNR=1.8 comp=Z,0.2nm,0.7s						
BRTR	**Keskin Array B**	77.64	321	P	P	09 45 51.0	+1.9
	comp=Z,0.3nm,0.5s,baz=37,slow=3.6,SNR=1.7 comp=Z,0.3nm,0.5s						

LOMA	Loma Larga	3.25	87	S		Sn	09 46 01.8	-1.4
ESQI	Esquipulas	3.26	70			Pn	09 45 24.0	-0.1
ESQI	Esquipulas	3.26	70	P		Pn	09 45 24.2	+0.1
TGIG		3.34	350			Pn	09 45 25.7	+0.6
TGIG		3.34	350	eP		Pn	09 45 25.7	+0.6
TGIG				eS		Sn	09 46 03.2	-2.0
TGIG		3.34	350	i P		Pn	09 45 26.3	+1.2
TGIG				IAML			09 46 07.9	
	comp=E,289nm,0.5s							
SCLA	Alcaldia de Sa	3.69	86	P		Pn	09 45 29.7	-0.2
PQSS	Presa 15 de Se	3.84	87	P		Pn	09 45 31.7	-0.3
PQSS	Presa 15 de Se	3.84	87	S		Sn	09 46 16.3	-1.3
SARH	Santa Rosa de	3.86	70	eP		Pn	09 45 31.6	-0.7
PACA	Pacayal	4.07	90	P		Pn	09 45 37.5	+2.2
PACA	Pacayal	4.07	90	S		Sn	09 46 22.0	-1.5
UXUV	UXUV	4.13	338			Pn	09 45 37.8	+1.8
UXUV	UXUV	4.13	338	eP		Pn	09 45 37.8	+1.8
UXUV				eS		Sn	09 46 21.1	-3.6
HUIG	Huatulco	4.16	304	eP		Pn	09 45 34.9	-1.5
HUIG				eS		Sn	09 46 16.6	-8.8
HUIG	Huatulco	4.16	304	i P		Pn	09 45 35.7	-0.7
CMIG	Matias Romero	4.26	328			Pn	09 45 37.9	+0.1
CMIG	Matias Romero	4.26	328	Pn		Pn	09 45 38.6	+0.9
	comp=E,1.7nm,0.3s,baz=144,slow=10,SNR=12							
CMIG				Sn		Sn	09 46 29.0	+1.0
	comp=E,6.9nm,0.3s,baz=129,slow=19,SNR=9.1							
	comp=E,3.5nm,0.3s							
CMIG	Matias Romero	4.26	328	eP		Pn	09 45 37.9	+0.1
CMIG				i S		Sn	09 46 26.4	-1.5
PETF	Flores	4.27	36			Pn	09 45 39.8	+1.9
PETF	Flores	4.27	36	eP		Pn	09 45 39.4	+1.5
PETF				i S		Sb	09 46 34.5	-5.2
PETF	Flores	4.27	36	eP		Pn	09 45 39.6	+1.8
PETF	Flores	4.27	36	P		Pn	09 45 39.1	+1.3
LCND	La Caada	4.50	92	P		Pn	09 45 41.0	0.0
CNCH	Conchagua	4.56	92	P		Pn	09 45 41.8	-0.1
CNCH	Conchagua	4.56	92	S		Sn	09 46 33.9	-1.5
TGUH	Tegucigalpa,Un	5.12	83	Pn		Pn	09 45 48.5	-1.2
PEIG	Puerto Escondi	5.14	300	eP		Pn	09 45 49.0	-0.9
PEIG				eS		Sn	09 46 40.2	-9.4
NEUV	Arroyo Zacate	5.27	323			Pn	09 45 51.8	+0.1
NEUV	Arroyo Zacate	5.27	323	eP		Pn	09 45 51.8	+0.1
NEUV				eS		Sn	09 46 47.8	-5.1
OXIG	Oaxaca	5.42	312			Pn	09 45 56.1	+2.2
VHO	Vista Hermosa	5.42	312	eP		Pn	09 45 56.1	+2.2
VHO				eS		Sn	09 46 51.3	-5.6
SCIG	Sabancuy	5.61	13	eP		Pn	09 45 57.1	+0.9
SCIG				eS		Sn	09 46 58.0	-3.1
SCIG	Sabancuy	5.61	13	i P		Pn	09 45 57.5	+1.2
CNGN	Cerro Negro	5.75	99	Pn		Pn	09 45 58.0	-0.2
CNGN	Cerro Negro	5.75	99	S		Sn	09 46 58.9	-5.8
YOIG	Yosondua	5.91	305			Pn	09 46 03.3	+2.6
YOIG	Yosondua	5.91	305	eP		Pn	09 46 03.3	+2.6
YOIG				eS		Sn	09 47 00.3	-8.7
COPN	Copaltepe	5.91	102	P		Pn	09 46 00.3	-0.1
PNIG	Pinotepa	6.16	299			Pn	09 46 04.0	+0.2
PNIG	Pinotepa	6.16	299	eP		Pn	09 46 04.0	+0.2
PNIG				eS		Sn	09 47 04.7	-10
TOIG	Toxpalan	6.35	317			Pn	09 46 09.5	+3.0
TOIG	Toxpalan	6.35	317	eP		Pn	09 46 09.5	+3.0
TOIG				eS		Sn	09 47 16.9	-2.7
HLIG	Huajuapan de L	6.69	311			Pn	09 46 13.8	+2.5
HLIG	Huajuapan de L	6.69	311	eP		Pn	09 46 13.8	+2.5
BOAB	BOACO BROADBAN	6.75	98			Pn	09 46 10.7	-1.2
FTIG	Fresnillo de T	6.98	310			Pn	09 46 18.5	+3.2
FTIG	Fresnillo de T	6.98	310	eP		Pn	09 46 18.5	+3.2
FTIG				eS		Sn	09 47 27.8	-7.3
ACON	Acoyapa	7.31	101	Pn		Pn	09 46 17.7	-2.0
TEIG	Tepich	7.84	31			Pn	09 46 27.8	+0.9
TEIG	Tepich	7.84	31	Pn		Pn	09 46 28.2	+1.2
	baz=132,slow=24,SNR=11							
TEIG				Sn		Sn	09 47 55.6	-0.6
	baz=312,slow=24,SNR=1.6							
JTS	Las Juntas de	8.04	112	Pn		Pn	09 46 32.0	+2.2
	comp=E,0.9nm,0.3s,baz=110,slow=23,SNR=6.0							
	comp=E,3.5nm,0.5s							
MOIG	Morelia	10.36	308	Pn		Pn	09 47 06.7	+5.0
HBVL	Hebbronville	14.70	338			P	09 48 09.0	+1.8
833A	Chaparral WMA,	16.11	338	P		P	09 48 22.3	-0.5
HNDO	Hondo	17.16	340	P		P	09 48 36.5	+2.0
JCT	Junction City	18.21	339	P		P	09 48 47.9	+1.7
SAND	Sanderson	18.66	333			Pn	09 48 53.5	+2.2
BRDY	Brady	18.71	342	P		Pn	09 48 53.8	+2.0
TX31	Lajitas Ar. Si	18.87	329	P		Pn	09 48 56.5	+2.5
TXAR	Lajitas Array	18.87	329	P		Pn	09 48 56.2	+2.2
	baz=150,slow=12,SNR=14							
	comp=E,1.0nm,0.8s							
ALPN	Alpine	19.71	330	P		Pn	09 49 05.6	+1.5
PLPT	Palo Pinto	19.97	346	P		Pn	09 49 07.0	0.0
SGCY	Sterling City	19.98	338			Pn	09 49 08.2	+0.9
SGCY				IAmb		IAmb	09 49 08.4	
	comp=Z,12nm,0.7s							
Z47A	Carrollton	20.05	11			Pn	09 49 06.4	-1.5
LRAL	Lakeview Retre	20.11	14	P		Pn	09 49 07.7	-1.0
LRAL				IAmb		IAmb	09 49 08.3	
	comp=Z,9.7nm,0.6s							
MNHN	Monahans	20.13	334	P		Pn	09 49 10.1	+1.1
ABTX	Abilene, Hawle	20.15	342	P		Pn	09 49 09.3	+0.1
ABTX				IAmb		IAmb	09 49 10.0	
	comp=Z,15nm,0.7s							
ODSA	Odessa	20.71	335			Pn	09 49 16.6	+0.7
ODSA				IAmb		IAmb	09 49 17.4	
	comp=Z,25nm,1.2s							
APMT	Aspermont	20.94	342			Pn	09 49 17.8	-0.7
APMT				IAmb		IAmb	09 49 18.3	
	comp=Z,19nm,0.8s							
POST	Post	21.16	339	IAmb		IAmb	09 49 21.4	
	comp=Z,47nm,1.5s							
X48A	Hartselle	21.47	12			P	09 49 21.1	-0.4
X48A				IAmb		IAmb	09 49 21.7	
	comp=Z,15nm,0.8s							
HTMS	Hat Mesa	21.48	334	P		P	09 49 24.1	+2.3
FPAL	Fort Paine	21.89	15	P		P	09 49 25.7	-0.4
FPAL				IAmb		IAmb	09 49 27.1	
	comp=Z,11nm,0.9s							
LCAR	Lake Charles	22.53	3	P		P	09 49 32.0	-1.0
W50A	Signal Mountai	22.59	15	P		P	09 49 33.0	-0.6
HODGE	Hodges	22.66	23	IAmb		IAmb	09 49 34.8	
	comp=Z,12nm,1.0s							
OK052	Battle Ridge R	22.75	351	IAmb		IAmb	09 49 35.5	
	comp=Z,3nm,0.7s							
V48A	Smith Brothers	22.76	12	IAmb		IAmb	09 49 35.6	
	comp=Z,16nm,0.8s							
W52A	Murphy	22.88	18	IAmb		IAmb	09 49 37.4	
	comp=Z,11nm,0.9s							
WVT	Waverly	22.95	10			P	09 49 36.2	-1.2
WVT				IAmb		IAmb	09 49 37.2	
	comp=Z,8.3nm,0.5s							
CPCT	Cooper Cave	23.04	17	IAmb		IAmb	09 49 40.2	
	comp=Z,14nm,1.4s							
CLTN	Cedars of Leba	23.20	13	IAmb		IAmb	09 49 39.6	
	comp=Z,5.7nm,0.7s							
PBMO	Poplar Bluff	23.28	4	IAmb		IAmb	09 49 40.2	
	comp=Z,9.5nm,0.5s							
TKL	Tuckaleechee C	23.45	18	P		P	09 49 41.0	-1.5
	comp=Z,5.3nm,0.7s,baz=204,slow=9.4,SNR=5.4							
TKL				LR		LR	10 00 18.1	
	comp=Z,38nm,20.0s,baz=269,slow=41							
	comp=Z,5.3nm,0.7s							
KMSC	Kings Mountain	23.82	23	IAmb		IAmb	09 49 46.0	
	comp=Z,11nm,0.7s							
T50A	Nancy	24.43	15	IAmb		IAmb	09 49 52.1	
	comp=Z,11nm,0.9s							
CCM	Cathedral Cave	24.51	2	P		P	09 49 52.7	+0.2
CCM				IAmb		IAmb	09 49 53.2	
	comp=Z,8.1nm,1.1s							
ANMO	Albuquerque	24.82	332	P		P	09 49 58.4	+2.8
ANMO	Albuquerque	24.82	332	P		P	09 49 56.6	+1.0
	comp=Z,2.0nm,0.6s,baz=229,slow=11,SNR=9.2							
	comp=Z,2.0nm,0.6s							
WCI	Wyandotte Cave	25.27	12	P		P	09 49 58.5	-0.8
S51A	Beattyville	25.35	17	IAmb		IAmb	09 50 02.5	
	comp=Z,8.5nm,0.7s							
R50A	Paris	25.76	15	IAmb		IAmb	09 50 04.8	
	comp=Z,7.3nm,0.6s							
SJG	San Juan	25.77	76	LR		LR	09 59 41.5	
	comp=Z,45nm,21.6s,baz=293,slow=35							
MVCO	Mesa Verde	27.62	332	IAmb		IAmb	09 50 26.9	
	comp=Z,4.7nm,0.8s							
PV13	Radium Mtn., P	28.54	332	IAmb		IAmb	09 50 35.1	
	comp=Z,11nm,1.5s							
PV03	Paradox Valley	28.63	332	IAmb		IAmb	09 50 36.4	
	comp=Z,7.5nm,1.3s							
PV12	Saucer Basin,	28.66	333	IAmb		IAmb	09 50 34.0	
	comp=Z,11nm,1.0s							
PV23	Carpenter Ridg	28.87	332	IAmb		IAmb	09 50 37.6	
	comp=Z,6.0nm,0.9s							
PDAR	Pinedale Array	32.70	336	P		P	09 51 07.3	+1.5
	comp=Z,0.9nm,0.9s,baz=136,slow=9.3,SNR=7.7							
	comp=Z,0.9nm,0.9s							
SADO	Sadowa	33.21	18	LR		LR	10 05 06.3	
	comp=Z,35nm,18.1s,baz=306,slow=37							
SNOW	Snow King Moun	33.75	336	P		P	09 51 17.6	+2.5
NVAR	Mina Array Bea	33.77	322	P		P	09 51 17.5	+2.2
	comp=Z,1.3nm,0.8s,baz=140,slow=8.2,SNR=10							
	comp=Z,1.3nm,0.8s							
LOHW	Long Hollow	33.82	336	IAmb		IAmb	09 51 18.7	
	comp=Z,3.6nm,0.8s							
TPAW	Teton Pass	33.86	336	IAmb		IAmb	09 51 19.4	
	comp=Z,3.7nm,0.9s							
DLMT	Dillon	36.07	336	IAmb		IAmb	09 51 39.2	
	comp=Z,9.1nm,1.4s							
J08A	Circle Bar Ran	37.22	328	IAmb		IAmb	09 51 50.9	
	comp=Z,6.6nm,0.6s							
YKAW1	Yellowknife Wh	51.39	347	P		P	09 53 39.0	+1.3
YKAW1				IAmb		IAmb	09 53 39.5	
	comp=Z,10nm,1.1s							
YKA	Yellowknife Ar	51.42	347	P		P	09 53 39.0	+1.1
	comp=Z,2.5nm,0.8s,baz=148,slow=7.3,SNR=14							
	comp=Z,2.5nm,0.8s							
M29M	Somme Creek	58.70	337	P		P	09 54 32.5	+1.8
M29M				IAmb		IAmb	09 54 32.9	
	comp=Z,2.7nm,0.8s							
F28M	Old Crow	62.21	341	P		P	09 54 55.6	+1.1
ILAR	Eielson Array	63.13	337	P		P	09 55 01.2	+0.5
ILAR	Eielson Array	63.13	337	P		P	09 55 01.4	+0.8
	comp=Z,1.1nm,0.9s,baz=134,slow=4.1,SNR=8.7							
	comp=Z,1.1nm,0.9s							
CMAR	Chiang Mai Arr	146.32	340	PKPbc		PKPab	10 04 15.1	-0.6
	comp=Z,1.3nm,0.5s,baz=343,slow=3.5,SNR=4.8							

*GCG **26** 09:50:13.5±0.9, 14°.61N×92°.48W, h60km±7km, MD3.9, ML3.5*
*MEX **26** 09:50:13.7±0.6, 14°.52N×92°.59W, h54km±11km, MD3.9*
*CATAC **26** 09:50:13.4±0.5, 15°.N±4°.×9°.3W±°, h39km±4km, M3.3/7, MLv3.3/7, Error ellipse: s-maj=9.3km s-min=3.8km az=37.4, confirmed*

ISC 26 09:50:12.1±1.3, 14°.61N±0°.05×92°.61W±0°.04, h58km±11km, n31, σ1s92/46, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THIG		0.45	48	eP		Pn	09 50 23.9	+0.6
THIG				i S		Sn	09 50 30.2	-1.4
THIG		0.45	48	i P		Pn	09 50 24.0	+0.6
THIG				IAML			09 50 34.9	
	comp=E,1μm,0.2s							
SMCA	Catarina	0.57	64	eP		Pn	09 50 25.0	+0.2
SMCA				i S		Sn	09 50 34.0	-0.1
SMCA				IAML			09 50 35.0	
	comp=E,4μm,0.1s							
RTAL	Retalhuleu	0.89	95	eP		Pn	09 50 28.0	-0.6
RTAL				eS		Sn	09 50 39.7	-1.2
RTAL	Retalhuleu	0.89	95	P		Pn	09 50 28.7	0.0
SOKI	Kika Raxquin	1.19	79	i P		Pn	09 50 33.7	+0.7
PCIG		1.24	332	eP		Pn	09 50 34.5	+1.2
PCIG				eS		Sn	09 50 50.3	+1.3
HUEH	Huehuetenango	1.28	56	eP		Pn	09 50 33.8	-0.3
HUEH				eS		Sn	09 50 50.9	+0.5
HUEH	Huehuetenango	1.28	56	i P		Pn	09 50 34.6	+0.5
HUEH				eS		Sn	09 51 17.7	+1.2
HUEH				IAML			09 50 52.1	
	comp=E,807nm,0.4s							
HUEH	Huehuetenango	1.28	56	P		Pn	09 50 34.8	+0.7
CCIG	Comitan	1.73	15	eP		Pn	09 50 41.1	+1.1
CCIG				eS		Sn	09 50 59.9	-1.3
CCIG	Comitan	1.73	15	eP		Pn	09 50 41.0	+0.9
CCIG	Comitan	1.73	15	S		Sn	09 51 01.6	+0.5
CCIG	Comitan	1.73	15	P		Pn	09 50 41.2	+1.2
ESSG	Sabana Grande	1.74	97	i P		Pn	09 50 40.1	+0.1
ESSG				IAML			09 51 02.6	
	comp=N,121nm,0.1s							
FG16	Alotenango, Sa	2.06	99	i P		Pn	09 50 40.0	-4.6
FG16				i S		Sn	09 51 00.2	-9.1
FG16				IAML			09 51 08.2	
	comp=E,2μm,0.2s							
TGIG		2.22	347	eP		Pn	09 50 46.5	-0.1
TGIG				eS		Sn	09 51 13.2	+0.3
NUBE	Las Nubes	2.83	104	i P		Pn	09 50 55.3	+0.2
NUBE	Las Nubes	2.83	104	S		Sn	09 51 28.2	+0.1
NUBE	Las Nubes	2.83	104	P		Pn	09 50 55.5	+0.5
UXUV	UXUV	3.08	332	eP		Pn	09 50 59.9	+1.7
UXUV				eS		Sn	09 51 32.9	-0.9
JAYA	Jayaque - finc	3.21	107	i P		Pn	09 51 00.8	+0.5
JAYA	Jayaque - finc	3.21	107	P		Pn	09 51 01.8	+1.6
JAYA	Jayaque - finc	3.21	107	S		Sn	09 51 39.0	+1.6
CMIG	Matias Romero	3.30	319	eP		Pn	09 51 02.9	+1.6
CMIG				eS		Sn	09 51 41.0	+1.6
HUIG	Huatulco	3.57	289	eP		Pn	09 51 04.7	-0.3
HUIG				eS		Sn	09 51 43.2	-2.8
NEUV	Arroyo Zacate	4.35	316	eP		Pn	09 51 17.8	+2.1
NEUV				eS		Sn	09 52 06.4	+1.2
SCIG	Sabancuy	4.55	17	eP		Pn	09 51 17.2	-1.1
SCIG				eS		Sn	09 52 04.7	-5.3
PEIG	Puerto Escondi	4.59	288	eP		Pn	09 51 21.1	+2.0
PEIG				eS		Sn	09 52 05.8	-5.4
TOIG	Toxpalan	5.51	310	eP		Pn	09 51 34.0	+2.4
TOIG				eS		Sn	09 52 29.0	-4.7
TXIG	Tlaxiaco	5.62	299	eP		Pn	09 51 37.1	+3.8
TXIG				eS		Sn	09 52 34.2	-2.4

*IDC **26** 09:54:49.2±3.2, 4°.39S×133°.57E, h0km, mb3.4/1, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=129.7km s-min=31.1km az=81.0*
*DJA **26** 09:54:50.5±0.5, 4°.S±3°.×13°.4E±°, h12km±3km, M4.2/9, mb4.8/1, MLv3.9/9*

ISC 26 09:54:50.6±1.0, 4°.20S±0°.06×133°.83E±0°.07, h35km, n11, σ2s92/15, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KMPI	Kaimana, Papua	0.55	346	P		Pn	09 54 59.1	-2.8
KMPI				S		Sn	09 55 04.4	-5.4
FAKI	Fak Fak	2.03	309	P		Pn	09 55 22.8	+0.5
FAKI				S		Sn	09 55 47.4	+1.0
RKPI	Ransiki, Papua	2.69	7	P		Pn	09 55 32.6	+1.2
RKPI				S		Sn	09 56 01.2	-1.6
BAKI	Biak	3.75	37	P		Pn	09 55 48.3	+2.3
BNDI	Bandanaira	3.93	265	P		Pn	09 55 49.4	+1.0
SWI	Sorong	4.19	322	P		Pn	09 55 52.4	+0.3
AAI	Ambon	5.65	275	P		Pn	09 56 13.5	+1.4
WRA	Warramunga Arr	15.66	178	Pn		Pn	09 58 26.9	-1.8
	0.1nm,0.3s,baz=359,slow=13,SNR=6.4							
WRA				Sn		Sn	10 01 15.9	-5.3
	0.1nm,0.3s,baz=357,slow=24,SNR=4.5							
	0.4nm,0.5s							
FITZ	Fitzroy Crossi	15.97	210	Pn		Pn	09 58 31.1	-1.7
	0.5nm,0.3s,baz=32,slow=14,SNR=12							
FITZ				Sn		Sn	10 01 19.4	-9.5
	0.3nm,0.3s,baz=170,slow=13,SNR=7.5							
	1.0nm,0.3s							
ASAR	Alice Springs	19.36	180	P		Pn	09 59 15.7	+1.1
	0.2nm,0.3s,baz=3.3,slow=12,SNR=27							
	2.7nm,0.7s							
MKAR	Makanchi Array	68.08	325	P		P	10 05 50.8	+4.0
	0.1nm,0.3s,baz=116,slow=9.8,SNR=2.3							
	0.1nm,0.3s							

*IDC **26** 10:00:36.0±3.8, 54°.50N×87°.32E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=33.9km s-min=22.5km az=37.0*

ASRS 26 10:00:38.0±1.1, 54°.37N×86°.89E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.29	252	I		I	10 09 25.0	
	baz=70,slow=319,SNR=9.2							
ZALV	Zalesovo Beam	1.29	252	Pg		Pn	10 01 03.2	0.0
	1.0nm,0.3s,baz=67,slow=17,SNR=5.7							
ZALV				Lg		Lg	10 01 26.8	
	1.1nm,0.3s,baz=72,slow=28,SNR=4.3							
KURBB	Kurchatov Arra	6.33	237	Pn		Pn	10 02 14.5	+2.0
	0.1nm,0.3s,baz=52,slow=14,SNR=5.4							
	0.6nm,0.5s							
MKAR	Makanchi Array	8.13	203	Pn		Pn	10 02 40.0	+2.8
	0.1nm,0.3s,baz=25,slow=13,SNR=2.2							
	0.2nm,0.4s							

IDC 26 10:04:34.1±59.0, 17°.36S×176°.16W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1096.0km s-min=190.5km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	Stephens Creek	40.77	241	P		P	10 12 18.1	+0.8
	1.2nm,0.7s,baz=67,slow=13,SNR=3.0							
	1.2nm,0.7s							
WRA	Warramunga Arr	46.84	259	P		P	10 13 05.8	-0.5
	0.3nm,0.3s,baz=96,slow=8.2,SNR=5.2							
	0.3nm,0.3s							
ASAR	Alice Springs	47.00	254	P		P	10 13 07.1	-0.4
	1.5nm,0.6s,baz=92,slow=8.3,SNR=36							
	1.5nm,0.6s							

*IDC **26** 10:21:26.5±0.9, 14°.61N×52°.16E, h0km, mb4.0/18, mbtmp4.0/19, ML2.4/2, MS3.4/15, Error ellipse: s-maj=24.0km s-min=17.1km az=24.0*
*NEIC **26** 10:21:29.7±2.8, 14°.88N±0°.08×52°.28E±0°.08, h10km±1km, mb4.2/2, Error ellipse: s-maj=15.5km s-min=11.6km az=222.0*
*OMAN **26** 10:21:31.4±0.1, 15°.14N×52°.12E, h17km±1km, mb3.4/5, ml3.8/5, Error ellipse: s-maj=2.3km s-min=1.0km az=333.0*

ISC 26 10:21:30.0±0.8, 14°.96N±0°.09×52°.22E±0°.08, h10km, n57, σ1s45/51, mb4.1/20, MS3.4/15, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ABTO	Aybut	2.60	23	P		Pn	10 22 13.0	+0.8
	SNR=6.8							
ABTO				S		Sn	10 22 41.4	-2.3
RBK	Rabkut	3.17	37	P		Pn	10 22 21.1	+1.1
	SNR=17							
RBK				S		Sn	10 22 56.6	-1.2
WHFO	Wadi Hawf	3.30	27	P		Pn	10 22 22.8	+1.0
	SNR=33							
WHFO				S		Sn	10 23 00.6	-0.6
DMTO	DMTO	3.79	43	P		Pn	10 22 29.0	+0.5
	SNR=18							
DMTO				S		Sn	10 23 13.2	0.0
DOK	Doka	4.07	26	P		Pn	10 22 33.2	+0.8
	SNR=20							
DOK				S		Sn	10 23 19.8	-0.3
DQM	DQM	7.08	45	P		Pn	10 23 13.3	-0.5
MZR	Muzera	8.09	8	P		Pn	10 23 28.2	+0.6
MZR				S		Sn	10 24 56.8	-2.3
MHTO	MHTO	8.11	42	P		Pn	10 23 28.1	+0.1
	SNR=12							
MHTO				S		Sn	10 24 56.8	-2.9
BSY	Bisya	9.06	31	P		Pn	10 23 41.4	+0.4
ALNE	Al Ain	9.64	20	P		Pn	10 23 50.6	+1.7
ALNE				S		Sn	10 25 32.5	-4.9
ATD	Arta Tunnel	9.74	251	Pn		Pn	10 23 49.8	-0.5
ATD	Arta Tunnel	9.74	251	Pn		Pn	10 23 47.9	-2.5
	0.3nm,0.3s,baz=169,slow=17,SNR=7.5							
ATD				LR		LR	10 26 46.8	
	comp=Z,6.1nm,18.0s,baz=220,slow=34							
	0.7nm,0.3s							
ATD	Arta Tunnel	9.74	251	P		Pn	10 23 50.5	+0.2
SMDO	Samad	9.76	34	P		Pn	10 23 49.4	-1.3
JLN	Jalan Bani Buh	9.88	43	P		Pn	10 23 49.2	-3.0
WBK	Wadi Bani Khal	9.94	39	P		Pn	10 23 52.4	-0.6
WSAR	Wadi Sarin	10.22	35	Pn		Pn	10 23 57.0	+0.1
	baz=258,slow=24,SNR=5.7							
WSAR	Wadi Sarin	10.22	35	P		Pn	10 23 56.2	-0.6
RAYN	Ar Rayn	10.62	324			Pn	10 24 01.8	-0.5
RAYN	Ar Rayn	10.62	324	P		Pn	10 23 59.8	-2.5
UOSS	Minazif	10.62	20	Pn		Pn	10 24 01.0	-1.2
ASF	Jabal al Asfar	22.11	323	LR		LR	10 35 38.3	
	comp=Z,67nm,20.4s,baz=153,slow=38							
MMAI	Mont Meron Ar	23.58	323	LR		LR	10 35 48.3	
	comp=Z,35nm,19.9s,baz=123,slow=36							
KBL	Kabul	24.70	35	P		P	10 26 51.1	-0.6
KBL				IAmb		IAmb	10 27 04.0	
	comp=Z,8.8nm,1.1s							
GNI	Garni	25.93	347	LR		LR	10 39 37.2	
	comp=Z,83nm,19.4s,baz=152,slow=42							
BRTR	Keskin Array B	29.56	330	P		P	10 27 37.0	+1.9
	comp=Z,0.6nm,0.5s,baz=165,slow=5.1,SNR=5.1							
	comp=Z,0.6nm,0.5s							
KBZ	Khabaz	29.76	346	P		P	10 27 39.3	+2.7
	comp=Z,2.6nm,0.8s,baz=235,slow=13,SNR=4.0							
KBZ				LR		LR	10 42 29.7	
	comp=Z,120nm,19.4s,baz=161,slow=42							
	comp=Z,2.6nm,0.8s							
KKAR	Karatay Array	32.14	26	P		P	10 27 59.5	+1.8
AB31	Akbulak array	34.78	9	P		P	10 28 22.0	+1.4
AB31				IAmb		IAmb	10 28 24.0	
	comp=Z,2.8nm,1.0s							
ABKAR	Akbulak array	34.78	9	P		P	10 28 21.8	+1.1
A

comp=Z,0.2nm,0.7s
ASAR Alice Springs 88.53 115 P P 10 34 21.4 -2.0
ASAR Alice Springs 88.53 115 P P 10 34 21.1 -2.4
comp=Z,0.4nm,0.6s,baz=286,slow=4.6,SNR=14
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 120.16 345 PKP **PKPdf 10 40 20.1 -1.7**
comp=Z,0.2nm,0.6s,baz=52,slow=2.4,SNR=3.7
NVAR Mina Array Bea 126.15 351 PKP **PKPdf 10 40 33.7 +0.2**
comp=Z,1.1nm,0.8s,baz=60,slow=1.2,SNR=8.9

---

*NEIC **26** 10:31:08.4±1.1, 17.95S±0.04×168.3E±0.2, h35km±2km, mb4.3/10, Error ellipse: s-maj=27.1km s-min=3.7km az=77.0*
*IDC **26** 10:31:09.9±1.5, 18.06S×167.41E, h0km, mb3.9/5, mbtmp3.9/6, ML3.2/1, Error ellipse: s-maj=39.9km s-min=30.1km az=158.0*
ISC 26 10:31:12.4±1.0, 18.05S±0.05×167.5E±0.2, h23km, n21, σ1§48/21, mb4.2/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.59**	**355**			**Pn**	**10 31 51.3**	**-1.7**
SANVU				Sn		**Sn**	**10 32 21.3**	**-2.5**
DZM	**Mont Dzumac**	**4.12**	**193**			**Pn**	**10 32 13.1**	**-0.9**
DZM	**Mont Dzumac**	**4.12**	**193**	Pn		**Pn**	**10 32 12.3**	**-1.7**
	1.6nm,0.3s,baz=78,slow=21,SNR=4.6							
DZM				Sn		**Sn**	**10 32 58.1**	**-3.4**
	5.1nm,0.3s,baz=309,slow=19,SNR=6.9							
	8.0nm,0.5s							
ONTNC	**Ouen Toro**	**4.34**	**192**			**Pn**	**10 32 17.3**	**+0.3**
PINNC	**Pines Island,**	**4.54**	**180**	Pn		**Pn**	**10 32 18.1**	**-1.6**
PINNC				Sn		**Sn**	**10 33 10.0**	**-1.9**
CTAO	**Charters Tower**	**20.14**	**261**	P		Pn	10 35 48.4	+1.4
CTAO				IAmb	IAmb	10 35 52.5		
	comp=Z,14nm,1.2s							
STKA	**Stephens Creek**	**27.10**	**235**	P		**P**	**10 36 54.9**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=59,slow=7.4,SNR=6.4							
	comp=Z,1.8nm,0.4s							
WR8	**Warramunga Arr**	**31.19**	**261**	P		**P**	**10 37 30.9**	**+0.8**
WB0	**Warramunga Arr**	**31.30**	**261**	P		**P**	**10 37 31.3**	**+0.2**
WB0				IAmb	IAmb	10 37 45.5		
	comp=Z,5.0nm,1.1s							
WB2	**Warramunga Arr**	**31.33**	**261**	P		**P**	**10 37 32.0**	**+0.6**
WB2				IAmb	IAmb	10 37 34.8		
	comp=Z,2.6nm,1.0s							
WRA	**Warramunga Arr**	**31.34**	**261**	P		**P**	**10 37 31.5**	**0.0**
	comp=Z,1.0nm,0.9s,baz=88,slow=8.7,SNR=9.5							
	comp=Z,1.0nm,0.9s							
BBOO	**Buckleboo**	**31.79**	**236**	P		**P**	**10 37 36.1**	**+0.9**
AS31	**Alice Springs**	**31.80**	**254**	P		**P**	**10 37 36.0**	**+0.6**
ASAR	**Alice Springs**	**31.80**	**254**	P		**P**	**10 37 35.8**	**+0.3**
ASAR	**Alice Springs**	**31.80**	**254**	P		**P**	**10 37 36.1**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=82,slow=8.7,SNR=34							
	comp=Z,2.1nm,0.7s							
KNRA	**Kununurra**	**37.06**	**268**	P		**P**	**10 38 20.6**	**-0.4**
KNRA				IAmb	IAmb	10 38 57.9		
	comp=Z,6.6nm,1.1s							
FITZ	**Fitzroy Crossi**	**39.69**	**263**	P		**P**	**10 38 43.5**	**+0.4**
VNDA	**Vanda**	**59.57**	**181**	P		P	10 41 07.3	-6.4
VNDA				IAmb	IAmb	10 41 14.5		
	comp=Z,3.0nm,1.2s							
QSPA	**South Pole Qui**	**72.00**	**180**	P		P	10 42 28.9	-5.3
QSPA				IAmb	IAmb	10 43 02.8		
	comp=Z,6.8nm,1.4s							
QSPA	**South Pole Qui**	**72.00**	**180**	P		**P**	**10 42 35.4**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=242,slow=1.0,SNR=5.7							
	comp=Z,1.0nm,0.8s							
NVAR	**Mina Array Bea**	**89.29**	**49**	P		**P**	**10 44 08.7**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=217,slow=9.1,SNR=4.8							
	comp=Z,0.1nm,0.4s							

---

*PRE **26** 10:41:00.2±1.0, 23.72S×27.37E, h0km, ML1.8, Suspected explosion*
*BGSI **26** 10:41:01.0±2.5, 23.36S×28.54E, h15km±109km, ML2.6*
ISC 26 10:40:58.6±1.0, 23.63S±0.04×27.47E±0.05, h0km, n8, σ1§03/14, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LEPH	**Lephalale, Lim**	**0.38**	**127**	*eP*		**Pb**	**10 41 07.8**	**-0.5**
LEPH				*eS*		**Sb**	**10 41 14.6**	**-0.1**
LEPH				IAML			10 41 22.4	
	comp=Z,84nm,0.8s							
MREMI	**Moremi**	**1.06**	**359**	*i* P		**Pn**	**10 41 21.1**	**+0.4**
MREMI				Lg		Lg	10 41 41.1	
MREMI				IAML			10 41 52.6	
	comp=E,131nm,1.5s							
LBTB	**Lobatse**	**2.19**	**231**	*eP*		**Pn**	**10 41 37.4**	**+1.0**
LBTB				*eS*		**Sn**	**10 42 04.0**	**-0.3**
LBTB				IAML			10 42 37.7	
	comp=Z,6.4nm,0.8s							
HRAO	**HartRAO**	**2.26**	**175**	*eP*		**Pn**	**10 41 38.0**	**+0.7**
HRAO				*eS*		**Sn**	**10 42 06.2**	**+0.3**
HRAO				IAML			10 42 21.3	
	comp=Z,11nm,0.5s							
BROLN	**Tlhalogang**	**2.52**	**357**	*i* P		**Pn**	**10 41 41.2**	**+0.3**
BROLN				*i* Sg		**Sb**	**10 42 15.3**	**-1.1**
BROLN				IAML			10 42 33.1	
	comp=E,24nm,3.7s							
MUSN	**Musina, Limpop**	**2.58**	**59**	*eP*		**Pb**	**10 41 46.3**	**+0.5**
MUSN				*eS*		**Sb**	**10 42 18.3**	**+0.2**
MUSN				IAML			10 42 31.5	
	comp=Z,4.3nm,0.5s							
CKGRV	**CKGRV**	**4.07**	**302**	*i* P		**Pb**	**10 42 11.6**	**+0.3**
CKGRV				IAML			10 43 19.1	
	comp=E,53nm,0.9s							
BOSA	**Boshof**	**5.34**	**201**	*eP*		**Pn**	**10 42 20.6**	**+0.9**
BOSA				*eS*		**Sn**	**10 43 19.4**	**-2.7**
BOSA				IAML			10 43 57.6	
	comp=Z,3.7nm,0.5s							

---

*IDC **26** 11:00:36.8±0.5, 1.76S×120.61E, h0km, mb4.4/20, mbtmp4.4/22, ML3.8/2, MS3.5/17, Error ellipse: s-maj=22.6km s-min=10.9km az=73.0*
*DJA **26** 11:00:40.3±0.2, 2.5S±1×12.1E±, h10km, M4.8/22, mB5.2/4, mb4.8/10, MLv4.9/22, Mw(mB)4.6/4*
*NEIC **26** 11:00:44.2±1.2, 1.82S±0.05×120.65E±0.02, h55km±7km, mb4.8/37, Error ellipse: s-maj=7.5km s-min=2.0km az=201.0*
ISC 26 11:00:43.6±0.8, 1.81S±0.03×120.59E±0.04, h50km±7km, n127, σ1§16/127, mb4.7/48, MS3.6/16, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PCI	**Palu**	**1.17**	**320**	P		**Pn**	**11 01 00.0**	**-3.7**
PCI				S		**Sn**	**11 01 18.8**	**+0.2**
APSI	**Ampana**	**1.38**	**50**	P		**Pn**	**11 01 05.3**	**-1.3**
TTSI	**Tana Toraja**	**1.45**	**212**	P		**Pn**	**11 01 03.7**	**-3.7**
TTSI				S		**Sn**	**11 01 24.4**	**-0.9**
MPSI	**Mapaga**	**2.24**	**342**	P		**Pn**	**11 01 17.8**	**-0.5**
SPSI	**Sidrap Palu**	**2.29**	**201**	P		**Pn**	**11 01 18.0**	**-1.0**
SPSI				S		**Sn**	**11 01 46.6**	**+0.6**
LUWI	**Luwuk**	**2.31**	**71**			**Pn**	**11 01 17.8**	**-1.4**
LUWI				Sn		**Sn**	**11 01 44.6**	**-1.9**
LUWI	**Luwuk**	**2.31**	**71**	P		**Pn**	**11 01 17.8**	**-1.4**
BNSI	**Bone**	**2.62**	**191**	P		**Pn**	**11 01 22.7**	**-0.8**
BNSI				S		**Sn**	**11 01 56.0**	**+2.0**
MRSI	**Marisa**	**2.64**	**31**	P		**Pn**	**11 01 22.7**	**-1.1**
MRSI				S		**Sn**	**11 01 56.4**	**+1.8**
TOLI2	**Tolitoli**	**2.91**	**4**			**Pn**	**11 01 28.0**	**+0.5**
TOLI2				Sn		**Sn**	**11 02 00.6**	**-0.6**
KDI	**Kendari**	**2.94**	**137**	P		**Pn**	**11 01 27.1**	**-0.8**
KAPI	**Kappang**	**3.29**	**195**			**Pn**	**11 01 32.5**	**-0.2**
KAPI				Sn		**Sn**	**11 02 10.3**	**-0.3**
KAPI	**Kappang**	**3.29**	**195**	Pn		**Pn**	**11 01 31.9**	**-0.8**
	24nm,0.3s,baz=3.5,slow=8.9,SNR=30							
KAPI				Sn		**Sn**	**11 02 13.4**	**+2.8**
	33nm,0.3s,baz=229,slow=22,SNR=11							
	238nm,0.7s							
BKSI	**Bulukumba**	**3.52**	**188**	P		**Pn**	**11 01 35.0**	**-0.8**
BKSI				S		**Sn**	**11 02 16.8**	**+0.6**
SMKI	**Samarinda**	**3.64**	**292**	P		**Pn**	**11 01 37.7**	**+0.2**
BKB	**Balikpapan**	**3.73**	**278**			**Pn**	**11 01 39.0**	**+0.2**
BKB	**Balikpapan**	**3.73**	**278**	P		**Pn**	**11 01 38.4**	**-0.4**
KMSI	**Cibinong**	**4.13**	**55**	P		**Pn**	**11 01 44.5**	**+0.2**
BBSI	**Bau Bau**	**4.15**	**152**	P		**Pn**	**11 01 43.7**	**-0.8**
BSSI	**Bau Bau, Buton**	**4.30**	**181**	P		**Pn**	**11 01 45.8**	**-0.8**
SANI	**Sanana**	**5.40**	**93**	P		**Pn**	**11 01 59.1**	**-2.5**
	0.5nm682nm36nm,0.7s							
NLAI	**Namlea**	**6.66**	**102**	P		**Pn**	**11 02 18.3**	**-0.6**
	0.3nm85nm,0.9s							
EDFI	**Ende, Flores**	**6.98**	**171**	P		**Pn**	**11 02 22.6**	**-0.8**
MYLDM	**Lahad Datu**	**7.25**	**343**			**Pn**	**11 02 27.7**	**+0.7**
PLAI	**Plampang**	**7.51**	**202**	P		**Pn**	**11 02 29.8**	**-0.9**
	0.2nm35nm,1.4s							
SOEI	**Soe**	**8.70**	**155**			**Pn**	**11 02 47.1**	**+0.1**
KKM	**Kota Kinabalu**	**8.94**	**331**			**Pn**	**11 02 51.4**	**+1.0**
SBUM	**Sibu**	**9.38**	**297**			**Pn**	**11 02 57.2**	**+0.9**
DAV	**Davao City (W)**	**10.13**	**29**	LR		LR	11 07 06.6	
	comp=Z,106nm,19.3s,baz=170,slow=39							
KSM	**Kuching**	**10.79**	**288**			**Pn**	**11 03 16.2**	**+0.7**
MTN	**Manton Dam**	**15.14**	**137**			**Pn**	**11 04 13.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**16.93**	**163**	P		**P**	**11 04 38.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**16.93**	**163**	Pn		**Pn**	**11 04 37.2**	**+0.1**
	0.1nm,0.3s,baz=352,slow=9.3,SNR=12							
FITZ				LR		LR	11 11 29.0	
	comp=Z,200nm,18.4s,baz=354,slow=38							
	2.6nm,1.0s							
IPM	**Ipoh**	**20.52**	**288**			**P**	**11 05 18.3**	**+0.3**
IPM				IAmb		IAmb	11 05 19.9	
	comp=Z,36nm,0.6s							
KULM	**Kulim**	**21.13**	**290**	P		**P**	**11 05 23.8**	**-0.8**
KULM				IAmb		IAmb	11 05 30.2	
	comp=Z,69nm,1.7s							
RPSI	**Rantau Prapat**	**22.12**	**282**			**P**	**11 05 34.0**	**-1.1**
RPSI				IAmb		IAmb	11 05 37.5	
	comp=Z,24nm,0.9s							
RPSI	**Rantau Prapat**	**22.12**	**282**	P		**P**	**11 05 35.3**	**+0.2**
PSI	**Prapat**	**22.14**	**282**	P		**P**	**11 05 35.3**	**-0.2**
	comp=Z,19nm,0.8s,baz=126,slow=5.9,SNR=11							
	comp=Z,19nm,0.8s							
WB0	**Warramunga Arr**	**22.38**	**144**			**P**	**11 05 36.5**	**-1.4**
WB0				IAmb		IAmb	11 05 43.9	
	comp=Z,20nm,0.9s							
WRA	**Warramunga Arr**	**22.48**	**144**	P		**P**	**11 05 37.0**	**-2.0**
WRA	**Warramunga Arr**	**22.48**	**144**	P		**P**	**11 05 37.8**	**-1.2**
	comp=Z,14nm,1.1s,baz=323,slow=9.9,SNR=32							
WRA				LR		LR	11 15 02.4	
	comp=Z,117nm,18.3s,baz=348,slow=38							
	comp=Z,14nm,1.1s							
WRAB	**Tennant Creek**	**22.48**	**144**	P		**P**	**11 05 38.0**	**-1.0**
WRAB				IAmb		IAmb	11 05 45.0	
	comp=Z,26nm,0.9s							
WR8	**Warramunga Arr**	**22.59**	**144**			**P**	**11 05 39.2**	**-0.9**
WR8				IAmb		IAmb	11 05 49.8	
	comp=Z,27nm,0.9s							
GSI	**Gunungsitoli**	**23.22**	**278**	P		**P**	**11 05 46.5**	**-0.2**
GSI				IAmb		IAmb	11 05 52.3	
	comp=Z,64nm,1.3s							
YULB	**Yu-li**	**25.06**	**2**	P		**P**	**11 06 02.2**	**-1.3**
YULB				IAmb		IAmb	11 06 18.2	
	comp=Z,24nm,1.0s							
AS31	**Alice Springs**	**25.27**	**150**			**P**	**11 06 06.7**	**+1.2**
ASAR	**Alice Springs**	**25.27**	**150**	P		**P**	**11 06 04.7**	**-0.8**
ASAR	**Alice Springs**	**25.27**	**150**	P		**P**	**11 06 05.5**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=345,slow=14,SNR=36							
ASAR				PcP		**PcP**	**11 09 38.4**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=337,slow=1.9,SNR=6.6							
ASAR				LR		LR	11 15 40.6	
	comp=Z,202nm,18.8s,baz=306,slow=36							
	comp=Z,1.7nm,0.7s							
CM31	**Chiang Mai Arr**	**29.32**	**314**	P		**P**	**11 06 42.6**	**+0.8**
CM31				IAmb		IAmb	11 06 43.6	
	comp=Z,16nm,0.7s							
CMAR	**Chiang Mai Arr**	**29.32**	**314**	P		**P**	**11 06 41.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**29.32**	**314**	P		**P**	**11 06 42.6**	**+0.9**
	comp=Z,14nm,0.7s,baz=140,slow=7.4,SNR=66							
CMAR				LR		LR	11 19 04.1	
	comp=Z,106nm,20.9s,baz=160,slow=38							
	comp=Z,14nm,0.7s							
JOW	**Kunigami**	**29.43**	**14**	LR		LR	11 18 21.8	
	comp=Z,46nm,19.3s,baz=202,slow=36							
CHTO	**Chiang Mai**	**29.55**	**315**	P		**P**	**11 06 41.8**	**-2.0**
CHTO				IAmb		IAmb	11 06 45.6	
	comp=Z,14nm,0.7s							
KMI	**Kunming**	**31.88**	**328**	P		**P**	**11 07 05.8**	**+1.2**
KMI				pmax		pmax		
	comp=Z,18nm,0.7s							
PZH	**PanZhiHua**	**33.52**	**328**	P		**P**	**11 07 22.0**	**+3.2**
NJ2	**Nanjing**	**33.72**	**357**	*eP*		**P**	**11 07 22.5**	**+2.2**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
STKA	**Stephens Creek**	**35.87**	**149**	P		**P**	**11 07 38.8**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=314,slow=10,SNR=9.9							
STKA				LR		LR	11 24 26.6	
	comp=Z,132nm,20.3s,baz=210,slow=40							
	comp=Z,3.1nm,0.5s							
JNU	**Nakatsue**	**36.08**	**15**	LR		LR	11 22 54.5	
	comp=Z,34nm,20.2s,baz=222,slow=37							
BRDH	**Bariadhala**	**37.27**	**312**	LR		LR	11 27 46.8	
	comp=Z,129nm,18.8s,baz=126,slow=44							
XAN	**Xi'an**	**37.31**	**344**	P		**P**	**11 07 53.0**	**+1.8**
XAN				pmax		pmax		
	comp=Z,19nm,0.6s							
TIA	**Tai'an**	**37.96**	**355**	P		**P**	**11 07 57.0**	**+0.4**
TIA				pmax		pmax		
	comp=Z,9.0nm,0.6s							
JHJ	**Hachijo jima 2**	**39.19**	**26**	LR		LR	11 22 15.1	
	comp=Z,22nm,21.2s,baz=336,slow=33							
KSAR	**Wonju Array Be**	**39.64**	**9**	P		**P**	**11 08 10.8**	**+0.2**
KSRS	**Korea Array**	**39.65**	**9**	P		**P**	**11 08 11.2**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=197,slow=7.5,SNR=6.3							
	comp=Z,1.0nm,0.5s							
LZH	**Lanzhou**	**40.81**	**339**	*eP*		**P**	**11 08 21.3**	**+0.7**
LZH				pP		pP	11 08 36.0	+1.8
LZH				sP		sP	11 08 43.8	+3.6
LZH				pmax		pmax		
	comp=Z,19nm,1.1s							
MJAR	**Matsushiro Arr**	**41.53**	**22**	P		**P**	**11 08 24.8**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=189,slow=8.1,SNR=3.5							
	comp=Z,1.3nm,0.6s							
BJI	**Beijing**	**41.84**	**355**	P		**P**	**11 08 28.5**	**-0.2**
BJI				pmax		pmax		
	comp=Z,8.0nm,0.6s							
CAN	**Canberra**	**42.52**	**145**	P		**P**	**11 08 35.5**	**+1.0**
HHC	**Hu-ho-hao-te**	**43.25**	**350**	*eP*		**P**	**11 08 42.5**	**+2.2**
HHC				pmax		pmax		
	comp=Z,12nm,0.6s							
GTA	**Gaotai**	**45.24**	**337**	*eP*		**P**	**11 08 58.0**	**+1.7**
GTA				PcP		**PcP**	**11 10 36.0**	**+0.3**
GTA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
XLT	**XiLinHaoTe**	**45.69**	**355**	*eP*		**P**	**11 09 00.3**	**+0.6**
XLT				pmax		pmax		
	comp=Z,13nm,1.3s							
MDJ	**Mudanjiang**	**46.92**	**9**	P		**P**	**11 09 10.5**	**+1.3**
MDJ				pmax		pmax		
	comp=Z,6.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**46.93**	**11**	P		**P**	**11 09 08.8**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=199,slow=5.6,SNR=5.0							
USRK				LR		LR	11 28 09.5	
	comp=Z,34nm,20.6s,baz=224,slow=35							
	comp=Z,2.0nm,0.6s							
JKA	**Kamikawa-asahi**	**49.78**	**21**			**P**	**11 09 30.8**	**-0.5**
JKA				IAmb		IAmb	11 09 33.7	
	comp=Z,8.8nm,0.8s							
ULN	**Ulaanbaatar**	**50.87**	**348**	P		**P**	**11 09 38.8**	**-0.8**
ULN	**Ulaanbaatar**	**50.87**	**348**	P		**P**	**11 09 40.2**	**+0.5**
ULN				pP		**pP**	**11 09 54.7**	**+1.1**
SONM	**Songino Array**	**50.98**	**348**	P		**P**	**11 09 40.2**	**-0.2**
SONM				IAmb		IAmb	11 09 42.1	
	comp=Z,10nm,0.7s							
SONM	**Songino Array**	**50.98**	**348**	P		**P**	**11 09 40.3**	**-0.2**
	comp=Z,10nm,0.6s,baz=164,slow=8.8,SNR=29							
	comp=Z,10nm,0.6s							
HEH	**HeiHe**	**52.19**	**6**	*eP*		**P**	**11 09 47.8**	**-1.5**
HEH				pmax		pmax		
	comp=Z,11nm,0.6s							
WMQ	**Urumqi**	**54.14**	**331**	*eP*		**P**	**11 10 07.3**	**+3.4**
WMQ				LR		LR		
	comp=Z,230nm,18.7s							
KSH	**Kashi**	**57.97**	**320**	P		**P**	**11 10 31.8**	**+0.4**
KSH				pP		pP	11 10 48.8	+3.1
KSH				pmax		pmax		
	comp=Z,13nm,0.7s							
TARG	**Taragay, Kyrgy**	**58.11**	**323**	IAmb		IAmb	11 10 53.3	
	comp=Z,12nm,1.3s							
KDJ	**Kajisay**	**58.73**	**323**	IAmb		IAmb	11 10 49.7	
	comp=Z,6.9nm,0.8s							
MKAR	**Makanchi Array**	**58.93**	**330**	P		**P**	**11 10 37.4**	**-0.4**
MKAR	**Makanchi Array**	**58.93**	**330**	P		**P**	**11 10 37.9**	**+0.1**
	comp=Z,5.1nm,0.5s,baz=132,slow=8.0,SNR=40							
	comp=Z,5.1nm,0.5s							
MAKZ	**Makanchi**	**59.09**	**330**	P		**P**	**11 10 38.5**	**-0.5**
KBL	**Kabul**	**60.31**	**312**	P		**P**	**11 10 46.8**	**-0.9**
AAK	**Ala-Archa**	**60.64**	**322**	P		**P**	**11 10 49.6**	**-0.2**
AAK				IAmb		IAmb	11 10 51.0	
	comp=Z,7.2nm,0.7s							
ARSB	**Arslanbob**	**60.86**	**320**	IAmb		IAmb	11 10 52.2	
	comp=Z,12nm,0.7s							
SIMJ	**Simiganj**	**62.18**	**316**			**P**	**11 10 59.3**	**-1.0**
SIMJ				IAmb		IAmb	11 11 01.6	
	comp=Z,17nm,1.4s							
PETK	**Petropavlovsk-**	**62.90**	**24**	P		**P**	**11 11 04.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=214,slow=4.4,SNR=6.6							
	comp=Z,1.5nm,0.7s							
ZAA0	**Zalesovo Array**	**63.00**	**337**	IAmb		IAmb	11 11 06.8	
	comp=Z,13nm,1.0s							
ZALV	**Zalesovo Beam**	**63.00**	**337**	P		**P**	**11 11 03.9**	**-1.4**
ZALV	**Zalesovo Beam**	**63.00**	**337**	P		**P**	**11 11 04.1**	**-1.1**
	comp=Z,8.5nm,0.8s,baz=134,slow=4.9,SNR=21							
	comp=Z,8.5nm,0.8s							
KURBB	**Kurchatov Arra**	**63.35**	**331**	P		**P**	**11 11 07.1**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=134,slow=6.5,SNR=33							
	comp=Z,5.9nm,0.7s							
KK31	**Karatay Array**	**63.36**	**321**	P		**P**	**11 11 06.9**	**-0.9**
KKAR	**Karatay Array**	**63.36**	**321**	P		**P**	**11 11 06.7**	**-1.2**
KURK	**Kurchatov**	**63.37**	**332**	P		**P**	**11 11 07.5**	**-0.2**
KURK	**Kurchatov**	**63.37**	**332**	P		**P**	**11 11 07.4**	**-0.4**
CASY	**Casey**	**64.73**	**184**	P		**P**	**11 11 16.3**	**-0.1**
MA2	**Magadan**	**65.62**	**16**	LR		LR	11 40 33.0	
	comp=Z,14nm,20.0s,baz=226,slow=36							
DRV	**Dumont d'Urvil**	**66.15**	**172**	P		**P**	**11 11 25.0**	**-0.5**
BVAR	**Borovoye Array**	**68.81**	**330**	P		**P**	**11 11 41.9**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=131,slow=8.1,SNR=13							
	comp=Z,3.4nm,0.8s							
ABKAR	**Akbulak array**	**72.70**	**323**	P		**P**	**11 12 05.4**	**-1.0**
TIXI	**Tiksi**	**73.53**	**3**			**P**	**11 12 09.3**	**-1.5**
AKTO	**Aktyubinsk**	**74.32**	**324**	LR		LR	11 51 04.7	
	comp=Z,41nm,18.3s,baz=42,slow=41							
MAW	**Mawson**	**76.50**	**199**	P		**P**	**11 12 27.9**	**-0.1**
	comp=Z,4.9nm,0.7s,baz=80,slow=4.3,SNR=9.9							
MAW				LR		LR	11 42 08.7	
	comp=Z,44nm,20.0s,baz=10.0,slow=33							
	comp=Z,4.9nm,0.7s							
VNDA	**Vanda**	**78.81**	**172**	P		**P**	**11 12 40.9**	**+0.1**
VNDA	**Vanda**	**78.81**	**172**	P		**P**	**11 12 41.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=299,slow=8.0,SNR=4.6							
	comp=Z,1.2nm,0.6s							
GEVA	**Gevas**	**81.35**	**309**	P		**P**	**11 12 54.8**	**-0.7**
GEVA				IAmb		IAmb	11 12 55.7	
	comp=Z,6.7nm,0.8s							
GURO	**Guroymak-BITLI**	**82.19**	**309**	P		**P**	**11 12 59.7**	**-0.1**
QSPA	**South Pole Qui**	**88.14**	**180**	P		**P**	**11 13 29.8**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=275,slow=1.6,SNR=17							
	comp=Z,2.1nm,0.7s							
POGA	**Pongola**	**88.19**	**243**	P		**P**	**11 13 29.3**	**-0.6**
BRTR	**Keskin Array B**	**88.80**	**310**	P		**P**	**11 13 31.6**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=64,slow=2.9,SNR=3.8							
	comp=Z,0.4nm,0.4s							
KDAK	**Kodiak Island**	**89.82**	**32**	LR		LR	11 47 39.3	
	comp=Z,29nm,21.2s,baz=306,slow=31							
IMAR	**Indian Mountai**	**89.87**	**24**	P		**P**	**11 13 37.4**	**+0.5**
ARCES	**ARCESS Array B**	**93.47**	**339**	P		**P**	**11 13 53.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=96,slow=8.7,SNR=3.8							
	comp=Z,0.7nm,0.6s							
BMAR	**Burnt Mountain**	**93.52**	**23**	P		**P**	**11 13 53.5**	**-0.4**
MLR	**Muntele Rosu**	**94.55**	**315**	LR		LR	12 05 35.7	
	comp=Z,16nm,18.1s,baz=86,slow=41							
SNAA	**Sanae**	**98.31**	**195**	P		**P**	**11 14 15.3**	**-0.3**
SNAA	**Sanae**	**98.31**	**195**	P		Pdif	11 14 15.7	0.0
	comp=Z,1.1nm,0.8s,baz=160,slow=4.5,SNR=4.3							
SNAA				LR		LR	11 58 52.8	
	comp=Z,25nm,18.1s,baz=95,slow=36							
	comp=Z,1.1nm,0.8s							
NVAR	**Mina Array Bea**	**115.15**	**48**	PKP		**PKPdf**	**11 19 20.7**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=240,slow=2.9,SNR=4.8							
TORD	**Torodi Ar. Bea**	**118.53**	**284**	PKP		**PKPdf**	**11 19 26.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=33,slow=3.5,SNR=4.6							
PDAR	**Pinedale Array**	**119.53**	**41**	PKP		**PKiKP**	**11 19 28.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=82,slow=0.9,SNR=4.8							
TXAR	**Lajitas Array**	**129.82**	**53**	PKP		**PKiKP**	**11 19 49.9**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=154,slow=2.1,SNR=5.1							
CPUP	**Villa Florida**	**151.95**	**184**	PKPbc		**PKiKP**	**11 20 34

KAN08				IAML			11 07 18.6	
	comp=N,520nm,0.1s							
KAN01	**Argonia South**	**0.40**	**37**		Pg		11 07 12.6	+0.4
KAN01					Sg		11 07 18.0	+0.6
KAN13	**South Haven SW**	**0.50**	**69**		Pg		11 07 14.3	+0.2
KAN13					Sg		11 07 21.0	+0.4
OK038	**West end E0370**	**0.66**	**237**		Pg		11 07 17.2	+0.1
OK038					Sg		11 07 26.5	+0.8
OK038				IAML			11 07 33.5	
	comp=N,271nm,0.3s							
OK038				IAML			11 07 40.6	
	comp=N,325nm,0.3s							
BLOK	**Blackwell**	**0.68**	**96**		Pg		11 07 17.6	0.0
BLOK					Sg		11 07 26.6	+0.1
BLOK				IAML			11 07 27.8	
	comp=E,207nm,0.2s							
BLOK				IAML			11 07 30.3	
	comp=N,293nm,0.2s							
NOKA	**Waynoka**	**0.73**	**254**		Pg		11 07 18.5	0.0
NOKA					Sg		11 07 28.6	+0.6
NOKA				IAML			11 07 35.0	
	comp=N,183nm,0.2s							
OK029	**Liberty Lake**	**1.15**	**155**	IAML			11 07 46.1	
	comp=N,96nm,0.2s							
T35A	**Sooner Cattle**	**1.24**	**86**			Pb	11 07 27.8	-0.5
OK052	**Battle Ridge R**	**1.32**	**129**	IAML			11 07 52.0	
	comp=N,99nm,0.5s							
OK052				IAML			11 07 52.7	
	comp=N,103nm,0.3s							
ELIS	**Ellis County**	**1.34**	**235**	IAML			11 07 56.8	
	comp=E,99nm,0.2s							
DEOK	**Depew**	**1.61**	**128**			Pn	11 07 33.6	+0.3
R32A	**Long Quarter,**	**1.66**	**342**			Pb	11 07 35.1	-0.3
TUL3	**Leonard**	**2.05**	**116**			Pn	11 07 40.4	+0.9
TUL3				IAmb_Lg			11 08 11.5	
	comp=Z,13nm,0.7s							
WMOK	**Wichita Mounta**	**2.18**	**196**			Pn	11 07 42.2	+1.0
SMWD	**Samnorwood**	**2.48**	**226**			Pn	11 07 46.5	+1.1
SMWD				IAmb_Lg			11 08 29.0	
	comp=Z,3.6nm,0.7s							
U38A	**Gravette**	**2.98**	**97**	IAmb_Lg			11 08 45.9	
	comp=Z,4.4nm,0.8s							
RTBA	**Rita Blanca**	**3.78**	**265**			Pn	11 08 05.2	+1.8
RTBA				IAmb_Lg			11 09 10.9	
	comp=Z,3.2nm,0.9s							
MGMO	**Mountain Grove**	**4.65**	**84**	IAmb_Lg			11 09 30.3	
	comp=Z,7.2nm,1.1s							
FCAR	**Ozark Folk Cen**	**4.88**	**99**	IAmb_Lg			11 09 40.0	
	comp=Z,4.9nm,0.8s							
FVM	**French Village**	**6.18**	**77**	IAmb_Lg			11 10 21.8	
	comp=Z,4.7nm,0.8s							
SIUC	**Southern Illin**	**7.10**	**80**	IAmb_Lg			11 10 50.2	
	comp=Z,6.6nm,0.8s							

JMA 26 11:20:17.2±0.5, 31°N±2°×14°3E±°, h0km, MV4.2/10, FAR E OFF IZU ISLANDS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.19**	**310**	*eP*	Pn	11 21 10.1	+1.4
JHJ2				*eS*	Sn	11 21 48.9	+1.6
BSO1	**Boso 1**	**3.86**	**338**	*eP*	Pn	11 21 19.3	+2.0
BSO1				*eS*	Sn	11 22 06.6	+3.4
JOD2	**Odawara 2**	**5.17**	**325**	*eP*	Pn	11 21 39.0	+3.1

*HEL **26** 11:29:59.8±0.1, 67.°95N×25.°85E, h0km, ML1.5, Explosion*
*BER **26** 11:30:02.5±1.6, 67.°97N×25.°70E, h0km, ML1.3, Suspected explosion*

UPP 26 11:30:02.7±1.1, 67.°89N×25.°36E, h0km, ML1.6, Presumed earthquake, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEF	**Hetta**	**0.82**	**310**	*eP*	Pg	11 30 17.2	-1.2
HEF				*eS*	Sg	11 30 30.1	+1.0
HEF	**Hetta**	**0.82**	**310**	PB	Pg	11 30 17.1	-1.3
	baz=121						
HEF				MSG		11 30 28.6	
	comp=Z,3.7nm,0.2s						
HEF				SB	Sg	11 30 29.9	+0.8
PAJU	**Pajala**	**1.22**	**226**	P	Pg	11 30 25.2	-0.9
PAJU				S	Sn	11 30 44.3	0.0
PAJU	**Pajala**	**1.22**	**226**	PG	Pg	11 30 25.3	-0.8
PAJU				SB	Sn	11 30 43.6	-0.6
RAJF	**Raja-Jooseppi**	**1.25**	**60**	PB	Pg	11 30 19.6	-7.1
RAJF				SB	Sg	11 30 33.2	-10
LANU	**Lannavaara**	**1.28**	**279**	P	Pg	11 30 26.3	-0.9
LANU	**Lannavaara**	**1.28**	**279**	PG	Pg	11 30 26.0	-1.1
LANU				SN	Sn	11 30 45.8	+0.2
RNF	**Rovaniemi**	**1.31**	**168**	PG	Pg	11 30 24.2	-3.6
RNF				SG	Sg	11 30 41.8	-2.8
MASU	**Masugnsbyn**	**1.35**	**253**	P	Pg	11 30 27.8	-0.8
KTK1	**Kautokeino**	**1.38**	**326**	*eP*	Pg	11 30 26.3	-2.7
KTK1				*eS*	Sg	11 30 45.5	-1.3
KTK1				IAML		11 30 49.2	
	comp=Z,7.3nm,0.7s						
KTK1	**Kautokeino**	**1.38**	**326**	PN	Pg	11 30 26.2	-2.8
KTK1				SN	Sg	11 30 45.6	-1.2
VRF	**Varrio**	**1.62**	**93**	PN	Pn	11 30 26.7	-5.8
	baz=275						
VRF				MSG		11 30 43.1	
	comp=Z,3.3nm,0.2s						
VRF				SG	Sn	11 30 44.6	-9.4
ARA0	**ARCESS Array S**	**1.66**	**2**	*eP*	Pn	11 30 29.3	-3.7
ARA0				*eS*	Sn	11 30 50.0	-5.0
ARA0				IAML		11 30 54.0	
	comp=Z,4.7nm,0.8s						
ARA0	**ARCESS Array S**	**1.66**	**2**	PN	Pn	11 30 29.3	-3.7
	baz=172						
ARA0				SN	Sn	11 30 50.0	-5.0
ERTU	**Ertsjaerv**	**1.82**	**224**	P	Pn	11 30 35.7	+0.5
ERTU	**Ertsjaerv**	**1.82**	**224**	PG	Pn	11 30 35.8	+0.7
ERTU				SG	Sg	11 30 52.8	+1.8
TOF	**Tornio**	**1.86**	**193**	PG	Pn	11 30 35.3	-0.4
TOF				MSG		11 30 58.6	
	comp=Z,2.6nm,0.2s						
TOF				SG	Sb	11 31 00.9	-0.3
RANF	**Ranua**	**1.96**	**163**	PG	Pn	11 30 35.2	-2.0
	baz=352						
RANF				SG	Sn	11 31 00.4	-2.0
KEV	**Kevo**	**1.97**	**17**	PG	Pn	11 30 33.5	-3.8
	baz=195						
KEV				SG	Sn	11 30 57.3	-5.3
KOVU	**Salmi**	**1.98**	**282**	P	Pn	11 30 37.9	+0.5
KIF	**Kilpisjarvi**	**2.02**	**306**	*eP*	Pn	11 30 38.6	+0.6
KIF				*eS*	Sb	11 31 05.8	-0.1
KIF	**Kilpisjarvi**	**2.02**	**306**	PG	Pn	11 30 38.2	+0.2
KIF				MSG		11 31 03.8	
	comp=Z,2.1nm,0.2s						
KIF				SG	Sb	11 31 06.0	+0.1
KALU	**Kalix**	**2.18**	**202**	SG	Sb	11 31 10.9	+0.4
RATU	**Laukkuluspa**	**2.19**	**271**	P	Pn	11 30 40.8	+0.5
OLKF	**Oulanka, Finla**	**2.23**	**133**	PG	Pn	11 30 38.1	-2.8
OLKF				MSG		11 31 03.5	
	comp=Z,2.0nm,0.2s						
OLKF				SG	Sn	11 31 06.1	-3.0
MSF	**Maaselka**	**2.46**	**142**	PN	Pn	11 30 39.9	-4.1
MSF				SG	Sn	11 31 13.4	-1.3
KU2	**Taivalkoski**	**2.46**	**151**	PG	Pn	11 30 43.1	-0.9
	baz=336						
KU6	**Riekki**	**2.58**	**134**	PG	Pn	11 30 44.1	-1.6
	baz=318						
KU6				MSG		11 31 13.7	
	comp=Z,3.4nm,0.2s						
KU6				SG	Sn	11 31 16.3	-1.5
VADS	**Vadso**	**2.67**	**31**	*eP*	Pn	11 30 43.1	-3.7
OBF4	**Vikkela, Lumij**	**3.09**	**182**	SN	Sn	11 31 28.4	-1.7
LVZ	**Lovozero**	**3.52**	**86**	SG	Sn	11 31 43.4	+2.6
OUF	**Merijarvi**	**3.54**	**184**	SG	Sb	11 31 51.8	+2.2

*UPA **26** 11:44:00.6±0.6, 8.°12N×83.°01W, h28km±2km, MW4.6*
*UCR **26** 11:44:01.7±1.3, 8.°00N×82.°77W, h11km±5km, MW3.8*

ISC 26 11:44:02.1±1.3, 8.°02N±0.°05×82.°77W±0.°03, h21km±1km, n56, σ1°91/85, 9C-9D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPA	**Petro Terminal**	**0.20**	**330**	*iP*	**Pb**	**11 44 08.0**	**0.0**
PTPA				*eS*	**Sb**	**11 44 12.8**	**+0.7**
PTPM	**Petroterminale**	**0.21**	**329**	*eP*	**Pb**	**11 44 08.0**	**0.0**
PTPM				*eS*	**Sb**	**11 44 10.4**	**-1.8**
DVD	**David**	**0.52**	**38**	*iP*	**Pb**	**11 44 12.4**	**-0.1**
DVD				*eS*	**Sb**	**11 44 20.4**	**+0.8**
DMCAL	**E. de Neily**	**0.64**	**358**	*eP*	**Pb**	**11 44 14.6**	**-0.2**
DMCAL				*eS*	**Sb**	**11 44 23.1**	**-0.3**
NELY	**Ciudad Neily**	**0.65**	**344**	*eP*	**Pb**	**11 44 14.3**	**-0.5**
NELY				*eS*	**Sb**	**11 44 23.6**	**+0.2**
JEFFS	**S de V. Baru**	**0.68**	**20**	*iP*	**Pb**	**11 44 15.6**	**+0.1**
FITO	**Golfito**	**0.71**	**328**	*eP*	**Pb**	**11 44 14.9**	**-0.9**
FITO				*eS*	**Sb**	**11 44 24.5**	**-0.7**
BANCO	**falda S V. Bar**	**0.73**	**19**	*eP*	**Pb**	**11 44 16.1**	**-0.2**
EDAD	**Golfito**	**0.74**	**328**	*eP*	**Pb**	**11 44 15.2**	**-1.1**
EDAD				*eS*	**Sb**	**11 44 25.2**	**-0.8**
BRU2	**Volcan**	**0.77**	**6**	*eP*	**Pb**	**11 44 16.6**	**-0.3**
BRU2				*eS*	**Sb**	**11 44 27.6**	**+0.6**
TBS2		**0.77**	**8**	*eP*	**Pb**	**11 44 17.6**	**+0.6**
BQTLY	**Boquete Panama**	**0.79**	**23**	*eP*	**Pb**	**11 44 16.8**	**-0.5**
WILLF	**Boquete**	**0.79**	**25**	*eP*	**Pb**	**11 44 16.8**	**-0.5**
WILLF				*eS*	**Sb**	**11 44 27.4**	**-0.3**
SCLRA	**Santa Clara, W**	**0.80**	**359**	*eP*	**Pb**	**11 44 17.5**	**0.0**
DAP26	**falda E V. Bar**	**0.83**	**24**	*iP*	**Pb**	**11 44 17.3**	**-0.7**
DAP26				*eS*	**Sb**	**11 44 28.5**	**-0.3**
ALCO	**Alturas Coton,**	**0.92**	**356**	*eP*	**Pb**	**11 44 18.6**	**-0.9**
ALCO				*eS*	**Sb**	**11 44 31.3**	**-0.2**
RMDIO	**Remedios, Chir**	**0.95**	**78**	*eP*	**Pn**	**11 44 20.2**	**-0.1**
PBNVO	**Pueblo Nuevo,**	**1.03**	**34**	*eP*	**Pb**	**11 44 20.0**	**-1.3**
PBNVO				*eS*	**Sb**	**11 44 33.4**	**-1.1**
RBALA	**Bur**	**1.05**	**36**	*eP*	**Pb**	**11 44 20.5**	**-1.1**
RBALA				*eS*	**Sb**	**11 44 34.6**	**-0.2**
EDP2	**Potrero Grande**	**1.06**	**338**	*eP*	**Pn**	**11 44 21.7**	**-0.2**
EDP2				*eS*	**Sn**	**11 44 36.9**	**+0.8**
CHGR2	**Aguacate**	**1.10**	**34**	*eP*	**Pn**	**11 44 20.8**	**-1.6**
CHGR2				*eS*	**Sn**	**11 44 35.7**	**-0.7**
FIMO	**Fila Mora**	**1.12**	**329**	*eP*	**Pn**	**11 44 22.2**	**-0.5**
FIMO				*eS*	**Sb**	**11 44 36.8**	**-0.3**
PANP	**Palmar Norte**	**1.15**	**324**	*eP*	**Pn**	**11 44 21.9**	**-1.2**
PANP				*eS*	**Sb**	**11 44 37.6**	**-0.3**
KKNTU	**Kakint[e]**	**1.25**	**50**	*eP*	**Pn**	**11 44 23.4**	**-1.0**
KKNTU				*eS*	**Sn**	**11 44 39.7**	**-0.9**
BURE	**Buenos Aires**	**1.27**	**334**	*eP*	**Pn**	**11 44 24.5**	**-0.3**
EDPE	**Pejibaye, P**	**1.38**	**325**	*eP*	**Pn**	**11 44 25.8**	**-0.5**
EDPE				*eS*	**Sn**	**11 44 44.0**	**+0.1**
SAJE	**San Jernim**	**1.50**	**331**	*eP*	**Pn**	**11 44 27.5**	**-0.5**
SAJE				*eS*	**Sn**	**11 44 46.8**	**-0.4**
GMAL	**Guarumal, Vera**	**1.54**	**100**	*eP*	**Pn**	**11 44 28.5**	**+0.1**
GMAL				*eS*	**Sb**	**11 44 51.0**	**+1.8**
CEUA	**Cerro Uatsi, L**	**1.60**	**354**	*eP*	**Pb**	**11 44 31.2**	**+0.2**
CEUA				*eS*	**Sb**	**11 44 54.0**	**+3.3**
LAES	**El Progreso Va**	**1.75**	**351**	*iP*	**Pn**	**11 44 32.4**	**+1.1**
LAES				*eS*	**Sb**	**11 44 56.1**	**+1.1**
VERH	**Veragua Rainfo**	**1.94**	**348**	*eP*	**Pn**	**11 44 34.8**	**+0.9**
VERH				*eS*	**Sb**	**11 44 59.7**	**-0.7**
LLNJ	**Naranjito**	**1.95**	**318**	*eP*	**Pn**	**11 44 33.4**	**-0.7**
PIEC	**Cerro El Cedra**	**1.98**	**324**	*eP*	**Pn**	**11 44 35.0**	**+0.3**
CACAO	**El Cacao, Vera**	**2.01**	**110**	*eP*	**Pn**	**11 44 35.2**	**+0.3**
CACAO				*eS*	**Sb**	**11 45 02.8**	**+0.3**
VINA	**Juan Vinas**	**2.09**	**333**	*eP*	**Pn**	**11 44 36.9**	**+0.8**
LCR2	**La Lucha 2**	**2.10**	**325**	*iP*	**Pn**	**11 44 36.7**	**+0.4**
PICV	**PH. Pirrs**	**2.13**	**319**	*eP*	**Pn**	**11 44 36.4**	**-0.2**
PAR1A	**Puntarenas Pro**	**2.14**	**317**	*iP*	**Pn**	**11 44 36.8**	**+0.1**
RESJ	**San Isidro (Tu**	**2.17**	**337**	*eP*	**Pn**	**11 44 38.7**	**+1.5**
RESJ				*eS*	**Sb**	**11 45 06.1**	**-1.2**
CVTV	**Tajo**	**2.19**	**334**	*eP*	**Pn**	**11 44 39.4**	**+1.7**
CVTQ	**Turrialba Volc**	**2.20**	**333**	*eP*	**Pn**	**11 44 39.0**	**+1.1**
VTR0	**Volcan Turrial**	**2.21**	**334**	*eP*	**Pn**	**11 44 39.2**	**+1.2**
VTR0				*eS*	**Sb**	**11 45 07.9**	**-0.8**
CVTR	**Volcan Turrial**	**2.21**	**334**	*eP*	**Pn**	**11 44 38.9**	**+0.9**
VICA	**Volcano Irazu**	**2.22**	**331**	*eP*	**Pn**	**11 44 39.9**	**+1.8**
CHIT3	**Chitre**	**2.33**	**91**	*eP*	**Pn**	**11 44 40.2**	**+1.0**
CHIT3				*eS*	**Sb**	**11 45 10.1**	**-1.7**
AZU	**Azuero**	**2.48**	**95**	*eP*	**Pn**	**11 44 42.5**	**+1.1**
AZU				*eS*	**Sb**	**11 45 14.3**	**-1.9**
AZU	**Azuero**	**2.48**	**95**	*eP*	**Pn**	**11 44 42.3**	**+1.0**
ZANG	**Zanguenga, Cho**	**3.02**	**72**	*eP*	**Pb**	**11 44 54.3**	**-0.9**
VACR	**Volcan Arenal**	**3.08**	**322**	*eP*	**Pb**	**11 44 55.6**	**-0.6**
ARE1	**Arenal 1**	**3.09**	**322**	*eP*	**Pn**	**11 44 51.5**	**+1.7**
VARE2	**V. Arenal**	**3.09**	**322**	*eP*	**Pn**	**11 44 51.5**	**+1.7**
BCIP	**Isla Barro Col**	**3.11**	**68**	*eP*	**Pn**	**11 44 52.2**	**+2.1**
JTS	**Las Juntas de**	**3.12**	**316**	*eP*	**Pn**	**11 44 49.7**	**-0.4**
CAZU	**Cerro Azul, Pa**	**3.54**	**70**	*eP*	**Pn**	**11 44 57.1**	**+1.2**
ELI1	**Hacienda Flor**	**3.79**	**314**	*eP*	**Pn**	**11 45 00.8**	**+1.5**
LAPC	**Finca la Perla**	**3.79**	**316**	*eP*	**Pn**	**11 45 00.3**	**+0.9**

*BER **26** 11:46:44.8±3.2, 80.°30N×1.°90W, h29km±31km, Mw3.7, ML2.2(DNK), Confirmed Earthquake*
*DNK **26** 11:46:44.8±4.2, 80.°26N×1.°21W, h36km±29km, ML2.2*
*FCIAR **26** 11:46:45.0, 80.°17N×1.°09W, h10km, station OMEGA has station magnitude of 3.30 station ZFI2 has station magnitude of 3.30*
*KOLA **26** 11:46:45.3, 80.°92N×2.°33E, h0km, ML2.1, Error ellipse: s-maj=119.9km s-min=36.7km az=40.0, Greenland sea*

ISC 26 11:46:38.4±0.9, 80.°20N±0.°06×2.°18W±0.°04, h10km, n24, σ3°13/44, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.69**	**308**	*eP*	**Pn**	**11 47 24.8**	**+3.1**
NOR				*i* S	**Sn**	**11 47 54.2**	**-0.1**
NOR				IAML		11 47 59.4	
	comp=Z,16nm,0.2s						
NOR	**Nord**	**2.69**	**308**	*eP*	**Pn**	**11 47 25.3**	**+3.6**
NOR				*i* S	**Sn**	**11 47 54.2**	**-0.1**
NOR				IAML		11 47 59.4	
	comp=Z,16nm,0.2s						
KBS	**Kingsbay**	**2.87**	**109**	P	**Pn**	**11 47 26.1**	**+2.0**
KBS				S	**Sn**	**11 47 55.0**	**-3.6**
KBS	**Kingsbay**	**2.87**	**109**	*i* P	**Pn**	**11 47 26.1**	**+2.0**
KBS				*eS*	**Sn**	**11 47 55.8**	**-2.8**
KBS				IAML		11 47 58.5	
	comp=Z,6.5nm,0.2s						
KBS	**Kingsbay**	**2.87**	**109**	*i* P	**Pn**	**11 47 26.1**	**+2.0**
KBS				*eS*	**Sn**	**11 47 55.8**	**-2.8**
BRBB	**Barentsburg B**	**3.74**	**116**	P	**Pn**	**11 47 40.0**	**+3.8**
BRBB				S	**Sn**	**11 48 20.9**	**+0.8**
BRBB	**Barentsburg B**	**3.74**	**116**	*eP*	**Pn**	**11 47 39.9**	**+3.8**
BRBB				*eS*	**Sn**	**11 48 21.1**	**+1.1**
SPA0	**Spitsbergen Ar**	**4.03**	**111**	*eP*	**Pn**	**11 47 42.7**	**+2.7**
SPA0				*eS*	**Sn**	**11 48 25.1**	**-2.0**
SPA0	**Spitsbergen Ar**	**4.03**	**111**	*eP*	**Pn**	**11 47 42.9**	**+2.8**
SPA0				*eS*	**Sn**	**11 48 25.7**	**-1.5**
SPA0				IAML		11 48 30.5	
	comp=Z,11nm,0.7s						
SPITS	**Spitsbergen Ar**	**4.03**	**111**	P	**Pn**	**11 47 42.8**	**+2.8**
SPITS				S	**Sn**	**11 48 26.2**	**-0.9**
DAG	**Danmarks Havn**	**4.75**	**232**	*i* P	**Pn**	**11 47 54.1**	**+4.2**
DAG				*eS*	**Sn**	**11 48 44.2**	**-0.7**
DAG				IAML		11 48 48.9	
	comp=Z,30nm,0.2s						
DAG	**Danmarks Havn**	**4.75**	**232**	*i* P	**Pn**	**11 47 54.1**	**+4.2**
DAG				*eS*	**Sn**	**11 48 44.2**	**-0.7**
DAG				IAML		11 48 48.9	
	comp=Z,30nm,0.2s						
HOPEN	**Hopen**	**6.56**	**110**	*eP*	**Pn**	**11 48 16.5**	**+1.8**
HOPEN				*eS*	**Sn**	**11 49 24.6**	**-4.8**
HOPEN	**Hopen**	**6.56**	**110**	*eP*	**Pn**	**11 48 17.4**	**+2.7**
HOPEN				*eS*	**Sn**	**11 49 25.9**	**-3.5**
DBG	**Daneborg**	**7.09**	**223**	*eP*	**Pn**	**11 48 25.8**	**+3.8**
DBG				*eS*	**Sn**	**11 49 39.1**	**-3.3**
DBG				IAML		11 49 46.6	
	comp=Z,5.5nm,0.3s						
DBG	**Daneborg**	**7.09**	**223**	*i* P	**Pn**	**11 48 26.4**	**+4.5**
DBG				*eS*	**Sn**	**11 49 40.6**	**-1.8**
DBG				IAML		11 49 46.6	
	comp=Z,5.5nm,0.3s						
ZFI2	**Zemlya Franca-**	**8.04**	**61**	*eP*	**Pn**	**11 48 36.9**	**+1.9**
ZFI2				*eS*	Sn	11 49 58.8	-7.1
	comp=Z,9.1nm,2.0s						
OMEGA	**Omega**	**8.06**	**62**	*eP*	**Pn**	**11 48 36.9**	**+1.6**
OMEGA				*eS*	Sn	11 49 58.7	-7.7
	comp=Z,9.4nm,2.4s						
NEEM	**North Greenlan**	**9.60**	**279**	*eP*	**Pn**	**11 48 59.9**	**+3.3**
NEEM				*eS*	**Sn**	**11 50 39.9**	**-4.6**
NEEM				IAML		11 50 43.8	
	comp=Z,8.2nm,0.3s						
NEEM	**North Greenlan**	**9.60**	**279**	*eP*	**Pn**	**11 48 59.9**	**+3.3**
NEEM				*eS*	**Sn**	**11 50 39.9**	**-4.6**
NEEM				IAML		11 50 43.8	
	comp=Z,8.2nm,0.3s						
SUMG	**Summit**	**11.17**	**247**	*eP*	**Pn**	**11 49 20.9**	**+2.7**
SUMG				*eS*	**Sn**	**11 51 17.5**	**-5.6**
SUMG				IAML		11 51 22.9	
	comp=Z,1.8nm,0.3s						
SUMG	**Summit**	**11.17**	**247**	*eP*	**Pn**	**11 49 20.9**	**+2.7**
SUMG				*eS*	**Sn**	**11 51 17.5**	**-5.6**
SUMG				IAML		11 51 22.9	
	comp=Z,1.8nm,0.3s						
TULEG	**Thule**	**13.17**	**289**	*eP*	**Pn**	**11 49 45.9**	**+0.8**
TULEG				*eS*	Sn	11 52 01.0	-10
TULEG				IAML		11 52 05.5	
	comp=Z,2.0nm,0.3s						
TULEG	**Thule**	**13.17**	**289**	*eP*	**Pn**	**11 49 45.9**	**+0.8**
TULEG				*eS*	Sn	11 52 01.0	-10
TULEG				IAML		11 52 05.5	
	comp=Z,2.0nm,0.3s						

IDC 26 11:48:00.4±10.0, 20.°02S×176.°98W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=265.3km s-min=32.0km az=35.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.56**	**256**	P	P	11 56 21.3	-1.1
	0.4nm,0.4s,baz=92,slow=7.3,SNR=18						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**45.61**	**261**	P	P	11 56 23.4	+0.5
	0.9nm,0.6s,baz=95,slow=8.5,SNR=32						
	0.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**54.04**	**262**	P	P	11 57 27.5	+0.5
	1.4nm,0.9s,baz=90,slow=14,SNR=1.5						
	1.4nm,0.9s						
VNDA	**Vanda**	**58.47**	**185**	P	P	11 57 57.8	0.0
	1.0nm,0.5s,baz=22,slow=6.3,SNR=5.9						
	1.0nm,0.5s						
QSPA	**South Pole Qui**	**70.05**	**180**	P	P	11 59 14.0	-0.1
	1.0nm,0.6s,baz=24,slow=0.5,SNR=10.0						
	1.0nm,0.6s						

*IDC **26** 11:53:29.8±0.7, 24.°31N×125.°15E, h0km, mb4.0/16, mbtmp3.9/19, ML3.0/3, MS3.4/11, Error ellipse: s-maj=22.4km s-min=16.7km az=76.0*
*NIED **26** 11:53:34.4, 24.°41N×125.°17E, h53km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}0.52; $M_{\theta\theta}$-0.59; $M_{\phi\phi}$0.07; $M_{r\theta}$2.35; $M_{\theta\phi}$-0.88; $M_{\phi r}$1.29; Fault plane solution: $M_0$2.82000×10^15^ NP1: ϕ_s215.00000°, δ10.00000°, λ63.00000°. NP2:ϕ_s62.00000°, δ81.00000°, λ94.00000°.*
*JMA **26** 11:53:34.4±0.2, 24.°4N±3.°×125.°2E±0.°8, h53km±4km, MV3.6/12, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .

ISC 26 11:53:33.3±0.8, 24.°33N±0.°07×125.°21E±0.°06, h22km±7km, n51, σ1°95/50, mb4.0/16, MS3.5/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.43**	**15**	*i* P	**Pn**	**11 53 44.2**	**0.0**
JMJ2				S	**Sn**	**11 53 51.7**	**+0.4**
JOGS	**Gusukube**	**0.47**	**23**	*i* P	**Pn**	**11 53 44.9**	**+0.2**
JOGS				S	**Sn**	**11 53 53.2**	**+0.9**
JMJ	**Miyako jima 2**	**0.49**	**9**	P	**Pn**	**11 53 44.2**	**-0.8**
JMJ	**Miyako jima 2**	**0.49**	**9**	P	**Pn**	**11 53 44.3**	**-0.8**
JMJ	**Miyako jima 2**	**0.49**	**9**	S	**Sn**	**11 53 52.5**	**-0.5**
JIRB	**Irabujima**	**0.50**	**356**	*i* P	**Pn**	**11 53 44.9**	**-0.3**
JIRB				S	**Sn**	**11 53 53.3**	**-0.2**
JTJ	**Tarama**	**0.56**	**304**	*i* P	**Pn**	**11 53 45.5**	**-0.4**
JTJ				S	**Sn**	**11 53 53.5**	**-1.1**
JISG	**Ishigakijimahi**	**0.86**	**288**	*i* P	**Pb**	**11 53 49.5**	**0.0**
JIJ	**Ishigaki jima**	**0.97**	**272**	*eP*	**Pb**	**11 53 51.6**	**+0.1**
JKRS	**Kuro-shima**	**1.10**	**266**	P	**Pb**	**11 53 54.3**	**+0.7**
HATJ	**Hateruma jima**	**1.31**	**258**	*eP*	**Pn**	**11 53 56.4**	**+0.1**
HATJ				*eS*	**Sn**	**11 54 13.2**	**+0.1**
IRIF	**Iriomote-Funau**	**1.35**	**271**	P	**Pn**	**11 53 57.3**	**+0.5**
YOJ	**Yonaguni jima**	**2.01**	**274**	P	**Pb**	**11 54 08.0**	**-1.2**
YOJ	**Yonaguni jima**	**2.01**	**274**	P	**Pb**	**11 54 07.9**	**-1.2**
YOJ	**Yonaguni jima**	**2.01**	**274**	*eP*	**Pn**	**11 54 06.4**	**+0.5**
JYNG	**Yonagunijimaku**	**2.07**	**274**	P	**Pn**	**11 54 07.5**	**+0.8**
NACB	**Ninganchiao**	**3.30**	**268**	P	**Pn**	**11 54 26.9**	**+3.2**
YHNB	**Yeheng**	**3.51**	**276**	P	**Pn**	**11 54 29.5**	**+2.9**
YHNB	**Yeheng**	**3.51**	**276**	P	**Pn**	**11 54 29.6**	**+2.9**
YULB	**Yu-li**	**3.70**	**256**	P	**Pn**	**11 54 27.9**	**-1.3**
JOW	**Kunigami**	**3.73**	**47**	Pn	**Pn**	**11 54 30.3**	**+0.7**
	2.2nm,0.3s,baz=152,slow=19,SNR=14						
JOW				Sn	**Sn**	**

comp=Z,0.8nm,0.9s
VRAC Vranov 83.16 321 LR LR 12 45 39.3
comp=Z,28nm,20.4s,baz=60,slow=38

NEIC 26 12:26:27.5±0.8, 37°.34N±0°.04×104°.50W±0°.06, h8km±9km, ML1.1/10, Error ellipse: s-maj=8.6km s-min=3.7km az=130.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.21**	**161**	Pg	Pg	12 26 32.5	+0.6
T25A				Sg	Sg	12 26 35.3	+0.3
T25A				IAML		12 26 35.5	
	comp=N,43nm,0.5s						
T25A				IAML		12 26 36.8	
	comp=E,35nm,0.2s						
SDCO	**Great Sand Dun**	**0.89**	**297**	Pg	Pg	12 26 44.9	+0.1
RTBA	**Rita Blanca**	**1.68**	**122**	Pn	Pn	12 26 55.8	-1.4
S22A	**4UR Ranch, Cre**	**1.90**	**283**	Pn	Pb	12 27 01.7	-0.8
KSCO	**Kaye Shedlock'**	**2.22**	**41**	Pn	Pn	12 27 04.6	-0.2

*BGSI **26** 12:29:48.0±0.3, 24°.18S×28°.11E, h15km, ML2.5*
PRE 26 12:29:16.5±1.1, 26°.01S×29°.27E, h0km, ML2.8, Suspected explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.68**	**89**	*eP*	Pg	12 29 28.4	-1.0
CRLN				*eS*	Sg	12 29 38.8	+0.6
CRLN				IAML		12 29 45.6	
	comp=Z,165nm,0.5s						
HRAO	**HartRAO**	**1.43**	**274**	*eP*	Pn	12 29 43.8	-0.2
HRAO				IAML		12 30 00.6	
	comp=Z,88nm,0.4s						
HRAO				*eS*	Sb	12 30 03.2	+0.1
PILG	**Pilgrimsrest,**	**1.69**	**51**	*eP*	Pn	12 29 47.9	+0.4
PILG				*eS*	Sg	12 30 10.6	-0.1
PILG				IAML		12 30 11.9	
	comp=Z,226nm,0.3s						
WDLM	**Western Deep L**	**1.71**	**256**	*eP*	Pn	12 29 48.3	+0.5
WDLM				*eS*	Sg	12 30 11.6	0.0
WDLM				IAML		12 30 11.7	
	comp=Z,22nm,0.3s						
NWCL	**Newcastle**	**1.81**	**162**	*eP*	Pn	12 29 49.0	0.0
NWCL				*eS*	Sb	12 30 13.3	-0.5
NWCL				IAML		12 30 14.2	
	comp=Z,244nm,0.5s						
PRYS	**Parys**	**1.94**	**242**	*eP*	Pn	12 29 51.1	+0.2
PRYS				IAML		12 30 15.1	
	comp=Z,116nm,0.4s						
PRYS				*eS*	Sn	12 30 16.9	+0.8
LEPH	**Lephalale, Lim**	**2.53**	**328**	*eP*	Pn	12 29 59.6	+0.7
LEPH				*eS*	Sn	12 30 31.1	+0.6
LEPH				IAML		12 30 50.4	
	comp=Z,93nm,0.6s						
POGA	**Pongola**	**2.55**	**122**	*eP*	Pn	12 29 59.7	+0.5
POGA				*eS*	Sn	12 30 32.4	+1.4
POGA				IAML		12 30 40.9	
	comp=Z,80nm,0.4s						
SNKL	**Senekal, Frees**	**2.62**	**210**	*eP*	Pn	12 30 00.1	-0.2
SNKL				*eS*	Sn	12 30 33.2	+0.3
SNKL				IAML		12 30 44.2	
	comp=Z,56nm,0.4s						
TEMBE	**Tembe Elephant**	**3.01**	**111**	*eP*	Pn	12 30 05.7	+0.3
TEMBE				*eS*	Sn	12 30 42.2	0.0
TEMBE				IAML		12 30 50.5	
	comp=Z,58nm,0.4s						
MOPA	**Mopani**	**3.15**	**38**	*eP*	Pn	12 30 07.9	+0.6
MOPA				*eS*	Sn	12 30 46.3	+0.6
MOPA				IAML		12 30 56.6	
	comp=Z,98nm,0.3s						
LBTB	**Lobatse**	**3.47**	**286**	*eP*	Pn	12 30 13.3	+1.5
LBTB				*eS*	Sn	12 30 54.1	+0.4
LBTB				IAML		12 31 04.0	
	comp=Z,38nm,0.4s						
PMBG	**Pietermaritzbu**	**3.66**	**163**	*eP*	Pn	12 30 15.2	+0.8
PMBG				*eS*	Sn	12 30 57.9	-0.3
PMBG				IAML		12 31 10.3	
	comp=Z,47nm,0.4s						
SWZ	**Schweizer**	**3.72**	**251**	*eP*	Pn	12 30 16.6	+1.3
SWZ				*eS*	Sn	12 31 00.0	+0.1
SWZ				IAML		12 31 09.4	
	comp=Z,38nm,0.5s						
BOSA	**Boshof**	**4.42**	**233**	*eP*	Pn	12 30 26.6	+1.7
BOSA				*eS*	Sn	12 31 17.2	+0.1
BOSA				IAML		12 31 30.5	
	comp=Z,32nm,0.4s						
KSTD	**Kokstad**	**4.59**	**180**	*eP*	Pn	12 30 28.3	+0.9
KSTD				*eS*	Sn	12 31 21.5	0.0
KSTD				IAML		12 31 39.1	
	comp=Z,14nm,0.5s						
SKOMA	**Sekoma**	**5.06**	**286**	*i* P	Pb	12 30 44.8	-1.2
SKOMA				IAML		12 32 02.9	
	comp=N,28nm,0.6s						
BROLN	**Tlhalogang**	**5.20**	**340**	*i* P	Pn	12 30 35.6	-0.1
BROLN				IAML		12 32 03.9	
	comp=E,16nm,0.7s						
CKGRV	**CKGRV**	**6.81**	**311**	*i* P	Pn	12 30 58.9	+1.0
CKGRV				IAML		12 33 03.0	
	comp=N,32nm,0.6s						

KRSC 26 12:56:11.4±1.0, 53°.95N×169°.10E, h40km±26km, MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.21**	**306**	*eP*	Pn	12 56 48.2	+2.6
BKI				*eS*	Sn	12 57 14.5	+2.8
MKZ	**Mys Kozlova**	**4.37**	**281**	*eP*	Pn	12 57 18.2	+3.1
KMNR	**Kamenistaya**	**5.43**	**293**	*eP*	Pn	12 57 34.9	+5.1
SDLR	**Sedlovina**	**6.12**	**268**	*eP*	Pn	12 57 43.4	+4.2
SMAR	**Somma**	**6.17**	**268**	*eP*	Pn	12 57 44.8	+4.8
KRX	**Arik**	**6.24**	**269**	*eP*	Pn	12 57 45.8	+4.8
KOK	**Koryaka**	**6.26**	**268**	*eP*	Pn	12 57 46.1	+4.9
MTVR	**Mutnovka**	**6.72**	**262**	*eP*	Pn	12 57 52.7	+5.1
ASAK	**Asacha**	**6.92**	**261**	*eP*	Pn	12 57 55.5	+5.3

NOU 26 13:03:22.1, 22°.24S×170°.68E, h0km, MLv4.1/5, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.02**	**262**	P	Pn	13 04 11.0	-0.1
OUENC	**Ouen Island, N**	**3.56**	**266**	P	Pn	13 04 18.6	0.0
ONTNC	**Ouen Toro**	**3.92**	**268**	P	Pn	13 04 23.3	-0.2
DZM	**Mont Dzumac**	**3.93**	**272**	P	Pn	13 04 23.6	-0.2
DVP	**Devils Point**	**5.07**	**332**	P	Pn	13 04 39.2	-0.1

*UPP **26** 13:09:14.8±0.1, 63°.90N×20°.21E, h0km, ML2.6, Unknown Suspected explosion*
*DNK **26** 13:09:15.2±0.3, 63°.90N×20°.20E, h0km, ML2.6(UPP), Explosion*
HEL 26 13:09:15.6±0.2, 63°.86N×20°.32E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMAU	**Umeaa**	**0.16**	**83**	P	Pg	13 09 18.9	+0.3
UMAU				S	Sg	13 09 22.0	+1.2
UMAU	**Umeaa**	**0.16**	**83**	P	Pg	13 09 18.9	+0.3
UMAU				S	Sg	13 09 22.0	+1.2
UMAU	**Umeaa**	**0.16**	**83**	PG	Pg	13 09 18.4	-0.3
UMAU				SG	Sg	13 09 18.8	-2.0
ODEU	**Stanfors**	**0.57**	**18**	P	Pg	13 09 25.4	-1.2
ODEU				S	Sg	13 09 32.9	-1.2
ODEU	**Stanfors**	**0.57**	**18**	P	Pg	13 09 25.4	-1.2
ODEU				S	Sg	13 09 32.9	-1.2
HUSU	**Husum**	**0.72**	**224**	P	Pg	13 09 28.3	-1.0
HUSU				S	Sg	13 09 37.8	-0.8
HUSU	**Husum**	**0.72**	**224**	P	Pg	13 09 28.3	-1.0
HUSU				S	Sg	13 09 37.8	-0.8
HUSU	**Husum**	**0.72**	**224**	PG	Pg	13 09 28.3	-1.0
HUSU				SG	Sg	13 09 37.3	-1.2
BREU	**Bredtraesk**	**0.77**	**273**	P	Pg	13 09 28.3	-2.0
BREU				S	Sg	13 09 38.0	-2.2
BREU	**Bredtraesk**	**0.77**	**273**	P	Pg	13 09 28.3	-2.0
BREU				S	Sg	13 09 38.0	-2.2
OBF8	**Ulkokalla**	**1.45**	**70**	PG	Pn	13 09 42.1	-0.9
OBF8				MSG		13 09 59.1	
	comp=Z,4.2nm,0.2s						
OBF8				SN	Sn	13 10 03.3	+0.5
SOLU	**Sollefteaa**	**1.50**	**247**	P	Pn	13 09 41.7	-2.1
SOLU	**Sollefteaa**	**1.50**	**247**	P	Pn	13 09 41.7	-2.1
HEMU	**Hemsoen**	**1.57**	**222**	P	Pn	13 09 43.4	-1.4
HEMU	**Hemsoen**	**1.57**	**222**	P	Pn	13 09 43.4	-1.4
HEMU	**Hemsoen**	**1.57**	**222**	PG	Pn	13 09 43.4	-1.4
	baz=43						
HEMU				SN	Sn	13 10 03.9	-1.9
OBF0	**Syolatti, Pyha**	**1.83**	**68**	PG	Pn	13 09 48.7	+0.4
	baz=254						
OBF0				MSG		13 10 10.0	
	comp=Z,5.7nm,0.2s						
OBF0				SG	Sb	13 10 13.1	-0.3
OUF	**Merijarvi**	**2.00**	**73**	PG	Pn	13 09 50.3	-0.3
	baz=256						
OUF				MSG		13 10 15.2	
	comp=Z,3.1nm,0.2s						
OUF				SG	Sb	13 10 18.5	+0.2
KPF	**Kankaanpaa**	**2.19**	**158**	PG	Pb	13 09 55.2	-0.8
	baz=343						
KPF				MSG		13 10 20.4	
	comp=Z,3.4nm,0.2s						
KPF				SG	Sb	13 10 24.4	+0.7
OBF4	**Vikkela, Lumij**	**2.29**	**63**	PB	Pn	13 09 54.7	+0.1
OBF4				MSG		13 10 23.5	
	comp=Z,3.9nm,0.2s						
OBF4				SG	Sb	13 10 26.5	-0.1
KALU	**Kalix**	**2.39**	**32**	PB	Pn	13 09 57.2	+1.3
KALU				SG	Sb	13 10 28.8	-0.6
KEF	**Keuruu**	**2.69**	**127**	PB	Pb	13 10 02.6	-1.9
KEF				MSG		13 10 34.6	
	comp=Z,3.1nm,0.2s						
KEF				SG	Sb	13 10 37.6	-0.3
OUL	**Oulu**	**2.71**	**61**	SG	Sb	13 10 39.6	+0.9
TOF	**Tornio**	**2.80**	**36**	MSG		13 10 38.3	
	comp=Z,1.2nm,0.2s						
TOF				SG	Sb	13 10 40.2	-1.1
ERTU	**Ertsjaerv**	**2.82**	**15**	PN	Pn	13 10 02.2	+0.4
ERTU				SN	Sn	13 10 36.5	+0.1
RAF	**Rauma**	**2.93**	**166**	PB	Pb	13 10 06.3	-2.3
RAF				MSG		13 10 41.9	
	comp=Z,3.0nm,0.2s						
RAF				SG	Sb	13 10 45.0	+0.1
PAJU	**Pajala**	**3.38**	**19**	SN	Sn	13 10 49.0	-1.4
RANF	**Ranua**	**3.50**	**49**	PN	Pn	13 10 10.9	-0.3
FIA0	**FINESS Array S**	**3.60**	**130**	PG	Pb	13 10 20.9	+0.9
	baz=316						
RNF	**Rovaniemi**	**3.65**	**38**	PN	Pn	13 10 13.1	-0.2
	baz=224						
MSF	**Maaselka**	**4.25**	**57**	SN	Sn	13 11 09.8	-1.9
LANU	**Lannavaara**	**4.26**	**9**	PN	Pn	13 10 20.9	-0.7
KU1	**Kurvinen**	**4.32**	**63**	PB	Pb	13 10 30.5	-1.7
OLKF	**Oulanka, Finla**	**4.56**	**53**	SN	Sn	13 11 17.8	-1.7
KU6	**Riekki**	**4.61**	**58**	SN	Sn	13 11 20.3	-0.4
HEF	**Hetta**	**4.76**	**15**	SN	Sn	13 11 20.6	-3.7

*IDC **26** 13:29:05.2±3.6, 26°.95S×177°.05W, h375km±30km, mb2.6/2, mbtmp3.9/3, Error ellipse: s-maj=69.7km s-min=68.0km az=8.0*
*WEL **26** 13:29:12.6±1.4, 28°.5S±16°×17°.7W±3°.8, h362km±7km, mB4.5/2, MLv4.0/2, Mw(mB)3.7/2, Error ellipse: s-maj=52.2km s-min=10.9km az=110.2, confirmed*
ISC 26 13:29:08.5±1.4, 27°.64S±0°.10×177°.1W±0°.3, h400km, n26, σ2§29/44, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.77**	**205**	P	**Pn**	**13 30 02.2**	**-0.8**
RAO	**Raoul Island**	**1.77**	**205**	P	**Pn**	**13 30 01.8**	**-1.3**
	506nm,0.2s,baz=38,slow=17,SNR=16						
RAO				S	**S**	**13 30 41.9**	**-5.3**
	598nm,0.3s,baz=66,slow=23,SNR=6.2						
GLKZ	**Green Lake**	**1.78**	**205**	P	**Pn**	**13 30 02.1**	**-1.0**
GLKZ				S	**S**	**13 30 40.5**	**-6.7**
WMGZ	**Waiomatatini S**	**10.84**	**199**	P	**Pn**	**13 31 38.5**	**+2.5**
WMGZ				S	**S**	**13 33 34.7**	**-1.6**
HAZ	**Te Kaha**	**10.98**	**202**	P	**P**	**13 31 36.8**	**0.0**
HAZ				S	**S**	**13 33 39.6**	**+0.5**
PKGZ	**Pakihiroa**	**10.98**	**201**	P	**P**	**13 31 37.2**	**+0.4**
PKGZ				S	**S**	**13 33 39.4**	**+0.1**
WCZ	**Waipu Caves**	**11.03**	**219**	P	**Pn**	**13 31 41.4**	**+3.0**
PUZ	**Puketiti**	**11.12**	**200**	P	**P**	**13 31 38.0**	**-0.4**
PUZ				S	**S**	**13 33 40.6**	**-1.5**
RUGZ	**Raukumara Rang**	**11.20**	**202**	P	**P**	**13 31 38.8**	**-0.6**
RUGZ				S	**S**	**13 33 42.2**	**-1.7**
TKGZ	**Te Karaka**	**11.58**	**200**	P	**Pn**	**13 31 46.3**	**+1.6**
TKGZ				S	**S**	**13 33 45.7**	**-5.6**
URZ	**Urewera**	**11.66**	**203**	P	**Pn**	**13 31 48.1**	**+2.5**
	14nm,0.3s,baz=117,slow=4.5,SNR=31						
URZ				S	**S**	**13 33 52.3**	**-0.7**
	14nm,0.5s,baz=79,slow=16,SNR=12						
URZ	**Urewera**	**11.66**	**203**	P	**Pn**	**13 31 46.2**	**+0.6**
URZ				S	**S**	**13 33 50.0**	**-3.0**
BKZ	**Black Stump Fm**	**12.69**	**203**	P	**Pn**	**13 31 58.3**	**+0.8**
BKZ				S	**S**	**13 34 14.1**	**+0.2**
PXZ	**Pawanui**	**13.34**	**201**	P	**Pn**	**13 32 07.2**	**+2.1**
PXZ				S	**S**	**13 34 26.3**	**-0.7**
TSZ	**Takapari Road**	**13.67**	**203**	P	**Pn**	**13 32 09.3**	**+0.4**
TSZ				S	**S**	**13 34 34.7**	**+1.2**
ANWZ	**Angora Road**	**13.85**	**201**	P	**Pn**	**13 32 13.8**	**+2.8**
ANWZ				S	**S**	**13 34 39.6**	**+2.4**
BFZ	**Birch Farm**	**14.13**	**201**	P	**P**	**13 32 12.6**	**+1.2**
BFZ				S	**S**	**13 34 44.0**	**+1.2**
TIWZ	**Tintock**	**14.33**	**202**	P	**P**	**13 32 18.4**	**+4.8**
TIWZ				S	**S**	**13 34 49.8**	**+3.0**
MRZ	**Mangatainoka R**	**14.33**	**203**	P	**P**	**13 32 15.8**	**+2.2**
MRZ				S	**S**	**13 34 45.2**	**-1.6**
OGWZ	**Otaki Gorge**	**14.62**	**204**	P	**P**	**13 32 19.5**	**+2.8**
OGWZ				S	**S**	**13 34 51.5**	**-0.9**
TMWZ	**Te Maipa**	**14.63**	**202**	P	**P**	13 32 22.0	+5.2
TMWZ				S	**S**	**13 34 53.8**	**+1.1**
MTW	**Mount Morrison**	**14.80**	**202**	P	**P**	13 32 23.5	+4.8
MTW				S	**S**	**13 34 56.9**	**+0.7**
CAW	**Cannon Point**	**14.91**	**204**	P	**P**	**13 32 22.8**	**+3.0**
CAW				S	**S**	**13 34 58.6**	**+0.3**
ASAR	**Alice Springs**	**44.16**	**264**	P	**P**	**13 36 39.6**	**-0.2**
	0.1nm,0.4s,baz=93,slow=7.6,SNR=4.5						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**44.90**	**269**	P	**P**	**13 36 44.2**	**-1.5**
	0.6nm,0.6s,baz=107,slow=7.6,SNR=8.9						
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**136.07**	**349**	PKP	**PKPdf**	**13 47 39.9**	**-2.1**
	2.5nm,1.0s,baz=44,slow=2.5,SNR=4.2						

CATAC 26 13:29:13.9±0.9, 9°N±13°×7°9W±°, h48km±12km, M1.7/6, MLv1.7/6, Error ellipse: s-maj=29.0km s-min=11.9km az=19.2, confirmed, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**0.48**	**244**	P	Pn	13 29 26.1	+1.4
BCIP				S	Sn	13 29 35.2	+2.8

IDC 26 14:00:32.5±2.3, 2°.68N×127°.30E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=169.9km s-min=28.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**163**	P	P	14 05 44.0	-0.5
	0.5nm,0.4s,baz=343,slow=10,SNR=8.1						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.96**	**167**	P	P	14 06 16.1	+0.1
	0.2nm,0.5s,baz=344,slow=7.6,SNR=7.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.74**	**325**	P	P	14 10 32.6	+0.3
	0.2nm,0.5s,baz=128,slow=7.8,SNR=2.2						
	0.2nm,0.5s						

*IDC **26** 14:00:35.4±1.8, 37°.90N×29°.66E, h0km, mb3.4/2, mbtmp3.3/4, ML3.1/2, MS4.2/1, Error ellipse: s-maj=50.1km s-min=21.4km az=145.0*
*AFAD **26** 14:00:36.0, 37°.85N×29°.63E, h0km±1km, ML2.9*
*ISK **26** 14:00:36.5, 37°.84N×29°.67E, h9km, ML2.9/18*
ISC 26 14:00:36.9±1.0, 37°.84N±0°.02×29°.66E±0°.02, h9km±7km, n39, σ0§75/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.15**	**206**	P	**Pg**	**14 00 39.7**	**-0.5**
INCE				S	**Sg**	**14 00 43.2**	**+0.8**
INCE				*i* IAML		14 00 44.0	
	comp=N,5μm,0.7s						
INCE				*i* IAML		14 00 44.0	
	comp=E,6μm,0.9s						
BASM	**Basmaki-Afyon**	**0.32**	**76**	Pg	**Pg**	**14 00 43.1**	**-0.2**
APMY	**Acipayam-Deniz**	**0.47**	**217**	Pg	**Pg**	**14 00 45.3**	**-0.7**
APMY				Sg	**Sb**	**14 00 53.1**	**-1.2**
KHL	**Karahalli**	**0.49**	**348**	Pg	**Pg**	**14 00 46.4**	**-0.1**
PASA	**Karahalli, USA**	**0.52**	**345**	P	**Pg**	**14 00 46.5**	**-0.6**
PASA				S	**Sb**	**14 00 54.9**	**-1.1**
PASA				*i* IAML		14 01 01.0	
	comp=N,679nm,0.5s						
PASA				*i* IAML		14 01 03.0	
	comp=E,824nm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.54**	**246**	P	**Pg**	**14 00 47.0**	**-0.3**
DNIZ				S	**Sb**	**14 00 55.3**	**-1.0**
DNIZ				*i* IAML		14 00 56.0	
	comp=N,908nm,0.6s						
DNIZ				*i* IAML		14 00 56.0	
	comp=E,1μm,0.7s						
KZIL	**AFYON_Kizioren**	**0.56**	**43**	P	**Pg**	**14 00 47.2**	**-0.6**
KZIL				S	**Sb**	**14 00 56.3**	**-1.0**
KZIL				*i* IAML		14 01 02.0	
	comp=E,804nm,0.6s						
KZIL				*i* IAML		14 01 04.0	
	comp=N,875nm,0.4s						
GOLH	**Golhisar**	**0.61**	**187**	P	**Pg**	**14 00 48.2**	**-0.5**
GOLH				S	**Sb**	**14 00 58.6**	**+0.1**
GOLH				*i* IAML		14 01 07.0	
	comp=E,899nm,0.5s						
GOLH				*i* IAML		14 01 08.0	
	comp=N,1μm,1.1s						
ISP	**Isparta**	**0.69**	**91**	Pg	**Pg**	**14 00 49.9**	**-0.2**
ISP				Sg	**Sb**	**14 01 00.1**	**-0.6**
TAVA	**DENIZLI_Tavas**	**0.70**	**238**	P	**Pg**	**14 00 49.4**	**-1.0**
TAVA				S	**Sg**	**14 00 59.3**	**-0.2**
TAVA				*i* IAML		14 01 05.0	
	comp=E,143nm,1.2s						
TAVA				*i* IAML		14 01 08.0	
	comp=N,142nm,0.6s						
DNZT	**Denizli-Tavas-**	**0.75**	**222**	P	**Pg**	**14 00 50.3**	**-1.1**
DNZT				S	**Sb**	**14 01 02.0**	**-0.6**
CAEL	**Denizli, Camel**	**0.77**	**201**	P	**Pb**	**14 00 51.9**	**-0.6**
CAEL				S	**Sb**	**14 01 03.5**	**+0.4**
CAEL				*i* IAML		14 01 07.0	
	comp=N,641nm,0.7s						
CAEL				*i* IAML		14 01 08.0	
	comp=E,637nm,0.7s						
AFYN	**Afyon-Dinar-K**	**0.79**	**57**	P	**Pb**	**14 00 52.0**	**-1.0**
AFYN				S	**Sb**	**14 01 05.0**	**+1.2**
AFYN				*i* IAML		14 01 09.0	
	comp=N,607nm,0.6s						
AFYN				*i* IAML		14 01 09.0	
	comp=E,1μm,1.1s						
BNAZ	**Uak-Banaz**	**0.85**	**12**	P	**Pg**	**14 00 52.8**	**-0.6**
BNAZ				S	**Sb**	**14 01 06.7**	**+1.2**
BNAZ				*i* IAML		14 01 12.0	
	comp=N,3μm,0.6s						
BNAZ				*i* IAML		14 01 12.0	
	comp=E,4μm,0.6s						
BUCA	**Burdur, Bucak-**	**0.88**	**125**	P	**Pn**	**14 00 55.1**	**-0.5**
BUCA				S	**Sn**	**14 01 08.1**	**-0.5**
BUCA				*i* IAML		14 01 11.0	
	comp=E,154nm,0.3s						
BUCA				*i* IAML		14 01 19.0	
	comp=N,146nm,0.6s						
BAGO	**Egridir - ISPA**	**0.91**	**80**	P	**Pg**	**14 00 53.2**	**-1.1**
BAGO				S	**Sb**	**14 01 07.7**	**+0.6**
BAGO				*i* IAML		14 01 12.0	
	comp=N,246nm,0.5s						
BAGO				*i* IAML		14 01 13.0	
	comp=E,147nm,0.6s						
CAME	**Cameli-Denizli**	**0.94**	**198**	Pg	**Pb**	**14 00 55.2**	**-0.2**
KNIK	**Mula-Seydike**	**1.00**	**184**	P	**Pn**	**14 00 57.0**	**-0.2**
KNIK				S	**Sb**	**14 01 10.8**	**+1.1**
KNIK				*i* IAML		14 01 17.0	
	comp=E,125nm,0.8s						
USAK	**Uak-Merkez**	**1.00**	**330**	P	**Pg**	**14 00 55.2**	**-1.0**
USAK				S	**Sb**	**14 01 10.0**	**+0.2**
USAK				*i* IAML		14 01 13.0	
	comp=N,201nm,1.0s						
USAK				*i* IAML		14 01 17.0	
	comp=E,264nm,0.6s						
KULA	**Kula-Manisa**	**1.03**	**311**	Pg	**Pb**	**14 00 57.0**	**0.0**
KULA				Sg	**Sb**	**14 01 11.9**	**+1.2**
NAZL	**Nazilli-Aydin**	**1.09**	**277**	Pn	**Pb**	**14 00 58.0**	**+0.1**
NAZL				Sn	**Sn**	**14 01 13.6**	**+0.1**
GEDZ	**Gediz**	**1.22**	**351**	Pn	**Pn**	**14 01 00.1**	**0.0**
SHAP	**Saphane-Kutahy**	**1.23**	**344**	Pn	**Pg**	**14 00 59.7**	**-0.8**
ANTB	**Antalya**	**1.23**	**140**	Pn	**Pn**	**14 01 00.6**	**+0.4**
ODEM	**Odemis-Izmir**	**1.32**	**290**	Pn	**Pg**	**14 01 01.4**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.40**	**275**	Pn	**Pb**	**14 01 03.2**	**-0.1**
GORD	**Gordes-Manisa**	**1.58**	**313**	Pn	**Pn**	**14 01 05.2**	**+0.1**
TVSB	**Tavsanli**	**1.61**	**355**	Pn	**Pn**	**14 01 05.4**	**-0.2**
KSL	**Kastellorizon**	**1.69**	**182**	P	**Pg**	**14 01 09.1**	**-0.2**
KSL				S	**Sg**	**14 01 33.0**	**+1.8**
SEYD	**Seydisehir-KON**	**1.79**	**103**	Pn	**Pn**	**14 01 08.3**	**+0.3**
DAT	**Datca**	**2.00**	**237**	Pn	**Pn**	**14 01 11.5**	**+0.6**
DAT	**Datca**	**2.00**	**237**	P	**Pn**	**14 01 11.8**	**+0.9**
DAT				S	**Sn**	**14 01 37.4**	**+1.4**
ARG	**Arkhangelos**	**2.03**	**217**	Pn	**Pn**	**14 01 12.2**	**+0.9**
ARG	**Arkhangelos**	**2.03**	**217**	P	**Pb**	**14 01 13.6**	**-0.4**
ARG				S	**Sn**	**14 01 36.3**	**-0.5**
BRTR	**Keskin Array B**	**3.64**	**58**	Pn	**Pn**	**14 01 34.6**	**+1.1**
	0.4nm,0.3s,baz=239,slow=15,SNR=7.9						
BRTR				Sn	**Sn**	**14 02 16.8**	**+0.2**
	0.6nm,0.3s,baz=332,slow=15,SNR=7.3						
	2.5nm,0.6s						
MMAI	**Mount Meron Ar**	**6.72**	**134**	Pn	**Pn**	**14 02 16.1**	**+0.3**
	1.4nm,0.3s,baz=316,slow=12,SNR=8.8						
	3.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**34.99**	**233**	P	**P**	**14 07 29.6**	**0.0**
	0.6nm,0.7s,baz=42,slow=9.6,SNR=4.0						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**39.28**	**60**	P	**P**	**14 08 05.8**	**-0.1**
	0.2nm,0.5s,baz=294,slow=7.1,SNR=2.3						
	0.2nm,0.5s						
BRDH	**Bariadhala**	**54.72**	**87**	LR	LR	14 35 54.7	
	comp=Z,220nm,19.0s,baz=132,slow=39						

*NEIC **26** 14:05:27.4±1.7, 51°.14N±0°.06×178°.99W±0°.05, h34km±5km, mb4.4/174, ML4.6/11, ML4.3(AEIC), Error ellipse: s-maj=8.4km s-min=4.4km az=167.0*
*AEIC **26** 14:05:27.4±1.4, 51°.17N±0°.05×178°.94W±0°.05,

KIWB				IAML		14 06 09.3	
	comp=N,11µm,0.6s						
KIWB				IAML		14 06 09.6	
	comp=E,11µm,0.5s						
KIWB	**Kanaga Island**	**1.28**	**59**		**Sn**	**14 06 05.9**	**+1.1**
KINC	**Kanaga Island**	**1.33**	**56**		**Pn**	**14 05 51.1**	**+1.5**
ADK	**Adak**	**1.55**	**63**		**Pn**	**14 05 53.3**	**+0.6**
ADK	**Adak**	**1.55**	**63**		**Sn**	**14 06 13.0**	**+1.5**
ADAG	**Mount Adagdak**	**1.64**	**61**		**Pn**	**14 05 55.6**	**+1.7**
LSNW	**Little Sitkin**	**1.77**	**296**		**Pn**	**14 05 56.3**	**+0.5**
GSCK	**Great Sitkin C**	**1.90**	**64**		**Pn**	**14 05 58.7**	**+1.2**
GSTR	**Great Sitkin T**	**1.99**	**62**		**Pn**	**14 05 59.4**	**+0.6**
GSIG	**Igitkin Island**	**2.02**	**66**		**Pn**	**14 05 59.8**	**+0.6**
ATKA	**Atka Island**	**3.10**	**69**		**Pn**	**14 06 14.6**	**+0.6**
ATKA				IAML		14 07 02.0	
	comp=N,1µm,0.5s						
SHEM	**Shemya Is, Ala**	**4.58**	**292**	P	**Pn**	**14 06 35.4**	**+1.2**
	comp=N,19nm,0.3s,baz=91,slow=1.6,SNR=15						
SHEM				S	**Sn**	**14 07 30.6**	**+4.5**
	comp=N,59nm,0.5s,baz=291,slow=19,SNR=5.8						
SHEM				LR	LR	14 08 23.9	
	comp=N,477nm,20.9s,baz=110,slow=39						
	comp=N,42nm,0.3s						
SMY	**Shemya**	**4.58**	**292**		**Pn**	**14 06 33.5**	**-0.8**
SMY				IAML		14 07 48.5	
	comp=E,514nm,1.0s						
CLCO	**Concord Point,**	**5.89**	**71**		**Pn**	**14 06 55.3**	**+3.0**
NIKH	**Nikolski High**	**6.45**	**70**		**Pn**	**14 07 01.4**	**+1.5**
OKSP	**Okmok Steeple**	**6.84**	**68**		**Pn**	**14 07 07.6**	**+2.2**
OKTU	**Okmok Mt. Tuli**	**7.02**	**68**		**Pn**	**14 07 10.7**	**+2.9**
SPIA	**Saint Paul Isl**	**7.84**	**37**		**Pn**	**14 07 21.6**	**+2.6**
MREP	**Makushin Rep't**	**7.87**	**66**		**Pn**	**14 07 22.0**	**+2.6**
UNV	**Unalaska Valle**	**8.02**	**66**		**Pn**	**14 07 22.5**	**+1.1**
AKBBA	**Akutan Broad B**	**8.41**	**65**		**Pn**	**14 07 29.7**	**+2.9**
M14K	**Bethel**	**13.43**	**38**		**Pn**	**14 08 36.5**	**+1.2**
N15K	**Kwethluk River**	**13.85**	**42**	P	**P**	**14 08 49.9**	**+1.1**
PETK	**Petropavlovsk-**	**14.47**	**287**	P	**Pn**	**14 08 51.8**	**+2.3**
	comp=E,1.8nm,0.7s,baz=88,slow=17,SNR=12						
PETK				LR	LR	14 14 11.2	
	comp=E,137nm,21.8s,baz=96,slow=36						
K15K	**Wolf Creek Mou**	**14.58**	**34**	Pn	**Pn**	**14 08 52.6**	**+1.7**
M16K	**Timber Creek**	**14.78**	**41**	Pn	**Pn**	**14 08 55.5**	**+1.8**
L16K	**Owhat River**	**14.97**	**38**	Pn	**Pn**	**14 08 57.8**	**+1.6**
ACHA	**Angle Creek He**	**15.27**	**54**	Pn	**Pn**	**14 09 01.3**	**+1.0**
N17K	**Nushagak Hills**	**15.28**	**44**	Pn	**Pn**	**14 09 01.8**	**+1.5**
N17K				IAmb	IAmb	14 09 10.0	
	comp=Z,15nm,0.7s						
J16K	**Anvik River**	**15.56**	**32**		**P**	**14 09 09.3**	**+1.6**
M17K	**Holitna River**	**15.61**	**41**		**P**	**14 09 09.9**	**+1.7**
M17K				IAmb	IAmb	14 09 21.8	
	comp=Z,18nm,0.8s						
KDAK	**Kodiak Island**	**16.58**	**56**	P	**Pn**	**14 09 14.9**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=247,slow=2.4,SNR=74						
KDAK				S	**Sn**	**14 12 11.9**	**-7.7**
	comp=Z,4.4nm,0.8s,baz=263,slow=17,SNR=1.8						
	comp=Z,4.6nm,0.4s						
N19K	**Bonanza Creek**	**16.60**	**45**		**P**	**14 09 19.1**	**-0.2**
J18K	**Innoko River**	**17.03**	**35**	P	**P**	**14 09 25.8**	**+1.8**
L19K	**White Mountain**	**17.06**	**41**	P	**P**	**14 09 26.0**	**+1.6**
CNPM	**China Poot**	**17.68**	**51**		**Pn**	**14 09 31.0**	**+0.3**
STLK	**Strandline Lak**	**18.06**	**45**	P	**P**	**14 09 37.0**	**+1.6**
SKT	**Skwentna**	**18.38**	**44**	IAmb	IAmb	14 09 45.3	
	comp=Z,32nm,1.2s						
SLKM	**Skilak Lake**	**18.46**	**49**	IAmb	IAmb	14 09 44.8	
	comp=Z,8.9nm,0.6s						
PPLA	**Purkeypile**	**18.49**	**41**	P	**Pn**	**14 09 41.9**	**+1.2**
PPLA				IAmb	IAmb	14 10 00.6	
	comp=Z,17nm,0.8s						
O22K	**Cooper Landing**	**18.68**	**49**	P	**Pn**	**14 09 43.4**	**+0.6**
F19K	**Shaleruckik Mo**	**18.90**	**26**		**Pn**	**14 09 45.9**	**+0.5**
MA2	**Magadan**	**19.00**	**308**	P	**Pn**	**14 09 46.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=5.1						
MA2				LR	LR	14 15 54.2	
	comp=Z,91nm,21.9s,baz=106,slow=33						
	comp=Z,1.5nm,0.5s						
CUT	**Chulitna**	**19.09**	**43**	IAmb	IAmb	14 10 03.8	
	comp=Z,24nm,0.9s						
KTH	**Kantishna Hill**	**19.30**	**39**	IAmb	IAmb	14 09 54.2	
	comp=Z,20nm,0.7s						
SEY	**Seymchan**	**19.32**	**318**	P	**Pn**	**14 09 50.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=120,slow=11,SNR=9.3						
	comp=Z,2.0nm,0.9s						
TRF	**Thorofare Moun**	**19.51**	**40**	IAmb	IAmb	14 09 57.9	
	comp=Z,36nm,1.4s						
BPAW	**Bear Paw Mtn.**	**19.53**	**38**	IAmb	IAmb	14 09 57.7	
	comp=Z,12nm,0.6s						
IMAR	**Indian Mountai**	**19.56**	**31**	P	**P**	**14 09 52.9**	**+1.1**
H21K	**Melozitna Rive**	**19.68**	**33**	IAmb	IAmb	14 09 59.0	
	comp=Z,10nm,0.9s						
I21K	**Tanana**	**19.70**	**35**	IAmb	IAmb	14 09 56.7	
	comp=Z,8.9nm,0.8s						
MLY	**Manley**	**20.08**	**36**	IAmb	IAmb	14 10 04.5	
	comp=Z,6.7nm,0.6s						
RND	**Reindeer**	**20.08**	**41**	IAmb	IAmb	14 10 02.3	
	comp=Z,8.8nm,0.7s						
SCM	**Sheep Creek Mo**	**20.19**	**46**	P	**P**	**14 09 57.7**	**-1.1**
SCM				IAmb	IAmb	14 10 02.4	
	comp=Z,14nm,0.6s						
F21K	**Alatna River**	**20.41**	**29**	IAmb	IAmb	14 10 03.7	
	comp=Z,8.4nm,0.6s						
NEA2	**Nenana**	**20.50**	**38**	IAmb	IAmb	14 10 07.4	
	comp=Z,14nm,1.0s						
DHY	**Denali Highway**	**20.58**	**43**	IAmb	IAmb	14 10 07.4	
	comp=Z,17nm,0.6s						
I23K	**Minto, Yukon-K**	**20.64**	**36**	P	**P**	**14 10 04.2**	**+0.7**
I23K				IAmb	IAmb	14 10 08.3	
	comp=Z,12nm,0.6s						
M24K	**Tolsona, Glenn**	**20.79**	**46**	IAmb	IAmb	14 10 12.6	
	comp=Z,22nm,1.1s						
G23K	**Bananza Creek**	**21.21**	**32**	P	**P**	**14 10 10.8**	**+1.2**
G23K				IAmb	IAmb	14 10 16.4	
	comp=Z,8.8nm,0.7s						
HDA	**Harding Lake**	**21.25**	**39**	IAmb	IAmb	14 10 13.3	
	comp=Z,5.9nm,0.7s						
PAX	**Paxson**	**21.36**	**44**	P	**P**	**14 10 12.5**	**+1.1**
PAX				IAmb	IAmb	14 10 17.4	
	comp=Z,9.1nm,0.8s						
N25K	**Chitina, Valde**	**21.39**	**48**	P	**P**	**14 10 13.2**	**+1.6**
N25K				IAmb	IAmb	14 10 28.6	
	comp=Z,15nm,1.2s						
IL31		**21.42**	**38**	IAmb	IAmb	14 10 28.9	
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**21.42**	**38**	P	**P**	**14 10 09.2**	**-2.6**
	comp=Z,1.5nm,0.5s,baz=242,slow=9.0,SNR=38						
ILAR				PcP	**PcP**	**14 14 13.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=269,slow=3.1,SNR=8.3						
ILAR				LR	LR	14 18 01.4	
	comp=Z,66nm,19.2s,baz=276,slow=35						
	comp=Z,1.5nm,0.5s						
COLD	**Coldfoot**	**21.44**	**31**	P	**P**	**14 10 12.7**	**+0.7**
E22K	**Anaktuvuk Pass**	**21.48**	**28**		**P**	**14 10 13.2**	**+0.7**
E22K				IAmb	IAmb	14 10 38.1	
	comp=Z,9.3nm,0.9s						
RIDG	**Independent Ri**	**21.87**	**42**	IAmb	IAmb	14 10 19.3	
	comp=Z,11nm,0.5s						
G24K	**Hadweenzic Riv**	**22.07**	**34**	IAmb	IAmb	14 10 21.2	
	comp=Z,14nm,0.8s						
MENT	**Mentasta**	**22.12**	**44**	IAmb	IAmb	14 10 45.1	
	comp=Z,6.4nm,0.8s						
DOT	**Dot Lake**	**22.18**	**43**	IAmb	IAmb	14 10 21.6	
	comp=Z,11nm,0.7s						
L26K	**Log Cabin Wild**	**22.31**	**44**	IAmb	IAmb	14 10 32.5	
	comp=Z,17nm,1.2s						
SCRK	**Sand Creek**	**22.31**	**42**	IAmb	IAmb	14 10 23.4	
	comp=Z,6.8nm,0.6s						
D23K	**Nanushuk River**	**22.33**	**27**		**P**	**14 10 21.6**	**0.0**
D23K				IAmb	IAmb	14 10 41.8	
	comp=Z,31nm,1.5s						
F24K	**Squaw Lake**	**22.35**	**31**	IAmb	IAmb	14 10 25.0	
	comp=Z,16nm,0.9s						
TOLK	**Toolik Lake Re**	**22.45**	**28**	IAmb	IAmb	14 10 27.8	
	comp=Z,7.2nm,0.8s						
J26L	**Joseph Creek**	**22.65**	**41**	IAmb	IAmb	14 10 27.6	
	comp=Z,8.1nm,0.6s						
FYU	**Fort Yukon**	**22.80**	**35**	IAmb	IAmb	14 10 28.1	
	comp=Z,8.0nm,0.7s						
M27K	**Edge Creek, AK**	**22.80**	**46**	IAmb	IAmb	14 10 28.2	
	comp=Z,10.0nm,1.0s						
D24K	**Happy Valley**	**22.97**	**27**	IAmb	IAmb	14 10 33.9	
	comp=Z,14nm,0.9s						
L27K	**Beaver Creek,**	**22.99**	**45**	IAmb	IAmb	14 10 29.8	
	comp=Z,3.8nm,0.5s						
BCAR	**Beaver Creek A**	**23.00**	**45**	P	**P**	**14 10 29.3**	**+0.5**
F25K	**Christian Rive**	**23.13**	**32**	IAmb	IAmb	14 10 33.6	
	comp=Z,4.8nm,0.6s						
G26K	**Porcupine Rive**	**23.49**	**35**	IAmb	IAmb	14 10 38.4	
	comp=Z,11nm,0.7s						
D25K	**Kavik River**	**23.79**	**28**	IAmb	IAmb	14 10 40.2	
	comp=Z,6.8nm,0.7s						
M29M	**Somme Creek**	**24.39**	**47**	IAmb	IAmb	14 10 45.5	
	comp=Z,5.7nm,0.8s						
I28M	**Miner Creek**	**24.41**	**39**	IAmb	IAmb	14 10 43.6	
	comp=Z,8.2nm,0.7s						
L29M	**L29M**	**24.64**	**45**	IAmb	IAmb	14 10 49.5	
	comp=Z,5.7nm,0.6s						
K29M	**Barlow Dome**	**25.04**	**44**	IAmb	IAmb	14 10 54.6	
	comp=Z,5.9nm,0.9s						
I29M	**Ogilvie Camp,**	**25.05**	**40**	IAmb	IAmb	14 10 47.9	
	comp=Z,12nm,1.2s						
F28M	**Old Crow**	**25.15**	**35**	IAmb	IAmb	14 10 50.0	
	comp=Z,7.2nm,0.7s						
I30M	**Mount Dempster**	**25.80**	**41**	IAmb	IAmb	14 10 54.9	
	comp=Z,13nm,1.3s						
EPYK	**Eagle Plains**	**25.94**	**38**	IAmb	IAmb	14 10 55.4	
	comp=Z,9.3nm,1.2s						
ASAJ	**Asahikawa**	**26.63**	**270**	P	**P**	**14 11 03.0**	**+0.7**
	comp=Z,4.7nm,0.6s,baz=48,slow=9.8,SNR=7.4						
ASAJ				LR	LR	14 21 33.7	
	comp=Z,27nm,20.8s,baz=43,slow=36						
	comp=Z,4.7nm,0.6s						
H31M	**Peel River**	**26.75**	**40**	IAmb	IAmb	14 11 26.8	
	comp=Z,6.2nm,1.1s						
INK	**Inuvik**	**27.64**	**35**	LR	LR	14 23 18.7	
	comp=Z,53nm,19.5s,baz=252,slow=39						
DLBC	**Dease Lake**	**28.51**	**56**	LR	LR	14 23 44.7	
	comp=Z,44nm,18.9s,baz=264,slow=39						
YAK	**Yakutsk**	**29.48**	**312**	LR	LR	14 22 55.4	
	comp=Z,63nm,21.4s,baz=196,slow=36						
TIXI	**Tiksi**	**30.75**	**331**	LR	LR	14 24 26.2	
	comp=Z,76nm,19.4s,baz=192,slow=37						
USRK	**Ussuriysk Ar.**	**33.24**	**277**	P	**P**	**14 12 00.8**	**0.0**
	comp=Z,3.3nm,0.9s,baz=62,slow=10.0,SNR=4.2						
	comp=Z,3.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**33.34**	**205**	T	T	14 47 23.9	
	baz=16,slow=76,SNR=394						
H11N3	**WAKE ISLAND Hy**	**33.35**	**205**	T	T	14 47 27.5	
	baz=16,slow=76,SNR=334						
H11N1	**WAKE ISLAND Hy**	**33.36**	**205**	T	T	14 47 27.5	
	baz=16,slow=76,SNR=378						
MJAR	**Matsushiro Arr**	**33.69**	**261**	P	**P**	**14 12 05.5**	**+0.7**
	comp=Z,2.9nm,1.1s,baz=34,slow=7.5,SNR=5.2						
MJAR				LR	LR	14 25 06.0	
	comp=Z,44nm,19.2s,baz=260,slow=35						
	comp=Z,2.9nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**34.56**	**205**	T	T	14 48 52.5	
	baz=15,slow=76,SNR=296						
H11S2	**WAKE ISLAND Hy**	**34.58**	**205**	T	T	14 48 52.5	
	baz=15,slow=76,SNR=130						
H11S3	**WAKE ISLAND Hy**	**34.58**	**205**	T	T	14 48 55.7	
	baz=15,slow=76,SNR=122						
BNX	**BinXian**	**35.33**	**283**	⇑P	**P**	**14 12 18.3**	**-0.6**
BNX				pmax	pmax		
	comp=Z,16nm,0.7s						
YKA	**Yellowknife Ar**	**35.40**	**46**	P	**P**	**14 12 17.6**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=284,slow=8.6,SNR=7.8						
YKA				PcP	**PcP**	**14 14 48.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=305,slow=3.2,SNR=4.0						
YKA				LR	LR	14 28 25.8	
	comp=Z,59nm,19.6s,baz=310,slow=39						
	comp=Z,1.2nm,0.8s						
LON	**Longmire**	**36.93**	**74**	IAmb	IAmb	14 12 35.8	
	comp=Z,4.1nm,0.6s						
LTY	**Liberty**	**37.38**	**73**	IAmb	IAmb	14 12 38.9	
	comp=Z,4.1nm,0.4s						
B08A	**Colville Reser**	**37.66**	**70**	IAmb	IAmb	14 12 41.0	
	comp=Z,6.7nm,0.8s						
JCJ	**Chichijima**	**37.94**	**246**	LR	LR	14 26 04.0	
	comp=Z,38nm,21.2s,baz=112,slow=32						
NEW	**Newport**	**39.01**	**69**	IAmb	IAmb	14 12 51.9	
	comp=Z,7.0nm,0.7s						
J05D	**Fort Rock, OR**	**39.04**	**78**	IAmb	IAmb	14 12 56.1	
	comp=Z,8.2nm,1.1s						
KSRS	**Korea Array**	**39.57**	**271**	P	**P**	**14 12 56.1**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=59,slow=8.5,SNR=11						
	comp=Z,2.7nm,0.8s						
RES	**Resolute Bay**	**39.93**	**24**	LR	LR	14 33 14.3	
	comp=Z,44nm,19.3s,baz=334,slow=42						
JNU	**Nakatsue**	**40.48**	**263**	LR	LR	14 29 14.6	
	comp=Z,43nm,21.1s,baz=210,slow=35						
BMO	**Blue Mountains**	**40.61**	**74**	P	**P**	**14 13 04.6**	**+1.1**
J08A	**Circle Bar Ran**	**40.70**	**77**	P	**P**	**14 13 05.5**	**+1.3**
J08A				IAmb	IAmb	14 13 06.4	
	comp=Z,2.7nm,0.6s						
WVOR	**Wild Horse Val**	**41.11**	**78**	P	**P**	**14 13 08.8**	**+1.1**
WVOR				IAmb	IAmb	14 13 22.4	
	comp=Z,3.2nm,0.8s						
XLT	**XiLinHaoTe**	**43.17**	**287**	*e*P	**P**	**14 13 25.0**	**+0.6**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EGMT	**Eagleton**	**43.41**	**66**	IAmb	IAmb	14 13 37.5	
	comp=Z,7.6nm,1.0s						
BOZ	**Bozeman (W)**	**43.61**	**70**	IAmb	IAmb	14 13 29.6	
	comp=Z,8.3nm,0.8s						
NVAR	**Mina Array Bea**	**43.65**	**83**	P	**P**	**14 13 30.0**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=315,slow=8.0,SNR=5.7						
	comp=Z,1.2nm,0.7s						
ELK	**Elko**	**44.16**	**78**	IAmb	IAmb	14 13 37.1	
	comp=Z,8.4nm,1.4s						
YHL	**Hebgen Lake**	**44.28**	**71**	IAmb	IAmb	14 13 36.1	
	comp=Z,11nm,1.1s						
YNE	**Yellowstone No**	**44.89**	**70**	IAmb	IAmb	14 13 40.4	
	comp=Z,4.8nm,0.8s						
YMP	**Mirror Lake Pl**	**44.95**	**70**	IAmb	IAmb	14 13 41.0	
	comp=Z,7.1nm,1.1s						
HVU	**Hansel Valley**	**45.06**	**75**	IAmb	IAmb	14 13 43.1	
	comp=Z,5.7nm,0.6s						
R11B	**Troy Canyon, C**	**45.39**	**81**	P	**P**	**14 13 43.2**	**+0.9**
R11B				IAmb	IAmb	14 14 00.7	
	comp=Z,4.3nm,1.4s						
SPR3	**Spring Creek 3**	**45.77**	**79**	IAmb	IAmb	14 13 50.1	
	comp=Z,1.9nm,0.6s						
TPNV	**Topopah Spring**	**45.84**	**83**	IAmb	IAmb	14 14 03.6	
	comp=Z,7.9nm,1.0s						
HWUT	**Hardware Ranch**	**45.90**	**75**	IAmb	IAmb	14 13 48.5	
	comp=Z,2.5nm,0.7s						
DUG	**Dugway, Tooele**	**45.98**	**77**	IAmb	IAmb	14 13 50.6	
	comp=Z,4.2nm,0.7s						
PRN	**Pahroc Range**	**46.30**	**81**	IAmb	IAmb	14 14 07.4	
	comp=Z,4.1nm,0.8s						
PSUT	**Pine Spring**	**46.34**	**79**	IAmb	IAmb	14 14 06.5	
	comp=Z,3.9nm,0.7s						
PDAR	**Pinedale Array**	**46.43**	**72**	P	**P**	**14 13 51.4**	**+0.8**
	comp=Z,5.3nm,0.5s,baz=298,slow=4.5,SNR=40						
	comp=Z,5.3nm,0.5s						
SONM	**Songino Array**	**46.66**	**297**	P	**P**	**14 13 53.0**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=57,slow=9.0,SNR=11						
SONM				LR	LR	14 33 16.6	
	comp=Z,95nm,21.9s,baz=138,slow=36						
	comp=Z,2.7nm,0.9s						
HHC	**Hu-ho-hao-te**	**47.67**	**286**	*e*P	**P**	**14 14 01.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
MTPU	**Mount Pierson**	**47.68**	**79**	IAmb	IAmb	14 14 19.4	
	comp=Z,3.3nm,1.0s						
P17A	**Butcher Ranch,**	**47.69**	**76**	IAmb	IAmb	14 14 03.8	
	comp=Z,3.4nm,0.6s						
P18A	**Preston Nutter**	**47.89**	**76**	IAmb	IAmb	14 14 19.1	
	comp=Z,8.3nm,1.3s						
U15A	**North Rim**	**48.63**	**81**	P	**P**	**14 14 08.9**	**+1.1**
U15A				IAmb	IAmb	14 14 12.4	
	comp=Z,3.3nm,0.6s						
RSSD	**Black Hills**	**48.89**	**67**	P	**P**	**14 14 09.5**	**-0.1**
SPITS	**Spitsbergen Ar**	**50.54**	**356**	P	**P**	**14 14 20.5**	**-0.9**
	comp=Z,6.9nm,0.7s,baz=32,slow=7.9,SNR=14						
	comp=Z,6.9nm,0.7s						
ISCO	**Idaho Springs**	**50.59**	**73**	IAmb	IAmb	14 14 39.1	
	comp=Z,5.5nm,1.2s						
S22A	**4UR Ranch, Cre**	**51.15**	**76**	IAmb	IAmb	14 14 55.8	
	comp=Z,3.2nm,1.1s						
SDCO	**Great Sand Dun**	**51.96**	**75**	IAmb	IAmb	14 14 35.8	
	comp=Z,2.9nm,0.9s						
T25A	**Trinidad**	**53.01**	**75**	IAmb	IAmb	14 14 44.5	
	comp=Z,6.1nm,0.8s						
ANMO	**Albuquerque**	**53.20**	**78**	LR	LR	14 35 37.0	
	comp=Z,45nm,19.5s,baz=75,slow=34						
XAN	**Xi'an**	**53.62**	**281**	P	**P**	**14 14 45.0**	**+0.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ZALV	**Zalesovo Beam**	**54.09**	**313**	P	**P**	**14 14 47.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=38,slow=7.3,SNR=1.9						
ZALV				PcP	**PcP**	**14 15 52.9**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=34,slow=5.2,SNR=11						
	comp=Z,0.3nm,0.3s						
GTA	**Gaotai**	**55.56**	**292**	P	**P**	**14 14 59.8**	**+0.7**
GTA				sP	sP	14 15 13.0	-1.7
GTA				pmax	pmax		
	comp=Z,17nm,0.7s						
GTA				LR	LR		
	comp=N,110nm,15.1s						
GTA				LR	LR		
	comp=E,76nm,16.7s						
GTA				LR	LR		
	comp=Z,100nm,16.3s						
SFJD	**Kangerlussuaq**	**55.83**	**22**	LR	LR	14 41 32.0	
	comp=Z,14nm,19.7s,baz=0.5,slow=39						
WMOK	**Wichita Mounta**	**58.01**	**73**	IAmb	IAmb	14 15 18.9	
	comp=Z,3.6nm,0.8s						
ARCES	**ARCESS Array B**	**58.25**	**350**	P	**P**	**14 15 16.4**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=19,slow=7.6,SNR=14						
	comp=Z,2.2nm,0.7s						
TXAR	**Lajitas Array**	**58.75**	**81**	P	**P**	**14 15 21.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=301,slow=4.7,SNR=12						
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**59.19**	**314**	P	**P**	**14 15 23.1**	**-1.2**
	comp=Z,1.9nm,0.2s,baz=44,slow=6.5,SNR=4.6						
KURBB				LR	LR	14 42 33.1	
	comp=Z,82nm,20.1s,baz=162,slow=38						
	comp=Z,1.9nm,0.2s						
MKAR	**Makanchi Array**	**60.08**	**308**	P	**P**	**14 15 29.1**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=50,slow=6.6,SNR=13						
MKAR				PcP	**PcP**	**14 16 16.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=43,slow=4.6,SNR=3.5						
MKAR				LR	LR	14 42 37.6	
	comp=Z,61nm,19.8s,baz=188,slow=37						
	comp=Z,0.6nm,0.3s						
SCHQ	**Schefferville**	**60.18**	**38**	LR	LR	14 41 47.7	
	comp=Z,54nm,18.9s,baz=128,slow=36						
BVAR	**Borovoye Array**	**60.97**	**320**	P	**P**	**14 15 35.4**	**-1.1**
	comp=Z,2.4nm,0.4s,baz=49,slow=7.0,SNR=6.9						
BVAR				LR	LR	14 43 42.1	
	comp=Z,21nm,21.2s,baz=135,slow=38						
	comp=Z,2.4nm,0.4s						
H06N1	**SOCORRO T-PHAS**	**61.73**	**95**	T	T	15 23 03.2	
	SNR=9.5						
H06E1	**SOCORRO T-PHAS**	**61.83**	**95**	T	T	15 23 12.1	
	SNR=16						
PZH	**PanZhiHua**	**63.30**	**280**	P	**P**	**14 15 53.3**	**+0.7**
KIRV	**Kirov**	**63.70**	**334**	LR	LR	14 46 33.2	
	comp=Z,58nm,19.1s,baz=78,slow=39						
Z47A	**Carrollton**	**65.43**	**67**		**P**	**14 16 06.4**	**+0.2**
FINES	**FINESS Array B**	**65.93**	**347**	P	**P**	**14 16 07.3**	**-1.8**
	comp=Z,2.1nm,0.3s,baz=11,slow=6.9,SNR=22						
	comp=Z,2.1nm,0.3s						
TKL	**Tuckaleechee C**	**66.09**	**63**	LR	LR	14 45 58.4	
	comp=Z,31nm,19.5s,baz=348,slow=37						
AKTO	**Aktyubinsk**	**67.78**	**325**	LR	LR	14 48 39.2	
	comp=Z,77nm,18.5s,baz=160,slow=38						
NOA	**NORSAR Array B**	**67.81**	**355**	P	**P**	**14 16 20.5**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=5.7,slow=6.2,SNR=4.8						
NOA				LR	LR	14 44 31.8	
	comp=Z,11nm,22.0s,baz=105,slow=35						
	comp=Z,0.9nm,0.7s						
KSH	**Kashi**	**68.54**	**307**	P	**P**	**14 16 30.8**	**+4.7**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HFS	**Hagfors**	**68.55**	**353**	P	**P**	**14 16 24.7**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=15,slow=6.1,SNR=9.8						
	comp=Z,2.0nm,0.6s						
ARSB	**Arslanbob**	**68.64**	**310**		**P**	**14 16 28.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**70.96**	**276**	P	**P**	**14 16 41.4**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=29,slow=6.2,SNR=10						
	comp=Z,1.8nm,0.7s						
GAR	**Garm**	**71.73**	**310**		**P**	**14 16 46.6**	**+0.9**
EKA	**Eskdalemuir Ar**	**73.77**	**3**	P	**P**	**14 16 56.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=347,slow=5.2,SNR=7.0						
	comp=Z,0.4nm,0.3s						
NIL	**Nilore**	**74.45**	**304**		**P**	**14 17 01.9**	**+0.2**
AKASG	**Malin Array Be**	**75.69**	**342**	P	**P**	**14 17 07.5**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=20,slow=5.7,SNR=14						
AKASG				LR	LR	14 52 08.4	
	comp=Z,38nm,21.9s,baz=76,slow=37						
	comp=Z,1.1nm,0.4s						
AKBB	**Malin Array Si**	**75.69**	**342**	IAmb	IAmb	14 17 09.2	
	comp=Z,7.8nm,1.0s						
KIEV	**Kiev**	**75.70**	**342**		**P**	**14 17 07.9**	**-0.6**
KIEV				IAmb	IAmb	14 17 09.2	
	comp=Z,7.0nm,1.0s						
BMRD	**Maredsous**	**78.82**	**358**	*d*P	**P**	**14 17 26.1**	**+0.1**
VRAC	**Vranov**	**78.99**	**350**	LR	LR	14 53 43.8	
	comp=Z,14nm,20.4s,baz=10.0,slow=37						
DOU	**Dourbes**	**79.03**	**358**	*d*P	**P**	**14 17 27.3**	**+0.1**
BUR08	**Bucovina Ar. S**	**79.37**	**344**	IAmb	IAmb	14 17 30.3	
	comp=Z,5.5nm,0.9s						
BURAR	**Bucovina Array**	**79.40**	**344**		**P**	**14 17 29.3**	**-0.1**
BURAR				IAmb	IAmb	14 17 31.1	
	comp=Z,6.7nm,1.0s						
GERES	**GERESS Array B**	**79.74**	**352**	P	**P**	**14 17 30.7**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=7.1,slow=5.4,SNR=4.4						
	comp=Z,0.5nm,0.5s						
MLR	**Muntele Rosu**	**81.31**	**343**	LR	LR	14 58 48.7	
	comp=Z,25nm,18.2s,baz=91,slow=39						
GNI	**Garni**	**81.35**	**328**	LR	LR	14 58 17.2	
	comp=Z,42nm,20.9s,baz=115,slow=39						
WRA	**Warramunga Arr**	**81.84**	**224**	P	**P**	**14 17 42.1**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=31,slow=6.3,SNR=8.6						
	comp=Z,0.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**84.30**	**232**	P	**P**	**14 17 56.0**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=27,slow=5.3,SNR=15						
	comp=Z,4.1nm,0.8s						
BRTR	**Keskin Array B**	**85.07**	**335**		**P**	**14 17 59.0**	**-0.2**
BRTR	**Keskin Array B**	**85.07**	**335**	P	**P**	**14 17 59.0**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=14,slow=3.6,SNR=14						
	comp=Z,3.1nm,0.7s						
ASAR	**Alice Springs**	**85.31**	**222**	P	**P**	**14 18 00.9**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=23,slow=5.4,SNR=28						
	comp=Z,1.1nm,0.7s						
ESDC	**Sonseca Array**	**89.39**	**4**	P	**P**	**14 18 18.7**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=351,slow=3.7,SNR=8.6						
	comp=Z,1.8nm,0.9s						
STKA	**Stephens Creek**	**89.74**	**213**	P	**P**	**14 18 22.4**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=13,slow=6.9,SNR=5.7						
	comp=Z,3.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**115.92**	**359**	PKP	**PKiKP**	**14 24 05.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=16,slow=2.3,SNR=2.8						
H03N2	**Juan Fernandez**	**121.17**	**106**	T	T	16 37 27.6	
	baz=317,slow=77,SNR=41						
H03N1	**Juan Fernandez**	**121.18**	**106**	T	T	16 37 25.6	
	baz=317,slow=77,SNR=19						
H03N3	**Juan Fernandez**	**121.18**	**106**	T	T	16 37 26.1	
	baz=317,slow=77,SNR=41						
DBIC	**Dimbokro**	**122.13**	**7**	PKP	**PKPdf**	**14 24 17.6**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=45,slow=1.4,SNR=4.5						
OPO	**Ambohidratompo**	**131.28**	**295**	PKP	**PKPdf**	**14 24 33.3**	**-2.4**
	comp=Z,3.1nm,0.6s,baz=111,slow=17,SNR=2.5						
QSPA	**South Pole Qui**	**140.96**	**180**	PKhKP	PKPpre	14 24 48.1	
	comp=Z,0.7nm,0.6s,baz=279,slow=2.8,SNR=8.8						
MATP	**Matopo**	**142.51**	**315**	PKP	**PKPdf**	**14 24 56.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=297,slow=1.2,SNR=4.1						
TSUM	**Tsumeb**	**145.50**	**332**	PKPbc	**PKPdf**	**14 25 01.9**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=354,slow=4.8,SNR=6.5						
MAW	**Mawson**	**146.30**	**217**	PKPbc	**PKPab**	**14 25 03.2**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=29,slow=3.1,SNR=6.3						
LBTB	**Lobatse**	**147.80**	**315**	PKPbc	**PKPbc**	**14 25 09.1**	**+0.9**
	comp=Z,7.8nm,0.4s,baz=7.4,slow=1.5,SNR=22						
BOSA	**Boshof**	**151.04**	**312**	PKPbc	**PKPbc**	**14 25 16.1**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=12,slow=1.0,SNR=10						

---

*GII **26** 14:22:14.0±0.0, 33°.706N±0°.002×36°.364E±0°.002, h0km, Md1.4/2, confirmed*

*GRAL **26** 14:22:16.9±0.3, 33°.60N×36°.30E, h0km±80km, MD2.8*

ISC 26 14:22:14.0±1.6, **33°.63N**±0°.04×**36°.40E**±0°.08, **h0km, n28, σ0s.55**/30, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**	**0.48**	**298**	*e*P	**Pb**	**14 22 24.6**	**-0.9**
RCY	**Rachaya**	**0.49**	**254**	*e*P	**Pg**	**14 22 24.1**	**+0.7**
RCY				*e*S	**Sg**	**14 22 29.4**	**-0.2**
QRWL	**Qaraoun**	**0.60**	**262**	*e*P	**Pg**	**14 22 26.5**	**+0.9**
SHBL	**Chebaa**	**0.61**	**243**	*e*P	**Pg**	**14 22 26.4**	**+0.5**
NATI	**Neve Ativ**	**0.67**	**236**	P	**Pg**	**14 22 27.2**	**+0.4**
NATI	**Neve Ativ**	**0.67**	**236**	S	**Sb**	**14 22 37.8**	**-0.5**
BHL	**Bhannes**	**0.67**	**294**	*e*P	**Pb**	**14 22 28.1**	**-0.7**
DQRL	**Deir Qamar**	**0.69**	**276**	*e*P	**Pg**	**14 22 28.0**	**+0.7**
DQRL				*e*S	**Sg**	**14 22 36.3**	**0.0**
HWQ	**Hawqa**	**0.74**	**330**	*e*P	**Pb**	**14 22 30.2**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.74**	**236**	P	**Pg**	**14 22 28.5**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.74**	**236**	S	**Sb**	**14 22 40.1**	**-0.5**
KSHT	**Keshet**	**0.81**	**217**	P	**Pg**	**14 22 29.9**	**+0.2**
KSHT	**Keshet**	**0.81**	**217**	S	**Sb**	**14 22 42.3**	**-0.3**
BEIL	**Beino**	**0.92**	**349**	*e*P	**Pn**	**14 22 33.8**	**-0.5**

MMA0B	**Mount Meron ar**	**1.03 234**	P		**Pg**	14 22 33.8	**-0.1**
MMA0B	**Mount Meron ar**	**1.03 234**	S		**Sb**	14 22 49.7	**+0.7**
HNTI	**Hanita**	**1.16 242**	P		**Pg**	14 22 36.2	**-0.1**
HNTI	**Hanita**	**1.16 242**	S		**Sb**	14 22 52.7	**+0.1**
MMLI	**Mount Malkishu**	**1.45 215**	P		**Pn**	14 22 40.6	**-0.9**
MMLI	**Mount Malkishu**	**1.45 215**	S		**Sn**	14 23 01.6	**+0.3**
OFRI	**`Ofer**	**1.56 230**	P		**Pb**	14 22 43.4	**-0.4**
OFRI	**`Ofer**	**1.56 230**	S		**Sg**	14 23 04.5	**+0.5**
HMDT	**Nahal Hemdat**	**1.56 208**	P		**Pn**	14 22 42.9	**-0.1**
HMDT	**Nahal Hemdat**	**1.56 208**	S		**Sg**	14 23 04.4	**+0.3**
SLTI	**Sal'it**	**1.80 220**	P		**Pn**	14 22 46.1	**-0.2**
SLTI	**Sal'it**	**1.80 220**	S		**Sb**	14 23 11.0	**+0.1**
DSI	**Dead Sea**	**2.23 203**	P		**Pn**	14 22 51.9	**-0.3**
DSI	**Dead Sea**	**2.23 203**	S		**Sn**	14 23 21.7	**+1.2**

*IDC **26** 14:31:04.8±0.7,3°.56N×126°.85E,h0km,mb4.1/15, mbtmp4.1/16,ML3.9/1,MS3.4/2,Error ellipse: s-maj=29.5km s-min=12.9km az=72.0*
*DJA **26** 14:31:09.4±0.4,4°N±5°×12°7E±°,h27km±7km,M4.4/14, mB4.7/3,mb4.5/9,MLv4.4/14,Mw(mB)4.0/3*
*NEIC **26** 14:31:11.5±1.3,3°.66N±0°.06×127°.07E±0°.06,h44km±9km, mb4.4/18,Error ellipse: s-maj=9.9km s-min=7.8km az=122.0*

ISC 26 14:31:11.4±0.5,**3°.62N**±0°.05×**127°.01E**±0°.06,**h48**km,**n58**, σ1§**06**/62,**mb4.3**/25,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.47 272**		P	**Pn**	**14 31 34.6**	**-0.9**
SGSI				S	**Sn**	**14 31 54.0**	**+0.3**
TNTI	**Ternate**	**2.86 173**			**Pn**	**14 31 55.0**	**+0.5**
TNTI	**Ternate**	**2.86 173**		P	**Pn**	**14 31 55.5**	**+1.0**
TNTI				S	**Sn**	**14 32 28.5**	**+0.9**
DAV	**Davao City (W)**	**3.71 338**		Pn	**Pn**	**14 32 06.3**	**+0.1**
KMSI	**Cibinong**	**4.28 225**		P	**Pn**	**14 32 13.5**	**-0.5**
SANI	**Sanana**	**5.73 190**		P	**Pn**	**14 32 33.4**	**-0.5**
	0.2nm23nm,0.8s						
MRSI	**Marisa**	**5.95 238**		P	**Pn**	**14 32 36.7**	**-0.2**
	0.2nm709nm53nm,0.5s						
MRSI				S	**Sn**	**14 33 45.3**	**+1.5**
	0.2nm709nm53nm,0.5s						
SWI	**Sorong**	**6.16 136**		P	**Pn**	**14 32 38.9**	**-0.9**
	0.2nm41nm,1.0s						
SWI				S	**Sn**	**14 33 48.9**	**-0.1**
	0.2nm41nm,1.0s						
LUWI	**Luwuk**	**6.28 222**		Pn	**Pn**	**14 32 43.5**	**+2.1**
LUWI	**Luwuk**	**6.28 222**		P	**Pn**	**14 32 41.1**	**-0.3**
TOLI2	**Tolitoli**	**6.70 248**			**Pn**	**14 32 47.2**	**0.0**
NLAI	**Namlea**	**6.82 179**		P	**Pn**	**14 32 48.2**	**-0.7**
	0.2nm716nm45nm,0.8s						
FAKI	**Fak Fak**	**8.35 141**		P	**Pn**	**14 33 08.9**	**-1.0**
	44nm,1.3s						
MYLDM	**Lahad Datu**	**8.62 281**			**Pn**	**14 33 14.4**	**+0.8**
TGY	**Tagaytay City**	**12.01 330**		Pn	**Pn**	**14 33 59.0**	**-1.0**
	86nm,0.3s,baz=158,slow=11,SNR=2.7						
SBUM	**Sibu**	**14.81 266**			**P**	**14 34 43.9**	**+1.0**
JAY	**Jayapura**	**14.99 114**		Pn	**Pn**	**14 34 40.2**	**-0.2**
	0.6nm,0.3s,baz=288,slow=9.6,SNR=3.9 14nm,0.9s						
MTN	**Manton Dam**	**16.87 166**			**Pn**	**14 35 02.6**	**-1.6**
MTN				IAmb	IAmb	14 35 47.4	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**19.25 175**			**P**	**14 35 31.6**	**-0.4**
GUMO	**Guam**	**20.23 60**		LR	LR	14 42 11.8	
	comp=Z,36nm,21.0s,baz=256,slow=33						
TPUB	**Ta-pu**	**20.51 343**		P	**P**	**14 35 44.0**	**-1.7**
TPUB				IAmb	IAmb	14 36 14.9	
	comp=Z,54nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.63 184**			**P**	**14 35 56.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.63 184**		P	**P**	**14 35 56.7**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=12,slow=10,SNR=13 comp=Z,2.6nm,0.7s						
LEM	**Lembang**	**21.96 242**		P	**P**	**14 36 00.6**	**-0.9**
	comp=Z,13nm,0.5s,baz=351,slow=19,SNR=1.9 comp=Z,13nm,0.5s						
WB0	**Warramunga Arr**	**24.35 163**		P	**P**	**14 36 24.2**	**-0.8**
WB0				IAmb	IAmb	14 36 28.4	
	comp=Z,9.7nm,0.6s						
WRAB	**Tennant Creek**	**24.50 163**		P	**P**	**14 36 25.4**	**-1.0**
WRAB				IAmb	IAmb	14 36 40.1	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**24.50 163**		P	**P**	**14 36 24.6**	**-1.8**
WRA	**Warramunga Arr**	**24.50 163**		P	**P**	**14 36 25.1**	**-1.3**
	comp=Z,6.5nm,0.8s,baz=341,slow=10,SNR=29						
WRA				S	**S**	**14 40 44.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=357,slow=16,SNR=1.9 comp=Z,6.5nm,0.8s						
WR8	**Warramunga Arr**	**24.56 163**			**P**	**14 36 26.0**	**-0.9**
WR8				IAmb	IAmb	14 36 40.7	
	comp=Z,6.8nm,0.8s						
AS31	**Alice Springs**	**27.95 166**		P	**P**	**14 36 57.2**	**-0.2**
AS31				IAmb	IAmb	14 37 06.7	
	comp=Z,1.4nm,0.3s						
ASAR	**Alice Springs**	**27.95 166**		P	**P**	**14 36 57.4**	**-0.1**
ASAR	**Alice Springs**	**27.95 166**		P	**P**	**14 36 56.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=338,slow=9.1,SNR=27 comp=Z,0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.16 300**		P	**P**	**14 37 23.8**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=112,slow=6.5,SNR=4.2 comp=Z,0.6nm,0.3s						
PZH	**PanZhiHua**	**33.21 316**		P	**P**	**14 37 46.5**	**+2.5**
KSRS	**Korea Array**	**33.68 1**		P	**P**	**14 37 47.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=178,slow=8.5,SNR=4.1 comp=Z,0.5nm,0.8s						
EIDS	**Eidsvold**	**37.10 142**		P	**P**	**14 38 17.9**	**+0.6**
EIDS				IAmb	IAmb	14 38 21.6	
	comp=Z,5.5nm,1.0s						
BBOO	**Buckleboo**	**37.24 167**		P	**P**	**14 38 18.3**	**-0.1**
STKA	**Stephens Creek**	**37.94 160**		P	**P**	**14 38 24.5**	**+0.2**
STKA	**Stephens Creek**	**37.94 160**		P	**P**	**14 38 24.4**	**0.0**
	comp=Z,6.5nm,0.6s,baz=338,slow=9.8,SNR=17						
STKA				LR	LR	14 55 19.0	
	comp=Z,165nm,18.7s,baz=249,slow=38 comp=Z,6.5nm,0.6s						
HHC	**Hu-ho-hao-te**	**39.59 342**		*e*P	**P**	**14 38 41.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
XLT	**XiLinHaoTe**	**41.26 348**		*e*P	**P**	**14 38 53.8**	**+1.9**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EVN	**Everest**	**45.27 307**		P	**P**	**14 39 25.4**	**+0.1**
EVN				IAmb	IAmb	14 39 27.0	
	comp=Z,5.9nm,0.6s						
SONM	**Songino Array**	**47.48 341**		P	**P**	**14 39 42.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=153,slow=4.8,SNR=2.5 comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**55.42 22**		P	**P**	**14 40 43.0**	**+2.2**
	comp=Z,4.0nm,1.1s,baz=233,slow=7.0,SNR=4.3 comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**57.80 325**		P	**P**	**14 40 57.7**	**-0.1**
MKAR	**Makanchi Array**	**57.80 325**		P	**P**	**14 40 58.0**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=124,slow=7.9,SNR=17 comp=Z,1.5nm,0.4s						
ZALV	**Zalesovo Beam**	**60.81 333**		P	**P**	**14 41 17.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=111,slow=7.7,SNR=2.1 comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**61.98 327**		P	**P**	**14 41 26.8**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=127,slow=6.1,SNR=12 comp=Z,1.6nm,0.4s						
KURK	**Kurchatov**	**61.98 327**		P	**P**	**14 41 26.5**	**+0.1**
KURK				IAmb	IAmb	14 41 29.4	
	comp=Z,2.7nm,0.6s						
BVAR	**Borovoye Array**	**67.56 327**		P	**P**	**14 42 02.8**	**0.0**
	comp=Z,1.5nm,0.6s,baz=103,slow=6.5,SNR=4.1 comp=Z,1.5nm,0.6s						
AB31	**Akbulak array**	**72.41 321**		P	**P**	**14 42 32.1**	**-0.5**
ABKAR	**Akbulak array**	**72.41 321**		P	**P**	**14 42 32.4**	**-0.1**
ARTI	**Arti**	**75.25 328**		P	**P**	**14 42 49.4**	**+0.3**
ARTI				IAmb	IAmb	14 43 06.7	
	comp=Z,2.9nm,0.6s						
ABPO	**Ambohimpanom**	**81.53 250**		P	**P**	**14 43 25.5**	**+0.7**
VOI	**Vohitsoka**	**82.28 247**		P	**P**	**14 43 28.9**	**+0.3**
BRTR	**Keskin Array B**	**90.30 310**		P	**P**	**14 44 06.1**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=119,slow=5.4,SNR=2.8 comp=Z,0.6nm,0.6s						
ARCES	**ARCESS Array B**	**90.64 340**		P	**P**	**14 44 08.2**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=89,slow=7.8,SNR=4.1 comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**123.21 288**		PKP	**PKPdf**	**14 50 03.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=77,slow=0.9,SNR=2.8						

IDC 26 14:36:30.4±2.7,**5°.88S**×**130°.50E**,**h0**km,**mb3.9**/1, **mbtmp3.4**/4,**ML3.2**/3,**Error ellipse: s-maj=114.3km s-min=30.6km az=77.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.04 201**		Pn	**Pn**	**14 39 36.0**	**-1.1**
	0.2nm,0.3s,baz=19,slow=14,SNR=16						
FITZ				Sn	**Sn**	**14 41 48.9**	**-14**
	0.6nm,0.3s,baz=79,slow=17,SNR=7.3 0.6nm,0.3s						
WRA	**Warramunga Arr**	**14.47 165**		Pn	**Pn**	**14 39 57.9**	**+1.2**
	baz=351,slow=14,SNR=1.2						
WRA				Sn	**Sn**	**14 42 23.3**	**-15**
	0.3nm,0.3s,baz=340,slow=21,SNR=4.8 0.1nm,0.3s						
ASAR	**Alice Springs**	**17.99 170**		P	**Pn**	**14 40 42.0**	**-0.1**
	0.2nm,0.3s,baz=351,slow=10,SNR=7.9						
ASAR				S	**Sn**	**14 43 48.1**	**-15**
	0.2nm,0.6s,baz=349,slow=24,SNR=4.6 0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.57 326**		P	**P**	**14 47 29.0**	**+0.1**
	0.6nm,0.4s,baz=122,slow=7.9,SNR=2.0 0.6nm,0.4s						

*AEIC **26** 14:41:18.0±0.8,51°.43N±0°.09×179°.33W±0°.06,h68km±4km, Error ellipse: s-maj=12.7km s-min=4.2km az=165.0*
*NEIC **26** 14:41:18.7±0.8,51°.47N±0°.10×179°.34W±0°.05,h69km±5km, mb4.0/28,ML4.3/10,ML4.2(AEIC),Error ellipse: s-maj=14.9km s-min=2.0km az=165.0*
*IDC **26** 14:41:19.3±2.7,51°.69N×179°.33W,h80km±24km,mb3.4/11, mbtmp3.8/14,MS2.9/2,Error ellipse: s-maj=24.7km s-min=13.3km az=175.0*

ISC 26 14:41:18.6±0.7,**51°.57N**±0°.09×**179°.35W**±0°.03,**h73**km±6km, **n118**,σ1§**49**/118,**mb3.8**/22,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAKI	**Gareloi-Kavalg**	**0.33**	**93**		**Pn**	**14 41 30.1**	**-0.1**
GAKI					**Sn**	**14 41 38.5**	**-0.3**
GASW	**Gareloi Southw**	**0.37**	**56**		**Pn**	**14 41 30.6**	**+0.1**
GALAA	**Gareloi Lava P**	**0.41**	**62**		**Pn**	**14 41 31.1**	**+0.3**
GALAA					**Sn**	**14 41 39.0**	**-0.8**
GANO	**Gareloi North**	**0.42**	**53**		**Pn**	**14 41 30.9**	**0.0**
GANO					**Sn**	**14 41 40.4**	**+0.3**
GAEA	**Gareloi East**	**0.43**	**60**		**Pn**	**14 41 31.3**	**+0.3**
GANE	**Gareloi Northe**	**0.43**	**55**		**Pn**	**14 41 31.2**	**+0.1**
GANE					**Sn**	**14 41 40.7**	**+0.5**
CEPE	**Semis' Perret**	**0.74**	**303**		**Pn**	**14 41 34.6**	**+0.6**
CEAP	**Semis' Anvil P**	**0.80**	**303**		**Pn**	**14 41 35.4**	**+0.7**
CETU	**Semis' Tuman**	**0.82**	**299**		**Pn**	**14 41 35.7**	**+0.7**
TANO	**Tanaga North**	**0.84**	**65**		**Pn**	**14 41 35.7**	**+0.5**
TANO					**Sn**	**14 41 48.1**	**+0.6**
TASE	**Tanaga Southea**	**0.86**	**72**		**Pn**	**14 41 35.9**	**+0.4**
TASE					**Sn**	**14 41 48.5**	**+0.5**
AMKA	**Amchitka**	**0.87**	**258**		**Pn**	**14 41 35.4**	**-0.2**
AMKA				Sn	**Sn**	**14 41 47.9**	**-0.3**
TAFP	**Tanaga Falls P**	**0.91**	**68**		**Pn**	**14 41 36.3**	**+0.2**
TAFL	**Tanaga Flats**	**0.92**	**78**		**Pn**	**14 41 36.5**	**+0.4**
TAPA	**Tanaga Point A**	**0.98**	**75**		**Sn**	**14 41 51.3**	**+0.5**
LSPA	**Little Sitkin**	**1.35**	**287**		**Sn**	**14 42 00.6**	**+1.7**
KICM	**Kanaga Island**	**1.38**	**75**		**Pn**	**14 41 42.5**	**+0.5**
KIKV	**Kanaga Island**	**1.39**	**76**		**Sn**	**14 42 01.0**	**+1.1**
KIWB	**Kanaga Island**	**1.40**	**78**		**Pn**	**14 41 42.4**	**+0.2**
KIWB				IAML		14 42 01.3	
	comp=E,5μm,0.6s						
KIWB				IAML		14 42 01.9	
	comp=N,4μm,0.7s						
KIWB	**Kanaga Island**	**1.40**	**78**		**Sn**	**14 42 00.6**	**+0.6**
KINC	**Kanaga Island**	**1.43**	**75**		**Pn**	**14 41 43.0**	**+0.4**
ADK	**Adak**	**1.69**	**78**		**Pn**	**14 41 43.0**	**-0.1**
ADK				IAML		14 42 08.0	
	comp=N,3μm,0.3s						
ADK				IAML		14 42 08.4	
	comp=N,3μm,0.3s						
ADK	**Adak**	**1.69**	**78**		**Sn**	**14 42 07.2**	**+0.4**
ADK	**Adak**	**1.69**	**78**	P	**Pn**	**14 41 46.2**	**+0.2**
ADK	**Adak**	**1.69**	**78**	P	**Sn**	**14 42 07.2**	**+0.4**
ETKA	**Kagalaska Isla**	**1.85**	**80**		**Sn**	**14 42 10.9**	**+0.1**
GSCK	**Great Sitkin C**	**2.03**	**76**		**Pn**	**14 41 50.8**	**+0.2**
GSTD	**Great Sitkin T**	**2.05**	**75**		**Pn**	**14 41 50.8**	**-0.1**
GSMY	**Great Sitkin M**	**2.10**	**76**		**Pn**	**14 41 51.6**	**+0.1**
GSTR	**Great Sitkin T**	**2.11**	**74**		**Pn**	**14 41 51.4**	**-0.3**
GSIG	**Igitkin Island**	**2.17**	**78**		**Pn**	**14 41 52.5**	**0.0**
ATKA	**Atka Island**	**3.25**	**77**		**Pn**	**14 42 07.2**	**0.0**
ATKA				IAML		14 43 01.3	
	comp=E,486nm,0.9s						
ATKA				IAML		14 43 01.4	
	comp=N,521nm,0.9s						
ATKA	**Atka Island**	**3.25**	**77**	P	**Pn**	**14 42 07.4**	**+0.2**
ATKA	**Atka Island**	**3.25**	**77**	S	**Sn**	**14 42 44.7**	**0.0**
SHEM	**Shemya Is, Ala**	**4.20**	**289**	P	**Pn**	**14 42 20.1**	**+0.1**
	comp=N,43nm,0.5s,baz=61,slow=3.3,SNR=22						
SHEM				S	**Sn**	**14 43 09.3**	**+1.5**
	comp=N,43nm,0.5s,baz=108,slow=20,SNR=1.4						
SMY	**Shemya**	**4.20**	**289**		**Pn**	**14 42 20.4**	**+0.4**
CLCO	**Concord Point,**	**6.04**	**75**		**Pn**	**14 42 47.3**	**+2.1**
NIKH	**Nikolski High**	**6.59**	**74**		**Pn**	**14 42 53.3**	**+0.6**
NIKH	**Nikolski High**	**6.59**	**74**	P	**Pn**	**14 42 54.2**	**+1.5**
NIKH	**Nikolski High**	**6.59**	**74**	S	**Sn**	**14 44 08.9**	**+2.6**
OKSP	**Okmok Steeple**	**6.97**	**72**		**Pn**	**14 42 59.3**	**+1.4**
OKTU	**Okmok Mt. Tuli**	**7.14**	**71**		**Pn**	**14 43 02.1**	**+1.9**
P08K	**Saint George I**	**7.65**	**45**		**Pn**	**14 43 08.8**	**+1.7**
SPIA	**Saint Paul Isl**	**7.73**	**40**		**Pn**	**14 43 10.6**	**+2.4**
SPIA	**Saint Paul Isl**	**7.73**	**40**	P	**Pn**	**14 43 10.8**	**+2.7**
SPIA	**Saint Paul Isl**	**7.73**	**40**	S	**Sn**	**14 44 33.6**	**-0.4**
UNV	**Unalaska Valle**	**8.13**	**69**		**Pn**	**14 43 15.0**	**+1.4**
UNV	**Unalaska Valle**	**8.13**	**69**	P	**Pn**	**14 43 15.8**	**+2.2**
AKMO	**Akutan Morgan**	**8.46**	**67**		**Pn**	**14 43 20.4**	**+2.2**
LVA	**Lava Point**	**8.46**	**67**		**Pn**	**14 43 20.2**	**+2.0**
AKGG	**Akutan Green G**	**8.49**	**67**		**Pn**	**14 43 20.9**	**+2.2**
AKUT	**Akutan**	**8.61**	**67**	P	**Pn**	**14 43 22.5**	**+2.3**
FALS	**False Pass**	**10.10**	**65**	P	**Pn**	**14 43 41.9**	**+1.3**
SDPT	**Sand Point**	**11.86**	**64**	P	**Pn**	**14 44 05.2**	**+0.7**
CHNA	**Chernabura Isl**	**12.28**	**67**	P	**Pn**	**14 44 10.0**	**-0.2**
O15K	**Ungalikthiuk R**	**13.42**	**48**	Pn	**P**	**14 44 29.7**	**-2.8**
N15K	**Kwethluk River**	**13.77**	**44**	Pn	**P**	**14 44 34.0**	**-2.3**
PETK	**Petropavlovsk-**	**14.11**	**285**	P	**Pn**	**14 44 36.0**	**+1.3**
	comp=N,1.4nm,0.8s,baz=90,slow=15,SNR=8.5						
PETK				S	**Sn**	**14 47 08.7**	**-0.8**
	comp=N,1.1nm,0.7s,baz=71,slow=24,SNR=1.5						
P16K	**Nushagak River**	**14.22**	**50**		**P**	**14 44 41.2**	**-0.1**
SII	**Sitkinak Islan**	**15.55**	**61**	P	**Pn**	**14 44 50.6**	**-2.6**
O18K	**Koktuh Hills**	**15.85**	**49**		**P**	**14 45 00.1**	**+0.6**
O18K				IAmb	IAmb	14 45 04.9	
	comp=Z,14nm,1.4s						
OHAK	**Old Harbor**	**16.14**	**59**	P	**Pn**	**14 44 58.8**	**-1.7**
L18K	**Granite Mounta**	**16.23**	**40**		**P**	**14 45 06.0**	**+2.4**
N19K	**Bonanza Creek**	**16.54**	**46**		**P**	**14 45 08.8**	**+1.7**
N19K				IAmb	IAmb	14 45 12.4	
	comp=Z,7.3nm,0.9s						
KDAK	**Kodiak Island**	**16.61**	**58**	P	**Pn**	**14 45 03.9**	**-2.5**
	comp=Z,4.2nm,0.4s,baz=239,slow=4.8,SNR=50						
KDAK				S	**Sn**	**14 48 01.6**	**-8.3**
	comp=Z,3.2nm,0.9s,baz=322,slow=18,SNR=0.8						
KDAK				LR	LR	14 51 25.5	
	comp=Z,22nm,19.1s,baz=270,slow=37						
L19K	**White Mountain**	**16.97**	**42**		**P**	**14 45 14.5**	**+2.8**
STLK	**Strandline Lak**	**17.99**	**46**	P	**Pn**	**14 45 25.7**	**+2.3**
STLK				IAmb	IAmb	14 45 28.7	
	comp=Z,6.1nm,0.8s						
SKT	**Skwentna**	**18.30**	**45**		**Pn**	**14 45 28.8**	**+1.6**
SKT				IAmb	IAmb	14 45 31.5	
	comp=Z,8.1nm,1.0s						
CAST	**Castle Rocks**	**18.67**	**40**	P	**Pn**	**14 45 32.5**	**+1.0**
KTH	**Kantishna Hill**	**19.20**	**40**	P	**Pn**	**14 45 38.2**	**+0.4**
KTH				IAmb	IAmb	14 46 17.1	
	comp=Z,16nm,1.4s						
H21K	**Melozitna Rive**	**19.53**	**34**	P	**Pn**	**14 45 44.3**	**+2.7**
G23K	**Bananza Creek**	**21.05**	**33**	P	**P**	**14 45 57.7**	**+1.5**
E22K	**Anaktuvuk Pass**	**21.29**	**28**	P	**P**	**14 46 00.4**	**+1.6**
E22K				IAmb	IAmb	14 46 34.3	
	comp=Z,10nm,1.2s						
ILAR	**Eielson Array**	**21.31**	**39**	P	**P**	**14 45 56.3**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=231,slow=9.4,SNR=5.2						
D22K	**Ayikyak River**	**21.51**	**26**	P	**P**	**14 46 04.4**	**+3.4**
D23K	**Nanushuk River**	**22.13**	**27**	P	**P**	**14 46 08.3**	**+0.6**
C23K	**Itkillik River**	**22.69**	**26**	P	**P**	**14 46 14.5**	**+0.8**
E25K	**Arctic Village**	**23.25**	**32**	P	**P**	**14 46 20.0**	**+0.7**
E25K				IAmb	IAmb	14 46 34.8	
	comp=Z,9.2nm,1.4s						
L29M	**L29M**	**24.58**	**46**	P	**P**	**14 46 32.1**	**+0.7**
L29M				IAmb	IAmb	14 46 54.5	
	comp=Z,6.2nm,1.4s						

H11N2	**WAKE ISLAND Hy**	**33.56**	**204**	T	T	15 23 46.0	
	baz=16,slow=76,SNR=98						
H11N3	**WAKE ISLAND Hy**	**33.58**	**204**	T	T	15 23 48.6	
	baz=16,slow=76,SNR=99						
H11N1	**WAKE ISLAND Hy**	**33.58**	**204**	T	T	15 23 49.8	
	baz=16,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**34.79**	**204**	T	T	15 25 28.3	
	baz=16,slow=76,SNR=94						
H11S2	**WAKE ISLAND Hy**	**34.80**	**204**	T	T	15 25 20.6	
	baz=16,slow=76,SNR=97						
H11S3	**WAKE ISLAND Hy**	**34.80**	**204**	T	T	15 25 19.9	
	baz=16,slow=76,SNR=62						
YKA	**Yellowknife Ar**	**35.35**	**47**	LR	LR	15 04 01.2	
	comp=Z,39nm,18.8s,baz=315,slow=39						
WVOR	**Wild Horse Val**	**41.30**	**78**	P	**P**	**14 48 56.9**	**+0.1**
WVOR				IAmb	IAmb	14 49 02.3	
	comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**43.87**	**83**	P	**P**	**14 49 18.6**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=294,slow=8.2,SNR=5.1 comp=Z,0.7nm,0.6s						
YHH	**Holmes Hill**	**44.64**	**71**	P	**P**	**14 49 24.6**	**+0.7**
YNE	**Yellowstone No**	**45.02**	**70**	P	**P**	**14 49 27.3**	**+0.4**
YNE				IAmb	IAmb	14 49 38.8	
	comp=Z,2.4nm,1.1s						
HVU	**Hansel Valley**	**45.23**	**75**	P	**P**	**14 49 29.4**	**+0.9**
HVU				IAmb	IAmb	14 49 47.6	
	comp=Z,3.0nm,1.0s						
R11B	**Troy Canyon, C**	**45.59**	**81**	P	**P**	**14 49 31.7**	**+0.2**
R11B				IAmb	IAmb	14 49 34.9	
	comp=Z,2.3nm,1.4s						
TPNV	**Topopah Spring**	**46.06**	**83**	P	**P**	**14 49 35.5**	**+0.4**
TPNV				IAmb	IAmb	14 49 42.2	
	comp=Z,3.0nm,0.9s						
DUG	**Dugway, Tooele**	**46.16**	**77**	P	**P**	**14 49 36.6**	**+0.8**
DUG				IAmb	IAmb	14 49 39.9	
	comp=Z,2.4nm,0.9s						
SONM	**Songino Array**	**46.25**	**296**	P	**P**	**14 49 35.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=56,slow=8.9,SNR=2.1 comp=Z,0.4nm,0.3s						
PDAR	**Pinedale Array**	**46.58**	**72**	P	**P**	**14 49 39.2**	**+0.1**
PDAR	**Pinedale Array**	**46.58**	**72**	P	**P**	**14 49 39.0**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=312,slow=5.7,SNR=6.8 comp=Z,0.7nm,0.6s						
HHC	**Hu-ho-hao-te**	**47.31**	**285**	*e*P	**P**	**14 49 46.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
ESJX	**Sierra Juarez**	**49.49**	**88**	P	**P**	**14 50 01.9**	**+0.2**
SPITS	**Spitsbergen Ar**	**50.16**	**356**	P	**P**	**14 50 05.1**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=46,slow=10,SNR=5.7 comp=Z,1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**58.74**	**313**	P	**P**	**14 51 08.1**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=41,slow=6.6,SNR=1.6 comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**58.96**	**81**	P	**P**	**14 51 10.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=310,slow=6.2,SNR=6.9 comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.65**	**308**	P	**P**	**14 51 13.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=48,slow=7.5,SNR=9.1 comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**60.52**	**319**	P	**P**	**14 51 21.4**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=23,slow=4.7,SNR=1.4 comp=Z,0.3nm,0.5s						
PZH	**PanZhiHua**	**62.98**	**279**	P	**P**	**14 51 39.0**	**+1.3**
FINES	**FINESS Array B**	**65.52**	**347**	P	**P**	**14 51 51.7**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=10,slow=7.0,SNR=2.2 comp=Z,0.7nm,0.8s						
MTN	**Manton Dam**	**77.14**	**230**	P	**P**	**14 53 03.8**	**-0.3**
WB0	**Warramunga Arr**	**81.74**	**223**	P	**P**	**14 53 27.4**	**-1.6**
WR8	**Warramunga Arr**	**81.86**	**223**	P	**P**	**14 53 28.9**	**-0.8**
WRA	**Warramunga Arr**	**81.92**	**223**	P	**P**	**14 53 29.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=34,slow=6.0,SNR=3.4 comp

BRLS					Lg	Lg	15 07 51.7	
	7.0nm,0.3s							
BRLS	**Borolday**	**4.24**	**357**	*eP*	**Pn**	**15 07 09.0**	**+1.7**	
	1.7nm,0.2s							
BRLS				*eS*	**Sn**	**15 07 57.0**	**+0.3**	
	7.7nm,0.2s							
KK31	**Karatay Array**	**4.32**	**3**	Pn	**Pn**	**15 07 08.4**	**+0.1**	
	1.1nm,0.3s,baz=179,slow=12,SNR=27							
KK31				⇑Pg	**Pb**	**15 07 18.2**	**-0.5**	
	2.2nm,0.4s,baz=196,slow=15,SNR=5.9							
KK31				⇓Sn	**Sn**	**15 08 00.0**	**+1.5**	
	8.7nm,0.5s,baz=190,slow=26							
KK31				⇓Lg	Lg	15 08 15.4		
	17nm,0.6s,baz=193,slow=25							
MRKS	**Merke**	**4.59**	**30**	Pg	**Pn**	**15 07 11.9**	**-0.2**	
	5.0nm,0.2s							
MRKS				Lg	Lg	15 08 03.2		
	8.4nm,0.2s							
MRKS	**Merke**	**4.59**	**30**	*eP*	**Pn**	**15 07 11.9**	**-0.2**	
	5.0nm,0.2s							
MRKS				*eS*	**Sn**	**15 08 01.9**	**-3.3**	
	9.0nm,0.3s							
AAK	**Ala-Archa**	**5.06**	**39**	⇑Pn	**Pn**	**15 07 20.5**	**+1.8**	
	0.5nm,0.4s							
AAK				⇑Sn	**Sn**	**15 08 19.1**	**+2.0**	
	1.8nm,0.5s							
AAK				⇑Lg	Lg	15 08 41.7		
	3.2nm,0.6s							
AB31	**Akbulak array**	**12.77**	**328**	⇑P	Pn	15 08 60.0	-4.2	
	0.3nm,0.4s,baz=138,slow=12,SNR=12							
AKTO	**Aktyubinsk**	**14.48**	**327**	⇑P	**Pn**	**15 09 26.4**	**-1.1**	
	1.1nm,0.6s							

IDC ***26*** *15:13:27.4±0.6,35°.49N×139°.13E, h0km, mb3.8/18, mbtmp3.8/21, ML3.5/3, MS3.2/8, Error ellipse: s-maj=17.5km s-min=10.9km az=63.0*
JMA ***26*** *15:13:31.0±0.1,35°.5N±0°.2×139°.1E±0°.2, h14km, MD4.2/20, MW4.0/20, EASTERN YAMANASHI PREF*
JMA Felt III J1 at EASTERN YAMANASHI PREF .
NIED ***26*** *15:13:31.0, 35°.50N×139°.07E, h14km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.08; Mθθ-0.71; Mφφ0.63; Mrθ0.07; Mθφ-0.81; Mφr0.91; Fault plane solution: M₀1.38000×10¹⁵ NP1: φs286.00000°, δ51.00000°, λ173.00000°. NP2: φs20.00000°, δ85.00000°, λ39.00000°.*
NEIC ***26*** *15:13:31.1±1.3, 35°.49N±0°.03×139°.05E±0°.06, h19km±4km, mb4.6/20 Error ellipse: s-maj=7.3km s-min=4.4km az=80.0*

ISC 26 15:13:30.6±0.9, 35°.51N±0°.02×139°.07E±0°.03, h20km±3km, n131, σ1°19/108, mb4.1/29, MS3.3/6, 10D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSGW	**Sagamiharawaka**	**0.15**	**51**	*i* P		**Pg**	**15 13 34.8**	**-0.3**
JSGW				S		**Sg**	**15 13 38.0**	**-0.1**
JSGW	**Sagamiharawaka**	**0.15**	**51**	A		A	15 13 34.8	
	comp=N,105nm,0.6s,comp=E,46nm,0.6s							
JOD2	**Odawara 2**	**0.25**	**176**	⇓*i* P		**Pg**	**15 13 35.8**	**-0.6**
JOD2	**Odawara 2**	**0.25**	**176**	A		A	15 13 35.8	
	comp=N,36nm,3.3s,comp=E,31nm,3.7s							
JYN	**Shimob**	**0.43**	**269**	⇓*i* P		**Pb**	**15 13 39.2**	**-0.4**
JYN				⇓S		**Sb**	**15 13 45.6**	**-0.1**
JYN	**Shimob**	**0.43**	**269**	A		A	15 13 39.2	
	comp=N,27nm,0.4s,comp=E,35nm,0.4s							
JFNN	**Fujinakano**	**0.44**	**225**	*i* P		**Pb**	**15 13 39.6**	**-0.2**
JFNN				S		**Sb**	**15 13 46.1**	**+0.1**
JFNN	**Fujinakano**	**0.44**	**225**	A		A	15 13 39.6	
	comp=N,23nm,0.4s,comp=E,29nm,1.3s							
JRY	**Ryogami san**	**0.53**	**345**	⇓*i* P		**Pg**	**15 13 41.1**	**-0.2**
JRY				⇓S		**Sg**	**15 13 48.4**	**0.0**
JHTM	**Izuhatsuma**	**0.55**	**185**	A		A	15 13 41.5	
	comp=N,52nm,0.9s,comp=E,66nm,1.1s							
JYO	**Yokosk**	**0.56**	**120**	A		A	15 13 41.8	
	comp=N,29nm,6.2s,comp=E,29nm,1.7s							
TOK	**Tokyo**	**0.59**	**72**	A		A	15 13 42.4	
	comp=N,48nm,1.3s,comp=E,42nm,0.7s							
JIZS	**Izushimoda**	**0.80**	**191**	⇓*i* P		**Pb**	**15 13 45.1**	**-0.8**
JIZS				⇓S		**Sb**	**15 13 56.1**	**-0.2**
JIZS	**Izushimoda**	**0.80**	**191**	A		A	15 13 45.1	
	comp=N,7.0nm,1.2s,comp=E,17nm,0.9s							
TATJ	**Tateyama 2**	**0.82**	**125**	A		A	15 13 46.4	
	comp=N,19nm,2.3s,comp=E,20nm,3.5s							
SHZ3	**Shizuoka 3**	**0.83**	**238**	*i* P		**Pg**	**15 13 46.4**	**-0.5**
SHZ3				S		**Sn**	**15 13 58.3**	**-0.6**
SHZ3	**Shizuoka 3**	**0.83**	**238**	A		A	15 13 46.4	
	comp=N,12nm,1.1s,comp=E,11nm,1.3s							
JNT	**Takato**	**0.84**	**296**	⇓*i* P		**Pg**	**15 13 46.6**	**-0.5**
JNT				⇓S		**Sg**	**15 13 57.9**	**-0.4**
JNT	**Takato**	**0.84**	**296**	A		A	15 13 46.6	
	comp=N,21nm,0.7s,comp=E,21nm,0.9s							
JIM2	**Oshima 3**	**0.84**	**159**	*i* P		**Pb**	**15 13 45.8**	**-0.9**
JIM2				S		**Sb**	**15 13 57.2**	**-0.4**
JIM2	**Oshima 3**	**0.84**	**159**	A		A	15 13 45.8	
	comp=N,10.0nm,1.8s,comp=E,9.0nm,1.6s							
JAG	**Ashikaga**	**0.97**	**19**	⇓*i* P		**Pb**	**15 13 48.5**	**-0.2**
JKUC	**kamogawauchiur**	**0.99**	**110**	A		A	15 13 49.3	
	comp=N,7.0nm,2.2s,comp=E,7.0nm,3.7s							
JNY	**Yasuok**	**1.00**	**262**	A		A	15 13 49.6	
	comp=N,20nm,1.4s,comp=E,8.0nm,0.7s							
JSG	**Sagara**	**1.10**	**221**			**Pg**	**15 13 51.5**	**-0.6**
JSG	**Sagara**	**1.10**	**221**	P		**Pg**	**15 13 52.0**	**0.0**
JSG	**Sagara**	**1.10**	**221**	S		**Sg**	**15 14 09.0**	**+2.5**
JSG	**Sagara**	**1.10**	**221**	P		**Pg**	**15 13 51.8**	**-0.2**
JSG	**Sagara**	**1.10**	**221**	A		A	15 13 51.2	
	comp=N,18nm,0.8s,comp=E,21nm,1.5s							
JGK	**Kuni**	**1.11**	**342**	A		A	15 13 51.7	
	comp=N,5.0nm,1.3s,comp=E,5.0nm,0.6s							
JKKS	**Kakegawashinom**	**1.17**	**230**	A		A	15 13 52.3	
	comp=N,9.0nm,4.6s,comp=E,9.0nm,2.2s							
JNG	**Nsakai**	**1.19**	**319**	A		A	15 13 53.0	
	comp=N,13nm,0.8s,comp=E,11nm,1.0s							
MJAR	**Matsushiro Arr**	**1.24**	**326**			**Pn**	**15 13 53.2**	**+0.3**
MJAR	**Matsushiro Arr**	**1.24**	**326**	Pg		**Pn**	**15 13 53.1**	**+0.1**
	comp=E,65nm,0.3s,baz=152,slow=16,SNR=3359							
MJAR				Lg		Lg	15 14 08.4	
	comp=E,123nm,0.3s,baz=152,slow=27,SNR=16							
MAJO	**Matsushiro**	**1.25**	**326**			**Pb**	**15 13 53.5**	**0.0**
MAJO	**Matsushiro**	**1.25**	**326**	P		**Pg**	**15 13 54.0**	**-0.8**
MAJO	**Matsushiro**	**1.25**	**326**	S		**Sg**	**15 14 10.7**	**-0.4**
MAJO	**Matsushiro**	**1.25**	**326**	P		**Pb**	**15 13 53.7**	**+0.2**
MAJO	**Matsushiro**	**1.25**	**326**	S		**Sg**	**15 14 10.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**1.25**	**326**			**Pb**	**15 13 53.4**	**-0.1**
JKT	**Katashina**	**1.26**	**7**	A		A	15 13 54.2	
	comp=N,6.0nm,1.7s,comp=E,11nm,0.4s							
HMMJ	**Hamamatsu 2**	**1.28**	**240**	A		A	15 13 54.2	
	comp=N,6.0nm,1.0s,comp=E,5.0nm,0.7s							
JGF	**Kuroka**	**1.40**	**274**			**Pb**	**15 13 56.1**	**0.0**
JGF	**Kuroka**	**1.40**	**274**	P		**Pb**	**15 13 56.3**	**+0.2**
JGF	**Kuroka**	**1.40**	**274**	S		**Sg**	**15 14 14.5**	**-1.4**
JGF	**Kuroka**	**1.40**	**274**	P		**Pb**	**15 13 56.2**	**+0.2**
JGF	**Kuroka**	**1.40**	**274**	S		**Sg**	**15 14 14.8**	**-1.1**
JAO	**Obara**	**1.50**	**261**	A		A	15 13 57.7	
	comp=N,6.0nm,1.9s,comp=E,4.0nm,1.8s							
JSB	**Shiboa**	**1.61**	**25**	A		A	15 13 59.5	
	comp=N,6.0nm,2.4s,comp=E,20nm,1.4s							
INU	**Inuyama**	**1.68**	**265**			**Pb**	**15 13 59.9**	**-1.1**
INU	**Inuyama**	**1.68**	**265**	P		**Pb**	**15 14 00.9**	**0.0**
INU	**Inuyama**	**1.68**	**265**	P		**Pb**	**15 14 00.8**	**-0.1**
JJN	**Nakama**	**1.75**	**336**	A		A	15 14 01.7	
	comp=N,5.0nm,1.0s,comp=E,5.0nm,0.7s							
JTT	**Ttatey**	**1.78**	**308**	A		A	15 14 02.1	
	comp=N,7.0nm,2.1s,comp=E,10.0nm,1.1s							
JIZZ	**Izumozaki**	**2.04**	**352**	A		A	15 14 05.9	
	comp=N,9.0nm,2.3s,comp=E,6.0nm,4.0s							
JHJ	**Hachijo jima 2**	**2.46**	**166**	Pn		**Pn**	**15 14 10.3**	**+0.7**
	comp=E,38nm,0.3s,baz=275,slow=3.4,SNR=16							
JHJ				Sn		**Sb**	**15 14 43.7**	**-0.2**
	comp=E,35nm,0.3s,baz=37,slow=21,SNR=2.0							
	comp=E,539nm,0.8s							
JHJ2	**Mitsune**	**2.47**	**165**			**Pn**	**15 14 10.3**	**+0.5**
JHJ2	**Mitsune**	**2.47**	**165**	P		**Pn**	**15 14 11.1**	**+1.3**
JSD	**Sado**	**2.60**	**346**	P		**Pb**	**15 14 14.5**	**-2.2**
JSD	**Sado**	**2.60**	**346**	P		**Pn**	**15 14 14.3**	**+2.7**
JMM	**Marumori**	**2.73**	**30**			**Pn**	**15 14 14.6**	**+1.3**
JMM	**Marumori**	**2.73**	**30**	P		**Pn**	**15 14 16.4**	**+3.0**
JMM	**Marumori**	**2.73**	**30**	P		**Pn**	**15 14 16.2**	**+2.8**
JMN	**Monobe**	**4.63**	**249**			**Pn**	**15 14 40.1**	**+0.5**
JMN	**Monobe**	**4.63**	**249**	P		**Pn**	**15 14 41.3**	**+1.7**
JMN	**Monobe**	**4.63**	**249**	P		**Pn**	**15 14 41.2**	**+1.7**
JTM	**Tenmabayashi**	**5.50**	**16**			**Pn**	**15 14 52.6**	**+1.2**
JNU	**Nakatsue**	**7.18**	**253**			**Pn**	**15 15 15.2**	**+0.6**
JNU	**Nakatsue**	**7.18**	**253**	Pn		**Pn**	**15 15 16.1**	**+1.6**
	comp=E,1.0nm,0.3s,baz=38,slow=1.8,SNR=12							
JNU				Lg		Lg	15 17 09.7	
	comp=E,0.2nm,0.3s,baz=355,slow=23,SNR=1.8							
JNU				LR		LR	15 18 34.7	
	comp=E,205nm,19.3s,baz=64,slow=43							
	comp=E,6.9nm,0.6s							
JNU	**Nakatsue**	**7.18**	**253**	P		**Pn**	**15 15 16.8**	**+2.2**
ERM	**Erimo**	**7.24**	**25**	Pn		**Pn**	**15 15 16.2**	**+1.0**
ERM	**Erimo**	**7.24**	**25**	P		**Pn**	**15 15 19.7**	**+4.4**
ASAJ	**Asahikawa**	**9.01**	**16**	Pn		**Pn**	**15 15 41.8**	**+2.2**
	comp=E,0.3nm,0.3s,baz=210,slow=16,SNR=2.0							
KSRS	**Korea Array**	**9.18**	**285**	Pn		**Pn**	**15 15 45.2**	**+3.3**
	comp=E,0.4nm,0.3s,baz=94,slow=14,SNR=6.3							
KSAR	**Wonju Array Be**	**9.21**	**285**	Pn		**Pn**	**15 15 42.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.24**	**330**	Pn		**Pn**	**15 15 54.8**	**-1.6**
	comp=E,0.1nm,0.3s,baz=120,slow=13,SNR=2.0							
USRK				LR		LR	15 19 32.1	
	comp=E,98nm,19.4s,baz=191,slow=36							
	comp=E,1.2nm,0.8s							
PETK	**Petropavlovsk-**	**21.96**	**31**	P		**P**	**15 18 23.5**	**+0.5**
	comp=E,2.0nm,1.0s,baz=219,slow=11,SNR=1.4							
	comp=E,2.0nm,1.0s							
GUMO	**Guam**	**22.44**	**165**	LR		LR	15 26 21.7	
	comp=E,17nm,21.2s,baz=324,slow=35							
MA2	**Magadan**	**25.26**	**14**	P		**P**	**15 18 56.0**	**+0.8**
MA2	**Magadan**	**25.26**	**14**	P		**P**	**15 18 55.5**	**+0.2**
	comp=E,1.8nm,0.6s,baz=183,slow=11,SNR=5.2							
MA2				LR		LR	15 30 32.5	
	comp=E,36nm,18.8s,baz=202,slow=41							
	comp=E,1.8nm,0.6s							
SONM	**Songino Array**	**27.13**	**307**	LR		LR	15 30 32.3	
	comp=E,95nm,18.6s,baz=172,slow=38							
YAK	**Yakutsk**	**27.20**	**350**	P		**P**	**15 19 12.1**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**29.73**	**117**	T		T	15 50 02.2	
	baz=311							
H11S1	**WAKE ISLAND Hy**	**29.73**	**117**	T		T	15 50 00.1	
	baz=311,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	**29.75**	**117**	T		T	15 50 02.2	
	baz=311							
SHEM	**Shemya Is, Ala**	**30.08**	**44**	P		**P**	**15 19 38.7**	**+0.3**
	comp=E,34nm,0.6s,baz=332,slow=2.2,SNR=6.2							
KIWB	**Kanaga Island**	**35.02**	**48**	P		**P**	**15 20 23.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**39.27**	**255**	LR		LR	15 38 11.7	
	comp=E,32nm,18.4s,baz=210,slow=38							
RABL	**Rabaul**	**41.36**	**160**	P		**P**	**15 21 15.0**	**-0.4**
RABL				IAmb		IAmb	15 21 37.9	
	comp=Z,12nm,0.9s							
ZALV	**Zalesovo Beam**	**41.57**	**314**	P		**P**	**15 21 16.4**	**-0.4**
ZALV	**Zalesovo Beam**	**41.57**	**314**	P		**P**	**15 21 16.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=109,slow=8.0,SNR=4.5							
ZALV				PcP		**PcP**	**15 23 12.6**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=108,slow=2.3,SNR=3.7							
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**43.34**	**303**	P		**P**	**15 21 31.8**	**+0.5**
MKAR	**Makanchi Array**	**43.34**	**303**	P		**P**	**15 21 31.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=89,slow=9.7,SNR=11							
	comp=Z,1.2nm,0.6s							
KURK	**Kurchatov**	**45.40**	**309**	P		**P**	**15 21 47.0**	**-0.6**
KURK				IAmb		IAmb	15 21 48.1	
	comp=Z,4.0nm,0.8s							
KURBB	**Kurchatov Arra**	**45.46**	**309**	P		**P**	**15 21 48.0**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=85,slow=7.8,SNR=31							
	comp=Z,2.5nm,0.7s							
TARG	**Taragay, Kyrgy**	**47.39**	**297**	P		**P**	**15 22 04.3**	**+0.3**
TARG				IAmb		IAmb	15 22 06.6	
	comp=Z,2.5nm,0.7s							
E19K	**Redstone River**	**47.71**	**28**	P		**P**	**15 22 05.8**	**+0.3**
HNR	**Honiara**	**48.85**	**152**	LR		LR	15 41 05.8	
	comp=Z,54nm,20.8s,baz=194,slow=34							
KSH	**Kashi**	**49.30**	**295**	P		**P**	**15 22 23.0**	**+4.6**
KSH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
E22K	**Anaktuvuk Pass**	**49.83**	**27**	P		**P**	**15 22 23.3**	**+1.4**
E22K				IAmb		IAmb	15 22 51.3	
	comp=Z,12nm,1.4s							
BVAR	**Borovoye Array**	**50.21**	**313**	P		**P**	**15 22 24.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=64,slow=6.6,SNR=4.0							
	comp=Z,1.1nm,0.7s							
E24K	**Your Creek**	**51.07**	**27**	P		**P**	**15 22 32.5**	**+1.2**
E24K				IAmb		IAmb	15 22 56.2	
	comp=Z,11nm,1.5s							
ILAR	**Eielson Array**	**51.79**	**32**	P		**P**	**15 22 37.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=267,slow=5.3,SNR=2.4							
	comp=Z,0.3nm,0.7s							
CHGR	**Chuyangaron**	**54.61**	**296**	P		**P**	**15 22 57.9**	**-0.1**
SIMJ	**Simiganj**	**54.72**	**296**	P		**P**	**15 22 58.9**	**+0.1**
SIMJ				IAmb		IAmb	15 22 59.9	
	comp=Z,4.7nm,0.8s							
WRA	**Warramunga Arr**	**55.33**	**185**	P		**P**	**15 23 02.1**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=0.4,slow=7.6,SNR=16							
	comp=Z,0.7nm,0.3s							
WR8	**Warramunga Arr**	**55.33**	**185**	P		**P**	**15 23 02.3**	**-0.8**
EPYK	**Eagle Plains**	**55.78**	**29**	P		**P**	**15 23 05.9**	**0.0**
ARTI	**Arti**	**56.36**	**319**	P		**P**	**15 23 10.2**	**+0.1**
ARTI				IAmb		IAmb	15 23 11.5	
	comp=Z,6.6nm,0.7s							
AB31	**Akbulak array**	**57.47**	**310**	P		**P**	**15 23 17.0**	**-1.1**
ABKAR	**Akbulak array**	**57.47**	**310**	P		**P**	**15 23 16.8**	**-1.4**
AS31	**Alice Springs**	**59.05**	**186**	P		**P**	**15 23 29.0**	**-0.4**
ASAR	**Alice Springs**	**59.05**	**186**	P		**P**	**15 23 29.1**	**-0.3**
ASAR	**Alice Springs**	**59.05**	**186**	P		**P**	**15 23 29.2**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=359,slow=5.6,SNR=16							
	comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**64.75**	**339**	P		**P**	**15 24 07.7**	**+0.5**
ARCES				IAmb		IAmb	15 24 39.3	
	comp=Z,10nm,1.4s							
ARCES	**ARCESS Array B**	**64.75**	**339**	P		**P**	**15 24 07.2**	**0.0**
	comp=Z,1.3nm,0.7s,baz=50,slow=6.5,SNR=3.9							
	comp=Z,1.3nm,0.7s							
FINES	**FINESS Array B**	**69.27**	**332**	P		**P**	**15 24 36.0**	**+0.1**
FINES	**FINESS Array B**	**69.27**	**332**	P		**P**	**15 24 35.8**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=67,slow=8.1,SNR=8.1							
	comp=Z,1.1nm,0.5s							
SUMG	**Summit**	**72.19**	**359**	P		**P**	**15 24 55.3**	**+1.2**
SUMG				IAmb		IAmb	15 25 30.7	
	comp=Z,3.5nm,0.9s							
AKASG	**Malin Array Be**	**74.33**	**322**	P		**P**	**15 25 05.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=51,slow=6.0,SNR=6.5							
	comp=Z,0.9nm,0.7s							
HFS	**Hagfors**	**74.68**	**335**	P		**P**	**15 25 08.9**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=54,slow=7.5,SNR=4.8							
	comp=Z,0.6nm,0.4s							
NC204	**NORSAR Array S**	**74.81**	**337**	P		**P**	**15 25 09.8**	**+0.6**
NC204				IAmb		IAmb	15 25 37.8	
	comp=Z,12nm,1.3s							
NB2	**NORSAR Subarra**	**74.84**	**337**	P		**P**	**15 25 09.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=42,slow=5.9							
NOA	**NORSAR Array B**	**74.84**	**337**	P		**P**	**15 25 09.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=42,slow=5.8,SNR=4.9							
	comp=Z,0.8nm,0.6s							
NVAR	**Mina Array Bea**	**77.42**	**52**	P		**P**	**15 25 24.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=306,slow=10,SNR=2.2							
	comp=Z,0.2nm,0.5s							
BRTR	**Keskin Array B**	**78.42**	**311**	P		**P**	**15 25 31.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=2.9							
	comp=Z,0.6nm,0.6s							
PDAR	**Pinedale Array**	**80.08**	**44**	P		**P**	**15 25 39.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=229,slow=45,SNR=1.6							
	comp=Z,0.3nm,0.5s							
TXAR	**Lajitas Array**	**92.55**	**51**	P		**P**	**15 26 38.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=323,slow=3.8,SNR=1.8							
	comp=Z,0.1nm,0.3s							
ESDC	**Sonseca Array**	**97.78**	**332**	LR		LR	16 15 34.7	
	comp=Z,13nm,18.7s,baz=128,slow=38							
QSPA	**South Pole Qui**	**125.25**	**180**	PKP		**PKiKP**	**15 32 29.8**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=58,slow=7.2,SNR=1.6							
LPAZ	**La Paz**	**149.10**	**59**	PKPbc		**PKPbc**	**15 33 18.5**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=280,slow=1.1,SNR=3.6							

SJA ***26*** *15:16:11.8±1.3, 21°.41S×68°.65W, h100km, ML3.5, MW3.5*
GUC ***26*** *15:16:13.8±0.8, 21°.37S×68°.90W, h118km±4km, ML3.5*

ISC 26 15:16:11.9±1.6, 21°.39S±0°.03×68°.95W±0°.10, h133km±9km, n26, σ0°74/49, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.49**	**214**	⇑*i* P		**Pn**	**15 16 31.7**	**+0.2**
PB09				*i* S		**Sn**	**15 16 45.8**	**-0.5**
PB09				IAML			15 16 47.9	
	comp=E,1μm,0.5s							
PB09	**IPOC Station P**	**0.49**	**214**	*eP*		**Pn**	**15 16 31.7**	**+0.2**
PB09				*eS*		**Sn**	**15 16 46.4**	**+0.1**
PB09				IAML			15 16 47.2	
	comp=Z,750nm,0.2s							
PB01	**IPOC Station P**	**0.61**	**304**	⇑*i* P		**Pn**	**15 16 32.0**	**-0.1**
PB01				*i* S		**Sn**	**15 16 46.1**	**-1.4**
PB01	**IPOC Station P**	**0.61**	**304**	*eP*		**Pn**	**15 16 32.1**	**-0.1**
PB01				*eS*		**Sn**	**15 16 46.8**	**-0.7**
PB01				IAML			15 16 47.4	
	comp=Z,2μm,0.3s							
PB02	**IPOC Station P**	**0.89**	**274**	⇑*i* P		**Pn**	**15 16 34.9**	**+0.7**
PB02				*i* S		**Sn**	**15 16 50.9**	**-0.3**
PB02				IAML			15 16 53.7	
	comp=E,2μm,0.2s							
PB02	**IPOC Station P**	**0.89**	**274**	*eP*		**Pn**	**15 16 34.9**	**+0.7**
PB02				IAML			15 16 53.7	
	comp=Z,2μm,0.2s							
PB03	**IPOC Station P**	**0.99**	**229**	⇑*i* P		**Pn**	**15 16 36.0**	**+0.8**
PB03				*i* S		**Sn**	**15 16 52.9**	**0.0**
PB03				IAML			15 16 53.5	
	comp=E,1μm,0.4s							
PB03	**IPOC Station P**	**0.99**	**229**	*eP*		**Pn**	**15 16 35.4**	**+0.1**
PB03				*eS*		**Sn**	**15 16 53.2**	**+0.2**
PB03				IAML			15 16 54.1	
	comp=Z,736nm,0.3s							
PB08	**IPOC Station P**	**1.26**	**351**	⇓*i* P		**Pn**	**15 16 38.4**	**+0.3**
PB08				*i* S		**Sn**	**15 16 57.1**	**-0.9**
PB08				IAML			15 16 59.2	
	comp=E,871nm,0.3s							
PB08	**IPOC Station P**	**1.26**	**351**	*eP*		**Pn**	**15 16 38.3**	**+0.3**
PB08				*eS*		**Sn**	**15 16 57.9**	**0.0**
PB08				IAML			15 16 59.2	
	comp=Z,370nm,0.5s							
HMBC	**Humberstone**	**1.42**	**321**	⇑*i* P		**Pn**	**15 16 39.4**	**0.0**
HMBC				*i* S		**Sn**	**15 16 59.4**	**-1.0**
HMBC				IAML			15 17 01.1	
	comp=E,1μm,0.2s							
HMBC	**Humberstone**	**1.42**	**321**	*eP*		**Pn**	**15 16 39.5**	**0.0**
HMBC				*eS*		**Sn**	**15 17 00.7**	**+0.3**
HMBC				IAML			15 17 01.0	
	comp=Z,759nm,0.2s							
TA01	**Diego Aracena**	**1.42**	**305**	⇑*i* P		**Pn**	**15 16 39.8**	**+0.4**
TA01				*i* S		**Sn**	**15 16 59.7**	**-0.5**
TA01				IAML			15 17 00.6	
	comp=E,849nm,0.5s							
TA01	**Diego Aracena**	**1.42**	**305**	*eP*		**Pn**	**15 16 39.8**	**+0.4**
TA01				*eS*		**Sn**	**15 17 00.3**	**+0.1**
TA01				IAML			15 17 00.6	
	comp=Z,259nm,0.3s							
PB06	**IPOC Station P**	**1.43**	**204**	⇑*i* P		**Pn**	**15 16 40.8**	**+1.1**
PB06				*i* S		**Sn**	**15 17 01.3**	**+0.5**
PB06				IAML			15 17 02.1	
	comp=N,994nm,0.2s							
PB06	**IPOC Station P**	**1.43**	**204**	*eP*		**Pn**	**15 16 40.2**	**+0.5**
PB06				*eS*		**Sn**	**15 17 01.8**	**+1.0**
PB06				IAML			15 17 02.3	
	comp=Z,466nm,0.5s							
GO01	**Chusmiza**	**1.73**	**352**	*eP*		**Pn**	**15 16 43.7**	**+0.2**
GO01				*i* S		**Sn**	**15 17 06.9**	**-0.5**
GO01	**Chusmiza**	**1.73**	**352**	*eP*		**Pn**	**15 16 43.3**	**-0.1**
GO01				*eS*		**Sn**	**15 17 08.1**	**+0.7**
GO01				IAML			15 17 08.8	
	comp=Z,200nm,0.4s							
PB11	**IPOC Station P**	**1.75**	**338**	*eP*		**Pn**	**15 16 43.4**	**0.0**
PB11				*i* S		**Sn**	**15 17

INDI	**Punta indio, G**	**1.01**	**299**	P		**Pg**	**15 33 37.1**	**-1.3**
INDI	**Punta indio, G**	**1.01**	**299**	S		**Sb**	**15 33 51.6**	**+0.2**
CVTQ	**Turrialba Volc**	**1.04**	**53**	*eP*		**Pb**	**15 33 38.5**	**-0.3**
EDPE	**Pejibaye, P**	**1.04**	**102**⇓	*eP*		**Pb**	**15 33 38.6**	**-0.1**
EDPE				*eS*		**Sn**	**15 33 54.0**	**+0.6**
CVTV	**Tajo**	**1.05**	**53**	*eP*		**Pg**	**15 33 38.5**	**-0.6**
CVTV				*eS*		**Sn**	**15 33 54.2**	**+0.1**
VTR0	**Volcan Turrial**	**1.05**	**52**⇑	*iP*		**Pn**	**15 33 39.4**	**-0.1**
VTR0				*eS*		**Sn**	**15 33 54.4**	**+0.2**
CVTR	**Volcan Turrial**	**1.05**	**52**	*eP*		**Pb**	**15 33 38.7**	**-0.4**
CVTR				*eS*		**Sb**	**15 33 53.9**	**+1.0**
CASO	**Castillo**	**1.06**	**353**	*eP*		**Pg**	**15 33 38.5**	**-0.8**
SAJE	**San Jernim**	**1.08**	**91**	*eP*		**Pg**	**15 33 38.8**	**-0.9**
ARE1	**Arenal 1**	**1.09**	**354**⇓	*eP*		**Pb**	**15 33 39.2**	**-0.3**
VARE2	**V. Arenal**	**1.09**	**354**⇓	*eP*		**Pb**	**15 33 39.2**	**-0.3**
VARE2				*eS*		**Sb**	**15 33 54.4**	**+0.8**
FORC	**Fortuna**	**1.09**	**357**	*eP*		**Pb**	**15 33 39.2**	**-0.3**
FORC				*eS*		**Sn**	**15 33 55.3**	**+0.7**
VACR	**Volcan Arenal**	**1.10**	**356**⇓	*eP*		**Pb**	**15 33 39.4**	**-0.2**
VACR				*eS*		**Sn**	**15 33 55.6**	**+0.8**
CHIK	**Chiripa**	**1.10**	**344**⇑	*iP*		**Pn**	**15 33 40.0**	**-0.1**
CEDE	**Laguna Cedeo**	**1.11**	**355**	*eP*		**Pb**	**15 33 39.9**	**0.0**
NICO	**Nicoya**	**1.12**	**312**	*eP*		**Pn**	**15 33 41.0**	**+0.8**
TABAC	**Tabacon**	**1.13**	**352**⇓	*eP*		**Pb**	**15 33 40.0**	**-0.3**
TABAC				*eS*		**Sn**	**15 33 56.6**	**+0.8**
TILA	**Tilaran**	**1.15**	**342**⇓	*iP*		**Pg**	**15 33 40.1**	**-0.9**
TILA				*eS*		**Sn**	**15 33 56.4**	**+0.2**
RESJ	**San Isidro (Tu**	**1.15**	**55**⇓	*eP*		**Pn**	**15 33 41.0**	**+0.4**
REZ	**Monterrey de S**	**1.15**	**355**	*eP*		**Pn**	**15 33 40.7**	**0.0**
REZ				*eS*		**Sn**	**15 33 58.5**	**+2.2**
CNAS	**Canas**	**1.16**	**335**	*eP*		**Pg**	**15 33 38.7**	**-2.5**
PILE	**Guapiles**	**1.16**	**44**⇓	*eP*		**Pb**	**15 33 40.5**	**-0.2**
PILE				*eS*		**Sn**	**15 33 56.8**	**+0.4**
INVE	**Universidad In**	**1.19**	**338**	*eP*		**Pg**	**15 33 40.1**	**-1.6**
INVE				*eS*		**Sn**	**15 33 57.5**	**+0.5**
JUD3	**Juan Diaz 3**	**1.21**	**311**	*eP*		**Pn**	**15 33 41.6**	**+0.1**
JUD3				*eS*		**Sn**	**15 34 00.0**	**+2.3**
PLVR	**Palo Verde**	**1.22**	**323**	*eP*		**Pg**	**15 33 41.3**	**-1.0**
PLVR				*eS*		**Sn**	**15 33 58.6**	**+0.5**
RVLA	**Villa Bonita**	**1.24**	**54**	*eP*		**Pn**	**15 33 42.3**	**+0.6**
TIMP	**Tierras Morena**	**1.27**	**341**	*eP*		**Pn**	**15 33 41.6**	**-0.7**
TIMP				*eS*		**Sn**	**15 33 59.5**	**+0.3**
QUEB	**Quebradon, Cot**	**1.27**	**347**⇑	*eP*		**Pn**	**15 33 42.2**	**-0.1**
QUEB				*eS*		**Sn**	**15 34 00.7**	**+1.4**
FIMO	**Fila Mora**	**1.29**	**107**	*eP*		**Pn**	**15 33 42.3**	**-0.3**
IRES	**Siquirres**	**1.30**	**56**	*eP*		**Pg**	**15 33 43.2**	**-0.6**
IRES				*eS*		**Sn**	**15 34 01.9**	**+2.0**
COVE	**Coope Vega, Sa**	**1.35**	**8**	P		**Pn**	**15 33 43.2**	**-0.1**
COVE	**Coope Vega, Sa**	**1.35**	**8**	S		**Sn**	**15 34 02.2**	**+1.1**
TENO	**El Achiote**	**1.37**	**344**	*eP*		**Pn**	**15 33 42.8**	**-0.9**
MOTZ	**Rio Naranjo**	**1.38**	**341**	*eP*		**Pb**	**15 33 44.2**	**-0.3**
MOTZ				*eS*		**Sg**	**15 34 03.7**	**+0.2**
COLC	**Colonia**	**1.41**	**335**⇑	*eP*		**Pn**	**15 33 44.3**	**+0.1**
COLC				*eS*		**Sg**	**15 34 05.0**	**+0.5**
EDP2	**Potrero Grande**	**1.45**	**104**	*eP*		**Pn**	**15 33 44.7**	**0.0**
MESS	**Mesas**	**1.48**	**337**⇑	*iP*		**Pn**	**15 33 45.4**	**+0.2**
MESS				*eS*		**Sg**	**15 34 05.3**	**-1.2**
VERH	**Veragua Rainfo**	**1.50**	**68**⇓	*eP*		**Pn**	**15 33 45.6**	**+0.2**
VERH				*eS*		**Sg**	**15 34 06.9**	**-0.3**
VMAR	**Armenia, Volca**	**1.52**	**341**⇑	*eP*		**Pn**	**15 33 46.1**	**+0.4**
VMAR				*eS*		**Sg**	**15 34 07.2**	**-0.5**
ALIBA	**Liberia Airpor**	**1.53**	**323**	*eP*		**Pg**	**15 33 48.7**	**+0.5**
GPS2	**Hotel Rincn d**	**1.56**	**332**	*eP*		**Pn**	**15 33 46.5**	**+0.3**
GPS3	**Bodega del ICE**	**1.56**	**331**	*eP*		Pn	15 33 41.1	-5.2
ELI1	**Hacienda Flor**	**1.57**	**324**	*eP*		**Pn**	**15 33 46.3**	**0.0**
ELI1	**Hacienda Flor**	**1.57**	**324**	P		**Pn**	**15 33 46.5**	**+0.1**
ELI1	**Hacienda Flor**	**1.57**	**324**	S		**Sb**	**15 34 07.9**	**+0.4**
LAES	**El Progreso Va**	**1.58**	**76**	*eP*		**Pb**	**15 33 47.9**	**0.0**
LAES				*eS*		**Sg**	**15 34 09.8**	**-0.1**
VRLE	**La Escondida,**	**1.59**	**332**	*eP*		**Pn**	**15 33 47.3**	**+0.5**
LAPC	**Finca la Perla**	**1.61**	**330**	*eP*		**Pn**	**15 33 46.1**	**-0.8**
VORI	**VORI**	**1.61**	**333**	*eP*		**Pn**	**15 33 47.5**	**+0.4**
BUAI	**Buenos Aires**	**1.66**	**334**⇓	*iP*		**Pn**	**15 33 48.2**	**+0.6**
BUAI				*eS*		**Sg**	**15 34 11.0**	**-1.3**
CEUA	**Cerro Uatsi, L**	**1.66**	**81**	*eP*		**Pg**	**15 33 49.6**	**-1.1**
PEJA	**Penjamo Buenos**	**1.67**	**335**	*eP*		**Pb**	**15 33 48.7**	**-0.7**
PEJA				*eS*		**Sg**	**15 34 11.4**	**-1.1**
ALCO	**Alturas Coton,**	**1.80**	**103**	*eP*		**Pn**	**15 33 49.2**	**-0.4**
CDITO	**Canoas**	**1.89**	**115**	S		**Sb**	**15 34 16.3**	**-0.2**
CDITO	**Canoas**	**1.89**	**115**	P		**Pn**	**15 33 51.2**	**+0.6**
LCRUZ	**La Cruz**	**1.97**	**329**	*eP*		**Pb**	**15 33 54.5**	**-0.1**
CARN	**Rivas**	**2.02**	**333**	P		**Pn**	**15 33 53.0**	**+0.5**
BANCO	**falda S V. Bar**	**2.15**	**107**	*eP*		**Pn**	**15 33 54.0**	**-0.4**
DAP26	**falda E V. Bar**	**2.23**	**105**	*eP*		**Pn**	**15 33 56.3**	**+0.8**
PBNVO	**Pueblo Nuevo,**	**2.43**	**101**	*eP*		**Pn**	**15 33 58.5**	**+0.2**
RBAA	**Bur**	**2.47**	**101**	*eP*		**Pn**	**15 33 58.7**	**0.0**
ACON	**Acoyapa**	**2.64**	**348**	*eP*		**Pn**	**15 34 00.8**	**-0.3**
ACON	**Acoyapa**	**2.64**	**348**	S		**Sn**	**15 34 35.6**	**+2.7**
ACON	**Acoyapa**	**2.64**	**348**	P		**Pn**	**15 34 01.7**	**+0.6**
COPN	**Copaltepe**	**3.41**	**325**⇓	*iP*		**Pb**	**15 34 18.6**	**-0.4**

*IDC **26** 15:34:12.8±2.6,22.°47N×12.°51W,h0km,mb3.5/2, mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=81.9km s-min=36.7km az=68.0*

ISC 26 15:34:17.3±1.8,22.°5N±0.°2×11.°8W±0.°3,h10km,n7,σ1§17/8, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.90**	**124**	Pn	**Pn**	**15 38 03.0**	**+1.6**
	0.1nm,0.3s,baz=306,slow=14,SNR=6.2						
TORD				Sn	**S**	**15 41 10.7**	**-1.4**
	0.1nm,0.3s,baz=304,slow=21,SNR=1.6						
	0.2nm,0.4s						
DBIC	**Dimbokro**	**17.16**	**156**	P	**Pn**	**15 38 16.4**	**-0.9**
	0.4nm,0.3s,baz=332,slow=18,SNR=3.9						
DBIC				S	**Sn**	**15 41 28.7**	**+0.4**
	5.3nm,1.0s,baz=340,slow=13,SNR=2.0						
	2.0nm,0.5s						
I42PT	**GRACIOSA ISLAN**	**21.47**	**324**	I	I	17 43 40.0	
	baz=139,slow=323,SNR=2.2						
KURBB	**Kurchatov Arra**	**73.14**	**42**	P	**P**	**15 45 47.2**	**-0.8**
	0.1nm,0.3s,baz=285,slow=7.1,SNR=1.3						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**76.63**	**45**	P	**P**	**15 46 08.8**	**+0.5**
	0.3nm,0.7s,baz=305,slow=5.1,SNR=2.7						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**148.41**	**92**	PKPbc	**PKPdf**	**15 54 01.8**	**+0.5**
	0.6nm,0.9s,baz=297,slow=2.3,SNR=2.2						
ASAR	**Alice Springs**	**148.51**	**99**	PKPbc	**PKPbc**	**15 54 04.9**	**-0.2**
	0.2nm,0.8s,baz=275,slow=1.8,SNR=4.3						

*KRSC **26** 15:46:29.0±0.8,55.°34N×162.°46E,h46km±18km,Ml4.3*
*MOS **26** 15:46:30.2±0.8,55.°38N×162.°51E,h43km,mb4.5/5,Error ellipse: s-maj=7.7km s-min=4.8km az=78.3*
*NEIC **26** 15:46:34.1±1.0,55.°5N±0.°1×161.°9E±0.°2,h68km±6km, mb4.3/27,Error ellipse: s-maj=19.2km s-min=12.8km az=134.0*
*IDC **26** 15:46:35.0±2.3,55.°58N×161.°96E,h77km±21km,mb3.5/12, mbtmp3.8/15,MS2.9/4,Error ellipse: s-maj=19.6km s-min=14.1km az=117.0*

ISC 26 15:46:28.2±1.2,55.°40N±0.°02×162.°43E±0.°03,h17km±7km, n143,σ1§78/176,mb4.1/24,7C-1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.84**	**15**	PN	**Pn**	**15 46 46.4**	**+1.2**
KBTR				S	**Sn**	**15 46 59.1**	**+1.9**
KBTR	**Krutoberegovo**	**0.84**	**15**	*eP*	**Pn**	**15 46 46.4**	**+1.2**
KBTR				*eS*	**Sn**	**15 46 59.2**	**+1.9**
KBG	**Krutoberegovo**	**0.88**	**10**	PN	**Pn**	**15 46 47.6**	**+2.0**
KBG				S	**Sn**	**15 47 01.2**	**+3.3**
KBG	**Krutoberegovo**	**0.88**	**10**	*eP*	**Pn**	**15 46 47.6**	**+2.0**
KBG				*eS*	**Sn**	**15 47 01.3**	**+3.3**
MKZ	**Mys Kozlova**	**0.93**	**206**	PN	**Pb**	**15 46 45.9**	**+0.1**
MKZ				S	**Sb**	**15 46 57.7**	**-0.2**
MKZ	**Mys Kozlova**	**0.93**	**206**	*eP*	**Pb**	**15 46 46.0**	**+0.1**
MKZ				*eS*	**Sb**	**15 46 57.7**	**-0.2**
ZLN	**Zelenaya**	**1.11**	**305**	PN	**Pg**	**15 46 50.2**	**+0.6**
ZLN	**Zelenaya**	**1.11**	**305**	*eP*	**Pg**	**15 46 50.2**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.12**	**300**	PN	**Pg**	**15 46 50.3**	**+0.5**
BZGR				S	**Sg**	**15 47 04.3**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**1.12**	**300**	*eP*	**Pg**	**15 46 50.4**	**+0.5**
BZGR				*eS*	**Sg**	**15 47 04.3**	**-0.2**
TUMD	**Tumrok D**	**1.18**	**261**	PN	**Pn**	**15 46 50.6**	**+0.8**
TUMD				S	**Sb**	**15 47 05.0**	**+0.1**
TUMD	**Tumrok D**	**1.18**	**261**	*eP*	**Pn**	**15 46 50.7**	**+0.8**
TUMD				*eS*	**Sb**	**15 47 05.0**	**+0.1**
BZP	**Bezymyannyi-Pe**	**1.19**	**297**	PN	**Pg**	**15 46 51.2**	**+0.1**
BZP				S	**Sg**	**15 47 06.1**	**-0.5**
BZP	**Bezymyannyi-Pe**	**1.19**	**297**	*eP*	**Pg**	**15 46 51.3**	**+0.1**
BZP				*eS*	**Sg**	**15 47 06.2**	**-0.5**
BZMR	**Bezymyannaya**	**1.22**	**297**	PN	**Pg**	**15 46 51.7**	**0.0**
BZMR	**Bezymyannaya**	**1.22**	**297**	*eP*	**Pg**	**15 46 51.8**	**0.0**
BZWR	**Bezymyannyi-We**	**1.23**	**298**	PN	**Pg**	**15 46 52.2**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.23**	**298**	*eP*	**Pg**	**15 46 52.2**	**+0.2**
KMNR	**Kamenistaya**	**1.29**	**287**	PN	**Pg**	**15 46 53.2**	**+0.1**
KMNR				S	**Sg**	**15 47 10.0**	**0.0**
KMNR	**Kamenistaya**	**1.29**	**287**	*eP*	**Pg**	**15 46 53.3**	**+0.1**
KMNR				*eS*	**Sg**	**15 47 10.1**	**0.0**
SMKR	**Semkarok**	**1.30**	**336**	PN	**Pg**	**15 46 53.2**	**-0.1**
SMKR	**Semkarok**	**1.30**	**336**	*eP*	**Pg**	**15 46 53.3**	**-0.1**
KIRR	**Kirishev**	**1.31**	**296**	PN	**Pg**	**15 46 53.3**	**0.0**
KIRR				S	**Sg**	**15 47 10.8**	**+0.4**
KIRR	**Kirishev**	**1.31**	**296**	*eP*	**Pg**	**15 46 53.4**	**0.0**
KIRR				*eS*	**Sg**	**15 47 10.8**	**+0.4**
KLY	**Klyuchi**	**1.36**	**313**	PN	**Pb**	**15 46 52.3**	**-0.8**
KLY				S	**Sn**	**15 47 08.8**	**-1.1**
KLY	**Klyuchi**	**1.36**	**313**	*eP*	**Pb**	**15 46 52.3**	**-0.8**
KLY				*eS*	**Sn**	**15 47 08.8**	**-1.1**
KPT	**Kopyto**	**1.37**	**296**	PN	**Pg**	**15 46 54.7**	**+0.1**
KPT				S	**Sg**	**15 47 12.7**	**+0.2**
KPT	**Kopyto**	**1.37**	**296**	*eP*	**Pg**	**15 46 54.8**	**+0.1**
KPT				*eS*	**Sg**	**15 47 12.7**	**+0.2**
KOZ	**Kozyrevsk**	**1.59**	**296**	PN	**Pb**	**15 46 57.5**	**+0.5**
KOZ				S	**Sg**	**15 47 18.1**	**-1.2**
KOZ	**Kozyrevsk**	**1.59**	**296**	*eP*	**Pb**	**15 46 57.5**	**+0.5**
KOZ				*eS*	**Sg**	**15 47 18.2**	**-1.2**
SRDR	**Sredinnyy**	**1.79**	**302**	PN	**Pb**	**15 47 00.4**	**0.0**
SRDR	**Sredinnyy**	**1.79**	**302**	*eP*	**Pb**	**15 47 00.4**	**0.0**
BKI	**Bering**	**2.04**	**94**	PN	**Pb**	**15 47 02.6**	**-2.0**
BKI				S	**Sn**	**15 47 25.8**	**-0.8**
BKI	**Bering**	**2.04**	**94**	*eP*	**Pb**	**15 47 02.7**	**-2.0**
BKI				*eS*	**Sn**	**15 47 25.8**	**-0.8**
ESO	**Esso**	**2.18**	**286**	PN	**Pn**	**15 47 04.7**	**+1.1**
ESO				S	**Sn**	**15 47 30.0**	**-0.1**
ESO	**Esso**	**2.18**	**286**	*eP*	**Pn**	**15 47 04.8**	**+1.1**
ESO				*eS*	**Sn**	**15 47 30.0**	**-0.1**
SPN	**Mys Shipunski**	**2.70**	**212**	PN	**Pn**	**15 47 10.6**	**-0.1**
SPN				S	**Sn**	**15 47 41.2**	**-1.7**
SPN	**Mys Shipunski**	**2.70**	**212**	*eP*	**Pn**	**15 47 10.7**	**-0.1**
SPN				*eS*	**Sn**	**15 47 41.3**	**-1.7**
NLC	**Nalytchevo**	**2.87**	**220**	PN	**Pn**	**15 47 14.7**	**+1.7**
NLC				S	**Sn**	**15 47 46.7**	**-0.4**
NLC	**Nalytchevo**	**2.87**	**220**	*eP*	**Pn**	**15 47 14.7**	**+1.7**
NLC				*eS*	**Sn**	**15 47 46.7**	**-0.4**
SDLR	**Sedlovina**	**2.97**	**226**	PN	**Pn**	**15 47 16.5**	**+2.0**
SDLR	**Sedlovina**	**2.97**	**226**	*eP*	**Pn**	**15 47 16.5**	**+2.0**
KRER	**Koryakskii**	**3.00**	**227**	PN	**Pn**	**15 47 17.0**	**+1.9**
KRER	**Koryakskii**	**3.00**	**227**	*eP*	**Pn**	**15 47 17.0**	**+1.9**
KRX	**Arik**	**3.01**	**229**	PN	**Pn**	**15 47 17.4**	**+2.3**
KRX	**Arik**	**3.01**	**229**	*eP*	**Pn**	**15 47 17.5**	**+2.3**
SMAR	**Somma**	**3.01**	**226**	PN	**Pn**	**15 47 17.3**	**+2.1**
SMAR	**Somma**	**3.01**	**226**	*eP*	**Pn**	**15 47 17.3**	**+2.1**
AVH	**Avacha**	**3.04**	**227**	PN	**Pn**	**15 47 19.2**	**+3.8**
AVH	**Avacha**	**3.04**	**227**	*eP*	**Pn**	**15 47 19.3**	**+3.8**
UGLR	**Uglovaya**	**3.04**	**225**	PN	**Pn**	**15 47 17.9**	**+2.4**
UGLR	**Uglovaya**	**3.04**	**225**	*eP*	**Pn**	**15 47 18.0**	**+2.4**
KOK	**Koryaka**	**3.06**	**228**	PN	**Pn**	**15 47 17.3**	**+1.5**
KOK	**Koryaka**	**3.06**	**228**	*eP*	**Pn**	**15 47 17.3**	**+1.5**
DALK	**Dalny**	**3.20**	**224**	PN	**Pn**	**15 47 19.3**	**+1.7**
DALK				S	**Sn**	**15 47 54.9**	**-0.5**
DALK	**Dalny**	**3.20**	**224**	*eP*	**Pn**	**15 47 19.3**	**+1.7**
DALK				*eS*	**Sn**	**15 47 54.9**	**-0.5**
INSR	**Institute**	**3.24**	**225**	PN	**Pn**	**15 47 21.5**	**+3.4**
INSR	**Institute**	**3.24**	**225**	*eP*	**Pn**	**15 47 21.5**	**+3.4**
PET	**Petropavlovsk**	**3.25**	**225**		**Pn**	**15 47 20.2**	**+1.9**
PET	**Petropavlovsk**	**3.25**	**225**	*ePN*	**Pn**	**15 47 20.7**	**+2.4**
PET				*eS*	**Sn**	**15 47 59.4**	**+2.9**
PET				pmax	pmax		
	comp=Z,182nm,0.5s						
PET				smax	smax		
	comp=N,675nm,0.7s						
PET				smax	smax		
	comp=E,450nm,0.7s						
PET	**Petropavlovsk**	**3.25**	**225**	*eP*	**Pn**	**15 47 20.7**	**+2.4**
PET				*eS*	**Sn**	**15 47 58.3**	**+1.9**
PEA0B	**Petropavlovsk-**	**3.60**	**232**		**Pn**	**15 47 25.3**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.60**	**232**⇑	*ePN*	**Pn**	**15 47 24.9**	**+1.8**
PETK	**Petropavlovsk-**	**3.60**	**232**		**Pn**	**15 47 25.8**	**+2.7**
PETK	**Petropavlovsk-**	**3.60**	**232**	P	**Pn**	**15 47 25.6**	**+2.5**
	comp=E,8.8nm,0.5s,baz=70,slow=14,SNR=112						
PETK				S	**Sn**	**15 48 08.4**	**+3.3**
	comp=E,30nm,0.7s,baz=81,slow=32,SNR=7.6						
PETK				LR	LR	15 49 05.7	
	comp=E,110nm,18.5s,baz=95,slow=43						
GRL	**Gorelyy**	**3.84**	**224**	PN	**Pn**	**15 47 29.8**	**+3.3**
GRL				S	**Sn**	**15 48 13.6**	**+2.4**
GRL	**Gorelyy**	**3.84**	**224**	*eP*	**Pn**	**15 47 29.8**	**+3.3**
GRL				*eS*	**Sn**	**15 48 13.7**	**+2.4**
MTVR	**Mutnovka**	**3.85**	**222**	PN	**Pn**	**15 47 29.3**	**+2.7**
MTVR	**Mutnovka**	**3.85**	**222**	*eP*	**Pn**	**15 47 29.3**	**+2.7**
OSSR	**Ossora**	**3.88**	**5**	PN	**Pn**	**15 47 29.4**	**+2.5**
OSSR				S	**Sn**	**15 48 13.6**	**+1.6**
OSSR	**Ossora**	**3.88**	**5**	*eP*	**Pn**	**15 47 29.4**	**+2.5**
OSSR				*eS*	**Sn**	**15 48 13.7**	**+1.6**
PALN	**Palana**	**3.94**	**341**	PN	**Pb**	**15 47 32.9**	**-4.1**
PALN	**Palana**	**3.94**	**341**	*eP*	**Pb**	**15 47 32.9**	**-4.1**
APC	**Apacha**	**3.96**	**234**	PN	Pn	15 47 33.0	+4.9
APC	**Apacha**	**3.96**	**234**	*eP*	Pn	15 47 33.1	+4.9
ASAK	**Asacha**	**4.04**	**223**	PN	**Pn**	**15 47 32.0**	**+2.9**
ASAK				S	**Sn**	**15 48 17.3**	**+1.3**
ASAK	**Asacha**	**4.04**	**223**	*eP*	**Pn**	**15 47 32.1**	**+2.9**
ASAK				*eS*	**Sn**	**15 48 17.4**	**+1.3**
SKR	**Severo-Kuril's**	**6.06**	**221**⇑	*ePN*	**Pn**	**15 47 55.9**	**-1.0**
SHEM	**Shemya Is, Ala**	**7.37**	**106**	LR	LR	15 50 20.7	
	comp=E,45nm,19.4s,baz=301,slow=29						
MA2	**Magadan**	**7.55**	**308**	P	**Pn**	**15 48 19.5**	**+2.2**
	comp=E,2.1nm,0.8s,baz=193,slow=17,SNR=2.0						
YSS	**Yuzhno-Sakhali**	**14.91**	**244**	*eP*	**Pn**	**15 49 56.4**	**-1.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
JKA	**Kamikawa-asahi**	**17.00**	**237**	P	**Pn**	**15 50 26.2**	**+1.3**
ASAJ	**Asahikawa**	**17.00**	**237**	P	**Pn**	**15 50 25.9**	**+0.9**
	comp=Z,27nm,0.7s,baz=65,slow=19,SNR=4.1						
YAK	**Yakutsk**	**18.10**	**305**⇓	*eP*	**P**	**15 50 42.3**	**+3.6**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ERM	**Erimo**	**18.38**	**231**	P	**P**	**15 50 40.9**	**-1.0**
ERM				IAmb	IAmb	15 51 19.3	
	comp=Z,27nm,1.1s						
ERM	**Erimo**	**18.38**	**231**⇑	*eP*	**P**	**15 50 40.7**	**-1.2**
K15K	**Wolf Creek Mou**	**19.66**	**55**	P	**Pn**	**15 50 58.8**	**+1.4**
K15K				IAmb	IAmb	15 51 42.6	
	comp=Z,14nm,1.4s						
N15K	**Kwethluk River**	**20.34**	**61**	P	Pn	15 51 06.5	+1.1
N15K				IAmb	IAmb	15 51 20.2	
	comp=Z,8.3nm,1.1s						
O15K	**Ungalikthiuk R**	**20.56**	**64**	P	Pn	15 51 08.4	+0.6
O15K				IAmb	IAmb	15 51 25.2	
	comp=Z,14nm,1.2s						
E18K	**Tukpahlearik C**	**21.00**	**40**	P	Pn	15 51 11.9	-1.0
C18K	**Utukok River**	**21.18**	**37**	P	**P**	**15 51 14.9**	**+2.6**
C18K				IAmb	IAmb	15 51 50.4	
	comp=Z,23nm,1.4s						
G18K	**Tagagawik**	**21.39**	**45**	P	**P**	**15 51 18.1**	**+3.6**
G18K				IAmb	IAmb	15 51 53.2	
	comp=Z,9.2nm,1.4s						
TIXI	**Tiksi**	**21.63**	**332**	P	**P**	**15 51 14.8**	**-2.2**
	comp=Z,4.1nm,0.5s,baz=79,slow=8.1,SNR=3.7						
	comp=Z,4.1nm,0.5s						
TIXI	**Tiksi**	**21.63**	**332**⇑	*eP*	**P**	**15 51 18.5**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
F19K	**Shaleruckik Mo**	**21.92**	**43**	P	**P**	**15 51 23.0**	**+2.8**
K20K	**Telida**	**23.12**	**52**	P	**P**	**15 51 34.5**	**+1.5**
MAJO	**Matsushiro**	**25.06**	**231**⇑	*eP*	**P**	**15 51 51.5**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,14nm,1.6s						
MJAR	**Matsushiro Arr**	**25.06**	**231**	P	**P**	**15 51 51.1**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=16,slow=9.2,SNR=4.1						
MJAR				LR	LR	16 00 57.0	
	comp=Z,40nm,21.8s,baz=289,slow=34						
	comp=Z,2.1nm,0.5s						
H23K	**Yukon River**	**25.10**	**46**	P	**P**	**15 51 52.8**	**+1.3**
H23K				IAmb	IAmb	15 52 15.2	
	comp=Z,10nm,1.4s						
RC01	**Rabbit Creek A**	**25.32**	**57**	P	**P**	**15 51 56.4**	**+2.8**
RC01				IAmb	IAmb	15 52 16.4	
	comp=Z,21nm,1.3s						
ILAR	**Eielson Array**	**26.24**	**49**	P	**P**	**15 52 02.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=279,slow=8.0,SNR=5.0						
	comp=Z,0.5nm,0.7s						
BCAR	**Beaver Creek A**	**28.68**	**52**	P	**P**	**15 52 25.6**	**+1.8**
M29M	**Somme Creek**	**30.31**	**52**	P	**P**	**15 52 40.0**	**+1.7**
DLBC	**Dease Lake**	**35.60**	**57**	LR	LR	16 07 51.1	
	comp=Z,48nm,18.9s,baz=257,slow=36						
H11N2	**WAKE ISLAND Hy**	**35.77**	**173**	T	T	16 30 52.8	
	baz=355,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**35.78**	**173**	T	T	16 30 54.1	
	baz=355,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**35.78**	**173**	T	T	16 30 54.2	
	baz=355,slow=76,SNR=19						
GUMO	**Guam**	**43.89**	**205**	P	**P**	**15 54 33.1**	**-0.6**
GUMO	**Guam**	**43.89**	**205**	P	**P**	**15 54 33.1**	**-0.6**
SPITS	**Spitsbergen Ar**	**45.08**	**351**	P	**P**	**15 54 42.2**	**-0.4**
KURK	**Kurchatov**	**47.69**	**301**	P	**P**	**15 55 00.3**	**-3.0**
KURK				IAmb	IAmb	15 55 04.7	
	comp=Z,4.4nm,1.4s						
KURK	**Kurchatov**	**47.69**	**301**⇑	*eP*	**P**	**15 55 03.9**	**+0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KURBB	**Kurchatov Arra**	**47.80**	**301**	P	**P**	**15 55 01.5**	**-2.6**
	comp=Z,0.5nm,0.5s,baz=56,slow=7.7,SNR=4.3						
KURBB				PcP	**PcP**	**15 56 30.1**	**-2.7**
	comp=Z,0.2nm,0.4s,baz=47,slow=3.3,SNR=3.2						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**48.40**	**295**	P	**P**	**15 55 06.0**	**-3.0**
	comp=Z,0.2nm,0.4s,baz=49,slow=8.1,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**48.40**	**295**	P	**P**	**15 55 06.0**	**-3.0**
BVAR	**Borovoye Array**	**50.04**	**308**	P	**P**	**15 55 19.1**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=40,slow=8.9,SNR=3.5						
BVAR				PcP	**PcP**	**15 56 38.7**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=45,slow=2.2,SNR=2.2		

WSI	**Waingapu**	**1.46**	**154**	P	**Pn**	**17 01 27.8**	**+1.4**
WSI				S	**Sn**	**17 01 50.7**	**-0.2**
PLAI	**Plampang**	**1.90**	**256**	P	**Pn**	**17 01 32.4**	**+1.6**
PLAI	**Plampang**	**1.90**	**256**	S	**Sn**	**17 02 00.2**	**+1.5**
PLAI	**Plampang**	**1.90**	**256**	P	**Pn**	**17 01 31.6**	**+0.8**
PLAI				S	**Sn**	**17 01 58.9**	**+0.2**
EDFI	**Ende, Flores**	**2.06**	**101**	P	**Pn**	**17 01 33.0**	**+0.3**
EDFI				S	**Sn**	**17 02 01.8**	**-0.3**
BASI	**Baing, Sumba**	**2.07**	**154**	P	**Pn**	**17 01 34.8**	**+2.2**
BASI				S	**Sn**	**17 02 02.5**	**+0.4**
BSSI	**Bau Bau, Buton**	**2.35**	**21**	P	**Pn**	**17 01 35.9**	**0.0**
MMRI	**Maumere**	**2.58**	**96**	S	**Sn**	**17 02 12.6**	**+0.1**
BKSI	**Bulukumba**	**3.05**	**9**	P	**Pn**	**17 01 44.6**	**+0.5**
BKSI				S	**Sn**	**17 02 22.0**	**-0.6**
KAPI	**Kappang**	**3.32**	**2**	Pn	Pn	17 01 41.0	-6.4
KAPI	**Kappang**	**3.32**	**2**	P	**Pn**	**17 01 49.2**	**+1.8**
	25nm,0.4s,baz=171,slow=7.3,SNR=8.7						
BNSI	**Bone**	**3.96**	**7**	P	**Pn**	**17 01 56.1**	**+0.7**
BBSI	**Bau Bau**	**4.07**	**46**	P	**Pn**	**17 01 57.6**	**+0.7**
BATI	**Baumata**	**4.38**	**115**	P	**Pn**	**17 02 02.6**	**+1.9**
	39nm,0.3s,baz=277,slow=3.4,SNR=57						
BATI				S	**Sn**	**17 02 48.5**	**-4.0**
	40nm,0.4s,baz=288,slow=20,SNR=4.1						
BATI	**Baumata**	**4.38**	**115**	P	**Pn**	**17 02 02.3**	**+1.5**
BATI				S	**Sn**	**17 02 53.4**	**+0.9**
DNP	**Denpasar**	**4.39**	**265**	P	**Pn**	**17 02 02.4**	**+1.5**
DNP				S	**Sn**	**17 02 54.1**	**+1.3**
SOEI	**Soe**	**4.78**	**107**		**Pn**	**17 02 05.7**	**-0.3**
SOEI	**Soe**	**4.78**	**107**	P	**Pn**	**17 02 07.6**	**+1.6**
SOEI	**Soe**	**4.78**	**107**	S	**Sn**	**17 03 03.4**	**+1.5**
SOEI	**Soe**	**4.78**	**107**	P	**Pn**	**17 02 07.2**	**+1.2**
SOEI				S	**Sn**	**17 03 03.4**	**+1.5**
JAGI	**Jajag, Banyuwa**	**5.43**	**268**	Pn	**Pn**	**17 02 12.5**	**-1.9**
JAGI				Sn	**Sn**	**17 03 12.8**	**-4.2**
JAGI	**Jajag, Banyuwa**	**5.43**	**268**	P	**Pn**	**17 02 14.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**5.43**	**268**	P	**Pn**	**17 02 15.3**	**+0.9**
	0.3nm24nm,1.2s						
GMJI	**Gumukmas**	**6.13**	**270**	P	**Pn**	**17 02 25.2**	**+1.6**
	0.1nm28nm,1.4s						
PCJI	**Pacitan**	**8.38**	**270**	P	**Pn**	**17 02 54.4**	**+1.3**
UGM	**Wanagama**	**9.04**	**272**	Pn	**Pn**	**17 03 00.1**	**-1.8**
UGM	**Wanagama**	**9.04**	**272**	P	**Pn**	**17 03 02.2**	**+0.4**
UGM	**Wanagama**	**9.04**	**272**	S	**Sn**	**17 04 42.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.31**	**150**	Pn	**Pn**	**17 03 32.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**11.31**	**150**	P	**Pn**	**17 03 32.3**	**+1.0**
	1.6nm,0.4s,baz=319,slow=6.6,SNR=29						
FITZ				S	**Sn**	**17 05 30.9**	**-6.1**
	4.2nm,0.4s,baz=254,slow=15,SNR=7.5						
KNRA	**Kununurra**	**11.51**	**130**		**Pn**	**17 03 33.5**	**-0.4**
KNRA					**Sn**	**17 05 35.7**	**-6.3**
SAUI	**Saumlaki**	**11.55**	**89**	Pn	Pn	17 03 30.0	-4.5
SAUI	**Saumlaki**	**11.55**	**89**	P	**Pn**	**17 03 34.5**	**0.0**
DRS	**Darwin Rock St**	**11.79**	**111**	P	**Pn**	**17 03 38.5**	**+0.9**
MTN	**Manton Dam**	**12.14**	**113**		**Pn**	**17 03 41.2**	**-0.6**
MTN	**Manton Dam**	**12.14**	**113**	P	**Pn**	**17 03 42.4**	**+0.2**
KDU	**Kakadu**	**13.33**	**110**	P	**Pn**	**17 03 57.9**	**+0.7**
FAKI	**Fak Fak**	**13.66**	**67**	Pn	**Pn**	**17 03 59.7**	**-1.6**
FAKI	**Fak Fak**	**13.66**	**67**	P	**Pn**	**17 04 01.5**	**+0.2**
DAV	**Davao City (W)**	**16.43**	**21**	LR	LR	17 12 19.9	
	comp=Z,63nm,21.1s,baz=228,slow=42						
WB0	**Warramunga Arr**	**18.24**	**130**	P	**P**	**17 04 55.3**	**+0.6**
WB0				IAmb	IAmb	17 04 59.6	
	comp=Z,8.4nm,1.2s						
WRA	**Warramunga Arr**	**18.31**	**131**	P	**P**	**17 04 55.0**	**-0.4**
WRA	**Warramunga Arr**	**18.31**	**131**	P	**P**	**17 04 56.0**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=303,slow=13,SNR=26						
WRA				S	**S**	**17 08 17.3**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=306,slow=24,SNR=7.4						
WR8	**Warramunga Arr**	**18.44**	**130**	P	**P**	**17 04 57.5**	**+0.7**
WR8				IAmb	IAmb	17 05 00.3	
	comp=Z,5.4nm,0.6s						
AS31	**Alice Springs**	**20.46**	**140**	P	**P**	**17 05 19.0**	**+0.4**
AS31				IAmb	IAmb	17 05 22.6	
	comp=Z,2.8nm,0.2s						
ASAR	**Alice Springs**	**20.46**	**140**	P	**P**	**17 05 19.8**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=314,slow=9.7,SNR=101						
ASAR				S	**S**	**17 08 57.0**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=315,slow=19,SNR=8.9						
	comp=Z,1.2nm,0.4s						
AS01	**Alice Springs**	**20.49**	**140**	P	**P**	**17 05 20.4**	**+1.5**
QIS	**Mount Isa**	**22.79**	**124**	P	**P**	**17 05 43.7**	**+1.6**
COEN	**Coen**	**23.74**	**106**	P	**P**	**17 05 50.8**	**0.0**
COEN				IAmb	IAmb	17 05 53.4	
	comp=Z,9.6nm,0.8s						
COEN	**Coen**	**23.74**	**106**	P	**P**	**17 05 52.5**	**+1.7**
BBOO	**Buckleboo**	**28.70**	**150**	P	**P**	**17 06 36.5**	**+1.3**
BBOO				IAmb	IAmb	17 07 02.0	
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**28.70**	**150**	P	**P**	**17 06 36.4**	**+1.3**
STKA	**Stephens Creek**	**31.05**	**142**	P	**P**	**17 06 57.0**	**+1.0**
STKA	**Stephens Creek**	**31.05**	**142**	P	**P**	**17 06 57.6**	**+1.7**
	comp=Z,1.4nm,0.5s,baz=325,slow=7.6,SNR=6.3						
	comp=Z,1.4nm,0.5s						
STKA	**Stephens Creek**	**31.05**	**142**	P	**P**	**17 06 57.2**	**+1.3**
SONM	**Songino Array**	**57.16**	**349**	P	**P**	**17 10 22.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=168,slow=7.4,SNR=1.9						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**64.18**	**332**	P	**P**	**17 11 10.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=148,slow=6.9,SNR=8.6						
	comp=Z,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**68.67**	**339**	P	**P**	**17 11 37.6**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=139,slow=5.2,SNR=6.9						
	comp=Z,1.1nm,0.4s						

IDC ***26*** *17:04:51.5±1.1,3˙.60S×140˙.11E, h0km, mb3.6/3, mbtmp3.9/5, ML4.3/1, MS2.8/1, Error ellipse: s-maj=29.9km s-min=11.3km az=115.0*

DJA ***26*** *17:04:51.2±0.6,4˙S±3˙×14˙1E±˙, h10km, M4.5/6, mb4.8/2, MLv4.3/6*

ISC 26 17:04:54.0±1.0,3˙.80S±0˙.05×140˙.62E±0˙.08, h35km, n14, σ1§11/17, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.28**	**4**	Pg		**Pn**		**17 05 15.5**	**-0.1**
	15nm,0.3s,baz=208,slow=13,SNR=79								
JAY				Lg		Lg		17 05 30.6	
	41nm,0.3s,baz=206,slow=16,SNR=9.2								
JAY	**Jayapura**	**1.28**	**4**	P		**Pn**		**17 05 15.1**	**-0.5**
JAY				S		**Sn**		**17 05 32.0**	**+0.5**
GENI	**Genyem**	**1.28**	**339**	P		**Pn**		**17 05 14.4**	**-1.1**
GENI				S		**Sn**		**17 05 30.8**	**-0.7**
SMPI	**Sarmi**	**2.62**	**313**	P		**Pn**		**17 05 33.5**	**-0.5**
SMPI				S		**Sn**		**17 06 05.5**	**+0.9**
MMPI	**Merauke**	**4.64**	**183**	P		**Pn**		**17 06 01.6**	**-0.1**
SRPI	**Serui, Papua**	**4.78**	**294**	P		**Pn**		**17 06 04.0**	**+0.4**
SRPI				S		**Sn**		**17 06 58.7**	**+0.9**
BAKI	**Biak**	**5.20**	**300**	P		**Pn**		**17 06 08.4**	**-1.0**
PMG	**Port Moresby**	**8.55**	**131**	Pn		Pn		17 07 04.6	+9.1
	15nm,0.6s,baz=311,slow=9.3,SNR=9.0								
WRA	**Warramunga Arr**	**17.17**	**200**	P		**P**		**17 08 52.6**	**-0.1**
	1.0nm,0.3s,baz=21,slow=12,SNR=12								
WRA				S		**S**		**17 12 06.8**	**-3.1**
	0.7nm,0.7s,baz=13,slow=22,SNR=2.3								
WRA				Lg		Lg		17 13 48.9	
	0.2nm,0.3s,baz=9.7,slow=27,SNR=5.1								
	2.3nm,0.4s								
GUMO	**Guam**	**17.79**	**14**	LR		LR		17 14 38.9	
	comp=Z,33nm,21.9s,baz=217,slow=33								
FITZ	**Fitzroy Crossi**	**20.42**	**225**	P		**P**		**17 09 28.1**	**-0.3**
	1.1nm,0.4s,baz=57,slow=10.0,SNR=3.9								
	1.1nm,0.4s								
ASAR	**Alice Springs**	**20.79**	**198**	P		**P**		**17 09 33.8**	**+1.4**
	4.6nm,0.7s,baz=28,slow=9.9,SNR=48								
ASAR				Lg		Lg		17 15 46.0	
	0.1nm,0.3s,baz=16,slow=31,SNR=4.4								
	4.6nm,0.7s								
MKAR	**Makanchi Array**	**71.82**	**322**	P		**P**		**17 16 14.0**	**+0.7**
	0.1nm,0.5s,baz=100,slow=7.7,SNR=2.4								
	0.1nm,0.5s								
LPAZ	**La Paz**	**145.26**	**126**	PKPbc		**PKiKP**		**17 24 34.1**	**+0.2**
	1.3nm,0.7s,baz=228,slow=1.2,SNR=6.0								

SSNC ***26*** *17:13:37.4±2.9, 19˚.49N×70˚.60W, h120km±153km, MD3.7, ML3.3*

OSPL ***26*** *17:13:42.5±2.3, 19˚.75N×70˚.72W, h0km±13km, ML2.9*

SDD ***26*** *17:13:42.2±2.2, 19˚.76N×70˚.76W, h23km±9km, MD3.4, ML3.0, MW3.4*

ISC 26 17:13:40.7±0.9, 19˚.76N±0˚.03×70˚.75W±0˚.03, h27km±5km, n29, σ1§03/46, 14C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.17**	**91**	⇑*e*Pg		**Pb**		**17 13 45.8**	**-0.4**
SODR				⇓*e*Sg		**Sn**		**17 13 50.8**	**+0.9**
SODR				IAML				17 14 00.5	
	comp=E,2μm,0.3s								
SODR				IAML				17 14 00.6	
	comp=N,2μm,0.7s								
LUDR	**Luperon**	**0.23**	**306**	⇓*e*Pg		**Pb**		**17 13 47.1**	**+0.1**
LUDR				IAML				17 13 57.0	
	comp=E,3μm,0.2s								
SC01	**Santiago de lo**	**0.33**	**176**	*i* P		**Pb**		**17 13 47.6**	**-0.7**
SC01				*e*S		**Sb**		**17 13 52.5**	**-1.0**
SC01	**Santiago de lo**	**0.33**	**176**	*e*Pg		**Pb**		**17 13 47.6**	**-0.7**
SC01				⇑*e*Sg		**Sb**		**17 13 53.6**	**+0.1**
SC01				IAML				17 13 56.8	
	comp=N,806nm,0.3s								
SC01				IAML				17 13 59.0	
	comp=E,714nm,0.2s								
LOPP1	**Punta Rusia, P**	**0.43**	**283**	*i* P		**Pb**		**17 13 50.2**	**+0.4**
LOPP1				*e*S		**Sb**		**17 13 57.2**	**+1.0**
LOPP1				IAML				17 13 59.9	
	comp=Z,548nm,1.0s								
SFDR	**San Fco. de Ma**	**0.67**	**134**	*e*Sg		**Sn**		**17 14 04.9**	**+0.9**
SFDR				IAML				17 14 06.5	
	comp=N,672nm,0.7s								
SFDR				IAML				17 14 06.6	
	comp=E,794nm,0.4s								
CADR	**Cabrera**	**0.77**	**96**	⇑*e*Sg		**Sn**		**17 14 07.9**	**+1.4**
CADR				IAML				17 14 09.2	
	comp=N,388nm,0.6s								
CADR				IAML				17 14 17.7	
	comp=E,301nm,0.3s								
MCDR	**Montecristi**	**0.86**	**279**	*e*Pg		**Pb**		**17 13 57.8**	**+0.7**
MCDR				IAML				17 14 16.1	
	comp=N,464nm,0.3s								
MCDR				IAML				17 14 16.9	
	comp=E,388nm,0.1s								
ABDR	**Alto Bandera**	**0.95**	**173**	⇑*e*Pg		**Pn**		**17 13 57.5**	**-1.1**
ABDR				IAML				17 14 12.8	
	comp=E,255nm,0.2s								
ABDR				IAML				17 14 13.3	
	comp=N,223nm,0.3s								
DR08	**Loma La Naviza**	**1.05**	**139**	⇓*e*Pg		**Pb**		**17 14 00.4**	**+0.2**
DR08				IAML				17 14 17.7	
	comp=N,2μm,0.1s								
BANI	**BANI**	**1.41**	**165**	⇑*e*Pg		**Pb**		**17 14 06.0**	**-0.4**
BANI				⇑*e*Sg		**Sb**		**17 14 25.6**	**+1.7**
BANI				IAML				17 14 27.5	
	comp=E,284nm,0.5s								
BANI				IAML				17 14 33.8	
	comp=N,234nm,0.3s								
SMDR	**Samana, DR**	**1.55**	**107**	⇑*e*Pg		**Pb**		**17 14 08.6**	**-0.1**
SMDR				⇑*e*Sg		**Sb**		**17 14 29.2**	**+1.4**
SMDR				IAML				17 14 32.9	
	comp=E,93nm,0.5s								
SMDR				IAML				17 14 39.6	
	comp=N,142nm,0.8s								
LODU1	**El Espartillar**	**1.55**	**206**	*i* P		**Pb**		**17 14 08.7**	**-0.1**
LODU1				IAML				17 14 31.0	
	comp=Z,441nm,0.4s								
HATOM	**Hato Mayor del**	**1.61**	**126**	⇑*e*Pg		**Pb**		**17 14 09.0**	**-0.8**
HATOM				IAML				17 14 31.8	
	comp=E,176nm,0.3s								
HATOM				IAML				17 14 32.2	
	comp=N,112nm,0.7s								
JIDR	**Jimani**	**1.63**	**220**	*e*Pg		**Pb**		**17 14 09.9**	**-0.2**
JIDR				⇑*e*Sg		**Sb**		**17 14 32.5**	**+2.2**
JIDR				IAML				17 14 32.8	
	comp=N,232nm,0.5s								
JIDR				IAML				17 14 34.0	
	comp=E,205nm,0.3s								
PODR	**Polo**	**1.66**	**198**	*i* P		**Pb**		**17 14 10.2**	**-0.5**
PODR				*e*S		**Sb**		**17 14 33.3**	**+2.1**
PODR	**Polo**	**1.66**	**198**	⇓*e*Pg		**Pb**		**17 14 11.3**	**+0.7**
PODR				IAML				17 14 35.6	
	comp=N,183nm,0.7s								
PODR				IAML				17 14 38.8	
	comp=E,201nm,0.3s								
MIDR	**Miches**	**1.78**	**115**	*e*Pg		**Pb**		**17 14 12.4**	**-0.3**
MIDR				⇑*e*Sg		**Sb**		**17 14 35.6**	**+1.0**
MIDR				IAML				17 14 36.0	
	comp=E,111nm,0.7s								
MIDR				IAML				17 14 37.3	
	comp=N,51nm,0.2s								
MIDR				IAML				17 14 37.3	
	comp=N,51nm,0.2s								
GRTK	**Grand Turk**	**1.78**	**349**	⇓*e*P		**Pb**		**17 14 11.8**	**-0.9**
GRTK				*e*S		**Sb**		**17 14 35.9**	**+1.2**
GRTK				IAML				17 14 37.6	
	comp=N,176nm,0.2s								
GRTK				IAML				17 14 38.7	
	comp=N,157nm,0.4s								
GRTK	**Grand Turk**	**1.78**	**349**	*i* P		**Pb**		**17 14 11.8**	**-0.9**
GRTK				*e*S		**Sb**		**17 14 36.2**	**+1.5**
GRTK				IAML				17 14 38.9	
	comp=Z,96nm,0.3s								
GRTK	**Grand Turk**	**1.78**	**349**	*e*Pg		**Pb**		**17 14 12.2**	**-0.5**
GRTK				⇑*e*Sg		**Sb**		**17 14 36.2**	**+1.5**
GRTK				IAML				17 14 36.7	
	comp=N,131nm,0.2s								
GRTK				IAML				17 14 37.6	
	comp=E,180nm,0.2s								
PAPH	**Port-au-Prince**	**1.91**	**230**	*i* P		**Pb**		**17 14 14.6**	**-0.3**
LOVI	**El Cajuil, Ovi**	**2.03**	**197**	*i* P		**Pb**		**17 14 16.7**	**-0.3**
LOVI				IAML				17 14 50.6	
	comp=Z,96nm,1.4s								
LOBH	**Bahia de las A**	**2.06**	**204**	*i* P		**Pb**		**17 14 17.2**	**-0.2**
LOBH				IAML				17 14 56.2	
	comp=Z,95nm,2.7s								
HIDR	**Higuey Centro**	**2.25**	**121**	⇑*e*Pg		**Pb**		**17 14 19.3**	**-1.3**
HIDR				IAML				17 14 48.6	
	comp=E,144nm,0.3s								
HIDR				⇑*e*Sg		**Sb**		**17 14 48.9**	**+1.0**
HIDR				IAML				17 14 49.5	
	comp=N,221nm,0.3s								
MASC	**Masc**	**3.30**	**278**	*e*P		**Pn**		**17 14 29.7**	**-0.8**
MASC				*e*S		**Sn**		**17 15 09.4**	**+0.6**
MASC				IAML				17 15 25.6	
	comp=E,32nm,0.5s								
MASC				IAML				17 15 27.7	
	comp=N,20nm,0.3s								
QMBU	**Quimbuelo**	**3.84**	**277**	*e*P		**Pn**		**17 14 37.2**	**-0.9**
QMBU				*e*S		**Sn**		**17 15 23.0**	**+0.6**
QMBU				*e*Sg		**Sb**		**17 15 32.3**	**-1.6**
QMBU				IAML				17 15 38.0	
	comp=E,28nm,0.3s								
QMBU				IAML				17 15 42.9	
	comp=N,21nm,0.3s								
NMDO	**Nuevo Mundo**	**4.05**	**282**	*e*P		**Pn**		**17 14 40.2**	**-0.8**
NMDO				*e*S		**Sn**		**17 15 27.0**	**-0.5**
PINC	**Pinares de May**	**4.79**	**280**	*e*P		**Pn**		**17 14 49.5**	**-1.6**

JMA ***26*** *17:25:57.4±0.2,24˚N±1˚×122˚.4E±0˚.6, h27km, MV3.0/13, NEAR ISHIGAKIJIMA ISLAND*

TAP ***26*** *17:25:58.1,23˚.84N×122˚.44E, h31km, ML3.4, C*

ISC 26 17:25:57.5±1.0,23˚.78N±0˚.02×122˚.44E±0˚.02, h29km±9km, n132, σ0§99/232, 4C-24D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.35**	**341**	⇑*i*P		**Pb**		**17 26 05.4**	**+0.1**
EOS4				*i*S		**Sb**		**17 26 10.9**	**+0.3**
EOS3	**EOS3**	**0.51**	**347**	⇑*i*P		**Pn**		**17 26 08.4**	**-0.3**
EOS3				S		**Sn**		**17 26 15.9**	**-0.6**
EOS2	**EOS2**	**0.66**	**343**	⇑*i*P		**Pn**		**17 26 11.2**	**+0.4**
EOS2				*e*S		**Sn**		**17 26 21.0**	**+0.9**
TEYL	**Yanliau Villag**	**0.78**	**276**	*e*P		**Pb**		**17 26 12.2**	**-0.3**
TEYL				*e*S		**Sb**		**17 26 22.8**	**+0.1**
JYNG	**Yonagunijimaku**	**0.81**	**35**	P		**Pn**		**17 26 12.6**	**-0.2**
JYNG				*e*S		**Sb**		**17 26 22.5**	**-1.0**
SHUL	**Shoufeng**	**0.81**	**270**	P		**Pn**		**17 26 12.8**	**-0.1**
SHUL				S		**Sb**		**17 26 23.9**	**+0.4**
TWD	**Chiawan**	**0.83**	**291**	P		**Pn**		**17 26 12.5**	**-0.7**
TWD				*e*S		**Sb**		**17 26 23.2**	**-0.9**
ETL	**Fush Village**	**0.84**	**297**	*e*P		**Pn**		**17 26 12.9**	**-0.5**
ETL				*e*S		**Sb**		**17 26 24.2**	**-0.3**
EAHA	**Aohua**	**0.84**	**310**	*e*P		**Pn**		**17 26 13.5**	**+0.1**
EAHA				S		**Sn**		**17 26 25.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.85**	**37**	P		**Pn**		**17 26 13.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.85**	**37**	⇑*i*P		**Pn**		**17 26 13.3**	**-0.1**
YOJ				*e*S		**Sb**		**17 26 24.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.85**	**37**	P		**Pn**		**17 26 13.6**	**+0.1**
YOJ				S		**Sb**		**17 26 24.3**	**-0.5**
NACB	**Ninganchiao**	**0.87**	**297**	P		**Pn**		**17 26 13.1**	**-0.7**
NACB	**Ninganchiao**	**0.87**	**297**	⇓P		**Pn**		**17 26 13.0**	**-0.7**
NACB				*e*S		**Sb**		**17 26 23.6**	**-1.6**
ETM	**Tongmen**	**0.89**	**282**	P		**Pn**		**17 26 13.4**	**-0.6**
ETM				*e*S		**Sb**		**17 26 24.9**	**-1.0**
EWUT	**Wuta**	**0.90**	**317**	*e*P		**Pn**		**17 26 14.2**	**+0.1**
EWUT				*e*S		**Sb**		**17 26 25.6**	**-0.5**
ENA	**Nanau**	**0.91**	**315**	*e*P		**Pn**		**17 26 14.4**	**+0.2**
ENA				*e*S		**Sb**		**17 26 25.9**	**-0.5**
ESL	**Shilin**	**0.93**	**272**	⇓P		**Pn**		**17 26 13.8**	**-0.7**
ESL				*e*S		**Sn**		**17 26 25.6**	**-1.3**
EGFH	**Guangfu**	**0.94**	**263**	*e*P		**Pn**		**17 26 14.5**	**-0.2**
EGFH				*e*S		**Sn**		**17 26 26.9**	**-0.3**
ESAO	**Su ao**	**0.96**	**325**	*e*S		**Sn**		**17 26 27.2**	**-0.5**
WARBT	**Fenglin Townsh**	**0.97**	**266**	⇓P		**Pn**		**17 26 14.5**	**-0.6**
WARBT				*e*S		**Sn**		**17 26 26.8**	**-1.2**
LXIB	**Xiulin Townshi**	**0.97**	**284**	⇓P		**Pn**		**17 26 14.8**	**-0.5**
LXIB				*e*S		**Sn**		**17 26 27.6**	**-0.6**
ETLH	**Xiulin Townshi**	**0.97**	**296**	*e*P		**Pn**		**17 26 14.8**	**-0.4**
ETLH				*e*S		**Sn**		**17 26 27.1**	**-1.1**
HGSD	**Ruisui**	**0.98**	**253**	⇓P		**Pn**		**17 26 14.9**	**-0.3**
HGSD				*e*S		**Sn**		**17 26 27.4**	**-0.8**
TWC	**Suao**	**0.98**	**327**	*e*P		**Pn**		**17 26 15.5**	**+0.2**
TWC				*e*S		**Sn**		**17 26 27.4**	**-0.9**
ECBN	**Changbin**	**1.02**	**243**	⇓P		**Pn**		**17 26 16.0**	**+0.1**
ECBN				*e*S		**Sn**		**17 26 28.8**	**-0.4**
EHYH	**Wanrong**	**1.05**	**254**	*e*P		**Pn**		**17 26 16.6**	**+0.4**
EHYH				*e*S		**Sn**		**17 26 30.1**	**+0.2**
EHY	**Hungye**	**1.06**	**255**	⇓P		**Pn**		**17 26 16.5**	**0.0**
EHY				*e*S		**Sn**		**17 26 29.6**	**-0.7**
EYUL	**Yuli**	**1.12**	**247**	⇓P		**Pn**		**17 26 17.6**	**+0.4**
EYUL				*e*S		**Sn**		**17 26 32.4**	**+0.8**
YULB	**Yu-li**	**1.12**	**250**	P		**Pn**		**17 26 17.4**	**+0.2**
YULB	**Yu-li**	**1.12**	**250**	⇓*i*P		**Pn**		**17 26 17.3**	**0.0**
YULB				S		**Sn**		**17 26 31.8**	**+0.1**
LATG	**Datong**	**1.12**	**312**	⇓P		**Pn**		**17 26 17.5**	**+0.1**
LATG				*e*S		**Sb**		**17 26 32.1**	**-0.5**
CHKH	**Chenggong**	**1.13**	**239**	P		**Pn**		**17 26 17.0**	**-0.3**
CHKH				S		**Sn**		**17 26 30.4**	**-1.4**
WHF	**Hehuan Shan**	**1.14**	**289**	*e*P		**Pn**		**17 26 17.7**	**-0.1**
EGS		**1.15**	**336**	*e*P		**Pb**		**17 26 20.3**	**+1.5**
EGS				*e*S		**Sb**		**17 26 34.6**	**+1.2**
NNSB	**Datong**	**1.16**	**304**	⇓P		**Pn**		**17 26 18.0**	**+0.1**
NNSB				*e*S		**Sn**		**17 26 32.7**	**-0.2**
ENTT	**Nioudou**	**1.17**	**317**	*e*P		**Pn**		**17 26 18.4**	**+0.5**
TWE	**Neicheng**	**1.17**	**323**	⇓P		**Pb**		**17 26 18.6**	**-0.5**
OWD	**Renai**	**1.17**	**279**	*e*P		**Pn**		**17 26 18.1**	**+0.1**
OWD				*e*S		**Sn**		**17 26 33.1**	**-0.1**
CHKT	**Chengkung**	**1.20**	**236**	P		**Pn**		**17 26 17.9**	**-0.4**
CHKT				S		**Sn**		**17 26 32.3**	**-1.3**
FULB	**Fuli**	**1.21**	**241**	P		**Pn**		**17 26 18.1**	**-0.3**
FULB				S		**Sn**		**17 26 33.2**	**-0.6**
WUSB	**Renai**	**1.23**	**280**	⇓*i*P		**Pn**		**17 26 19.1**	**+0.3**
WUSB				*e*S		**Sn**		**17 26 34.0**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.25**	**321**	*e*P		**Pb**		**17 26 19.8**	**-0.6**
FUSB				*e*S		**Sb**		**17 26 36.0**	**-0.1**
TWT	**Tachien**	**1.25**	**292**	*e*P		**Pn**		**17 26 19.5**	**+0.3**
TDCB	**Techi**	**1.26**	**292**	*e*S		**Sn**		**17 26 34.7**	**-0.7**
HATJ	**Hateruma jima**	**1.27**	**77**	*e*S		**Sn**		**17 26 35.9**	**+0.4**
TWB1	**Santiao Chiao**	**1.29**	**341**	*e*P		**Pb**		**17 26 20.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.30**	**65**	P		**Pn**		**17 26 20.1**	**+0.5**
IRIF

JISG	**Ishigakijimahi**	**1.88**	**65**	P		**Pn**	**17 26 27.7**	**+0.1**
WTK	**Tuku**	**1.89**	**267**	*e*P		**Pb**	**17 26 30.4**	**-0.8**
WTK				*e*S		**Sb**	**17 26 54.5**	**+0.1**
LAY	**Lan-yu**	**1.92**	**206**	*e*P		**Pn**	**17 26 28.1**	**-0.1**
LAY				*e*S		**Sn**	**17 26 49.0**	**-2.5**
LYUB	**Lan-yu**	**1.94**	**204**	*e*S		**Sn**	**17 26 48.4**	**-3.5**
SSD	**Sandimen**	**1.96**	**239**	*e*P		**Pn**	**17 26 30.1**	**+1.3**
SCST	**Cishan**	**2.00**	**244**	*e*P		**Pb**	**17 26 32.4**	**-0.9**
SCST				*e*S		**Sb**	**17 26 58.6**	**+0.9**
TAWH	**Dawu Township**	**2.03**	**225**	*e*P		**Pn**	**17 26 30.1**	**+0.4**
TAWH				*e*S		**Sn**	**17 26 53.8**	**-0.3**
MASBT	**Mashibuluo**	**2.03**	**235**	*e*P		**Pn**	**17 26 30.9**	**+1.2**
MASBT				*e*S		**Sn**	**17 26 55.2**	**+1.0**
WSF	**Szhu**	**2.04**	**266**	*e*P		**Pb**	**17 26 32.2**	**-1.6**
WSF				*e*S		**Sb**	**17 26 57.9**	**-0.9**
WSL	**Shuilin Townsh**	**2.05**	**263**	*e*P		**Pn**	**17 26 32.2**	**+2.3**
WSL				*e*S		**Sn**	**17 26 57.0**	**+2.5**
TWM1	**Shoushan**	**2.09**	**243**	*e*P		**Pb**	**17 26 33.1**	**-1.6**
TWM1				*e*S		**Sb**	**17 27 02.4**	**+2.1**
CHN8	**Yiju**	**2.09**	**258**	*e*P		**Pn**	**17 26 33.0**	**+2.4**
CHN8				*e*S		**Sn**	**17 26 58.3**	**+2.6**
SCZT	**Fangliau**	**2.19**	**230**	*e*P		**Pn**	**17 26 34.2**	**+2.3**
SCZT				*e*S		**Sn**	**17 26 59.3**	**+1.2**
TSCK	**Chigu Township**	**2.26**	**254**	*e*P		**Pn**	**17 26 35.3**	**+2.5**
TSCK				*e*S		**Sb**	**17 27 02.8**	**-2.2**
TSEB	**Hengchuen, Pin**	**2.35**	**217**	*e*S		**Sn**	**17 27 05.1**	**+3.0**
HEN	**Hengchun**	**2.37**	**222**	*e*S		**Sn**	**17 27 03.6**	**+1.2**
TWKBT	**Hengchun**	**2.37**	**220**	*e*P		**Pn**	**17 26 36.0**	**+1.6**
TWK1	**Hengchun**	**2.38**	**220**	*e*S		**Sn**	**17 27 03.7**	**+1.1**
WDGT	**Dungji**	**2.61**	**259**	*e*P		**Pn**	**17 26 39.4**	**+1.7**
WDGT				*e*S		**Sn**	**17 27 10.3**	**+1.9**
PHUB	**P'eng-hu**	**2.65**	**265**	*e*P		**Pn**	**17 26 39.9**	**+1.7**
PHUB				*e*S		**Sn**	**17 27 10.7**	**+1.4**
PNG	**Penghu**	**2.66**	**266**	*e*P		**Pn**	**17 26 40.0**	**+1.7**
PNG				*e*S		**Sn**	**17 27 11.1**	**+1.5**
VCHM	**Qimei**	**2.83**	**259**	*e*P		**Pn**	**17 26 42.5**	**+1.9**
VCHM				*e*S		**Sn**	**17 27 14.1**	**+0.4**
VWUC	**VWUC**	**2.98**	**294**			P		**Pn**	**17 26 43.4**	**+0.6**
VWUC				*e*S		**Sn**	**17 27 16.2**	**-1.4**
MATB	**Ma-tsu**	**3.27**	**317**	*e*P		**Pn**	**17 26 47.3**	**+0.5**
MATB				*e*S		**Sn**	**17 27 22.7**	**-2.0**
PTMZ	**Houxiangcun**	**3.28**	**293**	*e*P		**Pn**	**17 26 47.4**	**+0.5**
PTMZ				*e*S		**Sn**	**17 27 23.2**	**-1.6**
KNM	**Kinmen**	**3.72**	**281**	*e*P		**Pn**	**17 26 55.2**	**+2.3**
KNMB	**Chin-men Tao**	**3.77**	**281**	*e*P		**Pn**	**17 26 54.3**	**+0.7**
KNMB				*e*S		**Sn**	**17 27 35.5**	**-1.4**
AXDP	**Jialang**	**4.23**	**286**	*e*P		**Pn**	**17 27 00.7**	**+0.7**
ZPLA	**Ao Xicun**	**4.30**	**273**	*e*P		**Pn**	**17 27 01.9**	**+1.0**
ZPLA				*e*S		**Sn**	**17 27 49.0**	**-1.1**
DSXP	**Dongshan**	**4.60**	**270**	*e*P		**Pn**	**17 27 06.3**	**+1.3**
DSXP				*e*S		**Sn**	**17 27 57.3**	**-0.2**

*TAP **26** 18:20:07.9, 24°.14N×122°.24E, h14km, ML3.5, C*
*JMA **26** 18:20:08.1±0.1, 24°.1N±0°.9×122°.3E±0°.3, h18km±2km, MV3.4/13, TAIWAN REGION*
ISC 26 18:20:07.6±0.9, 24°.11N±0°.02×122°.28E±0°.02, h18km±4km, n103, σθ70/148, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS4	**EOS4**	**0.04**	**80**	*i* P		**Pg**	**18 20 10.7**	**+0.3**
EOS4				S		**Sg**	**18 20 12.9**	**+0.7**
EOS3	**EOS3**	**0.17**	**12**	*i* P		**Pg**	**18 20 12.2**	**+0.1**
EOS3				S		**Sb**	**18 20 15.5**	**+0.9**
EOS2	**EOS2**	**0.31**	**352**	*i* P		**Pb**	**18 20 14.7**	**+0.2**
EOS2				*i* S		**Sb**	**18 20 19.7**	**+0.5**
EAHA	**Aohua**	**0.54**	**294**	P		**Pg**	**18 20 18.2**	**-0.2**
EWUT	**Wuta**	**0.56**	**306**	*e*P		**Pg**	**18 20 18.2**	**-0.7**
EWUT				*e*S		**Sg**	**18 20 26.2**	**-0.2**
ENA	**Nanau**	**0.58**	**303**	*i* P		**Pg**	**18 20 18.6**	**-0.6**
ENA				S		**Sg**	**18 20 26.4**	**-0.6**
ETL	**Fush Village**	**0.60**	**274**	*e*P		**Pb**	**18 20 20.2**	**+0.6**
ESAO	**Su ao**	**0.61**	**319**	P		**Pg**	**18 20 18.7**	**-1.0**
ESAO				*e*S		**Sg**	**18 20 26.9**	**-0.9**
TWD	**Chiawan**	**0.62**	**267**	*e*P		**Pb**	**18 20 21.1**	**+1.2**
NACB	**Ninganchiao**	**0.63**	**276**	P		**Pb**	**18 20 20.4**	**+0.3**
NACB				*e*S		**Sb**	**18 20 29.5**	**+1.0**
TWC	**Suao**	**0.63**	**322**	*i* P		**Pg**	**18 20 19.0**	**-1.1**
TWC				*e*S		**Sg**	**18 20 26.6**	**-1.9**
TEYL	**Yanliau Villag**	**0.67**	**249**	*e*P		**Pb**	**18 20 21.4**	**+0.7**
JYNG	**Yonagunijimaku**	**0.69**	**61**	P		**Pg**	**18 20 21.0**	**-0.3**
JYNG				*e*S		**Sg**	**18 20 29.8**	**-0.8**
SHUL	**Shoufeng**	**0.73**	**244**	*e*P		**Pb**	**18 20 22.6**	**+0.7**
ETLH	**Xiulin Townshi**	**0.73**	**277**	*e*P		**Pg**	**18 20 22.1**	**0.0**
ETM	**Tongmen**	**0.73**	**258**	*e*P		**Pb**	**18 20 22.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.75**	**63**	*i* P		**Pb**	**18 20 22.1**	**-0.2**
YOJ				*i* S		**Sg**	**18 20 31.4**	**-1.0**
YOJ	**Yonaguni jima**	**0.75**	**63**	*e*P		**Pb**	**18 20 22.1**	**-0.1**
YOJ				*e*S		**Sg**	**18 20 31.5**	**-0.9**
EGS		**0.79**	**337**	*e*P		**Pb**	**18 20 23.0**	**+0.1**
EGS				*e*S		**Sb**	**18 20 32.4**	**-0.9**
LXIB	**Xiulin Townshi**	**0.80**	**263**	*e*P		**Pg**	**18 20 23.6**	**+0.4**
LATG	**Datong**	**0.80**	**302**	*i* P		**Pb**	**18 20 22.9**	**-0.3**
LATG				S		**Sb**	**18 20 33.3**	**-0.5**
TWE	**Neicheng**	**0.82**	**317**	*i* P		**Pb**	**18 20 22.8**	**-0.6**
TWE				*e*S		**Sb**	**18 20 33.8**	**-0.3**
ESL	**Shilin**	**0.83**	**249**	*e*P		**Pb**	**18 20 23.6**	**+0.1**
ENTT	**Nioudou**	**0.83**	**309**	*i* P		**Pb**	**18 20 23.2**	**-0.4**
ENTT				*e*S		**Sb**	**18 20 34.1**	**-0.4**
NNSB	**Datong**	**0.88**	**291**	*i* P		**Pb**	**18 20 24.4**	**0.0**
EGFH	**Guangfu**	**0.90**	**240**	*e*P		**Pb**	**18 20 24.7**	**0.0**
EGFH				*e*S		**Sb**	**18 20 36.9**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.90**	**316**	*i* P		**Pb**	**18 20 24.4**	**-0.3**
FUSB				*i* S		**Sb**	**18 20 36.3**	**-0.1**
WARBT	**Fenglin Townsh**	**0.91**	**244**	*e*P		**Pb**	**18 20 25.0**	**+0.2**
WARBT				*e*S		**Sb**	**18 20 36.6**	**0.0**
WHF	**Hehuan Shan**	**0.93**	**272**	P		**Pb**	**18 20 25.7**	**+0.3**
TWB1	**Santiao Chiao**	**0.93**	**344**	*e*P		**Pb**	**18 20 25.5**	**+0.3**
TWB1				*e*S		**Sg**	**18 20 37.8**	**-0.2**
TIPB	**Shuangxi**	**0.95**	**334**	P		**Pb**	**18 20 25.6**	**0.0**
TIPB				*e*S		**Sb**	**18 20 37.1**	**-0.7**
NWLT	**Wulai**	**0.97**	**313**	*e*P		**Pb**	**18 20 25.7**	**-0.2**
YHNB	**Yeheng**	**0.99**	**304**	P		**Pb**	**18 20 26.5**	**+0.2**
YHNB				*e*S		**Sb**	**18 20 39.2**	**+0.1**
HGSD	**Ruisui**	**1.00**	**232**	*e*P		**Pb**	**18 20 25.9**	**-0.4**
OWD	**Renai**	**1.02**	**261**	*e*P		**Pb**	**18 20 27.2**	**+0.3**
SXI1	**Grass Mountain**	**1.04**	**340**	P		**Pb**	**18 20 27.3**	**+0.1**
SXI1				*e*S		**Sb**	**18 20 40.2**	**-0.4**
EHYH	**Wanrong**	**1.05**	**234**	*e*S		**Sb**	**18 20 41.6**	**+0.7**
NWF	**Wu-fen Shan**	**1.05**	**335**	*e*P		**Pn**	**18 20 27.8**	**+0.1**
NWF				S		**Sb**	**18 20 40.8**	**-0.1**
WFSB	**Wu-fen Shan**	**1.05**	**335**	P		**Pn**	**18 20 27.8**	**+0.3**
WFSB				S		**Sb**	**18 20 40.9**	**+0.1**
WUSB	**Renai**	**1.07**	**264**	P		**Pb**	**18 20 28.1**	**+0.4**
TWA	**Mucha**	**1.07**	**324**	*e*P		**Pb**	**18 20 27.8**	**+0.2**
TWA				*e*S		**Sb**	**18 20 41.5**	**+0.2**
ECBN	**Changbin**	**1.10**	**224**	P		**Pb**	**18 20 27.6**	**-0.5**
ECBN				*e*S		**Sb**	**18 20 42.0**	**-0.1**
TNOU	**National Taiwa**	**1.13**	**336**	P		**Pb**	**18 20 28.3**	**-0.4**
TNOU				S		**Sb**	**18 20 42.5**	**-0.5**
YULB	**Yu-li**	**1.15**	**232**	*e*P		**Pn**	**18 20 28.5**	**-0.4**
YULB				*e*S		**Sb**	**18 20 43.5**	**-0.1**
TAP	**Taipei**	**1.16**	**323**	*e*P		**Pb**	**18 20 29.8**	**-0.3**
TAP				*e*S		**Sn**	**18 20 44.5**	**+0.1**
NFF	**Wufeng Townshi**	**1.18**	**296**	P		**Pg**	**18 20 30.2**	**-0.2**
KSHI	**Guanxi Townshi**	**1.20**	**304**	*e*P		**Pg**	**18 20 31.0**	**+0.1**
YM01	**YM01**	**1.21**	**328**	P		**Pb**	**18 20 30.6**	**+0.5**
YM01				*e*S		**Sb**	**18 20 45.4**	**-0.1**
CHKH	**Chenggong**	**1.22**	**222**	*e*P		**Pn**	**18 20 28.9**	**-0.9**
CHKH				*e*S		**Sb**	**18 20 44.1**	**-1.6**
WHP	**Taichung City**	**1.23**	**278**	*e*P		**Pg**	**18 20 31.2**	**-0.1**
ZUZH	**Zhuzihu**	**1.24**	**328**	*e*P		**Pn**	**18 20 30.5**	**+0.4**
ZUZH				*e*S		**Sb**	**18 20 46.0**	**-0.2**
YM08	**YM08**	**1.24**	**330**	*e*P		**Pb**	**18 20 30.7**	**+0.2**
SSLB	**Suanglung**	**1.25**	**255**	*e*P		**Pn**	**18 20 30.3**	**0.0**
TWS1	**Kuangyinshan**	**1.26**	**322**	P		**Pg**	**18 20 32.1**	**+0.2**
TWS1				*e*S		**Sg**	**18 20 47.9**	**-0.5**
LIOB	**Emei**	**1.27**	**295**	*e*P		**Pg**	**18 20 32.2**	**+0.1**
ANP	**Anpu**	**1.27**	**327**	*e*P		**Pn**	**18 20 31.0**	**+0.4**
NSTT	**Nanjuang**	**1.27**	**294**	*e*P		**Pg**	**18 20 32.3**	**0.0**
NSTT				*e*S		**Sg**	**18 20 49.1**	**+0.2**
SMLT	**Sun Moon Lake**	**1.28**	**260**	*e*P		**Pb**	**18 20 31.4**	**+0.7**
FULB	**Fuli**	**1.28**	**225**	*e*P		**Pn**	**18 20 29.9**	**-0.8**
NTST	**Danshui**	**1.29**	**324**	*e*P		**Pg**	**18 20 32.4**	**-0.2**
NCUH	**Zhongli**	**1.31**	**311**	*e*P		**Pg**	**18 20 33.1**	**+0.2**
TWY	**Chenhua**	**1.31**	**332**	*e*P		**Pb**	**18 20 32.4**	**+0.7**
CHKT	**Chengkung**	**1.31**	**220**	*e*P		**Pn**	**18 20 30.1**	**-0.9**
CHKT				*e*S		**Sn**	**18 20 45.8**	**-2.3**
TYC	**Yuchr**	**1.32**	**261**	*e*P		**Pn**	**18 20 31.1**	**0.0**
IRIF	**Iriomote-Funau**	**1.34**	**80**	P		**Pn**	**18 20 31.9**	**+0.4**
IRIF				*e*S		**Sn**	**18 20 49.5**	**+0.6**
WHYT	**Xinyi Township**	**1.37**	**253**	*e*P		**Pb**	**18 20 33.0**	**+0.2**
EHD	**Haiduan**	**1.38**	**226**	*e*P		**Pn**	**18 20 31.8**	**-0.2**
TWQ1	**Liyutan**	**1.39**	**280**	*e*P		**Pg**	**18 20 34.1**	**-0.4**
TWQ1				*e*S		**Sg**	**18 20 52.7**	**0.0**
HATJ	**Hateruma jima**	**1.40**	**92**	*e*P		**Pn**	**18 20 33.3**	**+1.1**
HATJ				*e*S		**Sb**	**18 20 51.9**	**+1.2**
EDH	**Donghe**	**1.45**	**218**	*e*P		**Pn**	**18 20 32.0**	**-0.9**
EDH				*e*S		**Sn**	**18 20 49.7**	**-1.7**
TCU	**Taichung**	**1.46**	**272**	*e*P		**Pb**	**18 20 35.3**	**+1.0**
TCU				*e*S		**Sg**	**18 20 55.6**	**+0.6**
ALS	**Alishan**	**1.48**	**246**	*e*P		**Pb**	**18 20 34.7**	**-0.1**
WNT	**Mingjian**	**1.48**	**261**	*e*P		**Pb**	**18 20 34.8**	**+0.3**
ELDTW	**Lidau**	**1.48**	**232**	*e*P		**Pn**	**18 20 33.6**	**+0.1**
PCYT	**Pengchaiyu**	**1.52**	**353**	*e*P		**Pn**	**18 20 33.4**	**-0.6**
PCYT				*e*S		**Sn**	**18 20 53.5**	**+0.2**
CHN5	**Tsauling**	**1.55**	**251**	*e*P		**Pb**	**18 20 36.3**	**+0.4**
JKRS	**Kuro-shima**	**1.59**	**85**	P		**Pn**	**18 20 36.1**	**+1.3**
LONT	**Longtian**	**1.60**	**221**	*e*P		**Pn**	**18 20 34.5**	**-0.6**
LDUT	**Ludao**	**1.61**	**208**	*e*P		**Pn**	**18 20 34.5**	**-0.8**
WDLH	**Douliu**	**1.65**	**255**	*e*P		**Pb**	**18 20 37.3**	**-0.2**
WCKO	**Fanlu**	**1.67**	**247**	*e*P		**Pb**	**18 20 37.6**	**-0.3**
WCKO				*e*S		**Sb**	**18 20 59.5**	**+0.8**
TPUB	**Ta-pu**	**1.71**	**242**	P		**Pb**	**18 20 38.3**	**-0.3**
CHN4	**Tsaushan**	**1.72**	**244**	*e*P		**Pb**	**18 20 39.0**	**+0.2**
JIJ	**Ishigaki jima**	**1.72**	**81**	P		**Pn**	**18 20 37.0**	**+0.3**
WTP	**Ta-pu**	**1.75**	**241**	*e*P		**Pn**	**18 20 38.6**	**+1.4**
WTK	**Tuku**	**1.78**	**257**	*e*P		**Pb**	**18 20 39.7**	**0.0**
CHN1	**Nanshi**	**1.85**	**240**	*e*S		**Sb**	**18 21 04.2**	**+0.4**
JISG	**Ishigakijimahi**	**1.91**	**75**	P		**Pn**	**18 20 39.4**	**0.0**
SSD	**Sandimen**	**2.04**	**228**	*e*P		**Pn**	**18 20 42.9**	**+1.8**
MASBT	**Mashibuluo**	**2.13**	**226**	*e*P		**Pn**	**18 20 43.6**	**+1.3**
LAY	**Lan-yu**	**2.17**	**198**	*e*P		**Pn**	**18 20 41.8**	**-1.1**
LYUB	**Lan-yu**	**2.20**	**197**	*e*P		**Pn**	**18 20 41.7**	**-1.6**
JTJ	**Tarama**	**2.27**	**76**	*e*P		**Pn**	**18 20 45.4**	**+1.1**
WDGT	**Dungji**	**2.55**	**251**	*e*P		**Pn**	**18 20 48.5**	**+0.5**
PHUB	**P'eng-hu**	**2.55**	**257**	*e*S		**Sn**	**18 21 19.3**	**+0.7**
TWKBT	**Hengchun**	**2.55**	**212**	*e*P		**Pn**	**18 20 50.3**	**+2.2**
PNG	**Penghu**	**2.55**	**258**	*e*P		**Pn**	**18 20 48.7**	**+0.6**
PNG				*e*S		**Sn**	**18 21 19.8**	**+1.1**
VWUC	**VWUC**	**2.72**	**289**	*e*P		**Pn**	**18 20 51.2**	**+0.8**
VWUC				*e*S		**Sn**	**18 21 22.6**	**-0.2**
VCHM	**Qimei**	**2.76**	**252**	*e*S		**Sn**	**18 21 24.7**	**+0.8**
PTMZ	**Houxiangcun**	**3.02**	**288**	*e*P		**Pn**	**18 20 55.6**	**+1.1**
XPSS	**Dashiqiu**	**3.38**	**327**	*e*P		**Pn**	**18 21 00.1**	**+0.6**
AXDP	**Jialang**	**4.00**	**282**	*e*P		**Pn**	**18 21 08.5**	**+0.4**
AXDP				*e*S		**Sn**	**18 21 54.0**	**-0.5**
ZPLA	**Ao Xicun**	**4.14**	**268**	*e*P		**Pn**	**18 21 10.5**	**+0.5**

*CATAC **26** 18:41:29.3±0.4, 9°.N±3°.×8°.5W±°, h7km±2km, M3.6/12, MLv3.6/12, Error ellipse: s-maj=6.6km s-min=3.5km az=35.4, confirmed*
*UCR **26** 18:41:30.6±0.7, 9°.41N×84°.60W, h19km±3km, MW3.8*
ISC 26 18:41:30.2±1.0, 9°.38N±0°.04×84°.60W±0°.03, h18km, n86, σθ54/90, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BITO	**Garabito Jaco**	**0.24**	**355**	*e*P		**Pg**	**18 41 35.8**	**0.0**
BITO				*e*S		**Sb**	**18 41 40.2**	**+0.6**
PAR1A	**Puntarenas Pro**	**0.40**	**58**	*e*P		**Pg**	**18 41 38.8**	**+0.2**
PAR1A				*e*S		**Sb**	**18 41 47.3**	**+1.0**
QUEP	**Quepos**	**0.43**	**83**	P		**Pg**	**18 41 38.0**	**-1.0**
QUEP	**Quepos**	**0.43**	**83**	S		**Sg**	**18 41 45.3**	**+0.2**
PICV	**PH. Pirrs**	**0.47**	**59**	*e*P		**Pg**	**18 41 39.6**	**-0.1**
LLNJ	**Naranjito**	**0.50**	**79**	*e*P		**Pg**	**18 41 40.2**	**-0.1**
LLNJ				*e*S		**Sb**	**18 41 48.3**	**+0.8**
CBL1	**Cabuya**	**0.53**	**293**	*e*P		**Pb**	**18 41 41.0**	**+0.1**
PURI	**Puriscal**	**0.54**	**32**	*e*P		**Pg**	**18 41 40.8**	**-0.4**
ACOS	**Acosta**	**0.60**	**46**	*e*P		**Pg**	**18 41 41.4**	**-0.8**
ARZA	**Esparza**	**0.61**	**354**	*e*P		**Pb**	**18 41 41.6**	**-0.7**
ATEO	**Atenas**	**0.63**	**20**	*e*P		**Pb**	**18 41 42.1**	**-0.6**
PITB	**Pirrs, San**	**0.63**	**64**	*e*P		**Pb**	**18 41 42.3**	**-0.5**
PIEC	**Cerro El Cedra**	**0.68**	**69**	*e*P		**Pb**	**18 41 43.4**	**-0.2**
SANTA	**Santa Ana**	**0.69**	**37**	*e*P		**Pb**	**18 41 42.8**	**-0.9**
LCR2	**La Lucha 2**	**0.69**	**59**	*e*P		**Pb**	**18 41 43.0**	**-0.8**
LCR2	**La Lucha 2**	**0.69**	**59**	P		**Pb**	**18 41 43.1**	**-0.8**
LCR2	**La Lucha 2**	**0.69**	**59**	S		**Sg**	**18 41 53.6**	**+0.5**
PALD	**Palmares**	**0.69**	**14**	*e*P		**Pb**	**18 41 43.1**	**-0.7**
SRA1	**San Ramn**	**0.71**	**10**	*e*P		**Pb**	**18 41 43.4**	**-0.7**
RAMO	**San Ramon**	**0.71**	**11**	*e*P		**Pb**	**18 41 43.6**	**-0.6**
BELE	**Belen**	**0.72**	**35**	*e*P		**Pb**	**18 41 43.4**	**-0.9**
AMPA	**Desamparados**	**0.74**	**46**	*e*P		**Pb**	**18 41 43.8**	**-0.8**
LUJA	**Lujan**	**0.75**	**44**	*e*P		**Pb**	**18 41 44.0**	**-0.8**
HEME	**Heredia, Merce**	**0.76**	**37**	*e*P		**Pg**	**18 41 45.5**	**+0.3**
HDC	**Heredia**	**0.78**	**38**	*e*P		**Pb**	**18 41 44.8**	**-0.6**
REPA	**Paraso**	**0.85**	**58**	*e*P		**Pb**	**18 41 45.9**	**-0.6**
VPS8	**V Poas**	**0.87**	**24**	*e*P		**Pb**	**18 41 46.7**	**-0.3**
VPS5	**V. Poas**	**0.88**	**24**	*e*P		**Pb**	**18 41 46.6**	**-0.6**
VPL1	**V. Platanar**	**0.90**	**15**	*e*P		**Pb**	**18 41 46.9**	**-0.5**
CVIMO	**Finca Echandi**	**0.91**	**45**	*e*P		**Pb**	**18 41 47.1**	**-0.5**
PCAYA	**Pacayas**	**0.94**	**56**	*e*P		**Pb**	**18 41 48.2**	**0.0**
VPL2	**V. Platanar**	**0.94**	**13**	*e*P		**Pb**	**18 41 47.8**	**-0.3**
VICA	**Volcano Irazu**	**0.96**	**51**	*e*P		**Pb**	**18 41 47.9**	**-0.6**
MTEVE	**Monteverde**	**0.96**	**347**	*e*P		**Pb**	**18 41 47.5**	**-0.9**
RAFA	**San Farael, Vo**	**0.97**	**54**	*e*P		**Pb**	**18 41 48.2**	**-0.4**
JTS	**Las Juntas de**	**0.97**	**339**	*e*P		**Pb**	**18 41 47.9**	**-0.9**
JTS	**Las Juntas de**	**0.97**	**339**	P		**Pb**	**18 41 48.0**	**-0.5**
JTS				S		**Sb**	**18 42 01.0**	**+0.1**
OCHAL	**Ojochal**	**0.98**	**107**	P		**Pb**	**18 41 48.1**	**-0.6**
OCHAL	**Ojochal**	**0.98**	**107**	S		**Sb**	**18 42 01.8**	**+0.4**
SOCE	**Pocosol**	**0.99**	**359**	*e*P		**Pb**	**18 41 48.7**	**-0.3**
SOCE	**Pocosol**	**0.99**	**359**	P		**Pb**	**18 41 48.8**	**-0.2**
SOCE	**Pocosol**	**0.99**	**359**	S		**Sn**	**18 42 03.0**	**+0.1**
INDI	**Punta indio, G**	**1.01**	**299**	P		**Pb**	**18 41 49.1**	**-0.1**
INDI	**Punta indio, G**	**1.01**	**299**	S		**Sg**	**18 42 03.2**	**0.0**
CVTQ	**Turrialba Volc**	**1.03**	**53**	*e*P		**Pb**	**18 41 49.7**	**0.0**
EDPE	**Pejibaye, P**	**1.04**	**102**	*e*P		**Pb**	**18 41 49.1**	**-0.6**
VTR0	**Volcan Turrial**	**1.04**	**53**	*e*P		**Pb**	**18 41 49.6**	**-0.4**
CVTV	**Tajo**	**1.04**	**54**	*e*P		**Pb**	**18 41 49.6**	**-0.3**
CVTR	**Volcan Turrial**	**1.04**	**53**	*e*P		**Pb**	**18 41 49.6**	**-0.4**
ARE1	**Arenal 1**	**1.08**	**354**	*e*P		**Pb**	**18 41 50.1**	**-0.3**
SAJE	**San Jernim**	**1.08**	**92**	*e*P		**Pb**	**18 41 49.9**	**-0.6**
VARE2	**V. Arenal**	**1.08**	**354**	*e*P		**Pb**	**18 41 50.2**	**-0.2**
VARR	**Volcan Arenal**	**1.09**	**356**	*e*P		**Pb**	**18 41 50.3**	**-0.2**
CHIK	**Chiripa**	**1.10**	**344**	*e*P		**Pb**	**18 41 50.2**	**-0.5**
CEDE	**Laguna Cedeo**	**1.10**	**355**	*e*P		**Pb**	**18 41 50.8**	**-0.1**
NICO	**Nicoya**	**1.12**	**312**	*e*P		**Pn**	**18 41 50.2**	**-0.8**
TABAC	**Tabacon**	**1.12**	**352**	*e*P		**Pn**	**18 41 51.0**	**-0.2**
TILA	**Tilaran**	**1.14**	**341**	*e*P		**Pn**	**18 41 51.1**	**-0.2**
PILE	**Guapiles**	**1.15**	**44**	*e*P		**Pn**	**18 41 51.3**	**-0.2**
INVE	**Universidad In**	**1.18**	**337**	*e*P		**Pn**	**18 41 51.4**	**-0.4**
JUD3	**Juan Diaz 3**	**1.21**	**310**	*e*P		**Pn**	**18 41 51.5**	**-0.8**
PLVR	**Palo Verde**	**1.21**	**322**	*e*P		**Pn**	**18 41 51.8**	**-0.7**
RVLA	**Villa Bonita**	**1.23**	**54**	*e*P		**Pn**	**18 41 52.7**	**+0.1**
TIMP	**Tierras Morena**	**1.26**	**341**	*e*P		**Pn**	**18 41 52.6**	**-0.4**
FIMO	**Fila Mora**	**1.29**	**107**	*e*P		**Pn**	**18 41 53.3**	**-0.2**
COVE	**Coope Vega, Sa**	**1.34**	**8**	P		**Pn**	**18 41 54.1**	**0.0**
COVE	**Coope Vega, Sa**	**1.34**	**8**	S		**Sg**	**18 42 13.1**	**-0.7**
TENO	**El Achiote**	**1.36**	**344**	*e*P		**Pn**	**18 41 54.1**	**-0.4**
COLC	**Colonia**	**1.41**	**335**	*e*P		**Pn**	**18 41 55.2**	**+0.2**
MESS	**Mesas**	**1.47**	**337**	*e*P		**Pn**	**18 41 56.2**	**+0.3**
VERH	**Veragua Rainfo**	**1.49**	**69**	*e*P		**Pn**	**18 41 56.6**	**+0.4**
VMAR	**Armenia, Volca**	**1.51**	**341**	*e*P		**Pn**	**18 41 57.0**	**+0.6**
ALIBA	**Liberia Airpor**	**1.52**	**322**	*e*P		**Pb**	**18 41 57.6**	**-0.3**
GPS2	**Hotel Rincn d**	**1.55**	**332**	*e*P		**Pn**	**18 41 57.6**	**+0.6**
ELI1	**Hacienda Flor**	**1.57**	**323**	*e*P		**Pn**	**18 41 57.6**	**+0.5**
ELI1	**Hacienda Flor**	**1.57**	**323**	P		**Pn**	**18 41 57.9**	**+0.7**
VRLE	**La Escondida,**	**1.59**	**332**	*e*P		**Pn**	**18 41 58.1**	**+0.5**
LAPC	**Finca la Perla**	**1.60**	**329**	*e*P		**Pn**	**18 41 57.6**	**0.0**
BUAI	**Buenos Aires**	**1.65**	**334**	*e*P		**Pn**	**18 41 59.1**	**+0.7**
CEUA	**Cerro Uatsi, L**	**1.66**	**82**	*e*P		**Pb**	**18 42 00.9**	**+0.7**
ALCO	**Alturas Coton,**	**1.80**	**104**	*e*P		**Pn**	**18 42 00.1**	**-0.3**
CDITO	**Canoas**	**1.89**	**115**	P		**Pn**	**18 42 01.6**	**+0.1**
BRU2	**Volcan**	**1.98**	**107**	P		**Pn**	**18 42 03.2**	**+0.3**
CARN	**Rivas**	**2.01**	**333**	P		**Pn**	**18 42 03.5**	**+0.3**
ACON	**Acoyapa**	**2.63**	**348**	P		**Pn**	**18 42 13.1**	**+1.3**
NADN	**Granada**	**2.74**	**329**	P		**Pn**	**18 42 13.8**	**+0.5**

*SJA **26** 18:44:52.6±1.3, 20°.02S×69°.41W, h83km±5km, ML3.5, MW3.6*
*GUC **26** 18:44:53.3±0.9, 20°.02S×69°.37W, h81km±3km, ML3.5*
ISC 26 18:44:55.2±1.4, 20°.03S±0°.03×69°.42W±0°.05, h72km±7km, n31, σ1θ04/47, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB08	**IPOC Station P**	**0.27**	**115**	||*i*P		**Pn**	**18 45 06.0**	**-0.8**
PB08				*e*S		**Sn**	**18 45 16.2**	**+0.8**
PB08				IAML			18 45 17.2	
	comp=E,3μm,0.2s							
PB08	**IPOC Station P**	**0.27**	**115**	*

JOW Kunigami 1.39 97 S **Sn** 18 48 00.0 -2.6
JOW Kunigami 1.39 97 *i* P **Pn** 18 47 41.3 -0.8
JOW S **Sn** 18 47 59.6 -3.0
JOW Kunigami 1.39 97 A A 18 47 41.3
comp=N,32nm,0.3s,comp=E,22nm,0.3s
JYRO Yoronjima 1.54 89 *i* P **Pn** 18 47 42.7 -0.8
JYRO S **Sn** 18 48 02.3 -3.1
JYRO Yoronjima 1.54 89 A A 18 47 42.7
comp=N,13nm,2.3s,comp=E,8.0nm,1.2s
JOKE Okinoerabujima 1.68 78 *i* P **Pn** 18 47 44.2 -1.0
JOKE S **Sn** 18 48 05.5 -2.8
JTK Tokunoshima 2.12 68 *i* P **Pn** 18 47 49.4 -1.1
JTK S **Sn** 18 48 15.2 -2.6
JTK Tokunoshima 2.12 68 A A 18 47 49.4
comp=N,5.0nm,2.8s,comp=E,5.0nm,5.6s
JAMN Amaminishikomi 2.49 60 *i* P **Pn** 18 47 53.9 -1.2
JAMN S **Sn** 18 48 23.4 -2.6
JOGS Gusukube 2.54 208 P **Pn** 18 47 55.5 -0.2
JOGS S **Sn** 18 48 26.9 -0.2
JOGS Gusukube 2.54 208 A A 18 47 55.5
comp=N,8.0nm,2.2s,comp=E,8.0nm,2.9s
JMJ Miyako jima 2 2.54 211 P **Pn** 18 47 55.7 -0.1
JIRB Irabujima 2.59 213 *i* P **Pn** 18 47 55.6 -0.7
JIRB S **Sn** 18 48 25.6 -2.5
JMJ2 Miyako jima3 2.59 209 *i* P **Pn** 18 47 56.1 -0.2
JMJ2 S **Sn** 18 48 27.2 -1.0
JAM Amami Oshima 2.91 61 *i* P **Pn** 18 47 59.1 -1.3
JAM S **Sn** 18 48 32.5 -3.0
JTJ Tarama 2.98 218 A A 18 48 02.6
comp=N,5.0nm,1.4s,comp=E,4.0nm,1.0s
JZK Kikaishima 3.16 65 *i* P **Pn** 18 48 02.7 -1.0
JZK S **Sn** 18 48 39.5 -1.7
JMZ Minamidaito 2 4.20 105 **Pn** 18 48 15.6 -1.9
JMZ Sn **Sn** 18 48 58.6 -7.3
JMZ Minamidaito 2 4.20 105 P **Pn** 18 48 15.5 -1.9
JMZ Minamidaito 2 4.20 105 *i* P **Pn** 18 48 14.9 -2.5
JMZ S **Sn** 18 48 58.5 -7.5
JMZ Minamidaito 2 4.20 105 A A 18 48 14.9
comp=N,8.0nm,3.2s,comp=E,5.0nm,2.7s
YOJ Yonaguni jima 4.21 234 **Pn** 18 48 17.2 -0.3
YOJ Yonaguni jima 4.21 234 P **Pn** 18 48 17.3 -0.2
YOJ Yonaguni jima 4.21 234 P **Pn** 18 48 17.2 -0.3
JKDJ Kitadaitoujima 4.23 103 *i* P **Pn** 18 48 15.5 -2.3
JKDJ S **Sn** 18 49 00.2 -6.3
JKDJ Kitadaitoujima 4.23 103 A A 18 48 15.5
comp=N,7.0nm,1.1s,comp=E,7.0nm,3.1s
JYAK Yakushimahirau 4.62 45 P **Pn** 18 48 21.2 -1.8
JYAK S **Sn** 18 49 11.7 -4.3
TATO Taipei 5.13 248 **Pn** 18 48 30.9 +1.1
TATO Taipei 5.13 248 P **Pn** 18 48 29.8 0.0
YHNB Yeheng 5.36 245 **Pn** 18 48 34.0 +1.0
YHNB Yeheng 5.36 245 P **Pn** 18 48 34.7 +1.8
NACB Ninganchiao 5.43 240 **Pn** 18 48 32.3 -1.5
NACB Ninganchiao 5.43 240 P **Pn** 18 48 32.5 -1.3
YULB Yu-li 6.10 235 **Pn** 18 48 39.6 -3.2
YULB Yu-li 6.10 235 P **Pn** 18 48 39.7 -3.1
SSLB Suanglung 6.13 240 **Pn** 18 48 41.7 -1.6
SSLB Suanglung 6.13 240 P **Pn** 18 48 41.9 -1.4
SSLB Suanglung 6.13 240 S **Sn** 18 49 50.6 -1.6
SSE Sheshan 6.33 311 P **Pn** 18 48 43.0 -2.9
SSE S **Sn** 18 49 54.3 -2.6
SSE smax smax
comp=E,52nm,1.1s
SSE smax smax
comp=E,51nm,1.2s
TWGBT Beinan 6.61 232 P **Pn** 18 48 46.2 -3.5
TWG Pinlang 6.62 232 **Pn** 18 48 45.6 -4.2
TPUB Ta-pu 6.65 238 **Pn** 18 48 48.5 -1.7
TPUB Ta-pu 6.65 238 P **Pn** 18 48 49.0 -1.2
TPUB Ta-pu 6.65 238 S **Sn** 18 50 03.0 -1.7
JNU Nakatsue 7.07 30 **Pn** 18 48 56.7 +0.8
JNU Nakatsue 7.07 30 P **Pn** 18 48 56.9 +1.0
comp=E,27nm,0.3s,baz=232,slow=5.6,SNR=94
JNU S **Sn** 18 50 17.6 +2.7
comp=E,5.1nm,0.4s,baz=184,slow=9.4,SNR=0.7
JNU Nakatsue 7.07 30 P **Pn** 18 48 57.0 +1.1
QZH Quanzhou 7.61 256 P **Pn** 18 49 04.8 +1.7
JTU Tsushima 7.83 16 P **Pn** 18 49 08.9 +2.8
KNMB Chin-men Tao 7.94 253 Pn **Pn** 18 49 07.4 -0.1
NJ2 Nanjing 8.50 308 ⇓P **Pn** 18 50 50.5 +1.2
NJ2 S **Sn**
NJ2 pmax pmax
comp=E,55nm,0.8s
JMN Monobe 9.11 41 **Pn** 18 49 19.6 -3.6
TJN Taejon 9.35 3 **Pn** 18 49 28.3 +1.8
TJN Taejon 9.35 3 *d* P **Pn** 18 49 29.2 +2.7
INCN Inchon 10.44 360 **Pn** 18 49 41.1 0.0
INCN Inchon 10.44 360 P **Pn** 18 49 41.1 0.0
KSAR Wonju Array Be 10.45 5 **Pn** 18 49 42.5 +1.4
KSAR Wonju Array Be 10.45 5 P **Pn** 18 49 42.5 +1.4
KSRS Korea Array 10.46 5 P **Pn** 18 49 43.4 +2.1
comp=E,35nm,0.9s,baz=180,slow=14,SNR=116
KS19 Wonju Array Si 10.51 5 **Pn** 18 49 42.9 +1.0
WHN Wuhan 11.41 291 P **Pn** 18 49 55.3 +1.3
WHN pmax pmax
comp=E,110nm,1.2s
INU Inuyama 12.10 44 Pn **Pn** 18 49 58.8 -4.2
TIA Tai'an 12.29 321 P **Pn** 18 50 08.0 +2.6
TIA pmax pmax
comp=E,37nm,1.1s
TIA pmax pmax
comp=E,250nm,5.8s
TIA LR LR
comp=E,220nm,5.3s
TIA LR LR
comp=E,500nm,4.1s
TIA LR LR
comp=E,350nm,6.2s
JGF Kuroka 12.48 44 Pn **Pn** 18 50 08.9 +0.9
JGF Kuroka 12.48 44 P **Pn** 18 50 10.1 +2.1
JHJ Hachijo jima 2 12.84 59 P **Pn** 18 50 14.2 +1.6
comp=E,98nm,0.8s,baz=225,slow=17,SNR=5.7
JHJ2 Mitsune 12.86 59 P **Pn** 18 50 14.6 +1.7
MAJO Matsushiro 13.61 43 Pn **Pn** 18 50 21.7 -0.9
MAJO Matsushiro 13.61 43 ⇓ *eP* **Pn** 18 50 24.4 +1.8
MJAR Matsushiro Arr 13.61 43 P **Pn** 18 50 21.0 -1.6
MJAR Matsushiro Arr 13.61 43 P **Pn** 18 50 23.8 +1.2
comp=E,0.8nm,0.3s,baz=242,slow=14,SNR=6.8
MJAR pP P 18 50 46.4 +19
comp=E,11nm,0.8s,baz=228,slow=10.0,SNR=10
MJAR Matsushiro Arr 13.61 43 P **Pn** 18 50 21.0 -1.6
MJB9 Matsu-Tunnel 13.61 43 Pn **Pn** 18 50 20.9 -1.7
JCJ Chichijima 13.78 86 **Pn** 18 50 23.8 -1.0
JCJ Chichijima 13.78 86 P **Pn** 18 50 25.4 +0.7
comp=E,105nm,0.8s,baz=276,slow=20,SNR=6.9
JCJ LR LR 18 55 16.6
comp=E,63nm,19.4s,baz=242,slow=35
TGY Tagaytay City 13.94 204 LR LR 18 55 11.0
comp=E,76nm,18.9s,baz=160,slow=34
LYN LuoYang 14.37 305 P **P** 18 50 34.0 -1.3
LYN S **Sn** 18 53 14.5 +3.4
LYN pmax pmax
comp=E,41nm,1.1s
HNS HongShan 14.51 319 ⇓P **P** 18 50 36.0 -0.8
HNS pmax pmax
comp=E,98nm,1.2s
HNS LR LR
comp=E,130nm,5.5s
HNS LR LR
comp=E,270nm,9.0s
HNS LR LR
comp=E,370nm,11.9s
BJI Beijing 15.68 329 P **P** 18 50 50.5 +0.8
BJI S **S** 18 53 49.8 +3.4
BJI pmax pmax
comp=E,26nm,0.7s
BJI pmax pmax
comp=E,140nm,7.3s
MSHR Mys Shultsa 15.95 12 ⇑ *eP* **P** 18 50 54.5 +1.8
JMM Marumori 16.05 44 **Pn** 18 50 52.2 -0.8
JMM Marumori 16.05 44 P **P** 18 50 57.4 +3.6
CN2 Changchun 16.79 357 P **Pn** 18 51 03.5 +1.5
CN2 S **Sn** 18 54 04.8 -4.2
CN2 pmax pmax
comp=E,30nm,1.5s
CN2 pmax pmax
comp=E,250nm,6.0s
CN2 LR LR
comp=E,120nm,12.0s
CN2 LR LR
comp=E,160nm,12.0s
CN2 LR LR
comp=E,140nm,13.0s

XAN Xi'an 16.85 299 ⇓P **Pn** 18 51 04.0 +1.0
XAN S **S** 18 54 14.8 +3.1
XAN pmax pmax
comp=E,52nm,0.8s
XAN pmax pmax
comp=E,530nm,4.8s
XAN LR LR
comp=E,440nm,6.7s
XAN LR LR
comp=E,360nm,6.4s
XAN LR LR
comp=E,290nm,6.7s
USRK Ussuriysk Ar. 17.67 13 P **P** 18 51 11.7 +0.1
comp=E,3.2nm,0.9s,baz=200,slow=9.7,SNR=5.3
USRK pP **pP** 18 51 37.0 +2.3
comp=E,5.9nm,0.7s,baz=204,slow=13,SNR=5.2
USA0B Ussuriysk Arra 17.67 13 ⇓ *eP* **Pn** 18 51 14.1 +1.4
MDJ Mudanjiang 17.72 7 P **Pn** 18 51 15.5 +2.3
MDJ ScP **ScP** 18 59 07.3 +0.8
MDJ ScS **ScS** 19 02 47.3 +0.5
MDJ pmax pmax
comp=E,17nm,0.9s
GYA Guiyang 17.93 273 ⇑P **Pn** 18 51 18.8 +2.7
GYA sP sP 18 51 55.8 +0.8
GYA S **S** 18 54 29.0 -5.2
GYA pmax pmax
comp=E,25nm,0.7s
GYA pmax pmax
comp=E,200nm,3.1s
GYA LR LR
comp=E,150nm,3.8s
GYA LR LR
comp=E,110nm,3.8s
GYA LR LR
comp=E,110nm,3.2s
HHC Hu-ho-hao-te 18.64 322 *eP* **Pn** 18 51 24.5 +0.2
HHC sP sP 18 52 07.0 +4.3
HHC S **S** 18 54 41.8 -6.1
HHC pmax pmax
comp=E,41nm,1.0s
HHC pmax pmax
comp=E,260nm,5.9s
BNX BinXian 18.70 1 ⇓P **P** 18 51 23.8 +0.9
BNX pmax pmax
comp=E,7.0nm,0.9s
XLT XiLinHaoTe 18.92 336 *eP* **P** 18 51 26.0 +0.5
XLT sP sP 18 52 06.0 +0.2
XLT S **S** 18 54 51.3 -2.2
XLT pmax pmax
comp=E,60nm,0.9s
BTO Baotou 19.36 319 *eP* **Pn** 18 51 33.8 +1.0
BTO S **S** 18 55 01.8 -0.4
BTO pmax pmax
comp=E,28nm,1.3s
BTO pmax pmax
comp=E,580nm,11.4s
ERM Erimo 20.13 38 ⇑ *eP* **P** 18 51 38.5 +0.1
CD2 Chengdu 20.46 286 P **P** 18 51 41.5 -0.7
CD2 pmax pmax
comp=E,80nm,0.8s
ASAJ Asahikawa 21.34 33 P **P** 18 51 51.7 +0.3
comp=E,4.1nm,0.6s,baz=206,slow=14,SNR=5.0
LZH Lanzhou 21.46 301 *eP* **P** 18 51 53.3 +0.3
LZH pP pP 18 52 16.0 -1.1
LZH sP sP 18 52 35.8 +2.2
LZH S **S** 18 55 36.5 -6.7
LZH pmax pmax
comp=E,31nm,1.1s
LZH pmax pmax
comp=E,190nm,4.8s
SLVN Son La 21.56 260 P **P** 18 51 55.0 +0.9
GUMO Guam 21.59 125 **P** 18 51 55.2 +0.9
GUMO Guam 21.59 125 P **P** 18 51 54.5 +0.2
comp=E,131nm,0.7s,baz=355,slow=20,SNR=8.4
GUMO LR LR 19 00 06.0
comp=E,58nm,18.7s,baz=286,slow=36
comp=E,131nm,0.7s
GUMO Guam 21.59 125 P **P** 18 51 53.9 -0.4
GUMO Guam 21.59 125 P **P** 18 51 55.2 +0.9
KMI Kunming 21.62 270 P **P** 18 51 55.3 +0.4
KMI pP pP 18 52 23.0 +4.0
KMI sP sP 18 52 34.3 -1.3
KMI S **S** 18 55 45.5 -1.0
KMI pmax pmax
comp=E,13nm,0.6s
KMI LR LR
comp=E,190nm,21.3s
KMI LR LR
comp=E,180nm,20.8s
KMI LR LR
comp=E,180nm,14.6s
PZH PanZhiHua 22.31 274 P **P** 18 52 01.5 -0.3
MYLDM Lahad Datu 23.09 201 **P** 18 52 10.8 +1.6
MYLDM Lahad Datu 23.09 201 P **P** 18 52 11.3 +2.1
HEH HeiHe 23.21 1 *eP* **P** 18 52 10.0 0.0
HEH pP **pP** 18 52 39.0 +3.4
HEH SS Sn 18 57 05.0 +22
HEH ScP **ScP** 18 59 19.5 -0.1
YSS Yuzhno-Sakhali 23.58 28 P **P** 18 52 12.4 -1.0
YSS Yuzhno-Sakhali 23.58 28 *eP* **P** 18 52 14.0 +0.6
YSS eS **S** 18 56 15.0 -2.7
YSS pmax pmax
comp=E,100nm,3.7s
YSS pmax pmax
comp=E,20nm,0.9s
CRAI Chiangrai 25.04 260 P **P** 18 52 27.6 +0.6
TNCH TengChong 25.41 272 P **P** 18 52 32.3 +1.9
TNCH pmax pmax
comp=E,14nm,1.2s
GTA Gaotai 25.59 306 P **P** 18 52 31.8 -0.1
GTA pP pP 18 53 01.0 +1.0
GTA PcP **PcP** 18 56 01.3 +1.9
GTA ScP **ScP** 18 59 28.8 +2.2
GTA PcS **PcS** 18 59 40.5 +0.3
GTA pmax pmax
comp=E,42nm,1.0s
ULN Ulaanbaatar 25.89 329 **P** 18 52 34.0 -0.6
ULN IAmb IAmb 18 52 38.4
comp=E,56nm,1.1s
ULN Ulaanbaatar 25.89 329 *d iP* **P** 18 52 34.1 -0.4
ULN pmax pmax
comp=E,54nm,1.1s
TNTI Ternate 26.10 179 P **P** 18 52 35.3 -1.2
TNTI IAmb IAmb 18 52 38.5
comp=E,62nm,1.2s
SONM Songino Array 26.18 328 **P** 18 52 36.8 -0.3
SONM Songino Array 26.18 328 P **P** 18 52 37.3 +0.3
comp=E,48nm,0.8s,baz=145,slow=11,SNR=64
SONM PcP **PcP** 18 56 01.0 +0.3
comp=E,1.0nm,0.7s,baz=137,slow=3.3,SNR=3.3
SONM ScP **ScP** 18 59 29.0 +0.8
comp=E,1.3nm,0.7s,baz=146,slow=5.1,SNR=6.5
SONM LR LR 19 04 59.4
comp=E,127nm,19.1s,baz=182,slow=41
comp=E,48nm,0.8s
TOLI2 Tolitoli 26.38 193 IAmb IAmb 18 52 41.5
comp=E,20nm,0.9s
TOLI2 Tolitoli 26.38 193 P **P** 18 52 38.7 -0.3
MRSI Marisa 26.78 191 P **P** 18 52 42.9 +0.3
comp=E,33nm,1.0s
CHTO Chiang Mai 26.82 258 **P** 18 52 43.6 +0.6
CHTO Chiang Mai 26.82 258 P **P** 18 52 44.4 +1.4
CHTO Chiang Mai 26.82 258 P **P** 18 52 43.6 +0.6
CHTO pmax pmax
comp=E,8.0nm,0.9s
CIT Chita 26.88 342 *eP* **P** 18 52 46.4 +3.2
CIT *e* 18 53 20.0
CIT *e* 18 53 41.4
CIT *e* 18 56 04.6
CIT *e* 18 57 05.2
CIT pmax pmax
comp=E,33nm,1.1s
CMAR Chiang Mai Arr 26.96 257 P **P** 18 52 44.8 +0.5
comp=E,2.8nm,0.8s,baz=58,slow=7.4,SNR=16
CMAR PcP **PcP** 18 56 03.6 +0.8
comp=E,0.6nm,0.4s,baz=298,slow=0.5,SNR=4.7
CMAR ScP **ScP** 18 59 31.6 +0.9
comp=E,0.8nm,0.6s,baz=98,slow=2.7,SNR=5.1
CMAR LR LR 19 05 41.5
comp=E,28nm,18.6s,baz=255,slow=41
comp=E,2.8nm,0.8s
LUWI Luwuk 28.15 188 P **P** 18 52 54.8 0.0
KSM Kuching 29.89 215 **P** 18 53 09.8 -0.4
KSM IAmb IAmb 18 53 11.9
comp=E,11nm,0.6s

FAKI Fak Fak 30.23 169 P **P** 18 53 12.5 -0.7
FAKI Fak Fak 30.23 169 P **P** 18 53 13.2 0.0
SMPI Sarmi 31.06 156 P **P** 18 53 21.0 +0.4
comp=Z,71nm,1.0s
SHL Shillong 31.22 275 **P** 18 53 21.1 -1.0
SHL IAmb IAmb 18 53 23.3
comp=Z,15nm,0.8s
SHL **PcP** 18 56 16.8 +3.0
SHL **ScP** 18 59 45.2 +0.7
SHL Shillong 31.22 275 P **P** 18 53 21.1 -1.0
SHL 18 56 16.8
SHL pmax pmax
comp=Z,15nm,0.8s
MOY Mondy 31.36 329 *eP* **P** 18 53 23.0 +0.1
MOY pmax pmax
comp=Z,14nm,1.4s
GENI Genyem 32.16 154 P **P** 18 53 30.8 +0.6
BBSI Bau Bau 32.56 188 P **P** 18 53 33.9 +0.3
comp=Z,72nm,0.9s
IPM Ipoh 33.23 232 **P** 18 53 40.2 +0.6
PETK Petropavlovsk- 34.76 33 P **P** 18 53 51.5 -0.8
comp=Z,1.5nm,0.8s,baz=150,slow=6.8,SNR=3.8
comp=Z,1.5nm,0.8s
YAK Yakutsk 35.07 2 *eP* **P** 18 53 53.4 -1.5
YAK *e**PP **pP** 18 54 23.5 0.0
YAK *e* 18 56 22.0
YAK *e*S **S** 18 59 15.7 -1.6
YAK *e**SS **sS** 19 00 09.6 +2.8
YAK *e*SS **SnSn** 19 01 48.9 +0.3
YAK *e* 19 03 56.3
YAK pmax pmax
comp=Z,8.0nm,1.9s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK smax smax
comp=E,83nm,5.9s
YAK smax smax
comp=N,73nm,6.7s
WMQ Urumqi 35.58 308 *eP* **P** 18 54 02.0 +2.4
WMQ LR LR
comp=N,100nm,18.3s
EDFI Ende, Flores 35.88 189 P **P** 18 54 00.8 -1.6
comp=N,19nm,0.7s
PSI Prapat 35.89 233 P **P** 18 54 04.7 +2.1
PSI pmax pmax
comp=Z,6.0nm,0.9s
RPSI Rantau Prapat 35.96 233 P **P** 18 54 04.7 +1.7
PLAI Plampang 36.67 195 P **P** 18 54 08.4 -0.6
BATI Baumata 37.12 185 P **P** 18 54 10.5 -2.3
ZSN Zaisan 38.49 313 *eP* **P** 18 54 24.2 +0.1
ZSN Zaisan 38.49 313 *eP* **P** 18 54 24.2 +0.1
DRS Darwin Rock St 39.41 174 P **P** 18 54 31.6 -0.4
RABL Rabaul 39.58 138 **P** 18 54 34.0 +0.6
SEY Seymchan 39.68 18 ⇓ *iP* **P** 18 54 33.6 -0.1
SEY pmax pmax
comp=Z,4.0nm,0.8s
MTN Manton Dam 39.85 173 P **P** 18 54 34.4 -1.2
comp=Z,101nm,1.0s
MTN Manton Dam 39.85 173 **P** 18 54 34.4 -1.2
MTN Manton Dam 39.85 173 P **P** 18 54 35.1 -0.5
KDU Kakadu 39.85 171 P **P** 18 54 34.0 -1.6
comp=Z,39nm,1.0s
KDU Kakadu 39.85 171 P **P** 18 54 34.6 -1.0
MK31 Makanchi Array 40.01 312 *d iP* **P** 18 54 36.0 -0.8
MKAR Makanchi Array 40.01 312 P **P** 18 54 36.3 -0.5
comp=Z,12nm,0.5s,baz=96,slow=11,SNR=152
MKAR pP **pP** 18 55 06.3 +0.1
comp=Z,3.3nm,0.6s,baz=100,slow=11,SNR=3.3
MKAR PcP **PcP** 18 56 39.5 +0.3
comp=Z,5.6nm,0.7s,baz=78,slow=3.5,SNR=13
MKAR ScP **ScP** 19 00 15.9 -0.1
comp=Z,3.8nm,0.8s,baz=102,slow=5.1,SNR=16
comp=Z,12nm,0.5s
MKAR Makanchi Array 40.01 312 *i* P **P** 18 54 36.2 -0.5
MKAR pmax pmax
comp=Z,13nm,0.5s
MAKZ Makanchi 40.23 312 P **P** 18 54 37.5 -1.0
MAKZ pP **pP** 18 55 06.6 -1.3
ZAA0 Zalesovo Array 40.81 323 **P** 18 54 42.3 -0.9
ZAA0 IAmb IAmb 18 54 43.9
comp=Z,20nm,0.8s
ZAA0 **ScP** 19 00 19.1 +0.2
ZALV Zalesovo Beam 40.81 323 **P** 18 54 42.3 -0.9
ZALV **ScP** 19 00 18.7 -0.2
ZALV Zalesovo Beam 40.81 323 P **P** 18 54 42.7 -0.5
comp=Z,30nm,0.7s,baz=112,slow=8.7,SNR=94
ZALV pP **pP** 18 55 12.7 +0.1
comp=Z,9.4nm,0.8s,baz=111,slow=7.7,SNR=4.8
ZALV PcP **PcP** 18 56 41.0 -0.5
comp=Z,2.3nm,0.7s,baz=149,slow=3.1,SNR=3.9
ZALV ScP **ScP** 19 00 18.9 0.0
comp=Z,8.4nm,0.9s,baz=108,slow=4.8,SNR=23
comp=Z,30nm,0.7s
PMG Port Moresby 41.27 149 **P** 18 54 47.4 +0.1
PMG Port Moresby 41.27 149 P **P** 18 54 48.2 +0.9
PMG Port Moresby 41.27 149 P **P** 18 54 47.6 +0.3
PMG Port Moresby 41.27 149 *c iP* **P** 18 54 47.4 +0.1
PMG pmax pmax
comp=Z,41nm,0.8s
PMG Port Moresby 41.27 149 P **P** 18 54 47.5 +0.1
SHLS Shalkode 41.33 306 *eP* **P** 18 54 45.3 -2.4
SHLS Shalkode 41.33 306 *eP* **P** 18 54 45.4 -2.4
UZB Uzynbulak 41.65 305 *eP* **P** 18 54 50.6 +0.2
UZB Uzynbulak 41.65 305 *eP* **P** 18 54 50.6 +0.2
PRZ Przheval'sk 42.03 304 IAmb IAmb 18 55 28.8
comp=Z,14nm,1.0s
PRZ **PcP** 18 56 47.9 +1.8
SATY Saty 42.09 305 *eP* **P** 18 54 54.3 +0.4
SATY Saty 42.09 305 *eP* **P** 18 54 54.3 +0.4
TDK Taldyqorghan 42.33 308 *eP* **P** 18 54 56.3 +0.6
TDK pmax pmax
comp=Z,18nm,0.8s
TDK Taldyqorghan 42.33 308 *eP* **P** 18 54 56.3 +0.6
comp=Z,18nm,0.8s
KNRA Kununurra 42.48 177 P **P** 18 54 55.7 -1.4
comp=Z,49nm,0.9s
KNRA Kununurra 42.48 177 **P** 18 54 56.9 -0.2
KDJ Kajisay 42.91 304 IAmb IAmb 18 55 35.3
comp=Z,14nm,0.9s
MDOK Medeo 43.09 305 *eP* **P** 18 55 02.3 +0.3
MDOK Medeo 43.09 305 *eP* **P** 18 55 02.3 +0.3
AAA Alma-Ata 43.19 305 *eP* **P** 18 55 02.8 +0.1
AAA Alma-Ata 43.19 305 *eP* **P** 18 55 02.9 +0.1
KURK Kurchatov 43.33 316 **P** 18 55 02.9 -0.7
KURK IAmb IAmb 18 55 04.2
comp=Z,14nm,0.8s
KURK **ScP** 19 00 29.1 0.0
KURK Kurchatov 43.33 316 *ceP* **P** 18 55 03.4 -0.3
KURK pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 43.33 316 P **P** 18 55 03.3 -0.3
KURK pP **pP** 18 55 30.0 -3.3
KURK sP **sP** 18 55 43.8 -4.4
KURBB Kurchatov Arra 43.36 316 P **P** 18 55 04.0 +0.1
comp=Z,9.9nm,0.8s,baz=104,slow=8.6,SNR=60
KURBB pP **pP** 18 55 33.7 +0.1
comp=Z,4.3nm,0.7s,baz=104,slow=8.7,SNR=2.4
KURBB PcP **PcP** 18 56 49.8 -0.4
comp=Z,2.4nm,0.6s,baz=114,slow=3.5,SNR=7.6
KURBB ScP **ScP** 19 00 28.9 -0.3
comp=Z,1.1nm,0.2s,baz=100,slow=3.6,SNR=12
comp=Z,9.9nm,0.8s
KSH Kashi 43.71 300 P **P** 18 55 10.5 +3.5
KSH pP pP 18 55 42.0 +5.2
KSH pmax pmax
comp=Z,5.0nm,0.9s
COEN Coen 43.74 157 P **P** 18 55 07.3 0.0
comp=Z,78nm,1.2s
COEN Coen 43.74 157 **P** 18 55 07.1 -0.2
COEN Coen 43.74 157 P **P** 18 55 08.2 +0.9
TIXI Tiksi 44.69 1 ⇑ *eP* **P** 18 55 14.8 +0.6
TIXI pmax pmax
comp=Z,8.0nm,1.1s
FITZ Fitzroy Crossi 44.85 181 P **P** 18 55 15.5 -0.6
comp=Z,5.3nm,1.1s
FITZ Fitzroy Crossi 44.85 181 **P** 18 55 15.7 -0.4
FITZ Fitzroy Crossi 44.85 181 P **P** 18 55 16.2 +0.2
SGDS Sogindy 44.87 305 *eP* **P** 18 55 16.3 +0.1
AAK Ala-Archa 44.92 304 ⇑ *eP* **P** 18 55 17.2 +0.5
AAK pmax pmax
comp=Z,2.0nm,0.5s
BTLS Baital 45.41 308 *eP* **P** 18 55 20.5 +0.2
BTLS Baital 45.41 308 *eP* **P** 18 55 20.5 +0.2
NIL Nilore 46.21 292 **P** 18 55 27.4 +0.6

NIL IAmb IAmb 18 55 28.4
comp=Z,13nm,0.8s
NIL Nilore 46.21 292 P **P** **18 55 27.4 +0.6**
NIL pmax pmax
comp=Z,13nm,0.9s
BRZS Berezniki 46.91 314 *eP* **P** **18 55 32.3 +0.4**
BRZS Berezniki 46.91 314 *eP* **P** **18 55 32.4 +0.4**
WRAB Tennant Creek 47.25 170 P **P** **18 55 34.6 -0.2**
WRAB Tennant Creek 47.25 170 *c iP* **P** **18 55 34.6 -0.2**
WRAB pmax pmax
comp=Z,46nm,0.8s
WRA Warramunga Arr 47.26 170 P **P** **18 55 33.1 -1.7**
WRA Warramunga Arr 47.26 170 P **P** **18 55 34.5 -0.3**
comp=Z,42nm,0.8s,baz=352,slow=8.4,SNR=160
WRA pP **pP** **18 56 05.2 +0.2**
comp=Z,4.8nm,0.7s,baz=350,slow=6.0,SNR=1.2
WRA PcP **PcP** **18 57 03.6 -0.4**
comp=Z,2.6nm,0.7s,baz=356,slow=4.0,SNR=3.3
WRA ScP **ScP** **19 00 45.8 +0.2**
comp=Z,0.2nm,0.3s,baz=184,slow=37,SNR=3.0
DZA Taraz 47.26 305 *eP* **P** **18 55 35.1 +0.3**
DZA Taraz 47.26 305 *eP* **P** **18 55 35.2 +0.3**
WR8 Warramunga Arr 47.29 170 **P** **18 55 34.5 -0.7**
TATA Tatamba Isabel 47.61 133 P **P** **18 55 38.8 +1.1**
KK31 Karatay Array 47.86 305 **PcP** **18 57 06.5 +0.5**
KK31 **ScP** **19 00 48.8 +0.7**
KKAR Karatay Array 47.86 305 **P** **18 55 39.4 0.0**
KKAR **PcP** **18 57 06.5 +0.5**
KKAR **ScP** **19 00 48.4 +0.3**
MTSU Mount Surprise 48.01 157 P **P** **18 55 41.2 +0.4**
comp=Z,69nm,0.8s
MTSU Mount Surprise 48.01 157 P **P** **18 55 42.3 +1.5**
GAR Garm 48.11 299 **PcP** **18 57 08.0 +0.8**
IUG Iuzhnay 48.22 304 *eP* **P** **18 55 42.6 +0.3**
IUG Iuzhnay 48.22 304 *eP* **P** **18 55 42.7 +0.3**
BRLS Boroldaу 48.36 305 *eP* **P** **18 55 44.6 +1.4**
BRLS Boroldaу 48.36 305 *eP* **P** **18 55 44.6 +1.4**
MBWA Marble Bar 48.36 189 P **P** **18 55 42.7 -0.6**
comp=Z,12nm,1.0s
MBWA Marble Bar 48.36 189 P **P** **18 55 43.0 -0.4**
CHM Chimkent 48.53 304 *eP* **P** **18 55 45.1 +0.5**
CHM Chimkent 48.53 304 *eP* **P** **18 55 45.2 +0.5**
PSA00 Pilbara Seismi 48.75 189 P **P** **18 55 45.3 -1.0**
comp=Z,28nm,0.9s
PSA00 Pilbara Seismi 48.75 189 P **P** **18 55 45.7 -0.7**
PSA00 IAmb IAmb 18 55 46.4
comp=Z,9.1nm,0.8s
PSA00 Pilbara Seismi 48.75 189 IAmb IAmb 18 55 46.5
comp=Z,16nm,0.8s
PSA00 Pilbara Seismi 48.75 189 P **P** **18 55 46.4 0.0**
BVAR Borovoye Array 48.80 318 P **P** **18 55 46.5 +0.1**
comp=Z,5.1nm,0.5s,baz=87,slow=7.6,SNR=23
BVAR pP **pP** **18 56 16.2 -0.6**
comp=Z,4.0nm,0.6s,baz=85,slow=6.4,SNR=3.5
BVAR PcP **PcP** **18 57 09.4 +0.2**
comp=Z,4.9nm,0.5s,baz=100,slow=2.5,SNR=7.8
BVAR ScP **ScP** **19 00 52.1 +0.3**
comp=Z,5.8nm,0.9s,baz=93,slow=3.3,SNR=16
comp=Z,5.1nm,0.5s
QIS Mount Isa 48.91 164 P **P** **18 55 47.0 -0.6**
comp=Z,83nm,1.0s
QIS Mount Isa 48.91 164 P **P** **18 55 47.9 +0.3**
SIMJ Simiganj 49.15 299 **P** **18 55 49.5 0.0**
SIMJ **ScP** **19 00 55.1 +1.3**
KBL Kabul 49.56 294 **P** **18 55 53.2 +0.4**
KBL Kabul 49.56 294 P **P** **18 55 53.2 +0.4**
KBL pmax pmax
comp=Z,22nm,0.8s
NGOA Tingoa Renbel 50.17 135 P **P** **18 55 57.6 +0.4**
CTA Charters Tower 50.50 156 P **P** **18 56 00.3 +0.7**
CTAO Charters Tower 50.50 156 **P** **18 56 00.1 +0.4**
CTAO Charters Tower 50.50 156 P **P** **18 56 00.1 +0.4**
CTAO pmax pmax
comp=Z,30nm,1.0s
CTAO Charters Tower 50.50 156 P **P** **18 56 00.0 +0.4**
CTAO sP **sP** **18 56 40.8 -4.0**
AS31 Alice Springs 50.85 172 P **P** **18 56 02.4 +0.1**
comp=Z,12nm,0.7s
AS31 Alice Springs 50.85 172 IAmb IAmb 18 56 04.6
comp=Z,9.0nm,0.6s
ASAR Alice Springs 50.86 172 P **P** **18 56 02.3 0.0**
ASAR **PcP** **18 57 17.4 +0.3**
ASAR Alice Springs 50.86 172 P **P** **18 56 02.6 +0.3**
comp=Z,20nm,0.6s,baz=358,slow=14,SNR=314
ASAR pP **pP** **18 56 32.1 -0.8**
comp=Z,3.1nm,0.8s,baz=359,slow=8.6,SNR=1.9
ASAR PcP **PcP** **18 57 17.4 +0.3**
comp=Z,4.8nm,0.7s,baz=348,slow=2.9,SNR=6.0
ASAR ScP **ScP** **19 01 01.9 +1.0**
comp=Z,0.2nm,0.3s,baz=350,slow=5.1,SNR=3.5
ASAR LR LR 19 16 00.7
comp=Z,74nm,21.6s,baz=326,slow=34
comp=Z,20nm,0.6s
AS01 Alice Springs 50.86 171 P **P** **18 56 02.5 +0.2**
WRKA Warakurna 51.77 178 P **P** **18 56 08.9 -0.1**
comp=Z,14nm,1.4s
SPIA Saint Paul Isl 53.18 37 P **P** **18 56 18.8 -0.3**
baz=263
NIKH Nikolski High 53.65 43 P **P** **18 56 21.7 -0.8**
baz=268
MEEK Meekatharra 53.91 189 P **P** **18 56 24.3 -0.5**
comp=Z,25nm,1.1s
MEEK Meekatharra 53.91 189 P **P** **18 56 24.8 +0.1**
UNV Unalaska Valle 55.08 42 P **P** **18 56 33.2 +0.3**
baz=269
AB31 Akbulak array 55.13 313 **ScP** **19 01 19.3 0.0**
ABKAR Akbulak array 55.13 313 P **P** **18 56 32.4 -1.0**
ABKAR **ScP** **19 01 18.9 -0.4**
TNA Tin City 55.56 27 P **P** **18 56 35.6 -0.5**
baz=260
M11K Mekoryuk 55.62 34 P **P** **18 56 36.4 -0.2**
baz=265
QLP Quilpie 55.89 161 P **P** **18 56 38.0 -0.9**
comp=Z,51nm,0.9s
QLP Quilpie 55.89 161 P **P** **18 56 40.1 +1.2**
ARTI Arti 56.05 321 P **P** **18 56 38.4 -1.4**
ARTI IAmb IAmb 18 57 15.1
comp=Z,14nm,1.1s
ARTI Arti 56.05 321 LR LR 19 22 23.9
comp=Z,72nm,18.8s,baz=133,slow=38
ARTI Arti 56.05 321 *c iP* **P** **18 56 38.8 -0.9**
ARTI *PP **pP** **18 57 11.8 +1.1**
ARTI 18 57 33.8
ARTI S **S** **19 04 14.1 -3.7**
ARTI SS **SS** **19 07 59.3 -6.2**
ARTI pmax pmax
comp=Z,14nm,1.6s
ARTI Arti 56.05 321 P **P** **18 56 38.9 -0.9**
ARTI pP **pP** **18 57 09.2 -1.6**
INKA Innaminka 56.08 165 P **P** **18 56 40.5 +0.2**
INKA IAmb IAmb 18 56 41.8
comp=Z,11nm,0.8s
F14K Arctic Creek 56.20 28 P **P** **18 56 40.3 -0.4**
baz=261
ANM Nome 56.47 29 P **P** **18 56 42.2 -0.5**
baz=263
K13K Kusilvak Mount 56.51 32 P **P** **18 56 42.9 0.0**
baz=265
MORW Morawa 56.69 191 P **P** **18 56 44.9 +0.3**
F15K North Star Dit 56.92 27 P **P** **18 56 45.7 -0.1**
baz=262
M13K Dall Lake 57.03 34 P **P** **18 56 46.5 -0.2**
baz=267
C16K Lisburne Hills 57.04 24 P **P** **18 56 46.6 +0.1**
baz=260
J14K Nanvaranak Lak 57.09 31 P **P** **18 56 46.5 -0.5**
baz=265
G15K Niukluk 57.09 28 P **P** **18 56 47.1 +0.1**
baz=264
EIDS Eidsvold 57.13 154 P **P** **18 56 46.7 -1.0**
comp=Z,22nm,0.9s
EIDS Eidsvold 57.13 154 IAmb IAmb 18 56 48.7
comp=Z,15nm,0.8s
L14K Kuka Creek 57.40 33 P **P** **18 56 49.3 +0.1**
baz=267
S12K Black Hills 57.65 39 P **P** **18 56 50.8 -0.3**
baz=271
SANVU Saraoutou 57.66 132 P **P** **18 56 52.0 +0.3**
M14K Bethel 57.73 33 P **P** **18 56 51.0 -0.5**
baz=268
D17K Noatak River 57.80 25 P **P** **18 56 51.8 -0.1**
baz=263
H16K Elim 57.82 29 P **P** **18 56 51.6 -0.5**
baz=265
G16K Koyuk River 57.84 28 P **P** **18 56 51.9 -0.3**
baz=265
N14K Kuskokwak Cree 57.85 34 P **P** **18 56 51.9 -0.4**
baz=269
L15K Ungalak Mounta 57.99 32 P **P** **18 56 52.7 -0.6**
baz=268
K15K Wolf Creek Mou 57.99 32 IAmb IAmb 18 56 56.0
comp=Z,7.2nm,0.8s
K15K Wolf Creek Mou 57.99 32 P **P** **18 56 53.2 -0.2**
baz=268
O14K Tigyukauivet M 58.05 35 P **P** **18 56 53.5 -0.3**
baz=270
BLDU Ballidu 58.10 190 P **P** **18 56 54.2 -0.2**
comp=Z,22nm,1.4s
BLDU Ballidu 58.10 190 P **P** **18 56 52.9 -1.5**
E17K Hotham Inlet 58.21 26 P **P** **18 56 54.6 -0.2**
baz=264
M15K Kasigluk River 58.35 33 P **P** **18 56 55.7 -0.2**
baz=269
F17K Baldwin Pennin 58.38 27 P **P** **18 56 55.7 -0.2**
baz=265
I17K Unalakleet 58.45 30 P **P** **18 56 56.2 -0.3**
baz=267
J16K Anvik River 58.46 30 P **P** **18 56 55.9 -0.8**
baz=268
B18K Kokolik River 58.47 23 P **P** **18 56 56.1 -0.5**
baz=263
G17K Kiwalik Mounta 58.55 28 P **P** **18 56 57.8 +0.5**
baz=266,SNR=5.7
SDPT Sand Point 58.56 40 P **P** **18 56 57.4 -0.1**
baz=273
C18K Utukok River 58.61 24 P **P** **18 56 57.5 -0.2**
baz=264
N15K Kwethluk River 58.65 34 P **P** **18 56 57.6 -0.4**
baz=270
E18K Tukpahlearik C 58.71 26 P **P** **18 56 58.0 -0.4**
baz=265
O15K Ungalikthiuk R 58.79 35 P **P** **18 56 58.7 -0.3**
baz=271
A19K Wainwright 58.83 22 P **P** **18 56 59.1 +0.1**
baz=263
H17K Granite Mounta 58.83 28 P **P** **18 56 59.1 -0.1**
baz=267
L16K Owhat River 58.95 32 IAmb IAmb 18 57 01.4
comp=Z,9.7nm,0.9s
L16K Owhat River 58.95 32 P **P** **18 56 59.8 -0.2**
baz=270,SNR=5.5
F18K Selawik 59.03 27 P **P** **18 57 00.5 0.0**
baz=267
S14K Fog Glacier 59.04 39 P **P** **18 57 00.3 -0.5**
baz=273
CHNA Chernabura Isl 59.10 40 P **P** **18 57 00.5 -0.6**
baz=274
J17K VABM Dome 59.15 30 P **P** **18 57 01.4 0.0**
J17K VABM Dome 59.15 30 P **P** **18 57 01.4 0.0**
baz=269,SNR=8.6
M16K Timber Creek 59.20 33 P **P** **18 57 01.5 -0.2**
baz=271
C19K Lookout Ridge 59.23 24 P **P** **18 57 02.0 0.0**
baz=265
N16K Nishlik Lake 59.30 34 P **P** **18 57 02.6 +0.1**
baz=271,SNR=6.6
G18K Tagagawik 59.40 27 P **P** **18 57 03.0 -0.1**
baz=268
H18K Honhosa River 59.50 28 P **P** **18 57 03.8 0.0**
baz=269
K17K Iditarod 59.50 31 P **P** **18 57 04.2 +0.4**
baz=270
JOHN Johnston Islan 59.51 86 P **P** **18 57 07.0 +2.5**
L17K Donlin 59.51 32 P **P** **18 57 04.2 +0.3**
baz=270
O16K Kokwok River B 59.67 35 P **P** **18 57 05.5 +0.5**
O16K IAmb IAmb 18 57 06.5
comp=Z,9.2nm,0.9s
O16K Kokwok River B 59.67 35 P **P** **18 57 04.8 -0.1**
baz=272
CHGN Chignik 59.67 39 P **P** **18 57 05.2 +0.2**
baz=274
D19K Kuna River 59.72 24 P **P** **18 57 05.2 -0.1**
baz=267
F19K Shaleruckik Mo 59.78 26 P **P** **18 57 05.3 -0.4**
baz=268
M17K Holitna River 59.93 33 P **P** **18 57 07.3 +0.5**
M17K Holitna River 59.93 33 P **P** **18 57 07.1 +0.3**
baz=272,SNR=8.7
E19K Redstone River 60.01 26 IAmb IAmb 18 57 08.5
comp=Z,9.7nm,0.8s
E19K Redstone River 60.01 26 P **P** **18 57 07.0 -0.3**
baz=268
G19K Purcell Mounta 60.04 27 P **P** **18 57 07.4 -0.1**
baz=269
N17K Nushagak Hills 60.08 34 IAmb IAmb 18 57 09.9
comp=Z,8.8nm,0.8s
N17K Nushagak Hills 60.08 34 P **P** **18 57 07.6 -0.3**
baz=272
BBOO Buckleboo 60.15 171 P **P** **18 57 07.6 -0.9**
comp=Z,40nm,1.1s
BBOO Buckleboo 60.15 171 P **P** **18 57 08.4 -0.1**
BBOO Buckleboo 60.15 171 P **P** **18 57 08.4 -0.1**
O17K Koliganek Bris 60.16 34 P **P** **18 57 08.3 0.0**
baz=273
J18K Innoko River 60.21 30 P **P** **18 57 08.4 -0.2**
baz=271
STKA Stephens Creek 60.25 165 P **P** **18 57 08.3 -1.0**
comp=Z,178nm,0.8s
STKA Stephens Creek 60.25 165 P **P** **18 57 09.4 +0.2**
comp=Z,24nm,0.7s,baz=338,slow=7.3,SNR=52
STKA PP **PP** **18 59 20.9 -3.0**
comp=Z,2.6nm,0.8s,baz=30,slow=8.3,SNR=3.0
comp=Z,24nm,0.7s
STKA Stephens Creek 60.25 165 P **P** **18 57 09.7 +0.5**
L18K Granite Mounta 60.26 32 IAmb IAmb 18 57 10.9
comp=Z,1nm,0.8s
L18K Granite Mounta 60.26 32 P **P** **18 57 09.2 +0.2**
baz=272,SNR=7.7
D20K Etivluk River 60.28 24 P **P** **18 57 09.5 +0.4**
baz=268
NWAO Narrogin (SRO) 60.29 189 P **P** **18 57 08.8 -0.7**
NWAO Narrogin (SRO) 60.29 189 P **P** **18 57 10.9 +1.4**
NWAO Narrogin (SRO) 60.29 189 P **P** **18 57 08.8 -0.7**
NWAO pmax pmax
comp=Z,49nm,1.4s
NWAO Narrogin (SRO) 60.29 189 P **P** **18 57 10.0 +0.5**
NWAO sP **PcP** **18 57 50.6 -2.7**
NWAO PcP **sP** **18 57 52.5 -2.7**
H19K Roundabout Mou 60.30 28 P **P** **18 57 08.9 -0.3**
baz=270,SNR=14
E20K Nigu River 60.43 25 P **P** **18 57 10.2 +0.1**
baz=269
P17K Kvichak River 60.53 35 P **P** **18 57 10.8 0.0**
baz=274
F20K Avaraart Lake 60.59 26 P **P** **18 57 11.1 0.0**
baz=270
J19K Poorman 60.69 30 IAmb IAmb 18 57 13.3
comp=Z,14nm,0.8s
J19K Poorman 60.69 30 P **P** **18 57 11.9 0.0**
baz=272,SNR=14
R17L Mt. Peulik Vol 60.69 37 P **P** **18 57 11.7 -0.3**
baz=275
M18K Stony River 60.70 32 P **P** **18 57 12.2 +0.2**
baz=273,SNR=5.5
N18K Kilae Creek 60.72 33 IAmb IAmb 18 57 14.1
comp=Z,8.3nm,0.9s
N18K Kilae Creek 60.72 33 P **P** **18 57 12.1 -0.1**
baz=274
KIRV Kirov 60.83 324 *eP* **P** **18 57 13.2 +0.4**
A22K Sinclair Lake 60.92 22 P **P** **18 57 13.8 +0.5**
baz=268
H20K Anotleneega Mo 60.96 28 P **P** **18 57 14.0 +0.3**
baz=272,SNR=5.9
CMSA Cobar Meteorol 60.97 161 P **P** **18 57 14.3 +0.2**
comp=Z,42nm,1.7s
CMSA Cobar Meteorol 60.97 161 P **P** **18 57 15.7 +1.6**
B21K Ikpikpuk River 61.02 23 P **P** **18 57 14.0 0.0**
baz=270
O18K Koktuh Hills 61.11 34 IAmb IAmb 18 57 17.2
comp=Z,13nm,0.8s
O18K Koktuh Hills 61.11 34 P **P** **18 57 15.1 +0.2**
baz=274,SNR=5.1
L19K White Mountain 61.12 32 IAmb IAmb 18 57 16.7
comp=Z,11nm,0.8s
L19K White Mountain 61.12 32 P **P** **18 57 15.1 +0.3**
baz=274,SNR=7.1
P18K Big Mountain, 61.14 35 IAmb IAmb 18 57 16.4
comp=Z,15nm,0.9s
P18K Big Mountain, 61.14 35 P **P** **18 57 15.3 +0.2**
baz=275
I20K Naaghedeneel 61.15 29 P **P** **18 57 16.0 +1.1**
baz=272,SNR=8.2
HTT Hallett 61.22 168 P **P** **18 57 15.2 -0.6**
comp=Z,6.4nm,1.4s
HTT Hallett 61.22 168 P **P** **18 57 16.1 +0.3**
HTT Hallett 61.22 168 P **P** **18 57 15.2 -0.6**
E21K Killik River 61.25 24 P **P** **18 57 16.0 +0.4**
baz=271
CHIR Chirikof Islan 61.27 39 P **P** **18 57 15.9 -0.1**
baz=276
Q18K Katmai Hardscr 61.32 36 P **P** **18 57 16.4 0.0**
baz=275
J20K Nowinta River 61.33 29 P **P** **18 57 16.5 +0.3**
baz=273,SNR=18
M19K Big River Lodg 61.36 32 P **P** **18 57 17.1 +0.6**
baz=274
N19K Bonanza Creek 61.39 33 IAmb IAmb 18 57 20.0
comp=Z,8.4nm,0.9s
N19K Bonanza Creek 61.39 33 P **P** **18 57 17.1 +0.3**
baz=275
K20K Telida 61.41 30 P **P** **18 57 17.3 +0.5**
baz=274,SNR=12
B22K Teshekpuk Lake 61.43 22 P **P** **18 57 17.8 +1.0**
baz=270
F21K Alatna River 61.47 26 P **P** **18 57 17.3 +0.2**
baz=272
G21K Allakaket 61.48 27 IAmb IAmb 18 57 18.8
comp=Z,11nm,0.8s
G21K Allakaket 61.48 27 P **P** **18 57 17.4 +0.1**
baz=272,SNR=6.2
L20K Farewell, AK 61.55 31 P **P** **18 57 17.9 +0.1**
baz=274
D22K Ayikyak River 61.71 24 P **P** **18 57 19.1 +0.4**
baz=272
R18K Karluk 61.72 37 P **P** **18 57 18.8 -0.1**
baz=276
H21K Melozitna Rive 61.81 28 IAmb IAmb 18 57 21.2
comp=Z,11nm,0.8s
H21K Melozitna Rive 61.81 28 P **P** **18 57 19.9 +0.4**
baz=273,SNR=8.8
ARMA Armidale 61.87 156 P **P** **18 57 20.0 -0.4**
comp=Z,23nm,1.3s
ARMA Armidale 61.87 156 P **P** **18 57 20.2 -0.2**
ARMA Armidale 61.87 156 P **P** **18 57 20.9 +0.6**
M20K Styx River 61.95 32 IAmb IAmb 18 57 22.5
comp=Z,11nm,0.8s
M20K Styx River 61.95 32 P **P** **18 57 21.3 +0.7**
baz=275,SNR=7.4
F22K John River 61.96 26 P **P** **18 57 21.4 +1.0**
baz=273,SNR=10.0
SII Sitkinak Islan 61.99 38 P **P** **18 57 21.1 +0.3**
baz=277
Q19K Cape Douglas, 61.99 35 P **P** **18 57 21.0 +0.2**
baz=276
E22K Anaktuvuk Pass 62.06 25 IAmb IAmb 18 57 22.6
comp=Z,14nm,0.8s
E22K Anaktuvuk Pass 62.06 25 P **P** **18 57 21.5 +0.3**
baz=273,SNR=6.1
DZM Mont Dzumac 62.11 138 P **P** **18 57 22.6 +0.5**
P19K Oil Pt 62.13 34 P **P** **18 57 21.3 -0.3**
baz=276
CHUM Lake Minchumin 62.15 30 P **P** **18 57 22.4 +0.7**
baz=275,SNR=7.5
I21K Tanana 62.19 28 IAmb IAmb 18 57 24.0
comp=Z,16nm,0.8s
I21K Tanana 62.19 28 P **P** **18 57 22.4 +0.5**
baz=274,SNR=9.0
G22K Bettles 62.26 26 P **P** **18 57 22.3 -0.1**
baz=274
CAST Castle Rocks 62.29 30 IAmb IAmb 18 57 24.4
comp=Z,14nm,0.9s
CAST Castle Rocks 62.29 30 P **P** **18 57 23.0 +0.3**
baz=275,SNR=17
PPLA Purkeypile 62.30 31 IAmb IAmb 18 57 24.6
comp=Z,12nm,0.7s
PPLA Purkeypile 62.30 31 P **P** **18 57 23.1 +0.2**
baz=275,SNR=5.5
O20K Slope Mountain 62.38 34 P **P** **18 57 23.6 +0.2**
baz=277
H22K Ishtalitna Cre 62.38 27 P **P** **18 57 23.7 +0.4**
baz=275,SNR=18
OHAK Old Harbor 62.39 37 P **P** **18 57 25.7 +2.3**
OHAK Old Harbor 62.39 37 P **P** **18 57 23.5 +0.2**
baz=278
C23K Itkillik River 62.40 23 P **P** **18 57 23.3 0.0**
baz=275
D23K Nanushuk River 62.43 24 P **P** **18 57 23.9 +0.4**
baz=274
N20K Mount Spurr 62.46 33 P **P** **18 57 23.8 -0.2**
baz=276
SPCR Spurr Chakacha 62.46 33 P **P** **18 57 23.9 0.0**
baz=276
SPU Mount Spurr 62.54 33 IAmb IAmb 18 57 26.2
comp=Z,9.6nm,1.0s
BELG Belogornoye 62.59 317 *de* **P** **18 57 23.9 -0.9**
BELG pmax pmax
comp=Z,2.0nm,0.7s
OUENC Ouen Island, N 62.61 138 P **P** **18 57 28.5 +3.2**
Q20K Shuyak Island 62.68 36 P **P** **18 57 25.3 0.0**
baz=278
KDAK Kodiak Island 62.69 37 P **P** **18 57 25.4 0.0**
baz=278
SKT Skwentna 62.70 32 IAmb IAmb 18 57 26.1
comp=Z,7.6nm,0.8s
SKT Skwentna 62.70 32 P **P** **18 57 25.1 -0.3**
baz=276
BPAW Bear Paw Mtn. 62.71 29 IAmb IAmb 18 57 27.0
comp=Z,8.3nm,0.8s
BPAW Bear Paw Mtn. 62.71 29 P **P** **18 57 25.6 +0.2**
baz=276,SNR=8.4
MLY Manley 62.73 28 IAmb IAmb 18 57 27.3
comp=Z,13nm,0.8s
MLY Manley 62.73 28 P **P** **18 57 25.7 +0.1**
baz=276,SNR=14
COLD Coldfoot 62.74 26 P **P** **18 57 25.6 0.0**
baz=275
KTH Kantishna Hill 62.80 30 IAmb IAmb 18 57 27.5
comp=Z,8.3nm,0.9s
TOLK Toolik Lake Re 62.86 24 P **P** **18 57 26.6 +0.2**
baz=275
G23K Bananza Creek 62.86 26 P **P** **18 57 26.5 +0.1**
baz=275
E23K Chandalar 62.89 25 IAmb IAmb 18 57 28.4
comp=Z,12nm,0.8s
E23K Chandalar 62.89 25 P **P** **18 57 26.8 +0.1**
baz=275,SNR=6.0
C24K Franklin Bluff 63.08 23 P **P** **18 57 28.0 +0.3**
baz=275
D24K Happy Valley 63.08 24 P **P** **18 57 28.0 +0.2**
baz=275
TRF Thorofare Moun 63.09 30 P **P** **18 57 27.9 -0.3**
baz=277
SUA Susitna One 63.13 32 P **P** **18 57 28.1 -0.3**
baz=277,SNR=11
H23K Yukon River 63.14 27 P **P** **18 57 28.7 +0.4**
baz=276,SNR=21
CUT Chulitna 63.23 31 P **P** **18 57 28.6 -0.2**
baz=277
BRLK Bradley Lake 63.29 34 IAmb IAmb 18 57 31.5
comp=Z,16nm,0.8s
I23K Minto, Yukon-K 63.29 28 IAmb IAmb 18 57 30.8
comp=Z,15nm,1.2s
I23K Minto, Yukon-K 63.29 28 P **P** **18 57 29.6 +0.4**
baz=277,SNR=6.4
E24K Your Creek 63.31 25 IAmb IAmb 18 57 31.1
comp=Z,11nm,0.8s
E24K Your Creek 63.31 25 P **P** **18 57 30.2 +0.7**
baz=276,SNR=5.7
BWN Browne 63.37 29 IAmb IAmb 18 57 32.4
comp=Z,20nm,1.0s
M22K Willow 63.39 32 P **P** **18 57 30.2 +0.3**
baz=278
NEA2 Nenana 63.49 29 P **P** **18 57 30.6 +0.1**
baz=277,SNR=19
F24K Squaw Lake 63.60 25 IAmb IAmb 18 57 33.0
comp=Z,15nm,0.7s
F24K Squaw Lake 63.60 25 P **P** **18 57 31.7 +0.4**
baz=277,SNR=13
MCK McKinley 63.66 30 IAmb IAmb 18 57 33.2
comp=Z,11nm,0.7s
MCK McKinley 63.66 30 P **P** **18 57 31.6 -0.1**
baz=278,SNR=7.4
RC01 Rabbit Creek A 63.66 33 P **P** **18 57 32.2 +0.5**
baz=278
O22K Cooper Landing 63.76 33 P **P** **18 57 32.9 +0.5**
baz=279
H24K Noodor Dome 63.82 27 IAmb IAmb 18 57 34.8
comp=Z,11nm,0.8s
H24K Noodor Dome 63.82 27 P **P** **18 57 32.9 +0.1**
baz=278,SNR=13

G24K Hadweenzic Riv 63.87 26 IAmb IAmb 18 57 35.0
comp=Z,12nm,0.8s
G24K Hadweenzic Riv 63.87 26 P **P** **18 57 33.7 +0.7**
baz=278,SNR=11
PMR Palmer 63.88 32 P **P** **18 57 33.1 0.0**
baz=279
D25K Kavik River 63.93 23 P **P** **18 57 33.3 -0.2**
baz=277
SEW Seward 63.95 34 P **P** **18 57 34.0 +0.4**
baz=279
WAT1 Susitna Watana 63.96 31 P **P** **18 57 33.5 -0.2**
baz=279
COLA College 63.97 28*c i*P **P** **18 57 34.2 +0.6**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 63.97 28 P **P** **18 57 33.8 +0.2**
baz=278
POKR Poker Plat Res 64.11 28 P **P** **18 57 34.9 +0.3**
baz=278,SNR=5.9
KNK Knik Glacier 64.22 32 IAmb IAmb 18 57 36.8
comp=Z,13nm,0.8s
KNK Knik Glacier 64.22 32 P **P** **18 57 34.9 -0.6**
baz=279
YNG Young 64.34 160 P **P** **18 57 36.7 +0.2**
comp=Z,48nm,1.0s
C26K Camden Bay 64.36 23 P **P** **18 57 36.0 -0.2**
baz=278
WAT6 Susitna Watana 64.37 31 P **P** **18 57 36.0 -0.5**
baz=279,SNR=6.9
PWL Port Wells 64.38 33 IAmb IAmb 18 57 37.0
comp=Z,14nm,0.8s
PWL Port Wells 64.38 33 P **P** **18 57 36.0 -0.5**
baz=280
ILAR Eielson Array 64.39 28 P **P** **18 57 35.5 -0.9**
comp=Z,2.0nm,0.7s,baz=265,slow=4.1,SNR=20
ILAR pP **pP** **18 58 07.7 -0.3**
comp=Z,0.8nm,0.7s,baz=270,slow=6.8,SNR=2.8
comp=Z,2.0nm,0.7s
E25K Arctic Village 64.39 25 IAmb IAmb 18 57 38.4
comp=Z,9.7nm,1.0s
E25K Arctic Village 64.39 25 P **P** **18 57 36.4 0.0**
baz=279
G25K Bearman Lake 64.40 26 P **P** **18 57 37.0 +0.6**
baz=279,SNR=5.3
HDA Harding Lake 64.42 29 IAmb IAmb 18 57 37.3
comp=Z,16nm,0.8s
HDA Harding Lake 64.42 29 P **P** **18 57 36.2 -0.5**
baz=279,SNR=17
F25K Christian Rive 64.44 25 IAmb IAmb 18 57 39.1
comp=Z,12nm,0.8s
F25K Christian Rive 64.44 25 P **P** **18 57 37.4 +0.6**
baz=279,SNR=9.1
DHY Denali Highway 64.45 30 P **P** **18 57 37.0 0.0**
baz=280
M23K Glacier View 64.51 32 P **P** **18 57 37.5 +0.2**
baz=280
SCM Sheep Creek Mo 64.69 32 P **P** **18 57 38.3 -0.2**
baz=280
AKT Akhty 64.78 305 *e*P **P** **18 57 38.1 -1.5**
AKT *e* 18 58 09.8
AKT *e* 18 58 33.8
AKT *e*S **S** **19 06 01.3 -8.6**
AKT pmax pmax
comp=Z,14nm,1.0s
C27K Jago River 64.82 23 P **P** **18 57 39.5 +0.4**
baz=280
PRP Porcupine Dome 64.83 27 IAmb IAmb 18 57 41.3
comp=Z,8.3nm,0.8s
PRP Porcupine Dome 64.83 27 P **P** **18 57 39.2 -0.2**
baz=280,SNR=8.8
BMAR Burnt Mountain 64.88 25 P **P** **18 57 39.1 -0.5**
GLI Glacier Island 64.97 33 P **P** **18 57 39.8 -0.4**
baz=281
P23K Montague Islan 64.98 34 P **P** **18 57 39.9 -0.4**
baz=281
F26K Sheenjek River 64.99 25 IAmb IAmb 18 57 42.7
comp=Z,17nm,0.8s
F26K Sheenjek River 64.99 25 P **P** **18 57 40.6 +0.3**
baz=280,SNR=16
K24K Donnelly Dome 65.03 29 P **P** **18 57 40.8 +0.1**
baz=280
J25K Salcha River, 65.06 28 P **P** **18 57 40.8 0.0**
baz=280
M24K Tolsona, Glenn 65.17 31 IAmb IAmb 18 57 45.7
comp=Z,16nm,0.7s
M24K Tolsona, Glenn 65.17 31 P **P** **18 57 41.5 -0.2**
baz=281
G26K Porcupine Rive 65.27 26 IAmb IAmb 18 57 44.3
comp=Z,12nm,1.0s
G26K Porcupine Rive 65.27 26 P **P** **18 57 43.0 +0.9**
baz=281,SNR=7.9
PAX Paxson 65.33 30 IAmb IAmb 18 57 43.7
comp=Z,8.7nm,0.8s
PAX Paxson 65.33 30 P **P** **18 57 42.9 +0.2**
baz=281,SNR=9.3
KLU Klutina 65.41 32 P **P** **18 57 43.3 +0.1**
baz=282
RIDG Independent Ri 65.45 29 IAmb IAmb 18 57 44.7
comp=Z,16nm,1.0s
RIDG Independent Ri 65.45 29 P **P** **18 57 43.6 +0.2**
baz=281,SNR=8.2
KLMR Klimovskoe 65.47 327 *e*P **P** **18 57 41.7 -1.8**
KLMR *e**PP **pP** **18 58 15.6 +0.5**
KLMR pmax pmax
comp=Z,16nm,1.4s
CAN Canberra 65.47 160 P **P** **18 57 44.7 +0.9**
CAN Canberra 65.47 160 P **P** **18 57 44.4 +0.6**
CAN Canberra 65.47 160 P **P** **18 57 44.7 +0.9**
CAN pmax pmax
comp=Z,31nm,1.1s
DIV Divide 65.55 32 IAmb IAmb 18 57 45.9
comp=Z,16nm,0.9s
CNB Canberra Magne 65.58 160 P **P** **18 57 45.0 +0.5**
HARP HAARP 65.58 31 P **P** **18 57 44.4 +0.2**
baz=282
Q23K Middleton Isla 65.62 34 P **P** **18 57 44.3 -0.2**
baz=282
SCRK Sand Creek 65.78 29 IAmb IAmb 18 57 46.2
comp=Z,9.5nm,0.8s
SCRK Sand Creek 65.78 29 P **P** **18 57 45.4 -0.1**
baz=282,SNR=11
DOT Dot Lake 65.81 29 IAmb IAmb 18 57 46.3
comp=Z,15nm,0.8s
D27M Malcolm River 65.84 23 IAmb IAmb 18 57 47.7
comp=Z,12nm,0.9s
D27M Malcolm River 65.84 23 P **P** **18 57 46.3 +0.5**
baz=282,SNR=5.4
E27K Coleen River 65.84 24 IAmb IAmb 18 57 47.7
comp=Z,10nm,0.8s
E27K Coleen River 65.84 24 P **P** **18 57 46.1 +0.3**
baz=282,SNR=7.1
J26L Joseph Creek 65.85 28 IAmb IAmb 18 57 46.4
comp=Z,15nm,0.8s
J26L Joseph Creek 65.85 28 P **P** **18 57 45.5 -0.4**
baz=282,SNR=30
I26K Coal Creek Min 65.85 27 P **P** **18 57 45.4 -0.4**
baz=282
N25K Chitina, Valde 66.00 32 P **P** **18 57 46.9 -0.1**
baz=282
MENT Mentasta 66.11 30 IAmb IAmb 18 57 49.2
comp=Z,14nm,0.8s
G27K Doyon Strip 66.12 26 P **P** **18 57 47.6 0.0**
baz=283,SNR=6.6
BMRM Bremner River 66.14 32 P **P** **18 57 48.1 +0.3**
baz=283
L26K Log Cabin Wild 66.26 30 IAmb IAmb 18 57 50.1
comp=Z,8.1nm,0.8s
L26K Log Cabin Wild 66.26 30 P **P** **18 57 49.0 +0.4**
baz=283,SNR=6.1
H27K Steamboat Moun 66.30 26 IAmb IAmb 18 57 51.0
comp=Z,35nm,1.7s
H27K Steamboat Moun 66.30 26 P **P** **18 57 49.2 +0.5**
baz=283,SNR=9.2
I27K Kandik River 66.41 27 P **P** **18 57 49.6 +0.1**
baz=283,SNR=18
E28M Babbage River 66.49 24 IAmb IAmb 18 57 51.8
comp=Z,12nm,0.8s
E28M Babbage River 66.49 24 P **P** **18 57 50.3 +0.4**
baz=284,SNR=12
M26K Nabesna, AK 66.56 31 IAmb IAmb 18 57 52.0
comp=Z,17nm,0.8s
M26K Nabesna, AK 66.56 31 P **P** **18 57 50.6 0.0**
baz=284,SNR=10
K27K Chicken 66.58 29 P **P** **18 57 50.7 +0.1**
baz=284
APA Apatity 66.59 335 *e*P **P** **18 57 50.0 -0.5**
APA *e**PP **PcP** **18 58 19.5 +0.7**
APA MLR MLR
comp=Z,341nm,3.4s
D28M Stokes Point 66.59 23 P **P** **18 57 50.7 +0.3**
baz=284
F28M Old Crow 66.61 25 IAmb IAmb 18 57 52.7
comp=Z,17nm,1.0s
F28M Old Crow 66.61 25 P **P** **18 57 51.1 +0.4**
baz=284
MSVF Nonsavu 66.76 126 P **P** **18 57 53.5 +1.1**
MSVF Nonsavu 66.76 126⇓ *e*P **P** **18 57 53.0 +0.6**
MSVF pmax pmax
comp=Z,63nm,1.1s
MCARA McCarthy VSAT 66.79 32 P **P** **18 57 52.7 +0.8**
baz=284
CRQE Cirque 66.91 32 P **P** **18 57 53.5 +0.6**
baz=284
L27K Beaver Creek, 66.93 30 P **P** **18 57 53.9 +1.1**
baz=284,SNR=7.2
BCAR Beaver Creek A 66.94 30 P **P** **18 57 53.0 +0.1**
BGLC Bering Glacier 66.97 33 P **P** **18 57 53.3 +0.3**
baz=284
M27K Edge Creek, AK 67.08 30 P **P** **18 57 54.6 +0.7**
baz=284,SNR=5.6
I28M Miner Creek 67.12 27 IAmb IAmb 18 57 56.1
comp=Z,10nm,0.8s
I28M Miner Creek 67.12 27 P **P** **18 57 54.6 +0.5**
baz=285,SNR=15
E29M Blow River 67.13 24 IAmb IAmb 18 57 55.7
comp=Z,12nm,1.1s
E29M Blow River 67.13 24 P **P** **18 57 53.9 0.0**
baz=285,SNR=5.7
NCK Nalchik 67.20 308⇓ *e*P **P** **18 57 55.6 +0.7**
NCK pmax pmax
comp=Z,4.0nm,0.3s
GNI Garni 67.33 305 LR LR 19 29 57.4
comp=Z,36nm,18.0s,baz=126,slow=38
G29M Pine Creek 67.48 25 P **P** **18 57 56.8 +0.6**
baz=286,SNR=10
BVCY Beaver Creek 67.52 30 P **P** **18 57 57.2 +0.6**
baz=285
H29M Whitestone 67.54 26 IAmb IAmb 18 57 58.5
comp=Z,12nm,0.9s
H29M Whitestone 67.54 26 P **P** **18 57 57.5 +0.9**
baz=286,SNR=7.1
KBZ Khabaz 67.62 309 P **P** **18 57 58.3 +0.8**
comp=Z,14nm,0.9s,baz=96,slow=5.0,SNR=21
KBZ pP **pP** **18 58 28.8 -0.6**
comp=Z,24nm,0.9s,baz=122,slow=1.3,SNR=6.2
comp=Z,14nm,0.9s
KBZ Khabaz 67.62 309*c i*P **P** **18 57 58.3 +0.8**
KBZ pmax pmax
comp=Z,21nm,1.0s
MOS Moscow 67.64 322 *e*P **P** **18 57 55.2 -2.1**
MOS *e* 18 58 29.3
CTG Chitna Glacier 67.69 32 P **P** **18 57 58.0 +0.2**
baz=286
KIV Kislovodsk 67.71 309 P **P** **18 57 58.6 +0.5**
KIV Kislovodsk 67.71 309 *e*P **P** **18 57 58.0 -0.2**
KIV *e* 18 58 31.9
KIV pmax pmax
comp=Z,30nm,1.1s
KIV Kislovodsk 67.71 309 P **P** **18 57 57.9 -0.2**
KIV pP **PcP** **18 58 26.9 +2.8**
DAWY Dawson 67.72 28 P **P** **18 57 58.2 +0.4**
baz=286,SNR=5.5
SPITS Spitsbergen Ar 67.79 348 P **P** **18 57 57.0 -0.9**
comp=Z,4.8nm,0.8s,baz=120,slow=9.8,SNR=1.3
comp=Z,4.8nm,0.8s
SHA1 Shizhzimaz 67.79 309*c i*P **P** **18 57 59.5 +0.7**
I29M Ogilvie Camp, 67.81 27 P **P** **18 57 58.7 +0.4**
baz=286,SNR=6.7
YUK3 Moose Creek 67.88 31 P **P** **18 57 59.3 +0.3**
baz=286
J29N Klondike Camp 68.10 28 P **P** **18 58 00.9 +0.7**
baz=287,SNR=5.3
F30M Barrier River 68.11 24 P **P** **18 58 00.6 +0.5**
baz=288,SNR=14
EPYK Eagle Plains 68.14 26 P **P** **18 58 00.9 +0.6**
baz=287,SNR=14
G30M tAoh Zraii Nji 68.14 25 P **P** **18 58 00.9 +0.5**
baz=288,SNR=11
O28M Mount Upton 68.28 32 P **P** **18 58 01.9 +0.3**
baz=286
YUK8 Steele Glacier 68.33 31 P **P** **18 58 02.6 +0.7**
baz=287
OBN Obninsk 68.39 322 *i* P **P** **18 58 01.6 -0.4**
OBN *i* 18 58 25.9
OBN *i**PP **pP** **18 58 35.2 +1.3**
OBN *i* 19 00 32.7
OBN pmax pmax
comp=Z,4.0nm,0.9s
PINM Pinnacle 68.44 33 P **P** **18 58 02.3 -0.1**
baz=287
L29M L29M 68.53 29 IAmb IAmb 18 58 05.3
comp=Z,14nm,0.8s
L29M L29M 68.53 29 P **P** **18 58 03.5 +0.6**
baz=287,SNR=11
K29M Barlow Dome 68.57 28 P **P** **18 58 03.8 +0.6**
baz=288,SNR=9.2
M29M Somme Creek 68.58 30 P **P** **18 58 03.5 +0.2**
baz=287,SNR=8.0
I30M Mount Dempster 68.62 27 P **P** **18 58 03.9 +0.4**
baz=288,SNR=13
ERBR Yeremizino-Bor 68.70 311 *e*P **P** **18 58 03.6 -0.6**
ERBR *e**PP **pP** **18 58 38.1 +1.9**
ERBR *e*S **S** **19 06 56.2 -0.5**
ERBR pmax pmax
comp=Z,14nm,0.6s
INK Inuvik 68.70 23 IAmb IAmb 18 58 05.0
comp=Z,16nm,0.9s
INK Inuvik 68.70 23 P **P** **18 58 03.6 -0.1**
baz=289,SNR=8.3
ARCES ARCESS Array B 68.79 338 P **P** **18 58 03.8 -0.5**
comp=Z,0.6nm,0.4s,baz=60,slow=7.8,SNR=11
ARCES LR LR 19 34 00.6
comp=Z,45nm,19.4s,baz=113,slow=41
comp=Z,0.6nm,0.4s
YUK4 Tal'An Arm 68.83 31 P **P** **18 58 05.5 +0.5**
baz=288
J30M Hart River 68.84 27 P **P** **18 58 05.2 +0.3**
baz=288,SNR=6.3
G31M Satah River 68.89 25 IAmb IAmb 18 58 05.7
comp=Z,10nm,0.8s
G31M Satah River 68.89 25 P **P** **18 58 05.2 +0.3**
baz=289,SNR=5.3
F31M Tsiigehtchic 68.91 24 P **P** **18 58 05.5 +0.4**
baz=290
PNL Peninsula 68.98 33 P **P** **18 58 06.4 +0.7**
baz=288
YUK6 Outpost Mounta 69.08 31 P **P** **18 58 06.3 -0.2**
baz=288
O29M Mount Kennedy 69.18 32 P **P** **18 58 07.6 +0.6**
baz=288
H31M Peel River 69.24 26 IAmb IAmb 18 58 08.4
comp=Z,18nm,0.8s
H31M Peel River 69.24 26 P **P** **18 58 07.4 +0.2**
baz=290,SNR=8.9
M30M Minto, Yukon 69.28 29 P **P** **18 58 07.3 -0.2**
baz=289,SNR=5.5
N30M Aishikik Lake 69.51 31 P **P** **18 58 09.3 +0.3**
baz=289
HYT Haines Junctio 69.52 31 P **P** **18 58 09.9 +0.8**
baz=289
VSLR Vesyoloye 69.69 309*c i*P **P** **18 58 10.6 +0.3**
VSLR pmax pmax
comp=Z,48nm,1.2s
P29M Windy Craggy 69.80 33 P **P** **18 58 11.7 +1.0**
baz=289
SOC Sochi 69.87 309 *e*P **P** **18 58 09.6 -1.8**
SOC *e**PP **pP** **18 58 44.4 +0.9**
SOC *e**SP **sP** **18 58 59.3 +1.6**
SOC *e* 19 00 45.8
SOC *e*S **S** **19 07 07.3 -3.2**
SOC *e*SS **SS** **19 11 37.9 -3.5**
SOC *e*SSS SSS 19 14 43.0
SOC pmax pmax
comp=Z,16nm,0.7s
A36M Sachs Harbour 69.91 18 P **P** **18 58 11.5 +0.4**
baz=295
P30M Million Dollar 70.00 32 P **P** **18 58 12.2 +0.2**
baz=289
N31M Braeburn, Yuko 70.09 30 P **P** **18 58 13.0 +0.5**
baz=290
M31M Drury Creek, Y 70.46 29 P **P** **18 58 15.3 +0.6**
baz=291,SNR=7.6
PLBC Pleasant Camp 70.51 33 P **P** **18 58 15.4 +0.4**
baz=290
WHY Whitehorse 70.79 31 P **P** **18 58 17.3 +0.5**
baz=291
SKAG Skagway 71.01 32 P **P** **18 58 18.9 +0.9**
baz=291
ANN Anapa 71.03 311 *e*P **P** **18 58 17.7 -0.7**
ANN *e**PP **pP** **18 58 51.8 +1.3**
ANN *e*S **S** **19 07 22.6 -1.3**
ANN pmax pmax
comp=Z,52nm,1.4s
S31K Pelican 71.10 34 P **P** **18 58 19.2 +0.6**
baz=291
MARD Mardin 71.16 303 IAmb IAmb 18 58 20.7
comp=Z,13nm,0.8s
C36M Paulatuk 71.44 21 IAmb IAmb 18 58 21.2
comp=Z,19nm,0.8s
C36M Paulatuk 71.44 21 P **P** **18 58 20.8 +0.3**
baz=297,SNR=6.1
FINES FINESS Array B 71.52 330 P **P** **18 58 20.4 -0.7**
comp=Z,5.0nm,0.6s,baz=73,slow=6.2,SNR=31
FINES pP **pP** **18 58 51.9 -1.2**
comp=Z,2.1nm,0.8s,baz=76,slow=8.0,SNR=1.6
FINES LR LR 19 33 33.6
comp=Z,56nm,18.8s,baz=100,slow=39
comp=Z,5.0nm,0.6s
MMPY Sheldon Lake, 71.66 28 P **P** **18 58 22.4 +0.4**
baz=293,SNR=8.1
P32M Atlin 71.73 32 P **P** **18 58 22.9 +0.5**
baz=292
P33M Teslin, Yukon 71.91 31 P **P** **18 58 23.7 +0.1**
baz=293
S32K Killisnoo 72.11 34 P **P** **18 58 25.1 +0.5**
baz=292
RAYN Ar Rayn 72.29 288 P **P** **18 58 25.9 -0.4**
RAYN Ar Rayn 72.29 288 P **P** **18 58 26.0 -0.4**
RAYN pmax pmax
comp=Z,13nm,1.1s
VSU Vasula 72.37 327*c i*P **P** **18 58 24.8 -1.3**
VSU pmax pmax
comp=Z,12nm,0.8s
Q32M Nakina River 72.66 32 P **P** **18 58 28.8 +0.7**
baz=294
R33M Jennings River 73.09 32 P **P** **18 58 31.7 +1.1**
baz=294
SIM Simferopol' 73.19 312 *e*P **P** **18 58 30.9 -0.4**
SIM *e*S **S** **19 07 47.3 -1.3**
SIM pmax pmax
comp=Z,30nm,1.3s
MNK Minsk 73.33 323 *i* P **P** **18 58 31.5 -0.4**
MNK *i**PP **pP** **18 59 06.2 +2.0**
MNK *i* 19 01 16.7
MNK *i* PPP PPP 19 03 02.4
MNK *i* S **SKiKP** **19 07 49.1 -0.6**
MNK *i* SS **SS** **19 12 34.2 +0.6**
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=E,6.0nm,0.7s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK MLR MLR
comp=N,32nm,15.0s
MNK MLR MLR
comp=Z,72nm,19.0s
MNK MLR MLR
comp=E,42nm,17.0s
TGTN Hyland Airport 73.39 29 P **P** **18 58 33.3 +1.1**
baz=296
CRAG Craig 73.63 36 P **P** **18 58 34.4 +0.8**
baz=294
GAZ Gaziantep 73.87 304 IAmb IAmb 18 58 37.1
comp=Z,22nm,1.3s
DLBC Dease Lake 73.94 32 P **P** **18 58 36.6 +1.1**
baz=295
AKASG Malin Array Be 74.06 319 P **P** **18 58 35.9 -0.4**
comp=Z,3.2nm,0.6s,baz=59,slow=6.4,SNR=18
AKASG pP **pP** **18 59 08.9 +0.4**
comp=Z,4.0nm,0.6s,baz=59,slow=5.6,SNR=5.0
comp=Z,3.2nm,0.6s
AKASG Malin Array Be 74.06 319 *i* P **P** **18 58 35.7 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 74.06 319⇑ *i*P **P** **18 58 35.6 -0.7**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 74.08 319 P **P** **18 58 35.1 -1.2**
KIEV Kiev 74.08 319 P **P** **18 58 35.1 -1.2**
KIEV pmax pmax
comp=Z,7.0nm,0.8s
BNN Bunyan 74.25 306 IAmb IAmb 18 58 39.5
comp=Z,19nm,1.4s
V35K Ketchikan 74.47 36 P **P** **18 58 39.4 +0.9**
baz=295
WRGLY Wrigley 74.58 26 IAmb IAmb 18 58 40.7
comp=Z,17nm,1.1s
WRGLY Wrigley 74.58 26 P **P** **18 58 40.8 +1.8**
baz=300
PABE Paberze 74.97 325 P **P** **18 58 40.9 -0.5**
PABE IAmb IAmb 18 59 17.8
comp=Z,16nm,0.8s
LIRD Liard River Hi 75.32 30 P **P** **18 58 44.7 +1.3**
baz=298
BR131 Keskin Array S 75.49 307 IAmb IAmb 18 58 45.8
comp=Z,17nm,0.9s
BR131 Keskin Array S 75.49 307*c i*P **P** **18 58 45.0 +0.1**
BRTR Keskin Array B 75.49 307 P **P** **18 58 44.0 -0.9**
BRTR Keskin Array B 75.49 307 P **P** **18 58 45.2 +0.3**
comp=Z,9.7nm,0.8s,baz=97,slow=5.3,SNR=45
BRTR pP **pP** **18 59 18.7 +1.3**
comp=Z,5.0nm,0.9s,baz=98,slow=5.8,SNR=4.7
comp=Z,9.7nm,0.8s
BRTR Keskin Array B 75.49 307 *i* P **P** **18 58 45.0 +0.1**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
NEEM North Greenlan 75.77 360 *i* P **P** **18 58 46.3 +0.3**
NEEM IAmb IAmb 18 58 46.8
comp=Z,19nm,1.0s
MMAI Mount Meron Ar 76.84 300 P **P** **18 58 53.0 +0.4**
comp=Z,1.0nm,0.5s,baz=56,slow=17,SNR=3.4
comp=Z,1.0nm,0.5s
RAO Raoul Island 77.08 132 P **P** **18 58 55.5 +1.9**
comp=Z,127nm,0.3s,baz=237,slow=23,SNR=2.5
HFS Hagfors 77.50 332 P **P** **18 58 54.6 -1.0**
comp=Z,1.5nm,0.3s,baz=83,slow=5.8,SNR=12
HFS pP **pP** **18 59 29.0 +0.8**
comp=Z,8.3nm,0.9s,baz=68,slow=5.3,SNR=7.2
comp=Z,1.5nm,0.3s
BURAR Bucovina Array 77.75 317 P **P** **18 58 57.4 0.0**
BURAR Bucovina Array 77.75 317 P **P** **18 58 57.4 0.0**
BURAR pmax pmax
comp=Z,5.0nm,0.7s
NC405 NORSAR Array S 77.78 333 IAmb IAmb 18 59 34.1
comp=Z,33nm,1.1s
NB2 NORSAR Subarra 78.02 333 P **P** **18 58 57.4 -1.1**
comp=Z,2.9nm,0.7s,baz=54,slow=5.9
NOA NORSAR Array B 78.02 333 P **P** **18 58 57.4 -1.1**
comp=Z,2.6nm,0.7s,baz=58,slow=5.1,SNR=15
NOA pP **pP** **18 59 32.3 +1.1**
comp=Z,11nm,1.1s,baz=53,slow=5.7,SNR=11
NOA LR LR 19 37 44.7
comp=Z,28nm,18.8s,baz=120,slow=39
comp=Z,2.6nm,0.7s
NORES NORESS Array B 78.06 333 P **P** **18 58 58.0 -0.7**
NC204 NORSAR Array S 78.06 334 P **P** **18 58 56.1 -2.7**
NC204 IAmb IAmb 18 59 35.7
comp=Z,32nm,1.2s
MLR Muntele Rosu 78.25 315 LR LR 19 39 01.7
comp=Z,46nm,18.1s,baz=71,slow=40
YKAW3 Yellowknife Wh 78.34 25 IAmb IAmb 18 59 01.7
comp=Z,14nm,0.9s
YKA Yellowknife Ar 78.38 25 P **P** **18 59 00.7 +0.3**
comp=Z,5.9nm,0.8s,baz=312,slow=5.5,SNR=17
comp=Z,5.9nm,0.8s
YKA Yellowknife Ar 78.38 25 *i* P **P** **18 59 01.1 +0.7**
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKAW1 Yellowknife Wh 78.43 25 IAmb IAmb 18 59 02.2
comp=Z,13nm,1.0s
KULLO Kullorsuaq 78.63 1 *i* P **P** **18 59 01.3 -0.3**
KULLO IAmb IAmb 18 59 01.9
comp=Z,19nm,0.8s
KOLS Kolonicke sedl 78.89 319 *e*P **P** **18 59 03.6 +0.1**
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KOLS Kolonicke sedl 78.89 319 *e*P **P** **18 59 03.6 +0.1**
SUMG Summit 80.16 356 IAmb IAmb 18 59 11.8
comp=Z,18nm,0.9s
SUMG Summit 80.16 356 *i* P **P** **18 59 10.0 -0.4**
SUMG IAmb IAmb 18 59 11.9

comp=Z,19nm,0.9s
SCO Scoresbysund 80.25 350 *i* P P 18 59 15.8 +5.4
SCO IAmb IAmb 18 59 16.8
comp=Z,215nm,1.4s
UPNV Upernavik 80.45 1 *i* P **P 18 59 11.5 +0.1**
UPNV IAmb IAmb 18 59 15.3
comp=Z,19nm,0.8s
RDO Rodhopi 80.48 311 IAmb IAmb 18 59 13.0
comp=Z,14nm,0.8s
STEB Steborice 80.94 322 *e*P **P 18 59 14.7 +0.2**
VYHS Vyhne 81.08 320 *e*P **P 18 59 15.9 +0.6**
VYHS *e* 18 59 51.8
VYHS pmax pmax
comp=Z,7.0nm,0.9s
VYHS Vyhne 81.08 320 *e*P **P 18 59 15.9 +0.6**
VYHS *e* 18 59 51.8
MORC Moravsky Berou 81.15 322 *e*P **P 18 59 15.8 +0.1**
MORC *e* 18 59 50.2
DPC Dobruska-Polom 81.51 323 *e*P **P 18 59 19.6 +2.0**
DPC Dobruska-Polom 81.51 323 *e*P **P 18 59 19.6 +2.0**
JAVC Velka Javorina 81.56 321 *e*P **P 18 59 19.4 +1.5**
VRAC Vranov 81.92 322 LR LR 19 38 37.9
comp=Z,44nm,18.1s,baz=75,slow=38
VRAC Vranov 81.92 322 *e*P **P 18 59 20.2 +0.5**
VRAC *e* 18 59 55.6
KRUC Moravsky 82.16 321 *e*P **P 18 59 21.2 +0.2**
KRUC *e* 18 59 57.3
SAATT Saattut 82.45 359 *i* P **P 18 59 21.9 0.0**
SAATT IAmb IAmb 18 59 27.7
comp=Z,14nm,0.9s
BRG Berggiesshubel 82.50 324 *e*P **P 18 59 24.1 +1.4**
BRG Amp 18 59 26.5
comp=Z,6.1nm,1.1s
GORT1 Trebel 82.63 327 *e*P **P 18 59 24.0 +0.8**
comp=Z,32nm,1.6s,baz=54,slow=5.2
CLL Collm 82.74 325 *i* P **P 18 59 23.7 -0.2**
CLL *i* 19 00 00.0
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 82.74 325 *e*P **P 18 59 23.8 -0.1**
comp=Z,4.4nm,0.7s,baz=54,slow=5.2
CLL Collm 82.74 325 *i* P **P 18 59 23.7 -0.2**
comp=Z,7.0nm,1.1s
CLL *ex* x 18 59 37.0
CLL *i* (pP) **pwP 19 00 00.0 +1.1**
comp=Z,7.0nm,1.0s
CLL *e*PP **PP 19 02 35.0 -0.1**
RONA Rosalia, Austr 82.95 320 *e*P **P 18 59 24.2 -0.9**
comp=Z,2.0nm,1.1s
RONA *e*pP **pP 18 59 59.5 +1.4**
comp=Z,1.0nm,0.8s
FLTG Flechtingen 83.05 326 *e*P **P 18 59 25.5 +0.1**
comp=Z,18nm,1.4s,baz=54,slow=5.2
CONA Conrad Observa 83.07 321 *i* P **P 18 59 26.5 +0.7**
comp=Z,6.6nm,1.2s
CONA *i* pP **pwP 19 00 00.2 +1.4**
comp=Z,5.2nm,1.2s
NEUB Neuenburg 83.43 325 *e*P **P 18 59 27.9 +0.5**
comp=Z,24nm,1.4s,baz=54,slow=5.2
NRDL Niedersach Rie 83.51 327 *e*P **P 18 59 28.4 +0.7**
comp=Z,7.0nm,1.0s,baz=54,slow=5.2
TANN Tannenbergstha 83.53 324 *e*P **P 18 59 28.6 +0.5**
comp=Z,10nm,1.6s,baz=54,slow=5.2
ARSA Arzberg 83.64 320 *i* P **P 18 59 29.0 +0.3**
comp=Z,2.5nm,1.0s
ARSA *i* pP **pP 19 00 02.2 +0.5**
comp=Z,4.0nm,1.2s
PLN Plauen 83.65 324 *e*P **P 18 59 29.6 +1.0**
comp=Z,2.0nm,1.0s,baz=54,slow=5.2
KHC Kasperske Hory 83.67 323 *e*P **P 18 59 29.1 +0.3**
KHC MLR MLR
comp=Z,100nm,16.1s
KHC Kasperske Hory 83.67 323 *e*P **P 18 59 29.1 +0.3**
KHC AMS AMS 19 39 20.0
comp=Z,100nm,16.1s
SOEG Soedalen 83.69 352 *i* P **P 18 59 28.6 +0.2**
SOEG IAmb IAmb 18 59 32.9
comp=Z,220nm,1.6s
RETH Rethem/Aller, 83.73 327 *e*P **P 18 59 29.3 +0.5**
comp=Z,12nm,1.0s,baz=54,slow=5.2
GEC2 GERESS Array S 83.77 322 *e*P **P 18 59 30.2 +0.8**
comp=Z,4.0nm,0.8s,baz=54,slow=5.2
GERES GERESS Array B 83.77 322 P **P 18 59 28.6 -0.7**
comp=Z,24nm,0.7s,baz=42,slow=4.3,SNR=24
GERES pP **pwP 19 00 03.8 +1.4**
comp=Z,0.8nm,0.7s,baz=51,slow=4.3,SNR=2.7
comp=Z,24nm,0.7s
CLZ Clausthal 83.77 326 *e*P **P 18 59 30.2 +1.0**
comp=Z,21nm,0.9s,baz=54,slow=5.2
MOX Moxa 83.84 325 *e*P **P 18 59 29.7 +0.1**
comp=Z,7.3nm,1.3s,baz=54,slow=5.2
MOX *e*L L 19 34 02.5
comp=Z,53nm,21.6s
PDG Podgorica 83.95 315 IAmb IAmb 18 59 31.6
comp=Z,14nm,0.8s
MANZ Manzenberg 83.97 324 *e*P **P 18 59 31.3 +1.0**
comp=Z,1.4nm,1.0s,baz=54,slow=5.2
MOA Molln 84.01 321 *i* PcP **PcP 18 59 32.9 -1.3**
comp=Z,4.2nm,1.1s
MOA *i* pP **pwP 19 00 05.2 +1.6**
GDH Godhavn 84.02 0 *i* P **P 18 59 27.5 -2.6**
GDH IAmb IAmb 18 59 30.7
comp=Z,14nm,0.7s
ROTZ Rotzenmuhle 84.04 324 *e*P **P 18 59 31.2 +0.6**
comp=Z,1.7nm,1.0s,baz=54,slow=5.2
WET Wettzell 84.04 323 *e*P **P 18 59 31.2 +0.5**
comp=Z,9.7nm,1.5s,baz=54,slow=5.2
ILULI Ilulissat 84.05 359 *i* P **P 18 59 29.7 -0.5**
ILULI IAmb IAmb 18 59 31.2
comp=Z,29nm,0.9s
GTTG Gottingen 84.15 326 *e*P **P 18 59 31.7 +0.6**
comp=Z,17nm,0.8s,baz=54,slow=5.2
SOKA Soboth 84.23 320 *i* P **P 18 59 31.3 -0.4**
comp=Z,1.7nm,1.0s
SOKA *i* pP **pwP 19 00 08.0 +3.1**
comp=Z,4.5nm,1.2s
BIOA Bad Ischl, Aus 84.45 321 *e*PcP **P 18 59 33.7 +1.0**
comp=Z,4.9nm,1.5s
BIOA *i* pP **pwP 19 00 07.5 +1.7**
comp=Z,1.8nm,0.9s
UBBA Unterbreizbach 84.56 325 *e*P **P 18 59 33.8 +0.7**
comp=Z,4.7nm,0.9s,baz=54,slow=5.2
GRA1 Grafenberg Arr 84.60 324 IAmb IAmb 18 59 35.0
comp=Z,22nm,1.2s
GRF Grafenberg Arr 84.60 324 *e*P **P 18 59 34.2 +0.7**
comp=Z,29nm,1.3s,baz=54,slow=5.2
GRF *e*L L 19 36 40.4
comp=Z,86nm,18.1s
GRFO Grafenberg 84.61 324 P **P 18 59 33.7 +0.2**
GRFO IAmb IAmb 18 59 35.0
comp=Z,28nm,1.3s
GRFO Grafenberg 84.61 324 P **P 18 59 33.7 +0.2**
GRFO pmax pmax
comp=Z,28nm,1.3s
IBBN Ibbenburen 84.77 327 *e*P **P 18 59 34.8 +0.6**
comp=Z,20nm,0.8s,baz=54,slow=5.2
RJOB Jochberg 84.89 322 *e*P **P 18 59 35.6 +0.6**
comp=Z,6.7nm,0.8s,baz=54,slow=5.2
KBA Koelnbreinsper 84.96 321 *i* P **P 18 59 34.6 -0.9**
comp=Z,3.4nm,0.7s
KBA *i* pP **pwP 19 00 10.5 +1.8**
comp=Z,0.2nm,0.3s
MYKA Terra Mystica 85.05 320 *i* PcP **P 18 59 37.3 +1.5**
comp=Z,2.9nm,0.8s
MYKA *e*pP **pP 19 00 09.3 +0.3**
comp=Z,3.0nm,1.0s
KASTN Kahler Asten 85.13 326 *e*P **P 18 59 36.7 +0.7**
comp=Z,6.7nm,0.8s,baz=54,slow=5.2
LESA Schwarzleotal 85.14 322 *i* P **P 18 59 36.6 +0.3**
comp=Z,6.2nm,0.8s
LESA *e*pP **pwP 19 00 11.9 +2.5**
comp=Z,7.8nm,1.5s
FUR Furstenfeldbru 85.47 323 *e*P **P 18 59 38.6 +0.8**
comp=Z,19nm,0.9s,baz=54,slow=5.2
ABTA Abfaltersbach 85.62 321 *i* P **P 18 59 38.0 -0.7**
comp=Z,5.8nm,0.8s
ABTA *e*pP **pwP 19 00 14.2 +2.4**
comp=Z,3.6nm,1.0s
WATA Walderalm 85.80 322 *e*P **P 18 59 39.6 0.0**
comp=Z,6.0nm,0.8s
WATA *e*pP **pwP 19 00 16.2 +1.4**
comp=Z,3.0nm,0.6s
WTTA Wattenberg 85.81 322 *e*P **P 18 59 39.7 0.0**
comp=Z,12nm,1.1s
WTTA *e*pP **pwP 19 00 16.3 +1.4**
comp=Z,11nm,1.4s
MOTA Moosalm 86.05 322 *e*P **P 18 59 40.6 -0.4**
comp=Z,6.0nm,1.0s
MOTA *e*pP **pwP 19 00 17.3 +1.2**
comp=Z,3.4nm,0.9s
SQTA Sankt Quirin 86.07 322 *e*PcP **P 18 59 41.2 +0.3**
comp=Z,13nm,1.6s
SQTA *e*pP **pwP 19 00 16.9 +0.8**
comp=Z,4.6nm,0.8s
RETA Reutte 86.16 322 *e*P **P 18 59 41.1 -0.2**
comp=Z,0.1nm,0.2s
RETA *e*pP **pwP 19 00 18.2 +1.7**
comp=Z,2.9nm,0.8s
PINE Pine Mountain 86.21 42 P **P 18 59 43.4 +1.6**
SFJD Kangerlussuaq 86.27 359 *i* P **P 18 59 40.4 -1.0**
SFJD IAmb IAmb 18 59 41.4
comp=Z,14nm,0.6s
FETA Feichten 86.45 322 *i* P **P 18 59 42.8 -0.1**
comp=Z,7.2nm,1.1s
FETA *i* pP **pwP 19 00 18.9 +0.8**
comp=Z,5.8nm,1.3s
G08A Pilot Rock 86.52 40 sP 19 00 25.7 -4.6
DY2G Dye2 86.66 357 *i* P **P 18 59 43.2 -0.3**
DY2G IAmb IAmb 18 59 44.1
comp=Z,12nm,0.7s
DAVA Damuels 86.76 323 *e*P **P 18 59 44.2 -0.2**
comp=Z,6.8nm,0.8s
DAVA *e*pP **pwP 19 00 20.9 +1.3**
comp=Z,5.2nm,0.9s
FUORN Ofenpass-Fuorn 86.95 322 IAmb IAmb 18 59 46.6
comp=Z,12nm,0.8s
DAVOX Davos/Dischmat 87.06 322 LR LR 19 41 47.9
comp=Z,60nm,20.1s,baz=80,slow=38
WLF Walferdange 87.22 326 IAmb IAmb 18 59 48.0
comp=Z,6.7nm,0.7s
WLF Walferdange 87.22 326 *d*P **P 18 59 46.4 +0.1**
comp=Z,6.3nm,0.7s
RCHB Rochefort 87.36 327 *d*P **P 18 59 46.7 -0.3**
comp=Z,4.5nm,0.8s
EKA Eskdalemuir Ar 87.49 334 P **P 18 59 46.9 -0.5**
comp=Z,1.4nm,0.7s,baz=35,slow=4.7,SNR=7.2
comp=Z,1.4nm,0.7s
BMRD Maredsous 87.49 327 *d*P **P 18 59 47.1 -0.5**
comp=Z,4.0nm,0.9s
NRCA Norcia 87.53 318 IAmb IAmb 18 59 50.1
comp=Z,9.3nm,0.9s
TUE Stuetta 87.54 322 **P 18 59 48.1 -0.1**
TUE IAmb IAmb 19 00 26.4
comp=Z,24nm,1.6s
J08A Circle Bar Ran 87.93 41 P **P 18 59 51.1 +1.1**
FRB Frobisher Bay 88.75 7 LR LR 19 43 27.7
comp=Z,25nm,18.2s,baz=343,slow=38
KMBO Kilima Mbogo 90.04 269 ⇓*e*P **P 19 00 01.3 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
BOZ Bozeman (W) 90.40 37 IAmb IAmb 19 03 16.5
comp=Z,12nm,0.9s
NVAR Mina Array Bea 90.92 45 P **P 19 00 04.0 -0.2**
comp=Z,6.6nm,0.7s,baz=323,slow=3.7,SNR=4.1
comp=Z,0.6nm,0.7s
YHL Hebgen Lake 91.12 37 IAmb IAmb 19 03 41.2
comp=Z,6.4nm,0.7s
RLMT Red Lodge 91.96 36 IAmb IAmb 19 00 15.1
comp=Z,8.1nm,1.3s
HVU Hansel Valley 92.22 40 P **P 19 00 11.7 +1.6**
HVU Hansel Valley 92.22 40 P **P 19 00 11.7 +1.6**
HVU pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 93.38 38 P **P 19 00 15.6 +0.1**
comp=Z,0.3nm,0.3s,baz=70,slow=1.7,SNR=4.5
comp=Z,0.3nm,0.3s
ESDC Sonseca Array 99.30 324 P **Pdif 19 00 40.6 -1.6**
comp=Z,1.0nm,0.9s,baz=27,slow=3.3,SNR=5.2
comp=Z,1.0nm,0.9s
VNDA Vanda 106.39 173 PP **PP 19 05 37.8 -1.1**
comp=Z,0.7nm,0.8s,baz=339,slow=8.6,SNR=3.8
TORD Torodi Ar. Bea 113.38 300 PKiKP **PKiKP 19 05 38.0 +0.1**
comp=Z,0.5nm,0.6s,baz=41,slow=2.7,SNR=4.0
QSPA South Pole Qui 116.79 180 PKP **PKiKP 19 05 43.5 +0.6**
comp=Z,1.7nm,0.9s,baz=297,slow=0.5,SNR=11
DBIC Dimbokro 122.42 298 PKP **PKiKP 19 05 55.5 0.0**
comp=Z,7.0nm,1.0s,baz=208,slow=3.5,SNR=4.9
TROLL Troll, Antarti 125.82 198 ⇓PKiKP **PKiKP 19 06 01.2 +0.5**
comp=Z,256nm,0.7s
SNAA Sanae 127.47 198 ⇑PKPdf **PKiKP 19 06 03.7 -0.2**
comp=Z,32nm,0.8s
SNAA Sanae 127.47 198 PKP **PKPdf 19 06 03.6 +0.3**
comp=Z,2.8nm,1.1s,baz=115,slow=4.1,SNR=4.2
VNA1 Neumayer--Stat 129.50 198 ⇓PKiKP **PKiKP 19 06 08.8 +1.0**
comp=Z,5.0nm,1.0s
VNA3 Neumayer Olymp 129.53 197 ⇑PKPdf **PKiKP 19 06 07.6 -0.3**
comp=Z,3.5nm,1.0s
USHA Ushuaia 150.07 162 PKPbc **PKiKP 19 06 50.5 +0.2**
comp=Z,26nm,0.8s,baz=167,slow=1.6,SNR=4.2
PLCA Paso Flores 160.22 138 PKPab **PKPab 19 07 39.7 0.0**
comp=Z,2.8nm,0.9s,baz=256,slow=3.5,SNR=3.4
LPAZ La Paz 162.56 55 PKPab **PKPab 19 07 50.7 -0.6**
comp=Z,0.7nm,0.5s,baz=329,slow=6.9,SNR=2.4

IDC 26 19:08:56.4±6.7, 30.77S×179.67E, h394km±53km, mb2.8/3, mbtmp3.7/4, Error ellipse: s-maj=75.0km s-min=25.2km az=46.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.76**	**195**	P	P	19 10 49.8	+0.8
	6.9nm,0.3s,baz=354,slow=19,SNR=9.9						
URZ				S	S	19 12 17.2	-2.9
	7.4nm,0.8s,baz=88,slow=15,SNR=6.4						
ASAR	**Alice Springs**	**41.09**	**268**	P	P	19 16 04.0	+0.1
	0.1nm,0.4s,baz=110,slow=7.4,SNR=5.8						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**42.11**	**274**	P	P	19 16 12.0	-0.1
	0.4nm,0.3s,baz=112,slow=7.8,SNR=4.8						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**59.34**	**180**	P	P	19 18 18.8	+0.4
	0.8nm,0.6s,baz=63,slow=7.8,SNR=8.1						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**144.77**	**338**	PKP	PKPdf	19 27 43.9	-2.4
	1.0nm,0.6s,baz=45,slow=2.2,SNR=5.4						

IDC 26 19:11:25.9±1.8, 22.90N×11.76W, h0km, mb3.9/6, mbtmp3.8/9, ML3.2/2, Error ellipse: s-maj=58.1km s-min=25.5km az=101.0

ISC 26 19:11:25.0±1.4, 22.57N±0.08×11.7W±0.2, h10km, n12, σ1§32/15, mb4.0/6, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**11.98**	**30**	Pn	**Pn**	**19 14 15.3**	**-0.7**
	baz=192,slow=5.8,SNR=1.7						
MDT				Sn	**Sn**	**19 16 28.7**	**-1.2**
	0.2nm,0.3s,baz=253,slow=13,SNR=1.9						
MDT				Lg	Lg	19 17 36.3	
	0.4nm,0.3s,baz=252,slow=20,SNR=2.3						
	0.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**15.82**	**124**	Pn	**P**	**19 15 12.2**	**+0.3**
	0.5nm,0.3s,baz=312,slow=12,SNR=18						
TORD				Sn	**Sn**	**19 18 05.0**	**+1.5**
	0.1nm,0.3s,baz=305,slow=23,SNR=2.9						
	0.9nm,0.5s						
DBIC	**Dimbokro**	**17.14**	**156**	P	**P**	**19 15 26.9**	**+0.5**
	5.1nm,0.8s,baz=6.4,slow=10,SNR=4.7						
DBIC				S	**Sn**	**19 18 32.3**	**-3.1**
	1.3nm,0.5s,baz=32,slow=1.8,SNR=0.9						
ESDC	**Sonseca Array**	**18.28**	**19**	P	**Pn**	**19 15 37.7**	**-1.1**
	0.2nm,0.3s,baz=210,slow=12,SNR=1.9						
KEST	**Kesra**	**22.53**	**50**	P	**P**	**19 16 25.9**	**+0.8**
	1.4nm,0.4s,baz=220,slow=6.8,SNR=4.0						
	1.4nm,0.4s						
GERES	**GERESS Array B**	**33.07**	**31**	P	**P**	**19 18 01.1**	**+0.2**
	0.4nm,0.4s,baz=208,slow=7.5,SNR=5.3						
	0.4nm,0.4s						
HFS	**Hagfors**	**41.56**	**19**	P	**P**	**19 19 11.9**	**-0.7**
	1.6nm,0.5s,baz=194,slow=12,SNR=12						
	1.6nm,0.5s						
FINES	**FINESS Array B**	**46.71**	**24**	P	**P**	**19 19 54.0**	**+0.1**
	1.1nm,0.5s,baz=213,slow=6.3,SNR=11						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**73.04**	**42**	P	**P**	**19 22 56.5**	**+1.4**
	0.9nm,0.6s,baz=285,slow=6.2,SNR=8.5						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**76.53**	**45**	P	**P**	**19 23 16.9**	**+1.3**
	0.5nm,0.5s,baz=285,slow=5.5,SNR=5.3						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**148.29**	**92**	PKPbc	**PKiKP**	**19 31 14.1**	**+0.2**
	0.5nm,0.6s,baz=293,slow=2.2,SNR=7.0						
ASAR	**Alice Springs**	**148.40**	**99**	PKPbc	**PKPab**	**19 31 14.9**	**-0.8**
	0.8nm,0.7s,baz=289,slow=2.0,SNR=12						

ISK 26 19:23:27.9, 37.83N×29.65E, h8km, ML3.2/15
AFAD 26 19:23:28.2, 37.78N×29.66E, h4km±1km, ML3.2
IDC 26 19:23:28.5±1.1, 37.79N×29.77E, h0km, mb3.5/3, mbtmp3.4/9, ML3.2/4, Error ellipse: s-maj=20.2km s-min=16.3km az=158.0

ISC 26 19:23:28.5±1.0, 37.81N±0.02×29.66E±0.02, h3km±8km, n46, σ0§76/73, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.12**	**214**	P	**Pg**	**19 23 31.0**	**+0.2**
INCE				S	**Sg**	**19 23 32.8**	**+0.4**
BASM	**Basmaki-Afyon**	**0.33**	**70**	Pg	**Pg**	**19 23 34.7**	**-0.2**
BASM				Sg	**Sg**	**19 23 39.8**	**+0.6**
BRDR	**BURDUR-Merkez**	**0.34**	**109**	P	**Pg**	**19 23 34.5**	**-0.5**
BRDR				S	**Sg**	**19 23 39.5**	**0.0**
BRDR				*i* IAML		19 23 44.0	
	comp=E,4μm,0.5s						
BRDR				*i* IAML		19 23 45.0	
	comp=N,3μm,0.5s						
APMY	**Acipayam-Deniz**	**0.44**	**220**	Pg	**Pg**	**19 23 36.7**	**-0.2**
APMY				Sg	**Sb**	**19 23 44.1**	**-1.7**
DNIZ	**Denizli-Tavas-**	**0.52**	**250**	P	**Pg**	**19 23 38.9**	**+0.3**
DNIZ				S	**Sb**	**19 23 46.7**	**-1.6**
DNIZ				*i* IAML		19 23 49.0	
	comp=N,3μm,0.3s						
DNIZ				*i* IAML		19 23 51.0	
	comp=E,3μm,0.4s						
KHL	**Karahalli**	**0.53**	**348**	Pg	**Pg**	**19 23 38.2**	**-0.4**
PASA	**Karahalli, USA**	**0.56**	**346**	P	**Pg**	**19 23 39.4**	**+0.1**
PASA				S	**Sg**	**19 23 47.1**	**+0.6**
GOLH	**Golhisar**	**0.57**	**188**	P	**Pg**	**19 23 39.4**	**-0.1**
GOLH				S	**Sg**	**19 23 47.4**	**+0.5**
GOLH				*i* IAML		19 23 52.0	
	comp=N,1μm,0.3s						
GOLH				*i* IAML		19 23 55.0	
	comp=E,1μm,0.5s						
KZIL	**AFYON_Kizioren**	**0.59**	**40**	P	**Pg**	**19 23 40.2**	**+0.3**
KZIL				S	**Sb**	**19 23 50.1**	**-0.3**
KZIL				*i* IAML		19 23 56.0	
	comp=E,904nm,0.4s						
TAVA	**DENIZLI_Tavas**	**0.68**	**240**	P	**Pg**	**19 23 42.0**	**+0.4**
TAVA				S	**Sg**	**19 23 49.9**	**-0.5**
ISP	**Isparta**	**0.68**	**88**	Pg	**Pg**	**19 23 41.7**	**+0.1**
ISP				Sg	**Sb**	**19 23 51.9**	**-1.1**
DNZT	**Denizli-Tavas-**	**0.73**	**224**	P	**Pg**	**19 23 42.2**	**-0.2**
DNZT				S	**Sg**	**19 23 52.4**	**+0.5**
CAEL	**Denizli, Camel**	**0.73**	**202**	P	**Pn**	**19 23 44.8**	**-1.0**
CAEL				S	**Sb**	**19 23 54.9**	**+0.5**
CAEL				*i* IAML		19 23 59.0	
	comp=E,892nm,0.6s						
CAEL				*i* IAML		19 24 06.0	
	comp=N,1μm,0.8s						
AFYN	**Afyon-Dinar-K**	**0.81**	**55**	P	**Pb**	**19 23 44.8**	**-0.5**
AFYN				S	**Sb**	**19 23 56.0**	**-0.7**
BUCA	**Burdur, Bucak-**	**0.86**	**123**	P	**Pg**	**19 23 44.7**	**-0.3**
BUCA				S	**Sg**	**19 23 56.7**	**+0.6**
BNAZ	**Uak-Banaz**	**0.89**	**11**	P	**Pg**	**19 23 45.4**	**-0.2**
BNAZ				S	**Sb**	**19 23 59.5**	**+0.6**
BNAZ				*i* IAML		19 24 05.0	
	comp=E,3μm,0.6s						
BNAZ				*i* IAML		19 24 06.0	
	comp=N,2μm,0.6s						
CAME	**Cameli-Denizli**	**0.91**	**198**	Pg	**Pg**	**19 23 46.2**	**+0.3**
BAGO	**Egridir - ISPA**	**0.91**	**78**	P	**Pg**	**19 23 45.4**	**-0.6**
BAGO				S	**Sb**	**19 23 59.0**	**-0.6**
KNIK	**Mula-Seydike**	**0.96**	**184**	S	**Sg**	**19 23 59.8**	**+0.4**
KORT	**Korkueli**	**0.97**	**145**	P	**Pb**	**19 23 47.5**	**-0.5**
KORT				S	**Sn**	**19 24 04.9**	**+1.4**
KORT				*i* IAML		19 24 09.0	
	comp=E,489nm,0.5s						
ESEN	**Aydn-Nazilli**	**1.04**	**270**	P	**Pg**	**19 23 48.1**	**-0.3**
ESEN				S	**Sg**	**19 24 01.4**	**-0.4**
ESEN				*i* IAML		19 24 06.0	
	comp=N,374nm,0.8s						
ESEN				*i* IAML		19 24 06.0	
	comp=E,535nm,0.5s						
USAK	**Uak-Merkez**	**1.04**	**331**	P	**Pg**	**19 23 48.6**	**+0.2**
USAK				S	**Sn**	**19 24 05.8**	**+0.8**
USAK				*i* IAML		19 24 07.0	
	comp=N,341nm,0.4s						
USAK				*i* IAML		19 24 08.0	
	comp=E,441nm,0.4s						
KULA	**Kula-Manisa**	**1.06**	**312**	Pg	**Pg**	**19 23 48.4**	**-0.4**
KIRA	**zmir-Kiraz**	**1.07**	**292**	P	**Pg**	**19 23 48.8**	**-0.2**
KIRA				S	**Sn**	**19 24 04.8**	**-0.9**
KIRA				*i* IAML		19 24 10.0	
	comp=E,382nm,0.5s						
NAZL	**Nazilli-Aydin**	**1.09**	**279**	Pn	**Pg**	**19 23 49.1**	**-0.3**
AFYO	**Afyonkarahisar**	**1.10**	**27**	P	**Pn**	**19 23 50.7**	**-0.2**
AFYO				S	**Sn**	**19 24 07.5**	**+0.8**
AFYO				*i* IAML		19 24 18.0	
	comp=N,910nm,0.8s						
AFYO				*i* IAML		19 24 20.0	
	comp=E,790nm,1.0s						
MANT	**Manisa**	**1.10**	**309**	P	**Pb**	**19 23 50.2**	**-0.2**
MANT				S	**Sn**	**19 24 06.5**	**-0.4**
MANT				*i* IAML		19 24 09.0	
	comp=N,698nm,0.4s						
MANT				*i* IAML		19 24 09.0	
	comp=E,596nm,0.3s						
SABU	**Mula-Dalaman**	**1.12**	**209**	P	**Pb**	**19 23 50.5**	**0.0**
SABU				S	**Sn**	**19 24 06.4**	**-0.7**
SABU				*i* IAML		19 24 11.0	
	comp=N,684nm,0.5s						
SABU				*i* IAML		19 24 12.0	
	comp=E,349nm,0.4s						
MULA	**Mugla, Merkez-**	**1.20**	**243**	P	**Pn**	**19 23 52.0**	**-0.2**
MULA				S	**Sb**	**19 24 08.0**	**+0.2**
ANTB	**Antalya**	**1.20**	**138**	Pn	**Pn**	**19 23 52.0**	**-0.1**
GEDZ	**Gediz**	**1.25**	**351**	Pn	**Pg**	**19 23 51.9**	**-0.6**
SHAP	**Saphane-Kutahy**	**1.26**	**344**	Pn	**Pg**	**19 23 52.3**	**-0.4**
ODEM	**Odemis-Izmir**	**1.34**	**291**	Pn	**Pn**	**19 23 53.3**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**276**	Pn	**Pn**	**19 23 54.4**	**-0.7**
GORD	**Gordes-Manisa**	**1.60**	**314**	Pn	**Pn**	**19 23 56.8**	**-0.9**
TVSB	**Tavsanli**	**1.65**	**355**	Pn	**Pn**	**19 23 57.7**	**-0.7**
SEYD	**Seydisehir-KON**	**1.78**	**102**	Pn	**Pn**	**19 24 00.1**	**-0.1**
BRTR	**Keskin Array B**	**3.65**	**57**	Pn	**Pn**	**19 24 26.5**	**+0.5**
	0.3nm,0.3s,baz=226,slow=14,SNR=10						
BRTR				Sn	**Sn**	**19 25 09.1**	**-0.6**
	0.1nm,0.3s,baz=200,slow=19,SNR=2.1						
	2.0nm,0.7s						
IDI	**Anoyia**	**4.59**	**238**	Pn	**Pn**	**19 24 40.5**	**+1.7**
	3.3nm,0.4s,baz=31,slow=11,SNR=13						
IDI				Sn	**Sn**	**19 25 35.1**	**+2.5**
	0.4nm,0.3s,baz=15,slow=19,SNR=4.3						
MMAI	**Mount Meron Ar**	**6.70**	**134**	Pn	**Pn**	**19 25 08.2**	**+0.5**
	2.3nm,0.3s,baz=313,slow=12,SNR=11						
MMAI				Sn	**Sn**	**19 26 23.7**	**-0.9**
	1.0nm,0.3s,baz=300,slow=25,SNR=2.2						
	3.3nm,0.5s						
MLR	**Muntele Rosu**	**8.16**	**341**	Pn	**Pn**	**19 25 30.5**	**+2.6**
	0.2nm,0.3s,baz=161,slow=18,SNR=2.5						
	1.3nm,0.8s						
ASF	**Jabal al Asfar**	**8.18**	**131**	Pn	**Pn**	**19 25 28.9**	**+0.9**
	0.2nm,0.3s,baz=246,slow=23,SNR=2.1						
	0.7nm,0.3s						
GERES	**GERESS Array B**	**15.98**	**319**	Pn	**P**	**19 27 17.9**	**+0.1**
	0.5nm,0.7s,baz=134,slow=8.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**34.97**	**233**	P	**P**	**19 30 21.8**	**-0.2**
	0.3nm,0.6s,baz=34,slow=9.2,SNR=2.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**36.64**	**54**	P	**P**	**19 30 36.0**	**+0.1**
	0.8nm,0.8s,baz=278,slow=8.6,SNR=7.6						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**39.30**	**60**	P	**P**	**19 30 58.6**	**+0.1**
	0.4nm,0.5s,baz=279,slow=7.2,SNR=6.2						
	0.4nm,0.5s						

KRSC 26 19:33:27.7±2.0, 50.29N×159.11E, h52km±38km, Ml4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.87**	**310**	*e*P	Pn	19 33 59.2	+1.9
PAU				*e*S	Sn	19 34 21.7	+1.9
SKR	**Severo-Kuril's**	**1.95**	**283**	*e*P	Pn	19 33 58.5	+0.1
SKR				*e*S	Sn	19 34 20.6	-1.1
RUS	**Russkaya**	**2.18**	**350**	*e*P	Pn	19 34 04.2	+2.7
RUS				*e*S	Sn	19 34 30.0	+2.7
ASAK	**Asacha**	**2.

MTVR	**Mutnovka**	**2.27**	**346**	*eP*		Pn	19 34 05.9	+3.0
MTVR				*eS*		Sn	19 34 32.9	+3.2
GRL	**Gorelyy**	**2.36**	**344**	*eP*		Pn	19 34 07.3	+3.2
GRL				*eS*		Sn	19 34 35.7	+3.9
MIPR	**Malaya Ipel'ka**	**2.48**	**324**	*eP*		Pn	19 34 09.2	+3.6
MIPR				*eS*		Sn	19 34 37.8	+3.1
PET	**Petropavlovsk**	**2.75**	**354**	*eP*		Pn	19 34 12.2	+2.9
PET				*eS*		Sn	19 34 44.6	+3.3
DALK	**Dalny**	**2.75**	**355**	*eP*		Pn	19 34 12.3	+3.0
DALK				*eS*		Sn	19 34 43.5	+2.2
INSR	**Institute**	**2.80**	**354**	*eP*		Pn	19 34 13.4	+3.4
INSR				*eS*		Sn	19 34 46.4	+4.0
SPN	**Mys Shipunski**	**2.87**	**11**	*eP*		Pn	19 34 14.2	+3.3
SPN				*eS*		Sn	19 34 47.7	+3.5
NLC	**Nalytchevo**	**2.89**	**3**	*eS*		Sn	19 34 46.3	+1.7
APC	**Apacha**	**2.91**	**336**	*eP*		Pn	19 34 16.5	+5.1
APC				*eS*		Sn	19 34 50.9	+5.8
UGLR	**Uglovaya**	**2.93**	**357**	*eP*		Pn	19 34 15.2	+3.3
SMAR	**Somma**	**2.98**	**356**	*eP*		Pn	19 34 16.8	+4.1
AVH	**Avacha**	**2.99**	**356**	*eP*		Pn	19 34 16.2	+3.5
SDLR	**Sedlovina**	**3.00**	**357**	*eP*		Pn	19 34 15.5	+2.7
KOK	**Koryaka**	**3.02**	**355**	*eP*		Pn	19 34 16.8	+3.7
KRER	**Koryakskii**	**3.03**	**356**	*eP*		Pn	19 34 16.6	+3.3
KRX	**Arik**	**3.09**	**355**	*eP*		Pn	19 34 17.4	+3.4
KII	**Karymskiy**	**3.76**	**3**	*eP*		Pn	19 34 27.4	+4.2
MKZ	**Mys Kozlova**	**4.56**	**20**	*eP*		Pn	19 34 36.7	+2.6
MKZ				*eS*		Sn	19 35 27.3	+1.6
TUMD	**Tumrok D**	**4.98**	**9**	*eP*		Pn	19 34 43.9	+4.0
TUMD				*eS*		Sn	19 35 39.5	+3.3
KMNR	**Kamenistaya**	**5.52**	**7**	*eP*		Pn	19 34 53.1	+5.8
ESO	**Esso**	**5.65**	**358**	*eP*		Pn	19 34 53.5	+4.5
KIRR	**Kirishev**	**5.72**	**7**	*eP*		Pn	19 34 55.6	+5.4
KPT	**Kopyto**	**5.72**	**6**	*eP*		Pn	19 34 55.1	+5.0
BZWR	**Bezymyannyi-We**	**5.75**	**8**	*eP*		Pn	19 34 56.3	+5.9
KOZ	**Kozyrevsk**	**5.80**	**4**	*eP*		Pn	19 34 55.9	+4.8
KBTR	**Krutoberegovo**	**6.33**	**19**	*eP*		Pn	19 35 02.1	+3.8
SMKR	**Semkarok**	**6.46**	**12**	*eP*		Pn	19 35 04.7	+4.5

DJA ***26*** *19:48:09.8±0.4, 1°N±3°×12°4E±°, h261km±4km, M3.9/16, mB4.5/1, mb3.8/3, MLv3.9/16, Mw(mB)3.6/1*
IDC ***26*** *19:48:09.5±5.2, 1°.37N×124°.67E, h264km±53km, mb3.4/8, mbtmp4.1/10, Error ellipse: s-maj=74.6km s-min=13.2km az=64.0*
NEIC ***26*** *19:48:10.2±1.2, 0°.82N±0°.07×123°.93E±0°.10, h252km±7km, mb4.2/16, Error ellipse: s-maj=13.9km s-min=9.5km az=76.0*

ISC 26 19:48:09.3±0.6, 0°.85N±0°.06×123°.94E±0°.05, h250km, n42, σ1°63/47, mb4.0/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.28**	**171**	P	**Pn**	**19 48 44.2**	**+2.5**
KMSI				S	**S**	**19 49 11.5**	**+4.3**
MRSI	**Marisa**	**2.03**	**259**	P	**Pn**	**19 49 28.3**	**+1.7**
MRSI				S	**S**	**19 49 28.2**	**+2.5**
LUWI	**Luwuk**	**2.21**	**212**	Pn	**Pn**	**19 48 54.8**	**+1.1**
LUWI				Sn	**S**	**19 49 27.7**	**-1.1**
LUWI	**Luwuk**	**2.21**	**212**	P	**Pn**	**19 48 54.9**	**+1.2**
APSI	**Ampana**	**2.88**	**233**	P	**Pn**	**19 49 02.4**	**+1.9**
TOLI2	**Tolitoli**	**3.16**	**275**		**Pn**	**19 49 05.0**	**+1.4**
SGSI	**Sangihe**	**3.24**	**29**	P	**Pn**	**19 49 05.7**	**+1.3**
SGSI				S	**S**	**19 49 50.0**	**+1.9**
TNTI	**Ternate**	**3.43**	**91**	Pn	**Pn**	**19 49 07.4**	**+0.9**
TNTI	**Ternate**	**3.43**	**91**	P	**Pn**	**19 49 08.4**	**+1.8**
SANI	**Sanana**	**3.54**	**145**	P	**Pn**	**19 49 07.8**	**0.0**
PCI	**Palu**	**4.45**	**247**	P	**Pn**	**19 49 19.1**	**+0.6**
NLAI	**Namlea**	**5.15**	**142**	P	**Pn**	**19 49 28.3**	**+1.4**
	0.3nm35nm,0.7s						
TTSI	**Tana Toraja**	**5.65**	**227**	P	**Pn**	**19 49 34.4**	**+1.3**
	0.2nm830nm19nm,0.7s						
SOEI	**Soe**	**10.54**	**178**	Pn	**Pn**	**19 50 31.8**	**-3.1**
BATI	**Baumata**	**10.99**	**181**	P	**P**	**19 50 47.3**	**+2.6**
	22nm,0.5s,baz=310,slow=2.2,SNR=7.4						
MTN	**Manton Dam**	**15.37**	**153**		**Pn**	**19 51 34.7**	**+0.7**
MTN				IAmb	IAmb	19 51 35.5	
	comp=Z,18nm,1.5s						
KNRA	**Kununurra**	**17.10**	**164**	P	**P**	**19 51 52.2**	**0.0**
KNRA				IAmb	IAmb	19 51 55.1	
	comp=Z,7.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.90**	**175**	P	**P**	**19 52 11.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.90**	**175**	P	**Pn**	**19 52 16.4**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=10,slow=8.8,SNR=25						
MBWA	**Marble Bar**	**22.26**	**190**	P	**P**	**19 52 43.8**	**-2.0**
MBWA				IAmb	IAmb	19 52 44.3	
	comp=Z,12nm,1.2s						
TPUB	**Ta-pu**	**22.55**	**352**	P	**P**	**19 52 49.5**	**+1.1**
PSA00	**Pilbara Seismi**	**22.64**	**190**	P	**P**	**19 52 48.6**	**-0.6**
PSA00	**Pilbara Seismi**	**22.64**	**190**	P	**P**	**19 52 49.0**	**-0.3**
PSA00				IAmb	IAmb	19 52 50.0	
	comp=Z,3.1nm,0.8s						
WB0	**Warramunga Arr**	**22.91**	**154**	P	**P**	**19 52 51.6**	**-0.1**
WB0				IAmb	IAmb	19 52 54.3	
	comp=Z,4.8nm,0.8s						
WRAB	**Tennant Creek**	**23.04**	**154**	P	**P**	**19 52 52.4**	**-0.5**
WRAB				IAmb	IAmb	19 53 08.4	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**23.04**	**154**	P	**P**	**19 52 51.4**	**-1.6**
WRA	**Warramunga Arr**	**23.04**	**154**	P	**P**	**19 52 53.0**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=335,slow=9.8,SNR=55						
	comp=Z,3.1nm,0.4s						
WR8	**Warramunga Arr**	**23.13**	**154**	P	**P**	**19 52 53.5**	**-0.2**
WR8				IAmb	IAmb	19 52 54.2	
	comp=Z,13nm,1.4s						
COEN	**Coen**	**24.08**	**128**	P	**P**	**19 53 00.1**	**-2.3**
COEN				IAmb	IAmb	19 53 36.7	
	comp=Z,10.0nm,1.1s						
AS31	**Alice Springs**	**26.23**	**159**	P	**P**	**19 53 21.1**	**-0.6**
ASAR	**Alice Springs**	**26.23**	**159**	P	**P**	**19 53 21.7**	**0.0**
ASAR	**Alice Springs**	**26.23**	**159**	P	**P**	**19 53 22.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=335,slow=7.0,SNR=10						
ASAR				PcP	**PcP**	**19 56 40.9**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=355,slow=3.5,SNR=2.1						
	comp=Z,0.6nm,0.5s						
BBOO	**Buckleboo**	**35.38**	**162**	P	**P**	**19 54 41.6**	**+0.1**
STKA	**Stephens Creek**	**36.60**	**154**	P	**P**	**19 54 51.7**	**-0.1**
STKA	**Stephens Creek**	**36.60**	**154**	P	**P**	**19 54 52.4**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=338,slow=9.7,SNR=7.5						
	comp=Z,2.1nm,0.5s						
CAN	**Canberra**	**42.93**	**149**	P	**P**	**19 55 44.7**	**+0.9**
CAN				IAmb	IAmb	19 55 46.5	
	comp=Z,8.6nm,0.9s						
SONM	**Songino Array**	**49.21**	**344**	P	**P**	**19 56 30.3**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=151,slow=10,SNR=3.9						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**58.39**	**328**	P	**P**	**19 57 36.4**	**-2.4**
MKAR	**Makanchi Array**	**58.39**	**328**	P	**P**	**19 57 37.0**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=124,slow=8.0,SNR=22						
	comp=Z,0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**61.94**	**335**	P	**P**	**19 57 59.7**	**-2.8**
	comp=Z,0.4nm,0.4s,baz=130,slow=6.3,SNR=3.1						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.71**	**329**	P	**P**	**19 58 06.1**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=130,slow=6.4,SNR=8.1						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**90.78**	**180**	P	**P**	**20 00 45.3**	**+1.3**
	comp=Z,1.3nm,1.1s,baz=63,slow=2.3,SNR=1.9						
	comp=Z,1.3nm,1.1s						

GUC 26 19:51:42.5±0.6, 33°.43S×71°.82W, h24km±50km, ML2.6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.43**	**19**	⇓*iP*	Pb	19 51 51.1	-0.4
VA01				*eS*	Sb	19 51 57.6	0.0
VA01				IAML		19 51 57.9	
	comp=E,1μm,0.1s						
VA01	**Torpederas**	**0.43**	**19**	*eP*	Pb	19 51 51.1	-0.4
VA01				*i* S	Sb	19 51 57.6	0.0
VA01				IAML		19 51 58.0	
	comp=E,1μm,0.1s						
MT02	**Curacav**	**0.59**	**74**	*i* P	Pb	19 51 53.6	-0.7
MT02				*eS*	Sb	19 52 00.6	-1.7
MT02	**Curacav**	**0.59**	**74**	⇓*iP*	Pb	19 51 53.5	-0.8
MT02				*i* S	Sb	19 52 01.6	-0.7
MT01	**Popeta**	**0.64**	**133**	*i* P	Pb	19 51 54.3	-0.8
MT01				*eS*	Sb	19 52 03.0	-0.6
MT01				IAML		19 52 03.6	
	comp=E,532nm,0.1s						
MT01	**Popeta**	**0.64**	**133**	*eP*	Pb	19 51 54.3	-0.8
MT01				*i* S	Sb	19 52 03.1	-0.6
MT01				IAML		19 52 03.5	
	comp=E,627nm,0.1s						
MT09	**Talagante**	**0.77**	**117**	*eP*	Pb	19 51 56.5	-0.9
MT09				*eS*	Sb	19 52 07.6	0.0
MT09				IAML		19 52 08.0	
	comp=N,336nm,0.2s						
MT09	**Talagante**	**0.77**	**117**	*eP*	Pb	19 51 56.6	-0.8
MT09				*i* S	Sb	19 52 07.3	-0.2
MT09				IAML		19 52 09.1	
	comp=E,506nm,0.2s						
ROCH	**El Roble**	**0.82**	**56**	*eP*	Pb	19 51 57.2	-1.0
ROCH				⇓*eP*	Pn	19 51 57.3	-1.5
ROCH	**El Roble**	**0.82**	**56**	*eP*	Pb	19 51 57.2	-1.0
ROCH				*i* S	Sb	19 52 08.8	-0.1
ROCH				IAML		19 52 11.8	
	comp=N,217nm,0.2s						
VA06	**Catapilco**	**0.97**	**27**	*eP*	Pn	19 51 59.6	-1.0
VA06				*eS*	Sb	19 52 12.3	-0.7
VA06				IAML		19 52 13.9	
	comp=E,343nm,0.3s						
VA06	**Catapilco**	**0.97**	**27**	*eP*	Pn	19 51 59.6	-1.0
VA06				*i* S	Sb	19 52 12.2	-0.8
VA06				IAML		19 52 14.1	
	comp=E,351nm,0.3s						
PEL	**Peldehue**	**0.99**	**74**	*eP*	Pn	19 52 00.2	-0.8
PEL				*eS*	Sn	19 52 16.9	+2.7
PEL	**Peldehue**	**0.99**	**74**	*eP*	Pn	19 52 00.1	-0.9
PEL				*i* S	Sb	19 52 13.4	-0.3
PEL				IAML		19 52 20.4	
	comp=N,194nm,0.2s						
MT14	**Cerro Cal¡n**	**1.07**	**89**	*eP*	Pn	19 52 01.7	-0.4
MT14	**Cerro Cal¡n**	**1.07**	**89**	*eP*	Pn	19 52 01.5	-0.6
MT14				*i* S	Sb	19 52 15.3	-0.8
MT14				IAML		19 52 24.2	
	comp=E,177nm,0.4s						
MT16	**CCHEN**	**1.08**	**90**	*eP*	Pb	19 52 03.1	+0.5
MT16	**CCHEN**	**1.08**	**90**	*eP*	Pn	19 52 01.6	-0.6
MT16				*i* S	Sb	19 52 16.0	-0.3
MT16				IAML		19 52 20.0	
	comp=E,109nm,0.5s						
MT10	**Hacienda Santa**	**1.08**	**82**	*eP*	Pn	19 52 02.2	-0.1
MT10	**Hacienda Santa**	**1.08**	**82**	*eP*	Pn	19 52 01.8	-0.5
MT10				*i* S	Sb	19 52 16.5	+0.1
MT10				IAML		19 52 22.1	
	comp=N,446nm,0.3s						
MT03	**Universidad Ad**	**1.09**	**94**	⇑*iP*	Pn	19 52 02.1	-0.4
MT03				*eS*	Sn	19 52 17.3	+0.4
MT03				IAML		19 52 21.1	
	comp=E,378nm,0.2s						
MT03	**Universidad Ad**	**1.09**	**94**	*eP*	Pn	19 52 01.9	-0.6
MT03				*i* S	Sn	19 52 16.8	0.0
MT03				IAML		19 52 21.0	
	comp=E,390nm,0.2s						
MT12	**Pirque**	**1.10**	**106**	*eP*	Pn	19 52 01.8	-0.7
MT12				*i* S	Sb	19 52 16.2	-0.7
MT12				IAML		19 52 19.9	
	comp=E,271nm,0.4s						
MT15	**Las Vizcachas**	**1.11**	**99**	*eP*	Pn	19 52 02.3	-0.3
MT15	**Las Vizcachas**	**1.11**	**99**	*eP*	Pn	19 52 02.2	-0.3
MT15				*i* S	Sb	19 52 17.1	0.0
MT15				IAML		19 52 20.0	
	comp=N,325nm,0.2s						
BO01	**Tunca**	**1.14**	**148**	*eP*	Pn	19 52 01.9	-1.0
BO01				*eS*	Sn	19 52 16.8	-1.0
VA03	**San Esteban**	**1.25**	**58**	*eP*	Pn	19 52 04.3	-0.3
VA03				*eS*	Sn	19 52 20.9	+0.1
VA03				IAML		19 52 25.1	
	comp=E,506nm,0.1s						
VA03	**San Esteban**	**1.25**	**58**	*eP*	Pn	19 52 04.3	-0.3
VA03				*eS*	Sn	19 52 21.0	+0.2
VA03				IAML		19 52 25.0	
	comp=E,424nm,0.1s						
FCH	**Farellones**	**1.28**	**86**	*eP*	Pn	19 52 04.9	-0.4
FCH				*i* S	Sn	19 52 21.8	0.0
MT13	**San Alfonso**	**1.32**	**104**	*eP*	Pb	19 52 06.5	-0.1
MT13	**San Alfonso**	**1.32**	**104**	*eP*	Pn	19 52 05.7	+0.2
MT13				*i* S	Sb	19 52 22.9	-0.3
MT13				IAML		19 52 26.6	
	comp=E,172nm,0.2s						
MT04	**Ro Olivares**	**1.41**	**89**	⇑*iP*	Pn	19 52 07.0	+0.2
MT04				*eS*	Sb	19 52 26.2	+0.4
MT04				IAML		19 52 29.2	
	comp=N,273nm,0.1s						
MT04	**Ro Olivares**	**1.41**	**89**	*eP*	Pn	19 52 06.8	0.0
MT04				*eS*	Sb	19 52 25.3	-0.5
MT04				IAML		19 52 29.2	
	comp=N,146nm,0.2s						
LMEL	**Las Melosas**	**1.41**	**108**	*eP*	Pn	19 52 07.1	+0.3
BO02	**Sierra Bellavi**	**1.61**	**148**	*eP*	Pn	19 52 09.7	+0.3

NEIC 26 20:03:05.1±0.8, 36°.324N±0°.010×112°.49W±0°.02, h5km±1km, ML2.5/86, Error ellipse: s-maj=3.2km s-min=2.3km az=61.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U15A	**North Rim**	**0.19**	**58**	Pg	Pg	20 03 09.8	+0.8
U15A				Sg	Sg	20 03 12.8	+1.1
U15A				IAML		20 03 13.1	
	comp=N,2μm,0.3s						
U15A				IAML		20 03 13.5	
	comp=E,1μm,0.4s						
KNB	**Kanab**	**0.74**	**339**	Pg	Pg	20 03 19.2	-0.1
KNB				Sg	Sg	20 03 29.1	+0.2
LCMT	**Little Creek M**	**0.91**	**319**		Pg	20 03 22.5	-0.2
LCMT				Sg	Sg	20 03 34.7	+0.1
LCMT				IAML		20 03 35.4	
	comp=E,110nm,0.2s						
LCMT				IAML		20 03 35.5	
	comp=N,67nm,0.1s						
PKCU	**Pink Cliffs**	**1.13**	**7**		Pg	20 03 26.2	-0.6
PKCU				IAML		20 03 44.0	
	comp=N,95nm,0.3s						
PKCU				IAML		20 03 47.2	
	comp=E,160nm,0.3s						
WUAZ	**Wupatki**	**1.22**	**131**		Pg	20 03 28.0	-0.4
WUAZ				IAML		20 03 45.4	
	comp=E,106nm,0.5s						
WUAZ				IAML		20 03 45.5	
	comp=E,114nm,0.5s						
SZCU	**Shurtz Canyon**	**1.35**	**340**		Pn	20 03 30.6	-0.3
SZCU				IAML		20 03 48.9	
	comp=E,142nm,0.2s						
SZCU				IAML		20 03 49.9	
	comp=N,93nm,0.2s						
CCUT	**Cedar City**	**1.41**	**331**		Pn	20 03 31.1	-0.6
W13A	**Hualapai Mount**	**1.67**	**223**		Pn	20 03 34.4	-0.8
MTPU	**Mount Pierson**	**1.73**	**8**		Pn	20 03 36.3	0.0
MTPU				IAML		20 04 00.9	
	comp=E,36nm,0.4s						
MTPU				IAML		20 04 00.9	
	comp=N,33nm,0.6s						
V12A	**Nelson**	**2.00**	**253**		Pg	20 03 43.0	-0.5
X16A	**Lo Mia Camp, P**	**2.09**	**155**	Pn	Pn	20 03 40.0	-1.0
HMU	**Henry Mountain**	**2.13**	**40**		Pn	20 03 42.3	+0.6
HMU					Sn	20 04 08.4	-0.4
SHPR	**Sheep Range**	**2.16**	**276**	Pn	Pn	20 03 41.1	-0.8
SHPR				Pg	Pb	20 03 44.5	-0.3
MSU	**Marysvale**	**2.20**	**6**		Pn	20 03 42.7	+0.1
PRN	**Pahroc Range**	**2.32**	**299**		Pb	20 03 47.5	0.0
PRN				IAML		20 04 27.6	
	comp=N,11nm,0.6s						
PSUT	**Pine Spring**	**2.46**	**334**		Pn	20 03 45.4	-0.7
W18A	**Petrified Fore**	**2.55**	**117**	Pn	Pn	20 03 47.1	-0.2
W18A				Pg	Pb	20 03 51.7	+0.2
W18A				IAML		20 04 28.6	
	comp=E,18nm,0.6s						
W18A				IAML		20 04 29.6	
	comp=N,19nm,0.6s						
X18A	**Snowflake**	**2.74**	**130**	Pg	Pb	20 03 54.9	+0.1
X18A				IAML		20 04 32.7	
	comp=N,9.8nm,0.5s						
X18A				IAML		20 04 33.5	
	comp=E,12nm,0.4s						
IRM	**Iron Mountain**	**3.06**	**226**	Pg	Pg	20 04 02.3	-1.5
IRM				IAML		20 04 45.0	
	comp=N,6.9nm,2.7s						
TPNV	**Topopah Spring**	**3.08**	**283**	Pg	Pb	20 04 02.4	+1.8
TPNV				IAML		20 04 42.6	
	comp=N,6.4nm,3.9s						
TPNV				IAML		20 05 53.4	
	comp=N,7.2nm,4.7s						
R11B	**Troy Canyon, C**	**3.19**	**310**	Pn	Pn	20 03 54.7	-1.4
SRU	**San Rafael Swe**	**3.19**	**29**		Pn	20 03 54.4	-1.8
SRU				IAML		20 04 41.6	
	comp=N,20nm,0.6s						
PV05	**Paradox Valley**	**3.23**	**56**		Pn	20 03 56.0	-0.7
PV05				IAML		20 04 56.1	
	comp=N,20nm,0.5s						
PV05				IAML		20 04 56.3	
	comp=E,21nm,0.6s						
MVCO	**Mesa Verde**	**3.33**	**73**	Pn	Pn	20 03 57.2	-0.8
MVCO					Pb	20 04 05.0	+0.2
MVCO				IAML		20 04 50.4	
	comp=E,14nm,0.5s						
MVCO				IAML		20 04 52.1	
	comp=E,12nm,0.5s						
PV10	**Paradox Valley**	**3.43**	**52**	Pn	Pn	20 03 56.4	-3.1
PV18	**Skein Mesa, Pa**	**3.44**	**55**	IAML		20 04 54.8	
	comp=E,20nm,0.3s						
PV13	**Radium Mtn., P**	**3.46**	**57**		Pb	20 04 07.3	+0.3
PV13				IAML		20 04 56.8	
	comp=N,21nm,0.6s						
PV20	**West Nyswonger**	**3.46**	**53**	Pn	Pn	20 03 58.2	-1.7
PV20					Pb	20 04 07.4	+0.4
PV16	**Nyswonger Mesa**	**3.47**	**54**	IAML		20 04 59.5	
	comp=E,19nm,0.8s						
PV16				IAML		20 05 06.5	
	comp=N,21nm,0.8s						
PV03	**Paradox Valley**	**3.49**	**55**	IAML		20 04 58.2	
	comp=N,15nm,0.2s						
PV03				IAML		20 05 05.9	
	comp=E,12nm,0.5s						
PV23	**Carpenter Ridg**	**3.49**	**52**		Pn	20 04 01.8	+1.4
PV11	**David Mesa, Pa**	**3.50**	**55**		Pn	20 04 00.6	+0.3
PV04	**Paradox Valley**	**3.53**	**53**	IAML		20 04 54.1	
	comp=N,20nm,0.5s						
PV01	**Paradox Valley**	**3.62**	**59**	IAML		20 05 00.5	
	comp=E,12nm,0.6s						
PV01				IAML		20 05 03.1	
	comp=N,12nm,0.5s						
PV22	**Blue Mesa, Par**	**3.69**	**52**	IAML		20 05 00.4	
	comp=N,9.2nm,0.7s						
PV22				IAML		20 05 07.3	
	comp=E,12nm,0.9s						
P18A	**Preston Nutter**	**3.75**	**28**		Pn	20 04 04.6	+0.7
P18A				IAML		20 04 40.7	
	comp=N,15nm,0.7s						

NOU ***26*** *20:05:14.6, 37°.81S×177°.57E, h35km, MLv3.7/15, Off E. Coast of N. Island, N.Z.*
WEL ***26*** *20:05:15.0±0.3, 38°S±2°×17°8E±°, h27km±3km, M3.1/21, ML3.5/24, MLv3.1/21, Error ellipse: s-maj=4.0km s-min=2.8km az=58.9, confirmed*

ISC 26 20:05:15.9±1.1, 37°.78S±0°.03×177°.54E±0°.02, h34km±2km, n86, σ0°97/104, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.20**	**83**	P	**Pb**	**20 05 22.6**	**0.0**
HAZ				S	**Sb**	**20 05 28.1**	**+1.1**
RUGZ	**Raukumara Rang**	**0.22**	**149**	P	**Pn**	**20 05 22.5**	**+0.5**
RUGZ				S	**Sb**	**20 05 28.1**	**+0.4**
WIZ	**White Island**	**0.37**	**313**	P	**Pb**	**20 05 24.9**	**+0.2**
WSRZ	**White Island S**	**0.39**	**313**	P	**Pn**	**20 05 25.5**	**+0.3**
PKGZ	**Pakihiroa**	**0.44**	**101**	P	**Pb**	**20 05 24.8**	**-0.9**
WHRZ	**Whale Island**	**0.45**	**260**	P	**Pn**	**20 05 26.3**	**+0.2**
URZ	**Urewera**	**0.58**	**215**	P	**Pn**	**20 05 27.1**	**-0.7**
URZ	**Urewera**	**0.58**	**215**	S	**Sb**	**20 05 36.5**	**+0.4**
URZ	**Urewera**	**0.58**	**215**	P	**Pn**	**20 05 27.3**	**-0.5**
PUZ	**Puketiti**	**0.64**	**117**	P	**Pn**	**20 05 28.2**	**-0.4**
PUZ				S	**Sn**	**20 05 39.0**	**+1.4**
MXZ	**Matakaoa Point**	**0.65**	**71**	P	**Pn**	**20 05 27.8**	**-0.8**
MXZ	**Matakaoa Point**	**0.65**	**71**	S	**Sn**	**20 05 37.8**	**-0.1**
MXZ	**Matakaoa Point**	**0.65**	**71**	P	**Pn**	**20 05 27.9**	**-0.8**
WMGZ	**Waiomatatini S**	**0.70**	**93**	P	**Pn**	**20 05 29.1**	**-0.2**
WMGZ				S	**Sb**	**20 05 40.8**	**+1.7**
TKGZ	**Te Karaka**	**0.70**	**160**	P	**Pn**	**20 05 29.5**	**+0.1**
TKGZ				S	**Sb**	**20 05 41.0**	**+1.7**
EDRZ	**Edgecumbe**	**0.71**	**242**	P	**Pn**	**20 05 29.5**	**-0.1**
MARZ	**Manawahe**	**0.71**	**253**	P	**Pn**	**20 05 29.1**	**-0.5**
RAGZ	**Rawiri**	**0.72**	**188**	P	**Pn**	**20 05 29.3**	**-0.5**
OPRZ	**Ohinepanea**	**0.78**	**265**	P	**Pn**	**20 05 30.0**	**-0.5**
CNGZ	**Carnagh Statio**	**0.88**	**143**	P	**Pn**	**20 05 31.6**	**-0.3**
MUGZ	**Murupara**	**0.92**	**221**	P	**Pn**	**20 05 31.9**	**-0.5**
MUGZ				S	**Sn**	**20 05 43.6**	**-1.0**
RIGZ	**Rimuhau**	**0.94**	**169**	P	**Pn**	**20 05 32.3**	**-0.5**
RTZ	**Ruatahuna**	**0.94**	**208**	P	**Pn**	**20 05 31.8**	**-1.0**
RTZ				S	**Sn**	**20 05 44.0**	**-1.2**
SNGZ	**Shannon Statio**	**1.01**	**189**	P	**Pn**	**20 05 34.0**	**+0.3**
SNGZ				S	**Sn**	**20 05 50.0**	**+1.9**
TGZ	**Tauranga**	**1.01**	**273**	P	**Pn**	**20 05 33.0**	**-0.7**
TGRZ				S	**Sn**	**20 05 46.8**	**0.0**
KARZ	**Kaharoa**	**1.05**	**256**	P	**Pn**	**20 05 33.9**	**-0.3**
MYRZ	**Mayor Island**	**1.14**	**295**	P	**Pn**	**20 05 35.2**	**-0.4**
PRRZ	**Plateau Road**	**1.15**	**231**	P	**Pn**	**20 05 35.2**	**-0.5**
PRRZ				S	**Sn**	**20 05 49.8**	**-0.5**
HRRZ	**Handcock Road**	**1.16**	**238**	P	**P

MRZ	Mangatainoka R	3.25	207	P	Pn	20 06 01.9 -2.7
OUZ	Omahuta	4.08	308	P	Pn	20 06 16.2 +0.4
OUZ	Omahuta	4.08	308	P	Pn	20 06 15.9 +0.1
QRZ	Quartz Range	4.93	230	P	Pn	20 06 26.0 -1.6
KHZ	Kahutara	5.55	212	P	Pn	20 06 35.0 -1.1

NEIC ***26*** *20:11:38.8±0.9, 38°.12S±0°.05×74°.2W±0°.1, h10km±2km, ML4.1(GUC), Error ellipse: s-maj=14.1km s-min=7.7km az=249.0*

GUC ***26*** *20:11:41.9±0.7, 38°.35S×74°.30W, h9km±4km, ML4.1*

ISC 26 20:11:40.3±1.6**, 38°.11S**±0°.04×**74°.1W**±0°.1**, h18km, n36, σ0§99/40, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**0.34**	**152**	*i* P		**Pb**	**20 11 48.0 +0.2**
BI04				*e*S		**Sg**	**20 11 52.5 +0.1**
BI04				IAML			20 11 54.4
	comp=E,33μm,0.4s						
LC02	**Puerto Saavedr**	**0.88**	**141**			**Pb**	**20 11 57.2 +0.2**
LC02						**Sb**	**20 12 08.0 -0.4**
LC02	**Puerto Saavedr**	**0.88**	**141**	*i* P		**Pb**	**20 11 57.2 +0.2**
LC02				*e*S		**Sb**	**20 12 08.3 -0.1**
LC02				IAML			20 12 12.9
	comp=N,23μm,0.4s						
BI05	**Punta Hualpn**	**1.54**	**28**			**Pb**	**20 12 07.3 -0.9**
BI05	**Punta Hualpn**	**1.54**	**28**	*e*P		**Pg**	**20 12 12.5 +2.7**
LC01	**Cunco**	**1.91**	**115**	*e*P		**Pn**	**20 12 12.4 +0.5**
LR03	**Panguipulli**	**2.04**	**139**			**Pn**	**20 12 14.0 +0.3**
LR03	**Panguipulli**	**2.04**	**139**	*i* P		**Pn**	**20 12 15.1 +1.4**
GO06	**Curarrehue**	**2.52**	**127**	*e*P		**Pn**	**20 12 21.6 +1.2**
LR05	**Currie**	**2.67**	**143**			**Pn**	**20 12 23.2 +0.8**
LR05	**Currie**	**2.67**	**143**	*e*P		**Pn**	**20 12 23.8 +1.4**
LR05				*e*S		**Sb**	**20 12 58.0 -1.9**
LR05				IAML			20 13 13.4
	comp=E,797nm,0.6s						
BI02	**San Fabin de**	**2.67**	**58**			**Pn**	**20 12 22.7 +0.3**
BI02	**San Fabin de**	**2.67**	**58**	*e*P		**Pg**	**20 12 30.1 -1.3**
ML02	**Panimavida**	**3.17**	**43**			**Pn**	**20 12 29.8 +0.6**
LL03	**Petrohue**	**3.29**	**157**			**Pn**	**20 12 29.8 -1.2**
LL05	**Los Muermos**	**3.33**	**172**	Pn		**Pn**	**20 12 30.9 -0.5**
LL05	**Los Muermos**	**3.33**	**172**	*e*P		**Pn**	**20 12 32.2 +0.8**
GO05	**Hualane**	**3.55**	**30**	*e*P		**Pn**	**20 12 36.5 +2.0**
PLCA	**Paso Flores**	**3.79**	**135**			**Pn**	**20 12 38.4 +0.5**
BO03	**Pichilemu**	**4.00**	**26**	*e*P		**Pn**	**20 12 40.7 +0.1**
BO02	**Sierra Bellavi**	**4.25**	**40**			**Pn**	**20 12 44.6 +0.4**
BO02	**Sierra Bellavi**	**4.25**	**40**	*e*P		**Pn**	**20 12 44.8 +0.6**
BO01	**Tunca**	**4.43**	**34**			**Pn**	**20 12 46.6 0.0**
BO01	**Tunca**	**4.43**	**34**	*e*P		**Pn**	**20 12 47.4 +0.7**
MT01	**Popeta**	**4.82**	**29**			**Pn**	**20 12 52.0 0.0**
BO04	**La Punta**	**4.99**	**35**			**Pn**	**20 12 54.0 -0.2**
MT09	**Talagante**	**5.00**	**31**			**Pn**	**20 12 54.5 -0.1**
LMEL	**Las Melosas**	**5.29**	**38**			**Pn**	**20 12 59.3 +0.7**
MT13	**San Alfonso**	**5.34**	**36**			**Pn**	**20 12 59.3 +0.1**
MT02	**Curacav**	**5.40**	**27**			**Pn**	**20 12 59.6 -0.4**
VA01	**Torpederas**	**5.45**	**22**	Pn		**Pn**	**20 12 58.5 -2.0**
PEL	**Peldehue**	**5.68**	**30**			**Pn**	**20 13 04.1 +0.3**
MT08	**Bocatoma Ro**	**5.71**	**37**			**Pn**	**20 13 03.2 -1.2**
GO04	**Tololo Observa**	**8.37**	**20**	Pn		**Pn**	**20 13 40.2 -0.7**
CO01	**Juntas del Tor**	**8.76**	**23**	Pn		**Pn**	**20 13 45.5 -0.8**
LCO	**Las Campanas**	**9.50**	**18**	Pn		**Pn**	**20 13 55.8 -0.6**

NEIC ***26*** *20:12:01.6±0.8, 19°.69S±0°.09×169°.99E±0°.05, h10km±2km, mb4.3/7, Error ellipse: s-maj=15.1km s-min=8.3km az=169.0*

IDC ***26*** *20:12:04.8±2.6, 19°.48S×169°.34E, h0km, mb3.8/5, mbtmp3.8/6, ML3.1/1, MS3.1/3, Error ellipse: s-maj=54.0km s-min=38.8km az=12.0*

ISC 26 20:12:09.8±1.4**, 19°.58S**±0°.08×**169°.3E**±0°.2**, h35km, n20, σ1§03/19, mb4.1/9, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**3.50**	**210**	Pn	**Pn**	**20 12 60.0**	**-1.7**
PINNC				Sn	**Sn**	**20 13 40.9**	**-0.9**
DZM	**Mont Dzumac**	**3.67**	**227**		**Pn**	**20 13 03.9**	**-0.2**
DZM	**Mont Dzumac**	**3.67**	**227**	Pn	**Pn**	**20 13 04.1**	**-0.1**
	1.6nm,0.3s,baz=64,slow=17,SNR=20						
DZM				Sn	**Sn**	**20 13 48.0**	**+1.7**
	6.5nm,0.3s,baz=72,slow=19,SNR=7.2						
DZM				LR	LR	20 13 50.9	
	comp=Z,145nm,21.2s,baz=4.0,slow=28						
	4.8nm,0.4s						
ONTNC	**Ouen Toro**	**3.83**	**224**	Pn	**Pn**	**20 13 06.6**	**+0.5**
SANVU	**Saraoutou**	**4.59**	**333**	Pn	**Pn**	**20 13 16.4**	**-0.4**
HNR	**Honiara**	**13.58**	**317**	LR	LR	20 19 39.1	
	comp=Z,66nm,20.7s,baz=354,slow=34						
STKA	**Stephens Creek**	**27.75**	**238**	P	**P**	**20 17 56.5**	**+1.3**
	1.3nm,0.9s,baz=74,slow=12,SNR=3.0						
	1.3nm,0.9s						
BBOO	**Buckleboo**	**32.49**	**239**	P	**P**	**20 18 35.6**	**-1.6**
WR8	**Warramunga Arr**	**32.76**	**263**	P	**P**	**20 18 38.3**	**-1.4**
WR8				IAmb	IAmb	20 18 48.9	
	comp=Z,7.5nm,1.4s						
WB0	**Warramunga Arr**	**32.88**	**264**	P	**P**	**20 18 40.1**	**-0.6**
WB0				IAmb	IAmb	20 19 15.3	
	comp=Z,7.5nm,1.4s						
WRA	**Warramunga Arr**	**32.91**	**263**	P	**P**	**20 18 40.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=92,slow=8.4,SNR=6.9						
	comp=Z,0.2nm,0.4s						
AS31	**Alice Springs**	**33.14**	**257**	P	**P**	**20 18 43.0**	**0.0**
AS31				IAmb	IAmb	20 18 52.3	
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**33.14**	**257**	P	**P**	**20 18 42.2**	**-0.8**
ASAR	**Alice Springs**	**33.14**	**257**	P	**P**	**20 18 43.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=87,slow=8.9,SNR=16						
	comp=Z,0.9nm,0.6s						
KNRA	**Kununurra**	**38.80**	**269**	P	**P**	**20 19 30.7**	**-0.9**
KNRA				IAmb	IAmb	20 19 51.8	
	comp=Z,6.9nm,1.4s						
FITZ	**Fitzroy Crossi**	**41.30**	**265**	P	**P**	**20 19 51.8**	**-0.4**
QSPA	**South Pole Qui**	**70.47**	**180**	P	**P**	20 23 15.6	-5.0
QSPA				IAmb	IAmb	20 23 16.9	
	comp=Z,4.3nm,1.2s						
QSPA	**South Pole Qui**	**70.47**	**180**	P	**P**	**20 23 21.7**	**+1.1**
	comp=Z,1.4nm,1.1s,baz=36,slow=4.7,SNR=1.7						
	comp=Z,1.4nm,1.1s						
MAW	**Mawson**	**78.15**	**202**	P	**P**	**20 24 06.1**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=138,slow=8.5,SNR=3.8						
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**87.55**	**323**	LR	LR	20 59 56.7	
	comp=Z,36nm,21.9s,baz=193,slow=33						

NOU ***26*** *20:14:26.2, 39°.06S×176°.05E, h99km, MLv3.5/8, North Island, New Zealand*

WEL ***26*** *20:14:28.8±0.6, 39°.5±4°×17°.6E±°, h82km±4km, M3.1/24, ML3.2/25, MLv3.1/24, Error ellipse: s-maj=5.6km s-min=4.0km az=155.3, confirmed*

ISC 26 20:14:26.3±1.5**, 38°.98S**±0°.04×**175°.98E**±0°.03**, h109**km±7km, **n108, σ0§86/123, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RITZ	**Rihia Road**	**0.10**	**271**	P	**Pn**	**20 14 41.9**	**+0.5**
HATZ	**Hinemaiaia**	**0.12**	**44**	P	**Pn**	**20 14 41.4**	**-0.1**
HATZ				S	**Sn**	**20 14 51.2**	**-1.6**
RATZ	**Rangitukua**	**0.20**	**304**	P	**Pn**	**20 14 41.7**	**0.0**
RATZ				S	**Sn**	**20 14 52.2**	**-1.0**
TMVZ	**Te Maari**	**0.26**	**238**	P	**Pn**	**20 14 42.5**	**+0.5**
TMVZ				S	**Sn**	**20 14 53.3**	**-0.4**
ETVZ	**East Tongariro**	**0.26**	**234**	P	**Pn**	**20 14 42.5**	**+0.5**
ETVZ				S	**Sn**	**20 14 53.6**	**-0.2**
KRVZ	**Karewarewa**	**0.29**	**247**	P	**Pn**	**20 14 40.9**	**-1.2**
NNVZ	**North Ngauruho**	**0.33**	**242**	P	**Pn**	**20 14 42.7**	**+0.4**
NNVZ				S	**Sn**	**20 14 54.1**	**-0.1**
WTVZ	**West Tongariro**	**0.34**	**246**	P	**Pn**	**20 14 42.7**	**+0.4**
NGZ	**Ngauruhoe**	**0.36**	**237**	P	**Pn**	**20 14 42.9**	**+0.4**
NGZ				S	**Sn**	**20 14 54.5**	**-0.1**
MRHZ	**Matea Rd**	**0.37**	**67**	P	**Pn**	**20 14 42.3**	**-0.1**
MRHZ				S	**Sn**	**20 14 52.5**	**-1.9**
TUVZ	**Tukino**	**0.39**	**222**	P	**Pn**	**20 14 43.3**	**+0.7**
TUVZ				S	**Sn**	**20 14 54.3**	**-0.5**
COVZ	**Chateau Observ**	**0.41**	**237**	P	**Pn**	**20 14 43.3**	**+0.6**
WHVZ	**Whangaehu Hut**	**0.43**	**225**	P	**Pn**	**20 14 43.6**	**+0.6**
WHVZ				S	**Sn**	**20 14 55.4**	**0.0**
FWVZ	**Far West T-bar**	**0.43**	**230**	P	**Pn**	**20 14 43.4**	**+0.4**
FWVZ				S	**Sn**	**20 14 54.9**	**-0.5**
TWVZ	**Taurewa**	**0.43**	**258**	P	**Pn**	**20 14 43.1**	**+0.3**
BKZ	**Black Stump Fm**	**0.44**	**115**	P	**Pn**	**20 14 43.1**	**+0.4**
BKZ	**Black Stump Fm**	**0.44**	**115**	S	**Sn**	**20 14 54.6**	**-0.5**
BKZ	**Black Stump Fm**	**0.44**	**115**	P	**Pn**	**20 14 43.2**	**+0.4**
BKZ				S	**Sn**	**20 14 54.5**	**-0.5**
MAVZ	**Matarangi**	**0.44**	**229**	P	**Pn**	**20 14 43.7**	**+0.6**
MAVZ				S	**Sn**	**20 14 55.0**	**-0.6**
WNVZ	**Wahianoa**	**0.46**	**221**	P	**Pn**	**20 14 43.7**	**+0.6**
MOVZ	**Moawhango**	**0.46**	**203**	P	**Pn**	**20 14 43.4**	**+0.4**
TRVZ	**Turoa**	**0.47**	**227**	P	**Pn**	**20 14 43.9**	**+0.7**
ALRZ	**Allen Road**	**0.50**	**34**	P	**Pn**	**20 14 43.2**	**+0.1**
KWHZ	**Kaweka Forest**	**0.56**	**143**	P	**Pn**	**20 14 44.5**	**+0.9**
KWHZ				S	**Sn**	**20 14 57.0**	**+0.4**
MTVZ	**Mangateitei**	**0.57**	**224**	P	**Pn**	**20 14 44.4**	**+0.8**
PRRZ	**Plateau Road**	**0.58**	**34**	P	**Pn**	**20 14 43.8**	**+0.1**
PKVZ	**Pokaka**	**0.58**	**238**	P	**Pn**	**20 14 44.5**	**+0.8**
HRRZ	**Handcock Road**	**0.63**	**22**	P	**Pn**	**20 14 44.4**	**+0.3**
NMHZ	**Naumai**	**0.65**	**101**	P	**Pn**	**20 14 45.5**	**+1.2**
NMHZ				S	**Sn**	**20 14 59.3**	**+1.5**
MTHZ	**Maungatainiwha**	**0.68**	**80**	P	**Pn**	**20 14 44.8**	**+0.3**
MTHZ				S	**Sn**	**20 14 57.5**	**-0.6**
HSRZ	**Hossack Road**	**0.70**	**17**	P	**Pn**	**20 14 44.9**	**+0.3**
MCHZ	**McNeill Hill**	**0.72**	**130**	P	**Pn**	**20 14 46.5**	**+1.7**
KRHZ	**Kereru**	**0.73**	**156**	P	**Pn**	**20 14 45.9**	**+1.1**
TLZ	**Tolley Road**	**0.74**	**332**	P	**Pn**	**20 14 45.5**	**+0.5**
MUGZ	**Murupara**	**0.79**	**51**	P	**Pn**	**20 14 45.5**	**+0.1**
ARHZ	**Aropaoanui**	**0.84**	**110**	P	**Pn**	**20 14 47.1**	**+1.3**
RTZ	**Ruatahuna**	**0.86**	**65**	P	**Pn**	**20 14 46.4**	**+0.3**
RAHZ	**Arahi**	**0.86**	**86**	P	**Pn**	**20 14 47.1**	**+1.1**
PNHZ	**Pukenui**	**0.95**	**170**	P	**Pn**	**20 14 47.9**	**+0.9**
VRZ	**Vera Road**	**0.96**	**261**	P	**Pn**	**20 14 48.2**	**+1.1**
HIZ	**Hauiti**	**1.00**	**297**	P	**Pn**	**20 14 48.0**	**+0.6**
HIZ	**Hauiti**	**1.00**	**297**	P	**Sn**	**20 15 03.8**	**+0.5**
HIZ	**Hauiti**	**1.00**	**297**	P	**Pn**	**20 14 48.2**	**+0.8**
KAHZ	**Kahuranaki**	**1.07**	**140**	P	**Pn**	**20 14 49.7**	**+1.5**
SNGZ	**Shannon Statio**	**1.08**	**80**	P	**Pn**	**20 14 49.2**	**+0.9**
TSZ	**Takapari Road**	**1.08**	**181**	P	**Pn**	**20 14 49.3**	**+1.0**
CKHZ	**Cape Kidnapper**	**1.09**	**129**	P	**Pn**	**20 14 49.8**	**+1.5**
WAZ	**Wanganui**	**1.09**	**225**	P	**Pn**	**20 14 50.1**	**+1.6**
URZ	**Urewera**	**1.14**	**51**	P	**Pn**	**20 14 48.8**	**-0.1**
URZ	**Urewera**	**1.14**	**51**	S	**Sn**	**20 15 04.8**	**-1.2**
URZ	**Urewera**	**1.14**	**51**	P	**Pn**	**20 14 49.0**	**+0.1**
WPHZ	**Waipukurau**	**1.14**	**162**	P	**Pn**	**20 14 50.1**	**+1.1**
OPRZ	**Ohinepanea**	**1.22**	**22**	P	**Pn**	**20 14 50.1**	**+0.3**
RAGZ	**Rawiri**	**1.22**	**67**	P	**Pn**	**20 14 50.4**	**+0.5**
PXZ	**Pawanui**	**1.25**	**147**	P	**Pn**	**20 14 51.3**	**+1.1**
TOZ	**Tahuroa Road**	**1.30**	**343**	P	**Pn**	**20 14 51.6**	**+0.8**
KNZ	**Kokohu**	**1.32**	**92**	P	**Pn**	**20 14 51.7**	**+0.8**
DVHZ	**Dannevirke**	**1.32**	**174**	P	**Pn**	**20 14 51.7**	**+0.7**
WHRZ	**Whale Island**	**1.37**	**35**	P	**Pn**	**20 14 52.7**	**+1.2**
PRHZ	**Porangahau**	**1.38**	**159**	P	**Pn**	**20 14 52.7**	**+1.1**
DRHZ	**Durham Road**	**1.40**	**261**	P	**Pn**	**20 14 53.2**	**+1.3**
RIGZ	**Rimuhau**	**1.42**	**79**	P	**Pn**	**20 14 53.1**	**+1.0**
POWZ	**Post Office Ro**	**1.42**	**187**	P	**Pn**	**20 14 52.8**	**+0.7**
PREZ	**Palmer Road**	**1.46**	**255**	P	**Pn**	**20 14 54.9**	**+2.3**
PRGZ	**Paritu Road**	**1.48**	**88**	P	**Pn**	**20 14 53.6**	**+0.7**
NEZ	**North Egmont**	**1.50**	**258**	P	**Pn**	**20 14 55.0**	**+1.9**
MHGZ	**Mahia Peninsul**	**1.51**	**97**	P	**Pn**	**20 14 54.2**	**+1.1**
ANWZ	**Angora Road**	**1.53**	**166**	P	**Pn**	**20 14 54.5**	**+1.1**
TKGZ	**Te Karaka**	**1.56**	**70**	P	**Pn**	**20 14 54.7**	**+1.0**
KHEZ	**Kahui Hut**	**1.56**	**258**	P	**Pn**	**20 14 55.7**	**+1.8**
PKE	**Pukeiti**	**1.57**	**262**	P	**Pn**	**20 14 55.5**	**+1.6**
PRWZ	**Pori Road**	**1.57**	**180**	P	**Pn**	**20 14 54.9**	**+0.9**
NBEZ	**Newall Road No**	**1.67**	**259**	P	**Pn**	**20 14 56.8**	**+1.7**
RUGZ	**Raukumara Rang**	**1.67**	**53**	P	**Pn**	**20 14 55.1**	**-0.2**
MRZ	**Mangatainoka R**	**1.71**	**190**	P	**Pn**	**20 14 55.9**	**+0.4**
BFZ	**Birch Farm**	**1.71**	**173**	P	**Pn**	**20 14 56.2**	**+0.6**
TIWZ	**Tintock**	**1.80**	**182**	P	**Pn**	**20 14 57.3**	**+0.5**
CNGZ	**Carnagh Statio**	**1.81**	**75**	P	**Pn**	**20 14 57.8**	**+1.0**
HAZ	**Te Kaha**	**1.87**	**50**	P	**Pn**	**20 14 57.3**	**-0.3**
CPWZ	**Castlepoint**	**1.94**	**175**	P	**Pn**	**20 14 59.5**	**+1.1**
OGWZ	**Otaki Gorge**	**1.94**	**199**	P	**Pn**	**20 14 58.8**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.95**	**191**	P	**Pn**	**20 14 58.7**	**+0.1**
MKAZ	**Moumakai**	**1.98**	**341**	P	**Pn**	**20 14 59.9**	**+0.9**
PKGZ	**Pakihiroa**	**1.99**	**57**	P	**Pn**	**20 14 59.5**	**+0.4**
PUZ	**Puketiti**	**2.00**	**64**	P	**Pn**	**20 14 59.8**	**+0.6**
KIW	**Kapiti Island**	**2.05**	**203**	P	**Pn**	**20 14 60.0**	**0.0**
TMWZ	**Te Maipa**	**2.13**	**182**	P	**Pn**	**20 15 01.0**	**+0.1**
MTW	**Mount Morrison**	**2.21**	**189**	P	**Pn**	**20 15 01.7**	**-0.2**
WMGZ	**Waiomatatini S**	**2.23**	**60**	P	**Pn**	**20 15 02.4**	**+0.2**
CAW	**Cannon Point**	**2.24**	**198**	P	**Pn**	**20 15 02.1**	**-0.2**
KUZ	**Kuaotunu**	**2.24**	**355**	P	**Pn**	**20 15 03.1**	**+0.8**
WIAZ	**Waiheke Island**	**2.28**	**343**	P	**Pn**	**20 15 03.9**	**+1.0**
MXZ	**Matakaoa Point**	**2.31**	**53**	P	**Pn**	**20 15 03.9**	**+0.6**
MBAZ	**Motutapu North**	**2.37**	**338**	P	**Pn**	**20 15 04.7**	**+0.7**
DUWZ	**D'Urville Isla**	**2.41**	**220**	P	**Pn**	**20 15 04.5**	**-0.1**
TRWZ	**Traveller**	**2.43**	**185**	P	**Pn**	**20 15 04.4**	**-0.5**
PAWZ	**Parawai Farm**	**2.44**	**190**	P	**Pn**	**20 15 04.4**	**-0.5**
WEL	**Wellington**	**2.48**	**202**	P	**Pn**	**20 15 05.0**	**-0.4**
MSWZ	**Moikau Station**	**2.50**	**193**	P	**Pn**	**20 15 05.1**	**-0.6**
BHW	**Baring Head**	**2.57**	**199**	P	**Pn**	**20 15 05.9**	**-0.7**
TCW	**Tory Channel**	**2.58**	**210**	P	**Pn**	**20 15 06.3**	**-0.4**
PLWZ	**Palliser**	**2.65**	**192**	P	**Pn**	**20 15 06.9**	**-0.8**
TUWZ	**Tuamarina**	**2.90**	**212**	P	**Pn**	**20 15 10.8**	**-0.1**
NNZ	**Nelson**	**3.00**	**221**	P	**Pn**	**20 15 11.8**	**-0.4**
TKNZ	**Takaka Hill**	**3.10**	**228**	P	**Pn**	**20 15 12.8**	**-0.8**
BSWZ	**Blackbirch Sta**	**3.17**	**210**	P	**Pn**	**20 15 13.8**	**-0.8**
QRZ	**Quartz Range**	**3.23**	**234**	P	**Pn**	**20 15 14.7**	**-0.7**
KHZ	**Kahutara**	**3.90**	**208**	P	**Pn**	**20 15 23.0**	**-1.3**

IDC ***26*** *20:38:20.9±1.4, 0°.93N×126°.36E, h0km, mb3.6/5, mbtmp3.7/5, Error ellipse: s-maj=151.0km s-min=20.2km az=65.0*

DJA ***26*** *20:38:24.6±0.2, 1°.N±3°×12°.6E±°, h10km, M3.7/11, MLv3.7/11*

ISC 26 20:38:27.2±0.9**, 0°.85N**±0°.08×**126°.11E**±0°.05**, h44km, n10, σ0§85/13, mb3.7/5, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.26**	**94**	P	**Pn**	**20 38 47.2**	**-1.1**
TNTI				S	**Sn**	**20 39 05.5**	**+1.5**
KMSI	**Cibinong**	**2.15**	**263**	P	**Pn**	**20 38 59.8**	**-0.7**
KMSI				S	**Sn**	**20 39 26.7**	**+0.7**
SGSI	**Sangihe**	**2.88**	**348**	P	**Pn**	**20 39 10.3**	**-0.3**
APSI	**Ampana**	**4.79**	**249**	P	**Pn**	**20 39 36.8**	**-0.1**
AAI	**Ambon**	**4.96**	**155**	P	**Pn**	**20 39 39.5**	**+0.3**
WRA	**Warramunga Arr**	**22.18**	**159**	P	**P**	**20 43 18.6**	**-1.1**
	2.0nm,0.7s,baz=339,slow=11,SNR=14						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**25.52**	**163**	P	**P**	**20 43 51.5**	**-0.3**
	0.9nm,0.6s,baz=339,slow=7.6,SNR=16						
ASAR				PcP	**PcP**	**20 47 22.8**	**+0.1**
	0.5nm,1.0s,baz=332,slow=2.2,SNR=2.1						
	0.9nm,0.6s						
STKA	**Stephens Creek**	**35.70**	**157**	P	**P**	**20 45 21.4**	**-0.2**
	1.5nm,0.9s,baz=338,slow=11,SNR=2.7						
	1.5nm,0.9s						
MKAR	**Makanchi Array**	**59.58**	**327**	P	**P**	**20 48 26.2**	**-0.2**
	0.3nm,0.5s,baz=121,slow=8.4,SNR=3.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**63.84**	**328**	P	**P**	**20 48 56.1**	**+1.1**
	0.4nm,0.7s,baz=123,slow=6.0,SNR=5.8						
	0.4nm,0.7s						

IDC ***26*** *20:44:07.4±2.3, 32°.82N×48°.86E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=54.3km s-min=25.9km az=162.0*

TEH ***26*** *20:44:07.6, 32°.30N×48°.90E, h27km±30km*

ISC 26 20:44:08.3±0.9**, 32°.29N**±0°.05×**48°.92E**±0°.05**, h23km, n36, σ0§91/36, mb3.5/6, Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.99**	**194**	Pg	**Pn**	**20 44 26.7**	**0.0**
JHBN	**Jahan bin**	**1.48**	**92**	Pg	**Pn**	**20 44 33.8**	**-0.1**
IDOB	**Doab**	**1.62**	**337**	Pg	**Pn**	**20 44 36.5**	**+0.8**
ZNGN	**Zangian**	**1.65**	**96**	Pg	**Pn**	**20 44 36.6**	**+0.4**
BDRS	**Dareh Seyedi**	**1.66**	**359**	Pg	**Pn**	**20 44 36.5**	**+0.2**
IPIR	**Pirpir**	**1.71**	**76**	Pg	**Pn**	**20 44 37.4**	**+0.3**
IBRJ	**Brojen**	**2.02**	**100**	Pn	**Pn**	**20 44 41.8**	**+0.5**
IKLH	**Kolahrood**	**2.46**	**65**	Pn	**Pn**	**20 44 48.1**	**+0.8**
HAGD	**Aghdareh**	**2.53**	**4**	Pn	**Pn**	**20 44 48.8**	**+0.5**
QAMS	**Qamsar**	**2.53**	**55**	Pn	**Pn**	**20 44 49.1**	**+0.9**
KLNJ	**Kolanjah**	**2.61**	**119**	Pn	**Pn**	**20 44 49.4**	**0.0**
ILBA	**Ilam Banvizeh**	**2.64**	**301**	Pn	**Pn**	**20 44 49.2**	**-0.4**
IGAR	**Gharneh**	**2.64**	**87**	Pn	**Pn**	**20 44 50.2**	**+0.4**
SNQR	**Sonqor, Kerman**	**2.78**	**337**	Pn	**Pn**	**20 44 52.6**	**+0.9**
IZEF	**Zefreh**	**2.94**	**77**	Pn	**Pn**	**20 44 54.4**	**+0.5**
IRAM	**Ramesheh**	**2.98**	**98**	Pn	**Pn**	**20 44 54.7**	**+0.3**
GLG1	**Gilan-e-Gharb**	**3.11**	**307**	Pn	**Pn**	**20 44 56.3**	**+0.2**
IQOM	**Qom**	**3.11**	**35**	Pn	**Pn**	**20 44 56.9**	**+0.6**
KRSH	**Karshahi**	**3.17**	**57**	Pn	**Pn**	**20 44 57.6**	**+0.6**
HGHA	**Hamedan- Ghaye**	**3.19**	**359**	Pn	**Pn**	**20 44 57.9**	**+0.6**
IDHR	**Dehrash**	**3.20**	**319**	Pn	**Pn**	**20 44 57.8**	**+0.3**
QABG	**Abgarm-Qazvin**	**3.45**	**9**	Pn	**Pn**	**20 45 01.7**	**+0.8**
ISFB	**Sefidab**	**3.46**	**53**	Pn	**Pn**	**20 45 00.9**	**+0.1**
IVRN	**Varamin**	**3.57**	**40**	Pn	**Pn**	**20 45 02.9**	**+0.5**
ANAR	**Anarak**	**4.15**	**76**	Pn	**Pn**	**20 45 10.9**	**+0.5**
IDMV	**Damavand**	**4.17**	**37**	Pn	**Pn**	**20 45 11.1**	**+0.2**
DSBU	**Dashti - Bushe**	**4.41**	**152**	Pn	**Pn**	**20 45 14.6**	**+0.7**
ILAS	**Lasjerd**	**4.56**	**46**	Pn	**Pn**	**20 45 16.5**	**+0.4**
IFIR	**Firoozkooh**	**4.62**	**43**	Pn	**Pn**	**20 45 17.5**	**+0.5**
BVAR	**Borovoye Array**	**25.86**	**30**	P	**P**	**20 49 36.8**	**-1.3**
	0.2nm,0.4s,baz=222,slow=5.8,SNR=2.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**28.49**	**41**	P	**P**	**20 50 01.0**	**-0.7**
	0.4nm,0.7s,baz=243,slow=9.9,SNR=4.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**29.27**	**51**	P	**P**	**20 50 08.7**	**0.0**
	0.1nm,0.3s,baz=249,slow=7.7,SNR=2.8						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**32.72**	**340**	P	**P**	**20 50 37.0**	**-1.9**
	0.7nm,0.6s,baz=130,slow=8.8,SNR=5.2						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**33.45**	**39**	P	**P**	**20 50 44.1**	**-1.2**
	0.4nm,0.5s,baz=292,slow=7.6,SNR=3.5						
	0.4nm,0.5s						
HFS	**Hagfors**	**36.24**	**331**	P	**P**	**20 51 07.5**	**-1.8**
	0.8nm,0.3s,baz=119,slow=8.4,SNR=11						
	0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.12**	**257**	P	**P**	**20 52 42.0**	**+3.0**
	0.2nm,0.4s,baz=66,slow=8.1,SNR=2.6						
	0.2nm,0.4s						

NEIC ***26*** *20:44:12.3±0.6, 19°.8S±0°.2×169°.91E±0°.06, h10km±2km, mb4.3/7, Error ellipse: s-maj=27.8km s-min=7.4km az=166.0*

IDC ***26*** *20:44:14.8±2.1, 19°.55S×169°.30E, h0km, mb4.0/7, mbtmp3.9/8, ML3.2/1, MS3.0/2, Error ellipse: s-maj=49.9km s-min=29.3km az=17.0*

ISC 26 20:44:19.1±1.2**, 19°.50S**±0°.08×**169°.3E**±0°.2**, h35km, n21, σ1§46/21, mb4.2/10, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

AS31	**Alice Springs**	**20.71**	**186**	P	**P**	**21 22 32.2**	**+0.8**
ASAR	**Alice Springs**	**20.71**	**186**	P	**P**	**21 22 32.0**	**+0.7**
ASAR	**Alice Springs**	**20.71**	**186**	P	**P**	**21 22 32.8**	**+1.4**
	comp=Z,12nm,0.7s,baz=12,slow=11,SNR=56						
ASAR				S	**S**	**21 26 16.5**	**-4.6**
	comp=Z,4.2nm,0.8s,baz=10.0,slow=28,SNR=8.9						
	comp=Z,12nm,0.7s						
MBWA	**Marble Bar**	**24.20**	**220**	P	**P**	**21 23 08.1**	**+0.7**
MBWA				IAmb	IAmb	21 23 33.5	
	comp=Z,19nm,1.2s						
HNR	**Honiara**	**24.42**	**106**	LR	LR	21 32 22.5	
	comp=Z,119nm,20.7s,baz=225,slow=36						
PSA00	**Pilbara Seismi**	**24.42**	**219**	P	**P**	**21 23 09.5**	**0.0**
STKA	**Stephens Creek**	**29.20**	**171**	P	**P**	**21 23 51.0**	**-1.3**
BBOO	**Buckleboo**	**29.70**	**180**	P	**P**	**21 23 55.7**	**-1.0**
JHJ	**Hachijo jima 2**	**36.04**	**5**	LR	LR	21 35 43.5	
	comp=Z,39nm,20.3s,baz=244,slow=30						
MAJO	**Matsushiro**	**39.34**	**2**	P	**P**	**21 25 19.4**	**-0.6**
MAJO				IAmb	IAmb	21 25 36.0	
	comp=Z,4.9nm,1.1s						
MJB9	**Matsu-Tunnel**	**39.34**	**2**	P	**P**	**21 25 20.6**	**+0.6**
MJB9				IAmb	IAmb	21 25 38.3	
	comp=Z,9.9nm,1.5s						
CMAR	**Chiang Mai Arr**	**42.44**	**302**	P	**P**	**21 25 46.1**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=126,slow=7.2,SNR=4.8						
	comp=Z,1.3nm,0.9s						
XAN	**Xi'an**	**44.91**	**327**	P	P	21 25 57.0	-8.5
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA	**Gaotai**	**53.84**	**325**	*eP*	**P**	**21 27 15.0**	**+1.3**
GTA				sP	sP	21 27 29.0	+1.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array**	**56.93**	**336**	P	**P**	**21 27 35.5**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=155,slow=9.1,SNR=3.6						
SONM				LR	LR	21 49 23.5	
	comp=Z,59nm,21.4s,baz=193,slow=33						
	comp=Z,0.4nm,0.7s						
MK31	**Makanchi Array**	**68.50**	**323**	P	**P**	**21 28 53.4**	**+0.6**
MK31				IAmb	IAmb	21 28 54.1	
	comp=Z,3.1nm,0.9s						
MKAR	**Makanchi Array**	**68.50**	**323**	P	**P**	**21 28 53.3**	**+0.5**
MKAR	**Makanchi Array**	**68.50**	**323**	P	**P**	**21 28 53.5**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=111,slow=8.3,SNR=29						
	comp=Z,2.6nm,0.6s						
MAKZ	**Makanchi**	**68.69**	**323**	P	**P**	**21 28 54.0**	**0.0**
TARG	**Taragay, Kyrgy**	**69.07**	**317**	P	**P**	**21 28 58.3**	**+1.3**
TARG				IAmb	IAmb	21 28 59.0	
	comp=Z,2.7nm,0.8s						
KSH	**Kashi**	**69.47**	**314**	P	**P**	**21 29 01.0**	**+1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KDJ	**Kajisay**	**69.66**	**317**	P	**P**	**21 29 01.1**	**+0.7**
KDJ				IAmb	IAmb	21 29 02.1	
	comp=Z,4.6nm,0.8s						
ZALV	**Zalesovo Beam**	**70.93**	**331**	P	**P**	**21 29 05.8**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=116,slow=6.8,SNR=3.6						
	comp=Z,0.7nm,0.7s						
ARSB	**Arslanbob**	**72.26**	**315**	P	**P**	**21 29 17.1**	**+1.0**
ARSB				IAmb	IAmb	21 29 17.7	
	comp=Z,3.4nm,0.8s						
KURK	**Kurchatov**	**72.52**	**326**	P	**P**	**21 29 16.9**	**-0.3**
KURK				IAmb	IAmb	21 29 18.0	
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**72.53**	**326**	P	**P**	**21 29 17.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=119,slow=5.5,SNR=13						
	comp=Z,1.6nm,0.8s						
KK31	**Karatay Array**	**74.59**	**316**	P	**P**	**21 29 30.2**	**+0.5**
KK31				IAmb	IAmb	21 29 30.7	
	comp=Z,2.1nm,1.1s						
KKAR	**Karatay Array**	**74.59**	**316**	P	**P**	**21 29 29.8**	**+0.2**
BVAR	**Borovoye Array**	**78.12**	**326**	P	**P**	**21 29 49.2**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=125,slow=7.2,SNR=4.4						
	comp=Z,1.2nm,0.6s						
AB31	**Akbulak array**	**83.33**	**320**	P	**P**	**21 30 17.1**	**-0.2**
AB31				IAmb	IAmb	21 30 32.9	
	comp=Z,2.4nm,1.1s						
ABKAR	**Akbulak array**	**83.33**	**320**	P	**P**	**21 30 16.9**	**-0.4**
QSPA	**South Pole Qui**	**86.99**	**180**	P	**P**	**21 30 37.0**	**+1.5**
QSPA	**South Pole Qui**	**86.99**	**180**	P	**P**	**21 30 36.7**	**+1.2**
	comp=Z,1.0nm,1.0s,baz=252,slow=5.5,SNR=1.9						
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**87.08**	**25**	P	**P**	**21 30 34.8**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=258,slow=4.7,SNR=3.0						
	comp=Z,0.4nm,0.8s						
BMAR	**Burnt Mountain**	**88.56**	**22**	P	**P**	**21 30 45.2**	**+2.3**
F28M	**Old Crow**	**90.38**	**22**	P	**P**	**21 30 52.8**	**+1.4**

*IDC **26** 21:23:00.4±1.2,31°.67S×178°.04W,h0km,mb3.9/5, mbtmp3.9/7,ML3.6/2, Error ellipse: s-maj=34.6km s-min=22.0km az=104.0*

ISC 26 21:23:04.0±1.1,31°.78S±0°.09×178°.1W±0°.2,h24km,n11, σ1°58/13,mb4.0/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.52**	**4**	Pn	**Pn**	**21 23 41.5**	**-2.0**
	28nm,0.3s,baz=143,slow=20,SNR=6.9						
RAO				Sn	**Sn**	**21 24 13.2**	**-0.4**
	54nm,0.3s,baz=180,slow=20,SNR=2.1						
	96nm,0.3s						
URZ	**Urewera**	**7.55**	**210**	Pn	**Pn**	**21 24 52.4**	**-0.1**
	0.5nm,0.3s,baz=32,slow=13,SNR=1.5						
URZ				Sn	**Sn**	**21 26 13.5**	**-3.8**
	2.2nm,0.3s,baz=66,slow=20,SNR=9.3						
	11nm,0.9s						
STKA	**Stephens Creek**	**34.07**	**259**	P	**P**	**21 29 48.4**	**+1.8**
	1.3nm,0.7s,baz=68,slow=5.7,SNR=2.8						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**42.93**	**268**	P	**P**	**21 31 01.6**	**+0.5**
	1.3nm,1.0s,baz=107,slow=7.2,SNR=5.0						
	1.3nm,1.0s						
WRA	**Warramunga Arr**	**44.04**	**274**	P	**P**	**21 31 10.9**	**+0.8**
	0.9nm,0.3s,baz=112,slow=8.1,SNR=9.1						
	0.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.25**	**271**	P	**P**	**21 32 13.6**	**0.0**
	1.6nm,0.9s,baz=108,slow=6.4,SNR=1.6						
	1.6nm,0.9s						
QSPA	**South Pole Qui**	**58.34**	**180**	P	**P**	**21 32 58.4**	**+1.5**
	1.1nm,1.0s,baz=22,slow=7.9,SNR=5.9						
	1.1nm,1.0s						
MKAR	**Makanchi Array**	**118.56**	**310**	PKP	**PKiKP**	**21 41 49.8**	**+0.3**
	0.1nm,0.6s,baz=104,slow=4.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**121.94**	**313**	PKP	**PKPdf**	**21 41 55.4**	**-0.4**
	0.1nm,0.6s,baz=102,slow=1.9,SNR=2.0						
FINES	**FINESS Array B**	**146.39**	**339**	PKPbc	**PKPdf**	**21 42 41.1**	**+0.4**
	2.5nm,0.7s,baz=59,slow=5.5,SNR=15						
BRTR	**Keskin Array B**	**153.12**	**296**	PKPbc	**PKPbc**	**21 42 59.6**	**-0.2**
	0.7nm,0.9s,baz=40,slow=3.9,SNR=1.9						

*IDC **26** 21:40:48.9±0.6,19°.90S×169°.73E,h0km,mb4.3/15, mbtmp4.4/18,ML3.7/2,MS4.2/40,Error ellipse: s-maj=21.2km s-min=15.0km az=101.0*

*NEIC **26** 21:40:49.7,19°.54S×170°.04E,h12km,Moment Tensor Solution. Duration: 29 Moment tensor: Scale 10^16^Nm; Mrr=0.40; Mθθ=1.11; Mθφ=1.52; Mrφ=0.16; Mφφ=3.66; Mθr=1.65; Fault plane solution: Mo=4.24000×10^16^ NP1:φ=99.05000°, δ=67.93000°,λ=178.23000°. NP2:φs=189.72000°,δ=88.36000°, λ=22.08000°. Principal axes: T 4.5221, Plg17.0000°, Azm57.0000°; N -0.6283, Plg68.0000°, Azm194.0000°; P -3.8938, Plg14.0000°, Azm322.0000°;*

*NEIC **26** 21:40:49.7,19°.84S×170°.04E,h12km*

*NEIC **26** 21:40:49.7±2.1,19°.85S±0°.07×170°.04E±0°.08,h10km±1km, mb5.1/59,Mww5.0/12,Error ellipse: s-maj=13.6km s-min=10.7km az=125.0*

*GCMT **26** 21:40:52.7±0.2,19°.67S±0°.01×169°.97E±0°.01,h14km±1km, MW5.1/123,Moment Tensor Solution. s52,c68; s123,c178; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.24±.11; Mθθ=0.43±.09; Mθφ=1.67±.11; Mrθ=1.88±.24; Mθθ=4.28±.10; Mθr=0.21±. 18; Best double couple: Mo=4.85200×10^16^ NP1:φs=186.00000°,δ=64.00000°, λ=-9.00000°. NP2:φs=280.00000°,δ82.00000°, λ=-154.00000°. Principal axes: T 5.3040, Plg12.0000°, Azm50.0000°; N -0.9050, Plg63.0000°, Azm296.0000°; P -4.4000, Plg24.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **26** 21:40:52.1,19°.51S×169°.53E,h10km,mB5.0/7,mb4.6/32, Ms4.7/12,Ms7 4.4/13*

*NOU **26** 21:40:54.0,19°.93S×169°.81E,h0km,mb5.1/57,Vanuatu Islands*

ISC 26 21:40:54.3±0.4,19°.94S±0°.04×169°.89E±0°.06,h30km,n281, σ2s47/258,mb5.1/76,MS4.3/42,5C-4D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INH	**Isangel**	**0.70**	**303**	S	**Sb**	**21 41 12.7**	**-4.7**
DVP	**Devils Point**	**2.73**	**323**	P	**Pn**	**21 41 36.9**	**+0.9**
PINNC	**Pines Island,**	**3.51**	**220**		**Pn**	**21 41 45.6**	**-1.2**
PINNC				Sn	**Sn**	**21 42 27.7**	**+0.5**
PINNC	**Pines Island,**	**3.51**	**220**	S	**Sn**	**21 42 29.6**	**+2.3**
OUENC	**Ouen Island, N**	**3.77**	**229**	P	**Pn**	**21 41 50.7**	**+0.3**
DZM	**Mont Dzumac**	**3.86**	**236**		**Pn**	**21 41 50.0**	**-1.7**
DZM	**Mont Dzumac**	**3.86**	**236**	Pn	**Pn**	**21 41 50.0**	**-1.7**
	8.2nm,0.3s,baz=65,slow=19,SNR=63						
DZM				LR	LR	21 42 22.5	
	comp=Z,1μm,21.6s,baz=50,slow=25						
DZM				Sn	**Sn**	**21 42 33.6**	**-2.6**
	33nm,0.3s,baz=54,slow=18,SNR=6.5						
	29nm,0.3s						
ONTNC	**Ouen Toro**	**3.98**	**233**		**Pn**	**21 41 52.2**	**-1.1**
SANVU	**Saraoutou**	**5.15**	**330**		**Pn**	**21 42 06.0**	**-3.3**
SANVU	**Saraoutou**	**5.15**	**330**	P	**Pn**	**21 42 11.4**	**+2.1**
KOUNC	**Koumac, New Ca**	**5.30**	**262**	P	**Pn**	**21 42 14.0**	**+2.6**
MSVF	**Nonsavu**	**8.03**	**76**		Pn	21 42 42.7	-6.3
DGTI	**Dogotuki**	**10.03**	**70**	P	**Pn**	**21 43 20.0**	**+3.5**
HNR	**Honiara**	**14.19**	**316**	Pn	**Pn**	**21 44 09.7**	**-3.6**
	48nm,0.4s,baz=168,slow=9.3,SNR=3.6						
HNR				LR	LR	21 48 53.6	
	comp=Z,1μm,21.2s,baz=156,slow=34						
ALEG	**Aligegeo Malai**	**14.24**	**320**	P	**Pn**	**21 44 17.1**	**+3.1**
RAO	**Raoul Island**	**14.45**	**132**	LR	LR	21 48 35.0	
	comp=Z,2μm,19.8s,baz=302,slow=32						
SAVO	**Savo Central**	**14.49**	**316**	P	**P**	**21 44 20.5**	**-3.2**
GD1S	**Gladstone Soft**	**17.80**	**254**	P	**P**	**21 45 03.2**	**+2.7**
TW1H	**Toowoomba 1 Ha**	**18.06**	**242**	P	**P**	**21 45 05.2**	**+1.9**
EIDS	**Eidsvold**	**18.18**	**249**	P	**P**	**21 45 06.4**	**+1.8**
EIDS	**Eidsvold**	**18.18**	**249**		**Pn**	**21 45 04.0**	**-0.5**
EIDS	**Eidsvold**	**18.18**	**249**	P	**P**	**21 45 07.0**	**+2.4**
URZ	**Urewera**	**19.30**	**163**	P	**P**	**21 45 14.9**	**-1.9**
	0.2nm,0.3s,baz=357,slow=5.3,SNR=3.2						
URZ				LR	LR	21 51 43.7	
	comp=Z,873nm,18.7s,baz=334,slow=34						
	40nm,1.0s						
ARMA	**Armidale**	**19.52**	**234**	P	**Pn**	**21 45 20.4**	**-0.5**
	comp=Z,54nm,1.7s						
ARMA	**Armidale**	**19.52**	**234**		**P**	**21 45 18.6**	**-0.8**
ARMA	**Armidale**	**19.52**	**234**	P	**Pn**	**21 45 22.2**	**+1.4**
RTZ	**Ruatahuna**	**19.60**	**163**		**P**	**21 45 19.2**	**-1.0**
RTZ				IAmb	IAmb	21 45 28.3	
	comp=Z,107nm,1.0s						
BKZ	**Black Stump Fm**	**19.99**	**165**	P	**P**	**21 45 23.0**	**-1.5**
RMQ	**Roma**	**20.48**	**247**	P	Pn	21 45 32.6	+0.6
MRZ	**Mangatainoka R**	**21.22**	**168**	P	**P**	**21 45 35.6**	**-2.1**
TARA	**Tarawa**	**21.36**	**8**	P	**P**	**21 45 35.1**	**-4.3**
TARA	**Tarawa**	**21.36**	**8**	P	**P**	**21 45 43.7**	**+4.3**
TCW	**Tory Channel**	**21.54**	**171**	P	**P**	**21 45 39.7**	**-1.3**
CTA	**Charters Tower**	**22.21**	**266**	P	**P**	**21 45 51.3**	**+2.8**
CTAO	**Charters Tower**	**22.21**	**266**		**P**	**21 45 47.0**	**-1.5**
CTAO	**Charters Tower**	**22.21**	**266**	P	**P**	**21 45 51.4**	**+2.9**
CNB	**Canberra Magne**	**23.71**	**225**	P	**P**	**21 46 05.8**	**+2.0**
CNB	**Canberra Magne**	**23.71**	**225**	P	**P**	**21 46 07.3**	**+3.5**
YNG	**Young**	**23.82**	**229**	P	**P**	**21 46 04.6**	**-0.2**
	comp=Z,47nm,1.6s						
CAN	**Canberra**	**23.96**	**226**	P	**P**	**21 46 04.0**	**-2.1**
	comp=Z,39nm,1.3s						
CAN	**Canberra**	**23.96**	**226**		**P**	**21 46 06.5**	**+0.4**
CAN	**Canberra**	**23.96**	**226**	P	**P**	**21 46 09.6**	**+3.5**
JCZ	**Jackson Bay**	**24.09**	**182**	P	**P**	**21 46 10.0**	**+2.8**
MTSU	**Mount Surprise**	**24.24**	**270**	P	**P**	**21 46 05.8**	**-3.0**
	comp=Z,31nm,1.0s						
PMG	**Port Moresby**	**24.32**	**292**	P	**P**	**21 46 07.9**	**-1.6**
PMG				IAmb	IAmb	21 46 14.5	
	comp=Z,53nm,0.8s						
PMG	**Port Moresby**	**24.32**	**292**	P	**P**	**21 46 13.2**	**+3.6**
PMG	**Port Moresby**	**24.32**	**292**	P	**P**	**21 46 13.0**	**+3.5**
QLP	**Quilpie**	**24.46**	**249**	P	**P**	**21 46 05.9**	**-4.8**
CMSA	**Cobar Meteorol**	**24.61**	**237**	P	**P**	**21 46 09.9**	**-2.2**
	comp=Z,66nm,1.0s						
MLZ	**Mavora Lakes**	**25.41**	**183**		**P**	**21 46 18.5**	**-0.7**
MLZ				IAmb	IAmb	21 46 27.6	
	comp=Z,55nm,1.2s						
COEN	**Coen**	**26.22**	**279**	P	**P**	**21 46 25.1**	**-1.7**
COEN				IAmb	IAmb	21 46 32.1	
	comp=Z,46nm,0.9s						
COEN	**Coen**	**26.22**	**279**	P	**P**	**21 46 31.0**	**+4.2**
TOO	**Toolangi**	**27.56**	**225**	P	**P**	**21 46 41.2**	**+2.6**
TOO	**Toolangi**	**27.56**	**225**	P	**P**	**21 46 38.3**	**-0.4**
INKA	**Innaminka**	**27.72**	**248**	P	**P**	**21 46 39.0**	**-1.2**
STKA	**Stephens Creek**	**28.01**	**239**	P	**P**	**21 46 41.7**	**-1.0**
	comp=Z,132nm,1.1s						
STKA	**Stephens Creek**	**28.01**	**239**	P	**P**	**21 46 41.5**	**-1.2**
STKA	**Stephens Creek**	**28.01**	**239**	P	**P**	**21 46 41.8**	**-1.0**
	comp=Z,3.1nm,0.6s,baz=84,slow=10,SNR=13						
STKA				LR	LR	21 57 24.7	
	comp=Z,1μm,20.7s,baz=76,slow=36						
	comp=Z,3.1nm,0.6s						
QIS	**Mount Isa**	**28.41**	**263**	P	**P**	**21 46 49.3**	**+2.9**
QIS	**Mount Isa**	**28.41**	**263**	P	**P**	**21 46 49.9**	**+3.5**
ARPS	**Mount Arapiles**	**29.69**	**230**	P	**P**	**21 47 00.1**	**+2.5**
HTT	**Hallett**	**30.63**	**238**	P	**P**	**21 47 02.5**	**-3.6**
HTT	**Hallett**	**30.63**	**238**	P	**P**	**21 47 10.2**	**+4.1**
WHYH	**Whyalla**	**31.59**	**239**	P	**P**	**21 47 18.7**	**+4.2**
BBOO	**Buckleboo**	**32.77**	**240**	P	**P**	**21 47 23.1**	**-1.7**
	comp=Z,40nm,1.2s						
BBOO	**Buckleboo**	**32.77**	**240**	P	**P**	**21 47 24.6**	**-0.1**
BBOO				IAmb	IAmb	21 47 30.2	
	comp=Z,30nm,0.9s						
BBOO	**Buckleboo**	**32.77**	**240**	P	**P**	**21 47 29.0**	**+4.2**
WR8	**Warramunga Arr**	**33.23**	**264**	P	**P**	**21 47 26.0**	**-3.0**
WR8				IAmb	IAmb	21 47 32.6	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**33.35**	**264**	P	**P**	**21 47 27.2**	**-2.8**
WB0				IAmb	IAmb	21 47 33.6	
	comp=Z,21nm,0.9s						
WB2	**Warramunga Arr**	**33.37**	**264**	P	**P**	**21 47 26.9**	**-3.4**
WB2				IAmb	IAmb	21 47 33.9	
	comp=Z,32nm,1.2s						
WRAB	**Tennant Creek**	**33.38**	**264**	P	**P**	**21 47 27.6**	**-2.7**
WRAB				IAmb	IAmb	21 47 33.9	
	comp=Z,36nm,1.4s						
WRA	**Warramunga Arr**	**33.38**	**264**	P	**P**	**21 47 27.5**	**-2.8**
WRA	**Warramunga Arr**	**33.38**	**264**	P	**P**	**21 47 26.7**	**-3.6**
	comp=Z,1.6nm,0.4s,baz=92,slow=8.2,SNR=30						
WRA				PcP	**PcP**	**21 50 11.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=91,slow=3.8,SNR=5.2						
WRA				LR	LR	22 00 21.9	
	comp=Z,410nm,19.4s,baz=98,slow=35						
	comp=Z,1.6nm,0.4s						
AS01	**Alice Springs**	**33.52**	**257**	P	**P**	**21 47 34.9**	**+3.4**
AS31	**Alice Springs**	**33.56**	**257**	P	**P**	**21 47 27.3**	**-4.6**
AS31	**Alice Springs**	**33.56**	**257**	P	**P**	**21 47 29.6**	**-2.3**
AS31				IAmb	IAmb	21 47 36.5	
	comp=Z,19nm,0.8s						
ASAR	**Alice Springs**	**33.56**	**257**	P	**P**	**21 47 29.2**	**-2.6**
	comp=Z,9.1nm,0.6s,baz=88,slow=9.0,SNR=120						
ASAR				PcP	**PcP**	**21 50 12.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=102,slow=3.5,SNR=3.3						
ASAR				LR	LR	22 00 22.9	
	comp=Z,1μm,19.9s,baz=92,slow=35						
	comp=Z,9.1nm,0.6s						
GENI	**Genyem**	**33.76**	**297**	P	**P**	**21 47 37.2**	**+3.7**
GENI	**Genyem**	**33.76**	**297**	P	**P**	**21 47 34.2**	**+0.7**
MTN	**Manton Dam**	**37.78**	**275**	P	**P**	**21 48 06.0**	**-2.1**
	comp=Z,40nm,1.0s						
MTN	**Manton Dam**	**37.78**	**275**	P	**P**	**21 48 05.7**	**-2.4**
MTN				IAmb	IAmb	21 48 12.1	
	comp=Z,24nm,0.8s						
MTN	**Manton Dam**	**37.78**	**275**	P	**P**	**21 48 11.5**	**+3.4**
BAKI	**Biak**	**37.93**	**295**	P	**P**	**21 48 12.4**	**+3.0**
	comp=Z,62nm,1.0s						
DRS	**Darwin Rock St**	**38.11**	**275**	P	**P**	**21 48 14.3**	**+3.4**
WRKA	**Warakurna**	**38.66**	**255**	P	**P**	**21 48 11.6**	**-3.8**
KNRA	**Kununurra**	**39.32**	**269**	P	**P**	**21 48 16.4**	**-4.6**
KNRA	**Kununurra**	**39.32**	**269**	P	**P**	**21 48 18.7**	**-2.3**
KNRA				IAmb	IAmb	21 48 25.1	
	comp=Z,40nm,1.0s						
FAKI	**Fak Fak**	**40.43**	**290**	P	**P**	**21 48 27.4**	**-2.9**
FAKI				IAmb	IAmb	21 48 33.6	
	comp=Z,68nm,0.9s						
GUMO	**Guam**	**41.43**	**322**	LR	LR	22 03 58.6	
	comp=Z,464nm,21.5s,baz=130,slow=34						
FITZ	**Fitzroy Crossi**	**41.79**	**265**	P	**P**	**21 48 39.0**	**-2.4**
FITZ	**Fitzroy Crossi**	**41.79**	**265**	LR	LR	22 06 17.8	
	comp=Z,278nm,18.5s,baz=96,slow=37						
FITZ	**Fitzroy Crossi**	**41.79**	**265**	P	**P**	**21 48 45.1**	**+3.7**
SOEI	**Soe**	**45.12**	**276**	P	**P**	**21 49 06.3**	**-2.2**
SOEI	**Soe**	**45.12**	**276**	P	**P**	**21 49 12.5**	**+4.0**
SOEI	**Soe**	**45.12**	**276**	P	**P**	**21 49 11.2**	**+2.7**
	comp=Z,53nm,0.9s						
BATI	**Baumata**	**45.55**	**275**	LR	LR	22 08 01.2	
	comp=Z,618nm,19.2s,baz=159,slow=36						
BATI	**Baumata**	**45.55**	**275**	P	**P**	**21 49 14.7**	**+2.9**
SANI	**Sanana**	**46.41**	**287**	P	**P**	**21 49 22.6**	**+4.1**
SANI	**Sanana**	**46.41**	**287**	P	**P**	**21 49 20.9**	**+2.4**
	comp=Z,1μmcomp=Z,66nm,1.0s						
PSA00	**Pilbara Seismi**	**46.67**	**259**	P	**P**	**21 49 19.2**	**-1.3**
	comp=Z,58nm,0.9s						
PSA00	**Pilbara Seismi**	**46.67**	**259**	P	**P**	**21 49 18.7**	**-1.8**
PSA00	**Pilbara Seismi**	**46.67**	**259**	P	**P**	**21 49 24.1**	**+3.6**
MBWA	**Marble Bar**	**46.83**	**259**	P	**P**	**21 49 20.6**	**-1.2**
	comp=Z,64nm,0.9s						
MBWA	**Marble Bar**	**46.83**	**259**	P	**P**	**21 49 19.8**	**-1.9**
MBWA	**Marble Bar**	**46.83**	**259**	P	**P**	**21 49 25.5**	**+3.8**
MEEK	**Meekatharra**	**47.32**	**252**	P	**P**	**21 49 22.6**	**-3.0**
	comp=Z,91nm,0.9s						
MEEK	**Meekatharra**	**47.32**	**252**	P	**P**	**21 49 29.1**	**+3.5**
BBSI	**Bau Bau**	**48.16**	**281**	P	**P**	**21 49 35.2**	**+3.0**
	comp=Z,55nm,1.2s						
NWAO	**Narrogin (SRO)**	**48.45**	**243**	P	**P**	**21 49 35.9**	**+1.7**
NWAO	**Narrogin (SRO)**	**48.45**	**243**	P	**P**	**21 49 33.0**	**-1.2**
NWAO	**Narrogin (SRO)**	**48.45**	**243**	LR	LR	22 09 43.9	
	comp=Z,1μm,20.5s,baz=90,slow=36						
NWAO	**Narrogin (SRO)**	**48.45**	**243**	P	**P**	**21 49 37.7**	**+3.5**
BLDU	**Ballidu**	**48.87**	**246**	P	**P**	**21 49 38.4**	**+0.9**
	comp=Z,33nm,1.2s						
BLDU	**Ballidu**	**48.87**	**246**	P	**P**	**21 49 41.0**	**+3.5**
MUN	**Mundaring**	**49.30**	**245**	P	**P**	**21 49 38.7**	**-2.0**
	comp=Z,22nm,1.0s						
MUN	**Mundaring**	**49.30**	**245**	P	**P**	**21 49 44.4**	**+3.7**
MORW	**Morawa**	**49.48**	**248**	P	**P**	**21 49 42.9**	**+0.7**
	comp=Z,39nm,1.2s						
MORW	**Morawa**	**49.48**	**248**	P	**P**	**21 49 42.1**	**-0.1**
MORW				IAmb	IAmb	21 49 46.8	
	comp=Z,44nm,1.1s						
MORW	**Morawa**	**49.48**	**248**	P	**P**	**21 49 45.6**	**+3.4**
WBSI	**Waikabubak, Su**	**49.72**	**274**	P	**P**	**21 49 46.5**	**+2.3**
BKSI	**Bulukumba**	**50.48**	**280**	P	**P**	**21 49 53.1**	**+3.2**
	comp=Z,37nm,1.0s						
BNSI	**Bone**	**50.84**	**281**	P	**P**	**21 49 55.7**	**+3.1**
	comp=Z,60nm,1.1s						
KAPI	**Kappang**	**50.94**	**280**	P	**P**	**21 49 51.8**	**-1.6**
KAPI	**Kappang**	**50.94**	**280**	P	**P**	**21 49 56.9**	**+3.5**
SPSI	**Sidrap Palu**	**51.31**	**281**	P	**P**	**21 49 58.8**	**+2.6**
	comp=Z,42nm,0.9s						
PLAI	**Plampang**	**51.49**	**275**	P	**P**	**21 50 00.9**	**+3.4**
PLAI	**Plampang**	**51.49**	**275**	P	**P**	**21 50 00.4**	**+2.9**
	comp=Z,59nm,1.1s						
PCI	**Palu**	**52.46**	**285**	P	**P**	**21 50 08.1**	**+3.3**
	comp=Z,67nm,1.1s						
TOLI2	**Tolitoli**	**52.47**	**288**	P	**P**	**21 50 01.9**	**-2.9**
TOLI2				IAmb	IAmb	21 50 08.5	
	comp=Z,31nm,1.0s						
TOLI2	**Tolitoli**	**52.47**	**288**	P	**P**	**21 50 07.7**	**+2.9**
JCJ	**Chichijima**	**53.91**	**329**	P	**P**	**21 50 12.0**	**-3.1**
JCJ				IAmb	IAmb	21 50 25.9	
	comp=Z,33nm,1.3s						
JCJ	**Chichijima**	**53.91**	**329**	LR	LR	22 11 45.7	
	comp=Z,77nm,20.4s,baz=160,slow=34						
VNDA	**Vanda**	**57.76**	**182**	P	**P**	**21 50 41.0**	**-1.1**
VNDA	**Vanda**	**57.76**	**182**	P	**P**	**21 50 41.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=358,slow=6.3,SNR=3.0						
VNDA				LR	LR	22 13 22.4	
	comp=Z,123nm,18.4s,baz=13,slow=34						
	comp=Z,0.8nm,0.5s						
SBA	**Scott Base**	**57.98**	**181**	P	**P**	**21 50 42.8**	**-0.8**
SMRI	**Semarang**	**58.94**	**274**	P	**P**	**21 50 49.3**	**-2.0**
CASY	**Casey**	**59.74**	**204**	P	**P**	**21 50 55.7**	**-0.2**
CASY				IA

MDJ				LR	LR				
	comp=Z,330nm,23.8s								
CN2	**Changchun**	**75.37**	**328**	P	**P**		**21 52 33.0**	**-1.9**
CN2				sP	pP		21 52 39.5	-4.3
CN2				PcP	**pwP**		**21 52 46.3**	**+0.3**
CN2				S	**SKiKP**		**22 02 03.3**	**+7.8**
CN2				pmax	pmax				
	comp=Z,10.0nm,1.2s								
CN2				LR	LR				
	comp=Z,140nm,15.0s								
CN2				LR	LR				
	comp=Z,150nm,15.0s								
CN2				LR	LR				
	comp=Z,220nm,20.0s								
BNX	**BinXian**	**75.88**	**331**	⇓P	**P**		**21 52 41.5**	**+3.7**
BNX				pmax	pmax				
	comp=Z,6.0nm,1.5s								
GYA	**Guiyang**	**76.72**	**305**	⇑P	**P**		**21 52 41.5**	**-1.6**
GYA				pmax	pmax				
	comp=Z,7.0nm,1.5s								
LYN	**LuoYang**	**76.89**	**314**	P	**P**		**21 52 45.8**	**+2.0**
LYN				pmax	pmax				
	comp=Z,21nm,0.9s								
BJI	**Beijing**	**77.86**	**321**	P	**P**		**21 52 51.8**	**+2.8**
BJI				pmax	pmax				
	comp=Z,3.0nm,0.9s								
MAW	**Mawson**	**78.02**	**202**	P	**P**		**21 52 48.7**	**-0.9**
	comp=Z,3.6nm,0.9s,baz=113,slow=6.5,SNR=8.8								
MAW				LR	LR		22 22 34.8		
	comp=Z,326nm,20.9s,baz=97,slow=32								
	comp=Z,3.6nm,0.9s								
XAN	**Xi'an**	**79.03**	**312**	P	**P**		**21 52 59.0**	**+3.2**
XAN				pmax	pmax				
	comp=Z,13nm,0.9s								
XAN				LR	LR				
	comp=Z,240nm,19.9s								
XAN				LR	LR				
	comp=Z,220nm,20.6s								
XAN				LR	LR				
	comp=Z,240nm,20.8s								
KMI	**Kunming**	**79.16**	**302**	P	**P**		**21 52 56.5**	**-0.4**
KMI				pmax	pmax				
	comp=Z,14nm,1.0s								
HEH	**HeiHe**	**79.31**	**334**	*e*P	**P**		**21 52 59.8**	**+3.0**
CMAR	**Chiang Mai Arr**	**79.35**	**294**	P	**P**		**21 52 56.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**79.35**	**294**	P	**P**		**21 52 56.0**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=127,slow=4.1,SNR=16								
	comp=Z,1.7nm,0.3s								
CHTO	**Chiang Mai**	**79.50**	**294**	P	**P**		**21 53 02.7**	**+4.1**
PZH	**PanZhiHua**	**80.60**	**303**	P	**P**		**21 53 04.3**	**-0.2**
MA2	**Magadan**	**80.76**	**350**	LR	LR		22 24 41.7		
	comp=Z,166nm,20.6s,baz=178,slow=33								
HHC	**Hu-ho-hao-te**	**81.15**	**319**	*e*P	**P**		**21 53 06.8**	**-0.3**
HHC				pmax	pmax				
	comp=Z,19nm,0.7s								
HHC				pmax	pmax				
	comp=Z,99nm,5.9s								
KDAK	**Kodiak Island**	**83.48**	**19**	LR	LR		22 24 42.0		
	comp=Z,165nm,20.4s,baz=205,slow=32								
LZH	**Lanzhou**	**83.65**	**312**	*e*P	**P**		**21 53 23.0**	**+2.6**
LZH				sP	pP		21 53 30.0	+0.6
LZH				pmax	pmax				
	comp=Z,9.0nm,1.1s								
SEY	**Seymchan**	**83.74**	**352**	LR	LR		22 26 32.0		
	comp=Z,244nm,20.8s,baz=160,slow=33								
P18K	**Big Mountain,**	**84.05**	**17**	P	**P**		**21 53 19.2**	**-2.5**
SYO	**Syowa Base**	**84.44**	**196**	⇑*e*pP	**P**		**21 53 24.6**	**+1.0**
O18K	**Koktuh Hills**	**84.44**	**17**	P	**P**		**21 53 22.2**	**-1.4**
O18K				IAmb	IAmb		21 53 35.2		
	comp=Z,23nm,1.4s								
M16K	**Timber Creek**	**84.49**	**15**	P	**P**		**21 53 22.1**	**-1.7**
M16K				IAmb	IAmb		21 53 29.0		
	comp=Z,14nm,1.1s								
L16K	**Owhat River**	**84.97**	**14**	P	**P**		**21 53 23.6**	**-2.6**
L16K				IAmb	IAmb		21 53 34.6		
	comp=Z,13nm,1.2s								
PMSA	**Palmer Station**	**86.05**	**160**	LR	LR		22 24 56.1		
	comp=Z,112nm,21.0s,baz=225,slow=31								
J16K	**Anvik River**	**86.12**	**13**	P	**P**		**21 53 29.8**	**-2.0**
J16K				IAmb	IAmb		21 53 40.7		
	comp=Z,25nm,1.2s								
YBH	**Yreka Blue Hor**	**87.37**	**44**	LR	LR		22 23 58.8		
	comp=Z,20nm,21.6s,baz=255,slow=30								
BILL	**Bilibino**	**87.76**	**359**	P	**P**		**21 53 38.1**	**-1.6**
BILL				IAmb	IAmb		21 53 43.7		
	comp=Z,15nm,0.9s								
ULN	**Ulaanbaatar**	**87.79**	**323**	P	**P**		**21 53 37.8**	**-2.8**
ULN				IAmb	IAmb		21 53 53.3		
	comp=Z,12nm,1.1s								
TROLL	**Troll, Antarti**	**87.89**	**184**	⇑P	**P**		**21 53 38.6**	**-2.2**
	comp=Z,600nm,1.3s								
PFO	**Pinyon Flats O**	**88.03**	**53**	LR	LR		22 25 33.9		
	comp=Z,137nm,20.7s,baz=248,slow=30								
GTA	**Gaotai**	**88.05**	**313**	*e*P	**P**		**21 53 46.3**	**+4.3**
GTA				pP	pP		21 53 51.3	+0.2
GTA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GTA				LR	LR				
	comp=Z,170nm,22.7s								
GTA				LR	LR				
	comp=Z,180nm,18.3s								
GTA				LR	LR				
	comp=Z,100nm,17.9s								
SONM	**Songino Array**	**88.14**	**323**	P	**P**		**21 53 39.7**	**-2.5**
SONM				IAmb	IAmb		21 53 54.8		
	comp=Z,8.9nm,1.1s								
SONM	**Songino Array**	**88.14**	**323**	P	**P**		**21 53 40.8**	**-1.5**
	comp=Z,3.1nm,1.1s,baz=150,slow=4.8,SNR=7.6								
SONM				LR	LR		22 30 25.3		
	comp=Z,71nm,22.0s,baz=164,slow=34								
	comp=Z,3.1nm,1.1s								
SNAA	**Sanae**	**88.50**	**182**	⇑P	**P**		**21 53 41.0**	**-2.6**
	comp=Z,68nm,0.6s								
SNAA	**Sanae**	**88.50**	**182**	P	**P**		**21 53 43.0**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=163,slow=5.4,SNR=6.6								
	comp=Z,4.1nm,0.8s								
NVAR	**Mina Array Bea**	**88.80**	**48**	P	**P**		**21 53 44.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=217,slow=7.1,SNR=5.2								
	comp=Z,0.4nm,0.7s								
VNA3	**Neumayer Olymp**	**89.06**	**180**	P	**P**		**21 53 43.6**	**-2.6**
LPIG	**La Paz**	**89.16**	**64**	LR	LR		22 24 13.1		
	comp=Z,322nm,21.5s,baz=240,slow=29								
VNA2	**Neumayer--Watz**	**89.36**	**181**	⇑P	**P**		**21 53 45.3**	**-2.3**
	comp=Z,10nm,0.7s,baz=175,slow=4.1								
VNA1	**Neumayer--Stat**	**89.65**	**181**	P	**P**		**21 53 44.8**	**-4.1**
BBB	**Bella Bella**	**89.72**	**33**	LR	LR		22 25 30.0		
	comp=Z,162nm,21.3s,baz=218,slow=30								
GOMU	**GeErMu**	**90.19**	**309**	P	**P**		**21 53 50.8**	**-1.7**
GOMU				S	**S**		**22 04 46.5**	**+1.8**
GOMU				LR	LR				
	comp=Z,70nm,19.2s								
GOMU				LR	LR				
	comp=Z,140nm,18.4s								
GOMU				LR	LR				
	comp=Z,130nm,18.5s								
ILAR	**Eielson Array**	**90.71**	**17**	P	**P**		**21 53 53.0**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=236,slow=5.8,SNR=11								
ILAR				LR	LR		22 31 01.3		
	comp=Z,133nm,18.8s,baz=238,slow=33								
	comp=Z,1.2nm,0.8s								
DLBC	**Dease Lake**	**92.38**	**27**	LR	LR		22 27 52.6		
	comp=Z,255nm,20.6s,baz=242,slow=31								
TIXI	**Tiksi**	**95.55**	**348**	LR	LR		22 33 33.7		
	comp=Z,110nm,20.6s,baz=196,slow=33								
ANMO	**Albuquerque**	**96.19**	**55**	LR	LR		22 30 22.4		
	comp=Z,135nm,19.9s,baz=10,slow=31								
TXAR	**Lajitas Array**	**96.56**	**61**	LR	LR		22 32 41.0		
	comp=Z,158nm,18.1s,baz=246,slow=32								
INK	**Inuvik**	**97.01**	**18**	LR	LR		22 33 58.4		
	comp=Z,95nm,18.9s,baz=254,slow=33								
PLCA	**Paso Flores**	**97.61**	**138**	LR	LR		22 28 34.2		
	comp=Z,78nm,21.5s,baz=230,slow=29								
WMQ	**Urumqi**	**98.13**	**314**	*e*P	**P**		**21 54 27.5**	**-0.8**
WMQ				LR	LR				
	comp=Z,240nm,17.5s								
ARCES	**ARCESS Array B**	**125.89**	**345**	PKP	**PKiKP**		**21 59 53.8**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=318,slow=1.6,SNR=5.3								
FINES	**FINESS Array B**	**131.46**	**338**	PKP	**PKPdf**		**22 00 02.3**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=53,slow=6.8,SNR=2.3								
AKASG	**Malin Array Be**	**136.41**	**324**	PKP	**PKPdf**		**22 00 12.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=71,slow=1.1,SNR=2.4								
LANS	**Liptovska Anna**	**142.46**	**328**	*e*PKP	**PKiKP**		**22 00 26.7**	**-0.5**
MORC	**Moravsky Berou**	**142.97**	**330**	*e*PKP	**PKPdf**		**22 00 22.7**	**-2.3**
VYHS	**Vyhne**	**143.20**	**327**	*e*PKP	**PKiKP**		**22 00 27.3**	**-1.4**
VRAC	**Vranov**	**143.74**	**330**	*e*PKP	**PKPdf**		**22 00 25.4**	**-1.0**
BRG	**Berggiesshubel**	**143.76**	**334**	*e*PKPdf	PKPbc		22 00 24.0	+0.1
	baz=37,slow=2.0								
BRG	**Berggiesshubel**	**143.76**	**334**	*e*PKP	**PKiKP**		**22 00 28.7**	**-1.1**
BRG				Amp			22 00 32.4		
	comp=Z,4.4nm,1.1s								
CLL	**Collm**	**143.80**	**335**	*i* PKiKP	**PKPdf**		**22 00 27.3**	**+0.9**
	comp=Z,7.0nm,1.3s								
CLL				*i* pPKiKP	**PKiKP**		**22 00 32.3**	**+2.5**
	comp=Z,4.0nm,1.0s								
CLL				*e*SKPdf	**SKPdf**		**22 03 58.0**	**-0.8**
KRUC	**Moravsky**	**144.01**	**330**	*e*PKP	PKPab		22 00 23.5	-0.7
EKA	**Eskdalemuir Ar**	**144.27**	**353**	PKP	**PKPdf**		**22 00 26.8**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=355,slow=1.5,SNR=4.1								
PLN	**Plauen**	**144.78**	**335**	*e*PKPdf	**PKPab**		**22 00 26.4**	**-0.7**
	baz=37,slow=2.0								
MOX	**Moxa**	**144.87**	**336**	*e*L	L		22 59 30.9		
	comp=Z,116nm,20.2s								
RONA	**Rosalia, Austr**	**145.00**	**328**	*i* pPKP	**PKPab**		**22 00 27.8**	**-0.2**
	comp=Z,9.9nm,1.5s								
CONA	**Conrad Observa**	**145.05**	**329**	*i* pPKP	**PKPbc**		**22 00 27.6**	**-0.6**
	comp=Z,6.6nm,1.5s								
ROTZ	**Rotzenmuhle**	**145.32**	**334**	*e*PKPdf	**PKPbc**		**22 00 27.4**	**-1.5**
	baz=37,slow=2.0								
GEC2	**GERESS Array S**	**145.39**	**332**	*e*PKPdf	**PKPbc**		**22 00 28.1**	**-1.2**
	baz=37,slow=2.0								
GERES	**GERESS Array B**	**145.39**	**332**	PKPbc	**PKPbc**		**22 00 27.5**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=34,slow=3.8,SNR=14								
WET	**Wettzell**	**145.52**	**333**	*e*PKPdf	**PKPdf**		**22 00 27.9**	**-1.6**
	baz=37,slow=2.0								
ARSA	**Arzberg**	**145.69**	**328**	*i* pPKP	**PKPbc**		**22 00 30.2**	**+0.1**
	comp=Z,11nm,1.4s								
GRA1	**Grafenberg Arr**	**145.78**	**335**		**PKPdf**		**22 00 27.4**	**-2.5**
GRF	**Grafenberg Arr**	**145.78**	**335**	*e*PKPdf	**PKPdf**		**22 00 27.5**	**-2.4**
	baz=37,slow=2.0								
GRF				*e*L	L		23 04 01.1		
	comp=Z,151nm,20.2s								
GRFO	**Grafenberg**	**145.78**	**335**	PKPdf	**PKPdf**		**22 00 27.8**	**-2.0**
MOA	**Molln**	**145.87**	**330**	*i* pPKP	**PKPbc**		**22 00 30.4**	**-0.3**
	comp=Z,13nm,1.4s								
FNA	**Florina**	**146.07**	**315**	PKPdf	**PKPdf**		**22 00 29.4**	**-1.3**
BIOA	**Bad Ischl, Aus**	**146.27**	**331**	*ep*PKiKP	**PKiKP**		**22 00 35.6**	**+0.6**
	comp=Z,8.2nm,1.5s								
SOKA	**Soboth**	**146.33**	**328**	*i* PKP	**PKPdf**		**22 00 30.5**	**-0.5**
	comp=Z,5.1nm,1.6s								
OBKA	**Obir**	**146.68**	**328**	*ep*PKP	**PKPbc**		**22 00 32.9**	**-0.3**
	comp=Z,3.9nm,1.0s								
MEM	**Membach**	**146.84**	**341**	*d*PKP	**PKiKP**		**22 00 37.4**	**+1.4**
KBA	**Koelnbreinsper**	**146.86**	**330**	*i* pPKP	**PKPbc**		**22 00 34.2**	**+0.3**
	comp=Z,5.0nm,0.9s								
LESA	**Schwarzleotal**	**146.91**	**331**	*i* pPKP	**PKPbc**		**22 00 33.4**	**-0.5**
	comp=Z,4.6nm,1.1s								
MYKA	**Terra Mystica**	**147.04**	**329**	*e*PKP	**PKPbc**		**22 00 33.5**	**-0.8**
	comp=Z,4.0nm,1.1s								
WATA	**Walderalm**	**147.47**	**332**	*i* PKP	**PKPbc**		**22 00 34.7**	**-0.8**
	comp=Z,7.0nm,1.2s								
ABTA	**Abfaltersbach**	**147.49**	**331**	*i* PKP	**PKPbc**		**22 00 34.6**	**-0.9**
	comp=Z,7.3nm,1.2s								
WTTA	**Wattenberg**	**147.50**	**332**	*i* pPKP	**PKPdf**		**22 00 34.3**	**+1.2**
	comp=Z,12nm,1.4s								
WLF	**Walferdange**	**147.62**	**340**	*d*PKP	**PKPbc**		**22 00 36.0**	**+0.3**
MOTA	**Moosalm**	**147.67**	**333**	*i* PKP	**PKPbc**		**22 00 34.9**	**-1.1**
	comp=Z,7.5nm,1.3s								
RETA	**Reutte**	**147.70**	**333**	*i* PKP	**PKPbc**		**22 00 35.3**	**-0.8**
	comp=Z,4.9nm,1.5s								
DOU	**Dourbes**	**147.71**	**342**	*d*PKPdf	**PKPdf**		**22 00 32.7**	**-0.4**
SQTA	**Sankt Quirin**	**147.72**	**332**	*i* PKiKP	**PKPbc**		**22 00 36.3**	**+0.1**
STAL	**STALIGIAL**	**147.75**	**330**		**PKPdf**		**22 00 33.5**	**+0.2**
FETA	**Feichten**	**148.08**	**333**	*i* PKiKP	**PKPbc**		**22 00 37.0**	**-0.2**
	comp=Z,11nm,1.4s								
DAVA	**Damuels**	**148.23**	**334**	*i* pPKP	**PKiKP**		**22 00 39.0**	**-0.3**
	comp=Z,6.0nm,1.1s								
ECH	**Echery**	**148.52**	**338**	PKPbc	**PKPdf**		**22 00 35.0**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**148.59**	**333**	PKPbc	**PKPdf**		**22 00 35.9**	**+0.9**
TUE	**Stuetta**	**149.10**	**333**	PKPbc	**PKPdf**		**22 00 36.3**	**+0.5**
SGRT	**San Giovanni R**	**149.13**	**321**	PKPbc	**PKPdf**		**22 00 37.4**	**+1.6**
FDMO	**Fiordimonte**	**149.83**	**325**	PKPbc	**PKPdf**		**22 00 38.9**	**+2.1**
CLF	**Chambon-Foret**	**150.24**	**343**	PKPbc	**PKPdf**		**22 00 39.2**	**+2.0**
ESDC	**Sonseca Array**	**159.63**	**346**	PKPab	**PKPab**		**22 01 28.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=3.6,slow=4.8,SNR=4.3								
TORD	**Torodi Ar. Bea**	**166.83**	**241**	PKPab	**PKPab**		**22 01 59.5**	**-1.5**
	comp=Z,3.7nm,1.0s,baz=115,slow=5.1,SNR=11								

*AZER **26** 21:43:27.2,41.°67N×46.°37E,h2km,ml2.9*
*NSSP **26** 21:43:29.1,41.°57N×46.°30E,h10km,Ms3.1*
*DRS **26** 21:43:30.8,41.°72N×46.°38E,h24km*
ISC 26 21:43:29.0±0.9,41.°71N±0.°02×46.°35E±0.°02,h12km±7km,
n52,σ1s27/103,10C-2D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.21**	**109**			P	**Pg**	**21 43 33.6**	**0.0**
ZKTA						S	**Sg**	**21 43 37.1**	**+0.4**
TLTR	**Tlyarata**	**0.40**	**0**	*e*Pg		**Pg**	**Pg**	**21 43 37.0**	**0.0**
	1.0nm,0.5s								
TLTR				*e*Sg		**Sg**	**Sg**	**21 43 42.6**	**+0.3**
	407nm,0.2s								
KMKR	**Kumukh**	**0.70**	**53**	*e*Pg		**Pg**	**Pg**	**21 43 42.7**	**+0.1**
KMKR	72nm,0.4s								
				*e*Sg		**Sg**	**Sg**	**21 43 52.2**	**+0.3**
	1μm,0.3s								
SEKA	**Sheki**	**0.81**	**128**	P		**Pg**	**Pg**	**21 43 44.3**	**-0.3**
SEKA				S		**Sn**	**Sn**	**21 43 57.4**	**-0.9**
GNBR	**Gunib**	**0.82**	**34**	*e*Pg		**Pg**	**Pg**	**21 43 45.1**	**+0.3**
	45nm,0.3s								
GNBR				*e*Sg		**Sg**	**Sg**	**21 43 56.3**	**+0.7**
	332nm,0.5s								
BTLR	**Botlikh**	**0.96**	**354**	*e*Pg		**Pg**	**Pg**	**21 43 47.7**	**+0.2**
	21nm,0.2s								
BTLR				*e*Sg		**Sg**	**Sg**	**21 44 01.1**	**+1.0**
	107nm,0.5s								
QZX	**Qazax, Azerbai**	**0.98**	**229**	P		**Pb**	**Pb**	**21 43 47.8**	**-0.2**
ARKR	**Arakani**	**1.01**	**28**	*e*Pg		**Pg**	**Pg**	**21 43 47.7**	**-0.8**
	28nm,0.4s								
ARKR				*e*Sg		**Sg**	**Sg**	**21 44 01.4**	**-0.4**
	167nm,0.4s								
AKT	**Akhty**	**1.06**	**102**	*e*Pg		**Pg**	**Pg**	**21 43 48.5**	**-0.9**
	55nm,0.2s								
AKT				*e*Sg		**Sg**	**Sg**	**21 44 02.5**	**-0.6**
	283nm,0.4s								
UNCR	**Uncukul**	**1.06**	**18**	*e*Pg		**Pg**	**Pg**	**21 43 49.5**	**+0.1**
	44nm,0.2s								
UNCR				*e*Sg		**Sg**	**Sg**	**21 44 03.8**	**+0.6**
	127nm,0.7s								
GANJ	**Ganja**	**1.06**	**181**	P		**Pg**	**Pg**	**21 43 48.4**	**-1.0**
GANJ				S		**Sn**	**Sn**	**21 44 03.4**	**-1.1**
URKR	**Urkarakh**	**1.06**	**64**	*e*Pg		**Pg**	**Pg**	**21 43 48.8**	**-0.7**
	31nm,0.6s								
URKR				*e*Sg		**Sg**	**Sg**	**21 44 02.9**	**-0.4**
	184nm,0.5s								
GDB	**GEDABAY**	**1.08**	**205**	P		**Pg**	**Pg**	**21 43 48.7**	**-1.1**
GDB				S		**Sb**	**Sb**	**21 44 03.8**	**-0.2**
MNGR	**Mingechevir, A**	**1.08**	**149**	P		**Pn**	**Pn**	**21 43 50.3**	**+0.3**
MNGR				S		**Sn**	**Sn**	**21 44 06.7**	**+1.7**
LSVT	**Lusahovit**	**1.18**	**228**	⇑*i*P		**Pb**	**Pb**	**21 43 50.9**	**-0.4**
LSVT				⇑*i*S		**Sg**	**Sg**	**21 44 06.8**	**-0.1**
KRNR	**Karanay**	**1.19**	**20**	*e*Pg		**Pn**	**Pn**	**21 43 50.4**	**-1.3**
	8.0nm,0.8s								
KRNR				*e*Sg		**Sb**	**Sb**	**21 44 06.3**	**-0.8**
	49nm,0.4s								
BUJR	**Buynaksk**	**1.25**	**26**	*e*Pg		**Pn**	**Pn**	**21 43 51.7**	**-0.7**
	23nm,0.4s								
BUJR				*e*Sg		**Sb**	**Sb**	**21 44 08.4**	**-0.2**
	171nm,0.6s								
KSMR	**Kasumkent**	**1.33**	**94**	*e*Pg		**Pn**	**Pn**	**21 43 53.5**	**0.0**
	68nm,0.2s								
KSMR				*e*Sg		**Sb**	**Sb**	**21 44 11.0**	**-0.1**
	204nm,0.4s								
QBL	**Gabala**	**1.35**	**124**	P		**Pb**	**Pb**	**21 43 54.2**	**-0.1**
QBL				S		**Sg**	**Sg**	**21 44 13.4**	**+0.9**
DLMR	**Dylym**	**1.38**	**9**	*e*Pg		**Pn**	**Pn**	**21 43 54.0**	**-0.1**
	1.0nm,0.2s								
DLMR				*e*Sg		**Sn**	**Sn**	**21 44 12.7**	**+0.4**
	229nm,0.4s								
QSAR	**Qusar**	**1.45**	**97**	Pn		**Pb**	**Pb**	**21 43 56.0**	**0.0**
QSAR				Sn		**Sg**	**Sg**	**21 44 19.7**	**+4.1**
XNQ	**Khinaliq**	**1.45**	**111**	Pn		**Pg**	**Pg**	**21 43 56.5**	**-0.3**
XNQ				Sn		**Sg**	**Sg**	**21 44 19.5**	**+3.9**
DRN	**Derbent**	**1.51**	**77**	*e*Pg		**Pn**	**Pn**	**21 43 55.2**	**-0.7**
	22nm,0.4s								
DRN				*e*Sg		**Sn**	**Sn**	**21 44 14.5**	**-1.0**
	56nm,0.5s								
MAK	**Makhachkala**	**1.52**	**34**	*e*Pg		**Pn**	**Pn**	**21 43 54.1**	**-1.9**
	42nm,0.2s								
MAK				*e*Sg		**Sn**	**Sn**	**21 44 14.7**	**-1.0**
	90nm,0.5s								
BRDA	**Brd**	**1.57**	**156**	Pn		**Pg**	**Pg**	**21 43 58.7**	**-0.5**
BRDA				Sn		**Sg**	**Sg**	**21 44 21.2**	**+1.6**
AYRK	**Ayrk**	**1.65**	**195**	⇑*i*P		**Pb**	**Pb**	**21 43 59.0**	**-0.4**
AYRK				⇑*i*S		**Sg**	**Sg**	**21 44 21.0**	**-1.0**
QUBA	**Quba, Azerbaij**	**1.65**	**102**	Pn		**Pg**	**Pg**	**21 44 00.1**	**-0.5**
QUBA				Sn		**Sg**	**Sg**	**21 44 24.7**	**+2.7**
IML	**Ismayilli**	**1.66**	**123**	Pn		**Pb**	**Pb**	**21 43 58.8**	**-0.7**
IML				Sn		**Sg**	**Sg**	**21 44 23.5**	**+1.3**
SRTK	**Saratovka**	**1.66**	**248**	⇑*i*P		**Pn**	**Pn**	**21 43 58.6**	**+0.6**
SRTK				⇑*i*S		**Sn**	**Sn**	**21 44 20.1**	**+0.8**
AGDM	**Agdam**	**1.70**	**160**	Pn		**Pb**	**Pb**	**21 43 59.5**	**-0.7**
AGDM				Sn		**Sg**	**Sg**	**21 44 23.8**	**+0.2**
ZRD	**Zardab**	**1.75**	**144**	Pn		**Pb**	**Pb**	**21 44 00.5**	**-0.5**
ZRD				Sn		**Sg**	**Sg**	**21 44 26.2**	**+1.0**
KAPZ	**Kaputan**	**1.86**	**223**	*e*P		**Pb**	**Pb**	**21 44 02.8**	**-0.4**
KAPZ				*e*S		**Sg**	**Sg**	**21 44 27.4**	**-1.6**
KDMR	**Kurdemir**	**1.92**	**133**	Pn		**Pb**	**Pb**	**21 44 02.7**	**-1.2**
KDMR				Sn		**Sg**	**Sg**	**21 44 30.4**	**-0.3**
PQL	**Pirkuli**	**1.92**	**118**	Pn		**Pb**	**Pb**	**21 44 03.9**	**-0.2**
PQL				Sn		**Sg**	**Sg**	**21 44 30.5**	**-0.3**
GNI	**Garni**	**1.98**	**219**	⇑*i*P		**Pg**	**Pg**	**21 44 05.8**	**-1.1**
GNI				⇑*i*S		**Sg**	**Sg**	**21 44 33.1**	**+0.5**
KMOZ	**Kamo**	**2.02**	**245**	⇑*i*P		**Pb**	**Pb**	**21 44 05.1**	**-0.6**
KMOZ				⇑*i*S		**Sb**	**Sb**	**21 44 31.5**	**+0.7**
SIZA	**Siyzn**	**2.02**	**107**	Pn		**Pg**	**Pg**	**21 44 07.5**	**-0.2**
SIZA				Sn		**Sg**	**Sg**	**21 44 33.3**	**-0.5**
AMBZ	**Amberd**	**2.06**	**231**	*e*P		**Pg**	**Pg**	**21 44 08.6**	**+0.1**
AMBZ				*e*S		**Sg**	**Sg**	**21 44 37.5**	**+2.3**
ATGJ	**Altiaghaj**	**2.12**	**113**	Pn		**Pb**	**Pb**	**21 44 07.7**	**+0.2**
ATGJ				Sn		**Sg**	**Sg**	**21 44 35.2**	**-2.1**
VAYK	**Vayk**	**2.13**	**200**	⇓*e*P		**Pb**	**Pb**	**21 44 07.0**	**-0.6**
VAYK				⇓*e*S		**Sb**	**Sb**	**21 44 34.5**	**+0.5**
BLQ	**Beylaqan**	**2.19**	**155**	Pn		**Pn**	**Pn**	**21 44 06.2**	**+1.0**
BLQ				Sn		**Sg**	**Sg**	**21 44 36.8**	**-2.4**
GBS	**Qobustan**	**2.28**	**120**	Pn		**Pb**	**Pb**	**21 44 09.7**	**-0.4**
GBS				Sn		**Sg**	**Sg**	**21 44 40.5**	**-1.8**
HYR	**Heyderabad**	**2.29**	**210**	Pn		**Pb**	**Pb**	**21 44 10.4**	**+0.1**
HYR				Sn		**Sg**	**Sg**	**21 44 40.7**	**-1.8**
QRD	**Qoradiz**	**2.36**	**161**	Pn		**Pn**	**Pn**	**21 44 08.7**	**+1.1**
QRD				Sn		**Sb**	**Sb**	**21 44 40.9**	**+0.3**
SBZ	**Shahbuz**	**2.39**	**195**	Pn		**Pb**	**Pb**	**21 44 10.6**	**-1.4**
SBZ				Sn		**Sg**	**Sg**	**21 44 43.1**	**-2.6**
EGVZ	**Egvard**	**2.48**	**177**	*e*P		**Pb**	**Pb**	**21 44 12.7**	**-1.0**
EGVZ				*e*S		**Sb**	**Sb**	**21 44 44.0**	**-0.1**
VNNZ	**Vanand**	**2.50**	**231**	*e*P		**Pb**	**Pb**	**21 44 14.8**	**+1.0**
VNNZ				*e*S		**Sb**	**Sb**	**21 44 46.6**	**+2.0**
ORD	**Ordubad**	**2.79**	**186**	Pn		**Pb**	**Pb**	**21 44 16.8**	**-2.1**
ORD				Sn		**Sb**	**Sb**	**21 44 52.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.55**	**219**		**Pn**	**22 00 33.2**	**-1.4**
DZM	**Mont Dzumac**	**3.88**	**235**		**Pn**	**22 00 38.4**	**-0.9**
DZM	**Mont Dzumac**	**3.88**	**235**	Pn	**Pn**	**22 00 38.6**	**-0.7**
	9.7nm,0.3s,baz=57,slow=11,SNR=29						
DZM				Sn	**Sn**	**22 01 24.2**	**+0.2**
	31nm,0.3s,baz=353,slow=23,SNR=6.5						
DZM				LR	LR	22 02 04.0	
	comp=Z,3μm,18.3s,baz=136,slow=38 21nm,0.3s						
ONTNC	**Ouen Toro**	**4.01**	**232**		**Pn**	**22 00 39.8**	**-1.2**
SANVU	**Saraoutou**	**5.08**	**330**	Pn	Pn	22 01 01.4	+5.8
HNR	**Honiara**	**14.13**	**316**	LR	LR	22 07 31.0	
	comp=Z,527nm,18.7s,baz=176,slow=34						
RAO	**Raoul Island**	**14.51**	**132**	LR	LR	22 07 23.1	
	comp=Z,890nm,19.6s,baz=336,slow=32						
EIDS	**Eidsvold**	**18.18**	**249**		**P**	**22 03 52.6**	**+0.6**
URZ	**Urewera**	**19.38**	**163**	P	**P**	**22 04 05.6**	**+0.7**
	0.4nm,0.3s,baz=314,slow=9.7,SNR=5.2						
URZ				LR	LR	22 09 42.0	
	comp=Z,458nm,22.0s,baz=334,slow=31 19nm,0.9s						
ARMA	**Armidale**	**19.55**	**234**	P	**Pn**	**22 04 07.4**	**-1.0**
ARMA				IAmb	IAmb	22 04 19.9	
	comp=Z,41nm,1.2s						
RTZ	**Ruatahuna**	**19.67**	**163**	P	**P**	**22 04 08.6**	**+0.3**
RTZ				IAmb	IAmb	22 04 16.8	
	comp=Z,76nm,1.1s						
BKZ	**Black Stump Fm**	**20.07**	**165**	P	**P**	**22 04 13.6**	**+1.0**
BKZ				IAmb	IAmb	22 04 20.1	
	comp=Z,34nm,1.0s						
MRZ	**Mangatainoka R**	**21.30**	**168**	P	**P**	**22 04 26.1**	**+0.3**
MRZ				IAmb	IAmb	22 04 32.6	
	comp=Z,58nm,1.1s						
CTAO	**Charters Tower**	**22.20**	**265**		**P**	**22 04 37.6**	**+1.9**
CTAO				IAmb	IAmb	22 05 14.1	
	comp=Z,23nm,1.4s						
PMG	**Port Moresby**	**24.28**	**292**	LR	LR	22 12 48.1	
	comp=Z,228nm,18.3s,baz=140,slow=33						
INKA	**Innaminka**	**27.73**	**248**		**P**	**22 05 27.8**	**+0.3**
STKA	**Stephens Creek**	**28.03**	**239**	P	**P**	**22 05 30.3**	**+0.1**
STKA	**Stephens Creek**	**28.03**	**239**	P	**P**	**22 05 30.0**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=44,slow=8.1,SNR=13						
STKA				LR	LR	22 16 13.2	
	comp=Z,603nm,20.1s,baz=68,slow=36 comp=Z,1.8nm,0.8s						
RAR	**Rarotonga**	**28.44**	**98**	LR	LR	22 14 08.7	
	comp=Z,65nm,20.3s,baz=182,slow=31						
JAY	**Jayapura**	**33.30**	**298**	LR	LR	22 18 22.9	
	comp=Z,217nm,19.7s,baz=355,slow=34						
WRA	**Warramunga Arr**	**33.37**	**264**	P	**P**	**22 06 18.5**	**+0.9**
WRA	**Warramunga Arr**	**33.37**	**264**	P	**P**	**22 06 15.3**	**-2.2**
	comp=Z,1.5nm,0.9s,baz=94,slow=8.4,SNR=6.1 comp=Z,1.5nm,0.9s						
AS31	**Alice Springs**	**33.56**	**257**		**P**	**22 06 18.2**	**-0.9**
AS31				IAmb	IAmb	22 06 24.8	
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**33.56**	**257**		**P**	**22 06 18.0**	**-1.2**
ASAR	**Alice Springs**	**33.56**	**257**	P	**P**	**22 06 17.8**	**-1.4**
	comp=Z,4.6nm,0.7s,baz=86,slow=9.0,SNR=39 comp=Z,4.6nm,0.7s						
PPT	**Papeete**	**38.41**	**93**	LR	LR	22 20 33.8	
	comp=Z,98nm,20.7s,baz=8.0,slow=33						
GUMO	**Guam**	**41.36**	**322**	LR	LR	22 22 12.0	
	comp=Z,258nm,21.9s,baz=131,slow=33						
FITZ	**Fitzroy Crossi**	**41.77**	**265**	P	**P**	**22 07 28.2**	**-0.4**
MBWA	**Marble Bar**	**46.82**	**259**	P	**P**	**22 08 09.0**	**0.0**
MBWA				IAmb	IAmb	22 08 15.0	
	comp=Z,15nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.46**	**243**	P	**P**	**22 08 23.9**	**+2.3**
NWAO	**Narrogin (SRO)**	**48.46**	**243**	LR	LR	22 28 52.8	
	comp=Z,716nm,19.2s,baz=77,slow=36						
DAV	**Davao City (W)**	**51.14**	**297**	LR	LR	22 29 16.2	
	comp=Z,72nm,20.1s,baz=204,slow=35						
JCJ	**Chichijima**	**53.84**	**329**	LR	LR	22 29 14.2	
	comp=Z,68nm,21.9s,baz=127,slow=33						
VNDA	**Vanda**	**57.83**	**182**		**P**	**22 09 29.4**	**-0.4**
VNDA				IAmb	IAmb	22 09 36.7	
	comp=Z,9.9nm,1.4s						
VNDA	**Vanda**	**57.83**	**182**	P	**P**	**22 09 28.9**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=1.4,slow=8.7,SNR=6.7						
VNDA				LR	LR	22 29 17.6	
	comp=Z,91nm,22.0s,baz=9.5,slow=31 comp=Z,1.2nm,0.8s						
SBA	**Scott Base**	**58.05**	**181**	P	**P**	**22 09 31.3**	**-0.1**
JHJ	**Hachijo jima 2**	**60.02**	**331**	LR	LR	22 33 16.3	
	comp=Z,42nm,20.9s,baz=172,slow=34						
MJAR	**Matsushiro Arr**	**63.58**	**332**	P	**P**	**22 10 08.6**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=149,slow=5.7,SNR=2.0 comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**70.19**	**180**	P	**P**	**22 10 51.6**	**+0.2**
QSPA	**South Pole Qui**	**70.19**	**180**	P	**P**	**22 10 51.9**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=105,slow=2.0,SNR=7.8						
QSPA				LR	LR	22 38 10.7	
	comp=Z,82nm,18.6s,baz=12,slow=33 comp=Z,2.2nm,0.9s						
NJ2	**Nanjing**	**71.07**	**316**	*e*P	P	22 11 04.8	+7.8
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PETK	**Petropavlovsk-**	**73.43**	**352**	P	**P**	**22 11 09.2**	**-1.5**
	comp=Z,3.7nm,1.0s,baz=117,slow=8.5,SNR=3.8 comp=Z,3.7nm,1.0s						
MDJ	**Mudanjiang**	**73.95**	**331**	P	P	22 11 20.3	+6.3
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MAW	**Mawson**	**78.08**	**202**	P	**P**	**22 11 37.2**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=113,slow=7.7,SNR=5.2						
MAW				LR	LR	22 41 53.0	
	comp=Z,143nm,20.2s,baz=90,slow=32 comp=Z,1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**79.30**	**294**	P	**P**	**22 11 44.1**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=136,slow=4.7,SNR=8.7 comp=Z,0.4nm,0.4s						
PZH	**PanZhiHua**	**80.55**	**303**	P	P	22 11 56.5	+5.0
M16K	**Timber Creek**	**84.43**	**15**	P	P	22 12 16.4	+5.6
M16K				IAmb	IAmb	22 12 17.7	
	comp=Z,13nm,1.2s						
YBH	**Yreka Blue Hor**	**87.33**	**44**	LR	LR	22 42 47.0	
	comp=Z,7.7nm,21.5s,baz=266,slow=30						
TROLL	**Troll, Antarti**	**87.95**	**184**	⇑P	**P**	**22 12 26.5**	**-2.0**
	comp=Z,264nm,0.7s						
PFO	**Pinyon Flats O**	**88.01**	**53**	LR	LR	22 42 32.0	
	comp=Z,68nm,21.8s,baz=234,slow=29						
SONM	**Songino Array**	**88.08**	**323**	P	**P**	**22 12 28.6**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=158,slow=4.7,SNR=4.8						
SONM				LR	LR	22 49 51.0	
	comp=Z,38nm,21.8s,baz=196,slow=34 comp=Z,0.4nm,0.7s						
SNAA	**Sanae**	**88.56**	**182**	⇑P	**P**	**22 12 29.3**	**-1.8**
	comp=Z,67nm,0.7s						
SNAA	**Sanae**	**88.56**	**182**	P	**P**	**22 12 29.4**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=235,slow=8.3,SNR=6.4 comp=Z,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**88.77**	**48**	P	**P**	**22 12 32.7**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=239,slow=5.1,SNR=1.5 comp=Z,0.2nm,0.5s						
VNA3	**Neumayer Olymp**	**89.13**	**180**	⇑P	**P**	**22 12 31.3**	**-2.5**
	comp=Z,7.3nm,0.7s						
LPIG	**La Paz**	**89.15**	**64**	LR	LR	22 43 01.2	
	comp=Z,132nm,21.1s,baz=231,slow=29						
VNA2	**Neumayer--Watz**	**89.43**	**181**	⇑P	**P**	**22 12 33.2**	**-2.0**
	comp=Z,2.0nm,0.7s,baz=174,slow=4.0						
BBB	**Bella Bella**	**89.67**	**33**	LR	LR	22 45 28.0	
	comp=Z,68nm,19.9s,baz=213,slow=31						
VNA1	**Neumayer--Stat**	**89.72**	**181**	⇑P	**P**	**22 12 36.6**	**+0.1**
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**90.65**	**17**	P	**P**	**22 12 39.0**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=231,slow=5.2,SNR=6.3 comp=Z,0.3nm,0.8s						
NEW	**Newport**	**93.87**	**40**	LR	LR	22 46 53.8	
	comp=Z,68nm,20.7s,baz=192,slow=30						
ANMO	**Albuquerque**	**96.17**	**55**	LR	LR	22 48 40.9	
	comp=Z,60nm,20.2s,baz=22,slow=31						
TXAR	**Lajitas Array**	**96.54**	**61**	LR	LR	22 48 34.8	
	comp=Z,56nm,20.0s,baz=270,slow=30						
PDAR	**Pinedale Array**	**96.60**	**47**	LR	LR	22 52 29.5	
	comp=Z,38nm,18.9s,baz=298,slow=33						
WMQ	**Urumqi**	**98.07**	**314**	*e*P	Pdif	22 13 21.0	+5.6
WMQ				LR	LR		
	comp=Z,250nm,18.9s						
AKTO	**Aktyubinsk**	**118.93**	**317**	PKP	**PKPdf**	**22 18 27.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=56,slow=3.6,SNR=2.7						
ARCES	**ARCESS Array B**	**125.82**	**345**	PKP	**PKPdf**	**22 18 40.2**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=37,slow=2.0,SNR=3.7						
BURAR	**Bucovina Array**	**140.19**	**322**	PKPdf	**PKiKP**	**22 19 09.6**	**-0.4**
EKA	**Eskdalemuir Ar**	**144.20**	**353**	PKP	**PKPdf**	**22 19 13.8**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=24,slow=2.5,SNR=3.6						
RONA	**Rosalia, Austr**	**144.93**	**328**	*e*PKP	**PKiKP**	**22 19 20.1**	**+0.5**
	comp=Z,2.4nm,0.7s						
CONA	**Conrad Observa**	**144.98**	**329**	*e*PKP	**PKPdf**	**22 19 16.6**	**+0.6**
	comp=Z,6.5nm,1.5s						
GERES	**GERESS Array B**	**145.32**	**332**	PKPbc	**PKPbc**	**22 19 14.8**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=46,slow=3.9,SNR=6.5						
ARSA	**Arzberg**	**145.62**	**329**	*e*PKP	**PKiKP**	**22 19 23.5**	**+2.5**
	comp=Z,1.5nm,0.7s						
MOA	**Molln**	**145.79**	**330**	*e*PKP	**PKPab**	**22 19 18.6**	**+0.4**
	comp=Z,8.4nm,1.8s						
FNA	**Florina**	**146.01**	**315**	PKPdf	**PKPab**	**22 19 19.4**	**+0.1**
BIOA	**Bad Ischl, Aus**	**146.20**	**331**	*e*PKiKP	**PKiKP**	**22 19 25.8**	**+3.6**
	comp=Z,1.9nm,1.0s						
SOKA	**Soboth**	**146.26**	**328**	*i* PKP	**PKiKP**	**22 19 24.0**	**+1.5**
	comp=Z,3.2nm,1.4s						
OBKA	**Obir**	**146.61**	**328**	*e*PKP	**PKiKP**	**22 19 24.8**	**+1.6**
	comp=Z,3.8nm,1.4s						
KBA	**Koelnbreinsper**	**146.78**	**330**	*e*PKP	**PKiKP**	**22 19 24.6**	**+1.0**
	comp=Z,0.7nm,0.4s						
LESA	**Schwarzleotal**	**146.84**	**331**	*e*PKP	**PKiKP**	**22 19 24.5**	**+0.9**
	comp=Z,5.0nm,1.0s						
MYKA	**Terra Mystica**	**146.97**	**329**	*e*PKP	**PKiKP**	**22 19 25.1**	**+1.2**
	comp=Z,0.8nm,0.5s						
WATA	**Walderalm**	**147.40**	**332**	*i* PKP	**PKiKP**	**22 19 28.3**	**+3.5**
	comp=Z,3.6nm,1.0s						
ABTA	**Abfaltersbach**	**147.42**	**331**	*i* PKP	**PKiKP**	**22 19 26.1**	**+1.3**
	comp=Z,3.0nm,0.9s						
WTTA	**Wattenberg**	**147.42**	**332**	*i* PKP	**PKiKP**	**22 19 26.6**	**+1.6**
	comp=Z,3.7nm,1.0s						
SABO	**M.te Sabotino**	**147.45**	**329**	PKPbc	**PKiKP**	**22 19 27.7**	**+2.9**
MOTA	**Moosalm**	**147.59**	**333**	*i* PKP	**PKPab**	**22 19 26.3**	**+1.0**
	comp=Z,5.4nm,1.0s						
RETA	**Reutte**	**147.63**	**333**	*i* PKP	**PKPab**	**22 19 27.8**	**+2.4**
	comp=Z,3.7nm,1.2s						
SQTA	**Sankt Quirin**	**147.65**	**332**	*i* PKP	**PKPab**	**22 19 26.1**	**+0.6**
	comp=Z,4.4nm,1.0s						
FETA	**Feichten**	**148.01**	**333**	*i* PKP	**PKPab**	**22 19 28.1**	**+1.1**
	comp=Z,2.9nm,1.1s						
DAVA	**Damuels**	**148.16**	**334**	*i* PKP	**PKPab**	**22 19 28.1**	**+0.5**
	comp=Z,2.4nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**148.52**	**333**	PKPdf	**PKPbc**	**22 19 25.6**	**-0.2**
BNI	**Bardonecchia**	**151.28**	**335**	PKPbc	**PKiKP**	**22 19 36.0**	**+3.1**
RAFF	**Raffo Rosso**	**152.52**	**314**	PKPdf	**PKPdf**	**22 19 31.9**	**+3.6**
DBIC	**Dimbokro**	**165.92**	**202**	PKPab	**PKPab**	**22 20 45.4**	**+1.3**
	comp=Z,5.9nm,0.9s,baz=171,slow=5.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**166.84**	**241**	PKPab	**PKPab**	**22 20 49.7**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=102,slow=4.4,SNR=7.1						

HVO ***26*** *22:08:13.0±1.3, 19°.35N±0°.01×155°.039W±0°.009, h-1km±7km, Error ellipse: s-maj=2.1km s-min=1.0km az=154.0*

NEIC 26 22:08:14.7±1.1**, 19°.36N**±0°.01×**155°.064W**±0°.009**, h7**km±2km**, ML2.5**/38**, ML2.5**/32(HVO)**, Error ellipse: s-maj=2.2km s-min=0.9km az=151.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**306**		Pg	22 08 16.2	0.0
JCUZ					Sg	22 08 17.9	+0.5
NPOC	**North of Pu'u**	**0.06**	**309**		Pg	22 08 16.4	+0.1
NPOC					Sg	22 08 18.1	+0.6
STCH	**Steam Cracks**	**0.06**	**295**		Pg	22 08 16.5	+0.1
STCH				IAML		22 08 18.4	
	comp=E,3μm,0.2s						
STCH				Sg	Sg	22 08 18.5	+0.8
JOKA	**Jonika Flow**	**0.09**	**37**	Pg	Pg	22 08 16.5	-0.4
JOKA				Sg	Sg	22 08 18.2	-0.1
JOKA				IAML		22 08 18.4	
	comp=E,3μm,0.5s						
JOKA				IAML		22 08 20.0	
	comp=N,3μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**282**		Pg	22 08 17.1	+0.1
PUH	**Pauahi**	**0.14**	**276**		Pg	22 08 17.8	+0.1
PUH				Sg	Sg	22 08 20.4	+0.6
BYL	**Byron's Ledge**	**0.19**	**286**		Pg	22 08 18.5	-0.1
BYL				Sg	Sg	22 08 21.0	-0.2
KKO	**Keanakako'i**	**0.20**	**282**		Pg	22 08 18.6	0.0
HATHI	**Halema'uma'u T**	**0.20**	**289**		Pg	22 08 18.6	-0.1
HATHI				IAML		22 08 25.2	
	comp=N,889nm,0.4s						
RIM	**Rim**	**0.20**	**281**		Pg	22 08 18.7	0.0
RIM					Sg	22 08 22.9	+1.4
SBLHI	**Steaming Bluff**	**0.20**	**290**		Pg	22 08 18.6	-0.2
SBLHI					Sg	22 08 23.3	+1.7
UWB	**Uwekahuna Bluf**	**0.21**	**288**		Pg	22 08 18.7	-0.2
UWB					Sg	22 08 23.9	+2.0
OBL	**Observatory Le**	**0.22**	**286**		Pg	22 08 19.0	0.0
OBL					Sg	22 08 23.9	+1.9
SDHHI	**Sand Hill**	**0.22**	**278**		Pg	22 08 19.0	-0.1
SDHHI					Sg	22 08 23.9	+1.9
UWE	**Uwekahuna**	**0.23**	**286**		Pg	22 08 19.1	-0.1
UWE				IAML		22 08 25.2	
	comp=E,934nm,0.2s						
UWE				IAML		22 08 25.3	
	comp=N,1μm,0.2s						
WRMHI	**West Rim**	**0.23**	**282**		Pg	22 08 19.1	-0.1
WRMHI					Sg	22 08 24.2	+1.9
HLP	**Hilina Pali**	**0.24**	**255**	Pg	Pg	22 08 19.5	+0.1
HLP				Sg	Sg	22 08 23.8	+1.2
MLH	**Mauna Loa**	**0.33**	**294**	Sg	Sg	22 08 27.2	+1.5
HTC	**Hot Caves**	**0.34**	**249**		Pg	22 08 21.7	+0.5
AIN	**Ainahou**	**0.37**	**272**		Pg	22 08 22.3	+0.3
AIN				Sg	Sb	22 08 28.6	-1.3
HMH	**Humu'ula Sheep**	**0.46**	**302**		Pg	22 08 23.7	0.0
HMH				Sg	Sg	22 08 30.7	+0.9
MWH	**Mokuaweoweo**	**0.52**	**284**		Pg	22 08 24.4	-0.4
MWH				IAML		22 08 37.3	
	comp=N,501nm,0.6s						
MWH				IAML		22 08 37.9	
	comp=E,541nm,0.8s						
KHU	**Kahuku**	**0.53**	**258**		Pg	22 08 24.5	-0.4
KHU					Sb	22 08 33.3	-1.2
ALEP	**Alea Permanent**	**0.58**	**288**		Pg	22 08 24.8	-1.0
ALEP					Sg	22 08 33.9	+0.4
POHA	**Pohakuloa**	**0.59**	**312**		Pg	22 08 25.0	-1.2
POHA					Sg	22 08 33.7	-0.3
POHA	**Pohakuloa**	**0.59**	**312**	IAML		22 08 41.8	
	comp=E,349nm,0.4s						
POHA				IAML		22 08 42.3	
	comp=E,329nm,0.7s						
HUH	**Hualalai**	**0.80**	**294**	Pg	Pg	22 08 28.2	-1.8
MHA	**Mahukona**	**1.14**	**316**	Pg	Pg	22 08 33.5	-3.1

TEH 26 22:18:00.5, 35°.87N×60°.69E, h10km±258km**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRKH	**Jarkhoshk**	**0.28**	**279**	Pg	Pg	22 18 06.8	+0.6
TBJM	**Torbat-e-JAM**	**0.66**	**206**	Pg	Pg	22 18 13.7	+0.3
IMYA	**Miami**	**0.67**	**315**	Pg	Pg	22 18 13.8	+0.3
IMOG	**Moghan**	**1.12**	**283**	Pg	Pg	22 18 21.8	-0.3
IPAY	**Payeh**	**1.49**	**294**	Pg	Pg	22 18 29.4	+0.4

IDC ***26*** *22:18:11.2±2.3, 40°.27N×51°.92E, h0km, mb3.5/5, mbtmp3.7/12, ML3.6/7, Error ellipse: s-maj=39.3km s-min=13.8km az=165.0*

MOS ***26*** *22:18:15.2±2.4, 40°.73N×52°.24E, h12km, mb4.1/1, Error ellipse: s-maj=9.0km s-min=6.2km az=23.7*

THR ***26*** *22:18:17.8±0.0, 40°.61N×52°.03E, h14km±970km, ML3.9*

TEH ***26*** *22:18:18.7, 40°.50N×52°.06E, h12km*

AZER ***26*** *22:18:21.3, 40°.49N×51°.92E, h32km, ml3.6*

NNC ***26*** *22:18:25.3±4.0, 41°.26N×52°.93E, h0km, mb3.9, Error ellipse: s-maj=37.3km s-min=24.4km az=66.0*

DRS ***26*** *22:18:28.0, 40°.19N×51°.26E, h31km*

ISC 26 22:18:18.4±1.5**, 40°.63N**±0°.04×**52°.04E**±0°.05**, h29**km±13km**, n126, s277/171, mb3.6**/5**, 1C-5D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOBA	**Gobu**	**1.78**	**263**	Pg	**Pb**	**22 18 51.0**	**+0.7**
GOBA	**Gobu**	**1.78**	**263**	Pn	**Pb**	**22 18 51.1**	**+0.7**
GOBA				Sn	**Sb**	**22 19 12.6**	**+0.4**
GBS	**Qobustan**	**2.36**	**269**	Pn	**Pb**	**22 18 59.6**	**-0.8**
GBS	**Qobustan**	**2.36**	**269**	Pn	**Pb**	**22 18 59.6**	**-0.8**
GBS				Sn	**Sb**	**22 19 26.8**	**-2.4**
ATGJ	**Altiaghaj**	**2.37**	**277**	Pn	**Pn**	**22 18 59.3**	**+3.9**
ATGJ	**Altiaghaj**	**2.37**	**277**	Pn	**Pn**	**22 18 59.3**	**+3.9**
ATGJ				Sn	**Sb**	**22 19 28.3**	**-1.1**
SIZA	**Siyzn**	**2.43**	**282**	Pn	**Pb**	**22 19 00.9**	**-0.5**
SIZA	**Siyzn**	**2.43**	**282**	Pn	**Pb**	**22 19 01.0**	**-0.5**
SIZA				Sn	**Sb**	**22 19 30.5**	**-0.5**
PQL	**Pirkuli**	**2.63**	**275**	Pn	**Pn**	**22 19 03.0**	**+4.0**
PQL	**Pirkuli**	**2.63**	**275**	Pn	**Pn**	**22 19 03.1**	**+4.0**
PQL				Sn	**Sb**	**22 19 34.7**	**-2.1**
QUBA	**Quba, Azerbaij**	**2.78**	**286**	Pn	**Pn**	**22 19 05.1**	**+4.1**
QUBA				Sn	**Sn**	**22 19 37.6**	**+3.9**
SAAT	**Saatly**	**2.88**	**256**	Pn	**Pn**	**22 19 04.8**	**+2.5**
SAAT				Sn	**Sb**	**22 19 42.5**	**-1.3**
IML	**Ismayilli**	**2.94**	**274**	Pn	**Pn**	**22 19 06.8**	**+3.6**
IML	**Ismayilli**	**2.94**	**274**	Pn	**Pn**	**22 19 06.8**	**+3.6**
IML				Sn	**Sn**	**22 19 41.1**	**+3.5**
QSAR	**Qusar**	**2.99**	**288**	Pn	**Pn**	**22 19 07.8**	**+3.9**
QSAR	**Qusar**	**2.99**	**288**	Pn	**Pn**	**22 19 07.9**	**+3.9**
QSAR				Sn	**Sn**	**22 19 42.0**	**+3.2**
XNQ	**Khinaliq**	**3.01**	**282**	Pn	**Pn**	**22 19 07.7**	**+3.4**
XNQ	**Khinaliq**	**3.01**	**282**	Pn	**Pn**	**22 19 07.7**	**+3.4**
XNQ				Sn	**Sn**	**22 19 42.2**	**+2.7**
KSMR	**Kasumkent**	**3.11**	**289**	*e*Pn	**Pn**	**22 19 09.7**	**+4.1**
	19nm,0.4s						
KSMR				*e*Sn	**Sn**	**22 19 44.2**	**+2.3**
	861nm,0.4s						
KSMR	**Kasumkent**	**3.11**	**289**	*e*P	**Pn**	**22 19 09.7**	**+4.1**
KSMR				*e*S	**Sn**	**22 19 44.2**	**+2.3**
KSMR				pmax	pmax		
	comp=Z,19nm,0.4s						
DRN	**Derbent**	**3.13**	**298**	*e*P	**Pn**	**22 19 10.0**	**+4.3**
DRN				*e*S	**Sn**	**22 19 44.5**	**+2.5**
DRN				pmax	pmax		
	comp=Z,31nm,0.8s						
GLBA	**Clilabad**	**3.13**	**245**	Pn	**Pn**	**22 19 08.9**	**+3.2**
GLBA	**Clilabad**	**3.13**	**245**	Pn	**Pn**	**22 19 08.9**	**+3.2**
GLBA				Sn	**Sn**	**22 19 44.9**	**+2.7**
LKRN	**Lenkeran, Azer**	**3.17**	**234**	Pn	**Pn**	**22 19 09.0**	**+2.7**
LKRN				Sn	**Sn**	**22 19 44.1**	**+1.1**
LKRN	**Lenkeran, Azer**	**3.17**	**234**	P	**Pn**	**22 19 08.9**	**+2.7**
QBL	**Gabala**	**3.21**	**277**	Pn	**Pn**	**22 19 10.0**	**+3.1**
QBL				Sn	**Sn**	**22 19 46.4**	**+2.2**
ASTR	**Astara**	**3.25**	**232**	Pn	**Pn**	**22 19 10.0**	**+2.5**
ASTR				Sn	**Sn**	**22 19 46.2**	**+1.0**
GAS1	**Astara - Iran**	**3.34**	**229**	Pn	**Pn**	**22 19 10.8**	**+2.2**
ZRD	**Zardab**	**3.34**	**265**	Pn	**Pn**	**22 19 12.0**	**+3.3**
ZRD				Sn	**Sn**	**22 19 51.4**	**+3.9**
AKT	**Akhty**	**3.37**	**286**	*e*Pn	**Pn**	**22 19 12.1**	**+2.9**
	comp=Z,9.0nm,0.2s						
AKT				*e*Sn	**Sn**	**22 19 48.1**	**-0.2**
	comp=Z,193nm,0.2s						
AKT	**Akhty**	**3.37**	**286**	*e*P	**Pn**	**22 19 12.7**	**+3.5**
AKT				*e*S	**Sn**	**22 19 49.7**	**+1.4**
AKT				pmax	pmax		
	comp=Z,13nm,0.2s						
AKT				smax	smax		
	comp=N,193nm,0.2s						
AKT				smax	smax		
	comp=N,177nm,0.2s						
AKT				smax	smax		
	comp=E,187nm,0.3s						
YRD	**Yardimli**	**3.39**	**241**	Pn	**Pn**	**22 19 11.7**	**+2.1**
YRD				Sn	**Sn**	**22 19 49.3**	**+0.3**
LRK	**Lerik**	**3.48**	**236**	Pn	**Pn**	**22 19 13.1**	**+2.3**
LRK				Sn	**Sn**	**22 19 51.6**	**+0.6**
BLQ	**Beylaqan**	**3.55**	**257**	Pn	**Pn**	**22 19 14.6**	**+3.0**
BLQ				Sn	**Sn**	**22 19 53.9**	**+1.3**
URKR	**Urkarakh**	**3.66**	**296**	*e*Pn	**Pn**	**22 19 16.8**	**+3.6**
	comp=E,15nm,0.4s						
URKR				*e*Sn	**Sn**	**22 19 57.0**	**+1.7**
	comp=E,183nm,0.3s						
URKR	**Urkarakh**	**3.66**	**296**	*e*P	**Pn**	**22 19 16.7**	**+3.6**
URKR				*e*S	**Sn**	**22 19 57.0**	**+1.7**
URKR				pmax	pmax		
	comp=Z,15nm,0.4s						
GRMI	**Germi**	**3.68**	**242**	Pn	**Pn**	**22 19 16.0**	**+2.5**
GRMI	**Germi**	**3.68**	**242**	*e*Pn	**Pn**	**22 19 15.9**	**+2.5**
GRMI				IAML		22 19 59.3	
	comp=Z,0.3nm,1.0s						
SEKA	**Sheki**	**3.72**	**281**	Pn	**Pn**	**22 19 17.3**	**+3.4**
SEKA	**Sheki**	**3.72**	**281**	Pn	**Pn**	**22 19 17.4**	**+3.4**
SEKA				Sn	**Sn**	**22 19 59.2**	**+2.5**
SEKA	**Sheki**	**

	comp=Z,8.0nm,0.3s						
ORD	**Ordubad**	**4.96**	**252**	Pn	**Pn**	**22 19 34.4**	**+3.3**
ORD				Sn	**Sn**	**22 20 28.3**	**+0.9**
IHSH	**Hashtrud**	**4.99**	**230**	Pn	**Pn**	**22 19 34.4**	**+2.7**
DAMV	**Damavand**	**4.99**	**181**	*i* P	**Pn**	**22 19 35.5**	**+3.9**
DAMV				IAML		22 20 47.5	
	comp=Z,0.0nm,1.0s						
IFIR	**Firoozkooh**	**5.01**	**173**	Pn	**Pn**	**22 19 35.0**	**+3.1**
IDMV	**Damavand**	**5.04**	**180**	Pn	**Pn**	**22 19 35.6**	**+3.2**
QZX	**Qazax, Azerbai**	**5.08**	**277**	Pn	**Pn**	**22 19 34.6**	**+2.0**
QZX				Sn	**Sn**	**22 20 30.9**	**+0.6**
BJRD	**Bojnurd**	**5.09**	**123**	*e*Pn	**Pn**	**22 19 35.7**	**+2.8**
BJRD				IAML		22 20 34.7	
	comp=Z,0.0nm,1.0s						
DGRG	**David-gareji**	**5.11**	**281**	P	**Pn**	**22 19 36.1**	**+3.0**
DGRG	**David-gareji**	**5.11**	**281**	P	**Pn**	**22 19 36.0**	**+3.0**
SBZ	**Shahbuz**	**5.13**	**258**	Pn	**Pn**	**22 19 36.5**	**+3.1**
SBZ				Sn	**Sn**	**22 20 32.0**	**+0.3**
IMRD	**Marand**	**5.25**	**251**	Pn	**Pn**	**22 19 38.9**	**+3.8**
QABG	**Abgarm-Qazvin**	**5.28**	**202**	Pn	**Pn**	**22 19 38.2**	**+2.6**
IAZR	**Azarshahr**	**5.56**	**240**	Pn	**Pn**	**22 19 43.2**	**+3.8**
HYR	**Heyderabad**	**5.58**	**263**	Pn	**Pn**	**22 19 43.2**	**+3.7**
HYR				Sn	**Sn**	**22 20 41.8**	**-0.9**
SHRO	**Shahrood**	**5.58**	**145**	*i* P	**Pn**	**22 19 42.7**	**+3.1**
SHRO				IAML		22 21 08.3	
	comp=Z,0.0nm,1.0s						
GNI	**Garni**	**5.60**	**267**	Pn	**Pn**	**22 19 36.9**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=7.3,slow=19,SNR=2.2						
GNI				Sn	**Sn**	**22 20 37.3**	**-5.9**
	comp=Z,0.8nm,0.3s,baz=161,slow=16,SNR=2.2 comp=Z,1.3nm,0.5s						
HGHA	**Hamedan- Ghaye**	**5.71**	**207**	Pn	**Pn**	**22 19 44.9**	**+3.3**
MAKU	**Maku**	**5.79**	**260**	Pn	**Pn**	**22 19 46.1**	**+3.5**
MAKU	**Maku**	**5.79**	**260**	*e*Pn	**Pn**	**22 19 45.2**	**+2.6**
IQOM	**Qom**	**5.83**	**188**	Pn	**Pn**	**22 19 45.8**	**+2.7**
TRLG	**Trialeti**	**6.07**	**281**	P	**Pn**	**22 19 47.8**	**+1.4**
TRLG				S	**Sn**	**22 20 52.6**	**-2.3**
TRLG	**Trialeti**	**6.07**	**281**	P	**Pn**	**22 19 47.7**	**+1.4**
TRLG				S	**Sn**	**22 20 52.6**	**-2.3**
HAGD	**Aghdareh**	**6.24**	**203**	Pn	**Pn**	**22 19 50.5**	**+1.8**
ASAO	**Ashtian**	**6.28**	**195**	*e*Pn	**Pn**	**22 19 53.1**	**+3.8**
ASAO				IAML		22 21 04.1	
	comp=Z,0.0nm,1.0s						
ALIG	**Mtskhetisjvari**	**6.49**	**286**	P	**Pn**	**22 19 54.5**	**+2.5**
ALIG	**Mtskhetisjvari**	**6.49**	**286**	P	**Pn**	**22 19 54.4**	**+2.5**
QAMS	**Qamsar**	**6.90**	**184**	Pn	**Pn**	**22 20 00.6**	**+2.8**
KBZ	**Khabaz**	**7.46**	**298**	Pn	**Pn**	**22 20 04.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=96,slow=12,SNR=1.9						
KBZ				Sn	**Sn**	**22 21 23.9**	**-5.0**
	comp=Z,0.9nm,0.3s,baz=274,slow=18,SNR=5.6 comp=Z,1.2nm,0.6s						
KVAR	**Kislovodsk Arr**	**7.69**	**299**	Pn	**Pn**	**22 20 07.9**	**-0.5**
	baz=97,slow=16						
KVAR				Sn	**Sn**	**22 21 29.3**	**-5.2**
	baz=90,slow=20 comp=Z,6.6nm,1.1s						
TKDS	**Koohdasht(Taba**	**8.09**	**148**	Pn	**Pn**	**22 20 16.9**	**+2.9**
IKOO	**Kooshah**	**9.92**	**143**	Pn	**Pn**	**22 20 41.9**	**+2.7**
AB31	**Akbulak array**	**10.28**	**30**	Pn	Pn	22 20 42.0	-1.8
	comp=Z,1.0nm,0.3s,baz=208,slow=12,SNR=59						
AB31				⇓Sn	Sn	22 22 31.5	-6.4
	comp=Z,0.9nm,0.3s,baz=226,slow=26,SNR=4.3						
AB31	**Akbulak array**	**10.28**	**30**	P	Pn	22 20 41.9	-1.9
AB31						22 22 32.8	
AKTO	**Aktyubinsk**	**10.66**	**21**	Pn	Pn	22 20 47.6	-1.4
	comp=Z,1.2nm,0.3s,baz=210,slow=7.7,SNR=28						
AKTO				Sn	Sn	22 22 39.2	-8.1
	comp=Z,0.4nm,0.3s,baz=263,slow=24,SNR=2.1 comp=Z,3.1nm,0.2s						
AKTO	**Aktyubinsk**	**10.66**	**21**	⇑Pn	Pn	22 20 47.5	-1.5
	comp=Z,2.3nm,0.5s						
AKTO				⇓Sn	Sn	22 22 38.5	-8.8
	comp=Z,1.7nm,0.6s						
BELG	**Belogornoye**	**12.15**	**347**	Pn	Pn	22 21 07.9	-1.5
	comp=Z,2.6nm,0.3s,baz=176,slow=13,SNR=3.0						
BELG				Sn	Sn	22 23 11.0	-13
	comp=Z,0.4nm,0.3s,baz=41,slow=22,SNR=2.0 comp=Z,5.9nm,0.3s						
KK31	**Karatay Array**	**13.98**	**74**	⇓P	Pn	22 21 33.9	-0.6
	comp=Z,0.3nm,0.3s,baz=269,slow=12,SNR=5.5						
KK31				⇓S	Sn	22 24 00.7	-8.0
	comp=Z,0.3nm,0.3s,baz=268,slow=23,SNR=4.7						
KK31	**Karatay Array**	**13.98**	**74**	*i* P	Pn	22 21 33.9	-0.6
KK31				S	Sn	22 24 00.6	-8.1
ARTI	**Arti**	**16.31**	**13**	Pn	Pn	22 22 01.5	-3.6
	comp=Z,0.9nm,0.3s,baz=208,slow=7.9,SNR=5.8						
ARTI				Sn	Sn	22 24 47.8	-17
	comp=Z,0.1nm,0.3s,baz=84,slow=24,SNR=1.4						
BVA0	**Borovoye Array**	**17.58**	**39**	⇓P	**Pn**	**22 22 21.0**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=223,slow=14,SNR=17						
BVA0	**Borovoye Array**	**17.58**	**39**	*e*P	**Pn**	**22 22 20.8**	**-0.3**
BVAR	**Borovoye Array**	**17.58**	**39**	P	**Pn**	**22 22 20.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=232,slow=14,SNR=25						
BVAR				S	Sn	22 25 23.4	-12
	comp=Z,0.9nm,0.6s,baz=231,slow=23,SNR=3.5 comp=Z,2.6nm,0.4s						
AKASG	**Malin Array Be**	**18.79**	**310**	P	**P**	**22 22 33.6**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=118,slow=12,SNR=6.0 comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**20.94**	**53**	P	**P**	**22 22 59.1**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=253,slow=11,SNR=6.3 comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**21.03**	**52**	P	**P**	**22 22 59.2**	**-0.4**
MKAR	**Makanchi Array**	**22.63**	**64**	P	**P**	**22 23 16.5**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=257,slow=12,SNR=3.8 comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**26.15**	**331**	P	**P**	**22 23 48.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=138,slow=9.1,SNR=8.6 comp=Z,0.4nm,0.3s						
HFS	**Hagfors**	**30.65**	**322**	P	**P**	**22 24 28.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=113,slow=9.6,SNR=2.2 comp=Z,0.9nm,0.6s						
NB2	**NORSAR Subarra**	**32.12**	**323**	P	**P**	**22 24 41.6**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=114,slow=8.6						
EKA	**Eskdalemuir Ar**	**38.69**	**311**	P	**P**	**22 25 38.0**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=98,slow=8.8,SNR=6.9 comp=Z,0.5nm,0.5s						

*IDC **26** 22:25:27.4±1.4, 58.˚88S×24.˚99W, h0km, mb3.9/3, mbtmp3.9/4, ML4.1/1, MS3.2/1, Error ellipse: s-maj=65.8km s-min=26.8km az=86.0*

ISC 26 22:25:29.2±1.5, 58.˚9S±0.˚2×24.˚7W±0.˚4, h10km, n11, σ1°22/10, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.62**	**156**	⇓P	**Pn**	**22 28 41.5**	**-0.4**
	comp=Z,5.8nm,0.7s						
VNA3	**Neumayer Olymp**	**13.82**	**159**	⇓P	**Pn**	**22 28 43.9**	**-0.9**
	comp=Z,4.3nm,0.4s						
VNA2	**Neumayer--Watz**	**14.01**	**156**	⇓P	**Pn**	**22 28 46.3**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=318,slow=15						
SNAA	**Sanae**	**15.56**	**154**	⇓P	**Pn**	**22 29 08.1**	**-0.2**
	comp=Z,44nm,0.3s						
SNAA	**Sanae**	**15.56**	**154**	Pn	**Pn**	**22 29 08.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=318,slow=15,SNR=40						
SNAA				Sn	Sn	22 31 47.4	-13
	baz=285,slow=2.3,SNR=2.1 comp=Z,2.2nm,0.4s						
TROLL	**Troll, Antarti**	**17.07**	**151**	⇓P	**Pn**	**22 29 28.3**	**+0.7**
	comp=Z,60nm,0.5s						
QSPA	**South Pole Qui**	**31.31**	**180**	P	**P**	**22 31 50.9**	**+1.7**
	comp=Z,1.7nm,1.0s,baz=178,slow=2.8,SNR=6.3 comp=Z,1.7nm,1.0s						
MAW	**Mawson**	**37.05**	**141**	P	**P**	**22 32 38.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=249,slow=8.6,SNR=2.0 comp=Z,0.7nm,0.6s						
LPAZ	**La Paz**	**53.12**	**304**	LR	LR	22 59 12.1	
	comp=Z,22nm,18.7s,baz=193,slow=38						
TORD	**Torodi Ar. Bea**	**74.98**	**27**	P	**P**	**22 37 11.0**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=199,slow=5.7,SNR=16 comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**152.98**	**307**	PKPbc	**PKPbc**	**22 45 22.9**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=132,slow=1.3,SNR=4.3						

*NOU **26** 22:36:32.1, 31.˚10S×176.˚26W, h0km, mb4.5/13, Kermadec Islands Region*
*NEIC **26** 22:36:41.9±2.6, 30.˚88S±0.˚10×177.˚7W±0.˚2, h10km±1km, mb4.7/18, Error ellipse: s-maj=24.4km s-min=16.7km az=85.0*
*IDC **26** 22:36:46.9±2.4, 30.˚85S×177.˚81W, h53km±19km, mb4.2/8, mbtmp4.4/10, ML3.9/2, MS3.7/6, Error ellipse: s-maj=24.8km s-min=13.6km az=108.0*

ISC 26 22:36:41.3±0.5, 31.˚07S±0.˚05×177.˚8W±0.˚1, h10km, n107, σ2°30/99, mb4.7/19, MS3.8/5, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.81**	**356**	P	**Pn**	**22 37 10.2**	**-2.3**
GLKZ				S	**Sn**	**22 37 37.0**	**+1.6**
RAO	**Raoul Island**	**1.82**	**356**		**Pn**	**22 37 10.3**	**-2.3**
RAO				Sn	Sn	22 37 27.1	-8.7
RAO	**Raoul Island**	**1.82**	**356**	P	**Pn**	**22 37 11.1**	**-1.5**
	694nm,0.2s,baz=142,slow=9.3,SNR=18						
RAO				S	**Sn**	**22 37 32.7**	**-3.1**
	2µm,0.3s,baz=128,slow=23,SNR=9.1						
RAO				LR	LR	22 37 58.4	
	comp=Z,1µm,19.4s,baz=168,slow=45						
RAO	**Raoul Island**	**1.82**	**356**	P	**Pn**	**22 37 11.1**	**-1.5**
RIZ	**Raoul Island**	**1.83**	**355**	P	**Pn**	**22 37 11.2**	**-1.5**
RIZ				S	**Sn**	**22 37 37.0**	**+1.1**
MXZ	**Matakaoa Point**	**7.25**	**206**	Pn	**Pn**	**22 38 27.7**	**+0.5**
MXZ	**Matakaoa Point**	**7.25**	**206**	P	**Pn**	**22 38 28.1**	**+0.9**
MXZ	**Matakaoa Point**	**7.25**	**206**	P	**Pn**	**22 38 25.7**	**-1.5**
MXZ				S	**Sn**	**22 39 47.5**	**-2.0**
HAZ	**Te Kaha**	**7.62**	**208**	P	**Pn**	**22 38 31.1**	**-1.1**
HAZ				S	**Sn**	**22 39 59.7**	**+1.1**
WCZ	**Waipu Caves**	**8.19**	**232**	P	Pn	22 38 47.7	+7.6
URZ	**Urewera**	**8.32**	**209**	P	Pn	22 38 39.2	-2.7
	5.8nm,0.3s,baz=348,slow=20,SNR=8.1						
URZ				S	**Sn**	**22 40 14.0**	**-1.9**
	58nm,0.5s,baz=123,slow=19,SNR=11						
URZ	**Urewera**	**8.32**	**209**	P	**Pn**	**22 38 43.1**	**+1.2**
URZ	**Urewera**	**8.32**	**209**	P	**Pn**	**22 38 39.8**	**-2.2**
URZ				S	**Sn**	**22 40 12.9**	**-3.1**
OUZ	**Omahuta**	**8.34**	**238**	P	Pn	22 38 48.5	+6.2
OUZ	**Omahuta**	**8.34**	**238**	P	Pn	22 38 48.6	+6.4
RTZ	**Ruatahuna**	**8.68**	**208**	Pn	**Pn**	**22 38 49.0**	**+2.1**
RTZ	**Ruatahuna**	**8.68**	**208**	S	**Sn**	**22 40 20.9**	**-4.0**
RAHZ	**Arahi**	**8.89**	**207**	S	**Sn**	**22 40 27.9**	**-2.1**
NMHZ	**Naumai**	**9.16**	**208**	P	Pn	22 38 50.3	-3.2
NMHZ				S	**Sn**	**22 40 34.5**	**-2.1**
BKZ	**Black Stump Fm**	**9.34**	**209**	P	**Pn**	**22 38 56.5**	**+0.5**
BKZ	**Black Stump Fm**	**9.34**	**209**	P	Pn	22 38 52.5	-3.6
BKZ				S	**Sn**	**22 40 36.9**	**-4.3**
KAHZ	**Kahuranaki**	**9.74**	**205**	P	Pn	22 38 57.2	-4.2
KAHZ				S	**Sn**	**22 40 46.5**	**-4.4**
WNVZ	**Wahianoa**	**9.86**	**212**	S	**Sn**	**22 40 49.3**	**-4.8**
PXZ	**Pawanui**	**9.95**	**205**	S	Sn	22 40 49.5	-6.5
PNHZ	**Pukenui**	**10.10**	**207**	P	Pn	22 39 01.0	-5.4
PNHZ				S	Sn	22 40 52.3	-7.4
BFZ	**Birch Farm**	**10.75**	**205**	P	**Pn**	**22 39 15.7**	**+0.5**
THZ	**Tophouse**	**13.04**	**213**	Pn	**Pn**	**22 39 45.0**	**-1.6**
KHZ	**Kahutara**	**13.29**	**209**	P	**Pn**	**22 39 49.9**	**0.0**
RPZ	**Rata Peaks**	**15.42**	**212**	P	**Pn**	**22 40 22.4**	**+3.6**
	1.7nm,0.3s,baz=43,slow=18,SNR=2.0						
RPZ				S	Sn	22 42 55.3	-14
	18nm,0.8s,baz=68,slow=22,SNR=6.7 5.1nm,0.3s						
RPZ	**Rata Peaks**	**15.42**	**212**	P	**Pn**	**22 40 19.7**	**+0.9**
OUENC	**Ouen Island, N**	**16.22**	**298**	P	**P**	**22 40 36.7**	**+4.3**
DZM	**Mont Dzumac**	**16.72**	**299**	P	**Pn**	**22 40 35.2**	**-0.5**
	0.1nm,0.3s,baz=103,slow=18,SNR=2.1 6.1nm,1.0s						
DZM	**Mont Dzumac**	**16.72**	**299**	P	**P**	**22 40 42.7**	**+4.6**
JCZ	**Jackson Bay**	**16.77**	**216**	P	**Pn**	**22 40 37.6**	**+1.3**
RAR	**Rarotonga**	**18.88**	**63**	LR	LR	22 46 45.0	
	comp=Z,188nm,20.7s,baz=234,slow=32						
ARMA	**Armidale**	**26.28**	**263**	P	**P**	**22 42 20.4**	**+3.3**
CNB	**Canberra Magne**	**27.76**	**252**	P	**P**	**22 42 33.2**	**+2.9**
EIDS	**Eidsvold**	**27.98**	**274**	P	**P**	**22 42 31.7**	**-0.5**
EIDS				IAmb	IAmb	22 42 34.0	
	comp=Z,7.6nm,0.8s						
PPT	**Papeete**	**28.89**	**69**	LR	LR	22 51 19.3	
	comp=Z,67nm,20.0s,baz=240,slow=30						
CTAO	**Charters Tower**	**34.11**	**280**	P	**P**	**22 43 27.4**	**+1.1**
STKA	**Stephens Creek**	**34.53**	**258**	P	**P**	**22 43 30.9**	**+1.0**
STKA	**Stephens Creek**	**34.53**	**258**	P	**P**	**22 43 30.7**	**+0.8**
	comp=Z,9.4nm,0.7s,baz=86,slow=9.3,SNR=24						
STKA				LR	LR	22 56 23.6	
	comp=Z,182nm,18.9s,baz=50,slow=34 comp=Z,9.4nm,0.7s						
BBOO	**Buckleboo**	**38.99**	**255**		**P**	**22 44 07.4**	**-0.5**
PMG	**Port Moresby**	**39.08**	**296**	LR	LR	22 56 56.7	
	comp=Z,109nm,19.8s,baz=152,slow=31						
COEN	**Coen**	**39.66**	**287**		**P**	**22 44 14.4**	**+0.8**
COEN				IAmb	IAmb	22 44 30.9	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**43.28**	**268**		**P**	**22 44 43.4**	**0.0**
ASAR	**Alice Springs**	**43.28**	**268**		**P**	**22 44 42.6**	**-0.7**
ASAR	**Alice Springs**	**43.28**	**268**	P	**P**	**22 44 43.3**	**-0.1**
	comp=Z,5.5nm,0.5s,baz=104,slow=7.4,SNR=64						
ASAR				LR	LR	23 02 37.8	
	comp=Z,151nm,18.4s,baz=321,slow=36 comp=Z,5.5nm,0.5s						
WR8	**Warramunga Arr**	**44.19**	**273**		**P**	**22 44 49.7**	**-0.9**
WR8				IAmb	IAmb	22 44 52.7	
	comp=Z,8.5nm,0.8s						
WRA	**Warramunga Arr**	**44.33**	**273**		**P**	**22 44 50.7**	**-1.1**
WRA	**Warramunga Arr**	**44.33**	**273**	P	**P**	**22 44 50.7**	**-1.1**
	comp=Z,7.5nm,0.5s,baz=112,slow=7.8,SNR=41						
WRA				LR	LR	23 02 50.9	
	comp=Z,138nm,18.1s,baz=345,slow=35 comp=Z,7.5nm,0.5s						
WB0	**Warramunga Arr**	**44.36**	**273**		**P**	**22 44 50.8**	**-1.2**
WB0				IAmb	IAmb	22 44 54.0	
	comp=Z,13nm,0.8s						
KNRA	**Kununurra**	**50.96**	**275**	P	**P**	**22 45 43.2**	**-0.1**
KNRA				IAmb	IAmb	22 45 43.6	
	comp=Z,7.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.57**	**270**	P	**P**	**22 45 53.8**	**-1.4**
CASY	**Casey**	**54.65**	**208**	P	**P**	**22 46 09.2**	**-0.6**
CASY				IAmb	IAmb	22 46 10.8	
	comp=Z,14nm,0.8s						
MORW	**Morawa**	**56.54**	**254**	P	**P**	**22 46 24.7**	**+0.6**
MORW				IAmb	IAmb	22 46 42.0	
	comp=Z,6.1nm,1.1s						
QSPA	**South Pole Qui**	**59.04**	**180**	P	**P**	**22 46 44.9**	**+3.7**
QSPA				IAmb	IAmb	22 46 54.6	
	comp=Z,17nm,1.1s						
QSPA	**South Pole Qui**	**59.04**	**180**	P	**P**	**22 46 43.7**	**+2.5**
	comp=Z,5.2nm,0.9s,baz=12,slow=5.9,SNR=18 comp=Z,5.2nm,0.9s						
MAW	**Mawson**	**71.75**	**201**	P	**P**	**22 48 03.8**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=130,slow=6.7,SNR=7.8 comp=Z,2.6nm,1.0s						
TROLL	**Troll, Antarti**	**77.20**	**180**	⇑P	**P**	**22 48 36.1**	**+1.0**
	comp=Z,147nm,0.5s						
SNAA	**Sanae**	**77.48**	**178**	⇑P	**P**	**22 48 37.1**	**+0.5**
	comp=Z,41nm,0.4s						
SNAA	**Sanae**	**77.48**	**178**	P	**P**	**22 48 37.3**	**+0.7**
SNAA				IAmb	IAmb	22 48 46.2	
	comp=Z,7.0nm,1.1s						
VNA3	**Neumayer Olymp**	**77.62**	**176**	⇑P	**P**	**22 48 37.8**	**+0.5**
	comp=Z,16nm,0.7s						
VNA2	**Neumayer--Watz**	**78.06**	**177**	⇑P	**P**	**22 48 40.7**	**+1.0**
	comp=Z,7.2nm,0.4s,baz=186,slow=5.9						
VNA1	**Neumayer--Stat**	**78.29**	**176**	⇑P	**P**	**22 48 42.1**	**+1.1**
	comp=Z,9.9nm,0.8s						
MJAR	**Matsushiro Arr**	**78.91**	**325**	P	**P**	**22 48 42.4**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=152,slow=4.9,SNR=4.1 comp=Z,0.5nm,0.3s						
H03S2	**Juan Fernandez**	**79.92**	**123**	T	T	00 18 05.7	
	baz=238,slow=74,SNR=18						
H03S1	**Juan Fernandez**	**79.93**	**123**	T	T	00 18 04.0	
	baz=238,slow=74,SNR=16						
H03S3	**Juan Fernandez**	**79.94**	**123**	T	T	00 17 59.8	
	baz=238,slow=74,SNR=20						
H03N3	**Juan Fernandez**	**80.12**	**123**	T	T	00 18 11.6	
	baz=241,slow=72,SNR=8.3						
H03N2	**Juan Fernandez**	**80.12**	**123**	T	T	00 18 12.2	
	baz=241,slow=72,SNR=10						
H03N1	**Juan Fernandez**	**80.13**	**123**	T	T	00 18 20.0	
	baz=241,slow=72,SNR=16						
DCMP	**DeCamp, Califo**	**86.49**	**39**	P	**P**	**22 49 26.7**	**+2.5**
PETK	**Petropavlovsk-**	**86.51**	**345**	P	**P**	**22 49 23.0**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=129,slow=5.9,SNR=8.2 comp=Z,4.6nm,0.7s						
NVAR	**Mina Array Bea**	**88.59**	**43**	P	**P**	**22 49 32.1**	**-2.4**
	comp=Z,4.0nm,0.6s,baz=241,slow=4.2,SNR=3.6 comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**118.36**	**310**	PKP	**PKPdf**	**22 55 27.1**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=128,slow=1.3,SNR=14						
ZALV	**Zalesovo Beam**	**118.67**	**318**	PKP	**PKPdf**	**22 55 26.1**	**-2.9**
	comp=Z,0.5nm,0.5s,baz=153,slow=1.7,SNR=4.5						
KURK	**Kurchatov**	**121.66**	**313**		**PKPdf**	**22 55 33.5**	**-1.4**
KURBB	**Kurchatov Arra**	**121.70**	**313**	PKP	**PKPdf**	**22 55 33.4**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=107,slow=1.9,SNR=44						
KK31	**Karatay Array**	**125.61**	**303**		**PKPdf**	**22 55 42.1**	**-0.7**
KKAR	**Karatay Array**	**125.61**	**303**		**PKPdf**	**22 55 42.0**	**-0.7**
BVAR	**Borovoye Array**	**127.03**	**315**	PKP	**PKPdf**	**22 55 44.5**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=95,slow=1.8,SNR=11						
ARTI	**Arti**	**133.84**	**320**		**PKPdf**	**22 55 58.2**	**+0.3**
KBZ	**Khabaz**	**145.65**	**303**	PKPbc	**PKPdf**	**22 56 18.9**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=82,slow=3.1,SNR=5.6						
FIA1	**FINESS Array S**	**145.84**	**340**		**PKPdf**	**22 56 18.7**	**-0.7**
FINES	**FINESS Array B**	**145.84**	**340**		**PKPdf**	**22 56 18.9**	**-0.6**
FINES	**FINESS Array B**	**145.84**	**340**	PKPbc	**PKPdf**	**22 56 18.5**	**-0.9**
	comp=Z,32nm,0.7s,baz=54,slow=4.1,SNR=157						
MARD	**Mardin**	**147.68**	**292**		**PKPdf**	**22 56 26.2**	**+2.6**
NB2	**NORSAR Subarra**	**149.44**	**351**	PKP	**PKPdf**	**22 56 28.9**	**+3.4**
	comp=Z,6.2nm,1.1s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.44**	**351**	PKPbc	**PKPdf**	**22 56 28.7**	**+3.2**
	comp=Z,2.1nm,0.7s,baz=14,slow=4.1,SNR=11						
HFS	**Hagfors**	**149.94**	**349**	PKPbc	**PKPdf**	**22 56 29.8**	**+3.5**
	comp=Z,4.2nm,0.7s,baz=34,slow=0.5,SNR=13						
BNN	**Bunyan**	**151.50**	**295**		**PKPbc**	**22 56 35.3**	**-0.4**
MMAI	**Mount Meron Ar**	**151.88**	**283**	PKPbc	**PKPbc**	**22 56 36.9**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=80,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**151.96**	**322**	PKPbc	**PKPdf**	**22 56 34.9**	**+5.2**
AKASG	**Malin Array Be**	**151.96**	**322**	PKPbc	**PKPbc**	**22 56 35.0**	**-1.1**
	comp=Z,14nm,0.7s,baz=52,slow=2.7,SNR=40						
TJOU	**Tjoern**	**152.28**	**349**	*i* P	**PKPdf**	**22 56 34.5**	**+4.6**
BORU	**Boraas**	**152.46**	**348**	*i* P	**PKPdf**	**22 56 35.6**	**+5.4**
HOMB	**Homborsund**	**152.47**	**353**	*i* P	**PKPdf**	**22 56 34.0**	**+3.9**
ONAU	**Onsala**	**152.84**	**348**	*i* P	**PKPdf**	**22 56 36.0**	**+5.3**
BLEU	**Blekinge**	**153.03**	**343**	*i* P	**PKPbc**	**22 56 37.0**	**-1.3**
FABU	**Falkenberg**	**153.07**	**347**	*i* P	**PKPdf**	**22 56 36.6**	**+5.6**
BR131	**Keskin Array S**	**153.09**	**297**		**PKPbc**	**22 56 38.4**	**-0.9**
BRTR	**Keskin Array B**	**153.09**	**297**	PKPbc	**PKPbc**	**22 56 37.9**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=112,slow=2.7,SNR=8.2						
DEL	**Delary**	**153.33**	**346**	*i* P	**PKPbc**	**22 56 38.0**	**-1.0**
EKA	**Eskdalemuir Ar**	**155.45**	**7**	PKPab	**PKPab**	**22 56 58.4**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=344,slow=2.6,SNR=2.3						
CLL	**Collm**	**158.27**	**342**	*i* PKPab	**PKPab**	**22 57 10.9**	**-1.4**
	comp=Z,4.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**162.15**	**178**	PKPab	**PKPab**	**22 57 30.1**	**0.0**
	comp=Z,1.6nm,1.0s,baz=174,slow=3.4,SNR=5.5						

TRN 26 22:37:45.8, 13.˚69N×59.˚23W, h10km, MD3.6, North-east of Barbados., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.63**	**211**	*e*P	Pn	22 38 00.4	-0.5
BBGH				*e*S	Sn	22 38 13.2	+2.2
SLBI	**Saint Lucia, B**	**1.73**	**281**	*e*P	Pb	22 38 17.1	-0.7
SLBI				*e*S	Sb	22 38 39.6	+0.1
BIM	**Bigot**	**1.97**	**295**	*e*P	Pb	22 38 20.6	-1.2
BIM				*e*S	Sb	22 38 46.9	+0.4
SVB	**Belmont**	**2.01**	**258**	*e*P	Pn	22 38 21.0	+1.1
SVB				*e*S	Sb	22 38 46.9	-0.8
SVN	**Savane Anatole**	**2.20**	**302**	*e*P	Pn	22 38 24.1	+1.5
SVN				*e*S

KKNTU	**Kakint**[g]	1.44	84	*e*P	Pn	22 49 36.9	-1.6
RVLA	**Villa Bonita**	1.44	347	*e*P	Pn	22 49 38.3	-0.1
PURI	**Puriscal**	1.54	318	*e*P	Pb	22 49 41.3	+0.1
HDC	**Heredia**	1.55	327	*e*P	Pb	22 49 41.2	0.0
HEME	**Heredia, Merce**	1.55	326	*e*P	Pn	22 49 39.9	-0.3
BELE	**Belen**	1.57	324	*e*P	Pn	22 49 41.2	+0.9
PILE	**Guapiles**	1.60	341	*e*P	Pn	22 49 41.3	+0.6
MESA3	**La Mesa, Verag**	2.12	105	*e*P	Pn	22 49 47.5	-0.3
SOCE	**Pocosol**	2.15	321	*e*P	Pn	22 49 49.6	+1.4
SOCE	**Pocosol**	2.15	321	S	Sb	22 50 18.4	+0.4
SOCE	**Pocosol**	2.15	321	P	Pn	22 49 49.3	+1.1
GMAL	**Guarumal, Vera**	2.21	115	*e*P	Pn	22 49 49.7	+0.7
GMAL	**Guarumal, Vera**	2.21	115	*e*P	Pn	22 49 48.1	-0.9
FORC	**Fortuna**	2.24	322	*e*P	Pb	22 49 51.9	-1.2
ARE1	**Arenal 1**	2.27	321	*e*P	Pn	22 49 50.9	+0.9
COVE	**Coope Vega, Sa**	2.30	331	P	Pn	22 49 51.8	+1.5
JTS	**Las Juntas de**	2.30	313	*e*P	Pn	22 49 51.1	+0.8
JTS	**Las Juntas de**	2.30	313	*e*P	Pn	22 49 50.7	+0.3
JTS	**Las Juntas de**	2.30	313	P	Pn	22 49 51.2	+0.8
JTS				S	Sb	22 50 21.0	-1.5
CALO3	**Calobre, Verag**	2.42	99	*e*P	Pn	22 49 52.3	+0.4
INDI	**Punta indio, G**	2.50	298	P	Pn	22 49 52.4	-0.7
QUEB	**Quebradon, Cot**	2.50	320	*e*P	Pn	22 49 54.7	+1.5
INVE	**Universidad In**	2.51	315	*e*P	Pb	22 49 56.2	-1.4
JUD3	**Juan Diaz 3**	2.68	303	*e*P	Pb	22 49 59.5	-1.1
CACAO	**El Cacao, Vera**	2.73	119	*e*P	Pn	22 49 56.7	+0.5
AZU	**Azuero**	3.08	107	*e*P	Pn	22 50 03.0	+1.9

GCG ***26*** *22:58:36.8±1.2, 16°.33N×94°.29W, h85km±21km, MD4.0, ML4.3*
MEX ***26*** *22:58:38.8±1.0, 16°.34N×94°.17W, h102km±8km, MD4.4*
CATAC ***26*** *22:58:38.9±0.6, 16°.N±3°.×9°.4W±°., h90km±7km, M4.3/7, MLv4.3/7, Error ellipse: s-maj=7.4km s-min=5.4km az=35.7, confirmed*

ISC 26 22:58:36.4±1.3, 16°.29N±0°.03×94°.23W±0°.03, h104km±13km, n59, σ1§99/101, 1C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.01**	**322**	*i* P	**Pn**	**22 58 58.5**	**+1.2**
CMIG				*e*S	**Sn**	**22 59 13.8**	**+0.8**
PCIG		**1.13**	**121**	*e*P	**Pn**	**22 58 59.2**	**+0.6**
PCIG				*e*S	**Sn**	**22 59 14.7**	**-0.6**
TGIG		**1.17**	**65**	*e*P	**Pn**	**22 58 59.9**	**+0.8**
TGIG				*e*S	**Sn**	**22 59 15.2**	**-1.0**
TGIG		**1.17**	**65**	⇓*e*P	**Pn**	**22 58 59.9**	**+0.8**
TGIG				*e*S	**Sn**	**22 59 15.5**	**-0.7**
TGIG				IAML		22 59 15.9	
	comp=E,3μm,0.2s						
TGBT	**Tuxtla Gutierr**	**1.20**	**66**	*e*P	**Pn**	**22 58 60.0**	**+0.7**
TGBT				*e*S	**Sn**	**22 59 15.2**	**-1.4**
MIHL	**Minatitlan**	**1.72**	**350**	*e*P	**Pn**	**22 59 05.3**	**-0.2**
MIHL				*e*S	**Sn**	**22 59 28.3**	**+0.6**
TUIG	**Tuzandepetl**	**1.75**	**354**	*e*P	**Pn**	**22 59 07.1**	**+1.2**
TUIG				*e*S	**Sn**	**22 59 27.5**	**-0.9**
HUIG	**Huatulco**	**1.88**	**254**	*i* P	**Pn**	**22 59 07.0**	**-0.5**
HUIG				*i* S	**Sn**	**22 59 29.6**	**-1.7**
HUIG	**Huatulco**	**1.88**	**254**	*e*P	**Pn**	**22 59 06.5**	**-1.0**
HUIG				IAML		22 59 07.8	
	comp=Z,464nm,0.4s						
HUIG				*e*S	**Sn**	**22 59 29.4**	**-1.9**
CCIG	**Comitan**	**2.01**	**90**	*e*P	**Pn**	**22 59 10.1**	**+0.6**
CCIG				*e*S	**Sn**	**22 59 33.3**	**-1.4**
CCIG	**Comitan**	**2.01**	**90**	*e*P	**Pn**	**22 59 10.5**	**+1.0**
CCIG				*e*S	**Sn**	**22 59 31.7**	**-3.0**
CCIG				IAML		22 59 39.4	
	comp=N,2μm,0.3s						
NEUV	**Arroyo Zacate**	**2.06**	**314**	*e*P	**Pn**	**22 59 11.5**	**+1.5**
NEUV				*e*S	**Sn**	**22 59 33.8**	**-1.8**
VHSA	**Villahermosa**	**2.09**	**36**	*e*P	**Pn**	**22 59 11.8**	**+1.5**
VHSA				*e*S	**Sn**	**22 59 37.1**	**+0.9**
PATR	**El Naranjo**	**2.25**	**121**	*e*P	**Pn**	**22 59 13.7**	**+1.1**
PATR				*e*S	**Sn**	**22 59 39.8**	**-0.5**
PAVE	**Pavencul**	**2.26**	**118**	*e*P	**Pn**	**22 59 14.0**	**+1.3**
PAVE				*e*S	**Sn**	**22 59 40.8**	**+0.4**
THIG		**2.34**	**126**	*e*P	**Pn**	**22 59 12.2**	**-1.3**
THIG				*e*S	**Sn**	**22 59 42.1**	**+0.1**
CHUJ	**Union Juarez**	**2.37**	**120**	*e*P	**Pn**	**22 59 15.1**	**+1.0**
CHUJ				*e*S	**Sn**	**22 59 43.2**	**+0.2**
PMUV	**Sontecomapan**	**2.40**	**339**	*e*P	**Pn**	**22 59 14.2**	**-0.2**
PMUV				*e*S	**Sn**	**22 59 42.7**	**-0.8**
OXLC	**Oaxaca**	**2.49**	**288**	*e*P	**Pn**	**22 59 16.9**	**+1.2**
OXLC				*e*S	**Sn**	**22 59 45.9**	**0.0**
SMCA	**Catarina**	**2.52**	**124**	*e*P	**Pn**	**22 59 17.3**	**+1.4**
SMCA				*e*S	**Sn**	**22 59 46.9**	**+0.7**
VHO	**Vista Hermosa**	**2.52**	**288**	*e*P	**Pn**	**22 59 19.1**	**+3.0**
VHO				*e*S	**Sn**	**22 59 47.7**	**+1.2**
HUEH	**Huehuetenango**	**2.80**	**110**	*e*P	**Pn**	**22 59 21.2**	**+1.4**
HUEH				*e*S	**Sn**	**22 59 49.7**	**-3.4**
PEIG	**Puerto Escondi**	**2.81**	**265**	*e*P	**Pn**	**22 59 19.7**	**-0.1**
PEIG				*e*S	**Sn**	**22 59 52.2**	**-1.1**
RTAL	**Retalhuleu**	**3.01**	**125**	*e*P	**Pn**	**22 59 24.2**	**+1.8**
RTAL				*e*S	**Sn**	**22 59 59.2**	**+1.4**
RTAL	**Retalhuleu**	**3.01**	**125**	P	**Pn**	**22 59 24.6**	**+2.2**
SOKI	**Kika Raxquin**	**3.09**	**118**	*e*P	**Pn**	**22 59 26.1**	**+2.2**
QUIS	**Sacapulas**	**3.18**	**108**	*e*P	**Pn**	**22 59 25.7**	**+0.9**
QUIS				*e*S	**Sn**	**23 00 02.9**	**+0.8**
QUIS				IAML		23 00 04.4	
	comp=E,875nm,0.4s						
YOIG	**Yosondua**	**3.23**	**281**	*e*P	**Pn**	**22 59 27.6**	**+2.0**
YOIG				*e*S	**Sn**	**23 00 01.8**	**-1.6**
TOIG	**Toxpalan**	**3.25**	**304**	*e*P	**Pn**	**22 59 28.1**	**+2.4**
TOIG				*e*S	**Sn**	**23 00 05.1**	**+1.4**
TXIG	**Tlaxiaco**	**3.52**	**286**	*e*P	**Pn**	**22 59 32.2**	**+2.8**
TXIG				*e*S	**Sn**	**23 00 10.1**	**-0.3**
TPIG	**Tehuac#an**	**3.66**	**306**	*e*P	**Pn**	**22 59 32.7**	**+1.4**
TPIG				*e*S	**Sn**	**23 00 11.2**	**-2.6**
THEZ	**Tehuacan**	**3.71**	**306**	*e*S	**Sn**	**23 00 15.9**	**+0.9**
PNIG	**Pinotepa**	**3.74**	**272**	*e*P	**Pn**	**22 59 33.0**	**+0.8**
PNIG				*e*S	**Sn**	**23 00 12.6**	**-2.8**
HLIG	**Huajuapan de L**	**3.74**	**295**	*e*P	**Pn**	**22 59 35.8**	**+3.4**
HLIG				*e*S	**Sn**	**23 00 14.3**	**-1.4**
JAUV	**Jalcomulco**	**3.92**	**322**	*e*P	**Pn**	**22 59 35.5**	**+0.8**
JAUV				*e*S	**Sn**	**23 00 16.5**	**-3.2**
SCIG	**Sabancuy**	**3.94**	**47**	*e*P	**Pn**	**22 59 35.0**	**+0.2**
SCIG				*e*S	**Sn**	**23 00 15.4**	**-4.8**
SCIG	**Sabancuy**	**3.94**	**47**	*e*P	**Pn**	**22 59 35.4**	**+0.5**
SCIG				*e*S	**Sn**	**23 00 19.5**	**-0.7**
SCIG				IAML		23 00 22.3	
	comp=N,632nm,0.2s						
SCIG	**Sabancuy**	**3.94**	**47**	S	**Sn**	**23 00 18.8**	**-1.4**
LVIG	**Laguna Verde**	**4.00**	**329**	*e*P	**Pn**	**22 59 35.4**	**-0.2**
LVIG				*e*S	**Sn**	**23 00 18.3**	**-3.3**
POHV	**Veracruz**	**4.01**	**314**	*e*P	**Pn**	**22 59 38.6**	**+2.3**
FTIG	**Fresnillo de T**	**4.06**	**294**	*e*P	**Pn**	**22 59 40.1**	**+3.5**
FTIG				*e*S	**Sn**	**23 00 23.0**	**-0.3**
PETF	**Flores**	**4.23**	**81**	*e*P	**Pn**	**22 59 39.9**	**+1.1**
PETF				*e*S	**Sn**	**23 00 24.4**	**-2.9**
PETF	**Flores**	**4.23**	**81**	⇑*e*P	**Pn**	**22 59 40.1**	**+1.3**
PETF				*e*S	**Sn**	**23 00 24.7**	**-2.5**
PETF				IAML		23 00 28.7	
	comp=E,2μm,0.6s						
PETF	**Flores**	**4.23**	**81**	P	**Pn**	**22 59 40.1**	**+1.3**
MGIG	**Malinaltepec**	**4.32**	**283**	*e*P	**Pn**	**22 59 42.5**	**+2.4**
MGIG				*e*S	**Sn**	**23 00 27.9**	**-1.6**
TLIG	**Tlapa**	**4.34**	**288**	*e*P	**Pn**	**22 59 40.0**	**-0.3**
TLIG				*e*		23 00 17.7	
CRIG	**Cruz Grande**	**4.72**	**276**	*e*P	**Pn**	**22 59 46.4**	**+1.1**
CRIG				*e*S	**Sn**	**23 00 33.8**	**-5.2**
CXUV	**Coxquihui**	**5.01**	**321**	*e*P	**Pn**	**22 59 51.5**	**+2.1**
CXUV				*e*		23 00 29.5	
PPM	**Popocatepetl**	**5.02**	**304**	*e*P	**Pn**	**22 59 53.2**	**+3.4**
PPM				*e*S	**Sn**	**23 00 45.4**	**-1.6**
DAIG	**Los Arroyos**	**5.24**	**279**	*e*P	**Pn**	**22 59 54.1**	**+1.6**
DAIG				*e*S	**Sn**	**23 00 47.1**	**-4.7**
YAIG	**Yautepec**	**5.27**	**300**	*e*P	**Pn**	**22 59 57.5**	**+4.5**
YAIG				*e*S	**Sn**	**23 00 50.9**	**-1.8**
MEIG	**Mezcala**	**5.40**	**288**	*e*P	**Pn**	**22 59 58.3**	**+3.6**
MEIG				*e*S	**Sn**	**23 00 53.8**	**-1.9**
CAIG	**El Cayaco**	**5.83**	**278**	*e*P	**Pn**	**23 00 01.9**	**+1.4**
CAIG				*e*S	Sn	23 00 58.2	-7.8
ARIG	**Puente Sto Nin**	**6.17**	**290**	*e*P	**Pn**	**23 00 09.0**	**+4.0**
ARIG				*e*S	**Sn**	**23 01 11.3**	**-2.9**
ZIIG	**Zihuatanejo**	**7.04**	**282**	*e*P	**Pn**	**23 00 19.6**	**+2.7**
ZIIG				*e*S	**Sn**	**23 01 34.5**	**-1.0**
MNGA	**Volcan de Coli**	**9.48**	**291**	*e*P	Pn	23 00 56.5	+6.2
INCO	**Volcan de Coli**	**9.48**	**291**	*e*P	Pn	23 00 58.0	+7.5
SOMAC	**Volcano de Col**	**9.51**	**291**	*e*P	Pn	23 00 55.8	+5.0
CEGR	**Campo Tres**	**9.67**	**290**	*e*P	Pn	23 00 58.4	+5.6

2019 AUG

IDC ***26*** *23:11:13.3±0.6, 49°.18S×8°.16W, h0km, mb4.2/9, mbtmp4.2/9, MS3.7/17, Error ellipse: s-maj=29.7km s-min=17.8km az=86.0*
NEIC ***26*** *23:11:15.2±0.9, 49°.2S±0°.1×8°.34W±0°.09, h10km±1km, mb4.9/28, Error ellipse: s-maj=22.7km s-min=4.4km az=156.0*

ISC 26 23:11:14.8±0.5, 49°.21S±0°.09×8°.3W±0°.1, h10km, n70, σ0§73/52, mb4.7/23, MS3.7/17, 1C-5D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**21.51**	**180**	⇓P	**P**	**23 16 04.5**	**+1.2**
	comp=Z,14nm,0.9s						
VNA2	**Neumayer--Watz**	**21.79**	**179**	⇓P	**P**	**23 16 06.6**	**+0.2**
	comp=Z,5.5nm,0.8s,baz=358,slow=12						
VNA3	**Neumayer Olymp**	**22.11**	**181**	⇓P	**P**	**23 16 09.8**	**-0.1**
	comp=Z,9.9nm,1.0s						
SNAA	**Sanae**	**22.68**	**176**	⇓P	**P**	**23 16 15.9**	**-0.1**
	comp=Z,105nm,0.9s						
SNAA	**Sanae**	**22.68**	**176**	P	**P**	**23 16 15.6**	**-0.4**
SNAA	**Sanae**	**22.68**	**176**	P	**P**	**23 16 15.4**	**-0.6**
	comp=Z,8.7nm,1.1s,baz=352,slow=12,SNR=15						
SNAA				S	S	23 20 11.9	-12
	comp=Z,1.0nm,0.9s,baz=226,slow=17,SNR=2.1						
	comp=Z,8.7nm,1.1s						
TROLL	**Troll, Antarti**	**23.41**	**172**	⇓P	**P**	**23 16 24.3**	**+0.7**
	comp=Z,127nm,1.0s						
ESPZ	**Base Esperanza**	**29.65**	**223**	P	**P**	**23 17 20.0**	**0.0**
SYO	**Syowa Base**	**30.39**	**148**	⇑*e*P	**P**	**23 17 24.8**	**-1.7**
PMSA	**Palmer Station**	**32.82**	**221**	LR	LR	23 28 44.1	
	comp=Z,134nm,19.0s,baz=102,slow=32						
BOSA	**Boshof**	**32.85**	**64**	P	**P**	**23 17 47.6**	**-1.1**
	comp=Z,2.6nm,0.9s,baz=205,slow=13,SNR=3.4						
BOSA				LR	LR	23 28 21.6	
	comp=Z,167nm,20.2s,baz=199,slow=31						
	comp=Z,2.6nm,0.9s						
KOOLE	**Kule**	**34.49**	**51**	P	**P**	**23 18 03.0**	**-0.1**
KOOLE				IAmb	IAmb	23 18 03.9	
	comp=Z,9.8nm,0.8s						
KGCAE	**Kacgae**	**35.65**	**54**	P	**P**	**23 18 12.8**	**-0.2**
KGCAE				IAmb	IAmb	23 18 14.2	
	comp=Z,30nm,0.9s						
LBTB	**Lobatse**	**35.79**	**60**	LR	LR	23 30 44.2	
	comp=Z,103nm,18.3s,baz=172,slow=33						
GRTLG	**Ghanzi**	**36.37**	**51**	P	**P**	**23 18 18.8**	**-0.3**
TSUM	**Tsumeb**	**36.46**	**44**	P	**P**	**23 18 20.3**	**+0.3**
TSUM				IAmb	IAmb	23 18 21.4	
	comp=Z,27nm,1.8s						
TSUM	**Tsumeb**	**36.46**	**44**	LR	LR	23 30 22.9	
	comp=Z,104nm,20.4s,baz=258,slow=32						
MAW	**Mawson**	**38.89**	**145**	P	**P**	**23 18 40.1**	**+0.2**
	comp=Z,6.2nm,0.9s,baz=263,slow=7.0,SNR=8.6						
MAW				LR	LR	23 32 46.9	
	comp=Z,60nm,19.2s,baz=1.5,slow=33						
	comp=Z,6.2nm,0.9s						
PHDHD	**Phuduhudu**	**39.06**	**54**	P	**P**	**23 18 41.9**	**-0.1**
PHDHD				IAmb	IAmb	23 18 42.9	
	comp=Z,15nm,0.8s						
H04S2	**CROZET ISLANDS**	**39.41**	**110**	T	T	00 01 05.2	
	baz=245,slow=75,SNR=19						
H04S3	**CROZET ISLANDS**	**39.41**	**110**	T	T	00 01 07.1	
	baz=245,slow=75,SNR=19						
H04S1	**CROZET ISLANDS**	**39.43**	**110**	T	T	00 01 06.4	
	baz=245,slow=75,SNR=17						
CRZF	**Crozet Islands**	**39.58**	**110**	P	**P**	**23 18 46.3**	**+0.4**
MATP	**Matopo**	**41.04**	**59**	LR	LR	23 33 49.4	
	comp=Z,115nm,19.3s,baz=218,slow=33						
QSPA	**South Pole Qui**	**41.05**	**180**	P	**P**	**23 18 58.4**	**+0.4**
QSPA	**South Pole Qui**	**41.05**	**180**	P	**P**	**23 18 59.0**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=236,slow=0.9,SNR=24						
QSPA				LR	LR	23 34 11.6	
	comp=Z,45nm,21.9s,baz=271,slow=34						
	comp=Z,3.0nm,0.7s						
KSANE	**Kasane**	**41.37**	**53**	P	**P**	**23 19 00.1**	**-0.9**
PLCA	**Paso Flores**	**43.70**	**257**	LR	LR	23 34 13.9	
	comp=Z,112nm,20.1s,baz=156,slow=32						
CPUP	**Villa Florida**	**44.02**	**283**	LR	LR	23 34 41.1	
	comp=Z,22nm,18.8s,baz=354,slow=32						
LSZ	**Lusaka**	**45.06**	**54**	P	**P**	**23 19 31.3**	**+0.4**
LSZ	**Lusaka**	**45.06**	**54**	LR	LR	23 37 14.7	
	comp=Z,110nm,18.0s,baz=154,slow=35						
BDFB	**Brasilia**	**46.49**	**302**	P	**P**	**23 19 42.7**	**+0.5**
BDFB	**Brasilia**	**46.49**	**302**	LR	LR	23 35 36.3	
	comp=Z,80nm,18.2s,baz=119,slow=31						
BO02	**Sierra Bellavi**	**47.28**	**263**	P	**P**	**23 19 48.4**	**+0.1**
LMEL	**Las Melosas**	**47.48**	**265**	P	**P**	**23 19 50.1**	**+0.2**
LMEL				IAmb	IAmb	23 21 37.0	
	comp=Z,18nm,1.4s						
MT08	**Bocatoma Ro**	**47.61**	**265**	P	**P**	**23 19 51.6**	**+0.6**
MT08				IAmb	IAmb	23 19 53.5	
	comp=Z,15nm,1.2s						
BO01	**Tunca**	**47.73**	**264**	P	**P**	**23 19 52.0**	**+0.4**
BO01				IAmb	IAmb	23 19 53.2	
	comp=Z,13nm,1.1s						
MT03	**Universidad Ad**	**47.91**	**265**	P	**P**	**23 19 53.0**	**-0.2**
MT16	**CCHEN**	**47.95**	**265**	P	**P**	**23 19 53.6**	**+0.1**
MT09	**Talagante**	**48.04**	**264**	P	**P**	**23 19 53.4**	**-0.9**
MT09				IAmb	IAmb	23 19 55.7	
	comp=Z,15nm,0.8s						
VA03	**San Esteban**	**48.39**	**266**	P	**P**	**23 19 55.9**	**-1.0**
VA03				IAmb	IAmb	23 20 26.6	
	comp=Z,12nm,0.9s						
CO03	**El Pedregal**	**49.71**	**267**	P	**P**	**23 20 07.1**	**+0.1**
CO01	**Juntas del Tor**	**49.88**	**269**	P	**P**	**23 20 08.1**	**-0.4**
CO01				IAmb	IAmb	23 20 11.0	
	comp=Z,15nm,1.2s						
AC06	**Mina Casimiro**	**51.78**	**271**	P	**P**	**23 20 20.1**	**-2.5**
VNDA	**Vanda**	**53.40**	**177**	P	**P**	**23 20 34.5**	**+0.6**
VNDA				IAmb	IAmb	23 20 36.2	
	comp=Z,19nm,1.9s						
VNDA	**Vanda**	**53.40**	**177**	P	**P**	**23 20 34.1**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=210,slow=8.3,SNR=4.2						
	comp=Z,1.6nm,1.0s						
SIV	**San Ignacio**	**53.95**	**289**	LR	LR	23 41 10.0	
	comp=Z,124nm,18.9s,baz=194,slow=33						
GO01	**Chusmiza**	**56.40**	**279**	P	**P**	**23 20 56.3**	**-0.7**
GO01				IAmb	IAmb	23 20 58.6	
	comp=Z,16nm,1.2s						
LPAZ	**La Paz**	**58.19**	**282**	P	**P**	**23 21 10.7**	**+1.0**
	comp=Z,1.7nm,1.0s,baz=180,slow=4.7,SNR=5.2						
LPAZ				LR	LR	23 43 40.0	
	comp=Z,62nm,21.7s,baz=102,slow=33						
	comp=Z,1.7nm,1.0s						
TORD	**Toodi Ar. Bea**	**62.71**	**11**	P	**P**	**23 21 39.7**	**0.0**
	comp=Z,1.4nm,1.0s,baz=204,slow=7.0,SNR=5.3						
	comp=Z,1.4nm,1.0s						
MDP	**Montagnes des**	**66.38**	**311**	LR	LR	23 47 32.2	
	comp=Z,64nm,19.8s,baz=107,slow=33						
PCRV	**Puerto La Cruz**	**76.96**	**303**	LR	LR	23 54 20.1	
	comp=Z,108nm,18.7s,slow=34						
ROSC	**El Rosal**	**78.31**	**292**	LR	LR	23 57 06.6	
	comp=Z,116nm,19.1s,baz=211,slow=35						
RUSC	**La Rusia**	**78.39**	**293**	P	**P**	**23 23 15.1**	**-1.1**
RUSC				IAmb	IAmb	23 23 16.6	
	comp=Z,12nm,1.2s						
H01W2	**Cape Leeuwin H**	**81.91**	**136**	T	T	00 54 42.9	
	baz=216,slow=75,SNR=53						
H01W1	**Cape Leeuwin H**	**81.93**	**136**	T	T	00 54 42.2	
	baz=216,slow=75,SNR=54						
H01W3	**Cape Leeuwin H**	**81.93**	**136**	T	T	00 54 42.2	
	baz=216,slow=75,SNR=53						
KEST	**Kesra**	**86.02**	**14**	P	**P**	**23 23 55.4**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=122,slow=5.0,SNR=3.7						
	comp=Z,4.4nm,0.9s						
RAYN	**Ar Rayn**	**86.81**	**48**		**P**	**23 24 00.6**	**+1.4**
ESDC	**Sonseca Array**	**88.59**	**3**	P	**P**	**23 24 07.9**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=176,slow=3.1,SNR=6.3						
	comp=Z,1.2nm,1.0s						
JTS	**Las Juntas de**	**89.13**	**287**	LR	LR	00 01 43.4	
	comp=Z,28nm,21.5s,baz=99,slow=34						
BVAR	**Borovoye Array**	**121.61**	**44**	PKP	**PKPdf**	**23 30 07.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=219,slow=1.9,SNR=5.8						
KURBB	**Kurchatov Arra**	**123.99**	**50**	PKP	**PKPdf**	**23 30 11.7**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=224,slow=2.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**129.06**	**49**	PKP	**PKPdf**	**23 30 21.4**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=169,slow=3.0,SNR=3.9						
NVAR	**Mina Array Bea**	**130.04**	**285**	PKP	**PKiKP**	**23 30 25.2**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=118,slow=2.8,SNR=4.9						
SONM	**Songino Array**	**137.96**	**66**	PKP	**PKPdf**	**23 30 38.6**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=225,slow=1.3,SNR=4.0						
YKA	**Yellowknife Ar**	**138.94**	**317**	PKP	**PKPdf**	**23 30 40.2**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=119,slow=2.5,SNR=3.6						
KSRS	**Korea Array**	**146.52**	**94**	PKPbc	**PKPbc**	**23 30 55.0**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=243,slow=4.1,SNR=4.9						
MJAR	**Matsushiro Arr**	**152.64**	**105**	PKPbc	**PKPbc**	**23 31 10.7**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=259,slow=2.6,SNR=5.4						
ILAR	**Eielson Array**	**153.23**	**321**	PKP	**PKPdf**	**23 31 03.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=90,slow=0.9,SNR=6.0						
ILAR				PKPbc	**PKPbc**	**23 31 10.8**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=65,slow=0.5,SNR=9.5						

HEL ***26*** *23:23:39.6±0.3, 67°.78N×20°.27E, h0km, ML1.7, Suspected explosion*

UPP 26 23:23:39.8±0.3, 67°.82N×20°.21E, h0km, ML1.8, Unknown Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**19**	P	Pg	23 23 42.9	+0.2
KUA				S	Sg	23 23 45.1	+0.5
KUA	**Kurravaara**	**0.15**	**19**	P	Pg	23 23 43.0	+0.4
KUA				S	Sg	23 23 45.2	+0.6
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	23 23 44.5	+0.2
RATU				S	Sg	23 23 48.0	+0.6
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	23 23 44.6	+0.4
RATU				S	Sg	23 23 48.2	+0.9
KOVU	**Salmi**	**0.41**	**357**	P	Pg	23 23 47.7	0.0
KOVU				S	Sg	23 23 53.4	+0.5
KOVU	**Salmi**	**0.41**	**357**	P	Pg	23 23 47.8	+0.2
KOVU				S	Sg	23 23 53.7	+0.8
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	23 23 48.4	+0.1
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	23 23 48.7	+0.3
NIKU				S	Sg	23 23 55.0	+0.8
DUNU	**Dundret**	**0.71**	**169**	P	Pg	23 23 53.4	0.0
DUNU				S	Sg	23 24 03.3	+0.8
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	23 23 53.5	0.0
LANU				S	Sg	23 24 03.1	+0.4
LANU	**Lannavaara**	**0.71**	**70**	PB	Pg	23 23 53.5	0.0
LANU				SG	Sg	23 23 58.6	-4.1
MASU	**Masugnsbyn**	**0.77**	**117**	P	Pg	23 23 54.7	+0.1
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	23 23 55.0	+0.1
SALU	**Saltoluokta**	**0.79**	**237**	*e*P	Pg	23 23 54.9	+0.1
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P	Pb	23 24 03.5	-0.1
KIF	**Kilpisjarvi**	**1.22**	**10**	PG	Pg	23 24 03.2	+0.1
KIF				MSG		23 24 18.2	
	comp=Z,14nm,0.2s						
KIF				SG	Sg	23 24 19.2	+0.4
PAJU	**Pajala**	**1.37**	**124**	P	Pg	23 24 05.2	-0.9
PAJU	**Pajala** baz=302	**1.37**	**124**	PN	Pg	23 24 05.0	-1.0
PAJU				SN	Sg	23 24 23.5	-0.3
HEF	**Hetta**	**1.42**	**64**	PN	Pn	23 24 05.9	-1.0
HEF				MSG		23 24 22.4	
	comp=Z,5.5nm,0.2s						
HEF				SN	Sg	23 24 24.7	-0.8
ERTU	**Ertsjaerv**	**1.48**	**148**	P	Pn	23 24 07.1	-0.6
ERTU	**Ertsjaerv**	**1.48**	**148**	PN	Pn	23 24 06.9	-0.8
ERTU				SN	Sg	23 24 27.3	0.0
KTK1	**Kautokeino**	**1.64**	**42**	PN	Pn	23 24 10.0	+0.1
KTK1				SN	Sg	23 24 33.7	+1.2
TRO	**Tromso**	**1.89**	**346**	PG	Pn	23 24 13.5	+0.3
TRO				SG	Sb

SMLA IAML 23 33 49.0
comp=N,31nm,0.8s
MKAR Makanchi Array 11.87 35 P Pn 23 33 22.5 +1.3
comp=N,0.3nm,0.5s,baz=230,slow=13,SNR=3.0
WMQ Urumqi 13.26 57 *eP* **Pn 23 33 40.8 +2.0**
WMQ pmax pmax
comp=Z,40nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.7s
WMQ LR LR
comp=Z,280nm,14.5s
KURBB **Kurchatov Arra 13.86 17** P **P 23 33 49.1 +1.0**
comp=Z,1.2nm,0.5s,baz=201,slow=11,SNR=18
KURK Kurchatov 13.97 17 P Pn 23 33 48.4 +1.0
AB31 Akbulak array 14.79 327 Pn 23 33 57.0 -0.6
AB31 Akbulak array 14.79 327 P P 23 33 58.1 -0.3
comp=Z,0.6nm,0.5s,baz=131,slow=12,SNR=16
ABKAR **Akbulak array 14.79 327 P Pn 23 33 57.2 -0.4**
BVAR Borovoye Array 15.60 356 P P 23 34 08.2 +0.9
comp=Z,0.5nm,0.4s,baz=166,slow=9.9,SNR=5.6
AKTO Aktyubinsk 16.51 326 ||P **Pn 23 34 19.0 +0.7**
comp=Z,1.5nm,0.8s
ZAA0 Zalesovo Array 18.58 24 P P 23 34 40.0 +0.1
ZAA0 IAmb IAmb 23 34 41.9
comp=Z,5.4nm,0.7s
ZALV Zalesovo Beam 18.58 24 P P 23 34 40.3 +0.4
ZALV Zalesovo Beam 18.58 24 P P 23 34 41.2 +1.3
comp=Z,6.5nm,0.6s,baz=222,slow=10,SNR=28
KIV Kislovodsk 23.30 295 P P 23 35 25.0 -3.1
KIV IAmb IAmb 23 35 34.5
comp=Z,15nm,1.1s
KOPT Kop Dagi 24.89 286 P P 23 35 41.9 -0.9
KOPT IAmb IAmb 23 35 43.8
comp=Z,3.4nm,0.7s
TORD Torodi Ar. Bea 66.81 269 P P 23 41 08.3 -0.2
comp=Z,0.5nm,0.4s,baz=45,slow=6.2,SNR=18
comp=Z,0.5nm,0.4s

IDC ***27*** *00:00:05.1±1.9,28.˚77N×141.˚56E,h0km,mb3.8/7, mbtmp3.8/7,Error ellipse: s-maj=92.7km s-min=28.8km az=80.0*
JMA ***27*** *00:00:48.0±0.2,28˚N±2˚×14˚1E±˚,h405km,MV4.4/23,W OFF OGASAWARA*
ISC 27 00:00:49.1±0.8,28.4N±0.1×140.6E±0.2,h400km,n15, σ0s84/17,mb3.3/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.89**	**131**	P		**Pn**	**00 01 44.0**	**-0.4**
CBIJ					*e*S	**S**	**00 02 28.1**	**-1.0**
JHH2	**Haha-jima-NKT2**	**2.22**	**140**	P		**Pn**	**00 01 46.3**	**-0.3**
JHH2					*e*S	**S**	**00 02 32.0**	**-0.9**
JHJ2	**Mitsune**	**4.79**	**352**	*eP*		**Pn**	**00 02 09.1**	**+0.2**
BSO1	**Boso 1**	**6.29**	**3**	*eP*		**Pn**	**00 02 25.5**	**+1.3**
BSO3	**Boso 3**	**6.43**	**359**	*eP*		**Pn**	**00 02 26.9**	**+0.8**
JOD2	**Odawara 2**	**7.01**	**350**	*eP*		**P**	**00 02 33.3**	**0.0**
JRY	**Ryogami san**	**7.77**	**350**	*eP*		**P**	**00 02 41.9**	**0.0**
JAG	**Ashikaga**	**8.11**	**353**	*eP*		**Pn**	**00 02 43.4**	**-1.8**
WRA	**Warramunga Arr**	**48.39**	**188**	P		**P**	**00 08 53.1**	**+0.3**
	0.4nm,0.3s,baz=5.6,slow=7.7,SNR=6.5 0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**51.16**	**314**	P		**P**	**00 09 12.2**	**-0.8**
	0.5nm,0.4s,baz=91,slow=6.7,SNR=10 0.5nm,0.4s							
BVAR	**Borovoye Array**	**56.16**	**317**	P		**P**	**00 09 48.6**	**-0.2**
	0.9nm,0.6s,baz=77,slow=6.7,SNR=5.3 0.9nm,0.6s							
ARCES	**ARCESS Array B**	**71.89**	**340**	P		**P**	**00 11 30.2**	**+0.6**
	1.4nm,0.9s,baz=62,slow=5.6,SNR=4.2 1.4nm,0.9s							
FINES	**FINESS Array B**	**76.20**	**333**	P		**P**	**00 11 54.9**	**+0.6**
	0.4nm,0.3s,baz=68,slow=5.0,SNR=14 0.4nm,0.3s							
HFS	**Hagfors**	**81.71**	**336**	P		**P**	**00 12 24.0**	**+0.1**
	0.4nm,0.4s,baz=36,slow=5.4,SNR=6.1 0.4nm,0.4s							
NOA	**NORSAR Array B**	**81.92**	**338**	P		**P**	**00 12 25.9**	**+0.9**
	0.4nm,0.9s,baz=31,slow=4.7,SNR=2.0 0.4nm,0.9s							

IDC ***27*** *00:08:29.6±0.5,8.˚43S×74.˚95W,h127km±4km,mb4.0/23, mbtmp4.4/29,Error ellipse: s-maj=10.4km s-min=8.2km az=59.0*
NEIC ***27*** *00:08:30.0±1.1,8.˚50S±0.˚07×74.˚95W±0.˚07,h134km±7km, mb4.7/263,Error ellipse: s-maj=11.9km s-min=8.9km az=134.0*
VAO ***27*** *00:08:31.8±0.6,8.˚45S×74.˚60W,h119km±4km,mb4.7*
OSUNB ***27*** *00:08:32.8±0.6,8.˚40S×74.˚58W,h125km±4km,mb4.8/33, Error ellipse: s-maj=3.6km s-min=4.8km az=0.0*
ISC 27 00:08:29.2±0.4,8.44S±0.04×74.94W±0.04,h126km±3km, h127km:pP-P,n573,σ0s81/589,mb4.7/143,3C-9D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.32**	**72**			**Pn**	**00 09 08.9**	**+1.9**
CZSB					Sn	**Sn**	**00 09 37.6**	**+1.6**
CZSB	**Cruzeiro do Su**	**2.32**	**72**	P		**Pn**	**00 09 08.9**	**+1.9**
CZSB	**Cruzeiro do Su**	**2.32**	**72**	*eP*		**Pn**	**00 09 05.3**	**-1.7**
ATAH	**Atahualpa**	**3.66**	**291**	P		**Pn**	**00 09 25.2**	**+0.4**
	294nm,0.3s,baz=98,slow=4.3,SNR=686							
ATAH				S		**Sn**	**00 10 09.3**	**+1.6**
	344nm,0.4s,baz=334,slow=23,SNR=4.3							
NNA	**Nana**	**3.99**	**208**			**Pn**	**00 09 29.2**	**+0.5**
NNA					Sn	**Sn**	**00 10 13.3**	**-1.7**
NNA	**Nana**	**3.99**	**208**	P		**Pn**	**00 09 29.3**	**+0.5**
	90nm,0.3s,baz=38,slow=6.9,SNR=32							
NNA				S		**Sn**	**00 10 13.9**	**-1.1**
	498nm,0.3s,baz=180,slow=21,SNR=11							
TBTG	**Tabatinga, AM**	**6.54**	**50**			**Pn**	**00 10 03.7**	**+0.6**
TBTG	**Tabatinga, AM**	**6.54**	**50**	P		**Pn**	**00 10 03.4**	**+0.3**
TBTG				S		**Sn**	**00 11 13.6**	**-2.8**
TBTG	**Tabatinga, AM**	**6.54**	**50**	*eP*		**Pn**	**00 10 03.4**	**+0.3**
LABB	**Lıbrea**	**9.19**	**96**	P		**Pn**	**00 10 37.2**	**-1.6**
LABB				S		Sn	00 12 16.2	-4.4
OTAV	**Otavalo**	**9.30**	**338**			**Pn**	**00 10 42.5**	**+1.8**
OTAV	**Otavalo**	**9.30**	**338**	P		Pn	00 10 44.6	+3.9
OTAV	**Otavalo**	**9.30**	**338**	*eP*		Pn	00 10 45.3	+4.6
FLOC	**Florencia**	**9.98**	**356**			**Pn**	**00 10 48.4**	**-1.0**
LPAZ	**La Paz**	**10.25**	**140**			**Pn**	**00 10 52.0**	**-1.5**
LPAZ	**La Paz**	**10.25**	**140**	P		**Pn**	**00 10 54.3**	**+0.8**
	7.0nm,0.5s,baz=320,slow=9.6,SNR=39							
LPAZ	**La Paz**	**10.25**	**140**	P		**Pn**	**00 10 53.3**	**-0.2**
LPAZ	**La Paz**	**10.25**	**140**	*eP*		**Pn**	**00 10 53.1**	**-0.4**
PB18	**Visviri**	**10.53**	**150**			**Pn**	**00 10 56.6**	**-0.6**
TEFE	**Tefe**	**11.36**	**65**	P		**Pn**	**00 11 05.7**	**-2.1**
TEFE	**Tefe**	**11.36**	**65**	*eP*		**Pn**	**00 11 05.7**	**-2.1**
SGC2	**Sao Gabriel da**	**11.43**	**44**	P		**Pn**	**00 11 05.9**	**-2.9**
ROSC	**El Rosal**	**13.21**	**3**	P		**Pn**	**00 11 32.9**	**+0.5**
	7.5nm,0.5s,baz=82,slow=20,SNR=1.9							
RUSC	**La Rusia**	**14.36**	**7**			**Pn**	**00 11 47.4**	**+0.3**
VILB	**Vilhena**	**15.16**	**108**			**Pn**	**00 11 56.0**	**-0.8**
VILB					IAmb	IAmb	00 12 04.3	
	comp=Z,36nm,0.7s							
VILB	**Vilhena**	**15.16**	**108**	P		**Pn**	**00 11 56.4**	**-0.4**
VILB	**Vilhena**	**15.16**	**108**	*eP*		**Pn**	**00 11 56.2**	**-0.6**
SIV	**San Ignacio**	**15.48**	**120**	P		**Pn**	**00 12 00.5**	**-0.4**
	comp=Z,27nm,0.6s,baz=296,slow=11,SNR=109							
BBSD	**Serra de San D**	**16.45**	**123**	*eP*		**Pn**	**00 12 12.9**	**+0.2**
PTLB	**Pontes e Lacer**	**16.95**	**116**			**P**	**00 12 18.1**	**-0.6**
PTLB					IAmb	IAmb	00 12 21.8	
	comp=Z,27nm,0.7s							
PTLB	**Pontes e Lacer**	**16.95**	**116**	P		**P**	**00 12 17.6**	**-1.0**
PTLB	**Pontes e Lacer**	**16.95**	**116**	*eP*		**P**	**00 12 17.4**	**-1.3**
SDV	**Santo Domingo**	**17.74**	**14**	P		**P**	**00 12 27.6**	**0.0**
SDV	**Santo Domingo**	**17.74**	**14**	P		**P**	**00 12 27.3**	**-0.2**
	comp=Z,13nm,0.5s,baz=175,slow=5.0,SNR=5.1							
SDV	**Santo Domingo**	**17.74**	**14**	P		**Pn**	**00 12 30.3**	**+1.8**
SDV	**Santo Domingo**	**17.74**	**14**	*eP*		**Pn**	**00 12 30.4**	**+1.8**
BOAV	**Boa Vista**	**17.96**	**54**	P		**P**	**00 12 29.9**	**+0.1**
BOAV					IAmb	IAmb	00 12 33.5	
	comp=Z,28nm,1.0s							
BOAV	**Boa Vista**	**17.96**	**54**	P		**P**	**00 12 30.7**	**+0.9**
BOAV	**Boa Vista**	**17.96**	**54**	*eP*		**P**	**00 12 31.4**	**+1.6**
PDRB	**Porto dos Gac**	**18.20**	**101**	P		**P**	**00 12 32.4**	**-0.1**
PDRB	**Porto dos Gac**	**18.20**	**101**	*eP*		**P**	**00 12 32.4**	**-0.1**
BAUV	**El Baul**	**18.59**	**22**	P		**P**	**00 12 37.2**	**+0.6**
CLDB	**Colider**	**19.02**	**99**	P		**P**	**00 12 41.1**	**-0.3**
CLDB	**Colider**	**19.02**	**99**	*eP*		**P**	**00 12 41.2**	**-0.3**
NPGB	**Novo Progresso**	**19.45**	**87**	P		**P**	**00 12 45.5**	**-0.7**
NPGB	**Novo Progresso**	**19.45**	**87**	*eP*		**P**	**00 12 45.7**	**-0.5**
ITTB	**Itaituba**	**19.50**	**79**	P		**P**	**00 12 46.5**	**-0.2**
ITTB	**Itaituba**	**19.50**	**79**	*eP*		**P**	**00 12 46.8**	**+0.1**
MAS01	**UHE Manso**	**19.78**	**111**	P		**P**	**00 12 49.8**	**+0.1**
LCR2	**La Lucha 2**	**20.19**	**333**	P		**P**	**00 12 54.2**	**-0.1**
LCR2					IAmb	IAmb	00 12 57.2	
	comp=Z,18nm,0.9s							
SALV	**Santo Antonio**	**20.21**	**113**	P		**P**	**00 12 54.9**	**+0.7**
SALV	**Santo Antonio**	**20.21**	**113**	*eP*		**P**	**00 12 55.0**	**+0.7**
SOCE	**Pocosol**	**21.04**	**333**	P		**P**	**00 13 03.4**	**+0.3**
SOCE					IAmb	IAmb	00 13 09.3	
	comp=Z,57nm,1.4s							
JTS	**Las Juntas de**	**21.11**	**332**	P		**P**	**00 13 04.2**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=225,slow=9.1,SNR=3.6 comp=Z,2.1nm,0.5s							
PCRV	**Puerto La Cruz**	**21.15**	**29**	P		**P**	**00 13 05.2**	**+0.9**
	comp=Z,12nm,0.6s,baz=163,slow=3.0,SNR=7.2 comp=Z,12nm,0.6s							
BDQN	**Bodoquena, MS**	**21.25**	**126**	*eP*		**P**	**00 13 04.2**	**-1.2**
MAL2	**Monte Alegre,**	**21.62**	**74**	P		**P**	**00 13 09.2**	**-0.3**
MAL2					IAmb	IAmb	00 13 41.5	
	comp=Z,22nm,0.6s							
MAL2	**Monte Alegre,**	**21.62**	**74**	P		**P**	**00 13 09.0**	**-0.5**
AQDB	**Aquidauana**	**22.11**	**125**	P		**P**	**00 13 13.6**	**-0.9**
AQDB	**Aquidauana**	**22.11**	**125**	P		**P**	**00 13 12.8**	**-1.7**
AQDB	**Aquidauana**	**22.11**	**125**	*eP*		**P**	**00 13 13.4**	**-1.0**
ATM1	**UHE Belo Monte**	**23.16**	**79**	P		**P**	**00 13 24.5**	**-0.3**
BMO2	**UHE Belo Monte**	**23.38**	**79**	P		**P**	**00 13 26.4**	**-0.4**
SNDB	**Serra Nova Dou**	**23.53**	**101**	P		**P**	**00 13 27.4**	**-0.7**
SNDB	**Serra Nova Dou**	**23.53**	**101**	*eP*		**P**	**00 13 27.7**	**-0.4**
ARAG	**Araguaiana, MT**	**23.72**	**110**	*eP*		**P**	**00 13 29.7**	**-0.2**
RPRD	**Ribas do Rio P**	**23.76**	**123**	*eP*		**P**	**00 13 30.6**	**+0.4**
C2SB	**Chapadao do Su**	**23.78**	**118**	P		**P**	**00 13 32.0**	**+1.6**
C2SB	**Chapadao do Su**	**23.78**	**118**	*eP*		**P**	**00 13 32.1**	**+1.8**
AMBA	**Amambai (Brazi**	**23.96**	**129**	*eP*		**P**	**00 13 31.1**	**-0.9**
SJPY	**San Joaquin**	**24.37**	**135**	*eP*		**P**	**00 13 34.6**	**-1.0**
CPUP	**Villa Florida**	**24.42**	**139**	P		**P**	**00 13 37.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=189,slow=8.9,SNR=5.3 comp=Z,0.8nm,0.6s							
CPUP	**Villa Florida**	**24.42**	**139**	*eP*		**P**	**00 13 37.2**	**+1.2**
PRPB	**Parauapebas**	**25.02**	**87**	P		**P**	**00 13 41.9**	**+0.2**
PRPB	**Parauapebas**	**25.02**	**87**	*eP*		**P**	**00 13 42.4**	**+0.7**
TRCB	**Terra Rica**	**25.73**	**126**	*eP*		**P**	**00 13 47.7**	**-0.4**
ITRB	**Iturama**	**26.30**	**118**	P		**P**	**00 13 55.2**	**+2.0**
ITRB	**Iturama**	**26.30**	**118**	*eP*		**P**	**00 13 54.9**	**+1.7**
LAJE	**UHE Lajeado**	**26.32**	**95**	P		**P**	**00 13 54.1**	**+0.6**
MTO3	**Montecristo**	**26.83**	**328**	P		**P**	**00 13 58.0**	**-0.2**
SMTB	**Santa Maria do**	**27.04**	**93**	P		**P**	**00 14 01.0**	**+1.1**
SMTB	**Santa Maria do**	**27.04**	**93**	*eP*		**P**	**00 14 00.2**	**+0.2**
ITU3	**Corumbazu**	**27.13**	**114**	P		**P**	**00 14 02.0**	**+1.3**
PTGB	**Pitanga**	**27.18**	**129**	P		**P**	**00 14 00.2**	**-0.9**
PTGB	**Pitanga**	**27.18**	**129**	*eP*		**P**	**00 14 00.4**	**-0.6**
PAL01	**Palmeiras do T**	**27.20**	**88**	P		**P**	**00 14 03.0**	**+1.6**
LDASE	**Londrina, Braz**	**27.24**	**126**	*eP*		**P**	**00 14 00.8**	**-0.9**
BDFB	**Brasilia**	**27.27**	**108**	P		**P**	**00 14 02.2**	**+0.2**
BDFB	**Brasilia**	**27.27**	**108**	P		**P**	**00 14 03.0**	**+1.0**
	comp=Z,22nm,0.5s,baz=276,slow=10,SNR=44 comp=Z,22nm,0.5s							
TMAB	**Tom-Au,PA,Br**	**27.38**	**79**	*eP*		**P**	**00 14 04.1**	**+1.2**
PAL2	**UHE Estreito -**	**27.42**	**88**	P		**P**	**00 14 04.4**	**+1.1**
IPMB	**Ipameri, GO**	**27.66**	**113**	P		**P**	**00 14 05.2**	**-0.2**
IPMB	**Ipameri, GO**	**27.66**	**113**	*eP*		**P**	**00 14 06.9**	**+1.5**
BAT2	**UHE Batalha**	**28.17**	**111**	P		**P**	**00 14 10.0**	**0.0**
BB19B	**Bebedouro**	**28.40**	**119**	*eP*		**P**	**00 14 12.8**	**+0.8**
FRTB	**Fartura**	**28.48**	**124**	*eP*		**P**	**00 14 14.0**	**+1.3**
ITAB	**Concordia**	**28.55**	**134**	*eP*		**P**	**00 14 13.0**	**-0.2**
PMNB	**Pains De Minas**	**29.43**	**113**	*eP*		**P**	**00 14 21.7**	**+0.5**
SDBA	**SAO DESIDERIO**	**29.79**	**100**	P		**P**	**00 14 25.5**	**+1.1**
SDBA	**SAO DESIDERIO**	**29.79**	**100**	*eP*		**P**	**00 14 24.7**	**+0.3**
SPB	**Sao Paulo**	**30.34**	**123**	*eP*		**P**	**00 14 29.8**	**+0.8**
VAO	**Valinhos**	**30.49**	**122**	*eP*		**P**	**00 14 32.2**	**+1.8**
PLTB	**Pedras Altas**	**30.53**	**142**	*eP*		**P**	**00 14 31.3**	**+0.6**
JANB	**Januaria**	**30.67**	**105**	P		**P**	**00 14 34.1**	**+1.9**
JANB	**Januaria**	**30.67**	**105**	*eP*		**P**	**00 14 32.1**	**0.0**
JQT1	**Jequitai-MG**	**31.03**	**109**	P		**P**	**00 14 36.5**	**+1.2**
BSCB	**Bom Sucesso**	**31.66**	**117**	P		**P**	**00 14 43.8**	**+3.0**
BSCB	**Bom Sucesso**	**31.66**	**117**	*eP*		**P**	**00 14 41.5**	**+0.7**
TRQA	**Tornquist**	**31.72**	**160**	*eP*		**P**	**00 14 43.9**	**+2.9**
DIAM	**Diamantina, MG**	**31.91**	**111**	P		**P**	**00 14 44.8**	**+1.7**
DIAM	**Diamantina, MG**	**31.91**	**111**	*eP*		**P**	**00 14 43.6**	**+0.5**
MAN01	**Angra dos Reis**	**33.00**	**119**	*eP*		**P**	**00 14 53.7**	**+1.3**
SJMB	**Sao Joao De Ma**	**34.30**	**111**	P		**P**	**00 15 05.8**	**+2.1**
SJMB	**Sao Joao De Ma**	**34.30**	**111**	*eP*		**P**	**00 15 04.2**	**+0.5**
CAM01	**Campos-RJ**	**34.58**	**116**	*eP*		**P**	**00 15 07.6**	**+0.7**
RIB01	**Linhares ES**	**35.16**	**112**	P		**P**	**00 15 13.5**	**+2.4**
RIB01	**Linhares ES**	**35.16**	**112**	*eP*		**P**	**00 15 11.5**	**+0.3**
GUA01	**Guaratinga, BA**	**35.19**	**107**	P		**P**	**00 15 13.5**	**+2.0**
GUA01	**Guaratinga, BA**	**35.19**	**107**	*eP*		**P**	**00 15 12.0**	**+0.6**
NBPB	**Pedra_Branca-C**	**35.20**	**88**	*eP*		**P**	**00 15 11.6**	**+0.1**
CMC01	**Camacan, BA**	**35.30**	**105**	P		**P**	**00 15 14.9**	**+2.5**
CMC01	**Camacan, BA**	**35.30**	**105**	*eP*		**P**	**00 15 13.0**	**+0.7**
NBAN	**Anadia - AL**	**38.19**	**95**	P		**P**	**00 15 38.8**	**+1.9**
NBAN	**Anadia - AL**	**38.19**	**95**	*eP*		**P**	**00 15 37.1**	**+0.3**
RCBR	**Riachuelo**	**38.81**	**89**	*eP*		**P**	**00 15 42.8**	**+0.7**
154A	**Montrose**	**41.56**	**350**	P		**P**	**00 16 03.6**	**-0.8**
NHSC	**New Hope**	**41.62**	**353**	P		**P**	**00 16 05.1**	**+0.3**
V58A	**Windy Hill, Pi**	**44.17**	**355**	P		**P**	**00 16 24.2**	**-1.2**
V58A					IAmb	IAmb	00 16 26.4	
	comp=Z,12nm,0.8s							
HNDO	**Hondo**	**44.44**	**329**	P		**P**	**00 16 28.4**	**+0.8**
HNDO					IAmb	IAmb	00 16 29.7	
	comp=Z,23nm,0.9s							
V55A	**Taylorsville**	**44.45**	**353**	P		**P**	**00 16 29.3**	**+1.7**
V55A					IAmb	IAmb	00 16 31.6	
	comp=Z,26nm,1.5s							
237A	**Washetta, Mont**	**44.89**	**335**	P		**P**	**00 16 32.0**	**+0.9**
DRIO	**Del Rio**	**45.04**	**328**	P		**P**	**00 16 32.5**	**0.0**
DRIO					IAmb	IAmb	00 16 33.8	
	comp=Z,9.4nm,0.9s							
T59A	**Double "B" Far**	**45.24**	**357**	P		**P**	**00 16 34.2**	**+0.3**
T59A					IAmb	IAmb	00 16 35.1	
	comp=Z,30nm,1.1s							
V48A	**Smith Brothers**	**45.35**	**346**	P		**P**	**00 16 34.3**	**-0.5**
T57A	**Hurt**	**45.38**	**355**	P		**P**	**00 16 35.3**	**+0.3**
TREL	**Terrell**	**45.64**	**335**	P		**P**	**00 16 36.9**	**-0.2**
Z38A	**Mt. Pleasant**	**45.65**	**336**	P		**P**	**00 16 36.9**	**-0.2**
Z38A					IAmb	IAmb	00 16 38.9	
	comp=Z,20nm,0.8s							
BRDY	**Brady**	**45.73**	**331**	P		**P**	**00 16 37.9**	**0.0**
FW13	**Cleburne**	**45.89**	**333**	P		**P**	**00 16 39.0**	**-0.1**
FW13					IAmb	IAmb	00 16 40.7	
	comp=Z,16nm,0.7s							
UALR	**University of**	**46.03**	**340**	P		**P**	**00 16 39.3**	**-0.8**
UALR					IAmb	IAmb	00 16 40.3	
	comp=Z,14nm,0.8s							
S57A	**Dark Hollow, R**	**46.11**	**356**	P		**P**	**00 16 41.3**	**+0.6**
S57A					IAmb	IAmb	00 16 42.0	
	comp=Z,17nm,0.8s							
MIAR	**Mount Ida**	**46.25**	**339**	P		**P**	**00 16 41.5**	**-0.4**
SAND	**Sanderson**	**46.27**	**327**	P		**P**	**00 16 43.2**	**+1.0**
CBN	**Corbin Frederi**	**46.46**	**357**	P		**P**	**00 16 43.0**	**-0.4**
FW06	**Azle**	**46.48**	**334**	P		**P**	**00 16 44.0**	**+0.4**
FW06					IAmb	IAmb	00 16 45.5	
	comp=Z,17nm,0.8s							
WHAR	**Wooly Hollow**	**46.48**	**340**	P		**P**	**00 16 43.3**	**-0.3**
WHAR					IAmb	IAmb	00 16 43.8	
	comp=Z,8.7nm,0.8s							
OZNA	**Ozona**	**46.50**	**328**	P		**P**	**00 16 44.2**	**+0.2**
Z35A	**Perchaven, San**	**46.65**	**334**	P		**P**	**00 16 45.7**	**+0.7**
TXAR	**Lajitas Array**	**46.65**	**325**	P		**P**	**00 16 45.6**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=143,slow=7.0,SNR=45							
TXAR					pP	**pP**	**00 17 14.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=147,slow=9.1,SNR=2.3							
TXAR					sP	**sP**	**00 17 28.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=138,slow=7.2,SNR=3.7							
TXAR					PcP	**PcP**	**00 18 17.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=135,slow=3.7,SNR=5.1 comp=Z,2.0nm,0.6s							
TX31	**Lajitas Ar. Si**	**46.65**	**325**	P		**P**	**00 16 45.1**	**-0.1**
PLPT	**Palo Pinto**	**46.68**	**333**	P		**P**	**00 16 45.8**	**+0.5**
PLPT					IAmb	IAmb	00 16 46.4	
	comp=Z,11nm,0.6s							
LCAR	**Lake Charles**	**46.83**	**342**	P		**P**	**00 16 45.4**	**-0.9**
FCAR	**Ozark Folk Cen**	**46.97**	**341**	P		**P**	**00 16 46.2**	**-1.3**
ABTX	**Abilene, Hawle**	**47.14**	**331**	P		**P**	**00 16 49.2**	**+0.3**
ABTX					IAmb	IAmb	00 16 50.4	
	comp=Z,22nm,0.9s							
LOOK	**Love County**	**47.18**	**335**	P		**P**	**00 16 48.8**	**-0.4**
LOOK					IAmb	IAmb	00 16 50.9	
	comp=Z,14nm,0.8s							
SGCY	**Sterling City**	**47.29**	**329**	P		**P**	**00 16 49.8**	**-0.4**
SGCY					IAmb	IAmb	00 16 51.3	
	comp=Z,10.0nm,0.9s							
ALPN	**Alpine**	**47.42**	**326**	P		**P**	**00 16 51.4**	**+0.2**
MNHN	**Monahans**	**47.69**	**327**	P		**P**	**00 16 53.0**	**-0.1**
APMT	**Aspermont**	**47.95**	**331**	P		**P**	**00 16 55.3**	**+0.2**
APMT					IAmb	IAmb	00 16 56.7	
	comp=Z,15nm,1.0s							
SN07	**Snyder 07**	**48.13**	**330**	P		**P**	**00 16 55.5**	**-1.0**
WUPA	**West Chester U**	**48.13**	**359**	P		**P**	**00 16 56.7**	**+0.4**
WUPA					IAmb	IAmb	00 16 57.3	
	comp=Z,7.9nm,1.0s							
MGMO	**Mountain Grove**	**48.18**	**341**	P		**P**	**00 16 55.3**	**-1.5**
MGMO					IAmb	IAmb	00 16 56.8	
	comp=Z,17nm,1.1s							
MVL	**Millersville**	**48.21**	**359**	P		**P**	**00 16 57.1**	**+0.1**
RLO	**Rose Lookout**	**48.23**	**338**	P		**P**	**00 16 57.1**	**-0.1**
U38A	**Gravette**	**48.24**	**339**	P		**P**	**00 16 56.4**	**-0.9**
TUL3	**Leonard**	**48.29**	**337**	P		**P**	**00 16 57.8**	**+0.1**
TUL3					IAmb	IAmb	00 16 59.3	
	comp=Z,11nm,0.9s							
P52A	**Corning**	**48.29**	**353**	P		**P**	**00 16 57.1**	**-0.5**
P52A					IAmb	IAmb	00 16 57.7	
	comp=Z,11nm,0.8s							
FVM	**French Village**	**48.40**	**344**	P		**P**	**00 16 57.4**	**-1.1**
FVM					IAmb	IAmb	00 16 58.1	
	comp=Z,10nm,0.9s							
POST	**Post**	**48.41**	**330**	P		**P**	**00 16 58.5**	**-0.1**
POST					IAmb	IAmb	00 16 59.9	
	comp=Z,15nm,0.9s							
VHRN	**Van Horn**	**48.49**	**325**	P		**P**	**00 16 59.5**	**0.0**
DEOK	**Depew**	**48.51**	**337**	P		**P**	**00 16 59.2**	**-0.1**
WMOK	**Wichita Mounta**	**48.51**	**334**	P		**P**	**00 16 59.3**	**-0.1**
DKNS	**Dickens**	**48.61**	**331**	P		**P**	**00 17 00.2**	**0.0**
DKNS					IAmb	IAmb	00 17 01.7	
	comp=Z,9.8nm,0.8s							
CCM	**Cathedral Cave**	**48.70**	**343**	P		**P**	**00 16 59.9**	**-0.8**
CCM					IAmb	IAmb	00 17 01.7	
	comp=Z,6.1nm,0.7s							
OK052	**Battle Ridge R**	**48.76**	**336**	P		**P**	**00 17 00.4**	**-0.8**
OK052					IAmb	IAmb	00 17 02.9	
	comp=Z,20nm,1.1s							
O53A	**New Philadelph**	**48.79**	**354**	P		**P**	**00 17 01.7**	**+0.3**
O53A					IAmb	IAmb	00 17 18.9	
	comp=Z,19nm,1.4s							
OK029	**Liberty Lake**	**48.85**	**336**	P		**P**	**00 17 01.1**	**-0.8**
QUOK	**Quay**	**48.88**	**337**	P		**P**	**00 17 01.9**	**-0.2**
HTMS	**Hat Mesa**	**49.03**	**327**		pP		00 17 35.3	+2.4
CLN7	**Carlsbad 7**	**49.08**	**327**	P		**P**	**00 17 03.9**	**0.0**
O48B	**Farmland**	**49.37**	**350**	P		**P**	**00 17 04.7**	**-1.1**
T35A	**Sooner Cattle**	**49.45**	**337**	P		**P**	**00 17 07.2**	**+0.7**
T35A					IAmb	IAmb	00 17 30.2	
	comp=Z,10nm,0.9s							
SMWD	**Samnorwood**	**49.47**	**333**	P		**P**	**00 17 06.7**	**0.0**
BLOK	**Blackwell**	**49.59**	**336**	P		**P**	**00 17 07.3**	**-0.2**
CROK	**Carrier**	**49.68**	**336**	P		**P**	**00 17 08.0**	**-0.2**
P43A	**Skaggs, Pawnee**	**49.71**	**345**	P		**P**	**00 17 07.4**	**-1.0**
SFIN	**Lafayette**	**49.86

TPNV IAmb IAmb 00 18 21.1
comp=Z,5.8nm,0.9s
WCT Wildcat Mounta 59.60 322 P P 00 18 20.1 +0.2
WCT IAmb IAmb 00 18 21.8
comp=Z,4.0nm,0.8s
TCUT Toone Canyon 59.63 329 P P 00 18 20.4 +0.1
SPR3 Spring Creek 3 59.71 325 P P 00 18 20.6 -0.4
PDAR Pinedale Array 59.94 331 P P 00 18 21.7 -0.7
comp=Z,1.1nm,0.6s,baz=55,slow=34,SNR=4.0
PDAR PcP **PcP 00 19 06.8 -0.5**
comp=Z,0.7nm,0.5s,baz=112,slow=3.3,SNR=2.1
comp=Z,1.1nm,0.6s
R11B Troy Canyon, C 59.99 324 P P 00 18 22.5 -0.2
R11B IAmb IAmb 00 18 24.6
comp=Z,3.9nm,0.8s
HWUT Hardware Ranch 60.07 329 P P 00 18 22.3 -0.9
EPLO Experimental L 60.16 346 P 00 18 22.0 -1.4
GMN Gold Mountain 60.31 322 P P 00 18 25.3 +0.3
BGU Big Grassy Mou 60.34 327 P P 00 18 24.5 -0.5
AHID Auburn Hatcher 60.69 330 P P 00 18 26.0 -1.4
AHID IAmb IAmb 00 18 28.0
comp=Z,5.0nm,0.7s
DSP Deep Springs 60.79 321 P 00 18 28.0 +0.1
HVU Hansel Valley 60.82 328 P P 00 18 27.6 -0.6
LOHW Long Hollow 61.08 331 P P 00 18 29.8 -0.3
NVAR Mina Array Bea 61.67 322 P P 00 18 33.3 -0.8
NVAR Mina Array Bea 61.67 322 P P 00 18 33.9 -0.2
comp=Z,1.8nm,0.8s,baz=117,slow=6.0,SNR=11
NVAR PcP **sP 00 19 14.7 -3.8**
comp=Z,0.9nm,0.8s,baz=140,slow=4.6,SNR=4.3
comp=Z,1.8nm,0.8s
LHV Little Huntoon 61.67 322 P P 00 18 33.4 -0.5
LHV IAmb IAmb 00 18 36.1
comp=Z,6.1nm,1.0s
HULI Fort Hunter Li 62.05 318 P P 00 18 37.2 +0.8
YHH Holmes Hill 62.09 332 P P 00 18 37.5 +0.7
YHB Horse Butte 62.22 332 P P 00 18 38.1 +0.5
YHB IAmb IAmb 00 18 39.5
comp=Z,11nm,0.7s
YHL Hebgen Lake 62.29 332 P P 00 18 37.7 -0.6
HLID Hailey 62.94 329 P P 00 18 42.4 0.0
BOZ Bozeman (W) 63.06 332 P P 00 18 43.2 +0.1
BOZ IAmb IAmb 00 18 45.0
comp=Z,4.1nm,0.8s
MCMT McKenzie Canyo 63.07 331 P P 00 18 43.0 -0.4
PAHR Pah Rah Range 63.12 323 P P 00 18 44.0 +0.3
PAHR IAmb IAmb 00 18 45.6
comp=Z,5.4nm,0.9s
SCHQ Schefferville 63.40 5 P P 00 18 44.8 -0.3
comp=Z,4.1nm,0.7s,baz=203,slow=6.6,SNR=7.2
SCHQ PcP **PcP 00 19 20.5 -0.3**
comp=Z,2.4nm,0.5s,baz=129,slow=3.3,SNR=3.9
comp=Z,4.1nm,0.7s
MFID Camas Ranch 63.57 328 P P 00 18 46.3 -0.2
MFID IAmb IAmb 00 18 48.1
comp=Z,14nm,0.9s
ORV Oroville 64.32 321 P P 00 18 52.1 +0.7
ORV IAmb IAmb 00 18 53.4
comp=Z,9.6nm,0.9s
WVOR Wild Horse Val 64.44 325 P P 00 18 51.9 -0.3
BPMT Black Pine Rid 64.53 332 P 00 18 52.5 -0.4
PLID Pearl Lake 64.82 329 P P 00 18 54.2 -0.5
J08A Circle Bar Ran 64.95 326 P 00 18 55.4 -0.2
MSO Missoula 65.05 332 P 00 18 56.1 0.0
MSO IAmb IAmb 00 18 57.5
comp=Z,8.2nm,0.9s
BMO Blue Mountains 65.33 328 P 00 18 56.9 -1.0
K05A Summer Lake 65.91 325 P P 00 19 02.0 +0.2
K05A IAmb IAmb 00 19 03.7
comp=Z,12nm,1.0s
F10A Beach Ranch, E 66.05 329 P P 00 19 02.8 +0.2
F10A IAmb IAmb 00 19 06.1
comp=Z,5.4nm,0.7s
G08A Pilot Rock 66.49 328 P P 00 19 05.2 -0.1
PINE Pine Mountain 66.60 325 P 00 19 05.8 -0.4
PINE IAmb IAmb 00 19 09.4
comp=Z,8.7nm,0.9s
FFC Flin Flon 66.90 343 P P 00 19 07.4 -0.1
FFC IAmb IAmb 00 19 08.1
comp=Z,6.5nm,0.8s
BBOR Butler Butte 67.04 324 P P 00 19 08.5 -0.4
BBOR IAmb IAmb 00 19 19.8
comp=Z,8.5nm,1.3s
KSXB Camp Six Broad 67.12 322 P P 00 19 09.8 +0.4
DBIC Dimbokro 71.46 80 P P 00 19 36.0 -0.6
comp=Z,2.4nm,0.3s,baz=292,slow=4.0,SNR=11
comp=Z,2.4nm,0.3s
VNA3 Neumayer Olymp 74.22 162 ⇑P P 00 19 52.4 +0.5
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 74.81 162 ⇑P P 00 19 55.3 0.0
comp=Z,1.5nm,0.6s,baz=292,slow=6.2
SNAA Sanae 76.44 162 ⇑P P 00 20 05.3 +0.7
comp=Z,45nm,0.7s
SNAA Sanae 76.44 162 P P 00 20 05.1 +0.5
comp=Z,1.9nm,0.7s,baz=270,slow=6.0,SNR=17
SNAA pP **pP 00 20 36.0 -0.3**
comp=Z,1.3nm,0.5s,baz=262,slow=7.1,SNR=3.9
comp=Z,1.9nm,0.7s
YKAW1 Yellowknife Wh 76.99 342 P 00 20 07.2 -0.4
YKAW1 IAmb IAmb 00 20 08.1
comp=Z,12nm,0.7s
YKA Yellowknife Ar 77.03 342 P P 00 20 07.8 0.0
YKA Yellowknife Ar 77.03 342 P P 00 20 07.5 -0.4
comp=Z,6.1nm,0.8s,baz=136,slow=6.0,SNR=24
comp=Z,6.1nm,0.8s
YKAW3 Yellowknife Wh 77.08 342 P 00 20 08.0 -0.2
YKAW3 IAmb IAmb 00 20 08.7
comp=Z,11nm,0.9s
DY2G Dye2 77.59 11 *i* P P **00 20 10.9 -0.3**
DY2G IAmb IAmb 00 20 11.7
comp=Z,15nm,0.7s
MD01 Midelt array s 78.26 54 P P 00 20 16.1 +0.6
KOTAN Kotaneelee Air 78.59 337 P P 00 20 17.6 +1.0
baz=130
TORD Torodi Ar. Bea 79.06 75 P P 00 20 18.2 -1.9
TORD Torodi Ar. Bea 79.06 75 P P 00 20 19.2 -0.9
comp=Z,1.8nm,0.6s,baz=276,slow=5.4,SNR=32
comp=Z,1.8nm,0.6s
T35M Bob Quinn 79.27 333 P P 00 20 21.4 +1.0
baz=124
SAQQ Saqqaq 79.85 8 *i* P P **00 20 19.4 -3.8**
SAQQ IAmb IAmb 00 20 20.7
comp=Z,13nm,0.7s
DLBC Dease Lake 79.99 334 P P 00 20 25.4 +1.1
comp=Z,3.2nm,1.0s,baz=138,slow=9.1,SNR=4.1
comp=Z,3.2nm,1.0s
DLBC Dease Lake 79.99 334 P P 00 20 25.1 +0.8
baz=125
WRGLY Wrigley 80.40 340 P P 00 20 27.6 +1.3
baz=131
PAB San Pablo 80.69 48 P P 00 20 29.0 +0.5
R33M Jennings River 80.94 335 P P 00 20 30.1 +0.7
R33M Jennings River 80.94 335 P P 00 20 30.1 +0.7
baz=124
ESDC Sonseca Array 81.02 48 P P 00 20 30.6 +0.4
ESDC Sonseca Array 81.02 48 P P 00 20 30.9 +0.7
comp=Z,1.8nm,0.8s,baz=258,slow=6.0,SNR=13
comp=Z,1.8nm,0.8s
ESBB Sonseca Array 81.02 48 P P 00 20 31.4 +1.2
TGTN Hyland Airport 81.08 337 P P 00 20 31.0 +1.0
baz=127
QSPA South Pole Qui 81.67 180 P P 00 20 35.1 +1.9
QSPA South Pole Qui 81.67 180 P P 00 20 35.4 +2.2
comp=Z,2.6nm,0.5s,baz=194,slow=1.0,SNR=32
comp=Z,2.6nm,0.5s
R32K Eaglecrest 81.90 333 P P 00 20 35.0 +0.6
R32K IAmb IAmb 00 20 36.4
comp=Z,9.8nm,1.1s
R32K Eaglecrest 81.90 333 P P 00 20 35.1 +0.8
baz=120
P33M Teslin, Yukon 82.17 335 P P 00 20 36.3 +0.5
baz=122
BESE Bessie Mountai 82.21 333 P P 00 20 37.5 +1.5
BESE IAmb IAmb 00 21 13.1
comp=Z,21nm,1.4s
P32M Atlin 82.22 334 P P 00 20 36.5 +0.4
baz=121
N32M Quiet Lake 82.78 335 P P 00 20 39.4 +0.5
baz=122
MMPY Sheldon Lake, 82.86 337 P P 00 20 39.8 +0.5
MMPY Sheldon Lake, 82.86 337 P P 00 20 39.9 +0.5
baz=124
SKAG Skagway 82.86 333 P P 00 20 39.9 +0.6
baz=120
WHY Whitehorse 83.27 335 P P 00 20 41.8 +0.2
WHY IAmb IAmb 00 21 10.1
comp=Z,6.6nm,0.9s
WHY Whitehorse 83.27 335 P P 00 20 42.2 +0.6
baz=120
M31M Drury Creek, Y 83.86 336 P P 00 20 45.1 +0.7
baz=121
P30M Million Dollar 83.91 334 P P 00 20 45.3 +0.6
baz=119
P29M Windy Craggy 84.02 333 P P 00 20 46.0 +0.7
baz=118
N31M Braeburn, Yuko 84.07 335 P P 00 20 46.1 +0.6
baz=120
SUMG Summit 84.23 10 P P 00 20 46.4 -0.2
SUMG Summit 84.23 10 *i* P P **00 20 46.9 +0.4**
SUMG IAmb IAmb 00 20 47.8
comp=Z,14nm,0.7s
HYT Haines Junctio 84.48 334 P P 00 20 48.2 +0.5
HYT Haines Junctio 84.48 334 P P 00 20 48.4 +0.6
baz=118
TAM Tamanrasset 84.54 66 P P 00 20 49.7 +0.8
N30M Aishikik Lake 84.60 335 P P 00 20 49.0 +0.8
N30M IAmb IAmb 00 20 49.7
comp=Z,6.5nm,0.8s
N30M Aishikik Lake 84.60 335 P P 00 20 49.1 +0.8
baz=119
O29M Mount Kennedy 84.70 333 P P 00 20 48.6 -0.3
baz=117
PNL Peninsula 84.79 333 P P 00 20 49.3 +0.2
baz=116
YUK6 Outpost Mounta 84.91 334 P P 00 20 50.2 +0.2
baz=117
M30M Minto, Yukon 85.02 336 P P 00 20 50.3 0.0
baz=119
YUK4 Talbot Arm 85.21 334 P P 00 20 52.2 +0.7
baz=117
PINM Pinnacle 85.36 333 P P 00 20 52.7 +0.6
baz=116
O28M Mount Upton 85.63 333 P P 00 20 54.2 +0.5
baz=116
M29M Somme Creek 85.64 335 P P 00 20 53.9 +0.4
M29M IAmb IAmb 00 20 54.9
comp=Z,5.1nm,0.8s
M29M Somme Creek 85.64 335 P P 00 20 54.1 +0.6
baz=117
CEST Esterri de Car 85.64 46 P P 00 20 54.2 +0.3
YUK8 Steele Glacier 85.67 334 P P 00 20 54.2 +0.4
baz=116
H31M Peel River 85.72 339 P 00 20 53.8 +0.1
H31M IAmb IAmb 00 20 55.8
comp=Z,16nm,1.4s
H31M Peel River 85.72 339 P P 00 20 53.8 +0.1
baz=121
L29M L29M 85.81 336 P 00 20 53.9 -0.3
L29M IAmb IAmb 00 20 55.4
comp=Z,10.0nm,0.9s
L29M L29M 85.81 336 P P 00 20 54.5 +0.3
baz=118
J30M Hart River 85.82 338 P P 00 20 54.9 +0.6
J30M Hart River 85.82 338 P P 00 20 54.8 +0.5
baz=120
TABL Table Mountain 85.91 333 P P 00 20 54.7 -0.2
TABL IAmb IAmb 00 21 38.7
comp=Z,12nm,1.0s
K29M Barlow Dome 85.92 337 P 00 20 54.8 0.0
K29M Barlow Dome 85.92 337 P P 00 20 55.0 +0.2
baz=118
YAH Yahtse 86.15 333 P P 00 20 56.5 +0.4
YAH IAmb IAmb 00 21 26.6
comp=Z,17nm,1.2s
I30M Mount Dempster 86.15 338 P 00 20 56.2 +0.3
I30M IAmb IAmb 00 20 56.6
comp=Z,5.8nm,0.7s
I30M Mount Dempster 86.15 338 P P 00 20 56.1 +0.3
baz=120
YUK3 Moose Creek 86.18 334 P P 00 20 56.4 +0.1
baz=116
CTGM Chitina Glacie 86.22 333 P P 00 20 56.7 +0.3
CTGM IAmb IAmb 00 20 57.9
comp=Z,6.5nm,0.9s
CTG Chitna Glacier 86.22 333 P P 00 20 56.2 -0.2
baz=115
G31M Satah River 86.28 340 P P 00 20 55.8 -0.5
G31M IAmb IAmb 00 20 57.0
comp=Z,7.7nm,0.8s
G31M Satah River 86.28 340 P P 00 20 56.3 0.0
baz=122
GRNC Granite Creek 86.31 333 P P 00 20 57.0 +0.1
GRNC IAmb IAmb 00 20 57.8
comp=Z,9.4nm,0.8s
F31M Tsiigehtchic 86.38 341 P P 00 20 57.0 +0.2
baz=122
BVCY Beaver Creek 86.63 335 P P 00 20 58.4 +0.2
baz=115
EKA Eskdalemuir Ar 86.73 33 P P 00 20 58.1 -0.6
comp=Z,2.3nm,0.9s,baz=251,slow=4.4,SNR=5.6
EKA pP **pP 00 21 31.6 +0.4**
comp=Z,1.0nm,0.7s,baz=247,slow=5.2,SNR=3.1
comp=Z,2.3nm,0.9s
DAWY Dawson 86.75 337 P P 00 20 58.7 -0.1
baz=117
INK Inuvik 86.77 341 P 00 20 58.6 -0.1
INK IAmb IAmb 00 20 59.4
comp=Z,7.9nm,0.8s
INK Inuvik 86.77 341 P P 00 20 58.6 -0.1
baz=122,SNR=6.7
NEEM North Greenlan 86.81 5 *i* P P **00 20 59.1 -0.1**
NEEM IAmb IAmb 00 21 00.9
comp=Z,9.1nm,0.9s
EPYK Eagle Plains 86.84 339 P P 00 20 59.4 +0.3
baz=119
CRQE Cirque 86.92 333 P P 00 21 00.1 +0.3
baz=113
I29M Ogilvie Camp, 86.93 338 P P 00 21 00.1 +0.5
baz=118
M27K Edge Creek, AK 87.03 335 P P 00 21 00.2 -0.1
M27K Edge Creek, AK 87.03 335 P P 00 21 00.7 +0.3
baz=114,SNR=7.8
MCARA McCarthy VSAT 87.14 333 P P 00 21 01.0 +0.3
MCARA McCarthy VSAT 87.14 333 P P 00 21 00.9 +0.3
baz=113
F30M Barrier River 87.14 340 P P 00 20 59.5 -1.1
F30M IAmb IAmb 00 21 01.7
comp=Z,11nm,0.8s
F30M Barrier River 87.14 340 P P 00 21 00.5 -0.1
baz=120
KAIM Kayak Island 87.21 332 P P 00 21 00.8 -0.2
baz=112
VRDI Verde Repeater 87.27 333 P P 00 21 01.0 -0.5
VRDI IAmb IAmb 00 21 02.6
comp=Z,15nm,1.0s
BCAR Beaver Creek A 87.29 335 P 00 21 02.0 +0.6
L27K Beaver Creek, 87.31 335 P P 00 21 01.5 0.0
L27K Beaver Creek, 87.31 335 P P 00 21 01.8 +0.4
baz=114,SNR=16
H29M Whitestone 87.36 339 P P 00 21 01.6 0.0
H29M IAmb IAmb 00 21 02.5
comp=Z,11nm,0.8s
H29M Whitestone 87.36 339 P P 00 21 01.7 +0.1
baz=118,SNR=7.5
M26K Nabesna, AK 87.53 334 P P 00 21 02.4 -0.2
baz=113
G29M Pine Creek 87.56 339 P 00 21 02.4 -0.2
G29M Pine Creek 87.56 339 P P 00 21 02.4 -0.2
baz=118,SNR=6.2
I28M Miner Creek 87.58 338 P 00 21 02.7 -0.1
I28M IAmb IAmb 00 21 03.5
comp=Z,6.6nm,1.1s
I28M Miner Creek 87.58 338 P P 00 21 02.7 -0.1
baz=116
BMRM Bremner River 87.69 333 P P 00 21 03.3 0.0
BMRM Bremner River 87.69 333 P P 00 21 03.6 +0.2
baz=112
K27K Chicken 87.81 336 P P 00 21 04.3 +0.5
K27K Chicken 87.81 336 P P 00 21 04.5 +0.8
baz=114
N25K Chitina, Valde 87.92 333 P P 00 21 05.5 +1.0
N25K IAmb IAmb 00 21 44.1
comp=Z,4.4nm,0.9s
N25K Chitina, Valde 87.92 333 P P 00 21 04.7 +0.2
baz=112
L26K Log Cabin Wild 87.92 335 P P 00 21 04.2 -0.2
L26K IAmb IAmb 00 21 05.3
comp=Z,6.5nm,0.8s
L26K Log Cabin Wild 87.92 335 P P 00 21 04.4 0.0
baz=113,SNR=5.8
Q23K Middleton Isla 87.95 331 P P 00 21 04.4 -0.1
baz=110
MENT Mentasta 88.05 335 P P 00 21 04.8 -0.2
MENT IAmb IAmb 00 21 05.3
comp=Z,3.4nm,0.6s
EYAK Cordova Ski Ar 88.06 332 P P 00 21 04.8 -0.2
baz=111
E29M Blow River 88.21 341 P 00 21 05.5 -0.1
E29M Blow River 88.21 341 P P 00 21 05.5 -0.1
baz=118,SNR=12
I27K Kandik River 88.28 338 P P 00 21 05.9 -0.2
baz=115,SNR=5.6
HARP HAARP 88.46 334 P P 00 21 06.8 -0.1
baz=111
DOT Dot Lake 88.46 335 P P 00 21 07.3 +0.3
FID Port Fidalgo 88.46 332 P P 00 21 06.8 -0.1
KLU Klutina 88.47 333 P P 00 21 07.2 +0.1
KLU Klutina 88.47 333 P P 00 21 07.1 0.0
baz=111,SNR=11
H27K Steamboat Moun 88.51 338 P P 00 21 07.0 -0.1
H27K IAmb IAmb 00 21 07.7
comp=Z,4.0nm,0.8s
H27K Steamboat Moun 88.51 338 P P 00 21 06.8 -0.3
baz=115
F28M Old Crow 88.52 340 P P 00 21 07.0 -0.1
F28M IAmb IAmb 00 21 08.0
comp=Z,6.8nm,0.8s
F28M Old Crow 88.52 340 P P 00 21 06.8 -0.3
baz=116,SNR=5.6
SCRK Sand Creek 88.56 336 P 00 21 07.7 +0.2
SCRK Sand Creek 88.56 336 P P 00 21 07.4 -0.1
baz=112,SNR=9.4
J26L Joseph Creek 88.59 336 P 00 21 07.9 +0.3
J26L Joseph Creek 88.59 336 P P 00 21 07.7 +0.1
baz=113,SNR=20
I26K Coal Creek Min 88.75 337 P P 00 21 07.8 -0.3
baz=113
GLI Glacier Island 88.79 332 P P 00 21 07.9 -0.6
baz=110
G27K Doyon Strip 88.80 339 P P 00 21 08.2 -0.2
G27K IAmb IAmb 00 21 08.8
comp=Z,4.9nm,0.8s
G27K Doyon Strip 88.80 339 P P 00 21 08.0 -0.5
baz=115,SNR=5.2
M24K Tolsona, Glenn 88.80 334 P P 00 21 09.1 +0.5
M24K Tolsona, Glenn 88.80 334 P P 00 21 08.9 +0.3
baz=110
PAX Paxson 88.80 334 P P 00 21 08.2 -0.4
PAX IAmb IAmb 00 21 09.1
comp=Z,8.4nm,0.8s
PAX Paxson 88.80 334 P P 00 21 08.2 -0.4
baz=111,SNR=9.1
RIDG Independent Ri 88.82 335 P P 00 21 08.9 +0.3
RIDG Independent Ri 88.82 335 P P 00 21 08.6 0.0
baz=112,SNR=8.6
E28M Babbage River 88.85 341 P P 00 21 08.1 -0.6
E28M IAmb IAmb 00 21 08.8
comp=Z,5.3nm,0.9s
E28M Babbage River 88.85 341 P P 00 21 08.5 -0.1
baz=117
D28M Stokes Point 88.92 341 P P 00 21 08.9 0.0
baz=117
SCM Sheep Creek Mo 89.22 333 P P 00 21 10.7 +0.2
SCM Sheep Creek Mo 89.22 333 P P 00 21 10.5 -0.1
baz=110
J25K Salcha River, 89.36 336 P P 00 21 11.2 +0.1
J25K Salcha River, 89.36 336 P P 00 21 11.1 0.0
baz=111,SNR=26
E27K Coleen River 89.36 340 P P 00 21 10.4 -0.6
E27K IAmb IAmb 00 21 12.3
comp=Z,4.8nm,0.8s
E27K Coleen River 89.36 340 P P 00 21 11.1 0.0
baz=115
PWL Port Wells 89.36 332 P P 00 21 10.7 -0.5
PWL Port Wells 89.36 332 P P 00 21 11.0 -0.2
baz=109
M23K Glacier View 89.38 333 P P 00 21 11.6 +0.3
baz=109
D27M Malcolm River 89.60 341 P P 00 21 12.4 +0.2
baz=115
TSUM Tsumeb 89.62 109 P P 00 21 13.8 +0.3
TSUM IAmb IAmb 00 21 27.7
comp=Z,12nm,1.3s
G26K Porcupine Rive 89.63 338 P P 00 21 12.3 +0.1
baz=113
WAT6 Susitna Watana 89.65 334 P P 00 21 12.4 -0.3
baz=109,SNR=8.0
DHY Denali Highway 89.65 334 P P 00 21 12.5 -0.1
baz=109
PRP Porcupine Dome 89.74 337 P 00 21 13.1 0.0
PRP IAmb IAmb 00 21 13.8
comp=Z,4.6nm,0.9s
PRP Porcupine Dome 89.74 337 P P 00 21 13.1 0.0
baz=111
DOU Dourbes 89.76 39 *dP* **P 00 21 12.8 -0.4**
DOU *dp*P **pP 00 21 46.6 +0.8**
DOU *ds*P **sP 00 22 00.7 +1.6**
BMRD Maredsous 89.92 39 *dP* **P 00 21 13.8 -0.1**
comp=Z,3.8nm,0.9s
BMRD *dp*P **pP 00 21 46.8 +0.3**
GHO Glory Hole Cre 89.92 333 P P 00 21 13.6 -0.2
HDA Harding Lake 89.92 336 P P 00 21 13.3 -0.4
HDA IAmb IAmb 00 21 14.2
comp=Z,7.4nm,1.0s
HDA Harding Lake 89.92 336 P P 00 21 13.8 +0.1
baz=110
IL31 90.02 336 P P 00 21 14.0 -0.1
ILAR Eielson Array 90.02 336 P P 00 21 14.2 0.0
ILAR Eielson Array 90.02 336 P P 00 21 13.8 -0.4
comp=Z,2.2nm,0.9s,baz=116,slow=5.8,SNR=16
ILAR PP **PP 00 24 50.2 +1.2**
comp=Z,0.3nm,0.5s,baz=116,slow=8.1,SNR=4.3
comp=Z,2.2nm,0.9s
BNI Bardonecchia 90.04 45 P P 00 21 13.4 -1.5
F26K Sheenjek River 90.04 339 P P 00 21 14.7 +0.4
F26K IAmb IAmb 00 21 15.5
comp=Z,5.0nm,0.7s
F26K Sheenjek River 90.04 339 P P 00 21 14.6 +0.4
baz=112
RC01 Rabbit Creek A 90.08 332 P P 00 21 14.5 0.0
baz=107
WAT1 Susitna Watana 90.08 334 P P 00 21 14.6 0.0
baz=108
BMAR Burnt Mountain 90.10 339 P P 00 21 14.6 +0.1
H25L Birch Creek 90.13 338 P P 00 21 15.2 +0.6
baz=111
RCHB Rochefort 90.17 39 *dP* **P 00 21 14.6 -0.6**
comp=Z,3.6nm,0.8s
KEST Kesra 90.27 54 P P 00 21 15.2 -0.8
KEST Kesra 90.27 54 P P 00 21 14.9 -1.2
comp=Z,1.8nm,0.6s,baz=171,slow=1.4,SNR=4.1
comp=Z,1.8nm,0.6s
CCB Clear Creek Bu 90.35 336 P 00 21 15.8 +0.1
CCB IAmb IAmb 00 21 16.7
comp=Z,5.8nm,1.0s
POKR Poker Plat Res 90.36 336 P P 00 21 15.9 +0.1
baz=109
RND Reindeer 90.39 334 P 00 21 16.2 +0.2
G25K Bearman Lake 90.41 338 P P 00 21 16.1 +0.2
baz=111
WRH Wood River Hil 90.41 335 P P 00 21 15.8 -0.2
WRH IAmb IAmb 00 21 16.7
comp=Z,5.6nm,0.9s
MCK McKinley 90.53 335 P P 00 21 16.3 -0.3
baz=108
F25K Christian Rive 90.54 339 P P 00 21 16.6 0.0
baz=111
KDAK Kodiak Island 90.56 328 P P 00 21 16.6 -0.1
baz=105
C27K Jago River 90.64 341 P P 00 21 17.1 +0.1
baz=113
WLF Walferdange 90.65 40 *dP* **P 00 21 16.9 -0.5**
comp=Z,4.2nm,0.8s
SUA Susitna One 90.66 332 P P 00 21 17.2 -0.1
baz=106
Q20K Shuyak Island 90.68 329 P P 00 21 17.3 0.0
baz=105
BHOU Houvegnez 90.70 39 *dP* **P 00 21 17.3 -0.4**
comp=Z,3.2nm,1.1s
E25K Arctic Village 90.70 339 P P 00 21 17.5 +0.2
baz=111
MEM Membach 90.76 39 *dP* **P 00 21 17.4 -0.5**
H24K Noodor Dome 90.77 337 P 00 21 18.0 +0.3
H24K IAmb IAmb 00 21 19.6
comp=Z,11nm,1.4s
H24K Noodor Dome 90.77 337 P P 00 21 17.7 0.0
baz=109
OHAK Old Harbor 90.78 328 P P 00 21 18.0 +0.2
OHAK Old Harbor 90.78 328 P P 00 21 17.8 0.0

baz=104
NEA2 **Nenana** 90.85 335 P P 00 21 16.8 -1.2
NEA2 **Nenana** 90.85 335 P P 00 21 17.9 -0.1
baz=108
BWN **Browne** 90.89 335 P P 00 21 17.5 -0.7
G24K **Hadweenzic Riv** 90.90 338 P P 00 21 17.0 -1.2
G24K IAmb IAmb 00 21 19.8
comp=Z,8.0nm,0.9s
G24K **Hadweenzic Riv** 90.90 338 P P 00 21 18.2 -0.1
baz=109
TRF **Thorofare Moun** 91.02 334 P P 00 21 18.6 -0.5
TRF IAmb IAmb 00 21 20.1
comp=Z,4.6nm,0.6s
TRF **Thorofare Moun** 91.02 334 P P 00 21 18.7 -0.3
baz=107
I23K **Minto, Yukon-K** 91.14 336 P P 00 21 18.9 -0.5
I23K IAmb IAmb 00 21 20.0
comp=Z,5.2nm,0.7s
I23K **Minto, Yukon-K** 91.14 336 P P 00 21 19.2 -0.1
baz=108
SKT **Skwentna** 91.16 333 P 00 21 18.9 -0.6
SKT **Skwentna** 91.16 333 P P 00 21 19.3 -0.2
baz=106
O20K **Slope Mountain** 91.17 331 P P 00 21 19.4 -0.3
baz=105
N20K **Mount Spurr** 91.26 332 P P 00 21 19.8 -0.3
baz=105
SPCR **Spurr Chakacha** 91.26 332 P P 00 21 20.0 -0.1
baz=105
F24K **Squaw Lake** 91.32 338 P P 00 21 20.4 +0.2
baz=109
P19K **Oil Pt** 91.36 330 P P 00 21 20.5 -0.1
baz=104
Q19K **Cape Douglas,** 91.39 329 P P 00 21 20.2 -0.5
baz=104
D25K **Kavik River** 91.40 340 P P 00 21 18.8 -1.8
D25K **Kavik River** 91.40 340 P P 00 21 20.5 0.0
baz=110
H23K **Yukon River** 91.42 337 P P 00 21 20.6 0.0
baz=107
R18K **Karluk** 91.48 328 P P 00 21 20.8 -0.2
baz=103
BPAW **Bear Paw Mtn.** 91.50 335 P P 00 21 20.2 -0.9
BPAW **Bear Paw Mtn.** 91.50 335 P P 00 21 20.7 -0.4
baz=106
MLY **Manley** 91.66 336 P P 00 21 21.5 -0.3
baz=106
PPLA **Purkeypile** 91.70 333 P P 00 21 21.8 -0.4
baz=105
E24K **Your Creek** 91.72 339 P P 00 21 22.2 +0.1
baz=108
CAST **Castle Rocks** 91.79 334 P 00 21 21.5 -1.0
CAST IAmb IAmb 00 21 22.2
comp=Z,4.9nm,0.8s
CAST **Castle Rocks** 91.79 334 P P 00 21 21.8 -0.6
baz=105
M20K **Styx River** 91.86 332 P P 00 21 22.4 -0.5
baz=104
G23K **Bananza Creek** 91.87 337 P P 00 21 22.7 0.0
baz=107
Q18K **Katmai Hardscr** 92.01 329 P P 00 21 23.4 -0.3
baz=103
E23K **Chandalar** 92.11 339 P P 00 21 23.7 -0.2
baz=107
I21K **Tanana** 92.21 336 P P 00 21 24.0 -0.3
baz=105
N19K **Bonanza Creek** 92.24 331 P P 00 21 24.1 -0.5
baz=103
P18K **Big Mountain,** 92.29 330 P P 00 21 24.2 -0.6
baz=103
C24K **Franklin Bluff** 92.31 340 P P 00 21 24.6 0.0
baz=108
L20K **Farewell, AK** 92.35 333 P P 00 21 24.3 -0.7
baz=104
Q17K **Contact Creek** 92.38 329 P P 00 21 24.8 -0.6
baz=102
M19K **Big River Lodg** 92.45 332 P P 00 21 25.1 -0.4
baz=103
K20K **Telida** 92.64 334 P P 00 21 25.6 -0.7
baz=104
L19K **White Mountain** 92.72 332 P P 00 21 25.9 -0.8
baz=103
D23K **Nanushuk River** 92.75 339 P P 00 21 26.2 -0.5
baz=106
P17K **Kvichak River** 92.85 329 P P 00 21 26.7 -0.6
baz=102
J20K **Nowinta River** 92.86 334 P P 00 21 27.1 -0.2
baz=103
N18K **Kilae Creek** 92.89 331 P P 00 21 27.1 -0.4
N18K IAmb IAmb 00 21 27.6
comp=Z,5.0nm,0.8s
N18K **Kilae Creek** 92.89 331 P P 00 21 27.4 -0.1
baz=102
E22K **Anaktuvuk Pass** 92.93 339 P P 00 21 27.7 +0.1
baz=105
C23K **Itkillik River** 92.97 340 P P 00 21 27.9 +0.1
baz=106
M18K **Stony River** 93.03 332 P P 00 21 28.0 -0.2
baz=102
F21K **Alatna River** 93.31 338 P P 00 21 29.2 -0.2
baz=104
H20K **Anotleneega Mo** 93.47 336 P P 00 21 29.9 -0.3
baz=103
N17K **Nushagak Hills** 93.48 331 P P 00 21 30.0 -0.2
baz=101
L18K **Granite Mounta** 93.57 332 P P 00 21 30.6 -0.1
baz=101
M17K **Holitna River** 93.77 331 P P 00 21 31.1 -0.5
baz=101
J18K **Innoko River** 93.83 334 P P 00 21 31.4 -0.4
baz=101
S14K **Fog Glacier** 93.97 326 P P 00 21 32.0 -0.7
baz=99
H19K **Roundabout Mou** 94.11 336 P P 00 21 32.7 -0.3
baz=101
B21K **Ikpikpuk River** 94.27 340 P P 00 21 33.5 -0.2
baz=103
L17K **Donlin** 94.30 332 P P 00 21 33.8 -0.2
baz=100
SDPT **Sand Point** 94.34 325 P P 00 21 33.6 -0.7
baz=98
K17K **Iditarod** 94.40 333 P P 00 21 34.5 +0.1
baz=100
M16K **Timber Creek** 94.43 331 P P 00 21 34.0 -0.6
baz=99
O15K **Ungalikthiuk R** 94.57 329 P P 00 21 34.3 -0.9
baz=99
BOSA **Boshof** 94.84 120 P P 00 21 39.4 +1.9
comp=Z,1.4nm,0.7s,baz=117,slow=11,SNR=1.4
comp=Z,1.4nm,0.7s
N15K **Kwethluk River** 94.85 330 P P 00 21 36.5 -0.1
baz=98
J17K **VABM Dome** 94.86 333 P P 00 21 36.2 -0.3
baz=99
G18K **Tagagawik** 95.08 336 P P 00 21 37.0 -0.5
baz=99
NOA **NORSAR Array B** 95.46 29 P P 00 21 40.1 +0.8
comp=Z,1.2nm,0.8s,baz=263,slow=4.4,SNR=4.8
comp=Z,1.2nm,0.8s
N14K **Kuskokwak Cree** 95.61 330 P P 00 21 40.3 +0.3
baz=97
I17K **Unalakleet** 95.65 334 P P 00 21 40.2 +0.1
baz=98
L15K **Ungalak Mounta** 95.73 331 P P 00 21 41.1 +0.6
baz=97
M14K **Bethel** 95.84 330 P P 00 21 41.2 +0.2
baz=97
HFS **Hagfors** 96.57 30 P P 00 21 44.9 +0.5
comp=Z,1.4nm,0.9s,baz=212,slow=5.1,SNR=3.5
comp=Z,1.4nm,0.9s
NIKH **Nikolski High** 99.03 322 P Pdif 00 21 55.7 +0.1
baz=92
P08K **Saint George I** 99.53 326 P **Pdif** 00 21 57.8 +0.1
baz=91
BRTR **Keskin Array B** 109.63 51 Pdiff **Pdif** 00 22 41.5 -1.8
comp=Z,0.3nm,0.2s,baz=259,slow=13,SNR=5.7
STKA **Stephens Creek** 126.84 219 PKP **PKiKP** 00 27 19.1 -0.1
comp=Z,2.3nm,0.6s,baz=148,slow=3.5,SNR=6.6
BVAR **Borovoye Array** 127.42 26 PKP **PKPdf** 00 27 19.8 +0.8
comp=Z,0.3nm,0.4s,baz=324,slow=2.0,SNR=3.5
ZALV **Zalesovo Beam** 131.78 16 PKP **PKPdf** 00 27 27.6 +0.3
comp=Z,1.5nm,0.4s,baz=302,slow=2.8,SNR=10
ZALV pPKP **pPKPdf** 00 28 00.9 -0.4
comp=Z,1.9nm,0.5s,baz=306,slow=2.7,SNR=6.7
KURBB **Kurchatov Arra** 132.55 23 PKP **PKPdf** 00 27 29.5 +0.7
comp=Z,1.4nm,0.8s,baz=310,slow=2.5,SNR=9.2
KURBB pPKP **pPKPdf** 00 28 04.2 +1.3
comp=Z,2.6nm,0.8s,baz=308,slow=2.7,SNR=9.1

MKAR Makanchi Array 137.11 23 PKP **PKPdf** 00 27 37.5 -0.1
comp=Z,1.1nm,0.6s,baz=317,slow=1.9,SNR=9.3
MKAR pPKP **pPKPdf** 00 28 13.0 +1.4
comp=Z,2.0nm,0.7s,baz=326,slow=1.3,SNR=8.4
ASAR Alice Springs 137.42 221 PKP **PKPdf** 00 27 38.9 +0.1
comp=Z,1.7nm,0.5s,baz=121,slow=1.9,SNR=16
ASAR pPKP **pPKPdf** 00 28 13.8 +0.9
comp=Z,0.7nm,0.7s,baz=143,slow=1.5,SNR=3.2
WRA Warramunga Arr 139.67 225 PKP **PKPdf** 00 27 43.0 -0.1
comp=Z,2.0nm,0.4s,baz=124,slow=2.0,SNR=16
WRA pPKP **pPKPdf** 00 28 18.1 +1.0
comp=Z,1.2nm,0.6s,baz=138,slow=1.7,SNR=3.6
XLT XiLinHaoTe 143.39 347 *e*PKP PKPab 00 27 45.5 +0.1
KSRS Korea Array 144.47 328 PKP PKPbc 00 27 49.9 +0.1
comp=Z,2.3nm,0.7s,baz=87,slow=3.2,SNR=7.2
HHC Hu-ho-hao-te 147.21 351 *e*P **PKPdf** 00 27 51.8 -3.9
GTA Gaotai 148.81 8 PKPbc **PKPbc** 00 28 02.3 -0.1
GTA sPKP 00 28 38.5
NJ2 Nanjing 153.24 333 *e*P **PKPdf** 00 28 03.5 -1.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 161.76 10 PKP **PKPdf** 00 28 13.5 -2.7
CMAR Chiang Mai Arr 168.40 30 PKPab **PKPab** 00 29 31.9 +0.6
comp=Z,2.8nm,0.6s,baz=330,slow=4.6,SNR=11

*IDC **27** 00:10:23.8±0.8,23.˚76S×176.˚53W, h0km, mb4.3/9, mbtmp4.3/11, ML3.8/2, MS3.5/10, Error ellipse: s-maj=30.3km s-min=22.8km az=133.0*
*NEIC **27** 00:10:24.1±2.7,24.˚49S±0.˚07×175.˚65W±0.˚06, h36km±7km, mb4.6/25, Error ellipse: s-maj=11.6km s-min=5.3km az=211.0*
ISC 27 00:10:24.4±0.6,24.˚41S±0.˚08×175.˚8W±0.˚1, h30km, n83, σ1s59/63, mb4.5/24, MS3.6/8, 5C, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RAO	**Raoul Island**	**5.17**	**201**	Pn		**Pn**	**00 11 37.9**	**-1.9**
NIUE	**Niue**	**7.63**	**47**	Pn		**Pn**	**00 12 11.5**	**-2.1**
MSVF	**Nonsavu**	**8.76**	**318**	Pn		**Pn**	**00 12 30.1**	**+0.9**
AFI	**Afiamalu**	**11.12**	**21**	Pn		**Pn**	**00 13 01.4**	**-0.1**
URZ	**Urewera**	**15.06**	**202**	Pn		**P**	**00 14 03.6**	**+3.5**
	1.4nm,0.3s,baz=42,slow=3.2,SNR=6.5							
URZ				Sn		**Sn**	**00 16 40.1**	**-0.8**
	0.3nm,0.3s,baz=90,slow=18,SNR=2.1							
	6.6nm,0.7s							
RAR	**Rarotonga**	**15.14**	**81**	LR		LR	00 18 28.3	
	comp=Z,193nm,21.5s,baz=239,slow=31							
DZM	**Mont Dzumac**	**16.46**	**275**			**Pn**	**00 14 14.7**	**+1.3**
DZM	**Mont Dzumac**	**16.46**	**275**	Pn		**Pn**	**00 14 08.5**	**-4.9**
	0.1nm,0.3s,baz=118,slow=23,SNR=1.7							
DZM				LR		LR	00 18 44.6	
	comp=Z,120nm,18.6s,baz=46,slow=32							
	6.0nm,1.1s							
PPT	**Papeete**	**25.41**	**80**	LR		LR	00 23 50.2	
	comp=Z,39nm,19.4s,baz=320,slow=31							
HNR	**Honiara**	**27.48**	**299**	LR		LR	00 25 08.4	
	comp=Z,47nm,18.9s,baz=100,slow=33							
ARMA	**Armidale**	**29.44**	**251**	P		**P**	**00 16 27.3**	**+1.6**
ARMA				IAmb		IAmb	00 16 34.5	
	comp=Z,9.3nm,1.1s							
EIDS	**Eidsvold**	**30.00**	**261**	P		**P**	**00 16 30.2**	**-0.3**
EIDS				IAmb		IAmb	00 16 40.6	
	comp=Z,5.6nm,0.9s							
CTAO	**Charters Tower**	**35.29**	**269**	P		**P**	**00 17 17.2**	**+0.3**
CTAO				IAmb		IAmb	00 17 18.2	
	comp=Z,14nm,0.9s							
STKA	**Stephens Creek**	**38.09**	**249**	P		**P**	**00 17 42.6**	**+2.0**
STKA				IAmb		IAmb	00 17 54.7	
	comp=Z,12nm,1.0s							
STKA	**Stephens Creek**	**38.09**	**249**	P		**P**	**00 17 41.2**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=97,slow=12,SNR=6.6							
	comp=Z,2.0nm,0.5s							
PMG	**Port Moresby**	**38.28**	**286**	P		**P**	**00 17 41.4**	**-1.0**
COEN	**Coen**	**39.96**	**277**	P		**P**	**00 17 55.0**	**-1.5**
AS31	**Alice Springs**	**45.71**	**260**	P		**P**	**00 18 44.5**	**+1.5**
ASAR	**Alice Springs**	**45.71**	**260**	P		**P**	**00 18 42.7**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=95,slow=8.2,SNR=25							
ASAR				PcP		**PcP**	**00 20 23.1**	**+2.4**
	comp=Z,1.7nm,0.7s,baz=111,slow=3.9,SNR=8.7							
ASAR				LR		LR	00 35 20.2	
	comp=Z,119nm,20.8s,baz=304,slow=33							
	comp=Z,4.5nm,0.8s							
WR8	**Warramunga Arr**	**46.02**	**265**	P		**P**	**00 18 44.4**	**-1.1**
WR8				IAmb		IAmb	00 18 45.7	
	comp=Z,3.6nm,0.8s							
WB2	**Warramunga Arr**	**46.16**	**265**	P		**P**	**00 18 46.1**	**-0.5**
WB2				IAmb		IAmb	00 18 49.4	
	comp=Z,5.8nm,0.9s							
WRAB	**Tennant Creek**	**46.16**	**265**	P		**P**	**00 18 44.7**	**-2.0**
WRAB				IAmb		IAmb	00 18 54.0	
	comp=Z,9.0nm,1.0s							
WB0	**Warramunga Arr**	**46.17**	**266**	P		**P**	**00 18 45.6**	**-1.0**
WB0				IAmb		IAmb	00 18 46.8	
	comp=Z,5.6nm,0.8s							
WRA	**Warramunga Arr**	**46.17**	**265**	P		**P**	**00 18 45.5**	**-1.2**
WRA	**Warramunga Arr**	**46.17**	**265**	P		**P**	**00 18 45.5**	**-1.2**
	comp=Z,3.7nm,0.7s,baz=101,slow=8.2,SNR=19							
	comp=Z,3.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**54.59**	**265**	P		**P**	**00 19 50.9**	**+0.6**
PSA00	**Pilbara Seismi**	**58.81**	**259**	P		**P**	**00 20 19.6**	**-0.8**
PSA00				IAmb		IAmb	00 20 23.7	
	comp=Z,3.1nm,1.1s							
MBWA	**Marble Bar**	**59.03**	**259**	P		**P**	**00 20 22.1**	**+0.2**
MBWA				IAmb		IAmb	00 20 33.6	
	comp=Z,6.6nm,1.1s							
MORW	**Morawa**	**60.27**	**249**	P		**P**	**00 20 30.6**	**+0.2**
MORW				IAmb		IAmb	00 20 43.9	
	comp=Z,9.1nm,1.1s							
CASY	**Casey**	**61.34**	**206**	P		**P**	**00 20 34.6**	**-2.3**
CASY				IAmb		IAmb	00 20 43.6	
	comp=Z,7.9nm,1.0s							
KAPI	**Kappang**	**64.67**	**276**	LR		LR	00 47 24.6	
	comp=Z,128nm,21.4s,baz=294,slow=35							
JGF	**Kuroka**	**74.32**	**322**	P		**P**	**00 21 57.6**	**-1.5**
JGF				IAmb		IAmb	00 22 00.3	
	comp=Z,5.8nm,1.0s							
AMKA	**Amchitka**	**75.58**	**357**	P		**P**	**00 22 03.5**	**-2.4**
KIWB	**Kanaga Island**	**75.94**	**359**	P		**P**	**00 22 07.7**	**-0.3**
ADK	**Adak**	**75.96**	**359**	P		**P**	**00 22 06.0**	**-2.0**
UNV	**Unalaska Valle**	**78.34**	**6**	P		**P**	**00 22 22.9**	**+1.5**
MAW	**Mawson**	**78.58**	**200**	P		P	00 22 29.6	+6.9
	comp=Z,2.4nm,0.7s,baz=127,slow=7.1,SNR=8.2							
	comp=Z,2.4nm,0.7s							
LVA	**Lava Point**	**78.70**	**6**	P		**P**	**00 22 21.0**	**-2.4**
KMPM	**Mount Pierce**	**80.45**	**37**	P		**P**	**00 22 35.2**	**+1.8**
PETK	**Petropavlovsk-**	**80.55**	**344**	P		**P**	**00 22 33.0**	**-0.5**
	comp=Z,5.6nm,0.9s,baz=121,slow=7.6,SNR=6.3							
PETK				LR		LR	00 53 02.9	
	comp=Z,30nm,20.5s,baz=262,slow=32							
	comp=Z,5.6nm,0.9s							
PFO	**Pinyon Flats O**	**80.72**	**47**	LR		LR	00 50 03.1	
	comp=Z,33nm,21.5s,baz=297,slow=30							
H03S2	**Juan Fernandez**	**82.15**	**123**	T		T	01 54 33.3	
	baz=245,slow=74,SNR=262							
H03S1	**Juan Fernandez**	**82.16**	**123**	T		T	01 54 39.4	
	baz=245,slow=74,SNR=242							
H03S3	**Juan Fernandez**	**82.17**	**123**	T		T	01 54 32.0	
	baz=245,slow=74,SNR=275							
H03N2	**Juan Fernandez**	**82.30**	**123**	T		T	01 54 42.0	
	baz=245,slow=74,SNR=89							
H03N3	**Juan Fernandez**	**82.30**	**123**	T		T	01 54 35.8	
	baz=262,slow=74,SNR=154							
H03N1	**Juan Fernandez**	**82.32**	**123**	T		T	01 54 09.7	
	SNR=89							
BBOR	**Butler Butte**	**82.92**	**36**	P		**P**	**00 22 44.9**	**-1.5**
USRK	**Ussuriysk Ar.**	**83.31**	**325**	P		**P**	**00 22 46.7**	**-1.5**
USRK	**Ussuriysk Ar.**	**83.31**	**325**	P		**P**	**00 22 48.0**	**-0.1**
	comp=Z,7nm,0.7s,baz=89,slow=2.5,SNR=4.5							
	comp=Z,2.7nm,0.7s							
TROLL	**Troll, Antarti**	**83.83**	**179**	⇑PKPdf		P	00 22 57.7	+6.9
	comp=Z,108nm,0.5s							
SNAA	**Sanae**	**84.06**	**178**	⇑PKPdf		P	00 22 57.2	+5.4
	comp=Z,32nm,0.8s							
SNAA	**Sanae**	**84.06**	**178**	P		P	00 22 58.5	+6.7
	comp=Z,1.4nm,0.8s,baz=190,slow=3.9,SNR=5.0							
	comp=Z,1.4nm,0.8s							
VNA3	**Neumayer Olymp**	**84.12**	**176**	⇑PKPdf		P	00 22 58.7	+6.6
	comp=Z,1.8nm,0.6s							
KDAK	**Kodiak Island**	**84.16**	**12**	LR		LR	00 54 18.4	
	comp=Z,44nm,19.5s,baz=312,slow=32							
VNA2	**Neumayer--Watz**	**84.58**	**176**	⇑PKPdf		P	00 23 01.0	+6.6
	comp=Z,1.9nm,0.6s,baz=180,slow=4.1							
VNA1	**Neumayer--Stat**	**84.80**	**176**	⇑PKPdf		P	00 23 01.5	+6.0
	comp=Z,4.0nm,1.1s							
TXAR	**Lajitas Array**	**87.50**	**56**	P		P	00 23 15.4	+5.8
	comp=Z,0.4nm,0.9s,baz=205,slow=8.0,SNR=4.1							
	comp=Z,0.4nm,0.9s							
NEW	**Newport**	**89.39**	**35**	LR		LR	00 54 22.6	
	comp=Z,27nm,21.0s,baz=9.0,slow=30							
CMAR	**Chiang Mai Arr**	**93.29**	**289**	P		**P**	**00 23 37.8**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=157,slow=1.8,SNR=4.3							
	comp=Z,0.6nm,0.3s							
BVAR	**Borovoye Array**	**123.34**	**319**	PKP		**PKiKP**	**00 29 19.6**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=107,slow=2.8,SNR=5.9							
FINES	**FINESS Array B**	**140.07**	**344**	PKP		**PKiKP**	**00 29 53.6**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=150,slow=5.8,SNR=4.7							
HFS	**Hagfors**	**143.68**	**352**	PKhKP		PKPpre	00 29 54.2	
	comp=Z,1.2nm,0.5s,baz=48,slow=2.2,SNR=12							
HFS				PKP		**PKiKP**	**00 29 57.7**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=73,slow=7.0,SNR=6.3							
HOMB	**Homborsund**	**146.02**	**356**	*i* P		**PKPab**	**00 30 01.8**	**+0.4**
BORU	**Boraas**	**146.23**	**352**	*i* P		**PKPbc**	**00 30 01.4**	**0.0**
ONAU	**Onsala**	**146.57**	**352**	*i* P		**PKPbc**	**00 30 02.9**	**+0.5**
FABU	**Falkenberg**	**146.85**	**351**	*i* P		**PKPab**	**00 30 04.2**	**-0.3**
BLEU	**Blekinge**	**147.02**	**348**	*i* P		**PKPbc**	**00 30 03.9**	**+0.2**
DEL	**Delary**	**147.20**	**350**	*i* P		**PKPab**	**00 30 05.2**	**-0.7**
AKASG	**Malin Array Be**	**147.39**	**330**	PKPbc		**PKPbc**	**00 30 05.8**	**+0.8**
	comp=Z,3.4nm,0.6s,baz=44,slow=3.8,SNR=21							
MUD	**Monsted U'grnd**	**147.78**	**355**	*i* P		**PKiKP**	**00 30 07.7**	**-0.1**
LUNU	**Lund**	**148.07**	**350**	*i* P		**PKiKP**	**00 30 07.7**	**-0.8**
EKA	**Eskdalemuir Ar**	**148.64**	**8**	PKPbc		**PKiKP**	**00 30 10.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=333,slow=3.5,SNR=5.0							
BRTR	**Keskin Array B**	**150.90**	**309**	PKPbc		**PKiKP**	**00 30 15.8**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=150,slow=4.8,SNR=14							
MMAI	**Mount Meron Ar**	**151.38**	**295**	PKPbc		**PKiKP**	**00 30 18.4**	**+2.2**
	comp=Z,6.0nm,0.7s,baz=63,slow=3.9,SNR=20							
OSTC	**Ostas**	**152.28**	**343**	*e*PKP		**PKiKP**	**00 30 19.4**	**+2.1**
CHVC	**Chvalec**	**152.29**	**344**	*e*PKP		**PKiKP**	**00 30 19.3**	**+1.9**
CLL	**Collm**	**152.30**	**348**	*i* PKPbc		**PKiKP**	**00 30 19.1**	**+1.8**
	comp=Z,6.0nm,1.0s							
CLL				*ex*		x	00 30 24.0	
STEB	**Steborice**	**152.40**	**341**	*e*PKP		**PKiKP**	**00 30 19.4**	**+1.8**
DPC	**Dobruska-Polom**	**152.44**	**343**	*e*PKP		**PKiKP**	**00 30 20.1**	**+2.4**
BRG	**Berggiesshubel**	**152.52**	**347**	P		PKPab	00 30 39.4	+12
BRG				Amp			00 30 40.4	
	comp=Z,3.0nm,0.8s							
KRLC	**Kraliky**	**152.56**	**342**	*e*PKP		**PKiKP**	**00 30 20.0**	**+2.0**
KHC	**Kasperske Hory**	**154.24**	**346**	*e*PKP		**PKiKP**	**00 30 22.8**	**+1.3**
KHC				*ex*		x	00 30 37.5	

*NIED **27** 00:41:21.1,38.˚50N×142.˚15E, h39km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.58; $M_{\theta\theta}$5.22; $M_{\phi\phi}$-3.64; $M_{r\theta}$2.18; $M_{\theta\phi}$0.94; $M_{\phi r}$5.24; Fault plane solution: $M_0$7.29000×1014 NP1: ϕ_s120.00000°, δ41.00000°, λ-14.00000°. NP2: ϕ_s221.00000°, δ81.00000°, λ-131.00000°.*
*JMA **27** 00:41:21.1±0.1,38.˚5N±0.˚3×142.˚2E±0.˚8, h39km±1km, MD4.0/39, MV4.1/39, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF
*IDC **27** 00:41:24.4±2.0,38.˚41N×142.˚10E, h66km±18km, mb3.5/14, mbtmp3.8/18, MS2.8/1, Error ellipse: s-maj=21.4km s-min=13.4km az=98.0*
ISC 27 00:41:20.4±1.9,38.˚45N±0.˚04×142.˚16E±0.˚09, h30km±12km, n52, σ1s79/47, mb3.8/14, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JIKH	**Ishinomakibobu**	**0.56**	**256**	⇓*i* P		**Pn**	**00 41 32.5**	**+0.2**
JIKH				⇓S		**Sb**	**00 41 40.4**	**+0.7**
JIKH	**Ishinomakibobu**	**0.56**	**256**	A		A	00 41 32.5	
	comp=N,13nm,0.3s,comp=E,9.0nm,0.3s							
JIO	**Ouri**	**0.64**	**271**	⇓*i* P		**Pn**	**00 41 33.4**	**+0.1**
JIO				⇓S		**Sb**	**00 41 42.1**	**+0.3**
JKMT	**Kesennumamotoy**	**0.65**	**304**	⇓*i* P		**Pn**	**00 41 33.4**	**-0.1**
JKMT				⇓S		**Sb**	**00 41 42.0**	**0.0**
JKMT	**Kesennumamotoy**	**0.65**	**304**	A		A	00 41 33.4	
	comp=N,18nm,0.5s,comp=E,12nm,0.5s							
OFUJ	**Ofunato**	**0.74**	**329**	⇓*i* P		**Pn**	**00 41 34.5**	**-0.3**
OFUJ				⇓S		**Sb**	**00 41 43.2**	**-1.4**
OFUJ	**Ofunato**	**0.74**	**329**	A		A	00 41 34.5	
	comp=N,11nm,0.5s,comp=E,8.0nm,1.4s							
JMK	**Ichinoseki**	**0.89**	**305**	⇓*i* P		**Pb**	**00 41 36.9**	**-0.5**
JMK				⇓S		**Sb**	**00 41 48.1**	**-0.8**
JOFO	**Osakifurukawao**	**0.99**	**279**	A		A	00 41 38.6	
	comp=N,13nm,0.8s,comp=E,22nm,0.7s							
JOU	**Okura**	**1.18**	**267**	⇓P		**Pn**	**00 41 41.3**	**+0.6**
JOU				⇓S		**Sn**	**00 41 56.6**	**+0.7**
JOU	**Okura**	**1.18**	**267**	A		A	00 41 41.3	
	comp=N,7.0nm,0.6s,comp=E,4.0nm,0.9s							
JMM	**Marumori**	**1.23**	**242**	P		**Pn**	**00 41 41.8**	**+0.4**
JMM	**Marumori**	**1.23**	**242**	S		**Sb**	**00 41 59.0**	**+0.7**
JMM	**Marumori**	**1.23**	**242**	⇓*i* P		**Pn**	**00 41 41.4**	**+0.1**
JOM	**Ohasama**	**1.23**	**327**	*i* P		**Pn**	**00 41 41.7**	**+0.2**
JOM	**Ohasama**	**1.23**	**327**	A		A	00 41 41.7	
	comp=N,5.0nm,0.3s,comp=E,8.0nm,0.3s							
JYK	**Kaneyama**	**1.49**	**289**	⇓*i* P		**Pn**	**00 41 45.7**	**+0.7**
JRG	**Rokugo**	**1.52**	**309**	*e*P		**Pn**	**00 41 46.1**	**+0.6**
JTM	**Tenmabayashi**	**2.48**	**340**	P		**Pn**	**00 42 00.1**	**+1.4**
JTM	**Tenmabayashi**	**2.48**	**340**	S		**Sb**	**00 42 31.6**	**-2.9**
JSD	**Sado**	**3.10**	**264**	P		**Pn**	**00 42 09.3**	**+2.2**
ERM	**Erimo**	**3.65**	**12**	P		**Pn**	**00 42 15.4**	**+0.8**
JEM	**Erimo**	**3.65**	**12**	P		**Pn**	**00 42 15.8**	**+1.2**
MJAR	**Matsushiro Ar**	**3.67**	**240**	P		**Pn**	**00 42 17.9**	**+2.8**
	comp=E,4.6nm,0.5s,baz=46,slow=11,SNR=20							
MJAR				S		**Sb**	**00 43 05.7**	**-3.0**
	comp=E,11nm,0.6s,baz=94,slow=9.3,SNR=6.4							
MJAR				LR		LR	00 43 56.6	
	comp=E,118nm,19.2s,baz=180,slow=42							
MAJO	**Matsushiro**	**3.67**	**240**	P		**Pn**	**00 42 18.5**	**+3.4**
JGF	**Kuroka**	**4.78**	**235**	P		**Pn**	**00 42 33.9**	**+3.6**
JHJ2	**Mitsune**	**5.65**	**200**	P		**Pn**	**00 42 44.4**	**+2.1**
JHJ	**Hachijo jima 2**	**5.66**	**201**	P		**Pn**	**00 42 44.4**	**+2.1**
	comp=E,28nm,0.3s,baz=109,slow=21,SNR=5.5							
JHJ				S		**Sn**	**00 43 43.8**	**-2.4**
	comp=E,123nm,0.4s,baz=241,slow=24,SNR=6.2							
ASAJ	**Asahikawa**	**5.67**	**3**	P		Pn	00 42 46.9	+4.4
	comp=E,4.6nm,0.2s,baz=225,slow=15,SNR=7.5							
ASAJ				S		**Sn**	**00 43 50.8**	**+4.2**
	comp=E,12nm,0.3s,baz=203,slow=12,SNR=3.6							
USRK	**Ussuriysk Ar.**	**9.57**	**310**	P		Pn	00 43 40.5	+4.6
	comp=E,5.4nm,0.8s,baz=119,slow=13,SNR=6.2							
JCJ	**Chichijima**	**11.32**	**180**	S		**Sn**	**00 45 59.4**	**-6.0**
	comp=E,25nm,0.7s,baz=95,slow=23,SNR=1.8							
H11N2	**WAKE ISLAND Hy**	**28.40**	**124**	T		T	01 17 12.8	
	baz=316,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.41**	**124**	T		T	01 17 08.5	
	baz=316,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.42**	**124**	T		T	01 17 01.4	
	baz=

comp=Z,0.5nm,0.6s,baz=39,slow=5.9,SNR=3.9
comp=Z,0.5nm,0.6s
AKASG Malin Array Be 73.54 322 P **P 00 52 49.7 -0.4**
comp=Z,0.2nm,0.3s,baz=46,slow=5.3,SNR=4.4
comp=Z,0.2nm,0.3s
PDAR Pinedale Array 76.26 46 P **P 00 53 06.6 +0.3**
comp=Z,0.8nm,0.5s,baz=300,slow=4.8,SNR=7.4
comp=Z,0.8nm,0.5s
TXAR Lajitas Array 88.79 53 P **P 00 54 11.6 0.0**
comp=Z,0.3nm,0.5s,baz=311,slow=4.5,SNR=8.1
comp=Z,0.3nm,0.5s

KRSC 27 01:07:54.1±1.5, 55°.32N×166°.24E, h39km±11km, MI3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.19**	**233**	*e*P	Pn	01 08 01.5	-0.4
BKI				*e*S	Sn	01 08 06.8	-1.3
KBTR	**Krutoberegovo**	**2.13**	**296**	*e*P	Pn	01 08 27.5	+0.4
MKZ	**Mys Kozlova**	**2.71**	**256**	*e*P	Pn	01 08 38.1	+3.1
BZGR	**Bezymyannyi-Gr**	**3.20**	**284**	*e*P	Pn	01 08 45.6	+3.6
BZGR				*e*S	Sn	01 09 22.6	+3.7
BZP	**Bezymyannyi-Pe**	**3.29**	**283**	*e*P	Pn	01 08 46.5	+3.4
BZMR	**Bezymyannaya**	**3.32**	**283**	*e*P	Pn	01 08 47.0	+3.5
BZWR	**Bezymyannyi-We**	**3.32**	**284**	*e*P	Pn	01 08 47.4	+3.9
TUMD	**Tumrok D**	**3.34**	**270**	*e*P	Pn	01 08 47.5	+3.8
TUMD				*e*S	Sn	01 09 27.4	+5.2
KIRR	**Kirishev**	**3.40**	**283**	*e*P	Pn	01 08 49.2	+4.5
KIRR				*e*S	Sn	01 09 29.9	+6.1
KMNR	**Kamenistaya**	**3.44**	**280**	*e*P	Pn	01 08 49.1	+3.9
KPT	**Kopyto**	**3.47**	**283**	*e*P	Pn	01 08 49.5	+4.0
SPN	**Mys Shipunski**	**4.27**	**241**	*e*P	Pn	01 08 60.0	+3.5
SPN				*e*S	Sn	01 09 47.5	+2.5
NLC	**Nalytchevo**	**4.58**	**245**	*e*P	Pn	01 09 04.4	+3.7
NLC				*e*S	Sn	01 09 56.1	+3.6
SDLR	**Sedlovina**	**4.77**	**248**	*e*P	Pn	01 09 08.2	+4.8
SMAR	**Somma**	**4.82**	**248**	*e*P	Pn	01 09 09.0	+4.8
KRER	**Koryakskii**	**4.83**	**248**	*e*P	Pn	01 09 09.3	+5.0
UGLR	**Uglovaya**	**4.83**	**247**	*e*P	Pn	01 09 09.1	+4.8
AVH	**Avacha**	**4.85**	**248**	*e*P	Pn	01 09 09.6	+5.1
KRX	**Arik**	**4.85**	**249**	*e*P	Pn	01 09 09.6	+5.0
KOK	**Koryaka**	**4.89**	**249**	*e*P	Pn	01 09 10.0	+4.9
DALK	**Dalny**	**4.96**	**246**	*e*P	Pn	01 09 10.2	+4.4
DALK				*e*S	Sn	01 10 06.8	+5.0
PALN	**Palana**	**5.09**	**321**	*e*P	Pn	01 09 12.4	+4.7
GNL	**Ganaly**	**5.10**	**255**	*e*P	Pn	01 09 12.3	+4.3
MTVR	**Mutnovka**	**5.54**	**243**	*e*P	Pn	01 09 18.8	+4.7
GRL	**Gorelyy**	**5.56**	**243**	*e*P	Pn	01 09 19.5	+5.2
ASAK	**Asacha**	**5.74**	**243**	*e*P	Pn	01 09 21.9	+5.2

TRN 27 01:15:56.5, 10°.68N×62°.45W, h64km, MD3.1, Paria peninsula.
FUNV 27 01:15:57.1, 10°.63N×62°.40W, h67km, MW3.7
ISC 27 01:15:54.1±2.6, 10°.61N±0°.09×62°.40W±0°.10, h99km±32km, n11, σ1§66/18, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMDM	**Guralp CMG5TDE**	**0.84**	**84**	*e*P	**Pn**	**01 16 13.9**	**+1.1**
DMDM				*e*S	**Sn**	**01 16 25.8**	**-1.1**
PSGH	**Port of Spain**	**0.88**	**86**	*e*P	**Pn**	**01 16 14.3**	**+1.1**
PSGH				*e*S	**Sn**	**01 16 26.7**	**-0.9**
TRN	**Trinidad (W)**	**0.98**	**88**	*e*P	**Pn**	**01 16 15.1**	**+0.8**
TRN				*e*S	**Sn**	**01 16 28.1**	**-1.3**
GRFF	**Grenada Fort F**	**1.57**	**24**	*e*S	**Sn**	**01 16 40.5**	**-1.4**
GRGR	**Grenville**	**1.69**	**26**	*e*P	**Pn**	**01 16 23.8**	**+1.1**
GRGR				*e*S	**Sn**	**01 16 43.1**	**-1.3**
GRSS	**Sisters**	**1.85**	**25**	*e*P	**Pn**	**01 16 26.0**	**+1.2**
GRSS				*e*S	**Sn**	**01 16 46.9**	**-1.2**
PCRV	**Puerto La Cruz**	**2.24**	**259**	*e*P	**Pn**	**01 16 31.3**	**+1.5**
PCRV				*e*S	**Sn**	**01 16 55.8**	**-1.4**
PCRV	**Puerto La Cruz**	**2.24**	**259**	*e*P	**Pn**	**01 16 31.9**	**+2.1**
PCRV				*e*S	**Sn**	**01 16 56.6**	**-0.5**
CACV	**CAICARA DEL OR**	**5.08**	**234**	*e*P	Pn	01 17 03.8	-4.1
CACV				*e*S	Sn	01 17 54.1	-11
BAUV	**El Baul**	**5.80**	**254**	*e*P	**Pn**	**01 17 18.8**	**+1.1**
BAUV				*e*S	**Sn**	**01 18 19.6**	**-3.2**
BAUV	**El Baul**	**5.80**	**254**	*e*S	**Sn**	**01 18 21.1**	**-1.8**

IDC 27 01:45:43.4±3.7, 44°.25N×147°.25E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=107.8km s-min=42.9km az=6.0
SKHL 27 01:45:45.0±0.2, 43°.50N×147°.70E, h60km±5km, mb5.0/5
NEIC 27 01:45:46.6±1.8, 43°.7N±0°.1×147°.6E±0°.1, h35km±2km, mb4.4/27, Error ellipse: s-maj=21.6km s-min=14.6km az=139.0
MOS 27 01:45:47.0±1.1, 43°.80N×147°.34E, h47km, mb4.5/6, Error ellipse: s-maj=12.4km s-min=10.5km az=69.5
MOS Felt (III) at Malokuril'skoye.
JMA 27 01:45:47.0±0.3, 44°.4N±1°.1×147°.7E±°, h24km, MV4.0/29, E OFF HOKKAIDO
ISC 27 01:45:46.8±0.8, 43°.63N±0°.06×147°.47E±0°.06, h47km±5km, n89, σ1§28/101, mb4.2/27, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.23**	**290**	*d*iPN	**Pn**	**01 46 06.8**	**-0.8**
YUK				*i*S	**Sn**	**01 46 20.7**	**-2.4**
YUK				pmax	pmax		
	comp=N,226nm,0.1s						
YUK				pmax	pmax		
	comp=E,265nm,0.1s						
YUK				pmax	pmax		
	comp=Z,1μm,0.1s						
YUK				smax	smax		
	comp=N,4μm,0.1s						
YUK				smax	smax		
	comp=E,3μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.23**	**290**	*i*P	**Pn**	**01 46 06.8**	**-0.8**
YUK				AMB	AMB	01 46 08.0	
	comp=E,950nm,0.2s						
YUK				*e*S	**Sn**	**01 46 21.0**	**-2.1**
YUK				A	A	01 46 22.4	
	comp=E,2μm,0.2s						
YUK				A	A	01 46 22.4	
	comp=E,2μm,0.2s						
NEM2	**Nemuro 2**	**1.29**	**259**	P	**Pn**	**01 46 07.7**	**-0.6**
NEM2				S	**Sn**	**01 46 22.6**	**-1.8**
NMR	**Nemuro--Hokkai**	**1.30**	**259**	⇓*i*PN	**Pn**	**01 46 07.7**	**-0.7**
NMR				*i*S	**Sn**	**01 46 22.6**	**-2.0**
NMR	**Nemuro--Hokkai**	**1.30**	**259**	*i*P	**Pn**	**01 46 07.8**	**-0.7**
NMR				AMB	AMB	01 46 09.7	
	comp=E,160nm,0.2s						
NMR				*i*S	**Sn**	**01 46 22.9**	**-1.7**
NMR				A	A	01 46 25.9	
	comp=E,560nm,0.2s						
NMR				A	A	01 46 25.9	
	comp=E,290nm,0.2s						
GLVR	**Golovnino**	**1.42**	**275**	⇓*i*PN	**Pn**	**01 46 10.0**	**-0.2**
GLVR				*i*S	**Sn**	**01 46 26.9**	**-0.8**
GLVR				pmax	pmax		
	comp=E,247nm,0.1s						
GLVR				pmax	pmax		
	comp=E,651nm,0.1s						
GLVR				smax	smax		
	comp=E,2μm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.2s						
GLVR	**Golovnino**	**1.42**	**275**	*i*P	**Pn**	**01 46 10.0**	**-0.2**
GLVR				AMB	AMB	01 46 11.0	
	comp=N,650nm,0.2s						
GLVR				*i*S	**Sn**	**01 46 26.9**	**-0.8**
GLVR				A	A	01 46 29.6	
	comp=N,3μm,0.4s						
GLVR				A	A	01 46 29.6	
	comp=N,2μm,0.4s						
KUR	**Kuril'sk**	**1.62**	**10**	⇑*i*PN	**Pn**	**01 46 12.7**	**-0.2**
KUR				*i*S	**Sn**	**01 46 31.1**	**-1.5**
KUR				pmax	pmax		
	comp=Z,161nm,0.2s						
KUR				smax	smax		
	comp=N,960nm,0.2s						
KUR				smax	smax		
	comp=E,535nm,0.2s						
KUR	**Kuril'sk**	**1.62**	**10**	*e*P	**Pn**	**01 46 13.2**	**+0.3**
KUR				AMB	AMB	01 46 14.9	
	comp=E,100nm,0.3s						
KUR				*i*S	**Sn**	**01 46 32.4**	**-0.2**
KUR				A	A	01 46 33.3	
	comp=E,760nm,0.2s						
KUR				A	A	01 46 33.3	
	comp=E,610nm,0.2s						
RUSJ	**Misakicho**	**1.68**	**287**	*e*PN	**Pn**	**01 46 13.7**	**0.0**
RUSJ				*i*S	**Sn**	**01 46 34.0**	**0.0**
JRA	**Rausu**	**1.73**	**281**	P	**Pn**	**01 46 14.3**	**-0.1**
JRA				*e*S	**Sn**	**01 46 34.3**	**-1.0**
JKHN	**Kushirohamanak**	**1.77**	**253**	P	**Pn**	**01 46 15.0**	**0.0**
JKHN				S	**Sn**	**01 46 35.2**	**-1.1**
JNSB	**Nemuroshibetsu**	**1.80**	**275**	P	**Pn**	**01 46 15.5**	**+0.3**
JNSB				S	**Sn**	**01 46 35.9**	**-1.0**
JNK	**Nakash**	**2.00**	**270**	P	**Pn**	**01 46 17.8**	**-0.3**
JNK				S	**Sn**	**01 46 40.9**	**-1.1**
AKK	**Akkeshi**	**2.02**	**253**	*i*P	**Pn**	**01 46 18.1**	**-0.2**
AKK				*i*S	**Sn**	**01 46 41.1**	**-1.2**
JAK	**Akkeshi**	**2.12**	**254**	P	**Pn**	**01 46 19.5**	**-0.2**
JAK				S	**Sn**	**01 46 43.7**	**-1.3**
JTKR	**Abashiri--Toko**	**2.60**	**279**	S	**Sn**	**01 46 58.7**	**+2.0**
JOB	**Onbets**	**2.76**	**256**	*i*P	**Pn**	**01 46 28.9**	**+0.5**
JOB				S	**Sn**	**01 46 59.5**	**-1.0**
JCH	**Churui**	**3.18**	**253**	P	**Pn**	**01 46 35.2**	**+0.9**
JCH				S	**Sn**	**01 47 09.8**	**-1.1**
JKA	**Kamikawa-asahi**	**3.56**	**279**		**Pn**	**01 46 40.6**	**+1.2**
JEM	**Erimo**	**3.56**	**244**	P	**Pn**	**01 46 42.0**	**+2.5**
JEM				*e*S	**Sn**	**01 47 22.6**	**+2.3**
ERM	**Erimo**	**3.56**	**244**	Pn	**Pn**	**01 46 40.6**	**+1.1**
ERM	**Erimo**	**3.56**	**244**	*d*iPN	**Pn**	**01 46 41.9**	**+2.4**
YSS	**Yuzhno-Sakhali**	**4.70**	**317**	*e*P	**Pn**	**01 46 56.9**	**+1.8**
YSS				AMB	AMB	01 46 59.5	
	comp=E,60nm,0.2s						
JTM	**Tenmabayashi**	**5.54**	**241**	Pn	**Pn**	**01 47 06.7**	**0.0**
TEY	**Ternei**	**7.92**	**284**	*e*PN	Pn	01 47 32.9	-6.3
TEY	**Ternei**	**7.92**	**284**	*e*P	**Pn**	**01 47 42.0**	**+2.8**
PEA0B	**Petropavlovsk-**	**11.65**	**32**	Pn	**Pn**	**01 48 29.5**	**-0.8**
PEA0B	**Petropavlovsk-**	**11.65**	**32**	PN	**Pn**	**01 48 29.5**	**-0.8**
PSTR	**Posyet**	**12.22**	**271**	⇑*e*PN	**Pn**	**01 48 39.6**	**+1.5**
MA2	**Magadan**	**16.09**	**6**	⇑*e*P	**Pn**	**01 49 30.8**	**-1.4**
MA2				pmax	pmax		
	comp=Z,17nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.86**	**140**	T	T	02 22 19.3	
	baz=330,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.87**	**140**	T	T	02 22 27.5	
	baz=330,slow=76						
H11N3	**WAKE ISLAND Hy**	**28.88**	**140**	T	T	02 22 34.7	
	baz=330,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.83**	**141**	T	T	02 23 41.0	
	baz=332,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.83**	**141**	T	T	02 23 34.1	
	baz=332,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.85**	**141**	T	T	02 23 42.3	
	baz=332,slow=76						
O15K	**Ungalikthiuk R**	**35.31**	**45**	P	**P**	**01 52 34.5**	**-2.5**
K17K	**Iditarod**	**36.31**	**39**	P	**P**	**01 52 44.8**	**-0.7**
K17K				IAmb	IAmb	01 53 24.8	
	comp=Z,5.1nm,1.0s						
G18K	**Tagagawik**	**36.60**	**34**	P	**P**	**01 52 48.0**	**0.0**
G18K				IAmb	IAmb	01 53 13.4	
	comp=Z,7.3nm,1.4s						
L18K	**Granite Mounta**	**37.01**	**40**	P	**P**	**01 52 52.5**	**+1.0**
L18K				IAmb	IAmb	01 53 29.0	
	comp=Z,4.0nm,1.2s						
F19K	**Shaleruckik Mo**	**37.13**	**32**	P	**P**	**01 52 53.5**	**+1.1**
F19K				IAmb	IAmb	01 53 34.5	
	comp=Z,12nm,1.4s						
D19K	**Kuna River**	**37.35**	**30**	P	**P**	**01 52 53.2**	**-1.1**
E19K	**Redstone River**	**37.45**	**31**	P	**P**	**01 52 55.3**	**+0.1**
C23K	**Itkillik River**	**40.23**	**28**	P	**P**	**01 53 19.0**	**+0.6**
BWN	**Browne**	**40.34**	**37**	P	**P**	**01 53 20.1**	**+0.8**
E24K	**Your Creek**	**40.83**	**31**	P	**P**	**01 53 24.6**	**+1.2**
E24K				IAmb	IAmb	01 54 02.9	
	comp=Z,15nm,1.4s						
COLA	**College**	**41.03**	**36**	⇓*e*P	**P**	**01 53 23.7**	**-1.3**
COLA				pmax	pmax		
	comp=Z,12nm,2.0s						
F24K	**Squaw Lake**	**41.03**	**32**	P	**P**	**01 53 24.6**	**-0.5**
F24K				IAmb	IAmb	01 53 30.4	
	comp=Z,5.6nm,1.3s						
DHY	**Denali Highway**	**41.31**	**39**	P	**P**	**01 53 28.8**	**+1.3**
DHY				IAmb	IAmb	01 53 48.5	
	comp=Z,7.8nm,1.4s						
F25K	**Christian Rive**	**41.90**	**32**	P	**P**	**01 53 32.9**	**+0.7**
C27K	**Jago River**	**42.61**	**29**	P	**P**	**01 53 39.0**	**+1.1**
K27K	**Chicken**	**43.59**	**37**	P	**P**	**01 53 47.2**	**+1.4**
L27K	**Beaver Creek,**	**43.82**	**38**	P	**P**	**01 53 48.7**	**+0.9**
BCAR	**Beaver Creek A**	**43.84**	**38**	P	**P**	**01 53 48.3**	**+0.4**
I28M	**Miner Creek**	**44.32**	**35**	P	**P**	**01 53 53.4**	**+1.6**
TABL	**Table Mountain**	**44.60**	**42**	P	**P**	**01 53 53.8**	**-0.4**
E29M	**Blow River**	**44.77**	**30**	P	**P**	**01 53 55.2**	**0.0**
E29M				IAmb	IAmb	01 54 03.2	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**44.85**	**298**	P	**P**	**01 53 56.2**	**0.0**
MKAR	**Makanchi Array**	**44.85**	**298**	P	**P**	**01 53 55.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=80,slow=9.3,SNR=2.5						
	comp=Z,0.2nm,0.3s						
I30M	**Mount Dempster**	**45.83**	**35**	P	**P**	**01 54 04.5**	**+0.8**
J30M	**Hart River**	**45.97**	**36**	P	**P**	**01 54 04.8**	**-0.1**
J30M				IAmb	IAmb	01 54 43.9	
	comp=Z,5.0nm,1.4s						
G31M	**Satah River**	**46.35**	**32**	P	**P**	**01 54 07.1**	**-0.6**
G31M				IAmb	IAmb	01 54 49.3	
	comp=Z,7.2nm,1.4s						
INK	**Inuvik**	**46.38**	**30**	P	**P**	**01 54 08.9**	**+1.0**
INK				IAmb	IAmb	01 54 34.1	
	comp=Z,5.4nm,1.4s						
INK	**Inuvik**	**46.38**	**30**	P	**P**	**01 54 08.9**	**+1.0**
INK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
F31M	**Tsiigehtchic**	**46.46**	**31**	P	**P**	**01 54 08.9**	**+0.4**
F31M				IAmb	IAmb	01 54 44.1	
	comp=Z,3.6nm,0.6s						
H31M	**Peel River**	**46.55**	**34**	P	**P**	**01 54 11.1**	**+1.8**
H31M				IAmb	IAmb	01 54 14.3	
	comp=Z,8.9nm,1.4s						
FAKI	**Fak Fak**	**48.33**	**201**	P	**P**	**01 54 22.9**	**-0.7**
C36M	**Paulatuk**	**49.47**	**28**	P	**P**	**01 54 32.4**	**+0.7**
C36M				IAmb	IAmb	01 54 38.0	
	comp=Z,7.8nm,1.2s						
KDJ	**Kajisay**	**50.08**	**294**	P	**P**	**01 54 37.6**	**+0.5**
KDJ	**Kajisay**	**50.08**	**294**	P	**P**	**01 54 37.6**	**+0.5**
KDJ				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AB31	**Akbulak array**	**57.32**	**309**	P	**P**	**01 55 29.5**	**-0.1**
AB31				IAmb	IAmb	01 55 30.2	
	comp=Z,3.7nm,1.5s						
ABKAR	**Akbulak array**	**57.32**	**309**	P	**P**	**01 55 29.6**	**-0.1**
ARCES	**ARCESS Array B**	**59.44**	**340**	P	**P**	**01 55 43.0**	**-1.1**
	comp=Z,2.4nm,1.1s,baz=61,slow=6.4,SNR=1.1						
	comp=Z,2.4nm,1.1s						
FINES	**FINESS Array B**	**65.08**	**333**	P	**P**	**01 56 21.1**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=43,slow=7.7,SNR=22						
	comp=Z,1.2nm,0.4s						
MNK	**Minsk**	**69.55**	**327**	*i*P	**P**	**01 56 49.6**	**-0.7**
MNK				*i* *PP	**sP**	**01 57 06.0**	**-3.0**
MNK				*i*		01 59 23.9	
MNK				*i* PPP	PPP	02 01 05.5	
MNK				*i*S	**S**	**02 05 53.7**	**-0.7**
MNK				*i* *SS	**sS**	**02 06 21.9**	**+5.0**
MNK				*i*SS	**SS**	**02 10 23.4**	**+1.7**
MNK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,4.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,34nm,17.0s						
MNK				MLR	MLR		
	comp=Z,39nm,15.0s						
MNK				MLR	MLR		
	comp=E,39nm,16.0s						
NB2	**NORSAR Subarra**	**69.80**	**339**	P	**P**	**01 56 50.8**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.80**	**339**	P	**P**	**01 56 51.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=35,slow=6.6,SNR=4.8						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**69.89**	**337**	P	**P**	**01 56 51.6**	**-0.8**
	comp=Z,2.0nm,0.5s,baz=49,slow=4.9,SNR=25						
	comp=Z,2.0nm,0.5s						
KBZ	**Khabaz**	**70.05**	**312**	P	**P**	**01 56 53.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=300,slow=3.8,SNR=5.2						
	comp=Z,1.8nm,0.8s						
AKASG	**Malin Array Be**	**71.81**	**324**	P	**P**	**01 57 03.7**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=39,slow=6.3,SNR=8.1						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**71.81**	**324**	*i*P	**P**	**01 57 03.2**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	**Collm**	**77.53**	**333**	*i*P	**P**	**01 57 36.9**	**-0.3**
CLL	**Collm**	**77.53**	**333**	*i*Px	Px	01 57 36.9	
GERES	**GERESS Array B**	**79.37**	**331**	P	**P**	**01 57 47.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=50,slow=4.7,SNR=2.2						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**82.52**	**56**	P	**P**	**01 58 07.2**	**+2.5**
	comp=Z,0.1nm,0.5s,baz=298,slow=2.7,SNR=3.5						
	comp=Z,0.1nm,0.5s						
H03N2	**Juan Fernandez**	**142.73**	**90**	T	T	04 44 30.4	
	baz=304,slow=77						
H03N3	**Juan Fernandez**	**142.74**	**90**	T	T	04 44 31.2	
	baz=304,slow=77						
H03N1	**Juan Fernandez**	**142.74**	**90**	T	T	04 44 31.2	
	baz=304,slow=77						

IDC 27 01:58:00.8±1.4, 35°.93N×27°.72E, h0km, mb3.5/3, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=42.2km s-min=22.2km az=161.0
ISK 27 01:58:07.5, 35°.97N×27°.88E, h79km, ML3.3/18
HLW 27 01:58:09.5, 35°.72N×27°.86E, h32km±33km, Md3.8, MI3.8
NIC 27 01:58:09.5, 35°.67N×28°.10E, h32km±34km, MI3.0/13
ATH 27 01:58:10.1, 36°.00N×27°.79E, h61km±2km, ML3.3/7, Manual Solution by A.Moschou First location: 2019/08/27 01:59:30, This location: 2019/08/27 02:07:22 MI Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km
THE 27 01:58:10.5, 36°.N±2°×2°.8E±°, h58km±5km, M3.2/14, ML3.2/14
AFAD 27 01:58:10.5, 36°.14N×28°.01E, h43km±1km, ML3.2
GII 27 01:58:14.6±0.0, 35°.548N±0°.002×28°.548E±0°.001, h30km, Mws3.3, confirmed
ISC 27 01:58:07.6±0.8, 35°.84N±0°.03×28°.01E±0°.03, h68km±7km, n147, σ1§99/200, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RGE1	**Gennadi, Rhode**	**0.20**	**341**	P	**Pn**	**01 58 19.2**	**+1.2**
RGE1				S	**Sn**	**01 58 26.2**	**+0.7**
ARG	**Arkhangelos**	**0.39**	**14**	Pg	**Pn**	**01 58 20.5**	**+1.3**
ARG				Sg	**Sn**	**01 58 28.9**	**+1.2**
ARG	**Arkhangelos**	**0.39**	**14**	P	**Pn**	**01 58 20.5**	**+1.3**
ARG				S	**Sn**	**01 58 28.8**	**+1.2**
ARG	**Arkhangelos**	**0.39**	**14**	P	**Pn**	**01 58 20.5**	**+1.3**
ARG				AML	AML	01 58 28.8	
	13nm,0.6s						
ARG				S	**Sn**	**01 58 29.0**	**+1.2**
ARG				AML	AML	01 58 31.9	
	10nm,0.3s						
ARG	**Arkhangelos**	**0.39**	**14**	P	**Pn**	**01 58 20.5**	**+1.3**
ARG				S	**Sn**	**01 58 28.4**	**+0.7**
RODB	**Rodos**	**0.63**	**16**	P	**Pn**	**01 58 22.9**	**+1.4**
RODB				S	**Sn**	**01 58 32.7**	**+0.9**
RDI1	**Rhodes Town Ha**	**0.64**	**16**	P	**Pn**	**01 58 22.9**	**+1.3**
RDI1				S	**Sn**	**01 58 33.0**	**+1.1**
KARP	**Karpathos**	**0.75**	**247**	Pg	**Pn**	**01 58 24.3**	**+1.3**
KARP				Sg	**Sn**	**01 58 35.1**	**+0.8**
KARP	**Karpathos**	**0.75**	**247**	P	**Pn**	**01 58 24.2**	**+1.3**
KARP				S	**Sn**	**01 58 35.0**	**+0.8**
KARP	**Karpathos**	**0.75**	**247**	P	**Pn**	**01 58 24.3**	**+1.3**
KARP				AML	AML	01 58 35.0	
	14nm,0.2s						
KARP				AML	AML	01 58 35.1	
	9.2nm,0.1s						
KARP				S	**Sn**	**01 58 35.2**	**+0.9**
KARP	**Karpathos**	**0.75**	**247**	P	**Pn**	**01 58 24.3**	**+1.3**
KARP				S	**Sn**	**01 58 34.7**	**+0.4**
TURN	**Turunc**	**0.95**	**11**	P	**Pn**	**01 58 26.4**	**+1.1**
TURN				S	**Sn**	**01 58 37.2**	**-1.3**
YAZI	**Mula-Dat§a-**	**0.95**	**332**	P	**Pn**	**01 58 25.2**	**-0.2**
YAZI				S	**Sn**	**01 58 35.6**	**-3.0**
YAZI				*i* IAML		01 58 37.0	
	comp=N,761nm,0.3s						
YAZI				*i* IAML		01 58 37.0	
	comp=E,745nm,0.7s						
DAT	**Datca**	**0.95**	**339**	Pg	**Pn**	**01 58 25.2**	**-0.3**
DAT				Sg	**Sn**	**01 58 37.5**	**-1.3**
DAT	**Datca**	**0.95**	**339**	P	**Pn**	**01 58 25.5**	**0.0**
DAT				S	**Sn**	**01 58 37.1**	**-1.7**
DAT	**Datca**	**0.95**	**339**	P	**Pn**	**01 58 25.9**	**+0.3**
DAT				S	**Sn**	**01 58 35.3**	**-3.5**
DAT				*i* IAML		01 58 38.0	
	comp=N,1μm,0.2s						
DAT				*i* IAML		01 58 38.0	
	comp=E,1μm,0.3s						
NISR	**Nisiros**	**1.05**	**317**	P	**Pn**	**01 58 26.6**	**0.0**
NISR				S	**Sn**	**01 58 37.2**	**-3.6**
NISR	**Nisiros**	**1.05**	**317**	P	**Pn**	**01 58 25.7**	**-0.9**
NISR				S	**Sn**	**01 58 37.1**	**-3.6**
IZZE	**Mula-Seydike**	**1.15**	**58**	P	**Pn**	**01 58 29.4**	**+1.5**
IZZE				S	**Sn**	**01 58 41.7**	**-1.4**
IZZE				*i* IAML		01 58 44.0	
	comp=N,1μm,0.3s						
IZZE				*i* IAML		01 58 45.0	
	comp=E,912nm,0.3s						
SABU	**Mula-Dalaman**	**1.25**	**38**	P	**Pn**	**01 58 30.4**	**+1.2**
SABU				S	**Sn**	**01 58 42.7**	**-2.7**
BDRM	**Kayabasi**	**1.30**	**340**	P	**Pn**	**01 58 29.7**	**-0.2**
BDRM				S	**Sn**	**01 58 43.6**	**-3.1**
BDRM				*i* IAML		01 58 45.0	
	comp=E,726nm,0.2s						
KSL	**Kastellorizon**	**1.31**	**76**	P	**Pn**	**01 58 31.8**	**+1.8**
KSL				S	**Sn**	**01 58 48.8**	**+2.0**
KSL				AML	AML	01 58 51.2	
	0.6nm,0.3s						
KSL				AML	AML	01 58 51.6	
	0.7nm,0.3s						
KLNA	**Kalymnos**	**1.39**	**323**	P	**Pn**	**01 58 30.4**	**-0.6**
KLNA				S	**Sn**	**01

NAZL	**Nazilli-Aydin**	**2.13**	**6**	Pn	**Pn**	**01 58 40.9**	**-0.1**
THR6	**Thira Island,**	**2.18**	**284**	P	**Pn**	**01 58 42.1**	**+0.5**
THR6	**Thira Island,**	**2.18**	**284**	P	**Pn**	**01 58 41.8**	**+0.2**
THR3	**Thira Island,**	**2.19**	**286**	P	**Pn**	**01 58 42.0**	**+0.3**
THR3	**Thira Island,**	**2.19**	**286**	P	**Pn**	**01 58 41.8**	**+0.1**
SNT5	**Nea Kammeni, S**	**2.19**	**286**	P	**Pn**	**01 58 41.4**	**-0.3**
SNT5	**Nea Kammeni, S**	**2.19**	**286**	P	**Pn**	**01 58 41.4**	**-0.3**
KRL1	**Karlovasi Samo**	**2.21**	**332**	P	**Pn**	**01 58 41.6**	**-0.4**
THR5	**Thira Island,**	**2.23**	**286**	P	**Pn**	**01 58 42.5**	**+0.2**
THR5	**Thira Island,**	**2.23**	**286**	P	**Pn**	**01 58 42.8**	**+0.5**
IZMR	**zmir-demi**	**2.29**	**359**	P	**Pn**	**01 58 43.9**	**+0.8**
KIRA	**zmir-Kiraz**	**2.37**	**7**	P	**Pn**	**01 58 44.2**	**-0.1**
ANTB	**Antalya**	**2.38**	**63**	Pn	**Pn**	**01 58 46.7**	**+2.4**
ODEM	**Odemis-Izmir**	**2.43**	**1**	Pn	**Pn**	**01 58 44.9**	**-0.2**
IDI	**Anoyia**	**2.60**	**259**	Pn	**Pn**	**01 58 48.1**	**+0.7**
IDI	**Anoyia**	**2.60**	**259**	P	**Pn**	**01 58 47.6**	**+0.2**
IDI				S	**Sn**	**01 59 16.8**	**-1.2**
IDI	**Anoyia**	**2.60**	**259**	P	**Pn**	**01 58 47.6**	**+0.2**
BASM	**Basmaki-Afyon**	**2.64**	**38**	Pn	**Pn**	**01 58 48.6**	**+0.6**
BLCB	**Balcova**	**2.66**	**343**	Pn	**Pn**	**01 58 47.5**	**-0.6**
BLCB	**Balcova**	**2.66**	**343**	P	**Pn**	**01 58 47.5**	**-0.6**
BLCB				S	**Sn**	**01 59 16.6**	**-2.6**
ZEYE	**Izmir, Urla-Ze**	**2.68**	**334**	P	**Pn**	**01 58 47.8**	**-0.7**
KULA	**Kula-Manisa**	**2.72**	**11**	Pn	**Pn**	**01 58 48.7**	**-0.3**
URLA	**Izmir**	**2.76**	**336**	P	**Pn**	**01 58 49.4**	**-0.1**
ISP	**Isparta**	**2.83**	**45**	Pn	**Pn**	**01 58 51.3**	**+0.8**
ISP	**Isparta**	**2.83**	**45**	S	**Sn**	**01 59 29.6**	**+6.1**
CHOS	**Chios island**	**2.98**	**329**	P	**Pn**	**01 58 52.6**	**0.0**
GVD	**Gavdhos**	**3.36**	**254**	Pn	**Pn**	**01 58 58.8**	**+1.2**
GVD	**Gavdhos**	**3.36**	**254**	P	**Pn**	**01 58 58.8**	**+1.2**
GVD				S	**Sn**	**01 59 36.1**	**-0.3**
SEYD	**Seydisehir-KON**	**3.45**	**62**	Pn	**Pn**	**01 59 01.4**	**+2.3**
AKMS	**Akamas**	**3.63**	**102**	P	**Pn**	**01 59 02.7**	**+1.4**
AKMS				S	**Sn**	**01 59 43.8**	**+0.9**
AKMS				AML	AML	01 59 48.8	
	0.1nm,0.2s						
AKMS				AML	AML	01 59 48.8	
	0.2nm,0.2s						
SIGR	**SIGRI**	**3.78**	**334**	Pn	**Pn**	**01 59 02.9**	**-0.4**
SIGR	**SIGRI**	**3.78**	**334**	P	**Pn**	**01 59 03.5**	**+0.1**
SIGR				S	**Sn**	**01 59 43.9**	**-2.7**
HDMB	**Hadim**	**3.78**	**71**	Pn	**Pn**	**01 59 06.3**	**+2.7**
TVSB	**Tavsanli**	**3.78**	**17**	Pn	**Pn**	**01 59 03.6**	**+0.1**
ALFC	**Alefka**	**3.81**	**99**	P	**Pn**	**01 59 04.3**	**+0.5**
ALFC				S	**Sn**	**01 59 48.0**	**+0.7**
ALFC				AML	AML	01 59 50.2	
	0.2nm,0.2s						
ALFC				AML	AML	01 59 50.3	
	0.1nm,0.3s						
ANKY	**Antikythira Is**	**3.83**	**272**	P	**Pn**	**01 59 04.4**	**+0.4**
YAYO	**Edremit-Balk**	**3.84**	**349**	Pn	**Pn**	**01 59 03.8**	**-0.4**
NATA	**Nata**	**3.88**	**105**	P	**Pn**	**01 59 05.9**	**+1.1**
NATA				S	**Sn**	**01 59 49.2**	**+0.2**
NATA				AML	AML	01 59 53.0	
	0.3nm,0.2s						
NATA				AML	AML	01 59 55.0	
	0.3nm,0.3s						
KTHA	**Kythira Island**	**4.03**	**277**	P	**Pn**	**01 59 07.2**	**+0.4**
TROD	**Troodos**	**4.07**	**101**	P	**Pn**	**01 59 08.8**	**+1.3**
TROD				S	**Sn**	**01 59 54.0**	**+0.1**
TROD				AML	AML	02 00 03.2	
	0.1nm,0.4s						
TROD				AML	AML	02 00 05.5	
	0.1nm,0.5s						
APOL	**The Sanctuary**	**4.14**	**105**	P	**Pn**	**01 59 10.2**	**+1.9**
APOL				S	**Sn**	**01 59 56.4**	**+0.9**
APOL				AML	AML	01 59 59.7	
	0.1nm,0.3s						
APOL				AML	AML	02 00 00.8	
	0.1nm,0.2s						
VLI	**Veliai**	**4.19**	**284**	P	**Pn**	**01 59 09.3**	**+0.3**
VLI				S	**Sn**	**01 59 54.2**	**-2.5**
EZN	**Ezine**	**4.20**	**342**	P	**Pn**	**01 59 08.9**	**-0.2**
XYLS	**Xyliatos**	**4.20**	**100**	P	**Pn**	**01 59 09.8**	**+0.7**
XYLS				S	**Sn**	**01 59 57.9**	**+1.0**
XYLS				AML	AML	02 00 01.4	
	0.1nm,0.2s						
XYLS				AML	AML	02 00 01.6	
	0.1nm,0.4s						
ASGA	**Asgata**	**4.41**	**102**	P	**Pn**	**01 59 14.0**	**+2.0**
ASGA				S	**Sn**	**02 00 03.3**	**+1.2**
ASGA				AML	AML	02 00 07.2	
	0.1nm,0.4s						
ASGA				AML	AML	02 00 10.8	
	0.1nm,0.4s						
CSS	**Mathiatis**	**4.43**	**100**	P	**Pn**	**01 59 14.4**	**+2.1**
CSS				S	**Sn**	**02 00 03.4**	**+0.7**
CSS				AML	AML	02 00 06.1	
CSS				AML	AML	02 00 10.0	
	0.1nm,0.3s						
CSS	**Mathiatis**	**4.43**	**100**	P	**Pn**	**01 59 13.3**	**+0.9**
CSS	**Mathiatis**	**4.43**	**100**	S	**Sn**	**01 59 58.6**	**-4.1**
MATC	**Matruh**	**4.53**	**188**	P	**Pn**	**01 59 14.5**	**+0.9**
MATC				S	**Sn**	**02 00 00.4**	**-4.6**
MVOU	**Mavrovouni**	**4.66**	**99**	P	**Pn**	**01 59 17.0**	**+1.5**
MVOU				AML	AML	02 00 14.5	
MVOU				AML	AML	02 00 18.8	
SLUM	**Salum**	**4.92**	**209**	P	**Pn**	**01 59 19.2**	**+0.1**
GUR	**Goura**	**5.00**	**296**	P	**Pn**	**01 59 21.1**	**+0.9**
ITM	**Ithomi**	**5.08**	**287**	P	**Pn**	**01 59 22.3**	**+1.1**
BRTR	**Keskin Array B**	**5.91**	**47**	Pn	**Pn**	**01 59 33.1**	**+0.4**
	0.4nm,0.3s,baz=214,slow=12,SNR=15						
BRTR				Sn	**Sn**	**02 00 39.1**	**+0.1**
	0.2nm,0.3s,baz=223,slow=24,SNR=6.7						
	0.9nm,0.5s						
HNTI	**Hanita**	**6.53**	**113**	P	**Pn**	**01 59 41.6**	**+0.6**
HNTI	**Hanita**	**6.53**	**113**	S	**Sn**	**02 00 49.9**	**-4.1**
BLGI	**Bet Lehem HaGe**	**6.70**	**115**	P	**Pn**	**01 59 44.2**	**+0.8**
BLGI	**Bet Lehem HaGe**	**6.70**	**115**	S	**Sn**	**02 00 53.6**	**-4.7**
MMA0B	**Mount Meron ar**	**6.73**	**113**	P	**Pn**	**01 59 44.9**	**+1.1**
MMA0B	**Mount Meron ar**	**6.73**	**113**	S	**Sn**	**02 00 54.9**	**-4.1**
MMAI	**Mount Meron Ar**	**6.73**	**113**	Pn	**Pn**	**01 59 46.0**	**+2.2**
	1.3nm,0.3s,baz=304,slow=12,SNR=7.3						
MMAI				Sn	**Sn**	**02 00 56.5**	**-2.5**
	4.9nm,0.3s,baz=299,slow=28,SNR=9.3						
	0.6nm,0.2s						
GEM	**Giv'at Ha'Em**	**6.84**	**110**	P	**Pn**	**01 59 46.0**	**+0.7**
GEM	**Giv'at Ha'Em**	**6.84**	**110**	S	**Sn**	**02 00 57.6**	**-4.0**
SLTI	**Sal'it**	**6.85**	**120**	P	**Pn**	**01 59 46.4**	**+1.0**
SLTI	**Sal'it**	**6.85**	**120**	S	**Sn**	**02 00 56.9**	**-5.1**
NATI	**Neve Ativ**	**6.87**	**110**	P	**Pn**	**01 59 46.7**	**+1.0**
NATI	**Neve Ativ**	**6.87**	**110**	S	**Sn**	**02 00 58.7**	**-3.8**
SWA2		**6.92**	**199**	P	**Pn**	**01 59 46.4**	**0.0**
SWA2				S	**Sn**	**02 00 58.1**	**-5.6**
AMAZ	**Amatzia**	**7.18**	**125**	P	**Pn**	**01 59 50.3**	**+0.4**
AMAZ	**Amatzia**	**7.18**	**125**	S	**Sn**	**02 01 05.9**	**-4.2**
HMDT	**Nahal Hemdat**	**7.19**	**118**	P	**Pn**	**01 59 51.1**	**+1.0**
HMDT	**Nahal Hemdat**	**7.19**	**118**	S	**Sn**	**02 01 06.4**	**-3.9**
KZIT	**Kziot**	**7.26**	**131**	P	**Pn**	**01 59 51.2**	**+0.2**
KZIT	**Kziot**	**7.26**	**131**	S	**Sn**	**02 01 08.2**	**-3.9**
YTIR	**Yattir**	**7.42**	**125**	P	**Pn**	**01 59 54.7**	**+1.4**
YTIR	**Yattir**	**7.42**	**125**	S	**Sn**	**02 01 11.4**	**-4.6**
DSI	**Dead Sea**	**7.47**	**123**	P	**Pn**	**01 59 54.8**	**+0.9**
DSI	**Dead Sea**	**7.47**	**123**	S	**Sn**	**02 01 12.7**	**-4.5**
MSBI	**Mazada**	**7.61**	**124**	P	**Pn**	**01 59 56.7**	**+0.9**
MSBI	**Mazada**	**7.61**	**124**	S	**Sn**	**02 01 16.9**	**-3.6**
NBNS	**Bani Suef**	**7.71**	**158**	P	**Pn**	**01 59 56.5**	**-0.7**
GHAJ	**Ghor Haditha**	**7.76**	**124**	P	**Pn**	**01 59 58.6**	**+0.8**
GHAJ	**Ghor Haditha**	**7.76**	**124**	S	**Sn**	**02 01 19.7**	**-4.5**
ZFRI	**Zfri**	**7.99**	**129**	P	**Pn**	**02 00 02.4**	**+1.4**
ZFRI	**Zfri**	**7.99**	**129**	S	**Sn**	**02 01 25.7**	**-4.2**
KRMI	**Paran Flat**	**8.02**	**133**	P	**Pn**	**02 00 01.9**	**+0.4**
KRMI	**Paran Flat**	**8.02**	**133**	S	**Sn**	**02 01 26.2**	**-4.5**
PRNI	**Paran**	**8.02**	**131**	P	**Pn**	**02 00 02.1**	**+0.6**
PRNI	**Paran**	**8.02**	**131**	S	**Sn**	**02 01 26.4**	**-4.3**
MBRI	**Mt Berech**	**8.37**	**134**	P	**Pn**	**02 00 07.3**	**+1.0**
MBRI	**Mt Berech**	**8.37**	**134**	S	**Sn**	**02 01 35.2**	**-4.1**
EIL2	**Elat**	**8.48**	**135**	P	**Pn**	**02 00 08.4**	**+0.6**
EIL2	**Elat**	**8.48**	**135**	S	**Sn**	**02 01 37.7**	**-4.3**
HFRF	**Wahat Farafira**	**8.67**	**178**	P	**Pn**	**02 00 08.8**	**-1.5**
ASUT		**8.95**	**159**	P	**Pn**	**02 00 13.1**	**-1.0**
ESDC	**Sonseca Array**	**25.49**	**288**	P	**P**	**02 03 29.4**	**-0.2**
	0.4nm,0.5s,baz=82,slow=10.0,SNR=6.1						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**32.73**	**233**	P	**P**	**02 04 33.4**	**-0.6**
	0.2nm,0.6s,baz=34,slow=8.7,SNR=5.6						
	0.2nm,0.6s						
SONM	**Songino Array**	**57.25**	**52**	P	**P**	**02 07 50.6**	**+2.6**
	0.9nm,0.6s,baz=316,slow=6.0,SNR=4.1						
	0.9nm,0.6s						

NIC ***27*** *02:05:51.8, 34°.95N×33°.35E, h49km±1km, Ml2.2/10*
GRAL ***27*** *02:05:52.2±0.8, 34°.84N×33°.30E, h46km±27km, MD3.3*
GII ***27*** *02:05:53.6±0.0, 34°.709N±0°.003×33°.501E±0°.001, h18km, Mws2.4, confirmed*

ISC 27 02:05:51.5±1.4, **34°.92N**±0°.05×**33°.38E**±0°.03, **h53**km±8km, **n49**, σ0=**82**/65, **6C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CSS	**Mathiatis**	**0.06**	**317**	⇑*i*	P	**Pn**	**02 05 59.3**	**-0.3**
CSS					S	**Sn**	**02 06 05.1**	**-0.2**
CSS					AML	AML	02 06 05.9	
	0.5nm,0.2s							
CSS					AML	AML	02 06 05.9	
	0.6nm,0.2s							
CSS	**Mathiatis**	**0.06**	**317**	P		**Pn**	**02 05 59.2**	**-0.4**
CSS					S	**Sn**	**02 06 05.3**	**-0.1**
ASGA	**Asgata**	**0.17**	**221**	⇑*eP*		**Pn**	**02 05 59.5**	**-0.4**
ASGA					S	**Sn**	**02 06 06.0**	**0.0**
ASGA					AML	AML	02 06 07.6	
	0.6nm,0.2s							
ASGA					AML	AML	02 06 07.7	
	0.8nm,0.2s							
ATHAL	**Athalassa**	**0.22**	**3**	⇑*iP*		**Pn**	**02 06 00.4**	**+0.1**
ATHAL					S	**Sn**	**02 06 06.4**	**-0.2**
ATHAL					AML	AML	02 06 15.4	
	0.7nm,0.5s							
ATHAL					AML	AML	02 06 17.3	
	0.5nm,0.4s							
MVOU	**Mavrovouni**	**0.23**	**64**	⇑*iP*		**Pn**	**02 06 00.6**	**+0.3**
MVOU					S	**Sn**	**02 06 07.4**	**+0.8**
MVOU					AML	AML	02 06 07.9	
	0.6nm,0.2s							
MVOU					AML	AML	02 06 08.2	
	0.7nm,0.4s							
XYLS	**Xyliatos**	**0.29**	**290**	⇑*iP*		**Pn**	**02 06 00.0**	**-0.8**
XYLS					S	**Sn**	**02 06 07.1**	**-0.5**
XYLS					AML	AML	02 06 07.4	
	1.7nm,0.2s							
XYLS					AML	AML	02 06 07.5	
	1.7nm,0.1s							
TROD	**Troodos**	**0.43**	**274**	P		**Pn**	**02 06 02.0**	**-0.4**
TROD					S	**Sn**	**02 06 10.8**	**+0.7**
TROD					AML	AML	02 06 13.3	
	0.9nm,0.5s							
TROD					AML	AML	02 06 13.4	
	0.9nm,0.3s							
APOL	**The Sanctuary**	**0.49**	**240**	⇑*iP*		**Pn**	**02 06 02.7**	**-0.2**
APOL					S	**Sn**	**02 06 12.1**	**+1.1**
APOL					AML	AML	02 06 12.9	
	0.7nm,0.1s							
APOL					AML	AML	02 06 13.0	
	0.3nm,0.2s							
NATA	**Nata**	**0.68**	**259**	P		**Pn**	**02 06 05.2**	**+0.1**
NATA					S	**Sn**	**02 06 16.8**	**+1.7**
NATA					AML	AML	02 06 18.3	
	0.7nm,0.5s							
NATA					AML	AML	02 06 18.6	
	1.0nm,0.4s							
ALFC	**Alefka**	**0.69**	**291**	⇓*iP*		**Pn**	**02 06 04.4**	**-0.9**
ALFC					S	**Sn**	**02 06 14.0**	**-1.2**
ALFC					AML	AML	02 06 14.7	
	0.8nm,0.3s							
ALFC					AML	AML	02 06 14.9	
	1.3nm,0.3s							
AKMS	**Akamas**	**0.87**	**277**	⇓*eP*		**Pn**	**02 06 07.1**	**-0.5**
AKMS					S	**Sn**	**02 06 20.2**	**+0.9**
AKMS					AML	AML	02 06 22.8	
	0.3nm,0.2s							
AKMS					AML	AML	02 06 24.1	
	0.2nm,0.2s							
BHL	**Bhannes**	**2.13**	**118**	*eP*		**Pn**	**02 06 25.0**	**+0.2**
HWQ	**Hawqa**	**2.21**	**106**	*eP*		**Pn**	**02 06 26.4**	**+0.6**
HWQ				*eS*		**Sn**	**02 06 52.0**	**0.0**
ZAHL	**Zahle**	**2.32**	**116**	*eP*		**Pn**	**02 06 27.6**	**+0.2**
BEIL	**Beino**	**2.34**	**98**	*eP*		**Pn**	**02 06 28.1**	**+0.6**
BEIL				*eS*		**Sn**	**02 06 54.8**	**-0.3**
QRWL	**Qaraoun**	**2.34**	**125**	*eP*		**Pn**	**02 06 27.9**	**+0.2**
QRWL				*eS*		**Sn**	**02 06 53.6**	**-1.7**
RCY	**Rachaya**	**2.48**	**124**	*eP*		**Pn**	**02 06 29.9**	**+0.4**
RCY				*eS*		**Sn**	**02 06 57.8**	**-0.9**
SHBL	**Chebaa**	**2.51**	**128**	*eP*		**Pn**	**02 06 30.2**	**+0.3**
MMA0B	**Mount Meron ar**	**2.53**	**138**	P		**Pn**	**02 06 30.8**	**+0.6**
MMA0B	**Mount Meron ar**	**2.53**	**138**	S		**Sn**	**02 06 59.3**	**-0.6**
GEM	**Giv'at Ha'Em**	**2.54**	**131**	P		**Pn**	**02 06 31.0**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.54**	**131**	S		**Sn**	**02 06 59.1**	**-1.0**
NATI	**Neve Ativ**	**2.56**	**130**	P		**Pn**	**02 06 31.2**	**+0.8**
NATI	**Neve Ativ**	**2.56**	**130**	S		**Sn**	**02 06 59.3**	**-1.0**
FKH	**Fakeheh**	**2.59**	**104**	*eP*		**Pn**	**02 06 31.9**	**+0.9**
FKH				*eS*		**Sn**	**02 07 01.1**	**-0.2**
OFRI	**`Ofer**	**2.65**	**149**	P		**Pn**	**02 06 32.0**	**+0.2**
OFRI	**`Ofer**	**2.65**	**149**	S		**Sn**	**02 07 01.6**	**-1.1**
MMLI	**Mount Malkishu**	**3.00**	**145**	P		**Pn**	**02 06 37.3**	**+0.7**
MMLI	**Mount Malkishu**	**3.00**	**145**	S		**Sn**	**02 07 10.6**	**-0.7**
SLTI	**Sal'it**	**3.01**	**152**	P		**Pn**	**02 06 37.5**	**+0.8**
SLTI	**Sal'it**	**3.01**	**152**	S		**Sn**	**02 07 10.4**	**-1.1**
HMDT	**Nahal Hemdat**	**3.20**	**145**	P		**Pn**	**02 06 40.5**	**+1.1**
HMDT	**Nahal Hemdat**	**3.20**	**145**	S		**Sn**	**02 07 15.6**	**-0.6**
DSI	**Dead Sea**	**3.73**	**153**	P		**Pn**	**02 06 47.6**	**+0.9**
DSI	**Dead Sea**	**3.73**	**153**	S		**Sn**	**02 07 28.6**	**-0.7**
YTIR	**Yattir**	**3.83**	**157**	P		**Pn**	**02 06 49.0**	**+0.9**
YTIR	**Yattir**	**3.83**	**157**	S		**Sn**	**02 07 30.4**	**-1.5**
MSBI	**Mazada**	**3.96**	**155**	P		**Pn**	**02 06 50.8**	**+1.2**
MSBI	**Mazada**	**3.96**	**155**	S		**Sn**	**02 07 33.9**	**-0.9**
GHAJ	**Ghor Haditha**	**4.04**	**152**	P		**Pn**	**02 06 52.1**	**+1.3**
GHAJ	**Ghor Haditha**	**4.04**	**152**	S		**Sn**	**02 07 35.9**	**-1.0**
KZIT	**Kziot**	**4.09**	**168**	P		**Pn**	**02 06 52.3**	**+0.8**
KZIT	**Kziot**	**4.09**	**168**	S		**Sn**	**02 07 37.1**	**-1.0**
PRNI	**Paran**	**4.75**	**163**	P		**Pn**	**02 07 01.4**	**+0.8**
PRNI	**Paran**	**4.75**	**163**	S		**Sn**	**02 07 53.6**	**-0.8**
KRMI	**Paran Flat**	**4.92**	**166**	P		**Pn**	**02 07 03.8**	**+0.9**
KRMI	**Paran Flat**	**4.92**	**166**	S		**Sn**	**02 07 57.4**	**-1.1**
MBRI	**Mt Berech**	**5.27**	**165**	P		**Pn**	**02 07 08.9**	**+1.1**
MBRI	**Mt Berech**	**5.27**	**165**	S		**Sn**	**02 08 06.7**	**-0.6**

NEIC ***27*** *02:20:18.3±1.4, 10°.86S±0°.06×74°.00W±0°.07, h114km±7km, mb4.6/56, Error ellipse: s-maj=10.0km s-min=8.6km az=72.0*
IDC ***27*** *02:20:18.1±0.6, 10°.84S×73°.95W, h116km±5km, mb3.6/16, mbtmp4.2/22, MS3.0/1, Error ellipse: s-maj=11.0km s-min=9.0km az=25.0*
VAO ***27*** *02:20:20.8±0.7, 10°.68S×73°.59W, h117km±6km, mb4.7*

ISC 27 02:20:17.8±0.5, **10°.84S**±0°.05×**73°.93W**±0°.05, **h114**km±5km, **h114**km:**pP-P, n111**, σ0=**88**/123, **mb4.4**/35, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**3.08**	**248**			**Pn**	**02 21 04.9**	**-0.1**
NNA	**Nana**	**3.08**	**248**	P		**Pn**	**02 21 05.1**	**+0.1**
	720nm,0.3s,baz=72,slow=11,SNR=412							
NNA				S		**Sn**	**02 21 41.0**	**-0.4**
	932nm,0.5s,baz=344,slow=20,SNR=6.8							
CZSB	**Cruzeiro do Su**	**3.32**	**21**			**Pn**	**02 21 09.4**	**+1.2**
CZSB	**Cruzeiro do Su**	**3.32**	**21**	*eP*		**Pn**	**02 21 08.3**	**+0.1**
ATAH	**Atahualpa**	**5.74**	**309**	P		**Pn**	**02 21 41.5**	**+0.3**
	172nm,0.7s,baz=125,slow=8.5,SNR=98							
ATAH				S		**Sn**	**02 22 45.5**	**-0.5**
	288nm,0.7s,baz=86,slow=19,SNR=7.2							
TBTG	**Tabatinga, AM**	**7.72**	**31**			**Pn**	**02 22 07.3**	**-0.2**
TBTG	**Tabatinga, AM**	**7.72**	**31**	*eP*		**Pn**	**02 22 06.9**	**-0.6**
LPAZ	**La Paz**	**7.82**	**134**			**Pn**	**02 22 10.6**	**+1.1**
LPAZ	**La Paz**	**7.82**	**134**	P		**Pn**	**02 22 10.7**	**+1.3**
	40nm,0.6s,baz=319,slow=11,SNR=186							
LPAZ	**La Paz**	**7.82**	**134**	*eP*		**Pn**	**02 22 10.4**	**+0.9**
PB18	**Visviri**	**7.98**	**148**			**Pn**	**02 22 12.1**	**+0.6**
PB12	**IPOC Station P**	**8.48**	**156**			**Pn**	**02 22 16.1**	**-1.8**
PB16	**IPOC Station P**	**8.59**	**151**			**Pn**	**02 22 20.5**	**+0.6**
GO01	**Chusmiza**	**9.90**	**153**			**Pn**	**02 22 37.4**	**-0.1**
HMBC	**Humberstone**	**10.16**	**158**			**Pn**	**02 22 38.2**	**-2.5**
PB08	**IPOC Station P**	**10.33**	**154**	Pn		**Pn**	**02 22 42.7**	**-0.6**
TEFE	**Tefe**	**11.75**	**52**	*eP*		**Pn**	**02 22 59.9**	**-2.0**
OTAV	**Otavalo**	**11.88**	**338**			**Pn**	**02 23 05.1**	**+0.9**
OTAV	**Otavalo**	**11.88**	**338**	*eP*		**Pn**	**02 23 07.2**	**+3.0**
FLOC	**Florencia**	**12.46**	**352**			**Pn**	**02 23 09.3**	**-2.0**
SIV	**San Ignacio**	**13.51**	**114**	P		**Pn**	**02 23 24.3**	**-0.7**
	28nm,0.6s,baz=295,slow=14,SNR=93							
SIV				S		**Sn**	**02 25 57.5**	**+3.4**
	8.4nm,0.5s,baz=251,slow=18,SNR=1.8							
SIV				LR		LR	02 28 56.4	
	comp=Z,69nm,20.3s,baz=128,slow=38							
VILB	**Vilhena**	**13.60**	**100**			**Pn**	**02 23 24.5**	**-1.7**
VILB	**Vilhena**	**13.60**	**100**	*eP*		**Pn**	**02 23 23.9**	**-2.3**
PTLB	**Pontes e Lacer**	**15.12**	**109**			**Pn**	**02 23 44.6**	**-0.9**
PTLB	**Pontes e Lacer**	**15.12**	**109**	*eP*		**Pn**	**02 23 44.0**	**-1.5**
ROSC	**El Rosal**	**15.58**	**359**	Pn		**Pn**	**02 23 52.1**	**+0.5**
ROSC				IAmb		IAmb	02 24 12.8	
	comp=Z,96nm,1.4s							
ROSC	**El Rosal**	**15.58**	**359**	P		**P**	**02 23 53.8**	**+0.4**
	comp=Z,32nm,0.5s,baz=171,slow=18,SNR=10.0							
AC02	**Maricunga**	**16.55**	**165**			**Pn**	**02 24 04.0**	**+0.4**
RUSC	**La Rusia**	**16.64**	**3**			**Pn**	**02 24 04.5**	**-0.4**
RUSC				IAmb		IAmb	02 24 10.4	
	comp=Z,29nm,0.8s							
PDRB	**Porto dos Gac**	**16.89**	**94**	*eP*		**Pn**	**02 24 07.1**	**-0.4**
CLDB	**Colider**	**17.81**	**92**	*eP*		**P**	**02 24 17.5**	**-0.2**
SALV	**Santo Antonio**	**18.44**	**108**	*eP*		**P**	**02 24 24.4**	**-0.2**
NPGB	**Novo Progresso**	**18.73**	**80**	*eP*		**P**	**02 24 27.5**	**-0.4**
BOAV	**Boa Vista**	**18.73**	**46**	P		**P**	**02 24 27.4**	**-0.4**
BOAV				IAmb		IAmb	02 24 32.0	
	comp=Z,36nm,1.4s							
BOAV	**Boa Vista**	**18.73**	**46**	*eP*		**P**	**02 24 26.7**	**-1.1**
BDQN	**Bodoquena, MS**	**19.09**	**122**	*eP*		**P**	**02 24 31.9**	**+0.2**
ITTB	**Itaituba**	**19.14**	**72**	*eP*		**P**	**02 24 30.9**	**-1.4**
SDV	**Santo Domingo**	**19.87**	**10**	P		**P**	**02 24 40.1**	**-0.2**
SDV	**Santo Domingo**	**19.87**	**10**	P		**P**	**02 24 40.1**	**-0.2**
	comp=Z,42nm,0.6s,baz=197,slow=11,SNR=14							
SDV	**Santo Domingo**	**19.87**	**10**	*eP*		**P**	**02 24 40.2**	**-0.2**
AQDB	**Aquidauana**	**19.98**	**121**	P		**P**	**02 24 41.3**	**-0.1**
AQDB	**Aquidauana**	**19.98**	**121**	*eP*		**P**	**02 24 41.1**	**-0.3**
BAUV	**El Baul**	**20.51**	**17**	P		**P**	**02 24 45.7**	**-1.3**
CFA	**Coronel Fontan**	**21.33**	**167**	P		**P**	**02 24 55.2**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=359,slow=13,SNR=3.7							
	comp=Z,0.7nm,0.4s							
RPRD	**Ribas do Rio P**	**21.69**	**119**	*eP*		**P**	**02 24 59.4**	**-0.3**
AMBA	**Amambai (Brazi**	**21.72**	**126**	*eP*		**P**	**02 25 00.8**	**+0.9**
SMRC	**Santa Marta, M**	**21.86**	**359**	P		**P**	**02 25 00.2**	**-1.3**
CPUP	**Villa Florida**	**21.98**	**137**	P		**P**	**02 25 02.3**	**-0.4**
CPUP	**Villa Florida**	**21.98**	**137**	P		**P**	**02 25 01.7**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=294,slow=20,SNR=6.5							
	comp=Z,1.4nm,0.9s							
ARAG	**Araguaiana, MT**	**22.06**	**105**	*eP*		**P**	**02 25 04.0**	**+0.4**
SNDB	**Serra Nova Dou**	**22.22**	**95**	*eP*		**P**	**02 25 05.5**	**+0.2**
ITRB	**Iturama**	**24.36**	**114**	*eP*		**P**	**02 25 25.6**	**+0.2**
BDFB	**Brasilia**	**25.66**	**104**	P		**P**	**02 25 37.7**	**+0.3**
BDFB				IAmb		IAmb	02 26 18.3	
	comp=Z,24nm,1.2s							
BDFB	**Brasilia**	**25.66**	**104**	P		**P**	**02 25 37.7**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=242,slow=15,SNR=3.7							
BDFB				pP		**pP**	**02 26 03.3**	**+1.0**
	comp=Z,8.3nm,0.8s,baz=275,slow=11,SNR=5.

comp=Z,0.8nm,0.9s,baz=248,slow=5.0,SNR=6.0
comp=Z,0.8nm,0.9s
SUMG Summit 86.39 10 P **P** 02 32 47.8 **+0.5**
SUMG IAmb IAmb 02 33 02.9
comp=Z,13nm,1.4s
EKA Eskdalemuir Ar 88.19 33 P **P** **02 32 56.6 +0.8**
comp=Z,0.1nm,0.4s,baz=248,slow=3.8,SNR=3.5
comp=Z,0.1nm,0.4s
L29M L29M 88.39 336 P **P** **02 32 56.9 +0.2**
L29M IAmb IAmb 02 32 58.2
comp=Z,5.9nm,0.7s
E29M Blow River 90.79 341 P **P** **02 33 07.7 0.0**
E29M IAmb IAmb 02 33 08.5
comp=Z,4.6nm,1.1s
ILAR Eielson Array 92.60 336 P **P** **02 33 15.9 -0.2**
comp=Z,0.4nm,0.7s,baz=116,slow=2.1,SNR=4.0
comp=Z,0.4nm,0.7s
GERES GERESS Array B 96.51 42 P **P** **02 33 34.2 -0.4**
comp=Z,0.4nm,0.7s,baz=258,slow=3.9,SNR=5.1
comp=Z,0.4nm,0.7s
ZALV Zalesovo Beam 133.78 17 PKP **PKPdf** **02 39 21.1 0.0**
comp=Z,0.8nm,0.5s,baz=324,slow=2.0,SNR=1.5
ASAR Alice Springs 136.22 218 PKP **PKPdf** **02 39 26.4 -0.4**
comp=Z,0.6nm,1.0s,baz=122,slow=4.5,SNR=2.1
WRA Warramunga Arr 138.65 222 PKP **PKPdf** **02 39 31.4 +0.1**
comp=Z,0.2nm,0.3s,baz=125,slow=2.0,SNR=1.7

*NAO **27** 02:21:36.7,36°.82N×21°.38E,h33km,mb3.5*
*ATH **27** 02:21:37.3,36°.74N×21°.24E,h20km±1km,ML3.3/4,*
Manual Solution by A.Moschou First location: 2019/08/27
02:22:48, This location: 2019/08/27 02:39:28 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km
*THE **27** 02:21:38.0,37°.N±3°×2°.1E±°, h0km±4km,M2.9/24,*
MLh2.9/24
*IDC **27** 02:21:48.8±5.4,36°.88N×21°.33E,h148km±58km,mb3.2/5,*
mbtmp3.5/6,MS3.2/2,Error ellipse: s-maj=35.5km
s-min=23.9km az=120.0
ISC 27 02:21:38.1±1.1,**36°.80N**±0°.05×**21°.33E**±0°.04,**h33**km±3km,
n54,σ1°**25**/67,**mb3.7**/4,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTHA	**Methoni**	**0.30**	**85**	P	**Pn**	**02 21 46.6**	**+0.4**
MTHA				S	**Sn**	**02 21 51.9**	**+0.7**
PYL1	**Pylos**	**0.32**	**68**	P	**Pn**	**02 21 45.8**	**-0.6**
PYL1				S	**Sn**	**02 21 51.5**	**0.0**
PYL2	**Kinigos**	**0.34**	**71**	P	**Pn**	**02 21 46.2**	**-0.5**
PYL2				S	**Sb**	**02 21 51.7**	**-0.3**
ITM	**Ithomi**	**0.61**	**51**	P	**Pb**	**02 21 49.8**	**-0.7**
ITM				S	**Sb**	**02 21 58.6**	**-0.4**
ITM	**Ithomi**	**0.61**	**51**	P	**Pb**	**02 21 49.8**	**-0.7**
ITM				S	**Sb**	**02 21 59.4**	**+0.3**
AMT	**Artemida-Makis**	**0.80**	**22**	P	**Pn**	**02 21 53.0**	**0.0**
AMT				S	**Sn**	**02 22 05.0**	**+1.2**
KRI1	**kERI**	**0.95**	**335**	P	**Pn**	**02 21 55.3**	**+0.1**
KRI1				S	**Sn**	**02 22 09.9**	**+2.3**
LTHK	**Lithakia**	**0.99**	**337**	P	**Pn**	**02 21 56.0**	**+0.3**
LTHK				S	**Sn**	**02 22 10.6**	**+2.1**
LTHK	**Lithakia**	**0.99**	**337**	P	**Pn**	**02 21 55.9**	**+0.1**
LTHK				S	**Sn**	**02 22 10.8**	**+2.2**
VLX	**Vlachokerasia**	**1.02**	**55**	P	**Pn**	**02 21 56.9**	**+0.7**
VLX				S	**Sn**	**02 22 11.3**	**+1.9**
KYPS	**Kipseli, Zakin**	**1.10**	**339**	P	**Pb**	**02 21 57.9**	**-0.7**
KYPS				S	**Sn**	**02 22 12.4**	**+1.2**
CLEM	**Kyllini,Ilia,G**	**1.10**	**352**	P	**Pb**	**02 21 58.5**	**-0.2**
CLEM				S	**Sn**	**02 22 13.2**	**+1.9**
ORTH	**Orthonies,Zaky**	**1.17**	**335**	P	**Pb**	**02 21 59.0**	**-0.8**
DRO	**Drossia**	**1.19**	**15**	P	**Pb**	**02 21 59.6**	**-0.6**
DRO	**Drossia**	**1.19**	**15**	P	**Pb**	**02 21 59.9**	**-0.4**
DRO				S	**Sn**	**02 22 16.9**	**+3.3**
RLS	**Riolos of Patr**	**1.26**	**5**	P	**Pb**	**02 22 01.2**	**-0.2**
RLS	**Riolos of Patr**	**1.26**	**5**	P	**Pb**	**02 22 00.5**	**-0.9**
RLS				S	**Sb**	**02 22 17.8**	**+0.5**
VLI	**Veliai**	**1.29**	**93**	P	**Pb**	**02 22 02.5**	**+0.6**
VLI	**Veliai**	**1.29**	**93**	P	**Pb**	**02 22 02.5**	**+0.6**
VLI				S	**Sb**	**02 22 18.9**	**+0.6**
RTZL	**Ratzakli, Kefa**	**1.35**	**341**	P	**Pb**	**02 22 02.2**	**-0.7**
RTZL				S	**Sb**	**02 22 22.6**	**+2.7**
GUR	**Goura**	**1.40**	**35**	P	**Pb**	**02 22 03.1**	**-0.6**
GUR	**Goura**	**1.40**	**35**	P	**Pb**	**02 22 02.9**	**-0.8**
KLV	**Kalavryta, Ach**	**1.41**	**27**	P	**Pb**	**02 22 03.2**	**-0.7**
KLV	**Kalavryta, Ach**	**1.41**	**27**	P	**Pb**	**02 22 03.2**	**-0.7**
PSDA	**Pessada-Kefalo**	**1.44**	**336**	P	**Pb**	**02 22 03.5**	**-0.9**
KTHA	**Kythira Island**	**1.50**	**111**	P	**Pb**	**02 22 05.8**	**+0.5**
VLS	**Valsamata**	**1.50**	**337**	P	**Pb**	**02 22 03.7**	**-1.7**
EFP	**Efpalio**	**1.69**	**16**	P	**Pb**	**02 22 07.7**	**-0.9**
EFP	**Efpalio**	**1.69**	**16**	P	**Pb**	**02 22 07.7**	**-0.9**
SERG	**Sergoula**	**1.71**	**20**	P	**Pb**	**02 22 07.9**	**-1.1**
KALE	**Kalithea**	**1.72**	**22**	P	**Pb**	**02 22 08.2**	**-1.0**
LTK	**Loutraki**	**1.79**	**46**	P	**Pn**	**02 22 08.1**	**+1.4**
MET2	**Kameni Chora,**	**1.79**	**62**	P	**Pn**	**02 22 08.2**	**+1.5**
MET6	**Megalochori,Me**	**1.80**	**63**	P	**Pn**	**02 22 07.8**	**+1.0**
PVO	**Paravola**	**1.82**	**5**	P	**Pb**	**02 22 09.6**	**-1.3**
ANKY	**Antikythira Is**	**1.84**	**120**	P	**Pb**	**02 22 10.4**	**-0.8**
ANX	**Ano Chora**	**1.85**	**15**	P	**Pb**	**02 22 10.4**	**-1.0**
EVGI	**Lefkada island**	**1.90**	**344**	P	**Pb**	**02 22 11.9**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.98**	**346**	P	**Pb**	**02 22 11.9**	**-1.6**
LKD2	**Lefkada island**	**2.06**	**345**	P	**Pb**	**02 22 12.9**	**-2.0**
TSLK	**Tsoukalades, L**	**2.09**	**345**	P	**Pb**	**02 22 13.5**	**-2.0**
EVR	**Evrytania**	**2.15**	**10**	P	**Pb**	**02 22 15.4**	**-1.1**
AXAR	**Agios Charalam**	**2.23**	**28**	P	**Pn**	**02 22 14.5**	**+1.7**
MAKR	**Makrakomi, Fth**	**2.30**	**16**	P	**Pb**	**02 22 16.8**	**-2.2**
AGG	**Agios Georgios**	**2.36**	**19**	P	**Pn**	**02 22 16.7**	**+2.1**
BRTR	**Keskin Array B**	**10.11**	**69**	P	Pn	02 24 10.0	+8.9
	0.4nm,0.5s,baz=259,slow=15,SNR=2.9						
DAVOX	**Davos/Dischmat**	**13.12**	**323**	LR	LR	02 31 20.6	
	comp=Z,42nm,18.3s,baz=90,slow=44						
FINES	**FINESS Array B**	**24.85**	**5**	P	**P**	**02 26 56.2**	**-1.0**
	0.8nm,0.4s,baz=189,slow=9.8,SNR=14						
	0.8nm,0.4s						
NB2	**NORSAR Subarra**	**25.10**	**348**	P	**P**	**02 26 59.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=160,slow=9.3						
NOA	**NORSAR Array B**	**25.10**	**348**	P	**P**	**02 26 58.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=157,slow=10.0,SNR=3.7						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.39**	**222**	P	**P**	**02 27 38.8**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=26,slow=7.0,SNR=2.5						
	comp=Z,0.5nm,0.9s						
ARCES	**ARCESS Array B**	**32.88**	**3**	P	**P**	**02 28 07.7**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=195,slow=9.3,SNR=1.5						
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**45.49**	**57**	P	**P**	**02 29 52.6**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=278,slow=7.4,SNR=7.1						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**46.15**	**47**	LR	LR	02 51 54.5	
	comp=Z,53nm,18.1s,baz=270,slow=39						

*IDC **27** 02:36:08.1±1.2,8°.52S×67°.79E,h0km,mb3.8/13,*
mbtmp3.8/13,MS3.7/9,Error ellipse: s-maj=42.2km
s-min=21.2km az=41.0
*NEIC **27** 02:36:11.5±0.7,8°.5S±0°.1×67°.92E±0°.08,h10km±1km,*
mb4.7/12,Error ellipse: s-maj=21.7km s-min=14.0km
az=183.0
ISC 27 02:36:10.5±0.6,**8°.4S**±0°.1×**67°.89E**±0°.06,**h10**km,**n48,**
σ1°**12**/37,**mb4.1**/19,**MS3.6**/9,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**4.61**	**81**	Pn	**Pn**	**02 37 20.6**	**+0.6**
	baz=200,slow=14						
H08S1				Sn	**Sn**	**02 38 13.9**	**+0.3**
	baz=201,slow=74						
H08S3	**Diego Garcia H**	**4.62**	**80**	Pn	**Pn**	**02 37 20.8**	**+0.6**
	baz=200,slow=14						
H08S3				Sn	**Sn**	**02 38 14.2**	**+0.3**
	baz=201						
H08S2	**Diego Garcia H**	**4.63**	**81**	Pn	**Pn**	**02 37 20.9**	**+0.6**
	baz=200,slow=14						
H08S2				Sn	**Sn**	**02 38 14.3**	**+0.3**
	baz=201,slow=74						
DGAR	**Diego Garcia**	**4.63**	**78**	Pn	**Pn**	**02 37 21.3**	**+0.7**
MSEY	**Mahe Island**	**12.88**	**286**	Pn	**Pn**	**02 39 13.6**	**-0.2**
KMBO	**Kilima Mbogo**	**31.36**	**282**	LR	LR	02 52 45.6	
	comp=Z,81nm,20.0s,baz=104,slow=32						
PSI	**Prapat**	**32.90**	**71**	LR	LR	02 55 03.9	
	comp=Z,409nm,18.8s,baz=164,slow=34						
LSZ	**Lusaka**	**39.40**	**256**	LR	LR	02 57 22.2	
	comp=Z,60nm,18.9s,baz=91,slow=32						

H04N2	**CROZET ISLANDS**	**40.05**	**197**	T	T	03 25 46.8	
	baz=25,slow=75,SNR=7.8						
H04N1	**CROZET ISLANDS**	**40.06**	**197**	T	T	03 25 47.7	
	baz=25,slow=75,SNR=8.0						
H04N3	**CROZET ISLANDS**	**40.07**	**197**	T	T	03 25 46.5	
	baz=25,slow=75,SNR=7.7						
CMAR	**Chiang Mai Arr**	**40.66**	**49**	P	**P**	**02 43 49.9**	**-1.3**
	1.4nm,0.3s,baz=235,slow=6.6,SNR=1.6						
	1.4nm,0.3s						
H01W3	**Cape Leeuwin H**	**49.80**	**129**	T	T	03 38 09.4	
	baz=290,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**49.81**	**129**	T	T	03 38 10.1	
	baz=290,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**49.82**	**129**	T	T	03 38 10.7	
	baz=290,slow=75,SNR=17						
TSUM	**Tsumeb**	**49.85**	**252**	LR	LR	03 03 46.2	
	comp=Z,36nm,19.9s,baz=46,slow=33						
NWAO	**Narrogin (SRO)**	**51.62**	**126**	P	**P**	**02 45 16.8**	**-0.7**
MMRI	**Maumere**	**53.71**	**95**	P	**P**	**02 45 32.1**	**-1.2**
MAKZ	**Makanchi**	**56.41**	**12**	P	**P**	**02 45 52.9**	**+0.7**
MAKZ				IAmb	IAmb	02 45 57.9	
	comp=Z,3.5nm,0.6s						
MKAR	**Makanchi Array**	**56.46**	**12**	P	**P**	**02 45 51.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=204,slow=9.1,SNR=4.2						
	comp=Z,0.4nm,0.6s						
BR131	**Keskin Array S**	**57.46**	**329**	P	**P**	**02 46 01.3**	**+1.3**
BRTR	**Keskin Array B**	**57.46**	**329**	P	**P**	**02 45 59.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=142,slow=7.3,SNR=1.9						
	comp=Z,0.4nm,0.8s						
AB31	**Akbulak array**	**57.87**	**354**	P	**P**	**02 46 03.7**	**+1.3**
ABKAR	**Akbulak array**	**57.87**	**354**	P	**P**	**02 46 03.4**	**+1.0**
KURBB	**Kurchatov Arra**	**59.53**	**8**	P	**P**	**02 46 14.4**	**+0.4**
	comp=Z,0.6nm,0.2s,baz=207,slow=7.2,SNR=4.0						
	comp=Z,0.6nm,0.2s						
BVAR	**Borovoye Array**	**61.26**	**2**	P	**P**	**02 46 26.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=175,slow=5.4,SNR=3.8						
BVAR				LR	LR	03 12 55.0	
	comp=Z,42nm,18.9s,baz=156,slow=36						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**63.77**	**11**	P	**P**	**02 46 43.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=195,slow=10,SNR=1.2						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**64.73**	**112**	P	**P**	**02 46 49.3**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=271,slow=6.6,SNR=8.3						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**65.09**	**108**	P	**P**	**02 46 51.6**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=273,slow=6.1,SNR=9.2						
	comp=Z,1.4nm,0.8s						
WR8	**Warramunga Arr**	**65.24**	**108**	P	**P**	**02 46 54.8**	**+1.9**
WR8				IAmb	IAmb	02 47 07.2	
	comp=Z,5.2nm,1.1s						
SONM	**Songino Array**	**65.55**	**27**	P	**P**	**02 46 54.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=234,slow=5.0,SNR=1.7						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**67.74**	**335**	P	**P**	**02 47 08.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=135,slow=6.4,SNR=2.2						
	comp=Z,1.2nm,0.7s						
VSL	**Villasalto**	**72.09**	**316**	P	**P**	**02 47 37.2**	**+2.0**
VSL				IAmb	IAmb	02 47 48.5	
	comp=Z,8.5nm,1.1s						
KSAR	**Wonju Array Be**	**72.21**	**46**	P	**P**	**02 47 36.5**	**+0.5**
DBIC	**Dimbokro**	**74.06**	**279**	P	**P**	**02 47 49.2**	**+1.8**
DBIC				IAmb	IAmb	02 47 54.8	
	comp=Z,8.2nm,1.1s						
GERES	**GERESS Array B**	**74.16**	**326**	P	**P**	**02 47 47.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=109,slow=8.8,SNR=1.4						
	comp=Z,0.1nm,0.3s						
GUMO	**Guam**	**79.47**	**74**	LR	LR	03 20 22.0	
	comp=Z,25nm,21.8s,baz=278,slow=33						
HFS	**Hagfors**	**80.59**	**336**	P	**P**	**02 48 21.4**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=148,slow=8.5,SNR=1.3						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**81.61**	**180**	P	**P**	**02 48 28.9**	**+0.2**
ESDC	**Sonseca Array**	**81.65**	**312**	P	**P**	**02 48 26.9**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=120,slow=6.0,SNR=1.6						
	comp=Z,0.4nm,0.8s						
VNDA	**Vanda**	**82.68**	**167**	P	**P**	**02 48 34.4**	**+0.5**
VNDA				IAmb	IAmb	02 48 45.2	
	comp=Z,2.2nm,0.6s						
SBA	**Scott Base**	**83.68**	**168**	P	**P**	**02 48 40.0**	**+0.9**
SBA				IAmb	IAmb	02 48 51.2	
	comp=Z,7.4nm,1.2s						
YAK	**Yakutsk**	**84.72**	**25**	LR	LR	03 25 27.5	
	comp=Z,62nm,21.8s,baz=228,slow=35						
TIXI	**Tiksi**	**89.21**	**16**	LR	LR	03 30 56.4	
	comp=Z,63nm,19.2s,baz=204,slow=37						
MA2	**Magadan**	**93.61**	**30**	LR	LR	03 33 13.3	
	comp=Z,36nm,18.4s,baz=268,slow=36						
PDAR	**Pinedale Array**	**145.73**	**357**	PKPbc	**PKPdf**	**02 55 48.0**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=4.3,slow=5.1,SNR=1.4						
NVAR	**Mina Array Bea**	**149.62**	**10**	PKPbc	**PKiKP**	**02 56 02.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=332,slow=3.9,SNR=5.8						
TXAR	**Lajitas Array**	**157.75**	**340**	PKPab	**PKPab**	**02 56 38.3**	**-2.1**
	comp=Z,0.1nm,0.7s,baz=20,slow=2.4,SNR=1.4						

IDC 27 02:36:33.5±1.2,**5°.81N**×**125°.98E**,**h135**km±33km,**mb3.5**/4,
mbtmp3.9/4,**MS3.6**/2,**Error ellipse: s-maj=118.6km**
s-min=23.7km az=91.0,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.31**	**342**	P	Pn	02 36 60.0	0.0
	365nm,0.4s,baz=173,slow=16,SNR=1.8						
DAV				S	Sn	02 37 20.2	0.0
	271nm,0.3s,baz=163,slow=19,SNR=7.0						
WRA	**Warramunga Arr**	**26.88**	**162**	P	P	02 42 00.3	-1.6
	0.3nm,0.5s,baz=343,slow=9.0,SNR=6.2						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**30.30**	**165**	P	P	02 42 33.0	+0.7
	0.8nm,0.5s,baz=342,slow=8.7,SNR=14						
	0.8nm,0.5s						
STKA	**Stephens Creek**	**40.33**	**159**	P	P	02 43 58.5	+0.7
	1.7nm,0.6s,baz=339,slow=8.6,SNR=2.3						
	1.7nm,0.6s						
PETK	**Petropavlovsk-**	**53.81**	**23**	P	P	02 45 42.0	-0.1
	1.0nm,0.5s,baz=226,slow=7.5,SNR=1.8						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**55.43**	**325**	LR	LR	03 11 58.7	
	comp=Z,55nm,19.0s,baz=184,slow=38						
ZALV	**Zalesovo Beam**	**58.41**	**333**	LR	LR	03 13 29.4	
	comp=Z,55nm,20.7s,baz=195,slow=38						

*GUC **27** 02:37:23.7±0.8,22°.15S×67°.79W,h216km±12km,ML3.2*
*SCB **27** 02:37:24.7±1.5,22°.17S×67°.48W,h150km±17km,ML3.1/3,*
MW3.1,Error ellipse: s-maj=12.1km s-min=5.4km az=0.0
ISC 27 02:37:23.8±2.2,**22°.17S**±0°.08×**67°.48W**±0°.05,
h171km±19km,**n26,σ0°81**/31,**1C,Chile-Bolivia border**
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.67**	**282**	*e*P	**Pn**	**02 37 57.8**	**+0.7**
PB09				*e*S	**Sn**	**02 38 24.2**	**+1.6**
PB09	**IPOC Station P**	**1.67**	**282**	Pg	**Pn**	**02 37 57.7**	**+0.7**
YJA	**Yavi**	**1.83**	**91**	Pg	**Pn**	**02 37 59.5**	**+0.6**
MOCB	**Mochara**	**1.94**	**62**	Pg	**Pn**	**02 37 59.9**	**-0.3**
MOCB				Sg	**Sn**	**02 38 26.6**	**-1.6**
MOCB				IAML		02 38 27.9	
	85nm,0.6s						
PB06	**IPOC Station P**	**2.00**	**254**	*e*P	**Pn**	**02 38 00.8**	**+0.3**
PB06				*e*S	**Sn**	**02 38 29.1**	**+0.2**
PB06				IAML		02 38 31.2	
	comp=E,101nm,0.2s						
PB03	**IPOC Station P**	**2.11**	**273**	*e*P	**Pn**	**02 38 01.7**	**+0.1**
PB03				*e*S	**Sn**	**02 38 30.4**	**-0.5**
PB03				IAML		02 38 32.4	
	comp=N,120nm,0.2s						
PB01	**IPOC Station P**	**2.17**	**301**	*e*P	**Pn**	**02 38 02.2**	**-0.1**
PB01	**IPOC Station P**	**2.17**	**301**	Pg	**Pn**	**02 38 02.5**	**+0.1**
PB01				Sg	**Sn**	**02 38 32.2**	**0.0**
PB01				IAML		02 38 34.5	
	comp=N,44nm,0.2s						
PB02	**IPOC Station P**	**2.40**	**290**	*e*P	**Pn**	**02 38 04.6**	**-0.3**
PB02				IAML		02 38 36.3	
	comp=N,166nm,0.4s						
PB02	**IPOC Station P**	**2.40**	**290**	Pg	**Pn**	**02 38 05.0**	**+0.1**
PB02				Sg	**Sn**	**02 38 35.2**	**-1.6**
PB02				IAML		02 38 36.8	
	comp=N,133nm,0.4s						
PB08	**IPOC Station P**	**2.55**	**322**	↑*i*P	**Pn**	**02 38 07.8**	**+0.8**
PB08				IAML		02 38 42.5	
	comp=E,36nm,0.2s						
PB08	**IPOC Station P**	**2.55**	**322**	Pg	**Pn**	**02 38 08.0**	**+1.0**
PB05	**IPOC Station P**	**2.60**	**254**	*e*P	**Pn**	**02 38 07.5**	**+0.1**
PB05				IAML		02 38 40.8	

comp=N,63nm,0.2s
PATCX Punta Patache 2.82 298 *e*P **Pn** **02 38 09.5 -0.5**
PATCX IAML 02 38 45.6
comp=N,71nm,0.2s
HMBC Humberstone 2.92 310 *e*P **Pn** **02 38 10.3 -1.0**
HMBC IAML 02 38 49.0
comp=N,51nm,0.3s
GO01 Chusmiza 2.96 327 *i* P **Pn** **02 38 12.2 +0.2**
GO01 Chusmiza 2.96 327 Pg **Pn** **02 38 12.6 +0.6**
TA01 Diego Aracena 2.98 302 *e*P **Pn** **02 38 10.8 -1.0**
PB10 IPOC Station P 3.13 244 IAML 02 38 53.4
comp=E,29nm,0.3s
PB11 IPOC Station P 3.14 319 *e*P **Pn** **02 38 13.1 -0.9**
GO02 Mina Guanaco 3.55 213 *e*P **Pn** **02 38 19.3 0.0**
PB12 IPOC Station P 4.43 322 Pg **Pn** **02 38 30.2 -0.1**
BBOJ La Paz, Jacaqu 5.21 353 Pg **Pn** **02 38 42.1 +1.2**
BBOE La Paz, Chanca 5.35 355 Pg **Pn** **02 38 43.6 +0.9**
LPAZ La Paz 5.88 354 Pg **Pn** **02 38 50.5 +0.7**
BBOB La Paz, Bander 6.02 354 Pg **Pn** **02 38 52.0 +0.4**

*IDC **27** 02:56:14.4±1.4,29°.84N×130°.95E,h0km,mb3.7/8,*
mbtmp3.7/8,Error ellipse: s-maj=52.3km s-min=30.2km
az=61.0
*JMA **27** 02:56:18.5±0.2,29°.3N±0°.6×130°.5E±0°.8,h21km,MV3.0/23,*
NEAR AMAMI-OSHIMA ISLAND
ISC 27 02:56:21.3±1.2,**29°.35N**±0°.05×**130°.40E**±0°.09,**h52**km±10km,
n19,σ1°**38**/25,**mb3.7**/8,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.67**	**317**	P	**Pn**	**02 56 33.9**	**-0.9**
JNN				S	**Sn**	**02 56 45.2**	**+0.6**
JYAK	**Yakushimahirau**	**0.89**	**6**	P	**Pn**	**02 56 36.6**	**-1.1**
JYAK				*e*S	**Sn**	**02 56 50.5**	**+0.8**
JKC	**Kuchinoerabu**	**1.12**	**351**	P	**Pn**	**02 56 40.4**	**-0.4**
JKC				*e*S	**Sn**	**02 56 56.7**	**+1.5**
JMTN	**Minamitane**	**1.13**	**22**	P	**Pn**	**02 56 39.7**	**-1.2**
JMTN				*e*S	**Sn**	**02 56 56.8**	**+1.4**
JAM	**Amami Oshima**	**1.17**	**217**	P	**Pn**	**02 56 40.1**	**-1.3**
JAM				*e*S	**Sn**	**02 56 56.7**	**+0.5**
JTN	**Tanegashima 3**	**1.39**	**21**	P	**Pn**	**02 56 43.3**	**-1.1**
JAMN	**Amaminishikomi**	**1.54**	**225**	P	**Pn**	**02 56 45.8**	**-0.7**
JTSR	**Tashiro 2**	**1.87**	**14**	P	**Pn**	**02 56 50.5**	**-0.4**
JTSR				*e*S	**Sn**	**02 57 13.8**	**+0.4**
JTK	**Tokunoshima**	**2.01**	**220**	P	**Pn**	**02 56 52.5**	**-0.4**
JSU	**Suzuyama**	**2.15**	**1**	P	**Pn**	**02 56 54.4**	**-0.4**
JYRO	**Yoronjima**	**2.89**	**217**	*e*P	**Pn**	**02 57 03.3**	**-1.5**
MKAR	**Makanchi Array**	**40.99**	**309**	P	**P**	**03 03 59.3**	**+0.1**
	0.4nm,0.5s,baz=90,slow=12,SNR=6.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**44.01**	**314**	P	**P**	**03 04 23.7**	**+0.2**
	1.3nm,0.5s,baz=99,slow=9.1,SNR=9.3						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**49.15**	**175**	P	**P**	**03 05 07.5**	**+3.5**
	0.2nm,0.7s,baz=356,slow=7.9,SNR=1.6						
	0.2nm,0.7s						
BVAR	**Borovoye Array**	**49.29**	**316**	P	**P**	**03 05 05.0**	**+0.2**
	1.3nm,0.6s,baz=96,slow=8.1,SNR=6.5						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**71.10**	**331**	P	**P**	**03 07 33.4**	**-0.4**
	0.9nm,0.7s,baz=69,slow=8.1,SNR=5.7						
	0.9nm,0.7s						
AKASG	**Malin Array Be**	**74.41**	**320**	P	**P**	**03 07 52.8**	**-0.8**
	0.7nm,0.4s,baz=60,slow=6.9,SNR=3.2						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**74.89**	**26**	P	**P**	**03 07 53.0**	**-3.2**
	0.3nm,0.6s,baz=286,slow=5.3,SNR=2.0						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**03 08 07.8**	**+1.0**
	0.5nm,0.7s,baz=76,slow=6.1,SNR=2.9						
	0.5nm,0.7s						

*DJA **27** 03:11:23.4±0.4,3°.S±4°×13°.9E±°, h10km,M3.9/6,MLv3.9/6*
*IDC **27** 03:11:25.6±5.0,2°.15S×139°.18E,h0km,mb3.5/3,*
mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=77.7km
s-min=15.1km az=172.0
ISC 27 03:11:27.4±1.3,**2°.1S**±0°.2×**139°.16E**±0°.07,**h29**km,**n13,**
σ1°**82**/12,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.45**	**280**	P	**Pb**	**03 11 37.2**	**+0.2**
SMPI				S	**Sn**	**03 11 47.0**	**+1.9**
GENI	**Genyem**	**1.14**	**117**	P	**Pn**	**03 11 44.6**	**-2.8**
GENI				S	**Sn**	**03 12 01.1**	**-0.9**
JAY

0.2nm,0.4s,baz=197,slow=4.4,SNR=3.8
0.2nm,0.4s
QSPA South Pole Qui 70.21 180 P **P 03 37 02.0 +0.1**
1.9nm,1.1s,baz=315,slow=2.9,SNR=3.2
1.9nm,1.1s
KURBB Kurchatov Arra 71.02 8 P **P 03 37 06.8 +0.2**
0.4nm,0.7s,baz=209,slow=6.4,SNR=4.5
0.4nm,0.7s
BVAR Borovoye Array 72.70 3 P **P 03 37 15.4 -1.3**
0.4nm,0.5s,baz=143,slow=5.0,SNR=3.9
0.4nm,0.5s
ZALV Zalesovo Beam 75.23 11 P **P 03 37 30.7 -0.7**
0.6nm,0.4s,baz=199,slow=7.6,SNR=3.8
0.6nm,0.4s
AKASG Malin Array Be 77.55 337 P **P 03 37 44.7 0.0**
0.1nm,0.2s,baz=140,slow=4.3,SNR=5.2
0.1nm,0.2s
TXAR Lajitas Array 166.99 318 PKPab **PKPab 03 46 58.0 -1.1**
0.2nm,0.8s,baz=106,slow=4.4,SNR=4.0

*SNET **27** 03:39:47.3±0.6, 13°.87N×91°.34W, h14km±4km, ML3.2*
*CATAC **27** 03:39:47.1±0.8, 14°.N±4°×9°.1W±°, h7km±4km, M3.1/8, MLv3.1/8, Error ellipse: s-maj=9.7km s-min=5.5km az=45.0, confirmed*
*GCG **27** 03:39:47.0±1.4, 13°.71N×91°.46W, h44km±117km, MD4.2, ML3.1*
ISC 27 03:39:44.6±2.2, 13°.7N±0°.1×91°.4W±0°.1, h1km±18km, n24, σ0°63/29, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.82**	**39**	***e*P**		**Pn**	**03 40 03.6**	**+0.2**
ESSG				***e*S**		**Sn**	**03 40 16.8**	**+0.5**
ESSG				IAML			03 40 17.4	
	comp=E,568nm,0.1s							
RTAL	**Retalhuleu**	**0.84**	**338**	***e*P**		**Pg**	**03 40 01.0**	**+0.2**
RTAL				***e*S**		**Sg**	**03 40 11.3**	**-0.3**
SOKI	**Kika Raxquin**	**1.07**	**358**	***e*P**		**Pn**	**03 40 07.2**	**0.0**
SOKI				***e*S**		**Sn**	**03 40 22.7**	**-0.1**
SOKI				IAML			03 40 23.3	
	comp=N,440nm,0.3s							
FAME	**Alcaldia de Sa**	**1.32**	**86**	S		**Sb**	**03 40 26.7**	**-0.9**
FAME	**Alcaldia de Sa**	**1.32**	**86**	P		**Pn**	**03 40 09.8**	**-0.3**
NUBE	**Las Nubes**	**1.55**	**84**	***e*P**		**Pn**	**03 40 13.6**	**+0.1**
NUBE	**Las Nubes**	**1.55**	**84**	***e*P**		**Pn**	**03 40 13.6**	**+0.1**
NUBE				***e*S**		**Sn**	**03 40 33.9**	**-0.4**
NUBE	**Las Nubes**	**1.55**	**84**	P		**Pn**	**03 40 13.5**	**0.0**
LOAL	**Lomas de Alarc**	**1.56**	**80**	***e*S**		**Sn**	**03 40 34.6**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.56**	**79**	S		**Sn**	**03 40 34.4**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.56**	**79**	P		**Pb**	**03 40 14.3**	**-0.1**
CEVE	**Cerro Verde**	**1.69**	**87**	***e*P**		**Pn**	**03 40 16.1**	**+0.5**
CEVE				***e*S**		**Sb**	**03 40 38.9**	**+0.2**
CEVE				IAML			03 40 45.4	
	comp=Z,290nm,0.4s							
CEVE	**Cerro Verde**	**1.69**	**87**	P		**Pn**	**03 40 16.1**	**+0.5**
SBLS	**San Blas**	**1.70**	**87**	***e*P**		**Pn**	**03 40 16.1**	**+0.5**
JAYA	**Jayaque - finc**	**1.86**	**93**	***e*P**		**Pn**	**03 40 17.9**	**+0.1**
JAYA	**Jayaque - finc**	**1.86**	**93**	P		**Pb**	**03 40 19.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.86**	**93**	S		**Sn**	**03 40 41.2**	**-1.0**
PMON	**Piamonte**	**1.99**	**91**	***e*P**		**Pn**	**03 40 20.2**	**+0.6**
PMON	**Piamonte**	**1.99**	**91**	P		**Pb**	**03 40 21.3**	**-0.5**
PMON	**Piamonte**	**1.99**	**91**	S		**Sn**	**03 40 45.3**	**+0.1**
MTO3	**Montecristo**	**2.05**	**71**	***e*P**		**Pn**	**03 40 21.2**	**+0.8**
MTO3	**Montecristo**	**2.05**	**71**	***e*P**		**Pn**	**03 40 21.7**	**+1.2**
LFRS	**El Faro**	**2.24**	**93**	***e*P**		**Pn**	**03 40 23.8**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.56**	**91**	P		**Pn**	**03 40 29.1**	**+1.7**

*IDC **27** 03:52:53.3±1.8, 30°.68S×177°.66W, h0km, mb3.6/3, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=48.2km s-min=21.1km az=92.0*
ISC 27 03:52:59.0±1.4, 30°.73S±0°.09×177°.9W±0°.3, h46km, n9, σ2°80/8, mb3.5/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.47**	**0**	Pn		**Pn**	**03 53 21.8**	**-1.3**
	53nm,0.3s,baz=210,slow=20,SNR=2.2							
RAO				Sn		**Sn**	**03 53 39.1**	**-2.0**
	131nm,0.3s,baz=198,slow=20,SNR=5.3							
URZ	**Urewera**	**8.55**	**207**	Pn		**Pn**	**03 55 00.2**	**0.0**
	0.5nm,0.3s,baz=27,slow=2.3,SNR=1.1							
URZ				Sn		**Sn**	**03 56 30.9**	**-4.5**
	0.4nm,0.3s,baz=30,slow=18,SNR=1.8							
	2.2nm,0.4s							
ASAR	**Alice Springs**	**43.15**	**267**	P		**P**	**04 00 58.2**	**+2.9**
	0.3nm,0.5s,baz=109,slow=8.4,SNR=1.8							
	0.3nm,0.5s							
WRA	**Warramunga Arr**	**44.17**	**272**	P		**P**	**04 01 05.5**	**+2.0**
	0.5nm,0.6s,baz=112,slow=8.1,SNR=5.0							
	0.5nm,0.6s							
QSPA	**South Pole Qui**	**59.38**	**180**	P		**P**	**04 02 57.6**	**+1.2**
	1.0nm,0.9s,baz=45,slow=1.4,SNR=2.3							
	1.0nm,0.9s							
H03N3	**Juan Fernandez**	**80.43**	**123**	T		T	05 32 04.4	
	baz=236,slow=72,SNR=6.9							
H03N2	**Juan Fernandez**	**80.43**	**123**	T		T	05 32 12.3	
	baz=236,slow=72,SNR=6.1							
H03N1	**Juan Fernandez**	**80.44**	**123**	T		T	05 32 04.5	
	baz=236,slow=72,SNR=6.0							
FINES	**FINESS Array B**	**145.47**	**340**	PKPbc		**PKPdf**	**04 12 31.7**	**+0.4**
	0.7nm,0.3s,baz=33,slow=3.3,SNR=8.4							

*BJI **27** 03:53:51.4, 25°.59N×142°.78E, h10km, mB4.7/6, mb4.5/18, Ms3.9/4, Ms7 3.7/4*
*IDC **27** 03:53:51.9±0.6, 25°.73N×142°.71E, h0km, mb4.1/23, mbtmp4.1/26, ML3.7/3, MS3.2/3, Error ellipse: s-maj=20.4km s-min=12.8km az=76.0*
*JMA **27** 03:53:54.1±0.6, 25°.8N±1.0×14°3E±°, h0km, MV4.6/11, IOTO ISLANDS REGION*
*NEIC **27** 03:53:54.7±1.2, 25°.78N±0°.09×142°.7E±0°.2, h10km±1km, mb4.7/33, Error ellipse: s-maj=26.5km s-min=15.0km az=79.0*
ISC 27 03:53:57.6±0.5, 25°.71N±0°.07×142°.68E±0°.10, h38km, n88, σ1°24/90, mb4.5/47, MS3.5/3, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.03**	**334**	P		**Pn**	**03 54 14.0**	**-1.4**
CBIJ	**Chichi jima**	**1.45**	**342**	***e*P**		**Pn**	**03 54 20.9**	**-0.4**
CBIJ				***e*S**		**Sn**	**03 54 40.7**	**+1.6**
JCJ	**Chichijima**	**1.45**	**342**	Pn		**Pn**	**03 54 21.3**	**+0.1**
JCJ	**Chichijima**	**1.45**	**342**	Pn		**Pn**	**03 54 20.8**	**-0.5**
	720nm,0.3s,baz=107,slow=19,SNR=435							
JCJ				Sn		**Sn**	**03 54 41.9**	**+2.8**
	186nm,0.3s,baz=108,slow=19,SNR=5.8							
JCJ				LR		LR	03 54 51.1	
	comp=Z,167nm,19.2s,baz=121,slow=41							
BSO3	**Boso 3**	**9.26**	**349**	***e*P**		**Pn**	**03 56 08.5**	**+0.3**
JHO	**Hitachi**	**11.02**	**351**	***e*P**		**Pn**	**03 56 30.3**	**-2.3**
MJAR	**Matsushiro Arr**	**11.46**	**342**	Pn		**Pn**	**03 56 38.6**	**0.0**
MJAR	**Matsushiro Arr**	**11.46**	**342**	Pn		**Pn**	**03 56 37.4**	**-1.2**
	0.2nm,0.3s,baz=162,slow=13,SNR=6.5							
	1.0nm,0.4s							
JNU	**Nakatsue**	**12.66**	**308**	LR		LR	04 01 10.9	
	comp=Z,101nm,19.5s,baz=230,slow=35							
KSRS	**Korea Array**	**17.16**	**317**	P		**Pn**	**03 57 54.3**	**0.0**
	0.1nm,0.3s,baz=130,slow=10,SNR=2.3							
	0.7nm,0.5s							
ASAJ	**Asahikawa**	**18.37**	**360**	P		**P**	**03 58 08.0**	**-1.0**
	1.1nm,0.3s,baz=194,slow=8.3,SNR=4.2							
	3.3nm,0.2s							
USRK	**Ussuriysk Ar.**	**20.39**	**337**	P		**P**	**03 58 28.5**	**-2.5**
	1.5nm,0.6s,baz=149,slow=8.9,SNR=2.2							
	1.5nm,0.6s							
NJ2	**Nanjing**	**21.78**	**292**	***e*P**		**P**	**03 58 48.0**	**+1.9**
NJ2				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CN2	**Changchun**	**22.86**	**326**	***e*P**		**P**	**03 58 59.0**	**+1.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
H11N2	**WAKE ISLAND Hy 23.09**	**100**		T		T	04 22 48.9	
	baz=290,slow=75,SNR=74							
H11N1	**WAKE ISLAND Hy 23.10**	**100**		T		T	04 22 49.0	
	baz=290,slow=75,SNR=63							
H11N3	**WAKE ISLAND Hy 23.11**	**100**		T		T	04 22 50.3	
	baz=290,slow=75,SNR=78							
H11S3	**WAKE ISLAND Hy 23.35**	**103**		T		T	04 23 07.4	
	baz=292,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy 23.35**	**103**		T		T	04 23 08.3	
	baz=292,slow=75,SNR=21							
H11S2	**WAKE ISLAND Hy 23.36**	**103**		T		T	04 23 09.0	
	baz=292,slow=75,SNR=20							
BNX	**BinXian**	**23.45**	**332**	‖P		**P**	**03 59 04.3**	**+0.9**
BNX				pmax		pmax		
	comp=Z,5.0nm,0.8s							
HEH	**HeiHe**	**27.19**	**338**	***e*P**		**P**	**03 59 38.8**	**+1.3**
HEH				pmax		pmax		
	comp=Z,9.0nm,0.9s							
XLT	**XiLinHaoTe**	**28.21**	**317**	***e*P**		**P**	**03 59 47.3**	**+0.5**
XLT				PP		**PnPn**	**04 00 38.5**	**+2.6**
XLT				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**29.89**	**308**	***e*P**		**P**	**04 00 02.5**	**+0.7**
HHC				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC				pmax		pmax		
	comp=Z,52nm,4.6s							
HHC				LR		LR		
	comp=N,150nm,10.9s							
HHC				LR		LR		
	comp=E,91nm,10.9s							
HHC				LR		LR		
	comp=Z,120nm,12.6s							
BTO	**Baotou**	**30.91**	**307**	***e*P**		**P**	**04 00 12.3**	**+1.5**
BTO				pP		**pP**	**04 00 16.5**	**-4.2**
BTO				sP		**pwP**	**04 00 19.3**	**-4.8**
BTO				PP		**PnPn**	**04 01 14.5**	**+2.3**
BTO				pmax		pmax		
	comp=Z,16nm,0.6s							
BTO				pmax		pmax		
	comp=Z,230nm,4.6s							
SONM	**Songino Array**	**36.03**	**317**	P		**P**	**04 00 53.2**	**-2.1**
	0.6nm,0.4s,baz=124,slow=7.8,SNR=4.2							
	0.6nm,0.4s							
PZH	**PanZhiHua**	**36.66**	**280**	P		**P**	**04 01 01.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**41.02**	**269**	P		**P**	**04 01 38.2**	**+0.8**
	1.3nm,0.4s,baz=65,slow=8.2,SNR=4.1							
CMAR				LR		LR	04 18 11.8	
	comp=Z,24nm,21.2s,baz=245,slow=36							
	1.3nm,0.4s							
WB0	**Warramunga Arr**	**45.91**	**191**			**P**	**04 02 17.4**	**+0.8**
WB0				IAmb		IAmb	04 02 18.7	
	comp=Z,7.7nm,0.8s							
WR8	**Warramunga Arr**	**46.08**	**191**			**P**	**04 02 18.7**	**+0.8**
WR8				IAmb		IAmb	04 02 19.5	
	comp=Z,20nm,1.4s							
WRAB	**Tennant Creek**	**46.09**	**191**	P		**P**	**04 02 19.4**	**+1.4**
WRAB				IAmb		IAmb	04 02 20.0	
	comp=Z,10nm,0.7s							
WRA	**Warramunga Arr**	**46.10**	**191**			**P**	**04 02 18.3**	**+0.2**
WRA	**Warramunga Arr**	**46.10**	**191**	P		**P**	**04 02 18.6**	**+0.5**
	comp=Z,6.9nm,0.5s,baz=9.2,slow=7.9,SNR=63							
	comp=Z,6.9nm,0.5s							
FITZ	**Fitzroy Crossi**	**46.59**	**203**			**P**	**04 02 23.0**	**+1.0**
WMQ	**Urumqi**	**47.75**	**307**	***e*P**		P	04 02 37.0	+6.0
WMQ				pmax		pmax		
	comp=Z,11nm,0.9s							
AS31	**Alice Springs**	**49.81**	**191**	P		**P**	**04 02 48.3**	**+1.5**
ASAR	**Alice Springs**	**49.81**	**191**	P		**P**	**04 02 46.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=5.7,slow=6.4,SNR=16							
	comp=Z,1.3nm,0.6s							
ZALV	**Zalesovo Beam**	**50.83**	**320**	P		**P**	**04 02 54.6**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=119,slow=8.4,SNR=2.2							
ZALV				PcP		**PcP**	**04 04 10.3**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=90,slow=2.9,SNR=4.0							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**51.71**	**310**	P		**P**	**04 03 00.2**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=88,slow=11,SNR=6.6							
MKAR				PcP		**PcP**	**04 04 13.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=101,slow=5.3,SNR=2.5							
	comp=Z,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**54.33**	**315**	P		**P**	**04 03 19.1**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=91,slow=7.7,SNR=18							
KURBB				PcP		**PcP**	**04 04 25.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=101,slow=3.8,SNR=1.6							
	comp=Z,1.8nm,0.4s							
K20K	**Telida**	**55.38**	**29**	P		**P**	**04 03 28.5**	**+0.9**
J20K	**Nowinta River**	**55.52**	**28**			**P**	**04 03 28.8**	**+0.3**
CAST	**Castle Rocks**	**56.27**	**29**			**P**	**04 03 34.5**	**+0.6**
STKA	**Stephens Creek**	**57.27**	**181**	P		**P**	**04 03 41.3**	**0.0**
	comp=Z,1.2nm,0.5s,baz=0.0,slow=13,SNR=5.9							
	comp=Z,1.2nm,0.5s							
D23K	**Nanushuk River**	**57.89**	**23**	P		**P**	**04 03 47.5**	**+2.2**
C23K	**Itkillik River**	**58.10**	**22**	P		**P**	**04 03 48.3**	**+1.6**
C23K				IAmb		IAmb	04 04 32.2	
	comp=Z,11nm,1.4s							
SCM	**Sheep Creek Mo**	**58.25**	**32**	P		**P**	**04 03 48.5**	**+0.5**
SCM				IAmb		IAmb	04 04 05.2	
	comp=Z,18nm,1.4s							
DHY	**Denali Highway**	**58.33**	**30**	P		**P**	**04 03 49.6**	**+0.9**
DHY				IAmb		IAmb	04 04 24.9	
	comp=Z,7.3nm,1.4s							
H24K	**Noodor Dome**	**58.43**	**27**	P		**P**	**04 03 49.6**	**+0.4**
H24K				IAmb		IAmb	04 04 18.1	
	comp=Z,6.8nm,1.5s							
BBOO	**Buckleboo**	**58.53**	**187**	P		**P**	**04 03 50.8**	**+0.7**
ARSB	**Arslanbob**	**58.70**	**304**	P		**P**	**04 03 52.6**	**+1.0**
ARSB				IAmb		IAmb	04 04 30.9	
	comp=Z,7.3nm,1.4s							
IL31		**58.71**	**28**	P		**P**	**04 03 51.3**	**+0.3**
IL31				IAmb		IAmb	04 04 27.9	
	comp=Z,8.6nm,1.5s							
ILAR	**Eielson Array**	**58.71**	**28**	P		**P**	**04 03 50.9**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=266,slow=7.2,SNR=13							
	comp=Z,1.1nm,0.8s							
C24K	**Franklin Bluff**	**58.73**	**22**	P		**P**	**04 03 51.4**	**+0.3**
KLU	**Klutina**	**58.89**	**32**	P		**P**	**04 03 53.5**	**+1.0**
BVAR	**Borovoye Array**	**59.37**	**318**	P		**P**	**04 03 55.7**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=88,slow=7.0,SNR=16							
BVAR				PcP		**PcP**	**04 04 43.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=87,slow=3.2,SNR=1.5							
	comp=Z,2.7nm,0.4s							
RIDG	**Independent Ri**	**59.52**	**29**	P		**P**	**04 03 56.8**	**0.0**
RIDG				IAmb		IAmb	04 04 31.3	
	comp=Z,6.3nm,1.2s							
FYU	**Fort Yukon**	**59.58**	**26**	P		**P**	**04 03 57.1**	**+0.1**
E25K	**Arctic Village**	**59.61**	**24**	P		**P**	**04 03 57.8**	**+0.5**
E25K				IAmb		IAmb	04 04 18.3	
	comp=Z,7.6nm,1.3s							
DOT	**Dot Lake**	**59.86**	**30**	P		**P**	**04 03 59.5**	**+0.4**
F26K	**Sheenjek River**	**60.10**	**25**	P		**P**	**04 04 01.5**	**+0.8**
F26K				IAmb		IAmb	04 04 12.8	
	comp=Z,6.8nm,1.4s							
J26L	**Joseph Creek**	**60.12**	**29**	P		**P**	**04 04 00.6**	**-0.4**
J26L				IAmb		IAmb	04 04 02.5	
	comp=Z,3.2nm,0.8s							
KK31	**Karatay Array**	**60.26**	**307**	P		**P**	**04 04 02.4**	**+0.2**
KKAR	**Karatay Array**	**60.26**	**307**			**P**	**04 04 02.3**	**+0.1**
AB31	**Akbulak array**	**66.38**	**315**	P		**P**	**04 04 42.8**	**+0.3**
AB31				IAmb		IAmb	04 04 43.2	
	comp=Z,2.6nm,0.7s							
ABKAR	**Akbulak array**	**66.38**	**315**	P		**P**	**04 04 42.3**	**-0.3**
C36M	**Paulatuk**	**67.34**	**23**	P		**P**	**04 04 49.4**	**+1.2**
C36M				IAmb		IAmb	04 04 57.6	
	comp=Z,14nm,1.4s							
KAAM	**Kaadhehdhoo**	**71.53**	**261**	P		**P**	**04 05 13.8**	**-1.3**
YKA	**Yellowknife Ar**	**73.15**	**28**	P		**P**	**04 05 24.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=299,slow=6.4,SNR=5.1							
	comp=Z,0.4nm,0.6s							
ARCES	**ARCESS Array B**	**74.99**	**341**	P		**P**	**04 05 35.1**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=61,slow=5.4,SNR=5.9							
	comp=Z,2.6nm,0.8s							
LON	**Longmire**	**75.30**	**45**	P		**P**	**04 05 37.0**	**+0.1**
LON				IAmb		IAmb	04 05 38.0	
	comp=Z,6.6nm,0.7s							
KBZ	**Khabaz**	**79.28**	**313**	P		**P**	**04 05 59.8**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=74,slow=7.4,SNR=11							
	comp=Z,4.5nm,0.7s							
FINES	**FINESS Array B**	**79.39**	**334**			**P**	**04 05 59.9**	**+0.6**
FINES	**FINESS Array B**	**79.39**	**334**	P		**P**	**04 05 59.7**	**+0.4**
	comp=Z,4.0nm,0.4s,baz=62,slow=5.5,SNR=60							
	comp=Z,4.0nm,0.4s							
NVAR	**Mina Array Bea**	**81.02**	**52**	P		**P**	**04 06 09.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=283,slow=5.3,SNR=4.3							
	comp=Z,0.4nm,0.6s							
AKASG	**Malin Array Be**	**84.00**	**324**	P		**P**	**04 06 23.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=54,slow=5.3,SNR=6.0							
	comp=Z,0.7nm,0.4s							
ARPR	**Arapgir-MALATY**	**84.44**	**311**	P		**P**	**04 06 27.2**	**+0.7**
NC405	**NORSAR Array S**	**84.84**	**338**			**P**	**04 06 27.4**	**-0.6**
HFS	**Hagfors**	**84.87**	**337**	P		**P**	**04 06 27.7**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=59,slow=5.6,SNR=30							
	comp=Z,3.2nm,0.5s							
PDAR	**Pinedale Array**	**84.88**	**45**	P		**P**	**04 06 29.4**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=291,slow=9.3,SNR=1.4							
PDAR				LR		LR	04 38 52.1	
	comp=Z,19nm,20.4s,baz=346,slow=32							
	comp=Z,0.1nm,0.4s							
NB2	**NORSAR Subarra**	**85.06**	**339**	P		**P**	**04 06 28.9**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=49,slow=4.6							
NOA	**NORSAR Array B**	**85.06**	**339**	P		**P**	**04 06 28.7**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=44,slow=4.9,SNR=12							
	comp=Z,1.9nm,0.7s							
RAYN	**Ar Rayn**	**86.12**	**294**			**P**	**04 06 35.3**	**+0.2**
RAYN				IAmb		IAmb	04 06 36.5	
	comp=Z,2.9nm,0.6s							
BRTR	**Keskin Array B**	**87.27**	**313**	P		**P**	**04 06 40.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=57,slow=5.3,SNR=5.3							
	comp=Z,0.9nm,0.6s							
MMAI	**Mount Meron Ar**	**89.50**	**307**	P		**P**	**04 06 51.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=60,slow=8.5,SNR=1.5							
	comp=Z,0.5nm,0.5s							
TXAR	**Lajitas Array**	**96.07**	**54**	P		**P**	**04 07 21.6**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=332,slow=2.8,SNR=3.5							
	comp=Z,0.4nm,0.9s							
PLCA	**Paso Flores**	**148.63**	**127**	PKPbc		**PKPbc**	**04 13 40.3**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=229,slow=11,SNR=3.1							
LPAZ	**La Paz**	**149.81**	**78**	PKPbc		**PKPbc**	**04 13 42.8**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=274,slow=4.6,SNR=2.4							

*WEL **27** 04:05:32.6±0.2, 39°.S±3°×17°4E±°, h13km±2km, M3.2/66, ML3.6/42, MLv3.2/66, Error ellipse: s-maj=3.7km s-min=2.0km az=161.6, confirmed*
*NOU **27** 04:05:32.6, 39°.15S×174°.35E, h17km, MLv3.3/13, North Island, New Zealand*
ISC 27 04:05:33.5±1.0, 39°.17S±0°.02×174°.43E±0°.02, h20km±1km, n114, σ0°85/126, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MHEZ	**Mangahewa**	**0.13**	**319**	P		**Pb**	**04 05 38.3**	**-0.3**
MHEZ				S		**Sb**	**04 05 42.7**	**+0.7**
DREZ	**Durham Road**	**0.18**	**265**	P		**Pb**	**04 05 38.4**	**-0.3**
DREZ				S		**Sb**	**04 05 42.7**	**+0.2**
VRZ	**Vera Road**	**0.26**	**79**	P		**Pb**	**04 05 39.4**	**-0.2**
VRZ				S		**Sb**	**04 05 44.4**	**+0.6**
PREZ	**Palmer Road**	**0.27**	**231**	P		**Pb**	**04 05 39.1**	**-0.7**
NEZ	**North Egmont**	**0.28**	**249**	P		**Pb**	**04 05 39.5**	**-0.5**
LREZ	**Lake Rotokare**	**0.29**	**184**	P		**Pb**	**04 05 39.2**	**-0.8**
LREZ				S		**Sb**	**04 05 44.4**	**0.0**
KHEZ	**Kahui Hut**	**0.35**	**249**	P		**Pb**	**04 05 40.6**	**-0.3**
KHEZ	**Kahui Hut**	**0.35**	**249**	P		**Pb**	**04 05 40.7**	**-0.3**
PKE	**Pukeiti**	**0.35**	**266**	P		**Pb**	**04 05 40.9**	**0.0**
PKE				S		**Sb**	**04 05 46.7**	**+0.8**
NBEZ	**Newall Road No**	**0.45**	**258**	P		**Pb**	**04 05 42.3**	**-0.4**
NMEZ	**Namu Road**	**0.49**	**241**	P		**Pb**	**04 05 42.5**	**-0.9**
NMEZ				S		**Sb**	**04 05 50.2**	**0.0**
PKVZ	**Pokaka**	**0.72**	**100**	P		**Pb**	**04 05 46.4**	**-1.0**
PKVZ				S		**Sb**	**04 05 56.5**	**-0.4**
WAZ	**Wanganui**	**0.72**	**144**	P		**Pb**	**04 05 46.5**	**-0.8**
HIZ	**Hauiti**	**0.74**	**27**	P		**Pb**	**04 05 47.1**	**-0.5**
HIZ	**Hauiti**	**0.74**	**27**	S		**Sb**	**04 05 57.8**	**+0.6**
HIZ	**Hauiti**	**0.74**	**27**	P		**Pb**	**04 05 47.2**	**-0.5**
HIZ				S		**Sb**	**04 05 57.8**	**+0.6**
TWVZ	**Taurewa**	**0.79**	**83**	P		**Pb**	**04 05 47.5**	**-1.0**
MTVZ	**Mangateitei**	**0.83**	**105**	P		**Pb**	**04 05 48.1**	**-1.2**
COVZ	**Chateau Observ**	**0.86**	**92**	P		**Pb**	**04 05 48.8**	**-1.0**
FWVZ	**Far West T-bar**	**0.88**	**96**	P		**Pb**	**04 05 49.0**	**-1.1**
FWVZ				S		**Sb**	**04 06 01.1**	**-0.4**
TRVZ	**Turoa**	**0.88**	**99**	P		**Pb**	**04 05 49.1**	**-1.1**
MAVZ	**Matarangi**	**0.88**	**97**	P		**Pb**	**04 05 49.1**	**-1.2**
WTVZ	**West Tongariro**	**0.90**	**87**	P		**Pb**	**04 05 49.5**	**-1.0**
WHVZ	**Whangaehu Hut**	**0.91**	**97**	P		**Pb**	**04 05 49.4**	**-1.2**
NGZ	**Ngauruhoe**	**0.91**	**91**	P		**Pb**	**04 05 49.5**	**-1.1**
NGZ				S		**Sb**	**04 06 02.2**	**-0.1**
WNVZ	**Wahianoa**	**0.92**	**100**	P		**Pb**	**04 05 49.8**	**-1.0**
WNVZ				S		**Sb**	**04 06 02.3**	**-0.4**
NNVZ	**North Ngauruho**	**0.92**	**88**	P		**Pb**	**04 05 49.9**	**-1.0**
NNVZ				S		**Sb**	**04 06 02.6**	**-0.1**
KRVZ	**Karewarewa**	**0.94**	**86**	P		**Pb**	**04 05 50.3**	**-0.9**
TUVZ	**Tukino**	**0.95**	**96**	P		**Pb**	**04 05 50.7**	**-

SNET ***27*** *04:06:15.7±1.9, 13°.77N×91°.51W, h90km, ML3.5*
CATAC ***27*** *04:06:18.4±0.5, 14°.3×9°.1W±°, h32km±5km, M3.5/17, MLv3.5/17, Error ellipse: s-maj=7.5km s-min=2.9km az=31.6, confirmed*
GCG ***27*** *04:06:18.6±2.5, 13°.88N×91°.43W, h43km±49km, MD3.9, ML3.9, MW3.5*
ISC 27 04:06:16.0±2.7,**13°.84N**±0°.07×**91°.39W**±0°.07,**h7**km±17km, **n37**,σ0**986**/46,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.74**	**337**	P		**Pn**	**Pn**	**04 06 31.8**	**-1.1**
RTAL	**Retalhuleu**	**0.74**	**337**	S		**Sb**	**Sb**	**04 06 42.3**	**+0.7**
ESSG	**Sabana Grande**	**0.77**	**45**	*i* P		**Pn**	**Pn**	**04 06 32.8**	**-0.5**
ESSG				*i* S		**Sn**	**Sn**	**04 06 44.5**	**-0.7**
ESSG				IAML				04 06 45.5	
	comp=E,3μm,0.3s								
ESSJ	**San Jos, E**	**0.91**	**108**	*i* P		**Pb**	**Pb**	**04 06 31.8**	**-2.3**
FG16	**Alotenango, Sa**	**0.96**	**63**	*i* P		**Pb**	**Pb**	**04 06 33.9**	**-1.2**
FG16				*i* S		**Sb**	**Sb**	**04 06 46.3**	**-1.8**
FG16				IAML				04 06 48.2	
	comp=N,29μm,0.2s								
SOKI	**Kika Raxquin**	**0.97**	**359**	*i* P		**Pb**	**Pb**	**04 06 35.5**	**+0.1**
SOKI				*i* S		**Sb**	**Sb**	**04 06 48.7**	**0.0**
SOKI				IAML				04 06 52.1	
	comp=N,2μm,0.4s								
FAME	**Alcaldia de Sa**	**1.34**	**90**	P		**Pn**	**Pn**	**04 06 40.9**	**-0.3**
FAME	**Alcaldia de Sa**	**1.34**	**90**	S		**Sn**	**Sn**	**04 06 57.5**	**-1.7**
QUIS	**Sacapulas**	**1.47**	**11**	*i* P		**Pb**	**Pb**	**04 06 44.0**	**+0.2**
QUIS				*i* S		**Sg**	**Sg**	**04 07 03.9**	**+0.6**
QUIS				IAML				04 07 05.7	
	comp=E,934nm,0.4s								
HUEH	**Huehuetenango**	**1.47**	**356**	*e*P		**Pb**	**Pb**	**04 06 43.5**	**-0.4**
HUEH				*e*S		**Sb**	**Sb**	**04 07 03.1**	**+0.2**
NUBE	**Las Nubes**	**1.57**	**88**	*e*P		**Pn**	**Pn**	**04 06 44.8**	**+0.4**
NUBE	**Las Nubes**	**1.57**	**88**	*i* P		**Pn**	**Pn**	**04 06 44.8**	**+0.4**
NUBE				*i* S		**Sn**	**Sn**	**04 07 04.1**	**-1.0**
NUBE	**Las Nubes**	**1.57**	**88**	P		**Pn**	**Pn**	**04 06 44.6**	**+0.1**
LOAL	**Lomas de Alarc**	**1.57**	**84**	P		**Pb**	**Pb**	**04 06 45.4**	**-0.1**
LOAL	**Lomas de Alarc**	**1.57**	**84**	S		**Sb**	**Sb**	**04 07 05.6**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.57**	**83**	P		**Pb**	**Pb**	**04 06 45.5**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.57**	**83**	S		**Sb**	**Sb**	**04 07 06.1**	**+0.5**
CEVE	**Cerro Verde**	**1.72**	**90**	*e*P		**Pn**	**Pn**	**04 06 47.2**	**+0.6**
CEVE				*e*S		**Sb**	**Sb**	**04 07 10.2**	**+0.2**
CEVE	**Cerro Verde**	**1.72**	**90**	P		**Pb**	**Pb**	**04 06 48.8**	**+0.7**
UNIC	**Universidad Ca**	**1.79**	**85**	S		**Sb**	**Sb**	**04 07 11.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.90**	**95**	*e*P		**Pn**	**Pn**	**04 06 49.6**	**+0.6**
JAYA	**Jayaque - finc**	**1.90**	**95**	*i* P		**Pn**	**Pn**	**04 06 49.6**	**+0.6**
JAYA				*i* S		**Sn**	**Sn**	**04 07 13.5**	**+0.3**
JAYA	**Jayaque - finc**	**1.90**	**95**	P		**Pn**	**Pn**	**04 06 49.9**	**+0.9**
PMON	**Piamonte**	**2.02**	**93**	P		**Pb**	**Pb**	**04 06 52.3**	**-0.9**
PMON	**Piamonte**	**2.02**	**93**	S		**Sn**	**Sn**	**04 07 17.2**	**+0.9**
MTO3	**Montecristo**	**2.05**	**74**	*e*P		**Pn**	**Pn**	**04 06 51.4**	**+0.3**
MTO3				*e*S		**Sn**	**Sn**	**04 07 17.5**	**+0.5**
MTO3	**Montecristo**	**2.05**	**74**	*i* P		**Pn**	**Pn**	**04 06 51.4**	**+0.3**
MTO3	**Montecristo**	**2.05**	**74**	P		**Pn**	**Pn**	**04 06 51.5**	**+0.4**
MTO3	**Montecristo**	**2.05**	**74**	S		**Sn**	**Sn**	**04 07 16.9**	**-0.2**
UEES	**Universidad Ev**	**2.10**	**93**	P		**Pb**	**Pb**	**04 06 53.3**	**-1.1**
UEES	**Universidad Ev**	**2.10**	**93**	S		**Sn**	**Sn**	**04 07 18.8**	**+0.7**
ESQI	**Esquipulas**	**2.11**	**70**	*e*P		**Pn**	**Pn**	**04 06 52.3**	**+0.4**
LOMA	**Loma Larga**	**2.17**	**95**	P		**Pb**	**Pb**	**04 06 55.2**	**-0.4**
LOMA	**Loma Larga**	**2.17**	**95**	S		**Sn**	**Sn**	**04 07 21.0**	**+1.2**
UESV	**Universidad de**	**2.54**	**94**	P		**Pb**	**Pb**	**04 07 02.0**	**0.0**
SCLA	**Alcaldia de Sa**	**2.59**	**93**	P		**Pn**	**Pn**	**04 07 00.5**	**+2.0**
SCLA	**Alcaldia de Sa**	**2.59**	**93**	S		**Sn**	**Sn**	**04 07 31.3**	**+1.1**

MCSM ***27*** *04:31:18.5±0.8, 35°.8°×2°.8E±°, h10km±3km, mb4.3, mB4.3, MLv4.2, Mw(mB)3.5*
MOS ***27*** *04:31:20.9±1.7, 35°.60N×27°.75E, h16km, mb4.6/20, Error ellipse: s-maj=6.0km s-min=3.5km az=99.4*
NAO ***27*** *04:31:20.4, 35°.69N×27°.64E, h10km, mb4.1*
NEIC ***27*** *04:31:21.5±1.8, 35°.62N±0°.04×27°.70E±0°.06, h10km±1km, mb4.4/47, Error ellipse: s-maj=8.1km s-min=7.1km az=48.0*
ATH ***27*** *04:31:23.5, 35°.72N×27°.67E, h14km, Mw4.2, Moment Tensor Solution. s7 Moment tensor: Mrr0.20; Mθθ-1.43; Mφφ1.23; Mrθ0.14; Mrφ-1.67; Mθφ-0.62; Fault plane solution: NP1:φs108.00000°, δ76.00000°, λ170.00000°. NP2:φs201.00000°, δ81.00000°, λ15.00000°.*
MED_RC ***27*** *04:31:23.0±0.5, 35°.69N×27°.64E, h24km±2km, MW4.3/14, Moment Tensor Solution.Mantle waves: s14,c16; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr-2.93±1.06; Mθθ0.21±.56; Mφφ2.72±.60; Mrθ0.17±.47; Mθφ-2.14±.24; Mφr-1.50±.36; Best double couple: Mo3.78000×10^15 NP1:φs135.00000°, δ36.00000°, λ-114.00000°. NP2:φs343.00000°, δ57.00000°, λ-74.00000°. Principal axes: T 4.2200, Plg11.0000°, Azm61.0000°; N -0.8700, Plg14.0000°, Azm154.0000°; P -3.3500, Plg72.0000°, Azm294.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NIC ***27*** *04:31:23.4, 35°.68N×27°.78E, h15km±2km, Ml4.2/14*
HLW ***27*** *04:31:23.4, 35°.70N×27°.76E, h11km±2km, Ml4.2*
ISK ***27*** *04:31:23.7, 35°.81N×27°.53E, h15km, ML4.3/34*
THE ***27*** *04:31:24.2, 36°.1N±2°.2°×2°.8E±°, h10km±2km, M4.4/31, mb4.9/4, MLh3.9/31*
IDC ***27*** *04:31:25.4±2.7, 35°.89N×27°.51E, h33km±20km, mb4.2/25, mbtmp4.3/29, ML3.7/4, MS3.3/8, Error ellipse: s-maj=15.4km s-min=10.1km az=142.0*
GII ***27*** *04:31:26.8±0.0, 35°.46N±0°.04×28°.06E±0°.01, h10km, Mws4.3, confirmed*
AFAD ***27*** *04:31:26.0, 35°.89N×27°.67E, h34km±1km, MW4.1*
ISC 27 04:31:23.0±0.7,**35°.69N**±0°.02×**27°.70E**±0°.02,**h19**km±2km, **n488**,σ1**946**/575,**mb4.4**/50,**MS3.4**/4,**16C-12D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.46**	**252**	Pg		**Pg**	**Pg**	**04 31 32.2**	**-0.2**
KARP				Sg		**Sg**	**Sg**	**04 31 38.6**	**-0.1**
KARP	**Karpathos**	**0.46**	**252**			**Pg**	**Pg**	**04 31 31.8**	**-0.6**
KARP				Sg		**Sg**	**Sg**	**04 31 37.8**	**-0.9**
KARP	**Karpathos**	**0.46**	**252**	P		**Pg**	**Pg**	**04 31 32.2**	**-0.2**
KARP				S		**Sb**	**Sb**	**04 31 39.4**	**+0.3**
KARP	**Karpathos**	**0.46**	**252**	P		**Pg**	**Pg**	**04 31 32.0**	**-0.4**
KARP				AML		AML	AML	04 31 40.4	
	144nm,0.4s								
KARP				S		**Sb**	**Sb**	**04 31 40.4**	**+1.3**
KARP				AML		AML	AML	04 31 40.5	
	74nm,0.2s								
KARP	**Karpathos**	**0.46**	**252**	P		**Pg**	**Pg**	**04 31 32.0**	**-0.4**
KARP	**Karpathos**	**0.46**	**252**	P		**Pg**	**Pg**	**04 31 32.0**	**-0.4**
KARP				S		**Sg**	**Sg**	**04 31 38.8**	**+0.1**
ARG	**Arkhangelos**	**0.63**	**33**	Pg		**Pg**	**Pg**	**04 31 35.5**	**0.0**
ARG	**Arkhangelos**	**0.63**	**33**			**Pg**	**Pg**	**04 31 35.5**	**0.0**
ARG				Sg		**Sn**	**Sn**	**04 31 45.3**	**-1.2**
ARG	**Arkhangelos**	**0.63**	**33**	P		**Pg**	**Pg**	**04 31 35.6**	**0.0**
ARG				S		**Sg**	**Sg**	**04 31 44.1**	**0.0**
ARG	**Arkhangelos**	**0.63**	**33**	P		**Pg**	**Pg**	**04 31 35.5**	**0.0**
ARG				S				04 31 45.3	
ARG	**Arkhangelos**	**0.63**	**33**	P		**Pb**	**Pb**	**04 31 35.4**	**0.0**
ARG				S		**Sg**	**Sg**	**04 31 44.2**	**+0.2**
ARG				AML		AML	AML	04 31 46.6	
	54nm,0.3s								
ARG				AML		AML	AML	04 31 49.6	
	61nm,0.5s								
ARG	**Arkhangelos**	**0.63**	**33**	P		**Pg**	**Pg**	**04 31 35.5**	**0.0**
ARG				S		**Sb**	**Sb**	**04 31 43.6**	**-0.2**
YAZI	**Mula-Dat§a-**	**1.01**	**349**	P		**Pb**	**Pb**	**04 31 42.0**	**+0.1**
YAZI				S		**Sb**	**Sb**	**04 31 54.1**	**-0.8**
YAZI				*i* IAML				04 31 57.0	
	comp=E,3μm,1.1s								
YAZI				*i* IAML				04 31 59.0	
	comp=N,3μm,0.7s								
NISR	**Nisiros**	**1.03**	**334**	P		**Pb**	**Pb**	**04 31 41.4**	**-0.8**
NISR				S		**Sb**	**Sb**	**04 31 54.9**	**-0.5**
NISR	**Nisiros**	**1.03**	**334**	P		**Pb**	**Pb**	**04 31 42.1**	**-0.1**
NISR				S		**Sb**	**Sb**	**04 31 55.5**	**+0.1**
DAT	**Datca**	**1.04**	**355**	Pg		**Pb**	**Pb**	**04 31 41.9**	**-0.7**
DAT				Sg		**Sb**	**Sb**	**04 31 55.2**	**-0.7**
DAT	**Datca**	**1.04**	**355**	P		**Pb**	**Pb**	**04 31 42.5**	**-0.1**
DAT				S		**Sn**	**Sn**	**04 31 56.7**	**-0.1**
DAT	**Datca**	**1.04**	**355**	P		**Pn**	**Pn**	**04 31 42.9**	**+0.2**
DAT				S		**Sb**	**Sb**	**04 31 54.4**	**-1.5**
DAT				*i* IAML				04 31 57.0	
	comp=N,5μm,0.4s								
DAT				*i* IAML				04 31 58.0	
	comp=E,5μm,0.7s								
DATC	**Datca-Mugla**	**1.07**	**358**	Pg		**Pb**	**Pb**	**04 31 42.5**	**-0.4**
DATC				Sg		**Sb**	**Sb**	**04 31 56.3**	**-0.2**
TURN	**Turunc**	**1.17**	**22**	P		**Pb**	**Pb**	**04 31 44.8**	**+0.2**
TURN				S		**Sb**	**Sb**	**04 31 59.6**	**+0.1**
TURN				*i* IAML				04 32 07.0	
	comp=E,6μm,1.0s								
TURN				*i* IAML				04 32 08.0	
	comp=N,5μm,0.4s								
ZKR	**Zakros**	**1.34**	**245**	Pn		**Pb**	**Pb**	**04 31 47.5**	**0.0**
ZKR				Sn		**Sb**	**Sb**	**04 32 04.9**	**+0.6**
ZKR	**Zakros**	**1.34**	**245**	P		**Pb**	**Pb**	**04 31 47.8**	**+0.3**
ZKR	**Zakros**	**1.34**	**245**	P		**Pb**	**Pb**	**04 31 47.4**	**-0.1**
ZKR				S		**Sg**	**Sg**	**04 32 07.5**	**+1.2**
ZKR				AML		AML	AML	04 32 08.3	
	37nm,0.4s								
ZKR				AML		AML	AML	04 32 09.9	
	17nm,0.8s								
ZKR	**Zakros**	**1.34**	**245**	P		**Pb**	**Pb**	**04 31 47.2**	**-0.3**
ZKR				S		**Sg**	**Sg**	**04 32 05.6**	**-0.8**
BDRM	**Kayabasi**	**1.39**	**352**	P		**Pn**	**Pn**	**04 31 47.2**	**-0.2**
BDRM				S		**Sn**	**Sn**	**04 32 03.3**	**-2.0**
BDRM				*i* IAML				04 32 15.0	
	comp=E,3μm,0.5s								
IZZE	**Mula-Seydike**	**1.45**	**58**	P		**Pb**	**Pb**	**04 31 50.1**	**+0.8**
IZZE				S		**Sb**	**Sb**	**04 32 08.0**	**+0.6**
IZZE				*i* IAML				04 32 11.0	
	comp=N,6μm,0.5s								
IZZE				*i* IAML				04 32 11.0	
	comp=E,4μm,0.4s								
YKAV	**Yalikavak-Bodr**	**1.47**	**347**	P		**Pn**	**Pn**	**04 31 48.2**	**-0.3**
SABU	**Mula-Dalaman**	**1.53**	**42**	P		**Pb**	**Pb**	**04 31 51.5**	**+0.7**
SABU				S		**Sb**	**Sb**	**04 32 09.9**	**+0.1**
SABU				*i* IAML				04 32 20.0	
	comp=E,3μm,0.6s								
SABU				*i* IAML				04 32 28.0	
	comp=N,3μm,0.8s								
KSL	**Kastellorizon**	**1.60**	**73**	P		**Pb**	**Pb**	**04 31 52.3**	**+0.3**
KSL				S		**Sg**	**Sg**	**04 32 14.8**	**+0.2**
KSL	**Kastellorizon**	**1.60**	**73**	P		**Pb**	**Pb**	**04 31 52.0**	**+0.1**
KSL				S		**Sb**	**Sb**	**04 32 11.5**	**-0.2**
KSL				AML		AML	AML	04 32 15.7	
	6.8nm,0.6s								
KSL				AML		AML	AML	04 32 15.8	
	3.6nm,0.5s								
KSL	**Kastellorizon**	**1.60**	**73**	P		**Pb**	**Pb**	**04 31 51.8**	**-0.1**
KSL				S		**Sb**	**Sb**	**04 32 12.3**	**+0.5**
MULA	**Mugla, Merkez-**	**1.64**	**18**	P		**Pb**	**Pb**	**04 31 53.7**	**+0.9**
MULA				S		**Sg**	**Sg**	**04 32 14.9**	**-1.2**
MULA				*i* IAML				04 32 20.0	
	comp=N,2μm,0.9s								
MULA				*i* IAML				04 32 24.0	
	comp=E,3μm,0.7s								
DIDI	**Didim-Aydin**	**1.73**	**348**	Pn		**Pn**	**Pn**	**04 31 51.9**	**-0.1**
NPS	**Neapolis**	**1.75**	**257**	P		**Pn**	**Pn**	**04 31 53.5**	**+1.0**
NPS				S		**Sb**	**Sb**	**04 32 16.2**	**-0.1**
NPS	**Neapolis**	**1.75**	**257**	P		**Pn**	**Pn**	**04 31 53.4**	**+1.0**
NPS				S		**Sn**	**Sn**	**04 32 15.0**	**+0.7**
NPS	**Neapolis**	**1.75**	**257**	P		**Pn**	**Pn**	**04 31 53.3**	**+0.9**
NPS				S		**Sn**	**Sn**	**04 32 15.3**	**+1.0**
CAME	**Cameli-Denizli**	**1.80**	**45**	Pn		**Pb**	**Pb**	**04 31 55.5**	**0.0**
DDIM	**Aydin, Didim**	**1.80**	**348**	P		**Pn**	**Pn**	**04 31 53.3**	**+0.2**
DDIM				S		**Sn**	**Sn**	**04 32 15.6**	**+0.1**
DDIM				*i* IAML				04 32 30.0	
	comp=N,2μm,1.1s								
DDIM				*i* IAML				04 32 35.0	
	comp=E,2μm,0.7s								
DEMR	**Demre-Antalya**	**1.87**	**72**	Pn		**Pb**	**Pb**	**04 31 57.5**	**+0.9**
KNIK	**Mula-Seydike**	**1.91**	**52**	P		**Pb**	**Pb**	**04 31 57.3**	**+0.1**
KNIK				S		**Sn**	**Sn**	**04 32 16.9**	**-1.3**
KNIK				*i* IAML				04 32 32.0	
	comp=E,797nm,0.6s								
KNIK				*i* IAML				04 33 13.0	
	comp=N,2.9nm,3.8s								
DNZT	**Denizli-Tavas-**	**1.91**	**34**	P		**Pb**	**Pb**	**04 31 58.0**	**+0.6**
DNZT				S		**Sb**	**Sb**	**04 32 21.4**	**+0.5**
DNZT				*i* IAML				04 32 29.0	
	comp=E,1μm,0.8s								
DNZT				*i* IAML				04 32 32.0	
	comp=N,1μm,1.2s								
THERA	**Ancient Thera,**	**1.93**	**291**	P		**Pn**	**Pn**	**04 31 54.4**	**-0.4**
CAEL	**Denizli, Camel**	**1.94**	**42**	P		**Pb**	**Pb**	**04 31 58.5**	**+0.6**
CAEL				S		**Sg**	**Sg**	**04 32 26.5**	**+0.9**
CAEL				*i* IAML				04 32 37.0	
	comp=E,6μm,0.7s								
CAEL				*i* IAML				04 32 55.0	
	comp=N,5μm,1.0s								
AYDN	**Tasoluk**	**1.97**	**4**	P		**Pn**	**Pn**	**04 31 56.6**	**+1.1**
AYDN				S		**Sn**	**Sn**	**04 32 14.8**	**-5.0**
AYDN				*i* IAML				04 32 26.0	
	comp=E,1μm,0.5s								
AYDN				*i* IAML				04 32 33.0	
	comp=N,1μm,0.7s								
THR6	**Thira Island,**	**1.98**	**290**	P		**Pn**	**Pn**	**04 31 55.5**	**0.0**
THR3	**Thira Island,**	**2.00**	**292**	P		**Pn**	**Pn**	**04 31 55.2**	**-0.6**
SNT5	**Nea Kammeni, S**	**2.00**	**292**	P		**Pn**	**Pn**	**04 31 55.2**	**-0.6**
TAVA	**DENIZLI_Tavas**	**2.03**	**29**	P		**Pb**	**Pb**	**04 31 59.6**	**+0.3**
TAVA				S		**Sn**	**Sn**	**04 32 22.4**	**+1.3**
TAVA				*i* IAML				04 32 29.0	
	comp=E,2μm,0.8s								
TAVA				*i* IAML				04 32 30.0	
	comp=N,3μm,1.0s								
THR5	**Thira Island,**	**2.04**	**292**	P		**Pn**	**Pn**	**04 31 56.4**	**0.0**
GCAM	**G?zelcami?**	**2.04**	**350**	P		**Pn**	**Pn**	**04 31 57.6**	**+1.2**
GCAM				S		**Sn**	**Sn**	**04 32 17.6**	**-3.7**
GCAM				*i* IAML				04 32 30.0	
	comp=N,612nm,0.5s								
GCAM				*i* IAML				04 32 40.0	
	comp=E,692nm,0.5s								
SAP3	**Santorini-Thir**	**2.05**	**292**	P		**Pn**	**Pn**	**04 31 57.5**	**+1.1**
SMG	**Samos**	**2.13**	**341**	P		**Pn**	**Pn**	**04 31 57.2**	**-0.4**
SMG	**Samos**	**2.13**	**341**	P		**Pn**	**Pn**	**04 31 57.0**	**-0.6**
SMG				S		**Sn**	**Sn**	**04 32 24.4**	**+0.8**
GOLH	**Golhisar**	**2.15**	**44**	P		**Pb**	**Pb**	**04 32 01.3**	**-0.2**
GOLH				S		**Sn**	**Sn**	**04 32 26.0**	**+1.7**
GOLH				*i* IAML				04 32 40.0	
	comp=E,2μm,0.5s								
GOLH				*i* IAML				04 32 44.0	
	comp=N,2μm,0.6s								
ESEN	**Aydn-Nazilli**	**2.17**	**14**	P		**Pn**	**Pn**	**04 31 59.5**	**+1.4**
ESEN				S		**Sn**	**Sn**	**04 32 23.9**	**-0.6**
ESEN				*i* IAML				04 32 36.0	
	comp=N,946nm,0.5s								
ESEN				*i* IAML				04 32 40.0	
	comp=E,898nm,0.8s								
IACM	**Heraklion**	**2.18**	**261**	P		**Pn**	**Pn**	**04 31 58.9**	**+0.7**
IACM				S		**Sb**	**Sb**	**04 32 27.6**	**-0.8**
IACM	**Heraklion**	**2.18**	**261**	P		**Pn**	**Pn**	**04 31 58.9**	**+0.7**
IACM				S		**Sn**	**Sn**	**04 32 24.6**	**-0.1**
APMY	**Acipayam-Deniz**	**2.20**	**35**	Pn		**Pb**	**Pb**	**04 32 00.6**	**-1.6**
DNIZ	**Denizli-Tavas-**	**2.21**	**29**	P		**Pb**	**Pb**	**04 32 01.9**	**-0.6**
DNIZ				S		**Sb**	**Sb**	**04 32 29.6**	**+0.1**
DNIZ				*i* IAML				04 32 37.0	
	comp=E,5μm,0.6s								
DNIZ				*i* IAML				04 32 41.0	
	comp=N,5μm,0.5s								
AYDB	**Zeytinkoy-Aydi**	**2.26**	**4**	Pn		**Pn**	**Pn**	**04 31 59.9**	**+0.4**
AYDB				Sn		**Sn**	**Sn**	**04 32 26.5**	**-0.4**
NAZL	**Nazilli-Aydin**	**2.32**	**12**	Pn		**Pn**	**Pn**	**04 32 01.3**	**+1.0**
IDI	**Anoyia**	**2.33**	**261**	Pn		**Pn**	**Pn**	**04 32 01.2**	**+0.9**
IDI	**Anoyia**	**2.33**	**261**			**Pn**	**Pn**	**04 32 00.8**	**+0.5**
IDI				Sn		**Sn**	**Sn**	**04 32 28.1**	**-0.4**
IDI	**Anoyia**	**2.33**	**261**	P		**Pn**	**Pn**	**04 32 00.9**	**+0.5**
IDI				S		**Sb**	**Sb**	**04 32 30.9**	**-1.9**
IDI	**Anoyia**	**2.33**	**261**	Pn		**Pn**	**Pn**	**04 32 00.7**	**+0.3**
	116nm,0.3s,baz=72,slow=19,SNR=166								
IDI				Sn		**Sn**	**Sn**	**04 32 27.7**	**-0.8**
	157nm,0.3s,baz=90,slow=20,SNR=8.5								
IDI				LR		LR	LR	04 32 29.7	
	comp=Z,336nm,20.3s,baz=309,slow=29								
IDI	**Anoyia**	**2.33**	**261**	P		**Pn**	**Pn**	**04 32 00.7**	**+0.5**
IDI				S		**Sn**	**Sn**	**04 32 29.4**	**+0.9**
DGB	**zmir**	**2.45**	**345**	P		**Pn**	**Pn**	**04 32 01.5**	**-0.5**
IZMR	**zmir-demi**	**2.45**	**5**	P		**Pn**	**Pn**	**04 32 02.6**	**+0.5**
IZMR				S		**Sn**	**Sn**	**04 32 26.8**	**-4.7**
IZMR				*i* IAML				04 32 49.0	
	comp=N,557nm,1.2s								
IZMR				*i* IAML				04 32 50.0	
	comp=E,488nm,0.7s								
GMLD	**Gumuldur**	**2.46**	**345**	Pn		**Pn**	**Pn**	**04 32 02.7**	**+0.5**
TMBK	**Timbaki Herakl**	**2.47**	**256**	P		**Pn**	**Pn**	**04 32 04.0**	**+1.8**
KORT	**Korkueli**	**2.51**	**58**	P		**Pb**	**Pb**	**04 32 06.9**	**-0.7**
KORT				S		**Sn**	**Sn**	**04 32 34.1**	**+1.0**
KORT				*i* IAML				04 32 44.0	
	comp=E,1μm,0.6s								
KORT				*i* IAML				04 33 01.0	
	comp=N,724nm,1.3s								
INCE	**Denizli-Bozkur**	**2.52**	**36**	P		**Pn**	**Pn**	**04 32 05.3**	**+2.2**
INCE				S		**Sn**	**Sn**	**04 32 35.2**	**+1.9**
INCE				*i* IAML				04 32 50.0	
	comp=E,1μm,0.9s								
INCE				*i* IAML				04 32 52.0	
	comp=N,2μm,0.7s								
KIRA	**zmir-Kiraz**	**2.57**	**12**	P		**Pn**	**Pn**	**04 32 05.0**	**+1.3**
KIRA				S		**Sn**	**Sn**	**04 32 30.3**	**-4.2**
KIRA				*i* IAML				04 32 44.0	
	comp=E,722nm,1.0s								
KIRA				*i* IAML				04 32 59.0	
	comp=N,467nm,0.6s								
ODEM	**Odemis-Izmir**	**2.60**	**7**	Pn		**Pn**	**Pn**	**04 32 04.7**	**+0.6**
PRNS	**Prines Rethymn**	**2.63**	**264**	P		**Pn**	**Pn**	**04 32 05.9**	**+1.5**
PRNS	**Prines Rethymn**	**2.63**	**264**	P		**Pn**	**Pn**	**04 32 06.2**	**+1.8**
ANTB	**Antalya**	**2.68**	**62**	Pn		**Pn**	**Pn**	**04 32 08.5**	**-1.8**
BLCB	**Balcova**	**2.74**	**349**	Pn		**Pn**	**Pn**	**04 32 06.3**	**+0.3**
BLCB	**Balcova**	**2.74**	**349**	P		**Pn**	**Pn**	**04 32 05.9**	**-0.1**
MHLO	**Agia Marina, M**	**2.85**	**292**	P		**Pn**	**Pn**	**04 32 07.9**	**+0.5**
MHLO				S		**Sn**	**Sn**	**04 32 40.6**	**-0.7**
MANT	**Manisa**	**2.88**	**14**			**Pn**	**Pn**	**04 32 08.6**	**+0.5**
MANT						**Sn**	**Sn**	**04 32 43.3**	**+0.9**
BASM	**Basmaki-Afyon**	**2.92**	**40**	Pn		**Pn**	**Pn**	**04 32 11.1**	**+2.6**
KULA	**Kula-Manisa**	**2.92**	**15**	Pn		**Pn**	**Pn**	**04 32 10.1**	**+1.5**
CHAN	**Chania**	**2.98**	**268**	P		**Pn**	**Pn**	**04 32 10.3**	**+1.0**
CHAN	**Chania**	**2.98**	**268**	P		**Pn**	**Pn**	**04 32 10.1**	**+0.8**
CHOS	**Chios island**	**3.00**	**334**	P		**Pn**	**Pn**	**04 32 09.7**	**+0.1**
KHL	**Karahalli**	**3.01**	**29**	Pn		**Pn**	**Pn**	**04 32 12.0**	**+2.2**
GOMA	**Golmarmara-Man**	**3.02**	**3**	Pn		**Pn**	**Pn**	**04 32 11.1**	**+1.3**
GVD	**Gavdhos**	**3.07**	**255**	Pn		**Pn**	**Pn**	**04 32 12.3**	**+1.7**
GVD	**Gavdhos**	**3.07**	**255**	P		**Pn**	**Pn**	**04 32 12.8**	**+2.2**
GVD	**Gavdhos**	**3.07**	**255**	P		**Pn**	**Pn**	**04 32 12.0**	**+1.4**
ISP	**Isparta**	**3.11**	**46**	Pn		**Pn**	**Pn**	**04 32 13.3**	**+2.1**
ISP	**Isparta**	**3.11**	**46**			**Pn**	**Pn**	**04 32 12.8**	**+1.2**
ISP	**Isparta**	**3.11**	**46**	*e*P		**Pn**	**Pn**	**04 32 13.1**	**+1.9**
ISP	**Isparta**	**3.11**	**46**	P		**Pn**	**Pn**	**04 32 12.7**	**+1.5**
ISP	**Isparta**	**3.11**	**46**	P		**Pn**	**Pn**	**04 32 13.3**	**+2.1**
AKS	**Akhisar**	**3.19**	**2**	Pn		**Pn**	**Pn**	**04 32 13.0**	**+0.9**
MNVG	**Manavgat-Antal**	**3.20**	**69**	Pn		**Pn**	**Pb**	**04 32 16.4**	**-2.9**
GORD	**Gordes-Manisa**	**3.24**	**7**	Pn		**Pn**	**Pn**	**04 32 13.6**	**+0.7**
KNDR	**Palaiochora Ch**	**3.31**	**263**	Pn		**Pn**	**Pn**	**04 32 15.6**	**+1.9**
SOMA	**Soma-Manisa**	**3.46**	**358**	Pn		**Pn**	**Pn**	**04 32 17.1**	**+1.2**
KARY	**Karyst

AGG Agios Georgios 5.42 309 P Pn 04 32 44.5 +1.7
0.1nm83nm,0.8s
ANX Ano Chora 5.45 304 P Pn 04 32 45.2 +1.9
MDUB Mudurnu 5.51 29 Pn Pn 04 32 45.4 +1.2
RDO Rodhopi 5.71 343 Pn Pn 04 32 48.0 +1.3
SAHE Sakarya_HENDEK 5.72 25 ⇓P Pn 04 32 48.1 +1.1
CTYL Yalikoy Yolu 5.80 4 ⇓P Pn 04 32 49.7 +1.7
ANTO Ankara 5.80 43 Pn Pn 04 32 49.0 +0.8
ANTO Ankara 5.80 43 P Pn 04 32 49.0 +0.8
ANTO Ankara 5.80 43 Pn Pn 04 32 50.5 +2.3
0.1nm362nm30nm,0.7s
KIRS Kirsehir-Merke 6.03 53 ⇑P Pn 04 32 53.2 +1.9
BR105 Keskin Array S 6.18 48 Pn Pn 04 32 55.5 +2.1
0.1nm238nm18nm,0.8s
THE Thessaloniki 6.18 324 P Pn 04 32 57.7 +4.4
THE pmax pmax
comp=Z,31nm,1.0s
BR104 Keskin Array S 6.19 48 P Pn 04 32 55.6 +2.1
comp=Z,0.1nmcomp=Z,189nmcomp=Z,25nm,0.9s
BR106 Keskin Array S 6.19 48 P Pn 04 32 55.6 +2.1
comp=Z,0.1nmcomp=Z,206nmcomp=Z,18nm,0.8s
BR131 Keskin Array S 6.20 48 Pn Pn 04 32 53.7 +0.1
BR131 Keskin Array S 6.20 48 *c* *i*P Pn 04 32 55.2 +1.6
BRTR Keskin Array B 6.20 48 Pn Pn 04 32 53.5 -0.1
BRTR Keskin Array B 6.20 48 Pn Pn 04 32 55.2 +1.6
comp=Z,0.9nm,0.3s,baz=231,slow=16,SNR=39
BRTR Sn Sn 04 34 05.9 +1.9
comp=Z,1.4nm,0.3s,baz=216,slow=23,SNR=5.7
BRTR LR LR 04 36 09.5
comp=Z,419nm,19.4s,baz=216,slow=46
comp=Z,8.3nm,0.8s
BRTR Keskin Array B 6.20 48 *i* P Pn 04 32 55.5 +1.9
BRTR pmax pmax
comp=Z,10.0nm,0.8s
SWA2 6.70 197 P Pn 04 33 02.3 +1.9
OFRI `Ofer 6.77 115 P Pn 04 33 02.8 +1.4
OFRI `Ofer 6.77 115 S Sn 04 34 14.4 -3.6
MMA0B Mount Meron ar 6.91 110 P Pn 04 33 03.3 0.0
MMA0B Mount Meron ar 6.91 110 S Sn 04 34 18.7 -2.8
MMAI Mount Meron Ar 6.91 110 Pn Pn 04 33 02.9 -0.4
comp=Z,9.9nm,0.3s,baz=302,slow=12,SNR=20
MMAI Sn Sn 04 34 16.5 -4.9
comp=Z,7.9nm,0.3s,baz=297,slow=29,SNR=4.3
HWQ Hawqa 6.92 99 *e*P Pn 04 33 03.9 +0.4
QRWL Qaraoun 6.92 106 *e*P Pn 04 33 03.7 +0.2
RYAN Fayoum 6.94 161 P Pn 04 33 05.2 +1.5
RYAN S Sn 04 34 20.7 -1.4
SLTI Sal'it 7.00 117 P Pn 04 33 05.8 +1.3
SLTI Sal'it 7.00 117 S Sn 04 34 21.2 -2.5
GEM Giv'at Ha'Em 7.03 108 P Pn 04 33 05.2 +0.3
GEM Giv'at Ha'Em 7.03 108 S Sn 04 34 21.9 -2.4
SHBL Chebaa 7.04 107 *e*P Pn 04 33 05.1 -0.1
BEIL Beino 7.05 97 *e*P Pn 04 33 05.0 -0.3
RCY Rachaya 7.06 106 *e*P Pn 04 33 05.1 -0.3
NATI Neve Ativ 7.07 108 P Pn 04 33 05.3 -0.1
NATI Neve Ativ 7.07 108 S Sn 04 34 22.2 -3.0
FNA Florina 7.11 318 Pn Pn 04 33 04.7 -1.4
FNA Florina 7.11 318 P Pn 04 33 04.7 -1.4
MMLI Mount Malkishu 7.18 115 P Pn 04 33 07.7 +0.7
MMLI Mount Malkishu 7.18 115 S Sn 04 34 24.9 -3.2
BNN Bunyan 7.22 66 Pn Pn 04 33 08.1 +0.4
FKH Fakeheh 7.30 99 *e*P Pn 04 33 08.5 -0.2
KBN Korca 7.34 314 P Pn 04 33 13.8 +4.5
KBN pmax pmax
comp=Z,32nm,1.2s
HMDT Nahal Hemdat 7.35 116 P Pn 04 33 09.6 +0.3
HMDT Nahal Hemdat 7.35 116 S Sn 04 34 29.2 -3.0
KZIT Kziot 7.36 128 P Pn 04 33 09.6 +0.1
KZIT Kziot 7.36 128 S Sn 04 34 29.4 -3.1
ELND Elena 7.37 350 ⇑P Pn 04 33 10.8 +1.3
CIDE Kastamonu/Cide 7.42 32 ⇑P Pn 04 33 10.8 +0.6
KEK Kerkira 7.44 305 Pn Pn 04 33 08.9 -1.7
YTIR Yattir 7.55 123 P Pn 04 33 12.1 0.0
YTIR Yattir 7.55 123 S Sn 04 34 33.4 -3.8
ZAF Zafarana 7.59 146 P Pn 04 33 11.1 -1.5
DSI Dead Sea 7.61 120 P Pn 04 33 13.0 +0.1
DSI Dead Sea 7.61 120 S Sn 04 34 35.4 -3.2
NBNS Bani Suef 7.67 156 P Pn 04 33 14.2 +0.4
MSBI Mazada 7.74 122 P Pn 04 33 14.8 +0.1
MSBI Mazada 7.74 122 S Sn 04 34 38.7 -3.1
GAZ Gaziantep 7.81 76 Pn 04 33 14.8 -0.9
GHAJ Ghor Haditha 7.89 121 Pn Pn 04 33 15.6 -1.1
GHAJ Ghor Haditha 7.89 121 P Pn 04 33 17.4 +0.6
BZK Bozkurt 7.96 36 Pn Pn 04 33 16.5 -1.2
KRMI Paran Flat 8.11 131 P Pn 04 33 19.7 0.0
KRMI Paran Flat 8.11 131 S Sn 04 34 47.2 -3.7
PRNI Paran 8.12 129 P Pn 04 33 19.9 0.0
PRNI Paran 8.12 129 S Sn 04 34 47.2 -4.0
ASF Jabal al Asfar 8.41 112 Pn Pn 04 33 23.7 -0.3
comp=Z,1.3nm,0.3s,baz=246,slow=20,SNR=5.8
ASF Sn Sn 04 34 55.9 -2.5
comp=Z,0.8nm,0.3s,baz=301,slow=18,SNR=3.0
MBRI Mt Berech 8.45 132 P Pn 04 33 25.1 +0.6
MBRI Mt Berech 8.45 132 S Sn 04 34 55.7 -3.8
HFRF Wahat Farafira 8.53 176 P Pn 04 33 25.7 +0.1
EIL2 Elat 8.56 132 P Pn 04 33 26.1 +0.1
EIL2 Elat 8.56 132 S Sn 04 34 58.2 -3.9
HBST Basata 8.77 135 P Pn 04 33 29.2 +0.4
TIRR Tirgusor 8.78 3 Pn Pn 04 33 29.7 +0.9
TIRR Tirgusor 8.78 3 P Pn 04 33 29.7 +0.9
HKAT Jabal Katrina 8.92 141 P Pn 04 33 31.2 +0.2
HKAT S Sn 04 35 05.3 -5.7
PDG Podgorica 9.40 318 Pn Pn 04 33 38.2 +0.8
PDG Podgorica 9.40 318 ⇓P Pn 04 33 39.2 +1.8
CEL Celeste 9.79 289 Pn Pn 04 33 43.1 +0.3
HHRG Al Ghardaqah 9.82 148 P Pn 04 33 46.2 +3.0
HHRG S Sn 04 35 31.4 -1.5
MLR Muntele Rosu 9.88 353 Pn 04 33 44.8 +0.7
MLR Muntele Rosu 9.88 353 Pn Pn 04 33 43.4 -0.8
comp=Z,0.3nm,0.3s,baz=166,slow=5.8,SNR=4.4
MLR LR LR 04 37 44.1
comp=Z,119nm,20.9s,baz=172,slow=39
comp=Z,3.6nm,0.9s
MLR Muntele Rosu 9.88 353 ⇓P Pn 04 33 45.4 +1.2
MLR Muntele Rosu 9.88 353 P Pn 04 33 45.3 +1.2
CUC Castrocucco 10.33 298 Pn 04 33 49.4 -0.8
GTR Jabal at Tayr 10.44 166 P Pn 04 33 51.2 -0.5
SIM Simferopol' 10.46 26 *e*P Pn 04 34 00.2 +8.2
ACER Acerenza 10.55 302 Pn Pn 04 33 52.3 -1.0
MARD Mardin 10.65 77 Pn Pn 04 33 53.8 -0.9
VAE Valguarnera 10.83 283 Pn Pn 04 34 00.6 +3.5
comp=Z,1.6nm,0.3s,baz=59,slow=8.9,SNR=2.6
VAE Sn Sn 04 35 43.3 -15
comp=Z,3.1nm,0.3s,baz=78,slow=12,SNR=3.7
RAFF Raffo Rosso 10.85 282 Pn 04 33 57.2 -0.1
KOPT Kop Dagi 11.00 63 Pn 04 34 00.3 +0.7
SGRT San Giovanni R 11.12 307 Pn Pn 04 34 01.1 0.0
BURAR Bucovina Array 12.06 352 Pn Pn 04 34 14.0 +0.1
BUR08 Bucovina Ar. S 12.09 352 Pn 04 34 14.0 -0.3
SOC Sochi 12.16 46 *e*P Pn 04 34 14.2 -0.9
SOC *e* 04 36 31.2
SOC MLR MLR
comp=Z,182nm,16.0s
VSLR Vesyoloye 12.27 47 ⇓*e*P Pn 04 34 21.0 +4.3
CAMP Campotosto 13.03 306 Pn Pn 04 34 26.6 -0.5
NRCA Norcia 13.35 307 Pn 04 34 30.2 -1.4
SHA1 Shidzhatmaz 14.03 51 ⇓*e*P Pn 04 34 41.8 +0.9
KIV Kislovodsk 14.16 50 *e*P Pn 04 34 44.8 +2.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,77nm,13.0s
KBZ Khabaz 14.18 51 Pn P 04 34 52.5 +2.5
comp=Z,0.2nm,0.3s,baz=223,slow=7.3,SNR=20
KBZ Khabaz 14.18 51 *i*P P 04 34 52.3 +2.2
LUBAR Lubar, Ukraine 14.22 0 P P 04 34 48.8 -1.8
VYHS Vyhne 14.37 336 *e*P P 04 34 54.1 +1.8
VYHS Vyhne 14.37 336 *e*P P 04 34 54.1 +1.8
NCK Nalchik 14.51 53 ⇑*i*P P 04 34 57.1 +3.2
STHS Stebnicka Huta 14.51 343 *e*P P 04 34 56.0 +2.2
STHS Stebnicka Huta 14.51 343 *e*P P 04 34 56.0 +2.2
SOKA Soboth 14.52 323 *e*Pn Pn 04 34 50.3 +2.8
comp=Z,1.9nm,0.7s
OBKA Obir 14.64 322 *i* Pn Pn 04 34 52.1 +2.9
comp=Z,1.5nm,0.7s
RONA Rosalia, Austr 14.70 328 *e*Pn P 04 34 55.5 -0.4
comp=Z,5.8nm,1.0s
ARSA Arzberg 14.70 326 *e*Pn P 04 34 55.9 0.0
comp=Z,3.6nm,0.9s
LANS Liptovska Anna 14.75 338 *e*P P 04 34 58.5 +2.0
LANS Liptovska Anna 14.75 338 *e*P P 04 34 58.4 +2.0
SABO M.te Sabotino 14.79 318 Pn 04 34 50.9 -0.2

CASP Castiglione de 14.83 304 Pn Pn 04 34 51.8 +0.1
AK07 Malin Array Si 14.90 4 P P 04 34 57.7 -0.3
KEST Kesra 14.91 276 Pn Pn 04 34 53.3 +0.4
KEST Kesra 14.91 276 Pn Pn 04 34 55.4 +2.5
comp=Z,0.8nm,0.3s,baz=116,slow=5.7,SNR=21
KEST LR LR 04 42 02.0
comp=Z,74nm,18.7s,baz=340,slow=43
AK06 Malin Array Si 14.93 4 P P 04 34 58.1 -0.3
AK10 Malin Array Si 14.95 4 P P 04 34 58.4 -0.2
AK09 Malin Array Si 14.96 4 P P 04 34 58.0 -0.8
AK05 Malin Array Si 14.96 4 P P 04 34 58.0 -0.8
AK14 Malin Array Si 14.97 3 P P 04 34 58.1 -0.8
AK08 Malin Array Si 14.98 4 P P 04 34 58.2 -0.8
AK12 Malin Array Si 14.99 4 P P 04 34 58.3 -0.7
AK02 Malin Array Si 15.00 4 P P 04 34 58.5 -0.7
KIEV Kiev 15.04 4 Pn Pn 04 34 55.8 +1.4
KIEV IAmb IAmb 04 35 02.9
comp=Z,5.5nm,0.7s
KIEV Kiev 15.04 4 P Pn 04 34 55.8 +1.4
KIEV pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 15.05 4 Pn Pn 04 34 54.3 -0.2
AKASG Malin Array Be 15.05 4 Pn Pn 04 34 52.2 -2.3
comp=Z,1.5nm,0.3s,baz=190,slow=10,SNR=16
AKASG Malin Array Be 15.05 4 *c* *e*P P 04 34 57.5 -2.2
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 15.05 4 Pn Pn 04 34 55.4 +1.0
AKBB IAmb IAmb 04 35 02.9
comp=Z,6.3nm,0.8s
AKBB Malin Array Si 15.05 4 *d* *i*P P 04 34 59.2 -0.5
AKBB Malin Array Si 15.05 4 P P 04 34 58.8 -0.9
AK19 Malin Array Si 15.06 3 P P 04 34 58.9 -0.9
CONA Conrad Observa 15.06 328 *e*Pn Pn 04 34 51.8 -2.9
comp=Z,1.4nm,0.9s
AK18 Malin Array Si 15.06 3 P P 04 34 58.9 -1.0
MYKA Terra Mystica 15.19 320 *i* Pn P 04 35 02.1 +0.6
comp=Z,3.0nm,0.8s
STAL STALIGIAL 15.45 318 Pn 04 34 59.0 -0.9
OJC Ojcow 15.62 341 P 04 35 05.8 -0.3
OJC Ojcow 15.62 341 P P 04 35 05.8 -0.3
OJC Ojcow 15.62 341 P P 04 35 06.5 +0.4
comp=Z,20nm,1.4s
KBA Koelnbreinsper 15.64 321 P P 04 35 06.3 -0.2
KBA pmax pmax
comp=Z,24nm,1.2s
KBA Koelnbreinsper 15.64 321 *e*Pn P 04 35 06.7 +0.1
comp=Z,15nm,0.8s
MOA Molln 15.72 325 *e*Pn P 04 35 07.6 +0.4
comp=Z,2.6nm,1.1s
KRUC Moravsky 15.73 332 *e*PN P 04 35 06.8 -0.6
KRUC Moravsky 15.73 332 P P 04 35 07.1 -0.3
KRUC pmax pmax
comp=Z,8.0nm,0.8s
VRAC Vranov 15.86 333 Pn P 04 35 08.0 -0.7
comp=Z,0.9nm,0.3s,baz=145,slow=19,SNR=6.5
VRAC Vranov 15.86 333 *e*PN P 04 35 08.6 -0.2
VRAC Vranov 15.86 333 P P 04 35 09.0 +0.2
VRAC pmax pmax
comp=Z,9.0nm,0.7s
ABTA Abfaltersbach 15.86 319 *i* Pn Pn 04 35 06.1 +0.8
comp=Z,7.8nm,0.6s
BIOA Bad Ischl, Aus 15.91 323 *i* Pn P 04 35 09.1 -0.2
comp=Z,2.2nm,0.8s
MORC Moravsky Berou 15.91 335 Pn Pn 04 35 07.0 +1.2
MORC Moravsky Berou 15.91 335 *e*PN P 04 35 09.8 +0.4
MORC Moravsky Berou 15.91 335 P Pn 04 35 07.0 +1.2
MORC pmax pmax
comp=Z,4.0nm,0.8s
LESA Schwarzleotal 16.21 321 *i* Pn P 04 35 12.0 -0.8
comp=Z,16nm,0.6s,SNR=13
MSSA Maissana 16.36 307 Pn Pn 04 35 10.8 -0.8
CKRC Cesky Krumlov 16.41 327 *e*P P 04 35 16.1 +1.2
CKRC Cesky Krumlov 16.41 327 *e*P P 04 35 16.1 +1.2
KRLC Kraliky 16.43 334 *e*P P 04 35 15.6 +0.5
KRLC Kraliky 16.43 334 *e*P P 04 35 15.6 +0.5
WTTA Wattenberg 16.65 319 P P 04 35 18.9 +1.1
WTTA pmax pmax
comp=Z,9.0nm,1.0s
WTTA Wattenberg 16.65 319 *i* Pn P 04 35 18.7 +0.9
comp=Z,5.6nm,0.8s
GEC2 GERESS Array S 16.70 326 P 04 35 18.0 -0.2
GEC2 GERESS Array S 16.70 326 P P 04 35 19.6 +1.4
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 16.70 326 Pn Pn 04 35 16.2 +0.2
baz=137,slow=12,SNR=21
comp=Z,2.4nm,0.6s
WATA Walderalm 16.73 319 *i* Pn P 04 35 19.1 +0.5
comp=Z,11nm,0.7s
DPC Dobruska-Polom 16.82 334 *e*P P 04 35 19.8 +0.4
DPC Dobruska-Polom 16.82 334 *e*P P 04 35 19.8 +0.4
SQTA Sankt Quirin 16.86 318 *i* Pn P 04 35 19.2 -0.8
comp=Z,4.3nm,0.9s
MAK Makhachkala 16.94 59 *e*P Pn 04 35 16.8 -2.1
MAK *e*S Sn 04 38 24.1 -2.4
MAK pmax pmax
comp=Z,57nm,0.7s
MAK MLR MLR
comp=Z,110nm,20.0s
KHC Kasperske Hory 16.96 327 ⇑*e*P P 04 35 20.7 -0.4
KHC pmax pmax
comp=Z,6.0nm,0.7s
KHC Kasperske Hory 16.96 327 *e*P Pn 04 35 19.8 +0.6
KHC Kasperske Hory 16.96 327 P P 04 35 21.3 +0.2
comp=Z,9.6nm,0.7s
MOTA Moosalm 16.99 318 *i* Pn Pn 04 35 15.3 -4.4
comp=Z,6.6nm,1.1s
FETA Feichten 17.00 317 *i* Pn P 04 35 22.2 +0.6
comp=Z,13nm,0.7s,SNR=11
OSTC Ostas 17.03 334 *e*P P 04 35 25.7 +4.0
OSTC Ostas 17.03 334 *e*P P 04 35 25.7 +4.0
FUORN Ofenpass-Fuorn 17.04 315 Pn 04 35 21.1 +0.7
CHVC Chvalec 17.11 334 *e*P P 04 35 24.6 +1.9
CHVC Chvalec 17.11 334 *e*P P 04 35 24.6 +1.9
KSP Ksiaz 17.24 335 P P 04 35 25.5 +1.4
KSP pmax pmax
comp=Z,9.0nm,1.0s
KSP Ksiaz 17.24 335 P P 04 35 24.8 +0.7
comp=Z,9.5nm,1.0s
RETA Reutte 17.26 318 *e*Pn P 04 35 26.9 +2.6
comp=Z,4.2nm,0.5s
WET Wettzell 17.29 326 P P 04 35 24.7 0.0
WET pmax pmax
comp=Z,8.0nm,0.7s
DAVOX Davos/Dischmat 17.35 315 P P 04 35 25.1 -0.3
comp=Z,4.0nm,0.6s,baz=137,slow=18,SNR=6.3
DAVOX LR LR 04 42 44.9
comp=Z,84nm,18.4s,baz=90,slow=40
TUE Stuetta 17.49 314 Pn Pn 04 35 25.4 -0.6
TUE Stuetta 17.49 314 P P 04 35 27.7 +0.6
comp=Z,30nm,0.7s
DAVA Damuels 17.63 317 *e*Pn P 04 35 28.3 -0.2
comp=Z,3.5nm,0.6s
LLS Linth-Limmern 17.89 314 P P 04 35 32.6 +1.2
MMK Mattmark 18.12 311 P P 04 35 37.7 +3.7
MMK pmax pmax
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 18.14 331 *e*P P 04 35 40.5 +6.6
BRG Amp 04 35 41.4
comp=Z,4.8nm,1.0s
BNI Bardonecchia 18.50 307 P 04 35 37.6 -0.6
BNI Bardonecchia 18.50 307 P P 04 35 37.6 -0.6
BNI pmax pmax
comp=Z,4.0nm,0.8s
RSL Roselend 18.80 309 P P 04 35 39.8 -1.6
RSL pmax pmax
comp=Z,21nm,0.8s
MNK Minsk 18.81 0 *i* P P 04 35 41.4 +0.1
comp=E,18nm,0.8s
MNK *i* P P 04 35 41.4 +0.1
comp=N,10.0nm,0.7s
MNK *i* P P 04 35 41.4 +0.1
comp=Z,22nm,0.8s,baz=180
MNK *i* PP PnPn 04 35 54.2 0.0
MNK *i* PPP PPP 04 36 02.0
MNK *i* S S 04 39 13.9 -0.6
MNK *i* SS SnSn 04 39 29.2 +3.4
MNK *i* SSS SSS 04 39 42.1
MNK *i* LQ LQ 04 41 29.1
MNK *i* LR LR 04 42 46.1
MNK *i* LRM MLR 04 43 30.6
comp=Z,52nm,12.6s
MNK *i* LRM MLR 04 43 50.6
comp=E,37nm,14.5s
MNK *i* LRM MLR 04 44 05.0
comp=N,29nm,13.2s
MNK Minsk 18.81 0 *i* P P 04 35 41.4 +0.1
MNK *i* S S 04 39 13.8 -0.6
MNK pmax pmax
comp=E,18nm,0.8s
MNK pmax pmax
comp=Z,22nm,0.8s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK MLR MLR
comp=Z,52nm,13.0s
MNK MLR MLR
comp=E,37nm,15.0s
MNK MLR MLR
comp=N,29nm,13.0s
CLL Collm 18.85 330 *e*P P 04 35 41.0 -0.7
CLL Collm 18.85 330 *e*P P 04 35 41.0 -0.7
CLL *es*P pP 04 35 47.0 +0.1
CLL *i* (PP) 04 35 53.0
CLL *e*PPP PPP 04 36 02.0
MOX Moxa 18.94 327 P Pn 04 35 44.2 +0.7
MOX pmax pmax
comp=Z,7.0nm,0.9s
ORIF Oris-en-Rattie 18.98 306 P Pn 04 35 44.4 +0.3
BFO Black Forest 19.08 317 P Pn 04 35 45.2 -0.1
BFO Black Forest 19.08 317 P Pn 04 35 45.2 -0.1
BFO pmax pmax
comp=Z,9.0nm,1.1s
ECH Echery 19.68 316 P P 04 35 50.7 -0.2
ECH Echery 19.68 316 P P 04 35 50.7 -0.2
ECH pmax pmax
comp=Z,5.0nm,1.0s
PABE Paberze 19.98 354 P 04 35 52.4 -1.7
PABE IAmb IAmb 04 35 58.6
comp=Z,20nm,0.7s
SSB Saint Sauveur 19.99 306 P 04 35 52.6 -1.7
SSB Saint Sauveur 19.99 306 P P 04 35 52.6 -1.7
SSB pmax pmax
comp=Z,4.0nm,1.0s
TNS Taunus Mts 20.15 322 P Pn 04 35 58.7 +0.7
TNS pmax pmax
comp=Z,15nm,0.9s
OBN Obninsk 20.37 15 P P 04 35 57.7 -0.5
comp=Z,21nm,0.6s,baz=201,slow=17,SNR=4.7
comp=Z,21nm,0.6s
OBN Obninsk 20.37 15 ⇑*e*P P 04 35 58.0 -0.3
OBN *e* 04 36 16.0
OBN pmax pmax
comp=Z,23nm,0.7s
OBN MLR MLR
comp=Z,85nm,16.0s
MOS Moscow 21.18 16 *e*P P 04 36 07.0 0.0
MOS *e* 04 36 26.6
MOS *e*S S 04 40 02.0 +0.5
MOS *e*SS SnSn 04 40 26.4 +2.8
BSD Bornholm Skovb 21.33 340 *e*P P 04 36 06.5 -2.3
BSD IAmb IAmb 04 36 10.3
comp=Z,9.5nm,0.8s
CEST Esterri de Car 21.59 297 P P 04 36 10.7 -1.0
CEST IAmb IAmb 04 36 27.5
comp=Z,12nm,1.2s
MEM Membach 21.63 320 P P 04 36 12.2 +0.3
MEM pmax pmax
comp=Z,14nm,1.0s
BELG Belogornoye 21.88 34 P P 04 36 15.4 +0.8
comp=Z,23nm,0.7s,baz=247,slow=1.8,SNR=5.7
comp=Z,23nm,0.7s
BELG Belogornoye 21.88 34 *d* *e*P P 04 36 16.9 +2.3
BELG pmax pmax
comp=Z,9.0nm,1.3s
BLEU Blekinge 22.15 342 *e*P P 04 36 11.8 -5.6
LUNU Lund 22.21 338 *i* P P 04 36 16.4 -1.7
DEL Delary 22.81 340 *i* P P 04 36 21.8 -2.6
TAM Tamanrasset 23.16 242 P P 04 36 27.6 -1.0
TAM IAmb IAmb 04 36 31.5
comp=Z,12nm,0.7s
TAM Tamanrasset 23.16 242 P P 04 36 27.6 -1.0
TAM pmax pmax
comp=Z,12nm,0.7s
FABU Falkenberg 23.59 339 *i* P P 04 36 30.4 -1.9
BORU Boraas 24.12 340 *i* P P 04 36 35.5 -1.9
ONAU Onsala 24.16 339 *i* P P 04 36 36.0 -1.7
TJOU Tjoern 24.78 339 *i* P P 04 36 42.2 -1.2
ESBB Sonseca Array 25.30 289 P 04 36 47.5 -0.8
ESBB IAmb IAmb 04 36 57.1
comp=Z,6.6nm,1.1s
ESDC Sonseca Array 25.30 289 P P 04 36 47.9 -0.5
ESDC IAmb IAmb 04 36 48.8
comp=Z,6.0nm,1.4s
ESDC Sonseca Array 25.30 289 P P 04 36 46.9 -1.5
comp=Z,4.3nm,0.7s,baz=90,slow=9.2,SNR=46
comp=Z,4.3nm,0.7s
PAB San Pablo 25.60 288 P P 04 36 50.6 -0.5
PAB IAmb IAmb 04 36 52.6
comp=Z,13nm,1.2s
PAB San Pablo 25.60 288 P P 04 36 50.6 -0.5
PAB pmax pmax
comp=Z,13nm,1.3s
STRU Stroemstad 25.75 340 *i* P P 04 36 50.5 -1.7
FINES FINESS Array B 25.80 358 P P 04 36 51.1 -1.5
FINES FINESS Array B 25.80 358 P P 04 36 50.5 -2.0
comp=Z,3.2nm,0.6s,baz=172,slow=10,SNR=16
FINES PcP PcP 04 40 21.6 -0.1
comp=Z,1.4nm,0.5s,baz=176,slow=2.2,SNR=7.1
comp=Z,3.2nm,0.6s
FINES FINESS Array B 25.80 358 P P 04 36 51.1 -1.5
FIA1 FINESS Array S 25.80 358 P P 04 36 51.0 -1.6
FIA1 IAmb IAmb 04 36 51.7
comp=Z,11nm,0.8s
HFS Hagfors 26.09 344 P P 04 36 53.3 -1.9
comp=Z,6.9nm,0.7s,baz=156,slow=11,SNR=20
HFS PcP PcP 04 40 21.2 -1.2
comp=Z,1.4nm,0.9s,baz=140,slow=4.7,SNR=1.4
comp=Z,6.9nm,0.7s
KLMR Klimovskoe 26.30 13 *e*P P 04 36 57.1 0.0
KLMR pmax pmax
comp=Z,11nm,0.8s
KONO Kongsberg 26.71 339 P P 04 37 00.3 -0.6
KONO IAmb IAmb 04 37 08.5
comp=Z,4.3nm,0.8s
KONO Kongsberg 26.71 339 P P 04 37 00.3 -0.6
KONO pmax pmax
comp=Z,4.0nm,0.8s
MD31 MD31 26.90 273 P 04 37 01.1 -1.9
MD31 IAmb IAmb 04 37 06.4
comp=Z,9.5nm,1.4s
KIRV Kirov 27.02 25 ⇑*e*P P 04 37 02.9 -0.7
NORES NORESS Array B 27.12 343 P P 04 37 06.8 +2.2
AB31 Akbulak array 27.14 50 P 04 37 04.8 -0.1
AB31 IAmb IAmb 04 37 12.1
comp=Z,3.7nm,1.0s
ABKAR Akbulak array 27.14 50 P 04 37 04.8 -0.1
NAO01 NORSAR Array S 27.38 342 P P 04 37 05.9 -1.0
NAO01 IAmb IAmb 04 37 15.8
comp=Z,7.7nm,0.9s
NB2 NORSAR Subarra 27.47 343 P P 04 37 06.0 -1.7
comp=Z,2.4nm,0.9s,baz=150,slow=9.3
NB2 NORSAR Subarra 27.47 343 P P 04 37 06.4 -1.3
NOA NORSAR Array B 27.47 343 P P 04 37 05.2 -2.5
comp=Z,1.1nm,0.7s,baz=152,slow=8.4,SNR=9.1
NOA PcP PcP 04 40 25.5 -0.2
comp=Z,0.7nm,0.7s,baz=212,slow=2.1,SNR=3.4
NOA LR LR 04 49 55.8
comp=Z,66nm,18.3s,baz=160,slow=41
comp=Z,1.1nm,0.7s
MVO Moncorvo 27.63 292 *e*P P 04 37 08.3 -1.1
PBAR Barrancos 27.78 286 *e*P P 04 37 10.3 -0.4
PMRV Marv??o 27.96 288 *e*P P 04 37 12.5 +0.2
MTE Manteigas 28.03 290 P P 04 37 12.8 -0.3
MTE IAmb IAmb 04 37 22.4
comp=Z,12nm,1.2s
MTE Manteigas 28.03 290 *e*P P 04 37 13.3 +0.3
PESTR Estremoz 28.15 287 P P 04 37 12.7 -1.4
PESTR IAmb IAmb 04 37 13.7
comp=Z,12nm,1.1s
PESTR Estremoz 28.15 287 *e*P P 04 37 14.1 +0.1
PVAQ Vaqueiros 28.41 284 P P 04 37 15.3 -0.9
PVAQ Vaqueiros 28.41 284 *e*P P 04 37 16.6 +0.4
MESJ Messejana 28.75 285 P P 04 37 18.2 -1.2
MESJ IAmb IAmb 04 37 20.1
comp=Z,12nm,1.2s
MESJ Messejana 28.75 285 *e*P P 04 37 18.8 -0.5
MESJ Messejana 28.75 285 P P 04 37 18.2 -1.2
MESJ pmax pmax

comp=Z,12nm,1.2s
EKA Eskdalemuir Ar 28.84 323 P P 04 37 17.9 -2.1
comp=Z,0.4nm,0.5s,baz=122,slow=10,SNR=5.1
EKA PcP **PcP 04 40 28.0 -1.1**
comp=Z,0.8nm,0.6s,baz=107,slow=2.4,SNR=5.2
ESK Eskdalemuir 28.86 323 P **P 04 37 20.3 +0.2**
ESK IAmb IAmb 04 37 32.3
comp=Z,15nm,1.4s
ESK Eskdalemuir 28.86 323 P **P 04 37 20.3 +0.2**
ESK pmax pmax
comp=Z,15nm,1.5s
ARTI Arti 29.31 35 P **P 04 37 23.2 -0.9**
ARTI IAmb IAmb 04 37 30.9
comp=Z,6.7nm,0.6s
ARTI Arti 29.31 35*c i* P **P 04 37 24.1 0.0**
ARTI 04 38 16.9
ARTI 04 40 25.9
ARTI S **S 04 42 19.3 +3.1**
ARTI SS **SnSn 04 43 44.9 +2.6**
ARTI pmax pmax
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 32.44 233 P **P 04 37 51.9 -0.2**
TORD IAmb IAmb 04 37 53.4
comp=Z,5.7nm,0.9s
TORD Torodi Ar. Bea 32.44 233 P **P 04 37 52.1 0.0**
comp=Z,7.8nm,0.4s,baz=36,slow=9.6,SNR=102
TORD PcP **PcP 04 40 39.4 +0.2**
comp=Z,0.4nm,0.7s,baz=36,slow=0.9,SNR=1.9
comp=Z,7.8nm,0.4s
ARCES ARCESS Array B 33.92 359 P **P 04 38 03.4 -1.1**
ARCES IAmb IAmb 04 38 04.1
comp=Z,4.7nm,1.0s
ARCES ARCESS Array B 33.92 359 P **P 04 38 03.1 -1.4**
comp=Z,2.6nm,0.7s,baz=176,slow=8.7,SNR=36
ARCES PcP **PcP 04 40 41.9 -0.6**
comp=Z,3.0nm,0.9s,baz=164,slow=3.6,SNR=6.3
comp=Z,2.6nm,0.7s
ARCES ARCESS Array B 33.92 359 P **P 04 38 03.4 -1.1**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 34.48 46 P **P 04 38 10.4 +0.8**
comp=Z,1.7nm,0.6s,baz=258,slow=7.2,SNR=9.7
comp=Z,1.7nm,0.6s
KURBB Kurchatov Arra 39.17 51 P **P 04 38 50.4 +0.9**
comp=Z,3.3nm,0.5s,baz=276,slow=8.8,SNR=21
KURBB PcP **PcP 04 40 58.9 +0.3**
comp=Z,1.8nm,0.8s,baz=275,slow=4.2,SNR=5.3
comp=Z,3.3nm,0.5s
KURK Kurchatov 39.24 51 P **P 04 38 49.9 -0.1**
KURK IAmb IAmb 04 38 56.9
comp=Z,5.8nm,1.0s
KURK Kurchatov 39.24 51*de* P **P 04 38 50.5 +0.5**
KURK pmax pmax
comp=Z,6.0nm,0.9s
BORG Borgarnes 41.09 330 LR LR 04 59 42.9
comp=Z,98nm,19.1s,baz=132,slow=42
DBIC Dimbokro 41.53 234 P **P 04 39 09.1 -0.3**
DBIC IAmb IAmb 04 39 10.2
comp=Z,12nm,0.7s
DBIC Dimbokro 41.53 234 P **P 04 39 09.6 +0.3**
comp=Z,13nm,0.7s,baz=59,slow=11,SNR=27
comp=Z,13nm,0.7s
MK31 Makanchi Array 41.75 57 P **P 04 39 11.3 +0.4**
MK31 IAmb IAmb 04 39 14.3
comp=Z,5.2nm,1.4s
MK31 Makanchi Array 41.75 57*de* P **P 04 39 11.8 +0.9**
MKAR Makanchi Array 41.75 57 P **P 04 39 11.3 +0.4**
MKAR Makanchi Array 41.75 57 P **P 04 39 11.5 +0.6**
comp=Z,1.3nm,0.5s,baz=277,slow=7.1,SNR=13
MKAR PcP **PcP 04 41 07.7 +0.6**
comp=Z,1.0nm,0.8s,baz=274,slow=2.6,SNR=2.3
MKAR ScP **ScP 04 44 54.8 -1.5**
comp=Z,0.9nm,0.8s,baz=284,slow=5.8,SNR=4.7
comp=Z,1.3nm,0.5s
MKAR Makanchi Array 41.75 57*ce* P **P 04 39 12.0 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
SPITS Spitsbergen Ar 42.87 357 P **P 04 39 18.9 -0.7**
comp=Z,8.1nm,0.9s,baz=152,slow=11,SNR=1.7
comp=Z,8.1nm,0.9s
ZAA0 Zalesovo Array 43.14 47 P **P 04 39 22.6 +0.6**
ZAA0 IAmb IAmb 04 39 23.8
comp=Z,3.2nm,0.7s
ZALV Zalesovo Beam 43.14 47 **P 04 39 21.5 -0.5**
ZALV Zalesovo Beam 43.14 47 P **P 04 39 21.7 -0.3**
comp=Z,3.3nm,0.6s,baz=268,slow=8.3,SNR=12
comp=Z,3.3nm,0.6s
ZALV Zalesovo Beam 43.14 47 *i* P **P 04 39 22.5 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
SUMG Summit 49.23 339 P **P 04 40 09.9 -0.4**
SUMG IAmb IAmb 04 40 10.7
comp=Z,8.4nm,1.3s
SUMG Summit 49.23 339 P **P 04 40 09.9 -0.4**
SUMG pmax pmax
comp=Z,8.0nm,1.3s
TSUM Tsumeb 55.42 192 LR LR 05 05 18.2
comp=Z,35nm,18.3s,baz=330,slow=37
SONM Songino Array 57.54 52 P **P 04 41 11.2 -0.2**
comp=Z,0.6nm,0.4s,baz=277,slow=5.7,SNR=4.7
comp=Z,0.6nm,0.4s
ULN Ulaanbaatar 57.95 51*i e* P **P 04 41 15.8 +1.6**
ULN pmax pmax
comp=Z,13nm,3.3s
LPHEP Lephephe 58.76 182 P **P 04 41 18.4 -1.5**
KDWAN Kaudwane 58.82 183 P **P 04 41 18.6 -1.7**
LKGWB Lokgwabe 59.79 187 P **P 04 41 25.4 -1.7**
TIXI Tiksi 59.94 21 P **P 04 41 27.1 -0.2**
TIXI Tiksi 59.94 21 P **P 04 41 27.2 -0.2**
TIXI pmax pmax
comp=Z,21nm,1.4s
LBTB Lobatse 60.41 182 P **P 04 41 30.8 -0.4**
LBTB Lobatse 60.41 182 P **P 04 41 30.8 -0.4**
LBTB pmax pmax
comp=Z,6.0nm,0.6s
DRLN Deer Lake 61.09 312 P **P 04 41 34.4 -1.3**
FOMA Nahampoana Res 63.03 160 P **P 04 41 46.9 -1.8**
KUQ Kuujjuuaa 63.50 324 P **P 04 41 51.2 -0.4**
BOSA Boshof 64.00 182 P **P 04 41 54.6 -0.7**
BOSA Boshof 64.00 182 P **P 04 41 56.9 +1.6**
comp=Z,2.3nm,0.6s,baz=1.4,slow=7.3,SNR=6.6
comp=Z,2.3nm,0.6s
SCHQ Schefferville 64.12 320 P **P 04 41 54.6 -1.2**
SCHQ Schefferville 64.12 320 P **P 04 41 54.3 -1.5**
comp=Z,1.8nm,0.5s,baz=70,slow=11,SNR=5.9
comp=Z,1.8nm,0.5s
CMAR Chiang Mai Arr 64.46 85 P **P 04 41 59.7 +1.1**
comp=Z,0.9nm,0.3s,baz=309,slow=9.3,SNR=1.4
comp=Z,0.9nm,0.3s
HEH HeiHe 69.08 43 *e* P **P 04 42 28.3 +0.8**
HEH pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 72.27 23*i e* P **P 04 42 47.5 +0.8**
SEY pmax pmax
comp=Z,13nm,1.9s
USRK Ussuriysk Ar. 74.99 46 P **P 04 43 03.4 +0.4**
comp=Z,5.0nm,0.6s,baz=296,slow=4.8,SNR=10
comp=Z,5.0nm,0.6s
KSRS Korea Array 76.31 54 P **P 04 43 11.1 +0.4**
comp=Z,1.2nm,0.5s,baz=290,slow=4.5,SNR=3.3
comp=Z,1.2nm,0.5s
ILAR Eielson Array 79.78 358 P **P 04 43 28.9 -0.6**
comp=Z,0.8nm,0.7s,baz=349,slow=3.5,SNR=15
comp=Z,0.8nm,0.7s
MJAR Matsushiro Ar 83.42 49 P **P 04 43 49.6 +0.3**
comp=Z,3.0nm,0.9s,baz=305,slow=4.3,SNR=4.6
comp=Z,3.0nm,0.9s
SHEM Shemya Is, Ala 87.21 20 P **P 04 44 07.4 -0.5**
comp=Z,35nm,0.8s,baz=276,slow=14,SNR=2.5
BDFB Brasilia 87.83 249 P **P 04 44 12.6 +1.1**
comp=Z,3.2nm,0.7s,baz=117,slow=5.1,SNR=5.2
comp=Z,3.2nm,0.7s
PDAR Pinedale Array 92.71 330 P **P 04 44 32.9 -1.3**
comp=Z,0.3nm,0.7s,baz=30,slow=11,SNR=2.6
comp=Z,0.3nm,0.7s
NVAR Mina Array Bea 99.82 334 P **Pdif 04 45 04.6 -1.9**
comp=Z,0.3nm,0.7s,baz=24,slow=8.9,SNR=2.3
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 114.60 98 PKP PKPdf 04 50 02.1 -0.2
comp=Z,0.5nm,0.7s,baz=305,slow=1.6,SNR=3.0
ASAR Alice Springs 116.11 101 PKP **PKPdf 04 50 05.0 -0.2**
comp=Z,1.0nm,0.6s,baz=310,slow=1.9,SNR=4.7
QSPA South Pole Qui 125.54 180 PKP **PKiKP 04 50 22.7 +0.2**
comp=Z,1.8nm,0.9s,baz=246,slow=1.3,SNR=11
STKA Stephens Creek 125.86 106 PKP **PKPdf 04 50 23.4 -0.3**
comp=Z,0.9nm,0.7s,baz=318,slow=15,SNR=3.1

*NEIC **27** 04:47:49.3±1.1, 19°.1N±0°.1×145°.3E±0°.2, h183km±6km, mb4.2/22, Error ellipse: s-maj=25.4km s-min=16.1km az=90.0*
*IDC **27** 04:48:02.2±4.4, 18°.92N×145°.38E, h326km±44km, mb3.2/13, mbtmp3.9/15, Error ellipse: s-maj=24.9km s-min=14.5km az=84.0*
ISC 27 04:47:51.6±0.8, 19°.0N±0°.1×145°.4E±0°.1, h214km, n44, σ1§15/44, mb3.9/25, Mariana Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JOW Kunigami 17.59 300 **P 04 51 38.1 -4.0**
JOW Kunigami 17.59 300 P **Pn 04 51 46.8 +2.6**
16nm,0.4s,baz=106,slow=15,SNR=11
MJAR Matsushiro Ar 18.63 342 P **Pn 04 51 57.7 +1.4**
1.9nm,0.6s,baz=164,slow=10,SNR=5.3
KSRS Korea Array 23.94 324 P **P 04 52 46.1 -0.1**
0.7nm,0.6s,baz=128,slow=10,SNR=1.9
0.7nm,0.6s
WB0 Warramunga Arr 39.95 196 P **P 04 55 05.6 +0.2**
WB0 IAmb IAmb 04 55 19.3
comp=Z,8.6nm,1.4s
WR8 Warramunga Arr 40.11 196 P **P 04 55 07.1 +0.4**
WR8 IAmb IAmb 04 55 24.6
comp=Z,14nm,1.4s
WRA Warramunga Arr 40.14 196 P **P 04 55 07.0 +0.1**
comp=Z,0.6nm,0.5s,baz=17,slow=8.0,SNR=10
comp=Z,0.6nm,0.5s
SONM Songino Array 42.76 321 P **P 04 55 27.0 -1.1**
comp=Z,0.6nm,0.5s,baz=120,slow=8.5,SNR=2.3
comp=Z,0.6nm,0.5s
ASAR Alice Springs 43.81 195 P **P 04 55 36.7 +0.1**
comp=Z,0.2nm,0.4s,baz=10,slow=6.7,SNR=2.5
comp=Z,0.2nm,0.4s
CMAR Chiang Mai Arr 43.88 277 P **P 04 55 38.9 +1.5**
comp=Z,1.2nm,0.4s,baz=82,slow=11,SNR=2.2
comp=Z,1.2nm,0.4s
ZALV Zalesovo Beam 57.63 322 P **P 04 57 17.9 -1.3**
comp=Z,0.5nm,0.5s,baz=108,slow=3.3,SNR=1.7
comp=Z,0.5nm,0.5s
MKAR Makanchi Array 58.07 314 P **P 04 57 21.6 -0.9**
comp=Z,0.4nm,0.5s,baz=98,slow=10,SNR=4.6
comp=Z,0.4nm,0.5s
KURBB Kurchatov Arra 60.93 318 P **P 04 57 42.2 +0.3**
comp=Z,0.7nm,0.4s,baz=96,slow=7.1,SNR=9.0
comp=Z,0.7nm,0.4s
BPAW Bear Paw Mtn. 61.67 27 P **P 04 57 47.5 +0.8**
TRF Thorofare Moun 61.80 27 P **P 04 57 47.5 -0.2**
GHO Glory Hole Cre 62.02 29 P **P 04 57 49.6 +0.5**
E22K Anaktuvuk Pass 62.53 22 P **P 04 57 53.2 +0.9**
WRH Wood River Hil 62.99 26 P **P 04 57 55.2 -0.1**
WRH IAmb IAmb 04 58 11.7
comp=Z,5.1nm,1.5s
D23K Nanushuk River 63.19 21 P **P 04 57 57.1 +0.5**
H24K Noodor Dome 63.39 25 P **P 04 57 58.8 +0.7**
TOLK Toolik Lake Re 63.48 22 P **P 04 57 58.7 +0.1**
TOLK IAmb IAmb 04 58 10.4
comp=Z,7.4nm,1.2s
ILAR Eielson Array 63.56 26 P **P 04 57 58.4 -0.7**
comp=Z,0.4nm,0.6s,baz=256,slow=6.0,SNR=6.4
comp=Z,0.4nm,0.6s
F24K Squaw Lake 63.79 23 P **P 04 58 01.6 +1.0**
F24K IAmb IAmb 04 58 17.7
comp=Z,5.1nm,1.4s
BMRM Bremner River 63.93 31 P **P 04 58 01.4 -0.3**
BMAR Burnt Mountain 65.01 24 P **P 04 58 10.1 +1.6**
F26K Sheenjek River 65.23 23 P **P 04 58 11.6 +1.7**
F26K IAmb IAmb 04 58 16.9
comp=Z,8.1nm,1.5s
EGAK Eagle 65.98 27 P **P 04 58 15.7 +0.9**
H27K Steamboat Moun 66.01 25 P **P 04 58 15.8 +0.9**
BVAR Borovoye Array 66.09 320 P **P 04 58 15.8 +0.2**
comp=Z,1.3nm,0.5s,baz=92,slow=10,SNR=6.1
comp=Z,1.3nm,0.5s
KKAR Karatay Array 66.37 309 P **P 04 58 19.2 +1.6**
F28M Old Crow 66.83 24 P **P 04 58 20.4 +0.3**
F28M IAmb IAmb 04 58 40.3
comp=Z,2.7nm,1.0s
L29M L29M 67.17 29 P **P 04 58 23.4 +1.0**
L29M IAmb IAmb 04 58 36.3
comp=Z,4.6nm,1.4s
H29M Whitestone 67.28 25 P **P 04 58 23.5 +0.6**
H29M IAmb IAmb 04 58 34.1
comp=Z,7.0nm,1.4s
I30M Mount Dempster 68.04 26 P **P 04 58 28.0 +0.2**
I30M IAmb IAmb 04 58 33.1
comp=Z,3.2nm,1.4s
N31M Braeburn, Yuko 68.22 30 P **P 04 58 27.8 -1.1**
F30M Barrier River 68.39 24 P **P 04 58 30.3 +0.5**
H31M Peel River 68.91 26 P **P 04 58 33.3 +0.2**
H31M IAmb IAmb 04 58 48.4
comp=Z,7.5nm,1.4s
G31M Satah River 68.95 25 P **P 04 58 33.6 +0.3**
G31M IAmb IAmb 04 58 39.2
comp=Z,5.8nm,1.2s
AB31 Akbulak array 72.95 317 P **P 04 58 57.1 -0.5**
ABKAR Akbulak array 72.95 317 P **P 04 58 57.2 -0.4**
ARCES ARCESS Array B 82.16 342 P **P 04 59 48.5 +0.3**
comp=Z,2.5nm,1.0s,baz=63,slow=6.8,SNR=1.4
comp=Z,2.5nm,1.0s
NVAR Mina Array Bea 83.23 52 P **P 04 59 55.0 +0.4**
comp=Z,0.6nm,0.7s,baz=284,slow=5.3,SNR=7.0
comp=Z,0.6nm,0.7s
FINES FINESS Array B 86.53 335 P **P 05 00 08.4 -1.9**
comp=Z,0.7nm,0.3s,baz=57,slow=5.1,SNR=9.4
comp=Z,0.7nm,0.3s
LPAZ La Paz 147.98 91 PKPbc **PKPdf 05 07 08.5 -1.4**
comp=Z,0.9nm,0.8s,baz=270,slow=1.0,SNR=3.7

*IDC **27** 04:56:22.8±11.0, 52°.79N×177°.05W, h94km±105km, mb3.2/5, mbtmp3.6/7, ML3.7/2, MS3.3/1, Error ellipse: s-maj=61.4km s-min=27.8km az=10.0*
*AEIC **27** 04:56:37.2±3.1, 52°.3N±0°.2×175°.7W±0°.1, h174km±5km, Error ellipse: s-maj=22.4km s-min=7.8km az=168.0*
*NEIC **27** 04:56:37.1±0.9, 52°.5N±0°.2×175°.71W±0°.09, h177km±5km, mb4.0/18, ML3.6/8, ML3.2(AEIC), Error ellipse: s-maj=24.7km s-min=7.1km az=172.0*
ISC 27 04:56:36.9±0.7, 52°.6N±0°.1×175°.69W±0°.06, h173km±8km, n60, σ1§16/64, mb3.3/6, Andreanof Islands
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSTR Great Sitkin T 0.53 206 **Pn 04 57 00.8 -0.2**
GSTR Great Sitkin T 0.53 206 **Sn 04 57 20.3 +0.7**
GSMY Great Sitkin M 0.58 203 **Pn 04 57 01.3 0.0**
GSMY **Sn 04 57 20.6 +0.7**
GSTD Great Sitkin T 0.59 209 **Pn 04 57 01.5 +0.2**
GSTD **Sn 04 57 21.1 +0.9**
GSIG Igitkin Island 0.61 194 **Pn 04 57 01.2 -0.2**
GSIG **Sn 04 57 20.0 -0.2**
ADAG Mount Adagdak 0.82 224 **Pn 04 57 03.1 +0.5**
ADAG **Sn 04 57 22.8 +0.5**
ETKA Kagalaska Isla 0.84 212 **Pn 04 57 02.6 -0.1**
ETKA **Sn 04 57 22.1 -0.5**
ADK Adak 0.93 222 **Pn 04 57 03.4 +0.1**
ADK IAML 04 57 24.4
679nm,0.4s
ADK IAML 04 57 24.9
984nm,0.2s
ADK Adak 0.93 222 **Sn 04 57 23.4 -0.2**
ATKA Atka Island 0.99 112 **Pn 04 57 04.4 +0.7**
ATKA IAML 04 57 29.9
comp=N,484nm,0.2s
ATKA IAML 04 57 29.9
comp=E,365nm,0.4s
ATKA Atka Island 0.99 112 **Sn 04 57 25.8 +1.4**
KIRH Kanaga Island 1.10 233 **Pn 04 57 05.0 +0.3**
KIRH **Sn 04 57 25.9 -0.1**
KIKV Kanaga Island 1.15 233 **Pn 04 57 05.2 +0.1**
KIKV **Sn 04 57 26.4 -0.3**
KIWB Kanaga Island 1.16 232 **Pn 04 57 05.1 0.0**
KIWB Kanaga Island 1.16 232 **Sn 04 57 27.4 +0.6**
KIMD Kanaga Island 1.25 230 **Pn 04 57 05.8 -0.1**
KIMD **Sn 04 57 27.8 -0.6**
TAFP Tanaga Falls P 1.57 245 **Pn 04 57 08.9 0.0**
TAFP **Sn 04 57 32.8 -0.8**
TAFL Tanaga Flats 1.59 240 **Pn 04 57 09.2 +0.1**
TAFL **Sn 04 57 33.5 -0.5**
TASE Tanaga Southea 1.63 244 **Pn 04 57 09.7 +0.1**
GANE Gareloi Northe 2.05 250 **Pn 04 57 14.0 +0.1**
GANE **Sn 04 57 41.8 -0.8**
GALAA Gareloi Lava P 2.07 248 **Pn 04 57 14.3 +0.2**
GALAA **Sn 04 57 42.5 -0.6**
GAKI Gareloi-Kavalg 2.18 243 **Pn 04 57 15.2 -0.2**
Q19K Cape Douglas, 13.90 54 Pn **Pn 04 59 47.0 +0.6**
J17K VABM Dome 13.91 32 Pn **Pn 04 59 47.8 +1.4**
KDAK Kodiak Island 14.15 59 Pn **Pn 04 59 47.8 -1.6**
KDAK Kodiak Island 14.15 59 P **Pn 04 59 47.6 -1.8**
comp=E,2.2nm,0.3s,baz=254,slow=3.7,SNR=33
KDAK S **Sn 05 02 22.5 -4.2**
comp=E,17nm,1.3s,baz=319,slow=15,SNR=1.8
comp=E,5.6nm,0.4s
N19K Bonanza Creek 14.21 46 Pn **Pn 04 59 51.0 +0.7**
CNPM China Poot 15.26 53 **Pn 05 00 04.4 +1.2**
J19K Poorman 15.47 35 **Pn 05 00 06.8 +1.1**
J19K IAmb IAmb 05 00 10.8
comp=Z,5.2nm,1.0s
K20K Telida 15.66 38 **P 05 00 09.4 +0.9**
K20K IAmb IAmb 05 00 11.3
comp=Z,3.6nm,0.9s
SKT Skwentna 16.00 45 **P 05 00 13.2 +1.0**
SKT IAmb IAmb 05 00 21.0
comp=Z,5.7nm,1.1s
SLKM Skilak Lake 16.05 50 **Pn 05 00 14.1 +1.4**
SLKM IAmb IAmb 05 00 15.5
comp=Z,14nm,1.2s
SUA Susitna One 16.14 47 **P 05 00 14.7 +0.9**
SUA IAmb IAmb 05 00 20.0
comp=Z,2.9nm,1.0s
PPLA Purkeypile 16.15 41 P **Pn 05 00 16.2 +2.2**
SEW Seward 16.29 52 **P 05 00 15.5 +0.2**
SEW IAmb IAmb 05 00 17.4
comp=Z,11nm,0.9s
CAST Castle Rocks 16.45 40 P **P 05 00 16.7 -0.5**
CAST IAmb IAmb 05 00 21.0
comp=Z,2.6nm,0.7s
F19K Shaleruckik Mo 16.80 25 **Pn 05 00 22.6 +0.8**
KTH Kantishna Hill 16.97 40 **P 05 00 22.8 -0.1**
KTH IAmb IAmb 05 00 27.5
comp=Z,4.0nm,0.7s
DHY Denali Highway 18.21 44 P **P 05 00 37.1 +0.5**
DHY IAmb IAmb 05 00 38.4
comp=Z,15nm,1.4s
ILAR Eielson Array 19.10 39 P **P 05 00 40.6 -5.4**
baz=246,slow=11,SNR=2.2
comp=Z,0.2nm,0.6s
L27K Beaver Creek, 20.60 46 P **P 05 01 02.9 +0.8**
DAWY Dawson 21.91 44 P **P 05 01 16.1 +0.1**
YAK Yakutsk 30.10 310 LR LR 05 14 38.2
comp=Z,58nm,19.7s,baz=224,slow=37
H11N2 WAKE ISLAND Hy 35.47 209 T T 05 40 04.4
baz=18,slow=76,SNR=7.8
H11N3 WAKE ISLAND Hy 35.48 209 T T 05 40 00.7
baz=18,slow=76,SNR=6.2
H11N1 WAKE ISLAND Hy 35.49 209 T T 05 40 05.4
baz=18,slow=76,SNR=6.8
H11S1 WAKE ISLAND Hy 36.69 209 T T 05 42 07.2
baz=18
H11S2 WAKE ISLAND Hy 36.70 209 T T 05 41 37.4
baz=18,SNR=3.5
H11S3 WAKE ISLAND Hy 36.70 209 T T 05 41 42.7
baz=18
NVAR Mina Array Bea 41.52 86 P **P 05 04 07.6 +0.5**
comp=Z,0.4nm,0.6s,baz=305,slow=5.7,SNR=4.5
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 44.12 75 P **P 05 04 27.8 -0.3**
comp=Z,0.8nm,0.6s,baz=309,slow=7.7,SNR=10
comp=Z,0.8nm,0.6s
PV13 Radium Mtn., P 47.43 80 P **P 05 04 54.0 0.0**
PV13 IAmb IAmb 05 04 54.7
comp=Z,5.1nm,0.6s
KBS Kingsbay 48.68 358 P **P 05 05 03.9 +1.2**
TXAR Lajitas Array 56.59 84 P **P 05 06 01.0 -0.5**
comp=Z,2.2nm,0.4s,baz=320,slow=6.8,SNR=6.5
comp=Z,0.2nm,0.4s
SCHQ Schefferville 57.86 40 P **P 05 06 09.5 -0.4**
WHTX Lake Whitney, 58.44 77 P **P 05 06 14.1 -0.2**
KURBB Kurchatov Arra 59.67 315 P P 05 06 11.9 -11
comp=Z,0.1nm,0.3s,baz=41,slow=6.3,SNR=1.8
comp=Z,0.1nm,0.3s
MKAR Makanchi Array 60.78 310 P **P 05 06 30.1 0.0**
ABKAR Akbulak array 68.12 324 P **P 05 07 18.4 +0.8**
WRA Warramunga Arr 84.22 226 P P 05 08 41.1 -7.5
comp=Z,0.3nm,0.6s,baz=31,slow=6.0,SNR=1.7
comp=Z,0.3nm,0.6s

*SGS **27** 04:59:17.9, 28°.14N×33°.62E, h6km, Ml1.4*
HLW 27 04:59:17.8, 28°.30N×33°.57E, h10km±4km, Md1.9, Ml1.1, Egypt
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HKAT Jabal Katrina 0.43 60 P Pg 04 59 25.6 -0.8
HKAT S Sg 04 59 33.3 +1.1
HRDS Abu Rudays 0.47 330 P Pg 04 59 26.8 -0.2
GRB Gharib 0.69 267 P Pg 04 59 31.1 0.0
HDHB Dhahab 1.02 66 P Pg 04 59 37.2 -0.1
HHRG Al Ghardaqah 1.08 180 P Pn 04 59 40.4 +1.4
TAYS Tayyib Ism 1.18 78 S Sn 04 59 56.2 -0.2
TAYS Tayyib Ism 1.18 78 P Pb 04 59 40.2 0.0
BDAS Al Bad` 1.36 84 P Pg 04 59 43.8 -0.1
HAQS Haql 1.40 58 P Pb 04 59 44.1 0.0
HAQS Haql 1.40 58 P Pb 04 59 44.4 +0.2
HAQS Haql 1.40 58 S Sg 05 00 03.8 +0.8
AYUS `Aynunah 1.51 94 S Sg 05 00 06.8 +0.5
AYUS `Aynunah 1.51 94 P Pb 04 59 46.2 +0.3
JMOS Jabal al Moall 1.61 57 S Sb 05 00 08.6 +0.7
JMOS Jabal al Moall 1.61 57 P Pn 04 59 46.6 +0.4
JMOS Jabal al Moall 1.61 57 S Sb 05 00 08.6 +0.7
JMOS Jabal al Moall 1.61 57 P Pb 04 59 47.0 -0.6
HQLS 1.65 53 P Pn 04 59 47.4 +0.6
JLOS 1.75 75 P Pn 04 59 49.0 +0.6
JLOS 1.75 75 P Pb 04 59 49.6 -0.5

NEIC 27 05:09:49.0±0.7, 37°.33N±0°.01×104°.53W±0°.02, h4km±2km, ML2.0/10, Error ellipse: s-maj=2.0km s-min=1.8km az=63.0, Colorado
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
T25A Trinidad 0.21 154 Pg 05 09 53.7 +0.6
T25A Sg Sg 05 09 56.5 +0.6
T25A IAML 05 09 56.7
comp=N,441nm,0.5s
T25A IAML 05 09 58.0
comp=E,396nm,0.2s
SDCO Great Sand Dun 0.88 299 Pg 05 10 06.2 +0.3
SDCO Sg Sg 05 10 17.6 +0.3
RTBA Rita Blanca 1.69 121 Pb 05 10 20.4 -0.3
RTBA Sg Sb 05 10 42.7 +0.4
Q24A Divide 1.71 343 Pn 05 10 20.3 +0.4
S22A 4UR Ranch, Cre 1.88 284 Pb 05 10 23.4 -0.6
KSCO Kaye Shedlock` 2.25 41 Pn Pn 05 10 27.9 +0.7
ISCO Idaho Springs 2.61 341 Pn Pn 05 10 32.4 +0.1
ANMO Albuquerque 2.84 214 Pn 05 10 35.2 -0.2
MVCO Mesa Verde 3.17 269 Pn Pn 05 10 39.2 -0.7
PV01 Paradox Valley 3.31 285 Pn Pn 05 10 40.3 -1.4
PV02 Paradox Valley 3.45 286 Pn Pn 05 10 42.3 -1.4
BNM Barren Site 3.60 209 Pn Pn 05 10 45.4 -0.4
HAYD Hayden 3.83 327 Pn Pn 05 10 48.7 -0.3

*IDC **27** 05:10:51.1±1.9, 30°.95S×177°.51W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=48.3km s-min=24.7km az=86.0*
ISC 27 05:10:54.6±1.5, 31°.07S±0°.09×177°.7W±0°.3, h27km, n6, σ1§91/8, mb3.8/3, Kermadec Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 1.81 355 Pn **Pn 05 11 21.9 -2.1**
57nm,0.3s,baz=73,slow=17,SNR=2.1
RAO Sn **Sn 05 11 46.4 +0.3**
85nm,0.3s,baz=114,slow=23,SNR=2.5
URZ Urewera 8.34 209 Pn **Pn 05 12 52.2 -1.4**
0.2nm,0.3s,baz=31,slow=18,SNR=1.9
URZ Sn **Sn 05 14 25.3 -1.5**
1.2nm,0.3s,baz=104,slow=17,SNR=6.9
ASAR Alice Springs 43.30 268 P **P 05 18 56.2 +1.9**
0.3nm,0.4s,baz=101,slow=7.3,SNR=5.7
0.3nm,0.4s
WRA Warramunga Arr 44.35 273 P **P 05 19 04.7 +2.0**
0.5nm,0.3s,baz=111,slow=8.1,SNR=9.9
0.5nm,0.3s
QSPA South Pole Qui 59.05 180 P **P 05 20 53.3 +1.3**

1.2nm,1.1s,baz=50,slow=7.4,SNR=1.9
1.2nm,1.1s
FINES FINESS Array B 145.85 340 PKPbc **PKPbc 05 30 31.0 +0.4**
0.9nm,0.6s,baz=45,slow=5.3,SNR=1.6

CATAC ***27*** *05:21:27.7±0.4, 13˚N±2˚×8˚9W±˚, h28km±3km, M3.9/30, MLv3.9/30, Error ellipse: s-maj=5.4km s-min=2.3km az=25.9, confirmed*
SNET ***27*** *05:21:27.7±1.0, 12˚.90N×89˚.12W, h29km, ML3.6*
GCG ***27*** *05:21:29.6±1.9, 12˚.97N×89˚.22W, h34km±6km, MD4.0, ML3.8, MW3.2*

ISC 27 05:21:28.1±1.4, 12˚90N±0˚.05×89˚10W±0˚.03, h24km±13km, n90, σ1§36/108, 4C-10D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.62**	**340**	*eP*	**Pn**	**05 21 40.4**	**-1.1**
LALI				*eS*	**Sn**	**05 21 49.0**	**-1.6**
LALI	**Alcalda de L**	**0.62**	**340**	*i P*	**Pn**	**05 21 40.4**	**-1.1**
LALI				*i S*	**Sn**	**05 21 49.1**	**-1.6**
LALI	**Alcalda de L**	**0.62**	**340**	⇑P	**Pn**	**05 21 40.4**	**-1.1**
TECO	**Alcaldia de Te**	**0.70**	**27**	⇓P	**Pb**	**05 21 41.4**	**-0.4**
PANCS	**Alcalda de**	**0.71**	**354**	P	**Pb**	**05 21 41.7**	**-0.2**
PANCS	**Alcalda de**	**0.71**	**354**	S	**Sn**	**05 21 51.7**	**-1.3**
LFRS	**El Faro**	**0.72**	**3**	*eP*	**Pn**	**05 21 42.0**	**-0.9**
LOMA	**Loma Larga**	**0.74**	**355**	S	**Sn**	**05 21 53.0**	**-0.8**
LOMA	**Loma Larga**	**0.74**	**355**	P	**Pb**	**05 21 42.1**	**-0.4**
AEIL	**Aeropuerto Ilo**	**0.79**	**359**	*eP*	**Pb**	**05 21 43.4**	**+0.1**
UESV	**Universidad de**	**0.79**	**23**	S	**Sn**	**05 21 54.5**	**-0.5**
UESV	**Universidad de**	**0.79**	**23**	P	**Pn**	**05 21 42.7**	**-1.1**
UTEC	**Universidad Te**	**0.80**	**353**	S	**Sn**	**05 21 54.5**	**-0.8**
UTEC	**Universidad Te**	**0.80**	**353**	P	**Pb**	**05 21 44.1**	**+0.7**
SEMO	**Seminario San**	**0.80**	**352**	*eP*	**Pb**	**05 21 43.3**	**-0.2**
SEMO	**Seminario San**	**0.80**	**352**	P	**Pn**	**05 21 43.1**	**-1.0**
SEMO	**Seminario San**	**0.80**	**352**	S	**Sn**	**05 21 54.2**	**-1.2**
IGN	**Direccin Gen**	**0.81**	**355**	*eP*	**Pn**	**05 21 43.0**	**-1.1**
IGN				*eS*	**Sn**	**05 21 54.4**	**-1.0**
IGN	**Direccin Gen**	**0.81**	**355**	P	**Pn**	**05 21 43.3**	**-0.8**
JAYA	**Jayaque - finc**	**0.82**	**336**	*eP*	**Pn**	**05 21 43.4**	**-1.0**
JAYA				*eS*	**Sb**	**05 21 54.1**	**-0.4**
JAYA	**Jayaque - finc**	**0.82**	**336**	*i P*	**Pn**	**05 21 43.2**	**-1.2**
JAYA				*i S*	**Sb**	**05 21 53.8**	**-0.7**
JAYA	**Jayaque - finc**	**0.82**	**336**	⇑P	**Pn**	**05 21 43.2**	**-1.2**
UEES	**Universidad Ev**	**0.82**	**351**	S	**Sn**	**05 21 54.8**	**-1.0**
UEES	**Universidad Ev**	**0.82**	**351**	P	**Pn**	**05 21 43.4**	**-1.0**
PAVA	**Las Pavas**	**0.82**	**11**	*eS*	**Sn**	**05 21 55.4**	**-0.5**
PAVA	**Las Pavas**	**0.82**	**11**	P	**Pb**	**05 21 43.7**	**-0.2**
PMON	**Piamonte**	**0.83**	**346**	*eP*	**Pb**	**05 21 43.7**	**-0.3**
PMON	**Piamonte**	**0.83**	**346**	S	**Sn**	**05 21 55.0**	**-1.1**
PMON	**Piamonte**	**0.83**	**346**	⇓P	**Sn**	**05 21 43.5**	**-1.0**
BOQS	**Boqueron**	**0.84**	**348**	*eP*	**Pb**	**05 21 44.0**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.87**	**25**	*eP*	**Pn**	**05 21 43.9**	**-1.1**
SCLA	**Alcaldia de Sa**	**0.87**	**25**	S	**Sn**	**05 21 57.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.87**	**25**	P	**Pn**	**05 21 44.3**	**-0.8**
PQSS	**Presa 15 de Se**	**0.89**	**36**	S	**Sb**	**05 21 57.1**	**+0.7**
PQSS	**Presa 15 de Se**	**0.89**	**36**	P	**Pb**	**05 21 44.7**	**-0.2**
CEDA	**San Andres**	**0.94**	**342**	*eP*	**Pn**	**05 21 44.9**	**-1.0**
CEDA	**San Andres**	**0.94**	**342**	S	**Sb**	**05 21 57.7**	**-0.1**
CEDA	**San Andres**	**0.94**	**342**	P	**Pn**	**05 21 45.0**	**-1.0**
PACA	**Pacayal**	**0.94**	**53**	*eP*	**Pb**	**05 21 46.1**	**+0.1**
PACA	**Pacayal**	**0.94**	**53**	S	**Sb**	**05 21 59.6**	**+1.4**
PACA	**Pacayal**	**0.94**	**53**	⇓P	**Pn**	**05 21 45.6**	**-0.5**
BLLM	**Bellamira**	**1.00**	**58**	*eP*	**Pn**	**05 21 46.2**	**-0.5**
CEVE	**Cerro Verde**	**1.05**	**331**	*eP*	**Pb**	**05 21 47.2**	**-0.6**
CNRM	**Centro Naciona**	**1.07**	**58**	*eP*	**Pn**	**05 21 47.0**	**-0.7**
CNRM				*eS*	**Sb**	**05 22 02.4**	**+0.8**
CNRM	**Centro Naciona**	**1.07**	**58**	P	**Pn**	**05 21 46.7**	**-1.0**
RTR	**El Retiro**	**1.12**	**332**	*eP*	**Pn**	**05 21 48.0**	**-0.5**
UNIC	**Universidad Ca**	**1.16**	**338**	S	**Sb**	**05 22 03.3**	**-0.8**
UNIC	**Universidad Ca**	**1.16**	**338**	⇓P	**Pn**	**05 21 48.3**	**-0.6**
NUBE	**Las Nubes**	**1.19**	**327**	*eP*	**Pn**	**05 21 48.2**	**-1.3**
NUBE	**Las Nubes**	**1.19**	**327**	*i P*	**Pn**	**05 21 48.2**	**-1.3**
NUBE				*i S*	**Sn**	**05 22 03.1**	**-2.0**
NUBE	**Las Nubes**	**1.19**	**327**	⇓P	**Pn**	**05 21 48.1**	**-1.3**
LCND	**La Caada**	**1.25**	**71**	*eP*	**Pn**	**05 21 49.7**	**-0.4**
LCND				*eS*	**Sn**	**05 22 05.7**	**-0.6**
LCND	**La Caada**	**1.25**	**71**	⇓P	**Pn**	**05 21 49.6**	**-0.6**
LLGN	**La Laguna**	**1.26**	**7**	P	**Pn**	**05 21 49.9**	**-0.5**
LOAL	**Lomas de Alarc**	**1.27**	**329**	P	**Pb**	**05 21 50.4**	**-1.0**
FAME	**Alcaldia de Sa**	**1.29**	**317**	P	**Pn**	**05 21 50.4**	**-0.7**
CNCH	**Conchagua**	**1.29**	**73**	*eP*	**Pn**	**05 21 50.2**	**-0.7**
CNCH				*eS*	**Sb**	**05 22 07.8**	**-0.3**
CNCH	**Conchagua**	**1.29**	**73**	⇓P	**Pn**	**05 21 50.1**	**-0.8**
SLOZ	**Alcaldia de Sa**	**1.30**	**329**	S	**Sb**	**05 22 07.7**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.30**	**329**	P	**Pn**	**05 21 50.2**	**-0.7**
MTO3	**Montecristo**	**1.51**	**350**	*eP*	**Pn**	**05 21 53.1**	**-0.8**
MTO3	**Montecristo**	**1.51**	**350**	*i P*	**Pn**	**05 21 53.3**	**-0.7**
MTO3	**Montecristo**	**1.51**	**350**	⇓P	**Pn**	**05 21 53.3**	**-0.7**
CSGN	**Cosiguina Volc**	**1.51**	**87**	P	**Pn**	**05 21 52.9**	**-0.9**
CSGN				S	**Sn**	**05 22 11.2**	**-1.6**
POTN	**Potosi Cosigui**	**1.56**	**86**	P	**Pn**	**05 21 53.4**	**-1.0**
POTN				S	**Sn**	**05 22 12.8**	**-1.2**
MARCA	**Marcala la Paz**	**1.62**	**40**	*i P*	**Pn**	**05 21 55.2**	**-0.2**
MARCA				*i S*	**Sb**	**05 22 18.9**	**+1.2**
MARCA	**Marcala la Paz**	**1.62**	**40**	P	**Pn**	**05 21 55.3**	**-0.2**
ESQI	**Esquipulas**	**1.66**	**352**	*eP*	**Pn**	**05 21 55.6**	**-0.3**
ESQI	**Esquipulas**	**1.66**	**352**	⇓P	**Pn**	**05 21 55.6**	**-0.3**
INTH	**La Esperanza I**	**1.71**	**35**	P	**Pn**	**05 21 55.9**	**+0.2**
SARH	**Santa Rosa de**	**1.89**	**10**	*i P*	**Pn**	**05 21 59.4**	**+0.3**
SARH				*i S*	**Sn**	**05 22 22.1**	**-0.1**
SARH	**Santa Rosa de**	**1.89**	**10**	P	**Pn**	**05 21 59.4**	**+0.3**
FG16	**Alotenango, Sa**	**1.93**	**315**	*i P*	**Pb**	**05 22 05.4**	**+2.6**
FG16				*i S*	**Sb**	**05 22 30.5**	**+3.9**
FG16				IAML		05 22 48.4	
	comp=N,3µm,0.3s						
CHOHN	**Orocuina**	**1.98**	**73**	P	**Pn**	**05 21 59.8**	**-0.5**
CRIN	**San Cristobal**	**2.01**	**96**	P	**Pn**	**05 22 00.8**	**0.0**
CRIN	**San Cristobal**	**2.01**	**96**	S	**Sn**	**05 22 24.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.12**	**57**	P	**Pn**	**05 22 02.0**	**-0.3**
TGUH				S	**Sn**	**05 22 27.3**	**-0.6**
POLN	**Al Sur del Vol**	**2.25**	**96**	P	**Pn**	**05 22 02.7**	**-1.2**
POLN				S	**Sn**	**05 22 28.4**	**-2.6**
CNGN	**Cerro Negro**	**2.38**	**99**	P	**Pn**	**05 22 04.8**	**-1.0**
CNGN	**Cerro Negro**	**2.38**	**99**	S	**Sn**	**05 22 30.8**	**-1.5**
YUSH	**Yuscaran**	**2.44**	**64**	⇓P	**Pn**	**05 22 05.9**	**-0.7**
MOM3	**MOM3**	**2.55**	**99**	P	**Pn**	**05 22 06.4**	**-1.7**
MOM3				S	**Sn**	**05 22 37.7**	**-0.8**
MOM2	**El Cardon**	**2.60**	**100**	S	**Sn**	**05 22 38.9**	**-0.7**
OCON	**Estacion meteo**	**2.66**	**74**	S	**Sn**	**05 22 39.9**	**-1.2**
SAPS	**Ciudad Sandino**	**2.73**	**105**	P	**Pn**	**05 22 10.6**	**0.0**
SAPS	**Ciudad Sandino**	**2.73**	**105**	S	**Sn**	**05 22 40.8**	**-2.2**
UNAN	**Cigeo UNAN**	**2.88**	**106**	P	**Pn**	**05 22 12.6**	**0.0**
UNAN				S	**Sn**	**05 22 44.2**	**-2.3**
RCVN	**Varillal2**	**2.91**	**76**	P	**Pn**	**05 22 13.3**	**+0.1**
SNAA	**Sanae**	**100.98**	**161**	⇑P	**Pdif**	**05 35 23.7**	**+8.4**
	comp=Z,3.4nm,0.2s						
TROLL	**Troll, Antarti**	**102.68**	**161**	⇑P	**Pdif**	**05 35 25.6**	**+2.7**
	comp=Z,43nm,0.1s						

NEIC ***27*** *05:25:35.3±1.9, 37˚.78S±0˚.06×178˚.6E±0˚.1, h35km±1km, mb4.8/16, Error ellipse: s-maj=18.6km s-min=5.3km az=60.0*
NOU ***27*** *05:25:36.3, 37˚.90S×178˚.62E, h71km, MLv4.9/14, Off E. Coast of N. Island, N.Z.*
IDC ***27*** *05:25:40.1±1.9, 37˚.50S×178˚.09E, h62km±14km, mb4.3/9, mbtmp4.5/10, MS3.5/4, Error ellipse: s-maj=20.5km s-min=15.2km az=66.0*
WEL ***27*** *05:25:41.3, 37˚.68S×178˚.16E, h72km, ML4.8, Mw4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵ Nm; Mrr6.02; Mθθ-3.60; Mϕϕ-2.42; Mrθ1.26; Mθϕ3.40; Mϕr1.07; Fault plane solution: M₀6.47000×10¹⁵ NP1: ϕs115.00000°, δ48.00000°, λ69.00000°. NP2: ϕs325.00000°, δ46.00000°, λ111.00000°. Principal axes: T -6.4675, Plg74.0000°, Azm314.0000°; N 0.0013, Plg15.0000°, Azm129.0000°; P 6.4662, Plg1.0000°, Azm220.0000°; Stations used: RTZ BKZ MKAZ REVERSE FAULTING*
WEL ***27*** *05:25:41.5±0.5, 38˚S±3˚×17˚8E±˚, h55km±5km, M4.7/39, ML4.9/39, MLv4.7/39 Error ellipse: s-maj=4.9km s-min=4.5km az=92.5, confirmed*

ISC 27 05:25:40.4±0.5, 37˚82S±0˚.03×178˚27E±0˚.04, h84km±3km, n239, σ1§91/227, mb4.8/17, 3C, Off east coast of North Island

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

WMGZ	**Waiomatatini S**	**0.12**	**90**	P	Pn	05 25 51.9	-0.5
WMGZ				S	**Sn**	**05 26 00.2**	**-1.0**
PKGZ	**Pakihiroa**	**0.16**	**253**	P	**Pn**	**05 25 51.5**	**-1.1**
PKGZ				S	**Sn**	**05 25 59.1**	**-2.4**
TDHS	**Te Araroa Dist**	**0.20**	**22**	P	**Pn**	**05 25 50.4**	**-2.3**
TDHS				S	**Sn**	**05 25 59.7**	**-1.9**
PUZ	**Puketiti**	**0.25**	**182**	P	**Pn**	**05 25 52.7**	**-0.2**
PUZ				S	**Sn**	**05 26 01.4**	**-0.7**
ECLS	**East Cape Ligh**	**0.26**	**59**	P	Pn	05 25 53.4	+0.5
ECLS				S	Sn	05 26 04.9	+2.8
MXZ	**Matakaoa Point**	**0.26**	**6**		**Pn**	**05 25 51.3**	**-1.6**
MXZ	**Matakaoa Point**	**0.26**	**6**	P	**Pn**	**05 25 51.1**	**-1.8**
MXZ	**Matakaoa Point**	**0.26**	**6**	S	**Sn**	**05 25 59.1**	**-3.0**
MXZ	**Matakaoa Point**	**0.26**	**6**	P	**Pn**	**05 25 51.1**	**-1.6**
MXZ				S	**Sn**	**05 25 59.0**	**-3.0**
HAZ	**Te Kaha**	**0.39**	**279**	P	**Pn**	**05 25 52.5**	**-1.2**
HAZ				S	**Sn**	**05 26 00.8**	**-2.6**
RUGZ	**Raukumara Rang**	**0.49**	**253**	P	**Pn**	**05 25 53.7**	**-0.8**
RUGZ				S	**Sn**	**05 26 03.5**	**-1.6**
TBAS	**Tolaga Bay Are**	**0.55**	**178**	P	Pn	05 25 56.5	+1.5
CNGZ	**Carnagh Statio**	**0.67**	**184**	P	**Pn**	**05 25 57.5**	**+1.4**
CNGZ				S	**Sn**	**05 26 11.1**	**+3.5**
TKGZ	**Te Karaka**	**0.70**	**208**	P	**Pn**	**05 25 57.1**	**+0.7**
TKGZ				S	**Sn**	**05 26 09.6**	**+1.4**
OPCS	**Opotiki Colleg**	**0.80**	**256**	P	**Pn**	**05 25 54.7**	**-2.7**
OPCS				S	**Sn**	**05 26 06.3**	**-3.7**
GKBS	**Kaiti Beach**	**0.88**	**192**	P	**Pn**	**05 25 59.6**	**+1.3**
WIZ	**White Island**	**0.91**	**289**	P	**Pn**	**05 25 56.7**	**-1.9**
WSRZ	**White Island S**	**0.92**	**289**	P	**Pn**	**05 25 57.6**	**-1.1**
RAGZ	**Rawiri**	**0.95**	**225**	P	**Pn**	**05 25 59.9**	**+0.6**
RIGZ	**Rimuhau**	**0.97**	**204**	P	**Pn**	**05 26 00.4**	**+1.0**
RIGZ				S	**Sn**	**05 26 15.1**	**+1.6**
URZ	**Urewera**	**1.01**	**244**	P	**Pn**	**05 25 59.3**	**-0.5**
	4µm,0.3s,baz=68,slow=3.2,SNR=8535						
URZ				S	**Sn**	**05 26 13.6**	**-0.8**
	14µm,0.4s,baz=300,slow=20,SNR=22						
URZ	**Urewera**	**1.01**	**244**	P	**Pn**	**05 25 59.4**	**-0.4**
URZ	**Urewera**	**1.01**	**244**	S	**Sn**	**05 26 14.2**	**-0.2**
URZ	**Urewera**	**1.01**	**244**	P	**Pn**	**05 25 59.4**	**-0.4**
URZ				S	**Sn**	**05 26 13.3**	**-1.1**
WHRZ	**Whale Island**	**1.03**	**268**	P	**Pn**	**05 25 58.9**	**-1.1**
PRGZ	**Paritu Road**	**1.14**	**195**	P	**Pn**	**05 26 02.2**	**+0.8**
SNGZ	**Shannon Statio**	**1.21**	**217**	P	**Pn**	**05 26 03.1**	**+0.9**
EDRZ	**Edgecumbe**	**1.24**	**256**	P	**Pn**	**05 26 02.0**	**-0.7**
MARZ	**Manawahe**	**1.27**	**262**	P	**Pn**	**05 26 01.8**	**-1.2**
KNZ	**Kokohu**	**1.29**	**201**	P	**Pn**	**05 26 03.7**	**+0.6**
RTZ	**Ruatahuna**	**1.29**	**232**		**Pn**	**05 26 03.4**	**0.1**
RTZ	**Ruatahuna**	**1.29**	**232**	P	**Pn**	**05 26 03.3**	**0.0**
MUGZ	**Murupara**	**1.35**	**241**	P	**Pn**	**05 26 03.7**	**-0.3**
OPRZ	**Ohinepanea**	**1.36**	**268**	P	**Pn**	**05 26 02.6**	**-1.5**
MHGZ	**Mahia Peninsul**	**1.36**	**192**	P	**Pn**	**05 26 05.2**	**+1.0**
RAHZ	**Arahi**	**1.44**	**220**	P	**Pn**	**05 26 05.8**	**+0.7**
TARZ	**Mount Tarawera**	**1.45**	**253**	P	**Pn**	**05 26 05.0**	**-0.3**
MKRZ	**Makatiti**	**1.46**	**257**	P	**Pn**	**05 26 05.3**	**-0.1**
RRRZ	**Republican Roa**	**1.48**	**249**	P	**Pn**	**05 26 05.2**	**-0.4**
WHHZ	**Waihua**	**1.50**	**213**	P	**Pn**	**05 26 06.7**	**+0.9**
LIRZ	**Lichensteins R**	**1.50**	**262**	P	**Pn**	**05 26 05.2**	**-0.7**
MTHZ	**Maungataniwha**	**1.52**	**227**	P	**Pn**	**05 26 06.6**	**+0.3**
OMRZ	**Omania**	**1.53**	**259**	P	**Pn**	**05 26 05.5**	**-0.8**
HLRZ	**Highlands Stat**	**1.57**	**254**	P	**Pn**	**05 26 06.7**	**-0.2**
TGRZ	**Tauranga**	**1.59**	**273**	P	**Pn**	**05 26 05.6**	**-1.5**
KARZ	**Kaharoa**	**1.61**	**262**	P	**Pn**	**05 26 06.5**	**-0.9**
PRRZ	**Plateau Road**	**1.63**	**245**	P	**Pn**	**05 26 07.2**	**-0.3**
HRRZ	**Handcock Road**	**1.67**	**249**	P	**Pn**	**05 26 07.7**	**-0.3**
NGRZ	**Ngongotaha**	**1.67**	**260**	P	**Pn**	**05 26 07.7**	**-0.4**
HSRZ	**Hossack Road**	**1.67**	**252**	P	**Pn**	**05 26 08.1**	**0.0**
UTU	**Utuhina**	**1.68**	**257**	P	**Pn**	**05 26 08.4**	**+0.2**
ALRZ	**Allen Road**	**1.69**	**243**	P	**Pn**	**05 26 08.1**	**-0.3**
MYRZ	**Mayor Island**	**1.70**	**288**	P	**Pn**	**05 26 06.9**	**-1.6**
NMHZ	**Naumai**	**1.72**	**222**	P	**Pn**	**05 26 09.7**	**+0.9**
ARHZ	**Aropaoanui**	**1.75**	**214**	P	**Pn**	**05 26 10.0**	**+0.8**
MRHZ	**Matea Rd**	**1.77**	**235**	P	**Pn**	**05 26 09.4**	**0.0**
GRRZ	**Galatos Road**	**1.79**	**252**	P	**Pn**	**05 26 09.6**	**0.0**
WPRZ	**Whakapapatarin**	**1.80**	**247**	P	**Pn**	**05 26 09.8**	**0.0**
KMRZ	**Kaimai**	**1.84**	**268**	P	**Pn**	**05 26 09.1**	**-1.3**
BKZ	**Black Stump Fm**	**1.94**	**226**		**Pn**	**05 26 12.1**	**+0.5**
BKZ	**Black Stump Fm**	**1.94**	**226**	S	**Sn**	**05 26 36.1**	**+0.7**
BKZ	**Black Stump Fm**	**1.94**	**226**	P	**Pn**	**05 26 12.0**	**+0.3**
WHTZ	**Whakaora**	**2.01**	**244**	P	**Pn**	**05 26 13.0**	**+0.4**
HATZ	**Hinemaiaia**	**2.02**	**237**	P	**Pn**	**05 26 12.6**	**-0.1**
MCHZ	**McNeill Hill**	**2.04**	**217**	P	**Pn**	**05 26 13.3**	**+0.4**
KUTZ	**Kauhu Road**	**2.04**	**250**	P	**Pn**	**05 26 13.0**	**0.0**
CKHZ	**Cape Kidnapper**	**2.06**	**207**	P	**Pn**	**05 26 13.3**	**+0.1**
KWHZ	**Kaweka Forest**	**2.16**	**222**	P	**Pn**	**05 26 14.5**	**-0.1**
WATZ	**Wairara**	**2.19**	**245**	P	**Pn**	**05 26 15.1**	**+0.2**
TOZ	**Tahuroa Road**	**2.19**	**271**		**Pn**	**05 26 13.9**	**-1.1**
TOZ	**Tahuroa Road**	**2.19**	**271**	P	**Pn**	**05 26 13.9**	**-1.1**
TLZ	**Tolley Road**	**2.21**	**256**	P	**Pn**	**05 26 14.8**	**-0.5**
RITZ	**Rihia Road**	**2.22**	**238**	P	**Pn**	**05 26 15.7**	**+0.4**
RATZ	**Rangitukua**	**2.23**	**241**	P	**Pn**	**05 26 15.6**	**+0.2**
KAHZ	**Kahuranaki**	**2.25**	**208**	P	**Pn**	**05 26 15.7**	**-0.1**
KUZ	**Kuaotunu**	**2.30**	**297**	P	**Pn**	**05 26 14.6**	**-1.8**
KUZ	**Kuaotunu**	**2.30**	**297**	P	**Pn**	**05 26 14.6**	**-1.8**
KATZ	**Kakaramea**	**2.33**	**240**	P	**Pn**	**05 26 17.2**	**+0.3**
KRHZ	**Kereru**	**2.35**	**219**	P	**Pn**	**05 26 16.5**	**-0.5**
TMVZ	**Te Maari**	**2.39**	**236**	P	**Pn**	**05 26 17.8**	**+0.1**
ETVZ	**East Tongariro**	**2.40**	**236**	P	**Pn**	**05 26 17.9**	**0.0**
KRVZ	**Karewarewa**	**2.42**	**238**	P	**Pn**	**05 26 18.3**	**+0.1**
OTVZ	**Oturere**	**2.44**	**240**	P	**Pn**	**05 26 18.0**	**0.0**
NNVZ	**North Ngauruho**	**2.46**	**237**	P	**Pn**	**05 26 18.8**	**+0.1**
PXZ	**Pawanui**	**2.47**	**206**	P	**Pn**	**05 26 17.7**	**-0.9**
WTVZ	**West Tongariro**	**2.47**	**238**	P	**Pn**	**05 26 18.9**	**+0.1**
NGZ	**Ngauruhoe**	**2.49**	**236**	P	**Pn**	**05 26 19.2**	**0.0**
TUVZ	**Tukino**	**2.51**	**234**	P	**Pn**	**05 26 19.3**	**-0.1**
MOVZ	**Moawhango**	**2.53**	**230**	P	**Pn**	**05 26 19.1**	**-0.4**
COVZ	**Chateau Observ**	**2.54**	**236**	P	**Pn**	**05 26 19.8**	**0.0**
TWVZ	**Taurewa**	**2.55**	**240**	P	**Pn**	**05 26 19.9**	**0.0**
WHVZ	**Whangaehu Hut**	**2.56**	**234**	P	**Pn**	**05 26 19.9**	**-0.2**
FWVZ	**Far West T-bar**	**2.57**	**235**	P	**Pn**	**05 26 20.0**	**-0.2**
MAVZ	**Matarangi**	**2.57**	**235**	P	**Pn**	**05 26 20.1**	**-0.2**
MKAZ	**Moumakai**	**2.58**	**285**	P	**Pn**	**05 26 19.0**	**-1.1**
WNVZ	**Wahianoa**	**2.58**	**233**	P	**Pn**	**05 26 20.1**	**-0.2**
TRVZ	**Turoa**	**2.59**	**234**	P	**Pn**	**05 26 20.3**	**-0.2**
PNHZ	**Pukenui**	**2.64**	**217**	P	**Pn**	**05 26 20.0**	**-1.0**
WPHZ	**Waipukurau**	**2.66**	**212**	P	**Pn**	**05 26 20.3**	**-0.9**
MTVZ	**Mangateitei**	**2.69**	**234**	P	**Pn**	**05 26 21.6**	**-0.2**
WIAZ	**Waiheke Island**	**2.70**	**291**	P	**Pn**	**05 26 20.8**	**-1.0**
PKVZ	**Pokaka**	**2.72**	**236**	P	**Pn**	**05 26 22.1**	**0.0**
GRZ	**Great Barrier**	**2.74**	**304**	P	**Pn**	**05 26 21.1**	**-1.2**
PRHZ	**Porangahau**	**2.75**	**207**	P	**Pn**	**05 26 21.4**	**-1.1**
HIZ	**Hauiti**	**2.78**	**255**		**Pn**	**05 26 23.3**	**+0.5**
HIZ	**Hauiti**	**2.78**	**255**	P	**Pn**	**05 26 23.5**	**+0.7**
HIZ	**Hauiti**	**2.78**	**255**	P	**Pn**	**05 26 23.4**	**+0.5**
KBAZ	**Karaka Road Bo**	**2.79**	**284**	P	**Pn**	**05 26 23.2**	**+0.3**
ETAZ	**East Tamaki Re**	**2.80**	**287**	P	**Pn**	**05 26 22.5**	**-0.6**
TSZ	**Takapari Road**	**2.87**	**218**	P	**Pn**	**05 26 22.7**	**-1.4**
MBAZ	**Motutapu North**	**2.89**	**290**	P	**Pn**	**05 26 23.7**	**-0.6**
EPAZ	**Eden Park BICE**	**2.96**	**287**	P	**Pn**	**05 26 25.2**	**-0.1**
DVHZ	**Dannevirke**	**2.97**	**213**	P	**Pn**	**05 26 23.7**	**-1.7**
ANWZ	**Angora Road**	**2.98**	**207**	P	**Pn**	**05 26 24.2**	**-1.3**
HBAZ	**Herne Bay Bore**	**2.98**	**288**	P	**Pn**	**05 26 25.5**	**-0.1**
AWAZ	**Awhitu Peninsu**	**2.98**	**284**	P	**Pn**	**05 26 25.3**	**-0.3**
ABAZ	**Army Bay**	**3.00**	**293**	P	**Pn**	**05 26 25.4**	**-0.4**
VRZ	**Vera Road**	**3.05**	**244**	P	**Pn**	**05 26 27.0**	**+0.5**
WTAZ	**Waiatarua**	**3.08**	**286**	P	**Pn**	**05 26 26.7**	**-0.1**
RVAZ	**Riverhead Bore**	**3.12**	**288**	P	**Pn**	**05 26 27.4**	**0.0**
WAZ	**Wanganui**	**3.21**	**232**	P	**Pn**	**05 26 28.9**	**+0.2**
POWZ	**Post Office Ro**	**3.22**	**216**	P	**Pn**	**05 26 27.2**	**-1.6**
BFZ	**Birch Farm**	**3.26**	**208**		**Pn**	**05 26 27.7**	**-1.7**
BFZ	**Birch Farm**	**3.26**	**208**	P	**Pn**	**05 26 27.1**	**-2.2**
BFZ	**Birch Farm**	**3.26**	**208**	S	**Sn**	**05 27 05.3**	**-1.8**
BFZ	**Birch Farm**	**3.26**	**208**	P	**Pn**	**05 26 27.6**	**-1.7**
PRWZ	**Pori Road**	**3.26**	**212**	P	**Pn**	**05 26 27.9**	**-1.5**
OHWZ	**Ohakea**	**3.31**	**223**	P	**Pn**	**05 26 29.5**	**-0.5**
MHEZ	**Mangahewa**	**3.34**	**247**	P	**Pn**	**05 26 32.5**	**+2.1**
DREZ	**Durham Road**	**3.47**	**246**	P	**Pn**	**05 26 34.2**	**+2.0**
CPWZ	**Castlepoint**	**3.48**	**207**	P	**Pn**	**05 26 30.9**	**-1.3**
TIWZ	**Tintock**	**3.48**	**211**	P	**Pn**	**05 26 30.7**	**-1.7**
MRZ	**Mangatainoka R**	**3.52**	**216**		**Pn**	**05 26 30.6**	**-2.2**
MRZ	**Mangatainoka R**	**3.52**	**216**	P	**Pn**	**05 26 30.6**	**-2.2**
PREZ	**Palmer Road**	**3.56**	**243**	P	**Pn**	**05 26 35.4**	**+2.0**
NEZ	**North Egmont**	**3.58**	**245**	P	**Pn**	**05 26 35.1**	**+1.4**
PKE	**Pukeiti**	**3.63**	**246**	P	**Pn**	**05 26 35.7**	**+1.3**
KHEZ	**Kahui Hut**	**3.65**	**245**	P	**Pn**	**05 26 35.6**	**+0.9**
WCZ	**Waipu Caves**	**3.66**	**300**	P	**Pn**	**05 26 34.2**	**-0.6**
NBEZ	**Newall Road No**	**3.74**	**246**	P	**Pn**	**05 26 37.4**	**+1.5**
CAW	**Cannon Point**	**4.11**	**216**	P	**Pn**	**05 26 37.9**	**-3.0**
MSWZ	**Moikau Station**	**4.28**	**212**		**Pn**	**05 26 40.4**	**-2.8**
PLWZ	**Palliser**	**4.41**	**211**		**Pn**	**05 26 41.8**	**-3.1**

BHW	**Baring Head**	**4.44**	**215**		**Pn**	**05 26 41.7**	**-3.6**
BHW	**Baring Head**	**4.44**	**215**	P	**Pn**	**05 26 41.7**	**-3.6**
SNZO	**South Karori**	**4.44**	**217**		**Pn**	**05 26 42.0**	**-3.3**
SNZO	**South Karori**	**4.44**	**217**	P	**Pn**	**05 26 42.1**	**-3.3**
SNZO	**South Karori**	**4.44**	**217**	S	**Sn**	**05 27 33.1**	**-2.7**
OUZ	**Omahuta**	**4.57**	**303**	P	**Pn**	**05 26 47.0**	**-0.1**
OUZ	**Omahuta**	**4.57**	**303**	P	**Pn**	**05 26 46.8**	**-0.3**
TCW	**Tory Channel**	**4.58**	**221**		**Pn**	**05 26 44.4**	**-2.8**
TUWZ	**Tuamarina**	**4.91**	**221**		**Pn**	**05 26 49.2**	**-2.6**
CMWZ	**Cape Campbell**	**5.02**	**217**		**Pn**	**05 26 51.1**	**-2.0**
NNZ	**Nelson**	**5.08**	**227**		**Pn**	**05 26 51.3**	**-2.7**
NNZ	**Nelson**	**5.08**	**227**	P	**Pn**	**05 26 51.0**	**-3.1**
BSWZ	**Blackbirch S

CATAC 27 05:39:29.6±1.0, 10°N±5°×8°6W±°, h23km±4km, M2.9/7, MLv2.9/7, Error ellipse: s-maj=13.9km s-min=11.1km az=64.0, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELI1	**Hacienda Flor**	**0.40**	**57**	P	Pb	05 39 39.0	+0.9
ELI1				S	Sn	05 39 46.7	-0.2
CARN	**Rivas**	**0.84**	**26**	P	Pb	05 39 45.5	0.0
CARN				S	Sn	05 39 57.7	0.0
OMEN	**Al SSO del Vol**	**1.11**	**14**	P	Pb	05 39 49.9	-0.2
JAPN	**Al SSO del Vol**	**1.11**	**11**	P	Pb	05 39 50.2	0.0
MORN	**Al O del Volca**	**1.14**	**12**	P	Pn	05 39 50.1	-0.1
SOCE	**Pocosol**	**1.26**	**92**	P	Pn	05 39 52.2	+0.4
COVE	**Coope Vega, Sa**	**1.50**	**79**	P	Pn	05 39 54.7	-0.4
ACON	**Acoyapa**	**1.69**	**25**	P	Pn	05 39 57.0	-0.7

IDC 27 05:39:46.8±8.5, 22°34S×148°32E, h0km, mbtmp3.1/2, ML3.1/1, Error ellipse: s-maj=81.5km s-min=60.8km az=178.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.26**	**278**	Pn	Pn	05 42 56.4	-0.1
	0.1nm,0.3s,baz=103,slow=12,SNR=2.5						
WRA				Sn	Sn	05 45 23.4	-1.3
	0.1nm,0.3s,baz=100,slow=23,SNR=2.7						
WRA				Lg	Lg	05 46 48.5	
	0.1nm,0.3s,baz=107,slow=29,SNR=5.0						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**13.34**	**262**	Pn	Pn	05 42 57.6	0.0
	0.4nm,1.0s,baz=86,slow=14,SNR=1.2						
ASAR				Sn	Sn	05 45 28.5	+1.8
	0.3nm,0.3s,baz=81,slow=25,SNR=2.0						
ASAR				Lg	Lg	05 46 52.1	
	baz=90,slow=27						
I22FR	**PORTLAGUERRE I**	**17.16**	**93**	I	I	07 23 50.0	
	baz=265,slow=312,SNR=0.7						

MEX 27 05:44:07.3±0.7, 15°.06N×94°.39W, h16km±17km, MD4.1
GCG 27 05:44:07.1±1.2, 15°.23N×94°.53W, h37km±999km, MD4.3, ML2.7

ISC 27 05:43:57.6±1.5, 14°93N±0°.05×94°47W±0°.02, h9km±12km, n24, σ1§68/45, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.43**	**57**	*eP*	**Pg**	**05 44 27.0**	**+2.0**
PCIG				*i* S	**Sn**	**05 44 41.7**	**-1.0**
HUIG	**Huatulco**	**1.79**	**298**	*eP*	**Pg**	**05 44 34.0**	**+2.2**
HUIG				*i* S	**Sb**	**05 44 53.3**	**+0.2**
HUIG	**Huatulco**	**1.79**	**298**	*i* P	**Pg**	**05 44 33.7**	**+1.8**
HUIG				*i* S	**Sb**	**05 44 52.9**	**-0.2**
HUIG				IAML		05 44 54.7	
	comp=N,22nm,0.2s						
PATR	**El Naranjo**	**2.17**	**85**	*eP*	**Pg**	**05 44 38.4**	**-0.8**
PATR				*i* S	**Sn**	**05 45 02.2**	**+0.8**
CMIG	**Matias Romero**	**2.18**	**350**	*eP*	**Pb**	**05 44 38.2**	**+0.9**
CMIG				*i* S	**Sn**	**05 45 01.7**	**+0.4**
PAVE	**Pavencul**	**2.23**	**83**	*eP*	**Pg**	**05 44 39.8**	**-0.6**
PAVE				*eS*	**Sn**	**05 45 03.6**	**+0.7**
TGIG		**2.25**	**35**	*eP*	**Pb**	**05 44 39.4**	**+0.9**
TGIG				*eS*	**Sn**	**05 45 04.1**	**+1.1**
TGIG		**2.25**	**35**	*i* P	**Pb**	**05 44 39.5**	**+1.0**
TGIG				*i* S	**Sb**	**05 45 05.0**	**-1.5**
CHUJ	**Union Juarez**	**2.29**	**86**	*eP*	**Pb**	**05 44 40.2**	**+1.0**
CHUJ				*eS*	**Sn**	**05 45 05.0**	**+0.7**
UXUV	**UXUV**	**2.39**	**7**	*eP*	**Pg**	**05 44 42.3**	**-1.2**
UXUV				*eS*	**Sn**	**05 45 07.3**	**+0.7**
CCIG	**Comitan**	**2.62**	**59**	*eP*	**Pb**	**05 44 46.0**	**+1.1**
CCIG				*i* S	**Sb**	**05 45 16.4**	**-0.8**
CCIG	**Comitan**	**2.62**	**59**	*i* P	**Pg**	**05 44 46.7**	**-1.1**
CCIG				*i* S	**Sb**	**05 45 16.6**	**-0.6**
CCIG				IAML		05 45 25.1	
	comp=N,140nm,0.4s						
RTAL	**Retalhuleu**	**2.71**	**98**	*eP*	**Pb**	**05 44 47.9**	**+1.5**
RTAL				*eS*	**Sb**	**05 45 18.4**	**-1.4**
PEIG	**Puerto Escondi**	**2.79**	**293**	*eP*	**Pb**	**05 44 48.4**	**+0.7**
PEIG				*i* S	**Sn**	**05 45 17.0**	**+0.6**
VHO	**Vista Hermosa**	**3.04**	**315**	*eP*	**Pb**	**05 44 53.4**	**+1.3**
VHO				*i* S	**Sb**	**05 45 27.4**	**-2.2**
NEUV	**Arroyo Zacate**	**3.05**	**335**	*eP*	**Pb**	**05 44 52.8**	**+0.7**
NEUV				*i* S	**Sb**	**05 45 28.9**	**-0.5**
YOIG	**Yosondua**	**3.52**	**303**	*eP*	**Pb**	**05 45 00.8**	**+0.4**
YOIG				*i* S	**Sb**	**05 45 39.1**	**-4.4**
PNIG	**Pinotepa**	**3.81**	**293**	*i* P	**Pb**	**05 45 03.5**	**-1.7**
PNIG				*i* S	**Sn**	**05 45 42.2**	**+0.6**
TXIG	**Tlaxiaco**	**3.92**	**306**	*eP*	**Pb**	**05 45 06.4**	**-0.8**
TXIG				*eS*	**Sn**	**05 45 47.2**	**+2.5**
TOIG	**Toxpalan**	**4.01**	**322**	*eP*	**Pb**	**05 45 07.7**	**-0.8**
TOIG				*i* S	**Sn**	**05 45 49.5**	**+2.8**
FTIG	**Fresnillo de T**	**4.59**	**311**	*eP*	**Pb**	**05 45 16.0**	**-2.5**
FTIG				*eS*	**Sn**	**05 46 04.4**	**+3.3**
MGIG	**Malinaltepec**	**4.61**	**300**	*eP*	**Pb**	**05 45 16.1**	**-2.7**
TLIG	**Tlapa**	**4.72**	**304**	*eP*	**Pb**	**05 45 17.3**	**-3.5**
PETF	**Flores**	**4.85**	**65**	*eP*	Pb	05 45 16.9	-5.9
PETF				*eS*	**Sn**	**05 46 06.7**	**-0.4**

ASRS 27 05:59:25.0±1.1, 54°.10N×86°.44E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.

IDC 27 05:59:25.6±3.2, 54°17N×86°62E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=26.2km s-min=15.5km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.09**	**259**	I	I	06 06 10.0	
	baz=79,slow=318,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.09**	**259**	Pg	Pg	05 59 46.0	-0.5
	0.7nm,0.3s,baz=78,slow=14,SNR=7.4						
ZALV				Lg	Lg	06 00 01.6	
	1.0nm,0.3s,baz=76,slow=32,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.09**	**238**	Pn	Pn	06 00 57.5	+0.6
	0.1nm,0.3s,baz=52,slow=14,SNR=3.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.88**	**202**	Pn	Pn	06 01 22.6	+1.2
	0.2nm,0.3s,baz=22,slow=11,SNR=3.6						
	0.3nm,0.3s						

IDC 27 06:03:15.1±8.1, 5°20S×149°43E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=126.0km s-min=71.3km az=36.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.75**	**224**	P	P	06 07 56.3	-1.4
	0.2nm,0.5s,baz=48,slow=11,SNR=2.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**23.69**	**218**	P	P	06 08 28.6	-0.1
	0.3nm,0.4s,baz=53,slow=9.1,SNR=7.9						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**26.55**	**239**	P	P	06 08 55.8	+0.8
	1.0nm,0.5s,baz=56,slow=10.0,SNR=5.6						
	1.0nm,0.5s						
STKA	**Stephens Creek**	**27.54**	**195**	P	P	06 09 03.8	0.0
	0.5nm,0.3s,baz=0.0,slow=12,SNR=1.4						
	0.5nm,0.3s						

IDC 27 06:06:41.6±1.7, 2°71N×127°76E, h0km, mb3.8/5, mbtmp3.8/5, MS2.6/1, Error ellipse: s-maj=139.2km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.07**	**56**	LR	LR	06 18 19.6	
	comp=Z,20nm,20.7s,baz=261,slow=35						
WRA	**Warramunga Arr**	**23.42**	**164**	P	P	06 11 53.4	+0.8
	2.4nm,0.6s,baz=344,slow=10,SNR=12						
	2.4nm,0.6s						
ASAR	**Alice Springs**	**26.90**	**167**	P	P	06 12 24.5	0.0
	0.2nm,0.4s,baz=341,slow=7.7,SNR=2.0						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**36.83**	**160**	P	P	06 13 50.1	-1.5
	1.0nm,0.4s,baz=319,slow=11,SNR=3.7						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**58.97**	**325**	P	P	06 16 43.6	+0.6
	0.7nm,0.5s,baz=111,slow=8.5,SNR=4.9						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.14**	**327**	P	P	06 17 11.1	-0.2
	0.5nm,0.6s,baz=128,slow=6.2,SNR=2.7						
	0.5nm,0.6s						

ISK 27 06:24:37.9, 38°.15N×23°.59E, h2km, ML3.7/18
AFAD 27 06:24:38.9, 38°.29N×23°.73E, h8km±2km, MW4.0
IDC 27 06:24:38.2±0.7, 38°.21N×23°.56E, h0km, mb4.1/16, mbtmp3.9/24, ML3.5/6, MS2.7/3, Error ellipse: s-maj=14.7km s-min=11.7km az=135.0
UPSL 27 06:24:40.1, 38°.13N×23°.52E, h13km, Mw3.9, Moment Tensor Solution. s7 Moment tensor: Mrr=8.02; Mθθ7.20; Mϕϕ0.82; Mrθ-1.50; Mrϕ-2.39; Mθϕ-0.76; Fault plane solution: NP1:φs297.00000°, δ41.00000°, λ-78.00000°. NP2:φs100.00000°, δ50.00000°, λ-101.00000°.
THE 27 06:24:40.7, 38°.1N±0.7×23°.5E±0.5, h2km±1km, M3.8/44, MLh3.8/44
ATH 27 06:24:40.1, 38°.13N×23°.52E, h13km, Mw3.8, Moment Tensor Solution. s11 Moment tensor: Mrr=7.33; Mθθ6.46; Mϕϕ0.88; Mrθ0.11; Mrϕ-2.31; Mθϕ0.80; Fault plane solution: NP1:φs116.00000°, δ46.00000°, λ-82.00000°. NP2:φs284.00000°, δ45.00000°, λ-99.00000°.
NEIC 27 06:24:40.4±2.4, 38°.15N±0°.05×23°.64E±0°.07, h10km±1km, mb4.5/7 Error ellipse: s-maj=9.6km s-min=8.7km az=124.0
BEO 27 06:24:48.7±1.5, 38°.51N×23°.69E, h44km, ML3.1/8
NAO 27 06:24:54.6, 39°.25N×21°.56E, h10km, mb4.0

ISC 27 06:24:39.9±0.6, 38°17N±0°.02×23°56E±0°.01, h14km±3km, n260, σ1§65/316, mb4.1/20, 16C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STFN	**Stefani**	**0.02**	**305**	P	**Pg**	**06 24 42.8**	**+0.2**
STFN				S	**Sg**	**06 24 44.2**	**0.0**
PARN2	**Moni Osiou Mel**	**0.09**	**288**	P	**Pg**	**06 24 43.1**	**+0.1**
PARN2				S	**Sg**	**06 24 44.3**	**-0.7**
MAGU	**Magoula**	**0.10**	**205**	P	**Pg**	**06 24 42.5**	**-0.5**
MAGU				S	**Sg**	**06 24 43.5**	**-1.5**
PARN1	**Fyli,Attica,Gr**	**0.10**	**127**	P	**Pg**	**06 24 43.4**	**+0.2**
PARN1				S	**Sg**	**06 24 45.4**	**+0.1**
VILL	**Villia**	**0.20**	**270**	P	**Pg**	**06 24 44.5**	**0.0**
VILL				S	**Sg**	**06 24 47.3**	**-0.3**
ATH	**Athens Observa**	**0.23**	**148**	P	**Pg**	**06 24 45.1**	**+0.1**
ATH				S	**Sg**	**06 24 47.1**	**-0.2**
ATH	**Athens Observa**	**0.23**	**148**	P	**Pg**	**06 24 45.0**	**+0.1**
ATH				S	**Sg**	**06 24 48.3**	**0.0**
VIL2	**Platees**	**0.24**	**281**	P	**Pg**	**06 24 44.4**	**-0.7**
VIL2				S	**Sg**	**06 24 47.0**	**-1.6**
ATHU	**Athens Univers**	**0.26**	**139**	P	**Pg**	**06 24 45.7**	**+0.1**
ATHU				S	**Sg**	**06 24 49.1**	**-0.2**
ATHU	**Athens Univers**	**0.26**	**139**	P	**Pg**	**06 24 45.7**	**+0.1**
ATHU				S	**Sg**	**06 24 48.8**	**-0.6**
PTL	**Penteli**	**0.26**	**116**	P	**Pg**	**06 24 46.1**	**+0.5**
PTL				S	**Sg**	**06 24 49.9**	**+0.5**
PTL	**Penteli**	**0.26**	**116**	P	**Pg**	**06 24 46.1**	**+0.5**
PTL				S	**Sg**	**06 24 49.9**	**+0.5**
DION	**Dionisos Attik**	**0.30**	**107**	P	**Pb**	**06 24 47.0**	**-0.2**
DION				S	**Sb**	**06 24 51.2**	**-0.9**
DION	**Dionisos Attik**	**0.30**	**107**	P	**Pb**	**06 24 47.0**	**-0.2**
DION				S	**Sb**	**06 24 51.2**	**-0.9**
VLY	**Voula,Athens**	**0.36**	**150**	P	**Pg**	**06 24 47.2**	**-0.1**
VLY				S	**Sg**	**06 24 52.0**	**0.0**
VLY	**Voula,Athens**	**0.36**	**150**	P	**Pg**	**06 24 47.1**	**-0.1**
VLY				S	**Sg**	**06 24 51.4**	**-0.8**
LTK	**Loutraki**	**0.49**	**253**	P	**Pg**	**06 24 49.0**	**-0.6**
LTK				S	**Sg**	**06 24 56.0**	**-0.3**
LTK	**Loutraki**	**0.49**	**253**	P	**Pg**	**06 24 48.8**	**-0.8**
LTK				S	**Sg**	**06 24 55.8**	**-0.5**
LOUT	**Loutraki**	**0.50**	**249**	P	**Pg**	**06 24 49.1**	**-0.7**
LOUT				S	**Sg**	**06 24 55.5**	**-1.0**
MET4	**Agioi Theodoro**	**0.56**	**194**	P	**Pg**	**06 24 50.2**	**-0.7**
MET5	**Makryloggos,Me**	**0.57**	**197**	P	**Pg**	**06 24 50.4**	**-0.7**
MET2	**Kameni Chora,**	**0.58**	**199**	P	**Pg**	**06 24 50.4**	**-1.0**
MET6	**Megalochori,Me**	**0.60**	**196**	P	**Pg**	**06 24 50.8**	**-0.9**
KYMI	**Kymi, Euboea I**	**0.63**	**42**	P	**Pb**	**06 24 53.1**	**+0.4**
KYMI				S	**Sn**	**06 25 03.7**	**-0.6**
KYMI	**Kymi, Euboea I**	**0.63**	**42**	P	**Pb**	**06 24 53.0**	**+0.3**
KYMI				S	**Sb**	**06 25 02.2**	**+0.8**
LKR	**Lokris**	**0.66**	**318**	P	**Pg**	**06 24 52.7**	**-0.1**
LKR				S	**Sb**	**06 25 03.0**	**+0.8**
LKR	**Lokris**	**0.66**	**318**	P	**Pg**	**06 24 52.7**	**-0.1**
LKR				S	**Sb**	**06 25 03.0**	**+0.8**
ATAL	**Atalanti**	**0.68**	**321**	P	**Pg**	**06 24 53.0**	**-0.2**
KARY	**Karystos**	**0.70**	**101**	P	**Pb**	**06 24 54.1**	**+0.2**
KARY				S	**Sn**	**06 25 06.0**	**-0.1**
KARY	**Karystos**	**0.70**	**101**	P	**Pb**	**06 24 54.0**	**0.0**
KARY				S	**Sb**	**06 25 03.6**	**+0.2**
AXAR	**Agios Charalam**	**0.93**	**310**	P	**Pg**	**06 24 57.6**	**-0.3**
AXAR				S	**Sn**	**06 25 12.4**	**+0.6**
AXAR	**Agios Charalam**	**0.93**	**310**	P	**Pg**	**06 24 57.5**	**-0.5**
AXAR				S	**Sg**	**06 25 11.0**	**+0.9**
GUR	**Goura**	**0.99**	**257**	P	**Pg**	**06 24 58.2**	**-0.9**
GUR				S	**Sg**	**06 25 12.4**	**+0.3**
GUR	**Goura**	**0.99**	**257**	P	**Pg**	**06 24 58.1**	**-1.0**
GUR				S	**Sg**	**06 25 10.9**	**-1.1**
AOS	**Alonnisos**	**1.03**	**14**	P	**Pg**	**06 24 59.8**	**-0.1**
AOS				S	**Sn**	**06 25 15.1**	**+0.8**
SKY	**Skiros Island**	**1.05**	**47**	P	**Pn**	**06 25 00.8**	**+0.5**
SKY				S	**Sn**	**06 25 16.8**	**+2.1**
SKY	**Skiros Island**	**1.05**	**47**	P	**Pn**	**06 25 00.7**	**+0.5**
SKY				S	**Sn**	**06 25 15.7**	**+1.0**
KLV	**Kalavryta, Ach**	**1.12**	**264**	P	**Pb**	**06 25 00.5**	**-0.6**
KLV				S	**Sn**	**06 25 17.8**	**+1.3**
KLV	**Kalavryta, Ach**	**1.12**	**264**	P	**Pb**	**06 25 00.4**	**-0.7**
KALE	**Kalithea**	**1.14**	**282**	P	**Pb**	**06 25 01.1**	**-0.5**
KALE				S	**Sn**	**06 25 18.1**	**+1.1**
KALE	**Kalithea**	**1.14**	**282**	P	**Pb**	**06 25 01.0**	**-0.5**
NEO	**Neokhori**	**1.17**	**347**	P	**Pb**	**06 25 02.7**	**+0.7**
NEO	**Neokhori**	**1.17**	**347**	P	**Pb**	**06 25 02.5**	**+0.6**
SERG	**Sergoula**	**1.21**	**282**	P	**Pn**	**06 25 02.4**	**-0.1**
SERG				S	**Sn**	**06 25 22.2**	**+3.5**
VLX	**Vlachokerasia**	**1.23**	**230**	P	**Pn**	**06 25 02.6**	**-0.2**
AGG	**Agios Georgios**	**1.29**	**312**	P	**Pn**	**06 25 04.1**	**+0.5**
AGG				S	**Sg**	**06 25 23.9**	**+2.3**
AGG	**Agios Georgios**	**1.29**	**312**	P	**Pn**	**06 25 03.8**	**+0.2**
AGG				S	**Sg**	**06 25 22.4**	**+0.8**
AGG	**Agios Georgios**	**1.29**	**312**	P	**Pn**	**06 25 03.8**	**+0.2**
EFP	**Efpalio**	**1.33**	**282**	P	**Pn**	**06 25 04.8**	**+0.7**
EFP				S	**Sg**	**06 25 24.4**	**+1.6**
EFP	**Efpalio**	**1.33**	**282**	P	**Pn**	**06 25 04.7**	**+0.6**
ANX	**Ano Chora**	**1.36**	**289**	P	**Pn**	**06 25 05.0**	**+0.4**
ANX	**Ano Chora**	**1.36**	**289**	P	**Pn**	**06 25 04.9**	**+0.3**
UPR	**University Cam**	**1.41**	**275**	P	**Pb**	**06 25 06.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.41**	**307**	P	**Pb**	**06 25 06.6**	**+0.6**
MAKR				S	**Sg**	**06 25 26.1**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.41**	**307**	P	**Pn**	**06 25 06.4**	**+1.3**
DRO	**Drossia**	**1.48**	**262**	P	**Pn**	**06 25 07.0**	**+0.8**
DRO				S	**Sb**	**06 25 27.6**	**+1.7**
DRO	**Drossia**	**1.48**	**262**	P	**Pn**	**06 25 06.1**	**-0.1**
VLI	**Veliai**	**1.53**	**199**	P	**Pn**	**06 25 06.3**	**-0.5**
VLI				S	**Sg**	**06 25 28.6**	**-0.6**
VLI	**Veliai**	**1.53**	**199**	P	**Pn**	**06 25 06.2**	**-0.9**
EVR	**Evrytania**	**1.57**	**299**	P	**Pn**	**06 25 09.0**	**+1.5**
EVR	**Evrytania**	**1.57**	**299**	P	**Pn**	**06 25 08.4**	**+0.9**
MHLO	**Agia Marina, M**	**1.62**	**155**	P	**Pn**	**06 25 08.5**	**+0.4**
MHLO	**Agia Marina, M**	**1.62**	**155**	P	**Pn**	**06 25 08.0**	**0.0**
ITM	**Ithomi**	**1.63**	**233**	Pn	**Pn**	**06 25 08.8**	**+0.6**
ITM				Sn	**Sb**	**06 25 31.2**	**+1.0**
ITM	**Ithomi**	**1.63**	**233**		**Pn**	**06 25 08.8**	**+0.6**
ITM	**Ithomi**	**1.63**	**233**	P	**Pn**	**06 25 08.9**	**+0.6**
ITM				S	**Sb**	**06 25 30.8**	**+0.6**
ITM	**Ithomi**	**1.63**	**233**	P	**Pn**	**06 25 08.8**	**+0.6**
RLS	**Riolos of Patr**	**1.66**	**267**	P	**Pn**	**06 25 09.9**	**+1.3**
RLS	**Riolos of Patr**	**1.66**	**267**	P	**Pn**	**06 25 09.9**	**+1.3**
PVO	**Paravola**	**1.66**	**286**	P	**Pn**	**06 25 10.3**	**+1.6**
PVO	**Paravola**	**1.66**	**286**	P	**Pn**	**06 25 10.3**	**+1.6**
AXS	**Araxos**	**1.72**	**272**	P	**Pn**	**06 25 10.9**	**+1.4**
AXS	**Araxos**	**1.72**	**272**	P	**Pn**	**06 25 11.2**	**+1.6**
THL	**Klokotos Trika**	**1.85**	**320**	P	**Pn**	**06 25 12.3**	**+1.1**
THL	**Klokotos Trika**	**1.85**	**320**	P	**Pn**	**06 25 12.2**	**+1.0**
KTHA	**Kythira Island**	**1.95**	**192**	Pn	**Pn**	**06 25 12.1**	**-0.5**
KTHA	**Kythira Island**	**1.95**	**192**	P	**Pn**	**06 25 12.2**	**-0.5**
CHOS	**Chios island**	**1.97**	**83**	Pn	**Pn**	**06 25 13.3**	**+0.3**
CHOS				Sn	**Sn**	**06 25 38.9**	**+1.3**
SIGR	**SIGRI**	**2.08**	**59**	Pn	**Pn**	**06 25 15.1**	**+0.8**
SIGR	**SIGRI**	**2.08**	**59**	P	**Pn**	**06 25 15.8**	**+1.5**
SIGR	**SIGRI**	**2.08**	**59**	P	**Pn**	**06 25 15.6**	**+1.2**
LIA	**Limnos Island**	**2.14**	**36**	P	**Pn**	**06 25 15.6**	**+0.4**
LIA	**Limnos Island**	**2.14**	**36**	P	**Pn**	**06 25 15.5**	**+0.2**
TETR	**Tetrakomo, Epi**	**2.14**	**304**	P	**Pn**	**06 25 16.9**	**+1.5**
OUR	**Ouranopolis**	**2.19**	**8**	P	**Pn**	**06 25 16.9**	**+0.9**
OUR	**Ouranopolis**	**2.19**	**8**	P	**Pn**	**06 25 16.7**	**+0.8**
RTZL	**Ratzakli, Kefa**	**2.20**	**269**	P	**Pn**	**06 25 18.5**	**+2.4**
PLG	**Polygyros**	**2.21**	**358**	P	**Pn**	**06 25 17.1**	**+0.9**
PLG	**Polygyros**	**2.21**	**358**	P	**Pn**	**06 25 16.9**	**+0.7**
SAP3	**Santorini-Thir**	**2.24**	**140**	P	**Pn**	**06 25 17.4**	**+0.9**
THR5	**Thira Island,**	**2.25**	**140**	P	**Pn**	**06 25 17.4**	**+0.7**
ORTH	**Orthonies,Zaky**	**2.29**	**263**	P	**Pn**	**06 25 19.0**	**+1.8**
KARB	**zmir-Karabur**	**2.29**	**77**	P	**Pn**	**06 25 21.8**	**+0.7**
ANKY	**Antikythira Is**	**2.30**	**185**	P	**Pn**	**06 25 17.1**	**-0.5**
ANKY	**Antikythira Is**	**2.30**	**185**	P	**Pn**	**06 25 17.0**	**-0.5**
NYDR	**Nydri-Lefkada**	**2.32**	**285**	P	**Pn**	**06 25 20.1**	**+2.5**
ZEYE	**Izmir, Urla-Ze**	**2.32**	**87**	P	**Pn**	**06 25 18.7**	**+1.0**
ZEYE					S	**Sg**	**06 25 54.5**	**+0.1**
EVGI	**Lefkada island**	**2.33**	**282**	P	**Pn**	**06 25 20.6**	**+2.8**
EVGI	**Lefkada island**	**2.33**	**282**	P	**Pn**	**06 25 20.6**	**+2.8**
VLS	**Valsamata**	**2.34**	**271**	P	**Pn**	**06 25 20.5**	**+2.4**
VLS	**Valsamata**	**2.34**	**271**	P	**Pn**	**06 25 19.2**	**+1.2**
PSDA	**Pessada-Kefalo**	**2.35**	**270**	P	**Pn**	**06 25 20.3**	**+2.2**
PSDA	**Pessada-Kefalo**	**2.35**	**270**	P	**Pn**	**06 25 19.5**	**+1.4**
LKD2	**Lefkada island**	**2.36**	**286**	P	**Pn**	**06 25 21.1**	**+2.7**
LKD2	**Lefkada island**	**2.36**	**286**	P	**Pn**	**06 25 21.1**	**+2.7**
FSK	**Fiskardo**	**2.38**	**278**	P	**Pn**	**06 25 21.0**	**+2.5**
FSK	**Fiskardo**	**2.38**	**278**	P	**Pn**	**06 25 20.4**	**+1.9**
URLA	**Izmir**	**2.39**	**84**	P	**Pn**	**06 25 19.3**	**+0.6**
KOCA	**Canakkale, Ayv**	**2.41**	**56**	P	**Pn**	**06 25 18.6**	**-0.4**
KOCA				S	**Sn**	**06 25 49.3**	**+1.0**
HORT	**Hortiatis**	**2.46**	**352**	P	**Pn**	**06 25 20.7**	**+1.0**
HORT	**Hortiatis**	**2.46**	**352**	P	**Pn**	**06 25 20.7**	**+1.0**
THE	**Thessaloniki**	**2.51**	**350**	P	**Pn**	**06 25 20.9**	**+0.6**
FOCM	**Foa**	**2.55**	**77**	Pn	**Pn**	**06 25 21.6**	**+0.8**
KZN	**Kozani**	**2.55**	**327**	P	**Pn**	**06 25 22.8**	**+1.9**
BOZC	**Bozcaada**	**2.56**	**48**	P	**Pn**	**06 25 20.4**	**-0.6**
THAS	**Thassos island**	**2.60**	**20**	P	**Pn**	**06 25 21.5**	**0.0**
DGB	**zmir**	**2.62**	**91**	P	**Pn**	**06 25 22.6**	**+0.8**
SMG	**Samos**	**2.63**	**99**	P	**Pn**	**06 25 22.8**	**+0.8**
GMLD	**Gumuldur**	**2.65**	**91**	Pn	**Pn**	**06 25 22.1**	**-0.1**
SOH	**Sokhos**	**2.66**	**357**	P	**Pn**	**06 25 23.6**	**+1.2**
AYVA	**Ayvalik**	**2.70**	**64**	P	**Pg**	**06 25 31.9**	**+0.2**
EZN	**Ezine**	**2.72**	**52**	⇑P	**Pb**	**06 25 26.7**	**-1.6**
BLCB	**Balcova**	**2.75**	**84**	Pn	**Pn**	**06 25 24.3**	**+0.7**
SMTH	**Samothraki Isl**	**2.76**	**33**	P	**Pn**	**06 25 23.7**	**-0.1**
ECEA	**Canakkale, Ece**	**2.77**	**46**	P	**Pb**	**06 25 28.2**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**2.81**	**55**	P	**Pn**	**06 25 26.0**	**+1.6**
IGT	**Igoumenitsa**	**2.87**	**299**	*ePn*	**Pn**	**06 25 28.0**	**+2.8**
IGT				*eSn*	**Sn**	**06 26 03.9**	**+4.3**
IGT	**Igoumenitsa**	**2.87**	**299**	P	**Pn**	**06 26 08.1**	**-2.8**
ZEDA	**zmir-Bergama**	**2.87**	**73**	P	**Pb**	**06 25 31.6**	**+0.7**
KAVA	**Kavala**	**2.92**	**14**	P	**Pn**	**06 25 26.1**	**+0.1**
KNDR	**Palaiochora Ch**	**2.93**	**178**	Pn	**Pn**	**06 25 27.5**	**+1.5**
GCAM	**G?zelcaml?**	**2.94**	**98**	P	**Pn**	**06 25 24.5**	**-1.7**
SRS	**Serrai**	**2.95**	**0**	*ePn*	**Pn**	**06 25 27.6**	**+1.2**
SRS				*eSn*	**Sn**	**06 25 56.6**	**-5.0**
SRS	**Serrai**	**2.95**	**0**	P	**Pn**	**06 25 26.7**	**+0.4**
NEST	**Nestorio**	**2.98**	**320**	P	**Pn**	**06 25 28.9**	**+2.1**
KNT	**Kendrikon**	**3.04**	**350**	P	**Pn**	**06 25 29.2**	**+1.6**
BUHA	**Balikesir, Bur**	**3.05**	**63**	P	**Pn**	**06 25 30.2**	**+2.5**
IDI	**Anoyia**	**3.06**	**159**	Pn	**Pn**	**06 25 28.7**	**+0.7**
IDI	**Anoyia**	**3.06**	**159**		**Pn**	**06 25 29.1**	**+1.1**
IDI	**Anoyia**	**3.06**	**159**	Pn	**Pn**

0.2nm,0.3s,baz=252,slow=12,SNR=6.5
BRTR LR LR 06 30 32.0
comp=Z,68nm,18.4s,baz=157,slow=44
1.3nm,0.8s
PLOR Plostina 8.02 16 ⇑P **Pn 06 26 37.4 +1.5**
BLY Banja Luka 8.13 326 *e*Pn **Pn 06 26 37.5 -0.1**
BLY Banja Luka 8.13 326 ⇑P **Pn 06 26 35.7 -1.8**
A050A Klekovaca 8.23 322 *e*Pn **Pn 06 26 40.3 +1.3**
A051A Mrakovica 8.46 326 *e*Pn **Pn 06 26 41.8 -0.3**
TESR Tescani 8.65 14 ⇑P **Pn 06 26 45.6 +1.0**
MORH Mrgy, Hungar 8.83 337 *e*Pn **Pn 06 26 48.0 +0.9**
CAMP Campotosto 8.89 303 **Pn 06 26 50.1 +2.0**
MOSL Moslavina 9.01 328 *e*Pn **Pn 06 26 48.8 -0.7**
NRCA Norcia 9.22 304 **Pn 06 26 54.7 +2.1**
OZLJ Ozalj 9.58 324 *e*Pn **Pn 06 26 57.3 0.0**
BRJN Brijuni 9.97 316 *e*Pn **Pn 06 27 01.6 -1.1**
OBKA Obir 10.67 324 *e*Pn **Pn 06 27 17.1 +4.7**
1.7nm,0.5s
MMAI Mount Meron Ar 10.92 115 Pn **Pn 06 27 16.0 +0.1**
1.0nm,0.3s,baz=290,slow=15,SNR=4.8
0.7nm,0.3s
KEST Kesra 11.63 262 Pn **Pn 06 27 24.9 -0.7**
0.2nm,0.3s,baz=31,slow=12,SNR=1.6
0.7nm,0.4s
VRAC Vranov 12.22 338 LR LR 06 32 21.7
comp=Z,34nm,20.0s,baz=106,slow=38
WTTA Wattenberg 12.62 320 *i* Pn **Pn 06 27 43.2 +4.1**
4.2nm,0.6s
GERES GERESS Array B 12.84 329 Pn **Pn 06 27 42.8 +0.8**
baz=141,slow=13,SNR=1.6
0.2nm,0.3s
FETA Feichten 12.94 317 *e*Pn **Pn 06 27 44.2 +0.8**
0.3nm,0.2s
AKASG Malin Array Be 13.16 16 Pn **Pn 06 27 44.9 -1.4**
0.4nm,0.3s,baz=208,slow=12,SNR=1.3
0.2nm,0.3s
ESDC Sonseca Array 21.44 283 P **P 06 29 27.2 -0.5**
2.6nm,0.7s,baz=75,slow=11,SNR=14
2.6nm,0.7s
BELG Belogornoye 21.97 42 P **P 06 29 31.7 -1.5**
9.4nm,0.7s,baz=270,slow=9.1,SNR=3.8
9.4nm,0.7s
HFS Hagfors 22.86 347 P **P 06 29 42.2 -0.5**
3.0nm,0.7s,baz=159,slow=8.9,SNR=8.5
3.0nm,0.7s
FINES FINESS Array B 23.36 3 P **P 06 29 47.1 -0.5**
2.0nm,0.9s,baz=173,slow=12,SNR=4.8
2.0nm,0.9s
NC602 NORSAR Array S 23.83 345 IAmb IAmb 06 29 55.8
comp=Z,12nm,0.7s
NAO01 NORSAR Array S 24.06 345 IAmb IAmb 06 29 57.7
comp=Z,8.4nm,0.9s
NB201 NORSAR Array S 24.16 345 IAmb IAmb 06 30 03.7
comp=Z,19nm,1.3s
NB2 NORSAR Subarra 24.17 345 P **P 06 29 55.8 +0.2**
comp=Z,5.4nm,0.8s,baz=159,slow=10
NOA NORSAR Array B 24.17 345 P **P 06 29 55.3 -0.3**
comp=Z,3.0nm,0.8s,baz=148,slow=9.7,SNR=10
comp=Z,3.0nm,0.8s
NC204 NORSAR Array S 24.48 345 IAmb IAmb 06 30 03.3
comp=Z,15nm,1.2s
EKA Eskdalemuir Ar 24.86 322 P **P 06 30 01.9 0.0**
comp=Z,0.9nm,0.5s,baz=125,slow=9.6,SNR=8.9
comp=Z,0.9nm,0.8s
ARCES ARCESS Array B 31.45 1 P **P 06 31 01.1 +0.5**
comp=Z,1.8nm,0.8s,baz=188,slow=8.6,SNR=1.8
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 31.61 224 P **P 06 31 02.3 -0.1**
TORD IAmb IAmb 06 31 07.5
comp=Z,2.5nm,0.7s
TORD Torodi Ar. Bea 31.61 224 P **P 06 31 02.5 0.0**
comp=Z,6.9nm,0.7s,baz=30,slow=10,SNR=22
comp=Z,6.9nm,0.7s
KURBB Kurchatov Arra 40.31 54 P **P 06 32 17.7 +1.1**
comp=Z,1.7nm,0.6s,baz=280,slow=8.7,SNR=15
comp=Z,1.7nm,0.6s
DBIC Dimbokro 40.57 227 P **P 06 32 21.3 +2.2**
comp=Z,12nm,0.8s,baz=59,slow=9.8,SNR=9.4
comp=Z,12nm,0.8s
MKAR Makanchi Array 43.26 59 P **P 06 32 41.7 +0.9**
MKAR Makanchi Array 43.26 59 P **P 06 32 41.9 +1.0**
comp=Z,2.2nm,0.5s,baz=277,slow=7.1,SNR=24
comp=Z,2.2nm,0.5s
ZALV Zalesovo Beam 43.91 48 P **P 06 32 45.5 -0.5**
ZALV Zalesovo Beam 43.91 48 P **P 06 32 45.6 -0.3**
comp=Z,1.7nm,0.6s,baz=278,slow=5.7,SNR=5.6
comp=Z,1.7nm,0.6s
SONM Songino Array 58.60 52 P **P 06 34 35.3 -1.1**
comp=Z,0.9nm,0.6s,baz=289,slow=8.8,SNR=2.7
comp=Z,0.9nm,0.6s
SCHQ Schefferville 60.08 318 P **P 06 34 46.7 +0.3**
SCHQ Schefferville 60.08 318 P **P 06 34 46.7 +0.3**
comp=Z,2.4nm,0.4s,baz=74,slow=5.5,SNR=14
comp=Z,2.4nm,0.4s
YKA Yellowknife Ar 74.20 341 P **P 06 36 15.1 -0.7**
comp=Z,0.5nm,0.6s,baz=13,slow=14,SNR=2.6
comp=Z,0.5nm,0.6s
TXAR Lajitas Array 96.69 316 P **P 06 38 10.3 +0.1**
comp=Z,0.1nm,0.7s,baz=30,slow=2.7,SNR=1.6
comp=Z,0.1nm,0.7s

---

*IDC **27** 06:31:15.3±0.5, 1°.44N×122°.60E, h0km, mb4.3/16, mbtmp4.3/18, ML4.6/2, MS3.6/8, Error ellipse: s-maj=31.4km s-min=11.7km az=73.0*
*DJA **27** 06:31:20.6±0.5, 2°N±2°×12°2E±1°, h34km±5km, M5.0/37, mB5.8/6, mb4.8/37, MLv4.9/22, Mw(mB)5.3/6*
*NEIC **27** 06:31:24.0±1.4, 1°.22N±0°.07×122°.17E±0°.08, h52km±7km, mb4.6/37, Error ellipse: s-maj=13.4km s-min=8.2km az=48.0*

ISC 27 06:31:21.6±0.3, **1°.33N**±0°.05×**122°.44E**±0°.05, **h38**km, **n125, s1s47/123, mb4.6/43, MS3.8/10, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.98**	**210**	P	**Pn**	**06 31 38.5**	**-0.3**
TOLI2	**Tolitoli**	**1.67**	**263**		**Pn**	**06 31 46.3**	**-2.0**
TOLI	**Tolitoli**	**1.67**	**263**	P	**Pn**	**06 31 49.0**	**+0.7**
KMSI	**Cibinong**	**1.71**	**116**	P	**Pn**	**06 31 49.3**	**+0.4**
APSI	**Ampana**	**2.36**	**200**	P	**Pn**	**06 31 59.7**	**+1.9**
LUWI	**Luwuk**	**2.38**	**172**		**Pn**	**06 32 00.7**	**+2.7**
LUWI	**Luwuk**	**2.38**	**172**	P	**Pn**	**06 32 00.4**	**+2.3**
LUWI	**Luwuk**	**2.38**	**172**	P	**Pn**	**06 32 00.2**	**+2.1**
PCI	**Palu**	**3.42**	**230**	P	**Pn**	**06 32 13.6**	**+1.2**
SGSI	**Sangihe**	**3.88**	**53**	P	**Pn**	**06 32 15.2**	**-3.5**
SANI	**Sanana**	**4.88**	**133**	P	**Pn**	**06 32 32.7**	**+0.2**
SANI	**Sanana**	**4.88**	**133**	P	**Pn**	**06 32 32.5**	**0.0**
TTSI	**Tana Toraja**	**5.07**	**211**	P	**Pn**	**06 32 37.3**	**+2.2**
KDI	**Kendari**	**5.25**	**178**	P	**Pn**	**06 32 40.5**	**+2.9**
MYLDM	**Lahad Datu**	**5.49**	**314**		**Pn**	**06 32 41.8**	**+1.0**
MYLDM	**Lahad Datu**	**5.49**	**314**	P	**Pn**	**06 32 43.4**	**+2.6**
SPSI	**Sidrap Palu**	**5.89**	**207**	P	**Pn**	**06 32 48.4**	**+2.0**
	0.7nm2µm159nm,0.8s						
BNSI	**Bone**	**6.15**	**202**	P	**Pn**	**06 32 53.3**	**+3.4**
NLAI	**Namlea**	**6.50**	**134**	P	**Pn**	**06 32 55.6**	**+0.8**
	0.5nm106nm,0.6s						
DAV	**Davao City (W)**	**6.51**	**29**	LR	LR	06 35 45.2	
	comp=Z,532nm,18.5s,baz=205,slow=43						
KAPI	**Kappang**	**6.85**	**203**		**Pn**	**06 32 59.0**	**-0.5**
KAPI	**Kappang**	**6.85**	**203**	Pn	**Pn**	**06 33 01.3**	**+1.8**
	5.3nm,0.3s,baz=354,slow=10,SNR=12						
KAPI					Sn	**06 34 13.5**	**-2.7**
	baz=66,slow=20						
KAPI				LR	LR	06 36 04.0	
	comp=Z,296nm,19.8s,baz=94,slow=41						
	10nm,0.4s						
KAPI	**Kappang**	**6.85**	**203**	P	**Pn**	**06 33 00.6**	**+1.1**
BKSI	**Bulukumba**	**7.00**	**199**	P	**Pn**	**06 33 03.5**	**+1.9**
	0.2nm60nm,0.6s						
BSSI	**Bau Bau, Buton**	**7.67**	**195**	P	**Pn**	**06 33 13.5**	**+2.7**
	0.4nm60nm,0.7s						
MSAI	**Masohi**	**7.98**	**126**	P	**Pn**	**06 33 16.0**	**+0.9**
	4µm155nm,0.8s						
EDFI	**Ende, Flores**	**10.04**	**184**	P	**Pn**	**06 33 45.6**	**+2.2**
	17nm,0.6s						
WBSI	**Waikabubak, Su**	**11.31**	**195**	P	**Pn**	**06 34 02.6**	**+1.8**
	39nm,1.1s						
TWSI	**Taliwang, Sumb**	**11.43**	**209**	P	**Pn**	**06 34 04.5**	**+2.1**
	27nm,0.9s						
BATI	**Baumata**	**11.52**	**174**	P	**Pn**	**06 34 05.0**	**+1.3**
	137nm,1.4s						
KPJI	**Karang Pucung**	**15.99**	**237**	P	**Pn**	**06 35 04.2**	**+0.4**
	45nm,0.8s						
MTN	**Manton Dam**	**16.51**	**149**		**P**	**06 35 11.7**	**-1.0**
KNRA	**Kununurra**	**18.02**	**160**		**P**	**06 35 30.1**	**+0.8**
KNRA				IAmb	IAmb	06 35 33.3	
	comp=Z,19nm,0.6s						
MDSI	**Maura Dua**	**19.14**	**252**	P	**Pn**	**06 35 42.3**	**-0.5**
	comp=Z,40nm,1.1s						
KASI	**Kota Agung**	**19.17**	**249**	P	**Pn**	**06 35 43.1**	**-0.1**
	comp=Z,37nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.56**	**171**		**P**	**06 35 46.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.56**	**171**	P	**P**	**06 35 46.1**	**-0.1**
	comp=Z,1nm,0.3s,baz=3.8,slow=7.7,SNR=67						
	comp=Z,11nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.56**	**171**	P	**P**	**06 35 46.1**	**-0.1**
KSI	**Kapahiang**	**20.44**	**256**	P	**P**	**06 35 56.1**	**+0.1**
PDSI	**Padang**	**22.09**	**264**	P	**P**	**06 36 13.8**	**+0.1**
PPI	**Padang Panjang**	**22.11**	**266**	P	**P**	**06 36 13.0**	**-0.9**
	comp=Z,27nm,1.0s						
MBWA	**Marble Bar**	**22.50**	**187**	P	**P**	**06 36 16.6**	**-1.4**
MBWA	**Marble Bar**	**22.50**	**187**	P	**P**	**06 36 18.9**	**+0.8**
PSA00	**Pilbara Seismi**	**22.90**	**186**	P	**P**	**06 36 20.7**	**-1.6**
PSA00	**Pilbara Seismi**	**22.90**	**186**	P	**P**	**06 36 21.2**	**-1.0**
RPSI	**Rantau Prapat**	**23.54**	**274**	P	**P**	**06 36 27.8**	**-0.9**
RPSI				IAmb	IAmb	06 36 46.2	
	comp=Z,40nm,1.5s						
TSI	**Tuntungan**	**23.95**	**276**	P	**P**	**06 36 32.6**	**+0.1**
WB0	**Warramunga Arr**	**24.02**	**151**		**P**	**06 36 32.5**	**-0.7**
WB0				IAmb	IAmb	06 36 34.0	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**24.15**	**152**	P	**P**	**06 36 33.3**	**-1.0**
WRA	**Warramunga Arr**	**24.15**	**152**	P	**P**	**06 36 33.4**	**-1.0**
	comp=Z,8.9nm,0.7s,baz=327,slow=11,SNR=104						
WRA				PcP	**PcP**	**06 40 13.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=314,slow=2.7,SNR=2.1						
	comp=Z,8.9nm,0.7s						
WB2	**Warramunga Arr**	**24.15**	**152**	P	**P**	**06 36 34.0**	**-0.4**
WB2				IAmb	IAmb	06 36 35.2	
	comp=Z,15nm,0.7s						
WR8	**Warramunga Arr**	**24.24**	**151**		**P**	**06 36 34.7**	**-0.4**
WR8				IAmb	IAmb	06 36 35.3	
	comp=Z,14nm,0.6s						
KCSI	**Kotacane, Aceh**	**24.74**	**276**	P	**P**	**06 36 39.4**	**-0.4**
	comp=Z,14nm,1.1s						
GSI	**Gunungsitoli**	**24.86**	**270**		**P**	**06 36 39.1**	**-1.7**
GSI	**Gunungsitoli**	**24.86**	**270**	P	**P**	**06 36 40.2**	**-0.6**
	comp=Z,56nm,0.8s						
COEN	**Coen**	**25.55**	**127**	P	**P**	**06 36 47.4**	**+0.2**
COEN				IAmb	IAmb	06 36 56.7	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**25.55**	**127**	P	**P**	**06 36 46.9**	**-0.2**
JOW	**Kunigami**	**25.97**	**12**	LR	LR	06 48 07.0	
	comp=Z,109nm,19.3s,baz=104,slow=39						
AS31	**Alice Springs**	**27.23**	**157**		**P**	**06 37 02.0**	**-0.3**
ASAR	**Alice Springs**	**27.23**	**157**	P	**P**	**06 37 03.0**	**+0.8**
ASAR	**Alice Springs**	**27.23**	**157**	P	**P**	**06 37 01.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=345,slow=14,SNR=38						
ASAR				PcP	**PcP**	**06 40 20.7**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=333,slow=1.9,SNR=7.2						
ASAR				LR	LR	06 48 49.4	
	comp=Z,146nm,19.3s,baz=295,slow=39						
	comp=Z,1.0nm,0.5s						
AS01	**Alice Springs**	**27.25**	**156**	P	**P**	**06 37 02.4**	**0.0**
QIS	**Mount Isa**	**27.49**	**143**	P	**P**	**06 37 05.0**	**+0.4**
MEEK	**Meekatharra**	**28.05**	**187**	P	**P**	**06 37 08.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**28.66**	**308**	P	**P**	**06 37 15.7**	**+0.7**
	comp=Z,7.0nm,0.3s,baz=121,slow=9.3,SNR=1.1						
	comp=Z,0.7nm,0.3s						
NJ2	**Nanjing**	**30.75**	**354**	*e*P	**P**	**06 37 37.0**	**+3.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MORW	**Morawa**	**30.84**	**191**	P	**P**	**06 37 32.9**	**-1.2**
MORW				IAmb	IAmb	06 37 37.8	
	comp=Z,19nm,1.2s						
MORW	**Morawa**	**30.84**	**191**	P	**P**	**06 37 33.0**	**-1.2**
CTAO	**Charters Tower**	**31.59**	**134**	P	**P**	**06 37 42.0**	**+1.0**
CTAO				IAmb	IAmb	06 38 24.9	
	comp=Z,17nm,1.4s						
PZH	**PanZhiHua**	**31.98**	**323**	P	**P**	**06 37 47.3**	**+2.9**
BLDU	**Ballidu**	**32.23**	**189**	P	**P**	**06 37 44.9**	**-1.5**
JNU	**Nakatsue**	**32.61**	**13**	LR	LR	06 51 28.4	
	comp=Z,65nm,19.9s,baz=218,slow=37						
INKA	**Innaminka**	**33.84**	**150**	P	**P**	**06 38 01.0**	**+0.5**
INKA				IAmb	IAmb	06 38 02.0	
	comp=Z,5.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**34.42**	**188**	P	**P**	**06 38 04.3**	**-1.2**
TIA	**Tai'an**	**35.06**	**353**	P	**P**	**06 38 13.5**	**+2.6**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BBOO	**Buckleboo**	**36.31**	**160**	P	**P**	**06 38 21.6**	**-0.1**
BBOO				IAmb	IAmb	06 39 01.4	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**37.69**	**153**	P	**P**	**06 38 33.5**	**0.0**
	comp=Z,6.6nm,0.5s,baz=317,slow=9.1,SNR=17						
	comp=Z,6.6nm,0.5s						
MJAR	**Matsushiro Arr**	**37.96**	**21**	P	**P**	**06 38 34.5**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=200,slow=8.6,SNR=5.7						
MJAR				LR	LR	06 55 32.0	
	comp=Z,69nm,18.4s,baz=220,slow=38						
	comp=Z,2.4nm,0.7s						
LZH	**Lanzhou**	**38.65**	**336**	*e*P	**P**	**06 38 37.8**	**-3.9**
LZH				pP	pP	06 38 52.5	+0.9
LZH				sP	sP	06 38 59.0	+3.6
LZH				pmax	pmax		
	comp=Z,57nm,1.0s						
LZH				LR	LR		
	comp=N,290nm,16.0s						
LZH				LR	LR		
	comp=E,380nm,16.0s						
LZH				LR	LR		
	comp=Z,490nm,18.2s						
HHC	**Hu-ho-hao-te**	**40.55**	**347**	*e*P	P	06 39 02.5	+5.1
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
HHC				LR	LR		
	comp=N,170nm,18.5s						
HHC				LR	LR		
	comp=E,130nm,11.8s						
HHC				LR	LR		
	comp=Z,190nm,16.0s						
ARMA	**Armidale**	**42.07**	**141**	P	**P**	**06 39 11.3**	**+1.3**
ARMA				IAmb	IAmb	06 39 25.5	
	comp=Z,6.9nm,0.8s						
XLT	**XiLinHaoTe**	**42.77**	**353**	*e*P	**P**	**06 39 18.8**	**+3.3**
XLT				pP	pwP	06 39 33.5	+4.0
XLT				sP	sP	06 39 41.8	+13
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
EVN	**Everest**	**43.15**	**311**	P	**P**	**06 39 19.1**	**-0.4**
GTA	**Gaotai**	**43.16**	**334**	*e*P	**P**	**06 39 21.0**	**+2.2**
GTA				pP	sP	06 39 33.0	+0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA				LR	LR		
	comp=N,180nm,14.3s						
GTA				LR	LR		
	comp=E,130nm,16.7s						
GTA				LR	LR		
	comp=Z,120nm,18.7s						
CAN	**Canberra**	**44.11**	**148**	P	**P**	**06 39 27.5**	**+1.1**
CAN				IAmb	IAmb	06 39 29.1	
	comp=Z,18nm,0.9s						
ASAJ	**Asahikawa**	**46.22**	**20**	LR	LR	06 56 56.5	
	comp=Z,56nm,21.0s,baz=193,slow=34						
SONM	**Songino Array**	**48.37**	**346**	P	**P**	**06 39 58.2**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=161,slow=9.2,SNR=7.0						
	comp=Z,2.8nm,1.0s						
HEH	**HeiHe**	**48.93**	**4**	*e*P	**P**	**06 40 04.3**	**+0.4**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WMQ	**Urumqi**	**52.37**	**329**	*e*P	**P**	**06 40 32.5**	**+2.4**
WMQ				LR	LR		
	comp=N,480nm,19.7s						
WMQ				LR	LR		
	comp=E,390nm,23.9s						
KSH	**Kashi**	**56.82**	**318**	P	**P**	**06 41 04.0**	**+1.5**
KSH				pP	sP	06 41 20.0	+3.2
KSH				sP	pwP	06 41 29.0	+13
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**57.20**	**328**	P	**P**	**06 41 05.2**	**+0.3**
MKAR	**Makanchi Array**	**57.20**	**328**	P	**P**	**06 41 05.3**	**+0.4**
	comp=Z,3.5nm,0.4s,baz=125,slow=8.8,SNR=41						
	comp=Z,3.5nm,0.4s						
AAK	**Ala-Archa**	**59.35**	**320**	P	**P**	**06 41 20.6**	**+0.4**
AAK				IAmb	IAmb	06 41 21.9	
	comp=Z,3.8nm,0.8s						
KBL	**Kabul**	**59.66**	**310**	P	**P**	**06 41 22.0**	**-0.5**
KBL				IAmb	IAmb	06 41 23.2	
	comp=Z,9.0nm,0.8s						
ARSB	**Arslanbob**	**59.69**	**318**	P	**P**	**06 41 22.1**	**-0.5**
ARSB				IAmb	IAmb	06 41 23.8	
	comp=Z,7.0nm,1.0s						
GAR	**Garm**	**60.48**	**315**	P	**P**	**06 41 27.4**	**-0.5**
ZALV	**Zalesovo Beam**	**60.88**	**336**	P	**P**	**06 41 32.1**	**+1.9**
ZALV	**Zalesovo Beam**	**60.88**	**336**	P	**P**	**06 41 29.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=124,slow=7.8,SNR=2.0						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra 61.54 330**			P	**P**	**06 41 34.2**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=130,slow=6.2,SNR=26						
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov 61.55 330**			P	**P**	**06 41 34.6**	**-0.3**
KK31	**Karatay Array 62.15 319**			P	**P**	**06 41 39.0**	**-0.1**
KKAR	**Karatay Array 62.15 319**			P	**P**	**06 41 39.1**	**0.0**
RPZ	**Rata Peaks 62.39 142**			P	**P**	**06 41 42.2**	**+1.5**
KHZ	**Kahutara 63.29 140**			P	**P**	**06 41 47.4**	**+0.8**
BKZ	**Black Stump Fm 63.79 135**			P	**P**	**06 41 50.2**	**+0.1**
BVAR	**Borovoye Array 67.06 329**			P	**P**	**06 42 10.2**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=150,slow=9.6,SNR=8.7						
	comp=Z,2.3nm,0.8s						
AB31	**Akbulak array 71.34 322**			P	**P**	**06 42 37.3**	**-0.2**
ABKAR	**Akbulak array 71.34 322**			P	**P**	**06 42 36.8**	**-0.8**
VOI	**Vohitsoka 77.19 247**			P	**P**	**06 43 10.3**	**-2.0**
MAW	**Mawson 80.05 200**			P	**P**	**06 43 26.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=28,slow=2.0,SNR=6.3						
	comp=Z,1.2nm,0.6s						
VNDA	**Vanda 81.63 172**			P	**P**	**06 43 35.2**	**0.0**
VNDA				IAmb	IAmb	06 43 48.4	
	comp=Z,4.9nm,0.8s						
VNDA	**Vanda 81.63 172**			P	**P**	**06 43 35.3**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=320,slow=6.6,SNR=23						
VNDA				LR	LR	07 18 08.5	
	comp=Z,59nm,19.9s,baz=332,slow=34						
	comp=Z,3.4nm,0.6s						
HATHI	**Halema'uma'u T 82.30 71**			P	**P**	**06 43 42.5**	**+2.4**
L16K	**Owhat River 83.19 28**			P	**P**	**06 43 44.5**	**+0.8**
L16K				IAmb	IAmb	06 43 46.9	
	comp=Z,12nm,1.4s						
M16K	**Timber Creek 83.32 29**			P	**P**	**06 43 44.8**	**+0.4**
M16K				IAmb	IAmb	06 44 11.3	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array 89.10 25**			P	**P**	**06 44 10.8**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=259,slow=5.3,SNR=2.2						
	comp=Z,0.1nm,0.5s						
ARCES	**ARCESS Array B 91.20 340**			P	**P**	**06 44 20.2**	**-2.2**
	comp=Z,1.9nm,0.8s,baz=69,slow=6.6,SNR=3.5						
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui 91.25 180**			P	**P**	**06 44 23.6**	**+0.8**
QSPA				IAmb	IAmb	06 44 36.9	
	comp=Z,2.5nm,0.8s						
QSPA	**South Pole Qui 91.25 180**			P	**P**	**06 44 23.5**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=298,slow=1.1,SNR=18						
	comp=Z,2.0nm,0.7s						
SPITS	**Spitsbergen Ar 91.98 349**			P	**P**	**06 44 23.9**	**-2.0**
	comp=Z,4.6nm,0.7s,baz=99,slow=10,SNR=4.6						
	comp=Z,4.6nm,0.7s						
TORD	**Torodi Ar. Bea 119.51 286**			PKP	**PKPdf**	**06 50 06.7**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=112,slow=1.6,SNR=5.6						
TXAR	**Lajitas Array 126.44 51**			PKP	**PKPdf**	**06 50 21.1**	**-0.2**
	comp=Z,0.1nm,0.7s,baz=333,slow=4.2,SNR=3.5						
PLCA	**Paso Flores 139.05 165**			PKP	**PKPdf**	**06 50 44.6**	**-0.1**
	comp=Z,1.6nm,1.1s,baz=229,slow=2.3,SNR=3.2						
LPAZ	**La Paz 161.85 146**			PKPab	**PKPab**	**06 52 05.0**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=221,slow=5.4,SNR=1.4						
BDFB	**Brasilia 162.94 213**			PKPab	**PKPab**	**06 52 09.5**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=228,slow=1.5,SNR=5.0						

---

*AFAD **27** 06:46:43.2, 41°.31N×43°.97E, h7km±3km, ML2.3*
*AZER **27** 06:46:44.4, 41°.21N×44°.11E, h7km, ml2.8*
*DRS **27** 06:46:44.3, 41°.35N×43°.84E, h0km*

ISC 27 06:46:44.1±1.3, **41°.32N**±0°.03×**43°.86E**±0°.02, **h0**km±11km, **n30, s1s08/57, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.87**	**283**	P	**Pb**	**06 47 02.1**	**-0.2**
EPOS				S	**Sn**	**06 47 15.6**	**-1.7**
EPOS				*i* IAML		06 47 17.0	
	comp=E,73nm,0.2s						
EPOS				*i* IAML		06 47 19.0	
	comp=N,106nm,0.3s						
AHAN	**Ardahan-Merkez**	**0.95**	**261**	P	**Pg**	**06 47 02.3**	**0.0**
DIGO	**Kars**	**0.98**	**202**	P	**Pb**	**06 47 04.0**	**0.0**
DIGO				S	**Sb**	**06 47 17.0**	**-0.5**
BOZK	**Kars-Merkez-Bo**	**0.99**	**223**	P	**Pn**	**06 47 04.7**	**-0.7**
BOZK				S	**Sn**	**06 47 18.5**	**-1.7**
GOLE	**Ardahan-G¶le**	**1.07**	**244**	P	**Pn**	**06 47 06.1**	**-0.5**
GOLE				S	**Sn**	**06 47 22.2**	**0.0**
GOLE				*i* IAML		06 47 23.0	
	comp=N,194nm,0.5s						
GOLE				*i* IAML		06 47 23.0	
	comp=E,214nm,0.4s						
QZX	**Qazax, Azerbai**	**1.17**	**102**	P	**Pg**	**06 47 05.5**	**-1.1**
QZX				S	**Sg**	**06 47 20.1**	**-1.6**
IGDI	**IGDIR**	**1.46**	**173**	P	**Pn**	**06 47 11.0**	**-0.8**
IGDI				S	**Sn**	**06 47 30.9**	**-0.6**
IGDI				*i* IAML		06 47 31.0	
	comp=N,79nm,0.3s						
IGDI				*i* IAML		06 47 31.0	
	comp=E,51nm,0.4s						
GDB	**GEDABAY**	**1.55**	**112**	P	**Pn**	**06 47 12.0**	**-1.1**
GDB				S	**Sn**	**06 47 31.7**	**-2.3**
KOTA	**Agri, Merkez-K**	**1.59**	**198**	P	**Pg**	**06 47 15.5**	**+0.8**
DDEM	**Demirkent**	**1.65**	**256**	P	**Pb**	**06 47 15.1**	**-0.3**
DDEM				S	**Sg**	**06 47 38.2**	**+1.0**
DBOC	**Borcka**	**1.65**	**272**	P	**Pg**	**06 47 15.5**	**-0.3**
DBOC				S	**Sg**	**06 47 38.1**	**+0.8**
DBOC				*i* IAML		06 47 40.0	
	comp=E,53nm,0.6s						
DBAD	**Bademkaya**	**1.66**	**260**	P	**Pg**	**06 47 15.8**	**-0.2**
HYR	**Heyderabad**	**1.77**	**154**	P	**Pn

AKT				*e*Sn		**Sn**	**06 48 09.8**	**+2.3**
	34nm,0.4s							
XNQ	**Khinaliq**	**3.23**	**91**	P		**Pn**	**06 47 36.1**	**-0.1**
XNQ				S		**Sn**	**06 48 15.8**	**+0.3**

*IDC **27** 06:52:09.5±0.7,14˚.24N×144˚.45E, h0km, mb4.0/11, mbtmp4.0/11, MS3.2/4, Error ellipse: s-maj=30.9km s-min=11.5km az=62.0*

ISC 27 06:52:13.4±1.2, 14˚.3N±0˚.2×144˚.6E±0˚.3, h35km, n22, σ1$44/6, mb4.0/11, MS3.1/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.78**	**157**	Pn	**Pn**	**06 52 27.7**	**-0.2**
	89nm,0.3s,baz=345,slow=19,SNR=28						
GUMO				Sn	**Sn**	**06 52 38.8**	**+0.6**
	148nm,0.3s,baz=6.6,slow=24,SNR=10						
GUMO				LR	LR	06 52 49.1	
	comp=Z,322nm,19.3s,baz=248,slow=52						
JCJ	**Chichijima**	**12.91**	**351**	LR	LR	06 58 35.0	
	comp=Z,27nm,19.2s,baz=124,slow=30						
H11S3	**WAKE ISLAND Hy**	**21.63**	**76**	T	T	07 19 44.6	
	baz=262,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.64**	**76**	T	T	07 19 41.1	
	baz=262,slow=75						
H11S2	**WAKE ISLAND Hy**	**21.65**	**76**	T	T	07 19 43.4	
	baz=262,slow=75						
H11N1	**WAKE ISLAND Hy**	**22.02**	**73**	T	T	07 20 08.2	
	baz=259,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**22.02**	**73**	T	T	07 20 09.6	
	baz=259,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**22.03**	**73**	T	T	07 20 09.5	
	baz=259,slow=75,SNR=31						
MJAR	**Matsushiro Arr**	**22.86**	**347**	P	**P**	**06 57 13.3**	**-0.4**
	2.0nm,0.6s,baz=167,slow=9.6,SNR=6.4						
	2.0nm,0.6s						
KSRS	**Korea Array**	**27.39**	**330**	P	**P**	**06 57 57.7**	**+2.2**
	0.7nm,0.5s,baz=146,slow=13,SNR=2.3						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**35.49**	**197**	P	P	06 59 07.5	+0.6
	2.0nm,0.9s,baz=7.4,slow=9.4,SNR=9.0						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**39.15**	**196**	P	P	06 59 38.9	+1.0
	0.3nm,0.7s,baz=19,slow=11,SNR=6.0						
ASAR				LR	LR	07 16 12.7	
	comp=Z,133nm,20.3s,baz=290,slow=37						
	0.3nm,0.7s						
PETK	**Petropavlovsk-**	**40.09**	**12**	LR	LR	07 14 56.6	
	comp=Z,22nm,19.4s,baz=245,slow=34						
CMAR	**Chiang Mai Arr**	**43.87**	**282**	P	**P**	**07 00 16.0**	**-0.7**
	1.7nm,0.3s,baz=88,slow=8.1,SNR=4.8						
	1.7nm,0.3s						
SHEM	**Shemya Is, Ala**	**44.94**	**25**	LR	LR	07 15 20.7	
	comp=Z,27nm,21.6s,baz=268,slow=31						
SONM	**Songino Array**	**45.37**	**325**	P	P	07 00 34.4	+1.2
	0.9nm,0.6s,baz=142,slow=5.1,SNR=2.5						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**60.77**	**316**	P	P	07 02 23.4	+1.6
	1.9nm,0.8s,baz=93,slow=9.7,SNR=7.5						
	1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**60.87**	**324**	P	P	07 02 25.2	+2.9
	0.8nm,0.6s,baz=108,slow=7.7,SNR=1.9						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**63.88**	**320**	P	P	07 02 43.6	+1.1
	4.3nm,0.8s,baz=101,slow=6.7,SNR=40						
	4.3nm,0.8s						
BVAR	**Borovoye Array**	**69.18**	**322**	P	P	07 03 17.4	+1.1
	2.2nm,0.7s,baz=93,slow=5.9,SNR=7.2						
	2.2nm,0.7s						
NVAR	**Mina Array Bea**	**86.71**	**51**	P	P	07 04 56.4	+2.1
	0.3nm,0.5s,baz=290,slow=6.9,SNR=2.5						
	0.3nm,0.5s						
LPAZ	**La Paz**	**148.43**	**98**	PKPbc	**PKPab**	**07 12 00.7**	**-0.6**
	0.7nm,0.6s,baz=287,slow=2.9,SNR=4.9						

*AFAD **27** 07:00:01.5, 37˚.83N×29˚.55E, h7km±3km, ML2.3*
*ISK **27** 07:00:01.6, 37˚.83N×29˚.53E, h11km, ML2.6/8*

ISC 27 07:00:01.5±1.0, 37˚.84N±0˚.03×29˚.57E±0˚.03, h12km±7km, n14, σ0$43/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.13**	**178**	P	**Pg**	**07 00 04.4**	**-0.4**
INCE				*i* IAML		07 00 07.0	
	comp=N,1μm,0.3s						
INCE				S	**Sg**	**07 00 07.2**	**+0.1**
INCE				*i* IAML		07 00 09.0	
	comp=E,1μm,0.6s						
BASM	**Basmaki-Afyon**	**0.39**	**77**	Pg	**Pb**	**07 00 10.0**	**-0.3**
BRDR	**BURDUR-Merkez**	**0.41**	**109**	P	**Pg**	**07 00 09.7**	**0.0**
BRDR				S	**Sb**	**07 00 17.1**	**+0.1**
BRDR				*i* IAML		07 00 18.0	
	comp=E,162nm,0.4s						
BRDR				*i* IAML		07 00 19.0	
	comp=N,239nm,0.2s						
APMY	**Acipayam-Deniz**	**0.42**	**211**	Pg	**Pg**	**07 00 09.5**	**-0.3**
APMY				Sg	**Sg**	**07 00 16.2**	**+0.8**
DNIZ	**Denizli-Tavas-**	**0.47**	**244**	P	**Pg**	**07 00 10.8**	**+0.1**
DNIZ				S	**Sb**	**07 00 18.3**	**-0.3**
DNIZ				*i* IAML		07 00 19.0	
	comp=E,772nm,0.3s						
DNIZ				*i* IAML		07 00 19.0	
	comp=N,1μm,0.3s						
KHL	**Karahalli**	**0.49**	**356**	Pg	**Pb**	**07 00 11.8**	**-0.2**
PASA	**Karahalli, USA**	**0.52**	**353**	P	**Pg**	**07 00 11.6**	**0.0**
PASA				S	**Sg**	**07 00 19.0**	**+0.5**
PASA				*i* IAML		07 00 19.0	
	comp=E,264nm,0.2s						
PASA				*i* IAML		07 00 20.0	
	comp=N,155nm,0.2s						
GOLH	**Golhisar**	**0.60**	**181**	P	**Pg**	**07 00 12.8**	**-0.4**
GOLH				S	**Sb**	**07 00 23.0**	**+0.7**
GOLH				*i* IAML		07 00 25.0	
	comp=E,109nm,0.5s						
TAVA	**DENIZLI_Tavas**	**0.64**	**235**	P	**Pg**	**07 00 13.3**	**-0.6**
TAVA				S	**Sb**	**07 00 23.2**	**-0.3**
ISP	**Isparta**	**0.75**	**91**	Pg	**Pb**	**07 00 16.7**	**+0.1**
ISP				Sg	**Sn**	**07 00 28.8**	**-0.6**
CAME	**Cameli-Denizli**	**0.92**	**194**	Pg	**Pb**	**07 00 19.3**	**0.0**
CAME				Sg	**Sb**	**07 00 32.3**	**+0.8**
KULA	**Kula-Manisa**	**0.99**	**314**	Pg	**Pb**	**07 00 20.7**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.02**	**278**	Pg	**Pg**	**07 00 21.1**	**0.0**
ODEM	**Odemis-İzmir**	**1.26**	**291**	Pn	**Pg**	**07 00 25.4**	**-0.3**

*ISK **27** 07:00:23.4, 38˚.92N×29˚.93E, h6km, ML3.0/29*
*AFAD **27** 07:00:23.9, 38˚.93N×29˚.85E, h8km±2km, ML2.6*

ISC 27 07:00:23.2±1.4, 38˚.95N±0˚.02×29˚.94E±0˚.03, h1km±12km, n35, σ1$04/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNAZ	**Uak-Banaz**	**0.27**	**189**	P	**Pg**	**07 00 29.3**	**+0.9**
BNAZ				S	**Sg**	**07 00 33.7**	**+1.8**
GEDZ	**Gediz**	**0.42**	**283**	Pg	**Pb**	**07 00 32.2**	**-1.3**
GEDZ				Sg	**Sb**	**07 00 38.5**	**-2.0**
SHAP	**Saphane-Kutahy**	**0.56**	**278**	Pg	**Pb**	**07 00 34.8**	**-1.1**
SHAP				Sg	**Sb**	**07 00 43.0**	**-1.5**
TVSB	**Tavsanli**	**0.62**	**324**	Pg	**Pg**	**07 00 35.0**	**-0.2**
KHL	**Karahalli**	**0.70**	**208**	Pg	**Pg**	**07 00 36.9**	**+0.2**
KHL				Sg	**Sb**	**07 00 46.7**	**-1.8**
SMAA	**Simav-Kutahya**	**0.76**	**282**	Pg	**Pg**	**07 00 38.4**	**-0.9**
SMAA				Sg	**Sb**	**07 00 49.6**	**-0.6**
CIFT	**Ciftеler, Eski**	**0.97**	**64**	Pg	**Pg**	**07 00 40.6**	**-1.2**
BASM	**Basmaki-Afyon**	**1.03**	**175**	Pg	**Pg**	**07 00 42.9**	**-0.1**
KULA	**Kula-Manisa**	**1.09**	**247**	Pg	**Pb**	**07 00 44.3**	**-0.6**
BRDR	**BURDUR-Merkez**	**1.25**	**175**	P	**Pb**	**07 00 46.4**	**-1.4**
BRDR				S	**Sn**	**07 01 07.1**	**+1.5**
BRDR				*i* IAML		07 01 10.0	
	comp=N,241nm,0.7s						
INCE	**Denizli-Bozkur**	**1.27**	**193**	P	**Pn**	**07 00 48.5**	**+0.3**
INCE				S	**Sn**	**07 01 07.7**	**+1.8**
INCE				*i* IAML		07 01 14.0	
	comp=E,149nm,0.9s						
INCE				*i* IAML		07 01 14.0	
	comp=N,104nm,0.5s						
ORLT	**Orhaneli**	**1.36**	**324**	Pn	**Pg**	**07 00 49.9**	**+0.6**
GPA	**Golpazari**	**1.37**	**12**	Pn	**Pn**	**07 00 49.4**	**-0.2**
GORD	**Gordes-Manisa**	**1.37**	**269**	Pn	**Pg**	**07 00 49.7**	**+0.2**
GORD				Sn	**Sn**	**07 01 08.8**	**+0.3**
ADVT	**Abdulvahap**	**1.49**	**354**	Pn	**Pb**	**07 00 51.6**	**-0.2**
GULT	**Gulveren**	**1.55**	**17**	Pn	**Pn**	**07 00 52.5**	**+0.4**
APMY	**Acipayam-Deniz**	**1.56**	**199**	Pn	**Pb**	**07 00 52.0**	**-0.9**
GOMA	**Golmarmara-Man**	**1.59**	**262**	Pn	**Pb**	**07 00 52.8**	**-0.7**
ODEM	**Odemis-Izmir**	**1.60**	**246**	Pn	**Pb**	**07 00 52.8**	**-0.9**
NAZL	**Nazilli-Aydin**	**1.62**	**233**	Pn	**Pb**	**07 00 52.9**	**-1.1**
MDNY	**Mudanya-Bursa**	**1.64**	**331**	Pn	**Pb**	**07 00 53.7**	**-0.5**
YLV	**Yalova**	**1.67**	**345**	Pn	**Pb**	**07 00 54.5**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.68**	**209**	P	**Pn**	**07 00 53.5**	**-0.5**
MDUB	**Mudurnu**	**1.81**	**32**	Pn	**Pn**	**07 00 56.3**	**+0.7**
ARMT	**Armutlu**	**1.82**	**333**	Pn	**Pb**	**07 00 56.4**	**-0.9**
SAUV	**Serdivan-Sakar**	**1.82**	**9**	Pn	**Pn**	**07 00 56.6**	**+1.0**
SOMA	**Soma-Manisa**	**1.88**	**277**	Pn	**Pb**	**07 00 56.9**	**-1.5**
YUVA	**Yuva-Kibriscik**	**1.98**	**43**	Pn	**Pn**	**07 00 58.6**	**+0.6**
GONE	**Gonen-Balikesi**	**2.06**	**303**	Pn	**Pn**	**07 00 59.6**	**+0.6**
EDC	**Edincik**	**2.12**	**312**	Pn	**Pn**	**07 01 00.6**	**+0.7**
SILT	**Sile**	**2.21**	**354**	Pn	**Pn**	**07 01 02.1**	**+1.0**
KAVV	**Kandilli-Istan**	**2.22**	**343**	Pn	**Pn**	**07 01 02.1**	**+0.9**
ISK	**Istanbul-Kandi**	**2.22**	**343**	Pn	**Pn**	**07 01 02.2**	**+1.0**
BGKT	**Bogazkoy**	**2.40**	**339**	Pn	**Pn**	**07 01 04.6**	**+0.9**
KLYT	**Kilyos**	**2.40**	**344**	Pn	**Pn**	**07 01 04.9**	**+1.2**

*IDC **27** 07:05:06.9±3.0, 54˚.20N×87˚.21E, h0km, mbtmp2.8/2, ML2.8/2, Error ellipse: s-maj=24.4km s-min=18.7km az=58.0*

ASRS 27 07:05:07.0±1.9, 54˚.13N×87˚.24E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**264**	I	I	07 14 50.0	
	baz=80,slow=316,SNR=13						
ZALV	**Zalesovo Beam**	**1.44**	**264**	Pg	Pn	07 05 32.8	-1.5
	1.6nm,0.3s,baz=78,slow=16,SNR=15						
ZALV				Lg	Lg	07 05 53.0	
	2.2nm,0.3s,baz=79,slow=28,SNR=9.0						
KURBB	**Kurchatov Arra**	**6.38**	**240**	Pn	Pn	07 06 42.4	+0.1
	0.1nm,0.3s,baz=55,slow=13,SNR=4.2						
KURBB				Sn	Sn	07 07 55.9	+0.1
	baz=50,slow=8.3,SNR=1.0						
KURBB				Lg	Lg	07 08 28.4	
	baz=56,slow=29,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.99**	**205**	Pn	Pn	07 07 07.0	+2.6
	0.2nm,0.3s,baz=27,slow=13,SNR=2.5						
MKAR				Lg	Lg	07 09 17.2	
	baz=27,slow=33						
	0.2nm,0.2s						

*DJA **27** 07:05:49.6±0.4, 1˚.N±3˚.9˚8E±˚, h45km±7km, M4.5/19, mB5.2/1, mb4.7/4, MLv4.4/19, Mw(mB)4.6/1*
*IDC **27** 07:05:54.1±2.9, 0.71N×98.22E, h75km±23km, mb3.7/16, mbtmp4.0/18, MS3.4/2, Error ellipse: s-maj=27.0km s-min=12.8km az=52.0*

ISC 27 07:05:48.5±0.6, 0.64N±0.06×97.98E±0.07, h29km, n43, σ1$60/36, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.75**	**157**	P	**Pn**	**07 06 05.1**	**+1.9**
GSI	**Gunungsitoli**	**0.78**	**328**	P	**Pn**	**07 06 04.7**	**+1.2**
GSI				S	**Sn**	**07 06 15.8**	**+1.6**
MNSI	**Mandailing Nat**	**1.60**	**84**	P	**Pn**	**07 06 16.3**	**+1.4**
SISI	**Saibi**	**2.25**	**150**	P	**Pn**	**07 06 24.1**	**+0.4**
PSI	**Prapat**	**2.34**	**24**	P	**Pn**	**07 06 26.1**	**+0.9**
	43nm,0.4s,baz=292,slow=6.9,SNR=15						
PSI				S	Sn	07 06 43.6	-10
	133nm,0.4s,baz=204,slow=12,SNR=14						
PSI				LR	LR	07 07 21.6	
	comp=Z,475nm,19.7s,baz=162,slow=42						
SNSI	**Sinabang, Aceh**	**2.41**	**317**	P	**Pn**	**07 06 26.1**	**0.0**
PPI	**Padang Panjang**	**2.65**	**114**	P	**Pn**	**07 06 31.6**	**+2.3**
KCSI	**Kotacane, Aceh**	**2.87**	**356**	P	**Pn**	**07 06 32.9**	**+0.5**
TSI	**Tuntungan**	**2.90**	**12**	P	**Pn**	**07 06 33.5**	**+0.7**
PDSI	**Padang**	**2.92**	**122**	P	**Pn**	**07 06 35.0**	**+1.9**
BKNI	**Bangkinang**	**3.07**	**96**	P	**Pn**	**07 06 37.1**	**+2.0**
MLSI	**Meulaboh, Aceh**	**3.93**	**336**	P	**Pn**	**07 06 46.3**	**-0.7**
MNAI	**Manna**	**7.03**	**135**	P	**Pn**	**07 07 31.5**	**+2.0**
	172nm,1.2s						
MDSI	**Maura Dua**	**8.02**	**129**	P	**Pn**	**07 07 44.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**17.73**	**3**	P	**P**	**07 09 54.6**	**+0.6**
	0.9nm,0.3s,baz=186,slow=11,SNR=4.7						
H08S2	**Diego Garcia H**	**26.72**	**252**	T	T	07 38 47.9	
	baz=72,slow=75						
H08S3	**Diego Garcia H**	**26.72**	**252**	T	T	07 38 50.9	
	baz=72,slow=75						
H08S1	**Diego Carcia H**	**26.74**	**252**	T	T	07 38 50.8	
	baz=72,slow=75						
WRA	**Warramunga Arr**	**41.08**	**122**	P	**P**	**07 13 28.9**	**-1.2**
	0.5nm,0.6s,baz=303,slow=8.9,SNR=6.9						
WRA				PcP	**PcP**	**07 15 28.7**	**-0.8**
	0.4nm,1.0s,baz=301,slow=2.9,SNR=1.5						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**42.44**	**127**	P	**P**	**07 13 40.6**	**-0.5**
	0.4nm,0.5s,baz=297,slow=7.9,SNR=9.5						
ASAR				PcP	**PcP**	**07 15 34.8**	**+0.9**
	0.4nm,0.7s,baz=293,slow=2.4,SNR=2.6						
ASAR				S	**S**	**07 19 54.9**	**-6.5**
	0.2nm,0.9s,baz=298,slow=15,SNR=4.3						
	0.4nm,0.5s						
JNU	**Nakatsue**	**44.72**	**40**	LR	LR	07 33 04.1	
	comp=Z,79nm,19.9s,baz=222,slow=37						
KSRS	**Korea Array**	**45.87**	**34**	P	**P**	**07 14 08.3**	**0.0**
	1.6nm,0.4s,baz=218,slow=8.0,SNR=7.6						
	1.6nm,0.4s						
SONM	**Songino Array**	**47.57**	**8**	P	**P**	**07 14 22.2**	**+0.5**
	1.6nm,0.5s,baz=190,slow=9.1,SNR=4.0						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**47.97**	**346**	P	**P**	**07 14 25.4**	**+0.7**
	0.8nm,0.4s,baz=162,slow=8.8,SNR=9.5						
	0.8nm,0.4s						
MJAR	**Matsushiro Arr**	**51.58**	**42**	P	**P**	**07 14 51.2**	**-1.1**
	0.5nm,0.2s,baz=238,slow=6.8,SNR=1.6						
	0.5nm,0.2s						
STKA	**Stephens Creek**	**52.40**	**132**	P	**P**	**07 14 58.0**	**-0.6**
	0.8nm,0.5s,baz=322,slow=12,SNR=3.5						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**52.47**	**344**	P	**P**	**07 14 58.7**	**+0.1**
	1.0nm,0.6s,baz=166,slow=7.0,SNR=7.7						
	1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**52.85**	**30**	P	**P**	**07 15 01.7**	**+0.1**
	2.4nm,0.7s,baz=233,slow=6.5,SNR=4.6						
	2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**54.23**	**350**	P	**P**	**07 15 12.2**	**+0.7**
	2.9nm,0.6s,baz=175,slow=7.1,SNR=10						
	2.9nm,0.6s						
BVAR	**Borovoye Array**	**57.03**	**341**	P	**P**	**07 15 31.8**	**+0.1**
	2.6nm,0.6s,baz=148,slow=8.8,SNR=8.1						
	2.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.76**	**215**	T	T	08 23 05.6	
	baz=54,slow=75,SNR=201						
H04N1	**CROZET ISLANDS**	**61.77**	**215**	T	T	08 23 06.2	
	baz=54,slow=75,SNR=170						
H04N3	**CROZET ISLANDS**	**61.77**	**215**	T	T	08 23 04.8	
	baz=54,slow=75,SNR=213						
H04S1	**CROZET ISLANDS**	**62.08**	**214**	T	T	08 23 38.6	
	baz=53,slow=76,SNR=47						
H04S3	**CROZET ISLANDS**	**62.09**	**214**	T	T	08 23 38.3	
	baz=53,slow=76,SNR=43						
H04S2	**CROZET ISLANDS**	**62.10**	**214**	T	T	08 23 39.5	
	baz=53,slow=76,SNR=32						
BRTR	**Keskin Array B**	**70.06**	**312**	P	**P**	**07 16 57.8**	**-0.5**
	0.9nm,0.5s,baz=104,slow=6.1,SNR=3.6						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**80.85**	**332**	P	**P**	**07 17 58.9**	**-0.7**
	1.4nm,0.7s,baz=64,slow=4.4,SNR=4.7						
	1.4nm,0.7s						
ARCES	**ARCESS Array B**	**83.32**	**340**	P	**P**	**07 18 11.7**	**-0.7**
	1.6nm,0.8s,baz=64,slow=5.5,SNR=4.1						
	1.6nm,0.8s						
HFS	**Hagfors**	**86.59**	**330**	P	**P**	**07 18 29.5**	**+0.6**
	0.6nm,0.5s,baz=145,slow=5.4,SNR=5.8						
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**90.58**	**180**	P	**P**	**07 18 49.8**	**+1.9**
	0.7nm,0.8s,baz=305,slow=11,SNR=3.2						
	0.7nm,0.8s						
TXAR	**Lajitas Array**	**143.72**	**33**	PKP	PKPbc	07 25 19.9	+0.7
	0.1nm,0.5s,baz=216,slow=0.5,SNR=3.7						
CPUP	**Villa Florida**	**145.11**	**221**	PKPbc	**PKPab**	**07 25 24.1**	**+0.6**
	1.0nm,1.0s,baz=138,slow=2.1,SNR=5.0						

*SNET **27** 07:05:57.7±1.3, 13˚.18N×89˚.55W, h44km, ML2.4*

CATAC 27 07:05:56.3±0.6, 13˚N±4˚×90˚W±˚, h26km±3km, M2.5/10, MLv2.5/10, Error ellipse: s-maj=8.0km s-min=3.7km az=21.9, confirmed, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**32**	*e*P	Pn	07 06 07.2	0.0
LALI				*e*S	Sn	07 06 15.5	+0.9
LALI	**Alcalda de L**	**0.47**	**32**	P	Pn	07 06 07.4	+0.1
PANCS	**Alcalda de**	**0.64**	**37**	S	Sn	07 06 18.5	-0.7
LOMA	**Loma Larga**	**0.68**	**35**	*e*P	Pn	07 06 10.1	-0.2
LOMA	**Loma Larga**	**0.68**	**35**	S	Sn	07 06 20.2	+0.2
LOMA	**Loma Larga**	**0.68**	**35**	P	Pn	07 06 10.3	0.0
LFRS	**El Faro**	**0.73**	**43**	*e*P	Pn	07 06 11.2	+0.2
CEVE	**Cerro Verde**	**0.73**	**356**	*e*P	Pb	07 06 10.8	+0.1
CEVE				*e*S	Sn	07 06 23.0	+1.4
NUBE	**Las Nubes**	**0.83**	**346**	P	Pb	07 06 12.2	-0.1
NUBE	**Las Nubes**	**0.83**	**346**	S	Sn	07 06 23.6	-0.3
FAME	**Alcaldia de Sa**	**0.86**	**330**	P	Pb	07 06 12.4	-0.2
PAVA	**Las Pavas**	**0.88**	**45**	P	Pn	07 06 13.1	+0.1
PAVA	**Las Pavas**	**0.88**	**45**	S	Sn	07 06 25.2	+0.3
UNIC	**Universidad Ca**	**0.89**	**2**	S	Sn	07 06 25.6	+0.5
TECO	**Alcaldia de Te**	**0.89**	**60**	S	Sb	07 06 24.8	+0.1
UESV	**Universidad de**	**0.94**	**55**	P	Pn	07 06 13.3	-0.5
UESV	**Universidad de**	**0.94**	**55**	S	Sb	07 06 25.9	-0.1
SLOZ	**Alcaldia de Sa**	**0.95**	**348**	S	Sn	07 06 28.5	+1.8
SLOZ	**Alcaldia de Sa**	**0.95**	**348**	P	Pb	07 06 14.4	+0.2
SCLA	**Alcaldia de Sa**	**1.02**	**53**	P	Pn	07 06 14.9	-0.1
SCLA	**Alcaldia de Sa**	**1.02**	**53**	S	Sn	07 06 30.2	+1.8
PQSS	**Presa 15 de Se**	**1.12**	**62**	S	Sb	07 06 31.1	-0.1
PQSS	**Presa 15 de Se**	**1.12**	**62**	P	Pn	07 06 16.3	0.0
PACA	**Pacayal**	**1.27**	**73**	P	Pb	07 06 19.2	-0.5
PACA	**Pacayal**	**1.27**	**73**	S	Sb	07 06 35.4	-0.4
ESQI	**Esquipulas**	**1.48**	**9**	*e*P	Pn	07 06 20.7	-0.5
ESQI				*e*P	Pb	07 06 21.1	-2.0
ESQI	**Esquipulas**	**1.48**	**9**	P	Pn	07 06 21.3	0.0
ESQI	**Esquipulas**	**1.48**	**9**	S	Sn	07 06 40.3	+0.5
LCND	**La Caada**	**1.65**	**82**	*e*P	Pn	07 06 23.6	0.0
LCND	**La Caada**	**1.65**	**82**	P	Pn	07 06 23.5	-0.1
SARH	**Santa Rosa de**	**1.85**	**25**	P	Pn	07 06 26.9	+0.5
SARH	**Santa Rosa de**	**1.85**	**25**	S	Sn	07 06 49.0	+0.1
CSGN	**Cosiguina Volc**	**1.97**	**93**	S	Sn	07 06 51.6	-0.3

*ASRS **27** 07:09:24.0±1.0, 54˚.26N×86˚.84E, h0km, M2.4, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 07:09:27.1±3.2, 54˚.27N×86˚.84E, h0km, mbtmp2.8/2, ML2.3/1, Error ellipse: s-maj=26.8km s-min=16.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**256**	I	I	07 18 00.5	
	baz=73,slow=316,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.23**	**256**	Pg	Pg	07 09 49.0	-1.6
	1.2nm,0.3s,baz=73,slow=18,SNR=5.4						
ZALV				Lg	Lg	07 10 06.6	
	1.3nm,0.3s,baz=79,slow=28,SNR=5.1						
KURBB	**Kurchatov Arra**	**6.25**	**238**	Pn	Pn	07 11 01.6	+1.0
	0.1nm,0.3s,baz=55,slow=14,SNR=5.3						
KURBB				Lg	Lg	07 12 46.9	
	baz=58,slow=32,SNR=4.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**8.02**	**203**	Pn	Pn	07 11 26.2	+1.3
	0.1nm,0.3s,baz=25,slow=13,SNR=1.5						
MKAR				Lg	Lg	07 13 43.7	
	baz=22,slow=23,SNR=2.5						

ASRS 27 07:09:40.0±1.6, 54˚.28N×86˚.83E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

*TEH **27** 07:12:43.4, 30˚.65N×50˚.76E, h5km*
*OMAN **27** 07:12:44.5±0.1, 30˚.71N×50˚.95E, h23km±1km, mb3.5/14, Error ellipse: s-maj=1.1km s-min=0.9km az=27.0*

ISC 27 07:12:44.6±0.7, 30˚.67N±0˚.03×50˚.86E±0˚.04, h19km, n72, σ1$71/100, mb4.2/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	**Behbahan**	**0.53**	**262**	Pg	**Pb**	**07 12 52.7**	**-2.6**
KLNJ	**Kolanjah**	**0.71**	**62**	Pg	**Pg**	**07 12 59.2**	**+0.5**
KAZ2	**Kazeron-Fars-I**	**1.26**	**147**	Pg	**Pg**	**07 13 09.5**	**+0.4**
IBRJ	**Brojen**	**1.28**	**15**	Pg	**Pb**	**07 13 08.5**	**+0.2**
ZNGN	**Zangian**	**1.44**	**360**	Pg	**Pg**	**07 13 12.0**	**-0.5**
JHBN	**Jahan bin**	**1.56**	**354**	Pg	**Pb**	**07 13 13.6**	**+0.5**
IRAM	**Ramesheh**	**1.72**	**49**	Pn	**Pg**	**07 13 17.8**	**-0.1**
**

BSY	**Bisya**	**9.71**	**143**	P	**Pn**	**07 15 02.6**	**-0.8**
BSY				S	**Sn**	**07 16 52.2**	**+0.1**
SMDO	**Samad**	**9.93**	**138**	P	**Pn**	**07 15 05.3**	**-1.1**
SMDO				S	**Sn**	**07 16 57.1**	**-0.3**
WSAR	**Wadi Sarin**	**10.14**	**135**	P	**Pn**	**07 15 08.3**	**-0.9**
WSAR				S	**Sn**	**07 17 01.9**	**-0.6**
JMDO	**Jabal Madar**	**10.50**	**140**	P	**Pn**	**07 15 13.5**	**-0.7**
NGCH	**Negor - Chabah**	**10.51**	**118**	P	**Pn**	**07 15 12.7**	**-1.5**
GNI	**Garni**	**10.69**	**334**	P	**Pn**	**07 15 16.4**	**-0.5**
WBK	**Wadi Bani Khal**	**10.81**	**136**	P	**Pn**	**07 15 17.7**	**-0.9**
WBK				S	**Sn**	**07 17 19.1**	**0.0**
JLN	**Jalan Bani Buh**	**11.43**	**136**	P	**Pn**	**07 15 26.2**	**-0.7**
DQM	**DQM**	**12.28**	**149**	P	**Pn**	**07 15 38.4**	**-0.1**
DQM				S	**Sn**	**07 17 54.5**	**-0.4**
DOK	**Doka** SNR=7.1	**12.36**	**165**	P	**Pn**	**07 15 39.9**	**+0.2**
DOK				S	**Sn**	**07 17 57.9**	**+0.9**
WHFO	**Wadi Hawf** SNR=13	**12.97**	**168**	P	**Pn**	**07 15 47.6**	**-0.5**
WHFO				S	**Sn**	**07 18 12.9**	**+1.0**
DMTO	**DMTO** SNR=8.2	**13.42**	**163**	P	**Pn**	**07 15 53.5**	**-0.7**
ABTO	**Aybut**	**13.44**	**170**	P	**Pn**	**07 15 54.1**	**-0.4**
WTTA	**Wattenberg** 5.4nm,1.3s	**34.29**	**310**	*e*pP	pP	07 19 35.7	-0.3
SQTA	**Sankt Quirin** 1.7nm,0.5s	**34.56**	**310**	*e*P	**P**	**07 19 30.8**	**-1.3**
MOTA	**Moosalm** 1.3nm,0.4s	**34.66**	**310**	*e*P	**P**	**07 19 35.0**	**+2.0**
FETA	**Feichten** 1.6nm,0.7s	**34.83**	**309**	*e*P	**P**	**07 19 33.1**	**-1.4**

JMA ***27*** *07:18:23.7±0.3,23°N±1°×123°2E±0°.8, h62km, MV3.1/12, FAR S OFF ISHIGAKIJIMA*

ISC 27 07:18:23.6±2.2, 22°.8N±0°.1×123°.20E±0°.06, h26km, n17, σ0s59/20, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.34**	**24**	*e*P	**Pn**	**07 18 47.0**	**+0.3**
HATJ				*e*S	**Sn**	**07 19 03.3**	**-0.5**
IRIF	**Iriomote-Funau**	**1.58**	**18**	*e*P	**Pn**	**07 18 50.1**	**+0.2**
IRIF				*e*S	**Sn**	**07 19 09.5**	**0.0**
JKRS	**Kuro-shima**	**1.59**	**28**	*e*P	**Pn**	**07 18 50.6**	**+0.6**
YOJ	**Yonaguni jima**	**1.64**	**354**	P	**Pn**	**07 18 51.4**	**+0.7**
YOJ	**Yonaguni jima**	**1.64**	**354**	S	**Sn**	**07 19 10.9**	**0.0**
YOJ	**Yonaguni jima**	**1.64**	**354**	*e*S	**Sn**	**07 19 10.7**	**-0.3**
JIJ	**Ishigaki jima**	**1.76**	**29**	*e*P	**Pn**	**07 18 52.5**	**-0.1**
YULB	**Yu-li**	**1.84**	**288**	P	**Pn**	**07 18 52.7**	**-0.8**
TWGBT	**Beinan**	**1.95**	**270**	P	**Pn**	**07 18 55.1**	**0.0**
NACB	**Ninganchiao**	**1.99**	**313**	P	**Pn**	**07 18 54.9**	**-0.7**
NACB	**Ninganchiao**	**1.99**	**313**	S	**Sn**	**07 19 19.0**	**-0.7**
JISG	**Ishigakijimahi**	**2.03**	**30**	*e*P	**Pn**	**07 18 56.0**	**-0.1**
JTJ	**Tarama**	**2.27**	**37**	*e*P	**Pn**	**07 18 59.3**	**-0.2**
JTJ				*e*S	**Sn**	**07 19 26.6**	**-0.1**
SSLB	**Suanglung**	**2.27**	**295**	P	**Pn**	**07 19 00.0**	**+0.5**
SSLB	**Suanglung**	**2.27**	**295**	S	**Sn**	**07 19 26.3**	**-0.4**
TPUB	**Ta-pu**	**2.41**	**282**	P	**Pn**	**07 19 02.8**	**+1.4**
YHNB	**Yeheng**	**2.48**	**318**	P	**Pn**	**07 19 03.3**	**+0.9**

CATAC ***27*** *07:21:22.9±0.6, 12°N±3°×8°9W±°, h1km, M2.7/13, MLv2.7/13, Error ellipse: s-maj=6.9km s-min=4.1km az=20.4, confirmed*

SNET ***27*** *07:21:25.4±1.0, 12°.46N×89°.03W, h22km, ML2.9*

ISC 27 07:21:26.9±2.4, 12°.4N±0°.1×89°.07W±0°.06, h40km, n37, σ1s67/39, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.13**	**348**	*e*P	**Pn**	**07 21 44.5**	**-1.7**
TECO	**Alcaldia de Te**	**1.19**	**14**	P	**Pn**	**07 21 44.8**	**-2.2**
TECO	**Alcaldia de Te**	**1.19**	**14**	S	**Sn**	**07 22 00.6**	**-1.4**
LFRS	**El Faro**	**1.24**	**0**	*e*P	**Pn**	**07 21 46.0**	**-1.8**
UESV	**Universidad de**	**1.28**	**12**	S	**Sn**	**07 22 03.7**	**-0.6**
UESV	**Universidad de**	**1.28**	**12**	P	**Pn**	**07 21 46.4**	**-1.9**
PACA	**Pacayal**	**1.31**	**34**	*e*S	**Sn**	**07 22 05.3**	**+0.3**
PACA	**Pacayal**	**1.31**	**34**	P	**Pn**	**07 21 47.0**	**-1.7**
PACA	**Pacayal**	**1.31**	**34**	S	**Sn**	**07 22 04.8**	**-0.2**
BLLM	**Bellamira**	**1.33**	**37**	*e*P	**Pn**	**07 21 47.1**	**-2.0**
PQSS	**Presa 15 de Se**	**1.33**	**22**	*e*P	**Pn**	**07 21 47.6**	**-1.4**
PQSS	**Presa 15 de Se**	**1.33**	**22**	P	**Pn**	**07 21 47.6**	**-1.4**
PQSS	**Presa 15 de Se**	**1.33**	**22**	S	**Sn**	**07 22 05.5**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.36**	**14**	*e*P	**Pn**	**07 21 47.8**	**-1.6**
SCLA	**Alcaldia de Sa**	**1.36**	**14**	P	**Pn**	**07 21 47.6**	**-1.8**
SCLA	**Alcaldia de Sa**	**1.36**	**14**	S	**Sn**	**07 22 06.3**	**+0.1**
LCND	**La Caada**	**1.48**	**51**	P	**Pn**	**07 21 49.2**	**-1.8**
CNCH	**Conchagua**	**1.50**	**53**	*e*P	**Pn**	**07 21 49.8**	**-1.6**
CNCH	**Conchagua**	**1.50**	**53**	P	**Pn**	**07 21 49.9**	**-1.6**
CNCH	**Conchagua**	**1.50**	**53**	S	**Sn**	**07 22 12.9**	**+3.0**
CSGN	**Cosiguina Volc**	**1.59**	**68**	P	**Pn**	**07 21 52.9**	**+0.2**
CSGN				S	**Sn**	**07 22 13.1**	**+1.0**
POTN	**Potosi Cosigui**	**1.65**	**68**	P	**Pn**	**07 21 51.8**	**-1.6**
POTN				S	**Sn**	**07 22 13.9**	**+0.6**
NUBE	**Las Nubes**	**1.66**	**336**	*e*P	**Pn**	**07 21 52.3**	**-1.4**
NUBE	**Las Nubes**	**1.66**	**336**	P	**Pn**	**07 21 52.6**	**-1.1**
NUBE	**Las Nubes**	**1.66**	**336**	S	**Sn**	**07 22 15.6**	**+1.6**
FAME	**Alcaldia de Sa**	**1.72**	**328**	P	**Pn**	**07 21 52.6**	**-1.8**
FAME	**Alcaldia de Sa**	**1.72**	**328**	S	**Sn**	**07 22 15.2**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.78**	**337**	P	**Pn**	**07 21 55.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.78**	**337**	S	**Sn**	**07 22 19.4**	**+2.8**
MARCA	**Marcala la Paz**	**2.04**	**30**	P	**Pn**	**07 21 57.9**	**-0.9**
MARCA	**Marcala la Paz**	**2.04**	**30**	S	**Sn**	**07 22 25.0**	**+1.9**
ESQI	**Esquipulas**	**2.18**	**353**	P	**Pn**	**07 22 00.8**	**0.0**
ESQI	**Esquipulas**	**2.18**	**353**	S	**Sn**	**07 22 30.4**	**+3.7**
SARH	**Santa Rosa de**	**2.40**	**7**	P	**Pn**	**07 22 05.3**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.42**	**46**	P	**Pn**	**07 22 04.5**	**+0.4**
YUSH	**Yuscaran**	**2.68**	**54**	P	**Pn**	**07 22 06.5**	**-1.1**
YUSH	**Yuscaran**	**2.68**	**54**	S	**Sn**	**07 22 41.3**	**+2.5**

IDC ***27*** *07:28:01.9±0.9,20°.14S×169°.61E, h0km, mb4.2/12, mbtmp4.2/13, ML3.1/2, MS3.8/18, Error ellipse: s-maj=27.7km s-min=18.8km az=95.0*

NEIC ***27*** *07:28:02.8±0.9,20°.12S±0°.09×169°.60E±0°.10, h10km±2km, mb4.6/8, Error ellipse: s-maj=17.6km s-min=12.6km az=316.0*

ISC 27 07:28:03.2±0.5, 20°.11S±0°.07×169°.59E±0°.10, h10km, n52, σ1s32/39, mb4.3/17, MS3.8/18, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.19**	**218**		**Pn**	**07 28 52.6**	**-0.9**
DZM	**Mont Dzumac**	**3.52**	**236**	Pn	**Pn**	**07 28 57.8**	**-0.4**
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=54,slow=19,SNR=9.9	**3.52**	**236**	Pn	**Pn**	**07 28 58.1**	**-0.1**
ONTNC	**Ouen Toro**	**3.65**	**233**	Pn	**Pn**	**07 28 60.0**	**+0.2**
SANVU	**Saraoutou**	**5.16**	**334**	Pn	**Pn**	**07 29 19.8**	**-0.8**
MSVF	**Nonsavu**	**8.35**	**75**	Pn	**Pn**	**07 30 04.0**	**-0.6**
ARMA	**Armidale**	**19.19**	**234**	P	**P**	**07 32 26.7**	**-0.7**
ARMA	comp=Z,59nm,1.4s			IAmb	IAmb	07 32 50.9	
URZ	**Urewera** comp=Z,0.2nm,0.3s,baz=10,slow=11,SNR=5.4 comp=Z,4.7nm,0.9s	**19.23**	**162**	P	**Pn**	**07 32 28.0**	**-0.6**
STKA	**Stephens Creek** comp=Z,2.5nm,0.7s,baz=75,slow=12,SNR=0.9	**27.67**	**239**	P	**P**	**07 33 51.5**	**-0.1**
STKA	comp=Z,236nm,19.6s,baz=57,slow=36 comp=Z,2.5nm,0.7s			LR	LR	07 44 50.6	
RAR	**Rarotonga** comp=Z,34nm,19.8s,baz=251,slow=35	**28.67**	**98**	LR	LR	07 44 32.7	
WR8	**Warramunga Arr**	**32.93**	**264**	P	**P**	**07 34 36.8**	**-1.3**
WR8	comp=Z,6.4nm,1.1s			IAmb	IAmb	07 34 48.0	
WB0	**Warramunga Arr**	**33.05**	**264**	P	**P**	**07 34 37.9**	**-1.3**
WB0	comp=Z,6.9nm,1.0s			IAmb	IAmb	07 34 49.9	
WB2	**Warramunga Arr**	**33.07**	**264**	P	**P**	**07 34 38.3**	**-1.0**
WB2	comp=Z,9.9nm,1.1s			IAmb	IAmb	07 34 50.3	
WRA	**Warramunga Arr** comp=Z,0.8nm,0.5s,baz=96,slow=8.3,SNR=7.6	**33.08**	**264**	P	**P**	**07 34 39.0**	**-0.5**
WRA	comp=Z,126nm,18.4s,baz=332,slow=38 comp=Z,0.8nm,0.5s			LR	LR	07 48 42.3	
AS31	**Alice Springs**	**33.24**	**257**	P	**P**	**07 34 39.5**	**-1.4**
ASAR	**Alice Springs** comp=Z,2.3nm,0.6s,baz=91,slow=8.0,SNR=5.4	**33.25**	**257**	P	**P**	**07 34 41.4**	**+0.4**
ASAR	comp=Z,292nm,19.3s,baz=272,slow=37			LR	LR	07 48 20.7	
	comp=Z,2.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.49**	**265**		**P**	**07 35 48.0**	**-2.8**
FITZ	**Fitzroy Crossi** comp=Z,148nm,18.8s,baz=338,slow=36	**41.49**	**265**	LR	LR	07 53 10.8	
NWAO	**Narrogin (SRO)** comp=Z,257nm,20.0s,baz=20,slow=36	**48.11**	**243**	LR	LR	07 56 37.9	
VNDA	**Vanda** comp=Z,0.7nm,0.9s,baz=358,slow=9.3,SNR=3.4	**57.58**	**182**	P	**P**	**07 37 51.9**	**-0.8**
VNDA	comp=Z,72nm,19.1s,baz=336,slow=33 comp=Z,0.7nm,0.9s			LR	LR	07 59 42.3	
MJAR	**Matsushiro Arr** comp=Z,0.7nm,0.4s,baz=164,slow=5.9,SNR=5.2 comp=Z,0.7nm,0.4s	**63.67**	**332**	P	**P**	**07 38 33.7**	**-1.1**
QSPA	**South Pole Qui**	**69.95**	**180**	P	**P**	**07 39 13.7**	**-1.0**
QSPA	**South Pole Qui** comp=Z,5.4nm,1.1s,baz=23,slow=4.1,SNR=7.3	**69.95**	**180**	P	P	07 39 19.0	+4.3
SHEM	**Shemya Is, Ala** comp=Z,32nm,21.9s,baz=98,slow=29	**72.63**	**3**	LR	LR	08 03 30.2	
USRK	**Ussuriysk Ar.** comp=Z,2.2nm,0.8s,baz=133,slow=6.1,SNR=4.9 comp=Z,2.2nm,0.8s	**72.66**	**333**	P	**P**	**07 39 33.1**	**+2.1**
PETK	**Petropavlovsk-** comp=Z,14nm,1.3s,baz=136,slow=5.3,SNR=6.1	**73.63**	**353**	P	**P**	**07 39 37.3**	**+0.7**
PETK	comp=Z,52nm,19.6s,baz=236,slow=32 comp=Z,14nm,1.3s			LR	LR	08 06 57.0	
MAW	**Mawson** comp=Z,2.1nm,0.8s,baz=104,slow=7.5,SNR=5.4	**77.75**	**202**	P	**P**	**07 40 01.1**	**+1.0**
MAW	comp=Z,75nm,20.1s,baz=71,slow=32 comp=Z,2.1nm,0.8s			LR	LR	08 10 11.7	
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.3s,baz=98,slow=5.6,SNR=8.4 comp=Z,1.6nm,0.3s	**79.16**	**294**	P	**P**	**07 40 09.5**	**+0.8**
TROLL	**Troll, Antarti** comp=Z,92nm,0.9s	**87.70**	**184**	⇑P	**P**	**07 40 55.0**	**+3.0**
SONM	**Songino Array** comp=Z,1.0nm,0.8s,baz=107,slow=5.1,SNR=4.1 comp=Z,1.0nm,0.8s	**88.11**	**323**	P	**P**	**07 40 55.0**	**+0.8**
SNAA	**Sanae** comp=Z,22nm,0.8s	**88.31**	**182**	⇑P	**P**	**07 40 56.8**	**+2.0**
SNAA	**Sanae**	**88.31**	**182**	P	**P**	**07 40 54.1**	**-0.7**
SNAA	**Sanae** comp=Z,2.2nm,1.1s,baz=204,slow=5.9,SNR=5.5	**88.31**	**182**	P	**P**	**07 40 54.7**	**-0.1**
SNAA	comp=Z,54nm,20.7s,baz=107,slow=34 comp=Z,2.2nm,1.1s			LR	LR	08 17 15.7	
PFO	**Pinyon Flats O** comp=Z,33nm,19.3s,baz=307,slow=31	**88.37**	**53**	LR	LR	08 14 03.7	
VNA3	**Neumayer Olymp** comp=Z,2.4nm,0.8s	**88.89**	**180**	⇑P	**P**	**07 41 00.4**	**+2.9**
LPIG	**La Paz** comp=Z,46nm,21.0s,baz=231,slow=30	**89.50**	**64**	LR	LR	08 11 59.1	
ILAR	**Eielson Array** comp=Z,0.5nm,1.0s,baz=245,slow=6.0,SNR=4.7 comp=Z,0.5nm,1.0s	**90.96**	**17**	P	**P**	**07 41 05.9**	**-1.1**
ELK	**Elko** comp=Z,39nm,21.6s,baz=328,slow=30	**92.26**	**47**	LR	LR	08 14 10.3	
NEW	**Newport** comp=Z,29nm,20.2s,baz=320,slow=30	**94.23**	**40**	LR	LR	08 15 02.3	
TIXI	**Tiksi** comp=Z,73nm,21.4s,baz=206,slow=33	**95.66**	**348**	LR	LR	08 20 16.4	
ANMO	**Albuquerque** comp=Z,36nm,18.5s,baz=63,slow=32	**96.52**	**55**	LR	LR	08 19 09.8	
TXAR	**Lajitas Array** comp=Z,36nm,20.1s,baz=316,slow=30	**96.89**	**61**	LR	LR	08 16 51.9	
TANN	**Tannenbergstha** baz=37,slow=2.7	**144.75**	**334**	*e*PKPbc	**PKPdf**	**07 47 41.0**	**+0.6**
GTTG	**Gottingen** baz=37,slow=2.7	**144.79**	**338**	*e*PKPbc	**PKPdf**	**07 47 40.9**	**+0.6**
PLN	**Plauen** baz=37,slow=2.7	**144.82**	**335**	*e*PKPbc	**PKPdf**	**07 47 41.1**	**+0.7**
MOX	**Moxa** comp=Z,64nm,18.1s	**144.90**	**335**	*e*L	L	08 56 11.8	
MANZ	**Manzenberg** baz=37,slow=2.7	**145.22**	**334**	*e*PKPbc	**PKPdf**	**07 47 42.3**	**+1.2**
ROTZ	**Rotzenmuhle** baz=37,slow=2.7	**145.35**	**334**	*e*PKPbc	**PKiKP**	**07 47 43.0**	**-2.3**
GEC2	**GERESS Array S** baz=37,slow=2.7	**145.41**	**332**	*e*PKPbc	**PKPab**	**07 47 42.9**	**+1.3**
GERES	**GERESS Array B** comp=Z,1.5nm,0.9s,baz=17,slow=1.0,SNR=5.4	**145.41**	**332**	PKPbc	**PKPab**	**07 47 42.3**	**+0.7**
GRF	**Grafenberg Arr** baz=37,slow=2.7	**145.81**	**335**	*e*PKPbc	**PKiKP**	**07 47 44.8**	**-1.4**
GRF	comp=Z,39nm,18.2s			*e*L	L	08 53 07.9	
UBR	**Ueberruh** baz=37,slow=2.7	**147.85**	**334**	*e*PKPbc	**PKiKP**	**07 47 49.9**	**-0.6**

TRN 27 07:31:25.8, 17°.00N×62°.17W, h120km, MD3.6, North of Montserrat., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBFL	**Flemmings, Mon**	**0.25**	**189**	*e*P	Pn	07 31 43.6	+1.1
MBFL				*e*S	Sn	07 31 56.6	+1.5
MBWH		**0.25**	**184**	*e*P	Pn	07 31 43.6	+1.0
MBWH				*e*S	Sn	07 31 56.1	+0.9
MLYT	**Lee's Yard**	**0.27**	**184**	*e*P	Pn	07 31 44.0	+1.4
MLYT				*e*S	Sn	07 31 57.4	+2.0
SKOC	**St. Kitts, UWI**	**0.61**	**299**	*e*P	Pn	07 31 44.5	+0.1
SKOC				*e*S	Sn	07 31 59.3	+0.9
SKI	**Saint Kitts**	**0.64**	**302**	*e*P	Pn	07 31 45.8	+1.2
SKI				*e*S	Sn	07 32 00.1	+1.2
ANWB	**Willy Bob**	**0.76**	**29**	*e*P	Pn	07 31 47.4	+1.8
ANWB				*e*S	Sn	07 32 02.8	+2.3
DHSZ	**Broadband at M**	**0.82**	**152**	*e*P	Pn	07 31 47.3	+1.2
DHSZ				*e*S	Sn	07 32 02.6	+1.2
ATGZ	**Broadband at L**	**0.99**	**154**	*e*P	Pn	07 31 49.1	+1.4
ATGZ				*e*S	Sn	07 32 06.6	+2.4
MMLZ	**Guadeloupe Bro**	**1.06**	**153**	*e*P	Pn	07 31 50.1	+1.7
MMLZ				*e*S	Sn	07 32 08.1	+2.6
TBG	**Guadaloupe-3**	**1.24**	**156**	*e*P	Pn	07 31 51.5	+1.2
TBG				*e*S	Sn	07 32 10.9	+2.0
DSDZ	**La Diserade, G**	**1.26**	**123**	*e*P	Pn	07 31 51.5	+1.0
DSDZ				*e*S	Sn	07 32 09.8	+0.6
DWS	**Wesley**	**1.64**	**150**	*e*P	Pn	07 31 55.9	+1.1
DWS				*e*S	Sn	07 32 17.6	+0.6
DSLB	**Salisbury**	**1.71**	**155**	*e*P	Pn	07 31 57.0	+1.3
DSLB				*e*S	Sn	07 32 20.7	+2.2
MDN	**Morne-Daniel**	**1.83**	**156**	*e*P	Pn	07 31 57.6	+0.5
MDN				*e*S	Sn	07 32 21.7	+0.7
DLDT	**Laudat, Domini**	**1.83**	**154**	*e*P	Pn	07 31 57.6	+0.4
BIM	**Bigot**	**2.68**	**157**	*e*P	Pn	07 32 09.3	+1.3
BIM				*e*S	Sn	07 32 41.7	+1.3
SLBI	**Saint Lucia, B**	**3.17**	**159**	*e*P	Pn	07 32 15.5	+1.1
SLBI				*e*S	Sn	07 32 52.1	+0.3
AOPR	**Arecibo Observ**	**4.57**	**288**	*e*P	Pn	07 32 34.3	+1.3
AOPR				*e*S	Sn	07 33 25.1	-0.1

IDC ***27*** *07:37:35.3±0.8,26°.00N×142°.76E, h0km, mb3.7/7, mbtmp3.7/8, Error ellipse: s-maj=35.3km s-min=16.1km az=74.0*

JMA ***27*** *07:37:36.3±0.3,26°N±1°×14°3E±°, h11km, MV4.1/7, NEAR CHICHIJIMA ISLAND*

ISC 27 07:37:40.1±0.9, 26°.05N±0°.10×142°.9E±0°.1, h35km, n20, σ0s91/17, mb3.8/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**0.89**	**311**	*e*P	**Pn**	**07 37 55.6**	**-0.5**
JHH2				*e*S	**Sn**	**07 38 09.1**	**+1.3**
CBIJ	**Chichi jima**	**1.24**	**328**	*e*P	**Pn**	**07 38 00.4**	**-0.5**
CBIJ				*e*S	**Sn**	**07 38 17.8**	**+1.5**
JCJ	**Chichijima** 47nm,0.3s,baz=90,slow=20,SNR=58	**1.24**	**328**	Pn	**Pn**	**07 38 00.3**	**-0.5**
JCJ	302nm,0.3s,baz=128,slow=20,SNR=16			Sn	**Sn**	**07 38 17.7**	**+1.3**
BSO4	**Boso 4**	**9.19**	**347**	*e*S	**Sn**	**07 41 31.3**	**-0.8**
MJAR	**Matsushiro Arr** 0.6nm,0.4s,baz=149,slow=12,SNR=1.2	**11.21**	**340**	Pn	**Pn**	**07 40 16.6**	**-1.2**
H11N2	**WAKE ISLAND Hy** baz=290,slow=74,SNR=40	**22.94**	**101**	T	T	08 06 22.5	
H11N1	**WAKE ISLAND Hy** baz=290,slow=74,SNR=25	**22.94**	**101**	T	T	08 06 25.5	
H11N3	**WAKE ISLAND Hy** baz=290,slow=74,SNR=49	**22.96**	**101**	T	T	08 06 21.8	
H11S3	**WAKE ISLAND Hy** baz=294,slow=74,SNR=6.2	**23.21**	**104**	T	T	08 06 45.4	
H11S1	**WAKE ISLAND Hy** baz=294,slow=74,SNR=5.5	**23.22**	**104**	T	T	08 06 42.7	
H11S2	**WAKE ISLAND Hy** baz=294,slow=74,SNR=5.8	**23.23**	**104**	T	T	08 06 45.1	
WRA	**Warramunga Arr** 2.2nm,0.8s,baz=10.0,slow=8.4,SNR=12 2.2nm,0.8s	**46.47**	**191**	P	**P**	**07 46 03.8**	**-0.1**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=17,slow=9.7,SNR=2.9 0.3nm,0.8s	**50.19**	**191**	P	**P**	**07 46 31.6**	**-0.9**
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=91,slow=7.9,SNR=7.7 0.6nm,0.6s	**54.24**	**315**	P	**P**	**07 47 01.4**	**-0.9**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=263,slow=5.3,SNR=3.7 0.4nm,0.9s	**58.31**	**28**	P	**P**	**07 47 31.9**	**+0.7**
BVAR	**Borovoye Array** 1.1nm,0.6s,baz=90,slow=8.6,SNR=5.2 1.1nm,0.6s	**59.26**	**318**	P	**P**	**07 47 38.2**	**+0.2**
FINES	**FINESS Array B** 0.9nm,0.5s,baz=56,slow=3.4,SNR=6.7 0.9nm,0.5s	**79.17**	**334**	P	**P**	**07 49 41.2**	**+0.2**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=300,slow=6.8,SNR=2.0 0.2nm,0.4s	**84.49**	**45**	P	**P**	**07 50 10.4**	**+0.7**
PLCA	**Paso Flores** 1.1nm,0.8s,baz=225,slow=4.3,SNR=4.1	**148.66**	**126**	PKPbc	**PKiKP**	**07 57 25.3**	**+0.1**
LPAZ	**La Paz** 0.6nm,0.7s,baz=228,slow=1.3,SNR=2.1	**149.52**	**78**	PKPbc	**PKiKP**	**07 57 29.0**	**+0.7**

IDC 27 07:38:46.4±3.8, 19°.01S×169°.63E, h0km, mb3.7/4, mbtmp3.6/5, ML2.8/1, MS3.6/3, Error ellipse: s-maj=82.5km s-min=38.3km az=27.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=67,slow=9.1,SNR=11	**4.26**	**224**	Pn	Pn	07 39 50.7	-2.0
DZM	8.7nm,0.3s,baz=141,slow=19,SNR=10			Sn	Sn	07 40 36.3	-7.0
DZM	comp=Z,478nm,19.4s,baz=68,slow=35 7.1nm,0.7s			LR	LR	07 41 15.1	
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=88,slow=8.3,SNR=2.1	**33.25**	**262**	P	P	07 45 26.3	+0.7
WRA	comp=Z,119nm,19.7s,baz=256,slow=34 0.3nm,0.7s			LR	LR	07 57 28.5	
ASAR	**Alice Springs** 0.9nm,0.8s,baz=89,slow=8.8,SNR=8.1	**33.54**	**256**	P	P	07 45 28.2	+0.1
ASAR	comp=Z,113nm,18.0s,baz=290,slow=38 0.9nm,0.8s			LR	LR	08 00 12.7	
VNDA	**Vanda** 0.5nm,0.6s,baz=0.0,slow=7.1,SNR=2.3 0.5nm,0.6s	**58.67**	**182**	P	P	07 48 45.9	+0.8
QSPA	**South Pole Qui** 1.6nm,0.9s,baz=14,slow=5.3,SNR=3.5 1.6nm,0.9s	**71.04**	**180**	P	P	07 50 05.4	-0.7

LDO ***27*** *07:58:38±1.3, 40°.74N±0°.02×78°.04W±0°.02, h2km±5km, Error ellipse: s-maj=2.2km s-min=2.2km az=72.0*

NEIC 27 07:58:38.2±1.0, 40°.74N±0°.01×78°.00W±0°.02, h1km±6km, ML1.3/6, ML1.2(LDO), Error ellipse: s-maj=2.4km s-min=1.9km az=128.0, Pennsylvania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSPA	**Standing Stone**	**0.14**	**141**		Pg	07 58 41.1	+0.3
SSPA				Sg	Sg	07 58 44.0	+1.4
SSPA	76nm,0.1s			IAML		07 58 44.3	
M57A	**Sunshine Farm,**	**0.89**	**48**	Pg	Pg	07 58 55.0	-0.2
N58A	**Sunbury**	**0.98**	**84**	Pg	Pg	07 58 56.5	-0.5
L56A	**Greenwood**	**1.43**	**13**		Pn	07 59 04.8	-0.6
MVL	**Millersville**	**1.46**	**120**		Pn	07 59 04.4	-1.3
PAOC	**Oil Creek Stat**	**1.49**	**302**		Pn	07 59 05.4	-0.6
SDMD	**Soldier's Deli**	**1.60**	**146**		Pn	07 59 06.6	-1.0
PAMR	**Moraine State**	**1.60**	**278**		Pn	07 59 06.5	-1.1
Q56A	**Snyder Ridge,**	**1.93**	**209**	Pn	Pn	07 59 11.5	-0.6
WUPA	**West Chester U**	**2.00**	**113**	Pn	Pn	07 59 13.6	+0.5
BINY	**Binghamton**	**2.10**	**45**	Pn	Pn	07 59 13.3	-1.2
N53A	**Lisbon**	**2.15**	**273**	Pn	Pn	07 59 15.2	0.0
K57A	**Scipio Center**	**2.28**	**29**	Pn	Pn	07 59 15.4	-1.5
L59A	**Walton**	**2.65**	**56**	Pn	Pn	07 59 21.9	-0.2

IDC ***27*** *08:00:39.5±1.1, 26°.13N×89°.68E, h0km, mb3.7/9, mbtmp3.8/9, Error ellipse: s-maj=50.2km s-min=18.9km az=58.0*

DMN ***27*** *08:00:46.1±0.0, 25°.73N×89°.43E, h156km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 27 08:00:45.6±1.1, 26°.3N±0°.2×89°.89E±0°.09, h35km, n17, σ1s80/25, mb3.6/9, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODAN	**Odare** baz=302,slow=0.0	**2.30**	**284**	Pg	**Pn**	**08 01 24.2**	**+3.0**
ODAN	3μm,0.4s,baz=302,slow=0.0			Sg	**Sn**	**08 01 52.8**	**+4.4**
RAMN	**Ramite** baz=296,slow=0.0	**3.01**	**283**	Pg	**Pn**	**08 01 32.1**	**+1.1**
RAMN	349nm,0.3s,baz=296,slow=0.0			Sn	**Sn**	**08 02 06.3**	**+0.4**
GUN	**Gumba** baz=305,slow=0.0	**3.91**	**295**	Pg	**Pn**	**08 01 44.9**	**+1.5**
GUN	130nm,0.3s,baz=305,slow=0.0			Sn	**Sn**	**08 02 29.5**	**+1.3**
PKI	**Pulchoki** ba

comp=Z,29nm,21.0s,baz=74,slow=31
EKA Eskdalemuir Ar 14.38 101 Pn **Pn** **08 09 16.5 -0.3**
baz=297,slow=9.9
0.2nm,0.4s
FRB Frobisher Bay 18.70 297 LR LR 08 16 19.0
comp=Z,86nm,19.9s,baz=30,slow=34
NOA NORSAR Array B 19.08 72 LR LR 08 16 39.3
comp=Z,58nm,19.2s,baz=295,slow=34
HFS Hagfors 20.53 73 P **P** **08 10 31.8 +0.2**
0.6nm,0.7s,baz=297,slow=13,SNR=1.6
0.6nm,0.7s
VRAC Vranov 27.64 94 LR LR 08 22 44.4
comp=Z,48nm,19.3s,baz=50,slow=37
ILAR Eielson Array 46.63 329 P **P** **08 14 21.0 -0.3**
0.4nm,0.8s,baz=44,slow=7.7,SNR=3.7
0.4nm,0.8s
BVAR Borovoye Array 49.55 52 P **P** **08 14 44.8 +0.8**
0.4nm,0.4s,baz=291,slow=4.5,SNR=1.6
0.4nm,0.4s
PDAR Pinedale Array 49.83 288 P **P** **08 14 46.5 0.0**
0.9nm,0.7s,baz=62,slow=6.8,SNR=8.1
PDAR LR LR 08 34 51.2
comp=Z,25nm,20.1s,baz=348,slow=35
0.9nm,0.7s
KURBB Kurchatov Arra 54.53 48 P **P** **08 15 20.5 -0.5**
0.3nm,0.2s,baz=326,slow=5.6,SNR=2.4
0.3nm,0.2s
TXAR Lajitas Array 57.74 273 P **P** **08 15 44.5 0.0**
0.3nm,0.7s,baz=89,slow=6.4,SNR=3.9
0.3nm,0.7s
MKAR Makanchi Array 59.10 49 P **P** **08 15 53.9 +0.3**
0.5nm,0.6s,baz=332,slow=5.5,SNR=4.0
0.5nm,0.6s
QSPA South Pole Qui 150.65 180 PKPbc **PKiKP** **08 25 45.0 +0.3**
3.1nm,1.1s,baz=209,slow=3.1,SNR=4.2

*TIF **27** 08:38:08.4, 39.88N×41.84E, h1km±1km*
*ISK **27** 08:38:09.5, 39.85N×41.81E, h6km, ML3.7/15*
*AFAD **27** 08:38:09.3, 39.84N×41.78E, h23km±2km, ML3.7*
*IDC **27** 08:38:10.5±1.8, 39.90N×42.46E, h0km, mb3.8/3,*
mbtmp3.5/6, ML3.3/2, MS3.4/3, Error ellipse: s-maj=25.5km
s-min=18.6km az=155.0
ISC 27 08:38:07.8±1.1, **39.74N**±0.03×**41.77E**±0.02, **h7**km±9km,
n42, σt=**49**/51, **mb3.8**/3, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOPR	**Koprukoy-ERZUR**	**0.26**	**15**	Pg	**Pg**	**08 38 13.7**	**+0.8**
HOMI	**Horasan**	**0.32**	**19**	P	**Pg**	**08 38 14.6**	**+0.4**
HOMI				S	**Sg**	**08 38 19.4**	**+1.0**
HOMI				*i* IAML		08 38 22.0	
	comp=N,3μm,0.4s						
HOMI				*i* IAML		08 38 24.0	
	comp=E,2μm,0.4s						
EATA	**Eleskirt**	**0.57**	**78**	P	**Pb**	**08 38 20.6**	**+0.2**
EATA				S	**Sb**	**08 38 29.5**	**+0.7**
EATA				*i* IAML		08 38 33.0	
	comp=E,4μm,0.5s						
EATA				*i* IAML		08 38 35.0	
	comp=N,6μm,0.5s						
ECAT	**Cat-ERZURUM**	**0.63**	**258**	P	**Pn**	**08 38 22.5**	**-0.9**
ECAT				S	**Sn**	**08 38 33.6**	**-0.2**
ECAT				*i* IAML		08 38 37.0	
	comp=N,3μm,0.4s						
ECAT				*i* IAML		08 38 38.0	
	comp=E,5μm,0.5s						
KARO	**Karliova-Bingo**	**0.70**	**232**	Pg	**Pn**	**08 38 25.3**	**+0.9**
KARO				Sg	**Sn**	**08 38 36.6**	**+0.9**
MLAZ	**Malazgirt-MUS**	**0.85**	**135**	Pg	**Pn**	**08 38 36.4**	**0.0**
MLAZ				Sg	**Sn**	**08 38 40.8**	**+1.5**
DORK	**Agr/Tutak/Do**	**0.86**	**114**	P	**Pb**	**08 38 25.6**	**+0.5**
DORK				S	**Sg**	**08 38 32.0**	**-3.5**
DORK				*i* IAML		08 38 39.0	
	comp=E,2μm,0.8s						
DORK				*i* IAML		08 38 46.0	
	comp=N,2μm,0.4s						
KRIK	**Erzurum-spir**	**0.88**	**313**	P	Pn	08 38 41.1	+14
KRIK				S	Sn	08 38 53.5	+14
SENK	**Senkaya-Erzuru**	**0.93**	**28**	Pg	**Pg**	**08 38 25.4**	**-0.3**
SENK				Sg	**Sg**	**08 38 37.7**	**-0.1**
AGRB	**Hanur-Agry**	**0.96**	**100**	Pg	**Pn**	**08 38 27.8**	**-0.1**
AGRB				Sg	**Sn**	**08 38 41.9**	**0.0**
SLHN	**Bingol, Solhan**	**0.97**	**217**	P	**Pn**	**08 38 29.5**	**+1.4**
SLHN				S	**Sn**	**08 38 45.1**	**+2.9**
SLHN				*i* IAML		08 38 46.0	
	comp=N,2μm,0.4s						
SLHN				*i* IAML		08 38 53.0	
	comp=E,2μm,0.4s						
YEDI	**Yedisu-Bingol**	**0.99**	**253**	Pg	**Pn**	**08 38 30.2**	**+1.8**
MUSM	**Mu-Merkez**	**1.04**	**191**	P	**Pn**	**08 38 29.8**	**+0.8**
DDEM	**Demirkent**	**1.15**	**359**	P	**Pb**	**08 38 29.4**	**-0.7**
DDEM				S	**Sb**	**08 38 45.1**	**-0.1**
DDEM				*i* IAML		08 38 49.0	
	comp=E,3μm,0.4s						
GOLE	**Ardahan-Gℷle**	**1.26**	**30**	P	**Pb**	**08 38 32.4**	**+0.3**
BAYT	**Aydintepe-Bayb**	**1.41**	**298**	Pn	**Pg**	**08 38 35.9**	**+1.1**
CHOM	**Cayeli-Rize**	**1.56**	**331**	Pn	**Pb**	**08 38 37.3**	**+0.3**
CHOM				Sn	**Sb**	**08 38 57.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.65**	**196**	Pn	**Pg**	**08 38 41.9**	**+2.5**
HOPA	**Hopa-Artvin**	**1.66**	**352**	Pn	**Pb**	**08 38 38.4**	**-0.3**
TNCL	**Tunceli-Merkez**	**1.83**	**251**	P	**Pg**	**08 38 44.4**	**+1.4**
KOVA	**Elazig, Kovanc**	**1.84**	**236**	P	**Pg**	**08 38 44.3**	**+1.3**
BATM	**Batumi**	**1.86**	**358**	P	**Pb**	**08 38 41.7**	**-0.5**
BATM				S	**Sb**	**08 39 05.7**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.92**	**82**	Pn	**Pb**	**08 38 43.5**	**+0.4**
BGD	**Bogdanovka**	**2.06**	**42**	P	**Pb**	**08 38 45.1**	**-0.6**
AKH	**Akhalkalaki**	**2.12**	**38**	Pn	**Pn**	**08 38 44.8**	**+0.9**
AKH	**Akhalkalaki**	**2.12**	**38**	P	**Pn**	**08 38 45.3**	**+1.4**
DYBB	**Diyarbakir**	**2.19**	**216**	Pn	**Pg**	**08 38 49.7**	**-0.1**
GNI	**Garni**	**2.32**	**79**	Pn	**Pb**	**08 38 48.6**	**-1.5**
GNI	**Garni**	**2.32**	**79**	LR	LR	08 39 16.5	
	comp=Z,51nm,18.2s,baz=332,slow=37						
ILIC	**ilic-Erzincan**	**2.49**	**264**	Pn	**Pb**	**08 38 52.8**	**-0.2**
TRLG	**Trialeti**	**2.52**	**44**	P	**Pn**	**08 38 51.3**	**+1.9**
ALIG	**Mtskhetisjvari**	**2.76**	**31**	P	**Pn**	**08 38 54.0**	**+1.5**
TKB	**Tkibuli**	**2.77**	**19**	P	**Pn**	**08 38 53.7**	**+1.0**
TKB				S	**Sg**	**08 39 35.8**	**-0.8**
DGRG	**David-gareji**	**3.23**	**57**	P	**Pn**	**08 39 02.2**	**+3.2**
KBZ	**Khabaz**	**4.07**	**12**	Pn	**Pn**	**08 39 13.1**	**+2.6**
	0.6nm,0.3s,baz=180,slow=4.0,SNR=4.4						
KBZ				Lg	Lg	08 40 14.2	
	0.5nm,0.3s,baz=180,slow=7.1,SNR=5.5						
	1.6nm,0.3s						
BRTR	**Keskin Array B**	**6.27**	**272**	Pn	**Pb**	**08 39 54.3**	**-3.1**
	0.5nm,0.8s,baz=80,slow=12,SNR=1.3						
BRTR				LR	LR	08 42 38.4	
	comp=Z,113nm,19.2s,baz=133,slow=39						
AKASG	**Malin Array Be**	**14.06**	**325**	Pn	**P**	**08 41 32.0**	**-3.2**
	0.6nm,0.3s,baz=138,slow=11,SNR=1.5						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**23.77**	**341**	P	**P**	**08 43 22.7**	**+2.0**
	1.1nm,0.5s,baz=134,slow=12,SNR=9.1						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**27.83**	**55**	P	**P**	**08 43 57.8**	**+0.1**
	0.6nm,0.2s,baz=266,slow=8.9,SNR=6.7						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**30.07**	**63**	P	**P**	**08 44 15.7**	**-2.0**
	0.3nm,0.7s,baz=260,slow=8.3,SNR=1.8						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**53.34**	**96**	LR	LR	09 16 02.7	
	comp=Z,50nm,18.4s,baz=180,slow=43						
JAY	**Jayapura**	**98.48**	**86**	LR	LR	09 39 41.8	
	comp=Z,41nm,21.7s,baz=246,slow=38						

*UCR **27** 08:48:53.6±1.0, 10.32N×86.46W, h0km±6km, MW4.3*
*CATAC **27** 08:48:57.1±0.6, 10°N±4.8°×6°W±4°, h16km±6km, M3.4/19,*
MLv3.4/19, Error ellipse: s-maj=10.4km s-min=3.8km
az=40.8, confirmed
ISC 27 08:48:57.7±1.7, **10.37N**±0.05×**86.34W**±0.06, **h15**km±10km,
n90, σt=**22**/99, **7C-2D**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DELF	**Filadelfia**	**0.78**	**84**	*e*P	**Pg**	**08 49 12.1**	**-0.9**
DELF				*e*S	**Sn**	**08 49 26.6**	**+1.0**
ALIBA	**Liberia Airpor**	**0.82**	**74**	*i*P	**Pg**	**08 49 13.3**	**-0.3**
ALIBA				*e*S	**Sn**	**08 49 27.5**	**+1.1**
JUD3	**Juan Diaz 3**	**0.82**	**104**	*e*P	**Pg**	**08 49 12.3**	**-1.3**
JUD3				*e*S	**Sg**	**08 49 25.1**	**+0.8**
ELI1	**Hacienda Flor**	**0.83**	**70**	*e*P	**Pg**	**08 49 13.6**	**-0.1**
ELI1				*e*S	**Sn**	**08 49 29.7**	**+3.0**
ELI1	**Hacienda Flor**	**0.83**	**70**	P	**Pg**	**08 49 13.7**	**-0.1**
NICO	**Nicoya**	**0.91**	**105**	*e*P	**Pb**	**08 49 13.4**	**-1.8**
INDI	**Punta indio, G**	**0.97**	**121**	P	**Pb**	**08 49 14.5**	**-1.5**
INDI	**Punta indio, G**	**0.97**	**121**	S	**Sb**	**08 49 26.4**	**-2.3**
LAPC	**Finca la Perla**	**0.98**	**66**	*e*P	**Pb**	**08 49 15.1**	**-1.3**
LCRUZ	**La Cruz**	**1.00**	**45**	*e*P	**Pb**	**08 49 15.7**	**-0.9**
GPS3	**Bodega del ICE**	**1.04**	**68**	*e*P	**Pb**	**08 49 17.5**	**+0.2**
GPS2	**Hotel Rincn d**	**1.05**	**68**	*e*P	**Pb**	**08 49 16.4**	**-1.2**
VRLE	**La Escondida,**	**1.05**	**66**	*e*P	**Pb**	**08 49 15.9**	**-1.6**
BAGA	**Bagaces**	**1.08**	**81**	*e*P	**Pb**	**08 49 16.8**	**-1.2**
VORI	**VORI**	**1.08**	**65**	*e*P	**Pb**	**08 49 17.2**	**-0.9**
BUAI	**Buenos Aires**	**1.12**	**63**	*e*P	**Pb**	**08 49 17.6**	**-1.1**
PEJA	**Penjamo Buenos**	**1.14**	**62**	*e*P	**Pb**	**08 49 18.1**	**-1.0**
CARN	**Rivas**	**1.15**	**45**	*e*P	**Pb**	**08 49 18.0**	**-1.2**
CARN	**Rivas**	**1.15**	**45**	P	**Pb**	**08 49 18.4**	**-0.8**
COLC	**Colonia**	**1.16**	**75**	*e*P	**Pn**	**08 49 17.9**	**-1.5**
COLC				*e*S	**Sg**	**08 49 38.5**	**+3.2**
MESS	**Mesas**	**1.19**	**72**	*e*P	**Pn**	**08 49 18.4**	**-1.4**
CNAS	**Canas**	**1.23**	**87**	*e*P	**Pn**	**08 49 22.0**	**+1.3**
INVE	**Universidad In**	**1.27**	**85**	*e*P	**Pn**	**08 49 19.2**	**-1.5**
VMAR	**Armenia, Volca**	**1.29**	**70**	*e*P	**Pn**	**08 49 20.1**	**-1.0**
MOTZ	**Rio Naranjo**	**1.29**	**76**	*e*P	**Pn**	**08 49 20.2**	**-1.0**
TIMP	**Tierras Morena**	**1.32**	**80**	*e*P	**Pn**	**08 49 20.1**	**-1.5**
JAPN	**Al SSO del Vol**	**1.32**	**29**	*e*P	**Pn**	**08 49 21.1**	**-0.6**
JAPN	**Al SSO del Vol**	**1.32**	**29**	P	**Pn**	**08 49 21.0**	**-0.6**
TILA	**Tilaran**	**1.35**	**86**	*e*P	**Pn**	**08 49 20.6**	**-1.5**
MORN	**Al O del Volca**	**1.36**	**30**	P	**Pn**	**08 49 22.4**	**+0.3**
JUNT	**Juntas**	**1.36**	**93**	*e*P	**Pn**	**08 49 20.7**	**-1.5**
JTS	**Las Juntas de**	**1.37**	**93**	*e*P	**Pn**	**08 49 20.6**	**-1.6**
JTS	**Las Juntas de**	**1.37**	**93**	P	**Pn**	**08 49 20.7**	**-1.6**
JTS				S	**Sn**	**08 49 40.1**	**-0.1**
TENO	**El Achiote**	**1.39**	**76**	*e*P	**Pn**	**08 49 20.8**	**-1.7**
QUEB	**Quebradon, Cot**	**1.45**	**80**	*e*P	**Pn**	**08 49 22.5**	**-0.8**
PAQE	**Paquera**	**1.49**	**111**	*e*P	**Pn**	**08 49 23.5**	**-0.4**
TABAC	**Tabacon**	**1.56**	**85**	*e*P	**Pn**	**08 49 25.1**	**+0.2**
NANN	**Nandasmo**	**1.58**	**8**	P	**Pn**	**08 49 25.8**	**+0.6**
CASO	**Castillo**	**1.58**	**87**	*e*P	**Pn**	**08 49 24.6**	**-0.6**
ARE1	**Arenal 1**	**1.60**	**86**	*e*P	**Pn**	**08 49 25.1**	**-0.3**
VARE2	**V. Arenal**	**1.60**	**86**	*e*P	**Pn**	**08 49 25.1**	**-0.4**
CEDE	**Laguna Cedeo**	**1.62**	**86**	*e*P	**Pn**	**08 49 25.3**	**-0.4**
VACR	**Volcan Arenal**	**1.64**	**86**	*e*P	**Pn**	**08 49 27.4**	**+1.4**
FORC	**Fortuna**	**1.65**	**86**	*e*P	**Pn**	**08 49 25.9**	**-0.1**
SOCE	**Pocosol**	**1.70**	**89**	*e*P	**Pn**	**08 49 26.6**	**-0.1**
SOCE	**Pocosol**	**1.70**	**89**	P	**Pn**	**08 49 26.7**	**-0.1**
LCHIL	**Los Chiles**	**1.73**	**67**	*e*P	**Pn**	**08 49 27.4**	**+0.2**
UNAN	**Cigeo UNAN**	**1.74**	**2**	P	**Pn**	**08 49 27.1**	**-0.2**
UNAN				S	**Sn**	**08 49 49.6**	**+0.5**
TISN	**Laguna Tiscapa**	**1.77**	**2**	P	**Pn**	**08 49 27.2**	**-0.5**
WILN	**Americas 2**	**1.79**	**5**	P	**Pn**	**08 49 29.1**	**+1.1**
SAPS	**Ciudad Sandino**	**1.79**	**358**	P	**Pn**	**08 49 27.7**	**-0.3**
COPN	**Copaltepe**	**1.82**	**352**	*e*P	**Pn**	**08 49 27.8**	**-0.6**
COPN	**Copaltepe**	**1.82**	**352**	P	**Pn**	**08 49 27.8**	**-0.6**
SRA1	**San Ramn**	**1.86**	**98**	*e*P	**Pn**	**08 49 28.4**	**-0.6**
PALD	**Palmares**	**1.90**	**99**	*e*P	**Pn**	**08 49 30.5**	**+0.8**
VPL2	**V. Platanar**	**1.93**	**92**	*e*P	**Pn**	**08 49 29.7**	**-0.4**
COVE	**Coope Vega, Sa**	**1.94**	**79**	P	**Pn**	**08 49 32.0**	**+1.9**
COVE	**Coope Vega, Sa**	**1.94**	**79**	S	**Sn**	**08 49 55.5**	**+1.3**
ACON	**Acoyapa**	**1.96**	**36**	*e*P	**Pn**	**08 49 28.9**	**-1.4**
ACON	**Acoyapa**	**1.96**	**36**	P	**Pn**	**08 49 28.8**	**-1.6**
ATEO	**Atenas**	**1.97**	**101**	*e*P	**Pn**	**08 49 29.7**	**-0.8**
PURI	**Puriscal**	**2.07**	**104**	*e*P	**Pn**	**08 49 34.1**	**+2.2**
ARTO	**Ro Cuarto**	**2.09**	**90**	*e*P	**Pn**	**08 49 31.7**	**-0.5**
UELA	**Alajuela**	**2.13**	**99**	*e*P	**Pn**	**08 49 34.3**	**+1.6**
MOM3	**MOM3**	**2.14**	**355**	P	**Pn**	**08 49 33.5**	**+0.7**
CNGA	**Al SSO del Vol**	**2.14**	**351**	P	**Pn**	**08 49 34.2**	**+1.2**
CNGA				S	**Sn**	**08 50 00.3**	**+1.0**
CNGN	**Cerro Negro**	**2.15**	**351**	*e*P	**Pn**	**08 49 33.9**	**+0.9**
CNGN	**Cerro Negro**	**2.15**	**351**	P	**Pn**	**08 49 33.9**	**+0.9**
BOAB	**BOACO BRADBAM**	**2.17**	**1**	P	**Pn**	**08 49 34.2**	**+0.9**
PAR1A	**Puntarenas Pro**	**2.20**	**110**	*e*P	**Pn**	**08 49 34.4**	**+0.8**
HEME	**Heredia, Merce**	**2.20**	**99**	*e*P	**Pn**	**08 49 37.6**	**+0.3**
ACOS	**Acosta**	**2.22**	**105**	*e*P	**Pn**	**08 49 35.4**	**+1.3**
HDC	**Heredia**	**2.23**	**99**	*e*P	**Pn**	**08 49 35.6**	**+1.5**
ILCN	**San Idelfonso**	**2.23**	**351**	P	**Pn**	**08 49 34.2**	**+0.2**
ILCN				S	**Sn**	**08 50 00.4**	**-0.8**
PICV	**PH. Pirrs**	**2.24**	**109**	*e*P	**Pn**	**08 49 35.0**	**+0.8**
POLN	**Al Sur del Vol**	**2.32**	**349**	P	**Pn**	**08 49 35.1**	**-0.1**
CORON	**Coronado**	**2.34**	**99**	*e*P	**Pn**	**08 49 38.0**	**+2.3**
LCR2	**La Lucha 2**	**2.38**	**105**	*e*P	**Pn**	**08 49 36.9**	**+0.5**
LCR2	**La Lucha 2**	**2.38**	**105**	P	**Pn**	**08 49 37.0**	**+0.6**
CVIMO	**Finca Echandi**	**2.39**	**98**	*e*P	**Pn**	**08 49 37.1**	**+0.7**
PIEC	**Cerro El Cedra**	**2.46**	**107**	*e*P	**Pn**	**08 49 39.1**	**+1.6**
VICA	**Volcano Irazu**	**2.49**	**99**	*e*P	**Pn**	**08 49 40.2**	**+2.2**
PILE	**Guapiles**	**2.52**	**93**	*e*P	**Pb**	**08 49 41.9**	**-0.7**
PCAYA	**Pacayas**	**2.53**	**100**	*e*P	**Pn**	**08 49 38.9**	**+0.5**
CVTV	**Tajo**	**2.58**	**98**	*e*P	**Pn**	**08 49 41.0**	**+1.8**
MATA	**Matagalpa**	**2.58**	**P**	P	**Pn**	**08 49 37.5**	**-1.4**
VERB	**Verbena**	**2.64**	**99**	*e*P	**Pn**	**08 49 41.3**	**+1.4**
RESJ	**San Isidro (Tu**	**2.68**	**97**	*e*P	**Pn**	**08 49 42.4**	**+2.1**
CSGN	**Cosiguina Volc**	**2.85**	**335**	*e*P	**Pn**	**08 49 44.0**	**+1.3**
SAJE	**San Jernim**	**2.97**	**110**	*e*P	**Pn**	**08 49 45.7**	**+1.3**

IDC 27 09:07:00.4±15.0, **49.69S**×**107.24E**, **h0**km, **mb3.5**/2,
mbtmp3.5/2, **MS3.5**/3, **Error ellipse: s-maj=844.6km**
s-min=48.6km az=119.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.62**	**21**	T	T	09 26 31.8	
	baz=200,slow=74,SNR=17						
H01W1	**Cape Leeuwin H**	**15.63**	**22**	T	T	09 26 33.0	
	baz=200,slow=74,SNR=17						
H01W3	**Cape Leeuwin H**	**15.63**	**21**	T	T	09 26 33.2	
	baz=200,slow=74,SNR=15						
MAW	**Mawson**	**28.33**	**214**	LR	LR	09 21 43.0	
	comp=Z,79nm,21.6s,baz=34,slow=31						
ASAR	**Alice Springs**	**33.31**	**49**	P	P	09 13 39.8	-0.1
	0.4nm,0.8s,baz=208,slow=7.9,SNR=4.3						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**36.70**	**46**	P	P	09 14 09.0	0.0
	0.9nm,0.8s,baz=212,slow=8.0,SNR=3.8						
	0.9nm,0.8s						
PMG	**Port Moresby**	**52.05**	**53**	LR	LR	09 37 17.9	
	comp=Z,75nm,20.5s,baz=304,slow=35						
PMSA	**Palmer Station**	**65.69**	**184**	LR	LR	09 44 41.2	
	comp=Z,36nm,20.1s,baz=194,slow=34						
NVAR	**Mina Array Bea**	**145.88**	**92**	PKPbc	PKPdf	09 26 40.3	-0.6
	0.8nm,0.7s,baz=252,slow=3.7,SNR=7.6						
TXAR	**Lajitas Array**	**149.00**	**119**	PKPbc	PKPbc	09 26 49.9	-0.3
	0.7nm,0.9s,baz=190,slow=3.2,SNR=6.9						

*IDC **27** 09:09:29.1±0.9, 54.40N×35.26W, h0km, mb3.6/10,*
mbtmp3.6/12, ML3.3/2, MS3.6/37, Error ellipse:
s-maj=34.1km s-min=16.6km az=4.0
ISC 27 09:09:30.5±0.8, **54.4N**±0.2×**35.27W**±0.10, **h10**km, **n44**,
σt=**73**/13, **mb3.6**/9, **MS3.6**/33, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**12.52**	**28**	LR	LR	09 15 46.2	
	comp=Z,202nm,21.6s,baz=219,slow=30						
SFJD	**Kangerlussuaq**	**14.64**	**336**	LR	LR	09 17 35.9	
	comp=Z,102nm,18.2s,baz=84,slow=33						
SCHQ	**Schefferville**	**18.21**	**284**	P	**Pn**	**09 13 42.8**	**-0.3**
	0.2nm,0.3s,baz=42,slow=14,SNR=2.5						
SCHQ				LR	LR	09 19 34.4	
	comp=Z,103nm,19.1s,baz=63,slow=33						
	3.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**18.43**	**74**	P	**P**	**09 13 45.1**	**-0.6**
	baz=277,slow=11						
	2.5nm,0.9s						
FRB	**Frobisher Bay**	**19.27**	**312**	LR	LR	09 19 36.4	
	comp=Z,92nm,21.0s,baz=70,slow=32						
JMIC	**Jan Mayen**	**20.37**	**25**	LR	LR	09 19 34.0	
	comp=Z,124nm,18.5s,baz=278,slow=30						
NOA	**NORSAR Array B**	**25.23**	**56**	P	**P**	**09 14 56.4**	**+0.1**
	0.6nm,0.9s,baz=274,slow=9.0,SNR=2.7						
NOA				LR	LR	09 23 06.5	
	comp=Z,113nm,19.1s,baz=280,slow=32						
	0.6nm,0.9s						
ESDC	**Sonseca Array**	**25.65**	**112**	P	**P**	**09 15 01.2**	**+0.9**
	2.9nm,1.1s,baz=308,slow=8.1,SNR=8.3						
ESDC				LR	LR	09 22 43.0	
	comp=Z,78nm,19.8s,baz=316,slow=31						
	2.9nm,1.1s						
HFS	**Hagfors**	**26.57**	**58**	LR	LR	09 24 27.2	
	comp=Z,120nm,19.1s,baz=287,slow=34						
DAVOX	**Davos/Dischmat**	**29.23**	**86**	LR	LR	09 26 02.0	
	comp=Z,166nm,19.2s,baz=265,slow=34						
SADO	**Sadowa**	**29.58**	**269**	LR	LR	09 26 25.7	
	comp=Z,186nm,19.3s,baz=348,slow=34						
GERES	**GERESS Array B**	**30.39**	**80**	LR	LR	09 26 52.9	
	comp=Z,129nm,18.1s,baz=316,slow=34						

RES	**Resolute Bay**	**30.62**	**333**	LR	LR	09 27 40.2	
	comp=Z,49nm,22.0s,baz=358,slow=36						
VRAC	**Vranov**	**31.83**	**77**	LR	LR	09 27 25.9	
	comp=Z,101nm,18.5s,baz=296,slow=34						
FINES	**FINESS Array B**	**32.21**	**52**	LR	LR	09 26 48.0	
	comp=Z,166nm,21.7s,baz=333,slow=32						
VAE	**Valguarnera**	**37.58**	**96**	LR	LR	09 30 15.9	
	comp=Z,49nm,19.8s,baz=314,slow=33						
TKL	**Tuckaleechee C**	**38.16**	**261**	LR	LR	09 31 35.5	
	comp=Z,113nm,20.2s,baz=32,slow=35						
AKASG	**Malin Array Be**	**38.17**	**68**	P	**P**	**09 16 49.2**	**-0.5**
	0.1nm,0.3s,baz=299,slow=8.3,SNR=4.2						
AKASG				LR	LR	09 31 41.9	
	comp=Z,56nm,18.5s,baz=280,slow=35						
	0.1nm,0.3s						
MLR	**Muntele Rosu**	**39.23**	**77**	LR	LR	09 31 53.3	
	comp=Z,114nm,20.1s,baz=345,slow=34						
SJG	**San Juan**	**43.28**	**225**	LR	LR	09 32 15.2	
	comp=Z,27nm,20.0s,baz=46,slow=32						
INK	**Inuvik**	**43.80**	**328**	LR	LR	09 34 59.2	
	comp=Z,62nm,20.1s,baz=27,slow=35						
KIRV	**Kirov**	**44.00**	**49**	LR	LR	09 33 51.3	
	comp=Z,103nm,18.9s,baz=166,slow=33						
BRTR	**Keskin Array B**	**47.26**	**78**	P	**P**	**09 18 05.0**	**+1.2**
	1.0nm,0.7s,baz=324,slow=9.3,SNR=4.3						
	1.0nm,0.7s						
PDAR	**Pinedale Array**	**48.29**	**288**	P	**P**	**09 18 11.4**	**-0.4**
	0.4nm,0.7s,baz=51,slow=8.0,SNR=4.2						
PDAR				LR	LR	09 37 33.0	
	comp=Z,60nm,18.3s,baz=2.5,slow=35						
	0.4nm,0.7s						
NEW	**Newport**	**48.79**	**298**	LR	LR	09 36 13.8	
	comp=Z,56nm,21.9s,baz=352,slow=33						
ARTI	**Arti**	**49.20**	**47**	LR	LR	09 37 23.0	
	comp=Z,92nm,19.1s,baz=106,slow=34						
KBZ	**Khabaz**	**49.78**	**68**	LR	LR	09 39 30.6	
	comp=Z,74nm,19.6s,baz=14,slow=36						
ILAR	**Eielson Array**	**50.17**	**329**	LR	LR	09 38 15.4	
	comp=Z,42nm,18.4s,baz=38,slow=34						
TORD	**Torodi Ar. Bea**	**50.32**	**130**	P	**P**	**09 18 26.4**	**-0.9**
	1.5nm,1.1s,baz=342,slow=10.0,SNR=7.6						
	1.5nm,1.1s						
ANMO	**Albuquerque**	**51.87**	**279**	LR	LR	09 40 06.2	
	comp=Z,136nm,18.6s,baz=116,slow=35						
ELK	**Elko**	**52.79**	**290**	LR	LR	09 40 00.3	
	comp=Z,65nm,18.6s,baz=18,slow=35						
AKTO	**Aktyubinsk**	**52.98**	**53**	LR	LR	09 40 27.0	
	comp=Z,112nm,18.7s,baz=38,slow=35						
GNI	**Garni**	**53.22**	**70**	LR	LR	09 42 21.1	
	comp=Z,59nm,19.1s,baz=322,slow=37						
DBIC	**Dimbokro**	**53.52**	**141**	LR	LR	09 38 55.2	
	comp=Z,54nm,19.3s,baz=68,slow=33						
TXAR	**Lajitas Array**	**54.31**	**272**	P	**P**	**09 18 57.1**	**+0.1**
	0.3nm,0.8s,baz=87,slow=5.1,SNR=3.7						
TXAR				LR	LR	09 41 39.8	
	comp=Z,57nm,18.1s,baz=9.0,slow=36						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**56.10**	**290**	P	**P**	**09 19 11.0**	**+1.1**
	0.1nm,0.3s,baz=35,slow=5.1,SNR=1.5						
	0.1nm,0.3s						
ROSC	**El Rosal**	**58.63**	**227**	LR	LR	09 44 11.6	
	comp=Z,44nm,19.9s,baz=60,slow=36						
CMIG	**Matias Romero**	**58.68**	**255**	LR	LR	09 42 39.0	
	comp=Z,40nm,

MT05 IAML 09 16 06.3
comp=Z,382nm,0.2s
MT14 **Cerro Cal¡n** **2.13** **18** *eP* **Pn** **09 15 38.1 +0.1**
MT14 IAML 09 16 08.4
comp=E,654nm,0.3s
MT02 **Curacav** **2.17** **4** *eP* **Pn** **09 15 38.3 -0.1**
MT02 **Curacav** **2.17** **4** *eP* **Pn** **09 15 38.2 -0.3**
MT02 *eS* **Sn** **09 16 05.2 +0.2**
MT02 IAML 09 16 05.5
comp=Z,259nm,0.7s
MT04 **Ro Olivares** **2.25** **26**⇓ *eP* **Pn** **09 15 40.4 +0.7**
MT04 *eS* **Sn** **09 16 07.8 +0.7**
MT04 IAML 09 16 09.7
comp=E,473nm,0.4s
MT04 **Ro Olivares** **2.25** **26** *eP* **Pn** **09 15 39.8 +0.1**
MT04 *eS* **Sn** **09 16 07.3 +0.3**
MT04 IAML 09 16 09.1
comp=Z,266nm,0.6s
MT10 **Hacienda Santa** **2.25** **17** *eP* **Pn** **09 15 39.6 0.0**
MT10 IAML 09 16 11.7
comp=E,922nm,0.2s
MT08 **Bocatoma Ro** **2.26** **29** *eP* **Pn** **09 15 41.4 +1.5**
MT08 **Bocatoma Ro** **2.26** **29** *eP* **Pn** **09 15 41.1 +1.3**
MT08 *eS* **Sn** **09 16 10.6 +3.3**
FCH **Farellones** **2.27** **23** *eP* **Pn** **09 15 40.4 +0.3**
FCH IAML 09 16 10.8
comp=N,370nm,0.1s
RFA **San Rafael** **2.44** **75** *eP* **Pn** **09 15 42.5 +0.4**
RFA *eS* **Sn** **09 16 03.4 -8.0**
ROCH **El Roble** **2.46** **6** *eP* **Pn** **09 15 42.2 -0.3**
ROCH IAML 09 16 15.1
comp=N,458nm,0.2s
VA03 **San Esteban** **2.73** **14** *eP* **Pn** **09 15 45.9 -0.2**
VA03 *eS* **Sn** **09 16 19.1 +0.6**
VA03 IAML 09 16 23.5
comp=Z,173nm,0.2s
RTLS **Leoncito** **4.00** **26** *eP* **Pn** **09 16 04.0 +0.9**
RTLS IAML 09 16 56.6
comp=Z,66nm,0.4s
GO06 **Curarrehue** **4.15** **181** *eP* **Pn** **09 16 06.6 +1.5**
GO06 *eP* 09 16 07.3
CO02 **Combarbal** **4.22** **4** *eP* **Pn** **09 16 05.7 -0.4**
CO02 *eS* **Sn** **09 16 54.6 +0.3**
CO02 IAML 09 16 59.2
comp=Z,56nm,0.5s
LR03 **Panguipulli** **4.27** **191** *eP* **Pn** **09 16 05.9 -0.7**
LR03 *eS* **Sn** **09 16 55.4 +0.1**
CFA **Coronel Fontan** **4.61** **35** *eP* **Pn** **09 16 10.8 -0.3**
CFA *eS* **Sn** **09 17 03.2 -0.3**
ACAN **Cantantal** **4.67** **49** *eP* **Pn** **09 16 11.5 -0.5**
ACAN IAML 09 17 22.7
comp=Z,34nm,2.0s

IDC 27 09:40:50.6±2.3, 6°.89N×124°.31E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=256.4km s-min=24.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.27**	**82**	LR	LR	09 41 49.3	
	comp=Z,191nm,18.2s,baz=332,slow=46						
WRA	**Warramunga Arr**	**28.43**	**160**	P	P	09 46 47.1	-0.2
	0.6nm,1.0s,baz=338,slow=10,SNR=2.0						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**31.78**	**163**	P	P	09 47 17.3	+0.3
	0.3nm,0.8s,baz=346,slow=8.6,SNR=2.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**53.60**	**325**	P	P	09 50 15.0	+1.3
	0.7nm,0.7s,baz=120,slow=7.1,SNR=4.8						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**57.79**	**327**	P	P	09 50 42.3	-1.4
	0.3nm,0.3s,baz=125,slow=6.5,SNR=5.4						
	0.3nm,0.3s						

*ASRS **27** 09:40:55.0±1.0, 54°.20N×86°.38E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 27 09:40:57.3±3.1, 54°.20N×86°.50E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.1km s-min=13.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**256**	I	I	09 47 30.0	
	baz=73,slow=322,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.02**	**256**	Pg	Pg	09 41 15.2	-1.8
	2.4nm,0.3s,baz=75,slow=17,SNR=25						
ZALV				Lg	Lg	09 41 32.3	
	2.7nm,0.3s,baz=79,slow=31,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.05**	**237**	Pn	Pn	09 42 29.0	+1.0
	0.1nm,0.3s,baz=52,slow=14,SNR=4.8						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.89**	**202**	Pn	Pn	09 42 54.6	+1.3
	0.1nm,0.3s,baz=23,slow=13,SNR=2.7						
MKAR				Lg	Lg	09 45 07.3	
	baz=27,slow=29,SNR=2.4						
	0.2nm,0.3s						

IDC 27 09:45:00.0±13.0, 15°.43S×165°.55E, h0km, mb3.8/3, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=233.4km s-min=35.9km az=54.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.66**	**173**	Pn	Pn	09 46 39.2	-0.1
	6.1nm,0.3s,baz=338,slow=5.4,SNR=37						
DZM				Sn	Sn	09 47 57.2	+1.3
	2.3nm,0.3s,baz=323,slow=21,SNR=4.2						
	24nm,0.5s						
STKA	**Stephens Creek**	**27.27**	**229**	P	P	09 50 46.2	0.0
	1.2nm,0.6s,baz=45,slow=9.9,SNR=7.7						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**30.04**	**257**	P	P	09 51 11.0	-0.1
	0.6nm,0.9s,baz=82,slow=7.0,SNR=4.8						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**30.87**	**250**	P	P	09 51 18.4	+0.1
	1.0nm,0.6s,baz=78,slow=9.2,SNR=16						
	1.0nm,0.6s						

*IDC **27** 09:57:50.3±0.7, 28°.95N×86°.43E, h0km, mb3.9/16, mbtmp3.9/18, ML4.0/2, Error ellipse: s-maj=26.5km s-min=14.7km az=45.0*
*NEIC **27** 09:57:51.0±2.4, 28°.90N±0°.04×86°.45E±0°.07, h10km±1km, mb4.5/33, Error ellipse: s-maj=12.0km s-min=3.7km az=303.0*
*DMN **27** 09:57:51.5±0.0, 29°.03N×86°.65E, h2km, Ml4.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NDI **27** 09:58:01.8±0.5, 28°.92N×86°.43E, h10km, ML4.0, MW4.1, mb4.5(NEIC)*

ISC 27 09:57:54.4±1.2, 28°.99N±0°.04×86°.60E±0°.04, h33km±6km, n81, σ1°87/88, mb4.3/29, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVN	**Everest**	**1.05**	**169**		**Pn**	**09 58 12.4**	**-1.0**
GUN	**Gumba**	**1.25**	**211**	Pg	**Pn**	**09 58 15.9**	**0.0**
	baz=211,slow=0.0						
GUN				Sg	**Sn**	**09 58 32.8**	**+1.1**
	5µm,0.5s,baz=211,slow=0.0						
KKN	**Kakani**	**1.67**	**224**	Pg	**Pb**	**09 58 24.4**	**-0.2**
	baz=225,slow=0.0						
KKN				Sg	**Sb**	**09 58 45.3**	**-0.1**
	4µm,0.5s,baz=225,slow=0.0						
PKI	**Pulchoki**	**1.76**	**217**	Pg	**Pn**	**09 58 25.5**	**+2.6**
	baz=217,slow=0.0						
PKI				Sg	**Sb**	**09 58 50.1**	**+1.9**
	2µm,0.5s,baz=217,slow=0.0						
PKIN	**Phulchoki**	**1.77**	**217**	Pg	**Pn**	**09 58 25.6**	**+2.7**
	baz=218,slow=0.0						
PKIN				Sg	**Sb**	**09 58 50.1**	**+1.9**
	2µm,0.4s,baz=218,slow=0.0						
DMN	**Daman**	**1.91**	**224**	Pg	**Pb**	**09 58 28.3**	**-0.4**
	1µm,0.5s,baz=224,slow=0.0						
DMN				Sg	**Sb**	**09 58 54.2**	**+2.0**
	2µm,0.8s,baz=224,slow=0.0						
RAMN	**Ramite**	**2.04**	**180**	Pg	**Pb**	**09 58 30.1**	**-0.8**
	baz=181,slow=0.0						
RAMN				Sg	**Sb**	**09 58 57.5**	**+1.6**
	1µm,0.4s,baz=181,slow=0.0						
ODAN	**Odare**	**2.24**	**162**	Pg	**Pb**	**09 58 34.2**	**-0.1**
	baz=163,slow=0.0						
ODAN				Sg	**Sb**	**09 59 03.3**	**+1.6**
	1µm,0.4s,baz=163,slow=0.0						
GTK	**Tadong**	**2.43**	**133**	*eP*	Pb	09 58 43.2	+5.7
GTK				*eS*	**Sb**	**09 59 12.6**	**+5.5**
GTK				IAML		09 59 13.8	
	comp=N,347nm,0.4s						
DANN	**Dangsing**	**2.58**	**256**	Pn	**Pn**	**09 58 37.1**	**+3.1**
	baz=256,slow=0.0						
DANN	**Dangsing**	**2.58**	**256**	Pg	**Pb**	**09 58 40.9**	**+0.8**
	baz=256,slow=0.0						
DANN				Sg	**Sb**	**09 59 14.8**	**+3.4**
	baz=256,slow=0.0						
ARIA	**ARARIA**	**2.95**	**165**	IAML		09 59 27.9	
	comp=E,1µm,0.6s						
ARIA				IAML		09 59 28.2	
	comp=N,1µm,0.4s						
ARIA				*eS*		10 01 31.7	
JPG	**JALPAIGURI**	**3.08**	**142**	*eS*	**Sb**	**09 59 27.0**	**+1.5**
JPG				IAML		09 59 37.9	
	comp=N,462nm,0.5s						
JPG				IAML		09 59 42.6	
	comp=E,355nm,0.0s						
GAYA	**Gaya**	**4.35**	**197**	*eP*	**Pb**	**09 59 06.7**	**-3.4**
GAYA				*eS*	**Sn**	**09 59 53.6**	**+5.9**
GAYA				IAML		10 00 05.1	
	comp=N,127nm,0.4s						
GAYA				IAML		10 00 05.3	
	comp=E,186nm,0.4s						
SHL	**Shillong**	**5.81**	**125**	Pn	**Pn**	**09 59 18.9**	**+0.5**
ZIRO	**ZIRO**	**6.56**	**101**	*eP*	Pb	09 59 39.8	-8.0
NIL	**Nilore**	**12.32**	**295**		**Pn**	**10 00 44.9**	**-2.5**
HYB	**Hyderabad**	**13.69**	**214**	*eP*	**Pn**	**10 01 03.2**	**-3.0**
TARG	**Taragay, Kyrgy**	**14.58**	**333**	Pn	**Pn**	**10 01 18.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.40**	**130**	Pn	**Pn**	**10 01 28.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**15.40**	**130**	Pn	**Pn**	**10 01 30.1**	**+0.8**
	comp=E,0.3nm,0.3s,baz=314,slow=10.0,SNR=11						
	comp=E,0.7nm,0.2s						
KBL	**Kabul**	**15.92**	**295**	Pn	**Pn**	**10 01 33.2**	**-2.9**
GAR	**Garm**	**16.77**	**311**	Pn	**Pn**	**10 01 44.5**	**-2.3**
CHGR	**Chuyangaron**	**17.38**	**308**		**Pn**	**10 01 50.7**	**-3.7**
CHGR				IAmb	IAmb	10 02 09.6	
	comp=Z,17nm,0.7s						
SIMJ	**Simiganj**	**17.48**	**308**	Pn	**Pn**	**10 01 52.5**	**-3.2**
MKAR	**Makanchi Array**	**18.09**	**350**		**Pn**	**10 02 02.4**	**-0.6**
MKAR	**Makanchi Array**	**18.09**	**350**	Pn	**P**	**10 02 02.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=174,slow=13,SNR=17						
	comp=Z,2.5nm,0.8s						
KK31	**Karatay Array**	**19.12**	**322**	P	**P**	**10 02 12.7**	**-1.9**
KKAR	**Karatay Array**	**19.12**	**322**	P	**P**	**10 02 12.7**	**-1.8**
KURBB	**Kurchatov Arra**	**22.45**	**346**	P	**P**	**10 02 51.0**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=163,slow=9.9,SNR=12						
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**22.52**	**347**	P	**P**	**10 02 49.8**	**-1.4**
SONM	**Songino Array**	**24.26**	**34**	P	**P**	**10 03 10.6**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=218,slow=9.1,SNR=4.0						
	comp=Z,1.3nm,0.7s						
BVAR	**Borovoye Array**	**26.82**	**338**	P	**P**	**10 03 33.2**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=148,slow=16,SNR=2.9						
	comp=Z,0.6nm,0.4s						
AB31	**Akbulak array**	**28.68**	**322**	P	**P**	**10 03 46.2**	**-2.0**
ABKAR	**Akbulak array**	**28.68**	**322**	P	**P**	**10 03 46.0**	**-2.2**
KAAM	**Kaadhehdhoo**	**31.18**	**207**	P	**P**	**10 04 07.7**	**-2.9**
KSRS	**Korea Array**	**35.36**	**65**	P	**P**	**10 04 46.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=259,slow=8.9,SNR=2.6						
	comp=Z,0.6nm,0.5s						
MJB9	**Matsu-Tunnel**	**43.61**	**66**	P	**P**	**10 05 55.3**	**-0.3**
MJB9				IAmb	IAmb	10 06 03.6	
	comp=Z,10nm,1.5s						
MAJO	**Matsushiro**	**43.61**	**66**	P	**P**	**10 05 54.8**	**-0.9**
MAJO				IAmb	IAmb	10 06 02.2	
	comp=Z,11nm,1.5s						
BRTR	**Keskin Array B**	**44.44**	**298**	P	**P**	**10 06 01.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=118,slow=8.3,SNR=4.0						
	comp=Z,0.5nm,0.5s						
FIA1	**FINESS Array S**	**50.95**	**327**	P	**P**	**10 06 52.9**	**+0.6**
FINES	**FINESS Array B**	**50.95**	**327**	P	**P**	**10 06 52.8**	**+0.5**
FINES	**FINESS Array B**	**50.95**	**327**	P	**P**	**10 06 53.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=101,slow=9.5,SNR=4.2						
	comp=Z,1.1nm,0.6s						
ARCES	**ARCESS Array B**	**53.11**	**337**	P	**P**	**10 07 07.7**	**-0.6**
ARCES	**ARCESS Array B**	**53.11**	**337**	P	**P**	**10 07 09.7**	**+1.4**
	comp=Z,2.9nm,0.9s,baz=101,slow=6.3,SNR=7.0						
	comp=Z,2.9nm,0.9s						
PETK	**Petropavlovsk-**	**56.23**	**43**	P	**P**	**10 07 31.4**	**+0.1**
HFS	**Hagfors**	**56.88**	**325**	P	**P**	**10 07 36.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=93,slow=8.9,SNR=7.6						
	comp=Z,0.6nm,0.3s						
NC405	**NORSAR Array S**	**57.83**	**326**	P	**P**	**10 07 42.8**	**+0.4**
NC405				IAmb	IAmb	10 07 51.0	
	comp=Z,11nm,1.4s						
GERES	**CESS Array B**	**57.84**	**312**	P	**P**	**10 07 42.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=66,slow=6.4,SNR=5.7						
	comp=Z,0.8nm,0.6s						
CLL	**Collm**	**57.95**	**315**	*eP*	**P**	**10 07 45.0**	**+1.6**
NOA	**NORSAR Array B**	**58.07**	**326**	P	**P**	**10 07 44.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=86,slow=7.1,SNR=2.7						
	comp=Z,0.5nm,0.5s						
EKA	**Eskdalemuir Ar**	**66.56**	**321**	P	**P**	**10 08 41.5**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=82,slow=6.0,SNR=4.6						
	comp=Z,0.5nm,0.4s						
WRA	**Warramunga Arr**	**67.00**	**131**	P	**P**	**10 08 46.4**	**+2.1**
	comp=Z,2.4nm,0.6s,baz=317,slow=6.2,SNR=19						
	comp=Z,2.4nm,0.6s						
CEST	**Esterri de Car**	**67.81**	**307**	P	**P**	**10 08 49.0**	**-0.3**
COEN	**Coen**	**69.33**	**120**	P	**P**	**10 08 57.9**	**-1.1**
AS31	**Alice Springs**	**69.38**	**134**	P	**P**	**10 08 57.6**	**-1.5**
AS31				IAmb	IAmb	10 09 18.6	
	comp=Z,2.1nm,0.6s						
ASAR	**Alice Springs**	**69.38**	**134**	P	**P**	**10 08 57.1**	**-2.0**
ASAR	**Alice Springs**	**69.38**	**134**	P	**P**	**10 09 00.9**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=317,slow=6.3,SNR=22						
	comp=Z,3.0nm,0.7s						
ESDC	**Sonseca Array**	**72.54**	**306**	P	**P**	**10 09 19.1**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=71,slow=7.0,SNR=5.8						
	comp=Z,0.9nm,0.9s						
E19K	**Redstone River**	**72.78**	**21**	P	**P**	**10 09 19.2**	**0.0**
E19K				IAmb	IAmb	10 09 39.9	
	comp=Z,9.8nm,1.4s						
E24K	**Your Creek**	**75.01**	**19**	P	**P**	**10 09 32.4**	**+0.2**
E24K				IAmb	IAmb	10 09 35.2	
	comp=Z,9.6nm,1.4s						
C27K	**Jago River**	**75.18**	**16**	P	**P**	**10 09 34.2**	**+1.1**
BMAR	**Burnt Mountain**	**76.54**	**18**	P	**P**	**10 09 43.1**	**+2.1**
E28M	**Babbage River**	**76.95**	**16**	P	**P**	**10 09 45.5**	**+2.3**
E28M				IAmb	IAmb	10 10 07.4	
	comp=Z,3.1nm,1.1s						
E29M	**Blow River**	**77.50**	**15**	P	**P**	**10 09 48.4**	**+2.1**
E29M				IAmb	IAmb	10 10 29.5	
	comp=Z,5.8nm,1.4s						
ILAR	**Eielson Array**	**77.74**	**21**	P	**P**	**10 09 49.3**	**+1.6**
ILAR	**Eielson Array**	**77.74**	**21**	P	**P**	**10 09 48.9**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=320,slow=6.6,SNR=5.5						
	comp=Z,0.5nm,0.8s						
F30M	**Barrier River**	**78.61**	**15**	P	**P**	**10 09 54.5**	**+2.1**
F30M				IAmb	IAmb	10 10 21.8	
	comp=Z,8.0nm,1.2s						
H29M	**Whitestone**	**79.08**	**17**	P	**P**	**10 09 55.9**	**+0.8**
H29M				IAmb	IAmb	10 10 25.8	
	comp=Z,5.5nm,1.4s						
I28M	**Miner Creek**	**79.26**	**18**	P	**P**	**10 09 58.0**	**+1.8**
I28M				IAmb	IAmb	10 10 17.4	
	comp=Z,4.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**79.35**	**279**	P	**P**	**10 09 57.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=67,slow=5.2,SNR=4.5						
	comp=Z,0.4nm,0.6s						
G31M	**Satah River**	**79.51**	**15**	P	**P**	**10 09 58.6**	**+1.2**
G31M				IAmb	IAmb	10 10 21.9	
	comp=Z,9.9nm,1.4s						
I30M	**Mount Dempster**	**80.38**	**17**	P	**P**	**10 10 03.7**	**+1.4**
H31M	**Peel River**	**80.41**	**16**	P	**P**	**10 10 03.5**	**+1.2**
H31M				IAmb	IAmb	10 10 30.2	
	comp=Z,10nm,1.4s						
BCAR	**Beaver Creek A**	**80.54**	**20**	P	**P**	**10 10 04.6**	**+1.6**
K29M	**Barlow Dome**	**81.17**	**18**	P	**P**	**10 10 08.3**	**+1.8**
ILON	**Igloolik, Nuna**	**81.56**	**356**	P	**P**	**10 10 09.2**	**+0.9**
YKAW3	**Yellowknife Wh**	**87.19**	**10**	P	**P**	**10 10 37.8**	**+0.9**
YKAW3				IAmb	IAmb	10 10 57.2	
	comp=Z,7.1nm,1.4s						
YKAW1	**Yellowknife Wh**	**87.28**	**10**	P	**P**	**10 10 38.5**	**+1.1**
YKAW1				IAmb	IAmb	10 11 22.3	
	comp=Z,8.8nm,1.4s						
TXAR	**Lajitas Array**	**121.18**	**10**	PKP	**PKiKP**	**10 16 45.9**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=330,slow=0.8,SNR=7.1						
CPUP	**Villa Florida**	**148.02**	**266**	PKPbc	**PKPbc**	**10 17 36.7**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=203,slow=3.2,SNR=1.3						

*IDC **27** 09:58:20.4±3.8, 53°.80N×88°.02E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=37.9km s-min=21.1km az=44.0*

ASRS 27 09:58:18.0±2.0, 53°.66N×88°.19E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.02**	**280**	I	I	10 11 00.0	
	baz=94,slow=318,SNR=5.8						
ZALV	**Zalesovo Beam**	**2.02**	**280**	Pn	Pb	09 58 54.6	-0.9
	0.4nm,0.3s,baz=96,slow=13,SNR=7.8						
ZALV				Lg	Lg	09 59 21.8	
	0.8nm,0.3s,baz=97,slow=25,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.68**	**247**	Pn	Pn	09 59 57.5	+0.2
	baz=63,slow=14,SNR=1.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.84**	**211**	Pn	Pn	10 00 19.2	+5.9
	0.1nm,0.3s,baz=18,slow=13,SNR=2.3						
	0.1nm,0.4s						

DJA 27 10:00:57.6±0.4, 1°.N±5°×12°.4E±°, h114km±6km, M3.9/9, mB5.0/1, mb4.2/1, MLv3.8/9, Mw(mB)4.3/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.29**	**176**	P	Pn	10 01 12.5	-1.3
KMSI				S	Sn	10 01 27.3	+1.3
MRSI	**Marisa**	**2.06**	**259**	P	Pn	10 01 32.5	+1.0
LUWI	**Luwuk**	**2.24**	**212**	P	Pn	10 01 34.9	+1.1
LUWI				S	Sn	10 02 00.8	-0.8
APSI	**Ampana**	**2.91**	**233**	P	Pn	10 01 46.5	+4.0
SGSI	**Sangihe**	**3.21**	**29**	P	Pn	10 01 42.9	-3.6
SANI	**Sanana**	**3.54**	**145**	P	Pn	10 01 51.0	+0.1
TTSI	**Tana Toraja**	**5.68**	**227**	P	Pn	10 02 20.1	+0.4

IDC 27 10:05:12.5±1.7, 30°.07N×99°.84E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=55.4km s-min=26.3km az=46.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.55**	**326**	P	P	10 10 05.2	+1.8
	0.9nm,0.7s,baz=130,slow=10.0,SNR=4.9						
	0.9nm,0.7s						
KSRS	**Korea Array**	**24.42**	**65**	P	P	10 10 32.5	-0.3
	1.5nm,0.8s,baz=261,slow=10,SNR=4.6						
	1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**26.01**	**328**	P	P	10 10 45.7	-1.3
	0.4nm,0.5s,baz=148,slow=8.8,SNR=4.7						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**59.79**	**142**	P	P	10 15 19.8	+0.1
	0.5nm,0.7s,baz=331,slow=7.5,SNR=4.6						
	0.5nm,0.7s						

*IDC **27** 10:05:26.4±4.1, 6°.56S×128°.78E, h254km±39km, mb3.3/2, mbtmp4.0/6, Error ellipse: s-maj=52.7km s-min=15.1km az=66.0*

ISC 27 10:05:25.5±1.4, 6°.6S±0°.1×128°.9E±0°.2, h250km, n6, σ1°07/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.37**	**235**	P	**Pn**	**10 06 57.5**	**-0.8**
	16nm,0.3s,baz=92,slow=21,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.93**	**195**	P	**Pn**	**10 08 08.4**	**+0.2**
	2.5nm,0.5s,baz=70,slow=12,SNR=20						
FITZ				S	**S**	**10 10 21.6**	**+0.3**
	0.6nm,0.3s,baz=107,slow=18,SNR=1.6						
WRA	**Warramunga Arr**	**14.31**	**159**	P	**P**	**10 08 38.7**	**+0.9**
	0.7nm,0.3s,baz=335,slow=13,SNR=32						
WRA				S	**S**	**10 11 13.7**	**-2.3**
	0.4nm,0.4s,baz=340,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**17.68**	**165**	P	**Pn**	**10 09 17.6**	**+0.2**
	4.4nm,0.5s,baz=344,slow=11,SNR=50						
ASAR				S	**S**	**10 12 25.3**	**+0.1**
	0.9nm,0.8s,baz=347,slow=24,SNR=5.4						
MKAR	**Makanchi Array**	**67.28**	**327**	P	**P**	**10 15 53.3**	**-0.1**
	0.5nm,0.4s,baz=111,slow=9.2,SNR=6.3						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**71.58**	**329**	P	**P**	**10 16 19.4**	**-0.1**
	0.5nm,0.4s,baz=120,slow=5.6,SNR=5.0						
	0.5nm,0.4s						

*IDC **27** 10:27:24.5±1.8, 0°.34S×128°.71E, h0km, mb3.7/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=101.2km s-min=22.3km az=72.0*
*DJA **27** 10:27:29.9±0.2, 1°.S±2°×12°.8E±°, h10km, M4.3/15, mB5.2/2, mb4.7/5, MLv4.1/15, Mw(mB)4.6/2*

ISC 27 10:27:31.9±1.0, 0°.61S±0°.05×127°.93E±0°.07, h35km, n15, σ1°65/19, mb3.9/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.48**	**338**	P	**Pn**	**10 27 55.9**	**-0.2**
TNTI				S	**Sn**	**10 28 17.5**	**+3.3**
SANI	**Sanana**	**2.41**	**233**	P	**Pn**	**10 28 09.0**	**+0.1**
SANI				S	**Sn**	**10 28 37.8**	**+0.6**
NLAI	**Namlea**	**2.74**	**198**	P	**Pn**	**10 28 13.2**	**-0.3**
NLAI				S	**Sn**	**10 28 46.4**	**+1.0**
MSAI	**Masohi**	**2.90**	**160**	P	**Pn**	**10 28 16.6**	**+1.0**
MSAI				S	**Sn**	**10 28 52.9**	**+3.6**
AAI	**Ambon**	**3.07**	**175**	P	**Pn**	**10 28 19.3**	**+1.3**
SWI	**Sorong**	**3.34**	**94**	P	**Pn**	**10 28 22.1**	**+0.4**
FAKI	**Fak Fak**	**4.89**	**118**	P	**Pn**	**10 28 41.4**	**-1.7**
LUWI	**Luwuk**	**5.17**	**265**	P	**Pn**	**10 28 48.3**	**+1.4**
	0.3nm53nm,0.9s						
APSI	**Ampana**	**6.28**	**267**	P	**Pn**	**10 29 02.2**	**0.0**
	0.2nm850nm41nm,0.4s						
SPSI	**Sidrap Palu**	**8.81**	**248**	P	**Pn**	**10 29 37.9**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.53**	**187**	P	**P**	**10 31 33.8**	**-0.8**
	0.2nm,0.3s,baz=19,slow=7.7,SNR=8.4						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**20.22**	**162**	P	**P**	**10 32 01.6**	**-2.5**
	2.1nm,0.7s,baz=346,slow=11,SNR=20						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**23.64**	**166**	P	**P**	**10 32 39.0**	**-1.2**
	3.0nm,0.8s,baz=347,slow=11,SNR=26						

PARMO	**Parma**	**0.26 240**			Pg	10 29 44.7	-0.3
PARMO					Sg	10 29 49.1	+0.2
WALK	**Watson Lake**	**0.26 192**			Pg	10 29 44.6	-0.4
WALK					Sg	10 29 49.1	+0.1
MARMO	**Marston**	**0.30 211**			Pg	10 29 45.4	-0.4
MARMO					Sg	10 29 50.4	+0.1
GUAMO	**Guam**	**0.31 289**			Pg	10 29 45.7	-0.3
GUAMO					Sb	10 29 50.8	-0.3
HICK	**Hickman**	**0.32 141**			Pg	10 29 45.5	-0.6
HICK				Sg	Sg	10 29 50.0	-0.8
PENMO	**Penman**	**0.36 200**			Pg	10 29 46.3	-0.5
PENMO					Sg	10 29 52.0	0.0
PGVM	**Portageville**	**0.39 212**			Pg	10 29 46.8	-0.5
PGVM					Sg	10 29 52.7	0.0
MLDM	**Malden**	**0.39 245**			Pg	10 29 46.9	-0.5
MLDM					Sg	10 29 53.0	+0.1
PPLM	**Point Pleasant**	**0.40 193**			Pg	10 29 46.9	-0.5
PPLM					Sg	10 29 53.0	0.0
FLPT	**Flippin**	**0.40 162**			Pg	10 29 46.9	-0.6
POBM	**Portage Bay**	**0.41 201**			Pg	10 29 47.1	-0.6
POBM					Sg	10 29 53.4	0.0
PVMO	**Portageville**	**0.42 206**	Pg		Pg	10 29 47.2	-0.6
PVMO			Sg		Sg	10 29 53.6	0.0
PVMO			IAML			10 29 53.8	
	comp=E,461nm,0.3s						
BRNM	**Bernie**	**0.42 261**			Pg	10 29 47.4	-0.6
TOPM	**Tallapoosa**	**0.42 232**			Pg	10 29 47.4	-0.6
WYBT	**Wynnburg**	**0.44 182**			Pg	10 29 47.7	-0.6
FMKY	**Fulgham**	**0.47 105**			Pg	10 29 47.9	-0.9
WADM	**Wardell**	**0.50 211**			Pg	10 29 48.6	-0.6
BETM	**Bethany**	**0.50 249**			Pg	10 29 48.8	-0.6
BETM					Sg	10 29 56.0	-0.1
CGM3	**Cape Girardeau**	**0.53 344**			Pg	10 29 49.1	-0.8
CGM3				Sg	Sg	10 29 56.4	-0.6
CGM3			IAML			10 29 56.9	
	comp=N,256nm,0.1s						
CGM3			IAML			10 29 57.9	
	comp=E,351nm,0.2s						
GLAT	**Glass**	**0.54 164**			Pg	10 29 49.4	-0.8
GLAT				Sg	Sg	10 29 57.2	-0.2
GLAT			IAML			10 29 57.9	
	comp=N,256nm,0.3s						
MIST	**Miston**	**0.62 182**			Pg	10 29 50.7	-0.8
BRGM	**Braggadocio**	**0.66 208**			Pg	10 29 51.5	-0.9
UTMT	**University of**	**0.67 132**	Pg		Pg	10 29 51.3	-1.2
UTMT			Sg		Sg	10 30 00.6	-0.6
UTMT			IAML			10 30 01.2	
	comp=N,201nm,0.4s						
LNXT	**Lenox**	**0.69 181**			Pg	10 29 52.0	-0.8
LNXT				Sg	Sg	10 30 01.8	-0.2
LNXT			IAML			10 30 07.3	
	comp=E,236nm,0.3s						
LNXT			IAML			10 30 07.8	
	comp=N,226nm,0.2s						
T45A	**Paducah**	**0.70 71**			Pb	10 29 52.2	-1.0
T45A				Sg	Sg	10 30 01.5	-1.0
PEBM	**Pemiscott Bayo**	**0.74 205**			Pb	10 29 53.1	-0.7
PEBM				Sg	Sb	10 30 03.6	-0.1
PEBM			IAML			10 30 04.2	
	comp=E,159nm,0.4s						
PEBM			IAML			10 30 10.1	
	comp=N,153nm,0.2s						
PBMO	**Poplar Bluff**	**0.77 269**			Pb	10 29 53.1	-1.1
PBMO				Sg	Sb	10 30 03.7	-0.6
PBMO			IAML			10 30 04.3	
	comp=N,171nm,0.2s						
HALT	**Halls**	**0.89 173**			Pb	10 29 55.5	-0.8
HALT				Sg	Sb	10 30 07.7	0.0
HALT			IAML			10 30 10.8	
	comp=E,141nm,0.5s						
HALT			IAML			10 30 12.9	
	comp=N,127nm,0.2s						
S44A	**Carbondale**	**0.92 11**	Pg		Pb	10 29 56.2	-0.6
S44A			Sg		Sb	10 30 08.8	+0.1
GNAR	**Gosnell**	**0.93 208**	Pg		Pb	10 29 56.3	-0.8
GNAR			Sg		Sb	10 30 09.0	-0.1
GNAR			IAML			10 30 13.0	
	comp=E,133nm,0.4s						
SIUC	**Southern Illin**	**0.94 13**	Pg		Pb	10 29 56.7	-0.6
SIUC			Sg		Sb	10 30 08.9	-0.6
SIUC			IAML			10 30 11.1	
	comp=N,156nm,0.1s						
LPAR	**Lepanto**	**1.36 210**			Pn	10 30 03.0	-0.5
FVM	**French Village**	**1.41 328**			Pn	10 30 03.8	-0.4
FVM					Sn	10 30 22.4	0.0
WVT	**Waverly**	**1.48 116**	Pn		Pn	10 30 04.4	-0.8
LCAR	**Lake Charles**	**1.53 242**			Pn	10 30 05.8	-0.1
HBAR	**Harrisburg**	**1.56 218**			Pn	10 30 06.0	-0.3
CCM	**Cathedral Cave**	**1.89 312**	Pn		Pn	10 30 08.4	-2.4
T47A	**Sharon Grove**	**1.91 83**			Pn	10 30 09.8	-1.3
PWLA	**Pickwick Lake**	**2.14 147**			Pn	10 30 13.2	-1.0
MGMO	**Mountain Grove**	**2.27 280**			Pn	10 30 15.1	-0.9
MGMO			IAmb_Lg			10 30 56.6	
	comp=Z,9.5nm,1.2s						
FCAR	**Ozark Folk Cen**	**2.32 248**			Pn	10 30 14.8	-2.0
V48A	**Smith Brothers**	**2.39 115**	Pn		Pn	10 30 16.1	-1.6
V48A			IAmb_Lg			10 30 59.4	
	comp=Z,4.7nm,0.9s						
CLTN	**Cedars of Leba**	**2.63 104**	Pn		Pn	10 30 18.5	-2.5
R40A	**Maddies Statio**	**2.68 305**			Pn	10 30 19.5	-2.2
R40A			IAmb_Lg			10 31 09.3	
	comp=Z,5.3nm,0.9s						
WHAR	**Wooly Hollow**	**2.73 238**			Pn	10 30 19.9	-2.4
P43A	**Skaggs, Pawnee**	**2.84 359**	Pn		Pn	10 30 23.6	-0.4
Y45A	**Yeager Farm, C**	**2.92 181**	Pn		Pn	10 30 22.4	-2.5
X48A	**Hartselle**	**3.06 139**	Pn		Pn	10 30 25.7	-1.2
X48A			IAmb_Lg			10 31 21.2	
	comp=Z,4.1nm,0.7s						
P46A	**Rosedale**	**3.34 32**	Pn		Pn	10 30 29.3	-1.4
P40A	**Paris**	**3.40 324**	Pn		Pn	10 30 30.5	-1.1
Z47A	**Carrollton**	**3.77 162**	Pn		Pn	10 30 35.9	-0.7
U38A	**Gravette**	**3.96 266**	Pn		Pn	10 30 37.4	-2.0
MIAR	**Mount Ida**	**4.02 237**	Pn		Pn	10 30 38.2	-1.9
P38A	**Dawn**	**4.27 313**	Pn		Pn	10 30 41.9	-1.6
R50A	**Paris**	**4.35 68**	Pn		Pn	10 30 41.7	-3.0

TAP ***27*** *10:35:51.0,24.71N×122.45E,h110km,ML3.1,C*
JMA ***27*** *10:35:52.0±0.1,24.7N±0.9×122.5E±0.2,h101km, MV2.1/11,NW OFF ISHIGAKIJIMA IS*

ISC 27 10:35:51.7±1.4**,24.67N**±0.04**×122.46E**±0.03**,h104**km±7km**, n84,**σ0.93/158**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.33**	**220**	P	**Pn**	**10 36 07.2**	**+0.5**
EOS2				*S*	**Sn**	**10 36 18.9**	**+1.0**
EOS3	**EOS3**	**0.40**	**199**	*eP*	**Pn**	**10 36 07.8**	**+0.6**
EOS3				*eS*	**Sn**	**10 36 20.6**	**+2.0**
JYNG	**Yonagunijimaku**	**0.49**	**116**	P	**Pn**	**10 36 07.8**	**0.0**
JYNG				S	**Sn**	**10 36 19.9**	**0.0**
EGS		**0.51**	**290**	P	**Pn**	**10 36 07.8**	**-0.2**
EGS				*i S*	**Sn**	**10 36 20.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.54**	**112**	*i P*	**Pn**	**10 36 08.4**	**+0.2**
YOJ				S	**Sn**	**10 36 20.6**	**+0.1**
YOJ	**Yonaguni jima**	**0.54**	**112**	P	**Pn**	**10 36 08.2**	**0.0**
YOJ				S	**Sn**	**10 36 20.4**	**0.1**
TWB1	**Santiao Chiao**	**0.55**	**308**	P	**Pn**	**10 36 08.4**	**+0.2**
TWB1				S	**Sn**	**10 36 20.3**	**-0.3**
TWC	**Suao**	**0.56**	**264**	*eP*	**Pn**	**10 36 07.9**	**-0.4**
TWC				*eS*	**Sn**	**10 36 19.0**	**-1.8**
EOS4	**EOS4**	**0.56**	**193**	*eP*	**Pn**	**10 36 08.4**	**+0.5**
EOS4				S	**Sn**	**10 36 21.3**	**+1.2**
ESAO	**Su ao**	**0.57**	**261**	P	**Pn**	**10 36 08.4**	**+0.1**
ESAO				*eS*	**Sn**	**10 36 18.5**	**-2.4**
NTC	**Toucheng**	**0.60**	**288**	*i P*	**Pn**	**10 36 08.8**	**+0.1**
NTC				*i S*	**Sn**	**10 36 21.7**	**+0.3**
TIPB	**Shuangxi**	**0.65**	**298**	*i P*	**Pn**	**10 36 09.0**	**-0.1**
TIPB				S	**Sn**	**10 36 21.2**	**-0.9**
EWUT	**Wuta**	**0.66**	**250**	*i P*	**Pn**	**10 36 09.3**	**+0.2**
EWUT				S	**Sn**	**10 36 22.1**	**-0.1**
SXI1	**Grass Mountain**	**0.68**	**309**	*eP*	**Pn**	**10 36 09.3**	**-0.1**
SXI1				S	**Sn**	**10 36 22.7**	**+0.1**
ENA	**Nanau**	**0.70**	**250**	*i P*	**Pn**	**10 36 09.7**	**+0.2**
ENA				*i S*	**Sn**	**10 36 23.0**	**+0.2**
TWE	**Neicheng**	**0.72**	**274**	*i P*	**Pn**	**10 36 09.7**	**0.0**
TWE				*eS*	**Sn**	**10 36 22.4**	**-0.7**
EAHA	**Aohua**	**0.74**	**243**	*i P*	**Pn**	**10 36 09.9**	**+0.1**
EAHA				S	**Sn**	**10 36 23.6**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.80**	**277**	*i P*	**Pn**	**10 36 10.4**	**0.0**
FUSB				*eS*	**Sn**	**10 36 23.4**	**-1.2**
ENTT	**Nioudou**	**0.81**	**268**	*i P*	**Pn**	**10 36 11.0**	**+0.5**
ENTT				*eS*	**Sn**	**10 36 24.6**	**-0.1**
LATG	**Datong**	**0.86**	**261**	P	**Pn**	**10 36 11.6**	**+0.4**
LATG				*eS*	**Sn**	**10 36 25.8**	**0.0**
NWLT	**Wulai**	**0.88**	**277**	*eP*	**Pn**	**10 36 11.1**	**-0.1**
NWLT				*i S*	**Sn**	**10 36 25.1**	**-0.8**
NHY	**Taipei**	**0.89**	**295**	*eS*	**Sn**	**10 36 26.7**	**+0.7**
ETL	**Fush Village**	**0.92**	**236**	*eP*	**Pn**	**10 36 11.2**	**-0.4**
ETL				S	**Sn**	**10 36 26.2**	**-0.4**
NACB	**Ninganchiao**	**0.93**	**238**	*eP*	**Pn**	**10 36 11.7**	**-0.1**
NACB				*eS*	**Sn**	**10 36 25.9**	**-0.9**
YM01	**YM01**	**0.94**	**301**	P	**Pn**	**10 36 11.8**	**-0.1**
YM01				*i S*	**Sn**	**10 36 26.0**	**-1.0**
ZUZH	**Zhuzihu**	**0.96**	**301**	*eS*	**Sn**	**10 36 26.6**	**-0.9**
TWD	**Chiawan**	**0.98**	**233**	*i P*	**Pn**	**10 36 12.1**	**-0.1**
TWD				S	**Sn**	**10 36 27.6**	**-0.1**
YHNB	**Yeheng**	**0.99**	**270**	*eP*	**Pn**	**10 36 12.7**	**+0.3**
YHNB				*i S*	**Sn**	**10 36 27.6**	**-0.3**
ANP	**Anpu**	**1.00**	**301**	*eS*	**Sn**	**10 36 26.0**	**-2.1**
ETLH	**Xiulin Townshi**	**1.00**	**243**	*eP*	**Pn**	**10 36 12.4**	**-0.1**
ETLH				*eS*	**Sn**	**10 36 27.3**	**-1.0**
NNSB	**Datong**	**1.01**	**256**	*eP*	**Pn**	**10 36 12.9**	**+0.3**
NNSB				*i S*	**Sn**	**10 36 28.5**	**0.0**
PCYT	**Pengchaiyu**	**1.02**	**340**	*eP*	**Pn**	**10 36 13.2**	**+0.5**
TEYL	**Yanliau Villag**	**1.12**	**225**	*eP*	**Pn**	**10 36 13.6**	**-0.1**
TEYL				S	**Sn**	**10 36 30.4**	**0.0**
ETM	**Tongmen**	**1.13**	**232**	P	**Pn**	**10 36 13.7**	**-0.2**
ETM				*eS*	**Sn**	**10 36 29.2**	**-1.3**
LXIB	**Xiulin Townshi**	**1.15**	**236**	*i P*	**Pn**	**10 36 14.0**	**-0.3**
LXIB				S	**Sn**	**10 36 30.1**	**-1.2**
KSHI	**Guanxi Townshi**	**1.17**	**275**	*eS*	**Sn**	**10 36 31.9**	**+0.5**
SHUL	**Shoufeng**	**1.20**	**223**	*eP*	**Pn**	**10 36 14.8**	**+0.6**
SHUL				*eS*	**Sn**	**10 36 33.6**	**+1.6**
IRIF	**Iriomote-Funau**	**1.20**	**106**	P	**Pn**	**10 36 14.9**	**+0.2**
IRIF				S	**Sn**	**10 36 32.0**	**0.0**
WHF	**Hehuan Shan**	**1.21**	**245**	*i P*	**Pn**	**10 36 15.3**	**+0.1**
WHF				*eS*	**Sn**	**10 36 32.1**	**-0.8**
NFF	**Wufeng Townshi**	**1.22**	**268**	*eP*	**Pn**	**10 36 15.5**	**+0.6**
NFF				*eS*	**Sn**	**10 36 32.1**	**-0.4**
TWT	**Tachien**	**1.24**	**251**	*eS*	**Sn**	**10 36 33.5**	**+0.4**
TDCB	**Techi**	**1.26**	**251**	*eS*	**Sn**	**10 36 33.2**	**-0.2**
ESL	**Shilin**	**1.27**	**228**	*eP*	**Pn**	**10 36 14.9**	**-0.6**
ESL				*eS*	**Sn**	**10 36 32.0**	**-1.4**
LIOB	**Emei**	**1.31**	**269**	*eP*	**Pn**	**10 36 16.7**	**+0.7**
LIOB				S	**Sn**	**10 36 34.2**	**-0.2**
NSTT	**Nanjuang**	**1.33**	**269**	*eS*	**Sn**	**10 36 34.6**	**0.0**
WRBT	**Fenglin Townsh**	**1.36**	**226**	P	**Pn**	**10 36 15.9**	**-0.7**
WRBT				S	**Sn**	**10 36 33.7**	**-1.7**
HATJ	**Hateruma jima**	**1.37**	**116**	S	**Sn**	**10 36 36.1**	**+0.6**
OWD	**Renai**	**1.37**	**239**	*eP*	**Pn**	**10 36 17.4**	**+0.6**
OWD				*i S*	**Sn**	**10 36 35.1**	**-0.9**
EGFH	**Guangfu**	**1.37**	**224**	P	**Pn**	**10 36 17.1**	**+0.4**
EGFH				*eS*	**Sn**	**10 36 34.3**	**-1.2**
WUSB	**Renai**	**1.40**	**241**	P	**Pn**	**10 36 17.7**	**+0.6**
WUSB				*eS*	**Sn**	**10 36 36.2**	**-0.1**
WHP	**Taichung City**	**1.43**	**254**	*i P*	**Pn**	**10 36 19.1**	**+1.6**
WHP				*eS*	**Sn**	**10 36 36.7**	**-0.3**
JKRS	**Kuro-shima**	**1.48**	**107**	P	**Pn**	**10 36 18.6**	**+0.7**
JKRS				S	**Sn**	**10 36 38.0**	**+0.2**
HGSD	**Ruisui**	**1.51**	**219**	*i P*	**Pn**	**10 36 18.4**	**+0.1**
HGSD				S	**Sn**	**10 36 38.3**	**-0.1**
DPDB	**Guoxing**	**1.54**	**246**	P	**Pn**	**10 36 18.6**	**-0.1**
DPDB				S	**Sn**	**10 36 39.1**	**-0.1**
WCS	**Beigang Elemen**	**1.54**	**247**	*eS*	**Sn**	**10 36 40.4**	**+1.3**
EHYH	**Wanrong**	**1.55**	**221**	*eP*	**Pn**	**10 36 19.8**	**+1.0**
EHYH				*eS*	**Sn**	**10 36 40.3**	**+0.9**
EHY	**Hungye**	**1.56**	**222**	*eP*	**Pn**	**10 36 19.2**	**+0.2**
EHY				*eS*	**Sn**	**10 36 38.1**	**-1.5**
JIJ	**Ishigaki jima**	**1.56**	**101**	P	**Pn**	**10 36 19.1**	**+0.2**
JIJ				S	**Sn**	**10 36 38.9**	**-0.7**
SMLT	**Sun Moon Lake**	**1.62**	**241**	*eP*	**Pn**	**10 36 22.1**	**+2.2**
SMLT				*eS*	**Sn**	**10 36 43.6**	**+2.4**
SSLB	**Suanglung**	**1.63**	**238**	P	**Pn**	**10 36 20.0**	**+0.2**
SSLB				*eS*	**Sn**	**10 36 42.5**	**+1.3**
ECBN	**Changbin**	**1.63**	**215**	*eP*	**Pn**	**10 36 20.2**	**+0.3**
ECBN				*i S*	**Sn**	**10 36 40.5**	**-0.7**
TYC	**Yuchr**	**1.65**	**243**	*eP*	**Pn**	**10 36 20.7**	**+0.6**
TYC				S	**Sn**	**10 36 43.1**	**+1.6**
YULB	**Yu-li**	**1.66**	**220**	*eP*	**Pn**	**10 36 19.6**	**-0.6**
YULB				*i S*	**Sn**	**10 36 40.4**	**-1.3**
JISG	**Ishigakijimahi**	**1.69**	**92**	*eP*	**Pn**	**10 36 20.9**	**+0.5**
JISG				S	**Sn**	**10 36 42.0**	**-0.4**
WHYT	**Xinyi Township**	**1.76**	**237**	P	**Pn**	**10 36 22.7**	**+1.3**
WHYT				*i S*	**Sn**	**10 36 45.6**	**+1.5**
CHKH	**Chenggong**	**1.77**	**214**	*eP*	**Pn**	**10 36 21.2**	**-0.3**
CHKH				*eS*	**Sn**	**10 36 42.8**	**-1.3**
FULB	**Fuli**	**1.81**	**216**	P	**Pn**	**10 36 21.2**	**-0.9**
FULB				S	**Sn**	**10 36 45.2**	**-0.1**
YUS	**Yu-Shan**	**1.81**	**230**	P	**Pn**	**10 36 22.1**	**-0.5**
YUS				S	**Sn**	**10 36 46.1**	**+0.1**
CHKT	**Chengkung**	**1.86**	**213**	*eP*	**Pn**	**10 36 22.0**	**-0.6**
CHKT				*i S*	**Sn**	**10 36 44.7**	**-1.5**
EHD	**Haiduan**	**1.90**	**217**	P	**Pn**	**10 36 23.4**	**+0.1**
EHD				S	**Sn**	**10 36 46.2**	**-1.0**
ALS	**Alishan**	**1.90**	**233**	*eP*	**Pn**	**10 36 25.2**	**+1.6**
ALS				*eS*	**Sn**	**10 36 49.2**	**+1.5**
CHN5	**Tsauling**	**1.95**	**237**	P	**Pn**	**10 36 24.9**	**+1.0**
CHN5				S	**Sn**	**10 36 50.3**	**+1.9**
EDH	**Donghe**	**1.99**	**212**	*i P*	**Pn**	**10 36 24.1**	**-0.3**
EDH				S	**Sn**	**10 36 47.8**	**-1.5**
WCKO	**Fanlu**	**2.09**	**235**	P	**Pn**	**10 36 26.2**	**+0.5**
WCKO				S	**Sn**	**10 36 53.0**	**+1.3**
LONT	**Longtian**	**2.14**	**215**	*eP*	**Pn**	**10 36 27.3**	**+1.1**
LONT				*eS*	**Sn**	**10 36 51.8**	**+0.9**
CHN4	**Tsaushan**	**2.15**	**233**	P	**Pn**	**10 36 27.2**	**+0.7**
CHN4				*i S*	**Sn**	**10 36 54.4**	**+1.4**
TPUB	**Ta-pu**	**2.16**	**231**	P	**Pn**	**10 36 27.4**	**+0.9**
TPUB				S	**Sn**	**10 36 54.4**	**+1.2**
LDUT	**Ludao**	**2.19**	**205**	P	**Pn**	**10 36 26.6**	**-0.3**
LDUT				S	**Sn**	**10 36 52.0**	**-1.8**
WTP	**Ta-pu**	**2.21**	**230**	P	**Pn**	**10 36 27.7**	**+0.5**
WTP				*eS*	**Sn**	**10 36 56.7**	**+2.4**
TWK	**Hsinying**	**2.28**	**233**	P	**Pn**	**10 36 29.1**	**+0.9**
TWK				*eS*	**Sn**	**10 36 57.1**	**+1.0**
MASBT	**Mashibuluo**	**2.65**	**220**	P	**Pn**	**10 36 33.7**	**+0.8**
MASBT				S	**Sn**	**10 37 05.1**	**+0.5**
VWUC	**VWUC**	**2.75**	**277**	P	**Pn**	**10 36 34.1**	**-0.2**
VWUC				*eS*	**Sn**	**10 37 05.7**	**-1.3**
LYUB	**Lan-yu**	**2.78**	**197**	P	**Pn**	**10 36 34.0**	**-0.7**
LYUB				*eS*	**Sn**	**10 37 05.6**	**-3.0**
PHUB	**P'eng-hu**	**2.88**	**247**	*eP*	**Pn**	**10 36 36.1**	**+0.1**
PHUB				*eS*	**Sn**	**10 37 08.0**	**-2.0**

UCR 27 10:55:48.9±1.0**,10.36N×86.31W,h15**km±11km**, MW3.6, 6C, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUD3	**Juan Diaz 3**	**0.79**	**104**	*eP*	Pg	10 56 03.9	-0.3
JUD3				*eS*	Sg	10 56 13.8	-0.8
ALIBA	**Liberia Airpor**	**0.79**	**73**	*iP*	Pb	10 56 04.9	+0.6
ALIBA				*eS*	Sn	10 56 17.2	+0.2
LAPC	**Finca la Perla**	**0.95**	**65**	*iP*	Pb	10 56 06.8	-0.4
LCRUZ	**La Cruz**	**0.98**	**43**	*iP*	Pb	10 56 07.3	-0.3
GPS2	**Hotel Rincn d**	**1.02**	**67**	*eP*	Pb	10 56 07.9	-0.4
VRLE	**La Escondida,**	**1.02**	**65**	*eP*	Pb	10 56 08.0	-0.4
PEJA	**Penjamo Buenos**	**1.12**	**61**	*eP*	Pb	10 56 09.8	-0.1
PEJA				*eS*	Sn	10 56 33.0	+7.8
COLC	**Colonia**	**1.13**	**74**	*eP*	Pb	10 56 08.8	-1.5
MESS	**Mesas**	**1.16**	**71**	*eP*	Pn	10 56 10.1	-0.7
VMAR	**Armenia, Volca**	**1.26**	**69**	*eP*	Pn	10 56 11.7	-0.4
TIMP	**Tierras Morena**	**1.29**	**80**	*eP*	Pn	10 56 11.9	-0.6
JTS	**Las Juntas de**	**1.34**	**93**	*eP*	Pn	10 56 11.9	-1.2
TENO	**El Achiote**	**1.36**	**75**	*eP*	Pn	10 56 12.4	-1.0
QUEB	**Quebradon, Cot**	**1.42**	**79**	*eP*	Pn	10 56 13.9	-0.3
VARE2	**V. Arenal**	**1.57**	**86**	*eP*	Pn	10 56 16.3	-0.1
SOCE	**Pocosol**	**1.67**	**89**	*eP*	Pn	10 56 18.2	+0.6
COPN	**Copaltepe**	**1.83**	**351**	*eP*	Pn	10 56 19.3	-0.6
ACON	**Acoyapa**	**1.95**	**35**	*eP*	Pn	10 56 20.5	-1.0

JMA ***27*** *11:25:43.4±0.1,23.6N±0.4×121.6E±0.7,h0km,MV3.2/13, TAIWAN REGION*
TAP ***27*** *11:25:44.3,23.63N×121.49E,h4km,ML3.7,C*
IDC ***27*** *11:25:45.1±2.6,23.27N×121.90E,h0km,mb3.5/3, mbtmp3.6/5,ML3.1/2,Error ellipse: s-maj=92.3km s-min=27.1km az=102.0*

ISC 27 11:25:44.4±1.0**,23.58N**±0.01×**121.58E**±0.02**,h4**km±8km**,**

n163,σ0.92/297, mb3.6/3,14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.17**	**302**	*i P*	**Pg**	**11 25 46.1**	**-1.5**
EGFH				S	**Sg**	**11 25 49.8**	**0.0**
HGSD	**Ruisui**	**0.17**	**238**	*i P*	**Pg**	**11 25 48.1**	**+0.4**
HGSD				S	**Sg**	**11 25 52.0**	**+2.1**
SHUL	**Shoufeng**	**0.20**	**356**	*i P*	**Pg**	**11 25 49.4**	**+1.0**
SHUL				*i S*	**Sg**	**11 25 53.7**	**+2.6**
WARBT	**Fenglin Townsh**	**0.22**	**307**	*i iP*	**Pg**	**11 25 47.3**	**-1.4**
WARBT				*i S*	**Sg**	**11 25 50.0**	**-1.7**
EHYH	**Wanrong**	**0.23**	**248**	*i P*	**Pg**	**11 25 48.5**	**-0.4**
EHYH				*i S*	**Sg**	**11 25 52.4**	**+0.4**
EHY	**Hungye**	**0.25**	**252**	*i P*	**Pg**	**11 25 48.4**	**-0.8**
EHY				S	**Sg**	**11 25 51.7**	**-0.8**
ESL	**Shilin**	**0.27**	**330**	*i iP*	**Pg**	**11 25 48.6**	**-1.0**
ESL				*i S*	**Sg**	**11 25 52.3**	**-0.8**
TEYL	**Yanliau Villag**	**0.28**	**3**	*i P*	**Pb**	**11 25 51.6**	**-0.5**
TEYL				S	**Sb**	**11 25 58.1**	**+0.8**
ECBN	**Changbin**	**0.29**	**204**	*i P*	**Pb**	**11 25 51.9**	**-0.3**
ECBN				*eS*	**Sb**	**11 25 57.1**	**-0.2**
YULB	**Yu-li**	**0.32**	**234**	P	**Pg**	**11 25 50.5**	**-0.1**
YULB	**Yu-li**	**0.32**	**234**	P	**Pn**	**11 25 55.8**	**-0.1**
YULB	**Yu-li**	**0.32**	**234**	*i P*	**Pg**	**11 25 50.5**	**-0.1**
YULB				S	**Sg**	**11 25 55.0**	**+0.2**
EYUL	**Yuli**	**0.34**	**226**	*i P*	**Pg**	**11 25 51.7**	**+0.8**
EYUL				*eS*	**Sg**	**11 25 56.6**	**+1.4**
ETM	**Tongmen**	**0.39**	**348**	*i P*	**Pg**	**11 25 51.5**	**-0.4**
ETM				*eS*	**Sg**	**11 25 56.0**	**-1.1**
HWA	**Hwalien**	**0.39**	**3**	*i P*	**Pg**	**11 25 52.6**	**+0.6**
HWA				*eS*	**Sb**	**11 26 00.0**	**-0.4**
CHKH	**Chenggong**	**0.42**	**204**	*i P*	**Pb**	**11 25 53.9**	**-0.6**
CHKH				*eS*	**Sb**	**11 26 01.3**	**+0.1**
FULB	**Fuli**	**0.46**	**215**	*i P*	**Pb**	**11 25 55.1**	**+0.4**
FULB				*eS*	**Sb**	**11 26 02.4**	**+0.1**
LXIB	**Xiulin Townshi**	**0.46**	**341**	*i iP*	**Pg**	**11 25 52.5**	**-0.8**
LXIB				*eS*	**Sg**	**11 26 00.1**	**+0.7**
TWD	**Chiawan**	**0.50**	**2**	*i P*	**Pg**	**11 25 54.0**	**+0.1**
TWD				S	**Sb**	**11 26 03.3**	**0.0**
CHKT	**Chengkung**	**0.52**	**202**	*i P*	**Pb**	**11 25 56.1**	**0.0**
CHKT				*i S*	**Sb**	**11 26 06.0**	**+2.0**
OWD	**Renai**	**0.52**	**315**	*i P*	**Pg**	**11 25 53.2**	**-1.3**
OWD				S	**Sg**	**11 26 00.8**	**-0.5**
EHD	**Haiduan**	**0.55**	**219**	*i P*	**Pg**	**11 25 55.6**	**+0.7**
EHD				S	**Sb**	**11 26 05.1**	**+0.2**
ETL	**Fush Village**	**0.58**	**4**	*i P*	**Pg**	**11 25 55.6**	**+0.1**
ETL				*eS*	**Sg**	**11 26 04.0**	**+1.1**
YUS	**Yu-Shan**	**0.58**	**261**	*i P*	**Pg**	**11 25 55.0**	**-0.7**
YUS				S	**Sg**	**11 26 03.3**	**0.0**
WUSB	**Renai**	**0.59**	**314**	*i iP*	**Pg**	**11 25 54.7**	**-1.0**
WUSB				*eS*	**Sg**	**11 26 02.5**	**-0.9**
NACB	**Ninganchiao**	**0.59**	**1**	P	**Pg**	**11 25 55.6**	**-0.6**
NACB	**Ninganchiao**	**0.59**	**1**	*i iP*	**Pg**	**11 25 55.2**	**-0.6**
NACB				*eS*	**Sg**	**11 26 04.6**	**+1.2**
SSLB	**Suanglung**	**0.61**	**290**	P	**Pg**	**11 25 54.7**	**-1.4**
SSLB	**Suanglung**	**0.61**	**290**	S	**Sg**	**11 26 02.1**	**-1.9**
SSLB	**Suanglung**	**0.61**	**290**	*i iP*	**Pg**	**11 25 54.9**	**-1.2**
SSLB				S	**Sg**	**11 26 01.5**	**-2.5**
ETLH	**Xiulin Townshi**	**0.63**	**352**	*i P*	**Pg

NSY eS Sg 11 26 20.7 +0.4
NFF Wufeng Townshi 1.13 338 *i* P Pg 11 26 05.3 -0.7
NFF eS Sg 11 26 20.3 -0.4
ECL Taimali 1.14 211 *i* P Pg 11 26 05.7 -0.5
ECL eS Sg 11 26 21.0 0.0
TWE Neicheng 1.14 4 *i* P Pg 11 26 06.0 -0.3
TWE eS Sg 11 26 21.4 +0.4
WDJ Dajia District 1.15 312 *i* P Pg 11 26 06.9 +0.5
WDJ eS Sg 11 26 21.4 +0.1
RLNB Erlin 1.16 286 *eP* Pb 11 26 07.3 +0.3
RLNB eS Sn 11 26 27.0 +3.3
NSTT Nanjuang 1.17 333 *i* P Pg 11 26 06.0 -0.9
NSTT S Sb 11 26 23.2 +0.5
FUSB Fushanzhiwuyua 1.17 0 *i* P Pg 11 26 06.3 -0.6
FUSB eS Sg 11 26 21.6 -0.5
LIOB Emei 1.18 334 *i* P Pg 11 26 06.7 -0.3
LIOB eS Sg 11 26 21.7 -0.6
NWLT Wulai 1.19 357 *i* P Pg 11 26 06.7 -0.6
NWLT eS Sg 11 26 21.4 -1.3
SSD Sandimen 1.21 227 *i* P Pg 11 26 06.9 -0.6
SSD eS Sg 11 26 22.8 -0.4
SCST Cishan 1.22 235 *i* P Pb 11 26 08.2 +0.3
SCST S Sn 11 26 25.9 +0.8
CHN3 Shinhua 1.23 246 *i* P Pn 11 26 08.9 +0.6
CHN3 eS Sb 11 26 25.3 +1.0
WSL Shuilin Townsh 1.24 268 *i* P Pg 11 26 08.0 -0.2
WSL *i* S Sb 11 26 25.7 +0.9
KSHI Guanxi Townshi 1.25 343 *i* P Pg 11 26 08.4 +0.2
KSHI eS Sg 11 26 23.7 -0.8
WSF Szhu 1.25 273 *eP* Pg 11 26 07.5 -0.8
WSF eS Sg 11 26 23.7 -0.8
SHHT Tainan City 1.26 244 *i* P Pg 11 26 08.5 -0.1
SHHT eS Sn 11 26 28.2 +2.0
CHN8 Yiju 1.28 260 *i* P Pg 11 26 09.1 +0.2
CHN8 eS Sg 11 26 25.1 -0.5
EGS 1.30 14 *i* P Pn 11 26 10.3 +1.0
EGS eS Sn 11 26 27.3 +0.2
MASBT Mashibuluo 1.30 222 *i* P Pg 11 26 08.6 -0.8
MASBT eS Sg 11 26 26.4 +0.2
TWM1 Shoushan 1.30 235 *i* P Pn 11 26 11.1 +1.6
TWM1 eS Sn 11 26 29.4 +2.0
SGLT Jiouru 1.32 230 P Pb 11 26 11.9 +2.2
SGLT eS Sn 11 26 28.2 +0.6
SBCB Hsinchu 1.32 336 *i* P Pn 11 26 10.4 +0.7
SBCB eS Sg 11 26 27.1 +0.2
HSN Hsinchu 1.34 335 *eP* Pb 11 26 12.1 +2.1
HSN eS Sg 11 26 27.8 +0.4
NHDH Xindian Distri 1.38 358 *i* P Pb 11 26 11.7 +0.9
NHDH eS Sg 11 26 27.3 -1.3
TAITO Taipei 1.39 357 P Pg 11 26 11.1 0.0
TAWH Dawu Township 1.39 207 *i* P Pn 11 26 07.6 -2.0
TAWH eS Sg 11 26 29.1 0.0
TWA Mucha 1.39 0 *i* P Pb 11 26 11.3 +0.3
TWA eS Sg 11 26 28.9 -0.3
TIPB Shuangxi 1.40 9 *i* P Pn 11 26 11.2 +0.4
TIPB eS Sg 11 26 28.9 -0.6
SNJT Kaohsiung City 1.41 234 *eP* Pb 11 26 12.2 +0.9
SNJT eS Sn 11 26 32.5 +2.6
NCUH Zhongli 1.43 345 *i* P Pb 11 26 12.2 +0.6
NCUH eS Sb 11 26 30.7 +0.6
TSCK Chigu Township 1.44 253 *i* P Pn 11 26 11.0 -0.3
TSCK S Sn 11 26 32.4 +1.8
TWB1 Santiao Chiao 1.47 15 *i* P Pb 11 26 12.8 +0.5
TWB1 eS Sn 11 26 31.9 +0.5
NWF Wu-fen Shan 1.49 7 *i* P Pb 11 26 13.0 +0.2
NWF eS Sg 11 26 32.3 -0.1
SCZT Fangliau 1.49 216 *i* P Pg 11 26 13.5 +0.4
SCZT S Sb 11 26 32.9 +0.8
WFSB Wu-fen Shan 1.49 7 P Pg 11 26 13.8 +0.7
WFSB eS Sg 11 31.4 -1.0
JYNG Yonagunijimaku 1.52 55 P Pn 11 26 12.6 +0.2
JYNG S Sn 11 26 33.4 +0.7
TWS1 Kuangyinshan 1.52 354 *i* P Pb 11 26 13.5 +0.3
TWS1 eS Sg 11 26 32.5 -0.7
SXI1 Grass Mountain 1.53 10 *i* P Pg 11 26 14.1 +0.3
SXI1 eS Sn 11 26 34.8 +1.8
LAY Lan-yu 1.54 181 P Pn 11 26 10.7 -1.9
LAY eS Sn 11 26 30.7 -2.3
YM01 YM01 1.56 360 *i* P Pb 11 26 14.0 +0.2
YM01 eS Sn 11 26 33.4 -0.2
TNOU National Taiwa 1.57 6 *i* P Pg 11 26 16.3 +1.8
TNOU eS Sn 11 26 34.3 +0.4
LYUB Lan-yu 1.57 180 *i* P Pn 11 26 09.6 -3.5
LYUB eS Sn 11 26 32.5 -1.4
ZUZH Zhuzihu 1.57 359 *eP* Pn 11 26 34.1 +0.5
ZUZH eS Sn 11 26 34.1 +0.1
YOJ Yonaguni jima 1.57 56 *i* P Pn 11 26 13.2 +0.1
YOJ S Sb 11 26 34.4 0.0
YOJ Yonaguni jima 1.57 56 P Pn 11 26 13.2 +0.1
YOJ S Sg 11 26 36.8 +1.8
NTST Danshui 1.58 356 *i* P Pb 11 26 14.2 0.0
NTST eS Sn 11 26 34.4 +0.2
ANP Anpu 1.60 358 *i* P Pg 11 26 15.3 +0.3
ANP eS Sn 11 26 33.9 -0.8
YM08 YM08 1.60 0 *i* P Pb 11 26 14.7 +0.1
YM08 eS Sn 11 26 34.6 -0.1
TWKBT Hengchun 1.78 204 *i* P Pn 11 26 16.4 +0.5
TWKBT eS Sb 11 26 41.2 +0.9
TWK1 Hengchun 1.78 204 *i* P Pb 11 26 18.0 +0.4
TWK1 eS Sn 11 26 40.2 +1.2
TSEB Hengchuen, Pin 1.79 201 *eP* Pg 11 26 18.7 0.0
TSEB eS Sg 11 26 41.6 -0.2
WDGT Dungji 1.79 260 *i* P Pn 11 26 15.1 -0.7
WDGT S Sn 11 26 37.3 -2.0
PHUB P'eng-hu 1.84 268 *i* P Pn 11 26 16.7 -0.1
PHUB S Sn 11 26 40.2 -0.4
PNG Penghu 1.86 270 *i* P Pn 11 26 16.5 -0.5
PNG *i* S Sn 11 26 41.0 0.0
VCHM Qimei 2.01 260 *i* P Pn 11 26 18.7 -0.4
VCHM eS Sn 11 26 44.6 -0.2
PCYT Pengchaiyu 2.09 12 *i* P Pn 11 26 21.4 +1.2
PCYT eS Sn 11 26 48.0 +1.3
HATJ Hateruma jima 2.09 76 P Pn 11 26 20.4 +0.1
HATJ S Sn 11 26 47.5 +0.8
IRIF Iriomote-Funau 2.10 69 P Pn 11 26 20.5 +0.1
JKRS Kuro-shima 2.32 73 P Pn 11 26 23.9 +0.6
VWUC VWUC 2.40 306 *i* P Pn 11 26 23.0 -1.4
VWUC eS Sn 11 26 53.9 -0.4
JJ Ishigaki jima 2.47 71 P Pn 11 26 25.1 -0.4
JIJ S Sn 11 26 56.8 +0.5
PTMZ Houxiangcun 2.67 303 *i* P Pn 11 26 26.9 -1.4
PTMZ eS Sn 11 27 01.9 +0.9
JISG Ishigakijimahi 2.69 68 P Pn 11 26 28.0 -0.4
JISG S Sn 11 27 01.9 +0.4
MATB Ma-tsu 2.96 330 *eP* Pn 11 26 33.3 +1.1
MATB eS Sn 11 27 07.7 -0.4
KNM Kinmen 3.00 287 *i* P Pn 11 26 33.7 +1.0
KNM eS Sn 11 27 11.6 +2.5
KNMB Chin-men Tao 3.05 287 *i* P Pn 11 26 32.9 -0.5
KNMB eS Sn 11 27 11.1 +0.8
MHZQ Yeshan 3.41 318 *i* P Pn 11 26 37.8 -0.7
MHZQ eS Sn 11 27 20.4 +1.1
AXDP Jialang 3.55 292 *i* P Pn 11 26 39.4 -0.8
AXDP eS Sn 11 27 22.9 +0.3
XPSS Dashiqiu 3.56 340 P Pn 11 26 41.2 +0.7
XPSS eS Sn 11 27 23.1 +0.1
JOW Kunigami 6.87 61 Pn Pn 11 27 25.9 -0.1
0.7nm,0.3s,baz=242,slow=15,SNR=1.8
7.5nm,0.8s
KSRS Korea Array 14.86 20 Pn P 11 29 20.1 -1.2
0.2nm,0.3s,baz=201,slow=11,SNR=8.0
2.0nm,0.8s
H11N1 WAKE ISLAND Hy 42.16 86 T T 12 18 36.0
baz=283,slow=74,SNR=14
H11N2 WAKE ISLAND Hy 42.16 86 T T 12 18 36.0
baz=283,slow=74,SNR=38
H11N3 WAKE ISLAND Hy 42.18 86 T T 12 18 37.1
baz=283,slow=74,SNR=73
H11S3 WAKE ISLAND Hy 42.27 88 T T 12 18 45.2
baz=284,slow=74,SNR=59
H11S1 WAKE ISLAND Hy 42.28 88 T T 12 18 45.5
baz=284,slow=74,SNR=25
H11S2 WAKE ISLAND Hy 42.29 88 T T 12 18 47.1
baz=284,slow=74,SNR=22
WRA Warramunga Arr 45.01 163 P P 11 33 59.2 -2.1
0.5nm,0.6s,baz=343,slow=8.0,SNR=5.1
0.5nm,0.6s
ASAR Alice Springs 48.47 165 P P 11 34 27.0 -1.3
0.6nm,0.9s,baz=347,slow=9.2,SNR=2.3
0.6nm,0.9s
ILAR Eielson Array 69.58 27 P P 11 36 56.4 +2.0
0.3nm,0.7s,baz=279,slow=6.2,SNR=3.0
0.3nm,0.7s
VSVD Vaisvydziai 74.91 325 *eP* P 11 37 21.8 -4.5

*IDC **27** 11:30:04.9±3.8, 36°.23N×70°.79E, h160km±33km, mb3.7/12, mbtmp4.2/17, Error ellipse: s-maj=25.2km s-min=15.6km az=24.0*
*NNC **27** 11:30:05.7±2.4, 36°.78N×70°.20E, h0km, mb4.5, mpv4.5, Error ellipse: s-maj=21.0km s-min=16.0km az=21.0*
*MOS **27** 11:30:08.2±0.8, 36°.45N×70°.71E, h202km, mb4.3/11, Error ellipse: s-maj=11.3km s-min=5.8km az=86.8*
*BJI **27** 11:30:08.2, 36°.55N×70°.71E, h203km, mB4.6/2, mb4.4/5*
*NEIC **27** 11:30:09.3±2.0, 36°.48N±0°.06×70°.66E±0°.08, h200km±6km, mb4.3/25, Error ellipse: s-maj=9.3km s-min=8.2km az=86.0*

ISC 27 11:30:09.0±0.5, 36°.43N±0°.05×70°.73E±0°.05, h204km, n124, σ1§98/143, mb4.2/28, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KBL	**Kabul**	**2.33**	**217**			**Pn**	**11 30 51.8**	**+0.2**
KBL	**Kabul**	**2.33**	**217**	PN		**Pn**	**11 30 51.8**	**+0.2**
CHGR	**Chuyangaron**	**2.55**	**331**			**Pn**	**11 30 52.9**	**-0.8**
CHGR	**Chuyangaron**	**2.55**	**331**	PN		**Pn**	**11 30 52.9**	**-0.8**
GAR	**Garm**	**2.58**	**353**			**Pn**	**11 30 53.6**	**-0.6**
SIMJ	**Simiganj**	**2.61**	**329**			**Pn**	**11 30 53.7**	**-0.8**
NIL	**Nilore**	**3.46**	**143**			**Pn**	**11 31 05.5**	**+1.1**
NIL	**Nilore**	**3.46**	**143**	PN		**Pn**	**11 31 05.5**	**+1.1**
SRNI	**Srinagar**	**4.10**	**123**	*eP*		**Pn**	**11 31 11.1**	**-1.0**
SRNI				*eS*		**S**	**11 31 57.9**	**-3.2**
SRNI				IAML			11 32 01.0	
	comp=N,738nm,0.5s							
SRNI				IAML			11 32 01.8	
	comp=E,558nm,0.3s							
JMU	**Jammu**	**5.06**	**136**	*eP*		**Pn**	**11 31 22.8**	**-1.5**
JMU				*eS*		**S**	**11 32 17.7**	**-5.5**
JMU				IAML			11 32 22.9	
	comp=N,673nm,0.6s							
JMU				IAML			11 32 23.2	
	comp=E,358nm,0.3s							
TRKS	**Terek-Say**	**5.10**	**3**	PN		**Pn**	**11 31 23.6**	**-1.3**
KSH	**Kashi**	**5.16**	**52**	P		**Pn**	**11 31 21.0**	**-4.6**
KSH				S		S	11 32 14.3	-11
KSH				smax		smax		
	comp=E,250nm,0.6s							
KSH				smax		smax		
	comp=E,190nm,0.5s							
ARSB	**Arslanbob**	**5.19**	**19**			**Pn**	**11 31 25.0**	**-1.0**
ARSB	**Arslanbob**	**5.19**	**19**	PN		**Pn**	**11 31 25.0**	**-1.0**
DHRM	**DHARAMSHALA**	**6.21**	**131**	*eP*		**Pn**	**11 31 38.8**	**-0.6**
DHRM				*eS*		**S**	**11 32 45.8**	**-4.7**
UCH	**Uchtor**	**6.49**	**26**	P		**Pn**	**11 31 42.3**	**-0.6**
	SNR=184							
BRLS	**Borolday**	**6.63**	**354**	Lg		Lg	11 32 48.5	
	comp=E,49nm,0.2s							
EKS2	**Erkin-Say**	**6.65**	**20**	P		**Pn**	**11 31 44.3**	**-0.5**
	SNR=191							
KK31	**Karatay Array**	**6.67**	**359**			**Pn**	**11 31 44.0**	**-0.8**
KK31	**Karatay Array**	**6.67**	**359**	P		**Pn**	**11 31 42.5**	**-2.3**
	comp=E,18nm,0.2s,baz=183,slow=12,SNR=694							
KK31				⇓S		**S**	**11 32 53.8**	**-7.0**
	comp=E,20nm,0.4s,baz=186,slow=22							
KK31	**Karatay Array**	**6.67**	**359**	PN		**Pn**	**11 31 44.0**	**-0.8**
KKAR	**Karatay Array**	**6.67**	**359**			**Pn**	**11 31 44.0**	**-0.8**
KKAR	**Karatay Array**	**6.67**	**359**	PN		**Pn**	**11 31 44.0**	**-0.8**
AAK	**Ala-Archa**	**6.85**	**24**			**Pn**	**11 31 47.0**	**-0.4**
AAK	**Ala-Archa**	**6.85**	**24**	P		**Pn**	**11 31 46.8**	**-0.5**
	comp=E,54nm,0.4s,baz=181,slow=5.6,SNR=74							
AAK				S		**S**	**11 33 02.1**	**-3.1**
	comp=E,26nm,0.6s,baz=16,slow=21,SNR=9.8							
AAK	**Ala-Archa**	**6.85**	**24**	P		**Pn**	**11 31 47.1**	**-0.4**
	SNR=24							
AAK	**Ala-Archa**	**6.85**	**24**	⇑P		**Pn**	**11 31 46.1**	**-1.2**
	comp=E,10nm,0.4s							
AAK				⇓S		**S**	**11 33 04.3**	**-1.0**
	comp=E,13nm,0.5s							
AAK	**Ala-Archa**	**6.85**	**24**	*ce*PN		**Pn**	**11 31 46.9**	**-0.4**
AAK				pmax		pmax		
	comp=Z,27nm,0.5s							
BHK	**Bhakra**	**6.88**	**135**	IAML			11 33 04.8	
	comp=E,228nm,0.3s							
BHK				IAML			11 33 06.6	
	comp=N,305nm,0.5s							
BHK				*eS*		**S**	**11 33 08.3**	**+2.3**
KBK	**Karagaybulak**	**7.02**	**26**	P		**Pn**	**11 31 49.5**	**0.0**
	SNR=8.3							
FRU1	**Bishkek**	**7.04**	**24**			**Pn**	**11 31 50.2**	**+0.4**
FRU1	**Bishkek**	**7.04**	**24**	PN		**Pn**	**11 31 50.2**	**+0.4**
ULHL	**Ulahol**	**7.21**	**35**	P		**Pn**	**11 31 52.0**	**-0.1**
	SNR=5.8							
CHMS	**Chumysh**	**7.25**	**24**	P		**Pn**	**11 31 51.7**	**-0.8**
	SNR=20							
USP	**Ospenovka**	**7.42**	**22**	P		**Pn**	**11 31 53.5**	**-1.1**
	SNR=34							
TKM2	**Tokmak 2**	**7.49**	**29**	P		**Pn**	**11 31 55.3**	**-0.4**
	SNR=64							
SMLA	**Simla**	**7.53**	**133**	*eP*		**Pn**	**11 31 55.6**	**-0.5**
SMLA				*eS*		**S**	**11 33 15.3**	**-6.0**
SMLA				IAML			11 33 19.0	
	comp=N,257nm,0.4s							
SMLA				IAML			11 33 19.8	
	comp=E,245nm,0.2s							
KDJ	**Kajisay**	**7.58**	**39**			**Pn**	**11 31 56.4**	**-0.4**
KDJ	**Kajisay**	**7.58**	**39**	PN		**Pn**	**11 31 56.4**	**-0.4**
SGDS	**Sogindy**	**7.62**	**22**	P		**Pn**	**11 31 55.9**	**-1.4**
TARG	**Taragay, Kyrgy**	**7.63**	**44**			**Pn**	**11 31 56.9**	**-0.9**
TARG	**Taragay, Kyrgy**	**7.63**	**44**	PN		**Pn**	**11 31 56.9**	**-0.9**
KST	**Kastek**	**7.74**	**30**	Lg		Lg	11 33 21.2	
	comp=E,20nm,0.9s							
DGS	**Degeres**	**7.83**	**28**	Lg		Lg	11 33 22.6	
	comp=E,14nm,0.7s							
MTBS	**Maitube**	**8.00**	**32**	P		**Pn**	**11 32 02.0**	**-0.3**
TNSS	**Tian-Shan**	**8.15**	**34**	P		**Pn**	**11 32 04.0**	**-0.5**
KOTS	**Kotyrbulak**	**8.38**	**34**	P		**Pn**	**11 32 07.5**	**+0.3**
PRZ	**Przheval'sk**	**8.47**	**42**			**Pn**	**11 32 08.6**	**+0.2**
PRZ	**Przheval'sk**	**8.47**	**42**	PN		**Pn**	**11 32 08.6**	**+0.2**
KTBS	**Karatobe**	**8.58**	**30**	P		**Pn**	**11 32 08.3**	**-1.4**
DDI	**Dehra Dun**	**8.64**	**133**	*eS*		**S**	**11 33 40.5**	**-7.3**
DDI				IAML			11 33 44.7	
	comp=E,94nm,0.1s							
DDI				IAML			11 33 47.6	
	comp=N,70nm,0.1s							
BTLS	**Baital**	**8.96**	**15**	P		**Pn**	**11 32 13.4**	**-1.2**
JOSI	**Joshimath**	**9.41**	**126**	*eS*		S	11 33 57.8	-8.8
JOSI				IAML			11 34 04.9	
	comp=E,104nm,0.5s							
JOSI				IAML			11 34 06.8	
	comp=N,130nm,0.3s							
MK31	**Makanchi Array**	**13.47**	**36**	P		**Pn**	**11 33 18.4**	**+3.7**
	comp=N,1.2nm,0.5s,baz=213,slow=9.3,SNR=14							
MK31	**Makanchi Array**	**13.47**	**36**	*ce*P		**Pn**	**11 33 12.2**	**0.0**
MKAR	**Makanchi Array**	**13.47**	**36**			**Pn**	**11 33 11.7**	**-0.4**
MKAR	**Makanchi Array**	**13.47**	**36**	P		**Pn**	**11 33 11.6**	**-0.6**
	comp=N,1.8nm,0.8s,baz=220,slow=11,SNR=12							
MKAR	**Makanchi Array**	**13.47**	**36**	*ce*P		**Pn**	**11 33 12.3**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WMQ	**Urumqi**	**14.91**	**55**	*eP*		**P**	**11 33 32.0**	**+1.4**
AB31	**Akbulak array**	**15.04**	**332**			**Pn**	**11 33 30.6**	**-0.7**
AB31	**Akbulak array**	**15.04**	**332**	P		**P**	**11 33 33.2**	**+1.4**
	comp=Z,1.9nm,0.3s,baz=142,slow=13,SNR=86							
AB31				S		**S**	**11 36 15.9**	**-2.0**
	comp=Z,2.7nm,0.4s,baz=156,slow=24,SNR=3.0							
AB31	**Akbulak array**	**15.04**	**332**	P		**P**	**11 33 33.2**	**+1.4**
AB31				S		**S**	**11 36 15.9**	**-2.0**
ABKAR	**Akbulak array**	**15.04**	**332**			**Pn**	**11 33 30.8**	**-0.5**
KURBB	**Kurchatov Arra**	**15.26**	**19**	P		**Pn**	**11 33 32.2**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=207,slow=11,SNR=8.3							
KURK	**Kurchatov**	**15.37**	**19**			**Pn**	**11 33 33.7**	**-1.6**
KURK	**Kurchatov**	**15.37**	**19**	*i* P		**Pn**	**11 33 34.9**	**-0.4**
EVN	**Everest**	**16.01**	**117**	P		**Pn**	**11 33 44.4**	**+0.4**
EVN				IAmb		IAmb	11 33 45.3	
	comp=Z,13nm,0.5s							
BVAR	**Borovoye Array**	**16.59**	**359**	P		**Pn**	**11 33 49.6**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=159,slow=13,SNR=10							
AKTO	**Aktyubinsk**	**16.73**	**331**	P		**Pn**	**11 33 52.3**	**+0.6**
	comp=Z,11nm,0.4s,baz=145,slow=9.4,SNR=28							
AKTO				S		**S**	**11 36 53.7**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=151,slow=21,SNR=2.1							
AKTO	**Aktyubinsk**	**16.73**	**331**	⇑P		**Pn**	**11 33 54.2**	**+2.5**
	comp=Z,5.7nm,0.5s							
AKTO				⇑S		**S**	**11 36 55.8**	**+1.1**
	comp=Z,3.7nm,0.8s							

ZAA0 Zalesovo Array 20.07 25 P **P** **11 34 27.4 +0.8**
ZAA0 IAmb IAmb 11 34 33.5
comp=Z,6.5nm,1.0s
ZALV Zalesovo Beam 20.07 25 P **P** **11 34 27.7 +1.2**
ZALV Zalesovo Beam 20.07 25 P **P** **11 34 27.6 +1.0**
comp=Z,3.5nm,0.3s,baz=225,slow=10,SNR=11
comp=Z,3.5nm,0.3s
GNI Garni 20.71 288 *i* P **P** **11 34 33.8 +0.1**
GNI pmax pmax
comp=Z,7.0nm,0.8s
ARTI Arti 21.64 341 P **P** **11 34 43.2 +0.2**
ARTI Arti 21.64 341 P **P** **11 34 44.7 +1.7**
comp=Z,3.2nm,0.3s,baz=145,slow=9.1,SNR=5.6
comp=Z,3.2nm,0.3s
ARTI Arti 21.64 341 *c* *i*P **P** **11 34 45.6 +2.6**
ARTI *PP **pP** **11 35 15.9 -2.2**
ARTI 11 35 26.6
ARTI S **S** **11 38 35.7 +7.3**
ARTI pmax pmax
comp=Z,3.0nm,0.5s
BELG Belogornoye 22.81 322 *i* P **P** **11 34 54.2 +0.2**
BELG pmax pmax
comp=Z,3.0nm,0.8s
RAYN Ar Rayn 25.27 246 **P** **11 35 17.5 +0.8**
RAYN IAmb IAmb 11 35 19.8
comp=Z,7.1nm,1.1s
RAYN Ar Rayn 25.27 246 P **P** **11 35 17.5 +0.8**
RAYN pmax pmax
comp=Z,7.0nm,1.1s
PZH PanZhiHua 28.14 102 P **P** **11 35 44.8 +2.4**
OBN Obninsk 29.85 320 *de*P **P** **11 35 58.1 +1.2**
OBN *e*PP **pP** **11 36 36.6 -1.9**
OBN *e* 11 37 02.6
OBN pmax pmax
comp=Z,5.0nm,0.8s
HHC Hu-ho-hao-te 31.99 69 *eP* **P** **11 36 18.0 +1.9**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,62nm,5.5s
AKASG Malin Array Be 32.82 309 P **P** **11 36 24.8 +1.8**
comp=Z,0.7nm,0.4s,baz=81,slow=7.1,SNR=10
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 32.82 309 *ce*P **P** **11 36 24.2 +1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 32.82 309 *eP* **P** **11 36 23.6 +0.6**
AKBB pmax pmax
comp=Z,5.0nm,1.6s
MNK Minsk 34.40 315 *i* P **P** **11 36 36.2 -0.3**
comp=E,15nm,0.8s
MNK *i* P **P** **11 36 36.2 -0.3**
MNK comp=N,13nm,0.7s
MNK *i* P **P** **11 36 36.2 -0.3**
MNK comp=Z,5.0nm,0.6s,baz=104
MNK *i* pP **pP** **11 37 13.9 -4.9**
MNK *i* PP **PP** **11 37 55.9 -2.8**
MNK *i* S **S** **11 41 49.5 +0.6**
MNK *i* sS sS 11 42 56.7 -8.4
MNK *i* SS **SS** **11 44 21.0 -3.9**
MNK *i* LR LR 11 53 00.5
MNK Minsk 34.40 315 *i* P **P** **11 36 36.2 -0.3**
MNK *i* *PP **pP** **11 37 13.8 -4.9**
MNK *i* 11 37 55.9
MNK *i* S **S** **11 41 49.5 +0.6**
MNK *i* SS **SS** **11 44 20.9 -3.9**
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,15nm,0.8s
MNK pmax pmax
comp=N,13nm,0.7s
MNK MLR MLR
comp=Z,71nm,18.0s
MNK MLR MLR
comp=E,344nm,22.0s
MNK MLR MLR
comp=N,376nm,25.0s
XLT XiLinHaoTe 35.09 63 *eP* **P** **11 36 45.5 +2.7**
XLT pmax pmax
comp=N,10.0nm,1.0s
FIA1 FINESS Array S 37.42 326 P **P** **11 37 03.4 +1.3**
FINES FINESS Array B 37.42 326 P **P** **11 37 03.6 +1.5**
FINES FINESS Array B 37.42 326 P **P** **11 37 04.2 +2.2**
comp=N,2.6nm,0.6s,baz=119,slow=7.8,SNR=11
comp=N,2.6nm,0.6s
ARCES ARCESS Array B 41.12 338 P **P** **11 37 34.0 +1.3**
ARCES ARCESS Array B 41.12 338 P **P** **11 37 34.9 +2.3**
comp=N,4.9nm,0.8s,baz=97,slow=6.2,SNR=9.5
comp=N,4.9nm,0.8s
ARCES ARCESS Array B 41.12 338 P **P** **11 37 34.0 +1.3**
ARCES pmax pmax
comp=Z,39nm,1.5s
KULM Kulim 41.39 131 P **P** **11 37 36.9 +1.4**
KULM IAmb IAmb 11 37 52.8
comp=Z,19nm,1.4s
HFS Hagfors 42.98 322 P **P** **11 37 49.4 +1.6**
comp=Z,3.4nm,0.6s,baz=98,slow=11,SNR=9.8
comp=Z,3.4nm,0.6s
MSEY Mahe Island 43.31 202 P **P** **11 37 50.1 -0.8**
MSEY Mahe Island 43.31 202 P **P** **11 37 50.1 -0.8**
MSEY pmax pmax
comp=Z,30nm,1.3s
NC405 NORSAR Array S 44.07 323 P **P** **11 37 55.5 -0.9**
NORES NORESS Array B 44.11 323 P **P** **11 37 58.3 +1.5**
NC303 NORSAR Array S 44.25 323 P **P** **11 37 59.0 +1.1**
NB201 NORSAR Array S 44.27 323 P **P** **11 37 58.3 +0.3**
NB201 IAmb IAmb 11 38 10.8
comp=Z,14nm,1.4s
NB2 NORSAR Subarra 44.30 323 P **P** **11 37 59.7 +1.4**
comp=Z,1.6nm,0.7s,baz=96,slow=7.9
NOA NORSAR Array B 44.30 323 P **P** **11 37 59.6 +1.3**
comp=Z,2.4nm,0.8s,baz=97,slow=7.8,SNR=9.5
comp=Z,2.4nm,0.8s
NC204 NORSAR Array S 44.54 323 P **P** **11 38 00.0 -0.2**
NC204 IAmb IAmb 11 38 36.6
comp=Z,9.9nm,1.2s
KEST Kesra 48.85 288 P **P** **11 38 33.6 -0.4**
TORD Torodi Ar. Bea 65.50 268 P **P** **11 40 30.7 0.0**
comp=Z,3.2nm,0.6s,baz=49,slow=6.2,SNR=26
comp=Z,3.2nm,0.6s
C18K Utukok River 68.40 18 P **P** **11 40 48.3 0.0**
F15K North Star Dit 69.59 21 P **P** **11 40 54.9 -0.6**
C23K Itkillik River 69.84 14 P **P** **11 40 56.6 -0.3**
F19K Shaleruckik Mo 70.63 18 P **P** **11 41 02.6 +0.8**
F19K IAmb IAmb 11 41 02.6
comp=Z,5.5nm,1.2s
F20K Avaraart Lake 70.97 17 P **P** **11 41 05.5 +1.6**
F20K IAmb IAmb 11 41 20.9
comp=Z,6.0nm,1.4s
E22K Anaktuvuk Pass 71.00 16 P **P** **11 41 05.9 +1.9**
E22K IAmb IAmb 11 41 49.3
comp=Z,14nm,1.4s
TOLK Toolik Lake Re 71.04 15 P **P** **11 41 04.2 -0.2**
TOLK IAmb IAmb 11 41 41.7
comp=Z,6.5nm,1.4s
E24K Your Creek 71.74 14 P **P** **11 41 09.4 +0.8**
E24K IAmb IAmb 11 41 29.2
comp=Z,8.0nm,1.4s
J16K Anvik River 72.56 22 P **P** **11 41 13.1 -0.2**
J16K IAmb IAmb 11 41 26.8
comp=Z,15nm,1.2s
BMAR Burnt Mountain 73.06 13 P **P** **11 41 16.8 +0.5**
J18K Innoko River 73.54 20 P **P** **11 41 18.9 -0.2**
F30M Barrier River 74.35 10 P **P** **11 41 23.7 -0.1**
F30M IAmb IAmb 11 41 35.2
comp=Z,7.6nm,1.2s
ILAR Eielson Array 74.90 16 P **P** **11 41 27.8 +0.9**
comp=Z,0.5nm,0.9s,baz=316,slow=6.2,SNR=4.1
comp=Z,0.5nm,0.9s
YKA Yellowknife Ar 81.32 3 P **P** **11 42 04.2 +2.0**
comp=Z,0.5nm,0.5s,baz=353,slow=6.4,SNR=21
comp=Z,0.5nm,0.5s
WRA Warramunga Arr 82.14 122 P **P** **11 42 07.4 +0.3**
comp=Z,1.1nm,0.7s,baz=321,slow=4.7,SNR=8.3
comp=Z,1.1nm,0.7s
ASAR Alice Springs 84.39 125 P **P** **11 42 19.1 +0.6**
comp=Z,0.7nm,0.5s,baz=315,slow=4.9,SNR=9.2
comp=Z,0.7nm,0.5s

*IDC **27** 11:33:36.0±1.6, 30°.57S×177°.55W, h0km, mb4.5/3, mbtmp4.4/4, ML3.4/1, Error ellipse: s-maj=43.2km s-min=24.6km az=117.0*
*NEIC **27** 11:33:44.5±0.7, 30°.30S±0°.07×178°.0W±0°.2, h35km±2km,*

mb4.6/18, Error ellipse: s-maj=27.0km s-min=12.1km az=86.0

ISC 27 11:33:44.5±0.9, 30.36S±0.07×178.0W±0.1, h46km, n38, σ18.37/32, mb4.6/13, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**4**	**Pn**	**Pn**	**11 34 02.4**	**-1.0**
RAO				Sn	**Sn**	**11 34 16.6**	**-0.9**
RAO	**Raoul Island**	**1.10**	**4**	**Pn**	**Pn**	**11 34 02.3**	**-1.2**
	112nm,0.3s,baz=122,slow=23,SNR=11						
RAO				Sn	**Sn**	**11 34 16.0**	**-1.5**
	153nm,0.3s,baz=48,slow=21,SNR=7.8						
URZ	**Urewera**	**8.86**	**206**	Pn	Pn	11 35 43.9	-5.9
	0.5nm,0.3s,baz=271,slow=5.3,SNR=7.3						
URZ				Sn	**Sn**	**11 37 23.0**	**-5.3**
	1.2nm,0.3s,baz=233,slow=9.1,SNR=9.9						
	6.1nm,0.8s						
HNR	**Honiara**	**29.27**	**311**	P	**P**	**11 39 42.8**	**+0.4**
CTAO	**Charters Tower**	**33.79**	**279**	P	**P**	**11 40 22.7**	**+0.5**
CTAO				IAmb	IAmb	11 40 47.1	
	comp=Z,8.3nm,1.1s						
STKA	**Stephens Creek**	**34.49**	**257**	P	**P**	**11 40 29.6**	**+1.5**
STKA	**Stephens Creek**	**34.49**	**257**	P	**P**	**11 40 29.9**	**+1.8**
	comp=Z,4.3nm,0.5s,baz=101,slow=10,SNR=15						
	comp=Z,4.3nm,0.5s						
INKA	**Innaminka**	**36.02**	**264**	P	**P**	**11 40 41.3**	**0.0**
BBOO	**Buckleboo**	**38.98**	**254**	P	**P**	**11 41 07.3**	**+1.0**
BBOO				IAmb	IAmb	11 41 50.7	
	comp=Z,18nm,1.4s						
COEN	**Coen**	**39.26**	**286**	P	**P**	**11 41 09.9**	**+1.1**
COEN				IAmb	IAmb	11 41 19.2	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**43.11**	**267**	P	**P**	**11 41 41.3**	**+0.8**
ASAR	**Alice Springs**	**43.11**	**267**	P	**P**	**11 41 41.2**	**+0.7**
ASAR	**Alice Springs**	**43.11**	**267**	P	**P**	**11 41 40.8**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=98,slow=7.5,SNR=45						
ASAR				PcP	**PcP**	**11 43 30.2**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=128,slow=3.8,SNR=1.4						
	comp=Z,2.6nm,0.5s						
WR8	**Warramunga Arr**	**43.95**	**272**	P	**P**	**11 41 47.6**	**+0.3**
WR8				IAmb	IAmb	11 42 27.9	
	comp=Z,6.9nm,1.3s						
WRAB	**Tennant Creek**	**44.09**	**272**	P	**P**	**11 41 48.6**	**+0.3**
WRAB				IAmb	IAmb	11 42 12.5	
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**11 41 48.5**	**+0.1**
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**11 41 48.4**	**0.0**
	comp=Z,2.6nm,0.3s,baz=110,slow=8.1,SNR=40						
	comp=Z,2.6nm,0.3s						
WB0	**Warramunga Arr**	**44.12**	**272**	P	**P**	**11 41 49.3**	**+0.7**
WB0				IAmb	IAmb	11 41 49.5	
	comp=Z,3.5nm,0.5s						
KNRA	**Kununurra**	**50.70**	**274**	P	**P**	**11 42 40.4**	**+0.7**
KNRA				IAmb	IAmb	11 42 42.0	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.36**	**270**	P	**P**	**11 42 52.2**	**+0.1**
SOEI	**Soe**	**57.35**	**278**	P	**P**	**11 43 28.0**	**-0.4**
SOEI				IAmb	IAmb	11 43 51.7	
	comp=Z,30nm,1.3s						
QSPA	**South Pole Qui**	**59.76**	**180**	P	**P**	**11 43 46.1**	**+1.6**
QSPA				IAmb	IAmb	11 43 53.1	
	comp=Z,3.1nm,0.8s						
JAGI	**Jajag, Banyuwa**	**66.67**	**274**	P	**P**	**11 44 31.2**	**+0.3**
MG03	**Isla Dawson**	**75.48**	**144**	P	**P**	**11 45 25.0**	**+1.4**
H03S2	**Juan Fernandez**	**80.49**	**124**	T	T	13 15 00.2	
	baz=238,slow=74,SNR=32						
H03S1	**Juan Fernandez**	**80.50**	**124**	T	T	13 15 01.1	
	baz=238,slow=73,SNR=34						
H03S3	**Juan Fernandez**	**80.51**	**124**	T	T	13 14 59.3	
	baz=238,slow=74,SNR=36						
H03N3	**Juan Fernandez**	**80.68**	**123**	T	T	13 15 14.2	
	baz=253,slow=72,SNR=7.7						
H03N2	**Juan Fernandez**	**80.69**	**123**	T	T	13 15 15.9	
	baz=253,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**80.70**	**123**	T	T	13 15 10.5	
	baz=253,slow=72,SNR=14						
JKA	**Kamikawa-asahi**	**82.40**	**333**	P	**P**	**11 46 01.6**	**+0.2**
JKA				IAmb	IAmb	11 46 40.6	
	comp=Z,9.2nm,1.3s						
KURBB	**Kurchatov Arra**	**121.06**	**314**	PKP	**PKPdf**	**11 52 30.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=108,slow=1.9,SNR=1.8						
H10N3	**ASCENSION HYDR**	**138.85**	**155**	T	T	14 28 46.5	
	baz=202,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**138.85**	**155**	T	T	14 28 49.8	
	baz=202,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**138.87**	**155**	T	T	14 28 52.9	
	baz=202,slow=75,SNR=10						
FINES	**FINESS Array B**	**145.10**	**340**	PKPbc	**PKPbc**	**11 53 14.5**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=50,slow=5.1,SNR=9.3						
HFS	**Hagfors**	**149.20**	**349**	PKPbc	**PKPbc**	**11 53 25.9**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.1,SNR=2.1						
AKASG	**Malin Array Be**	**151.26**	**323**	PKPbc	**PKPbc**	**11 53 31.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=47,slow=3.2,SNR=5.0						

NNC 27 11:44:42.1±2.1, 37.41N×69.25E, h0km, mb3.7, mpv4.0, 1C, Error ellipse: s-maj=17.9km s-min=17.3km az=9.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.77**	**7**	Pg	Pn	11 45 59.5	+4.2
	16nm,0.1s						
IUG				Lg	Lg	11 47 01.2	
	6.2nm,0.2s						
KK31	**Karatay Array**	**5.77**	**9**	Pn	Pn	11 46 08.9	0.0
	1.0nm,0.3s,baz=190,slow=13,SNR=20						
KK31				⇑Sn	Sn	11 47 17.0	+1.2
	3.0nm,0.6s,baz=190,slow=24						
MRKS	**Merke**	**6.13**	**29**	Pg	Pn	11 46 11.5	-2.6
	2.8nm,0.2s						
MRKS				Lg	Lg	11 47 22.7	
	5.1nm,0.2s						

KRSC 27 11:45:55.3±2.6, 51.97N×155.53E, h405km±29km, MI3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.82**	**67**	*eP*	P	11 46 46.6	+0.2
PAU	**Pauzhetka**	**0.94**	**122**	*eP*	P	11 46 47.7	+0.9
APA	**Apacha**	**1.38**	**46**	*eP*	P	11 46 50.1	+1.8
ASAK	**Asacha**	**1.52**	**73**	*eP*	P	11 46 50.7	+1.6
GRL	**Gorelyy**	**1.67**	**69**	*eP*	P	11 46 52.4	+2.5
MTVR	**Mutnovka**	**1.71**	**71**	*eP*	P	11 46 52.2	+2.0
KRMR	**Karymshinskiy**	**1.81**	**61**	*eP*	P	11 46 52.3	+1.8
KRMR				*eS*	S	11 47 37.2	+2.0
RUS	**Russkaya**	**1.90**	**75**	*eP*	P	11 46 53.0	+2.0
PET	**Petropavlovsk**	**2.18**	**60**	*eP*	P	11 46 54.8	+2.1
PET				*eS*	S	11 47 39.7	+0.4
DALK	**Dalny**	**2.24**	**60**	*eP*	P	11 46 55.2	+2.1
DALK				*eS*	S	11 47 40.9	+0.9
KOK	**Koryaka**	**2.31**	**54**	*eP*	P	11 46 55.7	+2.1
AVH	**Avacha**	**2.35**	**55**	*eP*	P	11 46 56.4	+2.5
KRX	**Arik**	**2.36**	**53**	*eP*	P	11 46 55.7	+1.7
UGLR	**Uglovaya**	**2.36**	**57**	*eP*	P	11 46 57.1	+3.0
KRER	**Koryakskii**	**2.38**	**54**	*eP*	P	11 46 57.4	+3.1
SMAR	**Somma**	**2.38**	**56**	*eP*	P	11 46 56.5	+2.2
SPN	**Mys Shipunski**	**2.97**	**66**	*eP*	P	11 46 59.4	+1.0
SPN				*eS*	S	11 47 47.8	-2.0
MKZ	**Mys Kozlova**	**4.54**	**53**	*eP*	P	11 47 15.0	+2.6
MKZ				*eS*	S	11 48 12.6	-3.0
KLY	**Klyuchi**	**5.29**	**33**	*eP*	P	11 47 21.3	+1.2
KBG	**Krutoberegovo**	**6.02**	**42**	*eP*	P	11 47 31.2	+3.5
KBG				*eS*	S	11 48 38.5	-5.3
KBTR	**Krutoberegovo**	**6.03**	**42**	*eP*	P	11 47 29.5	+1.6

IDC 27 11:55:11.8±10.0, 16.32S×174.72W, h266km±98km, mb3.5/7, mbtmp4.1/7, Error ellipse: s-maj=65.2km s-min=24.7km az=136.0

ISC 27 11:55:04.7±1.6, 16.3S±0.4×174.7W±0.4, h200km, n9, σ0.61/11, mb3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.54**	**240**	P	**P**	**12 02 41.4**	**+0.5**
	4.2nm,0.6s,baz=63,slow=9.0,SNR=7.9						
	4.2nm,0.6s						
WRA	**Warramunga Arr**	**48.47**	**258**	P	**P**	**12 03 27.5**	**0.0**
	3.8nm,0.7s,baz=93,slow=7.3,SNR=52						
WRA				PcP	**PcP**	**12 04 49.9**	**-0.7**
	0.4nm,0.4s,baz=103,slow=3.2,SNR=2.9						
	3.8nm,0.7s						
ASAR	**Alice Springs**	**48.69**	**253**	P	**P**	**12 03 29.0**	**-0.2**
	4.9nm,0.5s,baz=88,slow=7.7,SNR=185						
ASAR				PcP	**PcP**	**12 04 50.4**	**-0.9**
	0.4nm,0.6s,baz=91,slow=3.8,SNR=2.7						
	4.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**56.84**	**259**	P	**P**	**12 04 29.1**	**+0.2**
	1.3nm,0.8s,baz=80,slow=11,SNR=7.8						
	1.3nm,0.8s						
PETK	**Petropavlovsk-**	**73.13**	**343**	P	**P**	**12 06 13.4**	**+0.4**
	1.8nm,0.7s,baz=150,slow=5.3,SNR=6.2						
	1.8nm,0.7s						
NVAR	**Mina Array Bea**	**75.81**	**42**	P	**P**	**12 06 29.8**	**+0.7**
	0.3nm,0.6s,baz=242,slow=4.1,SNR=3.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.56**	**12**	P	**P**	**12 07 09.2**	**-0.7**
	0.8nm,1.1s,baz=225,slow=4.8,SNR=4.6						
	0.8nm,1.1s						
BRTR	**Keskin Array B**	**146.07**	**319**	PKPbc	**PKPdf**	**12 14 20.6**	**+0.2**
	0.8nm,0.8s,baz=46,slow=7.1,SNR=5.1						
GERES	**GERESS Array B**	**146.83**	**350**	PKPbc	**PKPdf**	**12 14 21.0**	**-0.4**
	0.4nm,0.2s,baz=12,slow=4.6,SNR=1.5						

IDC 27 12:10:08.2±0.9, 23.50N×121.74E, h0km, mb3.6/8, mbtmp3.6/9, ML3.4/1, MS3.2/1, Error ellipse: s-maj=29.1km s-min=18.3km az=65.0

JMA 27 12:10:09.0±0.2, 23.6N±0.3×121.6E±0.5, h0km±1km, MV3.4/13, TAIWAN REGION

TAP 27 12:10:09.8, 23.63N×121.48E, h5km, ML4.0, C

ISC 27 12:10:09.5±0.9, 23.60N±0.01×121.57E±0.01, h6km±7km, n180, σ0.99/326, mb3.5/8, 1C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.15**	**299**	*i* P	**Pg**	**12 10 11.7**	**-0.8**
EGFH				*i* S	**Sg**	**12 10 13.2**	**-1.3**
HGSD	**Ruisui**	**0.17**	**232**	⇓*i* P	**Pg**	**12 10 13.6**	**+0.7**
HGSD				*i* S	**Sg**	**12 10 17.1**	**+2.0**
SHUL	**Shoufeng**	**0.19**	**358**	⇑*i* P	**Pg**	**12 10 14.7**	**+1.4**
SHUL				*i* S	**Sg**	**12 10 18.9**	**+3.0**
WARBT	**Fenglin Townsh**	**0.21**	**306**	⇓*i* P	**Pg**	**12 10 12.7**	**-0.9**
WARBT				*i* S	**Sg**	**12 10 14.7**	**-1.7**
EHYH	**Wanrong**	**0.23**	**244**	*i* P	**Pg**	**12 10 13.9**	**-0.1**
EHYH				*i* S	**Sg**	**12 10 17.2**	**+0.1**
EHY	**Hungye**	**0.24**	**248**	*i* P	**Pg**	**12 10 13.8**	**-0.5**
EHY				*i* S	**Sg**	**12 10 17.0**	**-0.5**
ESL	**Shilin**	**0.25**	**330**	⇓*i* P	**Pg**	**12 10 13.9**	**-0.5**
ESL				*i* S	**Sg**	**12 10 17.1**	**-0.7**
TEYL	**Yanliau Villag**	**0.27**	**6**	*i* P	**Pb**	**12 10 16.8**	**-0.1**
TEYL				*eS*	**Sb**	**12 10 22.6**	**+0.8**
ECBN	**Changbin**	**0.30**	**201**	*i* P	**Pb**	**12 10 17.3**	**-0.1**
ECBN				S	**Sb**	**12 10 22.1**	**-0.4**
YULB	**Yu-li**	**0.32**	**231**	P	**Pg**	**12 10 15.6**	**-0.2**
YULB	**Yu-li**	**0.32**	**231**	S	**Sg**	**12 10 20.5**	**+0.4**
YULB	**Yu-li**	**0.32**	**231**	*i* P	**Pg**	**12 10 15.9**	**+0.1**
YULB				*i* S	**Sg**	**12 10 20.4**	**+0.4**
EYUL	**Yuli**	**0.34**	**223**	*i* P	**Pb**	**12 10 17.8**	**-0.2**
EYUL				*eS*	**Sb**	**12 10 23.9**	**+0.3**
ETM	**Tongmen**	**0.37**	**349**	*i* P	**Pg**	**12 10 16.8**	**0.0**
ETM				*eS*	**Sg**	**12 10 21.9**	**+0.1**
HWA	**Hwalien**	**0.38**	**5**	*i* P	**Pb**	**12 10 17.8**	**-0.9**
HWA				*eS*	**Sb**	**12 10 24.7**	**-0.3**
CHKH	**Chenggong**	**0.43**	**202**	*i* P	**Pb**	**12 10 19.5**	**-0.1**
CHKH				*eS*	**Sb**	**12 10 26.7**	**+0.3**
LXIB	**Xiulin Townshi**	**0.45**	**341**	⇓*i* P	**Pg**	**12 10 17.9**	**-0.4**
LXIB				*eS*	**Sg**	**12 10 24.9**	**+0.8**
FULB	**Fuli**	**0.47**	**213**	*i* P	**Pb**	**12 10 20.8**	**+0.5**
FULB				*eS*	**Sb**	**12 10 28.4**	**+0.9**
TWD	**Chiawan**	**0.48**	**3**	⇓*i* P	**Pg**	**12 10 19.2**	**+0.4**
TWD				*eS*	**Sb**	**12 10 27.2**	**-0.6**
OWD	**Renai**	**0.51**	**315**	⇓*i* P	**Pg**	**12 10 18.6**	**-0.7**
OWD				S	**Sg**	**12 10 24.6**	**-1.4**
CHKT	**Chengkung**	**0.53**	**201**	*i* P	**Pb**	**12 10 21.1**	**-0.2**
CHKT				*i* S	**Sb**	**12 10 30.9**	**+1.7**
EHD	**Haiduan**	**0.56**	**217**	*i* P	**Pb**	**12 10 20.6**	**-1.1**
EHD				*i* S	**Sb**	**12 10 30.2**	**+0.2**
ETL	**Fush Village**	**0.56**	**5**	*i* P	**Pg**	**12 10 20.6**	**+0.2**
ETL				*eS*	**Sb**	**12 10 30.6**	**+0.4**
WUSB	**Renai**	**0.57**	**314**	⇓*i* P	**Pg**	**12 10 20.1**	**-0.5**
WUSB				S	**Sg**	**12 10 27.8**	**-0.2**
NACB	**Ninganchiao**	**0.57**	**2**	P	**Pg**	**12 10 20.7**	**+0.1**
NACB	**Ninganchiao**	**0.57**	**2**	⇓*i* P	**Pg**	**12 10 20.6**	**0.0**
NACB				*eS*	**Sg**	**12 10 28.6**	**+0.5**
YUS	**Yu-Shan**	**0.57**	**259**	*i* P	**Pg**	**12 10 20.3**	**-0.4**
YUS				S	**Sg**	**12 10 28.4**	**+0.2**
SSLB	**Suanglung**	**0.59**	**289**	P	**Pg**	**12 10 20.1**	**-0.9**
SSLB	**Suanglung**	**0.59**	**289**	S	**Sg**	**12 10 27.4**	**-1.3**
SSLB	**Suanglung**	**0.59**	**289**	⇓*i* P	**Pg**	**12 10 20.3**	**-0.7**
SSLB				*i* S	**Sg**	**12 10 27.2**	**-1.6**
ETLH	**Xiulin Townshi**	**0.61**	**353**	⇓*i* P	**Pg**	**12 10 21.0**	**-0.3**
ETLH				*eS*	**Sb**	**12 10 32.0**	**+0.3**
WHF	**Hehuan Shan**	**0.61**	**333**	⇓*i* P	**Pg**	**12 10 20.8**	**-0.6**
WHF				*eS*	**Sg**	**12 10 28.4**	**-1.0**
ELDTW	**Lidau**	**0.65**	**231**	*i* P	**Pg**	**12 10 21.6**	**-0.4**
ELDTW				*i* S	**Sg**	**12 10 30.2**	**-0.3**
WHYT	**Xinyi Township**	**0.66**	**279**	⇓*i* P	**Pg**	**12 10 21.9**	**-0.4**
WHYT				*i* S	**Sg**	**12 10 30.5**	**-0.4**
EDH	**Donghe**	**0.67**	**201**	*i* P	**Pb**	**12 10 23.0**	**0.0**
EDH				*i* S	**Sb**	**12 10 34.7**	**+1.5**
SMLT	**Sun Moon Lake**	**0.68**	**295**	⇓*i* P	**Pg**	**12 10 22.0**	**-0.6**
SMLT				*i* S	**Sg**	**12 10 30.4**	**-0.9**
WPL	**Puli Township**	**0.70**	**307**	*i* P	**Pg**	**12 10 22.5**	**-0.4**
WPL				*eS*	**Sg**	**12 10 31.1**	**-0.9**
ALS	**Alishan**	**0.71**	**263**	*i* P	**Pg**	**12 10 23.0**	**-0.1**
ALS				*i* S	**Sg**	**12 10 32.8**	**+0.4**
TYC	**Yuchr**	**0.72**	**295**	⇓*i* P	**Pg**	**12 10 22.7**	**-0.7**
TYC				*eS*	**Sg**	**12 10 33.0**	**+0.2**
EHP	**Heping Village**	**0.73**	**13**	*eP*	**Pb**	**12 10 24.9**	**+0.2**
EHP				*eS*	**Sb**	**12 10 36.6**	**+1.7**
DPDB	**Guoxing**	**0.73**	**307**	*i* P	**Pg**	**12 10 23.3**	**-0.3**
DPDB				S	**Sg**	**12 10 32.6**	**-0.5**
EAHA	**Aohua**	**0.75**	**12**	*i* P	**Pg**	**12 10 24.1**	**+0.2**
EAHA				*eS*	**Sb**	**12 10 36.1**	**+0.6**
TWT	**Tachien**	**0.75**	**331**	*i* P	**Pg**	**12 10 22.9**	**-1.0**
TWT				*i* S	**Sg**	**12 10 34.1**	**+0.4**
TDCB	**Techi**	**0.75**	**330**	*i* P	**Pg**	**12 10 23.5**	**-0.5**
TDCB				S	**Sg**	**12 10 33.5**	**-0.4**
WCS	**Beigang Elemen**	**0.76**	**307**	⇓*i* P	**Pg**	**12 10 23.7**	**-0.4**
WCS				*i* S	**Sg**	**12 10 33.0**	**-0.9**
LONT	**Longtian**	**0.80**	**210**	*i* P	**Pb**	**12 10 25.6**	**-0.3**
LONT				*eS*	**Sb**	**12 10 36.8**	**-0.1**
WJS	**Zhushan**	**0.80**	**286**	*i* P	**Pb**	**12 10 25.7**	**-0.2**
WJS				*i* S	**Sb**	**12 10 37.4**	**+0.3**
CHN5	**Tsauling**	**0.82**	**270**	*i* P	**Pg**	**12 10 25.4**	**+0.1**
CHN5				*eS*	**Sg**	**12 10 35.5**	**-0.3**
ENA	**Nanau**	**0.84**	**11**	*i* P	**Pg**	**12 10 25.9**	**+0.1**
ENA				*eS*	**Sb**	**12 10 38.1**	**-0.1**
STYH	**Taoyuan**	**0.84**	**240**	*i* P	**Pg**	**12 10 25.3**	**-0.4**
STYH				*i* S	**Sb**	**12 10 37.4**	**-0.8**
NNSB	**Datong**	**0.84**	**348**	⇓*i* P	**Pg**	**12 10 25.6**	**-0.2**
NNSB				S	**Sb**	**12 10 38.4**	**0.0**
WNT	**Mingjian**	**0.86**	**289**	*i* P	**Pb**	**12 10 26.5**	**-0.4**
WNT				*i* S	**Sb**	**12 10 38.8**	**+0.1**
STYT	**Tauyuan**	**0.86**	**240**	*i* P	**Pg**	**12 10 25.8**	**-0.3**
STYT				S	**Sb**	**12 10 39.4**	**+0.6**
EOS4	**EOS4**	**0.86**	**53**	P	**Pn**	**12 10 27.5**	**-0.4**
EOS4				*eS*	**Sn**	**12 10 40.0**	**-0.7**
EWUT	**Wuta**	**0.87**	**13**	*i* P	**Pg**	**12 10 26.3**	**+0.1**
EWUT				S	**Sb**	**12 10 40.4**	**+1.4**
WNT1	**Nantou City**	**0.87**	**291**	*i* P	**Pb**	**12 10 26.9**	**-0.2**
WNT1				S	**Sn**	**12 10 41.1**	**-0.4**
WHP	**Taichung City**	**0.89**	**320**	⇓*i* P	**Pg**	**12 10 26.2**	**-0.4**
WHP				*eS*	**Sg**	**12 10 37.1**	**-1.0**
TWGBT	**Beinan**	**0.90**	**210**	P	**Pg**	**12 10 26.7**	**0.0**
TWGBT	**Beinan**	**0.90**	**210**	*i* P	**Pg**	**12 10 26.0**	**-0.7**
TWGBT				*eS*	**Sb**	**12 10 39.8**	**0.0**
TWG	**Pinlang**	**0.90**	**211**	*i* P	**Pg**	**12 10 25.9**	**-0.8**
TWG				*eS*	**Sn**	**12 10 41.6**	**-0.4**
WCKO	**Fanlu**	**0.90**	**260**	*i* P	**Pg**	**12 10 26.4**	**-0.4**
WCKO				*eS*	**Sb**	**12 10 40.1**	**+0.2**
TPUB	**Ta-pu**	**0.91**	**251**	P	**Pb**	**12 10 27.4**	**-0.4**
TPUB	**Ta-pu**	**0.91**	**251**	*i* P	**Pb**	**12 10 27.2**	**-0.6**
TPUB				*eS*	**Sb**	**12 10 40.8**	**+0.6**
WWF	**Wufeng**	**0.91**	**299**	*i* P	**Pb**	**12 10 27.8**	**0.0**
WWF				*i* S	**Sn**	**12 10 42.0**	**-0.5**
LDUT	**Ludao**	**0.92**	**186**	*i* P	**Pg**	**12 10 26.5**	**-0.8**
LDUT				*eS*	**Sb**	**12 10 40.5**	**0.0**
TTN	**Taitung**	**0.92**	**205**	*i* P	**Pb**	**12 10 28.0**	**0.0**
TTN				*eS*	**Sb**	**12 10 41.6**	**+1.1**
WGK	**Gukeng**	**0.93**	**276**	*i* P	**Pb**	**12 10 28.0**	**0.0**
WGK				*i* S	**Sb**	**12 10 41.6**	**+1.0**
CHN4	**Tsaushan**	**0.93**	**255**	*i* P	**Pb**	**12 10 27.7**	**-0.4**
CHN4				*eS*	**Sb**	**12 10 40.7**	**0.0**
LATG	**Datong**	**0.94**	**358**	⇓*i* P	**Pg**	**12 10 27.3**	**-0.2**
LATG				*eS*	**Sb**	**12 10 42.0**	**+1.0**
WTP	**Ta-pu**	**0.94**	**248**	*i* P	**Pb**	**12 10 27.9**	**-0.5**
WTP				S	**Sb**	**12 10 41.5**	**+0.4**
WDLH	**Douliu**	**0.95**	**276**	*i* P	**Pb**	**12 10 28.5**	**+0.1**
WDLH				*i* S	**Sb**	**12 10 42.5**	**+1.3**
WDL	**Douliou City**	**0.95**	**277**	*i* P	**Pb**	**12 10 28.4**	**-0.1**
WDL				*eS*	**Sb**	**12 10 41.4**	**0.0**
WYL	**Yuanlin Townsh**	**0.97**	**292**	*i* P	**Pb**	**12 10 29.1**	**+0.2**
WYL				S	**Sn**	**12 10 44.0**	**0.0**
TCU	**Taichung**	**0.98**	**304**	*i* P	**Pb**	**12 10 29.2**	**+0.1**
TCU				*eS*	**Sg**	**12 10 41.2**	**-0.1**
CHN2	**Minshiung**	**1.00**	**267**	*i* P	**Pb**	**12 10 29.5**	**+0.1**
CHN2				*eS*	**Sb**	**12 10 43.1**	**+0.2**
ENTT	**Nioudou**	**1.04**	**360**	*i* P	**Pb**	**12 10 29.5**	**-0.5**
ENTT				*eS*	**Sg**	**12 10 43.2**	**+0.2**
CHN1	**Nanshi**	**1.04**	**247**	⇓*i* P	**Pb**	**12 10 30.0**	**0.0**
CHN1				*eS*	**Sb**	**12 10 43.8**	**-0.2**
TWC	**Suao**	**1.04**	**14**	*i* P	**Pb**	**12 10 30.1**	**+0.1**
TWC				*eS*	**Sb**	**12 10 44.0**	**+0.1**
TWQ1	**Liyutan**	**1.04**	**316**	*i* P	**Pn**	**12 10 30.5**	**-0.3**
TWQ1				*eS*	**Sg**	**12 10 42.8**	**-0.3**
TWK	**Hsinying**	**1.04**	**252**	*i* P	**Pb**	**12 10 29.9**	**-0.2**
TWK				*i* S	**Sn**	**12 10 45.6**	**-0.2**
WCH1	**Changhua City**	**1.05**	**297**	*i* P	**Pn**	**12 10 30.6**	**-0.3**
WCH1				*eS*	**Sb**	**12 10 44.3**	**+0.2**
SNST	**Tainan City**	**1.05**	**249**	*i* P	**Pn**	**12 10 31.9**	**+1.1**
SNST				*eS*	**Sb**	**12 10 44.8**	**+0.5**
CHY	**Chiayi**	**1.05**	**265**	*i* P	**Pb**	**12 10 30.3**	**0.0**
CHY				*i* S	**Sb**	**12 10 45.0**	**+0.7**
YHNB	**Yeheng**	**1.08**	**351**	P	**Pg**	**12 10 30.3**	**-0.1**
YHNB	**Yeheng**	**1.08**	**351**	⇓*i* P	**Pg**	**12 10 30.2**	**-0.1**
YHNB				*eS*	**Sg**	**12 10 43.8**	**-0.6**
WTK	**Tuku**	**1.09**	**275**	*i* P	**Pg**	**12 10 30.0**	**-0.4**
WTK				S	**Sb**	**12 10 44.8**	**-0.5**
NSY	**Sanyi**	**1.10**	**318**	*i* P	**Pn**	**12 10 32.4**	**+0.8**
NSY				*eS*	**Sb**	**12 10 45.7**	**0.0**
NFF	**Wufeng Townshi**	**1.11**	**338**	*i* P	**Pg**	**12 10 30.5**	**-0.4**
NFF				*eS*	**Sb**	**12 10 45.9**	**-0.1**
TWE	**Neicheng**	**1.12**	**5**	*i* P	**Pg**	**12 10 30.8**	**-0.3**
TWE				*eS*	**Sg**	**12 10 45.8**	**+0.1**
WDJ	**Dajia District**	**1.13**	**312**	*i* P	**Pn**	**12 10 32.3**	**+0.3**
WDJ				*eS*	**Sb**	**12 10 46.6**	**+0.1**
ECL	**Taimali**	**1.14**	**210**	*i* P	**Pg**	**12 10 30.6**	**-0.8**
ECL				*eS*	**Sg**	**12 10 46.2**	**-0.1**
RLNB	**Erlin**	**1.15**	**285**	P	**Pn**	**12 10 32.1**	**0.0**
RLNB				*eS*	**Sn**	**12 10 49.1**	**+0.9**
NSTT	**Nanjuang**	**1.15**	**333**	*i* P	**Pb**	**12 10 31.7**	**-0.3**
NSTT				S	**Sb**	**12 10 47.2**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.16**	**1**	*i* P	**Pb**	**12 10 31.8**	**-0.3**
FUSB				*eS*	**Sb**	**12 10 47.7**	**+0.3**
LIOB	**Emei**	**1.16**	**334**	*i* P	**Pb**	**12 10 32.0**	**0.0**
LIOB				*eS*	**Sg**	**12 10 46.2**	**-0.6**
NWLT	**Wulai**	**1.18**	**357**	*i* P	**Pb**	**12 10 32.1**	**-0.3**
NWLT				*eS*	**Sg**	**12 10 47.2**	**-0.2**
ICHU	**Yijhu**	**1.21**	**259**	P	**Pn**	**12 10 34.2**	**+1.3**
ICHU				*i* S	**S

TSEB	**Hengchuen, Pin**	**1.80**	**200**	P		**Pn**	**12 10 41.9**	**+0.8**
TSEB				*e*S		**Sb**	**12 11 06.0**	**+0.3**
PHUB	**P'eng-hu**	**1.83**	**268**	*i* P		**Pn**	**12 10 41.3**	**-0.4**
PHUB				S		**Sn**	**12 11 05.4**	**+0.2**
PNG	**Penghu**	**1.85**	**270**	*i* P		**Pn**	**12 10 41.3**	**-0.6**
PNG				*i* S		**Sn**	**12 11 06.3**	**+0.8**
VCHM	**Qimei**	**2.00**	**259**	*i* P		**Pn**	**12 10 43.7**	**-0.3**
VCHM				S		**Sn**	**12 11 09.4**	**0.0**
PCYT	**Pengchaiyu**	**2.08**	**13**	*i* P		**Pn**	**12 10 46.0**	**+1.0**
PCYT				*e*S		**Sb**	**12 11 13.2**	**-0.5**
HATJ	**Hateruma jima**	**2.10**	**77**	P		**Pn**	**12 10 45.4**	**+0.1**
HATJ				*e*S		**Sn**	**12 11 12.6**	**+0.9**
IRIF	**Iriomote-Funau**	**2.11**	**69**	P		**Pn**	**12 10 45.7**	**+0.3**
IRIF				*e*S		**Sn**	**12 11 12.8**	**+0.8**
JKRS	**Kuro-shima**	**2.32**	**74**	P		**Pn**	**12 10 49.2**	**+0.8**
JKRS				*e*S		**Sn**	**12 11 19.0**	**+1.7**
VWUC	**VWUC**	**2.38**	**306**	*i* P		**Pn**	**12 10 48.8**	**-0.3**
VWUC				S		**Sn**	**12 11 18.8**	**+0.1**
JIJ	**Ishigaki jima**	**2.48**	**72**	P		**Pn**	**12 10 50.4**	**-0.1**
JIJ				S		**Sn**	**12 11 21.9**	**+0.8**
PTMZ	**Houxiangcun**	**2.66**	**303**	*i* P		**Pn**	**12 10 52.6**	**-0.3**
PTMZ				*e*S		**Sn**	**12 11 25.3**	**-0.2**
JISG	**Ishigakijimahi**	**2.69**	**68**	P		**Pn**	**12 10 53.2**	**-0.2**
JISG				*e*S		**Sn**	**12 11 27.3**	**+0.9**
MATB	**Ma-tsu**	**2.94**	**330**	*i* P		**Pn**	**12 10 56.3**	**-0.6**
MATB				*e*S		**Sn**	**12 11 32.6**	**+0.1**
KNM	**Kinmen**	**2.98**	**287**	*i* P		**Pn**	**12 10 58.7**	**+1.3**
KNM				*e*S		**Sb**	**12 11 38.2**	**-1.6**
MHZQ	**Yeshan**	**3.40**	**318**	*i* P		**Pn**	**12 11 02.8**	**-0.3**
JOW	**Kunigami**	**6.88**	**61**	Pn		**Pn**	**12 11 49.0**	**-1.9**
	1.5nm,0.3s,baz=148,slow=18,SNR=15							
JOW				Sn		**Sn**	**12 13 09.3**	**-0.3**
	0.3nm,0.3s,baz=260,slow=24,SNR=1.2							
	4.6nm,0.4s							
JNU	**Nakatsue**	**12.53**	**39**	LR		LR	12 19 03.6	
	comp=Z,106nm,18.1s,baz=205,slow=43							
KSRS	**Korea Array**	**14.85**	**20**	Pn		**P**	**12 13 46.0**	**0.0**
	0.3nm,0.3s,baz=197,slow=11,SNR=11							
SONM	**Songino Array**	**27.04**	**337**	P		**P**	**12 15 53.5**	**+0.8**
	0.4nm,0.5s,baz=146,slow=10,SNR=1.6							
	0.4nm,0.5s							
MKAR	**Makanchi Array**	**39.00**	**316**	P		**P**	**12 17 37.3**	**+0.4**
	0.4nm,0.7s,baz=113,slow=9.5,SNR=4.3							
	0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**40.93**	**327**	P		**P**	**12 17 53.0**	**+0.3**
	0.7nm,0.3s,baz=126,slow=7.3,SNR=2.0							
	0.7nm,0.3s							
H11N1	**WAKE ISLAND Hy**	**42.17**	**86**	T		T	13 03 00.3	
	baz=283,slow=74,SNR=55							
H11N2	**WAKE ISLAND Hy**	**42.17**	**86**	T		T	13 03 00.6	
	baz=283,slow=74,SNR=40							
H11N3	**WAKE ISLAND Hy**	**42.19**	**86**	T		T	13 03 01.8	
	baz=283,slow=74,SNR=65							
H11S3	**WAKE ISLAND Hy**	**42.28**	**88**	T		T	13 03 10.8	
	baz=284,slow=75,SNR=92							
H11S1	**WAKE ISLAND Hy**	**42.29**	**88**	T		T	13 03 09.3	
	baz=284,slow=75,SNR=43							
H11S2	**WAKE ISLAND Hy**	**42.30**	**88**	T		T	13 03 13.0	
	baz=284,slow=75,SNR=29							
KURBB	**Kurchatov Arra**	**42.78**	**320**	P		**P**	**12 18 08.9**	**+1.0**
	0.2nm,0.3s,baz=121,slow=6.6,SNR=2.1							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**45.03**	**163**	P		**P**	**12 18 24.0**	**-2.3**
	1.0nm,0.7s,baz=345,slow=8.7,SNR=6.5							
	1.0nm,0.7s							
BVAR	**Borovoye Array**	**48.35**	**321**	P		**P**	**12 18 54.1**	**+2.2**
	0.3nm,0.3s,baz=92,slow=11,SNR=2.4							
	0.3nm,0.3s							
ASAR	**Alice Springs**	**48.48**	**165**	P		**P**	**12 18 52.5**	**-0.8**
	0.3nm,0.7s,baz=340,slow=6.9,SNR=7.3							
ASAR				PcP		**PcP**	**12 20 17.7**	**-1.7**
	0.4nm,0.9s,baz=332,slow=3.7,SNR=2.5							
	0.3nm,0.7s							
ILAR	**Eielson Array**	**69.57**	**27**	P		**P**	**12 21 18.9**	**-0.2**
	0.3nm,0.7s,baz=286,slow=8.0,SNR=5.5							
	0.3nm,0.7s							

RSNC 27 12:25:56.7±0.0, 7°N±1′×7°7W±°, h18km±2km, M3.1, mb4.2, ML2.8, MLv3.6, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.70**	**259**	P	Pb	12 26 09.0	-1.3
PTAC				S	Sb	12 26 19.5	-0.1
APAC	**Apartado, Choc**	**0.82**	**41**	P	Pb	12 26 11.1	-1.3
APAC				S	Sb	12 26 23.1	0.0
DBBC	**Dabeiba**	**0.94**	**106**	P	Pb	12 26 12.6	-1.9
DBBC				S	Sb	12 26 25.5	-1.2
SOLC	**Bahia Solano**	**1.08**	**195**	P	Pb	12 26 13.7	-3.3
SOLC				S	Sb	12 26 31.1	+0.3
CAPC	**Capurgana**	**1.37**	**350**	P	Pn	12 26 16.9	-4.0
CAPC				S	Sn	12 26 38.7	+0.1
UREC	**San Jos de Ur**	**1.64**	**73**	P	Pn	12 26 22.9	-1.8
UREC				S	Sn	12 26 43.5	-1.9
LCBC	**Los crdobas,**	**1.73**	**25**	P	Pn	12 26 24.2	-1.8
LCBC				S	Sb	12 26 48.8	-0.7
CBOC	**Ciudad Bolivar**	**1.79**	**142**	P	Pn	12 26 24.2	-2.6
CBOC				S	Sn	12 26 48.5	-0.7
HELC	**Santa Helena**	**1.92**	**124**	P	Pn	12 26 28.1	-0.7
HELC				S	Sn	12 26 51.6	-1.0
ZARC	**Zaragoza, Cauc**	**2.25**	**84**	P	Pn	12 26 31.9	-1.2
ZARC				S	Sn	12 26 58.0	-2.5
PLMC	**San Jos del P**	**2.50**	**161**	P	Pn	12 26 32.7	-3.9
PLMC				S	Sn	12 27 00.0	-6.7
GUY2C	**Guyana, Caldas**	**2.69**	**139**	P	Pn	12 26 39.6	+0.1
GUY2C				S	Sn	12 27 12.7	+0.9
PTBC	**PUERTO BERRIO,**	**2.75**	**105**	P	Pn	12 26 39.2	-0.7
PTBC				S	Sn	12 27 12.3	-0.4
NORC	**Norcasia**	**2.81**	**127**	P	Pn	12 26 41.4	+0.5
NORC				S	Sn	12 27 15.1	+0.7
AZU	**Azuero**	**3.17**	**279**	P	Pn	12 26 44.7	-1.0
AZU				S	Sn	12 27 19.1	-4.0
SJCC	**San Jacinto, C**	**3.23**	**36**	P	Pn	12 26 45.8	-0.8
SJCC				S	Sn	12 27 20.5	-4.2
ANIL	**Santa Ana**	**3.25**	**148**	P	Pn	12 26 47.0	-0.2
ANIL				S	Sn	12 27 26.6	+1.0
BCIP	**Isla Barro Col**	**3.28**	**305**	P	Pn	12 26 45.6	-1.6
BCIP				S	Sn	12 27 23.6	-2.2
BRJC	**Barrancabermej**	**3.36**	**95**	P	Pn	12 26 49.4	+1.0
BRJC				S	Sn	12 27 28.0	+0.1
YOTC	**Yotoco, Valle**	**3.36**	**167**	P	Pn	12 26 45.5	-3.0
YOTC				S	Sn	12 27 20.9	-7.2
CACAO	**El Cacao, Vera**	**3.71**	**271**	P	Pn	12 26 51.4	-1.8
CACAO				S	Sn	12 27 29.9	-6.6
ORTC	**Ortega, Tolima**	**3.83**	**151**	P	Pn	12 26 55.1	+0.2
ORTC				S	Sn	12 27 41.7	+2.1
OCAC	**Ocana**	**3.88**	**76**	P	Pn	12 26 54.7	-1.0
OCAC				S	Sn	12 27 37.0	-4.0
BARC	**Barichara**	**3.97**	**100**	P	Pn	12 26 57.2	+0.3
BARC				S	Sn	12 27 42.8	-0.4
JAMC	**Jamundi, Valle**	**4.06**	**174**	P	Pn	12 26 56.2	-2.0
JAMC				S	Sn	12 27 41.9	-3.6
PRAC	**Prado**	**4.18**	**148**	P	Pn	12 27 00.4	+0.7
PRAC				S	Sn	12 27 49.4	+1.2
RUSC	**La Rusia**	**4.24**	**109**	P	Pn	12 27 01.3	+0.4
RUSC				S	Sn	12 27 51.4	+1.2
PAMC	**Pamplona, Colo**	**4.38**	**89**	P	Pn	12 27 03.2	+0.3
PAMC				S	Sn	12 27 52.9	-0.9
CRJC	**Cerrejon, Guaj**	**5.60**	**48**	P	Pn	12 27 16.8	-2.4
CRJC				S	Sn	12 28 14.4	-8.7

IDC 27 12:38:18.8±2.2, 2°01S×129°57E, h0km, mb3.2/2, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=137.5km s-min=27.1km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.42**	**166**	P	Pn	12 42 35.5	-0.3
	0.1nm,0.3s,baz=346,slow=12,SNR=2.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**21.93**	**169**	P	P	12 43 13.9	-0.1
	0.5nm,0.6s,baz=353,slow=10,SNR=14						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**63.87**	**326**	P	P	12 48 53.4	+0.1
	0.1nm,0.4s,baz=120,slow=7.7,SNR=5.7						
	0.1nm,0.4s						

*NNC **27** 12:39:50.0±5.2, 36°85N×71°99E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=41.0km s-min=38.1km az=161.0*
*IDC **27** 12:39:51.7±4.0, 36°70N×72°43E, h61km±35km, mb3.5/15, mbtmp3.9/19, ML3.3/3, MS3.5/1, Error ellipse: s-maj=25.8km s-min=14.9km az=27.0*

ISC 27 12:39:54.4±0.6, 36°71N±0°06×72°58E±0°08, h100km, n35, σ2ᵖ43/39, mb3.7/14, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**4.42**	**154**	*e*P	**Pn**	**12 40 56.5**	**-2.8**
JMU				*e*S	**Sn**	**12 41 46.9**	**-2.6**
JMU				IAML		12 41 53.9	
	comp=E,227nm,0.9s						
JMU				IAML		12 42 02.1	
	comp=N,200nm,0.9s						
DHRM	**DHARAMSHALA**	**5.41**	**144**	*e*P	**Pn**	**12 41 11.1**	**-1.7**
DHRM				*e*S	**Sn**	**12 42 12.1**	**-1.8**
DHRM				IAML		12 42 15.8	
	comp=N,231nm,0.4s						
DHRM				IAML		12 42 16.4	
	comp=E,245nm,0.4s						
IUG	**luzhnay**	**5.78**	**341**	Lg	Lg	12 42 18.7	
	comp=E,30nm,0.3s						
MRKS	**Merke**	**6.05**	**5**	Pg	**Pn**	**12 41 19.7**	**-1.7**
	comp=E,8.2nm,0.3s						
MRKS				Lg	Lg	12 42 30.1	
	comp=E,11nm,0.5s						
AAK	**Ala-Archa**	**6.10**	**13**	P	**Pn**	**12 41 21.0**	**-1.2**
	comp=E,2.2nm,0.3s,baz=186,slow=8.4,SNR=14						
AAK				S	**Sn**	**12 42 30.6**	**0.0**
	comp=E,11nm,0.8s,baz=6.6,slow=13,SNR=4.5						
	comp=E,7.5nm,0.4s						
AAK	**Ala-Archa**	**6.10**	**13**	⇓P	**Pn**	**12 41 21.2**	**-1.0**
	comp=E,5.5nm,0.6s						
AAK				⇑S	**Sn**	**12 42 32.5**	**+1.9**
	comp=E,18nm,1.0s						
BHK	**Bhakra**	**6.16**	**148**	IAML		12 42 34.0	
	comp=N,97nm,0.3s						
BHK				IAML		12 42 34.5	
	comp=E,116nm,0.1s						
BHK				*e*S	**Sn**	**12 42 35.9**	**+3.8**
KK31	**Karatay Array**	**6.58**	**347**	P	**Pn**	**12 41 26.0**	**-2.5**
	comp=E,3.3nm,0.3s,baz=172,slow=14,SNR=37						
KK31				⇑S	**Sn**	**12 42 39.8**	**-2.2**
	comp=E,4.5nm,0.5s,baz=172,slow=22						
BRLS	**Borolday**	**6.66**	**342**	Pg	Pn	12 41 23.8	-5.8
	comp=E,4.2nm,0.3s						
BRLS				Lg	Lg	12 42 36.8	
	comp=E,2.3nm,0.3s						
SMLA	**Simla**	**6.75**	**144**	*e*P	**Pn**	**12 41 29.4**	**-1.4**
SMLA				*e*S	**Sn**	**12 42 43.6**	**-2.5**
SMLA				IAML		12 42 47.2	
	comp=N,84nm,0.3s						
SMLA				IAML		12 42 49.3	
	comp=E,138nm,0.6s						
KLP	**Kalpa**	**6.98**	**136**	*e*P	**Pn**	**12 41 32.3**	**-2.0**
KLP				*e*S	**Sn**	**12 42 49.3**	**-3.1**
KLP				IAML		12 42 54.9	
	comp=E,82nm,0.7s						
KLP				IAML		12 42 56.0	
	comp=N,79nm,0.7s						
DDI	**Dehra Dun**	**7.84**	**143**	*e*S	**Sn**	**12 43 09.2**	**-3.7**
DDI				IAML		12 43 14.2	
	comp=N,150nm,0.4s						
DDI				IAML		12 43 21.1	
	comp=E,139nm,0.4s						
MK31	**Makanchi Array**	**12.40**	**33**	P	**Pn**	**12 42 49.5**	**+2.2**
	comp=E,0.9nm,0.5s,baz=202,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**12.40**	**33**	P	**Pn**	**12 42 45.7**	**-1.6**
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=7.9						
	comp=E,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**14.55**	**15**	P	**Pn**	**12 43 10.9**	**-4.3**
	comp=E,1.9nm,0.6s,baz=204,slow=10,SNR=9.9						
AB31	**Akbulak array**	**15.55**	**328**	P	**Pn**	**12 43 25.1**	**-2.8**
	comp=E,2.0nm,0.6s,baz=201,slow=13,SNR=26						
BVAR	**Borovoye Array**	**16.39**	**355**	P	**Pn**	**12 43 31.8**	**-6.4**
	comp=E,2.8nm,0.6s,baz=170,slow=8.8,SNR=8.9						
AKTO	**Aktyubinsk**	**17.26**	**327**	P	**Pn**	**12 43 46.0**	**-3.0**
	comp=E,16nm,0.6s,baz=135,slow=8.5,SNR=32						
ZALV	**Zalesovo Beam**	**19.22**	**22**	P	**P**	**12 44 10.3**	**0.0**
	comp=E,0.3nm,0.3s,baz=214,slow=10,SNR=17						
	comp=E,5.6nm,0.7s						
ARTI	**Arti**	**21.89**	**339**	P	**P**	**12 44 38.6**	**-0.4**
	comp=E,2.0nm,0.4s,baz=130,slow=5.2,SNR=3.7						
	comp=E,2.0nm,0.4s						
SONM	**Songino Array**	**27.17**	**55**	P	**P**	**12 45 29.0**	**+0.6**
	comp=E,0.4nm,0.5s,baz=265,slow=8.4,SNR=1.3						
	comp=E,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.45**	**121**	P	**P**	**12 45 50.5**	**+1.6**
	comp=E,0.4nm,0.2s,baz=322,slow=13,SNR=1.4						
	comp=E,0.4nm,0.2s						
BRTR	**Keskin Array B**	**30.58**	**288**	P	**P**	**12 46 00.5**	**+1.7**
	comp=E,1.0nm,0.7s,baz=104,slow=6.1,SNR=4.4						
	comp=E,1.0nm,0.7s						
AKASG	**Malin Array Be**	**33.81**	**308**	P	**P**	**12 46 26.6**	**-0.1**
	comp=E,0.4nm,0.5s,baz=83,slow=7.0,SNR=3.4						
	comp=E,0.4nm,0.5s						
MLR	**Muntele Rosu**	**35.79**	**299**	LR	LR	13 06 53.3	
	comp=E,73nm,18.1s,baz=47,slow=45						
FINES	**FINESS Array B**	**38.02**	**326**	P	**P**	**12 47 02.5**	**0.0**
	comp=E,1.5nm,0.8s,baz=116,slow=8.7,SNR=3.9						
	comp=E,1.5nm,0.8s						
ARCES	**ARCESS Array B**	**41.44**	**337**	P	**P**	**12 47 32.2**	**+1.5**
	comp=E,3.6nm,1.0s,baz=115,slow=8.1,SNR=5.6						
	comp=E,3.6nm,1.0s						
HFS	**Hagfors**	**43.69**	**322**	P	**P**	**12 47 50.1**	**+1.1**
	comp=E,1.5nm,0.5s,baz=92,slow=10,SNR=7.9						
	comp=E,1.5nm,0.5s						
NOA	**NORSAR Array B**	**44.98**	**323**	P	**P**	**12 48 00.4**	**+1.0**
	comp=E,0.7nm,0.8s,baz=92,slow=7.8,SNR=2.9						
	comp=E,0.7nm,0.8s						
ESDC	**Sonseca Array**	**58.48**	**298**	P	**P**	**12 49 41.2**	**+1.1**
	comp=E,0.3nm,0.4s,baz=71,slow=6.2,SNR=2.9						
	comp=E,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**66.99**	**269**	P	**P**	**12 50 35.7**	**-1.1**
	comp=E,0.5nm,0.6s,baz=39,slow=5.2,SNR=4.0						
	comp=E,0.5nm,0.6s						
ILAR	**Eielson Array**	**74.22**	**16**	P	**P**	**12 51 21.5**	**+1.5**
	comp=E,0.3nm,0.9s,baz=318,slow=5.9,SNR=4.9						
	comp=E,0.3nm,0.9s						
YKA	**Yellowknife Ar**	**80.97**	**3**	P	**P**	**12 51 60.0**	**+2.5**
	comp=E,0.5nm,0.7s,baz=350,slow=6.4,SNR=3.6						
	comp=E,0.5nm,0.7s						
WRA	**Warramunga Arr**	**81.03**	**123**	P	**P**	**12 52 01.2**	**+2.8**
	comp=E,0.8nm,0.6s,baz=321,slow=5.1,SNR=15						
	comp=E,0.8nm,0.6s						
ASAR	**Alice Springs**	**83.34**	**126**	P	**P**	**12 52 13.2**	**+2.8**
	comp=E,0.5nm,0.7s,baz=314,slow=5.2,SNR=9.5						
	comp=E,0.5nm,0.7s						

*IDC **27** 12:46:43.1±1.3, 31°39S×178°46E, h216km±21km, mb3.3/4, mbtmp4.0/6, Error ellipse: s-maj=25.2km s-min=15.1km az=106.0*
*WEL **27** 12:46:47.4±0.6, 32°S±5′×18°0W±1°3, h305km±9km, mB4.3/13, ML4.7/21, MLv4.5/16, Mw(mB)3.4/13, Error ellipse: s-maj=17.9km s-min=3.6km az=109.5, confirmed*

ISC 27 12:46:45.9±1.1, 32°15S±0°08×179°7W±0°1, h300km, n65, σ2ᵖ42/94, mb3.3/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.28**	**29**	P	**Pn**	**12 47 43.8**	**-0.7**
GLKZ				S	**Sn**	**12 48 31.4**	**+0.1**
RAO	**Raoul Island**	**3.29**	**29**	P	**Pn**	**12 47 43.0**	**-1.6**
	99nm,0.2s,baz=246,slow=23,SNR=1.3						
RAO				S	**Sn**	**12 48 30.3**	**-1.2**
	121nm,0.3s,baz=88,slow=21,SNR=2.2						
RIZ	**Raoul Island**	**3.29**	**29**	S	**S**	**12 48 34.1**	**+2.5**
MXZ	**Matakaoa Point**	**5.63**	**196**	P	**Pn**	**12 48 15.3**	**+4.6**
MXZ				S	**S**	**12 49 22.7**	**+3.7**
WMGZ	**Waiomatatini S**	**5.86**	**194**	P	**Pn**	**12 48 16.4**	**+3.1**
WMGZ				S	**S**	**12 49 28.8**	**+5.0**
HAZ	**Te Kaha**	**5.95**	**199**	P	**Pn**	**12 48 17.4**	**+2.9**
HAZ				S	**S**	**12 49 29.6**	**+3.8**
PKGZ	**Pakihiroa**	**5.98**	**197**	P	**Pn**	**12 48 19.5**	**+4.7**
PKGZ				S	**S**	**12 49 30.9**	**+4.4**
PUZ	**Puketiti**	**6.13**	**195**	P	**Pn**	**12 48 19.0**	**+2.3**
PUZ				S	**S**	**12 49 33.6**	**+3.7**
RUGZ	**Raukumara Rang**	**6.18**	**199**	P	**Pn**	**12 48 19.8**	**+2.5**
WCZ	**Waipu Caves**	**6.19**	**231**	P	**Pn**	**12 48 20.3**	**+2.9**
WIAZ	**Waiheke Island**	**6.27**	**221**	P	**Pn**	**12 48 22.6**	**+4.2**
OUZ	**Omahuta**	**6.34**	**239**	P	**Pn**	**12 48 21.2**	**+2.0**
MBAZ	**Motutapu North**	**6.39**	**222**	P	**Pn**	**12 48 23.9**	**+4.2**
TKGZ	**Te Karaka**	**6.58**	**197**	P	**Pn**	**12 48 22.7**	**+0.8**
TKGZ				S	**S**	**12 49 40.8**	**+1.2**
URZ	**Urewera**	**6.62**	**202**	P	**Pn**	**12 48 22.7**	**+0.2**
	4.2nm,0.3s,baz=332,slow=4.0,SNR=22						
URZ				S	**S**	**12 49 41.8**	**+1.3**
	14nm,0.6s,baz=260,slow=23,SNR=16						
URZ	**Urewera**	**6.62**	**202**	P	**Pn**	**12 48 22.7**	**+0.2**
URZ				S	**S**	**12 49 41.8**	**+1.3**
RAGZ	**Rawiri**	**6.75**	**199**	P	**Pn**	**12 48 24.9**	**+0.8**
RAGZ				S	**S**	**12 49 45.8**	**+2.4**
RIGZ	**Rimuhau**	**6.85**	**197**	P	**Pn**	**12 48 25.2**	**-0.2**
RIGZ				S	**S**	**12 49 44.7**	**-1.0**
MUGZ	**Murupara**	**6.93**	**203**	P	**Pn**	**12 48 28.7**	**+2.5**
MUGZ				S	**S**	**12 49 51.0**	**+3.6**
RTZ	**Ruatahuna**	**6.99**	**202**	P	**Pn**	**12 48 28.6**	**+1.6**
SNGZ	**Shannon Statio**	**7.03**	**199**	P	**Pn**	**12 48 28.4**	**+0.9**
SNGZ				S	**S**	**12 49 51.0**	**+1.3**
RAHZ	**Arahi**	**7.23**	**200**	P	**Pn**	**12 48 30.4**	**+0.4**
RAHZ				S	**S**	**12 49 54.8**	**+0.6**
MTHZ	**Maungataniwha**	**7.25**	**202**	P	**Pn**	**12 48 32.5**	**+2.3**
MTHZ				S	**S**	**12 49 56.0**	**+1.5**
MHGZ	**Mahia Peninsul**	**7.25**	**195**	P	**Pn**	**12 48 33.5**	**+3.4**
MHGZ				S	**S**	**12 49 55.6**	**+1.1**
TLZ	**Tolley Road**	**7.27**	**211**	P	**Pn**	**12 48 35.1**	**+4.6**
MRHZ	**Matea Rd**	**7.37**	**204**	P	**Pn**	**12 48 33.3**	**+1.6**
MRHZ				S	**S**	**12 49 57.4**	**+0.1**
NMHZ	**Naumai**	**7.48**	**201**	P	**Pn**	**12 48 35.4**	**+2.3**
ARHZ	**Aropaoanui**	**7.58**	**200**	P	**Pn**	**12 48 36.1**	**+1.9**
ARHZ				S	**S**	**12 49 59.4**	**-2.4**
BKZ	**Black Stump Fm**	**7.64**	**203**	P	**Pn**	**12 48 35.6**	**+0.7**
BKZ				S	**S**	**12 49 59.8**	**-3.6**
MCHZ	**McNeill Hill**	**7.83**	**201**	P	**Pn**	**12 48 39.2**	**+1.9**
MCHZ				S	**S**	**12 50 07.5**	**-0.1**
ETVZ	**East Tongariro**	**7.89**	**207**	P	**Pn**	**12 48 40.1**	**+2.0**
OTVZ	**Oturere**	**7.93**	**207**	P	**Pn**	**12 48 38.6**	**-0.1**
NGZ	**Ngauruhoe**	**7.97**	**207**	P	**Pn**	**12 48 40.5**	**+1.4**
TUVZ	**Tukino**	**8.03**	**206**	P	**Pn**	**12 48 41.4**	**+1.6**
WHVZ	**Whangaehu Hut**	**8.07**	**207**	P	**Pn**	**12 48 41.7**	**+1.3**
WNVZ	**Wahianoa**	**8.10**	**207**	P	**Pn**	**12 48 41.7**	**+1.0**
WNVZ				S	**S**	**12 50 12.7**	**-1.2**
KAHZ	**Kahuranaki**	**8.11**	**199**	P	**Pn**	**12 48 41.6**	**+0.9**
KAHZ				S	**S**	**12 50 14.8**	**+1.0**
KRHZ	**Kereru**	**8.12**	**202**	P	**Pn**	**12 48 41.2**	**+0.4**
KRHZ				S	**S**	**12 50 12.1**	**-1.9**
PXZ	**Pawanui**	**8.33**	**198**	P	**Pn**	**12 48 44.7**	**+1.4**
PXZ				S	**S**	**12 50 15.8**	**-2.9**
PNHZ	**Pukenui**	**8.41**	**202**	P	**Pn**	**12 48 44.0**	**-0.5**
PNHZ				S	**S**	**12 50 15.8**	**-4.9**
WPHZ	**Waipukurau**	**8.48**	**200**	P	**Pn**	**12 48 46.5**	**+1.3**
WPHZ				S	**S**	**12 50 19.5**	**-2.7**
PRHZ	**Porangahau**	**8.61**	**199**	P	**Pn**	**12 48 47.0**	**+0.2**
PRHZ				S	**S**	**12 50 25.0**	**-0.2**
TSZ	**Takapari Road**	**8.62**	**203**	P	**Pn**	**12 48 44.5**	**-2.4**
TSZ				S	**S**	**12 50 23.2**	**-2.2**
DVHZ	**Dannevirke**	**8.78**	**201**	P	**Pn**	**12 48 48.2**	**-0.6**
DVHZ				S	**S**	**12 50 24.2**	**-4.7**
ANWZ	**Angora Road**	**8.84**	**199**	P	**Pn**	**12 48 50.9**	**+1.4**
ANWZ				S	**S**	**12 50 29.2**	**-1.0**
BFZ	**Birch Farm**	**9.11**	**200**	P	**Pn**	**12 48 52.9**	**0.0**
BFZ				S	**S**	**12 50 31.6**	**-4.7**
MRZ	**Mangatainoka R**	**9.29**	**203**	P	**Pn**	**12 48 53.6**	**-1.6**
TIWZ	**Tintock**	**9.30**	**201**	P	**Pn**	**12 48 55.5**	**+0.2**
TIWZ				S	**S**	**12 50 36.2**	**-4.5**
HOWZ	**Holdsworth Sta**	**9.53**	**202**	P	**Pn**	**12 48 56.8**	**-1.3**
OGWZ	**Otaki Gorge**	**9.57**	**204**	P	**Pn**	**12 48 57.1**	**-1.5**
KIW	**Kapiti Island**	**9.70**	**205**	P	**Pn**	**12 48 58.2**	**-2.0**
MTW	**Mount Morrison**	**9.77**	**202**	P	**Pn**	**12 49 00.2**	**-0.8**
CAW	**Cannon Point**	**9.86**	**204**	P	**Pn**	**12 48 60.0**	**-2.2**
MSWZ	**Moikau Station**	**10.08**	**202**	P	**Pn**	**12 49 03.0**	**-1.3**
TCW	**Tory Channel**	**10.24**	**206**	P	**Pn**	**12 49 04.0**	**-2.7**
TUWZ	**Tuamarina**	**10.55**	**207**	P	**Pn**	**12 49 08.6**	**-2.0**
NNZ	**Nelson**	**10.60**	**209**	P	**Pn**	**12 49 08.8**	**-2.4**
QRZ	**Quartz Range**	**10.66**	**213**	P	**Pn**	**12 49 09.9**	**-2.0**
MRNZ	**Matariki Terra**	**11.01**	**211**	P	**Pn**	**12 49 13.6**	**-2.6**
THZ	**Tophouse**

0.9nm3µm221nm,0.5s
PCI Palu 5.53 312 P Pn 13 01 51.0 -0.2
0.5nm86nm,0.8s
PCI S **Sn 13 02 54.1 +0.3**
0.5nm86nm,0.8s
BATI Baumata 5.57 183 P Pn 13 01 54.8 +3.1
29nm,0.3s,baz=31,slow=2.7,SNR=21
BATI LR LR 13 04 15.6
comp=Z,2µm,20.0s,baz=302,slow=40
124nm,0.5s
BATI Baumata 5.57 183 P Pn 13 01 54.9 +3.2
0.6nm134nm,0.6s
TNTI Ternate 6.33 32 Pn 13 02 01.3 -0.8
TNTI Ternate 6.33 32 P Pn 13 02 02.3 +0.1
TNTI Ternate 6.33 32 P Pn 13 02 02.2 +0.1
TNTI S **Sn 13 03 13.1 -0.4**
TOLI2 Tolitoli 6.51 331 Pn 13 02 03.9 -0.8
TOLI2 Tolitoli 6.51 331 P Pn 13 02 04.8 +0.1
PLAI Plampang 7.45 235 P Pn 13 02 20.0 +2.5
SGSI Sangihe 8.38 11 P Pn 13 02 30.6 +0.2
270nm,0.8s
FAKI Fak Fak 8.43 79 Pn Pn 13 02 31.2 +0.3
FAKI Fak Fak 8.43 79 P Pn 13 02 31.5 +0.5
62nm,1.2s
MTN Manton Dam 10.82 140 Pn Pn 13 03 04.0 +0.2
DAV Davao City (W) 11.71 8 LR LR 13 07 57.3
comp=Z,203nm,21.8s,baz=198,slow=38
KNRA Kununurra 11.96 157 Pn Pn 13 03 17.5 -1.9
FITZ Fitzroy Crossi 13.51 173 Pn Pn 13 03 37.3 -3.2
FITZ Fitzroy Crossi 13.51 173 P Pn 13 03 37.1 -3.4
27nm,0.8s,baz=2.1,slow=8.9,SNR=43
FITZ LR LR 13 09 06.6
comp=Z,166nm,21.2s,baz=340,slow=38
LEM Lembang 16.42 262 LR LR 13 11 43.6
comp=Z,451nm,20.3s,baz=109,slow=41
MBWA Marble Bar 16.96 194 Pn Pn 13 04 24.2 -1.8
WB0 Warramunga Arr 18.17 147 Pn Pn 13 04 37.8 -3.2
WRA Warramunga Arr 18.28 147 P P 13 04 39.0 -3.4
14nm,0.7s,baz=319,slow=13,SNR=96
WRA LR LR 13 11 42.6
comp=Z,146nm,20.8s,baz=360,slow=37
WR8 Warramunga Arr 18.38 147 P P 13 04 40.3 -3.1
GIRL Giralia 20.25 207 Pn Pn 13 05 05.3 -0.7
GIRL IAmb IAmb 13 05 06.0
comp=Z,34nm,0.9s
COEN Coen 21.09 117 P P 13 05 13.2 +0.2
AS31 Alice Springs 21.23 154 P P 13 05 14.7 +0.2
ASAR Alice Springs 21.23 154 P P 13 05 14.8 +0.2
comp=Z,59nm,0.9s,baz=316,slow=8.1,SNR=170
ASAR LR LR 13 14 12.6
comp=Z,163nm,20.2s,baz=316,slow=39
comp=Z,59nm,0.9s
BKNI Bangkinang 23.43 281 P P 13 05 37.7 0.0
MORW Morawa 25.46 196 P P 13 05 52.6 -3.8
MORW IAmb IAmb 13 06 11.0
comp=Z,16nm,0.9s
GUMO Guam 27.52 49 LR LR 13 15 21.4
comp=Z,34nm,21.9s,baz=228,slow=32
BBOO Buckleboo 30.25 160 P P 13 06 38.8 -0.3
BBOO IAmb IAmb 13 07 34.2
comp=Z,27nm,1.4s
STKA Stephens Creek 31.77 151 P P 13 06 52.8 +0.3
STKA Stephens Creek 31.77 151 P P 13 06 52.4 -0.2
comp=Z,4.4nm,0.6s,baz=314,slow=8.4,SNR=7.3
comp=Z,4.4nm,0.6s
CMAR Chiang Mai Arr 33.67 314 P P 13 07 09.8 +0.4
comp=Z,1.1nm,0.8s,baz=136,slow=6.9,SNR=6.4
comp=Z,1.1nm,0.8s
NJ2 Nanjing 36.78 353 *eP* **P 13 07 37.5 +1.6**
NJ2 pmax pmax
comp=Z,19nm,1.4s
JNU Nakatsue 38.09 9 LR LR 13 22 44.0
comp=Z,41nm,20.8s,baz=214,slow=35
CAN Canberra 38.32 146 P P 13 07 49.4 +0.4
CAN IAmb IAmb 13 08 53.4
comp=Z,23nm,1.4s
TIA Tai'an 41.11 352 P P 13 08 11.5 -0.6
TIA pmax pmax
comp=Z,5.0nm,0.6s
KSRS Korea Array 42.01 5 P P 13 08 19.9 +0.5
comp=Z,0.8nm,0.6s,baz=176,slow=11,SNR=5.6
comp=Z,0.8nm,0.6s
HNS HongShan 42.67 349 ⇑P P 13 08 25.8 +1.0
MJAR Matsushiro Arr 43.05 17 P P 13 08 27.0 -1.0
comp=Z,3.2nm,0.6s,baz=192,slow=7.8,SNR=8.1
comp=Z,3.2nm,0.6s
BJI Beijing 45.00 352 P P 13 08 44.0 +0.5
BJI pmax pmax
comp=Z,3.0nm,0.8s
JMM Marumori 45.06 19 P P 13 08 44.0 0.0
HHC Hu-ho-hao-te 46.65 347 *eP* **P 13 09 00.5 +3.8**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,87nm,4.0s
JTM Tenmabayashi 47.82 18 P P 13 09 05.7 +0.1
XLT XiLinHaoTe 48.81 352 *eP* **P 13 09 10.5 -2.8**
XLT pP pP 13 09 16.0 -4.9
XLT sP sP 13 09 22.8 -1.0
XLT PcP **PcP 13 10 35.3 -2.5**
XLT PP **PP 13 11 11.5 +4.7**
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,82nm,3.8s
USA0B Ussuriysk Arra 49.12 8 P P 13 09 15.1 -0.5
USA0B IAmb IAmb 13 09 25.2
comp=Z,8.8nm,1.1s
USRK Ussuriysk Ar. 49.12 8 P P 13 09 15.3 -0.3
comp=Z,5.3nm,0.7s,baz=193,slow=7.1,SNR=10.0
comp=Z,5.3nm,0.7s
GTA Gaotai 49.15 335 *eP* **P 13 09 17.5 +1.4**
GTA pP sP 13 09 27.0 +0.3
GTA pmax pmax
comp=Z,11nm,0.9s
MDJ Mudanjiang 49.26 5 P P 13 09 17.0 +0.3
MDJ pmax pmax
comp=Z,12nm,0.7s
ASAJ Asahikawa 51.32 17 P P 13 09 32.3 0.0
comp=Z,7.5nm,0.8s,baz=240,slow=8.2,SNR=9.2
ASAJ LR LR 13 33 49.2
comp=Z,28nm,20.1s,baz=322,slow=39
comp=Z,7.5nm,0.8s
JKA Kamikawa-asahi 51.32 17 P P 13 09 32.9 +0.6
JKA IAmb IAmb 13 09 33.8
comp=Z,12nm,1.0s
ULN Ulaanbaatar 54.33 346 P P 13 09 54.6 -0.1
ULN IAmb IAmb 13 10 05.8
comp=Z,12nm,1.2s
SONM Songino Array 54.46 346 P P 13 09 55.3 -0.3
SONM IAmb IAmb 13 10 07.2
comp=Z,5.1nm,0.8s
SONM Songino Array 54.46 346 P P 13 09 56.0 +0.5
comp=Z,3.6nm,0.7s,baz=165,slow=7.6,SNR=15
comp=Z,3.6nm,0.7s
HEH HeiHe 54.72 3 *eP* **P 13 09 57.3 0.0**
HEH pmax pmax
comp=Z,7.0nm,1.1s
WMQ Urumqi 58.22 330 *eP* **P 13 10 23.5 +1.1**
WMQ LR LR
comp=Z,270nm,24.3s
KSH Kashi 62.27 319 P P 13 10 51.3 +1.0
KSH pmax pmax
comp=Z,4.0nm,0.7s
CASY Casey 62.28 186 P P 13 10 50.0 +0.3
MKAR Makanchi Array 63.03 329 P P 13 10 55.8 +0.6
MKAR Makanchi Array 63.03 329 P P 13 10 55.9 +0.8
comp=Z,5.4nm,0.7s,baz=132,slow=7.8,SNR=51
comp=Z,5.4nm,0.7s
PETK Petropavlovsk- 64.14 22 P P 13 11 03.5 +1.2
comp=Z,2.7nm,0.6s,baz=155,slow=4.9,SNR=5.6
comp=Z,2.7nm,0.6s
KBL Kabul 64.67 312 P P 13 11 06.3 -0.1
AAK Ala-Archa 64.91 322 LR LR 13 42 57.0
comp=Z,88nm,18.4s,baz=158,slow=39
YAK Yakutsk 66.59 3 P P 13 11 17.9 -0.1
ZAA0 Zalesovo Array 66.89 336 P P 13 11 19.5 -0.5
ZAA0 IAmb IAmb 13 11 20.4
comp=Z,8.6nm,1.1s
ZALV Zalesovo Beam 66.89 336 P P 13 11 19.4 -0.6
comp=Z,5.6nm,0.8s,baz=120,slow=5.3,SNR=22
comp=Z,5.6nm,0.8s
MA2 Magadan 67.41 14 P P 13 11 23.6 +0.4
KURBB Kurchatov Arra 67.42 331 P P 13 11 23.4 0.0
comp=Z,6.0nm,0.8s,baz=133,slow=5.6,SNR=52
comp=Z,6.0nm,0.8s
KURK Kurchatov 67.44 331 P P 13 11 23.6 +0.1
BVAR Borovoye Array 72.91 329 P P 13 11 57.2 +0.1
comp=Z,4.6nm,0.8s,baz=131,slow=10,SNR=10
comp=Z,4.6nm,0.8s
VNDA Vanda 75.58 172 P P 13 12 11.1 -1.2
comp=Z,0.6nm,0.6s,baz=315,slow=5.7,SNR=2.2
comp=Z,0.6nm,0.6s
AB31 Akbulak array 76.95 323 P P 13 12 20.4 -0.1
ABKAR Akbulak array 76.95 323 P P 13 12 20.5 0.0
AKTO Aktyubinsk 78.56 323 P P 13 12 28.9 -0.5
comp=Z,3.3nm,0.8s,baz=107,slow=4.4,SNR=5.6
comp=Z,3.3nm,0.8s
AKUT Akutan 82.32 34 P P 13 12 49.9 +0.4
L16K Owhat River 87.69 28 P P 13 13 17.2 +0.8
L16K IAmb IAmb 13 14 11.8
comp=Z,14nm,1.4s
L18K Granite Mounta 89.09 27 P P 13 13 23.8 +0.9
L18K IAmb IAmb 13 13 25.8
comp=Z,12nm,1.4s
G19K Purcell Mounta 89.72 24 P P 13 13 26.8 +0.9
G19K IAmb IAmb 13 13 27.4
comp=Z,5.2nm,0.8s
H19K Roundabout Mou 89.85 24 P P 13 13 27.4 +1.0
H19K IAmb IAmb 13 13 28.1
comp=Z,6.5nm,0.9s
ILAR Eielson Array 93.77 25 P P 13 13 42.4 -2.2
comp=Z,0.5nm,0.8s,baz=225,slow=3.7,SNR=6.8
comp=Z,0.5nm,0.8s
J26L Joseph Creek 95.19 26 P P 13 13 51.5 +0.2
J26L IAmb IAmb 13 15 21.6
comp=Z,5.6nm,0.8s
I28M Miner Creek 96.70 25 P P 13 13 58.7 +0.6
TORD Torodi Ar. Bea 122.45 283 PKP PKPdf 13 19 23.7 -0.6
comp=Z,0.6nm,0.6s,baz=41,slow=2.7,SNR=4.5

*IDC **27** 13:00:40.3±2.6, 20.°04S×169.°79E, h0km, mb4.1/5, mbtmp4.0/6, ML3.0/1, MS3.3/3, Error ellipse: s-maj=63.4km s-min=40.7km az=178.0*
*NEIC **27** 13:00:41.8±1.4, 20.°06S±0.°07×169.°8E±0.°1, h10km±1km, mb4.6/9, Error ellipse: s-maj=18.7km s-min=12.3km az=76.0*
ISC 27 13:00:44.2±0.9, 20.°1S±0.°1×169.°9E±0.°1, h30km, n20, σ1§35/19, mb4.4/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**3.37**	**221**			**Pn**	**13 01 32.9**	**-1.9**
DZM	**Mont Dzumac**	**3.75**	**238**			**Pn**	**13 01 38.0**	**-2.1**
DZM	**Mont Dzumac**	**3.75**	**238**	Pn		**Pn**	**13 01 37.8**	**-2.2**
	1.1nm,0.3s,baz=116,slow=19,SNR=18							
DZM				LR	LR	LR	13 02 16.4	
	comp=Z,141nm,19.9s,baz=68,slow=26							
DZM				Sn		**Sn**	**13 02 24.8**	**+1.6**
	7.7nm,0.3s,baz=318,slow=20,SNR=12							
	4.7nm,0.3s							
ONTNC	**Ouen Toro**	**3.87**	**234**			**Pn**	**13 01 39.5**	**-2.0**
AFI	**Afiamalu**	**18.61**	**74**	P		**P**	**13 04 58.3**	**-1.0**
BKZ	**Black Stump Fm**	**19.86**	**165**	P		**P**	**13 05 12.4**	**-0.5**
BFZ	**Birch Farm**	**21.25**	**166**	P		**P**	**13 05 27.8**	**0.0**
BFZ				IAmb	IAmb	IAmb	13 06 05.0	
	comp=Z,36nm,1.2s							
STKA	**Stephens Creek**	**27.90**	**239**	P		**P**	**13 06 33.7**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=62,slow=7.2,SNR=4.3							
	comp=Z,1.1nm,0.5s							
WRA	**Warramunga Arr**	**33.33**	**264**	P		**P**	**13 07 19.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=102,slow=8.0,SNR=2.2							
	comp=Z,0.7nm,0.5s							
ASAR	**Alice Springs**	**33.49**	**257**	P		**P**	**13 07 21.0**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=84,slow=8.8,SNR=10							
	comp=Z,4.6nm,0.8s							
MTN	**Manton Dam**	**37.75**	**275**	P		**P**	**13 07 57.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.74**	**265**	P		**P**	**13 08 31.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**41.74**	**265**	P		**P**	**13 08 31.1**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=108,slow=6.9,SNR=4.2							
	comp=Z,5.4nm,0.9s							
MBWA	**Marble Bar**	**46.76**	**259**	P		**P**	**13 09 10.6**	**-0.5**
MBWA				IAmb	IAmb	IAmb	13 09 12.6	
	comp=Z,5.6nm,0.8s							
CASY	**Casey**	**59.59**	**204**	P		**P**	**13 10 45.5**	**+0.8**
CASY				IAmb	IAmb	IAmb	13 10 51.0	
	comp=Z,6.0nm,0.9s							
M13K	**Dall Lake**	**83.11**	**13**	P		**P**	**13 13 07.1**	**+0.5**
PFO	**Pinyon Flats O**	**88.16**	**53**	LR	LR	LR	13 46 41.3	
	comp=Z,25nm,18.6s,baz=274,slow=31							
SNAA	**Sanae**	**88.35**	**182**	P		**P**	**13 13 33.6**	**+0.9**
SNAA				IAmb	IAmb	IAmb	13 14 16.9	
	comp=Z,3.2nm,1.3s							
SNAA	**Sanae**	**88.35**	**182**	P		**P**	**13 13 33.6**	**+0.9**
	comp=Z,0.7nm,1.0s,baz=180,slow=6.1,SNR=5.4							
	comp=Z,0.7nm,1.0s							
LPIG	**La Paz**	**89.26**	**64**	LR	LR	LR	13 46 05.9	
	comp=Z,29nm,18.9s,baz=324,slow=30							

*IDC **27** 13:02:01.2±0.6, 28.°16N×140.°16E, h429km±10km, mb3.2/11, mbtmp4.0/15, Error ellipse: s-maj=30.9km s-min=13.9km az=72.0*
*JMA **27** 13:02:01.4±0.3, 28.°8N±1.°×14.°0E±.°, h445km±4km, MV3.6/19, W OFF OGASAWARA*
*NEIC **27** 13:02:01.6±1.2, 28.°2N±0.°1×140.°2E±0.°2, h436km±9km, mb4.2/7, Error ellipse: s-maj=21.6km s-min=14.7km az=71.0*
ISC 27 13:02:01.9±0.6, 28.°18N±0.°07×140.°3E±0.°1, h450km, n36, σ1§41/43, mb3.9/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.98**	**122**	P		**P**	**13 03 01.6**	**-0.8**
CBIJ				S		**S**	**13 03 49.0**	**-2.3**
JCJ	**Chichijima**	**1.98**	**122**	P		**P**	**13 03 01.4**	**-1.0**
JCJ				S		**S**	**13 03 48.5**	**-2.8**
JCJ	**Chichijima**	**1.98**	**122**	P		**P**	**13 03 01.0**	**-1.4**
	54nm,0.3s,baz=252,slow=23,SNR=38							
JCJ				S		**S**	**13 03 48.5**	**-2.8**
	116nm,0.4s,baz=307,slow=23,SNR=18							
JHH2	**Haha-jima-NKT2**	**2.26**	**132**	P		**P**	**13 03 03.6**	**-0.4**
JHH2				*e*S		**S**	**13 03 52.6**	**-1.6**
JHJ2	**Mitsune**	**4.94**	**355**	P		**P**	**13 03 25.2**	**-0.4**
JHJ2	**Mitsune**	**4.94**	**355**	P		**P**	**13 03 25.7**	**+0.2**
JHJ2				*e*S		**S**	**13 04 31.9**	**-1.9**
JHJ	**Hachijo jima 2**	**4.95**	**355**	P		**P**	**13 03 25.3**	**-0.3**
	20nm,0.3s,baz=85,slow=23,SNR=13							
JHJ				S		**S**	**13 04 30.4**	**-3.6**
	30nm,0.3s,baz=283,slow=22,SNR=7.4							
BSO1	**Boso 1**	**6.48**	**5**	*e*P		**P**	**13 03 41.6**	**+1.2**
BSO1				*e*S		**S**	**13 05 00.0**	**-1.3**
BSO3	**Boso 3**	**6.61**	**1**	*e*S		**S**	**13 05 00.9**	**-3.2**
JMN	**Monobe**	**7.82**	**317**	P		**P**	**13 03 53.8**	**-1.5**
MJAR	**Matsushiro Arr**	**8.53**	**349**	P		**P**	**13 04 02.1**	**-0.8**
MJAR	**Matsushiro Arr**	**8.53**	**349**	P		**P**	**13 04 02.9**	**0.0**
	0.6nm,0.3s,baz=302,slow=17,SNR=6.2							
MAJO	**Matsushiro**	**8.53**	**349**	P		**P**	**13 04 02.3**	**-0.6**
JOW	**Kunigami**	**10.77**	**266**	P		**P**	**13 04 26.1**	**-1.3**
	7.4nm,0.4s,baz=96,slow=14,SNR=12							
ZALV	**Zalesovo Beam**	**47.58**	**319**	P		**P**	**13 09 55.2**	**+0.1**
	0.4nm,0.3s,baz=101,slow=7.5,SNR=2.5							
	0.4nm,0.3s							
WR8	**Warramunga Arr**	**48.18**	**187**	P		**P**	**13 10 00.9**	**+0.9**
WR8				IAmb	IAmb	IAmb	13 10 43.4	
	comp=Z,7.9nm,1.4s							
CTAO	**Charters Tower**	**48.32**	**173**	P		**P**	**13 10 00.8**	**-0.3**
CTAO				IAmb	IAmb	IAmb	13 10 02.5	
	comp=Z,13nm,1.3s							
MKAR	**Makanchi Array**	**48.51**	**309**	P		**P**	**13 10 01.3**	**-1.0**
MKAR	**Makanchi Array**	**48.51**	**309**	P		**P**	**13 10 02.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=79,slow=7.5,SNR=2.4							
	comp=Z,0.3nm,0.6s							
SDPT	**Sand Point**	**49.94**	**40**	P		**P**	**13 10 13.3**	**+0.6**
SDPT				IAmb	IAmb	IAmb	13 10 47.8	
	comp=Z,38nm,1.1s							
KURK	**Kurchatov**	**51.04**	**314**	P		**P**	**13 10 20.9**	**0.0**
KURBB	**Kurchatov Arra**	**51.10**	**314**	P		**P**	**13 10 21.3**	**0.0**
	comp=Z,0.8nm,0.4s,baz=90,slow=7.7,SNR=10							
	comp=Z,0.8nm,0.4s							
ASAR	**Alice Springs**	**51.91**	**187**	P		**P**	**13 10 27.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=8.9,slow=1.5,SNR=1.3							
	comp=Z,0.2nm,0.6s							
BVAR	**Borovoye Array**	**56.12**	**317**	P		**P**	**13 10 57.8**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=83,slow=7.1,SNR=6.7							
	comp=Z,2.6nm,0.4s							
SEW	**Seward**	**56.22**	**35**	P		**P**	**13 10 59.3**	**+1.7**
SEW				IAmb	IAmb	IAmb	13 11 22.2	
	comp=Z,15nm,1.2s							
KKAR	**Karatay Array**	**57.10**	**305**	P		**P**	**13 11 04.5**	**+0.3**
AB31	**Akbulak array**	**63.15**	**314**	P		**P**	**13 11 44.7**	**+0.3**
AB31				IAmb	IAmb	IAmb	13 12 21.5	
	comp=Z,5.3nm,1.0s							
ABKAR	**Akbulak array**	**63.15**	**314**	P		**P**	**13 11 44.6**	**+0.3**
ARCES	**ARCESS Array B**	**71.97**	**340**	P		**P**	**13 12 40.2**	**+2.0**
ARCES	**ARCESS Array B**	**71.97**	**340**	P		**P**	**13 12 40.3**	**+2.0**
	comp=Z,2.3nm,0.8s,baz=62,slow=6.8,SNR=7.2							
	comp=Z,2.3nm,0.8s							
MRNZ	**Matariki Terra**	**75.46**	**155**	P		**P**	**13 12 58.5**	**0.0**
KBZ	**Khabaz**	**76.06**	**312**	P		**P**	**13 13 03.1**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=63,slow=9.0,SNR=4.7							
	comp=Z,2.4nm,0.8s							
FINES	**FINESS Array B**	**76.24**	**333**	P		**P**	**13 13 03.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=69,slow=4.9,SNR=12							
	comp=Z,0.9nm,0.3s							
HFS	**Hagfors**	**81.77**	**336**	P		**P**	**13 13 32.9**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=52,slow=5.7,SNR=8.1							
	comp=Z,0.8nm,0.4s							
NOA	**NORSAR Array B**	**81.99**	**338**	P		**P**	**13 13 34.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=49,slow=4.9,SNR=2.1							
	comp=Z,0.4nm,0.5s							
BRTR	**Keskin Array B**	**84.05**	**312**	P		**P**	**13 13 44.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=25,slow=2.9,SNR=2.3							
	comp=Z,0.6nm,0.6s							

*LDG **27** 13:18:49.0±0.1, 42.°64N×13.°12E, h12km, Ml3.5/2, Error ellipse: s-maj=2.2km s-min=1.5km az=11.0*
*ROM **27** 13:18:49.1±0.0, 42.°626N±0.°001×13.°130E±0.°002, h11km, ML3.5/295, Error ellipse: s-maj=0.2km s-min=0.1km az=245.0*
*PDG **27** 13:18:49.7±1.0, 42.°64N×13.°13E, h12km±1km, ML3.6/11, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
*PRU **27** 13:18:49.8, 42.°57N×13.°55E, h10km*
*IDC **27** 13:18:51.1±1.9, 42.°82N×13.°11E, h0km, mb3.2/2, mbtmp3.3/6, ML2.9/4, MS2.7/1, Error ellipse: s-maj=39.4km s-min=19.2km az=91.0*
ISC 27 13:18:50.2±0.8, 42.°64N±0.°02×13.°13E±0.°02, h9km±5km, n133, σ1§10/193, 29C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.07**	**243**	⇑P		**Pg**	**13 18 52.0**	**-0.4**
LNSS				S		**Sg**	**13 18 54.0**	**0.0**
LNSS				AML		AML		
LNSS				AML		AML		
LNSS				AML		AML		
LNSS				AML		AML		
LNSS				AML		AML		
RM33	**Pellescritta (**	**0.14**	**154**	⇑P		**Pg**	**13 18 52.9**	**-0.5**
RM33				S		**Sg**	**13 18 55.5**	**-0.1**
RM33				AML		AML		
	comp=E,71000µm,0.5s							
RM33				AML		AML		
	comp=E,71000µm,0.5s							
RM33				AML		AML		
	comp=E,68950µm,0.5s							
RM33				AML		AML		
	comp=N,49550µm,0.1s							
RM33				AML		AML		
	comp=N,49313µm,0.1s							
RM33				AML		AML		
	comp=N,49300µm,0.1s							
RM33				AML		AML		
	comp=N,49552µm,0.1s							
RM33				AML		AML		
	comp=E,55299µm,0.3s							
RM33				AML		AML		
	comp=E,54256µm,0.3s							
SMA1	**SAN MARTINO**	**0.15**	**92**	⇑P		**Pg**	**13 18 53.2**	**-0.3**
SMA1				S		**Sg**	**13 18 56.0**	**+0.1**
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
SMA1				AML		AML		
GAVE	**Gavelli**	**0.18**	**288**	⇑P		**Pg**	**13 18 53.6**	**-0.4**
GAVE				S		**Sg**	**13 18 56.7**	**0.0**
GAVE				AML		AML		
GAVE				AML		AML		
GAVE				AML		AML		
	comp=N,58850µm,0.3s							
GAVE				AML		AML		
GAVE				AML		AML		
GAVE				AML		AML		
	comp=N,58834µm,0.3s							
GAVE				AML		AML		
GAVE				AML		AML		
NRCA	**Norcia**	**0.20**	**357**	⇓P		**Pg**	**13 18 53.7**	**-0.6**
NRCA				S		**Sg**	**13 18 57.1**	**-0.1**
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
NRCA				AML		AML		
CAMP	**Campotosto**	**0.23**	**116**	⇑P		**Pg**	**13 18 54.3**	**-0.6**
CAMP				S		**Sg**	**13 18 58.0**	**-0.1**
CAMP				AML		AML		
	comp=N,12700µm,1.2s							
CAMP				AML		AML		
	comp=N,11279µm,0.5s							
CAMP				AML		AML		
	comp=N,12700µm,0.8s							
CAMP				AML		AML		
	comp=E,14250µm,0.6s							
CAMP				AML		AML		
	comp=E,13834µm,0.4s							
MTRA	**Matera**	**0.23**	**58**	⇑P		**Pg**	**13 18 54.2**	**-0.7**
MTRA				S		**Sg**	**13 18 58.0**	**-0.1**
MTRA				AML		AML		
	comp=E,88650µm,0.4s							
MTRA				AML		AML		
	comp=N,55000µm,1.0s							
MTRA				AML		AML		
	comp=E,87500µm,0.4s							
MTRA				AML		AML		
	comp=N,54250µm,1.0s							
MTRA				AML		AML		
	comp=N,46640µm,0.3s							
MTRA				AML		AML		
	comp=N,46424µm,0.3s							
MTRA				AML		AML		
	comp=E,88718µm,0.4s							
MTRA				AML		AML		
	comp=E,87528µm,0.4s							
ARRO	**Arrone**	**0.27**	**258**	⇑P		**Pg**	**13 18 55.1**	**-0.6**
ARRO				S		**Sg**	**13 18 59.2**	**-0.2**
ARRO				AML		AML		
	comp=E,16200µm,0.2s							
ARRO				AML		AML		
	comp=E,16184µm,0.2s							
ARRO				AML		AML		
	comp=N,21768µm,0.2s							
ARRO				AML		AML		
	comp=N,21750µm,0.2s							
MMO1	**Montemonaco**	**0.30**	**29**	⇑P		**Pg**	**13 18 55.5**	**-0.8**
MMO1				S		**Sg**	**13 19 00.5**	**+0.2**
FEMA	**Monte Fema**	**0.33**	**350**	P		**Pg**	**13 18 56.1**	**-0.7**
FEMA				S		**Sg**	**13 19 01.4**	**+0.2**
FEMA				AML		AML		
	comp=E,21000µm,1.1s							
FEMA				AML		AML		
	comp=N,21900µm,1.0s							
FEMA				AML		AML		
	comp=E,21000µm,0.9s							
FEMA				AML		AML		
	comp=E,19932µm,0.2s							
FEMA				AML		AML		
	comp=N,21214µm,0.4s							
AQU	**L'Aquila**	**0.35**	**144**	P		**Pg**	**13 18 56.3**	**-0.7**
TERO	**Teramo**	**0.35**	**92**	⇑P		**Pg**	**13 18 56.1**	**-1.0**
TERO				S		**Sg**	**13 19 01.4**	**-0.4**
TERO				AML		AML		
	comp=E,7210µm,0.3s							
TERO				AML		AML		
	comp=E,7210µm,0.3s							
TERO				AML		AML		
	comp=N,10665µm,0.2s							
TERO				AML		AML		
	comp=E,13450µm,1.0s							
TERO				AML		AML		
	comp=N,21000µm,0.3s							

TERO AML AML
comp=N,10665µm,0.2s
TERO AML AML
comp=N,21025µm,0.3s
TERO AML AML
comp=N,10681µm,0.2s
TERO AML AML
comp=E,11689µm,0.2s
FIAM Fiamignano 0.37 181 ⇑P **Pg 13 18 56.6 -0.8**
FIAM S **Sg 13 19 02.4 +0.1**
FIAM AML AML
comp=E,16850µm,1.3s
FIAM AML AML
comp=N,10650µm,0.9s
FIAM AML AML
comp=N,5645µm,0.9s
FIAM AML AML
comp=E,8665µm,0.6s
FIAM AML AML
comp=N,10650µm,1.1s
FIAM AML AML
comp=N,5645µm,1.1s
FIAM AML AML
comp=N,9458µm,0.3s
FIAM AML AML
comp=N,5311µm,0.3s
FIAM AML AML
comp=E,13095µm,0.3s
FIAM AML AML
comp=E,16850µm,0.7s
FIAM AML AML
comp=E,6860µm,0.3s
GIGS Gran Sasso 0.38 120 ⇑P **Pg 13 18 56.5 -1.1**
GIGS S **Sg 13 19 02.1 -0.4**
GIGS AML AML
comp=N,4325µm,0.2s
GIGS AML AML
comp=N,4325µm,0.2s
GIGS AML AML
comp=E,3095µm,0.2s
GIGS AML AML
comp=E,3505µm,0.5s
FDMO Fiordimonte 0.40 356 ⇑P **Pg 13 18 57.3 -0.8**
FDMO S **Sg 13 19 03.5 +0.1**
FDMO AML AML
comp=E,10165µm,1.1s
FDMO AML AML
comp=N,9930µm,0.7s
FDMO AML AML
comp=N,9930µm,1.3s
FDMO AML AML
comp=N,9289µm,0.4s
FDMO AML AML
comp=E,8964µm,0.4s
FDMO AML AML
comp=E,10165µm,0.9s
CESI CESI - Serrava 0.40 336 ⇓P **Pg 13 18 57.4 -0.8**
CESI S **Sg 13 19 03.8 +0.3**
CESI AML AML
comp=E,6655µm,0.3s
CESI AML AML
comp=N,10220µm,0.6s
CESI AML AML
comp=E,6930µm,0.3s
CESI AML AML
comp=E,6655µm,0.3s
CESI AML AML
comp=E,6655µm,0.3s
CESI AML AML
comp=E,6927µm,0.3s
CESI AML AML
comp=N,10220µm,0.6s
CESI AML AML
comp=N,10795µm,0.6s
CESI AML AML
comp=N,9738µm,0.3s
CESI AML AML
comp=N,10508µm,0.3s
CESX Cesi 0.41 266 ⇑P **Pg 13 18 57.2 -1.0**
CESX S **Sg 13 19 03.9 +0.4**
CESX AML AML
comp=N,12935µm,0.3s
CESX AML AML
comp=E,9965µm,0.5s
CESX AML AML
comp=N,12954µm,0.3s
CESX AML AML
comp=E,9941µm,0.5s
MF5 Montefalcone A 0.43 35 ⇑P **Pg 13 18 58.1 -0.5**
MF5 S **Sg 13 19 05.2 +0.9**
MF5 AML AML
comp=E,14300µm,1.3s
MF5 AML AML
comp=E,14250µm,1.3s
MF5 AML AML
comp=N,14850µm,0.7s
MF5 AML AML
comp=E,14250µm,0.7s
MF5 AML AML
comp=N,14850µm,1.3s
MF5 AML AML
comp=E,14106µm,0.5s
MF5 AML AML
comp=N,12869µm,0.3s
MOMA Monte Martano 0.45 292 ⇑P **Pg 13 18 58.0 -0.9**
MOMA S **Sg 13 19 05.3 +0.5**
MOMA AML AML
comp=N,14550µm,0.2s
MOMA AML AML
comp=E,11300µm,1.1s
MOMA AML AML
comp=E,11700µm,0.2s
MOMA AML AML
comp=N,15750µm,0.2s
MOMA AML AML
comp=N,14550µm,0.2s
MOMA AML AML
comp=E,11700µm,1.8s
MOMA AML AML
comp=N,15762µm,0.2s
MOMA AML AML
comp=N,14536µm,0.2s
MOMA AML AML
comp=E,11178µm,0.2s
MOMA AML AML
comp=E,11726µm,0.2s
MOMA AML AML
comp=E,11300µm,0.9s
GUMA Gualdo di Mace 0.45 19 ⇑P **Pg 13 18 58.5 -0.6**
GUMA S **Sb 13 19 06.0 -1.3**
GUMA AML AML
comp=N,41700µm,0.4s
GUMA AML AML
comp=E,39000µm,0.7s
GUMA AML AML
comp=N,41750µm,0.4s
GUMA AML AML
comp=E,53750µm,0.3s
GUMA AML AML
comp=N,43300µm,0.5s
GUMA AML AML
comp=E,53714µm,0.3s
GUMA AML AML
comp=N,41722µm,0.4s
GUMA AML AML
comp=N,43312µm,0.5s
GUMA AML AML
comp=N,43300µm,1.5s
GUMA AML AML
comp=E,39024µm,0.7s
CSP1 Cessapalombo 0.46 7 ⇑P **Pg 13 18 58.3 -0.9**
CSP1 S **Sg 13 19 05.5 +0.3**
CSP1 AML AML
comp=E,11170µm,0.5s
CSP1 AML AML
comp=N,18050µm,0.5s
CSP1 AML AML
comp=N,18050µm,1.5s
CSP1 AML AML
comp=E,11165µm,0.5s
CSP1 AML AML
comp=N,18086µm,0.5s
CSP1 AML AML
comp=E,11160µm,0.5s
MML1 Montelago di S 0.49 346 P **Pg 13 18 58.8 -1.0**
MML1 S **Sg 13 19 06.3 +0.1**
SAP2 Sant'Angelo in 0.50 23 P **Pg 13 18 59.3 -0.6**
SAP2 S **Sg 13 19 07.4 +0.8**
SAP2 AML AML
comp=E,12400µm,0.4s
SAP2 AML AML
comp=E,12405µm,0.4s
SAP2 AML AML
comp=N,71200µm,0.7s
SAP2 AML AML
comp=E,12405µm,1.6s
SAP2 AML AML
comp=N,54816µm,0.2s
SAP2 AML AML
comp=E,12422µm,0.4s
OFFI Offida 0.51 54 ⇑P **Pg 13 18 59.9 -0.2**
OFFI S **Sb 13 19 09.0 +0.2**
OFFI AML AML
comp=N,20900µm,0.4s
OFFI AML AML
comp=E,17750µm,0.3s
OFFI AML AML
comp=E,17768µm,0.3s
OFFI AML AML
comp=N,15218µm,0.5s
PF6 Pievefavera 0.51 5 P **Pg 13 18 58.9 -1.3**
PF6 S **Sg 13 19 06.7 -0.3**
SEF1 Sefro 0.53 345 P **Pg 13 18 59.4 -1.1**
SEF1 S **Sg 13 19 07.9 +0.5**
ASSB Assisi San Ben 0.53 320 ⇓P **Pg 13 18 59.5 -1.0**
ASSB S **Sg 13 19 07.9 +0.3**
ASSB AML AML
comp=E,4340µm,0.9s
ASSB AML AML
comp=N,4125µm,1.6s
ASSB AML AML
comp=N,3639µm,0.2s
ASSB AML AML
comp=E,4340µm,1.1s
ASSB AML AML
comp=E,4204µm,0.2s
MNTT Montottone 0.55 39 ⇑P **Pg 13 19 00.5 -0.3**
MNTT S **Sb 13 19 10.4 +0.3**
MNTT AML AML
comp=E,17050µm,0.3s
MNTT AML AML
comp=N,18450µm,1.1s
MNTT AML AML
comp=N,18500µm,1.1s
MNTT AML AML
comp=N,18500µm,0.9s
MNTT AML AML
comp=E,17030µm,0.3s
MNTT AML AML
comp=N,14571µm,0.3s
PIO1 Pioraco 0.55 349 P **Pg 13 19 00.1 -0.8**
PIO1 S **Sg 13 19 08.6 +0.4**
MDAR Monte D'Aria 0.56 1 P **Pg 13 18 59.9 -1.1**
MDAR S **Sg 13 19 08.7 +0.4**
MNTP Montappone 0.56 26 P **Pg 13 19 00.7 -0.4**
MNTP AML AML
comp=E,13550µm,0.3s
MNTP AML AML
comp=N,13800µm,0.4s
MNTP AML AML
comp=N,12097µm,0.2s
FIU1 Fiuminata 0.57 345 P **Pg 13 19 00.3 -0.9**
FIU1 S **Sg 13 19 09.3 +0.5**
VCEL Villa Celiera 0.58 114 P **Pg 13 19 00.3 -1.1**
VCEL S **Sg 13 19 09.8 +0.8**
SSM1 San Severino M 0.59 3 P **Pg 13 19 00.8 -1.0**
SSM1 S **Sg 13 19 10.1 +0.6**
GAG1 Gagliole 0.60 356 P **Pg 13 19 01.0 -0.9**
GAG1 S **Sg 13 19 10.3 +0.5**
TRTR Tortoreto Alta 0.60 73 ⇑P **Pg 13 19 01.8 -0.1**
TRTR AML AML
comp=E,14150µm,1.6s
TRTR AML AML
comp=N,14770µm,0.9s
TRTR AML AML
comp=N,14053µm,0.4s
TRTR AML AML
comp=E,14150µm,0.4s
TRTR AML AML
comp=E,14150µm,0.4s
T0110 Collepietro 0.63 130 P **Pg 13 19 00.9 -1.5**
T0110 AML AML
comp=E,5675µm,0.5s
T0110 AML AML
comp=N,5520µm,0.4s
T0110 AML AML
comp=E,5680µm,0.5s
T0110 AML AML
comp=N,5519µm,0.4s
T0110 AML AML
comp=E,5678µm,0.5s
SNTG Esanatoglia 0.63 347 P **Pg 13 19 01.2 -1.2**
SNTG S **Sg 13 19 11.0 +0.3**
SNTG AML AML
comp=E,3710µm,0.4s
SNTG AML AML
comp=N,3635µm,0.3s
SNTG AML AML
comp=N,3935µm,0.4s
SNTG AML AML
comp=N,3755µm,0.4s
SNTG AML AML
comp=N,3493µm,0.3s
SNTG AML AML
comp=E,3711µm,0.4s
SNTG AML AML
comp=E,3894µm,0.4s
SNTG AML AML
comp=E,3890µm,0.4s
ATCC AVT- Casa Cast 0.66 327 ⇓P **Pg 13 19 01.8 -1.1**
ATCC S **Sg 13 19 12.1 +0.6**
ATCC AML AML
comp=E,5900µm,0.6s
ATCC AML AML
comp=E,5900µm,0.6s
ATCC AML AML
comp=N,4750µm,0.5s
ATCC AML AML
comp=N,4749µm,0.5s
TRE1 Treia 0.69 11 P **Pg 13 19 03.1 -0.4**
EL6 Elcito 0.69 358 ⇑P **Pg 13 19 02.3 -1.3**
EL6 S **Sb 13 19 13.9 -0.3**
EL6 AML AML
comp=E,5835µm,0.4s
EL6 AML AML
comp=N,6555µm,0.5s
EL6 AML AML
comp=N,6047µm,0.2s
EL6 AML AML
comp=E,5840µm,0.4s
EL6 AML AML
comp=E,5836µm,0.4s
CERT Cerreto 0.69 189 ⇑P **Pg 13 19 01.9 -1.7**
CERT AML AML
comp=N,4180µm,0.7s
CERT AML AML
comp=E,4895µm,0.5s
CERT AML AML
comp=N,4084µm,0.6s
CERT AML AML
comp=E,4895µm,0.5s
CADA Capodarco di F 0.73 40 P **Pg 13 19 04.3 +0.1**
CADA AML AML
comp=N,13250µm,1.4s
CADA AML AML
comp=E,12950µm,0.3s
CADA AML AML
comp=N,13250µm,0.6s
CADA AML AML
comp=E,12914µm,0.3s
CADA AML AML
comp=N,12842µm,0.5s
CING Cingoli 0.74 4 ⇑P **Pg 13 19 03.1 -1.4**
CING S **Sb 13 19 14.7 -0.9**
MURB Monte Urbino 0.77 325 P **Pg 13 19 03.9 -1.1**
MURB AML AML
comp=N,6625µm,0.3s
MURB AML AML
comp=E,8210µm,0.3s
MURB AML AML
comp=N,105µm,0.7s
MURB AML AML
comp=E,133µm,0.9s
MURB AML AML
comp=N,6628µm,0.3s
MURB AML AML
comp=E,8210µm,0.3s
CIMA Civitanova Mar 0.78 30 P **Pg 13 19 05.2 0.0**
MGAB Montegabbione 0.80 291 ⇑P **Pg 13 19 04.4 -1.2**
MGAB AML AML
comp=E,7885µm,0.4s
MGAB AML AML
comp=E,7365µm,1.0s
MGAB AML AML
comp=E,6873µm,0.4s
MGAB AML AML
comp=E,7885µm,0.4s
MGAB AML AML
comp=N,7125µm,0.4s
MGAB AML AML
comp=N,7145µm,0.4s
MGAB AML AML
comp=N,7145µm,0.4s
MGAB AML AML
comp=N,7127µm,0.4s
ATTE AVT- Monte Tez 0.80 315 P **Pg 13 19 04.5 -1.1**
ATTE AML AML
comp=N,1665µm,1.3s
ATTE AML AML
comp=E,1640µm,0.9s
ATTE AML AML
comp=N,1665µm,0.7s
ATTE AML AML
comp=N,1565µm,0.9s
ATTE AML AML
comp=E,1536µm,0.7s
RCAV Rocca di Cave 0.80 190 P **Pg 13 19 04.0 -1.6**
MMUR Monte Murano 0.81 353 P **Pg 13 19 04.8 -1.1**
PP3 Marolino 0.82 25 ⇑P **Pg 13 19 05.4 -0.6**
ATFO Monte Foce - G 0.84 331 P **Pg 13 19 05.1 -1.2**
ATFO AML AML
comp=N,2215µm,1.5s
ATFO AML AML
comp=N,2091µm,0.3s
ATFO AML AML
comp=E,1915µm,0.5s
ATFO AML AML
comp=E,1915µm,0.5s
ATFO AML AML
comp=N,2215µm,0.5s
SSFR Montelago di S 0.84 342 P **Pg 13 19 05.0 -1.4**
SSFR AML AML
comp=E,5390µm,1.1s
SSFR AML AML
comp=N,5385µm,0.2s
SSFR AML AML
comp=E,5390µm,0.9s
SSFR AML AML
comp=E,5134µm,0.3s
SSFR AML AML
comp=N,5388µm,0.2s
VVLD Villa Vallelon 0.85 154 P **Pg 13 19 05.2 -1.3**
VVLD AML AML
comp=E,1505µm,0.7s
VVLD AML AML
comp=N,2335µm,0.5s
VVLD AML AML
comp=N,2410µm,0.5s
VVLD AML AML
comp=E,1510µm,0.7s
VVLD AML AML
comp=E,1630µm,0.6s
VVLD AML AML
comp=N,2330µm,0.5s
VVLD AML AML
comp=E,1510µm,1.3s
VVLD AML AML
comp=E,1631µm,0.6s
VVLD AML AML
comp=N,2409µm,0.5s
VVLD AML AML
comp=N,2332µm,0.5s
VVLD AML AML
comp=E,1508µm,0.7s
GUAR Guarcino 0.85 171 P **Pg 13 19 04.9 -1.7**
GUAR AML AML
comp=E,3230µm,1.2s
GUAR AML AML
comp=N,3170µm,0.7s
GUAR AML AML
comp=E,3230µm,0.8s
GUAR AML AML
comp=N,3170µm,1.3s
GUAR AML AML
comp=N,3130µm,0.6s
GUAR AML AML
comp=E,2706µm,0.6s
ATLO AVT- Montelove 0.86 322 P **Pg 13 19 05.4 -1.4**
MCIV Monte Civitell 1.08 278 AML AML
comp=E,1395µm,0.9s
MCIV AML AML
comp=N,826µm,0.9s
MCIV AML AML
comp=N,826µm,1.1s
MCIV AML AML
comp=N,709µm,0.3s
MCIV AML AML
comp=E,1107µm,0.4s
OSSC Osservatorio P 1.64 303 P **Pn 13 19 18.9 -0.3**
RUFI Rufina 1.69 316 P **Pn 13 19 19.7 -0.2**
TRIF Trifonti 1.71 287 AML AML
comp=N,381µm,0.4s
TRIF AML AML
comp=E,305µm,0.4s
TRIF AML AML
comp=E,305µm,0.4s
TRIF AML AML
comp=N,381µm,0.4s
SEI Scarperia 1.92 318 P **Pn 13 19 23.1 0.0**
BRJN Brijuni 2.31 11 *e*Pn **Pn 13 19 27.3 -1.2**
BDI Bagni Di Lucca 2.33 309 P **Pn 13 19 28.4 -0.4**
SARO Sassorosso 2.52 309 P **Pn 13 19 30.9 -0.5**
KIJV Kijevo 2.75 59 *e*Pn **Pn 13 19 34.9 +0.3**
PLMA Palmaria, Port 2.78 302 P **Pn 13 19 34.8 -0.1**
PGF Pioggiola 3.05 270 *e*P **Pn 13 19 38.6 -0.1**
PGF Pioggiola 3.05 270 AML AML
comp=E,44µm,1.0s
PGF AML AML
comp=N,26µm,0.3s
PGF AML AML
comp=N,26µm,1.7s
PGF AML AML
comp=E,41µm,0.3s
PGF AML AML
comp=N,26µm,0.3s
A050A Klekovaca 3.08 52 *e*Pn **Pn 13 19 39.5 +0.3**
TRI Trieste 3.11 8 AML AML
comp=N,136µm,0.6s
TRI AML AML
comp=E,150µm,1.3s
TRI AML AML
comp=N,136µm,0.6s
TRI AML AML
comp=N,136µm,1.4s
TRI AML AML
comp=E,150µm,0.7s
TRI AML AML
comp=E,133µm,0.7s
STON Ston 3.37 84 *e*Pn **Pn 13 19 42.4 -0.7**
STON Ston 3.37 84 AML AML
comp=E,123µm,0.3s
STON AML AML
comp=E,123µm,0.3s
STON AML AML
comp=N,85µm,1.1s
STON AML AML
comp=E,123µm,1.7s
STON AML AML
comp=N,85µm,0.9s
STON AML AML
comp=N,81µm,0.4s
OZLJ Ozalj 3.42 29 *e*Pn **Pn 13 19 43.4 -0.3**
NOCI Noci 3.48 121 AML AML
comp=N,123µm,0.4s
NOCI AML AML
comp=E,100µm,1.3s
NOCI AML AML
comp=N,154µm,0.9s
NOCI AML AML
comp=E,95µm,0.4s

n192,σ1ś43/197,mb4.5/49,12C-8D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.34**	**10**	**P**	**P**	**13 41 08.5**	**+2.9**
LKBA	**Tubou, Lakemba**	**5.34**	**10**	**S**	**S**	**13 42 23.8**	**+3.4**
RAO	**Raoul Island**	**5.95**	**164**	**P**	**P**	**13 41 10.6**	**-0.3**
RAO	**Raoul Island**	**5.95**	**164**	**P**	**P**	**13 41 12.4**	**+1.5**
	157nm,0.3s,baz=121,slow=2.1,SNR=4.0						
RAO				S	**S**	**13 42 33.7**	**+3.2**
	315nm,0.4s,baz=86,slow=20,SNR=4.2						
GLKZ	**Green Lake**	**5.96**	**164**	**P**	**P**	**13 41 12.3**	**+1.3**
MSVF	**Nonsavu**	**6.10**	**340**	**P**	**P**	**13 41 13.0**	**+0.3**
MSVF	**Nonsavu**	**6.10**	**340**	**P**	**P**	**13 41 14.5**	**+1.9**
MSVF	**Nonsavu**	**6.10**	**340**	**S**	**S**	**13 42 37.4**	**+4.1**
TAVE	**Taveuni**	**6.78**	**359**	**P**	**P**	**13 41 21.7**	**+2.7**
TAVE	**Taveuni**	**6.78**	**359**	**S**	**S**	**13 42 48.6**	**+3.6**
DGTI	**Dogotuki**	**7.19**	**356**	**P**	**P**	**13 41 24.9**	**+1.8**
YSA	**Yasawairara**	**7.22**	**340**	**P**	**P**	**13 41 25.3**	**+2.0**
FUTU	**Fugatoga**	**9.30**	**10**	**P**	**P**	**13 41 43.4**	**-0.8**
NIUE	**Niue**	**10.20**	**66**	**P**	**P**	**13 41 53.0**	**-0.6**
NIUE	**Niue**	**10.20**	**66**	**S**	**S**	**13 43 54.1**	**+5.5**
PINNC	**Pines Island,**	**11.78**	**272**	**P**	**P**	**13 42 12.5**	**+2.5**
PINNC	**Pines Island,**	**11.78**	**272**	**P**	**P**	**13 42 13.6**	**+3.6**
AFI	**Afiamalu**	**12.20**	**40**	**P**	**P**	**13 42 10.4**	**-4.1**
AFI	**Afiamalu**	**12.20**	**40**	**P**	**P**	**13 42 13.9**	**-0.7**
DZM	**Mont Dzumac**	**12.78**	**274**	**P**	P	13 42 26.5	+6.1
DZM	**Mont Dzumac**	**12.78**	**274**	**P**	**P**	**13 42 20.7**	**+0.2**
	10nm,1.1s,baz=101,slow=18,SNR=2.4						
OUZ	**Omahuta**	**13.00**	**205**	**P**	**P**	**13 42 25.9**	**+3.4**
OUZ	**Omahuta**	**13.00**	**205**	**P**	**P**	**13 42 25.8**	**+3.3**
GRZ	**Great Barrier**	**13.34**	**197**	**P**	**P**	**13 42 28.0**	**+2.0**
WCZ	**Waipu Caves**	**13.38**	**201**	**P**	**P**	**13 42 29.6**	**+3.2**
KUZ	**Kuaotunu**	**13.74**	**195**	**P**	**P**	**13 42 31.9**	**+1.7**
KUZ	**Kuaotunu**	**13.74**	**195**	**P**	**P**	**13 42 31.1**	**+0.9**
MXZ	**Matakaoa Point**	**14.09**	**186**	**P**	**P**	**13 42 34.3**	**+0.5**
MXZ	**Matakaoa Point**	**14.09**	**186**	**P**	**P**	**13 42 33.0**	**-0.8**
MKAZ	**Moumakai**	**14.22**	**197**	**P**	**P**	**13 42 37.0**	**+1.9**
WMGZ	**Waiomatatini S**	**14.34**	**186**	**P**	**P**	**13 42 38.2**	**+1.8**
HAZ	**Te Kaha**	**14.35**	**188**	**P**	**P**	**13 42 37.3**	**+0.9**
PKGZ	**Pakihiroa**	**14.42**	**187**	**P**	**P**	**13 42 37.3**	**+0.1**
TGRZ	**Tauranga**	**14.56**	**193**	**P**	**P**	**13 42 40.5**	**+1.8**
PUZ	**Puketiti**	**14.60**	**186**	**P**	**P**	**13 42 41.0**	**+1.8**
TOZ	**Tahuroa Road**	**14.73**	**195**	**P**	**P**	**13 42 41.4**	**+0.9**
TOZ	**Tahuroa Road**	**14.73**	**195**	**P**	**P**	**13 42 41.9**	**+1.5**
URZ	**Urewera**	**14.93**	**189**	**P**	**P**	**13 42 41.7**	**-0.9**
	44nm,0.6s,baz=5.0,slow=4.8,SNR=17						
URZ				S	**S**	**13 45 18.4**	**+0.1**
	37nm,0.8s,baz=178,slow=21,SNR=12						
URZ	**Urewera**	**14.93**	**189**	**P**	**P**	**13 42 43.6**	**+1.0**
URZ	**Urewera**	**14.93**	**189**	**P**	**P**	**13 42 41.2**	**-1.3**
TKGZ	**Te Karaka**	**15.01**	**187**	**P**	**P**	**13 42 43.2**	**-0.2**
RAGZ	**Rawiri**	**15.12**	**188**	**P**	**P**	**13 42 44.5**	**-0.1**
MUGZ	**Murupara**	**15.20**	**190**	**P**	**P**	**13 42 44.4**	**-1.0**
HRRZ	**Handcock Road**	**15.20**	**192**	**P**	**P**	**13 42 46.6**	**+1.2**
RIGZ	**Rimuhau**	**15.28**	**187**	**P**	**P**	**13 42 46.4**	**+0.2**
TLZ	**Tolley Road**	**15.29**	**194**	**P**	**P**	**13 42 47.7**	**+1.3**
RTZ	**Ruatahuna**	**15.30**	**190**	**P**	**P**	**13 42 45.3**	**-1.2**
RTZ				S	**S**	**13 45 21.2**	**-4.0**
HIZ	**Hauiti**	**15.63**	**196**	**P**	**P**	**13 42 50.5**	**+0.7**
HIZ	**Hauiti**	**15.63**	**196**	**P**	**P**	**13 42 49.1**	**+1.3**
BKZ	**Black Stump Fm**	**15.92**	**191**	**P**	**P**	**13 42 51.9**	**-0.9**
BFZ	**Birch Farm**	**17.44**	**190**	**P**	**P**	**13 43 06.0**	**-1.1**
SNZO	**South Karori**	**18.33**	**193**	**P**	**P**	**13 43 14.8**	**-0.5**
QRZ	**Quartz Range**	**18.43**	**199**	**P**	**P**	**13 43 17.6**	**+1.4**
PLWZ	**Palliser**	**18.47**	**192**	**P**	**P**	**13 43 15.2**	**-1.4**
THZ	**Tophouse**	**19.19**	**197**		**P**	**13 43 23.1**	**-0.1**
KHZ	**Kahutara**	**19.65**	**195**		**P**	**13 43 26.6**	**-0.6**
KHZ				IAmb	IAmb	13 43 32.1	
	comp=Z,23nm,0.8s						
KHZ	**Kahutara**	**19.65**	**195**	**P**	**P**	**13 43 26.7**	**-0.6**
OXZ	**Oxford**	**20.88**	**197**	**P**	**P**	**13 43 38.7**	**+0.2**
RPZ	**Rata Peaks**	**21.51**	**198**		**P**	**13 43 44.7**	**+0.6**
RPZ	**Rata Peaks**	**21.51**	**198**	**P**	**P**	**13 43 44.2**	**+0.1**
	comp=Z,35nm,0.6s,baz=34,slow=3.6,SNR=30						
	comp=Z,35nm,0.6s						
RPZ	**Rata Peaks**	**21.51**	**198**	**P**	**P**	**13 43 45.0**	**+0.8**
JCZ	**Jackson Bay**	**22.55**	**202**	**P**	**P**	**13 43 53.0**	**-0.6**
ODZ	**Otahua Downs**	**22.85**	**198**	**P**	**P**	**13 43 55.8**	**-0.3**
ARMA	**Armidale**	**26.33**	**249**	**P**	**P**	**13 44 28.7**	**+1.4**
ARMA				IAmb	IAmb	13 44 30.2	
	comp=Z,20nm,1.2s						
EIDS	**Eidsvold**	**26.56**	**260**		**P**	**13 44 30.2**	**+0.9**
EIDS				IAmb	IAmb	13 44 31.1	
	comp=Z,23nm,1.2s						
EIDS	**Eidsvold**	**26.56**	**260**	**P**	**P**	**13 44 30.4**	**+1.2**
CNB	**Canberra Magne**	**29.21**	**239**	**P**	**P**	**13 44 54.3**	**+1.9**
CAN	**Canberra**	**29.50**	**239**	**P**	**P**	**13 44 56.3**	**+1.4**
CMSA	**Cobar Meteorol**	**31.53**	**248**	**P**	**P**	**13 45 13.2**	**+0.8**
CTA	**Charters Tower**	**31.66**	**270**	**P**	**P**	**13 45 14.5**	**+0.8**
CTAO	**Charters Tower**	**31.66**	**270**		**P**	**13 45 14.7**	**+1.0**
CTAO	**Charters Tower**	**31.66**	**270**	**P**	**P**	**13 45 14.4**	**+0.8**
QLP	**Quilpie**	**32.66**	**257**	**P**	**P**	**13 45 22.8**	**+0.7**
TOO	**Toolangi**	**32.81**	**237**	**P**	**P**	**13 45 24.5**	**+1.3**
TAU	**Tasmania Unive**	**33.33**	**227**	**P**	**P**	**13 45 26.8**	**-0.7**
TAU	**Tasmania Unive**	**33.33**	**227**	**P**	**P**	**13 45 28.5**	**+1.0**
MTSU	**Mount Surprise**	**33.91**	**272**	**P**	**P**	**13 45 33.3**	**+0.6**
PMG	**Port Moresby**	**34.55**	**288**	**P**	**P**	**13 45 37.3**	**-0.8**
STKA	**Stephens Creek**	**35.04**	**248**		**P**	**13 45 42.5**	**+0.5**
STKA	**Stephens Creek**	**35.04**	**248**	**P**	**P**	**13 45 42.2**	**+0.2**
	comp=Z,14nm,0.6s,baz=92,slow=9.8,SNR=48						
STKA				PcP	**PcP**	**13 47 59.2**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=82,slow=6.1,SNR=4.4						
	comp=Z,14nm,0.6s						
STKA	**Stephens Creek**	**35.04**	**248**	**P**	**P**	**13 45 42.9**	**+0.9**
INKA	**Innaminka**	**35.72**	**255**	**P**	**P**	**13 45 49.1**	**+1.4**
INKA				IAmb	IAmb	13 45 49.8	
	comp=Z,8.4nm,0.8s						
COEN	**Coen**	**36.24**	**279**	**P**	**P**	**13 45 52.8**	**+0.6**
HTT	**Hallett**	**37.40**	**245**	**P**	**P**	**13 46 02.0**	**+0.5**
QIS	**Mount Isa**	**37.66**	**266**	**P**	**P**	**13 46 03.9**	**+0.1**
BBOO	**Buckleboo**	**39.77**	**246**	IAmb	IAmb	13 46 21.0	
	comp=Z,18nm,0.6s						
BBOO	**Buckleboo**	**39.77**	**246**	**P**	**P**	**13 46 20.6**	**-0.1**
AS01	**Alice Springs**	**42.24**	**260**	**P**	**P**	**13 46 40.6**	**+0.1**
ASAR	**Alice Springs**	**42.28**	**260**		**P**	**13 46 41.0**	**+0.1**
ASAR	**Alice Springs**	**42.28**	**260**	**P**	**P**	**13 46 40.7**	**-0.1**
	comp=Z,25nm,0.8s,baz=94,slow=7.1,SNR=434						
ASAR				PcP	**PcP**	**13 48 22.4**	**0.0**
	comp=Z,2.1nm,0.6s,baz=109,slow=3.8,SNR=6.6						
ASAR				S	**S**	**13 52 21.7**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=95,slow=14,SNR=15						
	comp=Z,25nm,0.8s						
WR8	**Wmunga Arr**	**42.47**	**266**	IAmb	IAmb	13 46 42.7	
	comp=Z,18nm,0.8s						
WRAB	**Tennant Creek**	**42.61**	**266**	**P**	**P**	**13 46 43.0**	**-0.4**
WRAB				IAmb	IAmb	13 46 43.8	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**42.62**	**266**	**P**	**P**	**13 46 43.0**	**-0.5**
WRA	**Warramunga Arr**	**42.62**	**266**	**P**	**P**	**13 46 42.8**	**-0.7**
	comp=Z,27nm,0.6s,baz=103,slow=8.1,SNR=186						
WRA				PcP	**PcP**	**13 48 23.0**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=105,slow=3.2,SNR=6.1						
WRA				S	**S**	**13 52 24.6**	**-3.6**
	comp=Z,4.4nm,1.1s,baz=100,slow=14,SNR=11						
	comp=Z,27nm,0.6s						
KDU	**Kakadu**	**46.44**	**275**	**P**	**P**	**13 47 12.4**	**-0.5**
MTN	**Manton Dam**	**47.61**	**274**	IAmb	IAmb	13 47 23.8	
	comp=Z,14nm,1.0s						
MTN	**Manton Dam**	**47.61**	**274**	**P**	**P**	**13 47 21.3**	**-0.5**
KNRA	**Kununurra**	**48.88**	**269**	IAmb	IAmb	13 47 32.2	
	comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.05**	**265**		**P**	**13 47 47.1**	**0.0**
SWI	**Sorong**	**52.50**	**288**	**P**	**P**	**13 47 57.3**	**-0.3**
VNDA	**Vanda**	**54.77**	**185**		**P**	**13 48 14.5**	**+1.8**
VNDA	**Vanda**	**54.77**	**185**	**P**	**P**	**13 48 14.3**	**+1.6**
	comp=Z,3.1nm,0.5s,baz=359,slow=7.8,SNR=24						
VNDA				PcP	**PcP**	**13 49 07.7**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=350,slow=4.5,SNR=9.1						
	comp=Z,3.1nm,0.5s						
SOEI	**Soe**	**55.00**	**275**	IAmb	IAmb	13 48 26.6	
	comp=Z,65nm,0.9s						
SOEI	**Soe**	**55.00**	**275**	**P**	**P**	**13 48 17.0**	**+1.5**
MEEK	**Meekatharra**	**55.40**	**253**	**P**	**P**	**13 48 17.4**	**-0.6**
PSA00	**Pilbara Seismi**	**55.42**	**259**	IAmb	IAmb	13 48 18.6	
	comp=Z,16nm,0.7s						
PSA00	**Pilbara Seismi**	**55.42**	**259**	**P**	**P**	**13 48 17.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**55.56**	**245**	**P**	**P**	**13 48 18.8**	**-0.2**
MBWA	**Marble Bar**	**55.62**	**260**		**P**	**13 48 18.6**	**-1.0**
MBWA				IAmb	IAmb	13 48 19.9	
	comp=Z,33nm,0.8s						
MBWA	**Marble Bar**	**55.62**	**260**	**P**	**P**	**13 48 19.2**	**-0.4**
BLDU	**Ballidu**	**56.34**	**248**	**P**	**P**	**13 48 24.0**	**-0.4**
MUN	**Mundaring**	**56.56**	**246**	**P**	**P**	**13 48 25.8**	**-0.1**
MORW	**Morawa**	**57.18**	**250**		**P**	**13 48 29.8**	**-0.4**
MORW				IAmb	IAmb	13 48 30.9	
	comp=Z,33nm,0.7s						
MORW	**Morawa**	**57.18**	**250**	**P**	**P**	**13 48 30.1**	**-0.1**
EDFI	**Ende, Flores**	**57.73**	**274**	**P**	**P**	**13 48 33.9**	**-0.4**
	comp=Z,43nm,0.9s						
CASY	**Casey**	**60.54**	**206**		**P**	**13 48 52.1**	**+0.1**
CASY				IAmb	IAmb	13 48 52.9	
	comp=Z,12nm,0.8s						
PLAI	**Plampang**	**61.29**	**273**	**P**	**P**	**13 48 57.7**	**-0.2**
TOLI2	**Tolitoli**	**62.66**	**284**	**P**	**P**	**13 49 06.2**	**-0.6**
QSPA	**South Pole Qui**	**66.56**	**180**	**P**	**P**	**13 49 33.4**	**+2.6**
	comp=Z,22nm,0.8s,baz=298,slow=0.3,SNR=23						
	comp=Z,22nm,0.8s						
MJAR	**Matsushiro Arr**	**71.69**	**325**	P	**P**	**13 50 00.8**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=160,slow=3.4,SNR=4.0						
	comp=Z,2.7nm,0.9s						
KSRS	**Korea Array**	**78.08**	**320**	P	**P**	**13 50 37.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=141,slow=6.4,SNR=10						
	comp=Z,1.7nm,0.7s						
MAW	**Mawson**	**78.17**	**200**	**P**	**P**	**13 50 38.0**	**+0.4**
	comp=Z,7.8nm,0.6s,baz=135,slow=6.5,SNR=28						
	comp=Z,7.8nm,0.6s						
PETK	**Petropavlovsk-**	**78.77**	**346**	P	**P**	**13 50 40.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=130,slow=4.6,SNR=10						
	comp=Z,2.1nm,0.7s						
BKNI	**Bangkinang**	**80.19**	**275**	**P**	**P**	**13 50 48.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**80.55**	**327**	**P**	**P**	**13 50 50.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**80.55**	**327**	**P**	**P**	**13 50 50.9**	**+0.4**
	comp=Z,5.6nm,1.0s,baz=131,slow=5.3,SNR=5.8						
	comp=Z,5.6nm,1.0s						
NJ2	**Nanjing**	**80.55**	**311**	*eP*	**P**	**13 50 52.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ESPZ	**Base Esperanza**	**82.50**	**158**	P	**P**	**13 51 00.4**	**+0.2**
ESPZ				IAmb	IAmb	13 51 01.8	
	comp=Z,12nm,1.0s						
SYO	**Syowa Base**	**83.43**	**193**	*eP*	**P**	**13 51 04.3**	**-0.5**
SYO	**Syowa Base**	**83.43**	**193**	*ePcP*	**P**	**13 51 06.1**	**+1.3**
NVAR	**Mina Array Bea**	**84.35**	**44**	P	**P**	**13 51 09.4**	**-0.7**
	comp=Z,3.8nm,1.2s,baz=217,slow=7.9,SNR=6.8						
	comp=Z,3.8nm,1.2s						
TROLL	**Troll, Antarti**	**84.72**	**181**	⇓P	**P**	**13 51 11.0**	**-0.3**
	comp=Z,912nm,0.5s						
SNAA	**Sanae**	**85.04**	**179**	⇓P	**P**	**13 51 12.1**	**-0.7**
	comp=Z,88nm,0.4s						
SNAA	**Sanae**	**85.04**	**179**	P	**P**	**13 51 11.9**	**-0.9**
SNAA	**Sanae**	**85.04**	**179**	P	**P**	**13 51 12.1**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=199,slow=13,SNR=86						
	comp=Z,3.8nm,0.5s						
VNA3	**Neumayer Olymp**	**85.25**	**177**	⇓P	**P**	**13 51 12.9**	**-0.8**
	comp=Z,5.5nm,0.4s						
VNA2	**Neumayer--Watz**	**85.67**	**178**	⇓P	**P**	**13 51 14.5**	**-1.2**
	comp=Z,7.0nm,0.7s,baz=184,slow=3.6						
VNA1	**Neumayer--Stat**	**85.90**	**177**	⇓P	**P**	**13 51 16.5**	**-0.4**
	comp=Z,8.7nm,0.9s						
O19K	**Port Alsworth**	**85.97**	**12**	P	**P**	**13 51 16.3**	**-0.8**
O19K				IAmb	IAmb	13 51 17.0	
	comp=Z,9.9nm,0.8s						
HEH	**HeiHe**	**87.01**	**329**	*eP*	**P**	**13 51 22.5**	**+0.2**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
L19K	**White Mountain**	**87.70**	**11**	P	**P**	**13 51 25.0**	**-0.3**
L19K				IAmb	IAmb	13 51 26.1	
	comp=Z,6.7nm,0.9s						
G08A	**Pilot Rock**	**88.01**	**38**	P	**P**	**13 51 26.9**	**-0.3**
G08A				IAmb	IAmb	13 51 28.8	
	comp=Z,6.6nm,1.3s						
PLCA	**Paso Flores**	**88.40**	**134**	P	**P**	**13 51 29.9**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=240,slow=2.6,SNR=3.8						
	comp=Z,2.2nm,0.9s						
XAN	**Xi'an**	**88.65**	**308**	P	**P**	**13 51 31.5**	**+1.1**
XAN				pmax	pmax		
	comp=Z,16nm,0.8s						
MFID	**Camas Ranch**	**88.75**	**41**	P	**P**	**13 51 30.6**	**-0.1**
MFID				IAmb	IAmb	13 51 32.1	
	comp=Z,4.5nm,0.9s						
XLT	**XiLinHaoTe**	**89.12**	**319**	*eP*	**P**	**13 51 32.5**	**+0.1**
TMUT	**Trail Mountain**	**89.44**	**46**	IAmb	IAmb	13 51 36.2	
	comp=Z,5.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**13 51 35.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.57**	**290**	P	**P**	**13 51 36.1**	**+1.1**
	comp=Z,5.3nm,0.9s,baz=134,slow=3.3,SNR=24						
	comp=Z,5.3nm,0.9s						
HVU	**Hansel Valley**	**89.73**	**44**	P	**P**	**13 51 35.1**	**-0.3**
SRU	**San Rafael Swe**	**89.80**	**47**	IAmb	IAmb	13 51 37.1	
	comp=Z,5.2nm,0.7s						
TXAR	**Lajitas Array**	**90.07**	**58**	P	**P**	**13 51 38.3**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=214,slow=6.5,SNR=25						
TXAR				PKKPbc	**PKKPbc**	**14 09 04.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=66,slow=4.3,SNR=4.3						
	comp=Z,1.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**90.28**	**315**	*eP*	**P**	**13 51 38.5**	**+0.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,74nm,5.2s						
BSUT	**Blindstream Ca**	**90.38**	**45**		**P**	**13 51 38.6**	**-0.1**
BSUT				IAmb	IAmb	13 51 40.1	
	comp=Z,6.0nm,0.8s						
PZH	**PanZhiHua**	**90.66**	**299**	P	**P**	**13 51 36.8**	**-3.2**
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
ILAR	**Eielson Array**	**91.62**	**13**	P	**P**	**13 51 41.7**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=211,slow=5.1,SNR=2.7						
ILAR				PKKPbc	**PKKPdf**	**14 08 59.0**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=14,slow=1.6,SNR=4.2						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**92.29**	**44**	P	**P**	**13 51 47.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=208,slow=5.0,SNR=7.3						
	comp=Z,0.7nm,0.6s						
DRIO	**Del Rio**	**92.50**	**59**	P	**P**	**13 51 47.1**	**-1.2**
DRIO				IAmb	IAmb	13 51 49.3	
	comp=Z,6.2nm,0.8s						
ZALV	**Zalesovo Beam**	**111.78**	**321**	PKiKP	**PKiKP**	**13 57 05.9**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=120,slow=1.1,SNR=4.8						
MKAR	**Makanchi Array**	**112.03**	**313**	PKiKP	**PKiKP**	**13 57 07.0**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=206,slow=0.7,SNR=21						
MKAR				PKKPab	**PKKPab**	**14 08 11.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=225,slow=0.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**115.10**	**316**	PKP	**PKPdf**	**13 57 12.2**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=116,slow=2.2,SNR=11						
BVAR	**Borovoye Array**	**120.28**	**319**	PKP	**PKPdf**	**13 57 22.7**	**-1.4**
	comp=Z,3.0nm,0.5s,baz=80,slow=1.8,SNR=12						
SPITS	**Spitsbergen Ar**	**124.75**	**356**	PKP	**PKPdf**	**13 57 30.9**	**-1.1**
	comp=Z,9.6nm,0.7s,baz=78,slow=7.8,SNR=4.3						
ARTI	**Arti**	**126.79**	**324**	PKP	**PKPdf**	**13 57 35.9**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=106,slow=4.1,SNR=6.6						
AKTO	**Aktyubinsk**	**128.15**	**317**	PKP	**PKPdf**	**13 57 38.9**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=59,slow=1.8,SNR=8.8						
ARCES	**ARCESS Array B**	**131.55**	**348**	PKP	**PKPdf**	**13 57 43.6**	**-1.5**
	comp=Z,2.7nm,0.6s,baz=22,slow=1.3,SNR=18						
LSZ	**Lusaka**	**132.72**	**219**	PKP	**PKPdf**	**13 57 49.5**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=90,slow=4.0,SNR=4.1						
FINES	**FINESS Array B**	**138.14**	**342**	PKhKP	PKPpre	13 57 46.4	
	comp=Z,1.0nm,0.6s,baz=63,slow=4.7,SNR=6.4						
FINES				PKP	**PKPdf**	**13 57 57.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=60,slow=3.4,SNR=7.2						
FINES				SKPbc	**SKPbc**	**14 00 40.2**	**-1.6**
	comp=Z,2.2nm,0.8s,baz=52,slow=3.1,SNR=5.6						
NB2	**NORSAR Subarra**	**141.73**	**351**	PKP	**PKPdf**	**13 57 58.7**	**-5.5**
	comp=Z,1.2nm,0.5s,baz=11,slow=3.1						
NOA	**NORSAR Array B**	**141.73**	**351**	PKhKP	PKPpre	13 57 58.5	
	comp=Z,2.4nm,0.7s,baz=16,slow=4.6,SNR=13						
HFS	**Hagfors**	**142.21**	**349**	PKhKP	PKPpre	13 57 59.9	
	comp=Z,10nm,0.5s,baz=45,slow=2.2,SNR=97						
AKASG	**Malin Array Be**	**144.75**	**328**	PKP	**PKPdf**	**13 58 08.7**	**-1.0**
	comp=Z,11nm,0.6s,baz=44,slow=4.1,SNR=64						
BRTR	**Keskin Array B**	**147.50**	**308**	PKPbc	**PKPbc**	**13 58 17.0**	**-1.3**
	comp=Z,4.5nm,0.6s,baz=140,slow=3.7,SNR=7.1						
MMAI	**Mount Meron Ar**	**147.71**	**295**	PKPbc	**PKPbc**	**13 58 19.4**	**+0.3**
	comp=Z,23nm,0.7s,baz=69,slow=4.7,SNR=28						
EKA	**Eskdalemuir Ar**	**148.13**	**4**	PKPbc	**PKPbc**	**13 58 17.9**	**-1.3**
	comp=Z,2.6nm,0.4s,baz=356,slow=2.6,SNR=7.1						
STEB	**Steborice**	**150.26**	**337**	*ePKP*	**PKPbc**	**13 58 24.3**	**-0.3**
STEB				*ePKPAB*	**PKPab**	**13 58 32.9**	**-0.2**
OSTC	**Ostas**	**150.27**	**339**	*ePKP*	**PKiKP**	**13 58 24.9**	**-0.2**
CHVC	**Chvalec**	**150.29**	**339**	*ePKP*	**PKPbc**	**13 58 24.5**	**-0.1**
UPC	**Upice**	**150.38**	**339**	*ePKP*	**PKPbc**	**13 58 24.7**	**-0.1**
DPC	**Dobruska-Polom**	**150.41**	**339**	*ePKP*	**PKPbc**	**13 58 24.9**	**-0.1**
KRLC	**Kraliky**	**150.49**	**338**	*ePKP*	**PKPbc**	**13 58 25.1**	**0.0**
MAUC	**Maruska**	**150.71**	**336**	*ePKP*	**PKiKP**	**13 58 26.0**	**-0.1**
PVCC	**Panska Ves**	**150.81**	**341**	*ePKP*	**PKPbc**	**13 58 25.7**	**-0.1**
HSKC	**Hora Svate Kat**	**151.06**	**342**	*ePKP*	**PKPbc**	**13 58 26.0**	**-0.4**
KHC	**Kasperske Hory**	**152.34**	**341**	*ePKP*	**PKPbc**	**13 58 29.0**	**-0.3**
KHC				*ex*	x	13 58 36.3	
KHC				*ePKPAB*	**PKPab**	**13 58 42.2**	**+0.2**

NOU ***27*** *13:39:34.5,23˚.46S×179˚.53W,h567km,mb4.6/50,South of Fiji Islands*
NEIC ***27*** *13:39:34.0±1.7,23˚.5S±0˚.1×179˚.6W±0˚.1,h537km±9km, mb4.6/43,Error ellipse: s-maj=17.2km s-min=15.4km az=123.0*
IDC ***27*** *13:39:34.5±1.3,23˚.41S×179˚.87W,h539km±13km, mb3.8/18,mbtmp4.7/20,Error ellipse: s-maj=11.6km s-min=10.9km az=90.0*
ISC 27 13:39:33.7±0.3,**23˚.52S**±0˚.05×**179˚.80W**±0˚.06,**h532**km,

BLY	**Banja Luka**	**3.62**	**53**	*ePn*	**Pn**	**13 19 47.4**	**+0.9**
A051A	**Mrakovica**	**3.62**	**48**	*ePn*	**Pn**	**13 19 46.3**	**-0.3**
CET2	**Cetraro**	**3.77**	**145**	AML	AML		
	comp=N,61μm,0.8s						
CET2				AML	AML		
	comp=E,50μm,0.7s						
TREB	**Trebinje**	**3.85**	**87**	*ePn*	**Pn**	**13 19 49.4**	**-0.2**
CANO	**Canovo, Maglio**	**3.89**	**295**	AML	AML		
	comp=E,84μm,0.8s						
CANO				AML	AML		
	comp=E,84μm,0.8s						
CANO				AML	AML		
	comp=N,50μm,0.4s						
MOSL	**Moslavina**	**3.96**	**40**	*ePn*	**Pn**	**13 19 49.8**	**-1.3**
HCY	**Herceg Novi**	**3.97**	**91**	⇓*iPn*	**Pn**	**13 19 51.1**	**-0.2**
HCY				*i* Sn	**Sn**	**13 20 38.1**	**+0.2**
BRY	**Bratogost**	**3.99**	**84**	⇓*iPn*	**Pn**	**13 19 51.4**	**-0.3**
BRY				*i* Sn	**Sn**	**13 20 38.9**	**+0.2**
OBKA	**Obir**	**4.00**	**14**	*i* Pn	**Pn**	**13 19 50.6**	**-1.3**
	comp=N,1.3nm,0.2s						
MYKA	**Terra Mystica**	**4.01**	**5**	*ePn*	**Pn**	**13 19 50.7**	**-1.2**
	comp=N,4.4nm,0.5s,SNR=6.2						
MYKA				*eSn*	**Sn**

CKRC	**Cesky Krumlov**	**152.39**	**340**	ℓ*e*PKP		**PKiKP**	**13 58 30.1**	**+0.5**
GERES	**GERESS Array B**	**152.56**	**340**	PKPbc		**PKPbc**	**13 58 28.7**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=29,slow=2.4,SNR=9.4							
MEM	**Membach**	**152.58**	**352**	*d*PKP		**PKPbc**	**13 58 29.2**	**-0.5**
BTNL	**Ternell**	**152.59**	**352**	*d*PKP		**PKPbc**	**13 58 29.4**	**-0.4**
DBIC	**Dimbokro**	**162.56**	**163**	PKPab		**PKPab**	**13 59 26.6**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=182,slow=4.5,SNR=3.0							
ESDC	**Sonseca Array**	**163.51**	**11**	PKPab		**PKPab**	**13 59 29.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=341,slow=5.8,SNR=4.9							
TORD	**Torodi Ar. Bea**	**169.59**	**188**	PKP		**PKPdf**	**13 58 38.8**	**-2.1**
	comp=Z,1.0nm,0.7s,baz=135,slow=1.5,SNR=7.8							
TORD				PKPab		**PKPab**	**13 59 57.7**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=168,slow=3.5,SNR=14							

IDC 27 14:08:33.7±1.4, 6°52.N×125°51.E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=60.2km s-min=9.5km az=93.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**0.55**	**7**	Pg	Pg	14 08 44.2	-0.1
	738nm,0.3s,baz=260,slow=4.9,SNR=53						
DAV				Lg	Lg	14 08 51.7	
	2µm,0.3s,baz=261,slow=22,SNR=14						
WRA	**Warramunga Arr**	**27.69**	**162**	P	P	14 14 23.7	-0.1
	0.1nm,0.3s,baz=329,slow=11,SNR=1.9						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**31.10**	**165**	P	P	14 14 53.7	-0.4
	0.1nm,0.3s,baz=341,slow=7.1,SNR=7.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.59**	**325**	P	P	14 18 04.8	+0.8
	0.2nm,0.5s,baz=118,slow=7.7,SNR=1.4						
	0.2nm,0.5s						

NIED 27 14:58:34.0, 37.46N×137.25E, h10km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.08; Mθθ-0.81; Mφφ-0.27; Mrθ0.84; Mθφ-2.92; Mrφ0.21; Fault plane solution: M₀3.06000×10¹⁴ NP1: φs183.00000°, δ71.00000°, λ6.00000°. NP2:φs91.00000°, δ85.00000°, λ161.00000°.

IDC 27 14:58:34.2±1.1, 37.25N×137.09E, h0km, mb3.5/4, mbtmp3.5/7, ML3.2/3 Error ellipse: s-maj=29.3km s-min=11.5km az=40.0

JMA 27 14:58:34.0±0.0, 37.5N±0.1×137.3E±0.2, h10km, MV3.8/20, NOTO PENINSULA REGION

JMA Felt III J1 at NOTO PENINSULA REGION .

ISC 27 14:58:34.7±1.0, 37.43N±0.04×137.27E±0.04, h6km±7km, n14, σ1§32/18, mb3.5/4, 7D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSZ	**Suzu**	**0.07**	**77**	⇓P	**Pg**	**14 58 36.5**	**0.0**
JSZ				⇓S	**Sg**	**14 58 38.4**	**+0.7**
JHG	**Hegura jima**	**0.50**	**326**	⇓*i*P	**Pg**	**14 58 43.3**	**-1.1**
JHG				⇓S	**Sg**	**14 58 50.0**	**-0.9**
JJH	**Hakui**	**0.64**	**218**	P	**Pg**	**14 58 46.6**	**-0.4**
JJN	**Nakama**	**0.78**	**114**	⇓*i*P	**Pb**	**14 58 50.0**	**-0.7**
JJN				⇓S	**Sb**	**14 59 01.3**	**-0.2**
JTT	**Ttatey**	**0.83**	**177**	⇓*i*P	**Pg**	**14 58 50.0**	**-0.5**
JSD	**Sado**	**0.99**	**52**	P	**Pg**	**14 58 52.0**	**-1.7**
JSD				*e*S	**Sg**	**14 59 05.3**	**-1.3**
MJAR	**Matsushiro Arr**	**1.16**	**140**	Pg	**Pb**	**14 58 56.6**	**-0.5**
	22nm,0.3s,baz=316,slow=16,SNR=801						
MJAR				LR	LR	14 59 05.0	
	comp=Z,22nm,21.4s,baz=344,slow=27						
MJAR				Lg	Lg	14 59 13.3	
	15nm,0.3s,baz=358,slow=32,SNR=13						
KSRS	**Korea Array**	**7.44**	**273**	Pn	**Pn**	**15 00 23.3**	**-0.4**
	0.3nm,0.3s,baz=88,slow=14,SNR=4.4						
	0.7nm,0.5s						
ASAJ	**Asahikawa**	**7.80**	**29**	Pn	**Pn**	**15 00 31.4**	**+2.7**
	0.5nm,0.3s,baz=198,slow=9.6,SNR=6.8						
	2.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**7.86**	**331**	Pn	**Pn**	**15 00 31.4**	**+1.9**
	0.3nm,0.3s,baz=136,slow=16,SNR=3.1						
	1.9nm,0.7s						
SONM	**Songino Array**	**24.83**	**305**	P	**P**	**15 03 58.1**	**+0.4**
	0.6nm,0.6s,baz=94,slow=9.0,SNR=3.6						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**57.13**	**183**	P	**P**	**15 08 20.6**	**-1.6**
	0.2nm,0.4s,baz=359,slow=7.6,SNR=5.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**60.85**	**184**	P	**P**	**15 08 47.2**	**-0.7**
	0.2nm,0.8s,baz=13,slow=12,SNR=4.1						
	0.2nm,0.8s						
FINES	**FINESS Array B**	**66.89**	**331**	P	**P**	**15 09 28.7**	**+1.4**
	1.6nm,0.9s,baz=27,slow=8.2,SNR=3.0						
	1.6nm,0.9s						

IDC 27 15:15:25.0±1.6, 0.13N×124.38E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=136.5km s-min=21.1km az=58.0

DJA 27 15:15:34.2±0.5, 1°S±2°×12°3E±°, h28km±5km, M4.2/17, mB4.7/1, mb4.3/5, MLv4.1/17, Mw(mB)4.0/1

ISC 27 15:15:34.5±0.9, 0.65S±0.06×123.37E±0.05, h54km, n17, σ1§11/22, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.71**	**237**	P	**Pn**	**15 15 47.3**	**-1.3**
LUWI				S	**Sn**	**15 15 58.1**	**-0.8**
KMSI	**Cibinong**	**1.36**	**27**	P	**Pn**	**15 15 57.7**	**+0.6**
APSI	**Ampana**	**1.74**	**261**	P	**Pn**	**15 16 02.2**	**-0.1**
MRSI	**Marisa**	**1.81**	**308**	P	**Pn**	**15 16 01.1**	**-2.2**
MRSI				S	**Sn**	**15 16 26.4**	**+1.2**
SANI	**Sanana**	**2.97**	**118**	P	**Pn**	**15 16 17.3**	**-1.8**
PCI	**Palu**	**3.54**	**266**	P	**Pn**	**15 16 28.0**	**+1.0**
TTSI	**Tana Toraja**	**4.27**	**236**	P	**Pn**	**15 16 38.2**	**+1.2**
TTSI				S	**Sn**	**15 17 25.3**	**-0.4**
NLAI	**Namlea**	**4.53**	**125**	P	**Pn**	**15 16 40.9**	**+0.3**
NLAI				S	**Sn**	**15 17 32.8**	**+0.8**
BBSI	**Bau Bau**	**4.88**	**189**	P	**Pn**	**15 16 46.6**	**+1.3**
BBSI				S	**Sn**	**15 17 40.4**	**-0.1**
SPSI	**Sidrap Palu**	**4.88**	**227**	P	**Pn**	**15 16 47.0**	**+1.7**
BNSI	**Bone**	**4.95**	**221**	P	**Pn**	**15 16 45.6**	**-0.8**
EDFI	**Ende, Flores**	**8.22**	**192**	P	**Pn**	**15 17 32.5**	**+1.2**
FAKI	**Fak Fak**	**9.16**	**104**	P	**Pn**	**15 17 44.4**	**+0.4**
WRA	**Warramunga Arr**	**21.98**	**151**	P	**P**	**15 20 23.4**	**-0.7**
	1.6nm,0.6s,baz=333,slow=9.9,SNR=14						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**25.06**	**157**	P	**P**	**15 20 54.0**	**0.0**
	0.6nm,0.4s,baz=340,slow=9.2,SNR=49						
ASAR				PcP	**PcP**	**15 24 26.7**	**-1.0**
	0.3nm,0.5s,baz=349,slow=2.3,SNR=6.9						
	0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.61**	**310**	P	**P**	**15 21 43.8**	**+0.1**
	0.6nm,0.5s,baz=130,slow=7.2,SNR=5.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.35**	**328**	P	P	15 25 28.3	-2.9
	0.2nm,0.3s,baz=124,slow=8.6,SNR=5.0						
	0.2nm,0.3s						

ISK 27 15:21:28.8, 35.80N×27.93E, h10km, ML3.2/19

ATH 27 15:21:28.6, 35.76N×27.96E, h7km±2km, ML3.1/6, Manual Solution by M.Papanikolaou First location: 2019/08/27 15:22:53, This location: 2019/08/27 16:28:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km

HLW 27 15:21:28.6, 35.83N×27.91E, h26km±6km, Md2.8, Ml3.0

AFAD 27 15:21:28.6, 35.80N×27.92E, h17km±1km, ML2.9

THE 27 15:21:29.3, 36°N±2°×2°8E±°, h8km±3km, M3.0/9, MLh3.0/9

ISC 27 15:21:28.1±1.1, 35.72N±0.03×27.93E±0.02, h7km±9km, n58, σ0§96/94, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.52**	**18**	Pg	**Pg**	**15 21 37.9**	**-0.2**
ARG				Sg	**Sg**	**15 21 44.9**	**0.0**
ARG	**Arkhangelos**	**0.52**	**18**	P	**Pg**	**15 21 37.9**	**-0.2**
ARG				S	**Sg**	**15 21 44.7**	**-0.2**
ARG	**Arkhangelos**	**0.52**	**18**	P	**Pg**	**15 21 37.9**	**-0.2**
ARG				S	**Sg**	**15 21 44.3**	**-0.6**
KARP	**Karpathos**	**0.65**	**255**	Pg	**Pn**	**15 21 42.6**	**-1.1**
KARP				Sg	**Sn**	**15 21 52.4**	**-1.8**
KARP	**Karpathos**	**0.65**	**255**	P	**Pb**	**15 21 41.9**	**+0.2**
KARP				S	**Sn**	**15 21 52.4**	**-1.8**
KARP	**Karpathos**	**0.65**	**255**	P	**Pb**	**15 21 41.7**	**0.0**
KARP				S	**Sb**	**15 21 51.3**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.03**	**338**	P	**Pg**	**15 21 47.6**	**-0.3**
YAZI				S	**Sb**	**15 22 02.5**	**+0.5**
YAZI				*i* IAML		15 22 03.0	
	comp=E,551nm,0.4s						
YAZI				*i* IAML		15 22 04.0	
	comp=N,495nm,0.4s						
DAT	**Datca**	**1.04**	**344**	Pg	**Pg**	**15 21 47.7**	**-0.4**
DAT				Sg	**Sg**	**15 22 02.1**	**+0.4**
DAT	**Datca**	**1.04**	**344**	P	**Pg**	**15 21 47.9**	**-0.2**
DAT				S	**Sb**	**15 22 02.4**	**-0.1**
DATC	**Datca-Mugla**	**1.06**	**348**	Pg	**Pg**	**15 21 48.4**	**0.0**
DATC				Sg	**Sg**	**15 22 02.3**	**+0.2**
TURN	**Turunc**	**1.08**	**14**	P	**Pg**	**15 21 47.9**	**-1.0**
TURN				S	**Sg**	**15 22 06.2**	**-0.3**
TURN				*i* IAML		15 22 07.0	
	comp=E,335nm,0.3s						
TURN				*i* IAML		15 22 08.0	
	comp=N,328nm,0.3s						
IZZE	**Mula-Seydike**	**1.27**	**55**	P	**Pn**	**15 21 51.6**	**-0.6**
IZZE				S	**Sn**	**15 22 11.4**	**+1.9**
IZZE				*i* IAML		15 22 19.0	
	comp=N,516nm,0.4s						
IZZE				*i* IAML		15 22 21.0	
	comp=E,332nm,0.4s						
SABU	**Mula-Dalaman**	**1.38**	**37**	P	**Pn**	**15 21 53.5**	**-0.4**
SABU				S	**Sb**	**15 22 12.4**	**+0.3**
SABU				*i* IAML		15 22 18.0	
	comp=E,207nm,0.7s						
SABU				*i* IAML		15 22 24.0	
	comp=N,342nm,0.7s						
BDRM	**Kayabasi**	**1.40**	**344**	P	**Pn**	**15 21 53.5**	**-0.5**
BDRM				S	**Sb**	**15 22 11.3**	**-1.2**
BDRM				*i* IAML		15 22 16.0	
	comp=E,549nm,0.3s						
KSL	**Kastellorizon**	**1.41**	**72**	P	**Pn**	**15 21 54.2**	**+0.1**
KSL				S	**Sb**	**15 22 13.0**	**+0.1**
KSL	**Kastellorizon**	**1.41**	**72**	P	**Pn**	**15 21 54.2**	**+0.1**
KSL				S	**Sb**	**15 22 12.6**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.49**	**340**	Pn	**Pn**	**15 21 55.6**	**+0.3**
YKAV				Sn	**Sn**	**15 22 14.6**	**-0.5**
ASTA	**Astypalaia**	**1.52**	**303**	P	**Pn**	**15 21 55.1**	**-0.5**
ZKR	**Zakros**	**1.52**	**247**	Pn	**Pg**	**15 21 57.4**	**+0.1**
ZKR				Sn	**Sg**	**15 22 18.3**	**+1.2**
ZKR	**Zakros**	**1.52**	**247**	P	**Pg**	**15 21 58.1**	**+0.8**
ZKR	**Zakros**	**1.52**	**247**	P	**Pg**	**15 21 56.9**	**-0.4**
ZKR				S	**Sg**	**15 22 17.8**	**+0.7**
MULA	**Mugla, Merkez-**	**1.56**	**12**	P	**Pn**	**15 21 57.0**	**+0.6**
MULA				S	**Sn**	**15 22 16.1**	**-0.8**
MULA				*i* IAML		15 22 22.0	
	comp=N,83nm,0.4s						
MULA				*i* IAML		15 22 22.0	
	comp=E,167nm,0.4s						
CAME	**Cameli-Denizli**	**1.65**	**42**	Pn	**Pn**	**15 21 57.9**	**+0.3**
KNIK	**Mula-Seydike**	**1.74**	**49**	P	**Pn**	**15 21 59.3**	**+0.5**
KNIK				S	**Sb**	**15 22 23.1**	**+0.6**
KNIK				*i* IAML		15 22 37.0	
	comp=E,92nm,0.6s						
DNZT	**Denizli-Tavas-**	**1.79**	**29**	P	**Pn**	**15 22 00.1**	**+0.7**
DNZT				S	**Sg**	**15 22 27.8**	**+2.3**
DNZT				*i* IAML		15 22 36.0	
	comp=N,96nm,0.5s						
DNZT				*i* IAML		15 22 38.0	
	comp=E,51nm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.91**	**24**	P	**Pn**	**15 22 02.2**	**+1.0**
TAVA				S	**Sg**	**15 22 29.7**	**+0.1**
TAVA				*i* IAML		15 22 34.0	
	comp=N,172nm,0.8s						
TAVA				*i* IAML		15 22 38.0	
	comp=E,152nm,0.5s						
AYDN	**Tasoluk**	**1.94**	**359**	P	**Pn**	**15 22 01.8**	**+0.3**
AYDN				S	**Sn**	**15 22 27.0**	**+1.0**
AYDN				*i* IAML		15 22 32.0	
	comp=N,164nm,0.4s						
AYDN				*i* IAML		15 22 34.0	
	comp=E,175nm,0.5s						
NPS	**Neapolis**	**1.94**	**257**	P	**Pb**	**15 22 02.9**	**-0.9**
NPS				S	**Sb**	**15 22 28.1**	**-0.2**
NPS	**Neapolis**	**1.94**	**257**	P	**Pb**	**15 22 02.9**	**-0.9**
GOLH	**Golhisar**	**2.00**	**41**	P	**Pb**	**15 22 04.1**	**-0.8**
GOLH				S	**Sb**	**15 22 31.0**	**+0.9**
GOLH				*i* IAML		15 22 42.0	
	comp=E,143nm,0.4s						
GOLH				*i* IAML		15 22 43.0	
	comp=N,157nm,0.6s						
GCAM	**G?zelcaml?**	**2.05**	**344**	P	**Pn**	**15 22 03.9**	**+0.9**
GCAM				S	**Sb**	**15 22 31.5**	**+0.1**
GCAM				*i* IAML		15 22 41.0	
	comp=N,98nm,0.5s						
GCAM				*i* IAML		15 22 41.0	
	comp=E,82nm,0.6s						
APMY	**Acipayam-Deniz**	**2.07**	**32**	Pn	**Pn**	**15 22 03.6**	**+0.3**
APMY				Sn	**Sn**	**15 22 28.9**	**-0.4**
THERA	**Ancient Thera,**	**2.09**	**289**	P	**Pn**	**15 22 03.6**	**+0.1**
THERA				S	**Sn**	**15 22 29.8**	**+0.1**
THERA	**Ancient Thera,**	**2.09**	**289**	P	**Pn**	**15 22 03.6**	**+0.1**
DNIZ	**Denizli-Tavas-**	**2.10**	**25**	P	**Pn**	**15 22 04.8**	**+1.1**
DNIZ				S	**Sg**	**15 22 35.8**	**+0.2**
ESEN	**Aydn-Nazilli**	**2.10**	**9**	P	**Pn**	**15 22 04.5**	**+0.9**
ESEN				S	**Sb**	**15 22 32.4**	**-0.3**
ESEN				*i* IAML		15 22 40.0	
	comp=N,62nm,0.3s						
ESEN				*i* IAML		15 22 44.0	
	comp=E,60nm,0.5s						
THR6	**Thira Island,**	**2.15**	**288**	P	**Pn**	**15 22 04.8**	**+0.6**
THR3	**Thira Island,**	**2.16**	**289**	P	**Pn**	**15 22 04.8**	**+0.3**
SNT5	**Nea Kammeni, S**	**2.16**	**289**	P	**Pn**	**15 22 04.2**	**-0.2**
SMG	**Samos**	**2.17**	**336**	P	**Pn**	**15 22 04.6**	**+0.1**
SMG				S	**Sn**	**15 22 32.1**	**+0.3**
SMG	**Samos**	**2.17**	**336**	P	**Pn**	**15 22 04.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.22**	**359**	Pn	**Pn**	**15 22 05.4**	**0.0**
NAZL	**Nazilli-Aydin**	**2.26**	**7**	Pn	**Pn**	**15 22 06.6**	**+0.8**
IZMR	**zmir-demi**	**2.41**	**0**	P	**Pn**	**15 22 08.0**	**+0.1**
IZMR				S	**Sb**	**15 22 41.2**	**-0.5**
IZMR				*i* IAML		15 22 51.0	
	comp=E,71nm,0.6s						
IZMR				*i* IAML		15 22 53.0	
	comp=N,60nm,0.6s						
KIRA	**zmir-Kiraz**	**2.50**	**9**	P	**Pn**	**15 22 10.2**	**+1.0**
KIRA				*i* IAML		15 22 57.0	
	comp=E,34nm,0.8s						
KIRA				*i* IAML		15 23 00.0	
	comp=N,38nm,0.6s						
IDI	**Anoyia**	**2.52**	**261**	Pn	**Pn**	**15 22 10.6**	**+1.2**
IDI				Sn	**Sb**	**15 22 42.3**	**-2.5**
IDI	**Anoyia**	**2.52**	**261**	P	**Pn**	**15 22 10.0**	**+0.6**
IDI				S	**Sn**	**15 22 42.0**	**+1.7**
IDI	**Anoyia**	**2.52**	**261**	P	**Pn**	**15 22 10.4**	**+1.0**
ODEM	**Odemis-Izmir**	**2.55**	**3**	Pn	**Pn**	**15 22 09.9**	**0.0**
BLCB	**Balcova**	**2.75**	**345**	Pn	**Pn**	**15 22 12.9**	**+0.3**
BASM	**Basmaki-Afyon**	**2.78**	**37**	Pn	**Pn**	**15 22 13.5**	**+0.5**
CHOS	**Chios island**	**3.05**	**331**	Pn	**Pn**	**15 22 17.1**	**+0.3**
GVD	**Gavdhos**	**3.26**	**255**	Pn	**Pn**	**15 22 22.3**	**+2.7**
KNDR	**Palaiochora Ch**	**3.50**	**263**	Pn	**Pn**	**15 22 25.7**	**+2.9**
KTHA	**Kythira Island**	**3.98**	**279**	Pn	**Pn**	**15 22 30.3**	**+0.8**
ITM	**Ithomi**	**5.05**	**288**	Pn	**Pn**	**15 22 47.0**	**+2.8**
SWA2		**6.79**	**199**	P	**Pn**	**15 23 08.0**	**-0.1**
SWA2				S	**Sn**	**15 24 22.8**	**-2.9**
RYAN	**Fayoum**	**6.91**	**163**	P	**Pn**	**15 23 09.9**	**+0.2**

IDC 27 15:37:12.6±1.5, 1.63N×67.98E, h0km, mb3.8/10, mbtmp3.8/10, MS3.5/1, Error ellipse: s-maj=50.6km s-min=25.0km az=50.0

ISC 27 15:37:14.1±1.6, 1.6N±0.3×68.0E±0.3, h10km, n15, σ0§85/11, mb3.9/10, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**43.69**	**319**	LR	LR	16 02 25.9	
	comp=Z,55nm,19.2s,baz=97,slow=35						
MKAR	**Makanchi Array**	**46.69**	**14**	P	**P**	**15 45 42.1**	**-0.9**
	0.4nm,0.8s,baz=193,slow=5.9,SNR=4.0						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**49.11**	**325**	P	**P**	**15 46 03.3**	**+1.2**
	0.6nm,0.6s,baz=134,slow=8.3,SNR=3.7						
	0.6nm,0.6s						
AKTO	**Aktyubinsk**	**49.36**	**352**	P	**P**	**15 46 03.6**	**0.0**
	1.0nm,0.6s,baz=181,slow=7.0,SNR=4.7						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**49.63**	**9**	P	**P**	**15 46 06.6**	**+0.9**
	0.2nm,0.4s,baz=206,slow=7.6,SNR=2.1						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**53.97**	**12**	P	**P**	**15 46 37.7**	**-0.3**
	1.2nm,0.5s,baz=207,slow=6.0,SNR=5.9						
	1.2nm,0.5s						
H01W3	**Cape Leeuwin H**	**56.42**	**135**	T	T	16 47 22.3	
	baz=300,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**56.43**	**135**	T	T	16 47 22.0	
	baz=300,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**56.44**	**135**	T	T	16 47 22.3	
	baz=300,slow=75,SNR=9.4						
SONM	**Songino Array**	**56.74**	**30**	P	**P**	**15 46 58.7**	**+0.4**
	0.9nm,0.8s,baz=211,slow=8.1,SNR=4.1						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**58.83**	**332**	P	**P**	**15 47 11.3**	**-1.4**
	0.1nm,0.3s,baz=130,slow=5.8,SNR=2.2						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**68.44**	**112**	P	**P**	**15 48 17.2**	**+0.3**
	1.3nm,0.8s,baz=272,slow=6.5,SNR=2.6						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**68.75**	**116**	P	**P**	**15 48 18.5**	**-0.3**
	1.2nm,0.7s,baz=294,slow=6.0,SNR=3.1						
	1.2nm,0.7s						
HFS	**Hagfors**	**71.55**	**335**	P	**P**	**15 48 35.1**	**-0.1**
	1.5nm,0.6s,baz=107,slow=8.0,SNR=5.3						
	1.5nm,0.6s						
TXAR	**Lajitas Array**	**148.19**	**346**	PKPbc	**PKPbc**	**15 57 01.1**	**-0.1**
	0.8nm,0.7s,baz=19,slow=4.1,SNR=9.0						

BJI 27 15:37:56.4, 19.93S×177.38W, h494km, mB4.8/5, mb4.7/32

NEIC 27 15:37:57.5±2.4, 20.30S±0.10×177.6W±0.1, h501km±8km, mb4.5/187, Error ellipse: s-maj=15.6km s-min=13.6km az=127.0

NOU 27 15:37:57.6, 20.38S×177.50W, h504km, mb4.9/82, Fiji Islands Region

IDC 27 15:37:59.5±0.6, 20.26S×177.75W, h514km±6km, mb4.1/19, mbtmp4.9/20, Error ellipse: s-maj=12.5km s-min=10.2km az=99.0

ISC 27 15:37:58.3±0.4, 20°38S±0.05×177°59W±0.05, h509km±4km, h510km:pP-P, n606, σ0§88/554, mb4.6/142, 39C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**2.42**	**331**	P	**P**	**15 39 06.1**	**-0.4**
TAVE	**Taveuni**	**4.26**	**329**	P	**P**	**15 39 19.5**	**0.0**
DGTI	**Dogotuki**	**4.78**	**328**	P	**P**	**15 39 23.4**	**-0.6**
DGTI	**Dogotuki**	**4.78**	**328**	S	**S**	**15 40 33.9**	**+0.2**
MSVF	**Nonsavu**	**4.89**	**302**		**P**	**15 39 24.6**	**-0.4**
MSVF	**Nonsavu**	**4.89**	**302**	P	**P**	**15 39 24.8**	**-0.1**
MSVF	**Nonsavu**	**4.89**	**302**	S	**S**	**15 40 36.0**	**+0.4**
YSA	**Yasawairara**	**5.86**	**308**	P	**P**	**15 39 33.1**	**-0.7**
YSA	**Yasawairara**	**5.86**	**308**	S	**S**	**15 40 52.3**	**+0.6**
FUTU	**Fugatoga**	**6.05**	**355**		**P**	**15 39 34.3**	**-1.4**
FUTU	**Fugatoga**	**6.05**	**355**	P	**P**	**15 39 35.1**	**-0.6**
FUTU	**Fugatoga**	**6.05**	**355**	P	**S**	**15 40 54.8**	**-0.3**
NIUE	**Niue**	**7.33**	**81**	P	**P**	**15 39 47.4**	**-0.8**
NIUE	**Niue**	**7.33**	**81**	P	**P**	**15 39 47.1**	**-1.1**
NIUE	**Niue**	**7.33**	**81**	P	**S**	**15 41 16.2**	**-2.0**
NIUE	**Niue**	**7.33**	**81**	P	**P**	**15 39 47.7**	**-0.5**
NIUE				S	**S**	**15 41 23.2**	**+5.0**
AFI	**Afiamalu**	**8.50**	**42**	P	**P**	**15 39 56.0**	**-4.2**
AFI	**Afiamalu**	**8.50**	**42**	P	**P**	**15 39 56.5**	**-3.7**
RIZ	**Raoul Island**	**8.84**	**182**	P	**P**	**15 40 02.2**	**-1.3**
RAO	**Raoul Island**	**8.84**	**182**	P	**P**	**15 40 02.1**	**-1.4**
	279nm,0.3s,baz=228,slow=23,SNR=7.4						
RAO				S	**S**	**15 41 44.8**	**-1.6**
	344nm,0.4s,baz=228,slow=22,SNR=5.8						
RAO	**Raoul Island**	**8.84**	**182**	P	**P**	**15 40 02.3**	**-1.2**
RAO	**Raoul Island**	**8.84**	**182**	S	**S**	**15 41 45.4**	**-1.0**
RAO	**Raoul Island**	**8.84**	**182**	P	**P**	**15 40 02.1**	**-1.4**
GLKZ	**Green Lake**	**8.85**	**182**	P	**P**	**15 40 02.1**	**-1.5**
GLKZ				S	**S**	**15 41 43.3**	**-3.2**
FUNA	**Funafuti**	**12.18**	**345**		**P**	**15 40 36.1**	**-2.8**
DVP	**Devils Point**	**13.70**	**279**	P	**P**	**15 40 55.7**	**+0.9**
PINNC	**Pines Island,**	**14.10**	**258**		**P**	**15 40 59.0**	**0.0**
PINNC	**Pines Island,**	**14.10**	**258**	P	**P**	**15 40 59.8**	**+0.8**
OUENC	**Ouen Island, N**	**14.64**	**259**	P	**P**	**15 41 04.7**	**+0.1**
DZM	**Mont Dzumac**	**14.98**	**261**		**P**	**15 41 07.8**	**-0.5**
DZM	**Mont Dzumac**	**14.98**	**261**	P	**P**	**15 41 07.9**	**-0.4**
	30nm,0.5s						
DZM	**Mont Dzumac**	**14.98**	**261**	P	**P**	**15 41 08.0**	**-0.4**
ONTNC	**Ouen Toro**	**14.99**	**260**	P	**P**	**15 41 07.5**	**-0.8**
ONTNC	**Ouen Toro**	**14.99**	**260**	P	**P**	**15 41 08.1**	**-0.2**
SANVU	**Saraoutou**	**15.28**	**286**	P	**P**	**15 41 11.8**	**+0.5**
OUZ	**Omahuta**	**16.70**	**206**	P	**P**	**15 41 26.4**	**+0.6**
OUZ	**Omahuta**	**16.70**	**206**	P	**P**	**15 41 25.9**	**0.0**
GRZ	**Great Barrier**	**16.95**	**200**	P	**P**	**15 41 29.9**	**+1.7**
WCZ	**Waipu Caves**	**17.05**	**203**	P	**P**	**15 41 31.1**	**+1.9**
KUZ	**Kuaotunu**	**17.33**	**198**	P	**P**	**15 41 32.3**	**+0.5**
KUZ	**Kuaotunu**	**17.33**	**198**	P	**P**	**15 41 31.6**	**-0.3**
MXZ	**Matakaoa Point**	**17.

PMG Port Moresby 35.69 283 P P 15 44 13.5 -0.1
MTSU Mount Surprise 35.98 267 P P 15 44 15.9 -0.1
TOO Toolangi 36.28 234 P 15 44 18.0 -0.3
TOO IAmb IAmb 15 44 19.2
comp=Z,13nm,0.8s
COEN Coen 37.96 273 P 15 44 30.8 -1.5
COEN IAmb IAmb 15 44 32.8
comp=Z,17nm,0.7s
COEN Coen 37.96 273 P P 15 44 32.3 0.0
STKA Stephens Creek 38.19 244 P 15 44 33.6 -0.4
STKA Stephens Creek 38.19 244 P P 15 44 34.1 +0.1
comp=Z,38nm,0.8s,baz=91,slow=9.9,SNR=87
comp=Z,38nm,0.8s
STKA Stephens Creek 38.19 244 P P 15 44 34.3 +0.4
INKA Innaminka 38.60 251 P P 15 44 37.2 -0.1
INKA IAmb IAmb 15 44 39.0
comp=Z,23nm,0.8s
QIS Mount Isa 40.02 262 P P 15 44 49.5 +0.6
HTT Hallett 40.62 242 P P 15 44 53.7 +0.1
BBOO Buckleboo 42.95 243 P P 15 45 11.3 -0.6
BBOO Buckleboo 42.95 243 P P 15 45 11.7 -0.3
GENI Genyem 44.81 288 P P 15 45 27.1 +0.4
comp=Z,71nm,0.8s
AS01 Alice Springs 44.88 257 P P 15 45 26.6 -0.6
ASAR Alice Springs 44.92 257 P P 15 45 27.0 -0.5
ASAR Alice Springs 44.92 257 P P 15 45 26.9 -0.5
comp=Z,114nm,0.8s,baz=99,slow=7.8,SNR=1621
ASAR PcP PcP 15 46 58.0 -0.2
comp=Z,7.9nm,0.8s,baz=100,slow=3.9,SNR=7.0
comp=Z,114nm,0.8s
WB0 Warramunga Arr 44.98 262 P P 15 45 26.9 -1.1
WRAB Tennant Creek 44.99 262 P P 15 45 26.7 -1.3
WRA Warramunga Arr 45.00 262 P P 15 45 26.9 -1.2
comp=Z,18nm,0.5s,baz=98,slow=8.6,SNR=167
WRA PcP PcP 15 46 58.6 +0.1
comp=Z,2.5nm,0.8s,baz=106,slow=3.9,SNR=4.6
comp=Z,18nm,0.5s
MLH Mauna Loa 45.20 30 P P 15 45 27.4 -2.4
KDU Kakadu 48.33 271 P P 15 45 52.8 -0.6
MTN Manton Dam 49.54 270 P P 15 46 01.8 -0.6
DRS Darwin Rock St 49.88 271 P P 15 46 04.3 -0.5
GUMO Guam 50.02 309 P P 15 46 05.3 -0.5
comp=Z,21nm,0.6s,baz=155,slow=12,SNR=4.2
comp=Z,21nm,0.6s
KNRA Kununurra 51.05 266 P P 15 46 12.6 -0.8
KNRA IAmb IAmb 15 46 13.6
comp=Z,33nm,0.7s
SWI Sorong 53.58 285 P P 15 46 31.4 -0.3
comp=Z,856nmcomp=Z,101nm,0.8s
SOEI Soe 56.88 272 P P 15 46 55.8 +0.9
SOEI Soe 56.88 272 P P 15 46 55.7 +0.9
BATI Baumata 57.31 271 P P 15 46 58.8 +1.1
comp=Z,77nm,0.9s
SBA Scott Base 58.02 184 P P 15 47 03.7 +2.3
SBA IAmb IAmb 15 47 05.6
comp=Z,41nm,1.1s
VNDA Vanda 58.07 185 P P 15 47 03.2 +1.5
VNDA IAmb IAmb 15 47 04.9
comp=Z,28nm,1.4s
VNDA Vanda 58.07 185 P P 15 47 03.8 +2.1
comp=Z,11nm,1.0s,baz=356,slow=7.7,SNR=31
comp=Z,11nm,1.0s
PSA00 Pilbara Seismi 58.07 257 P 15 47 01.5 -1.2
PSA00 IAmb IAmb 15 47 02.8
comp=Z,41nm,0.8s
PSA00 Pilbara Seismi 58.07 257 IAmb IAmb 15 47 02.8
comp=Z,82nm,0.8s
PSA00 Pilbara Seismi 58.07 257 P P 15 47 02.5 -0.2
MBWA Marble Bar 58.25 257 P P 15 47 02.9 -1.0
MBWA Marble Bar 58.25 257 P P 15 47 03.8 -0.2
MEEK Meekatharra 58.32 251 P P 15 47 03.5 -0.9
NWAO Narrogin (SRO) 58.77 243 P P 15 47 06.7 -0.5
NWAO Narrogin (SRO) 58.77 243 P P 15 47 07.3 0.0
MMRI Maumere 59.13 272 P P 15 47 07.7 -2.3
comp=Z,79nm,1.0s
BLDU Balldiu 59.45 246 P P 15 47 11.4 -0.5
EDFI Ende, Flores 59.61 272 P P 15 47 12.2 -1.1
comp=Z,61nm,0.9s
MUN Mundaring 59.72 244 P P 15 47 14.0 +0.3
MORW Morawa 60.23 248 P P 15 47 16.3 -0.8
MORW Morawa 60.23 248 P P 15 47 16.6 -0.5
WSI Waingapu 60.63 270 P P 15 47 19.9 -0.1
WBSI Waikabubak, Su 61.49 270 P P 15 47 25.0 -0.7
comp=Z,65nm,0.9s
PLAI Plampang 63.26 270 P P 15 47 38.0 +0.9
PLAI Plampang 63.26 270 P P 15 47 36.4 -0.7
comp=Z,1µmcomp=Z,145nm,1.0s
CASY Casey 64.24 205 P P 15 47 42.6 +0.2
JAGI Jajag, Banyuwa 66.77 269 P P 15 47 57.7 -1.6
JAGI Jajag, Banyuwa 66.77 269 P P 15 47 57.7 -1.6
comp=Z,91nm,0.9s
MYLDM Lahad Datu 67.67 285 P P 15 48 05.0 +0.2
PCJI Pacitan 69.64 269 P P 15 48 16.5 -0.3
QSPA South Pole Qui 69.69 180 P P 15 48 18.6 +2.3
QSPA South Pole Qui 69.69 180 P P 15 48 18.8 +2.6
comp=Z,50nm,0.8s,baz=16,slow=0.8,SNR=259
comp=Z,50nm,0.8s
MJAR Matsushiro Arr 70.34 323 P 15 48 19.5 -0.9
MJAR Matsushiro Arr 70.34 323 P P 15 48 19.8 -0.6
comp=Z,7.0nm,0.7s,baz=155,slow=5.7,SNR=20
comp=Z,7.0nm,0.7s
MAJO Matsushiro 70.34 323 P P 15 48 19.3 -1.1
MAJO IAmb IAmb 15 48 20.5
comp=Z,9.5nm,0.8s
MJB9 Matsu-Tunnel 70.34 323 IAmb IAmb 15 48 21.9
comp=Z,9.2nm,0.7s
UGM Wanagama 70.35 269 P P 15 48 21.6 +0.6
ADK Adak 71.95 1 P P 15 48 29.0 -0.5
KPJI Karang Pucung 72.03 269 P P 15 48 30.4 -0.4
comp=Z,50nm,1.3s
STKI Sintang 72.17 277 P P 15 48 31.4 -0.3
comp=Z,52nm,1.0s
NIKH Nikolski High 73.43 6 P 15 48 36.6 -1.4
NIKH Nikolski High 73.43 6 P P 15 48 37.4 -0.6
NIKH Nikolski High 73.43 6 P P 15 48 36.5 -1.4
baz=188
KSM Kuching 73.77 278 P P 15 48 40.4 -0.5
JKA Kamikawa-asahi 73.80 331 P 15 48 41.1 +0.8
JKA IAmb IAmb 15 48 42.4
comp=Z,20nm,0.8s
TPUB Ta-pu 74.23 303 P 15 48 41.6 -1.7
DBJI Dramaga 74.33 269 P P 15 48 43.2 -0.9
comp=Z,4µmcomp=Z,116nm,1.0s
UNV Unalaska Valle 74.53 7 P P 15 48 42.9 -1.3
baz=191
CGJI Cibinong 75.30 268 P P 15 48 48.3 -1.2
YSS Yuzhno-Sakhali 75.95 333 P 15 48 52.3 0.0
YSS IAmb IAmb 15 48 54.6
comp=Z,20nm,0.8s
PETK Petropavlovsk- 76.25 345 P P 15 48 52.8 -1.1
PETK Petropavlovsk- 76.25 345 P P 15 48 53.0 -0.8
comp=Z,8.6nm,0.7s,baz=112,slow=6.2,SNR=25
comp=Z,8.6nm,0.7s
CHNA Chernabura Isl 76.47 11 P P 15 48 54.5 -0.5
CHNA Chernabura Isl 76.47 11 P P 15 48 53.9 -1.0
baz=197
KASI Kota Agung 76.78 269 P P 15 48 56.5 -1.2
comp=Z,70nm,0.9s
SDPT Sand Point 76.82 10 P P 15 48 55.5 -1.3
baz=196
KSRS Korea Array 77.05 318 P P 15 48 59.1 +0.6
comp=Z,2.1nm,0.6s,baz=146,slow=7.0,SNR=12
comp=Z,2.1nm,0.6s
LWLI Liwa 77.36 269 P P 15 49 00.5 -0.5
MDSI Maura Dua 77.43 270 P P 15 48 59.8 -1.4
comp=Z,62nm,0.9s
SAO San Andreas Ge 77.67 43 IAmb IAmb 15 49 04.5
comp=Z,12nm,0.8s
S14K Fog Glacier 77.87 10 P P 15 49 01.7 -1.0
baz=197
CHGN Chignik 78.08 11 P P 15 49 03.2 -0.5
baz=198
CHIR Chirikof Islan 78.15 12 P P 15 49 03.6 -0.5
CHIR Chirikof Islan 78.15 12 P P 15 49 03.6 -0.5
baz=201
LHSI Lahat 78.26 270 P P 15 49 05.5 -0.2
comp=Z,3µmcomp=Z,48nm,1.0s
MNRC McLaughlin Min 78.34 41 IAmb IAmb 15 49 08.5
comp=Z,18nm,1.1s
KMRM Mail Ridge 78.42 39 P 15 49 06.3 +0.3
KMRM IAmb IAmb 15 49 08.5
comp=Z,25nm,0.8s
MNAI Manna 78.62 270 P P 15 49 07.8 +0.2
TPO Tropico Hills 78.69 46 IAmb IAmb 15 49 09.6
comp=Z,10nm,0.8s

O02D Mt. Diablo Mer 78.94 40 IAmb IAmb 15 49 11.8
comp=Z,14nm,1.1s
USA0B Ussuriysk Arra 79.08 326 IAmb IAmb 15 49 11.7
comp=Z,16nm,0.9s
USRK Ussuriysk Ar. 79.08 326 P P 15 49 09.9 +0.6
USRK Ussuriysk Ar. 79.08 326 P P 15 49 10.7 +1.3
comp=Z,12nm,0.7s,baz=133,slow=2.6,SNR=24
comp=Z,12nm,0.7s
SII Sitkinak Islan 79.14 13 P P 15 49 09.6 +0.2
SII Sitkinak Islan 79.14 13 P P 15 49 08.9 -0.5
baz=202
KSI Kapahiang 79.20 270 P P 15 49 10.2 -0.6
AFDM Forest Hills D 79.29 42 P 15 49 10.9 +0.2
BELA Belgrano 2 79.63 173 P P 15 49 11.7 -0.2
BELA IAmb IAmb 15 49 13.2
comp=Z,31nm,0.8s
R17L Mt. Peulik Vol 79.71 11 P P 15 49 12.1 -0.3
baz=200
PLK4 Peulik 4 79.71 11 IAmb IAmb 15 49 14.3
comp=Z,19nm,0.7s
BELC Belle Mtn. Jos 79.74 48 IAmb IAmb 15 49 15.2
comp=Z,6.4nm,0.6s
OHAK Old Harbor 79.94 13 P P 15 49 13.0 -0.6
OHAK Old Harbor 79.94 13 P P 15 49 13.3 -0.2
baz=203
YBH Yreka Blue Hor 79.95 38 P 15 49 15.2 +1.0
YBH IAmb IAmb 15 49 16.4
comp=Z,9.0nm,0.6s
WAKR Walker 79.99 43 P P 15 49 14.8 +0.2
R18K Kariluk 80.02 12 P P 15 49 13.4 -0.5
baz=202
MPK Martis Peak 80.08 42 IAmb IAmb 15 49 17.1
comp=Z,21nm,1.2s
NJ2 Nanjing 80.09 309 eP P 15 49 15.0 0.0
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
Q17K Contact Creek 80.39 11 P P 15 49 15.3 -0.8
baz=201
O15K Ungalikthiuk R 80.60 9 P P 15 49 16.3 -0.7
baz=197
KDAK Kodiak Island 80.61 13 P P 15 49 16.6 -0.4
baz=204
MDJ Mudanjiang 80.64 325 P P 15 49 17.0 -0.5
MDJ S SKSac 15 58 47.0 +0.1
MDJ pmax pmax
comp=Z,17nm,1.7s
Q16K King Salmon 80.64 11 P P 15 49 16.7 -0.5
baz=200
NVAR Mina Array Bea 80.67 43 P P 15 49 17.9 -0.3
NVAR Mina Array Bea 80.67 43 P P 15 49 19.4 +1.2
comp=Z,3.9nm,0.7s,baz=225,slow=8.6,SNR=25
comp=Z,3.9nm,0.7s
P16K Nushagak River 80.75 10 P P 15 49 17.2 -0.6
baz=199
Q18K Katmai Hardscr 80.92 12 P P 15 49 18.2 -0.6
baz=201,SNR=7.1
M11K Mekoryuk 81.00 6 P P 15 49 18.7 -0.3
baz=191
N14K Kuskokwak Cree 81.06 8 P P 15 49 18.8 -0.5
baz=195
P17K Kvichak River 81.17 11 P P 15 49 19.2 -0.7
baz=200,SNR=6.5
TPH Tonopah 81.17 44 IAmb IAmb 15 49 23.0
comp=Z,6.4nm,0.7s
J04A Umpqua Nationa 81.24 38 IAmb IAmb 15 49 23.0
comp=Z,22nm,0.7s
O16K Kokwok River B 81.27 10 IAmb IAmb 15 49 20.0
comp=Z,17nm,1.1s
O16K Kokwok River B 81.27 10 P P 15 49 19.1 -1.3
baz=198
M13K Dall Lake 81.33 7 P P 15 49 19.9 -0.8
baz=194
N15K Kwethluk River 81.51 9 P P 15 49 21.4 -0.3
baz=197
P18K Big Mountain, 81.57 11 P P 15 49 21.1 -0.9
baz=201
K05A Summer Lake 81.63 38 IAmb IAmb 15 49 25.1
comp=Z,21nm,1.0s
MAW Mawson 81.81 200 P P 15 49 23.8 +0.5
comp=Z,8.5nm,0.7s,baz=135,slow=7.4,SNR=20
comp=Z,8.5nm,0.7s
M14K Bethel 81.82 8 P P 15 49 23.1 -0.1
baz=195
S11A Rachel 81.90 45 IAmb IAmb 15 49 26.1
comp=Z,8.1nm,0.6s
M15K Karigluk River 81.94 8 P P 15 49 23.9 +0.1
baz=196
N16K Nishlik Lake 82.00 9 P P 15 49 24.4 +0.2
baz=198
H04A Detroit Lake 82.10 36 IAmb IAmb 15 49 26.4
comp=Z,8.2nm,0.7s
PDSI Padang 82.13 272 P P 15 49 25.0 -1.0
comp=Z,33nm,0.9s
P19K Oil Pt 82.19 12 P P 15 49 24.5 -0.7
baz=203
PRN Pahroc Range 82.23 45 IAmb IAmb 15 49 28.3
comp=Z,7.1nm,0.7s
PINE Pine Mountain 82.25 38 IAmb IAmb 15 49 28.3
comp=Z,16nm,0.7s
N17K Nushagak Hills 82.30 10 P P 15 49 25.5 -0.2
baz=199
L14K Kuka Creek 82.31 7 P P 15 49 25.9 +0.2
baz=194
O19K Port Alsworth 82.49 11 P P 15 49 26.5 -0.2
baz=202
M16K Timber Creek 82.50 9 IAmb IAmb 15 49 28.4
comp=Z,46nm,1.4s
M16K Timber Creek 82.50 9 P P 15 49 27.3 +0.6
baz=198
BNX BinXian 82.54 325 ⇑P P 15 49 27.5 +0.2
BNX pmax pmax
comp=Z,20nm,0.8s
TUC Tucson 82.60 52 P P 15 49 28.0 0.0
N18K Kilae Creek 82.66 11 P P 15 49 27.2 -0.4
baz=200
K13K Kusilvak Mount 82.67 6 P P 15 49 27.4 -0.1
baz=192
WHN Wuhan 82.68 306 P P 15 49 30.0 +1.7
O20K Slope Mountain 82.71 12 P P 15 49 27.0 -0.9
baz=204
L15K Ungalak Mounta 82.78 8 P P 15 49 28.0 -0.1
baz=195
RED Redoubt Volcan 82.99 12 IAmb IAmb 15 49 28.9
comp=Z,11nm,1.0s
N19K Bonanza Creek 83.03 11 P P 15 49 28.4 -1.1
baz=202
L16K Owhat River 83.08 9 P P 15 49 29.6 0.0
baz=197
M17K Holitna River 83.09 10 IAmb IAmb 15 49 31.4
comp=Z,14nm,1.0s
M17K Holitna River 83.09 10 P P 15 49 29.6 0.0
baz=199
X16A Lo Nilia Camp, P 83.17 50 IAmb IAmb 15 49 33.9
comp=Z,10nm,1.2s
319A Douglas 83.27 53 IAmb IAmb 15 49 34.6
comp=Z,16nm,1.0s
K15K Wolf Creek Mou 83.37 7 IAmb IAmb 15 49 32.6
comp=Z,27nm,1.2s
K15K Wolf Creek Mou 83.37 7 P P 15 49 31.4 +0.3
baz=195
M18K Stony River 83.43 10 P P 15 49 31.3 -0.1
baz=200
TIA Tai'an 83.47 312 P P 15 49 27.8 -4.4
TIA pmax pmax
comp=Z,6.0nm,0.4s
IPM Ipoh 83.50 277 P P 15 49 33.5 +0.6
U15A North Rim 83.59 48 IAmb IAmb 15 49 35.9
comp=Z,9.3nm,0.8s
SLKM Skilak Lake 83.60 13 IAmb IAmb 15 49 32.5
comp=Z,15nm,0.8s
L17K Donlin 83.65 9 P P 15 49 33.0 +0.5
baz=198
O22K Cooper Landing 83.68 13 P P 15 49 32.0 -0.6
baz=206
DUN6 Lazy B Ranch 83.97 52 IAmb IAmb 15 49 38.0
comp=Z,19nm,0.8s
L18K Granite Mounta 83.98 10 IAmb IAmb 15 49 35.3
comp=Z,8.5nm,0.7s
L18K Granite Mounta 83.98 10 P P 15 49 34.5 +0.4
baz=200,SNR=8.3
M19K Big River Lodg 84.07 11 P P 15 49 34.0 -0.6
baz=202
PKCU Pink Cliffs 84.10 47 IAmb IAmb 15 49 38.9
comp=Z,11nm,1.2s
KULM Kulim 84.13 278 P P 15 49 36.7 +0.7
K17K Iditarod 84.21 9 P P 15 49 35.2 0.0
baz=198
RC01 Rabbit Creek A 84.23 13 P P 15 49 34.7 -0.6
baz=206
L19K White Mountain 84.25 10 P P 15 49 35.4 -0.1
baz=201
M20K Styx River 84.27 11 P P 15 49 36.3 +0.6
baz=203
G08A Pilot Rock 84.28 37 IAmb IAmb 15 49 37.9
comp=Z,6.6nm,0.7s
PWL Port Wells 84.33 14 P P 15 49 35.1 -0.8
baz=207
SUA Susitna One 84.36 13 IAmb IAmb 15 49 36.5
comp=Z,12nm,0.8s
SUA Susitna One 84.36 13 P P 15 49 35.3 -0.8
baz=205
J16K Anvik River 84.44 8 P P 15 49 36.1 -0.3
baz=196
GLI Glacier Island 84.63 14 P P 15 49 36.9 -0.4
baz=208
SKT Skwentna 84.67 12 P P 15 49 37.0 -0.6
baz=204
L20K Farewell, AK 84.69 11 P P 15 49 37.1 -0.5
baz=202
M22K Willow 84.75 13 P P 15 49 37.8 0.0
baz=206
J17K VABM Dome 84.75 8 P P 15 49 37.5 -0.3
baz=197
KNK Knik Glacier 84.80 14 IAmb IAmb 15 49 39.8
comp=Z,8.9nm,0.8s
KNK Knik Glacier 84.80 14 P P 15 49 37.6 -0.6
baz=207
PMR Palmer 84.81 13 P P 15 49 37.5 -0.6
baz=207
121A Cookes Peak, D 84.93 53 IAmb IAmb 15 49 42.7
comp=Z,6.2nm,0.9s
J18K Innoko River 85.15 9 P P 15 49 39.7 -0.2
baz=200
ANM Nome 85.19 5 P P 15 49 40.1 +0.2
baz=192
M23K Glacier View 85.30 14 P P 15 49 40.0 -0.6
baz=208
BMRM Bremner River 85.31 15 P P 15 49 39.9 -0.8
baz=211
MESA MESA 85.34 17 P P 15 49 40.6 -0.4
baz=213
PPLA Purkeypile 85.38 11 P P 15 49 40.3 -0.9
baz=204
HEH HeiHe 85.41 328 eP P 15 49 41.5 +0.2
HEH pP pP 15 51 36.0 +2.9
HEH S S 15 59 33.8 +4.3
HEH pmax pmax
comp=Z,9.0nm,0.5s
SCM Sheep Creek Mo 85.42 14 IAmb IAmb 15 49 41.8
comp=Z,17nm,0.7s
SCM Sheep Creek Mo 85.42 14 P P 15 49 40.7 -0.5
baz=208
KLU Klutina 85.45 15 P P 15 49 41.0 -0.3
baz=210
WRAK Wrangell Islan 85.45 23 P P 15 49 40.8 -0.6
baz=222
K20K Telida 85.47 10 P P 15 49 41.3 -0.1
baz=202
CRQE Cirque 85.51 16 P P 15 49 41.0 -0.8
baz=212
H16K Elim 85.57 7 P P 15 49 41.9 +0.2
baz=194
GSI Gununguitoli 85.60 273 P P 15 49 44.4 +1.2
GSI Gununguitoli 85.60 273 P P 15 49 44.2 +1.0
comp=Z,98nm,1.0s
F10A Beach Ranch, E 85.67 37 IAmb IAmb 15 49 44.5
comp=Z,15nm,0.8s
HNS HongShan 85.75 312 ⇑P P 15 49 44.3 +1.0
HNS pmax pmax
comp=Z,20nm,0.6s
TMUT Trail Mountain 85.80 45 IAmb IAmb 15 49 48.0
comp=Z,5.4nm,0.7s
J19K Poorman 85.82 10 P P 15 49 43.1 0.0
baz=201
N25K Chitina, Valde 85.86 15 IAmb IAmb 15 49 44.0
comp=Z,6.5nm,0.8s
N25K Chitina, Valde 85.86 15 P P 15 49 43.2 -0.2
baz=211
CAST Castle Rocks 85.88 11 IAmb IAmb 15 49 42.9
comp=Z,5.6nm,0.7s
CAST Castle Rocks 85.88 11 P P 15 49 42.1 -1.3
baz=204
B08A Colville Reser 85.91 35 IAmb IAmb 15 49 44.8
comp=Z,4.1nm,0.8s
LYN LuoYang 85.97 309 P P 15 49 45.8 +1.3
LYN pmax pmax
comp=Z,42nm,0.7s
WAT6 Susitna Watana 85.99 13 P P 15 49 43.4 -0.7
baz=208
WAT1 Susitna Watana 86.04 13 P P 15 49 43.5 -0.6
baz=207
MCARA McCarthy VSAT 86.07 16 P P 15 49 44.0 -0.2
baz=212
R32K Eaglecrest 86.08 21 P P 15 49 44.4 0.0
baz=220
P29M Windy Craggy 86.11 19 P P 15 49 45.0 +0.4
baz=217
CTG Chitna Glacier 86.16 17 P P 15 49 45.0 +0.1
baz=214
SRU San Rafael Swe 86.16 46 IAmb IAmb 15 49 47.4
comp=Z,6.4nm,1.0s
J20K Nowinta River 86.23 10 P P 15 49 44.6 -0.3
baz=202
TRF Thorofare Moun 86.25 12 IAmb IAmb 15 49 45.5
comp=Z,11nm,0.6s
TRF Thorofare Moun 86.25 12 P P 15 49 44.3 -1.0
baz=206
CHUM Lake Minchumin 86.27 11 P P 15 49 44.3 -0.9
baz=204
VHRN Van Horn 86.27 55 IAmb IAmb 15 49 48.7
comp=Z,6.2nm,0.8s
G16K Koyuk River 86.29 6 P P 15 49 45.2 0.0
baz=194
O28M Mount Upton 86.32 17 P P 15 49 45.6 -0.2
baz=215
F15K North Star Dit 86.38 5 P P 15 49 45.9 +0.2
baz=192
O29M Mount Kennedy 86.40 18 P P 15 49 46.2 +0.1
baz=216
PLBC Pleasant Camp 86.40 20 P P 15 49 46.8 +1.0
baz=218
RND Reindeer 86.49 13 IAmb IAmb 15 49 47.1
comp=Z,10nm,0.9s
DHY Denali Highway 86.51 13 P P 15 49 46.6 +0.1
baz=208
TX31 Lajitas Ar. Si 86.67 57 IAmb IAmb 15 49 50.8
comp=Z,6.3nm,0.9s
TXAR Lajitas Array 86.67 57 P P 15 49 49.9 +1.9
comp=Z,3.4nm,0.7s,baz=219,slow=6.7,SNR=43
TXAR pP pwP 15 51 42.9 +0.2
comp=Z,2.9nm,1.1s,baz=236,slow=4.8,SNR=5.8
TXAR PKKPbc PKKPbc 16 07 40.5 +0.2
comp=Z,0.7nm,0.8s,baz=50,slow=1.9,SNR=4.6
comp=Z,3.4nm,0.7s
P30M Million Dollar 86.74 19 P P 15 49 48.2 +0.7
baz=216
MCK McKinley 86.77 12 IAmb IAmb 15 49 48.2
comp=Z,8.5nm,0.9s
MCK McKinley 86.77 12 P P 15 49 47.4 -0.1
baz=207
PV10 Paradox Valley 86.81 47 IAmb IAmb 15 49 50.0
comp=Z,5.6nm,0.8s
PAX Paxson 86.84 14 P P 15 49 48.2 +0.2
baz=210
PV13 Radium Mtn., P 86.86 47 IAmb IAmb 15 49 50.6
comp=Z,8.3nm,1.4s
YUK8 Steele Glacier 86.86 17 P P 15 49 48.4 +0.1
baz=215
PV23 Carpenter Ridg 86.87 47 IAmb IAmb 15 49 51.1
comp=Z,8.4nm,0.8s
GYA Guiyang 86.92 300 ⇑P P 15 49 50.0 +0.7
GYA pmax pmax
comp=Z,11nm,0.7s
M26K Nabesna, AK 86.94 15 P P 15 49 48.9 +0.5
baz=212
YUK6 Outpost Mounta 86.98 18 P P 15 49 48.9 0.0
baz=216
S34M Telegraph Cree 87.00 23 P P 15 49 49.1 +0.4
baz=223
YUK3 Moose Creek 87.07 17 P P 15 49 49.6 +0.3
baz=214
ALPN Alpine 87.14 56 IAmb IAmb 15 49 52.5
comp=Z,9.3nm,0.6s
HYT Haines Junctio 87.14 18 P P 15 49 49.7 +0.3
baz=217
H19K Roundabout Mou 87.14 9 P P 15 49 49.3 +0.1

	baz=200								
M27K	**Edge Creek, AK**	87.18	16	IAmb	IAmb	15 49 51.0			
	comp=Z,5.8nm,0.9s								
M27K	**Edge Creek, AK**	87.18	16	P	P	15 49 49.9	+0.1		
	baz=213								
G18K	**Tagagawik**	87.20	8	P	P	15 49 49.6	+0.1		
	baz=198								
YUK4	**Talbot Arm**	87.22	18	P	P	15 49 50.4	+0.4		
	baz=216								
H20K	**Anotleneega Mo**	87.34	9	P	P	15 49 50.4	+0.2		
	baz=201								
L26K	**Log Cabin Wild**	87.38	15	P	P	15 49 50.6	+0.1		
	baz=212								
BVCY	**Beaver Creek**	87.50	16	P	P	15 49 51.2	+0.1		
	baz=214								
K24K	**Donnelly Dome**	87.50	14	P	P	15 49 51.3	+0.3		
	baz=210								
NEA2	**Nenana**	87.51	12	P	P	15 49 49.6	-1.4		
	baz=207								
I21K	**Tanana**	87.52	11	IAmb	IAmb	15 49 51.3			
	comp=Z,6.2nm,0.6s								
I21K	**Tanana**	87.52	11	P	P	15 49 50.7	-0.3		
	baz=204,SNR=6.7								
O30N	**Mendenhall**	87.52	19	P	P	15 49 51.1	-0.1		
	baz=218								
MLY	**Manley**	87.60	11	IAmb	IAmb	15 49 51.0			
	comp=Z,6.0nm,0.5s								
MLY	**Manley**	87.60	11	P	P	15 49 50.2	-1.3		
	baz=205,SNR=6.5								
WRH	**Wood River Hil**	87.60	12	IAmb	IAmb	15 49 51.5			
	comp=Z,8.8nm,0.8s								
G19K	**Purcell Mounta**	87.64	8	P	P	15 49 50.7	-0.9		
	baz=199								
RIDG	**Independent Ri**	87.65	14	P	P	15 49 51.3	-0.4		
	baz=210								
F18K	**Selawik**	87.75	7	P	P	15 49 51.9	-0.1		
	baz=197								
N30M	**Aishikik Lake**	87.76	18	P	P	15 49 51.8	-0.5		
	baz=218								
HDA	**Harding Lake**	87.78	13	IAmb	IAmb	15 49 52.6			
	comp=Z,11nm,0.6s								
HDA	**Harding Lake**	87.78	13	P	P	15 49 51.8	-0.5		
	baz=209								
DLBC	**Dease Lake**	87.79	23	P	P	15 49 52.1	-0.4		
	baz=224								
L27K	**Beaver Creek,**	87.79	15	P	P	15 49 52.3	-0.1		
	baz=213								
WHY	**Whitehorse**	87.81	20	P	P	15 49 52.6	0.0		
	baz=220								
H21K	**Melozitna Rive**	87.82	10	IAmb	IAmb	15 49 54.0			
	comp=Z,4.0nm,0.7s								
H21K	**Melozitna Rive**	87.82	10	P	P	15 49 52.7	+0.3		
	baz=203								
TROLL	**Troll, Antarti**	87.86	180	⇓P	P	15 49 52.7	-0.2		
	comp=Z,770nm,0.8s								
I23K	**Minto, Yukon-K**	87.96	12	IAmb	IAmb	15 49 53.0			
	comp=Z,4.0nm,0.5s								
I23K	**Minto, Yukon-K**	87.96	12	P	P	15 49 52.1	-1.0		
	baz=206,SNR=6.6								
COLA	**College**	88.00	12	P	P	15 49 52.4	-0.8		
COLA	**College**	88.00	12	P	P	15 49 52.8	-0.4		
	baz=208								
DLMT	**Dillon**	88.05	40	IAmb	IAmb	15 49 56.0			
	comp=Z,5.9nm,0.8s								
SCRK	**Sand Creek**	88.05	14	P	P	15 49 53.9	+0.2		
	baz=211								
XLT	**XiLinHaoTe**	88.10	319	*e*P	P	15 49 53.8	-0.6		
XLT				pmax	pmax				
	comp=Z,9.0nm,0.6s								
IL31		88.11	13	IAmb	IAmb	15 49 56.6			
	comp=Z,3.0nm,0.7s								
ILAR	**Eielson Array**	88.11	13	P	P	15 49 52.8	-1.0		
	comp=Z,1.9nm,0.5s,baz=221,slow=6.1,SNR=23								
ILAR				pP	pP	15 51 46.9	+0.9		
	comp=Z,2.1nm,1.0s,baz=227,slow=5.2,SNR=6.1								
	comp=Z,1.9nm,0.5s								
SNAA	**Sanae**	88.12	178	⇓P	P	15 49 53.6	-0.4		
	comp=Z,101nm,0.7s								
SNAA	**Sanae**	88.12	178	P	P	15 49 53.2	-0.9		
SNAA				IAmb	IAmb	15 49 54.3			
	comp=Z,7.3nm,0.9s								
SNAA	**Sanae**	88.12	178	P	P	15 49 53.5	-0.6		
	comp=Z,7.9nm,1.1s,baz=206,slow=7.4,SNR=29								
	comp=Z,7.9nm,1.1s								
P33M	**Teslin, Yukon**	88.13	21	P	P	15 49 54.5	+0.4		
	baz=221								
SAND	**Sanderson**	88.15	57	IAmb	IAmb	15 49 57.1			
	comp=Z,3.6nm,0.7s								
R33M	**Jennings River**	88.15	22	P	P	15 49 54.3	+0.1		
	baz=223								
M29M	**Somme Creek**	88.16	17	IAmb	IAmb	15 49 55.3			
	comp=Z,5.9nm,0.7s								
M29M	**Somme Creek**	88.16	17	P	P	15 49 54.4	+0.2		
	baz=216								
N31M	**Braeburn, Yuko**	88.17	19	P	P	15 49 54.6	+0.3		
	baz=219								
F19K	**Shaleruckik Mo**	88.20	8	IAmb	IAmb	15 49 54.7			
	comp=Z,4.6nm,0.8s								
F19K	**Shaleruckik Mo**	88.20	8	P	P	15 49 54.1	0.0		
	baz=198								
VNA3	**Neumayer Olymp**	88.24	176	⇓P	P	15 49 54.5	-0.1		
	comp=Z,59nm,0.7s								
H22K	**Ishtalitna Cre**	88.27	10	P	P	15 49 54.2	-0.4		
	baz=204,SNR=8.7								
J25K	**Salcha River,**	88.29	13	IAmb	IAmb	15 49 55.0			
	comp=Z,4.6nm,0.6s								
J25K	**Salcha River,**	88.29	13	P	P	15 49 54.5	-0.2		
	baz=210								
POKR	**Poker Plat Res**	88.30	12	P	P	15 49 53.4	-1.3		
	baz=206								
XAN	**Xi'an**	88.36	307	P	P	15 49 56.5	+0.7		
XAN				pmax	pmax				
	comp=Z,47nm,0.8s								
E18K	**Tukpahlearik C**	88.44	6	P	P	15 49 54.9	-0.3		
	baz=196								
G21K	**Allakaket**	88.50	9	IAmb	IAmb	15 50 02.1			
	comp=Z,4.0nm,0.9s								
G21K	**Allakaket**	88.50	9	P	P	15 49 55.6	0.0		
	baz=202								
K27K	**Chicken**	88.54	15	P	P	15 49 56.2	+0.3		
	baz=213								
J26L	**Joseph Creek**	88.59	14	IAmb	IAmb	15 49 57.4			
	comp=Z,5.6nm,0.8s								
J26L	**Joseph Creek**	88.59	14	P	P	15 49 56.3	+0.1		
	baz=212								
PDAR	**Pinedale Array**	88.61	43	P	P	15 49 56.4	-0.5		
PDAR	**Pinedale Array**	88.61	43	P	P	15 49 57.5	+0.5		
	comp=Z,2.7nm,0.7s,baz=212,slow=3.0,SNR=18								
	comp=Z,2.7nm,0.7s								
YHL	**Hebgen Lake**	88.64	41	IAmb	IAmb	15 49 60.0			
	comp=Z,8.2nm,0.9s								
F20K	**Avaraart Lake**	88.68	8	P	P	15 49 56.2	-0.1		
	baz=200								
VNA2	**Neumayer--Watz**	88.69	177	⇓P	P	15 49 57.1	+0.5		
	comp=Z,41nm,0.7s,baz=193,slow=4.5								
M30M	**Minto, Yukon**	88.74	18	IAmb	IAmb	15 49 57.7			
	comp=Z,8.1nm,0.7s								
M30M	**Minto, Yukon**	88.74	18	P	P	15 49 56.8	0.0		
	baz=218,SNR=6.8								
BOZ	**Bozeman (W)**	88.75	40	IAmb	IAmb	15 49 59.7			
	comp=Z,5.4nm,0.8s								
L29M	**L29M**	88.79	17	IAmb	IAmb	15 49 58.4			
	comp=Z,9.6nm,0.7s								
L29M	**L29M**	88.79	17	P	P	15 49 57.4	+0.3		
	baz=217,SNR=6.8								
H24K	**Noodor Dome**	88.86	12	P	P	15 49 57.6	+0.3		
	baz=208								
E19K	**Redstone River**	88.87	8	P	P	15 49 57.3	0.0		
	baz=199								
VNA1	**Neumayer--Stat**	88.91	176	⇓P	P	15 49 57.8	+0.2		
	comp=Z,40nm,0.9s								
PLCA	**Paso Flores**	89.08	133	P	P	15 50 01.3	+2.1		
	comp=Z,6.2nm,1.2s,baz=224,slow=8.0,SNR=3.9								
	comp=Z,6.2nm,1.2s								
DRIO	**Del Rio**	89.12	58	IAmb	IAmb	15 50 01.4			
	comp=Z,9.3nm,1.1s								
M31M	**Drury Creek, Y**	89.15	19	P	P	15 49 58.3	-0.4		
	baz=220								
F21K	**Alatna River**	89.16	9	P	P	15 49 58.6	-0.1		
	baz=202								
G22K	**Bettles**	89.19	10	P	P	15 49 59.0	+0.2		
	baz=204								
DAWY	**Dawson**	89.23	16	IAmb	IAmb	15 50 00.0			
	comp=Z,6.6nm,0.6s								
DAWY	**Dawson**	89.23	16	P	P	15 49 58.9	-0.2		
	baz=215,SNR=5.1								
G23K	**Bananza Creek**	89.25	11	P	P	15 49 59.2	+0.1		
	baz=206								
I26K	**Coal Creek Min**	89.37	14	P	P	15 49 59.8	+0.1		
	baz=212								
WTLY	**Watson Lake, Y**	89.43	22	P	P	15 50 00.2	+0.1		
	baz=225								
HHC	**Hu-ho-hao-te**	89.54	314	*e*P	P	15 50 00.0	-1.2		
HHC				pmax	pmax				
	comp=Z,13nm,0.7s								
HHC				pmax	pmax				
	comp=Z,91nm,5.8s								
K29M	**Barlow Dome**	89.55	17	IAmb	IAmb	15 50 01.8			
	comp=Z,5.8nm,0.8s								
K29M	**Barlow Dome**	89.55	17	P	P	15 50 00.7	+0.1		
	baz=217,SNR=7.2								
F22K	**John River**	89.62	10	P	P	15 50 01.0	+0.2		
	baz=204								
KMI	**Kunming**	89.63	297	P	P	15 50 02.0	-0.1		
KMI				pmax	pmax				
	comp=Z,33nm,0.9s								
COLD	**Coldfoot**	89.69	10	P	P	15 50 01.4	+0.3		
	baz=206								
D19K	**Kuna River**	89.75	7	P	P	15 50 01.3	-0.1		
	baz=198								
E20K	**Nigu River**	89.76	8	P	P	15 50 01.3	-0.2		
	baz=200								
J29N	**Klondike Camp**	89.85	16	P	P	15 50 02.2	+0.2		
	baz=216								
I27K	**Kandik River**	89.97	14	P	P	15 50 02.3	-0.2		
	baz=213								
E21K	**Killik River**	90.22	9	P	P	15 50 03.7	+0.1		
	baz=202								
I28M	**Miner Creek**	90.23	15	IAmb	IAmb	15 50 04.2			
	comp=Z,3.9nm,0.7s								
I28M	**Miner Creek**	90.23	15	P	P	15 50 03.4	-0.4		
	baz=215								
E22K	**Anaktuvuk Pass**	90.25	9	P	P	15 50 03.8	+0.1		
	baz=204								
F24K	**Squaw Lake**	90.35	11	P	P	15 50 04.4	+0.2		
	baz=206								
MMPY	**Sheldon Lake,**	90.42	20	P	P	15 50 04.8	+0.1		
	baz=223								
CMAR	**Chiang Mai Arr**	90.43	289	P	P	15 50 06.1	+0.4		
CMAR	**Chiang Mai Arr**	90.43	289	P	P	15 50 07.0	+1.3		
	comp=Z,13nm,0.9s,baz=120,slow=2.9,SNR=57								
CMAR				pP	pP	15 51 58.5	+0.5		
	comp=Z,1.7nm,0.9s,baz=116,slow=3.4,SNR=3.9								
	comp=Z,13nm,0.9s								
J30M	**Hart River**	90.44	17	P	P	15 50 05.1	+0.3		
	baz=218								
H27K	**Steamboat Moun**	90.52	14	P	P	15 50 05.4	+0.4		
	baz=214								
E23K	**Chandalar**	90.53	10	P	P	15 50 05.6	+0.5		
	baz=206								
CHTO	**Chiang Mai**	90.56	290	P	P	15 50 06.9	+0.6		
CHTO	**Chiang Mai**	90.56	290	P	P	15 50 07.9	+1.6		
I29M	**Ogilvie Camp,**	90.56	15	IAmb	IAmb	15 50 18.4			
	comp=Z,3.9nm,1.1s								
I29M	**Ogilvie Camp,**	90.56	15	P	P	15 50 05.0	-0.2		
	baz=216								
G26K	**Porcupine Rive**	90.64	13	P	P	15 50 06.5	+1.0		
	baz=211								
C21K	**Knifeblade Rid**	90.78	8	P	P	15 50 06.6	+0.5		
	baz=201								
D22K	**Ayikyak River**	90.81	9	P	P	15 50 06.5	+0.2		
	baz=203								
I30M	**Mount Dempster**	90.94	16	IAmb	IAmb	15 50 07.4			
	comp=Z,3.7nm,0.9s								
I30M	**Mount Dempster**	90.94	16	P	P	15 50 07.2	+0.1		
	baz=218								
G27K	**Doyon Strip**	90.97	13	P	P	15 50 07.2	+0.1		
	baz=213								
PZH	**PanZhiHua**	90.99	298	P	P	15 50 08.5	+0.3		
TOLK	**Toolik Lake Re**	91.07	10	P	P	15 50 08.4	+0.9		
	baz=206								
D23K	**Nanushuk River**	91.19	9	P	P	15 50 08.8	+0.8		
	baz=205								
H29M	**Whitestone**	91.24	15	P	P	15 50 08.7	+0.4		
	baz=216								
G29M	**Pine Creek**	91.88	15	P	P	15 50 11.8	+0.5		
	baz=217								
H31M	**Peel River**	91.93	16	P	P	15 50 12.6	+1.1		
	baz=220								
E27K	**Coleen River**	92.14	13	P	P	15 50 12.7	+0.3		
	baz=214								
G30M	**tAoh Zraii Nji**	92.37	15	IAmb	IAmb	15 50 14.0			
	comp=Z,4.5nm,0.8s								
G30M	**tAoh Zraii Nji**	92.37	15	P	P	15 50 13.7	+0.1		
	baz=218								
G31M	**Satah River**	92.81	16	P	P	15 50 15.3	-0.2		
	baz=220								
E28M	**Babbage River**	92.92	13	P	P	15 50 16.0	0.0		
	baz=215								
SONM	**Songino Array**	95.91	319	P	P	15 50 30.5	+0.3		
	comp=Z,0.6nm,0.5s,baz=117,slow=5.1,SNR=3.0								
	comp=Z,0.6nm,0.5s								
MKAR	**Makanchi Array**	111.39	313	PKKPbc	PKKPbc	16 06 31.2	-0.6		
	comp=Z,0.5nm,0.8s,baz=266,slow=4.3,SNR=4.8								
KURBB	**Kurchatov Arra**	114.21	317	PKKPbc	PKKPbc	16 06 22.5	0.0		
	comp=Z,0.5nm,0.7s,baz=268,slow=4.0,SNR=5.4								
BVAR	**Borovoye Array**	119.23	320	PKP	**PKPdf**	15 55 48.0	-1.0		
	comp=Z,12nm,0.5s,baz=66,slow=0.9,SNR=58								
SPITS	**Spitsbergen Ar**	121.76	357	PKP	**PKPdf**	15 55 51.9	-1.4		
	comp=Z,11nm,0.9s,baz=51,slow=1.8,SNR=6.8								
ARTI	**Arti**	125.42	326	PKP	**PKPdf**	15 56 00.8	+0.1		
	comp=Z,6.1nm,0.8s,baz=23,slow=0.7,SNR=7.7								
BOSA	**Boshof**	126.53	205	PKP	**PKiKP**	15 56 04.7	+0.1		
	comp=Z,2.8nm,0.8s,baz=202,slow=19,SNR=3.9								
AKTO	**Aktyubinsk**	127.23	318	PKP	**PKPdf**	15 56 04.5	+0.1		
	comp=Z,3.7nm,1.0s,baz=59,slow=2.4,SNR=5.8								
ARCES	**ARCESS Array B**	128.87	350	PKP	**PKPdf**	15 56 07.2	+0.3		
	comp=Z,5.0nm,0.9s,baz=32,slow=2.1,SNR=13								
FINES	**FINESS Array B**	135.76	344	PKP	**PKPdf**	15 56 20.2	0.0		
	comp=Z,1.8nm,0.6s,baz=35,slow=2.0,SNR=6.8								
NB2	**NORSAR Subarra**	138.90	353	PKP	PP	15 59 14.7	-10		
	comp=Z,1.0nm,0.8s,baz=14,slow=3.1								
NOA	**NORSAR Array B**	138.90	353	SKPbc	**SKPbc**	15 59 14.2	+1.3		
	comp=Z,1.2nm,0.9s,baz=6.7,slow=2.4,SNR=4.0								
HFS	**Hagfors**	139.47	351	PKhKP	PKPpre	15 56 18.7			
	comp=Z,1.2nm,0.5s,baz=54,slow=2.6,SNR=9.1								
HFS				PKP	**PKPdf**	15 56 27.1	+0.1		
	comp=Z,1.1nm,0.6s,baz=72,slow=4.7,SNR=4.1								
HFS				SKPbc	**SKiKP**	15 59 15.9	-1.2		
	comp=Z,3.3nm,0.8s,baz=347,slow=6.1,SNR=6.8								
AKASG	**Malin Array Be**	143.09	331	PKhKP	PKPpre	15 56 30.5			
	comp=Z,8.8nm,0.5s,baz=44,slow=4.4,SNR=64								
AKASG				SKPbc	**SKPbc**	15 59 23.4	-0.4		
	comp=Z,1.9nm,0.7s,baz=48,slow=2.0,SNR=5.3								
KIEV	**Kiev**	143.10	331	⇑P	PKPab	15 56 30.8	-0.5		
EKA	**Eskdalemuir Ar**	144.84	6	PKP	**PKPdf**	15 56 36.6	0.0		
	comp=Z,2.7nm,0.6s,baz=329,slow=3.2,SNR=16								
SORM	**Soroca**	145.30	329	⇑P	**PKPbc**	15 56 38.3	-0.3		
GORT1	**Trebel**	146.72	350	*e*PKPbc	**PKPbc**	15 56 42.9	+0.4		
	baz=17,slow=2.3								
BRTR	**Keskin Array B**	147.04	313	PKPbc	**PKPbc**	15 56 43.6	-0.4		
	comp=Z,5.8nm,0.7s,baz=72,slow=3.6,SNR=24								
KIRS	**Kirsehir-Merke**	147.10	312	⇑P	**PKPbc**	15 56 44.0	-0.2		
BURAR	**Bucovina Array**	147.14	331	⇑P	**PKPbc**	15 56 44.6	+0.6		
OJC	**Ojcow**	147.18	339	*e*PKP	**PKPbc**	15 56 43.7	-0.1		
RETH	**Rethem/Aller,**	147.25	352	*e*PKPbc	**PKPbc**	15 56 44.0	+0.1		
	baz=17,slow=2.3								
STHS	**Stebnicka Huta**	147.35	337	*e*PKP	**PKPbc**	15 56 42.8	-1.6		
STHS				*e*		15 56 48.4			
KOLS	**Kolonicke sedl**	147.36	335	*e*PKP	**PKPbc**	15 56 44.9	+0.5		
KOLS				*e*		15 56 48.4			
FLTG	**Flechtingen**	147.37	350	*e*PKPbc	**PKPbc**	15 56 44.2	0.0		
	baz=17,slow=2.3								
NRDL	**Niedersach Rie**	147.39	351	*e*PKPbc	**PKPbc**	15 56 44.4	+0.2		
	baz=17,slow=2.3								
CFR	**Carcaliu**	147.40	325	⇑P	**PKPbc**	15 56 44.7	+0.1		
TPGR	**Topolog**	147.46	325	⇑P	**PKPbc**	15 56 45.0	+0.2		
ANTO	**Ankara**	147.55	313	⇑P	**PKPbc**	15 56 45.3	+0.1		
ASSE	**Asse, Remlinge**	147.66	350	*e*PKPbc	**PKPbc**	15 56 45.1	+0.2		
	baz=17,slow=2.3								
KSP	**Ksiaz**	147.68	343	*e*PKP	**PKPbc**	15 56 45.9	+0.7		
NIE	**Niedzica**	147.69	338	*e*PKP	**PKPbc**	15 56 45.7	+0.5		
TIRR	**Tirgusor**	147.72	324	⇑P	**PKPbc**	15 56 45.6	+0.2		
PLOR	**Plostina**	147.72	327	⇑P	**PKPbc**	15 56 45.4	0.0		
HARR	**Harsova**	147.83	325	⇓P	**PKPbc**	15 56 46.1	+0.4		
IBBN	**Ibbenburen**	147.86	354	*e*PKPbc	**PKiKP**	15 56 46.4	-0.6		
	baz=17,slow=2.3								
OSTC	**Ostas**	147.96	343	⇑*e*PKP	**PKiKP**	15 56 46.7	-0.6		
OZUR		147.98	329	⇑P	**PKPbc**	15 56 46.3	+0.2		
CHVC	**Chvalec**	147.98	344	⇑*e*PKP	**PKPbc**	15 56 46.4	+0.5		
CLZ	**Clausthal**	147.98	351	*e*PKPbc	**PKPbc**	15 56 46.2	+0.3		
	baz=17,slow=2.3								
CLL	**Collm**	148.03	347	*e*PKPbc	**PKPbc**	15 56 45.9	0.0		
	baz=17,slow=2.3								
CLL	**Collm**	148.03	347	*i* PKPbc	**PKPbc**	15 56 45.9	-0.1		
	comp=Z,28nm,0.8s								
CLL				*e*PKPab	**PKPab**	15 56 49.0	-1.5		
CLL				*ep*PKPab	**pPKPab**	15 58 46.0	+0.5		
UPC	**Upice**	148.06	344	⇑*e*PKP	**PKPbc**	15 56 46.7	+0.6		
STEB	**Steborice**	148.07	341	⇑*e*PKP	**PKPbc**	15 56 46.7	+0.5		
STEB				*e*PKPAB	**PKPab**	15 56 50.8	0.0		
MMAI	**Mount Meron Ar**	148.08	300	PKPbc	**PKPbc**	15 56 47.4	+0.6		
	comp=Z,19nm,0.8s,baz=72,slow=2.7,SNR=16								
DPC	**Dobruska-Polom**	148.12	343	⇑*e*PKP	**PKiKP**	15 56 47.1	-0.6		
DPC				*e*PKPAB	**PKPab**	15 56 51.0	0.0		
LANS	**Liptovska Anna**	148.21	339	*e*PKP	**PKiKP**	15 56 47.7	-0.2		
LANS				*e*		15 56 52.8			
BRG	**Berggiesshubel**	148.23	346	*e*PKPbc	**PKiKP**	15 56 48.0	+0.2		
	baz=17,slow=2.3								
BRG	**Berggiesshubel**	148.23	346	⇓*e*PKPf		15 56 44.1			
BRG				Amp		15 56 45.4			
	comp=Z,2.4nm,0.9s								
BRG				⇑PKP	**PKiKP**	15 56 48.2	+0.5		
BRG				Amp		15 56 49.0			
	comp=Z,13nm,0.8s								
BRG	**Berggiesshubel**	148.23	346	P	**PKPab**	15 56 52.8	+1.4		
BRG				Amp		15 56 53.3			
	comp=Z,4.6nm,0.6s								
BRG				pPKP	**pPKPab**	15 58 47.6	+1.3		
BRG				Amp		15 58 54.2			
	comp=Z,3.8nm,1.0s								
KRLC	**Kraliky**	148.24	342	⇑*e*PKP	**PKPbc**	15 56 47.2	+0.6		
KRLC				*e*PKPAB	**PKPab**	15 56 51.8	+0.3		
DOPR	**Dopca**	148.26	329	⇑P	**PKPbc**	15 56 47.3	+0.5		
MORC	**Moravsky Berou**	148.28	341	*e*PKP	**PKPbc**	15 56 46.9	+0.1		
MORC	**Moravsky Berou**	148.28	341	⇑P	**PKPbc**	15 56 47.2	+0.5		
MLR	**Muntele Rosu**	148.32	328	PKPbc	**PKPbc**	15 56 46.5	-0.6		
	comp=Z,6.2nm,0.8s,baz=46,slow=2.8,SNR=6.4								
MLR				pPKPbc	**pPKPab**	15 58 47.9	+0.2		
	comp=Z,3.1nm,0.8s,baz=339,slow=4.4,SNR=2.2								
MLR	**Muntele Rosu**	148.32	328	⇑P	**PKPbc**	15 56 46.9	-0.2		
GTTG	**Gottingen**	148.33	351	*e*PKPbc	**PKPbc**	15 56 47.0	+0.2		
	baz=17,slow=2.3								
NEUB	**Neuenburg**	148.36	349	*e*PKPbc	**PKPbc**	15 56 47.1	+0.3		
	baz=17,slow=2.3								
PVCC	**Panska Ves**	148.41	345	⇑*e*PKP	**PKiKP**	15 56 47.7	-0.5		
MAUC	**Maruska**	148.56	341	⇑*e*PKP	**PKiKP**	15 56 48.3	-0.3		
HSKC	**Hora Svate Kat**	148.60	346	⇑*e*PKP	**PKPbc**	15 56 47.8	+0.3		
BUG	**Bochum--Univer**	148.76	354	*e*PKPbc	**PKPbc**	15 56 47.7	-0.1		
	baz=17,slow=2.3								
MARR	**Marisel-Cluj**	148.79	332	⇑P	**PKPbc**	15 56 48.2	+0.1		
PRA	**Prague**	148.87	345	⇑*e*PKP	**PKiKP**	15 56 48.7	-0.4		
KASTN	**Kahler Asten**	148.87	353	*e*PKPbc	**PKPbc**	15 56 48.3	+0.1		
	baz=17,slow=2.3								
PRU	**Pruhonice**	148.91	345	⇑*e*PKP	**PKiKP**	15 56 48.8	-0.4		
MOX	**Moxa**	148.93	349	*e*PKPbc	**PKPbc**	15 56 48.3	+0.1		
	baz=17,slow=2.3								
MOX				*e*L	L	16 44 05.3			
	comp=Z,80nm,20.5s								
PLN	**Plauen**	148.98	348	*e*PKPbc	**PKPbc**	15 56 48.5	+0.1		
	baz=17,slow=2.3								
VRAC	**Vranov**	148.98	342	PKPbc	**PKPbc**	15 56 48.3	-0.2		
	comp=Z,2.9nm,0.5s,baz=39,slow=3.1,SNR=4.6								
VRAC				pPKPbc	**pPKPbc**	15 58 47.8	+0.7		
	comp=Z,1.6nm,0.4s,baz=79,slow=4.8,SNR=2.5								
VRAC	**Vranov**	148.98	342	*e*PKP	**PKPbc**	15 56 48.7	+0.2		
TANN	**Tannenbergstha**	148.98	347	*e*PKPbc	**PKPbc**	15 56 48.6	+0.1		
	baz=17,slow=2.3								
VYHS	**Vyhne**	148.99	339	*e*PKP	**PKPbc**	15 56 48.9	+0.4		
VYHS				*e*		15 56 55.2			
JAVC	**Velka Javorina**	149.05	340	*e*PKP	**PKiKP**	15 56 49.7	+0.1		
ARR	**Arges**	149.06	329

BJI ***27*** *15:45:11.3,20˚.57N×145˚.84E,h38km,mB4.9/9,mb4.7/43, Ms4.1/7,Ms7 3.9/10*

NEIC ***27*** *15:45:13.6±1.7,20˚.48N±0˚.06×145˚.9E±0˚.1,h39km±6km, mb4.9/163,Error ellipse: s-maj=13.9km s-min=9.4km az=83.0*

IDC ***27*** *15:45:14.9±2.3,20˚.44N×145˚.73E,h54km±20km,mb4.3/30, mbtmp4.5/35,ML4.3/4,MS3.7/30,Error ellipse: s-maj=17.3km s-min=9.8km az=77.0*

ISC 27 15:45:13.7±0.5,20.49N±0.04×145.76E±0.07,h44km±4km, h44km:pP-P,n496,σ1§09/428,mb4.8/148,MS3.9/33, 11C-2D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.91**	**187**				**Pn**	**15 46 52.9**	**+0.3**
GUMO	**Guam**	**6.91**	**187**	P			**Pn**	**15 46 54.0**	**+1.5**
	20nm,0.3s,baz=124,slow=3.0,SNR=22								
GUMO				S			**Sn**	**15 48 09.1**	**-0.8**
	41nm,0.5s,baz=311,slow=22,SNR=1.4								
GUMO				LR		LR	LR	15 48 46.3	
	comp=Z,122nm,20.7s,baz=4.5,slow=31								
	135nm,0.5s								
JCJ	**Chichijima**	**7.34**	**334**	Pn			**Pn**	**15 46 59.0**	**+0.6**
JCJ	**Chichijima**	**7.34**	**334**	P			**Pn**	**15 47 00.0**	**+1.6**
	9.0nm,0.3s,baz=274,slow=23,SNR=8.2								
JCJ				S			**Sn**	**15 48 18.1**	**-2.3**
	125nm,0.8s,baz=276,slow=23,SNR=8.1								
	24nm,0.4s								
JSG	**Sagara**	**15.63**	**336**	P			**P**	**15 48 53.6**	**-0.9**
JSG				IAmb			IAmb	15 49 00.1	
	comp=Z,80nm,1.0s								
JGF	**Kuroka**	**16.77**	**336**				**P**	**15 49 07.2**	**0.0**
JOW	**Kunigami**	**17.21**	**295**				**P**	**15 49 12.3**	**+0.3**
JOW	**Kunigami**	**17.21**	**295**	P			**P**	**15 49 12.3**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=57,slow=14,SNR=2.4								
JOW				LR			LR	15 55 08.8	
	comp=Z,358nm,18.4s,baz=134,slow=34								
	comp=Z,10nm,0.8s								
MJAR	**Matsushiro Arr**	**17.30**	**339**				**Pn**	**15 49 12.2**	**+0.2**
MJAR	**Matsushiro Arr**	**17.30**	**339**	P			**Pn**	**15 49 12.4**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=172,slow=11,SNR=8.4								
MAJO	**Matsushiro**	**17.30**	**339**	Pn			**Pn**	**15 49 12.1**	**0.0**
MAJO	**Matsushiro**	**17.30**	**339**	*i* P			**Pn**	**15 49 11.5**	**-0.6**
MJB9	**Matsu-Tunnel**	**17.31**	**339**				**Pn**	**15 49 12.3**	**+0.2**
JNU	**Nakatsue**	**18.27**	**317**	P			**Pn**	**15 49 25.3**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=98,slow=15,SNR=4.8								
	comp=Z,19nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**19.83**	**92**	T			T	16 10 36.2	
	baz=275,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hy**	**19.84**	**92**	T			T	16 10 36.9	
	baz=275,slow=75,SNR=26								
H11S2	**WAKE ISLAND Hy**	**19.85**	**92**	T			T	16 10 43.4	
	baz=275,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hy**	**19.86**	**89**	T			T	16 10 10.2	
	baz=276,slow=75,SNR=43								
H11N2	**WAKE ISLAND Hy**	**19.87**	**88**	T			T	16 09 52.9	
	baz=276,slow=75,SNR=39								
H11N3	**WAKE ISLAND Hy**	**19.88**	**89**	T			T	16 09 55.3	
	baz=276,slow=75,SNR=48								
JTM	**Tenmabayashi**	**20.62**	**350**	P			**P**	**15 49 49.1**	**-0.1**
JTM				IAmb			IAmb	15 50 00.9	
	comp=Z,40nm,0.9s								
ERM	**Erimo**	**21.57**	**355**	*i* P			**P**	**15 50 00.1**	**+0.7**
MANU	**Manus Island**	**22.45**	**176**	P			**P**	**15 50 07.2**	**-1.9**
MANU				IAmb			IAmb	15 50 07.3	
	comp=Z,118nm,1.6s								
TJN	**Taejon**	**22.57**	**318**	P			**P**	**15 50 10.7**	**+0.5**
TJN	**Taejon**	**22.57**	**318**	*e*P			**P**	**15 50 09.6**	**-0.6**
KSRS	**Korea Array**	**22.94**	**321**	P			**P**	**15 50 15.1**	**+1.1**
	comp=Z,26nm,0.8s,baz=150,slow=9.1,SNR=74								
	comp=Z,26nm,0.8s								
KSAR	**Wonju Array Be**	**22.95**	**321**				**P**	**15 50 15.1**	**+0.9**
KSAR	**Wonju Array Be**	**22.95**	**321**	P			**P**	**15 50 15.1**	**+0.9**
KS19	**Wonju Array Si**	**23.00**	**321**	P			**P**	**15 50 15.0**	**+0.2**
KS19				IAmb			IAmb	15 50 17.2	
	comp=Z,43nm,1.0s								
JAY	**Jayapura**	**23.39**	**193**	LR			LR	15 59 20.4	
	comp=Z,174nm,19.1s,baz=25,slow=36								
DAV	**Davao City (W)**	**23.67**	**239**	LR			LR	15 59 00.7	
	comp=Z,43nm,21.7s,baz=21,slow=35								
ASAJ	**Asahikawa**	**23.71**	**354**	LR			LR	16 03 10.0	
	comp=Z,55nm,18.1s,baz=168,slow=45								
INCN	**Inchon**	**23.73**	**320**				**P**	**15 50 22.4**	**+0.6**
INCN				IAmb			IAmb	15 50 22.9	
	comp=Z,33nm,0.8s								
INCN	**Inchon**	**23.73**	**320**	P			**P**	**15 50 22.4**	**+0.6**
INCN				pmax			pmax		
	comp=Z,33nm,0.8s								
MSHR	**Mys Shultsa**	**25.22**	**334**	*i* P			**P**	**15 50 35.9**	**+0.6**
RABL	**Rabaul**	**25.32**	**165**				**P**	**15 50 35.8**	**-0.7**
RABL				IAmb			IAmb	15 50 36.4	
	comp=Z,17nm,0.7s								
TEY	**Ternei**	**25.63**	**345**	*e*P			P	15 50 46.6	+7.7
USA0B	**Ussuriysk Arra**	**26.28**	**337**	*i* P			**P**	**15 50 44.1**	**-0.8**
USRK	**Ussuriysk Ar.**	**26.28**	**337**				**P**	**15 50 45.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**26.28**	**337**	P			**P**	**15 50 46.5**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=168,slow=8.2,SNR=11								
	comp=Z,5.2nm,0.8s								
NJ2	**Nanjing**	**26.66**	**301**	*e*P			**P**	**15 50 49.8**	**+1.3**
NJ2				pmax			pmax		
	comp=Z,8.0nm,0.7s								
MDJ	**Mudanjiang**	**27.55**	**335**	P			**P**	**15 50 55.8**	**-0.5**
MDJ				pmax			pmax		
	comp=Z,7.0nm,1.4s								
CN2	**Changchun**	**28.76**	**329**	*e*P			**P**	**15 51 11.0**	**+3.8**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
BNX	**BinXian**	**29.36**	**333**	⇓P			**P**	**15 51 14.0**	**+1.6**
BNX				pmax			pmax		
	comp=Z,18nm,0.7s								
TIA	**Tai'an**	**29.53**	**308**	P			**P**	**15 51 13.8**	**-0.2**
TIA				pmax			pmax		
	comp=Z,7.0nm,0.8s								
PMG	**Port Moresby**	**29.74**	**177**	LR			LR	16 01 31.4	
	comp=Z,130nm,21.6s,baz=348,slow=33								
LUWI	**Luwuk**	**31.06**	**229**	P			**P**	**15 51 27.0**	**-0.8**
TOLI2	**Tolitoli**	**31.09**	**235**	P			**P**	**15 51 29.2**	**+1.1**
TOLI2				IAmb			IAmb	15 51 31.6	
	comp=Z,17nm,0.8s								
GRNR	**Gornyy**	**31.10**	**348**	⇑*i*P			**P**	**15 51 29.5**	**+1.7**
GRNR				pmax			pmax		
	comp=Z,10.0nm,0.8s								
HNS	**HongShan**	**31.78**	**309**	⇓P			**P**	**15 51 34.0**	**+0.1**
KKM	**Kota Kinabalu**	**32.05**	**248**	P			**P**	**15 51 38.3**	**+1.6**
HNR	**Honiara**	**32.85**	**154**	LR			LR	16 04 06.2	
	comp=Z,243nm,21.6s,baz=349,slow=34								
HEH	**HeiHe**	**33.07**	**338**	*e*P			**P**	**15 51 46.0**	**+1.0**
HEH				pmax			pmax		
	comp=Z,20nm,1.2s								
QIZ	**Qiongzhong**	**33.79**	**274**	P			**P**	**15 51 52.1**	**+0.4**
QIZ				sP			**sP**	**15 52 07.7**	**0.0**
PETK	**Petropavlovsk-**	**33.84**	**13**	P			**P**	**15 51 51.0**	**-0.8**
PETK	**Petropavlovsk-**	**33.84**	**13**	P			**P**	**15 51 53.4**	**+1.7**
	comp=Z,5.1nm,0.9s,baz=185,slow=7.4,SNR=6.7								
PETK				LR			LR	16 03 30.7	
	comp=Z,166nm,21.9s,baz=206,slow=32								
	comp=Z,5.1nm,0.9s								
PET	**Petropavlovsk**	**33.97**	**14**	*ce*P			**P**	**15 51 52.8**	**0.0**
PET				pmax			pmax		
	comp=Z,33nm,1.7s								
XLT	**XiLinHaoTe**	**33.98**	**320**	*e*P			**P**	**15 51 52.0**	**-1.2**
XLT				sP			pP	15 52 03.5	-0.8
XLT				pmax			pmax		
	comp=Z,5.0nm,0.8s								
XLT				LR			LR		
	comp=Z,14nm,22.1s								
XLT				LR			LR		
	comp=Z,130nm,16.2s								
XLT				LR			LR		
	comp=Z,190nm,22.5s								
COEN	**Coen**	**34.33**	**184**	P			**P**	**15 51 56.6**	**+0.4**
COEN				IAmb			IAmb	15 52 58.6	
	comp=Z,27nm,1.5s								
HHC	**Hu-ho-hao-te**	**35.41**	**313**	*e*P			P	15 51 59.8	-5.8
HHC				pmax			pmax		
	comp=Z,10.0nm,0.6s								
HHC				pmax			pmax		
	comp=Z,75nm,4.2s								
HHC				LR			LR		
	comp=N,120nm,15.1s								
HHC				LR			LR		
	comp=E,120nm,17.7s								
HHC				LR			LR		
	comp=Z,130nm,15.1s								
ZEA	**Zeya**	**36.09**	**341**	*e*P			**P**	**15 52 11.8**	**+0.7**
ZEA				pmax			pmax		
	comp=N,20nm,0.6s								
ZEA				pmax			pmax		
	comp=Z,20nm,0.7s								
MTN	**Manton Dam**	**36.11**	**205**	P			**P**	**15 52 12.4**	**+0.7**
MTN				IAmb			IAmb	15 52 36.4	
	comp=Z,37nm,1.5s								
GYA	**Guiyang**	**36.25**	**287**	⇑P			**P**	**15 52 15.5**	**+2.5**
GYA				pmax			pmax		
	comp=Z,6.0nm,0.6s								
SBUM	**Sibu**	**37.30**	**246**	P			**P**	**15 52 22.9**	**+1.1**
SHEM	**Shemya Is, Ala**	**38.92**	**27**	LR			LR	16 06 22.6	
	comp=Z,122nm,21.5s,baz=284,slow=32								
MA2	**Magadan**	**39.21**	**4**	LR			LR	16 08 48.7	
	comp=Z,45nm,19.9s,baz=207,slow=36								
MA2	**Magadan**	**39.21**	**4**	*ce*P			**P**	**15 52 37.7**	**+0.3**
MA2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
KNRA	**Kununurra**	**39.63**	**206**	P			**P**	**15 52 41.6**	**+0.3**
PZH	**PanZhiHua**	**40.66**	**287**	P			**P**	**15 52 51.0**	**+1.0**
ULN	**Ulaanbaatar**	**41.42**	**320**	*i* P			**P**	**15 52 56.1**	**+0.1**
ULN				pmax			pmax		
	comp=Z,2.0nm,0.8s								
WB0	**Warramunga Arr**	**41.53**	**196**	P			**P**	**15 52 56.3**	**-0.6**
WR8	**Warramunga Arr**	**41.68**	**196**	P			**P**	**15 52 56.8**	**-1.4**
WRAB	**Tennant Creek**	**41.70**	**196**	P			**P**	**15 52 56.7**	**-1.6**
WRAB	**Tennant Creek**	**41.70**	**196**	P			**P**	**15 52 56.7**	**-1.6**
WRAB				pmax			pmax		
	comp=Z,9.0nm,0.8s								
WRA	**Warramunga Arr**	**41.71**	**196**	P			**P**	**15 52 58.2**	**-0.2**
	comp=Z,8.3nm,0.7s,baz=17,slow=8.9,SNR=52								
WRA				PcP			**PcP**	**15 54 54.1**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=358,slow=2.5,SNR=1.9								
	comp=Z,8.3nm,0.7s								
WRA	**Warramunga Arr**	**41.71**	**196**	*i* P			**P**	**15 52 58.2**	**-0.2**
WRA				pmax			pmax		
	comp=Z,9.0nm,0.6s								
SONM	**Songino Array**	**41.80**	**320**	P			**P**	**15 52 57.5**	**-1.6**
SONM	**Songino Array**	**41.80**	**320**	P			**P**	**15 52 59.3**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=132,slow=7.0,SNR=12								
SONM				PcP			**PcP**	**15 54 54.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=113,slow=3.7,SNR=3.2								
	comp=Z,2.2nm,0.6s								
SEY	**Seymchan**	**42.66**	**4**	LR			LR	16 08 48.7	
	comp=Z,85nm,22.0s,baz=172,slow=33								
SEY	**Seymchan**	**42.66**	**4**	*ce*P			**P**	**15 53 06.5**	**+0.8**
SEY				pmax			pmax		
	comp=Z,4.0nm,1.3s								
YAK	**Yakutsk**	**42.98**	**349**				**P**	**15 53 07.4**	**-0.9**
YAK	**Yakutsk**	**42.98**	**349**	LR			LR	16 12 19.8	
	comp=Z,82nm,20.8s,baz=186,slow=38								
YAK	**Yakutsk**	**42.98**	**349**	*e*P			**P**	**15 53 08.2**	**-0.1**
YAK				*e**PP			**pP**	**15 53 17.5**	**-2.2**
YAK				*e*				15 54 47.7	
YAK				*e*				15 54 58.6	
YAK				*e*S			**S**	**15 59 31.3**	**+1.0**
YAK				*e**SS			**sS**	**15 59 46.5**	**-2.7**
YAK				*e*SS			**SS**	**16 02 43.7**	**+0.5**
YAK				*e*				16 03 05.0	
YAK				*e*SSS			SSS	16 03 20.2	
YAK				pmax			pmax		
	comp=Z,14nm,1.2s								
YAK				pmax			pmax		
	comp=N,4.0nm,0.8s								
YAK				pmax			pmax		
	comp=E,2.0nm,0.9s								
YAK				pmax			pmax		
	comp=Z,37nm,3.0s								
YAK				pmax			pmax		
	comp=N,60nm,3.0s								
YAK				pmax			pmax		
	comp=E,38nm,2.8s								
YAK				smax			smax		
	comp=N,25nm,3.0s								
YAK				smax			smax		
	comp=E,21nm,2.5s								
YAK	**Yakutsk**	**42.98**	**349**	P			**P**	**15 53 08.6**	**+0.3**
YAK				pP			**pP**	**15 53 19.6**	**0.0**
FITZ	**Fitzroy Crossi**	**43.13**	**209**				**P**	**15 53 10.2**	**+0.2**
GTA	**Gaotai**	**43.53**	**306**	P			**P**	**15 53 13.5**	**+0.2**
GTA				pP			pP	15 53 23.5	-1.1
GTA				PcP			**PcP**	**15 55 01.8**	**+1.2**
GTA				pmax			pmax		
	comp=E,7.0nm,0.8s								
GTA				LR			LR		
	comp=E,180nm,17.1s								
GTA				LR			LR		
	comp=E,89nm,15.1s								
GTA				LR			LR		
	comp=E,130nm,20.7s								
TNCH	**TengChong**	**43.63**	**285**	P			**P**	**15 53 17.5**	**+3.2**
TNCH				pP			pP	15 53 25.5	-0.2
TNCH				sP			sP	15 53 31.5	+0.9
TNCH				S			**S**	**15 59 35.5**	**-5.7**
TNCH				pmax			pmax		
	comp=E,13nm,0.5s								
TNCH				pmax			pmax		
	comp=E,150nm,4.2s								
TNCH				LR			LR		
	comp=E,170nm,5.8s								
TNCH				LR			LR		
	comp=E,200nm,6.9s								
TNCH				LR			LR		
	comp=E,280nm,9.9s								
BOD	**Bodaibo**	**43.90**	**336**	*e*P			**P**	**15 53 15.9**	**+0.1**
BOD				pmax			pmax		
	comp=Z,13nm,1.2s								
CMAR	**Chiang Mai Arr**	**44.07**	**276**	P			**P**	**15 53 19.1**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=84,slow=8.1,SNR=4.4								
CMAR				LR			LR	16 12 47.1	
	comp=Z,45nm,19.0s,baz=75,slow=38								
	comp=Z,0.8nm,0.6s								
ZAK	**Zakamensk**	**44.77**	**322**	*e*P			**P**	**15 53 22.4**	**-0.6**
ZAK				pmax			pmax		
	comp=Z,3.0nm,0.8s								
AS31	**Alice Springs**	**45.38**	**195**	P			**P**	**15 53 27.2**	**-0.8**
ASAR	**Alice Springs**	**45.38**	**195**	P			**P**	**15 53 26.8**	**-1.2**
ASAR	**Alice Springs**	**45.38**	**195**	P			**P**	**15 53 27.4**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=18,slow=7.6,SNR=32								
	comp=Z,2.4nm,0.6s								
KULM	**Kulim**	**46.31**	**257**	P			**P**	**15 53 36.9**	**+1.3**
DZM	**Mont Dzumac**	**46.88**	**153**	P			**P**	**15 53 38.5**	**-1.3**
DZM	**Mont Dzumac**	**46.88**	**153**	P			**P**	**15 53 39.0**	**-0.8**
	comp=Z,23nm,1.0s,baz=33,slow=4.4,SNR=10								
	comp=Z,23nm,1.0s								
DZM	**Mont Dzumac**	**46.88**	**153**	P			**P**	**15 53 40.1**	**+0.2**
NIKH	**Nikolski High**	**47.52**	**36**	P			**P**	**15 53 44.6**	**+0.2**
	baz=245								
SPIA	**Saint Paul Isl**	**48.76**	**30**	P			**P**	**15 53 54.7**	**+0.8**
	baz=240								
UNV	**Unalaska Valle**	**49.16**	**35**	P			**P**	**15 53 57.3**	**+0.2**
UNV				IAmb			IAmb	15 53 58.7	
	comp=Z,14nm,0.8s								
UNV	**Unalaska Valle**	**49.16**	**35**	P			**P**	**15 53 57.7**	**+0.6**
	baz=246								
BILL	**Bilibino**	**49.26**	**10**	*i* P			**P**	**15 53 56.9**	**-0.7**
BILL				pmax			pmax		
	comp=Z,11nm,1.2s								
GSI	**Gunungsitoli**	**50.74**	**254**	P			**P**	**15 54 11.3**	**+1.7**
TIXI	**Tiksi**	**52.11**	**353**	LR			LR	16 16 42.9	
	comp=Z,44nm,21.5s,baz=205,slow=36								
M11K	**Mekoryuk**	**52.17**	**28**	P			**P**	**15 54 20.3**	**+0.7**
	baz=242								
STKA	**Stephens Creek**	**52.22**	**184**	P			**P**	**15 54 19.9**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=352,slow=15,SNR=3.5								
	comp=Z,2.7nm,0.9s								
SDPT	**Sand Point**	**52.98**	**35**	P			**P**	**15 54 25.1**	**-0.5**
SDPT	**Sand Point**	**52.98**	**35**	P			**P**	**15 54 25.8**	**+0.1**
	baz=251								
WMQ	**Urumqi**	**53.20**	**310**	*e*P			**P**	**15 54 31.3**	**+3.7**
CHNA	**Chernabura Isl**	**53.30**	**36**	P			**P**	**15 54 28.5**	**+0.4**
	baz=252								
M13K	**Dall Lake**	**53.45**	**29**	P			**P**	**15 54 30.2**	**+1.1**
	baz=245								
K13K	**Kusilvak Mount**	**53.55**	**27**	P			**P**	**15 54 30.3**	**+0.5**
K13K	**Kusilvak Mount**	**53.55**	**27**	P			**P**	**15 54 31.1**	**+1.2**
	baz=242,SNR=5.7								
S14K	**Fog Glacier**	**53.77**	**34**	P			**P**	**15 54 32.1**	**+0.4**
	baz=251								
EVN	**Everest**	**53.83**	**290**	P			**P**	**15 54 32.8**	**-0.4**
O14K	**Tigyukauivet M**	**53.95**	**30**	P			**P**	**15 54 33.8**	**+1.0**
	baz=248								
N14K	**Kuskokwak Cree**	**54.01**	**30**	P			**P**	**15 54 34.2**	**+1.1**
	baz=247								
L14K	**Kuka Creek**	**54.14**	**28**	P			**P**	**15 54 35.4**	**+1.3**
	baz=245								
M14K	**Bethel**	**54.21**	**29**	P			**P**	**15 54 35.8**	**+1.2**
	baz=246,SNR=5.7								
CHGN	**Chignik**	**54.38**	**35**	P			P	**15 54 36.3**	**+0.4**
	baz=252								
J14K	**Nanvaranak Lak**	**54.39**	**26**	P			P	**15 54 37.2**	**+1.3**
	baz=243								
ANM	**Nome**	**54.54**	**24**	P			P	**15 54 37.7**	**+0.8**
	baz=240								
O15K	**Ungalikthiuk R**	**54.61**	**31**	P			P	**15 54 38.4**	**+0.8**
	baz=249								
F14K	**Arctic Creek**	**54.66**	**22**	P			P	**15 54 38.6**	**+0.8**
	baz=238								
M15K	**Kasigluk River**	**54.76**	**29**	P			P	**15 54 39.6**	**+1.0**
	baz=247								
L15K	**Ungalak Mounta**	**54.80**	**28**	P			P	**15 54 39.5**	**+0.6**
	baz=246								
N15K	**Kwethluk River**	**54.84**	**30**	P			P	**15 54 40.3**	**+1.1**
	baz=248,SNR=7.0								
K15K	**Wolf Creek Mou**	**55.03**	**27**	P			P	**15 54 41.3**	**+0.7**
K15K				IAmb			IAmb	15 54 43.6	
	comp=Z,15nm,1.2s								
K15K	**Wolf Creek Mou**	**55.03**	**27**	P			P	**15 54 41.7**	**+1.1**
	baz=245								
G15K	**Niukluk**	**55.25**	**23**	P			P	**15 54 43.0**	**+0.9**
	baz=241								
F15K	**North Star Dit**	**55.38**	**23**	P			P	**15 54 43.5**	**+0.5**
	baz=240								
P16K	**Nushagak River**	**55.45**	**31**	P			P	**15 54 44.7**	**+1.1**
	baz=251								
N16K	**Nishlik Lake**	**55.56**	**30**	P			P	**15 54 45.6**	**+1.1**
	baz=249,SNR=8.7								
O16K	**Kokwok River B**	**55.58**	**31**	P			P	**15 54 45.7**	**+1.2**
	baz=251,SNR=6.1								
CAN	**Canberra**	**55.59**	**177**	P			P	**15 54 45.3**	**+0.4**
CAN	**Canberra**	**55.59**	**177**	P			P	**15 54 45.3**	**+0.4**
CAN				pmax			pmax		
	comp=Z,63nm,1.9s								
ZSN	**Zaisan**	**55.59**	**314**	*e*P			P	**15 54 45.6**	**+0.7**
ZSN	**Zaisan**	**55.59**	**314**	*e*P			P	**15 54 45.7**	**+0.7**
M16K	**Timber Creek**	**55.67**	**29**	P			P	**15 54 45.9**	**+0.7**
M16K				IAmb			IAmb	15 54 47.5	
	comp=Z,7.8nm,0.8s								
M16K	**Timber Creek**	**55.67**	**29**	P			P	**15 54 46.1**	**+0.9**
	baz=249								
L16K	**Owhat River**	**55.69**	**28**	P			P	**15 54 45.9**	**+0.5**
L16K				IAmb			IAmb	15 54 47.3	
	comp=Z,12nm,1.1s								
L16K	**Owhat River**	**55.69**	**28**	P			P	**15 54 46.0**	**+0.6**
	baz=248								
CHIR	**Chirikof Islan**	**55.75**	**36**	P			P	**15 54 46.1**	**+0.2**
	baz=255								
H16K	**Elim**	**55.76**	**24**	P			P	**15 54 45.9**	**+0.1**
	baz=243								
J16K	**Anvik River**	**55.83**	**26**	P			P	**15 54 47.8**	**+1.5**
	baz=246								
P17K	**Kvichak River**	**56.26**	**32**	P			P	**15 54 50.5**	**+1.1**
	baz=252								
N17K	**Nushagak Hills**	**56.32**	**30**	P			P	**15 54 51.1**	**+1.2**
	baz=251								
L17K	**Donlin**	**56.37**	**28**	P			P	**15 54 51.6**	**+1.4**
	baz=249,SNR=5.8								
C16K	**Lisburne Hills**	**56.47**	**20**	P			P	**15 54 52.3**	**+1.6**
	baz=238								
M17K	**Holitna River**	**56.49**	**29**	P			P	**15 54 52.6**	**+1.5**
	baz=250								
J17K	**VABM Nome**	**56.51**	**26**	P			P	**15 54 52.7**	**+1.6**
	baz=247								
K17K	**Iditarod**	**56.58**	**27**	P			P	**15 54 52.6**	**+1.0**
	baz=248,SNR=8.8								
ZAA0	**Zalesovo Array**	**56.64**	**322**	P			P	**15 54 51.6**	**-0.6**
ZALV	**Zalesovo Beam**	**56.64**	**322**	P			P	**15 54 51.5**	**-0.8**
ZALV	**Zalesovo Beam**	**56.64**	**322**	P			P	**15 54 51.7**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=108,slow=7.8,SNR=13								
ZALV				PcP			**PcP**	**15 55 47.7**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=117,slow=4.4,SNR=2.2								
ZALV				LR			LR	16 19 16.9	
	comp=Z,118nm,19.7s,baz=109,slow=36								
	comp=Z,2.1nm,0.5s								
SII	**Sitkinak Islan**	**56.71**	**35**	P			P	**15 54 53.6**	**+0.9**
	baz=256								
G17K	**Kiwalik Mounta**	**56.75**	**24**	P			P	**15 54 54.2**	**+1.4**
	baz=244								
H17K	**Granite Mounta**	**56.79**	**24**	P			P	**15 54 54.4**	**+1.3**
	baz=245								
Q18K	**Katmai Hardscr**	**56.81**	**32**	P			P	**15 54 53.4**	**-0.1**
	baz=254								
D17K	**Noatak River**	**56.90**	**21**	P			P	**15 54 55.2**	**+1.4**
	baz=240								
P18K	**Big Mountain,**	**56.91**	**32**	P			P	**15 54 54.0**	**-0.1**
	baz=254								
N18K	**Kilae Creek**	**56.97**	**30**	IAmb			IAmb	15 54 57.0	
	comp=Z,8.6nm,0.8s								
N18K	**Kilae Creek**	**56.97**	**30**	P			P	**15 54 55.6**	**+1.1**
	baz=252								
E17K	**Hothan Inlet**	**57.04**	**22**	P			P	**15 54 56.2**	**+1.4**
	baz=242								
L18K	**Granite Mounta**	**57.11**	**28**	IAmb			IAmb	15 54 58.2	
	comp=Z,18nm,1.4s								
L18K	**Granite Mounta**	**57.11**	**28**	P			P	**15 54 56.8**	**+1.4**
	baz=250								
M18K	**Stony River**	**57.26

H20K Anotleneega Mo 58.97 25 P P 15 55 09.4 +1.0
baz=250,SNR=5.7

SHLS Shalkode 59.14 309 eP P 15 55 08.6 -1.5
SHLS pmax pmax
comp=Z,5.0nm,0.7s

SHLS Shalkode 59.14 309 eP P 15 55 08.6 -1.5
comp=Z,4.7nm,0.7s

F20K Avaraart Lake 59.20 23 P P 15 55 11.3 +1.4
baz=248

PPLA Purkeypile 59.30 28 P P 15 55 11.5 +0.6
baz=254

SKT Skwentna 59.35 29 IAmb IAmb 15 55 11.8
comp=Z,6.0nm,0.8s

SKT Skwentna 59.35 29 P P 15 55 11.2 +0.1
baz=255

CAST Castle Rocks 59.49 28 IAmb IAmb 15 55 14.1
comp=Z,10nm,0.8s

CAST Castle Rocks 59.49 28 P P 15 55 12.9 +0.9
baz=254,SNR=13

E20K Nigu River 59.49 22 P P 15 55 12.9 +0.9
baz=247

KPKS Kokpek 59.71 309 eP P 15 55 14.7 +0.7

KPKS Kokpek 59.71 309 eP P 15 55 14.8 +0.7

G21K Allakaket 59.84 24 P P 15 55 14.6 +0.3

G21K Allakaket 59.84 24 P P 15 55 15.2 +0.8
baz=251

H21K Melozitna Rive 59.84 25 IAmb IAmb 15 55 16.3
comp=Z,6.4nm,0.7s

H21K Melozitna Rive 59.84 25 P P 15 55 15.6 +1.2
baz=252,SNR=5.2

O22K Cooper Landing 59.86 31 P P 15 55 14.9 +0.3
baz=258

B20K Meade River 59.87 20 P P 15 55 15.5 +1.0
baz=245

TDK Taldyqorghan 59.91 311 eP P 15 55 15.9 +0.6
TDK pmax pmax
comp=Z,7.0nm,0.5s

TDK Taldyqorghan 59.91 311 eP P 15 55 15.9 +0.6
comp=Z,6.5nm,0.5s

SATY Saty 59.91 309 eP P 15 55 16.0 +0.5
SATY pmax pmax
comp=Z,7.0nm,1.3s

SATY Saty 59.91 309 eP P 15 55 16.0 +0.5
comp=Z,7.4nm,1.3s

SEW Seward 59.92 32 P P 15 55 15.6 +0.6
baz=258

M22K Willow 59.95 30 P P 15 55 15.9 +0.8
baz=257

RC01 Rabbit Creek A 59.99 30 P P 15 55 15.7 +0.2
baz=258

KURK Kurchatov 59.99 317 P P 15 55 14.6 -1.1
KURK IAmb IAmb 15 55 18.1
comp=Z,7.3nm,0.8s

KURK Kurchatov 59.99 317 ceP P 15 55 15.7 0.0
KURK pmax pmax
comp=Z,17nm,1.7s

KURK Kurchatov 59.99 317 P P 15 55 15.5 -0.2

I21K Tanana 60.02 26 P P 15 55 16.7 +1.1
baz=253,SNR=6.2

KTH Kantishna Hill 60.02 28 IAmb IAmb 15 55 18.1
comp=Z,21nm,1.3s

KURBB Kurchatov Arra 60.04 317 P P 15 55 15.8 -0.2
comp=Z,4.9nm,0.6s,baz=92,slow=7.5,SNR=53
comp=Z,4.9nm,0.6s

F21K Alatna River 60.08 23 P P 15 55 17.1 +1.1
baz=251

BPAW Bear Paw Mtn. 60.14 27 P P 15 55 17.1 +0.6
baz=255

TRF Thorofare Moun 60.27 28 P P 15 55 18.1 +0.4
baz=256,SNR=5.2

C21K Knifeblade Rid 60.30 21 P P 15 55 18.6 +1.1
baz=248

E21K Killik River 60.32 22 P P 15 55 18.6 +0.9
baz=250

PMR Palmer 60.38 30 P P 15 55 19.0 +0.9
baz=258

H22K Ishtalitna Cre 60.47 25 P P 15 55 19.9 +1.2
baz=253

MLY Manley 60.49 26 IAmb IAmb 15 55 20.5
comp=Z,5.0nm,0.7s

MLY Manley 60.49 26 P P 15 55 19.8 +0.8
baz=254

B21K Ikpikpuk River 60.53 20 P P 15 55 20.2 +1.2
baz=248

A21K Barrow 60.58 18 P P 15 55 20.3 +1.0
baz=245

F22K John River 60.65 23 P P 15 55 21.2 +1.3
baz=252,SNR=7.9

KNK Knik Glacier 60.66 30 P P 15 55 20.5 +0.4
baz=259

RND Reindeer 60.89 28 IAmb IAmb 15 56 05.7
comp=Z,8.5nm,1.2s

WAT1 Susitna Watana 60.90 29 P P 15 55 22.4 +0.7
baz=258

MDOK Medeo 60.91 309 eP P 15 55 22.8 +0.5

MDOK Medeo 60.91 309 eP P 15 55 22.9 +0.5

D22K Ayikyak River 60.91 21 P P 15 55 22.7 +1.0
baz=250,SNR=6.0

MCK McKinley 60.93 28 P P 15 55 22.3 +0.4
baz=257

E22K Anaktuvuk Pass 60.98 22 P P 15 55 22.9 +0.7
baz=252

TNSS Tian-Shan 60.98 309 eP P 15 55 23.4 +0.3

TNSS Tian-Shan 60.98 309 eP P 15 55 23.4 +0.3

AAA Alma-Ata 61.00 309 eP P 15 55 23.3 +0.5

AAA Alma-Ata 61.00 309 eP P 15 55 23.3 +0.5

NEA2 Nenana 61.07 27 IAmb IAmb 15 55 24.6
comp=Z,6.8nm,0.7s

NEA2 Nenana 61.07 27 P P 15 55 23.0 +0.2
baz=256

M23K Glacier View 61.07 30 P P 15 55 23.5 +0.6
baz=259

I23K Minto, Yukon-K 61.08 26 IAmb IAmb 15 55 25.1
comp=Z,9.1nm,0.7s

I23K Minto, Yukon-K 61.08 26 P P 15 55 23.6 +0.7
baz=256,SNR=9.5

H23K Yukon River 61.18 25 P P 15 55 24.4 +0.8
baz=255

GLI Glacier Island 61.21 31 P P 15 55 24.0 +0.2
baz=260

WAT6 Susitna Watana 61.22 29 P P 15 55 24.2 +0.1
baz=259,SNR=7.8

G23K Bananza Creek 61.22 24 IAmb IAmb 15 55 28.1
comp=Z,14nm,1.5s

G23K Bananza Creek 61.22 24 P P 15 55 24.7 +0.8
baz=254

SCM Sheep Creek Mo 61.27 30 P P 15 55 25.1 +0.8
baz=260,SNR=6.9

COLD Coldfoot 61.30 24 P P 15 55 25.6 +1.3
baz=254

KUU Kurty 61.40 310 eP P 15 55 26.2 +0.8
KUU pmax pmax
comp=Z,8.0nm,1.1s

KUU Kurty 61.40 310 eP P 15 55 26.3 +0.8
comp=Z,8.1nm,1.1s

DHY Denali Highway 61.48 28 P P 15 55 26.0 +0.2
DHY IAmb IAmb 15 55 28.2
comp=Z,17nm,1.4s

DHY Denali Highway 61.48 28 P P 15 55 26.5 +0.7
baz=259,SNR=6.3

D23K Nanushuk River 61.63 22 P P 15 55 27.8 +1.3
baz=252

COLA College 61.64 26 iP P 15 55 27.1 +0.5
COLA pmax pmax
comp=Z,5.0nm,0.6s

E23K Chandalar 61.74 23 P P 15 55 28.6 +1.2
baz=254,SNR=10

EYAK Cordova Ski Ar 61.81 31 P P 15 55 28.5 +0.7
baz=262

H24K Noodor Dome 61.85 25 IAmb IAmb 15 55 30.6
comp=Z,5.6nm,0.7s

H24K Noodor Dome 61.85 25 P P 15 55 29.1 +1.0
baz=257,SNR=8.1

M24K Tolsona, Glenn 61.85 30 P P 15 55 29.2 +1.0
baz=260

POKR Poker Plat Res 61.87 26 P P 15 55 28.1 -0.1
baz=258

KLU Klutina 61.87 30 IAmb IAmb 15 55 30.2
comp=Z,18nm,1.3s

KLU Klutina 61.87 30 P P 15 55 29.0 +0.6
baz=261

KSH Kashi 61.89 305 P P 15 55 32.8 +3.8
KSH pP pwP 15 55 43.0 -1.0
KSH pmax pmax
comp=Z,4.0nm,0.8s

C23K Itkillik River 61.91 21 P P 15 55 30.1 +1.6
baz=252

TOLK Toolik Lake Re 61.92 22 P P 15 55 29.8 +1.2
baz=254,SNR=6.5

HDA Harding Lake 61.93 27 P P 15 55 28.6 0.0
baz=258,SNR=6.2

IL31 62.02 27 IAmb IAmb 15 55 29.1
comp=Z,6.4nm,0.8s

ILAR Eielson Array 62.02 27 P P 15 55 28.0 -1.2

ILAR Eielson Array 62.02 27 P P 15 55 28.6 -0.7
comp=Z,3.9nm,0.7s,baz=258,slow=5.2,SNR=38
ILAR LR LR 16 21 14.9
comp=Z,69nm,19.8s,baz=280,slow=35
comp=Z,3.9nm,0.7s

E24K Your Creek 62.16 23 P P 15 55 31.5 +1.4
baz=255

G24K Hadweenzic Riv 62.20 24 P P 15 55 31.8 +1.4
baz=257

F24K Squaw Lake 62.24 23 P P 15 55 31.9 +1.3
baz=256

PAX Paxson 62.31 29 P P 15 55 32.0 +0.6
baz=261,SNR=5.5

K24K Donnelly Dome 62.32 28 P P 15 55 31.5 +0.2
baz=260

D24K Happy Valley 62.32 22 IAmb IAmb 15 55 33.6
comp=Z,10nm,0.8s

D24K Happy Valley 62.32 22 P P 15 55 32.0 +0.9
baz=254

HARP HAARP 62.37 29 P P 15 55 32.4 +0.8
baz=261

BMRM Bremner River 62.43 31 IAmb IAmb 15 55 34.1
comp=Z,22nm,1.3s

BMRM Bremner River 62.43 31 P P 15 55 32.7 +0.6
baz=262

N25K Chitina, Valde 62.51 30 P P 15 55 33.1 +0.4
baz=262

J25K Salcha River, 62.63 27 P P 15 55 33.1 -0.3
baz=260,SNR=6.7

SGDS Sogindy 62.66 309 eP P 15 55 34.4 +0.4

RIDG Independent Ri 62.72 28 IAmb IAmb 15 55 35.3
comp=Z,9.0nm,0.8s

RIDG Independent Ri 62.72 28 P P 15 55 34.3 +0.4
baz=261,SNR=8.3

PRP Porcupine Dome 62.73 26 P P 15 55 34.6 +0.4
baz=259

H25L Birch Creek 62.76 25 P P 15 55 35.3 +1.2
baz=259

AAK Ala-Archa 62.80 308 LR LR 16 23 46.2
comp=Z,91nm,19.1s,baz=162,slow=37

AAK Ala-Archa 62.80 308 ceP P 15 55 37.2 +2.1
AAK pmax pmax
comp=Z,3.0nm,1.7s

GLB Gilahina Butte 62.87 31 IAmb IAmb 15 55 37.8
comp=Z,22nm,1.4s

BTLS Baital 63.00 311 eP P 15 55 36.6 +0.5
BTLS pmax pmax
comp=Z,5.0nm,1.1s

BTLS Baital 63.00 311 eP P 15 55 36.6 +0.5
comp=Z,4.5nm,1.1s

DOT Dot Lake 63.05 28 IAmb IAmb 15 55 37.4
comp=Z,6.0nm,0.6s

F25K Christian Rive 63.09 24 IAmb IAmb 15 55 39.1
comp=Z,5.6nm,0.8s

F25K Christian Rive 63.09 24 P P 15 55 37.6 +1.2
baz=258,SNR=6.3

SCRK Sand Creek 63.13 28 IAmb IAmb 15 55 38.0
comp=Z,7.6nm,0.8s

SCRK Sand Creek 63.13 28 P P 15 55 37.2 +0.4
baz=262,SNR=11

CRQE Cirque 63.14 31 P P 15 55 37.5 +0.6
baz=264

D25K Kavik River 63.21 22 IAmb IAmb 15 55 39.0
comp=Z,7.6nm,0.7s

D25K Kavik River 63.21 22 P P 15 55 38.2 +1.0
baz=256

E25K Arctic Village 63.23 23 P P 15 55 38.7 +1.4
baz=258

MCARA McCarthy VSAT 63.24 31 P P 15 55 38.4 +1.0
baz=264

L26K Log Cabin Wild 63.28 29 P P 15 55 38.7 +1.0
baz=263

M26K Nabesna, AK 63.37 30 P P 15 55 39.2 +0.9
baz=263

J26L Joseph Creek 63.39 27 IAmb IAmb 15 55 39.6
comp=Z,4.4nm,0.7s

J26L Joseph Creek 63.39 27 P P 15 55 38.9 +0.4
baz=262,SNR=14

F26K Sheenjek River 63.67 24 IAmb IAmb 15 55 42.9
comp=Z,5.4nm,0.7s

F26K Sheenjek River 63.67 24 P P 15 55 41.7 +1.4
baz=260,SNR=8.6

G26K Porcupine Rive 63.68 24 IAmb IAmb 15 55 42.7
comp=Z,6.2nm,0.8s

G26K Porcupine Rive 63.68 24 P P 15 55 41.4 +1.2
baz=260,SNR=6.4

BRZS Berezniki 63.78 316 eP P 15 55 41.8 +0.7

BRZS Berezniki 63.78 316 eP P 15 55 41.9 +0.7

M27K Edge Creek, AK 63.88 30 P P 15 55 42.5 +0.7
baz=264

L27K Beaver Creek, 63.97 29 P P 15 55 43.1 +0.8
baz=264,SNR=5.2

CTG Chitna Glacier 64.01 31 P P 15 55 43.2 +0.6
baz=265

I27K Kandik River 64.35 26 P P 15 55 45.5 +0.8
baz=263

BVCY Beaver Creek 64.36 30 P P 15 55 45.6 +0.8
baz=265

H27K Steamboat Moun 64.47 25 P P 15 55 46.6 +1.2
baz=263,SNR=5.8

PINM Pinnacle 64.49 32 P P 15 55 46.6 +0.9
baz=267

G27K Doyon Strip 64.49 25 P P 15 55 46.7 +1.1
baz=262

YUK3 Moose Creek 64.49 30 P P 15 55 46.2 +0.2
baz=266

O28M Mount Upton 64.56 32 P P 15 55 47.5 +1.1
baz=266

E27K Coleen River 64.71 23 P P 15 55 48.3 +1.4
baz=262

NIL Nilore 64.72 298 P P 15 55 48.0 +0.3

NIL Nilore 64.72 298 P P 15 55 48.0 +0.3
NIL pmax pmax
comp=Z,23nm,0.9s

YUK8 Steele Glacier 64.79 31 P P 15 55 48.9 +1.0
baz=267

PNL Peninsula 64.90 33 P P 15 55 49.3 +1.0
baz=268

I28M Miner Creek 65.03 26 P P 15 55 49.3 +0.1

I28M Miner Creek 65.03 26 P P 15 55 49.8 +0.6
baz=264

D27M Malcolm River 65.08 22 P P 15 55 51.1 +1.7
baz=262

BVAR Borovoye Array 65.14 320 P P 15 55 50.4 +0.4
comp=Z,14nm,0.5s,baz=94,slow=7.1,SNR=55
BVAR LR LR 16 25 09.0
comp=Z,100nm,20.6s,baz=118,slow=37
comp=Z,14nm,0.5s

DAWY Dawson 65.15 28 P P 15 55 51.0 +1.1
baz=266

F28M Old Crow 65.28 24 P P 15 55 51.8 +1.1
baz=264

O29M Mount Kennedy 65.33 32 P P 15 55 52.7 +1.4
baz=268

YUK4 Talbot Arm 65.34 31 P P 15 55 53.4 +2.0
baz=268,SNR=9.7

URZ Urewera 65.44 153 LR LR 16 20 47.6
comp=Z,123nm,21.3s,baz=308,slow=33

YUK6 Outpost Mounta 65.46 31 P P 15 55 53.6 +1.3
baz=268

M29M Somme Creek 65.47 30 P P 15 55 53.3 +1.2
baz=267

E28M Babbage River 65.52 23 P P 15 55 54.0 +1.8
baz=263

L29M L29M 65.66 29 P P 15 55 55.0 +1.8
baz=267,SNR=5.2

KKAR Karatay Array 65.68 309 P P 15 55 54.0 +0.3

KKAR Karatay Array 65.68 309 P P 15 55 54.0 +0.3

P29M Windy Craggy 65.74 33 P P 15 55 55.1 +1.3
baz=269

HYT Haines Junctio 65.88 32 IAmb IAmb 15 55 57.5
comp=Z,14nm,1.3s

HYT Haines Junctio 65.88 32 P P 15 55 55.7 +0.9
baz=269

D28M Stokes Point 65.88 22 P P 15 55 55.8 +1.4
baz=264

G29M Pine Creek 65.93 25 P P 15 55 56.2 +1.3
baz=266

BKZ Black Stump Fm 65.95 154 P P 15 55 55.4 0.0

K29M Barlow Dome 65.96 28 IAmb IAmb 15 55 57.5
comp=Z,8.2nm,0.9s

K29M Barlow Dome 65.96 28 P P 15 55 56.3 +1.1
baz=268,SNR=6.5

N30M Aishikik Lake 66.09 31 P P 15 55 57.5 +1.4
baz=269

E29M Blow River 66.10 23 P P 15 55 57.2 +1.3
baz=265

IUG Iuzhnay 66.14 308 eP P 15 55 57.1 +0.3
IUG pmax pmax
comp=Z,5.0nm,0.9s

IUG Iuzhnay 66.14 308 eP P 15 55 57.2 +0.4
comp=Z,4.8nm,0.9s

BRLS Boroldav 66.18 309 eP P 15 55 58.2 +1.3

BRLS Boroldav 66.18 309 eP P 15 55 58.3 +1.3

M30M Minto, Yukon 66.25 30 P P 15 55 58.0 +1.0
baz=269

EPYK Eagle Plains 66.42 25 IAmb IAmb 15 55 59.8
comp=Z,9.1nm,0.8s

EPYK Eagle Plains 66.42 25 P P 15 55 58.9 +0.9
baz=267

PLBC Pleasant Camp 66.44 33 P P 15 55 59.2 +0.9
baz=270

J30M Hart River 66.51 27 P P 15 55 59.6 +0.9
baz=268

I30M Mount Dempster 66.51 27 P P 15 55 59.2 +0.4
baz=268

S31K Pelican 66.53 35 P P 15 55 59.8 +0.9
baz=271

O30N Mendenhall 66.57 32 P P 15 55 59.9 +0.7
baz=270

G30M tAoh Zraii Nji 66.64 25 P P 15 56 00.3 +0.8
baz=267

N31M Braeburn, Yuko 66.72 31 P P 15 56 00.8 +0.8
baz=270

F30M Barrier River 66.84 24 P P 15 56 01.8 +1.1
baz=267

BFZ Birch Farm 67.14 155 P P 15 56 02.9 0.0

CHGR Chuyangaron 67.26 304 P P 15 56 04.6 +0.6

CHGR Chuyangaron 67.26 304 P P 15 56 04.6 +0.6
CHGR pmax pmax
comp=Z,28nm,0.6s

H31M Peel River 67.37 26 IAmb IAmb 15 56 06.0
comp=Z,9.4nm,0.9s

H31M Peel River 67.37 26 P P 15 56 04.7 +0.6
baz=270

M31M Drury Creek, Y 67.37 30 P P 15 56 04.9 +0.8
baz=271

SIMJ Simiganj 67.37 304 P P 15 56 05.0 +0.3
SIMJ IAmb IAmb 15 56 07.0
comp=Z,7.0nm,0.8s

SIMJ Simiganj 67.37 304 P P 15 56 05.1 +0.3
SIMJ pP pP 15 56 16.5 -0.3

G31M Satah River 67.41 25 IAmb IAmb 15 56 05.8
comp=Z,13nm,0.8s

G31M Satah River 67.41 25 P P 15 56 04.8 +0.6
baz=269,SNR=6.9

RAR Rarotonga 67.47 125 LR LR 16 18 06.1
comp=Z,101nm,21.1s,baz=244,slow=29

F31M Tsiigehtchic 67.62 24 P P 15 56 05.7 +0.2
baz=269

INK Inuvik 67.71 23 P P 15 56 07.0 +0.8
baz=269

KBL Kabul 68.02 300 P P 15 56 09.1 +0.1

KBL Kabul 68.02 300 P P 15 56 09.1 +0.1
KBL pmax pmax
comp=Z,17nm,0.9s

P33M Teslin, Yukon 68.20 32 P P 15 56 10.2 +0.7
baz=273

R33M Jennings River 69.20 33 P P 15 56 16.7 +0.9
baz=275

S34M Telegraph Cree 69.25 35 P P 15 56 17.2 +1.3
baz=276

DLBC Dease Lake 69.78 34 P P 15 56 20.7 +1.4
baz=276

T35M Bob Quinn 69.82 35 P P 15 56 20.8 +1.2
baz=277

WTLY Watson Lake, Y 70.22 32 P P 15 56 23.0 +1.1
baz=277

TGTN Hyland Airport 70.31 31 P P 15 56 23.4 +0.9
baz=277

C36M Paulatuk 71.07 22 P P 15 56 27.5 +0.6
baz=278

ARTI Arti 71.75 324 P P 15 56 31.3 0.0

ARTI Arti 71.75 324 P P 15 56 31.2 0.0
comp=Z,2.0nm,0.5s,baz=67,slow=1.6,SNR=2.0
comp=Z,2.0nm,0.5s

ARTI Arti 71.75 324 P P 15 56 31.3 0.0
ARTI pmax pmax
comp=Z,7.0nm,0.9s

ARTI Arti 71.75 324 P P 15 56 30.9 -0.3

AB31 Akbulak array 72.08 317 P P 15 56 32.8 -0.5

ABKAR Akbulak array 72.08 317 P P 15 56 32.7 -0.6

KOTAN Kotaneelee Air 72.56 32 P P 15 56 36.7 +0.7
baz=281

AKTO Aktyubinsk 73.07 318 P P 15 56 39.0 -0.3
comp=Z,2.7nm,0.7s,baz=77,slow=5.6,SNR=5.0
comp=Z,2.7nm,0.7s

AKTO Aktyubinsk 73.07 318 P P 15 56 39.0 -0.3

PPT Papeete 73.84 116 LR LR 16 21 31.6
comp=Z,156nm,19.7s,baz=319,slow=30

KIRV Kirov 75.98 328 P P 15 56 56.4 +0.5
comp=Z,14nm,0.6s,baz=71,slow=8.8,SNR=4.3
comp=Z,14nm,0.6s

KIRV Kirov 75.98 328 ceP P 15 56 57.8 +1.9

YKAW3 Yellowknife Wh 76.37 28 P P 15 56 58.6 +0.6
YKAW3 IAmb IAmb 15 59 18.2
comp=Z,14nm,1.4s

YKA Yellowknife Ar 76.39 28 P P 15 56 58.4 +0.2

YKA Yellowknife Ar 76.39 28 P P 15 56 58.5 +0.4
comp=Z,4.0nm,0.8s,baz=298,slow=5.8,SNR=14
comp=Z,4.0nm,0.8s

YKAW1 Yellowknife Wh 76.45 28 IAmb IAmb 15 56 59.5
comp=Z,6.3nm,0.8s

SPITS Spitsbergen Ar 77.42 351 P P 15 57 04.2 +0.4
comp=Z,23nm,1.0s,baz=163,slow=4.0,SNR=3.6
comp=Z,23nm,1.0s

J05D Fort Rock, OR 78.36 48 IAmb IAmb 15 57 11.8
comp=Z,7.2nm,0.8s

PINE Pine Mountain 78.41 48 IAmb IAmb 15 57 12.7
comp=Z,14nm,0.8s

K05A Summer Lake 78.76 49 IAmb IAmb 15 57 14.5
comp=Z,10nm,0.8s

MNRC McLaughlin Min 78.78 53 IAmb IAmb 15 57 15.2
comp=Z,14nm,1.1s

BELG Belogornoye 78.83 322 P P 15 57 12.3 +0.3
comp=Z,27nm,0.8s,baz=283,slow=4.8,SNR=5.2
comp=Z,27nm,0.8s

BELG Belogornoye 78.83 322 iP P 15 57 11.6 -0.4
BELG pmax pmax
comp=Z,5.0nm,0.8s

O03E Paynes Creek 78.83 51 IAmb IAmb 15 57 14.9
comp=Z,29nm,1.6s

ORV Oroville 79.28 52 P P 15 57 14.4 -0.3
ORV IAmb IAmb 15 57 16.6
comp=Z,14nm,1.4s

ORV Oroville 79.28 52 P P 15 57 14.4 -0.3
ORV pmax pmax
comp=Z,14nm,1.4s

APA Apatity 79.37 339 eP P 15 57 13.7 -0.9
APA e 15 57 25.2
APA eSS SS 16 12 18.6 -0.1
APA MLR MLR
comp=Z,560nm,3.6s

KLMR Klimovskoe 79.92 331 eP P 15 57 16.1 -1.6
KLMR pmax pmax
comp=Z,17nm,1.7s

MTOS Mt Oso, Westle 80.03 54 IAmb IAmb 15 57 21.1
comp=Z,12nm,1.1s

MPK Martis Peak 80.44 52 IAmb IAmb 15 57 23.6
comp=Z,15nm,1.1s

BMO Blue Mountains 80.56 46 IAmb IAmb 15 57 23.7
comp=Z,12nm,1.2s

ARCES ARCESS Array B 80.81 342 P P 15 57 22.7 +0.3
comp=Z,5.1nm,0.7s,baz=71,slow=9.1,SNR=9.9
ARCES LR LR 16 36 39.2
comp=Z,64nm,21.1s,baz=80,slow=38
comp=Z,5.1nm,0.7s

NVAR Mina Array Bea 82.00 52 P P 15 57 29.9 +0.2
comp=Z,6.8nm,0.8s,baz=270,slow=4.5,SNR=14
comp=Z,6.8nm,0.8s

AKT Akhty 82.46 311 eP P 15 57 31.7 -0.1
AKT e 16 00 41.2
AKT ePPP PPP 16 02 39.3
AKT pmax pmax
comp=Z,10.0nm,0.7s

BLKN Baker Lake 83.11 23 P P 15 57 34.6 0.0
BLKN IAmb IAmb 15 59 12.7
comp=Z,19nm,1.3s

ELK	**Elko**	**83.41**	**49**	P	**P**	**15 57 35.7**	**-1.2**
ELK	**Elko**	**83.41**	**49**	P	**P**	**15 57 35.7**	**-1.2**
ELK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HRY	**Holter Researc**	**83.46**	**43**	P	**P**	**15 57 37.0**	**0.0**
OBN	**Obninsk**	**83.81**	**327**	*e*P	**P**	**15 57 38.7**	**+0.4**
OBN				*e*		16 00 53.0	
OBN				*e*SSS	SSS	16 16 56.8	
OBN				pmax	pmax		
	comp=Z,39nm,1.5s						
OBN				MLR	MLR		
	comp=Z,74nm,12.0s						
YHL	**Hebgen Lake**	**84.61**	**44**	IAmb	IAmb	15 57 45.6	
	comp=Z,15nm,1.2s						
HVU	**Hansel Valley**	**84.75**	**47**	IAmb	IAmb	15 57 45.9	
	comp=Z,9.1nm,1.3s						
KBZ	**Khabaz**	**84.93**	**315**	P	**P**	**15 57 45.1**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=87,slow=6.1,SNR=5.0						
KBZ				LR	LR	16 38 50.9	
	comp=Z,73nm,20.2s,baz=72,slow=38						
	comp=Z,2.4nm,0.7s						
KBZ	**Khabaz**	**84.93**	**315**	*c*eP	**P**	**15 57 44.0**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KVAR	**Kislovodsk Arr**	**84.97**	**315**	LR	LR	16 38 55.7	
	comp=Z,39nm,19.4s,baz=300,slow=38						
PSUT	**Pine Spring**	**85.22**	**51**	IAmb	IAmb	15 57 48.0	
	comp=Z,6.1nm,0.9s						
FIA1	**FINESS Array S**	**85.29**	**335**	P	**P**	**15 57 45.0**	**-0.7**
FINES	**FINESS Array B**	**85.29**	**335**	P	**P**	**15 57 44.8**	**-0.8**
FINES	**FINESS Array B**	**85.29**	**335**	P	**P**	**15 57 45.0**	**-0.7**
	comp=Z,6.2nm,0.5s,baz=77,slow=5.6,SNR=32						
	comp=Z,6.2nm,0.5s						
FINES	**FINESS Array B**	**85.29**	**335**	P	**P**	**15 57 45.0**	**-0.7**
DUG	**Dugway, Tooele**	**85.33**	**49**	IAmb	IAmb	15 57 48.5	
	comp=Z,9.1nm,1.1s						
LOHW	**Long Hollow**	**85.49**	**45**	IAmb	IAmb	15 57 50.1	
	comp=Z,8.9nm,1.4s						
FFC	**Flin Flon**	**85.56**	**33**	P	**P**	**15 57 47.4**	**+0.2**
FFC				IAmb	IAmb	15 57 48.5	
	comp=Z,8.8nm,0.8s						
FFC	**Flin Flon**	**85.56**	**33**	P	**P**	**15 57 47.4**	**+0.2**
FFC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HWUT	**Hardware Ranch**	**85.65**	**47**	IAmb	IAmb	15 57 50.0	
	comp=Z,8.6nm,0.8s						
RLMT	**Red Lodge**	**85.74**	**43**	IAmb	IAmb	15 57 52.1	
	comp=Z,7.7nm,0.8s						
BC3	**Big Chuckawall**	**85.84**	**56**	IAmb	IAmb	15 57 50.9	
	comp=Z,7.4nm,1.1s						
JLU	**Jordanelle**	**86.13**	**48**	IAmb	IAmb	15 57 52.5	
	comp=Z,11nm,0.9s						
LCMT	**Little Creek M**	**86.25**	**52**	IAmb	IAmb	15 57 53.5	
	comp=Z,6.2nm,1.1s						
PDAR	**Pinedale Array**	**86.54**	**46**	P	**P**	**15 57 53.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=316,slow=4.1,SNR=4.7						
	comp=Z,1.0nm,0.7s						
MTPU	**Mount Pierson**	**86.62**	**51**	IAmb	IAmb	15 57 56.2	
	comp=Z,12nm,1.7s						
TMUT	**Trail Mountain**	**86.82**	**49**	IAmb	IAmb	15 57 55.9	
	comp=Z,4.8nm,0.7s						
Q16A	**Castle Valley**	**87.00**	**50**	IAmb	IAmb	15 57 57.0	
	comp=Z,7.4nm,0.7s						
SOC	**Sochi**	**87.09**	**316**	*e*P	P	15 57 49.9	-5.0
SOC				*e*		16 01 15.8	
SOC				*e*PPP	PPP	16 03 11.0	
SOC				*e*S	**SKSac**	**16 08 11.7**	**-7.1**
SOC				*e*SSS	SSS	16 17 44.5	
Y14A	**Wickenburg**	**87.62**	**55**	IAmb	IAmb	15 57 59.7	
	comp=Z,8.8nm,0.7s						
HMU	**Henry Mountain**	**87.71**	**50**	IAmb	IAmb	15 57 59.8	
	comp=Z,6.8nm,0.8s						
MNK	**Minsk**	**88.45**	**329**	*i* P	**P**	**15 58 00.2**	**-1.0**
MNK				*i* *PP	**pP**	**15 58 13.7**	**+0.1**
MNK				*i*		16 01 28.5	
MNK				*i* PPP	PPP	16 03 24.5	
MNK				*i* S	**SKSac**	**16 08 24.8**	**-1.8**
MNK				*i* *SS	**ScS**	**16 08 48.7**	**-0.5**
MNK				*i* PS	**PS**	**16 09 51.6**	**-0.4**
MNK				*i* SS	**SS**	**16 14 35.3**	**+2.0**
MNK				*i* SSS	SSS	16 18 10.1	
MNK				pmax	pmax		
	comp=N,7.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,13nm,0.9s						
MNK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,119nm,17.0s						
MNK				MLR	MLR		
	comp=E,87nm,18.0s						
MNK				MLR	MLR		
	comp=N,120nm,19.0s						
AKASG	**Malin Array Be**	**89.87**	**325**	P	**P**	**15 58 06.5**	**-1.4**
	comp=N,0.4nm,0.4s,baz=46,slow=4.0,SNR=2.2						
AKASG				LR	LR	16 40 22.0	
	comp=N,90nm,18.8s,baz=39,slow=37						
	comp=N,0.4nm,0.4s						
S22A	**4UR Ranch, Cre**	**90.59**	**49**	IAmb	IAmb	15 58 14.2	
	comp=Z,8.2nm,1.5s						
HFS	**Hagfors**	**90.75**	**338**	P	**P**	**15 58 10.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=52,slow=5.1,SNR=4.4						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**90.92**	**340**	P	**P**	**15 58 13.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=40,slow=5.9,SNR=2.8						
	comp=Z,0.3nm,0.6s						
ANMO	**Albuquerque**	**92.11**	**52**		**P**	**15 58 18.3**	**-0.7**
ANMO	**Albuquerque**	**92.11**	**52**	P	**P**	**15 58 18.3**	**-0.7**
ANMO				pmax	pmax		
	comp=Z,15nm,1.7s						
121A	**Cookes Peak, D**	**92.18**	**54**	IAmb	IAmb	15 58 22.2	
	comp=Z,7.3nm,1.1s						
BRTR	**Keskin Array B**	**92.91**	**314**	P	**P**	**15 58 20.1**	**-2.4**
	comp=Z,0.6nm,0.6s,baz=73,slow=4.8,SNR=3.9						
LPIG	**La Paz**	**93.73**	**63**	LR	LR	16 33 00.5	
	comp=Z,42nm,20.3s,baz=284,slow=31						
MLR	**Muntele Rosu**	**94.62**	**322**	LR	LR	16 42 31.9	
	comp=Z,76nm,20.0s,baz=41,slow=36						
VHRN	**Van Horn**	**95.10**	**55**	IAmb	IAmb	15 58 35.4	
	comp=Z,8.3nm,1.6s						
TXAR	**Lajitas Array**	**96.78**	**55**	P	**P**	**15 58 40.8**	**+0.5**
	comp=Z,1.5nm,1.2s,baz=298,slow=2.7,SNR=4.6						
	comp=Z,1.5nm,1.2s						
VRAC	**Vranov**	**97.15**	**329**	LR	LR	16 44 09.8	
	comp=Z,77nm,21.8s,baz=28,slow=36						
CLL	**Collm**	**97.39**	**332**	*e*P	Pdif	15 58 45.0	+2.5
	comp=Z,5.0nm,1.0s						
CLL				*e*PP	**PP**	**16 02 40.0**	**+1.1**
GERES	**GERESS Array B**	**98.84**	**330**	P	Pdif	15 58 49.6	+0.4
	comp=Z,0.3nm,0.5s,baz=58,slow=4.6,SNR=4.6						
	comp=Z,0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**99.97**	**343**	PP	**PP**	**16 02 57.5**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=41,slow=6.8,SNR=4.5						
MAW	**Mawson**	**106.08**	**203**	Pdiff	**Pdif**	**15 59 20.0**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=291,slow=20,SNR=1.8						
QSPA	**South Pole Qui**	**110.29**	**180**	PKiKP	**PKiKP**	**16 03 40.4**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=292,slow=19,SNR=1.6						
ESDC	**Sonseca Array**	**113.80**	**335**	PP	**PP**	**16 04 38.2**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=37,slow=5.9,SNR=4.8						
SNAA	**Sanae**	**125.68**	**192**	PKP	**PKPdf**	**16 04 08.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=207,slow=8.4,SNR=9.9						
TORD	**Torodi Ar. Bea**	**131.36**	**310**	PKP	**PKPdf**	**16 04 22.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=69,slow=2.4,SNR=5.1						
LPAZ	**La Paz**	**147.61**	**88**	PKPbc	**PKiKP**	**16 04 56.4**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=320,slow=2.6,SNR=9.5						
MDP	**Montagnes des**	**148.80**	**37**	PKPbc	**PKiKP**	**16 04 58.2**	**-0.6**
	comp=Z,20nm,0.7s,baz=260,slow=2.3,SNR=14						

*SNET **27** 15:58:53.8₀1.2, 12.˚38N×88.˚91W, h6km, ML4.5*
*CATAC **27** 15:58:54.6±0.3, 12.˚N±1.˚×8.˚9W±.˚, h18km±2km, M4.6/55, mb4.5/3, mB5.5/2, MLv4.6/55, Mw(mB)5.0/2, Error ellipse: s-maj=3.5km s-min=1.5km az=39.3, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.36; Mθθ-5.02; Mϕϕ 1.66; Mrθ2.84; Mθϕ3.85; Mϕr2.34; Fault plane solution: Mo6.92408×10¹⁵ NP1:ϕ₁79.40623°, δ67.46636°, λ42.43091°. NP2:ϕ₂330.10023°, δ51.45050°, λ150.65845°. Principal axes: T 6.7889, Plg45.3688°, Azm301.4281°; N 0.2630, Plg42.9799°, Azm102.1512°; P -7.0518, Plg9.7693°, Azm201.3839°; confirmed*
*GCG **27** 15:58:56.4±2.1, 12.˚35N×89.˚04W, h36km±13km, MD4.7, ML4.3*
*NEIC **27** 15:58:58.3±1.3, 12.˚52N±0.˚08×88.˚67W±0.˚07, h44km±10km, mb4.7/176, Error ellipse: s-maj=13.3km s-min=7.7km*

az=215.0
*UCR **27** 15:58:59.7±1.2, 12.˚32N×88.˚68W, h44km, MW4.6, MB4.7(NEIC)*
*IDC **27** 15:59:00.6±2.3, 12.˚65N×88.˚46W, h69km±20km, mb3.8/14, mbtmp4.1/15, MS3.8/21, Error ellipse: s-maj=29.1km s-min=13.0km az=48.0*

ISC 27 15:58:55.4±1.2, **12.˚39N**±0.˚04×**88.˚85W**±0.˚03, **h32**km±8km, **n324**, σ1°72/282, **mb4.7**/79, **MS3.8**/23, **36C-7D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**1.15**	**3**	**⇑***e*P		**Pb**	**15 59 15.4**	**-1.4**
TECO				*e*S		**Sn**	**15 59 31.0**	**+1.1**
TECO	**Alcaldia de Te**	**1.15**	**3**	**⇑***i*P		**Pb**	**15 59 15.3**	**-1.5**
TECA	**Tecapa**	**1.15**	**17**	**⇑***e*P		**Pb**	**15 59 16.1**	**-0.8**
TECA				⇑*i*P			15 59 16.1	
TECA				*e*S		**Sn**	**15 59 31.6**	**+1.3**
LCY	**Lacayo**	**1.16**	**28**	**⇑***e*P		**Pb**	**15 59 16.6**	**-0.5**
LALI	**Alcalda de L**	**1.19**	**337**	*e*P		**Pb**	**15 59 15.6**	**-1.8**
LALI				*e*S		**Sn**	**15 59 31.2**	**+0.3**
LALI	**Alcalda de L**	**1.19**	**337**	*i* P		**Pb**	**15 59 15.6**	**-1.8**
LALI				*i* S		**Sb**	**15 59 30.2**	**-2.2**
LALI				IAML			15 59 32.2	
	comp=E,1μm,0.5s							
LALI	**Alcalda de L**	**1.19**	**337**	⇑P		**Pn**	**15 59 15.5**	**-0.4**
PACA	**Pacayal**	**1.19**	**25**	**⇓***e*P		**Pb**	**15 59 17.0**	**-0.5**
PACA				*e*S		**Sn**	**15 59 33.6**	**+2.4**
PACA	**Pacayal**	**1.19**	**25**	P		**Pb**	**15 59 17.0**	**-0.5**
BLLM	**Ballamira**	**1.21**	**29**	⇓*i*P		**Pb**	**15 59 17.2**	**-0.6**
SNVI	**San Vicente**	**1.22**	**0**	*e*P		**Pb**	**15 59 17.0**	**-1.0**
UESV	**Universidad de**	**1.24**	**3**	*e*P		**Pb**	**15 59 17.0**	**-1.3**
UESV	**Universidad de**	**1.24**	**3**	⇓P		**Pb**	**15 59 17.0**	**-1.3**
UESV	**Universidad de**	**1.24**	**3**	S		**Sn**	**15 59 34.0**	**+1.6**
LFRS	**El Faro**	**1.25**	**350**	⇓*i*P		**Pb**	**15 59 16.6**	**-1.8**
PANCS	**Alcalda de**	**1.26**	**345**	P		**Pn**	**15 59 16.4**	**-0.5**
PANCS	**Alcalda de**	**1.26**	**345**	S		**Sb**	**15 59 33.9**	**-0.7**
PQSS	**Presa 15 de Se**	**1.26**	**13**	*e*P		**Pb**	**15 59 17.7**	**-0.9**
PQSS	**Presa 15 de Se**	**1.26**	**13**	P		**Pb**	**15 59 17.5**	**-1.2**
PQSS	**Presa 15 de Se**	**1.26**	**13**	S		**Sb**	**15 59 35.3**	**+0.8**
CNRM	**Centro Naciona**	**1.27**	**31**	**⇑***e*P		**Pb**	**15 59 18.1**	**-0.7**
CNRM	**Centro Naciona**	**1.27**	**31**	⇑P		**Pb**	**15 59 18.0**	**-0.7**
CNRM	**Centro Naciona**	**1.27**	**31**	S		**Sb**	**15 59 37.1**	**+2.4**
LOMA	**Loma Larga**	**1.29**	**346**	*e*P		**Pn**	**15 59 17.1**	**-0.3**
LOMA	**Loma Larga**	**1.29**	**346**	⇑P		**Pn**	**15 59 17.2**	**-0.3**
LOMA	**Loma Larga**	**1.29**	**346**	S		**Sb**	**15 59 35.4**	**0.0**
LCND	**La Caada**	**1.31**	**45**	**⇑***e*P		**Pb**	**15 59 18.3**	**-1.1**
LCND	**La Caada**	**1.31**	**45**	⇑P		**Pb**	**15 59 18.3**	**-1.1**
SCLA	**Alcaldia de Sa**	**1.31**	**5**	*e*P		**Pb**	**15 59 18.4**	**-1.2**
SCLA	**Alcaldia de Sa**	**1.31**	**5**	⇑P		**Pb**	**15 59 18.4**	**-1.2**
SCLA	**Alcaldia de Sa**	**1.31**	**5**	S		**Sb**	**15 59 36.4**	**+0.3**
PAVA	**Las Pavas**	**1.32**	**356**	⇑*i*P		**Pb**	**15 59 18.0**	**-1.7**
PAVA	**Las Pavas**	**1.32**	**356**	⇑P		**Pb**	**15 59 17.9**	**-1.9**
PAVA	**Las Pavas**	**1.32**	**356**	S		**Sb**	**15 59 36.0**	**-0.4**
CNCH	**Conchagua**	**1.33**	**48**	**⇑***e*P		**Pb**	**15 59 18.4**	**-1.4**
CNCH	**Conchagua**	**1.33**	**48**	⇑P		**Pb**	**15 59 18.4**	**-1.4**
CNCH	**Conchagua**	**1.33**	**48**	S		**Sb**	**15 59 37.4**	**+0.9**
AEIL	**Aeropuerto Ilo**	**1.33**	**349**	*e*P		**Pb**	**15 59 18.0**	**-1.8**
UTEC	**Universidad Te**	**1.35**	**345**	P		**Pb**	**15 59 18.7**	**-1.5**
UTEC	**Universidad Te**	**1.35**	**345**	S		**Sb**	**15 59 36.8**	**-0.4**
UDBS	**Universidad Do**	**1.35**	**347**	S		**Sb**	**15 59 36.7**	**-0.5**
IGN	**Direccin Gen**	**1.36**	**347**	*e*P		**Pb**	**15 59 18.3**	**-2.0**
IGN	**Direccin Gen**	**1.36**	**347**	S		**Sb**	**15 59 36.9**	**-0.4**
LBRS	**Las Brisas**	**1.36**	**352**	*e*P		**Pb**	**15 59 18.5**	**-1.8**
UEES	**Universidad Ev**	**1.38**	**344**	P		**Pb**	**15 59 18.6**	**-1.8**
UEES	**Universidad Ev**	**1.38**	**344**	S		**Sb**	**15 59 37.6**	**-0.3**
LFU	**La Fuente**	**1.38**	**349**	*e*P		**Pb**	**15 59 18.7**	**-2.0**
CSGN	**Cosiguina Volc**	**1.39**	**65**	**⇑***e*P		**Pb**	**15 59 19.3**	**-1.5**
CSGN	**Cosiguina Volc**	**1.39**	**65**	⇑P		**Pb**	**15 59 19.4**	**-1.4**
CSGN				S		**Sb**	**15 59 38.7**	**+0.5**
BOQS	**Boqueron**	**1.41**	**343**	⇑*e*P		**Pb**	**15 59 19.1**	**-2.0**
POTN	**Potosi Cosigui**	**1.44**	**65**	⇑*e*P		**Pb**	**15 59 20.1**	**-1.6**
POTN				*e*S		**Sb**	**15 59 40.3**	**+0.5**
POTN	**Potosi Cosigui**	**1.44**	**65**	⇑P		**Pb**	**15 59 20.1**	**-1.6**
POTN				S		**Sb**	**15 59 39.9**	**+0.2**
CAHU	**Cacacuatique**	**1.51**	**24**	*e*P		**Pb**	**15 59 22.1**	**-0.8**
CEVE	**Cerro Verde**	**1.62**	**332**	*e*P		**Pn**	**15 59 22.3**	**+0.3**
CEVE	**Cerro Verde**	**1.62**	**332**	P		**Pn**	**15 59 22.3**	**+0.3**
SBLS	**San Blas**	**1.63**	**332**	*e*P		**Pn**	**15 59 22.4**	**+0.2**
SNJE	**San Jose**	**1.65**	**333**	⇑*e*P		**Pn**	**15 59 22.6**	**+0.3**
RTR	**El Retiro**	**1.69**	**333**	⇑*e*P		**Pn**	**15 59 23.4**	**+0.4**
UNIC	**Universidad Ca**	**1.73**	**337**	P		**Pb**	**15 59 23.9**	**-2.6**
UNIC	**Universidad Ca**	**1.73**	**337**	S		**Sb**	**15 59 46.5**	**-1.4**
NUBE	**Las Nubes**	**1.76**	**329**	*e*P		**Pn**	**15 59 23.7**	**-0.1**
NUBE	**Las Nubes**	**1.76**	**329**	*e*P		**Pn**	**15 59 23.6**	**-0.2**
NUBE				*i* S		**Sb**	**15 59 46.4**	**-2.5**
NUBE	**Las Nubes**	**1.76**	**329**	⇑P		**Pn**	**15 59 23.6**	**-0.2**
LLGN	**La Laguna**	**1.77**	**357**	⇓P		**Pb**	**15 59 25.3**	**-2.0**
LLGN	**La Laguna**	**1.77**	**357**	S		**Sb**	**15 59 48.8**	**-0.3**
CRIN	**San Cristobal**	**1.78**	**80**			**Pn**	**15 59 24.9**	**+0.8**
CRIN	**San Cristobal**	**1.78**	**80**	**⇑***e*P		**Pb**	**15 59 25.9**	**-1.5**
CRIN				*e*S		**Sb**	**15 59 49.2**	**-0.3**
CRIN	**San Cristobal**	**1.78**	**80**	P		**Pb**	**15 59 25.7**	**-1.8**
CRIN	**San Cristobal**	**1.78**	**80**	S		**Sb**	**15 59 50.7**	**+1.2**
FAME	**Alcaldia de Sa**	**1.84**	**322**	P		**Pn**	**15 59 24.4**	**-0.4**
FAME	**Alcaldia de Sa**	**1.84**	**322**	S		**Sn**	**15 59 47.1**	**0.0**
LOAL	**Lomas de Alarc**	**1.84**	**331**	P		**Pn**	**15 59 25.6**	**+0.7**
LOAL	**Lomas de Alarc**	**1.84**	**331**	S		**Sb**	**15 59 50.2**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.87**	**331**	*e*P		**Pn**	**15 59 25.7**	**+0.4**
SLOZ	**Alcaldia de Sa**	**1.87**	**331**	P		**Pn**	**15 59 25.8**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.87**	**331**	S		**Sb**	**15 59 50.8**	**-1.0**
MARCA	**Marcala la Paz**	**1.93**	**24**	*i* P		**Pb**	**15 59 28.0**	**-2.0**
MARCA				*i* S		**Sb**	**15 59 54.0**	**+0.2**
MARCA	**Marcala la Paz**	**1.93**	**24**	⇑P		**Pb**	**15 59 28.1**	**-2.0**
CHOHN	**Orocuina**	**1.97**	**56**	⇑P		**Pb**	**15 59 28.0**	**-2.7**
CHOHN	**Orocuina**	**1.97**	**56**	S		**Sb**	**15 59 53.9**	**-1.1**
HERN	**Volcan Telica**	**1.98**	**83**			**Pn**	**15 59 27.0**	**+0.1**
POLN	**Al Sur del Vol**	**2.00**	**82**	⇑P		**Pn**	**15 59 27.6**	**+0.5**
POLN				S		**Sb**	**15 59 53.8**	**-2.0**
PACN	**Al O del Volca**	**2.01**	**87**	P		**Pn**	**15 59 28.3**	**+1.1**
PACN				S		**Sb**	**15 59 55.4**	**-0.6**
PLRN	**Geotermica Pol**	**2.04**	**84**	P		**Pn**	**15 59 26.8**	**-0.8**
PLRN				S		**Sn**	**15 59 53.2**	**+1.2**
CNGA	**Al SSO del Vol**	**2.10**	**87**	P		**Pb**	**15 59 30.4**	**-2.4**
CNGN	**Cerro Negro**	**2.10**	**87**			**Pn**	**15 59 28.6**	**+0.1**
CNGN	**Cerro Negro**	**2.10**	**87**	⇑P		**Pn**	**15 59 28.7**	**+0.2**
CNGN	**Cerro Negro**	**2.10**	**87**	S		**Sb**	**15 59 57.7**	**-1.0**
ILCN	**San Idelfonso**	**2.10**	**85**	P		**Pn**	**15 59 29.5**	**+1.1**
ILCN				S		**Sb**	**15 59 57.7**	**-1.0**
ESQI	**Esquipulas**	**2.21**	**348**			**Pn**	**15 59 31.3**	**+1.2**
ESQI	**Esquipulas**	**2.21**	**348**	⇑P		**Pb**	**15 59 31.5**	**-3.4**
ESQI	**Esquipulas**	**2.21**	**348**	S		**Sb**	**16 00 00.9**	**-1.0**
COPN	**Copaltepe**	**2.21**	**95**	⇓*e*P		**Pn**	**15 59 30.8**	**+0.8**
COPN				*e*S		**Sb**	**15 59 59.2**	**-2.6**
COPN	**Copaltepe**	**2.21**	**95**	P		**Pn**	**15 59 30.5**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.26**	**43**			**Pn**	**15 59 30.0**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.26**	**43**	⇑P		**Pb**	**15 59 32.4**	**-3.2**
TGUH				S		**Sb**	**16 00 01.3**	**-1.9**
MOM3	**MOM3**	**2.28**	**87**	P		**Pn**	**15 59 32.2**	**+1.3**
MOM2	**El Cardon**	**2.31**	**89**	P		**Pn**	**15 59 32.0**	**+0.7**
MOM2				S		**Sb**	**16 00 01.8**	**-2.8**
SARH	**Santa Rosa de**	**2.38**	**2**	*i* P		**Pb**	**15 59 34.3**	**-3.3**
SARH	**Santa Rosa de**	**2.38**	**2**	⇑P		**Pb**	**15 59 34.5**	**-3.1**
SARH	**Santa Rosa de**	**2.38**	**2**	S		**Sb**	**16 00 04.6**	**-2.0**
SAPS	**Ciudad Sandino**	**2.40**	**95**	P		**Pb**	**15 59 35.4**	**-2.5**
SAPS	**Ciudad Sandino**	**2.40**	**95**	S		**Sb**	**16 00 04.2**	**-2.8**
APQ3	**Volcan Apoyequ**	**2.42**	**92**	P		**Pn**	**15 59 33.8**	**+0.9**
APQ3				S		**Sn**	**16 00 04.2**	**+2.7**
FG16	**Alotenango, Sa**	**2.48**	**319**	*i* P		**Pb**	**15 59 38.6**	**-0.8**
FG16				*i* S		**Sb**	**16 00 11.2**	**+1.6**
FG16				IAML			16 00 21.3	
	comp=E,6μm,0.2s							
ABCN	**Banco Central**	**2.49**	**96**	S		**Sn**	**16 00 05.3**	**+2.0**
YUSH	**Yuscaran**	**2.50**	**51**	⇑P		**Pn**	**15 59 35.4**	**+1.4**
CRUN	**El Crucero**	**2.52**	**99**	P		**Pn**	**15 59 34.8**	**+0.4**
ALLN	**Telcor Managua**	**2.53**	**95**	S		**Sn**	**16 00 05.8**	**+1.8**
TISN	**Laguna Tiscapa**	**2.53**	**95**	P		**Pn**	**15 59 35.4**	**+1.0**
UNAN	**Cigeo UNAN**	**2.53**	**96**	S		**Sn**	**16 00 06.1**	**+1.9**
R4DEC	**Barrio San Lui**	**2.55**	**95**	S		**Sn**	**16 00 05.5**	**+0.9**
R4DEC	**Barrio San Lui**	**2.55**	**95**	P		**Pn**	**15 59 35.8**	**+1.2**
WILN	**Americas 2**	**2.61**	**95**	P		**Pn**	**15 59 36.1**	**+0.7**
WILN				S		**Sn**	**16 00 07.6**	**+1.5**
OCON	**Estacion meteo**	**2.62**	**62**	P		**Pn**	**15 59 37.0**	**+1.4**
OCON				S		**Sb**	**16 00 11.1**	**-2.5**
AERN	**Aeropuerto Man**	**2.63**	**95**	S		**Sn**	**16 00 08.6**	**+2.0**
SABN	**Sabanita**	**2.66**	**99**	P		**Pn**	**15 59 35.5**	**-0.6**
MASN	**Masaya**	**2.67**	**98**	P		**Pn**	**15 59 37.1**	**+0.8**
MASN				S		**Sn**	**16 00 09.7**	**+2.2**
NANN	**Nandasmo**	**2.70**	**99**	P		**Pn**	**15 59 38.5**	**+1.8**
NANN	**Nandasmo**	**2.70**	**99**	S		**Sb**	**16 00 11.9**	**-3.9**
ESSG	**Sabana Grande**	**2.77**	**316**	*i* P		**Pn**	**15 59 38.5**	**+0.8**
ESSG				*e*			15 59 47.0	
ESSG				*e*S		**Sn**	**16 00 08.7**	**-1.4**
ESSG				IAML			16 00 26.9	
	comp=N,982nm,0.6s							
NADN	**Granada**	**2.83**	**103**	*e*P		**Pn**	**15 59 38.2**	**-0.2**
NADN				*e*S		**Sn**	**16 00 10.2**	**-1.2**
NADN	**Granada**	**2.83**	**103**	P		**Pn**	**15 59 38.4**	**0.0**
NADN				S		**Sn**	**16 00 11.0**	**-0.4**
RCVN	**Varillal2**	**2.85**	**65**	⇓P		**Pn**	**15 59 40.2**	**+1.3**
RCVN	**Varillal2**	**2.85**	**65**	S		**Sb**	**16 00 16.2**	**-4.2**
MATN	**Matagalpa**	**2.90**	**79**	S		**Sb**	**16 00 17.9**	**-3.8**
MATN	**Matagalpa**	**2.90**	**79**	P		**Pn**	**15 59 39.3**	**-0.2**
RCPN	**Sur Rio San Ju**	**2.91**	**67**	P		**Pn**	**15 59 41.3**	**+1.5**
BOAB	**BOACO BROADBAN**	**3.11**	**89**			**Pn**	**15 59 41.7**	**-0.5**
JAPN	**Al SSO del Vol**	**3.22**	**105**	*e*P		**Pn**	**15 59 44.9**	**+1.1**
JAPN	**Al SSO del Vol**	**3.22**	**105**	P		**Pn**	**15 59 45.0**	**+1.1**
MORN	**Al O del Volca**	**3.24**	**105**	P		**Pn**	**15 59 45.0**	**+0.9**
OMEN	**Al SSO del Vol**	**3.27**	**105**	P		**Pn**	**15 59 45.0**	**+0.5**
LCRUZ	**La Cruz**	**3.41**	**112**	*e*P		**Pn**	**15 59 49.6**	**+3.2**
LCRUZ				*e*S		**Sn**	**16 00 25.3**	**-0.5**
CARN	**Rivas**	**3.47**	**110**	*e*P		**Pn**	**15 59 50.5**	**+3.3**
CARN	**Rivas**	**3.47**	**110**	P		**Pn**	**15 59 50.4**	**+3.2**
CARN				S		**Sn**	**16 00 27.3**	**+0.1**
RTAL	**Retalhuleu**	**3.49**	**308**			**Pn**	**15 59 51.1**	**+3.6**
RTAL	**Retalhuleu**	**3.49**	**308**	S		**Sn**	**16 00 29.5**	**+1.7**
ACON	**Acoyapa**	**3.62**	**96**			**Pn**	**15 59 49.3**	**0.0**
ACON	**Acoyapa**	**3.62**	**96**	*e*P		**Pn**	**15 59 49.1**	**-0.1**
ACON	**Acoyapa**	**3.62**	**96**	P		**Pn**	**15 59 50.1**	**+0.9**
ALIBA	**Liberia Airpor**	**3.69**	**119**	*e*P		**Pn**	**15 59 52.0**	**+1.7**
LAPC	**Finca la Perla**	**3.71**	**115**	*e*P		**Pn**	**15 59 52.3**	**+1.7**
LAPC				*e*S		**Sn**	**16 00 34.1**	**+0.8**
VRLE	**La Escondida,**	**3.76**	**115**	*e*P		**Pn**	**15 59 53.7**	**+2.3**
**GP

comp=Z,14nm,0.7s
TKL **Tuckaleechee C** 23.62 10 P P **16 04 03.9 +0.2**
comp=Z,16nm,0.8s,baz=186,slow=12,SNR=18
TKL LR LR 16 14 21.1
comp=Z,134nm,18.9s,baz=210,slow=40
comp=Z,16nm,0.8s
LCAR **Lake Charles** 23.67 355 IAmb IAmb 16 04 04.8
comp=Z,17nm,0.7s
W35A **Tecumseh** 23.80 344 IAmb IAmb 16 04 07.5
comp=Z,20nm,0.7s
V53A **Saluda** 23.81 12 IAmb IAmb 16 04 14.4
comp=Z,23nm,1.3s
PCRV **Puerto La Cruz** 23.84 93 P P **16 04 05.1 -1.0**
comp=Z,3.7nm,0.6s,baz=320,slow=8.1,SNR=1.9
comp=Z,3.7nm,0.6s
DKNS **Dickens** 23.88 334 IAmb IAmb 16 04 10.2
comp=Z,28nm,0.7s
U49A **Red Boiling Sp** 24.18 6 IAmb IAmb 16 04 10.2
comp=Z,18nm,1.2s
HHAR **Hobbs** 24.23 350 IAmb IAmb 16 04 11.6
comp=Z,26nm,0.8s
TUL3 **Leonard** 24.25 346 IAmb IAmb 16 04 12.4
comp=Z,26nm,0.8s
RLO **Rose Lookout** 24.32 348 IAmb IAmb 16 04 11.9
comp=Z,26nm,0.7s
PBMO **Poplar Bluff** 24.33 357 IAmb IAmb 16 04 10.9
comp=Z,16nm,0.7s
DEOK **Depew** 24.36 345 IAmb IAmb 16 04 10.8
comp=Z,29nm,0.9s
U38A **Gravette** 24.46 349 IAmb IAmb 16 04 13.7
comp=Z,18nm,0.8s
T47A **Sharon Grove** 24.55 3 IAmb IAmb 16 04 12.4
comp=Z,26nm,0.7s
U54A **Nelsons Funny** 24.85 14 IAmb IAmb 16 04 18.0
comp=Z,17nm,0.5s
V58A **Windy Hill, Pi** 24.91 19 IAmb IAmb 16 04 17.2
comp=Z,23nm,1.0s
MSTX **Muleshoe** 24.95 332 IAmb IAmb 16 04 17.6
comp=Z,31nm,1.0s
S44A **Carbondale** 25.20 359 IAmb IAmb 16 04 23.8
comp=Z,15nm,0.5s
SIUC **Southern Illin** 25.23 359 IAmb IAmb 16 04 24.0
comp=Z,16nm,0.5s
T35A **Sooner Cattle** 25.38 346 IAmb IAmb 16 04 21.5
comp=Z,12nm,0.9s
CROK **Carrier** 25.38 343 IAmb IAmb 16 04 20.2
comp=Z,23nm,0.7s
ELIS **Ellis County** 25.43 340 IAmb IAmb 16 04 21.8
comp=Z,30nm,0.8s
CCM **Cathedral Cave** 25.65 356 P P **16 04 22.3 -0.1**
KAN14 **Manchester OK** 25.80 343 IAmb IAmb 16 04 23.8
comp=Z,26nm,0.9s
WCI **Wyandotte Cave** 25.84 5 P P **16 04 23.5 -0.5**
WCI IAmb IAmb 16 04 24.7
comp=Z,17nm,0.7s
R40A **Maddies Statio** 25.98 354 IAmb IAmb 16 04 25.3
comp=Z,12nm,0.8s
Q44A **Meyer Farm, Va** 26.41 360 IAmb IAmb 16 04 29.3
comp=Z,16nm,0.6s
DUN6 **Lazy B Ranch** 27.34 320 IAmb IAmb 16 04 44.0
comp=Z,14nm,0.8s
Q54A **Coxs Mills** 27.43 14 IAmb IAmb 16 05 01.0
comp=Z,32nm,1.5s
P38A **Dawn** 27.45 352 IAmb IAmb 16 04 39.7
comp=Z,13nm,0.9s
ANMO **Albuquerque** 27.56 328 LR LR 16 17 57.1
comp=Z,76nm,19.9s,baz=202,slow=41
CBKS **Cedar Bluff** 28.04 342 IAmb IAmb 16 04 44.9
comp=Z,22nm,0.8s
T25A **Trinidad** 28.33 333 IAmb IAmb 16 04 51.6
comp=Z,11nm,0.9s
PV02 **Paradox Valley** 31.23 329 IAmb IAmb 16 05 17.2
comp=Z,12nm,1.4s
PV12 **Saucer Basin,** 31.35 329 IAmb IAmb 16 05 22.5
comp=Z,13nm,0.7s
PV18 **Skein Mesa, Pa** 31.35 329 IAmb IAmb 16 05 20.4
comp=Z,8.9nm,0.6s
PV17 **East Wray Mesa** 31.40 329 IAmb IAmb 16 05 21.8
comp=Z,6.6nm,0.7s
PV19 **Morning Glory** 31.44 329 IAmb IAmb 16 05 22.1
comp=Z,8.8nm,0.7s
PV20 **West Nyswonger** 31.45 329 IAmb IAmb 16 05 18.6
comp=Z,5.4nm,0.7s
PV10 **Paradox Valley** 31.52 329 IAmb IAmb 16 05 22.6
comp=Z,8.3nm,0.8s
PV23 **Carpenter Ridg** 31.56 329 IAmb IAmb 16 05 28.3
comp=Z,8.6nm,0.7s
ECSD **EROS Data Cent** 31.95 349 IAmb IAmb 16 05 18.1
comp=Z,12nm,1.2s
BC3 **Big Chuckawall** 32.20 315 P P **16 05 22.6 +1.8**
O20A **White River Oi** 32.50 332 IAmb IAmb 16 05 26.9
comp=Z,10nm,0.9s
PFO **Pinyon Flats O** 32.87 315 LR LR 16 21 22.7
comp=Z,184nm,19.1s,baz=136,slow=41
P17A **Butcher Ranch,** 33.21 328 IAmb IAmb 16 05 35.0
comp=Z,5.1nm,0.8s
SADO **Sadowa** 33.32 13 LR LR 16 20 03.8
comp=Z,125nm,18.4s,baz=192,slow=38
TCRU **Three Creeks R** 33.50 325 IAmb IAmb 16 05 41.2
comp=Z,7.3nm,0.6s
K22A **Casper** 33.83 336 IAmb IAmb 16 05 55.3
comp=Z,9.6nm,1.1s
RSSD **Black Hills** 34.21 340 P **16 05 39.1 +0.7**
RSSD IAmb IAmb 16 05 41.7
comp=Z,6.8nm,0.7s
LPAZ **La Paz** 35.09 144 LR LR 16 19 48.9
comp=Z,119nm,19.2s,baz=306,slow=36
PDAR **Pinedale Array** 35.20 333 P P **16 05 47.8 +0.8**
comp=Z,0.9nm,0.7s,baz=141,slow=9.6,SNR=7.5
PDAR PcP **PcP 16 08 18.4 +0.8**
comp=Z,0.7nm,0.5s,baz=138,slow=3.6,SNR=4.8
comp=Z,0.9nm,0.7s
TPAW **Teton Pass** 36.39 333 IAmb IAmb 16 06 03.8
comp=Z,6.1nm,0.8s
NVAR **Mina Array Bea** 36.86 320 P P **16 06 02.8 +1.5**
NVAR **Mina Array Bea** 36.86 320 P P **16 06 03.7 +2.4**
comp=Z,1.8nm,0.8s,baz=127,slow=9.5,SNR=12
NVAR PcP **PcP 16 08 23.4 +0.8**
comp=Z,1.1nm,0.7s,baz=133,slow=3.9,SNR=6.9
comp=Z,1.8nm,0.8s
LHV **Little Huntoon** 36.88 320 P P **16 06 03.1 +2.0**
LHV IAmb IAmb 16 06 11.9
comp=Z,6.9nm,1.1s
RLMT **Red Lodge** 36.99 336 IAmb IAmb 16 06 04.5
comp=Z,4.8nm,0.8s
YNE **Yellowstone No** 37.20 335 IAmb IAmb 16 06 06.3
comp=Z,4.4nm,0.7s
VILB **Vilhena** 37.96 131 P **16 06 11.1 +0.5**
EGMT **Eagleton** 39.59 338 IAmb IAmb 16 06 37.7
comp=Z,10nm,1.1s
YBH **Yreka Blue Hor** 41.53 321 LR LR 16 25 33.1
comp=Z,6.3nm,18.6s,baz=161,slow=38
RPN **Rapa Nui** 44.03 207 LR LR 16 20 31.4
comp=Z,116nm,21.3s,baz=108,slow=29
SCHQ **Schefferville** 45.74 18 P P **16 07 11.8 -1.9**
comp=Z,9.0nm,0.7s,baz=220,slow=8.3,SNR=9.9
SCHQ LR LR 16 26 53.5
comp=Z,159nm,19.1s,baz=211,slow=37
comp=Z,9.0nm,0.7s
H03N2 **Juan Fernandez** 46.54 169 T T 16 57 19.5
baz=348,slow=76,SNR=14
H03N1 **Juan Fernandez** 46.55 169 T T 16 57 23.1
baz=348,slow=76,SNR=18
H03N3 **Juan Fernandez** 46.56 169 T T 16 57 21.0
baz=348,slow=76,SNR=16
BDFB **Brasilia** 49.07 124 LR LR 16 29 59.1
comp=Z,130nm,20.6s,baz=249,slow=38
FRB **Frobisher Bay** 53.24 11 LR LR 16 32 03.4
comp=Z,157nm,18.8s,baz=227,slow=38
YKAW1 **Yellowknife Wh** 53.28 345 P P **16 08 10.0 -0.9**
YKAW1 IAmb IAmb 16 08 11.8
comp=Z,5.7nm,0.8s
YKA **Yellowknife Ar** 53.32 345 P P **16 08 10.5 -0.8**
comp=Z,2.8nm,0.8s,baz=142,slow=7.2,SNR=18
comp=Z,2.8nm,0.8s
YKAW3 **Yellowknife Wh** 53.38 345 P P **16 08 11.1 -0.7**
YKAW3 IAmb IAmb 16 08 12.1
comp=Z,10nm,1.1s
DLBC **Dease Lake** 55.38 335 P P **16 08 26.7 +0.2**
comp=Z,1.0nm,0.5s,baz=100,slow=14,SNR=3.5
DLBC LR LR 16 37 13.6
comp=Z,59nm,18.2s,baz=312,slow=42
comp=Z,1.0nm,0.5s
RCBR **Riachuelo** 55.65 106 LR LR 16 35 25.5
comp=Z,40nm,19.3s,baz=298,slow=40
ILON **Igloolik, Nuna** 57.12 3 P P **16 08 37.4 -1.1**
INK **Inuvik** 62.86 343 P P **16 09 17.1 -0.8**
comp=Z,2.9nm,0.8s,baz=127,slow=7.5,SNR=3.5
INK LR LR 16 42 59.1
comp=Z,66nm,19.3s,baz=61,slow=42
comp=Z,2.9nm,0.8s
ILAR **Eielson Array** 65.53 336 P P **16 09 35.5 -0.1**
comp=Z,1.2nm,1.0s,baz=105,slow=6.9,SNR=8.1
ILAR LR LR 16 44 03.7
comp=Z,76nm,18.0s,baz=336,slow=41
comp=Z,1.2nm,1.0s
PPT **Papeete** 66.94 245 LR LR 16 33 24.8
comp=Z,114nm,19.6s,baz=64,slow=31
F21K **Alatna River** 68.94 338 P P **16 09 58.2 +1.0**
EKA **Eskdalemuir Ar** 77.47 36 P P **16 10 44.9 -2.9**
comp=Z,0.8nm,0.7s,baz=266,slow=5.8,SNR=3.4
comp=Z,0.8nm,0.7s
ESDC **Sonseca Array** 78.30 52 P P **16 10 50.8 -2.0**
comp=Z,0.2nm,0.4s,baz=282,slow=4.5,SNR=1.9
ESDC LR LR 16 38 59.2
comp=Z,56nm,20.8s,baz=326,slow=31
comp=Z,0.2nm,0.4s
MDT **Midelt** 78.61 59 LR LR 16 39 41.5
comp=Z,58nm,20.6s,baz=16,slow=31
SPITS **Spitsbergen Ar** 81.04 12 LR LR 16 47 42.3
comp=Z,50nm,18.5s,baz=94,slow=36
HFS **Hagfors** 85.51 29 P P **16 11 29.7 -0.4**
comp=Z,1.5nm,0.9s,baz=305,slow=5.1,SNR=2.8
comp=Z,1.5nm,0.9s
ARCES **ARCESS Array B** 86.69 19 P P **16 11 34.3 -1.4**
comp=Z,0.8nm,0.6s,baz=298,slow=5.8,SNR=1.1
comp=Z,0.8nm,0.6s
TIXI **Tiksi** 92.44 349 LR LR 16 56 41.1
comp=Z,50nm,20.6s,baz=256,slow=38
VAE **Valguarnera** 92.82 51 LR LR 16 48 31.2
comp=Z,104nm,19.4s,baz=308,slow=32
SNAA **Sanae** 100.41 161 ⇑P PKiKP **16 17 01.8 -3.7**
comp=Z,9.7nm,0.2s
KURBB **Kurchatov Arra** 116.29 9 PKP PKiKP **16 17 35.6 -0.2**
comp=Z,0.7nm,1.2s,baz=356,slow=2.2,SNR=4.2
SONM **Songino Array** 118.53 348 PKP PKiKP **16 17 41.0 +0.5**
comp=Z,0.4nm,0.6s,baz=34,slow=2.0,SNR=2.9
KSRS **Korea Array** 119.59 327 PKP PKiKP **16 17 43.2 +0.6**
comp=Z,0.3nm,0.4s,baz=54,slow=2.1,SNR=4.7
MKAR **Makanchi Array** 120.56 7 PKP PKPdf **16 17 44.0 -0.2**
comp=Z,0.2nm,0.4s,baz=344,slow=2.6,SNR=5.9
HHC **Hu-ho-hao-te** 123.76 341 eP PKiKP **16 17 52.3 +1.4**
GTA **Gaotai** 127.84 352 eP PKiKP **16 17 59.8 +0.7**
GTA pP sPKPdf 16 18 08.0 -3.6
GTA sP pPKPdf 16 18 12.5 +4.3
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=N,110nm,12.7s
GTA LR LR
comp=E,160nm,15.9s
GTA LR LR
comp=Z,82nm,15.5s
NJ2 **Nanjing** 128.46 330 eP PKPdf **16 18 00.0 +0.3**
NJ2 pmax pmax
comp=Z,12nm,0.9s
WRA **Warramunga Arr** 137.94 254 PKP PKPdf **16 18 18.6 +0.8**
comp=Z,0.7nm,0.5s,baz=88,slow=2.1,SNR=5.5
ASAR **Alice Springs** 137.98 248 PKP PKPdf **16 18 16.6 -1.2**
comp=Z,0.7nm,0.7s,baz=108,slow=2.8,SNR=6.0
PZH **PanZhiHua** 140.30 345 PKP PKPdf **16 18 22.3 +0.7**
FITZ **Fitzroy Crossi** 146.28 256 PKPbc PKPbc **16 18 34.7 +0.9**
comp=Z,3.1nm,0.9s,baz=130,slow=2.5,SNR=5.2
CMAR **Chiang Mai Arr** 148.40 346 PKPbc PKPdf **16 18 38.2 +2.0**
comp=Z,5.2nm,0.7s,baz=343,slow=3.5,SNR=25

*JMA **27** 16:30:57.2±0.1,25.°N±1.°×140.°3E±1.°0, h136km, MV4.5/19, IOTO ISLANDS REGION*
*IDC **27** 16:31:06.8±8.9, 24.°86N×140.°86E, h342km±90km, mb2.9/6, mbtmp3.7/7, Error ellipse: s-maj=54.6km s-min=18.7km az=72.0.*
ISC 27 16:30:53.0±1.1, 24.°9N±0.°1×141.°1E±0.°2, h200km, n13, σ2§27/15, mb3.3/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	1.98	30	P	Pn	16 31 33.9	+2.6
JHH2				S	Sn	16 32 01.8	+0.5
CBIJ	**Chichi jima**	2.39	25	P	Pn	16 31 38.0	+2.2
CBIJ				S	Sn	16 32 09.3	+0.1
JHJ2	**Mitsune**	8.24	353	eP	Pn	16 32 49.0	-0.3
BSO3	**Boso 3**	9.87	357	eP	Pn	16 33 08.0	-2.2
JAG	**Ashikaga**	11.56	353	eP	Pn	16 33 29.5	-2.7
JAG				eS	Sn	16 35 31.0	-10
JHO	**Hitachi**	11.67	358	eP	Pn	16 33 30.5	-3.1
KSRS	**Korea Array**	16.79	321	P	P	16 34 40.3	+4.8
	3.0nm,0.7s,baz=136,slow=12,SNR=16						
WRA	**Warramunga Arr**	45.06	189	P	P	16 38 48.0	-1.2
	0.2nm,0.3s,baz=7.0,slow=8.1,SNR=3.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	48.79	189	P	P	16 39 18.8	+0.8
	0.3nm,0.8s,baz=9.8,slow=6.1,SNR=1.8						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	51.11	311	P	P	16 39 35.0	-0.3
	0.6nm,0.4s,baz=100,slow=8.4,SNR=17						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	53.86	316	P	P	16 39 54.0	-1.3
	0.3nm,0.3s,baz=94,slow=8.2,SNR=6.8						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	58.98	318	P	P	16 40 30.6	-0.9
	0.5nm,0.4s,baz=76,slow=6.1,SNR=3.5						
	0.5nm,0.4s						
PDAR	**Pinedale Array**	86.47	44	P	P	16 43 12.7	-0.9
	0.2nm,0.4s,baz=312,slow=6.7,SNR=2.2						
	0.2nm,0.4s						

*NEIC **27** 16:42:20.1±1.4, 20.°8S±0.°2×176.°9W±0.°2, h193km±9km, mb4.4/23, Error ellipse: s-maj=30.8km s-min=16.8km az=130.0*
*IDC **27** 16:42:21.6±7.8, 20.°82S×176.°88W, h212km±69km, mb3.5/8, mbtmp4.1/9, Error ellipse: s-maj=27.5km s-min=23.4km az=43.0*
ISC 27 16:42:20.5±0.5, 20.°9S±0.°1×176.°92W±0.°09, h200km, n51, σ1§40/52, mb4.2/20, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	6.81	76	Pn	Pn	16 43 57.8	-0.6
RAO	**Raoul Island**	8.41	186	Pn	Pn	16 44 18.6	-0.4
DZM	**Mont Dzumac**	15.54	263	P	P	16 45 56.2	+6.6
	5.0nm,0.7s,baz=78,slow=17,SNR=4.3						
DZM				S	S	16 48 37.9	-4.2
	9.8nm,1.2s,baz=131,slow=20,SNR=1.9						
TOZ	**Tahuroa Road**	18.05	200	P	P	16 46 17.6	+0.7
TOZ				IAmb	IAmb	16 46 30.1	
	comp=Z,17nm,1.3s						
URZ	**Urewera**	18.09	195	P	P	16 46 16.3	-1.0
	comp=Z,7.7nm,0.9s,baz=22,slow=7.2,SNR=1.9						
URZ				S	S	16 49 21.7	-12
	comp=Z,3.1nm,0.3s,baz=44,slow=23,SNR=11						
BFZ	**Birch Farm**	20.60	195	P	P	16 46 44.8	+0.6
TAU	**Tasmania Unive**	37.09	225	P	P	16 49 11.3	-0.3
STKA	**Stephens Creek**	38.55	245	P	P	16 49 24.4	+0.4
	comp=Z,1.9nm,0.7s,baz=94,slow=12,SNR=4.2						
	comp=Z,1.9nm,0.7s						
COEN	**Coen**	38.62	274	P	P	16 49 23.9	-0.9
BBOO	**Buckleboo**	43.30	244	P	P	16 50 02.6	-0.2
BBOO				IAmb	IAmb	16 50 45.3	
	comp=Z,14nm,1.4s						
WR8	**Warramunga Arr**	45.41	262	P	P	16 50 18.8	-0.8
AS31	**Alice Springs**	45.42	257	P	P	16 50 18.9	-0.9
ASAR	**Alice Springs**	45.42	257	P	P	16 50 18.8	-1.0
ASAR	**Alice Springs**	45.42	257	P	P	16 50 20.4	+0.6
	comp=Z,3.0nm,0.8s,baz=95,slow=8.2,SNR=36						
ASAR				PcP	PcP	16 51 54.5	-1.0
	comp=Z,0.4nm,0.6s,baz=104,slow=4.0,SNR=6.8						
	comp=Z,3.0nm,0.8s						
WB0	**Warramunga Arr**	45.54	262	P	P	16 50 20.6	0.0
WRA	**Warramunga Arr**	45.56	262	P	P	16 50 21.1	+0.3
WRA	**Warramunga Arr**	45.56	262	P	P	16 50 20.9	+0.1
	comp=Z,2.9nm,0.9s,baz=96,slow=7.8,SNR=17						
	comp=Z,2.9nm,0.9s						
MTN	**Manton Dam**	50.18	270	P	P	16 50 56.4	+0.1
MTN				IAmb	IAmb	16 51 37.9	
	comp=Z,23nm,1.2s						
KNRA	**Kununurra**	51.65	266	P	P	16 51 07.4	+0.2
KNRA				IAmb	IAmb	16 51 09.9	
	comp=Z,7.2nm,0.9s						
FITZ	**Fitzroy Crossi**	53.98	262	P	P	16 51 24.0	-0.3
MBWA	**Marble Bar**	58.77	257	P	P	16 51 57.4	-0.6
MBWA				IAmb	IAmb	16 52 30.4	
	comp=Z,7.9nm,1.3s						
GIRL	**Giralia**	63.43	254	P	P	16 52 28.9	-0.5
QSPA	**South Pole Qui**	69.21	180	P	P	16 53 06.4	+1.0
	comp=Z,1.6nm,0.9s,baz=52,slow=1.5,SNR=7.0						
	comp=Z,1.6nm,0.9s						
PETK	**Petropavlovsk-**	76.88	345	P	P	16 53 50.1	-0.1
	comp=Z,1.7nm,0.8s,baz=150,slow=6.2,SNR=3.7						
	comp=Z,1.7nm,0.8s						
J16K	**Anvik River**	84.84	7	P	P	16 54 32.9	+0.8
J16K				IAmb	IAmb	16 55 02.9	
	comp=Z,11nm,1.1s						
J18K	**Innoko River**	85.53	9	P	P	16 54 36.1	+0.6
J18K				IAmb	IAmb	16 54 36.8	
	comp=Z,4.7nm,0.8s						
SCM	**Sheep Creek Mo**	85.74	14	P	P	16 54 36.8	+0.2
CAST	**Castle Rocks**	86.23	11	P	P	16 54 37.7	-1.3
CAST				IAmb	IAmb	16 54 39.2	
	comp=Z,8.9nm,1.3s						
TXAR	**Lajitas Array**	86.40	57	P	P	16 54 41.8	+1.0
	comp=Z,3.9nm,0.8s,baz=224,slow=5.2,SNR=4.5						
	comp=Z,0.3nm,0.8s						
TRF	**Thorofare Moun**	86.59	12	P	P	16 54 39.8	-1.1
TRF				IAmb	IAmb	16 54 41.5	
	comp=Z,5.0nm,0.8s						
RND	**Reindeer**	86.83	12	P	P	16 54 41.3	-0.7
RND				IAmb	IAmb	16 54 42.8	
	comp=Z,10.0nm,1.0s						
CCB	**Clear Creek Bu**	88.15	12	P	P	16 54 47.4	-0.6
CCB				IAmb	IAmb	16 54 48.5	
	comp=Z,2.8nm,0.9s						
IMAR	**Indian Mountai**	88.34	9	P	P	16 54 48.8	-0.2
ILAR	**Eielson Array**	88.44	12	P	P	16 54 48.0	-1.4
	comp=Z,1.1nm,0.9s,baz=202,slow=4.2,SNR=6.8						
	comp=Z,1.1nm,0.9s						
F19K	**Shaleruckik Mo**	88.60	7	P	P	16 54 50.0	-0.1
F19K				IAmb	IAmb	16 54 51.0	
	comp=Z,3.3nm,0.9s						
G21K	**Allakaket**	88.87	9	P	P	16 54 51.0	-0.5
G21K				IAmb	IAmb	16 54 52.6	
	comp=Z,6.6nm,0.9s						
CMAR	**Chiang Mai Arr**	91.19	289	P	P	16 55 03.6	+0.2
	comp=Z,1.1nm,0.9s,baz=109,slow=2.4,SNR=4.7						
	comp=Z,1.1nm,0.9s						
BVAR	**Borovoye Array**	120.00	320	PKP	PKPdf	17 00 45.3	-1.8
	comp=Z,0.9nm,0.6s,baz=106,slow=5.1,SNR=2.9						
ARCES	**ARCESS Array B**	129.45	350	PKP	PKPdf	17 01 03.4	-1.3
	comp=Z,2.6nm,0.9s,baz=60,slow=2.2,SNR=5.3						
AKASG	**Malin Array Be**	143.81	332	PKhKP	PKPpre	17 01 27.6	
	comp=Z,1.6nm,0.6s,baz=43,slow=4.2,SNR=10						
EKA	**Eskdalemuir Ar**	145.26	6	PKPbc	PKPdf	17 01 33.2	-0.8
	comp=Z,0.7nm,0.5s,baz=327,slow=2.7,SNR=7.6						
BRTR	**Keskin Array B**	147.83	313	PKPbc	PKPdf	17 01 41.0	+2.0
	comp=Z,0.7nm,0.6s,baz=95,slow=3.4,SNR=4.0						
CLL	**Collm**	148.63	348		PKPdf	17 01 42.1	+2.3
BTNL	**Ternell**	150.24	356	dPKP	PKPbc	17 01 47.6	-0.1
BMRD	**Maredsous**	150.59	358	dPKP	PKPbc	17 01 48.4	-0.1
RCHB	**Rochefort**	150.71	357	dPKP	PKPbc	17 01 48.4	-0.4
DOU	**Dourbes**	150.80	358	dPKP	PKPbc	17 01 48.6	-0.4
GERES	**GERESS Array B**	150.81	346	PKPbc	PKPbc	17 01 48.3	-0.9
	comp=Z,1.6nm,0.8s,baz=2.9,slow=2.7,SNR=11						
WLF	**Walferdange**	151.15	356	dPKiKP	PKPbc	17 01 50.0	+0.2
DAVOX	**Davos/Dischmat**	153.55	349	PKPbc	PKPbc	17 01 54.5	-1.0
	comp=Z,0.7nm,0.3s,baz=0.0,slow=8.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	172.22	170	PKPab	PKPab	17 03 29.8	-1.0
	comp=Z,0.5nm,0.7s,baz=168,slow=4.7,SNR=2.5						

*UPP **27** 17:01:16.8±0.1, 67.°07N×20.°93E, h0km, ML2.2, Unknown Suspected explosion*
*BER **27** 17:01:17.3±2.5, 66.°88N×20.°97E, h0km, ML2.0, Suspected explosion*
*IDC **27** 17:01:18.5±1.0, 67.°05N×21.°32E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=17.4km s-min=7.9km az=100.0*
ISC 27 17:01:16.6±0.7, 67.°07N±0.°03×20.°92E±0.°03, h0km, n23, σ0§80/34, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundrum**	0.15	293	P	Pg	17 01 19.9	+0.5
DUNU				S	Sg	17 01 22.2	+0.8
MASU	**Masugnsbyn**	0.58	46	P	Pg	17 01 27.6	0.0
MASU				S	Sg	17 01 34.9	-0.1
ERTU	**Ertsjaerv**	0.72	135	P	Pg	17 01 30.3	-0.1
ERTU				S	Sg	17 01 40.1	+0.4
PAJU	**Pajala**	0.86	92	P	Pg	17 01 32.6	-0.4
PAJU				S	Sg	17 01 44.3	0.0
HARU	**Harads**	0.91	179	P	Pg	17 01 33.8	-0.1
HARU				S	Sg	17 01 46.1	+0.5
RATU	**Laukkuluspa**	0.92	327	P	Pg	17 01 33.7	-0.5
KUA	**Kurravaara**	0.92	346	P	Pg	17 01 33.7	-0.6
SALU	**Saltoluokta**	0.99	290	P	Pg	17 01 35.3	-0.3
SALU	**Saltoluokta**	0.99	290	eP	Pg	17 01 35.2	-0.4
LANU	**Lannavaara**	1.07	22	P	Pg	17 01 36.6	-0.5
NIKU	**Nikkaluokta**	1.08	319	P	Pg	17 01 36.7	-0.6
KOVU	**Salmi**	1.20	346	P	Pg	17 01 38.8	-0.8
KALU	**Kalix**	1.56	140	P	Pn	17 01 45.3	-0.1
SJUU	**Sjulsmark**	1.59	170	P	Pn	17 01 46.1	+0.2
HEF	**Hetta**	1.71	36	eP	Pn	17 01 47.4	-0.2
HEF				eS	Sn	17 02 10.3	+0.2
KIF	**Kilpisjarvi**	1.95	359	eP	Pb	17 01 52.4	-0.6
KIF				eS	Sg	17 02 20.2	+1.0
KTK1	**Kautokeino**	2.14	23	eP	Pb	17 01 55.4	-0.8
KTK1				eS	Sb	17 02 22.7	-0.6
KTK1				IAML		17 02 28.5	
	comp=Z,15nm,0.3s						
I37NO	**I37NO**	2.20	338	I	I	17 14 40.0	
	baz=154,slow=320,SNR=1.7						
FAUS	**Fauske**	2.21	281	eP	Pb	17 01 56.3	-1.1
FAUS				eSg	Sg	17 02 27.7	0.0
FAUS				IAML		17 02 34.7	
	comp=Z,25nm,0.4s						
ARCES	**ARCESS Array B**	3.01	32	Pn	Pn	17 02 05.6	+0.1
	comp=Z,0.7nm,0.3s,baz=212,slow=13,SNR=66						
ARCES				Sn	Sn	17 02 44.7	+2.5
	comp=Z,1.4nm,0.3s,baz=212,slow=27,SNR=14						
	comp=Z,1.5nm,0.3s						
FINES	**FINESS Array B**	6.07	156	Pn	Pn	17 02 48.7	+1.2
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=6.3						
FINES				Sn	Sn	17 03 57.6	0.0
	comp=Z,0.5nm,0.3s,baz=346,slow=23,SNR=7.1						
FINES				Lg	Lg	17 04 28.0	
	comp=Z,0.5nm,0.3s,baz=344,slow=30,SNR=5.5						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	7.66	208	Pn	Pn	17 03 10.1	+0.8
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=1.4						
HFS				Sn	Sn	17 04 34.8	-1.8
	comp=Z,0.1nm,0.3s,baz=27,slow=26,SNR=1.3						
HFS				Lg	Lg	17 05 15.3	
	comp=Z,0.5nm,0.3s,baz=29,slow=28,SNR=7.3						
	comp=Z,0.4nm,0.5s						
SPITS	**Spitsbergen Ar**	11.25	355	Pn	Pn	17 03 59.1	+0.8
	baz=169,slow=16						

IDC 27 17:19:54.4±999.0, 44.°60N×118.°80W, h0km, Error ellipse: s-maj=540.3km s-min=82.3km az=14.0, Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	3.85	17	I	I	17 42 10.0	
	baz=198,slow=321,SNR=1.4						
I53US	**FAIRBANKS INFR**	25.93	332	I	I	19 59 30.0	
	baz=130,slow=330,SNR=0.7						
I18DK	**QAANAAQ INFRAS**	38.36	16	I	I	21 16 10.0	
	baz=243,slow=328,SNR=1.1						

IDC 27 17:27:35.5±999.0, 42.°61N×119.°65W, h0km, Error ellipse: s-maj=708.3km s-min=129.0km az=14.0, Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	5.92	17	I	I	18 01 20.0	
	baz=200,slow=321,SNR=1.0						
I53US	**FAIRBANKS INFR**	27.41	334	I	I	20 18 00.0	
	baz=133,slow=324,SNR=0.5						
I18DK	**QAANAAQ INFRAS**	40.44	15	I	I	21 33 10.0	
	baz=242,slow=329,SNR=1.2						

*IDC **27** 17:50:17.7±2.9, 26.°59N×125.°81E, h0km, mb3.5/5, mbtmp3.5/5, MS3.8/2, Error ellip

*JMA **27** 17:50:30.6±0.3,27°N±2°×12°7E±°, h118km±3km, MV3.0/17, NW OFF OKINAWAJIMA IS*

ISC 27 17:50:30.3±0.9,27°06N±0°07×126°92E±0°07, h134km±7km, n20,σ1ᵠ04/32, mb3.4/5, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.55**	**148**	P	**Pn**	**17 50 49.8**	**-0.3**
JAGN				S	**Sn**	**17 51 04.2**	**-0.8**
JKE	**Kume jima 2**	**0.74**	**189**	P	**Pn**	**17 50 50.6**	**-0.8**
JKE				*e*S	**Sn**	**17 51 06.3**	**-1.1**
JIH	**Iheya**	**0.93**	**91**	P	**Pn**	**17 50 53.4**	**+0.4**
JIH				*e*S	**Sn**	**17 51 10.1**	**0.0**
JNTH	**Nagotoyohara**	**1.12**	**118**	P	**Pn**	**17 50 55.3**	**+0.6**
JNTH				*e*S	**Sn**	**17 51 13.2**	**-0.1**
JJT3	**Tamagusuku3**	**1.20**	**140**	P	**Pn**	**17 50 56.6**	**+1.2**
JJT3				*e*S	**Sn**	**17 51 15.7**	**+1.1**
JOW	**Kunigami**	**1.23**	**100**	P	**Pn**	**17 50 56.2**	**+0.4**
JOW				S	**Sn**	**17 51 15.1**	**-0.1**
JYRO	**Yoronjima**	**1.36**	**91**	P	**Pn**	**17 50 58.0**	**+0.9**
JYRO				S	**Sn**	**17 51 17.7**	**+0.1**
JOKE	**Okinoerabujima**	**1.50**	**78**	P	**Pn**	**17 50 59.0**	**+0.3**
JOKE				S	**Sn**	**17 51 19.9**	**-0.3**
JTK	**Tokunoshima**	**1.94**	**68**	P	**Pn**	**17 51 04.0**	**+0.2**
JTK				*e*S	**Sn**	**17 51 28.6**	**-0.8**
JAMN	**Amaminishikomi**	**2.32**	**59**	P	**Pn**	**17 51 08.4**	**0.0**
JAMN				*e*S	**Sn**	**17 51 36.9**	**-0.7**
JAM	**Amami Oshima**	**2.73**	**60**	P	**Pn**	**17 51 13.6**	**0.0**
JAM				*e*S	**Sn**	**17 51 46.1**	**-0.9**
JZK	**Kikaishima**	**2.98**	**65**	*e*P	**Pn**	**17 51 17.5**	**+0.8**
JMZ	**Minamidaito 2**	**4.05**	**107**	*e*P	**Pn**	**17 51 31.1**	**+0.3**
JMZ				*e*S	**Sn**	**17 52 14.5**	**-3.3**
JKDJ	**Kitadaitoujima**	**4.07**	**105**	*e*P	**Pn**	**17 51 31.4**	**+0.3**
JKDJ				*e*S	**Sn**	**17 52 16.3**	**-2.0**
SONM	**Songino Array**	**26.23**	**328**	P	**P**	**17 55 54.7**	**+1.9**
	0.5nm,0.5s,baz=144,slow=9.7,SNR=3.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**40.11**	**311**	P	**P**	**17 57 51.6**	**-1.1**
	0.4nm,0.5s,baz=91,slow=10,SNR=9.2						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**40.88**	**323**	P	**P**	**17 57 58.1**	**-0.8**
	0.9nm,0.4s,baz=113,slow=7.9,SNR=4.9						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**47.27**	**170**	P	**P**	**17 58 50.7**	**+0.5**
	0.2nm,0.5s,baz=349,slow=7.8,SNR=2.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**50.88**	**172**	P	**P**	**17 59 18.2**	**+0.5**
	0.3nm,0.6s,baz=358,slow=14,SNR=12						
ASAR				LR	LR	18 22 18.2	
	comp=Z,99nm,19.0s,baz=314,slow=38						
	0.3nm,0.6s						
ARTI	**Arti**	**56.11**	**321**	LR	LR	18 27 22.7	
	comp=Z,76nm,18.4s,baz=194,slow=40						

*FUNV **27** 17:52:57.2, 10°81N×62°28W, h28km, MW2.9*
*TRN **27** 17:52:58.7, 10°75N×62°35W, h71km, MD2.8, North of the Paria peninsula.*

ISC 27 17:52:56.7±2.4,10°73N±0°08×62°4W±0°1, h86km±35km, n14,σ1ᵠ09/24, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.81**	**92**	*e*P	**Pn**	**17 53 14.7**	**+0.8**
DMDM				*e*S	**Sn**	**17 53 25.7**	**-1.2**
TRN	**Trinidad (W)**	**0.96**	**95**	*e*P	**Pn**	**17 53 16.5**	**+0.9**
TRN				*e*S	**Sn**	**17 53 28.7**	**-1.1**
GRFF	**Grenada Fort F**	**1.46**	**25**	*e*P	**Pn**	**17 53 21.4**	**-0.3**
GRFF				*e*S	**Sn**	**17 53 39.4**	**-1.2**
GRGR	**Grenville**	**1.57**	**27**	*e*P	**Pn**	**17 53 23.6**	**+0.5**
GRGR				*e*S	**Sn**	**17 53 43.2**	**+0.1**
GRW	**Mount Saint Ca**	**1.59**	**26**	*e*P	**Pn**	**17 53 24.4**	**+0.9**
GRW				*e*S	**Sn**	**17 53 44.0**	**+0.2**
GRSS	**Sisters**	**1.73**	**26**	*e*P	**Pn**	**17 53 25.9**	**+0.6**
GRSS				*e*S	**Sn**	**17 53 46.4**	**-0.5**
GCMP	**Grenada, Carri**	**1.98**	**28**	*e*P	**Pn**	**17 53 28.9**	**+0.4**
GCMP				*e*S	**Sn**	**17 53 52.3**	**-0.4**
PCRV	**Puerto La Cruz**	**2.29**	**256**	*e*P	**Pn**	**17 53 33.5**	**+0.9**
PCRV				*e*S	**Sn**	**17 54 01.1**	**+0.9**
SVB	**Belmont**	**2.76**	**23**	*e*S	**Sn**	**17 54 10.7**	**-0.7**
TACV	**Tcata**	**4.61**	**263**	*e*P	**Pn**	**17 54 05.1**	**+1.0**
TACV				*e*S	**Sn**	**17 54 54.9**	**-1.5**
CACV	**CAICARA DEL OR**	**5.17**	**233**	*e*P	Pn	17 54 08.8	-2.9
CACV				*e*S	Sn	17 54 59.7	-10
BENV	**Beln**	**5.19**	**262**	*e*P	**Pn**	**17 54 12.8**	**+0.8**
BENV				*e*S	**Sn**	**17 55 09.3**	**-1.4**
BAUV	**El Baul**	**5.86**	**253**	*e*P	**Pn**	**17 54 22.0**	**+1.0**
BAUV				*e*S	**Sn**	**17 55 24.4**	**-2.4**
BAUV	**El Baul**	**5.86**	**253**	*e*S	**Sn**	**17 55 25.8**	**-1.0**

NEIC 27 17:54:05.8±1.6,47°92N±0°01×114°08W±0°05, h10km±2km, ML2.5/38, ML2.6/8(BUT), Error ellipse: s-maj=6.2km s-min=3.0km az=256.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBMT	**Yellow Bay**	**0.07**	**140**		Pg	17 54 08.0	-0.1
BLMT	**Blacktail Moun**	**0.21**	**296**		Pg	17 54 10.4	+0.1
BLMT					Sg	17 54 13.6	+0.2
JTMT	**Jette**	**0.22**	**219**		Pg	17 54 11.1	+0.7
SWMT	**Swartz Lake**	**0.41**	**172**		Pg	17 54 14.0	+0.1
BSMT	**Bassoo Peak**	**0.48**	**262**		Pg	17 54 15.7	+0.5
FBMT	**Ferry Basin**	**0.56**	**205**		Pg	17 54 17.1	+0.5
PCMT	**Pistol Creek**	**0.70**	**177**		Pg	17 54 19.3	-0.1
BHMT	**Big Hole Peak**	**0.73**	**243**		Pb	17 54 20.4	-0.2
SLMT	**Seeley Lake**	**0.78**	**149**		Pg	17 54 20.6	-0.2
NDMT	**Ninemile Divid**	**0.81**	**217**		Pb	17 54 21.9	-0.2
ALMT	**Alberton, Mont**	**0.92**	**196**		Pb	17 54 23.8	-0.1
LDM	**Libby Dam**	**0.99**	**303**		Pg	17 54 23.9	-0.9
MKMT	**Mink Peak**	**1.07**	**221**		Pb	17 54 26.8	+0.2
MSO	**Missoula**	**1.09**	**175**		Pg	17 54 26.3	-0.4
MSO	**Missoula**	**1.09**	**175**	Sn	Sg	17 54 45.4	-0.6
OVMT	**Ovando**	**1.12**	**139**		Pg	17 54 25.8	-1.6
CHMT	**Chamberlain Mo**	**1.15**	**150**		Pb	17 54 26.8	-1.1
HSPGA	**Hill Springs,**	**1.47**	**11**		Pn	17 54 31.2	-1.2
VCMT	**Victor**	**1.48**	**183**		Pb	17 54 33.0	-0.3
LYMT	**Lyon Mountain**	**1.54**	**127**		Pn	17 54 32.9	-0.6
BPMT	**Black Pine Rid**	**1.54**	**164**		Pn	17 54 33.5	-0.1
BEMT	**Mount Belmont**	**1.67**	**134**		Pn	17 54 35.5	+0.2
HRY	**Holter Researc**	**1.95**	**127**		Pn	17 54 40.0	+1.0
MKRVA	**Milk River, Al**	**1.96**	**50**		Pn	17 54 39.1	-0.1
NEW	**Newport**	**2.07**	**281**		Pn	17 54 40.0	-0.6
NEW	**Newport**	**2.07**	**281**	IAML		17 55 14.2	
	25nm,0.6s						
HBMT	**Mount Humbug**	**2.35**	**154**		Pn	17 54 45.0	+0.3
LRM	**Limekiln Ridge**	**2.38**	**151**		Pn	17 54 45.1	+0.2
DLMT	**Dillon**	**2.75**	**158**	Pn	Pn	17 54 49.4	-0.7
DLMT				IAML		17 55 35.4	
	16nm,2.1s						
BOZ	**Bozeman (W)**	**2.87**	**143**	Pn	Pn	17 54 51.0	-0.7
F10A	**Beach Ranch, E**	**2.90**	**229**	Pn	Pn	17 54 52.5	+0.4
F10A				IAML		17 55 50.0	
	comp=E,19nm,0.6s						
EGMT	**Eagleton**	**2.91**	**86**		Pn	17 54 51.4	-0.7
E09A	**Wood Farm, Sta**	**3.11**	**245**	Pn	Pn	17 54 55.0	+0.2
E09A				IAML		17 55 51.0	
	comp=E,12nm,0.2s						
E09A				IAML		17 55 53.1	
	comp=N,11nm,0.6s						
PLID	**Pearl Lake**	**3.13**	**206**	Pn	Pn	17 54 54.5	-0.8
MCMT	**McKenzie Canyo**	**3.21**	**164**		Pn	17 54 56.4	0.0
D08A	**Wollman Farm,**	**3.40**	**257**	Pn	Pn	17 54 59.7	+0.9
D08A				IAML		17 55 58.2	
	comp=E,6.3nm,0.4s						
D08A				IAML		17 56 01.0	
	comp=N,9.4nm,0.6s						
LNOR	**Lincton Mounta**	**3.54**	**236**	Pn	Pn	17 54 58.7	-2.1
LNOR				IAML		17 55 27.0	
	comp=N,9.3nm,3.9s						
LNOR				IAML		17 57 10.4	
	comp=E,7.0nm,4.5s						
B08A	**Colville Reser**	**3.55**	**279**	Pn	Pn	17 54 59.0	-1.9
B08A				IAML		17 56 02.7	
	comp=N,7.8nm,0.8s						
B08A				IAML		17 56 17.8	
	comp=E,5.8nm,3.0s						
YHL	**Hebgen Lake**	**3.66**	**146**	Pn	Pn	17 55 01.6	-1.1
YHL				IAML		17 55 28.8	
	comp=E,7.4nm,3.7s						
YHL				IAML		17 57 12.1	
	comp=N,7.1nm,3.6s						
BMO	**Blue Mountains**	**3.79**	**217**	Pn	Pn	17 55 04.0	-0.3
BMO				IAML		17 56 24.3	
	comp=N,5.6nm,4.1s						
YHH	**Holmes Hill**	**3.85**	**143**	Pn	Pn	17 55 05.8	+0.5
G08A	**Pilot Rock**	**4.27**	**234**	Pn	Pn	17 55 10.4	-0.5
G08A				IAML		17 56 28.7	
	comp=N,4.6nm,3.2s						
G08A				IAML		17 57 29.9	
	comp=E,5.1nm,4.0s						
RLMT	**Red Lodge**	**4.34**	**128**	Pn	Pn	17 55 11.5	-0.5
HLID	**Hailey**	**4.36**	**183**	Pn	Pn	17 55 12.4	+0.2
MXC	**Moxie City**	**4.44**	**255**	Pn	Pn	17 55 13.6	+0.4
MFID	**Camas Ranch**	**4.67**	**196**	Pn	Pn	17 55 16.3	0.0
MFID				IAML		17 56 37.0	
	comp=E,4.8nm,0.9s						
MFID				IAML		17 56 38.8	
	comp=E,4.7nm,0.8s						

*SDD **27** 17:56:35.5±2.4, 19°88N×72°13W, h5km±13km, MD3.5, ML3.3, MW3.4*
*SSNC **27** 17:56:37.9±5.3, 19°82N×71°99W, h5km±19km, MD3.5, ML2.9, MW2.9*
*OSPL **27** 17:56:38.6±2.4, 19°86N×72°01W, h5km±10km, ML3.0*

ISC 27 17:56:35.1±1.2,19°87N±0°03×72°02W±0°02, h5km±11km, n38,σ1ᵠ21/63, 4C-3D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.77**	**91**	*i* P	**Pn**	**17 56 52.6**	**-0.1**
LOPP1				*e*S	**Sb**	**17 57 02.8**	**+0.9**
LOPP1				IAML		17 57 12.1	
	comp=Z,736nm,0.4s						
MADR	**Mao Valverde**	**0.91**	**109**	*e*Pg	**Pn**	**17 56 54.4**	**-0.3**
MADR				IAML		17 57 13.3	
	comp=N,613nm,0.4s						
REDR	**Restauracion**	**0.91**	**140**	*e*Pg	**Pg**	**17 56 49.1**	**-3.5**
REDR				IAML		17 56 57.3	
	comp=E,3μm,0.2s						
REDR				IAML		17 56 58.6	
	comp=N,2μm,0.1s						
LUDR	**Luperon**	**1.00**	**88**	*e*Pg	**Pn**	**17 56 56.5**	**+0.6**
LUDR				*i* S	**Sn**	**17 57 10.6**	**+0.2**
LUDR				IAML		17 57 14.5	
	comp=E,3μm,0.3s						
SDDR	**Presa de Saban**	**1.12**	**142**	*e*P	**Pb**	**17 56 57.3**	**+0.3**
SDDR				*e*S	**Sg**	**17 57 10.7**	**-0.5**
SDDR				IAML		17 57 13.0	
	comp=E,313nm,0.4s						
SDDR				IAML		17 57 14.0	
	comp=E,398nm,0.4s						
SDDR	**Presa de Saban**	**1.12**	**142**	*i* P	**Pn**	**17 56 57.6**	**0.0**
SDDR				*e*S	**Sg**	**17 57 10.5**	**-0.6**
SDDR				IAML		17 57 12.7	
	comp=Z,346nm,0.5s						
SDDR	**Presa de Saban**	**1.12**	**142⇓**	*e*Pg	**Pn**	**17 56 57.5**	**0.0**
SDDR				IAML		17 57 14.2	
	comp=E,519nm,0.6s						
SDDR				IAML		17 57 16.2	
	comp=N,370nm,0.6s						
SC01	**Santiago de Io**	**1.29**	**110**	*i* P	**Pg**	**17 57 01.4**	**+1.4**
SC01				*e*S	**Sn**	**17 57 18.8**	**+1.2**
SC01	**Santiago de Io**	**1.29**	**110⇓**	*e*Pg	**Pg**	**17 57 01.4**	**+1.4**
SC01				IAML		17 57 20.8	
	comp=N,408nm,0.7s						
SC01				IAML		17 57 23.2	
	comp=E,407nm,0.5s						
PAPH	**Port-au-Prince**	**1.36**	**191**	*e*P	**Pb**	**17 57 01.6**	**+0.3**
PAPH				*e*S	**Sb**	**17 57 19.0**	**0.0**
PAPH				IAML		17 57 21.6	
	comp=N,90nm,0.3s						
PAPH				IAML		17 57 22.8	
	comp=E,101nm,0.1s						
PAPH	**Port-au-Prince**	**1.36**	**191**	*i* P	**Pg**	**17 57 02.4**	**+1.0**
JIDR	**Jimani**	**1.38**	**173**	*i* P	**Pg**	**17 57 02.1**	**+0.5**
JIDR				*i* S	**Sg**	**17 57 20.7**	**+1.1**
JIDR				IAML		17 57 21.1	
	comp=E,651nm,0.6s						
JIDR				IAML		17 57 23.9	
	comp=N,253nm,0.3s						
NEDR	**Neiba UASD**	**1.49**	**158**	*e*Pg	**Pb**	**17 57 03.7**	**+0.4**
NEDR				⇑*e*Sg	**Sg**	**17 57 23.3**	**+0.2**
NEDR				IAML		17 57 23.8	
	comp=N,135nm,1.1s						
NEDR				IAML		17 57 25.8	
	comp=E,248nm,0.5s						
LODU1	**El Espartillar**	**1.59**	**161**	*i* P	**Pg**	**17 57 06.0**	**+0.3**
LODU1				*e*S	**Sn**	**17 57 24.9**	**-0.1**
LODU1				IAML		17 57 26.1	
	comp=Z,218nm,0.4s						
ABDR	**Alto Bandera**	**1.68**	**128**	*e*Pg	**Pb**	**17 57 06.5**	**-0.4**
ABDR				*e*Sg	**Sg**	**17 57 29.2**	**-0.1**
ABDR				IAML		17 57 29.8	
	comp=N,149nm,0.3s						
ABDR				IAML		17 57 34.6	
	comp=E,282nm,0.8s						
PODR	**Polo**	**1.83**	**158**	*i* P	**Pb**	**17 57 08.9**	**-0.4**
PODR				*e*S	**Sb**	**17 57 32.5**	**-0.1**
PODR	**Polo**	**1.83**	**158**	*e*Pg	**Pb**	**17 57 08.9**	**-0.4**
PODR				⇑*e*Sg	**Sg**	**17 57 33.8**	**-0.3**
PODR				IAML		17 57 40.4	
	comp=E,159nm,0.4s						
PODR				IAML		17 57 41.5	
	comp=N,128nm,0.7s						
GRTK	**Grand Turk**	**1.83**	**27**	*e*P	**Pb**	**17 57 09.1**	**-0.1**
GRTK				*e*S	**Sb**	**17 57 33.1**	**+0.6**
GRTK				IAML		17 57 36.7	
	comp=N,138nm,0.3s						
GRTK				IAML		17 57 37.9	
	comp=N,121nm,0.3s						
GRTK	**Grand Turk**	**1.83**	**27**	*i* P	**Pb**	**17 57 09.1**	**-0.1**
GRTK				*e*S	**Sn**	**17 57 30.6**	**-0.4**
GRTK				IAML		17 57 37.2	
	comp=Z,70nm,0.2s						
GRTK	**Grand Turk**	**1.83**	**27**	*e*Pg	**Pb**	**17 57 09.1**	**-0.1**
GRTK				⇑*e*Sg	**Sg**	**17 57 33.7**	**-0.4**
GRTK				IAML		17 57 40.4	
	comp=N,147nm,0.2s						
GRTK				IAML		17 57 41.0	
	comp=E,167nm,0.3s						
CADR	**Cabrera**	**1.97**	**96**	IAML		17 57 39.0	
	comp=N,222nm,1.1s						
CADR				IAML		17 57 47.9	
	comp=E,278nm,0.5s						
LOBH	**Bahia de las A**	**2.03**	**170**	*i* P	**Pb**	**17 57 12.7**	**+0.1**
LOBH				IAML		17 57 43.3	
	comp=Z,83nm,1.3s						
DR08	**Loma La Naviza**	**2.09**	**115**	*e*Pg	**Pb**	**17 57 13.3**	**-0.3**
DR08				IAML		17 57 45.9	
	comp=E,2μm,0.1s						
DR08				IAML		17 57 51.3	
	comp=N,2μm,0.1s						
NADR	**Nagua**	**2.10**	**104**	⇑*e*Sg	**Sg**	**17 57 43.9**	**+1.2**
NADR				IAML		17 57 51.9	
	comp=E,466nm,0.4s						
NADR				IAML		17 57 55.7	
	comp=N,589nm,0.3s						
MASC	**Masc**	**2.10**	**279**	*e*P	**Pn**	**17 57 12.3**	**+1.2**
MASC				*e*S	**Sb**	**17 57 40.6**	**+0.4**
MASC				IAML		17 57 47.4	
	comp=E,93nm,0.5s						
MASC				IAML		17 57 47.9	
	comp=N,84nm,0.5s						
MASC	**Masc**	**2.10**	**279**	*i* P	**Pn**	**17 57 12.3**	**+1.2**
MASC				IAML		17 57 50.6	
	comp=Z,56nm,1.1s						
LOVI	**El Cajuil, Ovi**	**2.15**	**163**	*i* P	**Pb**	**17 57 14.3**	**-0.3**
LOVI				IAML		17 57 55.8	
	comp=Z,92nm,1.4s						
QMBU	**Quimbuelo**	**2.65**	**278**	*e*P	**Pn**	**17 57 19.3**	**+0.7**
QMBU				*e*S	**Sn**	**17 57 53.3**	**+2.2**
QMBU				IAML		17 57 59.6	
	comp=E,97nm,0.3s						
QMBU				IAML		17 58 01.7	
	comp=N,57nm,0.5s						
QMBU	**Quimbuelo**	**2.65**	**278⇓**	*e*Pg	**Pn**	**17 57 19.3**	**+0.7**
QMBU				IAML		17 57 59.5	
	comp=E,96nm,0.4s						
QMBU				IAML		17 58 04.9	
	comp=N,70nm,0.6s						
QMBU				IAML		17 58 05.0	
	comp=N,70nm,0.6s						
NMDO	**Nuevo Mundo**	**2.87**	**284**	*e*P	**Pn**	**17 57 22.0**	**+0.4**
NMDO				*e*S	**Sb**	**17 57 59.9**	**-2.4**
NMDO				IAML		17 58 10.2	
	comp=N,21nm,0.2s						
NMDO				IAML		17 58 10.7	
	comp=E,18nm,0.7s						
MOAC	**Moa**	**2.87**	**286**	*e*P	**Pn**	**17 57 21.0**	**-0.7**
MOAC				*e*S	**Sn**	**17 57 55.8**	**-0.8**
MOAC				IAML		17 58 13.3	
	comp=E,34nm,0.3s						
MOAC				IAML		17 58 13.5	
	comp=N,34nm,0.5s						
GTBY	**Guantanamo Bay**	**2.91**	**272**	*e*P	**Pn**	**17 57 23.9**	**+1.7**
GTBY				*e*S	**Sn**	**17 57 58.6**	**+1.0**
GTBY				IAML		17 58 05.0	
	comp=N,28nm,0.5s						
GTBY				IAML		17 58 08.3	
	comp=N,20nm,0.4s						
GTBY	**Guantanamo Bay**	**2.91**	**272**	*i* P	**Pn**	**17 57 23.3**	**+1.1**
GTBY				*e*S	**Sn**	**17 57 57.1**	**-0.5**
MIDR	**Miches**	**2.94**	**107**	*i* P	**Pb**	**17 57 26.5**	**-1.5**
MIDR				*i* S	**Sb**	**17 58 04.2**	**-0.1**
MIDR				IAML		17 58 13.5	
	comp=N,28nm,0.2s						
RCC	**Rio Carpintero**	**3.46**	**273**	*e*P	**Pn**	**17 57 30.2**	**+0.4**
RCC				*e*S	**Sn**	**17 58 11.8**	**+0.6**
RCC				IAML		17 58 18.8	
	comp=N,15nm,0.4s						
RCC				IAML		17 58 19.4	
	comp=E,12nm,0.6s						
PINC	**Pinares de May**	**3.60**	**280**	*e*P	**Pn**	**17 57 30.1**	**-1.5**
PINC				*e*S	**Sn**	**17 58 14.4**	**-0.1**
PINC				IAML		17 58 14.6	
	comp=N,4.2nm,0.1s						
PINC				IAML		17 58 15.0	
	comp=E,3.9nm,0.1s						
MARVS	**Santiago de Cu**	**3.66**	**273**	*e*P	**Pn**	**17 57 32.4**	**0.0**
MARVS				*e*S	**Sn**	**17 58 19.3**	**+3.3**
MARVS				IAML		17 58 22.6	
	comp=N,14nm,0.4s						
MARVS				IAML		17 58 24.6	
	comp=E,23nm,0.7s						
PILO	**Pilon**	**5.07**	**271**	*e*P	**Pn**	**17 57 50.4**	**-1.6**
PILO				*e*S	**Sn**	**17 58 46.4**	**-4.6**
PILO				IAML		17 58 55.7	
	comp=N,17nm,0.7s						
PILO				IAML		17 58 56.0	
	comp=E,11nm,0.7s						

DJA 27 18:31:21.1±0.9,0°S±2°×12°4E±°, h29km±9km, M3.7/13, mb4.0/3, MLv3.5/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.96**	**335**	P	Pn	18 31 38.4	-0.2
KMSI				S	Sb	18 31 51.7	+0.3
LUWI	**Luwuk**	**1.77**	**245**	P	Pn	18 31 49.8	0.0
LUWI				S	Sn	18 32 12.5	+1.2
SANI	**Sanana**	**2.37**	**137**	P	Pn	18 31 57.7	-0.3
SANI				S	Sn	18 32 25.6	-0.5
MRSI	**Marisa**	**2.56**	**288**	P	Pn	18 31 58.1	-2.5
APSI	**Ampana**	**2.80**	**257**	P	Pn	18 32 04.9	+1.0
NLAI	**Namlea**	**3.99**	**137**	P	Pn	18 32 20.0	-0.3
NLAI				S	Sn	18 33 05.9	-0.3
KDI	**Kendari**	**4.04**	**206**	P	Pn	18 32 20.8	-0.2
TTSI	**Tana Toraja**	**5.31**	**239**	P	Pn	18 32 39.2	+0.7
	0.1nm10nm,0.5s						
TTSI				S	Sn	18 33 39.6	+0.8
	0.1nm10nm,0.5s						
SPSI	**Sidrap Palu**	**5.87**	**232**	P	Pn	18 32 47.2	+1.0
	0.1nm12nm,0.9s						
BNSI	**Bone**	**5.90**	**226**	P	Pn	18 32 46.9	+0.3

*IDC **27** 18:32:06.9±0.9, 56°36S×25°49W, h0km, mb4.1/6, mbtmp4.0/7, ML3.8/1, Error ellipse: s-maj=41.1km s-min=20.5km az=70.0*
*NEIC **27** 18:32:08.6±2.2, 56°5S±0°1×25°5W±0°2, h10km±1km, mb4.4/11, Error ellipse: s-maj=27.7km s-min=16.5km az=32.0*

ISC 27 18:32:11.4±0.7,56°5S±0°1×25°6W±0°1, h29km, n33, σ1ᵠ00/29, mb4.3/8, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.57**	**285**	Pn	**Pn**	**18 33 47.0**	**+1.1**
HOPE				Sn	**Sn**	**18 34 58.3**	**-1.4**
VNA1	**Neumayer--Stat**	**16.10**	**159**	⇑P	**Pn**	**18 35 54.5**	**-0.7**
	comp=Z,0.6nm,0.2s						
VNA3	**Neumayer Olymp**	**16.32**	**162**	⇑P	**Pn**	**18 35 57.2**	**-0.9**
	comp=Z,0.7nm,0.2s						
SNAA	**Sanae**	**18.02**	**157**	⇑P	**P**	**18 36 20.1**	**+0.4**
	comp=Z,12nm,0.4s						
SNAA	**Sanae**	**18.02**	**157**	P	**Pn**	**18 36 17.3**	**-2.1**
SNAA	**Sanae**	**18.02**	**157**	P	**Pn**	**18 36 19.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=320,slow=16,SNR=13						
	comp=Z,0.8nm,0.6s						
TROLL	**Troll, Antarti**	**19.49**	**154**	⇑P	**Pn**	**18 36 38.7**	**+1.5**
	comp=Z,13nm,0.3s						
PMSA	**Palmer Station**	**20.30**	**230**	P	**P**	**18 36 46.2**	**+1.6**
PMSA				IAmb	IAmb	18 37 30.4	
	comp=Z,41nm,1.2s						
BELA	**Belgrano 2**	**21.74**	**185**	P	**P**	**18 36 57.9**	**-2.1**
BELA				IAmb	IAmb	18 37 01.4	
	comp=Z,7.1nm,0.6s						
TRQA	**Tornquist**	**30.29**	**292**	P	**P**	**18 38 19.3**	**-0.6**
TRQA				IAmb	IAmb	18 38 45.4	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**33.79**	**180**	P	**P**	**18 38 51.1**	**+0.6**
QSPA				IAmb	IAmb	18 38 52.0	
	comp=Z,5.0nm,0.6s						
QSPA	**South Pole Qui**	**33.79**	**180**	P	**P**	**18 38 51.7**	**+1.2**
	comp=Z,3.3nm,0.5s,baz=204,slow=2.3,SNR=14						
	comp=Z,3.3nm,0.5s						
CPUP	**Villa Florida**	**37.74**	**310**	P	**P**	**18 39 24.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=198,slow=15,SNR=4.0						
	comp=Z,0.5nm,0.6s						
PB14	**IPOC Station P**	**45.31**	**296**	P	**P**	**18 40 25.3**	**-1.6**
VNDA	**Vanda**	**46.20**	**182**	P	**P**	**18 40 33.0**	**+0.1**
VNDA				IAmb	IAmb	18 40 52.9	
	comp=Z,3.4nm,1.3s						
VNDA	**Vanda**	**46.20**	**182**	P	**P**	**18 40 32.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=187

KIF				MSG			18 35 26.7	
	comp=Z,2.5nm,0.2s							
KIF				SG	Sg		18 35 27.3	-0.6
PAJU	**Pajala**	**1.36**	**121**	PG	Pg		18 35 11.3	-1.5
	baz=306							
PAJU				SN	Sb		18 35 30.8	-0.2
ERTU	**Ertsjaerv**	**1.44**	**146**	PN	Pn		18 35 13.7	-0.5
ERTU				SN	Sn		18 35 34.8	+1.1
HEF	**Hetta**	**1.47**	**62**	PG	Pn		18 35 13.2	-1.3
HEF				MSG			18 35 31.1	
	comp=Z,1.2nm,0.2s							
HEF				SN	Sg		18 35 32.8	-1.2
KTK1	**Kautokeino**	**1.70**	**41**	PN	Pn		18 35 18.3	+0.6
KTK1				SN	Sn		18 35 40.5	+0.3
TRO	**Tromso**	**1.94**	**347**	SG	Sb		18 35 47.9	+0.2
KALU	**Kalix**	**2.29**	**145**	PG	Pb		18 35 28.0	-0.8
TOF	**Tornio**	**2.35**	**134**	PG	Pb		18 35 28.9	-1.1
TOF				MSG			18 35 56.5	
	comp=Z,0.9nm,0.2s							
TOF				SG	Sg		18 36 01.2	-1.0
RNF	**Rovaniemi**	**2.56**	**114**	PG	Pb		18 35 31.6	-1.8
RNF				SG	Sb		18 36 06.1	+0.7
ARA0	**ARCESS Array S**	**2.65**	**45**	PB	Pn		18 35 32.5	+1.7
ARA0				SB	Sb		18 36 06.3	-1.9
RAJF	**Raja-Jooseppi**	**3.14**	**73**	SG	Sb		18 36 22.3	0.0
KEV	**Kevo**	**3.21**	**48**	SN	Sn		18 36 17.6	+0.5
VRF	**Varrio**	**3.60**	**86**	PB	Pb		18 35 48.6	-2.6
VRF				SN	Sn		18 36 24.6	-2.3

AZER ***27*** *18:35:31.5, 40˚.54N × 51˚.93E, h50km, ml4.1*
IDC ***27*** *18:35:31.5±2.1, 41˚.02N × 51˚.94E, h47km±20km, mb3.5/10, mbtmp3.8/19, ML3.9/10, MS3.2/1, Error ellipse: s-maj=26.2km s-min=11.6km az=169.0*
NNC ***27*** *18:35:35.6±4.7, 41˚.12N × 53˚.26E, h0km, mb3.8, Error ellipse: s-maj=48.0km s-min=29.5km az=74.0*

ISC 27 18:35:29.0±1.0, **40.77N**±0˚.05×**52.18E**±0˚.05, **h42**km±13km, **n65**, σ2**s25**/106, **mb3.6**/11, **3C-2D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDR	**Nardaran**	**1.68**	**264**	Pg	**Pn**	**18 35 59.8**	**+4.0**
NDR				Sn	**Sn**	**18 36 17.9**	**+1.8**
GOBA	**Gobu**	**1.90**	**260**	Pg	Pn	18 36 20.3	+6.5
GOBA				Sg	**Sn**	**18 36 28.3**	**+6.8**
ATGJ	**Altiaghaj**	**2.46**	**273**	Pn	**Pn**	**18 36 09.0**	**+2.4**
ATGJ				Sn	**Sn**	**18 36 36.1**	**+0.6**
GBS	**Qobustan**	**2.47**	**266**	Pn	**Pn**	**18 36 10.0**	**+3.2**
GBS				Sn	**Sn**	**18 36 34.6**	**-1.2**
SIZA	**Siyzn**	**2.50**	**278**	Pn	**Pn**	**18 36 10.8**	**+3.6**
SIZA				Sn	**Sn**	**18 36 38.8**	**+2.2**
ALIB	**&Aumlli-Bayram**	**2.55**	**253**	Pn	Pn	18 36 11.8	+3.9
ALIB				Sn	**Sn**	**18 36 36.8**	**-0.9**
PQL	**Pirkuli**	**2.72**	**272**	Pn	**Pn**	**18 36 12.9**	**+2.6**
PQL				Sn	**Sn**	**18 36 43.7**	**+1.6**
QUBA	**Quba, Azerbaij**	**2.85**	**283**	Pn	**Pn**	**18 36 14.6**	**+2.6**
QUBA				Sn	**Sn**	**18 36 46.7**	**+1.7**
SAAT	**Saatly**	**3.01**	**254**	Pn	**Pn**	**18 36 15.9**	**+1.9**
SAAT				Sn	**Sn**	**18 36 49.7**	**+0.8**
IML	**Ismayilli**	**3.03**	**272**	Pn	**Pn**	**18 36 16.1**	**+1.6**
IML				Sn	**Sn**	**18 36 49.5**	**-0.1**
QSAR	**Qusar**	**3.05**	**285**	Pn	**Pn**	**18 36 17.2**	**+2.5**
QSAR				Sn	**Sn**	**18 36 51.8**	**+1.8**
KDMR	**Kurdemir**	**3.07**	**264**	Pn	**Pn**	**18 36 16.5**	**+1.6**
KDMR				Sn	**Sn**	**18 36 50.5**	**+0.2**
XNQ	**Khinaliq**	**3.08**	**279**	Pn	**Pn**	**18 36 17.1**	**+1.8**
XNQ				Sn	**Sn**	**18 36 51.7**	**+0.6**
GLBA	**Clilabad**	**3.28**	**244**	Pn	**Pn**	**18 36 18.9**	**+1.1**
GLBA				Sn	**Sn**	**18 36 54.4**	**-1.2**
QBL	**Gabala**	**3.30**	**275**	Pn	**Pn**	**18 36 19.6**	**+1.5**
QBL				Sn	**Sn**	**18 36 55.7**	**-0.3**
LKRN	**Lenkeran, Azer**	**3.33**	**233**	Pn	**Pn**	**18 36 19.0**	**+0.5**
LKRN				Sn	**Sn**	**18 36 54.3**	**-2.5**
ASTR	**Astara**	**3.42**	**231**	Pn	**Pn**	**18 36 20.0**	**+0.2**
ASTR				Sn	**Sn**	**18 36 55.8**	**-3.2**
ZRD	**Zardab**	**3.46**	**263**	Pn	**Pn**	**18 36 21.9**	**+1.6**
ZRD				Sn	**Sn**	**18 36 59.8**	**-0.2**
YRD	**Yardimli**	**3.55**	**240**	Pn	**Pn**	**18 36 21.7**	**0.0**
YRD				Sn	**Sn**	**18 36 59.0**	**-3.5**
LRK	**Lerik**	**3.64**	**236**	Pn	**Pn**	**18 36 23.0**	**+0.1**
LRK				Sn	**Sn**	**18 37 01.7**	**-3.1**
BLQ	**Beylaqan**	**3.69**	**255**	Pn	**Pn**	**18 36 24.2**	**+0.8**
BLQ				Sn	**Sn**	**18 37 03.3**	**-2.3**
SEKA	**Sheki**	**3.79**	**278**	Pn	**Pn**	**18 36 26.9**	**+1.9**
SEKA				Sn	**Sn**	**18 37 06.3**	**-2.1**
BRDA	**Brd**	**3.84**	**264**	Pn	**Pn**	**18 36 27.2**	**+1.7**
BRDA				Sn	**Sn**	**18 37 07.4**	**-2.0**
MNGR	**Mingechevir, A**	**3.87**	**272**	Pn	**Pn**	**18 36 27.4**	**+1.6**
MNGR				Sn	**Sn**	**18 37 09.5**	**-0.5**
AGDM	**Agdam**	**3.92**	**262**	Pn	**Pn**	**18 36 27.3**	**+0.6**
AGDM				Sn	**Sn**	**18 37 10.3**	**-1.1**
QRD	**Qoradiz**	**3.94**	**252**	Pn	**Pn**	**18 36 27.3**	**+0.4**
QRD				Sn	**Sn**	**18 37 09.3**	**-2.7**
ZKTA	**Zakatala**	**4.28**	**284**	Pn	**Pn**	**18 36 33.8**	**+2.2**
ZKTA				Sn	**Sn**	**18 37 21.1**	**+0.8**
VSHL	**Vashlovani**	**4.40**	**278**	P	**Pn**	**18 36 34.9**	**+1.7**
GANJ	**Ganja**	**4.45**	**270**	Pn	**Pn**	**18 36 33.9**	**-0.1**
GANJ				Sn	**Sn**	**18 37 21.1**	**-3.5**
GDB	**GEDABAY**	**4.88**	**272**	Pn	**Pn**	**18 36 39.9**	**-0.1**
GDB				Sn	**Sn**	**18 37 31.3**	**-4.0**
ORD	**Ordubad**	**5.10**	**251**	Pn	**Pn**	**18 36 44.3**	**+1.4**
ORD				Sn	**Sn**	**18 37 38.0**	**-2.5**
QZX	**Qazax, Azerbai**	**5.16**	**275**	Pn	**Pn**	**18 36 44.2**	**+0.5**
QZX				Sn	**Sn**	**18 37 40.3**	**-1.7**
DGRG	**David-gareji**	**5.18**	**280**	P	**Pn**	**18 36 45.1**	**+1.1**
SBZ	**Shahbuz**	**5.26**	**257**	Pn	**Pn**	**18 36 46.1**	**+0.9**
SBZ				Sn	**Sn**	**18 37 43.5**	**-1.1**
NAX	**Nakhchivan**	**5.37**	**255**	Pn	**Pn**	**18 36 47.2**	**+0.5**
NAX				Sn	**Sn**	**18 37 46.4**	**-0.9**
TBLG	**Delisi**	**5.69**	**282**	P	**Pn**	**18 36 51.6**	**+0.7**
GNI	**Garni**	**5.71**	**266**	P	**Pn**	**18 36 53.1**	**+1.8**
	2.1nm,0.3s,baz=45,slow=4.3,SNR=3.6						
GNI				S	**Sn**	**18 37 54.2**	**-1.3**
	10nm,0.5s,baz=83,slow=16,SNR=3.1 5.4nm,0.4s						
TRLG	**Trialeti**	**6.14**	**280**	P	**Pn**	**18 36 57.1**	**-0.2**
ALIG	**Mtskhetisjvari**	**6.55**	**285**	P	**Pn**	**18 37 03.7**	**+1.0**
KBZ	**Khabaz**	**7.49**	**296**	P	**Pn**	**18 37 16.2**	**+0.6**
	0.5nm,0.3s,baz=126,slow=4.6,SNR=7.4						
KBZ				S	**Sn**	**18 38 33.5**	**-5.7**
	6.3nm,0.3s,baz=131,slow=21,SNR=8.7 1.0nm,0.3s						
KVAR	**Kislovodsk Arr**	**7.71**	**298**	P	**Pn**	**18 37 19.3**	**+0.6**
	baz=107,slow=19						
KVAR				S	**Sn**	**18 38 39.1**	**-5.7**
	26nm,0.7s,baz=167,slow=19,SNR=10 0.9nm,0.3s						
AB31	**Akbulak array**	**10.11**	**30**	⇑P	**Pn**	**18 37 51.8**	**+0.4**
	0.5nm,0.2s,baz=210,slow=12,SNR=52						
AB31				⇓S	**Sn**	**18 39 39.0**	**-4.3**
	5.4nm,0.4s,baz=212,slow=25						
AKTO	**Aktyubinsk**	**10.49**	**21**	P	**Pn**	**18 37 57.8**	**+1.0**
	3.4nm,0.3s,baz=221,slow=7.4,SNR=16						
AKTO				S	**Sn**	**18 39 47.7**	**-5.2**
	4.8nm,0.3s,baz=217,slow=20,SNR=6.3 7.1nm,0.3s						
AKTO	**Aktyubinsk**	**10.49**	**21**	P	**Pn**	**18 37 58.3**	**+1.6**
	baz=266,slow=27						
AKTO				S	**Sn**	**18 39 51.0**	**-1.8**
	baz=266,slow=27						
BELG	**Belogornoye**	**12.04**	**347**	P	**Pn**	**18 38 17.3**	**-0.5**
	5.6nm,0.3s,baz=183,slow=19,SNR=24						
BELG				S	Sn	18 40 21.0	-10
	26nm,0.7s,baz=107,slow=19,SNR=8.3						
KK31	**Karatay Array**	**13.85**	**74**	P	**Pn**	**18 38 42.9**	**+0.3**
	0.9nm,0.5s,baz=263,slow=15,SNR=10						
KK31				⇓S	Sn	18 41 08.9	-6.0
	6.9nm,0.7s,baz=262,slow=25						
BRTR	**Keskin Array B**	**14.20**	**272**	P	**Pn**	**18 38 46.5**	**-1.0**
	0.1nm,0.3s,baz=104,slow=12,SNR=1.5 0.2nm,0.5s						
ARTI	**Arti**	**16.15**	**12**	P	**Pn**	**18 39 11.1**	**-1.6**
	0.8nm,0.3s,baz=238,slow=13,SNR=7.9						
ARTI				S	Sn	18 42 00.5	-10
	1.8nm,0.5s,baz=131,slow=19,SNR=2.1 3.5nm,0.3s						
BVA0	**Borovoye Array**	**17.41**	**39**	⇑P	**Pn**	**18 39 30.4**	**+1.9**
	4.9nm,0.8s,baz=230,slow=14,SNR=4.7						
BVA0				⇑S	**Sn**	**18 42 35.4**	**-5.7**
	7.2nm,1.2s,baz=230,slow=25						
BVAR	**Borovoye Array**	**17.41**	**39**	P	**Pn**	**18 39 29.9**	**+1.5**
	0.2nm,0.3s,baz=230,slow=13,SNR=19						
BVAR				S	Sn	18 42 31.6	-10
	1.6nm,0.5s,baz=237,slow=24,SNR=5.7 2.3nm,0.4s						
KIRV	**Kirov**	**17.92**	**355**	P	**P**	**18 39 32.3**	**-2.6**
	1.5nm,0.3s,baz=173,slow=12,SNR=4.8 5.2nm,0.5s						
KSH	**Kashi**	**18.23**	**86**	P	**P**	**18 39 39.3**	**+0.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKASG	**Malin Array Be**	**18.78**	**310**	P	**P**	**18 39 43.1**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=98,slow=9.8,SNR=5.8 comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**20.78**	**53**	P	**P**	**18 40 08.7**	**+2.5**
	comp=Z,1.7nm,0.7s,baz=251,slow=11,SNR=17						
KURBB				S	**S**	**18 43 57.5**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=252,slow=27,SNR=3.1 comp=Z,1.7nm,0.7s						
NACGM	**Naroch**	**21.98**	**319**	*e*P	**P**	**18 40 21.2**	**+2.1**
	comp=Z,2.0nm,0.7s,baz=120						
IDI	**Anoyia**	**22.13**	**265**	P	**P**	**18 40 22.1**	**+1.1**
	comp=Z,8.7nm,1.0s,baz=12,slow=14,SNR=1.8 comp=Z,8.7nm,1.0s						
MK31	**Makanchi Array**	**22.48**	**64**	P	**P**	**18 40 26.7**	**+2.2**
	comp=Z,1.4nm,0.8s,baz=253,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**22.48**	**64**	P	**P**	**18 40 26.6**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=256,slow=9.0,SNR=8.6						
MKAR				S	**S**	**18 44 33.1**	**+4.8**
	comp=Z,0.2nm,0.5s,baz=280,slow=20,SNR=3.0 comp=Z,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**25.48**	**48**	P	**P**	**18 40 54.1**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=263,slow=12,SNR=4.7						
ZALV				LR	LR	18 52 53.8	
	comp=Z,56nm,19.4s,baz=193,slow=41 comp=Z,0.8nm,0.5s						
FINES	**FINESS Array B**	**26.08**	**331**	P	**P**	**18 40 57.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=130,slow=11,SNR=13 comp=Z,0.6nm,0.3s						
HFS	**Hagfors**	**30.60**	**322**	P	**P**	**18 41 38.1**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=99,slow=9.2,SNR=5.1 comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**32.05**	**343**	P	**P**	**18 41 51.6**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=139,slow=10,SNR=1.5 comp=Z,2.8nm,0.9s						
NOA	**NORSAR Array B**	**32.07**	**323**	P	**P**	**18 41 51.6**	**0.0**
	comp=Z,0.2nm,0.6s,baz=112,slow=6.4,SNR=2.0 comp=Z,0.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**38.68**	**311**	P	**P**	**18 42 47.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=99,slow=8.5,SNR=7.7 comp=Z,0.3nm,0.4s						
KSRS	**Korea Array**	**57.13**	**67**	P	**P**	**18 45 11.6**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=289,slow=6.8,SNR=4.6 comp=Z,0.7nm,0.5s						

TEH ***27*** *19:02:16.8, 34˚.73N × 46˚.81E, h0km±861km*
ISN ***27*** *19:02:17.0±2.4, 34˚.71N × 46˚.84E, h19km±34km, ML2.6*

ISC 27 19:02:17.4±1.2, **34.70N**±0˚.06×**46.80E**±0˚.06, **h12**km, **n7**, σ0**s82**/10, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.34**	**270**	Pg	**Pg**	**19 02 24.1**	**-0.2**
IDHR				Sg	**Sg**	**19 02 29.3**	**+0.3**
IGHG	**Ghaleghazi**	**0.41**	**207**	Pg	**Pg**	**19 02 26.5**	**+0.8**
SNQR	**Sonqor, Kerman**	**0.70**	**77**	Pg	**Pb**	**19 02 31.5**	**-0.2**
IBZA	**Bozab**	**0.91**	**104**	Pg	**Pb**	**19 02 35.0**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.94**	**232**	Pg	**Pn**	**19 02 36.9**	**+0.4**
IBDR	**Badra**	**1.74**	**205**	*e*Pg	**Pn**	**19 02 47.0**	**-0.4**
	baz=25						
IBDR				*e*Sg	**Sg**	**19 03 13.0**	**-0.3**
IKRK	**Kirkuk**	**2.13**	**290**	*e*Pn	**Pn**	**19 02 54.0**	**+1.2**
IKRK				*e*Sn	**Sb**	**19 03 21.0**	**-1.4**
IKRK				AML	AML	19 03 28.8	
	comp=N,42nm,0.4s						
IKRK				AML	AML	19 03 30.2	
	comp=E,67nm,0.6s						

TEH ***27*** *19:03:42.3, 28˚.00N × 56˚.75E, h7km±59km*
DSN ***27*** *19:03:45.5±1.4, 27˚.83N × 56˚.48E, h10km, ml2.8/7, Error ellipse: s-maj=45.1km s-min=13.8km az=100.0*
OMAN ***27*** *19:03:46.1±0.4, 27˚.64N × 56˚.95E, h10km, ml3.2/17, Error ellipse: s-maj=9.1km s-min=6.2km az=300.0*

ISC 27 19:03:42.8±1.4, **27.90N**±0˚.03×**56.91E**±0˚.06, **h15**km±11km, **n44**, σ1**s21**/60, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.55**	**216**	Pg	**Pg**	**19 03 53.6**	**-0.1**
GENO	**Geno**	**0.82**	**233**	Pg	**Pg**	**19 03 57.7**	**-1.1**
GENO				Sg	**Sg**	**19 04 09.9**	**+0.3**
NGRK	**Negar Kerman**	**1.75**	**355**	Pg	**Pn**	**19 04 13.4**	**+0.4**
KBAM	**BAM**	**1.84**	**47**	Pn	**Pb**	**19 04 16.0**	**-0.2**
SHME	**Shamm**	**1.96**	**201**	P	**Pb**	**19 04 19.4**	**+1.1**
SHME				S	**Sn**	**19 04 40.4**	**+0.4**
SHME	**Shamm**	**1.96**	**201**	P	**Pn**	**19 04 15.3**	**-0.3**
SHME				S	**Sn**	**19 04 40.4**	**+0.4**
CHMN	**Cheshme madani**	**2.03**	**16**	Pn	**Pb**	**19 04 19.0**	**-0.7**
KRBR	**Kerman**	**2.08**	**356**	Pn	**Pn**	**19 04 18.7**	**+1.2**
LAR1	**LAR**	**2.26**	**265**	Pn	**Pn**	**19 04 20.7**	**+1.0**
KHGB	**Koh Gabri**	**2.50**	**351**	Pn	**Pn**	**19 04 25.1**	**+1.9**
MASF	**Masafi**	**2.60**	**195**	P	**Pn**	**19 04 25.1**	**+0.6**
	SNR=5.7						
MASF				S	**Sn**	**19 04 54.5**	**-1.3**
	SNR=9.8						
MSFE	**Esma-Masafi**	**2.62**	**195**	P	**Pn**	**19 04 25.8**	**+1.1**
KRM1	**Kerman Provinc**	**2.62**	**7**	Pn	**Pn**	**19 04 26.4**	**+1.6**
MDH	**Madha**	**2.65**	**192**	P	**Pn**	**19 04 26.1**	**+1.1**
MDH				S	**Sn**	**19 04 54.6**	**-2.3**
MDH	**Madha**	**2.65**	**192**	P	**Pn**	**19 04 26.0**	**+1.0**
UOSS	**Minazif**	**3.01**	**192**	P	**Pn**	**19 04 30.6**	**+0.6**
UOSS				S	**Sn**	**19 05 05.8**	**0.0**
UOSS	**Minazif**	**3.01**	**192**	P	**Pn**	**19 04 32.2**	**+2.2**
ZRDN	**Zarand Kerman**	**3.08**	**354**	Pn	**Pn**	**19 04 32.5**	**+1.3**
NAZ	**Nazwa, Dubai**	**3.10**	**201**	P	**Pn**	**19 04 32.4**	**+1.1**
NAZ				S	**Sn**	**19 05 07.4**	**-0.8**
HATD	**Hatta, Dubai**	**3.14**	**193**	P	**Pn**	**19 04 33.0**	**+1.2**
HATD				S	**Sn**	**19 05 10.2**	**+1.1**
HATD	**Hatta, Dubai**	**3.14**	**193**	P	**Pn**	**19 04 34.3**	**+2.5**
ASHO	**Ashiyiah**	**3.29**	**194**	P	**Pn**	**19 04 35.0**	**+1.1**
	SNR=10						
ASHO				S	**Sn**	**19 05 13.4**	**+0.6**
ASHO	**Ashiyiah**	**3.29**	**194**	P	**Pn**	**19 04 35.8**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.35**	**201**	P	**Pn**	**19 04 35.2**	**+0.4**
	SNR=17						
FAQ				S	**Sn**	**19 05 12.8**	**-1.6**
FAQ	**Al Faqa, Dubai**	**3.35**	**201**	P	**Pn**	**19 04 35.4**	**+0.6**
ASUD	**Al Ashush, Dub**	**3.55**	**204**	P	**Pn**	**19 04 38.7**	**+1.2**
ASUD	SNR=31						
	SNR=7.4			S	**Sn**	**19 05 19.6**	**+0.3**
ASUD	**Al Ashush, Dub**	**3.55**	**204**	P	**Pn**	**19 04 38.6**	**+1.2**
AJN	**Ajban**	**3.74**	**208**	P	**Pn**	**19 04 40.0**	**-0.1**
AJN				S	**Sn**	**19 05 25.2**	**+1.3**
	SNR=8.4						
SOHO	**SOHO**	**3.76**	**185**	P	**Pn**	**19 04 40.3**	**0.0**
IBAF	**Bafgh**	**3.86**	**343**	Pn	**Pn**	**19 04 42.0**	**+0.1**
ALNE	**Al Ain**	**3.96**	**195**	P	**Pn**	**19 04 43.5**	**+0.4**
ALNE				S	**Sn**	**19 05 28.9**	**-0.5**
IMEH	**Mehriz**	**4.01**	**331**	Pn	**Pn**	**19 04 44.0**	**-0.1**
HOQ	**Hoqain**	**4.31**	**175**	P	**Pn**	**19 04 49.4**	**+1.5**
BIDO	**Bidbid**	**4.50**	**166**	P	**Pn**	**19 04 50.9**	**+0.5**
BIDO				S	**Sn**	**19 05 41.9**	**-0.6**
ARQ	**Araqi**	**4.55**	**184**	P	**Pn**	**19 04 52.6**	**+1.3**
IKOO	**Kooshah**	**4.86**	**21**	Pn	**Pn**	**19 04 57.3**	**+1.6**
SRVN	**Saravan**	**4.89**	**94**	Pn	Pn	19 05 01.0	+4.9
SMDO	**Samad**	**4.93**	**168**	P	**Pn**	**19 04 56.7**	**+0.2**
SMDO				S	**Sn**	**19 05 53.6**	**+0.3**
MZWR	**Madinat Zayed**	**4.94**	**214**	P	**Pn**	**19 04 57.0**	**+0.4**
TPRV	**Parvadeh(Tabas**	**5.12**	**358**	Pn	**Pn**	**19 05 00.6**	**+1.5**
UMZA	**Um Al Zommool**	**5.40**	**197**	P	**Pn**	**19 05 01.9**	**-1.0**
UMZA				S	**Sn**	**19 06 01.7**	**-3.1**
IRAM	**Ramesheh**	**5.54**	**316**	Pn	**Pn**	**19 05 05.2**	**+0.2**
KLNJ	**Kolanjah**	**5.58**	**305**	Pn	**Pn**	**19 05 05.4**	**-0.2**
JLN	**Jalan Bani Buh**	**6.16**	**158**	P	**Pn**	**19 05 13.6**	**+0.3**
JLN				S	**Sn**	**19 06 20.6**	**-2.9**

IDC ***27*** *19:06:35.7±0.9, 31˚.18S × 179˚.94W, h343km±10km, mb3.1/4, mbtmp3.9/6, Error ellipse: s-maj=23.6km s-min=15.7km az=100.0*
WEL ***27*** *19:06:41.8±0.8, 32˚S±6˚× 18˚0W±1˚5, h277km±13km, M4.2/12, mB4.4/7, ML4.5/6, MLv4.8/12, Mw(mB)3.6/7, Error ellipse: s-maj=21.2km s-min=4.4km az=108.7, confirmed*

ISC 27 19:06:35.6±0.6, **31.57S**±0˚.07×**179.6W**±0˚.1, **h350**km, **n39**, σ2**s38**/59, **mb3.4**/4, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.73**	**33**	P	**Pn**	**19 07 34.6**	**+1.9**
GLKZ				S	**S**	**19 08 17.6**	**-0.9**
RAO	**Raoul Island**	**2.74**	**33**	P	**Pn**	**19 07 30.9**	**-1.9**
	85nm,0.3s,baz=180,slow=20,SNR=1.5						
RAO				S	**S**	**19 08 16.0**	**-2.7**
	161nm,0.2s,baz=260,slow=23,SNR=2.2						
RIZ	**Raoul Island**	**2.74**	**33**	S	**S**	**19 08 20.1**	**+1.4**
MXZ	**Matakaoa Point**	**6.22**	**195**	P	**Pn**	**19 08 12.6**	**+3.8**
MXZ				S	**S**	**19 09 22.0**	**-2.5**
WMGZ	**Waiomatatini S**	**6.44**	**194**	P	**Pn**	**19 08 14.0**	**+2.7**
WMGZ				S	**S**	**19 09 27.6**	**-1.6**
HAZ	**Te Kaha**	**6.53**	**198**	P	**Pn**	**19 08 13.4**	**+1.0**
HAZ				S	**S**	**19 09 29.2**	**-1.9**
PKGZ	**Pakihiroa**	**6.56**	**196**	P	**Pn**	**19 08 17.0**	**+4.2**
PKGZ				S	**S**	**19 09 32.0**	**+0.3**
WCZ	**Waipu Caves**	**6.64**	**227**	P	**Pn**	**19 08 17.5**	**+3.7**
PUZ	**Puketiti**	**6.72**	**194**	P	**Pn**	**19 08 12.4**	**-2.2**
PUZ				S	**S**	**19 09 29.3**	**-5.8**
OUZ	**Omahuta**	**6.73**	**235**	P	**Pn**	**19 08 18.1**	**+3.4**
RUGZ	**Raukumara Rang**	**6.76**	**198**	P	**Pn**	**19 08 16.3**	**+1.2**
RUGZ				S	**S**	**19 09 30.8**	**-5.3**
CNGZ	**Carnagh Statio**	**7.12**	**194**	P	**Pn**	**19 08 18.9**	**-0.4**
TKGZ	**Te Karaka**	**7.16**	**196**	S	**S**	**19 09 42.3**	**-2.1**
URZ	**Urewera**	**7.19**	**201**	P	**Pn**	**19 08 22.1**	**+2.1**
	5.0nm,0.3s,baz=21,slow=17,SNR=17						
URZ				S	**S**	**19 09 43.2**	**-1.9**
	42nm,0.4s,baz=75,slow=22,SNR=22						
URZ	**Urewera**	**7.19**	**201**	P	**Pn**	**19 08 21.1**	**+1.0**
URZ				S	**S**	**19 09 43.5**	**-1.6**
RAGZ	**Rawiri**	**7.32**	**198**	P	**Pn**	**19 08 21.3**	**-0.5**
RAGZ				S	**S**	**19 09 46.4**	**-1.7**
RIGZ	**Rimuhau**	**7.43**	**196**	P	**Pn**	**19 08 25.7**	**+2.7**
RIGZ				S	**S**	**19 09 48.0**	**-2.5**
RTZ	**Ruatahuna**	**7.56**	**201**	P	**Pn**	**19 08 26.6**	**+2.1**
RTZ				S	**S**	**19 09 49.7**	**-3.5**
SNGZ	**Shannon Statio**	**7.61**	**198**	P	**Pn**	**19 08 29.4**	**+4.3**
SNGZ				S	**S**	**19 09 53.0**	**-1.3**
PRGZ	**Paritu Road**	**7.62**	**195**	S	**S**	**19 09 52.4**	**-1.9**
RAHZ	**Arahi**	**7.81**	**199**	P	**Pn**	**19 08 31.0**	**+3.6**
RAHZ				S	**S**	**19 09 55.8**	**-2.7**
MHGZ	**Mahia Peninsul**	**7.83**	**194**	P	**Pn**	**19 08 30.7**	**+3.1**
MHGZ				S	**S**	**19 09 58.4**	**-0.6**
BKZ	**Black Stump Fm**	**8.21**	**202**	P	**P**	**19 08 34.4**	**-0.8**
BKZ				S	**S**	**19 10 04.3**	**-3.1**
NGZ	**Ngauruhoe**	**8.53**	**206**	P	**P**	**19 08 38.5**	**-0.2**
NGZ				S	**S**	**19 10 13.1**	**-1.3**
ASAR	**Alice Springs**	**41.66**	**269**	P	**P**	**19 13 50.0**	**-1.3**
	0.3nm,0.7s,baz=106,slow=7.1,SNR=5.2						
ASAR				PcP	**PcP**	**19 15 39.7**	**-0.9**
	0.5nm,0.9s,baz=103,slow=3.8,SNR=2.8						
ASAR				ScP	**ScP**	**19 18 54.8**	**-2.0**
	0.5nm,0.8s,baz=121,slow=4.3,SNR=9.2 0.3nm,0.7s						
WRA	**Warramunga Arr**	**42.76**	**274**	P	**P**	**19 13 58.3**	**-1.8**
	0.4nm,0.3s,baz=112,slow=7.7,SNR=5.2 0.4nm,0.3s						
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**19 16 00.8**	**+4.5**
	2.3nm,0.5s,baz=46,slow=0.2,SNR=20 2.3nm,0.5s						
SNAA	**Sanae**	**77.03**	**179**	P	**P**	**19 17 52.0**	**+1.8**
	0.9nm,0.7s,baz=262,slow=13,SNR=4.6 0.9nm,0.7s						
MKAR	**Makanchi Array**	**117.44**	**310**	PKP	**PKPdf**	**19 24 38.8**	**-1.0**
	0.2nm,0.5s,baz=134,slow=1.6,SNR=2.0						
ZALV	**Zalesovo Beam**	**117.97**	**318**	PKP	**PKPdf**	**19 24 38.6**	**-1.9**
	0.2nm,

LAR1	**LAR**	**2.09 264**		Pn		**Pb**	**20 06 08.4**	**-1.1**
UMQ	**Umm Al-Quwin** SNR=10.0	**2.55 202**		P		**Pb**	**20 06 15.8**	**-1.6**
UMQ				S		**Sb**	**20 06 48.4**	**+0.1**
MASF	**Masafi** SNR=30	**2.57 191**		P		**Pn**	**20 06 14.9**	**+2.5**
MASF				S		**Sb**	**20 06 47.3**	**-1.7**
MSFE	**Esma-Masafi** SNR=30	**2.58 191**	*e*	P		**Pn**	**20 06 14.9**	**+2.4**
MDH	**Madha**	**2.62 188**		P		**Pn**	**20 06 14.5**	**+1.5**
MDH				S		**Sn**	**20 06 46.7**	**+2.7**
MDH	**Madha**	**2.62 188**		P		**Pn**	**20 06 15.3**	**+2.3**
KRM1	**Kerman Provinc**	**2.64 11**		Pn		**Pb**	**20 06 16.8**	**-2.2**
JHRM	**Jahrom**	**2.83 283**		Pn		**Pn**	**20 06 19.1**	**+3.0**
UOSS	**Minazif**	**2.98 189**				**Pn**	**20 06 19.4**	**+1.4**
UOSS				Sn		**Sn**	**20 06 55.0**	**+2.1**
UOSS	**Minazif**	**2.98 189**		P		**Pn**	**20 06 19.9**	**+1.9**
UOSS	**Minazif** SNR=15	**2.98 189**	*i*	P		**Pn**	**20 06 19.9**	**+1.9**
NAZ	**Nazwa, Dubai** SNR=31	**3.05 198**		P		**Pn**	**20 06 22.1**	**+3.1**
NAZ				S		**Sn**	**20 06 58.8**	**+4.1**
NAZ	**Nazwa, Dubai** SNR=31	**3.05 198**	*i*	P		**Pn**	**20 06 21.9**	**+2.9**
ZRDN	**Zarand Kerman**	**3.06 357**		Pn		**Pn**	**20 06 22.2**	**+3.0**
HATD	**Hatta, Dubai**	**3.11 190**		P		**Pn**	**20 06 22.8**	**+2.9**
HATD				S		**Sn**	**20 06 59.0**	**+2.9**
HATD	**Hatta, Dubai**	**3.11 190**		P		**Pn**	**20 06 22.7**	**+2.9**
ASHO	**Ashiyiah** SNR=83	**3.26 191**		P		**Pn**	**20 06 24.4**	**+2.6**
ASHO				S		**Sn**	**20 07 03.9**	**+4.0**
ASHO	**Ashiyiah** SNR=83	**3.26 191**	*i*	P		**Pn**	**20 06 24.2**	**+2.3**
QIR1	**Qir**	**3.29 281**		Pn		**Pn**	**20 06 25.0**	**+2.7**
FAQ	**Al Faqa, Dubai** SNR=77	**3.30 198**		P		**Pn**	**20 06 25.4**	**+3.0**
FAQ				S		**Sn**	**20 07 03.4**	**+2.5**
FAQ	**Al Faqa, Dubai** SNR=77	**3.30 198**	*i*	P		**Pn**	**20 06 25.4**	**+3.0**
ASUD	**Al Ashush, Dub** SNR=194	**3.49 201**		P		**Pn**	**20 06 28.5**	**+3.5**
ASUD				S		**Sn**	**20 07 10.1**	**+4.5**
ASUD	**Al Ashush, Dub** SNR=194	**3.49 201**	*i*	P		**Pn**	**20 06 28.5**	**+3.5**
AJN	**Ajban** SNR=29	**3.67 205**		P		**Pn**	**20 06 30.5**	**+3.0**
AJN				S		**Sn**	**20 07 12.5**	**+2.6**
AJN	**Ajban** SNR=9.8	**3.67 205**	*i*	P		**Pn**	**20 06 30.7**	**+3.2**
SOHO	**SOHO**	**3.76 183**		P		**Pn**	**20 06 30.9**	**+2.2**
SOHO	**SOHO** SNR=7.9	**3.76 183**	*i*	P		**Pn**	**20 06 30.7**	**+2.0**
IBAF	**Bafgh**	**3.81 345**		Pn		**Pn**	**20 06 32.1**	**+2.6**
IMEH	**Mehriz**	**3.93 333**		Pn		**Pn**	**20 06 34.1**	**+2.9**
ALNE	**Al Ain** SNR=14	**3.93 193**		P		**Pn**	**20 06 33.5**	**+2.4**
ALNE				S		**Sn**	**20 07 17.9**	**+1.5**
ALNE	**Al Ain** SNR=14	**3.93 193**	*i*	P		**Pn**	**20 06 33.3**	**+2.2**
ZHSF	**Zahedan**	**3.95 64**		Pn		**Pn**	**20 06 34.8**	**+3.3**
ZHSF	**Zahedan**	**3.95 64**	*e*	Pn		**Pn**	**20 06 35.4**	**+3.9**
ZHSF	comp=Z,0.2nm,1.0s			IAML			20 07 17.8	
CHBR	**Chabahar**	**4.08 123**		Pn		**Pn**	**20 06 35.1**	**+2.0**
CHBR	**Chabahar**	**4.08 123**	*i*	P		**Pn**	**20 06 34.9**	**+1.8**
CHBR	comp=Z,0.0nm,1.0s			IAML			20 08 29.7	
HOQ	**Hoqain**	**4.34 173**		P		**Pn**	**20 06 37.6**	**+0.9**
HOQ				S		**Sn**	**20 07 28.0**	**+1.6**
BIDO	**Bidbid**	**4.55 163**		P		**Pn**	**20 06 39.9**	**+0.4**
BIDO				S		**Sn**	**20 07 31.4**	**-0.2**
JRN	**Qarnain Island**	**4.55 230**		P		**Pn**	**20 06 43.1**	**+3.5**
JRN				S		**Sn**	**20 07 32.7**	**+1.0**
ARQ	**Araqi** SNR=24	**4.55 182**		P		**Pn**	**20 06 42.2**	**+2.6**
ARQ				S		**Sn**	**20 07 31.1**	**-0.6**
NGCH	**Negor - Chabah**	**4.70 122**		Pn		**Pn**	**20 06 43.8**	**+2.2**
NGCH	**Negor - Chabah** SNR=14	**4.70 122**		P		**Pn**	**20 06 43.4**	**+1.8**
NGCH				S		**Sn**	**20 07 37.0**	**+1.7**
ICHK	**Chekchek**	**4.77 336**		Pn		**Pn**	**20 06 45.4**	**+2.6**
YZKH	**Yazd**	**4.83 338**	*e*	Pn		**Pn**	**20 06 46.2**	**+2.6**
YZKH	comp=Z,0.1nm,1.0s			IAML			20 08 20.1	
DSBU	**Dashti - Bushe**	**4.84 277**		Pn		**Pn**	**20 06 46.4**	**+2.8**
MZWR	**Madinat Zayed**	**4.85 212**		P		**Pn**	**20 06 45.9**	**+2.2**
MZWR				S		**Sn**	**20 07 40.0**	**+1.0**
IKOO	**Kooshah**	**4.92 23**		Pn		**Pn**	**20 06 47.4**	**+2.5**
WSAR	**Wadi Sarin**	**4.96 159**		Pn		**Pn**	**20 06 46.3**	**+1.1**
WSAR	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=95			Sn		**Sn**	**20 07 41.5**	**-0.2**
WSAR	comp=Z,0.4nm,0.3s,baz=250,slow=24,SNR=13	**4.96 159**		P		**Pn**	**20 06 46.5**	**+1.3**
WSAR	**Wadi Sarin**			S		**Sn**	**20 07 42.0**	**+0.3**
SMDO	**Samad** SNR=18	**4.97 166**		P		**Pn**	**20 06 47.0**	**+1.5**
SRVN	**Saravan**	**5.07 94**		Pn		**Pn**	**20 06 49.3**	**+2.5**
SRVN	**Saravan**	**5.07 94**	*i*	P		**Pn**	**20 06 51.0**	**+4.2**
SRVN	comp=Z,0.1nm,1.0s			IAML			20 08 26.6	
TPRV	**Parvadeh(Tabas**	**5.11 360**		Pn		**Pn**	**20 06 50.6**	**+3.3**
GHWR	**Ruwais**	**5.23 222**		P		**Pn**	**20 06 50.4**	**+1.5**
GHWR				S		**Sn**	**20 07 48.6**	**+0.2**
ITEG	**Tejag**	**5.28 19**		Pn		**Pn**	**20 06 52.5**	**+2.7**
UMZA	**Um Al Zommool**	**5.36 196**		P		**Pn**	**20 06 52.4**	**+1.8**
UMZA				S		**Sn**	**20 07 51.3**	**-0.2**
IRAM	**Ramesheh**	**5.41 317**		Pn		**Pn**	**20 06 54.7**	**+3.0**
KLNJ	**Kolanjah**	**5.43 306**		Pn		**Pn**	**20 06 55.0**	**+2.9**
KLNJ	**Kolanjah**	**5.43 306**	*e*	Pn		**Pn**	**20 06 54.3**	**+2.3**
KLNJ	comp=Z,0.2nm,1.0s			IAML			20 08 04.6	
IDAH	**Dahanechah**	**5.54 29**		Pn		**Pn**	**20 06 56.3**	**+2.9**
JMDO	**Jabal Madar**	**5.65 167**		P		**Pn**	**20 06 56.4**	**+1.6**
MZR	**Muzera**	**5.69 212**		P		**Pn**	**20 06 56.5**	**+1.2**
MZR	**Muzera** SNR=24	**5.69 212**	*i*	P		**Pn**	**20 06 56.5**	**+1.2**
TKDS	**Koohdasht(Taba**	**5.70 3**		Pn		**Pn**	**20 06 58.4**	**+2.9**
TABS	**Tabas**	**5.74 3**	*e*	Pn		**Pn**	**20 07 00.1**	**+4.1**
TABS	comp=Z,0.2nm,1.0s			IAML			20 08 55.8	
TRNA	**Turayna** SNR=31	**5.86 239**		P		**Pn**	**20 06 60.0**	**+2.4**
TRNA	SNR=7.1			S		**Sn**	**20 08 07.0**	**+3.1**
NASN	**Na'in**	**5.93 326**	*i*	P		**Pn**	**20 07 01.1**	**+2.2**
NASN	comp=Z,0.1nm,1.0s			IAML			20 09 10.3	
IBRJ	**Brojen**	**6.19 311**		Pn		**Pn**	**20 07 05.3**	**+2.9**
JLN	**Jalan Bani Buh** SNR=24	**6.23 156**		P		**Pn**	**20 07 04.0**	**+1.3**
SHRT	**Shahrakht** comp=Z,0.1nm,1.0s	**6.50 27**		IAML			20 09 26.3	
ZNGN	**Zangian**	**6.59 311**		Pn		**Pn**	**20 07 10.6**	**+2.7**
JHBN	**Jahan bin**	**6.79 311**		Pn		**Pn**	**20 07 13.6**	**+3.0**
MHTO	**MHTO**	**6.98 170**		P		**Pn**	**20 07 14.8**	**+1.9**
KRSH	**Karshahi**	**7.21 328**		Pn		**Pn**	**20 07 19.1**	**+2.8**
ISFB	**Sefidab**	**7.48 330**		Pn		**Pn**	**20 07 23.0**	**+3.0**
GTMR	**Gotvand**	**8.00 307**	*e*	Pn		**Pn**	**20 07 27.9**	**+0.9**
GTMR	comp=Z,0.1nm,1.0s			IAML			20 09 21.2	
HRA	**Herat**	**8.01 35**		Pn		**Pn**	**20 07 24.6**	**-2.7**
SHRO	**Shahrood**	**8.09 356**	*e*	Pn		**Pn**	**20 07 30.5**	**+2.3**
KHMZ	**Khomeyn**	**8.22 317**	*e*	Pn		**Pn**	**20 07 32.1**	**+2.0**
SBZV	**Sabzevar**	**8.49 5**	*e*	Pn		**Pn**	**20 07 38.8**	**+4.9**
RAYN	**Ar Rayn**	**11.01 249**				**Pn**	**20 08 06.6**	**-1.7**
RAYN	**Ar Rayn** SNR=25	**11.01 249**	*i*	P		**Pn**	**20 08 06.8**	**-1.4**
NIL	**Nilore**	**15.32 64**		Pn		**Pn**	**20 09 07.8**	**+0.9**
NIL	comp=Z,12nm,1.3s			IAmb		IAmb	20 09 20.3	
GNI	**Garni** comp=Z,0.8nm,0.3s,baz=93,slow=13,SNR=2.7	**15.72 324**		Pn		**Pn**	**20 09 12.7**	**+0.5**
GNI	comp=Z,98nm,19.1s,baz=104,slow=40 comp=Z,1.6nm,0.5s			LR		LR	20 16 04.2	
GAR	**Garm**	**15.83 42**				**P**	**20 09 16.0**	**-1.2**
GAR	comp=Z,18nm,0.7s			IAmb		IAmb	20 09 24.3	
GURO	**Guroymak-BITLI**	**16.22 315**				**Pn**	**20 09 18.6**	**+0.1**
MARD	**Mardin**	**16.36 309**				**Pn**	**20 09 18.6**	**-1.8**
ASF	**Jabal al Asfar** comp=Z,0.5nm,0.3s,baz=66,slow=21,SNR=4.7	**17.68 289**		P		**Pn**	**20 09 37.2**	**+0.3**
ASF	comp=Z,1.2nm,0.4s,baz=49,slow=19,SNR=1.8			S		**Sn**	**20 12 52.1**	**-1.0**
	comp=Z,1.6nm,0.4s							
KK31	**Karatay Array**	**18.83 33**				**P**	**20 09 50.1**	**-0.1**
KKAR	**Karatay Array**	**18.83 33**				**P**	**20 09 49.9**	**-0.4**
ARSB	**Arslanbob**	**18.89 41**				**P**	**20 09 50.8**	**-0.3**
MMAI	**Mount Meron Ar** comp=Z,0.7nm,0.3s,baz=101,slow=13,SNR=2.6	**19.06 291**		P		**Pn**	**20 09 54.0**	**+0.3**
MMAI	comp=Z,115nm,18.8s,baz=93,slow=43 comp=Z,1.0nm,0.5s			LR		LR	20 19 10.6	
EIL	**Elat** baz=101,slow=14,SNR=3.7	**19.16 280**		P		**Pn**	**20 09 54.9**	**0.0**
KBZ	**Khabaz** comp=Z,0.4nm,0.3s,baz=70,slow=10.0,SNR=1.5	**19.32 328**		P		**Pn**	**20 09 59.0**	**+2.3**
KSH	**Kashi**	**19.73 49**		P		**P**	**20 09 57.3**	**-2.8**
KSH				sP		pP	20 10 06.5	-1.0
KSH	comp=Z,7.0nm,0.7s			pmax		pmax		
AAK	**Ala-Archa**	**20.60 40**		P		Pn	20 10 11.3	-0.7
AAK	**Ala-Archa** comp=Z,3.6nm,0.5s,baz=226,slow=17,SNR=2.7	**20.60 40**		P		Pn	20 10 11.2	-0.8
AAK	comp=Z,49nm,21.4s,baz=148,slow=38 comp=Z,3.6nm,0.5s			LR		LR	20 18 37.1	
BOOM	**Boomskoye usch**	**21.34 42**		P		P	20 10 08.1	-10
BOOM	comp=Z,6.9nm,0.8s			IAmb		IAmb	20 10 16.0	
AB31	**Akbulak array**	**21.46 6**				**P**	**20 10 17.3**	**-1.4**
AB31	comp=Z,5.4nm,0.9s			IAmb		IAmb	20 10 36.3	
ABKAR	**Akbulak array**	**21.46 6**		P		**P**	**20 10 18.5**	**-0.3**
KDJ	**Kajisay**	**21.89 44**				**P**	**20 10 22.9**	**-0.6**
KDJ	comp=Z,15nm,1.0s			IAmb		IAmb	20 10 37.3	
BR131	**Keskin Array S**	**22.44 308**				**P**	**20 10 26.7**	**-2.8**
BR131	comp=Z,5.3nm,0.8s			IAmb		IAmb	20 10 53.4	
BRTR	**Keskin Array B**	**22.44 308**		P		**P**	**20 10 27.2**	**-2.3**
BRTR	**Keskin Array B** comp=Z,3.1nm,0.9s,baz=122,slow=11,SNR=13 comp=Z,3.1nm,0.9s	**22.44 308**		P		**P**	**20 10 30.6**	**+1.2**
AKTO	**Aktyubinsk** comp=Z,99nm,18.1s,baz=300,slow=42	**22.52 2**		LR		LR	20 21 07.7	
EVN	**Everest**	**26.57 83**		P		**P**	**20 11 08.1**	**-1.0**
EVN	comp=Z,4.9nm,0.7s			IAmb		IAmb	20 11 24.6	
BVAR	**Borovoye Array** comp=Z,1.3nm,0.6s,baz=197,slow=7.6,SNR=12 comp=Z,1.3nm,0.6s	**27.07 18**		P		**P**	**20 11 13.9**	**+1.2**
MKAR	**Makanchi Array**	**27.53 40**		P		**P**	**20 11 16.2**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=227,slow=7.8,SNR=8.0	**27.53 40**		P		**P**	**20 11 18.1**	**+1.2**
MKAR	comp=Z,0.2nm,0.6s,baz=219,slow=3.7,SNR=2.4 comp=Z,0.5nm,0.5s			PcP		**PcP**	**20 14 34.3**	**-0.2**
IDI	**Anoyia**	**28.00 293**		P		**P**	**20 11 18.9**	**-2.4**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.3s,baz=229,slow=8.3,SNR=4.3 comp=Z,0.5nm,0.3s	**28.09 30**		P		**P**	**20 11 22.7**	**+0.9**
WMQ	**Urumqi**	**29.49 49**	*e*	P		**P**	**20 11 34.5**	**+0.1**
WMQ				pP		pP	20 11 38.8	-3.5
WMQ	comp=Z,19nm,0.6s			pmax		pmax		
WMQ	comp=Z,180nm,23.9s			LR		LR		
AKASG	**Malin Array Be** comp=Z,0.7nm,0.5s,baz=134,slow=8.5,SNR=7.1 comp=Z,0.7nm,0.5s	**30.85 325**		P		**P**	**20 11 45.9**	**-0.3**
KIRV	**Kirov** comp=Z,106nm,19.3s,baz=127,slow=42	**31.09 353**		LR		LR	20 27 18.8	
BURAR	**Bucovina Array**	**31.42 317**		P		**P**	**20 11 50.0**	**-1.5**
ZAA0	**Zalesovo Array**	**33.18 31**		P		**P**	**20 12 06.9**	**+0.2**
ZALV	**Zalesovo Beam**	**33.18 31**				**P**	**20 12 06.0**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.3s,baz=239,slow=9.9,SNR=16	**33.18 31**		P		**P**	**20 12 07.2**	**+0.6**
ZALV	comp=Z,0.5nm,0.5s,baz=240,slow=3.6,SNR=2.9 comp=Z,2.4nm,0.3s			PcP		**PcP**	**20 14 47.7**	**-1.3**
KOLS	**Kolonicke sedl**	**33.77 318**	*e*	P		**P**	**20 12 14.3**	**+2.4**
CUC	**Castrocucco**	**35.71 300**		P		**P**	**20 12 27.1**	**-1.8**
OJC	**Ojcow**	**35.77 319**		P		**P**	**20 12 26.5**	**-2.7**
RONA	**Rosalia, Austr** comp=Z,1.8nm,0.5s	**37.02 313**	*i*	P		**P**	**20 12 40.3**	**+0.4**
GTA	**Gaotai**	**37.35 61**	*e*	P		**P**	**20 12 43.5**	**+0.6**
GTA				pP		pP	20 12 49.8	-1.1
GTA	comp=Z,3.0nm,0.8s			pmax		pmax		
SABO	**M.te Sabotino**	**38.35 310**		P		**P**	**20 12 50.7**	**-0.5**
SABO	comp=Z,5.3nm,1.0s			IAmb		IAmb	20 13 13.3	
BIOA	**Bad Ischl, Aus** comp=Z,1.6nm,0.6s	**38.74 312**	*e*	P		**P**	**20 12 54.7**	**+0.3**
GERES	**GERESS Array B** comp=Z,0.4nm,0.5s,baz=92,slow=9.6,SNR=3.4 comp=Z,0.4nm,0.5s	**39.01 314**		P		**P**	**20 12 57.0**	**+0.2**
ABTA	**Abfaltersbach** comp=Z,1.4nm,0.6s	**39.26 311**	*i*	P		**P**	**20 12 59.0**	**+0.1**
FIA1	**FINESS Array S**	**39.27 337**		P		**P**	**20 12 58.5**	**-0.1**
FIA1	comp=Z,5.9nm,0.8s			IAmb		IAmb	20 13 13.2	
FINES	**FINESS Array B**	**39.27 337**		P		**P**	**20 12 58.5**	**-0.1**
FINES	**FINESS Array B** comp=Z,1.1nm,0.6s,baz=123,slow=12,SNR=14 comp=Z,1.1nm,0.6s	**39.27 337**		P		**P**	**20 12 59.1**	**+0.5**
LESA	**Schwarzleotal** comp=Z,1.8nm,0.4s	**39.31 312**	*i*	P		**P**	**20 12 59.1**	**-0.1**
CTI	**Castel Tesino**	**39.70 309**		P		**P**	**20 13 01.9**	**-0.7**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.3s,baz=306,slow=8.7,SNR=1.3 comp=Z,0.3nm,0.3s	**39.78 94**		P		**P**	**20 13 04.9**	**+1.5**
PZH	**PanZhiHua**	**39.90 81**		P		**P**	**20 13 06.5**	**+2.0**
WTTA	**Wattenberg** comp=Z,4.3nm,0.5s	**39.96 311**	*e*	P		**P**	**20 13 04.4**	**-0.3**
WATA	**Walderalm** comp=Z,2.2nm,0.5s	**40.01 311**	*e*	P		**P**	**20 13 04.6**	**-0.6**
CLL	**Collm**	**40.19 318**	*e*	P		**P**	**20 13 06.0**	**-0.4**
CLL			*i*	x		x	20 13 21.6	
SQTA	**Sankt Quirin** comp=Z,5.5nm,0.4s	**40.23 311**	*e*	P		**P**	**20 13 06.6**	**-0.4**
MOTA	**Mosalm** comp=Z,3.7nm,0.5s	**40.33 311**	*e*	P		**P**	**20 13 07.2**	**-0.7**
FETA	**Feichten** comp=Z,2.8nm,0.5s	**40.51 311**	*e*	P		**P**	**20 13 09.2**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**40.75 310**				**P**	**20 13 10.9**	**-0.5**
FUORN	comp=Z,2.8nm,0.6s			IAmb		IAmb	20 13 13.2	
DAVA	**Damuels** comp=Z,10nm,0.5s	**41.13 311**	*i*	P		**P**	**20 13 14.0**	**-0.5**
TUE	**Stuetta**	**41.35 310**		P		**P**	**20 13 15.6**	**-0.7**
TUE	comp=Z,5.3nm,1.4s			IAmb		IAmb	20 13 43.2	
BNI	**Bardonecchia**	**43.00 307**		P		**P**	**20 13 28.4**	**-1.4**
BNI	comp=Z,7.2nm,1.5s			IAmb		IAmb	20 13 44.3	
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=263,slow=8.2,SNR=4.7 comp=Z,0.3nm,0.5s	**43.13 49**		P		**P**	**20 13 31.8**	**+1.1**
HFS	**Hagfors** comp=Z,1.0nm,0.5s,baz=124,slow=7.9,SNR=13 comp=Z,1.0nm,0.5s	**43.38 330**		P		**P**	**20 13 32.5**	**+0.1**
NC602	**NORSAR Array S**	**44.60 330**		P		**P**	**20 13 42.2**	**0.0**
NC602	comp=Z,4.0nm,1.0s			IAmb		IAmb	20 14 04.4	
NC405	**NORSAR Array S**	**44.70 331**		P		**P**	**20 13 42.4**	**-0.6**
NB201	**NORSAR Array S**	**44.85 331**		P		**P**	**20 13 43.6**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.6s,baz=115,slow=7.9	**44.88 331**		P		**P**	**20 13 43.8**	**-0.6**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=116,slow=7.5,SNR=7.3 comp=Z,0.8nm,0.6s	**44.88 331**		P		**P**	**20 13 44.1**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,0.8nm,0.6s,baz=145,slow=8.1,SNR=1.2 comp=Z,0.8nm,0.6s	**45.41 345**		P		**P**	**20 13 48.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**46.38 59**	*e*	P		**P**	**20 13 58.0**	**+1.3**
HHC	comp=Z,10.0nm,0.6s			pmax		pmax		
HHC	comp=Z,98nm,6.6s			pmax		pmax		
EKA	**Eskdalemuir Ar** comp=Z,0.2nm,0.3s,baz=109,slow=6.5,SNR=5.9 comp=Z,0.2nm,0.3s	**50.52 320**		P		**P**	**20 14 27.7**	**-0.5**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.5s,baz=82,slow=6.9,SNR=4.8 comp=Z,0.4nm,0.5s	**50.91 300**		P		**P**	**20 14 30.5**	**-1.0**
PAB	**San Pablo**	**51.22 300**		P		**P**	**20 14 32.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**53.17 266**		P		**P**	**20 14 47.4**	**-1.2**
TORD	comp=Z,2.0nm,0.7s			IAmb		IAmb	20 14 49.0	
TORD	**Torodi Ar. Bea** comp=Z,5.5nm,0.5s,baz=61,slow=7.9,SNR=77 comp=Z,5.5nm,0.5s	**53.17 266**		P		**P**	**20 14 48.3**	**-0.2**
SPITS	**Spitsbergen Ar** comp=Z,8.2nm,0.8s,baz=183,slow=5.8,SNR=1.7	**53.52 350**		P		**P**	**20 14 50.8**	**+0.5**
TIXI	**Tiksi** comp=Z,82nm,19.1s,baz=205,slow=38	**58.16 21**		LR		LR	20 42 46.8	
KSRS	**Korea Array** comp=Z,0.5nm,0.5s,baz=267,slow=6.5,SNR=5.1 comp=Z,0.5nm,0.5s	**59.42 61**		P		**P**	**20 15 32.5**	**-0.3**
KGCAE	**Kacgae**	**60.46 217**		P		**P**	**20 15 39.8**	**-0.5**
LBTB	**Lobatse**	**60.55 213**		P		**P**	**20 15 39.4**	**-1.3**
LBTB	**Lobatse** comp=Z,71nm,18.2s,baz=82,slow=36	**60.55 213**		LR		LR	20 41 43.7	
USRK	**Ussuriysk Ar.**	**60.97 53**		P		**P**	**20 15 43.0**	**-0.4**
LKGWB	**Lokgwabe**	**62.01 217**		P		**P**	**20 15 48.1**	**-2.6**
BOSA	**Boshof**	**63.77 211**		P		**P**	**20 16 02.7**	**+0.4**
BOSA	**Boshof** comp=Z,4.6nm,0.6s,baz=21,slow=7.3,SNR=14 comp=Z,4.6nm,0.6s	**63.77 211**		P		**P**	**20 16 03.2**	**+0.9**
SUR	**Sutherland**	**68.99 212**		P		**P**	**20 16 35.4**	**-0.4**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.6s,baz=315,slow=4.0,SNR=9.0 comp=Z,0.7nm,0.6s	**88.82 113**		P		**P**	**20 18 25.4**	**+0.9**
ASAR	**Alice Springs** comp=Z,0.6nm,0.5s,baz=306,slow=4.8,SNR=11 comp=Z,0.6nm,0.5s	**90.34 117**		P		**P**	**20 18 32.4**	**+0.8**

*SKHL **27** 20:19:43.4±0.4, 44°.10N×149°.70E, h42km±7km, mb3.8/3*
*IDC **27** 20:19:47.0±4.6, 45°.61N×148°.90E, h0km, mb3.6/7, mbtmp3.6/8, ML2.5/1, Error ellipse: s-maj=102.5km s-min=34.6km az=135.0*

ISC 27 20:19:43.3±1.8, 44°.2N±0°.1×149°.7E±0°.1, h38km, n19, σ0s71/16, mb3.8/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**310**	*i*	P	**Pn**	**20 20 09.9**		**+0.1**
KUR	50nm,0.5s				AMB	AMB	20 20 10.8		
KUR				*e*	S	**Sn**	**20 20 29.9**		**+0.1**
KUR	110nm,0.3s				A	A	20 20 31.4		
KUR	40nm,0.3s				A	A	20 20 31.4		
YUK	**Yuzh-Kuril'sk**	**2.75**	**268**	*e*	P	**Pn**	**20 20 25.6**		**+0.8**
YUK	10.0nm,0.2s				AMB	AMB	20 20 26.2		
YUK				*e*	S	**Sn**	**20 20 56.3**		**-0.4**
YUK	60nm,0.3s				A	A	20 20 58.4		
YUK	20nm,0.3s				A	A	20 20 58.4		
NMR	**Nemuro--Hokkai**	**2.97**	**255**	*e*	P	**Pn**	**20 20 27.5**		**-0.3**
NMR				*e*	S	**Sn**	**20 21 00.8**		**-1.4**
NMR	20nm,0.3s				A	A	20 21 01.6		
NMR	10.0nm,0.3s				A	A	20 21 01.6		
AKK	**Akkeshi**	**3.70**	**253**	*e*	P	**Pn**	**20 20 38.9**		**+1.1**
AKK				*e*	S	**Sn**	**20 21 20.1**		**0.0**
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=71,slow=18,SNR=1.4 1.9nm,0.7s	**5.09**	**272**	Pn		**Pn**	**20 20 57.7**		**+0.7**
H11N2	**WAKE ISLAND Hy** baz=334,slow=75,SNR=6.4	**28.31**	**144**	T		T	20 56 44.2		
H11N1	**WAKE ISLAND Hy** baz=334,slow=75,SNR=4.1	**28.32**	**144**	T		T	20 56 44.6		
H11N3	**WAKE ISLAND Hy** baz=334,slow=75,SNR=3.5	**28.33**	**144**	T		T	20 56 45.4		
H11S1	**WAKE ISLAND Hy** baz=332	**29.32**	**145**	T		T	20 57 58.3		
H11S3	**WAKE ISLAND Hy** baz=332	**29.33**	**145**	T		T	20 57 59.8		
H11S2	**WAKE ISLAND Hy** baz=332	**29.34**	**145**	T		T	20 58 00.5		
SONM	**Songino Array** 0.4nm,0.8s,baz=79,slow=9.0,SNR=2.5 0.4nm,0.8s	**29.98**	**292**	P		**P**	**20 25 48.8**		**+0.7**
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=77,slow=8.2,SNR=8.7 0.8nm,0.8s	**45.99**	**298**	P		**P**	**20 28 02.6**		**0.0**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=77,slow=8.1,SNR=1.7 0.2nm,0.4s	**46.88**	**304**	P		**P**	**20 28 08.8**		**-0.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=41,slow=5.6,SNR=1.4 0.4nm,0.4s	**49.40**	**255**	P		P	20 28 37.8		+8.5
FINES	**FINESS Array B** 0.9nm,0.6s,baz=27,slow=6.4,SNR=6.2 0.9nm,0.6s	**65.30**	**334**	P		**P**	**20 30 19.9**		**-1.0**
NB2	**NORSAR Subarra** comp=Z,2.7nm,1.1s,baz=32,slow=6.5	**69.83**	**340**	P		**P**	**20 30 49.2**		**-0.3**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=32,slow=6.2,SNR=4.0 comp=Z,0.4nm,0.6s	**69.83**	**340**	P		**P**	**20 30 49.5**		**-0.1**
HFS	**Hagfors** comp=Z,0.8nm,0.7s,baz=23,slow=7.8,SNR=2.4 comp=Z,0.8nm,0.7s	**69.97**	**338**	P		**P**	**20 30 50.5**		**+0.2**

*NEIC **27** 20:29:11.1±1.0, 15°.15S±0°.06×178°.3W±0°.1, h10km±1km, mb4.9/33, Error ellipse: s-maj=25.1km s-min=6.3km az=287.0*
*IDC **27** 20:29:14.8±0.8, 14°.56S×177°.54W, h0km, mb4.0/9, mbtmp4.0/9, MS3.9/33, Error ellipse: s-maj=43.6km s-min=21.3km az=147.0*

ISC 27 20:29:10.8±0.6, 15°.14S±0°.09×178°.3W±0°.2, h10km, n111, σ1s20/68, mb4.8/23, MS4.0/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.85**	**13**			**Pg**	**20 29 27.1**		**-0.2**
FUTU						**Sg**	**20 29 39.0**		**+0.6**
HNR	**Honiara** comp=Z,203nm,20.9s,baz=140,slow=33	**21.97**	**282**	LR		LR	20 41 45.8		
URZ	**Urewera** comp=Z,473nm,18.7s,baz=30,slow=34	**23.38**	**189**	LR		LR	20 42 42.3		
H11S2	**WAKE ISLAND Hy** baz=154,slow=76,SNR=7.2	**36.53**	**336**	T		T	21 15 01.1		
H11S3	**WAKE ISLAND Hy** baz=154,slow=76,SNR=11	**36.54**	**336**	T		T

QSPA **South Pole Qui** **74.89 180** P P 20 41 00.5 +8.8
comp=Z,1.3nm,0.9s,baz=311,slow=2.1,SNR=3.9
QSPA LR LR 21 09 11.7
comp=Z,82nm,21.7s,baz=15,slow=32
comp=Z,1.3nm,0.9s
KDAK Kodiak Island **75.71 14** LR LR 21 07 19.9
comp=Z,103nm,20.2s,baz=197,slow=30
PFO Pinyon Flats O **76.29 49** LR LR 21 06 37.7
comp=Z,102nm,19.3s,baz=234,slow=30
YBH Yreka Blue Hor **76.34 39** LR LR 21 08 56.7
comp=Z,6.1nm,18.3s,baz=240,slow=32
LPIG La Paz **77.00 60** LR LR 21 05 54.3
comp=Z,87nm,21.1s,baz=239,slow=29
NVAR Mina Array Bea **77.39 44** P **P** **20 41 06.9 +0.4**
comp=Z,1.9nm,1.0s,baz=224,slow=9.5,SNR=6.4
NVAR LR LR 21 06 52.0
comp=Z,87nm,21.3s,baz=238,slow=30
comp=Z,1.9nm,1.0s
J05D Fort Rock, OR **78.12 39** **P** **20 41 09.9 -0.4**
J05D IAmb IAmb 20 41 12.9
comp=Z,7.6nm,1.0s
MA2 Magadan **78.57 345** LR LR 21 13 56.1
comp=Z,29nm,19.1s,baz=236,slow=34
PINE Pine Mountain **78.58 38** **P** **20 41 10.5 -2.5**
BBB Bella Bella **79.87 29** LR LR 21 08 51.8
comp=Z,79nm,18.7s,baz=220,slow=30
G08A Pilot Rock **80.59 38** P **P** **20 41 22.6 -1.1**
ELK Elko **80.60 43** LR LR 21 10 52.3
comp=Z,74nm,19.1s,baz=270,slow=31
J20K Nowinta River **81.23 10** P **P** **20 41 27.2 +0.6**
J20K IAmb IAmb 20 41 30.4
comp=Z,22nm,1.6s
RND Reindeer **81.57 13** **P** **20 41 28.9 +0.3**
RND IAmb IAmb 20 41 31.6
comp=Z,16nm,1.5s
M27K Edge Creek, AK **82.38 16** P **P** **20 41 33.4 +0.5**
M27K IAmb IAmb 20 41 36.5
comp=Z,13nm,1.2s
G19K Purcell Mounta **82.59 9** P **P** **20 41 34.5 +0.8**
CCB Clear Creek Bu **82.88 13** P **P** **20 41 35.7 +0.4**
CCB IAmb IAmb 20 41 40.2
comp=Z,16nm,1.9s
ILAR Eielson Array **83.19 13** **P** **20 41 37.1 +0.2**
ILAR Eielson Array **83.19 13** P **P** **20 41 38.2 +1.3**
comp=Z,1.3nm,0.9s,baz=226,slow=7.0,SNR=10
ILAR LR LR 21 12 23.4
comp=Z,50nm,20.0s,baz=228,slow=31
comp=Z,1.3nm,0.9s
NEW Newport **83.24 36** LR LR 21 09 48.3
comp=Z,70nm,21.8s,baz=187,slow=30
DLBC Dease Lake **83.27 23** LR LR 21 13 46.3
comp=Z,132nm,18.3s,baz=216,slow=32
PV20 West Nyswonger **83.84 48** P **P** **20 41 40.7 -0.4**
PV20 IAmb IAmb 20 41 43.4
comp=Z,8.4nm,0.9s
BNM Barren Site **83.89 52** **P** **20 41 40.6 -0.8**
VHRN Van Horn **83.91 56** **P** **20 41 40.7 -0.8**
VHRN IAmb IAmb 20 41 44.2
comp=Z,11nm,1.2s
PV02 Paradox Valley **83.95 48** P **P** **20 41 42.0 +0.3**
PV02 IAmb IAmb 20 41 44.0
comp=Z,11nm,1.2s
L29M L29M **84.02 17** P **P** **20 41 41.3 0.0**
L29M IAmb IAmb 20 41 44.3
comp=Z,8.5nm,1.2s
ANMO Albuquerque **84.32 52** P **P** **20 41 43.8 +0.1**
ANMO IAmb IAmb 20 41 46.1
comp=Z,10nm,1.4s
ANMO Albuquerque **84.32 52** LR LR 21 12 30.4
comp=Z,154nm,19.0s,baz=350,slow=31
DAWY Dawson **84.42 16** P **P** **20 41 44.0 +0.7**
DAWY IAmb IAmb 20 41 47.4
comp=Z,9.6nm,1.4s
TX31 Lajitas Ar. Si **84.45 58** **P** **20 41 44.6 +0.3**
TXAR Lajitas Array **84.46 58** **P** **20 41 44.7 +0.5**
TXAR Lajitas Array **84.46 58** P **P** **20 41 45.6 +1.3**
comp=Z,3.4nm,1.0s,baz=229,slow=4.8,SNR=27
TXAR LR LR 21 12 01.0
comp=Z,85nm,18.5s,baz=268,slow=31
comp=Z,3.4nm,1.0s
ALPN Alpine **84.85 57** P **P** **20 41 45.8 -0.5**
ALPN IAmb IAmb 20 41 48.9
comp=Z,9.2nm,1.1s
BELA Belgrano 2 **84.88 173** P **P** **20 41 46.0 +0.5**
BELA IAmb IAmb 20 42 11.6
comp=Z,7.8nm,1.5s
S22A 4UR Ranch, Cre **85.14 49** **P** **20 41 46.9 -0.9**
S22A IAmb IAmb 20 41 50.5
comp=Z,7.9nm,1.2s
BOZ Bozeman (W) **85.22 40** P **P** **20 41 48.2 +0.4**
E22K Anaktuvuk Pass **85.24 10** P **P** **20 41 48.8 +1.6**
PD31 Pinedale Array **85.30 44** **P** **20 41 47.4 -1.0**
PD31 IAmb IAmb 20 41 50.6
comp=Z,13nm,1.5s
PDAR Pinedale Array **85.30 44** P **P** **20 41 47.1 -1.3**
PDAR Pinedale Array **85.30 44** P **P** **20 41 48.9 +0.5**
comp=Z,0.9nm,0.7s,baz=224,slow=4.1,SNR=9.7
PDAR LR LR 21 12 03.3
comp=Z,47nm,21.0s,baz=263,slow=30
comp=Z,0.9nm,0.7s
H27K Steamboat Moun **85.63 14** P **P** **20 41 49.5 +0.2**
G26K Porcupine Rive **85.72 13** **P** **20 41 50.1 +0.5**
MMPY Sheldon Lake, **85.76 20** **P** **20 41 50.2 +0.3**
MAW Mawson **86.48 200** LR LR 21 19 07.0
comp=Z,103nm,18.1s,baz=82,slow=34
DRIO Del Rio **86.99 59** **P** **20 41 54.8 -2.0**
CMAR Chiang Mai Arr **88.04 290** P P 20 42 11.0 +9.0
comp=Z,0.5nm,0.3s,baz=126,slow=4.8,SNR=1.4
comp=Z,0.5nm,0.3s
CMIG Matias Romero **88.30 72** LR LR 21 13 12.3
comp=Z,60nm,19.3s,baz=200,slow=30
INK Inuvik **89.21 15** LR LR 21 14 29.6
comp=Z,47nm,19.9s,baz=223,slow=31
H03S2 Juan Fernandez **89.28 125** T T 22 20 21.3
baz=250,slow=75,SNR=14
H03S1 Juan Fernandez **89.29 125** T T 22 20 22.3
baz=250,slow=75,SNR=17
H03S3 Juan Fernandez **89.29 125** T T 22 20 26.7
baz=250,slow=75,SNR=16
H03N2 Juan Fernandez **89.39 124** T T 22 20 25.6
baz=257,slow=72,SNR=4.8
H03N3 Juan Fernandez **89.39 124** T T 22 20 26.9
baz=257,slow=72,SNR=4.0
H03N1 Juan Fernandez **89.41 124** T T 22 20 25.8
baz=257,slow=72,SNR=5.9
SONM Songino Array **91.52 319** P P 20 42 23.8 +5.9
comp=Z,0.4nm,1.0s,baz=116,slow=3.4,SNR=3.8
comp=Z,0.4nm,1.0s
YKA Yellowknife Ar **91.80 25** LR LR 21 17 09.7
comp=Z,144nm,19.6s,baz=272,slow=32
TIXI Tiksi **93.52 345** LR LR 21 18 44.7
comp=Z,57nm,21.3s,baz=204,slow=32
JTS Las Juntas de **95.85 81** LR LR 21 17 39.0
comp=Z,53nm,18.2s,baz=173,slow=31
NNA Nana **97.73 105** LR LR 21 18 46.9
comp=Z,34nm,18.4s,baz=181,slow=31
BRTR Keskin Array B **142.86 317** PKP **PKiKP** **20 48 48.6 +0.3**
comp=Z,0.6nm,0.7s,baz=35,slow=5.3,SNR=2.6
MMAI Mount Meron Ar **144.65 306** PKP **PKiKP** **20 48 55.0 +2.9**
comp=Z,7.3nm,0.8s,baz=29,slow=1.9,SNR=9.9
GERES GERESS Array B **144.97 346** PKP **PKiKP** **20 48 51.9 -0.5**
comp=Z,0.1nm,0.3s,baz=335,slow=4.4,SNR=1.7
CONA Conrad Observa **145.27 343** *eP* **PKiKP** **20 48 53.2 +0.3**
comp=Z,4.1nm,1.0s
RONA Rosalia, Austr **145.35 343** *eP* **PKiKP** **20 48 53.9 +0.8**
comp=Z,4.7nm,1.1s
MOA Molln **145.76 345** *eP* **PKiKP** **20 48 55.6 +1.8**
comp=Z,4.9nm,1.1s
ARSA Arzberg **145.98 343** **PKPab** **20 48 52.7 +1.3**
ARSA Arzberg **145.98 343** *eP* **PKiKP** **20 48 56.2 +1.9**
comp=Z,3.1nm,0.8s
BIOA Bad Ischl, Aus **146.06 345** *eP* **PKiKP** **20 48 56.0 +1.5**
comp=Z,5.8nm,1.2s
BFO Black Forest **146.46 352** PKPbc **PKPab** **20 48 54.3 +1.2**
LESA Schwarzleotal **146.54 346** *eP* **PKiKP** **20 48 56.7 +1.1**
comp=Z,6.3nm,1.4s
SOKA Soboth **146.64 343** *eP* **PKiKP** **20 48 57.3 +1.4**
comp=Z,2.1nm,0.9s
KBA Koelnbreinsper **146.71 345** *eP* **PKiKP** **20 48 57.0 +0.9**
comp=Z,3.3nm,0.9s
ECH Echery **146.71 353** PKPdf **PKPdf** **20 48 47.8 -3.6**
ECH **sPKPdf** **20 48 55.2 0.0**
WATA Walderalm **146.86 348** *eP* **PKiKP** **20 48 57.5 +1.2**
comp=Z,8.9nm,1.8s
RETA Reutte **146.88 349** *eP* **PKiKP** **20 48 58.0 +1.7**
comp=Z,3.0nm,0.8s
WTTA Wattenberg **146.92 348** *eP* **PKiKP** **20 48 57.6 +1.1**
comp=Z,6.1nm,1.0s
OBKA Obir **146.93 344** *eP* **PKiKP** **20 48 58.9 +2.5**
comp=Z,3.6nm,1.0s
MOTA Moosalm **146.95 348** *eP* **PKiKP** **20 48 57.6 +1.1**
comp=Z,5.0nm,1.0s
SQTA Sankt Quirin **147.05 348** *eP* **PKiKP** **20 48 57.8 +1.1**
comp=Z,0.7nm,0.3s
MYKA Terra Mystica **147.05 345** *eP* **PKiKP** **20 48 58.3 +1.7**
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach **147.22 346** *eP* **PKiKP** **20 48 58.6 +1.6**
comp=Z,3.2nm,0.9s
DAVA Damuels **147.23 350** *eP* **PKiKP** **20 48 58.5 +1.4**
comp=Z,3.1nm,0.7s
FETA Feichten **147.33 348** *eP* **PKiKP** **20 48 57.8 +0.5**
comp=Z,2.2nm,1.0s
FUORN Ofenpass-Fuorn **147.81 349** PKPbc **PKPab** **20 48 59.4 +0.6**

*IDC **27** 20:52:13.3±12.0, 17°.50S×179°.11W, h524km±138km, mb3.0/5, mbtmp3.9/5, Error ellipse: s-maj=56.0km s-min=44.1km az=41.0*
*NEIC **27** 20:52:13.0±1.3, 17°.6S±0°.2×178°.9W±0°.2, h539km±13km, mb4.3/14, Error ellipse: s-maj=26.1km s-min=22.0km az=203.0*
ISC 27 20:52:13.0±0.8, 17°.6S±0°.1×178°.9W±0°.1, h539km, n26, σ1s20/26, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.90**	**267**	P	**P**	**20 53 28.2**	**+1.5**
FUTU	**Fugatoga**	**3.34**	**13**	P	**P**	**20 53 28.8**	**-0.7**
NIUE	**Niue**	**8.67**	**101**	P	**P**	**20 54 16.3**	**-0.8**
MXZ	**Matakaoa Point**	**20.06**	**186**	P	**P**	**20 56 08.5**	**-1.5**
TCW	**Tory Channel**	**24.27**	**193**	P	**P**	**20 56 48.3**	**+0.6**
QRZ	**Quartz Range**	**24.31**	**196**	P	**P**	**20 56 47.6**	**-0.5**
TUWZ	**Tuamarina**	**24.55**	**193**	P	**P**	**20 56 49.8**	**-0.4**
KHZ	**Kahutara**	**25.58**	**193**	P	**P**	**20 56 57.8**	**-1.4**
KHZ				IAmb	IAmb	20 57 19.2	
	comp=Z,25nm,1.4s						
MLZ	**Mavora Lakes**	**29.75**	**199**	P	**P**	**20 57 36.2**	**+0.4**
COEN	**Coen**	**36.62**	**270**	P	**P**	**20 58 33.7**	**-0.5**
TOO	**Toolangi**	**37.00**	**230**	P	**P**	**20 58 37.0**	**-0.1**
TOO				IAmb	IAmb	20 59 04.5	
	comp=Z,7.4nm,1.2s						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**20 58 48.2**	**0.0**
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**20 58 49.0**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=85,slow=6.9,SNR=12						
	comp=Z,1.0nm,0.3s						
BBOO	**Buckleboo**	**43.14**	**241**	P	**P**	**20 59 25.7**	**-0.5**
BBOO				IAmb	IAmb	21 00 08.4	
	comp=Z,21nm,1.3s						
WR8	**Warramunga Arr**	**44.06**	**259**	P	**P**	**20 59 32.5**	**-1.1**
WR8				IAmb	IAmb	21 00 05.6	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**44.22**	**259**	P	**P**	**20 59 33.3**	**-1.5**
	comp=Z,0.3nm,0.2s,baz=95,slow=8.1,SNR=1.7						
	comp=Z,0.3nm,0.2s						
AS31	**Alice Springs**	**44.41**	**254**	P	**P**	**20 59 35.3**	**-1.0**
ASAR	**Alice Springs**	**44.41**	**254**	P	**P**	**20 59 35.4**	**-1.0**
ASAR	**Alice Springs**	**44.41**	**254**	P	**P**	**20 59 36.2**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=89,slow=8.0,SNR=23						
	comp=Z,1.3nm,0.4s						
KNRA	**Kununurra**	**50.04**	**264**	P	**P**	**21 00 18.5**	**-0.1**
KNRA				IAmb	IAmb	21 01 02.4	
	comp=Z,7.6nm,1.1s						
MBWA	**Marble Bar**	**57.69**	**256**	P	**P**	**21 01 12.1**	**-0.5**
SBA	**Scott Base**	**60.72**	**183**	P	**P**	**21 01 30.0**	**-1.8**
SBA				IAmb	IAmb	21 01 34.2	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**72.47**	**180**	P	**P**	**21 02 47.3**	**+2.5**
QSPA	**South Pole Qui**	**72.47**	**180**	P	**P**	**21 02 46.7**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=54,slow=10.0,SNR=3.0						
	comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**86.23**	**58**	P	**P**	**21 04 00.1**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=241,slow=5.4,SNR=2.2						
	comp=Z,0.2nm,0.6s						
MMAI	**Mount Meron Ar**	**145.56**	**303**	PKPbc	**PKPbc**	**21 10 52.7**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=62,slow=3.4,SNR=1.9						

*IDC **27** 21:06:04.6±3.4, 47°.91N×153°.20E, h150km±31km, mb3.2/9, mbtmp3.6/11, Error ellipse: s-maj=30.5km s-min=21.2km az=133.0*
ISC 27 21:06:02.7±1.2, 47°.9N±0°.2×153°.1E±0°.2, h128km, n17, σ0s97/11, mb3.3/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.98**	**27**	P	**Pn**	**21 07 29.6**	**+0.8**
	1.1nm,0.7s,baz=202,slow=11,SNR=1.8						
MJAR	**Matsushiro Arr**	**15.81**	**230**	P	**P**	**21 09 41.3**	**+2.0**
	2.0nm,0.4s,baz=31,slow=8.8,SNR=19						
H11N2	**WAKE ISLAND Hy**	**30.23**	**154**	T	T	21 44 20.3	
	baz=342,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.25**	**154**	T	T	21 44 40.0	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.25**	**154**	T	T	21 44 26.0	
	baz=342						
SONM	**Songino Array**	**30.98**	**288**	P	**P**	**21 12 08.1**	**+0.3**
	0.2nm,0.6s,baz=78,slow=9.1,SNR=2.2						
	0.2nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**31.33**	**155**	T	T	21 45 33.0	
	baz=343						
H11S3	**WAKE ISLAND Hy**	**31.34**	**155**	T	T	21 45 24.0	
	baz=343						
H11S2	**WAKE ISLAND Hy**	**31.35**	**155**	T	T	21 45 40.1	
	baz=343						
ILAR	**Eielson Array**	**35.65**	**40**	P	**P**	**21 12 47.9**	**0.0**
	0.3nm,0.7s,baz=272,slow=9.4,SNR=2.3						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**46.44**	**296**	P	**P**	**21 14 16.1**	**-0.3**
	0.4nm,0.7s,baz=81,slow=7.5,SNR=4.8						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.84**	**303**	P	**P**	**21 14 18.9**	**-0.5**
	1.1nm,0.6s,baz=68,slow=8.3,SNR=7.5						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**50.15**	**309**	P	**P**	**21 14 44.2**	**-0.4**
	0.5nm,0.3s,baz=66,slow=8.2,SNR=6.2						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**63.01**	**335**	P	**P**	**21 16 14.7**	**-0.8**
	0.6nm,0.4s,baz=36,slow=8.1,SNR=13						
	0.6nm,0.4s						
HFS	**Hagfors**	**67.39**	**339**	P	**P**	**21 16 43.0**	**-0.7**
	0.7nm,0.3s,baz=48,slow=4.6,SNR=13						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**73.30**	**198**	P	**P**	**21 17 18.9**	**-1.1**
	0.2nm,0.6s,baz=19,slow=5.9,SNR=1.9						
	0.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**75.23**	**346**	P	**P**	**21 17 31.3**	**+0.4**
	0.2nm,0.4s,baz=15,slow=6.6,SNR=2.2						
	0.2nm,0.4s						

*NEIC **27** 21:27:39.2±1.4, 8°.5S±0°.1×159°.0E±0°.2, h86km±11km, mb4.0/8, Error ellipse: s-maj=23.2km s-min=16.8km az=56.0*
*IDC **27** 21:27:39.1±0.7, 8°.43S×158°.94E, h92km±6km, mb3.6/9, mbtmp3.9/10, Error ellipse: s-maj=18.3km s-min=9.7km az=40.0*
ISC 27 21:27:40.2±0.6, 8°.56S±0°.10×159°.00E±0°.09, h111km, n25, σ1s79/32, mb3.8/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.28**	**133**	Pn	**Pn**	**21 28 02.7**	**-1.8**
HNR				Sn	**Sn**	**21 28 22.5**	**-0.4**
HNR	**Honiara**	**1.28**	**133**	P	**Pn**	**21 28 03.0**	**-1.5**
	255nm,0.3s,baz=286,slow=5.3,SNR=50						
HNR				S	**Sn**	**21 28 22.6**	**-0.3**
	1µm,0.4s,baz=307,slow=20,SNR=5.9						
EIDS	**Eidsvold**	**18.34**	**203**	P	**Pn**	**21 31 47.7**	**+0.3**
JAY	**Jayapura**	**19.16**	**287**	P	**P**	**21 31 56.0**	**+0.8**
	5.3nm,0.8s,baz=131,slow=11,SNR=3.7						
JAY				pP	**pP**	**21 32 12.0**	**-3.5**
	6.9nm,0.8s,baz=180,slow=9.2,SNR=1.2						
WB0	**Warramunga Arr**	**26.29**	**242**	P	**P**	**21 33 05.9**	**+0.4**
WB0				IAmb	IAmb	21 33 07.4	
	comp=Z,5.7nm,1.2s						
WRA	**Warramunga Arr**	**26.40**	**242**	P	**P**	**21 33 07.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=68,slow=9.0,SNR=6.1						
WRA				pP	**pP**	**21 33 27.6**	**-3.0**
	comp=Z,0.6nm,0.6s,baz=68,slow=9.4,SNR=2.0						
	comp=Z,0.7nm,0.5s						
STKA	**Stephens Creek**	**28.28**	**212**	P	**P**	**21 33 24.6**	**+1.4**
	comp=Z,1.3nm,0.4s,baz=42,slow=15,SNR=7.5						
	comp=Z,1.3nm,0.4s						
AS31	**Alice Springs**	**28.32**	**235**	P	**P**	**21 33 24.5**	**+0.7**
ASAR	**Alice Springs**	**28.33**	**235**	P	**P**	**21 33 24.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=60,slow=9.9,SNR=13						
ASAR				pP	**pP**	**21 33 46.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=65,slow=9.2,SNR=2.7						
	comp=Z,1.0nm,0.6s						
KNRA	**Kununurra**	**30.37**	**254**	P	**P**	**21 33 42.4**	**+0.5**
BBOO	**Buckleboo**	**32.14**	**218**	P	**P**	**21 33 58.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.76**	**250**	P	**P**	**21 34 11.7**	**+0.1**
FITZ				IAmb	IAmb	21 34 16.8	
	comp=Z,2.2nm,1.4s						
GTA	**Gaotai**	**72.60**	**316**	*e*P	**P**	**21 38 58.5**	**+2.7**
GTA				sP	pP	21 39 21.0	-2.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**72.81**	**326**	P	**P**	**21 38 58.8**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=136,slow=6.1,SNR=9.0						
SONM				pP	**pP**	**21 39 20.3**	**-3.9**
	comp=Z,0.5nm,0.7s,baz=138,slow=6.2,SNR=2.6						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**21 39 46.8**	**+2.0**
QSPA				IAmb	IAmb	21 40 02.8	
	comp=Z,7.0nm,1.5s						
QSPA	**South Pole Qui**	**81.43**	**180**	P	**P**	**21 39 46.3**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=54,slow=7.4,SNR=1.1						
	comp=Z,0.5nm,0.8s						
IMAR	**Indian Mountai**	**81.96**	**18**	P	**P**	**21 39 49.3**	**+2.0**
ILAR	**Eielson Array**	**83.41**	**20**	P	**P**	**21 39 55.5**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=244,slow=4.5,SNR=6.0						
	comp=Z,0.4nm,0.5s						
J25K	**Salcha River,**	**83.84**	**21**	P	**P**	**21 39 58.6**	**+1.5**
J25K				IAmb	IAmb	21 40 07.3	
	comp=Z,2.3nm,1.2s						
MKAR	**Makanchi Array**	**87.20**	**318**	P	**P**	**21 40 14.4**	**+0.2**
MKAR	**Makanchi Array**	**87.20**	**318**	P	**P**	**21 40 14.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=93,slow=6.0,SNR=7.6						
MKAR				pP	**pP**	**21 40 38.2**	**-4.2**
	comp=Z,0.4nm,0.6s,baz=92,slow=6.0,SNR=4.0						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**90.55**	**321**	P	**P**	**21 40 28.8**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=83,slow=2.2,SNR=4.1						
	comp=Z,0.2nm,0.8s						
BVAR	**Borovoye Array**	**95.93**	**323**	P	**P**	**21 40 53.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=90,slow=5.8,SNR=2.7						
	comp=Z,0.4nm,0.5s						
ESDC	**Sonseca Array**	**145.47**	**336**	PKPbc	**PKPdf**	**21 47 06.5**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=43,slow=2.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**157.25**	**284**	PKPab	**PKPab**	**21 47 54.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=33,slow=9.0,SNR=2.4						

*SDD **27** 21:38:14.5±1.8, 18°.08N×71°.88W, h24km±43km, MD3.1, ML2.2, MW2.9*
*OSPL **27** 21:38:16.3±1.2, 18°.24N×71°.81W, h22km±7km, ML1.9*
ISC 27 21:38:15.0±1.5, 18°.21N±0°.04×71°.78W±0°.04, h9km±12km, n12, σ0s76/23, 10C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.29**	**346**	⇑*e*Pg	**Pb**	**21 38 22.7**	**+0.2**
JIDR				⇑*e*Sg	**Sb**	**21 38 28.5**	**+1.1**
JIDR				IAML		21 38 29.1	
	comp=N,275nm,0.6s						
LODU1	**El Espartillar**	**0.32**	**63**	*i* P	**Pb**	**21 38 22.7**	**-0.2**
LODU1				*e*S	**Sb**	**21 38 28.2**	**-0.1**
LODU1				IAML		21 38 30.3	
	comp=Z,590nm,0.3s						
LOBH	**Bahia de las A**	**0.37**	**159**	*i* P	**Pb**	**21 38 23.8**	**+0.1**
LOBH				*e*S	**Sb**	**21 38 30.4**	**+0.9**
LOBH				IAML		21 38 31.8	
	comp=Z,164nm,0.7s						
NEDR	**Neiba UASD**	**0.44**	**51**	⇑*e*Pg	**Pg**	**21 38 23.5**	**-0.1**
NEDR				*e*Sg	**Sb**	**21 38 32.1**	**+0.5**
NEDR				IAML		21 38 33.0	
	comp=N,285nm,0.2s						
PODR	**Polo**	**0.47**	**95**	*i* P	**Pb**	**21 38 25.6**	**0.0**
PODR				*e*S	**Sb**	**21 38 33.6**	**+0.8**
PODR	**Polo**	**0.47**	**95**	⇑*e*Pg	**Pb**	**21 38 25.3**	**-0.3**
PODR				⇑*e*Sg	**Sb**	**21 38 33.1**	**+0.3**
PODR				IAML		21 38 37.0	
	comp=N,127nm,0.4s						
LOVI	**El Cajuil, Ovi**	**0.56**	**136**	*i* P	**Pb**	**21 38 26.9**	**-0.1**
LOVI				IAML		21 38 35.3	
	comp=Z,46nm,0.9s						
LOVI				*e*S	**Sb**	**21 38 36.0**	**+0.8**
PAPH	**Port-au-Prince**	**0.59**	**302**	*i* P	**Pb**	**21 38 26.8**	**-0.8**
SDDR	**Presa de Saban**	**0.90**	**31**	*i* P	**Pg**	**21 38 32.2**	**-0.1**
SDDR				*e*S	**Sg**	**21 38 43.1**	**-1.0**
SDDR				IAML		21 38 51.5	
	comp=Z,15nm,0.3s						
SDDR	**Presa de Saban**	**0.90**	**31**	⇑*e*Pg	**Pn**	**21 38 34.2**	**+0.2**
SDDR				⇑*e*Sg	**Sb**	**21 38 46.1**	**+1.1**
SDDR				IAML		21 38 55.8	
	comp=N,17nm,2.1s						
REDR	**Restauracion**	**1.02**	**21**	⇑*e*Pg	**Pg**	**21 38 35.3**	**+0.7**
REDR				*e*Sg	**Sn**	**21 38 50.0**	**0.0**
REDR				IAML		21 38 50.1	
	comp=N,55nm,2.8s						
ABDR	**Alto Bandera**	**1.25**	**61**	⇑*e*Pg	**Pn**	**21 38 37.3**	**-1.6**
ABDR				⇑*e*Sg	**Sg**	**21 38 56.4**	**+1.1**
ABDR				IAML		21 39 09.7	
	comp=N,25nm,1.4s						

DJA 27 21:38:34.1±0.8, 3°.S±2°.×12°.2E±°, h32km±12km, M3.8/13, mb4.0/2, MLv3.6/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.26**	**171**	P	Pn	21 38 54.6	-1.0
LUWI	**Luwuk**	**1.68**	**12**	P	Pn	21 39 01.3	0.0
LUWI				S	Sn	21 39 22.6	+0.8
APSI	**Ampana**	**1.94**	**336**	P	Pn	21 39 04.8	-0.1
TTSI	**Tana Toraja**	**2.63**	**262**	P	Pn	21 39 14.3	-0.1
TTSI				S	Sn	21 39 46.3	+0.8
BBSI	**Bau Bau**	**2.77**	**177**	P	Pn	21 39 17.0	+0.7
BBSI				S	Sn	21 39 49.7	+1.0
BNSI	**Bone**	**2.87**	**234**	P	Pn	21 39 17.2	-0.4
BNSI				S	Sn	21 39 51.7	+0.6
SPSI	**Sidrap Palu**	**2.94**	**245**	P	Pn	21 39 19.4	+0.8
SPSI				S	Sn	21 39 53.7	+0.9
PCI	**Palu**	**3.15**	**304**	P	Pn	21 39 22.1	+0.6
PCI				S	Sn	21 39 58.3	+0.3
MRSI	**Marisa**	**3.19**	**351**	P	Pn	21 39 21.5	-0.6
MRSI				S	Sn	21 39 59.5	+0.4
BKSI	**Bulukumba**	**3.48**	**221**	P	Pn	21 39 25.6	-0.4
BKSI				S	Sn	21 40 06.9	+0.8
BSSI	**Bau Bau, Buton**	**3.93**	**209**	P	Pn	21 39 31.7	-0.5
TNTI	**Ternate**	**6.02**	**55**	P	Pn	21 40 01.0	0.0
	25nm,1.1s						
EDFI	**Ende, Flores**	**6.05**	**187**	P	Pn	21 40 00.7	-0.9

*HEL **27** 22:01:15.3±0.4, 67°.17N×20°.61E, h0km, ML1.4, Suspected explosion*
UPP 27 22:01:15.2±0.1, 67°.17N×20°.68E, h0km, ML1.6, Unknown Suspected explosion, Sweden

| Code | Station Name | Δ° | AZ° | Phase | ID | Time | Res |
|---|---|---|---|---|---|---

HEF				SG	Sn	22 02 08.2	+0.2	
KALU	**Kalix**	**1.70**	**140**	P	Pn	22 01 46.4	+0.3	
KALU	**Kalix**	**1.70**	**140**	PG	Pn	22 01 46.4	+0.4	
KALU				SN	Sg	22 02 10.9	+1.2	
SJUU	**Sjulsmark**	**1.71**	**167**	P	Pn	22 01 46.4	+0.1	
TOF	**Tornio**	**1.82**	**125**	PG	Pb	22 01 48.6	-0.7	
TOF				MSG		22 02 10.2		
	comp=Z,1.8nm,0.2s							
TOF				SG	Sg	22 02 14.2	+0.6	
KIF	**Kilpisjarvi**	**1.84**	**1**	PG	Pb	22 01 49.1	-0.5	
	baz=185							
KIF				MSG		22 02 11.5		
	comp=Z,2.9nm,0.2s							
KIF				SG	Sg	22 02 14.4	+0.2	
KTK1	**Kautokeino**	**2.08**	**26**	PG	Pb	22 01 52.9	-0.9	
KTK1				SG	Sb	22 02 20.1	0.0	
RNF	**Rovaniemi**	**2.18**	**103**	PG	Pb	22 01 54.1	-1.4	
RNF				SG	Sb	22 02 23.8	+0.8	
TRO	**Tromso**	**2.55**	**346**	SG	Sb	22 02 35.4	+1.7	
RANF	**Ranua**	**2.70**	**113**	PG	Pb	22 02 03.5	-0.9	
	baz=297							
RANF				SG	Sb	22 02 38.6	+0.6	
ARA0	**ARCESS Array S**	**2.97**	**35**	PB	Pn	22 02 04.7	+1.1	

NEIC ***27*** *22:23:39,63°.22N×149°.83W,h112km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.98; $M_{\theta\theta}$-4.24; $M_{\phi\phi}$3.26; $M_{r\theta}$0.92; $M_{\theta\phi}$1.60; $M_{\phi r}$1.79; Fault plane solution: M_o4.62000×10^{14} NP1:ϕ_s60.00000°, δ75.00000°,λ25.00000°. NP2:ϕ_s323.00000°,δ66.00000°, λ164.00000°. Principal axes: T 4.6272, Plg28.0000°, Azm283.0000°; N -0.0032, Plg61.0000°, Azm89.0000°; P -4.6240, Plg6.0000°, Azm190.0000°;*

NEIC ***27*** *22:23:39.2±0.6,63°.24N±0°.03×149°.84W±0°.07, h104km±5km Error ellipse: s-maj=4.8km s-min=4.6km az=213.0*

AEIC ***27*** *22:23:39.6±0.7,63°.24N±0°.03×149°.85W±0°.07,h96km±4km, ML3.5,ML3.7/272(NEIC),Mwr3.7/12(SLM),Error ellipse: s-maj=4.8km s-min=4.5km az=59.0*

ISC 27 22:23:39.1±1.3,**63°.24N**±0°.03×**149°.85W**±0°.03, **h103**km±8km,**n215,** σ**0s50**/223,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.29**	**317**		**Pn**	**22 23 54.5**	**+0.3**
TRF				Sn	**Sn**	**22 24 05.8**	**+0.4**
TRF				IAML		22 24 06.5	
	comp=N,2μm,0.5s						
TRF				IAML		22 24 07.5	
	comp=E,2μm,0.4s						
RND	**Reindeer**	**0.48**	**69**		**Pn**	**22 23 55.3**	**+0.2**
RND				Sn	**Sn**	**22 24 06.8**	**-0.3**
RND				IAML		22 24 08.0	
	comp=E,3μm,0.6s						
RND				IAML		22 24 08.7	
	comp=N,2μm,0.7s						
KTH	**Kantishna Hill**	**0.58**	**303**		**Pn**	**22 23 56.0**	**+0.3**
KTH				Sn	**Sn**	**22 24 08.0**	**-0.3**
KTH				IAML		22 24 08.5	
	comp=E,1μm,0.8s						
WAT7	**Susitna Watana**	**0.61**	**131**		**Pn**	**22 23 55.9**	**-0.2**
WAT7					**Sn**	**22 24 08.3**	**-0.6**
MCK	**McKinley**	**0.64**	**39**		**Pn**	**22 23 56.5**	**+0.3**
MCK				Sn	**Sn**	**22 24 08.7**	**-0.4**
MCK				IAML		22 24 09.3	
	comp=E,2μm,0.5s						
MCK				IAML		22 24 09.8	
	comp=N,3μm,0.6s						
WAT1	**Susitna Watana**	**0.72**	**124**		**Pn**	**22 23 56.9**	**-0.1**
WAT1					**Sn**	**22 24 10.1**	**-0.2**
CUT	**Chulitna**	**0.86**	**193**		**Pn**	**22 23 58.3**	**+0.1**
CUT				Sn	**Sn**	**22 24 13.7**	**+1.1**
BWN	**Browne**	**0.95**	**10**		**Pn**	**22 23 59.6**	**+0.5**
BWN					**Sn**	**22 24 14.4**	**+0.1**
BWN				IAML		22 24 15.0	
	comp=E,2μm,0.5s						
BWN				IAML		22 24 15.4	
	comp=N,2μm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.00**	**330**	Pn	**Pn**	**22 23 59.8**	**+0.1**
BPAW					**Sn**	**22 24 14.8**	**-0.4**
BPAW				IAML		22 24 15.2	
	comp=E,991nm,0.7s						
BPAW				IAML		22 24 15.3	
	comp=N,820nm,0.7s						
CAST	**Castle Rocks**	**1.03**	**281**		**Pn**	**22 23 59.9**	**0.0**
CAST					**Sn**	**22 24 14.7**	**-1.0**
PPLA	**Purkeypile**	**1.12**	**253**		**Pn**	**22 24 01.5**	**+0.3**
PPLA					**Sn**	**22 24 17.6**	**-0.1**
PPLA				IAML		22 24 20.4	
	comp=N,582nm,0.5s						
DHY	**Denali Highway**	**1.13**	**97**	Pn	**Pn**	**22 24 01.3**	**0.0**
DHY				IAML		22 24 18.8	
	comp=E,2μm,0.6s						
DHY				IAML		22 24 20.5	
	comp=N,2μm,0.3s						
DHY	**Denali Highway**	**1.13**	**97**		**Sn**	**22 24 17.7**	**-0.3**
WAT6	**Susitna Watana**	**1.17**	**124**		**Sn**	**22 24 19.7**	**+0.9**
CHUM	**Lake Minchumin**	**1.28**	**301**		**Pn**	**22 24 03.2**	**+0.4**
CHUM					**Sn**	**22 24 20.5**	**-0.2**
NEA2	**Nenana**	**1.40**	**14**		**Pn**	**22 24 04.2**	**-0.1**
NEA2				IAML		22 24 23.0	
	comp=E,813nm,0.7s						
NEA2				IAML		22 24 23.9	
	comp=N,436nm,0.7s						
WRH	**Wood River Hil**	**1.46**	**31**		**Pn**	**22 24 05.0**	**0.0**
WRH				IAML		22 24 23.9	
	comp=E,439nm,1.0s						
WRH				IAML		22 24 24.4	
	comp=N,386nm,0.8s						
SKT	**Skwentna**	**1.49**	**212**		**Pn**	**22 24 05.1**	**-0.2**
SKT				IAML		22 24 27.7	
	comp=N,1μm,0.2s						
SKT				IAML		22 24 32.5	
	comp=E,916nm,0.2s						
M22K	**Willow**	**1.50**	**185**		**Pn**	**22 24 05.6**	**+0.2**
GHO	**Glory Hole Cre**	**1.53**	**163**		**Pn**	**22 24 06.5**	**+0.6**
GHO				IAML		22 24 31.2	
	comp=N,2μm,0.6s						
CCB	**Clear Creek Bu**	**1.68**	**32**		**Pn**	**22 24 07.5**	**-0.1**
CCB				IAML		22 24 28.4	
	comp=E,388nm,0.7s						
PMR	**Palmer**	**1.69**	**168**		**Pn**	**22 24 07.9**	**+0.2**
PMR	**Palmer**	**1.69**	**168**	P	**Pn**	**22 24 08.1**	**+0.4**
HDA	**Harding Lake**	**1.74**	**46**		**Pn**	**22 24 08.4**	**0.0**
HDA				IAML		22 24 32.6	
	comp=N,1μm,0.6s						
HDA				IAML		22 24 33.9	
	comp=E,1μm,0.3s						
SCM	**Sheep Creek Mo**	**1.83**	**139**		**Pn**	**22 24 09.8**	**+0.1**
SCM				IAML		22 24 38.2	
	comp=E,1μm,0.5s						
SUA	**Susitna One**	**1.83**	**194**		**Pn**	**22 24 10.0**	**+0.3**
SUA				IAML		22 24 38.4	
	comp=E,787nm,0.7s						
SUA				IAML		22 24 38.8	
	comp=N,950nm,0.5s						
MLY	**Manley**	**1.84**	**348**		**Pn**	**22 24 09.8**	**+0.1**
COLA	**College**	**1.86**	**27**		**Pn**	**22 24 10.1**	**+0.3**
COLA				IAML		22 24 34.0	
	comp=N,899nm,0.5s						
COLA				IAML		22 24 37.6	
	comp=N,835nm,0.5s						
COLA	**College**	**1.86**	**27**	P	**Pn**	**22 24 10.0**	**+0.1**
K24K	**Donnelly Dome**	**1.91**	**71**		**Pn**	**22 24 11.2**	**+0.7**
K24K				IAML		22 24 41.9	
	comp=N,1μm,0.2s						
K24K				IAML		22 24 43.1	
	comp=E,1μm,0.5s						
K20K	**Telida**	**1.91**	**275**		**Pn**	**22 24 10.9**	**+0.4**
K20K				IAML		22 24 35.4	
	comp=E,241nm,0.8s						
I23K	**Minto, Yukon-K**	**1.93**	**6**		**Pn**	**22 24 11.0**	**+0.3**
KNK	**Knik Glacier**	**1.94**	**160**		**Pn**	**22 24 11.1**	**+0.1**
STLK	**Strandline Lak**	**1.98**	**209**		**Pn**	**22 24 11.7**	**+0.2**
STLK				IAML		22 24 38.8	
	comp=E,892nm,0.5s						
STLK				IAML		22 24 41.8	
	comp=N,838nm,0.3s						
PAX	**Paxson**	**2.01**	**96**		**Pn**	**22 24 12.9**	**+1.0**
PAX				IAML		22 24 42.1	
	comp=N,657nm,0.3s						
PAX				IAML		22 24 43.2	
	comp=E,567nm,0.3s						
IL31		**2.02**	**39**		**Pn**	**22 24 11.8**	**0.0**
ILAR	**Eielson Array**	**2.02**	**39**		**Pn**	**22 24 11.8**	**0.0**
M24K	**Tolsona, Glenn**	**2.04**	**122**		**Pn**	**22 24 13.2**	**+0.9**
M20K	**Styx River**	**2.04**	**230**		**Pn**	**22 24 12.4**	**+0.1**
M20K				IAML		22 24 42.0	
	comp=E,607nm,0.5s						
M20K				IAML		22 24 43.1	
	comp=N,477nm,0.6s						
J20K	**Nowinta River**	**2.13**	**298**		**Pn**	**22 24 13.4**	**0.0**
J20K				IAML		22 24 41.0	
	comp=N,208nm,0.6s						
RC01	**Rabbit Creek A**	**2.16**	**179**		**Pn**	**22 24 14.1**	**+0.3**
I21K	**Tanana**	**2.16**	**335**		**Pn**	**22 24 14.2**	**+0.4**
POKR	**Poker Plat Res**	**2.16**	**28**		**Pn**	**22 24 14.0**	**+0.2**
POKR				IAML		22 24 43.7	
	comp=N,212nm,0.8s						
RIDG	**Independent Ri**	**2.30**	**75**		**Pn**	**22 24 16.0**	**+0.4**
RIDG				IAML		22 24 50.7	
	comp=E,389nm,0.9s						
RIDG				IAML		22 24 51.0	
	comp=N,541nm,0.4s						
SPU	**Mount Spurr**	**2.31**	**208**		**Pn**	**22 24 15.9**	**+0.1**
SPCR	**Spurr Chakacha**	**2.33**	**209**		**Pn**	**22 24 16.2**	**+0.2**
SPCR	**Spurr Chakacha**	**2.33**	**209**		**Pn**	**22 24 16.1**	**+0.2**
J25K	**Salcha River,**	**2.41**	**53**		**Pn**	**22 24 17.2**	**+0.1**
J25K				IAML		22 24 51.4	
	comp=E,723nm,0.4s						
J25K				IAML		22 24 51.5	
	comp=N,820nm,0.7s						
PWL	**Port Wells**	**2.49**	**163**		**Pn**	**22 24 18.1**	**-0.1**
M19K	**Big River Lodg**	**2.50**	**240**		**Pn**	**22 24 18.1**	**-0.1**
M19K				IAML		22 24 51.1	
	comp=N,187nm,0.7s						
M19K				IAML		22 24 53.7	
	comp=E,198nm,0.5s						
KLU	**Klutina**	**2.53**	**132**		**Pn**	**22 24 18.5**	**-0.3**
KLU				IAML		22 24 60.0	
	comp=E,763nm,0.5s						
L19K	**White Mountain**	**2.54**	**248**		**Pn**	**22 24 18.8**	**0.0**
CAPN	**Captain Cook N**	**2.56**	**195**		**Pn**	**22 24 20.4**	**+1.5**
I20K	**Naaghedeneel**	**2.57**	**310**		**Pn**	**22 24 19.4**	**+0.4**
I20K				IAML		22 24 49.8	
	comp=E,430nm,1.0s						
I20K				IAML		22 24 50.2	
	comp=N,422nm,0.8s						
H23K	**Yukon River**	**2.60**	**3**		**Pn**	**22 24 19.8**	**+0.3**
DOT	**Dot Lake**	**2.63**	**78**		**Pn**	**22 24 20.1**	**+0.2**
DOT				IAML		22 24 54.9	
	comp=N,701nm,0.4s						
DOT				IAML		22 24 55.4	
	comp=E,360nm,0.7s						
J19K	**Poorman**	**2.69**	**289**		**Pn**	**22 24 20.9**	**+0.3**
GLI	**Glacier Island**	**2.70**	**150**		**Pn**	**22 24 20.3**	**-0.6**
SCRK	**Sand Creek**	**2.72**	**72**		**Pn**	**22 24 21.2**	**0.0**
SCRK				IAML		22 24 57.9	
	comp=E,270nm,0.6s						
SCRK				IAML		22 24 59.1	
	comp=N,339nm,0.4s						
H24K	**Noodor Dome**	**2.74**	**17**		**Pn**	**22 24 21.8**	**+0.3**
H21K	**Melozitna River**	**2.75**	**333**		**Pn**	**22 24 21.7**	**+0.3**
H21K				IAML		22 24 55.4	
	comp=N,160nm,0.8s						
SLKM	**Skilak Lake**	**2.75**	**184**		**Pn**	**22 24 22.2**	**+0.7**
SLKM				IAML		22 25 07.2	
	comp=N,350nm,0.3s						
SLKM				IAML		22 25 09.9	
	comp=E,518nm,0.7s						
O22K	**Cooper Landing**	**2.77**	**179**		**Pn**	**22 24 21.8**	**+0.1**
MENT	**Mentasta**	**2.80**	**93**		**Pn**	**22 24 22.8**	**+0.5**
MENT	**Mentasta**	**2.80**	**93**	P	**Pn**	**22 24 22.7**	**+0.5**
DIV	**Divide**	**2.85**	**136**		**Pn**	**22 24 22.1**	**-0.8**
DIV				IAML		22 25 04.5	
	comp=E,616nm,0.7s						
N25K	**Chitina, Valde**	**2.94**	**122**		**Pn**	**22 24 24.4**	**+0.3**
N25K				IAML		22 25 01.3	
	comp=E,334nm,0.4s						
L26K	**Log Cabin Wild**	**2.96**	**91**		**Pn**	**22 24 24.8**	**+0.5**
PRP	**Porcupine Dome**	**2.96**	**37**		**Pn**	**22 24 24.2**	**-0.2**
PRP				IAML		22 25 03.2	
	comp=E,127nm,0.5s						
PRP				IAML		22 25 06.9	
	comp=N,162nm,0.5s						
FID	**Port Fidalgo**	**2.96**	**146**		**Pn**	**22 24 23.7**	**-0.6**
DFR	**Drift River**	**2.98**	**208**		**Pn**	**22 24 25.2**	**+0.6**
RDJH	**Redoubt Jeurge**	**3.00**	**209**		**Pn**	**22 24 25.7**	**+0.7**
J26L	**Joseph Creek**	**3.06**	**63**		**Pn**	**22 24 26.0**	**+0.4**
NCT	**North Crescent**	**3.06**	**210**		**Pn**	**22 24 25.7**	**0.0**
J18K	**Innoko River**	**3.10**	**277**		**Pn**	**22 24 26.3**	**+0.1**
RDWB	**Redoubt West**	**3.10**	**209**		**Pn**	**22 24 27.0**	**+0.6**
RDSO	**Redoubt South**	**3.12**	**207**		**Pn**	**22 24 27.2**	**+0.8**
RED	**Redoubt Volcan**	**3.15**	**207**		**Pn**	**22 24 27.2**	**+0.2**
RED				IAML		22 25 11.1	
	comp=N,114nm,0.9s						
RED				IAML		22 25 16.1	
	comp=E,136nm,0.7s						
SEW	**Seward**	**3.15**	**176**		**Pn**	**22 24 26.8**	**-0.1**
SEW				IAML		22 25 22.0	
	comp=E,326nm,0.6s						
SEW				IAML		22 25 24.3	
	comp=N,255nm,0.6s						
IMAR	**Indian Mountai**	**3.23**	**330**		**Pn**	**22 24 28.0**	**+0.2**
M26K	**Nabesna, AK**	**3.25**	**102**		**Pn**	**22 24 28.3**	**0.0**
M26K				IAML		22 25 18.9	
	comp=E,182nm,0.5s						
M26K				IAML		22 25 21.2	
	comp=N,195nm,0.5s						
HIN	**Hinchinbrook I**	**3.27**	**149**		**Pn**	**22 24 27.8**	**-0.6**
HIN				IAML		22 25 27.8	
	comp=N,440nm,0.7s						
N19K	**Bonanza Creek**	**3.27**	**224**		**Pn**	**22 24 28.6**	**0.0**
N19K				IAML		22 25 26.1	
	comp=E,94nm,0.5s						
N19K				IAML		22 25 28.0	
	comp=N,82nm,0.9s						
L18K	**Granite Mounta**	**3.31**	**255**		**Pn**	**22 24 29.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.32**	**142**		**Pn**	**22 24 28.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.32**	**142**	P	**Pn**	**22 24 29.1**	**0.0**
GLB	**Gilahina Butte**	**3.34**	**120**		**Pn**	**22 24 29.6**	**+0.1**
GLB				IAML		22 25 09.8	
	comp=E,349nm,0.5s						
GLB				IAML		22 25 11.6	
	comp=N,242nm,0.4s						
BMRM	**Bremner River**	**3.36**	**130**		**Pn**	**22 24 28.9**	**-0.7**
G23K	**Bananza Creek**	**3.49**	**359**		**Pn**	**22 24 31.9**	**+0.6**
BRLK	**Bradley Lake**	**3.52**	**189**		**Pn**	**22 24 31.9**	**+0.1**
BRLK				IAML		22 25 29.3	
	comp=E,222nm,0.5s						
BRLK				IAML		22 25 31.0	
	comp=N,216nm,0.5s						
K27K	**Chicken**	**3.56**	**74**		**Pn**	**22 24 32.5**	**+0.3**
K27K				IAML		22 25 15.4	
	comp=E,335nm,0.5s						
K27K				IAML		22 25 20.2	
	comp=N,217nm,0.5s						
I26K	**Coal Creek Min**	**3.58**	**52**		**Pn**	**22 24 32.5**	**0.0**
I26K				IAML		22 25 18.0	
	comp=E,259nm,0.6s						
I26K				IAML		22 25 18.5	
	comp=N,347nm,0.6s						
VRDI	**Verde Repeater**	**3.61**	**121**		**Pn**	**22 24 33.0**	**-0.1**
VRDI				IAML		22 25 17.3	
	comp=N,162nm,0.3s						
VRDI				IAML		22 25 30.7	
	comp=E,157nm,0.7s						
G24K	**Hadweenzic Riv**	**3.62**	**15**		**Pn**	**22 24 33.5**	**+0.4**
G21K	**Allakaket**	**3.64**	**336**		**Pn**	**22 24 33.8**	**+0.4**
G21K				IAML		22 25 17.6	
	comp=N,62nm,1.1s						
L27K	**Beaver Creek,**	**3.64**	**89**		**Pn**	**22 24 33.2**	**-0.2**
L27K				IAML		22 25 18.6	
	comp=E,78nm,0.7s						
L27K				IAML		22 25 19.1	
	comp=N,101nm,0.3s						
BCAR	**Beaver Creek A**	**3.66**	**89**		**Pn**	**22 24 33.6**	**-0.1**
H19K	**Roundabout Mou**	**3.67**	**312**		**Pn**	**22 24 33.8**	**0.0**
MCARA	**McCarthy VSAT**	**3.69**	**117**		**Pn**	**22 24 34.7**	**+0.7**
MCARA				IAML		22 25 35.8	
	comp=E,305nm,0.7s						
MCARA				IAML		22 25 43.8	
	comp=N,275nm,0.9s						
HOM	**Homer**	**3.70**	**194**		**Pn**	**22 24 34.9**	**+0.7**
M27K	**Edge Creek, AK**	**3.77**	**100**		**Pn**	**22 24 36.1**	**+0.9**
M27K				IAML		22 25 40.4	
	comp=E,76nm,0.6s						
M27K				IAML		22 25 43.1	
	comp=N,145nm,0.9s						
RAGM	**Ragged Mountai**	**3.77**	**137**		**Pn**	**22 24 34.7**	**-0.5**
CNPM	**China Poot**	**3.79**	**191**		**Pn**	**22 24 35.3**	**-0.1**
CNPM				IAML		22 25 30.1	
	comp=E,295nm,0.8s						
N18K	**Kilae Creek**	**3.84**	**231**		**Pn**	**22 24 36.2**	**+0.1**
N18K				IAML		22 25 38.0	
	comp=N,49nm,0.5s						
N18K				IAML		22 25 41.3	
	comp=E,53nm,0.8s						
FYU	**Fort Yukon**	**3.88**	**28**		**Pn**	**22 24 36.8**	**+0.3**
FYU				IAML		22 25 43.0	
	comp=N,68nm,1.0s						
FYU				IAML		22 25 57.3	
	comp=E,60nm,0.8s						
G25K	**Bearman Lake**	**3.88**	**23**		**Pn**	**22 24 37.2**	**+0.6**
K17K	**Iditarod**	**3.89**	**266**		**Pn**	**22 24 37.2**	**+0.4**
K17K				IAML		22 25 22.5	
	comp=E,47nm,1.1s						
K17K				IAML		22 25 26.4	
	comp=N,64nm,1.0s						
HMT	**Hamilton**	**3.94**	**135**		**Pn**	**22 24 37.0**	**-0.5**
P19K	**Oil Pt**	**3.95**	**206**		**Pn**	**22 24 38.3**	**+0.7**
P19K				IAML		22 25 34.1	
	comp=N,164nm,0.6s						
M17K	**Holitna River**	**3.99**	**246**		**Pn**	**22 24 37.9**	**-0.2**
M17K				IAML		22 25 47.0	
	comp=N,81nm,0.7s						
M17K				IAML		22 25 54.2	
	comp=E,85nm,0.7s						
COLD	**Coldfoot**	**4.01**	**358**		**Pn**	**22 24 38.7**	**+0.4**
PTPK	**Patty Peak**	**4.02**	**117**		**Pn**	**22 24 38.8**	**0.0**
CRQM	**Cirque**	**4.03**	**125**		**Pn**	**22 24 38.3**	**-0.5**
BERG	**Berg Lake**	**4.08**	**132**		**Pn**	**22 24 38.9**	**-0.4**
NICHA	**Nichawak Mount**	**4.11**	**135**		**Pn**	**22 24 39.0**	**-0.7**
TGL	**Tana Glacier**	**4.14**	**124**		**Pn**	**22 24 39.6**	**-0.6**
J17K	**VABM Dome**	**4.17**	**276**		**Pn**	**22 24 40.4**	**-0.1**
H18K	**Honhosa River**	**4.19**	**301**		**Pn**	**22 24 40.8**	**+0.1**
BVCY	**Beaver Creek**	**4.20**	**97**		**Pn**	**22 24 40.5**	**-0.5**
KAIM	**Kayak Island**	**4.22**	**140**	Pn	**Pn**	**22 24 40.1**	**-1.1**
KAIM				IAML		22 25 52.0	
	comp=E,191nm,0.9s						
G19K	**Purcell Mounta**	**4.26**	**316**		**Pn**	**22 24 41.4**	**-0.2**
F21K	**Alatna River**	**4.28**	**341**		**Pn**	**22 24 42.6**	**+0.6**
GRIN	**Grindle Hills**	**4.29**	**131**		**Pn**	**22 24 41.5**	**-0.7**
WAX	**Waxell Ridge**	**4.34**	**127**		**Pn**	**22 24 42.5**	**-0.3**
F24K	**Squaw Lake**	**4.38**	**10**		**Pn**	**22 24 43.7**	**+0.4**
F24K				IAML		22 26 39.4	
	comp=N,40nm,0.5s						
N17K	**Nushagak Hills**	**4.41**	**235**		**Pn**	**22 24 43.8**	**+0.1**
N17K				IAML		22 25 35.4	
	comp=E,43nm,0.9s						
N17K				IAML		22 26 04.0	
	comp=N,33nm,0.7s						
BARN	**Barnard Glacie**	**4.42**	**116**		**Pn**	**22 24 43.3**	**-0.8**
BARN				IAML		22 25 52.3	
	comp=N,88nm,0.8s						
BARN				IAML		22 25 57.9	
	comp=E,86nm,0.8s						
YUK2	**White River**	**4.42**	**105**		**Pn**	**22 24 44.3**	**+0.3**
ISLE	**Juniper Island**	**4.43**	**123**		**Pn**	**22 24 43.3**	**-0.8**
G26K	**Porcupine Rive**	**4.52**	**32**		**Pn**	**22 24 45.2**	**+0.1**
G26K				IAML		22 25 42.8	
	comp=N,58nm,1.1s						
G26K				IAML		22 26 10.6	
	comp=E,48nm,1.1s						
SNH	**Sunshine Point**	**4.53**	**129**		**Pn**	**22 24 45.2**	**-0.2**
F20K	**Avaraatn Lake**	**4.56**	**330**		**Pn**	**22 24 46.2**	**+0.6**
GRNC	**Granite Creek**	**4.57**	**120**		**Pn**	**22 24 46.4**	**+0.3**
GRNC				IAML		22 25 57.6	
	comp=E,63nm,0.8s						
GRNC				IAML		22 26 09.5	
	comp=N,96nm,0.7s						
BAGL	**Bagley Icefiel**	**4.59**	**123**		**Pn**	**22 24 45.5**	**-0.6**
YUK3	**Moose Creek**	**4.59**	**104**		**Pn**	**22 24 46.5**	**+0.1**
CTGM	**Chitina Glacie**	**4.61**	**116**		**Pn**	**22 24 46.9**	**+0.4**
CTGM				IAML		22 26 01.1	
	comp=N,65nm,0.7s						
CTGM				IAML		22 26 05.0	
	comp=E,51nm,1.0s						
G18K	**Tagagawik**	**4.64**	**309**		**Pn**	**22 24 47.2**	**+0.4**
P18K	**Big Mountain,**	**4.65**	**216**		**Pn**	**22 24 47.3**	**+0.3**
H27K	**Steamboat Moun**	**4.66**	**46**		**Pn**	**22 24 47.0**	**-0.1**
H27K				IAML		22 25 43.1	
	comp=N,62nm,0.7s						
H27K				IAML		22 25 45.5	
	comp=E,70nm,0.8s						
Q19K	**Cape Douglas,**	**4.70**	**205**		**Pn**	**22 24 47.9**	**+0.2**
F25K	**Christian Rive**	**4.71**	**20**		**Pn**	**22 24 48.2**	**+0.4**
L16K	**Owhat River**	**4.72**	**255**		**Pn**	**22 24 48.0**	**0.0**
DAWY	**Dawson**	**4.73**	**75**		**Pn**	**22 24 48.2**	**+0.1**
DAWY				IAML		22 25 60.0	
	comp=N,82nm,0.5s						
DAWY				IAML		22 26 00.3	
	comp=E,72nm,0.6s						
H17K	**Granite Mounta**	**4.73**	**296**		**Pn**	**22 24 48.3**	**+0.2**
BMAR	**Burnt Mountain**	**4.75**	**25**		**Pn**	**22 24 48.5**	**+0.2**
YAH	**Yahtse**	**4.80**	**123**		**Pn**	**22 24 48.7**	**-0.5**
SYI	**Shuyak Island**	**4.81**	**196**		**Pn**	**22 24 49.4**	**+0.3**
SYI				IAML		22 25 46.7	
	comp=N,115nm,0.6s						
SYI				IAML		22 25 49.5	
	comp=E,112nm,0.4s						
LOGN	**Logan Glacier**	**4.82**	**116**		**Pn**	**22 24 49.2**	**-0.2**
LOGN				IAML		22 26 05.0	
	comp=N,82nm,0.7s						
LOGN				IAML		22 26 05.0	
	comp=E,63nm,1.0s						
M16K	**Timber Creek**	**4.82**	**247**		**Pn**	**22 24 49.0**	**-0.3**
E23K	**Chandalar**	**4.84**	**1**		**Pn**	**22 24 50.1**	**+0.5**
E23K				IAML		22 26 22.6	
	comp=E,40nm,0.4s						
E23K				IAML		22 26 23.3	
	comp=N,47nm,0.5s						
I28M	**Miner Creek**	**4.84**	**58**		**Pn**	**22 24 50.0**	**+0.4**
I28M				IAML		22 25 48.8	
	comp=N,81nm,0.8s						
MESA	**MESA**	**4.85**	**126**		**Pn**	**22 24 49.4**	**-0.5**
J16K	**Anvik River**	**4.86**	**275**		**Pn**	**22 24 49.6**	**-0.2**
E24K	**Your Creek**	**4.89**	**6**		**Pn**	**22 24 50.7**	**+0.5**
E24K				IAML		22 26 19.0	
	comp=E,57nm,0.9s						
E24K				IAML		22 26 19.4	
	comp=N,30nm,1.2s						
F19K	**Shaleruckik Mo**	**4.93**	**321**		**Pn**	**22 24 50.8**	**+0.1**
E22K	**Anaktuvuk Pass**	**4.98**	**351**		**Pn**	**22 24 52.1**	**+0.7**
E22K	**Anaktuvuk Pass**	**4.98**	**351**	IAML		22 26 41.1	

O16K	**Kokwok River B**	**5.39**	**231**	IAML			22 26 10.0		
	comp=E,21nm,1.2s								
O16K				IAML			22 26 28.1		
	comp=N,19nm,0.8s								
TOLK	**Toolik Lake Re**	**5.43**	**1**		**Pn**		**22 24 57.4**	**-0.1**
K15K	**Wolf Creek Mou**	**5.45**	**265**		**Pn**		**22 24 57.3**	**-0.5**
I29M	**Ogilvie Camp,**	**5.45**	**62**		**Pn**		**22 24 58.3**	**+0.4**
E21K	**Killik River**	**5.49**	**344**		**Pn**		**22 25 00.4**	**+2.1**
K29M	**Barlow Dome**	**5.55**	**78**		**Pn**		**22 24 59.1**	**-0.1**
PCA	**Pinnacle**	**5.55**	**120**		**Pn**		**22 24 58.7**	**-0.5**
KAKN	**Katmai Knife C**	**5.58**	**210**		**Pn**		**22 24 59.7**	**0.0**
L15K	**Ungalak Mounta**	**5.62**	**259**		**Pn**		**22 24 59.8**	**-0.3**
KDAK	**Kodiak Island**	**5.64**	**195**		**Pn**		**22 24 59.2**	**-1.1**
KABU	**Katmai Buttres**	**5.65**	**211**		**Pn**		**22 25 01.1**	**+0.4**
E20K	**Nigu River**	**5.67**	**335**		**Pn**		**22 25 01.5**	**+0.7**
M15K	**Kasigluk River**	**5.71**	**248**		**Pn**		**22 25 01.4**	**0.0**
ACHA	**Angle Creek He**	**5.72**	**210**		**Pn**		**22 25 01.4**	**-0.1**
H29M	**Whitestone**	**5.75**	**54**		**Pn**		**22 25 02.4**	**+0.5**
D23K	**Nanushuk River**	**5.76**	**357**		**Pn**		**22 25 03.8**	**+1.9**
BCPM	**Bancas Point**	**5.88**	**119**		**Pn**		**22 25 02.6**	**-1.0**
M30M	**Minto, Yukon**	**6.00**	**91**		**Pn**		**22 25 04.8**	**-0.5**
E27K	**Coleen River**	**6.02**	**31**		**Pn**		**22 25 05.2**	**-0.2**
F28M	**Old Crow**	**6.04**	**39**		**Pn**		**22 25 06.3**	**+0.5**
J30M	**Hart River**	**6.11**	**71**		**Pn**		**22 25 07.6**	**+0.8**
D20K	**Etivluk River**	**6.15**	**336**		**Pn**		**22 25 07.6**	**+0.4**
PNL	**Peninsula**	**6.16**	**121**		**Pn**		**22 25 06.4**	**-1.0**
I30M	**Mount Dempster**	**6.20**	**65**		**Pn**		**22 25 08.4**	**+0.4**
N30M	**Aishikik Lake**	**6.20**	**101**		**Pn**		**22 25 07.6**	**-0.4**
G29M	**Pine Creek**	**6.21**	**48**		**Pn**		**22 25 09.1**	**+1.1**
M14K	**Bethel**	**6.23**	**252**		**Pn**		**22 25 09.2**	**+0.9**
D19K	**Kuna River**	**6.27**	**331**		**Pn**		**22 25 08.8**	**0.0**
D25K	**Kavik River**	**6.27**	**11**		**Pn**		**22 25 09.2**	**+0.4**
C21K	**Knifeblade Rid**	**6.27**	**344**		**Pn**		**22 25 09.6**	**+0.7**
OHAK	**Old Harbor**	**6.28**	**197**		**Pn**		**22 25 07.4**	**-1.5**
L14K	**Kuka Creek**	**6.28**	**258**		**Pn**		**22 25 08.7**	**-0.3**
EPYK	**Eagle Plains**	**6.42**	**55**		**Pn**		**22 25 11.4**	**+0.5**
E28M	**Babbage River**	**6.83**	**34**		**Pn**		**22 25 16.9**	**+0.5**
P29M	**Windy Craggy**	**6.84**	**116**		**Pn**		**22 25 16.1**	**-0.5**
G30M	**tAoh Zrail Nji**	**6.86**	**51**		**Pn**		**22 25 16.0**	**-0.9**
C27K	**Jago River**	**6.87**	**18**		**Pn**		**22 25 17.2**	**+0.3**
D27M	**Malcolm River**	**7.01**	**27**		**Pn**		**22 25 18.7**	**-0.2**
E29M	**Blow River**	**7.12**	**38**		**Pn**		**22 25 20.6**	**+0.2**
H31M	**Peel River**	**7.16**	**62**		**Pn**		**22 25 21.1**	**+0.1**
M31M	**Drury Creek, Y**	**7.18**	**91**		**Pn**		**22 25 21.8**	**+0.5**
G31M	**Satah River**	**7.54**	**54**		**Pn**		**22 25 26.0**	**0.0**
INK	**Inuvik**	**8.40**	**46**		**Pn**		**22 25 37.7**	**0.0**

KRNET ***27*** *22:34:09.4±0.1, 40°.40N×77°.04E, mb2.3*
SOME 27 22:34:09.6, 43°.93N×77°.65E, h10km, 4C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.48**	**261**	*eP*	Pg	22 34 18.7	-0.3
	6.6nm,0.0s						
CHKK				*eS*	Sg	22 34 25.5	0.0
	30nm,0.1s						
MTBS	**Maitube**	**1.20**	**228**	*eP*	Pb	22 34 31.7	-0.7
	0.9nm,0.0s						
MTBS				*eS*	Sb	22 34 47.6	-0.4
	16nm,0.3s						
KST	**Kastek**	**1.52**	**235**	*eP*	Pn	22 34 37.1	+0.2
	0.5nm,0.1s						
KST				*eS*	Sn	22 34 56.7	0.0
	3.1nm,0.3s						
SHLS	**Shalkode**	**1.53**	**120**	*eP*	Pg	22 34 42.0	+3.1
	0.4nm,0.1s						
SHLS				*eS*	Sg	22 35 04.7	+5.9
	6.1nm,0.2s						
PRZ	**Przheval'sk**	**1.55**	**159**	⇓*eP*	Pg	22 34 51.1	+12
PRZ				⇓*eS*	Sg	22 35 21.6	+22
KDJ	**Kajisay**	**1.83**	**191**	⇑*eP*	Pn	22 34 41.8	+0.5
KDJ				⇑*eS*	Sn	22 35 05.3	+0.6
ULHL	**Ulahol**	**1.98**	**212**	⇑*eP*	Pb	22 34 45.4	-0.4
ULHL				⇑*eS*	Sb	22 35 11.8	+1.2
UCH	**Uchtor**	**2.86**	**235**	⇓*eP*	Pn	22 34 55.6	-0.1
UCH				⇓*eS*	Sn	22 35 29.3	-1.1

SDD ***27*** *23:11:24.2±1.9, 18°.52N×71°.74W, h23km±11km, MD2.9, ML2.3, MW2.7*
OSPL ***27*** *23:11:25.0±1.6, 18°.55N×71°.69W, h8km±14km, ML1.9*
ISC 27 23:11:23.3±1.0, 18°.53N±0°.04×71°.67W±0°.04, h23km±7km, n12, σ0°.92/22, 10C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIDR	**Jimani**	**0.17**	**259**	⇑*eP*g	**Pb**	**23 11 28.2**	**-0.2**
JIDR				⇑*eS*g	**Sb**	**23 11 31.6**	**-0.3**
JIDR				IAML		23 11 32.6	
	comp=N,3μm,0.1s						
NEDR	**Neiba UASD**	**0.24**	**100**	⇑*eP*g	**Pb**	**23 11 27.9**	**-1.4**
NEDR				⇑*eS*g	**Sb**	**23 11 35.1**	**+1.8**
NEDR				IAML		23 11 36.1	
	comp=N,215nm,0.3s						
LODU1	**El Espartillar**	**0.25**	**133**	*i* P	**Pb**	**23 11 30.2**	**+0.7**
LODU1				IAML		23 11 35.5	
	comp=Z,204nm,0.3s						
PODR	**Polo**	**0.51**	**134**	*i* P	**Pn**	**23 11 34.5**	**-0.9**
PODR				*eS*	**Sn**	**23 11 43.0**	**-0.6**
PODR	**Polo**	**0.51**	**134**	⇑*eP*g	**Pn**	**23 11 34.5**	**-0.9**
PODR				⇑*eS*g	**Sn**	**23 11 42.7**	**-0.8**
PODR				IAML		23 11 44.4	
	comp=N,102nm,0.3s						
SDDR	**Presa de Saban**	**0.58**	**39**	*i* P	**Pb**	**23 11 35.2**	**+0.4**
SDDR				*eS*	**Sb**	**23 11 43.5**	**-1.5**
SDDR				IAML		23 11 46.5	
	comp=Z,38nm,0.3s						
SDDR	**Presa de Saban**	**0.58**	**39**	⇑*eP*g	**Pn**	**23 11 36.4**	**+0.2**
SDDR				⇑*eS*g	**Sn**	**23 11 43.5**	**-1.5**
SDDR				IAML		23 11 47.9	
	comp=N,58nm,0.3s						
PAPH	**Port-au-Prince**	**0.60**	**270**	*i* P	**Pb**	**23 11 35.1**	**0.0**
PAPH				*eS*	**Sb**	**23 11 44.2**	**+1.1**
LOBH	**Bahia de las A**	**0.66**	**177**	*i* P	**Pn**	**23 11 37.0**	**-0.2**
LOBH				IAML		23 11 52.5	
	comp=Z,60nm,1.5s						
REDR	**Restauracion**	**0.69**	**22**	⇑*eP*g	**Pn**	**23 11 37.7**	**+0.1**
REDR				⇓*eS*g	**Sn**	**23 11 47.5**	**-0.1**
REDR				IAML		23 11 50.8	
	comp=N,86nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.78**	**158**	*i* P	**Pn**	**23 11 38.9**	**+0.1**
LOVI				*eS*	**Sn**	**23 11 50.6**	**+0.8**
LOVI				IAML		23 11 52.7	
	comp=Z,51nm,1.5s						
ABDR	**Alto Bandera**	**1.03**	**74**	⇑*eP*g	**Pb**	**23 11 43.2**	**+0.5**
ABDR				⇓*eS*g	**Sn**	**23 11 56.8**	**+0.2**
ABDR				IAML		23 11 58.6	
	comp=N,71nm,0.8s						

CATAC ***27*** *23:15:18.0±0.4, 13°.N±2°.9 0W±°, h30km±2km, M3.7/22, MLv3.7/22, Error ellipse: s-maj=5.9km s-min=3.3km az=30.4, confirmed*
SNET ***27*** *23:15:18.8±1.9, 13°.14N×89°.48W, h34km, ML3.4*
GCG ***27*** *23:15:19.1±1.1, 13°.20N×89°.51W, h53km±9km, MD3.5, MW3.2*
ISC 27 23:15:17.8±1.8, 13°.06N±0°.07×89°.53W±0°.05, h33km±9km, n87, σ0°.55/98, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.47**	**26**	*eP*	**Pn**	**23 15 28.8**	**+0.6**
LALI	**Alcalda de L**	**0.47**	**26**	*i* P	**Pn**	**23 15 28.9**	**+0.6**
LALI				*i* S	**Sn**	**23 15 36.8**	**+1.3**
LALI	**Alcalda de L**	**0.47**	**26**	P	**Pn**	**23 15 28.8**	**+0.6**
JAYA	**Jayaque - finc**	**0.59**	**8**	*eP*	**Pn**	**23 15 30.1**	**0.0**
JAYA	**Jayaque - finc**	**0.59**	**8**	*i* P	**Pn**	**23 15 30.1**	**0.0**
JAYA				*i* S	**Sn**	**23 15 38.4**	**-0.4**
JAYA	**Jayaque - finc**	**0.59**	**8**	P	**Pn**	**23 15 30.0**	**0.0**
PANCS	**Alcalda de**	**0.65**	**32**	P	**Pb**	**23 15 31.3**	**+0.5**
PANCS	**Alcalda de**	**0.65**	**32**	S	**Sn**	**23 15 39.6**	**-0.3**
LOMA	**Loma Larga**	**0.68**	**31**	*eP*	**Pb**	**23 15 31.2**	**-0.1**
LOMA				*eS*	**Sn**	**23 15 40.8**	**0.0**
LOMA	**Loma Larga**	**0.68**	**31**	P	**Pb**	**23 15 31.2**	**-0.1**
LOMA	**Loma Larga**	**0.68**	**31**	S	**Sn**	**23 15 41.3**	**+0.6**
PMON	**Piamonte**	**0.68**	**18**	*eP*	**Pb**	**23 15 31.1**	**-0.2**
PMON	**Piamonte**	**0.68**	**18**	P	**Pb**	**23 15 31.2**	**-0.2**
PMON	**Piamonte**	**0.68**	**18**	S	**Sn**	**23 15 40.8**	**0.0**
SEMO	**Seminario San**	**0.70**	**25**	P	**Pb**	**23 15 32.1**	**+0.4**
SEMO	**Seminario San**	**0.70**	**25**	S	**Sb**	**23 15 41.7**	**+0.5**
UEES	**Universidad Ev**	**0.71**	**24**	*eP*	**Pb**	**23 15 32.2**	**+0.4**
UEES	**Universidad Ev**	**0.71**	**24**	P	**Pb**	**23 15 32.0**	**+0.2**
UEES	**Universidad Ev**	**0.71**	**24**	S	**Sb**	**23 15 42.1**	**+0.6**
UTEC	**Universidad Te**	**0.71**	**27**	P	**Pb**	**23 15 32.1**	**+0.3**
UTEC	**Universidad Te**	**0.71**	**27**	S	**Sb**	**23 15 41.8**	**+0.3**
BOQS	**Boqueron**	**0.71**	**20**	*eP*	**Pb**	**23 15 31.8**	**-0.2**
LFRS	**El Faro**	**0.72**	**39**	*eP*	**Pb**	**23 15 32.0**	**-0.1**
IGN	**Direccin Gen**	**0.74**	**29**	P	**Pb**	**23 15 32.5**	**+0.2**
IGN	**Direccin Gen**	**0.74**	**29**	S	**Sb**	**23 15 42.6**	**+0.4**
UDBS	**Universidad Do**	**0.75**	**29**	P	**Pb**	**23 15 32.9**	**+0.4**
UDBS	**Universidad Do**	**0.75**	**29**	S	**Sb**	**23 15 42.8**	**+0.4**
CEDA	**San Andres**	**0.75**	**10**	*eS*	**Sb**	**23 15 42.7**	**+0.3**
CEDA	**San Andres**	**0.75**	**10**	P	**Pb**	**23 15 32.1**	**-0.3**
CEDA	**San Andres**	**0.75**	**10**	S	**Sb**	**23 15 42.9**	**+0.4**
CEVE	**Cerro Verde**	**0.77**	**353**	*eP*	**Pn**	**23 15 32.5**	**0.0**
CEVE				*eS*	**Sb**	**23 15 43.5**	**+0.4**
CEVE	**Cerro Verde**	**0.77**	**353**	P	**Pn**	**23 15 32.6**	**0.0**
SBLS	**San Blas**	**0.78**	**354**	*eP*	**Pn**	**23 15 32.6**	**-0.1**
LFU	**La Fuente**	**0.80**	**31**	*eP*	**Pb**	**23 15 33.1**	**-0.2**
SNJE	**San Jose**	**0.81**	**355**	*eP*	**Pn**	**23 15 33.0**	**0.0**
SNJE				*eS*	**Sb**	**23 15 44.3**	**+0.1**
LBRS	**Las Brisas**	**0.82**	**35**	*eP*	**Pb**	**23 15 33.4**	**-0.3**
RTR	**El Retiro**	**0.84**	**352**	*eP*	**Pn**	**23 15 33.6**	**+0.1**
NUBE	**Las Nubes**	**0.87**	**344**	*eP*	**Pn**	**23 15 33.6**	**-0.3**
NUBE	**Las Nubes**	**0.87**	**344**	*i* P	**Pn**	**23 15 33.6**	**-0.3**
NUBE				*i* S	**Sb**	**23 15 45.3**	**-0.7**
NUBE	**Las Nubes**	**0.87**	**344**	P	**Pn**	**23 15 33.4**	**-0.4**
PAVA	**Las Pavas**	**0.87**	**42**	*eP*	**Pb**	**23 15 34.1**	**-0.4**
PAVA				*eS*	**Sb**	**23 15 45.9**	**0.0**
PAVA	**Las Pavas**	**0.87**	**42**	P	**Pb**	**23 15 34.1**	**-0.4**
PAVA	**Las Pavas**	**0.87**	**42**	S	**Sb**	**23 15 46.5**	**+0.6**
TECO	**Alcaldia de Te**	**0.87**	**57**	P	**Pb**	**23 15 33.3**	**-0.5**
TECO	**Alcaldia de Te**	**0.87**	**57**	S	**Sb**	**23 15 45.1**	**-0.8**
UNIC	**Universidad Ca**	**0.92**	**359**	P	**Pn**	**23 15 34.3**	**-0.1**
UNIC	**Universidad Ca**	**0.92**	**359**	S	**Sb**	**23 15 47.6**	**+0.5**
LOAL	**Lomas de Alarc**	**0.96**	**346**	P	**Pn**	**23 15 35.2**	**+0.1**
LOAL	**Lomas de Alarc**	**0.96**	**346**	S	**Sb**	**23 15 48.6**	**+0.1**
SLOZ	**Alcaldia de Sa**	**0.99**	**346**	*eP*	**Pn**	**23 15 35.5**	**0.0**
SLOZ				*eS*	**Sb**	**23 15 48.9**	**-0.4**
SLOZ	**Alcaldia de Sa**	**0.99**	**346**	P	**Pn**	**23 15 35.6**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.99**	**346**	S	**Sb**	**23 15 49.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.01**	**51**	*eP*	**Pn**	**23 15 35.9**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.01**	**51**	P	**Pn**	**23 15 35.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.01**	**51**	S	**Sb**	**23 15 50.2**	**+0.4**
TECA	**Tecapa**	**1.09**	**67**	*eP*	**Pn**	**23 15 37.0**	**+0.1**
PQSS	**Presa 15 de Se**	**1.10**	**59**	P	**Pn**	**23 15 36.8**	**-0.1**
PQSS	**Presa 15 de Se**	**1.10**	**59**	S	**Sn**	**23 15 50.5**	**-0.5**
LLGN	**La Laguna**	**1.23**	**28**	P	**Pn**	**23 15 38.4**	**-0.4**
PACA	**Pacayal**	**1.25**	**71**	*eP*	**Pn**	**23 15 40.0**	**+1.0**
PACA				*eS*	**Sb**	**23 15 55.5**	**-1.1**
PACA	**Pacayal**	**1.25**	**71**	P	**Pn**	**23 15 39.9**	**+0.9**
LCY	**Lacayo**	**1.26**	**73**	*eP*	**Pn**	**23 15 39.7**	**+0.5**
VSM	**San Miguel**	**1.28**	**73**	*eP*	**Pn**	**23 15 40.2**	**+0.6**
BLLM	**Bellamira**	**1.32**	**73**	*eP*	**Pn**	**23 15 40.7**	**+0.7**
MTO3	**Montecristo**	**1.34**	**7**	*eP*	**Pn**	**23 15 40.1**	**-0.3**
MTO3	**Montecristo**	**1.34**	**7**	*i* P	**Pn**	**23 15 40.1**	**-0.3**
MTO3	**Montecristo**	**1.34**	**7**	P	**Pn**	**23 15 39.9**	**-0.5**
MTO3	**Montecristo**	**1.34**	**7**	S	**Sn**	**23 15 56.8**	**-0.5**
CAHU	**Cacacuatique**	**1.47**	**61**	*eP*	**Pn**	**23 15 42.1**	**0.0**
ESQI	**Esquipulas**	**1.50**	**7**	P	**Pn**	**23 15 42.5**	**0.0**
ESQI	**Esquipulas**	**1.50**	**7**	S	**Sn**	**23 16 01.0**	**-0.1**
LCND	**La Caada**	**1.62**	**81**	P	**Pn**	**23 15 44.5**	**+0.5**
CNCH	**Conchagua**	**1.67**	**82**	*eP*	**Pn**	**23 15 42.0**	**-2.8**
CNCH				*eP*	**Pn**	**23 15 45.5**	**+0.7**
CNCH	**Conchagua**	**1.67**	**82**	P	**Pn**	**23 15 45.5**	**+0.7**
CNCH	**Conchagua**	**1.67**	**82**	S	**Sn**	**23 16 06.3**	**+1.1**
MARCA	**Marcala la Paz**	**1.82**	**53**	*i* P	**Pn**	**23 15 46.3**	**-0.4**
MARCA	**Marcala la Paz**	**1.82**	**53**	P	**Pn**	**23 15 46.3**	**-0.6**
MARCA	**Marcala la Paz**	**1.82**	**53**	S	**Sn**	**23 16 09.6**	**+0.7**
ESSG	**Sabana Grande**	**1.82**	**316**	*i* P	**Pn**	**23 15 47.8**	**+0.9**
SARH	**Santa Rosa de**	**1.86**	**24**	*i* P	**Pn**	**23 15 47.8**	**+0.3**
SARH	**Santa Rosa de**	**1.86**	**24**	P	**Pn**	**23 15 47.2**	**-0.2**
SARH	**Santa Rosa de**	**1.86**	**24**	S	**Sn**	**23 16 09.8**	**-0.1**
CSGN	**Cosiguina Volc**	**1.93**	**92**	P	**Pn**	**23 15 48.1**	**-0.2**
CSGN				S	**Sn**	**23 16 11.5**	**0.0**
POTN	**Potosi Cosigui**	**1.98**	**92**	S	**Sn**	**23 16 13.3**	**+0.7**
CHOHN	**Orocuina**	**2.35**	**80**	P	**Pn**	**23 15 54.6**	**+0.4**
YUSH	**Yuscaran**	**2.76**	**71**	P	**Pn**	**23 15 59.3**	**-0.6**
RCVN	**Varillal2**	**3.29**	**81**	P	**Pn**	**23 16 06.7**	**-0.5**

IDC 27 23:44:16.2±2.0, 4°.74N×125°.35E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=210.5km s-min=23.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.07**	**160**	P	P	23 49 51.6	-0.1
	0.6nm,0.4s,baz=339,slow=10,SNR=7.4						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**29.44**	**164**	P	P	23 50 22.1	+0.2
	0.4nm,0.7s,baz=349,slow=9.4,SNR=2.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**55.95**	**326**	P	P	23 53 56.6	+0.2
	0.3nm,0.6s,baz=121,slow=6.3,SNR=4.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**60.16**	**328**	P	P	23 54 25.3	-0.4
	0.5nm,0.2s,baz=124,slow=6.5,SNR=2.1						
	0.5nm,0.2s						

MOS ***27*** *23:55:17.8±0.9, 60°.24S×26°.65W, h15km, mb6.7/42, MS6.5/36, Error ellipse: s-maj=16.4km s-min=8.4km az=97.4*
IPGP ***27*** *23:55:18.0, 60°.22S×26°.53W, h21km, Mw6.6, Fault plane solution: NP1:φs76.00000°, δ79.00000°, λ33.00000°. NP2:φs339.00000°, δ57.00000°, λ167.00000°.*
BJI ***27*** *23:55:18.7, 60°.19S×26°.61W, h10km, mB6.6/56, Ms6.8/83, Ms7 6.6/80*
ISC-PP ***27*** *23:55:19, 60°.22S×26°.58W, h12km, Mwppsm6.9, Moment Tensor Solution. s28 Moment tensor: Scale 10¹⁹Nm; Mrr-0.04±.16; Mθθ-0.67±.17; Mϕϕ0.64±.19; Mrθ0.25±.29; Mθϕ-0.06±.19; Mϕr0.07±.16; Fault plane solution: M₀2.51000×10¹⁹ NP1:φs319.70000°, δ79.30000°, λ196.50000°. NP2:φs226.60000°, δ73.80000°, λ-11.10000°.*
NEIC ***27*** *23:55:19.2±1.8, 60°.22S±0°.08×26°.6W±0°.2, h16km±1km, mb6.6/213, Ms_20 6.7/918, Mwb6.5/47, Mww6.6/48 Error ellipse: s-maj=14.3km s-min=13.5km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.79; Mθθ-4.27; Mϕϕ2.48; Mrθ1.98; Mθϕ4.35; Mϕr0.82; Fault plane solution: M₀6.11000×10¹⁸ NP1:φs74.28000°, δ79.56000°, λ25.37000°. NP2:φs339.37000°, δ65.08000°, λ168.47000°. Principal axes: T 5.3690, Plg25.0000°, Azm299.0000°; N 1.2801, Plg63.0000°, Azm95.0000°; P -6.6490, Plg10.0000°, Azm205.0000°;*
NEIC ***27*** *23:55:20.6, 60°.22S×26°.53W, h36km*
NEIC ***27*** *23:55:20.6, 60°.22S×26°.12W, h36km, Moment Tensor Solution. Duration: 10s6 Moment tensor: Scale 10¹⁸Nm; Mrr-0.32; Mθθ-4.59; Mϕϕ4.91; Mrθ2.39; Mθϕ4.87; Mϕr0.49; Fault plane solution: M₀8.50000×10¹⁸ NP1: φs333.83000°, δ66.75000°, λ164.12000°. NP2: φs70.24000°, δ75.44000°, λ24.07000°. Principal axes: T 9.5644, Plg27.0000°, Azm294.0000°; N -2.8770, Plg62.0000°, Azm100.0000°; P -6.6874, Plg6.0000°, Azm201.0000°;*
NEIC ***27*** *23:55:20.4, 60°.20S×26°.57W, h24km*
IDC ***27*** *23:55:22.2±1.3, 60°.20S×26°.59W, h37km±9km, mb5.9/24, mbtmp6.1/24, MS6.5/41, Error ellipse: s-maj=11.8km s-min=9.3km az=46.0*
GCMT ***27*** *23:55:25.2±0.0, 60°.54S×25°.82W, h29km, MW6.6/176, Moment Tensor Solution. s165,c394; s176,c794; Duration: 45? Moment tensor: Scale 10¹⁹Nm; Mrr0.09±.00; Mθθ-0.51±.00; Mϕϕ0.41±.00; Mrθ0.33±.01; Mθϕ0.59±.00; Mϕr0.37±.01; Best double couple: M₀0.89100×10¹⁹ NP1:φs337.00000°, δ62.00000°, λ166.00000°. NP2:φs73.00000°, δ78.00000°, λ29.00000°. Principal axes: T 0.9650, Plg29.0000°, Azm298.0000°; N -0.1470, Plg59.0000°, Azm95.0000°; P -0.8180, Plg10.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
PMR ***27*** *23:55:30.0, 60°.26S×26°.75W, h116km*
CATAC ***27*** *23:55:32.1±3.0, 60°.S±21°×2°.7W±1°.5, h128km±16km,*
M6.5/24, mb6.3/24, mB6.7/23, MLv7.2/1, Mw(mB)6.5/23, MwMwp6.4/21, Mwp6.3/21, Error ellipse: s-maj=51.9km s-min=21.6km az=148.5, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr0.13; Mθθ-0.69; Mϕϕ0.56; Mrθ0.01; Mθϕ0.68; Mϕr0.63; Fault plane solution: M₀1.11801×10¹⁹ NP1:φs336.30840°, δ79.55149°, λ148.51974°. NP2:φs72.64495°, δ59.09970°, λ12.20150°. Principal axes: T 1.1806, Plg29.4305°, Azm290.1276°; N -0.1380, Plg57.0009°, Azm139.8108°; P -1.0426, Plg13.5855°, Azm27.9635°; confirmed
ISC 27 23:55:21.0±0.6, 60°.19S±0°.03×26°.74W±0°.03, h31km±3km, n2098, σ2s09/1872, mb6.5/141, MS6.7/541, 157C-76D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.93**	**314**	Pn	Pn	23 57 23.2	+9.2
HOPE	**Hope Point**	**7.93**	**314**	P	Pn	23 57 23.2	+9.2
HOPE	**Hope Point**	**7.93**	**314**	⇑P	Pn	23 57 23.4	+9.4
HOPE	**Hope Point**	**7.93**	**314**	⇑P	Pn	23 57 23.5	+10
VNA1	**Neumayer--Stat**	**12.93**	**152**	⇑P	Pn	23 58 16.8	-5.5
	comp=Z,2μm,0.3s						
I27DE	**GEORG VON NEUM**	**2.96**	**152**	Pn	**Pn**	**23 58 17.9**	**-4.8**
	baz=313,slow=8.7						
VNA3	**Neumayer Olymp**	**13.06**	**155**	⇑P	Pn	23 58 18.5	-5.6
	comp=Z,3μm,0.4s						
VNA2	**Neumayer--Watz**	**13.33**	**152**	⇑P	Pn	23 58 21.5	-6.3
	comp=Z,441nm,0.3s,baz=304,slow=14						
ESPZ	**Base Esperanza**	**14.59**	**244**	P	**P**	**23 58 49.3**	**-1.7**
SNAA	**Sanae**	**14.93**	**150**	⇑P	Pn	23 58 43.9	-5.7
	comp=Z,23μm,0.5s						
SNAA	**Sanae**	**14.93**	**150**		Pn	23 58 43.5	-6.0
SNAA	**Sanae**	**14.93**	**150**	Pn	Pn	23 58 44.4	-5.1
	comp=Z,90nm,0.3s,baz=318,slow=13,SNR=1221						
SNAA				Sn	Sn	00 01 14.1	-20
	comp=Z,65nm,0.3s,baz=325,slow=22,SNR=13						
SNAA				LR	LR	00 03 26.8	
	comp=Z,299μm,18.5s,baz=308,slow=33						
SNAA	**Sanae**	**14.93**	**150**	*i* P	Pn	23 58 41.8	-7.8
TROLL	**Troll, Antarti**	**16.51**	**148**	⇑P	**Pn**	**23 59 04.6**	**-5.4**
	comp=Z,71μm,1.2s						
PMSA	**Palmer Station**	**17.65**	**239**	P	**P**	**23 59 24.6**	**-0.2**
PMSA	**Palmer Station**	**17.65**	**239**	P	**P**	**23 59 28.4**	**+3.6**
	comp=Z,2μm,0.9s,baz=88,slow=9.5,SNR=80						
PMSA				S	**S**	**00 02 43.8**	**-2.3**
	comp=Z,53nm,0.9s,baz=144,slow=19,SNR=1.2						
PMSA				PcP	**PcP**	**00 04 02.9**	**+1.6**
	comp=Z,70nm,0.7s,baz=27,slow=2.3,SNR=4.1						
PMSA				LR	LR	00 05 25.5	
	comp=Z,148μm,20.1s,baz=91,slow=34						
PMSA				ScP	**ScP**	**00 07 32.5**	**-1.3**
	comp=Z,111nm,1.1s,baz=139,slow=2.2,SNR=6.6						
PMSA	**Palmer Station**	**17.65**	**239**	⇓P	**P**	**23 59 28.4**	**+3.6**
PMSA	**Palmer Station**	**17.65**	**239**	*eP*	**P**	**23 59 28.2**	**+3.4**
BELA	**Belgrano 2**	**17.96**	**185**		**Pn**	**23 59 26.5**	**-1.4**
BELA				IAmb	IAmb	23 59 31.7	
	comp=Z,14μm,1.7s						
NVL	**N'lazarevskaya**	**18.79**	**140**	*eP*	**P**	**23 59 35.9**	**-1.4**
NVL				*eS*	**Sn**	**00 03 04.2**	**-2.7**
NVL				pmax	pmax		
	comp=Z,168nm,0.6s						
NVL				smax	smax		
	comp=N,41μm,10.0s						
EFI	**East Falkland**	**19.34**	**282**		**Pn**	**23 59 46.5**	**+1.8**
EFI				IAmb	IAmb	23 59 54.0	
	comp=Z,1μm,0.7s						
EFI	**East Falkland**	**19.34**	**282**	*ceP*	**P**	**23 59 43.9**	**+0.4**
EFI				pmax	pmax		
	comp=Z,3μm,1.7s						
EFI	**East Falkland**	**19.34**	**282**	⇑P	**Pn**	**23 59 46.9**	**+2.2**
EFI	**East Falkland**	**19.34**	**282**	⇑P	**Pn**	**23 59 46.9**	**+2.2**
MG01	**

comp=Z,98µm,19.5s,baz=145,slow=36
comp=Z,306nm,0.9s
PLCA Paso Flores 33.17 286 P **P** **00 01 55.0 +0.5**
PLCA pmax pmax
comp=Z,2µm,1.7s
PLCA Paso Flores 33.17 286 ⇑P **P** **00 01 55.1 +0.5**
PLCA Paso Flores 33.17 286 P **P** **00 01 55.2 +0.7**
PLCA Paso Flores 33.17 286 *e*P **P** **00 01 55.6 +1.1**
PLTB Pedras Altas 33.54 316 **P** **00 01 59.1 +1.3**
PLTB IAmb IAmb 00 02 16.9
comp=Z,1µm,1.2s
PLTB Pedras Altas 33.54 316 P **P** **00 01 59.1 +1.3**
PLTB S **S** **00 07 18.1 +0.3**
PLTB Pedras Altas 33.54 316 *e*P **P** **00 01 58.8 +1.0**
LL03 Petrohue 33.75 284 P **P** **00 02 00.1 +0.7**
LL03 IAmb IAmb 00 02 09.3
comp=Z,390nm,0.8s
LL05 Los Muermos 34.07 282 P **P** **00 02 02.6 +0.4**
LL05 IAmb IAmb 00 02 05.0
comp=Z,2µm,1.9s
LR05 Currie 34.26 285 P **P** **00 02 05.0 +1.1**
GO06 Curarrehue 34.51 286 ⇑P **P** **00 02 06.3 +0.1**
CPSB Cacapava Do Su 34.73 317 P **P** **00 02 08.9 +0.9**
CPSB S **S** **00 07 36.0 0.0**
CPSB Cacapava Do Su 34.73 317 *e*P **P** **00 02 09.2 +1.2**
CNLB Canela 34.89 321 P **P** **00 02 10.8 +1.3**
CNLB Canela 34.89 321 *e*P **P** **00 02 10.5 +1.0**
LR03 Panguipulli 34.89 285 IAMs_20 IAMs_20 00 15 24.9
comp=Z,99µm,20.0s
PSAL Palomas, Salto 35.61 311 *e*P **P** **00 02 16.5 +0.9**
LC02 Puerto Saavedr 36.05 285 P **P** **00 02 20.7 +1.4**
BI02 San Fabin de 36.74 289 P **P** **00 02 25.6 +0.3**
BI02 IAmb IAmb 00 02 27.7
comp=Z,738nm,1.2s
BI02 IAMs_20 IAMs_20 00 17 48.9
comp=Z,89µm,18.0s
MAW Mawson 36.74 140 P **P** **00 02 24.2 -0.6**
comp=Z,242nm,0.9s,baz=231,slow=8.4,SNR=211
MAW PcP **PcP** **00 04 46.9 +0.4**
comp=Z,46nm,0.8s,baz=238,slow=4.1,SNR=2.7
MAW S **S** **00 08 02.5 -3.5**
comp=Z,6.5nm,0.8s,baz=7.2,slow=22,SNR=0.9
MAW LR LR 00 15 58.4
comp=Z,138µm,19.5s,baz=242,slow=34
MAW P3KP 00 34 21.1
comp=Z,0.8nm,0.3s,baz=59,slow=7.6,SNR=2.1
comp=Z,242nm,0.9s
MAW Mawson 36.74 140 ⇑P **P** **00 02 24.0 -0.8**
ITAB Concordia 37.23 321 P **P** **00 02 30.5 +1.1**
ITAB IAmb IAmb 00 02 34.1
comp=Z,939nm,1.5s
ITAB Concordia 37.23 321 P **P** **00 02 30.1 +0.7**
ITAB S **S** **00 08 13.9 -0.4**
ITAB Concordia 37.23 321 *e*P **P** **00 02 29.7 +0.3**
ML02 Panimavida 37.54 290 P **P** **00 02 32.5 +0.5**
ML02 IAmb IAmb 00 02 36.2
comp=Z,1µm,0.9s
BO02 Sierra Bellavi 38.03 292 IAmb IAmb 00 02 40.8
comp=Z,1µm,0.9s
BO02 Sierra Bellavi 38.03 292 ⇑P **P** **00 02 36.8 +0.4**
TIJ01 Guaruva-PR 38.09 326 P **P** **00 02 32.9 -4.0**
TIJ01 S **S** **00 08 20.9 -6.8**
GO05 Hualane 38.39 290 ⇑P **P** **00 02 40.8 +1.5**
LMEL Las Melosas 38.55 293 IAmb IAmb 00 02 55.1
comp=Z,889nm,0.9s
PET01 Itanhaem-SP 38.62 329 P **P** **00 02 41.0 -0.1**
PET01 S **S** **00 08 31.6 -3.7**
PET01 Itanhaem-SP 38.62 329 *e*P **P** **00 02 41.3 +0.1**
MT13 San Alfonso 38.67 293 IAmb IAmb 00 02 58.8
comp=Z,753nm,0.8s
PARB Paraibuna 39.12 332 P **P** **00 02 46.0 +0.5**
PARB S **S** **00 08 37.7 -5.5**
PARB Paraibuna 39.12 332 *e*P **P** **00 02 46.2 +0.7**
MAN01 Angra dos Reis 39.20 334 P **P** **00 02 46.9 +0.8**
MAN01 Angra dos Reis 39.20 334 *e*P **P** **00 02 47.1 +0.9**
SPB Sao Paulo 39.32 329 P **P** **00 02 47.4 +0.3**
SPB IAMs_20 IAMs_20 00 17 07.3
comp=Z,106µm,20.0s
SPB Sao Paulo 39.32 329 ⇑P **P** **00 02 48.1 +1.0**
SPB Sao Paulo 39.32 329 ⇑P **P** **00 02 48.4 +1.3**
SPB Sao Paulo 39.32 329 *e*P **P** **00 02 48.5 +1.4**
PEL Peldehue 39.36 293 P **P** **00 02 49.1 +1.7**
PEL Peldehue 39.36 293 ⇑P **P** **00 02 49.0 +1.6**
PEL Peldehue 39.36 293 ⇑P **P** **00 02 48.9 +1.6**
MT02 Curacav 39.47 293 IAMs_20 IAMs_20 00 20 05.3
comp=Z,78µm,18.0s
CFA Coronel Fontan 39.55 297 P **P** **00 02 49.4 +0.4**
comp=Z,809nm,0.8s,baz=161,slow=7.6,SNR=420
CFA LR LR 00 20 12.3
comp=Z,57µm,19.4s,baz=144,slow=38
comp=Z,809nm,0.8s
PTGB Pitanga 39.56 322 P **P** **00 02 49.1 -0.1**
PTGB S **S** **00 08 57.8 +8.0**
PTGB Pitanga 39.56 322 *e*P **P** **00 02 49.5 +0.4**
VA03 San Esteban 39.61 294 IAMs_20 IAMs_20 00 18 21.1
comp=Z,76µm,20.0s
DUB01 Friburgo-RJ 39.64 337 P **P** **00 02 50.8 +1.0**
DUB01 S **S** **00 08 46.5 -4.4**
DUB01 Friburgo-RJ 39.64 337 *e*P **P** **00 02 51.0 +1.2**
VAS01 Vassouras-RJ 39.66 335 P **P** **00 02 51.0 +1.0**
VAS01 Vassouras-RJ 39.66 335 *e*P **P** **00 02 50.1 +0.2**
CAM01 Campos-RJ 39.75 338 P **P** **00 02 50.8 +0.2**
CAM01 Campos-RJ 39.75 338 *e*P **P** **00 02 51.4 +0.8**
VAO Valinhos 39.77 330 P **P** **00 02 51.3 +0.4**
VAO IAMs_20 IAMs_20 00 16 28.2
comp=Z,83µm,20.0s
VAO Valinhos 39.77 330 *e*P **P** **00 02 52.0 +1.1**
VABB Valinhos 39.77 330 P **P** **00 02 51.7 +0.8**
CPUP Villa Florida 39.81 314 P **P** **00 02 51.9 +0.8**
comp=Z,111nm,0.9s,baz=12,slow=7.4,SNR=203
CPUP ScP **ScP** **00 08 41.7 -1.2**
comp=Z,8.8nm,1.0s,baz=90,slow=1.0,SNR=3.9
CPUP LR LR 00 17 52.6
comp=Z,30µm,21.8s,baz=20,slow=34
comp=Z,111nm,0.9s
CPUP Villa Florida 39.81 314 ⇑P **P** **00 02 51.9 +0.8**
CPUP Villa Florida 39.81 314 P **P** **00 02 52.1 +1.0**
CPUP S **S** **00 08 52.0 -1.2**
CPUP Villa Florida 39.81 314 *e*P **P** **00 02 51.7 +0.6**
SIM2 UHE Simplicio 39.88 336 P **P** **00 02 52.8 +1.0**
VA01 Torpederas 39.90 292 IAmb IAmb 00 02 59.9
comp=Z,1µm,0.8s
VA06 Catapilco 40.13 293 IAmb IAmb 00 02 58.9
comp=Z,2µm,0.9s
FRTB Fartura 40.13 326 P **P** **00 02 54.6 +0.8**
FRTB Fartura 40.13 326 *e*P **P** **00 02 54.9 +1.1**
RCLB Rio Claro- Sao 40.47 330 P **P** **00 02 57.1 +0.4**
RCLB Rio Claro- Sao 40.47 330 *e*P **P** **00 02 58.3 +1.6**
LDASE Londrina, Braz 40.52 324 *e*P **P** **00 02 57.6 +0.5**
SJPY San Joaquin 40.61 317 *e*P **P** **00 02 57.7 0.0**
CO02 Combarbal 41.13 295 P **P** **00 03 03.8 +1.6**
CO02 Combarbal 41.13 295 ⇑P **P** **00 03 03.8 +1.6**
BSCB Bom Sucesso 41.19 334 P **P** **00 03 02.4 -0.3**
BSCB Bom Sucesso 41.19 334 *e*P **P** **00 03 03.5 +0.9**
CO03 El Pedregal 41.30 295 IAmb IAmb 00 03 07.9
comp=Z,2µm,0.9s
CO03 IAMs_20 IAMs_20 00 20 10.7
comp=Z,99µm,20.0s
CO03 El Pedregal 41.30 295 ⇑P **P** **00 03 04.9 +1.4**
TRCB Terra Rica 41.54 323 P **P** **00 03 05.5 0.0**
TRCB IAMs_20 IAMs_20 00 18 55.9
comp=Z,93µm,20.0s
TRCB Terra Rica 41.54 323 P **P** **00 03 05.2 -0.3**
TRCB Terra Rica 41.54 323 *e*P **P** **00 03 05.7 +0.2**
SUR Sutherland 41.66 70 P **P** **00 03 06.7 +0.1**
SUR IAmb IAmb 00 03 14.6
comp=Z,1µm,1.8s
SUR Sutherland 41.66 70 ⇑P **P** **00 03 06.9 +0.3**
CO01 Juntas del Tor 41.77 297 IAMs_20 IAMs_20 00 21 29.1
comp=Z,105µm,19.0s
CO06 Fray Jorge 41.87 294 P **P** **00 03 09.0 +1.0**
GO04 Tololo Observa 41.91 296 IAMs_20 IAMs_20 00 20 38.1
comp=Z,116µm,19.0s
GO04 Tololo Observa 41.91 296 ⇑P **P** **00 03 10.1 +1.4**
SBA Scott Base 41.96 184 P **P** **00 03 09.7 +1.4**
SBA IAmb IAmb 00 03 30.9
comp=Z,1µm,1.6s
SBA Scott Base 41.96 184 IAMs_20 IAMs_20 00 20 25.0
comp=Z,68µm,18.0s
SBA Scott Base 41.96 184 P **P** **00 03 09.7 +1.4**
SBA pmax pmax
comp=Z,1µm,1.6s
SBA MLR MLR
comp=Z,68µm,18.0s

RIB01 Linhares ES 41.98 341 P **P** **00 03 09.1 +0.1**
RIB01 Linhares ES 41.98 341 *e*P **P** **00 03 09.3 +0.3**
BB19B Bebedouro 42.02 329 P **P** **00 03 09.5 +0.1**
BB19B Bebedouro 42.02 329 *e*P **P** **00 03 09.8 +0.4**
AMBA Amambai (Brazi 42.16 319 *e*P **P** **00 03 10.2 -0.3**
CANS Sao Roque de M 42.24 332 P **P** **00 03 11.6 +0.3**
CO05 La Serena 42.33 295 P **P** **00 03 12.8 +1.0**
CO05 IAMs_20 IAMs_20 00 20 51.0
comp=Z,106µm,19.0s
VNDA Vanda 42.44 183 P **P** **00 03 13.3 +1.1**
VNDA Vanda 42.44 183 P **P** **00 03 12.8 +0.5**
comp=Z,146nm,1.0s,baz=185,slow=7.5,SNR=291
VNDA PP **PP** **00 04 53.5 +3.1**
comp=Z,113nm,1.1s,baz=190,slow=8.0,SNR=4.3
VNDA S **S** **00 09 32.7 +1.3**
comp=Z,7.8nm,1.1s,baz=106,slow=8.5,SNR=1.0
VNDA LR LR 00 19 32.7
comp=Z,42µm,21.2s,baz=180,slow=34
VNDA P3KP 00 34 12.3
comp=Z,0.7nm,0.8s,baz=319,slow=7.2,SNR=1.8
comp=Z,146nm,1.0s
H03S1 Juan Fernandez 42.67 284 P **P** **00 03 17.0 +2.8**
baz=57,slow=5.0,SNR=82
H03S2 Juan Fernandez 42.69 284 P **P** **00 03 17.1 +2.8**
baz=57,slow=5.0,SNR=289
H03S3 Juan Fernandez 42.69 284 P **P** **00 03 17.1 +2.7**
baz=57,slow=5.0,SNR=158
SJMB Sao Joao De Ma 42.71 340 P **P** **00 03 14.9 -0.1**
SJMB Sao Joao De Ma 42.71 340 *e*P **P** **00 03 14.9 -0.1**
VA04 Juan Fernndez 42.80 284 ⇑P **P** **00 03 17.8 +2.3**
LCO Las Campanas 42.86 297 P **P** **00 03 17.5 +1.0**
LCO IAmb IAmb 00 03 20.3
comp=Z,2µm,1.0s
LCO Las Campanas 42.86 297 IAMs_20 IAMs_20 00 22 04.2
comp=Z,91µm,18.0s
LCO Las Campanas 42.86 297 P **P** **00 03 17.5 +1.0**
LCO pmax pmax
comp=Z,2µm,1.0s
LCO MLR MLR
comp=Z,91µm,18.0s
LCO Las Campanas 42.86 297 ⇑P **P** **00 03 17.6 +1.0**
LCO Las Campanas 42.86 297 ⇑P **P** **00 03 17.7 +1.2**
H03N3 Juan Fernandez 42.99 284 P **P** **00 03 20.0 +3.1**
baz=155,slow=21,SNR=180
H03N1 Juan Fernandez 43.00 284 P **P** **00 03 19.7 +2.8**
baz=155,slow=21,SNR=183
H03N2 Juan Fernandez 43.01 284 P **P** **00 03 19.9 +3.0**
baz=155,slow=21,SNR=266
DIAM Diamantina, MG 43.58 336 P **P** **00 03 21.5 -0.6**
DIAM Diamantina, MG 43.58 336 *e*P **P** **00 03 22.2 +0.1**
GRHM Grahamstown, E 43.59 76 P **P** **00 03 20.6 -1.4**
GRHM IAmb IAmb 00 03 28.9
comp=Z,951nm,1.6s
GRHM Grahamstown, E 43.59 76 ⇑P **P** **00 03 21.2 -0.8**
AC04 Llanos de Chal 43.72 297 IAMs_20 IAMs_20 00 20 31.8
comp=Z,71nm,19.0s
ITRB Iturama 43.81 327 P **P** **00 03 24.0 +0.2**
ITRB Iturama 43.81 327 *e*P **P** **00 03 24.2 +0.4**
GO03 Copiapo 43.88 298 IAmb IAmb 00 03 28.0
comp=Z,905nm,0.8s
GO03 Copiapo 43.88 298 ⇑P **P** **00 03 25.4 +1.0**
PMNB Patos De Minas 43.94 333 ⇑P **P** **00 03 25.2 +0.3**
PMNB Patos De Minas 43.94 333 P **P** **00 03 25.3 +0.3**
PMNB Patos De Minas 43.94 333 *e*P **P** **00 03 25.4 +0.4**
RPRD Ribas do Rio P 44.04 322 *e*P **P** **00 03 25.9 +0.2**
AC02 Matcunga 44.05 300 IAMs_20 IAMs_20 00 20 59.6
comp=Z,66µm,20.0s
AC06 Mina Casimiro 44.13 298 IAmb IAmb 00 03 30.1
comp=Z,1µm,0.9s
MURT Porto Murtinho 44.21 317 *e*P **P** **00 03 26.3 -0.7**
GUA01 Guaratinga, BA 44.56 342 P **P** **00 03 29.8 -0.1**
GUA01 Guaratinga, BA 44.56 342 *e*P **P** **00 03 30.2 +0.3**
AQDB Aquidauana 44.67 320 P **P** **00 03 29.8 -0.9**
AQDB Aquidauana 44.67 320 P **P** **00 03 29.7 -1.1**
AQDB Aquidauana 44.67 320 *e*P **P** **00 03 30.0 -0.7**
JQT1 Jequitai-MG 44.74 336 P **P** **00 03 30.9 -0.5**
JQT1 S **S** **00 10 06.7 +0.5**
SFA1 Serra Facao 44.78 331 P **P** **00 03 31.9 +0.2**
ITU3 Corumbazu 44.83 329 P **P** **00 03 32.1 0.0**
IPMB Ipameri, GO 44.90 330 P **P** **00 03 32.5 -0.1**
IPMB S **S** **00 10 06.4 -2.0**
IPMB Ipameri, GO 44.90 330 *e*P **P** **00 03 32.8 +0.2**
BDQN Bodoquena, MS 45.04 318 *e*P **P** **00 03 32.8 -0.9**
AC01 Pan de Azucar 45.29 299 IAmb IAmb 00 03 38.6
comp=Z,1µm,1.1s
AC01 Pan de Azucar 45.29 299 ⇑P **P** **00 03 36.8 +1.1**
BAT2 UHE Batalha 45.32 332 P **P** **00 03 36.2 +0.2**
C2SB Chapadao do Su 45.40 324 P **P** **00 03 36.8 +0.3**
C2SB Chapadao do Su 45.40 324 *e*P **P** **00 03 37.1 +0.6**
GO02 Mina Guanaco 45.71 301 IAMs_20 IAMs_20 00 22 06.6
comp=Z,65µm,20.0s
GO02 Mina Guanaco 45.71 301 ⇑P **P** **00 03 40.5 +1.2**
CMC01 Camacan, BA 45.72 343 P **P** **00 03 38.6 -0.5**
CMC01 Camacan, BA 45.72 343 *e*P **P** **00 03 38.7 -0.3**
H04S2 CROZET ISLANDS 45.77 110 T T 00 53 22.3
baz=222,slow=74,SNR=1165
H04S3 CROZET ISLANDS 45.78 110 T T 00 52 50.8
SNR=847
H04S1 CROZET ISLANDS 45.78 110 T T 00 53 23.6
baz=163,slow=74,SNR=881
H04N3 CROZET ISLANDS 46.21 109 P **P** **00 03 44.5 +2.0**
baz=216,slow=8.5,SNR=6.9
H04N3 T T 00 53 39.6
baz=219,slow=76,SNR=4.3
H04N1 CROZET ISLANDS 46.22 109 P **P** **00 03 44.5 +2.0**
baz=216,slow=8.5,SNR=8.4
H04N1 T T 00 53 44.5
baz=219,slow=76,SNR=4.6
H04N2 CROZET ISLANDS 46.23 109 P **P** **00 03 44.6 +2.1**
baz=216,slow=8.5,SNR=9.0
H04N2 T T 00 53 48.1
baz=219,slow=76,SNR=3.5
PB14 IPOC Station P 46.53 300 P **P** **00 03 44.7 -1.1**
PB14 IPOC Station P 46.53 300 IAmb IAmb 00 03 48.7
comp=Z,597nm,0.9s
ANA01 Lindo Horizont 46.72 341 P **P** **00 03 46.7 -0.3**
SHEL Horse Pasture 46.73 28 P **P** **00 03 48.5 +1.4**
SHEL Horse Pasture 46.73 28 IAMs_20 IAMs_20 00 18 03.9
comp=Z,62µm,21.0s
SHEL Horse Pasture 46.73 28 P **P** **00 03 48.5 +1.4**
SHEL pmax pmax
comp=Z,2µm,1.0s
SHEL Horse Pasture 46.73 28 ⇑P **P** **00 03 48.4 +1.4**
JANB Januaria 46.85 336 P **P** **00 03 47.6 -0.5**
JANB S **S** **00 10 33.7 -2.9**
JANB Januaria 46.85 336 *e*P **P** **00 03 47.9 -0.2**
BOSA Boshof 46.91 72 IAmb IAmb 00 04 03.0
comp=Z,923nm,1.5s
BOSA Boshof 46.91 72 P **P** **00 03 47.8 -0.7**
comp=Z,72nm,0.5s,baz=210,slow=7.4,SNR=299
BOSA S **S** **00 10 32.4 -4.9**
comp=Z,5.6nm,1.0s,baz=162,slow=20,SNR=1.5
BOSA LR LR 00 18 45.0
comp=Z,55µm,21.7s,baz=212,slow=30
comp=Z,72nm,0.5s
BOSA Boshof 46.91 72 *i*P **P** **00 03 48.2 -0.3**
BOSA Boshof 46.91 72 ⇑P **P** **00 03 47.6 -0.9**
BOSA Boshof 46.91 72 P **P** **00 03 46.1 -2.4**
BOSA S **S** **00 10 37.2 -0.2**
BDFB Brasilia 47.10 331 P **P** **00 03 50.5 +0.4**
BDFB IAMs_20 IAMs_20 00 21 05.2
comp=Z,92µm,21.0s
BDFB Brasilia 47.10 331 P **P** **00 03 50.5 +0.4**
comp=Z,131nm,0.7s,baz=152,slow=5.0,SNR=132
BDFB S **S** **00 10 36.0 -4.3**
comp=Z,3.5nm,0.7s,baz=207,slow=2.4,SNR=0.7
BDFB LR LR 00 21 04.7
comp=Z,90µm,21.5s,baz=162,slow=33
comp=Z,131nm,0.7s
GDU01 Guandu, BA 47.34 343 *e*P **P** **00 03 52.1 +0.3**
PB10 IPOC Station P 47.58 301 IAMs_20 IAMs_20 00 23 31.9
comp=Z,98µm,21.0s
PB06 IPOC Station P 47.87 302 IAmb IAmb 00 03 59.9
comp=Z,1µm,1.1s
PB05 IPOC Station P 48.01 301 IAMs_20 IAMs_20 00 23 09.4
comp=Z,58µm,21.0s
ARAG Araguaiana, MT 48.01 327 *e*P **P** **00 03 57.1 0.0**
WIN Windhoek 48.42 59 P **P** **00 04 00.1 -0.3**
WIN IAmb IAmb 00 04 08.6
comp=Z,1µm,1.6s
WIN IAMs_20 IAMs_20 00 21 47.2
comp=Z,51µm,18.0s
WIN Windhoek 48.42 59 P **P** **00 04 00.1 -0.3**
WIN pmax pmax
comp=Z,1µm,1.6s

PHPEN Phepeng 48.45 67 *i*P **P** **00 03 59.9 -0.5**
PHPEN Phepeng 48.45 67 P **P** **00 03 59.6 -0.8**
PHPEN IAmb IAmb 00 04 07.4
comp=Z,766nm,1.4s
PB03 IPOC Station P 48.53 302 IAMs_20 IAMs_20 00 25 23.7
comp=Z,76µm,20.0s
PB09 IPOC Station P 48.54 303 IAMs_20 IAMs_20 00 24 28.4
comp=Z,71µm,20.0s
SALV Santo Antonio 48.96 322 P **P** **00 04 04.0 -0.2**
SALV Santo Antonio 48.96 322 *e*P **P** **00 04 04.1 -0.2**
PB02 IPOC Station P 49.23 303 IAMs_20 IAMs_20 00 25 17.8
comp=Z,73µm,19.0s
KOOLE Kule 49.39 62 *i*P **P** **00 04 07.4 -0.3**
KOOLE Kule 49.39 62 P **P** **00 04 07.2 -0.6**
KOOLE IAmb IAmb 00 04 14.9
comp=Z,383nm,1.0s
KOOLE IAMs_20 IAMs_20 00 21 22.6
comp=Z,61µm,19.0s
SDBA SAO DESIDERIO 49.55 336 P **P** **00 04 08.4 -0.4**
SDBA SAO DESIDERIO 49.55 336 *e*P **P** **00 04 08.6 -0.3**
SKOMA Sekoma 49.77 67 *i*P **P** **00 04 10.0 -0.5**
NBLA Lagarto - SE 49.78 346 P **P** **00 04 09.2 -1.4**
PATCX Punta Patache 49.79 303 IAMs_20 IAMs_20 00 24 03.5
comp=Z,82µm,22.0s
CASY Casey 49.94 159 P **P** **00 04 11.1 0.0**
CASY IAmb IAmb 00 04 13.3
comp=Z,1µm,1.7s
CASY Casey 49.94 159 ⇓P **P** **00 04 11.2 0.0**
MAS01 UHE Manso 49.95 322 P **P** **00 04 12.2 +0.3**
PB08 IPOC Station P 49.97 304 P **P** **00 04 10.2 -2.2**
TA01 Diego Aracena 50.02 303 IAmb IAmb 00 04 15.4
comp=Z,2µm,1.6s
TA01 IAMs_20 IAMs_20 00 24 21.8
comp=Z,85µm,22.0s
TA01 Diego Aracena 50.02 303 ⇑P **P** **00 04 13.6 +1.2**
LBTB Lobatse 50.11 69 P **P** **00 04 12.7 -0.5**
LBTB IAmb IAmb 00 04 20.0
comp=Z,1µm,1.6s
LBTB Lobatse 50.11 69 LR LR 00 21 31.4
comp=Z,50µm,18.3s,baz=212,slow=31
LBTB Lobatse 50.11 69 P **P** **00 04 12.7 -0.5**
LBTB pmax pmax
comp=Z,1µm,1.6s
LBTB Lobatse 50.11 69 *i*P **P** **00 04 12.9 -0.3**
LBTB Lobatse 50.11 69 ⇑P **P** **00 04 12.3 -0.9**
HMBC Humberstone 50.16 303 P **P** **00 04 14.3 +0.8**
HMBC IAmb IAmb 00 04 17.1
comp=Z,1µm,1.2s
HMBC IAMs_20 IAMs_20 00 24 49.3
comp=Z,79µm,21.0s
KGCAE Kacgae 50.41 64 *i*P **P** **00 04 15.2 -0.3**
GO01 Chusmiza 50.41 304 IAmb IAmb 00 04 20.1
comp=Z,2µm,1.4s
PTLB Pontes e Lacer 50.49 318 IAmb IAmb 00 04 18.4
comp=Z,2µm,1.7s
PTLB Pontes e Lacer 50.49 318 P **P** **00 04 16.2 +0.3**
PTLB Pontes e Lacer 50.49 318 *e*P **P** **00 04 16.2 +0.3**
PB11 IPOC Station P 50.52 304 IAMs_20 IAMs_20 00 26 21.0
comp=Z,70µm,19.0s
SIV San Ignacio 50.65 315 P **P** **00 04 17.6 +0.3**
comp=Z,122nm,0.4s,baz=158,slow=8.9,SNR=566
SIV S **S** **00 11 24.6 -5.5**
comp=Z,2.4nm,0.7s,baz=235,slow=18,SNR=0.5
SIV LR LR 00 24 42.3
comp=Z,57µm,21.8s,baz=172,slow=35
comp=Z,122nm,0.4s
NBAN Anadia - AL 50.92 348 P **P** **00 04 17.9 -1.3**
NBAN S **S** **00 11 29.0 -4.7**
NBAN Anadia - AL 50.92 348 *e*P **P** **00 04 17.9 -1.3**
POGA Pongola 51.07 77 P **P** **00 04 19.2 -1.0**
POGA Pongola 51.07 77 ⇑P **P** **00 04 19.4 -0.8**
KDWAN Kaudwane 51.08 67 *i*P **P** **00 04 19.9 -0.6**
GRTLG Ghanzi 51.27 63 *i*P **P** **00 04 21.5 -0.5**
GRTLG Ghanzi 51.27 63 P **P** **00 04 21.5 -0.5**
GRTLG IAmb IAmb 00 04 29.1
comp=Z,699nm,1.4s
SNDB Serra Nova Dou 51.44 329 P **P** **00 04 23.1 -0.1**
SNDB Serra Nova Dou 51.44 329 *e*P **P** **00 04 23.0 -0.1**
TSUM Tsumeb 51.61 57 P **P** **00 04 24.6 +0.1**
TSUM IAmb IAmb 00 04 32.6
comp=Z,761nm,1.4s
TSUM Tsumeb 51.61 57 IAMs_20 IAMs_20 00 23 13.4
comp=Z,45µm,18.0s
TSUM Tsumeb 51.61 57 LR LR 00 22 24.1
comp=Z,37µm,18.2s,baz=218,slow=32
TSUM Tsumeb 51.61 57 *i*P **P** **00 04 24.9 +0.4**
TSUM Tsumeb 51.61 57 ⇑P **P** **00 04 24.6 +0.1**
LPHEP Lephephe 51.65 69 *i*P **P** **00 04 24.5 -0.2**
LPHEP Lephephe 51.65 69 P **P** **00 04 23.9 -0.8**
LPHEP IAmb IAmb 00 04 31.8
comp=Z,1µm,1.5s
PB16 IPOC Station P 51.74 305 IAmb IAmb 00 04 29.5
comp=Z,2µm,1.8s
PB16 IAMs_20 IAMs_20 00 25 19.8
comp=Z,75µm,22.0s
PB12 IPOC Station P 51.83 304 IAmb IAmb 00 04 29.9
comp=Z,2µm,1.3s
PB12 IAMs_20 IAMs_20 00 26 00.6
comp=Z,58µm,20.0s
H10S2 ASCENSION HYDR 51.92 15 P **P** **00 04 24.2 -2.1**
baz=226,slow=74,SNR=5.7
H10S2 T T 01 00 28.4
baz=188,slow=74,SNR=400
H10S3 ASCENSION HYDR 51.92 15 P **P** **00 04 24.3 -2.1**
baz=354,slow=74,SNR=4.1
H10S3 T T 01 00 43.2
baz=32,slow=74,SNR=394
PAF Port-aux-Franc 51.99 125 P **P** **00 04 26.8 -0.1**
PAF IAmb IAmb 00 04 42.2
comp=Z,938nm,1.3s
PAF Port-aux-Franc 51.99 125 P **P** **00 04 26.8 -0.1**
PAF pmax pmax
comp=Z,939nm,1.3s
PAF Port-aux-Franc 51.99 125 ⇓P **P** **00 04 27.5 +0.7**
AP01 Chacalluta 52.05 304 IAMs_20 IAMs_20 00 26 08.5
comp=Z,51µm,20.0s
CKGRV CKGRV 52.38 65 *i*P **P** **00 04 29.8 -0.4**
PB18 Visviri 52.40 305 IAMs_20 IAMs_20 00 26 02.7
comp=Z,87µm,21.0s
LAJE UHE Lajeado 52.63 333 P **P** **00 04 31.8 -0.2**
QNGWA Qangwa 52.86 61 *i*P **P** **00 04 33.9 +0.1**
ASCN Ascension 52.97 15 P **P** **00 04 35.1 +0.7**
ASCN IAmb IAmb 00 04 52.3
comp=Z,2µm,1.8s
LPAZ La Paz 53.03 307 IAmb IAmb 00 04 38.9
comp=Z,2µm,1.5s
LPAZ La Paz 53.03 307 P **P** **00 04 36.7 +1.1**
comp=Z,271nm,0.7s,baz=155,slow=5.5,SNR=340
LPAZ ScP **ScP** **00 09 37.7 -1.1**
comp=Z,13nm,0.7s,baz=146,slow=2.0,SNR=3.6
LPAZ S **S** **00 12 05.5 +1.7**
comp=Z,30nm,1.1s,baz=156,slow=20,SNR=6.9
LPAZ LR LR 00 29 01.4
comp=Z,41µm,18.8s,baz=151,slow=38
LPAZ P3KP 00 33 52.0
comp=Z,0.6nm,0.6s,baz=330,slow=4.5,SNR=2.0
comp=Z,271nm,0.7s
LPAZ La Paz 53.03 307 ⇑P **P** **00 04 36.6 +1.1**
LPAZ La Paz 53.03 307 P **P** **00 04 36.5 +0.9**
LPAZ S **S** **00 12 08.4 +4.6**
LPAZ La Paz 53.03 307 *e*P **P** **00 04 36.4 +0.8**
H10N1 ASCENSION HYDR 53.04 15 P **P** **00 04 36.9 +2.3**
baz=186,slow=9.4,SNR=15
H10N1 T T 01 02 56.9
baz=180,slow=72,SNR=67
H10N3 ASCENSION HYDR 53.04 15 P **P** **00 04 36.9 +2.3**
baz=186,slow=9.4,SNR=14
H10N3 T T 01 03 09.8
baz=180,slow=72,SNR=59
H10N2 ASCENSION HYDR 53.05 15 P **P** **00 04 37.3 +2.6**
baz=186,slow=9.4,SNR=15
H10N2 T T 01 03 10.8
baz=180,slow=72,SNR=68
MREMI Moremi 53.07 70 *i*P **P** **00 04 34.9 -0.4**
MREMI Moremi 53.07 70 IAmb IAmb 00 04 42.1
comp=Z,1µm,1.4s
MREMI IAMs_20 IAMs_20 00 22 51.7
comp=Z,48µm,19.0s
VILB Vilhena 53.18 318 IAMs_20 IAMs_20 00 25 49.6
comp=Z,48µm,20.0s
VILB Vilhena 53.18 318 P **P** **00 04 36.1 0.0**
VILB Vilhena 53.18 318 *e*P **P** **00 04 35.9 -0.2**
PDRB Porto dos Gac 53.32 322 P **P** **00 04 36.6 -0.5**
PDRB Porto dos Gac 53.32 322 *e*P **P** **00 04 36.2 -0.9**
NBMA Muriti-CE 53.48 345 P **P** **00 04 37.6 -0.6**

SMTB Santa Maria do 53.55 334 P P 00 04 38.8 0.0
SMTB Santa Maria do 53.55 334 eP P 00 04 38.6 -0.2
CLDB Colider 53.74 324 P P 00 04 39.2 -1.0
CLDB Colider 53.74 324 eP P 00 04 39.2 -1.0
PHDHD Phuduhudu 53.78 65 i P P 00 04 40.5 0.0
PHDHD Phuduhudu 53.78 65 IAmb IAmb 00 04 47.6
comp=Z,608nm,0.9s
PHDHD IAMs_20 IAMs_20 00 26 11.7
comp=Z,55µm,18.0s
NBPV Pedro Velho 54.04 349 P P 00 04 41.8 -0.5
NBPV S S 00 12 13.6 -2.6
MOPA Mopani 54.14 74 i P P 00 04 42.4 -0.6
SOOWA Sowa 54.23 67 i P P 00 04 43.6 -0.1
BROLN Tlhalogang 54.28 69 i P P 00 04 43.2 -1.0
MUSN Musina, Limpop 54.45 72 i P P 00 04 44.9 -0.5
RCBR Riachuelo 54.68 349 P P 00 04 47.0 0.0
RCBR Riachuelo 54.68 349 P P 00 04 47.2 +0.3
comp=Z,57nm,1.1s,baz=176,slow=16,SNR=15
RCBR LR LR 00 23 26.8
comp=Z,18µm,21.4s,baz=175,slow=31
comp=Z,57nm,1.1s
RCBR Riachuelo 54.68 349 ⇑P P 00 04 46.4 -0.6
RCBR Riachuelo 54.68 349 P P 00 04 46.3 -0.6
RCBR S S 00 12 22.2 -2.8
RCBR Riachuelo 54.68 349 ⇑P P 00 04 46.6 -0.4
RCBR Riachuelo 54.68 349 eP P 00 04 46.8 -0.2
SLIND Selinda 54.69 63 i P P 00 04 47.4 +0.2
NBPA Parau_RN 54.88 347 P P 00 04 47.8 -0.5
NBPB Pedra_Branca-C 55.38 344 P P 00 04 51.8 -0.3
NBPB Pedra_Branca-C 55.38 344 eP P 00 04 51.9 -0.1
MATP Matopo 55.41 69 LR LR 00 24 45.9
comp=Z,38µm,18.0s,baz=205,slow=32
PAL2 UHE Estreito - 55.55 335 P P 00 04 53.7 +0.5
PAL01 Palmeiras do T 55.70 335 P P 00 04 54.3 -0.1
BLWY Bulawayo 55.70 69 i P P 00 04 53.6 -0.9
KSANE Kasane 56.15 65 i P P 00 04 57.4 -0.3
KSANE Kasane 56.15 65 IAmb IAmb 00 05 04.9
comp=Z,1µm,1.5s
NBCL Cascavel-CE 56.52 346 P P 00 04 59.8 -0.3
NBCL Cascavel-CE 56.52 346 eP P 00 05 00.1 -0.1
PRPB Parauapebas 56.66 332 P P 00 05 01.2 +0.1
PRPB Parauapebas 56.66 332 eP P 00 05 01.2 +0.1
NBPS Pedro II - PI 56.78 342 P P 00 05 01.6 -0.5
SBBR Sobral 57.25 344 P P 00 05 05.0 -0.4
NPGB Novo Progresso 57.25 326 P P 00 05 04.7 -0.6
NPGB Novo Progresso 57.25 326 eP P 00 05 04.5 -0.9
LABB Lɨbrea 58.47 313 P P 00 05 14.1 +0.2
LABB S S 00 13 13.1 -2.1
KRI Karoi 59.04 68 i P P 00 05 17.4 -0.7
LSZ Lusaka 59.74 66 P P 00 05 22.5 -0.4
LSZ IAmb IAmb 00 05 30.1
comp=Z,659nm,1.3s
LSZ Lusaka 59.74 66 IAMs_20 IAMs_20 00 28 04.0
comp=Z,40µm,18.0s
LSZ Lusaka 59.74 66 LR LR 00 27 13.6
comp=Z,28µm,18.8s,baz=207,slow=32
LSZ Lusaka 59.74 66 P P 00 05 22.5 -0.4
LSZ pmax pmax
comp=Z,659nm,1.3s
LSZ Lusaka 59.74 66 i P P 00 05 22.8 -0.1
LSZ Lusaka 59.74 66 ⇑P P 00 05 22.5 -0.4
BMO2 UHE Belo Monte 59.90 331 P P 00 05 23.7 -0.1
ITTB Itaituba 59.91 326 P P 00 05 23.2 -0.7
ITTB Itaituba 59.91 326 eP P 00 05 22.9 -0.9
TMAB Tom-Au,PA,Br 59.96 335 P P 00 05 24.2 0.0
TMAB Tom-Au,PA,Br 59.96 335 eP P 00 05 24.2 0.0
ATM1 UHE Belo Monte 60.02 330 P P 00 05 24.4 -0.3
BMO1 UHE Belo Monte 60.03 331 P P 00 05 24.2 -0.5
NNA Nana 60.50 300 P P 00 05 28.6 +0.6
NNA IAmb IAmb 00 05 31.4
comp=Z,994nm,1.0s
NNA Nana 60.50 300 IAMs_20 IAMs_20 00 31 20.0
comp=Z,51µm,22.0s
NNA Nana 60.50 300 PP PP 00 07 42.4 +0.9
comp=Z,35nm,0.9s,baz=177,slow=4.5,SNR=5.0
NNA S S 00 13 37.6 -3.8
comp=Z,2.7nm,0.3s,baz=226,slow=7.4,SNR=1.4
NNA Nana 60.50 300 ceP P 00 05 28.9 +0.9
NNA pmax pmax
comp=Z,1µm,1.0s
NNA MLR MLR
comp=Z,53µm,17.0s
NNA Nana 60.50 300 ⇑P P 00 05 28.8 +0.8
NNA Nana 60.50 300 ⇑P P 00 05 28.4 +0.4
FOMA Nahampoana Res 60.60 89 P P 00 05 28.2 -0.3
FOMA IAmb IAmb 00 05 35.8
comp=Z,465nm,1.7s
MAL2 Monte Alegre, 61.74 328 P P 00 05 36.2 -0.1
MAL2 IAmb IAmb 00 05 38.0
comp=Z,388nm,0.9s
MAL2 Monte Alegre, 61.74 328 P P 00 05 35.9 -0.4
MACA Manacapuru-AM 62.52 321 P P 00 05 40.1 -1.4
MACA IAmb IAmb 00 05 42.0
comp=Z,426nm,1.0s
MACA Manacapuru-AM 62.52 321 P P 00 05 39.8 -1.7
MACA Manacapuru-AM 62.52 321 eP P 00 05 40.1 -1.4
CZSB Cruzeiro do Su 62.62 307 P P 00 05 41.5 -0.7
CZSB Cruzeiro do Su 62.62 307 P P 00 05 40.9 -1.3
CZSB Cruzeiro do Su 62.62 307 eP P 00 05 41.3 -0.9
VOI Vohitsoka 63.07 87 P P 00 05 45.0 -0.4
VOI IAmb IAmb 00 05 54.9
comp=Z,685nm,2.0s
VOI Vohitsoka 63.07 87 ⇑P P 00 05 45.6 +0.2
RPN Rapa Nui 63.24 262 P P 00 05 47.5 +1.2
RPN Rapa Nui 63.24 262 LR LR 00 26 43.7
comp=Z,13µm,21.8s,baz=140,slow=30
RPN Rapa Nui 63.24 262 P P 00 05 47.5 +1.2
RPN pmax pmax
comp=Z,2µm,1.9s
VA02 Isla de Pascua 63.26 262 P P 00 05 47.8 +1.4
VA02 IAmb IAmb 00 05 50.4
comp=Z,1µm,1.6s
TEFE Tefe 63.50 317 P P 00 05 46.7 -1.3
TEFE Tefe 63.50 317 eP P 00 05 47.2 -0.8
AIS Amsterdam Isla 64.48 122 P P 00 05 54.1 -0.2
AIS IAMs_20 IAMs_20 00 27 13.9
comp=Z,36µm,19.0s
TBTG Tabatinga, AM 64.77 311 P P 00 05 54.9 -1.5
TBTG IAmb IAmb 00 05 57.8
comp=Z,1µm,1.3s
TBTG Tabatinga, AM 64.77 311 P P 00 05 55.1 -1.3
TBTG Tabatinga, AM 64.77 311 eP P 00 05 55.7 -0.7
ATAH Atahualpa 65.51 301 P P 00 06 04.0 +2.3
comp=Z,334nm,0.9s,baz=160,slow=4.5,SNR=204
ATAH S S 00 14 43.0 -1.9
comp=Z,3.1nm,0.8s,baz=125,slow=19,SNR=1.2
ATAH LR LR 00 34 11.0
comp=Z,33µm,21.5s,baz=147,slow=36
comp=Z,334nm,0.9s
ABPO Ambohimpanom 65.72 86 P P 00 06 02.4 -0.4
ABPO IAmb IAmb 00 06 21.7
comp=Z,436nm,1.6s
ABPO Ambohimpanom 65.72 86 IAMs_20 IAMs_20 00 30 05.1
comp=Z,33µm,19.0s
ABPO Ambohimpanom 65.72 86 P P 00 06 02.4 -0.4
ABPO pmax pmax
comp=Z,436nm,1.6s
ABPO Ambohimpanom 65.72 86 ⇑P P 00 06 03.8 +1.0
SGC2 Sao Gabriel da 67.44 316 P P 00 06 11.6 -1.9
BOAV Boa Vista 67.73 323 P P 00 06 14.2 -1.1
BOAV IAmb IAmb 00 06 16.0
comp=Z,489nm,1.0s
BOAV Boa Vista 67.73 323 P P 00 06 13.7 -1.6
BOAV Boa Vista 67.73 323 eP P 00 06 13.9 -1.4
MDP Montagnes des 68.21 332 LR LR 00 33 48.3
comp=Z,60µm,21.1s,baz=151,slow=34
MPGF Montagnes des 68.22 332 ⇑P P 00 06 17.4 -1.0
DBIC Dimbokro 68.86 23 P P 00 06 23.0 +0.7
DBIC IAmb IAmb 00 06 24.8
comp=Z,536nm,1.0s
DBIC Dimbokro 68.86 23 P P 00 06 22.9 +0.5
comp=Z,320nm,0.9s,baz=207,slow=6.6,SNR=158
DBIC S S 00 15 19.6 -4.6
comp=Z,12nm,1.1s,baz=278,slow=11,SNR=6.9
DBIC LR LR 00 29 30.3
comp=Z,33µm,21.4s,baz=202,slow=30
DBIC PKPPKP P'P'df 00 34 34.5 +4.1
comp=Z,11nm,0.9s,baz=358,slow=2.3,SNR=8.2
comp=Z,320nm,0.9s
DBIC Dimbokro 68.86 23 ⇑P P 00 06 22.8 +0.5
DBIC Dimbokro 68.86 23 P P 00 06 22.9 +0.5
DBIC S S 00 15 24.6 +0.5
ACRG Accra 68.88 28 P P 00 06 22.7 +0.3
ACRG IAmb IAmb 00 06 24.9
comp=Z,859nm,1.2s
EDA Edea 70.00 40 P P 00 06 29.5 +0.1
EDA IAmb IAmb 00 06 31.9
comp=Z,2µm,1.6s
OTAV Otavalo 72.18 304 P P 00 06 44.3 +1.1
OTAV Otavalo 72.18 304 IAMs_20 IAMs_20 00 38 03.1
comp=Z,34µm,20.0s
OTAV Otavalo 72.18 304 P P 00 06 44.3 +1.1
OTAV pmax pmax
comp=Z,2µm,1.4s
OTAV MLR MLR
comp=Z,34µm,20.0s
OTAV Otavalo 72.18 304 ⇑P P 00 06 44.2 +0.9
OTAV Otavalo 72.18 304 P P 00 06 44.2 +1.1
OTAV S SKiKP 00 16 12.6 -4.3
OTAV Otavalo 72.18 304 ⇑P P 00 06 43.9 +0.7
OTAV Otavalo 72.18 304 eP P 00 06 43.9 +0.7
FLOC Florencia 72.27 308 IAmb IAmb 00 06 45.7
comp=Z,1µm,1.3s
FLOC IAMs_20 IAMs_20 00 40 46.6
comp=Z,42µm,19.0s
FLOC Florencia 72.27 308 ⇑P P 00 06 42.9 -0.4
SYZ Scrubby Hill 72.85 191 P P 00 06 46.0 -0.3
ROCAM Rodrigues Isla 73.13 100 IAMs_20 IAMs_20 00 30 44.7
comp=Z,30µm,20.0s
HHSZ Highcliff Hill 73.34 193 P P 00 06 50.2 +1.0
PYZ Puysegur Point 73.44 190 IAMs_20 IAMs_20 00 37 31.3
comp=Z,26µm,19.0s
CTZ Chatham Island 73.54 202 P P 00 06 50.1 -0.3
CTZ IAMs_20 IAMs_20 00 34 31.6
comp=Z,33µm,20.0s
CTZ Chatham Island 73.54 202 P P 00 06 51.6 +1.2
WHZ Wether Hill Ro 73.60 191 IAMs_20 IAMs_20 00 43 17.5
comp=Z,28µm,19.0s
WHZ Wether Hill Ro 73.60 191 P P 00 06 51.0 +0.2
MBAR Mbarara 73.88 61 P P 00 06 54.9 +2.0
MBAR IAmb IAmb 00 07 03.8
comp=Z,796nm,1.5s
MBAR IAMs_20 IAMs_20 00 36 03.3
comp=Z,26µm,19.0s
MBAR Mbarara 73.88 61 i P P 00 06 51.0 -1.9
MBAR pmax pmax
comp=Z,527nm,1.6s
MBAR MLR MLR
comp=Z,32µm,15.0s
PRAC Prado 73.92 309 ⇑P P 00 06 53.0 0.0
DCZ Deep Cove 74.10 190 P P 00 06 43.5 -10
MLZ Mavora Lakes 74.11 191 P P 00 06 54.6 +0.8
MLZ IAMs_20 IAMs_20 00 43 31.9
comp=Z,36µm,18.0s
MLZ Mavora Lakes 74.11 191 P P 00 06 53.9 +0.1
EAZ Earnscleugh 74.12 192 P P 00 06 54.0 +0.1
ODZ Otahua Downs 74.17 193 IAMs_20 IAMs_20 00 39 37.7
comp=Z,34µm,18.0s
ODZ Otahua Downs 74.17 193 ⇑P P 00 06 55.1 +1.0
ROSC El Rosal 74.73 310 P P 00 06 58.4 +0.3
ROSC IAmb IAmb 00 07 00.5
comp=Z,2µm,1.8s
ROSC El Rosal 74.73 310 P P 00 06 58.4 +0.3
comp=Z,190nm,0.8s,baz=153,slow=3.0,SNR=108
ROSC S S 00 16 31.9 -0.7
comp=Z,5.3nm,0.3s,baz=159,slow=22,SNR=1.4
ROSC LR LR 00 43 21.4
comp=Z,38µm,18.9s,baz=152,slow=38
comp=Z,190nm,0.8s
MBO M'Bour 74.74 10 P P 00 06 59.1 +1.6
MBO IAMs_20 IAMs_20 00 34 29.9
comp=Z,26µm,20.0s
MBO M'Bour 74.74 10 ⇑P P 00 06 59.5 +2.0
LBZ Lake Benmore 74.87 192 IAMs_20 IAMs_20 00 40 35.2
comp=Z,39µm,19.0s
SACV Santiago Islan 74.94 3 P P 00 06 59.1 +0.4
SACV IAmb IAmb 00 07 01.5
comp=Z,466nm,1.3s
SACV Santiago Islan 74.94 3 IAMs_20 IAMs_20 00 36 31.5
comp=Z,29µm,18.0s
SACV Santiago Islan 74.94 3 ⇑P P 00 06 59.5 +0.8
SACV Santiago Islan 74.94 3 ⇑P P 00 06 59.6 +0.8
BBTS Babate 75.04 10 S S 00 16 32.7 -2.3
baz=180,slow=20
RUSC La Rusia 75.24 312 P P 00 07 00.1 -1.0
RUSC La Rusia 75.24 312 ⇑P P 00 06 59.3 -1.9
MQZ McQueen's Vall 75.25 194 IAMs_20 IAMs_20 00 42 56.5
comp=Z,28µm,18.0s
MQZ McQueen's Vall 75.25 194 P P 00 07 01.1 +0.8
RPZ Rata Peaks 75.44 193 IAMs_20 IAMs_20 00 37 34.2
comp=Z,27µm,20.0s
RPZ Rata Peaks 75.44 193 LR LR 00 37 55.7
comp=Z,27µm,19.8s,baz=172,slow=34
KIBK Kibwezi 75.65 69 P P 00 07 02.3 -0.8
KIBK Kibwezi 75.65 69 P P 00 07 04.9 +1.8
KIBK IAmb IAmb 00 07 14.5
comp=Z,1µm,1.5s
KIBK IAMs_20 IAMs_20 00 38 10.4
comp=Z,27µm,18.0s
OXZ Oxford 75.70 194 P P 00 07 03.2 +0.2
FOZ Fox Glacier 75.75 192 IAMs_20 IAMs_20 00 38 12.6
comp=Z,34µm,20.0s
GVZ Greta Valley S 75.93 195 IAMs_20 IAMs_20 00 40 02.5
comp=Z,34µm,18.0s
GVZ Greta Valley S 75.93 195 P P 00 07 04.4 +0.1
WVZ Waitaha Valley 76.10 193 P P 00 07 05.5 +0.3
LTZ Lake Taylor 76.21 194 IAMs_20 IAMs_20 00 42 54.8
comp=Z,38µm,18.0s
LTZ Lake Taylor 76.21 194 P P 00 07 06.8 +0.8
BAUV El Baul 76.28 318 P P 00 07 06.0 -0.5
PCRV Puerto La Cruz 76.34 322 LR LR 00 43 29.1
comp=Z,39µm,19.4s,slow=38
KMBO Kilima Mbogo 76.35 68 P P 00 07 09.2 +2.0
comp=Z,51nm,1.2s,baz=207,slow=6.3,SNR=74
KMBO S S 00 16 55.8 +5.5
comp=Z,16nm,0.3s,baz=210,slow=16,SNR=20
KMBO LR LR 00 36 52.7
comp=Z,32µm,20.0s,baz=197,slow=33
comp=Z,51nm,1.2s
INZ Inchbonnie 76.37 194 IAMs_20 IAMs_20 00 44 53.9
comp=Z,27µm,19.0s
INZ Inchbonnie 76.37 194 P P 00 07 06.5 -0.2
KHZ Kahutara 76.41 195 IAMs_20 IAMs_20 00 43 58.1
comp=Z,32µm,18.0s
KHZ Kahutara 76.41 195 P P 00 07 07.4 +0.5
KHZ Kahutara 76.41 195 ⇑P P 00 07 07.6 +0.6
HELC Santa Helena 76.44 310 ⇑P P 00 07 06.0 -1.9
PAYG Puerto Ayora 76.54 293 P P 00 07 09.2 +1.1
PAYG IAMs_20 IAMs_20 00 40 06.9
comp=Z,28µm,19.0s
TORD Torodi Ar. Bea 76.57 28 P P 00 07 08.6 +0.5
TORD Torodi Ar. Bea 76.57 28 P P 00 07 09.0 +1.0
comp=Z,1µm,0.7s,baz=196,slow=4.6,SNR=3095
TORD S S 00 16 51.2 -0.7
comp=Z,7.3nm,1.0s,baz=194,slow=5.3,SNR=11
TORD PKPPKP P'P'df 00 34 18.6 +1.3
comp=Z,1.1nm,0.8s,baz=344,slow=4.6,SNR=4.7
TORD LR LR 00 36 00.3
comp=Z,29µm,18.4s,baz=178,slow=32
comp=Z,1µm,0.7s
CMWZ Cape Campbell 76.97 196 P P 00 07 11.3 +1.1
SDV Santo Domingo 77.12 315 P P 00 07 11.3 -0.1
SDV IAmb IAmb 00 07 13.3
comp=Z,598nm,1.0s
SDV Santo Domingo 77.12 315 P P 00 07 11.6 +0.1
comp=Z,323nm,0.8s,baz=170,slow=4.1,SNR=153
SDV PP PP 00 10 06.7 +1.2
comp=Z,108nm,1.0s,baz=151,slow=7.2,SNR=4.9
SDV LR LR 00 43 49.2
comp=Z,96µm,18.9s,baz=148,slow=38
comp=Z,323nm,0.8s
SDV Santo Domingo 77.12 315 P P 00 07 11.1 -0.4
SDV S S 00 16 53.8 -4.6
SDV Santo Domingo 77.12 315 eP P 00 07 11.4 -0.1
THZ Tophouse 77.13 195 IAMs_20 IAMs_20 00 40 33.3
comp=Z,32µm,18.0s
THZ Tophouse 77.13 195 P P 00 07 11.0 -0.2
TAU Tasmania Unive 77.15 176 P P 00 07 10.6 -0.5
TAU Tasmania Unive 77.15 176 P P 00 07 11.3 +0.2
TAU Tasmania Unive 77.15 176 P P 00 07 10.6 -0.5
TAU pmax pmax
comp=Z,243nm,1.1s
TAU Tasmania Unive 77.15 176 ⇑P P 00 07 11.0 -0.1
DSZ Denniston Nort 77.29 194 IAMs_20 IAMs_20 00 47 57.4
comp=Z,24µm,18.0s
DSZ Denniston Nort 77.29 194 P P 00 07 11.2 -0.8
GRGR Grenville 77.30 325 IAMs_20 IAMs_20 00 41 23.6
comp=Z,38µm,20.0s
GRGR Grenville 77.30 325 ⇑P P 00 07 11.9 -0.3
SNZO South Karori 77.34 196 P P 00 07 13.1 +0.9
SNZO IAmb IAmb 00 07 15.0
comp=Z,400nm,1.2s
SNZO South Karori 77.34 196 IAMs_20 IAMs_20 00 37 29.8
comp=Z,34µm,20.0s
SNZO South Karori 77.34 196 P P 00 07 14.0 +1.8
SNZO South Karori 77.34 196 ⇓P P 00 07 13.5 +1.3
SNZO South Karori 77.34 196 S S 00 17 02.8 +2.9
NNZ Nelson 77.61 195 IAMs_20 IAMs_20 00 36 50.9
comp=Z,29µm,21.0s
NNZ Nelson 77.61 195 P P 00 07 13.7 -0.1
BBGH Gun Hill 77.68 327 P P 00 07 15.4 +1.1
BFZ Birch Farm 77.73 198 IAMs_20 IAMs_20 00 36 45.1
comp=Z,28µm,21.0s
BFZ Birch Farm 77.73 198 P P 00 07 15.5 +1.1
MRZ Mangatainoka R 77.85 197 P P 00 07 16.1 +1.0
QRZ Quartz Range 78.11 195 IAMs_20 IAMs_20 00 40 31.8
comp=Z,30µm,18.0s
QRZ Quartz Range 78.11 195 P P 00 07 15.0 -1.6
PXZ Pawanui 78.27 198 P P 00 07 16.2 -1.2
TSZ Takapari Road 78.38 198 P P 00 07 18.5 +0.4
WAZ Wanganui 78.82 197 P P 00 07 14.5 -6.0
BKZ Black Stump Fm 79.17 198 IAMs_20 IAMs_20 00 36 55.3
comp=Z,26µm,22.0s
BKZ Black Stump Fm 79.17 198 P P 00 07 23.1 +0.6
H05S1 Guadeloupe/Mar 79.25 326 P P 00 07 24.4 +1.5
SNR=5.0
MPOM Morne Pois Mar 79.28 326 P P 00 07 22.7 -0.4
MPOM IAmb IAmb 00 07 24.7
comp=Z,544nm,1.4s
NGZ Ngauruhoe 79.30 197 P P 00 07 24.4 +1.1
BIM Bigot 79.40 326 IAmb IAmb 00 07 26.1
comp=Z,710nm,1.1s
NEZ North Egmont 79.42 196 P P 00 07 23.6 -0.3
VRZ Vera Road 79.47 197 P P 00 07 23.5 -0.5
LODK Lodwar 79.51 64 P P 00 07 26.8 +2.2
LODK IAmb IAmb 00 07 36.2
comp=Z,759nm,1.7s
FDF Fort de France 79.63 326 P P 00 07 25.5 +0.4
FDF IAmb IAmb 00 07 27.9
comp=Z,870nm,1.3s
FDF Fort de France 79.63 326 P P 00 07 25.5 +0.4
FDF pmax pmax
comp=Z,870nm,1.3s
FDF MLR MLR
comp=Z,22µm,22.0s
FDF Fort de France 79.63 326 ⇑P P 00 07 25.2 +0.2
FDF Fort de France 79.63 326 ⇑P P 00 07 24.7 -0.4
RTZ Ruatahuna 79.63 199 IAMs_20 IAMs_20 00 45 10.6
comp=Z,29µm,18.0s
RTZ Ruatahuna 79.63 199 P P 00 07 25.1 0.0
SJCC San Jacinto, C 79.70 311 ⇑P P 00 07 25.2 -0.3
SVN Savane Anatole 79.74 326 P P 00 07 26.8 +1.1
SVN IAmb IAmb 00 07 28.3
comp=Z,2µm,1.3s
H01W2 Cape Leeuwin H 79.94 148 P P 00 07 27.4 +1.0
baz=200,slow=5.9,SNR=18
H01W1 Cape Leeuwin H 79.95 148 P P 00 07 28.0 +1.5
baz=200,slow=5.9,SNR=9.1
H01W3 Cape Leeuwin H 79.95 148 P P 00 07 27.0 +0.5
baz=200,slow=5.9,SNR=14
PUZ Puketiti 79.95 200 P P 00 07 27.6 +0.9
URZ Urewera 79.96 199 LR LR 00 39 30.3
comp=Z,17µm,20.8s,baz=167,slow=33
URZ Urewera 79.96 199 P P 00 07 27.2 +0.5
URZ Urewera 79.96 199 ⇓P P 00 07 27.7 +1.0
HIZ Hauiti 80.06 197 IAMs_20 IAMs_20 00 46 22.7
comp=Z,24µm,18.0s
HIZ Hauiti 80.06 197 P P 00 07 26.1 -1.2
TLZ Tolley Road 80.14 198 P P 00 07 27.3 -0.4
URI Uribia 80.21 315 ⇑P P 00 07 26.1 -2.1
HAZ Te Kaha 80.34 199 P P 00 07 30.2 +1.4
MXZ Matakaoa Point 80.44 200 P P 00 07 33.1 +3.8
SMRC Santa Marta, M 80.52 313 P P 00 07 29.5 -0.4
SMRC IAmb IAmb 00 07 31.5
comp=Z,1µm,1.9s
WIZ White Island 80.66 199 P P 00 07 30.1 -0.4
TOZ Tahuroa Road 80.73 198 P P 00 07 30.5 -0.3
MAGL Barre de l'ile 80.83 326 P P 00 07 31.8 +0.4
MAGL IAmb IAmb 00 07 33.9
comp=Z,1µm,1.2s
BCIP Isla Barro Col 80.84 307 P P 00 07 31.6 0.0
BCIP IAmb IAmb 00 07 33.7
comp=Z,553nm,1.2s
BCIP Isla Barro Col 80.84 307 P P 00 07 31.6 0.0
BCIP pmax pmax
comp=Z,553nm,1.2s
BCIP MLR MLR
comp=Z,23µm,22.0s
BCIP Isla Barro Col 80.84 307 ⇑P P 00 07 31.5 -0.1
BCIP Isla Barro Col 80.84 307 ⇑P P 00 07 31.1 -0.5
CBE Ff, Capester 81.03 326 IAmb IAmb 00 07 34.5
comp=Z,791nm,1.1s
CBE IAMs_20 IAMs_20 00 43 39.9
comp=Z,29µm,21.0s
GDSD La Dsirade Is 81.11 327 P P 00 07 32.6 -0.4
GDSD IAmb IAmb 00 07 34.5
comp=Z,870nm,1.7s
H05N1 Guadeloupe/Mar 81.11 327 P P 00 07 31.9 -1.1
SNR=8.7
GDHS Morne Mazeau, 81.27 326 IAMs_20 IAMs_20 00 43 58.6
comp=Z,29µm,20.0s
ABD La Joyeuse, An 81.38 326 IAMs_20 IAMs_20 00 41 10.3
comp=Z,29µm,22.0s
KUZ Kuaotunu 81.66 198 P P 00 07 33.6 -2.2
BRU2 Volcan 81.67 304 IAmb IAmb 00 07 47.7
comp=Z,427nm,1.1s
MSEY Mahe Island 82.09 86 P P 00 07 38.3 -0.1
MSEY Mahe Island 82.09 86 P P 00 07 38.3 -0.1
MSEY pmax pmax
comp=Z,239nm,1.4s
DRK0 Durika 82.32 304 ⇑P P 00 07 40.2 +0.6
OCHAL Ojochal 82.33 303 ⇑P P 00 07 40.8 +1.3
EDPE Pejibaye, P 82.36 303 eP P 00 07 40.4 +0.7
TOO Toolangi 82.39 174 ⇓P P 00 07 39.6 -0.1
TOO Toolangi 82.39 174 ⇓P P 00 07 39.6 -0.1
ANWB Willy Bob 82.60 326 IAMs_20 IAMs_20 00 42 20.6
comp=Z,24µm,22.0s
NWAO Narrogin (SRO) 82.60 150 P P 00 07 39.9 -1.0
NWAO Narrogin (SRO) 82.60 150 IAMs_20 IAMs_20 00 42 21.9
comp=Z,23µm,18.0s
NWAO Narrogin (SRO) 82.60 150 LR LR 00 42 43.1
comp=Z,22µm,18.7s,baz=190,slow=34
NWAO Narrogin (SRO) 82.60 150 P P 00 07 40.6 -0.3
NWAO Narrogin (SRO) 82.60 150 P P 00 07 39.9 -1.0
NWAO pmax pmax
comp=Z,156nm,1.2s
WCZ Waipu Caves 82.66 197 P P 00 07 40.7 -0.3
LAES El Progreso Va 82.69 304 i P P 00 07 41.9 +0.5
SEUS St. Eustatius 82.77 325 IAMs_20 IAMs_20 00 47 57.0
comp=Z,25µm,20.0s
VERH Veragua Rainfo 82.89 304 eP P 00 07 43.0 +0.6
PIEC Cerro El Cedra 82.94 303 eP P 00 07 43.5 +0.5
SABA Saba 82.97 325 IAMs_20 IAMs_20 00 44 36.2
comp=Z,23µm,20.0s
PAR1A Puntarenas Pro 83.04 303 eP P 00 07 44.2 +1.1
PICV PH. Pirrs 83.04 303 eP P 00 07 43.5 +0.3
LCR2 La Lucha 2 83.06 303 IAmb IAmb 00 07 46.4
comp=Z,541nm,1.1s
LCR2 La Lucha 2 83.06 303 eP P 00 07 43.8 +0.2
LCR2 La Lucha 2 83.06 303 ⇑P P 00 07 44.0 +0.5
RESJ San Isidro (Tu 83.17 304 eP P 00 07 44.7 +0.7
IRES Siquirres 83.18 304 eP P 00 07 44.6 +0.7
RAFA San Farael, Vo 83.18 304 eP P 00 07 45.2 +0.9
ACOS Acosta 83.18 303 eP P 00 07 43.9 -0.2
ABRB Las Abras (San 83.18 304 eP P 00 07 44.3 +0.1
LCOCO El Coco 83.19 304 eP P 00 07 44.5 +0.5
CVTV Tajo 83.19 304 eP P 00 07 44.7 +0.3
CVTQ Turrialba Volc 83.20 304 eP P 00 07 44.5 0.0
TRIO Tres Rios 83.21 303 eP P 00 07 44.5 +0.2
AMPA Desamparados 83.23 303 eP P 00 07 44.5 +0.1
LUJA Lujan 83.26 303 eP P 00 07 45.4 +0.9
ECI Escuela Centro 83.26 303 eP P 00 07 45.3 +0.8
CVIMO Finca Echandi 83.29 304 eP P 00 07 45.4 +0.6
SMRT St. Maarten 83.33 325 IAMs_20 IAMs_20 00 43 39.7
comp=Z,24µm,21.0s
HDC Heredia 83.34 303 IAmb IAmb 00 07 47.8
comp=Z,1µm,1.3s
HDC Heredia 83.34 303 eP P 00 07 45.6 +0.7
HDC Heredia 83.34 303 eP P 00 07 46.0 +1.1
PILE Guapiles 83.40 304 eP P 00 07 45.3 +0.2
OUZ Omahuta 83.47 197 ⇑P P 00 07 45.9 +0.6
CARI Cariari 83.51 304 eP P 00 07 47.6 +2.0
VPS8 V Poas 83.56 303 eP P 00 07 46.6 +0.3

VPS5 V. Poas 83.56 303 *e*P P **00 07 47.2 +0.9**
SRA1 San Ramn 83.57 303 *e*P P **00 07 46.7 +0.6**
VPL1 V. Platanar 83.68 303 *e*P P **00 07 47.3 +0.5**
ARTO Ro Cuarto 83.69 303 *e*P P **00 07 47.0 +0.4**
VPL2 V. Platanar 83.73 303 *e*P P **00 07 47.3 +0.3**
ITAL Pital 83.81 303 *e*P P **00 07 47.9 +0.7**
SOCE Pocosol 83.90 303 IAmb IAmb 00 08 14.8
comp=Z,286nm,1.1s
SOCE Pocosol 83.90 303 *e*P P **00 07 47.2 -0.5**
MTEVE Monteverde 83.93 303 *e*P P **00 07 47.9 -0.1**
JTS Las Juntas de 83.96 303 P P **00 07 48.2 +0.3**
JTS IAmb IAmb 00 07 50.2
comp=Z,525nm,1.2s
JTS Las Juntas de 83.96 303 P P **00 07 48.3 +0.3**
comp=Z,178nm,0.9s,baz=138,slow=4.9,SNR=70
JTS PP **PP 00 11 03.7 +1.7**
comp=Z,41nm,1.1s,baz=148,slow=5.0,SNR=4.2
JTS LR LR 00 48 59.3
comp=Z,6µm,18.0s,baz=134,slow=38
comp=Z,178nm,0.9s
JTS Las Juntas de 83.96 303 *i* P P **00 07 47.6 -0.3**
JTS pmax pmax
comp=Z,598nm,1.3s
JTS Las Juntas de 83.96 303 ⇑P P **00 07 48.2 +0.3**
JTS Las Juntas de 83.96 303 *e*P P **00 07 48.0 +0.1**
VACR Volcan Arenal 84.00 303 *e*P P **00 07 48.2 +0.1**
ARE1 Arenal 1 84.01 303 *e*P P **00 07 48.3 +0.1**
VARE2 V. Arenal 84.01 303 *e*P P **00 07 48.1 -0.2**
NICO Nicoya 84.02 302 *e*P P **00 07 48.2 0.0**
CEDE Laguna Cedeo 84.03 303 *e*P P **00 07 48.2 -0.1**
TABAC Tabacon 84.06 303 *e*P P **00 07 48.8 +0.3**
CHIK Chiripa 84.07 303 *e*P P **00 07 48.3 -0.3**
JUD3 Juan Diaz 3 84.09 302 *e*P P **00 07 48.7 0.0**
PDPR Patillas Dam, 84.16 323 P P **00 07 47.5 -1.2**
QUEB Quebradon, Cot 84.23 303 *e*P P **00 07 48.7 -0.6**
TIMP Tierras Morena 84.25 303 *e*P P **00 07 48.6 -0.9**
SJG San Juan 84.29 323 P P **00 07 48.2 -1.1**
SJG San Juan 84.29 323 IAMs_20 IAMs_20 00 46 14.2
comp=Z,23µm,22.0s
SJG San Juan 84.29 323 LR LR 00 46 35.8
comp=Z,18µm,19.9s,baz=154,slow=36
SJG San Juan 84.29 323 P P **00 07 48.3 -1.1**
SJG pmax pmax
comp=Z,180nm,1.1s
SJG MLR MLR
comp=Z,23µm,22.0s
SJG San Juan 84.29 323 ⇑P P **00 07 47.8 -1.6**
BAGA Bagaces 84.30 303 *e*P P **00 07 49.5 -0.1**
TENO El Achiote 84.34 303⇑ *e*P P **00 07 49.6 -0.3**
MOTZ Rio Naranjo 84.36 303 *e*P P **00 07 50.0 0.0**
CUI Cuipilapa 84.37 303 *e*P P **00 07 49.4 -0.7**
HORNC Hornillas 84.43 303 *e*P P **00 07 50.0 -0.4**
MESS Mesas 84.46 303 *e*P P **00 07 49.1 -1.4**
ALIBA Liberia Airpor 84.48 302 *e*P P **00 07 51.0 +0.5**
VMAR Armenia, Volca 84.49 303 *e*P P **00 07 49.7 -0.9**
ELI1 Hacienda Flor 84.53 302 *e*P P **00 07 50.6 -0.2**
GPS2 Hotel Rincn d 84.54 303 *e*P P **00 07 50.2 -0.7**
GPS3 Bodega del ICE 84.55 303 *e*P P **00 07 50.7 -0.3**
VRLE La Escondida, 84.58 303 *e*P P **00 07 49.9 -1.3**
LAPC Finca la Perla 84.59 303 *e*P P **00 07 49.6 -1.5**
VORI VORI 84.59 303 *e*P P **00 07 50.6 -0.8**
BUAI Buenos Aires 84.64 303 *e*P P **00 07 50.6 -0.8**
PEJA Penjamo Buenos 84.65 303 *e*P P **00 07 51.1 -0.3**
TBI Tubuai 84.66 231 *e*P P **00 07 53.2 +1.7**
comp=Z,2µm,1.5s
CAN Canberra 84.78 176 P P **00 07 52.2 +0.2**
CAN IAmb IAmb 00 08 07.0
comp=Z,356nm,1.4s
CAN Canberra 84.78 176 P P **00 07 52.6 +0.6**
CAN Canberra 84.78 176 P P **00 07 52.2 +0.2**
CAN pmax pmax
comp=Z,356nm,1.4s
CAN Canberra 84.78 176 ⇓P P **00 07 52.4 +0.3**
PRVC Isla de Provid 85.27 307 P P **00 07 54.3 -0.1**
PRVC IAmb IAmb 00 07 56.3
comp=Z,852nm,1.3s
ESPN Las Esperanzas 85.40 304 P P **00 07 54.6 -0.5**
ESPN IAmb IAmb 00 07 56.2
comp=Z,269nm,0.9s
ESPN Las Esperanzas 85.40 304 *e*P P **00 07 53.9 -1.3**
ACON Acoyapa 85.56 303 *e*P P **00 07 54.4 -1.5**
FURI Furi 85.85 64 IAMs_20 IAMs_20 00 44 01.6
comp=Z,24µm,18.0s
MORW Morawa 85.97 148 P P **00 07 57.3 -0.7**
MORW Morawa 85.97 148 ⇓P P **00 07 57.4 -0.6**
HTT Hallett 85.98 168 ⇓P P **00 07 58.1 +0.1**
HTT Hallett 85.98 168 ⇓P P **00 07 58.1 +0.1**
BOAB BOACO BROADBAN 86.19 303 P P **00 07 57.7 -1.4**
BOAB BOACO BROADBAN 86.19 303 P P **00 07 58.3 -0.7**
BOAB BOACO BROADBAN 86.19 303 ⇑P P **00 07 58.5 -0.6**
BBOO Buckleboo 86.27 166 P P **00 07 58.5 -0.9**
CNGN Cerro Negro 86.67 302 *e*P P **00 07 57.6 -3.9**
SDDR Presa de Saban 86.74 318 P P **00 08 00.8 -0.9**
SDDR IAMs_20 IAMs_20 00 49 25.2
comp=Z,36µm,20.0s
SDDR Presa de Saban 86.74 318 ⇑P P **00 08 01.0 -0.7**
TAM Tamanrasset 86.77 30 P P **00 08 03.7 +1.8**
TAM IAmb IAmb 00 08 06.3
comp=Z,366nm,0.9s
TAM IAMs_20 IAMs_20 00 41 35.1
comp=Z,21µm,19.0s
TAM Tamanrasset 86.77 30 P P **00 08 03.7 +1.8**
TAM pmax pmax
comp=Z,367nm,0.9s
SC01 Santiago de lo 86.97 319 P P **00 08 02.6 -0.2**
SC01 IAmb IAmb 00 08 04.6
comp=Z,367nm,1.1s
POTN Potosi Cosigui 87.46 302 *e*P P **00 08 04.2 -1.1**
CSGN Cosiguina Volc 87.47 302 *e*P P **00 08 05.1 -0.2**
HOJ Hope 87.74 313 *i*P P **00 08 08.5 +2.0**
STKA Stephens Creek 87.77 170 P P **00 08 06.3 -0.5**
STKA Stephens Creek 87.77 170 P P **00 08 06.5 -0.3**
comp=Z,45nm,0.9s,baz=161,slow=5.2,SNR=43
STKA S **SKSac 00 18 27.2 -5.2**
comp=Z,2.1nm,0.9s,baz=270,slow=20,SNR=1.6
STKA PKKPbc **PKKPbc 00 25 51.0 +0.5**
comp=Z,10nm,0.9s,baz=354,slow=5.1,SNR=7.7
STKA PKPPKP 00 34 04.7
comp=Z,4.4nm,0.9s,baz=8.7,slow=3.3,SNR=4.7
STKA LR LR 00 46 11.7
comp=Z,71µm,18.5s,baz=181,slow=35
comp=Z,45nm,0.9s
STKA Stephens Creek 87.77 170 *i*P P **00 08 05.4 -1.3**
RAO Raoul Island 87.79 205 LR LR 00 42 37.0
comp=Z,9µm,21.9s,baz=173,slow=32
STH Stony Hill 87.83 313⇑ *i*P P **00 08 08.0 +1.0**
MCJ Malvern 88.01 312⇓ *i*P P **00 08 09.4 +1.6**
DGAR Diego Garcia 88.17 102 IAMs_20 IAMs_20 00 37 19.3
comp=Z,29µm,21.0s
MTDJ Mount Denham 88.23 313 IAmb IAmb 00 08 10.4
comp=Z,691nm,1.9s
MTDJ Mount Denham 88.23 313⇑ *i*P P **00 08 09.6 +0.6**
MTDJ Mount Denham 88.23 313 ⇑P P **00 08 09.6 +0.6**
TGUH Tegucigalpa,Un 88.31 302 IAmb IAmb 00 08 25.2
comp=Z,273nm,1.1s
TGUH Tegucigalpa,Un 88.31 302 ⇑P P **00 08 09.2 -0.3**
LHI Lord Howe Isla 88.51 185 IAmb IAmb 00 08 26.4
comp=Z,284nm,1.2s
MACI Morro de la Ar 88.51 9 P P **00 08 12.7 +2.5**
MACI IAmb IAmb 00 08 15.0
comp=Z,744nm,1.2s
GTBY Guantanamo Bay 88.92 315⇓ *i*P P **00 08 12.3 +0.3**
GTBY Guantanamo Bay 88.92 315 ⇑P P **00 08 11.9 -0.2**
GRTK Grand Turk 89.04 319 ⇑P P **00 08 12.9 +0.3**
CHIV Chivirico 89.43 314 P P **00 08 14.7 +0.3**
CHIV IAmb IAmb 00 08 16.6
comp=Z,191nm,1.1s
TVO Taravao 89.60 233 *e*P P **00 08 16.7 +1.1**
comp=Z,76nm,0.9s
ESQI Esquipulas 89.64 301 IAmb IAmb 00 08 17.5
comp=Z,435nm,1.0s
ARMA Armidale 89.72 179 ⇑P P **00 08 16.0 -0.1**
PPTF Pamatai, Papee 89.90 233 IAMs_20 IAMs_20 00 42 14.8
comp=Z,25µm,19.0s
PPT Papeete 89.92 233 LR LR 00 42 17.9
comp=Z,24µm,18.0s,baz=171,slow=31
ATD Arta Tunnel 90.07 67 P P **00 08 17.8 +0.1**
ATD IAmb IAmb 00 08 29.1
comp=Z,614nm,1.6s
ATD Arta Tunnel 90.07 67 LR LR 00 46 46.3
comp=Z,2µm,18.0s,baz=195,slow=34
ATD Arta Tunnel 90.07 67 ⇑P P **00 08 20.9 +3.3**
RAR Rarotonga 90.38 223 P P **00 08 20.3 +1.2**
RAR IAmb IAmb 00 08 46.3
comp=Z,786nm,1.9s
RAR Rarotonga 90.38 223 IAMs_20 IAMs_20 00 51 02.6
comp=Z,17µm,18.0s
RAR Rarotonga 90.38 223 LR LR 00 43 28.9
comp=Z,9µm,18.2s,baz=198,slow=32
RAR Rarotonga 90.38 223 P P **00 08 22.6 +3.5**
RAR Rarotonga 90.38 223 P P **00 08 20.3 +1.2**
RAR pmax pmax
comp=Z,786nm,2.0s
RAR MLR MLR
comp=Z,17µm,18.0s
RTAL Retalhuleu 90.63 299 P P **00 08 20.8 +0.7**
RTAL IAmb IAmb 00 08 22.5
comp=Z,381nm,1.4s
VAH Vaihoa 91.23 236 *e*P P **00 08 24.0 +0.9**
comp=Z,287nm,1.2s
PMOR Pomariorio Ree 91.55 236 *e*P P **00 08 25.7 +1.1**
comp=Z,620nm,1.4s
INKA Innaminka 91.80 169 P P **00 08 25.8 +0.2**
TIO Tiouine 92.18 17 P P **00 08 29.5 +2.3**
CCIG Comitan 92.38 299 P P **00 08 27.6 -0.8**
FUL Funchal 92.85 8 *e*P P **00 08 32.5 +2.5**
PMAR Madeira 92.92 8 *e*P P **00 08 33.3 +2.7**
PMAR *e*PP PP **00 12 11.9 -2.0**
PMOZ Porto Moniz, M 93.00 8 P P **00 08 32.3 +1.5**
PMOZ Porto Moniz, M 93.00 8 P P **00 08 32.0 +1.2**
PMOZ Porto Moniz, M 93.00 8 *e*P P **00 08 33.6 +2.8**
PMOZ *e*S S 00 19 14.5 -20
PMOZ *e*LQ LQ 00 38 06.4
PMOZ *e*LR LR 00 42 39.1
PMOZ *i* IAMs_20 IAMs_20 00 44 58.9
comp=Z,16µm,18.0s
QLP Quilpie 93.23 172 ⇓P P **00 08 32.4 +0.1**
PMPS Porto Santo 93.30 9 *e*P P **00 08 35.2 +3.2**
PMPST Porto Santo, M 93.32 9 *e*P P **00 08 35.0 +2.8**
PMPST *e*PP PP **00 12 13.3 -3.6**
PSA00 Pilbara Seismi 94.11 149 P P **00 08 35.5 -0.8**
TEIG Tepich 94.25 304 P P **00 08 36.5 -0.2**
TEIG IAmb IAmb 00 08 39.0
comp=Z,288nm,0.8s
TEIG IAMs_20 IAMs_20 00 57 34.6
comp=Z,21µm,19.0s
TEIG Tepich 94.25 304 ⇑P P **00 08 36.8 0.0**
CMIG Matias Romero 94.31 297 P P **00 08 36.9 -0.2**
comp=Z,50nm,0.8s,baz=138,slow=2.4,SNR=78
CMIG PP PP **00 12 25.6 +1.0**
comp=Z,20nm,1.2s,baz=194,slow=2.1,SNR=6.3
comp=Z,50nm,0.8s
MDT Midelt 94.44 19 P P **00 08 38.9 +1.4**
comp=Z,50nm,1.0s,baz=206,slow=4.4,SNR=62
MDT S **SKSac 00 19 12.2 +2.3**
comp=Z,0.6nm,0.3s,baz=209,slow=10,SNR=1.8
MDT LR LR 00 44 54.6
comp=Z,21µm,21.0s,baz=178,slow=32
comp=Z,50nm,1.0s
MD31 MD31 94.47 18 P P **00 08 39.8 +2.2**
MD31 IAmb IAmb 00 08 42.6
comp=Z,234nm,1.5s
MD01 Midelt array s 94.47 18 P P **00 08 40.3 +2.6**
MBWA Marble Bar 94.47 149 P P **00 08 37.2 -0.8**
MBWA Marble Bar 94.47 149 IAMs_20 IAMs_20 00 50 32.2
comp=Z,22µm,18.0s
MBWA Marble Bar 94.47 149 P P **00 08 37.9 -0.1**
MBWA Marble Bar 94.47 149 ⇓P P **00 08 37.3 -0.8**
MBWA Marble Bar 94.47 149 P P **00 08 37.2 -0.8**
AVE Averroes 94.49 16 P P **00 08 39.1 +1.5**
AVE Averroes 94.49 16 IAmb IAmb 00 08 42.0
comp=Z,756nm,1.6s
EIDS Eidsvold 94.74 178 P P **00 08 39.0 -0.2**
EIDS Eidsvold 94.74 178 ⇑P P **00 08 38.8 -0.4**
ASAR Alice Springs 94.96 162 P P **00 08 39.4 -0.9**
comp=Z,24nm,0.9s,baz=191,slow=4.2,SNR=139
ASAR PP PP **00 12 29.8 +1.1**
comp=Z,33nm,1.2s,baz=185,slow=6.2,SNR=4.9
ASAR S **SKSac 00 19 08.4 -5.3**
comp=Z,1.1nm,1.0s,baz=171,slow=6.3,SNR=1.8
ASAR PKKPbc **PKKPbc 00 25 32.4 -0.2**
comp=Z,7.9nm,0.6s,baz=15,slow=2.1,SNR=24
ASAR PKPPKP 00 33 42.5
comp=Z,7.5nm,1.1s,baz=3.3,slow=2.3,SNR=11
ASAR LR LR 00 48 46.8
comp=Z,131µm,20.0s,baz=184,slow=34
comp=Z,24nm,0.9s
AS31 Alice Springs 94.97 162 P P **00 08 39.4 -0.9**
COCO West Island 95.08 125 IAMs_20 IAMs_20 00 43 56.2
comp=Z,26µm,20.0s
RTC Rabat Centre 95.25 16 P P **00 08 42.2 +1.2**
TLIG Tlapa 96.38 294 P P **00 08 47.0 +0.3**
PSMA Santa Maria 96.84 1 *e*P P **00 08 50.6 +2.5**
PSMA *i* IAmb IAmb 00 08 53.1
comp=Z,206nm,1.7s
PSMN Pico do Norte, 96.85 1 *e*P P **00 08 49.9 +1.7**
PSMN *i* IAmb IAmb 00 08 55.0
comp=Z,266nm,1.9s
PSMN *e*LQ LQ 00 39 38.5
ONTNC Ouen Toro 97.10 192 P P **00 08 50.0 +0.1**
ONTNC IAMs_20 IAMs_20 00 47 55.7
comp=Z,18µm,20.0s
EMLI Melilla 97.14 19 P Pdif 00 08 50.8 +1.1
WMELI Melilla 97.16 19 P Pdif 00 08 50.2 +0.5
060A Indiantown 97.31 314 IAMs_20 IAMs_20 00 52 20.8
comp=Z,25µm,22.0s
DZM Mont Dzumac 97.34 192 P Pdif 00 08 51.4 +0.1
DZM Mont Dzumac 97.34 192 *e*P P **00 08 49.4 -1.8**
comp=Z,90nm,1.4s
DZM Mont Dzumac 97.34 192 LR LR 00 48 05.0
comp=Z,19µm,21.3s,baz=180,slow=32
DZM Mont Dzumac 97.34 192 P Pdif 00 08 52.6 +1.4
DZM Mont Dzumac 97.34 192 ⇑P Pdif 00 08 52.3 +1.1
ECEU Ceuta 97.34 17 P Pdif 00 08 52.7 +2.2
CEU Ceuta 97.34 17 P Pdif 00 08 52.7 +2.2
BBSR BB Station 97.36 328 IAMs_20 IAMs_20 00 48 14.8
comp=Z,23µm,21.0s
CMLA Cha da Macela 97.60 1 IAMs_20 IAMs_20 00 51 18.6
comp=Z,16µm,18.0s
CMLA Cha da Macela 97.60 1 *e*P Pdif 00 08 53.6 +1.9
CMLA *i* IAmb IAmb 00 09 01.3
comp=Z,152nm,2.0s
CMLA *e*LQ LQ 00 40 03.8
PGRON Lagoa das Cont 97.61 1 *e*P Pdif 00 08 53.8 +2.0
PGRON *i* IAmb IAmb 00 08 59.4
comp=Z,281nm,2.0s
BART Pico Bartolome 97.62 1 *e*P Pdif 00 08 53.8 +2.0
BART *i* IAmb IAmb 00 08 57.5
comp=Z,226nm,1.4s
PCALD Caldeiras da R 97.64 1 *e*P Pdif 00 08 57.2 +5.4
PSET Sete Cidades 97.66 1 *e*P Pdif 00 08 53.8 +1.8
PSET *i* IAmb IAmb 00 08 59.6
comp=Z,82nm,1.2s
PSET *e*LQ LQ 00 40 20.8
CNIL Conil 97.71 17 P Pdif 00 08 54.7 +2.6
EALB Alboran 97.75 19 P Pdif 00 08 52.4 +0.1
SFS San Fernando 97.78 17 P Pdif 00 08 53.9 +1.4
PFVI Vila Bisbo 98.08 14 P Pdif 00 08 55.3 +1.5
PFVI Vila Bisbo 98.08 14 P Pdif 00 08 55.0 +1.2
PFVI IAMs_20 IAMs_20 00 47 32.1
comp=Z,25µm,20.0s
PFVI Vila Bisbo 98.08 14 *e*Pdif Pdif 00 08 56.0 +2.2
UNM Universidad Na 98.20 295 IAMs_20 IAMs_20 00 55 59.3
comp=Z,19µm,19.0s
ESPR Espera 98.22 17 P Pdif 00 08 56.1 +1.7
MORF Marmelete 98.28 14 *e*P Pdif 00 08 57.0 +2.3
MORF *e*SKSac **SKSac 00 19 33.1 +3.5**
MORF IAMs_20 IAMs_20 00 44 08.9
comp=N,21µm,26.0s
MORF Marmelete 98.28 14 P Pdif 00 08 55.7 +1.0
MORF IAmb IAmb 00 08 59.0
comp=Z,230nm,1.5s
MORF IAMs_20 IAMs_20 00 50 14.1
comp=Z,15µm,18.0s
MORF Marmelete 98.28 14 *e*Pdif Pdif 00 08 56.9 +2.2
MORF Marmelete 98.28 14 P Pdif 00 08 55.7 +1.0
MORF pmax pmax
comp=Z,230nm,1.5s
PCAN Candelaria 98.31 359 *e*P Pdif 00 09 03.2 +8.4
PBDV Barranco-do-Ve 98.31 15 P Pdif 00 08 55.9 +1.0
PBDV Barranco-do-Ve 98.31 15 *e*Pdif Pdif 00 08 57.6 +2.8
PBDV *e*PP PP 00 12 34.3 -21
ARNO Arenosillo 98.33 16 P Pdif 00 08 56.2 +1.3
EMAL Malaga-Limoner 98.33 18 P Pdif 00 08 55.9 +1.0
PICO Pico 98.34 359 *e*P Pdif 00 08 58.8 +3.8
PICO *i* IAmb IAmb 00 09 00.4
comp=Z,246nm,1.3s
PICO *e*LQ LQ 00 40 35.0

HOR Horta 98.37 358 *e*P Pdif 00 08 55.1 +0.1
HOR *i* IAmb IAmb 00 08 55.6
comp=Z,48nm,1.0s
CALA Caldeira 98.43 358 *e*P Pdif 00 08 55.9 +0.5
CALA *i* IAmb IAmb 00 09 02.2
comp=Z,224nm,1.4s
PVAQ Vaqueiros 98.49 15 P Pdif 00 08 57.0 +1.4
PVAQ Vaqueiros 98.49 15 P Pdif 00 08 56.9 +1.2
PVAQ IAMs_20 IAMs_20 00 47 12.9
comp=Z,17µm,21.0s
PVAQ Vaqueiros 98.49 15 *e*Pdif Pdif 00 08 58.1 +2.5
PVAQ *e*S **SKSac 00 19 33.6 +3.0**
PVAQ *e*LQ LQ 00 36 33.9
PVAQ *e*LR LR 00 41 52.6
PVAQ *i* IAMs_20 IAMs_20 00 47 55.6
comp=Z,10µm,22.0s
PTEO Sao Teotonio 98.50 14 *e*Pdif Pdif 00 08 58.0 +2.3
PTEO *e*PP **PP 00 12 55.2 -1.7**
ROSA Rosais 98.56 359 *e*P Pdif 00 08 56.4 +0.5
ROSA *i* IAmb IAmb 00 09 05.5
comp=Z,176nm,1.5s
ROSA *e*LQ LQ 00 40 49.2
PAGU Agualva, Azore 98.60 360 *e*P Pdif 00 09 00.4 +4.3
PAGU *i* IAmb IAmb 00 09 09.9
comp=Z,145nm,1.2s
PAGU *e*LQ LQ 00 40 26.5
PSBA Serra de Santa 98.60 360 *e*P Pdif 00 09 04.0 +7.9
PSBA *i* IAmb IAmb 00 09 12.9
comp=Z,214nm,1.3s
EGRO El Granado 98.65 15 P Pdif 00 08 57.6 +1.2
PCVE Castro Verde 98.68 15 P Pdif 00 08 57.6 +1.1
PCVE Castro Verde 98.68 15 *e*Pdif Pdif 00 08 58.6 +2.2
PCVE *e*PP PP 00 12 43.0 -15
WRA Warramunga Arr 98.69 162 P P **00 08 56.0 -1.1**
WRA Warramunga Arr 98.69 162 P P **00 08 55.8 -1.4**
comp=Z,9.5nm,1.0s,baz=196,slow=4.0,SNR=32
WRA PP **PP 00 12 57.0 -0.4**
comp=Z,13nm,1.1s,baz=200,slow=7.9,SNR=6.2
WRA S **SKSac 00 19 29.7 -3.3**
comp=Z,0.2nm,0.2s,baz=168,slow=4.3,SNR=1.6
WRA PKKPbc **PKKPbc 00 25 19.9 -2.5**
comp=Z,3.8nm,0.5s,baz=352,slow=2.7,SNR=11
WRA SKKPbc **SKKPbc 00 28 59.3 +3.3**
comp=Z,2.8nm,0.9s,baz=345,slow=2.7,SNR=6.0
WRA PKPPKP 00 33 33.1
comp=Z,4.4nm,1.1s,baz=347,slow=2.0,SNR=3.5
WRA LR LR 00 51 11.9
comp=Z,94µm,19.8s,baz=190,slow=34
comp=Z,9.5nm,1.0s
WRAB Tennant Creek 98.70 162 *i* P P **00 08 54.4 -2.8**
WRAB pmax pmax
comp=Z,83nm,1.9s
WRAB MLR MLR
comp=Z,39µm,17.0s
EGOR Sierra Gorda, 98.72 18 P P **00 08 56.7 -0.1**
FITZ Fitzroy Crossi 98.84 153 P P **00 08 56.9 -0.9**
FITZ Fitzroy Crossi 98.84 153 LR LR 00 51 00.2
comp=Z,19µm,18.9s,baz=194,slow=34
MESJ Messejana 98.86 15 *e*P Pdif 00 08 59.6 +2.3
MESJ *e*SKSac **SKSac 00 19 36.1 +3.7**
MESJ IAMs_20 IAMs_20 00 51 03.7
comp=Z,18µm,15.5s
MESJ Messejana 98.86 15 P Pdif 00 08 59.0 +1.7
MESJ IAmb IAmb 00 09 01.8
comp=Z,269nm,1.7s
MESJ IAMs_20 IAMs_20 00 51 08.5
comp=Z,20µm,18.0s
MESJ Messejana 98.86 15 *e*Pdif Pdif 00 08 59.7 +2.4
MESJ Messejana 98.86 15 P Pdif 00 08 59.0 +1.8
MESJ pmax pmax
comp=Z,269nm,1.7s
WB0 Warramunga Arr 98.87 162 P P **00 08 56.7 -1.3**
ENIJ Nijar 98.89 20 P Pdif 00 08 58.4 +1.0
EQTA Presa de Quent 98.92 19 P Pdif 00 08 59.3 +1.6
EMIN Mina Concepcio 98.99 16 P P **00 08 59.3 +1.4**
PBEJ Beja 99.09 15 *e*Pdif **Pdif 00 09 00.7 +2.4**
PBEJ *e*PP PP 00 13 11.5 +10
PBAR Barrancos 99.34 16 P **Pdif 00 09 00.1 +0.7**
PBAR Barrancos 99.34 16 *e*Pdif **Pdif 00 09 02.0 +2.7**
ECAB El Cabril 99.47 17 P **Pdif 00 09 00.1 +0.1**
EVO Evora 99.57 15 P **Pdif 00 09 01.0 +0.6**
EVO Evora 99.57 15 *e*Pdif **Pdif 00 09 02.7 +2.4**
EVO *e*PP **PP 00 12 59.9 -5.1**
LIS Lisbon 99.61 14 *e*P **Pdif 00 09 02.9 +2.3**
LIS *e*SKSac **SKSac 00 19 39.0 +3.0**
LIS IAMs_20 IAMs_20 00 51 19.3
comp=N,26µm,24.1s
LIS Lisbon 99.61 14 *e*Pdif **Pdif 00 09 02.9 +2.3**
LIS *e*PP **PP 00 13 05.0 -0.3**
PARRA Arraiolos 99.72 14 *e*Pdif **Pdif 00 09 04.2 +3.2**
MSVF Nonsavu 99.80 204 IAMs_20 IAMs_20 00 50 43.3
comp=Z,17µm,20.0s
MSVF Nonsavu 99.80 204 *i* P **Pdif 00 09 02.6 +0.4**
MSVF pmax pmax
comp=Z,78nm,3.6s
CTAO Charters Tower 99.81 173 P **Pdif 00 09 04.4 +2.2**
PMAFR Mafra 99.83 14 *e*Pdif **Pdif 00 09 03.7 +2.2**
PMAFR *e*PP **PP 00 13 03.4 -3.6**
PESTR Estremoz 99.95 15 IAMs_20 IAMs_20 00 51 26.4
comp=Z,23µm,18.0s
PESTR Estremoz 99.95 15 *e*Pdif **Pdif 00 09 04.6 +2.5**
PMTG Montargil 100.07 15 *e*Pdif **Pdif 00 09 05.3 +2.7**
KEST Kesra 100.08 29 IAMs_20 IAMs_20 00 50 21.2
comp=Z,19µm,20.0s
KEST Kesra 100.08 29 P **Pdif 00 09 04.2 +1.4**
comp=Z,14nm,0.9s,baz=221,slow=6.0,SNR=15
KEST S **SKSac 00 19 38.7 -0.1**
comp=Z,3.3nm,1.0s,baz=274,slow=13,SNR=1.7
PMRV Marv??o 100.53 15 *e*Pdif **Pdif 00 09 07.0 +2.3**
PMRV *e*S **SKSac 00 19 41.5 +0.8**
PMRV *e*LQ LQ 00 37 20.4
PMRV *e*LR LR 00 42 45.8
PMRV *i* IAMs_20 IAMs_20 00 52 18.1
comp=Z,19µm,18.0s
PSARD Sardoal 100.60 14 *e*Pdif **Pdif 00 09 06.6 +1.7**
PSARD *e*PP PP 00 12 29.4 -43
HMDM Hanimaadhoo 100.78 95 IAMs_20 IAMs_20 00 45 00.6
comp=Z,24µm,22.0s
PCBR Castelo Branco 100.92 15 *e*P **Pdif 00 09 08.6 +2.2**
PCAS Casmilo, Conde 101.00 14 *e*Pdif **Pdif 00 09 09.2 +2.4**
PCAS *e*PP **PP 00 13 11.5 -4.5**
COI Coimbra 101.17 14 *e*Pdif **Pdif 00 09 09.0 +1.6**
ESDC Sonseca Array 101.26 18 IAMs_20 IAMs_20 00 53 34.8
comp=Z,16µm,19.0s
ESDC Sonseca Array 101.26 18 P **Pdif 00 09 09.7 +1.7**
comp=Z,25nm,1.2s,baz=186,slow=4.6,SNR=36
ESDC S **SKSac 00 19 45.4 +1.1**
comp=Z,0.3nm,0.6s,baz=202,slow=2.8,SNR=1.3
ESDC PKKPbc **PKKPbc 00 25 15.5 -0.9**
comp=Z,1.4nm,0.8s,baz=20,slow=2.9,SNR=3.2
ESBB Sonseca Array 101.26 18 IAMs_20 IAMs_20 00 53 42.9
comp=Z,15µm,18.0s
MTE Manteigas 101.47 15 IAMs_20 IAMs_20 00 53 26.6
comp=Z,19µm,18.0s
MTE Manteigas 101.47 15 *e*Pdif **Pdif 00 09 11.2 +2.4**
MTE *e*PP **PP 00 13 17.1 -2.4**
MTE *e*S **SKSac 00 19 45.5 +0.2**
MTE *e*LQ LQ 00 37 35.4
MTE *e*LR LR 00 42 55.9
MTE *i* IAMs_20 IAMs_20 00 53 50.0
comp=Z,16µm,18.0s
PVIS Viseu 101.73 15 *e*Pdif **Pdif 00 09 11.2 +1.2**
PVIS *e*PP **PP 00 13 14.8 -6.7**
RAYN Ar Rayn 101.76 63 IAMs_20 IAMs_20 00 53 11.2
comp=Z,24µm,19.0s
RAYN Ar Rayn 101.76 63 Pdiff **Pdif 00 09 11.7 +1.1**
257A Skidaway Islan 102.04 315 IAMs_20 IAMs_20 00 55 47.9
comp=Z,21µm,21.0s
MVO Moncorvo 102.28 15 *e*Pdif **Pdif 00 09 15.1 +2.6**
MVO *e*PP **PP 00 13 22.7 -2.9**
MVO *e*S **SKSac 00 19 52.1 +2.9**
MVO *e*LQ LQ 00 37 49.9
MVO *e*LR LR 00 43 34.4
MVO *i* IAMs_20 IAMs_20 00 53 26.4
comp=Z,20µm,18.0s
PVRL Vila Real 102.31 15 *e*Pdif **Pdif 00 09 14.8 +2.3**
POLO Lamas de Olo 102.39 14 *e*Pdif **Pdif 00 09 15.1 +2.1**
POLO *e*PP PP 00 12 59.4 -27
451A Vernon 102.54 311 IAMs_20 IAMs_20 00 58 15.3
comp=Z,22µm,20.0s
PCAB Cabril 102.70 14 *e*P **Pdif 00 09 17.2 +2.9**
NHSC New Hope 102.77 316 IAMs_20 IAMs_20 00 58 16.3
comp=Z,17µm,20.0s
Y60A Bolivia 102.92 318 IAMs_20 IAMs_20 00 52 39.3

comp=Z,21µm,22.0s
PBRG Braganca 102.95 15 *e*Pdif **Pdif** **00 09 18.0 +2.6**
PBRG *e*PP PP 00 13 11.1 -20
VAE Valguarnera 103.03 33 PP **PP** **00 13 29.8 -1.4**
comp=Z,9.3nm,1.1s,baz=193,slow=18,SNR=4.1
Y58A Scranton 103.32 317 IAMs_20 IAMs_20 00 55 48.9
comp=Z,20µm,22.0s
154A Montrose 103.36 314 IAMs_20 IAMs_20 00 55 30.9
comp=Z,27µm,21.0s
BRAL Brewton 103.53 310 IAMs_20 IAMs_20 00 57 38.5
comp=Z,16µm,21.0s
VSL Villasalto 103.67 28 IAMs_20 IAMs_20 00 51 40.3
comp=Z,24µm,20.0s
Y57A Sumter 103.67 316 IAMs_20 IAMs_20 00 58 11.1
comp=Z,16µm,20.0s
SANVU Saraoutou 103.79 194 IAMs_20 IAMs_20 00 56 23.1
comp=Z,17µm,19.0s
X58A Rowland 103.80 318 IAMs_20 IAMs_20 00 55 25.6
comp=Z,24µm,22.0s
V61A Roper 104.02 320 IAMs_20 IAMs_20 00 57 39.4
comp=Z,19µm,20.0s
W59A Clinton 104.06 318 IAMs_20 IAMs_20 00 56 25.4
comp=Z,18µm,20.0s
CEL Celeste 104.17 33 P **Pdif** **00 09 22.6 +1.7**
KVTX Kingsville 104.78 300 IAMs_20 IAMs_20 00 59 15.7
comp=Z,16µm,20.0s
Y52A Lilburn 104.83 314 IAMs_20 IAMs_20 00 54 41.8
comp=Z,28µm,22.0s
PALK Pallekele 104.92 102 IAMs_20 IAMs_20 00 48 59.1
comp=Z,20µm,19.0s
SMRI Semarang 104.96 136 IAMs_20 IAMs_20 00 47 59.0
comp=Z,19µm,22.0s
MZR Muzera 104.97 70 Pdiff **Pdif** **00 09 22.6 -2.2**
CEST Esterri de Car 104.97 21 IAMs_20 IAMs_20 00 50 40.0
comp=Z,18µm,22.0s
KMSC Kings Mountain 105.02 316 IAMs_20 IAMs_20 00 57 13.7
comp=Z,19µm,21.0s
V55A Taylorsville 105.62 317 IAMs_20 IAMs_20 00 56 43.6
comp=Z,24µm,22.0s
ASF Jabal al Asfar 105.71 52 PKiKP **PKiKP** **00 13 36.0 -4.7**
comp=Z,17nm,1.3s,baz=200,slow=3.4,SNR=4.7
Z47A Carrollton 105.73 310 IAMs_20 IAMs_20 01 00 24.6
comp=Z,16µm,19.0s
X51A Calhoun 105.75 313 IAMs_20 IAMs_20 01 03 24.1
comp=Z,19µm,19.0s
VBMS Vicksburg 105.81 308 IAMs_20 IAMs_20 00 58 13.9
comp=Z,16µm,21.0s
MMAI Mount Meron Ar 105.87 51 PKiKP **PKiKP** **00 13 37.9 -3.1**
comp=Z,0.3nm,0.3s,baz=151,slow=3.3,SNR=4.8
W52A Murphy 105.89 314 IAMs_20 IAMs_20 01 00 18.8
comp=Z,21µm,20.0s
R61A Willards 105.97 322 IAMs_20 IAMs_20 00 52 41.8
comp=Z,19µm,22.0s
T57A Hurt 106.00 319 IAMs_20 IAMs_20 00 55 55.9
comp=Z,18µm,22.0s
V53A Saluda 106.01 315 IAMs_20 IAMs_20 00 57 46.0
comp=Z,20µm,21.0s
PAOL Paolisi 106.41 31 IAMs_20 IAMs_20 01 00 19.6
comp=Z,16µm,18.0s
R58B Mineral 106.43 320 IAMs_20 IAMs_20 00 57 25.0
comp=Z,24µm,21.0s
U54A Nelsons Funny 106.43 316 IAMs_20 IAMs_20 00 57 31.1
comp=Z,22µm,22.0s
W50A Signal Mountai 106.48 313 IAMs_20 IAMs_20 01 03 55.6
comp=Z,20µm,19.0s
CBN Corbin Frederi 106.49 321 IAMs_20 IAMs_20 00 57 02.6
comp=Z,23µm,22.0s
ACER Acerenza 106.54 32 IAMs_20 IAMs_20 00 58 10.1
comp=Z,13µm,18.0s
BLA Blacksburg 106.58 318 IAMs_20 IAMs_20 00 57 14.1
comp=Z,18µm,22.0s
ALNE Al Ain 106.94 71 *i* Pdiff **Pdif** **00 09 33.6 0.0**
SNR=5.9
SLBS Sierra La Lagu 106.97 288 IAMs_20 IAMs_20 00 51 29.4
comp=Z,17µm,20.0s
AJN Ajban 107.01 70 Pdiff **Pdif** **00 09 35.0 +1.1**
P61A Hammonton 107.04 323 IAMs_20 IAMs_20 00 57 14.1
comp=Z,18µm,22.0s
TZTN Tazewell 107.05 315 IAMs_20 IAMs_20 00 58 16.7
comp=Z,20µm,20.0s
CASP Castiglione de 107.15 28 IAMs_20 IAMs_20 00 54 29.4
comp=Z,20µm,20.0s
SOHO SOHO 107.38 72 *i* Pdiff **Pdif** **00 09 36.0 +0.5**
SNR=6.0
CESX Cesi 107.39 29 IAMs_20 IAMs_20 00 57 17.7
comp=Z,19µm,18.0s
S54A Dingess, Beckl 107.41 317 IAMs_20 IAMs_20 00 58 02.1
comp=Z,19µm,21.0s
FAQ Al Faqa, Dubai 107.45 71 *i* Pdiff **Pdif** **00 09 37.3 +1.5**
SNR=5.3
V48A Smith Brothers 107.52 312 IAMs_20 IAMs_20 00 57 49.0
comp=Z,15µm,21.0s
CAMP Campotosto 107.53 30 IAMs_20 IAMs_20 00 56 47.2
comp=Z,20µm,19.0s
M65A Busby, Falmout 107.60 327 IAMs_20 IAMs_20 00 52 23.2
comp=Z,25µm,21.0s
ASHO Ashiyiah 107.62 71 *i* Pdiff **Pdif** **00 09 36.4 -0.2**
SNR=5.3
NAZ Nazwa, Dubai 107.69 71 Pdiff **Pdif** **00 09 37.8 +0.9**
HATD Hatta, Dubai 107.78 71 *i* Pdiff **Pdif** **00 09 36.7 -0.6**
SNR=6.2
N62A Caumsett State 107.81 325 IAMs_20 IAMs_20 00 54 30.4
comp=Z,23µm,22.0s
U49A Red Boiling Sp 107.82 313 IAMs_20 IAMs_20 01 01 32.1
comp=Z,22µm,20.0s
M63A Gales Ferry 107.84 326 IAMs_20 IAMs_20 00 54 14.2
comp=Z,27µm,22.0s
UOSS Minazif 107.91 71 IAMs_20 IAMs_20 00 59 37.8
comp=Z,16µm,18.0s
FDMO Fiordimonte 107.92 30 IAMs_20 IAMs_20 00 56 28.6
comp=Z,17µm,18.0s
T50A Nancy 107.94 314 IAMs_20 IAMs_20 01 00 48.1
comp=Z,17µm,20.0s
GUMA Gualdo di Mace 108.00 30 IAMs_20 IAMs_20 00 57 33.9
comp=Z,15µm,18.0s
S51A Beattyville 108.05 316 IAMs_20 IAMs_20 00 55 54.1
comp=Z,17µm,22.0s
BKNI Bangkinang 108.12 124 IAMs_20 IAMs_20 00 51 08.0
comp=Z,17µm,20.0s
SSB Saint Sauveur 108.17 23 IAMs_20 IAMs_20 00 56 46.7
comp=Z,21µm,18.0s
OHR Ohrid 108.21 36 *e*P **PKiKP** **00 13 46.9 +1.9**
MSSA Maissana 108.29 27 IAMs_20 IAMs_20 00 57 04.6
comp=Z,17µm,18.0s
Q54A Coxs Mills 108.32 318 IAMs_20 IAMs_20 00 57 38.6
comp=Z,21µm,22.0s
BCX Boston College 108.46 327 IAMs_20 IAMs_20 00 53 31.6
comp=Z,24µm,21.0s
WES Weston 108.55 327 IAMs_20 IAMs_20 00 53 13.9
comp=Z,26µm,21.0s
N58A Sunbury 108.69 322 IAMs_20 IAMs_20 00 53 35.8
comp=Z,25µm,22.0s
T47A Sharon Grove 108.73 313 IAMs_20 IAMs_20 01 05 33.1
comp=Z,15µm,18.0s
Q52A Bidwell 108.78 317 IAMs_20 IAMs_20 00 58 32.4
comp=Z,19µm,22.0s
SSPA Standing Stone 108.87 321 IAMs_20 IAMs_20 00 54 12.0
comp=Z,21µm,22.0s
TXAR Lajitas Array 108.88 296 Pdiff **Pdif** **00 09 42.5 +0.3**
comp=Z,0.3nm,0.3s,baz=122,slow=6.3,SNR=2.3
TXAR PKiKP **PKiKP** **00 13 46.8 +0.1**
comp=Z,4.6nm,0.8s,baz=121,slow=2.7,SNR=9.6
TXAR PKKPbc **PKKPbc** **00 24 48.4 -4.4**
comp=Z,1.0nm,0.8s,baz=212,slow=4.4,SNR=2.6
R50A Paris 108.88 315 IAMs_20 IAMs_20 00 55 11.6
comp=Z,20µm,22.0s
PRMA PARMA 108.89 27 IAMs_20 IAMs_20 00 53 33.5
comp=Z,23µm,22.0s
VAY Valandovo 108.93 37 *e*P **PKiKP** **00 13 47.2 +1.0**
P53A Whipple 108.96 318 IAMs_20 IAMs_20 00 55 39.5
comp=Z,15µm,22.0s
SKO Skopje 109.19 36 *e*P **PKiKP** **00 13 47.4 +0.7**
R49A Shelbyville 109.19 315 IAMs_20 IAMs_20 00 56 14.8
comp=Z,22µm,22.0s
Q51A Peebles 109.21 316 IAMs_20 IAMs_20 00 59 53.1
comp=Z,15µm,21.0s
M57A Sunshine Farm, 109.27 322 IAMs_20 IAMs_20 00 54 05.7
comp=Z,22µm,22.0s
T45A Paducah 109.33 312 IAMs_20 IAMs_20 00 59 08.4
comp=Z,17µm,22.0s
P52A Corning 109.34 318 IAMs_20 IAMs_20 00 58 11.6
comp=Z,20µm,22.0s
L59A Walton 109.42 324 IAMs_20 IAMs_20 00 58 26.7
comp=Z,20µm,21.0s
MMB Musomishta 109.49 38 P **PP** **00 14 17.7 -1.1**
TRY Troy 109.52 325 IAMs_20 IAMs_20 00 54 54.2
comp=Z,26µm,21.0s
KKB Krupnik 109.57 37 P **PP** **00 14 18.2 -1.2**

EMMW East Machias 109.71 330 IAMs_20 IAMs_20 00 56 38.9
comp=Z,14µm,20.0s
BINY Binghamton 109.71 323 IAMs_20 IAMs_20 00 59 00.3
comp=Z,18µm,21.0s
PAMR Moraine State 109.84 320 IAMs_20 IAMs_20 01 01 07.9
comp=Z,16µm,20.0s
I63A Otisfield 109.89 328 IAMs_20 IAMs_20 00 53 00.9
comp=Z,22µm,22.0s
RZN Rozhen 109.93 39 P **PP** **00 14 21.3 -0.9**
I62A Tamworth 109.93 327 IAMs_20 IAMs_20 00 53 18.0
comp=Z,26µm,22.0s
HNH Hanover 110.03 327 IAMs_20 IAMs_20 00 53 56.7
comp=Z,24µm,21.0s
KDZ Kurdzhali 110.06 39 P **PP** **00 14 20.0 -2.9**
L56A Greenwood 110.13 322 IAMs_20 IAMs_20 01 04 21.5
comp=Z,14µm,19.0s
WVL Waterville 110.13 329 IAMs_20 IAMs_20 00 52 53.2
comp=Z,22µm,20.0s
S44A Carbondale 110.15 311 IAMs_20 IAMs_20 00 59 22.3
comp=Z,21µm,22.0s
ACSO Alum Creek Sta 110.16 317 IAMs_20 IAMs_20 00 59 01.4
comp=Z,22µm,22.0s
G65A Princeton 110.20 330 IAMs_20 IAMs_20 01 01 14.8
comp=Z,16µm,20.0s
PAOC Oil Creek Stat 110.23 320 IAMs_20 IAMs_20 00 59 40.2
comp=Z,16µm,21.0s
PLNA Plana 110.24 37 P **PP** **00 14 22.6 -1.7**
VTS Vitosha 110.31 37 P **PP** **00 14 21.3 -3.6**
P48A Milroy 110.32 315 IAMs_20 IAMs_20 01 03 07.6
comp=Z,18µm,20.0s
TRAN Tran 110.33 37 P **PP** **00 14 20.7 -4.2**
PLD Plovdiv 110.34 38 P **PP** **00 14 22.6 -2.3**
K57A Scipio Center 110.36 323 IAMs_20 IAMs_20 00 59 30.4
comp=Z,21µm,21.0s
CLF Chambon-Foret 110.40 20 IAMs_20 IAMs_20 00 59 22.2
comp=Z,15µm,18.0s
HNR Honiara 110.41 187 IAMs_20 IAMs_20 00 58 36.2
comp=Z,21µm,20.0s
CTI Castel Tesino 110.41 27 IAMs_20 IAMs_20 00 54 23.0
comp=Z,16µm,22.0s
LBNH Lisbon 110.43 327 IAMs_20 IAMs_20 00 53 45.2
comp=Z,26µm,22.0s
PGB Panagyurishte 110.50 38 P **PP** **00 14 24.4 -1.7**
BLY Banja Luka 110.56 32 ⇓P **PKiKP** **00 13 50.1 +0.9**
O49A Covington 110.59 316 IAMs_20 IAMs_20 01 00 23.7
comp=Z,23µm,20.0s
TRI Trieste 110.59 29 IAMs_20 IAMs_20 00 56 54.7
comp=Z,14µm,20.0s
PKME Peaks-Kenny Pk 110.69 329 IAMs_20 IAMs_20 00 59 50.9
comp=Z,13µm,20.0s
DAVOX Davos/Dischmat 110.71 26 Pdiff **Pdif** **00 09 51.7 +1.7**
comp=Z,0.8nm,0.5s,baz=118,slow=1.1,SNR=4.0
DAVOX PKiKP **PKiKP** **00 13 49.8 +0.1**
comp=Z,8.5nm,0.7s,baz=200,slow=6.8,SNR=14
KIRS Kirsehir-Merke 110.73 46 ⇑P **PKiKP** **00 13 49.8 0.0**
LHMI Lhok Sumawe 110.76 118 IAMs_20 IAMs_20 00 48 54.9
comp=Z,26µm,22.0s
BOJS Bojanci 110.77 30 *e*P **Pdif** **00 09 49.2 -0.8**
MMNY Mt. Morris Dam 110.78 322 IAMs_20 IAMs_20 01 00 42.6
comp=Z,15µm,21.0s
BOVS Bovan 110.79 36 ⇓P **PKiKP** **00 13 50.1 +0.4**
SABO M.te Sabotino 110.81 29 IAMs_20 IAMs_20 00 57 01.8
comp=Z,13µm,19.0s
J57A Williamstown 110.82 324 IAMs_20 IAMs_20 00 56 26.7
comp=Z,22µm,22.0s
STAL STALIGIAL 110.86 28 IAMs_20 IAMs_20 00 58 56.8
comp=Z,18µm,18.0s
XMAS Kiritimati 110.88 234 IAMs_20 IAMs_20 00 51 33.8
comp=Z,20µm,20.0s
O48B Farmland 110.93 316 IAMs_20 IAMs_20 00 59 55.8
comp=Z,14µm,21.0s
VISS Visnje 110.95 30 *e*P **Pdif** **00 09 52.7 +1.9**
F64A Sherman 111.01 330 IAMs_20 IAMs_20 00 52 47.5
comp=Z,18µm,22.0s
U38A Gravette 111.04 307 IAMs_20 IAMs_20 01 02 34.9
comp=Z,20µm,21.0s
P46A Rosedale 111.09 314 IAMs_20 IAMs_20 01 00 55.2
comp=Z,24µm,21.0s
FETA Feichten 111.12 26 *e*Pdiff **Pdif** **00 09 54.9 +3.2**
comp=Z,5.4nm,1.7s
FETA *e*PKiKP **PKiKP** **00 13 49.6 -0.9**
comp=Z,9.6nm,1.0s
FETA *e*PKKP **PKKPbc** **00 24 45.1 -1.0**
comp=Z,6.6nm,1.7s
Q44A Meyer Farm, Va 111.12 312 IAMs_20 IAMs_20 01 03 19.1
comp=Z,17µm,20.0s
MPEP Malo Peshtene 111.14 37 P **PP** **00 14 29.5 -1.1**
BRTR Keskin Terasy B 111.15 46 Pdiff **Pdif** **00 09 57.3 +5.3**
comp=Z,3.1nm,0.9s,baz=195,slow=9.0,SNR=7.0
BRTR PKiKP **PKiKP** **00 13 50.8 0.0**
comp=Z,2.7nm,0.7s,baz=191,slow=3.3,SNR=7.5
BRTR PKKPbc **PKKPbc** **00 24 44.9 -0.9**
comp=Z,2.8nm,0.7s,baz=118,slow=2.8,SNR=3.7
DAVA Damuels 111.19 26 *e*Pdiff **Pdif** **00 09 53.5 +1.5**
comp=Z,6.2nm,0.9s
DAVA *e*PKiKP **PKiKP** **00 13 49.9 -0.7**
comp=Z,42nm,1.0s,SNR=7.3
DAVA PKKP **PKKPbc** **00 24 48.1 +2.2**
comp=Z,9.5nm,1.0s
N49A Columbus Grove 111.19 317 IAMs_20 IAMs_20 00 59 55.6
comp=Z,21µm,22.0s
JMB Yambol 111.22 39 P **PP** **00 14 27.4 -3.8**
J55A Hilton 111.24 322 IAMs_20 IAMs_20 01 00 32.7
comp=Z,16µm,22.0s
ABTA Abfaltersbach 111.27 28 *e*Pdiff **Pdif** **00 09 53.9 +1.5**
comp=Z,8.6nm,0.9s,SNR=12
ABTA *e*PKiKP **PKiKP** **00 13 50.7 +0.1**
comp=Z,15nm,1.1s
ABTA PKKP **PKKPbc** **00 24 43.5 -2.1**
comp=Z,11nm,1.5s
MEDO Medina 111.34 322 IAMs_20 IAMs_20 01 00 59.4
comp=Z,17µm,22.0s
ELND Elena 111.41 39 ⇑P **PKiKP** **00 13 51.7 +0.8**
SQTA Sankt Quirin 111.42 27 *e*Pdiff **Pdif** **00 09 54.7 +1.7**
comp=Z,6.5nm,0.8s
SQTA *e*PKiKP **PKiKP** **00 13 49.9 -1.0**
comp=Z,16nm,0.6s
SQTA *e*PKKP **PKKPbc** **00 24 45.9 +0.8**
comp=Z,2.9nm,0.7s
MYKA Terra Mystica 111.43 29 *e*Pdiff **Pdif** **00 09 54.5 +1.5**
comp=Z,2.9nm,0.8s
MYKA *i* PKiKP **PKiKP** **00 13 51.2 +0.3**
comp=Z,11nm,0.7s
MYKA *e*PKKP **PKKPbc** **00 24 40.0 -5.0**
comp=Z,4.2nm,0.8s
PLVB Pleven 111.43 38 ⇑P **PKiKP** **00 13 51.7 +0.8**
FRNY Flat Rock 111.44 326 IAMs_20 IAMs_20 00 54 51.9
comp=Z,22µm,21.0s
ECH Echery 111.50 24 IAMs_20 IAMs_20 00 55 55.0
comp=Z,19µm,20.0s
MOTA Moosalm 111.51 27 *e*Pdiff **Pdif** **00 09 55.1 +1.7**
comp=Z,4.9nm,0.8s,SNR=5.8
MOTA *e*PKiKP **PKiKP** **00 13 50.1 -1.1**
comp=Z,30nm,1.4s
OBKA Obir 111.53 29 *e*Pdiff **Pdif** **00 09 55.1 +1.6**
comp=Z,5.7nm,0.7s
OBKA *i* PKiKP **PKiKP** **00 13 51.9 +0.8**
comp=Z,21nm,1.0s,SNR=7.0
OBKA *e*PKKP **PKKPbc** **00 24 45.5 +0.9**
comp=Z,4.8nm,1.1s
WTTA Wattenberg 111.56 27 *e*Pdiff **Pdif** **00 09 55.6 +1.9**
comp=Z,6.2nm,0.8s,SNR=6.7
WTTA *e*PKiKP **PKiKP** **00 13 50.8 -0.4**
comp=Z,19nm,0.7s
WTTA *e*PKKP **PKKPbc** **00 24 43.7 -1.0**
comp=Z,13nm,1.7s
RETA Reutte 111.57 26 *e*Pdiff **Pdif** **00 09 55.0 +1.3**
comp=Z,9.3nm,1.8s
RETA *i* PKiKP **PKiKP** **00 13 50.8 -0.4**
comp=Z,37nm,1.6s
RETA *e*PKKP **PKKPbc** **00 24 44.6 0.0**
comp=Z,5.8nm,0.8s
PECO Prince Edward 111.60 323 IAMs_20 IAMs_20 00 59 55.2
comp=Z,24µm,21.0s
UBR Ueberruh 111.61 26 *e*Pdiff **Pdif** **00 10 00.3 +6.5**
UBR *e*PKiKP **PKiKP** **00 13 51.7 +0.5**
UBR *e*PP **PP** **00 14 32.6 -1.4**
WATA Walderalm 111.61 27 *e*Pdiff **Pdif** **00 09 55.6 +1.7**
comp=Z,8.8nm,0.9s,SNR=6.6
WATA *e*PKiKP **PKiKP** **00 13 50.5 -0.9**
comp=Z,37nm,1.4s
WATA *e*PKKP **PKKPbc** **00 24 42.9 -1.6**
comp=Z,9.1nm,1.4s
OK052 Battle Ridge R 111.63 305 IAMs_20 IAMs_20 01 05 35.1
comp=Z,16µm,20.0s
S39A Bolivar 111.70 308 IAMs_20 IAMs_20 01 01 11.4
comp=Z,23µm,21.0s

SFIN Lafayette 111.73 314 IAMs_20 IAMs_20 01 06 43.9
comp=Z,20µm,19.0s
OK029 Liberty Lake 111.73 304 IAMs_20 IAMs_20 01 05 57.3
comp=Z,18µm,21.0s
SZH Strazhitsa 111.74 39 P **PP** **00 14 32.3 -2.7**
MARD Mardin 111.75 52 IAMs_20 IAMs_20 01 00 58.2
comp=Z,14µm,19.0s
KBA Koelnbreinsper 111.78 28 *e*Pdiff **Pdif** **00 09 56.5 +1.9**
comp=Z,5.1nm,0.9s
KBA *e*PKiKP **PKiKP** **00 13 51.5 -0.2**
comp=Z,4.1nm,0.6s
KBA *e*PKKP **PKKPbc** **00 24 38.9 -5.0**
comp=Z,2.6nm,0.5s
SOKA Soboth 111.81 30 *e*Pdiff **Pdif** **00 09 56.7 +2.0**
comp=Z,2.4nm,0.8s
SOKA *e*PKiKP **PKiKP** **00 13 52.2 +0.6**
comp=Z,12nm,0.8s
SOKA *e*PKKP **PKKPbc** **00 24 41.0 -2.7**
comp=Z,5.1nm,1.4s
MDVR Moldovita 111.84 35 ⇑P **Pdif** **00 10 03.0 +8.1**
MDVR Moldovita 111.84 35 ⇑P **PKiKP** **00 13 51.4 -0.3**
BFO Black Forest 111.85 24 *e*PKiKP **PKiKP** **00 13 52.1 +0.5**
BFO *e*PP **PP** **00 14 34.0 -1.7**
BFO *e*PKKPbc **PKKPbc** **00 24 45.8 +2.3**
BFO *e*L L 00 56 45.4
comp=Z,25µm,19.3s
LESA Schwarzleotal 111.95 28 *e*Pdiff **Pdif** **00 09 57.9 +2.6**
comp=Z,7.5nm,0.8s,SNR=6.7
LESA *e*PKiKP **PKiKP** **00 13 51.0 -0.9**
comp=Z,15nm,1.2s
LESA *e*PKKP **PKKPbc** **00 24 41.8 -1.6**
comp=Z,3.6nm,1.1s
P43A Skaggs, Pawnee 111.96 312 IAMs_20 IAMs_20 01 04 14.1
comp=Z,20µm,20.0s
E62A Clayton Lake 112.01 330 IAMs_20 IAMs_20 00 55 20.9
comp=Z,15µm,22.0s
LOZB Loznitsa 112.03 39 ⇑P **PKiKP** **00 13 51.9 -0.1**
EPT El Paso 112.23 295 IAMs_20 IAMs_20 00 56 16.5
comp=Z,17µm,20.0s
AAM Ann Arbor 112.24 318 IAMs_20 IAMs_20 01 00 28.4
comp=Z,18µm,22.0s
RJOB Jochberg 112.27 28 *e*Pdiff **Pdif** **00 10 02.6 +5.9**
RJOB *e*PKiKP **PKiKP** **00 13 52.5 0.0**
RJOB *e*PKKPbc **PKKPbc** **00 24 44.9 +2.7**
MORH Mrgy, Hungar 112.31 32 ⇑P **Pdif** **00 09 60.0 +3.2**
MORH Mrgy, Hungar 112.31 32 ⇑P **PKiKP** **00 13 52.7 +0.2**
MORH Mrgy, Hungar 112.31 32 P **Pdif** **00 09 58.3 +1.5**
DELO Deloro Mine 112.31 323 IAMs_20 IAMs_20 01 00 27.2
comp=Z,24µm,22.0s
D62A Allapoint, All 112.32 330 IAMs_20 IAMs_20 00 58 18.1
comp=Z,14µm,21.0s
FUR Furstenfeldbru 112.33 26 *e*Pdiff **Pdif** **00 10 04.0 +7.1**
FUR *e*PKiKP **PKiKP** **00 13 53.1 +0.6**
FUR *e*PP **PP** **00 14 37.6 -1.5**
FUR *e*L L 00 56 38.5
comp=Z,14µm,21.5s
ARPR Arapgir-MALATY 112.34 50 IAMs_20 IAMs_20 01 02 01.1
comp=Z,15µm,18.0s
BIOA Bad Ischl, Aus 112.42 28 *e*Pdiff **Pdif** **00 09 59.0 +1.6**
comp=Z,12nm,1.3s,SNR=7.5
BIOA *e*PKiKP **PKiKP** **00 13 52.3 -0.5**
comp=Z,21nm,1.3s
BIOA *e*PKKP **PKKPbc** **00 24 39.7 -1.9**
comp=Z,10.0nm,1.1s
STU Stuttgart 112.45 25 IAMs_20 IAMs_20 00 57 05.0
comp=Z,20µm,20.0s
STU Stuttgart 112.45 25 *e*PKiKP **PKiKP** **00 13 53.5 +0.8**
STU *e*PP **PP** **00 14 37.9 -2.1**
ARSA Arzberg 112.47 30 *e*Pdiff **Pdif** **00 09 59.4 +1.9**
comp=Z,1.8nm,0.6s
ARSA *e*PKiKP **PKiKP** **00 13 53.2 +0.4**
comp=Z,31nm,1.5s,SNR=7.5
BKB Balikpapan 112.54 140 IAMs_20 IAMs_20 01 02 50.9
comp=Z,16µm,19.0s
HYB Hyderabad 112.55 94 *e*PKiKP **PKiKP** **00 13 54.3 +0.4**
HYB *es*PKiKP PP 00 14 02.0 -39
HYB *e*P **PP** **00 14 34.8 -6.0**
HYB *e*SKSdf **SKSdf** **00 21 05.7 +2.1**
HYB *e*PS **PS** **00 24 15.2 +0.7**
HYB *e*SKKPbc **SKKPbc** **00 28 26.1 +4.7**
HYB *e*SS **SS** **00 30 22.5 +2.8**
HYB IVMs_BB IVMs_BB 00 49 58.8
comp=Z,5µm,21.3s
HUMR Humele 112.58 37 ⇑P **PKiKP** **00 13 52.9 -0.2**
BZS Buzias 112.58 35 ⇑P **PKiKP** **00 13 53.5 +0.5**
BZS Buzias 112.58 35 ⇑PKiKP **PKiKP** **00 13 53.5 +0.5**
HDIL Hopedale 112.68 313 IAMs_20 IAMs_20 01 00 32.1
comp=Z,19µm,21.0s
WLF Walferdange 112.69 22 PKP **PKiKP** **00 13 52.4 -0.7**
WLF Walferdange 112.69 22 IAMs_20 IAMs_20 00 58 29.4
comp=Z,16µm,19.0s
WLF Walferdange 112.69 22 *d*PKiKP **PKiKP** **00 13 54.2 +1.1**
WLF *d*PP **PP** **00 14 39.2 -2.4**
WLF Walferdange 112.69 22 *e*PKiKP **PKiKP** **00 13 54.5 +1.4**
WLF *e*PP **PP** **00 14 39.3 -2.4**
WLF *e*PKKPbc **PKKPbc** **00 24 43.3 +2.5**
GZR Gura Zlata 112.71 36 ⇓P **Pdif** **00 10 06.2 +7.5**
GZR Gura Zlata 112.71 36 ⇓P **PKiKP** **00 13 54.1 +0.7**
GZR Gura Zlata 112.71 36 ⇓PKiKP **PKiKP** **00 13 54.1 +0.7**
MOA Molln 112.72 29 *e*Pdiff **Pdif** **00 09 59.7 +1.1**
comp=Z,16nm,1.4s,SNR=10
MOA *e*PKiKP **PKiKP** **00 13 52.5 -0.8**
comp=Z,40nm,1.8s,SNR=7.1
MOA *e*PKKP PKKPbc 00 24 32.4 -8.2
comp=Z,12nm,1.4s
P40A Paris 112.81 310 IAMs_20 IAMs_20 01 02 52.7
comp=Z,24µm,22.0s
DOU Dourbes 112.81 21 *d*PKiKP **PKiKP** **00 13 54.2 +0.9**
DOU *d*PP **PP** **00 14 40.9 -1.6**
KSM Kuching 112.81 132 IAMs_20 IAMs_20 00 52 02.4
comp=Z,18µm,21.0s
SURR Surduc 112.85 35 ⇓P **PKiKP** **00 13 53.9 +0.3**
OK038 West end E0370 112.85 304 IAMs_20 IAMs_20 01 04 48.9
comp=Z,15µm,21.0s
M44A Midewin, Midew 112.95 314 IAMs_20 IAMs_20 01 04 42.4
comp=Z,20µm,20.0s
RCHB Rochefort 112.99 22 *d*PKiKP **PKiKP** **00 13 54.4 +0.8**
RCHB *d*PP **PP** **00 14 43.0 -0.7**
BMRD Maredsous 113.04 21 *d*PKiKP **PKiKP** **00 13 53.9 +0.2**
BMRD *d*PP **PP** **00 14 42.9 -1.3**
LOT Lotru 113.05 36 ⇓P **PKiKP** **00 13 54.2 +0.1**
RONA Rosalia, Austr 113.08 30 *e*Pdiff **Pdif** **00 10 02.6 +2.3**
comp=Z,2.4nm,0.8s
RONA *e*PKiKP **PKiKP** **00 13 53.7 -0.2**
comp=Z,7.5nm,0.7s
RONA *e*PKKP **PKKPbc** **00 24 42.1 +2.6**
comp=Z,10nm,1.7s
ICOR Ion Corvin 113.08 40 ⇑P **PKiKP** **00 13 54.4 +0.4**
BGES Gesves 113.18 22 *d*PKiKP **PKiKP** **00 13 54.9 +0.9**
BGES *d*PP **PP** **00 14 43.9 -1.3**
CONA Conrad Observa 113.18 30 *e*Pdiff **Pdif** **00 10 01.5 +0.7**
comp=Z,1.3nm,1.0s
CONA *e*PKiKP **PKiKP** **00 13 52.9 -1.4**
comp=Z,35nm,2.1s
CONA PKKP **PKKPab** **00 24 42.2 -2.3**
comp=Z,6.3nm,1.1s
SIRR Siria 113.19 34 ⇑P **PKiKP** **00 13 54.8 +0.6**
DEV Deva 113.19 35 ⇑P **PKiKP** **00 13 54.7 +0.5**
DEV Deva 113.19 35 ⇑PKiKP **PKiKP** **00 13 54.7 +0.5**
ARR Arges 113.23 37 ⇑P **PKiKP** **00 13 54.2 -0.2**
HQIL Hanson Quary C 113.25 315 IAMs_20 IAMs_20 01 08 08.2
comp=Z,20µm,19.0s
GURO Guroymak-BITLI 113.31 53 IAMs_20 IAMs_20 01 00 22.7
comp=Z,16µm,20.0s
BHOU Houvegnez 113.32 22 *d*PKP **PKiKP** **00 13 55.3 +1.0**
BHOU *d*PP **PP** **00 14 44.5 -1.7**
N41A Harden Midland 113.39 312 IAMs_20 IAMs_20 01 05 08.9
comp=Z,18µm,19.0s
UCC Uccle 113.45 21 *d*PKiKP **PKiKP** **00 13 55.6 +1.2**
UCC *d*PP **PP** **00 14 46.4 -0.6**
BSTI Sart Tilman 113.46 22 *d*PKiKP **PKiKP** **00 13 55.5 +1.0**
BSTI *d*PP **PP** **00 14 46.3 -0.8**
J47A Sunmer 113.47 317 IAMs_20 IAMs_20 01 00 52.8
comp=Z,21µm,22.0s
GEVA Gevas 113.52 54 IAMs_20 IAMs_20 00 59 51.1
comp=Z,20µm,20.0s
GEC2 GERESS Array S 113.52 28 *e*Pdiff **Pdif** **00 10 08.8 +6.5**
GEC2 *e*PKiKP **PKiKP** **00 13 54.9 0.0**
GEC2 *e*PP **PP** **00 14 46.2 -1.4**
GEC2 *e*L L 00 58 13.3
comp=Z,10µm,19.9s
GERES GERESS Array B 113.52 28 Pdiff **Pdif** **00 10 03.8 +1.6**
comp=Z,0.8nm,0.8s,baz=167,slow=3.6,SNR=7.8
GERES PKiKP **PKiKP** **00 13 54.9 0.0**
comp=Z,4.7nm,0.6s,baz=195,slow=7.9,SNR=5.2

GERES PKKPbc **PKKPbc 00 24 38.1 0.0**
comp=Z,0.7nm,0.6s,baz=49,slow=6.1,SNR=4.2
MEM Membach 113.57 22 *d*PKiKP **PKiKP 00 13 55.8 +1.1**
MEM *d*PP **PP 00 14 44.7 -3.2**
BTNL Ternell 113.57 22 *d*PKiKP **PKiKP 00 13 55.7 +1.0**
BTNL *d*PP **PP 00 14 44.5 -3.4**
L44A Lake County Fo 113.60 315 IAMs_20 IAMs_20 01 03 31.5
comp=Z,21µm,20.0s
WET Wettzell 113.61 27 *e*Pdiff **Pdif 00 10 09.1 +6.6**
WET *e*PKiKP **PKiKP 00 13 55.0 +0.1**
WET *e*PP **PP 00 14 46.0 -2.2**
WET *e*L L 00 56 15.6
comp=Z,14µm,22.0s
CKRC Cesky Krumlov 113.64 28 *i* P **Pdif 00 10 06.6 +3.9**
CKRC *e* 00 14 47.2
CKRC MLR MLR
comp=Z,13µm,16.6s
CKRC Cesky Krumlov 113.64 28 *e*PDIFF **Pdif 00 10 06.6 +3.9**
CKRC *e*PP **PP 00 14 47.2 -1.2**
CKRC *e*PS **PKKPbc 00 24 37.8 +0.2**
CKRC AMS AMS 01 04 30.0
comp=Z,13µm,16.6s
HARR Harsova 113.64 39 ⇑P **PKiKP 00 13 54.2 -0.8**
HARR Harsova 113.64 39 ⇑PKiKP **PKiKP 00 13 54.3 -0.8**
TNS Taunus Mts 113.67 24 *e*Pdiff **Pdif 00 10 11.1 +8.2**
TNS *e*PKiKP **PKiKP 00 13 56.1 +1.0**
TNS *e*PP **PP 00 14 46.8 -1.9**
TNS *e*PKKPbc **PKKPbc 00 24 39.8 +2.3**
TNS *e*L L 00 57 39.6
comp=Z,19µm,19.9s
BEBN Eben Emael 113.68 22 *d*PKiKP **PKiKP 00 13 56.4 +1.4**
BEBN *d*PP **PP 00 14 48.1 -0.5**
BUKO Buck Lake 113.69 322 IAMs_20 IAMs_20 00 58 31.6
comp=Z,19µm,21.0s
SRO Srobarova 113.70 31 *e*PKiKP **PKiKP 00 13 55.3 +0.2**
MLR Muntele Rosu 113.74 38 Pdiff **Pdif 00 10 05.8 +2.4**
comp=Z,4.3nm,1.0s,baz=173,slow=16,SNR=2.6
MLR PKiKP **PKiKP 00 13 55.3 -0.2**
comp=Z,14nm,0.8s,baz=214,slow=3.2,SNR=13
MLR Muntele Rosu 113.74 38 ⇑P **Pdif 00 10 11.2 +7.8**
MLR Muntele Rosu 113.74 38 ⇓P **PKiKP 00 13 55.7 +0.2**
GRFO Grafenberg 113.75 26 IAMs_20 IAMs_20 00 57 51.4
comp=Z,14µm,20.0s
GRA1 Grafenberg Arr 113.75 26 IAMs_20 IAMs_20 00 57 50.4
comp=Z,14µm,20.0s
GRF Grafenberg Arr 113.75 26 *e*Pdiff **Pdif 00 10 11.0 +7.8**
GRF *e*PKiKP **PKiKP 00 13 55.6 +0.5**
GRF *e*PP **PP 00 14 47.7 -1.5**
GRF *e*PKKPbc **PKKPab 00 24 40.3 -1.5**
GRF *e*L L 00 57 51.3
comp=Z,13µm,20.2s
KHC Kasperske Hory 113.76 28 *i* P **Pdif 00 10 05.0 +1.7**
KHC *e* 00 14 47.5
KHC *e* 00 20 46.5
KHC MLR MLR
comp=Z,10µm,17.9s
KHC Kasperske Hory 113.76 28 *e*PDIFF **Pdif 00 10 05.0 +1.7**
KHC *e*PP **PP 00 14 47.5 -1.8**
KHC *e*SKS **SKSac 00 20 46.5 +8.4**
KHC *e*PS **PKKPbc 00 24 34.0 -3.2**
KHC AMS AMS 01 00 20.0
comp=Z,10µm,17.9s
TPGR Topolog 113.94 40 ⇑P **PKiKP 00 13 56.3 +0.6**
DRGR 113.96 35 ⇓P **Pdif 00 10 11.0 +6.7**
DRGR 113.96 35 ⇓P **PKiKP 00 13 56.4 +0.7**
DRGR 113.96 35 ⇓PKiKP **PKiKP 00 13 56.4 +0.7**
KOPT Kop Dagi 113.97 51 IAMs_20 IAMs_20 00 58 33.2
comp=Z,23µm,22.0s
MARR Marisel-Cluj 113.97 35 ⇑P **Pdif 00 10 13.0 +8.6**
MARR Marisel-Cluj 113.97 35 ⇓P **PKiKP 00 13 56.4 +0.6**
DOPR Dopca 114.00 37 ⇓P **Pdif 00 10 14.1 +10**
DOPR Dopca 114.00 37 ⇓P **PKiKP 00 13 56.7 +1.0**
BISRR Bisoca 114.03 38 ⇑P **PKiKP 00 13 55.9 0.0**
ROTZ Rotzenmuhle 114.04 27 *e*PKiKP **PKiKP 00 13 56.0 +0.3**
ROTZ *e*PP **PP 00 14 49.7 -1.6**
L42A Oliver, Polo 114.08 313 IAMs_20 IAMs_20 01 02 02.2
comp=Z,14µm,21.0s
SMOL Smolenice 114.12 31 *e*PKiKP **PKiKP 00 13 57.2 +1.3**
SMOL *e* 00 14 50.2
COVR Voineasa-Covas 114.14 38 ⇑P PKPdf 00 13 55.1 -0.9
CFR Carcaliu 114.14 39 ⇑P **PKiKP 00 13 56.4 +0.4**
CFR Carcaliu 114.14 39 ⇑PKiKP **PKiKP 00 13 56.4 +0.4**
CJR Cluj-Napoca 114.14 35 ⇓P **PKiKP 00 13 57.1 +1.0**
CJR Cluj-Napoca 114.14 35 ⇓PKiKP **PKiKP 00 13 57.1 +1.0**
CBBR Cluj-Babes-Bol 114.18 35 ⇓P **PKiKP 00 13 56.9 +0.9**
K43A Burlington 114.21 315 IAMs_20 IAMs_20 01 03 48.7
comp=Z,19µm,20.0s
PSZ Piszkesteto 114.21 32 IAMs_20 IAMs_20 01 02 48.3
comp=Z,12µm,18.0s
PSZ Piszkesteto 114.21 32 ⇓P **PKiKP 00 13 56.9 +0.7**
PSZ Piszkesteto 114.21 32 ⇓PKiKP **PKiKP 00 13 56.9 +0.7**
MANZ Manzenberg 114.22 26 *e*PKiKP **PKiKP 00 13 56.2 +0.1**
MANZ *e*PP **PP 00 14 51.1 -1.5**
OZUR 114.24 37 ⇓P **Pdif 00 10 13.8 +8.3**
OZUR 114.24 37 ⇓P PKPdf 00 13 55.7 -0.5
TURR Turia 114.27 37 ⇓P **PKiKP 00 13 56.8 +0.5**
PLOR Plostina 114.28 38 ⇓P **Pdif 00 10 15.7 +10**
PLOR Plostina 114.28 38 ⇑P PKPdf 00 13 55.6 -0.7
PLOR Plostina 114.28 38 ⇑PKiKP PKPdf 00 13 55.6 -0.7
SCHLR Schela 114.31 39 ⇑P PKPdf 00 13 55.8 -0.4
VRI Vrincioaia 114.32 38 ⇑P **Pdif 00 10 15.0 +9.2**
VRI Vrincioaia 114.32 38 ⇑P PKPdf 00 13 55.6 -0.8
VRI Vrincioaia 114.32 38 ⇑PKiKP PKPdf 00 13 55.6 -0.8
SCHL Schela 114.33 39 ⇑P **PKiKP 00 13 57.3 +1.0**
IZVR Izvoarele 114.35 39 ⇑P PKPdf 00 13 54.2 -2.2
Y22D IRIS PASSCAL I 114.35 296 PKPdf PKPdf 00 13 57.1 +0.1
baz=148
MESR Meseseni 114.36 35 ⇑P **PKiKP 00 13 57.6 +1.2**
TREC Trest 114.36 29 AMS AMS 01 02 00.0
comp=Z,11µm,17.2s
KRUC Moravsky 114.37 30 *e*PKP PKPdf 00 13 56.1 -0.2
KRUC *e*PP **PP 00 14 49.9 -3.7**
KRUC *e* 00 24 36.8
NEGRR Negrea 114.38 39 ⇑P **PKiKP 00 13 56.5 0.0**
SANI Sanana 114.40 150 PP PP 00 14 42.4 -11
CWF Charnwood Fore 114.41 17 *e*P **PKiKP 00 14 03.3 +7.0**
CWF IAMs_20 IAMs_20 01 00 07.6
comp=Z,13µm,19.0s
SBUM Sibu 114.41 134 P **Pdif 00 10 08.5 +1.4**
VYHS Vyhne 114.46 31 *i* P **Pdif 00 10 13.7 +7.3**
VYHS *e* 00 13 56.7
R32A Long Quarter, 114.50 305 IAMs_20 IAMs_20 01 09 25.4
comp=Z,14µm,19.0s
JAVC Velka Javorina 114.50 31 *e*PKP PKPdf 00 13 56.4 -0.3
JAVC *e*PP **PP 00 14 53.5 -1.1**
JAVC *e* 00 24 38.7
LUWI Luwuk 114.51 146 PP **PP 00 14 47.5 -6.5**
WLF1 Llynfaes 114.53 15 *e*P PKiKP 00 14 05.1 +8.6
WLF1 IAMs_20 IAMs_20 00 56 42.3
comp=Z,34µm,19.5s
UBBA Unterbreizbach 114.56 25 *e*PKiKP **PKiKP 00 13 57.3 +0.8**
UBBA *e*PP **PP 00 14 53.0 -1.8**
KASTN Kahler Asten 114.60 23 *e*PKiKP **PKiKP 00 13 57.8 +1.1**
KASTN *e*PP **PP 00 14 53.8 -1.4**
BUG Bochum-Univer 114.60 23 *e*PKiKP **PKiKP 00 13 58.0 +1.4**
BUG *e*PP **PP 00 14 54.2 -1.0**
WPS Cemaes, Angles 114.63 14 *e*P PKiKP 00 14 07.5 +11
WPS IAMs_20 IAMs_20 00 56 44.8
comp=Z,18µm,20.3s
TUC Tucson 114.64 292 IAMs_20 IAMs_20 01 03 19.3
comp=Z,19µm,20.0s
VRAC Vranov 114.64 30 PKiKP PKPdf 00 13 56.4 -0.5
comp=Z,4.6nm,0.6s,baz=227,slow=10,SNR=4.4
VRAC Vranov 114.64 30 *e*PKP **PKiKP 00 13 57.3 +0.4**
VRAC *e*PP **PP 00 14 53.7 -1.8**
VRAC *e* 00 24 39.6
VRAC Vranov 114.64 30 ⇑P PKPdf 00 13 55.2 -1.7
VRAC Vranov 114.64 30 ⇑PKiKP PKPdf 00 13 55.2 -1.7
I45A Fountain 114.65 317 IAMs_20 IAMs_20 01 02 34.2
comp=Z,17µm,22.0s
GHRR 114.70 38 ⇑P **PKiKP 00 13 57.7 +0.6**
ARCR ARCALIA 114.70 36 ⇓P **PKiKP 00 13 57.5 +0.5**
PLN Plauen 114.70 26 *e*PKiKP **PKiKP 00 13 57.4 +0.4**
PLN *e*PP **PP 00 14 53.7 -2.3**
PLN *e*PKKPbc **PKKPab 00 24 36.6 -1.0**
TANN Tannenbergstha 114.71 26 *e*PKiKP **PKiKP 00 13 57.6 +0.6**
MOX Moxa 114.74 26 *e*PKiKP **PKiKP 00 13 57.4 +0.4**
MOX *e*PP **PP 00 14 53.1 -3.0**
MOX *e*L L 00 58 28.2
comp=Z,11µm,19.4s
PRU Pruhonice 114.78 28 *i* P **Pdif 00 10 13.7 +6.0**
PRU MLR MLR
comp=Z,9µm,17.6s
PRU Pruhonice 114.78 28 *e*PDIFF **Pdif 00 10 13.7 +6.0**
PRU *e*PS PKKPdf 00 24 48.6 -9.0
PRU AMS AMS 01 01 50.0
comp=Z,9µm,17.6s
GLMI Grayling 114.80 318 IAMs_20 IAMs_20 00 57 51.1
comp=Z,18µm,22.0s
PRA Prague 114.83 28 *i* P **Pdif 00 10 09.3 +1.4**
PRA MLR MLR
comp=Z,8µm,18.5s
PRA Prague 114.83 28 *e*PDIFF **Pdif 00 10 09.3 +1.4**
PRA *e*PS PKKPab 00 24 46.8 +10
PRA AMS AMS 01 01 00.0
comp=Z,8µm,18.5s
TESR Tescani 114.87 38 ⇑P PKPdf 00 13 57.2 -0.1
ANMO Albuquerque 114.88 297 IAMs_20 IAMs_20 01 05 19.6
comp=Z,14µm,19.0s
ANMO Albuquerque 114.88 297 *i* PKiKP PKPdf 00 13 56.1 -2.0
FAKI Fak Fak 114.97 157 IAMs_20 IAMs_20 01 07 19.2
comp=Z,18µm,20.0s
BMR Baia Mare 114.99 35 ⇑P **PKiKP 00 13 59.4 +1.8**
BMR Baia Mare 114.99 35 ⇑PKiKP **PKiKP 00 13 59.4 +1.8**
MAUC Maruska 115.00 30 *e*PP **PP 00 14 56.0 -2.1**
HSKC Hora Svate Kat 115.11 27 AMS AMS 01 04 30.0
comp=Z,9µm,17.4s
LANS Liptovska Anna 115.23 32 *e*PKiKP **PKiKP 00 13 59.0 +0.9**
LANS *e* 00 14 58.1
LANS *e* 00 24 40.9
GTTG Gottingen 115.24 24 *e*PKiKP **PKiKP 00 13 58.8 +0.9**
GTTG *e*PP **PP 00 14 57.7 -2.0**
GTTG *e*PKKPbc **PKKPab 00 24 34.7 -0.5**
CBKS Cedar Bluff 115.25 304 IAMs_20 IAMs_20 01 02 30.4
comp=Z,17µm,22.0s
LMK Market Rasen 115.25 17 *e*P **PKiKP 00 14 05.2 +7.3**
LMK IAMs_20 IAMs_20 00 58 39.6
comp=Z,23µm,19.7s
PVCC Panska Ves 115.29 28 *e*PP **PP 00 14 59.0 -1.1**
PVCC AMS AMS 01 01 20.0
comp=Z,9µm,18.2s
NEUB Neuenburg 115.30 26 *e*PKiKP **PKiKP 00 13 58.7 +0.7**
NEUB *e*PP **PP 00 14 57.0 -3.1**
NEUB *e*PKKPbc **PKKPab 00 24 34.3 -0.6**
SCIA State Center 115.31 311 IAMs_20 IAMs_20 01 04 41.9
comp=Z,21µm,21.0s
MORC Moravsky Berou 115.31 30 *e*PKP **PKPdf 00 13 58.0 -0.2**
MORC *e*PP **PP 00 14 58.4 -1.9**
MORC *e* 00 24 43.3
VASR Vaslui 115.34 38 ⇑P **PKiKP 00 13 58.6 +0.4**
KRLC Kraliky 115.40 29 *e*PP **PP 00 14 58.1 -2.8**
KRLC AMS AMS 01 00 30.0
comp=Z,10µm,19.1s
BURAR Bucovina Array 115.43 36 ⇓P **Pdif 00 10 18.5 +7.7**
BURAR Bucovina Array 115.43 36 ⇑P **PKiKP 00 13 59.1 +0.5**
BURAR Bucovina Array 115.43 36 ⇑PKiKP **PKiKP 00 13 59.1 +0.5**
I42A Draeger Farm, 115.45 315 IAMs_20 IAMs_20 01 01 46.6
comp=Z,19µm,22.0s
BUR08 Bucovina Ar. S 115.45 36 **PKPdf 00 13 58.1 -0.5**
IOMK Kirk Michael 115.47 14 *e*P **PKPdf 00 13 56.5 -1.8**
IOMK IAMs_20 IAMs_20 00 57 07.3
comp=Z,8µm,21.2s
BRG Berggiesshubel 115.47 27 *e*PKiKP **PKiKP 00 13 59.7 +1.3**
BRG *e*PP **PP 00 15 01.1 -0.2**
BRG *e*PKKPbc **PKKPab 00 24 34.5 +0.2**
BRG Berggiesshubel 115.47 27⇓*e*Pif 00 10 18.7
BRG Amp 00 10 35.1
comp=Z,2.5nm,0.9s
BRG Berggiesshubel 115.47 27 P PKPdf 00 13 48.8 -10
BRG Amp 00 13 51.5
comp=Z,31nm,1.6s
BRG ⇓PKPf 00 14 00.1
BRG Amp 00 14 01.9
comp=Z,31nm,1.1s
BRG Berggiesshubel 115.47 27 PKS 00 17 41.0
BRG Berggiesshubel 115.47 27 SKS **SKSdf 00 21 01.0 -6.5**
BRG Berggiesshubel 115.47 27 Amp 00 22 46.5
comp=Z,9.5nm,1.3s
BRG P **Sdif 00 22 44.5 +1.9**
BRG Berggiesshubel 115.47 27 Amp 00 24 43.0
comp=Z,9.8nm,1.0s
BRG Berggiesshubel 115.47 27 ⇓Sif 00 23 00.0
BRG Berggiesshubel 115.47 27 PKKP 00 24 34.9
PRAR RASCA 115.51 37 ⇓P **PKiKP 00 13 58.6 0.0**
IBBN Ibbenburen 115.52 23 *e*PKiKP **PKiKP 00 13 59.5 +1.1**
IBBN *e*PKKPbc **PKKPab 00 24 33.5 -0.4**
OKC Ostrava-Krasne 115.52 30 AMS AMS 01 02 50.0
comp=Z,9µm,16.3s
DPC Dobruska-Polom 115.54 29 *i* P **Pdif 00 10 19.5 +8.3**
DPC *e*PS **PKKPdf 00 24 49.3 -6.9**
DPC MLR MLR
comp=Z,9µm,17.5s
DPC Dobruska-Polom 115.54 29 *e*PDIFF **Pdif 00 10 19.5 +8.3**
DPC *e*PP **PP 00 14 54.3 -7.6**
DPC *e*PS **PKKPdf 00 24 49.3 -6.9**
DPC AMS AMS 01 02 00.0
comp=Z,9µm,17.5s
CLZ Clausthal 115.60 25 *e*PKiKP **PKiKP 00 13 59.5 +0.8**
CLZ *e*PP **PP 00 14 58.6 -3.7**
CLZ *e*PKKPbc **PKKPab 00 24 33.8 +0.1**
UPC Upice 115.61 29 AMS AMS 00 59 30.0
comp=Z,12µm,19.2s
CLL Collm 115.66 26 IAMs_20 IAMs_20 00 58 60.0
comp=Z,13µm,20.0s
CLL Collm 115.66 26 *e*P **Pdif 00 10 12.0 +0.4**
CLL *i* 00 13 58.9
CLL *i* 00 15 00.3
CLL pmax pmax
comp=Z,39nm,1.1s
CLL pmax pmax
comp=Z,127nm,1.8s
CLL MLR MLR
comp=Z,11µm,19.9s
CLL Collm 115.66 26 *e*PKiKP **PKiKP 00 13 59.2 +0.4**
CLL *e*PKKPbc **PKKPab 00 24 32.4 -0.9**
CLL *e*L L 00 59 00.2
comp=Z,13µm,20.6s
NIE Niedzica 115.69 32 *e*PKP **PKiKP 00 13 59.0 +0.1**
NIE *e*L L 00 56 57.0
CHVC Chvalec 115.70 29 AMS AMS 00 59 30.0
comp=Z,11µm,19.5s
OSTC Ostas 115.71 29 AMS AMS 00 59 40.0
comp=Z,11µm,19.8s
GNI Garni 115.76 54 **PKPdf 00 13 59.0 -0.6**
GNI IAMs_20 IAMs_20 01 01 44.5
comp=Z,18µm,19.0s
GNI Garni 115.76 54 PKP **PKiKP 00 14 00.1 +0.6**
comp=Z,24nm,1.2s,baz=169,slow=2.0,SNR=16
GNI PKKPab **PKKPab 00 24 35.2 +0.9**
comp=Z,9.8nm,0.9s,baz=14,slow=12,SNR=4.3
GNI SKKPbc SKKPbc 00 28 12.9 -1.6
comp=Z,7.1nm,1.1s,baz=62,slow=5.6,SNR=4.0
GNI Garni 115.76 54 *i* PKiKP **PKiKP 00 13 59.9 +0.4**
GNI Garni 115.76 54 PKPdf **PKPdf 00 13 58.0 -1.6**
KOLS Kolonicke sedl 115.79 34 *e*PKiKP **PKiKP 00 14 00.0 +0.9**
RABL Rabaul 115.81 179 IAMs_20 IAMs_20 01 02 18.2
comp=Z,20µm,20.0s
T25A Trinidad 115.82 300 **PKPdf 00 13 59.4 -0.5**
T25A IAMs_20 IAMs_20 01 09 42.5
comp=Z,14µm,19.0s
PURM Purcari 115.90 40 ⇑P **PKiKP 00 13 59.5 +0.2**
SIM Simferopol' 115.92 44 *i* PKiKP **PKPdf 00 13 58.8 -0.6**
SIM *e* 00 15 14.0
SIM pmax pmax
comp=Z,96nm,1.5s
ASSE Asse, Remlinge 115.94 25 *e*PKiKP **PKiKP 00 13 59.6 +0.4**
STHS Stebnicka Huta 115.94 33 *e*PKiKP **PKPdf 00 13 58.7 -0.7**
KESW Keswick, Cumbr 115.97 15 *e*P PKiKP 00 14 08.1 +8.9
KESW IAMs_20 IAMs_20 00 58 05.5
comp=Z,20µm,19.4s
TOLI2 Tolitoli 115.99 143 **PKPdf 00 13 59.8 -0.9**
KSP Ksiaz 115.99 29 *e*PKP **PKiKP 00 14 00.3 +0.9**
KSP *e*L L 01 00 10.3
comp=Z,10µm,19.8s
E46A Sault Ste Mari 116.06 319 IAMs_20 IAMs_20 01 06 05.5
comp=Z,17µm,19.0s
I40A Norwalk 116.06 314 IAMs_20 IAMs_20 01 03 47.8
comp=Z,19µm,21.0s
CLGH Cloghs, Cushen 116.09 13 *e*P PKiKP 00 14 07.1 +7.7
GDLE Glaisdale, N Y 116.12 17 *e*P PKiKP 00 14 07.9 +8.4
GDLE IAMs_20 IAMs_20 00 58 15.6
comp=Z,18µm,21.2s
NRDL Niedersach Rie 116.16 24 *e*PKiKP **PKiKP 00 14 00.7 +1.1**
NRDL *e*PP **PP 00 15 06.1 +0.1**
FLTG Flechtingen 116.24 25 *e*PKiKP **PKPdf 00 13 59.8 0.0**
FLTG *e*PKKPbc **PKKPab 00 24 30.5 -0.2**

RETH Rethem/Aller, 116.24 24 *e*PKPdf **PKiKP 00 14 01.0 +1.2**
RETH *e*PP **PP 00 15 03.2 -3.4**
OJC Ojcow 116.30 31 *e*PKP **PKiKP 00 14 00.1 +0.1**
OJC *e*L L 00 58 30.1
OJC Ojcow 116.30 31 **PKiKP 00 14 00.6 +0.6**
OJC Ojcow 116.30 31 PKIKP **PKiKP 00 14 00.6 +0.6**
NEWG New Galloway 116.34 14 *e*P **PKiKP 00 14 05.4 +5.5**
NEWG IAMs_20 IAMs_20 00 57 33.1
comp=Z,18µm,20.4s
EDMD Edmundbyers 116.36 16 *e*P PKiKP 00 14 10.8 +11
EDMD IAMs_20 IAMs_20 00 57 25.9
comp=Z,14µm,20.9s
KWP Kalwaria Pacla 116.54 34 *e*PKP **PKiKP 00 14 00.9 +0.4**
KWP *e*L L 01 04 11.4
comp=Z,15µm,18.5s
L34A Svendsen Farm, 116.58 309 IAMs_20 IAMs_20 01 05 48.5
comp=Z,20µm,20.0s
ESK Eskdalemuir 116.67 15 IAMs_20 IAMs_20 00 58 21.2
comp=Z,17µm,20.0s
ESK Eskdalemuir 116.67 15 *e*P PKiKP 00 14 12.2 +12
ESK IAMs_20 IAMs_20 00 58 14.6
comp=Z,18µm,19.4s
EKA Eskdalemuir Ar 116.69 15 PKP **PKPdf 00 14 00.2 -0.3**
comp=Z,10.0nm,0.9s,baz=202,slow=1.3,SNR=18
EKA PKKPbc **PKKPbc 00 24 26.1 -1.0**
comp=Z,1.9nm,0.6s,baz=328,slow=2.0,SNR=6.7
SOC Sochi 116.74 48*c* *i*P **Pdif 00 10 14.3 -2.3**
SOC *i* 00 14 00.4
SOC *e* 00 15 08.6
SOC *e*PPP PPP 00 17 38.1
SOC *e*PS **PKKPdf 00 24 55.6 +2.1**
SOC *e*SS SS 00 31 15.8 +1.1
SOC *e*SSS SSS 00 35 34.5
SOC pmax pmax
comp=Z,61nm,1.0s
SDCO Great Sand Dun 116.80 299 **PKiKP 00 14 02.0 +0.2**
SDCO IAMs_20 IAMs_20 01 10 03.5
comp=Z,16µm,19.0s
BGNE Belgrade 116.80 307 IAMs_20 IAMs_20 01 02 26.5
comp=Z,23µm,22.0s
ESJX Sierra Juarez 116.81 288 **PKiKP 00 14 02.6 +0.7**
F42A Maple Grove Fa 116.81 316 IAMs_20 IAMs_20 00 58 50.3
comp=Z,15µm,22.0s
SORM Soroca 116.84 38 ⇑P **PKPdf 00 14 00.7 -0.4**
SORM Soroca 116.84 38 ⇑PKiKP **PKPdf 00 14 00.7 -0.4**
GORT1 Trebel 116.88 25 *e*PKPdf **PKiKP 00 14 01.7 +0.8**
GORT1 *e*PP **PP 00 15 04.4 -6.7**
BHPL Bhopal 116.89 90 *e*P **PKPdf 00 14 00.1 -1.9**
BHPL IAML 00 14 20.6
comp=Z,21nm,0.6s
RUE Ruedersdorf 116.93 26 *e*PKiKP **PKiKP 00 14 01.5 +0.4**
ANN Anapa 116.95 46*c* *i*PKIKP **PKPdf 00 14 01.4 0.0**
ANN *i* 00 15 09.7
ANN *e* 00 20 52.9
ANN *e*PS **PKKPdf 00 24 50.5 -2.6**
ANN *e*SS SS 00 31 27.9 +11
ANN *e*SSS SSS 00 35 42.6
ANN pmax pmax
comp=Z,169nm,1.4s
PGBU Glenifferbraes 116.99 14 *e*P PKiKP 00 14 10.5 +9.4
PGBU IAMs_20 IAMs_20 01 01 37.7
comp=Z,35µm,17.6s
G40A Rib Lake 117.11 315 IAMs_20 IAMs_20 01 10 17.3
comp=Z,17µm,19.0s
GLA Glamis 117.14 289 **PKiKP 00 14 02.9 +0.6**
GLA Glamis 117.14 289 PKIKP **PKiKP 00 14 02.9 +0.6**
I37A Lemond, Waseca 117.19 312 IAMs_20 IAMs_20 01 09 50.6
comp=Z,17µm,19.0s
EDI Edinburgh 117.26 15 *e*P PKiKP 00 14 10.8 +9.1
EDI IAMs_20 IAMs_20 00 58 22.5
comp=Z,17µm,19.7s
HLG Helgoland 117.33 22 *e*PKPdf **PKiKP 00 14 02.2 +0.4**
LAWE Loch Awe, Argy 117.33 13 *e*P PKiKP 00 14 12.7 +11
LAWE IAMs_20 IAMs_20 01 00 16.4
comp=Z,16µm,17.0s
S22A 4UR Ranch, Cre 117.38 298 IAMs_20 IAMs_20 01 02 13.9
comp=Z,19µm,21.0s
COWI Conover 117.45 316 **PKPdf 00 14 02.4 0.0**
COWI IAMs_20 IAMs_20 01 04 55.4
comp=Z,16µm,22.0s
WUAZ Wupatki 117.57 294 IAMs_20 IAMs_20 01 06 44.0
comp=Z,13µm,20.0s
INVG Invergeldie, C 117.65 14 *e*P PKiKP 00 14 11.5 +9.1
INVG IAMs_20 IAMs_20 00 58 09.5
comp=Z,16µm,20.9s
MVCO Mesa Verde 117.67 297 **PKPdf 00 14 03.4 -0.1**
MVCO IAMs_20 IAMs_20 00 58 06.4
comp=Z,16µm,22.0s
MANU Manus Island 117.78 173 IAMs_20 IAMs_20 01 02 31.1
comp=Z,21µm,22.0s
SPMN Marine on St. 118.01 313 IAMs_20 IAMs_20 01 05 00.2
comp=Z,17µm,21.0s
BEL Belsk 118.03 31 *e*PKP **PKiKP 00 14 03.8 +0.5**
BEL *e*L L 00 57 52.1
comp=Z,218µm,26.5s
KBZ Khabaz 118.07 50 PKP **PKiKP 00 14 03.9 +0.3**
comp=Z,12nm,0.8s,baz=240,slow=3.8,SNR=22
KBZ Khabaz 118.07 50 *i* PKIKP **PKPdf 00 14 03.4 -0.2**
CPE Camp Elliot 118.09 288 **PKiKP 00 14 04.7 +0.6**
AKT Akhty 118.10 55 *i* PKIKP **PKiKP 00 14 04.6 +0.6**
AKT *e* 00 15 20.8
AKT *e* 00 20 57.5
AKT *e*PS PKKPdf 00 25 03.4 +12
AKT pmax pmax
comp=Z,202nm,1.7s
AKT MLR MLR
comp=Z,17µm,21.0s
KIV Kislovodsk 118.18 50 **PKPdf 00 14 03.7 -0.3**
KIV IAMs_20 IAMs_20 01 01 21.7
comp=Z,15µm,22.0s
KIV Kislovodsk 118.18 50 ⇓P **PKiKP 00 14 04.4 +0.4**
KIV Kislovodsk 118.18 50 *i* P **Pdif 00 10 22.8 -0.4**
KIV *i* 00 14 03.0
KIV *e* 00 15 19.0
KIV *e* 00 20 56.3
KIV *e*PS PKKPdf 00 25 06.5 +16
KIV *e*SS SS 00 31 35.0 +1.4
KIV *e*SSS SSS 00 35 56.8
KIV pmax pmax
comp=Z,85nm,1.1s
KIV Kislovodsk 118.18 50 PKPdf **PKPdf 00 14 01.5 -2.5**
KIV Kislovodsk 118.18 50 PKP **PKPdf 00 14 02.6 -1.4**
BLSP Bilaspur 118.31 95 *e*P **PKPdf 00 14 00.3 -4.6**
BLSP IAML 00 14 01.2
comp=Z,12nm,0.1s
DRUM Mains of Drumt 118.32 15 *e*P **PKiKP 00 14 04.5 +0.8**
DRUM IAMs_20 IAMs_20 00 58 54.5
comp=Z,19µm,19.6s
KPL Plockton 118.36 13 *e*P PKiKP 00 14 15.2 +11
KPL IAMs_20 IAMs_20 01 03 11.5
comp=Z,17µm,18.6s
PFO Pinyon Flats O 118.38 288 **PKiKP 00 14 05.2 +0.4**
PFO Pinyon Flats O 118.38 288 PKIKP **PKiKP 00 14 05.2 +0.4**
K30B Basset 118.46 307 IAMs_20 IAMs_20 01 05 53.2
comp=Z,16µm,20.0s
GKP Gorka Klasztor 118.46 28 *e*PKP **PKiKP 00 14 04.2 +0.1**
GKP *e*L L 00 54 41.3
comp=Z,10µm,31.4s
ISCO Idaho Springs 118.55 301 **PKPdf 00 14 04.6 -0.5**
ISCO IAMs_20 IAMs_20 01 07 03.9
comp=Z,15µm,21.0s
ISCO Idaho Springs 118.55 301 PKIKP **PKPdf 00 14 04.6 -0.5**
E38A The Farm, Brul 118.74 315 IAMs_20 IAMs_20 01 11 06.5
comp=Z,12µm,19.0s
RGN Rugen 118.76 25 PKPdf **PKiKP 00 14 05.6 +1.0**
RGN IAMs_20 IAMs_20 01 05 40.9
comp=Z,15µm,18.0s
RGN Rugen 118.76 25 *e*PKPdf **PKiKP 00 14 05.5 +1.0**
BKNR BIKANER 118.79 83 *e*P **PKPdf 00 14 02.4 -3.1**
BKNR IAML 00 14 08.8
comp=Z,287nm,0.4s
ERBR Yeremizino-Bor 118.85 48 *i* PKIKP **PKPdf 00 14 05.0 -0.1**
ERBR *e* 00 15 24.4
ERBR *e*PPP PPP 00 17 55.7
ERBR *e* 00 20 59.6
ERBR *e*PS PKKPdf 00 25 16.5 +27
ERBR pmax pmax
comp=Z,154nm,1.6s
SSRD Sdr. Stenderup 118.89 23 *i* P **PKiKP 00 14 06.0 +1.2**
SCHQ Schefferville 119.03 335 PKP **PKPdf 00 14 05.2 +0.1**
comp=Z,77nm,0.7s,baz=144,slow=2.1,SNR=50
SCHQ SKP 00 17 37.9
comp=Z,37nm,1.1s,baz=84,slow=1.3,SNR=4.0
MYLDM Lahad Datu 119.11 139 **PKiKP 00 14 06.9 +0.2**

MYLDM IAMs_20 IAMs_20 01 07 14.2
comp=Z,18µm,19.0s
KKM Kota Kinabalu 119.16 137 IAMs_20 IAMs_20 01 02 48.5
comp=Z,20µm,19.0s
MAK Makhachkala 119.25 54 *i* P **Pdif 00 10 25.8 -1.9**
MAK *e* 00 15 24.6
MAK *e*PPP PPP 00 18 05.6
MAK *e* 00 20 54.3
MAK *e*SS SS 00 32 01.6 +14
MAK pmax pmax
comp=Z,216nm,1.0s
GOF Gofitskoye 119.25 50*ce*PKIKP **PKiKP 00 14 06.1 +0.2**
KIEV Kiev 119.37 37 PKPdf 00 14 05.2 -0.7
KIEV Kiev 119.37 37 ⇑P **PKPdf 00 14 05.7 -0.1**
KIEV Kiev 119.37 37 PKIKP **PKPdf 00 14 05.2 -0.7**
AKASG Malin Array Be 119.38 37 PKPdf 00 14 05.2 -0.7
AKASG Malin Array Be 119.38 37 PKP **PKPdf 00 14 05.5 -0.3**
comp=Z,38nm,0.8s,baz=241,slow=2.0,SNR=93
AKASG PP **PP 00 15 25.1 -3.5**
comp=Z,19nm,1.0s,baz=218,slow=7.4,SNR=16
AKASG SKP 00 17 37.0
comp=Z,4.6nm,0.7s,baz=234,slow=1.4,SNR=4.9
AKASG PKKPbc **PKKPbc 00 24 17.1 -0.1**
comp=Z,0.7nm,0.4s,baz=36,slow=4.6,SNR=5.3
AKBB Malin Array Si 119.38 37*ce*PKIKP **PKPdf 00 14 05.6 -0.3**
KNB Kanab 119.47 293 PKPdf 00 14 06.6 -0.2
KNB Kanab 119.47 293 PKIKP **PKPdf 00 14 06.6 -0.2**
MTPC Mountain Pass 119.48 290 PKiKP 00 14 07.2 +0.3
BSD Bornholm Skovb 119.63 26 *i* P **PKiKP 00 14 06.7 +0.4**
BSD *i* 00 14 20.2
COP Copenhagen 119.64 24 *i* P **PKiKP 00 14 07.7 +1.4**
BIGH Upper Bighouse 119.69 14 *e*P **PKiKP 00 14 08.5 +2.3**
BIGH IAMs_20 IAMs_20 01 03 12.6
comp=Z,13µm,17.8s
MUD Monsted U'grnd 119.72 22 *i* P **PKiKP 00 14 07.2 +0.8**
LUNU Lund 119.80 25 *i* P **PKiKP 00 14 07.0 +0.4**
F33A 5 Mile Ranch, 119.83 311 IAMs_20 IAMs_20 01 11 25.4
comp=Z,20µm,19.0s
EYMN Ely 119.86 315 IAMs_20 IAMs_20 01 00 46.2
comp=Z,15µm,22.0s
O20A White River Ci 119.97 299 IAMs_20 IAMs_20 01 00 50.4
comp=Z,21µm,22.0s
SHPR Sheep Range 120.13 291 PKiKP 00 14 09.1 +0.9
SUW Suwalki 120.62 32 *e*PKP **PKPdf 00 14 08.1 -0.1**
SUW *e*L L 01 05 35.8
SUW Suwalki 120.62 32 PKiKP 00 14 08.3 0.0
SUW IAMs_20 IAMs_20 01 05 41.7
comp=Z,12µm,19.0s
SUW Suwalki 120.62 32 PKIKP **PKiKP 00 14 08.3 0.0**
KNTI KHUNTI 120.66 97 *e*P **PKPdf 00 14 07.5 -1.9**
DEL Delary 120.67 25 *i* P **PKPdf 00 14 08.0 -0.2**
ALBI Allahabad 120.81 92 *e*P **PKPdf 00 14 07.3 -2.2**
ALBI IAML 00 14 13.6
comp=Z,44nm,1.5s
FABU Falkenberg 120.92 24 *i* P **PKiKP 00 14 09.7 +1.0**
BLEU Blekinge 120.93 26 *i* P **PKiKP 00 14 09.3 +0.5**
BLEU *i* 00 14 22.6
JHJR Jhajjar 120.95 86 *e*P **PKPdf 00 14 05.2 -4.4**
TPNV Topopah Spring 121.00 291 PKiKP 00 14 10.5 +0.6
TPNV Topopah Spring 121.00 291 PKIKP **PKiKP 00 14 10.5 +0.6**
AYAN Aya Nagar 121.09 86 *e*P **PKPdf 00 14 06.1 -3.8**
AYAN IAML 00 14 16.0
comp=Z,317nm,2.7s
ONAU Onsala 121.13 23 *i* P **PKiKP 00 14 09.5 +0.3**
SNART Snartemo 121.15 20 *e*PKPdf **PKiKP 00 14 10.4 +1.2**
LDR Lodi Road 121.22 86 *e*P **PKPdf 00 14 03.3 -6.9**
NPLP NPLP New Delhi 121.24 86 *e*P **PKPdf 00 14 06.0 -4.2**
K22A Casper 121.29 302 IAMs_20 IAMs_20 01 07 51.3
comp=Z,21µm,20.0s
HOMB Homborsund 121.31 21 *e*PKPdf **PKiKP 00 14 10.3 +0.8**
HOMB *e*PP **PP 00 15 40.7 -0.9**
HOMB *e*SKSac **SKSac 00 21 08.7 +3.7**
HOMB *e*SP SP 00 25 28.7 -0.7
HOMB *e*SS **SS 00 32 17.0 +3.8**
HOMB IVMs_BB IVMs_BB 01 09 21.1
comp=Z,4µm,17.8s
HOMB Homborsund 121.31 21 *i* P **PKiKP 00 14 10.3 +0.8**
HOMB *i* 00 14 23.8
NRLA Narela 121.32 86 *e*P **PKPdf 00 14 08.4 -1.9**
FRKB FARRUKHABAD 121.42 89 *e*P **PKPdf 00 14 05.6 -5.0**
BORU Boraas 121.52 24 *i* P **PKiKP 00 14 10.3 +0.3**
LKN LUCKNOW 121.55 91 *e*P **PKPdf 00 14 06.4 -4.5**
GNR GANAUR 121.57 86 *e*P **PKPdf 00 14 05.4 -5.4**
BOK Bokaro 121.57 97 *e*P **PKPdf 00 14 04.5 -6.5**
LRW Lerwick 121.62 15 *e*P **PKiKP 00 14 10.4 +0.4**
LRW IAMs_20 IAMs_20 01 04 26.8
comp=Z,21µm,17.1s
ASOR Ausora 121.63 87 *e*P **PKPdf 00 14 04.3 -6.6**
ASOR IAML 00 14 22.7
comp=Z,352nm,0.3s
KMY Karmoy 121.65 19 *e*P **PKiKP 00 14 10.7 +0.6**
KMY *e*PP **PP 00 15 43.8 -0.2**
KMY *e*PS **PS 00 25 40.5 +4.5**
KMY *e*SS SS 00 32 19.1 +1.5
KMY IVMs_BB IVMs_BB 01 03 06.6
comp=Z,4µm,19.6s
TJOU Tjoern 121.67 23 *i* P **PKiKP 00 14 10.3 +0.1**
DLV Lat 121.69 126 PKPdf 00 14 10.7 -1.0
DLV IAMs_20 IAMs_20 01 00 17.9
comp=Z,17µm,19.0s
AGMN Agassiz Nation 121.73 313 IAMs_20 IAMs_20 01 10 33.6
comp=Z,16µm,20.0s
DUG Dugway, Tooele 122.05 296 IAMs_20 IAMs_20 01 09 19.4
comp=Z,16µm,19.0s
BLS5 Blasjo 122.05 19 *e*P **PKiKP 00 14 12.0 +1.1**
BLS5 *e*PP **PP 00 15 43.8 -2.9**
BLS5 *e*PS **PS 00 25 43.4 +3.6**
BLS5 *e*SS SS 00 32 23.2 +0.4
KBU Kabul Universi 122.06 76 PKP **PKPdf 00 14 07.5 -4.4**
E28A Huff 122.13 308 PKiKP 00 14 11.7 +0.2
PABE Paberze 122.16 31 PKPdf 00 14 11.1 0.0
IVI Ivigtut 122.19 348 IAMs_20 IAMs_20 01 08 59.2
comp=Z,14µm,18.0s
MNK Minsk 122.33 34 *i* PKIKP **PKiKP 00 14 11.6 0.0**
MNK *i* 00 15 48.1
MNK *i* PPP PPP 00 18 24.2
MNK *i* 00 21 23.3
MNK *i* PS **PS 00 25 43.1 +0.8**
MNK *i* SS SS 00 32 30.9 +4.5
MNK *i* SSS SSS 00 37 02.2
MNK pmax pmax
comp=Z,296nm,0.9s
MNK pmax pmax
comp=N,46nm,1.1s
MNK pmax pmax
comp=E,76nm,1.0s
MNK MLR MLR
comp=E,6µm,18.0s
MNK MLR MLR
comp=N,6µm,18.0s
MNK MLR MLR
comp=Z,7µm,17.0s
STRU Stroemstad 122.52 22 *i* P **PKiKP 00 14 11.8 0.0**
ODD1 Odda 122.54 19 *e*PKPdf **PKiKP 00 14 12.7 +0.7**
ODD1 *e*PP **PP 00 15 50.7 +0.7**
ODD1 *e*SS SS 00 32 31.6 +2.5
ODD1 IVMs_BB IVMs_BB 01 08 16.9
comp=Z,5µm,18.7s
HWUT Hardware Ranch 122.63 298 IAMs_20 IAMs_20 01 10 37.9
comp=Z,15µm,19.0s
PDAR Pinedale Array 122.69 300 PKPdf 00 14 12.7 -0.2
PDAR Pinedale Array 122.69 300 PKhKP PKPpre 00 13 58.1
comp=Z,0.4nm,0.3s,baz=104,slow=2.9,SNR=4.1
PDAR PKP **PKPdf 00 14 12.3 -0.6**
comp=Z,13nm,0.7s,baz=146,slow=4.8,SNR=41
PDAR PP **PP 00 15 51.8 +0.2**
comp=Z,20nm,1.1s,baz=131,slow=4.1,SNR=6.0
CGRH CHANDIGARH 122.75 85 *e*P **PKPdf 00 14 12.8 -0.4**
MDND Maddock 122.75 310 IAMs_20 IAMs_20 01 05 08.9
comp=Z,21µm,22.0s
BER Bergen 122.78 18 *e*P **PKiKP 00 14 13.2 +0.9**
BER *e*PKPdf **PKiKP 00 14 13.2 +0.9**
BER *e*PP **PP 00 15 51.9 +0.4**
BER *e*SKSdf **SKSdf 00 21 25.7 +4.8**
BER *e*SS **SS 00 32 33.8 +1.9**
BER IVMs_BB IVMs_BB 01 07 03.2
comp=Z,6µm,18.1s
KONO Kongsberg 122.80 21 PKPdf **PKPdf 00 14 12.1 -0.1**
KONO Kongsberg 122.80 21 IAMs_20 01 07 02.0
comp=Z,11µm,19.0s
KONO Kongsberg 122.80 21 PKIKP **PKPdf 00 14 12.1 -0.1**
KONO Kongsberg 122.80 21 *e*P **PKPdf 00 14 12.2 +0.1**
KONO *e*PP **PP 00 15 52.4 +0.7**
KONO *e*SS SS 00 32 35.4 +3.1
KONO IVMs_BB IVMs_BB 01 06 40.7
comp=Z,4µm,20.4s
ASK Askoy 122.86 18 *e*PKPdf **PKiKP 00 14 13.0 +0.6**
ASK *e*P **PKPdf 00 14 13.5 +1.2**
ASK *e*PP **PP 00 15 52.7 +0.6**
ASK *e*SS SS 00 32 35.4 +2.6
ASK IVMs_BB IVMs_BB 01 08 18.9
comp=Z,7µm,19.0s
VORD Divnogorie 122.86 43 *i* PKIKP **PKPdf 00 14 12.6 0.0**
VORD pmax pmax
comp=Z,50nm,0.8s
VSR Storozhevoye 123.03 43 *i* PKIKP **PKPdf 00 14 12.8 -0.1**
VSR *e* 00 15 50.5
VSR *e*SP SP 00 25 42.9 -2.2
VSR pmax pmax
comp=Z,50nm,0.6s
DDI Dehra Dun 123.06 86 *e*P **PKPdf 00 14 12.0 -1.8**
BHK Bhakra 123.13 84 *e*P **PKPdf 00 14 13.1 -0.7**
BHK IAML 00 14 22.0
comp=Z,75nm,0.5s
NVAR Mina Array Bea 123.15 290 PKPdf 00 14 14.0 +0.1
NVAR Mina Array Bea 123.15 290 PKP **PKiKP 00 14 14.4 +0.2**
comp=Z,23nm,0.8s,baz=113,slow=1.7,SNR=74
SCZ Santa Cruz 123.15 287 PKiKP 00 14 14.6 +0.7
SMLA Simla 123.27 85 *e*P **PKPdf 00 14 10.8 -3.3**
SMLA IAMs_20 IAMs_20 00 24 11.1
comp=N,2µm,11.0s
SMLA IVMs_BB IVMs_BB 00 24 14.0
comp=E,1µm,9.5s
OSL Oslo 123.28 21 *e*PKPdf **PKiKP 00 14 14.6 +1.3**
OSL *e*PP **PP 00 15 55.7 +0.8**
CMAR Chiang Mai Arr 123.31 113 PKPdf 00 14 14.3 -0.3
CMAR Chiang Mai Arr 123.31 113 PKhKP PKPpre 00 13 59.1
comp=E,0.9nm,0.4s,baz=179,slow=2.9,SNR=4.2
CMAR PKP **PKiKP 00 14 14.7 -0.1**
comp=E,26nm,0.7s,baz=227,slow=3.7,SNR=100
CMAR PKKPab **PKKPab 00 24 04.8 +0.4**
comp=E,2.8nm,0.6s,baz=1.0,slow=4.2,SNR=12
CMAR Chiang Mai Arr 123.31 113*ce*PKIKP **PKPdf 00 14 14.6 +0.1**
CMAR pmax pmax
comp=Z,26nm,0.7s
SUE Sulen 123.34 18 *e*PKPdf **PKiKP 00 14 14.3 +1.0**
SUE *e*PP **PP 00 15 55.6 +0.3**
SUE *e*SS SS 00 32 43.1 +4.1
SUE IVMs_BB IVMs_BB 01 04 34.0
comp=Z,9µm,18.4s
TLWR Talawar 123.34 83 *e*P **PKPdf 00 14 12.5 -1.7**
AHID Auburn Hatcher 123.36 299 IAMs_20 IAMs_20 01 06 41.1
comp=Z,16µm,20.0s
NIL Nilore 123.37 80 PKPdf 00 14 13.6 -0.6
NIL Nilore 123.37 80 IAMs_20 IAMs_20 01 01 05.1
comp=Z,12µm,21.0s
NIL Nilore 123.37 80 PKIKP **PKPdf 00 14 13.6 -0.6**
JMU Jammu 123.43 82 *e*P **PKPdf 00 14 13.2 -1.1**
VORR Voronezh 123.43 43 *i* PKIKP **PKiKP 00 14 14.4 +0.5**
VORR *e*SP SP 00 25 54.3 +5.7
VORR pmax pmax
comp=Z,150nm,1.0s
LGTI Lohaghat 123.44 88 *e*P **PKPdf 00 14 10.2 -4.2**
PTH Pithoragarh 123.50 88 *e*P **PKPdf 00 14 11.4 -3.4**
SKAR Skarslia 123.55 20 *e*PKPdf **PKiKP 00 14 14.4 +0.5**
SKAR *e*PP **PP 00 15 55.5 -1.4**
SKAR *e*PS PS 00 25 56.1 +3.0
SKAR *e*SS SS 00 32 46.9 +5.1
SKAR IVMs_BB IVMs_BB 01 07 52.6
comp=Z,6µm,21.3s
ELK Elko 123.59 294 IAMs_20 IAMs_20 01 12 27.3
comp=Z,16µm,19.0s
CHTO Chiang Mai 123.62 112 PKPdf 00 14 13.9 -1.2
CHTO IAMs_20 IAMs_20 00 57 57.6
comp=Z,15µm,21.0s
CHTO Chiang Mai 123.62 112 P **PKPdf 00 14 15.0 -0.1**
CHTO Chiang Mai 123.62 112 P **PKPdf 00 14 14.7 -0.4**
CHTO Chiang Mai 123.62 112 PKIKP **PKPdf 00 14 13.9 -1.2**
CHTO Chiang Mai 123.62 112 PKP **PKPdf 00 14 12.8 -2.3**
SHBG Sahibganj 123.64 98 *e*P **PKPdf 00 14 13.4 -1.5**
HYA Hoyanger 123.66 18 *e*PKPdf **PKiKP 00 14 14.9 +0.9**
HYA *e*PP **PP 00 15 58.1 +0.6**
HYA *e*SKSac **SKSac 00 21 18.7 +6.0**
HYA *e*SS **SS 00 32 47.5 +4.5**
HYA IVMs_BB IVMs_BB 01 05 26.2
comp=Z,6µm,20.1s
DHRM DHARAMSHALA 123.75 83 *e*P **PKPdf 00 14 12.4 -2.9**
SNOW Snow King Moun 123.77 299 PKiKP 00 14 15.3 +0.1
SNOW IAMs_20 IAMs_20 01 12 23.8
comp=Z,18µm,21.0s
LOHW Long Hollow 123.82 300 IAMs_20 IAMs_20 01 07 14.3
comp=Z,17µm,19.0s
MTOS Mt Oso, Westle 123.84 287 IAMs_20 IAMs_20 01 00 39.1
comp=Z,12µm,19.0s
TPAW Teton Pass 123.87 299 IAMs_20 IAMs_20 01 12 16.8
comp=Z,16µm,19.0s
FOO Floro 123.89 18 *e*PKPdf **PKiKP 00 14 14.9 +0.5**
FOO *e*SS SS 00 32 48.2 +2.2
FOO IVMs_BB IVMs_BB 01 02 24.4
comp=Z,6µm,21.2s
VRH Novokhopyorsk 123.91 45 *i* PKIKP **PKPdf 00 14 14.2 -0.4**
VRH *e*SP SP 00 26 01.9 +9.1
VRH pmax pmax
comp=Z,150nm,0.6s
JOSI Joshimath 123.99 87 *e*P **PKPdf 00 14 15.1 -0.7**
HFS Hagfors 124.02 23 PKP **PKPdf 00 14 13.8 -0.7**
comp=Z,40nm,0.7s,baz=159,slow=2.8,SNR=58
HFS PKKPbc **PKKPbc 00 24 00.8 +1.1**
comp=Z,2.9nm,0.6s,baz=67,slow=3.9,SNR=3.8
LPSR Galich'ya Gora 124.11 42 *i* PKIKP **PKPdf 00 14 14.9 0.0**
LPSR *e*SP SP 00 25 50.5 -4.1
LPSR pmax pmax
comp=Z,140nm,1.0s
LPSR MLR MLR
comp=Z,5µm,19.0s
KLP Kalpa 124.14 85 *e*P **PKPdf 00 14 13.8 -2.4**
NAO01 NORSAR Array S 124.15 21 PKPdf 00 14 14.9 +0.1
NC602 NORSAR Array S 124.17 22 *e* **PKPdf 00 14 14.9 +0.1**
AGT Agartala 124.29 102 *e*P **PKPdf 00 14 12.5 -3.7**
AGT IAML 00 14 25.3
comp=Z,104nm,0.2s
NB2 NORSAR Subarra 124.39 21 PKPdf **PKiKP 00 14 15.5 -0.1**
comp=Z,111nm,1.1s,baz=202,slow=1.9
NB2 PKKP **PKKPbc 00 23 59.5 +1.3**
comp=Z,1.6nm,0.7s,baz=29,slow=4.4
NB2 NORSAR Subarra 124.39 21 PKPdf **PKiKP 00 14 15.5 -0.1**
baz=202,slow=1.9
NOA NORSAR Array B 124.39 21 PKP **PKPdf 00 14 15.2 0.0**
comp=Z,50nm,0.8s,baz=194,slow=1.7,SNR=61
NOA SKP 00 17 49.0
comp=Z,10nm,1.0s,baz=198,slow=1.7,SNR=3.8
NOA PKKPbc **PKKPbc 00 23 58.6 +0.4**
comp=Z,1.6nm,0.8s,baz=12,slow=2.1,SNR=11
LAO LASA Array 124.44 305 IAMs_20 IAMs_20 01 08 21.6
comp=Z,21µm,22.0s
BORG Borgarnes 124.68 3 PKiKP 00 14 16.2 +0.2
BORG Borgarnes 124.68 3 PKIKP **PKiKP 00 14 16.2 +0.2**
YNM Yellowstone No 124.75 300 PKiKP 00 14 18.5 +1.4
AZL Aizawl 124.87 103 *e*P **PKPdf 00 14 16.1 -1.4**
AZL IAML 00 14 26.5
comp=Z,89nm,1.5s
DOMB Dombas 124.96 20 *e*PKPdf **PKiKP 00 14 16.6 0.0**
DOMB *e*P **PKPdf 00 14 17.0 +0.7**
DOMB *e*SS SS 00 33 01.7 +2.2
DOMB IVMs_BB IVMs_BB 01 10 25.0
comp=Z,6µm,18.6s
DGMT Dagmar 125.05 307 IAMs_20 IAMs_20 01 09 03.7
comp=Z,21µm,22.0s
QLMT Earthquake Lak 125.15 300 PKiKP 00 14 18.5 +0.6
MOL Molde 125.20 19 *e*PKPdf **PKiKP 00 14 17.2 +0.1**
MOL *e*SS SS 00 33 04.7 +2.2
MOL IVMs_BB IVMs_BB 01 06 05.6
comp=Z,8µm,18.2s
SIMJ Simiganj 125.31 73 PKPdf 00 14 18.0 +0.1
SIMJ IAMs_20 IAMs_20 01 04 18.7
comp=Z,12µm,22.0s
CHGR Chuyangaron 125.38 73 PKPdf 00 14 18.0 0.0
CHGR Chuyangaron 125.38 73 PKIKP **PKPdf 00 14 18.0 0.0**
COBR COOCHBEHAR 125.43 99 *e*P **PKPdf 00 14 12.8 -5.5**
OBN Obninsk 125.45 39 PKPdf 00 14 17.1 -0.2
OBN Obninsk 125.45 39 PKP **PKPdf 00 14 17.2 -0.2**
comp=Z,103nm,0.6s,baz=328,slow=8.0,SNR=3.6
OBN Obninsk 125.45 39*c i*PKIKP **PKPdf 00 14 16.6 -0.8**
OBN *i* 00 21 31.9
OBN *i* PS PS 00 26 12.3 +2.5
OBN *i* SS SS 00 33 05.8 0.0
OBN pmax pmax
comp=Z,259nm,1.7s
HLID Hailey 125.46 297 IAMs_20 IAMs_20 01 08 14.7
comp=Z,14µm,22.0s
NUUK Nuuk 125.48 347 ⇓*i*P **PKiKP 00 14 17.8 +0.2**
EVN Everest 125.49 95 PKPdf 00 14 18.6 -0.7
ANGG Ammassalik, Gr 125.75 354 *i* P **PKiKP 00 14 18.2 +0.2**
ISOG Isortoq, Green 125.75 354 *i* P **PKiKP 00 14 18.3 +0.3**
ALCI Alchi Leh 125.76 82 *e*P **PKPdf 00 14 17.9 -1.4**
ALCI IAML 00 14 26.3
comp=Z,183nm,0.6s
POHA Pohakuloa 125.87 245 P **PKiKP 00 14 24.4 +4.3**
POHA Pohakuloa 125.87 245 P **PKiKP 00 14 20.1 0.0**
MFID Camas Ranch 125.97 296 IAMs_20 IAMs_20 01 13 13.4
comp=Z,13µm,19.0s
SHL Shillong 126.01 101 PKPdf 00 14 19.3 -0.4
SHL Shillong 126.01 101 *e*P **PKPdf 00 14 16.6 -3.1**
SHL Shillong 126.01 101 PKIKP **PKPdf 00 14 19.3 -0.4**
MOS Moscow 126.30 39 *i* PKIKP **PKPdf 00 14 17.4 -1.6**
MOS *e* 00 16 12.5
MOS *e*PS **PS 00 26 16.3 -1.0**
MOS *e*SS SS 00 33 12.6 -3.9
MOS pmax pmax
comp=Z,708nm,1.8s
MOS MLR MLR
comp=Z,7µm,19.0s
MOS MLR MLR
comp=E,6µm,18.0s
IMP Imphal 126.40 104 *e*P **PKPdf 00 14 16.6 -3.8**
GUWA GUWAHATI 126.44 101 *e*P **PKPdf 00 14 16.6 -3.7**
WVOR Wild Horse Val 126.48 293 IAMs_20 IAMs_20 01 14 28.9
comp=Z,15µm,20.0s
O02D Mt. Diablo Mer 126.66 288 IAMs_20 IAMs_20 00 59 53.2
comp=Z,12µm,21.0s
BELG Belogorsk 126.66 288 PKPdf 00 14 20.5 0.0
comp=Z,283nm,1.0s,baz=42,slow=1.3,SNR=73
BELG PP **PP 00 16 19.1 -0.9**
comp=Z,185nm,1.2s,baz=282,slow=3.5,SNR=5.8
BELG Belogornoye 127.01 48 *i* PKIKP **PKPdf 00 14 19.3 -1.1**
KMRM Mail Ridge 127.13 288 IAMs_20 IAMs_20 01 09 26.6
comp=Z,12µm,20.0s
DY2G Dye2 127.18 350 *i* P **PKiKP 00 14 22.3 +1.1**
KOHI KOHIMA 127.23 103 *e*P PKPpre 00 14 14.9
TEZP TEZPUR 127.34 102 *e*P PKPpre 00 14 17.0
TEZP IVMs_BB IVMs_BB 00 21 28.1
comp=N,1µm,8.7s
PUL Pulkovo 127.56 32*ce*PKIKP **PKiKP 00 14 22.3 +0.5**
PUL pmax pmax
comp=Z,1µm,1.7s
PUL MLR MLR
comp=Z,9µm,18.0s
KHMM Horse Mountain 127.65 288 IAMs_20 IAMs_20 01 11 38.8
comp=Z,12µm,22.0s
BMO Blue Mountains 127.76 296 IAMs_20 IAMs_20 01 15 56.7
comp=Z,15µm,20.0s
NSS Namsos 127.76 20 *e*PKPdf **PKiKP 00 14 23.3 +1.2**
NSS *e*SKSac **SKSac 00 21 27.1 +1.8**
NSS *e*SS **SS 00 33 34.4 0.0**
NSS IVMs_BB IVMs_BB 01 11 25.3
comp=Z,6µm,20.5s
FINES FINESS Array B 127.92 29 PKPdf 00 14 22.0 +0.1
FINES FINESS Array B 127.92 29 PKhKP PKPpre 00 14 05.3
comp=Z,2.0nm,0.8s,baz=202,slow=2.1,SNR=4.6
FINES PKP **PKiKP 00 14 22.3 -0.2**
comp=Z,139nm,0.6s,baz=193,slow=1.0,SNR=6.7
FINES FINESS Array B 127.92 29 PKIKP **PKPdf 00 14 22.0 +0.1**
FIA1 FINESS Array S 127.92 29 PKPdf 00 14 22.2 +0.2
K04D Chiloquin, OR 128.07 291 PKiKP 00 14 23.8 +0.2
SLVN Son La 128.08 116 PKPdf 00 14 23.5 -0.1
SLVN IAMs_20 IAMs_20 01 04 25.2
comp=Z,16µm,20.0s
SFJD Kangerlussuaq 128.09 348 PKiKP 00 14 22.6 -0.1
SFJD Kangerlussuaq 128.09 348 PKIKP **PKiKP 00 14 22.6 -0.1**
SFJD Kangerlussuaq 128.09 348 *i* P **PKiKP 00 14 23.4 +0.7**
SFJD Kangerlussuaq 128.09 348 PKP **PKPdf 00 14 22.4 +0.3**
SOEG Soedalen 128.13 358 *i* P **PKiKP 00 14 23.6 +0.9**
TGY Tagaytay City 128.27 139 PKP **PKPdf 00 14 24.1 -0.1**
comp=Z,146nm,0.4s,baz=200,slow=14,SNR=1.1
KIP Kipapa 128.44 243 PKiKP 00 14 25.1 +0.3
KIP Kipapa 128.44 243 IAMs_20 IAMs_20 01 03 47.7
comp=Z,11µm,18.0s
KIP Kipapa 128.44 243 P **PKiKP 00 14 27.7 +2.8**
KIP Kipapa 128.44 243 P **PKiKP 00 14 26.7 +1.9**
KIP Kipapa 128.44 243 P **PKiKP 00 14 26.8 +1.9**
KIP Kipapa 128.44 243 PKIKP **PKiKP 00 14 25.1 +0.3**
KSXB Camp Six Broad 128.46 289 IAMs_20 IAMs_20 01 15 22.2
comp=Z,11µm,20.0s
CHM Chimkent 128.46 70 *e*PKIKP **PKPdf 00 14 23.1 -0.6**
CHM Chimkent 128.46 70 *e*PKP **PKPdf 00 14 23.1 -0.6**
CHM LR LR 01 13 23.6
IUG luzhnay 128.53 71 *e*PKIKP **PKPdf 00 14 23.3 -0.6**
IUG *e* 00 16 29.0
IUG luzhnay 128.53 71 *e*PKP **PKPdf 00 14 23.4 -0.6**
IUG *e*PP **PP 00 16 29.1 -1.2**
ZIRO ZIRO 128.61 102 *e*P PKPpre 00 14 19.0
QIZ Qiongzhong 128.62 124 IAMs_20 IAMs_20 01 03 03.9
comp=Z,16µm,20.0s
QIZ Qiongzhong 128.62 124 PKP **PKPdf 00 14 24.0 -0.6**
QIZ SS SS 00 33 46.0 +0.9
QIZ AMB AMB
comp=Z,3µm,13.4s
QIZ LR LR
comp=Z,8µm,20.6s
QIZ LR LR
comp=Z,6µm,20.6s
QIZ LR LR
comp=Z,15µm,20.6s
TNCH TengChong 128.76 108 ⇑PKP **PKPdf 00 14 25.3 +0.3**
TNCH PP **PP 00 16 32.3 +0.5**
TNCH SKS **SKSac 00 21 30.8 +0.1**
TNCH AMB AMB
comp=Z,3µm,7.3s
TNCH LR LR
comp=Z,4µm,18.0s
TNCH LR LR
comp=Z,3µm,17.1s
TNCH LR LR
comp=Z,9µm,17.5s
JOHN Johnston Islan 128.99 228 IAMs_20 IAMs_20 01 08 38.3
comp=Z,13µm,18.0s
LSA Lhasa 129.08 98 PKP **PKPdf 00 14 25.0 -0.8**
LSA PP **PP 00 16 36.0 +1.7**
LSA LR LR
comp=Z,9µm,20.1s
LSA LR LR
comp=Z,12µm,18.3s
BRLS Borolday 129.12 70 *e*PKIKP **PKPdf 00 14 23.8 -1.1**
BRLS *e* 00 16 31.2
BRLS Borolday 129.12 70 *e*PKP **PKPdf 00 14 23.9 -1.1**
BRLS *e*PP **PP 00 16 31.2 -2.8**
FFC Flin Flon 129.18 314 PKiKP 00 14 25.2 -0.1
FFC Flin Flon 129.18 314 PKIKP **PKiKP 00 14 25.2 -0.1**
KSH Kashi 129.35 77 PKP **PKPdf 00 14 25.3 -0.3**
KSH PP **PP 00 16 37.8 +2.1**
KSH SKS **SKSdf 00 21 35.5 +0.9**
KSH SKKS **SKKSac 00 23 24.0 -5.4**
KSH SS **SS 00 33 50.0 -5.0**
KSH AMB AMB
comp=Z,3µm,9.8s
KSH LR LR
comp=Z,5µm,19.8s
KSH LR LR
comp=Z,4µm,20.3s
KSH LR LR
comp=Z,10µm,24.0s
LEIR Leirfjorden 129.41 20 *e*PKPdf **PKPdf 00 14 24.6 0.0**
LEIR *e*PP **PP 00 16 35.7 +0.2**
LEIR *e*SKPdf **SKiKP 00 18 01.3 +2.7**
LEIR *e*SS **SS 00 33 58.5 +3.8**
LEIR IVMs_BB IVMs_BB 01 11 17.1
comp=Z,5µm,19.6s
LKP Lekhapani 129.42 104 *e*P PKPpre 00 14 18.9
AB31 Akbulak array 129.45 58 PKPdf 00 14 25.1 -0.2
AB31 Akbulak array 129.45 58 *i* PKIKP **PKPdf 00 14 21.9 -3.4**
KEBM Edson Butte 129.48 289 PKiKP 00 14 27.1 +0.8
KEBM IAMs_20 IAMs_20 01 17 51.1
comp=Z,15µm,20.0s
KK31 Karatay Array 129.49 70 *i* PKIKP **PKPdf 00 14 23.1 -2.5**
KKAR Karatay Array 129.49 70 PKPdf **PKPdf 00 14 24.6 -1.0**
KKAR Karatay Array 129.49 70 PKIKP **PKPdf 00 14 24.6 -1.0**
J01E Myrtle Point 129.51 290 PKPdf 00 14 25.6 +0.1
AKTO Aktyubinsk 129.55 56 PP **PP 00 16 34.6 -2.1**
comp=Z,22nm,1.1s,baz=214,slow=4.2,SNR=5.1
AKTO Aktyubinsk 129.55 56 PKIKP **PKPdf 00 14 24.0 -1.4**
STOK Stokkvaagen 129.60 20 *e*PKPdf **PKPdf 00 14 25.3 +0.3**

STOK eSKPdf **SKPdf** **00 17 54.3 -3.2**
STOK ePS PS 00 26 46.1 +0.3
STOK IVMs_BB IVMs_BB 01 10 38.4
comp=Z,3μm,18.6s
KEKH Kekaha 129.68 242 PKPdf 00 14 26.6 0.0
MOR8 Moi Rana 129.69 20 ePKPdf **PKiKP 00 14 27.3 +1.3**
MOR8 ePP **PP 00 16 38.9 +1.5**
MOR8 eSKPdf **SKiKP 00 17 56.1 -3.2**
MOR8 eSS **SS 00 34 03.1 +4.8**
MOR8 IVMs_BB IVMs_BB 01 11 39.3
comp=Z,6μm,16.6s
DZA Taraz 129.71 71 ePKIKP **PKPdf 00 14 25.6 -0.4**
DZA Taraz 129.71 71 ePKP **PKPdf 00 14 25.7 -0.4**
KONS Konsvik 129.77 20 e PKPpre 00 14 20.7
KONS ePKPdf **PKiKP 00 14 27.3 +1.2**
E08A Dider Farm, El 129.81 296 PKiKP 00 14 27.2 +0.4
VAGH Vaagaholmen 130.00 19 ePKPdf **PKiKP 00 14 26.7 +0.2**
VAGH IVMs_BB IVMs_BB 01 08 44.0
comp=Z,5μm,21.4s
ILULI Ilulissat 130.29 349 PKiKP 00 14 26.7 -0.3
ILULI Ilulissat 130.29 349 PKIKP **PKiKP 00 14 26.7 -0.3**
COR Corvallis 130.30 291 PKiKP 00 14 28.4 +0.6
COR Corvallis 130.30 291 IAMs_20 IAMs_20 01 14 26.9
comp=Z,12μm,21.0s
COR Corvallis 130.30 291 PKIKP **PKiKP 00 14 28.4 +0.6**
SCO Scoresbysund 130.43 2 *i* P **PKiKP 00 14 29.5 +2.2**
GDH Godhavn 130.57 348 *i* P **PKiKP 00 14 27.7 +0.1**
EKS2 Erkin-Say 130.70 73 P **PKiKP 00 14 30.0 +1.1**
SNR=19
UCH Uchtor 130.72 74 P **PKPdf 00 14 24.6 -3.9**
SNR=12
KMI Kunming 130.82 112 ⇑PKP **PKPdf 00 14 29.0 0.0**
KMI PP **PP 00 16 47.3 +2.1**
KMI SKP 00 17 51.8
KMI SKS **SKSac 00 21 38.5 +1.9**
KMI SKKS **SKKSac 00 23 36.3 -3.1**
KMI SS **SS 00 34 16.3 +3.3**
KMI AMB AMB
comp=Z,2μm,8.2s
KMI LR LR
comp=Z,6μm,18.6s
KMI LR LR
comp=Z,2μm,16.6s
KMI LR LR
comp=Z,11μm,18.6s
FAUS Fauske 130.93 20 ePKPdf **PKiKP 00 14 28.1 -0.2**
FAUS ePP **PP 00 16 45.1 -0.3**
FAUS eSKPdf **SKPdf 00 18 00.1 0.0**
FAUS eSKSac **SKSdf 00 21 38.1 +2.3**
FAUS eSS **SS 00 34 14.6 +1.2**
FAUS IVMs_BB IVMs_BB 01 08 34.7
comp=Z,7μm,18.3s
AAK Ala-Archa 131.03 74 PKPdf 00 14 27.5 -1.2
AAK Ala-Archa 131.03 74 IAMs_20 IAMs_20 01 15 53.9
comp=Z,14μm,18.0s
AAK Ala-Archa 131.03 74 PKP **PKPdf 00 14 28.7 0.0**
comp=Z,28nm,0.7s,baz=206,slow=1.5,SNR=18
AAK PP **PP 00 16 45.4 -1.2**
comp=Z,12nm,1.0s,baz=209,slow=4.1,SNR=4.4
AAK Ala-Archa 131.03 74 P **PKPdf 00 14 28.8 0.0**
SNR=23
AAK Ala-Archa 131.03 74 *i* PKIKP **PKPdf 00 14 27.7 -1.0**
AAK Ala-Archa 131.03 74 PKPdf **PKPdf 00 14 27.5 -1.2**
AAK Ala-Archa 131.03 74 PKP **PKPdf 00 14 26.9 -1.8**
KLMR Klimovskoe 131.06 36 ePKIKP **PKPdf 00 14 27.7 -0.2**
KLMR e 00 16 46.7
KLMR SS SS 00 34 16.5 +1.4
KLMR pmax pmax
comp=Z,996nm,1.5s
LTY Liberty 131.11 296 IAMs_20 IAMs_20 01 20 29.9
comp=Z,11μm,19.0s
SAQQ Saqqaq 131.14 349 *i* P **PKiKP 00 14 29.0 +0.3**
FRU1 Bishkek 131.22 74 PKPdf 00 14 28.6 -0.3
FRU1 Bishkek 131.22 74 PKIKP **PKPdf 00 14 28.6 -0.3**
LON Longmire 131.25 294 IAMs_20 IAMs_20 01 16 11.6
comp=Z,17μm,20.0s
KBK Karagaybulak 131.26 74 P **PKPdf 00 14 29.3 +0.1**
SNR=9.7
F04D Rainier, OR 131.30 293 IAMs_20 IAMs_20 01 17 06.9
comp=Z,15μm,20.0s
LOF Lofoten 131.32 19 ePKPdf **PKPdf 00 14 28.4 +0.2**
LOF ePP **PP 00 16 48.9 +1.0**
LOF eSKPdf **SKPdf 00 18 02.1 +1.4**
LOF eSS **SS 00 34 21.0 +2.9**
B08A Colville Reser 131.34 297 IAMs_20 IAMs_20 01 16 52.0
comp=Z,16μm,20.0s
STEI Steigen 131.42 20 ePKPdf **PKiKP 00 14 29.5 +0.1**
STEI ePP **PP 00 16 49.7 +1.2**
STEI eSKPdf **SKiKP 00 18 01.9 -0.7**
STEI eSS **SS 00 34 22.9 +3.6**
STEI IVMs_BB IVMs_BB 01 09 07.0
comp=Z,6μm,23.5s
CHMS Chumysh 131.42 73 P **PKiKP 00 14 31.8 +1.5**
SNR=6.6
F03A Seaside 131.43 292 PKiKP 00 14 30.8 +0.6
F03A IAMs_20 IAMs_20 01 15 39.7
comp=Z,16μm,22.0s
USP Ospenovka 131.51 73 P **PKPdf 00 14 29.2 -0.2**
SNR=16
JMIC Jan Mayen 131.51 8 ePKPdf **PKiKP 00 14 30.7 +1.2**
JNE Jan Mayen East 131.53 8 ePKPdf **PKiKP 00 14 31.5 +2.0**
JNE ePP **PP 00 16 50.0 +0.8**
JNE eSKPdf **SKiKP 00 18 02.9 +0.1**
PZH PanZhiHua 131.54 110 PKP **PKPdf 00 14 30.3 +0.2**
PZH sPKP 00 14 37.0
PZH PP **PP 00 16 50.0 +0.3**
PZH PKS 00 18 04.8
PZH SKS **SKSdf 00 21 42.0 +2.8**
PZH SKKS **SKKSac 00 23 41.5 -2.0**
PZH SS **SS 00 34 21.3 -0.2**
PZH AMB AMB
comp=Z,2μm,10.4s
PZH LR LR
comp=Z,7μm,18.2s
PZH LR LR
comp=Z,5μm,17.5s
PZH LR LR
comp=Z,10μm,18.0s
JNW Jan Mayen West 131.56 8 ePKPdf **PKiKP 00 14 31.2 +1.6**
JNW ePP **PP 00 16 48.2 -1.1**
ULHL Ulahol 131.57 75 P **PKPdf 00 14 29.2 -0.6**
SNR=7.6
SGDS Sogindy 131.71 73 ePKP **PKPdf 00 14 29.3 -0.5**
SGDS ePP **PP 00 16 49.9 -1.0**
TKM2 Tokmak 2 131.77 74 P **PKPdf 00 14 29.2 -1.0**
SNR=12
SAATT Saattut 131.88 349 *i* P **PKiKP 00 14 29.9 -0.3**
TARG Taragay, Kyrgy 131.94 77 IAMs_20 IAMs_20 01 16 41.7
comp=Z,13μm,18.0s
NIAQ Niaqornat 132.06 348 *i* P **PKiKP 00 14 31.0 +0.5**
KIRV Kirov 132.47 44 *i* PKIKP **PKPdf 00 14 30.1 -0.5**
TNSS Tian-Shan 132.51 75 ePKIKP **PKPdf 00 14 30.8 -1.0**
TNSS Tian-Shan 132.51 75 ePKP **PKPdf 00 14 30.8 -1.0**
AAA Alma-Ata 132.62 75 ePKIKP **PKPdf 00 14 31.1 -0.5**
AAA Alma-Ata 132.62 75 ePKP **PKPdf 00 14 31.1 -0.5**
MDOK Medeo 132.65 75 ePKIKP **PKPdf 00 14 31.1 -0.7**
MDOK e 00 16 55.8
MDOK Medeo 132.65 75 ePKP **PKPdf 00 14 31.1 -0.7**
MDOK ePP **PP 00 16 55.9 -1.2**
MDOK LR LR 01 16 00.8
NLWA Neilton Lookou 132.66 294 IAMs_20 IAMs_20 01 17 10.6
comp=Z,16μm,20.0s
NUUG Nuugaatsiaq 132.73 349 *i* P **PKiKP 00 14 32.2 +0.3**
SUMG Summit 132.73 355 PKP **PKPdf 00 14 28.5 -2.8**
SUMG Summit 132.73 355 PKiKP 00 14 32.9 +0.4
SUMG IAMs_20 IAMs_20 01 07 07.8
comp=Z,16μm,19.0s
SUMG Summit 132.73 355 PKIKP **PKiKP 00 14 32.9 +0.4**
SUMG Summit 132.73 355 *i* P **PKiKP 00 14 32.2 -0.3**
PRZ Przheval'sk 132.80 77 PKPdf 00 14 32.2 +0.1
PRZ Przheval'sk 132.80 77 PKIKP **PKPdf 00 14 32.2 +0.1**
KUU Kurty 132.86 74 ePKIKP **PKPdf 00 14 31.5 -0.4**
KUU Kurty 132.86 74 ePKP **PKPdf 00 14 31.5 -0.4**
KUU LR LR 01 15 59.7
comp=Z,8μm,16.6s
GUMO Guam 133.07 169 IAMs_20 IAMs_20 01 13 22.5
comp=Z,12μm,20.0s
GUMO Guam 133.07 169 PKP **PKPdf 00 14 31.4 -1.8**
comp=Z,27nm,0.3s,baz=202,slow=5.4,SNR=1.3
CHKK Chushkaly 133.14 74 ePKIKP **PKPdf 00 14 31.9 -0.5**
CHKK Chushkaly 133.14 74 ePKP **PKPdf 00 14 32.0 -0.5**
SATY Saty 133.23 76 ePKIKP **PKPdf 00 14 32.1 -0.7**
SATY e 00 16 59.5

SATY Saty 133.23 76 ePKP **PKPdf 00 14 32.1 -0.7**
SATY ePP **PP 00 16 59.6 -1.2**
HKPS Hong Kong Po S 133.28 127 IAMs_20 IAMs_20 01 02 30.9
comp=Z,15μm,22.0s
TRO Tromso 133.56 20 ePKPdf **PKPdf 00 14 32.3 -0.1**
TRO ePP **PP 00 17 03.3 +1.1**
TRO eSKPdf **SKPdf 00 18 06.5 +1.7**
TRO eSP **SKKPbc 00 27 12.0 -3.4**
TRO IVMs_BB IVMs_BB 01 10 03.5
comp=Z,7μm,20.0s
GZH Guangzhou 133.68 125 PKP **PKiKP 00 14 34.8 -0.6**
GZH SS SS 00 34 56.3 +9.3
GZH LR LR
comp=Z,7μm,19.1s
GZH LR LR
comp=Z,7μm,18.5s
GYA Guiyang 133.76 116 ⇓PKP **PKiKP 00 14 35.8 +0.2**
GYA PP **PP 00 17 05.5 +1.6**
GYA AMB AMB
comp=Z,3μm,8.1s
GYA LR LR
comp=Z,5μm,18.4s
GYA LR LR
comp=Z,7μm,17.4s
GYA LR LR
comp=Z,9μm,18.1s
KTK1 Kautokeino 133.81 22 ePKPdf **PKPdf 00 14 32.9 0.0**
KTK1 ePP **PP 00 17 04.5 +0.7**
KTK1 eSKPdf **SKiKP 00 18 07.0 -0.6**
KTK1 *i* 00 24 04.8
KTK1 eSS **SS 00 34 46.3 -2.1**
KTK1 IVMs_BB IVMs_BB 01 12 11.7
comp=Z,5μm,17.9s
SHLS Shalkode 133.82 77 ePKIKP **PKPdf 00 14 33.5 -0.4**
SHLS Shalkode 133.82 77 ePKP **PKPdf 00 14 33.5 -0.4**
PDGK Podgornoye 133.96 77 PKHKP PKPpre 00 14 19.0
ARTI Arti 134.13 51 IAMs_20 IAMs_20 01 16 25.4
comp=Z,10μm,19.0s
ARTI Arti 134.13 51 SKPbc **SKPbc 00 17 58.8 -1.8**
comp=Z,28nm,1.0s,baz=238,slow=6.1,SNR=3.0
ARTI Arti 134.13 51 *i* PKIKP PKPpre 00 14 28.5
UPNV Upernavik 134.21 348 *i* P **PKPdf 00 14 34.2 +0.7**
DBG Daneborg 134.30 2 *i* P **PKiKP 00 14 35.1 0.0**
TDK Taldyqorghan 134.67 74 ePKIKP **PKPdf 00 14 34.4 -0.9**
TDK Taldyqorghan 134.67 74 ePKP **PKPdf 00 14 34.5 -0.9**
TDK LR LR 01 17 05.2
comp=Z,7μm,17.0s
ARA0 ARCESS Array S 134.69 23 *e* PKPpre 00 14 19.6
ARA0 ePKPdf **PKPdf 00 14 34.4 -0.1**
ARA0 eSKPdf **SKPab 00 18 05.9 +0.2**
ARCES ARCESS Array B 134.69 23 PKhKP PKPpre 00 14 21.4
comp=Z,13nm,0.7s,baz=208,slow=2.1,SNR=24
ARCES PKP **PKPdf 00 14 34.3 -0.2**
comp=Z,106nm,0.6s,baz=222,slow=1.3,SNR=47
ARCES PP **PP 00 17 07.3 -2.2**
comp=Z,20nm,0.8s,baz=204,slow=6.5,SNR=5.0
ARCES SKPbc **SKPbc 00 18 00.2 -1.8**
comp=Z,48nm,0.8s,baz=207,slow=2.4,SNR=8.1
APA Apatity 134.78 28 *i* PKIKP **PKPdf 00 14 31.6 -3.1**
APA *i* PS PS 00 27 30.2 -0.3
APA *i* SS SS 00 34 59.0 -1.1
KEV Kevo 135.17 23 PKPdf 00 14 34.5 -0.9
KEV IAMs_20 IAMs_20 01 11 09.8
comp=Z,14μm,19.0s
KEV Kevo 135.17 23 PKIKP **PKPdf 00 14 34.5 -0.9**
KEV Kevo 135.17 23 PKP **PKPdf 00 14 35.6 +0.2**
CBB Campbell River 135.26 295 PKiKP 00 14 37.5 -0.2
HAMF Hammerfest 135.27 21 ePKPdf **PKiKP 00 14 37.0 -0.1**
HAMF ePP **PP 00 17 14.2 +1.2**
HAMF ePKSdf PKSdf 00 18 13.8 +2.5
HAMF eSS SS 00 35 05.4 -0.4
HAMF IVMs_BB IVMs_BB 01 12 11.2
comp=Z,5μm,20.6s
SVE Sverdlovsk 135.31 51 *d* PKIKP **PKPdf 00 14 36.2 +0.1**
SVE *e* 00 17 10.2
SVE *e* 00 35 03.0
SVE pmax pmax
comp=Z,215nm,1.4s
SVE MLR MLR
comp=E,9μm,23.0s
SVE MLR MLR
comp=Z,9μm,21.0s
LVZ Lovozero 135.33 28 PKPdf 00 14 35.1 -0.8
LVZ Lovozero 135.33 28 *i* PKIKP **PKPdf 00 14 33.8 -2.0**
BRZS Berezniki 135.59 66 ePKIKP **PKPdf 00 14 36.4 -0.4**
BRZS *e* 00 17 14.8
BRZS Berezniki 135.59 66 ePKP **PKPdf 00 14 36.5 -0.4**
BRZS ePP **PP 00 17 14.8 -0.6**
VADS Vadso 135.94 24 *e* PKPpre 00 14 23.0
VADS ePP **PP 00 17 18.8 +1.5**
VADS *i* 00 18 20.5
VADS eSS SS 00 35 10.7 -3.1
VADS IVMs_BB IVMs_BB 01 11 05.9
comp=Z,5μm,18.7s
KULLO Kullorsuaq 136.00 349 *i* P **PKPdf 00 14 37.2 +0.4**
GOMU GeErMu 136.12 96 PKP **PKPdf 00 14 39.5 +0.7**
GOMU PP **PP 00 17 20.8 +1.5**
GOMU SKS **SKSdf 00 21 49.8 +2.4**
GOMU SS **SS 00 35 20.5 +2.9**
GOMU AMB AMB
comp=Z,1μm,6.2s
GOMU LR LR
comp=Z,8μm,17.3s
GOMU LR LR
comp=Z,6μm,18.9s
GOMU LR LR
comp=Z,8μm,18.0s
CD2 Chengdu 136.19 109 PKP **PKPdf 00 14 38.3 -0.4**
CD2 SKKS 00 24 14.3
CD2 SS SS 00 35 17.5 -0.1
CD2 AMB AMB
comp=Z,3μm,8.4s
CD2 LR LR
comp=Z,15μm,18.6s
CD2 LR LR
comp=Z,10μm,21.0s
CD2 LR LR
comp=Z,12μm,18.2s
TPUB Ta-pu 136.69 134 PKPdf 00 14 39.1 -0.6
BVAR Borovoye Array 136.70 61 PKhKP PKPpre 00 14 27.1
comp=Z,6.4nm,0.7s,baz=238,slow=2.8,SNR=24
BVAR PKP **PKPdf 00 14 39.0 +0.2**
comp=Z,42nm,0.8s,baz=225,slow=1.8,SNR=25
BVAR PP **PP 00 17 23.4 +1.0**
comp=Z,8.7nm,1.0s,baz=220,slow=3.6,SNR=1.9
BVAR SKPab **SKiKP 00 18 13.4 -0.6**
comp=Z,26nm,0.8s,baz=207,slow=2.8,SNR=4.9
BVAR PKKP **PKKPdf 00 24 16.5 +1.2**
comp=Z,2.9nm,0.6s,baz=19,slow=1.6,SNR=4.1
BVAR Borovoye Array 136.70 61 PKIKP **PKPdf 00 14 39.0 +0.2**
DAG Danmarks Havn 136.80 3 PKP PKPpre 00 14 33.0
DAG Danmarks Havn 136.80 3 *i* P **PKPdf 00 14 38.4 +0.1**
KNMB Chin-men Tao 136.91 130 IAMs_20 IAMs_20 01 08 51.0
comp=Z,12μm,20.0s
QZH Quanzhou 137.42 130 PKP **PKPdf 00 14 41.5 +0.5**
QZH PP **PP 00 17 29.5 +2.9**
QZH SKKS 00 24 19.3
QZH SS SS 00 35 35.5 +3.8
QZH LR LR
comp=Z,10μm,21.0s
QZH LR LR
comp=Z,4μm,19.9s
QZH LR LR
comp=Z,13μm,22.3s
MAKZ Makanchi 137.70 75 ⇓PKHKP PKPpre 00 14 31.5
BJO1 Bjornoya 137.78 17 *e* PKPpre 00 14 26.3
BJO1 ePP **PP 00 17 31.3 +2.7**
BJO1 ePKSdf **PKSdf 00 18 19.2 +3.5**
BJO1 eSS SS 00 35 38.0 +2.4
MK31 Makanchi Array 137.84 75 *i* PKHKP PKPpre 00 14 28.9
MKAR Makanchi Array 137.84 75 PKhKP PKPpre 00 14 29.2
comp=Z,2.8nm,0.7s,baz=216,slow=2.5,SNR=13
MKAR PP **PP 00 17 30.3 +0.7**
comp=Z,6.2nm,0.9s,baz=236,slow=4.4,SNR=2.7
MKAR SKPab **SKiKP 00 18 18.0 +1.4**
comp=Z,7.0nm,0.9s,baz=239,slow=2.7,SNR=4.6
CNSH ChangSha 138.01 121 PKP **PKPdf 00 14 42.0 0.0**
CNSH PP **PP 00 17 37.3 +6.9**
CNSH AMB AMB
comp=Z,4μm,7.7s
CNSH LR LR
comp=Z,11μm,20.6s
CNSH LR LR
comp=Z,10μm,19.5s

CNSH LR LR
comp=Z,19μm,19.5s
YHNB Yeheng 138.21 134 IAMs_20 IAMs_20 01 22 15.2
comp=Z,8μm,18.0s
ENH Enshi 138.30 116 PKPdf 00 14 41.6 -0.9
ENH IAMs_20 IAMs_20 01 11 58.8
comp=Z,11μm,19.0s
WMQ Urumqi 138.35 83 PKP **PKPdf 00 14 43.0 +0.7**
WMQ PP **PP 00 17 37.8 +4.9**
WMQ PKS **PKSdf 00 18 19.5 +1.2**
WMQ SKS **SKSdf 00 21 50.0 -0.2**
WMQ SS **SS 00 35 47.3 +3.8**
WMQ LR LR
comp=Z,9μm,21.7s
WMQ LR LR
comp=Z,7μm,19.7s
WMQ LR LR
comp=Z,8μm,24.1s
H11N1 WAKE ISLAND Hyl 138.41 200 PKP **PKPdf 00 14 40.2 -2.5**
baz=343,slow=74,SNR=3.2
H11N3 WAKE ISLAND Hyl 138.42 200 PKP **PKPdf 00 14 40.2 -2.5**
baz=170,slow=74,SNR=3.0
H11N2 WAKE ISLAND Hyl 138.43 200 PKP **PKPdf 00 14 40.2 -2.5**
YOJ Yonaguni jima 138.59 136 PKPdf 00 14 43.0 -0.2
YOJ Yonaguni jima 138.59 136 PKIKP **PKPdf 00 14 43.0 -0.2**
KURBB Kurchatov Arra 138.72 69 PKhKP PKPpre 00 14 33.1
comp=Z,12nm,0.7s,baz=237,slow=3.8,SNR=54
KURBB PP **PP 00 17 36.9 +1.9**
comp=Z,7.9nm,1.1s,baz=238,slow=5.9,SNR=7.4
KURBB SKPab **SKiKP 00 18 20.0 +1.8**
comp=Z,12nm,1.0s,baz=231,slow=3.1,SNR=5.8
KURBB Kurchatov Arra 138.72 69 PKHKP PKPpre 00 14 31.2
KURK Kurchatov 138.83 69 IAMs_20 IAMs_20 01 16 41.3
comp=Z,10μm,20.0s
YKA Yellowknife Ar 139.34 315 PKhKP PKPpre 00 14 34.6
comp=Z,3.6nm,0.7s,baz=115,slow=3.1,SNR=14
YKA PKP **PKPdf 00 14 43.9 +0.5**
comp=Z,35nm,0.7s,baz=158,slow=8.2,SNR=81
YKA PP **PP 00 17 31.8 -6.8**
comp=Z,19nm,0.9s,baz=123,slow=5.5,SNR=4.6
HSPB Hornsund (broa 139.47 14 ePKP **PKPdf 00 14 42.7 -0.4**
ZSN Zaisan 139.55 77 ePKIKP **PKPdf 00 14 43.8 -0.4**
ZSN Zaisan 139.55 77 ePKP **PKPdf 00 14 43.8 -0.4**
HOPEN Hopen 140.29 17 *e* PKPpre 00 14 36.9
HOPEN ePP **PP 00 17 45.1 +0.9**
HOPEN eSS SS 00 36 11.4 +6.2
LZH Lanzhou 140.47 105 PKP **PKPdf 00 14 43.5**
LZH PP **PP 00 17 48.0 +2.0**
LZH PKS 00 18 24.0
LZH AMB AMB
comp=Z,4μm,6.0s
LZH LR LR
comp=Z,9μm,20.6s
LZH LR LR
comp=Z,15μm,20.6s
LZH LR LR
comp=Z,16μm,21.0s
SPA0 Spitsbergen Ar 140.56 13 *e* PKPpre 00 14 39.0
SPITS Spitsbergen Ar 140.56 13 PKhKP PKPpre 00 14 38.2
comp=Z,14nm,0.4s,baz=157,slow=4.5,SNR=46
SPITS PP **PP 00 17 48.6 +2.8**
comp=Z,17nm,0.8s,baz=196,slow=10.0,SNR=2.2
WHN Wuhan 140.66 121 PKP **PKiKP 00 14 49.5 +0.1**
WHN PP **PP 00 17 52.5 +5.7**
WHN SKKS 00 24 36.5
DIB Dawson Inlet, 140.67 294 PKPdf 00 14 46.9 +0.9
H02S2 DAWSON INLET Tl 140.67 294 PKhKP PKPpre 00 14 41.5
SNR=54
KBS Kingsbay 140.75 11 IAMs_20 IAMs_20 01 15 02.8
comp=Z,14μm,18.0s
KBS Kingsbay 140.75 11 ePKPdf PKPpre 00 14 40.3
KBS *e*PP **PP 00 17 51.3 +4.4**
KBS IVMs_BB IVMs_BB 01 10 51.1
comp=Z,4μm,21.9s
KBS Kingsbay 140.75 11 *i* P PKPpre 00 14 41.7
GTA Gaotai 141.10 98 PKP **PKPdf 00 14 41.5 -6.0**
GTA sPKP 00 14 58.0
GTA PP **PP 00 17 55.5 +5.7**
GTA PKS 00 18 25.0
GTA SKKS 00 24 40.8
XAN Xi'an 141.21 112 PKP PKPpre 00 14 43.5
XAN sPKP 00 14 56.5
XAN PP **PP 00 17 54.0 +3.8**
XAN SS SS 00 36 23.8 +7.1
XAN AMB AMB
comp=Z,4μm,9.8s
XAN LR LR
comp=Z,10μm,20.8s
XAN LR LR
comp=Z,10μm,21.0s
XAN LR LR
comp=Z,19μm,20.4s
U35K Hyder 141.31 299 PKPdf **PKPdf 00 14 47.8 +0.7**
baz=129
KOTAN Kotaneelee Air 141.42 307 PKPdf **PKPdf 00 14 48.1 +1.0**
baz=128
V35K Ketchikan 141.64 297 IAMs_20 IAMs_20 01 25 58.0
comp=Z,11μm,20.0s
V35K Ketchikan 141.64 297 PKPdf **PKPdf 00 14 48.4 +0.7**
baz=129
NOR Nord 141.67 2 *i* P PKPpre 00 14 43.6
LIRD Liard River Hi 141.81 305 PKPdf **PKPdf 00 14 48.3 +0.4**
baz=127
T35M Bob Quinn 142.07 300 IAMs_20 IAMs_20 01 21 04.2
comp=Z,14μm,20.0s
T35M Bob Quinn 142.07 300 PKPdf **PKPdf 00 14 49.3 +0.8**
baz=128
CRAG Craig 142.40 296 PKPdf **PKPdf 00 14 49.8 +0.8**
baz=128
JOW Kunigami 142.53 142 PKhKP PKPpre 00 14 44.3
comp=Z,32nm,0.9s,baz=284,slow=3.2,SNR=8.1
WRAK Wrangell Islan 142.64 298 PKPdf **PKPdf 00 14 50.3 +0.8**
baz=128
U33K Whale Pass 142.80 297 IAMs_20 IAMs_20 01 18 27.6
comp=Z,12μm,22.0s
U33K Whale Pass 142.80 297 PKPdf **PKPdf 00 14 50.7 +1.0**
baz=128
DLBC Dease Lake 142.85 302 PKPdf **PKPdf 00 14 50.7 +0.8**
baz=126
WRGLY Wrigley 143.01 312 PKPdf **PKPdf 00 14 50.7 +0.8**
baz=125
S34M Telegraph Cree 143.01 301 PKPdf **PKPdf 00 14 51.1 +1.0**
baz=127
LYN LuoYang 143.25 116 PKP PKPbc 00 14 48.0 -0.4
LYN pPKP PKPdf 00 14 51.0 -0.3
LYN sPKP 00 14 54.5
LYN PP **PP 00 18 06.3 +3.8**
LYN SKKS 00 24 58.5
LYN SS SS 00 36 48.0 +7.8
LYN AMB AMB
comp=Z,6μm,11.3s
LYN LR LR
comp=Z,8μm,17.9s
LYN LR LR
comp=Z,7μm,20.3s
LYN LR LR
comp=Z,14μm,18.6s
WTLY Watson Lake, Y 143.32 305 PKPdf **PKPdf 00 14 51.1 +0.4**
baz=125
R33M Jennings River 143.81 303 IAMs_20 IAMs_20 01 17 06.2
comp=Z,13μm,22.0s
R33M Jennings River 143.81 303 PKPdf **PKPdf 00 14 52.3 +0.7**
baz=125
ZALV Zalesovo Beam 143.82 69 PKhKP PKPpre 00 14 48.4
comp=Z,26nm,0.5s,baz=237,slow=3.6,SNR=83
ZALV PP **PP 00 18 06.5 +0.5**
comp=Z,12nm,1.1s,baz=270,slow=6.9,SNR=2.1
NJ2 Nanjing 143.86 126 ⇑PKP PKPbc 00 14 50.3 +0.1
NJ2 SKKS 00 24 56.3
NJ2 SS SS 00 36 54.0 +7.0
NJ2 AMB AMB
comp=Z,2μm,8.7s
NJ2 LR LR
comp=Z,8μm,18.0s
NJ2 LR LR
comp=Z,3μm,18.9s
NJ2 LR LR
comp=Z,10μm,20.8s
TGTN Hyland Airport 143.91 307 PKPdf **PKPdf 00 14 52.7 +1.1**
baz=124
SSE Sheshan 143.94 129 PKP **PKPdf 00 14 52.0 -0.6**
SSE PP **PP 00 18 06.5 0.0**
SSE AMB AMB
comp=Z,2μm,11.5s
SSE LR LR
comp=Z,3μm,20.8s

SSE				LR	LR			
	comp=Z,1µm,21.9s							
Q32M	**Nakina River**	**144.11 302**		IAMs_20	IAMs_20	01 26 20.2		
	comp=Z,13µm,19.0s							
Q32M	**Nakina River**	**144.11 302**		PKPdf	**PKPdf**	**00 14 52.9**	**+0.6**	
	baz=125							
SIT	**Sitka**	**144.34 297**		PKPdf	PKPbc	00 14 51.4	+0.5	
	baz=126							
JAM	**Amami Oshima**	**144.41 143**		P	PKPbc	00 14 52.1	+0.1	
R32K	**Eaglecrest**	**144.69 299**			PKPbc	00 14 52.5	+0.5	
R32K	**Eaglecrest**	**144.69 299**		PKPdf	**PKPdf**	**00 14 52.8**	**-0.2**	
	baz=125							
BESE	**Bessie Mountai**	**145.01 300**			**PKPab**	**00 14 53.3**	**+0.2**	
P33M	**Teslin, Yukon**	**145.04 303**		IAMs_20	IAMs_20	01 18 34.0		
	comp=Z,14µm,22.0s							
P33M	**Teslin, Yukon**	**145.04 303**		PKPdf	**PKPab**	**00 14 53.4**	**+0.2**	
	baz=123							
P32M	**Atlin**	**145.08 302**		IAMs_20	IAMs_20	01 28 20.8		
	comp=Z,12µm,19.0s							
P32M	**Atlin**	**145.08 302**		PKPdf	**PKPdf**	**00 14 53.9**	**+0.1**	
	baz=124							
S31K	**Pelican**	**145.26 298**		IAMs_20	IAMs_20	01 24 15.7		
	comp=Z,15µm,20.0s							
S31K	**Pelican**	**145.26 298**		PKPdf	**PKPab**	**00 14 54.3**	**+0.4**	
	baz=124							
R31K	**City Hall, Gus**	**145.30 299**		PKPdf	**PKPdf**	**00 14 54.1**	**+0.1**	
	baz=124							
N32M	**Quiet Lake**	**145.66 304**		PKPdf	**PKPdf**	**00 14 54.2**	**-0.5**	
	baz=122							
MMPY	**Sheldon Lake,**	**145.69 307**		PKPdf	**PKPdf**	**00 14 54.1**	**-0.6**	
	baz=121							
SKAG	**Skagway**	**145.70 301**		PKPdf	**PKPdf**	**00 14 54.6**	**0.0**	
	baz=123							
TIY	**Taiyuan**	**145.84 113**	*e*	PKPbc	**PKPdf**	**00 14 55.5**	**-0.3**	
TIY				SKKS		00 25 05.3		
TIY				SS	SS	00 37 15.3	+5.2	
TIY				LR	LR			
	comp=Z,7µm,20.6s							
TIY				LR	LR			
	comp=Z,6µm,20.6s							
TIY				LR	LR			
	comp=Z,10µm,23.4s							
JCJ	**Chichijima**	**146.06 162**		PKPbc	**PKPdf**	**00 14 55.5**	**-0.9**	
	comp=Z,276nm,0.8s,baz=177,slow=3.2,SNR=16							
CBIJ	**Chichi jima**	**146.06 162**		P	**PKPdf**	**00 14 55.1**	**-1.3**	
PLBC	**Pleasant Camp**	**146.14 300**		PKPdf	**PKPdf**	**00 14 55.2**	**-0.2**	
	baz=122							
WHY	**Whitehorse**	**146.15 303**		PKPdf	**PKPdf**	**00 14 55.1**	**-0.5**	
	baz=122							
C36M	**Paulatuk**	**146.35 321**		PKPdf	**PKPdf**	**00 14 53.5**	**-2.0**	
	baz=117							
HNS	**HongShan**	**146.62 116**	⇑	PKPbc	**PKPdf**	**00 14 57.0**	**0.0**	
HNS				PP	**PP**	**00 18 26.5**	**+3.9**	
HNS				SKKS		00 25 11.8		
HNS				SS	SS	00 37 24.0	+5.3	
HNS				AMB	AMB			
	comp=Z,7µm,12.1s							
HNS				LR	LR			
	comp=Z,6µm,22.6s							
HNS				LR	LR			
	comp=Z,7µm,20.2s							
HNS				LR	LR			
	comp=Z,9µm,23.5s							
TIA	**Tai'an**	**146.71 120**		PKPbc	**PKPdf**	**00 14 57.3**	**+0.1**	
TIA				SS	SS	00 37 25.3	+5.7	
TIA				AMB	AMB			
	comp=Z,2µm,9.3s							
TIA				LR	LR			
	comp=Z,11µm,18.1s							
TIA				LR	LR			
	comp=Z,6µm,18.6s							
TIA				LR	LR			
	comp=Z,16µm,19.1s							
O30N	**Mendenhall**	**146.72 302**		IAMs_20	IAMs_20	01 19 25.0		
	comp=Z,15µm,21.0s							
O30N	**Mendenhall**	**146.72 302**		PKPdf	**PKPdf**	**00 14 56.1**	**-0.4**	
	baz=121							
M31M	**Drury Creek, Y**	**146.74 305**		PKPdf	**PKPdf**	**00 14 55.0**	**-1.4**	
	baz=120							
P30M	**Million Dollar**	**146.75 301**		PKPdf	**PKPdf**	**00 14 56.4**	**-0.2**	
	baz=121							
P29M	**Windy Craggy**	**146.83 300**		IAMs_20	IAMs_20	01 29 37.3		
	comp=Z,11µm,20.0s							
P29M	**Windy Craggy**	**146.83 300**		PKPdf	**PKPdf**	**00 14 55.7**	**-1.0**	
	baz=122							
N31M	**Braeburn, Yuko**	**146.95 304**		PKPdf	**PKPdf**	**00 14 55.9**	**-0.9**	
	baz=120							
BTO	**Baotou**	**147.01 107**	*e*	PKPbc	**PKPdf**	**00 14 57.5**	**-0.2**	
BTO				PP	**PP**	**00 18 30.0**	**+4.9**	
HYT	**Haines Junctio**	**147.34 302**			**PKPdf**	**00 14 56.8**	**-0.9**	
HYT	**Haines Junctio**	**147.34 302**		PKPdf	**PKPdf**	**00 14 57.2**	**-0.4**	
	baz=120							
N30M	**Aishikik Lake**	**147.48 303**		PKPdf	**PKPdf**	**00 14 57.0**	**-0.7**	
	baz=120							
O29M	**Mount Kennedy**	**147.54 301**		IAMs_20	IAMs_20	01 28 46.7		
	comp=Z,13µm,19.0s							
O29M	**Mount Kennedy**	**147.54 301**		PKPdf	**PKPdf**	**00 14 56.7**	**-1.2**	
	baz=120							
JSU	**Suzuyama**	**147.56 142**		P	**PKPbc**	**00 15 01.9**	**+0.4**	
PNL	**Peninsula**	**147.57 299**		PKPdf	**PKPdf**	**00 14 56.8**	**-1.1**	
	baz=121							
YUK6	**Outpost Mounta**	**147.76 302**		PKPdf	**PKPdf**	**00 14 57.5**	**-1.0**	
	baz=120							
A36M	**Sachs Harbour**	**147.80 325**			**PKPdf**	**00 14 57.1**	**-0.8**	
A36M	**Sachs Harbour**	**147.80 325**		PKPdf	**PKPdf**	**00 14 56.3**	**-1.6**	
	baz=112							
BCPM	**Bancas Point**	**147.82 299**		IAMs_20	IAMs_20	01 19 33.3		
	comp=Z,13µm,22.0s							
M30M	**Minto, Yukon**	**147.90 305**		PKPdf	**PKPdf**	**00 14 57.3**	**-1.1**	
	baz=118							
HHC	**Hu-ho-hao-te**	**147.93 108**	⇑ *i*	PKPbc	**PKPdf**	**00 14 58.8**	**-0.4**	
HHC				SS	SS	00 37 34.5	+0.6	
HHC				AMB	AMB			
	comp=Z,4µm,13.3s							
HHC				LR	LR			
	comp=Z,5µm,21.6s							
HHC				LR	LR			
	comp=Z,3µm,19.6s							
HHC				LR	LR			
	comp=Z,7µm,21.6s							
MAYO	**Mayo, Yukon**	**148.01 307**		PKPdf	**PKPdf**	**00 14 57.0**	**-1.4**	
	baz=117							
JFU	**Fukue jima 2**	**148.07 139**		P	**PKiKP**	**00 15 03.8**	**-0.8**	
YUK4	**Talbot Arm**	**148.08 302**		PKPdf	**PKPdf**	**00 14 57.7**	**-1.2**	
	baz=119							
PINM	**Pinnacle**	**148.16 299**		PKPdf	**PKPdf**	**00 14 57.8**	**-1.1**	
	baz=120							
PCA	**Pinnacle**	**148.16 299**			**PKPdf**	**00 14 58.5**	**-0.5**	
PCA				IAMs_20	IAMs_20	01 20 52.2		
	comp=Z,15µm,22.0s							
H31M	**Peel River**	**148.38 311**		IAMs_20	IAMs_20	01 23 58.4		
	comp=Z,15µm,20.0s							
H31M	**Peel River**	**148.38 311**		PKPdf	**PKPdf**	**00 14 57.1**	**-2.0**	
	baz=115							
O28M	**Mount Upton**	**148.46 301**		IAMs_20	IAMs_20	01 19 22.2		
	comp=Z,11µm,22.0s							
O28M	**Mount Upton**	**148.46 301**		PKPdf	**PKPdf**	**00 14 58.7**	**-1.0**	
	baz=119							
M29M	**Somme Creek**	**148.52 304**		IAMs_20	IAMs_20	01 21 56.9		
	comp=Z,15µm,20.0s							
M29M	**Somme Creek**	**148.52 304**		PKPdf	**PKPdf**	**00 14 58.3**	**-1.2**	
	baz=117							
YUK8	**Steele Glacier**	**148.53 302**		PKPdf	**PKPdf**	**00 14 58.7**	**-1.1**	
	baz=118							
J30M	**Hart River**	**148.61 309**		PKPdf	**PKPdf**	**00 14 58.0**	**-1.6**	
	baz=116							
L29M	**L29M**	**148.69 305**		PKPdf	**PKPdf**	**00 14 58.2**	**-1.4**	
	baz=117							
TABL	**Table Mountain**	**148.72 300**			**PKPdf**	**00 14 58.8**	**-1.2**	
TABL				IAMs_20	IAMs_20	01 21 15.9		
	comp=Z,14µm,22.0s							
K29M	**Barlow Dome**	**148.77 307**		PKPdf	**PKPdf**	**00 14 58.3**	**-1.6**	
	baz=116							
G31M	**Satah River**	**148.80 313**		PKPdf	**PKPdf**	**00 14 57.6**	**-2.0**	
	baz=113							
F31M	**Tsiigehtchic**	**148.82 315**		IAMs_20	IAMs_20	01 23 50.9		
	comp=Z,13µm,21.0s							
F31M	**Tsiigehtchic**	**148.82 315**		PKPdf	**PKPdf**	**00 14 57.7**	**-2.0**	
	baz=113							
LOGN	**Logan Glacier**	**148.84 300**			**PKPdf**	**00 14 58.7**	**-1.4**	
LOGN				IAMs_20	IAMs_20	01 19 56.2		
	comp=Z,15µm,22.0s							
I30M	**Mount Dempster**	**148.90 310**		PKPdf	**PKPdf**	**00 14 57.9**	**-2.2**	
	baz=114							
MESA	**MESA**	**148.94 299**		IAMs_20	IAMs_20	01 22 12.9		
	comp=Z,15µm,21.0s							
MESA	**MESA**	**148.94 299**		PKPdf	**PKPdf**	**00 14 58.8**	**-1.5**	
	baz=119							
CTGM	**Chitina Glacie**	**149.05 300**			**PKPdf**	**00 14 59.0**	**-1.5**	
CTGM				IAMs_20	IAMs_20	01 20 10.8		
	comp=Z,16µm,22.0s							
CTG	**Chitna Glacier**	**149.05 300**		PKPdf	**PKPdf**	**00 14 58.9**	**-1.5**	
	baz=118							
YUK3	**Moose Creek**	**149.05 302**		PKPdf	**PKPdf**	**00 14 58.7**	**-1.8**	
	baz=117							
INK	**Inuvik**	**149.07 316**		PKPdf	**PKPdf**	**00 14 57.6**	**-2.4**	
	baz=112							
GRNC	**Granite Creek**	**149.12 300**		IAMs_20	IAMs_20	01 21 09.6		
	comp=Z,13µm,20.0s							
JNU	**Nakatsue**	**149.19 141**			**PKPdf**	**00 15 00.3**	**-1.1**	
JNU	**Nakatsue**	**149.19 141**		PKPbc	**PKPbc**	**00 15 05.3**	**-0.4**	
	comp=Z,52nm,0.8s,baz=214,slow=3.6,SNR=8.6							
JNU	**Nakatsue**	**149.19 141**		P	**PKPbc**	**00 15 05.6**	**-0.1**	
J29N	**Klondike Camp**	**149.30 308**		PKPdf	**PKPdf**	**00 14 59.0**	**-1.7**	
	baz=114							
BJT	**Baijiatuao**	**149.42 114**			**PKPdf**	**00 15 00.9**	**-0.6**	
BJT				PKPbc	**PKPbc**	**00 15 06.6**	**+0.6**	
BJT	**Baijiatuao**	**149.42 114**		PKIKP	**PKPdf**	**00 15 00.9**	**-0.6**	
BJT						00 15 06.6		
BJT				MLR	MLR			
	comp=Z,7µm,21.0s							
BJI	**Beijing**	**149.44 114**		PKPbc	**PKPdf**	**00 15 01.3**	**-0.2**	
BJI				SS	SS	00 37 56.5	+6.1	
BJI				LR	LR			
	comp=Z,3µm,18.2s							
BJI				LR	LR			
	comp=Z,2µm,21.7s							
BJI				LR	LR			
	comp=Z,4µm,24.9s							
WAX	**Waxell Ridge**	**149.47 299**		IAMs_20	IAMs_20	01 30 07.8		
	comp=Z,13µm,18.0s							
EPYK	**Eagle Plains**	**149.49 312**		PKPdf	**PKPdf**	**00 14 59.1**	**-1.8**	
	baz=112							
BGLC	**Bering Glacier**	**149.50 298**		PKPdf	**PKPdf**	**00 14 59.8**	**-1.1**	
	baz=118							
BVCY	**Beaver Creek**	**149.51 303**		PKPdf	**PKPdf**	**00 14 59.4**	**-1.6**	
	baz=116							
G30M	**tAoh Zraii Nji**	**149.54 313**		PKPdf	**PKPdf**	**00 14 58.6**	**-2.3**	
	baz=112							
DAWY	**Dawson**	**149.61 307**		PKPdf	**PKPdf**	**00 14 59.1**	**-2.0**	
	baz=114							
F30M	**Barrier River**	**149.61 314**		IAMs_20	IAMs_20	01 24 02.8		
	comp=Z,12µm,20.0s							
F30M	**Barrier River**	**149.61 314**		PKPdf	**PKPdf**	**00 14 58.6**	**-2.4**	
	baz=111							
I29M	**Ogilvie Camp,**	**149.70 309**		PKPdf	**PKPdf**	**00 14 58.7**	**-2.5**	
	baz=113							
CRQE	**Cirque**	**149.71 299**		PKPdf	**PKPdf**	**00 14 59.8**	**-1.6**	
	baz=118							
BERG	**Berg Lake**	**149.81 298**		IAMs_20	IAMs_20	01 27 33.9		
	comp=Z,14µm,20.0s							
M27K	**Edge Creek, AK**	**149.91 303**		IAMs_20	IAMs_20	01 22 32.6		
	comp=Z,15µm,22.0s							
M27K	**Edge Creek, AK**	**149.91 303**		PKPdf	**PKPdf**	**00 15 00.1**	**-1.6**	
	baz=116							
KAIM	**Kayak Island**	**149.91 297**		PKPdf	**PKPdf**	**00 15 00.5**	**-1.2**	
	baz=118							
MCARA	**McCarthy VSAT**	**149.97 300**		IAMs_20	IAMs_20	01 24 23.0		
	comp=Z,11µm,21.0s							
MCARA	**McCarthy VSAT**	**149.97 300**		PKPdf	**PKPdf**	**00 15 00.3**	**-1.4**	
	baz=117							
H29M	**Whitestone**	**150.05 311**		PKPdf	**PKPdf**	**00 14 59.8**	**-1.9**	
	baz=112							
VRDI	**Verde Repeater**	**150.08 300**		IAMs_20	IAMs_20	01 24 39.1		
	comp=Z,13µm,22.0s							
G29M	**Pine Creek**	**150.17 312**		IAMs_20	IAMs_20	01 24 25.8		
	comp=Z,10µm,22.0s							
G29M	**Pine Creek**	**150.17 312**		PKPdf	**PKPdf**	**00 14 59.6**	**-2.3**	
	baz=111							
L27K	**Beaver Creek,**	**150.19 304**		PKPdf	**PKPdf**	**00 15 00.5**	**-1.6**	
	baz=115							
MOY	**Mondy**	**150.24 83**	*e*	PKIKP	**PKPdf**	**00 15 02.4**	**-0.2**	
MOY				pmax	pmax			
	comp=Z,1µm,2.0s							
I28M	**Miner Creek**	**150.37 309**		PKPdf	**PKPdf**	**00 15 00.1**	**-2.3**	
	baz=112							
M26K	**Nabesna, AK**	**150.40 302**		PKPdf	**PKPdf**	**00 15 00.3**	**-2.1**	
	baz=115							
BMRM	**Bremner River**	**150.47 299**		PKPdf	**PKPdf**	**00 15 00.9**	**-1.7**	
	baz=116							
SONM	**Songino Array**	**150.49 93**		PKPbc	**PKPbc**	**00 15 08.2**	**-0.4**	
	comp=Z.7nm,0.7s,baz=203,slow=2.5,SNR=43							
Q23K	**Middleton Isla**	**150.54 295**		IAMs_20	IAMs_20	01 25 59.2		
	comp=Z,11µm,22.0s							
Q23K	**Middleton Isla**	**150.54 295**		PKPdf	**PKPdf**	**00 15 01.0**	**-1.6**	
	baz=118							
ZAK	**Zakamensk**	**150.59 87**	*e*	PKIKP	**PKPdf**	**00 15 02.7**	**-0.5**	
ZAK				pmax	pmax			
	comp=Z,435nm,1.6s							
E29M	**Blow River**	**150.62 315**		IAMs_20	IAMs_20	01 17 30.6		
	comp=Z,16µm,22.0s							
E29M	**Blow River**	**150.62 315**		PKPdf	**PKPdf**	**00 14 59.9**	**-2.6**	
	baz=108							
JMN	**Monobe**	**150.64 146**			**PKPdf**	**00 15 02.8**	**-1.0**	
JMN	**Monobe**	**150.64 146**		P	**PKiKP**	**00 15 10.2**	**+0.4**	
K27K	**Chicken**	**150.68 306**		PKPdf	**PKPdf**	**00 15 01.3**	**-1.4**	
	baz=113							
N25K	**Chitina, Valde**	**150.75 300**		IAMs_20	IAMs_20	01 25 41.6		
	comp=Z,11µm,20.0s							
N25K	**Chitina, Valde**	**150.75 300**		PKPdf	**PKPdf**	**00 15 01.5**	**-1.5**	
	baz=116							
EYAK	**Cordova Ski Ar**	**150.79 298**		PKPdf	**PKPdf**	**00 15 01.3**	**-1.7**	
	baz=117							
L26K	**Log Cabin Wild**	**150.80 303**		PKPdf	**PKPdf**	**00 15 01.3**	**-1.7**	
	baz=114							
ULN	**Ulaanbaatar**	**150.84 94**			**PKPdf**	**00 15 02.7**	**-1.0**	
ULN				PKPbc	**PKPbc**	**00 15 09.3**	**-0.1**	
ULN	**Ulaanbaatar**	**150.84 94**		IAMs_20	IAMs_20	01 35 21.4		
	comp=Z,10µm,20.0s							
ULN	**Ulaanbaatar**	**150.84 94**		PKIKP	**PKPdf**	**00 15 02.7**	**-1.0**	
ULN						00 15 09.3		
DL2	**Dalian**	**150.90 123**		PKPbc	**PKPbc**	**00 15 08.8**	**-0.8**	
DL2				PP	**PP**	**00 18 49.5**	**+2.1**	
DL2				SS	SS	00 38 09.0	+2.5	
DL2				AMB	AMB			
	comp=Z,4µm,11.8s							
DL2				LR	LR			
	comp=Z,7µm,18.8s							
DL2				LR	LR			
	comp=Z,6µm,21.0s							
DL2				LR	LR			
	comp=Z,11µm,18.4s							
DIV	**Divide**	**151.05 299**		IAMs_20	IAMs_20	01 24 52.7		
	comp=Z,13µm,21.0s							
I27K	**Kandik River**	**151.07 309**		PKPdf	**PKPdf**	**00 15 01.5**	**-1.9**	
	baz=110							
F28M	**Old Crow**	**151.08 313**		IAMs_20	IAMs_20	01 24 07.0		
	comp=Z,13µm,20.0s							
F28M	**Old Crow**	**151.08 313**		PKPdf	**PKPdf**	**00 15 00.9**	**-2.3**	
	baz=108							
D28M	**Stokes Point**	**151.19 317**		PKPdf	**PKPdf**	**00 15 01.3**	**-2.0**	
	baz=106							
H27K	**Steamboat Moun**	**151.25 310**		IAMs_20	IAMs_20	01 24 02.3		
	comp=Z,11µm,20.0s							
H27K	**Steamboat Moun**	**151.25 310**		PKPdf	**PKPdf**	**00 15 01.4**	**-2.2**	
	baz=110							
E28M	**Babbage River**	**151.26 315**		IAMs_20	IAMs_20	01 26 05.5		
	comp=Z,11µm,21.0s							
E28M	**Babbage River**	**151.26 315**		PKPdf	**PKPdf**	**00 15 00.5**	**-3.0**	
	baz=107							
KLU	**Klutina**	**151.27 299**		IAMs_20	IAMs_20	01 25 51.5		
	comp=Z,12µm,21.0s							
KLU	**Klutina**	**151.27 299**		PKPdf	**PKPdf**	**00 15 01.9**	**-2.0**	
	baz=115							
HARP	**HAARP**	**151.31 301**		PKPdf	**PKPdf**	**00 15 01.5**	**-2.3**	
	baz=114							
SCRK	**Sand Creek**	**151.44 305**		PKPdf	**PKPdf**	**00 15 01.9**	**-2.2**	
	baz=112							
J26L	**Joseph Creek**	**151.46 306**		PKPdf	**PKPdf**	**00 15 01.9**	**-2.1**	
	baz=111							
G27K	**Doyon Strip**	**151.49 311**		IAMs_20	IAMs_20	01 21 08.8		
	comp=Z,14µm,21.0s							
G27K	**Doyon Strip**	**151.49 311**		PKPdf	**PKPdf**	**00 15 01.7**	**-2.3**	
	baz=108							
JHJ2	**Mitsune**	**151.50 156**			**PKPbc**	**00 15 11.0**	**-0.1**	
JHJ	**Hachijo jima 2**	**151.50 156**		PKPbc	**PKPbc**	**00 15 11.1**	**-0.1**	
	comp=Z,526nm,0.8s,baz=216,slow=6.0,SNR=13							
GLI	**Glacier Island**	**151.53 298**		PKPdf	**PKPdf**	**00 15 01.7**	**-2.4**	
	baz=115							
I26K	**Coal Creek Min**	**151.58 308**		IAMs_20	IAMs_20	01 28 52.5		
	comp=Z,13µm,20.0s							
I26K	**Coal Creek Min**	**151.58 308**		PKPdf	**PKPdf**	**00 15 01.4**	**-2.6**	
	baz=110							
JHS	**Saijyo**	**151.61 144**		P	**PKiKP**	**00 15 11.8**	**0.0**	
M24K	**Tolsona, Glenn**	**151.63 300**		IAMs_20	IAMs_20	01 29 07.1		
	comp=Z,14µm,20.0s							
M24K	**Tolsona, Glenn**	**151.63 300**		PKPdf	**PKPdf**	**00 15 02.2**	**-2.1**	
	baz=114							
INCN	**Inchon**	**151.67 131**			**PKPdf**	**00 15 05.2**	**+0.1**	
INCN	**Inchon**	**151.67 131**		IAMs_20	IAMs_20	01 13 52.6		
	comp=Z,11µm,22.0s							
INCN	**Inchon**	**151.67 131**		PKIKP	**PKPdf**	**00 15 05.2**	**+0.1**	
PAX	**Paxson**	**151.67 302**		PKPdf	**PKPdf**	**00 15 01.7**	**-2.7**	
	baz=113							
RIDG	**Independent Ri**	**151.70 304**		PKPdf	**PKPdf**	**00 15 02.2**	**-2.2**	
	baz=112							
HJU	**Haeju**	**151.81 129**		PKPbc	**PKPdf**	**00 15 03.6**	**-1.7**	
HJU				AmB				
	comp=Z,15nm,0.8s							
JAD	**Aida**	**151.86 145**		P	**PKiKP**	**00 15 12.6**	**+0.3**	
E27K	**Coleen River**	**151.88 314**		IAMs_20	IAMs_20	01 19 26.8		
	comp=Z,16µm,22.0s							
E27K	**Coleen River**	**151.88 314**		PKPdf	**PKPdf**	**00 15 02.0**	**-2.5**	
	baz=106							
D27M	**Malcolm River**	**151.93 316**		PKPdf	**PKPdf**	**00 15 02.6**	**-2.0**	
	baz=104							
JIE	**Ise**	**152.02 150**		P	**PKiKP**	**00 15 13.5**	**+0.9**	
SCM	**Sheep Creek Mo**	**152.02 299**		IAMs_20	IAMs_20	01 23 58.4		
	comp=Z,12µm,22.0s							
SCM	**Sheep Creek Mo**	**152.02 299**		PKPdf	**PKPdf**	**00 15 02.4**	**-2.5**	
	baz=114							
PWL	**Port Wells**	**152.07 297**		PKPdf	**PKPdf**	**00 15 02.6**	**-2.4**	
	baz=115							
KSAR	**Wonju Array Be**	**152.10 133**			**PKPdf**	**00 15 04.8**	**-0.9**	
KSAR	**Wonju Array Be**	**152.10 133**		PKIKP	**PKPdf**	**00 15 04.8**	**-0.9**	
K24K	**Donnelly Dome**	**152.11 304**		PKPdf	**PKPdf**	**00 15 02.3**	**-2.6**	
	baz=111							
KSRS	**Korea Array**	**152.12 133**		PKP	**PKPdf**	**00 15 05.5**	**-0.3**	
	comp=Z,4.4nm,0.9s,baz=215,slow=1.4,SNR=15							
KSRS				PKPbc	**pPKPdf**	**00 15 12.4**	**-2.7**	
	comp=Z,42nm,0.8s,baz=188,slow=2.4,SNR=56							
KS19	**Wonju Array Si**	**152.14 133**			**PKPbc**	**00 15 11.8**	**-0.7**	
M23K	**Glacier View**	**152.18 299**		PKPdf	**PKPdf**	**00 15 02.4**	**-2.7**	
	baz=114							
IRK	**Irkutsk**	**152.22 85**	*e*	PKIKP	**PKPdf**	**00 15 03.7**	**-1.8**	
IRK			*e*			00 18 53.5		
IRK				pmax	pmax			
	comp=Z,880nm,2.6s							
J25K	**Salcha River,**	**152.23 306**		IAMs_20	IAMs_20	01 27 22.5		
	comp=Z,13µm,20.0s							
J25K	**Salcha River,**	**152.23 306**		PKPdf	**PKPdf**	**00 15 02.5**	**-2.6**	
	baz=110							
SEW	**Seward**	**152.25 295**		PKPdf	**PKPdf**	**00 15 02.6**	**-2.5**	
	baz=116							
G26K	**Porcupine Rive**	**152.34 311**		IAMs_20	IAMs_20	01 26 42.1		
	comp=Z,10µm,19.0s							
G26K	**Porcupine Rive**	**152.34 311**		PKPdf	**PKPdf**	**00 15 02.6**	**-2.6**	
	baz=107							
KNK	**Knik Glacier**	**152.35 298**		PKPdf	**PKPdf**	**00 15 03.0**	**-2.4**	
	baz=114							
XLT	**XiLinHaoTe**	**152.41 109**	*e*	PKPbc	**PKPdf**	**00 15 04.8**	**-1.3**	
XLT				pPKP	PKiKP	00 15 13.3	0.0	
XLT				PKPab	**PKPab**	**00 15 25.8**	**+2.4**	
XLT				PP	**PP**	**00 18 57.5**	**+1.2**	
XLT				SS	SS	00 38 32.0	+8.3	
XLT				AMB	AMB			
	comp=Z,4µm,8.3s							
XLT				LR	LR			
	comp=Z,7µm,18.7s							
XLT				LR	LR			
	comp=Z,9µm,19.5s							
WAT6	**Susitna Watana**	**152.49 301**		PKPdf	**PKPdf**	**00 15 03.1**	**-2.6**	
	baz=112							
DHY	**Denali Highway**	**152.52 302**		PKPdf	**PKPdf**	**00 15 03.4**	**-2.4**	
	baz=112							
JWT	**Wachi**	**152.53 147**		P	**PKiKP**	**00 15 14.1**	**+0.5**	
O22K	**Cooper Landing**	**152.53 296**		PKPdf	**PKPdf**	**00 15 03.1**	**-2.5**	
	baz=115							
PRP	**Porcupine Dome**	**152.58 308**		IAMs_20	IAMs_20	01 27 54.8		
	comp=Z,13µm,20.0s							
PRP	**Porcupine Dome**	**152.58 308**		PKPdf	**PKPdf**	**00 15 02.9**	**-2.8**	
	baz=108							
KDAK	**Kodiak Island**	**152.65 289**		IAMs_20	IAMs_20	01 18 50.1		
	comp=Z,11µm,21.0s							
KDAK	**Kodiak Island**	**152.65 289**		PKPdf	**PKPdf**	**00 15 03.8**	**-2.1**	
	baz=118							
F26K	**Sheenjek River**	**152.67 312**		IAMs_20	IAMs_20	01 26 05.0		
	comp=Z,13µm,20.0s							
F26K	**Sheenjek River**	**152.67 312**		PKPdf	**PKPdf**	**00 15 03.4**	**-2.3**	
	baz=105							
PYAG	**Pyongyang**	**152.70 128**		PKPbc	**PKPdf**	**00 15 04.6**	**-1.9**	
PYAG				AmB				
	comp=Z,1.5nm,0.3s							
PYAG				AMS	AMS			
	comp=Z,1µm,11.3s							
OHAK	**Old Harbor**	**152.71 288**		PKPdf	**PKPdf**	**00 15 03.9**

CUT	Chulitna	153.52 299	PKPdf	PKPdf	00 15 04.4	-2.6	
	baz=111						
H24K	Noodor Dome	153.61 308	PKPdf	PKPdf	00 15 04.1	-3.1	
	baz=106						
Q19K	Cape Douglas,	153.67 291	IAMs_20	IAMs_20	01 38 59.1		
	comp=Z,10µm,19.0s						
Q19K	Cape Douglas,	153.67 291	PKPdf	PKPdf	00 15 04.4	-2.9	
	baz=116						
G24K	Hadweenzic Riv	153.68 310	IAMs_20	IAMs_20	01 25 15.7		
	comp=Z,12µm,21.0s						
G24K	Hadweenzic Riv	153.68 310	PKPdf	PKPdf	00 15 04.7	-2.4	
	baz=104						
O20K	Slope Mountain	153.68 294	PKPdf	PKPdf	00 15 04.5	-2.9	
	baz=114						
NEA2	Nenana	153.73 305	PKPdf	PKPdf	00 15 03.7	-3.6	
	baz=108						
P19K	Oil Pt	153.78 292	IAMs_20	IAMs_20	01 25 16.1		
	comp=Z,13µm,21.0s						
P19K	Oil Pt	153.78 292	PKPdf	PKPdf	00 15 04.3	-3.2	
	baz=115						
D25K	Kavik River	153.83 316	PKPdf	PKPdf	00 15 03.9	-3.4	
	baz=100						
TRF	Thorofare Moun	153.89 302	PKPdf	PKPdf	00 15 04.5	-3.2	
	baz=109						
JGN	Niukaw	153.91 150	P	PKPbc	00 15 15.3	-1.2	
SKT	Skwentna	153.92 298	IAMs_20	IAMs_20	01 24 57.6		
	comp=Z,15µm,22.0s						
SKT	Skwentna	153.92 298	PKPdf	PKPdf	00 15 04.5	-3.2	
	baz=111						
N20K	Mount Spurr	153.93 296	PKPdf	PKPdf	00 15 04.2	-3.6	
	baz=112						
I23K	Minto, Yukon-K	154.01 306	PKPdf	PKPdf	00 15 03.6	-4.0	
	baz=106						
F24K	Squaw Lake	154.03 311	PKPdf	PKPdf	00 15 04.9	-2.8	
	baz=103						
JRY	Ryogami san	154.10 153	P	PKPdf	00 15 10.2	+1.4	
HHU	Hamhung	154.14 130	PKPbc	PKPdf	00 15 07.0	-1.6	
HHU			PP	PP	00 19 06.7	+0.9	
HHU			AMS	AMS			
	comp=Z,2µm,14.7s						
SNY	Shenyang	154.15 122	⇑PKPbc	PKPdf	00 15 07.8	-0.8	
SNY			PP	PP	00 19 09.8	+3.9	
SNY			SS	SS	00 38 47.0	+4.8	
SNY			AMB	AMB			
	comp=Z,3µm,13.6s						
SNY			LR	LR			
	comp=Z,10µm,20.0s						
SNY			LR	LR			
	comp=Z,3µm,20.3s						
SNY			LR	LR			
	comp=Z,11µm,19.0s						
Q18K	Katmai Hardscr	154.18 290	PKPdf	PKPdf	00 15 04.9	-3.3	
	baz=116						
H23K	Yukon River	154.27 307	PKPdf	PKPdf	00 15 04.8	-3.3	
	baz=105						
E24K	Your Creek	154.36 312	IAMs_20	IAMs_20	01 29 26.6		
	comp=Z,10µm,21.0s						
E24K	Your Creek	154.36 312	PKPdf	PKPdf	00 15 05.1	-3.0	
	baz=101						
PLK4	Peulik 4	154.37 287	IAMs_20	IAMs_20	01 32 39.7		
	comp=Z,13µm,19.0s						
R17L	Mt. Peulik Vol	154.37 287	PKPdf	PKPdf	00 15 06.0	-2.4	
	baz=117						
BPAW	Bear Paw Mtn.	154.38 303	IAMs_20	IAMs_20	01 27 37.6		
	comp=Z,14µm,21.0s						
BPAW	Bear Paw Mtn.	154.38 303	PKPdf	PKPdf	00 15 04.7	-3.6	
	baz=107						
Q17K	Contact Creek	154.43 288	PKPdf	PKPdf	00 15 05.6	-2.9	
	baz=116						
MAJO	Matsushiro	154.44 151		PKPdf	00 15 08.2	-1.0	
MAJO	Matsushiro	154.44 151	IAMs_20	IAMs_20	01 20 32.2		
	comp=Z,13µm,22.0s						
MAJO	Matsushiro	154.44 151	P	PKPbc	00 15 14.6	-3.0	
MAJO	Matsushiro	154.44 151	PKIKP	PKPdf	00 15 08.2	-1.0	
MAJO	Matsushiro	154.44 151	PKP	PKPdf	00 15 08.0	-1.2	
MAT	Matsushiro	154.44 151	P	PKPdf	00 15 08.8	-0.4	
MJAR	Matsushiro Arr	154.44 151		PKPdf	00 15 08.3	-0.9	
MJAR	Matsushiro Arr	154.44 151	PKP	PKPdf	00 15 08.5	-0.7	
	comp=Z,8.9nm,1.2s,baz=214,slow=1.0,SNR=8.7						
MJAR			PKPbc	pPKPdf	00 15 16.8	-1.9	
	comp=Z,27nm,1.0s,baz=180,slow=2.6,SNR=20						
MJAR			PKPab	PKPab	00 15 31.4	-0.6	
	comp=Z,50nm,1.0s,baz=182,slow=2.8,SNR=11						
MJAR	Matsushiro Arr	154.44 151	PKIKP	PKPdf	00 15 08.3	-0.9	
O19K	Port Alsworth	154.50 293	PKPdf	PKPdf	00 15 04.8	-3.6	
	baz=113						
PPLA	Purkeypile	154.52 300	PKPdf	PKPdf	00 15 05.2	-3.4	
	baz=109						
MLY	Manley	154.54 305	PKPdf	PKPdf	00 15 04.2	-4.2	
	baz=106						
CNBA	Chernabura Isl	154.57 279	IAMs_20	IAMs_20	01 27 59.1		
	comp=Z,13µm,20.0s						
CHNA	Chernabura Isl	154.57 279	PKPdf	PKPdf	00 15 06.5	-2.2	
	baz=122						
M20K	Styx River	154.59 297	IAMs_20	IAMs_20	01 35 52.4		
	comp=Z,11µm,21.0s						
M20K	Styx River	154.59 297	PKPdf	PKPdf	00 15 04.8	-3.8	
	baz=110						
P18K	Big Mountain,	154.60 291	IAMs_20	IAMs_20	01 26 18.8		
	comp=Z,12µm,20.0s						
P18K	Big Mountain,	154.60 291	PKPdf	PKPdf	00 15 05.1	-3.6	
	baz=114						
CAST	Castle Rocks	154.64 301	PKPdf	PKPdf	00 15 04.8	-3.8	
	baz=108						
D24K	Happy Valley	154.66 315	PKPdf	PKPdf	00 15 05.0	-3.5	
	baz=98						
G23K	Bananza Creek	154.66 309	IAMs_20	IAMs_20	01 31 58.8		
	comp=Z,11µm,20.0s						
G23K	Bananza Creek	154.66 309	PKPdf	PKPdf	00 15 05.6	-2.9	
	baz=103						
C24K	Franklin Bluff	154.70 316	IAMs_20	IAMs_20	01 28 04.3		
	comp=Z,14µm,22.0s						
C24K	Franklin Bluff	154.70 316	PKPdf	PKPdf	00 15 05.4	-3.1	
	baz=97						
CHGN	Chignik	154.74 283	PKPdf	PKPdf	00 15 06.0	-2.8	
	baz=119						
E23K	Chandalar	154.78 312	IAMs_20	IAMs_20	01 23 11.6		
	comp=Z,12µm,21.0s						
E23K	Chandalar	154.78 312	PKPdf	PKPdf	00 15 05.3	-3.4	
	baz=100						
N19K	Bonanza Creek	154.82 294	PKPdf	PKPdf	00 15 05.3	-3.8	
	baz=112						
COLD	Coldfoot	154.84 310	PKPdf	PKPdf	00 15 05.8	-3.0	
	baz=102						
TOLK	Toolik Lake Re	154.85 314	IAMs_20	IAMs_20	01 20 13.6		
	comp=Z,15µm,22.0s						
TOLK	Toolik Lake Re	154.85 314	PKPdf	PKPdf	00 15 05.6	-3.2	
	baz=99						
CHUM	Lake Minchumin	154.88 302	PKPdf	PKPdf	00 15 05.1	-3.7	
	baz=107						
R16K	Pilot Point	154.93 286	PKPdf	PKPdf	00 15 06.5	-2.6	
	baz=117						
Q16K	King Salmon	154.97 289	PKPdf	PKPdf	00 15 06.1	-3.0	
	baz=115						
H22K	Ishtalitna Cre	155.02 307	PKPdf	PKPdf	00 15 05.8	-3.3	
	baz=103						
P17K	Kvichak River	155.09 290	PKPdf	PKPdf	00 15 05.7	-3.5	
	baz=114						
I21K	Tanana	155.09 305	PKPdf	PKPdf	00 15 05.6	-3.5	
	baz=104						
L20K	Farewell, AK	155.12 298	PKPdf	PKPdf	00 15 05.5	-3.9	
	baz=109						
M19K	Big River Lodg	155.16 297	IAMs_20	IAMs_20	01 24 52.4		
	comp=Z,15µm,22.0s						
M19K	Big River Lodg	155.16 297	PKPdf	PKPdf	00 15 05.8	-3.5	
	baz=110						
SDPT	Sand Point	155.28 279	PKPdf	PKPdf	00 15 07.1	-2.5	
	baz=120						
G22K	Bettles	155.28 309	PKPdf	PKPdf	00 15 06.4	-3.0	
	baz=101						
S14K	Fog Glacier	155.28 282	PKPdf	PKPdf	00 15 07.4	-2.3	
	baz=119						
D23K	Nanushuk River	155.30 314	PKPdf	PKPdf	00 15 06.6	-2.7	
	baz=97						
C23K	Itkillik River	155.37 316	PKPdf	PKPdf	00 15 06.3	-3.1	
	baz=96						
N18K	Kilae Creek	155.41 293	IAMs_20	IAMs_20	01 31 19.1		
	comp=Z,11µm,22.0s						
N18K	Kilae Creek	155.41 293	PKPdf	PKPdf	00 15 06.4	-3.3	
	baz=112						
L19K	White Mountain	155.46 297	PKPdf	PKPdf	00 15 06.2	-3.5	
	baz=109						
K20K	Telida	155.48 300	PKPdf	PKPdf	00 15 06.0	-3.7	
	baz=107						
H21K	Melozitna Rive	155.54 306	PKPdf	PKPdf	00 15 06.2	-3.5	
	baz=103						
E22K	Anaktuvuk Pass	155.60 312	PKPdf	PKPdf	00 15 06.5	-3.4	
	baz=98						
F22K	John River	155.64 311	PKPdf	PKPdf	00 15 06.6	-3.2	
	baz=99						
M18K	Stony River	155.66 295	PKPdf	PKPdf	00 15 07.0	-3.0	
	baz=110						
J20K	Nowinta River	155.74 302	IAMs_20	IAMs_20	01 28 08.4		
	comp=Z,13µm,21.0s						
J20K	Nowinta River	155.74 302	PKPdf	PKPdf	00 15 06.6	-3.4	
	baz=105						
P16K	Nushagak River	155.75 289	IAMs_20	IAMs_20	01 34 21.2		
	comp=Z,14µm,20.0s						
P16K	Nushagak River	155.75 289	PKPdf	PKPdf	00 15 06.5	-3.7	
	baz=114						
N17K	Nushagak Hills	155.95 293	IAMs_20	IAMs_20	01 28 04.4		
	comp=Z,12µm,21.0s						
N17K	Nushagak Hills	155.95 293	PKPdf	PKPdf	00 15 08.2	-2.2	
	baz=111						
G21K	Allakaket	155.99 308	IAMs_20	IAMs_20	01 33 28.8		
	comp=Z,10µm,20.0s						
G21K	Allakaket	155.99 308	PKPdf	PKPdf	00 15 07.2	-3.1	
	baz=100						
D22K	Ayikyak River	156.01 314	IAMs_20	IAMs_20	01 24 51.1		
	comp=Z,14µm,21.0s						
D22K	Ayikyak River	156.01 314	PKPdf	PKPdf	00 15 07.6	-2.7	
	baz=96						
O16K	Kokwok River B	156.02 290	PKPdf	PKPdf	00 15 07.3	-3.2	
	baz=113						
I20K	Naaghedeneel	156.03 304	IAMs_20	IAMs_20	01 41 32.1		
	comp=Z,11µm,21.0s						
I20K	Naaghedeneel	156.03 304	PKPdf	PKPdf	00 15 07.6	-2.8	
	baz=104						
F21K	Alatna River	156.10 310	IAMs_20	IAMs_20	01 41 47.6		
	comp=Z,13µm,20.0s						
F21K	Alatna River	156.10 310	PKPdf	PKPdf	00 15 07.3	-3.1	
	baz=99						
S12K	Black Hills	156.23 279	IAMs_20	IAMs_20	01 38 04.1		
	comp=Z,12µm,20.0s						
S12K	Black Hills	156.23 279	PKPdf	PKPdf	00 15 08.6	-2.4	
	baz=120						
L18K	Granite Mounta	156.29 297	PKPdf	PKPdf	00 15 08.2	-2.6	
	baz=108						
J19K	Poorman	156.31 301	PKPdf	PKPdf	00 15 07.7	-3.1	
	baz=105						
H20K	Anotleneega Mo	156.34 305	PKPdf	PKPdf	00 15 07.9	-3.0	
	baz=102						
B22K	Teshekpuk Lake	156.36 317	PKPdf	PKPdf	00 15 07.5	-3.2	
	baz=92						
M17K	Holitna River	156.37 295	PKPdf	PKPdf	00 15 08.5	-2.5	
	baz=109						
E21K	Killik River	156.44 313	PKPdf	PKPdf	00 15 07.8	-3.1	
	baz=96						
FALS	False Pass	156.48 276	PKPdf	PKPdf	00 15 08.3	-2.9	
	baz=121						
CN2	Changchun	156.56 122	PKP	PKPdf	00 15 13.0	+1.2	
CN2			PP	PP	00 19 23.0	+3.7	
CN2			SS	SS	00 39 12.5	+4.2	
CN2			AMB	AMB			
	comp=Z,4µm,10.0s						
CN2			LR	LR			
	comp=Z,2µm,20.0s						
CN2			LR	LR			
	comp=Z,2µm,20.0s						
CN2			LR	LR			
	comp=Z,3µm,20.0s						
J18K	Innoko River	156.65 300	PKPdf	PKPdf	00 15 08.3	-3.0	
	baz=105						
N16K	Nishlik Lake	156.66 292	PKPdf	PKPdf	00 15 08.9	-2.5	
	baz=111						
O15K	Ungalikthiuk R	156.68 288	PKPdf	PKPdf	00 15 07.8	-3.6	
	baz=113						
CIT	Chita	156.72 93	ePKIKP	PKPdf	00 15 11.6	-0.2	
CIT			e		00 15 18.6		
CIT			e		00 15 35.2		
CIT			e		00 19 19.2		
CIT			pmax	pmax			
	comp=Z,392nm,2.1s						
B21K	Ikpikpuk River	156.75 316	PKPdf	PKPdf	00 15 08.1	-3.1	
	baz=92						
C21K	Knifeblade Rid	156.79 314	PKPdf	PKPdf	00 15 08.2	-3.1	
	baz=93						
A22K	Sinclair Lake	156.88 319	PKPdf	PKPdf	00 15 08.5	-2.8	
	baz=89						
M16K	Timber Creek	156.94 293	IAMs_20	IAMs_20	01 25 15.5		
	comp=Z,14µm,21.0s						
M16K	Timber Creek	156.94 293	PKPdf	PKPdf	00 15 09.1	-2.6	
	baz=105						
F20K	Avaraart Lake	156.94 309	IAMs_20	IAMs_20	01 22 53.0		
	comp=Z,13µm,22.0s						
F20K	Avaraart Lake	156.94 309	PKPdf	PKPdf	00 15 07.9	-3.6	
	baz=98						
L17K	Donlin	156.98 296	PKPdf	PKPdf	00 15 09.0	-2.7	
	baz=107						
H19K	Roundabout Mou	156.99 305	PKPdf	PKPdf	00 15 08.5	-3.1	
	baz=101						
GCSA	Galena City Sc	157.02 303	PKPdf	PKPdf	00 15 08.9	-2.8	
	baz=102						
K17K	Iditarod	157.15 297	PKPdf	PKPdf	00 15 08.8	-3.1	
	baz=106						
N15K	Kwethluk River	157.17 290	PKPdf	PKPdf	00 15 09.4	-2.7	
	baz=111						
E20K	Nigu River	157.24 312	PKPdf	PKPdf	00 15 08.9	-3.1	
	baz=94						
G19K	Purcell Mounta	157.35 306	IAMs_20	IAMs_20	01 28 55.0		
	comp=Z,11µm,21.0s						
G19K	Purcell Mounta	157.35 306	PKPdf	PKPdf	00 15 08.8	-3.3	
	baz=99						
L16K	Owhat River	157.39 294	PKPdf	PKPdf	00 15 09.5	-2.7	
	baz=108						
O14K	Tigyukauivet M	157.39 288	IAMs_20	IAMs_20	01 26 56.6		
	comp=Z,14µm,21.0s						
O14K	Tigyukauivet M	157.39 288	PKPdf	PKPdf	00 15 09.5	-2.8	
	baz=112						
A21K	Barrow	157.40 320	PKPdf	PKPdf	00 15 08.8	-3.2	
	baz=86						
D20K	Etivluk River	157.42 313	PKPdf	PKPdf	00 15 08.8	-3.3	
	baz=93						
UNV	Unalaska Valle	157.49 272	IAMs_20	IAMs_20	01 30 05.3		
	comp=Z,11µm,20.0s						
UNV	Unalaska Valle	157.49 272	PKPdf	PKPdf	00 15 09.5	-3.1	
	baz=123						
E19K	Redstone River	157.57 310	PKPdf	PKPdf	00 15 08.5	-3.8	
	baz=95						
M15K	Kagluk River	157.63 291	PKPdf	PKPdf	00 15 09.6	-3.0	
	baz=109						
B20K	Meade River	157.64 317	PKPdf	PKPdf	00 15 09.1	-3.2	
	baz=89						
J17K	VABM Dome	157.66 299	IAMs_20	IAMs_20	01 36 44.5		
	comp=Z,12µm,20.0s						
J17K	VABM Dome	157.66 299	PKPdf	PKPdf	00 15 09.7	-2.9	
	baz=104						
F19K	Shaleruckik Mo	157.72 308	IAMs_20	IAMs_20	01 40 45.5		
	comp=Z,14µm,21.0s						
F19K	Shaleruckik Mo	157.72 308	PKPdf	PKPdf	00 15 08.7	-3.8	
	baz=96						
H18K	Honhosa River	157.72 304	IAMs_20	IAMs_20	01 31 38.7		
	comp=Z,12µm,20.0s						
H18K	Honhosa River	157.72 304	PKPdf	PKPdf	00 15 09.3	-3.3	
	baz=100						
N14K	Kuskokwak Cree	157.84 289	PKPdf	PKPdf	00 15 09.7	-3.1	
	baz=111						
G18K	Tagagawik	157.95 305	PKPdf	PKPdf	00 15 09.3	-3.5	
	baz=98						
D19K	Kuna River	157.97 312	IAMs_20	IAMs_20	01 36 18.8		
	comp=Z,13µm,21.0s						
D19K	Kuna River	157.97 312	PKPdf	PKPdf	00 15 09.2	-3.6	
	baz=92						
HIA	Hailar	158.03 105		PKPdf	00 15 12.4	-1.0	
HIA	Hailar	158.03 105	PKIKP	PKPdf	00 15 12.5	-1.0	
NIKH	Nikolski High	158.18 268	IAMs_20	IAMs_20	01 31 55.5		
	comp=Z,9µm,20.0s						
NIKH	Nikolski High	158.18 268	PKPdf	PKPdf	00 15 10.7	-2.8	
	baz=125						
M14K	Bethel	158.24 291	PKPdf	PKPdf	00 15 10.3	-2.9	
	baz=108						
L15K	Ungalak Mounta	158.30 294	PKPdf	PKPdf	00 15 10.4	-2.9	
	baz=106						
J16K	Anvik River	158.31 298	PKPdf	PKPdf	00 15 10.2	-3.1	
	baz=103						
H17K	Granite Mounta	158.33 303	PKPdf	PKPdf	00 15 09.7	-3.6	
	baz=100						
F18K	Selawik	158.44 307	PKPdf	PKPdf	00 15 09.6	-3.8	
	baz=96						
I17K	Unalakleet	158.47 300	PKPdf	PKPdf	00 15 10.3	-3.2	
	baz=102						
K15K	Wolf Creek Mou	158.48 295	PKPdf	PKPdf	00 15 10.6	-2.9	
	baz=105						
C19K	Lookout Ridge	158.50 314	PKPdf	PKPdf	00 15 09.9	-3.6	
	baz=89						
G17K	Kiwalik Mounta	158.72 304	PKPdf	PKPdf	00 15 10.0	-3.7	
	baz=98						
L14K	Kuka Creek	158.75 292	PKPdf	PKPdf	00 15 10.5	-3.4	
	baz=107						
M13K	Dall Lake	158.78 290	PKPdf	PKPdf	00 15 10.9	-3.1	
	baz=109						
E18K	Tukpahlearik C	158.86 309	PKPdf	PKPdf	00 15 10.2	-3.7	
	baz=93						
MDJ	Mudanjiang	158.93 127		PKPdf	00 15 13.4	-1.3	
MDJ			IAMs_20	IAMs_20	01 23 17.6		
	comp=Z,14µm,21.0s						
MDJ	Mudanjiang	158.93 127	PKP	PKPdf	00 15 14.0	-0.7	
MDJ			PP	PP	00 19 34.5	+2.2	
MDJ			SS	SS	00 39 35.0	+1.5	
MDJ			AMB	AMB			
	comp=Z,5µm,11.3s						
MDJ			LR	LR			
	comp=Z,10µm,20.5s						
MDJ			LR	LR			
	comp=Z,7µm,19.8s						
MDJ			LR	LR			
	comp=Z,16µm,20.5s						
BNX	BinXian	158.94 122	⇓PKP	PKPdf	00 15 13.5	-1.2	
BNX			PP	PP	00 19 32.5	+0.1	
BNX			SS	SS	00 39 35.3	+1.6	
BNX			AMB	AMB			
	comp=Z,3µm,6.7s						
BNX			LR	LR			
	comp=Z,4µm,23.5s						
BNX			LR	LR			
	comp=Z,5µm,22.8s						
BNX			LR	LR			
	comp=Z,9µm,22.4s						
A19K	Wainwright	158.96 317	PKPdf	PKPdf	00 15 10.1	-3.8	
	baz=85						
F17K	Baldwin Pennin	159.06 307	PKPdf	PKPdf	00 15 10.4	-3.7	
	baz=95						
C18K	Utukok River	159.10 313	IAMs_20	IAMs_20	01 27 43.7		
	comp=Z,13µm,20.0s						
C18K	Utukok River	159.10 313	PKPdf	PKPdf	00 15 10.4	-3.8	
	baz=89						
H16K	Elim	159.27 301	PKPdf	PKPdf	00 15 10.7	-3.7	
	baz=98						
B18K	Kokolik River	159.28 315	PKPdf	PKPdf	00 15 11.0	-3.3	
	baz=86						
E17K	Hotham Inlet	159.32 308	PKPdf	PKPdf	00 15 10.6	-3.8	
	baz=92						
G16K	Koyuk River	159.41 304	PKPdf	PKPdf	00 15 10.8	-3.7	
	baz=96						
J14K	Nanvaranak Lak	159.50 296	PKPdf	PKPdf	00 15 11.5	-3.2	
	baz=103						
USA0B	Ussuriysk Arra	159.51 132		PKPdf	00 15 14.0	-1.4	
USA0B	Ussuriysk Arra	159.51 132	PKIKP	PKPdf	00 15 14.0	-1.4	
USRK	Ussuriysk Ar.	159.51 132	PKP	PKPdf	00 15 14.8	-0.5	
	comp=Z,2.8nm,0.8s,baz=160,slow=6.1,SNR=6.9						
USRK			PP	PP	00 19 36.6	+1.3	
	comp=Z,6.9nm,1.1s,baz=274,slow=3.1,SNR=4.3						
RDOG	Red Dog Mine	159.75 311	IAMs_20	IAMs_20	01 35 58.0		
	comp=Z,14µm,21.0s						
RDOG	Red Dog Mine	159.75 311	PKPdf	PKPdf	00 15 10.8	-4.1	
	baz=89						
K13K	Kusilvak Mount	159.82 293	PKPdf	PKPdf	00 15 12.3	-2.8	
	baz=104						
D17K	Noatak River	159.82 310	PKPdf	PKPdf	00 15 11.1	-3.9	
	baz=90						
C17K	DeLong Mountai	159.83 312	PKPdf	PKPdf	00 15 11.1	-3.9	
	baz=87						
BOD	Bodaibo	159.85 79	ePKIKP	PKPdf	00 15 13.5	-1.8	
BOD			pmax	pmax			
	comp=Z,186nm,1.8s						
G15K	Niukluk	160.08 302	PKPdf	PKPdf	00 15 11.1	-4.2	
	baz=96						
M11K	Mekoryuk	160.12 288	PKPdf	PKPdf	00 15 12.6	-2.8	
	baz=108						
P08K	Saint George I	160.36 276	PKPdf	PKPdf	00 15 12.9	-3.0	
	baz=116						
ATKA	Atka Island	160.39 260	PKPdf	PKPdf	00 15 15.3	-0.7	
F15K	North Star Dit	160.39 304	PKPdf	PKPdf	00 15 11.7	-4.0	
	baz=94						
ANM	Nome	160.60 301	PKPdf	PKPdf	00 15 12.3	-3.7	
	baz=96						
C16K	Lisburne Hills	160.65 312	PKPdf	PKPdf	00 15 11.3	-4.5	
	baz=86						
ERM	Erimo	160.77 157	PKPdf	PKPdf	00 15 16.6	-0.1	
ERM	Erimo	160.77 157	P	PKPdf	00 15 23.0	+6.2	
ERM	Erimo	160.77 157	P	PKPdf	00 15 21.5	+4.7	
ERM	Erimo	160.77 157	P	PKPdf	00 15 18.5	+1.7	
ERM	Erimo	160.77 157	PKIKP	PKPdf	00 15 16.7	-0.1	
ERM	Erimo	160.77 157	PKP	PKPdf	00 15 11.8	-5.0	
SPIA	Saint Paul Isl	160.96 277	PKPdf	PKPdf	00 15 13.2	-3.3	
	baz=115						
F14K	Arctic Creek	161.08 303	PKPdf	PKPdf	00 15 12.6	-3.8	
	baz=93						
TNA	Tin City	161.74 304	PKPdf	PKPdf	00 15 13.4	-3.7	
	baz=91						
TEY	Ternei	161.85 139	⇓ePKIKP	PKPdf	00 15 17.2	-0.7	
TEY			e		00 19 46.3		
TEY			e		00 40 11.9		
HEH	HeiHe	162.34 113	PKP	PKPdf	00 15 17.3	-0.9	
HEH			AMB	AMB			
	comp=Z,2µm,8.2s						
HEH			LR	LR			
	comp=Z,11µm,20.6s						
HEH			LR	LR			
	comp=Z,4µm,18.0s						
HEH			LR	LR			
	comp=Z,18µm,19.4s						
ASAJ	Asahikawa	162.67 153	PKP	PKPdf	00 15 18.7	-0.1	
	comp=Z,9.5nm,0.2s,baz=260,slow=8.3,SNR=10						
JKA	Kamikawa-asahi	162.67 153		PKPdf	00 15 18.6	-0.1	
AMKA	Amchitka	163.01 250		PKPdf	00 15 17.7	-1.1	
YUK	Yuzh-Kuril'sk	163.22 161	ePKIKP	PKPdf	00 15 10.4	-8.8	
YUK			e		00 19 56.5		
YUK			PPP	PPP	00 23 54.1		
YUK			eSS	SS	00 40 18.6	+1.0	
GAMB	Gambell	163.29 297	PKPdf	PKPdf	00 15 14.8	-3.9	
	baz=94						
KLR	Kul'dur	163.51 122	PKP	PKPdf	00 15 19.4	0.0	
ZEA	Zeya	164.49 103	iPKIKP	PKPdf	00 15 19.5	-0.6	
ZEA			e		00 20 07.7		
ZEA			pmax	pmax			
	comp=Z,1µm,8.3s						
ZEA			pmax	pmax			
	comp=N,20nm,2.0s						
ZEA			pmax	pmax			
	comp=Z,50nm,1.5s						
KUR	Kuril'sk	164.68 165	PKIKP	PKPdf	00 15 19.4	-1.1	
KUR					00 20 00.4		
KUR			eSS	SS	00 40 30.4	-2.2	
KUR			iSSS	SSS	00 46 55.4		
KUR			pmax	pmax			
	comp=Z,3µm,5.0s						
YSS	Yuzhno-Sakhali	165.38 150		PKPdf	00 15 20.8	-0.3	
YSS	Yuzhno-Sakhali	165.38 150	αiPKIKP	PKPdf	00 15 21.3	+0.2	
YSS			e		00 20 07.0		
YSS			eSS	SS	00 40 38.0	-2.0	
YSS			pmax	pmax			
	comp=Z,60nm,1.2s						
YSS			pmax	pmax			
	comp=Z,1µm,3.2s						
YSS			pmax	pmax			
	comp=N,200nm,3.5s						
YSS			pm

TYV	**Tymovskoe**	**168.91**	**143**	*e*PKIKP	**PKPdf**	**00 15 23.8**	**+0.3**
TYV				pmax	pmax		
	comp=Z,56nm,1.7s						
TYV				pmax	pmax		
	comp=Z,2μm,5.0s						
NKL	**Nikolayevsk**	**170.13**	**130**	*i* PKIKP	**PKPdf**	**00 15 23.2**	**-1.0**
NKL				*e*		00 20 31.5	
NKL				*e*PPP	PPP	00 24 31.7	
PET	**Petropavlovsk**	**172.23**	**205**		**PKPdf**	**00 15 24.2**	**-1.0**
PETK	**Petropavlovsk-**	**172.50**	**201**		**PKPdf**	**00 15 24.2**	**-1.2**
PETK	**Petropavlovsk-**	**172.50**	**201**	PKP	**PKPdf**	**00 15 24.6**	**-0.9**
	comp=Z,52nm,1.1s,baz=72,slow=4.8,SNR=41						
PETK				PKPab	**PKPab**	**00 16 50.5**	**-0.1**
	comp=Z,22nm,0.9s,baz=145,slow=5.9,SNR=5.3						
PETK				PP	**PP**	**00 20 44.0**	**+1.7**
	comp=Z,6.1nm,0.9s,baz=197,slow=3.1,SNR=3.8						
PETK	**Petropavlovsk-**	**172.50**	**201**	PKIKP	**PKPdf**	**00 15 24.2**	**-1.2**
SEY	**Seymchan**	**177.21**	**8**	*i* PKIKP	**PKPdf**	**00 15 21.7**	**-4.8**
SEY				pmax	pmax		
	comp=Z,160nm,1.7s						
MA2	**Magadan**	**178.60**	**115**		**PKPdf**	**00 15 25.0**	**-1.8**
MA2	**Magadan**	**178.60**	**115**	PKIKP	**PKPdf**	**00 15 25.0**	**-1.8**

*AEIC **27** 23:56:05.5±2.4, 55°.87N±0°.09×160°.77W±0°.07, h137km±4km, Error ellipse: s-maj=13.8km s-min=4.9km az=168.0*

NEIC 27 23:56:06.4±2.2, 55°.83N±0°.10×160°.75W±0°.08, h139km±5km, ML2.7/38, ML2.3(AEIC), Error ellipse: s-maj=14.4km s-min=6.9km az=178.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.50**	**162**		Pn	23 56 26.6	+0.2
SDPT					Sn	23 56 42.7	+1.1
SDPT				IAML		23 56 44.3	
	comp=E,220nm,0.5s						
PS1A	**Pavlof South-1**	**0.70**	**235**		Pn	23 56 27.5	-0.2
PS1A					Sn	23 56 44.6	+0.8
S12K	**Black Hills**	**0.75**	**261**	Pn	Pn	23 56 26.8	-1.2
S12K				Sn	Sn	23 56 43.5	-1.1
S12K				IAML		23 56 45.2	
	comp=E,64nm,0.9s						
S12K				IAML		23 56 45.9	
	comp=N,68nm,0.9s						
PS4A	**Pavlof South-4**	**0.79**	**233**		Pn	23 56 28.3	0.0
PS4A					Sn	23 56 45.9	+0.9
DOL	**Dolgoi Island**	**0.93**	**224**		Pn	23 56 29.2	-0.3
DOL					Sn	23 56 47.7	+0.7
DT1	**Dutton Round H**	**1.13**	**231**		Pn	23 56 31.4	+0.1
DT1					Sn	23 56 51.7	+1.4
CNBA	**Chernabura Isl**	**1.21**	**146**	Pn	Pn	23 56 31.9	-0.1
CNBA				Sn	Sn	23 56 50.8	-0.6
CNBA				IAML		23 56 53.5	
	comp=E,86nm,0.2s						
CNBA				IAML		23 56 54.5	
	comp=N,94nm,0.3s						
CHGN	**Chignik**	**1.39**	**69**	Pn	Pn	23 56 33.3	-0.5
CHGN				IAML		23 56 56.5	
	comp=N,107nm,0.6s						
CHGN				IAML		23 56 59.2	
	comp=E,96nm,0.1s						
FALS	**False Pass**	**1.81**	**239**	Pn	Pn	23 56 37.6	-0.9
CHIR	**Chirikof Islan**	**2.89**	**88**	Pn	Pn	23 56 50.8	-1.0
CHIR				IAML		23 58 14.0	
	comp=N,23nm,1.0s						
CHIR				IAML		23 58 47.2	
	comp=E,24nm,0.9s						
PLK4	**Peulik 4**	**3.02**	**51**	Pn	Pn	23 56 52.4	-1.2
O15K	**Ungalikthiuk R**	**3.40**	**8**	Pn	Pn	23 56 55.3	-3.0
O14K	**Tigyukauivet M**	**3.45**	**356**	Pn	Pn	23 56 56.1	-2.9
P16K	**Nushagak River**	**3.54**	**24**	Pn	Pn	23 56 58.9	-1.3
P16K				IAML		23 57 42.6	
	comp=E,11nm,1.0s						
P16K				IAML		23 59 10.3	
	comp=N,15nm,1.0s						
SII	**Sitkinak Islan**	**3.74**	**76**	Pn	Pn	23 57 00.9	-1.9
ACHA	**Angle Creek He**	**3.81**	**49**	Pn	Pn	23 56 58.2	-5.5
O16K	**Kokwok River B**	**4.04**	**20**	Pn	Pn	23 57 03.7	-2.9
N14K	**Kuskokwak Cree**	**4.14**	**353**	Pn	Pn	23 57 03.8	-4.2
N14K				IAML		23 58 01.8	
	comp=E,9.1nm,0.9s						
N14K				IAML		23 58 44.3	
	comp=N,9.2nm,1.0s						
OHAK	**Old Harbor**	**4.36**	**68**	Pn	Pn	23 57 08.8	-2.1
OHAK				IAML		23 58 00.6	
	comp=E,4.4nm,0.8s						
N15K	**Kwethluk River**	**4.37**	**4**	Pn	Pn	23 57 07.8	-3.2
N15K				IAML		23 58 20.1	
	comp=N,4.0nm,0.9s						
N15K				IAML		23 59 35.2	
	comp=E,4.4nm,0.9s						
KDAK	**Kodiak Island**	**4.89**	**63**	Pn	Pn	23 57 15.8	-2.2
KDAK				IAML		23 58 16.5	
	comp=E,4.7nm,0.9s						
KDAK				IAML		23 58 58.0	
	comp=E,3.6nm,0.9s						
Q19K	**Cape Douglas,**	**4.94**	**48**	Pn	Pn	23 57 17.9	-0.8
M14K	**Bethel**	**4.98**	**353**	Pn	Pn	23 57 15.6	-3.6
M14K				IAML		23 58 04.2	
	comp=E,4.4nm,1.0s						
M14K				IAML		00 00 39.0	
	comp=N,3.9nm,1.0s						
SYI	**Shuyak Island**	**5.33**	**55**	Pn	Pn	23 57 21.9	-1.8
L14K	**Kuka Creek**	**5.62**	**350**	Pn	Pn	23 57 23.9	-3.8
SLKM	**Skilak Lake**	**7.28**	**46**	Pn	Pn	23 57 47.5	-2.4
PWL	**Port Wells**	**8.24**	**47**	Pn	Pn	23 57 58.7	-4.1
GLI	**Glacier Island**	**8.77**	**49**	Pn	Pn	23 58 05.5	-4.4
HIN	**Hinchinbrook I**	**8.81**	**53**	Pn	Pn	23 58 07.0	-3.6
FID	**Port Fidalgo**	**8.98**	**51**	Pn	Pn	23 58 08.1	-4.6
SCM	**Sheep Creek Mo**	**9.19**	**44**	Pn	Pn	23 58 11.4	-4.1
KLU	**Klutina**	**9.57**	**48**	Pn	Pn	23 58 16.9	-3.8
DHY	**Denali Highway**	**9.94**	**38**	Pn	Pn	23 58 23.2	-2.4
N25K	**Chitina, Valde**	**10.18**	**49**	Pn	Pn	23 58 26.2	-2.6

*GII **28** 00:06:31.1±0.0, 35°.74N×27°.28E, h10km, Mws3.6, confirmed*

*IDC **28** 00:06:32.5±1.0, 35°.63N×27°.45E, h0km, mb3.8/6, mbtmp3.6/14, ML3.2/5, MS4.5/3, Error ellipse: s-maj=19.7km s-min=14.6km az=178.0*

*AFAD **28** 00:06:33.7, 35°.74N×27°.35E, h12km±1km, MW3.8*

*ISK **28** 00:06:34.3, 35°.80N×27°.27E, h15km, ML3.7/22*

*NIC **28** 00:06:34.5, 35°.75N×27°.36E, h18km, Ml3.5/13*

*THE **28** 00:06:34.3, 36°№4°×2°?E±°, h7km±12km, M3.4/8, MLh3.4/8*

*ATH **28** 00:06:34.8, 35°.75N×27°.33E, h19km±2km, ML3.6/22, Manual Solution by N.Liadopoulou First location: 2019/08/28 00:07:46, This location: 2019/08/28 05:56:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

*HLW **28** 00:06:35.2, 35°.74N×27°.38E, h12km±1km, Md3.3, Ml3.5*

ISC 28 00:06:34.4±1.1, 35°.74N±0°.03×27°.35E±0°.02, h14km±8km, n146, σ1§08/185, mb3.6/5, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.24**	**219**	Pg	**Pb**	**00 06 40.6**	**0.0**
KARP				Sg	**Sb**	**00 06 44.9**	**+0.1**
KARP	**Karpathos**	**0.24**	**219**	P	**Pb**	**00 06 40.6**	**0.0**
KARP				S	**Sb**	**00 06 44.5**	**-0.2**
KARP	**Karpathos**	**0.24**	**219**	P	**Pb**	**00 06 40.6**	**0.0**
KARP				S	**Sb**	**00 06 45.0**	**+0.2**
KARP				AML	AML	00 06 45.3	
	30nm,0.1s						
KARP				AML	AML	00 06 45.3	
	35nm,0.1s						
KARP	**Karpathos**	**0.24**	**219**	P	**Pb**	**00 06 40.7**	**+0.1**
KARP				S	**Sb**	**00 06 44.6**	**-0.2**
ARG	**Arkhangelos**	**0.79**	**53**	Pg	**Pg**	**00 06 49.7**	**-0.1**
ARG				Sg	**Sn**	**00 07 01.9**	**-0.9**
ARG	**Arkhangelos**	**0.79**	**53**	P	**Pg**	**00 06 49.2**	**-0.5**
ARG				S	**Sg**	**00 07 00.3**	**+0.1**
ARG	**Arkhangelos**	**0.79**	**53**	P	**Pg**	**00 06 49.3**	**-0.5**
ARG				S	**Sb**	**00 07 00.7**	**+0.1**
ARG				AML	AML	00 07 04.0	
	18nm,0.3s						
ARG				AML	AML	00 07 04.2	
	13nm,0.4s						
ARG	**Arkhangelos**	**0.79**	**53**	P	**Pg**	**00 06 49.4**	**-0.4**
ARG				S	**Sg**	**00 07 00.3**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.95**	**5**	P	**Pb**	**00 06 52.1**	**-0.5**
YAZI				S	**Sb**	**00 07 04.7**	**-0.4**
YAZI				*i* IAML		00 07 06.0	
	comp=N,2μm,0.4s						
YAZI				*i* IAML		00 07 08.0	
	comp=E,2μm,0.3s						
DAT	**Datca**	**1.01**	**10**	Pg	**Pb**	**00 06 53.4**	**-0.3**
DAT				Sg	**Sg**	**00 07 07.3**	**+0.2**
DATC	**Datca-Mugla**	**1.05**	**14**	Pg	**Pb**	**00 06 54.3**	**-0.1**
DATC				Sg	**Sg**	**00 07 08.7**	**+0.2**
ZKR	**Zakros**	**1.11**	**237**	Pn	**Pb**	**00 06 55.5**	**+0.1**
ZKR				Sn	**Sn**	**00 07 11.2**	**+0.4**
ZKR	**Zakros**	**1.11**	**237**	P	**Pb**	**00 06 55.5**	**+0.1**
ZKR	**Zakros**	**1.11**	**237**	P	**Pb**	**00 06 55.3**	**-0.2**
ZKR				S	**Sn**	**00 07 11.1**	**+0.4**
ZKR				AML	AML	00 07 18.8	
	1.1nm,0.7s						
ZKR				AML	AML	00 07 19.6	
	3.0nm,0.6s						
ZKR	**Zakros**	**1.11**	**237**	P	**Pb**	**00 06 55.2**	**-0.2**
ZKR				S	**Sb**	**00 07 09.9**	**+0.1**
TURN	**Turunc**	**1.27**	**35**	P	**Pn**	**00 06 57.3**	**-0.3**
TURN				S	**Sg**	**00 07 15.3**	**+0.1**
TURN				*i* IAML		00 07 16.0	
	comp=E,1μm,0.3s						
TURN				*i* IAML		00 07 18.0	
	comp=N,1μm,0.3s						
BDRM	**Kayabasi**	**1.33**	**3**	P	**Pn**	**00 06 57.3**	**-1.3**
BDRM				S	**Sb**	**00 07 13.2**	**-2.9**
BDRM				*i* IAML		00 07 18.0	
	comp=E,1μm,0.4s						
NPS	**Neapolis**	**1.49**	**252**	P	**Pn**	**00 07 00.6**	**-0.3**
NPS				S	**Sn**	**00 07 19.4**	**-0.8**
NPS	**Neapolis**	**1.49**	**252**	P	**Pn**	**00 07 00.5**	**-0.4**
NPS				S	**Sn**	**00 07 18.6**	**-1.6**
THERA	**Ancient Thera,**	**1.64**	**293**	P	**Pn**	**00 07 01.7**	**-1.3**
IZZE	**Mula-Seydike**	**1.67**	**65**	P	**Pb**	**00 07 05.0**	**0.0**
IZZE				S	**Sg**	**00 07 28.5**	**+0.3**
IZZE				*i* IAML		00 07 38.0	
	comp=E,692nm,0.5s						
IZZE				*i* IAML		00 07 39.0	
	comp=N,1μm,0.5s						
THR6	**Thira Island,**	**1.70**	**292**	P	**Pn**	**00 07 02.7**	**-1.0**
SABU	**Mula-Dalaman**	**1.70**	**50**	P	**Pb**	**00 07 05.6**	**+0.1**
SABU				S	**Sg**	**00 07 29.9**	**+0.7**
SABU				*i* IAML		00 07 32.0	
	comp=N,736nm,0.5s						
SABU				*i* IAML		00 07 33.0	
	comp=E,587nm,0.5s						
MULA	**Mugla, Merkez-**	**1.71**	**27**	P	**Pn**	**00 07 04.2**	**+0.3**
MULA				S	**Sb**	**00 07 27.4**	**+0.3**
MULA				*i* IAML		00 07 28.0	
	comp=N,346nm,0.7s						
MULA				*i* IAML		00 07 29.0	
	comp=E,692nm,0.4s						
THR3	**Thira Island,**	**1.72**	**294**	P	**Pn**	**00 07 02.7**	**-1.2**
SNT5	**Nea Kammeni, S**	**1.72**	**293**	P	**Pn**	**00 07 02.6**	**-1.3**
SNT5				S	**Sn**	**00 07 24.6**	**-1.1**
DDIM	**Aydin, Didim**	**1.72**	**357**	P	**Pb**	**00 07 05.8**	**0.0**
DDIM				S	**Sg**	**00 07 30.4**	**+0.6**
DDIM				*i* IAML		00 07 33.0	
	comp=N,798nm,0.9s						
DDIM				*i* IAML		00 07 33.0	
	comp=E,1μm,0.6s						
SAP3	**Santorini-Thir**	**1.77**	**294**	P	**Pn**	**00 07 04.3**	**-0.3**
KSL	**Kastellorizon**	**1.86**	**76**	P	**Pb**	**00 07 07.5**	**-0.7**
KSL	**Kastellorizon**	**1.86**	**76**	P	**Pn**	**00 07 06.5**	**+0.7**
KSL				S	**Sn**	**00 07 29.3**	**+0.1**
KSL				AML	AML	00 07 48.6	
	1.1nm,1.0s						
KSL				AML	AML	00 07 48.8	
	0.8nm,0.8s						
KSL	**Kastellorizon**	**1.86**	**76**	P	**Pn**	**00 07 06.6**	**+0.7**
IACM	**Heraklion**	**1.91**	**258**	P	**Pn**	**00 07 06.0**	**-0.5**
CAME	**Cameli-Denizli**	**1.98**	**52**	Pn	**Pn**	**00 07 08.6**	**+0.9**
SMG	**Samos**	**2.01**	**348**	P	**Pn**	**00 07 06.4**	**-1.6**
SMG	**Samos**	**2.01**	**348**	P	**Pn**	**00 07 06.4**	**-1.6**
DNZT	**Denizli-Tavas-**	**2.05**	**41**	P	**Pb**	**00 07 10.9**	**-0.6**
DNZT				S	**Sb**	**00 07 38.0**	**+1.2**
DNZT				*i* IAML		00 07 42.0	
	comp=E,387nm,0.5s						
DNZT				*i* IAML		00 07 45.0	
	comp=N,338nm,0.6s						
IDI	**Anoyia**	**2.06**	**258**	Pn	**Pn**	**00 07 08.5**	**-0.1**
IDI				Sn	**Sn**	**00 07 33.1**	**-1.0**
IDI	**Anoyia**	**2.06**	**258**	P	**Pn**	**00 07 08.0**	**-0.6**
IDI	**Anoyia**	**2.06**	**258**	Pn	**Pn**	**00 07 08.1**	**-0.6**
	17nm,0.3s,baz=75,slow=12,SNR=49						
IDI				Sn	**Sn**	**00 07 31.8**	**-2.3**
	16nm,0.3s,baz=126,slow=8.7,SNR=14						
IDI	**Anoyia**	**2.06**	**258**	P	**Pn**	**00 07 07.9**	**-0.6**
TAVA	**DENIZLI_Tavas**	**2.14**	**36**	P	**Pb**	**00 07 12.1**	**-0.9**
TAVA				S	**Sb**	**00 07 40.1**	**+0.7**
TAVA				*i* IAML		00 07 45.0	
	comp=N,567nm,0.7s						
TAVA				*i* IAML		00 07 46.0	
	comp=E,373nm,0.4s						
ESEN	**Aydn-Nazilli**	**2.21**	**21**	P	**Pn**	**00 07 10.5**	**-0.1**
ESEN				S	**Sn**	**00 07 38.3**	**+0.6**
ESEN				*i* IAML		00 07 48.0	
	comp=E,218nm,0.4s						
ESEN				*i* IAML		00 07 51.0	
	comp=N,156nm,0.3s						
TMBK	**Timbaki Herakl**	**2.21**	**253**	P	**Pn**	**00 07 10.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**11**	Pn	**Pn**	**00 07 11.7**	**+0.3**
APMY	**Acipayam-Deniz**	**2.34**	**42**	Pn	**Pn**	**00 07 13.7**	**+1.2**
DGB	**zmir**	**2.34**	**351**	P	**Pn**	**00 07 10.8**	**-1.7**
NAZL	**Nazilli-Aydin**	**2.35**	**18**	Pn	**Pn**	**00 07 12.9**	**+0.5**
PRNS	**Prines Rethymn**	**2.35**	**262**	P	**Pn**	**00 07 12.8**	**+0.2**
GMLD	**Gumuldur**	**2.36**	**352**	Pn	**Pn**	**00 07 12.9**	**+0.1**
MHLO	**Agia Marina, M**	**2.57**	**293**	P	**Pn**	**00 07 15.1**	**-0.5**
ODEM	**Odemis-Izmir**	**2.60**	**13**	Pn	**Pn**	**00 07 16.6**	**+0.5**
BLCB	**Balcova**	**2.66**	**355**	Pn	**Pn**	**00 07 17.1**	**+0.3**
CHAN	**Chania**	**2.70**	**266**	P	**Pn**	**00 07 17.4**	**0.0**
GVD	**Gavdhos**	**2.81**	**252**	Pn	**Pn**	**00 07 19.4**	**+0.4**
GVD	**Gavdhos**	**2.81**	**252**	P	**Pn**	**00 07 20.0**	**+1.0**
CHOS	**Chios island**	**2.84**	**339**	P	**Pn**	**00 07 18.2**	**-1.2**
ANTB	**Antalya**	**2.91**	**66**	Pn	**Pn**	**00 07 22.3**	**+2.0**
KULA	**Kula-Manisa**	**2.96**	**20**	Pn	**Pn**	**00 07 22.0**	**+0.8**
KNDR	**Palaiochora Ch**	**3.03**	**262**	Pn	**Pn**	**00 07 22.9**	**+0.9**
KNDR	**Palaiochora Ch**	**3.03**	**262**	P	**Pn**	**00 07 22.0**	**0.0**
BASM	**Basmaki-Afyon**	**3.07**	**44**	Pn	**Pn**	**00 07 23.6**	**+1.0**
GORD	**Gordes-Manisa**	**3.23**	**12**	Pn	**Pn**	**00 07 24.9**	**+0.1**
KARY	**Karystos**	**3.27**	**315**	P	**Pn**	**00 07 24.6**	**-0.7**
ISP	**Isparta**	**3.29**	**50**	Pn	**Pn**	**00 07 27.5**	**+1.9**
ISP	**Isparta**	**3.29**	**50**	P	**Pn**	**00 07 25.7**	**+0.1**
ANKY	**Antikythira Is**	**3.29**	**273**	P	**Pn**	**00 07 25.1**	**-0.5**
KTHA	**Kythira Island**	**3.52**	**280**	Pn	**Pn**	**00 07 29.1**	**+0.5**
VLY	**Voula,Athens**	**3.55**	**308**	P	**Pn**	**00 07 28.9**	**-0.2**
DION	**Dionisos Attik**	**3.60**	**312**	P	**Pn**	**00 07 29.7**	**-0.1**
ATHU	**Athens Univers**	**3.62**	**309**	P	**Pn**	**00 07 30.0**	**-0.1**
SIGR	**SIGRI**	**3.67**	**342**	Pn	**Pn**	**00 07 31.3**	**+0.6**
VLI	**Veliai**	**3.70**	**287**	P	**Pn**	**00 07 31.0**	**-0.1**
MET5	**Makryloggos,Me**	**3.72**	**302**	P	**Pn**	**00 07 30.9**	**-0.6**
YAYO	**Edremit-Balk**	**3.88**	**357**	Pn	**Pn**	**00 07 34.4**	**+0.8**
KYMI	**Kymi, Euboea I**	**3.88**	**319**	P	**Pn**	**00 07 33.0**	**-0.7**
SEYD	**Seydisehir-KON**	**3.98**	**64**	Pn	**Pn**	**00 07 37.1**	**+2.0**
TVSB	**Tavsanli**	**4.07**	**24**	Pn	**Pn**	**00 07 36.9**	**+0.6**
VIL2	**Platees**	**4.10**	**308**	P	**Pn**	**00 07 35.8**	**-0.9**
AKMS	**Akamas**	**4.14**	**99**	P	**Pn**	**00 07 37.5**	**+0.3**
AKMS				S	**Sn**	**00 08 25.9**	**+0.5**
AKMS				AML	AML	00 08 29.0	
	0.4nm,0.6s						
AKMS				AML	AML	00 08 33.1	
	0.4nm,0.5s						
AKMS	**Akamas**	**4.14**	**99**	P	**Pn**	**00 07 37.4**	**+0.3**
LTK	**Loutraki**	**4.19**	**304**	P	**Pn**	**00 07 38.2**	**+0.3**
ALFC	**Alefka**	**4.33**	**96**	P	**Pn**	**00 07 39.9**	**+0.1**
ALFC				S	**Sn**	**00 08 29.9**	**-0.2**
ALFC				AML	AML	00 08 31.9	
	0.3nm,0.6s						
ALFC				AML	AML	00 08 33.1	
	0.4nm,0.7s						
ALFC	**Alefka**	**4.33**	**96**	P	**Pn**	**00 07 40.0**	**+0.1**
NATA	**Nata**	**4.38**	**101**	P	**Pn**	**00 07 40.8**	**+0.3**
NATA				S	**Sn**	**00 08 32.5**	**+1.2**
NATA				AML	AML	00 08 33.6	
	1.1nm,0.9s						
NATA				AML	AML	00 08 39.4	
	0.7nm,0.7s						
NATA	**Nata**	**4.38**	**101**	P	**Pn**	**00 07 40.9**	**+0.3**
LIA	**Limnos Island**	**4.50**	**338**	P	**Pn**	**00 07 41.3**	**-0.8**
LKR	**Lokris**	**4.53**	**311**	P	**Pn**	**00 07 42.9**	**+0.3**
ATAL	**Atalanti**	**4.54**	**312**	P	**Pn**	**00 07 42.4**	**-0.4**
GUR	**Goura**	**4.58**	**300**	P	**Pn**	**00 07 43.3**	**0.0**
TROD	**Troodos**	**4.58**	**98**	P	**Pn**	**00 07 42.7**	**-0.7**
TROD				S	**Sn**	**00 08 37.0**	**+0.4**
TROD				AML	AML	00 08 46.9	
	0.3nm,0.8s						
TROD				AML	AML	00 08 47.4	
	0.2nm,0.7s						
SLUM	**Salum**	**4.59**	**203**	P	**Pn**	**00 07 45.0**	**+1.5**
SLUM				S	**Sn**	**00 08 35.8**	**-0.8**
ITM	**Ithomi**	**4.60**	**290**	P	**Pn**	**00 07 44.1**	**+0.5**
APOL	**The Sanctuary**	**4.64**	**102**	P	**Pn**	**00 07 45.1**	**+1.0**
APOL				S	**Sn**	**00 08 38.8**	**+1.1**
APOL				AML	AML	00 08 42.7	
	0.2nm,0.7s						
APOL				AML	AML	00 08 57.5	
	0.2nm,0.8s						
XYLS	**Xyliatos**	**4.71**	**97**	P	**Pn**	**00 07 45.5**	**+0.3**
XYLS				S	**Sn**	**00 08 40.4**	**+0.8**
XYLS				AML	AML	00 08 41.1	
	0.2nm,0.9s						
XYLS				AML	AML	00 08 46.9	
	0.2nm,0.9s						
KLV	**Kalavryta, Ach**	**4.76**	**300**	P	**Pn**	**00 07 46.4**	**+0.5**
AXAR	**Agios Charalam**	**4.81**	**310**	P	**Pn**	**00 07 45.3**	**-1.1**
NEO	**Neokhori**	**4.84**	**319**	P	**Pn**	**00 07 45.8**	**-1.2**
ASGA	**Asgata**	**4.92**	**99**	P	**Pn**	**00 07 48.7**	**+0.7**
ASGA				S	**Sn**	**00 08 45.6**	**+0.9**
ASGA				AML	AML	00 08 55.4	
	0.2nm,0.8s						
ASGA				AML	AML	00 08 56.8	
	0.2nm,1.1s						
ASGA	**Asgata**	**4.92**	**99**	P	**Pn**	**00 07 48.2**	**+0.3**
CSS	**Mathiatis**	**4.95**	**97**	P	**Pn**	**00 07 48.5**	**+0.1**
CSS				S	**Sn**	**00 08 46.0**	**+0.6**
CSS				AML	AML	00 08 48.0	
	0.2nm,0.7s						
CSS				AML	AML	00 09 02.7	
	0.1nm,0.5s						
CSS	**Mathiatis**	**4.95**	**97**	P	**Pn**	**00 07 48.3**	**-0.1**
CSS	**Mathiatis**	**4.95**	**97**	P	**Pn**	**00 07 46.8**	**-1.5**
DRO	**Drossia**	**5.03**	**298**	P	**Pn**	**00 07 49.2**	**-0.3**
MVOU	**Mavrovouni**	**5.18**	**96**	P	**Pn**	**00 07 51.4**	**-0.2**
MVOU				S	**Sn**	**00 08 52.1**	**+1.0**
MVOU				AML	AML	00 09 04.7	
	0.1nm,0.7s						
MVOU				AML	AML	00 09 05.3	
	0.1nm,0.6s						
MVOU	**Mavrovouni**	**5.18**	**96**	P	**Pn**	**00 07 51.2**	**-0.3**
ANX	**Ano Chora**	**5.19**	**305**	P	**Pn**	**00 07 51.7**	**0.0**
BRTR	**Keskin Array B**	**6.38**	**50**	Pn	**Pn**	**00 08 09.4**	**+1.3**
	0.5nm,0.3s,baz=240,slow=17,SNR=12						
BRTR				Sn	**Sn**	**00 09 21.4**	**+0.6**
	baz=222,slow=21 1.5nm,0.5s						
SWA2		**6.67**	**194**	P	**Pn**	**00 08 13.4**	**+1.4**
RYAN	**Fayoum**	**7.08**	**159**	P	**Pn**	**00 08 18.5**	**+0.9**
MMA0B	**Mount Meron ar**	**7.19**	**110**	P	**Pn**	**00 08 17.1**	**-2.1**
MMAI	**Mount Meron Ar**	**7.19**	**110**	Pn	**Pn**	**00 08 17.8**	**-1.4**
	1.5nm,0.3s,baz=291,slow=12,SNR=8.8						
MMAI				Sn	**Sn**	**00 09 38.4**	**-2.3**
	2.4nm,0.3s,baz=296,slow=30,SNR=5.0 0.8nm,0.3s						
GEM	**Giv'at Ha'Em**	**7.31**	**108**	P	**Pn**	**00 08 19.6**	**-1.2**
GEM	**Giv'at Ha'Em**	**7.31**	**108**	S	**Sn**	**00 09 41.9**	**-1.8**
NATI	**Neve Ativ**	**7.35**	**107**	P	**Pn**	**00 08 19.5**	**-1.8**
SALP	**Salfit**	**7.47**	**117**	P	**Pn**	**00 08 21.3**	**-1.8**
SALP	**Salfit**	**7.47**	**117**	S	**Sn**	**00 09 46.6**	**-1.1**
KSHT	**Keshet**	**7.52**	**109**	P	**Pn**	**00 08 22.7**	**-1.0**
KZIT	**Kziot**	**7.61**	**127**	P	**Pn**	**00 08 23.9**	**-1.0**
HMDT	**Nahal Hemdat**	**7.63**	**115**	P	**Pn**	**00 08 22.8**	**-2.3**
YTIR	**Yattir**	**7.81**	**122**	P	**Pn**	**00 08 26.8**	**-1.0**
YTIR	**Yattir**	**7.81**	**122**	S	**Sn**	**00 09 54.6**	**-1.5**
DSI	**Dead Sea**	**7.88**	**120**	P	**Pn**	**00 08 27.2**	**-1.4**
DSI	**Dead Sea**	**7.88**	**120**	S	**Sn**	**00 09 56.0**	**-1.6**
MSBI	**Mazada**	**8.01**	**121**	P	**Pn**	**00 08 28.8**	**-1.5**
MSBI	**Mazada**	**8.01**	**121**	S	**Sn**	**00 09 58.7**	**-2.0**
GHAJ	**Ghor Haditha**	**8.16**	**120**	P	**Pn**	**00 08 30.8**	**-1.7**
KRMI	**Paran Flat**	**8.35**	**130**	P	**Pn**	**00 08 33.7**	**-1.5**
PRNI	**Paran**	**8.37**	**128**	P	**Pn**	**00 08 33.5**	**-1.9**
ASF	**Jabal al Asfar**	**8.69**	**111**	Pn	**Pn**	**00 08 38.8**	**-1.1**
	0.3nm,0.3s,baz=246,slow=19,SNR=4.8 0.7nm,0.3s						
MBRI	**Mt Berech**	**8.70**	**131**	P	**Pn**	**00 08 38.8**	**-1.1**
EIL	**Elat**	**8.81**	**131**	Pn	**Pn**	**00 08 41.3**	**0.0**
	baz=333,slow=11,SNR=4.2						
EIL				Sn	**Sn**	**00 10 15.3**	**-5.1**
	baz=316,slow=18,SNR=0.8 0.1nm,0.3s						
MLR	**Muntele Rosu**	**9.80**	**354**	Pn	**Pn**	**00 08 58.1**	**+3.1**
	0.1nm,0.3s,baz=173,slow=8.1,SNR=1.3 0.5nm,0.4s						
VAE	**Valguarnera**	**10.55**

	0.6nm,0.2s							
LPG	**La Plagne**	**0.92**	**357**	*e*Sg	Sg	00	19	45.4 +0.5
	0.3nm,0.2s							
LPL	**La Plagne**	**0.94**	**356**	*e*Pg	Pg	00	19	33.2 -0.1
LPL				*e*Sg	Sg	00	19	44.9 -0.6
	0.4nm,0.2s							
SMRF	**Simiane la Rot**	**1.08**	**237**	*e*Sg	Sg	00	19	50.2 +0.4
	0.6nm,0.3s							
LMR	**La Mourre**	**1.26**	**190**	*e*Pg	Pb	00	19	39.6 -0.1
LMR				*e*Sg	Sg	00	19	55.4 -0.3
	0.3nm,0.2s							

IDC 28 00:30:03.4±2.0, 2°73'N×126°56'E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=216.7km s-min=22.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.79**	**162**	P	P	00 35 16.6	-1.4
	0.3nm,0.3s,baz=340,slow=9.8,SNR=2.7 0.3nm,0.3s						
ASAR	**Alice Springs**	**27.19**	**165**	P	P	00 35 49.2	+0.2
	0.2nm,0.3s,baz=346,slow=9.1,SNR=1.5 0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.28**	**326**	P	P	00 40 00.2	+0.2
	0.2nm,0.4s,baz=126,slow=7.4,SNR=2.1 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**62.49**	**328**	P	P	00 40 29.0	+0.3
	0.5nm,0.7s,baz=128,slow=6.0,SNR=5.7 0.5nm,0.7s						
BVAR	**Borovoye Array**	**68.06**	**327**	P	P	00 41 04.8	0.0
	0.5nm,0.6s,baz=126,slow=7.3,SNR=4.2 0.5nm,0.6s						

*IDC **28** 00:53:10.9±0.5, 9°.90N×138°.41E, h0km, mb4.2/18, mbtmp4.3/20, ML4.1/2, Error ellipse: s-maj=23.8km s-min=13.3km az=77.0*

ISC 28 00:53:16.0±0.5, 9°.82N±0°.07×138°.4E±0°.1, h35km, n30, σ0s97/27, mb4.2/18, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.37**	**59**	Sn	**Sn**	**00 56 23.3**	**-0.3**
	24nm,0.3s,baz=267,slow=18,SNR=3.7						
JAY	**Jayapura**	**12.47**	**169**	Pn	**Pn**	**00 56 11.2**	**+0.1**
	5.5nm,0.3s,baz=0.0,slow=20,SNR=17						
JAY				Sn	**Sn**	**00 58 26.6**	**-2.4**
	1.4nm,0.3s,baz=312,slow=16,SNR=2.6 21nm,0.4s						
JOW	**Kunigami**	**19.43**	**332**	P	**P**	**00 57 37.9**	**-1.6**
	0.4nm,0.3s,baz=163,slow=13,SNR=6.4 6.6nm,0.8s						
MJAR	**Matsushiro Arr**	**26.60**	**360**	P	**P**	**00 58 50.9**	**-0.2**
	2.7nm,0.9s,baz=198,slow=12,SNR=2.6 2.7nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**28.73**	**69**	T	T	01 29 32.8	
	baz=256,slow=75,SNR=71						
H11S1	**WAKE ISLAND Hy**	**28.74**	**69**	T	T	01 29 36.9	
	baz=256,slow=75,SNR=66						
H11S2	**WAKE ISLAND Hy**	**28.74**	**69**	T	T	01 29 34.0	
	baz=256,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**29.22**	**67**	T	T	01 29 58.3	
	baz=254,slow=75,SNR=160						
H11N2	**WAKE ISLAND Hy**	**29.23**	**67**	T	T	01 29 58.8	
	baz=254,slow=75,SNR=166						
H11N3	**WAKE ISLAND Hy**	**29.24**	**67**	T	T	01 30 03.6	
	baz=254,slow=75,SNR=114						
WRA	**Warramunga Arr**	**29.85**	**188**	P	**P**	**00 59 22.4**	**+2.2**
	1.4nm,0.9s,baz=8.9,slow=9.3,SNR=5.9 1.4nm,0.9s						
ASAR	**Alice Springs**	**33.57**	**187**	P	**P**	**00 59 52.7**	**-0.2**
	1.8nm,0.6s,baz=12,slow=8.0,SNR=8.4						
ASAR				PcP	**PcP**	**01 02 33.3**	**+0.2**
	0.5nm,0.8s,baz=354,slow=2.9,SNR=4.3 1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.13**	**287**	P	**P**	**01 00 40.3**	**-0.2**
	2.0nm,0.5s,baz=102,slow=8.3,SNR=12 2.0nm,0.5s						
STKA	**Stephens Creek**	**41.58**	**176**	P	**P**	**01 01 01.2**	**+0.7**
	2.6nm,0.8s,baz=346,slow=8.3,SNR=3.4 2.6nm,0.8s						
PETK	**Petropavlovsk-**	**45.90**	**16**	P	**P**	**01 01 35.9**	**+0.8**
	1.8nm,0.8s,baz=222,slow=7.0,SNR=2.5 1.8nm,0.8s						
SONM	**Songino Array**	**46.49**	**331**	P	**P**	**01 01 41.1**	**+1.1**
	3.7nm,0.9s,baz=139,slow=7.6,SNR=15						
SONM				PcP	**PcP**	**01 03 14.3**	**+0.2**
	0.3nm,0.3s,baz=134,slow=4.2,SNR=2.0 3.7nm,0.9s						
MKAR	**Makanchi Array**	**59.94**	**319**	P	**P**	**01 03 19.0**	**+0.2**
	2.0nm,0.7s,baz=109,slow=8.6,SNR=18 2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**61.14**	**327**	P	**P**	**01 03 26.4**	**-0.3**
	1.4nm,0.6s,baz=116,slow=7.4,SNR=10 1.4nm,0.6s						
KURBB	**Kurchatov Arra**	**63.52**	**322**	P	**P**	**01 03 42.5**	**-0.3**
	4.7nm,0.9s,baz=105,slow=7.0,SNR=32 4.7nm,0.9s						
BVAR	**Borovoye Array**	**69.02**	**323**	P	**P**	**01 04 17.9**	**-0.1**
	4.7nm,0.7s,baz=103,slow=6.9,SNR=22 4.7nm,0.7s						
ILAR	**Eielson Array**	**74.67**	**25**	P	**P**	**01 04 50.7**	**-1.0**
	2.2nm,0.7s,baz=261,slow=5.9,SNR=18 2.2nm,0.7s						
VNDA	**Vanda**	**88.21**	**175**	P	**P**	**01 06 03.2**	**+0.3**
	0.4nm,0.3s,baz=2.8,slow=11,SNR=11 0.4nm,0.3s						
ARCES	**ARCESS Array B**	**88.63**	**341**	P	**P**	**01 06 04.6**	**-0.6**
	1.4nm,0.7s,baz=72,slow=5.0,SNR=5.5 1.4nm,0.7s						
YKA	**Yellowknife Ar**	**89.07**	**26**	P	**P**	**01 06 07.2**	**-0.1**
	0.9nm,0.7s,baz=296,slow=5.3,SNR=6.0 0.9nm,0.7s						
FINES	**FINESS Array B**	**91.78**	**334**	P	**P**	**01 06 18.4**	**-1.6**
	2.1nm,0.7s,baz=45,slow=7.2,SNR=8.1 2.1nm,0.7s						
NVAR	**Mina Array Bea**	**94.20**	**50**	P	**P**	**01 06 32.4**	**+0.3**
	1.6nm,0.8s,baz=284,slow=5.3,SNR=17 1.6nm,0.8s						
ELK	**Elko**	**95.79**	**47**	P	**P**	**01 06 40.6**	**+1.3**
	0.3nm,0.4s,baz=301,slow=19,SNR=3.6 0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**131.32**	**297**	PKP	**PKPdf**	**01 12 25.7**	**0.0**
	0.3nm,0.6s,baz=45,slow=2.7,SNR=2.5						
LPAZ	**La Paz**	**153.40**	**107**	PKPbc	**PKiKP**	**01 13 12.7**	**+0.2**
	1.5nm,0.6s,baz=269,slow=3.9,SNR=7.5						
CPUP	**Villa Florida**	**157.84**	**140**	PKPab	**PKPab**	**01 13 42.5**	**0.0**
	1.1nm,1.2s,baz=218,slow=1.4,SNR=2.8						

*JMA **28** 01:01:28.0±0.4, 22°N±2°×121°E±°, h34km, MV4.8/14, TAIWAN REGION*
*TAP **28** 01:01:29.1, 21°.71N×121°.33E, h41km, ML4.4, D*
*IDC **28** 01:01:31.0±4.0, 21°.59N×121°.43E, h55km±39km, mb3.5/14, mbtmp3.8/16, ML3.5/2, Error ellipse: s-maj=27.2km s-min=18.5km az=67.0*

ISC 28 01:01:27.5±1.1, 21°.75N±0°.04×121°.36E±0°.02, h20km±3km, n168, σ19s50/246, mb3.7/13, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**0.33**	**39**	*i*P	**Pn**	**01 01 38.2**	**+1.0**
LYUB				S	**Sn**	**01 01 44.9**	**+1.5**
LAY	**Lan-yu**	**0.34**	**31**	*i*P	**Pn**	**01 01 38.5**	**+1.1**
LAY				*i*S	**Sn**	**01 01 45.1**	**+1.4**
TSEB	**Hengchuen, Pin**	**0.45**	**290**	*i*P	**Pn**	**01 01 40.1**	**+1.2**
TSEB				*i*S	**Sn**	**01 01 48.6**	**+2.1**
TWKBT	**Hengchun**	**0.54**	**291**	*i*P	**Pn**	**01 01 40.7**	**+0.5**
TWKBT				S	**Sn**	**01 01 49.3**	**+0.5**
TWK1	**Hengchun**	**0.55**	**291**	P	**Pn**	**01 01 40.8**	**+0.5**
TWK1				S	**Sn**	**01 01 49.3**	**+0.4**
SMST	**Manzhou Townsh**	**0.56**	**299**	P	**Pn**	**01 01 41.1**	**+0.7**
SMST				S	**Sn**	**01 01 50.0**	**+0.9**
HEN	**Hengchun**	**0.63**	**294**	P	**Pn**	**01 01 42.5**	**+1.1**
HEN				S	**Sn**	**01 01 52.5**	**+1.6**
SLIU	**Shizi**	**0.70**	**312**	*i*P	**Pn**	**01 01 43.0**	**+0.7**
SLIU				S	**Sn**	**01 01 53.2**	**+0.6**
TAWH	**Dawu Township**	**0.73**	**323**	*i*P	**Pn**	**01 01 43.3**	**+0.5**
TAWH				S	**Sn**	**01 01 54.0**	**+0.6**
TAW	**Tawu**	**0.74**	**325**	P	**Pn**	**01 01 43.4**	**+0.5**
TAW				S	**Sn**	**01 01 53.9**	**+0.2**
ECL	**Taimali**	**0.93**	**336**	*e*P	**Pg**	**01 01 45.6**	**0.0**
ECL				S	**Sn**	**01 01 58.0**	**-0.1**
LDUT	**Ludao**	**0.93**	**6**	P	**Pn**	**01 01 46.0**	**+0.5**
LDUT				S	**Sn**	**01 01 59.8**	**+1.6**
SCZT	**Fangliau**	**0.93**	**312**	P	**Pn**	**01 01 46.7**	**+1.3**
SCZT				S	**Sn**	**01 01 59.4**	**+1.2**
TTN	**Taitung**	**1.02**	**349**	P	**Pg**	**01 01 48.2**	**+0.8**
TTN				*e*S	**Sn**	**01 02 04.0**	**+3.4**
MASBT	**Mashibuluo**	**1.09**	**322**	P	**Pg**	**01 01 48.9**	**+0.1**
MASBT				S	**Sg**	**01 02 02.9**	**-0.3**
TWGBT	**Beinan**	**1.09**	**346**	P	**Pb**	**01 01 48.0**	**+0.1**
TWGBT	**Beinan**	**1.09**	**346**	P	**Pb**	**01 01 48.0**	**+0.1**
TWGBT				S	**Sg**	**01 02 02.8**	**-0.5**
TWG	**Pinlang**	**1.10**	**346**	P	**Pb**	**01 01 48.0**	**+0.1**
TWG				S	**Sn**	**01 02 02.6**	**+0.1**
TWP	**Hsiaoliuchiu**	**1.10**	**303**	*e*P	**Pn**	**01 01 49.1**	**+1.2**
LONT	**Longtian**	**1.17**	**350**	*i*P	**Pn**	**01 01 49.2**	**+0.4**
LONT				*e*S	**Sn**	**01 02 04.3**	**0.0**
SSD	**Sandimen**	**1.20**	**326**	*e*P	**Pb**	**01 01 50.4**	**+0.8**
SSD				S	**Sg**	**01 02 05.8**	**-0.7**
EDH	**Donghe**	**1.22**	**358**	*e*P	**Pb**	**01 01 50.5**	**+0.5**
EDH				S	**Sg**	**01 02 06.8**	**-0.4**
SGLT	**Jiouru**	**1.26**	**321**	*e*P	**Pg**	**01 01 53.2**	**+1.3**
CHKT	**Chengkung**	**1.34**	**0**	*e*P	**Pb**	**01 01 52.6**	**+0.5**
CHKT				*e*S	**Sg**	**01 02 10.3**	**-0.9**
TWM1	**Shoushan**	**1.38**	**321**	P	**Pg**	**01 01 55.1**	**+0.9**
SNJT	**Kaohsiung City**	**1.38**	**317**	*e*P	**Pb**	**01 01 53.2**	**+0.5**
SCST	**Cishan**	**1.39**	**325**	P	**Pg**	**01 01 54.8**	**+0.5**
EHD	**Haiduan**	**1.40**	**354**	*i*P	**Pn**	**01 01 52.0**	**0.0**
EHD				*e*S	**Sn**	**01 02 09.9**	**-0.1**
CHKH	**Chenggong**	**1.44**	**1**	P	**Pb**	**01 01 53.7**	**0.0**
CHKH				S	**Sg**	**01 02 12.3**	**-1.8**
FULB	**Fuli**	**1.45**	**358**	P	**Pb**	**01 01 53.8**	**0.0**
FULB				S	**Sb**	**01 02 12.2**	**+0.4**
ELDTW	**Lidau**	**1.47**	**348**	P	**Pn**	**01 01 53.6**	**+0.5**
STYH	**Taoyuan**	**1.52**	**339**	*e*P	**Pb**	**01 01 55.5**	**+0.5**
ECBN	**Changbin**	**1.56**	**3**	*e*P	**Pn**	**01 01 54.8**	**+0.6**
ECBN				*e*S	**Sg**	**01 02 16.6**	**-1.5**
SHHT	**Tainan City**	**1.58**	**324**	*e*P	**Pg**	**01 01 57.6**	**-0.3**
EYUL	**Yuli**	**1.59**	**359**	*e*P	**Pb**	**01 01 56.9**	**+0.6**
CHN3	**Shinhua**	**1.61**	**325**	*e*P	**Pb**	**01 01 57.7**	**+1.1**
CHN1	**Nanshi**	**1.62**	**332**	P	**Pb**	**01 01 58.0**	**+1.1**
CHN1				*e*S	**Sg**	**01 02 19.0**	**-1.0**
YULB	**Yu-li**	**1.64**	**358**	P	**Pn**	**01 01 55.7**	**+0.4**
YULB	**Yu-li**	**1.64**	**358**	P	**Pn**	**01 01 55.5**	**+0.2**
YULB				S	**Sn**	**01 02 15.4**	**-0.4**
WTP	**Ta-pu**	**1.64**	**335**	*e*P	**Pg**	**01 01 58.7**	**-0.5**
WTP				*e*S	**Sg**	**01 02 20.4**	**-0.2**
TAI1	**Yung-k'ang**	**1.66**	**321**	*e*P	**Pn**	**01 01 55.6**	**+0.1**
TAI1				*e*S	**Sg**	**01 02 19.8**	**-1.3**
SNST	**Tainan City**	**1.67**	**332**	*e*P	**Pb**	**01 01 58.9**	**+1.3**
TPUB	**Ta-pu**	**1.69**	**337**	P	**Pb**	**01 01 58.8**	**+0.9**
TPUB	**Ta-pu**	**1.69**	**337**	*e*P	**Pb**	**01 01 58.9**	**+0.9**
TWK	**Hsinying**	**1.71**	**332**	*e*P	**Pb**	**01 01 59.1**	**+0.7**
EHYH	**Wanrong**	**1.74**	**360**	*e*P	**Pn**	**01 01 57.5**	**+0.9**
EHYH				S	**Sn**	**01 02 18.4**	**+0.2**
HGSD	**Ruisui**	**1.74**	**2**	*e*P	**Pb**	**01 01 58.3**	**-0.4**
HGSD				S	**Sb**	**01 02 20.9**	**+0.7**
CHN4	**Tsaushan**	**1.75**	**336**	*e*P	**Pb**	**01 01 59.8**	**+0.8**
EHY	**Hungye**	**1.75**	**359**	*e*P	**Pn**	**01 01 57.3**	**+0.5**
EHY				*e*S	**Sn**	**01 02 18.3**	**-0.3**
SCLT	**Jiali**	**1.78**	**323**	*e*P	**Pn**	**01 01 58.1**	**+0.9**
SCLT				*e*S	**Sb**	**01 02 23.1**	**+1.6**
WCKO	**Fanlu**	**1.82**	**338**	*e*P	**Pb**	**01 01 59.9**	**-0.3**
TSCK	**Chigu Township**	**1.82**	**320**	*e*P	**Pb**	**01 01 59.9**	**-0.4**
TSCK				*e*S	**Sb**	**01 02 22.3**	**-0.4**
ALS	**Alishan**	**1.83**	**344**	*e*P	**Pb**	**01 02 00.0**	**-0.5**
CHN8	**Yiju**	**1.91**	**326**	*e*P	**Pn**	**01 01 58.8**	**-0.2**
EGFH	**Guangfu**	**1.91**	**2**	*e*P	**Pn**	**01 02 00.4**	**+1.4**
CHY	**Chiayi**	**1.94**	**334**	*e*P	**Pb**	**01 02 01.9**	**-0.4**
CHY				*e*S	**Sb**	**01 02 26.5**	**+0.3**
CHN5	**Tsauling**	**1.94**	**341**	*i*P	**Pn**	**01 02 02.5**	**+0.1**
CHN5				*e*S	**Sb**	**01 02 26.9**	**+0.6**
CHN2	**Minshiung**	**1.96**	**335**	*e*P	**Pb**	**01 02 03.2**	**+0.8**
WARBT	**Fenglin Townsh**	**1.96**	**1**	*e*P	**Pn**	**01 02 00.1**	**+0.4**
WARBT				*e*S	**Sn**	**01 02 24.0**	**+0.2**
WHYT	**Xinyi Township**	**1.99**	**347**	*e*P	**Pb**	**01 02 03.5**	**+0.3**
WHYT				*e*S	**Sb**	**01 02 28.4**	**+0.8**
SHUL	**Shoufeng**	**2.04**	**5**	P	**Pn**	**01 02 02.6**	**+1.8**
SHUL				S	**Sb**	**01 02 28.7**	**-0.2**
WSL	**Shuilin Townsh**	**2.05**	**330**	P	**Pn**	**01 02 02.8**	**+1.8**
WSL				*e*S	**Sb**	**01 02 28.1**	**-1.2**
ESL	**Shilin**	**2.06**	**2**	P	**Pn**	**01 02 02.8**	**+1.8**
ESL				*e*S	**Sb**	**01 02 28.4**	**-1.1**
SSLB	**Suanglung**	**2.06**	**350**	P	**Pb**	**01 02 03.7**	**-0.7**
SSLB	**Suanglung**	**2.06**	**350**	P	**Pb**	**01 02 03.8**	**-0.6**
SSLB				*e*S	**Sb**	**01 02 29.1**	**-0.6**
WGK	**Gukeng**	**2.06**	**339**	*e*P	**Pb**	**01 02 03.9**	**-0.4**
WGK				*e*S	**Sb**	**01 02 27.7**	**+1.1**
WDLH	**Douliu**	**2.08**	**339**	*e*P	**Pb**	**01 02 04.0**	**-0.6**
WDLH				*e*S	**Sb**	**01 02 28.6**	**-1.3**
TEYL	**Yanliau Villag**	**2.12**	**6**	*e*P	**Pb**	**01 02 04.6**	**-0.7**
TEYL				*e*S	**Sb**	**01 02 32.1**	**+0.9**
WTK	**Tuku**	**2.13**	**335**	*e*P	**Pn**	**01 02 02.8**	**+0.8**
WTK				S	**Sb**	**01 02 30.9**	**-0.5**
WJS	**Zhushan**	**2.15**	**344**	P	**Pb**	**01 02 06.1**	**+0.4**
WJS				*e*S	**Sb**	**01 02 30.3**	**-1.6**
WSF	**Szhu**	**2.15**	**331**	*e*P	**Pn**	**01 02 02.7**	**+0.3**
WSF				*e*S	**Sb**	**01 02 31.4**	**-0.8**
SMLT	**Sun Moon Lake**	**2.17**	**349**	P	**Pb**	**01 02 06.1**	**-0.1**
SMLT				*e*S	**Sb**	**01 02 34.4**	**+1.7**
WDGT	**Dungji**	**2.18**	**314**	*i*P	**Pn**	**01 02 03.5**	**+0.9**
WDGT				*i*S	**Sn**	**01 02 28.8**	**-0.2**
OWD	**Renai**	**2.20**	**356**	*e*P	**Pn**	**01 02 04.8**	**+1.6**
OWD				*e*S	**Sn**	**01 02 30.9**	**+1.0**
ETM	**Tongmen**	**2.21**	**3**	P	**Pn**	**01 02 04.2**	**+1.1**
ETM				S	**Sn**	**01 02 30.0**	**+0.1**
WNT	**Mingjian**	**2.21**	**344**	*e*P	**Pb**	**01 02 06.3**	**-0.5**
HWA	**Hwalien**	**2.23**	**6**	*e*P	**Pn**	**01 02 04.6**	**+1.2**
WUSB	**Renai**	**2.24**	**354**	P	**Pn**	**01 02 05.8**	**+2.1**
WUSB				S	**Sn**	**01 02 32.5**	**+1.5**
LXIB	**Xiulin Townshi**	**2.26**	**1**	*e*P	**Pn**	**01 02 04.5**	**+0.5**
LXIB				*e*S	**Sn**	**01 02 31.5**	**0.0**
VCHM	**Qimei**	**2.30**	**310**	P	**Pn**	**01 02 04.8**	**+0.5**
VCHM				S	**Sn**	**01 02 31.5**	**-0.7**
TWD	**Chiawan**	**2.33**	**5**	*e*P	**Pn**	**01 02 06.4**	**+1.7**
TWD				*e*S	**Sn**	**01 02 33.3**	**+0.4**
WHF	**Hehuan Shan**	**2.39**	**358**	P	**Pn**	**01 02 07.5**	**+1.5**
WHF				*e*S	**Sn**	**01 02 34.9**	**0.0**
PHUB	**P'eng-hu**	**2.41**	**317**	P	**Pn**	**01 02 06.3**	**+0.5**
PHUB				S	**Sn**	**01 02 34.1**	**-0.7**
ETL	**Fush Village**	**2.41**	**6**	*e*P	**Pn**	**01 02 07.7**	**+1.8**
NACB	**Ninganchiao**	**2.42**	**5**	P	**Pn**	**01 02 06.9**	**+0.8**
NACB	**Ninganchiao**	**2.42**	**5**	P	**Pn**	**01 02 08.7**	**+0.7**
NACB				*e*S	**Sn**	**01 02 35.1**	**-0.1**
ETLH	**Xiulin Townshi**	**2.45**	**3**	*e*P	**Pn**	**01 02 07.3**	**+0.8**
PNG	**Penghu**	**2.46**	**318**	*e*P	**Pn**	**01 02 07.4**	**+0.9**
PNG				*e*S	**Sn**	**01 02 34.5**	**-1.6**
TCU	**Taichung**	**2.47**	**345**	*e*P	**Pn**	**01 02 08.0**	**+1.3**
TCU				*e*S	**Sb**	**01 02 40.2**	**-1.1**
FUSS	**Fushou**	**2.49**	**358**	P	**Pn**	**01 02 09.2**	**+2.0**
TWT	**Tachien**	**2.50**	**356**	*e*P	**Pn**	**01 02 09.2**	**+1.9**
TDCB	**Techi**	**2.50**	**356**	*e*P	**Pn**	**01 02 09.1**	**+1.8**
EOS4	**EOS4**	**2.52**	**20**	*e*P	**Pn**	**01 02 09.6**	**+2.5**
EOS4				*e*S	**Sb**	**01 02 39.9**	**-2.5**
WHP	**Taichung City**	**2.55**	**351**	*e*P	**Pb**	**01 02 11.2**	**-1.4**
WHP				*e*S	**Sb**	**01 02 42.1**	**-1.5**
EAHA	**Aohua**	**2.59**	**8**	*e*P	**Pn**	**01 02 10.8**	**+2.4**
TWQ1	**Liyutan**	**2.64**	**348**	*e*P	**Pn**	**01 02 12.4**	**-1.8**
NNSB	**Datong**	**2.67**	**0**	*e*P	**Pn**	**01 02 11.7**	**+2.2**
EOS3	**EOS3**	**2.68**	**19**	*e*P	**Pb**	**01 02 12.3**	**-2.4**
EOS3				*i*S	**Sb**	**01 02 44.5**	**-2.6**
ENA	**Nanau**	**2.69**	**7**	*e*P	**Pb**	**01 02 12.7**	**-2.4**
EWUT	**Wuta**	**2.71**	**8**	P	**Pn**	**01 02 12.5**	**+2.5**
NSY	**Sanyi**	**2.71**	**348**	*e*P	**Pb**	**01 02 14.8**	**-0.6**
EOS2	**EOS2**	**2.78**	**17**	*e*P	**Pb**	**01 02 14.1**	**-2.4**
LATG	**Datong**	**2.78**	**3**	*e*P	**Pn**	**01 02 13.2**	**+2.2**
ESAO	**Su ao**	**2.85**	**9**	*e*P	**Pb**	**01 02 15.5**	**-2.2**
ESAO				*e*S	**Sb**	**01 02 50.5**	**-1.7**
NFF	**Wufeng Townshi**	**2.88**	**356**	*e*P	**Pb**	**01 02 15.8**	**-2.5**
NFF				*e*S	**Sn**	**01 02 49.0**	**+2.5**
TWC	**Suao**	**2.88**	**9**	*e*P	**Pn**	**01 02 15.2**	**+2.9**
TWC				*e*S	**Sb**	**01 02 50.5**	**-2.6**
ENTT	**Nioudou**	**2.88**	**4**	*e*P	**Pn**	**01 02 15.0**	**+2.5**
NSTT	**Nanjuang**	**2.89**	**353**	*e*P	**Pn**	**01 02 15.7**	**+3.2**
LIOB	**Emei**	**2.90**	**354**	*e*P	**Pb**	**01 02 16.7**	**-1.9**
YHNB	**Yeheng**	**2.91**	**0**	P	**Pn**	**01 02 15.7**	**+2.9**
YHNB	**Yeheng**	**2.91**	**0**	*e*P	**Pn**	**01 02 15.7**	**+2.9**
FUSB	**Fushanzhiwuyua**	**3.00**	**4**	*e*P	**Pn**	**01 02 16.9**	**+2.8**
NWLT	**Wulai**	**3.02**	**2**	*e*P	**Pn**	**01 02 17.1**	**+2.8**
KSHI	**Guanxi Townshi**	**3.02**	**357**	*e*P	**Pb**	**01 02 18.3**	**-2.4**
JYNG	**Yonaguni jima**	**3.06**	**28**	*e*P	**Pn**	**01 02 17.5**	**+2.7**
YOJ	**Yonaguni jima**	**3.10**	**29**	P	**Pn**	**01 02 17.9**	**+2.6**
YOJ	**Yonaguni jima**	**3.10**	**29**	P	**Pn**	**01 02 17.9**	**+2.6**
YOJ				*e*S	**Sn**	**01 02 54.0**	**+2.2**
YOJ	**Yonaguni jima**	**3.10**	**29**	*e*P	**Pn**	**01 02 17.6**	**+2.3**
YOJ				*e*S	**Sn**	**01 02 54.3**	**+2.5**
EGS		**3.13**	**10**	*e*P	**Pb**	**01 02 20.7**	**-1.8**
TATO	**Taipei**	**3.21**	**2**	P	**Pn**	**01 02 19.8**	**+2.9**
HATJ	**Hateruma jima**	**3.22**	**44**	P	**Pn**	**01 02 19.1**	**+2.1**
HATJ				*e*S	**Sn**	**01 02 56.9**	**+2.1**
TWA	**Mucha**	**3.22**	**4**	*e*P	**Pn**	**01 02 19.3**	**+2.2**
TIPB	**Shuangxi**	**3.24**	**8**	*e*P	**Pn**	**01 02 20.2**	**+2.9**
TWB1	**Santiao Chiao**	**3.30**	**10**	*e*P	**Pn**	**01 02 21.8**	**+3.7**
TWB1				*e*S	**Sn**	**01 03 00.5**	**+3.8**
NWF	**Wu-fen Shan**	**3.33**	**7**	*e*P	**Pn**	**01 02 21.5**	**+2.9**
WFSB	**Wu-fen Shan**	**3.33**	**7**	*e*P	**Pb**	**01 02 23.2**	**-2.8**
SXI1	**Grass Mountain**	**3.36**	**8**	*e*P	**Pn**	**01 02 22.7**	**+3.6**
IRIF	**Iriomote-Funau**	**3.38**	**40**	P	**Pn**	**01 02 21.0**	**+1.8**
IRIF				*e*S	**Sn**	**01 02 59.7**	**+1.0**
YM01	**YM01**	**3.39**	**3**	*e*P	**Pn**	**01 02 22.4**	**+3.1**
ZUZH	**Zhuzihu**	**3.40**	**3**	*e*P	**Pn**	**01 02 22.0**	**+2.4**
TNOU	**National Taiwa**	**3.41**	**6**	*e*P	**Pn**	**01 02 22.2**	**+2.7**
JKRS	**Kuro-shima**	**3.48**	**44**	P	**Pn**	**01 02 22.6**	**+2.0**
JKRS				*e*S	**Sn**	**01 03 02.5**	**+1.3**
JIJ	**Ishigaki jima**	**3.65**	**44**	P	**Pn**	**01 02 24.5**	**+1.5**
JIJ				*e*S	**Sn**	**01 03 05.6**	**+0.1**
KNM	**Kinmen**	**3.78**	**315**	*e*P	**Pn**	**01 02 27.3**	**+2.5**
KNM				*e*S	**Sn**	**01 03 10.2**	**+1.5**
KNMB	**Chin-men Tao**	**3.85**	**315**	P	**Pn**	**01 02 27.0**	**+1.4**
KNMB				*e*S	**Sn**	**01 03 09.7**	**-0.6**
PTMZ	**Houxiangcun**	**3.87**	**328**	*e*P	**Pn**	**01 02 27.6**	**+1.6**
PTMZ				*e*S	**Sn**	**01 03 10.2**	**-0.7**
JISG	**Ishigakijimahi**	**3.92**	**43**	P	**Pn**	**01 02 28.0**	**+1.4**
JISG				*e*S	**Sn**	**01 03 12.9**	**+0.8**
PCYT	**Pengchaiyu**	**3.92**	**9**	*e*P	**Pn**	**01 02 29.5**	**+2.9**
ZPLA	**Ao Xicun**	**3.98**	**304**	*e*P	**Pn**	**01 02 27.7**	**+0.3**
ZPLA				*e*S	**Sn**	**01 03 12.5**	**-0.9**
DSXP	**Dongshan**	**4.12**	**299**	*e*P	**Pn**	**01 02 30.2**	**+0.8**
DSXP				*e*S	**Sn**	**01 03 15.9**	**-1.2**
JTJ	**Tarama**	**4.21**	**46**	P	**Pn**	**01 02 32.7**	**+2.0**
JTJ				*e*S	**Sn**	**01 03 20.8**	**+1.5**
AXDP	**Jialang**	**4.42**	**316**	*i*P	**Pn**	**01 02 35.0**	**+1.4**
AXDP				*e*S	**Sn**	**01 03 24.1**	**-0.4**
MATB	**Ma-tsu**	**4.57**	**344**	*e*P	**Pn**	**01 02 36.1**	**+0.5**
MHZQ	**Yeshan**	**4.83**	**334**	*e*P	**Pn**	**01 02 40.4**	**+1.3**
MHZQ				*e*S	**Sn**	**01 03 33.9**	**-0.6**
XPSS	**Dashiqiu**	**5.27**	**349**	*e*P	**Pn**	**01 02 46.8**	**+1.6**
SXFK	**Yanhouchang**	**5.74**	**324**	*e*P	**Pn**	**01 02 52.3**	**+0.6**
SXFK				*e*S	**Sn**	**01 03 55.6**	**-1.4**
JOW	**Kunigami**	**8.09**	**50**	P	**Pn**	**01 03 25.2**	**+1.4**
	2.0nm,0.3s,baz=133,slow=17,SNR=9.6						
JOW				S	**Sn**	**01 04 50.8**	**-4.0**
	4.3nm,0.4s

ORTC	**Ortega, Tolima**	**3.54**	**213**	P	Pn	01 17 22.6	-0.7
ORTC				S	Sn	01 18 04.8	+0.1
PLMC	**San Jos del P**	**3.56**	**237**	P	Pn	01 17 22.7	-0.9
PLMC				S	Sn	01 18 04.0	-1.3
LCBC	**Los crdobas,**	**3.61**	**303**	P	Pn	01 17 23.8	-0.4
LCBC				S	Sn	01 18 06.6	+0.2
URMC	**La Uribe, Meta**	**3.77**	**197**	P	Pn	01 17 26.6	+0.2
URMC				S	Sn	01 18 10.6	+0.2
CRJC	**Cerrejon, Guaj**	**4.12**	**6**	P	Pn	01 17 29.8	-1.3
CRJC				S	Sn	01 18 17.4	-1.3
YOTC	**Yotoco, Valle**	**4.19**	**227**	P	Pn	01 17 30.6	-1.3
YOTC				S	Sn	01 18 20.9	+0.7
SMRC	**Santa Marta, M**	**4.34**	**348**	P	Pn	01 17 33.7	-0.2
SMRC				S	Sn	01 18 20.9	-2.9
GUVC	**San Jose del G**	**4.37**	**171**	P	Pn	01 17 33.4	-0.9
GUVC				S	Sn	01 18 21.2	-3.2
MACC	**Macarena, Meta**	**4.75**	**187**	P	Pn	01 17 37.6	-1.7
MACC				S	Sn	01 18 30.5	-3.0
URIC	**Uribia, Colomb**	**4.95**	**15**	P	Pn	01 17 40.0	-2.1
URIC				S	Sn	01 18 36.7	-1.7
POPC	**Popayan, Colom**	**5.48**	**218**	P	Pn	01 17 48.5	-0.9
	2.9nm,1.4s						
POPC				S	Sn	01 18 51.7	+0.3
	2.9nm,1.4s						
FLOC	**Florencia**	**5.77**	**204**	P	Pn	01 17 51.9	-1.3
	4.2nm,0.7s						
FLOC				S	Sn	01 18 57.9	-0.3
	4.2nm,0.7s						
BBAC	**Balboa, Cauca**	**6.23**	**219**	P	Pn	01 17 59.0	-0.6
BBAC				S	Sn	01 19 09.5	-0.2
BCIP	**Isla Barro Col**	**6.86**	**290**	P	Pn	01 18 06.8	-1.0
	26nm,1.6s						
BCIP				S	Sn	01 19 24.4	0.0
	26nm,1.6s						
SGC2	**Sao Gabriel da**	**9.42**	**138**	P	Pn	01 18 39.0	-3.4
SGC2				S	Sn	01 20 17.3	-9.3

TEH ***28*** *01:16:56.0, 34°.53N × 46°.14E, h8km ± 65km*
ISN ***28*** *01:16:57.5 ± 1.2, 34°.54N × 46°.12E, h23km ± 25km, ML2.5*

ISC 28 01:16:56.2±1.1, 34°.53N±0°.04×46°.13E±0°.04, h10km, n10, σ0§56/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.27**	**51**	Pg	**Pg**	**01 17 01.7**	**0.0**
IGHG	**Ghaleghazi**	**0.41**	**119**	Pg	**Pg**	**01 17 04.6**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.45**	**267**	Pg	**Pg**	**01 17 05.0**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.45**	**204**	Pg	**Pg**	**01 17 05.1**	**0.0**
KCHF	**Cheshme Sefid,**	**0.79**	**108**	Pg	**Pg**	**01 17 10.9**	**-0.6**
ILBA	**Ilam Banvizeh**	**0.91**	**176**	Pg	**Pb**	**01 17 13.7**	**-0.3**
SNQR	**Songor, Kerman**	**1.27**	**75**	Pg	**Pg**	**01 17 20.9**	**+0.2**
IBDR	**Badra**	**1.43**	**187**	*e*Pg	**Pg**	**01 17 23.0**	**-0.6**
	baz=6.0						
IBDR				*e*Sg	**Sg**	**01 17 43.0**	**+0.9**
IBDR				AML	AML	01 17 59.5	
	comp=E,6.0nm,0.8s						
IBZA	**Bozab**	**1.43**	**92**	Pg	**Pg**	**01 17 23.6**	**0.0**
IKRK	**Kirkuk**	**1.71**	**301**	*e*Pn	**Pb**	**01 17 27.0**	**-0.7**
IKRK				*e*Sn	**Sb**	**01 17 50.0**	**+0.7**
IKRK				AML	AML	01 17 55.4	
	comp=N,12nm,1.0s						
IKRK				AML	AML	01 18 01.3	
	comp=E,11nm,0.8s						

JMA ***28*** *01:29:26.6 ± 0.2, 45°.1N × 142°.2E, h311km ± 1km, MV3.6/33, NE OFF HOKKAIDO*
IDC ***28*** *01:29:26.9 ± 0.5, 45°.56N × 142°.31E, h303km ± 5km, mb3.3/14, mbtmp4.0/20, Error ellipse: s-maj=12.6km s-min=11.2km az=116.0*
SKHL ***28*** *01:29:27.1 ± 0.5, 45°.50N × 142°.40E, h317km ± 1km, mb4.9/9, msha5.4/6*

ISC 28 01:29:26.6±0.6, 45°.38N±0°.05×142°.39E±0°.06, h309km±5km, n54, σ1§64/74, mb3.5/14, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.36**	**260**	P	**Pn**	**01 30 06.4**	**+0.5**
JWK2				S	**S**	**01 30 36.8**	**-0.4**
JSE	**Soyaes**	**0.44**	**162**	P	**Pn**	**01 30 06.3**	**+0.2**
JSE				*e*S	**S**	**01 30 37.3**	**-0.3**
JRR	**Rishiri**	**0.80**	**253**	P	**Pn**	**01 30 07.7**	**-0.6**
JRBN	**Rebuntou**	**0.94**	**273**	P	**Pn**	**01 30 07.5**	**-0.1**
JRBN				S	**S**	**01 30 38.7**	**-1.5**
JYG	**Yagishiri**	**1.18**	**216**	*e*P	**Pn**	**01 30 09.8**	**+1.0**
JYG				*e*S	**S**	**01 30 43.3**	**+0.8**
ASAJ	**Asahikawa**	**1.27**	**173**	P	**Pn**	**01 30 10.3**	**+0.9**
	125nm,0.7s,baz=304,slow=7.8,SNR=77						
ASAJ				S	**S**	**01 30 44.8**	**+1.3**
	71nm,0.8s,baz=182,slow=32,SNR=21						
ASAJ	**Asahikawa**	**1.27**	**173**	P	**Pn**	**01 30 10.3**	**+0.9**
ASAJ				*e*S	**S**	**01 30 44.5**	**+1.1**
JKK2	**Kamakawa 2**	**1.53**	**170**	P	**Pn**	**01 30 11.9**	**+1.0**
JKK2				S	**S**	**01 30 46.2**	**-0.1**
JMP	**Maruseppu**	**1.54**	**153**	P	**Pn**	**01 30 11.6**	**+0.6**
JMP				*e*S	**S**	**01 30 46.8**	**+0.4**
YSS	**Yuzhno-Sakhali**	**1.59**	**9**	*i* P	**Pn**	**01 30 10.7**	**-0.4**
YSS				AMB	AMB	01 30 11.0	
	500nm,0.4s						
YSS				*e*S	**S**	**01 30 44.3**	**-2.3**
YSS				A	A	01 30 45.4	
	180nm,0.6s						
YSS				A	A	01 30 45.4	
	150nm,0.6s						
KHLM	**Kholmsk**	**1.69**	**352**	*e*P	**Pn**	**01 30 11.5**	**-0.2**
KHLM				AMB	AMB	01 30 11.7	
	350nm,0.2s						
KHLM				*e*S	**S**	**01 30 46.4**	**-1.4**
KHLM				A	A	01 30 47.6	
	510nm,0.3s						
KHLM				A	A	01 30 47.6	
	570nm,0.3s						
JTKR	**Abashiri--Toko**	**1.78**	**142**	P	**Pn**	**01 30 13.2**	**+0.7**
JTKR				*e*S	**S**	**01 30 49.9**	**+0.8**
JAB	**Ashibetsu**	**1.88**	**184**	*e*P	**Pn**	**01 30 14.0**	**+0.7**
JAR	**Ashorobuto**	**2.31**	**154**	P	**Pn**	**01 30 17.6**	**+0.9**
JAR				*e*S	**S**	**01 30 57.9**	**+1.2**
JRA	**Rausu**	**2.42**	**126**	*e*P	**Pn**	**01 30 18.7**	**+1.1**
JCH	**Churui**	**2.85**	**165**	P	**Pn**	**01 30 20.7**	**-0.9**
JCH				S	**S**	**01 31 03.0**	**-2.6**
JAK	**Akkeshi**	**2.90**	**144**	P	**Pn**	**01 30 21.8**	**-0.3**
JAK				S	**S**	**01 31 03.5**	**-2.9**
AKK	**Akkeshi**	**2.95**	**142**	*e*P	**Pn**	**01 30 23.4**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.11**	**175**	P	**Pn**	**01 30 24.9**	**+0.8**
NMR	**Nemuro--Hokkai**	**3.12**	**129**	*e*P	**Pn**	**01 30 24.8**	**+0.6**
NEM2	**Nemuro 2**	**3.14**	**129**	P	**Pn**	**01 30 23.0**	**-1.3**
NEM2				S	**S**	**01 31 06.7**	**-3.8**
JEM	**Erimo**	**3.41**	**170**	P	**Pn**	**01 30 27.4**	**+0.3**
JEM	**Erimo**	**3.41**	**170**	S	**S**	**01 31 11.1**	**-4.4**
ERM	**Erimo**	**3.41**	**170**	P	**Pn**	**01 30 27.0**	**-0.1**
ERM	**Erimo**	**3.41**	**170**	S	**S**	**01 31 11.1**	**-4.4**
SHO	**Shikotan**	**3.51**	**114**	*e*P	**Pn**	**01 30 30.6**	**+2.6**
SHO				*e*P	**Pn**	**01 30 31.0**	**+3.0**
	20nm,0.2s						
SHO				*e*S	**S**	**01 31 17.4**	**+0.1**
SHO				A	A	01 31 18.7	
	210nm,0.4s						
SHO				A	A	01 31 18.7	
	420nm,0.4s						
JTM	**Tenmabayashi**	**4.69**	**192**	P	**Pn**	**01 30 40.3**	**-0.7**
JTM	**Tenmabayashi**	**4.69**	**192**	S	**S**	**01 31 35.9**	**-4.9**
TYV	**Tymovskoe**	**5.49**	**2**	*e*P	**Pn**	**01 30 49.3**	**-0.6**
TYV				AMB	AMB	01 30 50.8	
	10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**7.50**	**265**	P	**Pn**	**01 31 14.7**	**+0.7**
	8.5nm,0.6s,baz=77,slow=12,SNR=19						
JMM	**Marumori**	**7.60**	**190**	P	**Pn**	**01 31 15.3**	**-0.1**
JSD	**Sado**	**7.96**	**204**	P	**Pn**	**01 31 19.9**	**+0.1**
MJAR	**Matsushiro Ar**	**9.38**	**201**	P	**Pn**	**01 31 38.3**	**+1.1**
	2.0nm,0.6s,baz=13,slow=11,SNR=8.0						
PETK	**Petropavlovsk-**	**12.62**	**47**	P	**Pn**	**01 32 15.4**	**-0.8**
	2.6nm,0.5s,baz=205,slow=6.6,SNR=5.4						
KSRS	**Korea Array**	**13.43**	**239**	P	**Pn**	**01 32 28.1**	**+2.1**
	2.4nm,0.7s,baz=52,slow=11,SNR=11						
MA2	**Magadan**	**15.08**	**17**	P	**P**	**01 32 43.5**	**-0.3**
	11nm,0.7s,baz=192,slow=8.9,SNR=11						
SEY	**Seymchan**	**18.49**	**14**	P	**P**	**01 33 19.7**	**-0.8**
	7.3nm,0.5s,baz=204,slow=8.0,SNR=28						
SONM	**Songino Array**	**24.71**	**289**	P	**P**	**01 34 21.2**	**+0.8**
	2.3nm,0.3s,baz=90,slow=8.4,SNR=15						
	2.3nm,0.3s						
MKAR	**Makanchi Array**	**40.81**	**294**	P	**P**	**01 36 37.2**	**-1.3**
	0.3nm,0.5s,baz=80,slow=11,SNR=4.7						
MKAR				ScP	**ScP**	**01 41 53.3**	**+1.2**
	0.4nm,0.7s,baz=66,slow=3.5,SNR=2.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**41.87**	**301**	P	**P**	**01 36 46.5**	**-0.3**
	1.0nm,0.5s,baz=72,slow=8.9,SNR=11						
KURBB				PcP	**PcP**	**01 38 36.5**	**+0.5**
	0.4nm,0.8s,baz=76,slow=4.0,SNR=4.1						
	1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.85**	**248**	P	**P**	**01 37 12.6**	**+1.6**
	1.0nm,0.3s,baz=55,slow=8.0,SNR=1.3						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**45.82**	**307**	P	**P**	**01 37 17.8**	**-0.2**
	0.5nm,0.3s,baz=85,slow=8.6,SNR=5.1						
BVAR				PcP	**PcP**	**01 38 50.2**	**+0.6**
	0.4nm,0.3s,baz=93,slow=3.0,SNR=3.0						
	0.5nm,0.3s						
SPITS	**Spitsbergen Ar**	**52.50**	**348**	PP	**PP**	**01 40 05.1**	**-4.8**
	9.0nm,1.0s,baz=122,slow=28,SNR=1.6						
YKA	**Yellowknife Ar**	**56.31**	**33**	P	**P**	**01 38 35.2**	**0.0**
	1.5nm,0.8s,baz=310,slow=7.2,SNR=8.2						
	1.5nm,0.8s						
FINES	**FINESS Array B**	**61.83**	**331**	P	**P**	**01 39 11.9**	**-1.0**
	0.5nm,0.4s,baz=51,slow=8.6,SNR=11						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**65.42**	**188**	P	**P**	**01 39 38.2**	**+1.5**
	1.4nm,0.9s,baz=5.2,slow=6.8,SNR=6.4						
	1.4nm,0.9s						
NB2	**NORSAR Subarra**	**66.80**	**337**	P	**P**	**01 39 44.2**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=33,slow=6.9						
NOA	**NORSAR Array B**	**66.80**	**337**	P	**P**	**01 39 43.8**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=35,slow=6.3,SNR=5.6						
	comp=Z,0.5nm,0.6s						
HFS	**Hagfors**	**66.82**	**335**	P	**P**	**01 39 44.3**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=60,slow=8.8,SNR=9.2						
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**69.15**	**188**	P	**P**	**01 40 01.9**	**+2.1**
	comp=Z,1.6nm,0.8s,baz=1.8,slow=5.1,SNR=14						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**69.53**	**56**	P	**P**	**01 40 04.0**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=301,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**71.39**	**48**	P	**P**	**01 40 14.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=302,slow=2.2,SNR=6.2						
	comp=Z,0.6nm,0.6s						
BRTR	**Keskin Array B**	**73.93**	**311**	P	**P**	**01 40 28.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=33,slow=8.6,SNR=2.2						
	comp=Z,0.5nm,0.7s						
SNAA	**Sanae**	**148.89**	**200**	PKPbc	**PKiKP**	**01 48 37.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=136,slow=4.8,SNR=6.7						

FUNV ***28*** *01:35:41.9, 10°.32N × 68°.02W, h12km, MW4.3*
NEIC ***28*** *01:35:41.6 ± 2.1, 10°.24N ± 0°.05 × 67°.89W ± 0°.06, h18km ± 5km, mb4.4/13, Error ellipse: s-maj=9.1km s-min=7.1km az=81.0*
IDC ***28*** *01:35:41.0 ± 0.8, 10°.50N × 68°.12W, h0km, mb3.8/8, mbtmp4.0/12, ML3.8/4, Error ellipse: s-maj=21.8km s-min=14.0km az=172.0*
RSNC ***28*** *01:35:42.8 ± 0.4, 10°.N ± 3° × 6°.8W ± °, h60km, M4.4, mB5.5, mb4.7, ML3.6, Mw(mB)4.9*

ISC 28 01:35:40.6±1.2, 10°.25N±0°.04×67°.99W±0°.03, h12km±8km, n92, σ1§52/105, mb4.3/12, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BENV	**Beln**	**0.48**	**127**	*e*P	**Pn**	**01 35 51.9**	**-1.4**
BENV				*e*S	**Sn**	**01 35 59.4**	**+2.9**
TACV	**Tcata**	**0.95**	**97**	*e*P	**Pn**	**01 36 00.2**	**+0.4**
TACV				*e*S	**Sn**	**01 36 14.0**	**+0.6**
JACV	**Jacura**	**1.17**	**315**	*e*P	**Pn**	**01 36 02.6**	**-0.3**
JACV				*e*S	**Sb**	**01 36 16.0**	**-2.0**
FUNV	**FUNVISIS**	**1.18**	**79**	*e*P	**Pg**	**01 36 03.4**	**0.0**
FUNV				*e*S	**Sg**	**01 36 19.4**	**+0.7**
BAUV	**El Baul**	**1.30**	**182**		**Pn**	**01 36 04.7**	**+0.2**
BAUV				Sn	**Sn**	**01 36 21.5**	**-0.4**
BAUV	**El Baul**	**1.30**	**182**	*e*P	**Pb**	**01 36 05.2**	**+0.2**
BAUV				*e*S	**Sb**	**01 36 22.4**	**+0.7**
SDV	**Santo Domingo**	**2.94**	**243**		**Pn**	**01 36 28.3**	**+1.0**
SDV				Sn	**Sn**	**01 37 03.6**	**+1.0**
SDV	**Santo Domingo**	**2.94**	**243**	Pn	**Pn**	**01 36 29.1**	**+1.8**
	29nm,0.3s,baz=64,slow=8.5,SNR=13						
SDV				Sn	**Sn**	**01 37 05.3**	**+2.6**
	53nm,0.3s,baz=63,slow=6.0,SNR=9.8						
	69nm,0.4s						
SDV	**Santo Domingo**	**2.94**	**243**	P	**Pn**	**01 36 27.8**	**+0.5**
CACV	**CAICARA DEL OR**	**3.03**	**152**	*e*P	**Pb**	**01 36 33.7**	**-0.8**
CACV				*e*S	**Sg**	**01 37 14.0**	**-4.0**
PCRV	**Puerto La Cruz**	**3.30**	**91**	Pn	**Pb**	**01 36 37.0**	**-2.1**
	14nm,0.3s,baz=277,slow=3.9,SNR=157						
PCRV				Sn	**Sb**	**01 37 18.3**	**-1.0**
	11nm,0.3s,baz=256,slow=22,SNR=12						
PCRV				Lg	Lg	01 37 30.1	
	24nm,0.3s,baz=156,slow=23,SNR=12						
	36nm,0.3s						
PCRV	**Puerto La Cruz**	**3.30**	**91**	*e*P	**Pb**	**01 36 35.9**	**-3.3**
PCRV				*e*S	**Sn**	**01 37 11.9**	**+0.6**
URIC	**Uribia, Colomb**	**4.19**	**290**	P	Pn	01 36 40.9	-3.4
MCQV	**Machiques**	**4.48**	**268**	*e*P	**Pn**	**01 36 48.5**	**+0.2**
MCQV				*e*S	**Sn**	**01 37 36.4**	**-4.0**
CRJC	**Cerrejon, Guaj**	**4.87**	**279**	P	**Pn**	**01 36 52.5**	**-1.3**
CAPV	**Capacho**	**4.89**	**241**	*e*P	**Pn**	**01 36 54.8**	**+0.7**
CAPV				*e*S	**Sn**	**01 37 46.6**	**-4.1**
PAMC	**Pamplona, Colo**	**5.48**	**239**	P	**Pn**	**01 37 02.8**	**+0.3**
OCAC	**Ocana**	**5.63**	**250**	P	**Pn**	**01 37 05.0**	**+0.7**
	2µm142nm,0.7s						
ARGC	**Ariguani, Magd**	**6.17**	**267**	P	**Pn**	**01 37 11.2**	**-0.4**
	36nm,0.5s						
SMRC	**Santa Marta, M**	**6.20**	**279**	Pn	**Pn**	**01 37 10.4**	**-1.5**
SMRC	**Santa Marta, M**	**6.20**	**279**	P	**Pn**	**01 37 10.9**	**-1.0**
	37nm,0.6s						
BARC	**Barichara**	**6.29**	**235**	P	**Pn**	**01 37 14.0**	**+0.5**
GRGR	**Grenville**	**6.49**	**73**	P	**Pn**	**01 37 15.5**	**-0.5**
	41nm,0.9s						
BRJC	**Barrancabermej**	**6.56**	**241**	P	**Pn**	**01 37 17.0**	**+0.1**
	32nm,0.5s						
RUSC	**La Rusia**	**6.65**	**230**		**Pn**	**01 37 18.7**	**+0.1**
RUSC	**La Rusia**	**6.65**	**230**	P	**Pn**	**01 37 18.6**	**0.0**
	41nm,0.8s						
SJCC	**San Jacinto, C**	**7.09**	**268**	P	**Pn**	**01 37 23.9**	**-0.4**
	1µm29nm,0.6s						
ZARC	**Zaragoza, Cauc**	**7.32**	**249**	P	**Pn**	**01 37 26.8**	**-0.6**
	5µm35nm,0.8s						
PTBC	**PUERTO BERRIO,**	**7.38**	**241**	P	**Pn**	**01 37 27.0**	**-1.3**
	448nm25nm,0.6s						
UREC	**San Jos de Ur**	**7.86**	**252**	P	**Pn**	**01 37 34.8**	**+0.1**
	28nm,0.5s						
OBIP	**Obispado Ponce**	**7.86**	**10**	Pn	**Pn**	**01 37 34.3**	**-0.4**
CELP	**Cerrillos**	**7.90**	**10**		**Pn**	**01 37 33.9**	**-1.3**
PDPR	**Patillas Dam,**	**7.95**	**14**		**Pn**	**01 37 35.5**	**-0.5**
PRSN	**Puerto Rico Se**	**7.96**	**6**		**Pn**	**01 37 35.5**	**-0.6**
BIM	**Bigot**	**7.98**	**57**	Pn	**Pn**	**01 37 34.3**	**-2.1**
SJG	**San Juan**	**8.01**	**13**		**Pn**	**01 37 36.6**	**-0.3**
SJG	**San Juan**	**8.01**	**13**	Pn	**Pn**	**01 37 36.4**	**-0.4**
	4.7nm,0.3s,baz=182,slow=14,SNR=14						
SJG				Sn	Sn	01 38 57.5	-10
	20nm,0.3s,baz=202,slow=18,SNR=21						
	18nm,0.5s						
SJG	**San Juan**	**8.01**	**13**	P	**Pn**	**01 37 36.0**	**-0.9**
	13nm,0.6s						
FDF	**Fort de France**	**8.03**	**56**		**Pn**	**01 37 35.7**	**-1.4**
UUPR	**Utuado, UPR, P**	**8.05**	**9**	Pn	**Pn**	**01 37 37.4**	**0.0**
SVN	**Savane Anatole**	**8.07**	**55**	Pn	**Pn**	**01 37 36.6**	**-1.1**
HUMP	**Col San Antoni**	**8.11**	**15**		**Pn**	**01 37 38.8**	**+0.6**
MPOM	**Morne Pois Mar**	**8.12**	**58**	Pn	**Pn**	**01 37 36.5**	**-1.8**
AGPR	**Aguadilla, PR**	**8.21**	**6**	Pn	**Pn**	**01 37 41.2**	**+1.6**
GCPR	**Guaynabo City**	**8.22**	**13**	Pn	**Pn**	**01 37 40.0**	**+0.3**
NORC	**Norcasia**	**8.25**	**236**	P	**Pn**	**01 37 39.5**	**-0.8**
	13nm,0.5s						
ROSC	**El Rosal**	**8.26**	**230**		**Pn**	**01 37 42.4**	**+1.7**
ROSC	**El Rosal**	**8.26**	**230**	Pn	**Pn**	**01 37 42.9**	**+2.2**
	16nm,0.3s,baz=224,slow=23,SNR=29						
ROSC				Sn	**Sn**	**01 39 16.5**	**+2.3**
	3.5nm,0.3s,baz=175,slow=22,SNR=1.9						
	107nm,0.5s						
ROSC	**El Rosal**	**8.26**	**230**	P	**Pn**	**01 37 42.5**	**+1.8**
	160nm,0.6s						
CVER	**Cruz Verde, Cu**	**8.29**	**227**	P	**Pn**	**01 37 42.3**	**+1.1**
	179nm,0.6s						
VILC	**Villavicencio,**	**8.32**	**223**	P	**Pn**	**01 37 38.4**	**-2.8**
HELC	**Santa Helena**	**8.48**	**242**	P	**Pn**	**01 37 44.2**	**+0.5**
	29nm,1.1s						
DBBC	**Dabeiba**	**8.74**	**249**	P	**Pn**	**01 37 46.5**	**-0.4**
APAC	**Apartado, Choc**	**8.80**	**255**	P	**Pn**	**01 37 47.1**	**-0.6**
	31nm,0.7s						
GUY2C	**Guyana, Caldas**	**8.85**	**236**	P	**Pn**	**01 37 48.6**	**-0.2**
	41nm,0.6s						
GUVC	**San Jose del G**	**8.94**	**211**	P	**Pn**	**01 37 49.0**	**-0.6**
CBOC	**Ciudad Bolivar**	**9.06**	**242**	P	**Pn**	**01 37 52.1**	**+0.7**
	38nm,0.7s						
SDDR	**Presa de Saban**	**9.25**	**340**		**Pn**	**01 37 54.4**	**+0.5**
SDDR	**Presa de Saban**	**9.25**	**340**	P	**Pn**	**01 37 54.0**	**+0.1**
	18nm,0.7s						
ANIL	**Santa Ana**	**9.32**	**233**	P	**Pn**	**01 37 54.8**	**-0.2**
URMC	**La Uribe, Meta**	**9.42**	**223**	P	**Pn**	**01 37 55.5**	**-0.7**
	71nm,0.7s						
PRAC	**Prado**	**9.44**	**227**	P	**Pn**	**01 37 55.8**	**-0.7**
	43nm,0.4s						
ORTC	**Ortega, Tolima**	**9.57**	**229**	P	**Pn**	**01 37 57.2**	**-1.1**
	52nm,0.8s						
MACC	**Macarena, Meta**	**9.94**	**216**	P	**Pn**	**01 38 01.4**	**-1.9**
	40nm,0.6s						
BOAV	**Boa Vista**	**10.77**	**136**		**Pn**	**01 38 14.3**	**-0.3**
GARC	**Garzon, Huila**	**10.94**	**223**	P	**Pn**	**01 38 15.9**	**-1.4**
FLOC	**Florencia**	**11.50**	**222**	Pn	**Pn**	**01 38 24.2**	**-0.5**
POPC	**Popayan, Colom**	**11.54**	**229**	P	**Pn**	**01 38 24.9**	**-0.5**
MDP	**Montagnes des**	**16.04**	**107**	Pn	**Pn**	**01 39 26.8**	**+0.6**
	0.6nm,0.3s,baz=289,slow=14,SNR=8.7						
MDP				Sn	**Sn**	**01 42 18.2**	**-5.9**
	0.5nm,0.3s,baz=197,slow=23,SNR=3.1						
CZSB	**Cruzeiro do Su**	**18.47**	**195**	P	**P**	**01 39 55.1**	**-1.4**
CZSB				IAmb	IAmb	01 40 03.2	
	comp=Z,16nm,0.6s						
ATAH	**Atahualpa**	**20.14**	**211**	P	Pn	01 40 20.1	+3.0
	comp=Z,6.8nm,0.9s,baz=306,slow=4.5,SNR=4.7						
	comp=Z,6.8nm,0.9s						
TEIG	**Tepich**	**21.92**	**299**	P	**P**	**01 40 33.9**	**0.0**
TEIG				IAmb	IAmb	01 40 42.7	
	comp=Z,14nm,0.9s						
SDCO	**Great Sand Dun**	**43.39**	**315**	P	**P**	**01 43 42.4**	**-1.0**
SDCO				IAmb	IAmb	01 44 18.4	
	comp=Z,9.8nm,1.2s						
PV02	**Paradox Valley**	**45.87**	**314**	P	**P**	**01 44 04.0**	**+0.9**
PV18	**Skein Mesa, Pa**	**46.01**	**314**	P	**P**	**01 44 05.7**	**+1.4**
BSUT	**Blindstream Ca**	**48.31**	**316**	P	**P**	**01 44 23.1**	**+0.7**
BSUT				IAmb	IAmb	01 44 24.3	
	comp=Z,3.8nm,1.1s						
PD31	**Pinedale Array**	**48.56**	**319**	P	**P**	**01 44 24.3**	**+0.2**
PDAR	**Pinedale Array**	**48.56**	**319**	P	**P**	**01 44 24.0**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=126,slow=11,SNR=14						
	comp=Z,1.3nm,0.6s						
HWUT	**Hardware Ranch**	**49.33**	**317**	P	**P**	**01 44 30.9**	**+0.9**
HWUT				IAmb	IAmb	01 44 40.0	
	comp=Z,4.2nm,1.1s						
RLMT	**Red Lodge**	**49.57**	**322**	P	**P**	**01 44 32.4**	**+0.7**
TPAW	**Teton Pass**	**49.80**	**320**	P	**P**	**01 44 34.3**	**+0.7**
TPAW				IAmb	IAmb	01 44 39.2	
	comp=Z,3.2nm,0.7s						
YHH	**Holmes Hill**	**50.37**	**321**	P	**P**	**01 44 38.8**	**+0.9**
YHL	**Hebgen Lake**	**50.60**	**321**	P	**P**	**01 44 40.2**	**+0.5**
YHL				IAmb	IAmb	01 44 42.0	
	comp=Z,3.3nm,0.7s						
HRY	**Holter Researc**	**51.92**	**323**	P	**P**	**01 44 50.1**	**+0.8**
NVAR	**Mina Array Bea**	**52.91**	**311**	P	**P**	**01 44 57.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=135,slow=7.0,SNR=4.8						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**61.93**	**338**	P	**P**	**01 45 59.1**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=114,slow=6.3,SNR=5.2						
	comp=Z,0.7nm,0.8s						
ESDC	**Sonseca Array**	**63.57**	**51**	P	**P**	**01 46 13.2**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=45,slow=36,SNR=1.3						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**68.11**	**80**	P	**P**	**01 46 39.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**68.11**	**80**	P	**P**	**01 46 43.9**	**+2.9**
	comp=Z,1.4nm,0.8s,baz=290,slow=7.4,SNR=10.0						
	comp=Z,1.4

GMLD	**Gumuldur**	**1.16**	**348**	Pn	**Pb**	**01 41 18.7**	**-0.2**
ESEN	**Aydn-Nazilli**	**1.23**	**46**	P	**Pn**	**01 41 19.7**	**-0.3**
ESEN				S	**Sn**	**01 41 36.9**	**+0.4**
ESEN				*i* IAML		01 41 42.0	
	comp=E,174nm,0.3s						
ESEN				*i* IAML		01 41 43.0	
	comp=N,110nm,0.5s						
IZMR	**zmir-demi**	**1.32**	**26**	P	**Pn**	**01 41 21.1**	**-0.1**
IZMR				S	**Sg**	**01 41 41.8**	**+2.1**
IZMR				*i* IAML		01 41 43.0	
	comp=N,130nm,0.5s						
IZMR				*i* IAML		01 41 43.0	
	comp=E,116nm,0.5s						
NAZL	**Nazilli-Aydin**	**1.32**	**40**	Pn	**Pb**	**01 41 21.9**	**+0.1**
KARP	**Karpathos**	**1.40**	**182**	Pn	**Pb**	**01 41 22.8**	**-0.2**
SABU	**Mula-Dalaman**	**1.40**	**94**	P	**Pb**	**01 41 23.3**	**+0.2**
SABU				S	**Sg**	**01 41 43.0**	**+0.7**
SABU				*i* IAML		01 41 49.0	
	comp=E,107nm,0.3s						
SABU				*i* IAML		01 41 52.0	
	comp=N,168nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.44**	**68**	P	**Pn**	**01 41 23.4**	**+0.5**
TAVA				S	**Sb**	**01 41 42.8**	**+0.6**
TAVA				*i* IAML		01 41 43.0	
	comp=E,117nm,0.4s						
TAVA				*i* IAML		01 41 54.0	
	comp=N,86nm,0.8s						
BLCB	**Balcova**	**1.44**	**354**	Pn	**Pn**	**01 41 23.1**	**+0.2**
BLCB	**Balcova**	**1.44**	**354**	P	**Pn**	**01 41 22.8**	**0.0**
DNZT	**Denizli-Tavas-**	**1.48**	**76**	P	**Pb**	**01 41 24.4**	**0.0**
DNZT				S	**Sg**	**01 41 44.5**	**-0.1**
DNZT				*i* IAML		01 41 54.0	
	comp=N,108nm,0.9s						
DNZT				*i* IAML		01 41 55.0	
	comp=E,49nm,0.4s						
ODEM	**Odemis-Izmir**	**1.49**	**27**	Pn	**Pb**	**01 41 24.2**	**-0.4**
KIRA	**zmir-Kiraz**	**1.56**	**36**	P	**Pn**	**01 41 24.1**	**-0.4**
KIRA				S	**Sn**	**01 41 44.5**	**-0.2**
KIRA				*i* IAML		01 41 54.0	
	comp=E,71nm,0.6s						
KIRA				*i* IAML		01 41 56.0	
	comp=N,77nm,0.8s						
SNT5	**Nea Kammeni, S**	**1.57**	**250**	P	**Pg**	**01 41 26.8**	**-0.4**
CAME	**Cameli-Denizli**	**1.66**	**89**	Pn	**Pb**	**01 41 27.1**	**-0.5**
CHOS	**Chios island**	**1.71**	**327**	Pn	**Pn**	**01 41 26.8**	**+0.1**
APMY	**Acipayam-Deniz**	**1.74**	**72**	Pn	**Pb**	**01 41 28.2**	**-0.7**
EAG2	**Marmaro, Chios**	**1.82**	**331**	P	**Pn**	**01 41 28.2**	**+0.1**
GOMA	**Golmarmara-Man**	**1.84**	**17**	Pn	**Pn**	**01 41 29.1**	**+0.8**
KULA	**Kula-Manisa**	**1.94**	**36**	Pn	**Pn**	**01 41 30.8**	**+1.1**
GORD	**Gordes-Manisa**	**2.10**	**21**	Pn	**Pn**	**01 41 32.9**	**+1.0**
SOMA	**Soma-Manisa**	**2.22**	**6**	Pn	**Pn**	**01 41 34.4**	**+0.8**
SIGR	**SIGRI**	**2.51**	**335**	P	**Pn**	**01 41 36.9**	**-0.6**
SIGR	**SIGRI**	**2.51**	**335**	P	**Pn**	**01 41 37.1**	**-0.4**

AUST 28 02:04:08.6±0.4, 34°S±2°×11°8E±°, h10km, mb3.6/2, ML3.1/6, ML3.6/7, Error ellipse: s-maj=7.6km s-min=4.9km az=96.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKGY	**Rocky Gully**	**1.38**	**241**	P	Pn	02 04 34.0	0.0
RKGY				S	Sn	02 04 52.5	+0.2
NWAO	**Narrogin (SRO)**	**1.43**	**315**	P	Pn	02 04 34.9	+0.3
NWAO	**Narrogin (SRO)**	**1.43**	**315**	S	Sn	02 04 53.4	-0.2
MUN	**Mundaring**	**2.71**	**316**	P	Pn	02 04 52.2	-0.1
MUN	**Mundaring**	**2.71**	**316**	S	Sn	02 05 25.7	+0.5
BLDU	**Ballidu**	**3.63**	**336**	P	Pn	02 05 04.6	-0.3
DNDOZ	**Balladonia**	**4.78**	**73**	P	Pn	02 05 21.3	+0.5
MORW	**Morawa**	**5.28**	**336**	P	Pn	02 05 27.2	-0.4
	comp=Z,54μmcomp=Z,0.1nmcomp=Z,12nm,2.4s						
MEEK	**Meekatharra**	**7.28**		P	Pn	02 05 54.6	-0.5
	comp=Z,55μmcomp=Z,0.1nmcomp=Z,14nm,1.9s						

*SNET **28** 02:11:13.1±1.7, 12°.96N×88°.51W, h79km, ML3.2*
*GCG **28** 02:11:13.7±0.8, 13°.06N×88°.51W, h84km±16km, MD3.5*
*CATAC **28** 02:11:15.2±0.3, 13°N±2°×8°.9W±°, h67km±3km, M3.3/24, MLv3.3/24, Error ellipse: s-maj=5.5km s-min=2.0km az=22.5, confirmed*

ISC 28 02:11:14.7±1.4, 13°.10N±0°.05×88°.52W±0°.03, h82km±8km, n83, σ0.963/102, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.39**	**34**	*i* P	**Pn**	**02 11 27.7**	**-0.2**
TECA	**Tecapa**	**0.39**	**2**	*eP*	**Pn**	**02 11 28.0**	**-0.1**
VSM	**San Miguel**	**0.40**	**36**	P	**Pn**	**02 11 27.8**	**-0.4**
PACA	**Pacayal**	**0.41**	**27**	*eP*	**Pn**	**02 11 27.9**	**-0.2**
PACA	**Pacayal**	**0.41**	**27**	P	**Pn**	**02 11 28.1**	**0.0**
PACA	**Pacayal**	**0.41**	**27**	S	**Sn**	**02 11 37.6**	**-0.4**
BLLM	**Bellamira**	**0.43**	**38**	*i* P	**Pn**	**02 11 27.8**	**-0.4**
CNRM	**Centro Naciona**	**0.50**	**42**	P	**Pn**	**02 11 28.2**	**-0.4**
TECO	**Alcaldia de Te**	**0.51**	**329**	P	**Pn**	**02 11 27.9**	**-0.8**
TECO	**Alcaldia de Te**	**0.51**	**329**	S	**Sn**	**02 11 39.6**	**+0.5**
PQSS	**Presa 15 de Se**	**0.52**	**355**	P	**Pn**	**02 11 28.7**	**-0.2**
PQSS	**Presa 15 de Se**	**0.52**	**355**	S	**Sn**	**02 11 40.1**	**+0.8**
SCLA	**Alcaldia de Sa**	**0.63**	**341**	*eP*	**Pn**	**02 11 29.8**	**-0.2**
SCLA				*eS*	**Sn**	**02 11 41.8**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.63**	**341**	P	**Pn**	**02 11 29.9**	**0.0**
LCND	**La Caada**	**0.64**	**71**	*eP*	**Pn**	**02 11 29.7**	**-0.3**
LCND				*eS*	**Sn**	**02 11 42.0**	**+0.7**
CNCH	**Conchagua**	**0.69**	**75**	*eP*	**Pn**	**02 11 29.8**	**-0.7**
PAVA	**Las Pavas**	**0.73**	**326**	P	**Pn**	**02 11 30.5**	**-0.5**
PAVA	**Las Pavas**	**0.73**	**326**	S	**Sn**	**02 11 43.3**	**+0.1**
LFRS	**El Faro**	**0.74**	**314**	*eP*	**Pn**	**02 11 30.6**	**-0.5**
LOMA	**Loma Larga**	**0.84**	**310**	*eP*	**Pn**	**02 11 31.9**	**-0.2**
LOMA				*eS*	**Sn**	**02 11 45.4**	**+0.3**
LOMA	**Loma Larga**	**0.84**	**310**	P	**Pn**	**02 11 31.8**	**-0.3**
LOMA	**Loma Larga**	**0.84**	**310**	S	**Sn**	**02 11 46.1**	**+1.0**
UDBS	**Universidad Do**	**0.87**	**315**	P	**Pn**	**02 11 32.5**	**0.0**
UDBS	**Universidad Do**	**0.87**	**315**	S	**Sn**	**02 11 46.0**	**+0.2**
LALI	**Alcalda de L**	**0.87**	**296**	*eP*	**Pn**	**02 11 32.0**	**-0.4**
LALI				*eS*	**Sn**	**02 11 45.0**	**-0.6**
LALI	**Alcalda de L**	**0.87**	**296**	P	**Pn**	**02 11 30.7**	**-1.7**
LALI	**Alcalda de L**	**0.87**	**296**	S	**Sn**	**02 11 45.2**	**-0.4**
UTEC	**Universidad Te**	**0.90**	**312**	P	**Pn**	**02 11 32.1**	**-0.6**
UTEC	**Universidad Te**	**0.90**	**312**	S	**Sn**	**02 11 45.7**	**-0.5**
SEMO	**Seminario San**	**0.91**	**311**	P	**Pn**	**02 11 32.0**	**-1.0**
SEMO	**Seminario San**	**0.91**	**311**	S	**Sn**	**02 11 46.5**	**-0.1**
UEES	**Universidad Ev**	**0.93**	**311**	P	**Pn**	**02 11 33.1**	**-0.1**
UEES	**Universidad Ev**	**0.93**	**311**	S	**Sn**	**02 11 46.0**	**-1.0**
CSGN	**Cosiguina Volc**	**0.94**	**97**	P	**Pn**	**02 11 32.5**	**-0.7**
CSGN				S	**Sn**	**02 11 49.1**	**+2.0**
PIC2	**El Picacho**	**0.96**	**312**	*eP*	**Pn**	**02 11 33.7**	**0.0**
PIC2				*eS*	**Sn**	**02 11 47.9**	**0.0**
BOQS	**Boqueron**	**0.97**	**310**	*eP*	**Pn**	**02 11 34.2**	**+0.4**
PMON	**Piamonte**	**0.99**	**308**	*eP*	**Pn**	**02 11 33.8**	**-0.1**
PMON				*eS*	**Sn**	**02 11 48.7**	**+0.5**
PMON	**Piamonte**	**0.99**	**308**	P	**Pn**	**02 11 34.0**	**+0.1**
PMON	**Piamonte**	**0.99**	**308**	S	**Sn**	**02 11 49.2**	**+1.0**
POTN	**Potosi Cosigui**	**0.99**	**96**	P	**Pn**	**02 11 33.7**	**-0.1**
POTN				S	**Sn**	**02 11 49.2**	**+1.3**
JAYA	**Jayaque - finc**	**1.06**	**301**	*eP*	**Pn**	**02 11 34.6**	**-0.2**
JAYA				*eS*	**Sn**	**02 11 48.9**	**-0.9**
JAYA	**Jayaque - finc**	**1.06**	**301⇑**	*eP*	**Pn**	**02 11 34.4**	**-0.4**
JAYA				*eS*	**Sn**	**02 11 50.2**	**+0.4**
JAYA	**Jayaque - finc**	**1.06**	**301**	P	**Pn**	**02 11 34.4**	**-0.4**
CEDA	**San Andres**	**1.10**	**309**	P	**Pn**	**02 11 34.5**	**-0.6**
CEDA	**San Andres**	**1.10**	**309**	S	**Sn**	**02 11 51.7**	**+1.2**
LLGN	**La Laguna**	**1.14**	**338**	P	**Pn**	**02 11 35.3**	**-0.3**
LLGN	**La Laguna**	**1.14**	**338**	S	**Sn**	**02 11 51.9**	**+0.7**
MARCA	**Marcala la Paz**	**1.15**	**24**	*eP*	**Pn**	**02 11 35.7**	**-0.1**
MARCA				*eS*	**Sn**	**02 11 52.5**	**+0.8**
MARCA	**Marcala la Paz**	**1.15**	**24**	P	**Pn**	**02 11 35.8**	**-0.1**
CEVE	**Cerro Verde**	**1.30**	**304**	*eP*	**Pn**	**02 11 38.2**	**+0.4**
CEVE				*eS*	**Sn**	**02 11 56.5**	**+1.4**
CEVE	**Cerro Verde**	**1.30**	**304**	P	**Pn**	**02 11 37.9**	**+0.1**
SBLS	**San Blas**	**1.30**	**304**	*eP*	**Pn**	**02 11 38.0**	**+0.1**
SNJE	**San Jose**	**1.31**	**306**	*eP*	**Pn**	**02 11 37.5**	**-0.4**
SNJE				*eP*		02 11 37.6	
UNIC	**Universidad Ca**	**1.33**	**311**	P	**Pn**	**02 11 37.6**	**-0.4**
CHOHN	**Orocuina**	**1.37**	**74**	P	**Pn**	**02 11 37.8**	**-0.8**
CHOHN	**Orocuina**	**1.37**	**74**	S	**Sn**	**02 11 56.3**	**-0.3**
NUBE	**Las Nubes**	**1.47**	**303**	*eP*	**Pn**	**02 11 39.6**	**-0.2**
NUBE	**Las Nubes**	**1.47**	**303**	*eP*	**Pn**	**02 11 39.6**	**-0.2**
NUBE				*eS*	**Sn**	**02 12 00.0**	**+1.2**
NUBE	**Las Nubes**	**1.47**	**303**	P	**Pn**	**02 11 39.5**	**-0.3**
NUBE	**Las Nubes**	**1.47**	**303**	S	**Sn**	**02 11 59.9**	**+1.2**
CRIN	**San Cristobal**	**1.48**	**105**	P	**Pn**	**02 11 40.0**	**0.0**
CRIN	**San Cristobal**	**1.48**	**105**	S	**Sn**	**02 11 59.4**	**+0.4**
MTO3	**Montecristo**	**1.53**	**328**	*eP*	**Pn**	**02 11 40.5**	**-0.2**
MTO3	**Montecristo**	**1.53**	**328**	*eP*	**Pn**	**02 11 40.6**	**-0.2**
MTO3	**Montecristo**	**1.53**	**328**	P	**Pn**	**02 11 40.5**	**-0.2**
MTO3	**Montecristo**	**1.53**	**328**	S	**Sn**	**02 12 00.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.54**	**52**	P	**Pn**	**02 11 40.4**	**-0.3**
TGUH				S	**Sn**	**02 12 00.1**	**-0.3**
SLOZ	**Alcaldia de Sa**	**1.54**	**307**	P	**Pn**	**02 11 40.7**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.54**	**307**	S	**Sn**	**02 12 00.7**	**+0.4**
FAME	**Alcaldia de Sa**	**1.64**	**297**	P	**Pn**	**02 11 41.5**	**-0.3**
FAME	**Alcaldia de Sa**	**1.64**	**297**	S	**Sn**	**02 12 03.0**	**+0.5**
SARH	**Santa Rosa de**	**1.68**	**352**	*i* P	**Pn**	**02 11 43.1**	**+0.5**
SARH				*eS*	**Sn**	**02 12 02.2**	**-1.4**
SARH	**Santa Rosa de**	**1.68**	**352**	P	**Pn**	**02 11 43.1**	**+0.5**
SARH	**Santa Rosa de**	**1.68**	**352**	S	**Sn**	**02 12 03.1**	**-0.6**
POLN	**Al Sur del Vol**	**1.72**	**105**	P	**Pn**	**02 11 42.3**	**-0.7**
POLN				S	**Sn**	**02 12 04.6**	**+0.1**
ROCN	**Rota Cerro Neg**	**1.82**	**108**	P	**Pn**	**02 11 44.6**	**+0.2**
ROCN				S	**Sn**	**02 12 06.2**	**-0.7**
YUSH	**Yuscaran**	**1.83**	**62**	P	**Pn**	**02 11 44.1**	**-0.5**
YUSH	**Yuscaran**	**1.83**	**62**	S	**Sn**	**02 12 07.9**	**+0.6**
ILCN	**San Idelfonso**	**1.85**	**106**	P	**Pn**	**02 11 44.0**	**-0.6**
ILCN				S	**Sn**	**02 12 06.9**	**-0.5**
CNGA	**Al SSO del Vol**	**1.87**	**109**	P	**Pn**	**02 11 45.1**	**+0.1**
CNGA				S	**Sn**	**02 12 09.3**	**+1.2**
CNGN	**Cerro Negro**	**1.87**	**108**	P	**Pn**	**02 11 44.6**	**-0.4**
CNGN	**Cerro Negro**	**1.87**	**108**	S	**Sn**	**02 12 08.5**	**+0.4**
RCVN	**Varillal2**	**2.31**	**78**	P	**Pn**	**02 11 50.3**	**-0.7**

*CNRM **28** 02:20:00.4, 35°.72N×2°.38W, h28km, ML2.6*
*INMG **28** 02:20:01.7±1.6, 35°.68N×2°.41W, h18km±6km, ML2.0, Error ellipse: s-maj=6.5km s-min=5.6km az=93.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Alboran*
*MDD **28** 02:20:01.2±0.6, 35°.74N×2°.41W, h10km, mb_Lg2.6/13, Error ellipse: s-maj=5.1km s-min=3.2km az=134.0*
*SFS **28** 02:20:01.4, 35°.68N×2°.37W, h22km, ML3.2/13, ML3.4/14, MLv3.2/14*
*IGIL **28** 02:20:02.2, 35°.74N×2°.41W, h10km*

ISC 28 02:19:59.9±1.1, 35°.73N±0°.02×2°.39W±0°.03, h17km±9km, n66, σ1°.27/89, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.56**	**292**	P	**Pn**	**02 20 12.7**	**-0.4**
EALB				S	**Sb**	**02 20 20.7**	**+1.7**
EALB	**Alboran**	**0.56**	**292**	Pg	**Pn**	**02 20 12.7**	**-0.4**
EALB				Sg	**Sb**	**02 20 19.6**	**+0.7**
WMELI	**Melilla**	**0.62**	**228**	S	**Sg**	**02 20 21.0**	**+0.6**
WMELI				P	**Pg**	**02 20 12.1**	**0.0**
EMLI	**Melilla**	**0.63**	**227**	S	**Sb**	**02 20 21.4**	**+0.5**
EMLI				P	**Pg**	**02 20 12.5**	**+0.2**
EMEL	**Melilla**	**0.63**	**227**	Pg	**Pg**	**02 20 12.5**	**+0.1**
EMEL				Sg	**Sg**	**02 20 20.3**	**-0.5**
GOG	**Mont Gurugu**	**0.71**	**224**	P	**Pg**	**02 20 13.8**	**-0.1**
GOG	**Mont Gurugu**	**0.71**	**224**	S	**Sb**	**02 20 25.0**	**+1.7**
TAF	**Taforalt**	**0.92**	**181**	P	**Pb**	**02 20 17.5**	**+0.1**
TAF				P	**Pn**	**02 20 19.0**	**+0.9**
TAF	**Taforalt**	**0.92**	**181**	S	**Sb**	**02 20 30.1**	**+0.7**
ENIJ	**Nijar**	**1.24**	**7**	P	**Pn**	**02 20 22.5**	**-0.1**
ENIJ				S	**Sg**	**02 20 39.8**	**-0.4**
ENIJ	**Nijar**	**1.24**	**7**	Pg	**Pn**	**02 20 22.4**	**-0.1**
ENIJ				Sg	**Sb**	**02 20 37.3**	**-1.5**
ENIJ				*i* IVmb_Lg		02 20 48.4	
PALE	**Palemas**	**1.36**	**248**	P	**Pn**	**02 20 23.3**	**-0.9**
PALE	**Palemas**	**1.36**	**248**	S	**Sb**	**02 20 42.9**	**+0.8**
JBK	**JBK**	**1.40**	**186**	P	**Pn**	**02 20 23.7**	**-1.2**
JBK	**JBK**	**1.40**	**186**	S	**Sb**	**02 20 44.9**	**+1.4**
EQTA	**Presa de Quent**	**1.70**	**330**	P	**Pn**	**02 20 29.0**	**+0.2**
AKLM	**AKL**	**1.72**	**225**	P	**Pn**	**02 20 28.8**	**-0.3**
AKLM				P	**Pb**	**02 20 29.0**	**-2.0**
AKLM	**AKL**	**1.72**	**225**	S	**Sn**	**02 20 50.9**	**+0.3**
EMAL	**Malaga-Limoner**	**1.94**	**303**	P	**Pn**	**02 20 31.3**	**-0.8**
EMAL				S	**Sn**	**02 20 57.1**	**+1.1**
EGOR	**Sierra Gorda,**	**1.95**	**315**	P	**Pn**	**02 20 33.7**	**+1.3**
EGOR	**Sierra Gorda,**	**1.95**	**315**	Pn	**Pn**	**02 20 33.2**	**+0.8**
EGOR				*i* IVmb_Lg		02 20 40.7	
EGOR				Sn	**Sn**	**02 20 55.1**	**-1.4**
EQES	**Quesada**	**2.13**	**345**	Pn	**Pb**	**02 20 37.5**	**-0.8**
EQES				*i* IVmb_Lg		02 20 39.2	
EQES				Sn	**Sn**	**02 21 01.3**	**+0.3**
CART	**Cartagena**	**2.16**	**31**	P	**Pn**	**02 20 35.3**	**+0.1**
CART				S	**Sn**	**02 20 59.7**	**-1.8**
CART	**Cartagena**	**2.16**	**31**	P	**Pn**	**02 20 35.4**	**+0.2**
CART	**Cartagena**	**2.16**	**31**	S	**Sn**	**02 21 01.3**	**-0.2**
E0803	**Jimena (Jaen)**	**2.27**	**338**	Pn	**Pb**	**02 20 39.2**	**-1.2**
E0803				Sn	**Sn**	**02 21 05.1**	**+0.9**
EMUR	**La Murta**	**2.30**	**23**	P	**Pn**	**02 20 37.8**	**+0.7**
EMUR				S	**Sn**	**02 21 04.3**	**-0.7**
EMUR	**La Murta**	**2.30**	**23**	Pn	**Pn**	**02 20 38.0**	**+0.9**
EMUR				Sn	**Sn**	**02 21 03.4**	**-1.6**
EMUR				*i* IVmb_Lg		02 21 07.0	
ECEU	**Ceuta**	**2.43**	**275**	S	**Sn**	**02 21 05.1**	**-1.4**
ECEU	**Ceuta**	**2.43**	**275**	Sn	**Sn**	**02 21 05.1**	**-3.1**
SMIR	**Smir Dam**	**2.43**	**270**	P	**Pn**	**02 20 39.2**	**+0.4**
SMIR	**Smir Dam**	**2.43**	**270**	S	**Sn**	**02 21 07.0**	**-1.2**
CHEFC	**Chefchaouen**	**2.49**	**256**	P	**Pn**	**02 20 39.2**	**-0.5**
CHEFC	**Chefchaouen**	**2.49**	**256**	S	**Sn**	**02 21 09.8**	**+0.1**
LCRM	**LCR**	**2.88**	**226**	P	**Pn**	**02 20 45.9**	**+0.7**
LCRM	**LCR**	**2.88**	**226**	S	**Sn**	**02 21 21.9**	**+2.3**
EADA	**Adamuz**	**2.99**	**325**	P	**Pn**	**02 20 47.9**	**+1.2**
EADA	**Adamuz**	**2.99**	**325**	Pn	**Pn**	**02 20 47.8**	**+1.2**
EADA				Sn	**Sn**	**02 21 21.5**	**-0.6**
EADA				*i* IVmb_Lg		02 21 39.4	
PSIM	**Granatula de C**	**3.27**	**341**	Pn	**Pn**	**02 20 52.4**	**+2.0**
ECAB	**El Cabril**	**3.37**	**315**	Pn	**Pn**	**02 20 52.4**	**+0.7**
ECAB				Sn	**Sn**	**02 21 30.1**	**-1.2**
EBEN2	**Beniarda presa**	**3.42**	**30**	Pn	**Pn**	**02 20 53.5**	**+1.0**
EBEN2				*i* IVmb_Lg		02 23 14.6	
MDT	**Midelt**	**3.44**	**213**	P	**Pn**	**02 20 51.5**	**-1.3**
MDT	**Midelt**	**3.44**	**213**	S	**Sn**	**02 21 19.4**	**-1.8**
MD31	**MD31**	**3.47**	**215**	P	**Pn**	**02 20 54.1**	**+0.9**
MD31	**MD31**	**3.47**	**215**	S	**Sn**	**02 21 34.1**	**+0.2**
ECHE	**Chera**	**4.01**	**16**	P	**Pn**	**02 21 03.0**	**+2.4**
PAB	**San Pablo**	**4.11**	**338**	Pn	**Pn**	**02 21 04.2**	**+2.2**
PAB				Sn	**Sn**	**02 21 47.9**	**-1.8**
PAB				*i* IVmb_Lg		02 22 08.2	
EIBI	**Ibiza**	**4.43**	**41**	P	**Pn**	**02 21 07.2**	**+0.8**
PBAR	**Barrancos**	**4.45**	**305**	P	**Pn**	**02 21 07.8**	**+1.2**
PBAR	**Barrancos**	**4.45**	**305**	*eP*	**Pn**	**02 21 08.0**	**+1.5**
PBAR				*eS*	**Sn**	**02 21 57.0**	**-0.9**
PBAR				*i* IAML		02 22 12.2	
PBAR				*i* IAML		02 22 12.4	
PBAR				*i* IAML		02 22 39.7	
EGRO	**El Granado**	**4.47**	**295**	P	**Pn**	**02 21 07.9**	**+1.0**
PVAQ	**Vaqueiros**	**4.60**	**293**	P	**Pn**	**02 21 08.8**	**+0.1**
PVAQ	**Vaqueiros**	**4.60**	**293**	*eP*	**Pn**	**02 21 09.9**	**+1.2**
PVAQ				*eS*	**Sn**	**02 22 24.4**	**-1.2**
PVAQ				*i* IAML		02 22 02.5	
PVAQ				*i* IAML		02 22 03.1	
PVAQ				*i* IAML		02 22 09.7	
PBDV	**Barranco-do-Ve**	**4.71**	**290**	P	**Pn**	**02 21 11.0**	**+0.8**
PBDV	**Barranco-do-Ve**	**4.71**	**290**	*eP*	**Pn**	**02 21 11.0**	**+0.8**
PBDV				*eS*	**Sn**	**02 22 02.9**	**-1.6**
PBDV				*i* IAML		02 22 31.0	
PCVE	**Castro Verde**	**4.92**	**294**	P	**Pn**	**02 21 13.7**	**+0.7**
PCVE	**Castro Verde**	**4.92**	**294**	*eP*	**Pn**	**02 21 14.2**	**+1.2**
PCVE				*eS*	**Sn**	**02 22 07.5**	**-2.0**
PCVE				*i* IAML		02 22 13.7	
PCVE				*i* IAML		02 22 14.4	
PCVE				*i* IAML		02 22 40.8	
MESJ	**Messejana**	**5.13**	**296**	*eP*	**Pn**	**02 21 16.8**	**+0.9**
MESJ	**Messejana**	**5.13**	**296**	*eP*	**Pn**	**02 21 17.4**	**+1.5**
MESJ				*eS*	**Sn**	**02 22 16.3**	**+1.6**
MORF	**Marmelete**	**5.28**	**289**	*eP*	**Pn**	**02 21 20.4**	**+2.3**
EVO	**Evora**	**5.29**	**304**	*eP*	**Pn**	**02 21 19.5**	**+1.4**
PMRV	**Marv??o**	**5.42**	**314**	*eP*	**Pn**	**02 21 21.1**	**+1.1**
ETOS	**Mallorca**	**5.76**	**44**	P	**Pn**	**02 21 25.8**	**+1.1**
PSARD	**Sardoal**	**5.99**	**312**	*eP*	**Pn**	**02 21 29.0**	**+1.3**
PARRA	**Arraiolos**	**6.13**	**302**	*eP*	**Pn**	02 21 21.4	-8.3
PARRA				*eS*	Sn	02 22 22.3	-17
PARRA				*i* IAML		02 22 30.5	
MTE	**Manteigas**	**6.18**	**320**	*eP*	**Pn**	**02 21 34.3**	**+3.8**

*NEIC **28** 02:23:13.8±1.0, 36°.136N±0°.008×117°.97W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=103.0*

PAS 28 02:23:14.4±1.1, 36°.136N±0°.009×117°.98W±0°.01, h5km±2km, ML3.3, ML3.1/148(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=67.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.10**	**101**		Pg	02 23 16.9	+0.3
MFS					Sg	02 23 18.8	+0.8
WRVM	**Rose V. Centra**	**0.14**	**152**		Pg	02 23 17.6	+0.2
WRVM					Sg	02 23 19.7	+0.4
WCSM	**Coso Springs S**	**0.20**	**123**		Pg	02 23 18.5	+0.1
WCSM					Sg	02 23 21.5	+0.5
JRC2	**Joshua Ridge**	**0.20**	**139**		Pg	02 23 16.4	-2.0
JRC2					Sg	02 23 21.6	+0.5
WVPM	**Volcano Peak E**	**0.23**	**145**		Pg	02 23 16.7	-2.1
WVPM					Sg	02 23 22.4	+0.5
WNMM	**Nine Mile Cany**	**0.30**	**169**		Pg	02 23 18.8	-1.4
WNMM					Sg	02 23 24.6	+0.5
CWC	**Cottonwood Cre**	**0.32**	**344**		Pg	02 23 20.4	-0.2
CWC				Sg	Sg	02 23 24.5	-0.3
TOW	**Tower One**	**0.37**	**152**		Pg	02 23 17.8	-3.8
TOW					Sg	02 23 27.6	+1.3
MPMC	**Manual Prospec**	**0.40**	**101**	Pg	Pg	02 23 21.9	-0.3
MPMC				Sg	Sg	02 23 27.2	-0.3
MPMC				IAML		02 23 27.9	
	comp=E,2μm,0.5s						
MPMC				IAML		02 23 28.1	
	comp=N,1μm,0.6s						
CGO	**Cerro Gordo**	**0.44**	**19**		Pg	02 23 22.6	-0.3
CGO					Sg	02 23 29.3	+0.6
CLC	**China Lake**	**0.44**	**136**		Pg	02 23 22.8	-0.1
CLC				Sg	Sg	02 23 28.5	-0.2
SRTC	**Snort**	**0.48**	**157**		Pg	02 23 23.9	+0.3
SRTC					Sg	02 23 31.2	+1.4
WORM	**Onyx Ranch**	**0.49**	**206**		Pg	02 23 23.0	-0.2
WORM					Sg	02 23 30.2	0.0
WHFM	**Hanning Flat**	**0.53**	**215**		Pg	02 23 24.5	-0.1
WHFM					Sg	02 23 31.8	+0.2
WBSM	**Bird Springs**	**0.61**	**193**		Pg	02 23 25.9	-0.3
WBSM					Sg	02 23 34.0	-0.1
WASM	**Alta Sierra Ca**	**0.62**	**230**		Pg	02 23 26.1	-0.2
WASM					Sg	02 23 34.5	+0.2
ISA	**Isabella, Lake**	**0.62**	**221**		Pg	02 23 26.1	-0.2
ISA				Sg	Sg	02 23 34.4	-0.1
ISA				IAML		02 23 34.8	
	comp=N,1μm,0.5s						
ISA				IAML		02 23 35.0	
	comp=E,902nm,0.2s						
SPG2	**Springville 2**	**0.64**	**276**		Pg	02 23 26.4	-0.4
SPG2					Sg	02 23 34.8	-0.4
WSHM	**Spangler Hills**	**0.66**	**144**		Pg	02 23 25.3	-1.8
WSHM				Sg	Sg	02 23 35.2	-0.5
WSHM				IAML		02 23 39.7	
	comp=E,1μm,0.5s						
WSHM				IAML		02 23 39.9	
	comp=E,889nm,0.7s						
LRMC	**Laurel Mtn Rad**	**0.70**	**160**		Pg	02 23 27.

SHPR	**Sheep Range**	**2.30**	**80**			Pn	02 23 52.6	-0.7
NVAR	**Mina Array Bea**	**2.31**	**354**			Pn	02 23 53.0	-0.3
BUCR	**Buckhorn Ranch**	**2.32**	**312**	Pn		Pn	02 23 54.3	+0.9
MYLM	**Yosemite Lake**	**2.33**	**303**			Pb	02 23 55.4	-1.4
S11A	**Rachel**	**2.34**	**49**	Pn		Pn	02 23 53.6	-0.1
S11A				IAML			02 24 30.5	
	comp=N,128nm,1.1s							
S11A				IAML			02 24 33.0	
	comp=E,156nm,0.7s							
BBSC	**Beaumont Base**	**2.35**	**159**			Pn	02 23 54.6	+0.8
RAMR	**Ramage Ranch**	**2.40**	**259**			Pn	02 23 54.6	+0.2
BBGB	**Big Mountain B**	**2.51**	**281**			Pn	02 23 56.0	0.0
ELS	**Elsinore Mount**	**2.52**	**170**			Pn	02 23 55.5	-0.6
ELS				IAML			02 24 35.9	
	comp=N,53nm,0.6s							
ELS				IAML			02 24 39.3	
	comp=E,65nm,1.5s							
RYN	**Ryan**	**2.53**	**350**			Pn	02 23 56.2	-0.1
V12A	**Nelson**	**2.57**	**98**			Pn	02 23 56.7	-0.1
V12A				IAML			02 24 38.6	
	comp=E,50nm,0.6s							
V12A				IAML			02 24 41.4	
	comp=N,45nm,1.0s							
DANC	**Danby, Needles**	**2.59**	**124**	Pn		Pn	02 23 56.8	-0.3
DANC				IAML			02 24 42.4	
	comp=N,97nm,0.7s							
DANC				IAML			02 24 51.7	
	comp=E,90nm,0.7s							
WAKR	**Walker**	**2.64**	**334**			Pn	02 23 58.0	+0.1
WAKR				IAML			02 24 43.2	
	comp=N,50nm,0.7s							
WAKR				IAML			02 24 46.2	
	comp=E,64nm,0.9s							
HULI	**Fort Hunter Li**	**2.64**	**268**	Pn		Pn	02 23 58.4	+0.7
HULI				IAML			02 24 43.9	
	comp=E,75nm,1.1s							
HULI				IAML			02 24 52.4	
	comp=N,74nm,0.8s							
PRN	**Pahroc Range**	**2.67**	**61**			Pn	02 23 57.7	-0.5
PRN				IAML			02 24 45.4	
	comp=N,66nm,0.4s							
PRN				IAML			02 24 56.0	
	comp=E,72nm,0.7s							
BELC	**Belle Mtn. Jos**	**2.68**	**142**			Pn	02 23 56.7	-1.6
BELC				IAML			02 24 45.1	
	comp=N,52nm,1.1s							
BELC				IAML			02 24 49.1	
	comp=E,70nm,0.7s							
CMB	**Columbia Colle**	**2.70**	**315**			Pn	02 23 58.3	-0.3
CMB				IAML			02 24 38.5	
	comp=N,115nm,0.3s							
CMB				IAML			02 24 41.4	
	comp=E,100nm,0.6s							
Q09A	**Carvers**	**2.77**	**13**	Pn		Pn	02 23 59.5	-0.1
Q09A				IAML			02 24 44.9	
	comp=N,99nm,0.7s							
Q09A				IAML			02 24 52.0	
	comp=E,90nm,0.7s							
DNR	**Dunn Ranch,Anz**	**2.79**	**156**	Pn		Pn	02 24 00.1	+0.2
SCZ	**Santa Cruz**	**2.81**	**280**			Pn	02 23 59.9	-0.1
SCZ				IAML			02 24 41.5	
	comp=E,41nm,0.7s							
PMD	**Palm Desert**	**2.81**	**152**	Pn		Pn	02 23 58.1	-1.9
PFO	**Pinyon Flats O**	**2.81**	**153**	Pn		Pn	02 23 58.6	-1.5
SAO	**San Andreas Ge**	**2.87**	**284**			Pn	02 24 00.6	-0.3
R11B	**Troy Canyon, C**	**2.92**	**40**	Pn		Pn	02 24 01.3	-0.4
MTOS	**Mt Oso, Westle**	**3.02**	**298**	Pn		Pn	02 24 03.3	+0.4
MTOS				IAML			02 24 55.9	
	comp=N,90nm,0.8s							
MTOS				IAML			02 24 56.0	
	comp=E,77nm,0.4s							
IRM	**Iron Mountain**	**3.04**	**130**	Pn		Pn	02 24 02.3	-1.0
DPP	**Dos Picos Cty**	**3.24**	**164**	Pn		Pn	02 24 04.0	-2.0
DPP				IAML			02 24 57.2	
	comp=E,29nm,0.8s							
W13A	**Hualapai Mount**	**3.49**	**106**	Pn		Pn	02 24 07.5	-2.1
BAR	**Barrett**	**3.61**	**162**	Pn		Pn	02 24 09.9	-1.2
BAR				IAML			02 25 07.6	
	comp=E,28nm,0.7s							
BAR				IAML			02 25 07.7	
	comp=N,24nm,0.4s							
LCMT	**Little Creek M**	**3.91**	**76**	Pn		Pn	02 24 15.7	+0.4
CCUT	**Cedar City**	**3.96**	**68**	Pn		Pn	02 24 16.0	0.0
SPR3	**Spring Creek 3**	**4.07**	**44**	Pn		Pn	02 24 18.6	+0.9
SPR3				IAML			02 25 26.5	
	comp=E,15nm,0.9s							
SPR3				IAML			02 25 27.1	
	comp=N,17nm,0.9s							
KNB	**Kanab**	**4.24**	**77**	Pn		Pn	02 24 19.3	-0.6
KNB				IAML			02 25 30.2	
	comp=N,14nm,1.1s							
U15A	**North Rim**	**4.60**	**85**	Pn		Pn	02 24 26.7	+1.8
U15A				IAML			02 25 43.4	
	comp=N,11nm,1.4s							
U15A				IAML			02 25 57.6	
	comp=E,11nm,1.5s							
Y14A	**Wickenburg**	**4.63**	**117**	Pn		Pn	02 24 24.8	-0.3
Y14A				IAML			02 25 45.4	
	comp=N,12nm,0.8s							
Y14A				IAML			02 25 47.2	
	comp=E,11nm,0.8s							
ELK	**Elko**	**5.08**	**24**	Pn		Pn	02 24 30.9	-0.5

NEIC ***28*** *02:34:59.7±2.7,59.°76N±0.°04×153.°87W±0.°08, h157km±3km, Error ellipse: s-maj=6.2km s-min=5.9km az=208.0*

AEIC ***28*** *02:35:00.1±2.8,59.°75N±0.°04×153.°82W±0.°08, h157km±3km, ML4.1,mb4.5/243(NEIC),ML4.3/166(NEIC), Mwr4.1/13(SLM), Error ellipse: s-maj=6.3km s-min=5.8km az=207.0*

NEIC ***28*** *02:35:00,59.°76N×153.°82W,h148km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.57; Mθθ=0.36; Mϕϕ=0.21; Mrθ=0.62; Mθϕ=0.45; Mϕr=1.53; Fault plane solution: M₀1.78000×10¹⁵ NP1:φs204.00000°,δ80.00000°, λ-102.00000°. NP2:φs75.00000°,δ15.00000°, λ-40.00000°. Principal axes: T 1.7806, Plg34.0000°, Azm304.0000°; N 0.0006, Plg11.0000°, Azm206.0000°; P -1.7812, Plg53.0000°, Azm100.0000°;*

IDC ***28*** *02:35:01.3±0.9,59.°96N×153.°95W,h162km±7km,mb3.9/20, mbtmp4.3/24,MS3.7/2 Error ellipse: s-maj=15.4km s-min=8.9km az=12.0*

ISC 28 02:35:00.2±0.5,59.°75N±0.°03×153.°83W±0.°03, h158km±4km,n325,σ1°55/262,mb4.5/130,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.32**	**108**		**Pn**	**02 35 21.2**	**-0.6**
P19K	**Oil Pt**	**0.32**	**108**		**Pn**	**02 35 21.0**	**-0.8**
P19K				Sn	**Sn**	**02 35 36.5**	**-1.7**
ILS	**Iliamna Low So**	**0.44**	**61**		**Pn**	**02 35 21.3**	**-1.0**
ILS					**Sn**	**02 35 38.3**	**-0.9**
AGU	**Augustine-Summ**	**0.44**	**153**		**Pn**	**02 35 21.5**	**-0.8**
AUJK	**Augustine Jueg**	**0.46**	**152**		**Pn**	**02 35 21.4**	**-0.8**
O19K	**Port Alsworth**	**0.51**	**331**		**Pn**	**02 35 20.7**	**-1.7**
O19K				Sn	**Sn**	**02 35 37.3**	**-2.2**
O19K				IAML		02 35 38.2	
	comp=N,6µm,0.5s						
O19K				IAML		02 35 38.3	
	comp=E,4µm,0.6s						
O20K	**Slope Mountain**	**0.69**	**61**		**Pn**	**02 35 22.8**	**-0.7**
O20K					**Sn**	**02 35 41.1**	**-0.3**
P18K	**Big Mountain,**	**0.80**	**244**		**Pn**	**02 35 22.8**	**-1.4**
P18K				Sn	**Sn**	**02 35 40.1**	**-2.5**
P18K				IAML		02 35 41.1	
	comp=E,2µm,0.8s						
Q19K	**Cape Douglas,**	**0.83**	**173**		**Pn**	**02 35 23.3**	**-1.2**
Q19K				Sn	**Sn**	**02 35 41.7**	**-1.3**
Q19K				IAML		02 35 46.7	
	comp=N,9µm,0.9s						
DFR	**Drift River**	**1.02**	**34**		**Pn**	**02 35 25.2**	**-0.7**
DFR					**Sn**	**02 35 44.5**	**-1.3**
HOM	**Homer**	**1.11**	**94**		**Pn**	**02 35 25.8**	**-0.8**
HOM				Sn	**Sn**	**02 35 45.7**	**-1.1**
N19K	**Bonanza Creek**	**1.11**	**343**		**Pn**	**02 35 24.8**	**-1.9**
N19K				Sn	**Sn**	**02 35 44.9**	**-2.3**
N19K				IAML		02 35 46.0	
	comp=E,1µm,0.9s						
KAPH	**Katmai Pasha**	**1.19**	**193**		**Pn**	**02 35 26.3**	**-1.1**
KAPH					**Sn**	**02 35 46.9**	**-1.4**
KAHC	**Katmai Hardscr**	**1.26**	**209**		**Pn**	**02 35 27.0**	**-1.1**
KAHC					**Sn**	**02 35 47.9**	**-1.6**
KAHG	**Katmai Hook Gl**	**1.31**	**197**		**Sn**	**02 35 49.3**	**-1.0**
CNPM	**China Poot**	**1.34**	**99**		**Pn**	**02 35 27.1**	**-1.6**
CNPM				Sn	**Sn**	**02 35 48.6**	**-2.1**
SYI	**Shuyak Island**	**1.36**	**147**		**Pn**	**02 35 27.7**	**-1.2**
SYI				Sn	**Sn**	**02 35 48.6**	**-2.4**
SYI				IAML		02 35 50.3	
	comp=E,5µm,0.6s						
N18K	**Kilae Creek**	**1.39**	**313**		**Pn**	**02 35 28.1**	**-1.1**
N18K				Sn	**Sn**	**02 35 49.4**	**-2.2**
BRLK	**Bradley Lake**	**1.49**	**88**		**Pn**	**02 35 28.9**	**-1.4**
BRLK	**Bradley Lake**	**1.49**	**88**		**Sn**	**02 35 51.6**	**-1.8**
O17K	**Koliganek Bris**	**1.65**	**272**		**Pn**	**02 35 31.1**	**-0.8**
O17K					**Sn**	**02 35 55.3**	**-1.0**
SPCR	**Spurr Chakacha**	**1.66**	**28**		**Pn**	**02 35 31.1**	**-1.0**
CAPN	**Captain Cook N**	**1.68**	**51**		**Pn**	**02 35 31.8**	**-0.3**
SPU	**Mount Spurr**	**1.68**	**31**		**Pn**	**02 35 31.0**	**-1.2**
ACHA	**Angle Creek He**	**1.73**	**207**		**Pn**	**02 35 31.6**	**-1.2**
N17K	**Nushagak Hills**	**1.85**	**296**		**Pn**	**02 35 33.3**	**-0.7**
N17K				IAML		02 35 59.5	
	comp=E,835nm,1.2s						
SLKM	**Skilak Lake**	**1.96**	**66**		**Pn**	**02 35 34.8**	**-0.5**
STLK	**Strandline Lak**	**2.01**	**28**		**Pn**	**02 35 34.6**	**-1.3**
KDAK	**Kodiak Island**	**2.08**	**161**		**Pn**	**02 35 34.3**	**-2.4**
KDAK				IAML		02 36 03.1	
	comp=E,2µm,0.3s						
KDAK				IAML		02 36 09.2	
	comp=E,2µm,0.6s						
KDAK	**Kodiak Island**	**2.08**	**161**	P	**Pn**	**02 35 34.7**	**-2.0**
	comp=E,346nm,0.3s,baz=40,slow=5.4,SNR=4166						
KDAK				S	**Sn**	**02 36 01.5**	**-3.2**
	comp=E,2µm,0.4s,baz=189,slow=20,SNR=26						
KDAK				LR	LR	02 36 47.4	
	comp=E,502nm,20.4s,baz=0.3,slow=46						
O16K	**Kokwok River B**	**2.17**	**268**		**Pn**	**02 35 36.6**	**-1.1**
O16K				IAML		02 36 06.4	
	comp=N,473nm,1.0s						
M19K	**Big River Lodg**	**2.18**	**353**		**Pn**	**02 35 36.1**	**-1.7**
O22K	**Cooper Landing**	**2.18**	**69**		**Pn**	**02 35 36.9**	**-0.9**
SEW	**Seward**	**2.23**	**79**		**Pn**	**02 35 37.2**	**-1.2**
SEW				IAML		02 36 10.0	
	comp=N,4µm,0.5s						
SEW				IAML		02 36 10.0	
	comp=E,4µm,0.6s						
P16K	**Nushagak River**	**2.25**	**253**		**Pn**	**02 35 38.4**	**-0.2**
P16K				IAML		02 36 08.9	
	comp=E,901nm,1.1s						
P16K				IAML		02 36 08.9	
	comp=N,1µm,0.9s						
FIS	**Fire Island**	**2.27**	**50**		**Pn**	**02 35 35.9**	**-2.9**
FIS				IAML		02 36 09.5	
	comp=N,3µm,0.7s						
SUA	**Susitna One**	**2.29**	**40**		**Pn**	**02 35 37.8**	**-1.5**
SUA				IAML		02 36 10.7	
	comp=E,3µm,0.6s						
M17K	**Holitna River**	**2.43**	**314**		**Pn**	**02 35 40.0**	**-0.8**
M17K				IAML		02 36 13.3	
	comp=N,528nm,1.6s						
M17K				IAML		02 36 13.5	
	comp=E,712nm,1.4s						
RC01	**Rabbit Creek A**	**2.43**	**55**		**Pn**	**02 35 39.4**	**-1.4**
RC01				IAML		02 36 13.3	
	comp=E,2µm,0.4s						
RC01				IAML		02 36 17.1	
	comp=N,2µm,0.5s						
L19K	**White Mountain**	**2.49**	**349**		**Pn**	**02 35 39.8**	**-1.7**
SKT	**Skwentna**	**2.50**	**26**		**Pn**	**02 35 40.4**	**-1.2**
SKT				IAML		02 36 17.7	
	comp=E,444nm,0.4s						
SKT				IAML		02 36 17.9	
	comp=N,424nm,0.4s						
OHAK	**Old Harbor**	**2.55**	**173**		**Pn**	**02 35 40.2**	**-2.1**
OHAK				IAML		02 36 12.3	
	comp=E,1µm,0.5s						
OHAK				IAML		02 36 12.9	
	comp=N,2µm,0.4s						
OHAK	**Old Harbor**	**2.55**	**173**	P	**Pn**	**02 35 40.2**	**-2.1**
OHAK	**Old Harbor**	**2.55**	**173**	S	**Sn**	**02 36 11.1**	**-3.7**
M22K	**Willow**	**2.71**	**41**		**Pn**	**02 35 42.2**	**-1.9**
L18K	**Granite Mounta**	**2.84**	**332**		**Pn**	**02 35 44.3**	**-1.5**
M16K	**Timber Creek**	**2.85**	**299**		**Pn**	**02 35 45.2**	**-0.7**
M16K				IAML		02 36 22.2	
	comp=E,257nm,1.4s						
R16K	**Pilot Point**	**2.94**	**223**		**Pn**	**02 35 46.5**	**-0.5**
R16K				IAML		02 36 33.7	
	comp=N,315nm,1.1s						
R16K				IAML		02 36 46.4	
	comp=E,292nm,0.8s						
PWL	**Port Wells**	**2.95**	**66**		**Pn**	**02 35 45.2**	**-1.9**
PWL				IAML		02 36 26.7	
	comp=E,2µm,0.4s						
PMR	**Palmer**	**2.96**	**49**		**Pn**	**02 35 45.2**	**-2.1**
PMR				IAML		02 36 20.5	
	comp=E,819nm,0.6s						
PMR				IAML		02 36 22.1	
	comp=N,750nm,0.4s						
PMR	**Palmer**	**2.96**	**49**	P	**Pn**	**02 35 45.1**	**-2.1**
PMR	**Palmer**	**2.96**	**49**	S	**Sn**	**02 36 19.6**	**-4.1**
O15K	**Ungalikthiuk R**	**3.11**	**262**		**Pn**	**02 35 48.9**	**-0.3**
KNK	**Knik Glacier**	**3.13**	**56**		**Pn**	**02 35 47.7**	**-1.8**
KNK				IAML		02 36 26.5	
	comp=E,2µm,0.5s						
KNK				IAML		02 36 28.0	
	comp=N,2µm,0.6s						
GHO	**Glory Hole Cre**	**3.15**	**48**		**Pn**	**02 35 47.3**	**-2.4**
GHO				IAML		02 36 25.9	
	comp=E,2µm,0.4s						
CUT	**Chulitna**	**3.17**	**31**		**Pn**	**02 35 48.2**	**-1.7**
CUT				IAML		02 36 28.1	
	comp=N,1µm,0.7s						
N15K	**Kwethluk River**	**3.18**	**280**		**Pn**	**02 35 49.5**	**-0.6**
N15K				IAML		02 36 30.9	
	comp=E,358nm,0.9s						
N15K				IAML		02 36 48.3	
	comp=N,198nm,0.9s						
SII	**Sitkinak Islan**	**3.21**	**184**		**Pn**	**02 35 48.4**	**-2.1**
SII				IAML		02 36 39.6	
	comp=N,1µm,0.7s						
SII	**Sitkinak Islan**	**3.21**	**184**	P	**Pn**	**02 35 48.2**	**-2.3**
SII	**Sitkinak Islan**	**3.21**	**184**	S	**Sn**	**02 36 25.7**	**-3.7**
PPLA	**Purkeypile**	**3.25**	**13**		**Pn**	**02 35 50.2**	**-0.8**
L16K	**Owhat River**	**3.40**	**308**		**Pn**	**02 35 51.9**	**-0.9**
L16K				IAML		02 36 36.0	
	comp=E,169nm,1.5s						
GLI	**Glacier Island**	**3.54**	**68**		**Pn**	**02 35 52.7**	**-1.8**
GLI				IAML		02 36 35.9	
	comp=N,1µm,0.6s						
GLI				IAML		02 36 37.4	
	comp=E,1µm,0.6s						
K20K	**Telida**	**3.62**	**358**		**Pn**	**02 35 54.1**	**-1.6**
K17K	**Iditarod**	**3.68**	**326**		**Pn**	**02 35 55.6**	**-0.7**
K17K				IAML		02 36 40.3	
	comp=N,198nm,1.1s						
K17K				IAML		02 36 40.3	
	comp=E,226nm,1.2s						
HIN	**Hinchinbrook I**	**3.73**	**77**		**Pn**	**02 35 55.9**	**-1.1**
CAST	**Castle Rocks**	**3.77**	**12**		**Pn**	**02 35 56.6**	**-1.0**
FID	**Port Fidalgo**	**3.80**	**72**		**Pn**	**02 35 56.1**	**-1.9**
SCM	**Sheep Creek Mo**	**3.81**	**54**		**Pn**	**02 35 56.0**	**-2.1**
SCM				IAML		02 36 42.0	
	comp=E,1µm,1.0s						
SCM				IAML		02 36 42.3	
	comp=N,1µm,0.8s						
Q23K	**Middleton Isla**	**3.82**	**92**		**Pn**	**02 35 57.1**	**-1.1**
Q23K				IAML		02 36 42.9	
	comp=N,588nm,0.6s						
Q23K				IAML		02 36 47.1	
	comp=E,554nm,0.6s						
O14K	**Tigyukauivet M**	**3.82**	**266**		**Pn**	**02 35 58.1**	**-0.2**
O14K				IAML		02 36 46.1	
	comp=E,132nm,1.6s						
N14K	**Kuskokwak Cree**	**3.97**	**276**		**Pn**	**02 36 00.1**	**0.0**
N14K				IAML		02 37 04.8	
	comp=N,193nm,1.3s						
N14K				IAML		02 37 08.6	
	comp=E,166nm,1.7s						
J18K	**Innoko River**	**3.97**	**341**		**Pn**	**02 35 58.8**	**-1.4**
CHIR	**Chirikof Islan**	**4.06**	**194**	P	**Pn**	**02 35 58.6**	**-2.7**
CHIR	**Chirikof Islan**	**4.06**	**194**	S	**Sn**	**02 36 44.1**	**-4.8**
KTH	**Kantishna Hill**	**4.06**	**19**		**Pn**	**02 35 59.5**	**-1.9**
KTH				IAML		02 37 19.2	
	comp=N,140nm,0.8s						
KTH				IAML		02 37 48.1	
	comp=E,112nm,0.9s						
TRF	**Thorofare Moun**	**4.08**	**23**		**Pn**	**02 35 59.6**	**-2.1**
TRF				IAML		02 36 48.0	
	comp=E,180nm,0.5s						
TRF				IAML		02 36 50.2	
	comp=N,266nm,0.4s						
EYAK	**Cordova Ski Ar**	**4.12**	**75**		**Pn**	**02 36 00.8**	**-1.2**
EYAK				IAML		02 36 48.9	
	comp=N,713nm,0.6s						
EYAK				IAML		02 36 50.0	
	comp=E,512nm,0.8s						
EYAK	**Cordova Ski Ar**	**4.12**	**75**	P	**Pn**	**02 36 00.8**	**-1.2**
EYAK	**Cordova Ski Ar**	**4.12**	**75**	S	**Sn**	**02 36 47.2**	**-3.0**
M14K	**Bethel**	**4.17**	**287**		**Pn**	**02 36 02.5**	**-0.2**
M14K				IAML		02 36 54.7	
	comp=E,178nm,1.9s						
DIV	**Divide**	**4.22**	**67**		**Pn**	**02 36 02.2**	**-1.3**
DIV				IAML		02 36 57.2	
	comp=E,459nm,0.4s						
KLU	**Klutina**	**4.27**	**62**		**Pn**	**02 36 02.6**	**-1.4**
J19K	**Poorman**	**4.34**	**350**		**Pn**	**02 36 03.4**	**-1.6**
RND	**Reindeer**	**4.37**	**31**		**Pn**	**02 36 03.4**	**-2.0**
RND				IAML		02 36 54.3	
	comp=E,207nm,0.3s						
RND				IAML		02 36 57.6	
	comp=N,150nm,0.4s						
M24K	**Tolsona, Glenn**	**4.42**	**54**		**Pn**	**02 36 04.9**	**-1.1**
J17K	**VABM Dome**	**4.43**	**328**		**Pn**	**02 36 05.0**	**-1.2**
J20K	**Nowinta River**	**4.44**	**358**		**Pn**	**02 36 04.8**	**-1.4**
K15K	**Wolf Creek Mou**	**4.53**	**308**		**Pn**	**02 36 07.2**	**-0.2**
DHY	**Denali Highway**	**4.55**	**40**		**Pn**	**02 36 06.2**	**-1.6**
DHY				IAML		02 36 59.7	
	comp=N,425nm,0.4s						
DHY				IAML		02 36 60.0	
	comp=E,498nm,0.6s						
VNFG	**Fog Glacier, M**	**4.62**	**224**	IAML		02 37 42.6	
	comp=E,173nm,1.4s						
VNFG				IAML		02 38 03.0	
	comp=N,204nm,1.6s						
MCK	**McKinley**	**4.62**	**28**		**Pn**	**02 36 07.0**	**-1.6**
MCK				IAML		02 36 59.9	
	comp=E,118nm,0.3s						
MCK				IAML		02 37 01.7	
	comp=N,168nm,0.4s						
RAGM	**Ragged Mountai**	**4.63**	**78**		**Pn**	**02 36 07.7**	**-1.1**
L14K	**Kuka Creek**	**4.65**	**294**		**Pn**	**02 36 09.1**	**+0.1**
L14K				IAML		02 37 06.0	
	comp=N,90nm,1.4s						
L14K				IAML		02 37 06.5	
	comp=E,226nm,1.5s						
BMRM	**Bremner River**	**4.74**	**71**		**Pn**	**02 36 09.5**	**-0.7**
BMRM				IAML		02 37 02.2	
	comp=E,626nm,0.6s						
KAIM	**Kayak Island**	**4.75**	**84**		**Pn**	**02 36 10.2**	**-0.1**
KAIM				IAML		02 37 06.7	
	comp=N,618nm,0.8s						
KAIM				IAML		02 37 09.4	
	comp=E,503nm,0.5s						
J16K	**Anvik River**	**4.80**	**320**		**Pn**	**02 36 09.8**	**-1.2**
M13K	**Dall Lake**	**4.81**	**282**		**Pn**	**02 36 11.6**	**+0.5**
M13K				IAML		02 37 11.2	
	comp=E,127nm,1.9s						
M13K				IAML		02 37 40.0	
	comp=N,108nm,2.0s						
HMT	**Hamilton**	**4.83**	**79**		**Pn**	**02 36 10.2**	**-1.3**
BWN	**Browne**	**4.89**	**23**		**Pn**	**02 36 10.5**	**-1.6**
BWN				IAML		02 37 26.6	
	comp=N,187nm,0.6s						
BWN				IAML		02 37 49.0	
	comp=E,134nm,1.3s						
N25K	**Chitina, Valde**	**4.90**	**64**		**Pn**	**02 36 11.6**	**-0.8**
N25K				IAML		02 37 11.1	
	comp=N,490nm,0.5s						
SUCK	**Suckling Hills**	**5.07**	**82**		**Pn**	**02 36 13.8**	**-0.7**
SUCK				IAML		02 37 14.9	
	comp=N,300nm,0.4s						
SUCK				IAML		02 37 18.8	
	comp=E,213nm,0.9s						
I20K	**Naaghedeneel**	**5.07**	**357**		**Pn**	**02 36 13.2**	**-1.3**
I20K				IAML		02 38 08.0	
	comp=E,130nm,1.4s						
I20K				IAML		02 38 43.0	
	comp=N,125nm,1.5s						
PAX	**Paxson**	**5.16**	**48**		**Pn**	**02 36 14.6**	**-1.2**
PAX				IAML		02 37 15.8	
	comp=E,163nm,0.6s						
PAX				IAML		02 37 15.9	
	comp=N,232nm,0.7s						
GLB	**Gilahina Butte**	**5.22**	**67**		**Pn**	**02 36 16.0**	**-0.5**
GLB				IAML		02 37 16.0	
	comp=E,406nm,0.6s						
VRDI	**Verde Repeater**	**5.34**	**69**		**Pn**	**02 36 17.4**	**-0.8**
VRDI				IAML		02 37 20.1	
	comp=E,319nm,0.6s						
NEA2	**Nenana**	**5.34**	**23**		**Pn**	**02 36 15.6**	**-2.5**
NEA2				IAML		02 37 16.2	
	comp=N,48nm,0.6s						
CRQM	**Cirque**	**5.42**	**75**		**Pn**	**02 36 18.1**	**-1.2**
WRH	**Wood River Hil**	**5.45**	**27**		**Pn**	**02 36 17.0**	**-2.5**
MLY	**Manley**	**5.49**	**14**		**Pn**	**02 36 17.5**	**-2.6**
SDPT	**Sand Point**	**5.68**	**222**		**Pn**	**02 36 20.7**	**-1.9**
SDPT	**Sand Point**	**5.68**	**222**	P	**Pn**	**02 36 20.4**	**-2.2**
K13K	**Kusilvak Mount**	**5.73**	**297**		**Pn**	**02 36 22.6**	**-0.5**
CHNA	**Chernabura Isl**	**5.84**	**215**	P	**Pn**	**02 36 21.5**	**-3.2**
COLA	**College**	**5.84**	**26**		**Pn**	**02 36 23.1**	**-1.5**
COLA	**College**	**5.84**	**26**	P	**Pn**	**02 36 22.7**	**-2.0**
ILAR	**Eielson Array**	**5.99**	**30**	P	**Pn**	**02 36 24.6**	**-2.0**
	comp=N,88nm,0.4s,baz=221,slow=13,SNR=876						
ILAR				S	**Sn**	**02 37 29.4**	**-4.9**
	comp=N,16nm,0.3s,baz=144,slow=9.4,SNR=13						
IMAR	**Indian Mountai**	**6.26**	**0**		**Pn**	**02 36 29.1**	**-1.1**
G19K	**Purcell Mounta**	**6.58**	**348**		**Pn**	**02 36 33.0**	**-1.6**
BCAR	**Beaver Creek A**	**6.67**	**55**		**Pn**	**02 36 35.0**	**-0.7**
PCA	**Pinnacle**	**6.83**	**81**		**Pn**	**02 36 38.0**	**0.0**
FALS	**False Pass**	**7.14**	**231**	P	**Pn**	**02 36 40.6**	**-1.4**
YKU2	**Yakutat**	**7.18**	**86**	P	**Pn**	**02 36 44.4**	**+1.9**
PNL	**Peninsula**	**7.30**	**84**	P	**Pn**	**02 36 43.9**	**-0.2**
DAWY	**Dawson**	**8.06**	**51**	Pn	**Pn**	**02 36 53.9**	**-0.3**
AKUT	**Akutan**	**8.61**	**234**	P	**Pn**	**02 37 00.5**	**-1.0**
BMAR	**Burnt Mountain**	**8.73**	**24**		**Pn**	**02 36 60.0**	**-3.0**
S31K	**Pelican**	**9.29**	**93**		**Pn**	**02 37 10.9**	**+0.5**
SKAG	**Skagway**	**9.38**	**84**	P	**Pn**	**02 37 13.7**	**+2.0**
G29M	**Pine Creek**	**10.07**	**38**		**Pn**	**02 37 19.8**	**-1.0**
SIT	**Sitka**	**10.07**	**97**		**Pn**	**02 37 20.4**	**-0.4**
**S

NEW	**Newport**	**24.10**	**102**		**P**	**02 40 02.8**	**+1.8**
NEW				IAmb	IAmb	02 40 03.7	
	comp=Z,15nm,0.8s						
F07A	**Phinny Hill Vi**	**24.40**	**109**	IAmb	IAmb	02 40 06.9	
	comp=Z,14nm,0.8s						
F10A	**Beach Ranch, E**	**25.64**	**106**	P	**P**	**02 40 16.5**	**+1.5**
F10A				IAmb	IAmb	02 40 17.4	
	comp=Z,10nm,0.7s						
BMO	**Blue Mountains**	**26.42**	**108**	IAmb	IAmb	02 40 24.9	
	comp=Z,5.0nm,0.7s						
PETK	**Petropavlovsk-**	**27.08**	**277**	P	**P**	**02 40 27.3**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=67,slow=13,SNR=4.9						
PETK				pP	**pP**	**02 41 02.0**	**+1.4**
	comp=Z,2.8nm,0.6s,baz=77,slow=14,SNR=3.0						
	comp=Z,3.4nm,0.6s						
O03E	**Paynes Creek**	**27.89**	**120**	P	**P**	**02 40 37.4**	**+2.3**
MFID	**Camas Ranch**	**28.20**	**108**	IAmb	IAmb	02 40 40.4	
	comp=Z,5.5nm,0.7s						
MCMT	**McKenzie Canyo**	**28.61**	**103**	P	**P**	**02 40 43.1**	**+1.4**
BOZ	**Bozeman (W)**	**28.67**	**101**	P	**P**	**02 40 43.7**	**+1.7**
BOZ				IAmb	IAmb	02 40 44.5	
	comp=Z,4.6nm,0.6s						
PAHR	**Pah Rah Range**	**29.45**	**117**	IAmb	IAmb	02 40 52.1	
	comp=Z,8.4nm,0.8s						
YHB	**Horse Butte**	**29.49**	**101**	IAmb	IAmb	02 40 52.5	
	comp=Z,6.8nm,0.8s						
YNE	**Yellowstone No**	**29.89**	**100**	IAmb	IAmb	02 40 56.0	
	comp=Z,7.3nm,1.0s						
RLMT	**Red Lodge**	**30.18**	**99**	IAmb	IAmb	02 40 59.9	
	comp=Z,8.0nm,0.7s						
CMB	**Columbia Colle**	**30.38**	**121**	P	**P**	**02 40 59.3**	**+2.2**
WAKR	**Walker**	**30.41**	**119**	IAmb	IAmb	02 41 01.0	
	comp=Z,7.1nm,0.8s						
LOHW	**Long Hollow**	**30.61**	**102**	IAmb	IAmb	02 41 02.5	
	comp=Z,8.1nm,0.8s						
LAO	**LASA Array**	**30.63**	**94**	IAmb	IAmb	02 41 01.5	
	comp=Z,7.9nm,0.6s						
RYN	**Ryan**	**30.71**	**118**	IAmb	IAmb	02 41 03.3	
	comp=Z,5.5nm,0.6s						
NVAR	**Mina Array Bea**	**30.97**	**118**	P	**P**	**02 41 04.8**	**+2.3**
	comp=Z,7.8nm,0.8s,baz=308,slow=8.7,SNR=58						
NVAR				pP	**pP**	**02 41 38.0**	**+2.3**
	comp=Z,1.4nm,0.8s,baz=320,slow=13,SNR=2.7						
NVAR				PcP	**PcP**	**02 43 55.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=331,slow=3.8,SNR=4.5						
NVAR				ScP	**ScP**	**02 47 22.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=310,slow=5.2,SNR=1.7						
	comp=Z,7.8nm,0.8s						
LHV	**Little Huntoon**	**31.03**	**118**	IAmb	IAmb	02 41 06.4	
	comp=Z,5.5nm,0.8s						
NV11	**Mina Array Sit**	**31.04**	**117**	IAmb	IAmb	02 41 06.3	
	comp=Z,5.0nm,0.7s						
SCZ	**Santa Cruz**	**31.15**	**123**	P	**P**	**02 41 06.5**	**+2.7**
TIXI	**Tiksi**	**31.44**	**324**	pP	pP	02 41 36.3	-2.9
	comp=Z,22nm,0.3s,baz=76,slow=4.2,SNR=5.5						
HWUT	**Hardware Ranch**	**31.63**	**106**	P	**P**	**02 41 10.7**	**+2.5**
HWUT				IAmb	IAmb	02 41 11.0	
	comp=Z,6.2nm,0.6s						
HULI	**Fort Hunter Li**	**31.71**	**124**	P	**P**	**02 41 11.5**	**+2.8**
PMPB	**Monarch Peak**	**31.73**	**123**	P	**P**	**02 41 08.3**	**-0.6**
PMPB				IAmb	IAmb	02 41 12.8	
	comp=Z,6.5nm,0.6s						
PD31	**Pinedale Array**	**31.75**	**102**	P	**P**	**02 41 09.9**	**+0.7**
PDAR	**Pinedale Array**	**31.75**	**102**	P	**P**	**02 41 10.9**	**+1.7**
PDAR	**Pinedale Array**	**31.75**	**102**	P	**P**	**02 41 10.8**	**+1.6**
	comp=Z,1.4nm,0.4s,baz=350,slow=3.7,SNR=19						
	comp=Z,1.4nm,0.4s						
TPH	**Tonopah**	**31.75**	**117**	P	**P**	**02 41 11.9**	**+2.6**
TPH				IAmb	IAmb	02 41 12.6	
	comp=Z,9.0nm,1.1s						
DSP	**Deep Springs**	**32.00**	**118**	P	**P**	**02 41 11.4**	**+0.3**
DSP				IAmb	IAmb	02 41 15.2	
	comp=Z,6.1nm,0.9s						
RAMR	**Ramage Ranch**	**32.20**	**124**	P	**P**	**02 41 15.1**	**+2.1**
R11B	**Troy Canyon, C**	**32.28**	**114**	P	**P**	**02 41 15.8**	**+1.9**
SPR3	**Spring Creek 3**	**32.34**	**112**	P	**P**	**02 41 17.4**	**+2.9**
S11A	**Rachel**	**32.77**	**115**	IAmb	IAmb	02 41 23.5	
	comp=Z,11nm,1.2s						
BSUT	**Blindstream Ca**	**32.84**	**106**	IAmb	IAmb	02 41 22.1	
	comp=Z,6.1nm,0.8s						
WCT	**Wildcat Mounta**	**33.07**	**117**	P	**P**	**02 41 22.3**	**+1.6**
WCT				IAmb	IAmb	02 41 24.1	
	comp=Z,7.6nm,1.0s						
TPNV	**Topopah Spring**	**33.12**	**117**	P	**P**	**02 41 22.6**	**+1.4**
TPNV				IAmb	IAmb	02 41 24.4	
	comp=Z,4.3nm,0.6s						
MPMC	**Manual Prospec**	**33.30**	**119**	IAmb	IAmb	02 41 26.1	
	comp=Z,5.1nm,0.7s						
RSSD	**Black Hills**	**33.52**	**95**	P	**P**	**02 41 26.8**	**+2.1**
RSSD				IAmb	IAmb	02 41 27.3	
	comp=Z,12nm,0.7s						
QSM	**Queen of Sheba**	**33.65**	**118**	IAmb	IAmb	02 41 29.1	
	comp=Z,9.2nm,0.7s						
MSU	**Marysvale**	**33.74**	**110**	P	**P**	**02 41 28.5**	**+1.8**
Q16A	**Castle Valley**	**33.90**	**109**	IAmb	IAmb	02 41 31.3	
	comp=Z,9.2nm,0.9s						
O20A	**White River Ci**	**34.38**	**104**	P	**P**	**02 41 33.4**	**+1.3**
MWC	**Mount Wilson**	**34.60**	**121**	IAmb	IAmb	02 41 38.2	
	comp=Z,17nm,1.2s						
V12A	**Nelson**	**34.76**	**116**	IAmb	IAmb	02 41 38.9	
	comp=Z,5.6nm,0.9s						
AGMN	**Agassiz Nation**	**34.79**	**83**	IAmb	IAmb	02 41 36.9	
	comp=Z,13nm,0.8s						
HMU	**Henry Mountain**	**34.88**	**109**	IAmb	IAmb	02 41 39.4	
	comp=Z,12nm,1.3s						
PV21	**Cone Mtn., Par**	**35.24**	**107**	IAmb	IAmb	02 41 41.9	
	comp=Z,6.9nm,0.6s						
PV22	**Blue Mesa, Par**	**35.35**	**106**	IAmb	IAmb	02 41 43.0	
	comp=Z,7.6nm,0.8s						
PV10	**Paradox Valley**	**35.36**	**107**	IAmb	IAmb	02 41 56.7	
	comp=Z,4.7nm,0.7s						
PV04	**Paradox Valley**	**35.41**	**107**	P	**P**	**02 41 42.0**	**+1.2**
PV19	**Morning Glory**	**35.44**	**107**	IAmb	IAmb	02 41 43.2	
	comp=Z,8.4nm,0.7s						
PV16	**Nyswonger Mesa**	**35.47**	**107**	IAmb	IAmb	02 41 43.9	
	comp=Z,7.1nm,0.8s						
PV17	**East Wray Mesa**	**35.47**	**107**	IAmb	IAmb	02 41 43.9	
	comp=Z,9.1nm,1.0s						
PV07	**Paradox Valley**	**35.50**	**106**	IAmb	IAmb	02 41 44.1	
	comp=Z,5.9nm,0.7s						
PV12	**Saucer Basin,**	**35.52**	**107**	IAmb	IAmb	02 41 44.9	
	comp=Z,10nm,1.0s						
PV18	**Skein Mesa, Pa**	**35.52**	**107**	IAmb	IAmb	02 41 44.4	
	comp=Z,14nm,0.9s						
PV03	**Paradox Valley**	**35.55**	**107**	IAmb	IAmb	02 41 44.4	
	comp=Z,6.6nm,0.7s						
PV05	**Paradox Valley**	**35.56**	**107**	IAmb	IAmb	02 41 44.4	
	comp=Z,7.3nm,0.7s						
PV02	**Paradox Valley**	**35.64**	**107**	IAmb	IAmb	02 41 45.4	
	comp=Z,12nm,0.7s						
PV15	**Paradox Valley**	**35.65**	**106**	IAmb	IAmb	02 41 45.4	
	comp=Z,9.3nm,0.8s						
BELC	**Belle Mtn. Jos**	**35.69**	**119**	P	**P**	**02 41 44.5**	**+1.3**
BELC				IAmb	IAmb	02 41 45.9	
	comp=Z,6.2nm,0.7s						
PMD	**Palm Desert**	**35.82**	**120**	IAmb	IAmb	02 41 47.1	
	comp=Z,9.2nm,1.4s						
F33A	**5 Mile Ranch,**	**36.23**	**86**	IAmb	IAmb	02 41 51.1	
	comp=Z,6.6nm,0.5s						
WUAZ	**Wupatki**	**36.54**	**112**	IAmb	IAmb	02 41 53.6	
	comp=Z,8.4nm,0.7s						
EYMN	**Ely**	**37.21**	**80**	P	**P**	**02 41 56.9**	**+1.1**
SPMN	**Marine on St.**	**38.42**	**84**	IAmb	IAmb	02 42 07.5	
	comp=Z,12nm,0.7s						
TUC	**Tucson**	**39.46**	**115**	P	**P**	**02 42 17.4**	**+2.5**
Y22A	**Socorro**	**39.91**	**109**	IAmb	IAmb	02 42 21.9	
	comp=Z,5.5nm,0.8s						
RTBA	**Rita Blanca**	**39.97**	**102**	IAmb	IAmb	02 42 21.6	
	comp=Z,6.8nm,0.9s						
R32A	**Long Quarter,**	**40.44**	**97**	IAmb	IAmb	02 42 25.6	
	comp=Z,11nm,1.0s						
I40A	**Norwalk**	**40.47**	**84**	P	**P**	**02 42 23.1**	**+0.1**
MSTX	**Muleshoe**	**41.92**	**105**	IAmb	IAmb	02 42 37.2	
	comp=Z,9.5nm,0.9s						
N41A	**Harden Midland**	**42.68**	**87**	IAmb	IAmb	02 42 41.9	
	comp=Z,17nm,0.9s						
T35A	**Sooner Cattle**	**42.70**	**96**	P	**P**	**02 42 42.0**	**+0.8**
T35A				IAmb	IAmb	02 42 42.6	
	comp=Z,24nm,1.1s						
P40A	**Paris**	**42.96**	**90**	IAmb	IAmb	02 42 44.1	
	comp=Z,9.6nm,0.7s						
DKNS	**Dickens**	**43.07**	**103**	IAmb	IAmb	02 42 46.1	
	comp=Z,6.0nm,0.7s						
WMOK	**Wichita Mounta**	**43.28**	**100**	IAmb	IAmb	02 42 47.9	
	comp=Z,8.3nm,0.8s						
SN07	**Snyder 07**	**43.55**	**104**	IAmb	IAmb	02 42 49.9	
	comp=Z,6.0nm,0.7s						
APMT	**Aspermont**	**43.74**	**103**	IAmb	IAmb	02 42 50.9	
	comp=Z,7.4nm,0.6s						
R40A	**Maddies Statio**	**43.79**	**91**	IAmb	IAmb	02 42 50.4	
	comp=Z,9.6nm,0.7s						
TUL3	**Leonard**	**43.85**	**96**	P	**P**	**02 42 51.0**	**+0.6**
TUL3				IAmb	IAmb	02 42 51.5	
	comp=Z,7.3nm,0.7s						
VLDQ	**Val d'Or**	**43.95**	**70**	P	**P**	**02 42 49.6**	**-1.4**
SCHQ	**Schefferville**	**44.05**	**56**	P	**P**	**02 42 51.4**	**-0.3**
	comp=Z,3.1nm,0.4s,baz=310,slow=5.6,SNR=16						
	comp=Z,3.1nm,0.4s						
U38A	**Gravette**	**44.15**	**94**	IAmb	IAmb	02 42 53.5	
	comp=Z,18nm,1.1s						
WTFS	**Witchita Falls**	**44.21**	**101**	IAmb	IAmb	02 42 55.0	
	comp=Z,13nm,0.7s						
CCM	**Cathedral Cave**	**44.49**	**90**	P	**P**	**02 42 55.2**	**-0.3**
HHAR	**Hobbs**	**44.49**	**94**	P	**P**	**02 42 54.3**	**-1.2**
HHAR				IAmb	IAmb	02 42 55.8	
	comp=Z,5.1nm,0.6s						
ABTX	**Abilene, Hawle**	**44.55**	**103**	P	**P**	**02 42 56.5**	**+0.5**
ABTX				IAmb	IAmb	02 42 57.2	
	comp=Z,8.5nm,0.5s						
MGMO	**Mountain Grove**	**44.66**	**92**	IAmb	IAmb	02 42 56.7	
	comp=Z,7.1nm,0.5s						
SFIN	**Lafayette**	**44.82**	**85**	IAmb	IAmb	02 42 59.1	
	comp=Z,13nm,0.6s						
FVM	**French Village**	**44.96**	**90**	IAmb	IAmb	02 42 59.5	
	comp=Z,7.5nm,0.5s						
Q44A	**Meyer Farm, Va**	**44.97**	**88**	IAmb	IAmb	02 42 59.7	
	comp=Z,11nm,0.8s						
PLPT	**Palo Pinto**	**45.05**	**101**	IAmb	IAmb	02 43 01.4	
	comp=Z,14nm,0.7s						
OZNA	**Ozona**	**45.20**	**106**	IAmb	IAmb	02 43 03.1	
	comp=Z,8.3nm,0.7s						
TXAR	**Lajitas Array**	**45.29**	**109**	P	**P**	**02 43 03.8**	**+1.8**
	comp=Z,2.7nm,0.7s,baz=326,slow=6.1,SNR=11						
	comp=Z,2.7nm,0.7s						
P46A	**Rosedale**	**45.34**	**85**	IAmb	IAmb	02 43 03.4	
	comp=Z,24nm,1.1s						
USRK	**Ussuriysk Ar.**	**45.70**	**285**	P	**P**	**02 43 04.5**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=67,slow=8.0,SNR=2.3						
	comp=Z,0.6nm,0.4s						
S44A	**Carbondale**	**45.77**	**89**	P	**P**	**02 43 05.1**	**-0.5**
S44A				IAmb	IAmb	02 43 06.3	
	comp=Z,10nm,0.5s						
SIUC	**Southern Illin**	**45.78**	**89**	IAmb	IAmb	02 43 06.0	
	comp=Z,9.0nm,0.6s						
P48A	**Milroy**	**46.36**	**84**	IAmb	IAmb	02 43 10.2	
	comp=Z,7.9nm,0.6s						
DRIO	**Del Rio**	**46.69**	**106**	IAmb	IAmb	02 43 13.7	
	comp=Z,7.3nm,0.5s						
O52A	**Adamsville**	**47.66**	**81**	IAmb	IAmb	02 43 20.4	
	comp=Z,9.7nm,0.9s						
WVT	**Waverly**	**47.70**	**89**	P	**P**	**02 43 21.3**	**+0.8**
R50A	**Paris**	**47.81**	**84**	IAmb	IAmb	02 43 22.8	
	comp=Z,16nm,1.1s						
L56A	**Greenwood**	**48.26**	**76**	P	**P**	**02 43 25.5**	**+0.7**
MJAR	**Matsushiro Arr**	**48.38**	**273**	P	**P**	**02 43 25.1**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=13,slow=7.1,SNR=4.4						
	comp=Z,4.3nm,1.1s						
U49A	**Red Boiling Sp**	**48.44**	**87**	IAmb	IAmb	02 43 27.2	
	comp=Z,6.4nm,0.7s						
PLAL	**Pickwick Lake**	**48.48**	**90**	IAmb	IAmb	02 43 28.3	
	comp=Z,14nm,0.9s						
CLTN	**Cedars of Leba**	**48.49**	**88**	IAmb	IAmb	02 43 28.0	
	comp=Z,4.7nm,0.7s						
S51A	**Beattyville**	**48.67**	**84**	IAmb	IAmb	02 43 28.4	
	comp=Z,7.7nm,0.5s						
BINY	**Binghamton**	**48.98**	**74**	P	**P**	**02 43 30.6**	**+0.3**
SWET	**Sewanee**	**49.38**	**88**	IAmb	IAmb	02 43 33.9	
	comp=Z,8.7nm,0.8s						
X48A	**Hartselle**	**49.42**	**90**	IAmb	IAmb	02 43 34.3	
	comp=Z,9.3nm,0.8s						
N58A	**Sunbury**	**49.65**	**76**	IAmb	IAmb	02 43 36.3	
	comp=Z,8.8nm,0.8s						
P57A	**Homestead Farm**	**50.05**	**78**	IAmb	IAmb	02 43 39.2	
	comp=Z,12nm,0.9s						
FPAL	**Fort Paine**	**50.07**	**88**	IAmb	IAmb	02 43 39.5	
	comp=Z,8.0nm,0.8s						
Y49A	**Blount Mountai**	**50.21**	**90**	IAmb	IAmb	02 43 40.2	
	comp=Z,11nm,0.7s						
U54A	**Nelsons Funny**	**50.44**	**84**	IAmb	IAmb	02 43 42.5	
	comp=Z,10nm,0.6s						
V53A	**Saluda**	**50.60**	**85**	P	**P**	**02 43 42.4**	**-0.2**
V53A				IAmb	IAmb	02 43 43.7	
	comp=Z,8.4nm,0.7s						
ARCES	**ARCESS Array B**	**51.01**	**0**	P	**P**	**02 43 44.5**	**-0.6**
	comp=Z,2.9nm,1.1s,baz=0.4,slow=5.1,SNR=6.6						
	comp=Z,2.9nm,1.1s						
V55A	**Taylorsville**	**51.26**	**84**	IAmb	IAmb	02 43 48.5	
	comp=Z,8.0nm,0.7s						
U56A	**King**	**51.29**	**83**	IAmb	IAmb	02 43 48.7	
	comp=Z,13nm,1.0s						
Y52A	**Lilburn**	**51.39**	**88**	IAmb	IAmb	02 43 50.0	
	comp=Z,6.3nm,0.8s						
KMSC	**Kings Mountain**	**51.76**	**84**	IAmb	IAmb	02 43 52.5	
	comp=Z,7.2nm,0.8s						
PAULI	**Pauline**	**51.77**	**85**	IAmb	IAmb	02 43 52.0	
	comp=Z,13nm,1.0s						
HODGE	**Hodges**	**52.01**	**86**	IAmb	IAmb	02 43 53.8	
	comp=Z,11nm,0.7s						
JSC	**Jenkinsville**	**52.48**	**85**	IAmb	IAmb	02 43 57.2	
	comp=Z,8.8nm,0.7s						
KSRS	**Korea Array**	**52.82**	**282**	P	**P**	**02 43 59.2**	**+0.3**
	comp=Z,5.5nm,0.7s,baz=38,slow=6.7,SNR=22						
	comp=Z,5.5nm,0.7s						
SONM	**Songino Array**	**54.59**	**305**	P	**P**	**02 44 12.5**	**+0.6**
SONM				IAmb	IAmb	02 44 12.8	
	comp=Z,5.6nm,0.7s						
SONM	**Songino Array**	**54.59**	**305**	P	**P**	**02 44 11.9**	**0.0**
	comp=Z,5.8nm,0.7s,baz=43,slow=7.4,SNR=33						
SONM				pP	**pP**	**02 44 49.0**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=49,slow=6.8,SNR=3.5						
SONM				PcP	**PcP**	**02 45 13.5**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=32,slow=4.3,SNR=4.8						
	comp=Z,5.8nm,0.7s						
ZAA0	**Zalesovo Array**	**57.32**	**323**	P	**P**	**02 44 30.5**	**-0.5**
ZALV	**Zalesovo Beam**	**57.32**	**323**	P	**P**	**02 44 30.5**	**-0.5**
ZALV	**Zalesovo Beam**	**57.32**	**323**	P	**P**	**02 44 30.2**	**-0.7**
	comp=Z,8.4nm,0.5s,baz=32,slow=7.0,SNR=31						
	comp=Z,8.4nm,0.5s						
HHC	**Hu-ho-hao-te**	**57.92**	**297**	*e*P	**P**	**02 44 34.8**	**-0.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,280nm,5.3s						
FINES	**FINESS Array B**	**59.13**	**0**	P	**P**	**02 44 43.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=2.9,slow=7.6,SNR=5.6						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**60.05**	**7**	P	**P**	**02 44 49.2**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=17,slow=6.7,SNR=7.5						
	comp=Z,0.8nm,0.5s						
KIRV	**Kirov**	**60.60**	**346**	LR	LR	03 12 26.6	
	comp=Z,236nm,20.2s,baz=76,slow=37						
JOW	**Kunigami**	**61.18**	**274**	P	**P**	**02 44 57.1**	**-0.8**
	comp=Z,18nm,0.9s,baz=28,slow=4.4,SNR=3.6						
	comp=Z,18nm,0.9s						
BVAR	**Borovoye Array**	**62.09**	**332**	P	**P**	**02 45 02.5**	**-1.0**
	comp=Z,6.2nm,0.8s,baz=31,slow=7.2,SNR=22						
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**62.10**	**325**	P	**P**	**02 45 02.6**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=28,slow=6.2,SNR=5.2						
	comp=Z,1.3nm,0.3s						
GTA	**Gaotai**	**64.22**	**304**	*e*P	**P**	**02 45 17.0**	**-1.0**
GTA				sP	pP	02 45 54.8	-0.7
GTA				pmax	pmax		
	comp=Z,20nm,0.7s						
MKAR	**Makanchi Array**	**64.36**	**321**	P	**P**	**02 45 17.3**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=47,slow=7.3,SNR=9.5						
	comp=Z,0.7nm,0.4s						
WMQ	**Urumqi**	**65.15**	**315**	*e*P	**P**	**02 45 26.3**	**+2.5**
WMQ				pmax	pmax		
	comp=Z,51nm,0.7s						
LZH	**Lanzhou**	**65.28**	**299**	*e*P	**P**	**02 45 24.5**	**-0.4**
LZH				pP	PcP	02 45 28.5	-27
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
AB31	**Akbulak array**	**67.93**	**337**	P	**P**	**02 45 39.6**	**-1.7**
ABKAR	**Akbulak array**	**67.93**	**337**	P	**P**	**02 45 40.4**	**-0.9**
AKASG	**Malin Array Be**	**69.88**	**358**	P	**P**	**02 45 51.9**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=6.3,slow=6.3,SNR=7.2						
	comp=Z,1.7nm,0.5s						
KDJ	**Kajisay**	**70.16**	**322**	P	**P**	**02 45 56.0**	**+0.6**
AAK	**Ala-Archa**	**70.51**	**324**	P	**P**	**02 45 56.9**	**-0.6**
KKAR	**Karatay Array**	**71.22**	**327**	P	**P**	**02 46 01.1**	**-0.4**
GERES	**GERESS Array B**	**71.28**	**9**	P	**P**	**02 46 02.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=28,slow=6.0,SNR=5.3						
	comp=Z,0.3nm,0.5s						
LANS	**Liptovska Anna**	**71.32**	**5**	*e*P	**P**	**02 46 02.2**	**+0.1**
VYHS	**Vyhne**	**71.95**	**5**	*e*P	**P**	**02 46 06.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**72.96**	**1**	P	**P**	**02 46 11.6**	**-0.3**
BURAR	**Bucovina Array**	**72.99**	**1**	P	**P**	**02 46 11.8**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**73.19**	**11**	P	**P**	**02 46 12.9**	**-0.5**
PDPR	**Patillas Dam,**	**73.53**	**83**	P	**P**	**02 46 14.8**	**-0.7**
PDPR				IAmb	IAmb	02 46 49.1	
	comp=Z,18nm,1.2s						
PZH	**PanZhiHua**	**74.35**	**296**	P	**P**	**02 46 20.3**	**-0.1**
EVN	**Everest**	**79.48**	**308**	P	**P**	**02 46 49.2**	**-0.4**
EVN				IAmb	IAmb	02 46 50.5	
	comp=Z,5.0nm,0.7s						
RUSC	**La Rusia**	**80.27**	**95**	P	**P**	**02 46 53.2**	**-0.7**
RUSC				IAmb	IAmb	02 46 53.8	
	comp=Z,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**82.58**	**294**	P	**P**	**02 47 04.3**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=20,slow=6.0,SNR=5.7						
	comp=Z,1.1nm,0.3s						
LBTB	**Lobatse**	**145.28**	**1**	PKPdf	**PKPdf**	**02 54 17.6**	**-1.1**
PHPEN	**Phepeng**	**145.66**	**5**	PKPdf	**PKPdf**	**02 54 18.7**	**-0.6**
BOSA	**Boshof**	**148.86**	**2**	PKPbc	**PKPbc**	**02 54 28.6**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=72,slow=2.1,SNR=7.2						
QSPA	**South Pole Qui**	**149.55**	**180**	PKPdf	**PKPdf**	**02 54 25.1**	**+0.8**
BELA	**Belgrano 2**	**153.52**	**156**	PKPdf	**PKPdf**	**02 54 33.2**	**+3.2**

*IDC **28** 02:36:39.7±0.9, 17°.25N×144°.87E, h0km, mb3.9/12, mbtmp3.9/12, MS4.1/2, Error ellipse: s-maj=31.0km s-min=20.2km az=84.0*

ISC 28 02:36:44.9±0.9, 17°.2N±0°.2×144°.9E±0°.2, h35km, n20, σ0s75/14, mb4.0/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**16.46**	**345**		LR	02 45 49.3	
	comp=Z,926nm,21.4s,baz=82,slow=33						
H11S3	**WAKE ISLAND Hy**	**20.82**	**83**	T	T	03 02 51.2	
	baz=270,slow=75,SNR=43						
H11S1	**WAKE ISLAND Hy**	**20.83**	**83**	T	T	03 02 51.4	
	baz=270,slow=75,SNR=49						
H11S2	**WAKE ISLAND Hy**	**20.84**	**83**	T	T	03 02 51.8	
	baz=270,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	**21.05**	**80**	T	T	03 03 05.9	
	baz=267,slow=74,SNR=329						
H11N2	**WAKE ISLAND Hy**	**21.05**	**80**	T	T	03 03 07.2	
	baz=267,slow=74,SNR=372						
H11N3	**WAKE ISLAND Hy**	**21.06**	**80**	T	T	03 03 09.3	
	baz=267,slow=74,SNR=311						
KSRS	**Korea Array**	**25.06**	**327**	P	**P**	**02 42 05.7**	**-0.3**
	0.7nm,0.4s,baz=138,slow=9.2,SNR=5.9						
	0.7nm,0.4s						
ASAJ	**Asahikawa**	**26.86**	**356**	LR	LR	02 54 00.4	
	comp=Z,264nm,18.9s,baz=200,slow=39						
WRA	**Warramunga Arr**	**38.36**	**196**	P	**P**	**02 44 02.5**	**-0.4**
	2.1nm,1.0s,baz=12,slow=8.7,SNR=6.1						
	2.1nm,1.0s						
ASAR	**Alice Springs**	**42.04**	**195**	P	**P**	**02 44 33.0**	**-0.3**
	0.3nm,0.7s,baz=14,slow=7.0,SNR=1.5						
ASAR				PcP	**PcP**	**02 46 29.1**	**+1.1**
	0.7nm,0.8s,baz=16,slow=4.3,SNR=5.0						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.63**	**279**	P	**P**	**02 44 47.0**	**+0.6**
	1.4nm,0.3s,baz=63,slow=6.4,SNR=6.4						
	1.4nm,0.3s						
ZALV	**Zalesovo Beam**	**58.69**	**323**	P	**P**	**02 46 38.5**	**-0.3**
	0.8nm,0.5s,baz=106,slow=9.1,SNR=3.6						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**58.90**	**315**	P	**P**	**02 46 40.9**	**+0.4**
	0.8nm,0.7s,baz=93,slow=9.4,SNR=6.2						
MKAR				PcP	**PcP**	**02 47 29.6**	**-0.1**
	1.1nm,0.9s,baz=107,slow=4.8,SNR=4.3						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**61.87**	**319**	P	**P**	**02 47 00.9**	**+0.2**
	1.5nm,0.4s,baz=96,slow=7.0,SNR=16						
	1.5nm,0.4s						
ILAR	**Eielson Array**	**65.31**	**26**	P	**P**	**02 47 24.4**	**+1.3**

URUA Sb 02 49 53.9 -1.7
URUA Uruapan 1.78 45 *e*P Pb 02 49 32.2 -1.4
URUA eS Sb 02 49 53.9 -1.7
ZIIG Zihuatanejo 1.93 106 Pn 02 49 33.7 +0.8
ZIIG Sn 02 49 58.1 +1.7
ZIIG Zihuatanejo 1.93 106 *e*P Pn 02 49 33.7 +0.8
ZIIG eS Sn 02 49 58.1 +1.7
CJM Chamela 2.04 311 *e*P Pn 02 49 31.8 -2.7
CJM eS Sn 02 49 55.7 -3.5
TON2 Tonala 2.46 4 Pb 02 49 43.3 -1.8
TON2 Sb 02 50 12.6 -2.4
TON2 Tonala 2.46 4 *e*P Pb 02 49 43.3 -1.8
TON2 eS Sb 02 50 12.6 -2.4
GDLP Chapalita 2.51 359 Pn 02 49 44.4 -1.6
GDLP Sb 02 50 15.6 -1.0
GDLP Chapalita 2.51 359 *e*P Pb 02 49 44.4 -1.6
GDLP eS Sb 02 50 15.6 -1.0
MOIG Morelia 2.58 54 Pn 02 49 43.2 +1.1
MOIG Morelia 2.58 54 *e*P Pn 02 49 44.0 +1.8
ARIG Puente Sto Nin 2.91 87 Pn 02 49 47.9 +1.5
ARIG Sn 02 50 21.2 +0.5
ARIG Puente Sto Nin 2.91 87 *e*P Pn 02 49 47.9 +1.5
ARIG eS Sn 02 50 21.2 +0.5
ATYC Atoyac 2.99 108 eS Sb 02 50 31.1 +0.9
PUVA Puert Vallarta 2.99 325 Pn 02 49 49.9 +2.4
PUVA Puert Vallarta 2.99 325 *e*P Pn 02 49 49.9 +2.4
PUVA eS Sb 02 50 28.1 -2.1
ANIG Ahuacatlan 3.06 340 Pn 02 49 47.5 -1.1
ANIG Sn 02 50 23.6 -1.0
ANIG Ahuacatlan 3.06 340 *e*P Pn 02 49 47.5 -1.1
ANIG eS Sn 02 50 23.6 -1.0
CAIG El Cayaco 3.19 110 Pn 02 49 52.1 +1.8
CAIG El Cayaco 3.19 110 *e*P Pn 02 49 52.1 +1.8
CAIG eS Sn 02 50 30.0 +2.3
IGIG Irapuato, Guan 3.24 37 Pb 02 49 57.2 -1.3
IGIG Sn 02 50 31.1 +2.0
IGIG Irapuato, Guan 3.24 37 *e*P Pb 02 49 57.2 -1.3
IGIG eS Sn 02 50 31.1 +2.0
ACP2 Acapulco 3.59 110 Sb 02 50 45.0 -2.6
ACP2 Acapulco 3.59 110 *e*P Pn 02 49 59.7 +3.8
ACP2 eS Sb 02 50 45.0 -2.6
MEIG Mezcala 3.61 93 Sb 02 50 43.4 -4.8
MEIG Mezcala 3.61 93 *e*P Pn 02 49 58.7 +2.5
MEIG *i* S Sb 02 50 43.4 -4.8
VNTA La Mica 3.64 109 Pn 02 49 57.5 +1.0
VNTA Sb 02 50 46.4 -2.6
VNTA La Mica 3.64 109 *e*P Pn 02 49 57.5 +1.0
VNTA eS Sb 02 50 46.4 -2.6
TOVM TOLUCA 3.71 72 Sb 02 50 46.9 -4.3
TOVM TOLUCA 3.71 72 *e*P Pn 02 50 00.8 +3.1
TOVM eS Sb 02 50 46.9 -4.3
DAIG Los Arroyos 3.76 107 *e*P Pn 02 50 00.7 +2.6
DAIG *i* S Sn 02 50 45.9 +4.3
JRQG Juriquilla Cam 3.77 47 Pn Pn 02 50 00.3 +1.9
JRQG Juriquilla Cam 3.77 47 *e*P Pb 02 50 05.1 -2.4
JRQG eS Sb 02 50 47.0 -5.9
ACIG Acambay 3.79 61 Sb 02 50 49.8 -3.8
ACIG Acambay 3.79 61 *e*P Pn 02 50 02.7 +3.9
ACIG eS Sb 02 50 49.8 -3.8
MAVM Malinalco, Edo 3.79 77 *e*P Pn 02 50 02.9 +4.1
MAVM eS Sb 02 50 48.0 -5.6
AAIG Aguscalientes 3.91 14 Pn 02 50 00.9 +0.6
AAIG Aguscalientes 3.91 14 *e*P Pn 02 50 00.9 +0.6
AAIG eS Sn 02 50 42.9 -2.7
INVM La Marquesa 3.98 73 *e*P Pn 02 50 04.3 +2.9
INVM eS Sn 02 50 52.2 +4.6
AOVM Tlapan 4.03 73 *e*P Pn 02 50 09.3 +3.7
AOVM eS Sn 02 50 52.2 +3.4
CJVM Cuajimalpa 4.08 72 Pb 02 50 08.9 -4.0
CJVM Cuajimalpa 4.08 72 *e*P Pb 02 50 08.9 -4.0
CJVM eS Sn 02 50 54.9 +4.9
TLVM San Miguel Top 4.16 75 *e*P Pn 02 50 08.9 +4.9
TLVM eS Sb 02 50 59.0 -5.4
MHVM Bosque de Chap 4.17 72 *e*P Pb 02 50 09.3 -5.1
MHVM eS Sb 02 50 57.5 -6.9
CUP5 Mexico City 4.17 73 Pb 02 50 11.5 -2.9
CUP5 Sn 02 50 52.5 +0.4
CUP5 Mexico City 4.17 73 *e*P Pb 02 50 11.5 -2.9
CUP5 eS Sn 02 50 52.5 +0.4
UNM Universidad Na 4.17 73 Pn Pn 02 50 01.6 -2.4
UNM Universidad Na 4.17 73 *e*P Pb 02 50 10.8 -3.7
UNM eS Sb 02 51 00.2 -4.4
YAIG Yautepec 4.18 80 *e*P Pn 02 50 07.4 +3.4
YAIG eS Sn 02 50 54.1 +2.0
APVM Azcapotzalco 4.19 71 *e*P Pn 02 50 08.9 +4.6
APVM eS Sn 02 50 56.1 +3.5
BJVM Benito Juarez 4.19 73 Sb 02 51 01.2 -3.9
BJVM Benito Juarez 4.19 73 *e*P Pn 02 50 07.0 +2.7
BJVM eS Sb 02 51 01.2 -3.9
COVM Coyoacan 4.20 73 *e*P Pn 02 50 08.0 +3.6
COVM eS Sb 02 50 59.0 -6.2
PBVM Pinon 4.29 72 *e*P Pn 02 50 07.6 +2.3
PBVM eS Sb 02 51 00.7 -6.9
MPVM San Francisco 4.29 75 *e*P Pn 02 50 10.8 +5.1
MPVM eS Sb 02 51 02.1 -5.9
CRIG Cruz Grande 4.32 109 Sn 02 50 55.2 -0.3
CRIG Cruz Grande 4.32 109 *e*P Pn 02 50 08.2 +2.4
CRIG eS Sn 02 50 55.2 -0.3
THVM De Xico 4.35 74 *e*P Pn 02 50 10.2 +3.7
THVM eS Sn 02 51 01.4 +4.7
TXVM Universitario 4.44 73 *e*P Pn 02 50 11.0 +3.3
TXVM eS Sn 02 51 04.4 +5.6
AMVM AMECAMECA 4.49 77 *e*P Pn 02 50 12.7 +4.3
AMVM eS Sn 02 51 05.3 +5.3
PPM Popocatepetl 4.62 78 *e*P Pn 02 50 14.1 +3.7
PPM eS Sn 02 51 06.7 +3.1
HMTT Tlapaneco 4.63 94 Pb 02 50 17.8 -4.3
HMTT Tlapaneco 4.63 94 *e*P Pb 02 50 17.8 -4.3
HMTT eS Sb 02 51 11.4 -6.1
MGIG Malinaltepec 4.64 101 *e*P Pn 02 50 12.9 +2.5
MGIG eS Sn 02 51 10.1 +6.4
TLIG Tlapa 4.65 97 Pn Pn 02 50 07.6 -2.9
TLIG Tlapa 4.65 97 *e*P Pn 02 50 13.2 +2.8
TLIG eS Sn 02 51 07.3 +3.5
ZAIG Zacatecas 4.65 10 Pn 02 50 12.8 +2.1
ZAIG Zacatecas 4.65 10 *e*P Pn 02 50 09.7 -0.9
ZAIG eS Sn 02 51 06.3 +2.2
VTVM Tizayuca 4.67 69 Pn 02 50 12.3 +1.4
VTVM Sb 02 51 14.2 -4.6
VTVM Tizayuca 4.67 69 *e*P Pn 02 50 12.3 +1.4
VTVM eS Sb 02 51 14.2 -4.6
RPIG Rio Verde 4.91 40 Pn 02 50 15.8 +1.8
RPIG Rio Verde 4.91 40 *e*P Pn 02 50 15.8 +1.8
RPIG eS Sb 02 51 21.0 -4.6
FTIG Fresnillo de T 5.02 92 Sn 02 51 13.0 -0.1
FTIG Fresnillo de T 5.02 92 *e*P Pn 02 50 17.9 +2.3
FTIG eS Sn 02 51 13.0 -0.1
PHPU Puebla 5.04 79 Pn 02 50 14.0 -2.0
PHPU Puebla 5.04 79 *e*P Pn 02 50 14.0 -2.0
PHPU eS Sn 02 51 19.0 +5.3
HLIG Huajuapan de L 5.34 93 Sn 02 51 20.6 -0.4
HLIG Huajuapan de L 5.34 93 *e*P Pn 02 50 22.9 +2.8
HLIG eS Sn 02 51 20.6 -0.4
PNIG Pinotepa 5.34 108 *e*P Pn 02 50 22.3 +2.4
PNIG eS Sn 02 51 29.3 +8.5
TXIG Tlaxiaco 5.45 99 *e*P Pn 02 50 24.7 +3.1
TXIG eS Sn 02 51 25.2 +1.4
YOIG Yosondua 5.74 102 *e*P Pn 02 50 29.3 +3.7
YOIG eS Sn 02 51 40.4 +9.4
TPIG Tehuac#an 5.75 87 Pn 02 50 27.2 +1.6
TPIG Tehuac#an 5.75 87 *e*P Pn 02 50 27.2 +1.6
TPIG eS Sb 02 51 41.1 -8.7
CTUV Llano Grande 5.78 54 Pn 02 50 26.5 +0.5
CTUV Llano Grande 5.78 54 *e*P Pn 02 50 26.5 +0.5
CTUV eS Sn 02 51 38.4 +6.8
POHV Veracruz 5.88 80 *e*P Pn 02 50 32.0 +4.3
OZST Orizaba 6.03 82 Pn 02 50 30.4 +0.9
OZST Orizaba 6.03 82 *e*P Pn 02 50 30.4 +0.9
OZST eS Sn 02 51 41.2 +3.3
TOIG Toxpalan 6.03 90 Pn 02 50 31.2 +1.8
TOIG Toxpalan 6.03 90 *e*P Pn 02 50 31.2 +1.8
TOIG eS Sn 02 51 39.0 +1.1
GTIG Gomez Farias 6.29 38 Pn 02 50 34.2 +1.3
GTIG Gomez Farias 6.29 38 *e*P Pn 02 50 34.2 +1.3
PEIG Puerto Escondi 6.36 109 *e*P Pn 02 50 37.4 +3.5
PEIG eS Sn 02 51 51.4 +5.5
JAUV Jalcomulco 6.37 78 Pn 02 50 35.8 +1.7
JAUV Jalcomulco 6.37 78 *e*P Pn 02 50 35.8 +1.7
JAUV eS Sb 02 51 56.8 -11

VHO Vista Hermosa 6.46 99 *e*P Pn 02 50 40.0 +4.6
VHO eS Sn 02 51 58.7 +10
PDIG Papasquiaro 7.09 345 Pn 02 50 46.6 +2.5
PDIG Papasquiaro 7.09 345 *e*P Pn 02 50 46.6 +2.5
H06E1 SOCORRO T-PHAS 7.16 276 T T 02 57 56.5
SNR=368
H06S1 SOCORRO T 7.19 276 T T 02 58 00.4
SNR=36
H06N1 SOCORRO T-PHAS 7.22 277 T T 02 58 00.3
SNR=17
NEUV Arroyo Zacate 7.25 92 Pn 02 50 47.2 +1.1
NEUV Sn 02 52 08.2 +0.4
NEUV Arroyo Zacate 7.25 92 *e*P Pn 02 50 47.2 +1.1
NEUV eS Sn 02 52 08.2 +0.4
HUIG Huatulco 7.38 108 Pn 02 50 47.7 -0.2
HUIG Huatulco 7.38 108 *e*P Pn 02 50 47.7 -0.2
HUIG eS Sn 02 52 20.0 +9.1
LNIG Linares 7.64 28 *e*P Pn 02 50 51.6 +0.1
LNIG eS Sn 02 52 21.9 +4.6
PMUV Sontecomapan 7.88 86 *e*P Pn 02 50 58.1 +3.3
MNIG Monterrey 7.96 21 Pn 02 50 55.6 -0.2
MNIG Monterrey 7.96 21 *e*P Pn 02 50 55.6 -0.2
MNIG eS Sn 02 52 31.2 +6.0
CMIG Matias Romero 8.20 96 Pn Pn 02 51 01.8 +2.7
0.5nm,0.3s,baz=287,slow=11,SNR=9.0
CMIG Sn Sn 02 52 28.6 -2.4
0.8nm,0.3s,baz=299,slow=12,SNR=3.9
CMIG Lg Lg 02 53 22.2
1.7nm,0.3s,baz=357,slow=23,SNR=8.2
2.2nm,0.5s
CMIG Matias Romero 8.20 96 *e*P Pn 02 51 01.9 +2.7
CMIG eS Sn 02 52 32.5 +1.5
HPIG 8.98 347 Pn Pn 02 51 11.7 +1.7
HPIG 8.98 347 *e*P Pn 02 51 09.8 -0.2
TGIG 9.91 96 *e*P Pn 02 51 25.4 +2.7
TGIG eS Sn 02 53 20.8 +7.6
PCIG 10.05 103 Pn Pn 02 51 25.6 +1.0
PCIG 10.05 103 *e*P Pn 02 51 25.6 +1.0
PCIG eS Sn 02 53 18.3 +1.7
CCIG Comitan 10.93 98 *e*P Pn 02 51 39.6 +2.8
CCIG eS Sn 02 53 45.9 +7.4
TXAR Lajitas Array 11.12 359 Pn Pn 02 51 40.5 +1.2
TXAR Lajitas Array 11.12 359 Pn Pn 02 51 42.5 +3.2
0.2nm,0.3s,baz=188,slow=14,SNR=12
TXAR Lg Lg 02 54 50.6
baz=320,slow=24
1.7nm,0.7s
TX31 Lajitas Ar. Si 11.12 359 Pn Pn 02 51 39.8 +0.5
DRIO Del Rio 11.50 12 Pn Pn 02 51 44.9 +0.5
VHRN Van Horn 12.65 354 Pn 02 52 02.7 +2.4
JCT Junction City 12.69 14 Pn Pn 02 52 02.5 +1.8
OZNA Ozona 12.87 9 Pn Pn 02 52 04.2 +1.1
PECS Pecos 13.16 358 Pn Pn 02 52 08.3 +1.2
BRDY Brady 13.66 16 Pn 02 52 15.1 +1.1
SGCY Sterling City 13.85 8 Pn Pn 02 52 17.1 +0.7
ABTX Abilene, Hawle 14.79 13 Pn Pn 02 52 28.6 -0.8
POST Post 14.94 6 Pn Pn 02 52 31.1 -0.3
SN07 Snyder 07 15.04 8 Pn Pn 02 52 33.0 +0.4
SN07 IAmb IAmb 02 52 37.9
comp=Z,16nm,0.7s
FW13 Cleburne 15.12 20 Pn Pn 02 52 33.5 -0.2
PLPT Palo Pinto 15.29 16 Pn Pn 02 52 36.2 +0.3
PLPT IAmb IAmb 02 52 42.0
comp=Z,7.7nm,0.8s
APMT Aspermont 15.39 10 Pn Pn 02 52 37.7 +0.5
APMT IAmb IAmb 02 52 42.4
comp=Z,26nm,0.9s
237A Washetta, Mont 15.39 25 Pn Pn 02 52 36.7 -0.6
TUC Tucson 15.58 336 Pn Pn 02 52 41.6 +1.8
DKNS Dickens 15.60 8 Pn Pn 02 52 40.2 +0.1
DKNS IAmb IAmb 02 52 44.2
comp=Z,12nm,0.8s
FW06 Azle 15.66 19 Pn Pn 02 52 40.8 +0.1
FW06 IAmb IAmb 02 52 45.8
comp=Z,30nm,0.9s
MSTX Muleshoe 15.75 2 Pn Pn 02 52 42.7 +0.6
MSTX IAmb IAmb 02 52 47.4
comp=Z,12nm,1.1s
TREL Terrell 15.93 23 Pn Pn 02 52 44.3 0.0
TREL IAmb IAmb 02 52 49.5
comp=Z,17nm,0.8s
CRNM Carthage 16.01 350 Pn Pn 02 52 45.7 +0.3
Y22A Socorro 16.03 349 Pn Pn 02 52 46.9 +1.2
214A Organ Pipe Nat 16.15 330 Pn Pn 02 52 48.6 +1.5
WTFS Witchita Falls 16.16 15 Pn Pn 02 52 47.5 +0.3
WTFS IAmb IAmb 02 53 08.0
comp=Z,14nm,1.0s
BNM Barren Site 16.18 350 Pn Pn 02 52 49.1 +1.4
ANMO Albuquerque 16.94 351 Pn P 02 53 00.5 +1.5
comp=Z,0.1nm,0.3s,baz=272,slow=7.5,SNR=3.6
WMOK Wichita Mounta 17.02 13 Pn Pn 02 52 57.5 -0.6
SMWD Samnorwood 17.11 9 Pn Pn 02 52 59.0 -0.3
SMWD IAmb IAmb 02 53 02.2
comp=Z,12nm,0.7s
X34A Smith Ranch, M 17.11 16 Pn 02 52 59.7 +0.5
X34A IAmb IAmb 02 53 02.7
comp=Z,12nm,0.9s
X16A Lo Mia Camp, P 17.71 338 Pn 02 53 07.2 +0.4
Y14A Wickenburg 17.91 333 Pn 02 53 09.1 0.0
143A Socs Landing, 18.07 34 Pn 02 53 09.8 -1.2
143A IAmb IAmb 02 53 20.4
comp=Z,11nm,0.8s
RTBA Rita Blanca 18.22 2 Pn 02 53 13.1 +0.1
MIAR Mount Ida 18.52 26 P 02 53 15.4 -0.9
WUAZ Wupatki 18.68 339 P Pn 02 53 18.9 +0.3
TUL3 Leonard 18.92 19 P 02 53 19.2 -1.5
TUL3 IAmb IAmb 02 53 22.9
comp=Z,12nm,0.8s
IRM Iron Mountain 19.07 329 P 02 53 22.3 -0.1
PMD Palm Desert 19.31 326 P 02 53 25.5 +0.5
PMD IAmb IAmb 02 53 30.0
comp=Z,7.5nm,0.9s
PFO Pinyon Flats O 19.32 325 P Pn 02 53 27.5 +1.1
comp=Z,0.1nm,0.3s,baz=124,slow=5.8,SNR=3.9
comp=Z,1.8nm,0.7s
MVCO Mesa Verde 19.50 348 P 02 53 27.1 -0.2
SDCO Great Sand Dun 19.60 355 P P 02 53 29.1 +0.7
T35A Sooner Cattle 19.64 17 P 02 53 27.2 -1.5
T35A IAmb IAmb 02 53 30.0
comp=Z,19nm,1.1s
WHAR Wooly Hollow 19.71 28 P 02 53 28.6 -0.8
WHAR IAmb IAmb 02 53 31.1
comp=Z,12nm,0.9s
U38A Gravette 19.87 22 P 02 53 30.0 -1.1
ELS Elsinore Mount 19.89 324 IAmb IAmb 02 53 36.6
comp=Z,8.5nm,1.1s
V12A Nelson 20.22 332 P P 02 53 34.2 -0.9
FCAR Ozark Folk Cen 20.29 27 IAmb IAmb 02 53 35.7
comp=Z,9.8nm,0.8s
BFSC Mount Baldy Ra 20.45 324 IAmb IAmb 02 53 41.5
comp=Z,7.6nm,1.0s
PV05 Paradox Valley 20.46 347 IAmb IAmb 02 53 42.9
comp=Z,8.2nm,1.0s
OXF Oxford 20.52 35 IAmb IAmb 02 54 08.2
comp=Z,12nm,0.9s
KNB Kanab 20.53 338 P P 02 53 37.6 -0.9
PV18 Skein Mesa, Pa 20.58 348 IAmb IAmb 02 53 43.9
comp=Z,8.3nm,1.0s
R32A Long Quarter, 20.60 11 IAmb IAmb 02 53 43.3
comp=Z,18nm,1.2s
PV12 Saucer Basin, 20.63 348 IAmb IAmb 02 54 09.4
comp=Z,9.9nm,1.1s
PV19 Morning Glory 20.66 347 IAmb IAmb 02 53 44.8
comp=Z,15nm,1.1s
MWC Mount Wilson 20.66 324 IAmb IAmb 02 53 46.3
comp=Z,20nm,1.2s
PV20 West Nyswonger 20.68 348 IAmb IAmb 02 53 45.1
comp=Z,12nm,1.0s
PV10 Paradox Valley 20.73 347 IAmb IAmb 02 53 44.7
comp=Z,15nm,1.0s
PKCU Pink Cliffs 20.74 340 IAmb IAmb 02 53 44.8
comp=Z,6.9nm,1.1s
PV23 Carpenter Ridg 20.80 348 IAmb IAmb 02 53 46.8
comp=Z,8.7nm,1.1s
CBKS Cedar Bluff 20.82 8 P P 02 53 40.5 -1.0
CBKS IAmb IAmb 02 53 41.9
comp=Z,13nm,0.9s
LCAR Lake Charles 20.87 29 IAmb IAmb 02 53 50.2
comp=Z,5.6nm,0.9s
LRAL Lakeview Retre 20.89 42 P 02 53 39.4 -2.8
LRAL IAmb IAmb 02 53 42.5
comp=Z,7.4nm,0.9s
SHOC Shoshone, Teco 21.02 330 IAmb IAmb 02 53 46.6
comp=Z,14nm,0.8s

MTPU Mount Pierson 21.24 341 IAmb IAmb 02 53 49.5
comp=Z,7.8nm,0.9s
MGMO Mountain Grove 21.30 25 P P 02 53 45.2 -1.4
MGMO IAmb IAmb 02 53 46.5
comp=Z,11nm,0.9s
352A Blakely 21.34 48 P P 02 53 45.4 -1.6
352A IAmb IAmb 02 54 04.5
comp=Z,14nm,0.9s
WSHM Spangler Hills 21.39 327 P P 02 53 47.9 +0.2
WSHM IAmb IAmb 02 53 50.1
comp=Z,7.4nm,0.8s
PLAL Pickwick Lake 21.60 36 IAmb IAmb 02 53 51.9
comp=Z,6.7nm,0.6s
Y49A Blount Mountai 21.80 41 IAmb IAmb 02 53 53.8
comp=Z,9.2nm,0.8s
X48A Hartselle 21.82 39 IAmb IAmb 02 53 53.3
comp=Z,6.5nm,0.9s
TPNV Topopah Spring 21.86 331 IAmb IAmb 02 53 56.0
comp=Z,8.4nm,0.9s
ISA Isabella, Lake 21.96 326 IAmb IAmb 02 53 58.1
comp=Z,9.2nm,0.9s
S11A Rachel 22.22 333 IAmb IAmb 02 54 01.9
comp=Z,8.1nm,1.0s
VES Vestal, Richgr 22.42 325 IAmb IAmb 02 54 03.1
comp=Z,25nm,1.2s
CCM Cathedral Cave 22.50 26 P P 02 53 57.3 -2.1
CCM IAmb IAmb 02 53 59.3
comp=Z,4.7nm,0.7s
WVT Waverly 22.58 34 P P 02 53 58.5 -1.9
WVT IAmb IAmb 02 53 60.0
comp=Z,6.7nm,1.1s
FPAL Fort Paine 22.75 41 IAmb IAmb 02 54 02.8
comp=Z,10nm,1.0s
FVM French Village 22.78 27 IAmb IAmb 02 54 02.2
comp=Z,4.9nm,0.8s
W50A Signal Mountai 23.37 40 IAmb IAmb 02 54 20.3
comp=Z,5.4nm,0.7s
CLTN Cedars of Leba 23.38 37 IAmb IAmb 02 54 08.5
comp=Z,11nm,1.1s
NV11 Mina Array Sit 23.95 330 IAmb IAmb 02 54 16.6
comp=Z,17nm,1.4s
LHV Little Huntoon 23.97 330 IAmb IAmb 02 54 22.3
comp=Z,4.7nm,1.1s
NVAR Mina Array Bea 24.02 330 P 02 54 13.9 -1.0
NVAR Mina Array Bea 24.02 330 P P 02 54 16.6 +1.7
comp=Z,4.0nm,0.9s,baz=150,slow=10,SNR=26
comp=Z,4.0nm,0.9s
CPCT Cooper Cave 24.02 40 IAmb IAmb 02 54 14.8
comp=Z,7.3nm,0.9s
W52A Murphy 24.16 42 P P 02 54 14.1 -2.0
RYN Ryan 24.28 330 IAmb IAmb 02 54 20.6
comp=Z,5.1nm,1.0s
WAKR Walker 24.62 329 IAmb IAmb 02 54 24.4
comp=Z,6.9nm,1.2s
BG3 Lake Jocassee 24.75 43 P P 02 54 18.5 -2.8
CMB Columbia Colle 24.75 327 IAmb IAmb 02 54 23.8
comp=Z,3.4nm,1.0s
T50A Nancy 24.89 37 IAmb IAmb 02 54 22.8
comp=Z,6.7nm,0.9s
PDAR Pinedale Array 25.08 349 P P 02 54 25.1 +0.6
comp=Z,0.6nm,0.7s,baz=160,slow=9.5,SNR=5.2
comp=Z,0.6nm,0.7s
V53A Saluda 25.24 42 IAmb IAmb 02 54 27.2
comp=Z,9.6nm,0.9s
PAULI Pauline 25.38 45 IAmb IAmb 02 54 26.6
comp=Z,2nm,1.0s
LOHW Long Hollow 26.09 348 IAmb IAmb 02 54 36.8
comp=Z,2.3nm,0.7s
T35M Bob Quinn 43.64 339 P P 02 57 04.5 +0.4
baz=142
TOAD Toad River Com 43.66 344 P P 02 57 04.8 +0.6
baz=149
U33K Whale Pass 44.01 336 P P 02 57 07.9 +0.9
baz=137
S34M Telegraph Cree 44.66 339 P P 02 57 13.0 +0.8
baz=141
DLBC Dease Lake 44.72 340 P P 02 57 13.3 +0.6
baz=143
YKA Yellowknife Ar 44.97 353 P P 02 57 14.2 -0.4
comp=Z,0.9nm,1.0s,baz=159,slow=8.2,SNR=3.7
comp=Z,0.9nm,1.0s
SIT Sitka 45.54 336 P P 02 57 19.1 0.0
baz=135
WTLY Watson Lake, Y 45.71 343 P P 02 57 21.5 +1.0
baz=145
R33M Jennings River 45.78 341 P P 02 57 21.7 +0.5
baz=142
Q32M Nakina River 45.86 340 P P 02 57 22.8 +0.8
baz=140
TGTN Hyland Airport 46.74 344 P P 02 57 28.9 +0.2
baz=147
P32M Atlin 46.82 339 P P 02 57 28.9 -0.4
baz=139
P33M Teslin, Yukon 47.00 340 P P 02 57 31.8 +1.0
baz=140
WRGLY Wrigley 47.10 348 P P 02 57 32.0 +0.7
baz=154
P29M Windy Craggy 48.26 337 P P 02 57 41.0 +0.6
baz=134
P30M Million Dollar 48.33 338 P P 02 57 41.3 +0.3
baz=135
MMPY Sheldon Lake, 48.44 343 P P 02 57 42.4 +0.5
baz=144
O30N Mendenhall 48.49 339 P P 02 57 42.6 +0.3
baz=137
HYT Haines Junctio 49.02 339 P P 02 57 46.9 +0.5
baz=135
M31M Drury Creek, Y 49.02 341 P P 02 57 47.0 +0.7
baz=140
N30M Aishikik Lake 49.33 339 P P 02 57 49.0 +0.3
baz=136
YUK6 Outpost Mounta 49.40 338 P P 02 57 50.1 +0.6
baz=134
YUK4 Talbot Arm 49.78 339 P P 02 57 52.9 +0.6
baz=134
O28M Mount Upton 49.93 337 P P 02 57 54.0 +0.4
baz=132
M30M Minto, Yukon 50.05 341 P P 02 57 54.4 +0.3
baz=137
YUK8 Steele Glacier 50.13 338 P P 02 57 55.7 +0.7
baz=133
MESA MESA 50.21 336 P P 02 57 56.5 +0.9
baz=130
CTG Chitna Glacier 50.48 337 P P 02 57 57.6 0.0
baz=131
M29M Somme Creek 50.49 340 P P 02 57 57.7 +0.2
baz=135
YUK3 Moose Creek 50.71 338 P P 02 57 59.4 0.0
baz=132
L29M L29M 50.85 340 P P 02 58 00.4 +0.1
baz=136
CRQE Cirque 51.01 336 P P 02 58 01.6 +0.1
baz=129
K29M Barlow Dome 51.20 341 P P 02 58 04.1 +1.2
K29M Barlow Dome 51.20 341 P P 02 58 03.2 +0.3
baz=137
BVCY Beaver Creek 51.28 339 P P 02 58 04.0 +0.6
baz=132
MCARA McCarthy VSAT 51.38 337 P P 02 58 04.0 -0.1
baz=129
J30M Hart River 51.39 343 IAmb IAmb 02 58 06.6
comp=Z,1.6nm,0.7s
J30M Hart River 51.39 343 P P 02 58 04.5 +0.1
baz=139
M27K Edge Creek, AK 51.59 338 P P 02 58 05.9 -0.1
baz=131
BMRM Bremner River 51.73 336 P P 02 58 06.8 0.0
baz=127
H31M Peel River 51.80 344 P P 02 58 07.8 +0.5
baz=142
I30M Mount Dempster 51.89 343 P P 02 58 08.3 +0.2
baz=139
EYAK Cordova Ski Ar 51.93 335 P P 02 58 08.8 +0.6
baz=126
DAWY Dawson 51.93 341 P P 02 58 08.7 +0.4
baz=135
M26K Nabesna, AK 52.02 338 P P 02 58 09.2 +0.3
baz=130
L27K Beaver Creek, 52.04 339 P P 02 58 09.9 +0.7
baz=132
N25K Chitina, Valde 52.11 336 P P 02 58 09.7 0.0
baz=128
I29M Ogilvie Camp, 52.54 342 P P 02 58 13.7 +0.9
baz=137
L26K Log Cabin Wild 52.54 338 P P 02 58 13.0 +0.2
baz=130
KLU Klutina 52.55 336 P P 02 58 12.6 -0.4
baz=126

GLI	Glacier Island baz=124	52.66 335	P	P	02 58 13.4	-0.3
G31M	Satah River baz=142,SNR=6.9	52.67 345	P	P	02 58 14.0	+0.4
K27K	Chicken baz=132	52.77 340	P	P	02 58 15.3	+0.9
HARP	HAARP baz=127	52.80 337	P	P	02 58 15.1	+0.4
EPYK	Eagle Plains baz=139,SNR=5.1	52.86 344	P	P	02 58 15.9	+0.8
F31M	Tsiigehtchic baz=143	52.95 346	P	P	02 58 16.5	+0.8
M24K	Tolsona, Glenn baz=126	53.01 336	P	P	02 58 16.2	-0.2
I28M	Miner Creek comp=Z,4.6nm,1.1s	53.08 342	IAmb	IAmb	02 58 18.9	
I28M	Miner Creek baz=135	53.08 342	P	P	02 58 17.1	+0.2
PWL	Port Wells baz=123	53.16 334	P	P	02 58 17.2	-0.2
H29M	Whitestone baz=137	53.19 343	P	P	02 58 17.7	+0.2
SEW	Seward baz=121	53.22 333	P	P	02 58 17.9	+0.1
PAX	Paxson baz=127,SNR=6.3	53.27 338	P	P	02 58 18.4	+0.2
SCRK	Sand Creek baz=130	53.37 339	P	P	02 58 18.9	-0.2
KNK	Knik Glacier baz=123	53.51 335	P	P	02 58 20.1	+0.2
RIDG	Independent Ri baz=128,SNR=18	53.52 339	P	P	02 58 20.3	+0.2
J26L	Joseph Creek baz=130,SNR=6.9	53.57 340	P	P	02 58 20.2	-0.3
F30M	Barrier River baz=141	53.57 345	P	P	02 58 20.3	0.0
INK	Inuvik baz=144,SNR=5.8	53.60 347	P	P	02 58 20.6	+0.2
G29M	Pine Creek baz=138	53.61 344	P	P	02 58 20.8	+0.2
OHAK	Old Harbor baz=116	53.61 329	P	P	02 58 20.4	-0.3
I27K	Kandik River baz=133	53.69 341	P	P	02 58 21.4	+0.1
RC01	Rabbit Creek A baz=122	53.86 334	P	P	02 58 22.7	+0.2
PMR	Palmer baz=123	53.88 335	P	P	02 58 22.5	-0.1
WAT6	Susitna Watana baz=125	53.88 336	P	P	02 58 22.5	-0.3
K24K	Donnelly Dome baz=128,SNR=6.7	53.89 338	P	P	02 58 22.2	-0.5
I26K	Coal Creek Min baz=131	53.97 341	P	P	02 58 23.5	+0.3
DHY	Denali Highway baz=125	54.03 337	P	P	02 58 23.5	-0.4
H27K	Steamboat Moun baz=134,SNR=7.1	54.10 342	P	P	02 58 23.5	-0.7
J25K	Salcha River, comp=Z,3.7nm,1.0s	54.24 339	IAmb	IAmb	02 58 28.3	
J25K	Salcha River, baz=128	54.24 339	P	P	02 58 24.9	-0.4
R18K	Karluk baz=115	54.33 329	P	P	02 58 25.0	-0.9
WAT1	Susitna Watana baz=124	54.33 336	P	P	02 58 25.7	-0.3
SUA	Susitna One baz=121,SNR=11	54.47 334	P	P	02 58 27.7	+0.6
G27K	Doyon Strip baz=134,SNR=12	54.53 342	P	P	02 58 27.5	+0.1
O20K	Slope Mountain baz=119	54.59 332	P	P	02 58 28.3	+0.4
F28M	Old Crow baz=136,SNR=29	54.61 344	P	P	02 58 28.2	+0.3
HDA	Harding Lake baz=127,SNR=5.7	54.66 338	P	P	02 58 28.5	+0.2
P19K	Oil Pt baz=117	54.66 332	P	P	02 58 28.8	+0.4
E29M	Blow River baz=139,SNR=6.8	54.68 345	P	P	02 58 29.1	+0.8
CUT	Chulitna baz=122,SNR=5.1	54.77 335	P	P	02 58 29.8	+0.8
ILAR	Eielson Array	54.86 339		P	02 58 29.6	-0.2
ILAR	Eielson Array comp=Z,4.9nm,1.0s,baz=150,slow=5.8,SNR=51	54.86 339	P	P	02 58 30.2	+0.5
ILAR	comp=Z,0.6nm,0.7s,baz=146,slow=3.3,SNR=5.6 comp=Z,4.9nm,1.0s		PcP	PcP	02 59 33.0	+1.3
PRP	Porcupine Dome baz=129	54.86 340	P	P	02 58 31.0	+1.1
N20K	Mount Spurr baz=119	54.95 334	P	P	02 58 30.9	+0.4
MCK	McKinley baz=124	54.98 337	P	P	02 58 31.2	+0.5
Q18K	Katmai Hardscr baz=115	55.05 330	P	P	02 58 31.8	+0.5
SKT	Skwentna baz=120,SNR=7.8	55.05 335	P	P	02 58 31.7	+0.4
CCB	Clear Creek Bu comp=Z,2.5nm,0.8s	55.10 338	IAmb	IAmb	02 58 32.8	
E28M	Babbage River baz=137	55.25 345	P	P	02 58 33.2	+0.7
G26K	Porcupine Rive baz=131	55.25 342	P	P	02 58 33.0	+0.5
POKR	Poker Plat Res baz=126	55.25 339	P	P	02 58 33.1	+0.5
Q17K	Contact Creek baz=114	55.31 329	P	P	02 58 33.5	+0.2
TRF	Thorofare Moun baz=122,SNR=14	55.33 336	P	P	02 58 33.7	+0.3
H25L	Birch Creek baz=129,SNR=5.5	55.43 341	P	P	02 58 34.7	+0.9
E27K	Coleen River baz=134,SNR=8.5	55.48 344	P	P	02 58 34.9	+0.7
NEA2	Nenana baz=124,SNR=5.1	55.52 338	P	P	02 58 34.4	-0.1
M20K	Styx River baz=119	55.66 334	P	P	02 58 35.7	0.0
N19K	Bonanza Creek baz=117,SNR=11	55.75 333	P	P	02 58 36.2	-0.1
PPLA	Purkeypile baz=120	55.78 335	P	P	02 58 36.9	+0.3
BMAR	Burnt Mountain	55.80 342		P	02 58 36.6	+0.1
G25K	Bearman Lake baz=129	55.83 341	P	P	02 58 37.2	+0.6
H24K	Noodor Dome baz=126,SNR=15	55.83 340	P	P	02 58 37.6	+0.8
F26K	Sheenjek River baz=131,SNR=11	55.85 342	P	P	02 58 36.9	+0.1
I23K	Minto, Yukon-K baz=124,SNR=5.9	55.93 338	P	P	02 58 37.4	0.0
CAST	Castle Rocks baz=121,SNR=9.2	56.01 336	P	P	02 58 38.1	+0.1
CHNA	Chernabura Isl baz=108	56.02 325	P	P	02 58 37.9	-0.3
D27M	Malcolm River baz=136	56.07 345	P	P	02 58 38.5	0.0
M19K	Big River Lodg baz=117,SNR=5.4	56.20 334	P	P	02 58 39.3	-0.2
F25K	Christian Rive baz=130,SNR=7.8	56.22 342	P	P	02 58 39.5	0.0
G24K	Hadweenzic Riv baz=127,SNR=13	56.22 341	P	P	02 58 39.3	-0.2
L20K	Farewell, AK baz=118,SNR=7.8	56.26 334	P	P	02 58 39.7	-0.2
N18K	Kilae Creek	56.31 332		P	02 58 39.5	-0.8
N18K	Kilae Creek baz=115,SNR=7.8	56.31 332	P	P	02 58 40.4	+0.1
MLY	Manley baz=123	56.35 338	P	P	02 58 40.6	+0.1
H03N2	Juan Fernandez baz=333,slow=77,SNR=310	56.38 155	T	T	03 59 44.2	
H23K	Yukon River baz=125,SNR=6.1	56.38 339	P	P	02 58 40.6	-0.1
H03N1	Juan Fernandez baz=333,slow=77,SNR=440	56.39 155	T	T	03 59 44.9	
H03N3	Juan Fernandez baz=333,slow=77,SNR=339	56.40 155	T	T	03 59 44.9	
O17K	Koliganek Bris baz=113	56.49 331	P	P	02 58 41.9	+0.5
L19K	White Mountain baz=117,SNR=6.6	56.52 334	P	P	02 58 41.9	+0.1
E25K	Arctic Village baz=130	56.54 342	P	P	02 58 41.9	+0.1
M18K	Stony River baz=116,SNR=5.7	56.63 333	P	P	02 58 42.5	+0.1
K20K	Telida baz=118	56.75 335	P	P	02 58 43.4	+0.1
N17K	Nushagak Hills baz=114	56.83 332	P	P	02 58 43.8	-0.1
F24K	Squaw Lake baz=127	56.85 341	P	P	02 58 44.1	+0.1
I21K	Tanana baz=122,SNR=8.0	56.88 338	P	P	02 58 44.5	+0.4
O16K	Kokwok River B baz=112	56.89 330	P	P	02 58 44.2	-0.1
C27K	Jago River baz=133	57.03 344	P	P	02 58 45.2	0.0
G23K	Bananza Creek baz=125,SNR=8.6	57.05 340	P	P	02 58 45.5	+0.1
H22K	Ishtalitna Cre baz=123,SNR=6.9	57.05 339	P	P	02 58 45.3	-0.1
J20K	Nowinta River baz=119,SNR=8.2	57.18 336	P	P	02 58 46.3	0.0
M17K	Holitna River baz=114	57.30 332	P	P	02 58 47.0	-0.2
L18K	Granite Mounta baz=115,SNR=5.2	57.31 333	P	P	02 58 47.2	-0.1
E24K	Your Creek baz=127	57.37 342	P	P	02 58 47.4	-0.3
COLD	Coldfoot baz=125,SNR=5.8	57.40 340	P	P	02 58 47.7	-0.1
H21K	Melozitna Rive baz=121	57.42 338	P	P	02 58 47.6	-0.5
N16K	Nishlik Lake baz=112	57.53 331	P	P	02 58 48.8	-0.1
D25K	Kavik River baz=130	57.54 343	P	P	02 58 48.7	-0.1
O15K	Ungalikthiuk R baz=110	57.56 329	P	P	02 58 49.0	-0.1
I20K	Naaghedeneel baz=119	57.60 337	P	P	02 58 49.7	+0.5
G22K	Bettles baz=123	57.65 340	P	P	02 58 49.6	0.0
J19K	Poorman baz=117,SNR=8.0	57.66 336	P	P	02 58 49.9	+0.1
E23K	Chandalar baz=126,SNR=10	57.70 341	P	P	02 58 49.5	-0.6
M16K	Timber Creek baz=112	57.83 332	P	P	02 58 50.4	-0.5
J18K	Innoko River baz=116,SNR=5.2	57.86 335	P	P	02 58 50.9	-0.2
L17K	Donlin baz=114,SNR=5.2	57.97 333	P	P	02 58 51.7	-0.2
TOLK	Toolik Lake Re baz=126	58.03 342	P	P	02 58 52.2	-0.1
H20K	Anotleneega Mo baz=119	58.09 337	P	P	02 58 52.3	-0.4
G21K	Allakaket baz=121	58.11 339	P	P	02 58 52.9	+0.1
D24K	Happy Valley baz=127	58.12 343	P	P	02 58 53.0	+0.1
F22K	John River baz=123	58.19 340	P	P	02 58 53.7	+0.3
K17K	Iditarod baz=114	58.20 334	P	P	02 58 53.6	+0.1
L16K	Owhat River baz=112	58.31 332	P	P	02 58 54.4	+0.1
E22K	Anaktuvuk Pass comp=Z,4.6nm,0.8s	58.42 341	IAmb	IAmb	02 58 56.3	
E22K	Anaktuvuk Pass baz=123	58.42 341	P	P	02 58 55.1	0.0
C24K	Franklin Bluff baz=128	58.43 343	P	P	02 58 54.6	-0.4
F21K	Alatna River baz=121,SNR=8.2	58.47 339	P	P	02 58 55.5	+0.2
D23K	Nanushuk River baz=125	58.55 342	P	P	02 58 55.6	-0.2
H19K	Roundabout Mou baz=117	58.68 337	P	P	02 58 56.5	-0.3
C23K	Itkillik River baz=126	59.03 343	P	P	02 58 59.0	-0.2
D22K	Ayikyak River baz=123	59.10 341	P	P	02 58 59.8	0.0
M14K	Bethel baz=109	59.10 331	P	P	02 58 59.7	-0.1
F20K	Avaraart Lake baz=119	59.14 339	P	P	02 59 00.0	+0.1
G19K	Purcell Mounta baz=117,SNR=5.1	59.20 338	P	P	02 59 00.6	+0.2
L15K	Ungalak Mounta baz=110	59.20 332	P	P	02 59 00.4	-0.1
H18K	Honhosa River baz=115	59.24 336	P	P	02 59 00.7	0.0
E21K	Killik River baz=121	59.26 341	P	P	02 59 00.7	-0.2
J16K	Anvik River baz=112	59.39 334	P	P	02 59 01.8	+0.1
K15K	Wolf Creek Mou baz=110	59.43 333	P	P	02 59 02.0	-0.1
L14K	Kuka Creek baz=109	59.63 331	P	P	02 59 03.2	-0.2
I17K	Unalakleet baz=112	59.66 334	P	P	02 59 04.1	+0.6
G18K	Tagagawik baz=115	59.66 337	P	P	02 59 03.4	-0.3
UNV	Unalaska Valle baz=101	59.70 322	P	P	02 59 03.3	-0.8
H17K	Granite Mounta	59.75 336		P	02 59 05.2	+1.0
H17K	Granite Mounta baz=113	59.75 336	P	P	02 59 04.2	0.0
F19K	Shaleruckik Mo	59.76 338		P	02 59 05.1	+0.8
F19K	Shaleruckik Mo baz=117	59.76 338	P	P	02 59 04.4	+0.1
E19K	Redstone River baz=117	59.85 339	P	P	02 59 05.1	+0.2
E20K	Nigu River baz=123,SNR=6.5	59.88 340	P	P	02 59 05.2	+0.1
C21K	Knifeblade Rid baz=121,SNR=7.7	59.89 341	P	P	02 59 05.6	+0.5
B21K	Ikpikpuk River baz=121	60.08 342	P	P	02 59 06.9	+0.5
B22K	Teshekpuk Lake baz=123	60.11 343	P	P	02 59 06.3	-0.3
D20K	Etivluk River baz=119	60.24 340	P	P	02 59 08.1	+0.5
G17K	Kiwalik Mounta baz=113	60.26 336	P	P	02 59 07.7	0.0
D19K	Kuna River baz=117	60.62 340	P	P	02 59 10.3	+0.1
F17K	Baldwin Pennin baz=113	60.85 337	P	P	02 59 12.3	+0.6
G16K	Koyuk River baz=111	60.88 336	P	P	02 59 11.7	-0.2
E18K	Tukpahlearik C	61.01 338		P	02 59 13.7	+0.9
E18K	Tukpahlearik C baz=114	61.01 338	P	P	02 59 12.8	0.0
B20K	Meade River baz=119	61.04 342	P	P	02 59 12.7	-0.2
E17K	Hotham Inlet baz=113	61.31 338	P	P	02 59 14.3	-0.5
C19K	Lookout Ridge baz=116	61.38 340	P	P	02 59 15.8	+0.5
C18K	Utukok River baz=114	61.71 339	P	P	02 59 17.6	0.0
D17K	Natak River baz=112	61.99 338	P	P	02 59 20.2	+0.7
PETK	Petropavlovsk- comp=Z,2.3nm,0.7s,baz=54,slow=11,SNR=4.3 comp=Z,2.3nm,0.7s	80.88 323	P	P	03 01 15.1	+1.5
EKA	Eskdalemuir Ar comp=Z,1.8nm,0.9s,baz=312,slow=8.9,SNR=3.5 comp=Z,1.8nm,0.9s	80.93 35	P	P	03 01 14.9	+1.1
ARCES	ARCESS Array B comp=Z,2.5nm,0.9s,baz=352,slow=5.3,SNR=5.4 comp=Z,2.5nm,0.9s	85.41 16	P	P	03 01 37.9	+1.1
NB2	NORSAR Subarra comp=Z,2.3nm,1.0s,baz=296,slow=4.8	85.53 26	P	P	03 01 38.6	+1.0
NOA	NORSAR Array B comp=Z,1.7nm,0.9s,baz=302,slow=5.0,SNR=7.0 comp=Z,1.7nm,0.9s	85.53 26	P	P	03 01 38.8	+1.2
ESDC	Sonseca Array	85.61 50		P	03 01 36.8	-1.6
ESDC	comp=Z,2.0nm,1.0s		IAmb	IAmb	03 01 41.0	
ESDC	Sonseca Array comp=Z,2.2nm,0.9s,baz=304,slow=5.5,SNR=16 comp=Z,2.2nm,0.9s	85.61 50	P	P	03 01 39.8	+1.4
MD01	Midelt array s	87.30 56	P	P	03 01 43.7	-3.3
GERES	GERESS Array B comp=Z,0.5nm,0.8s,baz=302,slow=5.6,SNR=4.6 comp=Z,0.5nm,0.8s	93.07 36	P	P	03 02 14.7	+1.1
INKA	Innaminka	120.72 248	PKPdf	PKPdf	03 07 49.3	-2.9

NEIC 28 02:56:47.5±0.8, 37°65N±0°01×105°48W±0°01, h5km±1km, ML2.1/18, Error ellipse: s-maj=3.1km s-min=2.4km az=1.0, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDCO	Great Sand Dun	0.10	351	Pg	Pg	02 56 50.2	+0.5
SDCO				Sg	Sg	02 56 52.1	+0.8
SDCO	2μm,0.2s			IAML		02 56 52.2	
SDCO	1μm,0.1s			IAML		02 56 52.3	
T25A	Trinidad	0.99	121	Pg		02 57 06.5	-0.1
T25A				Sg		02 57 19.4	-0.1
T25A	comp=N,28nm,0.3s			IAML		02 57 37.0	
S22A	4UR Ranch, Cre	1.07	276	Pg		02 57 07.6	-0.5
S22A	comp=E,27nm,0.1s			IAML		02 57 23.5	
Q24A	Divide	1.34	11	Pn		02 57 12.3	-0.8
Q24A				Sg		02 57 30.1	-0.4
Q24A	comp=E,25nm,0.3s			IAML		02 57 31.0	
Q24A	comp=N,16nm,0.3s			IAML		02 57 32.6	
ISCO	Idaho Springs	2.15	357	Pn	Pn	02 57 22.7	-1.6
MVCO	Mesa Verde	2.44	261	Pn	Pn	02 57 28.4	+0.2
MVCO	comp=N,15nm,0.7s			IAML		02 58 09.8	
MVCO	comp=N,6.2nm,0.5s			IAML		02 58 13.4	
PV15	Paradox Valley	2.47	287	Pn	Pn	02 57 28.4	-0.2
RTBA	Rita Blanca	2.51	118		Pb	02 57 32.8	-0.3
PV03	Paradox Valley	2.73	284	Pn	Pn	02 57 31.5	-0.6

*IDC **28** 03:02:20.4±1.1, 20°.41N×121°.53E, h0km, mb3.7/6, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=32.7km s-min=16.4km az=92.0*

ISC 28 03:02:26.3±1.1, 20°.4N±0°.1×121°.5E±0°.2, h43km, n19, σ1s05/14, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWGBT	Beinan	2.42	351	P	Pn	03 03 01.9	-1.5
YULB	Yu-li	2.97	357	P	Pn	03 03 09.2	-1.8
TPUB	Ta-pu	2.98	345	P	Pn	03 03 10.3	-0.8
SSLB	Suanglung	3.39	352	P	Pn	03 03 16.6	-0.2
NACB	Ninganchiao	3.74	2	P	Pn	03 03 22.6	+1.0
YHNB	Yeheng	4.23	359	P	Pn	03 03 27.8	-0.6
KSRS	Korea Array 0.1nm,0.3s,baz=202,slow=12,SNR=4.1	17.88	17	P	P	03 06 31.9	-0.1
KSRS	2.5nm,0.7s,baz=194,slow=34,SNR=2.3 2.1nm,0.9s			S	Sn	03 09 50.8	+0.6
MKAR	Makanchi Array 0.7nm,0.5s,baz=115,slow=9.5,SNR=7.4 0.7nm,0.5s	41.29	319	P	P	03 10 08.2	+0.6
WRA	Warramunga Arr 0.5nm,0.7s,baz=343,slow=8.7,SNR=1.9 0.5nm,0.7s	42.04	162	P	P	03 10 12.7	-1.2
H11N1	WAKE ISLAND Hy baz=283,slow=75,SNR=79	42.55	83	T	T	03 55 13.6	
H11N2	WAKE ISLAND Hy baz=283,slow=75,SNR=97	42.56	83	T	T	03 55 16.4	
H11S3	WAKE ISLAND Hy baz=280,slow=75,SNR=657	42.57	85	T	T	03 55 11.7	
H11N3	WAKE ISLAND Hy baz=283,slow=75,SNR=74	42.57	83	T	T	03 55 14.9	
H11S1	WAKE ISLAND Hy baz=280,slow=75,SNR=690	42.58	85	T	T	03 55 12.5	
H11S2	WAKE ISLAND Hy baz=280,slow=75,SNR=880	42.59	85	T	T	03 55 13.1	
ZALV	Zalesovo Beam 1.5nm,0.5s,baz=125,slow=7.2,SNR=6.6 1.5nm,0.5s	43.58	329	P	P	03 10 25.7	-0.3
KURBB	Kurchatov Arra 0.3nm,0.3s,baz=120,slow=7.0,SNR=5.2 0.3nm,0.3s	45.20	322	P	P	03 10 38.7	-0.3
ASAR	Alice Springs 0.2nm,0.4s,baz=347,slow=9.1,SNR=2.1 0.2nm,0.4s	45.46	164	P	P	03 10 41.8	+0.4
BRTR	Keskin Array B 1.1nm,1.0s,baz=72,slow=4.7,SNR=4.1 1.1nm,1.0s	75.64	307	P	P	03 14 08.7	+1.4

*IDC **28** 03:03:30.8±6.5, 50°.04N×155°.02E, h129km±45km, mb3.2/7, mbtmp3.6/8, Error ellipse: s-maj=64.7km s-min=20.9km az=179.0*

*KRSC **28** 03:03:31.6±2.0, 49°.81N×156°.21E, h130km±22km, Ml3.9*

ISC 28 03:03:30.4±1.3, 49°.9N±0°.1×155°.4E±0°.1, h123km, n37, σ2s07/36, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.90	29	eP	Pn	03 03 53.8	+2.2
SKR				eS	Sn	03 04 10.8	+3.0
PAU	Pauzhetka	1.80	29	eP	Pn	03 04 03.1	+1.7
PAU				eS	Sn	03 04 27.0	+1.8
MIPI	Malaya Ipel'ka	2.52	19	eP	Pn	03 04 11.9	+1.4
ASAK	Asacha	2.93	31	eP	Pn	03 04 18.0	+2.2
ASAK				eS	Sn	03 04 50.5	-0.4
MTVR	Mutnovka	3.11	33	eP	Pn	03 04 20.5	+2.2
MTVR				eS	Sn	03 04 56.6	+1.4
GRL	Gorelyy	3.13	31	eP	Pn	03 04 21.2	+2.7
RUS	Russkaya	3.19	36	eP	Pn	03 04 20.2	+1.1
RUS				eS	Sn	03 04 55.9	-0.9
PETK	Petropavlovsk- 6.2nm,0.5s,baz=198,slow=14,SNR=12	3.51	23	P	Pn	03 04 24.4	+1.0
PETK	3.8nm,0.6s,baz=187,slow=18,SNR=2.3			S	Sn	03 05 05.2	+0.7
DALK	Dalny	3.76	32	eP	Pn	03 04 28.4	+1.8
UGLR	Uglovaya	3.93	31	eP	Pn	03 04 31.5	+2.4
KOK	Koryaka	3.94	29	eP	Pn	03 04 32.0	+2.8
SMAR	Somma	3.97	31	eP	Pn	03 04 32.5	+2.9
KRER	Koryakskii	3.98	30	eP	Pn	03 04 32.3	+2.5
KRX	Arik	4.00	29	eP	Pn	03 04 32.1	+2.1
SDLR	Sedlovina	4.01	31	eP	Pn	03 04 31.9	+1.8
GNL	Ganaly	4.11	21	eP	Pn	03 04 34.0	+2.6
SPN	Mys Shipunski	4.30	40	eP	Pn	03 04 34.3	+0.5
SPN				eS	Sn	03 05 19.3	-3.8
MKZ	Mys Kozlova	6.06	37	eP	Pn	03 04 56.8	-0.6
MKZ				eS	Sn	03 06 01.0	-4.3
TUMD	Tumrok D	6.11	28	eP	Pn	03 05 00.1	+1.9
TUMD				eS	Sn	03 06 06.8	0.0
BZMR	Bezymyannaya	6.77	25	eP	Pn	03 05 07.5	+0.3
KBTR	Krutoberegovo	7.72	32	eP	Pn	03 05 20.1	+0.2
H11N2	WAKE ISLAND Hy baz=346	31.46	159	T	T	03 42 58.1	
H11N1	WAKE ISLAND Hy baz=346	31.48	159	T	T	03 42 58.4	
H11N3	WAKE ISLAND Hy baz=346	31.48	159	T	T	03 43 03.7	
H11S1	WAKE ISLAND Hy baz=347,slow=76,SNR=20	32.60	160	T	T	03 44 24.7	
H11S3	WAKE ISLAND Hy baz=347,slow=76,SNR=36	32.61	160	T	T	03 44 21.8	
H11S2	WAKE ISLAND Hy baz=347,slow=76,SNR=13	32.62	160	T	T	03 44 25.5	
ILAR	Eielson Array 0.2nm,0.6s,baz=269,slow=7.3,SNR=4.8 0.2nm,0.6s	33.14	41	P	P	03 09 54.4	0.0
MKAR	Makanchi Array 0.2nm,0.5s,baz=53,slow=9.6,SNR=1.8 0.2nm,0.5s	46.92	296	P	P	03 11 44.4	-3.9
KURBB	Kurchatov Arra 0.8nm,0.5s,baz=66,slow=7.9,SNR=5.6 0.8nm,0.5s	47.05	302	P	P	03 11 46.8	-2.4
BVAR	Borovoye Array 0.7nm,0.3s,baz=54,slow=7.3,SNR=3.0 0.7nm,0.3s	50.09	308	P	P	03 12 10.4	-1.9
NVAR	Mina Array Bea 0.2nm,0.4s,baz=307,slow=5.7,SNR=3.0 0.2nm,0.4s	59.65	65	P	P	03 13 22.8	+1.1
HFS	Hagfors 0.2nm,0.4s,baz=32,slow=5.8,SNR=1.0 0.2nm,0.4s	66.03	340	P	P	03 14 02.0	-1.3
TXAR	Lajitas Array 0.6nm,0.5s,baz=293,slow=4.4,SNR=4.2 0.6nm,0.5s	74.63	63	P	P	03 14 57.3	+1.1
H03N2	Juan Fernandez baz=313	137.17	89	T	T	05 55 12.5	
H03N1	Juan Fernandez baz=313	137.18	89	T	T	05 55 16.8	
H03N3	Juan Fernandez baz=313	137.18	89	T	T	05 55 17.9	

*SOME **28** 03:09:40.5,39˚.65N×75˚.88E, h0km*
*NNC **28** 03:09:43.0±1.8, 39˚.71N×75˚.96E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=12.3km s-min=7.9km az=170.0*
*KRNET **28** 03:09:47.5±0.1, 39˚.53N×76˚.03E, mb3.1*

ISC 28 03:09:48.1±1.8,**39˚.89N**±0˚.08×**75˚.89E**±0˚.04,**h10**km,**n30, σ1§75/45, 20C-8D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**1.86**	**303**	⇑*i*P		**Pg**	**03 10 24.3**	**+0.5**
SALK				⇑*i*S		**Sg**	**03 10 51.2**	**+3.3**
TARG	**Taragay, Kyrgy**	**2.34**	**38**	⇑*e*P		**Pb**	**03 10 30.1**	**-0.5**
TARG				⇑*i*S		**Sb**	**03 11 01.1**	**+1.3**
ULHL	**Ulahol**	**2.37**	**6**	P		**Pg**	**03 10 32.2**	**-1.3**
	SNR=14							
ULHL	**Ulahol**	**2.37**	**6**	⇑*i*P		**Pg**	**03 10 31.8**	**-1.7**
ULHL				⇑*i*S		**Sg**	**03 11 04.3**	**+0.1**
KDJ	**Kajisay**	**2.44**	**23**	⇓*i*P		**Pb**	**03 10 32.3**	**+0.1**
KDJ				⇓*i*S		**Sb**	**03 11 04.7**	**+2.3**
UCH	**Uchtor**	**2.55**	**336**	P		**Pg**	**03 10 35.9**	**-1.1**
	SNR=30							
UCH	**Uchtor**	**2.55**	**336**	⇑*i*P		**Pb**	**03 10 35.0**	**+0.8**
UCH				⇑*i*S		**Sg**	**03 11 09.7**	**-0.5**
ARSB	**Arslanbob**	**2.63**	**304**	⇑*i*P		**Pb**	**03 10 35.0**	**-0.4**
ARSB				⇑*i*S		**Sb**	**03 11 09.7**	**+1.9**
KBK	**Karagaybulak**	**2.85**	**346**	P		**Pg**	**03 10 41.6**	**-1.1**
	SNR=8.1							
AAK	**Ala-Archa**	**2.94**	**340**	P		**Pb**	**03 10 41.0**	**+0.4**
	SNR=5.6							
AAK	**Ala-Archa**	**2.94**	**340**	⇑Pg		**Pb**	**03 10 40.6**	**0.0**
	1.8nm,0.4s							
AAK				⇓Lg		Lg	03 11 22.3	
	6.6nm,0.5s							
AAK	**Ala-Archa**	**2.94**	**340**	⇑*i*P		**Pb**	**03 10 40.2**	**-0.4**
AAK				⇑*i*S		**Sb**	**03 11 18.8**	**+2.2**
TKM2	**Tokmak 2**	**3.04**	**356**	P		**Pb**	**03 10 42.6**	**+0.3**
	SNR=13							
TKM2	**Tokmak 2**	**3.04**	**356**	⇑*i*P		**Pb**	**03 10 41.4**	**-0.9**
TKM2				⇑*i*S		**Sb**	**03 11 20.8**	**+1.3**
KST	**Kastek**	**3.15**	**1**	Pg		**Pb**	**03 10 43.6**	**-0.6**
	7.2nm,0.4s							
KST				Lg		Lg	03 11 29.6	
	8.3nm,0.5s							
KST	**Kastek**	**3.15**	**1**	*e*P		**Pb**	**03 10 43.6**	**-0.6**
	7.2nm,0.4s							
KST				*e*S		**Sg**	**03 11 29.6**	**+0.4**
	12nm,0.4s							
EKS2	**Erkin-Say**	**3.19**	**331**	⇑*i*P		**Pb**	**03 10 43.5**	**-1.4**
EKS2				⇑*i*S		**Sb**	**03 11 24.7**	**+0.8**
MTBS	**Maitube**	**3.26**	**7**	*e*P		**Pb**	**03 10 44.8**	**-1.3**
	1.1nm,0.1s							
MTBS				*e*S		**Sg**	**03 11 31.4**	**-1.4**
	15nm,0.4s							
DGS	**Degeres**	**3.35**	**359**	Pg		**Pb**	**03 10 47.1**	**-0.5**
	8.6nm,0.6s							
DGS				Lg		Lg	03 11 35.6	
	9.2nm,0.6s							
MRKS	**Merke**	**3.48**	**326**	Pg		**Pb**	**03 10 48.4**	**-1.5**
	2.5nm,0.5s							
MRKS				Lg		Lg	03 11 38.2	
	18nm,0.4s							
MRKS	**Merke**	**3.48**	**326**	*e*P		**Pb**	**03 10 48.4**	**-1.5**
	2.5nm,0.5s							
MRKS				*e*S		**Sg**	**03 11 38.2**	**-1.7**
	18nm,0.4s							
USP	**Ospenovka**	**3.53**	**343**	P		**Pb**	**03 10 49.1**	**-1.5**
	SNR=7.2							
USP	**Ospenovka**	**3.53**	**343**	⇓*i*P		**Pb**	**03 10 48.2**	**-2.4**
USP				⇓*i*S		**Sb**	**03 11 32.8**	**-0.7**
SATY	**Saty**	**3.69**	**30**	Pg		**Pb**	**03 10 52.5**	**-0.9**
	2.4nm,0.2s							
SATY				Lg		Lg	03 11 44.9	
	7.5nm,0.4s							
TRKS	**Terek-Say**	**3.96**	**296**	⇓*i*P		Pb	03 10 52.3	-5.7
TRKS				⇓*i*S		**Sn**	**03 11 39.6**	**+4.0**
CHKK	**Chushkaly**	**4.04**	**11**	*e*P		**Pb**	**03 11 00.2**	**+0.9**
	0.8nm,0.1s							
CHKK				*e*S		**Sg**	**03 11 58.1**	**+0.2**
	9.3nm,0.3s							
KPKS	**Kokpek**	**4.14**	**29**	Pg		**Pb**	**03 11 00.3**	**-0.7**
	0.6nm,0.5s							
KPKS				Lg		Lg	03 11 58.5	
	9.6nm,0.5s							
SHLS	**Shalkode**	**4.23**	**38**	*e*P		**Pg**	**03 11 06.1**	**-2.9**
	1.6nm,0.2s							
SHLS				*e*S		**Sg**	**03 12 08.2**	**+4.5**
	1.8nm,0.1s							
GAR	**Garm**	**4.40**	**260**	⇑*i*P		Pn	03 10 56.3	+1.2
GAR				⇑*i*S		**Sn**	**03 11 46.2**	**-0.2**
KK31	**Karatay Array**	**5.16**	**310**	⇑Pg		**Pg**	**03 11 22.2**	**-4.6**
	1.0nm,0.5s,baz=133,slow=16,SNR=3.8							
KK31				⇓Lg		Lg	03 12 31.8	
	1.2nm,0.5s,baz=124,slow=29,SNR=4.9							

*SDD **28** 03:12:27.3±1.8, 20˚.12N×70˚.51W, h8km±4.7km, MD3.4, ML2.7, MW2.9*
*SSNC **28** 03:12:29.4±3.1, 20˚.03N×70˚.54W, h5km±529km, MD3.7, ML3.1, MW2.7*
*OSPL **28** 03:12:31.6±3.1, 19˚.93N×70˚.50W, h0km±17km, ML2.4*

ISC 28 03:12:29.9±1.1,**19˚.96N**±0˚.03×**70˚.52W**±0˚.05,**h23**km±9km,**n20, σ1§49/38, 3C-9D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.21**	**194**	⇓*e*Pg		**Pb**	**03 12 35.1**	**-0.4**
SODR				⇓*e*Sg		**Sb**	**03 12 39.2**	**-0.2**
SODR				IAML			03 12 42.2	
	comp=N,1µm,0.6s							
SC01	**Santiago de lo**	**0.56**	**200**	*i* P		**Pb**	**03 12 41.4**	**+0.2**
SC01				*e*S		**Sb**	**03 12 48.2**	**-0.6**
SC01	**Santiago de lo**	**0.56**	**200**	⇓*e*Pg		**Pb**	**03 12 40.5**	**-0.7**
SC01				⇓*e*Sg		**Sn**	**03 12 51.1**	**0.0**
SC01				IAML			03 12 58.1	
	comp=N,136nm,0.3s							
LOPP1	**Punta Rusia, P**	**0.65**	**261**	*i* P		**Pb**	**03 12 42.7**	**+0.2**
LOPP1				*e*S		**Sn**	**03 12 53.6**	**+0.4**
LOPP1				IAML			03 12 57.8	
	comp=Z,129nm,1.1s							
DR08	**Loma La Naviza**	**1.10**	**155**	⇓*e*Pg		**Pb**	**03 12 50.3**	**0.0**
DR08				⇓*e*Sg		**Sb**	**03 13 06.1**	**+1.9**
DR08				IAML			03 13 07.9	
	comp=N,1µm,0.1s							
ABDR	**Alto Bandera**	**1.15**	**185**	⇑*e*Pg		**Pn**	**03 12 50.1**	**-0.7**
ABDR				⇓*e*Sg		**Sb**	**03 13 07.3**	**+1.5**
ABDR				IAML			03 13 09.7	
	comp=N,108nm,0.6s							
SDDR	**Presa de Saban**	**1.21**	**217**	*e*P		**Pn**	**03 12 51.1**	**-0.4**
SDDR				*e*S		**Sn**	**03 13 07.6**	**+0.4**
SDDR				IAML			03 13 13.8	
	comp=N,31nm,0.3s							
SDDR				IAML			03 13 14.5	
	comp=N,36nm,0.3s							
SDDR	**Presa de Saban**	**1.21**	**217**	*i* P		**Pn**	**03 12 51.1**	**-0.4**
SDDR				*e*S		**Sb**	**03 13 08.2**	**+0.8**
SDDR				IAML			03 13 13.5	
	comp=Z,21nm,1.3s							
SDDR	**Presa de Saban**	**1.21**	**217**	⇓*e*Pg		**Pn**	**03 12 51.1**	**-0.4**
SDDR				⇓*e*Sg		**Sb**	**03 13 10.1**	**+2.6**
SDDR				IAML			03 13 15.6	
	comp=N,29nm,0.2s							
SDD	**Santo Domingo**	**1.60**	**159**	*i* P		**Pb**	**03 12 58.0**	**-0.8**
SDD				*e*S		**Sb**	**03 13 19.5**	**+1.0**
GRTK	**Grand Turk**	**1.65**	**340**	*e*P		**Pb**	**03 12 59.4**	**-0.2**
GRTK				*e*S		**Sb**	**03 13 21.9**	**+2.0**
GRTK				IAML			03 13 24.4	
	comp=N,167nm,0.2s							
GRTK				IAML			03 13 25.5	
	comp=N,120nm,0.2s							
GRTK	**Grand Turk**	**1.65**	**340**	*i* P		**Pb**	**03 12 59.0**	**-0.6**
GRTK				*e*S		**Sb**	**03 13 22.2**	**+2.3**
GRTK				IAML			03 13 25.1	
	comp=Z,61nm,0.2s							
LODU1	**El Espartillar**	**1.83**	**210**	*i* P		**Pb**	**03 13 02.9**	**+0.1**
LODU1				IAML			03 13 38.8	
	comp=Z,34nm,0.5s							
PODR	**Polo**	**1.92**	**202**	*i* P		**Pb**	**03 13 03.9**	**-0.5**
PODR				*e*S		**Sb**	**03 13 29.5**	**+1.5**
PODR	**Polo**	**1.92**	**202**	⇑*e*Pg		**Pb**	**03 13 04.0**	**-0.4**
PODR				⇑*e*Sg		**Sb**	**03 13 31.8**	**+3.8**
PODR				IAML			03 13 38.4	
	comp=N,30nm,1.2s							
LOVI	**El Cajuil, Ovi**	**2.29**	**201**	*i* P		**Pb**	**03 13 09.9**	**-0.7**
LOVI				IAML			03 13 51.5	
	comp=Z,59nm,1.6s							
MASC	**Masc**	**3.49**	**274**	*e*P		**Pn**	**03 13 22.4**	**-0.4**
MASC				*e*S		**Sn**	**03 14 03.0**	**-0.5**
MASC				IAML			03 14 04.3	
	comp=E,82nm,0.1s							
MASC				IAML			03 14 04.4	
	comp=N,62nm,0.1s							
QMBU	**Quimbuelo**	**4.04**	**274**	*e*P		**Pn**	**03 13 30.7**	**+0.3**
QMBU				*e*S		**Sn**	**03 14 14.0**	**-3.0**
QMBU				IAML			03 14 17.4	
	comp=N,115nm,0.3s							
QMBU				IAML			03 14 18.5	
	comp=E,115nm,0.2s							
GTBY	**Guantanamo Bay**	**4.32**	**270**	*e*P		**Pn**	**03 13 35.7**	**+1.5**
GTBY				*e*S		**Sn**	**03 14 24.6**	**+0.8**
GTBY				IAML			03 14 26.5	
	comp=E,5.9nm,0.6s							
GTBY				IAML			03 14 27.1	
	comp=E,9.8nm,0.7s							
RCC	**Rio Carpintero**	**4.87**	**271**	*e*P		**Pn**	**03 13 39.4**	**-2.3**
RCC				*e*S		**Sn**	**03 14 33.8**	**-3.6**
RCC				IAML			03 14 39.7	
	comp=N,5.1nm,1.1s							
RCC				IAML			03 14 44.8	
	comp=E,5.3nm,1.1s							

*AFAD **28** 03:29:21.2, 36˚.05N×27˚.65E, h7km±4km, ML2.4*
*ATH **28** 03:29:24.4, 36˚.24N×27˚.66E, h7km±2km, ML2.7/2, Manual Solution by A.Fokaefs First location: 2019/08/28 03:31:21, This location: 2019/08/28 07:36:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **28** 03:29:25.0, 36˚.N101˚×2˚.8E±5˚.1, h0km±49km, M2.6/4, MLh2.6/4*
*ISK **28** 03:29:24.4, 36˚.20N×27˚.69E, h6km, ML2.6/10*

ISC 28 03:29:24.9±1.1,**36˚.22N**±0˚.03×**27˚.69E**±0˚.03,**h7**km±10km, **n30, σ1§09/48, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RGE1	**Gennadi, Rhode**	**0.28**	**134**	P		**Pg**	**03 29 30.0**	**-0.5**
RGE1				S		**Sg**	**03 29 34.5**	**+0.4**
ARG	**Arkhangelos**	**0.36**	**91**	Pg		**Pg**	**03 29 31.8**	**-0.1**
ARG				Sg		**Sg**	**03 29 37.4**	**+0.8**
ARG	**Arkhangelos**	**0.36**	**91**	P		**Pg**	**03 29 31.8**	**-0.1**
ARG				S		**Sg**	**03 29 37.1**	**+0.4**
ARG	**Arkhangelos**	**0.36**	**91**	P		**Pg**	**03 29 31.7**	**-0.1**
ARG				S		**Sg**	**03 29 37.0**	**+0.4**
YAZI	**Mula-Dat§a-**	**0.49**	**338**	P		**Pg**	**03 29 33.9**	**-0.6**
YAZI				S		**Sb**	**03 29 43.7**	**+0.3**
YAZI				*i* IAML			03 29 44.0	
	comp=N,175nm,0.3s							
YAZI				*i* IAML			03 29 46.0	
	comp=E,186nm,0.3s							
DAT	**Datca**	**0.51**	**350**	Pg		**Pg**	**03 29 34.9**	**0.0**
DAT				Sg		**Sb**	**03 29 43.6**	**-0.5**
DATC	**Datca-Mugla**	**0.54**	**358**	Pg		**Pg**	**03 29 35.3**	**0.0**
DATC				Sg		**Sb**	**03 29 43.7**	**-0.9**
TURN	**Turunc**	**0.71**	**39**	P		**Pg**	**03 29 38.0**	**-0.7**
TURN				S		**Sb**	**03 29 49.9**	**+0.2**
TURN				*i* IAML			03 29 52.0	
	comp=E,123nm,0.2s							
TURN				*i* IAML			03 29 53.0	
	comp=N,149nm,0.4s							
KARP	**Karpathos**	**0.80**	**212**	Pg		**Pg**	**03 29 40.2**	**0.0**
KARP	**Karpathos**	**0.80**	**212**	P		**Pg**	**03 29 40.3**	**0.0**
KARP	**Karpathos**	**0.80**	**212**	P		**Pg**	**03 29 40.2**	**-0.2**
BDRM	**Kayabasi**	**0.86**	**347**	P		**Pg**	**03 29 40.8**	**-0.8**
BDRM				S		**Sb**	**03 29 54.5**	**+0.4**
BDRM				*i* IAML			03 29 57.0	
	comp=E,254nm,0.3s							
YKAV	**Yalikavak-Bodr**	**0.96**	**340**	Pg		**Pb**	**03 29 43.1**	**-0.8**
YKAV				Sg		**Sn**	**03 29 57.5**	**-1.3**
MULA	**Mugla, Merkez-**	**1.15**	**26**	P		**Pn**	**03 29 47.4**	**-0.2**
MULA				S		**Sn**	**03 30 04.4**	**+0.8**
MULA				*i* IAML			03 30 07.0	
	comp=N,57nm,0.3s							
MULA				*i* IAML			03 30 07.0	
	comp=E,89nm,0.5s							
SABU	**Mula-Dalaman**	**1.20**	**60**	P		**Pg**	**03 29 45.9**	**-2.0**
SABU				S		**Sn**	**03 30 05.6**	**+1.0**
SABU				*i* IAML			03 30 11.0	
	comp=N,69nm,0.3s							
SABU				*i* IAML			03 30 13.0	
	comp=E,50nm,0.8s							
DDIM	**Aydin, Didim**	**1.28**	**344**	P		**Pn**	**03 29 48.0**	**-1.4**
DDIM				S		**Sn**	**03 30 09.8**	**+3.0**
DDIM				*i* IAML			03 30 10.0	
	comp=E,93nm,0.5s							
DDIM				*i* IAML			03 30 15.0	
	comp=N,125nm,0.6s							
AYDN	**Tasoluk**	**1.44**	**6**	P		**Pn**	**03 29 51.1**	**-0.5**
AYDN				*i* IAML			03 30 18.0	
	comp=E,51nm,0.3s							
AYDN				*i* IAML			03 30 19.0	
	comp=N,51nm,0.7s							
CAME	**Cameli-Denizli**	**1.49**	**61**	P		**Pb**	**03 29 52.5**	**-0.5**
DNZT	**Denizli-Tavas-**	**1.51**	**45**	P		**Pg**	**03 29 53.3**	**-0.5**
DNZT				S		**Sg**	**03 30 15.6**	**+2.2**
DNZT				*i* IAML			03 30 20.0	
	comp=N,29nm,0.6s							
DNZT				*i* IAML			03 30 21.0	
	comp=E,27nm,0.6s							
GCAM	**G?zelcaml?**	**1.52**	**346**	P		**Pn**	**03 29 51.9**	**-0.6**
GCAM				S		**Sg**	**03 30 17.6**	**+3.8**
GCAM				*i* IAML			03 30 21.0	
	comp=E,59nm,0.6s							
GCAM				*i* IAML			03 30 22.0	
	comp=N,60nm,0.5s							
KSL	**Kastellorizon**	**1.54**	**92**	P		**Pb**	**03 29 53.2**	**-0.6**
KSL				S		**Sg**	**03 30 14.8**	**+0.5**
KSL	**Kastellorizon**	**1.54**	**92**	P		**Pb**	**03 29 53.1**	**-0.7**
KSL				S		**Sb**	**03 30 13.0**	**-0.5**
SMG	**Samos**	**1.63**	**336**	P		**Pn**	**03 29 53.6**	**-0.5**
SMG				S		**Sg**	**03 30 17.4**	**0.0**
SMG	**Samos**	**1.63**	**336**	P		**Pn**	**03 29 53.1**	**-1.0**
ESEN	**Aydn-Nazilli**	**1.66**	**18**	P		**Pn**	**03 29 54.4**	**-0.1**
ESEN				*i* IAML			03 30 20.0	
	comp=E,27nm,0.7s							
ESEN				*i* IAML			03 30 25.0	
	comp=N,20nm,0.3s							
AYDB	**Zeytinkoy-Aydi**	**1.73**	**5**	Pn		**Pb**	**03 29 56.0**	**-1.1**
APMY	**Acipayam-Deniz**	**1.80**	**46**	Pn		**Pb**	**03 29 57.2**	**-1.1**
SEYD	**Seydisehir-KON**	**3.54**	**69**	Pn		**Pn**	**03 30 21.7**	**+1.3**
HDMB	**Hadim**	**3.93**	**78**	Pn		**Pn**	**03 30 27.2**	**+1.2**
AKMS	**Akamas**	**3.97**	**106**	P		**Pn**	**03 30 25.8**	**-0.6**

CATAC 28 03:39:07.8±0.2,**14˚N**±2˚×**8˚5W**±˚,**h1**km,**M3.4**/15, **MLv3.4**/15,**2C-6D, Error ellipse: s-maj=3.7km s-min=3.2km az=135.8, confirmed, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIUN	**Universidad Ur**	**0.18**	**13**	⇓P		Pg	03 39 12.0	+0.7
SIUN				S		Sg	03 39 14.7	+1.0
MATN	**Matagalpa**	**1.24**	**241**	S		Sg	03 39 45.7	-1.9
MATN	**Matagalpa**	**1.24**	**241**	⇓P		Pg	03 39 29.2	-2.3
RCPN	**Sur Rio San Ju**	**1.24**	**270**	S		Sg	03 39 44.9	-2.9
RCPN	**Sur Rio San Ju**	**1.24**	**270**	⇓P		Pg	03 39 29.3	-2.4
RCVN	**Varillal2**	**1.34**	**272**	S		Sg	03 39 49.2	-1.8
RCVN	**Varillal2**	**1.34**	**272**	⇓P		Pg	03 39 31.8	-1.7
BOAB	**BOACO BROADBAN**	**1.36**	**218**	S		Sg	03 39 50.5	-1.1
BOAB	**BOACO BROADBAN**	**1.36**	**218**	⇓P		Pg	03 39 32.0	-2.0
ESPN	**Las Esperanzas**	**1.43**	**159**	P		Pn	03 39 33.5	-1.3
ESPN	**Las Esperanzas**	**1.43**	**159**	S		Sg	03 39 52.3	-1.3
BILN	**Bilwi Airport**	**1.49**	**70**	P		Pn	03 39 34.4	-1.3
BILN				S		Sb	03 39 53.9	-1.8
OCON	**Estacion meteo**	**1.62**	**273**	P		Pn	03 39 36.5	-1.0
OCON				S		Sn	03 39 56.8	-2.3
TISN	**Laguna Tiscapa**	**1.98**	**226**	P		Pn	03 39 42.7	+0.2
YUSH	**Yuscaran**	**2.01**	**282**	S		Sn	03 40 09.7	+0.8
YUSH	**Yuscaran**	**2.01**	**282**	⇑P		Pn	03 39 41.9	-1.1
NANN	**Nandasmo**	**2.04**	**219**	⇑P		Pn	03 39 44.4	+1.1
ILCN	**San Idelfonso**	**2.07**	**243**	P		Pn	03 39 43.5	-0.2
CNGN	**Cerro Negro**	**2.10**	**241**	P		Pn	03 39 44.6	+0.3
CNGN	**Cerro Negro**	**2.10**	**241**	S		Sb	03 40 12.7	-0.8
CNGA	**Al SSO del Vol**	**2.11**	**241**	P		Pn	03 39 44.7	+0.4
CNGA				S		Sb	03 40 12.6	-1.1
PLRN	**Geotermica Pol**	**2.13**	**244**	⇓P		Pn	03 39 44.4	0.0
PLRN				S		Sn	03 40 12.5	+1.0
ROCN	**Rota Cerro Neg**	**2.13**	**242**	P		Pn	03 39 45.1	+0.5
ROCN				S		Sb	03 40 13.9	-0.4
POLN	**Al Sur del Vol**	**2.14**	**246**	P		Pn	03 39 45.2	+0.5
POLN				S		Sb	03 40 14.6	+0.2
COPN	**Copaltepe**	**2.20**	**232**	P		Pn	03 39 45.8	+0.4
CHOHN	**Orocuina**	**2.28**	**269**	P		Pb	03 39 48.4	-1.4
CHOHN	**Orocuina**	**2.28**	**269**	S		Sb	03 40 19.1	+0.6

*SNET **28** 03:48:55.8±0.9, 12˚.75N×88˚.39W, h30km, ML2.9*
*CATAC **28** 03:49:24.9±1.1, 12˚N±6˚×8˚.7W±˚, h19km±16km, M2.9/6, MLv2.9/6, Error ellipse: s-maj=15.5km s-min=9.8km az=41.5, confirmed*

ISC 28 03:49:02.1±1.8,**13˚.76N**±0˚.09×**88˚.19W**±0˚.04,**h14**km±10km, **n21, σ2§79/23, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PACA	**Pacayal**	**0.32**	**204**	*e*P		**Pb**	**03 49 10.4**	**+0.7**
PACA				*e*S		**Sn**	**03 49 21.6**	**+2.5**
BLLM	**Bellamira**	**0.32**	**188**	*e*P		**Pg**	**03 49 09.6**	**+0.9**
VSM	**San Miguel**	**0.34**	**194**	*e*P		**Pg**	**03 49 09.9**	**+0.7**
LCY	**Lacayo**	**0.35**	**197**	*e*P		**Pg**	**03 49 09.4**	**+0.1**
TECA	**Tecapa**	**0.40**	**229**	*i* P		**Pg**	**03 49 10.4**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.53**	**264**	*e*P		**Pb**	**03 49 13.9**	**+0.7**
SCLA				*e*S		**Sn**	**03 49 28.8**	**+4.8**
CNCH	**Conchagua**	**0.59**	**144**	*e*P		**Pg**	**03 49 10.1**	**-3.7**
CNCH				*e*S		**Sg**	**03 49 21.3**	**-0.4**
CRIN	**San Cristobal**	**1.53**	**133**	P		Pn	03 49 16.8	-12
CRIN				S		Sn	03 49 34.8	-14
NUBE	**Las Nubes**	**1.55**	**275**	*e*S		**Sn**	**03 49 46.2**	**-3.3**
PLRN	**Geotermica Pol**	**1.81**	**130**	P		**Pg**	**03 49 39.6**	**+2.7**
PLRN				S		**Sn**	**03 49 53.9**	**-1.9**
ILCN	**San Idelfonso**	**1.87**	**129**	P		**Pg**	**03 49 42.2**	**+4.2**
ILCN				S		**Sn**	**03 49 56.9**	**-0.3**
ROCN	**Rota Cerro Neg**	**1.87**	**131**	P		**Pg**	**03 49 41.8**	**+3.7**
CNGN	**Cerro Negro**	**1.92**	**131**	P		**Pg**	**03 49 41.9**	**+2.9**
CNGA	**Al SSO del Vol**	**1.92**	**131**	P		**Pg**	**03 49 41.3**	**+2.4**
MOM2	**El Cardon**	**2.12**	**128**	P		**Pb**	**03 49 41.7**	**+1.4**
MOM2				S		Sn	03 49 53.9	-9.5
COPN	**Copaltepe**	**2.21**	**135**	P		**Pn**	**03 49 37.9**	**-0.6**
SAPS	**Ciudad Sandino**	**2.35**	**132**	P		**Pn**	**03 49 39.0**	**-1.4**
SAPS	**Ciudad Sandino**	**2.35**	**132**	S		Sn	03 49 52.1	-17
UNAN	**Cigeo UNAN**	**2.49**	**131**	P		**Pn**	**03 49 38.3**	**-3.9**
NANN	**Nandasmo**	**2.71**	**132**	P		**Pn**	**03 49 41.3**	**-4.0**
NANN	**Nandasmo**	**2.71**	**132**	S		Sn	03 49 54.3	-24

RSNC 28 03:55:09.3±0.0,**6˚N**±1˚×**7˚4W**±˚,**h104**km±2km,**M3.3, mb3.8, ML3.1, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.52**	**67**	P		Pn	03 55 25.8	-0.1
BARC				S		Sn	03 55 38.6	+0.3
BRJC	**Barrancabermej**	**0.58**	**352**	P		Pn	03 55 25.7	-0.5
BRJC				S		Sn	03 55 38.8	0.0
RUSC	**La Rusia**	**0.76**	**131**	P		Pn	03 55 27.7	-0.5
RUSC				S		Sn	03 55 41.8	-0.5
PTBC	**PUERTO BERRIO,**	**0.81**	**281**	P		Pn	03 55 26.8	-1.3
PTBC				S		Sn	03 55 41.0	-1.2
PAMC	**Pamplona, Colo**	**1.34**	**45**	P		Pn	03 55 34.0	-0.4
PAMC				S		Sn	03 55 53.0	-0.3
NORC	**Norcasia**	**1.46**	**236**	P		Pn	03 55 34.0	-1.3
NORC				S		Sn	03 55 55.4	+0.4
ZARC	**Zaragoza, Cauc**	**1.62**	**313**	P		Pn	03 55 36.8	-0.4
ZARC				S		Sn	03 55 59.8	+1.3
ROSC	**El Rosal**	**1.67**	**203**	P		Pn	03 55 38.6	+0.3
HELC	**Santa Helena**	**1.87**	**264**	P		Pn	03 55 40.1	-0.6
HELC				S		Sn	03 56 05.0	+0.4
OCAC	**Ocana**	**1.87**	**10**	P		Pn	03 55 39.9	-0.6
CVER	**Cruz Verde, Cu**	**1.90**	**193**	P		Pn	03 55 41.2	-0.1
GUY2C	**Guyana, Caldas**	**2.05**	**236**	P		Pn	03 55 42.7	-0.5
RECRC	**Villamaria, Ca**	**2.20**	**230**	P		Pn	03 55 44.9	-0.3
NIZA	**Niza - Manizal**	**2.24**	**234**	P		Pn	03 55 46.2	+0.8
VILC	**Villavicencio,**	**2.26**	**181**	P		Pn	03 55 45.0	-0.6
UREC	**San Jos de Ur**	**2.30**	**306**	P		Pn	03 55 44.2	-1.7
CBOC	**Ciudad Bolivar**	**2.40**	**258**	P		Pn	03 55 47.3	-0.1
ANIL	**Santa Ana**	**2.56**	**223**	P		Pn	03 55 49.6	-0.1
DBBC	**Dabeiba**	**2.61**	**284**	P		Pn	03 55 49.6	-0.4
PRAC	**Prado**	**2.93**	**205**	P		Pn	03 55 52.8	-1.4
ORTC	**Ortega, Tolima**	**2.93**	**213**	P		Pn	03 55 53.5	-0.8
PLMC	**San Jos del P**	**3.00**	**241**	P		Pn	03 55 54.8	-0.4
URMC	**La Uribe, Meta**	**3.20**	**193**	P		Pn	03 55 57.5	-0.5
APAC	**Apartado,

comp=Z,2.2nm,0.7s
BBOO Buckleboo 28.84 196 P **P** **04 11 43.5 -0.5**
MBWA Marble Bar 29.54 235 P **P** **04 11 49.5 -0.9**
MBWA IAmb IAmb 04 12 19.1
comp=Z,8.1nm,1.4s
PSA00 Pilbara Seismi 29.65 234 P **P** **04 11 49.8 -1.6**
PSA00 IAmb IAmb 04 11 50.8
comp=Z,7.1nm,0.8s
PSA00 Pilbara Seismi 29.65 234 P **P** **04 11 50.2 -1.1**
GIRL Giralia 34.76 237 P **P** **04 12 35.5 -0.5**
MORW Morawa 36.56 226 P **P** **04 12 50.7 -0.8**
MORW IAmb IAmb 04 13 03.9
comp=Z,19nm,1.4s
MRZ Mangatainoka R 44.49 147 P **P** **04 13 56.8 +0.1**
BFZ Birch Farm 44.87 146 P **P** **04 13 58.6 -1.1**
CASY Casey 65.62 195 P **P** **04 16 27.3 -1.3**
CASY IAmb IAmb 04 16 56.8
comp=Z,4.4nm,1.1s
VNDA Vanda 72.81 176 P **P** **04 17 13.2 +0.2**
MKAR Makanchi Array 75.88 321 P **P** **04 17 32.1 +0.8**
comp=Z,0.1nm,0.4s,baz=129,slow=3.9,SNR=2.0
comp=Z,0.1nm,0.4s
KURBB Kurchatov Arra 79.64 323 P **P** **04 17 51.9 -0.2**
comp=Z,0.1nm,0.4s,baz=116,slow=7.5,SNR=2.6
comp=Z,0.1nm,0.4s
QSPA South Pole Qui 84.77 180 P **P** **04 18 19.9 +1.0**
QSPA IAmb IAmb 04 18 20.8
comp=Z,3.2nm,0.7s
CCB Clear Creek Bu 84.95 23 P **P** **04 18 18.8 -0.8**
CCB IAmb IAmb 04 18 46.2
comp=Z,3.9nm,1.5s
ILAR Eielson Array 85.37 23 P **P** **04 18 20.4 -1.2**
comp=Z,0.7nm,0.7s,baz=244,slow=5.0,SNR=8.7
comp=Z,0.7nm,0.7s
J25K Salcha River, 85.91 24 P **P** **04 18 24.5 +0.1**
C23K Itkillik River 86.14 18 P **P** **04 18 25.0 -0.4**
F25K Christian Rive 86.89 21 P **P** **04 18 29.7 +0.5**
F25K IAmb IAmb 04 19 01.6
comp=Z,2.9nm,0.9s
K29M Barlow Dome 88.95 26 P **P** **04 18 38.1 -1.0**
K29M IAmb IAmb 04 19 08.2
comp=Z,3.6nm,1.2s
YKAW3 Yellowknife Wh 99.18 28 P **Pdif** **04 19 25.4 -0.4**
YKAW3 IAmb IAmb 04 19 50.8
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 143.36 285 PKP PKPbc 04 25 17.6 +0.4
comp=Z,0.2nm,0.5s,baz=66,slow=2.5,SNR=4.1

*IDC **28** 04:08:47.8±5.1,28°.39S×179°.09W,h358km±49km, mb3.5/5, mbtmp4.4/7, Error ellipse: s-maj=39.2km s-min=30.4km az=27.0*
ISC 28 04:08:51.0±0.9,28°.59S±0°.07×179°.1W±0°.1,h400km,n59, σ1ᵍ70/79,mb3.8/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**1.19**	**123**	P	**Pn**	**04 09 44.8**	**+2.1**
GLKZ	**Green Lake**	**1.21**	**124**	P	**Pn**	**04 09 44.3**	**+1.5**
GLKZ				S	**S**	**04 10 23.5**	**-1.2**
OUZ	**Omahuta**	**9.08**	**221**	P	P	04 11 01.9	+3.6
WCZ	**Waipu Caves**	**9.20**	**216**	P	P	04 11 03.6	+4.0
MXZ	**Matakaoa Point**	**9.21**	**193**	P	**Pn**	**04 11 02.6**	**+2.8**
MXZ				S	**S**	**04 12 41.8**	**-3.8**
KUZ	**Kuaotunu**	**9.24**	**207**	P	Pn	04 11 04.1	+4.1
WMGZ	**Waiomatatini S**	**9.44**	**192**	P	**Pn**	**04 11 05.0**	**+2.6**
WMGZ				S	**S**	**04 12 44.2**	**-6.1**
HAZ	**Te Kaha**	**9.51**	**195**	P	**Pn**	**04 11 05.3**	**+2.1**
HAZ				S	**S**	**04 12 51.3**	**-0.5**
PKGZ	**Pakihiroa**	**9.55**	**194**	P	**Pn**	**04 11 05.8**	**+2.0**
PKGZ				S	**S**	**04 12 50.9**	**-1.7**
MBAZ	**Motutapu North**	**9.61**	**210**	P	Pn	04 11 08.3	+3.9
PUZ	**Puketiti**	**9.72**	**193**	P	**Pn**	**04 11 08.9**	**+3.3**
PUZ				S	**S**	**04 12 54.4**	**-1.6**
RUGZ	**Raukumara Rang**	**9.74**	**195**	P	**Pn**	**04 11 07.0**	**+1.1**
RUGZ				S	**S**	**04 12 53.5**	**-3.1**
MKAZ	**Moumakai**	**9.78**	**208**	P	Pn	04 11 10.2	+3.9
AWAZ	**Awhitu Peninsu**	**9.96**	**210**	P	**Pn**	**04 11 10.2**	**+1.7**
KMRZ	**Kaimai**	**10.13**	**203**	P	Pn	04 11 14.7	+4.2
URZ	**Urewera**	**10.16**	**197**	P	**P**	**04 11 10.0**	**-0.2**
	32nm,0.4s,baz=24,slow=4.9,SNR=33						
URZ				S	**S**	**04 13 04.5**	**-0.4**
	22nm,0.3s,baz=268,slow=23,SNR=19						
URZ	**Urewera**	**10.16**	**197**	P	**Pn**	**04 11 10.7**	**0.0**
URZ				S	**S**	**04 13 04.9**	**0.0**
TOZ	**Tahuroa Road**	**10.19**	**205**	P	Pn	04 11 15.9	+4.9
RAGZ	**Rawiri**	**10.30**	**196**	P	**Pn**	**04 11 14.3**	**+1.8**
RAGZ				S	**S**	**04 13 07.8**	**-0.2**
RIGZ	**Rimuhau**	**10.43**	**194**	P	**Pn**	**04 11 15.7**	**+1.8**
RIGZ				S	**S**	**04 13 09.2**	**-1.3**
MUGZ	**Murupara**	**10.45**	**198**	P	**Pn**	**04 11 14.1**	**0.0**
MUGZ				S	**S**	**04 13 07.8**	**-3.2**
RTZ	**Ruatahuna**	**10.53**	**197**	P	**Pn**	**04 11 15.1**	**0.0**
RTZ				S	**S**	**04 13 12.4**	**-0.2**
SNGZ	**Shannon Statio**	**10.59**	**195**	P	**Pn**	**04 11 16.2**	**+0.4**
SNGZ				S	**S**	**04 13 10.4**	**-3.5**
PRGZ	**Paritu Road**	**10.61**	**193**	S	**S**	**04 13 11.7**	**-2.5**
TLZ	**Tolley Road**	**10.70**	**203**	P	**Pn**	**04 11 20.7**	**+3.7**
RAHZ	**Arahi**	**10.78**	**196**	P	**Pn**	**04 11 17.9**	**-0.1**
RAHZ				S	**S**	**04 13 17.6**	**-0.1**
MTHZ	**Maungataniwha**	**10.79**	**197**	P	**Pn**	**04 11 18.5**	**+0.4**
MTHZ				S	**S**	**04 13 18.9**	**+1.1**
MHGZ	**Mahia Peninsul**	**10.83**	**193**	P	**Pn**	**04 11 20.4**	**+1.9**
MHGZ				S	**S**	**04 13 17.6**	**-1.0**
MRHZ	**Matea Rd**	**10.88**	**199**	P	**Pn**	**04 11 19.3**	**+0.1**
MRHZ				S	**S**	**04 13 21.6**	**+1.7**
WHHZ	**Waihua**	**10.90**	**195**	P	**Pn**	**04 11 20.7**	**+1.4**
WHHZ				S	**S**	**04 13 19.6**	**-0.5**
HIZ	**Hauiti**	**11.11**	**206**	P	Pn	04 11 26.3	+4.5
ARHZ	**Aropaoanui**	**11.13**	**196**	P	**Pn**	**04 11 23.3**	**+1.3**
ARHZ				S	**S**	**04 13 24.2**	**-0.6**
BKZ	**Black Stump Fm**	**11.17**	**198**	P	**Pn**	**04 11 22.1**	**-0.4**
BKZ				S	**S**	**04 13 26.5**	**+0.8**
ETVZ	**East Tongariro**	**11.37**	**201**	P	**Pn**	**04 11 26.1**	**+1.2**
MCHZ	**McNeill Hill**	**11.38**	**197**	P	**Pn**	**04 11 24.6**	**-0.3**
MCHZ				S	**S**	**04 13 31.4**	**+1.6**
WTVZ	**West Tongariro**	**11.39**	**202**	P	**Pn**	**04 11 26.2**	**+1.1**
NNVZ	**North Ngauruho**	**11.40**	**201**	P	**Pn**	**04 11 26.5**	**+1.3**
KWHZ	**Kaweka Forest**	**11.43**	**198**	P	**P**	**04 11 24.6**	**+0.2**
NGZ	**Ngauruhoe**	**11.45**	**201**	P	**Pn**	**04 11 26.0**	**+0.2**
CKHZ	**Cape Kidnapper**	**11.49**	**195**	P	**Pn**	**04 11 26.4**	**+0.3**
CKHZ				S	**S**	**04 13 31.4**	**-0.6**
WHVZ	**Whangaehu Hut**	**11.55**	**201**	P	**Pn**	**04 11 27.3**	**+0.3**
WHVZ				S	**S**	**04 13 36.4**	**+2.7**
WNVZ	**Wahianoa**	**11.58**	**201**	P	**Pn**	**04 11 27.7**	**+0.3**
WNVZ				S	**S**	**04 13 35.0**	**+0.8**
KRHZ	**Kereru**	**11.65**	**198**	P	**P**	**04 11 27.0**	**+0.3**
KRHZ				S	**S**	**04 13 34.4**	**-1.0**
KAHZ	**Kahuranaki**	**11.67**	**196**	P	**Pn**	**04 11 27.8**	**-0.4**
KAHZ				S	**S**	**04 13 35.0**	**-0.7**
PXZ	**Pawanui**	**11.89**	**195**	P	**Pn**	**04 11 30.2**	**-0.6**
PXZ				S	**S**	**04 13 39.3**	**-0.9**
PNHZ	**Pukenui**	**11.95**	**198**	P	**P**	**04 11 29.7**	**-0.3**
PNHZ				S	**S**	**04 13 40.3**	**-1.2**
WAZ	**Wanganui**	**12.17**	**202**	S	**S**	**04 13 49.5**	**+3.6**
DZM	**Mont Dzumac**	**14.61**	**293**	P	**P**	**04 11 57.1**	**-2.4**
	5.5nm,0.5s,baz=101,slow=13,SNR=6.5						
ASAR	**Alice Springs**	**42.30**	**265**	P	**P**	**04 16 07.7**	**0.0**
	1.1nm,0.6s,baz=96,slow=7.3,SNR=15						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**43.12**	**271**	P	**P**	**04 16 13.8**	**-0.4**
	2.0nm,0.3s,baz=108,slow=7.9,SNR=8.6						
	2.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**51.44**	**269**	P	**P**	**04 17 18.1**	**+0.6**
	2.1nm,0.5s,baz=114,slow=5.8,SNR=10						
	2.1nm,0.5s						
MJAR	**Matsushiro Arr**	**76.23**	**326**	P	**P**	**04 19 55.7**	**-1.0**
	2.4nm,0.7s,baz=160,slow=4.1,SNR=5.2						
	2.4nm,0.7s						
KSRS	**Korea Array**	**82.37**	**320**	P	**P**	**04 20 30.7**	**+1.3**
	1.6nm,0.9s,baz=132,slow=4.9,SNR=4.9						
	1.6nm,0.9s						
FINES	**FINESS Array B**	**143.13**	**340**	PKhKP	PKPpre	04 27 34.7	
	2.0nm,0.6s,baz=60,slow=4.9,SNR=4.0						
NB2	**NORSAR Subarra**	**146.82**	**351**	PKP	**PKPbc**	**04 27 46.3**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=14,slow=2.9						
NOA	**NORSAR Array B**	**146.82**	**351**	PKPbc	**PKPbc**	**04 27 46.4**	**0.0**
	comp=Z,1.0nm,0.5s,baz=15,slow=4.4,SNR=5.0						
AKASG	**Malin Array Be**	**149.30**	**324**	PKPbc	**PKiKP**	**04 27 53.2**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=46,slow=3.0,SNR=14						
MMAI	**Mount Meron Ar**	**150.15**	**287**	PKPbc	**PKiKP**	**04 27 57.4**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=92,slow=4.5,SNR=4.4						
BRTR	**Keskin Array B**	**150.89**	**301**	PKPbc	**PKiKP**	**04 27 57.6**	**-0.1**

comp=Z,0.5nm,0.5s,baz=52,slow=7.5,SNR=2.0

*BGR **28** 04:18:18.7,33°.63N×73°.67E,h33km, mb4.7, Ms3.7*
*NNC **28** 04:18:55.4±4.2,36°.81N×70°.30E,h0km, mb5.1, mpv5.0, Error ellipse: s-maj=34.2km s-min=24.2km az=1.0*
*IDC **28** 04:18:58.9±2.3,36°.40N×70°.83E,h164km±20km, mb4.0/24, mbtmp4.6/28, Error ellipse: s-maj=12.8km s-min=10.3km az=16.0*
*MOS **28** 04:18:59.7±1.0,36°.57N×70°.83E,h179km, mb4.6/34, Error ellipse: s-maj=6.1km s-min=3.9km az=103.9*
*BJI **28** 04:19:01.9,36°.78N×70°.87E,h192km, mb4.6/2, mb4.5/14*
*NEIC **28** 04:19:01.8±1.4,36°.56N±0°.06×70°.74E±0°.08,h184km±7km, mb4.5/58, Error ellipse: s-maj=9.0km s-min=8.7km az=78.0*
ISC 28 04:19:00.1±0.5,36°.53N±0°.04×70°.81E±0°.04,h172km±4km, h172km:pP-P,n302,σ1ᵍ65/337,mb4.4/89,23C-16D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.46**	**216**	Pn	**Pn**	**04 19 42.8**	**+0.7**
KBL	**Kabul**	**2.46**	**216**	PN	**Pn**	**04 19 42.8**	**+0.7**
CHGR	**Chuyangaron**	**2.49**	**329**		**Pn**	**04 19 43.1**	**+0.8**
CHGR	**Chuyangaron**	**2.49**	**329**	PN	**Pn**	**04 19 43.1**	**+0.8**
GAR	**Garm**	**2.49**	**351**		**Pn**	**04 19 43.5**	**+1.2**
SIMJ	**Simiganj**	**2.56**	**327**		**Pn**	**04 19 43.8**	**+0.7**
NIL	**Nilore**	**3.50**	**144**		**Pn**	**04 19 56.5**	**+1.8**
NIL	**Nilore**	**3.50**	**144**	PN	**Pn**	**04 19 56.5**	**+1.8**
SRNI	**Srinagar**	**4.10**	**125**	*e*P	**Pn**	**04 19 59.8**	**-2.4**
SRNI				*e*S	**Sn**	**04 20 46.7**	**-4.0**
SRNI				IAML		04 20 55.5	
	comp=E,3μm,0.5s						
SRNI				IAML		04 20 58.7	
	comp=N,3μm,0.6s						
TRKS	**Terek-Say**	**5.00**	**3**	PN	**Pn**	**04 20 13.8**	**-0.1**
KSH	**Kashi**	**5.05**	**52**	P	**Pn**	**04 20 11.5**	**-3.1**
KSH				S	**Sn**	**04 21 04.5**	**-8.5**
ARSB	**Arslanbob**	**5.07**	**19**		**Pn**	**04 20 15.0**	**+0.1**
ARSB	**Arslanbob**	**5.07**	**19**	PN	**Pn**	**04 20 15.0**	**+0.1**
JMU	**Jammu**	**5.09**	**137**	*e*P	**Pn**	**04 20 12.1**	**-2.9**
JMU				*e*S	**Sn**	**04 21 07.8**	**-5.9**
JMU				IAML		04 21 13.3	
	comp=E,2μm,0.6s						
IUG	**Iuzhnay**	**5.64**	**354**	*e*PN	**Pn**	**04 20 23.0**	**+0.7**
DHRM	**DHARAMSHALA**	**6.23**	**132**	*e*P	**Pn**	**04 20 29.0**	**-1.3**
DHRM				*e*S	**Sn**	**04 21 38.0**	**-3.2**
DHRM				IAML		04 21 41.4	
	comp=N,2μm,0.4s						
UCH	**Uchtor**	**6.37**	**26**	P	**Pn**	**04 20 32.6**	**+0.4**
	SNR=164						
BRLS	**Boroldav**	**6.53**	**354**	*e*PN	**Pn**	**04 20 30.7**	**-3.2**
EKS2	**Erkin-Say**	**6.53**	**20**	P	**Pn**	**04 20 34.8**	**+0.7**
	SNR=190						
KK31	**Karatay Array**	**6.56**	**358**		**Pn**	**04 20 34.6**	**+0.2**
KK31	**Karatay Array**	**6.56**	**358**	P	**Pn**	**04 20 30.6**	**-3.8**
	comp=N,77nm,0.3s,baz=184,slow=15,SNR=2140						
KK31				⇑S	**Sn**	**04 21 43.7**	**-5.0**
	comp=N,189nm,0.5s,baz=229,slow=75,SNR=4.2						
KK31	**Karatay Array**	**6.56**	**358**	PN	**Pn**	**04 20 34.6**	**+0.2**
KKAR	**Karatay Array**	**6.56**	**358**		**Pn**	**04 20 34.4**	**0.0**
KKAR	**Karatay Array**	**6.56**	**358**	PN	**Pn**	**04 20 34.4**	**0.0**
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**04 20 37.3**	**+0.7**
	comp=N,99nm,0.3s,baz=209,slow=12,SNR=134						
AAK				S	**Sn**	**04 21 51.9**	**-0.8**
	comp=N,152nm,0.6s,baz=359,slow=20,SNR=20						
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**04 20 37.4**	**+0.7**
	SNR=81						
AAK	**Ala-Archa**	**6.72**	**24**	⇑P	**Pn**	**04 20 37.1**	**+0.5**
	comp=N,67nm,0.7s						
AAK				⇑S	**Sn**	**04 21 50.8**	**-1.9**
	comp=N,99nm,0.6s						
AAK	**Ala-Archa**	**6.72**	**24**	*i* PN	**Pn**	**04 20 37.4**	**+0.7**
AAK				pmax	pmax		
	comp=Z,150nm,0.5s						
KBK	**Karagaybulak**	**6.90**	**26**	P	**Pn**	**04 20 39.9**	**+0.9**
	SNR=72						
BHK	**Bhakra**	**6.91**	**136**	*e*P	**Pn**	**04 20 42.1**	**+3.1**
BHK				IAML		04 21 54.5	
	comp=E,128nm,0.2s						
BHK				IAML		04 21 54.7	
	comp=N,172nm,0.2s						
BHK				*e*S	**Sn**	**04 21 59.3**	**+2.3**
FRU1	**Bishkek**	**6.92**	**24**		**Pn**	**04 20 39.9**	**+0.7**
FRU1	**Bishkek**	**6.92**	**24**	PN	**Pn**	**04 20 39.9**	**+0.7**
ULHL	**Ulahol**	**7.08**	**35**	P	**Pn**	**04 20 41.4**	**0.0**
	SNR=37						
CHMS	**Chumysh**	**7.13**	**24**	P	**Pn**	**04 20 42.1**	**+0.2**
	SNR=44						
USP	**Ospenovka**	**7.30**	**22**	P	**Pn**	**04 20 43.8**	**-0.2**
	SNR=112						
HRA	**Herat**	**7.31**	**255**	Pn	**Pn**	**04 20 45.2**	**+0.6**
TKM2	**Tokmak 2**	**7.37**	**29**	P	**Pn**	**04 20 45.5**	**+0.3**
	SNR=431						
KDJ	**Kajisay**	**7.45**	**40**	Pn	**Pn**	**04 20 46.1**	**-0.2**
KDJ	**Kajisay**	**7.45**	**40**	PN	**Pn**	**04 20 46.1**	**-0.2**
TARG	**Taragay, Kyrgy**	**7.51**	**44**		**Pn**	**04 20 46.9**	**-0.4**
TARG	**Taragay, Kyrgy**	**7.51**	**44**	PN	**Pn**	**04 20 46.9**	**-0.4**
SMLA	**Simla**	**7.55**	**134**	*e*P	**Pn**	**04 20 47.3**	**-0.2**
SMLA				*e*S	**Sn**	**04 22 07.6**	**-4.6**
SMLA				IAML		04 22 12.3	
	comp=N,775nm,0.1s						
SMLA				IAML		04 22 12.8	
	comp=E,542nm,0.5s						
HNLY	**HANLEY**	**7.70**	**117**	*e*P	**Pn**	**04 20 48.7**	**-1.2**
HNLY				*e*S	**Sn**	**04 22 12.2**	**-4.4**
HNLY				IAML		04 22 16.2	
	comp=N,41nm,0.3s						
KLP	**Kalpa**	**7.94**	**127**	*e*P	**Pn**	**04 20 51.8**	**-1.1**
KLP				*e*S	**Sn**	**04 22 15.2**	**-6.8**
KLP				IAML		04 22 18.3	
	comp=N,329nm,0.3s						
KLP				IAML		04 22 18.9	
	comp=E,419nm,0.8s						
PRZ	**Przheval'sk**	**8.35**	**42**		**Pn**	**04 20 58.2**	**+0.1**
PRZ	**Przheval'sk**	**8.35**	**42**	PN	**Pn**	**04 20 58.2**	**+0.1**
DDI	**Dehra Dun**	**8.66**	**134**	*e*P	**Pn**	**04 21 01.8**	**-0.4**
DDI				*e*S	**Sn**	**04 22 33.5**	**-5.4**
DDI				IAML		04 22 34.8	
	comp=N,353nm,0.4s						
DDI				IAML		04 22 35.1	
	comp=E,277nm,0.2s						
BTLS	**Baital**	**8.84**	**15**	*e*PN	**Pn**	**04 21 04.0**	**-0.4**
ARXS	**Arharly**	**9.35**	**33**	*e*P	**Pn**	**04 21 10.2**	**-1.0**
SHLS	**Shalkode**	**9.38**	**43**	*e*P	**Pn**	**04 21 14.8**	**+3.2**
JOSI	**Joshimath**	**9.42**	**127**	*e*P	**Pn**	**04 21 13.1**	**+0.7**
JOSI				*e*S	**Sn**	**04 22 51.3**	**-6.1**
JOSI				IAML		04 22 52.9	
	comp=N,348nm,0.5s						
JOSI				IAML		04 22 56.1	
	comp=E,382nm,0.6s						
PDGK	**Podgornoye**	**9.51**	**42**	⇑P	**Pn**	**04 21 12.8**	**-0.5**
	comp=E,22nm,0.6s						
PDGK				⇑S	**Sn**	**04 23 05.4**	**+6.3**
	comp=E,44nm,1.0s						
PDGK	**Podgornoye**	**9.51**	**42**	P	**Pn**	**04 21 12.8**	**-0.5**
PDGK				S	**Sn**	**04 23 05.4**	**+6.3**
MAKZ	**Makanchi**	**13.21**	**36**	Pn	**Pn**	**04 22 00.1**	**-1.1**
MAKZ	**Makanchi**	**13.21**	**36**	P	**Pn**	**04 22 00.1**	**-1.1**
MK31	**Makanchi Array**	**13.35**	**36**	*i* P	**Pn**	**04 22 02.3**	**-0.6**
MK31				pmax	pmax		
	comp=Z,45nm,0.6s						
MKAR	**Makanchi Array**	**13.35**	**36**		**Pn**	**04 22 01.7**	**-1.2**
MKAR	**Makanchi Array**	**13.35**	**36**	P	**Pn**	**04 22 04.0**	**+1.1**
	comp=Z,32nm,0.7s,baz=216,slow=11,SNR=118						
MKAR				S	**S**	**04 24 39.0**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=241,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**13.35**	**36**	*i* P	**Pn**	**04 22 02.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,32nm,0.6s						
WMQ	**Urumqi**	**14.80**	**55**	*e*P	**P**	**04 22 23.5**	**+0.9**
WMQ				LR	LR		
	comp=Z,270nm,24.1s						
AB31	**Akbulak array**	**14.98**	**331**		**Pn**	**04 22 21.7**	**-1.3**
AB31	**Akbulak array**	**14.98**	**331**	⇓P	**Pn**	**04 22 21.3**	**-1.8**
	comp=Z,7.3nm,0.5s,baz=146,slow=12,SNR=177						
AB31				⇑S	**Sn**	**04 25 06.0**	**-4.0**
	comp=Z,11nm,0.5s						
AB31	**Akbulak array**	**14.98**	**331**	P	**Pn**	**04 22 21.8**	**-1.3**
AB31				S	Sn	04 24 57.9	-12
ABKAR	**Akbulak array**	**14.98**	**331**		**Pn**	**04 22 21.5**	**-1.6**
KURBB	**Kurchatov Arra**	**15.14**	**19**	P	**Pn**	**04 22 22.5**	**-2.5**
	comp=Z,30nm,0.7s,baz=209,slow=10,SNR=48						
KURK	**Kurchatov**	**15.25**	**19**		**Pn**	**04 22 24.0**	**-2.4**
KURK				IAmb	IAmb	04 22 29.5	
	comp=Z,31nm,0.9s						
KURK	**Kurchatov**	**15.25**	**19**	*ce*P	**Pn**	**04 22 24.7**	**-1.7**
KURK				pmax	pmax		
	comp=Z,31nm,0.8s						
EVN	**Everest**	**16.00**	**118**		**Pn**	**04 22 36.1**	**-0.3**
BVA0	**Borovoye Array**	**16.49**	**359**	P	**P**	**04 22 40.7**	**-0.4**
	comp=Z,11nm,0.5s,baz=166,slow=12,SNR=103						
BVA0	**Borovoye Array**	**16.49**	**359**	*i* P	**P**	**04 22 40.6**	**-0.4**
BVAR	**Borovoye Array**	**16.49**	**359**	P	**Pn**	**04 22 41.6**	**+0.1**
	comp=Z,12nm,0.4s,baz=159,slow=11,SNR=46						
AKTO	**Aktyubinsk**	**16.68**	**330**	P	**Pn**	**04 22 44.3**	**+0.6**
	comp=Z,24nm,0.5s,baz=145,slow=9.8,SNR=73						
AKTO				S	**S**	**04 25 41.5**	**-6.3**
	comp=Z,11nm,0.7s,baz=170,slow=13,SNR=5.6						
AKTO	**Aktyubinsk**	**16.68**	**330**	⇓P	**Pn**	**04 22 43.5**	**-0.2**
	comp=Z,17nm,0.6s						
AKTO				⇓S	**S**	**04 25 45.6**	**-2.2**
	comp=Z,17nm,0.8s						
WSAR	**Wadi Sarin**	**16.92**	**222**	P	**Pn**	**04 22 48.7**	**+1.7**
	baz=64,slow=24,SNR=3.1						
LKRN	**Lenkeran, Azer**	**17.59**	**284**	P	**P**	**04 22 53.7**	**+0.5**
LSA	**Lhasa**	**18.33**	**106**	P	**Pn**	**04 23 04.0**	**-0.1**
AKT	**Akhty**	**18.59**	**292**	*e*P	**P**	**04 23 04.8**	**+0.6**
AKT				*e*S	**S**	**04 26 28.4**	**+1.4**
AKT				pmax	pmax		
	comp=Z,15nm,0.6s						
AKT				smax	smax		
	comp=N,7.0nm,0.4s						
AKT				smax	smax		
	comp=E,5.0nm,0.5s						
SEKA	**Sheki**	**18.95**	**291**	P	**Pn**	**04 23 09.6**	**-1.2**
MNGR	**Mingechevir, A**	**18.99**	**290**	P	**Pn**	**04 23 10.8**	**-0.3**
GANJ	**Ganja**	**19.56**	**290**	P	**Pn**	**04 23 16.5**	**-1.4**
ZAA0	**Zalesovo Array**	**19.95**	**25**		**P**	**04 23 19.1**	**+0.5**
ZALV	**Zalesovo Beam**	**19.95**	**25**		**P**	**04 23 18.8**	**+0.2**
ZALV	**Zalesovo Beam**	**19.95**	**25**	P	**P**	**04 23 19.1**	**+0.4**
	comp=E,150nm,0.6s,baz=222,slow=11,SNR=499						
ZALV				S	**S**	**04 26 53.0**	**-0.4**
	comp=E,2.7nm,0.6s,baz=206,slow=16,SNR=4.1						
NAX	**Nakhchivan**	**20.14**	**285**	P	Pn	04 23 23.2	-1.8
GNI	**Garni**	**20.74**	**288**		**P**	**04 23 27.7**	**+0.3**
GNI	**Garni**	**20.74**	**288**	P	**P**	**04 23 28.5**	**+1.0**
	comp=E,27nm,0.9s,baz=54,slow=8.7,SNR=12						
	comp=E,27nm,0.9s						
GNI	**Garni**	**20.74**	**288**	*i* P	**P**	**04 23 27.3**	**-0.1**
GNI				pmax	pmax		
	comp=Z,44nm,1.0s						
SHL	**Shillong**	**21.06**	**115**		**P**	**04 23 33.0**	**+2.0**
SHL	**Shillong**	**21.06**	**115**	P	**P**	**04 23 33.0**	**+2.0**
SVE	**Sverdlovsk**	**21.42**	**345**	*e*P	**P**	**04 23 35.3**	**+1.0**
SVE				pmax	pmax		
	comp=Z,14nm,0.6s						
ARTI	**Arti**	**21.56**	**341**		**P**	**04 23 35.7**	**-0.1**
ARTI				IAmb	IAmb	04 23 54.7	
	comp=Z,15nm,0.9s						
ARTI	**Arti**	**21.56**	**341**	P	**P**	**04 23 36.6**	**+0.8**
	comp=Z,8.5nm,0.7s,baz=153,slow=3.8,SNR=9.4						
	comp=Z,8.5nm,0.7s						
ARTI	**Arti**	**21.56**	**341**	*d i*P	**P**	**04 23 36.2**	**+0.4**
ARTI				*PP	**pP**	**04 24 05.5**	**-0.6**
ARTI				S	**S**	**04 27 23.7**	**+0.3**
ARTI				pmax	pmax		
	comp=Z,13nm,0.9s						
NCK	**Nalchik**	**21.91**	**297**	*i* P	**P**	**04 23 39.9**	**+0.3**
NCK				pmax	pmax		
	comp=Z,26nm,0.8s						
KBZ	**Khabaz**	**22.45**	**297**	P	**P**	**04 23 44.7**	**0.0**
	comp=Z,4.7nm,0.7s,baz=116,slow=8.7,SNR=12						
	comp=Z,4.7nm,0.7s						
KBZ	**Khabaz**	**22.45**	**297**	*ce*P	**P**	**04 23 42.7**	**-2.0**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GOF	**Gofitskoye**	**22.59**	**301**	*ce*P	**P**	**04 23 47.0**	**+0.9**
SHA1	**Shidzhatmaz**	**22.62**	**297**	*i* P	**P**	**04 23 45.9**	**-0.7**
KIV	**Kislovodsk**	**22.64**	**298**	P	**P**	**04 23 45.7**	**-0.9**
KIV	**Kislovodsk**	**22.64**	**298**	*e*P	**P**	**04 23 46.4**	**-0.2**
KIV				*e*SP	PP	04 24 43.3	+1.6
KIV				*e*S	**S**	**04 27 40.1**	**-1.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BELG	**Belogornoye**	**22.77**	**321**	*i* P	**P**	**04 23 46.1**	**-1.4**
BELG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA	**Gaotai**	**23.00**	**74**	*e*P	**P**	**04 23 51.5**	**+1.5**
GTA				pmax

PLOR Plostina 34.13 300 ⇑P P 04 25 30.8 +2.3
TESR Tescani 34.14 301 ⇓P P 04 25 29.6 +1.0
MNK Minsk 34.37 315 *i* P P 04 25 31.4 +1.1
comp=E,4.0nm,0.7s
MNK *i* P P 04 25 31.4 +1.1
comp=N,8.0nm,0.7s
MNK *i* P P 04 25 31.4 +1.1
comp=Z,14nm,0.7s,baz=103
MNK *i* pP pP 04 26 02.0 -4.8
MNK *i* sP sP 04 26 31.0 +4.4
MNK *i* PP PP 04 26 52.7 +1.0
MNK *i* PcP PcP 04 27 48.9 -13
MNK *i* S S 04 30 47.4 +2.4
MNK *i* ScP ScP 04 31 31.6 +0.7
MNK *i* PcS PcS 04 31 47.2 -1.1
MNK *i* sS sS 04 31 51.3 +1.1
MNK *i* SS SS 04 34 07.2 +48
MNK Minsk 34.37 315 *i* P P 04 25 31.4 +1.1
MNK *i* *SP sP 04 26 31.0 +4.4
MNK *i* 04 26 52.6
MNK *i* S S 04 30 47.4 +2.4
MNK *i* *SS sS 04 31 51.2 +1.1
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=Z,14nm,0.7s
MNK pmax pmax
comp=E,4.0nm,0.7s
MLR Muntele Rosu 34.63 299 P P 04 25 32.7 -0.2
MLR lAmb lAmb 04 25 36.5
comp=Z,13nm,0.9s
MLR Muntele Rosu 34.63 299 ⇓P P 04 25 35.2 +2.3
MLR Muntele Rosu 34.63 299 P P 04 25 32.7 -0.2
MLR pmax pmax
comp=Z,13nm,0.9s
NACGM Naroch 35.08 316 *eP* P 04 25 37.6 +1.1
comp=Z,19nm,0.9s,baz=103
BURAR Bucovina Array 35.14 303 P P 04 25 37.6 +0.3
BURAR Bucovina Array 35.14 303 ⇑P P 04 25 38.2 +1.0
BURAR Bucovina Array 35.14 303 P P 04 25 38.2 +1.0
ARR Arges 35.56 299 ⇑P P 04 25 42.5 +1.7
JOF Joensuu 35.76 330 *eP* P 04 25 43.0 +0.9
VSU Vasula 36.06 322 *ceP* P 04 25 44.8 0.0
VSU pmax pmax
comp=Z,16nm,1.0s
VSU Vasula 36.06 322 *eP* P 04 25 44.2 -0.6
LOT Lotru 36.16 299 ⇑P P 04 25 47.3 +1.4
MARR Marisel-Cluj 36.57 301 ⇓P P 04 25 51.2 +1.8
ARBE Arbavere 36.74 323 *eP* P 04 25 51.3 +0.8
PABE Paberze 36.79 316 *eP* P 04 25 51.9 +0.9
DRGR 36.85 301 ⇑P P 04 25 53.1 +1.4
DRGR 36.85 301 ⇑P P 04 25 53.1 +1.4
KWP Kalwaria Pacla 36.87 306 P P 04 25 53.1 +1.3
KWP pmax pmax
comp=Z,22nm,0.9s
KOLS Kolonicke sedl 37.13 305 *eP* P 04 25 55.1 +1.1
KOLS pmax pmax
comp=Z,8.0nm,0.8s
KOLS Kolonicke sedl 37.13 305 *eP* P 04 25 55.1 +1.1
SURR Surduc 37.30 300 ⇓P P 04 25 57.3 +1.8
FIA1 FINESS Array S 37.37 326 P P 04 25 56.7 +0.9
FINES FINESS Array B 37.37 326 P P 04 25 56.7 +0.9
comp=Z,6.0nm,0.7s,baz=110,slow=11,SNR=23
comp=Z,6.0nm,0.7s
LVZ Lovozero 37.37 338 ⇑P P 04 25 49.2 -6.6
MEF Metsahovi 37.74 324 *eP* P 04 25 59.5 +0.6
STHS Stebnicka Huta 37.81 306 *eP* P 04 26 00.1 +0.3
STHS Stebnicka Huta 37.81 306 *eP* P 04 26 00.1 +0.3
PBUR Paburge 38.01 317 *eP* P 04 26 01.8 +0.5
SLIT Slitere, Latvi 38.13 319 *eP* P 04 26 02.2 0.0
KEF Keuruu 38.16 327 *eP* P 04 26 03.1 +0.7
NIE Niedzica 38.43 306 P P 04 26 05.9 +1.0
NIE pmax pmax
comp=Z,8.0nm,1.1s
OJC Ojcow 38.76 307 P P 04 26 08.6 +1.0
OJC pmax pmax
comp=Z,11nm,1.1s
LANS Liptovska Anna 38.98 305 *eP* P 04 26 11.5 +2.0
LANS Liptovska Anna 38.98 305 *eP* P 04 26 11.5 +2.0
RAF Rauma 39.22 324 *eP* P 04 26 11.0 -0.2
VYHS Vyhne 39.41 304 *eP* P 04 26 14.7 +1.6
VYHS Vyhne 39.41 304 *eP* P 04 26 14.7 +1.6
MORH Mrgy, Hungar 39.69 301 ⇓P P 04 26 16.4 +1.1
MORC Moravsky Berou 40.22 306 P P 04 26 18.8 -0.9
MORC lAmb lAmb 04 26 21.6
comp=Z,6.4nm,0.7s
MORC Moravsky Berou 40.22 306 *eP* P 04 26 20.8 +1.1
MORC Moravsky Berou 40.22 306 ⇑P P 04 26 20.4 +0.7
MORC Moravsky Berou 40.22 306 P P 04 26 18.8 -0.9
MORC pmax pmax
comp=Z,6.0nm,0.7s
VADS Vadso 40.23 339 *eP* P 04 26 20.7 +1.2
SMOL Smolenice 40.35 304 *eP* P 04 26 21.5 +0.8
KEV Kevo 40.71 338 P P 04 26 23.8 +0.4
KEV Kevo 40.71 338 P P 04 26 23.8 +0.4
KEV pmax pmax
comp=Z,38nm,1.5s
VRAC Vranov 40.85 306 *eP* P 04 26 26.2 +1.3
VRAC Vranov 40.85 306 P P 04 26 26.4 +1.5
VRAC pmax pmax
comp=Z,9.0nm,0.9s
ARA0 ARCESS Array S 41.05 338 *eP* P 04 26 27.5 +1.2
ARCES ARCESS Array B 41.05 338 P P 04 26 27.2 +1.0
comp=Z,5.3nm,0.7s,baz=110,slow=7.4,SNR=30
comp=Z,5.3nm,0.7s
BLEU Blekinge 41.44 316 *i* P P 04 26 29.0 -0.5
KTK1 Kautokeino 41.52 336 *eP* P 04 26 30.7 +0.7
HAMF Hammerfest 42.14 339 *eP* P 04 26 36.5 +1.5
HEH HeiHe 42.35 53 *eP* P 04 26 38.3 +1.3
BRG Berggiesshubel 42.48 308 *eP* P 04 26 40.4 +2.4
comp=Z,6.5nm,0.8s,baz=85,slow=7.8
BRG Berggiesshubel 42.48 308 *i* P P 04 26 40.5 +2.4
BRG Amp 04 26 41.2
comp=Z,6.5nm,0.8s
DEL Delary 42.53 317 *i* P P 04 26 38.7 +0.3
JETT Jettan, Norway 42.67 336 *eP* P 04 26 40.4 +1.0
LUNU Lund 42.73 315 *i* P P 04 26 40.2 +0.2
CUC Castrocucco 42.74 292 P P 04 26 42.0 +1.6
GERES GERESS Array B 42.78 305 P P 04 26 41.3 +0.6
comp=Z,0.8nm,0.7s,baz=80,slow=7.5,SNR=5.9
comp=Z,0.8nm,0.7s
BNX BinXian 42.81 59 ⇑P P 04 26 39.0 -1.8
BNX pmax pmax
comp=Z,4.0nm,0.5s
GSI Gunungsitoli 42.92 139 P P 04 26 42.9 +1.0
GSI lAmb lAmb 04 26 43.7
comp=Z,17nm,0.7s
HFS Hagfors 42.95 322 P P 04 26 42.2 +0.5
comp=Z,20nm,0.5s,baz=98,slow=10,SNR=90
comp=Z,20nm,0.5s
CLL Collm 43.05 309 *i* P P 04 26 42.8 +0.2
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 43.05 309 *eP* P 04 26 42.9 +0.3
comp=Z,3.7nm,0.7s,baz=85,slow=7.8
CLL Collm 43.05 309 *i* P P 04 26 42.8 +0.2
comp=Z,4.0nm,0.7s
FABU Falkenberg 43.19 317 *i* P P 04 26 43.2 -0.4
BORU Boraas 43.20 318 *i* P P 04 26 44.2 +0.5
TANN Tannenbergstha 43.45 308 *eP* P 04 26 46.7 +0.7
comp=Z,5.4nm,1.1s,baz=85,slow=7.8
ROTZ Rotzenmuhle 43.67 307 *eP* P 04 26 48.6 +0.9
comp=Z,1.4nm,1.2s,baz=85,slow=7.8
FAUS Fauske 43.70 333 *eP* P 04 26 48.2 +0.7
MOR8 Moi Rana 43.71 331 *eP* P 04 26 48.0 +0.2
MANZ Manzenberg 43.72 307 *eP* P 04 26 49.1 +1.1
comp=Z,0.8nm,1.0s,baz=85,slow=7.8
NEUB Neuenburg 43.83 309 *eP* P 04 26 49.9 +1.1
comp=Z,10.0nm,0.5s,baz=85,slow=7.8
STEI Steigen 43.87 333 *eP* P 04 26 49.8 +0.8
MOX Moxa 43.97 308 *eP* P 04 26 50.8 +0.8
comp=Z,3.7nm,1.0s,baz=85,slow=7.8
MOX *eL* L 04 45 50.4
comp=Z,70nm,18.1s
NC405 NORSAR Array S 44.03 323 P P 04 26 50.4 0.0
NC405 lAmb lAmb 04 26 51.8
comp=Z,20nm,0.9s
NC602 NORSAR Array S 44.07 323 P P 04 26 50.8 +0.2
NC602 NORSAR Array S 44.07 323 *eP* P 04 26 50.8 +0.2
NORES NORESS Array B 44.07 323 P P 04 26 50.5 -0.1
FLTG Flechtingen 44.09 310 *eP* P 04 26 51.2 +0.4
comp=Z,18nm,0.7s,baz=85,slow=7.8
STRU Stroemstad 44.12 320 *i* P P 04 26 50.7 -0.3
NC303 NORSAR Array S 44.20 323 P 04 26 52.0 +0.3

LEIR Leirfjorden 44.22 330 *eP* P 04 26 52.5 +0.8
NB201 NORSAR Array S 44.22 323 P P 04 26 52.1 +0.2
NB201 lAmb lAmb 04 26 52.6
comp=Z,9.8nm,0.6s
NB2 NORSAR Subarra 44.26 323 P P 04 26 52.0 -0.2
comp=Z,8.2nm,0.6s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.26 323 P P 04 26 48.5 -3.7
NB2 NORSAR Subarra 44.26 323 P P 04 26 52.0 -0.2
baz=95,slow=7.9
NOA NORSAR Array B 44.26 323 P P 04 26 52.0 -0.2
comp=Z,9.1nm,0.5s,baz=97,slow=7.8,SNR=82
comp=Z,9.1nm,0.5s
KONS Konsvik 44.31 331 *eP* P 04 26 53.2 +0.8
GRF Grafenberg Arr 44.32 307 *eP* P 04 26 53.4 +0.6
comp=Z,7.0nm,1.1s,baz=85,slow=7.8
GRF *eL* L 04 47 42.5
comp=Z,74nm,19.5s
NAO01 NORSAR Array S 44.40 323 P P 04 26 53.0 -0.2
NAO01 lAmb lAmb 04 26 53.9
comp=Z,10nm,0.8s
NBO00 NORSAR Array S 44.47 323 P P 04 26 53.7 -0.2
NC204 NORSAR Array S 44.50 323 P P 04 26 54.0 -0.1
LOF Lofoten 44.54 333 *eP* P 04 26 54.9 +0.6
CLZ Clausthal 44.65 310 *eP* P 04 26 56.4 +1.0
comp=Z,6.0nm,0.8s,baz=85,slow=7.8
NRDL Niedersach Rie 44.77 311 *eP* P 04 26 57.1 +1.0
comp=Z,6.1nm,0.9s,baz=85,slow=7.8
GTTG Gottingen 44.93 309 *eP* P 04 26 58.4 +0.8
comp=Z,9.2nm,0.7s,baz=85,slow=7.8
KONO Kongsberg 44.96 321 P P 04 26 57.8 +0.2
KONO lAmb lAmb 04 26 58.9
comp=Z,8.3nm,0.8s
KONO Kongsberg 44.96 321 P P 04 26 57.8 +0.2
KONO pmax pmax
comp=Z,8.0nm,0.8s
KONO Kongsberg 44.96 321 *eP* P 04 26 57.9 +0.2
UBBA Unterbreizbach 44.98 308 *eP* P 04 26 58.7 +0.8
comp=Z,2.5nm,0.5s,baz=85,slow=7.8
HOMB Homborsund 45.49 319 *eP* P 04 27 02.5 +0.6
HOMB Homborsund 45.49 319 *iP* P 04 27 02.2 +0.4
MOL Molde 46.12 325 *eP* P 04 27 07.8 +1.0
SNART Snartemo 46.18 319 *iP* P 04 27 07.6 +0.4
IBBN Ibbenburen 46.22 311 *eP* P 04 27 08.3 +0.7
comp=Z,11nm,0.8s,baz=85,slow=7.8
BER Bergen 47.12 322 *e* P 04 27 15.2 +0.8
SPITS Spitsbergen Ar 47.42 347 P P 04 27 18.7 +2.0
comp=Z,2.5nm,0.4s,baz=134,slow=9.6,SNR=7.8
comp=Z,2.5nm,0.4s
KMBO Kilima Mbogo 48.74 227 P P 04 27 28.1 +0.3
comp=Z,1.4nm,0.4s,baz=60,slow=4.6,SNR=4.8
comp=Z,1.4nm,0.4s
KMBO Kilima Mbogo 48.74 227 *iP* P 04 27 28.7 +0.9
KMBO pmax pmax
comp=Z,1.0nm,0.4s
EKA Eskdalemuir Ar 52.16 316 P P 04 27 52.6 0.0
comp=Z,2.8nm,0.6s,baz=100,slow=6.6,SNR=8.4
comp=Z,2.8nm,0.6s
ESDC Sonseca Array 57.31 298 P P 04 28 29.4 -0.6
comp=Z,0.7nm,0.5s,baz=53,slow=7.6,SNR=9.2
comp=Z,0.7nm,0.5s
NEEM North Greenlan 60.97 348 *iP* P 04 28 55.7 +0.9
NEEM lAmb lAmb 04 28 57.7
comp=Z,5.7nm,0.6s
SUMG Summit 60.98 341 P P 04 28 55.0 -0.1
SUMG Summit 60.98 341 P P 04 28 55.0 -0.1
SUMG pmax pmax
comp=Z,27nm,1.5s
SUMG Summit 60.98 341 *iP* P 04 28 56.0 +0.9
SUMG lAmb lAmb 04 28 57.3
comp=Z,7.4nm,0.6s
TORD Torodi Ar. Bea 65.57 269 P P 04 29 23.1 -2.6
TORD lAmb lAmb 04 29 25.1
comp=Z,4.4nm,0.7s
TORD Torodi Ar. Bea 65.57 269 P P 04 29 24.0 -1.6
comp=Z,7.7nm,0.5s,baz=47,slow=6.4,SNR=143
comp=Z,7.7nm,0.5s
DY2G Dye2 66.69 337 *iP* P 04 29 33.1 +0.8
DY2G lAmb lAmb 04 29 34.3
comp=Z,18nm,1.1s
D19K Kuna River 69.16 17 P P 04 29 47.9 +0.5
E21K Killik River 70.16 16 P P 04 29 54.0 +0.5
E21K lAmb lAmb 04 29 55.0
comp=Z,6.9nm,1.1s
TOLK Toolik Lake Re 70.93 15 P 04 29 59.1 +0.9
TOLK lAmb lAmb 04 30 00.1
comp=Z,8.5nm,0.9s
G19K Purcell Mounta 71.22 19 P P 04 30 00.5 +0.6
G19K lAmb lAmb 04 30 01.1
comp=Z,5.0nm,0.6s
F21K Alatna River 71.25 17 P P 04 30 00.6 +0.4
F21K lAmb lAmb 04 30 02.4
comp=Z,6.0nm,0.9s
COLD Coldfoot 71.98 16 P P 04 30 05.2 +0.8
COLD lAmb lAmb 04 30 06.0
comp=Z,6.1nm,0.9s
F25K Christian Rive 72.60 14 P P 04 30 08.8 +0.6
E29M Blow River 73.21 11 P P 04 30 12.8 +1.1
J19K Poorman 73.30 19 P 04 30 13.3 +1.0
J19K lAmb lAmb 04 30 14.4
comp=Z,7.7nm,1.1s
J18K Innoko River 73.42 20 P 04 30 14.0 +1.0
J18K lAmb lAmb 04 30 14.4
comp=Z,4.8nm,0.6s
J20K Nowinta River 73.55 19 P P 04 30 14.5 +0.8
J20K lAmb lAmb 04 30 15.3
comp=Z,5.0nm,0.7s
K17K Iditarod 73.56 21 P 04 30 14.7 +0.9
K17K lAmb lAmb 04 30 15.5
comp=Z,8.1nm,0.7s
INK Inuvik 73.89 9 P 04 30 16.4 +0.7
INK lAmb lAmb 04 30 17.2
comp=Z,5.1nm,0.8s
INK Inuvik 73.89 9 P P 04 30 16.7 +1.1
comp=Z,4.3nm,0.5s,baz=343,slow=6.4,SNR=33
comp=Z,4.3nm,0.5s
INK Inuvik 73.89 9 P P 04 30 16.4 +0.7
INK pmax pmax
comp=Z,5.0nm,0.8s
G27K Doyon Strip 74.03 13 P P 04 30 17.1 +0.6
G27K lAmb lAmb 04 30 19.5
comp=Z,4.0nm,0.6s
F30M Barrier River 74.24 10 P P 04 30 18.4 +0.7
F30M lAmb lAmb 04 30 20.9
comp=Z,5.1nm,0.7s
NEA2 Nenana 74.45 17 P P 04 30 19.5 +0.5
NEA2 lAmb lAmb 04 30 20.0
comp=Z,4.6nm,0.7s
DBIC Dimbokro 74.55 267 P P 04 30 18.9 -1.5
comp=Z,5.0nm,0.9s,baz=85,slow=7.4,SNR=3.2
comp=Z,5.0nm,0.9s
H27K Steamboat Moun 74.57 13 P 04 30 20.9 +1.2
CAST Castle Rocks 74.70 19 P 04 30 21.6 +1.1
CAST lAmb lAmb 04 30 21.8
comp=Z,6.6nm,0.9s
ILAR Eielson Array 74.79 16 P P 04 30 20.8 -0.1
comp=Z,1.1nm,0.7s,baz=323,slow=5.4,SNR=7.0
comp=Z,1.1nm,0.7s
G31M Satah River 75.10 10 P P 04 30 23.0 +0.4
J25K Salcha River, 75.25 15 P 04 30 23.2 -0.4
I28M Miner Creek 75.56 13 P 04 30 25.6 +0.1
J26L Joseph Creek 75.72 15 P 04 30 26.6 +0.2
K24K Donnelly Dome 75.87 16 P P 04 30 26.9 -0.3
K24K lAmb lAmb 04 30 28.0
comp=Z,8.1nm,0.7s
SCRK Sand Creek 76.10 15 P P 04 30 29.2 +0.7
H31M Peel River 76.14 10 P P 04 30 28.9 +0.3
H31M lAmb lAmb 04 30 30.5
comp=Z,5.9nm,0.6s
PAX Paxson 76.67 16 P 04 30 32.0 +0.3
PAX Paxson 76.67 16 P P 04 30 32.0 +0.3
PAX pmax pmax
comp=Z,4.0nm,0.6s
BOSA Boshof 77.67 220 P P 04 30 37.1 -0.7
comp=Z,5.5nm,0.7s,baz=39,slow=6.3,SNR=8.1
comp=Z,5.5nm,0.7s
KDAK Kodiak Island 79.22 22 P P 04 30 46.1 +0.4
comp=Z,3.4nm,0.7s,baz=326,slow=5.3,SNR=12
comp=Z,3.4nm,0.7s
YKA Yellowknife Ar 81.22 3 P P 04 30 57.0 +0.7
comp=Z,2.7nm,0.7s,baz=355,slow=5.8,SNR=52
comp=Z,2.7nm,0.7s
YKA Yellowknife Ar 81.22 3 *iP* P 04 30 57.0 +0.7
YKA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 82.14 122 P P 04 31 00.1 -1.7
comp=Z,6.1nm,0.7s,baz=323,slow=4.8,SNR=48
comp=Z,6.1nm,0.7s
ASAR Alice Springs 84.40 125 P P 04 31 11.7 -1.6
comp=Z,4.6nm,0.7s,baz=312,slow=5.1,SNR=44
comp=Z,4.6nm,0.7s
QSPA South Pole Qui 126.33 180 PKP PKPdf 04 37 41.3 0.0
comp=Z,2.1nm,0.8s,baz=246,slow=2.3,SNR=11
CPUP Villa Florida 135.06 268 PKP PKPdf 04 37 58.4 -0.6
comp=Z,0.3nm,0.8s,baz=309,slow=6.2,SNR=3.2
PLCA Paso Flores 149.69 250 PKPbc PKPbc 04 38 28.7 -0.6
comp=Z,4.6nm,1.0s,baz=144,slow=5.5,SNR=4.4

CATAC 28 04:25:56.5±0.5, 10°N±3°×8°5W±°, h4km±2km, M2.6/7, MLv2.6/7, Error ellipse: s-maj=7.5km s-min=3.3km az=19.8, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	
LCR2	La Lucha 2	0.59	72	P	Pg	04 26 07.8	0.0
LCR2	La Lucha 2	0.59	72	S	Sg	04 26 16.4	+0.9
JTS	Las Juntas de	0.82	333	P	Pg	04 26 11.6	-0.6
JTS				S	Sg	04 26 22.9	+0.1
SOCE	Pocosol	0.82	357	P	Pg	04 26 12.6	+0.4
SOCE	Pocosol	0.82	357	S	Sb	04 26 24.8	0.0
INDI	Punta indio, G	0.96	289	P	Pg	04 26 14.5	-0.5
INDI	Punta indio, G	0.96	289	S	Sb	04 26 29.0	+0.1
DRK0	Durika	1.34	102	P	Pn	04 26 21.7	-0.5
DRK0	Durika	1.34	102	S	Sg	04 26 39.8	0.0

*IDC **28** 04:31:10.7±1.4, 34°.88N×25°.63E, h53km±14km, mb3.4/6, mbtmp3.5/9, ML4.0/2, MS3.8/1, Error ellipse: s-maj=22.5km s-min=17.6km az=24.0*
*HLW **28** 04:31:10.4, 34°.66N×25°.55E, h27km±8km, Md3.4, Ml3.0*
*THE **28** 04:31:11.2, 35°N±7°×2°6E±°, h15km±6km, M3.0/5, MLh3.0/5*
*ATH **28** 04:31:23.5, 35°.72N×27°.67E, h14km, Mw4.2, Moment Tensor Solution. s7 Moment tensor: Mrr0.20; Mθθ-1.43; Mφφ1.23; Mrθ0.14; Mrφ-1.67; Mθφ-0.62; Fault plane solution: NP1:φs108.00000°, δ76.00000°, λ170.00000°. NP2:φs201.00000°, δ81.00000°, λ15.00000°.*

ISC 28 04:31:09.0±1.0, 34°.84N±0°.05×25°.66E±0°.03, h31km±8km, n49, σ1s15/58, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	Neapolis	0.42	354	P	Pb	04 31 18.3	0.0
NPS				S	Sb	04 31 24.4	-0.2
NPS	Neapolis	0.42	354	P	Pb	04 31 18.1	-0.2
NPS				S	Sb	04 31 23.2	-1.5
SIT2	Siteia	0.51	45	P	Pn	04 31 20.8	+0.6
SIT2				S	Sb	04 31 26.9	-0.1
ZKR	Zakros	0.53	59	P	Pn	04 31 20.6	+0.2
ZKR				S	Sb	04 31 27.9	+0.4
IACM	Heraklion	0.67	314	P	Pn	04 31 22.7	+0.3
IACM				S	Sb	04 31 30.5	-0.8
TMBK	Timbaki Herakl	0.77	287	P	Pn	04 31 24.4	+0.7
TMBK	Timbaki Herakl	0.77	287	P	Pn	04 31 24.3	+0.6
IDI	Anoyia	0.77	305	P	Pb	04 31 23.7	-0.4
IDI				S	Sn	04 31 34.6	+0.1
IDI	Anoyia	0.77	305	P	Pn	04 31 23.9	0.0
	124nm,0.3s,baz=122,slow=15,SNR=102						
IDI				S	Sn	04 31 37.1	+2.6
	1μm,0.7s,baz=16,slow=20,SNR=32						
IDI	Anoyia	0.77	305	P	Pn	04 31 24.3	+0.4
IDI				S	Sb	04 31 34.2	-0.1
PRNS	Prines Rethymn	1.08	299	P	Pb	04 31 30.2	+1.0
PRNS	Prines Rethymn	1.08	299	P	Pb	04 31 29.9	+0.7
GVD	Gavdhos	1.30	270	P	Pb	04 31 33.2	+0.4
GVD				S	Sb	04 31 50.8	+1.8
GVD	Gavdhos	1.30	270	P	Pb	04 31 33.0	+0.2
KARP	Karpathos	1.41	60	P	Pb	04 31 36.4	+1.6
KARP	Karpathos	1.41	60	P	Pb	04 31 34.4	-0.4
CHNB	Souda	1.46	297	P	Pb	04 31 34.6	-0.9
CHAN	Chania	1.49	297	P	Pb	04 31 34.9	-1.1
CH01	Chania	1.50	297	P	Pb	04 31 35.0	-1.3
THERA	Ancient Thera,	1.53	354	P	Pb	04 31 35.8	-0.9
SNT5	Nea Kammeni, S	1.57	352	P	Pn	04 31 35.6	+0.8
SAP3	Santorini-Thir	1.61	351	P	Pn	04 31 36.3	+1.0
KNDR	Palaiochora Ch	1.67	284	P	Pb	04 31 38.8	-0.3
AMGA	Amorgos Island	1.99	5	P	Pn	04 31 41.7	+1.2
MHLO	Agia Marina, M	2.11	331	P	Pn	04 31 43.3	+1.2
ANKY	Antikythira Is	2.18	299	P	Pn	04 31 45.1	+1.9
ARG	Arkhangelos	2.43	55	P	Pn	04 31 48.1	+1.5
KTHA	Kythira Island	2.55	304	P	Pn	04 31 49.6	+1.4
VLI	Veliai	2.90	311	P	Pn	04 31 53.6	+0.6
SMG	Samos	3.01	18	P	Pn	04 31 56.3	+1.7
MET5	Makryloggos,Me	3.34	327	P	Pn	04 32 00.2	+1.1
SLUM	Salum	3.36	187	P	Pn	04 31 59.2	-0.2
SLUM				S	Sn	04 32 34.1	-4.2
KSL	Kastellorizon	3.45	67	P	Pn	04 32 01.8	+1.2
DION	Dionisos Attik	3.52	337	P	Pn	04 32 03.1	+1.6
ITM	Ithomi	3.82	309	P	Pn	04 32 06.9	+1.2
GUR	Goura	4.09	320	P	Pn	04 32 10.8	+1.3
SWA2		5.59	182	P	Pn	04 32 29.5	-0.4
SWA2				S	Sn	04 33 28.4	-4.7
RYAN	Fayoum	6.95	144	P	Pn	04 32 48.1	-0.6
HFRF	Wahat Farafira	8.00	163	P	Pn	04 33 02.5	-0.6
MMAI	Mount Meron Ar	8.30	100	P	Pn	04 33 09.4	+2.2
	2.0nm,0.3s,baz=300,slow=12,SNR=4.8						
MMAI				S	Sn	04 34 37.7	-2.2
	0.7nm,0.3s,baz=229,slow=20,SNR=2.0						
	0.9nm,0.3s						
EIL	Elat	9.40	121	P	Pn	04 33 22.5	+0.1
	0.1nm,0.4s,baz=337,slow=13,SNR=2.6						
EIL				S	Sn	04 34 59.2	-7.9
	0.1nm,0.4s,baz=285,slow=22,SNR=1.5						
AKASG	Malin Array Be	16.06	8	P	Pn	04 34 54.1	+1.7
	0.5nm,0.3s,baz=203,slow=11,SNR=3.0						
	0.1nm,0.3s						
FINES	FINESS Array B	26.62	0	P	P	04 36 42.2	-2.2
	0.6nm,0.5s,baz=180,slow=8.7,SNR=6.0						
	0.6nm,0.5s						
TORD	Torodi Ar. Bea	30.61	231	P	P	04 37 20.2	-0.1
	0.2nm,0.3s,baz=29,slow=8.8,SNR=7.3						
	0.2nm,0.3s						
ARCES	ARCESS Array B	34.74	360	P	P	04 37 53.9	-2.1
	0.4nm,0.4s,baz=176,slow=9.6,SNR=13						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	41.00	51	P	P	04 38 49.4	+0.4
	0.5nm,0.4s,baz=276,slow=8.8,SNR=6.0						
	0.5nm,0.4s						
MKAR	Makanchi Array	43.60	56	P	P	04 39 10.9	+0.6
	0.2nm,0.4s,baz=275,slow=7.6,SNR=3.6						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	44.93	46	P	P	04 39 20.5	-0.2
	0.8nm,0.4s,baz=268,slow=8.8,SNR=3.2						
	0.8nm,0.4s						
MATP	Matopo	55.03	177	LR	LR	05 05 00.5	
	comp=Z,89nm,18.7s,baz=212,slow=37						

*UCR **28** 05:01:02.6±1.1, 9°.56N×84°.58W, h8km±1km, MW3.7*
*CATAC **28** 05:01:02.1±0.3, 10°N±2°×8°5W±°, h8km±2km, M3.4/12, MLv3.4/12, Error ellipse: s-maj=6.0km s-min=2.7km az=32.2, confirmed*

ISC 28 05:01:02.8±0.8, 9°.54N±0°.02×84°.59W±0°.02, h17km±5km, n133, σ0s82/225, 32C-31D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BITO	Garabito Jaco	0.08	335⇑	eP	Pg	05 01 05.9	-0.2
BITO				eS	Sg	05 01 08.4	0.0
PAR1A	Puntarenas Pro	0.33	81⇓	eP	Pb	05 01 09.9	-0.4
PAR1A				eS	Sb	05 01 15.8	+0.5
OROT	Orotina	0.37	9⇑	eP	Pg	05 01 10.3	-0.2
OROT				eS	Sb	05 01 16.1	-0.3
PICV	PH. Pirrs	0.40	78	eP	Pg	05 01 10.9	-0.1
PICV				eS	Sb	05 01 17.2	0.0
PURI	Puriscal	0.41	42⇓	eP	Pg	05 01 10.9	-0.3
PURI				eS	Sb	05 01 17.3	-0.2
SVQ2	Quepos	0.43	105	eP	Pg	05 01 11.0	-0.5
SVQ2				eS	Sg	05 01 17.6	+0.2
QUEP	Quepos	0.43	105	eP	Pg	05 01 11.0	-0.6
QUEP				eS	Sg	05 01 17.7	+0.2
QUEP	Quepos	0.43	105	P	Pn	05 01 14.4	+0.2
QUEP				S	Sg	05 01 17.6	0.0
PAQE	Paquera	0.44	309⇑	eP	Pb	05 01 11.6	-0.4
PAQE				eS	Sb	05 01 18.7	+0.4
ARZA	Esparza	0.45	350⇑	iP	Pg	05 01 11.7	-0.3
ARZA				eS	Sb	05 01 18.9	+0.2
ROBF	Roble, Puntare	0.46	341⇑	iP	Pb	05 01 11.9	-0.5

ROBF				eS	Sb	05 01 19.2	+0.3		
ATEO	**Atenas**	0.48	25⇓	*e*P	Pg	05 01 12.0	-0.5		
ATEO				eS	Sb	05 01 19.1	-0.4		
LLNJ	**Naranjito**	0.48	98⇑	*e*P	Pg	05 01 12.2	-0.4		
LLNJ				eS	Sb	05 01 19.8	+0.1		
ACOS	**Acosta**	0.49	59⇓	*i*P	Pg	05 01 11.9	-0.7		
ACOS				eS	Sg	05 01 18.9	-0.3		
ENAS	**Puntarenas**	0.50	330⇓	*i*P	Pb	05 01 12.9	-0.2		
ENAS				eS	Sb	05 01 20.9	+0.9		
CBL1	**Cabuya**	0.50	275	*e*P	Pb	05 01 12.8	-0.3		
CBL1				eS	Sb	05 01 21.2	+1.1		
PALD	**Palmares**	0.53	16⇓	*e*P	Pg	05 01 12.9	-0.5		
PALD				eS	Sb	05 01 20.7	-0.3		
SRA1	**San Ramn**	0.55	11⇓	*e*P	Pg	05 01 13.4	-0.4		
SRA1				eS	Sb	05 01 21.5	-0.1		
RAMO	**San Ramon**	0.55	12	*e*P	Pg	05 01 13.6	-0.3		
RAMO				eS	Sb	05 01 21.8	+0.1		
SANTA	**Santa Ana**	0.55	46⇓	*i*P	Pg	05 01 13.0	-0.8		
SANTA				eS	Sg	05 01 20.8	-0.5		
PITB	**Pirrs, San**	0.57	78⇑	*i*P	Pg	05 01 13.6	-0.5		
PITB				eS	Sb	05 01 22.0	-0.2		
RAZU	**San Marcos de**	0.57	78⇑	*i*P	Pg	05 01 13.6	-0.5		
RAZU				eS	Sb	05 01 22.0	-0.2		
BELE	**Belen**	0.58	42⇓	*e*P	Pg	05 01 13.7	-0.7		
BELE				eS	Sg	05 01 21.9	-0.4		
SARCI	**Sarchi**	0.59	24⇑	*i*P	Pb	05 01 14.6	-0.2		
SARCI				eS	Sb	05 01 23.6	+0.7		
GREC	**Grecia**	0.59	27	*e*P	Pb	05 01 15.2	+0.4		
GREC				eS	Sn	05 01 26.4	+0.6		
UELA	**Alajuela**	0.60	38⇑	*i*P	Pg	05 01 14.4	-0.3		
UELA				eS	Sb	05 01 23.2	+0.1		
LCR2	**La Lucha 2**	0.61	71⇓	*i*P	Pg	05 01 14.1	-0.7		
LCR2				eS	Sg	05 01 23.3	-0.4		
LCR2	**La Lucha 2**	0.61	71	P	Pg	05 01 14.0	-0.9		
AMPA	**Desamparados**	0.62	56⇓	*e*P	Pg	05 01 14.3	-0.9		
AMPA				eS	Sg	05 01 22.8	-0.8		
PIEC	**Cerro El Cedra**	0.62	83	*e*P	Pg	05 01 14.8	-0.4		
PIEC				eS	Sb	05 01 24.3	+0.3		
POAS	**San Pedro de P**	0.63	33⇑	*e*P	Pb	05 01 15.2	-0.2		
POAS				eS	Sb	05 01 24.7	+0.8		
CENT	**San Jose**	0.63	52	*e*P	Pg	05 01 14.0	-1.3		
CENT				eS	Sg	05 01 23.4	-0.4		
HEME	**Heredia, Merce**	0.63	45	*e*P	Pb	05 01 15.6	+0.2		
HEME				eS	Sb	05 01 24.9	+0.9		
MEXI	**Barrio Mexico**	0.63	51⇑	*e*P	Pg	05 01 14.7	-0.6		
MEXI				eS	Sg	05 01 23.6	-0.2		
LUJA	**Lujan**	0.63	53⇓	*e*P	Pg	05 01 14.4	-1.0		
LUJA				eS	Sg	05 01 23.2	-0.6		
HDC	**Heredia**	0.65	46⇓	*i*P	Pg	05 01 15.1	-0.6		
HDC				eS	Sb	05 01 24.3	-0.3		
ECI	**Escuela Centro**	0.66	53⇓	*e*P	Pg	05 01 15.0	-0.8		
ECI				eS	Sb	05 01 24.2	-0.4		
SJS3	**Mercedes San J**	0.66	53⇓	*e*P	Pg	05 01 15.2	-0.6		
SJS3				eS	Sb	05 01 24.6	-0.2		
LUPE	**Guadalupe**	0.66	53⇓	*e*P	Pg	05 01 15.1	-0.8		
LUPE				eS	Sg	05 01 24.4	-0.3		
ZARE	**Zarcero**	0.66	17	*e*P	Pb	05 01 16.2	+0.1		
ZARE				eS	Sb	05 01 26.3	+1.2		
TRIO	**Tres Rios**	0.69	58⇓	*i*P	Pg	05 01 15.2	-1.1		
TRIO				eS	Sg	05 01 24.6	-0.9		
CORON	**Coronado**	0.72	53	*e*P	Pg	05 01 16.2	-0.7		
CORON				eS	Sb	05 01 26.4	-0.1		
VPS8	**V Poas**	0.72	28⇓	*e*P	Pg	05 01 16.6	-0.3		
VPS8				eS	Sb	05 01 27.0	+0.3		
VPS5	**V. Poas**	0.73	29	*e*P	Pg	05 01 16.0	-1.2		
VPL1	**V. Platanar**	0.74	17⇓	*e*P	Pg	05 01 16.9	-0.4		
VPL1				eS	Sb	05 01 27.6	+0.4		
REPA	**Paraso**	0.76	68⇓	*i*P	Pg	05 01 16.2	-1.1		
REPA				eS	Sg	05 01 27.1	-0.7		
VPL2	**V. Platanar**	0.78	15⇓	*e*P	Pg	05 01 17.7	-0.5		
VPL2				eS	Sb	05 01 28.7	+0.3		
QUEU	**Ciudad Quesada**	0.79	11⇑	*e*P	Pb	05 01 18.6	+0.6		
QUEU				eS	Sn	05 01 30.9	+0.3		
CVIMO	**Finca Echandi**	0.79	53	*e*P	Pg	05 01 17.7	-0.7		
CVIMO				eS	Sb	05 01 29.0	+0.2		
JUNT	**Juntas**	0.82	333	*e*P	Pg	05 01 17.7	-1.1		
JUNT				eS	Sg	05 01 29.2	-0.5		
JTS	**Las Juntas de**	0.82	334⇑	*i*P	Pg	05 01 17.8	-1.1		
JTS				eS	Sg	05 01 28.9	-0.9		
JTS	**Las Juntas de**	0.82	334	P	Pg	05 01 17.8	-1.1		
JTS				S	Sg	05 01 28.9	-0.9		
SOCE	**Pocosol**	0.83	358⇑	*e*P	Pg	05 01 18.6	-0.5		
SOCE				eS	Sb	05 01 30.3	+0.5		
SOCE	**Pocosol**	0.83	358	P	Pg	05 01 18.7	-0.5		
PCAYA	**Pacayas**	0.85	64	*e*P	Pg	05 01 18.1	-1.6		
VICA	**Volcano Irazu**	0.85	59⇓	*e*P	Pg	05 01 18.6	-1.9		
RAFA	**San Farael, Vo**	0.87	62⇓	*e*P	Pg	05 01 18.9	-0.9		
RAFA				eS	Sb	05 01 31.1	+0.1		
ARTO	**Ro Cuarto**	0.87	25	*e*P	Pg	05 01 19.3	-0.5		
ARTO				eS	Sb	05 01 31.4	+0.5		
CASO	**Castillo**	0.90	351	*e*P	Pg	05 01 19.5	-0.8		
CASO				eS	Sb	05 01 32.3	+0.7		
VINA	**Juan Vinas**	0.90	67⇑	*i*P	Pg	05 01 19.4	-0.9		
VINA				eS	Sg	05 01 31.1	-1.1		
ARE1	**Arenal 1**	0.92	352⇑	*e*P	Pg	05 01 20.1	-0.6		
ARE1				eS	Sn	05 01 34.0	+0.2		
VARE2	**V. Arenal**	0.92	352⇑	*i*P	Pg	05 01 20.2	-0.5		
VARE2				eS	Sb	05 01 33.2	+0.9		
VACR	**Volcan Arenal**	0.93	354	*e*P	Pg	05 01 20.2	-0.6		
VACR				eS	Sn	05 01 34.2	+0.2		
CVTQ	**Turrialba Volc**	0.93	60	*e*P	Pg	05 01 20.1	-0.9		
VTR0	**Volcan Turrial**	0.94	60⇓	*e*P	Pg	05 01 20.4	-0.8		
CVTR	**Volcan Turrial**	0.94	60⇓	*e*P	Pg	05 01 20.3	-0.9		
CVTR				eS	Sn	05 01 35.2	+0.3		
CVTV	**Tajo**	0.94	61	*e*P	Pg	05 01 20.3	-0.9		
CVTV				eS	Sg	05 01 33.2	-0.5		
CEDE	**Laguna Cedeo**	0.94	353⇑	*e*P	Pg	05 01 20.6	-0.5		
INDI	**Punta indio, G**	0.96	290	P	Pg	05 01 20.5	-0.9		
INDI	**Punta indio, G**	0.96	290	S	Sb	05 01 34.4	+1.1		
TURIB	**Turrialba**	0.96	68	*e*P	Pg	05 01 20.2	-1.3		
TURIB				eS	Sg	05 01 32.8	-1.3		
TABAC	**Tabacon**	0.96	349⇑	*e*P	Pb	05 01 21.1	0.0		
TABAC				eS	Sn	05 01 35.2	+0.2		
VERB	**Verbena**	0.96	66⇓	*e*P	Pg	05 01 20.6	-0.9		
VERB				eS	Sb	05 01 33.9	+0.2		
ABRB	**Las Abras (San**	0.97	62⇓	*i*P	Pg	05 01 20.8	-0.9		
ABRB				eS	Sg	05 01 34.0	-0.5		
REZ	**Monterrey de S**	0.98	354	*e*P	Pb	05 01 21.9	+0.5		
REZ				eS	Sn	05 01 37.0	+1.6		
TILA	**Tilaran**	0.99	338	*e*P	Pg	05 01 20.8	-1.5		
CNAS	**Canas**	1.01	331	*e*P	Pb	05 01 22.3	+0.5		
OCHAL	**Ojochal**	1.03	115	P	Pg	05 01 20.8	-2.0		
OCHAL	**Ojochal**	1.03	115	S	Sg	05 01 34.6	-1.7		
NICO	**Nicoya**	1.03	305	*e*P	Pg	05 01 21.7	-1.1		
NICO				eS	Sn	05 01 37.1	+0.6		
PILE	**Guapiles**	1.03	50⇓	*e*P	Pg	05 01 21.8	-1.0		
PILE				eS	Sb	05 01 36.1	+0.7		
RESJ	**San Isidro (Tu**	1.05	63⇓	*e*P	Pg	05 01 22.1	-1.0		
RESJ				eS	Sb	05 01 36.9	+0.9		
SARA	**Sarapiqu**	1.06	32	*e*P	Pg	05 01 20.7	-2.7		
EDPE	**Pejibaye, P**	1.07	111	*e*P	Pg	05 01 21.4	-2.2		
EDPE				eS	Sg	05 01 35.9	-1.8		
SAJE	**San Jernim**	1.08	100	*e*P	Pg	05 01 22.4	-1.4		
PLVR	**Palo Verde**	1.10	317⇑	*e*P	Pg	05 01 22.6	-1.4		
PLVR				eS	Sb	05 01 38.3	+0.8		
QUEB	**Quebradon, Cot**	1.11	344	*e*P	Pg	05 01 23.4	-1.0		
QUEB				eS	Sb	05 01 38.9	+1.1		
TIMP	**Tierras Morena**	1.12	338⇑	*i*P	Pg	05 01 22.9	-1.6		
JUD3	**Juan Diaz 3**	1.12	303	*e*P	Pg	05 01 23.3	-1.3		
JUD3				eS	Sb	05 01 39.2	+1.1		
RVLA	**Villa Bonita**	1.13	60	*e*P	Pg	05 01 23.8	-0.9		
RVLA				eS	Sn	05 01 40.5	+1.5		
LCOCO	**El Coco**	1.15	62	*e*P	Pg	05 01 23.6	-1.4		
LCOCO				eS	Sg	05 01 39.2	-0.8		
CARI	**Cariari**	1.17	46	*e*P	Pg	05 01 24.0	-1.4		
CARI				eS	Sb	05 01 40.4	+1.0		
BAGA	**Bagaces**	1.18	326	*e*P	Pb	05 01 23.7	-1.0		
COVE	**Coope Vega, Sa**	1.18	9	P	Pn	05 01 26.1	+1.5		
IRES	**Siquirres**	1.20	63⇑	*i*P	Pb	05 01 24.9	-0.2		
IRES				eS	Sb	05 01 41.2	+1.0		
TENO	**El Achiote**	1.21	342⇑	*e*P	Pb	05 01 24.3	-1.1		
MOTZ	**Rio Naranjo**	1.23	337	*e*P	Pb	05 01 24.8	-0.8		
MOTZ				eS	Sb	05 01 42.1	+0.8		
CUI	**Cuipilapa**	1.24	333⇑	*i*P	Pn	05 01 25.0	-0.5		
CUI				eS	Sb	05 01 42.0	+0.4		
COLC	**Colonia**	1.27	331⇑	*e*P	Pn	05 01 25.2	-0.5		
COLC				eS	Sb	05 01 42.9	+0.6		
BURE	**Buenos Aires**	1.29	107	*e*P	Pn	05 01 26.3	+0.3		
BURE				eS	Sb	05 01 43.5	+0.7		

HORNC	**Hornillas**	1.30	333⇑	*e*P	Pn	05 01 25.9	-0.3		
HORNC				eS	Sb	05 01 42.9	-0.3		
MESS	**Mesas**	1.33	333⇑	*i*P	Pn	05 01 26.5	-0.1		
MESS				eS	Sb	05 01 44.3	+0.1		
TAAN	**Batan**	1.33	66⇑	*i*P	Pn	05 01 27.2	+0.6		
FIMO	**Fila Mora**	1.34	114⇑	*e*P	Pn	05 01 27.4	+0.6		
DRK0	**Durika**	1.35	102	*e*P	Pn	05 01 27.1	0.0		
DRK0	**Durika**	1.35	102	P	Pn	05 01 27.5	+0.4		
DRK0	**Durika**	1.35	102	S	Sb	05 01 44.9	0.0		
VMAR	**Armenia, Volca**	1.36	338⇓	*i*P	Pn	05 01 27.4	+0.3		
VMAR				eS	Sg	05 01 46.2	-0.7		
ALIBA	**Liberia Airpor**	1.41	318⇓	*e*P	Pn	05 01 28.2	+0.6		
ALIBA				eS	Sg	05 01 49.6	+1.3		
UPAL	**Upala**	1.41	343	*e*P	Pn	05 01 26.1	-1.6		
UPAL				eS	Sg	05 01 47.7	-0.6		
UPAL	**Upala**	1.41	343	P	Pn	05 01 26.6	-1.0		
GPS2	**Hotel Rincn d**	1.42	328	*e*P	Pn	05 01 27.9	+0.1		
GPS2				eS	Sb	05 01 46.2	-0.4		
GPS3	**Bodega del ICE**	1.43	328	*e*P	Pg	05 01 29.9	-0.4		
VERH	**Veragua Rainfo**	1.43	74⇑	*e*P	Pn	05 01 28.0	0.0		
VERH				eS	Sn	05 01 47.2	+0.8		
ELI1	**Hacienda Flor**	1.45	319	*e*P	Pn	05 01 28.5	+0.3		
ELI1				eS	Sg	05 01 50.8	+1.1		
ELI1	**Hacienda Flor**	1.45	319	P	Pn	05 01 28.7	+0.5		
VRLE	**La Escondida,**	1.45	328	*e*P	Pn	05 01 28.2	-0.1		
LAPC	**Finca la Perla**	1.47	326	*e*P	Pn	05 01 28.4	-0.1		
LAPC				eS	Sn	05 01 47.9	+0.4		
EDP2	**Potrero Grande**	1.49	111	*e*P	Pn	05 01 29.4	+0.7		
BUAI	**Buenos Aires**	1.51	331	*e*P	Pn	05 01 28.8	-0.4		
BUAI				eS	Sn	05 01 49.4	+1.0		
PEJA	**Penjamo Buenos**	1.52	332	*e*P	Pn	05 01 28.2	-1.0		
LAES	**El Progreso Va**	1.53	82	*e*P	Pn	05 01 30.1	+0.8		
LAES				eS	Sn	05 01 50.0	+1.1		
CEUA	**Cerro Uatsi, L**	1.63	87	*e*P	Pb	05 01 32.8	+0.4		
CEUA				eS	Sg	05 01 57.3	+2.0		
EDAD	**Golfito**	1.66	122	*e*P	Pn	05 01 30.8	-0.4		
ALCO	**Alturas Coton,**	1.83	109⇑	*e*P	Pn	05 01 33.9	+0.3		
ALCO				eS	Sn	05 01 58.4	+1.9		
BRU2	**Volcan**	2.02	112	*e*P	Pn	05 01 37.7	+1.6		
BRU2	**Volcan**	2.02	112	P	Pn	05 01 37.7	+1.6		
BRU2	**Volcan**	2.02	112	S	Sb	05 02 04.5	+0.6		
BANCO	**falda S V. Bar**	2.19	112	*e*P	Pn	05 01 39.3	+0.8		
BQTLY	**Boquete Panama**	2.24	110	*e*P	Pn	05 01 40.5	+1.2		
ACON	**Acoyapa**	2.48	347	P	Pb	05 01 47.3	+0.5		
RBALA	**Bur**	2.49	105	*e*P	Pn	05 01 42.7	+0.2		
APQ2	**Apoyeque**	3.14	327	P	Pn	05 01 46.3	-5.2		

*IDC **28** 05:05:06.4±4.0,21°.87S×170°.46E,h196km±30km, mb3.2/4, mbtmp3.7/5, Error ellipse: s-maj=42.6km s-min=29.8km az=62.0*

ISC 28 05:05:06.2±1.2, 21°.8S±0°.3×170°.5E±0°.1, h200km, n8, σ0°61/9, mb3.4/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.73**	**265**	P	**Pn**	**05 06 04.1**	**-0.7**
	8.4nm,0.6s,baz=108,slow=19,SNR=11						
DZM				S	**Sn**	**05 06 51.2**	**+0.5**
	42nm,0.6s,baz=143,slow=21,SNR=9.4						
ASAR	**Alice Springs**	**33.71**	**260**	P	**P**	**05 11 29.1**	**+0.3**
	0.6nm,0.8s,baz=97,slow=9.0,SNR=3.9						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**33.75**	**266**	P	**P**	**05 11 29.3**	**+0.2**
	0.4nm,0.6s,baz=102,slow=8.0,SNR=1.8						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**68.30**	**180**	P	**P**	**05 15 46.2**	**+0.7**
	1.7nm,0.9s,baz=15,slow=12,SNR=6.8						
	1.7nm,0.9s						
SNAA	**Sanae**	**86.69**	**182**	P	**P**	**05 17 26.3**	**-0.8**
	0.5nm,0.6s,baz=200,slow=5.0,SNR=5.0						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**127.79**	**345**	PKP	**PKPdf**	**05 23 47.6**	**+0.5**
	1.3nm,0.9s,baz=72,slow=1.9,SNR=7.2						
EKA	**Eskdalemuir Ar**	**146.14**	**353**	PKPbc	**PKPbc**	**05 24 22.3**	**-0.2**
	0.5nm,0.4s,baz=343,slow=2.6,SNR=2.1						
GERES	**GERESS Array B**	**147.24**	**331**	PKPbc	**PKPbc**	**05 24 26.1**	**+0.1**
	0.3nm,0.2s,baz=69,slow=1.9,SNR=3.7						

RSNC 28 05:24:25.9±0.0, 7°N±1°×73°W±1°, h140km±2km, M3.2, mB4.6, mb3.6, ML3.1, MLv3.6, Mw(mB)3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**183**	P	Pn	05 24 44.9	-0.4
BARC				S	Sn	05 24 58.3	-1.8
BRJC	**Barrancabermej**	**0.59**	**286**	P	Pn	05 24 46.6	0.0
BRJC				S	Sn	05 25 03.5	+1.2
PAMC	**Pamplona, Colo**	**0.70**	**42**	P	Pn	05 24 47.7	-0.2
PAMC				S	Sn	05 25 04.7	+0.1
RUSC	**La Rusia**	**0.92**	**175**	P	Pn	05 24 48.9	-0.7
RUSC				S	Sn	05 25 07.6	+0.1
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P	Pn	05 24 51.3	-1.4
PTBC				S	Sn	05 25 12.7	-0.4
OCAC	**Ocana**	**1.43**	**354**	P	Pn	05 24 53.1	-1.0
OCAC				S	Sn	05 25 14.7	-1.0
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	05 24 57.0	-1.2
ZARC				S	Sn	05 25 22.8	-0.1
NORC	**Norcasia**	**2.10**	**234**	P	Pn	05 25 00.6	-1.0
NORC				S	Sn	05 25 29.3	+0.2
ROSC	**El Rosal**	**2.27**	**210**	P	Pn	05 25 04.9	+0.8
ROSC				S	Sn	05 25 34.2	+0.8
HELC	**Santa Helena**	**2.42**	**255**	P	Pn	05 25 06.1	+0.1
HELC				S	Sn	05 25 36.5	-0.2
CVER	**Cruz Verde, Cu**	**2.44**	**202**	P	Pn	05 25 06.6	+0.2
UREC	**San Jos de Ur**	**2.52**	**292**	P	Pn	05 25 05.1	-1.8
UREC				S	Sn	05 25 36.1	-2.3
GUY2C	**Guyana, Caldas**	**2.69**	**234**	P	Pn	05 25 09.6	+0.2
GUY2C				S	Sn	05 25 44.1	+1.2
VILC	**Villavicencio,**	**2.73**	**191**	P	Pn	05 25 08.3	-1.3
VILC				S	Sn	05 25 42.7	-0.6
RECRC	**Villamaria, Ca**	**2.84**	**230**	P	Pn	05 25 14.2	+2.8
RECRC				S	Sn	05 25 50.1	+3.6
NIZA	**Niza - Manizal**	**2.88**	**233**	P	Pn	05 25 13.4	+1.8
NIZA				S	Sn	05 25 51.0	+4.2
CBOC	**Ciudad Bolivar**	**2.98**	**252**	P	Pn	05 25 12.8	0.0
CBOC				S	Sn	05 25 48.6	-0.3
DBBC	**Dabeiba**	**3.02**	**274**	P	Pn	05 25 12.2	-1.1
DBBC				S	Sn	05 25 47.9	-2.0
ANIL	**Santa Ana**	**3.20**	**224**	P	Pn	05 25 16.6	+0.8
ARGC	**Ariguani, Magd**	**3.21**	**341**	P	Pn	05 25 15.0	-0.6
ARGC				S	Sn	05 25 54.1	0.0
PRAC	**Prado**	**3.52**	**209**	P	Pn	05 25 18.7	-1.0
PRAC				S	Sn	05 26 00.5	-0.8
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	05 25 19.4	-0.6
ORTC				S	Sn	05 26 02.4	+0.4
APAC	**Apartado, Choc**	**3.55**	**288**	P	Pn	05 25 18.5	-1.5
PLMC	**San Jos del P**	**3.63**	**239**	P	Pn	05 25 20.6	-0.5
PLMC				S	Sn	05 26 04.0	+0.1
SJCC	**San Jacinto, C**	**3.66**	**327**	P	Pn	05 25 18.5	-3.0
SJCC				S	Sn	05 26 01.7	-2.8
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	05 25 21.7	-0.9
URMC				S	Sn	05 26 06.0	-0.5
LCBC	**Los crdobas,**	**3.77**	**303**	P	Pn	05 25 21.4	-1.4
LCBC				S	Sn	05 26 04.8	-2.2
CRJC	**Cerrejon, Guaj**	**4.19**	**4**	P	Pn	05 25 25.4	-1.2
CRJC				S	Sn	05 26 11.9	-5.3
YOTC	**Yotoco, Valle**	**4.23**	**229**	P	Pn	05 25 28.0	-1.1
YOTC				S	Sn	05 26 18.0	-0.1
SMRC	**Santa Marta, M**	**4.45**	**347**	P	Pn	05 25 29.9	-2.0
MACC	**Macarena, Meta**	**4.68**	**188**	P	Pn	05 25 32.0	-3.0
MACC				S	Sn	05 26 23.7	-5.1
JAMC	**Jamundi, Valle**	**4.99**	**225**	P	Pn	05 25 39.5	+0.2
	0.0nm4.7nm,0.8s						
JAMC				S	Sn	05 26 34.4	-2.1
	0.0nm4.7nm,0.8s						
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	05 25 35.3	-3.8
URIC				S	Sn	05 26 32.4	-3.8
GARC	**Garzon, Huila**	**5.14**	**207**	P	Pn	05 25 39.2	-2.1
GARC				S	Sn	05 26 37.2	-2.9
POPC	**Popayan, Colom**	**5.50**	**220**	P	Pn	05 25 45.5	-0.5
	2.5nm,0.7s						
POPC				S	Sn	05 26 47.4	-1.1
	2.5nm,0.7s						
FLOC	**Florencia**	**5.75**	**206**	P	Pn	05 25 47.3	-2.0
	4.1nm,0.8s						
FLOC				S	Sn	05 26 52.5	-1.9
	4.1nm,0.8s						
MTDJ	**Mount Denham**	**12.12**	**340**	P	Pn	05 27 14.2	0.0

*MOS **28** 05:29:03.5,42°.88N×46°.37E,h5km,MPVA3.9*
*DRS **28** 05:29:03.8,42°.92N×46°.31E,h15km*
*NORS **28** 05:29:04.2,42°.86N×46°.19E,h1km,MPVA4.0*

ISC 28 05:29:04.5±1.0, 42°.87N±0°.02×46°.33E±0°.02, h5km±8km, n51, σ1°55/95, 4C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.17**	**302**	*i* Pg	**Pg**	**05 29 06.6**	**-1.4**
DVE				*e*Sg	**Sg**	**05 29 09.5**	**-0.7**
DVE	**Vedeno**	**0.17**	**302**	*i* PG	**Pg**	**05 29 06.6**	**-1.4**
BTLR	**Botlikh**	**0.22**	**200**	*e*Pg	**Pg**	**05 29 09.7**	**+1.0**
BTLR				*e*Sg	**Sg**	**05 29 14.0**	**+2.4**
BTLR	**Botlikh**	**0.22**	**200**	*e*PG	**Pg**	**05 29 09.7**	**+1.0**
BTLR				pmax	pmax		
	comp=Z,326nm,0.1s						
DLMR	**Dylym**	**0.30**	**48**	*e*Pg	**Pg**	**05 29 10.1**	**-0.3**
DLMR				*e*Sg	**Sg**	**05 29 14.6**	**+0.1**
DLMR	**Dylym**	**0.30**	**48**	*e*PG	**Pg**	**05 29 10.1**	**-0.3**
DLMR				*e*S	**Sg**	**05 29 14.5**	**+0.1**
DLMR				pmax	pmax		
	comp=Z,19nm,0.1s						
UNCR	**Uncukul**	**0.38**	**114**	*i* Pg	**Pg**	**05 29 12.2**	**+0.4**
UNCR				*e*Sg	**Sb**	**05 29 18.7**	**-1.3**
UNCR	**Uncukul**	**0.38**	**114**	*i* PG	**Pg**	**05 29 12.2**	**+0.4**
UNCR				*e*S	**Sb**	**05 29 18.7**	**-1.3**
UNCR				pmax	pmax		
	comp=Z,250nm,0.3s						
HNZR	**Khunzah**	**0.42**	**137**	*e*PG	**Pb**	**05 29 13.8**	**-0.8**
HNZR				*e*S	**Sb**	**05 29 21.2**	**-0.2**
HNZR				pmax	pmax		
	comp=Z,41nm,0.2s						
XNZR	**Khunzakh**	**0.43**	**139**	*e*Pg	**Pb**	**05 29 13.8**	**-0.9**
XNZR				*e*Sg	**Sb**	**05 29 21.2**	**-0.4**
KRNR	**Karanay**	**0.43**	**95⇑**	*i* PG	**Pg**	**05 29 12.7**	**-0.2**
KRNR				*e*S	**Sb**	**05 29 19.6**	**-2.0**
KRNR				pmax	pmax		
	comp=Z,65nm,0.2s						
BUJR	**Buynaksk**	**0.58**	**94**	*e*Pg	**Pb**	**05 29 17.1**	**-0.2**
BUJR				*e*Sg	**Sb**	**05 29 26.7**	**+1.0**
BUJR	**Buynaksk**	**0.58**	**94**	*e*PG	**Pb**	**05 29 17.0**	**-0.2**
BUJR				*e*S	**Sb**	**05 29 26.7**	**+1.0**
BUJR				pmax	pmax		
	comp=Z,109nm,0.2s						
GNBR	**Gunib**	**0.67**	**135**	*i* PG	**Pb**	**05 29 18.8**	**0.0**
GNBR				*e*S	**Sb**	**05 29 29.3**	**+0.9**
TLTR	**Tlyarata**	**0.76

SDCO	**Great Sand Dun**	**0.09 352**	Pg	Pg	05 35 38.6	+0.6
SDCO			Sg	Sg	05 35 40.5	+0.8
T25A	**Trinidad**	**1.00 121**		Pg	05 35 54.7	-0.3
T25A			Sg	Sg	05 36 07.7	-0.3
S22A	**4UR Ranch, Cre**	**1.07 275**		Pg	05 35 56.0	-0.4
S22A	comp=E,34nm,0.1s		IAML		05 36 11.8	
S22A	comp=N,17nm,0.1s		IAML		05 36 13.1	
Q24A	**Divide**	**1.33 11**		Pn	05 36 00.8	-0.4
Q24A				Sg	05 36 18.4	-0.2
Q24A	comp=E,28nm,0.3s		IAML		05 36 19.4	
Q24A	comp=N,19nm,0.3s		IAML		05 36 21.0	
ISCO	**Idaho Springs**	**2.14 357**	Pn	Pn	05 36 12.0	-0.4
MVCO	**Mesa Verde**	**2.44 260**	Pn	Pn	05 36 16.6	+0.3
PV01	**Paradox Valley**	**2.49 282**	Pn	Pn	05 36 18.1	+1.1
RTBA	**Rita Blanca**	**2.51 118**	Pn	Pn	05 36 17.1	-0.2
PV12	**Saucer Basin,**	**2.70 285**	Pn	Pn	05 36 20.7	+0.7

NAO ***28*** *05:44:02.9, 36.˚18N×26.˚04E, h10km, mb3.5*
THE ***28*** *05:44:29.3, 38.˚3N±0.˚5×21.˚8E±0.˚5, h7km±1km, M3.6/21, MLh3.6/21*
ATH ***28*** *05:44:29.5, 38.˚31N×21.˚77E, h7km, ML3.7/43, Manual Solution by N.Liadopoulou First location: 2019/08/28 05:45:19, This location: 2019/08/28 06:21:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
PDG ***28*** *05:44:29.0±0.5, 38.˚31N×21.˚78E, h14km, ML3.8/10, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
UPSL ***28*** *05:44:29.6, 38.˚29N×21.˚76E, h5km, Mw3.7, Moment Tensor Solution. s6 Moment tensor: Mrr=0.11; Mθθ 1.06; Mφφ=0.95; Mrθ=0.34; Mrφ5.16; Mθφ 0.58; Fault plane solution: NP1:φ186.00000°, δ86.00000°, λ-174.00000°. NP2:φ95.00000°, δ84.00000°, λ-4.00000°.*
IDC ***28*** *05:44:29.4±0.9, 38.˚43N×21.˚81E, h0km, mb3.8/11, mbtmp3.8/16, ML3.6/4, MS3.2/2 Error ellipse: s-maj=17.0km s-min=13.9km az=48.0*

ISC 28 05:44:29.6±0.7, 38.˚32N±0.˚01×21.˚76E±0.˚01, h9km±4km, n194, σ1°27/258, mb3.9/9, 13C-19D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
UPR	**University Cam**	**0.04**	**150**	P		**Pg**		**05 44 31.1**	**-0.3**
UPR				S		**Sg**		**05 44 31.9**	**-0.6**
UPR	**University Cam**	**0.04**	**150**	P		**Pg**		**05 44 31.2**	**-0.1**
UPR				S		**Sg**		**05 44 32.0**	**-0.6**
PATC	**Patra C**	**0.05**	**182**	P		**Pg**		**05 44 31.2**	**-0.2**
PATC				S		**Sg**		**05 44 32.1**	**-0.5**
PATG	**Patra B**	**0.08**	**200**	P		**Pg**		**05 44 32.0**	**+0.2**
PATG				S		**Sg**		**05 44 33.5**	**+0.2**
EFP	**Efpalio**	**0.16**	**46**	P		**Pg**		**05 44 33.1**	**+0.1**
EFP				S		**Sg**		**05 44 35.2**	**-0.1**
EFP	**Efpalio**	**0.16**	**46**	P		**Pg**		**05 44 33.2**	**+0.2**
EFP				S		**Sg**		**05 44 35.2**	**-0.1**
SERG	**Sergoula**	**0.25**	**67**	P		**Pg**		**05 44 34.8**	**0.0**
SERG				S		**Sg**		**05 44 38.9**	**+0.7**
SERG	**Sergoula**	**0.25**	**67**	P		**Pg**		**05 44 34.9**	**+0.2**
SERG				S		**Sg**		**05 44 38.5**	**+0.3**
MSL1	**Messolongi**	**0.27**	**282**	P		**Pg**		**05 44 35.6**	**+0.6**
MSL1				S		**Sg**		**05 44 39.1**	**+0.4**
ANX	**Ano Chora**	**0.30**	**24**	P		**Pg**		**05 44 35.7**	**0.0**
ANX				S		**Sg**		**05 44 40.4**	**+0.6**
ANX	**Ano Chora**	**0.30**	**24**	P		**Pg**		**05 44 35.9**	**+0.1**
ANX				S		**Sg**		**05 44 39.7**	**-0.1**
KALE	**Kalithea**	**0.31**	**76**	P		**Pg**		**05 44 35.7**	**-0.1**
KALE				S		**Sg**		**05 44 39.7**	**-0.1**
KALE	**Kalithea**	**0.31**	**76**	P		**Pg**		**05 44 35.8**	**0.0**
KALE				S		**Sg**		**05 44 40.1**	**+0.3**
AXS	**Araxos**	**0.33**	**248**	S		**Sg**		**05 44 40.7**	**+0.3**
AXS	**Araxos**	**0.33**	**248**	P		**Pg**		**05 44 36.2**	**+0.1**
AXS				S		**Sg**		**05 44 40.0**	**-0.5**
RLS	**Riolos of Patr**	**0.35**	**222**	P		**Pg**		**05 44 36.6**	**+0.1**
RLS				S		**Sg**		**05 44 41.3**	**+0.2**
RLS	**Riolos of Patr**	**0.35**	**222**	P		**Pg**		**05 44 36.5**	**0.0**
RLS				S		**Sg**		**05 44 41.2**	**+0.1**
PVO	**Paravola**	**0.35**	**328**	P		**Pg**		**05 44 36.5**	**-0.1**
PVO				S		**Sb**		**05 44 42.7**	**-1.1**
PVO	**Paravola**	**0.35**	**328**	P		**Pg**		**05 44 36.5**	**-0.1**
PVO				S		**Sg**		**05 44 41.7**	**+0.5**
DRO	**Drossia**	**0.37**	**186**	P		**Pg**		**05 44 36.6**	**-0.3**
DRO				S		**Sg**		**05 44 41.5**	**-0.1**
DRO	**Drossia**	**0.37**	**186**	P		**Pg**		**05 44 36.7**	**-0.2**
DRO				S		**Sg**		**05 44 41.7**	**0.0**
KLV1	**Kalavrita**	**0.39**	**136**	P		**Pg**		**05 44 37.1**	**-0.3**
KLV1				S		**Sg**		**05 44 42.6**	**0.0**
KLV	**Kalavryta, Ach**	**0.41**	**132**	P		**Pg**		**05 44 37.2**	**-0.5**
KLV	**Kalavryta, Ach**	**0.41**	**132**	P		**Pg**		**05 44 37.2**	**-0.5**
KLV				S		**Sg**		**05 44 42.8**	**-0.3**
LCHA	**Lechaina**	**0.55**	**226**	P		**Pg**		**05 44 39.6**	**-0.6**
LCHA				S		**Sg**		**05 44 48.1**	**+0.7**
AST1	**Astakos**	**0.57**	**293**	P		**Pg**		**05 44 40.5**	**-0.3**
AST1				S		**Sg**		**05 44 49.3**	**+1.1**
GUR	**Goura**	**0.59**	**130**	P		**Pg**		**05 44 40.4**	**-0.7**
GUR				S		**Sg**		**05 44 48.5**	**-0.5**
GUR	**Goura**	**0.59**	**130**	P		**Pg**		**05 44 40.4**	**-0.7**
GUR				S		**Sg**		**05 44 49.1**	**+0.1**
DLFA	**Delphi**	**0.60**	**74**	P		**Pg**		**05 44 40.4**	**-0.9**
DLFA				S		**Sg**		**05 44 48.7**	**-0.4**
EVR	**Evrytania**	**0.60**	**3**	P		**Pg**		**05 44 40.8**	**-0.6**
EVR				S		**Sb**		**05 44 50.5**	**-0.6**
EVR	**Evrytania**	**0.60**	**3**	P		**Pg**		**05 44 40.7**	**-0.6**
EVR				S		**Sg**		**05 44 49.2**	**+0.1**
CLEM	**Kyllini,Ilia,G**	**0.65**	**230**	P		**Pg**		**05 44 42.2**	**-0.1**
CLEM				S		**Sg**		**05 44 51.5**	**+0.7**
AMPL	**Ampelaki**	**0.74**	**325**	P		**Pg**		**05 44 42.5**	**-1.5**
MAKR	**Makrakomi, Fth**	**0.75**	**22**	P		**Pg**		**05 44 44.0**	**-0.2**
MAKR				S		**Sb**		**05 44 55.9**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.75**	**22**	P		**Pg**		**05 44 44.0**	**-0.2**
MAKR				S		**Sb**		**05 44 54.7**	**-0.7**
AMT	**Artemida-Makis**	**0.78**	**183**	P		**Pg**		**05 44 44.6**	**-0.1**
AMT				S		**Sg**		**05 44 55.3**	**+0.3**
LAM2	**Lamia**	**0.79**	**42**	P		**Pg**		**05 44 43.8**	**-1.0**
LAM2				S		**Sg**		**05 44 55.3**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.82**	**253**	P		**Pb**		**05 44 45.6**	**-0.4**
AGG	**Agios Georgios**	**0.83**	**32**	P		**Pg**		**05 44 44.7**	**-1.0**
AGG				S		**Sb**		**05 44 57.6**	**-0.1**
AGG	**Agios Georgios**	**0.83**	**32**	P		**Pg**		**05 44 44.8**	**-0.9**
AGG				S		**Sb**		**05 44 57.4**	**-0.3**
ZARO	**Zacharo**	**0.83**	**186**	P		**Pb**		**05 44 45.8**	**-0.5**
ZARO				S		**Sb**		**05 44 57.0**	**-0.6**
AXAR	**Agios Charalam**	**0.83**	**57**	P		**Pg**		**05 44 44.7**	**-1.0**
AXAR				S		**Sg**		**05 44 56.8**	**+0.2**
KIAA	**Kiato**	**0.83**	**111**	P		**Pg**		**05 44 45.1**	**-0.7**
KIAA				S		**Sg**		**05 44 56.3**	**-0.2**
SMHA	**Samh**	**0.88**	**266**	P		**Pg**		**05 44 45.6**	**-0.9**
SMHA				S		**Sg**		**05 44 58.4**	**+0.5**
KYPS	**Kipseli, Zakin**	**0.89**	**236**	P		**Pg**		**05 44 46.7**	**-0.1**
KYPS				S		**Sb**		**05 44 59.1**	**-0.2**
EVGI	**Lefkada island**	**0.92**	**290**	P		**Pg**		**05 44 46.3**	**-1.0**
EVGI				S		**Sb**		**05 45 01.2**	**+1.1**
EVGI	**Lefkada island**	**0.92**	**290**	P		**Pg**		**05 44 46.6**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.92**	**296**	P		**Pg**		**05 44 46.4**	**-1.0**
NYDR				S		**Sb**		**05 45 00.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**0.92**	**296**	P		**Pg**		**05 44 46.6**	**-0.8**
NYDR				S		**Sg**		**05 44 59.8**	**+0.4**
VLS	**Valsamata**	**0.93**	**262**	P		**Pg**		**05 44 46.8**	**-0.8**
VLS				S		**Sb**		**05 45 01.6**	**+1.0**
VLS	**Valsamata**	**0.93**	**262**	P		**Pg**		**05 44 47.0**	**-0.6**
LTHK	**Lithakia**	**0.95**	**231**	P		**Pg**		**05 44 47.5**	**-0.4**
PSDA	**Pessada-Kefalo**	**0.95**	**258**	P		**Pg**		**05 44 47.1**	**-0.8**
PSDA				S		**Sg**		**05 45 00.5**	**+0.3**
FSK	**Fiskardo**	**0.95**	**279**	P		**Pg**		**05 44 46.9**	**-1.1**
FSK				S		**Sb**		**05 45 01.7**	**+0.6**
FSK	**Fiskardo**	**0.95**	**279**	P		**Pg**		**05 44 47.1**	**-0.9**
FSK				S		**Sg**		**05 45 00.8**	**+0.5**
ORTH	**Orthonies,Zaky**	**0.96**	**241**	P		**Pg**		**05 44 47.8**	**-0.3**
LKD2	**Lefkada island**	**0.99**	**299**	P		**Pg**		**05 44 47.6**	**-0.9**
LKD2	**Lefkada island**	**0.99**	**299**	P		**Pg**		**05 44 48.0**	**-0.6**
KRI1	**kERI**	**0.99**	**229**	P		**Pg**		**05 44 48.3**	**-0.4**
LTK	**Loutraki**	**0.99**	**107**	P		**Pg**		**05 44 47.9**	**-0.9**
LTK	**Loutraki**	**0.99**	**107**	P		**Pg**		**05 44 47.9**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.00**	**292**	P		**Pg**		**05 44 48.3**	**-0.6**
TSLK	**Tsoukalades, L**	**1.00**	**301**	P		**Pg**		**05 44 48.2**	**-0.8**
TSLK	**Tsoukalades, L**	**1.00**	**301**	P		**Pg**		**05 44 48.1**	**-0.9**
LOUT	**Loutraki**	**1.01**	**109**	P		**Pg**		**05 44 48.7**	**-0.4**
ARG2	**Argostoli**	**1.01**	**263**	P		**Pg**		**05 44 48.3**	**-0.8**
LKR	**Lokris**	**1.03**	**71**	P		**Pg**		**05 44 47.4**	**-1.9**
LKR	**Lokris**	**1.03**	**71**	P		**Pg**		**05 44 48.2**	**-1.2**
ATAL	**Atalanti**	**1.06**	**69**	P		**Pg**		**05 44 48.4**	**-1.6**
VLX	**Vlachokerasia**	**1.06**	**152**	P		**Pg**		**05 44 48.7**	**-1.4**
VLX				S		**Sb**		**05 45 04.7**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.09**	**340**	P		**Pg**		**05 44 49.0**	**-1.6**
TETR	**Tetrakomo, Epi**	**1.09**	**340**	P		**Pg**		**05 44 50.2**	**-0.4**
DMLN	**Damoulianata-K**	**1.09**	**266**	P		**Pg**		**05 44 49.9**	**-0.8**
DMLN	**Damoulianata-K**	**1.09**	**266**	P		**Pg**		**05 44 49.9**	**-0.8**
ITM	**Ithomi**	**1.14**	**173**	P		**Pg**		**05 44 50.6**	**-1.0**
ITM				S		**Sb**		**05 45 06.8**	**+0.3**
ITM	**Ithomi**	**1.14**	**173**	P		**Pg**		**05 44 50.5**	**-1.0**
VIL2	**Platees**	**1.19**	**95**	P		**Pn**		**05 44 52.9**	**+0.3**
VILL	**Villia**	**1.23**	**97**	P		**Pg**		**05 44 52.5**	**-0.8**
VILL				S		**Sn**		**05 45 09.4**	**-0.5**
THL	**Klokotos Trika**	**1.26**	**9**	P		**Pn**		**05 44 53.5**	**0.0**
PARN2	**Moni Osiou Mel**	**1.34**	**95**	P		**Pg**		**05 44 54.9**	**-0.5**
PARN3	**Mandra,Attica,**	**1.39**	**100**	P		**Pb**		**05 44 55.5**	**-0.4**
MAGU	**Magoula**	**1.40**	**99**	P		**Pn**		**05 44 55.3**	**-0.1**
PYL2	**Kinigos**	**1.41**	**181**	P		**Pn**		**05 44 55.4**	**-0.1**
STFN	**Stefani**	**1.41**	**95**	P		**Pb**		**05 44 55.7**	**-0.5**
MET2	**Kameni Chora,**	**1.43**	**119**	P		**Pn**		**05 44 55.7**	**-0.1**
LRSO	**Larissa Observ**	**1.44**	**20**	P		**Pn**		**05 44 56.0**	**+0.1**
MET5	**Makryloggos,Me**	**1.44**	**118**	P		**Pn**		**05 44 55.6**	**-0.3**
MET6	**Megalochori,Me**	**1.45**	**119**	P		**Pb**		**05 44 56.4**	**-0.5**
MET4	**Agioi Theodoro**	**1.47**	**118**	P		**Pb**		**05 44 56.6**	**-0.6**
NEO	**Neokhori**	**1.51**	**49**	P		**Pn**		**05 44 56.8**	**-0.2**
JAN	**Janina**	**1.52**	**332**	P		**Pb**		**05 44 57.7**	**-0.2**
PARN1	**Fyli,Attica,Gr**	**1.52**	**98**	P		**Pn**		**05 44 57.2**	**+0.2**
ATH	**Athens Observa**	**1.58**	**102**	P		**Pn**		**05 44 58.3**	**-0.7**
ATHU	**Athens Univers**	**1.63**	**102**	P		**Pn**		**05 44 58.9**	**+0.3**
IGT	**Igoumenitsa**	**1.65**	**318**	P		**Pn**		**05 44 59.0**	**+0.1**
VLY	**Voula,Athens**	**1.67**	**106**	P		**Pn**		**05 44 59.5**	**+0.4**
PTL	**Penteli**	**1.68**	**99**	P		**Pn**		**05 44 59.3**	**0.0**
DION	**Dionisos Attik**	**1.73**	**97**	P		**Pn**		**05 45 00.3**	**+0.3**
VLI	**Veliai**	**1.85**	**149**	P		**Pn**		**05 45 02.0**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.86**	**80**	P		**Pn**		**05 45 01.6**	**-0.2**
PENT	**Pentalofos**	**1.94**	**346**	P		**Pb**		**05 45 04.8**	**-0.4**
KZN	**Kozani**	**1.99**	**0**	P		**Pn**		**05 45 04.3**	**+0.7**
KEK	**Kerkira**	**2.07**	**313**	P		**Pn**		**05 45 05.8**	**+1.2**
KARY	**Karystos**	**2.13**	**97**	P		**Pn**		**05 45 05.7**	**+0.3**
PLG	**Polygyros**	**2.43**	**32**	P		**Pn**		**05 45 09.5**	**-0.2**
FNA	**Florina**	**2.48**	**353**	P		**Pn**		**05 45 11.0**	**+0.7**
THE	**Thessaloniki**	**2.49**	**22**	P		**Pn**		**05 45 10.1**	**-0.3**
HORT	**Hortiatis**	**2.50**	**24**	P		**Pn**		**05 45 10.6**	**0.0**
OUR	**Ouranopolis**	**2.65**	**40**	P		**Pn**		**05 45 12.0**	**-0.6**
MHLO	**Agia Marina, M**	**2.65**	**127**	P		**Pn**		**05 45 12.5**	**-0.1**
ANKY	**Antikythira Is**	**2.74**	**153**	P		**Pn**		**05 45 14.2**	**+0.4**
SOH	**Sokhos**	**2.79**	**26**	P		**Pn**		**05 45 14.9**	**+0.4**
OHR	**Ohrid**	**2.89**	**345**	*i* Pn		**Pb**		**05 45 19.7**	**-1.7**
KNT	**Kendrikon**	**2.97**	**17**	P		**Pn**		**05 45 17.6**	**+0.5**
VAY	**Valandovo**	**3.06**	**11**	*i* Pn		**Pn**		**05 45 21.3**	**+3.0**
LIA	**Limnos Island**	**3.10**	**58**	P		**Pn**		**05 45 18.4**	**-0.3**
THERA	**Ancient Thera,**	**3.54**	**122**	P		**Pn**		**05 45 25.0**	**+0.1**
SMTH	**Samothraki Isl**	**3.63**	**52**	P		**Pn**		**05 45 25.6**	**-0.4**
MESG	**Mesagne**	**3.78**	**308**	P		**Pn**		**05 45 28.4**	**+0.3**
EZN	**Ezine**	**3.86**	**66**	⇓P		**Pn**		**05 45 32.0**	**+2.8**
EZN				⇑S		**Sb**		**05 46 22.2**	**-2.5**
IDI	**Anoyia**	**3.93**	**139**	Pn		**Pn**		**05 45 31.6**	**+1.4**
	11nm,0.4s,baz=317,slow=12,SNR=15								
IDI				Sn		**Sn**		**05 46 20.1**	**+3.5**
	5.4nm,0.3s,baz=15,slow=15,SNR=4.0								
IDI	**Anoyia**	**3.93**	**139**	P		**Pn**		**05 45 30.8**	**+0.5**
GVD	**Gavdhos**	**3.94**	**151**	P		**Pn**		**05 45 30.5**	**+0.1**
SMG	**Samos**	**4.05**	**97**	P		**Pn**		**05 45 31.6**	**-0.3**
ULC	**Ulcinj**	**4.12**	**333**	⇑*i* Pn		**Pn**		**05 45 32.9**	**0.0**
ULC				*i* Sn		**Sn**		**05 46 21.6**	**+0.4**
DRME	**Dracevica, Mon**	**4.34**	**334**	⇓*i* Pn		**Pn**		**05 45 36.6**	**+0.8**
DRME				*i* Sn		**Sn**		**05 46 26.9**	**+0.4**
NPS	**Neapolis**	**4.34**	**133**	P		**Pn**		**05 45 36.4**	**+0.6**
PDG	**Podgorica**	**4.53**	**336**	⇓P		**Pn**		**05 45 40.2**	**+1.7**
PDG				⇓S		**Sn**		**05 46 35.4**	**+4.1**
PDG	**Podgorica**	**4.53**	**336**	⇓*i* Pn		**Pn**		**05 45 39.2**	**+0.7**
PDG				*i* Sn		**Sn**		**05 46 31.4**	**+0.1**
BUM	**Brajici-Budva**	**4.54**	**332**	⇑*i* Pn		**Pn**		**05 45 39.0**	**+0.3**
BUM				*i* Sn		**Sn**		**05 46 31.3**	**-0.4**
MATE	**Matera**	**4.55**	**302**	⇑P		**Pn**		**05 45 38.5**	**-0.3**
MATE				⇑S		**Sn**		**05 46 31.1**	**-0.7**
CEME	**Cevo**	**4.75**	**334**	⇑*i* Pn		**Pn**		**05 45 41.8**	**+0.5**
CEME				*i* Sn		**Sn**		**05 46 36.4**	**-0.3**
IVA	**Berane**	**4.77**	**343**	⇓*i* Pn		**Pn**		**05 45 42.5**	**+0.7**
IVA				*i* Sn		**Sn**		**05 46 36.9**	**-0.3**
HCY	**Herceg Novi**	**4.82**	**330**	⇑*i* Pn		**Pn**		**05 45 42.6**	**+0.2**
HCY				*i* Sn		**Sn**		**05 46 38.5**	**+0.1**
KOME	**Kolasin**	**4.84**	**340**	⇓*i* Pn		**Pn**		**05 45 44.1**	**+1.3**
KOME				*i* Sn		**Sn**		**05 46 38.7**	**-0.3**
NKME	**Niksic**	**4.93**	**335**	⇓*i* Pn		**Pn**		**05 45 45.3**	**+1.3**
TREB	**Trebinje**	**5.11**	**330**	*e*Pn		**Pn**		**05 45 45.8**	**-0.6**
BRY	**Bratogost**	**5.20**	**333**	⇓*i* Pn		**Pn**		**05 45 47.4**	**-0.3**
BRY				*i* Sn		**Sn**		**05 46 47.2**	**-0.6**
BOVS	**Bovan**	**5.31**	**360**	⇓P		**Pn**		**05 45 51.7**	**+2.5**
UPM	**Unac-Piva**	**5.34**	**337**	⇑*i* Pn		**Pn**		**05 45 50.8**	**+1.0**
UPM				*i* Sn		**Sn**		**05 46 50.6**	**-0.9**
BLKB	**Belogradchik**	**5.35**	**7**	⇑P		**Pn**		**05 45 52.9**	**+3.2**
KLINJ	**Klinje**	**5.41**	**335**	*e*Pn		**Pn**		**05 45 47.2**	**-3.5**
STON	**Ston**	**5.50**	**327**	*e*Pn		**Pn**		**05 45 51.0**	**-0.7**
PLVN	**Pleven**	**5.51**	**22**	⇑P		**Pn**		**05 45 54.7**	**+2.8**
RUDO	**Rudo**	**5.60**	**342**	*e*Pn		**Pn**		**05 45 59.3**	**-3.8**
VAE	**Valguarnera**	**5.87**	**264**	Pn		Pn		05 46 04.6	+7.6
	6.3nm,0.3s,baz=169,slow=6.0,SNR=3.9								
VAE				Sn		**Sb**		**05 47 15.9**	**-6.9**
	2.5nm,0.3s,baz=39,slow=16,SNR=1.6								
MDVR	**Moldovita**	**6.46**	**360**	⇓P		**Pn**		**05 46 08.4**	**+3.4**
HERR	**Herculane**	**6.58**	**4**	⇓P		**Pn**		**05 46 09.8**	**+3.2**
KIJV	**Kijevo**	**6.97**	**326**	*e*Pn		**Pn**		**05 46 11.9**	**-0.1**
GZR	**Gura Zlata**	**7.11**	**6**	⇑P		**Pn**		**05 46 17.6**	**+3.7**
BLY	**Banja Luka**	**7.29**	**333**	*e*Pn		**Pn**		**05 46 15.4**	**-0.9**
BLY	**Banja Luka**	**7.29**	**333**	⇓P		**Pn**		**05 46 16.9**	**+0.7**
A050A	**Klekovaca**	**7.31**	**329**	*e*Pn		**Pn**		**05 46 16.9**	**+0.3**
A051A	**Mrakovica**	**7.61**	**333**	*e*Pn		**Pn**		**05 46 19.6**	**-1.2**
MLR	**Muntele Rosu**	**7.82**	**22**	Pn		**Pn**		**05 46 25.9**	**+2.2**
	0.6nm,0.3s,baz=160,slow=14,SNR=9.1 7.0nm,0.8s								
MLR	**Muntele Rosu**	**7.82**	**22**	⇓P		**Pn**		**05 46 26.7**	**+3.1**
BISRR	**Bisoca**	**8.11**	**25**	⇓P		**Pn**		**05 46 31.8**	**+4.2**
MOSL	**Moslavina**	**8.19**	**335**	*e*Pn		**Pn**		**05 46 26.0**	**-2.7**
MORH	**Mrgy, Hungar**	**8.22**	**345**	*e*Pn		**Pn**		**05 46 27.8**	**-1.3**
MORH	**Mrgy, Hungar**	**8.22**	**345**	⇓P		**Pn**		**05 46 31.7**	**+2.6**
TURR	**Turia**	**8.35**	**21**	⇑P		**Pn**		**05 46 34.1**	**+3.2**
PLOR	**Plostina**	**8.36**	**24**	⇓P		**Pn**		**05 46 34.6**	**+3.6**
VRI	**Vrincioaia**	**8.40**	**24**	⇓P		**Pn**		**05 46 35.9**	**+4.4**
MARR	**Marisel-Cluj**	**8.41**	**6**	⇓P		**Pn**		**05 46 34.1**	**+2.3**
OZLJ	**Ozalj**	**8.67**	**329**	*e*Pn		**Pn**		**05 46 34.5**	**-0.7**
GBRS	**Gornja Briga**	**8.87**	**327**	*i* Pn		**Pn**		**05 46 38.0**	**-0.1**
BRJN	**Brijuni**	**8.90**	**320**	*e*Pn		**Pn**		**05 46 38.4**	**-1.0**
CEY	**Cerkica**	**9.20**	**326**	*i* Pn		**Pn**		**05 46 42.0**	**-0.6**
PDKS	**Podkum**	**9.22**	**329**	*i* Pn		**Pn**		**05 46 42.1**	**-0.8**
BRTR	**Keskin Array B**	**9.35**	**78**	Pn		**Pn**		**05 46 47.3**	**+2.5**
	0.6nm,0.3s,baz=258,slow=13,SNR=13 1.5nm,0.4s								
VNDS	**Vrh nad Dolski**	**9.37**	**328**	*i* Pn		**Pn**		**05 46 44.2**	**-0.7**
PSZ	**Piszkesteto**	**9.69**	**353**	⇑P		**Pn**		**05 46 51.8**	**+2.4**
SOKA	**Soboth**	**9.72**	**331**	*e*Pn		**Pn**		**05 46 49.8**	**+0.1**
	3.4nm,0.4s								
OBKA	**Obir**	**9.77**	**329**	*i* Pn		**Pn**		**05 46 50.8**	**+0.5**
	1.6nm,0.3s								
MOA	**Molln**	**10.98**	**333**	*i* Pn		**Pn**		**05 47 08.6**	**+1.6**
	2.0nm,0.3s								
LESA	**Schwarzleotal**	**11.27**	**327**	*e*Pn		**Pn**		**05 47 10.2**	**-0.8**
	2.3nm,0.5s								
VRAC	**Vranov**	**11.60**	**343**	LR		LR		05 52 21.3	
	comp=Z,79nm,21.3s,baz=156,slow=41								
WTTA	**Wattenberg**	**11.62**	**324**	*e*Pn		**Pn**		**05 47 15.2**	**-0.7**
	1.6nm,0.2s								
MOTA	**Moosalm**	**11.93**	**323**	*e*Pn		**Pn**		**05 47 20.1**	**+0.1**
	4.1nm,0.5s								
GERES	**GERESS Array B**	**12.03**	**334**	Pn		**Pn**		**05 47 22.4**	**+1.0**
	baz=155,slow=13,SNR=4.3								
GERES				Sn		**Sn**		**05 49 34.1**	**-1.5**
	baz=148,slow=20,SNR=2.4								
GERES				LR		LR		05 52 59.5	
	comp=Z,166nm,18.1s,baz=158,slow=43 0.5nm,0.4s								
DAVOX	**Davos/Dischmat**	**12.17**	**318**	Sn		**Sn**		**05 49 35.2**	**-3.9**
	0.1nm,0.3s,baz=341,slow=16,SNR=1.4								
MMAI	**Mount Meron Ar**	**12.29**	**111**	Pn		**Pn**		**05 47 24.7**	**-0.2**
	2.0nm,0.3s,baz=320,slow=13,SNR=2.5 0.6nm,0.2s								
ESDC	**Sonseca Array**	**20.02**	**282**	P		Pn		05 49 04.0	-0.5
	1.1nm,0.7s,baz=76,slow=10,SNR=10.0								
	1.1nm,0.7s								
HFS	**Hagfors**	**22.43**	**349**	P		**P**		**05 49 28.3**	**-0.2**
	1.3nm,0.4s,baz=159,slow=11,SNR=9.1 1.3nm,0.4s								
FINES	**FINESS Array B**	**23.31**	**5**	P		**P**		**05 49 36.4**	**-1.2**
	0.8nm,0.3s,baz=178,slow=9.0,SNR=7.6 0.8nm,0.3s								
NB2	**NORSAR Subarra**	**23.69**	**347**	P		**P**		**05 49 40.7**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=152,slow=9.3								
NOA	**NORSAR Array B**	**23.69**	**347**	P		**P**		**05 49 40.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=157,slow=12,SNR=3.8 comp=Z,0.3nm,0.4s								
EKA	**Eskdalemuir Ar**	**23.89**	**324**	P		**P**		**05 49 43.2**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=126,slow=9.6,SNR=5.7 comp=Z,3.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**30.76**	**221**	P		**P**		**05 50 48.4**	**+2.9**
	comp=Z,1.4nm,0.6s,baz=31,slow=9.9,SNR=14 comp=Z,1.4nm,0.6s								
ARCES	**ARCESS Array B**	**31.34**	**3**	P		**P**		**05 50 50.0**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=187,slow=8.6,SNR=7.4 comp=Z,0.6nm,0.5s								
BVAR	**Borovoye Array**	**36.28**	**50**	P		**P**		**05 51 33.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=263,slow=8.6,SNR=5.2 comp=Z,0.5nm,0.3s								
KURBB	**Kurchatov Arra**	**41.36**	**54**	P		**P**

191nm,0.5s,baz=62,slow=6.8,SNR=32
PMG S **Sn** **06 13 49.4 -2.6**
134nm,0.3s,baz=23,slow=8.5,SNR=4.7
PMG Port Moresby 7.73 236 P **Pn** **06 12 26.4 +0.3**
ALEG Aligegeo Malai 7.90 118 P **Pn** **06 12 27.3 -1.2**
JAY Jayapura 13.15 281 P **Pn** **06 13 38.5 -0.8**
38nm,1.1s,baz=126,slow=5.6,SNR=5.3
JAY Jayapura 13.15 281 P **P** **06 13 43.7 -1.9**
COEN Coen 13.56 249 **Pn** **06 13 43.1 -1.5**
COEN Coen 13.56 229 P **Pn** **06 13 44.7 +0.1**
GENI Genyem 13.66 280 P **Pn** **06 13 43.6 -2.3**
12µm127nm,0.8s
SMPI Sarmi 15.21 281 P **Pn** **06 14 05.3 -0.4**
4µm184nm,1.1s
MTSU Mount Surprise 15.85 214 P **P** **06 14 17.1 +1.6**
CTAO Charters Tower 16.55 205 **P** **06 14 23.3 0.0**
BAKI Biak 17.92 282 P **Pn** **06 14 39.1 -0.1**
101nm,1.1s
RKPI Ransiki, Papua 19.74 280 P **P** **06 14 58.7 +0.3**
TARA Tarawa 20.30 72 P **P** **06 15 04.5 +0.1**
EIDS Eidsvold 20.32 187 Pn 06 15 05.9 -1.5
EIDS Eidsvold 20.32 187 P Pn 06 15 08.2 +0.8
GUMO Guam 20.49 335 LR LR 06 24 05.4
comp=Z,27nm,18.5s,baz=144,slow=40
QIS Mount Isa 20.55 220 P **P** **06 15 04.1 -3.0**
DZM Mont Dzumac 20.95 145 **P** **06 15 10.7 -0.7**
DZM IAmb IAmb 06 15 16.4
comp=Z,44nm,0.7s
DZM Mont Dzumac 20.95 145 *e*P **P** **06 15 10.3 -1.1**
DZM *e*LR LR 06 20 15.3
comp=Z,391nm,29.5s
DZM Mont Dzumac 20.95 145 P **P** **06 15 11.1 -0.3**
FAKI Fak Fak 21.44 275 P **P** **06 15 15.1 -1.5**
PINNC Pines Island, 21.95 144 P **P** **06 15 21.4 -0.5**
TW1H Toowoomba 1 Ha 22.39 184 P **P** **06 15 28.3 +1.7**
GC1S Gold Coast 1 S 22.95 180 P **P** **06 15 33.8 +1.7**
QLP Quilpie 23.19 202 P **P** **06 15 33.1 -1.3**
MTN Manton Dam 23.51 249 **P** **06 15 36.9 -0.7**
MTN IAmb IAmb 06 15 38.6
comp=Z,40nm,0.8s
WB0 Warramunga Arr 23.75 230 **P** **06 15 39.5 -0.1**
WB0 IAmb IAmb 06 15 41.1
comp=Z,34nm,0.8s
WR8 Warramunga Arr 23.78 230 P **P** **06 15 40.3 +0.4**
WR8 IAmb IAmb 06 15 41.4
comp=Z,40nm,0.9s
WRAB Tennant Creek 23.88 230 P **P** **06 15 41.2 +0.4**
WRAB IAmb IAmb 06 15 43.0
comp=Z,41nm,1.1s
WRA Warramunga Arr 23.89 230 P **P** **06 15 40.0 -0.9**
WRA Warramunga Arr 23.89 230 P **P** **06 15 41.2 +0.3**
comp=Z,17nm,0.5s,baz=55,slow=10.0,SNR=168
WRA PcP **PcP** **06 19 22.0 +0.7**
comp=Z,5.7nm,0.5s,baz=60,slow=2.4,SNR=9.2
WRA LR LR 06 26 24.4
comp=Z,136nm,18.9s,baz=341,slow=40
comp=Z,17nm,0.5s
ARMA Armidale 25.27 184 **P** **06 15 53.3 -0.1**
ARMA Armidale 25.27 184 P **P** **06 15 54.9 +1.5**
AS31 Alice Springs 26.51 224 P **P** **06 16 04.6 0.0**
ASAR Alice Springs 26.51 224 P **P** **06 16 04.1 -0.6**
ASAR Alice Springs 26.51 224 P **P** **06 16 04.9 +0.2**
comp=Z,5.2nm,0.6s,baz=56,slow=8.6,SNR=75
ASAR PcP **PcP** **06 19 28.2 +1.0**
comp=Z,6.4nm,0.6s,baz=61,slow=2.7,SNR=13
ASAR LR LR 06 26 13.5
comp=Z,175nm,21.0s,baz=42,slow=35
comp=Z,5.2nm,0.6s
NFK Norfolk Island 27.41 152 *e*LR LR 06 23 22.0
STKA Stephens Creek 28.95 202 P **P** **06 16 26.8 +0.6**
STKA Stephens Creek 28.95 202 P **P** **06 16 26.6 +0.4**
comp=Z,3.8nm,0.7s,baz=38,slow=14,SNR=6.8
STKA LR LR 06 27 01.6
comp=Z,72nm,21.8s,baz=16,slow=34
comp=Z,3.8nm,0.7s
FITZ Fitzroy Crossi 30.26 242 P **P** **06 16 38.1 +0.1**
FITZ Fitzroy Crossi 30.26 242 P **P** **06 16 37.8 -0.2**
comp=Z,28nm,0.6s,baz=53,slow=6.4,SNR=9.1
FITZ LR LR 06 30 42.8
comp=Z,115nm,18.9s,baz=4.0,slow=40
comp=Z,28nm,0.6s
CAN Canberra 30.39 188 P **P** **06 16 39.8 +0.7**
CAN IAmb IAmb 06 16 41.2
comp=Z,19nm,1.0s
BBOO Buckleboo 32.10 209 P **P** **06 16 53.0 -1.0**
BBOO IAmb IAmb 06 17 21.8
comp=Z,12nm,0.9s
JCJ Chichijima 33.85 341 LR LR 06 29 12.8
comp=Z,60nm,21.8s,baz=236,slow=33
MBWA Marble Bar 36.56 241 P **P** **06 17 32.3 -0.3**
MBWA IAmb IAmb 06 17 33.2
comp=Z,13nm,0.8s
PSA00 Pilbara Seismi 36.61 240 **P** **06 17 31.8 -1.3**
PSA00 IAmb IAmb 06 17 33.6
comp=Z,14nm,1.1s
TAU Tasmania Unive 38.08 188 P **P** **06 17 46.0 +0.8**
TOZ Tahuroa Road 38.13 151 **P** **06 17 46.7 +1.0**
NIUE Niue 38.14 115 *e*LR LR 06 28 12.1
comp=Z,211nm,26.6s
QRZ Quartz Range 39.42 157 P **P** **06 17 56.8 +0.3**
RTZ Ruatahuna 39.54 151 P **P** **06 17 57.3 -0.3**
JOW Kunigami 40.11 324 *e*LR LR 06 29 09.0
comp=Z,146nm,29.5s
JOW Kunigami 40.11 324 LR LR 06 31 40.4
comp=Z,55nm,20.3s,baz=293,slow=32
SNZO South Karori 40.70 155 *e*LR LR 06 29 26.5
comp=Z,8.5nm,25.0s
JOHN Johnston Islan 42.38 58 *e*S **S** **06 24 33.8 -1.4**
comp=Z,76nm,27.6s
JOHN *e*LR LR 06 30 10.5
comp=Z,302nm,30.4s
NWAO Narrogin (SRO) 43.79 226 LR LR 06 36 41.9
comp=Z,237nm,20.9s,baz=349,slow=36
MJAR Matsushiro Arr 43.85 342 P **P** **06 18 31.3 -1.4**
comp=Z,1.5nm,0.6s,baz=156,slow=9.0,SNR=2.4
MJAR LR LR 06 34 29.2
comp=Z,59nm,21.1s,baz=188,slow=33
comp=Z,1.5nm,0.6s
RAR Rarotonga 47.91 114 *e*LR LR 06 32 52.3
comp=Z,194nm,30.0s
RAR Rarotonga 47.91 114 LR LR 06 36 35.7
comp=Z,21nm,20.7s,baz=283,slow=33
KSRS Korea Array 48.63 333 P **P** **06 19 10.1 0.0**
comp=Z,2.4nm,0.8s,baz=150,slow=9.6,SNR=9.6
comp=Z,2.4nm,0.8s
XMAS Kiritimati 49.38 83 *e*LR LR 06 33 21.3
comp=Z,17nm,24.0s
NJ2 Nanjing 49.59 320 *e*P **P** **06 19 15.5 +2.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ASAJ Asahikawa 49.97 350 LR LR 06 38 00.1
comp=Z,32nm,20.3s,baz=194,slow=33
USRK Ussuriysk Ar. 52.79 341 P **P** **06 19 41.7 +0.6**
USRK Ussuriysk Ar. 52.79 341 P **P** **06 19 40.3 -0.8**
comp=Z,1.5nm,0.5s,baz=150,slow=2.9,SNR=4.5
comp=Z,1.5nm,0.5s
CN2 Changchun 54.90 335 P P 06 19 49.8 -6.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
PSI Prapat 55.21 277 LR LR 06 49 06.9
comp=Z,376nm,18.3s,baz=181,slow=42
HNS HongShan 55.67 323 ⇓P **P** **06 20 02.8 +0.6**
POHA Pohakuloa 55.74 62 *e*LR LR 06 36 12.7
comp=Z,10nm,33.2s
PPT Papeete 56.85 108 LR LR 06 39 18.4
comp=Z,23nm,21.0s,baz=263,slow=30
PPT2 Papeete2 56.85 108 *e*LR LR 06 37 00.6
comp=Z,139nm,36.2s
XAN Xi'an 57.40 316 P **P** **06 20 14.8 +0.2**
XAN pP pP 06 20 37.3 -0.5
XAN pmax pmax
comp=Z,14nm,0.6s
TBI Tubuai 57.69 114 *e*LR LR 06 37 13.9
comp=Z,886nm,34.5s
PEA0B Petropavlovsk- 58.08 3 P **P** **06 20 18.9 -0.1**
PETK Petropavlovsk- 58.08 3 **P** **06 20 18.9 -0.1**
PETK Petropavlovsk- 58.08 3 P **P** **06 20 19.1 +0.2**
comp=Z,3.5nm,0.5s,baz=164,slow=5.0,SNR=7.2
comp=Z,3.5nm,0.5s
CMAR Chiang Mai Arr 58.75 295 P **P** **06 20 26.1 +1.8**
comp=Z,0.8nm,0.3s,baz=124,slow=5.8,SNR=8.5
comp=Z,0.8nm,0.3s
PZH PanZhiHua 59.22 305 P **P** **06 20 30.0 +2.5**
XLT XiLinHaoTe 59.33 329 *e*P **P** **06 20 27.8 -0.1**
XLT pP pP 06 20 50.5 -0.6
XLT ScS **ScS** **06 30 05.0 -3.7**
XLT pmax pmax
comp=Z,13nm,0.6s
HEH HeiHe 59.59 341 *e*P **P** **06 20 30.3 +0.8**
HHC Hu-ho-hao-te 59.76 324 *e*P **P** **06 20 34.5 +3.5**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,77nm,5.3s
SHEM Shemya Is, Ala 60.15 14 LR LR 06 42 14.7
comp=Z,29nm,20.1s,baz=184,slow=32
LZH Lanzhou 62.01 316 *e*P **P** **06 20 47.3 +0.9**
LZH pP pP 06 21 08.5 -1.4
LZH pmax pmax
comp=Z,31nm,1.1s
MA2 Magadan 64.50 358 P **P** **06 21 02.0 -0.1**
MA2 IAmb IAmb 06 21 40.8
comp=Z,7.9nm,0.8s
MA2 Magadan 64.50 358 LR LR 06 48 27.7
comp=Z,36nm,19.2s,baz=222,slow=35
GTA Gaotai 66.43 317 P **P** **06 21 17.0 +1.9**
GTA pP pP 06 21 34.0 -4.7
GTA pmax pmax
comp=Z,18nm,0.9s
SONM Songino Array 67.01 327 P **P** **06 21 18.9 +0.3**
SONM Songino Array 67.01 327 P **P** **06 21 19.1 +0.5**
comp=Z,3.3nm,0.7s,baz=147,slow=6.0,SNR=17
comp=Z,3.3nm,0.7s
CASY Casey 67.99 197 P **P** **06 21 24.5 +0.1**
CASY IAmb IAmb 06 21 53.0
comp=Z,6.4nm,1.0s
CASY Casey 67.99 197 *e*LR LR 06 42 05.4
comp=Z,78nm,23.0s
AKUT Akutan 68.04 24 P **P** **06 21 24.4 -0.4**
VNDA Vanda 72.52 178 P **P** **06 21 52.1 +0.3**
VNDA Vanda 72.52 178 P **P** **06 21 52.8 +1.0**
comp=Z,20nm,0.8s,baz=331,slow=6.4,SNR=81
comp=Z,20nm,0.8s
SBA Scott Base 73.05 177 P **P** **06 21 55.7 +0.7**
PALK Pallekele 73.80 279 LR LR 06 57 01.5
comp=Z,156nm,18.3s,baz=74,slow=38
L14K Kuka Creek 74.33 20 P **P** **06 22 02.6 +0.1**
L14K IAmb IAmb 06 22 03.6
comp=Z,9.6nm,0.8s
ACHA Angle Creek He 75.11 25 P **P** **06 22 06.8 -0.6**
ACHA IAmb IAmb 06 22 10.1
comp=Z,5.7nm,0.8s
K15K Wolf Creek Mou 75.38 20 P **P** **06 22 09.0 +0.3**
K15K IAmb IAmb 06 22 34.8
comp=Z,22nm,1.2s
M16K Timber Creek 75.44 22 IAmb IAmb 06 22 10.1
comp=Z,7.6nm,0.8s
KDAK Kodiak Island 76.06 26 LR LR 06 50 36.1
comp=Z,42nm,19.9s,baz=238,slow=32
L18K Granite Mounta 77.04 22 IAmb IAmb 06 22 45.2
comp=Z,12nm,1.1s
CNPM China Poot 77.61 25 P **P** **06 22 21.4 +0.1**
L19K White Mountain 77.70 22 IAmb IAmb 06 22 23.2
comp=Z,8.4nm,0.8s
M19K Big River Lodg 77.70 22 IAmb IAmb 06 22 49.0
comp=Z,15nm,1.4s
SLKM Skilak Lake 78.57 25 P **P** **06 22 25.8 -0.9**
SLKM IAmb IAmb 06 22 27.0
comp=Z,7.5nm,0.6s
SUA Susitna One 78.88 24 P **P** **06 22 27.4 -1.0**
SUA IAmb IAmb 06 22 28.5
comp=Z,6.7nm,0.8s
J20K Nowinta River 79.16 21 IAmb IAmb 06 22 30.7
comp=Z,5.8nm,0.7s
H19K Roundabout Mou 79.21 19 IAmb IAmb 06 22 31.2
comp=Z,7.4nm,0.9s
I20K Naaghedenei 79.41 20 IAmb IAmb 06 22 32.2
comp=Z,13nm,0.9s
CAST Castle Rocks 79.45 22 IAmb IAmb 06 22 31.6
comp=Z,5.5nm,0.8s
PWL Port Wells 79.55 25 P **P** **06 22 31.6 -0.3**
PWL IAmb IAmb 06 23 14.5
comp=Z,13nm,0.9s
ZSN Zaisan 79.62 320 *e*P **P** **06 22 32.2 -0.5**
GHO Glory Hole Cre 79.78 24 P **P** **06 22 32.6 -0.7**
E19K Redstone River 80.21 17 IAmb IAmb 06 23 02.1
comp=Z,10nm,1.0s
IMAR Indian Mountai 80.37 19 P **P** **06 22 35.6 -0.7**
MKAR Makanchi Array 81.08 319 P **P** **06 22 41.1 +0.6**
comp=Z,4.4nm,0.6s,baz=96,slow=6.9,SNR=38
comp=Z,4.4nm,0.6s
CCB Clear Creek Bu 81.70 22 P **P** **06 22 42.0 -1.3**
GLB Gilahina Butte 81.75 26 P **P** **06 22 43.8 0.0**
GLB IAmb IAmb 06 23 09.5
comp=Z,9.2nm,1.0s
ZALV Zalesovo Beam 81.85 326 **P** **06 22 43.9 -0.4**
ZALV Zalesovo Beam 81.85 326 P **P** **06 22 43.6 -0.7**
comp=Z,3.4nm,0.5s,baz=112,slow=5.9,SNR=11
comp=Z,4.3nm,0.5s
SHLS Shalkode 82.02 315 *e*P **P** **06 22 43.7 -2.0**
ILAR Eielson Array 82.11 22 **P** **06 22 43.9 -1.6**
ILAR Eielson Array 82.11 22 P **P** **06 22 43.6 -1.9**
comp=Z,2.4nm,0.8s,baz=251,slow=5.3,SNR=32
ILAR LR LR 06 56 48.9
comp=Z,26nm,18.6s,baz=222,slow=34
comp=Z,2.4nm,0.8s
UZB Uzynbulak 82.33 315 *e*P **P** **06 22 46.5 -0.8**
J25K Salcha River, 82.60 22 IAmb IAmb 06 22 47.9
comp=Z,5.7nm,0.8s
DOT Dot Lake 82.66 23 IAmb IAmb 06 23 13.9
comp=Z,6.4nm,1.0s
SATY Saty 82.75 314 *e*P **P** **06 22 48.9 -0.5**
M27K Edge Creek, AK 82.98 25 IAmb IAmb 06 23 16.6
comp=Z,9.4nm,0.8s
TDK Taldyqorghan 83.21 316 *e*P **P** **06 22 51.3 -0.4**
comp=Z,8.6nm,0.5s
L27K Beaver Creek, 83.30 24 IAmb IAmb 06 22 53.0
comp=Z,13nm,1.5s
MDOK Medeo 83.74 314 *e*P **P** **06 22 54.1 -0.5**
KSH Kashi 83.75 311 P **P** **06 22 57.5 +2.8**
KSH pmax pmax
comp=Z,12nm,0.9s
CHKK Chushkaly 83.93 315 *e*P **P** **06 22 54.9 -0.5**
ULHL Ulahol 84.12 313 P **P** **06 22 57.9 +1.3**
SNR=11
G26K Porcupine Rive 84.28 21 IAmb IAmb 06 23 33.4
comp=Z,9.3nm,1.1s
HYT Haines Junctio 84.30 27 IAmb IAmb 06 23 24.0
comp=Z,7.7nm,1.0s
KUU Kurty 84.40 315 *e*P **P** **06 22 57.5 -0.3**
comp=Z,9.6nm,0.9s
KURK Kurchatov 84.50 322 **P** **06 22 57.8 -0.3**
KURK IAmb IAmb 06 22 59.6
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 84.53 322 P **P** **06 22 58.0 -0.2**
comp=Z,7.2nm,0.9s,baz=108,slow=4.0,SNR=30
comp=Z,7.2nm,0.9s
TKM2 Tokmak 2 84.72 314 P **P** **06 23 00.6 +0.9**
SNR=21
NIL Nilore 84.82 304 P **P** **06 23 01.0 +0.9**
L29M L29M 84.86 25 IAmb IAmb 06 23 01.0
comp=Z,5.0nm,0.9s
QSPA South Pole Qui 84.88 180 P **P** **06 23 01.6 +1.7**
QSPA South Pole Qui 84.88 180 P **P** **06 23 01.5 +1.6**
comp=Z,46nm,0.7s,baz=331,slow=0.6,SNR=397
UCH Uchtor 85.37 313 P **P** **06 23 04.7 +1.5**
SNR=14
AAK Ala-Archa 85.46 313 P **P** **06 23 04.2 +0.9**
AAK IAmb IAmb 06 23 05.1
comp=Z,9.8nm,0.8s
SGDS Sogindy 85.52 314 *e*P **P** **06 23 03.0 -0.5**
USP Ospenovka 85.58 314 P **P** **06 23 04.6 +0.9**
SNR=11
MAW Mawson 85.63 203 P **P** **06 23 04.2 +0.9**
comp=Z,11nm,0.6s,baz=92,slow=5.4,SNR=18
comp=Z,11nm,0.6s
I29M Oqilvie Camp, 85.63 23 IAmb IAmb 06 23 46.9
comp=Z,10nm,1.4s
EKS2 Erkin-Say 85.99 313 P **P** **06 23 07.1 +1.2**
SNR=6.2
J30M Hart River 86.13 24 IAmb IAmb 06 23 07.0
comp=Z,5.1nm,0.9s
BTLS Baital 86.24 316 *e*P **P** **06 23 06.5 -0.3**
G29M Pine Creek 86.33 22 IAmb IAmb 06 23 51.2
comp=Z,6.1nm,0.8s
N32M Quiet Lake 86.45 28 IAmb IAmb 06 23 08.8
comp=Z,6.7nm,0.9s
EPYK Eagle Plains 86.61 22 IAmb IAmb 06 23 44.0
comp=Z,16nm,1.2s
DLBC Dease Lake 87.20 31 LR LR 06 54 49.2
comp=Z,32nm,21.2s,baz=252,slow=30
G31M Satah River 87.72 22 IAmb IAmb 06 23 53.7
comp=Z,6.8nm,0.9s
BRZS Berezniki 88.06 320 *e*P **P** **06 23 15.2 -0.3**
INK Inuvik 88.42 21 LR LR 06 57 01.7
comp=Z,45nm,22.0s,baz=232,slow=32
KK31 Karatay Array 88.43 313 IAmb IAmb 06 23 18.4
comp=Z,3.6nm,0.8s
KKAR Karatay Array 88.43 313 **P** **06 23 17.5 0.0**
YBH Yreka Blue Hor 88.62 48 LR LR 06 54 59.4
comp=Z,6.1nm,21.6s,baz=280,slow=30
IUG Iuzhnay 88.64 312 *e*P **P** **06 23 18.0 -0.5**
BRLS Borolday 88.91 313 *e*P **P** **06 23 19.6 -0.1**
SIMJ Simiganj 88.95 309 P **P** **06 23 20.3 +0.2**
SIMJ IAmb IAmb 06 23 21.5
comp=Z,8.7nm,0.9s
CHM Chimkent 88.98 312 *e*P **P** **06 23 19.6 -0.5**
BVAR Borovoye Array 89.96 323 P **P** **06 23 23.6 -0.8**
comp=Z,12nm,0.8s,baz=104,slow=5.4,SNR=46
comp=Z,12nm,0.8s
NVAR Mina Array Bea 91.61 52 P **P** **06 23 32.4 -0.2**
comp=Z,0.6nm,0.7s,baz=261,slow=6.2,SNR=5.9
NVAR LR LR 06 56 48.7
comp=Z,46nm,21.4s,baz=258,slow=30
comp=Z,0.6nm,0.7s
PFO Pinyon Flats O 92.70 57 LR LR 06 58 05.9
comp=Z,28nm,19.2s,baz=250,slow=31
NEW Newport 93.25 42 LR LR 07 02 27.5
comp=Z,27nm,18.4s,baz=288,slow=34
SYO Syowa Base 93.68 199⇓ *e*P **P** **06 23 41.2 0.0**
RPN Rapa Nui 93.94 118 LR LR 07 00 38.2
comp=Z,23nm,18.7s,baz=78,slow=32
YKA Yellowknife Ar 95.29 28 P **P** **06 23 48.4 -0.3**
comp=Z,1.2nm,0.9s,baz=278,slow=4.5,SNR=5.0
comp=Z,1.2nm,0.9s
AB31 Akbulak array 96.23 319 IAmb IAmb 06 24 16.5
comp=Z,3.3nm,1.1s
ARTI Arti 97.11 326 LR LR 07 10 55.3
comp=Z,40nm,19.3s,baz=154,slow=37
LPIG La Paz 97.57 66 LR LR 06 59 47.6
comp=Z,26nm,20.0s,baz=256,slow=30
PDAR Pinedale Array 98.42 48 LR LR 07 05 07.9
comp=Z,28nm,18.6s,baz=292,slow=33
TROLL Troll, Antarti 100.80 189 ⇑P **Pdif** **06 24 13.3 -0.2**
comp=Z,338nm,0.4s
SNAA Sanae 101.86 187 ⇑P **Pdif** **06 24 17.7 -0.5**
comp=Z,25nm,0.5s
SNAA Sanae 101.86 187 P **Pdif** **06 24 18.0 -0.1**
comp=Z,1.1nm,0.6s,baz=202,slow=8.2,SNR=25
PMSA Palmer Station 104.97 164 *e*LR LR 06 59 11.9
comp=Z,109nm,27.0s
BOSA Boshof 120.12 233 PKP **PKiKP** **06 29 16.7 +0.3**
comp=Z,2.4nm,0.7s,baz=198,slow=4.5,SNR=6.3
MATP Matopo 120.47 243 PKP **PKiKP** **06 29 21.1 +3.7**
comp=Z,4.6nm,0.6s,baz=140,slow=1.9,SNR=12
LSZ Lusaka 122.31 248 PKP **PKiKP** **06 29 21.9 +0.9**
comp=Z,1.5nm,0.4s,baz=141,slow=3.9,SNR=3.8
GERES GERESS Array B 124.73 329 PKP **PKPdf** **06 29 24.2 -0.4**
comp=Z,0.4nm,0.3s,baz=67,slow=1.8,SNR=4.5
LPAZ La Paz 133.55 118 PKP **PKPdf** **06 29 42.6 -0.2**
comp=Z,1.1nm,0.7s,baz=278,slow=3.1,SNR=6.0
MDT Midelt 145.74 326 PKPbc **PKPbc** **06 30 04.5 +0.1**
comp=Z,3.1nm,0.7s,baz=78,slow=6.1,SNR=6.9
BDFB Brasilia 150.28 134 PKPbc **PKPbc** **06 30 15.5 -1.5**
comp=Z,3.7nm,0.5s,baz=204,slow=8.8,SNR=3.3
TORD Torodi Ar. Bea 151.18 288 PKPbc **PKPbc** **06 30 19.1 +0.1**
comp=Z,9.6nm,0.4s,baz=78,slow=2.6,SNR=4.4
DBIC Dimbokro 158.55 275 PKPab **PKPab** **06 30 58.7 +0.1**
comp=Z,3.2nm,0.6s,baz=113,slow=3.6,SNR=4.0

*DJA **28** 06:16:07.7±1.3,3˚S±5˝×13˚8E±˚, h18km±14km, M4.7/8, mB5.6/1, mb4.8/4, MLv4.7/8, Mw(mB)5.1/1*
*IDC **28** 06:16:11.5±2.2,2.2˚81S×138˚62E, h86km±21km, mb3.6/8, mbtmp4.0/11, MS3.7/1, Error ellipse: s-maj=21.7km s-min=12.1km az=105.0*
ISC 28 06:16:08.6±0.6,**2.81S**±0.0˚06×**138.43E**±0.05,**h62**km,**n23,**
σ25/29,mb4.0/9,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.87**	**19**	P	**Pn**	**06 16 22.3**	**-2.7**
GENI	**Genyem**	**1.75**	**83**	P	**Pn**	**06 16 37.2**	**+0.5**
JAY	**Jayapura**	**2.30**	**83**	P	**Pn**	**06 16 44.4**	**+0.2**
	136nm,0.4s,baz=239,slow=10,SNR=106						
JAY				S	**Sn**	**06 17 11.1**	**-0.2**
	93nm,0.4s,baz=319,slow=20,SNR=5.9						
JAY	**Jayapura**	**2.30**	**83**	P	**Pn**	**06 16 43.8**	**-0.3**
SRPI	**Serui, Papua**	**2.38**	**293**	P	**Pn**	**06 16 44.9**	**-0.3**
SRPI				S	**Sn**	**06 17 11.0**	**-2.3**
BAKI	**Biak**	**2.82**	**305**	P	**Pn**	**06 16 51.7**	**+0.4**
BAKI				S	**Sn**	**06 17 21.5**	**-2.7**
RKPI	**Ransiki, Papua**	**4.44**	**287**	P	**Pn**	**06 17 13.4**	**0.0**
RKPI				S	**Sn**	**06 18 01.8**	**-2.1**
FAKI	**Fak Fak**	**6.17**	**269**	P	**Pn**	**06 17 38.1**	**+0.9**
	0.4nm51nm,0.7s						
SWI	**Sorong**	**7.42**	**285**	P	**Pn**	**06 17 55.6**	**+1.3**
	4µm177nm,0.6s						
BATI	**Baumata**	**16.39**	**243**	P	**P**	**06 19 59.8**	**+3.1**
	31nm,0.4s,baz=16,slow=3.7,SNR=5.2						
WRA	**Warramunga Arr**	**17.49**	**193**	P	**P**	**06 20 11.7**	**+3.0**
	1.9nm,0.7s,baz=12,slow=12,SNR=6.4						
WRA				S	**Sn**	**06 23 15.5**	**-7.0**
	7.1nm,0.8s,baz=13,slow=22,SNR=6.5						
FITZ	**Fitzroy Crossi**	**19.69**	**219**	P	**Pn**	**06 20 35.7**	**+0.8**
	3.7nm,0.7s,baz=45,slow=11,SNR=1.5						
FITZ				S	**S**	**06 24 06.4**	**-5.5**
	10nm,0.6s,baz=60,slow=20,SNR=10						
ASAR	**Alice Springs**	**21.19**	**192**	P	**P**	**06 20 50.9**	**+1.8**
	1.7nm,0.5s,baz=22,slow=10,SNR=6.2						
ASAR				S	**S**	**06 24 41.5**	**+0.1**
	2.0nm,0.7s,baz=12,slow=20,SNR=5.4						
	1.7nm,0.5s						
XAN	**Xi'an**	**46.00**	**325**	P	**P**	**06 24 26.0**	**0.0**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
USRK	**Ussuriysk Ar.**	**47.16**	**354**	P	**P**	**06 24 35.5**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=168,slow=7.7,SNR=3.0						
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**57.69**	**335**	LR	LR	06 51 34.5	
	comp=Z,71nm,20.3s,baz=179,slow=37						
PETK	**Petropavlovsk-**	**58.03**	**14**	P	**P**	**06 25 55.7**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=190,slow=5.4,SNR=4.4						
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**69.70**	**323**	P	**P**	**06 27 12.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=108,slow=7.8,SNR=4.1						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**73.65**	**325**	P	**P**	**06 27 35.6**	**+0.1**
	comp=Z,0.9nm,1.1s,baz=113,slow=7.1,SNR=2.4						
	comp=Z,0.9nm,1.1s						
BVAR	**Borovoye Array**	**79.23**	**325**	P	**P**	**06 28 07.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=115,slow=5.6,SNR=5.1						
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**86.04**	**24**	P	**P**	**06 28 41.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=263,slow=4.6,SNR=10						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**87.13**	**180**	P	**P**	**06 28 48.6**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=252,slow=11,SNR=2.1						
	comp=Z,0.9nm,0.8s						
LPAZ	**La Paz**	**147.61**	**127**	PKPbc	**PKPbc**	**06 35 48.1**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=160,slow=1.9,SNR=6.4						

*IDC **28** 06:28:20.2±1.1,0.˚54N×126.˚34E, h0km, mb3.9/7, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=53.8km s-min=18.1km az=71.0*
*DJA **28** 06:28:27.4±1.7,0˚N±4˝×12˚6E±˚, h27km±18km, M4.0/8, MLv4.0/8*
ISC 28 06:28:26.2±1.2,**0.5N**±0.˚1×**126.2E**±0.˚1,**h44**km,**n13,**
σ1902/13,mb3.9/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.22**	**76**	P	Pn	06 28 51.7	+5.0
KMSI	**Cibinong**	**2.21**	**273**	P	**Pn**	**06 29 00.8**	**+0.5**
KMSI				S	**Sn**	**06 29 25.3**	**-1.1**
LUWI	**Luwuk**	**3.73**	**246**	P	**Pn**	**06 29 21.5**	**+0.2**
MRSI	**Marisa**	**4.25**	**270**	P	**Pn**	**06 29 27.9**	**-0.4**
APSI	**Ampana**	**4.74**	**253**	P	**Pn**	**06 29 36.9**	**+1.7**
KAPI	**Kappang**	**8.43**	**230**	Pn	**Pn**	**06 30 25.9**	**+0.1**
	1.9nm,0.3s,baz=75,slow=13,SNR=1.9						
	3.8nm,0.3s						
WRA	**Warramunga Arr**	**21.81**	**159**	P	**P**	**06 33 13.3**	**-1.4**
	6.8nm,0.8s,baz=337,slow=12,SNR=24						
	6.8nm,0.8s						
ASAR	**Alice Springs**	**25.14**	**163**	P	**P**	**06 33 48.0**	**+0.6**
	0.9nm,0.4s,baz=348,slow=8.5,SNR=16						
	0.9nm,0.4s						
SONM	**Songino Array**	**50.21**	**343**	P	**P**	**06 37 16.9**	**-0.9**

0.4nm,0.5s,baz=141,slow=7.0,SNR=2.2
0.4nm,0.5s
MKAR Makanchi Array 59.93 327 P **P** **06 38 28.8 +0.9**
0.7nm,0.4s,baz=119,slow=8.1,SNR=10
0.7nm,0.4s
ZALV Zalesovo Beam 63.24 334 P **P** **06 38 50.5 +0.5**
0.4nm,0.4s,baz=134,slow=7.6,SNR=1.8
0.4nm,0.4s
KURBB Kurchatov Arra 64.19 328 P **P** **06 38 57.5 +1.2**
0.8nm,0.5s,baz=133,slow=6.5,SNR=11
0.8nm,0.5s
BVAR Borovoye Array 69.75 328 P **P** **06 39 31.7 0.0**
0.5nm,0.3s,baz=99,slow=9.3,SNR=3.7
0.5nm,0.3s

NEIC 28 06:44:39.5±1.1, 37°66N±0°01×105°49W±0°02, h6km±2km, ML1.4/18, Error ellipse: s-maj=2.2km s-min=1.9km az=46.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.09**	**352**		Pg	06 44 42.0	+0.3
SDCO				Sg	Sg	06 44 43.9	+0.5
SDCO				IAML		06 44 44.0	
	270nm,0.1s						
T25A	**Trinidad**	**1.00**	**121**	Pg	Pg	06 44 58.4	-0.3
T25A				Sg	Sg	06 45 11.4	-0.3
T25A				IAML		06 45 11.9	
	comp=N,6.8nm,0.2s						
S22A	**4UR Ranch, Cre**	**1.07**	**275**	Pg	Pg	06 44 59.6	-0.4
S22A				Sg	Sg	06 45 13.8	-0.1
S22A				IAML		06 45 20.0	
	comp=E,9.7nm,0.1s						
Q24A	**Divide**	**1.33**	**11**	Pg	Pn	06 45 04.4	-0.6
Q24A				Sg	Sg	06 45 22.0	-0.4
ISCO	**Idaho Springs**	**2.14**	**357**	Pn	Pn	06 45 16.2	+0.1
MVCO	**Mesa Verde**	**2.44**	**260**	Pn	Pn	06 45 20.3	+0.3
MVCO				IAML		06 45 58.4	
	comp=E,2.3nm,0.8s						
PV01	**Paradox Valley**	**2.49**	**282**	Pn	Pn	06 45 20.0	-0.8
RTBA	**Rita Blanca**	**2.51**	**118**	Pn	Pn	06 45 20.4	-0.5
PV02	**Paradox Valley**	**2.63**	**283**	Pn	Pn	06 45 22.5	-0.2

---

*ASRS **28** 07:00:27.0±0.9,54°19N×86°42E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 28 07:00:28.9±3.2, 54°20N×86°50E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=13.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**256**	I	I	07 07 10.0	
	baz=74,slow=319,SNR=5.1						
ZALV	**Zalesovo Beam**	**1.02**	**256**	Pg	Pg	07 00 47.0	-1.4
	0.7nm,0.3s,baz=73,slow=17,SNR=6.3						
ZALV				Lg	Lg	07 01 03.0	
	2.3nm,0.3s,baz=77,slow=31,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.05**	**237**	Pn	Pn	07 02 01.2	+1.7
	0.1nm,0.3s,baz=54,slow=13,SNR=1.9						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.88**	**202**	Pn	Pn	07 02 25.4	+0.6
	0.1nm,0.3s,baz=23,slow=13,SNR=2.4						
	0.1nm,0.3s						

---

*IDC **28** 07:02:52.7±5.8, 8°74S×124°28E, h54km±69km, mb3.2/1, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=46.5km s-min=32.8km az=173.0*

*DJA **28** 07:02:59.5±1.4, 9°S±3°×12°4E±°, h25km±14km, M3.1/6, MLv3.1/6*

ISC 28 07:02:53.3±1.6, 9°1S±0°1×123°8E±0°1, h145km±10km, n9, σ2s11/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.76**	**147**	P	**Pn**	**07 03 16.8**	**+1.0**
SOEI				S	**Sn**	**07 03 32.0**	**-1.0**
BATI	**Baumata**	**1.10**	**189**	P	**Pn**	**07 03 19.5**	**+1.0**
	119nm,0.4s,baz=55,slow=3.7,SNR=10.0						
BATI				S	**Sn**	**07 03 37.7**	**-0.1**
	170nm,0.4s,baz=153,slow=22,SNR=27						
BATI	**Baumata**	**1.10**	**189**	P	**Pn**	**07 03 20.1**	**+1.6**
BATI				S	**Sn**	**07 03 37.4**	**-0.4**
MMRI	**Maumere**	**1.66**	**287**	P	**Pn**	**07 03 24.7**	**+0.5**
MMRI				S	**Sn**	**07 03 46.0**	**-1.8**
EDFI	**Ende, Flores**	**2.16**	**280**	P	**Pn**	**07 03 31.8**	**+1.7**
EDFI				S	**Sn**	**07 03 57.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.10**	**169**	P	**Pn**	**07 05 04.2**	**+2.7**
	1.2nm,0.3s,baz=1.3,slow=8.6,SNR=27						
FITZ				S	**Sn**	**07 06 39.7**	**-2.6**
	13nm,0.7s,baz=197,slow=6.1,SNR=12						
	3.9nm,0.4s						
WRA	**Warramunga Arr**	**14.79**	**138**	P	**P**	**07 06 18.9**	**+1.2**
	0.4nm,0.3s,baz=316,slow=12,SNR=7.0						
WRA				S	**Sn**	**07 08 55.2**	**-4.5**
	0.5nm,0.4s,baz=313,slow=24,SNR=6.7						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**17.38**	**148**	P	Pn	07 06 53.9	+6.8
	0.2nm,0.3s,baz=322,slow=12,SNR=11						
ASAR				S	**S**	**07 10 00.1**	**+0.1**
	0.5nm,0.5s,baz=306,slow=20,SNR=4.1						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**66.83**	**330**	P	P	07 13 38.0	+8.5
	0.3nm,0.5s,baz=134,slow=6.3,SNR=3.7						
	0.3nm,0.5s						

ASRS 28 07:04:24.0±0.9, 54°15N×87°20E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

---

ASRS 28 07:05:22.0±1.1, 53°91N×86°64E, h0km, M2.3, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia

---

IDC 28 07:26:49.8±7.4, 7°86S×130°13E, h0km, mb4.0/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=134.9km s-min=89.8km az=82.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.68**	**162**	Pn	Pn	07 29 51.6	0.0
	0.4nm,0.3s,baz=334,slow=15,SNR=4.6						
WRA				Sn	Sn	07 32 16.6	+3.0
	0.2nm,0.3s,baz=343,slow=22,SNR=1.8						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**16.12**	**167**	Pn	Pn	07 30 36.0	-2.0
	0.2nm,0.3s,baz=346,slow=11,SNR=7.2						
	0.2nm,0.4s						
STKA	**Stephens Creek**	**26.17**	**157**	P	P	07 32 26.4	+0.4
	1.4nm,0.6s,baz=315,slow=10.0,SNR=3.5						
	1.4nm,0.6s						

---

*NAO **28** 07:29:30.5±0.0, 62°63N×2°06E, ML2.6*

*DNK **28** 07:29:30.6±3.2, 62°47N×2°07E, h0km±144km, ML3.6*

*BER **28** 07:29:32.6±2.1, 62°57N×1°93E, h14km±11km, ML2.5, ML2.6(NAO), Confirmed Earthquake*

*UPP **28** 07:29:37.4±3.1, 62°32N×2°88E, h0km, ML2.3, Presumed earthquake*

ISC 28 07:29:31.1±1.4, 62°42N±0°06×2°13E±0°05, h10km, n89, σ1s80/150, 6C-6D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.60**	**120**	Pn	**Pb**	**07 30 01.2**	**+0.5**
FOO				Sn	**Sg**	**07 30 22.4**	**0.0**
FOO	**Floro**	**1.60**	**120**	*eP*	**Pb**	**07 30 01.0**	**+0.3**
FOO				*eS*	**Sb**	**07 30 22.1**	**+1.2**
FOO				IAML		07 30 23.8	
	comp=Z,99nm,0.3s						
SUE	**Sulen**	**1.85**	**136**	Pn	**Pb**	**07 30 04.7**	**-0.3**
SUE				Sn	**Sb**	**07 30 28.6**	**+0.5**
SUE	**Sulen**	**1.85**	**136**	*iP*	**Pb**	**07 30 04.3**	**-0.7**
SUE				*eS*	**Sb**	**07 30 28.2**	**+0.1**
SUE				IAML		07 30 29.9	
	comp=Z,92nm,0.3s						
BAS02	**BAS02**	**2.26**	**142**	*eP*	**Pn**	**07 30 10.5**	**+2.0**
HYA	**Hoyanger**	**2.30**	**121**	*eP*	**Pn**	**07 30 10.9**	**+1.9**
HYA				*eS*	**Sb**	**07 30 40.0**	**-1.0**
HYA				IAML		07 30 49.5	
	comp=Z,31nm,0.3s						
ASK	**Askoy**	**2.43**	**141**	*eP*	**Pn**	**07 30 12.9**	**+2.1**
ASK				*eS*	**Sn**	**07 30 42.3**	**+1.7**
ASK				IAML		07 30 47.6	
	comp=Z,36nm,0.4s						
BAS0D	**BAS04**	**2.45**	**140**	*eP*	**Pn**	**07 30 13.2**	**+2.0**
MOL	**Molde**	**2.52**	**84**	Pn	**Pn**	**07 30 12.2**	**+0.2**
MOL				Sn	**Sn**	**07 30 41.8**	**-1.0**
MOL	**Molde**	**2.52**	**84**	*eP*	**Pn**	**07 30 11.9**	**-0.1**
MOL				*eS*	**Sn**	**07 30 41.1**	**-1.6**
MOL				IAML		07 30 43.1	
	comp=Z,42nm,0.4s						
BER	**Bergen**	**2.55**	**142**	Pn	**Pn**	**07 30 14.6**	**+2.1**
BER				Sn	**Sn**	**07 30 45.2**	**+1.6**
BER	**Bergen**	**2.55**	**142**	*eP*	**Pn**	**07 30 14.6**	**+2.1**
BER				*eS*	**Sn**	**07 30 44.9**	**+1.3**
BER				IAML		07 30 46.5	
	comp=Z,49nm,0.2s						
BAS17	**BAS17**	**2.73**	**144**	*iP*	**Pn**	**07 30 16.8**	**+1.9**
LRW	**Lerwick**	**2.79**	**216**	Pn	**Pn**	**07 30 16.4**	**+0.7**
LRW				Sn	**Sn**	**07 30 49.3**	**-0.2**
LRW	**Lerwick**	**2.79**	**216**	*eP*	**Pn**	**07 30 16.3**	**+0.5**
LRW				*eS*	**Sn**	**07 30 49.4**	**0.0**
LRW				IAML		07 30 53.9	
	comp=Z,45nm,0.4s						
BAS10	**BAS10**	**3.02**	**137**	*eP*	**Pn**	**07 30 20.9**	**+1.9**
DOMB	**Dombas**	**3.27**	**94**	Pn	**Pn**	**07 30 23.6**	**+1.2**
DOMB				Sn	**Sn**	**07 31 01.6**	**+0.3**
DOMB	**Dombas**	**3.27**	**94**	*eP*	**Pn**	**07 30 23.2**	**+0.9**
DOMB				*eS*	**Sn**	**07 31 01.5**	**+0.3**
DOMB				IAML		07 31 02.3	
	comp=Z,38nm,0.5s						
BAS12	**BAS12**	**3.31**	**136**	*eP*	**Pn**	**07 30 24.8**	**+1.9**
ODD1	**Odda**	**3.32**	**137**	Pn	**Pn**	**07 30 25.4**	**+2.3**
ODD1				Sn	**Sn**	**07 31 03.8**	**+1.1**
ODD1	**Odda**	**3.32**	**137**	*eP*	**Pn**	**07 30 25.1**	**+1.9**
ODD1				*eS*	**Sn**	**07 31 03.8**	**+1.1**
ODD1				IAML		07 31 05.7	
	comp=Z,57nm,0.3s						
SKAR	**Skarslia**	**3.43**	**118**	Pn	**Pn**	**07 30 26.7**	**+2.1**
SKAR				Sn	**Sn**	**07 31 07.2**	**+2.0**
SKAR	**Skarslia**	**3.43**	**118**	*eP*	**Pn**	**07 30 26.6**	**+2.0**
SKAR				*eS*	**Sn**	**07 31 06.7**	**+1.5**
SKAR				IAML		07 31 22.5	
	comp=Z,20nm,0.3s						
BAS14	**BAS14**	**3.44**	**137**	*eP*	**Pn**	**07 30 26.4**	**+1.6**
KMY	**Karmoy**	**3.56**	**153**	Pn	**Pn**	**07 30 27.8**	**+1.6**
KMY				Sn	**Sn**	**07 31 08.3**	**-0.1**
KMY	**Karmoy**	**3.56**	**153**	*eP*	**Pn**	**07 30 27.9**	**+1.6**
KMY				*eS*	**Sn**	**07 31 08.2**	**-0.1**
KMY				IAML		07 31 13.5	
	comp=Z,74nm,0.3s						
BLS5	**Blasjo**	**3.67**	**143**	Pn	**Pn**	**07 30 30.1**	**+2.2**
BLS5				Sn	**Sn**	**07 31 11.5**	**+0.3**
BLS5	**Blasjo**	**3.67**	**143**	*eP*	**Pn**	**07 30 29.9**	**+2.0**
BLS5				*eS*	**Sn**	**07 31 11.3**	**+0.1**
BLS5				IAML		07 31 11.7	
	comp=Z,34nm,0.2s						
NC2	**NORSAR Subarra**	**4.28**	**102**	Pn	**Pn**	**07 30 37.1**	**+0.8**
NC2				Sn	**Sn**	**07 31 25.4**	**-0.8**
NC2	**NORSAR Subarra**	**4.28**	**102**	Pn	**Pn**	**07 30 37.1**	**+0.8**
NC2				Sn	**Sn**	**07 31 25.4**	**-0.8**
NBO	**NORSAR Subarra**	**4.34**	**105**	Pn	**Pn**	**07 30 39.0**	**+1.9**
NBO				Sn	**Sn**	**07 31 27.9**	**+0.2**
NBO	**NORSAR Subarra**	**4.34**	**105**	Pn	**Pn**	**07 30 39.0**	**+1.9**
NBO				Sn	**Sn**	**07 31 27.9**	**+0.2**
NBO00	**NORSAR Array S**	**4.34**	**105**	*iP*	**Pn**	**07 30 38.8**	**+1.7**
NBO00				*eS*	**Sn**	**07 31 27.8**	**+0.1**
NBO00				IAML		07 31 46.0	
	comp=Z,10nm,0.6s						
NAO	**NORSAR Subarra**	**4.45**	**107**	Pn	**Pn**	**07 30 41.1**	**+2.5**
NAO				Sn	**Sn**	**07 31 31.3**	**+0.9**
NAO	**NORSAR Subarra**	**4.45**	**107**	Pn	**Pn**	**07 30 41.1**	**+2.5**
NAO				Sn	**Sn**	**07 31 31.3**	**+0.9**
NB2	**NORSAR Subarra**	**4.54**	**104**	Pn	**Pn**	**07 30 40.9**	**+1.1**
	baz=297,slow=12						
NB2				Pn	**Pn**	**07 30 41.6**	**+1.8**
NB2				Sn	**Sn**	**07 31 32.7**	**+0.2**
NB2	**NORSAR Subarra**	**4.54**	**104**	Pn	**Pn**	**07 30 40.9**	**+1.1**
	baz=297,slow=12						
NB2				Sn	**Sn**	**07 31 32.7**	**+0.2**
NC3	**NORSAR Subarra**	**4.55**	**101**	Pn	**Pn**	**07 30 41.5**	**+1.6**
NC3				Sn	**Sn**	**07 31 29.9**	**-2.9**
NC3	**NORSAR Subarra**	**4.55**	**101**	Pn	**Pn**	**07 30 41.5**	**+1.6**
NC3				Sn	**Sn**	**07 31 29.9**	**-2.9**
NB201	**NORSAR Array S**	**4.57**	**103**	*eP*	**Pn**	**07 30 41.3**	**+1.1**
NC4	**NORSAR Subarra**	**4.75**	**102**	Pn	**Pn**	**07 30 43.7**	**+1.0**
NC4				Sn	**Sn**	**07 31 35.8**	**-1.9**
NC4	**NORSAR Subarra**	**4.75**	**102**	Pn	**Pn**	**07 30 43.7**	**+1.0**
NC4				Sn	**Sn**	**07 31 35.8**	**-1.9**
NC6	**NORSAR Subarra**	**4.76**	**106**	Pn	**Pn**	**07 30 44.3**	**+1.4**
NC6				Sn	**Sn**	**07 31 39.7**	**+1.7**
NC6	**NORSAR Subarra**	**4.76**	**106**	Pn	**Pn**	**07 30 44.3**	**+1.4**
NC6				Sn	**Sn**	**07 31 39.7**	**+1.7**
NRA0	**NORESS Array S**	**4.80**	**106**	Pn	**Pn**	**07 30 44.6**	**+1.2**
	baz=296,slow=12						
NRA0				Sn	**Sn**	**07 31 37.8**	**-1.2**
	baz=298,slow=28						
NRA0	**NORESS Array S**	**4.80**	**106**	Pn	**Pn**	**07 30 44.6**	**+1.2**
	baz=296,slow=12						
NRA0				Sn	**Sn**	**07 31 37.8**	**-1.2**
	baz=298,slow=28						
SNART	**Snartemo**	**4.80**	**146**	*eP*	**Pn**	**07 30 45.1**	**+1.7**
SNART				*eS*	**Sn**	**07 31 38.4**	**-0.7**
SNART				IAML		07 31 43.4	
	comp=Z,32nm,0.2s						
SNART	**Snartemo**	**4.80**	**146**	*iP*	**Pn**	**07 30 44.9**	**+1.5**
SNART				*iS*	**Sn**	**07 31 40.3**	**+1.3**
SNART				IAML		07 31 52.6	
	comp=Z,29nm,0.8s						
BIGH	**Upper Bighouse**	**4.94**	**220**	*eP*	**Pn**	**07 30 45.0**	**-0.2**
BIGH				*eS*	**Sn**	**07 31 38.3**	**-4.1**
HOMB	**Homborsund**	**5.22**	**140**	*eP*	**Pn**	**07 30 51.3**	**+2.2**
HOMB				*eS*	**Sn**	**07 31 47.0**	**-2.4**
HOMB				IAML		07 31 53.1	
	comp=Z,8.3nm,0.4s						
HOMB	**Homborsund**	**5.22**	**140**	*iP*	**Pn**	**07 30 51.3**	**+2.2**
HOMB				*iS*	**Sn**	**07 31 47.0**	**-2.4**
HOMB				IAML		07 32 07.5	
	comp=Z,14nm,0.7s						
STRU	**Stroemstad**	**5.59**	**123**	*eP*	**Pn**	**07 30 54.7**	**+0.6**
STRU				*eS*	**Sn**	**07 31 55.7**	**-2.6**
STRU	**Stroemstad**	**5.59**	**123**	*eP*	**Pn**	**07 30 51.7**	**-2.4**
STRU				*iS*	**Sn**	**07 31 54.9**	**-3.4**
STRU				S	**Sn**	**07 31 55.4**	**-2.9**
FINU	**Finntorp**	**5.88**	**116**	P	**Pn**	**07 30 59.4**	**+1.2**
FINU				S	**Sn**	**07 32 03.0**	**-2.5**
FINU	**Finntorp**	**5.88**	**116**	P	**Pn**	**07 30 59.4**	**+1.2**
FINU				S	**Sn**	**07 32 03.0**	**-2.5**
DRUM	**Mains of Drumt**	**5.99**	**205**	*eP*	**Pn**	**07 30 59.9**	**+0.2**
DRUM				*eS*	**Sn**	**07 32 04.0**	**-4.4**
HFS	**Hagfors**	**6.03**	**107**	Pn	**Pn**	**07 31 01.1**	**+0.9**
	baz=294,slow=11						
HFS				Sn	**Sn**	**07 32 09.5**	**+0.4**
	baz=302,slow=28						
HFS	**Hagfors**	**6.03**	**107**	Pn	**Pn**	**07 31 01.1**	**+0.9**
	baz=294,slow=11						
HFS				Sn	**Sn**	**07 32 09.5**	**+0.4**
	baz=302,slow=28						
LEIR	**Leirfjorden**	**6.05**	**47**	*eP*	**Pn**	**07 31 02.9**	**+2.4**
LEIR				*eS*	Sn	07 31 58.9	-11
STOK	**Stokkvaagen**	**6.14**	**45**	*eP*	**Pn**	**07 30 59.3**	**-2.4**
STOK				*e*		07 31 59.8	
STOK				IAML		07 32 13.2	
	comp=Z,6.2nm,0.7s						
VANU	**Vaenersborg**	**6.29**	**124**	P	**Pn**	**07 31 05.5**	**+1.6**
VANU	**Vaenersborg**	**6.29**	**124**	P	**Pn**	**07 31 05.5**	**+1.6**
KPL	**Plockton**	**6.42**	**221**	*eP*	**Pn**	**07 31 05.3**	**-0.3**
KPL				*eS*	**Sn**	**07 32 12.8**	**-6.0**
TJOU	**Tjoern**	**6.45**	**129**	*eP*	**Pn**	**07 31 08.0**	**+2.0**
TJOU				*iS*	**Sn**	**07 32 16.6**	**-3.0**
VAGH	**Vaagaholmen**	**6.46**	**43**	*e*	**Pn**	**07 31 02.3**	**-3.7**
VAGH				*e*		07 32 05.7	
NASU	**Vaermlandsnaes**	**6.46**	**118**	P	**Pn**	**07 31 07.1**	**+1.0**
NASU	**Vaermlandsnaes**	**6.46**	**118**	P	**Pn**	**07 31 07.1**	**+1.0**
OVD	**Ostervraa, Den**	**6.53**	**138**	*eS*	**Sn**	**07 32 21.3**	**-0.2**
OVD				IAML		07 33 05.5	
	comp=Z,235nm,0.3s						
ROTU	**Roteberg**	**6.54**	**93**	P	**Pn**	**07 31 08.4**	**+1.2**
ROTU	**Roteberg**	**6.54**	**93**	P	**Pn**	**07 31 08.4**	**+1.2**
HASU	**Hassela**	**6.76**	**86**	P	**Pn**	**07 31 11.6**	**+1.3**
HASU	**Hassela**	**6.76**	**86**	P	**Pn**	**07 31 11.6**	**+1.3**
FALU	**Falun**	**6.84**	**100**	P	**Pn**	**07 31 12.5**	**+1.1**
FALU	**Falun**	**6.84**	**100**	P	**Pn**	**07 31 12.5**	**+1.1**
BORU	**Boraas**	**7.16**	**127**	*iP*	**Pn**	**07 31 14.9**	**-0.9**
BORU				*eS*	**Sn**	**07 32 33.8**	**-3.3**
FKPU	**Falk**	**7.17**	**121**	P	**Pn**	**07 31 16.7**	**+0.8**
FKPU	**Falk**	**7.17**	**121**	P	**Pn**	**07 31 16.7**	**+0.8**
ARNU	**Arnoeviken**	**7.20**	**89**	P	**Pn**	**07 31 16.4**	**+0.1**
ARNU	**Arnoeviken**	**7.20**	**89**	P	**Pn**	**07 31 16.4**	**+0.1**
OSTU	**Oestervaala**	**7.54**	**100**	P	**Pn**	**07 31 21.4**	**+0.4**
OSTU	**Oestervaala**	**7.54**	**100**	P	**Pn**	**07 31 21.4**	**+0.4**
EKA	**Eskdalemuir Ar**	**7.61**	**203**	Pn	**Pn**	**07 31 23.4**	**+1.5**
	baz=18,slow=18						
EKA				Sn	**Sn**	**07 32 46.2**	**-2.0**
	baz=18,slow=37						
EKA	**Eskdalemuir Ar**	**7.61**	**203**	Pn	**Pn**	**07 31 23.4**	**+1.5**
	baz=18,slow=18						
EKA				Sn	**Sn**	**07 32 46.2**	**-2.0**
	baz=18,slow=37						
FABU	**Falkenberg**	**7.62**	**131**	*i* P	**Pn**	**07 31 20.9**	**-1.1**
FABU				*eS*	**Sn**	**07 32 44.8**	**-3.4**
EDMD	**Edmundbyers**	**7.90**	**198**	*eP*	**Pn**	**07 31 26.0**	**+0.1**
DEL	**Delary**	**8.43**	**130**	*i* P	**Pn**	**07 31 31.6**	**-1.6**
DEL				*eS*	**Sn**	**07 33 05.4**	**-2.9**
BLEU	**Blekinge**	**9.28**	**125**	*eP*	**Pn**	**07 31 44.2**	**-0.5**
BLEU				*eS*	**Sn**	**07 33 22.3**	**-6.8**
FIA0	**FINESS Array S**	**11.30**	**84**	Pn	**Pn**	**07 32 12.6**	**+0.2**
	baz=286,slow=12						
FIA0				Sn	Sn	07 34 03.3	-15
	baz=281,slow=22						
FIA0	**FINESS Array S**	**11.30**	**84**	Pn	**Pn**	**07 32 12.6**	**+0.2**
	baz=286,slow=12						
FIA0				Sn	Sn	07 34 03.3	-15
	baz=281,slow=22						

IDC 28 07:47:32.0±1.4, 13°21N×121°88E, h0km, mb3.6/4, mbtmp3.6/4, MS3.7/1, Error ellipse: s-maj=80.8km s-min=16.3km az=57.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.28**	**314**	Pn	Pn	07 47 57.5	+0.4
	261nm,0.3s,baz=178,slow=8.0,SNR=12						
TGY				Sn	Sn	07 48 16.6	+1.6
	395nm,0.3s,baz=173,slow=21,SNR=10						
LEM	**Lembang**	**24.43**	**216**	LR	LR	08 03 54.1	
	comp=Z,172nm,20.9s,baz=160,slow=40						
WRA	**Warramunga Arr**	**35.15**	**159**	P	P	07 54 27.6	-0.1
	0.6nm,0.3s,baz=339,slow=9.4,SNR=4.9						
	0.6nm,0.3s						
SONM	**Songino Array**	**36.86**	**343**	P	P	07 54 42.7	+0.5
	0.3nm,0.3s,baz=170,slow=8.8,SNR=2.2						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**38.49**	**162**	P	P	07 54 56.2	+0.1
	0.5nm,0.6s,baz=341,slow=7.2,SNR=10						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**47.11**	**323**	P	P	07 56 04.3	-1.6
	0.3nm,0.7s,baz=133,slow=8.5,SNR=2.4						
	0.3nm,0.7s						

---

*IDC **28** 07:48:25.4±0.8, 61°53N×150°20W, h57km±6km, mb3.8/20, mbtmp4.0/24, MS3.1/13, Error ellipse: s-maj=18.4km s-min=11.6km az=28.0*

*AEIC **28** 07:48:25.6±1.5, 61°32N±0°04×150°08W±0°06, h41km±5km, ML4.1, mb4.2/55(NEIC), ML4.3/240(NEIC), Mwr4.1/112(NEIC), Error ellipse: s-maj=5.3km s-min=3.9km az=197.0*

*NEIC **28** 07:48:25.6, 61°32N×150°08W, h41km*

*NEIC **28** 07:48:25.1±1.6, 61°33N±0°01×150°12W±0°06, h44km±4km, Error ellipse: s-maj=4.1km s-min=2.1km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.60; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$1.37; $M_{r\theta}$0.49; $M_{\theta\phi}$-0.45; $M_{\phi r}$1.57; Fault plane solution: $M_0$2.08000×10^{15} NP1: ϕ_s199.38000°, δ79.19000°, λ-61.18000°. NP2: ϕ_s308.20000°, δ30.61000°, λ-158.39000°. Principal axes: T 2.2459, Plg28.0000°, Azm267.0000°; N -0.3883, Plg28.0000°, Azm13.0000°; P -1.8576, Plg48.0000°, Azm140.0000°;*

ISC 28 07:48:24.9±0.6, 61°36N±0°03×150°07W±0°03, h50km±5km, n208, σ1s38/150, mb4.2/47, MS3.1/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIS	**Fire Island**	**0.23**	**199**		**Pn**	**07 48 33.2**	**-0.3**
RC01	**Rabbit Creek A**	**0.32**	**150**		**Pn**	**07 48 32.9**	**-1.3**
RC01				IAML		07 48 40.7	
	comp=E,35μm,0.6s						
RC01				IAML		07 48 41.4	
	comp=N,22μm,0.3s						
RC01	**Rabbit Creek A**	**0.32**	**150**		**Sn**	**07 48 40.2**	**-0.7**
SUA	**Susitna One**	**0.34**	**287**		**Pn**	**07 48 33.6**	**-1.0**
SUA				IAML		07 48 41.7	
	comp=E,20μm,0.7s						
SUA				IAML		07 48 42.0	
	comp=N,16μm,0.8s						
SUA	**Susitna One**	**0.34**	**287**		**Sn**	**07 48 41.4**	**-0.2**
M22K	**Willow**	**0.39**	**356**		**Pn**	**07 48 33.8**	**-1.1**
M22K				IAML		07 48 42.4	
	comp=E,29μm,0.7s						
M22K				IAML		07 48 45.7	
	comp=N,17μm,0.4s						
M22K	**Willow**	**0.39**	**356**		**Sn**	**07 48 41.9**	**-0.2**
PMR	**Palmer**	**0.51**	**63**		**Pn**	**07 48 35.1**	**-1.2**
PMR				IAML		07 48 44.5	
	comp=E,11μm,0.7s						
PMR				IAML		07 48 44.6	
	comp=N,16μm,0.8s						
PMR	**Palmer**	**0.51**	**63**		**Sn**	**07 48 43.9**	**-0.4**
PMR	**Palmer**	**0.51**	**63**	P	**Pn**	**07 48 35.3**	**-0.9**
PMR	**Palmer**	**0.51**	**63**	S	**Sn**	**07 48 44.0**	**-0.4**
GHO	**Glory Hole Cre**	**0.68**	**53**		**Pn**	**07 48 37.9**	**-0.7**
GHO				IAML		07 48 49.4	
	comp=N,16μm,0.7s						
GHO				IAML		07 48 50.3	
	comp=E,14μm,0.4s						
GHO	**Glory Hole Cre**	**0.68**	**53**		**Sn**	**07 48 48.7**	**+0.3**
KNK	**Knik Glacier**	**0.78**	**86**		**Pn**	**07 48 39.1**	**

WAT7	**Susitna Watana**	**1.58**	**21**			**Pn**	**07 48 51.1**	**+0.5**
WAT1	**Susitna Watana**	**1.64**	**25**			**Pn**	**07 48 51.7**	**+0.4**
WAT6	**Susitna Watana**	**1.64**	**41**			**Pn**	**07 48 51.8**	**+0.2**
BRLK	**Bradley Lake**	**1.66**	**195**	IAML			07 49 17.0	
	comp=N,3µm,0.4s							
PPLA	**Purkeypile**	**1.83**	**328**			**Pn**	**07 48 54.7**	**+0.6**
PPLA				IAML			07 49 34.3	
	comp=E,3µm,1.2s							
PPLA				IAML			07 49 38.9	
	comp=N,2µm,0.8s							
FID	**Port Fidalgo**	**1.85**	**108**	IAML			07 49 25.1	
	comp=E,3µm,0.5s							
FID				IAML			07 49 25.3	
	comp=N,4µm,0.5s							
HOM	**Homer**	**1.88**	**205**			**Pn**	**07 48 54.6**	**+0.1**
CNPM	**China Poot**	**1.93**	**198**			**Pn**	**07 48 54.9**	**-0.5**
CNPM				IAML			07 49 24.4	
	comp=E,3µm,0.9s							
HIN	**Hinchinbrook I**	**2.00**	**118**			**Pn**	**07 48 55.4**	**-0.8**
KLU	**Klutina**	**2.00**	**84**	IAML			07 49 27.1	
	comp=N,2µm,0.5s							
M24K	**Tolsona, Glenn**	**2.00**	**66**	IAML			07 49 30.3	
	comp=E,3µm,1.1s							
M24K				IAML			07 49 39.8	
	comp=N,3µm,1.1s							
DIV	**Divide**	**2.09**	**95**	IAML			07 49 31.1	
	comp=N,3µm,0.5s							
TRF	**Thorofare Moun**	**2.10**	**357**			**Pn**	**07 48 58.2**	**+0.5**
RND	**Reindeer**	**2.13**	**15**			**Pn**	**07 48 58.9**	**+0.9**
DHY	**Denali Highway**	**2.13**	**35**			**Pn**	**07 48 59.2**	**+1.0**
DHY				IAML			07 49 30.6	
	comp=E,2µm,1.0s							
DHY				IAML			07 49 31.1	
	comp=N,2µm,0.7s							
KTH	**Kantishna Hill**	**2.23**	**350**			**Pn**	**07 49 00.2**	**+0.7**
EYAK	**Cordova Ski Ar**	**2.26**	**109**	IAML			07 49 36.5	
	comp=E,1µm,0.4s							
EYAK				IAML			07 49 39.2	
	comp=N,1µm,0.8s							
EYAK	**Cordova Ski Ar**	**2.26**	**109**	P		**Pn**	**07 48 58.7**	**-1.1**
CAST	**Castle Rocks**	**2.27**	**336**			**Pn**	**07 49 00.5**	**+0.6**
O19K	**Port Alsworth**	**2.39**	**243**			**Pn**	**07 49 01.3**	**-0.3**
O19K				IAML			07 49 33.7	
	comp=N,2µm,0.5s							
MCK	**McKinley**	**2.44**	**12**			**Pn**	**07 49 03.6**	**+1.4**
MCK				IAML			07 49 44.7	
	comp=N,1µm,1.1s							
MCK				IAML			07 49 45.4	
	comp=E,2µm,0.6s							
N25K	**Chitina, Valde**	**2.63**	**82**	IAML			07 49 51.1	
	comp=N,917nm,0.8s							
N25K				IAML			07 49 55.4	
	comp=E,851nm,0.6s							
BMRM	**Bremner River**	**2.68**	**96**			**Pn**	**07 49 05.3**	**-0.3**
BMRM				IAML			07 49 48.4	
	comp=E,2µm,0.5s							
BMRM				IAML			07 49 53.7	
	comp=N,1µm,1.0s							
Q23K	**Middleton Isla**	**2.68**	**135**			**Pn**	**07 49 06.3**	**+0.9**
Q23K				IAML			07 50 00.5	
	comp=E,1µm,0.6s							
Q23K				IAML			07 50 00.9	
	comp=N,1µm,0.6s							
PAX	**Paxson**	**2.69**	**51**			**Pn**	**07 49 05.8**	**0.0**
PAX				IAML			07 49 46.4	
	comp=E,1µm,0.8s							
PAX				IAML			07 49 46.4	
	comp=N,2µm,0.9s							
WACK	**Wrangell Chich**	**2.81**	**75**			**Pn**	**07 49 09.5**	**+2.0**
BWN	**Browne**	**2.83**	**5**	IAML			07 49 57.2	
	comp=E,2µm,0.8s							
BWN				IAML			07 50 01.9	
	comp=N,1µm,1.3s							
N18K	**Kilae Creek**	**2.92**	**259**			**Pn**	**07 49 08.7**	**-0.1**
SYI	**Shuyak Island**	**3.00**	**204**			**Pn**	**07 49 09.5**	**-0.4**
SYI				IAML			07 49 53.1	
	comp=E,995nm,0.8s							
SYI				IAML			07 49 53.3	
	comp=N,896nm,0.6s							
GLB	**Gilahina Butte**	**3.01**	**86**			**Pn**	**07 49 10.6**	**+0.5**
GLB	**Gilahina Butte**	**3.01**	**86**	IAML			07 49 57.1	
	comp=N,850nm,0.8s							
HMT	**Hamilton**	**3.02**	**107**			**Pn**	**07 49 09.0**	**-1.3**
KAIM	**Kayak Island**	**3.13**	**115**			**Pn**	**07 49 09.8**	**-1.9**
KAIM				IAML			07 50 19.2	
	comp=E,708nm,1.6s							
VRDI	**Verde Repeater**	**3.19**	**90**	IAML			07 50 15.2	
	comp=N,662nm,0.9s							
P18K	**Big Mountain,**	**3.24**	**235**			**Pn**	**07 49 12.7**	**-0.5**
L18K	**Granite Mounta**	**3.26**	**288**	IAML			07 50 10.6	
	comp=E,611nm,1.2s							
MENT	**Mentasta**	**3.37**	**59**			**Pn**	**07 49 16.0**	**+0.9**
HDA	**Harding Lake**	**3.37**	**24**	IAML			07 50 12.4	
	comp=N,585nm,1.1s							
HDA				IAML			07 50 19.6	
	comp=E,586nm,1.1s							
J20K	**Nowinta River**	**3.39**	**328**	IAML			07 49 56.5	
	comp=E,585nm,0.5s							
MCARA	**McCarthy VSAT**	**3.39**	**87**			**Pn**	**07 49 16.7**	**+1.5**
MCARA				IAML			07 50 21.9	
	comp=E,974nm,1.0s							
RIDG	**Independent Ri**	**3.40**	**43**			**Pn**	**07 49 17.4**	**+2.0**
M26K	**Nabesna, AK**	**3.51**	**70**			**Pn**	**07 49 17.9**	**+1.0**
M26K	**Nabesna, AK**	**3.51**	**70**	IAML			07 50 16.5	
	comp=E,408nm,0.7s							
M26K				IAML			07 50 23.5	
	comp=N,604nm,0.6s							
M17K	**Holitna River**	**3.55**	**274**	IAML			07 50 26.0	
	comp=N,840nm,0.8s							
L26K	**Log Cabin Wild**	**3.56**	**59**	IAML			07 50 16.1	
	comp=N,629nm,0.7s							
TGL	**Tana Glacier**	**3.57**	**97**	IAML			07 50 14.0	
	comp=E,692nm,1.0s							
TGL				IAML			07 50 18.8	
	comp=N,749nm,1.2s							
DOT	**Dot Lake**	**3.61**	**48**			**Pn**	**07 49 20.0**	**+1.8**
DOT				IAML			07 50 17.8	
	comp=N,814nm,0.8s							
KAHG	**Katmai Hook Gl**	**3.66**	**220**			**Pn**	**07 49 19.3**	**+0.3**
COLA	**College**	**3.67**	**15**			**Pn**	**07 49 20.3**	**+1.3**
COLA	**College**	**3.67**	**15**	P		**Pn**	**07 49 20.3**	**+1.3**
COLA	**College**	**3.67**	**15**	S		**Sn**	**07 50 03.6**	**+2.7**
J19K	**Poorman**	**3.68**	**318**	IAML			07 50 19.6	
	comp=E,573nm,0.9s							
J19K				IAML			07 50 23.3	
	comp=N,490nm,1.0s							
ILAR	**Eielson Array**	**3.71**	**22**			**Pn**	**07 49 21.4**	**+1.7**
ILAR	**Eielson Array**	**3.71**	**22**	P		**Pn**	**07 49 18.8**	**-0.9**
	comp=N,15nm,0.5s,baz=206,slow=14,SNR=119							
ILAR				S		**Sn**	**07 50 06.8**	**+4.7**
	comp=N,81nm,0.8s,baz=204,slow=24,SNR=6.7							
SNH	**Sunshine Point**	**3.74**	**105**	IAML			07 50 30.9	
	comp=N,368nm,2.0s							
J18K	**Innoko River**	**3.74**	**307**	IAML			07 50 03.7	
	comp=E,400nm,0.8s							
J18K				IAML			07 50 04.0	
	comp=N,624nm,0.7s							
I23K	**Minto, Yukon-K**	**3.81**	**4**	IAML			07 50 32.6	
	comp=N,486nm,0.8s							
KDAK	**Kodiak Island**	**3.81**	**201**			**Pn**	**07 49 19.0**	**-2.0**
KDAK				IAML			07 50 22.5	
	comp=N,483nm,1.1s							
KDAK				IAML			07 50 26.5	
	comp=N,479nm,0.8s							
KDAK	**Kodiak Island**	**3.81**	**201**	P		**Pn**	**07 49 19.7**	**-1.4**
	comp=N,8.6nm,0.4s,baz=33,slow=4.3,SNR=121							
KDAK				S		**Sn**	**07 50 12.5**	**+7.9**
	comp=N,140nm,0.4s,baz=132,slow=21,SNR=10							
KDAK				LR		LR	07 51 14.4	
	comp=N,188nm,20.3s,baz=29,slow=43							
SCRK	**Sand Creek**	**3.84**	**44**	IAML			07 50 24.6	
	comp=E,575nm,1.0s							
SCRK				IAML			07 50 24.8	
	comp=N,430nm,0.9s							
ISLE	**Juniper Island**	**3.84**	**98**	IAML			07 50 31.4	
	comp=E,550nm,1.1s							
ISLE				IAML			07 50 36.0	
	comp=N,667nm,1.3s							
J25K	**Salcha River,**	**3.90**	**31**	IAML			07 50 18.5	
	comp=N,392nm,0.6s							
J25K				IAML			07 50 19.1	
	comp=E,650nm,0.6s							
I21K	**Tanana**	**3.93**	**348**			**Pn**	**07 49 23.3**	**+0.7**
I21K	**Tanana**	**3.93**	**348**	IAML			07 50 47.1	
	comp=E,282nm,1.6s							
POKR	**Poker Plat Res**	**3.95**	**16**	IAML			07 50 29.6	
	comp=E,329nm,0.7s							
POKR				IAML			07 50 36.8	
	comp=N,310nm,1.0s							
BARN	**Barnard Glacie**	**4.08**	**91**	IAML			07 50 30.9	
	comp=N,256nm,0.7s							
BARN				IAML			07 50 37.4	
	comp=E,430nm,0.8s							
GRNC	**Granite Creek**	**4.09**	**95**	IAML			07 50 30.7	
	comp=N,467nm,0.6s							
GRNC				IAML			07 50 33.0	
	comp=E,268nm,0.7s							
K17K	**Iditarod**	**4.11**	**293**	IAML			07 50 41.6	
	comp=E,479nm,1.1s							
ACHA	**Angle Creek He**	**4.13**	**222**			**Pn**	**07 49 25.6**	**+0.1**
MESA	**MESA**	**4.15**	**103**	IAML			07 50 40.9	
	comp=E,381nm,1.0s							
MESA				IAML			07 50 45.2	
	comp=N,469nm,0.7s							
YAH	**Yahtse**	**4.19**	**100**	IAML			07 50 31.2	
	comp=N,426nm,0.8s							
YAH				IAML			07 50 41.5	
	comp=E,351nm,1.2s							
BCAR	**Beaver Creek A**	**4.24**	**63**			**Pn**	**07 49 27.5**	**+0.6**
O16K	**Kokwok River B**	**4.35**	**249**			**Pn**	**07 49 28.2**	**-0.2**
O16K				IAML			07 50 56.3	
	comp=N,264nm,1.6s							
O16K				IAML			07 50 59.3	
	comp=E,219nm,1.3s							
LOGN	**Logan Glacier**	**4.43**	**93**	IAML			07 50 49.7	
	comp=E,210nm,0.7s							
LOGN				IAML			07 50 49.8	
	comp=N,213nm,0.9s							
TABL	**Table Mountain**	**4.46**	**98**	IAML			07 50 42.0	
	comp=E,275nm,1.1s							
TABL				IAML			07 50 52.9	
	comp=N,268nm,0.8s							
OHAK	**Old Harbor**	**4.47**	**203**			**Pn**	**07 49 27.8**	**-2.3**
OHAK				IAML			07 50 38.9	
	comp=N,213nm,1.0s							
OHAK				IAML			07 50 40.1	
	comp=E,280nm,1.3s							
OHAK	**Old Harbor**	**4.47**	**203**	P		**Pn**	**07 49 30.0**	**0.0**
L16K	**Owhat River**	**4.52**	**279**	IAML			07 50 57.5	
	comp=E,268nm,1.4s							
L16K				IAML			07 51 03.6	
	comp=N,220nm,1.2s							
K27K	**Chicken**	**4.55**	**51**	IAML			07 50 52.4	
	comp=E,235nm,0.8s							
K27K				IAML			07 50 56.5	
	comp=N,232nm,1.2s							
H24K	**Noodor Dome**	**4.60**	**11**			**Pn**	**07 49 33.3**	**+1.4**
PRP	**Porcupine Dome**	**4.64**	**24**			**Pn**	**07 49 33.7**	**+1.2**
PRP	**Porcupine Dome**	**4.64**	**24**	IAML			07 50 37.6	
	comp=N,286nm,1.0s							
PRP				IAML			07 50 51.7	
	comp=E,235nm,0.6s							
J17K	**VABM Dome**	**4.66**	**300**			**Pn**	**07 49 32.6**	**-0.1**
J17K				IAML			07 51 00.3	
	comp=N,192nm,0.8s							
O28M	**Mount Upton**	**4.83**	**93**	IAML			07 51 01.3	
	comp=N,182nm,0.9s							
IMAR	**Indian Mountai**	**4.92**	**342**			**Pn**	**07 49 36.4**	**+0.2**
PLK4	**Peulik 4**	**4.93**	**223**	IAML			07 50 42.0	
	comp=N,292nm,1.6s							
PLK4				IAML			07 51 07.4	
	comp=E,277nm,1.0s							
N15K	**Kwethluk River**	**5.06**	**261**	IAML			07 51 18.6	
	comp=N,239nm,1.4s							
N15K				IAML			07 51 19.2	
	comp=E,256nm,1.0s							
H19K	**Roundabout Mou**	**5.07**	**328**	IAML			07 51 16.8	
	comp=N,124nm,1.2s							
H19K				IAML			07 51 18.4	
	comp=E,145nm,1.4s							
SII	**Sitkinak Islan**	**5.27**	**206**	P		**Pn**	**07 49 42.1**	**+1.1**
J16K	**Anvik River**	**5.28**	**296**			**Pn**	**07 49 41.1**	**0.0**
J16K				IAML			07 51 25.7	
	comp=E,111nm,0.9s							
J16K				IAML			07 51 29.4	
	comp=N,136nm,1.1s							
BCPM	**Bancas Point**	**5.32**	**101**			**Pn**	**07 49 40.8**	**-1.0**
BCPM	**Bancas Point**	**5.32**	**101**	IAML			07 51 19.0	
	comp=N,136nm,1.0s							
BCPM				IAML			07 52 59.0	
	comp=E,195nm,1.0s							
O15K	**Ungalikthiuk R**	**5.33**	**250**	IAML			07 51 21.0	
	comp=N,170nm,1.3s							
O15K				IAML			07 51 25.7	
	comp=E,147nm,0.9s							
H18K	**Honhosa River**	**5.34**	**319**	IAML			07 51 11.7	
	comp=E,131nm,1.2s							
H18K				IAML			07 51 30.7	
	comp=N,128nm,1.0s							
I17K	**Unalakleet**	**5.52**	**302**			**Pn**	**07 49 44.2**	**-0.1**
PNL	**Peninsula**	**5.54**	**103**	P		**Pn**	**07 49 43.9**	**-0.8**
M29M	**Somme Creek**	**5.59**	**74**			**Pn**	**07 49 45.8**	**+0.2**
G25K	**Bearman Lake**	**5.70**	**16**			**Pn**	**07 49 48.7**	**+1.9**
G19K	**Purcell Mounta**	**5.72**	**330**			**Pn**	**07 49 47.0**	**-0.2**
HYT	**Haines Junctio**	**6.12**	**90**	Pn		**Pn**	**07 49 52.6**	**-0.2**
CHIR	**Chirikof Islan**	**6.27**	**210**	P		**Pn**	**07 49 55.1**	**+0.4**
BMAR	**Burnt Mountain**	**6.54**	**19**			**Pn**	**07 49 59.6**	**+1.3**
SKAG	**Skagway**	**7.54**	**98**	P		**Pn**	**07 50 12.9**	**+0.8**
F15K	**North Star Dit**	**7.83**	**310**			**Pn**	**07 50 17.5**	**+1.5**
SDPT	**Sand Point**	**8.14**	**227**	P		**Pn**	**07 50 23.0**	**+2.8**
CHNA	**Chernabura Isl**	**8.26**	**222**	P		**Pn**	**07 50 22.9**	**+1.0**
JIS	**Juneau Island**	**8.48**	**104**	P		**Pn**	**07 50 24.0**	**-1.0**
SIT	**Sitka**	**8.70**	**113**	P		**Pn**	**07 50 26.1**	**-1.8**
INK	**Inuvik**	**9.87**	**38**	P		**Pn**	**07 50 43.7**	**-0.2**
	comp=N,1.7nm,0.6s,baz=242,slow=16,SNR=8.4							
INK				S		**Sn**	**07 52 37.1**	**+4.0**
	comp=N,7.1nm,0.6s,baz=182,slow=17,SNR=4.3							
INK				LR		LR	07 55 20.6	
	comp=N,41nm,19.1s,baz=224,slow=42							
DLBC	**Dease Lake**	**10.47**	**97**	P		**Pn**	**07 50 52.7**	**+0.4**
	comp=N,1.4nm,0.5s,baz=314,slow=13,SNR=5.4							
DLBC				LR		LR	07 55 18.0	
	comp=N,170nm,19.4s,baz=292,slow=39							
CRAG	**Craig**	**10.65**	**116**	P		**Pn**	**07 50 53.5**	**-1.1**
BBB	**Bella Bella**	**15.07**	**118**	LR		LR	07 56 41.7	
	comp=N,58nm,20.0s,baz=310,slow=33							
YKA	**Yellowknife Ar**	**16.60**	**71**	P		**Pn**	**07 52 14.1**	**+0.3**
	comp=N,0.8nm,0.7s,baz=268,slow=18,SNR=17							
YKA				LR		LR	07 58 36.4	
	comp=N,62nm,20.2s,baz=292,slow=37							
PGC	**Sidney**	**19.69**	**118**	P		**P**	**07 52 50.6**	**+1.0**
SHEM	**Shemya Is, Ala**	**21.07**	**262**	LR		LR	08 01 00.2	
	comp=N,36nm,20.0s,baz=105,slow=36							
SMY	**Shemya**	**21.07**	**262**	P		**P**	**07 53 07.0**	**+2.5**
NEW	**Newport**	**22.76**	**110**	LR		LR	08 01 42.9	
	comp=N,30nm,21.2s,baz=336,slow=35							
F10A	**Beach Ranch, E**	**24.45**	**114**	P		**P**	**07 53 39.2**	**+0.3**
J05D	**Fort Rock, OR**	**24.93**	**123**	P		**P**	**07 53 44.6**	**+1.4**
J05D				IAmb		IAmb	07 53 46.4	
	comp=Z,5.4nm,1.0s							
LYMT	**Lyon Mountain**	**25.93**	**106**	P		**P**	**07 53 52.7**	**+0.3**
WVOR	**Wild Horse Val**	**26.69**	**121**	P		**P**	**07 54 00.3**	**+1.2**
WVOR				IAmb		IAmb	07 54 01.5	
	comp=Z,6.1nm,1.1s							
YHL	**Hebgen Lake**	**28.03**	**108**	P		**P**	**07 54 12.4**	**+1.0**
YHL				IAmb		IAmb	07 54 52.2	
	comp=Z,5.4nm,1.2s							
MA2	**Magadan**	**28.36**	**293**	LR		LR	08 06 00.5	
	comp=Z,47nm,19.2s,baz=210,slow=37							
RLMT	**Red Lodge**	**28.71**	**106**	IAmb		IAmb	07 54 20.2	
	comp=Z,5.9nm,0.9s							
PETK	**Petropavlovsk-**	**28.71**	**277**	P		**P**	**07 54 15.8**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=63,slow=16,SNR=2.8							
PETK				LR		LR	08 06 04.2	
	comp=Z,33nm,19.8s,baz=29,slow=37							
	comp=Z,1.4nm,0.7s							
MPK	**Martis Peak**	**28.79**	**126**	IAmb		IAmb	07 54 20.3	
	comp=Z,6.8nm,1.0s							
ELK	**Elko**	**29.52**	**118**	IAmb		IAmb	07 54 27.4	
	comp=Z,3.6nm,0.9s							
ELK	**Elko**	**29.52**	**118**	LR		LR	08 05 36.3	
	comp=Z,43nm,19.0s,baz=282,slow=35							
RYN	**Ryan**	**29.96**	**125**	IAmb		IAmb	07 54 30.5	
	comp=Z,2.3nm,0.7s							
NVAR	**Mina Array Bea**	**30.22**	**125**	P		**P**	**07 54 32.1**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=317,slow=9.1,SNR=27							
NVAR				PcP		**PcP**	**07 57 30.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=295,slow=3.5,SNR=3.7							
NVAR				LR		LR	08 04 30.3	
	comp=Z,43nm,21.6s,baz=338,slow=32							
	comp=Z,1.9nm,0.7s							
PDAR	**Pinedale Array**	**30.39**	**109**	P		**P**	**07 54 33.0**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=312,slow=5.9,SNR=10.0							
SPR3	**Spring Creek 3**	**31.36**	**119**	P		**P**	**07 54 42.8**	**+2.0**
R11B	**Troy Canyon, C**	**31.39**	**121**	P		**P**	**07 54 42.2**	**+1.3**
R11B				IAmb		IAmb	07 54 43.0	
	comp=Z,3.3nm,1.0s							
RSSD	**Black Hills**	**31.91**	**101**			**P**	**07 54 46.6**	**+1.0**
RSSD				IAmb		IAmb	07 54 47.3	
	comp=Z,3.7nm,0.8s							
TPNV	**Topopah Spring**	**32.31**	**123**	IAmb		IAmb	07 54 52.2	
	comp=Z,2.9nm,1.0s							
FURC	**Furnace Creek,**	**32.49**	**125**	IAmb		IAmb	07 54 52.6	
	comp=Z,3.3nm,0.7s							
ISA	**Isabella, Lake**	**32.56**	**128**	IAmb		IAmb	07 54 53.0	
	comp=Z,3.6nm,0.8s							
CLC	**China Lake**	**32.77**	**126**	IAmb		IAmb	07 54 55.4	
	comp=Z,2.6nm,0.8s							
SRU	**San Rafael Swe**	**32.90**	**114**	P		**P**	**07 54 55.2**	**+0.9**
SRU				IAmb		IAmb	07 54 56.5	
	comp=Z,4.1nm,0.9s							
CCUT	**Cedar City**	**32.99**	**119**	IAmb		IAmb	07 54 57.3	
	comp=Z,3.6nm,0.9s							
SZCU	**Shurtz Canyon**	**33.06**	**119**	IAmb		IAmb	07 54 58.0	
	comp=Z,4.3nm,0.8s							
LCMT	**Little Creek M**	**33.49**	**120**	IAmb		IAmb	07 55 01.8	
	comp=Z,3.8nm,1.0s							
V12A	**Nelson**	**33.94**	**123**	IAmb		IAmb	07 55 05.9	
	comp=Z,3.5nm,1.0s							
PV19	**Morning Glory**	**34.24**	**113**	P		**P**	**07 55 06.6**	**+0.7**
PV19				IAmb		IAmb	07 55 28.6	
	comp=Z,3.0nm,0.9s							
PV16	**Nyswonger Mesa**	**34.27**	**113**	P		**P**	**07 55 06.7**	**+0.5**
PV16				IAmb		IAmb	07 55 07.8	
	comp=Z,5.9nm,1.2s							
U15A	**North Rim**	**34.39**	**119**	IAmb		IAmb	07 55 09.1	
	comp=Z,2.7nm,1.0s							
PV13	**Radium Mtn., P**	**34.44**	**113**	IAmb		IAmb	07 55 09.3	
	comp=Z,4.7nm,1.1s							
PV01	**Paradox Valley**	**34.57**	**113**	P		**P**	**07 55 09.6**	**+0.8**
PV01				IAmb		IAmb	07 55 10.4	
	comp=Z,2.9nm,0.8s							
BELC	**Belle Mtn. Jos**	**34.99**	**126**	IAmb		IAmb	07 55 13.9	
	comp=Z,3.0nm,0.8s							
PMD	**Palm Desert**	**35.15**	**127**	P		**P**	**07 55 14.3**	**+0.8**
PMD				IAmb		IAmb	07 55 15.1	
	comp=Z,3.3nm,0.8s							
X18A	**Snowflake**	**37.00**	**118**	IAmb		IAmb	07 55 31.9	
	comp=Z,3.3nm,0.8s							
SPITS	**Spitsbergen Ar**	**40.45**	**4**	P		**P**	**07 55 56.6**	**-1.2**
	comp=Z,11nm,0.9s,baz=19,slow=3.5,SNR=7.1							
	comp=Z,11nm,0.9s							
ASAJ	**Asahikawa**	**42.13**	**278**	LR		LR	08 13 48.6	
	comp=Z,51nm,18.7s,baz=240,slow=36							
VHRN	**Van Horn**	**42.35**	**115**			**P**	**07 56 14.4**	**+0.5**
SADO	**Sadowa**	**43.35**	**79**	LR		LR	08 15 03.1	
	comp=Z,41nm,18.3s,baz=27,slow=37							
TXAR	**Lajitas Array**	**44.18**	**115**	P		**P**	**07 56 29.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=328,slow=7.2,SNR=10							
TXAR				pP		**pP**	**07 56 43.8**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=297,slow=5.5,SNR=5.0							
	comp=Z,1.2nm,0.8s							
USRK	**Ussuriysk Ar.**	**47.06**	**286**	P		**P**	**07 56 49.3**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=55,slow=7.6,SNR=2.0							
	comp=Z,0.8nm,0.5s							
ARCES	**ARCESS Array B**	**49.35**	**2**	P		**P**	**07 57 07.2**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=3.2,slow=6.6,SNR=4.2							
	comp=Z,1.8nm,0.9s							
KSRS	**Korea Array**	**54.27**	**284**	P		**P**	**07 57 45.1**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=30,slow=6.6,SNR=16							
	comp=Z,4.3nm,0.7s							
SONM	**Songino Array**	**55.14**	**307**	P		**P**	**07 57 51.6**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=28,slow=8.8,SNR=6.9							
SONM				pP		**pP**	**07 58 06.3**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=38,slow=6.8,SNR=9.7							
	comp=Z,1.5nm,0.7s							
ZALV	**Zalesovo Beam**	**57.11**	**325**	P		**P**	**07 58 03.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=60,slow=8.5,SNR=2.8							
	comp=Z,0.7nm,0.3s							
FINES	**FINESS Array B**	**57.48**	**2**	P		**P**	**07 58 06.6**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=353,slow=9.8,SNR=2.1							
	comp=Z,0.8nm,0.7s							
HFS	**Hagfors**	**58.19**	**9**	P		**P**	**07 58 11.6**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=15,slow=6.0,SNR=1.9							
	comp=Z,1.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**58.82**	**299**	*e*P		**P**	**07 58 19.8**	**+1.9**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,60nm,5.6s							
ARTI	**Arti**	**60.48**	**342**	P		**P**	**07 58 27.0**	**-2.0**
	comp=Z,2.1nm,0.4s,baz=329,slow=5.5,SNR=3.9							
	comp=Z,2.1nm,0.4s							
EKA	**Eskdalemuir Ar**	**60.75**	**21**	P		**P**	**07 58 30.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=335,slow=6.1,SNR=3.9							
	comp=Z,0.9nm,0.6s							
BVAR	**Borovoye Array**	**61.51**	**334**	P		**P**	**07 58 33.9**	**-2.1**
	comp=Z,2.1nm,0.5s,baz=21,slow=5.7,SNR=9.9							
	comp=Z,2.1nm,0.5s							
MKAR	**Makanchi Array**	**64.24**	**323**	P		**P**	**07 58 52.1**	**-2.2**
	comp=Z,1.0nm,0.5s,baz=39,slow=6.8,SNR=13							
	comp=Z,1.0nm,0.5s

WRA	**Warramunga Arr**	**48.36**	**123**	P		**P**	**08 00 19.0**	**-0.3**
	0.2nm,0.3s,baz=302,slow=7.6,SNR=1.7							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**49.84**	**128**	P		**P**	**08 00 31.1**	**+0.4**
	0.3nm,0.5s,baz=300,slow=7.7,SNR=7.7							
	0.3nm,0.5s							
BVAR	**Borovoye Array**	**50.27**	**343**	LR		LR	08 24 10.2	
	comp=Z,95nm,18.4s,baz=155,slow=39							
H04N2	**CROZET ISLANDS**	**63.50**	**211**	T		T	09 11 37.7	
	baz=46,slow=75,SNR=18							
H04N1	**CROZET ISLANDS**	**63.51**	**211**	T		T	09 11 38.3	
	baz=46,slow=75,SNR=19							
H04N3	**CROZET ISLANDS**	**63.52**	**211**	T		T	09 11 35.8	
	baz=46,slow=75,SNR=11							
H04S1	**CROZET ISLANDS**	**63.91**	**210**	T		T	09 12 05.7	
	baz=47							
H04S3	**CROZET ISLANDS**	**63.92**	**210**	T		T	09 12 05.5	
	baz=47,slow=74,SNR=3.2							
H04S2	**CROZET ISLANDS**	**63.93**	**210**	T		T	09 12 06.5	
	baz=47,slow=74,SNR=3.3							

*IDC **28** 07:55:25.3±3.7,53.59N×87.92E,h0km,mbtmp2.5/1, ML2.5/1,Error ellipse: s-maj=34.2km s-min=19.5km az=53.0*

ASRS 28 07:55:23.0±1.3,53.62N×87.81E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**282**	I		I	08 07 30.0	
	baz=98,slow=322,SNR=7.6							
ZALV	**Zalesovo Beam**	**1.81**	**282**	Pn		Pg	07 55 58.5	+0.9
	0.6nm,0.3s,baz=100,slow=16,SNR=5.7							
ZALV				Lg		Lg	07 56 24.7	
	1.2nm,0.3s,baz=104,slow=24,SNR=7.1							
KURBB	**Kurchatov Arra**	**6.45**	**246**	Lg		Lg	07 58 54.5	
	0.1nm,0.3s,baz=64,slow=32,SNR=5.2							
MKAR	**Makanchi Array**	**7.69**	**210**	Pn		Pn	07 57 19.9	+3.6
	0.1nm,0.3s,baz=23,slow=11,SNR=1.8							
	0.1nm,0.3s							

*IDC **28** 07:59:00.5±0.4,60.18S×26.69W,h0km,mb5.0/21, mbtmp5.0/21,MS5.1/13,Error ellipse: s-maj=17.8km s-min=12.0km az=49.0*

*NEIC **28** 07:59:02.2,60.35S×26.51W,h10km*

*NEIC **28** 07:59:02,60.61S×25.64W,h20km,Moment Tensor Solution. Duration: 37 Moment tensor: Scale 1017Nm; Mrr0.02; Mθθ-2.41; Mφφ2.39; Mrθ-0.30; Mθφ 1.50; Mφr0.40; Fault plane solution: M0.2.87000×1017 NP1:φ60.85000°, δ80.14000°,λ-1.31000°. NP2:φ151.08000°,δ88.71000°, λ-170.14000°. Principal axes: T 2.8494, Plg6.0000°, Azm286.0000°; N 0.0403, Plg80.0000°, Azm158.0000°; P -2.8897, Plg8.0000°, Azm16.0000°;*

*NEIC **28** 07:59:02,60.41S×26.45W,h20km*

*NEIC **28** 07:59:02.3±1.5,60.36S±0.09×26.5W±0.2,h10km, mb5.6/87,Ms_20 5.3/881,Mwb5.5/18,Mww5.6/14,Error ellipse: s-maj=17.3km s-min=13.1km az=228.0,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr0.40; Mθθ-2.04; Mφφ1.64; Mrθ-0.30; Mθφ 1.03; Mφr0.36; Fault plane solution: M0.2.18000×1017 NP1:φ59.59000°, δ77.23000°,λ1.68000°. NP2:φ329.21000°,δ88.36000°, λ167.23000°. Principal axes: T 1.9528, Plg10.0000°, Azm284.0000°; N 0.4052, Plg77.0000°, Azm142.0000°; P -2.3580, Plg8.0000°, Azm15.0000°;*

*MOS **28** 07:59:02.1±1.2,60.25S×26.72W,h12km,mb5.6/19, MS5.2/7 Error ellipse: s-maj=21.1km s-min=11.5km az=107.6*

*GCMT **28** 07:59:07.3±0.1,60.59S±0.01×25.83W±0.01,h19km, MW5.6/159,Moment Tensor Solution. s111,c185; s159,c293; Duration: 186 Moment tensor: Scale 1017 Nm; Mrr0.47±.04; Mθθ-2.59±.04; Mφφ2.11±.04; Mrθ-0.61±.10; Mθφ 1.86±.04; Mφr1.17±.11; Best double couple: M0.3.28300×1017 NP1:φ65.00000°,δ65.00000°, λ4.00000°. NP2:φ333.00000°,δ86.00000°,λ155.00000°. Principal axes: T 3.0890, Plg20.0000°, Azm286.0000°; N 0.3800, Plg65.0000°, Azm144.0000°; P -3.4780, Plg14.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 07:59:01.8±0.2,60.50S±0.05×26.68W±0.05,h10km, n1025,σ1.50/607,mb5.6/65,MS5.3/446,13C-8D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**8.17**	**315**	Pn		**Pn**	**08 01 00.2**	**-0.1**
HOPE	**Hope Point**	**8.17**	**315**	P		**Pn**	**08 01 00.2**	**-0.1**
VNA1	**Neumayer--Stat**	**12.64**	**151**	⇑P		**Pn**	**08 01 58.8**	**-2.6**
	comp=Z,318nm,0.4s							
VNA3	**Neumayer Olymp**	**12.76**	**155**	⇑P		Pn	08 01 59.9	-3.1
	comp=Z,387nm,0.6s							
VNA2	**Neumayer--Watz**	**13.04**	**151**	⇑P		**Pn**	**08 02 04.2**	**-2.7**
	comp=Z,47nm,0.3s,baz=313,slow=15							
ESPZ	**Base Esperanza**	**14.48**	**245**			**Pn**	**08 02 27.7**	**+1.2**
SNAA	**Sanae**	**14.65**	**150**	⇑P		**Pn**	**08 02 26.3**	**-2.5**
	comp=Z,2μm,0.4s							
SNAA	**Sanae**	**14.65**	**150**			**Pn**	**08 02 26.3**	**-2.5**
SNAA	**Sanae**	**14.65**	**150**	Pn		Pn	08 02 25.4	-3.4
	comp=Z,7.9nm,0.3s,baz=316,slow=16,SNR=121							
SNAA				Sn		Sn	08 04 57.7	-13
	comp=Z,5.8nm,0.3s,baz=350,slow=20,SNR=1.3							
SNAA	**Sanae**	**14.65**	**150**	*d* P		**Pn**	**08 02 26.0**	**-2.8**
TROLL	**Troll, Antarti**	**16.23**	**147**	⇑P		**Pn**	**08 02 47.4**	**-2.3**
	comp=Z,3μm,0.7s							
PMSA	**Palmer Station**	**17.51**	**240**	P		**P**	**08 03 08.9**	**+2.0**
PMSA	**Palmer Station**	**17.51**	**240**	*e*P		Pn	08 02 59.0	-6.7
	comp=Z,1μm,24.0s							
PMSA				*e*LR		LR	08 07 07.4	
	comp=Z,7μm,24.0s							
PMSA	**Palmer Station**	**17.51**	**240**	P		**P**	**08 03 13.9**	**+7.1**
	comp=Z,64nm,0.9s,baz=85,slow=8.8,SNR=28							
PMSA				LR		LR	08 09 32.1	
	comp=Z,6μm,18.2s,baz=90,slow=36							
PMSA	**Palmer Station**	**17.51**	**240**	*e*P		**P**	**08 03 12.9**	**+6.1**
BELA	**Belgrano 2**	**17.66**	**186**			**Pn**	**08 03 09.8**	**+2.4**
NVL	**N'lazarevskaya**	**18.53**	**140**	*e*P		**P**	**08 03 12.8**	**-5.2**
NVL				*e*SS		**Sn**	**08 06 38.5**	**-6.5**
NVL				pmax		pmax		
	comp=Z,12nm,0.9s							
NVL				MLR		MLR		
	comp=Z,98nm,19.0s							
EFI	**East Falkland**	**19.43**	**283**			**P**	**08 03 27.9**	**-0.2**
EFI	**East Falkland**	**19.43**	**283**	⇓*i*P		**Pn**	**08 03 30.0**	**+0.8**
EFI				pmax		pmax		
	comp=Z,129nm,1.3s							
MG01	**Puerto William**	**22.28**	**266**	P		**P**	**08 03 59.3**	**+0.5**
MG01				IAmb		IAmb	08 04 21.0	
	comp=Z,219nm,1.3s							
MG01				IAMs_20		IAMs_20	08 10 33.5	
	comp=Z,12μm,20.0s							
USHA	**Ushuaia**	**22.73**	**266**	LR		LR	08 10 58.1	
	comp=Z,13μm,21.3s,baz=116,slow=32							
MG02	**Cerro Sombrero**	**24.25**	**269**	P		**P**	**08 04 19.1**	**+0.4**
MG02				IAMs_20		IAMs_20	08 12 14.7	
	comp=Z,9μm,19.0s							
MG03	**Isla Dawson**	**24.26**	**266**	IAMs_20		IAMs_20	08 11 46.0	
	comp=Z,10μm,19.0s							
MG04	**Isla Riesco**	**25.37**	**267**	IAMs_20		IAMs_20	08 13 09.3	
	comp=Z,10μm,18.0s							
MG05	**Puerto Natales**	**26.53**	**269**	IAMs_20		IAMs_20	08 14 13.3	
	comp=Z,9μm,18.0s							
GO09	**Cerro Castillo**	**26.70**	**270**	P		**P**	**08 04 41.1**	**+0.3**
GO09				IAmb		IAmb	08 05 07.2	
	comp=Z,278nm,1.9s							
SYO	**Syowa Base**	**28.08**	**136**	⇑*i*P		**P**	**08 04 57.0**	**+4.0**
SYO	**Syowa Base**	**28.08**	**136**	⇑*es*P		sP	08 05 00.8	+5.2
SYO	**Syowa Base**	**28.08**	**136**	⇑*i*PnPn		P	08 05 36.2	+43
QSPA	**South Pole Qui**	**29.74**	**180**	P		**P**	**08 05 11.8**	**+3.8**
QSPA				IAmb		IAmb	08 05 26.2	
	comp=Z,154nm,1.1s							
QSPA	**South Pole Qui**	**29.74**	**180**	P		**P**	**08 05 11.2**	**+3.1**
	comp=Z,44nm,0.7s,baz=205,slow=1.9,SNR=125							
QSPA				LR		LR	08 16 11.8	
	comp=Z,4μm,21.9s,baz=190,slow=34							
	comp=Z,44nm,0.7s							
COYC	**Coyhaique**	**30.39**	**279**	IAMs_20		IAMs_20	08 16 04.2	
	comp=Z,9μm,22.0s							

TRQA	**Tornquist**	**31.54**	**299**	P		**P**	**08 05 24.7**	**+0.8**
TRQA				IAmb		IAmb	08 05 27.1	
	comp=Z,64nm,0.8s							
TRQA				IAMs_20		IAMs_20	08 18 25.1	
	comp=Z,6μm,20.0s							
TRQA	**Tornquist**	**31.54**	**299**	P		**P**	**08 05 24.7**	**+0.8**
TRQA				pmax		pmax		
	comp=Z,64nm,0.9s							
TRQA				MLR		MLR		
	comp=Z,6μm,20.0s							
LL01	**San Ignacio de**	**32.91**	**282**	IAMs_20		IAMs_20	08 19 32.4	
	comp=Z,6μm,19.0s							
PLCA	**Paso Flores**	**33.28**	**286**			**P**	**08 05 39.2**	**-0.1**
PLCA	**Paso Flores**	**33.28**	**286**	P		**P**	**08 05 37.9**	**-1.4**
	comp=Z,17nm,0.7s,baz=141,slow=8.2,SNR=35							
	comp=Z,17nm,0.7s							
PLCA	**Paso Flores**	**33.28**	**286**	P		**P**	**08 05 39.2**	**-0.1**
PLCA				pmax		pmax		
	comp=Z,29nm,0.9s							
PLCA	**Paso Flores**	**33.28**	**286**	*e*P		**P**	**08 05 39.8**	**+0.5**
PLTB	**Pedras Altas**	**33.79**	**316**			**P**	**08 05 43.6**	**0.0**
PLTB	**Pedras Altas**	**33.79**	**316**	*e*P		**P**	**08 05 44.4**	**+0.7**
LR05	**Currie**	**34.37**	**285**	P		**P**	**08 05 50.8**	**+2.2**
LR05				IAmb		IAmb	08 06 14.0	
	comp=Z,76nm,1.1s							
LR05				IAMs_20		IAMs_20	08 19 37.9	
	comp=Z,4μm,19.0s							
CPSB	**Cacapava Do Su**	**34.97**	**317**	*e*P		**P**	**08 05 54.3**	**+0.4**
LR03	**Panguipulli**	**35.00**	**286**	P		**P**	**08 05 54.6**	**+0.5**
LR03				IAmb		IAmb	08 05 56.7	
	comp=Z,128nm,1.2s							
LR03				IAMs_20		IAMs_20	08 19 56.5	
	comp=Z,6μm,20.0s							
CNLB	**Canela**	**35.15**	**322**	*e*P		**P**	**08 05 55.3**	**-0.3**
PSAL	**Palomas, Salto**	**35.84**	**311**	*e*P		**P**	**08 06 02.1**	**+0.8**
MAW	**Mawson**	**36.48**	**140**	P		**P**	**08 06 08.5**	**+2.1**
	comp=Z,8.4nm,1.1s							
MAW	**Mawson**	**36.48**	**140**	P		**P**	**08 06 08.1**	**+1.7**
	comp=Z,12nm,0.9s,baz=226,slow=11,SNR=11							
MAW				LR		LR	08 21 24.2	
	comp=Z,5μm,18.2s,baz=247,slow=37							
	comp=Z,12nm,0.9s							
ITAB	**Concordia**	**37.49**	**321**			**P**	**08 06 14.0**	**-1.4**
ITAB	**Concordia**	**37.49**	**321**	*e*P		**P**	**08 06 14.7**	**-0.8**
ML02	**Panimavida**	**37.67**	**290**	P		**P**	**08 06 16.8**	**-0.1**
ML02				IAmb		IAmb	08 06 30.9	
	comp=Z,113nm,0.7s							
ML02				IAMs_20		IAMs_20	08 20 15.4	
	comp=Z,4μm,22.0s							
BI05	**Punta Hualpn**	**37.70**	**288**			**P**	**08 06 17.4**	**+0.3**
BI05				IAMs_20		IAMs_20	08 20 44.3	
	comp=Z,4μm,22.0s							
BO02	**Sierra Bellavi**	**38.18**	**292**			**P**	**08 06 21.4**	**+0.1**
BO02				IAmb		IAmb	08 06 38.2	
	comp=Z,90nm,0.8s							
BO01	**Tunca**	**38.65**	**292**	P		**P**	**08 06 24.9**	**-0.3**
BO01				IAmb		IAmb	08 06 38.7	
	comp=Z,170nm,1.1s							
LMEL	**Las Melosas**	**38.70**	**294**	P		**P**	**08 06 26.6**	**+0.8**
LMEL				IAMs_20		IAMs_20	08 23 43.6	
	comp=Z,4μm,18.0s							
PET01	**Itanhaem-SP**	**38.90**	**329**	*e*P		**P**	**08 06 25.9**	**-1.4**
MT01	**Popeta**	**39.16**	**292**			**P**	**08 06 29.6**	**+0.1**
MT01				IAmb		IAmb	08 06 31.2	
	comp=Z,160nm,0.9s							
MT16	**CCHEN**	**39.20**	**294**	P		**P**	**08 06 30.2**	**+0.4**
MT05	**Renca**	**39.32**	**293**	P		**P**	**08 06 30.5**	**-0.5**
PARB	**Paraibuna**	**39.41**	**332**	*e*P		**P**	**08 06 31.2**	**-0.6**
MAN01	**Angra dos Reis**	**39.50**	**334**	*e*P		**P**	**08 06 31.9**	**-0.5**
PEL	**Peldehue**	**39.51**	**294**	P		**P**	**08 06 32.5**	**0.0**
PEL				IAMs_20		IAMs_20	08 23 25.8	
	comp=Z,3μm,18.0s							
PEL	**Peldehue**	**39.51**	**294**	P		**P**	**08 06 32.5**	**0.0**
PEL				pmax		pmax		
	comp=Z,408nm,0.8s							
PEL				MLR		MLR		
	comp=Z,3μm,18.0s							
SPB	**Sao Paulo**	**39.61**	**329**	IAMs_20		IAMs_20	08 21 08.2	
	comp=Z,5μm,20.0s							
SPB	**Sao Paulo**	**39.61**	**329**	*e*P		**P**	**08 06 33.2**	**0.0**
PTGB	**Pitanga**	**39.83**	**323**	*e*P		**P**	**08 06 34.3**	**-0.9**
DUB01	**Friburgo-RJ**	**39.94**	**337**	*e*P		**P**	**08 06 35.2**	**-0.9**
VAS01	**Vassouras-RJ**	**39.96**	**335**	*e*P		**P**	**08 06 33.8**	**-2.4**
VA01	**Torpederas**	**40.05**	**293**	P		**P**	**08 06 37.0**	**+0.2**
VA01				IAmb		IAmb	08 06 54.2	
	comp=Z,155nm,1.4s							
CPUP	**Villa Florida**	**40.05**	**315**	P		**P**	**08 06 36.3**	**-0.6**
CPUP	**Villa Florida**	**40.05**	**315**	P		**P**	**08 06 35.4**	**-1.6**
	comp=Z,6.3nm,0.8s,baz=16,slow=6.6,SNR=30							
CPUP				LR		LR	08 22 54.8	
	comp=Z,1μm,20.6s,baz=20,slow=36							
	comp=Z,6.3nm,0.8s							
CPUP	**Villa Florida**	**40.05**	**315**	P		**P**	**08 06 36.3**	**-0.6**
CPUP				pmax		pmax		
	comp=Z,21nm,0.9s							
CPUP	**Villa Florida**	**40.05**	**315**	*e*P		**P**	**08 06 36.4**	**-0.6**
CAM01	**Campos-RJ**	**40.05**	**338**	*e*P		**P**	**08 06 35.4**	**-1.5**
VAO	**Valinhos**	**40.06**	**330**			**P**	**08 06 36.6**	**-0.4**
VAO	**Valinhos**	**40.06**	**330**	*e*P		**P**	**08 06 36.5**	**-0.6**
VA06	**Catapilco**	**40.27**	**293**	P		**P**	**08 06 39.8**	**+1.1**
FRTB	**Fartura**	**40.40**	**327**	*e*P		**P**	**08 06 39.7**	**-0.3**
RCLB	**Rio Claro- Sao**	**40.76**	**330**	*e*P		**P**	**08 06 42.4**	**-0.5**
LDASE	**Londrina, Braz**	**40.79**	**324**	*e*P		**P**	**08 06 42.9**	**-0.2**
SJPY	**San Joaquin**	**40.85**	**317**	*e*P		**P**	**08 06 42.6**	**-1.0**
CO02	**Combarbal**	**41.29**	**295**	P		**P**	**08 06 46.9**	**-0.4**
CO02				IAmb		IAmb	08 06 50.8	
	comp=Z,116nm,0.8s							
CO03	**El Pedregal**	**41.46**	**296**	P		**P**	**08 06 49.2**	**+0.5**
CO03				IAmb		IAmb	08 07 02.1	
	comp=Z,127nm,1.1s							
CO03				IAMs_20		IAMs_20	08 22 58.5	
	comp=Z,5μm,22.0s							
BSCB	**Bom Sucesso**	**41.48**	**334**	*e*P		**P**	**08 06 47.6**	**-1.3**
SUR	**Sutherland**	**41.75**	**70**	IAMs_20		IAMs_20	08 21 02.9	
	comp=Z,4μm,19.0s							
CO01	**Juntas del Tor**	**41.93**	**297**	P		**P**	**08 06 53.0**	**+0.2**
CO01				IAmb		IAmb	08 06 56.7	
	comp=Z,153nm,0.9s							
CO01				IAMs_20		IAMs_20	08 25 10.9	
	comp=Z,5μm,20.0s							
GO04	**Tololo Observa**	**42.08**	**296**	P		**P**	**08 06 53.8**	**-0.1**
GO04				IAmb		IAmb	08 06 56.5	
	comp=Z,135nm,0.9s							
GO04				IAMs_20		IAMs_20	08 25 19.8	
	comp=Z,5μm,19.0s							
VNDA	**Vanda**	**42.13**	**183**	P		**P**	**08 06 53.0**	**-0.5**
VNDA	**Vanda**	**42.13**	**183**	P		**P**	**08 06 56.9**	**+3.3**
	comp=Z,9.6nm,0.7s,baz=188,slow=6.4,SNR=18							
VNDA				LR		LR	08 24 14.6	
	comp=Z,2μm,21.9s,baz=180,slow=36							
	comp=Z,9.6nm,0.7s							
RIB01	**Linhares ES**	**42.28**	**341**	*e*P		**P**	**08 06 54.0**	**-1.3**
BB19B	**Bebedouro**	**42.30**	**329**	*e*P		**P**	**08 06 54.4**	**-1.1**
AMBA	**Amambai (Brazi**	**42.41**	**320**	*e*P		**P**	**08 06 55.1**	**-1.3**
CO05	**La Serena**	**42.49**	**296**	P		**P**	**08 06 57.0**	**+0.1**
CO05				IAMs_20		IAMs_20	08 25 30.8	
	comp=Z,4μm,18.0s							
VA04	**Juan Fernndez**	**42.90**	**285**	P		**P**	**08 07 02.8**	**+2.5**
SJMB	**Sao Joao De Ma**	**43.02**	**340**	*e*P		**P**	**08 06 59.9**	**-1.4**
LCO	**Las Campanas**	**43.03**	**297**	P		**P**	**08 07 01.3**	**-0.4**
LCO	**Las Campanas**	**43.03**	**297**	IAMs_20		IAMs_20	08 25 27.9	
	comp=Z,4μm,18.0s							
LCO	**Las Campanas**	**43.03**	**297**	P		**P**	**08 07 01.3**	**-0.4**
LCO				pmax		pmax		
	comp=Z,73nm,0.9s							
LCO				MLR		MLR		
	comp=Z,4μm,18.0s							
GRHM	**Grahamstown, E**	**43.64**	**76**	IAMs_20		IAMs_20	08 20 09.5	
	comp=Z,4μm,22.0s							
DIAM	**Diamantina, MG**	**43.87**	**336**	*e*P		**P**	**08 07 06.7**	**-1.6**
AC04	**Llanos de Chal**	**43.89**	**297**	IAMs_20		IAMs_20	08 24 14.3	
	comp=Z,4μm,22.0s							
GO03	**Copiapo**	**44.05**	**298**	IAMs_20		IAMs_20	08 26 41.5	
	comp=Z,4μm,19.0s							
ITRB	**Iturama**	**44.08**	**327**	*e*P		**P**	**08 07 09.7**	**-0.3**
PMNB	**Patos De Minas**	**44.23**	**333**	*e*P		**P**	**08 07 09.8**	**-1.4**
RPRD	**Ribas do Rio P**	**44.30**	**322**	*e*P		**P**	**08 07 10.7**	**-1.0**
AC06	**Mina Casimiro**	**44.31**	**298**	IAMs_20		IAMs_20	08 26 38.4	
	comp=Z,4μm,20.0s							
MURT	**Porto Murtinho**	**44.45**	**317**	*e*P		**P**	**08 07 11.4**	**-1.4**
GUA01	**Guaratinga, BA**	**44.87**	**342**	*e*P		**P**	**08 07 14.4**	**-1.7**
AQDB	**Aquidauana**	**44.93**	**320**	P		**P**	**08 07 15.8**	**-0.9**
AQDB	**Aquidauana**	**44.93**	**320**	*e*P		**P**	**08 07 16.1**	**-0.6**
IPMB	**Ipameri, GO**	**45.18**	**330**	*e*P		**P**	**08 07 17.4**	**-1.3**
BDQN	**Bodoquena, MS**	**45.29**	**319**	*e*P		**P**	**08 07 18.0**	**-1.5**

AC01	**Pan de Azucar**	**45.47**	**299**	IAMs_20		IAMs_20	08 27 26.0	
	comp=Z,3μm,19.0s							
H04S2	**CROZET ISLANDS**	**45.63**	**110**	T		T	08 56 29.5	
	baz=223,slow=74,SNR=78							
H04S3	**CROZET ISLANDS**	**45.64**	**110**	T		T	08 56 25.0	
	baz=223,slow=74,SNR=85							
H04S1	**CROZET ISLANDS**	**45.65**	**110**	T		T	08 56 32.7	
	baz=223,slow=74,SNR=140							
C2SB	**Chapadao do Su**	**45.66**	**324**	*e*P		**P**	**08 07 22.4**	**-0.1**
CMC01	**Camacan, BA**	**46.03**	**343**	*e*P		**P**	**08 07 23.3**	**-2.1**
PB14	**IPOC Station P**	**46.72**	**300**	P		**P**	**08 07 30.5**	**-0.6**
PB14				IAmb		IAmb	08 07 43.7	
	comp=Z,48nm,0.8s							
BOSA	**Boshof**	**46.98**	**71**	P		**P**	**08 07 31.6**	**-1.3**
BOSA				IAmb		IAmb	08 07 37.1	
	comp=Z,55nm,1.0s							
BOSA	**Boshof**	**46.98**	**71**	P		**P**	**08 07 32.1**	**-0.8**
	comp=Z,22nm,0.6s,baz=214,slow=6.9,SNR=66							
BOSA				LR		LR	08 24 22.9	
	comp=Z,2μm,18.4s,baz=214,slow=32							
	comp=Z,22nm,0.6s							
JANB	**Januaria**	**47.15**	**336**	*e*P		**P**	**08 07 31.7**	**-2.6**
AF01	**San Pedro de A**	**47.26**	**304**	IAMs_20		IAMs_20	08 27 41.4	
	comp=Z,3μm,21.0s							
BDFB	**Brasilia**	**47.39**	**332**	P		**P**	**08 07 35.8**	**-0.4**
BDFB	**Brasilia**	**47.39**	**332**	P		**P**	**08 07 34.2**	**-1.9**
	comp=Z,8.9nm,0.5s,baz=150,slow=6.4,SNR=15							
	comp=Z,8.9nm,0.5s							
BDFB	**Brasilia**	**47.39**	**332**	P		**P**	**08 07 35.8**	**-0.4**
BDFB				pmax		pmax		
	comp=Z,23nm,0.8s							
GDU01	**Guandu, BA**	**47.65**	**343**	*e*P		**P**	**08 07 36.8**	**-1.3**
PB10	**IPOC Station P**	**47.76**	**301**	IAMs_20		IAMs_20	08 28 33.7	
	comp=Z,3μm,19.0s							
PB05	**IPOC Station P**	**48.19**	**302**	P		**P**	**08 07 41.9**	**-0.5**
PB05				IAMs_20		IAMs_20	08 29 26.2	
	comp=Z,2μm,18.0s							
ARAG	**Araguaiana, MT**	**48.29**	**327**	*e*P		**P**	**08 07 42.1**	**-1.0**
PHPEN	**Phepeng**	**48.54**	**67**	P		**P**	**08 07 44.1**	**-0.9**
PHPEN				IAmb		IAmb	08 07 49.4	
	comp=Z,73nm,1.3s							
WIN	**Windhoek**	**48.56**	**59**	P		**P**	**08 07 44.4**	**-0.9**
WIN	**Windhoek**	**48.56**	**59**	P		**P**	**08 07 44.4**	**-0.9**
WIN				pmax		pmax		
	comp=Z,165nm,1.6s							
PB03	**IPOC Station P**	**48.72**	**303**	IAMs_20		IAMs_20	08 28 46.0	
	comp=Z,4μm,21.0s							
PB09	**IPOC Station P**	**48.73**	**303**	P		**P**	**08 07 47.0**	**+0.3**
PB09				IAmb		IAmb	08 09 38.0	
	comp=Z,82nm,0.9s							
PB09				IAMs_20		IAMs_20	08 28 39.3	
	comp=Z,3μm,21.0s							
SALV	**Santo Antonio**	**49.22**	**322**	*e*P		**P**	**08 07 48.7**	**-1.5**
PB02	**IPOC Station P**	**49.43**	**303**	P		**P**	**08 07 52.4**	**+0.6**
PB02				IAMs_20		IAMs_20	08 28 59.8	
	comp=Z,3μm,20.0s							
PB01	**IPOC Station P**	**49.50**	**303**	IAMs_20		IAMs_20	08 29 04.8	
	comp=Z,3μm,22.0s							
KOOLE	**Kule**	**49.51**	**62**	*i* P		**P**	**08 07 52.1**	**-0.5**
KOOLE	**Kule**	**49.51**	**62**	P		**P**	**08 07 50.7**	**-1.9**
KOOLE				IAmb		IAmb	08 08 05.0	
	comp=Z,43nm,0.7s							
KOOLE				IAMs_20		IAMs_20	08 26 49.0	
	comp=Z,4μm,18.0s							
CASY	**Casey**	**49.63**	**159**	P		**P**	**08 07 54.0**	**+1.2**
CASY				IAmb		IAmb	08 09 43.2	
	comp=Z,167nm,2.0s							
CASY	**Casey**	**49.63**	**159**	*e*S		**S**	**08 14 57.1**	**-3.5**
	comp=Z,304nm,28.0s							
CASY				*e*SS		**SS**	**08 18 34.1**	**+2.2**
	comp=Z,1μm,24.0s							
CASY				*e*LR		LR	08 21 57.9	
	comp=Z,4μm,22.0s							
SDBA	**SAO DESIDERIO**	**49.85**	**336**	*e*P		**P**	**08 07 52.9**	**-2.2**
SKOMA	**Sekoma**	**49.86**	**67**	*i* P		**P**	**08 07 54.6**	**-0.6**
PATCX	**Punta Patache**	**49.98**	**303**	P		**P**	**08 07 56.9**	**+0.9**
PATCX				IAMs_20		IAMs_20	08 29 06.4	
	comp=Z,3μm,20.0s							
LBTB	**Lobatse**	**50.20**	**69**	P		**P**	**08 07 56.6**	**-1.1**
LBTB				IAmb		IAmb	08 08 08.6	
	comp=Z,47nm,0.9s							
LBTB	**Lobatse**	**50.20**	**69**	LR		LR	08 25 21.7	
	comp=Z,2μm,19.0s,baz=210,slow=32							
LBTB	**Lobatse**	**50.20**	**69**	P		**P**	**08 07 56.6**	**-1.1**
LBTB				pmax		pmax		
	comp=Z,47nm,0.9s							

MATP	**Matopo**	**55.49**	**69**		LR	LR	08 28 28.0			
	comp=Z,2µm,19.6s,baz=207,slow=32									
NBPB	**Pedra_Branca-C**	**55.69**	**344**		*e*P	**P**	**08 08 35.7**	**-2.5**		
KSANE	**Kasane**	**56.26**	**64**		*i* P	**P**	**08 08 42.1**	**-0.3**		
KSANE	**Kasane**	**56.26**	**64**		P	**P**	**08 08 40.0**	**-2.4**		
KSANE					IAmb	IAmb	08 08 53.5			
	comp=Z,77nm,0.8s									
KSANE					IAMs_20	IAMs_20	08 29 07.0			
	comp=Z,3µm,20.0s									
NBCL	**Cascavel-CE**	**56.83**	**346**		*e*P	**P**	**08 08 45.8**	**-0.4**		
PRPB	**Parauapebas**	**56.95**	**332**		*e*P	**P**	**08 08 45.7**	**-1.5**		
NPGB	**Novo Progresso**	**57.53**	**326**		*e*P	**P**	**08 08 51.5**	**+0.3**		
LSZ	**Lusaka**	**59.84**	**66**			**P**	**08 09 06.9**	**-0.6**		
LSZ	**Lusaka**	**59.84**	**66**		LR	LR	08 32 30.6			
	comp=Z,3µm,18.1s,baz=208,slow=34									
LSZ	**Lusaka**	**59.84**	**66**		P	**P**	**08 09 06.9**	**-0.6**		
LSZ					pmax	pmax				
	comp=Z,69nm,0.9s									
ITTB	**Itaituba**	**60.19**	**326**		*e*P	**P**	**08 09 07.6**	**-2.1**		
TMAB	**Tom-Au,PA,Br**	**60.26**	**335**		*e*P	**P**	**08 09 09.2**	**-1.0**		
FOMA	**Nahampoana Res**	**60.58**	**89**		IAMs_20	IAMs_20	08 29 54.3			
	comp=Z,2µm,20.0s									
NNA	**Nana**	**60.69**	**300**		P	**P**	**08 09 13.2**	**0.0**		
NNA					IAmb	IAmb	08 11 02.2			
	comp=Z,48nm,1.0s									
NNA	**Nana**	**60.69**	**300**		IAMs_20	IAMs_20	08 35 03.4			
	comp=Z,2µm,20.0s									
NNA	**Nana**	**60.69**	**300**		P	**P**	**08 09 12.1**	**-1.1**		
	comp=Z,48nm,1.1s,baz=153,slow=4.9,SNR=10.0									
	comp=Z,48nm,1.1s									
NNA	**Nana**	**60.69**	**300**	⇓	*i* P	**P**	**08 09 13.9**	**+0.7**		
NNA					pmax	pmax				
	comp=Z,90nm,1.0s									
CZSB	**Cruzeiro do Su**	**62.82**	**307**		P	**P**	**08 09 26.3**	**-1.3**		
CZSB					IAMs_20	IAMs_20	08 38 11.9			
	comp=Z,2µm,20.0s									
CZSB	**Cruzeiro do Su**	**62.82**	**307**		*e*P	**P**	**08 09 25.9**	**-1.7**		
RPN	**Rapa Nui**	**63.23**	**262**		LR	LR	08 31 25.4			
	comp=Z,555nm,18.8s,baz=134,slow=31									
TEFE	**Tefe**	**63.74**	**317**		*e*P	**P**	**08 09 32.2**	**-1.4**		
TBTG	**Tabatinga, AM**	**64.99**	**311**		P	**P**	**08 09 40.6**	**-1.2**		
TBTG					IAmb	IAmb	08 11 29.2			
	comp=Z,67nm,1.2s									
TBTG					IAMs_20	IAMs_20	08 38 41.2			
	comp=Z,2µm,22.0s									
TBTG	**Tabatinga, AM**	**64.99**	**311**		*e*P	**P**	**08 09 40.3**	**-1.5**		
ATAH	**Atahualpa**	**65.70**	**301**		P	**P**	**08 09 46.3**	**-0.6**		
	comp=Z,18nm,0.8s,baz=162,slow=5.7,SNR=16									
	comp=Z,18nm,0.8s									
ABPO	**Ambohimpanom**	**65.72**	**86**		IAMs_20	IAMs_20	08 35 21.4			
	comp=Z,2µm,19.0s									
OPO	**Ambohidratompo**	**66.08**	**85**		LR	LR	08 33 09.8			
	comp=Z,1µm,20.0s,baz=5.5,slow=31									
BOAV	**Boa Vista**	**67.99**	**323**		P	**P**	**08 09 58.8**	**-2.2**		
BOAV	**Boa Vista**	**67.99**	**323**		*e*P	**P**	**08 09 57.9**	**-3.0**		
MDP	**Montagnes des**	**68.50**	**332**		P	**P**	**08 10 01.5**	**-2.6**		
	comp=Z,8.7nm,0.7s,baz=171,slow=4.9,SNR=7.5									
	comp=Z,8.7nm,0.7s									
DBIC	**Dimbokro**	**69.13**	**23**			**P**	**08 10 07.4**	**-0.6**		
DBIC	**Dimbokro**	**69.13**	**23**		P	**P**	**08 10 06.6**	**-1.5**		
	comp=Z,7.6nm,0.5s,baz=206,slow=7.0,SNR=13									
	comp=Z,7.6nm,0.5s									
DBIC	**Dimbokro**	**69.13**	**23**		P	**P**	**08 10 07.4**	**-0.6**		
DBIC					pmax	pmax				
	comp=Z,136nm,1.9s									
EDA	**Edea**	**70.22**	**39**			**P**	**08 10 14.5**	**-0.2**		
EDA					IAmb	IAmb	08 10 26.6			
	comp=Z,88nm,1.2s									
EDA					IAMs_20	IAMs_20	08 39 13.3			
	comp=Z,2µm,18.0s									
OTAV	**Otavalo**	**72.38**	**304**		P	**P**	**08 10 28.5**	**+0.1**		
OTAV					IAmb	IAmb	08 12 19.2			
	comp=Z,75nm,1.2s									
OTAV	**Otavalo**	**72.38**	**304**		P	**P**	**08 10 28.5**	**+0.1**		
OTAV					pmax	pmax				
	comp=Z,75nm,1.3s									
OTAV	**Otavalo**	**72.38**	**304**		*e*P	**P**	**08 10 28.1**	**-0.3**		
FLOC	**Florencia**	**72.48**	**308**		IAmb	IAmb	08 10 53.4			
	comp=Z,48nm,1.0s									
MBAR	**Mbarara**	**74.00**	**61**		P	**P**	**08 10 40.3**	**+2.6**		
MBAR	**Mbarara**	**74.00**	**61**	⇓	*i* P	**P**	**08 10 39.8**	**+2.1**		
MBAR					pmax	pmax				
	comp=Z,26nm,1.4s									
ROSC	**El Rosal**	**74.96**	**310**		P	**P**	**08 10 42.4**	**-1.1**		
	comp=Z,11nm,0.7s,baz=107,slow=4.2,SNR=6.5									
	comp=Z,11nm,0.7s									
MBO	**M'Bour**	**75.04**	**10**		IAMs_20	IAMs_20	08 37 56.4			
	comp=Z,2µm,19.0s									
SACV	**Santiago Islan**	**75.25**	**3**		IAMs_20	IAMs_20	08 37 49.0			
	comp=Z,2µm,20.0s									
RUSC	**La Rusia**	**75.47**	**312**		IAmb	IAmb	08 11 00.4			
	comp=Z,73nm,1.2s									
KIBK	**Kibwezi**	**75.74**	**69**		P	**P**	**08 10 50.8**	**+3.1**		
KIBK					IAmb	IAmb	08 11 03.3			
	comp=Z,56nm,1.1s									
KIBK					IAMs_20	IAMs_20	08 41 53.5			
	comp=Z,1µm,18.0s									
KMBO	**Kilima Mbogo**	**76.44**	**67**		P	**P**	**08 10 52.4**	**+0.6**		
	comp=Z,1.7nm,0.3s,baz=214,slow=8.4,SNR=9.9									
	comp=Z,1.7nm,0.3s									
BAUV	**El Baul**	**76.53**	**318**		IAmb	IAmb	08 11 11.4			
	comp=Z,41nm,0.9s									
PCRV	**Puerto La Cruz**	**76.60**	**322**		P	**P**	**08 10 51.1**	**-1.2**		
	comp=Z,31nm,1.0s,baz=162,slow=3.7,SNR=18									
	comp=Z,31nm,1.0s									
TORD	**Torodi Ar. Bea**	**76.83**	**28**			**P**	**08 10 52.5**	**-1.0**		
TORD	**Torodi Ar. Bea**	**76.83**	**28**		P	**P**	**08 10 52.4**	**-1.2**		
	comp=Z,37nm,0.4s,baz=200,slow=5.9,SNR=336									
	comp=Z,37nm,0.4s									
SNZO	**South Kaori**	**77.05**	**196**		*e*P	P	08 10 47.9	-6.7		
	comp=Z,7.4nm,23.0s									
SNZO					*e*S	**S**	**08 20 37.6**	**-5.2**		
	comp=Z,40nm,28.0s									
SNZO					*e*SS	**SS**	**08 25 39.1**	**+0.6**		
	comp=Z,46nm,27.0s									
SNZO					*e*LR	LR	08 34 43.0			
	comp=Z,68nm,22.0s									
SDV	**Santo Domingo**	**77.36**	**315**		P	**P**	**08 10 56.4**	**-0.5**		
SDV					IAmb	IAmb	08 12 54.2			
	comp=Z,36nm,0.7s									
SDV	**Santo Domingo**	**77.36**	**315**		P	**P**	**08 10 55.7**	**-1.1**		
	comp=Z,11nm,0.5s,baz=164,slow=3.4,SNR=10.0									
	comp=Z,11nm,0.5s									
SDV	**Santo Domingo**	**77.36**	**315**		*e*P	**P**	**08 10 56.3**	**-0.6**		
GRGR	**Grenville**	**77.57**	**325**		IAMs_20	IAMs_20	08 45 37.6			
	comp=Z,2µm,20.0s									
QRZ	**Quartz Range**	**77.81**	**195**		IAMs_20	IAMs_20	08 43 40.0			
	comp=Z,1µm,20.0s									
RKT	**Rikitea**	**78.69**	**243**		*e*S	**S**	**08 21 05.4**	**+4.3**		
RKT					*e*SS	**SS**	**08 26 08.9**	**+4.6**		
	comp=Z,4µm,31.8s									
RKT					*e*LQ	LQ	08 32 03.5			
	comp=Z,5µm,34.8s									
RKT					*e*LR	LR	08 35 32.2			
	comp=Z,16µm,31.0s									
BKZ	**Black Stump Fm**	**78.88**	**198**		IAMs_20	IAMs_20	08 42 14.5			
	comp=Z,6µm,27.5s									
RTZ	**Ruatahuna**	**79.35**	**199**		IAMs_20	IAMs_20	08 42 11.8			
	comp=Z,1µm,22.0s									
BCIP	**Isla Barro Col**	**81.05**	**307**		IAMs_20	IAMs_20	08 48 04.8			
	comp=Z,1µm,20.0s									
GDHS	**Morne Mazeau,**	**81.54**	**326**		IAMs_20	IAMs_20	08 47 32.2			
	comp=Z,1µm,20.0s									
ABD	**La Joyeuse, An**	**81.66**	**326**		IAMs_20	IAMs_20	08 50 19.8			
	comp=Z,1µm,21.0s									
LCR2	**La Lucha 2**	**83.26**	**303**		IAmb	IAmb	08 13 24.5			
	comp=Z,27nm,0.8s									
HDC	**Heredia**	**83.54**	**303**		*e*P	**P**	**08 11 30.7**	**+0.7**		
JTS	**Las Juntas de**	**84.15**	**303**		P	**P**	**08 11 32.5**	**-0.5**		
	comp=Z,12nm,0.9s,baz=335,slow=1.8,SNR=5.1									
	comp=Z,12nm,0.9s									
JTS	**Las Juntas de**	**84.15**	**303**	⇓	*i* P	**P**	**08 11 33.2**	**+0.2**		
JTS					pmax	pmax				
	comp=Z,23nm,1.1s									
TBI	**Tubuai**	**84.48**	**231**		*e*P	P	08 11 30.9	-3.8		
	comp=Z,509nm,26.2s									
TBI	**Tubuai**	**84.48**	**231**		*e*PP	**PP**	**08 14 48.7**	**-0.6**		
	comp=Z,385nm,37.5s									
TBI					*e*S	**SKSac**	**08 21 58.4**	**-0.1**		
	comp=Z,1µm,24.5s									
TBI					*e*SS	**SS**	**08 27 29.8**	**-0.6**		
	comp=Z,587nm,26.5s									
TBI					*e*LQ	LQ	08 34 29.4			
	comp=Z,11µm,32.5s									
TBI					*e*LR	LR	08 38 16.6			
	comp=Z,4µm,26.2s									
TBI					*e*LR	LR	08 38 19.9			
	comp=Z,950nm,31.8s									
BOAB	**BOACO BROADBAND**	**86.39**	**303**		IAMs_20	IAMs_20	08 48 50.3			
	comp=Z,2µm,20.0s									
BILN	**Bilwi Airport**	**86.89**	**306**		IAMs_20	IAMs_20	08 52 04.7			
	comp=Z,536nm,19.0s									
SDDR	**Presa de Saban**	**86.99**	**318**		IAMs_20	IAMs_20	08 56 23.6			
	comp=Z,996nm,19.0s									
HERN	**Volcan Telica**	**87.02**	**302**		IAMs_20	IAMs_20	08 52 19.1			
	comp=Z,781nm,19.0s									
TAM	**Tamanrasset**	**87.03**	**30**			**P**	**08 11 48.9**	**+1.7**		
TAM					IAMs_20	IAMs_20	08 44 15.9			
	comp=Z,1µm,22.0s									
TAM	**Tamanrasset**	**87.03**	**30**		P	**P**	**08 11 48.9**	**+1.7**		
TAM					pmax	pmax				
	comp=Z,51nm,0.3s									
SIUN	**Universidad Ur**	**87.16**	**304**		IAMs_20	IAMs_20	08 56 39.8			
	comp=Z,498nm,19.0s									
SC01	**Santiago de lo**	**87.22**	**319**		IAMs_20	IAMs_20	08 51 33.8			
	comp=Z,1µm,20.0s									
STKA	**Stephens Creek**	**87.46**	**170**		P	**P**	**08 11 51.0**	**+1.7**		
	comp=Z,2.6nm,0.7s,baz=161,slow=13,SNR=6.4									
	comp=Z,2.6nm,0.7s									
DGAR	**Diego Garcia**	**88.08**	**102**	⇑	*e*P	**P**	**08 11 50.4**	**-2.1**		
DGAR					pmax	pmax				
	comp=Z,111nm,1.8s									
MTDJ	**Mount Denham**	**88.46**	**312**		IAMs_20	IAMs_20	08 52 57.9			
	comp=Z,1µm,20.0s									
CHIV	**Chivirico**	**89.67**	**314**		IAMs_20	IAMs_20	08 49 27.8			
	comp=Z,660nm,21.0s									
NMDO	**Nuevo Mundo**	**89.70**	**316**		IAMs_20	IAMs_20	08 52 22.7			
	comp=Z,2µm,20.0s									
PPT2	**Papeete2**	**89.74**	**233**		*e*P	**P**	**08 11 59.0**	**-1.3**		
	comp=Z,48nm,22.0s									
PPT2	**Papeete2**	**89.74**	**233**		*e*PP	PP	08 15 23.5	-8.3		
	comp=Z,56nm,24.8s									
PPT2					*e*S	**S**	**08 22 47.6**	**-4.4**		
	comp=Z,365nm,26.2s									
PPT2					*e*SS	**SS**	**08 28 52.8**	**+5.2**		
	comp=Z,236nm,25.8s									
PPT2					*e*LQ	LQ	08 36 34.2			
	comp=Z,589nm,24.0s									
PPT2					*e*LR	LR	08 40 39.1			
	comp=Z,954nm,25.0s									
PPT2					*e*LR	LR	08 40 43.9			
	comp=Z,1µm,22.2s									
NFK	**Norfolk Island**	**89.98**	**193**		*e*LR	LR	08 40 42.2			
RAR	**Rarotonga**	**90.17**	**223**		*e*P	P	08 11 54.7	-7.5		
	comp=Z,53nm,23.0s									
RAR	**Rarotonga**	**90.17**	**223**		*e*S	**S**	**08 22 51.1**	**-4.7**		
	comp=Z,326nm,25.0s									
RAR					*e*SS	**SS**	**08 28 46.2**	**-7.2**		
	comp=Z,268nm,25.0s									
RAR					*e*LQ	LQ	08 36 07.2			
	comp=Z,133µm,27.0s									
RAR					*e*LR	LR	08 40 39.7			
	comp=Z,1µm,29.0s									
CCIG	**Comitan**	**92.56**	**299**		IAMs_20	IAMs_20	09 00 47.0			
	comp=Z,1µm,19.0s									
TAOE	**Nuku Hiva Isla**	**93.55**	**245**		*e*P	P	08 12 13.0	-5.1		
	comp=Z,88nm,31.1s									
TAOE	**Nuku Hiva Isla**	**93.55**	**245**		*e*S	**S**	**08 23 23.8**	**-2.8**		
	comp=Z,168nm,25.0s									
TAOE	**Nuku Hiva Isla**	**93.55**	**245**		*e*LQ	LQ	08 38 26.7			
	comp=Z,1µm,27.0s									
TAOE					*e*LR	LR	08 42 26.0			
	comp=Z,1µm,25.8s									
PSA00	**Pilbara Seismi**	**93.82**	**149**			**P**	**08 12 20.1**	**+0.9**		
CAMR	**Camarioca**	**94.30**	**311**		IAMs_20	IAMs_20	08 53 14.6			
	comp=Z,2µm,20.0s									
TEIG	**Tepich**	**94.45**	**304**		P	**P**	**08 12 21.0**	**-0.7**		
TEIG					IAMs_20	IAMs_20	09 02 59.8			
	comp=Z,763nm,18.0s									
ASAR	**Alice Springs**	**94.66**	**162**		P	**P**	**08 12 23.2**	**+0.2**		
	comp=Z,1.2nm,0.8s,baz=186,slow=3.9,SNR=16									
ASAR					PKKPbc	**PKKPbc**	**08 29 18.5**	**+1.0**		
	comp=Z,0.5nm,0.6s,baz=8.3,slow=2.3,SNR=8.6									
	comp=Z,1.2nm,0.8s									
AS31	**Alice Springs**	**94.66**	**162**			P	08 12 28.3	+5.3		
SOR	**Soroa**	**94.67**	**310**		IAMs_20	IAMs_20	08 57 33.6			
	comp=Z,1µm,20.0s									
NIUE	**Niue**	**95.33**	**215**		*e*PP	PP	08 16 07.0	-8.5		
	comp=Z,80nm,26.1s									
NIUE	**Niue**	**95.33**	**215**		*e*SS	SS	08 30 09.7	+2.4		
	comp=Z,221nm,24.1s									
NIUE	**Niue**	**95.33**	**215**		*e*LR	LR	08 43 13.8			
	comp=Z,1µm,29.9s									
TLIG	**Tlapa**	**96.53**	**294**		IAMs_20	IAMs_20	08 50 44.5			
	comp=Z,1µm,20.0s									
061Z	**Ochoppi**	**96.68**	**313**		IAMs_20	IAMs_20	08 58 09.6			
	comp=Z,1µm,21.0s									
DZM	**Mont Dzumac**	**97.04**	**192**		*e*P	P	08 12 18.7	-15		
	comp=Z,68nm,21.3s									
DZM	**Mont Dzumac**	**97.04**	**192**		*e*PP	PP	08 16 20.0	-8.7		
	comp=Z,100nm,23.8s									
DZM	**Mont Dzumac**	**97.04**	**192**		*e*LR	LR	08 44 05.2			
	comp=Z,977nm,21.6s									
060A	**Indiantown**	**97.55**	**314**		IAMs_20	IAMs_20	08 57 45.6			
	comp=Z,1µm,20.0s									
UNM	**Universidad Na**	**98.36**	**294**		IAMs_20	IAMs_20	09 04 14.8			
	comp=Z,1µm,18.0s									
WRA	**Warramunga Arr**	**98.38**	**162**		P	Pdif	08 12 42.0	+2.1		
	comp=Z,1.1nm,0.9s,baz=197,slow=4.6,SNR=4.9									
WRA					PKKPbc	**PKKPdf**	**08 29 08.8**	**-0.1**		
	comp=Z,0.6nm,0.6s,baz=352,slow=2.8,SNR=8.4									
	comp=Z,1.1nm,0.9s									
WRA	**Warramunga Arr**	**98.38**	**162**		P	Pdif	08 12 42.0	+2.1		
WRAB	**Tennant Creek**	**98.39**	**162**	⇓	*e*P	**P**	**08 12 39.8**	**-0.1**		
WRAB					pmax	pmax				
	comp=Z,3.0nm,0.3s									
DWPF	**Disney Wildern**	**98.91**	**313**		IAMs_20	IAMs_20	08 58 51.8			
	comp=Z,1µm,20.0s									
CTAO	**Charters Tower**	**99.50**	**173**		IAMs_20	IAMs_20	08 55 10.5			
	comp=Z,1µm,22.0s									
MOIG	**Morelia**	**99.57**	**293**		IAMs_20	IAMs_20	08 53 48.6			
	comp=Z,1µm,18.0s									
CART	**Cartagena**	**99.98**	**20**		IAMs_20	IAMs_20	08 53 17.2			
	comp=Z,1µm,20.0s									
656A	**Willston**	**100.45**	**313**		IAMs_20	IAMs_20	08 59 39.5			
	comp=Z,1µm,20.0s									
PAB	**San Pablo**	**101.36**	**17**		IAMs_20	IAMs_20	08 54 19.3			
	comp=Z,305nm,20.0s									
ESDC	**Sonseca Array**	**101.54**	**18**		P	**Pdif**	**08 12 53.5**	**+0.2**		
	comp=Z,0.9nm,0.9s,baz=190,slow=4.5,SNR=6.3									
MTE	**Manteigas**	**101.76**	**15**		IAMs_20	IAMs_20	08 53 22.9			
	comp=Z,953nm,20.0s									
257A	**Skidaway Islan**	**102.28**	**315**		IAMs_20	IAMs_20	08 58 34.7			
	comp=Z,786nm,21.0s									
TIGA	**Tifton**	**102.71**	**313**		IAMs_20	IAMs_20	09 01 16.2			
	comp=Z,1µm,20.0s									
451A	**Vernon**	**102.77**	**311**		IAMs_20	IAMs_20	09 02 14.8			
	comp=Z,973nm,20.0s									
CSU	**Charleston Sou**	**102.87**	**316**		IAMs_20	IAMs_20	08 57 16.3			
	comp=Z,879nm,22.0s									
ZAIG	**Zacatecas**	**102.88**	**293**		IAMs_20	IAMs_20	08 55 24.6			
	comp=Z,1µm,20.0s									
NHSC	**New Hope**	**103.02**	**316**		IAMs_20	IAMs_20	08 57 20.2			
	comp=Z,921nm,22.0s									
Y60A	**Bolivia**	**103.17**	**318**		IAMs_20	IAMs_20	08 57 13.3			
	comp=Z,778nm,21.0s									
SANVU	**Saraoutou**	**103.50**	**194**		IAMs_20	IAMs_20	08 56 46.3			
	comp=Z,802nm,20.0s									
Y58A	**Scranton**	**103.57**	**317**		IAMs_20	IAMs_20	08 58 50.8			
	comp=Z,923nm,21.0s									
154A	**Montrose**	**103.59**	**314**		IAMs_20	IAMs_20	09 02 54.6			
	comp=Z,990nm,20.0s									
Y57A	**Sumter**	**103.92**	**316**		IAMs_20	IAMs_20	09 00 14.0			
	comp=Z,775nm,21.0s									
X58A	**Roland**	**104.05**	**317**		IAMs_20	IAMs_20	08 57 39.5			
	comp=Z,956nm,22.0s									
W59A	**Clinton**	**104.31**	**318**		IAMs_20	IAMs_20	09 02 21.4			
	comp=Z,724nm,19.0s									
CEL	**Celeste**	**104.41**	**33**		IAMs_20	IAMs_20	08 56 19.4			
	comp=Z,855nm,20.0s									
GOGA	**Godfrey**	**104.44**	**314**		IAMs_20	IAMs_20	09 03 21.1			
	comp=Z,922nm,20.0s									
W57A	**Gilead**	**104.81**	**317**		IAMs_20	IAMs_20	09 05 35.8			
	comp=Z,771nm,19.0s									
Y52A	**Lilburn**	**105.06**	**313**		IAMs_20	IAMs_20	09 03 28.6			
	comp=Z,772nm,20.0s									
KARP	**Karpathos**	**105.35**	**43**		IAMs_20	IAMs_20	09 03 00.3			
	comp=Z,758nm,20.0s									
V55A	**Taylorsville**	**105.86**	**317**		IAMs_20	IAMs_20	08 59 02.6			
	comp=Z,796nm,22.0s									
Y49A	**Blount Mountai**	**105.92**	**312**		IAMs_20	IAMs_20	09 02 48.2			
	comp=Z,1µm,20.0s									
X51A	**Calhoun**	**105.98**	**313**		IAMs_20	IAMs_20	09 00 11.9			
	comp=Z,980nm,22.0s									
VBMS	**Vicksburg**	**106.02**	**308**		IAMs_20	IAMs_20	09 03 39.2			
	comp=Z,721nm,20.0s									
W52A	**Murphy**	**106.12**	**314**		IAMs_20	IAMs_20	09 00 04.5			
	comp=Z,1µm,22.0s									
HKT	**Hockley**	**106.18**	**302**		IAMs_20	IAMs_20	09 08 39.1			
	comp=Z,696nm,19.0s									
PMBI	**Palembang**	**106.45**	**129**		IAMs_20	IAMs_20	08 53 01.3			
	comp=Z,822nm,19.0s									
CPCT	**Cooper Cave**	**106.65**	**314**		IAMs_20	IAMs_20	09 04 17.6			
	comp=Z,1µm,21.0s									
PAOL	**Paolisi**	**106.66**	**31**		IAMs_20	IAMs_20	09 00 41.9			
	comp=Z,733nm,21.0s									
X48A	**Hartselle**	**106.68**	**311**		IAMs_20	IAMs_20	09 03 35.4			
	comp=Z,915nm,20.0s									
W50A	**Signal Mountai**	**106.71**	**313**		IAMs_20	IAMs_20	09 04 53.3			
	comp=Z,891nm,20.0s									
CBN	**Corbin Frederi**	**106.75**	**320**		IAMs_20	IAMs_20	09 02 36.7			
	comp=Z,1µm,21.0s									
SWET	**Sewanee**	**106.95**	**313**		IAMs_20	IAMs_20	09 05 10.6			
	comp=Z,874nm,20.0s									
CSS	**Mathiatis**	**107.00**	**48**		IAMs_20	IAMs_20	09 05 07.0			
	comp=Z,699nm,18.0s									
SLBS	**Sierra La Lagu**	**107.09**	**288**		IAMs_20	IAMs_20	08 55 28.1			
	comp=Z,1µm,20.0s									
Y45A	**Yeager Farm, C**	**107.10**	**309**		IAMs_20	IAMs_20	09 03 53.7			
	comp=Z,1µm,21.0s									
P61A	**Hammonton**	**107.30**	**323**		IAMs_20	IAMs_20	08 57 51.4			
	comp=Z,956nm,21.0s									
S54A	**Dingess, Beckl**	**107.66**	**317**		IAMs_20	IAMs_20	09 02 07.1			
	comp=Z,815nm,22.0s									
M65A	**Busby, Falmout**	**107.87**	**327**		PKPdf	**PKiKP**	**08 17 28.2**	**-0.2**		
	baz=159									
HPIG		**107.88**	**293**		IAMs_20	IAMs_20	08 58 59.0			
	comp=Z,841nm,19.0s									
U49A	**Red Boiling Sp**	**108.06**	**313**		IAMs_20	IAMs_20	09 05 34.8			
	comp=Z,994nm,20.0s									
MVL	**Millersville**	**108.07**	**322**		IAMs_20	IAMs_20	08 58 24.8			
	comp=Z,868nm,22.0s									
N62A	**Caumsett State**	**108.08**	**324**		IAMs_20	IAMs_20	09 01 35.7			
	comp=Z,677nm,19.0s									
P57A	**Homestead Farm**	**108.12**	**321**		IAMs_20	IAMs_20	09 03 17.0			
	comp=Z,899nm,21.0s									
BRNJ	**Basking Ridge**	**108.17**	**324**		IAMs_20	IAMs_20	09 03 27.2			
	comp=Z,974nm,20.0s									
T50A	**Nancy**	**108.17**	**314**		IAMs_20	IAMs_20	09 06 14.9			
	comp=Z,758nm,20.0s									
L64A	**Middleborough**	**108.27**	**327**		IAMs_20	IAMs_20	08 56 50.6			
	comp=Z,1µm,21.0s									
MET	**Memphis--Engin**	**108.36**	**310**		IAMs_20	IAMs_20	09 01 37.1			
	comp=Z,780nm,22.0s									
BCX	**Boston College**	**108.73**	**327**		IAMs_20	IAMs_20	08 56 50.1			
	comp=Z,998nm,22.0s									
N58A	**Sunbury**	**108.95**	**322**		IAMs_20	IAMs_20	09 06 46.1

comp=Z,742nm,19.0s
FRNY **Flat Rock** 111.71 326 IAMs_20 IAMs_20 08 58 44.9
comp=Z,741nm,22.0s
ECH **Echery** 111.78 24 IAMs_20 IAMs_20 09 01 01.9
comp=Z,981nm,20.0s
LONY **Lake Ozonia** 111.79 325 IAMs_20 IAMs_20 08 59 55.8
comp=Z,832nm,21.0s
MNTX **Cornudas Mount** 111.82 296 IAMs_20 IAMs_20 08 58 43.9
comp=Z,774nm,22.0s
OK052 **Battle Ridge R** 111.83 305 IAMs_20 IAMs_20 09 07 50.2
comp=Z,632nm,19.0s
PECO **Prince Edward** 111.86 323 IAMs_20 IAMs_20 09 05 29.0
comp=Z,907nm,21.0s
MARD **Mardin** 111.91 53 IAMs_20 IAMs_20 09 02 50.9
comp=Z,790nm,20.0s
SFIN **Lafayette** 111.96 314 IAMs_20 IAMs_20 09 07 57.2
comp=Z,1µm,20.0s
HSIG **112.09 290** IAMs_20 IAMs_20 09 00 06.5
comp=Z,647nm,19.0s
P43A **Skaggs, Pawnee** 112.19 312 IAMs_20 IAMs_20 09 07 55.2
comp=Z,1µm,20.0s
KULM **Kulim** 112.24 121 IAMs_20 IAMs_20 08 57 20.9
comp=Z,1µm,20.0s
E62A **Clayton Lake** 112.29 330 IAMs_20 IAMs_20 09 07 01.1
comp=Z,721nm,20.0s
EPT **El Paso** 112.38 295 IAMs_20 IAMs_20 08 59 58.2
comp=Z,712nm,20.0s
KSM **Kuching** 112.58 132 IAMs_20 IAMs_20 08 57 38.0
comp=Z,1µm,20.0s
HDIL **Hopedale** 112.91 313 IAMs_20 IAMs_20 09 08 16.3
comp=Z,665nm,20.0s
WLF **Walferdange** 112.97 22 IAMs_20 IAMs_20 09 04 18.4
comp=Z,874nm,19.0s
P40A **Paris** 113.03 310 IAMs_20 IAMs_20 09 07 12.7
comp=Z,864nm,22.0s
319A **Douglas** 113.31 293 IAMs_20 IAMs_20 09 08 57.7
comp=Z,795nm,18.0s
N41A **Harden Midland** 113.61 312 IAMs_20 IAMs_20 09 09 09.0
comp=Z,808nm,20.0s
I49A **Point Hope** 113.68 319 IAMs_20 IAMs_20 09 02 17.3
comp=Z,1µm,22.0s
J47A **Sunmer** 113.71 317 IAMs_20 IAMs_20 09 02 44.3
comp=Z,762nm,21.0s
GERES **GERESS Array B** 113.78 28 PKiKP **PKiKP** **08 17 39.1 -0.5**
comp=Z,0.3nm,0.3s,baz=122,slow=1.7,SNR=4.0
GERES PP **PP** **08 18 31.0 -2.4**
comp=Z,1.0nm,0.8s,baz=222,slow=12,SNR=4.6
GRFO **Grafenberg** 114.02 26 IAMs_20 IAMs_20 09 02 11.2
comp=Z,756nm,18.0s
GRA1 **Grafenberg Arr** 114.02 26 IAMs_20 IAMs_20 09 02 11.3
comp=Z,757nm,18.0s
L42A **Oliver, Polo** 114.31 313 IAMs_20 IAMs_20 09 04 22.4
comp=Z,795nm,22.0s
Y22A **Socorro** 114.42 296 IAMs_20 IAMs_20 09 00 17.0
comp=Z,889nm,22.0s
K43A **Burlington** 114.45 315 IAMs_20 IAMs_20 09 05 44.0
comp=Z,689nm,21.0s
PSZ **Piszkesteto** 114.46 32 IAMs_20 IAMs_20 09 03 26.4
comp=Z,653nm,18.0s
Y22D **IRIS PASSCAL I** 114.51 296 IAMs_20 IAMs_20 09 06 57.4
comp=Z,686nm,18.0s
Y22D **IRIS PASSCAL I** 114.51 296 PKPdf PKPdf 08 17 41.0 -0.5
baz=148
N38A **Joes South For** 114.58 310 IAMs_20 IAMs_20 09 05 26.6
comp=Z,802nm,20.0s
VYHS **Vyhne** 114.71 31 *e*P **Pdif** **08 13 55.2 +3.6**
TUC **Tucson** 114.78 292 IAMs_20 IAMs_20 08 59 49.7
comp=Z,667nm,20.0s
ANMO **Albuquerque** 115.04 297 *i* PKiKP **PKiKP** **08 17 43.2 +0.6**
GLMI **Grayling** 115.05 318 IAMs_20 IAMs_20 09 02 57.7
comp=Z,711nm,20.0s
JFWS **Jewell Farm** 115.32 313 IAMs_20 IAMs_20 09 10 01.0
comp=Z,791nm,19.0s
LANS **Liptovska Anna** 115.48 32 *e*P **Pdif** **08 13 50.2 -4.8**
SCIA **State Center** 115.53 311 IAMs_20 IAMs_20 09 10 39.9
comp=Z,835nm,20.0s
I42A **Draeger Farm,** 115.69 315 IAMs_20 IAMs_20 09 04 33.9
comp=Z,917nm,22.0s
CLL **Collm** 115.93 26 IAMs_20 IAMs_20 09 04 07.8
comp=Z,746nm,20.0s
X18A **Snowflake** 116.25 294 IAMs_20 IAMs_20 09 08 55.7
comp=Z,868nm,19.0s
E46A **Sault Ste Mari** 116.32 319 IAMs_20 IAMs_20 09 12 21.1
comp=Z,741nm,21.0s
VTX **Valle De La Tr** 116.34 287 IAMs_20 IAMs_20 09 01 11.3
comp=Z,784nm,20.0s
W18A **Petrified Fore** 116.65 294 IAMs_20 IAMs_20 09 02 25.0
comp=Z,956nm,22.0s
L34A **Svendsen Farm,** 116.79 308 IAMs_20 IAMs_20 09 09 59.3
comp=Z,985nm,21.0s
SOC **Sochi** 116.93 48 *i* PKiKP **PKiKP** **08 17 50.9 +5.3**
SOC *e* 08 18 59.8
SOC *e*PPP PPP 08 21 27.8
SOC *e*SS SS 08 35 09.9 +6.8
SOC *e*SSS SSS 08 39 23.9
ESJX **Sierra Juarez** 116.93 288 IAMs_20 IAMs_20 08 59 39.8
comp=Z,817nm,22.0s
VSLR **Vesoyloye** 116.94 49 *c i* PKiKP **PKiKP** **08 17 46.1 +0.4**
SDCO **Great Sand Dun** 116.97 299 IAMs_20 IAMs_20 09 06 57.5
comp=Z,607nm,20.0s
BGNE **Belgrade** 117.01 307 IAMs_20 IAMs_20 09 07 04.2
comp=Z,754nm,20.0s
F42A **Maple Grove Fa** 117.06 316 IAMs_20 IAMs_20 09 05 45.8
comp=Z,641nm,21.0s
G40A **Rib Lake** 117.35 315 IAMs_20 IAMs_20 09 10 05.6
comp=Z,623nm,20.0s
I37A **Lemond, Waseca** 117.42 312 IAMs_20 IAMs_20 09 11 05.7
comp=Z,798nm,21.0s
YUH **Yuha Desert** 117.45 288 IAMs_20 IAMs_20 09 01 58.6
comp=Z,688nm,19.0s
CBX **Cerro Bola** 117.52 287 IAMs_20 IAMs_20 09 13 24.5
comp=Z,695nm,19.0s
S22A **4UR Ranch, Cre** 117.55 298 IAMs_20 IAMs_20 09 04 10.8
comp=Z,628nm,20.0s
BAR **Barrett** 117.83 288 IAMs_20 IAMs_20 09 01 34.6
comp=Z,567nm,19.0s
MVCO **Mesa Verde** 117.84 297 IAMs_20 IAMs_20 09 02 28.2
comp=Z,691nm,21.0s
Q24A **Divide** 117.84 300 IAMs_20 IAMs_20 09 06 11.4
comp=Z,608nm,20.0s
SALN **Salton City** 118.00 288 IAMs_20 IAMs_20 09 02 51.2
comp=Z,631nm,20.0s
BC3 **Big Chuckawall** 118.06 289 IAMs_20 IAMs_20 09 02 14.5
comp=Z,588nm,20.0s
OGNE **Ogallala** 118.19 304 IAMs_20 IAMs_20 09 11 49.5
comp=Z,992nm,20.0s
IRM **Iron Mountain** 118.33 290 IAMs_20 IAMs_20 09 03 19.9
comp=Z,524nm,18.0s
KIV **Kislovodsk** 118.36 50 IAMs_20 IAMs_20 09 09 16.6
comp=Z,564nm,18.0s
KIV **Kislovodsk** 118.36 50 *i* PKiKP **PKiKP** **08 17 49.0 +0.5**
KIV pmax pmax
comp=Z,9.0nm,1.1s
ECSD **EROS Data Cent** 118.39 309 IAMs_20 IAMs_20 09 08 03.5
comp=Z,781nm,22.0s
PMD **Palm Desert** 118.49 288 IAMs_20 IAMs_20 09 00 28.1
comp=Z,678nm,21.0s
PFO **Pinyon Flats O** 118.50 288 IAMs_20 IAMs_20 09 00 28.3
comp=Z,736nm,22.0s
BELC **Belle Mtn. Jos** 118.60 289 IAMs_20 IAMs_20 09 01 59.1
comp=Z,560nm,19.0s
K30B **Basset** 118.67 307 IAMs_20 IAMs_20 09 10 52.9
comp=Z,609nm,20.0s
PV13 **Radium Mtn., P** 118.77 297 IAMs_20 IAMs_20 09 07 46.1
comp=Z,708nm,19.0s
PV05 **Paradox Valley** 118.82 297 IAMs_20 IAMs_20 09 07 22.6
comp=Z,750nm,19.0s
DANC **Danby, Needles** 118.84 290 IAMs_20 IAMs_20 09 03 45.3
comp=Z,599nm,20.0s
U15A **North Rim** 118.89 293 IAMs_20 IAMs_20 09 11 11.5
comp=Z,607nm,18.0s
KKM **Kota Kinabalu** 118.91 137 IAMs_20 IAMs_20 08 58 52.2
comp=Z,721nm,22.0s
PV10 **Paradox Valley** 119.04 297 **PKiKP** **08 17 51.5 +1.2**
PV21 **Cone Mtn., Par** 119.17 297 IAMs_20 IAMs_20 09 07 32.7
comp=Z,945nm,20.0s
SCHQ **Schefferville** 119.33 335 PKP **PKPdf** **08 17 48.7 -1.2**
comp=Z,3.5nm,0.7s,baz=50,slow=1.7,SNR=5.1
MAK **Makhachkala** 119.41 54 *i* P **Pdif** **08 14 12.5 0.0**
MAK *i* 08 17 51.3
MAK *e* 08 19 14.3
MAK *e*PPP PPP 08 21 46.1
MAK *e* 08 24 39.6
MAK *e*PS **PS** **08 29 01.4 +1.3**
MAK *e*SS SS 08 35 34.5 -0.7
MAK pmax pmax
comp=Z,122nm,1.2s
AKASG **Malin Array Be** 119.61 37 **PKPdf** **08 17 50.5 0.0**
AKASG **Malin Array Be** 119.61 37 PKP **PKPdf** **08 17 49.6 -0.9**
comp=Z,3.1nm,0.8s,baz=249,slow=1.4,SNR=6.5
AKASG PP **PP** **08 19 16.8 +2.7**
comp=Z,0.3nm,0.4s,baz=218,slow=7.0,SNR=5.9
AKBB **Malin Array Si** 119.61 37 *ce* PKiKP **PKiKP** **08 17 50.8 +0.2**
MTPC **Mountain Pass** 119.62 290 IAMs_20 IAMs_20 09 04 35.8
comp=Z,567nm,18.0s
SUSD **Miller** 119.89 308 IAMs_20 IAMs_20 09 10 38.3
comp=Z,670nm,20.0s
EYMN **Ely** 120.11 315 IAMs_20 IAMs_20 09 06 42.6
comp=Z,721nm,22.0s
TPO **Tropico Hills** 120.37 288 IAMs_20 IAMs_20 09 03 27.9
comp=Z,570nm,20.0s
LRMC **Laurel Mtn Rad** 120.61 289 IAMs_20 IAMs_20 09 01 31.1
comp=Z,703nm,21.0s
K22A **Casper** 121.48 302 IAMs_20 IAMs_20 09 13 49.6
comp=Z,768nm,21.0s
DLV **Lat** 121.48 126 IAMs_20 IAMs_20 09 03 24.9
comp=Z,741nm,20.0s
RSSD **Black Hills** 121.65 304 **PKiKP** **08 17 55.6 +0.4**
RSSD **Black Hills** 121.65 304 PKiKP **PKiKP** **08 17 55.6 +0.4**
AGMN **Agassiz Nation** 121.96 313 IAMs_20 IAMs_20 09 13 24.8
comp=Z,898nm,20.0s
DUG **Dugway, Tooele** 122.21 295 IAMs_20 IAMs_20 09 12 51.8
comp=Z,574nm,19.0s
RAMR **Ramage Ranch** 122.24 286 IAMs_20 IAMs_20 09 01 29.4
comp=Z,701nm,19.0s
E28A **Huff** 122.34 308 IAMs_20 IAMs_20 09 14 10.2
comp=Z,815nm,20.0s
MNK **Minsk** 122.58 34 *i* PKiKP **PKPdf** **08 17 56.3 +0.2**
MNK *i* 08 19 31.8
MNK *i* SS SS 08 36 13.4 -2.1
MNK pmax pmax
comp=Z,21nm,0.8s
MNK pmax pmax
comp=N,24nm,0.8s
MNK pmax pmax
comp=E,13nm,0.9s
MNK MLR MLR
comp=E,416nm,18.0s
MNK MLR MLR
comp=Z,462nm,18.0s
MNK MLR MLR
comp=N,426nm,18.0s
HWUT **Hardware Ranch** 122.80 297 IAMs_20 IAMs_20 09 18 48.8
comp=Z,765nm,18.0s
BW06 **Boulder Array** 122.86 300 IAMs_20 IAMs_20 09 10 11.0
comp=Z,779nm,18.0s
PDAR **Pinedale Array** 122.86 300 **PKPdf** **08 17 57.6 +0.2**
PDAR **Pinedale Array** 122.86 300 PKP **PKPdf** **08 17 57.4 0.0**
comp=Z,0.8nm,0.6s,baz=137,slow=5.4,SNR=11
MDND **Maddock** 122.98 310 IAMs_20 IAMs_20 09 10 20.7
comp=Z,863nm,22.0s
BBGB **Big Mountain B** 123.08 287 IAMs_20 IAMs_20 09 02 12.6
comp=Z,781nm,21.0s
CMAR **Chiang Mai Arr** 123.17 113 **PKPdf** **08 17 58.8 +0.4**
CMAR **Chiang Mai Arr** 123.17 113 PKP **PKPdf** **08 17 58.2 -0.2**
comp=Z,2.2nm,0.4s,baz=231,slow=3.5,SNR=12
CMAR **Chiang Mai Arr** 123.17 113 PKiKP **PKPdf** **08 17 58.8 +0.4**
NVAR **Mina Array Bea** 123.29 290 **PKiKP** **08 18 00.1 +1.5**
NVAR **Mina Array Bea** 123.29 290 PKP **PKPdf** **08 17 58.9 +0.5**
comp=Z,1.6nm,0.9s,baz=169,slow=2.8,SNR=12
NIL **Nilore** 123.40 80 IAMs_20 IAMs_20 09 06 18.6
comp=Z,682nm,20.0s
CHTO **Chiang Mai** 123.48 113 IAMs_20 IAMs_20 09 01 31.9
comp=Z,908nm,20.0s
AHID **Auburn Hatcher** 123.53 298 IAMs_20 IAMs_20 09 16 27.0
comp=Z,739nm,20.0s
ELK **Elko** 123.74 294 IAMs_20 IAMs_20 09 07 57.8
comp=Z,584nm,19.0s
SNOW **Snow King Moun** 123.94 299 IAMs_20 IAMs_20 09 16 04.3
comp=Z,718nm,20.0s
MTOS **Mt Oso, Westle** 123.96 287 IAMs_20 IAMs_20 09 03 03.0
comp=Z,845nm,21.0s
LOHW **Long Hollow** 124.00 299 IAMs_20 IAMs_20 09 11 02.3
comp=Z,711nm,18.0s
TPAW **Teton Pass** 124.05 299 IAMs_20 IAMs_20 09 15 59.8
comp=Z,628nm,20.0s
HFS **Hagfors** 124.30 23 PKP **PKPdf** **08 17 57.9 -1.4**
comp=Z,3.5nm,0.7s,baz=165,slow=6.2,SNR=8.1
NAO01 **NORSAR Array S** 124.44 21 **PKiKP** **08 17 59.8 0.0**
LAO **LASA Array** 124.64 305 IAMs_20 IAMs_20 09 11 30.0
comp=Z,577nm,20.0s
NB2 **NORSAR Subarra** 124.68 21 PKPdf **PKiKP** **08 18 00.3 0.0**
comp=Z,10nm,1.2s,baz=202,slow=1.9
NB2 **NORSAR Subarra** 124.68 21 PKPdf **PKiKP** **08 18 00.3 0.0**
baz=202,slow=1.9
NOA **NORSAR Array B** 124.68 21 PKP **PKiKP** **08 18 00.6 +0.3**
comp=Z,4.1nm,0.8s,baz=191,slow=1.6,SNR=14
NB201 **NORSAR Array S** 124.70 21 **PKiKP** **08 18 00.4 +0.1**
MCCM **Marconi Confer** 125.21 286 IAMs_20 IAMs_20 09 01 58.0
comp=Z,620nm,22.0s
DGMT **Dagmar** 125.26 307 IAMs_20 IAMs_20 09 15 35.3
comp=Z,709nm,21.0s
CRAI **Chiangrai** 125.36 113 IAMs_20 IAMs_20 09 12 34.8
comp=Z,777nm,18.0s
SIMJ **Simiganj** 125.38 73 **PKiKP** **08 18 03.0 +0.4**
SIMJ IAMs_20 IAMs_20 09 13 34.6
comp=Z,717nm,18.0s
HLID **Hailey** 125.62 297 IAMs_20 IAMs_20 09 18 32.5
comp=Z,584nm,19.0s
OBN **Obninsk** 125.67 39 *i* PKiKP **PKiKP** **08 18 04.1 +1.7**
OBN *i* 08 19 54.5
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,499nm,19.0s
ORV **Oroville** 125.68 288 IAMs_20 IAMs_20 09 04 11.4
comp=Z,560nm,20.0s
GDXM **Geysers** 125.70 287 IAMs_20 IAMs_20 09 06 20.9
comp=Z,726nm,20.0s
VSU **Vasula** 125.74 31 *ce* PKiKP **PKPdf** **08 18 01.9 -0.1**
VSU pmax pmax
comp=Z,15nm,0.6s
POHA **Pohakuloa** 125.76 245 *e*PP **PP** **08 19 50.2 -5.7**
comp=Z,3.8nm,22.5s
POHA **Pohakuloa** 125.76 245 *e*SS SS 08 36 56.7 +0.5
comp=Z,17nm,26.4s
POHA **Pohakuloa** 125.76 245 *e*LR LR 08 57 16.1
comp=Z,41nm,25.2s
BOZ **Bozeman (W)** 126.02 300 IAMs_20 IAMs_20 09 17 27.9
comp=Z,792nm,20.0s
DLMT **Dillon** 126.25 299 IAMs_20 IAMs_20 09 13 25.0
comp=Z,835nm,20.0s
O03E **Paynes Creek** 126.41 289 IAMs_20 IAMs_20 09 04 43.6
comp=Z,573nm,20.0s
MOS **Moscow** 126.53 39 *i* PKiKP **PKiKP** **08 18 06.9 +2.8**
MOS *e* 08 20 00.7
HATC **Hat Creek Radi** 126.66 289 IAMs_20 IAMs_20 09 07 01.2
comp=Z,599nm,20.0s
O02D **Mt. Diablo Mer** 126.78 288 IAMs_20 IAMs_20 09 03 34.4
comp=Z,602nm,21.0s
BELG **Belogornoye** 127.20 48 *i* PKiKP **PKPdf** **08 18 05.1 +0.1**
J08A **Circle Bar Ran** 127.28 294 IAMs_20 IAMs_20 09 13 39.5
comp=Z,555nm,21.0s
DY2G **Dye2** 127.49 350 *i* P **PKiKP** **08 18 06.4 +0.4**
K05A **Summer Lake** 127.89 291 IAMs_20 IAMs_20 09 05 44.8
comp=Z,779nm,22.0s
SLVN **Son La** 127.92 116 IAMs_20 IAMs_20 09 04 48.2
comp=Z,739nm,21.0s
BMO **Blue Mountains** 127.92 296 IAMs_20 IAMs_20 09 18 01.3
comp=Z,712nm,21.0s
FINES **FINESS Array B** 128.18 29 **PKPdf** **08 18 06.9 +0.4**
FINES **FINESS Array B** 128.18 29 PKP **PKPdf** **08 18 05.9 -0.7**
comp=Z,17nm,0.8s,baz=111,slow=4.3,SNR=44
FINES **FINESS Array B** 128.18 29 *ce* PKiKP **PKPdf** **08 18 07.0 +0.4**
FINES pmax pmax
comp=Z,17nm,0.8s
K04D **Chiloquin, OR** 128.21 291 IAMs_20 IAMs_20 09 05 12.3
comp=Z,663nm,22.0s
QIZ **Qiongzhong** 128.42 124 IAMs_20 IAMs_20 09 07 07.5
comp=Z,829nm,20.0s
QIZ **Qiongzhong** 128.42 124 PKP **PKPdf** **08 18 04.5 -3.9**
QIZ PP **PP** **08 20 13.8 +0.7**
QIZ SS SS 08 37 28.3 -0.4
QIZ AMB AMB
comp=Z,190nm,6.9s
QIZ LR LR
comp=Z,430nm,12.3s
QIZ LR LR
comp=Z,510nm,17.7s
QIZ LR LR
comp=Z,760nm,24.7s
L02F **Cave Junction** 128.67 289 IAMs_20 IAMs_20 09 11 59.4
comp=Z,574nm,20.0s
F10A **Beach Ranch, E** 128.76 297 IAMs_20 IAMs_20 09 20 23.4
comp=Z,597nm,19.0s
JOHN **Johnston Islan** 128.80 228 *e*PP **PP** **08 20 12.4 -3.1**
comp=Z,71nm,24.7s
JOHN **Johnston Islan** 128.80 228 *e*SS SS 08 37 37.2 +4.0
comp=Z,208nm,30.6s
JOHN **Johnston Islan** 128.80 228 *e*LR LR 08 58 37.9
comp=Z,652nm,22.3s
K02D **Willamette Mer** 129.16 289 IAMs_20 IAMs_20 09 21 53.3
comp=Z,491nm,19.0s
KSH **Kashi** 129.39 78 PKP **PKiKP** **08 18 13.8 +3.2**
KSH LR LR
comp=Z,660nm,21.3s
KSH LR LR
comp=Z,430nm,17.2s
KSH LR LR
comp=Z,510nm,18.4s
FFC **Flin Flon** 129.41 313 IAMs_20 IAMs_20 09 17 30.7
comp=Z,726nm,19.0s
E09A **Wood Farm, Sta** 129.58 296 IAMs_20 IAMs_20 09 19 24.2
comp=Z,721nm,20.0s
YPT **Yellepit** 129.59 295 IAMs_20 IAMs_20 09 19 17.4
comp=Z,698nm,21.0s
ABKAR **Akbulak array** 129.59 58 **PKPdf** **08 18 09.8 +0.1**
J01E **Myrtle Point** 129.64 290 IAMs_20 IAMs_20 09 21 33.2
comp=Z,691nm,20.0s
E08A **Dider Farm, El** 129.97 296 IAMs_20 IAMs_20 09 20 14.5
comp=Z,661nm,21.0s
HAWA **Hanford** 130.10 295 IAMs_20 IAMs_20 09 20 23.1
comp=Z,762nm,20.0s
AAK **Ala-Archa** 131.09 74 *i* PKiKP **PKPdf** **08 18 13.4 +0.4**
KLMR **Klimovskoe** 131.29 37 *e* PKiKP **PKiKP** **08 18 18.6 +5.1**
PZH **PanZhiHua** 131.40 111 PKP **PKPdf** **08 18 14.5 +0.4**
D05A **Enumclaw** 131.81 294 IAMs_20 IAMs_20 09 12 03.3
comp=Z,563nm,21.0s
TARG **Taragay, Kyrgy** 131.98 77 IAMs_20 IAMs_20 09 14 48.4
comp=Z,588nm,22.0s
KDJ **Kajisay** 131.98 76 PKPpre 08 18 02.3
KDJ IAMs_20 IAMs_20 09 17 37.7
comp=Z,546nm,19.0s
KDJ **Kajisay** 131.98 76 PKHKP PKPpre 08 18 02.3
KDJ MLR MLR
comp=Z,500nm,19.0s
KIRV **Kirov** 132.68 44 *i* PKiKP **PKiKP** **08 18 17.1 +0.8**
NLWA **Neilton Lookou** 132.81 293 IAMs_20 IAMs_20 09 22 34.9
comp=Z,762nm,20.0s
PRZ **Przheval'sk** 132.84 77 IAMs_20 IAMs_20 09 20 20.6
comp=Z,646nm,18.0s
SUMG **Summit** 133.04 355 **PKiKP** **08 18 17.2 -0.1**
SUMG **Summit** 133.04 355 PKiKP **PKiKP** **08 18 17.2 -0.1**
SUMG **Summit** 133.04 355 *i* P **PKiKP** **08 18 17.0 -0.3**
HKPS **Hong Kong Po S** 133.07 127 IAMs_20 IAMs_20 09 09 15.1
comp=Z,733nm,20.0s
A04D **Lummi Island** 133.27 295 IAMs_20 IAMs_20 09 22 13.9
comp=Z,525nm,19.0s
ARTI **Arti** 134.30 51 *i* PKiKP **PKiKP** **08 18 19.6 -0.1**
ARTI 08 20 48.1
ARTI MLR MLR
comp=Z,727nm,21.0s
BLKN **Baker Lake** 134.90 325 **PKPdf** **08 18 20.2 +1.0**
ARCES **ARCESS Array B** 134.96 23 **PKiKP** **08 18 20.5 -0.2**
ARCES **ARCESS Array B** 134.96 23 PKhKP PKPpre 08 18 07.2
comp=Z,3.2nm,1.1s,baz=219,slow=2.9,SNR=7.8
ARCES PKP **PKPdf** **08 18 19.0 -0.3**
comp=Z,5.0nm,0.6s,baz=197,slow=1.4,SNR=22
ARCES SKPbc **SKPbc** **08 21 47.9 -1.5**
comp=Z,5.1nm,0.7s,baz=204,slow=2.7,SNR=5.7
ARCES **ARCESS Array B** 134.96 23 PKiKP **PKiKP** **08 18 20.5 -0.2**
SVE **Sverdlovsk** 135.49 52 *e* PKiKP **PKiKP** **08 18 23.0 +0.9**
SVE pmax pmax
comp=Z,19nm,1.3s
GOMU **GeErMu** 136.06 96 PKP **PKiKP** **08 18 24.8 +0.3**
GOMU PP **PP** **08 21 04.0 +1.1**
GOMU SS SS 08 39 04.8 +1.9
GOMU AMB AMB
comp=Z,120nm,7.5s
GOMU LR LR
comp=Z,310nm,17.3s
GOMU LR LR
comp=Z,310nm,16.5s
GOMU LR LR
comp=Z,390nm,15.9s
CD2 **Chengdu** 136.06 109 *e* PKP **PKPdf** **08 18 21.5 -1.1**
CD2 AMB AMB
comp=Z,340nm,9.0s
CD2 LR LR
comp=Z,910nm,17.2s
CD2 LR LR
comp=Z,410nm,14.7s
CD2 LR LR
comp=Z,670nm,17.2s
BVAR **Borovoye Array** 136.82 61 PKhKP PKPpre 08 18 12.8
comp=Z,1.5nm,0.8s,baz=113,slow=11,SNR=4.9
BVAR PKP **PKPdf** **08 18 24.1 +0.9**
comp=Z,0.9nm,0.7s,baz=225,slow=1.9,SNR=3.8
MKAR **Makanchi Array** 137.89 76 PKhKP PKPpre 08 18 20.2
comp=Z,1.4nm,0.9s,baz=222,slow=1.6,SNR=7.2
MKAR PKP **PKPdf** **08 18 26.4 +0.9**
comp=Z,3.2nm,0.8s,baz=199,slow=1.4,SNR=7.9
ENH **Enshi** 138.14 116 IAMs_20 IAMs_20 09 15 12.8
comp=Z,520nm,19.0s
WMQ **Urumqi** 138.37 83 *e* PKP **PKiKP** **08 18 27.8 -0.7**
WMQ LR LR
comp=Z,760nm,15.1s
WMQ LR LR
comp=Z,590nm,21.5s
WMQ LR LR
comp=Z,420nm,24.2s
NEEM **North Greenlan** 138.52 352 *i* P **PKiKP** **08 18 28.6 +0.4**
KURBB **Kurchatov Arra** 138.81 69 PKP **PKPdf** **08 18 27.1 +0.1**
comp=Z,2.9nm,0.7s,baz=241,slow=3.5,SNR=7.5
KURBB PP **PP** **08 21 23.6 +4.0**
comp=Z,0.7nm,0.7s,baz=232,slow=5.5,SNR=4.3
KURK **Kurchatov** 138.92 69 PKiKP **PKPdf** **08 18 27.1 0.0**
YKA **Yellowknife Ar** 139.57 314 **PKPdf** **08 18 28.8 +0.9**
YKA **Yellowknife Ar** 139.57 314 PKP **PKPdf** **08 18 28.1 +0.2**
comp=Z,0.2nm,0.4s,baz=204,slow=8.5,SNR=5.2
YKA **Yellowknife Ar** 139.57 314 PKiKP **PKPdf** **08 18 28.8 +0.9**
SPITS **Spitsbergen Ar** 140.86 13 PKP **PKPdf** **08 18 30.4 +0.4**
comp=Z,16nm,0.9s,baz=132,slow=2.5,SNR=5.0
GTA **Gaotai** 141.03 98 PKP **PKiKP** **08 18 34.0 -0.2**
GTA LR LR
comp=Z,530nm,20.7s
GTA LR LR
comp=Z,340nm,21.9s
GTA LR LR
comp=Z,710nm,23.1s
XAN **Xi'an** 141.06 112 PKP **PKPdf** **08 18 31.0 -0.7**
XAN PP **PP** **08 21 40.8 +7.4**
XAN AMB AMB
comp=Z,510nm,12.0s
XAN LR LR
comp=Z,670nm,20.8s
XAN LR LR
comp=Z,630nm,21.3s
XAN LR LR
comp=Z,1µm,19.9s
TOAD **Toad River Com** 141.31 305 PKPdf **PKPdf** **08 18 31.5 +0.2**
baz=128
U35K **Hyder** 141.48 298 PKPdf **PKPdf** **08 18 31.3 -0.2**
baz=129
KOTAN **Kotaneelee Air** 141.63 307 PKPdf **PKPdf** **08 18 31.7 0.0**
baz=128
V35K **Ketchikan** 141.81 297 IAMs_20 IAMs_20 09 23 13.6
comp=Z,556nm,21.0s
V35K **Ketchikan** 141.81 297 PKPdf **PKPdf** **08 18 32.1 -0.1**
baz=129
LIRD **Liard River Hi** 142.01 305 PKPdf **PKPdf** **08 18 32.5 +0.1**
baz=127
T35M **Bob Quinn** 142.25 300 PKPdf **PKPdf** **08 18 32.7 -0.3**
baz=128
JOW **Kunigami** 142.26 142 *e*SS SS 08 40 12.3 -2.0
comp=Z,207nm,30.6s
JOW **Kunigami** 142.26 142 *e*LR LR 09 04 53.9
comp=Z,1µm,26.4s
CRAG **Craig** 142.56 296 IAMs_20 IAMs_20 09 23 38.7
comp=Z,707nm,22.0s
CRAG **Craig** 142.56 296 PKPdf **PKPdf** **08 18 33.5 -0.1**
baz=129
WRAK **Wrangell Islan** 142.81 298 IAMs_20 IAMs_20 09 25 02.1
comp=Z,606nm,18.0s
WRAK **Wrangell Islan** 142.81 298 PKPdf **PKPdf** **08 18 33.9 0.0**
baz=128
U33K **Whale Pass** 142.97 297 IAMs_20 IAMs_20 09 23 53.2
comp=Z,681nm,22.0s
U33K **Whale Pass** 142.97 297 PKPdf **PKPdf** **08 18 34.1 0.0**
baz=128
DLBC **Dease Lake** 143.04 302 PKPdf **PKPdf** **08 18 34.4 0.0**

baz=127
LYN LuoYang 143.09 116 ePKP PKiKP 08 18 38.5 +0.1
LYN SKKS 08 28 41.5
LYN SS SS 08 40 18.5 -5.9
LYN AMB AMB
comp=Z,280nm,5.8s
LYN LR LR
comp=Z,790nm,18.2s
LYN LR LR
comp=Z,350nm,16.9s
LYN LR LR
comp=Z,880nm,17.6s
S34M Telegraph Cree 143.20 300 IAMs_20 IAMs_20 09 27 13.1
comp=Z,662nm,20.0s
S34M Telegraph Cree 143.20 300 PKPdf PKPdf 08 18 34.6 0.0
baz=127
WRGLY Wrigley 143.24 311 PKPdf PKPdf 08 18 34.7 +0.2
baz=125
T33K Petersburg 143.32 298 PKPdf PKPdf 08 18 34.8 0.0
baz=127
WTLY Watson Lake, Y 143.53 305 PKPdf PKPdf 08 18 35.0 -0.1
baz=125
NJ2 Nanjing 143.65 126 PKP PKiKP 08 18 38.8 -0.8
NJ2 LR LR
comp=Z,430nm,16.1s
NJ2 LR LR
comp=Z,490nm,16.1s
NJ2 LR LR
comp=Z,530nm,18.0s
ZAA0 Zalesovo Array 143.91 69 PKPdf 08 18 36.9 +1.0
ZAA0 IAMs_20 IAMs_20 09 29 07.8
comp=Z,418nm,18.0s
ZALV Zalesovo Beam 143.91 69 PKP PKPdf 08 18 37.0 +1.1
comp=Z,3.0nm,0.5s,baz=213,slow=4.5,SNR=9.0
R33M Jennings River 144.00 302 PKPdf PKPdf 08 18 35.9 -0.3
baz=125
TGTN Hyland Airport 144.12 307 PKPdf PKPdf 08 18 36.1 -0.1
baz=124
Q32M Nakina River 144.30 301 IAMs_20 IAMs_20 09 23 01.4
comp=Z,679nm,20.0s
Q32M Nakina River 144.30 301 PKPdf PKPbc 08 18 36.2 +1.0
baz=125
SIT Sitka 144.51 297 PKPdf PKPab 08 18 35.2 -0.1
baz=126
R32K Eaglecrest 144.87 299 IAMs_20 IAMs_20 09 28 08.8
comp=Z,672nm,20.0s
R32K Eaglecrest 144.87 299 PKPdf PKPab 08 18 36.4 -0.2
baz=125
BESE Bessie Mountai 145.19 299 PKPdf 08 18 38.8 +0.7
BESE IAMs_20 IAMs_20 09 28 25.9
comp=Z,681nm,20.0s
P33M Teslin, Yukon 145.24 303 IAMs_20 IAMs_20 09 27 51.3
comp=Z,649nm,20.0s
P33M Teslin, Yukon 145.24 303 PKPdf PKPbc 08 18 37.7 -0.3
baz=123
P32M Atlin 145.27 301 IAMs_20 IAMs_20 09 22 51.0
comp=Z,726nm,21.0s
P32M Atlin 145.27 301 PKPdf PKPbc 08 18 37.9 -0.1
baz=124
S31K Pelican 145.43 298 IAMs_20 IAMs_20 09 28 46.6
comp=Z,700nm,21.0s
S31K Pelican 145.43 298 PKPdf PKPdf 08 18 38.3 -0.1
baz=125
R31K City Hall, Gus 145.47 299 PKPdf PKPdf 08 18 38.4 -0.1
baz=124
TIY Taiyuan 145.70 113 PKPbc PKiKP 08 18 45.5 +1.7
TIY PP PP 08 22 01.0 -0.3
N32M Quiet Lake 145.86 304 PKPdf PKPdf 08 18 39.0 -0.2
baz=122
SKAG Skagway 145.88 300 IAMs_20 IAMs_20 09 24 00.3
comp=Z,651nm,21.0s
SKAG Skagway 145.88 300 PKPdf PKPdf 08 18 38.9 -0.3
baz=123
MMPY Sheldon Lake, 145.90 307 PKPdf PKPdf 08 18 39.0 -0.2
baz=121
PLBC Pleasant Camp 146.32 300 PKPdf PKPdf 08 18 39.5 -0.4
baz=123
WHY Whitehorse 146.34 302 PKPdf PKPdf 08 18 39.5 -0.6
baz=122
HNS HongShan 146.46 116 ⇓PKPbc PKiKP 08 18 47.0 +1.8
HNS PP PP 08 22 08.5 +2.8
C36M Paulatuk 146.61 320 PKPdf PKPdf 08 18 39.9 -0.2
baz=117
BTO Baotou 146.89 107 ePKPbc PKPbc 08 18 44.5 +0.9
BTO PP PP 08 22 15.5 +7.1
BTO SS SS 08 41 10.8 +2.6
BTO LR LR
comp=Z,950nm,20.1s
BTO LR LR
comp=Z,1μm,20.9s
BTO LR LR
comp=Z,870nm,20.2s
O30N Mendenhall 146.91 302 IAMs_20 IAMs_20 09 28 32.3
comp=Z,446nm,20.0s
O30N Mendenhall 146.91 302 PKPdf PKPdf 08 18 40.5 -0.5
baz=121
P30M Million Dollar 146.93 301 PKPdf PKPdf 08 18 40.4 -0.6
baz=122
M31M Drury Creek, Y 146.94 305 PKPdf PKPdf 08 18 40.4 -0.6
baz=120
P29M Windy Craggy 147.01 299 IAMs_20 IAMs_20 09 24 29.4
comp=Z,559nm,20.0s
P29M Windy Craggy 147.01 299 PKPdf PKPdf 08 18 40.4 -0.7
baz=122
N31M Braeburn, Yuko 147.15 303 PKPdf PKPdf 08 18 40.6 -0.7
baz=120
HYT Haines Junctio 147.53 301 PKPdf PKPdf 08 18 41.6 -0.5
baz=120
N30M Aishikik Lake 147.68 303 PKPdf PKPdf 08 18 42.0 -0.3
baz=120
O29M Mount Kennedy 147.72 300 IAMs_20 IAMs_20 09 24 28.8
comp=Z,660nm,22.0s
O29M Mount Kennedy 147.72 300 PKiKP PKPbc 08 18 45.9 +0.5
baz=120
PNL Peninsula 147.75 299 PKiKP PKiKP 08 18 46.7 -0.5
baz=121
HHC Hu-ho-hao-te 147.81 109 ePKPbc PKPdf 08 18 38.8 -4.4
HHC sPKP 08 18 51.5
HHC SS SS 08 41 13.8 -4.8
HHC LR LR
comp=Z,270nm,14.5s
HHC LR LR
comp=Z,280nm,16.0s
HHC LR LR
comp=Z,440nm,14.5s
YUK6 Outpost Mounta 147.95 301 PKiKP PKPbc 08 18 46.7 +0.7
baz=120
BCPM Bancas Point 148.00 299 IAMs_20 IAMs_20 09 26 39.3
comp=Z,486nm,20.0s
A36M Sachs Harbour 148.07 324 PKPbc 08 18 46.0 +0.3
A36M IAMs_20 IAMs_20 09 23 29.1
comp=Z,698nm,22.0s
A36M Sachs Harbour 148.07 324 PKiKP PKiKP 08 18 46.9 -0.5
baz=112
M30M Minto, Yukon 148.10 305 PKiKP PKPbc 08 18 46.9 +0.7
baz=118
MAYO Mayo, Yukon 148.22 307 PKiKP PKPbc 08 18 47.4 +1.0
baz=117
YUK4 Talbot Arm 148.27 302 PKiKP PKPbc 08 18 47.5 +0.6
baz=119
PINM Pinnacle 148.34 299 PKiKP PKPbc 08 18 47.7 +0.8
baz=120
PCA Pinnacle 148.34 299 IAMs_20 IAMs_20 09 26 39.2
comp=Z,491nm,21.0s
H31M Peel River 148.60 311 IAMs_20 IAMs_20 09 22 11.4
comp=Z,736nm,22.0s
H31M Peel River 148.60 311 PKiKP PKPbc 08 18 47.5 +0.2
baz=115
O28M Mount Upton 148.65 300 IAMs_20 IAMs_20 09 25 47.3
comp=Z,547nm,21.0s
O28M Mount Upton 148.65 300 PKiKP PKPbc 08 18 48.6 +0.7
baz=119
YUK8 Steele Glacier 148.71 301 PKiKP PKPbc 08 18 48.7 +0.6
baz=119
M29M Somme Creek 148.72 304 PKiKP PKPbc 08 18 48.8 +0.9
baz=118
J30M Hart River 148.83 308 PKiKP PKPbc 08 18 48.5 +0.4
baz=116
L29M L29M 148.89 305 PKiKP PKPbc 08 18 48.8 +0.6
baz=117
TABL Table Mountain 148.89 299 IAMs_20 IAMs_20 09 30 42.3
comp=Z,524nm,20.0s
K29M Barlow Dome 148.97 307 PKiKP PKPbc 08 18 48.7 +0.2
baz=116
G31M Satah River 149.04 313 PKiKP PKPbc 08 18 49.1 +0.8
baz=113
F31M Tsiigehtchic 149.05 314 PKiKP PKPbc 08 18 48.9 +0.5
baz=113
MESA MESA 149.11 298 IAMs_20 IAMs_20 09 26 36.9
comp=Z,531nm,20.0s
MESA MESA 149.11 298 PKiKP PKPbc 08 18 49.5 +0.5
baz=119
YAH Yahtse 149.12 299 IAMs_20 IAMs_20 09 26 24.9
comp=Z,518nm,22.0s
I30M Mount Dempster 149.12 309 PKiKP PKPbc 08 18 49.1 +0.3
baz=115
CTG Chitna Glacier 149.23 300 PKiKP PKPbc 08 18 50.0 +0.8
baz=118
YUK3 Moose Creek 149.24 302 PKiKP PKPbc 08 18 49.8 +0.5
baz=118
BJT Baijiatuau 149.26 115 PKPbc 08 18 49.6 -0.2
BJT Baijiatuau 149.26 115 PKP2 PKPbc 08 18 49.6 -0.2
INK Inuvik 149.31 316 PKiKP PKPbc 08 18 49.5 +0.5
baz=112
ISLE Juniper Island 149.49 299 IAMs_20 IAMs_20 09 25 31.7
comp=Z,677nm,22.0s
J29N Klondike Camp 149.51 307 PKiKP PKPbc 08 18 50.3 +0.5
baz=115
WAX Waxell Ridge 149.64 298 IAMs_20 IAMs_20 09 26 24.7
comp=Z,731nm,22.0s
BGLC Bering Glacier 149.67 298 PKiKP PKiKP 08 18 51.1 0.0
baz=119
BVCY Beaver Creek 149.70 303 PKiKP PKPbc 08 18 50.9 +0.7
baz=116
EPYK Eagle Plains 149.72 311 IAMs_20 IAMs_20 09 26 00.9
comp=Z,648nm,20.0s
EPYK Eagle Plains 149.72 311 PKiKP PKPbc 08 18 50.6 +0.5
baz=112
G30M tAoh Zraii Nji 149.77 313 IAMs_20 IAMs_20 09 26 01.1
comp=Z,586nm,21.0s
G30M tAoh Zraii Nji 149.77 313 PKiKP PKPbc 08 18 50.9 +0.7
baz=112
DAWY Dawson 149.82 306 PKiKP PKPbc 08 18 51.1 +0.6
baz=115
F30M Barrier River 149.85 314 IAMs_20 IAMs_20 09 27 42.1
comp=Z,657nm,20.0s
F30M Barrier River 149.85 314 PKiKP PKPbc 08 18 51.1 +0.8
baz=111
CRQE Cirque 149.89 299 PKiKP PKPbc 08 18 51.6 +0.8
baz=118
I29M Ogilvie Camp, 149.92 309 IAMs_20 IAMs_20 09 31 02.5
comp=Z,565nm,20.0s
I29M Ogilvie Camp, 149.92 309 PKiKP PKiKP 08 18 51.5 -0.1
baz=113
BERG Berg Lake 149.98 298 IAMs_20 IAMs_20 09 41 33.2
comp=Z,603nm,19.0s
KAIM Kayak Island 150.08 297 PKiKP PKiKP 08 18 52.0 0.0
baz=118
M27K Edge Creek, AK 150.10 302 IAMs_20 IAMs_20 09 31 22.9
comp=Z,575nm,20.0s
M27K Edge Creek, AK 150.10 302 PKiKP PKiKP 08 18 52.2 0.0
baz=116
MCARA McCarthy VSAT 150.15 300 IAMs_20 IAMs_20 09 29 11.4
comp=Z,451nm,20.0s
MCARA McCarthy VSAT 150.15 300 PKiKP PKPbc 08 18 51.9 +0.6
baz=117
VRDI Verde Repeater 150.26 299 IAMs_20 IAMs_20 09 25 26.2
comp=Z,555nm,22.0s
H29M Whitestone 150.28 311 IAMs_20 IAMs_20 09 23 00.7
comp=Z,708nm,22.0s
H29M Whitestone 150.28 311 PKiKP PKiKP 08 18 52.3 +0.1
baz=112
BCAR Beaver Creek A 150.37 303 PKPdf 08 18 45.4 -1.1
L27K Beaver Creek, 150.38 303 PKiKP PKPbc 08 18 52.5 +0.7
baz=115
G29M Pine Creek 150.40 312 IAMs_20 IAMs_20 09 28 27.9
comp=Z,631nm,20.0s
G29M Pine Creek 150.40 312 PKiKP PKiKP 08 18 52.5 +0.1
baz=111
SONM Songino Array 150.44 94 PKPbc 08 18 52.0 -0.5
SONM Songino Array 150.44 94 PKPbc PKPbc 08 18 51.7 -0.9
comp=Z,28nm,0.9s,baz=217,slow=2.3,SNR=40
GLB Gilahina Butte 150.51 300 IAMs_20 IAMs_20 09 33 44.8
comp=Z,458nm,19.0s
ZAK Zakamensk 150.58 87 ePKIKP PKPbc 08 18 52.0 -0.8
ZAK pmax pmax
comp=Z,50nm,1.3s
I28M Miner Creek 150.58 309 PKiKP PKPbc 08 18 52.6 +0.3
baz=112
M26K Nabesna, AK 150.59 302 PKiKP PKPbc 08 18 53.1 +0.7
baz=115
BMRM Bremner River 150.64 298 PKiKP PKiKP 08 18 53.4 +0.2
baz=117
Q23K Middleton Isla 150.70 295 PKiKP PKiKP 08 18 53.9 +0.7
baz=118
E29M Blow River 150.86 315 PKiKP PKiKP 08 18 53.5 +0.2
baz=108
K27K Chicken 150.88 305 PKiKP PKiKP 08 18 53.8 +0.3
baz=113
N25K Chitina, Valde 150.93 300 IAMs_20 IAMs_20 09 27 02.6
comp=Z,431nm,21.0s
N25K Chitina, Valde 150.93 300 PKiKP PKiKP 08 18 54.3 +0.5
baz=116
EYAK Cordova Ski Ar 150.95 297 PKiKP PKiKP 08 18 54.1 +0.4
baz=117
L26K Log Cabin Wild 151.00 303 IAMs_20 IAMs_20 09 25 15.6
comp=Z,651nm,20.0s
L26K Log Cabin Wild 151.00 303 PKiKP PKiKP 08 18 54.2 +0.3
baz=114
JHJ2 Mitsune 151.21 156 eLR LR 09 09 04.3
comp=Z,90nm,27.2s
DIV Divide 151.22 298 IAMs_20 IAMs_20 09 28 06.7
comp=Z,550nm,20.0s
I27K Kandik River 151.29 308 PKiKP PKiKP 08 18 54.5 +0.1
baz=111
F28M Old Crow 151.32 313 IAMs_20 IAMs_20 09 22 56.0
comp=Z,516nm,22.0s
F28M Old Crow 151.32 313 PKiKP PKiKP 08 18 54.5 +0.1
baz=108
D28M Stokes Point 151.44 317 PKiKP PKiKP 08 18 54.6 +0.1
baz=106
KLU Klutina 151.45 299 IAMs_20 IAMs_20 09 26 01.4
comp=Z,713nm,22.0s
KLU Klutina 151.45 299 PKiKP PKPbc 08 18 54.9 +0.5
baz=115
H27K Steamboat Moun 151.48 310 PKiKP PKiKP 08 18 55.0 +0.3
baz=110
HARP HAARP 151.50 301 PKiKP PKiKP 08 18 55.3 +0.4
baz=114
E28M Babbage River 151.50 315 PKiKP PKiKP 08 18 55.0 +0.3
baz=107
SCRK Sand Creek 151.64 304 PKiKP PKiKP 08 18 55.6 +0.3
baz=112
J26L Joseph Creek 151.66 306 PKiKP PKiKP 08 18 55.9 +0.7
baz=111
GLI Glacier Island 151.69 297 PKiKP PKiKP 08 18 55.9 +0.6
baz=116
G27K Doyon Strip 151.72 311 IAMs_20 IAMs_20 09 27 06.8
comp=Z,464nm,20.0s
G27K Doyon Strip 151.72 311 PKiKP PKiKP 08 18 55.9 +0.6
baz=108
I26K Coal Creek Min 151.79 307 PKiKP PKiKP 08 18 56.0 +0.6
baz=110
M24K Tolsona, Glenn 151.81 300 IAMs_20 IAMs_20 09 32 57.2
comp=Z,566nm,20.0s
M24K Tolsona, Glenn 151.81 300 PKiKP PKiKP 08 18 56.2 +0.7
baz=114
KSAR Wonju Array Be 151.86 134 PKPdf PKPdf 08 18 50.1 +0.5
KSAR Wonju Array Be 151.86 134 PKiKP PKPdf 08 18 50.1 +0.5
PAX Paxson 151.86 302 PKiKP PKPbc 08 18 55.8 +0.5
baz=113
KSRS Korea Array 151.89 134 PKPbc PKiKP 08 18 56.8 +0.4
comp=Z,9.1nm,1.0s,baz=192,slow=2.2,SNR=15
RIDG Independent Ri 151.90 304 PKiKP PKiKP 08 18 56.2 +0.5
baz=112
E27K Coleen River 152.11 314 IAMs_20 IAMs_20 09 23 43.1
comp=Z,597nm,21.0s
E27K Coleen River 152.11 314 PKiKP PKPbc 08 18 56.1 +0.4
baz=106
D27M Malcolm River 152.18 316 IAMs_20 IAMs_20 09 29 31.6
comp=Z,527nm,20.0s
D27M Malcolm River 152.18 316 PKiKP PKiKP 08 18 56.5 +0.3
baz=105
SCM Sheep Creek Mo 152.20 299 IAMs_20 IAMs_20 09 33 35.4
comp=Z,554nm,21.0s
SCM Sheep Creek Mo 152.20 299 PKiKP PKiKP 08 18 57.0 +0.5
baz=114
IRK Irkutsk 152.22 85 ePKIKP PKPbc 08 18 55.9 -0.5
IRK pmax pmax
comp=Z,80nm,2.6s
PWL Port Wells 152.23 297 PKiKP PKPbc 08 18 56.5 +0.4
baz=115
XLT XiLinHaoTe 152.28 110 ePKPbc PKiKP 08 18 57.5 +0.3
XLT pPKP pPKPab 08 19 09.5 +0.5
XLT LR LR
comp=N,24nm,18.6s
XLT LR LR
comp=E,260nm,17.9s
XLT LR LR
comp=Z,310nm,20.9s
K24K Donnelly Dome 152.31 303 PKiKP PKiKP 08 18 57.0 +0.4
baz=111
M23K Glacier View 152.36 299 PKiKP PKPbc 08 18 56.8 +0.4
baz=114
SEW Seward 152.40 295 PKiKP PKiKP 08 18 57.1 +0.3
baz=116
J25K Salcha River, 152.43 305 PKiKP PKiKP 08 18 57.2 +0.4
baz=110
KNK Knik Glacier 152.52 298 PKiKP PKiKP 08 18 57.4 +0.3
baz=114
G26K Porcupine Rive 152.56 310 IAMs_20 IAMs_20 09 29 51.1
comp=Z,382nm,20.0s
G26K Porcupine Rive 152.56 310 PKiKP PKiKP 08 18 57.3 +0.4
baz=107
WAT6 Susitna Watana 152.67 300 PKiKP PKiKP 08 18 57.9 +0.4
baz=112
O22K Cooper Landing 152.69 295 IAMs_20 IAMs_20 09 28 00.1
comp=Z,644nm,21.0s
O22K Cooper Landing 152.69 295 PKiKP PKiKP 08 18 58.2 +0.9
baz=115
DHY Denali Highway 152.71 301 PKiKP PKiKP 08 18 58.3 +0.8
baz=112
KDAK Kodiak Island 152.77 288 PKPbc 08 18 57.9 +0.5
KDAK Kodiak Island 152.77 288 PKiKP PKPbc 08 18 57.9 +0.5
KDAK Kodiak Island 152.77 288 PKiKP PKiKP 08 18 58.3 +0.7
baz=119
PRP Porcupine Dome 152.79 307 PKiKP PKiKP 08 18 58.3 +0.7
baz=108
OHAK Old Harbor 152.83 287 IAMs_20 IAMs_20 09 32 32.8
comp=Z,553nm,21.0s
OHAK Old Harbor 152.83 287 PKiKP PKiKP 08 18 58.5 +0.8
baz=119
PMR Palmer 152.89 298 IAMs_20 IAMs_20 09 33 46.7
comp=Z,592nm,20.0s
PMR Palmer 152.89 298 PKiKP PKiKP 08 18 59.2 +1.5
baz=113
F26K Sheenjek River 152.90 312 IAMs_20 IAMs_20 09 33 15.1
comp=Z,597nm,20.0s
F26K Sheenjek River 152.90 312 PKiKP PKiKP 08 18 58.4 +0.7
baz=105
SLKM Skilak Lake 152.92 295 IAMs_20 IAMs_20 09 28 07.8
comp=Z,551nm,21.0s
SII Sitkinak Islan 152.93 285 PKiKP PKiKP 08 18 58.8 +0.8
baz=120
RC01 Rabbit Creek A 152.95 296 IAMs_20 IAMs_20 09 26 49.8
comp=Z,584nm,22.0s
RC01 Rabbit Creek A 152.95 296 PKiKP PKiKP 08 18 58.4 +0.5
baz=114
CNPM China Poot 152.96 293 IAMs_20 IAMs_20 09 31 23.8
comp=Z,547nm,20.0s
BMAR Burnt Mountain 152.99 311 PKPdf 08 18 49.6 -0.8
FYU Fort Yukon 153.00 309 IAMs_20 IAMs_20 09 36 23.8
comp=Z,531nm,20.0s
HDA Harding Lake 153.00 304 PKiKP PKiKP 08 18 59.0 +1.1
baz=109
SYI Shuyak Island 153.07 290 IAMs_20 IAMs_20 09 15 11.8
comp=Z,608nm,22.0s
Q20K Shuyak Island 153.08 290 PKiKP PKiKP 08 18 59.7 +1.5
baz=117
ILAR Eielson Array 153.10 305 PKPdf 08 18 47.5 -3.1
ILAR Eielson Array 153.10 305 PKP PKPdf 08 18 47.6 -2.9
comp=Z,2.1nm,1.1s,baz=286,slow=0.7,SNR=8.6
ILAR PKPbc PKPbc 08 18 57.5 -0.4
comp=Z,5.2nm,0.6s,baz=158,slow=0.4,SNR=21
WAT1 Susitna Watana 153.11 300 PKiKP PKiKP 08 18 59.4 +1.2
baz=111
H25L Birch Creek 153.14 309 PKiKP PKiKP 08 18 59.3 +1.2
baz=107
HOM Homer 153.20 293 IAMs_20 IAMs_20 09 31 48.3
comp=Z,561nm,19.0s
HOM Homer 153.20 293 PKiKP PKiKP 08 18 60.0 +1.6
baz=116
C27K Jago River 153.21 316 IAMs_20 IAMs_20 09 24 29.8
comp=Z,611nm,22.0s
C27K Jago River 153.21 316 PKiKP PKiKP 08 18 59.7 +1.5
baz=102
CHIR Chirikof Islan 153.24 283 IAMs_20 IAMs_20 09 30 23.7
comp=Z,625nm,20.0s
CHIR Chirikof Islan 153.24 283 PKiKP PKiKP 08 19 00.0 +1.4
baz=121
M22K Willow 153.38 298 IAMs_20 IAMs_20 09 28 07.8
comp=Z,627nm,21.0s
M22K Willow 153.38 298 PKiKP PKiKP 08 19 00.1 +1.4
baz=113
G25K Bearman Lake 153.39 310 PKiKP PKiKP 08 19 00.1 +1.5
baz=106
POKR Poker Plat Res 153.43 306 PKiKP PKiKP 08 18 59.9 +1.1
baz=108
CCB Clear Creek Bu 153.43 305 IAMs_20 IAMs_20 09 39 22.6
comp=Z,537nm,19.0s
F25K Christian Rive 153.43 311 IAMs_20 IAMs_20 09 26 09.1
comp=Z,561nm,21.0s
F25K Christian Rive 153.43 311 PKiKP PKiKP 08 18 60.0 +1.2
baz=104
CAPN Captain Cook N 153.45 295 PKiKP PKiKP 08 19 00.3 +1.5
baz=114
WRH Wood River Hil 153.49 304 IAMs_20 IAMs_20 09 31 28.1
comp=Z,603nm,19.0s
COLA College 153.52 305 PKiKP 08 18 59.5 +0.7
COLA College 153.52 305 IAMs_20 IAMs_20 09 29 50.1
comp=Z,592nm,20.0s
COLA College 153.52 305 PKiKP PKiKP 08 18 59.6 +0.7
COLA College 153.52 305 PKiKP PKiKP 08 19 00.2 +1.3
baz=108
E25K Arctic Village 153.53 313 IAMs_20 IAMs_20 09 27 47.7
comp=Z,469nm,20.0s
E25K Arctic Village 153.53 313 PKiKP PKiKP 08 19 00.3 +1.3
baz=103
SUA Susitna One 153.55 297 IAMs_20 IAMs_20 09 35 10.1
comp=Z,639nm,21.0s
R18K Karluk 153.55 287 PKiKP PKiKP 08 19 00.4 +1.2
baz=118
MCK McKinley 153.60 302 PKiKP PKiKP 08 19 00.4 +1.3
baz=110
C26K Camden Bay 153.68 317 PKiKP PKiKP 08 19 00.4 +1.3
baz=100
CUT Chulitna 153.70 299 IAMs_20 IAMs_20 09 33 57.8
comp=Z,608nm,21.0s
CUT Chulitna 153.70 299 PKiKP PKiKP 08 19 00.7 +1.4
baz=111
Q19K Cape Douglas, 153.80 290 IAMs_20 IAMs_20 09 39 07.3
comp=Z,426nm,20.0s
Q19K Cape Douglas, 153.80 290 PKiKP PKiKP 08 19 00.8 +1.1
baz=116
H24K Noodor Dome 153.82 307 PKiKP PKiKP 08 19 01.0 +1.4
baz=106
O20K Slope Mountain 153.83 293 PKiKP PKiKP 08 19 01.2 +1.4
baz=114
G24K Hadweenzic Riv 153.90 309 PKiKP PKiKP 08 19 01.2 +1.5
baz=105
P19K Oil Pt 153.93 292 IAMs_20 IAMs_20 09 29 28.5
comp=Z,421nm,21.0s
P19K Oil Pt 153.93 292 PKiKP PKiKP 08 19 01.4 +1.4
baz=115
NEA2 Nenana 153.93 304 IAMs_20 IAMs_20 09 32 34.7
comp=Z,510nm,19.0s
NEA2 Nenana 153.93 304 PKiKP PKiKP 08 19 01.3 +1.5
baz=108
STLK Strandline Lak 154.04 296 IAMs_20 IAMs_20 09 35 06.3
comp=Z,431nm,20.0s
D25K Kavik River 154.07 315 IAMs_20 IAMs_20 09 35 50.7
comp=Z,573nm,19.0s
D25K Kavik River 154.07 315 PKiKP PKiKP 08 19 01.2 +1.2
baz=100
TRF Thorofare Moun 154.07 301 PKiKP PKiKP 08 19 01.7 +1.3
baz=109
SKT Skwentna 154.09 298 IAMs_20 IAMs_20 09 30 37.5
comp=Z,499nm,22.0s
SKT Skwentna 154.09 298 PKiKP PKiKP 08 19 01.8 +1.5
baz=111
N20K Mount Spurr 154.09 296 PKiKP PKiKP 08 19 01.8 +1.5
baz=113
MJAR Matsushiro Arr 154.15 151 PKPbc PKiKP 08 19 03.3 +2.1
comp=Z,4.2nm,0.9s,baz=166,slow=2.5,SNR=5.9
MAJO Matsushiro 154.15 151 IAMs_20 IAMs_20 09 25 43.9
comp=Z,464nm,19.0s
I23K Minto, Yukon-K 154.22 305 PKiKP PKiKP 08 19 01.5 +1.1
baz=106
F24K Squaw Lake 154.25 311 IAMs_20 IAMs_20 09 24 54.8
comp=Z,615nm,22.0s
F24K Squaw Lake 154.25 311 PKiKP PKiKP 08 19 01.7 +1.3
baz=103
ACHA Angle Creek He 154.26 288 IAMs_20 IAMs_20 09 30 02.6
comp=Z,566nm,20.0s

Q18K	Katmai Hardscr baz=116	154.31 289	PKiKP	PKiKP	08 19 02.2	+1.3
H23K	Yukon River baz=105	154.48 307	PKiKP	PKiKP	08 19 02.3	+1.4
R17L	Mt. Peulik Vol baz=118	154.49 286	PKiKP	PKiKP	08 19 02.6	+1.4
Q17K	Contact Creek baz=117	154.55 288	PKPab	PKPab	08 19 14.8	-1.3
BPAW	Bear Paw Mtn. comp=Z,479nm,21.0s	154.57 302	IAMs_20	IAMs_20	09 26 37.8	
BPAW	Bear Paw Mtn. baz=108	154.57 302	PKPab	PKPab	08 19 16.1	+0.1
E24K	Your Creek comp=Z,515nm,20.0s	154.59 312	IAMs_20	IAMs_20	09 28 34.7	
E24K	Your Creek baz=101	154.59 312	PKPab	PKPab	08 19 15.9	-0.1
CHNA	Chernabura Isl baz=122	154.65 278	PKPab	PKPab	08 19 16.8	+0.4
O19K	Port Alsworth baz=114	154.65 292	PKPab	PKPab	08 19 16.6	+0.3
PPLA	Purkeypile baz=109	154.70 299	PKPab	PKPab	08 19 16.5	-0.2
P18K	Big Mountain, comp=Z,521nm,20.0s	154.74 290	IAMs_20	IAMs_20	09 33 14.0	
P18K	Big Mountain, baz=115	154.74 290	PKPab	PKPab	08 19 16.7	-0.1
MLY	Manley baz=106	154.74 304	PKPab	PKPab	08 19 16.8	+0.1
M20K	Styx River comp=Z,656nm,22.0s	154.76 297	IAMs_20	IAMs_20	09 28 40.2	
M20K	Styx River baz=111	154.76 297	PKPab	PKPab	08 19 17.1	+0.1
CAST	Castle Rocks baz=108	154.82 300	PKPab	PKPab	08 19 17.4	+0.3
CHGN	Chignik comp=Z,531nm,21.0s	154.83 282	IAMs_20	IAMs_20	09 31 25.9	
CHGN	Chignik baz=120	154.83 282	PKPab	PKPab	08 19 17.8	+0.6
G23K	Bananza Creek comp=Z,431nm,21.0s	154.88 309	IAMs_20	IAMs_20	09 26 07.6	
G23K	Bananza Creek baz=103	154.88 309	PKPab	PKPab	08 19 17.9	+0.6
D24K	Happy Valley baz=99	154.90 314	PKPab	PKPab	08 19 17.9	+0.6
C24K	Franklin Bluff comp=Z,469nm,21.0s	154.94 316	IAMs_20	IAMs_20	09 33 30.7	
C24K	Franklin Bluff baz=98	154.94 316	PKPab	PKPab	08 19 17.9	+0.5
N19K	Bonanza Creek comp=Z,577nm,21.0s	154.97 294	IAMs_20	IAMs_20	09 17 06.9	
N19K	Bonanza Creek baz=112	154.97 294	PKPab	PKPab	08 19 17.8	-0.1
E23K	Chandalar comp=Z,415nm,21.0s	155.00 312	IAMs_20	IAMs_20	09 25 39.6	
E23K	Chandalar baz=100	155.00 312	PKPab	PKPab	08 19 18.0	+0.2
R16K	Pilot Point baz=117	155.03 285	PKPab	PKPab	08 19 18.3	+0.2
COLD	Coldfoot comp=Z,375nm,20.0s	155.06 310	IAMs_20	IAMs_20	09 28 46.3	
COLD	Coldfoot baz=102	155.06 310	PKPab	PKPab	08 19 18.3	+0.3
CHUM	Lake Minchumin baz=107	155.07 301	PKPab	PKPab	08 19 18.1	0.0
TOLK	Toolik Lake Re comp=Z,536nm,22.0s	155.09 313	IAMs_20	IAMs_20	09 29 20.8	
TOLK	Toolik Lake Re baz=99	155.09 313	PKPab	PKPab	08 19 17.9	-0.2
Q16K	King Salmon baz=116	155.10 288	PKPab	PKPab	08 19 18.4	+0.1
P17K	Kvichak River baz=115	155.22 289	PKPab	PKPab	08 19 19.0	+0.2
H22K	Ishtalitna Cre baz=104	155.22 306	PKPab	PKPab	08 19 18.6	-0.1
I21K	Tanana baz=105	155.29 305	PKPab	PKPab	08 19 19.3	+0.3
L20K	Farewell, AK baz=109	155.30 298	PKPab	PKPab	08 19 19.3	+0.2
M19K	Big River Lodg baz=110	155.33 296	PKPab	PKPab	08 19 19.2	0.0
SDPT	Sand Point baz=121	155.35 279	PKPab	PKPab	08 19 19.5	0.0
S14K	Fog Glacier baz=119	155.38 281	PKPab	PKPab	08 19 19.8	0.0
G22K	Bettles baz=101	155.50 309	PKPab	PKPab	08 19 19.9	+0.1
D23K	Nanushuk River baz=98	155.54 314	PKPab	PKPab	08 19 20.1	+0.2
N18K	Kilae Creek comp=Z,464nm,20.0s	155.56 293	IAMs_20	IAMs_20	09 36 11.5	
N18K	Kilae Creek baz=112	155.56 293	PKPab	PKPab	08 19 20.2	-0.1
C23K	Itkillik River baz=96	155.62 316	PKPab	PKPab	08 19 20.0	-0.2
L19K	White Mountain baz=109	155.63 297	PKPab	PKPab	08 19 20.0	-0.6
K20K	Telida comp=Z,501nm,19.0s	155.66 300	IAMs_20	IAMs_20	09 35 07.0	
K20K	Telida baz=107	155.66 300	PKPab	PKPab	08 19 20.6	-0.1
H21K	Melozitna Rive baz=103	155.74 305	PKPab	PKPab	08 19 20.7	-0.2
O17K	Koliganek Bris baz=113	155.76 290	PKPab	PKPab	08 19 21.0	-0.1
M18K	Stony River baz=110	155.82 295	PKPab	PKPab	08 19 20.2	-1.1
E22K	Anaktuvuk Pass baz=98	155.83 312	PKPab	PKPab	08 19 20.1	-1.2
F22K	John River baz=100	155.87 310	PKPab	PKPab	08 19 20.5	-1.0
P16K	Nushagak River comp=Z,573nm,20.0s	155.88 288	IAMs_20	IAMs_20	09 39 12.3	
J20K	Nowinta River comp=Z,474nm,20.0s	155.92 302	IAMs_20	IAMs_20	09 30 08.9	
J20K	Nowinta River baz=105	155.92 302	PKPab	PKPab	08 19 20.9	-0.8
N17K	Nushagak Hills comp=Z,556nm,21.0s	156.09 292	IAMs_20	IAMs_20	09 35 41.8	
N17K	Nushagak Hills baz=112	156.09 292	PKPab	PKPab	08 19 21.3	-1.3
O16K	Kokwok River B comp=Z,535nm,20.0s	156.16 289	IAMs_20	IAMs_20	09 30 09.3	
O16K	Kokwok River B baz=113	156.16 289	PKPab	PKPab	08 19 21.9	-0.9
G21K	Allakaket comp=Z,521nm,21.0s	156.20 307	IAMs_20	IAMs_20	09 40 47.7	
G21K	Allakaket baz=101	156.20 307	PKPab	PKPab	08 19 21.5	-1.4
I20K	Naaghedeneel comp=Z,622nm,22.0s	156.22 303	IAMs_20	IAMs_20	09 28 50.4	
I20K	Naaghedeneel baz=104	156.22 303	PKPab	PKPab	08 19 21.4	-1.5
D22K	Ayikyak River baz=96	156.25 313	PKPab	PKPab	08 19 21.9	-1.2
S12K	Black Hills baz=120	156.31 278	PKPab	PKPab	08 19 22.8	-0.8
F21K	Alatna River comp=Z,581nm,20.0s	156.32 309	IAMs_20	IAMs_20	09 29 57.5	
F21K	Alatna River baz=99	156.32 309	PKPab	PKPab	08 19 23.0	-0.4
CN2	Changchun	156.37 122	PKP	PKPdf	08 18 52.0	-3.7
CN2			PP	PP	08 23 02.0	-0.3
CN2	comp=Z,400nm,18.0s		LR	LR		
CN2	comp=Z,300nm,18.0s		LR	LR		
CN2	comp=Z,300nm,18.0s		LR	LR		
L18K	Granite Mounta baz=108	156.45 296	PKPab	PKPab	08 19 22.5	-1.5
J19K	Poorman baz=105	156.50 301	PKPab	PKPab	08 19 23.7	-0.5
M17K	Holitna River baz=110	156.52 294	PKPab	PKPab	08 19 23.9	-0.5
FALS	False Pass comp=Z,512nm,20.0s	156.54 275	IAMs_20	IAMs_20	09 30 49.4	
FALS	False Pass baz=121	156.54 275	PKPab	PKPab	08 19 23.3	-1.3
H20K	Anotleneega Mo baz=102	156.55 305	PKPab	PKPab	08 19 24.0	-0.4
B22K	Teshekpuk Lake baz=92	156.61 317	PKPab	PKPab	08 19 24.7	+0.2
E21K	Killik River comp=Z,616nm,20.0s	156.67 312	IAMs_20	IAMs_20	09 29 20.5	
E21K	Killik River baz=96	156.67 312	PKPab	PKPab	08 19 24.7	-0.1
CIT	Chita	156.67 93	*e*PKIKP	PKPdf	08 19 08.0	+12
CIT			*e*		08 19 23.6	
CIT			*e*		08 23 01.2	
CIT			pmax	pmax		
O15K	comp=Z,52nm,1.7s Ungalikthiuk R comp=Z,502nm,20.0s	156.80 287	IAMs_20	IAMs_20	09 31 01.7	
O15K	Ungalikthiuk R baz=113	156.80 287	PKPab	PKPab	08 19 25.9	+0.3
N16K	Nishlik Lake baz=111	156.80 291	PKPab	PKPab	08 19 25.8	+0.2
J18K	Innoko River comp=Z,534nm,19.0s	156.83 299	IAMs_20	IAMs_20	09 29 06.8	
J18K	Innoko River baz=105	156.83 299	PKPab	PKPab	08 19 26.1	+0.4
B21K	Ikpikpuk River baz=92	156.99 315	PKPab	PKPab	08 19 26.5	+0.3
C21K	Knifeblade Rid baz=94	157.02 314	PKPab	PKPab	08 19 26.7	+0.4
M16K	Timber Creek baz=110	157.08 292	PKPab	PKPab	08 19 27.9	+1.1
A22K	Sinclair Lake baz=89	157.14 319	PKPab	PKPab	08 19 26.6	-0.1
L17K	Donlin baz=108	157.14 295	PKPab	PKPab	08 19 27.8	+0.8
F20K	Avaraart Lake baz=98	157.16 308	PKPab	PKPab	08 19 27.5	+0.6
H19K	Roundabout Mou baz=101	157.19 304	PKPab	PKPab	08 19 27.3	+0.2
GCSA	Galena City Sc baz=102	157.21 302	PKPab	PKPab	08 19 28.3	+1.0
N15K	Kwethluk River baz=111	157.31 290	PKPab	PKPab	08 19 28.6	+0.8
K17K	Iditarod baz=106	157.32 297	PKPab	PKPab	08 19 28.6	+0.9
E20K	Nigu River baz=94	157.47 311	PKPab	PKPab	08 19 29.0	+0.6
O14K	Tigyukauivet M comp=Z,596nm,21.0s	157.51 287	IAMs_20	IAMs_20	09 29 25.3	
O14K	Tigyukauivet M baz=113	157.51 287	PKiKP	PKPab	08 19 29.5	+0.8
UNV	Unalaska Valle comp=Z,461nm,20.0s	157.52 271	IAMs_20	IAMs_20	09 32 22.5	
UNV	Unalaska Valle baz=123	157.52 271	PKPab	PKPab	08 19 29.3	+0.4
L16K	Owhat River baz=108	157.54 294	PKPab	PKPab	08 19 29.8	+1.1
G19K	Purcell Mounta baz=99	157.56 306	PKPab	PKPab	08 19 29.3	+0.5
D20K	Etivluk River baz=93	157.66 313	PKPab	PKPab	08 19 30.6	+1.5
A21K	Barrow baz=86	157.66 319	PKPab	PKPab	08 19 29.9	+0.9
M15K	Kasigluk River baz=110	157.77 291	PKPab	PKPab	08 19 29.4	-0.3
E19K	Redstone River baz=96	157.79 309	PKPab	PKPab	08 19 29.2	-0.5
J17K	VABM Dome comp=Z,614nm,20.0s	157.84 298	IAMs_20	IAMs_20	09 31 15.4	
J17K	VABM Dome baz=104	157.84 298	PKPab	PKPab	08 19 30.1	+0.1
B20K	Meade River comp=Z,604nm,21.0s	157.88 316	IAMs_20	IAMs_20	09 28 45.2	
B20K	Meade River baz=89	157.88 316	PKPab	PKPab	08 19 30.4	+0.4
H18K	Honhosa River comp=Z,664nm,22.0s	157.91 303	IAMs_20	IAMs_20	09 35 41.2	
H18K	Honhosa River baz=100	157.91 303	PKPab	PKPab	08 19 30.8	+0.5
F19K	Shaleruckik Mo comp=Z,567nm,19.0s	157.93 307	IAMs_20	IAMs_20	09 36 34.2	
F19K	Shaleruckik Mo baz=97	157.93 307	PKPab	PKPab	08 19 31.5	+1.2
N14K	Kuskokwak Cree baz=111	157.96 288	PKPab	PKPab	08 19 31.8	+1.2
G18K	Tagagawik baz=98	158.16 305	PKPab	PKPab	08 19 31.5	+0.1
NIKH	Nikolski High baz=125	158.19 267	PKPab	PKPab	08 19 32.9	+1.1
D19K	Kuna River baz=92	158.19 312	PKPab	PKPab	08 19 31.5	0.0
M14K	Bethel baz=109	158.38 290	PKPab	PKPab	08 19 33.9	+1.5
L15K	Ungalak Mounta baz=107	158.45 293	PKPab	PKPab	08 19 33.6	+1.0
J16K	Anvik River baz=103	158.48 297	PKPab	PKPab	08 19 33.7	+0.9
H17K	Granite Mounta baz=100	158.52 302	PKPab	PKPab	08 19 33.1	+0.2
K15K	Wolf Creek Mou comp=Z,570nm,20.0s	158.64 295	IAMs_20	IAMs_20	09 37 45.4	
K15K	Wolf Creek Mou baz=105	158.64 295	PKPab	PKPab	08 19 34.5	+1.0
F18K	Selawik baz=96	158.65 307	PKPab	PKPab	08 19 33.6	+0.3
I17K	Unalakleet baz=102	158.65 299	PKPab	PKPab	08 19 34.6	+1.1
C19K	Lookout Ridge baz=89	158.74 314	PKPab	PKPab	08 19 34.3	+0.4
BNX	BinXian	158.75 122	⇓PKP	PKPdf	08 18 58.8	+0.2
BNX			PP	PP	08 23 14.8	-0.6
BNX			SS	SS	08 43 19.0	+1.2
BNX	comp=Z,240nm,6.5s		AMB	AMB		
BNX	comp=Z,200nm,19.4s		LR	LR		
BNX	comp=Z,330nm,21.0s		LR	LR		
BNX	comp=Z,250nm,19.6s		LR	LR		
L14K	Kuka Creek comp=Z,463nm,21.0s	158.90 292	IAMs_20	IAMs_20	09 37 51.8	
L14K	Kuka Creek baz=107	158.90 292	PKPab	PKPab	08 19 35.7	+1.0
M13K	Dall Lake baz=109	158.91 289	PKPab	PKPab	08 19 36.2	+1.4
G17K	Kiwalik Mounta baz=98	158.92 303	PKPab	PKPab	08 19 35.9	+1.2
E18K	Tukpahlearik C baz=93	159.08 309	PKPab	PKPab	08 19 36.9	+1.6
A19K	Wainwright baz=85	159.21 317	PKPab	PKPab	08 19 36.9	+1.2
F17K	Baldwin Pennin comp=Z,477nm,20.0s	159.27 306	IAMs_20	IAMs_20	09 35 22.8	
F17K	Baldwin Pennin baz=95	159.27 306	PKPab	PKPab	08 19 36.4	+0.3
C18K	Utukok River comp=Z,607nm,21.0s	159.33 312	IAMs_20	IAMs_20	09 29 44.8	
C18K	Utukok River baz=89	159.33 312	PKPab	PKPab	08 19 36.4	0.0
H16K	Elim baz=99	159.45 301	PKPab	PKPab	08 19 37.0	+0.1
B18K	Kokolik River baz=86	159.52 314	PKPab	PKPab	08 19 37.0	-0.1
E17K	Hotham Inlet baz=92	159.54 308	PKPab	PKPab	08 19 38.0	+0.7
G16K	Koyuk River comp=Z,554nm,19.0s	159.61 303	IAMs_20	IAMs_20	09 34 04.2	
G16K	Koyuk River baz=97	159.61 303	PKPab	PKPab	08 19 38.1	+0.5
J14K	Nanvaranak Lak baz=103	159.66 295	PKPab	PKPab	08 19 38.5	+0.6
K13K	Kusilvak Mount comp=Z,483nm,22.0s	159.97 292	IAMs_20	IAMs_20	09 18 20.6	
K13K	Kusilvak Mount baz=104	159.97 292	PKPab	PKPab	08 19 40.4	+1.2
RDOG	Red Dog Mine baz=89	159.97 311	PKPab	PKPab	08 19 39.5	+0.4
D17K	Noatak River baz=90	160.04 310	PKPab	PKPab	08 19 40.3	+0.8
C17K	DeLong Mountai baz=88	160.06 312	PKPab	PKPab	08 19 40.3	+0.7
M11K	Mekoryuk baz=108	160.25 287	PKPab	PKPab	08 19 41.8	+1.3
G15K	Niukluk baz=96	160.27 301	PKPab	PKPab	08 19 41.2	+0.7
P08K	Saint George I baz=117	160.42 275	PKPab	PKPab	08 19 42.7	+1.3
F15K	North Star Dit baz=94	160.59 304	PKPab	PKPab	08 19 42.7	+0.8
ANM	Nome baz=97	160.78 300	PKPab	PKPab	08 19 44.5	+1.7
HEH	HeiHe	162.19 114	PKP	PKPab	08 19 53.3	+4.0
HEH	comp=N,740nm,17.3s		LR	LR		
HEH	comp=E,450nm,19.2s		LR	LR		
HEH	comp=Z,650nm,19.5s		LR	LR		
HEH	HeiHe	162.19 114	PKP	PKPdf	08 19 04.5	+2.3
HEH	comp=Z,620nm,20.6s		LR	LR		
HEH	comp=Z,440nm,21.6s		LR	LR		
HEH	comp=Z,1μm,20.8s		LR	LR		
YSS	Yuzhno-Sakhali	165.09 151	*i* PKIKP	PKPdf	08 19 04.6	-0.4
YSS			*e*		08 26 14.0	
YSS			*e*SS	SS	08 44 26.0	+2.8
YSS	comp=Z,100nm,4.8s		pmax	pmax		
PETK	Petropavlovsk- comp=Z,11nm,1.1s,baz=76,slow=6.3,SNR=4.8	172.22 200	PKP	PKPdf	08 19 10.6	+1.1
SEY	Seymchan comp=Z,1.6nm,0.3s,baz=333,slow=3.5,SNR=7.0	177.51 10	PKP	PKPdf	08 19 09.9	-0.8
SEY	Seymchan	177.51 10	*i* PKIKP	PKPdf	08 19 11.7	+1.0
SEY	comp=Z,12nm,1.2s		pmax	pmax		

IDC ***28*** *08:00:43.4±0.5, 60°.21S×26°.58W, h0km, mb4.9/18, mbtmp4.9/18, MS5.0/6, Error ellipse: s-maj=20.4km s-min=14.7km az=50.0*

MOS ***28*** *08:00:44.2±1.4, 60°.43S×26°.84W, h10km, mb5.4/14, Error ellipse: s-maj=23.8km s-min=11.7km az=108.2*

NEIC ***28*** *08:00:45.2±1.9, 60°.56S±0°.09×26°.9W±0°.2, h10km±1km, mb5.5/61, Error ellipse: s-maj=17.5km s-min=13.8km az=223.0*

GCMT ***28*** *08:00:53.2±0.2, 60°.64S±0°.01×25°.93W±0°.02, h12km, MW5.5/147, Moment Tensor Solution. s147,c280; Duration: 1ŝ3 Moment tensor: Scale 10^17 Nm; Mrr0.32±.04; Mθθ-1.34±.03; Mϕϕ1.02±.03; Mrθ0.94±.11; Mθϕ1.41±.03; Mϕr0.88±.11; Best double couple: Ms2.25000×10^17 NP1:ϕs336.00000°, δ59.00000°, λ166.00000°. NP2:ϕs73.00000°, δ78.00000°, λ32.00000°. Principal axes: T 2.3890, Plg31.0000°, Azm299.0000°; N -0.2760, Plg56.0000°, Azm90.0000°; P -2.1120, Plg13.0000°, Azm201.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 08:00:45.3±0.3, 60°.48S±0°.06×26°.82W±0°.06, h10km, n208, σ1ŝ64/208, mb5.5/50, MS5.3/12, 12C-4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOPE	Hope Point	8.11	316	Pn	Pn	Pn	08 02 42.8	0.0
HOPE	Hope Point	8.11	316	P	Pn	Pn	08 02 42.8	0.0
VNA1	Neumayer--Stat comp=Z,448nm,0.3s	12.70	151	⇑P	Pn	Pn	08 03 42.8	-2.8
VNA3	Neumayer Olymp comp=Z,404nm,0.3s	12.81	155	⇑P	Pn	Pn	08 03 43.8	-3.3
VNA2	Neumayer--Watz comp=Z,79nm,0.3s,baz=311,slow=14	13.10	151	⇑P	Pn	Pn	08 03 48.5	-2.5
ESPZ	Base Esperanza	14.43	245	Pn	Pn	Pn	08 04 06.8	-2.4
SNAA	Sanae comp=Z,2μm,0.3s	14.70	150	⇑P	Pn	Pn	08 04 10.2	-2.7
SNAA	Sanae comp=Z,23nm,0.3s,baz=67,slow=7.8,SNR=12	14.70	150	Pn	Pn	Pn	08 04 09.3	-3.6
SNAA	comp=Z,13nm,0.3s,baz=300,slow=18,SNR=7.4			Sn	Sn	Sn	08 06 38.6	-17
SNAA	comp=Z,8μm,18.2s,baz=313,slow=34			LR	LR		08 09 17.1	
SNAA	Sanae	14.70	150*c*	*i*P	Pn	Pn	08 04 10.1	-2.9
TROLL	Troll, Antarti comp=Z,5μm,0.9s	16.29	147	⇑P	Pn	Pn	08 04 34.4	+0.5
PMSA	Palmer Station	17.46	240	Pn	Pn	Pn	08 04 47.0	-1.4
PMSA	Palmer Station comp=Z,36nm,0.4s,baz=87,slow=8.1,SNR=12	17.46	240	P	P	P	08 04 56.0	+6.3
BELA	Belgrano 2 comp=Z,303nm,1.1s	17.67	185		IAmb	Pn IAmb	08 04 49.8 08 04 57.4	-1.3
EFI	East Falkland	19.36	283			P	08 05 10.7	0.0
EFI	East Falkland comp=Z,87nm,1.8s	19.36	283	⇓*e*P	pmax	P pmax	08 05 09.3	-1.4
MG02	Cerro Sombrero	24.18	269	P	P	P	08 06 01.5	+0.1
MG03	Isla Dawson comp=Z,128nm,1.3s	24.19	266	P	IAmb	P IAmb	08 05 59.6 08 06 14.7	-1.9
MG05	Puerto Natales	26.46	269	P	P	P	08 06 22.7	+0.6
SYO	Syowa Base	28.14	136	⇓*i*pP	pP	P	08 06 41.4	+2.3
SYO	Syowa Base	28.14	136	⇑*i*PnPn	P	P	08 07 18.6	+42
QSPA	South Pole Qui comp=Z,59nm,0.7s,baz=200,slow=6.0,SNR=6.7	29.76	180	P	P	P	08 06 54.5	+2.9
TRQA	comp=Z,59nm,0.7s Tornquist	31.47	299	P	P	P	08 07 08.0	+1.3
TRQA	comp=Z,94nm,1.0s				IAmb	IAmb	08 07 13.9	
TRQA	Tornquist	31.47	299	P	P	P	08 07 08.0	+1.3
TRQA	comp=Z,94nm,1.0s				pmax	pmax		
PLCA	Paso Flores	33.21	286	P	P	P	08 07 22.9	+0.9
PLCA	Paso Flores comp=Z,5.9nm,0.7s,baz=132,slow=16,SNR=1.7	33.21	286	P	P	P	08 07 21.7	-0.4
PLCA	comp=Z,5.9nm,0.7s Paso Flores	33.21	286	P	P	P	08 07 23.0	+0.9
PLCA	comp=Z,17nm,0.8s				pmax	pmax		
PLTB	Pedras Altas	33.72	316	P	P	P	08 07 26.7	+0.2
PLTB	comp=Z,113nm,1.0s				IAmb	IAmb	08 07 40.2	
PLTB	Pedras Altas	33.72	316	*e*P	P	P	08 07 26.9	+0.4
CPSB	Cacapava Do Su	34.91	317	*e*P	P	P	08 07 37.7	+0.9
LR03	Panguipulli	34.93	286	P	P	P	08 07 36.2	-0.6
LR03	comp=Z,47nm,0.7s				IAmb	IAmb	08 07 50.0	
CNLB	Canela	35.09	322	*e*P	P	P	08 07 39.5	+1.1
MAW	Mawson comp=Z,6.0nm,1.1s	36.54	140	P	P	P	08 07 53.5	+3.1
MAW	Mawson comp=Z,15nm,1.0s,baz=235,slow=11,SNR=4.8	36.54	140	P	P	P	08 07 50.1	-0.3
BI02	San Fabin de	36.80	290	P	P	P	08 07 53.0	0.0
ITAB	Concordia	37.43	321	P	P	P	08 07 58.3	0.0
ITAB	Concordia	37.43	321	*e*P	P	P	08 07 58.6	+0.3
ML02	Panimavida comp=Z,80nm,0.8s	37.60	291	P	P	P	08 07 59.2	-0.5
ML02	comp=Z,15nm,1.0s				IAmb	IAmb	08 08 15.2	
BI05	Punta Hualpn	37.63	288	P	P	P	08 07 59.0	-0.9
BO01	Tunca comp=Z,141nm,1.1s	38.58	292	P	P	P	08 08 08.3	+0.4
BO01					IAmb	IAmb	08 08 15.0	
BO04	La Punta	38.69	293	P	P	P	08 08 09.9	+0.8
MT09	Talagante	39.05	293	P	P	P	08 08 11.1	-1.0
MT16	CCHEN	39.12	294	P	P	P	08 08 13.5	+0.9
MT05	Renca	39.25	293	P	P	P	08 08 13.3	-0.5
PEL	Peldehue comp=Z,538nm,1.0s	39.44	294	P	P	P	08 08 16.4	+1.1
PEL					pmax	pmax		
SPB	Sao Paulo	39.55	330	*e*P	P	P	08 08 16.2	0.0
CFA	Coronel Fontan comp=Z,2μm,20.6s,baz=169,slow=34	39.65	298	LR	LR		08 23 25.1	
PTGB	Pitanga	39.77	323	*e*P	P	P	08 08 17.6	-0.6
CPUP	Villa Florida	39.98	315	P	P	P	08 08 20.4	+0.6
CPUP	Villa Florida comp=Z,3.9nm,0.6s,baz=23,slow=6.0,SNR=8.2	39.98	315	P	P	P	08 08 17.7	-2.1
CPUP	comp=Z,3.9nm,0.6s Villa Florida	39.98	315	P	P	P	08 08 20.4	+0.6
CPUP	comp=Z,23nm,1.3s				pmax	pmax		
VA06	Catapilco comp=Z,125nm,0.7s	40.20	294	P	P	P	08 08 21.9	+0.3
VA06					IAmb	IAmb	08 08 29.1	
FRTB	Fartura	40.35	327	*e*P	P	P	08 08 23.7	+0.8
SJPY	San Joaquin	40.79	317	*e*P	P	P	08 08 26.6	+0.1
BSCB	Bom Sucesso	41.43	334	*e*P	P	P	08 08 31.7	-0.2
SBA	Scott Base comp=Z,59nm,2.6s	41.67	184	P	P	P	08 08 32.7	-0.4
SBA					pmax	pmax		
CO06	Fray Jorge comp=Z,168nm,1.1s	41.95	295	P	P	P	08 08 36.4	+0.4
CO06					IAmb	IAmb	08 08 43.1	
VNDA	Vanda	42.15	183	P	P	P	08 08 37.0	0.0
VNDA	Vanda comp=Z,8.7nm,0.7s,baz=196,slow=6.5,SNR=6.7	42.15	183	P	P	P	08 08 39.0	+2.0
BB19B	comp=Z,8.7nm,0.7s Bebedouro	42.25	329	*e*P	P	P	08 08 37.8	-0.7
AMBA	Amambai (Brazi	42.35	320	*e*P	P	P	08 08 39.7	+0.4
CO05	La Serena	42.42	296	P	P	P	08 08 40.1	+0.3
LCO	Las Campanas	42.96	297	P	P	P	08 08 45.7	+1.2
AC04	Llanos de Chal	43.82	297			P	08 08 51.8	+0.7

GO03 Copiapo 43.98 299 P P 08 08 52.2 -0.3
GO03 IAmb IAmb 08 08 58.7
comp=Z,95nm,1.0s
ITRB Iturama 44.03 327 *e*P **P 08 08 53.3 +0.4**
PMNB Patos De Minas 44.18 333 *e*P **P 08 08 53.9 -0.3**
AC06 Mina Casimiro 44.24 299 P **P 08 08 55.0 +0.4**
AC06 IAmb IAmb 08 09 01.3
comp=Z,123nm,1.0s
RPRD Ribas do Rio P 44.24 323 *e*P **P 08 08 55.3 +0.7**
IPMB Ipameri, GO 45.13 331 *e*P **P 08 09 01.7 -0.1**
BDQN Bodoquena, MS 45.23 319 *e*P **P 08 09 02.9 +0.4**
AC01 Pan de Azucar 45.40 299 P **P 08 09 03.4 -0.4**
AC01 IAmb IAmb 08 09 19.8
comp=Z,50nm,0.7s
PB14 IPOC Station P 46.65 300 P 08 09 12.7 -1.3
PB14 IAmb IAmb 08 09 28.7
comp=Z,58nm,0.7s
BOSA Boshof 47.04 71 P **P 08 09 16.6 -0.1**
BOSA IAmb IAmb 08 09 30.0
comp=Z,29nm,0.9s
BOSA Boshof 47.04 71 P **P 08 09 14.8 -2.1**
comp=Z,8.1nm,0.7s,baz=207,slow=6.3,SNR=10
comp=Z,8.1nm,0.7s
BOSA Boshof 47.04 71 P **P 08 09 16.7 -0.1**
BOSA pmax pmax
comp=Z,29nm,0.9s
JANB Januaria 47.10 337 *e*P **P 08 09 17.2 -0.1**
BDFB Brasilia 47.34 332 LR LR 08 25 55.4
comp=Z,2µm,21.9s,baz=162,slow=32
PB10 IPOC Station P 47.69 301 P 08 09 21.0 -0.7
PB06 IPOC Station P 47.99 302 P **P 08 09 23.9 -0.4**
ARAG Araguaiana, MT 48.23 327 *e*P **P 08 09 26.4 +0.3**
PB03 IPOC Station P 48.65 303 P **P 08 09 29.1 -0.2**
PB03 IAmb IAmb 08 09 36.1
comp=Z,63nm,0.7s
SALV Santo Antonio 49.16 322 *e*P **P 08 09 33.7 +0.6**
PB02 IPOC Station P 49.36 303 P **P 08 09 34.1 -0.6**
PB01 IPOC Station P 49.43 304 P **P 08 09 35.5 +0.2**
PATCX Punta Patache 49.91 303 P **P 08 09 37.9 -1.0**
GO01 Chusmiza 50.54 305 P **P 08 09 45.1 +0.9**
GO01 IAmb IAmb 08 09 50.8
comp=Z,83nm,1.1s
PTLB Pontes e Lacer 50.68 318 P **P 08 09 44.9 +0.2**
PTLB IAmb IAmb 08 09 58.2
comp=Z,76nm,0.9s
PTLB Pontes e Lacer 50.68 318 *e*P **P 08 09 45.3 +0.7**
SIV San Ignacio 50.83 316 P **P 08 09 45.4 -0.5**
comp=Z,7.3nm,0.4s,baz=188,slow=7.1,SNR=2.8
comp=Z,7.3nm,0.4s
POGA Pongola 51.17 77 P 08 09 49.6 +1.2
SNDB Serra Nova Dou 51.67 329 *e*P **P 08 09 52.6 +0.4**
TSUM Tsumeb 51.80 57 P 08 09 53.6 +0.4
PB16 IPOC Station P 51.87 305 P **P 08 09 53.4 -0.9**
PB16 IAmb IAmb 08 10 01.4
comp=Z,37nm,0.9s
PB12 IPOC Station P 51.95 304 P **P 08 09 53.5 -0.9**
PB12 IAmb IAmb 08 10 01.3
comp=Z,74nm,1.3s
LPAZ La Paz 53.17 308 P **P 08 10 03.4 -0.6**
comp=Z,7.8nm,0.4s,baz=119,slow=0.9,SNR=7.8
comp=Z,7.8nm,0.4s
LPAZ La Paz 53.17 308 *e*P **P 08 10 04.0 +0.1**
MREMI Moremi 53.21 70 P **P 08 10 02.9 -0.8**
MREMI IAmb IAmb 08 10 20.0
comp=Z,47nm,0.9s
VILB Vilhena 53.37 318 *e*P **P 08 10 05.3 +0.6**
PDRB Porto dos Gac 53.53 323 *e*P **P 08 10 06.5 +0.6**
SMTB Santa Maria do 53.80 334 *e*P **P 08 10 07.7 -0.2**
PHDHD Phuduhudu 53.94 65 P **P 08 10 08.7 -0.3**
PHDHD IAmb IAmb 08 10 19.0
comp=Z,66nm,0.9s
CLDB Colider 53.95 324 *e*P **P 08 10 09.5 +0.5**
KSANE Kasane 56.32 64 P **P 08 10 25.4 -0.9**
KSANE IAmb IAmb 08 10 37.7
comp=Z,45nm,0.9s
PRPB Parauapebas 56.90 332 *e*P **P 08 10 30.4 +0.2**
NPGB Novo Progresso 57.47 326 *e*P **P 08 10 34.9 +0.6**
LSZ Lusaka 59.90 66 P 08 10 51.0 -0.3
LSZ IAmb IAmb 08 11 02.9
comp=Z,30nm,0.8s
LSZ Lusaka 59.90 66 P **P 08 10 51.0 -0.3**
LSZ pmax pmax
comp=Z,30nm,0.8s
NNA Nana 60.62 301 P **P 08 10 55.6 -0.6**
comp=Z,12nm,0.8s,baz=126,slow=6.1,SNR=3.7
NNA LR LR 08 33 16.2
comp=Z,870nm,21.5s,baz=139,slow=32
comp=Z,12nm,0.8s
NNA Nana 60.62 301⇑ *i*P **P 08 10 56.1 0.0**
NNA pmax pmax
comp=Z,42nm,1.0s
CZSB Cruzeiro do Su 62.76 307 P 08 11 09.0 -1.5
CZSB Cruzeiro do Su 62.76 307 *e*P **P 08 11 11.4 +0.9**
TEFE Tefe 63.68 317 *e*P **P 08 11 17.0 +0.4**
ATAH Atahualpa 65.63 301 P **P 08 11 28.9 -0.9**
comp=Z,9.1nm,0.8s,baz=98,slow=4.5,SNR=3.9
ATAH LR LR 08 40 49.6
comp=Z,1µm,20.0s,baz=144,slow=37
comp=Z,9.1nm,0.8s
BOAV Boa Vista 67.94 323 P **P 08 11 42.4 -1.7**
BOAV IAmb IAmb 08 11 56.5
comp=Z,29nm,0.8s
BOAV Boa Vista 67.94 323 *e*P **P 08 11 44.6 +0.6**
DBIC Dimbokro 69.14 23 P **P 08 11 50.3 -1.2**
DBIC IAmb IAmb 08 12 03.1
comp=Z,26nm,1.1s
DBIC Dimbokro 69.14 23 P **P 08 11 49.8 -1.8**
comp=Z,10nm,0.7s,baz=197,slow=7.3,SNR=4.3
comp=Z,10nm,0.7s
DBIC Dimbokro 69.14 23 P **P 08 11 50.3 -1.2**
DBIC pmax pmax
comp=Z,26nm,1.1s
EDA Edea 70.25 40 P **P 08 11 59.7 +1.3**
EDA IAmb IAmb 08 12 09.8
comp=Z,54nm,1.2s
OTAV Otavalo 72.31 305 P **P 08 12 14.6 +3.2**
OTAV pmax pmax
comp=Z,52nm,1.2s
OTAV Otavalo 72.31 305 *e*P **P 08 12 12.3 +0.9**
MBAR Mbarara 74.05 61 P **P 08 12 21.8 +0.4**
MBAR IAmb IAmb 08 12 36.6
comp=Z,39nm,1.2s
MBAR Mbarara 74.05 61⇑ *e*P **P 08 12 22.5 +1.1**
KMBO Kilima Mbogo 76.50 68 P **P 08 12 34.9 -0.7**
comp=Z,1.8nm,0.3s,baz=157,slow=5.8,SNR=3.0
comp=Z,1.8nm,0.3s
PCRV Puerto La Cruz 76.54 322 P **P 08 12 34.3 -1.1**
comp=Z,11nm,0.8s,baz=359,slow=6.3,SNR=4.2
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 76.84 29 P **P 08 12 36.4 -0.7**
TORD IAmb IAmb 08 12 52.9
comp=Z,49nm,0.8s
TORD Torodi Ar. Bea 76.84 29 P **P 08 12 35.0 -2.1**
comp=Z,42nm,0.7s,baz=198,slow=5.7,SNR=13
comp=Z,42nm,0.7s
SDV Santo Domingo 77.30 315 P **P 08 12 38.6 -1.3**
comp=Z,5.7nm,0.3s,baz=298,slow=10,SNR=1.4
comp=Z,5.7nm,0.3s
LODK Lodwar 79.68 64 P 08 12 53.3 +0.4
JTS Las Juntas de 84.08 303⇑ *i*P **P 08 13 16.3 +0.3**
JTS pmax pmax
comp=Z,6.0nm,0.9s
CAN Canberra 84.49 177 P **P 08 13 17.8 -0.3**
CAN IAmb IAmb 08 13 34.3
comp=Z,32nm,1.2s
CAN Canberra 84.49 177 P **P 08 13 17.8 -0.3**
CAN pmax pmax
comp=Z,32nm,1.2s
BBOO Buckleboo 85.99 166 P P 08 13 23.4 -2.1
BOAB BOACO BROADBA 86.32 303 P P 08 13 26.1 -1.1
BOAB IAmb IAmb 08 13 39.0
comp=Z,46nm,0.9s
SIUN Universidad Ur 87.09 304 P **P 08 13 30.1 -0.9**
SIUN IAmb IAmb 08 13 42.8
comp=Z,13nm,0.9s
STKA Stephens Creek 87.49 170 P **P 08 13 33.8 +0.9**
comp=Z,6.4nm,0.9s,baz=170,slow=8.2,SNR=3.0
comp=Z,6.4nm,0.9s
DGAR Diego Garcia 88.16 102⇓ *i*P **P 08 13 35.9 -0.3**
DGAR pmax pmax
comp=Z,192nm,1.1s
MTO3 Montecristo 89.62 301 P **P 08 13 42.6 -0.6**
MTO3 IAmb IAmb 08 13 47.7
comp=Z,30nm,1.4s
PMOZ Porto Moniz, M 93.30 8 *e*LR LR 08 41 42.0
PMOZ *i* IAMs_20 IAMs_20 08 47 25.7
comp=Z,868nm,22.0s
PSA00 Pilbara Seismi 93.88 149 P **P 08 14 02.1 -0.7**
TEIG Tepich 94.38 304 P **P 08 14 04.5 -0.3**
CMIG Matias Romero 94.40 297 LR LR 08 49 51.7
comp=Z,682nm,21.8s,baz=139,slow=31
ASAR Alice Springs 94.70 162 P **P 08 14 06.3 -0.3**
ASAR Alice Springs 94.70 162 P **P 08 14 06.6 0.0**
comp=Z,3.2nm,0.7s,baz=190,slow=4.3,SNR=4.2
ASAR PP **PP 08 17 57.3 +3.4**
comp=Z,1.6nm,0.9s,baz=174,slow=5.2,SNR=5.9
ASAR PKKPbc **PKKPbc 08 31 02.2 +1.4**
comp=Z,0.4nm,0.7s,baz=8.9,slow=2.2,SNR=4.1
comp=Z,3.2nm,0.7s
WRA Warramunga Arr 98.42 162 P **P 08 14 22.5 -1.0**
comp=Z,1.1nm,0.9s,baz=193,slow=4.5,SNR=2.3
WRA PKKPbc **PKKPdf 08 30 51.9 -0.3**
comp=Z,0.6nm,0.7s,baz=350,slow=2.7,SNR=4.9
comp=Z,1.1nm,0.9s
WRAB Tennant Creek 98.43 162⇑ *i*P **P 08 14 22.5 -1.0**
WRAB pmax pmax
comp=Z,4.0nm,0.6s
PVAQ Vaqueiros 98.79 15 *e*LR LR 08 45 25.5
PVAQ *i* IAMs_20 IAMs_20 08 54 15.1
comp=Z,715nm,20.0s
PMRV Marv??o 100.82 15 *e*LR LR 08 46 14.5
PMRV *i* IAMs_20 IAMs_20 08 55 42.3
comp=Z,870nm,18.0s
ESDC Sonseca Array 101.55 18 P **Pdif 08 14 34.8 -2.0**
comp=Z,0.2nm,0.4s,baz=202,slow=2.8,SNR=1.0
MTE Manteigas 101.76 15 *e*LR LR 08 47 02.5
MTE *i* IAMs_20 IAMs_20 08 54 06.4
comp=Z,808nm,20.0s
MVO Moncorvo 102.58 15 *e*LR LR 08 47 25.2
MVO *i* IAMs_20 IAMs_20 08 57 08.0
comp=Z,628nm,18.0s
TXAR Lajitas Array 108.97 296 PKiKP **PKiKP 08 19 14.4 -0.1**
comp=Z,0.9nm,1.1s,baz=169,slow=1.3,SNR=3.4
BRTR Keskin Array B 111.39 46 PP **PP 08 20 04.4 +4.4**
comp=Z,2.7nm,0.9s,baz=201,slow=6.5,SNR=4.8
HYB Hyderabad 112.57 95 *e*PKiKP **PKiKP 08 19 21.7 +0.2**
HYB *e*PP **PP 08 20 08.3 0.0**
HYB *e*SKSac **SKSac 08 26 04.7 -0.1**
AKT Akhty 118.30 55 *e*PKiKP **PKiKP 08 19 33.6 +1.6**
AKT *e* 08 20 52.3
KIV Kislovodsk 118.40 50 *e*PKiKP **PKPdf 08 19 29.6 -2.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
SCHQ Schefferville 119.28 335 PKP **PKPdf 08 19 32.4 -0.9**
comp=Z,5.4nm,0.7s,baz=94,slow=4.4,SNR=4.0
MAK Makhachkala 119.45 54 *i*P **Pdif 08 15 46.8 -9.4**
MAK *e*SS SS 08 37 15.3 -3.9
MAK pmax pmax
comp=Z,179nm,1.4s
AKASG Malin Array Be 119.64 37 PKP **PKPdf 08 19 33.6 -0.4**
comp=Z,0.8nm,0.6s,baz=216,slow=5.1,SNR=4.3
HWUT Hardware Ranch 122.73 297 PKiKP 08 19 41.0 +0.3
PDAR Pinedale Array 122.79 300 PKP **PKPdf 08 19 40.0 -0.7**
comp=Z,1.2nm,0.6s,baz=135,slow=3.9,SNR=5.0
NVAR Mina Array Bea 123.22 290 PKP **PKiKP 08 19 42.8 +1.0**
comp=Z,3.9nm,0.9s,baz=158,slow=2.7,SNR=6.5
CMAR Chiang Mai Arr 123.24 113 PKPdf 08 19 41.2 -0.8
CMAR Chiang Mai Arr 123.24 113 PKP **PKiKP 08 19 42.5 +0.2**
comp=Z,1.6nm,0.3s,baz=235,slow=4.3,SNR=5.8
HFS Hagfors 124.31 23 PKP **PKPdf 08 19 40.7 -2.0**
comp=Z,2.4nm,0.7s,baz=159,slow=4.6,SNR=3.9
LAO LASA Array 124.57 305 PKPdf 08 19 43.7 0.0
NB2 NORSAR Subarra 124.68 21 PKPdf **PKPdf 08 19 43.4 0.0**
comp=Z,4.1nm,0.8s,baz=202,slow=1.9
NOA NORSAR Array B 124.68 21 PKP **PKPdf 08 19 42.3 -1.1**
comp=Z,4.0nm,0.8s,baz=193,slow=1.6,SNR=6.0
NB201 NORSAR Array S 124.71 21 PKiKP 08 19 44.0 +0.2
NC204 NORSAR Array S 124.82 21 PKiKP 08 19 44.1 +0.1
BELG Belogornoye 127.24 48⇑ *i*PKiKP **PKiKP 08 19 50.3 +1.3**
BELG pmax pmax
comp=Z,8.0nm,1.2s
FINES FINESS Array B 128.19 29 PKPdf 08 19 49.4 -0.7
FINES FINESS Array B 128.19 29 PKP **PKPdf 08 19 49.5 -0.5**
comp=Z,7.6nm,0.7s,baz=132,slow=2.8,SNR=5.6
QIZ Qiongzhong 128.49 124 PKP **PKPdf 08 19 51.0 -1.0**
QIZ PP **PP 08 21 57.8 +0.8**
QIZ SS SS 08 39 13.5 +0.5
QIZ AMB AMB
comp=Z,190nm,11.7s
QIZ LR LR
comp=Z,430nm,14.4s
QIZ LR LR
comp=Z,540nm,18.6s
QIZ LR LR
comp=Z,720nm,17.2s
KSH Kashi 129.45 78 PKP **PKiKP 08 19 55.8 +1.7**
AAK Ala-Archa 131.15 74 *i*PKiKP **PKiKP 08 19 57.1 -0.4**
KLMR Klimovskoe 131.32 37 *e*PKiKP **PKPdf 08 19 52.6 -3.4**
KLMR *e* 08 22 12.9
KLMR pmax pmax
comp=Z,35nm,1.6s
PZH PanZhiHua 131.47 111 PKP **PKPdf 08 19 56.5 -1.1**
KIRV Kirov 132.71 44 *de*PKiKP **PKiKP 08 20 00.7 +0.9**
BLKN Baker Lake 134.85 325 PKPdf 08 20 02.0 -0.5
ARCES ARCESS Array B 134.97 23 PKP **PKPdf 08 20 02.0 -0.7**
comp=Z,4.6nm,0.7s,baz=214,slow=2.8,SNR=6.1
ARCES SKPbc **SKPbc 08 23 31.7 -1.1**
comp=Z,5.6nm,1.0s,baz=204,slow=2.7,SNR=3.7
MK31 Makanchi Array 137.96 76 *i*PKiKP **PKiKP 08 20 10.6 -0.4**
MKAR Makanchi Array 137.96 76 PKP **PKPdf 08 20 07.6 -1.3**
comp=Z,1.2nm,0.9s,baz=224,slow=4.0,SNR=1.9
WMQ Urumqi 138.43 83 *e*PKP **PKiKP 08 20 11.3 -0.8**
WMQ LR LR
comp=Z,780nm,21.5s
WMQ LR LR
comp=Z,440nm,21.5s
KURBB Kurchatov Arra 138.87 69 PKP **PKPdf 08 20 09.2 -1.2**
comp=Z,3.4nm,0.8s,baz=232,slow=3.2,SNR=6.1
KURK Kurchatov 138.97 69 *i*PKiKP **PKPdf 08 20 09.6 -1.0**
YKA Yellowknife Ar 139.51 314 PKPdf 08 20 12.0 +0.8
YKA Yellowknife Ar 139.51 314 PKP **PKPdf 08 20 10.8 -0.4**
comp=Z,4.0nm,0.8s,baz=327,slow=6.6,SNR=8.3
YKA PP **PP 08 23 09.4 +2.4**
comp=Z,8.2nm,1.2s,baz=125,slow=6.3,SNR=4.7
YKA Yellowknife Ar 139.51 314 PKiKP **PKPdf 08 20 12.0 +0.8**
SPITS Spitsbergen Ar 140.86 13 PKP **PKPdf 08 20 13.2 -0.2**
comp=Z,8.3nm,0.7s,baz=167,slow=4.0,SNR=4.4
GTA Gaotai 141.10 98 PKP **PKiKP 08 20 17.5 -0.3**
GTA LR LR
comp=Z,220nm,17.1s
GTA LR LR
comp=Z,350nm,19.5s
GTA LR LR
comp=Z,570nm,19.1s
XAN Xi'an 141.13 113 PKP **PKPdf 08 20 12.5 -2.7**
XAN LR LR
comp=Z,480nm,21.0s
XAN LR LR
comp=Z,520nm,20.8s
XAN LR LR
comp=Z,960nm,20.6s
NJ2 Nanjing 143.72 126 *e*PKP **PKPdf 08 20 19.8 0.0**
ZALV Zalesovo Beam 143.97 69 PKP PKPbc 08 20 18.3 +0.9
comp=Z,1.9nm,0.4s,baz=197,slow=4.5,SNR=2.2
TIY Taiyuan 145.77 113 PKPbc **PKPdf 08 20 19.8 -3.5**
TIY PP **PP 08 23 48.5 +3.4**
TIY AMB AMB
comp=Z,160nm,5.5s
TIY LR LR
comp=Z,330nm,17.9s
TIY LR LR
comp=Z,340nm,17.9s
TIY LR LR
comp=Z,440nm,16.5s
TIA Tai'an 146.60 120 PKPbc **PKPdf 08 20 23.8 -0.8**
TIA AMB AMB
comp=Z,350nm,9.3s
BTO Baotou 146.96 107 *e*PKPbc **PKPdf 08 20 23.3 -1.9**
BTO PP **PP 08 23 53.8 +1.5**
BTO AMB AMB
comp=Z,810nm,7.1s
BTO LR LR
comp=Z,810nm,19.3s
BTO LR LR
comp=Z,440nm,21.8s
BTO LR LR
comp=Z,1µm,18.9s
HHC Hu-ho-hao-te 147.88 109 *e*PKPbc **PKPdf 08 20 22.8 -4.0**
HHC sPKP 08 20 36.5
HHC LR LR
comp=Z,260nm,15.3s
HHC LR LR
comp=Z,310nm,16.8s
HHC LR LR
comp=Z,430nm,14.5s
SONM Songino Array 150.51 94 PKPbc **PKPbc 08 20 35.2 -1.0**
comp=Z,15nm,1.1s,baz=222,slow=2.9,SNR=3.7
KSRS Korea Array 151.95 134 PKPbc **PKPbc 08 20 39.0 -0.6**
comp=Z,4.0nm,0.9s,baz=209,slow=3.5,SNR=2.4
KSRS Korea Array 151.95 134 PKiKP **PKPbc 08 20 39.0 -0.6**
D27M Malcolm River 152.11 316 PKiKP 08 20 39.6 +0.2
XLT XiLinHaoTe 152.36 110 *e*PKPbc **PKiKP 08 20 40.5 -0.3**
XLT pPKP pPKPab 08 20 52.3 -0.7
XLT PKPab **sPKPab 08 21 03.8 +10**
KDAK Kodiak Island 152.70 289 PKiKP 08 20 41.4 +0.5
KDAK Kodiak Island 152.70 289 PKiKP **PKiKP 08 20 41.4 +0.5**
BMAR Burnt Mountain 152.93 311 PKPbc **PKiKP 08 20 42.1 +1.0**
ILAR Eielson Array 153.03 305 PKPbc **PKPbc 08 20 40.4 -0.8**
comp=Z,2.8nm,0.7s,baz=106,slow=2.0,SNR=5.0
SEY Seymchan 177.50 8 PKP **PKPdf 08 20 55.1 +0.9**
comp=Z,2.5nm,0.7s,baz=195,slow=1.9,SNR=4.3

IDC ***28*** *08:08:06.0±1.3, 4.°81N×127.°48E, h0km, mb4.1/7, mbtmp4.1/7, MS4.5/4, Error ellipse: s-maj=51.9km s-min=27.2km az=74.0*
DJA ***28*** *08:08:21.9±1.2, 5.°1N±7.°×12.°7E±.°, h133km±9km, M3.9/5, MLv3.9/5*
ISC 28 08:08:17.5±1.1, 4.°8N±0.°1×127.°7E±0.°1, h100km, n13, σ1°39/10, mb4.2/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SGSI	**Sangihe**	**2.46**	**243**	P	**Pn**	**08 08 56.8**	**+0.6**
SGSI				S	**Sn**	**08 09 25.5**	**-0.3**
WRA	**Warramunga Arr**	**25.43**	**165**	P	**P**	**08 13 36.1**	**0.0**
	0.5nm,0.5s,baz=334,slow=11,SNR=2.5						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**28.93**	**168**	PcP	**PcP**	**08 17 12.8**	**-1.4**
	0.9nm,0.9s,baz=356,slow=2.6,SNR=4.3						
KSRS	**Korea Array**	**32.50**	**0**	P	**P**	**08 14 36.5**	**-2.1**
	1.7nm,0.6s,baz=177,slow=9.7,SNR=8.7						
	1.7nm,0.6s						
KLR	**Kul'dur**	**44.40**	**4**	LR	LR	08 35 55.8	
	comp=Z,123nm,20.0s,baz=9.0,slow=38						
SONM	**Songino Array**	**46.62**	**340**	P	**P**	**08 16 36.9**	**+1.1**
	1.1nm,0.7s,baz=145,slow=5.4,SNR=4.2						
	1.1nm,0.7s						
PETK	**Petropavlovsk-**	**54.06**	**22**	P	**P**	**08 17 33.8**	**+2.1**
	2.8nm,0.6s,baz=176,slow=5.7,SNR=7.0						
	2.8nm,0.6s						
MKAR	**Makanchi Array**	**57.26**	**324**	P	**P**	**08 17 54.6**	**-0.1**
	2.2nm,0.7s,baz=119,slow=8.2,SNR=19						
	2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**60.10**	**332**	P	**P**	**08 18 13.1**	**-1.0**
	0.7nm,0.3s,baz=116,slow=7.1,SNR=2.3						
	0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**61.39**	**327**	P	**P**	**08 18 22.7**	**-0.2**
	2.3nm,0.6s,baz=125,slow=6.1,SNR=18						
	2.3nm,0.6s						
AKASG	**Malin Array Be**	**91.69**	**321**	LR	LR	09 07 42.9	
	comp=Z,313nm,19.8s,baz=238,slow=39						
HFS	**Hagfors**	**97.54**	**333**	LR	LR	09 09 38.5	
	comp=Z,683nm,18.6s,baz=210,slow=38						
NOA	**NORSAR Array B**	**98.27**	**334**	LR	LR	09 09 18.4	
	comp=Z,231nm,20.8s,baz=215,slow=37						

VAO ***28*** *08:24:15.1±0.5, 31.°80S×68.°98W, h10km, mb4.6*
IDC ***28*** *08:24:18.7±0.8, 31.°24S×68.°60W, h0km, mb3.9/5, mbtmp3.9/9, ML3.9/4, Error ellipse: s-maj=19.7km s-min=8.2km az=58.0*
SJA ***28*** *08:24:20.5±2.1, 31.°33S×68.°54W, h10km, ML4.3, MW4.0, Fault plane solution: NP1:φ=78.00000°, δ=78.00000°, λ=178.00000°.*
NEIC ***28*** *08:24:22.9±2.3, 31.°34S±0.°06×68.°3W±0.°1, h23km±7km, mb4.5/12, Error ellipse: s-maj=14.0km s-min=8.0km az=94.0*
ISC 28 08:24:20.6±0.8, 31.°34S±0.°02×68.°59W±0.°03, h11km±5km, n113, σ2°09/129, mb4.5/9, 16C-10D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
RTLL	**Cerro Villicun**	**0.10**	**81**	*i* P	**Pb**	**08 24 24.8**	**+0.1**
RTLL				*e*S	**Sb**	**08 24 27.5**	**+1.9**
SJA	**San Juan**	**0.18**	**172**⇑	*e*P	**Pb**	**08 24 26.5**	**+0.4**
SJA				*i* S	**Sb**	**08 24 30.0**	**+2.4**
CFA	**Coronel Fontan**	**0.40**	**131**	Pg	**Pg**	**08 24 28.5**	**-0.1**
	221nm,0.3s,baz=318,slow=15						
CFA				Lg	Lg	08 24 34.2	
	3µm,0.3s,baz=204,slow=1.8,SNR=197						
CFA	**Coronel Fontan**	**0.40**	**131**	*i* P	**Pg**	**08 24 28.9**	**+0.3**
CFA				*e*S	**Sg**	**08 24 34.4**	**+0.5**
RTLS	**Leoncito**	**0.75**	**233**⇑	*i*P	**Pb**	**08 24 36.2**	**+0.3**
RTLS				*e*S	**Sn**	**08 24 47.1**	**-2.0**
ACCO	**Cerro Coronel**	**0.86**	**332**⇓	*e*P	**Pg**	**08 24 37.5**	**+0.2**
AVFE	**Valle Fertil**	**1.19**	**55**⇓	*i*P	**Pn**	**08 24 41.9**	**-1.4**
AVFE				*e*S	**Sb**	**08 24 57.0**	**-1.7**
ACDV	**Cuesta del Vie**	**1.25**	**339**⇓	*e*P	**Pn**	**08 24 44.3**	**0.0**
ACDV				*e*S	**Sg**	**08 25 01.6**	**+0.5**
ACDV				IAML		08 25 03.1	
	comp=Z,5µm,0.5s						
ASAL	**Salagasta**	**1.26**	**189**⇑	*e*P	**Pg**	**08 24 44.8**	**-0.1**
ASAL				*e*S	**Sg**	**08 25 02.7**	**+1.4**
AROD	**Rodeo**	**1.40**	**327**⇓	*i*P	**Pb**	**08 24 47.1**	**+0.2**
ACAN	**Cantantal**	**1.51**	**128**⇓	*e*P	**Pn**	**08 24 47.4**	**-0.3**
ACAN				*e*S	**Sb**	**08 25 07.8**	**-0.1**
ACAN				*e*S	**Sn**	**08 25 08.1**	**+0.7**
ARCO	**CERRO ARCO**	**1.52**	**191**⇑	*e*P	**Pg**	**08 24 49.5**	**-0.4**
ARCO				*e*S	**Sg**	**08 25 14.0**	**+4.4**
ARCO				IAML		08 25 17.3	
	comp=Z,3µm,0.4s						
AAGR	**Agrelo**	**1.75**	**187**⇑	*i*P	**Pg**	**08 24 53.5**	**-0.7**
AAGR				*e*S	**Sg**	**08 25 16.0**	**-0.9**
AGUA	**GUANDACOL**	**1.85**	**3**⇑	*i*P	**Pb**	**08 24 54.4**	**-0.2**
AGUA				IAML		08 25 23.0	
	comp=Z,5µm,0.4s						
CO03	**El Pedregal**	**1.87**	**285**		**Pb**	**08 24 55.0**	**+0.1**
CO03	**El Pedregal**	**1.87**	**285**⇓	*e*P	**Pb**	**08 24 54.2**	**-0.7**
CO03				IAML		08 25 25.4	
	comp=Z,3µm,0.5s						
CO01	**Juntas del Tor**	**1.88**	**316**		**Pb**	**08 24 55.6**	**+0.5**
CO01	**Juntas del Tor**	**1.88**	**316**⇓	*i*P	**Pb**	**08 24 54.9**	**-0.3**
CO01				IAML		08 25 24.3	
	comp=Z,2µm,0.3s						
APLL	**PUNTA DE LOS L**	**2.01**	**62**⇑	*e*P	**Pn**	**08 24 55.8**	**+1.3**
CO02	**Combarbal**	**2.07**	**273**		**Pb**	**08 24 58.6**	**+0.3**
CO02	**Combarbal**	**2.07**	**273**⇓	*e*P	**Pb**	**08 24 57.9**	**-0.4**
AVIZ	**Vizcacheras**	**2.12**	**178**	*e*P	**Pb**	**08 24 59.2**	**0.0**
VA03	**San Esteban**	**2.18**	**229**		**Pg**	**08 25 01.5**	**-1.0**
VA03	**San Esteban**	**2.18**	**229**⇑	*e*P	**Pb**	**08 25 00.7**	**+0.5**
VA03				IAML		08 25 35.1	
	comp=Z,3µm,0.5s						
GO04	**Tololo Observa**	**2.23**	**301**		**Pb**	**08 25 01.4**	**+0.3**
GO04	**Tololo Observa**	**2.23**	**301**⇓	*e*P	**Pb**	**08 25 00.8**	**-0.3**
GO04				IAML		08 25 35.6	
	comp=Z,3µm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.38**	**37**	*e*P	**Pb**	**08 25 02.2**	**-1.5**
ACLC				IAML		08 25 35.5	
	comp=Z,1µm,0.6s						
MT08	**Bocatoma Ro**	**2.42**	**210**		**Pb**	**08 25 04.5**	**+0.2**
MT08	**Bocatoma Ro**	**2.42**	**210**⇑	*e*P	**Pb**	**08 25 04.4**	**+0.2**
MT08				IAML		08 25 41.3	
	comp=Z,2µm,0.5s						
MT04	**Ro Olivares**	**2.44**	**212**⇑	*i*P	**Pb**	**08 25 04.8**	**+0.3**
MT04				IAML		08 25 42.0	
	comp=Z,878nm,0.3s						
PEL	**Peldehue**	**2.52**	**224**		**Pb**	**08 25 05.0**	**-1.0**
VA06	**Catapilco**	**2.60**	**241**		**Pb**	**08 25 05.7**	**-1.5**
VCA	**Vinchina**	**2.62**	**7**⇑	*e*P	**Pn**	**08 25 05.4**	**+2.3**
MT16	**CCHEN**	**2.64**	**218**		**Pb**	**08 25 07.7**	**-0.3**
MRA	**San Martin**	**2.67**	**114**⇓	*e*P	**Pn**	**08 25 05.0**	**+1.3**
MRA				IAML		08 25 48.2	
	comp=Z,2µm,0.6s						
CO05	**La Serena**	**2.69**	**301**		**Pb**	**08 25 08.1**	**-0.6**
MT03	**Universidad Ad**	**2.69**	**217**		**Pb**	**08 25 08.4**	**-0.4**
MT03	**Universidad Ad**	**2.69**	**217**⇑	*e*P	**Pb**	**08 25 08.3**	**-0.6**
MT03				IAML		08 25 54.7	
	comp=Z,2µm,0.8s						
CO06	**Fray Jorge**	**2.70**	**284**		**Pb**	**08 25 07.2**	**-1.7**
MT05	**Renca**	**2.73**	**221**		**Pb**	**08 25 08.3**	**-1.3**
MT05	**Renca**	**2.73**	**221**⇓	*e*P	**Pb**	**08 25 08.3**	**-1.3**
MT05				IAML		08 25 53.3	
	comp=Z,1µm,0.4s						

MT13	San Alfonso	2.79	210			Pb		08 25 09.3	-1.3
MT13	San Alfonso	2.79	210	*e*P		Pb		08 25 10.3	-0.3
MT13				IAML				08 25 52.2	
	comp=Z,732nm,0.7s								
LMEL	Las Melosas	2.84	208			Pb		08 25 10.0	-1.5
MT02	Curacav	2.88	228			Pb		08 25 10.2	-1.8
MT02	Curacav	2.88	228	*e*P		Pb		08 25 09.2	-2.9
LCO	Las Campanas	2.96	321			Pb		08 25 12.3	-1.2
LCO	Las Campanas	2.96	321	*e*P		Pb		08 25 10.8	-2.7
VA01	Torpederas	3.08	236			Pb		08 25 12.6	-2.9
BO04	La Punta	3.14	212			Pb		08 25 13.6	-2.8
MT09	Talagante	3.16	219			Pb		08 25 13.8	-3.0
MT01	Popeta	3.37	221			Pb		08 25 15.9	+2.7
RFA	San Rafael	3.42	178	*e*P		Pn		08 25 14.2	+0.2
BO01	Tunca	3.69	214			Pn		08 25 20.4	+2.8
CYA	Choya	3.77	41	IAML				08 26 29.9	
	comp=Z,610nm,0.7s								
AC04	Llanos de Chal	3.80	325			Pn		08 25 23.3	+4.1
BO02	Sierra Bellavi	3.90	208			Pn		08 25 24.4	+3.9
GO03	Copiapo	4.00	339			Pn		08 25 24.9	+3.0
AC06	Mina Casimiro	4.26	338			Pn		08 25 28.5	+3.0
AC02	Maricunga	4.52	354			Pn		08 25 32.9	+3.4
GO05	Hualane	4.60	217	IAML				08 26 52.9	
	comp=Z,222nm,1.3s								
ML02	Panimavida	5.00	207			Pn		08 25 38.2	+2.6
AC01	Pan de Azucar	5.47	341			Pn		08 25 45.6	+3.6
BI02	San Fabin de	5.75	202			Pn		08 25 48.8	+2.7
GO02	Mina Guanaco	6.22	352	Pn		Pn		08 25 55.3	+2.6
PB14	IPOC Station P	6.88	346	Pn		Pn		08 26 03.5	+1.8
PB10	IPOC Station P	7.99	347	Pn		Pn		08 26 20.2	+3.4
AF01	San Pedro de A	8.37	3	Pn		Pn		08 26 23.9	+1.7
PB03	IPOC Station P	9.32	353			Pn		08 26 33.9	-1.2
PSAL	Palomas, Salto	9.41	91	*e*P		Pn		08 26 34.8	-1.4
PSAL				*e*S		Sn		08 28 26.3	+4.3
PLCA	Paso Flores	9.50	189	Pn		Pn		08 26 40.5	+3.0
PLCA	Paso Flores	9.50	189	Pn		Pn		08 26 39.0	+1.5
	comp=Z,0.2nm,0.3s,baz=338,slow=11,SNR=5.5								
PLCA				Lg		Lg		08 29 24.9	
	comp=Z,2.6nm,0.3s,baz=339,slow=12,SNR=4.4								
	comp=Z,2.1nm,0.7s								
CPUP	Villa Florida	11.06	66			Pn		08 26 56.3	-2.5
CPUP	Villa Florida	11.06	66	Pn		Pn		08 26 56.5	-2.3
	comp=Z,0.1nm,0.3s,baz=102,slow=10,SNR=6.0								
CPUP				Lg		Lg		08 30 11.2	
	comp=Z,0.7nm,0.3s,baz=175,slow=19,SNR=3.2								
	comp=Z,0.7nm,0.4s								
PB08	IPOC Station P	11.17	357	Pn		Pn		08 27 02.1	+1.4
PLTB	Pedras Altas	12.79	96			Pn		08 27 19.9	-2.6
PLTB	Pedras Altas	12.79	96	*e*P		Pn		08 27 20.1	-2.4
PLTB				*e*S		Sn		08 29 48.0	+3.2
PB16	IPOC Station P	12.98	356	Pn		Pn		08 27 24.2	-1.4
LPAZ	La Paz	14.99	2			Pn		08 27 52.5	-0.6
LPAZ	La Paz	14.99	2	Pn		Pn		08 27 52.7	-0.4
	comp=Z,0.2nm,0.3s,baz=173,slow=6.9,SNR=15								
	comp=Z,3.0nm,0.6s								
LPAZ	La Paz	14.99	2	*e*P		Pn		08 27 53.2	0.0
LPAZ				*e*S		Sn		08 30 46.5	+6.9
PTGB	Pitanga	16.01	70	*e*P		Pn		08 28 07.0	+1.1
PTGB				*e*S		S		08 31 11.0	-6.4
SIV	San Ignacio	16.75	26	Pn		Pn		08 28 12.1	-3.3
	comp=Z,0.1nm,0.3s,baz=194,slow=9.3,SNR=19								
	comp=Z,2.6nm,0.5s								
PTLB	Pontes e Lacer	18.03	31	P		Pn		08 28 29.4	-1.8
PTLB	Pontes e Lacer	18.03	31	*e*P		P		08 28 32.3	+0.6
PTLB				*e*S		S		08 32 01.7	+3.3
VILB	Vilhena	19.87	25	P		P		08 28 51.0	-0.9
VILB				IAmb		IAmb		08 29 07.8	
	comp=Z,14nm,0.7s								
VILB	Vilhena	19.87	25	*e*P		P		08 28 51.1	-0.9
VILB				*e*S		Sn		08 32 42.8	+5.9
PDRB	Porto dos Gac	22.49	32	*e*P		P		08 29 17.7	-2.6
PDRB				*e*S		S		08 33 33.4	+6.3
CZSB	Cruzeiro do Su	23.81	350	P		P		08 29 32.6	-1.0
CZSB				IAmb		IAmb		08 29 34.3	
	comp=Z,18nm,0.6s								
CZSB	Cruzeiro do Su	23.81	350	*e*P		P		08 29 33.2	-0.4
BDFB	Brasilia	24.44	55	P		P		08 29 38.0	-1.7
	comp=Z,1.3nm,0.4s,baz=218,slow=7.8,SNR=3.5								
	comp=Z,1.3nm,0.4s								
TBTG	Tabatinga, AM	27.04	357	P		P		08 30 01.7	-1.3
TBTG	Tabatinga, AM	27.04	357	*e*P		P		08 30 02.1	-1.0
TEFE	Tefe	27.94	8	*e*P		P		08 30 11.7	+0.7
MACA	Manacapuru-AM	29.01	16	P		P		08 30 19.4	-1.2
MACA				IAmb		IAmb		08 30 19.7	
	comp=Z,7.0nm,0.7s								
ITTB	Itaituba	29.43	27	*e*P		P		08 30 25.1	+0.7
FLOC	Florencia	33.43	347	P		P		08 31 01.6	+2.1
FLOC				IAmb		IAmb		08 31 03.3	
	comp=Z,4.8nm,0.8s								
BOAV	Boa Vista	34.42	14	P		P		08 31 06.4	-1.7
RUSC	La Rusia	37.27	353	P		P		08 31 31.4	-1.8
VNA3	Neumayer Olymp	50.75	159	⇑P		P		08 33 19.6	-0.6
	comp=Z,2.9nm,0.7s								
SNAA	Sanae	52.97	159	⇑P		P		08 33 36.0	-0.8
	comp=Z,17nm,0.4s								
SNAA	Sanae	52.97	159	P		P		08 33 35.7	-1.2
SNAA	Sanae	52.97	159	P		P		08 33 35.9	-0.8
	comp=Z,0.7nm,0.4s,baz=279,slow=9.3,SNR=12								
	comp=Z,0.7nm,0.4s								
TEIG	Tepich	54.65	337	P		P		08 33 48.9	-0.6
TROLL	Troll, Antarti	54.69	159	⇑P		P		08 33 48.8	-0.6
	comp=Z,94nm,0.6s								
QSPA	South Pole Qui	58.89	180	P		P		08 34 20.4	+1.0
QSPA				IAmb		IAmb		08 34 22.5	
	comp=Z,4.0nm,1.1s								
QSPA	South Pole Qui	58.89	180	P		P		08 34 20.1	+0.7
	comp=Z,2.1nm,0.6s,baz=328,slow=0.9,SNR=23								
	comp=Z,2.1nm,0.6s								
TXAR	Lajitas Array	68.95	327	P		P		08 35 25.1	-0.8
	comp=Z,0.3nm,0.7s,baz=148,slow=7.4,SNR=4.5								
	comp=Z,0.3nm,0.7s								
WVT	Waverly	69.50	343	P		P		08 35 27.9	-1.2
WVT				IAmb		IAmb		08 35 28.5	
	comp=Z,2.8nm,0.7s								
TORD	Torodi Ar. Bea	80.55	68	P		P		08 36 34.2	+0.9
	comp=Z,0.6nm,0.4s,baz=199,slow=5.9,SNR=15								
	comp=Z,0.6nm,0.4s								
KURBB	Kurchatov Arra	148.95	42	PKPbc		PKPbc		08 44 07.3	-0.8
	comp=Z,0.2nm,0.4s,baz=285,slow=1.4,SNR=1.6								
ZALV	Zalesovo Beam	150.43	32	PKPbc		PKPbc		08 44 11.4	-0.2
	comp=Z,0.8nm,0.4s,baz=323,slow=3.9,SNR=4.1								
MKAR	Makanchi Array	152.83	47	PKPbc		PKPbc		08 44 17.2	-0.3
	comp=Z,0.4nm,0.7s,baz=302,slow=1.4,SNR=2.5								

*IDC **28** 08:25:03.3±3.6,54°.47N×87°.14E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=32.1km s-min=20.9km az=49.0*

ASRS 28 08:25:03.0±0.9,54°.41N×86°.82E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.26	249	I	I	08 33 40.0	
	baz=68,slow=317,SNR=28						
ZALV	Zalesovo Beam	1.26	249	Pg	Pn	08 25 28.4	+0.5
	0.9nm,0.3s,baz=71,slow=16,SNR=11						
ZALV				Lg	Lg	08 25 50.1	
	0.7nm,0.3s,baz=71,slow=27,SNR=5.2						
KURBB	Kurchatov Arra	6.32	237	Pn	Pn	08 26 40.9	+3.5
	0.1nm,0.3s,baz=54,slow=14,SNR=4.4						
	0.8nm,0.6s						
MKAR	Makanchi Array	8.15	203	Pn	Pn	08 27 06.2	+3.7
	0.1nm,0.3s,baz=27,slow=13,SNR=2.5						
	0.1nm,0.3s						

IDC 28 08:31:02.3±3.4,54°.18N×86°.71E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=27.5km s-min=15.9km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.14	259	I	I	08 38 00.0	
	baz=79,slow=323,SNR=2.5						
ZALV	Zalesovo Beam	1.14	259	Pg	Pg	08 31 23.1	-0.9
	0.7nm,0.3s,baz=76,slow=18,SNR=6.4						
ZALV				Lg	Lg	08 31 40.0	
	1.1nm,0.3s,baz=77,slow=28,SNR=6.6						
KURBB	Kurchatov Arra	6.14	238	Pn	Pn	08 32 35.0	+0.9
	0.1nm,0.3s,baz=55,slow=13,SNR=2.5						
	0.4nm,0.4s						
MKAR	Makanchi Array	7.91	203	Pn	Pn	08 32 59.6	+1.1
	baz=23,slow=14,SNR=1.4						
	0.1nm,0.3s						
HNS	HongShan	25.50	120	SS	S	08 41 09.5	+9.4
HNS				LR	LR		
	comp=N,390nm,20.7s						
HNS				LR	LR		
	comp=E,260nm,20.7s						
HNS				LR	LR		
	comp=Z,500nm,22.3s						

*IDC **28** 08:31:10.1±1.5,17°.07S×177°.96W,h0km,mb3.8/7, mbtmp3.8/7,Error ellipse: s-maj=109.6km s-min=20.9km az=149.0*

ISC 28 08:31:15.3±1.5,17°.1S±0°.6×178°.0W±0°.4,h35km,n7, σ0s80/7,mb3.7/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.38	240	P	P	08 38 42.0	+0.2
	1.0nm,0.4s,baz=102,slow=8.8,SNR=6.0						
	1.0nm,0.4s						
WRA	Warramunga Arr	45.19	259	P	P	08 39 29.2	0.0
	0.3nm,0.3s,baz=97,slow=6.7,SNR=5.6						
	0.3nm,0.3s						
ASAR	Alice Springs	45.41	253	P	P	08 39 30.9	-0.1
	4.6nm,0.6s,baz=88,slow=8.3,SNR=83						
	4.6nm,0.6s						
NVAR	Mina Array Bea	78.57	44	P	P	08 43 15.1	+1.4
	0.3nm,0.7s,baz=253,slow=5.9,SNR=1.7						
	0.3nm,0.7s						
ILAR	Eielson Array	85.03	13	P	P	08 43 46.5	-0.3
	0.1nm,0.4s,baz=222,slow=4.6,SNR=6.2						
	0.1nm,0.4s						
TXAR	Lajitas Array	85.22	58	P	P	08 43 48.1	-0.6
	0.8nm,1.0s,baz=221,slow=8.1,SNR=6.8						
	0.8nm,1.0s						
PDAR	Pinedale Array	86.50	43	P	P	08 43 54.8	-0.2
	0.3nm,0.6s,baz=193,slow=4.6,SNR=4.0						
	0.3nm,0.6s						

*ASRS **28** 08:34:36.0±1.1,53°.98N×86°.59E,h0km,M2.3,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 28 08:34:37.5±3.0,53°.95N×86°.81E,h0km,mbtmp2.9/2, ML2.7/2,Error ellipse: s-maj=26.1km s-min=14.9km az=66.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.18	271	I	I	08 41 50.0	
	baz=89,slow=324,SNR=8.9						
ZALV	Zalesovo Beam	1.18	271	Pg	Pg	08 34 58.8	-1.3
	1.0nm,0.3s,baz=89,slow=16,SNR=8.3						
ZALV				Lg	Lg	08 35 16.6	
	1.5nm,0.3s,baz=91,slow=29,SNR=6.1						
KURBB	Kurchatov Arra	6.08	240	Pn	Pn	08 36 09.6	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=3.7						
	0.6nm,0.3s						
MKAR	Makanchi Array	7.72	204	Pn	Pn	08 36 32.4	+1.2
	0.1nm,0.3s,baz=19,slow=14,SNR=4.3						
	0.2nm,0.3s						

*IDC **28** 08:39:43.5±1.2,60°.32S×26°.50W,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=48.0km s-min=29.2km az=77.0*

ISC 28 08:39:44.1±0.9,60°.5S±0°.2×26°.1W±0°.3,h10km,n11, σ1s55/11,mb3.5/3,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	12.54	152	⇑P	Pn	08 42 41.5	-0.7
	comp=Z,3.0nm,0.3s						
VNA3	Neumayer Olymp	12.67	155	⇑P	Pn	08 42 42.6	-1.5
	comp=Z,9.4nm,0.7s						
VNA2	Neumayer--Watz	12.94	152	⇑P	Pn	08 42 46.7	-1.0
	comp=Z,1.3nm,0.5s,baz=308,slow=14						
SNAA	Sanae	14.53	150	⇑P	Pn	08 43 08.3	-1.1
	comp=Z,30nm,0.6s						
SNAA	Sanae	14.53	150	Pn	Pn	08 43 07.5	-2.0
	comp=Z,0.2nm,0.3s,baz=316,slow=15,SNR=13						
TROLL	Troll, Antarti	16.10	148	⇑P	Pn	08 43 29.4	-0.9
	comp=Z,129nm,0.8s						
QSPA	South Pole Qui	29.78	180	P	P	08 45 53.2	+2.5
	comp=Z,0.4nm,0.5s,baz=73,slow=4.3,SNR=7.5						
	comp=Z,0.4nm,0.5s						
CPUP	Villa Florida	40.24	314	P	P	08 47 20.0	-0.7
	comp=Z,0.2nm,0.4s,baz=173,slow=1.2,SNR=3.2						
	comp=Z,0.2nm,0.4s						
LPAZ	La Paz	53.45	307	P	P	08 49 04.2	-0.7
	comp=Z,0.7nm,0.8s,baz=180,slow=8.0,SNR=2.8						
	comp=Z,0.7nm,0.8s						
TORD	Torodi Ar. Bea	76.65	28	P	P	08 51 36.0	+1.3
	comp=Z,0.7nm,0.5s,baz=202,slow=6.0,SNR=7.8						
	comp=Z,0.7nm,0.5s						
ILAR	Eielson Array	153.32	305	PKPbc	PKPbc	08 59 39.9	-0.7
	comp=Z,0.1nm,0.5s,baz=90,slow=1.8,SNR=4.1						

IDC 28 08:50:12.5±3.7,54°.15N×87°.48E,h0km,mbtmp2.7/2, ML2.2/2,Error ellipse: s-maj=32.5km s-min=19.8km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.58	264	I	I	09 00 00.0	
	baz=81,slow=324,SNR=6.6						
ZALV	Zalesovo Beam	1.58	264	Pg	Pn	08 50 39.7	-2.1
	1.1nm,0.3s,baz=84,slow=16,SNR=9.6						
ZALV				Lg	Lg	08 51 03.4	
	1.3nm,0.3s,baz=85,slow=28,SNR=5.1						
KURBB	Kurchatov Arra	6.52	241	Pn	Pn	08 51 50.4	+0.9
	baz=56,slow=14,SNR=2.8						
	0.4nm,0.3s						
MKAR	Makanchi Array	8.07	206	Pn	Pn	08 52 12.3	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=1.3						
	0.1nm,0.2s						

*CATAC **28** 08:51:23.9±1.5,14°.N±4°.×9°.1W±°.,h16km±14km,M3.2/6, MLv3.2/6,Error ellipse: s-maj=11.3km s-min=7.5km az=45.7,confirmed*

*GCG **28** 08:51:28.3±3.1,13°.72N×91°.20W,h66km±56km,MD3.6*

ISC 28 08:51:24.5±2.5,13°.5N±0°.1×91°.34W±0°.10,h28km,n17, σ1s00/19,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSG	Sabana Grande	1.00	29	*i* P	Pn	08 51 42.3	-0.5
ESSG				*i* S	Sb	08 51 56.7	+0.6
SOKI	Kika Raxquin	1.31	357	*i* P	Pn	08 51 46.7	-0.7
FAME	Alcaldia de Sa	1.33	75	P	Pb	08 51 48.3	-0.5
FAME	Alcaldia de Sa	1.33	75	S	Sb	08 52 06.6	+1.2
NUBE	Las Nubes	1.56	75	*i* P	Pn	08 51 51.7	+1.1
NUBE	Las Nubes	1.56	75	P	Pb	08 51 51.8	-1.0
SLOZ	Alcaldia de Sa	1.59	71	P	Pb	08 51 52.9	-0.5
SLOZ	Alcaldia de Sa	1.59	71	S	Sb	08 52 14.1	+1.0
QUIS	Sacapulas	1.79	8	*i* P	Pb	08 51 55.4	-1.4
HUEH	Huehuetenango	1.81	355	*i* P	Pn	08 51 54.0	-0.1
JAYA	Jayaque - finc	1.84	85	*e*P	Pb	08 51 56.2	-1.4
JAYA				*i* S	Sb	08 52 19.9	-0.4
JAYA	Jayaque - finc	1.84	85	P	Pn	08 51 55.3	+0.9
PMON	Piamonte	1.98	84	P	Pn	08 51 56.7	+0.5
MTO3	Montecristo	2.11	65	*i* S	Sb	08 52 28.9	+0.7
AVCB	Coban	2.15	25	*e*P	Pb	08 52 03.3	+0.4
SARH	Santa Rosa de	2.80	63	*i* P	Pn	08 52 06.4	-1.1
CCIG	Comitan	2.87	344	*i* P	Pn	08 52 10.2	+1.7

*ASRS **28** 08:55:45.0±0.9,54°.28N×86°.16E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 28 08:55:46.6±2.6,54°.33N×86°.26E,h0km,mbtmp3.2/2, ML3.1/2,1C-1D,Error ellipse: s-maj=20.4km s-min=13.2km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.93	246	I	I	09 01 40.0	
	baz=67,slow=324,SNR=0.8						
ZALV	Zalesovo Beam	0.93	246	Pg	Pg	08 56 02.5	-1.9
	1.6nm,0.3s,baz=62,slow=17,SNR=22						
ZALV				Lg	Lg	08 56 18.0	
	3.4nm,0.3s,baz=64,slow=29,SNR=10						
KURBB	Kurchatov Arra	6.01	235	Pn	Pn	08 57 17.8	+1.1
	0.2nm,0.3s,baz=51,slow=13,SNR=7.4						
KURBB				Lg	Lg	08 58 58.7	
	baz=50,slow=30,SNR=2.4						
	0.7nm,0.3s						
MK31	Makanchi Array	7.96	200	⇑Pg	Pn	08 57 34.3	-9.2
	0.6nm,0.5s,baz=169,slow=15,SNR=9.4						
MK31				⇓Lg	Lg	08 58 38.2	
	1.8nm,0.6s,baz=160,slow=31,SNR=4.9						
MKAR	Makanchi Array	7.96	200	Pn	Pn	08 57 44.5	+1.0
	0.6nm,0.3s,baz=24,slow=14,SNR=13						
MKAR				Lg	Lg	09 00 00.7	
	baz=26,slow=28						
	0.7nm,0.3s						

*IDC **28** 09:05:50.8±3.6,54°.47N×87°.15E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=32.3km s-min=21.6km az=45.0*

ASRS 28 09:05:50.0±1.3,54°.36N×86°.95E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.32	253	I	I	09 14 50.0	
	baz=70,slow=319,SNR=14						
ZALV	Zalesovo Beam	1.32	253	Pg	Pn	09 06 17.1	+1.5
	0.8nm,0.3s,baz=73,slow=16,SNR=8.4						
ZALV				Lg	Lg	09 06 38.2	
	1.0nm,0.3s,baz=68,slow=32,SNR=6.1						
KURBB	Kurchatov Arra	6.36	237	Pn	Pn	09 07 27.4	+2.5
	0.1nm,0.3s,baz=54,slow=14,SNR=6.1						
	0.5nm,0.5s						
MKAR	Makanchi Array	8.13	203	Pn	Pn	09 07 54.5	+5.2
	0.1nm,0.3s,baz=22,slow=13,SNR=1.8						
	0.1nm,0.3s						

*AEIC **28** 09:06:34.6±1.0,54°.68N±0°.05×160°.07W±0°.08,h24km±8km, Error ellipse: s-maj=8.0km s-min=6.2km az=206.0*

NEIC 28 09:06:35.0±1.0,54°.70N±0°.05×160°.06W±0°.05,h33km±3km, ML2.6/12,ML2.1(AEIC),Error ellipse: s-maj=8.2km s-min=3.0km az=201.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNBA	Chernabura Isl	0.29	66		Pb	09 06 42.1	-0.6
CNBA					Sb	09 06 48.1	+0.1
CNBA				IAML		09 06 48.2	
	comp=N,172nm,0.7s						
SDPT	Sand Point	0.69	340		Pn	09 06 48.0	-0.4
SDPT					Sn	09 06 57.6	-0.4
DOL	Dolgoi Island	1.14	294		Pn	09 06 54.0	-0.6
PS1A	Pavlof South-1	1.21	307		Pn	09 06 55.8	+0.3
PS1A					Sb	09 07 12.9	+0.3
PS4A	Pavlof South-4	1.22	303		Pn	09 06 56.0	+0.3
PS4A					Sn	09 07 11.3	+0.2
HAG	Hague Volcano	1.23	301		Pn	09 06 56.0	+0.1
DT1	Dutton Round H	1.35	288		Pn	09 06 57.0	-0.5
DT1					Sn	09 07 14.1	-0.1
S12K	Black Hills	1.52	312		Pn	09 07 01.0	+1.1
S12K				IAML		09 07 25.7	
	comp=E,94nm,0.3s						
S12K				IAML		09 07 27.3	
	comp=N,60nm,0.4s						
VNFG	Fog Glacier, M	1.61	10		Pn	09 07 01.4	+0.2
VNFG				IAML		09 07 39.3	
	comp=N,110nm,1.1s						
CHGN	Chignik	1.85	30	Pn	Pn	09 07 04.3	-0.1
CHGN				IAML		09 07 40.9	
	comp=E,59nm,0.1s						
CHGN				IAML		09 07 43.0	
	comp=N,87nm,0.1s						
FALS	False Pass	1.95	276		Pn	09 07 04.9	-0.9
OHAK	Old Harbor	4.56	54	Pn	Pn	09 07 41.8	+0.2
N14K	Kuskokwak Cree	5.31	351	Pn	Pn	09 07 52.2	+0.4

IDC 28 09:10:16.3±3.1,53°.60N×87°.89E,h0km,mbtmp2.8/2, ML2.6/2,Error ellipse: s-maj=28.1km s-min=17.8km az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.85	282	I	I	09 22 40.0	
	baz=97,slow=323,SNR=6.2						
ZALV	Zalesovo Beam	1.85	282	Pn	Pn	09 10 49.4	0.0
	1.2nm,0.3s,baz=101,slow=11,SNR=14						
ZALV				Lg	Lg	09 11 14.7	
	4.1nm,0.3s,baz=102,slow=27,SNR=16						
KURBB	Kurchatov Arra	6.49	246	Pn	Pn	09 11 53.5	+0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=2.7						
KURBB				Lg	Lg	09 13 42.6	
	0.1nm,0.3s,baz=64,slow=33,SNR=8.2						
	0.4nm,0.3s						
MKAR	Makanchi Array	7.70	210	Pn	Pn	09 12 10.9	+1.3
	0.1nm,0.3s,baz=29,slow=14,SNR=4.7						
MKAR				Lg	Lg	09 14 20.4	
	0.1nm,0.3s,baz=36,slow=30,SNR=5.8						
	0.2nm,0.3s						

*IDC **28** 09:24:00.6±0.5,60°.30S×26°.47W,h0km,mb4.7/11, mbtmp4.7/11,MS4.1/20,Error ellipse: s-maj=22.0km s-min=15.2km az=60.0*

*NEIC **28** 09:24:02.3±1.3,60°.3S±0°.1×26°.42W±0°.08,h10km±1km, mb5.3/80,Error ellipse: s-maj=19.2km s-min=3.9km az=196.0*

ISC 28 09:24:03.4±0.3,60°.37S±0°.07×26°.39W±0°.07,h20km,n433, σ1s40/399,mb5.2/47,MS4.1/18,5C-4D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	8.19	314	Pn	Pn	09 25 59.4	-1.5
VNA1	Neumayer--Stat	12.69	152	⇑P	Pn	09 26 58.7	-3.6
	comp=Z,299nm,0.9s						
VNA3	Neumayer Olymp	12.81	155	⇑P	Pn	09 26 59.0	-5.2
	comp=Z,244nm,0.7s						
VNA2	Neumayer--Watz	13.08	152	⇑P	Pn	09 27 03.4	-4.5
	comp=Z,48nm,0.6s,baz=313,slow=15						
ESPZ	Base

PSAL **Palomas, Salto** 35.87 311 *e*P P 09 31 01.0 -0.6
MAW **Mawson** 36.48 140 P P 09 31 06.8 +0.3
comp=Z,4.9nm,1.3s
MAW **Mawson** 36.48 140 P P 09 31 06.3 -0.2
comp=Z,17nm,0.9s,baz=227,slow=6.6,SNR=13
MAW LR LR 09 44 47.2
comp=Z,350nm,18.9s,baz=254,slow=34
comp=Z,17nm,0.9s
ITAB **Concordia** 37.48 321 P P 09 31 14.6 -0.8
ITAB **Concordia** 37.48 321 *e*P P 09 31 20.3 +4.9
ML02 **Panimavida** 37.77 290 P P 09 31 17.0 -0.8
BO02 **Sierra Bellavi** 38.27 292 P 09 31 21.8 -0.3
BO01 **Tunca** 38.74 292 P P 09 31 24.9 -1.0
BO01 IAmb IAmb 09 31 41.3
comp=Z,59nm,1.2s
LMEL **Las Melosas** 38.78 293 P P 09 31 27.0 +0.5
BO04 **La Punta** 38.85 293 P P 09 31 26.4 -0.6
BO04 IAmb IAmb 09 31 46.4
comp=Z,53nm,0.9s
MT13 **San Alfonso** 38.91 293 P P 09 31 27.8 +0.2
MT08 **Bocatoma Ro** 39.03 294 P P 09 31 29.2 +0.4
MT08 IAmb IAmb 09 31 41.7
comp=Z,48nm,0.8s
MT09 **Talagante** 39.20 292 P P 09 31 29.6 -0.4
MT09 IAmb IAmb 09 31 36.7
comp=Z,115nm,1.1s
MT03 **Universidad Ad** 39.22 293 P P 09 31 30.0 -0.1
MT03 IAmb IAmb 09 31 33.2
comp=Z,110nm,1.1s
MT01 **Popeta** 39.25 292 P 09 31 29.9 -0.4
MT01 IAmb IAmb 09 31 39.0
comp=Z,51nm,0.8s
MT16 **CCHEN** 39.28 293 P P 09 31 30.5 -0.1
MT05 **Renca** 39.41 293 P P 09 31 31.9 +0.2
PEL **Peldehue** 39.59 293 P P 09 31 33.1 -0.1
PEL IAmb IAmb 09 31 46.0
comp=Z,78nm,0.7s
MT02 **Curacav** 39.70 293 P P 09 31 34.1 0.0
PTGB **Pitanga** 39.81 322 *e*P P 09 31 37.2 +2.0
VA03 **San Esteban** 39.85 294 P P 09 31 35.8 +0.4
VA03 IAmb IAmb 09 31 45.8
comp=Z,83nm,0.8s
VAO **Valinhos** 40.02 330 *e*P P 09 31 42.4 +5.6
CPUP **Villa Florida** 40.06 314 P 09 31 37.0 -0.1
CPUP **Villa Florida** 40.06 314 P P 09 31 36.6 -0.5
comp=Z,1.2nm,0.5s,baz=11,slow=7.8,SNR=11
CPUP LR LR 09 47 05.5
comp=Z,97nm,20.8s,baz=16,slow=35
comp=Z,1.2nm,0.5s
VA06 **Catapilco** 40.36 293 P P 09 31 38.8 -0.6
VA06 IAmb IAmb 09 31 47.8
comp=Z,46nm,0.9s
CO02 **Combarbal** 41.37 294 P 09 31 48.0 0.0
CO02 IAmb IAmb 09 32 03.8
comp=Z,53nm,1.0s
CO03 **El Pedregal** 41.54 295 IAmb IAmb 09 32 05.7
comp=Z,31nm,0.7s
SBA **Scott Base** 41.79 184 P P 09 31 50.9 +0.2
CO01 **Juntas del Tor** 42.01 296 P P 09 31 52.8 -0.6
CO01 IAmb IAmb 09 31 58.5
comp=Z,42nm,0.8s
CO06 **Fray Jorge** 42.10 294 IAmb IAmb 09 32 04.3
comp=Z,35nm,0.8s
GO04 **Tololo Observa** 42.15 295 P P 09 31 54.8 +0.2
GO04 IAmb IAmb 09 32 11.3
comp=Z,46nm,0.7s
VNDA **Vanda** 42.26 183 P P 09 31 55.7 +1.1
VNDA **Vanda** 42.26 183 P P 09 31 56.5 +1.9
comp=Z,9.9nm,0.9s,baz=182,slow=6.9,SNR=24
VNDA LR LR 09 48 06.9
comp=Z,96nm,20.6s,baz=177,slow=34
comp=Z,9.9nm,0.9s
BB19B **Bebedouro** 42.27 328 *e*P P 09 31 59.9 +4.6
AMBA **Amambai (Brazi** 42.41 319 *e*P P 09 31 58.5 +2.0
LCO **Las Campanas** 43.10 296 P P 09 32 02.2 -0.1
AC04 **Llanos de Chal** 43.96 297 P P 09 32 09.0 +0.1
ITRB **Iturama** 44.06 327 *e*P P 09 32 13.3 +3.6
GO03 **Copiapo** 44.12 298 IAmb IAmb 09 32 22.5
comp=Z,32nm,0.8s
PMNB **Patos De Minas** 44.19 332 *e*P P 09 32 16.7 +5.9
RPRD **Ribas do Rio P** 44.29 322 *e*P P 09 32 15.3 +3.7
AC02 **Maricunga** 44.30 300 P 09 32 11.9 -0.3
AC02 IAmb IAmb 09 32 23.7
comp=Z,53nm,0.9s
AC06 **Mina Casimiro** 44.38 298 IAmb IAmb 09 32 27.8
comp=Z,31nm,0.9s
AQDB **Aquidauana** 44.93 319 P P 09 32 17.1 +0.4
AQDB IAmb IAmb 09 32 30.2
comp=Z,51nm,1.5s
IPMB **Ipameri, GO** 45.14 330 *e*P P 09 32 22.6 +4.1
BDQN **Bodoquena, MS** 45.30 318 *e*P P 09 32 18.9 -0.6
H04S2 **CROZET ISLANDS** 45.54 110 T T 10 21 33.6
baz=224,slow=74,SNR=14
H04S3 **CROZET ISLANDS** 45.55 110 T T 10 21 32.3
baz=224,slow=74,SNR=7.8
H04S1 **CROZET ISLANDS** 45.56 110 T T 10 21 32.6
baz=224,slow=74,SNR=7.6
GO02 **Mina Guanaco** 45.96 300 P P 09 32 25.2 0.0
BOSA **Boshof** 46.80 71 P P 09 32 31.9 +0.3
BOSA IAmb IAmb 09 32 32.5
comp=Z,22nm,0.8s
BOSA **Boshof** 46.80 71 P P 09 32 31.9 +0.3
comp=Z,19nm,0.7s,baz=211,slow=7.5,SNR=34
BOSA LR LR 09 48 08.4
comp=Z,156nm,18.6s,baz=206,slow=31
comp=Z,19nm,0.7s
BDFB **Brasilia** 47.35 331 P P 09 32 35.7 -0.2
comp=Z,1.2nm,0.3s,baz=138,slow=5.8,SNR=8.7
BDFB LR LR 09 51 33.5
comp=Z,196nm,18.5s,baz=146,slow=35
comp=Z,1.2nm,0.3s
ARAG **Araguaiana, MT** 48.27 326 *e*P P 09 32 45.5 +2.6
PHPEN **Phepeng** 48.36 66 P P 09 32 44.1 +0.4
PHPEN IAmb IAmb 09 32 44.7
comp=Z,35nm,1.1s
SALV **Santo Antonio** 49.22 322 *e*P P 09 32 53.7 +3.5
KOOLE **Kule** 49.33 62 *i* P P 09 32 51.5 +0.4
KOOLE **Kule** 49.33 62 IAmb IAmb 09 32 52.2
comp=Z,21nm,0.8s
SKOMA **Sekoma** 49.68 67 *i* P P 09 32 54.2 +0.4
CASY **Casey** 49.70 159 P P 09 32 54.1 +0.8
CASY IAmb IAmb 09 32 55.5
comp=Z,25nm,0.8s
CASY **Casey** 49.70 159 *e*LR LR 09 47 04.6
comp=Z,486nm,23.0s
LBTB **Lobatse** 50.02 69 P P 09 32 55.0 -1.3
LBTB **Lobatse** 50.02 69 LR LR 09 50 14.2
comp=Z,112nm,18.4s,baz=206,slow=32
PATCX **Punta Patache** 50.03 302 P P 09 32 56.8 +0.4
PATCX IAmb IAmb 09 33 10.0
comp=Z,42nm,1.0s
PB08 **IPOC Station P** 50.22 304 IAmb IAmb 09 33 10.2
comp=Z,23nm,0.8s
GO01 **Chusmiza** 50.66 304 IAmb IAmb 09 33 15.7
comp=Z,30nm,0.7s
PTLB **Pontes e Lacer** 50.75 318 P 09 33 01.5 -0.3
PTLB IAmb IAmb 09 33 14.1
comp=Z,29nm,0.9s
PB11 **IPOC Station P** 50.77 304 IAmb IAmb 09 33 13.4
comp=Z,34nm,0.8s
SIV **San Ignacio** 50.91 315 LR LR 09 54 54.2
comp=Z,194nm,19.6s,baz=149,slow=36
KDWAN **Kaudwane** 50.99 67 *i* P P 09 33 04.2 +0.5
GRTLG **Ghanzi** 51.20 62 *i* P P 09 33 05.7 +0.4
LPHEP **Lephephe** 51.55 68 *i* P P 09 33 08.4 +0.5
SNDB **Serra Nova Dou** 51.69 328 *e*P P 09 33 13.6 +4.7
H10S2 **ASCENSION HYDR** 52.05 15 T T 10 30 15.4
baz=33,slow=74,SNR=6.0
H10S3 **ASCENSION HYDR** 52.06 15 T T 10 30 12.7
baz=187,slow=74,SNR=6.0
CKGRV **CKGRV** 52.30 65 *i* P P 09 33 14.1 +0.6
QNGWA **Qangwa** 52.80 61 *i* P P 09 33 18.2 +1.0
MREMI **Moremi** 52.97 69 IAmb IAmb 09 33 20.0
comp=Z,37nm,1.0s
LPAZ **La Paz** 53.28 307 P P 09 33 21.1 -0.2
LPAZ IAmb IAmb 09 33 46.1
comp=Z,25nm,0.9s
LPAZ **La Paz** 53.28 307 P P 09 33 21.3 0.0
comp=Z,8.2nm,0.9s,baz=159,slow=8.2,SNR=16
LPAZ LR LR 09 58 18.7
comp=Z,154nm,18.4s,baz=148,slow=39
comp=Z,8.2nm,0.9s
LPAZ **La Paz** 53.28 307 *e*P P 09 33 20.6 -0.7
VILB **Vilhena** 53.43 318 P 09 33 20.8 -1.0
VILB **Vilhena** 53.43 318 *e*P P 09 33 23.6 +1.8

PHDHD **Phuduhudu** 53.70 65 P P 09 33 23.5 -0.3
SMTB **Santa Maria do** 53.80 334 *e*P P 09 33 27.6 +3.2
CLDB **Colider** 54.00 323 *e*P P 09 33 26.6 +0.7
BROLN **Tlhalogang** 54.19 68 *i* P P 09 33 27.4 0.0
MATP **Matopo** 55.31 69 LR LR 09 53 19.9
comp=Z,82nm,19.4s,baz=224,slow=32
KSANE **Kasane** 56.08 64 ⇓*i*P P 09 33 42.0 +1.0
KSANE **Kasane** 56.08 64 P P 09 33 41.3 +0.3
KSANE IAmb IAmb 09 33 42.6
comp=Z,25nm,0.8s
LSZ **Lusaka** 59.66 66 P P 09 34 05.7 -0.5
LSZ IAmb IAmb 09 34 07.8
comp=Z,20nm,0.8s
LSZ **Lusaka** 59.66 66 LR LR 09 56 07.5
comp=Z,192nm,18.5s,baz=178,slow=32
ITTB **Itaituba** 60.16 326 *e*P P 09 34 13.5 +4.0
MACA **Manacapuru-AM** 62.78 321 P 09 34 26.4 -0.8
MACA IAmb IAmb 09 34 37.4
comp=Z,22nm,0.8s
MACA **Manacapuru-AM** 62.78 321 *e*P P 09 34 28.8 +1.6
CZSB **Cruzeiro do Su** 62.87 306 P P 09 34 26.1 -1.7
CZSB IAmb IAmb 09 34 36.3
comp=Z,19nm,0.7s
CZSB **Cruzeiro do Su** 62.87 306 *e*P P 09 34 26.3 -1.5
ATAH **Atahualpa** 65.76 301 LR LR 10 07 15.3
comp=Z,82nm,18.3s,baz=128,slow=40
BOAV **Boa Vista** 67.98 323 P P 09 34 59.7 -1.2
BOAV IAmb IAmb 09 35 09.5
comp=Z,24nm,0.7s
BOAV **Boa Vista** 67.98 323 *e*P P 09 35 02.3 +1.5
MDP **Montagnes des** 68.45 332 LR LR 10 03 01.9
comp=Z,130nm,19.6s,baz=163,slow=34
DBIC **Dimbokro** 68.96 23 LR LR 09 57 48.8
comp=Z,89nm,20.4s,baz=206,slow=29
OTAV **Otavalo** 72.43 304 P P 09 35 28.7 0.0
OTAV IAmb IAmb 09 35 50.5
comp=Z,24nm,1.1s
OTAV **Otavalo** 72.43 304 *e*P P 09 35 25.2 -3.5
FLOC **Florencia** 72.52 307 P P 09 35 28.0 -0.7
RUSC **La Rusia** 75.49 312 P 09 35 44.7 -1.9
RUSC IAmb IAmb 09 35 58.8
comp=Z,50nm,1.4s
TORD **Torodi Ar. Bea** 76.65 28 P 09 35 53.0 +0.5
TORD IAmb IAmb 09 35 58.1
comp=Z,20nm,0.8s
TORD **Torodi Ar. Bea** 76.65 28 P P 09 35 53.2 +0.8
comp=Z,20nm,0.7s,baz=199,slow=5.8,SNR=78
comp=Z,20nm,0.7s
SNZO **South Karori** 77.21 196 *e*LR LR 09 59 45.0
comp=Z,6.1nm,26.0s
SDV **Santo Domingo** 77.38 315 LR LR 10 12 40.9
comp=Z,272nm,18.6s,baz=98,slow=38
SMRT **St. Maarten** 83.58 325 P P 09 36 28.9 -0.9
TBI **Tubuai** 84.68 231 *e*LR LR 10 03 08.2
comp=Z,597nm,37.8s
STKA **Stephens Creek** 87.56 170 P P 09 36 49.6 -0.1
comp=Z,4.4nm,0.9s,baz=164,slow=5.4,SNR=5.2
comp=Z,4.4nm,0.9s
PPT2 **Papeete2** 89.93 233 *e*LR LR 10 05 40.6
comp=Z,116nm,26.0s
PPT2 *e*LR LR 10 05 43.6
comp=Z,104nm,29.2s
RAR **Rarotonga** 90.36 223 *e*LR LR 10 05 49.1
comp=Z,105nm,26.0s
MDT **Midelt** 94.56 18 LR LR 10 16 13.3
comp=Z,82nm,19.1s,baz=26,slow=33
ASAR **Alice Springs** 94.73 162 P P 09 37 22.9 -0.4
comp=Z,1.7nm,0.7s,baz=181,slow=3.9,SNR=24
ASAR PP PP 09 41 13.8 +3.0
comp=Z,1.0nm,1.0s,baz=179,slow=7.9,SNR=5.2
ASAR PKKPbc PKKPbc 09 54 26.9 +10
comp=Z,0.4nm,0.8s,baz=348,slow=1.5,SNR=6.0
ASAR LR LR 10 18 48.6
comp=Z,388nm,18.3s,baz=234,slow=35
comp=Z,1.7nm,0.7s
NIUE **Niue** 95.51 214 *e*LR LR 10 07 59.9
comp=Z,138nm,23.9s
WRA **Warramunga Arr** 98.45 162 PP PP 09 41 45.1 +5.6
comp=Z,1.3nm,0.9s,baz=186,slow=7.1,SNR=4.6
TXAR **Lajitas Array** 109.11 296 PP PP 09 43 00.0 -0.1
comp=Z,0.3nm,0.9s,baz=148,slow=5.0,SNR=3.5
BRTR **Keskin Array B** 111.16 46 PP PP 09 43 15.9 +1.0
comp=Z,1.0nm,0.7s,baz=167,slow=6.1,SNR=4.9
AKASG **Malin Array Be** 119.42 37 PKP PKiKP 09 42 50.1 0.0
comp=Z,1.7nm,0.7s,baz=244,slow=1.5,SNR=4.6
PDAR **Pinedale Array** 122.93 299 PKP PKPdf 09 42 56.6 -0.8
comp=Z,0.5nm,0.5s,baz=131,slow=6.0,SNR=6.3
CMAR **Chiang Mai Arr** 123.08 112 PKiKP 09 42 58.5 +0.1
CMAR **Chiang Mai Arr** 123.08 112 PKP PKPdf 09 42 57.6 -0.5
comp=Z,0.4nm,0.7s,baz=227,slow=3.9,SNR=17
NVAR **Mina Array Bea** 123.38 290 PKP PKiKP 09 42 59.4 +0.8
comp=Z,0.4nm,0.8s,baz=73,slow=2.0,SNR=2.5
HFS **Hagfors** 124.12 23 PKP PKPdf 09 42 58.0 -0.8
comp=Z,2.4nm,0.8s,baz=172,slow=4.5,SNR=4.3
NB2 **NORSAR Subarra** 124.51 21 PKPdf PKiKP 09 43 00.3 +0.5
comp=Z,4.1nm,1.1s,baz=202,slow=1.9
NOA **NORSAR Array B** 124.51 21 PKP PKiKP 09 43 00.3 +0.5
comp=Z,2.0nm,0.8s,baz=192,slow=1.7,SNR=8.0
EVN **Everest** 125.30 95 PKiKP 09 43 03.0 -0.3
PLID **Pearl Lake** 127.60 297 PKiKP 09 43 07.6 +0.8
FINES **FINESS Array B** 128.00 29 PKP PKiKP 09 43 06.7 0.0
comp=Z,6.0nm,0.7s,baz=112,slow=2.1,SNR=17
FIA1 **FINESS Array S** 128.00 29 PKiKP 09 43 06.8 +0.1
BMO **Blue Mountains** 128.00 296 PKPdf PKiKP 09 43 08.4 +0.9
AB31 **Akbulak array** 129.40 58 PKiKP 09 43 09.4 -0.5
ABKAR **Akbulak array** 129.40 58 PKiKP 09 43 09.9 -0.1
AKTO **Aktyubinsk** 129.51 56 PKP PKiKP 09 43 10.2 +0.1
comp=Z,5.2nm,0.9s,baz=223,slow=2.4,SNR=12
AAK **Ala-Archa** 130.91 74 PKP PKiKP 09 43 13.4 -0.1
comp=Z,1.1nm,0.3s,baz=222,slow=5.0,SNR=4.0
PZH **PanZhiHua** 131.31 110 PKP PKPdf 09 43 13.3 -0.5
ARCES **ARCESS Array B** 134.79 23 PKP PKPdf 09 43 17.7 -1.1
comp=Z,3.9nm,0.8s,baz=222,slow=3.3,SNR=7.5
ARCES SKPbc SKPab 09 46 49.5 -1.8
comp=Z,2.7nm,0.9s,baz=233,slow=4.4,SNR=4.0
CD2 **Chengdu** 135.97 109 *e*PKP PKPdf 09 43 22.0 -0.3
BVAR **Borovoye Array** 136.64 61 PKhKP PKPpre 09 43 11.2
comp=Z,2.4nm,1.0s,baz=252,slow=3.0,SNR=5.2
BVAR PKP PKPdf 09 43 21.7 -1.0
comp=Z,3.4nm,0.8s,baz=248,slow=1.6,SNR=8.6
BVAR SKPbc SKiKP 09 46 57.1 -1.9
comp=Z,2.4nm,0.8s,baz=224,slow=4.1,SNR=6.4
MKAR **Makanchi Array** 137.72 75 PKP PKiKP 09 43 26.1 -0.8
comp=Z,2.6nm,1.0s,baz=256,slow=3.6,SNR=9.8
WMQ **Urumqi** 138.21 83 *e*PKP PKiKP 09 43 27.8 -0.3
KURBB **Kurchatov Arra** 138.63 69 PKhKP PKPpre 09 43 16.9
comp=Z,0.5nm,0.6s,baz=240,slow=3.5,SNR=7.6
KURBB PKP PKiKP 09 43 27.7 -0.9
comp=Z,1.5nm,0.8s,baz=236,slow=3.2,SNR=8.3
KURBB SKPbc SKiKP 09 47 03.4 +0.2
comp=Z,0.5nm,0.8s,baz=226,slow=3.0,SNR=4.2
YKA **Yellowknife Ar** 139.59 314 PKiKP 09 43 28.9 -1.3
YKA **Yellowknife Ar** 139.59 314 PKP PKiKP 09 43 29.6 -0.6
comp=Z,1.7nm,0.9s,baz=114,slow=1.3,SNR=8.4
YKA PP PP 09 46 31.2 +7.1
comp=Z,1.4nm,0.8s,baz=126,slow=5.8,SNR=6.3
XAN **Xi'an** 140.97 112 PKP PKPdf 09 43 28.3 -3.1
TOAD **Toad River Com** 141.36 305 P PKiKP 09 43 35.7 +1.7
baz=128
KOTAN **Kotaneelee Air** 141.67 307 P PKiKP 09 43 35.8 +1.3
baz=128
V35K **Ketchikan** 141.88 297 P PKiKP 09 43 36.5 +1.5
baz=129
T35M **Bob Quinn** 142.31 300 P PKiKP 09 43 37.3 +1.3
baz=128
CRAG **Craig** 142.64 296 P PKiKP 09 43 38.2 +1.6
baz=128
WRAK **Wrangell Islan** 142.88 298 P PKiKP 09 43 38.7 +1.6
baz=128
U33K **Whale Pass** 143.04 297 P PKiKP 09 43 38.0 +0.6
baz=128
DLBC **Dease Lake** 143.10 302 P PKiKP 09 43 39.0 +1.4
baz=126
S34M **Telegraph Cree** 143.26 300 P PKiKP 09 43 38.9 +1.1
baz=127
WRGLY **Wrigley** 143.27 311 P PKiKP 09 43 39.3 +1.6
baz=124
WTLY **Watson Lake, Y** 143.57 305 P PKiKP 09 43 40.1 +1.6
baz=125
NJ2 **Nanjing** 143.61 125 *e*P PKPdf 09 43 36.0 0.0
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ZALV **Zalesovo Beam** 143.73 69 PKhKP PKPpre 09 43 32.5
comp=Z,2.2nm,0.6s,baz=232,slow=3.9,SNR=7.9
ZALV SKPbc SKiKP 09 47 16.1 +2.5
comp=Z,2.4nm,0.8s,baz=302,slow=2.8,SNR=3.9
R33M **Jennings River** 144.06 302 P PKiKP 09 43 40.6 +1.0
baz=125
TGTN **Hyland Airport** 144.17 307 P PKiKP 09 43 41.6 +1.9
baz=124
Q32M **Nakina River** 144.36 301 P PKiKP 09 43 42.1 +1.8
baz=125
SIT **Sitka** 144.58 297 P PKiKP 09 43 40.4 -0.2
baz=126
R32K **Eaglecrest** 144.93 299 P PKiKP 09 43 42.2 +0.9
baz=125
P33M **Teslin, Yukon** 145.29 303 P PKiKP 09 43 43.5 +1.4
baz=123
P32M **Atlin** 145.33 301 P PKiKP 09 43 43.6 +1.5
baz=124
S31K **Pelican** 145.50 298 P PKiKP 09 43 44.2 +1.7
baz=124
R31K **City Hall, Gus** 145.54 299 P PKiKP 09 43 44.1 +1.6
baz=124
N32M **Quiet Lake** 145.91 304 P PKiKP 09 43 44.1 +0.8
baz=122
MMPY **Sheldon Lake,** 145.94 307 PKPab 09 43 40.0 -0.5
MMPY **Sheldon Lake,** 145.94 307 P PKiKP 09 43 43.9 +0.6
baz=121
SKAG **Skagway** 145.94 300 P PKiKP 09 43 44.0 +0.7
baz=123
HNS **HongShan** 146.39 115 ⇓PKPbc PKPab 09 43 42.5 -0.4
PLBC **Pleasant Camp** 146.39 300 P PKiKP 09 43 44.7 +0.4
baz=122
WHY **Whitehorse** 146.40 302 P PKiKP 09 43 44.6 +0.2
baz=122
C36M **Paulatuk** 146.61 320 P PKiKP 09 43 44.8 +0.4
baz=116
BTO **Baotou** 146.78 107 *e*PKPbc PKPbc 09 43 43.5 +0.3
BTO PP PP 09 47 13.5 +5.7
BTO pmax pmax
comp=Z,75nm,0.8s
BTO pmax pmax
comp=Z,230nm,3.8s
O30N **Mendenhall** 146.96 302 P PKiKP 09 43 45.3 -0.2
baz=121
M31M **Drury Creek, Y** 146.99 305 PKPdf PKPbc 09 43 42.7 -0.3
M31M **Drury Creek, Y** 146.99 305 P PKiKP 09 43 46.4 +1.0
baz=120
P30M **Million Dollar** 147.00 301 P PKiKP 09 43 46.6 +1.1
baz=121
P29M **Windy Craggy** 147.07 299 P PKiKP 09 43 47.0 +1.3
baz=122
N31M **Braeburn, Yuko** 147.20 303 P PKiKP 09 43 46.8 +0.8
baz=120
HYT **Haines Junctio** 147.59 301 P PKPab 09 43 47.5 +0.4
baz=120
N30M **Aishikik Lake** 147.73 303 P PKPab 09 43 48.1 +0.5
baz=120
O29M **Mount Kennedy** 147.78 300 P PKPab 09 43 48.4 +0.5
baz=120
PNL **Peninsula** 147.81 299 P PKPab 09 43 48.3 +0.4
baz=121
YUK6 **Outpost Mounta** 148.01 301 P PKPab 09 43 49.0 +0.1
baz=120
A36M **Sachs Harbour** 148.06 324 P PKPab 09 43 49.2 +0.8
baz=112
M30M **Minto, Yukon** 148.15 305 P PKPab 09 43 49.9 +0.7
baz=118
MAYO **Mayo, Yukon** 148.26 307 P PKPab 09 43 50.4 +0.9
baz=117
YUK4 **Talbot Arm** 148.33 302 P PKPab 09 43 51.1 +0.9
baz=119
PINM **Pinnacle** 148.40 299 P PKPab 09 43 51.0 +0.6
baz=120
H31M **Peel River** 148.63 311 P PKPab 09 43 52.4 +1.4
baz=115
O28M **Mount Upton** 148.71 300 P PKPab 09 43 52.4 +0.6
baz=119
M29M **Somme Creek** 148.77 304 P PKPab 09 43 53.1 +1.3
baz=117
YUK8 **Steele Glacier** 148.77 301 P PKPab 09 43 53.5 +1.5
baz=118
J30M **Hart River** 148.87 308 P PKPab 09 43 53.2 +1.1
baz=115
L29M **L29M** 148.94 305 P PKPab 09 43 53.6 +1.2
baz=116
K29M **Barlow Dome** 149.02 307 P PKPab 09 43 53.4 +0.6
baz=116
G31M **Satah River** 149.06 313 P PKPab 09 43 53.9 +1.2
baz=113
F31M **Tsiigehtchic** 149.07 314 P PKPab 09 43 54.4 +1.7
baz=113
I30M **Mount Dempster** 149.16 309 P PKPab 09 43 54.9 +1.6
baz=114
MESA **MESA** 149.18 298 P PKPab 09 43 54.7 +1.0
baz=119
CTG **Chitna Glacier** 149.29 300 P PKPab 09 43 55.1 +1.1
baz=118
YUK3 **Moose Creek** 149.30 302 P PKPab 09 43 54.7 +0.6
baz=117
INK **Inuvik** 149.32 316 P PKPab 09 43 55.9 +2.2
baz=111,SNR=5.9
J29N **Klondike Camp** 149.55 307 P PKPab 09 43 55.8 +0.9
baz=114
BGLC **Bering Glacier** 149.74 298 P PKPab 09 43 56.8 +1.1
baz=118
EPYK **Eagle Plains** 149.74 311 P PKPab 09 43 57.1 +1.5
baz=112,SNR=5.4
BVCY **Beaver Creek** 149.75 303 P PKPab 09 43 57.0 +1.3
baz=116
G30M **tAoh Zraii Nji** 149.79 313 P PKPab 09 43 57.3 +1.5
baz=112
DAWY **Dawson** 149.86 306 P PKPab 09 43 57.1 +0.9
baz=114
F30M **Barrier River** 149.86 314 P PKPab 09 43 57.4 +1.4
baz=111
CRQE **Cirque** 149.95 299 P PKPab 09 43 57.5 +0.8
baz=118
I29M **Ogilvie Camp,** 149.96 309 P PKPab 09 43 57.7 +1.3
baz=113
KAIM **Kayak Island** 150.15 297 P PKPab 09 43 57.6 +0.2
baz=118
M27K **Edge Creek, AK** 150.16 302 P PKPab 09 43 58.1 +0.5
baz=116
MCARA **McCarthy VSAT** 150.21 300 P PKPab 09 43 58.4 +0.8
baz=117
SONM **Songino Array** 150.30 93 PKPbc PKiKP 09 43 52.3 -0.6
comp=Z,18nm,0.9s,baz=220,slow=2.4,SNR=68
H29M **Whitestone** 150.31 311 P PKPab 09 43 59.1 +1.3
baz=112
G29M **Pine Creek** 150.43 312 P PKPab 09 43 59.3 +1.0
baz=111
L27K **Beaver Creek,** 150.44 304 P PKPab 09 43 59.6 +1.1
baz=115
I28M **Miner Creek** 150.62 309 P PKPab 09 44 00.2 +0.9
baz=112
M26K **Nabesna, AK** 150.65 302 P PKPab 09 43 59.9 +0.5
baz=115
BMRM **Bremner River** 150.71 299 P PKPab 09 44 01.4 +1.7
baz=116
Q23K **Middleton Isla** 150.78 295 P PKPab 09 44 01.8 +1.9
baz=118
E29M **Blow River** 150.88 315 P PKPab 09 44 01.5 +1.4
baz=108
K27K **Chicken** 150.93 305 P PKPab 09 44 01.9 +1.5
baz=113
N25K **Chitina, Valde** 150.99 300 P PKPab 09 44 02.3 +1.4
baz=116
EYAK **Cordova Ski Ar** 151.03 297 P PKPab 09 44 02.2 +1.2
baz=117
L26K **Log Cabin Wild** 151.05 303 P PKPab 09 44 03.1 +2.0
baz=114
I27K **Kandik River** 151.33 308 P PKPab 09 44 02.3 +0.1
baz=110
F28M **Old Crow** 151.34 313 P PKPab 09 44 03.2 +1.0
baz=108
D28M **Stokes Point** 151.44 317 P PKPab 09 44 03.6 +1.1
baz=106
H27K **Steamboat Moun** 151.51 310 P PKPab 09 44 04.8 +1.9
baz=109
KLU **Klutina** 151.51 299 P PKPab 09 44 04.8 +1.7
baz=115
E28M **Babbage River** 151.52 315 P PKPab 09 44 04.0 +1.1
baz=107
HARP **HAARP** 151.56 301 P PKPab 09 44 05.4 +2.2
baz=114
SCRK **Sand Creek** 151.69 304 P PKPab 09 44 05.3 +1.5
baz=112
J26L **Joseph Creek** 151.71 306 P PKPab 09 44 04.7 +0.8
baz=111,SNR=8.7
G27K **Doyon Strip** 151.75 311 P PKPab 09 44 04.9 +1.0
baz=108
GLI **Glacier Island** 151.77 297 P PKPab 09 44 05.2 +1.1
baz=115

I26K	Coal Creek Min baz=110	151.83 307	P		PKPab	09 44 04.3	+0.1
KSRS	Korea Array comp=Z,5.1nm,0.8s,baz=206,slow=2.2,SNR=21	151.87 133	PKPbc		PKiKP	09 43 55.9	-0.3
M24K	Tolsona, Glenn baz=114,SNR=6.9	151.88 300	P		PKPab	09 44 05.7	+1.1
PAX	Paxson baz=113,SNR=5.8	151.92 302	P		PKPab	09 44 04.9	+0.1
RIDG	Independent Ri baz=112,SNR=8.8	151.95 304	P		PKPab	09 44 05.6	+0.7
E27K	Coleen River baz=106	152.13 314	P		PKPab	09 44 06.0	+0.5
D27M	Malcolm River baz=104	152.19 316	P		PKPab	09 44 05.8	+0.1
XLT	XiLinHaoTe	152.19 109	*e*PKPbc		PKiKP	09 43 56.8	-0.1
XLT			pPKP		pPKPab	09 44 09.5	-2.2
SCM	Sheep Creek Mo baz=114,SNR=6.9	152.27 299	P		PKPab	09 44 06.4	+0.1
PWL	Port Wells baz=115	152.31 297	P		PKPab	09 44 06.8	+0.4
K24K	Donnelly Dome baz=111,SNR=5.9	152.36 304	P		PKPab	09 44 06.3	-0.2
M23K	Glacier View baz=114,SNR=7.7	152.42 299	P		PKPab	09 44 05.9	-0.9
J25K	Salcha River, baz=110,SNR=14	152.48 305	P		PKPab	09 44 06.2	-0.9
SEW	Seward baz=116	152.48 295	P		PKPab	09 44 07.0	0.0
G26K	Porcupine Rive baz=107,SNR=9.9	152.59 311	P		PKPab	09 44 07.0	-0.4
KNK	Knik Glacier baz=114	152.59 298	P		PKPab	09 44 05.8	-1.7
WAT6	Susitna Watana baz=112	152.74 300	P		PKPab	09 44 08.0	-0.4
DHY	Denali Highway baz=111,SNR=7.9	152.76 301	P		PKPab	09 44 08.5	+0.1
O22K	Cooper Landing baz=115	152.77 295	P		PKPab	09 44 07.6	-0.6
PRP	Porcupine Dome baz=108	152.84 307	P		PKPab	09 44 08.8	+0.1
KDAK	Kodiak Island baz=118	152.87 289	P		PKPab	09 44 09.0	+0.2
F26K	Sheenjek River baz=105	152.93 312	P		PKPab	09 44 08.9	+0.1
OHAK	Old Harbor baz=119	152.93 287	P		PKPab	09 44 09.6	+0.6
PMR	Palmer baz=113	152.96 298	P		PKPab	09 44 08.6	-0.4
RC01	Rabbit Creek A baz=114	153.03 297	P		PKPab	09 44 09.7	+0.4
SII	Sitkinak Islan baz=120	153.03 285	P		PKPab	09 44 09.7	+0.2
HDA	Harding Lake baz=109	153.05 304	P		PKPab	09 44 09.8	+0.4
ILAR	Eielson Array comp=Z,1.3nm,0.8s,baz=116,slow=2.1,SNR=5.9	153.15 305	PKPbc		PKiKP	09 43 57.5	-0.6
Q20K	Shuyak Island baz=117	153.17 290	P		PKPab	09 44 10.6	+0.6
H25L	Birch Creek baz=106	153.17 309	P		PKPab	09 44 11.3	+1.5
WAT1	Susitna Watana baz=111	153.18 301	P		PKPab	09 44 11.0	+1.0
C27K	Jago River baz=102	153.22 316	P		PKPab	09 44 10.4	+0.4
HOM	Homer baz=116	153.29 293	P		PKPab	09 44 11.8	+1.3
CHIR	Chirikof Islan baz=121	153.35 283	P		PKPab	09 44 11.6	+0.7
G25K	Bearman Lake baz=105	153.42 310	P		PKPab	09 44 11.0	+0.1
M22K	Willow baz=112	153.46 298	P		PKPab	09 44 09.3	-1.8
F25K	Christian Rive baz=104	153.46 312	P		PKPab	09 44 10.7	-0.4
POKR	Poker Flat Res baz=108	153.47 306	P		PKPab	09 44 10.6	-0.6
CAPN	Captain Cook N baz=114	153.53 295	P		PKPab	09 44 11.8	+0.4
E25K	Arctic Village baz=103	153.55 313	P		PKPab	09 44 09.8	-1.7
COLA	College baz=108	153.57 305	P		PKPab	09 44 10.5	-1.0
SUA	Susitna One baz=113	153.62 297	P		PKPab	09 44 12.3	+0.3
MCK	McKinley baz=109	153.65 302	P		PKPab	09 44 11.3	-0.7
R18K	Karluk baz=118	153.65 287	P		PKPab	09 44 11.3	-0.8
C26K	Camden Bay baz=100	153.68 317	P		PKPab	09 44 12.4	+0.5
H24K	Noodor Dome baz=106	153.86 307	P		PKPab	09 44 12.6	-0.2
Q19K	Cape Douglas, baz=116	153.90 290	P		PKPab	09 44 15.1	+1.9
O20K	Slope Mountain baz=114	153.91 293	P		PKPab	09 44 14.4	+1.1
G24K	Hadweenzic Riv baz=104	153.93 309	P		PKPab	09 44 12.4	-0.7
NEA2	Nenana baz=108	153.98 304	P		PKPab	09 44 12.5	-0.9
P19K	Oil Pt baz=115	154.01 292	P		PKPab	09 44 13.9	+0.2
D25K	Kavik River baz=100	154.08 315	P		PKPab	09 44 12.4	-1.3
TRF	Thorofare Moun baz=109	154.13 301	P		PKPab	09 44 12.2	-2.0
SKT	Skwentna baz=111	154.16 298	P		PKPab	09 44 12.0	-2.2
N20K	Mount Spurr baz=112	154.17 296	P		PKPab	09 44 13.5	-0.8
I23K	Minto, Yukon-K baz=106	154.26 305	P		PKPab	09 44 14.4	-0.1
F24K	Squaw Lake baz=102	154.28 311	P		PKPab	09 44 13.9	-0.7
Q18K	Katmai Hardscr baz=116	154.41 289	P		PKPab	09 44 13.7	-1.7
H23K	Yukon River baz=105	154.52 307	P		PKPab	09 44 15.0	-0.6
R17L	Mt. Peulik Vol baz=118	154.59 286	P		PKPab	09 44 16.1	-0.1
E24K	Your Creek baz=101	154.62 312	P		PKPab	09 44 16.1	+0.1
BPAW	Bear Paw Mtn. baz=107	154.63 302	P		PKPab	09 44 17.3	+1.2
Q17K	Contact Creek baz=116	154.65 288	P		PKPab	09 44 17.1	+0.6
O19K	Port Alsworth baz=113	154.74 293	P		PKPab	09 44 15.3	-1.3
PPLA	Purkeypile baz=109	154.76 299	P		PKPab	09 44 16.3	-0.6
CHNA	Chernabura Isl baz=122	154.77 278	P		PKPab	09 44 14.9	-2.0
MLY	Manley baz=106	154.79 305	P		PKPab	09 44 16.1	-0.8
P18K	Big Mountain, baz=114	154.83 290	P		PKPab	09 44 16.4	-0.8
CAST	Castle Rocks baz=108	154.89 301	P		PKPab	09 44 17.9	+0.7
C24K	Franklin Bluff baz=97	154.95 316	P		PKPab	09 44 19.7	+2.4
N19K	Bonanza Creek baz=112	155.05 294	P		PKPab	09 44 18.4	+0.3
COLD	Coldfoot baz=101	155.09 310	P		PKPab	09 44 18.5	+0.4
TOLK	Toolik Lake Re baz=99	155.11 313	P		PKPab	09 44 19.2	+1.1
CHUM	Lake Minchumin baz=107	155.12 302	P		PKPab	09 44 19.2	+1.0
R16K	Pilot Point baz=117	155.14 285	P		PKPab	09 44 18.0	-0.4
Q16K	King Salmon baz=115	155.20 288	P		PKPab	09 44 19.8	+1.2
H22K	Ishtalitna Cre baz=103	155.27 306	P		PKPab	09 44 19.2	+0.4
P17K	Kvichak River baz=114	155.31 289	P		PKPab	09 44 19.7	+0.6
I21K	Tanana baz=104	155.34 305	P		PKPab	09 44 20.7	+1.7
L20K	Farewell, AK baz=109	155.37 298	P		PKPab	09 44 19.5	+0.1
M19K	Big River Lodg baz=110	155.40 296	P		PKPab	09 44 19.2	-0.3
SDPT	Sand Point baz=121	155.48 279	P		PKPab	09 44 21.3	+1.4
S14K	Fog Glacier baz=119	155.49 281	P		PKPab	09 44 22.0	+1.9
D23K	Nanushuk River baz=97	155.56 314	P		PKPab	09 44 21.3	+1.3
C23K	Itkillik River baz=95	155.63 316	P		PKPab	09 44 20.8	+0.6
N18K	Kilae Creek baz=112	155.64 293	P		PKPab	09 44 22.2	+1.7
L19K	White Mountain baz=109	155.70 297	P		PKPab	09 44 22.6	+1.9
K20K	Telida baz=107	155.72 300	P		PKPab	09 44 23.3	+2.5
H21K	Melozitna Rive baz=103	155.79 306	P		PKPab	09 44 22.8	+1.8
O17K	Koliganek Bris baz=113	155.85 290	P		PKPab	09 44 23.5	+2.1
E22K	Anaktuvuk Pass baz=98	155.86 312	P		PKPab	09 44 23.2	+1.9
F22K	John River baz=99	155.90 310	P		PKPab	09 44 24.3	+2.8
M18K	Stony River baz=110	155.90 295	P		PKPab	09 44 24.3	+2.7
P16K	Nushagak River baz=114	155.98 288	P		PKPab	09 44 24.4	+2.4
J20K	Nowinta River baz=105	155.98 302	P		PKPab	09 44 23.8	+1.9
N17K	Nushagak Hills baz=111	156.18 292	P		PKPab	09 44 23.6	+0.8
G21K	Allakaket baz=100	156.24 308	P		PKPab	09 44 23.6	+0.7
O16K	Kokwok River B baz=113	156.25 289	P		PKPab	09 44 23.9	+0.8
D22K	Ayikyak River baz=96	156.26 313	P		PKPab	09 44 24.9	+1.9
I20K	Naaghedeneel baz=104	156.28 303	P		PKPab	09 44 25.4	+2.3
CN2	Changchun	156.31 122	PKP		PKPdf	09 43 49.5	-6.0
F21K	Alatna River baz=99	156.35 309	P		PKPab	09 44 24.5	+1.1
S12K	Black Hills baz=120	156.44 278	P		PKPab	09 44 24.6	+0.5
L18K	Granite Mounta baz=108	156.53 296	P		PKPab	09 44 24.3	0.0
J19K	Poorman baz=105	156.56 301	P		PKPab	09 44 25.8	+1.4
H20K	Anotleneega Mo baz=102	156.59 305	P		PKPab	09 44 25.9	+1.3
M17K	Holitna River baz=104	156.60 294	P		PKPab	09 44 25.1	+0.5
B22K	Teshekpuk Lake baz=92	156.62 317	P		PKPab	09 44 26.9	+2.5
E21K	Killik River baz=96	156.69 312	P		PKPab	09 44 26.7	+1.8
N16K	Nishlik Lake baz=111	156.89 291	P		PKPab	09 44 26.7	+0.7
J18K	Innoko River baz=105	156.90 299	P		PKPab	09 44 27.3	+1.4
B21K	Ikpikpuk River baz=93	157.00 315	P		PKPab	09 44 28.5	+2.4
C21K	Knifeblade Rid baz=93	157.04 314	P		PKPab	09 44 28.3	+2.0
A22K	Sinclair Lake baz=89	157.14 319	P		PKPab	09 44 27.6	+0.9
M16K	Timber Creek baz=109	157.17 292	P		PKPab	09 44 28.3	+1.2
F20K	Avaraart Lake baz=98	157.19 309	P		PKPab	09 44 28.3	+1.3
L17K	Conlin baz=107	157.22 295	P		PKPab	09 44 28.4	+1.1
H19K	Roundabout Mou baz=100	157.24 304	P		PKPab	09 44 29.4	+2.1
K17K	Iditarod baz=106	157.39 297	P		PKPab	09 44 27.6	-0.4
N15K	Kwethluk River baz=111	157.40 290	P		PKPab	09 44 26.8	-1.3
E20K	Nigu River baz=94	157.49 312	P		PKPab	09 44 27.9	-0.5
G19K	Purcell Mounta baz=99	157.60 306	P		PKPab	09 44 28.3	-0.5
L16K	Owhat River baz=108	157.62 294	P		PKPab	09 44 30.5	+1.5
A21K	Barrow baz=86	157.66 320	P		PKPab	09 44 29.6	+0.7
UNV	Unalaska Valle baz=123	157.67 271	P		PKPab	09 44 30.5	+1.1
D20K	Ettuk River baz=93	157.68 313	P		PKPab	09 44 30.4	+1.2
E19K	Redstone River baz=95	157.82 309	P		PKPab	09 44 30.8	+1.0
M15K	Kasigluk River baz=109	157.86 291	P		PKPab	09 44 30.7	+0.7
B20K	Meade River baz=89	157.89 316	P		PKPab	09 44 31.6	+1.7
J17K	VABM Dome baz=104	157.91 298	P		PKPab	09 44 31.8	+1.6
H18K	Honhosa River baz=100	157.97 303	P		PKPab	09 44 31.9	+1.5
F19K	Shaleruckik Mo baz=96	157.97 308	P		PKPab	09 44 31.7	+1.4
N14K	Kuskokwak Cree baz=111	158.06 289	P		PKPab	09 44 31.6	+0.6
G18K	Tagagawik baz=98	158.20 305	P		PKPab	09 44 32.6	+1.1
D19K	Kuna River baz=92	158.22 312	P		PKPab	09 44 31.5	0.0
M14K	Bethel baz=109	158.47 290	P		PKPab	09 44 33.8	+1.1
L15K	Ungalak Mounta baz=107	158.53 293	P		PKPab	09 44 34.9	+2.0
J16K	Anvik River baz=103	158.55 298	P		PKPab	09 44 34.8	+1.8
H17K	Granite Mounta baz=99	158.58 302	P		PKPab	09 44 34.6	+1.5
F18K	Selawik baz=95	158.69 307	P		PKPab	09 44 35.8	+2.3
I17K	Unalakleet baz=102	158.72 299	P		PKPab	09 44 35.5	+1.9
K15K	Wolf Creek Mou baz=105	158.72 295	P		PKPab	09 44 35.9	+2.1
C19K	Lookout Ridge baz=89	158.76 314	P		PKPab	09 44 34.9	+1.0
G17K	Kiwalik Mounta baz=97	158.97 304	P		PKPab	09 44 35.4	+0.6
L14K	Kuka Creek baz=107	158.99 292	P		PKPab	09 44 36.9	+2.0
M13K	Dall Lake baz=109	159.01 289	P		PKPab	09 44 35.9	+0.9
F17K	Baldwin Pennin baz=94	159.31 306	P		PKPab	09 44 37.7	+1.5
C18K	Utukok River baz=89	159.35 313	P		PKPab	09 44 38.1	+1.7
H16K	Ellim baz=98	159.51 301	P		PKPab	09 44 37.6	+0.4
B18K	Kokolik River baz=86	159.54 315	P		PKPab	09 44 39.1	+2.0
E17K	Hotham Inlet baz=92	159.58 308	P		PKPab	09 44 38.9	+1.5
J14K	Nanvaranak Lak baz=103	159.74 295	P		PKPab	09 44 38.9	+0.7
K13K	Kusilvak Mount baz=104	160.05 293	P		PKPab	09 44 40.1	+0.5
D17K	Noatak River baz=89	160.07 310	P		PKPab	09 44 40.3	+0.8
C17K	DeLong Mountai baz=87	160.09 312	P		PKPab	09 44 41.0	+1.4
G15K	Niukluk baz=96	160.32 302	P		PKPab	09 44 41.8	+1.1
M11K	Mekoryuk baz=108	160.35 288	P		PKPab	09 44 42.5	+1.7
C16K	Lisburne Hills baz=86	160.90 312	P		PKPab	09 44 44.9	+1.8
F14K	Arctic Creek baz=93	161.32 303	P		PKPab	09 44 46.9	+1.8
TNA	Tin City baz=91	161.99 303	P		PKPab	09 44 48.8	+0.9
HEH	HeiHe	162.10 113	*e*P		PKPab	09 44 48.5	-0.3

IDC ***28*** *09:29:59.2±3.2, 53°63'N×87°23'E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=30.6km s-min=18.0km az=64.0, Southwestern Siberia*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA baz=103,slow=318,SNR=4.4	1.46	284	I	I	09 38 40.0	
ZALV	Zalesovo Beam 0.7nm,0.3s,baz=106,slow=16,SNR=6.0	1.46	284	Pg	Pn	09 30 24.5	-2.4
ZALV				Lg		09 30 46.3	
	1.0nm,0.3s,baz=102,slow=29,SNR=5.5						
KURBB	Kurchatov Arra baz=40,slow=16,SNR=1.9	6.14	244	Pn	Pn	09 31 32.2	+1.0
	0.2nm,0.3s						
MKAR	Makanchi Array 0.1nm,0.3s,baz=23,slow=13,SNR=2.4 0.1nm,0.3s	7.54	207	Pn	Pn	09 31 51.8	+1.4

IDC ***28*** *09:34:20.6±0.7, 60°.20S×26°.72W, h0km, mb4.1/8, mbtmp4.1/8, MS3.3/2, Error ellipse: s-maj=25.9km s-min=21.3km az=67.0*

NEIC ***28*** *09:34:23.4± 1.0, 60°.75S±0°.08×27°.2W±0°.2, h10km±1km, mb4.8/44, Error ellipse: s-maj=18.1km s-min=9.3km az=129.0*

ISC 28 09:34:23.5±0.5, 60°.64S±0°.08×26°.87W±0°.09, h19km, n70, σ1°34/65, mb4.7/27, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat comp=Z,43nm,0.3s	12.56	151	⇑P	Pn	09 37 18.9	-2.0
VNA3	Neumayer Olymp comp=Z,38nm,0.6s	12.67	154	⇑P	Pn	09 37 19.9	-2.5
VNA2	Neumayer--Watz comp=Z,11nm,0.4s,baz=317,slow=13	12.96	151	⇑P	Pn	09 37 24.6	-1.9
ESPZ	Base Esperanza	14.33	246	Pn	Pn	09 37 43.7	-1.4
SNAA	Sanae comp=Z,152nm,0.3s	14.57	149	⇑P	Pn	09 37 45.7	-2.7
SNAA	Sanae	14.57	149		Pn	09 37 45.8	-2.6
SNAA	Sanae comp=Z,2.6nm,0.3s,baz=310,slow=14,SNR=82	14.57	149	Pn	Pn	09 37 45.7	-2.7
SNAA				Sn	Sn	09 40 16.7	-12
	comp=Z,0.5nm,0.3s,baz=354,slow=19,SNR=4.4						
SNAA				LR	LR	09 43 10.2	
	comp=Z,77nm,18.7s,baz=266,slow=36						
TROLL	Troll, Antarti comp=Z,205nm,0.6s	16.16	147	⇑P	Pn	09 38 07.3	-2.1
PMSA	Palmer Station	17.36	240		Pn	09 38 23.4	-0.9
PMSA	Palmer Station comp=Z,6.8nm,0.4s,baz=90,slow=7.5,SNR=9.8	17.36	240	P	P	09 38 33.4	+7.8
BELA	Belgrano 2	17.50	185	P	P	09 38 26.4	-0.7
EFI	East Falkland	19.38	284	P	P	09 38 47.3	-0.6
QSPA	South Pole Qui	29.60	180	P	P	09 40 29.4	+2.3
QSPA	South Pole Qui comp=Z,5.1nm,0.8s,baz=241,slow=0.6,SNR=63 comp=Z,5.1nm,0.8s	29.60	180	P	P	09 40 31.8	+4.7
TRQA	Tornquist	31.52	300	P	P	09 40 44.0	-0.1
TRQA				IAmb	IAmb	09 40 56.1	
	comp=Z,6.9nm,0.9s						
PLCA	Paso Flores	33.23	287	P	P	09 40 59.3	+0.1
PLCA	Paso Flores comp=Z,1.7nm,0.8s,baz=161,slow=8.9,SNR=3.8 comp=Z,1.7nm,0.8s	33.23	287	P	P	09 40 58.0	-1.1
PLTB	Pedras Altas	33.83	317	P	P	09 41 04.7	+0.4
PLTB				IAmb	IAmb	09 41 23.4	
	comp=Z,22nm,1.4s						
ITAB	Concordia	37.54	321	P	P	09 41 36.1	-0.1
ITAB				IAmb	IAmb	09 41 48.1	
	comp=Z,30nm,1.3s						
ML02	Panimavida	37.63	291	P	P	09 41 36.5	-0.4
ML02				IAmb	IAmb	09 41 45.5	
	comp=Z,19nm,1.2s						
BO02	Sierra Bellavi	38.14	292	P	P	09 41 42.1	+0.8
BO01	Tunca	38.62	292	P	P	09 41 45.0	-0.2
BO01				IAmb	IAmb	09 41 45.9	
	comp=Z,11nm,0.9s						
LMEL	Las Melosas	38.67	294	P	P	09 41 45.3	-0.5
BO04	La Punta	38.74	293	P	P	09 41 46.3	0.0
BO04				IAmb	IAmb	09 41 48.1	
	comp=Z,16nm,0.8s						
MT08	Bocatoma Ro	38.92	294	P	P	09 41 49.4	+1.3
MT08				IAmb	IAmb	09 41 51.2	
	comp=Z,19nm,1.1s						
MT09	Talagante	39.09	293	P	P	09 41 49.2	-0.1
MT03	Universidad Ad	39.11	294	P	P	09 41 49.4	-0.1
MT01	Popeta	39.13	293	P	P	09 41 49.5	-0.1
MT01				IAmb	IAmb	09 41 50.0	
	comp=Z,14nm,0.7s						
MT16	CCHEN	39.17	294	P	P	09 41 50.4	+0.5
PEL	Peldehue	39.48	294	P	P	09 41 53.0	+0.5
MT02	Curacav	39.59	293	P	P	09 41 53.4	+0.1
MT02				IAmb	IAmb	09 42 02.5	
	comp=Z,22nm,1.1s						
VA03	San Esteban	39.74	294	P	P	09 41 55.4	+0.6
VA03				IAmb	IAmb	09 41 56.7	
	comp=Z,22nm,0.8s						
CPUP	Villa Florida	40.08	315		P	09 41 58.1	+0.6
CPUP	Villa Florida comp=Z,0.4nm,0.5s,baz=357,slow=9.1,SNR=4.1 comp=Z,0.4nm,0.5s	40.08	315	P	P	09 41 55.3	-2.2
VA06	Catapilco	40.25	294	P	P	09 41 59.8	+1.0
VA06				IAmb	IAmb	09 42 00.5	
	comp=Z,16nm,0.7s						
CO02	Combarbal	41.26	295	P	P	09 42 07.8	+0.5
CO02				IAmb	IAmb	09 42 14.2	
	comp=Z,21nm,1.0s						
CO03	El Pedregal	41.44	296	P	P	09 42 09.8	+1.1
CO03				IAmb	IAmb	09 42 19.9	
	comp=Z,29nm,1.2s						
CO01	Juntas del Tor	41.91	297	P	P	09 42 12.7	-0.2
CO01				IAmb	IAmb	09 42 17.2	
	comp=Z,11nm,0.9s						
VNDA	Vanda	41.98	183	P	P	09 42 12.9	+0.3
VNDA	Vanda comp=Z,1.4nm,0.7s,baz=141,slow=3.6,SNR=3.5	41.98	183	P	P	09 42 15.4	+2.8
VNDA				LR	LR	09 59 01.4	
	comp=Z,59nm,18.7s,baz=184,slow=35 comp=Z,1.4nm,0.7s						
GO04	Tololo Observa	42.05	296	P	P	09 42 13.6	-0.4
LCO	Las Campanas	43.01	297	P	P	09 42 21.9	+0.1
LCO				IAmb	IAmb	09 42 23.1	
	comp=Z,14nm,0.9s						
AC04	Llanos de Chal	43.87	297	P	P	09 42 28.7	+0.3
AC02	Maricunga	44.22	301	P	P	09 42 32.8	+0.9
AC02				IAmb	IAmb	09 42 45.0	
	comp=Z,13nm,0.8s						
H04S2	CROZET ISLANDS	45.67	110	T	T	10 31 49.6	
	baz=224,slow=74,SNR=4.7						
H04S3	CROZET ISLANDS	45.68	110	T	T	10 31 51.0	
	baz=224,slow=74,SNR=5.1						
H04S1	CROZET ISLANDS	45.69	110	T	T	10 31 55.4	
	baz=224,slow=74,SNR=3.7						
GO02	Mina Guanaco	45.89	301	P	P	09 42 45.1	+0.2
PB14	IPOC Station P	46.71	301	P	P	09 42 50.7	-0.6
BOSA	Boshof comp=Z,3.0nm,0.7s,baz=197,slow=5.9,SNR=5.2 comp=Z,3.0nm,0.7s	47.11	71	P	P	09 42 51.9	-2.4
PB01	IPOC Station P	49.50	304	P	P	09 43 13.0	+0.3
CASY	Casey	49.54	159	P	P	09 43 14.3	+2.0
PB08	IPOC Station P	50.18	305	P	P	09 43 18.6	+0.5
PB08				IAmb	IAmb	09 43 20.6	
	comp=Z,18nm,1.5s						
GO01	Chusmiza	50.62	305	P	P	09 43 22.3	+0.7
PB11	IPOC Station P	50.72	304	P	P	09 43 22.8	+0.8
PB11				IAmb	IAmb	09 43 47.6	
	comp=Z,19nm,1.2s						
TSUM	Tsumeb	51.91	57	P	P	09 43 33.2	+2.3
TSUM				IAmb	IAmb	09 43 38.3	
	comp=Z,12nm,1.3s						
PB16	IPOC Station P	51.94	305	P	P	09 43 31.7	0.0
LPAZ	La Paz	53.25	308	P	P	09 43 40.8	-0.7
LPAZ				IAmb	IAmb	09 43 54.5	
	comp=Z,9.7nm,1.4s						
LPAZ	La Paz comp=Z,0.9nm,0.5s,baz=70,slow=4.3,SNR=5.9 comp=Z,0.9nm,0.5s	53.25	308	P	P	09 43 40.3	-1.1
DBIC	Dimbokro	69.30	23	P	P	09 45 31.4	+2.1
COHC	Cochancay	70.26	303	P	P	09 45 35.8	+0.5
TORD	Torodi Ar. Bea	77.00	29		P	09 46 12.9	-1.8
TORD				IAmb	IAmb	09 46 13.8	
	comp=Z,4.2nm,0.8s						
TORD	Torodi Ar. Bea comp=Z,6.3nm,0.7s,baz=196,slow=5.4,SNR=34 comp=Z,6.3nm,0.7s	77.00	29	P	P	09 46 13.0	-1.7
ASAR	Alice Springs comp=Z,0.5nm,1.1s,baz=188,slow=3.9,SNR=1.3 comp=Z,0.5nm,1.1s	94.55	162	P	P	09 47 44.5	+1.8
FINES	FINESS Array B comp=Z,0.8nm,0.6s,baz=149,slow=3.2,SNR=4.3	128.35	29	PKP	PKPdf	09 53 26.7	-0.4
ARCES	ARCESS Array B comp=Z,1.4nm,1.0s,baz=197,slow=3.7,SNR=3.6	135.13	23	PKP	PKPdf	09 53 37.2	-2.5
YKA	Yellowknife Ar comp=Z,0.8nm,0.8s,baz=117,slow=1.9,SNR=4.6	139.61	314	PKP	PKPdf	09 53 48.9	+0.8
ZALV	Zalesovo Beam comp=Z,0.9nm,0.5s,baz=329,slow=1.7,SNR=4.7	144.05	69	PKP	PKPdf	09 53 56.3	0.0
SONM	Songino Array comp=Z,1.5nm,1.0s,baz=222,slow=2.0,SNR=4.7	150.53	94	PKPbc	PKPbc	09 54 12.6	-0.3

ILAR	**Eielson Array**	**153.10**	**305**	PKPbc	**PKPbc**		**09 54 17.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=322,slow=1.2,SNR=8.6							

*IDC **28** 09:54:26.9±1.1,25.°58N×142.°12E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=43.4km s-min=17.0km az=92.0*

ISC 28 09:54:32.0±1.2,25.°5N±0.°1×142.°2E±0.°3,h35km,n8, σ1§19/9,mb3.9/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.55**	**1**	Pn	**Pn**	**09 54 56.0**	**-1.2**
	178nm,0.3s,baz=139,slow=5.9,SNR=285						
JCJ				Sn	**Sn**	09 55 18.1	**+2.1**
	82nm,0.3s,baz=319,slow=23,SNR=24						
WRA	**Warramunga Arr**	**45.84**	**190**	P	**P**	**10 02 51.0**	**+0.1**
	0.5nm,0.3s,baz=7.4,slow=8.1,SNR=12						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**49.56**	**190**	P	**P**	**10 03 20.9**	**+1.3**
	0.1nm,0.3s,baz=10,slow=7.1,SNR=5.2						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**51.45**	**311**	P	**P**	**10 03 33.9**	**+0.1**
	0.2nm,0.4s,baz=98,slow=10,SNR=2.6						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**54.11**	**315**	P	**P**	**10 03 53.2**	**0.0**
	1.0nm,0.5s,baz=93,slow=7.8,SNR=7.6						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**59.09**	**28**	P	**P**	**10 04 28.4**	**-0.1**
	0.2nm,0.6s,baz=258,slow=5.5,SNR=4.8						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**59.17**	**318**	P	**P**	**10 04 29.4**	**+0.2**
	1.2nm,0.6s,baz=77,slow=7.8,SNR=4.1						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**79.33**	**334**	P	**P**	**10 06 32.7**	**-1.1**
	0.9nm,0.4s,baz=68,slow=5.8,SNR=11						
	0.9nm,0.4s						

*IDC **28** 10:00:28.9±1.5,1.°69N×99.°41E,h153km±5km,mb3.7/9, mbtmp4.2/10,MS3.8/2,Error ellipse: s-maj=75.5km s-min=14.3km az=53.0*

*NEIC **28** 10:00:29.8±1.1,1.°72N±0.°06×99.°45E±0.°08,h158km±8km, mb4.1/9,Error ellipse: s-maj=10.9km s-min=9.0km az=79.0*

*DJA **28** 10:00:29.4±0.4,2.°N±2.°×9.°9E±.°,h150km±5km,M4.1/16, mb4.6/1,MLv3.9/16*

ISC 28 10:00:28.8±0.7,1.72N±0.°04×99.°38E±0.°05,h156km±7km, n46,σ1§27/54,mb4.0/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.94**	**168**	P	**Pn**	**10 00 54.7**	**+1.1**
RPSI	**Rantau Prapat**	**1.07**	**335**		**Pn**	**10 00 56.0**	**+1.2**
RPSI				Sn	**Sn**	**10 01 15.4**	**+0.8**
PSI	**Prapat**	**1.17**	**337**	P	**Pn**	**10 00 55.9**	**+0.1**
	24nm,0.3s,baz=188,slow=13,SNR=24						
PSI				S	**Sn**	**10 01 15.2**	**-1.2**
	17nm,0.4s,baz=119,slow=24,SNR=18						
GSI	**Gunungsitoli**	**1.85**	**257**		**Pn**	**10 01 04.3**	**+1.8**
GSI				Sn	**Sn**	**10 01 29.4**	**+0.9**
GSI	**Gunungsitoli**	**1.85**	**257**	P	**Pn**	**10 01 03.9**	**+1.4**
GSI				S	**Sn**	**10 01 29.0**	**+0.5**
PBSI	**Pulau Batu**	**2.08**	**212**	P	**Pn**	**10 01 05.3**	**+0.2**
PBSI				S	**Sn**	**10 01 33.1**	**-0.1**
BKNI	**Bangkinang**	**2.16**	**130**	Pn	**Pn**	**10 01 06.8**	**+0.6**
BKNI	**Bangkinang**	**2.16**	**130**	P	**Pn**	**10 01 05.0**	**-1.1**
PPI	**Padang Panjang**	**2.39**	**155**	P	**Pn**	**10 01 10.5**	**+1.7**
KCSI	**Kotacane, Aceh**	**2.41**	**318**	P	**Pn**	**10 01 09.5**	**+0.4**
KCSI				S	**Sn**	**10 01 39.1**	**-1.1**
PDSI	**Padang**	**2.83**	**157**	P	**Pn**	**10 01 15.4**	**+1.1**
PDSI				S	**Sn**	**10 01 49.0**	**-0.5**
SISI	**Saibi**	**3.04**	**185**	P	**Pn**	**10 01 15.8**	**-1.1**
SISI				S	**Sn**	**10 01 52.7**	**-1.4**
SNSI	**Sinabang, Aceh**	**3.13**	**283**	P	**Pn**	**10 01 19.0**	**+1.0**
SNSI				S	**Sn**	**10 01 54.3**	**-1.8**
IPM	**Ipoh**	**3.20**	**31**		**Pn**	**10 01 20.5**	**+1.6**
KULM	**Kulim**	**3.77**	**20**	Pn	**Pn**	**10 01 27.3**	**+1.1**
MLSI	**Meulaboh, Aceh**	**3.90**	**311**	P	**Pn**	**10 01 28.6**	**+0.6**
LHSI	**Lahat**	**6.89**	**143**	P	**Pn**	**10 02 08.1**	**+0.7**
MNAI	**Manna**	**7.02**	**149**	Pn	**Pn**	**10 02 09.0**	**-0.1**
DGPR	**DIGLIPUR**	**13.05**	**331**	*eP*	**P**	**10 03 35.5**	**+2.4**
DGPR				*eS*	**Sn**	**10 05 47.5**	**-5.7**
DGPR				IAML		10 05 51.2	
	comp=N,23nm,0.9s						
DGPR				IAML		10 05 52.8	
	comp=E,26nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.64**	**359**	P	**Pn**	**10 04 13.2**	**+0.1**
	comp=E,0.9nm,0.3s,baz=187,slow=12,SNR=1.8						
KNRA	**Kununurra**	**33.80**	**122**	P	**P**	**10 06 55.4**	**-0.9**
WB0	**Warramunga Arr**	**40.45**	**124**	P	**P**	**10 07 51.9**	**-0.5**
WB0				IAmb	IAmb	10 08 19.6	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**40.48**	**124**	P	**P**	**10 07 52.4**	**-0.2**
WRA	**Warramunga Arr**	**40.48**	**124**	P	**P**	**10 07 52.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=302,slow=9.1,SNR=24						
	comp=Z,1.2nm,0.3s						
WRAB	**Tennant Creek**	**40.49**	**124**	P	**P**	**10 07 54.2**	**+1.5**
WRAB				IAmb	IAmb	10 08 03.5	
	comp=Z,9.1nm,1.3s						
WR8	**Warramunga Arr**	**40.62**	**124**	P	**P**	**10 07 54.2**	**+0.4**
ASAR	**Alice Springs**	**42.00**	**129**	P	**P**	**10 08 04.5**	**-0.5**
ASAR	**Alice Springs**	**42.00**	**129**	P	**P**	**10 08 04.8**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=308,slow=8.6,SNR=4.2						
	comp=Z,0.1nm,0.4s						
KSAR	**Wonju Array Be**	**44.18**	**33**	P	**P**	**10 08 21.1**	**-1.2**
AAK	**Ala-Archa**	**46.43**	**335**	P	**P**	**10 08 41.0**	**+0.8**
AAK				IAmb	IAmb	10 09 01.1	
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**47.31**	**344**	P	**P**	**10 08 47.4**	**+0.8**
MKAR	**Makanchi Array**	**47.31**	**344**	P	**P**	**10 08 47.5**	**+0.9**
	comp=Z,3.7nm,0.4s,baz=158,slow=8.7,SNR=31						
	comp=Z,3.7nm,0.4s						
KKAR	**Karatay Array**	**48.59**	**332**	P	**P**	**10 08 55.5**	**-1.1**
KURBB	**Kurchatov Arra**	**51.83**	**343**	P	**P**	**10 09 21.6**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=162,slow=7.3,SNR=9.5						
	comp=Z,1.9nm,0.5s						
KURK	**Kurchatov**	**51.89**	**343**	P	**P**	**10 09 21.9**	**+0.7**
KURK				IAmb	IAmb	10 09 22.5	
	comp=Z,2.4nm,0.8s						
ZAA0	**Zalesovo Array**	**53.42**	**349**	P	**P**	**10 09 32.8**	**+0.3**
ZAA0				IAmb	IAmb	10 09 33.9	
	comp=Z,6.1nm,0.8s						
ZALV	**Zalesovo Beam**	**53.42**	**349**	P	**P**	**10 09 33.2**	**+0.8**
ZALV	**Zalesovo Beam**	**53.42**	**349**	P	**P**	**10 09 33.0**	**+0.6**
	comp=Z,8.3nm,0.6s,baz=180,slow=6.5,SNR=20						
	comp=Z,8.3nm,0.6s						
BVAR	**Borovoye Array**	**56.51**	**339**	P	**P**	**10 09 54.6**	**0.0**
	comp=Z,0.9nm,0.5s,baz=144,slow=11,SNR=3.1						
	comp=Z,0.9nm,0.5s						
AB31	**Akbulak array**	**58.11**	**331**	P	**P**	**10 10 05.9**	**0.0**
ABKAR	**Akbulak array**	**58.11**	**331**	P	**P**	**10 10 05.9**	**0.0**
AKTO	**Aktyubinsk**	**59.83**	**331**	LR	LR	10 38 29.7	
	comp=Z,86nm,19.4s,baz=224,slow=38						
FINES	**FINESS Array B**	**80.56**	**332**	P	**P**	**10 12 24.1**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=108,slow=6.2,SNR=8.9						
	comp=Z,0.9nm,0.4s						
ARCES	**ARCESS Array B**	**82.79**	**340**	P	**P**	**10 12 35.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=94,slow=4.9,SNR=13						
	comp=Z,0.5nm,0.4s						
HFS	**Hagfors**	**86.36**	**330**	P	**P**	**10 12 54.0**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=119,slow=5.8,SNR=12						
	comp=Z,1.2nm,0.4s						
KDAK	**Kodiak Island**	**98.09**	**31**	LR	LR	11 01 25.9	
	comp=Z,40nm,18.1s,baz=294,slow=37						

*ASRS **28** 10:02:24.0±1.5,53.°72N×91.°04E,h0km,M3.1,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

*NNC **28** 10:02:25.8±5.2,53.°63N×90.°92E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=36.5km s-min=25.1km az=58.0, Suspected Mining explosion.*

*IDC **28** 10:02:32.5±3.5,53.°52N×90.°67E,h0km,mbtmp3.1/3, ML2.7/3,Error ellipse: s-maj=32.2km s-min=24.8km az=31.0*

ISC 28 10:02:34.8±4.0,53.°2N±0.°1×90.°6E±0.°2,h0km,n8,σ1§59/9, 4C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.51**	**284**	I	I	10 25 25.0	
	0.1nm,1.2s,baz=90,slow=326,SNR=13						
ZAA0	**Zalesovo Array**	**3.51**	**284**	⇑Pg	**Pn**	**10 03 31.3**	**+0.8**
	0.5nm,0.5s						
ZAA0				⇓Lg	Lg	10 04 20.3	
	1.5nm,0.5s						
ZALV	**Zalesovo Beam**	**3.51**	**284**	Pn	**Pn**	**10 03 30.0**	**-0.5**
	2.3nm,0.3s,baz=93,slow=18,SNR=17						
ZALV				Lg	Lg	10 04 22.7	
	2.3nm,0.3s,baz=91,slow=26,SNR=4.0						
	3.5nm,0.4s						
KURK	**Kurchatov**	**7.81**	**256**	⇓Sn	**Sn**	**10 06 00.7**	**+2.1**
	5.6nm,0.8s						
KURK				⇓Lg	Lg	10 06 45.2	
	26nm,1.5s						
KURBB	**Kurchatov Arra**	**7.90**	**256**	Pn	**Pn**	**10 04 30.2**	**-0.5**
	0.1nm,0.3s,baz=67,slow=16,SNR=4.9						
KURBB				Sn	**Sn**	**10 05 59.4**	**-1.4**
	0.1nm,0.3s,baz=68,slow=26,SNR=13						
KURBB				Lg	Lg	10 06 49.0	
	0.1nm,0.3s,baz=64,slow=31,SNR=7.4						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**7.90**	**256**	⇓Sn	**Sn**	**10 05 59.9**	**-0.8**
	15nm,0.8s						
KURBB				⇑Lg	Lg	10 06 46.0	
	19nm,0.9s						
MK31	**Makanchi Array**	**8.37**	**223**	⇑Pn	**Pn**	**10 04 35.3**	**-1.9**
	0.6nm,0.6s,baz=187,slow=25,SNR=4.0						
MK31				⇑Sn	**Sn**	**10 06 13.1**	**+0.7**
	0.6nm,0.5s,baz=47,slow=23,SNR=3.7						
MK31				⇓Lg	Lg	10 07 05.4	
	8.3nm,1.2s,baz=42,slow=25,SNR=4.5						
MKAR	**Makanchi Array**	**8.37**	**223**	Pn	**Pn**	**10 04 38.9**	**+1.6**
	0.1nm,0.3s,baz=39,slow=12,SNR=4.8						
MKAR				Lg	Lg	10 07 05.6	
	0.2nm,0.3s,baz=41,slow=29,SNR=6.2						
	0.4nm,0.5s						

*NEIC **28** 10:07:49.9±1.0,60.°47S±0.°08×26.°4W±0.°3,h10km±1km, mb5.1/41,Error ellipse: s-maj=29.6km s-min=9.3km az=70.0*

*IDC **28** 10:07:49.0±0.7,60.°18S×26.°59W,h0km,mb4.4/9, mbtmp4.3/9,MS3.7/13,Error ellipse: s-maj=27.8km s-min=19.1km az=71.0*

ISC 28 10:07:51.2±0.5,60.°39S±0.°08×26.°3W±0.°1,h20km,n82, σ1§40/72,mb5.0/27,MS3.7/11,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.22**	**314**	Pn	**Pn**	**10 09 50.0**	**+0.8**
VNA1	**Neumayer--Stat**	**12.65**	**152**	⇑P	**Pn**	**10 10 47.3**	**-2.3**
	comp=Z,103nm,0.3s						
VNA3	**Neumayer Olymp**	**12.78**	**155**	⇑P	**Pn**	**10 10 48.4**	**-3.1**
	comp=Z,51nm,0.3s						
VNA2	**Neumayer--Watz**	**13.05**	**152**	⇑P	**Pn**	**10 10 52.6**	**-2.5**
	comp=Z,12nm,0.3s,baz=311,slow=15						
SNAA	**Sanae**	**14.65**	**150**	⇑P	**Pn**	**10 11 14.1**	**-2.9**
	comp=Z,377nm,0.3s						
SNAA	**Sanae**	**14.65**	**150**		**Pn**	**10 11 14.4**	**-2.6**
SNAA	**Sanae**	**14.65**	**150**	Pn	**Pn**	**10 11 14.2**	**-2.7**
	comp=Z,6.4nm,0.3s,baz=312,slow=13,SNR=101						
SNAA				Sn	Sn	10 13 44.9	-14
	comp=Z,0.7nm,0.3s,baz=314,slow=22,SNR=4.5						
SNAA				LR	LR	10 16 23.1	
	comp=Z,297nm,19.0s,baz=256,slow=34						
ESPZ	**Base Esperanza**	**14.69**	**245**	P	**P**	**10 11 21.8**	**-1.7**
TROLL	**Troll, Antarti**	**16.23**	**148**	⇑P	**Pn**	**10 11 35.6**	**-2.1**
	comp=Z,270nm,0.4s						
PMSA	**Palmer Station**	**17.72**	**239**	P	**Pn**	**10 11 55.5**	**-0.8**
PMSA	**Palmer Station**	**17.72**	**239**	P	**P**	**10 12 02.5**	**+5.5**
	comp=Z,8.5nm,0.3s,baz=89,slow=9.3,SNR=23						
PMSA				LR	LR	10 17 52.7	
	comp=Z,195nm,18.2s,baz=85,slow=34						
BELA	**Belgrano 2**	**17.78**	**186**	P	**Pn**	**10 11 57.2**	**+0.2**
EFI	**East Falkland**	**19.59**	**282**	P	**Pn**	**10 12 17.4**	**-1.6**
EFI				IAmb	IAmb	10 12 25.8	
	comp=Z,185nm,1.5s						
QSPA	**South Pole Qui**	**29.85**	**180**	P	**P**	**10 13 58.2**	**+1.4**
QSPA	**South Pole Qui**	**29.85**	**180**	P	**P**	**10 13 59.7**	**+2.9**
	comp=Z,4.4nm,0.5s,baz=203,slow=1.0,SNR=89						
QSPA				LR	LR	10 25 48.1	
	comp=Z,184nm,19.1s,baz=210,slow=36						
	comp=Z,4.4nm,0.5s						
TRQA	**Tarquist**	**31.64**	**299**	P	**P**	**10 14 11.7**	**-0.9**
PLCA	**Paso Flores**	**33.43**	**286**	P	**P**	**10 14 28.6**	**+0.2**
PLCA	**Paso Flores**	**33.43**	**286**	P	**P**	**10 14 26.6**	**-1.7**
	comp=Z,2.5nm,0.6s,baz=154,slow=8.3,SNR=8.0						
PLCA				LR	LR	10 28 02.8	
	comp=Z,104nm,18.2s,baz=136,slow=36						
	comp=Z,2.5nm,0.6s						
PLTB	**Pedras Altas**	**33.84**	**315**	P	**P**	**10 14 32.2**	**+0.4**
PLTB				IAmb	IAmb	10 14 45.3	
	comp=Z,61nm,2.0s						
LR05	**Currie**	**34.51**	**285**	P	**P**	**10 14 36.6**	**-1.0**
MAW	**Mawson**	**36.45**	**140**	LR	LR	10 28 27.7	
	comp=Z,151nm,19.2s,baz=256,slow=34						
ML02	**Panimavida**	**37.80**	**290**	P	**P**	**10 15 05.4**	**-0.4**
ML02				IAmb	IAmb	10 15 07.1	
	comp=Z,20nm,0.8s						
BO02	**Sierra Bellavi**	**38.30**	**292**		**P**	**10 15 09.9**	**-0.3**
BO02				IAmb	IAmb	10 15 11.8	
	comp=Z,14nm,0.8s						
BO01	**Tunca**	**38.78**	**292**	P	**P**	**10 15 13.7**	**-0.3**
BO01				IAmb	IAmb	10 15 15.3	
	comp=Z,22nm,0.9s						
LMEL	**Las Melosas**	**38.82**	**293**	P	**P**	**10 15 14.4**	**-0.2**
BO04	**La Punta**	**38.89**	**292**	P	**P**	**10 15 14.8**	**-0.2**
BO04				IAmb	IAmb	10 15 16.7	
	comp=Z,35nm,0.7s						
MT13	**San Alfonso**	**38.95**	**293**	P	**P**	**10 15 15.4**	**-0.2**
MT08	**Bocatoma Ro**	**39.07**	**294**	P	**P**	**10 15 17.5**	**+0.7**
MT08				IAmb	IAmb	10 15 19.3	
	comp=Z,24nm,0.7s						
MT09	**Talagante**	**39.24**	**292**	P	**P**	**10 15 17.9**	**-0.2**
MT03	**Universidad Ad**	**39.26**	**293**	P	**P**	**10 15 18.2**	**0.0**
MT03				IAmb	IAmb	10 15 20.2	
	comp=Z,45nm,0.7s						
MT01	**Popeta**	**39.29**	**292**		**P**	**10 15 17.8**	**-0.6**
MT01				IAmb	IAmb	10 15 19.0	
	comp=Z,31nm,0.6s						
MT16	**CCHEN**	**39.32**	**293**	P	**P**	**10 15 18.9**	**+0.3**
MT05	**Renca**	**39.45**	**293**	P	**P**	**10 15 20.3**	**+0.6**
PEL	**Peldehue**	**39.63**	**293**	P	**P**	**10 15 21.5**	**+0.3**
MT02	**Curacav**	**39.74**	**293**	P	**P**	**10 15 22.3**	**+0.2**
MT02				IAmb	IAmb	10 15 23.2	
	comp=Z,29nm,1.1s						
VA03	**San Esteban**	**39.89**	**294**	P	**P**	**10 15 23.6**	**+0.1**
VA03				IAmb	IAmb	10 15 25.7	
	comp=Z,48nm,0.8s						
CPUP	**Villa Florida**	**40.10**	**314**	P	**P**	**10 15 24.8**	**-0.3**
CPUP	**Villa Florida**	**40.10**	**314**	P	**P**	**10 15 24.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=10.0,slow=7.4,SNR=7.5						
CPUP				LR	LR	10 33 40.3	
	comp=Z,27nm,18.5s,baz=12,slow=39						
	comp=Z,1.0nm,0.6s						
VA06	**Catapilco**	**40.40**	**293**	P	**P**	**10 15 27.5**	**-0.1**
VA06				IAmb	IAmb	10 15 29.5	
	comp=Z,32nm,0.6s						
CO02	**Combarbal**	**41.41**	**294**		**P**	**10 15 35.9**	**-0.1**
CO02				IAmb	IAmb	10 15 38.4	
	comp=Z,50nm,1.2s						
CO03	**El Pedregal**	**41.58**	**295**	P	**P**	**10 15 37.2**	**-0.1**
CO03				IAmb	IAmb	10 15 59.7	
	comp=Z,85nm,1.8s						
SBA	**Scott Base**	**41.77**	**184**	P	**P**	**10 15 36.2**	**-2.1**
SBA				IAmb	IAmb	10 15 37.2	
	comp=Z,40nm,1.6s						
CO01	**Juntas del Tor**	**42.04**	**296**	IAmb	IAmb	10 15 43.9	
	comp=Z,20nm,0.8s						
CO06	**Fray Jorge**	**42.14**	**294**	P	**P**	**10 15 42.4**	**+0.5**
VNDA	**Vanda**	**42.25**	**183**	P	**P**	**10 15 45.7**	**+3.5**
	comp=Z,0.9nm,0.7s,baz=265,slow=1.7,SNR=4.2						
	comp=Z,0.9nm,0.7s						
AC04	**Llanos de Chal**	**44.00**	**297**	P	**P**	**10 15 57.9**	**+0.9**
AC02	**Maricunga**	**44.34**	**300**		**P**	**10 16 01.3**	**+1.0**
AC02				IAmb	IAmb	10 17 15.3	
	comp=Z,50nm,1.8s						
H04S2	**CROZET ISLANDS**	**45.50**	**110**	T	T	11 05 14.2	
	baz=223,slow=74,SNR=4.5						
H04S3	**CROZET ISLANDS**	**45.51**	**110**	T	T	11 05 15.8	
	baz=223,slow=74,SNR=3.8						
H04S1	**CROZET ISLANDS**	**45.52**	**110**	T	T	11 05 29.9	
	baz=223						
AC01	**Pan de Azucar**	**45.57**	**299**	P	**P**	**10 16 09.6**	**+0.1**
GO02	**Mina Guanaco**	**46.00**	**300**		**P**	**10 16 13.4**	**+0.2**
GO02				IAmb	IAmb	10 16 14.7	
	comp=Z,16nm,0.8s						

BOSA	**Boshof**	**46.77**	**71**	LR	LR	10 30 42.4			
	comp=Z,74nm,21.3s,baz=36,slow=29								
PB14	**IPOC Station P**	**46.82**	**300**	P	**P**	**10 16 19.0**	**-0.7**		
PB14				IAmb	IAmb	10 16 46.7			
	comp=Z,40nm,1.5s								
BDFB	**Brasilia**	**47.38**	**331**	P	**P**	**10 16 23.1**	**-0.8**		
	comp=Z,2.3nm,0.5s,baz=85,slow=8.9,SNR=3.3								
BDFB				LR	LR	10 33 45.7			
	comp=Z,98nm,21.3s,baz=127,slow=33								
	comp=Z,2.3nm,0.5s								
LBTB	**Lobatse**	**49.99**	**69**	LR	LR	10 33 51.6			
	comp=Z,106nm,19.3s,baz=26,slow=31								
GO01	**Chusmiza**	**50.70**	**304**	P	**P**	**10 16 49.8**	**+0.1**		
LPAZ	**La Paz**	**53.31**	**307**		**P**	**10 17 09.1**	**-0.2**		
LPAZ	**La Paz**	**53.31**	**307**	P	**P**	**10 17 09.7**	**+0.3**		
	comp=Z,1.9nm,0.4s,baz=143,slow=6.3,SNR=12								
LPAZ				LR	LR	10 40 44.9			
	comp=Z,59nm,20.4s,baz=26,slow=37								
	comp=Z,1.9nm,0.4s								
RCBR	**Riachuelo**	**54.92**	**348**	LR	LR	10 38 29.1			
	comp=Z,17nm,18.1s,baz=254,slow=34								
MATP	**Matopo**	**55.28**	**69**	LR	LR	10 36 26.6			
	comp=Z,75nm,18.9s,baz=21,slow=31								
BOAV	**Boa Vista**	**68.02**	**323**	P	**P**	**10 18 47.0**	**-1.9**		
MDP	**Montagnes des**	**68.49**	**332**	LR	LR	10 45 57.5			
	comp=Z,117nm,20.6s,baz=45,slow=34								
DBIC	**Dimbokro**	**68.96**	**23**	P	**P**	**10 18 55.4**	**+0.7**		
	comp=Z,3.3nm,0.6s,baz=175,slow=3.7,SNR=2.4								
	comp=Z,3.3nm,0.6s								
COHC	**Cochancay**	**70.36**	**302**	P	**P**	**10 19 03.8**	**+0.4**		
TORD	**Torodi Ar. Bea**	**76.65**	**28**		**P**	**10 19 40.8**	**+0.6**		
TORD				IAmb	IAmb	10 19 42.4			
	comp=Z,10nm,0.7s								
TORD	**Torodi Ar. Bea**	**76.65**	**28**	P	**P**	**10 19 40.8**	**+0.6**		
	comp=Z,16nm,0.5s,baz=199,slow=5.8,SNR=162								
	comp=Z,16nm,0.5s								
ASAR	**Alice Springs**	**94.71**	**162**	P	**P**	**10 21 13.2**	**+2.3**		
	comp=Z,0.7nm,1.0s,baz=192,slow=4.4,SNR=3.2								
	comp=Z,0.7nm,1.0s								
Q16A	**Castle Valley**	**120.55**	**296**		**PKiKP**	**10 26 41.3**	**+0.5**		
PDAR	**Pinedale Array**	**122.97**	**299**	PKP	**PKPdf**	**10 26 44.5**	**-0.8**		
	comp=Z,0.3nm,0.4s,baz=126,slow=4.5,SNR=5.5								
FINES	**FINESS Array B**	**127.99**	**29**	PKP	**PKiKP**	**10 26 54.8**	**+0.3**		
	comp=Z,3.2nm,0.7s,baz=150,slow=4.2,SNR=9.7								
ARCES	**ARCESS Array B**	**134.79**	**23**	PKP	**PKPdf**	**10 27 06.0**	**-0.6**		
	comp=Z,2.1nm,0.7s,baz=124,slow=1.7,SNR=10								
YKA	**Yellowknife Ar**	**139.63**	**314**	PKP	**PKPdf**	**10 27 15.6**	**-0.1**		
	comp=Z,0.6nm,0.5s,baz=112,slow=1.9,SNR=13								
P33M	**Teslin, Yukon**	**145.33**	**303**	PKPbc	**PKPdf**	**10 27 26.2**	**+0.2**		
SONM	**Songino Array**	**150.27**	**93**	PKPbc	**PKiKP**	**10 27 40.9**	**+0.4**		
	comp=Z,2.2nm,0.7s,baz=219,slow=2.4,SNR=11								
BCAR	**Beaver Creek A**	**150.46**	**304**		**PKiKP**	**10 27 40.4**	**0.0**		
E29M	**Blow River**	**150.91**	**315**		**PKiKP**	**10 27 40.5**	**-0.5**		
J26L	**Joseph Creek**	**151.75**	**306**		**PKiKP**	**10 27 43.5**	**+0.5**		
I26K	**Coal Creek Min**	**151.87**	**307**		**PKiKP**	**10 27 43.4**	**+0.3**		
ILAR	**Eielson Array**	**153.18**	**305**		**PKiKP**	**10 27 46.5**	**+0.7**		
ILAR	**Eielson Array**	**153.18**	**305**	PKPbc	**PKiKP**	**10 27 45.8**	**-0.1**		
	comp=Z,1.0nm,0.5s,baz=152,slow=3.2,SNR=29								
CAST	**Castle Rocks**	**154.93**	**301**		**PKPab**	**10 28 04.4**	**-0.8**		

AUST 28 10:10:57.3±0.9,18.°S±10.°×12.°0E±.°,h10km,mb4.4/1, ML2.5/3,ML3.1/4,Error ellipse: s-maj=24.4km s-min=10.6km az=150.5,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUBRM	**Broome Senior**	**1.95**	**76**	P	Pn	10 11 30.8	+0.3
MBWA	**Marble Bar**	**2.75**	**190**	P	Pn	10 11 42.3	+0.7
MBWA				S	Sn	10 12 16.2	+1.3
PSAC1	**Pilbara Seismi**	**3.11**	**188**	P	Pn	10 11 46.5	+0.1
PSAC2	**Pilbara Seismi**	**3.13**	**186**	P	Pn	10 11 47.3	+0.6
PSAA2	**Pilbara Seismi**	**3.13**	**187**	P	Pn	10 11 46.7	-0.1
FITZ	**Fitzroy Crossi**	**5.14**	**87**	P	Pn	10 12 10.4	-3.9
GIRL	**Giralia**	**7.02**	**232**	P	Pn	10 12 39.7	-0.5
	comp=Z,115μmcomp=Z,35nm,1.2s,comp=Z,0.1nm						
WRKA	**Warakurna**	**9.95**	**133**	P	Pn	10 13 19.7	-0.8
MORW	**Morawa**	**11.26**	**199**	S	Sn	10 15 35.8	-8.5

**CATAC 28 10:11:24.7±0.5,13.°N±2.°×8.°8W±.°

WKZ				S	Sg	11 02 26.9	-0.2	
EAZ	**Earnscleugh**	**1.66**	**93**	P	Pn	11 02 07.7	-1.1	
EAZ				S	Sb	11 02 31.1	-0.1	
NSBS	**Neils Beach**	**1.69**	**46**	P	Pn	11 02 09.4	+0.2	
NSBS				S	Sb	11 02 31.9	-0.2	
JCZ	**Jackson Bay**	**1.70**	**50**	P	Pn	11 02 09.6	0.0	
JCZ				S	Sn	11 02 31.7	0.0	
APZ	**The Paps**	**1.81**	**157**	P	Pn	11 02 10.5	-0.4	
MECS	**Makarora Emerg**	**1.87**	**61**	P	Pn	11 02 12.3	+0.5	
MECS				S	Sn	11 02 36.4	+0.7	
HDWS	**Haast DOC Work**	**1.97**	**50**	P	Pb	11 02 14.3	-1.0	
HDWS				S	Sb	11 02 40.4	+0.3	
TUZ	**Tuapeka**	**2.03**	**114**	P	Pn	11 02 12.5	-1.4	
TUZ				S	Sb	11 02 41.2	-0.7	
SYZ	**Scrubby Hill**	**2.04**	**133**	P	Pn	11 02 12.6	-1.4	
LBZ	**Lake Benmore**	**2.42**	**72**	P	Pn	11 02 18.3	-1.0	
LBZ				S	Sn	11 02 48.3	-1.1	
ODZ	**Otahua Downs**	**2.61**	**88**	P	Pn	11 02 19.9	-2.0	
ODZ				S	Sn	11 02 52.7	-1.2	
FOZ	**Fox Glacier**	**2.62**	**52**	P	Pn	11 02 17.7	-4.3	
FOZ				S	Sb	11 02 59.9	+0.9	
HHSZ	**Highcliff Hill**	**2.65**	**107**	P	Pn	11 02 21.2	-1.3	
HHSZ				S	Sn	11 02 55.6	+0.7	
TMZ	**Timaru**	**2.98**	**76**	P	Pn	11 02 25.6	-1.4	
GCSZ	**Gaunt Creek Bo**	**3.05**	**54**	P	Pn	11 02 23.8	-4.0	
ARCZ	**Arundel**	**3.25**	**69**	P	Pn	11 02 28.9	-1.8	
RPZ	**Rata Peaks**	**3.27**	**65**	P	Pn	11 02 28.9	-2.1	
WVZ	**Waitaha Valley**	**3.43**	**54**	P	Pn	11 02 29.2	-3.9	
MHCZ	**Mount Hutt**	**3.69**	**65**	P	Pn	11 02 34.3	-2.4	
WACZ	**Wakanui South**	**3.69**	**72**	P	Pn	11 02 35.1	-1.7	
INZ	**Inchbonnie**	**4.05**	**54**	P	Pn	11 02 37.9	-3.9	
MQZ	**McQueen's Vall**	**4.33**	**72**	P	Pn	11 02 43.3	-2.2	
AKCZ	**Akaroa Harbour**	**4.45**	**75**	P	Pn	11 02 45.2	-1.9	
LTZ	**Lake Taylor**	**4.51**	**60**	P	Pn	11 02 45.8	-2.3	
AMCZ	**Amberley**	**4.55**	**66**	P	Pn	11 02 46.5	-2.0	
OKCZ	**Okains Bay**	**4.60**	**74**	P	Pn	11 02 47.7	-1.5	
GVZ	**Greta Valley S**	**4.90**	**65**	P	Pn	11 02 51.3	-2.0	
DSZ	**Denniston Nort**	**4.91**	**47**	P	Pn	11 02 49.1	-4.5	
THZ	**Tophouse**	**5.50**	**54**	P	Pn	11 02 58.5	-3.2	
MRNZ	**Matariki Terra**	**5.66**	**50**	P	Pn	11 03 00.2	-3.7	
QRZ	**Quartz Range**	**5.96**	**45**	P	Pn	11 03 03.6	-4.4	
TKNZ	**Takaka Hill**	**6.03**	**49**	P	Pn	11 03 05.6	-3.3	
NNZ	**Nelson**	**6.13**	**52**	P	Pn	11 03 06.9	-3.4	
TUWZ	**Tuamarina**	**6.32**	**56**	P	Pn	11 03 11.6	-1.2	
TCW	**Tory Channel**	**6.65**	**56**	P	Pn	11 03 15.5	-1.9	
DUWZ	**D'Urville Isla**	**6.71**	**52**	P	Pn	11 03 15.8	-2.5	
KHEZ	**Kahui Hut**	**7.86**	**44**	P	Pn	11 03 30.2	-3.9	
NEZ	**North Egmont**	**7.92**	**44**	P	Pn	11 03 31.3	-3.6	
VRZ	**Vera Road**	**8.37**	**46**	P	Pn	11 03 38.6	-2.3	
KMRZ	**Kaimai**	**9.94**	**46**	P	Pn	11 03 57.6	-4.9	
AWAZ	**Awhitu Peninsu**	**9.95**	**38**	P	Pn	11 03 58.5	-4.2	
WCZ	**Waipu Caves**	**10.79**	**34**	P	Pn	11 04 09.7	-4.5	

*IDC **28** 11:12:07.1±2.3,51°.47N×179°.05E,h0km,mb3.1/4, mbtmp3.3/6,ML3.5/2,Error ellipse: s-maj=73.2km s-min=24.8km az=7.0*
*NEIC **28** 11:12:16.2±1.3,51°.7N±0°.2×178°.4E±0°.1,h100km±6km, mb3.8/21,ML3.3/10,ML3.2(AEIC),Error ellipse: s-maj=22.3km s-min=9.2km az=181.0*
*AEIC **28** 11:12:16.8±1.8,51°.8N±0°.2×178°.59E±0°.10,h97km±4km, Error ellipse: s-maj=23.0km s-min=8.8km az=181.0*

ISC 28 11:12:16.9±0.9,51°.8N±0°.1×178°.51E±0°.05,h100km±6km, n72,σ1§06/86,mb3.6/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.18**	**11**		**Pn**	**11 12 31.0**	**-0.1**
LSSA	**Little Sitkin**	**0.20**	**1**		**Pn**	**11 12 31.1**	**0.0**
LSPA	**Little Sitkin**	**0.21**	**11**		**Pn**	**11 12 31.0**	**-0.2**
LSPA					**Sn**	**11 12 42.4**	**+0.6**
LSNW	**Little Sitkin**	**0.22**	**1**		**Pn**	**11 12 30.9**	**-0.3**
LSNW					**Sn**	**11 12 41.9**	**0.0**
AMKA	**Amchitka**	**0.62**	**127**		**Pn**	**11 12 33.5**	**-0.1**
AMKA					**Sn**	**11 12 45.5**	**-0.6**
CETU	**Semis' Tuman**	**0.65**	**70**		**Pn**	**11 12 33.8**	**0.0**
CETU					**Sn**	**11 12 46.8**	**+0.2**
CEAP	**Semis' Anvil P**	**0.71**	**69**		**Pn**	**11 12 34.4**	**+0.1**
CEAP					**Sn**	**11 12 46.8**	**-0.7**
CERB	**Semis' Cerberu**	**0.72**	**75**		**Pn**	**11 12 34.8**	**+0.4**
CERB					**Sn**	**11 12 48.1**	**+0.5**
CEPE	**Semis' Perret**	**0.74**	**73**		**Pn**	**11 12 34.7**	**0.0**
CEPE					**Sn**	**11 12 47.4**	**-0.6**
GASW	**Gareloi Southw**	**1.64**	**88**		**Pn**	**11 12 44.8**	**0.0**
GASW					**Sn**	**11 13 06.2**	**+0.2**
GANO	**Gareloi North**	**1.67**	**87**		**Pn**	**11 12 45.1**	**-0.1**
GANO					**Sn**	**11 13 07.0**	**+0.2**
GAKI	**Gareloi-Kavalg**	**1.68**	**96**		**Pn**	**11 12 45.3**	**0.0**
GAKI					**Sn**	**11 13 06.8**	**-0.1**
GANE	**Gareloi Northe**	**1.69**	**87**		**Pn**	**11 12 45.3**	**-0.1**
GALA	**Gareloi Lava P**	**1.69**	**89**		**Pn**	**11 12 45.7**	**+0.2**
GALAA					**Sn**	**11 13 08.2**	**+1.0**
GAEA	**Gareloi East**	**1.71**	**88**		**Pn**	**11 12 45.8**	**+0.1**
TANO	**Tanaga North**	**2.10**	**84**		**Pn**	**11 12 50.8**	**+0.1**
TANO					**Sn**	**11 13 16.4**	**-0.1**
TASE	**Tanaga Southea**	**2.15**	**86**		**Pn**	**11 12 51.3**	**-0.1**
TASE					**Sn**	**11 13 17.4**	**-0.3**
TAFP	**Tanaga Falls P**	**2.18**	**85**		**Pn**	**11 12 51.5**	**-0.3**
TAPA	**Tanaga Point A**	**2.29**	**87**		**Pn**	**11 12 53.1**	**-0.1**
KIMD	**Kanaga Island**	**2.64**	**88**		**Pn**	**11 12 57.7**	**-0.1**
KIKV	**Kanaga Island**	**2.68**	**86**		**Pn**	**11 12 58.3**	**-0.1**
KIWB	**Kanaga Island**	**2.70**	**86**		**Pn**	**11 12 58.0**	**-0.5**
KIWB				IAML		11 13 44.1	
	comp=N,106nm,0.6s						
KIWB				IAML		11 13 56.0	
	comp=E,109nm,0.8s						
SHEM	**Shemya Is, Ala**	**2.88**	**292**	Pn	**Pn**	**11 12 59.8**	**-1.2**
	comp=E,24nm,0.3s,baz=115,slow=1.9,SNR=21						
SHEM				Sn	**Sn**	**11 13 36.3**	**+1.4**
	comp=E,11nm,0.3s,baz=277,slow=18,SNR=6.1						
	comp=E,38nm,0.3s						
SMY	**Shemya**	**2.88**	**292**		**Pn**	**11 13 00.7**	**-0.2**
ADK	**Adak**	**2.98**	**86**		**Pn**	**11 13 02.0**	**-0.3**
ADK				IAML		11 13 46.2	
	comp=E,73nm,0.4s						
ADK				IAML		11 13 51.2	
	comp=E,69nm,0.4s						
ADAG	**Mount Adagdak**	**3.04**	**84**		**Pn**	**11 13 02.8**	**-0.3**
ETKA	**Kagalaska Isla**	**3.16**	**86**		**Pn**	**11 13 04.3**	**-0.4**
GSSP	**Great Sitkin S**	**3.31**	**82**		**Pn**	**11 13 05.6**	**-1.0**
GSCK	**Great Sitkin C**	**3.31**	**83**		**Pn**	**11 13 06.1**	**-0.6**
GSMY	**Great Sitkin M**	**3.38**	**83**		**Pn**	**11 13 07.2**	**-0.4**
GSTR	**Great Sitkin T**	**3.38**	**82**	Pn	**Pn**	**11 13 07.2**	**-0.4**
GSIG	**Igitkin Island**	**3.46**	**84**		**Pn**	**11 13 07.9**	**-0.8**
ATKA	**Atka Island**	**4.53**	**81**	Pn	**Pn**	**11 13 21.9**	**-1.3**
ATKA				IAML		11 14 33.3	
	comp=E,29nm,1.0s						
ATKA				IAML		11 15 27.6	
	comp=N,37nm,1.2s						
NIKH	**Nikolski High**	**7.83**	**76**		**Pn**	**11 14 09.4**	**+1.4**
OKSP	**Okmok Steeple**	**8.19**	**74**		**Pn**	**11 14 14.0**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**8.36**	**73**		**Pn**	**11 14 16.6**	**+1.5**
P08K	**Saint George I**	**8.52**	**51**	Pn	**Pn**	**11 14 18.0**	**+0.8**
MREP	**Makushin Rep't**	**9.17**	**71**		**Pn**	**11 14 26.9**	**+0.7**
MNAT	**Makushin Natee**	**9.22**	**71**		**Pn**	**11 14 27.9**	**+1.1**
UNV	**Unalaska Valle**	**9.32**	**71**	Pn	**Pn**	**11 14 29.8**	**+1.7**
AKGG	**Akutan Green G**	**9.66**	**69**		**Pn**	**11 14 35.0**	**+2.2**
AKUT	**Akutan**	**9.78**	**70**	Pn	**Pn**	**11 14 36.3**	**+1.9**
S12K	**Black Hills**	**12.15**	**63**	Pn	**Pn**	**11 15 07.6**	**+1.2**
PEA0B	**Petropavlovsk-**	**12.77**	**284**	Pn	**Pn**	**11 15 16.4**	**+1.9**
PETK	**Petropavlovsk-**	**12.77**	**284**	Pn	**Pn**	**11 15 15.5**	**+1.0**
	comp=N,0.3nm,0.3s,baz=94,slow=19,SNR=18						
	comp=N,1.1nm,0.6s						
CNBA	**Chernabura Isl**	**13.44**	**68**	Pn	**Pn**	**11 15 20.2**	**-3.1**
O14K	**Tigyukauivet M**	**13.66**	**49**		**P**	**11 15 32.8**	**+1.4**
N17K	**Nushagak Hills**	**16.05**	**47**		**P**	**11 16 00.0**	**+2.1**
N17K				IAmb	IAmb	11 16 24.0	
	comp=Z,4.6nm,1.1s						
OHAK	**Old Harbor**	**17.20**	**60**		**P**	**11 16 08.0**	**-2.6**
OHAK				IAmb	IAmb	11 16 15.5	
	comp=Z,3.4nm,1.0s						
KDAK	**Kodiak Island**	**17.64**	**59**	P	**P**	**11 16 13.2**	**-2.3**
KDAK				IAmb	IAmb	11 16 29.0	
	comp=Z,5.9nm,1.1s						
P19K	**Oil Pt**	**17.66**	**52**	P	**Pn**	**11 16 16.9**	**+0.7**
SYI	**Shuyak Island**	**17.87**	**56**	P	**P**	**11 16 17.3**	**-0.6**
CNPM	**China Poot**	**18.63**	**54**	P	**P**	**11 16 26.3**	**0.0**
CNPM				IAmb	IAmb	11 16 49.5	
	comp=Z,7.4nm,1.1s						
SLKM	**Skilak Lake**	**19.33**	**51**	P	**P**	**11 16 33.9**	**-0.1**
SLKM				IAmb	IAmb	11 16 34.8	
	comp=Z,5.9nm,0.7s						
CAST	**Castle Rocks**	**19.40**	**42**	P	**P**	**11 16 34.4**	**-0.3**
O22K	**Cooper Landing**	**19.57**	**51**	P	**P**	**11 16 36.3**	**-0.2**
SEW	**Seward**	**19.62**	**52**	P	**P**	**11 16 36.2**	**-0.8**
SEW				IAmb	IAmb	11 16 56.6	
	comp=Z,5.2nm,1.2s						
PWL	**Port Wells**	**20.31**	**50**	P	**P**	**11 16 44.1**	**-0.5**
PWL				IAmb	IAmb	11 17 10.9	
	comp=Z,3.3nm,0.8s						
SCM	**Sheep Creek Mo**	**21.00**	**48**	P	**P**	**11 16 49.9**	**-2.0**
FID	**Port Fidalgo**	**21.19**	**51**	P	**P**	**11 16 50.8**	**-3.2**
ILAR	**Eielson Array**	**22.02**	**40**	P	**P**	**11 17 02.8**	**0.0**
	comp=Z,0.1nm,0.5s,baz=246,slow=10,SNR=5.0						
	comp=Z,0.1nm,0.5s						
N25K	**Chitina, Valde**	**22.23**	**49**	P	**P**	**11 17 06.0**	**+0.9**
GLB	**Gilahina Butte**	**22.58**	**50**	P	**P**	**11 17 08.0**	**-0.6**
DOT	**Dot Lake**	**22.88**	**44**	P	**P**	**11 17 10.2**	**-1.4**
GRNC	**Granite Creek**	**23.49**	**52**	P	**P**	**11 17 16.9**	**-0.7**
GRNC				IAmb	IAmb	11 17 18.9	
	comp=Z,4.9nm,0.9s						
TABL	**Table Mountain**	**23.77**	**53**	P	**P**	**11 17 19.8**	**-0.2**
TABL				IAmb	IAmb	11 17 39.6	
	comp=Z,6.0nm,1.1s						
LOGN	**Logan Glacier**	**23.86**	**52**	P	**P**	**11 17 20.4**	**-0.4**
LOGN				IAmb	IAmb	11 17 48.8	
	comp=Z,3.9nm,1.2s						
O28M	**Mount Upton**	**24.26**	**52**	P	**P**	**11 17 26.0**	**+1.5**
O28M				IAmb	IAmb	11 17 42.7	
	comp=Z,4.4nm,1.1s						
HYT	**Haines Junctio**	**25.58**	**52**	P	**P**	**11 17 38.2**	**+1.9**
NVAR	**Mina Array Bea**	**45.16**	**81**	P	**P**	**11 20 24.8**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=290,slow=7.5,SNR=6.0						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**11 20 43.4**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=344,slow=3.9,SNR=3.9						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**11 22 14.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=330,slow=4.3,SNR=3.7						
	comp=Z,0.1nm,0.4s						

*TIR **28** 11:55:06.7,41°.20N×19°.72E,h43km±1km,Ml3.0/3*
*SKO **28** 11:55:07.7,41°.02N×19°.67E,h0km,ML2.3*
*PDG **28** 11:55:07.7±0.3,41°.19N×19°.54E,h22km,ML2.5/12,Error ellipse: s-maj=1.6km s-min=2.6km az=0.0*
*BEO **28** 11:55:07.2±0.4,41°.14N×19°.75E,h10km±2km,ML2.0/8*

ISC 28 11:55:07.0±1.1,41°.23N±0°.02×19°.75E±0°.03,h14km±9km, n33,σ0§93/63,9C-9D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.15**	**37**	Sg	**Sb**	**11 55 15.2**	**+0.5**
VLO	**Vlora**	**0.78**	**194**	⇑Pg	**Pg**	**11 55 21.3**	**-0.8**
VLO				Sg	**Sb**	**11 55 34.4**	**+1.6**
VLO				AML	AML	11 55 37.9	
	2.9nm,0.4s						
OHR	**Ohrid**	**0.80**	**98**	*i* Pg	**Pb**	**11 55 23.0**	**+0.2**
OHR				*i* Sg	**Sn**	**11 55 35.3**	**-0.5**
OHR				*e*Lg	Lg	11 55 35.4	
	comp=N,89nm,0.7s						
OHR				*e*Lg	Lg	11 55 35.5	
	comp=E,77nm,0.6s						
PUK	**Puka**	**0.82**	**8**	⇑Pn	**Pg**	**11 55 22.7**	**-0.2**
PUK				Sn	**Sn**	**11 55 36.2**	**-0.1**
PUK				AML	AML	11 55 39.1	
	comp=E,0.8nm,0.4s						
ULC	**Ulcinj**	**0.83**	**333**	⇓*i* Pg	**Pg**	**11 55 23.0**	**0.0**
ULC				*i* Sg	**Sn**	**11 55 36.6**	**+0.3**
DRME	**Dracevica, Mon**	**1.05**	**336**	⇓*i* Pg	**Pn**	**11 55 27.3**	**0.0**
DRME				*i* Sg	**Sn**	**11 55 42.9**	**+1.2**
BUM	**Brajici-Budva**	**1.25**	**329**	⇓*i* Pg	**Pn**	**11 55 30.0**	**-0.1**
BUM				*i* Sg	**Sg**	**11 55 48.1**	**+0.8**
PDG	**Podgorica**	**1.26**	**343**	*e*Pg	**Pg**	**11 55 31.5**	**+0.3**
PDG				*e*Sg	**Sg**	**11 55 49.1**	**+1.6**
PDG	**Podgorica**	**1.26**	**343**	⇓*i* Pg	**Pb**	**11 55 30.7**	**+0.2**
PDG				*i* Sg	**Sg**	**11 55 48.4**	**+0.9**
FNA	**Florina**	**1.31**	**109**	⇑Pn	**Pn**	**11 55 31.1**	**+0.1**
FNA				Sn	**Sg**	**11 55 49.6**	**+0.3**
FNA	**Florina**	**1.31**	**109**	*i* Pg	**Pn**	**11 55 31.1**	**+0.1**
FNA				*i* Sg	**Sg**	**11 55 49.5**	**+0.2**
FNA	**Florina**	**1.31**	**109**	*e*Pg	**Pn**	**11 55 30.6**	**-0.3**
FNA				*e*Sg	**Sn**	**11 55 49.1**	**+0.8**
SRN	**Sarande**	**1.36**	**172**	⇑Pn	**Pn**	**11 55 31.8**	**+0.2**
SRN				Sn	**Sn**	**11 55 50.5**	**+1.1**
PVY	**Plav**	**1.37**	**7**	⇓*i* Pg	**Pg**	**11 55 33.4**	**0.0**
PVY				*i* Sg	**Sg**	**11 55 54.1**	**+2.8**
CEME	**Cevo**	**1.46**	**335**	⇑*i* Pg	**Pn**	**11 55 33.0**	**0.0**
CEME				*i* Sg	**Sg**	**11 55 53.3**	**-0.6**
SCTE	**Santa Cesarea**	**1.51**	**221**	⇑Pn	**Pn**	**11 55 33.3**	**-0.4**
SCTE				Sn	**Sn**	**11 55 53.2**	**0.0**
SCTE				AML	AML	11 55 55.7	
	comp=E,0.7nm,0.4s						
KEK	**Kerkira**	**1.51**	**179**	⇑Pn	**Pb**	**11 55 35.4**	**+0.5**
HCY	**Herceg Novi**	**1.54**	**323**	⇓*i* Pg	**Pn**	**11 55 34.2**	**+0.2**
HCY				*i* Sg	**Sb**	**11 55 55.2**	**+0.6**
KOME	**Kolasin**	**1.63**	**354**	⇓*i* Pn	**Pn**	**11 55 36.1**	**+0.7**
KOME				*i* Sn	**Sg**	**11 55 59.6**	**+0.1**
IVA	**Berane**	**1.65**	**4**	⇓*i* Pn	**Pb**	**11 55 37.6**	**+0.4**
IVA				*i* Sn	**Sg**	**11 56 00.5**	**+0.5**
NKME	**Niksic**	**1.65**	**339**	⇓*i* Pn	**Pb**	**11 55 37.8**	**+0.6**
NKME				*i* Sn	**Sg**	**11 55 58.8**	**-1.2**
IGT	**Igoumenitsa**	**1.75**	**165**	⇑Pn	**Pn**	**11 55 37.0**	**0.0**
IGT				Sn	**Sn**	**11 56 00.1**	**+1.0**
IGT	**Igoumenitsa**	**1.75**	**165**	*i* Pn	**Pn**	**11 55 36.8**	**-0.1**
IGT	**Igoumenitsa**	**1.75**	**165**	*e*Pn	**Pn**	**11 55 35.7**	**-1.3**
IGT				*e*Sn	**Sn**	**11 55 58.2**	**-0.9**
TREB	**Trebinje**	**1.82**	**325**	*e*Pn	**Pb**	**11 55 39.1**	**-0.9**
TREB				*e*Sn	**Sg**	**11 56 04.6**	**-0.8**
BRY	**Bratogost**	**1.90**	**332**	⇑*i* Pn	**Pb**	**11 55 40.8**	**-0.7**
BRY				*i* Sn	**Sb**	**11 56 04.0**	**-1.2**
SJES	**Sjenica**	**2.04**	**5**	*e*Pn	**Pb**	**11 55 43.3**	**-0.6**
SJES				*e*Sn	**Sb**	**11 56 08.9**	**-0.3**
UPM	**Unac-Piva**	**2.07**	**343**	*e*Pn	**Pn**	**11 55 42.3**	**+0.8**
UPM				*i* Sn	**Sb**	**11 56 08.6**	**-1.5**
BARS	**Barje**	**2.21**	**43**	*e*Pn	**Pb**	**11 55 46.1**	**-0.7**
BARS				*e*Sn	**Sb**	**11 56 12.3**	**-1.7**
SELS	**Selova**	**2.23**	**27**	*e*Pn	**Pn**	**11 55 45.0**	**+1.3**
SELS				*e*Sn	**Sb**	**11 56 14.4**	**-0.3**
IVAS	**Ivanjica**	**2.37**	**7**	*e*Pn	**Pn**	**11 55 46.1**	**+0.6**
IVAS				*e*Sn	**Sb**	**11 56 18.0**	**-0.5**
BOSS	**Bosilegrad**	**2.40**	**57**	*e*Pn	**Pn**	**11 55 45.9**	**0.0**
BOSS				*e*Sn	**Sn**	**11 56 16.5**	**+1.3**
GOCS	**Kraljevo Serbi**	**2.48**	**19**	*e*Pn	**Pb**	**11 55 49.1**	**-2.2**
GOCS				*e*Sn	**Sb**	**11 56 19.6**	**-2.2**

*MED_RC **28** 11:58:13.0±0.2,35°.53N×27°.64E,h23km,MW4.9/25, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s25,c42; Duration: 1§1 Moment tensor: Scale 10¹⁶Nm; Mrr-2.55±.22; Mθθ-0.01±.13; Mϕϕ2.56±.13; Mrθ-0.60±.15; Mθϕ-1.19±.09; Mϕr-0.33±.11; Best double couple: Mo2.89000×10¹⁶ NP1:ϕs143.00000°,δ46.00000°, λ-113.00000°. NP2:ϕs354.00000°,δ48.00000°, λ-68.00000°. Principal axes: T 3.0300, Plg1.0000°, Azm69.0000°; N -0.2700, Plg16.0000°, Azm159.0000°; P -2.7500, Plg73.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*NAO **28** 11:58:16.8,35°.65N×27°.56E,h10km,mb5.0*
*MOS **28** 11:58:16.5±1.1,35°.70N×27°.60E,h13km,mb5.2/38, MS4.2/10,Error ellipse: s-maj=5.1km s-min=2.9km az=86.6*
*NEIC **28** 11:58:18.5±2.1,35°.68N±0°.05×27°.64E±0°.06,h10km±1km, mb5.2/372,Mww4.9/15,Error ellipse: s-maj=10.0km s-min=7.1km az=134.0*
*NIC **28** 11:58:19.1,35°.69N×27°.73E,h16km±2km,Ml5.0/14*
*ATH **28** 11:58:19.9,35°.78N×27°.61E,h15km,Mw4.8,Moment Tensor Solution. s5 Moment tensor: Mrr0.69; Mθθ-1.35; Mϕϕ0.66; Mrθ0.29; Mθϕ-1.71; Mϕr-0.54; Fault plane solution: NP1:ϕs102.00000°,δ72.00000°,λ161.00000°. NP2:ϕs198.00000°,δ72.00000°,λ19.00000°.*
*AFAD **28** 11:58:19.7,35°.80N×27°.62E,h27km±1km,MW4.6*
*NEIC **28** 11:58:19.4,35°.91N×27°.61E,h22km,Moment Tensor Solution. Duration: 1§3 Moment tensor: Scale 10¹⁶Nm; Mrr-2.34; Mθθ0.82; Mϕϕ1.52; Mrθ0.95; Mθϕ-0.57; Mϕr-0.79; Fault plane solution: Mo2.47000×10¹⁶ NP1: ϕs155.74000°,δ30.68000°,λ-77.45000°. NP2: ϕs321.22000°,δ60.12000°,λ-97.35000°. Principal axes: T 2.1457, Plg15.0000°, Azm57.0000°; N 0.5476, Plg6.0000°, Azm325.0000°; P -2.6933, Plg74.0000°, Azm212.0000°;*
*NEIC **28** 11:58:19.4,35°.71N×27°.61E,h22km*
*ISK **28** 11:58:19.6,35°.78N×27°.59E,h15km,ML5.0/38*
*IDC **28** 11:58:19.2±2.2,35°.83N×27°.59E,h18km±13km,mb4.9/29, mbtmp4.8/43,ML4.0/12,MS4.0/51,Error ellipse: s-maj=11.2km s-min=9.2km az=162.0*
*GII **28** 11:58:20.7±0.0,35°.58N±0°.04×27°.96E±0°.01,h7km, Mws4.9,confirmed*
*GCMT **28** 11:58:20.5±0.3,35°.66N±0°.02×27°.67E±0°.02,h30km, MW5.0/104,Moment Tensor Solution. s38,c42; s104,c140; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.32±.22; Mθθ-0.64±.14; Mϕϕ3.96±.14; Mrθ-0.41±.20; Mθϕ-1.48±.09; Mϕr-0.96±.14; Best double couple: Mo4.02800×10¹⁶ NP1:ϕs148.00000°,δ41.00000°, λ-113.00000°. NP2:ϕs357.00000°,δ53.00000°, λ-71.00000°. Principal axes: T 4.4780, Plg6.0000°, Azm74.0000°; N -0.9030, Plg15.0000°, Azm166.0000°; P -3.5790, Plg74.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*THE **28** 11:58:20.4,36°N±2°×2°.8E±°,h11km±4km,M4.8/19, MLh4.8/19*
*HLW **28** 11:58:21.1,35°.78N×27°.84E,h30km±4km,Ml4.9*

ISC 28 11:58:18.7±0.5,35°.72N±0°.02×27°.67E±0°.02,h16km±2km, h16km:pP-P,n1331,σ1§41/1262,mb5.2/284,MS4.0/44, 76C-63D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.45**	**248**	Pg	**Pb**	**11 58 28.5**	**+0.3**
KARP				Sg	**Sb**	**11 58 35.3**	**+0.6**
KARP	**Karpathos**	**0.45**	**248**		**Pb**	**11 58 28.6**	**+0.3**
KARP	**Karpathos**	**0.45**	**248**	P	**Pb**	**11 58 28.6**	**+0.4**
KARP				S	**Sb**	**11 58 35.6**	**+0.9**
KARP	**Karpathos**	**0.45**	**248**	⇑P	**Pb**	**11 58 28.2**	**0.0**
KARP	**Karpathos**	**0.45**	**248**	P	**Pb**	**11 58 28.6**	**+0.4**
KARP				S	**Sb**	**11 58 35.7**	**+1.0**
KARP				AML	AML	11 58 37.1	
	673nm,0.9s						
KARP				AML	AML	11 58 37.3	
	551nm,0.5s						
KARP	**Karpathos**	**0.45**	**248**	P	**Pb**	**11 58 28.6**	**+0.4**
KARP				S	**Sb**	**11 58 35.0**	**+0.3**
ARG	**Arkhangelos**	**0.62**	**37**	Pg	**Pb**	**11 58 31.9**	**+0.7**
ARG				Sg	**Sb**	**11 58 40.9**	**+1.2**
ARG	**Arkhangelos**	**0.62**	**37**		**Pb**	**11 58 31.7**	**+0.6**
ARG				Sg	**Sb**	**11 58 40.5**	**+0.9**
ARG	**Arkhangelos**	**0.62**	**37**	P	**Pb**	**11 58 31.8**	**+0.6**
ARG				S	**Sb**	**11 58 40.1**	**+0.4**
ARG	**Arkhangelos**	**0.62**	**37**	⇑P	**Pb**	**11 58 31.7**	**+0.6**
ARG	**Arkhangelos**	**0.62**	**37**	P	**Pb**	**11 58 31.7**	**+0.6**
ARG				S	**Sb**	**11 58 40.1**	**+0.4**
ARG				AML	AML	11 58 42.8	
	270nm,0.5s						
ARG				AML	AML	11 58 42.9	
	464nm,0.3s						
ARG	**Arkhangelos**	**0.62**	**37**	P	**Pb**	**11 58 31.8**	**+0.7**
ARG				S	**Sb**	**11 58 40.2**	**+0.6**
YAZI	**Mula-Dat§a-**	**0.98**	**350**	P	**Pg**	**11 58 37.5**	**-0.1**
YAZI				S	**Sb**	**11 58 50.2**	**+0.2**
YAZI				*i* IAML		11 58 54.0	
	comp=E,1µm,0.4s						
YAZI				*i* IAML		11 58 55.0	
	comp=N,2µm,0.8s						
NISR	**Nisiros**	**0.99**	**334**	P	**Pg**	**11 58 37.8**	**-0.1**
NISR				S	**Sg**	**11 58 50.8**	**-0.1**
NISR	**Nisiros**	**0.99**	**334**	P	**Pn**	**11 58 38.0**	**0.0**
NISR				S	**Sb**	**11 58 49.6**	**-0.7**
DAT	**Datca**	**1.01**	**356**	Pg	**Pn**	**11 58 38.4**	**0.0**
DAT				Sg	**Sn**	**11 58 52.6**	**+0.3**
DAT	**Datca**	**1.01**	**356**	P	**Pn**	**11

comp=N,4µm,0.5s
GOLH Golhisar 2.15 45 P Pb 11 58 57.6 +0.2
IACM Heraklion 2.16 260 P Pn 11 58 55.3 +1.3
IACM S Sn 11 59 20.2 -0.3
IACM Heraklion 2.16 260 P Pn 11 58 55.0 +1.0
APMY Acipayam-Deniz 2.19 36 Pn Pb 11 58 56.9 -1.1
DNIZ Denizli-Tavas- 2.20 30 P Pb 11 58 58.4 +0.3
DNIZ S Sg 11 59 28.6 -0.8
DNIZ *i* IAML 11 59 34.0
comp=E,4µm,0.4s
AYDB Zeytinkoy-Aydi 2.23 5 Pn Pn 11 58 56.1 +0.9
AYDB Sn Sn 11 59 22.9 +0.4
AKUM Antalya-Kumluc 2.25 74 P Pn 11 58 57.0 +1.7
AKUM S Sb 11 59 25.4 -1.2
AKUM *i* IAML 11 59 29.0
comp=E,3µm,0.9s
NAZL Nazilli-Aydin 2.30 12 Pn Pn 11 58 57.5 +1.5
IDI Anoyia 2.31 260 S Sn 11 59 25.2 +1.0
IDI P Pn 11 58 57.1 +0.9
IDI Anoyia 2.31 260 Pn Pn 11 58 56.9 +0.8
IDI Anoyia 2.31 260 Pn 11 58 56.5 +0.4
IDI Anoyia 2.31 260 P Pn 11 58 56.8 +0.7
IDI Anoyia 2.31 260 Pn Pn 11 58 56.9 +0.8
257nm,0.3s,baz=71,slow=16,SNR=263
IDI Sn Sn 11 59 22.9 -1.4
302nm,0.3s,baz=267,slow=21,SNR=6.0
IDI LR LR 11 59 26.8
comp=Z,3µm,18.2s,baz=324,slow=30
623nm,0.4s
IDI Anoyia 2.31 260 P Pn 11 58 57.0 +0.9
IDI S Sn 11 59 25.2 +1.0
DGB zmir 2.41 345 P Pn 11 58 57.9 +0.4
IZMR zmir-demi 2.42 5 P Pn 11 58 58.8 +1.1
IZMR S Sn 11 59 27.3 +0.3
GMLD Gumuldur 2.43 346 Pn Pn 11 58 58.9 +1.2
TMBK Timbaki Herakl 2.46 256 P Pb 11 59 00.9 -1.6
TMBK Timbaki Herakl 2.46 256 P Pn 11 59 00.1 +1.8
KEMT Kemer-ANTALYA 2.50 68 Pn Pb 11 59 01.7 -1.5
INCE Denizli-Bozkur 2.51 37 P Pb 11 59 01.7 -1.7
INCE S Sb 11 59 33.5 -0.6
INCE *i* IAML 11 59 52.0
comp=E,7µm,0.7s
KORT Korkueli 2.52 59 P Pb 11 59 02.4 -1.1
KORT S Sb 11 59 34.8 +0.5
KORT *i* IAML 11 59 42.0
comp=N,4µm,0.8s
KIRA zmir-Kiraz 2.54 13 P Pn 11 59 00.9 +1.5
KIRA S Sn 11 59 31.8 +1.7
KIRA *i* IAML 11 59 51.0
comp=E,4µm,1.6s
ODEM Odemis-Izmir 2.57 7 Pn Pn 11 59 00.9 +1.1
ODEM Sn Sn 11 59 31.7 +0.9
PRNS Prines Rethymn 2.61 263 P Pn 11 59 02.1 +2.0
PRNS Prines Rethymn 2.61 263 P Pn 11 59 01.6 +1.5
ANTB Antalya 2.68 63 Pn Pb 11 59 04.0 -2.4
BLCB Balcova 2.71 350 Pn Pn 11 59 02.1 +0.5
BLCB Balcova 2.71 350 P Pn 11 59 02.3 +0.8
BRDR BURDUR-Merkez 2.76 44 P Pb 11 59 05.4 -2.3
BRDR S Sb 11 59 40.6 -0.7
BRDR *i* IAML 12 00 06.0
comp=E,4µm,0.7s
MHLO Agia Marina, M 2.81 291 P Pn 11 59 05.8 +2.8
BUCA Burdur, Bucak- 2.83 55 P Pb 11 59 06.2 -2.7
BUCA S Sn 11 59 37.7 +0.6
BUCA *i* IAML 12 00 11.0
comp=N,2µm,0.8s
MANT Manisa 2.86 14 Pn 11 59 05.4 +1.6
MANT Manisa 2.86 14 P Pn 11 59 04.7 +0.9
MANT S Sn 11 59 37.5 -0.6
MANT *i* IAML 12 00 06.0
comp=E,2µm,1.4s
KULA Kula-Manisa 2.90 16 Pn Pn 11 59 05.9 +1.6
BASM Basmaki-Afyon 2.91 40 Pn Pn 11 59 07.1 +2.6
CHOS Chios island 2.96 335 P Pn 11 59 05.6 +0.5
CHOS Chios island 2.96 335 P Pn 11 59 05.7 +0.5
CHAN Chania 2.96 267 P Pn 11 59 06.5 +1.5
CHAN Chania 2.96 267 P Pn 11 59 06.1 +1.1
GOMA Golmarmara-Man 2.99 4 Pn Pn 11 59 07.1 +1.6
KHL Karahalli 2.99 29 Pn Pn 11 59 07.7 +2.1
PASA Karahalli, USA 3.00 28 P Pn 11 59 08.6 +2.9
PASA S Sn 11 59 41.3 -0.1
PASA *i* IAML 12 00 02.0
comp=E,3µm,1.1s
GVD Gavdhos 3.06 254 Pn Pn 11 59 08.6 +2.2
GVD Gavdhos 3.06 254 P Pb 11 59 10.2 -2.6
GVD Gavdhos 3.06 254 P Pb 11 59 10.2 -2.6
FOCM Foa 3.08 346 Pn Pn 11 59 07.5 +0.8
EAG2 Marmaro, Chios 3.08 337 P Pn 11 59 07.5 +0.8
ISP Isparta 3.11 47 Pn Pn 11 59 09.6 +2.4
ISP Isparta 3.11 47 P Pn 11 59 09.4 +2.1
ISP Isparta 3.11 47 *de*P Pn 11 59 09.3 +2.1
ISP pmax pmax
comp=Z,155nm,0.6s
ISP Isparta 3.11 47 ⇑P Pn 11 59 09.5 +2.4
ISP Isparta 3.11 47 P Pn 11 59 09.2 +2.0
ISP Isparta 3.11 47 P Pn 11 59 09.6 +2.4
AKS Akhisar 3.16 2 Pn Pn 11 59 08.9 +1.1
USAK Uak-Merkez 3.18 19 P Pn 11 59 10.4 +2.3
USAK S Sn 11 59 45.2 -0.5
USAK *i* IAML 12 00 16.0
comp=Z,1µm,1.4s
GORD Gordes-Manisa 3.21 7 Pn Pn 11 59 09.8 +1.2
MNVG Manavgat-Antal 3.21 69 Pn Pn 11 59 11.8 +3.3
KZIL AFYON_Kizioren 3.22 37 P Pn 11 59 11.2 +2.6
KZIL S Sn 11 59 47.9 +1.1
KZIL *i* IAML 12 00 15.0
comp=Z,2µm,0.9s
KNDR Palaiochora Ch 3.29 263 Pn Pn 11 59 12.3 +2.8
BAGO Egridir - ISPA 3.38 47 P Pn 11 59 13.0 +2.1
SOMA Soma-Manisa 3.43 358 Pn Pn 11 59 13.7 +2.1
BNAZ Uak-Banaz 3.44 30 P Pn 11 59 14.3 +2.5
BNAZ S Sn 11 59 50.5 -1.8
BNAZ *i* IAML 12 00 28.0
comp=Z,4µm,0.9s
KARY Karystos 3.47 313 P Pn 11 59 13.1 +1.1
KARY Karystos 3.47 313 P Pn 11 59 12.1 +0.1
SHAP Saphane-Kutahy 3.52 20 Pn Pn 11 59 15.5 +2.6
SMAA Simav-Kutahya 3.53 17 Pn Pn 11 59 14.9 +1.9
ANKY Antikythira Is 3.55 274 P Pn 11 59 13.9 +0.7
ANKY Antikythira Is 3.55 274 P Pn 11 59 13.8 +0.6
GEDZ Gediz 3.60 22 Pn Pn 11 59 16.5 +2.6
ALAN Alanya-ANTALYA 3.63 75 Pn Pn 11 59 16.3 +2.0
GDZ Gediz 3.66 23 P Pn 11 59 17.4 +2.5
AFYO Afyonkarahisar 3.71 34 P Pn 11 59 16.0 +0.5
SEDI Konya, Seydise 3.72 61 P Pn 11 59 19.1 +3.5
SEDI S Sn 12 00 02.5 +3.4
SEDI *i* IAML 12 00 07.0
comp=Z,2µm,0.7s
SEYD Seydisehir-KON 3.76 62 Pn Pn 11 59 19.2 +3.1
VLY Voula,Athens 3.77 306 P Pn 11 59 17.7 +1.5
VLY Voula,Athens 3.77 306 P Pn 11 59 17.2 +1.0
KTHA Kythira Island 3.77 280 Pn Pn 11 59 17.8 +1.6
KTHA Kythira Island 3.77 280 P Pn 11 59 17.4 +1.1
SIGR SIGRI 3.77 338 Pn Pn 11 59 17.8 +1.6
SIGR SIGRI 3.77 338 P Pn 11 59 16.9 +0.7
SIGR SIGRI 3.77 338 P Pn 11 59 16.9 +0.7
GAZI Gazipasa 3.81 81 P Pn 11 59 17.2 +0.5
GAZI S Sn 11 59 58.1 -3.1
GAZI *i* IAML 12 00 04.0
comp=Z,4µm,0.6s
DION Dionisos Attik 3.81 309 P Pn 11 59 17.9 +1.1
DION Dionisos Attik 3.81 309 P Pn 11 59 17.8 +1.1
PTL Penteli 3.83 308 P Pn 11 59 18.4 +1.2
ATHU Athens Univers 3.84 307 P Pn 11 59 18.7 +1.6
ATHU Athens Univers 3.84 307 P Pn 11 59 18.3 +1.1
AKMS Akamas 3.88 99 P Pn 11 59 18.3 +0.6
AKMS S Sn 12 00 03.0 0.0
AKMS AML AML 12 00 05.4
comp=Z,11nm,0.8s
AKMS AML AML 12 00 07.4
comp=Z,15nm,0.7s
ATH Athens Observa 3.89 307 P Pn 11 59 19.2 +1.4
MET4 Agioi Theodoro 3.92 300 P Pn 11 59 19.7 +1.4
MET6 Megalochori,Me 3.94 300 P Pn 11 59 19.3 +0.8
VLI Veliai 3.95 286 P Pn 11 59 20.1 +1.4
VLI Veliai 3.95 286 P Pn 11 59 19.5 +0.8
PARN1 Fyli,Attica,Gr 3.99 308 P Pn 11 59 21.0 +1.8
DOGA KONYA_Doganhis 3.99 52 P Pn 11 59 22.4 +2.9
DOGA S Sn 12 00 05.5 -0.5
ALFC Alefka 4.07 97 P Pn 11 59 20.7 +0.4
ALFC S Sn 12 00 07.8 +0.2
ALFC AML AML 12 00 11.9
comp=Z,9.4nm,0.5s
ALFC AML AML 12 00 13.1
comp=Z,9.7nm,0.8s
KYMI Kymi, Euboea I 4.07 317 P Pn 11 59 21.4 +1.1
HDMB Hadim 4.08 71 Pn Pn 11 59 24.0 +3.3
NATA Nata 4.12 102 P Pn 11 59 21.8 +0.8
NATA S Sn 12 00 10.2 +1.3
NATA AML AML 12 00 12.5
comp=Z,36nm,0.9s
NATA AML AML 12 00 12.9
comp=Z,25nm,0.5s
PARN2 Moni Osiou Mel 4.18 307 P Pn 11 59 23.6 +1.8
EZN Ezine 4.24 346 P Pn 11 59 23.7 +1.1
EZN Ezine 4.24 346 ⇓P Pn 11 59 23.8 +1.1
EZN Ezine 4.24 346 P Pn 11 59 23.7 +1.1
TROD Troodos 4.32 99 P Pn 11 59 23.9 0.0
TROD S Sn 12 00 14.3 +0.2
TROD AML AML 12 00 24.2
comp=Z,7.6nm,0.6s
TROD AML AML 12 00 25.5
comp=Z,6.9nm,0.8s
ERMK Ermenek 4.34 76 P Pn 11 59 26.5 +2.3
ERMK S Sn 12 00 16.9 +2.2
ERMK *i* IAML 12 00 25.0
comp=Z,5µm,0.9s
MATC Matruh 4.38 185 P Pn 11 59 26.6 +2.0
XYLS Xyliatos 4.45 98 P Pn 11 59 26.0 +0.3
XYLS S Sn 12 00 17.4 +0.2
XYLS AML AML 12 00 19.1
comp=Z,5.8nm,0.6s
XYLS AML AML 12 00 19.2
comp=Z,5.4nm,0.7s
LADK Ladik-KONYA 4.50 55 Pn Pn 11 59 29.5 +3.1
KKBE Karaman, Kazim 4.51 69 P Pn 11 59 28.8 +2.4
KKBE S Sn 12 00 20.1 +1.6
KKBE *i* IAML 12 00 24.0
comp=Z,2µm,0.8s
BAND Balkesir-Ban 4.64 4 ⇑P Pn 11 59 30.0 +1.8
ASGA Asgata 4.66 100 P Pn 11 59 29.1 +0.6
ASGA S Sn 12 00 23.3 +1.0
ASGA AML AML 12 00 29.8
comp=Z,6.0nm,0.7s
ASGA AML AML 12 00 34.7
comp=Z,8.3nm,0.8s
GADA Gukgeada 4.68 343 P Pn 11 59 29.8 +1.2
SLUM Salum 4.69 207 P Pn 11 59 30.7 +1.9
CSS Mathiatis 4.69 98 Pn 11 59 29.0 +0.1
CSS Mathiatis 4.69 98 ⇑P Pn 11 59 29.0 +0.1
CSS Mathiatis 4.69 98 P Pn 11 59 29.2 +0.3
CSS S Sn 12 00 23.6 +0.6
CSS AML AML 12 00 24.9
comp=Z,6.6nm,0.8s
CSS AML AML 12 00 30.2
comp=Z,4.6nm,0.8s
CSS Mathiatis 4.69 98 P Pn 11 59 28.9 +0.1
CSS Mathiatis 4.69 98 S Sn 12 00 20.8 -2.2
ATHAL Athalassa 4.71 95 P Pn 11 59 30.1 +1.0
ATHAL S Sn 12 00 24.8 +1.3
ATHAL AML AML 12 00 32.1
comp=Z,10nm,0.8s
ATHAL AML AML 12 00 43.2
comp=Z,13nm,0.8s
LKR Lokris 4.74 310 P Pn 11 59 31.0 +1.6
GULN MERSIN_Gulnar 4.79 83 P Pn 11 59 31.6 +1.4
GULN S Sn 12 00 22.8 -2.6
GULN *i* IAML 12 00 30.0
comp=Z,1µm,0.5s
ITM Ithomi 4.85 289 Pn Pn 11 59 33.3 +2.2
ITM Ithomi 4.85 289 Pn 11 59 34.9 +3.8
ITM Ithomi 4.85 289 ⇑P Pn 11 59 34.7 +3.6
MVOU Mavrovouni 4.92 96 P Pn 11 59 32.2 +0.2
MVOU S Sn 12 00 29.9 +1.2
MVOU AML AML 12 00 36.0
comp=Z,2.3nm,0.9s
MVOU AML AML 12 00 36.3
comp=Z,4.0nm,0.6s
CAVK Edirne/Enez-Ca 5.10 347 ⇑P Pn 11 59 36.4 +1.9
PARAL Paralimni 5.26 96 P Pn 11 59 38.2 +1.6
PARAL S Sn 12 00 38.7 +1.7
PARAL AML AML 12 00 46.7
comp=Z,5.4nm,0.7s
PARAL AML AML 12 00 49.4
comp=Z,4.3nm,0.7s
ALN Alexandroupoli 5.33 347 Pn 11 59 38.7 +1.2
ALN Alexandroupoli 5.33 347 P Pn 11 59 38.7 +1.2
ALN Alexandroupoli 5.33 347 ⇑P Pn 11 59 38.5 +0.9
AGG Agios Georgios 5.38 309 ⇑P Pn 11 59 40.8 +2.5
MDUB Mudurnu 5.50 29 Pn 11 59 42.7 +2.6
KLYT Kilyos 5.63 11 ⇓P Pn 11 59 43.5 +1.8
SILT Sile 5.64 15 ⇑P Pn 11 59 43.8 +1.9
RDO Rodhopi 5.67 343 Pn 11 59 44.0 +1.7
RDO Rodhopi 5.67 343 ⇓P Pn 11 59 43.5 +1.2
SAHE Sakarya_HENDEK 5.71 25 ⇑P Pn 11 59 45.7 +3.0
ANTO Ankara 5.80 43 Pn 11 59 46.9 +2.8
ANTO Ankara 5.80 43 ⇑P Pn 11 59 46.7 +2.5
ANTO Ankara 5.80 43 P Pn 11 59 46.9 +2.8
ANTO Ankara 5.80 43 ⇑P Pn 11 59 46.6 +2.5
PHSR Pinarhisar 5.90 359 ⇓P Pn 11 59 47.2 +1.7
KIRS Kirsehir-Merke 6.03 54 ⇓P Pn 11 59 48.8 +2.5
KDZ Kurdzhali 6.18 344 P Pn 11 59 50.5 +1.2
BRTR Keskin Array B 6.20 48 Pn Pn 11 59 51.2 +1.6
comp=Z,3.7nm,0.3s,baz=218,slow=15,SNR=91
BRTR Sn Sn 12 00 59.1 -1.1
comp=Z,6.0nm,0.3s,baz=215,slow=26,SNR=6.0
BRTR LR LR 12 03 07.6
comp=Z,3µm,20.1s,baz=227,slow=47
comp=Z,44nm,0.7s
BRTR Keskin Array B 6.20 48 *i* P Pn 11 59 51.5 +1.8
BRTR pmax pmax
comp=Z,43nm,0.7s
BR131 Keskin Array S 6.20 48 *ce*P Pn 11 59 51.3 +1.6
RZN Rozhen 6.39 340 P Pn 11 59 54.0 +1.6
HMYD Mayadein 6.47 155 P Pn 11 59 54.6 +1.4
DIM Dimitrovgrad 6.52 346 P Pn 11 59 55.8 +1.8
HNAT Natroun 6.56 157 P Pn 11 59 55.6 +1.0
MMB Musomishta 6.58 333 P Pn 11 59 57.7 +2.9
SWA2 6.72 197 P Pn 11 59 58.9 +2.1
SWA2 S Sn 12 01 10.9 -2.1
HNTI Hanita 6.74 111 P Pn 11 59 57.0 0.0
HNTI Hanita 6.74 111 S Sn 12 01 11.5 -2.0
KOT Kottamia 6.75 148 P Pn 11 59 58.9 +1.6
OFRI `Ofer 6.81 115 P Pn 11 59 57.5 -0.5
OFRI `Ofer 6.81 115 S Sn 12 01 11.8 -3.3
DQRL Deir Qamar 6.81 105 *e*P Pn 11 59 57.5 -0.6
BHL Bhannes 6.81 103 *e*P Pn 11 59 58.8 -1.3
JMB Yambol 6.82 353 P Pn 12 00 00.1 +2.0
HHAG Hagoal 6.85 146 P Pn 12 00 00.2 +1.6
HHAG S Sn 12 01 11.5 -4.8
VAY Valandovo 6.87 326 *i* P Pn 12 00 03.1 +4.3
MMA0B Mount Meron ar 6.94 111 P Pn 11 59 58.9 -1.0
MMA0B Mount Meron ar 6.94 111 S Sn 12 01 15.8 -2.7
MMAI Mount Meron Ar 6.94 111 Pn Pn 11 59 59.3 -0.5
comp=Z,37nm,0.4s,baz=296,slow=14,SNR=104
MMAI Sn Sn 12 01 13.1 -5.4
comp=Z,50nm,0.3s,baz=302,slow=13,SNR=4.2
MMAI LR LR 12 03 30.1
comp=Z,566nm,18.7s,baz=314,slow=44
HWQ Hawqa 6.95 100 *e*P Pn 11 59 59.3 -0.6
QRWL Qaraoun 6.95 106 *e*P Pn 11 59 59.8 -0.2
SLTI Sal'it 7.04 117 P Pn 12 00 00.3 -0.8
SLTI Sal'it 7.04 117 S Sn 12 01 18.2 -2.6
GEM Giv'at Ha'Em 7.06 108 ⇑P Pn 12 00 00.9 -0.5
GEM Giv'at Ha'Em 7.06 108 P Pn 12 00 01.0 -0.4
GEM Giv'at Ha'Em 7.06 108 S Sn 12 01 18.8 -2.6
KKB Krupnik 7.07 331 P Pn 12 00 04.6 +3.1
SHBL Chebaa 7.07 107 *e*P Pn 12 00 00.7 -1.1
FNA Florina 7.08 317 Pn 12 00 04.7 +3.0
FNA Florina 7.08 317 P Pn 12 00 04.7 +3.0
FNA Florina 7.08 317 ⇓P Pn 12 00 06.6 +5.0
BEIL Beino 7.08 97 *e*P Pn 12 00 00.9 -0.8
RCY Rachaya 7.09 106 *e*P Pn 12 00 01.5 -0.5
NATI Neve Ativ 7.10 108 P Pn 12 00 01.4 -0.5
NATI Neve Ativ 7.10 108 S Sn 12 01 19.8 -2.4
BNN Bunyan 7.23 62 Pn 12 00 05.5 +1.6
BNN Bunyan 7.23 62 ⇑P Pn 12 00 07.2 +3.3
SALP Salfit 7.24 118 ⇑P Pn 12 00 03.6 -0.3
SALP Salfit 7.24 118 P Pn 12 00 03.4 -0.4
KSHT Keshet 7.27 110 P Pn 12 00 04.3 0.0
KSHT Keshet 7.27 110 S Sn 12 01 24.5 -2.0
FKH Fakeheh 7.33 99 *e*P Pn 12 00 04.8 -0.3
ELND Elena 7.33 350 ⇑P Pn 12 00 08.0 +2.9
AMAZ Amatzia 7.34 123 ⇑P Pn 12 00 04.9 -0.4
AMAZ Amatzia 7.34 123 P Pn 12 00 05.1 -0.2
HMDT Nahal Hemdat 7.38 116 P Pn 12 00 05.3 -0.6
KZIT Kziot 7.40 129 P Pn 12 00 05.8 -0.3
KZIT Kziot 7.40 129 S Sn 12 01 27.2 -2.5
KEK Kerkira 7.40 305 Pn Pn 12 00 07.5 +1.4
CIDE Kastamonu/Cide 7.41 32 ⇑P Pn 12 00 08.9 +2.9
UJAP Al Uja 7.50 118 P Pn 12 00 07.0 -0.3
PLNA Plana 7.51 335 P Pn 12 00 11.0 +3.3
NEF NEVSHA 7.54 358 P Pn 12 00 10.4 +2.4
YTIR Yattir 7.58 123 P Pn 12 00 08.4 -0.2
YTIR Yattir 7.58 123 S Sn 12 01 31.8 -2.5
OHR Ohrid 7.62 317 *i* P Pn 12 00 14.3 +5.2
DSI Dead Sea 7.65 121 P Pn 12 00 09.0 -0.4
DSI Dead Sea 7.65 121 S Sn 12 01 33.8 -1.9
LOZB Loznitsa 7.69 354 ⇓P Pn 12 00 11.9 +1.9
VTS Vitosha 7.70 335 P Pn 12 00 13.1 +2.8
NBNS Bani Suef 7.71 156 P Pn 12 00 12.1 +1.7
MSBI Mazada 7.78 122 ⇑P Pn 12 00 11.3 0.0
MSBI Mazada 7.78 122 P Pn 12 00 11.3 0.0
GAZ Gaziantep 7.83 77 Pn 12 00 12.5 +0.5
GAZ Gaziantep 7.83 77 ⇑P Pn 12 00 11.9 -0.1
RAZG Razgrad 7.89 354 ⇓P Pn 12 00 14.7 +2.0
GHAJ Ghor Haditha 7.93 121 Pn 12 00 14.1 +0.8
BZK Bozkurt 7.95 37 Pn 12 00 15.8 +2.2
BZK Bozkurt 7.95 37 ⇑P Pn 12 00 15.5 +1.9
PLVB Pleven 8.01 344 ⇑P Pn 12 00 17.2 +2.8
KRMI Paran Flat 8.15 131 P Pn 12 00 15.7 -0.6
KRMI Paran Flat 8.15 131 S Sn 12 01 45.9 -2.3
PRNI Paran 8.16 129 P Pn 12 00 14.8 -1.7
MPEP Malo Peshtene 8.21 340 P Pn 12 00 19.3 +2.2
ASF Jabal al Asfar 8.44 112 Pn Pn 12 00 20.2 -0.3
comp=Z,6.6nm,0.3s,baz=342,slow=5.0,SNR=12
ASF Sn Sn 12 01 50.3 -5.3
comp=Z,5.5nm,0.3s,baz=14,slow=6.2,SNR=4.4
comp=Z,21nm,0.5s
SCTE Santa Cesarea 8.47 304 Pn 12 00 22.0 +1.2
TAMRE El Minia 8.48 160 P Pn 12 00 21.2 +0.3
HFRF Wahat Farafira 8.56 176 P Pn 12 00 23.9 +1.9
EIL Elat 8.60 132 Pn Pn 12 00 22.4 -0.1
comp=Z,1.2nm,0.3s,baz=322,slow=4.2,SNR=42
EIL Sn Sn 12 01 54.0 -5.3
comp=Z,3.9nm,0.3s,baz=303,slow=18,SNR=12
comp=Z,3.3nm,0.3s
GRB Gharib 8.60 148 P Pn 12 00 23.2 +0.6
TIRR Tirgusor 8.75 4 Pn 12 00 25.4 +0.9
TIRR Tirgusor 8.75 4 ⇑P Pn 12 00 26.4 +1.9
TIRR Tirgusor 8.75 4 P Pn 12 00 26.4 +1.9
TIRR Tirgusor 8.75 4 ⇑P Pn 12 00 26.1 +1.7
HBST Basata 8.81 135 P Pn 12 00 25.5 +0.1
NUB Nuweibaa 8.90 137 P Pn 12 00 27.5 +0.8
TR2 Tor 2 8.93 143 P Pn 12 00 27.3 +0.2
HKAT Jabal Katrina 8.96 141 P Pn 12 00 27.8 +0.2
HDHB Dhahab 9.13 138 P Pn 12 00 30.2 +0.4
BOVS Bovan 9.14 332 ⇑P Pn 12 00 32.8 +2.9
TPGR Topolog 9.14 3 ⇑P Pn 12 00 32.0 +2.0
PDG Podgorica 9.36 318 Pn 12 00 34.9 +2.0
PDG Podgorica 9.36 318 ⇑P Pn 12 00 36.3 +3.4
PDG Podgorica 9.36 318 ⇓P Pn 12 00 35.7 +2.8
ISR Istrita 9.43 355 ⇑P Pn 12 00 36.6 +2.7
ISR Istrita 9.43 355 P Pn 12 00 36.6 +2.7
CFR Carcaliu 9.46 2 ⇓P Pn 12 00 36.0 +1.8
CFR Carcaliu 9.46 2 P Pn 12 00 35.9 +1.8
TLCR 9.50 5 ⇓P Pn 12 00 37.4 +2.6
TLCR 9.50 5 P Pn 12 00 37.3 +2.6
CEL Celeste 9.75 289 Pn 12 00 38.6 +0.2
CEL Celeste 9.75 289 ⇓P Pn 12 00 38.4 0.0
NEHR Nehoiu 9.75 354 ⇓P Pn 12 00 41.0 +2.7
BISRR Bisoca 9.85 356 ⇑P Pn 12 00 42.2 +2.5
MLR Muntele Rosu 9.85 353 Pn 12 00 42.0 +2.3
MLR Muntele Rosu 9.85 353 Pn Pn 12 00 40.5 +0.8
comp=Z,0.7nm,0.3s,baz=165,slow=3.5,SNR=40
MLR LR LR 12 04 53.4
comp=Z,1µm,21.9s,baz=180,slow=40
comp=Z,61nm,1.1s
MLR Muntele Rosu 9.85 353 ⇑P Pn 12 00 42.4 +2.6
MLR Muntele Rosu 9.85 353 P Pn 12 00 42.3 +2.6
HHRG Al Ghardaqah 9.86 148 P Pn 12 00 42.5 +2.8
HHRG S Sn 12 02 27.3 -2.9
MATE Matera 9.93 303 ⇑P Pn 12 00 44.3 +3.6
MATE Matera 9.93 303 ⇓P Pn 12 00 42.0 +1.2
HERR Herculane 9.99 338 ⇓P Pn 12 00 43.9 +2.3
TREB Trebinje 10.05 317 *e*Pn Pn 12 00 44.7 +2.3
MDVR Moldovita 10.13 335 ⇓P Pn 12 00 45.9 +2.4
PLOR Plostina 10.15 356 ⇓P Pn 12 00 46.5 +2.7
PLOR Plostina 10.15 356 P Pn 12 00 46.5 +2.7
LOT Lotru 10.16 344 ⇑P Pn 12 00 46.3 +2.4
VRI Vrincioaia 10.16 356 ⇓P Pn 12 00 45.9 +1.9
VRI Vrincioaia 10.16 356 P Pn 12 00 45.8 +1.9
COVR Voineasa-Covas 10.18 354 ⇑P Pn 12 00 46.5 +2.4
KLINJ Klinje 10.23 319 *e*Pn Pn 12 00 46.9 +2.0
HDK1 Dakhla 10.25 171 P Pn 12 00 46.9 +1.7
CUC Castrocucco 10.29 298 Pn 12 00 45.6 -0.2
CUC Castrocucco 10.29 298 ⇑P Pn 12 00 45.8 0.0
GZR Gura Zlata 10.35 340 ⇑P Pn 12 00 48.4 +1.8
GZR Gura Zlata 10.35 340 P Pn 12 00 48.3 +1.8
DOPR Dopca 10.38 351 ⇑P Pn 12 00 49.8 +2.9
TURR Turia 10.40 354 ⇑P Pn 12 00 49.4 +2.2
SIM Simferopol' 10.45 26 *e*P Pn 12 00 50.5 +2.7
SIM *e*S Sn 12 02 42.0 -2.5
SIM pmax pmax
comp=Z,146nm,1.2s
GTR Jabal at Tayr 10.48 165 P Pn 12 00 47.7 -0.6
ACER Acerenza 10.51 302 Pn 12 00 48.6 -0.2
STON Ston 10.52 316 *e*Pn Pn 12 00 48.7 0.0
ONER Baraj Valea Uz 10.65 355 ⇑P Pn 12 00 52.6 +2.0
MARD Mardin 10.67 78 Pn 12 00 51.4 +0.3
WDD Wied Dalam 10.68 274 Pn 12 00 50.9 -0.1
VAE Valguarnera 10.80 283 Pn Pn 12 00 53.6 +0.8
comp=Z,7.9nm,0.5s,baz=38,slow=3.7,SNR=5.9
VAE Sn Sn 12 02 50.8 -2.5
comp=Z,6.4nm,0.3s,baz=47,slow=23,SNR=5.4
VAE LR LR 12 05 42.9
comp=Z,518nm,18.8s,baz=78,slow=41
TESR Tescani 10.81 356 ⇑P Pn 12 00 55.7 +2.9
RAFF Raffo Rosso 10.82 282 Pn 12 00 53.4 +0.4
SURR Surduc 10.87 339 ⇑P Pn 12 00 56.6 +3.0
BZS Buzias 10.90 337 ⇑P Pn 12 00 57.0 +3.1
BZS Buzias 10.90 337 P Pn 12 00 57.0 +3.1
KOPT Kop Dagi 11.01 63 Pn 12 00 57.5 +1.7
SGRT San Giovanni R 11.09 306 Pn 12 00 56.7 0.0
MILM Milestii Mici 11.22 4 ⇑ *i* P Pn 12 00 59.0 +0.6
comp=Z,160nm,1.4s
MILM *e*L L 12 04 34.0
MILM LRM MLR 12 05 44.0
comp=Z,700nm,13.0s
MILM Milestii Mici 11.22 4 *c i* P Pn 12 00 59.0 +0.6
MILM pmax pmax
comp=Z,160nm,1.4s
MILM MLR MLR
comp=Z,900nm,14.0s
MARR Marisel-Cluj 11.47 344 ⇑P Pn 12 01 04.3 +2.5
PAOL Paolisi 11.56 301 Pn 12 01 03.4 +0.3
DRGR 11.67 343 ⇑P Pn 12 01 07.2 +2.6
DRGR 11.67 343 P Pn 12 01 07.2 +2.6
ANN Anapa 11.73 36 *e*P Pn 12 01 03.6 -1.8
ANN *e*S Sn 12 03 26.5 +11
ANN pmax pmax
comp=Z,33nm,1.4s
ANN pmax pmax
comp=E,258nm,10.6s
ANN MLR MLR
comp=E,255nm,11.0s
GURO Guroymak-BITLI 11.81 72 Pn 12 01 08.4 +1.8
KIJV Kijevo 11.96 317 *e*Pn Pn 12 01 08.2 -0.4
BURAR Bucovina Array 12.03 352 ⇓P Pn 12 01 12.1 +2.6
BURAR Bucovina Array 12.03 352 P Pn 12 01 12.0 +2.6
BLY Banja Luka 12.05 322 *e*Pn Pn 12 01 11.9 +2.1
BUR08 Bucovina Ar. S 12.06 352 Pn Pn 12 01 10.6 +0.7
SOC Sochi 12.15 46 *e*P Pn 12 01 09.8 -1.3
SOC *e* 12 03 27.2
SOC MLR MLR
comp=Z,981nm,16.0s
A050A Klekovaca 12.21 319 *e*Pn Pn 12 01 13.7 +1.7
VSLR Vesyoloye 12.27 47 ⇓ *e*P Pn 12 01 14.6 +1.9
VSLR pmax pmax
comp=Z,19nm,1.1s
A051A Mrakovica 12.38 322 *e*Pn Pn 12 01 15.3 +1.0
SORM Soroca 12.42 2 ⇓P Pn 12 01 15.4 +0.6
SORM Soroca 12.42 2 P Pn 12 01 15.3 +0.6
MORH Mrgy, Hungar 12.50 330 *e*Pn Pn 12 01 17.8 +2.0
MORH Mrgy, Hungar 12.50 330 ⇑P Pn 12 01 17.7 +2.0
GEVA Gevas 12.57 74 Pn 12 01 17.8 +0.7

MOSL Moslavina 12.88 323 ePn Pn 12 01 22.4 +1.3
NRCA Norcia 13.32 307 Pn 12 01 27.7 +0.6
FDMO Fiordimonte 13.43 307 Pn 12 01 28.0 -0.6
PSZ Piszkesteto 13.49 337 Pn 12 01 29.6 +0.2
PSZ Piszkesteto 13.49 337 ⇓P Pn 12 01 31.4 +1.9
PSZ Piszkesteto 13.49 337 P Pn 12 01 31.3 +1.9
PSZ Piszkesteto 13.49 337 ⇑P Pn 12 01 32.0 +2.6
OZLJ Ozalj 13.53 321 ePn Pn 12 01 30.6 +0.7
BOJS Bojanci 13.57 320 ePn Pn 12 01 30.3 -0.1
CESX Cesi 13.57 305 Pn Pn 12 01 30.9 +0.4
CRES Cresnjevec Ost 13.68 321 ePn Pn 12 01 32.6 +0.7
KOLS Kolonicke sedl 13.79 345 eP P 12 01 45.2 +3.3
MURB Monte Urbino 13.90 307 Pn 12 01 35.5 +0.5
ERBR Yeremizino-Bor 13.92 40 eP Pn 12 01 38.8 +3.6
ERBR eS S 12 04 21.5 -10
ERBR pmax pmax
comp=Z,76nm,0.9s
BRJN Brijuni 14.02 315 ePn Pn 12 01 36.8 +0.3
SHA1 Shidzhatmaz 14.03 51⇑eP Pn 12 01 38.4 +1.4
KIV Kislovodsk 14.15 50 Pn 12 01 40.6 +2.0
KIV Kislovodsk 14.15 50 eP Pn 12 01 42.0 +3.4
KIV eS Sn 12 04 22.1 +6.8
KIV pmax pmax
comp=Z,64nm,1.0s
KIV MLR MLR
comp=Z,312nm,13.0s
CEY Cerknica 14.16 319 ePn Pn 12 01 41.4 +2.9
KVAR Kislovodsk Arr 14.16 50 LR LR 12 08 55.3
comp=Z,602nm,20.6s,baz=120,slow=45
KBZ Khabaz 14.18 51 Pn Pn 12 01 42.0 +3.2
comp=Z,0.1nm,0.3s,baz=253,slow=12,SNR=9.3
KBZ LR LR 12 08 59.9
comp=Z,248nm,19.1s,baz=262,slow=45
comp=Z,5.2nm,0.8s
KBZ Khabaz 14.18 51⇓eP Pn 12 01 41.2 +2.5
GNI Garni 14.18 67 Pn 12 01 40.6 +1.6
GNI Garni 14.18 67 Pn Pn 12 01 41.7 +2.7
comp=Z,1.6nm,0.3s,baz=155,slow=0.3,SNR=10
GNI LR LR 12 08 24.7
comp=Z,1μm,19.2s,baz=276,slow=43
comp=Z,5.9nm,0.4s
VNDS Vrh nad Dolski 14.25 321 ePn Pn 12 01 40.4 +0.6
VYHS Vyhne 14.34 336 eP Pn 12 01 43.1 +2.1
VYHS Vyhne 14.34 336 ePN Pn 12 01 43.0 +2.1
VYHS Vyhne 14.34 336 eP P 12 01 51.0 +3.0
KWP Kalwaria Pacla 14.37 347 eP Pn 12 01 44.3 +2.9
STHS Stebnicka Huta 14.48 343 eP P 12 01 51.7 +2.2
STHS Stebnicka Huta 14.48 343 eP P 12 01 51.7 +2.2
SOKA Soboth 14.48 323 i Pn Pn 12 01 44.1 +1.0
comp=Z,27nm,1.0s,SNR=23
TRI Trieste 14.50 318 Pn 12 01 43.5 +0.3
TRI Trieste 14.50 318 P Pn 12 01 43.5 +0.3
NCK Nalchik 14.51 53⇑eP P 12 01 47.7 -2.3
NCK pmax pmax
comp=Z,6.0nm,0.6s
OBKA Obir 14.61 322 i Pn Pn 12 01 46.5 +1.8
comp=Z,29nm,0.9s,SNR=9.9
RONA Rosalia, Austr 14.66 328 i Pn Pn 12 01 47.6 +2.3
comp=Z,24nm,0.9s,SNR=7.1
ARSA Arzberg 14.66 326 Pn 12 01 45.4 -0.1
ARSA Arzberg 14.66 326 i Pn Pn 12 01 47.5 +2.1
comp=Z,17nm,0.9s,SNR=8.4
LANS Liptovska Anna 14.71 338 eP P 12 01 54.2 +2.0
LANS Liptovska Anna 14.71 338 eP P 12 01 54.2 +2.0
NIE Niedzica 14.72 341 eP P 12 01 49.6 -2.6
SABO M.te Sabotino 14.76 318 Pn Pn 12 01 47.7 +1.0
MODS Modra-Piesok 14.79 332 P Pn 12 01 49.5 +2.3
MODS pmax pmax
comp=Z,35nm,0.8s
CASP Castiglione de 14.80 304 Pn Pn 12 01 47.2 0.0
OSSC Osservatorio P 14.85 307 Pn Pn 12 01 48.2 +0.3
SMOL Smolenice 14.85 333 eP P 12 01 54.2 +0.5
KEST Kesra 14.89 275 Pn Pn 12 01 49.1 +0.5
comp=Z,0.3nm,0.3s,baz=44,slow=5.6,SNR=7.9
KEST LR LR 12 08 38.8
comp=Z,650nm,20.1s,baz=54,slow=42
comp=Z,11nm,0.9s
GOF Gofitskoye 14.95 47ceP P 12 01 56.4 +1.5
KIEV Kiev 15.01 4 Pn 12 01 49.7 -0.4
KIEV IAmb IAmb 12 01 58.9
comp=Z,43nm,0.7s
KIEV Kiev 15.01 4 P Pn 12 01 49.7 -0.4
KIEV pmax pmax
comp=Z,43nm,0.7s
KIEV Kiev 15.01 4 ⇓P Pn 12 01 52.0 +2.0
AKASG Malin Array Be 15.02 4 Pn Pn 12 01 48.8 -1.4
comp=Z,1.2nm,0.3s,baz=186,slow=12,SNR=18
AKASG PcP PcP 12 06 57.7 -0.3
comp=Z,1.7nm,0.6s,baz=156,slow=0.6,SNR=4.4
AKASG LR LR 12 08 35.9
comp=Z,207nm,19.3s,baz=185,slow=41
comp=Z,4.2nm,0.8s
AKBB Malin Array Si 15.02 4ceP Pn 12 01 50.8 +0.6
CONA Conrad Observa 15.02 328 i Pn Pn 12 01 51.9 +1.6
comp=Z,4.8nm,0.8s,SNR=9.7
JAVC Velka Javorina 15.05 334 eP Pn 12 01 52.6 +1.9
MYKA Terra Mystica 15.15 320 i Pn Pn 12 01 53.5 +1.4
comp=Z,26nm,0.9s,SNR=8.6
ZCCA Zocca 15.40 309 Pn 12 01 53.8 -1.5
STAL STALIGIAL 15.41 318 Pn 12 01 55.7 +0.2
MAUC Maruska 15.43 335 eP P 12 02 01.7 +1.6
OJC Ojcow 15.58 341 eP P 12 02 03.4 +1.6
OJC Ojcow 15.58 341 ⇓P P 12 02 02.5 +0.7
KBA Koelnbreinsper 15.60 321 P Pn 12 01 58.9 +0.9
KBA pmax pmax
comp=Z,135nm,1.0s
KBA Koelnbreinsper 15.60 321 i Pn Pn 12 01 59.1 +1.0
comp=Z,111nm,1.0s
KBA Koelnbreinsper 15.60 321 ⇑P Pn 12 01 58.6 +0.6
MOA Molln 15.68 325 i Pn P 12 02 01.5 -1.5
comp=Z,20nm,1.1s,SNR=5.5
VLC Villacollemand 15.69 308 P P 12 02 02.9 -0.2
KRUC Moravsky 15.70 332 eP Pn 12 01 59.7 +0.6
KRUC e 12 02 03.0
OKC Ostrava-Krasne 15.73 337 eP P 12 02 05.1 +1.7
OKC MLR MLR
comp=Z,1μm,11.0s
OKC Ostrava-Krasne 15.73 337 eP P 12 02 05.1 +1.7
OKC AMS AMS 12 09 10.0
comp=Z,1μm,11.6s
VRAC Vranov 15.82 333 Pn Pn 12 02 01.4 +0.7
comp=Z,1.1nm,0.3s,baz=140,slow=13,SNR=25
VRAC LR LR 12 08 28.1
comp=Z,289nm,19.4s,baz=169,slow=39
comp=Z,27nm,0.8s
VRAC Vranov 15.82 333 eP Pn 12 02 00.4 -0.3
VRAC e 12 02 03.8
VRAC Vranov 15.82 333 ⇑P P 12 02 04.4 -0.1
ABTA Abfaltersbach 15.82 319 i Pn Pn 12 02 01.7 +0.9
comp=Z,41nm,0.8s,SNR=22
BIOA Bad Ischl, Aus 15.87 323 i Pn P 12 02 03.4 -1.7
comp=Z,28nm,1.0s,SNR=8.0
MORC Moravsky Berou 15.87 335 Pn 12 02 02.0 +0.6
MORC Moravsky Berou 15.87 335 eP Pn 12 01 59.9 -1.5
MORC e 12 02 03.0
MORC Moravsky Berou 15.87 335 ⇑P P 12 02 03.6 -1.5
MORC Moravsky Berou 15.87 335 P P 12 02 03.6 -1.5
MORC Moravsky Berou 15.87 335 ⇑P P 12 02 04.2 -0.8
CTI Castel Tesino 15.88 315 Pn 12 02 01.2 -0.4
CTI IAmb IAmb 12 02 07.8
comp=Z,96nm,0.8s
CTI Castel Tesino 15.88 315 P Pn 12 02 01.2 -0.4
CTI pmax pmax
comp=Z,96nm,0.8s
STEB Steborice 15.93 336 eP P 12 02 06.3 +0.6
PGF Pioggiola 15.99 301 ⇓P P 12 02 06.0 -0.5
PRMA PARMA 16.01 310 Pn Pn 12 02 03.1 0.0
LESA Schwarzleotal 16.17 321 i Pn Pn 12 02 06.8 +1.5
comp=Z,62nm,0.7s,SNR=44
CKRC Cesky Krumlov 16.37 327 eP P 12 02 12.0 +1.4
CKRC MLR MLR
comp=Z,1μm,13.7s
CKRC Cesky Krumlov 16.37 327 eP P 12 02 12.0 +1.4
CKRC AMS AMS 12 09 10.0
comp=Z,1μm,13.7s
KRLC Kraliky 16.39 334 eP P 12 02 12.9 +2.1
KRLC Kraliky 16.39 334 eP P 12 02 12.9 +2.1
BOB Bobbio (Coli) 16.56 309 ⇓P P 12 02 12.7 -0.1
WTTA Wattenberg 16.61 319 i Pn P 12 02 12.8 -0.7
comp=Z,68nm,1.0s,SNR=22
GEC2 GERESS Array S 16.66 326 Pn Pn 12 02 12.0 +0.5
GERES GERESS Array B 16.66 326 Pn Pn 12 02 11.8 +0.3
comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=40
GERES LR LR 12 09 01.3
comp=Z,423nm,21.5s,baz=148,slow=39
GERES ScP ScP 12 10 33.8 -0.9
comp=Z,0.7nm,0.6s,baz=86,slow=5.9,SNR=3.8
comp=Z,15nm,0.8s
WATA Walderalm 16.69 319 i Pn P 12 02 14.5 +0.2
comp=Z,90nm,0.9s,SNR=27
AKT Akhty 16.69 64 eP Pn 12 02 09.2 -2.8
AKT i S Sn 12 05 16.5 -0.6
AKT pmax pmax
comp=Z,48nm,1.0s
AKT MLR MLR
comp=Z,1μm,16.0s
DPC Dobruska-Polom 16.78 334 eP P 12 02 16.4 +1.3
DPC MLR MLR
comp=Z,900nm,11.1s
DPC Dobruska-Polom 16.78 334 eP P 12 02 16.4 +1.3
DPC AMS AMS 12 09 50.0
comp=Z,900nm,11.1s
SQTA Sankt Quirin 16.82 318 i Pn P 12 02 15.1 -0.6
comp=Z,17nm,0.8s,SNR=15
BEL Belsk 16.85 345 eP P 12 02 17.5 +1.8
KHC Kasperske Hory 16.93 327d iP Pn 12 02 15.7 +0.9
KHC pmax pmax
comp=Z,30nm,0.9s
KHC Kasperske Hory 16.93 327 eP P 12 02 16.0 -0.8
KHC AMS AMS 12 09 30.0
comp=Z,1μm,10.4s
KHC Kasperske Hory 16.93 327 ⇓P P 12 02 16.1 -0.6
MAK Makhachkala 16.94 59 eP Pn 12 02 12.0 -3.0
MAK eS Sn 12 05 22.2 -0.7
MAK pmax pmax
comp=Z,212nm,0.9s
MAK MLR MLR
comp=Z,672nm,14.0s
MOTA Moosalm 16.95 318 i Pn P 12 02 16.8 -0.3
comp=Z,46nm,1.1s,SNR=17
FETA Feichten 16.96 317 i Pn P 12 02 17.2 -0.1
comp=Z,52nm,0.7s,SNR=33
OSTC Ostas 16.99 334 eP P 12 02 19.2 +1.8
OSTC MLR MLR
comp=Z,800nm,11.7s
OSTC Ostas 16.99 334 eP P 12 02 19.2 +1.8
OSTC AMS AMS 12 10 00.0
comp=Z,800nm,11.7s
FUORN Ofenpass-Fuorn 17.00 315 Pn 12 02 16.0 0.0
CHVC Chvalec 17.07 334 eP P 12 02 19.7 +1.3
CHVC MLR MLR
comp=Z,900nm,12.8s
CHVC Chvalec 17.07 334 eP P 12 02 19.7 +1.3
CHVC AMS AMS 12 10 00.0
comp=Z,900nm,12.8s
R9F13 Warsaw-Wawer 17.14 346 eP P 12 02 18.8 -0.2
PRU Pruhonice 17.17 330 eP P 12 02 20.6 +1.3
PRU MLR MLR
comp=Z,800nm,12.0s
PRU Pruhonice 17.17 330 eP P 12 02 20.6 +1.3
PRU AMS AMS 12 10 10.0
comp=Z,800nm,12.0s
KSP Ksiaz 17.20 335 eP P 12 02 19.5 -0.3
RETA Reutte 17.22 318 i Pn P 12 02 19.8 -0.3
comp=Z,2.1nm,0.3s,SNR=13
PRA Prague 17.27 330 AMS AMS 12 10 30.0
comp=Z,800nm,10.3s
DAVOX Davos/Dischmat 17.31 315 P Pn 12 02 19.8 0.0
comp=Z,0.7nm,0.3s,baz=128,slow=14,SNR=16
DAVOX LR LR 12 10 18.0
comp=Z,891nm,18.0s,baz=92,slow=42
comp=Z,13nm,0.8s
VORD Divnogorie 17.39 25 eP Pn 12 02 19.7 -0.9
VORD pmax pmax
comp=Z,40nm,1.0s
TUE Stuetta 17.45 314 ⇓P P 12 02 23.1 +0.3
VSR Storozhevoye 17.56 25 eP Pn 12 02 21.0 -1.7
VSR pmax pmax
comp=Z,20nm,1.0s
PVCC Panska Ves 17.58 331 AMS AMS 12 10 30.0
comp=Z,700nm,11.1s
DAVA Damuels 17.59 317 i Pn P 12 02 24.5 +0.2
comp=Z,31nm,0.8s,SNR=11
DAVA Damuels 17.59 317 ⇑P P 12 02 24.4 +0.2
HSKC Hora Svate Kat 18.10 330 AMS AMS 12 11 50.0
comp=Z,700nm,17.2s
BRG Berggiesshubel 18.10 331 eP P 12 02 33.2 +3.5
BRG Amp 12 02 37.7
comp=Z,14nm,0.9s
GRFO Grafenberg 18.41 324 P P 12 02 31.3 -1.8
GRFO Grafenberg 18.41 324 P P 12 02 31.3 -1.8
GRFO pmax pmax
comp=Z,39nm,1.1s
BNI Bardonecchia 18.46 307 Pn 12 02 34.0 0.0
BNI Bardonecchia 18.46 307 P Pn 12 02 34.0 0.0
BNI pmax pmax
comp=Z,14nm,0.7s
BNI Bardonecchia 18.46 307 ⇑P Pn 12 02 35.2 +1.3
VRH Novokhopyorsk 18.48 29 eP Pn 12 02 34.1 +0.1
VRH pmax pmax
comp=Z,20nm,1.0s
SUW Suwalki 18.56 352 eP Pn 12 02 35.1 +0.2
SUW Suwalki 18.56 352 P 12 02 34.1 -0.6
SUW Suwalki 18.56 352 P P 12 02 34.1 -0.6
LPSR Galich'ya Gora 18.67 22 eP P 12 02 33.9 -2.0
LPSR pmax pmax
comp=Z,60nm,1.1s
MNK Minsk 18.78 0 iP Pn 12 02 37.6 0.0
comp=E,49nm,0.6s
MNK iP Pn 12 02 37.6 0.0
comp=N,7.0nm,0.8s
MNK iP Pn 12 02 37.6 0.0
comp=Z,84nm,0.7s,baz=180
MNK iPP PnPn 12 02 50.1 +0.3
MNK iS Sn 12 06 08.6 +1.2
MNK iSS SnSn 12 06 23.8 +2.5
MNK iLQ LQ 12 07 59.6
MNK iLR LR 12 09 14.6
MNK iLRM MLR 12 10 27.4
comp=Z,241nm,13.2s
MNK iLRM MLR 12 11 22.3
comp=N,235nm,13.3s
MNK iLRM MLR 12 12 41.5
comp=E,154nm,15.1s
MNK Minsk 18.78 0 iP Pn 12 02 37.6 0.0
MNK iS Sn 12 06 08.5 +1.2
MNK pmax pmax
comp=E,49nm,0.6s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=Z,84nm,0.7s
MNK MLR MLR
comp=Z,241nm,13.0s
MNK MLR MLR
comp=N,235nm,13.0s
MNK MLR MLR
comp=E,154nm,15.0s
CLL Collm 18.81 330 eP Pn 12 02 38.0 +0.1
CLL eS S 12 06 12.0 +1.2
STU Stuttgart 18.83 320 P 12 02 37.0 -0.7
STU Stuttgart 18.83 320 P P 12 02 37.1 -0.7
STU pmax pmax
comp=Z,134nm,1.6s
GKP Gorka Klasztor 19.02 341 eP Pn 12 02 41.0 +0.4
GKP Gorka Klasztor 19.02 341 eP P 12 02 36.0 -3.7
BFO Black Forest 19.04 317 P P 12 02 39.5 -0.6
BFO Black Forest 19.04 317 P P 12 02 39.5 -0.6
BFO pmax pmax
comp=Z,35nm,0.8s
BFO Black Forest 19.04 317 ⇑P P 12 02 40.1 0.0
NACGM Naroch 19.20 358 eP Pn 12 02 42.1 -0.4
ECH Echery 19.64 316 P 12 02 46.1 -0.5
ECH Echery 19.64 316 P P 12 02 46.1 -0.5
ECH pmax pmax
comp=Z,15nm,0.9s
ECH Echery 19.64 316 ⇑P P 12 02 46.0 -0.5
RAYN Ar Rayn 19.66 123 P Pn 12 02 48.1 -0.4
RAYN Ar Rayn 19.66 123 P Pn 12 02 48.1 -0.4
RAYN pmax pmax
comp=Z,16nm,0.9s
RAYN Ar Rayn 19.66 123 ⇓P Pn 12 02 49.9 +1.4
PABE Paberze 19.95 354 P P 12 02 49.3 -0.6
PABE IAmb IAmb 12 02 55.1
comp=Z,121nm,0.7s
PABE Paberze 19.95 354 eP P 12 02 46.9 -3.0
SSB Saint Sauveur 19.95 306 P P 12 02 49.2 -0.9
SSB Saint Sauveur 19.95 306 P P 12 02 49.2 -0.9
SSB pmax pmax
comp=Z,19nm,0.9s
SSB Saint Sauveur 19.95 306 ⇑P P 12 02 49.6 -0.5
ETOS Mallorca 20.05 289 P P 12 02 50.8 -0.2
EJON La Jonquera 20.34 297 P P 12 02 52.3 -1.9
OBN Obninsk 20.34 15 P P 12 02 54.2 +0.1
OBN Obninsk 20.34 15 P P 12 02 54.2 +0.1
comp=Z,84nm,0.5s,baz=125,slow=1.7,SNR=32
comp=Z,84nm,0.5s
OBN Obninsk 20.34 15c iP P 12 02 53.8 -0.3
OBN i 12 03 12.5
OBN pmax pmax
comp=Z,141nm,0.9s
OBN MLR MLR
comp=Z,327nm,17.0s
PBUR Paburge 20.68 351 eP P 12 02 54.6 -3.2
WLF Walferdange 20.98 318 P P 12 03 00.1 -1.0
WLF Walferdange 20.98 318 P P 12 03 00.7 -0.4
WLF Walferdange 20.98 318 P P 12 03 00.7 -0.4
WLF pmax pmax
comp=Z,29nm,0.9s
WLF Walferdange 20.98 318 dP P 12 03 00.5 -0.6
MTLF Montolieu 21.00 299 ⇓P P 12 03 00.1 -1.3
LOR Lormes 21.15 310 ⇓P P 12 03 01.7 -1.3
MOS Moscow 21.15 16 eP P 12 03 00.9 -2.0
MOS e 12 03 20.5
MOS eS S 12 06 58.3 +0.8
MOS pmax pmax
comp=Z,400nm,1.5s
MOS pmax pmax
comp=Z,258nm,1.4s
BSD Bornholm Skovb 21.30 340 eP P 12 03 01.4 -3.1
BSD Bornholm Skovb 21.30 340 ⇑P P 12 03 02.4 -2.0
BSD Bornholm Skovb 21.30 340 iP P 12 03 02.3 -2.2
BSD IAmb IAmb 12 03 04.2
comp=Z,30nm,0.7s
RGN Rugen 21.30 337 P P 12 03 04.3 -0.2
RGN IAmb IAmb 12 03 19.3
comp=Z,79nm,0.8s
BHOU Houvegnez 21.45 320 dP P 12 03 05.8 -0.3
comp=Z,14nm,1.1s
BTNL Ternell 21.51 320 dP P 12 03 06.0 -0.9
CEST Esterri de Car 21.55 297 P P 12 03 06.9 -0.6
MEM Membach 21.59 320 dP P 12 03 07.7 0.0
RCHB Rochefort 21.75 318 dP P 12 03 08.5 -0.8
RCHB dPP PnPn 12 03 29.8 -0.6
BSTI Sart Tilman 21.81 320 dP P 12 03 09.7 -0.3
BCLA Clavier 21.85 319 dP P 12 03 10.0 -0.5
BELG Belogornoye 21.87 34 P P 12 03 11.1 +0.5
comp=Z,243nm,0.9s,baz=345,slow=0.6,SNR=37
BELG LR LR 12 13 05.0
comp=Z,455nm,19.3s,baz=71,slow=41
comp=Z,243nm,0.9s
BELG Belogornoye 21.87 34de P P 12 03 10.4 -0.2
BELG pmax pmax
comp=Z,47nm,0.9s
BGES Gesves 21.95 319 dP P 12 03 11.7 +0.2
DOU Dourbes 22.06 318 dP P 12 03 13.2 +0.5
DOU dPP PnPn 12 03 34.7 0.0
BMRD Maredsous 22.08 318 dP P 12 03 11.8 -1.0
BLEU Blekinge 22.11 342 iP P 12 03 09.4 -3.7
BLEU IAmb IAmb 12 03 11.2
comp=Z,17nm,0.9s
LUNU Lund 22.17 338 iP P 12 03 11.2 -2.6
SLIT Slitere, Latvi 22.21 352 eP P 12 03 10.9 -3.3
CLF Chambon-Foret 22.45 311 P P 12 03 16.0 -0.8
UCC Uccle 22.56 319 P P 12 03 17.0 -1.1
UCC Uccle 22.56 319 P P 12 03 17.0 -1.1
UCC pmax pmax
comp=Z,14nm,0.8s
UCC Uccle 22.56 319 dP P 12 03 17.0 -1.1
VSU Vasula 22.76 359 iP P 12 03 19.1 -1.0
VSU Vasula 22.76 359 eP P 12 03 17.3 -2.8
DEL Delary 22.77 340 iP P 12 03 17.8 -2.4
ECHE Chera 22.95 288 P P 12 03 20.4 -2.0
CART Cartagena 23.04 283 P P 12 03 22.5 -0.7
TAM Tamanrasset 23.16 242 P P 12 03 25.1 +0.4
TAM IAmb IAmb 12 03 27.9
comp=Z,66nm,1.0s
TAM Tamanrasset 23.16 242 P P 12 03 25.1 +0.4
TAM pmax pmax
comp=Z,66nm,1.0s
TAM Tamanrasset 23.16 242 ⇑P P 12 03 25.8 +1.1
EMUR La Murta 23.21 284 P P 12 03 23.2 -1.8
ARBE Arbavere 23.76 358 eP P 12 03 29.1 -1.0
ENIJ Nijar 24.05 282 P P 12 03 31.5 -1.7
BORU Boraas 24.08 340 iP P 12 03 31.0 -2.2
ONAU Onsala 24.12 339 iP P 12 03 32.2 -1.4
MEF Metsahovi 24.61 356 eP P 12 03 35.2 -2.8
UCM Universidad Co 24.71 290 P P 12 03 38.6 -0.6
TJOU Tjoern 24.74 339 iP P 12 03 38.1 -1.0
EALB Alboran 24.85 280 P P 12 03 39.5 -0.9
WMELI Melilla 24.88 278 P P 12 03 43.1 +2.4
UPP Uppsala 25.02 348 eP P 12 03 38.3 -3.4
ESBB Sonseca Array 25.27 289 P P 12 03 44.1 -0.1
ESBB IAmb IAmb 12 03 54.2
comp=Z,26nm,0.7s
ESDC Sonseca Array 25.27 289 P P 12 03 43.9 -0.3
comp=Z,24nm,1.0s,baz=80,slow=9.3,SNR=92
ESDC ScP ScP 12 10 55.0 -0.8
comp=Z,0.1nm,0.3s,baz=64,slow=1.6,SNR=5.5
ESDC LR LR 12 14 22.0
comp=Z,230nm,18.4s,baz=88,slow=38
comp=Z,24nm,1.0s
PAB San Pablo 25.57 288 P P 12 03 46.7 -0.3
PAB San Pablo 25.57 288 P P 12 03 46.7 -0.3
PAB pmax pmax
comp=Z,20nm,0.9s
PAB San Pablo 25.57 288 ⇓P P 12 03 46.7 -0.3
RAF Rauma 25.60 353 eP P 12 03 44.2 -2.8
STRU Stroemstad 25.72 340 eP P 12 03 45.1 -2.8
STRU Stroemstad 25.72 340 iP P 12 03 47.7 -0.3
FINES FINESS Array B 25.77 358 P P 12 03 46.7 -1.7
comp=Z,28nm,0.7s,baz=148,slow=11,SNR=78
FINES PcP PcP 12 07 17.7 -0.1
comp=Z,3.7nm,0.5s,baz=144,slow=1.9,SNR=5.3
FINES LR LR 12 14 29.8
comp=Z,235nm,19.6s,baz=193,slow=38
comp=Z,28nm,0.7s
FIA1 FINESS Array S 25.77 358 P P 12 03 47.3 -1.1
EMAL Malaga-Limoner 25.85 282 P P 12 03 45.2 -4.3
ROSF Rostrenen 26.02 309 ⇓P P 12 03 49.5 -1.5
HFS Hagfors 26.05 344 P P 12 03 49.6 -1.5
comp=Z,55nm,0.8s,baz=153,slow=10.0,SNR=79
HFS LR LR 12 15 56.1
comp=Z,323nm,21.4s,baz=150,slow=41
comp=Z,55nm,0.8s
KLMR Klimovskoe 26.27 13 eP P 12 03 51.6 -1.4
KLMR e 12 07 17.0
KLMR pmax pmax
comp=Z,116nm,0.9s
AKTO Aktyubinsk 26.37 47 LR LR 12 18 15.9
comp=Z,400nm,19.0s,baz=128,slow=45
KEF Keuruu 26.53 357 eP P 12 03 52.6 -2.8
KONO Kongsberg 26.68 339⇑eP P 12 03 57.7 +1.0
KONO pmax pmax
comp=Z,30nm,1.2s
KONO Kongsberg 26.68 339 eP P 12 03 55.3 -1.4
MDT Midelt 26.77 273 P P 12 03 56.9 -1.1
comp=Z,12nm,0.9s,baz=95,slow=10,SNR=16
MDT LR LR 12 15 44.0
comp=Z,198nm,21.2s,baz=74,slow=39
comp=Z,12nm,0.9s
MD31 MD31 26.88 273 P P 12 03 59.4 +0.5
KIRV Kirov 27.00 25 LR LR 12 15 21.6
comp=Z,206nm,20.4s,baz=211,slow=38
KIRV Kirov 27.00 25 iP P 12 03 58.9 -0.7
NC602 NORSAR Array S 27.09 343 P P 12 03 58.9 -1.5
NC602 NORSAR Array S 27.09 343 eP P 12 03 59.2 -1.2
AB31 Akbulak array 27.14 50 P P 12 04 01.7 +0.7
AB31 Akbulak array 27.14 50 P P 12 04 01.5 +0.5
CNIL Conil 27.20 281 P P 12 03 58.5 -3.2
JOF Joensuu 27.32 4 eP P 12 03 59.6 -2.8
NAO01 NORSAR Array S 27.34 342 P P 12 04 01.2 -1.5
NAO01 IAmb IAmb 12 04 06.6
comp=Z,44nm,0.9s
PBRG Braganca 27.39 293 eP P 12 04 02.8 -0.6
PBRG i tx tx 12 04 11.5
PBRG iAmb IAmb 12 04 14.2
comp=Z,38nm,1.3s
NB2 NORSAR Subarra 27.43 343 P P 12 04 01.4 -2.1
comp=Z,33nm,1.4s,baz=150,slow=9.3
NB2 PCP PcP 12 07 21.2 -0.6
comp=Z,2.7nm,0.7s,baz=124,slow=3.8
NB2 NORSAR Subarra 27.43 343 P P 12 04 01.4 -2.1

baz=150,slow=9.3
NOA NORSAR Array B 27.43 343 P **P** **12 04 01.5 -2.1**
comp=Z,8.8nm,0.9s,baz=145,slow=8.8,SNR=33
NOA PcP **PcP** **12 07 21.5 -0.3**
comp=Z,3.7nm,0.8s,baz=128,slow=3.0,SNR=6.2
NOA LR LR 12 16 53.2
comp=Z,609nm,18.1s,baz=155,slow=41
comp=Z,8.8nm,0.9s
MVO Moncorvo 27.59 292 *e*P **P** **12 04 04.6 -0.7**
MVO *i* IAmb IAmb 12 04 16.1
comp=Z,36nm,1.5s
NC204 NORSAR Array S 27.75 342 P **P** **12 04 05.2 -1.2**
PBAR Barrancos 27.75 285 *e*P **P** **12 04 05.8 -0.8**
PBAR *i* IAmb IAmb 12 04 08.1
comp=Z,50nm,1.5s
SKAR Skarslia 27.89 340 *e*P **P** **12 04 08.6 +0.9**
PMRV Marv??o 27.93 288 *e*P **P** **12 04 07.5 -0.7**
PMRV *i* IAmb IAmb 12 04 09.2
comp=Z,31nm,1.3s
PMRV *i* tx tx 12 04 16.6
PCBR Castelo Branco 27.97 289 *e*P **P** **12 04 08.0 -0.5**
PCBR *i* IAmb IAmb 12 04 43.7
comp=Z,24nm,1.6s
MTE Manteigas 28.00 290 *e*P **P** **12 04 08.4 -0.4**
MTE *i* IAmb IAmb 12 04 09.7
comp=Z,23nm,1.2s
MTE *i* tx tx 12 04 18.1
MTE Manteigas 28.00 290 *e*P **P** **12 04 04.1 -4.8**
MTE Manteigas 28.00 290 ⇑P **P** **12 04 08.6 -0.3**
PESTR Estremoz 28.12 287 IAmb IAmb 12 04 10.7
comp=Z,30nm,1.0s
PESTR Estremoz 28.12 287 *e*P **P** **12 04 09.2 -0.7**
PESTR *i* tx tx 12 04 19.0
PESTR *i* IAmb IAmb 12 04 20.7
comp=Z,35nm,1.1s
PESTR Estremoz 28.12 287 ⇓P **P** **12 04 09.0 -0.9**
POLO Lamas de Olo 28.17 292 *e*P **P** **12 04 09.8 -0.6**
POLO *i* IAmb IAmb 12 04 26.3
comp=Z,14nm,1.3s
PVIS Viseu 28.26 291 *e*P **P** **12 04 10.5 -0.6**
PVIS *i* tx tx 12 04 20.6
PCAB Cabril 28.35 293 *e*P **P** **12 04 11.9 0.0**
PCAB *i* IAmb IAmb 12 04 19.5
comp=Z,25nm,1.1s
PVAQ Vaqueiros 28.37 284 *e*P **P** **12 04 11.7 -0.5**
PVAQ *i* IAmb IAmb 12 04 13.4
comp=Z,89nm,1.3s
PVAQ *i* tx tx 12 04 21.1
PVAQ Vaqueiros 28.37 284 ⇑P **P** **12 04 11.5 -0.6**
PBEJ Beja 28.42 285 *e*P **P** **12 04 12.4 -0.1**
PBEJ *i* IAmb IAmb 12 04 21.0
comp=Z,32nm,1.5s
PBEJ *i* tx tx 12 04 28.9
EVO Evora 28.48 286 P **P** **12 04 10.9 -2.2**
EVO Evora 28.48 286 *e*P **P** **12 04 13.2 +0.1**
EVO *i* IAmb IAmb 12 04 24.5
comp=Z,24nm,1.8s
PSARD Sardoal 28.51 289 *e*P **P** **12 04 13.0 -0.4**
PSARD *i* IAmb IAmb 12 04 24.3
comp=Z,24nm,1.1s
PBDV Barranco-do-Ve 28.56 284 *e*P **P** **12 04 13.5 -0.4**
PBDV *i* IAmb IAmb 12 04 15.5
comp=Z,79nm,1.1s
PBDV *i* tx tx 12 04 23.1
PMTG Montargil 28.60 288 *e*P **P** **12 04 13.1 -1.0**
PMTG *i* IAmb IAmb 12 04 15.0
comp=Z,24nm,1.6s
PCVE Castro Verde 28.60 285 *e*P **P** **12 04 13.8 -0.4**
PCVE *i* IAmb IAmb 12 04 15.5
comp=Z,27nm,2.0s
PCVE *i* tx tx 12 04 23.1
COI Coimbra 28.67 290 IAmb IAmb 12 04 25.9
comp=Z,23nm,0.7s
MESJ Messejana 28.71 285 *e*P **P** **12 04 14.7 -0.5**
MESJ IAmb IAmb 12 04 15.6
comp=Z,67nm,1.4s
MESJ Messejana 28.71 285 *e*P **P** **12 04 15.1 -0.2**
MESJ *i* IAmb IAmb 12 04 16.6
comp=Z,41nm,1.4s
MESJ *i* tx tx 12 04 24.3
MESJ Messejana 28.71 285 *e*P **P** **12 04 14.7 -0.5**
MESJ Messejana 28.71 285 ⇑P **P** **12 04 14.7 -0.5**
PCAS Casmilo, Conde 28.74 290 *e*P **P** **12 04 14.8 -0.7**
PCAS *i* tx tx 12 04 23.7
PCAS *i* IAmb IAmb 12 04 24.5
comp=Z,20nm,1.3s
EKA Eskdalemuir Ar 28.80 323 P **P** **12 04 14.1 -1.7**
comp=Z,2.1nm,0.7s,baz=125,slow=11,SNR=5.5
EKA PcP **PcP** **12 07 25.6 +0.4**
comp=Z,4.7nm,0.7s,baz=133,slow=3.5,SNR=7.0
comp=Z,2.1nm,0.7s
DOMB Dombas 28.83 342 *e*P **P** **12 04 16.6 +0.6**
PTEO Sao Teotonio 29.15 284 *e*P **P** **12 04 18.8 -0.2**
PTEO *i* IAmb IAmb 12 04 20.8
comp=Z,98nm,1.6s
PARRA Arraiolos 29.25 287 *e*P P 12 04 12.3 -7.7
PARRA *i* IAmb IAmb 12 04 18.8
comp=Z,16nm,1.4s
PFVI Vila Bisbo 29.29 284 *e*P **P** **12 04 17.6 -2.7**
PFVI *i* IAmb IAmb 12 04 32.2
comp=Z,52nm,1.7s
ARTI Arti 29.30 35 IAmb IAmb 12 04 20.9
comp=Z,34nm,0.7s
ARTI Arti 29.30 35 LR LR 12 18 27.8
comp=Z,240nm,20.2s,baz=238,slow=41
ARTI Arti 29.30 35*d* *i*P **P** **12 04 19.4 -0.7**
ARTI 12 05 11.3
ARTI 12 07 25.3
ARTI S **S** **12 09 12.9 +0.4**
ARTI pmax pmax
comp=Z,30nm,0.8s
ARTI Arti 29.30 35 ⇓P **P** **12 04 20.0 -0.1**
PMAFR Mafra 29.43 287 *e*P **P** **12 04 21.8 +0.3**
PMAFR *i* IAmb IAmb 12 04 30.0
comp=Z,75nm,1.4s
TIO Tiouine 29.48 271 P **P** **12 04 21.4 -0.8**
MOL Molde 29.66 341 *e*P **P** **12 04 22.9 -0.3**
SJUU Sjulsmark 30.04 355 *e*P **P** **12 04 23.6 -3.1**
NSS Namsos 30.37 347 *e*P **P** **12 04 28.0 -1.5**
SVE Sverdlovsk 30.59 36 *e*P **P** **12 04 32.0 +0.4**
SVE pmax pmax
comp=Z,41nm,1.1s
MOR8 Moi Rana 31.47 350 *e*P **P** **12 04 38.3 -0.9**
LEIR Leirfjorden 31.61 349 *e*P **P** **12 04 39.3 -1.2**
STOK Stokkvaagen 31.83 349 *e*P **P** **12 04 41.7 -0.7**
KONS Konsvik 31.97 349 *e*P **P** **12 04 42.3 -1.3**
APA Apatity 32.07 4 *e*P **P** **12 04 43.0 -1.4**
APA MLR MLR
comp=Z,897nm,6.4s
VAGH Vaagaholmen 32.16 349 *e*P **P** **12 04 44.3 -1.0**
TORD Torodi Ar. Bea 32.44 233 P **P** **12 04 48.5 +0.3**
comp=Z,61nm,0.7s,baz=34,slow=10,SNR=319
TORD ScP **ScP** **12 11 17.1 -1.5**
comp=Z,1.5nm,1.1s,baz=43,slow=4.7,SNR=3.8
TORD LR LR 12 19 36.8
comp=Z,355nm,19.5s,baz=32,slow=39
comp=Z,61nm,0.7s
LVZ Lovozero 32.47 5⇑ *i*P **P** **12 04 47.1 -1.0**
LVZ pmax pmax
comp=Z,50nm,1.7s
FAUS Fauske 32.50 351 *e*P **P** **12 04 46.6 -1.6**
SIMJ Simiganj 32.87 72 P **P** **12 04 54.2 +2.2**
SIMJ IAmb IAmb 12 04 56.8
comp=Z,19nm,0.9s
LODK Lodwar 32.92 166 P **P** **12 04 53.5 +1.0**
CHGR Chuyangaron 32.98 72 P **P** **12 04 54.2 +1.2**
CHGR Chuyangaron 32.98 72 P **P** **12 04 54.2 +1.2**
CHGR pmax pmax
comp=Z,42nm,0.8s
STEI Steigen 33.02 351 *e*P **P** **12 04 51.8 -1.1**
BRLS Borolday 33.13 64 *e*P **P** **12 04 54.2 +0.1**
BRLS Borolday 33.13 64 *e*P **P** **12 04 54.2 +0.1**
IUG Iuzhnay 33.31 66 *e*P **P** **12 04 56.7 +0.9**
IUG pmax pmax
comp=Z,16nm,1.2s
IUG Iuzhnay 33.31 66 *e*P **P** **12 04 56.8 +0.9**
comp=Z,16nm,1.2s
LOF Lofoten 33.43 350 *e*P **P** **12 04 56.7 +0.3**
KTK1 Kautokeino 33.44 357 *e*P **P** **12 04 55.1 -1.3**
KK31 Karatay Array 33.62 64 P **P** **12 04 59.0 +0.6**
KK31 Karatay Array 33.62 64 *i*P **P** **12 04 59.4 +1.0**
ARA0 ARCESS Array S 33.89 359 *e*P **P** **12 04 59.2 -1.2**
ARA0 *e*P **P** **12 04 59.3 -1.2**

ARCES ARCESS Array B 33.89 359 P **P** **12 04 58.9 -1.5**
comp=Z,21nm,0.8s,baz=174,slow=8.5,SNR=82
ARCES PcP **PcP** **12 07 37.9 -0.8**
comp=Z,5.9nm,0.8s,baz=200,slow=3.8,SNR=5.6
ARCES S **S** **12 10 21.9 -2.1**
comp=Z,2.7nm,0.8s,baz=178,slow=12,SNR=4.3
comp=Z,21nm,0.8s
KEV Kevo 34.09 360 P **P** **12 05 01.3 -0.8**
KEV Kevo 34.09 360 P **P** **12 05 01.3 -0.8**
KEV pmax pmax
comp=Z,122nm,2.0s
JETT Jettan, Norway 34.13 355 *e*P **P** **12 05 01.6 -0.9**
TRO Tromso 34.31 355 *e*P **P** **12 05 02.9 -1.1**
VADS Vadso 34.47 1 *e*P **P** **12 05 04.7 -0.7**
BVA0 Borovoye Array 34.48 46 P **P** **12 05 06.3 +0.6**
BVAR Borovoye Array 34.48 46 P **P** **12 05 06.0 +0.3**
comp=Z,21nm,0.9s,baz=256,slow=6.0,SNR=37
BVAR LR LR 12 22 43.6
comp=Z,261nm,18.3s,baz=262,slow=42
comp=Z,21nm,0.9s
BRZS Berezniki 35.38 52 *e*P **P** **12 05 14.7 +1.1**
BRZS Berezniki 35.38 52 *e*P **P** **12 05 14.7 +1.1**
BTLS Baital 36.11 61 *e*P **P** **12 05 20.8 +1.0**
BTLS Baital 36.11 61 *e*P **P** **12 05 20.9 +1.0**
MBAR Mbarara 36.25 175 P **P** **12 05 22.0 +0.6**
MBAR Mbarara 36.25 175 P **P** **12 05 22.0 +0.6**
MBAR pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 36.57 65 P **P** **12 05 25.4 +1.4**
AAK Ala-Archa 36.57 65 LR LR 12 22 48.6
comp=Z,272nm,20.4s,baz=276,slow=40
AAK Ala-Archa 36.57 65⇑ *e*P **P** **12 05 26.9 +2.9**
AAK pmax pmax
comp=Z,3.0nm,0.9s
SGDS Sogindy 36.60 63 *e*P **P** **12 05 25.1 +1.0**
PMAR Madeira 36.75 279 *e*P **P** **12 05 26.6 +0.9**
PMAR *i* IAmb IAmb 12 05 39.8
comp=Z,112nm,1.2s
NIL Nilore 37.29 80 P **P** **12 05 31.6 +1.6**
NIL IAmb IAmb 12 05 49.7
comp=Z,42nm,1.0s
NIL Nilore 37.29 80 P **P** **12 05 31.6 +1.6**
NIL pmax pmax
comp=Z,42nm,1.0s
KMBO Kilima Mbogo 37.73 164 PcP **PcP** **12 07 52.2 +1.1**
comp=Z,1.5nm,0.4s,baz=36,slow=4.4,SNR=4.2
KMBO LR LR 12 22 22.9
comp=Z,150nm,18.2s,baz=92,slow=38
KSH Kashi 38.09 69 P **P** **12 05 37.0 +0.1**
KSH sP sP 12 05 43.3 0.0
KSH PcP **PcP** **12 07 53.0 +1.2**
KSH pmax pmax
comp=Z,9.0nm,1.0s
CHKK Chushkaly 38.28 62 *e*P **P** **12 05 39.4 +1.1**
CHKK Chushkaly 38.28 62 *e*P **P** **12 05 39.4 +1.1**
MDOK Medeo 38.39 63 *e*P **P** **12 05 40.3 +0.9**
MDOK Medeo 38.39 63 *e*P **P** **12 05 40.3 +0.9**
KDJ Kajisay 38.60 65 P **P** **12 05 42.7 +1.4**
KDJ Kajisay 38.60 65 P **P** **12 05 42.7 +1.4**
KDJ pmax pmax
comp=Z,10.0nm,0.8s
ARXS Arharly 38.85 62 *e*P **P** **12 05 43.4 +0.2**
KURBB Kurchatov Arra 39.17 51 P **P** **12 05 46.7 +1.0**
comp=Z,21nm,0.8s,baz=277,slow=8.8,SNR=78
KURBB PP **PnPn** **12 07 18.6 +0.6**
comp=Z,4.9nm,1.0s,baz=275,slow=11,SNR=4.7
KURBB PcP **PcP** **12 07 55.8 +1.0**
comp=Z,9.8nm,0.8s,baz=269,slow=4.2,SNR=7.5
KURBB S **S** **12 11 47.2 +2.2**
comp=Z,0.7nm,0.2s,baz=281,slow=15,SNR=4.2
comp=Z,21nm,0.8s
TDK Taldyqorghan 39.20 60 *e*P **P** **12 05 46.9 +1.0**
TDK Taldyqorghan 39.20 60 *e*P **P** **12 05 47.0 +1.0**
KURK Kurchatov 39.24 51 P **P** **12 05 46.8 +0.6**
KURK Kurchatov 39.24 51*d* *i*P **P** **12 05 46.8 +0.6**
KURK pmax pmax
comp=Z,35nm,1.3s
SATY Saty 39.39 63 *e*P **P** **12 05 48.6 +0.9**
SATY Saty 39.39 63 *e*P **P** **12 05 48.7 +0.9**
UZB Uzynbulak 39.83 63 *e*P **P** **12 05 52.3 +0.9**
UZB Uzynbulak 39.83 63 *e*P **P** **12 05 52.3 +0.9**
JMIC Jan Mayen 40.15 343 LR LR 12 23 57.4
comp=Z,164nm,18.8s,baz=96,slow=38
BORG Borgarnes 41.06 330 LR LR 12 25 49.8
comp=Z,190nm,18.1s,baz=117,slow=40
DBIC Dimbokro 41.53 234 P **P** **12 06 05.6 +0.1**
DBIC Dimbokro 41.53 234 P **P** **12 06 05.7 +0.2**
comp=Z,50nm,0.7s,baz=65,slow=8.6,SNR=59
DBIC LR LR 12 24 50.6
comp=Z,197nm,19.8s,baz=52,slow=38
comp=Z,50nm,0.7s
MK31 Makanchi Array 41.75 57 *i*P **P** **12 06 07.6 +0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 41.75 57 P **P** **12 06 08.1 +1.0**
comp=Z,8.0nm,0.5s,baz=274,slow=7.6,SNR=57
MKAR ScP **ScP** **12 11 52.3 -0.6**
comp=Z,1.8nm,0.8s,baz=270,slow=3.6,SNR=8.0
comp=Z,8.0nm,0.5s
SPITS Spitsbergen Ar 42.84 357 P **P** **12 06 15.4 -0.1**
comp=Z,11nm,0.8s,baz=153,slow=11,SNR=10
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 43.14 47 P **P** **12 06 18.4 +0.2**
ZALV Zalesovo Beam 43.14 47 P **P** **12 06 18.5 +0.3**
comp=Z,18nm,0.6s,baz=267,slow=8.6,SNR=66
ZALV LR LR 12 26 36.0
comp=Z,169nm,20.8s,baz=264,slow=39
comp=Z,18nm,0.6s
ZSN Zaisan 43.44 56 *e*P **P** **12 06 21.8 +1.0**
ZSN Zaisan 43.44 56 *e*P **P** **12 06 21.9 +1.0**
KBS Kingsbay 43.81 356 *e*P **P** **12 06 22.6 -0.7**
WMQ Urumqi 45.95 61 *e*P **P** **12 06 44.3 +3.4**
HYB Hyderabad 48.47 98 *e*P **P** **12 07 01.8 +1.0**
HYB *e*PP **PP** **12 08 54.1 +0.6**
SUMG Summit 49.20 339 P **P** **12 07 05.5 -0.6**
SUMG PcP **PcP** **12 08 28.9 -0.1**
SUMG IAmb IAmb 12 08 29.8
comp=Z,19nm,0.8s
SUMG Summit 49.20 339 P **P** **12 07 05.5 -0.6**
SUMG 12 08 28.9
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 49.20 339 *i*P **P** **12 07 05.0 -1.1**
EVN Everest 50.19 81 **P** **12 07 15.8 +1.2**
EVN IAmb IAmb 12 07 21.9
comp=Z,27nm,0.7s
LSZ Lusaka 50.72 179 P **P** **12 07 19.2 +1.4**
LSZ Lusaka 50.72 179 LR LR 12 29 52.5
comp=Z,176nm,18.1s,baz=336,slow=37
LSZ Lusaka 50.72 179 P **P** **12 07 19.3 +1.4**
LSZ pmax pmax
comp=Z,8.0nm,0.7s
DY2G Dye2 51.48 330 *i*P **P** **12 07 21.4 -1.9**
LSA Lhasa 52.94 77 P **P** **12 07 35.0 0.0**
LSA pmax pmax
comp=Z,13nm,0.7s
NEEM North Greenlan 52.99 344 *e*P **P** **12 07 31.4 -3.0**
NEEM ⇓*e* 12 16 43.5
MOY Mondy 53.12 48 *e*P **P** **12 07 37.3 +1.8**
MOY pmax pmax
comp=Z,28nm,1.4s
GOMU GeErMu 53.32 68 P **P** **12 07 38.5 +1.0**
GOMU pmax pmax
comp=Z,7.0nm,1.0s
ZAK Zakamensk 54.83 49 *e*P **P** **12 07 48.7 +0.6**
ZAK pmax pmax
comp=Z,16nm,1.5s
IRK Irkutsk 54.95 47 *e*P **P** **12 07 48.9 +0.1**
IRK pmax pmax
comp=Z,39nm,2.6s
TSUM Tsumeb 55.45 192 P **P** **12 07 54.2 +1.4**
TSUM IAmb IAmb 12 07 56.4
comp=Z,49nm,1.8s
TSUM Tsumeb 55.45 192 LR LR 12 32 58.7
comp=Z,383nm,18.0s,baz=335,slow=37
PHDHD Phuduhudu 55.69 184 P **P** **12 07 56.0 +1.5**
PHDHD IAmb IAmb 12 07 57.0
comp=Z,18nm,0.6s
GTA Gaotai 55.89 63 P **P** **12 07 56.5 +0.6**
GTA pP pP 12 08 01.0 +0.4
GTA PcP **PcP** **12 08 56.0 +1.5**
GTA pmax pmax
comp=Z,22nm,1.1s
GTA LR LR
comp=Z,190nm,16.7s
GTA LR LR
comp=Z,190nm,18.3s
GTA LR LR
comp=Z,280nm,19.1s
BROLN Tlhalogang 56.51 180 *i*P **P** **12 08 02.2 +2.0**
CKGRV CKGRV 56.93 184 *i*P **P** **12 08 05.4 +2.1**
GRTLG Ghanzi 57.10 187 *i*P **P** **12 08 06.6 +2.2**
GRTLG Ghanzi 57.10 187 P **P** **12 08 06.1 +1.6**
GRTLG IAmb IAmb 12 08 07.4
comp=Z,22nm,0.9s
SONM Songino Array 57.54 52 P **P** **12 08 07.8 +0.3**
comp=Z,5.2nm,0.8s,baz=277,slow=8.6,SNR=34
SONM PcP **PcP** **12 09 01.7 +0.8**
comp=Z,4.4nm,0.9s,baz=232,slow=3.7,SNR=4.7
SONM LR LR 12 36 33.0
comp=Z,241nm,18.2s,baz=286,slow=40
comp=Z,5.2nm,0.8s
ULN Ulaanbaatar 57.95 51 **P** **12 08 11.5 +1.1**
ULN IAmb IAmb 12 08 12.7
comp=Z,24nm,1.3s
ULN Ulaanbaatar 57.95 51*d* *i*P **P** **12 08 11.3 +0.9**
ULN pmax pmax
comp=Z,12nm,1.1s
MREMI Moremi 57.97 180 *i*P **P** **12 08 12.8 +2.3**
MREMI Moremi 57.97 180 P **P** **12 08 12.1 +1.5**
BOD Bodaibo 58.75 39 *e*P **P** **12 08 15.1 -0.5**
BOD pmax pmax
comp=Z,227nm,1.0s
LPHEP Lephephe 58.78 182 *i*P **P** **12 08 18.6 +2.4**
KOOLE Kule 58.82 188 *i*P **P** **12 08 18.5 +1.9**
TIXI Tiksi 59.92 21⇑ *e*P **P** **12 08 23.5 +0.1**
TIXI pmax pmax
comp=Z,16nm,0.8s
SKOMA Sekoma 60.01 184 *i*P **P** **12 08 26.5 +1.8**
LZH Lanzhou 60.11 65 *e*P **P** **12 08 26.3 +0.7**
LZH sP sP 12 08 35.5 +3.4
LZH pmax pmax
comp=Z,29nm,1.0s
LZH LR LR
comp=Z,230nm,15.5s
LZH LR LR
comp=Z,270nm,14.6s
LZH LR LR
comp=Z,310nm,13.3s
LBTB Lobatse 60.44 182 LR LR 12 35 56.7
comp=Z,174nm,18.1s,baz=8.5,slow=37
TNCH TengChong 60.88 79 ⇑P **P** **12 08 33.0 +2.0**
TNCH pP pP 12 08 36.0 +0.3
TNCH S **S** **12 16 45.3 -3.2**
TNCH sS pS 12 16 51.5 -2.7
TNCH pmax pmax
comp=Z,150nm,4.1s
TNCH LR LR
comp=Z,220nm,5.1s
TNCH LR LR
comp=Z,210nm,6.7s
TNCH LR LR
comp=Z,150nm,8.8s
FRB Frobisher Bay 61.22 330 LR LR 12 37 01.8
comp=Z,94nm,18.6s,baz=82,slow=38
CD2 Chengdu 62.27 70 *e*P **P** **12 08 40.0 -0.2**
BTO Baotou 62.66 58 *e*P **P** **12 08 38.3 -4.4**
BTO pP **pP** **12 08 42.8 -4.6**
BTO sP **sP** **12 08 45.3 -3.9**
BTO S **S** **12 17 05.3 -5.2**
BTO sS **pS** **12 17 11.5 -5.0**
BTO Baotou 62.66 58 SS SS 12 21 08.5 -6.0
BTO pmax pmax
comp=Z,11nm,0.5s
BTO pmax pmax
comp=Z,130nm,3.7s
BTO LR LR
comp=N,470nm,17.3s
BTO LR LR
comp=E,330nm,20.0s
BTO LR LR
comp=Z,400nm,19.7s
PZH PanZhiHua 62.74 76 P **P** **12 08 45.0 +1.6**
PZH pmax pmax
comp=Z,30nm,1.1s
HHC Hu-ho-hao-te 63.62 57 *e*P **P** **12 08 50.0 +0.9**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,100nm,4.3s
HHC LR LR
comp=Z,98nm,16.0s
HHC LR LR
comp=Z,98nm,16.0s
HHC LR LR
comp=Z,83nm,15.3s
RES Resolute Bay 63.65 346 LR LR 12 38 27.1
comp=Z,118nm,18.1s,baz=52,slow=38
BOSA Boshof 64.03 182 P **P** **12 08 52.0 +0.4**
comp=Z,13nm,0.7s,baz=7.1,slow=6.5,SNR=14
BOSA LR LR 12 37 35.4
comp=Z,120nm,20.0s,baz=2.5,slow=37
comp=Z,13nm,0.7s
SCHQ Schefferville 64.08 320 P **P** **12 08 50.2 -1.5**
comp=Z,10nm,0.7s,baz=65,slow=5.2,SNR=10.0
SCHQ LR LR 12 37 06.8
comp=Z,77nm,19.3s,baz=101,slow=36
comp=Z,10nm,0.7s
KMI Kunming 64.19 77 P **P** **12 08 55.8 +2.6**
KMI pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 64.29 85 **P** **12 08 53.6 -0.1**
CHTO Chiang Mai 64.29 85 P **P** **12 08 54.1 +0.4**
CHTO Chiang Mai 64.29 85 P **P** **12 08 53.6 -0.1**
CHTO pmax pmax
comp=Z,12nm,1.3s
YAK Yakutsk 64.36 31 P **P** **12 08 53.0 -0.4**
YAK Yakutsk 64.36 31 *e*P **P** **12 08 52.3 -1.1**
YAK *e**PP **sP** **12 09 02.2 +1.9**
YAK *e* 12 09 28.9
YAK *e* 12 11 12.6
YAK *e*S **S** **12 17 29.7 -1.0**
YAK *e**SS **sS** **12 17 44.9 +6.0**
YAK *e*SS **SS** **12 21 38.1 -1.7**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,4.0nm,0.7s
YAK smax smax
comp=E,26nm,2.5s
YAK smax smax
comp=N,24nm,2.2s
CMAR Chiang Mai Arr 64.48 85 P **P** **12 08 55.1 +0.2**
comp=N,2.7nm,0.7s,baz=301,slow=8.3,SNR=21
comp=N,2.7nm,0.7s
CMAR Chiang Mai Arr 64.48 85 *i*P **P** **12 08 55.5 +0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
XAN Xi'an 64.75 65 P **P** **12 08 57.3 +0.8**
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,190nm,6.2s
XAN LR LR
comp=Z,240nm,18.4s
XAN LR LR
comp=Z,320nm,18.9s
XAN LR LR
comp=Z,270nm,19.4s
HIA Hailar 65.17 46 P **P** **12 08 59.5 +0.6**
HIA Hailar 65.17 46 P **P** **12 08 59.6 +0.6**
HIA pmax pmax
comp=Z,54nm,1.5s
XLT XiLinHaoTe 65.30 53 *e*P **P** **12 09 01.3 +1.3**
XLT sP sP 12 09 10.8 +4.3
XLT pmax pmax
comp=Z,12nm,1.2s
XLT pmax pmax
comp=Z,90nm,4.7s
GYA Guiyang 66.62 73 ⇓P **P** **12 09 10.0 +1.2**
GYA pmax pmax
comp=Z,20nm,0.8s
ENH Enshi 66.94 69 P **P** **12 09 10.7 0.0**
ENH IAmb IAmb 12 09 41.8
comp=Z,15nm,0.8s
BATG Bathurst New B 67.07 312 **P** **12 09 11.0 -0.2**
LYN LuoYang 67.11 63 *e*P **P** **12 09 13.8 +2.2**

LYN pmax pmax
comp=Z,15nm,0.6s
BJI Beijing 67.12 56 P **P** **12 09 12.8 +1.2**
BJI S **S** **12 18 04.0 -1.2**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJT Baijiatuau 67.13 56 P **P** **12 09 11.9 +0.3**
BJT IAmb IAmb 12 09 13.8
comp=Z,29nm,1.5s
BJT Baijiatuau 67.13 56 P **P** **12 09 11.9 +0.3**
BJT pmax pmax
comp=Z,29nm,1.5s
ZEA Zeya 67.23 39 *e*P **P** **12 09 13.1 +1.1**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
HNS HongShan 67.36 60 ⇓P **P** **12 09 14.5 +1.4**
HNS pmax pmax
comp=Z,16nm,1.2s
D62A Allapoint, All 68.94 313 P **P** **12 09 22.8 -0.1**
HEH HeiHe 69.07 43 *e*P **P** **12 09 24.5 +0.9**
HEH pmax pmax
comp=Z,46nm,0.9s
E62A Clayton Lake 69.46 313 IAmb IAmb 12 09 36.0
comp=Z,11nm,0.9s
TIA Tai'an 69.63 60 P **P** **12 09 28.0 +0.6**
TIA pmax pmax
comp=Z,16nm,1.0s
A36M Sachs Harbour 70.92 351 P **P** **12 09 35.3 +0.7**
baz=23
CN2 Changchun 71.27 49 P **P** **12 09 38.3 +1.1**
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 71.43 47 ⇑P P 12 09 33.3 -4.9
BNX pmax pmax
comp=Z,8.0nm,3.3s
BILL Bilibino 72.00 15*d i*P **P** **12 09 40.9 -0.4**
BILL pmax pmax
comp=Z,26nm,1.3s
SEY Seymchan 72.25 23 *e*P **P** **12 09 41.3 -1.5**
SEY pmax pmax
comp=Z,32nm,1.3s
NJ2 Nanjing 72.98 63 *e*P **P** **12 09 47.5 -0.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
PSI Prapat 73.18 99 P **P** **12 09 50.0 +0.8**
PSI Prapat 73.18 99 P **P** **12 09 49.3 +0.1**
PSI pmax pmax
comp=Z,8.0nm,0.8s
C36M Paulatuk 73.19 350 P **P** **12 09 48.6 +0.3**
baz=24
VLDQ Val d'Or 73.19 317 **P** **12 09 49.4 +0.8**
VLDQ IAmb IAmb 12 09 49.9
comp=Z,24nm,1.0s
RPSI Rantau Prapat 73.24 99 **P** **12 09 49.3 -0.1**
MDJ Mudanjiang 73.34 47 P **P** **12 09 49.5 -0.1**
MDJ pmax pmax
comp=Z,15nm,2.0s
A22K Sinclair Lake 73.56 1 P **P** **12 09 50.5 +0.1**
baz=358
GRNR Gornyy 73.57 39 ⇓*i*P **P** **12 09 51.4 +0.5**
GRNR pmax pmax
comp=Z,10.0nm,1.3s
MA2 Magadan 74.09 26 **P** **12 09 54.4 +0.7**
MA2 Magadan 74.09 26 P **P** **12 09 54.1 +0.4**
MA2 Magadan 74.09 26*d i*P **P** **12 09 54.3 +0.6**
MA2 pmax pmax
comp=Z,40nm,0.8s
A19K Wainwright 74.19 3 P **P** **12 09 54.2 +0.1**
baz=353
B22K Teshekpuk Lake 74.24 0 P **P** **12 09 54.7 +0.3**
baz=359
B20K Meade River 74.52 2 P **P** **12 09 56.3 +0.3**
baz=356,SNR=9.4
C26K Camden Bay 74.53 357 P **P** **12 09 56.5 +0.4**
baz=6.3
C23K Itkillik River 74.75 359 P **P** **12 09 57.8 +0.5**
baz=1.5,SNR=8.8
C27K Jago River 74.77 357 P **P** **12 09 58.2 +0.6**
C27K IAmb IAmb 12 09 58.7
comp=Z,15nm,1.0s
C27K Jago River 74.77 357 P **P** **12 09 57.7 +0.1**
baz=7.3
D28M Stokes Point 74.78 355 P **P** **12 09 57.6 0.0**
baz=11
C24K Franklin Bluff 74.83 359 P **P** **12 09 58.0 +0.1**
baz=3.1
B21K Ikpikpuk River 74.95 1 P **P** **12 09 59.0 +0.5**
baz=358,SNR=14
USA0B Ussuriysk Arra 74.99 46*d i*P **P** **12 09 59.4 +0.2**
USRK Ussuriysk Ar. 74.99 46 P **P** **12 09 59.5 +0.3**
comp=Z,31nm,0.7s,baz=294,slow=5.2,SNR=85
comp=Z,31nm,0.7s
B18K Kokolik River 74.99 3 P **P** **12 09 59.5 +0.7**
baz=352
D27M Malcolm River 75.01 356 P **P** **12 09 58.8 -0.2**
baz=9.6
D25K Kavik River 75.18 358 IAmb IAmb 12 10 00.9
comp=Z,24nm,1.0s
D25K Kavik River 75.18 358 P **P** **12 09 59.7 -0.2**
baz=5.0,SNR=7.1
INK Inuvik 75.33 353 LR LR 12 46 34.0
comp=Z,51nm,19.4s,baz=38,slow=38
INK Inuvik 75.33 353 P **P** **12 10 00.6 -0.2**
baz=16
C19K Lookout Ridge 75.35 3 P **P** **12 10 01.0 +0.1**
baz=354,SNR=6.1
D24K Happy Valley 75.41 359 IAmb IAmb 12 10 02.4
comp=Z,21nm,0.8s
D24K Happy Valley 75.41 359 P **P** **12 10 01.5 +0.3**
baz=3.0,SNR=5.6
C21K Knifeblade Rid 75.42 1 P **P** **12 10 01.7 +0.4**
baz=358
E28M Babbage River 75.55 355 P **P** **12 10 01.8 -0.3**
baz=11,SNR=5.8
D23K Nanushuk River 75.62 359 P **P** **12 10 02.7 +0.2**
baz=1.4,SNR=15
E29M Blow River 75.64 355 P **P** **12 10 02.2 -0.4**
baz=12,SNR=18
D22K Ayikyak River 75.71 0 IAmb IAmb 12 10 04.4
comp=Z,30nm,0.9s
D22K Ayikyak River 75.71 0 P **P** **12 10 03.1 +0.1**
baz=360,SNR=10
C18K Utukok River 75.74 3 P **P** **12 10 03.1 -0.1**
baz=353,SNR=13
C17K DeLong Mountai 75.80 4 P **P** **12 10 03.5 0.0**
baz=351,SNR=12
D20K Etivluk River 75.83 2 IAmb IAmb 12 10 04.7
comp=Z,28nm,0.9s
D20K Etivluk River 75.83 2 P **P** **12 10 03.7 0.0**
baz=356
C16K Lisburne Hills 75.86 5 P **P** **12 10 03.5 -0.2**
baz=349
TOLK Toolik Lake Re 75.93 359 P **P** **12 10 04.4 +0.1**
baz=2.3
D19K Kuna River 76.01 2 P **P** **12 10 04.6 -0.1**
baz=355
SADO Sadowa 76.09 315 LR LR 12 45 37.5
comp=Z,90nm,18.1s,baz=102,slow=37
E27K Coleen River 76.10 356 IAmb IAmb 12 10 05.9
comp=Z,20nm,1.1s
E27K Coleen River 76.10 356 P **P** **12 10 04.6 -0.6**
baz=9.0,SNR=9.8
E21K Killik River 76.15 1 P **P** **12 10 05.2 -0.3**
baz=359
F31M Tsiigehtchic 76.19 353 IAmb IAmb 12 10 05.8
comp=Z,24nm,0.9s
F31M Tsiigehtchic 76.19 353 P **P** **12 10 04.7 -1.0**
baz=16
F30M Barrier River 76.23 354 IAmb IAmb 12 10 06.1
comp=Z,25nm,1.1s
F30M Barrier River 76.23 354 P **P** **12 10 05.1 -0.9**
baz=14,SNR=7.4
RDOG Red Dog Mine 76.24 4 P **P** **12 10 05.2 -0.8**
baz=351
E20K Nigu River 76.30 1 P **P** **12 10 06.1 -0.3**
baz=357
KSRS Korea Array 76.31 54 P **P** **12 10 07.5 +0.7**
comp=Z,12nm,0.9s,baz=299,slow=5.2,SNR=30
comp=Z,12nm,0.9s
E25K Arctic Village 76.35 357 IAmb IAmb 12 10 07.8
comp=Z,23nm,0.9s
E25K Arctic Village 76.35 357 P **P** **12 10 06.7 0.0**
baz=5.7,SNR=14
E22K Anaktuvuk Pass 76.46 360 IAmb IAmb 12 10 08.2
comp=Z,23nm,0.8s
E22K Anaktuvuk Pass 76.46 360 P **P** **12 10 07.2 -0.1**
baz=0.5,SNR=16

E24K Your Creek 76.48 359 P **P** **12 10 07.4 0.0**
baz=3.2,SNR=6.7
E23K Chandalar 76.52 359 IAmb IAmb 12 10 09.0
comp=Z,47nm,1.4s
E23K Chandalar 76.52 359 P **P** **12 10 07.8 +0.1**
baz=2.3,SNR=10
F28M Old Crow 76.55 355 P **P** **12 10 07.2 -0.6**
baz=10
D17K Noatak River 76.58 4 P **P** **12 10 07.4 -0.4**
baz=351,SNR=7.4
TYV Tymovskoe 76.60 36 *e*P **P** **12 10 09.2 +0.9**
TYV pmax pmax
comp=Z,5.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,5.6s
F26K Sheenjek River 76.72 357 IAmb IAmb 12 10 10.2
comp=Z,22nm,1.1s
F26K Sheenjek River 76.72 357 P **P** **12 10 08.9 +0.2**
baz=6.9,SNR=15
L56A Greenwood 76.73 312 IAmb IAmb 12 10 29.7
comp=Z,55nm,1.8s
G31M Satah River 76.75 353 P **P** **12 10 08.5 -0.3**
baz=15
F25K Christian Rive 76.88 357 IAmb IAmb 12 10 11.1
comp=Z,15nm,0.8s
F25K Christian Rive 76.88 357 P **P** **12 10 10.0 +0.3**
baz=5.6,SNR=17
G30M tAoh Zraii Nji 76.88 354 IAmb IAmb 12 10 09.6
comp=Z,14nm,1.0s
G30M tAoh Zraii Nji 76.88 354 P **P** **12 10 08.6 -1.1**
baz=13,SNR=5.7
E18K Tukpahlearik C 76.99 3 P **P** **12 10 09.7 -0.5**
baz=353
F24K Squaw Lake 77.03 358 P **P** **12 10 11.0 +0.5**
baz=3.7,SNR=28
E19K Redstone River 77.08 2 P **P** **12 10 10.4 -0.3**
baz=356
F22K John River 77.09 360 P **P** **12 10 11.1 +0.2**
baz=0.1,SNR=22
G29M Pine Creek 77.11 354 IAmb IAmb 12 10 11.6
comp=Z,18nm,0.8s
G29M Pine Creek 77.11 354 P **P** **12 10 10.2 -0.8**
baz=12,SNR=11
E17K Hotham Inlet 77.26 4 P **P** **12 10 11.2 -0.6**
baz=352
COLD Coldfoot 77.36 359 IAmb IAmb 12 10 13.3
comp=Z,20nm,1.0s
COLD Coldfoot 77.36 359 P **P** **12 10 12.3 0.0**
baz=1.8,SNR=14
F21K Alatna River 77.38 0 P **P** **12 10 12.6 +0.2**
baz=359,SNR=31
G26K Porcupine Rive 77.44 357 IAmb IAmb 12 10 14.3
comp=Z,29nm,0.9s
G26K Porcupine Rive 77.44 357 P **P** **12 10 13.2 +0.4**
baz=7.1,SNR=17
G27K Doyon Strip 77.47 356 IAmb IAmb 12 10 14.0
comp=Z,14nm,0.9s
G27K Doyon Strip 77.47 356 P **P** **12 10 12.9 0.0**
baz=8.9,SNR=14
F20K Avaraart Lake 77.52 1 IAmb IAmb 12 10 14.1
comp=Z,21nm,1.0s
F20K Avaraart Lake 77.52 1 P **P** **12 10 13.0 -0.2**
baz=357,SNR=14
EPYK Eagle Plains 77.53 354 IAmb IAmb 12 10 13.2
comp=Z,18nm,0.9s
EPYK Eagle Plains 77.53 354 P **P** **12 10 12.1 -1.3**
baz=13,SNR=7.7
YKA Yellowknife Ar 77.53 343 P **P** **12 10 11.7 -1.7**
comp=Z,2.5nm,0.8s,baz=30,slow=5.9,SNR=14
YKA LR LR 12 48 17.8
comp=Z,114nm,18.1s,baz=28,slow=39
comp=Z,2.5nm,0.8s
YKA Yellowknife Ar 77.53 343 *i*P **P** **12 10 12.0 -1.3**
YKA pmax pmax
comp=Z,3.0nm,0.8s
G22K Bettles 77.68 360 P **P** **12 10 13.8 -0.3**
baz=0.7
F19K Shaleruckik Mo 77.69 2 IAmb IAmb 12 10 14.3
comp=Z,23nm,0.8s
F19K Shaleruckik Mo 77.69 2 P **P** **12 10 13.4 -0.7**
baz=356,SNR=15
G25K Bearman Lake 77.73 357 P **P** **12 10 14.8 +0.4**
baz=5.2,SNR=5.4
H29M Whitestone 77.82 354 IAmb IAmb 12 10 15.0
comp=Z,17nm,0.8s
H29M Whitestone 77.82 354 P **P** **12 10 14.0 -0.9**
baz=12,SNR=11
G24K Hadweenzic Riv 77.83 358 IAmb IAmb 12 10 16.1
comp=Z,10nm,0.8s
G24K Hadweenzic Riv 77.83 358 P **P** **12 10 15.2 +0.2**
baz=4.1,SNR=9.2
H31M Peel River 77.84 353 P **P** **12 10 14.2 -0.9**
baz=15,SNR=6.4
F18K Selawik 77.85 3 P **P** **12 10 14.4 -0.6**
baz=354
G23K Bananza Creek 77.88 359 IAmb IAmb 12 10 16.5
comp=Z,22nm,1.1s
G23K Bananza Creek 77.88 359 P **P** **12 10 15.3 0.0**
baz=1.9,SNR=20
F17K Baldwin Pennin 77.93 4 IAmb IAmb 12 10 15.9
comp=Z,25nm,0.8s
F17K Baldwin Pennin 77.93 4 P **P** **12 10 15.1 -0.4**
baz=353
H27K Steamboat Moun 78.03 356 IAmb IAmb 12 10 17.3
comp=Z,21nm,0.9s
H27K Steamboat Moun 78.03 356 P **P** **12 10 16.2 +0.1**
baz=9.0,SNR=16
G21K Allakaket 78.08 0 P **P** **12 10 16.3 -0.1**
baz=359
H25L Birch Creek 78.21 357 P **P** **12 10 17.4 +0.4**
baz=5.4,SNR=15
PAOC Oil Creek Stat 78.37 313 IAmb IAmb 12 10 21.1
comp=Z,15nm,1.0s
G19K Purcell Mounta 78.40 2 IAmb IAmb 12 10 19.0
comp=Z,24nm,0.8s
G19K Purcell Mounta 78.40 2 P **P** **12 10 17.9 -0.2**
baz=356,SNR=16
F15K North Star Dit 78.45 5 IAmb IAmb 12 10 19.0
comp=Z,18nm,0.8s
F15K North Star Dit 78.45 5 P **P** **12 10 17.9 -0.4**
baz=350
F14K Arctic Creek 78.55 6 P **P** **12 10 18.5 -0.4**
baz=348
G18K Tagagawik 78.59 3 IAmb IAmb 12 10 19.8
comp=Z,27nm,0.8s
G18K Tagagawik 78.59 3 P **P** **12 10 18.8 -0.4**
baz=355,SNR=21
I30M Mount Dempster 78.62 353 IAmb IAmb 12 10 19.7
comp=Z,22nm,0.8s
I30M Mount Dempster 78.62 353 P **P** **12 10 18.5 -1.0**
baz=13,SNR=32
I27K Kandik River 78.66 355 P **P** **12 10 19.3 -0.4**
baz=8.9,SNR=16
I28M Miner Creek 78.70 355 P **P** **12 10 19.0 -0.9**
baz=10,SNR=11
H22K Ishtalitna Cre 78.71 360 P **P** **12 10 20.5 +0.7**
baz=0.8,SNR=33
H24K Nodor Dome 78.71 358 P **P** **12 10 19.8 -0.1**
baz=3.7,SNR=12
WRGLY Wrigley 78.72 347 IAmb IAmb 12 10 20.6
comp=Z,15nm,1.0s
WRGLY Wrigley 78.72 347 P **P** **12 10 19.6 -0.4**
baz=24
H23K Yukon River 78.76 359 IAmb IAmb 12 10 21.8
comp=Z,27nm,0.9s
H23K Yukon River 78.76 359 P **P** **12 10 20.8 +0.6**
baz=2.3,SNR=28
G17K Kiwalik Mounta 78.90 4 P **P** **12 10 20.3 -0.6**
baz=353,SNR=9.0
G16K Koyuk River 78.91 4 IAmb IAmb 12 10 21.7
comp=Z,26nm,0.8s
G16K Koyuk River 78.91 4 P **P** **12 10 20.7 -0.3**
baz=352,SNR=8.3
H21K Melozitna Rive 78.95 0 IAmb IAmb 12 10 22.8
comp=Z,27nm,0.9s
H21K Melozitna Rive 78.95 0 P **P** **12 10 21.6 +0.4**
baz=360,SNR=7.9
PRP Porcupine Dome 78.95 357 P **P** **12 10 21.1 -0.2**
baz=5.7,SNR=8.8
H19K Roundabout Mou 79.03 2 IAmb IAmb 12 10 22.6
comp=Z,28nm,0.8s
H19K Roundabout Mou 79.03 2 P **P** **12 10 21.5 0.0**
baz=357,SNR=18
I26K Coal Creek Min 79.05 356 IAmb IAmb 12 10 22.5
comp=Z,20nm,0.9s
I26K Coal Creek Min 79.05 356 P **P** **12 10 21.3 -0.4**
baz=7.6
H20K Anotleneega Mo 79.10 1 P **P** **12 10 21.8 -0.2**
baz=358,SNR=21
G15K Niukluk 79.20 5 P **P** **12 10 21.8 -0.7**
baz=350,SNR=5.5
YSS Yuzhno-Sakhali 79.22 39 **P** **12 10 23.8 +0.9**
YSS Yuzhno-Sakhali 79.22 39 P **P** **12 10 24.1 +1.2**
YSS Yuzhno-Sakhali 79.22 39 *e*P **P** **12 10 23.7 +0.8**
YSS pmax pmax
comp=Z,30nm,1.2s
J30M Hart River 79.25 353 **P** **12 10 22.7 -0.3**
J30M IAmb IAmb 12 10 23.7
comp=Z,30nm,0.8s
J30M Hart River 79.25 353 P **P** **12 10 22.6 -0.3**
baz=13,SNR=36
H18K Honhosa River 79.35 3 IAmb IAmb 12 10 24.2
comp=Z,15nm,0.9s
H18K Honhosa River 79.35 3 P **P** **12 10 23.2 -0.1**
baz=355
POKR Poker Plat Res 79.42 358 IAmb IAmb 12 10 24.7
comp=Z,26nm,0.8s
POKR Poker Plat Res 79.42 358 P **P** **12 10 23.8 0.0**
baz=4.1,SNR=9.1
I21K Tanana 79.43 360 IAmb IAmb 12 10 25.1
comp=Z,27nm,0.8s
I21K Tanana 79.43 360 P **P** **12 10 23.9 +0.1**
baz=0.3,SNR=26
I23K Minto, Yukon-K 79.44 359 P **P** **12 10 23.8 0.0**
baz=2.5,SNR=10
H17K Granite Mounta 79.50 3 P **P** **12 10 23.5 -0.7**
baz=354
ANM Nome 79.52 6 P **P** **12 10 23.7 -0.6**
baz=349
MLY Manley 79.57 359 IAmb IAmb 12 10 25.7
comp=Z,17nm,0.8s
MLY Manley 79.57 359 P **P** **12 10 24.7 +0.1**
baz=1.3,SNR=29
GAMB Gambell 79.65 9 P **P** **12 10 24.4 -0.5**
baz=344
H16K Elim 79.67 4 P **P** **12 10 24.7 -0.3**
baz=352,SNR=5.6
COLA College 79.68 358 P **P** **12 10 24.5 -0.6**
COLA College 79.68 358 P **P** **12 10 25.1 0.0**
COLA College 79.68 358*de*P **P** **12 10 24.5 -0.6**
COLA pmax pmax
comp=Z,12nm,1.0s
COLA College 79.68 358 P **P** **12 10 24.6 -0.4**
baz=3.7
ILAR Eielson Array 79.75 358 P **P** **12 10 24.8 -0.7**
comp=Z,5.0nm,0.8s,baz=354,slow=4.0,SNR=50
ILAR PKKPbc **PKKPbc** **12 29 11.2 -1.1**
comp=Z,0.7nm,0.8s,baz=262,slow=2.3,SNR=8.5
comp=Z,5.0nm,0.8s
GCSA Galena City Sc 79.80 2 P **P** **12 10 25.8 +0.1**
baz=356
I20K Naaghedeneel 79.80 1 P **P** **12 10 26.1 +0.4**
baz=358,SNR=9.4
J25K Salcha River, 79.85 357 P **P** **12 10 25.2 -0.9**
baz=5.8,SNR=14
J26L Joseph Creek 79.87 356 P **P** **12 10 25.4 -1.0**
baz=7.3,SNR=18
CCB Clear Creek Bu 79.90 358 IAmb IAmb 12 10 26.6
comp=Z,19nm,1.0s
NEA2 Nenana 79.99 359 IAmb IAmb 12 10 27.3
comp=Z,20nm,1.1s
NEA2 Nenana 79.99 359 P **P** **12 10 25.9 -0.9**
baz=2.7,SNR=13
DAWY Dawson 80.02 354 IAmb IAmb 12 10 27.7
comp=Z,22nm,0.9s
DAWY Dawson 80.02 354 P **P** **12 10 26.6 -0.5**
baz=11,SNR=23
K29M Barlow Dome 80.08 353 P **P** **12 10 27.1 -0.4**
baz=12,SNR=9.0
FFC Flin Flon 80.08 333 **P** **12 10 26.5 -1.0**
FFC Flin Flon 80.08 333 P **P** **12 10 26.5 -1.0**
FFC pmax pmax
comp=Z,10.0nm,0.9s
HDA Harding Lake 80.11 358 IAmb IAmb 12 10 27.6
comp=Z,31nm,0.8s
HDA Harding Lake 80.11 358 P **P** **12 10 26.7 -0.8**
baz=4.5,SNR=34
MAYO Mayo, Yukon 80.16 353 P **P** **12 10 27.5 -0.3**
baz=14,SNR=16
K27K Chicken 80.25 355 IAmb IAmb 12 10 29.3
comp=Z,28nm,1.0s
K27K Chicken 80.25 355 P **P** **12 10 28.2 -0.1**
baz=8.5
SCRK Sand Creek 80.42 356 IAmb IAmb 12 10 30.3
comp=Z,18nm,1.0s
SCRK Sand Creek 80.42 356 P **P** **12 10 29.1 -0.2**
baz=6.9,SNR=19
J20K Nowinta River 80.43 1 IAmb IAmb 12 10 30.3
comp=Z,32nm,0.8s
J20K Nowinta River 80.43 1 P **P** **12 10 29.4 +0.2**
baz=358,SNR=41
I17K Unalakleet 80.51 4 P **P** **12 10 29.3 -0.3**
baz=353
BPAW Bear Paw Mtn. 80.51 359 IAmb IAmb 12 10 29.8
comp=Z,24nm,0.8s
BPAW Bear Paw Mtn. 80.51 359 P **P** **12 10 28.8 -0.9**
baz=1.1,SNR=18
O52A Adamsville 80.52 313 IAmb IAmb 12 10 30.2
comp=Z,34nm,1.5s
MMPY Sheldon Lake, 80.54 350 P **P** **12 10 30.2 +0.2**
baz=17,SNR=14
J19K Poorman 80.59 1 IAmb IAmb 12 10 31.2
comp=Z,34nm,0.9s
J19K Poorman 80.59 1 P **P** **12 10 30.3 +0.3**
baz=357,SNR=32
P53A Whipple 80.65 312 IAmb IAmb 12 10 33.5
comp=Z,55nm,1.7s
K24K Donnelly Dome 80.67 357 P **P** **12 10 30.0 -0.6**
baz=5.4,SNR=22
RIDG Independent Ri 80.70 357 IAmb IAmb 12 10 31.5
comp=Z,20nm,0.8s
RIDG Independent Ri 80.70 357 P **P** **12 10 30.4 -0.3**
baz=6.2,SNR=14
CHUM Lake Minchumin 80.73 360 P **P** **12 10 30.6 -0.2**
baz=0.0,SNR=24
DOT Dot Lake 80.75 356 IAmb IAmb 12 10 31.9
comp=Z,23nm,0.9s
MCK McKinley 80.85 358 IAmb IAmb 12 10 31.6
comp=Z,28nm,1.0s
MCK McKinley 80.85 358 P **P** **12 10 30.6 -0.9**
baz=2.8,SNR=14
L29M L29M 80.85 354 P **P** **12 10 31.2 -0.4**
baz=12,SNR=12
KTH Kantishna Hill 81.06 359 IAmb IAmb 12 10 33.5
comp=Z,20nm,0.9s
J17K VABM Dome 81.07 3 IAmb IAmb 12 10 33.5
comp=Z,21nm,0.8s
J17K VABM Dome 81.07 3 P **P** **12 10 32.3 -0.3**
baz=354,SNR=9.2
J18K Innoko River 81.09 2 IAmb IAmb 12 10 33.8
comp=Z,16nm,0.9s
J18K Innoko River 81.09 2 P **P** **12 10 32.8 0.0**
baz=356,SNR=14
J16K Anvik River 81.11 4 IAmb IAmb 12 10 33.7
comp=Z,24nm,1.1s
J16K Anvik River 81.11 4 P **P** **12 10 32.7 -0.2**
baz=353,SNR=5.3
TGTN Hyland Airport 81.14 349 P **P** **12 10 33.4 +0.3**
baz=20
TRF Thorofare Moun 81.15 359 IAmb IAmb 12 10 33.5
comp=Z,21nm,0.9s
TRF Thorofare Moun 81.15 359 P **P** **12 10 32.4 -0.9**
baz=1.7,SNR=16
L27K Beaver Creek, 81.20 355 IAmb IAmb 12 10 34.5
comp=Z,16nm,0.9s
L27K Beaver Creek, 81.20 355 P **P** **12 10 33.4 0.0**
baz=5.7,SNR=26
CAST Castle Rocks 81.20 360 IAmb IAmb 12 10 34.0
comp=Z,25nm,0.8s
CAST Castle Rocks 81.20 360 P **P** **12 10 32.3 -1.1**
baz=0.2,SNR=30
M30M Minto, Yukon 81.25 353 P **P** **12 10 32.7 -0.9**
baz=13,SNR=5.0
K20K Telida 81.25 1 IAmb IAmb 12 10 34.5
comp=Z,24nm,0.8s
K20K Telida 81.25 1 P **P** **12 10 33.4 -0.3**
baz=359
L26K Log Cabin Wild 81.33 356 P **P** **12 10 33.7 -0.4**
baz=7.4,SNR=14
M31M Drury Creek, Y 81.35 352 IAmb IAmb 12 10 35.2
comp=Z,14nm,0.9s
M31M Drury Creek, Y 81.35 352 P **P** **12 10 34.0 -0.1**
baz=15
MENT Mentasta 81.44 356 IAmb IAmb 12 10 40.7
comp=Z,17nm,0.9s
MENT Mentasta 81.44 356 P **P** **12 10 35.0 +0.3**

J14K	Nanvaranak Lak baz=351	81.46	5	P		P	12 10 34.1	-0.6
DHY	Denali Highway baz=4.1,SNR=38	81.46	358	P		P	12 10 34.3	-0.6
PEA0B	Petropavlovsk-	81.48	28	*c*eP		P	12 10 33.8	-1.2
PETK	Petropavlovsk- comp=Z,8.6nm,0.9s,baz=357,slow=3.0,SNR=9.7 comp=Z,8.6nm,0.9s	81.48	28	P		P	12 10 33.0	-2.0
PAX	Paxson baz=5.7,SNR=6.4	81.50	357	P		P	12 10 34.1	-0.9
Q52A	Bidwell comp=Z,14nm,1.0s	81.51	312	IAmb		IAmb	12 10 37.1	
M29M	Somme Creek baz=11,SNR=46	81.54	354	P		P	12 10 35.2	-0.1
KOTAN	Kotaneelee Air baz=23	81.69	346	P		P	12 10 36.0	0.0
PPLA	Purkeypile baz=0.1,SNR=25	81.72	360	P		P	12 10 36.1	-0.2
WAT1	Susitna Watana baz=3.1	81.74	358	P		P	12 10 34.4	-1.8
BVCY	Beaver Creek baz=9.4,SNR=22	81.77	355	P		P	12 10 36.5	+0.1
K17K	Iditarod baz=355	81.79	3	P		P	12 10 36.2	-0.3
M27K	Edge Creek, AK comp=Z,20nm,1.1s	81.90	355	IAmb		IAmb	12 10 38.5	
M27K	Edge Creek, AK baz=8.6,SNR=12	81.90	355	P		P	12 10 37.2	-0.1
M26K	Nabesna, AK comp=Z,13nm,0.9s	81.93	356	IAmb		IAmb	12 10 38.1	
M26K	Nabesna, AK baz=7.7,SNR=15	81.93	356	P		P	12 10 37.2	-0.1
WAT6	Susitna Watana baz=3.8,SNR=28	81.97	358	P		P	12 10 36.9	-0.8
K15K	Wolf Creek Mou comp=Z,19nm,0.8s	82.05	4	IAmb		IAmb	12 10 38.9	
K15K	Wolf Creek Mou baz=352,SNR=9.1	82.05	4	P		P	12 10 37.8	-0.1
HARP	HAARP baz=5.9	82.05	357	P		P	12 10 37.4	-0.5
Q51A	Peebles comp=Z,18nm,1.2s	82.11	313	IAmb		IAmb	12 10 39.1	
L20K	Farewell, AK baz=359,SNR=14	82.14	1	P		P	12 10 37.5	-0.8
K13K	Kusilvak Mount comp=Z,13nm,0.8s	82.18	6	IAmb		IAmb	12 10 39.0	
K13K	Kusilvak Mount baz=350	82.18	6	P		P	12 10 37.9	-0.6
N32M	Quiet Lake comp=Z,26nm,0.9s	82.20	351	IAmb		IAmb	12 10 40.0	
N32M	Quiet Lake baz=16	82.20	351	P		P	12 10 38.1	-0.6
CUT	Chulitna baz=1.7	82.20	359	P		P	12 10 38.5	-0.2
N31M	Braeburn, Yuko baz=14,SNR=5.4	82.20	352	P		P	12 10 38.2	-0.6
L18K	Granite Mounta comp=Z,23nm,0.8s	82.34	2	IAmb		IAmb	12 10 40.5	
L18K	Granite Mounta baz=356,SNR=20	82.34	2	P		P	12 10 39.4	0.0
L17K	Donlin baz=355,SNR=24	82.37	3	P		P	12 10 39.5	0.0
YUK3	Moose Creek baz=9.7,SNR=42	82.37	354	P		P	12 10 39.7	-0.1
N30M	Aishikik Lake baz=12,SNR=9.5	82.37	353	P		P	12 10 39.0	-0.6
M24K	Tolsona, Glenn comp=Z,23nm,0.9s	82.39	357	IAmb		IAmb	12 10 42.0	
M24K	Tolsona, Glenn baz=5.1,SNR=6.6	82.39	357	P		P	12 10 39.5	-0.2
L19K	White Mountain comp=Z,27nm,1.0s	82.42	1	IAmb		IAmb	12 10 40.8	
L19K	White Mountain baz=358,SNR=21	82.42	1	P		P	12 10 39.7	-0.2
WTLY	Watson Lake, Y comp=Z,18nm,0.9s	82.56	348	IAmb		IAmb	12 10 41.7	
WTLY	Watson Lake, Y baz=19,SNR=14	82.56	348	P		P	12 10 40.7	+0.1
YUK4	Talbot Arm baz=11,SNR=12	82.64	353	P		P	12 10 40.4	-0.8
SKT	Skwentna baz=0.7,SNR=39	82.64	360	P		P	12 10 39.7	-1.2
L15K	Ungalak Mounta baz=352,SNR=8.3	82.66	4	P		P	12 10 40.6	-0.4
JOW	Kunigami comp=Z,184nm,24.8s	82.70	62	*e*LR		LR	12 36 32.5	
JOW	Kunigami comp=Z,128nm,19.3s,baz=317,slow=39	82.70	62	LR		LR	12 51 40.4	
M19K	Big River Lodg comp=Z,12nm,0.8s	82.70	1	IAmb		IAmb	12 10 42.4	
M19K	Big River Lodg baz=358	82.70	1	P		P	12 10 41.0	-0.3
SCM	Sheep Creek Mo baz=4.1,SNR=18	82.70	358	P		P	12 10 41.1	-0.2
M20K	Styx River comp=Z,22nm,0.8s	82.74	0	IAmb		IAmb	12 10 41.8	
M20K	Styx River baz=359,SNR=36	82.74	0	P		P	12 10 40.5	-1.1
L16K	Owhat River baz=354	82.74	3	P		P	12 10 41.2	-0.2
LIRD	Liard River Hi baz=21,SNR=6.4	82.75	347	P		P	12 10 41.6	0.0
M23K	Glacier View baz=3.8,SNR=22	82.76	358	P		P	12 10 40.8	-0.8
U54A	Nelsons Funny comp=Z,14nm,0.9s	82.78	310	IAmb		IAmb	12 10 43.2	
YUK8	Steele Glacier baz=10,SNR=6.4	82.80	354	P		P	12 10 41.4	-0.7
N25K	Chitina, Valde comp=Z,14nm,0.8s	82.81	356	IAmb		IAmb	12 10 42.2	
N25K	Chitina, Valde baz=6.3,SNR=11	82.81	356	P		P	12 10 41.3	-0.7
M22K	Willow baz=1.8,SNR=17	82.85	359	P		P	12 10 41.3	-0.7
WHY	Whitehorse comp=Z,12nm,1.0s	82.90	351	IAmb		IAmb	12 10 42.3	
WHY	Whitehorse baz=14,SNR=5.9	82.90	351	P		P	12 10 41.1	-1.3
L14K	Kuka Creek baz=352	82.92	5	P		P	12 10 41.9	-0.4
O30N	Mendenhall baz=13,SNR=5.9	82.94	352	P		P	12 10 41.7	-0.9
MCARA	McCarthy VSAT comp=Z,15nm,0.8s	82.94	356	IAmb		IAmb	12 10 44.9	
MCARA	McCarthy VSAT baz=7.6,SNR=7.7	82.94	356	P		P	12 10 42.4	-0.1
KLU	Klutina comp=Z,13nm,1.0s	82.99	357	IAmb		IAmb	12 10 43.5	
KLU	Klutina baz=5.3,SNR=6.7	82.99	357	P		P	12 10 42.5	-0.3
PMR	Palmer	83.00	358	P		P	12 10 42.5	-0.3
PMR	Palmer baz=2.6,SNR=17	83.00	358	P		P	12 10 42.1	-0.7
YUK6	Outpost Mounta baz=11,SNR=6.4	83.01	353	P		P	12 10 42.8	-0.4
HYT	Haines Junctio comp=Z,3nm,1.1s	83.04	353	IAmb		IAmb	12 10 44.1	
HYT	Haines Junctio baz=12,SNR=19	83.04	353	P		P	12 10 43.0	-0.2
P33M	Teslin, Yukon baz=16,SNR=6.7	83.07	350	P		P	12 10 42.6	-0.7
M18K	Stony River baz=357,SNR=14	83.09	2	P		P	12 10 43.2	-0.1
TOAD	Toad River Com baz=22,SNR=13	83.11	346	P		P	12 10 43.2	-0.3
VRDI	Verde Repeater comp=Z,13nm,1.0s	83.13	356	IAmb		IAmb	12 10 45.2	
M17K	Holitna River baz=356,SNR=18	83.14	2	P		P	12 10 43.8	+0.3
SUA	Susitna One baz=1.3,SNR=37	83.15	359	P		P	12 10 43.3	-0.4
KNK	Knik Glacier baz=3.2,SNR=14	83.16	358	P		P	12 10 43.3	-0.4
CTG	Chitna Glacier baz=9.0	83.24	355	P		P	12 10 44.0	-0.3
O28M	Mount Upton comp=Z,14nm,0.8s	83.34	354	IAmb		IAmb	12 10 45.7	
O28M	Mount Upton baz=9.9,SNR=8.3	83.34	354	P		P	12 10 44.4	-0.5
LOGN	Logan Glacier comp=Z,16nm,1.0s	83.36	354	IAmb		IAmb	12 10 45.6	
MAJO	Matsushiro	83.42	49			P	12 10 45.7	+0.2
MAJO MAJO	comp=Z,20nm,0.9s			IAmb		IAmb	12 10 47.6	
MAJO	Matsushiro	83.42	49	P		P	12 10 46.0	+0.5
MAJO MAJO	Matsushiro comp=Z,20nm,0.9s	83.42	49	P		P	12 10 45.7	+0.2
				pmax		pmax		
MJAR	Matsushiro Arr comp=Z,15nm,1.0s,baz=314,slow=5.4,SNR=19 comp=Z,15nm,1.0s	83.42	49	P		P	12 10 46.0	+0.6
N20K	Mount Spurr baz=0.1	83.43	360	P		P	12 10 44.2	-0.9
SPU	Mount Spurr comp=Z,16nm,0.9s	83.44	360	IAmb		IAmb	12 10 44.9	
BMRM	Bremner River baz=6.3	83.45	356	P		P	12 10 44.6	-0.6
M16K	Timber Creek baz=355,SNR=15	83.45	3	P		P	12 10 45.5	+0.4
PRPB	Parauapebas	83.50	258	*e*P		P	12 10 46.9	+0.8
GRNC	Granite Creek comp=Z,20nm,1.0s	83.50	355	IAmb		IAmb	12 10 46.4	
RC01	Rabbit Creek A baz=2.1,SNR=9.8	83.51	359	P		P	12 10 44.9	-0.6
M14K	Bethel baz=352,SNR=8.0	83.55	5	P		P	12 10 45.2	-0.4
TGL	Tana Glacier comp=Z,8.5nm,0.8s	83.56	355	IAmb		IAmb	12 10 57.6	
CRQM	Cirque comp=Z,28nm,1.2s	83.58	355	IAmb		IAmb	12 10 46.5	
CRQE	Cirque baz=7.6,SNR=6.9	83.58	355	P		P	12 10 45.5	-0.5
R33M	Jennings River baz=17,SNR=26	83.59	349	P		P	12 10 46.6	+0.5
GLI	Glacier Island baz=4.3	83.65	357	P		P	12 10 45.9	-0.3
O29M	Mount Kennedy comp=Z,10nm,0.8s	83.66	353	IAmb		IAmb	12 10 46.7	
O29M	Mount Kennedy baz=11,SNR=7.1	83.66	353	P		P	12 10 45.9	-0.5
P30M	Million Dollar baz=12	83.67	352	P		P	12 10 46.0	-0.3
ISLE	Juniper Island comp=Z,20nm,1.0s	83.67	355	IAmb		IAmb	12 10 46.9	
R49A	Shelbyville comp=Z,19nm,1.2s	83.68	313	IAmb		IAmb	12 10 47.3	
M15K	Kasigluk River baz=353,SNR=8.1	83.69	4	P		P	12 10 46.2	-0.2
PWL	Port Wells baz=3.3,SNR=9.8	83.71	358	P		P	12 10 45.9	-0.6
M13K	Dall Lake baz=351,SNR=6.5	83.79	5	P		P	12 10 47.2	+0.4
P32M	Atlin comp=Z,12nm,0.9s	83.80	351	IAmb		IAmb	12 10 46.9	
P32M	Atlin baz=15,SNR=5.6	83.80	351	P		P	12 10 45.9	-1.1
N19K	Bonanza Creek baz=358,SNR=14	83.80	1	P		P	12 10 46.7	-0.3
CAPN	Captain Cook N baz=1.0	83.85	359	P		P	12 10 47.3	+0.1
N18K	Kilae Creek baz=357,SNR=13	83.90	2	P		P	12 10 47.4	-0.1
EYAK	Cordova Ski Ar	83.93	357	P		P	12 10 47.8	+0.2
EYAK	Cordova Ski Ar baz=5.4,SNR=8.2	83.93	357	P		P	12 10 47.4	-0.1
N16K	Nishlik Lake baz=355,SNR=7.4	84.01	3	P		P	12 10 48.4	+0.3
PINM	Pinnacle baz=9.9,SNR=8.7	84.01	354	P		P	12 10 48.0	-0.1
N17K	Nushagak Hills comp=Z,12nm,0.8s	84.02	2	IAmb		IAmb	12 10 49.3	
N17K	Nushagak Hills baz=356,SNR=7.6	84.02	2	P		P	12 10 48.4	+0.4
MESA	MESA baz=8.5	84.07	355	P		P	12 10 47.8	-0.8
O22K	Cooper Landing baz=2.2,SNR=6.1	84.12	359	P		P	12 10 48.3	-0.2
JMM	Marumori	84.13	47	P		P	12 10 49.1	+0.1
SKAG	Skagway	84.13	351	P		P	12 10 48.7	+0.1
SKAG	Skagway baz=14	84.13	351	P		P	12 10 48.3	-0.3
Q32M	Nakina River comp=Z,9.0nm,0.8s	84.20	350	IAmb		IAmb	12 10 50.4	
Q32M	Nakina River baz=16,SNR=5.5	84.20	350	P		P	12 10 49.3	0.0
BGLC	Bering Glacier baz=7.4	84.22	355	P		P	12 10 49.0	-0.1
P29M	Windy Craggy comp=Z,9.5nm,0.8s	84.23	353	IAmb		IAmb	12 10 50.4	
P29M	Windy Craggy baz=12	84.23	353	P		P	12 10 49.0	-0.2
N15K	Kwethluk River comp=Z,16nm,0.9s	84.25	4	IAmb		IAmb	12 10 50.4	
N15K	Kwethluk River baz=354	84.25	4	P		P	12 10 49.5	+0.2
PLBC	Pleasant Camp baz=13,SNR=6.7	84.25	352	P		P	12 10 49.3	+0.1
T50A	Nancy comp=Z,7.7nm,0.7s	84.31	312	IAmb		IAmb	12 11 20.6	
DLBC	Dease Lake comp=Z,91nm,20.1s,baz=357,slow=37	84.36	348	LR		LR	12 50 44.7	
DLBC	Dease Lake baz=18,SNR=5.4	84.36	348	P		P	12 10 50.4	+0.4
F33A	5 Mile Ranch, comp=Z,22nm,1.4s	84.39	324	IAmb		IAmb	12 10 50.1	
N14K	Kuskokwak Cree baz=352	84.39	5	P		P	12 10 49.5	-0.4
O19K	Port Alsworth baz=358,SNR=8.8	84.42	1	P		P	12 10 49.3	-0.7
KAIM	Kayak Island baz=6.5	84.48	356	P		P	12 10 50.5	+0.1
SEW	Seward baz=2.4,SNR=14	84.50	359	P		P	12 10 50.0	-0.4
TKL	Tuckaleechee C comp=Z,49nm,19.1s,baz=59,slow=36	84.54	310	LR		LR	12 49 41.5	
O20K	Slope Mountain baz=360,SNR=5.6	84.55	0	P		P	12 10 49.5	-1.3
JANB	Januaria	84.66	247	*e*P		P	12 10 53.0	+1.0
O17K	Koliganek Bris baz=356,SNR=14	84.78	2	P		P	12 10 51.2	-0.6
O16K	Kokwok River B	84.92	3			P	12 10 52.2	-0.4
O16K O16K	comp=Z,14nm,0.8s Kokwok River B baz=355,SNR=5.9	84.92	3	IAmb P		IAmb P	12 10 53.5 12 10 52.4	-0.2
HOM	Homer baz=0.6	84.97	360	P		P	12 10 51.0	-1.8
P19K	Oil Pt baz=359	84.98	0	P		P	12 10 51.3	-1.6
S34M	Telegraph Cree comp=Z,16nm,0.8s	85.03	349	IAmb		IAmb	12 10 54.8	
S34M	Telegraph Cree baz=17,SNR=11	85.03	349	P		P	12 10 53.5	+0.2
Q23K	Middleton Isla baz=4.9	85.07	357	P		P	12 10 53.2	-0.2
O14K	Tigyukauivet M baz=353	85.09	5	P		P	12 10 53.3	-0.2
CNPM	China Poot comp=Z,18nm,1.0s	85.10	359	IAmb		IAmb	12 10 53.8	
CPCT	Cooper Cave comp=Z,22nm,1.2s	85.14	311	IAmb		IAmb	12 10 55.5	
R32K	Eaglecrest comp=Z,8.2nm,0.8s	85.18	351	IAmb		IAmb	12 10 55.4	
R32K	Eaglecrest baz=14,SNR=5.7	85.18	351	P		P	12 10 53.8	-0.2
R31K	City Hall, Gus baz=14	85.20	351	P		P	12 10 54.7	+0.7
P18K	Big Mountain, baz=358	85.21	1	P		P	12 10 54.0	-0.2
U49A	Red Boiling Sp comp=Z,20nm,1.0s	85.21	312	IAmb		IAmb	12 10 55.3	
O15K	Ungalikthiuk R comp=Z,18nm,0.9s	85.25	4	IAmb		IAmb	12 10 55.2	
O15K	Ungalikthiuk R baz=354	85.25	4	P		P	12 10 54.0	-0.3
N41A	Harden Midland comp=Z,16nm,0.8s	85.28	318	IAmb		IAmb	12 10 54.8	
P17K	Kvichak River baz=357,SNR=5.4	85.38	2	P		P	12 10 55.0	+0.1
P16K	Nushagak River baz=355	85.48	3	P		P	12 10 55.0	-0.4
T47A	Sharon Grove comp=Z,18nm,1.0s	85.69	313	IAmb		IAmb	12 10 57.1	
S31K	Pelican baz=13	85.70	351	P		P	12 10 56.5	-0.1
Q19K	Cape Douglas, baz=359	85.70	1	P		P	12 10 56.2	-0.4
T35M	Bob Quinn baz=18	85.78	348	P		P	12 10 57.0	0.0
DGMT	Dagmar comp=Z,21nm,1.1s	85.85	330	IAmb		IAmb	12 10 57.6	
Q16K	King Salmon baz=356	85.89	2	P		P	12 10 56.6	-0.9
Y52A	Lilburn comp=Z,15nm,1.0s	85.89	309	IAmb		IAmb	12 10 59.1	
X51A	Calhoun	85.93	310	IAmb		IAmb	12 10 59.2	
Q18K	comp=Z,20nm,0.9s Katmai Hardscr baz=358	85.96	1	P		P	12 10 57.2	-0.8
Q20K	Shuyak Island baz=360,SNR=6.2	86.03	0	P		P	12 10 57.4	-0.8
ECSD	EROS Data Cent comp=Z,8.8nm,0.7s	86.09	323	IAmb		IAmb	12 10 59.0	
SDDR	Presa de Saban comp=Z,25nm,0.9s	86.10	290	IAmb		IAmb	12 11 01.4	
SPIA	Saint Paul Isl baz=346	86.23	10	P		P	12 10 58.6	-0.5
Q17K	Contact Creek baz=357	86.33	2	P		P	12 10 57.8	-2.0
V48A	Smith Brothers comp=Z,16nm,1.1s	86.36	312	IAmb		IAmb	12 11 00.3	
SIUC	Southern Illin comp=Z,18nm,1.0s	86.43	315	IAmb		IAmb	12 11 01.0	
SIT	Sitka baz=14	86.47	351	P		P	12 11 00.5	+0.2
S44A	Carbondale comp=Z,17nm,1.0s	86.47	315	IAmb		IAmb	12 11 01.1	
WRAK	Wrangell Islan comp=Z,16nm,0.9s	86.66	349	IAmb		IAmb	12 11 02.5	
WRAK	Wrangell Islan baz=16,SNR=5.5	86.66	349	P		P	12 11 01.5	+0.2
WVT	Waverly	86.70	313	P		P	12 11 00.7	-1.2
WVT	Waverly	86.70	313	P		P	12 11 00.7	-1.2
WVT	comp=Z,6.0nm,0.9s			pmax		pmax		
P40A	Paris comp=Z,9.7nm,0.8s	86.76	318	IAmb		IAmb	12 11 02.4	
KDAK	Kodiak Island	86.85	0			P	12 11 02.5	+0.2
KDAK	Kodiak Island	86.85	0	*c i*P		P	12 11 02.2	0.0
KDAK	comp=Z,33nm,0.9s			pmax		pmax		
KDAK	Kodiak Island baz=360	86.85	0	P		P	12 11 01.9	-0.3
P08K	Saint George I baz=346	86.88	9	P		P	12 11 02.8	+0.4
FVM	French Village comp=Z,16nm,0.9s	86.94	316	IAmb		IAmb	12 11 03.6	
R17L	Mt. Peulik Vol baz=357	86.94	2	P		P	12 11 01.2	-1.5
R16K	Pilot Point baz=356	86.97	3	P		P	12 11 03.0	+0.2
CGM3	Cape Girardeau comp=Z,12nm,1.0s	86.97	315	IAmb		IAmb	12 11 03.5	
R18K	Karluk baz=358	87.05	1	P		P	12 11 02.4	-0.8
U33K	Whale Pass baz=16	87.07	349	P		P	12 11 03.1	-0.2
BOAV	Boa Vista	87.14	271			P	12 11 04.2	-0.2
BOAV	comp=Z,23nm,1.3s			IAmb		IAmb	12 11 06.4	
BOAV	Boa Vista	87.14	271	*e*P		P	12 11 04.9	+0.5
ITTB	Itaituba	87.18	263	*e*P		P	12 11 05.5	+0.9
SHEM	Shemya Is, Ala comp=Z,59nm,20.8s,baz=292,slow=37	87.19	20	LR		LR	12 52 31.2	
CCM	Cathedral Cave	87.35	316	P		P	12 11 04.3	-0.7
CCM	comp=Z,16nm,0.8s			IAmb		IAmb	12 11 05.4	
CCM	Cathedral Cave	87.35	316	P		P	12 11 04.3	-0.7
CCM	comp=Z,16nm,0.9s			pmax		pmax		
X48A	Hartselle comp=Z,13nm,1.2s	87.35	311	IAmb		IAmb	12 11 05.2	
OHAK	Old Harbor	87.41	1			P	12 11 05.2	+0.2
OHAK	Old Harbor	87.41	1	P		P	12 11 05.1	+0.2
OHAK	Old Harbor baz=359,SNR=8.8	87.41	1	P		P	12 11 04.2	-0.8
V35K	Ketchikan baz=17	87.59	348	P		P	12 11 05.0	-0.8
PLAL	Pickwick Lake comp=Z,9.4nm,0.9s	87.62	312	IAmb		IAmb	12 11 06.0	
CRAG	Craig baz=16	87.70	349	P		P	12 11 05.7	-0.6
PBMO	Poplar Bluff comp=Z,12nm,1.0s	87.78	315	IAmb		IAmb	12 11 07.5	
BDFB	Brasilia comp=Z,14nm,0.8s,baz=69,slow=4.7,SNR=14 comp=Z,14nm,0.8s	87.81	249	P		P	12 11 08.9	+1.2
NMDO	Nuevo Mundo comp=Z,22nm,1.1s	87.94	294	IAmb		IAmb	12 11 09.7	
SII	Sitkinak Islan baz=358	88.07	1	P		P	12 11 08.1	-0.1
S14K	Fog Glacier baz=354	88.15	4	P		P	12 11 08.4	-0.3
CHGN	Chignik baz=355	88.19	3	P		P	12 11 07.7	-0.9
NPGB	Novo Progresso	88.44	260	*e*P		P	12 11 10.9	+0.3
S12K	Black Hills baz=352	88.56	5	P		P	12 11 09.6	-0.9
MGMO	Mountain Grove comp=Z,16nm,1.1s	88.56	316	IAmb		IAmb	12 11 11.1	
LCAR	Lake Charles comp=Z,9.5nm,1.0s	88.69	315	IAmb		IAmb	12 11 12.0	
CHIR	Chirikof Islan baz=357	88.78	2	P		P	12 11 10.6	-0.8
SDPT	Sand Point baz=353	89.03	5	P		P	12 11 11.6	-1.0
RSSD	Black Hills	89.24	327			P	12 11 13.9	-0.3
RSSD	comp=Z,12nm,1.1s			IAmb		IAmb	12 11 14.6	
RSSD	Black Hills	89.24	327	P		P	12 11 13.9	-0.3
RSSD	comp=Z,12nm,1.1s			pmax		pmax		
FALS	False Pass baz=351	89.28	6	P		P	12 11 13.3	-0.6
CHNA	Chernabura Isl baz=354	89.60	4	P		P	12 11 14.7	-0.6
BBB	Bella Bella comp=Z,95nm,19.3s,baz=38,slow=38	89.94	345	LR		LR	12 55 53.7	
UNV	Unalaska Valle baz=349	89.96	8	P		P	12 11 16.4	-0.6
U38A	Gravette comp=Z,7.9nm,0.8s	90.26	317	IAmb		IAmb	12 11 18.7	
NIKH	Nikolski High baz=347	90.51	10	P		P	12 11 19.5	-0.2
RLMT	Red Lodge comp=Z,18nm,1.6s	90.60	331	IAmb		IAmb	12 11 23.6	
NEW	Newport comp=Z,31nm,1.8s	90.68	337	IAmb		IAmb	12 11 21.0	
NEW	Newport comp=Z,39nm,19.6s,baz=21,slow=38	90.68	337	LR		LR	12 55 25.2	
MSO	Missoula comp=Z,16nm,1.4s	90.88	335	IAmb		IAmb	12 11 21.8	
YNE	Yellowstone No comp=Z,13nm,1.0s	90.98	331	IAmb		IAmb	12 11 23.1	
CLDB	Colider	91.03	257	*e*P		P	12 11 23.5	+0.9
BOZ	Bozeman (W) comp=Z,11nm,0.9s	91.10	333	IAmb		IAmb	12 11 23.5	
MIAR	Mount Ida comp=Z,8.3nm,0.9s	91.16	315	IAmb		IAmb	12 11 23.9	
K22A	Casper comp=Z,14nm,0.9s	91.50	328	IAmb		IAmb	12 11 24.0	
SDV	Santo Domingo	91.54	282	P		P	12 11 25.2	-0.1
SDV	Santo Domingo	91.54	282	*e*P		P	12 11 25.3	-0.1
YHL	Hebgen Lake comp=Z,10nm,1.0s	91.57	332	IAmb		IAmb	12 11 26.2	
YHB	Horse Butte comp=Z,10nm,1.0s	91.65	332	IAmb		IAmb	12 11 26.6	
DLMT	Dillon comp=Z,10nm,0.9s	91.66	333	IAmb		IAmb	12 11 25.9	
PDRB	Porto dos Gac	92.20	257	*e*P		P	12 11 28.9	+0.8
PDAR	Pinedale Array comp=Z,2.0nm,0.8s,baz=49,slow=4.5,SNR=15	92.67	330	P		P	12 11 28.6	-1.6
PDAR	comp=Z,75nm,18.4s,baz=22,slow=37 comp=Z,2.0nm,0.8s			LR		LR	12 56 05.2	
GNW	Green Mountain comp=Z,10nm,0.9s	92.98	340	IAmb		IAmb	12 11 31.7	
HAWA	Hanford comp=Z,8.3nm,0.8s	93.09	338	IAmb		IAmb	12 11 32.4	
AHID	Auburn Hatcher comp=Z,7.3nm,1.0s	93.29	331	IAmb		IAmb	12 11 33.3	
Q24A	Divide comp=Z,13nm,1.6s	93.85	325	IAmb		IAmb	12 11 35.7	
HWUT	Hardware Ranch comp=Z,8.3nm,0.9s	94.46	331	IAmb		IAmb	12 11 38.2	
MFID	Camas Ranch comp=Z,9.2nm,0.9s	94.51	334	IAmb		IAmb	12 11 39.0	
T25A	Trinidad comp=Z,11nm,1.3s	94.95	323	IAmb		IAmb	12 11 40.8	
PINE	Pine Mountain comp=Z,9.2nm,0.9s	95.87	338	IAmb		IAmb	12 11 46.1	
PV23	Carpenter Ridg comp=Z,7.3nm,0.8s	96.02	327	IAmb		IAmb	12 11 45.9	
PV20	West Nyswonger	96.09	327	IAmb		IAmb	12 11 59.3	

	comp=Z,5.7nm,0.9s							
PV10	**Paradox Valley**	**96.09**	**327**	IAmb	IAmb	12 11 46.2		
	comp=Z,10nm,1.1s							
J05D	**Fort Rock, OR**	**96.42**	**338**	IAmb	IAmb	12 11 48.3		
	comp=Z,9.4nm,0.9s							
HMU	**Henry Mountain**	**97.20**	**328**	IAmb	IAmb	12 11 50.8		
	comp=Z,4.4nm,0.8s							
ANMO	**Albuquerque**	**97.70**	**323**	LR	LR	12 55 52.4		
	comp=Z,106nm,21.4s,baz=128,slow=35							
SPR3	**Spring Creek 3**	**97.78**	**331**	IAmb	IAmb	12 11 55.0		
	comp=Z,5.2nm,1.4s							
YBH	**Yreka Blue Hor**	**98.28**	**338**	LR	LR	12 59 06.2		
	comp=Z,7.0nm,19.4s,baz=34,slow=37							
PKCU	**Pink Cliffs**	**98.29**	**329**	IAmb	IAmb	12 11 57.0		
	comp=Z,9.2nm,1.2s							
NVAR	**Mina Array Bea**	**99.78**	**334**	P	**Pdif**	**12 12 02.2**	**-0.4**	
	comp=Z,1.2nm,0.7s,baz=41,slow=3.4,SNR=13							
NVAR				PKKPbc	**PKKPbc**	**12 28 23.4**	**+0.9**	
	comp=Z,0.5nm,0.6s,baz=202,slow=5.1,SNR=6.5							
NVAR				LR	LR	13 01 48.2		
	comp=Z,135nm,18.2s,baz=31,slow=38							
	comp=Z,1.2nm,0.7s							
TXAR	**Lajitas Array**	**100.72**	**318**	P	**Pdif**	**12 12 06.2**	**-0.5**	
	comp=Z,0.2nm,0.6s,baz=90,slow=2.5,SNR=5.8							
TXAR				PKKPbc	**PKKPbc**	**12 28 19.8**	**+0.4**	
	comp=Z,0.5nm,0.8s,baz=178,slow=3.8,SNR=3.7							
WRA	**Warramunga Arr**	**114.63**	**98**	PKP	PKPdf	12 16 58.5	-0.1	
	comp=Z,2.2nm,0.7s,baz=315,slow=1.8,SNR=22							
WRA				PKKPbc	**PKKPab**	**12 27 40.8**	**-1.2**	
	comp=Z,1.1nm,0.9s,baz=119,slow=4.5,SNR=5.7							
ASAR	**Alice Springs**	**116.14**	**101**	PKP	**PKPdf**	**12 17 01.4**	**-0.1**	
	comp=Z,3.2nm,0.6s,baz=314,slow=1.3,SNR=73							
ASAR				PKKPbc	**PKKPbc**	**12 27 31.6**	**+1.2**	
	comp=Z,0.8nm,0.8s,baz=114,slow=3.5,SNR=8.3							
QIS	**Mount Isa**	**119.19**	**95**	P	**PKiKP**	**12 17 07.8**	**+0.3**	
CASY	**Casey**	**119.39**	**153**	eLR	LR	12 53 31.1		
	comp=Z,109nm,23.0s							
PMSA	**Palmer Station**	**122.38**	**210**	eLR	LR	12 54 58.1		
	comp=Z,102nm,24.0s							
POHA	**Pohakuloa**	**124.75**	**4**	eLR	LR	12 55 57.8		
	comp=Z,3.0nm,22.6s							
JOHN	**Johnston Islan**	**125.35**	**20**	eLR	LR	12 56 20.2		
	comp=Z,94nm,24.7s							
QSPA	**South Pole Qui**	**125.57**	**180**	PKP	**PKiKP**	**12 17 19.2**	**+0.5**	
	comp=Z,8.6nm,0.8s,baz=269,slow=1.2,SNR=48							
QLP	**Quilpie**	**125.77**	**99**	P	**PKiKP**	**12 17 21.2**	**+0.9**	
QLP	**Quilpie**	**125.77**	**99**	P	**PKiKP**	**12 17 20.9**	**+0.6**	
STKA	**Stephens Creek**	**125.89**	**106**	PKP	**PKiKP**	**12 17 20.5**	**+0.1**	
	comp=Z,10nm,1.0s,baz=12,slow=3.4,SNR=11							
STKA	**Stephens Creek**	**125.89**	**106**	P	**PKiKP**	**12 17 20.9**	**+0.6**	
STKA	**Stephens Creek**	**125.89**	**106**	P	**PKiKP**	**12 17 21.2**	**+0.9**	
CMSA	**Cobar Meteorol**	**128.97**	**104**	P	**PKiKP**	**12 17 28.6**	**+2.1**	
CMSA	**Cobar Meteorol**	**128.97**	**104**	P	**PKiKP**	**12 17 28.0**	**+1.5**	
XMAS	**Kiritimati**	**142.13**	**8**	eLR	LR	13 04 11.6		
	comp=Z,6.2nm,26.0s							
NFK	**Norfolk Island**	**145.97**	**90**	eLR	LR	13 05 54.9		
FOZ	**Fox Glacier**	**150.02**	**117**	P	**PKiKP**	**12 18 09.5**	**+0.4**	
WVZ	**Waitaha Valley**	**150.71**	**116**	P	**PKiKP**	**12 18 10.3**	**-0.2**	
RPZ	**Rata Peaks**	**150.91**	**117**	P	**PKiKP**	**12 18 11.5**	**+0.6**	
ARCZ	**Arundel**	**150.99**	**118**	P	**PKiKP**	**12 18 12.9**	**+1.8**	
INZ	**Inchbonnie**	**151.24**	**115**	P	**PKPbc**	**12 18 10.8**	**-0.3**	
DSZ	**Denniston Nort**	**151.53**	**113**	P	**PKPbc**	**12 18 11.4**	**-0.5**	
OXZ	**Oxford**	**151.65**	**116**	P	**PKiKP**	**12 18 13.0**	**+0.6**	
LTZ	**Lake Taylor**	**151.85**	**115**	P	**PKiKP**	**12 18 13.2**	**+0.2**	
QRZ	**Quartz Range**	**152.07**	**111**	P	**PKiKP**	**12 18 13.7**	**+0.3**	
MQZ	**McQueen's Vall**	**152.07**	**117**	P	**PKiKP**	**12 18 13.5**	**+0.3**	
MRNZ	**Matariki Terra**	**152.24**	**112**	P	**PKPbc**	**12 18 13.1**	**-0.4**	
GVZ	**Greta Valley S**	**152.40**	**116**	P	**PKiKP**	**12 18 14.8**	**+0.8**	
NNZ	**Nelson**	**152.71**	**112**	P	**PKPbc**	**12 18 13.1**	**-1.4**	
KHZ	**Kahutara**	**152.80**	**115**	P	**PKiKP**	**12 18 15.6**	**+0.7**	
SNZO	**South Karori**	**153.71**	**112**	eLR	LR	13 09 33.1		
	comp=Z,6.2nm,24.0s							
NIUE	**Niue**	**157.28**	**48**	eLR	LR	13 11 06.8		
	comp=Z,170nm,30.7s							
RAR	**Rarotonga**	**164.15**	**26**	eLR	LR	13 14 27.2		
	comp=Z,86nm,26.0s							
TBI	**Tubuai**	**167.42**	**348**	eLR	LR	13 15 50.3		
	comp=Z,569nm,39.5s							

ROM 28 11:58:28.8±0.2, 42°.635N±0°.010×13°.12E±0°.02, h13km±2km, ML1.2/8, 3C-1D, Error ellipse: s-maj=1.4km s-min=0.6km az=232.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	**Leonessa**	**0.07**	**241**	⇓P	Pg	11 58 32.0	+0.4
LNSS				S	Sg	11 58 33.9	+0.3
LNSS				AML	AML		
	comp=E,290μm,0.1s						
LNSS				AML	AML		
	comp=N,186μm,1.2s						
RM33	**Pellescritta (**	**0.14**	**151**	P	Pg	11 58 32.8	+0.3
RM33				S	Sg	11 58 35.4	+0.3
RM33				AML	AML		
	comp=N,114μm,0.3s						
RM33				AML	AML		
	comp=E,69μm,0.6s						
SMA1	**SAN MARTINO**	**0.16**	**92**	⇑P	Pg	11 58 33.2	+0.5
SMA1				S	Sg	11 58 35.9	+0.5
SMA1				AML	AML		
	comp=E,96μm,0.2s						
SMA1				AML	AML		
	comp=N,136μm,0.2s						
GAVE	**Gavelli**	**0.17**	**289**	P	Pg	11 58 32.9	-0.1
NRCA	**Norcia**	**0.20**	**359**	⇑P	Pg	11 58 33.7	+0.4
NRCA				S	Sg	11 58 37.0	+0.6
NRCA				AML	AML		
	comp=N,144μm,0.2s						
NRCA				AML	AML		
	comp=E,194μm,0.2s						
MTRA	**Matera**	**0.24**	**59**	⇑P	Pg	11 58 34.2	+0.3

JMA 28 12:12:13.5±0.1, 24°.4N±0°.6×123°.6E±0°.4, h21km, MV0.7/3, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.18**	**117**	P	Pb	12 12 18.3	-1.0
IRIF				eS	Sb	12 12 21.7	-1.8
JKRS	**Kuro-shima**	**0.45**	**113**	P	Pb	12 12 22.5	-0.2
JIJ	**Ishigaki jima**	**0.54**	**95**	P	Pb	12 12 24.0	-0.3
JIJ				S	Sb	12 12 31.6	-0.1

TAP 28 12:12:17.2, 24°.08N×121°.52E, h19km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.07**	**89**	P	Pg	12 12 21.1	+0.2
TWD				S	Sg	12 12 23.9	+0.5
LXIB	**Xiulin Townshi**	**0.11**	**238**	P	Pg	12 12 21.4	+0.1
LXIB				S	Sg	12 12 24.8	+0.6
ETM	**Tongmen**	**0.12**	**190**	*i* P	Pg	12 12 21.4	+0.1
ETM				S	Sg	12 12 24.3	+0.3
NACB	**Ninganchiao**	**0.12**	**38**	P	Pg	12 12 21.4	0.0
NACB				eS	Sg	12 12 23.6	-0.4
ETL	**Fush Village**	**0.13**	**51**	P	Pg	12 12 21.4	0.0
ETL				S	Sg	12 12 24.6	+0.3
ETLH	**Xiulin Townshi**	**0.13**	**347**	eP	Pg	12 12 21.7	+0.1
ETLH				S	Sg	12 12 24.6	+0.2
HWA	**Hwalien**	**0.13**	**141**	eP	Pg	12 12 21.9	+0.5
WHF	**Hehuan Shan**	**0.24**	**286**	eP	Pg	12 12 23.4	+0.1
WHF				*i* S	Sg	12 12 27.7	+0.4
ESL	**Shilin**	**0.27**	**196**	P	Pb	12 12 23.1	-0.4
ESL				eS	Sg	12 12 27.8	+0.1
SHUL	**Shoufeng**	**0.29**	**171**	eP	Pb	12 12 24.3	+0.4
SHUL				eS	Sb	12 12 29.2	+0.9
FUSS	**Fushou**	**0.30**	**304**	eP	Pg	12 12 24.3	+0.3
FUSS				S	Sg	12 12 29.3	+0.5
EAHA	**Aohua**	**0.32**	**39**	eP	Pg	12 12 23.6	-0.7
EAHA				eS	Sg	12 12 28.9	-0.2
OWD	**Renai**	**0.33**	**248**	*i* P	Pb	12 12 24.7	0.0
OWD				eS	Sb	12 12 29.7	0.0
NNSB	**Datong**	**0.37**	**341**	P	Pb	12 12 25.5	+0.1
NNSB				eS	Sg	12 12 30.5	0.0
WUSB	**Renai**	**0.37**	**257**	eP	Pb	12 12 25.8	+0.4
WUSB				eS	Sb	12 12 30.9	-0.1
WARBT	**Fenglin Townsh**	**0.38**	**198**	P	Pg	12 12 24.7	-0.5
WARBT				eS	Sg	12 12 29.8	-0.9
ENA	**Nanau**	**0.40**	**31**	eP	Pb	12 12 25.9	0.0
ENA				S	Sg	12 12 31.4	0.0
EGFH	**Guangfu**	**0.42**	**191**	eP	Pg	12 12 25.5	-0.4
EGFH				eS	Sg	12 12 31.0	-0.7
EWUT	**Wuta**	**0.44**	**33**	P	Pg	12 12 26.3	+0.1
EWUT				eS	Sg	12 12 31.8	-0.6
LATG	**Datong**	**0.45**	**1**	P	Pb	12 12 26.8	0.0
LATG				eS	Sg	12 12 33.0	0.0
WHP	**Taichung City**	**0.56**	**291**	P	Pg	12 12 28.8	+0.3
WHP				*i* S	Sg	12 12 37.1	+1.1
ENTT	**Nioudou**	**0.56**	**5**	P	Pg	12 12 28.6	+0.1
ENTT				S	Sg	12 12 36.9	+0.8
SSLB	**Suanglung**	**0.59**	**241**	P	Pg	12 12 29.1	0.0
SSLB				eS	Sg	12 12 37.1	+0.1
EHY	**Hungye**	**0.60**	**197**	P	Pb	12 12 28.4	-0.6
EHY				eS	Sb	12 12 36.2	-0.8
YHNB	**Yeheng**	**0.60**	**348**	eP	Pg	12 12 29.5	+0.2
YHNB				eS	Sg	12 12 37.7	+0.2
EHYH	**Wanrong**	**0.60**	**195**	P	Pb	12 12 28.8	-0.3
EHYH				eS	Sb	12 12 36.6	-0.5
TWC	**Suao**	**0.61**	**30**	P	Pb	12 12 29.3	+0.1
TWC				eS	Sb	12 12 37.5	+0.1
TWE	**Neicheng**	**0.65**	**12**	P	Pg	12 12 30.2	0.0
TWE				S	Sg	12 12 39.7	+0.7
FUSB	**Fushanzhiwuyua**	**0.68**	**6**	eP	Pb	12 12 29.1	-1.4
FUSB				eS	Sb	12 12 39.6	+0.1
YULB	**Yu-li**	**0.71**	**196**	P	Pb	12 12 30.7	-0.3
YULB				eS	Sb	12 12 40.6	+0.2
LIOB	**Emei**	**0.72**	**321**	eP	Pn	12 12 32.4	-0.1
LIOB				S	Sg	12 12 41.8	+0.5
CHN5	**Tsauling**	**0.90**	**238**	eP	Pb	12 12 34.5	+0.2
CHN5				S	Sn	12 12 47.4	-0.1

*IDC **28** 12:15:34.0±1.4, 35°.91N×27°.58E, h0km, mb3.5/3, mbtmp3.4/6, ML2.1/2, Error ellipse: s-maj=37.5km s-min=18.9km az=151.0*
*ATH **28** 12:15:36.3, 35°.76N×27°.61E, h16km±1km, ML3.1/5, Manual Solution by M.Kolligri First location: 2019/08/28 12:16:52, This location: 2019/08/28 12:27:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*ISK **28** 12:15:36.2, 35°.79N×27°.60E, h14km, ML3.3/11*
*THE **28** 12:15:36.8, 36°.N±28°×2°.8E±2°.0, h13km±18km, M3.0/4, MLh3.0/4*

ISC 28 12:15:36.5±0.9, 35°.78N±0°.04×27°.62E±0°.03, h21km±3km, n32, σ1§31/44, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGE1	**Gennadi, Rhode**	**0.35**	**46**	P	**Pb**	**12 15 44.0**	**0.0**
RGE1				S	**Sb**	**12 15 49.1**	**0.0**
KARP	**Karpathos**	**0.44**	**238**	Pg	**Pb**	**12 15 45.2**	**-0.2**
KARP				Sg	**Sb**	**12 15 51.8**	**+0.3**
KARP	**Karpathos**	**0.44**	**238**	P	**Pb**	**12 15 45.3**	**-0.2**
KARP				S	**Sb**	**12 15 52.1**	**+0.6**
KARP	**Karpathos**	**0.44**	**238**	P	**Pb**	**12 15 45.0**	**-0.4**
KARP				S	**Sb**	**12 15 51.8**	**+0.3**
ARG	**Arkhangelos**	**0.60**	**43**	Pg	**Pb**	**12 15 48.5**	**+0.1**
ARG				Sg	**Sb**	**12 15 56.8**	**+0.3**
ARG	**Arkhangelos**	**0.60**	**43**	P	**Pb**	**12 15 48.3**	**-0.1**
ARG				S	**Sb**	**12 15 56.6**	**+0.1**
ARG	**Arkhangelos**	**0.60**	**43**	P	**Pb**	**12 15 48.1**	**-0.3**
ARG				S	**Sb**	**12 15 56.6**	**+0.1**
DAT	**Datca**	**0.95**	**358**	Pg	**Pn**	**12 15 54.7**	**0.0**
DAT				Sg	**Sn**	**12 16 08.2**	**+0.6**
DATC	**Datca-Mugla**	**0.98**	**2**	Pg	**Pn**	**12 15 55.3**	**+0.3**
ZKR	**Zakros**	**1.32**	**240**	Pn	**Pb**	**12 16 00.6**	**0.0**
ZKR				Sn	**Sb**	**12 16 18.4**	**+1.4**
ZKR	**Zakros**	**1.32**	**240**	P	**Pb**	**12 16 00.1**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.37**	**349**	Pn	**Pb**	**12 16 01.3**	**-0.1**
KSL	**Kastellorizon**	**1.64**	**76**	P	**Pn**	**12 16 05.0**	**+1.0**
KSL				S	**Sb**	**12 16 27.5**	**+1.3**
KSL	**Kastellorizon**	**1.64**	**76**	P	**Pn**	**12 16 04.9**	**+0.8**
KSL				S	**Sn**	**12 16 25.0**	**+0.5**
NPS	**Neapolis**	**1.71**	**253**	P	**Pn**	**12 16 05.1**	**0.0**
CAME	**Cameli-Denizli**	**1.79**	**49**	Pn	**Pb**	**12 16 07.9**	**-0.8**
THERA	**Ancient Thera,**	**1.83**	**289**	P	**Pn**	**12 16 07.3**	**+0.6**
THR6	**Thira Island,**	**1.89**	**288**	P	**Pb**	**12 16 08.8**	**-1.4**
SNT5	**Nea Kammeni, S**	**1.90**	**290**	P	**Pn**	**12 16 08.2**	**+0.5**
SMG	**Samos**	**2.02**	**342**	P	**Pn**	**12 16 09.2**	**-0.2**
APMY	**Acipayam-Deniz**	**2.17**	**38**	Pn	**Pb**	**12 16 13.3**	**-1.7**
AYDB	**Zeytinkoy-Aydi**	**2.17**	**6**	Pn	**Pn**	**12 16 12.6**	**+1.1**
NAZL	**Nazilli-Aydin**	**2.25**	**14**	Pn	**Pb**	**12 16 14.5**	**-1.9**
IDI	**Anoyia**	**2.28**	**258**	Pn	**Pn**	**12 16 13.6**	**+0.7**
	9.9nm,0.3s,baz=75,slow=16,SNR=42						
IDI				Sn	**Sn**	**12 16 41.9**	**+1.6**
	14nm,0.3s,baz=47,slow=15,SNR=6.4						
	22nm,0.3s						
ODEM	**Odemis-Izmir**	**2.52**	**8**	Pn	**Pn**	**12 16 17.4**	**+1.2**
KULA	**Kula-Manisa**	**2.85**	**17**	Pn	**Pn**	**12 16 22.7**	**+1.8**
BRTR	**Keskin Array B**	**6.19**	**49**	Pn	**Pn**	**12 17 09.7**	**+2.9**
	0.1nm,0.3s,baz=229,slow=14,SNR=2.0						
	0.3nm,0.5s						
MMAI	**Mount Meron Ar**	**7.00**	**111**	Pn	**Pn**	**12 17 18.4**	**+0.5**
	0.9nm,0.3s,baz=306,slow=12,SNR=1.7						
EIL	**Elat**	**8.68**	**133**	Sn	**Sn**	**12 19 12.3**	**-5.6**
	0.1nm,0.3s,baz=339,slow=19,SNR=4.5						
FINES	**FINESS Array B**	**25.70**	**358**	P	**P**	**12 21 03.8**	**-1.1**
	0.6nm,0.6s,baz=179,slow=12,SNR=1.6						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**32.44**	**233**	P	**P**	**12 22 06.6**	**+1.4**
	0.3nm,0.4s,baz=35,slow=8.9,SNR=4.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.13**	**47**	P	**P**	**12 23 35.0**	**-0.1**
	0.5nm,0.5s,baz=282,slow=7.2,SNR=1.6						
	0.5nm,0.5s						

*SJA **28** 12:26:55.0±0.7, 31°.41S×72°.11W, h15km, ML3.4, MW3.5*
*GUC **28** 12:26:59.3±0.9, 31°.47S×71°.73W, h39km±3km, ML3.3*

ISC 28 12:26:55.5±1.4, 31°.43S±0°.02×71°.91W±0°.05, h2km±10km, n36, σ1§72/74, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.79**	**17**	⇑eP	**Pn**	**12 27 14.1**	**+0.4**
CO06				eS	**Sn**	**12 27 25.1**	**-1.0**
CO06				IAML		12 27 26.6	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	**0.81**	**74**	⇓*i*P	**Pn**	**12 27 12.8**	**-1.2**
CO02				eS	**Sb**	**12 27 22.6**	**-1.2**
CO02				IAML		12 27 24.9	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**0.81**	**74**	eP	**Pb**	**12 27 12.1**	**-0.3**
CO02				eP	**Pn**	**12 27 15.2**	**+1.1**
CO02				eS	**Sg**	**12 27 20.4**	**-1.1**
CO02				IAML		12 27 27.8	
	comp=Z,2μm,0.6s						
CO03	**El Pedregal**	**1.20**	**61**	⇓*i*P	**Pg**	**12 27 19.3**	**+0.8**
CO03				eS	**Sb**	**12 27 34.1**	**-1.0**
CO03				IAML		12 27 39.0	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**1.20**	**61**	eP	**Pb**	**12 27 15.2**	**-3.9**
CO03				eP	**Pg**	**12 27 19.4**	**+0.9**
CO03				eS	**Sn**	**12 27 35.4**	**-1.0**
CO03				IAML		12 27 36.5	
	comp=Z,1μm,0.4s						
VA06	**Catapilco**	**1.24**	**155**	eP	**Pg**	**12 27 19.8**	**+0.4**
VA06				IAML		12 27 35.9	
	comp=E,1μm,0.5s						
GO04	**Tololo Observa**	**1.58**	**38**	eP	**Pg**	**12 27 26.1**	**+0.3**
GO04				eS	**Sb**	**12 27 45.9**	**-0.1**
GO04	**Tololo Observa**	**1.58**	**38**	eP	**Pg**	**12 27 25.9**	**+0.2**
GO04				eS	**Sg**	**12 27 47.5**	**+1.3**
GO04				IAML		12 27 48.2	
	comp=Z,1μm,0.4s						
CO05	**La Serena**	**1.61**	**21**	eP	**Pg**	**12 27 27.5**	**+1.0**
CO05				eS	**Sb**	**12 27 47.2**	**+0.3**
CO05				IAML		12 27 51.5	
	comp=N,659nm,0.5s						
ROCH	**El Roble**	**1.71**	**154**	eP	**Pb**	**12 27 26.9**	**-1.0**
ROCH				IAML		12 27 52.9	
	comp=N,403nm,0.5s						
VA03	**San Esteban**	**1.76**	**139**	eP	**Pb**	**12 27 28.0**	**-0.6**
VA03				eS	**Sb**	**12 27 50.0**	**-1.1**
VA03				IAML		12 27 55.1	
	comp=N,516nm,0.4s						
VA03	**San Esteban**	**1.76**	**139**	eP	**Pb**	**12 27 28.4**	**-0.2**
VA03				IAML		12 27 54.5	
	comp=Z,217nm,0.6s						
VA03				eS	**Sg**	**12 27 54.8**	**+2.7**
MT02	**Curacav**	**1.94**	**161**	eP	**Pn**	**12 27 29.8**	**+0.3**
MT02				eS	**Sg**	**12 27 58.1**	**+0.3**
CO01	**Juntas del Tor**	**2.13**	**48**	*i* P	**Pb**	**12 27 34.4**	**-0.6**
CO01				eP	**Pg**	**12 27 34.5**	**-1.8**
CO01				eS	**Sb**	**12 28 01.2**	**-0.8**
CO01				IAML		12 28 04.8	
	comp=N,238nm,0.3s						
CO01	**Juntas del Tor**	**2.13**	**48**	eP	Pn	12 27 15.2	-17
CO01				eP	**Pb**	**12 27 34.5**	**-0.6**
CO01				eS	**Sb**	**12 28 02.8**	**+0.7**
CO01				IAML		12 28 04.2	
	comp=Z,219nm,1.3s						
MT05	**Renca**	**2.19**	**153**	eP	**Pb**	**12 27 34.9**	**-1.1**
MT05				eS	**Sb**	**12 28 01.7**	**-1.9**
MT05				IAML		12 28 07.7	
	comp=Z,112nm,0.7s						
RTLS	**Leoncito**	**2.26**	**100**	eP	**Pb**	**12 27 37.1**	**-0.1**
RTLS				eS	**Sg**	**12 28 08.5**	**+0.4**
RTLS				IAML		12 28 08.9	
	comp=Z,312nm,0.3s						
MT14	**Cerro Cal¡n**	**2.28**	**150**	*i* P	**Pb**	**12 27 36.7**	**-0.7**
MT14				IAML		12 28 14.6	
	comp=E,279nm,0.5s						
FCH	**Farellones**	**2.33**	**145**	eP	**Pb**	**12 27 36.5**	**-2.0**
FCH				eS	**Sn**	**12 28 03.9**	**-0.7**
FCH				IAML		12 28 12.2	
	comp=E,92nm,0.2s						
AROD	**Rodeo**	**2.44**	**60**	eP	**Pb**	**12 27 40.5**	**+0.1**
AROD				eS	**Sn**	**12 28 07.2**	**-0.2**
AROD				eS	**Sg**	**12 28 13.1**	**-1.0**
MT04	**Ro Olivares**	**2.47**	**143**	eP	**Pb**	**12 27 39.2**	**-1.7**
MT04				eS	**Sg**	**12 28 14.4**	**-0.6**
MT04				IAML		12 28 15.5	
	comp=Z,112nm,0.7s						
MT01	**Popeta**	**2.49**	**167**	eP	**Pn**	**12 27 38.4**	**+1.4**
MT01				eS	**Sn**	**12 28 07.2**	**-0.8**
MT08	**Bocatoma Ro**	**2.57**	**142**	eP	**Pb**	**12 27 41.0**	**-1.5**
MT08				eS	**Sb**	**12 28 13.7**	**-0.9**
MT08				IAML		12 28 22.6	
	comp=Z,97nm,0.6s						
ACCO	**Cerro Coronel**	**2.58**	**72**	eP	**Pb**	**12 27 42.8**	**0.0**
ACCO				eS	**Sg**	**12 28 17.9**	**-0.6**
LCO	**Las Campanas**	**2.63**	**24**	eP	**Pn**	**12 27 40.7**	**+1.5**
LCO				eS	**Sn**	**12 28 06.7**	**-5.2**
LCO				eS	**Sb**	**12 28 15.2**	**-1.2**
LCO				IAML		12 28 23.5	
	comp=Z,369nm,0.6s						
ACDV	**Cuesta del Vie**	**2.71**	**63**	eP	**Pb**	**12 27 44.4**	**-0.5**
ACDV				eS	**Sg**	**12 28 21.3**	**-1.3**
ACDV				IAML		12 28 28.6	
	comp=Z,89nm,0.9s						
LMEL	**Las Melosas**	**2.81**	**150**	eP	**Pb**	**12 27 43.7**	**-2.8**
LMEL				eS	**Sn**	**12 28 15.2**	**-0.9**
LMEL				eS	**Sb**	**12 28 22.0**	**+0.6**
LMEL				IAML		12 28 26.0	
	comp=Z,70nm,0.5s						
ASAL	**Salagasta**	**2.85**	**115**	eP	**Pb**	**12 27 46.8**	**-0.5**
ASAL				eS	**Sb**	**12 28 24.2**	**+1.5**
CFA	**Coronel Fontan**	**3.14**	**94**	eP	**Pb**	**12 27 48.9**	**-3.2**
CFA				eS	**Sb**	**12 28 30.2**	**-0.7**
CFA				eS	**Sg**	**12 28 35.4**	**-1.0**
AC04	**Llanos de Chal**	**3.30**	**13**	eP	**Pn**	**12 27 49.4**	**+1.2**
AC04				eS	**Sb**	**12 28 35.7**	**+0.3**
AC04				IAML		12 28 56.5	
	comp=Z,57nm,0.5s						
BO02	**Sierra Bellavi**	**3.48**	**165**	eP	**Pn**	**12 27 52.9**	**+2.1**
BO02				IAML		12 28 50.8	
	comp=Z,58nm,1.0s						
AGUA	**GUANDACOL**	**3.53**	**58**	eP	**Pb**	**12 27 56.0**	**-2.8**
AGUA				IAML		12 28 59.3	
	comp=Z,161nm,0.7s						
AVFE	**Valle Fertil**	**3.90**	**80**	eP	**Pn**	**12 27 59.7**	**+3.1**
AVFE				eS	**Sb**	**12 28 51.7**	**-1.0**
AVFE				IAML		12 29 00.1	
	comp=Z,57nm,0.6s						
ACLC	**CERRO LA CRUZ**	**4.72**	**66**	eP	**Pn**	**12 28 11.2**	**+3.2**
ACLC				eS	**Sn**	**12 29 06.7**	**+3.2**
ACLC				IAML		12 29 14.8	
	comp=Z,48nm,0.8s						
APLL	**PUNTA DE LOS L**	**4.74**	**79**	eP	**Pn**	**12 28 11.0**	**+3.0**
APLL				eS	**Sn**	**12 29 04.7**	**+1.1**
AC02	**Maricunga**	**5.18**	**29**	eP	**Pn**	**12 28 16.2**	**+1.6**
AC02				eS	**Sb**	**12 29 35.8**	**+5.6**

*GII **28** 12:28:36.9±0.0, 36°.19N×28°.39E, h68km, Mws3.2, confirmed*
*IDC **28** 12:28:42.1±1.2, 36°.10N×28°.49E, h52km±16km, mb3.5/6, mbtmp3.6/11, ML2.6/4, Error ellipse: s-maj=14.9km s-min=8.3km az=165.0*
*ISK **28** 12:28:43.9, 36°.19N×28°.38E, h79km, ML3.6/19*
*ATH **28** 12:28:45.2, 36°.15N×28°.43E, h69km±1km, ML3.6/7, Manual Solution by M.Kolligri First location: 2019/08/28 12:30:04, This location: 2019/08/28 12:40:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **28** 12:28:45.5, 36°.N±5°×2°.8E±°, h68km±5km, M3.4/7, MLh3.4/7*
*AFAD **28** 12:

comp=E,2µm,0.5s
DEMR Demre-Antalya 1.17 84 Pn **Pn** **12 29 06.2 +1.4**
NISR Nisiros 1.18 295 P **Pn** **12 29 05.6 +0.6**
NISR S **Sn** **12 29 20.7 +0.1**
NISR Nisiros 1.18 295 P **Pn** **12 29 05.7 +0.8**
KARP Karpathos 1.21 242 Pn **Pn** **12 29 06.4 +1.1**
KARP Karpathos 1.21 242 P **Pn** **12 29 06.5 +1.1**
KARP S **Sn** **12 29 22.0 +0.7**
KARP Karpathos 1.21 242 P **Pn** **12 29 06.5 +1.1**
KARP S **Sn** **12 29 21.8 +0.5**
KARP AML AML 12 29 22.5
11nm,0.2s
KARP AML AML 12 29 22.8
9.0nm,0.3s
KARP Karpathos 1.21 242 P **Pn** **12 29 06.2 +0.9**
KARP S **Sn** **12 29 21.6 +0.3**
CAEL Denizli, Camel 1.21 34 P **Pn** **12 29 06.8 +1.3**
CAEL S **Sn** **12 29 20.5 -1.1**
CAEL *i* IAML 12 29 30.0
comp=E,818nm,0.7s
BDRM Kayabasi 1.25 319 P **Pn** **12 29 05.8 0.0**
BDRM S **Sn** **12 29 19.9 -2.3**
BDRM *i* IAML 12 29 33.0
comp=E,151nm,0.6s
YKAV Yalikavak-Bodr 1.38 317 Pn **Pn** **12 29 07.3 -0.2**
TAVA DENIZLI_Tavas 1.39 15 P **Pn** **12 29 08.4 +0.7**
TAVA S **Sn** **12 29 25.9 +0.3**
TAVA *i* IAML 12 29 27.0
comp=E,692nm,0.4s
GOLH Golhisar 1.42 38 P **Pn** **12 29 10.1 +2.0**
GOLH S **Sn** **12 29 28.0 +1.7**
GOLH *i* IAML 12 29 29.0
comp=N,753nm,0.4s
APMY Acipayam-Deniz 1.50 26 Pn **Pn** **12 29 09.9 +0.7**
AKUM Antalya-Kumluc 1.53 82 P **Pn** **12 29 11.1 +1.6**
AKUM S **Sn** **12 29 29.2 +0.4**
AKUM *i* IAML 12 29 32.0
comp=E,238nm,0.5s
DNIZ Denizli-Tavas- 1.57 17 P **Pn** **12 29 10.6 +0.6**
DNIZ S **Sn** **12 29 29.6 -0.1**
DNIZ *i* IAML 12 29 30.0
comp=N,3µm,0.2s
AYDN Tasoluk 1.60 343 P **Pn** **12 29 11.4 +0.9**
AYDN S **Sn** **12 29 29.5 -1.1**
AYDN *i* IAML 12 29 31.0
comp=N,1µm,0.5s
ESEN Aydn-Nazilli 1.67 357 P **Pn** **12 29 11.5 +0.2**
ESEN S **Sn** **12 29 30.5 -1.6**
ESEN *i* IAML 12 29 35.0
comp=N,170nm,0.5s
KORT Korkueli 1.75 60 P **Pn** **12 29 14.7 +2.2**
KORT S **Sn** **12 29 36.5 +2.3**
KORT *i* IAML 12 29 42.0
comp=E,374nm,0.6s
INCE Denizli-Bozkur 1.81 29 P **Pn** **12 29 14.2 +0.8**
INCE S **Sn** **12 29 35.8 +0.1**
INCE *i* IAML 12 29 37.0
comp=N,352nm,0.5s
NAZL Nazilli-Aydin 1.84 356 Pn **Pn** **12 29 13.9 +0.3**
GCAM G?zelcaml? 1.86 328 P **Pn** **12 29 13.9 +0.1**
GCAM S **Sn** **12 29 34.4 -2.0**
GCAM *i* IAML 12 29 36.0
comp=E,282nm,0.2s
AYDB Zeytinkoy-Aydi 1.88 346 Pn **Pn** **12 29 14.1 -0.1**
ANTB Antalya 1.93 66 Pn **Pn** **12 29 16.4 +1.7**
BRDR BURDUR-Merkez 2.02 39 P **Pn** **12 29 17.1 +1.0**
BRDR S **Sn** **12 29 39.5 -1.1**
BRDR *i* IAML 12 29 43.0
comp=E,78nm,0.3s
SMG Samos 2.05 321 P **Pn** **12 29 16.1 -0.3**
SMG Samos 2.05 321 P **Pn** **12 29 16.1 -0.3**
BUCA Burdur, Bucak- 2.07 54 P **Pn** **12 29 18.6 +1.9**
BUCA S **Sn** **12 29 42.2 +0.6**
BUCA *i* IAML 12 29 45.0
comp=E,135nm,0.4s
ZKR Zakros 2.09 242 Pn **Pn** **12 29 18.2 +1.3**
ZKR Zakros 2.09 242 P **Pn** **12 29 18.5 +1.6**
ZKR AML AML 12 29 43.6
1.7nm,0.5s
ZKR S **Sn** **12 29 43.9 +1.9**
ZKR AML AML 12 29 44.7
0.7nm,0.5s
ZKR Zakros 2.09 242 P **Pn** **12 29 18.2 +1.3**
ODEM Odemis-Izmir 2.17 352 Pn **Pn** **12 29 17.9 -0.2**
KRL1 Karlovasi Samo 2.18 320 P **Pn** **12 29 17.9 -0.2**
BASM Basmaki-Afyon 2.19 35 Pn **Pn** **12 29 19.5 +1.1**
DGB zmir 2.30 327 P **Pn** **12 29 19.6 -0.1**
DGB S **Sn** **12 29 43.8 -3.3**
DGB *i* IAML 12 29 47.0
comp=E,63nm,0.2s
ISP Isparta 2.36 44 Pn **Pn** **12 29 21.6 +0.9**
ISP Isparta 2.36 44 P **Pn** **12 29 21.7 +0.9**
ISP Isparta 2.36 44 P Pn 12 29 13.7 -7.0
ISP Isparta 2.36 44 S **Sn** **12 29 42.1 -6.7**
PASA Karahalli, USA 2.37 20 P **Pn** **12 29 20.7 0.0**
PASA S **Sn** **12 29 47.1 -1.7**
PASA *i* IAML 12 29 49.0
comp=N,161nm,0.4s
THERA Ancient Thera, 2.43 277 P **Pn** **12 29 21.9 +0.4**
THERA Ancient Thera, 2.43 277 P **Pn** **12 29 22.0 +0.6**
NPS Neapolis 2.48 250 P **Pn** **12 29 22.6 +0.6**
SNT5 Nea Kammeni, S 2.50 277 P **Pn** **12 29 23.4 +1.0**
USAK Uak-Merkez 2.62 10 P **Pn** **12 29 24.3 +0.2**
USAK S **Sn** **12 29 53.3 -1.7**
USAK *i* IAML 12 30 23.0
comp=N,69nm,1.7s
ZEYE Izmir, Urla-Ze 2.63 324 P **Pn** **12 29 23.2 -0.9**
ZEYE S **Sn** **12 29 51.5 -3.5**
ZEYE *i* IAML 12 29 53.0
comp=N,62nm,0.4s
SEDI Konya, Seydise 2.96 62 P **Pn** **12 29 31.3 +2.5**
SEDI S **Sn** **12 30 05.4 +2.2**
SEDI *i* IAML 12 30 11.0
comp=N,169nm,0.6s
IDI Anoyia 3.03 255 Pn **Pn** **12 29 30.2 +0.6**
IDI Anoyia 3.03 255 P **Pn** **12 29 29.9 +0.2**
IDI Anoyia 3.03 255 P **Pn** **12 29 29.6 0.0**
5.7nm,0.3s,baz=356,slow=2.1,SNR=46
IDI S **Sn** **12 30 02.9 -1.9**
101nm,0.5s,baz=199,slow=9.8,SNR=28
14nm,0.3s
IDI Anoyia 3.03 255 P **Pn** **12 29 29.6 0.0**
GAZI Gazipasa 3.12 87 P **Pn** **12 29 31.2 +0.4**
GAZI S **Sn** **12 30 05.3 -1.7**
GAZI *i* IAML 12 30 07.0
comp=N,209nm,0.4s
DOGA KONYA_Doganhis 3.23 51 P **Pn** **12 29 34.7 +2.2**
DOGA S **Sn** **12 30 10.3 +0.3**
DOGA *i* IAML 12 30 13.0
comp=E,87nm,0.4s
AKMS Akamas 3.34 108 P **Pn** **12 29 34.4 +0.5**
AKMS S **Sn** **12 30 11.0 -1.5**
AKMS AML AML 12 30 14.5
0.4nm,0.2s
AKMS AML AML 12 30 15.7
0.4nm,0.3s
UCKU Afyonkarahisar 3.44 42 P **Pn** **12 29 36.8 +1.5**
UCKU S **Sn** **12 30 13.1 -1.9**
UCKU *i* IAML 12 30 16.0
comp=E,26nm,0.3s
ALFC Alefka 3.50 105 P **Pn** **12 29 36.6 +0.5**
ALFC S **Sn** **12 30 15.9 -0.5**
ALFC AML AML 12 30 19.4
0.4nm,0.2s
ALFC AML AML 12 30 20.4
0.4nm,0.2s
NATA Nata 3.61 111 P **Pn** **12 29 38.6 +1.1**
NATA S **Sn** **12 30 18.7 -0.3**
NATA AML AML 12 30 21.3
0.7nm,0.5s
NATA AML AML 12 30 23.5
0.7nm,0.3s
TROD Troodos 3.78 107 P **Pn** **12 29 40.1 +0.1**
TROD S **Sn** **12 30 22.6 -0.8**
TROD AML AML 12 30 28.7
0.1nm,0.6s
TROD AML AML 12 30 31.9
0.2nm,0.4s
GVD Gavdhos 3.79 252 Pn **Pn** **12 29 41.2 +1.2**
XYLS Xyliatos 3.90 105 P **Pn** **12 29 41.8 +0.3**
XYLS S **Sn** **12 30 25.7 -0.4**
XYLS AML AML 12 30 27.5
0.3nm,0.3s
XYLS AML AML 12 30 28.5
0.3nm,0.2s
KNDR Palaiochora Ch 3.99 259 Pn **Pn** **12 29 44.6 +1.9**
ASGA Asgata 4.13 107 P **Pn** **12 29 46.3 +1.7**
ASGA S **Sn** **12 30 32.1 +0.5**
ASGA AML AML 12 30 33.2
0.2nm,0.4s
ASGA AML AML 12 30 33.9
0.2nm,0.1s
CSS Mathiatis 4.13 105 P Pn 12 29 38.8 -5.9
CSS Mathiatis 4.13 105 S **Sn** **12 30 27.6 -4.2**
MVOU Mavrovouni 4.36 103 P **Pn** **12 29 49.0 +1.3**
MVOU S **Sn** **12 30 36.9 -0.3**
MVOU AML AML 12 30 38.9
0.2nm,0.3s
MVOU AML AML 12 30 40.4
0.1nm,0.2s
KTHA Kythira Island 4.37 273 Pn **Pn** **12 29 48.6 +0.7**
MATC Matruh 4.88 193 P **Pn** **12 29 55.5 +0.7**
SLUM Salum 5.36 211 P **Pn** **12 30 01.9 +0.6**
SLUM S **Sn** **12 30 57.7 -4.0**
ITM Ithomi 5.36 283 Pn **Pn** **12 30 01.7 +0.3**
BRTR Keskin Array B 5.45 47 P **Pn** **12 30 02.5 -0.2**
0.3nm,0.3s,baz=218,slow=16,SNR=5.3
BRTR S **Sn** **12 31 02.2 -1.8**
6.5nm,0.5s,baz=218,slow=25,SNR=14
0.9nm,0.5s
MMA0B Mount Meron ar 6.51 116 P Pn 12 30 12.0 -5.2
MMA0B Mount Meron ar 6.51 116 S **Sn** **12 31 26.2 -3.9**
MMAI Mount Meron Ar 6.51 116 P **Pn** **12 30 16.2 -0.9**
2.4nm,0.3s,baz=311,slow=11,SNR=9.3
MMAI S **Sn** **12 31 26.6 -3.4**
3.2nm,0.3s,baz=303,slow=25,SNR=7.0
GEM Giv'at Ha'Em 6.61 114 P Pn 12 30 12.5 -5.9
GEM Giv'at Ha'Em 6.61 114 S **Sn** **12 31 28.7 -3.6**
NATI Neve Ativ 6.64 113 P Pn 12 30 13.2 -5.6
NATI Neve Ativ 6.64 113 S **Sn** **12 31 28.4 -4.5**
HNAT Natroun 6.72 164 P **Pn** **12 30 21.3 +1.2**
KOT Kottamia 6.79 154 P **Pn** **12 30 20.1 -0.9**
KSHT Keshet 6.82 115 P Pn 12 30 15.5 -6.0
KSHT Keshet 6.82 115 S **Sn** **12 31 34.2 -3.5**
HHAG Hagoal 6.87 153 P **Pn** **12 30 24.0 +1.9**
HMDT Nahal Hemdat 7.01 121 P Pn 12 30 18.2 -5.7
HMDT Nahal Hemdat 7.01 121 S **Sn** **12 31 37.4 -4.7**
KZIT Kziot 7.18 135 P Pn 12 30 20.4 -6.0
KZIT Kziot 7.18 135 S **Sn** **12 31 41.9 -4.5**
RYAN Fayoum 7.19 167 P **Pn** **12 30 27.5 +1.1**
SWA2 7.32 201 P **Pn** **12 30 28.3 +0.1**
DSI Dead Sea 7.33 126 P Pn 12 30 23.0 -5.3
ZAF Zafarana 7.64 152 P **Pn** **12 30 33.6 +1.0**
NBNS Bani Suef 7.85 161 P **Pn** **12 30 35.8 +0.3**
PRNI Paran 7.95 135 P Pn 12 30 31.1 -5.6
PRNI Paran 7.95 135 S **Sn** **12 32 00.5 -4.6**
KRMI Paran Flat 7.96 137 P Pn 12 30 31.2 -5.9
KRMI Paran Flat 7.96 137 S **Sn** **12 32 00.7 -4.9**
MBRI Mt Berech 8.32 138 P Pn 12 30 36.8 -5.1
MBRI Mt Berech 8.32 138 S **Sn** **12 32 10.5 -3.9**
EIL Elat 8.44 138 P **Pn** **12 30 43.1 -0.3**
baz=322,slow=6.6,SNR=2.0
EIL S **Sn** **12 32 13.8 -3.2**
0.7nm,0.8s,baz=208,slow=9.4,SNR=8.5
0.2nm,0.6s
HKAT Jabal Katrina 8.90 147 P **Pn** **12 30 50.3 +0.3**
HFRF Wahat Farafira 8.95 181 P **Pn** **12 30 51.1 +0.6**
GERES GERESS Array B 16.70 324 P **P** **12 32 34.8 +0.5**
baz=114,slow=11,SNR=3.0
0.4nm,0.5s
FINES FINESS Array B 25.39 357 P **P** **12 34 03.2 -0.8**
1.4nm,0.8s,baz=164,slow=15,SNR=5.4
1.4nm,0.8s
TORD Torodi Ar. Bea 33.20 233 P **P** **12 35 14.4 +0.6**
0.7nm,0.4s,baz=34,slow=9.0,SNR=12
0.7nm,0.4s
ARCES ARCESS Array B 33.51 358 P **P** **12 35 15.3 -0.6**
0.6nm,0.8s,baz=175,slow=11,SNR=1.5
0.6nm,0.8s
MKAR Makanchi Array 40.99 58 P **P** **12 36 20.6 +1.1**
0.8nm,0.7s,baz=272,slow=6.9,SNR=7.3
0.8nm,0.7s
DBIC Dimbokro 42.29 234 P **P** **12 36 30.7 +0.3**
0.9nm,0.3s,baz=64,slow=7.1,SNR=4.6
0.9nm,0.3s
ZALV Zalesovo Beam 42.39 47 P **P** **12 36 31.1 +0.3**
0.6nm,0.5s,baz=253,slow=4.4,SNR=2.4
0.6nm,0.5s

IDC ***28*** *12:32:33.6±0.6, 42.°73N×148.°53E, h0km, mb4.2/26, mbtmp4.2/33, ML4.0/6, MS3.6/25, Error ellipse: s-maj=14.8km s-min=12.6km az=147.0*

NEIC ***28*** *12:32:35.3±1.0, 42.°62N±0.°09×148.°4E±0.°1, h10km±1km, mb4.7/155, Error ellipse: s-maj=17.6km s-min=12.4km az=141.0*

NIED ***28*** *12:32:36.4, 42.°82N×148.°16E, h17km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.31; Mθθ-0.22; Mφφ-0.09; Mrθ 1.07; Mrφ 0.03; Mθφ-0.49; Fault plane solution: M₀1.21000×10¹⁶ NP1: φs281.00000°, δ7.00000°, λ77.00000°. NP2:φs114.00000°, δ84.00000°, λ91.00000°.*

JMA ***28*** *12:32:36.4±0.3, 43.°N±1.°×14.°8E±.°, h17km, MV4.6/33, E OFF HOKKAIDO*

SKHL ***28*** *12:32:37.2±0.3, 42.°80N×148.°30E, h33km±5km, mb5.0/4*

MOS ***28*** *12:32:37.2±1.3, 42.°78N×148.°36E, h33km, mb4.9/29, Error ellipse: s-maj=7.0km s-min=5.3km az=118.1*

ISC 28 12:32:34.8±1.0, 42.°73N±0.°05×148.°37E±0.°04, h7km±5km, n538, σ1ŝ40/501, mb4.6/122, MS3.7/26, 8C-15D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
NEM2	**Nemuro 2**	**2.02**	**289**	P		**Pn**	**12 33 08.1**	**-1.2**
NEM2				S		**Sn**	**12 33 31.6**	**-3.2**
NMR	**Nemuro--Hokkai**	**2.04**	**289**	⇑*i*	PN	**Pn**	**12 33 08.1**	**-1.3**
NMR				*i*	S	**Sn**	**12 33 31.7**	**-3.4**
NMR	**Nemuro--Hokkai**	**2.04**	**289**	*i*	P	**Pn**	**12 33 08.3**	**-1.1**
NMR				AMB	AMB	AMB	12 33 09.0	
280nm,0.3s								
NMR				*i*	S	**Sn**	**12 33 32.0**	**-3.1**
NMR				A	A	A	12 33 32.7	
2µm,0.6s								
NMR				A	A	A	12 33 32.7	
2µm,0.6s								
YUK	**Yuzh-Kuril'sk**	**2.24**	**306**	*d*	PN	**Pn**	**12 33 11.0**	**-1.2**
YUK				*i*	S	**Sn**	**12 33 36.1**	**-4.1**
YUK				pmax	pmax			
comp=N,20nm,0.2s								
YUK				pmax	pmax			
comp=Z,310nm,0.2s								
YUK				smax	smax			
comp=E,2µm,0.4s								
YUK				smax	smax			
comp=N,702nm,0.3s								
YUK				smax	smax			
comp=E,3µm,0.8s								
YUK	**Yuzh-Kuril'sk**	**2.24**	**306**	*i*	P	**Pn**	**12 33 11.1**	**-1.2**
YUK				AMB	AMB	AMB	12 33 11.6	
comp=E,340nm,0.3s								
YUK				*e*	S	**Sn**	**12 33 36.4**	**-3.8**
YUK				A	A	A	12 33 41.9	
comp=E,4µm,0.8s								
YUK				A	A	A	12 33 41.9	
comp=E,3µm,0.8s								
YUK				A	A	A	12 33 47.7	
comp=E,2µm,0.6s								
YUK				A	A	A	12 33 47.7	
comp=E,2µm,0.6s								
JKHN	**Kushirohamanak**	**2.38**	**280**	*i*	P	**Pn**	**12 33 13.5**	**-0.7**
JKHN				S		**Sn**	**12 33 41.0**	**-2.7**
KUR	**Kuril'sk**	**2.52**	**352**	*c*	PN	**Pn**	**12 33 13.8**	**-2.4**
KUR				pmax	pmax			
comp=Z,233nm,0.6s								
KUR				pmax	pmax			
comp=N,97nm,0.3s								
KUR	**Kuril'sk**	**2.52**	**352**	*i*	P	**Pn**	**12 33 14.9**	**-1.3**
KUR				AMB	AMB		12 33 16.6	
comp=N,210nm,0.5s								
KUR				*e*	S	**Sn**	**12 33 43.1**	**-4.0**
KUR				A	A		12 33 48.9	
comp=N,2µm,0.7s								
KUR				A	A		12 33 48.9	
comp=N,640nm,0.7s								
AKK	**Akkeshi**	**2.61**	**277**	*i*	P	**Pn**	**12 33 16.7**	**-0.6**
AKK				*e*	S	**Sn**	**12 33 46.3**	**-2.9**
RUSJ	**Misakicho**	**2.65**	**302**	⇑*i*	PN	**Pn**	**12 33 17.4**	**-0.5**
RUSJ				*i*	S	**Sn**	**12 33 49.7**	**-0.6**
JRA	**Rausu**	**2.66**	**298**	*e*	P	**Pn**	**12 33 17.3**	**-0.7**
JRA				*e*	S	**Sn**	**12 33 46.8**	**-3.6**
JNSB	**Nemuroshibetsu**	**2.67**	**294**	*e*	P	**Pn**	**12 33 17.2**	**-0.9**
JNSB				*e*	S	**Sn**	**12 33 47.6**	**-3.1**
JAK	**Akkeshi**	**2.71**	**277**	P		**Pn**	**12 33 18.0**	**-0.7**
JAK				*e*	S	**Sn**	**12 33 48.2**	**-3.5**
JNK	**Nakash**	**2.80**	**289**	P		**Pn**	**12 33 18.9**	**-1.1**
JNK				*e*	S	**Sn**	**12 33 50.1**	**-4.0**
JOB	**Onbets**	**3.34**	**274**	P		**Pn**	**12 33 27.1**	**-0.3**
JAR	**Ashorobuto**	**3.42**	**281**	*e*	P	**Pn**	**12 33 28.0**	**-0.4**
JAR				*e*	S	**Sn**	**12 34 05.7**	**-3.5**
JTKR	**Abashiri--Toko**	**3.48**	**292**	*e*	P	**Pn**	**12 33 29.1**	**-0.2**
JTKR				*e*	S	**Sn**	**12 34 08.3**	**-2.4**
JCH	**Churui**	**3.69**	**270**	P		**Pn**	**12 33 32.5**	**+0.3**
JCH				*e*	S	**Sn**	**12 34 12.1**	**-3.9**
ERM	**Erimo**	**3.93**	**261**			**Pn**	**12 33 36.2**	**+0.7**
ERM	**Erimo**	**3.93**	**261**	*c*	PN	**Pn**	**12 33 37.3**	**+1.9**
ERM					pmax	pmax		
comp=Z,116nm,0.7s								
JNBK	**Urakawa-nobuka**	**4.18**	**266**	*e*	P	**Pn**	**12 33 38.6**	**-0.2**
JKK2	**Kamakawa 2**	**4.26**	**287**	*e*	P	**Pn**	**12 33 40.7**	**+0.7**
JKA	**Kamikawa-asahi**	**4.42**	**290**			**Pn**	**12 33 43.3**	**+1.1**
ASAJ	**Asahikawa**	**4.42**	**290**	Pn		**Pn**	**12 33 43.5**	**+1.3**
comp=Z,6.5nm,0.3s,baz=108,slow=11,SNR=41								
ASAJ					Sn	**Sn**	**12 34 36.4**	**+2.3**
comp=Z,3.1nm,0.3s,baz=346,slow=22,SNR=6.8								
ASAJ					LR	LR	12 35 45.7	
comp=Z,254nm,20.2s,baz=104,slow=42								
comp=Z,32nm,0.5s								
JEW	**Eniwo**	**5.09**	**274**	*e*	P	**Pn**	**12 33 52.2**	**+0.7**
JOT	**Ohata**	**5.61**	**259**	*e*	P	**Pn**	**12 33 58.2**	**-0.4**
JOT				*e*	S	**Sn**	**12 34 58.6**	**-4.8**
JANG	**Nango**	**5.66**	**248**	*e*	P	**Pn**	**12 33 57.5**	**-1.7**
JANG				*e*	S	**Sn**	**12 34 57.1**	**-7.2**
JTM	**Tenmabayashi**	**5.79**	**253**			**Pn**	**12 34 01.1**	**0.0**
YSS	**Yuzhno-Sakhali**	**5.81**	**319**			**Pn**	**12 34 02.8**	**+1.6**
YSS	**Yuzhno-Sakhali**	**5.81**	**319**	*e*	PN	**Pn**	**12 34 01.4**	**+0.2**
YSS					pmax	pmax		
comp=Z,10.0nm,0.7s								
YSS					MLR	MLR		
comp=Z,500nm,12.0s								
YSS					MLR	MLR		
comp=N,500nm,13.0s								
YSS	**Yuzhno-Sakhali**	**5.81**	**319**	*e*	P	**Pn**	**12 34 01.6**	**+0.4**
YSS				*e*	S	**Sn**	**12 35 05.2**	**-2.8**
JOM	**Ohasama**	**6.26**	**241**	*e*	P	**Pn**	**12 34 06.1**	**-1.4**
JMM	**Marumori**	**7.56**	**232**	Pn		**Pn**	**12 34 23.1**	**-2.2**
TEY	**Ternei**	**8.80**	**289**	*e*	Pn	**Pn**	**12 34 46.4**	**+4.0**
TEY	**Ternei**	**8.80**	**289**	*e*	P	**Pn**	**12 34 45.5**	**+3.1**
TEY					AMB	AMB	12 34 49.5	
comp=N,30nm,0.6s								
TYV	**Tymovskoe**	**9.02**	**336**	*e*	PN	**Pn**	**12 34 46.8**	**+1.4**
TYV					pmax	pmax		
comp=Z,10.0nm,5.2s								
TYV					pmax	pmax		
comp=Z,5.0nm,1.1s								
TYV	**Tymovskoe**	**9.02**	**336**	*e*	P	**Pn**	**12 34 46.8**	**+1.4**
TYV				*e*	S	**Sn**	**12 36 23.3**	**-3.8**
SKR	**Severo-Kuril's**	**9.56**	**31**	*e*	PN	**Pn**	**12 34 51.9**	**-0.8**
SKR					pmax	pmax		
comp=Z,49nm,0.8s								
SKR					MLR	MLR		
comp=Z,300nm,13.0s								
SKR	**Severo-Kuril's**	**9.56**	**31**	*e*	P	**Pn**	**12 34 52.9**	**+0.2**
MAJO	**Matsushiro**	**9.98**	**235**			**Pn**	**12 34 58.4**	**-0.1**
MAJO	**Matsushiro**	**9.98**	**235**	⇑*i*	PN	**Pn**	**12 34 58.6**	**+0.1**
MAJO					pmax	pmax		
comp=Z,9.0nm,0.9s								
MJAR	**Matsushiro Arr**	**9.98**	**235**	Pn		**Pn**	**12 34 57.7**	**-0.8**
MJAR	**Matsushiro Arr**	**9.98**	**235**	Pn		**Pn**	**12 34 58.7**	**+0.2**
comp=Z,1.4nm,0.6s,baz=46,slow=9.6,SNR=8.7								
MJB9	**Matsu-Tunnel**	**9.98**	**235**			**Pn**	**12 34 58.2**	**-0.4**
PAU	**Pauzhetka**	**10.45**	**30**	*e*	P	**Pn**	**12 35 03.6**	**-1.3**
PAU					AMB	AMB	12 35 12.7	
comp=Z,30nm,0.6s								
OKH	**Okha**	**11.41**	**343**	*e*	P	**Pn**	**12 35 18.6**	**+0.6**
OKH					AMS	AMS	12 41 41.6	
comp=Z,400nm,14.0s								
GRNR	**Gornyy**	**11.47**	**319**	⇓*i*	PN	**Pn**	**12 35 20.6**	**+1.8**
GRNR					pmax	pmax		
comp=Z,3.0nm,0.8s								
GRNR					MLR	MLR		
comp=E,180nm,16.0s								
GRNR					MLR	MLR		
comp=Z,220nm,16.0s								
GRNR					MLR	MLR		
comp=N,230nm,15.0s								
GRNR	**Gornyy**	**11.47**	**319**	*e*	P	**Pn**	**12 35 20.2**	**+1.4**
NKL	**Nikolayevsk**	**11.62**	**336**	*e*	P	**Pn**	**12 35 19.6**	**-1.3**
USA0B	**Ussuriysk Arra**	**11.99**	**283**	Pn		**Pn**	**12 35 26.0**	**0.0**
USA0B	**Ussuriysk Arra**	**11.99**	**283**	⇓*i*	PN	**Pn**	**12 35 26.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**11.99**	**283**	Pn		**Pn**	**12 35 26.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**11.99**	**283**	Pn		**Pn**	**12 35 26.6**	**+0.5**
comp=N,0.3nm,0.3s,baz=92,slow=15,SNR=7.7								
comp=N,3.1nm,0.7s								
USRK	**Ussuriysk Ar.**	**11.99**	**283**	PN		**Pn**	**12 35 26.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**12.11**	**28**	Pn		**Pn**	**12 35 27.2**	**-0.4**
PEA0B	**Petropavlovsk-**	**12.11**	**28**	⇓*i*	PN	**Pn**	**12 35 28.0**	**+0.4**
PETK	**Petropavlovsk-**	**12.11**	**28**	Pn		**Pn**	**12 35 26.9**	**-0.7**
PETK	**Petropavlovsk-**	**12.11**	**28**	Pn		**Pn**	**12 35 25.9**	**-1.7**
comp=N,0.6nm,0.3s,baz=204,slow=10.0,SNR=5.1								
PETK					LR	LR	12 40 58.4	
comp=N,77nm,19.2s,baz=239,slow=42								
comp=N,3.1nm,0.6s								
PETK	**Petropavlovsk-**	**12.11**	**28**	PN		**Pn**	**12 35 26.9**	**-0.7**
MSHR	**Mys Shultsa**	**12.68**	**275**	⇓*i*	PN	**Pn**	**12 35 35.9**	**+0.5**
MSHR					pmax	pmax		
comp=Z,30nm,1.1s								
MDJ	**Mudanjiang**	**13.72**	**284**	Pn		**Pn**	**12 35 50.3**	**+0.7**
BNX	**BinXian**	**15.32**	**288**	⇓P		**Pn**	**12 36 10.5**	**-0.8**
BNX				S		**Sn**	**12 39 04.0**	**+2.9**
BNX				PcP		**PcP**	**12 41 15.5**	**-0.6**
BNX				pmax		pmax		
comp=Z,13nm,0.7s								
BNX				pmax		pmax		
comp=Z,71nm,3.3s								
BNX				LR		LR		
comp=Z,300nm,15.7s								
BNX				LR		LR		
comp=Z,310nm,18.6s								
BNX				LR		LR		
comp=Z,380nm,15.7s								
HEH	**HeiHe**	**16.24**	**305**	*e*	P	**Pn**	**12 36 24.0**	**+0.8**
HEH					pmax	pmax		
comp=Z,6.0nm,0.8s								
HEH					LR	LR		
comp=Z,380nm,15.1s								
HEH					LR	LR		
comp=Z,400nm,16.1s								
HEH					LR	LR		
comp=Z,520nm,14.7s								
JCJ	**Chichijima**	**16.40**	**200**		LR	LR	12 41 11.4	
comp=Z,88nm,21.1s,baz=65,slow=32								
KSRS	**Korea Array**	**16.50**	**258**	Pn		**Pn**	**12 36 27.4**	**+0.8**
comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=4.3								
comp=Z,1.0nm,0.7s								
KS19	**Wonju Array Si**	**16.52**	**258**	Pn		**Pn**	**12 36 26.4**	**-0.5**
KSAR	**Wonju Array Be**	**16.53**	**258**	Pn		**Pn**	**12 36 26.6**	**-0.4**
KSAR	**Wonju Array Be**	**16.53**	**258**	P		**Pn**	**12 36 26.6**	**-0.4**
CN2	**Changchun**	**16.72**	**281**	P		**P**	**12 36 31.0**	**-0.7**
CN2					pmax	pmax		
comp=Z,10.0nm,0.6s								
CN2					LR	LR		
comp=Z,200nm,13.0s								
CN2					LR	LR		
comp=Z,200nm,13.0s								
CN2					LR	LR		
comp=Z,300nm,15.0s								
JNU	**Nakatsue**	**16.78**	**241**			**Pn**	**12 36 29.2**	**-1.0**
JNU				IAmb		IAmb	12 36 40.9	
comp=Z,94nm,1.5s								
JNU	**Nakatsue**	**16.78**	**241**	Pn		**Pn**	**12 36 30.9**	**+0.7**
comp=Z,0.6nm,0.3s,baz=126,slow=4.4,SNR=6.7								
comp=Z,8.0nm,0.8s								
MA2	**Magadan**	**16.93**	**4**	P		**Pn**	**12 36 30.8**	**-1.1**
MA2	**Magadan**	**16.93**	**4**	Pn		**Pn**	**12 36 31.1**	**-0.8**
comp=Z,0.3nm,0.3s,baz=169,slow=16,SNR=4.3								
comp=Z,1.4nm,0.4s								
MA2	**Magadan**	**16.93**	**4**	P		**Pn**	**12 36 30.8**	**-1.1**
MA2					pmax	pmax		
comp=Z,10.0nm,1.0s								
ZEA	**Zeya**	**17.79**	**316**	*e*	P	**P**	**12 36 44.5**	**+1.0**
ZEA					MLR	MLR		

comp=Z,300nm,16.0s
ZEA Zeya 17.79 316 *e*P **Pn 12 36 40.1 -2.6**
ZEA AMS AMS 12 45 05.0
comp=Z,300nm,16.0s
SEY Seymchan 20.37 5 P **P 12 37 10.0 -1.7**
comp=Z,6.8nm,1.1s,baz=173,slow=9.7,SNR=7.7
comp=Z,6.8nm,1.1s
SEY Seymchan 20.37 5 *e*P **P 12 37 09.3 -2.4**
SEY pmax pmax
comp=Z,9.0nm,1.2s
HIA Hailar 20.85 298 P **P 12 37 15.6 -1.4**
HIA IAmb IAmb 12 37 18.3
comp=Z,21nm,0.8s
HIA Hailar 20.85 298 P **P 12 37 15.6 -1.4**
HIA pmax pmax
comp=Z,21nm,0.8s
JMZ Minamidaito 2 21.96 225 P **P 12 37 26.1 -3.0**
YAK Yakutsk 22.28 337 P **P 12 37 28.7 -3.6**
YAK IAmb IAmb 12 37 47.5
comp=Z,21nm,0.8s
YAK Yakutsk 22.28 337 P **P 12 37 32.2 0.0**
comp=Z,17nm,0.6s,baz=322,slow=17,SNR=7.1
YAK LR LR 12 47 38.3
comp=Z,225nm,18.5s,baz=186,slow=40
comp=Z,17nm,0.6s
YAK Yakutsk 22.28 337 *e*P **P 12 37 28.4 -3.8**
YAK *e**PP **sP 12 37 32.8 +0.3**
YAK *e*S **S 12 41 33.5 -3.9**
YAK pmax pmax
comp=Z,6.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK smax smax
comp=E,9.0nm,1.0s
YAK smax smax
comp=N,24nm,1.3s
YAK MLR MLR
comp=Z,255nm,16.0s
YAK MLR MLR
comp=N,90nm,14.0s
YAK MLR MLR
comp=E,166nm,17.0s
XLT XiLinHaoTe 23.45 284 *e*P **P 12 37 44.5 -0.2**
XLT pP sP 12 37 48.3 +3.4
XLT S **S 12 41 53.5 -4.8**
XLT SS **SnSn 12 42 41.3 +8.0**
XLT pmax pmax
comp=E,6.0nm,1.0s
XLT LR LR
comp=E,190nm,9.7s
XLT LR LR
comp=E,170nm,16.4s
BJI Beijing 24.23 275 P **P 12 37 54.0 +2.0**
BJI pmax pmax
comp=E,4.0nm,0.6s
BJT Baijiatuau 24.24 275 P **P 12 37 52.1 -0.1**
BJT Baijiatuau 24.24 275 P **P 12 37 52.1 -0.1**
BJT pmax pmax
comp=Z,9.0nm,1.0s
TIA Tai'an 24.89 265 P **P 12 37 58.5 +0.4**
TIA pmax pmax
comp=Z,5.0nm,1.0s
KIWB Kanaga Island 24.90 57 P **P 12 37 57.8 -0.2**
ADK Adak 25.19 57 P **P 12 38 00.2 -0.4**
ADK Adak 25.19 57 P **P 12 38 00.2 -0.4**
ADK pmax pmax
comp=Z,81nm,1.4s
NJ2 Nanjing 25.64 255 *e*P **P 12 38 04.5 -0.4**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
BILL Bilibino 27.10 15⇩ *e*P **P 12 38 18.6 +0.8**
BILL pmax pmax
comp=Z,22nm,2.8s
BILL Bilibino 27.10 15 *e*P **P 12 38 18.6 +0.8**
HHC Hu-ho-hao-te 27.37 279 *e*P **P 12 38 22.0 +1.4**
GUMO Guam 29.20 187 LR LR 12 48 16.8
comp=Z,40nm,21.4s,baz=336,slow=32
ULN Ulaanbaatar 29.25 295 **P 12 38 37.5 +0.1**
ULN Ulaanbaatar 29.25 295 *i* P **P 12 38 38.3 +0.9**
ULN pmax pmax
comp=Z,11nm,0.9s
ULN Ulaanbaatar 29.25 295 *e*P **P 12 38 38.3 +0.9**
SONM Songino Array 29.69 295 P **P 12 38 42.8 +1.5**
SONM Songino Array 29.69 295 P **P 12 38 43.1 +1.8**
comp=Z,12nm,0.8s,baz=84,slow=7.7,SNR=42
SONM LR LR 12 52 49.7
comp=Z,262nm,18.5s,baz=104,slow=41
comp=Z,12nm,0.8s
SONM Songino Array 29.69 295 P **P 12 38 42.8 +1.5**
SONM pmax pmax
comp=Z,18nm,0.8s
SPIA Saint Paul Isl 29.76 47 P **P 12 38 40.7 -0.8**
baz=259
P08K Saint George I 30.03 48 P **P 12 38 42.5 -1.4**
baz=260
NIKH Nikolski High 30.06 55 P **P 12 38 42.9 -1.4**
baz=267
TIXI Tiksi 30.54 348 LR LR 12 52 19.7
comp=Z,88nm,18.7s,baz=222,slow=39
GAMB Gambell 31.05 34 P **P 12 38 52.5 -0.4**
baz=246
ZAK Zakamensk 31.52 300 *e*P **P 12 38 57.8 +0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
ZAK Zakamensk 31.52 300 *e*P **P 12 38 57.8 +0.4**
M11K Mekoryuk 32.47 41 P **P 12 39 04.5 -0.9**
baz=258
TNA Tin City 33.24 32 P **P 12 39 11.6 -0.5**
baz=248
K13K Kusilvak Mount 33.54 39 P **P 12 39 14.2 -0.5**
baz=257
F14K Arctic Creek 33.83 32 P **P 12 39 16.5 -0.8**
baz=250
M13K Dall Lake 33.87 42 P **P 12 39 16.9 -0.7**
M13K Dall Lake 33.87 42 P **P 12 39 16.6 -1.0**
baz=260
ANM Nome 33.92 34 P **P 12 39 16.5 -1.5**
baz=252
S12K Black Hills 34.12 50 P **P 12 39 18.8 -1.2**
baz=269
J14K Nanvaranak Lak 34.23 38 P **P 12 39 19.8 -0.9**
baz=257
L14K Kuka Creek 34.35 40 P **P 12 39 21.5 -0.2**
baz=260
F15K North Star Dit 34.56 32 P **P 12 39 22.7 -0.9**
baz=252
G15K Niukluk 34.59 34 P **P 12 39 23.6 -0.3**
baz=253
M14K Bethel 34.60 41 P **P 12 39 23.5 -0.4**
baz=261
N14K Kuskokwak Cree 34.62 43 P **P 12 39 23.6 -0.5**
baz=263
O14K Tigyukauivet M 34.76 44 P **P 12 39 24.9 -0.5**
baz=264
L15K Ungalak Mounta 34.97 40 P **P 12 39 26.4 -0.7**
baz=261
SDPT Sand Point 35.02 51 P **P 12 39 26.7 -0.9**
baz=271
K15K Wolf Creek Mou 35.05 39 P **P 12 39 27.3 -0.6**
baz=260
C16K Lisburne Hills 35.21 28 P **P 12 39 28.4 -0.7**
baz=247
M15K Kasigluk River 35.21 41 P **P 12 39 28.6 -0.7**
baz=263
H16K Elim 35.24 35 P **P 12 39 29.1 -0.3**
baz=256
G16K Koyuk River 35.39 33 P **P 12 39 30.3 -0.4**
baz=254
N15K Kwethluk River 35.45 42 P **P 12 39 31.2 -0.1**
baz=264
O15K Ungalikthiuk R 35.49 44 P **P 12 39 31.4 -0.3**
baz=266
S14K Fog Glacier 35.54 49 P **P 12 39 31.3 -1.0**
baz=270
CHNA Chernabura Isl 35.54 52 P **P 12 39 31.4 -0.7**
baz=272
J16K Anvik River 35.65 37 P **P 12 39 32.9 -0.2**
baz=259
I17K Unalakleet 35.73 36 P **P 12 39 33.5 -0.1**
baz=258
D17K Noatak River 35.80 29 P **P 12 39 33.5 -0.7**
baz=251
L16K Owhat River 35.92 40 P **P 12 39 35.6 +0.3**
L16K Owhat River 35.92 40 P **P 12 39 34.3 -1.0**
baz=262
RDOG Red Dog Mine 35.98 29 P **P 12 39 35.9 +0.1**
baz=250

C17K DeLong Mountai 36.03 28 P **P 12 39 35.4 -0.8**
baz=250
E17K Hotham Inlet 36.06 31 P **P 12 39 36.0 -0.5**
baz=253
M16K Timber Creek 36.09 41 P **P 12 39 36.6 -0.2**
M16K IAmb IAmb 12 39 56.4
comp=Z,10nm,1.2s
M16K Timber Creek 36.09 41 P **P 12 39 36.5 -0.2**
baz=264
G17K Kiwalik Mounta 36.10 33 P **P 12 39 36.3 -0.6**
baz=256
F17K Baldwin Pennin 36.10 32 P **P 12 39 36.2 -0.6**
baz=254
N16K Nishlik Lake 36.13 42 P **P 12 39 36.5 -0.7**
baz=265
CHGN Chignik 36.17 49 P **P 12 39 37.0 -0.5**
baz=271
H17K Granite Mounta 36.28 34 P **P 12 39 38.0 -0.4**
baz=258
J17K VABM Dome 36.35 37 P **P 12 39 38.6 -0.4**
baz=261
GTA Gaotai 36.36 282 *e*P **P 12 39 42.5 +3.0**
GTA sP pwP 12 39 49.5 +0.5
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA LR LR
comp=Z,120nm,15.9s
GTA LR LR
comp=Z,110nm,16.7s
GTA LR LR
comp=Z,150nm,17.5s
O16K Kokwok River B 36.41 44 P **P 12 39 38.4 -1.1**
baz=267
P16K Nushagak River 36.43 45 P **P 12 39 39.5 -0.2**
baz=268
L17K Donlin 36.53 39 P **P 12 39 40.0 -0.5**
baz=263
K17K Iditarod 36.60 38 P **P 12 39 40.0 -1.1**
baz=262
E18K Tukpahlearik C 36.62 30 P **P 12 39 40.5 -0.8**
baz=254
R16K Pilot Point 36.62 47 P **P 12 39 41.3 0.0**
baz=270
F18K Selawik 36.76 32 P **P 12 39 42.8 +0.4**
baz=256
C18K Utukok River 36.77 28 **P 12 39 43.5 +0.9**
C18K IAmb IAmb 12 39 46.5
comp=Z,8.6nm,0.8s
C18K Utukok River 36.77 28 P **P 12 39 42.3 -0.3**
baz=252
B18K Kokolik River 36.80 27 P **P 12 39 42.4 -0.3**
baz=250
M17K Holitna River 36.86 41 P **P 12 39 42.4 -1.0**
baz=265
N17K Nushagak Hills 36.91 42 P **P 12 39 43.2 -0.7**
baz=266
O17K Koliganek Bris 36.92 43 P **P 12 39 42.8 -1.1**
baz=267
H18K Honhosa River 36.97 34 P **P 12 39 43.9 -0.3**
baz=259
G18K Tagagawik 37.00 33 P **P 12 39 45.4 +0.9**
G18K Tagagawik 37.00 33 P **P 12 39 43.2 -1.3**
baz=258
Q16K King Salmon 37.11 45 P **P 12 39 44.1 -1.4**
baz=269
P17K Kvichak River 37.23 44 P **P 12 39 45.7 -0.8**
baz=269
R17L Mt. Peulik Vol 37.27 47 P **P 12 39 45.2 -1.7**
baz=271
L18K Granite Mounta 37.29 39 P **P 12 39 45.5 -1.5**
baz=264
A19K Wainwright 37.33 26 P **P 12 39 46.5 -0.8**
baz=250
J18K Innoko River 37.41 37 P **P 12 39 47.1 -1.0**
baz=263
C19K Lookout Ridge 37.47 28 IAmb IAmb 12 40 03.5
comp=Z,27nm,1.4s
C19K Lookout Ridge 37.47 28 P **P 12 39 48.1 -0.4**
baz=253
Q17K Contact Creek 37.52 46 P **P 12 39 48.6 -0.5**
baz=270
F19K Shaleruckik Mo 37.54 32 P **P 12 39 48.9 -0.2**
baz=257
N18K Kik Creek 37.56 42 P **P 12 39 49.0 -0.4**
baz=267
M18K Stony River 37.64 41 P **P 12 39 49.6 -0.3**
baz=266
G19K Purcell Mounta 37.67 33 P **P 12 39 49.9 -0.3**
baz=259
D19K Kuna River 37.81 29 IAmb IAmb 12 40 10.0
comp=Z,24nm,1.2s
D19K Kuna River 37.81 29 P **P 12 39 51.8 +0.4**
baz=255
H19K Roundabout Mou 37.82 34 IAmb IAmb 12 40 12.6
comp=Z,13nm,0.8s
H19K Roundabout Mou 37.82 34 P **P 12 39 50.9 -0.5**
baz=260,SNR=9.3
P18K Big Mountain, 37.86 44 P **P 12 39 50.8 -1.1**
baz=270
E19K Redstone River 37.89 31 IAmb IAmb 12 40 00.9
comp=Z,7.2nm,0.8s
E19K Redstone River 37.89 31 P **P 12 39 52.2 +0.2**
baz=257
J19K Poorman 37.96 36 P **P 12 39 51.6 -1.1**
baz=263
Q18K Katmai Hardscr 37.98 45 P **P 12 39 51.7 -1.2**
baz=271
L19K White Mountain 38.14 39 P **P 12 39 53.3 -0.9**
baz=266
N19K Bonanza Creek 38.26 42 P **P 12 39 55.2 -0.1**
baz=268
R18K Karluk 38.30 47 P **P 12 39 55.5 -0.1**
baz=272
O19K Port Alsworth 38.33 43 P **P 12 39 54.8 -0.9**
baz=269
M19K Big River Lodg 38.34 40 P **P 12 39 55.1 -0.8**
baz=267
F20K Avaraart Lake 38.38 32 P **P 12 39 55.3 -0.8**
baz=259
D20K Etivluk River 38.40 29 IAmb IAmb 12 40 15.0
comp=Z,16nm,1.1s
D20K Etivluk River 38.40 29 P **P 12 39 56.1 -0.3**
baz=256
E20K Nigu River 38.45 30 P **P 12 39 55.9 -0.9**
baz=257
H20K Anotleneega Mo 38.46 34 P **P 12 39 56.0 -0.9**
baz=262
SII Sitkinak Islan 38.51 49 P **P 12 39 55.2 -2.1**
baz=274
B20K Made River 38.54 27 IAmb IAmb 12 40 03.0
comp=Z,20nm,0.8s
B20K Meade River 38.54 27 P **P 12 39 56.6 -0.9**
baz=254
I20K Naaghedeneel 38.54 35 P **P 12 39 56.1 -1.4**
baz=263
K20K Telida 38.58 38 P **P 12 39 57.0 -1.0**
baz=266
L20K Farewell, AK 38.61 39 P **P 12 39 56.6 -1.6**
baz=267
J20K Nowinta River 38.62 36 P **P 12 39 56.7 -1.5**
baz=264
Q19K Cape Douglas, 38.68 45 P **P 12 39 57.1 -1.7**
baz=271
P19K Oil Pt 38.88 44 P **P 12 39 59.0 -1.5**
baz=271
M20K Styx River 38.94 40 P **P 12 39 59.5 -1.5**
baz=268
OHAK Old Harbor 38.95 47 P **P 12 39 59.9 -1.1**
baz=274
A21K Barrow 39.09 25 P **P 12 40 01.5 -0.5**
baz=253
C21K Knifeblade Rid 39.15 28 P **P 12 40 01.2 -1.4**
baz=258
G21K Allakaket 39.16 33 P **P 12 40 02.3 -0.5**
baz=262
O20K Slope Mountain 39.17 43 P **P 12 40 02.0 -0.9**
baz=271
F21K Alatna River 39.27 32 P **P 12 40 03.2 -0.5**
baz=261
E21K Killik River 39.29 30 P **P 12 40 03.2 -0.7**
baz=259
KDAK Kodiak Island 39.29 47 P **P 12 40 03.6 -0.3**
KDAK IAmb IAmb 12 40 04.1
comp=Z,14nm,0.8s
KDAK Kodiak Island 39.29 47 LR LR 13 00 16.8
comp=Z,49nm,19.4s,baz=318,slow=42
KDAK Kodiak Island 39.29 47⇩ *i*P **P 12 40 03.7 -0.2**
KDAK pmax pmax

comp=Z,21nm,0.9s
KDAK Kodiak Island 39.29 47 P **P 12 40 02.4 -1.5**
baz=274
B21K Ikpikpuk River 39.30 28 P **P 12 40 05.1 +1.2**
B21K IAmb IAmb 12 40 25.0
comp=Z,16nm,0.8s
B21K Ikpikpuk River 39.30 28 P **P 12 40 03.9 0.0**
baz=257
H21K Melozitna Rive 39.34 34 P **P 12 40 03.5 -0.7**
baz=264
Q20K Shuyak Island 39.34 45 P **P 12 40 03.4 -0.9**
baz=273
N20K Mount Spurr 39.37 41 P **P 12 40 03.3 -1.3**
baz=270
CHUM Lake Minchumin 39.40 37 P **P 12 40 03.5 -1.2**
baz=266
PPLA Purkeypile 39.41 38 P **P 12 40 04.3 -0.8**
baz=268
CAST Castle Rocks 39.48 38 P **P 12 40 03.7 -1.8**
baz=267
STLK Strandline Lak 39.55 41 IAmb IAmb 12 40 17.3
comp=Z,5.5nm,0.4s
I21K Tanana 39.64 35 P **P 12 40 06.4 -0.3**
baz=265
HOM Homer 39.68 44 P **P 12 40 06.0 -1.1**
baz=272
SKT Skwentna 39.70 40 P **P 12 40 05.4 -1.8**
baz=270
F22K John River 39.81 31 P **P 12 40 07.0 -1.2**
baz=262
D22K Ayikyak River 39.84 29 P **P 12 40 07.7 -0.7**
baz=260
B22K Teshekpuk Lake 39.86 27 P **P 12 40 07.6 -0.9**
baz=258
CAPN Captain Cook N 39.89 42 P **P 12 40 07.4 -1.4**
baz=271
H22K Ishtalitna Cre 39.95 34 P **P 12 40 08.8 -0.6**
baz=265
BPAW Bear Paw Mtn. 40.00 37 P **P 12 40 08.2 -1.6**
baz=267
G22K Bettles 40.00 32 P **P 12 40 09.4 -0.3**
baz=264
E22K Anaktuvuk Pass 40.03 30 **P 12 40 10.7 +0.7**
E22K IAmb IAmb 12 40 29.2
comp=Z,14nm,1.2s
E22K Anaktuvuk Pass 40.03 30 P **P 12 40 09.5 -0.5**
baz=262
SUA Susitna One 40.07 41 P **P 12 40 09.1 -1.4**
baz=271
MLY Manley 40.15 35 P **P 12 40 10.2 -0.8**
baz=266
TRF Thorofare Moun 40.29 38 P **P 12 40 11.5 -0.8**
baz=269
CUT Chulitna 40.29 39 P **P 12 40 11.7 -0.4**
baz=270
M22K Willow 40.37 40 P **P 12 40 12.0 -0.8**
baz=271
COLD Coldfoot 40.54 32 P **P 12 40 13.1 -1.1**
baz=264
D23K Nanushuk River 40.56 29 P **P 12 40 14.0 -0.3**
baz=262
G23K Bananza Creek 40.56 33 P **P 12 40 13.6 -0.8**
baz=265
RC01 Rabbit Creek A 40.57 41 P **P 12 40 13.3 -1.2**
baz=272
O22K Cooper Landing 40.60 42 P **P 12 40 14.7 -0.1**
baz=273
H23K Yukon River 40.70 34 P **P 12 40 15.2 -0.4**
baz=267
C23K Itkillik River 40.72 28 P **P 12 40 16.7 +1.2**
C23K IAmb IAmb 12 40 34.3
comp=Z,25nm,1.2s
C23K Itkillik River 40.72 28 P **P 12 40 14.8 -0.7**
baz=261
I23K Minto, Yukon-K 40.74 35 P **P 12 40 15.1 -0.7**
baz=268
SEW Seward 40.76 43 P **P 12 40 15.2 -0.9**
baz=274
E23K Chandalar 40.84 30 P **P 12 40 16.3 -0.5**
baz=264
PMR Palmer 40.84 40 P **P 12 40 15.4 -1.3**
baz=272
NEA2 Nenana 40.85 36 P **P 12 40 16.7 0.0**
baz=269
MCK McKinley 40.90 37 P **P 12 40 16.9 -0.3**
baz=270
TOLK Toolik Lake Re 40.92 30 P **P 12 40 16.8 -0.5**
baz=263
WAT1 Susitna Watana 41.08 39 P **P 12 40 18.2 -0.5**
baz=271
PZH PanZhiHua 41.10 262 P **P 12 40 20.3 +0.8**
KNK Knik Glacier 41.17 41 P **P 12 40 19.0 -0.5**
baz=273
D24K Happy Valley 41.25 29 P **P 12 40 19.9 -0.1**
baz=264
PWL Port Wells 41.27 42 P **P 12 40 20.3 0.0**
baz=274
E24K Your Creek 41.27 31 IAmb IAmb 12 40 48.4
comp=Z,14nm,1.4s
E24K Your Creek 41.27 31 P **P 12 40 20.8 +0.6**
baz=265
GOMU GeErMu 41.27 279 P **P 12 40 19.8 -1.2**
GOMU pmax pmax
comp=Z,7.0nm,0.7s
C24K Franklin Bluff 41.36 28 P **P 12 40 21.4 +0.5**
baz=263
COLA College 41.38 35 *e*P **P 12 40 21.6 +0.6**
COLA pmax pmax
comp=Z,7.0nm,2.3s
COLA College 41.38 35 P **P 12 40 21.0 0.0**
baz=269
H24K Noodor Dome 41.38 34 P **P 12 40 20.5 -0.7**
baz=268
F24K Squaw Lake 41.45 31 P **P 12 40 21.0 -0.8**
baz=266
WAT6 Susitna Watana 41.46 39 P **P 12 40 21.9 -0.1**
baz=272
M23K Glacier View 41.50 40 P **P 12 40 21.7 -0.5**
baz=273
POKR Poker Plat Res 41.55 35 P **P 12 40 21.7 -0.8**
baz=270
G24K Hadweenzic Riv 41.57 33 P **P 12 40 21.9 -0.8**
baz=268
DHY Denali Highway 41.61 38 P **P 12 40 22.3 -1.0**
baz=272
SCM Sheep Creek Mo 41.69 40 P **P 12 40 22.0 -1.8**
baz=273
HDA Harding Lake 41.77 36 P **P 12 40 23.1 -1.2**
baz=271
ILAR Eielson Array 41.79 36 P **P 12 40 23.9 -0.5**
comp=Z,1.2nm,0.9s,baz=257,slow=7.0,SNR=12
comp=Z,1.2nm,0.9s
ILAR Eielson Array 41.79 36 P **P 12 40 24.0 -0.5**
GLI Glacier Island 41.87 41 P **P 12 40 23.9 -1.3**
baz=275
G25K Bearman Lake 42.12 33 P **P 12 40 26.4 -0.7**
baz=269
D25K Kavik River 42.13 29 P **P 12 40 26.3 -1.0**
baz=266
M24K Tolsona, Glenn 42.22 40 P **P 12 40 26.7 -1.3**
baz=274
H25L Birch Creek 42.23 33 P **P 12 40 27.2 -0.8**
baz=270
K24K Donnelly Dome 42.30 37 P **P 12 40 27.3 -1.4**
baz=272
F25K Christian Rive 42.32 31 P **P 12 40 27.6 -1.2**
baz=268
ZAA0 Zalesovo Array 42.32 308 P **P 12 40 29.7 +0.7**
ZALV Zalesovo Beam 42.32 308 P **P 12 40 29.9 +0.9**
ZALV Zalesovo Beam 42.32 308 P **P 12 40 29.0 +0.1**
comp=Z,2.7nm,0.7s,baz=76,slow=6.6,SNR=13
ZALV PcP **PcP 12 42 22.7 +0.4**
comp=Z,2.2nm,0.7s,baz=83,slow=3.2,SNR=6.2
ZALV LR LR 12 59 47.1
comp=Z,57nm,18.1s,baz=101,slow=38
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 42.32 308 *i* P **P 12 40 31.2 +2.2**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
PRP Porcupine Dome 42.35 34 P **P 12 40 28.0 -1.2**
baz=271
E25K Arctic Village 42.36 31 P **P 12 40 28.0 -1.2**
baz=268
KLU Klutina 42.38 40 P **P 12 40 28.2 -1.2**
baz=275
Q23K Middleton Isla 42.39 44 P **P 12 40 28.5 -0.9**
baz=277
J25K Salcha River, 42.44 36 P **P 12 40 28.4 -1.5**

baz=272
PAX Paxson 42.48 38 P P 12 40 29.1 -1.2
baz=274
EYAK Cordova Ski Ar 42.56 42 P P 12 40 29.5 -1.3
baz=276
HARP HAARP 42.67 39 P P 12 40 30.4 -1.3
baz=274
C26K Camden Bay 42.68 28 P P 12 40 30.4 -1.3
baz=266
RIDG Independent Ri 42.72 37 P P 12 40 30.9 -1.2
baz=273
F26K Sheenjek River 42.89 31 P P 12 40 32.2 -1.3
baz=270
N25K Chitina, Valde 43.00 40 P P 12 40 32.7 -1.8
baz=276
G26K Porcupine Rive 43.04 32 P P 12 40 33.4 -1.2
baz=271
BMRM Bremner River 43.07 41 P 12 40 34.4 -0.7
BMRM IAmb IAmb 12 40 38.5
comp=Z,10nm,1.0s
BMRM Bremner River 43.07 41 P P 12 40 33.6 -1.4
baz=276
SCRK Sand Creek 43.08 37 P P 12 40 34.1 -1.1
baz=274
C27K Jago River 43.09 28 P P 12 40 34.1 -0.9
baz=268
J26L Joseph Creek 43.23 36 P P 12 40 34.9 -1.4
baz=274
KAIM Kayak Island 43.29 43 P P 12 40 35.0 -1.8
baz=278
WMQ Urumqi 43.30 293 eP P 12 40 40.5 +3.3
WMQ LR LR
comp=Z,380nm,9.5s
I26K Coal Creek Min 43.35 35 P P 12 40 35.7 -1.4
baz=273
L26K Log Cabin Wild 43.44 38 P P 12 40 37.0 -1.0
baz=275
M26K Nabesna, AK 43.67 39 P P 12 40 38.4 -1.4
baz=276,SNR=5.3
MCARA McCarthy VSAT 43.78 40 P P 12 40 39.3 -1.4
baz=277
CRQM Cirque 43.81 41 IAmb IAmb 12 40 44.2
comp=Z,22nm,1.2s
BGLC Bering Glacier 43.83 42 P P 12 40 39.3 -1.8
baz=278
CRQE Cirque 43.83 41 P P 12 40 39.6 -1.6
baz=278
E27K Coleen River 43.85 30 P P 12 40 39.4 -1.8
baz=272
G27K Doyon Strip 43.88 32 P P 12 40 40.7 -0.8
baz=273
K27K Chicken 43.91 36 P P 12 40 40.9 -0.8
baz=275
H27K Steamboat Moun 43.97 33 P P 12 40 41.0 -1.2
baz=274
I27K Kandik River 43.98 34 P P 12 40 40.8 -1.4
baz=274
D27M Malcolm River 44.06 29 P P 12 40 41.9 -1.0
baz=271
L27K Beaver Creek, 44.13 38 P P 12 40 42.6 -0.9
baz=277,SNR=5.4
BCAR Beaver Creek A 44.15 38 P P 12 40 44.0 +0.3
M27K Edge Creek, AK 44.19 39 IAmb IAmb 12 40 46.2
comp=Z,12nm,1.5s
M27K Edge Creek, AK 44.19 39 P P 12 40 42.6 -1.5
baz=277
TNCH TengChong 44.32 263 ⇑P P 12 40 48.5 +2.9
TNCH pmax pmax
comp=Z,62nm,4.0s
MESA MESA 44.48 42 P P 12 40 44.7 -1.8
baz=280
GRNC Granite Creek 44.49 41 IAmb IAmb 12 40 49.4
comp=Z,7.5nm,0.9s
F28M Old Crow 44.53 31 P P 12 40 45.5 -1.1
baz=274
YAH Yahtse 44.55 42 IAmb IAmb 12 40 50.3
comp=Z,16nm,1.1s
E28M Babbage River 44.60 30 P P 12 40 46.0 -1.1
baz=273
CTG Chitna Glacier 44.65 41 P P 12 40 46.4 -1.4
baz=279
BVCY Beaver Creek 44.65 39 P P 12 40 46.5 -1.2
baz=278
I28M Miner Creek 44.69 34 P P 12 40 46.4 -1.6
baz=276
YUK3 Moose Creek 44.94 40 P P 12 40 48.7 -1.5
baz=279
DAWY Dawson 45.08 36 P P 12 40 49.9 -1.3
baz=278
E29M Blow River 45.21 30 P P 12 40 50.7 -1.3
baz=275
O28M Mount Upton 45.24 41 P P 12 40 50.8 -1.8
baz=280
H29M Whitestone 45.24 33 P P 12 40 50.9 -1.4
baz=276
G29M Pine Creek 45.31 32 P P 12 40 51.5 -1.3
baz=276
PINM Pinnacle 45.33 42 P P 12 40 51.7 -1.5
baz=281
YUK8 Steele Glacier 45.35 40 P P 12 40 51.8 -1.7
baz=280
I29M Ogilvie Camp, 45.37 34 P P 12 40 52.3 -1.1
baz=277
M29M Somme Creek 45.75 38 P P 12 40 54.9 -1.6
baz=280
L29M L29M 45.79 37 IAmb IAmb 12 41 33.1
comp=Z,7.7nm,1.4s
L29M L29M 45.79 37 P P 12 40 55.4 -1.3
baz=280
PNL Peninsula 45.84 42 P P 12 40 55.1 -2.0
baz=282
MK31 Makanchi Array 45.85 299 i P P 12 40 58.5 +1.1
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 45.85 299 P P 12 40 58.3 +0.9
MKAR Makanchi Array 45.85 299 P P 12 40 58.6 +1.3
comp=Z,7.1nm,0.8s,baz=80,slow=8.0,SNR=44
comp=Z,7.1nm,0.8s
MKAR Makanchi Array 45.85 299 i P P 12 41 00.1 +2.7
MKAR pmax pmax
comp=Z,7.0nm,0.8s
YUK4 Talbot Arm 45.87 40 P P 12 40 56.0 -1.5
baz=281
EPYK Eagle Plains 45.89 33 IAmb IAmb 12 40 59.9
comp=Z,5.8nm,0.8s
EPYK Eagle Plains 45.89 33 P P 12 40 55.9 -1.5
baz=278
K29M Barlow Dome 45.93 36 P P 12 40 56.6 -1.4
baz=279
G30M tAoh Zraii Nji 46.00 32 P P 12 40 57.1 -1.2
baz=278
YUK6 Outpost Mounta 46.08 40 P P 12 40 57.8 -1.5
baz=282
F30M Barrier River 46.09 31 P P 12 40 57.7 -1.2
baz=277
O29M Mount Kennedy 46.11 41 P P 12 40 58.0 -1.3
baz=282
I30M Mount Dempster 46.20 34 IAmb IAmb 12 41 31.7
comp=Z,4.4nm,0.8s
I30M Mount Dempster 46.20 34 P P 12 40 58.8 -1.2
baz=279,SNR=6.5
J30M Hart River 46.32 35 P P 12 40 59.5 -1.5
baz=280
M30M Minto, Yukon 46.49 38 P P 12 41 00.7 -1.5
baz=281
HYT Haines Junctio 46.52 41 P P 12 41 01.6 -1.0
baz=282,SNR=11
N30M Aishikik Lake 46.58 40 P P 12 41 01.5 -1.5
baz=282
P29M Windy Craggy 46.67 42 P P 12 41 02.5 -1.1
baz=283,SNR=7.8
G31M Satah River 46.77 32 P P 12 41 04.9 +0.6
G31M IAmb IAmb 12 41 30.9
comp=Z,9.3nm,1.1s
G31M Satah River 46.77 32 P P 12 41 02.9 -1.3
baz=279
INK Inuvik 46.83 30 P P 12 41 03.4 -1.3
baz=279
KURK Kurchatov 46.84 305 ⇑i P P 12 41 06.9 +1.9
KURK pmax pmax
comp=Z,17nm,1.4s
F31M Tsiigehtchic 46.89 31 P P 12 41 04.3 -0.9
baz=279
KURBB Kurchatov Arra 46.92 305 P P 12 41 06.7 +0.9
comp=Z,7.5nm,1.0s,baz=73,slow=8.3,SNR=19
KURBB PcP PcP 12 42 38.4 +0.2
comp=Z,1.0nm,0.6s,baz=84,slow=3.4,SNR=4.1
comp=Z,7.5nm,1.0s

H31M Peel River 46.93 33 IAmb IAmb 12 41 39.7
comp=Z,5.7nm,0.8s
H31M Peel River 46.93 33 P P 12 41 04.4 -1.2
baz=280
P30M Million Dollar 46.94 41 P P 12 41 04.8 -0.9
baz=283
N31M Braeburn, Yuko 47.19 39 P P 12 41 06.7 -1.0
baz=283
O30N Mendenhall 47.20 40 P P 12 41 06.8 -1.0
baz=283
PLBC Pleasant Camp 47.39 42 P P 12 41 08.4 -0.9
baz=284
M31M Drury Creek, Y 47.66 38 P P 12 41 10.0 -1.3
baz=284
WHY Whitehorse 47.81 40 P P 12 41 11.2 -1.4
baz=284
S31K Pelican 47.85 44 P P 12 41 11.1 -1.7
baz=286
SKAG Skagway 47.90 42 P P 12 41 11.9 -1.3
baz=285
CMAR Chiang Mai Arr 48.11 256 P P 12 41 16.1 +0.8
comp=Z,0.3nm,0.3s,baz=49,slow=6.6,SNR=4.5
comp=Z,0.3nm,0.3s
N32M Quiet Lake 48.53 39 P P 12 41 16.7 -1.4
baz=285
SIT Sitka 48.58 45 P P 12 41 17.9 -0.6
baz=287
R32K Eaglecrest 48.63 43 P P 12 41 17.6 -1.3
baz=287
P32M Atlin 48.66 41 P P 12 41 18.0 -1.1
baz=286
P33M Teslin, Yukon 48.91 41 IAmb IAmb 12 41 23.4
comp=Z,11nm,1.1s
P33M Teslin, Yukon 48.91 41 P P 12 41 20.1 -1.0
baz=286,SNR=10
A36M Sachs Harbour 48.93 24 P P 12 41 20.5 -0.4
baz=283
MMPY Sheldon Lake, 48.97 37 P P 12 41 20.4 -1.0
baz=286
Q32M Nakina River 49.55 42 P P 12 41 25.0 -1.2
baz=288
C36M Paulatuk 49.96 28 P P 12 41 27.8 -1.1
baz=286
U33K Whale Pass 50.03 46 P P 12 41 28.6 -0.9
baz=290
R33M Jennings River 50.05 41 P P 12 41 29.0 -0.9
baz=288,SNR=7.4
CRAG Craig 50.25 47 P P 12 41 30.4 -0.8
baz=290
WRAK Wrangell Islan 50.34 45 P P 12 41 31.4 -0.5
baz=290
S34M Telegraph Cree 50.46 43 P P 12 41 31.6 -1.2
baz=290
TGTN Haland Airport 50.63 38 P P 12 41 33.4 -0.7
baz=289
DLBC Dease Lake 50.83 42 P P 12 41 34.5 -1.2
baz=290
BVAR Borovoye Array 50.84 310 P P 12 41 36.8 +1.1
comp=Z,1.1nm,0.5s,baz=88,slow=10,SNR=6.2
BVAR LR LR 13 05 55.1
comp=Z,111nm,19.4s,baz=112,slow=39
comp=Z,1.1nm,0.5s
WTLY Watson Lake, Y 50.86 40 P P 12 41 35.1 -0.8
baz=289
KDJ Kajisay 51.05 295 IAmb IAmb 12 41 44.6
comp=Z,4.9nm,0.7s
KDJ Kajisay 51.05 295 P P 12 41 38.6 +0.8
KDJ pmax pmax
comp=Z,6.0nm,0.8s
V35K Ketchikan 51.11 46 P P 12 41 36.7 -1.0
baz=291
T35M Bob Quinn 51.23 44 IAmb IAmb 12 41 41.7
comp=Z,8.5nm,0.8s
T35M Bob Quinn 51.23 44 P P 12 41 38.2 -0.5
baz=291,SNR=6.1
EVN Everest 51.26 274 P 12 41 39.9 -0.2
EVN IAmb IAmb 12 41 43.5
comp=Z,7.6nm,0.7s
DIB Dawson Inlet, 51.43 49 P P 12 41 40.4 +0.3
DIB IAmb IAmb 12 41 51.6
comp=Z,15nm,1.3s
LIRD Liard River Hi 52.38 40 P P 12 41 47.4 +0.2
baz=292
AAK Ala-Archa 52.60 297 LR LR 13 04 48.5
comp=Z,82nm,18.0s,baz=152,slow=37
HNR Honiara 52.98 166 LR LR 13 04 01.6
comp=Z,52nm,19.2s,baz=26,slow=36
TOAD Toad River Com 53.01 41 P P 12 41 52.0 +0.1
baz=293,SNR=5.5
KOTAN Kotaneelee Air 53.06 39 P P 12 41 52.1 -0.2
baz=293
ARSB Arslanbob 54.21 296 IAmb IAmb 12 42 04.7
comp=Z,11nm,1.0s
KK31 Karatay Array 54.98 299 IAmb IAmb 12 42 12.2
comp=Z,5.1nm,0.8s
KK31 Karatay Array 54.98 299 i P P 12 42 07.6 +1.1
KKAR Karatay Array 54.98 299 P P 12 42 07.2 +0.7
KKAR Karatay Array 54.98 299 P P 12 42 07.2 +0.7
RES Resolute Bay 55.69 17 LR LR 13 10 16.6
comp=Z,35nm,18.0s,baz=67,slow=41
ARTI Arti 55.80 318 P 12 42 13.5 +1.3
ARTI Arti 55.80 318 LR LR 13 09 39.6
comp=Z,117nm,18.6s,baz=97,slow=40
ARTI Arti 55.80 318 d i P P 12 42 13.8 +1.6
ARTI 12 43 11.1
ARTI 12 44 15.3
ARTI S S 12 50 02.0 +2.8
ARTI SS SS 12 53 45.2 +1.1
ARTI pmax pmax
comp=Z,7.0nm,0.6s
YKA Yellowknife Ar 56.15 34 P P 12 42 13.8 -0.7
comp=Z,1.8nm,0.9s,baz=301,slow=7.0,SNR=5.7
comp=Z,1.8nm,0.9s
YKA Yellowknife Ar 56.15 34 i P P 12 42 15.0 +0.4
YKA pmax pmax
comp=Z,2.0nm,0.9s
NIL Nilore 57.94 288 P 12 42 28.0 +0.3
NIL Nilore 57.94 288 P P 12 42 28.0 +0.3
NIL pmax pmax
comp=Z,12nm,0.9s
CHGR Chuyangaron 58.09 295 P P 12 42 29.6 +0.8
CHGR Chuyangaron 58.09 295 P P 12 42 29.6 +0.8
CHGR pmax pmax
comp=Z,20nm,0.8s
SIMJ Simiganj 58.19 295 P 12 42 29.6 +0.1
SIMJ IAmb IAmb 12 42 43.0
comp=Z,7.2nm,0.8s
AB31 Akbulak array 58.40 310 P 12 42 31.6 +0.9
AB31 IAmb IAmb 12 42 35.1
comp=Z,3.9nm,0.6s
AB31 Akbulak array 58.40 310 eP P 12 42 31.7 +1.1
ABKAR Akbulak array 58.40 310 P P 12 42 31.5 +0.8
PGC Sidney 58.56 51 P P 12 42 31.9 +0.2
AKTO Aktyubinsk 58.88 312 LR LR 13 11 18.0
comp=Z,126nm,18.3s,baz=140,slow=39
KIRV Kirov 58.94 323 LR LR 13 09 11.3
comp=Z,51nm,19.2s,baz=121,slow=37
KIRV Kirov 58.94 323 ⇓i P P 12 42 34.6 +0.4
NEEM North Greenlan 59.49 5 i P P 12 42 40.5 +2.4
ARCES ARCESS Array B 60.51 340 P P 12 42 45.9 +1.0
comp=Z,2.9nm,0.8s,baz=36,slow=5.5,SNR=8.9
ARCES LR LR 13 12 06.6
comp=Z,34nm,18.1s,baz=104,slow=39
comp=Z,2.9nm,0.8s
B08A Colville Reser 61.05 50 IAmb IAmb 12 42 49.6
comp=Z,2.9nm,0.8s
KLMR Klimovskoe 61.77 328 eP P 12 42 52.7 -0.9
KLMR pmax pmax
comp=Z,6.0nm,0.6s
NEW Newport 62.33 49 IAmb IAmb 12 42 58.9
comp=Z,3.7nm,0.9s
WRA Warramunga Arr 63.69 195 P P 12 43 06.1 -0.7
comp=Z,1.7nm,0.8s,baz=16,slow=6.9,SNR=11
comp=Z,1.7nm,0.8s
J08A Circle Bar Ran 64.34 54 IAmb IAmb 12 43 13.1
comp=Z,7.2nm,1.2s
WVOR Wild Horse Val 64.78 55 IAmb IAmb 12 43 15.2
comp=Z,3.4nm,0.9s
PLID Pearl Lake 64.79 51 P 12 43 14.3 +0.1
PLID IAmb IAmb 12 43 15.9
comp=Z,7.0nm,1.2s
SUMG Summit 64.89 2 P 12 43 15.2 +0.6
SUMG Summit 64.89 2 P P 12 43 15.2 +0.6
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 64.89 2 i P P 12 43 17.0 +2.4
MSO Missoula 64.92 49 IAmb IAmb 12 43 17.3

comp=Z,4.7nm,0.9s
FFC Flin Flon 65.98 37 P P 12 43 21.9 +0.4
FFC Flin Flon 65.98 37 P P 12 43 21.9 +0.4
FFC pmax pmax
comp=Z,7.0nm,0.8s
FIA1 FINESS Array S 66.18 334 P 12 43 23.1 +0.5
FINES FINESS Array B 66.18 334 P P 12 43 22.8 +0.2
comp=Z,4.0nm,0.6s,baz=49,slow=8.6,SNR=12
FINES LR LR 13 16 22.9
comp=Z,74nm,21.6s,baz=63,slow=40
comp=Z,4.0nm,0.6s
DLMT Dillon 66.55 49 IAmb IAmb 12 43 29.5
comp=Z,4.3nm,1.1s
OBN Obninsk 66.66 324 i P P 12 43 26.0 +0.3
OBN i 12 43 41.6
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,93nm,16.0s
OBN Obninsk 66.66 324 eP P 12 43 26.0 +0.3
BOZ Bozeman (W) 66.94 49 IAmb IAmb 12 43 28.9
comp=Z,3.4nm,0.8s
LHV Little Huntoon 67.34 58 IAmb IAmb 12 43 32.9
comp=Z,9.1nm,1.4s
NVAR Mina Array Bea 67.36 58 P P 12 43 30.3 -0.5
comp=Z,1.0nm,0.7s,baz=289,slow=6.4,SNR=11
comp=Z,1.0nm,0.7s
ASAR Alice Springs 67.40 194 P P 12 43 31.2 +0.4
comp=Z,1.1nm,0.7s,baz=15,slow=6.4,SNR=14
ASAR LR LR 13 10 07.0
comp=Z,43nm,19.9s,baz=333,slow=33
comp=Z,1.1nm,0.7s
YHB Horse Butte 67.71 49 IAmb IAmb 12 43 38.1
comp=Z,8.1nm,1.1s
DSP Deep Springs 68.21 59 P 12 43 36.0 +0.2
TPAW Teton Pass 68.64 50 IAmb IAmb 12 43 41.0
comp=Z,7.6nm,1.1s
HVU Hansel Valley 68.66 53 IAmb IAmb 12 43 42.1
comp=Z,4.3nm,1.2s
S11A Rachel 69.44 57 IAmb IAmb 12 43 47.6
comp=Z,7.7nm,1.1s
DUG Dugway, Tooele 69.63 54 IAmb IAmb 12 43 46.7
comp=Z,4.5nm,1.1s
DUG Dugway, Tooele 69.63 54 P P 12 43 45.6 +0.7
DUG pmax pmax
comp=Z,4.0nm,1.2s
SFJD Kangerlussuaq 69.64 8 LR LR 13 16 43.3
comp=Z,34nm,18.5s,baz=336,slow=38
PDAR Pinedale Array 69.88 50 P P 12 43 45.9 -0.6
PDAR Pinedale Array 69.88 50 P P 12 43 46.5 0.0
comp=Z,1.9nm,0.9s,baz=318,slow=2.0,SNR=10
comp=Z,1.9nm,0.9s
NC405 NORSAR Array S 70.68 339 P P 12 43 51.2 +0.4
NC405 IAmb IAmb 12 44 06.8
comp=Z,9.0nm,1.0s
NC204 NORSAR Array S 70.78 340 P P 12 43 52.4 +0.9
NB2 NORSAR Subarra 70.87 339 P P 12 43 51.9 0.0
comp=Z,3.1nm,0.5s,baz=32,slow=6.5
NB2 NORSAR Subarra 70.87 339 P P 12 43 52.7 +0.7
NOA NORSAR Array B 70.87 339 P P 12 43 51.9 0.0
comp=Z,1.6nm,0.6s,baz=32,slow=6.2,SNR=10
NOA LR LR 13 17 51.6
comp=Z,28nm,21.7s,baz=30,slow=38
comp=Z,1.6nm,0.6s
HFS Hagfors 70.97 338 P P 12 43 52.7 +0.2
comp=Z,2.9nm,0.6s,baz=58,slow=6.1,SNR=7.2
HFS LR LR 13 17 39.5
comp=Z,40nm,19.8s,baz=44,slow=38
comp=Z,2.9nm,0.6s
KIV Kislovodsk 71.11 313 eP P 12 43 42.6 -11
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,84nm,18.0s
KBZ Khabaz 71.14 312 P P 12 43 54.9 +1.1
comp=Z,3.0nm,0.9s,baz=322,slow=2.6,SNR=4.7
KBZ LR LR 13 20 26.0
comp=Z,103nm,19.0s,baz=40,slow=40
comp=Z,3.0nm,0.9s
KBZ Khabaz 71.14 312 ⇓i P P 12 43 55.8 +2.0
P17A Butcher Ranch, 71.32 53 IAmb IAmb 12 44 18.5
comp=Z,5.5nm,1.1s
LCMT Little Creek M 71.38 57 IAmb IAmb 12 43 57.0
comp=Z,3.1nm,0.7s
SRU San Rafael Swe 71.68 54 IAmb IAmb 12 43 58.7
comp=Z,4.5nm,1.0s
RSSD Black Hills 72.02 46 P 12 43 59.0 -0.5
RSSD IAmb IAmb 12 44 00.2
comp=Z,8.1nm,1.1s
RSSD Black Hills 72.02 46 P P 12 43 59.0 -0.5
RSSD pmax pmax
comp=Z,8.0nm,1.2s
HMU Henry Mountain 72.31 55 IAmb IAmb 12 44 02.3
comp=Z,4.2nm,0.8s
U15A North Rim 72.34 57 IAmb IAmb 12 44 03.6
comp=Z,6.2nm,1.2s
AKASG Malin Array Be 72.92 324 P P 12 44 04.7 +0.3
comp=Z,0.5nm,0.4s,baz=40,slow=5.9,SNR=9.4
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 72.92 324 i P P 12 44 06.1 +1.7
AKASG pmax pmax
comp=Z,4.0nm,0.6s
KIEV Kiev 72.94 324 P P 12 44 05.5 +1.0
KIEV pmax pmax
comp=Z,10.0nm,1.2s
PV23 Carpenter Ridg 73.00 53 IAmb IAmb 12 44 06.3
comp=Z,6.1nm,0.8s
PV17 East Wray Mesa 73.15 53 IAmb IAmb 12 44 07.6
comp=Z,7.4nm,0.8s
PV16 Nyswonger Mesa 73.15 53 IAmb IAmb 12 44 07.7
comp=Z,5.6nm,1.1s
PV05 Paradox Valley 73.20 54 IAmb IAmb 12 44 07.6
comp=Z,4.0nm,0.7s
PV18 Skein Mesa, Pa 73.20 53 IAmb IAmb 12 44 07.4
comp=Z,7.7nm,0.7s
PV12 Saucer Basin, 73.22 53 IAmb IAmb 12 44 10.2
comp=Z,6.4nm,0.8s
PV13 Radium Mtn., P 73.31 53 IAmb IAmb 12 44 08.6
comp=Z,4.6nm,0.8s
ECSD EROS Data Cent 76.12 43 IAmb IAmb 12 44 23.7
comp=Z,11nm,1.1s
BUR08 Bucovina Ar. S 76.97 324 P P 12 44 28.5 +0.5
BUR08 IAmb IAmb 12 44 36.7
comp=Z,3.8nm,0.7s
BURAR Bucovina Array 76.98 324 P P 12 44 28.7 +0.6
BURAR IAmb IAmb 12 44 48.1
comp=Z,3.3nm,0.8s
BURAR Bucovina Array 76.98 324 P P 12 44 28.7 +0.6
BURAR pmax pmax
comp=Z,3.0nm,0.7s
319A Douglas 77.56 59 IAmb IAmb 12 44 33.3
comp=Z,9.6nm,1.1s
SCHQ Schefferville 78.28 20 P P 12 44 34.7 -0.3
comp=Z,4.6nm,0.8s,baz=251,slow=4.1,SNR=3.9
SCHQ LR LR 13 23 47.4
comp=Z,43nm,18.5s,baz=343,slow=39
comp=Z,4.6nm,0.8s
DPC Dobruska-Polom 78.28 331 P P 12 44 36.2 +1.0
DPC pmax pmax
comp=Z,4.0nm,1.6s
KRLC Kraliky 78.35 331 P P 12 44 36.6 +1.0
KRLC pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 78.62 333 eP P 12 44 37.0 0.0
CLL e 12 44 42.0
CLL Collm 78.62 333 eP P 12 44 37.0 0.0
CLL ex x 12 44 42.0
BRTR Keskin Array B 78.89 314 P P 12 44 39.4 +0.5
comp=Z,0.8nm,0.7s,baz=49,slow=5.6,SNR=3.5
comp=Z,0.8nm,0.7s
VRAC Vranov 79.05 330 LR LR 13 25 56.4
comp=Z,23nm,19.1s,baz=48,slow=40
EKA Eskdalemuir Ar 79.35 344 P P 12 44 40.6 -0.3
comp=Z,1.6nm,0.6s,baz=21,slow=5.6,SNR=5.0
comp=Z,1.6nm,0.6s
KHC Kasperske Hory 80.28 332 P P 12 44 47.1 +1.0
KHC pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 80.48 332 P P 12 44 47.4 +0.1
comp=Z,0.5nm,0.5s,baz=20,slow=5.0,SNR=4.2
comp=Z,0.5nm,0.5s
P38A Dawn 80.71 44 IAmb IAmb 12 44 49.2
comp=Z,8.6nm,0.9s
DKNS Dickens 81.04 52 IAmb IAmb 12 44 53.3
comp=Z,7.8nm,1.3s
POST Post 81.13 53 IAmb IAmb 12 44 52.2
comp=Z,6.1nm,0.8s
BTNL Ternell 81.39 337 dP P 12 44 54.7 +2.7

BCLA	**Clavier**	**81.78**	**337**	*d*P		**P**	**12 44 54.1**	**+0.1**
BMRD	**Maredsous**	**82.04**	**337**	*d*P		**P**	**12 44 57.9**	**+2.5**
RCHB	**Rochefort**	**82.04**	**337**	*d*P		**P**	**12 44 55.9**	**+0.5**
KBA	**Koelnbreinsper**	**82.11**	**331**	P		**P**	**12 44 57.3**	**+1.3**
KBA				pmax	pmax			
	comp=Z,11nm,1.1s							
DOU	**Dourbes**	**82.27**	**337**	*d*P		**P**	**12 44 56.8**	**+0.2**
TX31	**Lajitas Ar. Si**	**82.47**	**57**	IAmb	IAmb		12 44 59.5	
	comp=Z,4.6nm,1.1s							
TXAR	**Lajitas Array**	**82.47**	**57**	P		**P**	**12 44 58.4**	**+0.3**
TXAR	**Lajitas Array**	**82.47**	**57**	P		**P**	**12 44 57.9**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=302,slow=3.8,SNR=18							
	comp=Z,2.6nm,0.9s							
MMAI	**Mount Meron Ar**	**82.81**	**309**	P		**P**	**12 45 00.6**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=49,slow=18,SNR=1.9							
	comp=Z,2.4nm,0.6s							
BRDY	**Brady**	**83.88**	**53**	IAmb	IAmb		12 45 07.4	
	comp=Z,6.7nm,0.8s							
FCAR	**Ozark Folk Cen**	**84.26**	**45**	IAmb	IAmb		12 45 07.4	
	comp=Z,4.2nm,0.7s							
MIAR	**Mount Ida**	**84.51**	**47**	IAmb	IAmb		12 45 09.4	
	comp=Z,4.5nm,0.9s							
T50A	**Nancy**	**87.01**	**40**	P		**P**	**12 45 21.2**	**+0.4**
SNAA	**Sanae**	**147.75**	**197**	PKPbc		**PKPbc**	**12 52 18.1**	**-0.9**
	comp=Z,4.3nm,0.9s,baz=174,slow=3.2,SNR=20							

VAO ***28*** *12:43:36.9±0.4,23.°05S×69.°22W,h36km,mb5.4*
SJA ***28*** *12:43:41.5±1.4,23.°13S×69.°37W,h105km±108km,ML4.8, MW4.7*
NEIC ***28*** *12:43:42.8±1.9,23.°16S±0.°03×68.°95W±0.°06,h90km±4km, mb5.0/350,Mww4.9/21,Mww5.0(GUC),Error ellipse: s-maj=8.9km s-min=2.8km az=66.0*
MOS ***28*** *12:43:43.0±1.2,23.°05S×68.°97W,h101km,mb5.0/18, Error ellipse: s-maj=13.4km s-min=6.4km az=106.6*
NEIC ***28*** *12:43:43.4,23.°15S×68.°96W,h90km*
NEIC ***28*** *12:43:43.4,23.°25S×69.°28W,h90km,Moment Tension Solution. Duration: 1ᵗʰ6 Moment tensor: Scale 10¹⁶Nm; Mrr=2.21; Mθθ=0.69; Mϕϕ 1.51; Mrθ=0.21; Mθϕ-0.42; Mϕr-1.66; Fault plane solution: M₀2.61000×10¹⁶ NP1: ϕs153.36000°,δ25.30000°,λ-102.09000°. NP2: ϕs346.68000°,δ65.30000°,λ-84.35000°. Principal axes: T 2.2862, Plg20.0000°, Azm72.0000°; N 0.5542, Plg5.0000°, Azm164.0000°; P -2.8405, Plg69.0000°, Azm268.0000°;*
GUC ***28*** *12:43:44.0±0.6,23.°13S×69.°23W,h108km±3km,ML5.2*
IDC ***28*** *12:43:44.6±0.4,23.°05S×68.°95W,h106km±3km,mb4.5/14, mbtmp4.8/19,MS3.6/23,Error ellipse: s-maj=14.6km s-min=10.1km az=70.0*
GCMT ***28*** *12:43:45.8±0.2,23.°08S±0.°02×69.°11W±0.°02,h106km±3km, MW5.0/102,Moment Tensor Solution. s46,c60; s102,c136; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.83±.09; Mθθ-0.11±.12; Mϕϕ2.95±.14; Mrθ-0.38±.07; Mθϕ-0.48±.11; Mϕr-1.72±.09; Best double couple: M₀3.42000×10¹⁶ NP1:ϕs160.00000°,δ31.00000°, λ-109.00000°. NP2:ϕs2.00000°,δ61.00000°,λ-79.00000°. Principal axes: T 3.4610, Plg15.0000°, Azm84.0000°; N -0.0760, Plg10.0000°, Azm177.0000°; P -3.3790, Plg72.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 12:43:43.1±0.3,23.°12S±0.°03×69.°05W±0.°04,h97km±3km, h98km:pP-P,n468,σ1ˢ49/339,mb5.0/177,16C-15D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.63**	**311**			**Pn**	**12 44 00.4**	**+0.6**
PB06				Sn		**Sn**	**12 44 13.0**	**+0.6**
PB06	**IPOC Station P**	**0.63**	**311**	⇓*i*P		**Pn**	**12 44 00.7**	**+0.8**
PB06				*e*S		**Sn**	**12 44 13.2**	**+0.8**
PB06				IAML			12 44 14.1	
	comp=E,126μm,0.2s							
PB06	**IPOC Station P**	**0.63**	**311**	*i* P		**Pn**	**12 43 59.6**	**-0.2**
PB06				IAML			12 44 15.5	
	comp=Z,84μm,0.3s							
AF01	**San Pedro de A**	**0.82**	**78**	⇑*i*P		Pn	12 44 04.8	+3.1
AF01				*e*S		**Sn**	**12 44 20.7**	**+5.0**
PB05	**IPOC Station P**	**1.09**	**284**			**Pn**	**12 44 04.3**	**-0.1**
PB05	**IPOC Station P**	**1.09**	**284**	⇑*i*P		**Pn**	**12 44 04.5**	**0.0**
PB05				*e*S		**Sn**	**12 44 19.7**	**-0.9**
PB05	**IPOC Station P**	**1.09**	**284**	*i* P		**Pn**	**12 44 04.1**	**-0.3**
PB05				IAML			12 44 21.8	
	comp=Z,24μm,0.7s							
PB03	**IPOC Station P**	**1.25**	**329**			**Pn**	**12 44 07.0**	**+0.7**
PB03	**IPOC Station P**	**1.25**	**329**	⇓*i*P		**Pn**	**12 44 07.1**	**+0.8**
PB03				*e*S		**Sn**	**12 44 24.4**	**+0.6**
PB03				IAML			12 44 25.1	
	comp=N,75μm,0.3s							
PB03	**IPOC Station P**	**1.25**	**329**	*i* P		**Pn**	**12 44 06.3**	**0.0**
PB03				IAML			12 44 25.2	
	comp=Z,52μm,0.3s							
PB09	**IPOC Station P**	**1.33**	**352**			**Pn**	**12 44 09.5**	**+2.2**
PB09	**IPOC Station P**	**1.33**	**352**	*e*P		**Pn**	**12 44 09.2**	**+1.9**
PB09				*e*S		**Sn**	**12 44 28.1**	**+2.5**
PB09				IAML			12 44 29.7	
	comp=E,29μm,0.6s							
PB10	**IPOC Station P**	**1.44**	**254**			**Pn**	**12 44 08.2**	**-0.2**
PB10	**IPOC Station P**	**1.44**	**254**	⇑*i*P		**Pn**	**12 44 08.0**	**-0.4**
PB10				*e*S		**Sn**	**12 44 25.7**	**-1.8**
PB10	**IPOC Station P**	**1.44**	**254**	*i* P		**Pn**	**12 44 07.5**	**-0.9**
PB10				IAML			12 44 28.4	
	comp=Z,15μm,0.4s							
PB14	**IPOC Station P**	**1.94**	**219**			**Pn**	**12 44 14.6**	**-0.6**
PB14	**IPOC Station P**	**1.94**	**219**	⇑*i*P		**Pn**	**12 44 14.3**	**-0.8**
PB14	**IPOC Station P**	**1.94**	**219**	*i* P		**Pn**	**12 44 14.5**	**-0.6**
PB14				IAML			12 44 41.7	
	comp=Z,9μm,0.5s							
PB02	**IPOC Station P**	**1.95**	**336**			**Pn**	**12 44 15.8**	**+0.6**
PB02	**IPOC Station P**	**1.95**	**336**	⇑*i*P		**Pn**	**12 44 15.7**	**+0.6**
PB02				IAML			12 44 44.5	
	comp=N,27μm,0.4s							
PB02	**IPOC Station P**	**1.95**	**336**	*i* P		**Pn**	**12 44 15.3**	**+0.2**
PB02				IAML			12 44 44.5	
	comp=Z,27μm,0.3s							
GO02	**Mina Guanaco**	**2.09**	**193**			**Pn**	**12 44 17.4**	**+0.3**
GO02	**Mina Guanaco**	**2.09**	**193**	*e*P		**Pn**	**12 44 17.0**	**-0.1**
GO02	**Mina Guanaco**	**2.09**	**193**	*i* P		**Pn**	**12 44 16.4**	**-0.6**
GO02				IAML			12 44 47.1	
	comp=Z,10μm,0.3s							
PB01	**IPOC Station P**	**2.11**	**349**			**Pn**	**12 44 18.0**	**+1.0**
PB01	**IPOC Station P**	**2.11**	**349**	IAML			12 44 45.6	
	comp=N,13μm,0.2s							
PB01	**IPOC Station P**	**2.11**	**349**	*i* P		**Pn**	**12 44 18.6**	**+1.6**
PB01				IAML			12 44 53.8	
	comp=Z,7μm,0.3s							
PATCX	**Punta Patache**	**2.50**	**336**			**Pn**	**12 44 21.9**	**-0.4**
PATCX	**Punta Patache**	**2.50**	**336**	⇑*i*P		**Pn**	**12 44 21.9**	**-0.4**
PATCX				IAML			12 45 22.9	
	comp=E,9μm,0.5s							
SALTA		**2.72**	**114**	*i* P		Pn	12 44 29.1	+3.6
SALTA				IAML			12 45 17.3	
	comp=Z,860nm,0.8s							
TA01	**Diego Aracena**	**2.75**	**337**			**Pn**	**12 44 24.7**	**-0.8**
TA01	**Diego Aracena**	**2.75**	**337**	⇑*i*P		**Pn**	**12 44 24.6**	**-0.8**
TA01				IAML			12 45 17.2	
	comp=N,7μm,0.3s							
TA01	**Diego Aracena**	**2.75**	**337**	*i* P		**Pn**	**12 44 24.6**	**-0.8**
TA01				IAML			12 45 30.6	
	comp=Z,4μm,0.7s							
PB08	**IPOC Station P**	**2.97**	**358**	*e*P		**Pn**	**12 44 29.5**	**+0.8**
PB08				IAML			12 45 33.9	
	comp=E,4μm,0.6s							
PB08	**IPOC Station P**	**2.97**	**358**	*i* P		Pn	12 44 34.7	+6.0
PB08				IAML			12 45 34.4	
	comp=Z,4μm,0.6s							
TA02	**Huaiquique**	**3.01**	**340**	IAML			12 45 31.3	
	comp=N,6μm,0.5s							
TA02	**Huaiquique**	**3.01**	**340**	*i* P		**Pn**	**12 44 27.2**	**-1.7**
TA02				IAML			12 45 33.5	
	comp=Z,3μm,0.7s							
AC01	**Pan de Azucar**	**3.33**	**205**			**Pn**	**12 44 31.4**	**-1.8**
AC01	**Pan de Azucar**	**3.33**	**205**	⇑*i*P		**Pn**	**12 44 31.3**	**-1.8**
AC01				IAML			12 45 37.3	
	comp=E,3μm,0.6s							
AC01	**Pan de Azucar**	**3.33**	**205**	*i* P		Pn	**12 44 31.3**	**-1.8**
AC01				IAML			12 45 30.1	
	comp=Z,2μm,0.7s							
HJA	**Humahuaca**	**3.35**	**92**	*i* P		Pn	12 44 37.1	+3.3
HJA				IAML			12 45 21.8	
	comp=Z,221nm,1.1s							
PB11	**IPOC Station P**	**3.39**	**350**			**Pn**	**12 44 33.6**	**-0.6**
PB11	**IPOC Station P**	**3.39**	**350**	*e*P		**Pn**	**12 44 32.7**	**-1.5**
PB11	**IPOC Station P**	**3.39**	**350**	*i* P		Pn	12 44 38.8	+4.6
PB11				IAML			12 45 38.3	
	comp=Z,3μm,0.4s							
YJA	**Yavi**	**3.40**	**75**	*i* P		Pn	12 44 39.8	+5.3
YJA				IAML			12 45 28.6	
	comp=Z,50nm,0.6s							
GO01	**Chusmiza**	**3.44**	**358**			**Pn**	**12 44 35.8**	**+0.7**
AC02	**Maricunga**	**3.70**	**181**			**Pn**	**12 44 39.5**	**+0.9**
AC02	**Maricunga**	**3.70**	**181**	⇑*i*P		**Pn**	**12 44 39.5**	**+0.9**
AC02				*i* S		**Sn**	**12 45 23.8**	**+2.2**
AC02				IAML			12 45 49.3	
	comp=E,3μm,0.4s							
AZAP	**Zapla**	**3.82**	**108**	*i* P		Pn	12 44 44.1	+4.1
AZAP				IAML			12 45 33.3	
	comp=Z,507nm,1.6s							
FSA	**Cafayete**	**4.09**	**137**	*i* P		**Pn**	**12 44 46.8**	**+3.3**
AC06	**Mina Casimiro**	**4.38**	**195**			**Pn**	**12 44 45.2**	**-2.2**
GO03	**Copiapo**	**4.58**	**193**			**Pn**	**12 44 47.8**	**-2.3**
PB12	**IPOC Station P**	**4.64**	**345**			**Pn**	**12 44 49.2**	**-1.8**
ALOL	**LOMAS DE OLMED**	**4.71**	**99**	*i* P		Pn	12 44 55.1	+3.2
PB16	**IPOC Station P**	**4.78**	**355**	*e*P		**Pn**	**12 44 54.3**	**+1.0**
PB16	**IPOC Station P**	**4.78**	**355**	*i* P		**Pn**	**12 44 53.8**	**+0.4**
PB16				IAML			12 46 21.9	
	comp=Z,513nm,0.5s							
AP01	**Chacalluta**	**4.88**	**345**	*i* P		**Pn**	**12 44 52.7**	**-1.4**
AP01				IAML			12 46 31.8	
	comp=Z,1μm,0.5s							
LPAZ	**La Paz**	**6.85**	**7**			**Pn**	**12 45 23.0**	**+1.4**
LPAZ	**La Paz**	**6.85**	**7**	P		**Pn**	**12 45 23.1**	**+1.5**
	comp=Z,38nm,0.5s,baz=189,slow=7.3,SNR=79							
LPAZ				S		Sn	12 46 16.2	-22
	comp=Z,62nm,0.5s,baz=173,slow=11,SNR=4.6							
LPAZ				LR		LR	12 49 07.1	
	comp=Z,184nm,21.1s,baz=184,slow=48							
LPAZ	**La Paz**	**6.85**	**7**	*e*P		**Pn**	**12 45 22.0**	**+0.4**
LPAZ	**La Paz**	**6.85**	**7**	*e*P		Pn	12 45 14.3	-7.3
GO04	**Tololo Observa**	**7.20**	**192**	Pn		**Pn**	**12 45 23.3**	**-2.5**
CO03	**El Pedregal**	**7.83**	**190**	Pn		**Pn**	**12 45 30.7**	**-3.6**
CFA	**Coronel Fontan**	**8.48**	**175**	P		**Pn**	**12 45 41.5**	**-1.7**
	comp=Z,11nm,0.3s,baz=46,slow=23,SNR=55							
CFA				S		**Sn**	**12 47 10.3**	**-6.9**
	comp=Z,13nm,0.3s,baz=265,slow=21,SNR=1.3							
SIV	**San Ignacio**	**10.34**	**48**	P		**Pn**	**12 46 06.4**	**-2.1**
	comp=Z,82nm,0.5s,baz=245,slow=9.9,SNR=199							
SIV				S		**Sn**	**12 47 53.6**	**-8.8**
	comp=Z,44nm,0.5s,baz=149,slow=21,SNR=6.3							
MT13	**San Alfonso**	**10.64**	**186**			**Pn**	**12 46 10.5**	**-2.1**
LMEL	**Las Melosas**	**10.74**	**185**			**Pn**	**12 46 12.1**	**-1.8**
MT09	**Talagante**	**10.75**	**189**			**Pn**	**12 46 13.1**	**-1.0**
MT01	**Popeta**	**10.88**	**190**			**Pn**	**12 46 14.9**	**-0.8**
CPUP	**Villa Florida**	**11.12**	**109**	P		**Pn**	**12 46 18.5**	**-0.6**
	comp=Z,13nm,0.6s,baz=149,slow=12,SNR=34							
CPUP				LR		LR	12 51 08.9	
	comp=Z,175nm,20.2s,baz=153,slow=40							
BO02	**Sierra Bellavi**	**11.73**	**187**			**Pn**	**12 46 26.0**	**-1.2**
BDQN	**Bodoquena, MS**	**11.74**	**79**	*e*P		**Pn**	**12 46 24.9**	**-2.4**
SJPY	**San Joaquin**	**11.98**	**102**	*e*P		**Pn**	**12 46 27.0**	**-3.6**
PTLB	**Pontes e Lacer**	**12.07**	**53**			**Pn**	**12 46 29.2**	**-2.6**
PTLB	**Pontes e Lacer**	**12.07**	**53**	*e*P		**Pn**	**12 46 28.1**	**-3.8**
AQDB	**Aquidauana**	**12.68**	**81**			**Pn**	**12 46 38.5**	**-1.4**
AQDB	**Aquidauana**	**12.68**	**81**	*e*P		**Pn**	**12 46 36.6**	**-3.3**
PSAL	**Palomas, Salto**	**12.91**	**130**	*e*P		**Pn**	**12 46 39.6**	**-3.2**
AMBA	**Amambai (Brazi**	**12.95**	**92**	*e*P		**Pn**	**12 46 40.3**	**-3.2**
VILB	**Vilhena**	**13.15**	**41**			**Pn**	**12 46 44.4**	**-1.8**
VILB	**Vilhena**	**13.15**	**41**	*e*P		**Pn**	**12 46 42.3**	**-3.9**
NNA	**Nana**	**13.33**	**325**	Pn		**Pn**	**12 46 47.8**	**-0.7**
NNA	**Nana**	**13.33**	**325**	P		**Pn**	**12 46 48.5**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=163,slow=9.1,SNR=5.7							
H03N1	**Juan Fernandez**	**13.45**	**218**	P		**Pn**	**12 46 46.6**	**-3.1**
	baz=110,slow=14,SNR=118							
H03N1				T		T	12 59 13.2	
	baz=42,slow=72,SNR=55							
H03N2	**Juan Fernandez**	**13.46**	**218**	P		**Pn**	**12 46 47.1**	**-2.7**
	baz=110,slow=14,SNR=40							
H03N2				T		T	12 59 25.8	
	baz=42,slow=72,SNR=64							
H03N3	**Juan Fernandez**	**13.47**	**218**	P		Pn	12 46 46.8	-3.1
	baz=110,slow=14,SNR=150							
H03N3				T		T	12 59 24.9	
	baz=42,slow=72,SNR=36							
H03S3	**Juan Fernandez**	**13.73**	**217**	P		Pn	12 46 49.4	-4.0
	baz=29,slow=19,SNR=78							
H03S1	**Juan Fernandez**	**13.75**	**217**	P		Pn	12 46 49.4	-4.1
	baz=29,slow=19,SNR=62							
H03S2	**Juan Fernandez**	**13.75**	**217**	P		Pn	12 46 49.6	-4.0
	baz=29,slow=19,SNR=52							
SALV	**Santo Antonio**	**14.49**	**63**	*e*P		**Pn**	**12 47 01.2**	**-2.3**
RPRD	**Ribas do Rio P**	**14.50**	**82**	*e*P		**Pn**	**12 47 01.7**	**-2.0**
SAML	**Samuel**	**15.17**	**23**			**Pn**	**12 47 10.5**	**-1.7**
SAML	**Samuel**	**15.17**	**23**	P		**Pn**	**12 47 10.5**	**-1.7**
SAML	**Samuel**	**15.17**	**23**	*e*P		**Pn**	**12 47 08.3**	**-3.9**
PTGB	**Pitanga**	**15.62**	**99**	*e*P		**Pn**	**12 47 17.4**	**-0.5**
CZSB	**Cruzeiro do Su**	**15.70**	**347**			**Pn**	**12 47 18.6**	**-0.2**
CZSB	**Cruzeiro do Su**	**15.70**	**347**	*e*P		**Pn**	**12 47 14.1**	**-4.8**
C2SB	**Chapadao do Su**	**15.75**	**77**	*e*P		**Pn**	**12 47 18.5**	**-1.0**
ITAB	**Concordia**	**15.86**	**108**	P		**P**	**12 47 20.8**	**-1.7**
ITAB	**Concordia**	**15.86**	**108**	*e*P		**Pn**	**12 47 19.9**	**-0.9**
TRQA	**Tornquist**	**16.08**	**159**			**Pn**	**12 47 22.2**	**-1.2**
TRQA	**Tornquist**	**16.08**	**159**	P		**Pn**	**12 47 22.2**	**-1.2**
PLTB	**Pedras Altas**	**16.18**	**125**	Pn		**Pn**	**12 47 23.2**	**-1.5**
PLTB	**Pedras Altas**	**16.18**	**125**	*e*P		**Pn**	**12 47 22.9**	**-1.8**
PDRB	**Porto dos Gac**	**16.40**	**48**	*e*P		**Pn**	**12 47 25.8**	**-1.7**
CLDB	**Colider**	**17.56**	**48**	*e*P		**Pn**	**12 47 40.7**	**-1.1**
PLCA	**Paso Flores**	**17.61**	**184**	P		**P**	**12 47 41.4**	**-0.4**
PLCA	**Paso Flores**	**17.61**	**184**	P		**P**	**12 47 42.0**	**+0.2**
	comp=Z,12nm,0.7s,baz=2.9,slow=12,SNR=18							
PLCA				PcP		**PcP**	**12 52 16.9**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=323,slow=2.8,SNR=3.3							
PLCA	**Paso Flores**	**17.61**	**184**	*e*P		**P**	**12 47 40.1**	**-1.7**
ITRB	**Iturama**	**17.73**	**82**	*e*P		**Pn**	**12 47 42.9**	**-1.0**
ARAG	**Araguaiana, MT**	**17.85**	**69**	*e*P		**Pn**	**12 47 44.4**	**-0.8**
LL03	**Petrohue**	**18.19**	**188**	P		**P**	**12 47 46.8**	**-1.3**
ATAH	**Atahualpa**	**18.26**	**329**	P		**Pn**	**12 47 51.5**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=141,slow=11,SNR=5.0							
LL05	**Los Muermos**	**18.61**	**190**	P		**P**	**12 47 50.7**	**-2.0**
TBTG	**Tabatinga, AM**	**18.84**	**357**	P		**P**	**12 47 55.0**	**-0.5**
TBTG	**Tabatinga, AM**	**18.84**	**357**	*e*P		**P**	**12 47 53.0**	**-2.5**
BB19B	**Bebedouro**	**19.13**	**88**	*e*P		**P**	**12 47 58.1**	**-0.5**
LL01	**San Ignacio de**	**19.41**	**188**	P		**P**	**12 48 00.8**	**-0.6**
SPB	**Sao Paulo**	**19.86**	**96**	P		**P**	**12 48 05.6**	**-0.9**
SPB	**Sao Paulo**	**19.86**	**96**	*e*P		**Pn**	**12 48 07.4**	**-1.5**
RCLB	**Rio Claro- Sao**	**19.86**	**92**	*e*P		**P**	**12 48 05.7**	**-0.9**
TEFE	**Tefe**	**19.96**	**13**	*e*P		**P**	**12 48 05.8**	**-1.8**
PET01	**Itanhaem-SP**	**19.98**	**98**	*e*P		**Pn**	**12 48 08.7**	**-1.6**
LL02	**Futaleuf**	**20.15**	**186**			**P**	**12 48 09.2**	**-0.3**
IPMB	**Ipameri, GO**	**20.17**	**79**	*e*P		Pn	12 48 11.0	-1.7
SNDB	**Serra Nova Dou**	**20.21**	**60**	*e*P		**P**	**12 48 08.7**	**-1.7**
VAO	**Valinhos**	**20.32**	**94**			**P**	**12 48 10.3**	**-1.3**
VAO	**Valinhos**	**20.32**	**94**	*e*P		**P**	**12 48 10.7**	**-0.9**
NPGB	**Novo Progresso**	**20.71**	**42**	*e*P		**P**	**12 48 14.0**	**-1.8**
BDFB	**Brasilia**	**21.18**	**73**	P		**P**	**12 48 20.9**	**0.0**
BDFB	**Brasilia**	**21.18**	**73**	P		**P**	**12 48 20.1**	**-0.8**
	comp=Z,52nm,0.6s,baz=259,slow=11,SNR=63							
BDFB				LR		LR	12 57 10.3	
	comp=Z,228nm,21.6s,baz=212,slow=38							
	comp=Z,52nm,0.6s							
BDFB	**Brasilia**	**21.18**	**73**	P		**P**	**12 48 20.9**	**0.0**
PARB	**Paraibuna**	**21.53**	**95**	*e*P		**P**	**12 48 24.9**	**+0.4**
PMNB	**Patos De Minas**	**21.62**	**82**	*e*P		**P**	**12 48 24.4**	**-1.2**
COYC	**Coyhaique**	**22.53**	**186**	P		**P**	**12 48 35.1**	**+0.3**
BSCB	**Bom Sucesso**	**22.60**	**89**	*e*P		**P**	**12 48 37.0**	**+1.2**
ITTB	**Itaituba**	**22.66**	**37**	*e*P		**P**	**12 48 34.8**	**-1.5**
VAS01	**Vassouras-RJ**	**23.64**	**93**	*e*P		**P**	**12 48 47.5**	**+1.8**
DIAM	**Diamantina, MG**	**24.21**	**83**	*e*P		**P**	**12 48 50.0**	**-0.9**
AY03	**Cochrane**	**24.25**	**186**	P		**P**	**12 48 51.5**	**+0.7**
DUB01	**Friburgo-RJ**	**24.64**	**93**	*e*P		**P**	**12 48 57.5**	**+2.8**
JANB	**Januaria**	**24.69**	**75**	*e*P		**P**	**12 48 55.4**	**+0.1**
SMTB	**Santa Maria do**	**24.98**	**59**	*e*P		**P**	**12 48 57.7**	**-0.1**
PRPB	**Paraupebas**	**25.05**	**51**	*e*P		**P**	**12 48 57.3**	**-1.1**
SDBA	**SAO DESIDERIO**	**25.30**	**69**	*e*P		**P**	**12 48 59.7**	**-1.1**
CAM01	**Campos-RJ**	**25.34**	**92**	*e*P		**P**	**12 49 03.0**	**+2.0**
FLOC	**Florencia**	**25.38**	**344**			**P**	**12 49 02.0**	**+0.5**
MAL2	**Monte Alegre,**	**25.46**	**37**			**P**	**12 49 00.2**	**-1.9**
SJMB	**Sao Joao De Ma**	**26.38**	**86**	*e*P		**P**	**12 49 12.1**	**+1.6**
BOAV	**Boa Vista**	**26.69**	**19**	P		**P**	**12 49 11.1**	**-2.1**
RIB01	**Linhares ES**	**26.96**	**87**	*e*P		**P**	**12 49 17.6**	**+1.9**
GUA01	**Guaratinga, BA**	**28.23**	**82**	*e*P		**P**	**12 49 26.8**	**-0.3**
ROSC	**El Rosal**	**28.26**	**349**	P		**P**	**12 49 26.7**	**-1.0**
ROSC	**El Rosal**	**28.26**	**349**	LR		LR	13 03 31.4	
	comp=Z,133nm,19.1s,baz=226,slow=42							
ROSC	**El Rosal**	**28.26**	**349**	P		**P**	**12 49 26.7**	**-1.0**
ROSC				pmax		pmax		
	comp=Z,22nm,1.1s							
TMAB	**Tom-Au,PA,Br**	**28.95**	**48**	*e*P		**P**	**12 49 34.4**	**+1.0**
RUSC	**La Rusia**	**29.10**	**352**			**P**	**12 49 34.6**	**-0.6**
RUSC				IAmb		IAmb	12 50 15.0	
	comp=Z,46nm,1.1s							
EFI	**East Falkland**	**29.74**	**166**	⇑*e*P		**P**	**12 49 38.0**	**-2.0**
EFI				pmax		pmax		
	comp=Z,54nm,0.9s							
SDV	**Santo Domingo**	**31.85**	**357**	LR		LR	13 05 45.3	
	comp=Z,96nm,19.2s,baz=81,slow=42							
BAUV	**El Baul**	**31.88**	**2**			**P**	**12 49 57.9**	**-1.3**
MDP	**Montagnes des**	**32.31**	**32**	LR		LR	13 03 06.5	
	comp=Z,165nm,21.7s,baz=248,slow=36							
PCRV	**Puerto La Cruz**	**33.37**	**8**	LR		LR	13 06 10.4	
	comp=Z,161nm,18.8s,slow=40							
NBAN	**Anadia - AL**	**34.07**	**72**	*e*P		**P**	**12 50 20.3**	**+1.9**
RCBR	**Riachuelo**	**36.27**	**67**			**P**	**12 50 37.0**	**-0.3**
RCBR	**Riachuelo**	**36.27**	**67**	LR		LR	13 07 19.2	
	comp=Z,37nm,19.7s,baz=254,slow=39							
RCBR	**Riachuelo**	**36.27**	**67**	P		**P**	**12 50 37.0**	**-0.3**
RCBR				pmax		pmax		
	comp=Z,38nm,0.9s							
RCBR	**Riachuelo**	**36.27**	**67**	P		**P**	**12 50 37.0**	**-0.3**
RCBR				pP		**pP**	**12 50 57.3**	**-3.3**
RCBR	**Riachuelo**	**36.27**	**67**	*e*P		**P**	**12 50 38.3**	**+1.0**
JTS	**Las Juntas de**	**36.67**	**333**	⇓*e*P		**P**	**12 50 42.4**	**+1.7**
JTS				pmax		pmax		
	comp=Z,8.0nm,1.1s							
CELP	**Cerrillos**	**41.01**	**4**	P		**P**	**12 51 15.1**	**-1.7**
TGUH	**Tegucigalpa,Un**	**41.03**	**332**			**P**	**12 51 17.5**	**+0.4**
ESPZ	**Base Esperanza**	**41.07**	**172**	P		**P**	**12 51 16.2**	**-0.5**
ESPZ				IAmb		IAmb	12 51 17.9	
	comp=Z,24nm,0.8s							
SJG	**San Juan**	**41.08**	**4**	LR		LR	13 10 26.7	
	comp=Z,27nm,20.1s,baz=160,slow=39							
PMSA	**Palmer Station**	**41.77**	**177**	P		**P**	**12 51 21.9**	**-0.5**
PMSA				IAmb		IAmb	12 52 32.2	
	comp=Z,34nm,1.1s							
MTO3	**Montecristo**	**42.26**	**330**	P		**P**	**12 51 28.6**	**+1.3**
MTO3				IAmb		IAmb	12 52 05.2	
	comp=Z,22nm,0.9s							
TEIG	**Tepich**	**46.99**	**335**	P		**P**	**12 52 04.7**	**+0.1**
TEIG	**Tepich**	**46.99**	**335**	P		**P**	**12 52 04.1**	**-0.4**
TEIG				pP		**pP**	**12 52 25.5**	**-2.7**
SOR	**Soroa**	**47.61**	**342**			**P**	**12 52 09.7**	**+0.4**
SOR				IAmb		IAmb	12 52 10.4	
	comp=Z,17nm,0.9s							
SOR	**Soroa**	**47.61**	**342**	P		**P**	**12 52 09.

PBMO Poplar Bluff 62.90 341 lAmb lAmb 12 54 30.9
comp=Z,14nm,0.6s
MNHN Monahans 63.05 328 lAmb lAmb 12 54 01.7
comp=Z,22nm,0.8s
WTFS Witchita Falls 63.12 333 lAmb lAmb 12 54 37.8
comp=Z,16nm,0.7s
S44A Carbondale 63.41 342 lAmb lAmb 12 54 02.0
comp=Z,15nm,0.7s
APMT Aspermont 63.47 331 lAmb lAmb 12 54 03.9
comp=Z,27nm,1.1s
SN07 Snyder 07 63.62 330 lAmb lAmb 12 54 41.0
comp=Z,19nm,0.7s
POST Post 63.87 330 P **P** **12 54 04.6 -0.9**
TUL3 Leonard 63.93 336 P **P** **12 54 04.9 -0.8**
TUL3 lAmb lAmb 12 54 06.5
comp=Z,29nm,1.2s
DEOK Depew 64.14 335 lAmb lAmb 12 54 07.9
comp=Z,26nm,0.9s
CCM Cathedral Cave 64.33 341 P **P** **12 54 07.6 -0.7**
R40A Maddies Statio 64.86 340 lAmb lAmb 12 54 11.7
comp=Z,14nm,0.7s
PAOC Oil Creek Stat 65.06 351 lAmb lAmb 12 54 52.4
comp=Z,20nm,1.2s
T35A Sooner Cattle 65.09 336 lAmb lAmb 12 54 14.2
comp=Z,20nm,1.1s
HRV Adam Dziewonsk 65.34 358 P **P** **12 54 14.5 -0.2**
HSIG 65.69 320 **P** **12 54 17.4 +0.1**
HSIG lAmb lAmb 12 54 19.9
comp=Z,33nm,1.2s
P40A Paris 65.93 341 lAmb lAmb 12 54 19.1
comp=Z,40nm,1.4s
J59A Piesco 66.44 356 lAmb lAmb 12 54 23.7
comp=Z,16nm,1.0s
NCB Newcomb 66.93 356 lAmb lAmb 12 54 26.7
comp=Z,22nm,1.4s
QSPA South Pole Qui 67.08 180 P **P** **12 54 28.3 +2.4**
QSPA South Pole Qui 67.08 180 P **P** **12 54 27.7 +1.8**
comp=Z,20nm,0.6s,baz=316,slow=0.8,SNR=245
QSPA pP **PcP** **12 54 54.5 +1.1**
comp=Z,12nm,0.5s,baz=114,slow=1.6,SNR=5.4
comp=Z,20nm,0.6s
QSPA South Pole Qui 67.08 180 P **P** **12 54 28.2 +2.4**
QSPA pP **pP** **12 54 50.9 -0.3**
QSPA PcP **PcP** **12 54 54.8 +1.4**
Y22A Socorro 67.24 326 lAmb lAmb 12 54 29.8
comp=Z,29nm,1.3s
LONY Lake Ozonia 67.60 356 **P** **12 54 29.5 +0.4**
FRNY Flat Rock 67.75 357 P **P** **12 54 30.6 +0.6**
FRNY lAmb lAmb 12 54 31.3
comp=Z,13nm,0.7s
ANMO Albuquerque 67.78 327 P **P** **12 54 31.4 +0.7**
ANMO lAmb lAmb 12 54 32.5
comp=Z,16nm,0.8s
ANMO Albuquerque 67.78 327 *d* iP **P** **12 54 31.7 +0.9**
ANMO pmax pmax
comp=Z,16nm,0.9s
ANMO Albuquerque 67.78 327 P **P** **12 54 31.6 +0.9**
TUC Tucson 68.03 323 P **P** **12 54 33.1 +0.8**
TUC lAmb lAmb 12 54 34.8
comp=Z,30nm,1.2s
TUC Tucson 68.03 323 P **P** **12 54 33.1 +0.8**
TUC pmax pmax
comp=Z,30nm,1.2s
TUC Tucson 68.03 323 P **P** **12 54 33.3 +1.1**
SADO Sadowa 68.19 352 P **P** **12 54 32.9 +0.1**
SADO lAmb lAmb 12 54 33.6
comp=Z,19nm,1.1s
SADO Sadowa 68.19 352 LR LR 13 26 54.3
comp=Z,16nm,18.2s,baz=136,slow=38
T25A Trinidad 68.58 330 lAmb lAmb 12 54 37.9
comp=Z,21nm,1.2s
F64A Sherman 68.66 1 **P** **12 54 36.7 +1.0**
F64A lAmb lAmb 12 55 04.8
comp=Z,24nm,0.8s
LMN Caledonia Moun 68.75 3 P **P** **12 54 36.9 +0.6**
LMN lAmb lAmb 12 55 04.8
comp=Z,36nm,1.3s
BUKO Buck Lake 68.88 352 lAmb lAmb 12 54 38.2
comp=Z,30nm,1.1s
214A Organ Pipe Nat 68.92 321 lAmb lAmb 12 54 40.6
comp=Z,37nm,1.1s
PIX Pinacate 69.02 320 lAmb lAmb 12 54 40.7
comp=Z,25nm,1.0s
TRQ Mont Tremblant 69.19 356 lAmb lAmb 12 54 40.3
comp=Z,38nm,1.2s
DBIC Dimbokro 69.33 73 **P** **12 54 41.1 +0.6**
DBIC lAmb lAmb 12 54 49.0
comp=Z,20nm,0.7s
DBIC Dimbokro 69.33 73 P **P** **12 54 40.7 +0.1**
comp=Z,4.4nm,0.5s,baz=263,slow=7.1,SNR=7.4
DBIC LR LR 13 25 07.3
comp=Z,103nm,18.4s,baz=7.5,slow=36
comp=Z,4.4nm,0.5s
DBIC Dimbokro 69.33 73 P **P** **12 54 41.2 +0.6**
DBIC pmax pmax
comp=Z,20nm,0.7s
E62A Clayton Lake 69.41 360 P **P** **12 54 41.7 +1.3**
E62A lAmb lAmb 12 55 09.3
comp=Z,27nm,0.9s
W18A Petrified Fore 69.59 325 lAmb lAmb 12 54 45.2
comp=Z,35nm,1.1s
D62A Allapoint, All 69.87 0 P **P** **12 54 44.2 +1.0**
VTX Valle De La Tr 70.29 319 lAmb lAmb 12 54 49.0
comp=Z,37nm,1.4s
Q24A Divide 70.40 331 lAmb lAmb 12 54 49.2
comp=Z,32nm,1.2s
LDAQ Lac Daran 70.78 358 lAmb lAmb 12 55 17.9
comp=Z,16nm,0.8s
ISCO Idaho Springs 71.29 331 P **P** **12 54 53.3 +0.9**
ISCO pmax pmax
comp=Z,12nm,1.2s
PV01 Paradox Valley 71.34 328 lAmb lAmb 12 54 55.3
comp=Z,28nm,1.3s
SPMN Marine on St. 71.38 343 lAmb lAmb 12 54 52.7
comp=Z,35nm,1.3s
PV15 Paradox Valley 71.46 328 lAmb lAmb 12 54 56.1
comp=Z,34nm,1.1s
CBX Cerro Bola 71.47 319 lAmb lAmb 12 54 56.2
comp=Z,28nm,1.0s
PV02 Paradox Valley 71.48 328 lAmb lAmb 12 54 55.9
comp=Z,49nm,1.4s
PV13 Radium Mtn., P 71.48 328 lAmb lAmb 12 54 55.8
comp=Z,27nm,1.1s
PV05 Paradox Valley 71.56 328 lAmb lAmb 12 54 56.0
comp=Z,24nm,1.2s
PV03 Paradox Valley 71.57 328 lAmb lAmb 12 54 56.2
comp=Z,29nm,1.5s
PV18 Skein Mesa, Pa 71.59 328 lAmb lAmb 12 54 56.3
comp=Z,29nm,1.0s
PV11 David Mesa, Pa 71.62 328 lAmb lAmb 12 54 56.6
comp=Z,34nm,1.6s
PV19 Morning Glory 71.68 328 lAmb lAmb 12 54 56.9
comp=Z,28nm,1.3s
BC3 Big Chuckawall 71.69 320 lAmb lAmb 12 54 57.2
comp=Z,27nm,1.1s
PV20 West Nyswonger 71.70 328 lAmb lAmb 12 54 56.9
comp=Z,23nm,1.2s
BAR Barrett 71.73 319 lAmb lAmb 12 54 57.4
comp=Z,23nm,1.0s
PV10 Paradox Valley 71.76 328 lAmb lAmb 12 54 56.9
comp=Z,31nm,1.0s
PV22 Blue Mesa, Par 71.76 328 lAmb lAmb 12 54 57.4
comp=Z,26nm,1.2s
PV23 Carpenter Ridg 71.80 328 lAmb lAmb 12 54 57.7
comp=Z,19nm,1.0s
IRM Iron Mountain 71.87 321 lAmb lAmb 12 54 58.4
comp=Z,46nm,1.5s
U15A North Rim 71.94 324 lAmb lAmb 12 54 59.4
comp=Z,29nm,1.1s
NEE2 Needles Airpor 72.00 322 lAmb lAmb 12 54 58.8
comp=Z,21nm,1.2s
PFO Pinyon Flats O 72.25 320 **P** **12 54 59.7 +1.7**
PFO Pinyon Flats O 72.25 320 *e*P **P** **12 54 59.6 +1.6**
HMU Henry Mountain 72.27 326 lAmb lAmb 12 55 01.1
comp=Z,22nm,1.0s
DNR Dunn Ranch,Anz 72.32 320 lAmb lAmb 12 55 01.3
comp=Z,40nm,1.3s
O20A White River Ci 72.76 330 lAmb lAmb 12 55 03.3
comp=Z,31nm,0.9s
ELS Elsinore Mount 72.85 319 lAmb lAmb 12 55 04.1
comp=Z,18nm,1.0s
F33A 5 Mile Ranch, 72.96 340 lAmb lAmb 12 55 02.2
comp=Z,47nm,1.8s
SRU San Rafael Swe 73.06 327 lAmb lAmb 12 55 04.9
comp=Z,26nm,1.0s
Q16A Castle Valley 73.23 327 lAmb lAmb 12 55 06.5
comp=Z,25nm,1.2s

P18A Preston Nutter 73.32 328 lAmb lAmb 12 55 07.0
comp=Z,26nm,1.0s
BFSC Mount Baldy Ra 73.40 320 lAmb lAmb 12 55 07.3
comp=Z,22nm,1.2s
P17A Butcher Ranch, 73.44 328 lAmb lAmb 12 55 07.3
comp=Z,28nm,1.0s
MWC Mount Wilson 73.63 319 lAmb lAmb 12 55 08.8
comp=Z,36nm,1.4s
PRN Pahroc Range 74.15 323 lAmb lAmb 12 55 12.3
comp=Z,20nm,1.0s
TPO Tropico Hills 74.18 320 lAmb lAmb 12 55 11.6
comp=Z,23nm,1.3s
GWY Greenwater Val 74.18 322 lAmb lAmb 12 55 11.7
comp=Z,20nm,0.9s
RSSD Black Hills 74.19 335 P **P** **12 55 10.5 +1.1**
RSSD lAmb lAmb 12 55 11.2
comp=Z,13nm,0.8s
RSSD Black Hills 74.19 335 P **P** **12 55 10.5 +1.1**
RSSD pmax pmax
comp=Z,13nm,0.8s
SBA Scott Base 74.22 190 P **P** **12 55 10.9 +2.1**
SBA lAmb lAmb 12 55 12.5
comp=Z,24nm,1.2s
SBA Scott Base 74.22 190 P **P** **12 55 10.9 +2.1**
SBA pmax pmax
comp=Z,24nm,1.3s
WSHM Spangler Hills 74.25 321 lAmb lAmb 12 55 11.6
comp=Z,16nm,0.7s
BSUT Blindstream Ca 74.27 328 lAmb lAmb 12 55 12.6
comp=Z,17nm,0.9s
TPNV Topopah Spring 74.49 322 lAmb lAmb 12 55 13.6
comp=Z,17nm,0.8s
FURC Furnace Creek, 74.49 322 lAmb lAmb 12 55 13.8
comp=Z,27nm,0.8s
WCT Wildcat Mounta 74.59 322 lAmb lAmb 12 55 14.7
comp=Z,26nm,1.1s
S11A Rachel 74.70 323 lAmb lAmb 12 55 45.6
comp=Z,39nm,1.5s
PPT Papeete 74.83 257 LR LR 13 18 33.6
comp=Z,36nm,18.0s,baz=5.5,slow=28
ISA Isabella, Lake 74.87 320 lAmb lAmb 12 55 15.9
comp=Z,23nm,1.0s
SPR3 Spring Creek 3 74.92 325 lAmb lAmb 12 55 16.1
comp=Z,22nm,1.3s
DUG Dugway, Tooele 75.03 327 lAmb lAmb 12 55 16.7
comp=Z,20nm,1.1s
SYO Syowa Base 75.04 159‖ *e*P **P** **12 55 14.3 +0.6**
R11B Troy Canyon, C 75.12 324 lAmb lAmb 12 55 17.8
comp=Z,25nm,1.4s
VNDA Vanda 75.24 190 P **P** **12 55 16.7 +2.0**
VNDA Vanda 75.24 190 P **P** **12 55 15.4 +0.6**
comp=Z,3.9nm,0.9s,baz=133,slow=3.5,SNR=9.1
comp=Z,3.9nm,0.9s
VNDA Vanda 75.24 190 P **P** **12 55 16.7 +2.0**
VNDA pmax pmax
comp=Z,7.0nm,1.1s
PDAR Pinedale Array 75.44 330 P **P** **12 55 17.5 +0.9**
PDAR Pinedale Array 75.44 330 P **P** **12 55 16.9 +0.3**
comp=Z,1.9nm,0.6s,baz=148,slow=7.0,SNR=21
comp=Z,1.9nm,0.6s
HWUT Hardware Ranch 75.48 328 lAmb lAmb 12 55 18.7
comp=Z,18nm,1.0s
BGU Big Grassy Mou 75.69 327 lAmb lAmb 12 55 20.0
comp=Z,26nm,1.4s
EPLO Experimental L 75.72 344 lAmb lAmb 12 55 18.4
comp=Z,20nm,1.1s
TPH Tonopah 75.83 323 lAmb lAmb 12 55 21.4
comp=Z,21nm,1.1s
AHID Auburn Hatcher 76.15 329 lAmb lAmb 12 55 22.5
comp=Z,32nm,1.0s
SNOW Snow King Moun 76.53 330 lAmb lAmb 12 55 24.9
comp=Z,19nm,0.8s
PMPB Monarch Peak 76.63 319 lAmb lAmb 12 55 26.1
comp=Z,22nm,0.9s
TPAW Teton Pass 76.64 330 lAmb lAmb 12 55 25.6
comp=Z,15nm,0.8s
NVAR Mina Array Bea 76.69 322 **P** **12 55 25.2 +1.4**
NVAR Mina Array Bea 76.69 322 P **P** **12 55 25.0 +1.2**
comp=Z,7.9nm,0.9s,baz=158,slow=6.9,SNR=58
comp=Z,7.9nm,0.9s
BBGB Big Mountain B 77.01 319 P **P** **12 55 26.7 +1.2**
BBGB lAmb lAmb 12 55 33.2
comp=Z,24nm,0.9s
RLMT Red Lodge 77.17 332 lAmb lAmb 12 55 28.0
comp=Z,14nm,0.7s
LAO LASA Array 77.18 335 P **P** **12 55 27.1 +0.9**
LAO lAmb lAmb 12 55 28.0
comp=Z,29nm,1.1s
BUCR Buckhorn Ranch 77.22 321 lAmb lAmb 12 55 28.9
comp=Z,35nm,1.9s
SCZ Santa Cruz 77.25 319 lAmb lAmb 12 55 28.8
comp=Z,19nm,1.1s
WAKR Walker 77.38 322 lAmb lAmb 12 55 30.6
comp=Z,29nm,1.4s
SAO San Andreas Ge 77.38 319 **P** **12 55 28.2 +0.8**
SAO San Andreas Ge 77.38 319 P **P** **12 55 28.2 +0.8**
SAO pmax pmax
comp=Z,7.0nm,0.9s
YNE Yellowstone No 77.41 332 lAmb lAmb 12 55 29.9
comp=Z,30nm,1.0s
SCHQ Schefferville 77.66 1 P **P** **12 55 27.9 -0.6**
comp=Z,5.7nm,0.6s,baz=168,slow=4.3,SNR=5.8
comp=Z,5.7nm,0.6s
YHB Horse Butte 77.73 331 lAmb lAmb 12 55 32.1
comp=Z,16nm,0.9s
DGMT Dagmar 77.90 337 **P** **12 55 31.1 +1.0**
TORD Torodi Ar. Bea 78.03 70 **P** **12 55 31.1 -0.4**
TORD Torodi Ar. Bea 78.03 70 P **P** **12 55 31.6 +0.1**
comp=Z,11nm,0.7s,baz=262,slow=4.8,SNR=62
TORD pP **pP** **12 55 58.5 +1.0**
comp=Z,8.8nm,0.4s,baz=260,slow=5.2,SNR=1.8
comp=Z,11nm,0.7s
WELL Weller Preserv 78.07 321 lAmb lAmb 12 55 33.7
comp=Z,22nm,1.1s
MPK Martis Peak 78.26 322 lAmb lAmb 12 55 35.2
comp=Z,38nm,1.3s
HLID Hailey 78.34 328 P **P** **12 55 34.8 +2.1**
HLID lAmb lAmb 12 55 35.5
comp=Z,28nm,0.9s
MCMT McKenzie Canyo 78.55 330 P **P** **12 55 35.9 +1.9**
BOZ Bozeman (W) 78.58 331 P **P** **12 55 34.8 +0.8**
BOZ Bozeman (W) 78.58 331 P **P** **12 55 34.8 +0.8**
BOZ pmax pmax
comp=Z,15nm,1.4s
DLMT Dillon 78.84 330 lAmb lAmb 12 55 37.9
comp=Z,24nm,1.2s
MFID Camas Ranch 78.93 327 lAmb lAmb 12 55 38.5
comp=Z,32nm,1.4s
FARB Farallon Islan 78.93 319 lAmb lAmb 12 55 37.9
comp=Z,20nm,0.9s
EGMT Eagleton 79.68 334 lAmb lAmb 12 55 41.5
comp=Z,26nm,1.2s
HOPS Hopland Field 79.81 320 lAmb lAmb 12 55 43.2
comp=Z,46nm,1.7s
O03E Pass Creek 79.94 322 lAmb lAmb 12 55 42.5
comp=Z,33nm,1.2s
J08A Circle Bar Ran 80.23 326 lAmb lAmb 12 55 45.4
comp=Z,27nm,1.3s
PLID Pearl Lake 80.23 328 lAmb lAmb 12 55 45.1
comp=Z,25nm,0.8s
MSO Missoula 80.56 331 **P** **12 55 45.4 +0.7**
KOOLE Kule 80.63 111 P **P** **12 55 47.0 +1.2**
KOOLE lAmb lAmb 12 56 15.0
comp=Z,14nm,0.7s
BMO Blue Mountains 80.70 327 lAmb lAmb 12 55 47.5
comp=Z,22nm,1.1s
F10A Beach Ranch, E 81.47 328 lAmb lAmb 12 55 53.0
comp=Z,23nm,1.4s
J05D Fort Rock, OR 81.64 324 lAmb lAmb 12 55 52.7
comp=Z,25nm,1.1s
PINE Pine Mountain 81.82 325 **P** **12 55 52.6 +1.0**
J04A Umpqua Nationa 82.08 324 lAmb lAmb 12 55 54.7
comp=Z,20nm,0.9s
L02F Eve Junction 82.14 322 lAmb lAmb 12 55 55.2
comp=Z,21nm,1.1s
BBOR Butler Butte 82.15 323 lAmb lAmb 12 55 54.2
comp=Z,23nm,1.2s
FFC Flin Flon 82.52 341 P **P** **12 55 55.0 +0.4**
FFC lAmb lAmb 12 55 55.7
comp=Z,22nm,1.3s
FFC Flin Flon 82.52 341 P **P** **12 55 55.0 +0.4**
FFC pmax pmax
comp=Z,21nm,1.3s
K02D Willamette Mer 82.57 323 P **P** **12 55 56.9 +1.5**
K02D lAmb lAmb 12 55 57.7
comp=Z,26nm,1.1s
KBO Bosley Butte 82.57 322 P **P** **12 55 57.0 +1.6**

BOSA Boshof 82.81 118 **P** **12 55 57.5 +0.4**
BOSA lAmb lAmb 12 56 25.8
comp=Z,16nm,0.9s
BOSA Boshof 82.81 118 P **P** **12 55 57.4 +0.4**
comp=Z,10nm,0.7s,baz=252,slow=2.9,SNR=17
BOSA pP **pP** **12 56 25.2 +1.8**
comp=Z,15nm,0.9s,baz=229,slow=4.1,SNR=7.3
BOSA LR LR 13 30 20.0
comp=Z,46nm,18.8s,baz=24,slow=34
comp=Z,10nm,0.7s
BOSA Boshof 82.81 118 P **P** **12 55 57.5 +0.4**
BOSA pmax pmax
comp=Z,16nm,0.9s
MAW Mawson 82.82 163 P **P** **12 55 57.0 +0.8**
comp=Z,15nm,0.8s,baz=211,slow=5.7,SNR=16
comp=Z,15nm,0.8s
MDT Midelt 82.89 50 LR LR 13 33 53.7
comp=Z,31nm,18.5s,baz=231,slow=36
HAWA Hanford 82.89 327 lAmb lAmb 12 55 58.3
comp=Z,12nm,0.8s
HOOD Mount Hood Mea 83.23 326 lAmb lAmb 12 56 00.9
comp=Z,26nm,1.3s
MXC Moxie City 83.40 327 lAmb lAmb 12 56 01.8
comp=Z,24nm,1.5s
LTY Liberty 84.06 328 lAmb lAmb 12 56 04.5
comp=Z,36nm,1.6s
LBTB Lobatse 84.46 115 LR LR 13 33 24.9
comp=Z,25nm,18.2s,baz=176,slow=35
D05A Enumclaw 84.67 327 lAmb lAmb 12 56 07.2
comp=Z,16nm,1.0s
B04A Port Angeles 86.01 327 lAmb lAmb 12 56 14.4
comp=Z,16nm,1.1s
FRB Frobisher Bay 86.58 0 LR LR 13 35 30.5
comp=Z,24nm,21.0s,baz=146,slow=36
PAB San Pablo 86.76 44 **P** **12 56 15.8 -0.7**
PAB San Pablo 86.76 44 P **P** **12 56 15.8 -0.7**
PAB pmax pmax
comp=Z,37nm,1.7s
CLRS Cowichan Lake 86.83 327 P **P** **12 56 17.1 +0.6**
CLRS lAmb lAmb 12 57 33.0
comp=Z,26nm,1.7s
LLLB Lillooet 86.93 329 lAmb lAmb 12 56 18.8
comp=Z,18nm,1.2s
ESDC Sonseca Array 87.08 44 P **P** **12 56 18.6 +0.7**
comp=Z,1.2nm,0.8s,baz=260,slow=4.6,SNR=8.9
ESDC pP **pP** **12 56 45.5 +1.1**
comp=Z,2.1nm,0.9s,baz=240,slow=5.8,SNR=3.6
ESDC LR LR 13 33 50.3
comp=Z,44nm,18.1s,baz=294,slow=35
comp=Z,1.2nm,0.8s
MATP Matopo 88.74 112 LR LR 13 33 44.9
comp=Z,86nm,19.0s,baz=218,slow=34
LSZ Lusaka 90.56 107 LR LR 13 35 43.0
comp=Z,101nm,18.1s,baz=198,slow=34
CASY Casey 90.88 180 **P** **12 56 37.0 +1.6**
YKAW1 Yellowknife Wh 92.62 341 P **P** **12 56 43.8 +0.5**
YKAW1 lAmb lAmb 12 56 44.4
comp=Z,15nm,0.8s
YKA Yellowknife Ar 92.66 341 P **P** **12 56 44.2 +0.7**
YKA Yellowknife Ar 92.66 341 P **P** **12 56 43.0 -0.5**
comp=Z,8.6nm,0.8s,baz=135,slow=4.0,SNR=42
YKA pP **pP** **12 57 10.2 +0.3**
comp=Z,3.2nm,0.7s,baz=134,slow=3.9,SNR=7.1
comp=Z,8.6nm,0.8s
YKA Yellowknife Ar 92.66 341 P **P** **12 56 44.2 +0.7**
YKAW3 Yellowknife Wh 92.72 341 lAmb lAmb 12 56 44.9
comp=Z,17nm,1.1s
DLBC Dease Lake 95.57 332 LR LR 13 42 54.8
comp=Z,19nm,18.7s,baz=26,slow=37
WTLY Watson Lake, Y 96.06 334 lAmb lAmb 12 57 00.6
comp=Z,7.4nm,1.2s
VAE Valguarnera 98.81 53 LR LR 13 43 40.4
comp=Z,85nm,19.6s,baz=172,slow=36
DAVOX Davos/Dischmat 99.33 43 LR LR 13 43 17.4
comp=Z,29nm,18.0s,baz=264,slow=36
AKASG Malin Array Be 112.68 43 PKiKP **PKiKP** **13 02 07.5 -0.4**
comp=Z,0.5nm,0.3s,baz=276,slow=2.6,SNR=4.7
ARCES ARCESS Array B 113.03 22 PKKPbc PKKPbc 13 12 53.8 -3.7
comp=Z,1.1nm,0.9s,baz=27,slow=1.4,SNR=10.0
BRTR Keskin Array B 113.86 55 PKiKP **PKiKP** **13 02 11.4 +0.6**
comp=Z,0.7nm,0.6s,baz=300,slow=5.1,SNR=3.6
OBN Obninsk 117.52 39 ⇑ *i*PKiKP **PKPdf** **13 02 16.5 -0.6**
OBN pmax pmax
comp=Z,8.0nm,1.1s
STKA Stephens Creek 117.95 209 ‖ *i*PKiKP **PKPdf** **13 02 16.5 -2.4**
KLMR Klimovskoe 118.95 32 *e*PKiKP **PKPdf** **13 02 18.6 -1.1**
KLMR *e* 13 02 46.6
KLMR pmax pmax
comp=Z,12nm,1.3s
KIV Kislovodsk 121.08 52 *e*PKiKP **PKiKP** **13 02 25.1 +0.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 121.23 52 PKP **PKPdf** **13 02 24.9 +0.3**
comp=Z,3.1nm,0.7s,baz=80,slow=1.0,SNR=5.8
BILL Bilibino 123.97 338 *c i*PKiKP **PKiKP** **13 02 30.7 +1.2**
H11S2 WAKE ISLAND Hyl 127.93 276 T T 15 22 49.4
baz=105,slow=75,SNR=188
H11S1 WAKE ISLAND Hyl 127.94 276 T T 15 22 53.1
baz=105,slow=75,SNR=28
H11S3 WAKE ISLAND Hyl 127.95 276 T T 15 22 53.8
baz=105,slow=75,SNR=146
H11N3 WAKE ISLAND Hyl 128.05 278 T T 15 22 57.5
baz=104,slow=74,SNR=122
H11N2 WAKE ISLAND Hyl 128.07 278 T T 15 22 58.6
baz=104,slow=74,SNR=123
H11N1 WAKE ISLAND Hyl 128.07 277 T T 15 23 03.5
baz=104,slow=74,SNR=81
ASAR Alice Springs 128.42 207 PKP **PKPdf** **13 02 39.0 -0.2**
comp=Z,5.9nm,0.7s,baz=136,slow=1.7,SNR=62
ASAR pPKP **pPKPdf** **13 03 07.2 +0.3**
comp=Z,4.4nm,0.8s,baz=129,slow=1.8,SNR=8.6
ARTI Arti 129.47 35 *i* PKiKP **PKiKP** **13 02 41.2 +0.4**
ARTI 13 04 51.5
WRA Warramunga Arr 131.49 210 PKhKP PKPpre 13 02 31.5
comp=Z,0.3nm,0.7s,baz=176,slow=4.6,SNR=5.9
WRA PKP **PKPdf** **13 02 45.1 0.0**
comp=Z,2.5nm,0.5s,baz=161,slow=1.5,SNR=4.6
WRA pPKP pPKPdf 13 03 12.9 +0.2
comp=Z,2.2nm,0.5s,baz=152,slow=1.6,SNR=5.0
WRAB Tennant Creek 131.50 210 *ce*PKiKP **PKPdf** **13 02 45.0 -0.1**
SEY Seymchan 131.52 336 *i* PKiKP **PKPdf** **13 02 42.9 -0.8**
SEY pmax pmax
comp=Z,15nm,1.4s
MA2 Magadan 134.10 333 ⇑ *e*PKiKP **PKPdf** **13 02 49.3 +0.6**
BVAR Borovoye Array 137.19 35 PKP **PKPdf** **13 02 56.0 +1.3**
comp=Z,2.3nm,0.6s,baz=273,slow=2.5,SNR=11
BVAR Borovoye Array 137.19 35 PKiKP **PKPdf** **13 02 56.0 +1.3**
YAK Yakutsk 139.06 347 ⇑ *e*PKiKP **PKPdf** **13 02 58.5 +0.7**
KURK Kurchatov 142.74 34 *i* PKiKP **PKPdf** **13 03 02.0 -2.8**
KURBB Kurchatov Arra 142.75 34 PKhKP PKPpre 13 03 01.5
comp=Z,1.9nm,0.7s,baz=302,slow=3.1,SNR=20
ZALV Zalesovo Beam 143.47 26 PKP PKPbc 13 03 03.8 +0.4
comp=Z,6.6nm,0.4s,baz=301,slow=3.9,SNR=39
AAK Ala-Archa 144.09 48 *de*PKiKP **PKPdf** **13 03 07.5 -0.1**
YSS Yuzhno-Sakhali 145.12 321 *e*PKiKP **PKPbc** **13 03 09.1 +0.4**
YSS pmax pmax
comp=Z,50nm,0.8s
BOD Bodaibo 145.26 357 *e*PKiKP **PKPbc** **13 03 08.3 -0.6**
BOD pmax pmax
comp=Z,79nm,1.4s
GRNR Gornyy 146.03 331 ‖ *i*PKP2 **PKPdf** **13 03 11.7 +1.2**
GRNR pmax pmax
comp=Z,40nm,0.7s
KSH Kashi 146.20 53 PKPbc **PKPbc** **13 03 13.0 +0.5**
KSH pPKP pPKPab 13 03 41.3 +0.8
MK31 Makanchi Array 147.01 37 ‖ *e*PKiKP **PKPdf** **13 03 13.0 +0.7**
MKAR Makanchi Array 147.01 37 PKPbc **PKPdf** **13 03 13.1 +0.8**
comp=Z,28nm,1.0s,baz=333,slow=1.4,SNR=73
MKAR pPKPbc pPKPab 13 03 43.6 +0.3
comp=Z,9.3nm,0.7s,baz=298,slow=3.4,SNR=6.6
ZEA Zeya 147.03 342 *e*PKP2 **PKPbc** **13 03 14.6 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.1s
HYB Hyderabad 149.13 95 *e*PKiKP **PKPbc** **13 03 21.6 +0.7**
HYB *e*SKSdf **SKSdf** **13 10 16.2 -0.2**
HEH HeiHe 150.01 339 PKPbc **PKPbc** **13 03 21.8 -0.2**
HEH pPKP **pPKPbc** **13 03 50.0 +0.6**
HEH PP **PP** **13 06 54.8 -1.7**
HEH AMB AMB
comp=Z,61nm,11.1s
MOY Mondy 150.48 13 *e*PKiKP **PKiKP** **13 03 24.4 +0.4**
MOY pmax pmax
comp=Z,39nm,1.6s
ZAK Zakamensk 152.13 11 *e*PKiKP **PKPdf** **13 03 21.2 +0.8**

ZAK					pmax	pmax			
	comp=Z,5.0nm,1.3s								
USRK	**Ussuriysk Ar.**	**152.78**	**326**		PKPbc	**PKPbc**	**13 03 28.9**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=181,slow=0.4,SNR=11								
USRK					PKPab	**PKPab**	**13 03 40.2**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=42,slow=2.3,SNR=11								
MJAR	**Matsushiro Arr**	**152.94**	**306**		PKPbc	**PKPbc**	**13 03 29.1**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=65,slow=1.1,SNR=12								
MJAR					PKPab	**PKPab**	**13 03 41.5**	**+0.6**
	comp=Z,12nm,0.9s,baz=60,slow=2.0,SNR=13								
BNX	**BinXian**	**153.77**	**333**	⇑	P	**PKPdf**	**13 03 22.3**	**-0.5**
BNX					pmax	pmax			
	comp=Z,7.0nm,1.8s								
SONM	**Songino Array**	**155.07**	**7**		PKP	**PKPdf**	**13 03 25.5**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=334,slow=0.9,SNR=11								
SONM					PKPbc		13 03 34.0		
	comp=Z,2.1nm,0.8s,baz=312,slow=1.6,SNR=7.8								
SONM					PKPab	**PKPab**	**13 03 49.8**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=328,slow=4.0,SNR=11								
KSRS	**Korea Array**	**159.58**	**318**		PKP	**PKPdf**	**13 03 31.5**	**+1.0**
	comp=Z,5.0nm,1.1s,baz=107,slow=0.2,SNR=13								
KSRS					PKPab	**PKPab**	**13 04 09.9**	**+0.7**
	comp=Z,5.1nm,0.8s,baz=65,slow=4.3,SNR=12								
GTA	**Gaotai**	**161.20**	**28**		PKP	**PKPdf**	**13 03 33.3**	**+0.8**
GTA					pPKP	pPKPdf	13 04 02.0	+1.7	
GTA					PKPab	**PKPab**	**13 04 17.0**	**+0.6**
GTA					LR	LR			
	comp=N,190nm,23.5s								
GTA					LR	LR			
	comp=E,210nm,20.3s								
GTA					LR	LR			
	comp=Z,270nm,23.5s								
HHC	**Hu-ho-hao-te**	**162.31**	**358**	*eP*	PKP	**PKPdf**	**13 03 33.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**167.85**	**110**		PKP	**PKPdf**	**13 03 38.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=272,slow=2.1,SNR=7.8								
CMAR					PKPab	**PKPab**	**13 04 46.7**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=244,slow=5.5,SNR=4.2								
CMAR					pPKPab	**pPKPab**	**13 05 14.4**	**+1.4**
	comp=Z,2.6nm,0.9s,baz=252,slow=4.4,SNR=4.3								
NJ2	**Nanjing**	**168.68**	**323**	*eP*		**PKPdf**	**13 03 39.5**	**+0.6**
NJ2					pmax	pmax			
	comp=Z,6.0nm,0.5s								
XAN	**Xi'an**	**168.98**	**9**		PKP	**PKPdf**	**13 03 40.3**	**+1.2**
PZH	**PanZhiHua**	**170.99**	**66**		PKP	**PKPdf**	**13 03 41.0**	**+0.4**

*SJA **28** 13:17:56.9±1.8,21˙.08S×68˙.96W,h100km,ML3.4,MW3.5*
*GUC **28** 13:17:57.9±0.8,21˙.08S×69˙.02W,h112km±4km,ML3.3*

ISC 28 13:17:55.3±1.7,21˙.05S±0˙.03×69˙.06W±0˙.08,
h132km±10km,n28,σ1§16/54,8C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.40**	**271**	⇑*iP*	**Pn**	**13 18 13.9**	**-0.3**
PB01				*eS*	**Sn**	**13 18 26.1**	**-2.3**
PB01				IAML		13 18 27.0	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**0.40**	**271**	*eP*	Pn	13 18 27.3	+13
PB09	**IPOC Station P**	**0.76**	**193**	⇑*iP*	**Pn**	**13 18 16.7**	**+0.2**
PB09				*eS*	**Sn**	**13 18 31.9**	**-0.8**
PB09				IAML		13 18 35.4	
	comp=N,479nm,0.4s						
PB09	**IPOC Station P**	**0.76**	**193**	*eP*	**Pn**	**13 18 16.7**	**+0.2**
PB09				*eS*	**Sn**	**13 18 31.6**	**-1.0**
PB09				IAML		13 18 34.8	
	comp=Z,467nm,0.4s						
PB02	**IPOC Station P**	**0.82**	**251**	⇑*iP*	**Pn**	**13 18 17.6**	**+0.7**
PB02				*eS*	**Sn**	**13 18 32.6**	**-0.8**
PB02	**IPOC Station P**	**0.82**	**251**	*eP*	**Pn**	**13 18 16.9**	**-0.1**
PB02				*eP*		13 18 19.0	
PB02				*eS*	**Sn**	**13 18 33.7**	**+0.3**
PB02				IAML		13 18 36.7	
	comp=Z,2μm,0.3s						
PB08	**IPOC Station P**	**0.91**	**355**	*iP*	**Pn**	**13 18 18.6**	**+0.6**
PB08				*eS*	**Sn**	**13 18 34.7**	**-0.6**
PB08	**IPOC Station P**	**0.91**	**355**	*eP*	**Pn**	**13 18 19.0**	**+1.0**
PB08				*eS*	**Sn**	**13 18 35.1**	**-0.2**
PB08				IAML		13 18 36.3	
	comp=Z,528nm,0.5s						
PATCX	**Punta Patache**	**1.05**	**283**	⇑*iP*	**Pn**	**13 18 20.0**	**+1.1**
PATCX				*eS*	**Sn**	**13 18 36.8**	**0.0**
PATCX	**Punta Patache**	**1.05**	**283**	*eP*	**Pn**	**13 18 19.3**	**+0.5**
PATCX				*eS*	**Sn**	**13 18 37.4**	**+0.6**
PATCX				IAML		13 18 38.7	
	comp=Z,555nm,0.3s						
HMBC	**Humberstone**	**1.09**	**315**	⇑*iP*	**Pn**	**13 18 20.1**	**+0.7**
HMBC				*eS*	**Sn**	**13 18 37.4**	**-0.3**
HMBC	**Humberstone**	**1.09**	**315**	*eP*	**Pn**	**13 18 19.9**	**+0.5**
HMBC				*eS*	**Sn**	**13 18 37.7**	**0.0**
HMBC				IAML		13 18 40.7	
	comp=Z,1μm,0.5s						
TA01	**Diego Aracena**	**1.15**	**295**	⇑*iP*	**Pn**	**13 18 20.8**	**+0.9**
TA01				*eS*	**Sn**	**13 18 38.5**	**0.0**
TA01	**Diego Aracena**	**1.15**	**295**	*eP*	**Pn**	**13 18 20.8**	**+0.9**
TA01				*eS*	**Sn**	**13 18 38.7**	**+0.2**
TA01				IAML		13 18 39.0	
	comp=Z,455nm,0.2s						
PB03	**IPOC Station P**	**1.18**	**213**	*iP*	**Pn**	**13 18 20.9**	**+0.6**
PB03				*eS*	**Sn**	**13 18 38.5**	**-0.9**
PB03				IAML		13 18 40.9	
	comp=E,587nm,0.2s						
PB03	**IPOC Station P**	**1.18**	**213**	*eP*	**Pn**	**13 18 20.7**	**+0.4**
PB03				*eS*	**Sn**	**13 18 39.2**	**-0.2**
PB03				IAML		13 18 41.4	
	comp=Z,398nm,0.1s						
GO01	**Chusmiza**	**1.38**	**355**	*iP*	**Pn**	**13 18 23.6**	**+0.9**
GO01				*eS*	**Sn**	**13 18 44.1**	**+0.5**
GO01				IAML		13 18 45.1	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**1.38**	**355**	*eP*	**Pn**	**13 18 23.3**	**+0.5**
GO01				*eS*	**Sn**	**13 18 44.5**	**+0.8**
GO01				IAML		13 18 46.3	
	comp=Z,440nm,0.3s						
PB11	**IPOC Station P**	**1.40**	**336**	⇓*iP*	**Pn**	**13 18 23.6**	**+1.0**
PB11				*eS*	**Sn**	**13 18 43.7**	**+0.3**
PB11				IAML		13 18 44.4	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**1.40**	**336**	*eP*	**Pn**	**13 18 19.9**	**-2.7**
PB11				*eP*		13 18 23.5	
PB11				*eS*	**Sn**	**13 18 43.9**	**+0.5**
PB11				IAML		13 18 45.0	
	comp=Z,574nm,0.4s						
PB06	**IPOC Station P**	**1.71**	**196**	⇑*iP*	**Pn**	**13 18 27.3**	**+1.2**
PB06				*eS*	**Sn**	**13 18 49.6**	**-0.1**
PB06				IAML		13 18 50.3	
	comp=E,318nm,0.3s						
PB06	**IPOC Station P**	**1.71**	**196**	*eP*	**Pn**	**13 18 26.7**	**+0.6**
PB06				*eS*	**Sn**	**13 18 50.2**	**+0.5**
PB06				IAML		13 18 50.6	
	comp=Z,196nm,0.4s						
PB05	**IPOC Station P**	**2.08**	**210**	⇑*eP*	**Pn**	**13 18 31.6**	**+1.1**
PB05				*eS*	**Sn**	**13 18 56.5**	**-1.0**
PB05				IAML		13 18 59.5	
	comp=E,209nm,0.4s						
PB05	**IPOC Station P**	**2.08**	**210**	*eP*	**Pn**	**13 18 31.0**	**+0.5**
PB05				IAML		13 18 57.9	
	comp=Z,108nm,0.7s						
PB05				*eS*	**Sn**	**13 18 58.2**	**+0.7**
PB12	**IPOC Station P**	**2.70**	**334**	*eP*	**Pn**	**13 18 39.1**	**+0.9**
PB12				*eS*	**Sn**	**13 19 06.7**	**-4.7**
PB12				IAML		13 19 31.8	
	comp=Z,77nm,0.6s						
PB10	**IPOC Station P**	**2.81**	**209**	*eP*	**Pn**	**13 18 40.5**	**+1.0**
PB10				*eS*	**Sn**	**13 19 11.1**	**-2.6**
PB10	**IPOC Station P**	**2.81**	**209**	*eP*	**Pn**	**13 18 40.5**	**+1.0**
PB10				*eS*	**Sn**	**13 19 11.9**	**-1.8**
PB14	**IPOC Station P**	**3.77**	**199**	*eP*	**Pn**	**13 18 53.2**	**+0.9**
PB14				*eS*	**Sn**	**13 19 35.4**	**-1.0**
PB14				IAML		13 19 43.6	
	comp=Z,34nm,0.6s						

*BGR **28** 13:39:42.5,9˙.63N×95˙.18E,h33km,mb4.6,Ms4.0*
*MOS **28** 13:40:02.7±0.8, 13˙.01N×93˙.30E,h44km,mb5.0/51,Error ellipse: s-maj=7.3km s-min=4.2km az=110.7*
*DJA **28** 13:40:03.6±1.4, 13˚N±3˚×9˚3E±˚, h21km±11km,M5.2/18, mb4.9/18,mB5.6/4,MLv5.4/3,Mw(mB)5.1/4*
*IDC **28** 13:40:04.1±1.4, 13˙.01N×93˙.27E,h36km±10km,mb4.4/30, mbtmp4.6/33,ML4.5/3,MS3.9/58,Error ellipse: s-maj=13.9km s-min=10.6km az=60.0*
*BJI **28** 13:40:04.4, 13˙.00N×93˙.25E,h60km,mB4.8/23,mb4.9/70, Ms4.2/40,Ms7 3.9/40*

*NDI **28** 13:40:05.9±1.9, 13˙.10N×93˙.30E,h50km,ML4.6,MW4.8, mb5.0(NEIC)*
*GCMT **28** 13:40:06.1±0.4, 13˙.15N±0˙.02×93˙.01E±0˙.03,h66km±3km, MW4.8/83,Moment Tensor Solution. s19,c23; s83,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.33±.14; $M_{\theta\theta}$=1.14±.10; $M_{\phi\phi}$=0.81±.10; $M_{r\theta}$=1.31±.06; $M_{r\phi}$=1.64±.10; $M_{\theta\phi}$=-0.00±.06; Best double couple: M_o2.29300×10^{16} NP1:ϕ_s14.00000°,δ56.00000°,λ-178.00000°. NP2: ϕ_s283.00000°,δ89.00000°,λ-34.00000°. Principal axes: T 2.5400, Plg22.0000°, Azm334.0000°; N -0.4940, Plg56.0000°, Azm101.0000°; P -2.0460, Plg25.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 13:40:06.1±1.4, 13˙.09N±0˙.07×93˙.25E±0˙.10,h48km±7km, mb5.0/55,Mww4.9/8 Error ellipse: s-maj=14.4km s-min=9.0km az=116.0*

ISC 28 13:40:05.4±0.3,13˙.05N±0˙.03×93˙.26E±0˙.04,h49km±2km,
h50km:pP-P,n639,σ1§15/638,mb4.8/127,MS4.0/70,
25C-9D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.34**	**292**	*eP*		**Pn**	**13 40 15.3**	**+0.5**
DGPR				IAML			13 40 21.6	
	comp=N,72μm,0.3s							
DGPR				IAML			13 40 21.8	
	comp=E,63μm,0.3s							
DGPR				*eS*		**Sn**	**13 40 22.4**	**+0.9**
PBA	**Port Blair**	**1.47**	**200**			**Pn**	**13 40 30.5**	**+0.9**
PBA	**Port Blair**	**1.47**	**200**	*eP*		**Pn**	**13 40 30.4**	**+0.9**
PBA				*eS*		**Sn**	**13 40 50.7**	**+3.0**
PBA				IAML			13 40 57.7	
	comp=N,12μm,0.5s							
PBA				IAML			13 40 58.1	
	comp=E,10μm,0.5s							
CMBY	**CAMPBELL BAY**	**6.04**	**174**	*eP*		**Pn**	**13 41 29.8**	**-2.4**
CMBY				*eS*		**Sn**	**13 42 33.4**	**-6.6**
CMBY				IAML			13 42 54.4	
	comp=E,286nm,0.5s							
CMBY				IAML			13 43 06.3	
	comp=N,330nm,1.3s							
SURA	**Surathani**	**7.35**	**121**	P		**Pn**	**13 41 51.4**	**+1.2**
CM31	**Chiang Mai Arr**	**7.67**	**45**			**Pn**	**13 41 55.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**7.67**	**45**			**Pn**	**13 41 55.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**7.67**	**45**	Pn		**Pn**	**13 41 55.1**	**+0.5**
	comp=N,7.7nm,0.3s,baz=237,slow=15,SNR=125							
CMAR					Sn	**Sn**	**13 43 21.1**	**+0.9**
	comp=N,3.0nm,0.3s,baz=232,slow=28,SNR=6.4							
CMAR					ScP	**ScP**	**13 52 02.9**	**+2.1**
	comp=N,1.2nm,0.8s,baz=265,slow=3.1,SNR=6.2							
	comp=N,57nm,0.8s							
CMAR	**Chiang Mai Arr**	**7.67**	**45**	P		**Pn**	**13 41 55.3**	**+0.7**
CHTO	**Chiang Mai**	**7.92**	**43**			**Pn**	**13 41 58.3**	**+0.3**
CHTO	**Chiang Mai**	**7.92**	**43**	P		**Pn**	**13 41 58.7**	**+0.7**
CHTO	**Chiang Mai**	**7.92**	**43**	P		**Pn**	**13 41 58.3**	**+0.3**
BRDH	**Bariadhala**	**9.70**	**351**	LR		LR	13 47 16.1	
	comp=N,2μm,20.4s,baz=164,slow=44							
KCSI	**Kotacane, Aceh**	**10.47**	**154**	P		**Pn**	**13 42 35.1**	**+2.2**
	comp=N,35nm,1.1s							
KULM	**Kulim**	**10.62**	**136**	Pn		**Pn**	**13 42 37.1**	**+2.2**
KULM	**Kulim**	**10.62**	**136**	P		**Pn**	**13 42 38.0**	**+3.1**
AZL	**Aizawl**	**10.64**	**357**	*eP*		**Pn**	**13 42 33.8**	**-1.5**
AZL				*eS*		Sn	13 44 22.8	-10
AZL				IAML			13 44 37.8	
	comp=N,78nm,0.9s							
IPM	**Ipoh**	**11.46**	**137**			**Pn**	**13 42 46.9**	**+0.3**
IPM	**Ipoh**	**11.46**	**137**	P		**Pn**	**13 42 48.3**	**+1.8**
PSI	**Prapat**	**11.63**	**151**	Pn		**Pn**	**13 42 49.7**	**+0.9**
	comp=N,0.7nm,0.3s,baz=318,slow=11,SNR=14							
PSI				LR		LR	13 48 00.5	
	comp=N,552nm,19.4s,baz=312,slow=41							
	comp=N,12nm,0.6s							
PSI	**Prapat**	**11.63**	**151**	P		**Pn**	**13 42 52.8**	**+4.0**
PSI				pmax		pmax		
	comp=Z,21nm,1.2s							
RPSI	**Rantau Prapat**	**11.72**	**151**			**Pn**	**13 42 52.3**	**+2.3**
SHL	**Shillong**	**12.52**	**354**			Pn	13 42 56.0	-5.0
SHL	**Shillong**	**12.52**	**354**	*eP*		**Pn**	**13 42 58.8**	**-2.2**
SHL				*eS*		Sn	13 45 06.7	-12
SHL	**Shillong**	**12.52**	**354**	P		Pn	13 42 56.2	-4.8
SHL				pmax		pmax		
	comp=Z,215nm,0.8s							
JHSG	**JHARSUGUGA**	**12.52**	**315**	*eP*		**Pn**	**13 42 59.4**	**-1.5**
JHSG				*eS*		Sn	13 45 08.0	-11
JHSG				IAML			13 45 26.9	
	comp=N,421nm,0.9s							
JHSG				IAML			13 45 27.6	
	comp=E,462nm,1.2s							
KOHI	**KOHIMA**	**12.63**	**4**	*eP*		**Pn**	**13 43 00.1**	**-2.4**
KOHI				*eS*		Sn	13 45 09.3	-12
KOHI				IAML			13 45 30.8	
	comp=N,84nm,0.4s							
TNCH	**TengChong**	**12.91**	**22**	⇑P		**Pn**	**13 43 07.0**	**+0.6**
TNCH				pP		P	13 43 15.8	0.0
TNCH				PP		**PnPn**	**13 43 17.8**	**+3.2**
TNCH				sP			13 43 22.3	
TNCH				S		**Sn**	**13 45 25.3**	**-3.4**
TNCH				SS		**S**	**13 45 49.0**	**-3.4**
TNCH				pmax		pmax		
	comp=N,70nm,1.0s							
TNCH				pmax		pmax		
	comp=N,160nm,2.6s							
TNCH				LR		LR		
	comp=N,450nm,7.9s							
TNCH				LR		LR		
	comp=N,480nm,10.6s							
TNCH				LR		LR		
	comp=N,630nm,22.1s							
TEZP	**TEZPUR**	**13.50**	**358**	*eP*		**Pn**	**13 43 12.1**	**-2.3**
TEZP				*eS*		Sn	13 45 31.1	-12
TEZP				IAML			13 45 39.7	
	comp=E,36nm,0.2s							
TEZP				IAML			13 45 42.1	
	comp=N,47nm,0.2s							
PALK	**Pallekele**	**13.62**	**246**	Pn		**Pn**	**13 43 13.8**	**-2.3**
PALK	**Pallekele**	**13.62**	**246**	Pn		**Pn**	**13 43 14.4**	**-1.6**
	comp=N,1.5nm,0.3s,baz=57,slow=11,SNR=7.5							
PALK					Sn	Sn	13 45 33.4	-13
	comp=N,4.9nm,0.3s,baz=147,slow=19,SNR=9.2							
PALK				LR		LR	13 48 18.0	
	comp=N,542nm,19.5s,baz=62,slow=36							
	comp=N,3.8nm,0.4s							
HYB	**Hyderabad**	**14.84**	**289**	*eP*		**P**	**13 43 37.9**	**+0.8**
KMI	**Kunming**	**14.97**	**35**	P		**P**	**13 43 37.0**	**-1.8**
KMI				pP		Pn	13 43 41.5	+7.3
KMI				pmax		pmax		
	comp=N,19nm,0.9s							
KMI				LR		LR		
	comp=N,290nm,18.8s							
KMI				LR		LR		
	comp=N,400nm,14.7s							
KMI				LR		LR		
	comp=N,360nm,19.9s							
PZH	**PanZhiHua**	**15.57**	**30**	P		**P**	**13 43 47.3**	**+2.0**
PZH				pmax		pmax		
	comp=N,40nm,1.3s							
PDSI	**Padang**	**15.61**	**152**	P		**P**	**13 43 47.6**	**+2.0**
	comp=N,46nm,0.8s							
KOD	**Kodaikanal**	**15.72**	**261**	*eP*		**Pn**	**13 43 43.9**	**0.0**
KOD				*eS*		Sn	13 46 22.9	-14
EVN	**Everest**	**16.00**	**339**			**Pn**	**13 43 44.2**	**-3.7**
EVN				IAmb		IAmb	13 43 53.5	
	comp=Z,79nm,0.8s							
LSA	**Lhasa**	**16.68**	**354**	P		**Pn**	**13 43 55.0**	**-1.2**
QIZ	**Qiongzhong**	**17.01**	**67**	P		**Pn**	**13 43 59.5**	**-0.4**
QIZ				sP		**pwP**	**13 44 14.5**	**+0.1**
QIZ				S		**Sn**	**13 47 07.3**	**-0.9**
QIZ				pmax		pmax		
	comp=Z,19nm,1.5s							
QIZ				LR		LR		
	comp=Z,380nm,14.3s							
QIZ				LR		LR		
	comp=Z,320nm,15.9s							
QIZ				LR		LR		
	comp=Z,400nm,17.0s							
DSRI	**Dabo**	**17.52**	**139**	P		**P**	**13 44 08.1**	**+1.3**
	comp=Z,1μmcomp=Z,58nm,1.0s							
GYA	**Guiyang**	**18.34**	**41**	⇓P		**Pn**	**13 44 17.5**	**+1.2**
GYA				S		**Sn**	**13 47 37.8**	**-2.7**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,110nm,3.5s							
GYA				LR		LR		
	comp=Z,99nm,5.1s							
GYA				LR		LR		
	comp=Z,120nm,5.6s							
GYA				LR		LR		
	comp=Z,100nm,4.1s							
PPBI	**Pangkal Pinang**	**19.80**	**139**	P		**Pn**	**13 44 36.1**	**+2.4**
CD2	**Chengdu**	**20.24**	**27**	P		**P**	**13 44 37.0**	**+0.4**
CD2				pmax		pmax		
	comp=Z,50nm,0.7s							
SBUM	**Sibu**	**21.52**	**118**	P		**P**	**13 44 49.2**	**-1.2**
ENH	**Enshi**	**22.78**	**39**	P		**P**	**13 45 01.0**	**-2.8**
GOMU	**GeErMu**	**23.09**	**3**	P		**P**	**13 45 07.0**	**-0.3**
GOMU				pP		pP	13 45 18.0	-0.8
GOMU				sP		sP	13 45 23.3	-1.6
GOMU				pmax		pmax		
	comp=Z,30nm,1.0s							
GOMU				LR		LR		
	comp=Z,160nm,16.7s							
GOMU				LR		LR		
	comp=Z,180nm,15.1s							
GOMU				LR		LR		
	comp=Z,190nm,18.8s							
LEM	**Lembang**	**24.36**	**143**	LR		LR	13 55 59.6	
	comp=Z,425nm,20.4s,baz=304,slow=39							
LZH	**Lanzhou**	**24.84**	**21**	*eP*		**P**	**13 45 24.8**	**+1.5**
LZH				sP		sP	13 45 42.3	+0.8
LZH				pmax		pmax		
	comp=Z,130nm,1.6s							
LZH				pmax		pmax		
	comp=Z,220nm,4.2s							
LZH				LR		LR		
	comp=Z,390nm,15.9s							
LZH				LR		LR		
	comp=Z,410nm,16.5s							
LZH				LR		LR		
	comp=Z,700nm,16.8s							
XAN	**Xi'an**	**25.29**	**32**	P		**P**	**13 45 26.8**	**-0.5**
XAN				pP		pP	13 45 40.3	+0.9
XAN				S		**S**	**13 49 50.5**	**+0.6**
XAN				pmax		pmax		
	comp=Z,46nm,1.0s							
XAN				pmax		pmax		
	comp=Z,130nm,4.1s							
XAN				LR		LR		
	comp=Z,380nm,16.1s							
XAN				LR		LR		
	comp=Z,330nm,14.4s							
XAN				LR		LR		
	comp=Z,450nm,19.9s							
MYLDM	**Lahad Datu**	**26.10**	**105**	P		**P**	**13 45 36.9**	**+2.1**
MYLDM				IAmb		IAmb	13 46 00.9	
	comp=Z,34nm,0.9s							
GTA	**Gaotai**	**26.89**	**11**	P		**P**	**13 45 43.0**	**+1.2**
GTA				pP		pP	13 45 54.0	-0.3
GTA				PcP		**PcP**	**13 49 04.5**	**+1.3**
GTA				sS		sS	13 50 39.0	+2.7
GTA				SS			13 51 33.8	
GTA				ScP		**ScP**	**13 52 41.5**	**+2.0**
GTA				ScS		**ScS**	**13 56 31.0**	**+0.6**
GTA				pmax		pmax		
	comp=Z,42nm,1.0s							
GTA				LR		LR		
	comp=Z,190nm,22.7s							
GTA				LR		LR		
	comp=Z,210nm,19.9s							
GTA				LR		LR		
	comp=Z,270nm,23.1s							
NIL	**Nilore**	**27.43**	**322**			**P**	**13 45 45.5**	**-1.1**
NIL	**Nilore**	**27.43**	**322**	P		**P**	**13 45 45.5**	**-1.1**
NIL				pmax		pmax		
	comp=Z,33nm,1.2s							
LYN	**LuoYang**	**27.60**	**36**	P		**P**	**13 45 48.5**	**+0.4**
LYN				pmax		pmax		
	comp=Z,28nm,0.8s							
LYN				LR		LR		
	comp=Z,420nm,14.2s							
LYN				LR		LR		
	comp=Z,240nm,10.0s							
LYN				LR		LR		
	comp=Z,560nm,16.5s							
H08S3	**Diego Garcia H**	**29.12**	**226**	T		T	14 15 42.7	
	baz=43,slow=76,SNR=20							
H08S2	**Diego Garcia H**	**29.12**	**226**	T		T	14 15 55.1	
	baz=43,slow=76,SNR=5.7							
H08S1	**Diego Carcia H**	**29.14**	**226**	T		T	14 15 45.8	
	baz=43,slow=76,SNR=4.0							
NJ2	**Nanjing**	**30.14**	**47**	*eP*		**P**	**13 46 11.5**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
NJ2				LR		LR		
	comp=Z,410nm,18.0s							
NJ2				LR		LR		
	comp=Z,220nm,13.3s							
NJ2				LR		LR		
	comp=Z,260nm,13.3s							
KSH	**Kashi**	**30.46**	**333**	P		**P**	**13 46 13.3**	**-0.3**
KSH				pP		pP	13 46 26.5	+0.1
KSH				pmax		pmax		
	comp=Z,22nm,0.8s							
HNS	**HongShan**	**30.91**	**35**	⇑P		**P**	**13 46 18.3**	**+0.9**
HNS				S		**S**	**13 51 19.0**	**+0.9**
HNS				pmax		pmax		
	comp=Z,28nm,0.9s							
HNS				LR		LR		
	comp=Z,150nm,19.1s							
HNS				LR		LR		
	comp=Z,220nm,19.1s							
HNS				LR		LR		
	comp=Z,200nm,20.7s							
WMQ	**Urumqi**	**31.03**	**352**	*eP*		**P**	**13 46 20.8**	**+2.3**
BTO	**Baotou**	**31.14**	**25**	*eP*		**P**	**13 46 20.5**	**+0.9**
BTO				pP		**pP**	**13 46 32.5**	**+0.4**
BTO				sP		**sP**	**13 46 37.8**	**-0.1**
BTO				PP		**PnPn**	**13 47 23.5**	**+0.8**
BTO				S		**S**	**13 51 23.0**	**+1.0**
BTO				sS		**sS**	**13 51 41.8**	**-1.4**
BTO				SS		**SnSn**	**13 53 10.3**	**+2.8**
BTO				pmax		pmax		
	comp=Z,90nm,0.9s							
BTO				pmax		pmax		
	comp=Z,140nm,4.2s							
BTO				LR		LR		
	comp=Z,290nm,14.6s							
BTO				LR		LR		
	comp=Z,410nm,19.0s							
BTO				LR		LR		
	comp=Z,470nm,13.1s							
TIA	**Tai'an**	**31.50**	**39**	P		**P**	**13 46 23.0**	**+0.4**
TIA				pmax		pmax		
	comp=Z,7.0nm,0.6s							
TARG	**Taragay, Kyrgy**	**31.59**	**338**			**P**	**13 46 24.2**	**+0.4**
TARG	**Taragay, Kyrgy**	**31.59**	**338**	P		**P**	**13 46 24.2**	**+0.4**
TARG				pmax		pmax		
	comp=Z,19nm,1.1s							
KAPI	**Kappang**	**

SATY Saty 32.54 340 *e*P P 13 46 32.2 +0.4
SATY pmax pmax
comp=Z,11nm,0.8s
SATY Saty 32.54 340 *e*P P 13 46 32.2 +0.4
comp=Z,11nm,0.8s
GAR Garm 32.87 326 P 13 46 34.5 -0.2
TNSS Tian-Shan 33.04 338 *e*P P 13 46 36.6 +0.1
TNSS Tian-Shan 33.04 338 *e*P P 13 46 36.6 +0.1
MDOK Medeo 33.11 338 *e*P P 13 46 37.2 +0.4
MDOK Medeo 33.11 338 *e*P P 13 46 37.2 +0.4
ARSB Arslanbob 33.27 332 P 13 46 38.8 +0.5
ARSB Arslanbob 33.27 332 P P 13 46 38.8 +0.5
ARSB pmax pmax
comp=Z,58nm,1.2s
CHGR Chuyangaron 33.27 324 P P 13 46 37.8 -0.5
CHGR Chuyangaron 33.27 324 P P 13 46 37.8 -0.5
CHGR pmax pmax
comp=Z,71nm,0.8s
SIMJ Simiganj 33.36 324 P 13 46 38.3 -0.8
SIMJ Simiganj 33.36 324 P P 13 46 39.3 +0.2
BJI Beijing 33.61 33 P P 13 46 41.5 +0.5
BJI pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 33.66 335 P P 13 46 42.4 +0.7
AAK IAmb IAmb 13 46 44.5
comp=Z,21nm,1.2s
AAK Ala-Archa 33.66 335 LR LR 14 02 05.1
comp=Z,406nm,21.6s,baz=155,slow=39
AAK Ala-Archa 33.66 335*c* *i*P P 13 46 43.1 +1.4
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 33.66 335 P P 13 46 42.6 +1.0
AAK pP **pP** 13 46 55.0 +0.4
AAK sP **sP** 13 47 00.2 -0.2
ARXS Arharly 33.76 340 *e*P P 13 46 42.9 +0.5
TDK Taldyqorghan 34.27 341 *e*P P 13 46 47.1 +0.4
TDK Taldyqorghan 34.27 341 *e*P P 13 46 47.1 +0.4
SGDS Sogindy 34.28 336 *e*P P 13 46 47.4 +0.5
comp=Z,7.3nm,1.0s
MK31 Makanchi Array 34.88 347 *i*P P 13 46 52.0 0.0
MK31 pmax pmax
comp=Z,20nm,0.7s
MKAR Makanchi Array 34.88 347 P 13 46 52.2 +0.2
MKAR Makanchi Array 34.88 347 P P 13 46 52.7 +0.7
comp=Z,22nm,0.8s,baz=162,slow=8.6,SNR=165
MKAR ScP **ScP** 13 53 06.8 +1.2
comp=Z,3.0nm,0.9s,baz=134,slow=5.2,SNR=14
MKAR LR LR 14 05 15.7
comp=Z,183nm,21.0s,baz=161,slow=43
comp=Z,22nm,0.8s
MAKZ Makanchi 34.96 346 P P 13 46 52.8 +0.1
MAKZ pP **pP** 13 47 05.2 -0.3
ZSN Zaisan 35.01 350 *e*P P 13 46 53.6 +0.6
ZSN pmax pmax
comp=Z,7.0nm,0.8s
ZSN Zaisan 35.01 350 *e*P P 13 46 53.7 +0.6
comp=Z,7.3nm,0.8s
DZA Taraz 35.26 332 *e*P P 13 46 55.7 +0.4
DZA Taraz 35.26 332 *e*P P 13 46 55.8 +0.4
IUG Iuzhnay 35.31 330 *e*P P 13 46 56.5 +0.6
IUG pmax pmax
comp=Z,13nm,0.8s
IUG Iuzhnay 35.31 330 *e*P P 13 46 56.5 +0.6
comp=Z,13nm,0.8s
JOW Kunigami 35.52 62 *e*S S 13 52 33.1 +3.0
comp=Z,77nm,24.5s
JOW *e*LR LR 13 56 25.6
comp=Z,398nm,22.6s
JOW Kunigami 35.52 62 LR LR 14 02 47.9
comp=Z,229nm,21.6s,baz=316,slow=38
CHM Chimkent 35.66 329 *e*P P 13 46 59.5 +0.8
CHM Chimkent 35.66 329 *e*P P 13 46 59.5 +0.8
KK31 Karatay Array 35.81 331 P 13 47 00.1 +0.1
KK31 IAmb IAmb 13 47 02.0
comp=Z,20nm,1.2s
KK31 Karatay Array 35.81 331 *i*P P 13 47 00.8 +0.8
KKAR Karatay Array 35.81 331 P 13 46 59.3 -0.7
KKAR Karatay Array 35.81 331 P P 13 46 59.3 -0.7
BTLS Baital 35.84 337*c* *i*P P 13 47 00.7 +0.5
BTLS pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 35.84 337⇑ *i*P P 13 47 00.8 +0.5
comp=Z,10nm,1.0s
BRLS Boroldaу 36.07 330*c* *i*P P 13 47 01.8 -0.5
BRLS Boroldaу 36.07 330⇑ *i*P P 13 47 01.8 -0.5
SONM Songino Array 36.37 15 P 13 47 05.4 +0.5
SONM Songino Array 36.37 15 P P 13 47 06.1 +1.1
comp=Z,11nm,0.9s,baz=199,slow=9.3,SNR=42
SONM ScP **ScP** 13 53 12.1 +0.9
comp=Z,1.7nm,0.7s,baz=199,slow=4.0,SNR=11
SONM LR LR 14 04 24.3
comp=Z,176nm,21.6s,baz=186,slow=40
comp=Z,11nm,0.9s
XLT XiLinHaoTe 36.45 28 *e*P P 13 47 06.0 +0.4
XLT pP pP 13 47 17.5 -0.8
XLT PP **PP** 13 48 28.8 -0.5
XLT S **S** 13 52 47.5 +3.4
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,60nm,5.5s
XLT LR LR
comp=Z,120nm,16.1s
XLT LR LR
comp=Z,150nm,20.9s
ULN Ulaanbaatar 36.57 16*c* *i*P P 13 47 07.0 +0.4
ULN pmax pmax
comp=Z,9.0nm,1.1s
ZAK Zakamensk 38.12 10 *e*P P 13 47 20.3 +0.6
ZAK pmax pmax
comp=Z,7.0nm,1.2s
TJN Taejon 38.40 47 P P 13 47 21.9 -0.2
TJN Taejon 38.40 47 P P 13 47 21.9 -0.2
TJN pmax pmax
comp=Z,86nm,0.9s
KSAR Wonju Array Be 39.28 46 P P 13 47 29.1 -0.4
KSAR Wonju Array Be 39.28 46 P P 13 47 29.1 -0.4
KS19 Wonju Array Si 39.30 46 P P 13 47 29.5 -0.1
KSRS Korea Array 39.31 46 P P 13 47 29.7 0.0
comp=Z,9.3nm,0.7s,baz=241,slow=8.4,SNR=34
comp=Z,9.3nm,0.7s
KURBB Kurchatov Arra 39.35 345 P P 13 47 30.1 +0.3
comp=Z,21nm,0.8s,baz=163,slow=7.9,SNR=158
KURBB ScP **ScP** 13 53 23.4 +1.3
comp=Z,2.8nm,0.9s,baz=168,slow=3.3,SNR=13
KURBB LR LR 14 07 12.2
comp=Z,292nm,19.8s,baz=174,slow=41
comp=Z,21nm,0.8s
KURK Kurchatov 39.41 345 P 13 47 29.7 -0.6
KURK IAmb IAmb 13 47 31.8
comp=Z,23nm,0.9s
KURK Kurchatov 39.41 345*c* *i*P P 13 47 30.8 +0.5
KURK pmax pmax
comp=Z,51nm,1.7s
JNU Nakatsue 39.67 53 LR LR 14 05 04.7
comp=Z,142nm,19.7s,baz=262,slow=38
IRK Irkutsk 40.08 11 *e*P P 13 47 36.2 +0.3
IRK pmax pmax
comp=Z,22nm,0.8s
BRZS Berezniki 40.51 340 *e*P P 13 47 40.1 +0.6
BRZS Berezniki 40.51 340 *e*P P 13 47 40.1 +0.6
CN2 Changchun 41.25 36 P P 13 47 46.3 +0.7
CN2 pP pP 13 47 58.5 0.0
CN2 S **S** 13 53 56.0 -0.1
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,17.0s
ZAA0 Zalesovo Array 41.34 352 P 13 47 45.8 -0.5
ZAA0 IAmb IAmb 13 47 47.6
comp=Z,22nm,0.7s
ZALV Zalesovo Beam 41.34 352 P 13 47 46.0 -0.2
ZALV Zalesovo Beam 41.34 352 P P 13 47 46.6 +0.4
comp=Z,22nm,0.6s,baz=176,slow=8.8,SNR=100
ZALV ScP **ScP** 13 53 29.9 0.0
comp=Z,1.4nm,0.6s,baz=180,slow=2.8,SNR=8.1
ZALV LR LR 14 08 30.4
comp=Z,100nm,18.6s,baz=180,slow=41
comp=Z,22nm,0.6s
MBWA Marble Bar 42.80 142 P P 13 47 56.9 -1.7
MBWA Marble Bar 42.80 142 P P 13 47 57.3 -1.3
MBWA pP **pP** 13 48 10.4 -1.1
BNX BinXian 43.53 35 ⇓P P 13 48 04.5 +0.3
BNX pmax pmax
comp=Z,24nm,1.1s
BVA0 Borovoye Array 43.85 340 *i*P P 13 48 06.8 +0.2
BVAR Borovoye Array 43.85 340 P P 13 48 06.8 +0.2
comp=Z,8.9nm,0.5s,baz=138,slow=7.6,SNR=41
comp=Z,8.9nm,0.5s
FITZ Fitzroy Crossi 44.48 133 LR LR 14 08 19.9
comp=Z,200nm,20.6s,baz=325,slow=38
AB31 Akbulak array 45.33 330 P 13 48 18.6 +0.2
AB31 IAmb IAmb 13 48 20.4
comp=Z,17nm,0.9s
AB31 Akbulak array 45.33 330 *i*P P 13 48 19.4 +1.0
ABKAR Akbulak array 45.33 330 P 13 48 18.3 -0.1
USA0B Ussuriysk Arra 45.36 39⇑ *e*P P 13 48 17.0 -1.8
USRK Ussuriysk Ar. 45.36 39 P P 13 48 18.6 -0.3
comp=Z,2.8nm,0.9s,baz=247,slow=7.6,SNR=4.0
USRK LR LR 14 08 28.5
comp=Z,88nm,21.3s,baz=233,slow=38
comp=Z,2.8nm,0.9s
HEH HeiHe 46.39 30 *e*P P 13 48 26.8 0.0
HEH pmax pmax
comp=Z,12nm,0.8s
MJAR Matsushiro Arr 46.50 52 P P 13 48 29.1 +1.2
comp=Z,1.3nm,0.6s,baz=284,slow=10,SNR=4.8
MJAR PcP **PcP** 13 50 02.3 +0.5
comp=Z,1.8nm,0.5s,baz=213,slow=2.2,SNR=5.9
MJAR ScP **ScP** 13 53 52.4 +1.0
comp=Z,2.3nm,0.7s,baz=210,slow=3.4,SNR=4.5
MJAR LR LR 14 10 30.5
comp=Z,118nm,18.8s,baz=248,slow=39
comp=Z,1.3nm,0.6s
AKTO Aktyubinsk 47.04 330 LR LR 14 10 11.0
comp=Z,124nm,18.7s,baz=152,slow=38
JCJ Chichijima 47.75 65 LR LR 14 10 38.3
comp=Z,31nm,18.1s,baz=224,slow=38
AKT Akhty 48.62 314 *e*P P 13 48 44.2 -0.3
AKT *e* 13 50 08.3
AKT *e* 13 50 35.7
AKT *e*PPP PPP 13 51 27.6
AKT pmax pmax
comp=Z,17nm,1.0s
AKT MLR MLR
comp=Z,135nm,19.0s
ZEA Zeya 48.66 26 *e*P P 13 48 45.1 +0.7
GUMO Guam 50.15 83 LR LR 14 09 07.4
comp=Z,28nm,21.0s,baz=284,slow=35
GNI Garni 50.29 312 LR LR 14 13 28.6
comp=Z,80nm,18.8s,baz=118,slow=40
SVE Sverdlovsk 50.31 337*d* *i*P P 13 48 57.8 +0.9
SVE pmax pmax
comp=Z,58nm,0.8s
ARTI Arti 50.87 336 P 13 49 00.8 -0.4
ARTI Arti 50.87 336 LR LR 14 13 03.7
comp=Z,284nm,21.8s,baz=138,slow=39
ARTI Arti 50.87 336*c* *i*P P 13 49 01.2 +0.1
ARTI *P 13 49 12.0 -2.6
ARTI 13 50 11.3
ARTI 13 50 54.4
ARTI S **S** 13 56 15.4 +1.7
ARTI SS **SS** 13 59 47.3 -1.6
ARTI pmax pmax
comp=Z,28nm,0.9s
ARTI Arti 50.87 336 P P 13 49 01.3 +0.2
ARTI pP **pP** 13 49 14.0 -0.6
WRKA Warakurna 51.00 138 P P 13 49 01.4 -1.2
comp=Z,4.1nm,0.9s
NWAO Narrogin (SRO) 51.14 154 LR LR 14 11 35.5
comp=Z,107nm,19.8s,baz=324,slow=37
WRA Warramunga Arr 52.05 128 P P 13 49 09.2 -1.3
comp=Z,3.1nm,0.5s,baz=308,slow=8.7,SNR=79
WRA PcP **PcP** 13 50 21.7 -0.5
comp=Z,2.9nm,0.6s,baz=315,slow=3.3,SNR=11
comp=Z,3.1nm,0.5s
WRAB Tennant Creek 52.05 128*ce*P P 13 49 09.5 -1.0
WRAB pmax pmax
comp=Z,4.0nm,1.0s
ASAJ Asahikawa 52.20 44 LR LR 14 13 46.7
comp=Z,109nm,18.7s,baz=254,slow=39
KBZ Khabaz 52.75 315⇑ *e*P P 13 49 16.0 +0.6
KBZ pmax pmax
comp=Z,3.0nm,0.9s
SHA1 Shidzhatmaz 52.92 315*ce*P P 13 49 17.8 +0.9
KIV Kislovodsk 52.97 316 *e*P P 13 49 18.2 +1.1
KIV pmax pmax
comp=Z,14nm,1.0s
YSS Yuzhno-Sakhali 53.34 40 P P 13 49 19.7 +0.1
YSS IAmb IAmb 13 49 21.2
comp=Z,13nm,1.0s
YSS Yuzhno-Sakhali 53.34 40 *e*P P 13 49 19.9 +0.2
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,100nm,14.0s
YSS Yuzhno-Sakhali 53.34 40 P P 13 49 19.8 +0.1
YSS pP **pP** 13 49 33.1 +0.2
BELG Belogornoye 53.49 327*ce*P P 13 49 20.1 -0.6
BELG pmax pmax
comp=Z,3.0nm,0.9s
FURI Furi 53.66 272 LR LR 14 11 36.6
comp=Z,110nm,19.4s,baz=74,slow=35
AS31 Alice Springs 53.96 132 P P 13 49 22.7 -1.9
AS31 Alice Springs 53.96 132 P P 13 49 23.1 -1.5
ASAR Alice Springs 53.96 132 P P 13 49 23.1 -1.5
comp=Z,3.7nm,0.4s,baz=308,slow=6.8,SNR=241
ASAR PcP **PcP** 13 50 29.2 -0.2
comp=Z,2.4nm,0.6s,baz=310,slow=4.3,SNR=7.1
ASAR LR LR 14 15 36.2
comp=Z,136nm,18.7s,baz=320,slow=40
comp=Z,3.7nm,0.4s
ASF Jabal al Asfar 54.78 300 LR LR 14 17 52.4
comp=Z,59nm,19.0s,baz=153,slow=41
SOC Sochi 54.90 314 *e*P P 13 49 28.8 -2.3
SOC *e* 13 51 32.0
SOC *e*PPP PPP 13 52 43.5
SOC *e*S **S** 13 57 07.5 -1.6
SOC *e*SS **SS** 14 00 56.1 +3.0
SOC MLR MLR
comp=Z,1µm,20.0s
YAK Yakutsk 55.42 20 LR LR 14 15 11.0
comp=Z,108nm,20.2s,baz=223,slow=38
YAK Yakutsk 55.42 20 *e*P P 13 49 33.3 -1.2
YAK *e*PP **pP** 13 49 45.0 -2.9
YAK *e* 13 51 35.3
YAK *e*PPP PPP 13 52 50.1
YAK *e*S **S** 13 57 14.8 -0.6
YAK *e*SS **pS** 13 57 33.5 +2.8
YAK *e* 13 59 16.1
YAK *e*SS **SS** 14 00 55.6 -4.9
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=Z,5.0nm,0.9s
YAK smax smax
comp=N,6.0nm,1.2s
YAK smax smax
comp=E,6.0nm,1.1s
ABPO Ambohimpanom 55.43 236 P P 13 49 35.5 +0.1
ABPO IAmb IAmb 13 49 37.9
comp=Z,15nm,1.0s
ABPO Ambohimpanom 55.43 236 P P 13 49 35.5 +0.1
ABPO pmax pmax
comp=Z,15nm,1.0s
ABPO Ambohimpanom 55.43 236 P P 13 49 35.9 +0.5
KIRV Kirov 55.99 334 P P 13 49 39.0 +0.4
comp=Z,18nm,0.4s,baz=122,slow=4.5,SNR=9.5
KIRV LR LR 14 16 27.0
comp=Z,124nm,18.9s,baz=132,slow=39
comp=Z,18nm,0.4s
KIRV Kirov 55.99 334*c* *i*P P 13 49 38.8 +0.2
MMAI Mount Meron Ar 56.13 301 LR LR 14 18 38.7
comp=Z,83nm,18.7s,baz=94,slow=41
KMBO Kilima Mbogo 57.29 260⇑ *e*P P 13 49 49.0 +0.1
VOI Vohitsoka 57.31 233 P P 13 49 49.0 +0.3
VOI IAmb IAmb 13 49 50.6
comp=Z,22nm,1.0s
BR131 Keskin Array S 58.47 309 P 13 49 56.0 -0.7
BR131 IAmb IAmb 13 50 11.6
comp=Z,8.9nm,0.8s
BR131 Keskin Array S 58.47 309*de*P P 13 49 56.4 -0.3
BRTR Keskin Array B 58.47 309 P 13 49 55.7 -1.0
BRTR Keskin Array B 58.47 309 P P 13 49 56.5 -0.2
comp=Z,2.9nm,1.0s,baz=128,slow=8.0,SNR=11
comp=Z,2.9nm,1.0s
MOS Moscow 60.25 327 *e*P P 13 50 07.5 -1.0
OBN Obninsk 60.58 327 P P 13 50 11.2 +0.4
comp=Z,24nm,0.4s,baz=50,slow=3.3,SNR=5.0
comp=Z,24nm,0.4s
OBN Obninsk 60.58 327*c* *i*P P 13 50 11.1 +0.4
OBN *i* 13 50 55.5
OBN *e* 13 52 25.9
OBN pmax pmax
comp=Z,16nm,1.2s
OBN MLR MLR
comp=Z,96nm,18.0s
INKA Innaminka 61.33 132 P P 13 50 16.1 -0.1
KLMR Klimovskoe 61.46 333 *e*P P 13 50 15.1 -1.5
KLMR pmax pmax
comp=Z,33nm,1.4s
TIXI Tiksi 62.37 12 LR LR 14 22 02.5
comp=Z,101nm,19.2s,baz=203,slow=40
MA2 Magadan 62.64 29 P 13 50 23.4 -1.2
MA2 IAmb IAmb 13 50 25.5
comp=Z,11nm,1.0s
MA2 Magadan 62.64 29 LR LR 14 21 58.7
comp=Z,62nm,18.4s,baz=241,slow=40
MA2 Magadan 62.64 29*ce*P P 13 50 24.2 -0.3
MA2 pmax pmax
comp=Z,11nm,1.0s
MA2 Magadan 62.64 29 P P 13 50 24.3 -0.3
MBAR Mbarara 63.43 263⇑ *e*P P 13 50 32.2 +1.4
MBAR pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 63.61 320 P P 13 50 30.6 -0.6
comp=Z,0.5nm,0.4s,baz=89,slow=4.6,SNR=12
AKASG LR LR 14 21 51.8
comp=Z,92nm,18.6s,baz=70,slow=39
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 63.61 320⇓ *e*P P 13 50 30.9 -0.2
KIEV Kiev 63.62 320 P P 13 50 30.5 -0.7
KIEV pmax pmax
comp=Z,9.0nm,1.3s
STKA Stephens Creek 64.33 135 P P 13 50 36.0 -0.1
comp=Z,1.4nm,0.3s,baz=309,slow=13,SNR=3.7
STKA LR LR 14 19 16.8
comp=Z,107nm,21.9s,baz=302,slow=37
comp=Z,1.4nm,0.3s
PEA0B Petropavlovsk- 64.38 37*ce*P P 13 50 35.5 -0.7
PETK Petropavlovsk- 64.38 37 P P 13 50 35.5 -0.7
comp=Z,1.2nm,0.6s,baz=248,slow=2.3,SNR=5.5
PETK LR LR 14 22 59.3
comp=Z,34nm,18.1s,baz=231,slow=40
comp=Z,1.2nm,0.6s
VRI Vrincioaia 64.42 315 P P 13 50 37.6 +1.0
VRI pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 64.64 26⇑ *e*P P 13 50 36.9 -0.8
SEY pmax pmax
comp=Z,11nm,2.5s
MLR Muntele Rosu 64.92 314 P P 13 50 41.1 +1.0
comp=Z,8.0nm,0.9s,baz=341,slow=1.8,SNR=5.3
MLR LR LR 14 22 58.1
comp=Z,102nm,20.3s,baz=74,slow=40
comp=Z,8.0nm,0.9s
MNK Minsk 65.22 324 *i*P P 13 50 41.3 -0.3
MNK *i* *PP **pP** 13 50 55.9 +0.4
MNK *i* *SP **sP** 13 51 01.5 +0.4
MNK *i* 13 51 13.0
MNK *i* 13 53 05.3
MNK *i* PPP PPP 13 54 38.7
MNK *i* S **S** 13 59 20.8 -0.4
MNK *i* *SS **sS** 13 59 48.8 +4.3
MNK *i* 14 00 36.2
MNK pmax pmax
comp=Z,20nm,0.9s
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=E,14nm,0.9s
LVZ Lovozero 66.43 339⇓ *e*P P 13 50 47.9 -1.3
LVZ pmax pmax
comp=Z,11nm,0.9s
LVZ Lovozero 66.43 339 P P 13 50 48.5 -0.7
APA Apatity 66.73 339 *e*P P 13 50 48.5 -2.6
APA *e* 13 51 10.6
APA *e* 13 53 18.4
APA *e* 14 00 36.6
APA MLR MLR
comp=Z,740nm,6.8s
VSU Vasula 66.74 328⇓ *e*P P 13 50 50.4 -0.8
VSU pmax pmax
comp=Z,12nm,1.0s
CMSA Cobar Meteorol 67.02 133 P P 13 50 52.8 -0.6
comp=Z,14nm,0.7s
KWP Kalwaria Pacla 67.57 318 *e*P P 13 50 56.7 -0.1
MSF Maaselka 67.75 336 P P 13 50 57.8 +0.2
MSF pmax pmax
comp=Z,27nm,0.9s
FIA1 FINESS Array S 67.77 331 P 13 50 57.4 -0.3
FINES FINESS Array B 67.77 331 P P 13 50 57.6 -0.1
FINES FINESS Array B 67.77 331 P P 13 50 57.8 +0.1
comp=Z,9.6nm,0.7s,baz=100,slow=8.1,SNR=35
FINES LR LR 14 22 56.3
comp=Z,104nm,18.2s,baz=78,slow=38
comp=Z,9.6nm,0.7s
FINES FINESS Array B 67.77 331 *i*P P 13 50 57.7 0.0
FINES pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 67.78 318 *e*P P 13 51 00.5 +2.4
KOLS Kolonicke sedl 67.78 318 *e*P P 13 51 00.5 +2.4
SUW Suwalki 67.84 323 *e*P P 13 50 57.8 -0.6
SUW Suwalki 67.84 323 P P 13 50 57.8 -0.6
SUW Suwalki 67.84 323 P P 13 50 57.8 -0.6
OUL Oulu 68.77 335 P P 13 51 04.3 +0.4
OUL pmax pmax
comp=Z,20nm,2.0s
VADS Vadso 69.05 341 *e*P P 13 51 06.3 +0.7
NIE Niedzica 69.12 318 P P 13 51 07.7 +1.2
NIE pmax pmax
comp=Z,3.0nm,1.0s
SGF Sodankyl 69.17 338 P P 13 51 06.5 +0.1
SGF pmax pmax
comp=Z,29nm,0.9s
OJC Ojcow 69.50 319 *e*P P 13 51 08.6 -0.2
OJC Ojcow 69.50 319 P P 13 51 08.0 -0.8
OJC Ojcow 69.50 319 P P 13 51 08.0 -0.8
KEV Kevo 69.70 340 P P 13 51 10.2 +0.6
KEV pmax pmax
comp=Z,21nm,1.7s
H04N2 CROZET ISLANDS 69.74 209 T T 15 07 10.0
baz=43,slow=74,SNR=2.4
H04N1 CROZET ISLANDS 69.75 209 T T 15 07 05.2
baz=43
H04N3 CROZET ISLANDS 69.76 209 T T 15 07 09.4
baz=43,slow=74,SNR=2.2
VYHS Vyhne 70.02 317 *e*P P 13 51 12.0 -0.1
VYHS Vyhne 70.02 317 *e*P P 13 51 12.0 -0.1
ARA0 ARCESS Array S 70.13 340 *e*P P 13 51 13.2 +0.8
ARCES ARCESS Array B 70.13 340 P P 13 51 12.7 +0.3
ARCES IAmb IAmb 13 52 49.3
comp=Z,53nm,1.8s
ARCES ARCESS Array B 70.13 340 P P 13 51 13.0 +0.7
comp=Z,3.6nm,0.4s,baz=92,slow=6.3,SNR=79
ARCES LR LR 14 25 11.9
comp=Z,159nm,18.2s,baz=114,slow=39
comp=Z,3.6nm,0.4s
ARCES ARCESS Array B 70.13 340 P P 13 51 13.0 +0.7
LSZ Lusaka 70.26 248 LR LR 14 19 09.8
comp=Z,122nm,19.2s,baz=116,slow=33
LSZ Lusaka 70.26 248 P P 13 51 15.7 +1.5
LSZ pP **pP** 13 51 29.0 +0.9
LSZ sP **sP** 13 51 34.5 +0.9
KTK1 Kautokeino 70.78 339 *e*P P 13 51 16.5 +0.3
STEB Steborice 70.79 319 *e*P P 13 51 17.5 +0.8
JAVC Velka Javorina 70.81 317 *e*P P 13 51 18.0 +1.1
MORC Moravsky Berou 70.93 318 P 13 51 17.5 -0.1
MORC Moravsky Berou 70.93 318 *e*P P 13 51 18.0 +0.4
MORC Moravsky Berou 70.93 318 P P 13 51 17.5 -0.1
MORC pmax pmax
comp=Z,9.0nm,1.0s
HAMF Hammerfest 71.04 341 *e*P P 13 51 18.7 +0.9
KRLC Kraliky 71.43 319 *e*P P 13 51 21.6 +1.0
KRLC Kraliky 71.43 319 *e*P P 13 51 21.6 +1.0
VRAC Vranov 71.53 318 LR LR 14 29 11.1
comp=Z,39nm,18.1s,baz=100,slow=41
BILL Bilibino 71.64 22*de*P P 13 51 21.6 +0.1

BILL pmax pmax
comp=Z,11nm,1.0s
DPC Dobruska-Polom 71.73 319 *e*P **P 13 51 23.9 +1.4**
DPC Dobruska-Polom 71.73 319 *e*P **P 13 51 23.9 +1.4**
KSP Ksiaz 71.77 319 *e*P **P 13 51 23.1 +0.5**
KSP Ksiaz 71.77 319 P **P 13 51 23.5 +0.9**
KSP pmax pmax
comp=Z,10.0nm,1.0s
MATP Matopo 71.82 243 LR LR 14 21 29.9
comp=Z,40nm,18.9s,baz=44,slow=35
JETT Jettan, Norway 71.88 339 *e*P **P 13 51 23.8 +0.9**
CEL Celeste 72.17 306 P **P 13 51 24.5 -0.8**
CEL lAmb lAmb 13 51 43.1
comp=Z,18nm,1.1s
TRO Tromso 72.40 339 P **P 13 51 25.9 -0.1**
PRU Pruhonice 72.87 319 P **P 13 51 29.6 +0.4**
PRU pmax pmax
comp=Z,6.0nm,1.1s
BROLN Tlhalogang 73.08 243 *i* P **P 13 51 32.0 +0.9**
BRG Berggiesshubel 73.26 319 P **P 13 51 33.7 +2.3**
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 73.26 319 *e*P **P 13 51 33.7 +2.3**
comp=Z,8.2nm,1.0s,baz=88,slow=5.5
BRG Berggiesshubel 73.26 319 *e*P **P 13 51 33.9 +2.4**
BRG Amp 13 51 34.6
comp=Z,8.2nm,1.0s
BRG Berggiesshubel 73.26 319 Amp 13 51 37.2
comp=Z,6.5nm,0.9s
BRG Berggiesshubel 73.26 319 P P 13 51 36.4 +5.0
VAE Valguarnera 73.38 305 LR LR 14 27 47.5
comp=Z,41nm,18.4s,baz=180,slow=39
FAUS Fauske 73.41 337 *e*P **P 13 51 32.4 +0.4**
GEC2 GERESS Array S 73.43 317 **P 13 51 32.0 -0.6**
GEC2 GERESS Array S 73.43 317 P **P 13 51 33.3 +0.6**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s
GEC2 GERESS Array S 73.43 317 *e*P **P 13 51 33.2 +0.6**
comp=Z,7.5nm,0.9s,baz=88,slow=5.5
GERES GERESS Array B 73.43 317 P **P 13 51 33.1 +0.5**
comp=Z,4.1nm,0.7s,baz=79,slow=6.9,SNR=28
GERES LR LR 14 30 29.9
comp=Z,36nm,18.7s,baz=90,slow=41
comp=Z,4.1nm,0.7s
STEI Steigen 73.49 337 *e*P **P 13 51 32.6 +0.2**
KHC Kasperske Hory 73.51 318 *ce*P **P 13 51 33.2 +0.2**
KHC pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 73.51 318 *e*P **P 13 51 33.5 +0.5**
MREMI Moremi 73.53 242 *i* P **P 13 51 34.8 +1.2**
MREMI Moremi 73.53 242 P **P 13 51 34.2 +0.5**
MREMI lAmb lAmb 13 51 35.5
comp=Z,29nm,0.9s
HFS Hagfors 73.58 329 P **P 13 51 33.5 +0.3**
comp=Z,4.9nm,0.4s,baz=117,slow=5.2,SNR=38
HFS LR LR 14 27 47.2
comp=Z,172nm,18.4s,baz=100,slow=39
comp=Z,4.9nm,0.4s
MOR8 Moi Rana 73.63 335 *e*P **P 13 51 33.0 -0.4**
KBA Koelnbreinsper 73.71 315 P **P 13 51 34.6 +0.2**
KBA pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 73.85 320 *i* P **P 13 51 35.0 +0.2**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 73.85 320 *e*P **P 13 51 35.1 +0.2**
comp=Z,13nm,1.4s,baz=88,slow=5.5
CLL Collm 73.85 320 *i* P **P 13 51 35.0 +0.2**
comp=Z,8.0nm,1.2s
CLL *ex* x 13 51 46.0
WET Wettzell 73.97 318 P **P 13 51 36.4 +0.7**
WET pmax pmax
comp=Z,5.0nm,1.0s
WET Wettzell 73.97 318 *e*P **P 13 51 36.3 +0.7**
comp=Z,7.7nm,1.2s,baz=88,slow=5.5
LOF Lofoten 74.14 337 *e*P **P 13 51 36.0 -0.2**
LEIR Leirfjorden 74.16 335 *e*P **P 13 51 36.6 +0.2**
STAL STALIGIAL 74.18 315 P **P 13 51 36.7 -0.3**
SHEM Shemya Is, Ala 74.19 39 LR LR 14 27 44.4
comp=Z,24nm,19.9s,baz=285,slow=38
TANN Tannenbergstha 74.20 319 *e*P **P 13 51 37.6 +0.5**
comp=Z,5.1nm,1.1s,baz=88,slow=5.5
ROTZ Rotzenmuhle 74.39 318 *e*P **P 13 51 39.0 +1.0**
comp=Z,1.9nm,1.1s,baz=88,slow=5.5
PLN Plauen 74.40 319 *e*P **P 13 51 38.8 +0.6**
comp=Z,1.1nm,0.8s,baz=88,slow=5.5
MANZ Manzenberg 74.44 319 *e*P **P 13 51 39.4 +0.9**
comp=Z,1.8nm,1.1s,baz=88,slow=5.5
NSS Namsos 74.56 334 *e*P **P 13 51 38.9 +0.1**
SPITS Spitsbergen Ar 74.62 348 P **P 13 51 39.9 +0.9**
comp=Z,4.1nm,0.6s,baz=105,slow=9.6,SNR=11
SPITS LR LR 14 31 24.2
comp=Z,96nm,19.7s,baz=104,slow=41
comp=Z,4.1nm,0.6s
NC602 NORSAR Array S 74.67 330 *e*P **P 13 51 39.3 -0.2**
NORES NORESS Array B 74.67 330 P **P 13 51 43.2 +3.7**
MOX Moxa 74.74 319 *e*P **P 13 51 40.5 +0.4**
comp=Z,11nm,1.4s,baz=88,slow=5.5
MOX *e*L L 14 29 25.7
comp=Z,74nm,19.5s
NC303 NORSAR Array S 74.76 330 P **P 13 51 39.7 -0.3**
NB2 NORSAR Subarra 74.83 330 P **P 13 51 40.0 -0.5**
comp=Z,9.8nm,1.0s,baz=92,slow=5.9
NB2 NORSAR Subarra 74.83 330 P **P 13 51 39.2 -1.3**
NB2 pmax pmax
comp=Z,1.0nm,1.0s
NB2 NORSAR Subarra 74.83 330 P **P 13 51 40.0 -0.5**
baz=92,slow=5.9
NOA NORSAR Array B 74.83 330 P **P 13 51 40.1 -0.3**
comp=Z,3.6nm,0.8s,baz=90,slow=5.7,SNR=14
NOA LR LR 14 28 03.6
comp=Z,79nm,19.4s,baz=100,slow=38
comp=Z,3.6nm,0.8s
GRF Grafenberg Arr 75.03 318 *e*L L 14 31 05.3
comp=Z,68nm,18.6s
LPHEP Lephephe 75.18 241 *i* P **P 13 51 44.6 +1.4**
LPHEP Lephephe 75.18 241 P **P 13 51 44.3 +1.0**
NRDL Niedersach Rie 75.60 321 *e*P **P 13 51 45.8 +0.9**
comp=Z,26nm,1.7s,baz=88,slow=5.5
KONO Kongsberg 75.64 329 *e*P **P 13 51 44.7 -0.4**
KONO pmax pmax
comp=Z,8.0nm,1.2s
GTTG Gottingen 75.74 320 *e*P **P 13 51 46.1 +0.3**
baz=88,slow=5.5
LBTB Lobatse 76.01 240 P **P 13 51 48.6 +0.7**
LBTB lAmb lAmb 13 51 49.9
comp=Z,29nm,1.2s
LBTB Lobatse 76.01 240 LR LR 14 21 56.2
comp=Z,122nm,19.9s,baz=68,slow=33
LBTB Lobatse 76.01 240 P **P 13 51 48.6 +0.7**
LBTB pmax pmax
comp=Z,29nm,1.3s
RETH Rethem/Aller, 76.05 321 *e*P **P 13 51 48.0 +0.5**
comp=Z,13nm,1.4s,baz=88,slow=5.5
DAVOX Davos/Dischmat 76.10 315 P **P 13 51 48.7 +0.5**
comp=Z,2.2nm,0.4s,baz=168,slow=3.5,SNR=3.8
comp=Z,2.2nm,0.4s
CKGRV CKGRV 76.30 244 *i* P **P 13 51 51.0 +1.3**
TNS Taunus Mts 76.78 319 *e*P **P 13 51 52.3 +0.4**
comp=Z,7.5nm,1.1s,baz=88,slow=5.5
BOSA Boshof 77.64 237 P **P 13 51 57.6 +0.5**
BOSA lAmb lAmb 13 51 58.6
comp=Z,18nm,0.8s
BOSA Boshof 77.64 237 P **P 13 51 58.1 +1.0**
comp=Z,12nm,0.6s,baz=82,slow=4.0,SNR=31
BOSA LR LR 14 22 51.5
comp=Z,95nm,20.6s,baz=26,slow=33
comp=Z,12nm,0.6s
QNGWA Qangwa 77.98 247 *i* P **P 13 52 00.4 +1.3**
GRTLG Ghanzi 78.53 245 *i* P **P 13 52 03.7 +1.5**
GRTLG Ghanzi 78.53 245 P **P 13 52 03.0 +0.8**
GRTLG lAmb lAmb 13 52 04.3
comp=Z,14nm,0.8s
LKGWB Lokgwabe 79.43 242 P **P 13 52 04.8 -2.2**
DZM Mont Dzumac 79.77 116 *e*LR LR 14 17 02.5
comp=Z,132nm,23.3s
CASY Casey 80.14 173 *e*LR LR 14 17 15.9
comp=Z,231nm,23.0s
GAMB Gambell 80.62 27 P **P 13 52 12.6 +0.1**
baz=280
TSUM Tsumeb 81.11 248 LR LR 14 24 29.4
comp=Z,73nm,21.7s,baz=146,slow=33
TNA Tin City 81.84 25 P **P 13 52 18.9 -0.1**
baz=284
C16K Lisburne Hills 82.15 22 P **P 13 52 20.5 -0.1**
baz=285
F14K Arctic Creek 82.51 24 P **P 13 52 21.7 -0.8**
baz=285
SPIA Saint Paul Isl 82.64 33 P **P 13 52 23.2 -0.2**
baz=283
C17K DeLong Mountai 82.87 21 P **P 13 52 23.5 -0.8**
baz=287
TAM Tamanrasset 82.99 292 P **P 13 52 25.5 -0.6**
TAM Tamanrasset 82.99 292 P **P 13 52 25.5 -0.6**
TAM pmax pmax
comp=Z,72nm,0.5s
EKA Eskdalemuir Ar 83.00 325 P **P 13 52 25.5 +0.2**
comp=Z,1.8nm,0.6s,baz=91,slow=5.5,SNR=5.7
comp=Z,1.8nm,0.6s
B18K Kokolik River 83.07 20 P **P 13 52 25.0 -0.3**
baz=289
RDOG Red Dog Mine 83.09 22 P **P 13 52 25.1 -0.4**
baz=288
F15K North Star Dit 83.12 24 P **P 13 52 25.3 -0.4**
baz=286
D17K Noatak River 83.13 22 P **P 13 52 25.3 -0.5**
baz=288
P08K Saint George I 83.14 34 P **P 13 52 25.2 -0.8**
baz=283
ANM Nome 83.14 25 P **P 13 52 25.3 -0.5**
baz=286
NFK Norfolk Island 83.28 122 *e*LR LR 14 18 44.3
MAW Mawson 83.40 191 P **P 13 52 28.0 +1.2**
comp=Z,4.6nm,2.2s
MAW Mawson 83.40 191 P **P 13 52 27.6 +0.7**
comp=Z,9.2nm,0.9s,baz=0.8,slow=7.5,SNR=10
comp=Z,9.2nm,0.9s
C18K Utukok River 83.50 21 P **P 13 52 27.6 -0.1**
baz=289
G15K Niukluk 83.57 25 P **P 13 52 27.2 -0.8**
baz=287
E17K Hotham Inlet 83.79 22 P **P 13 52 28.6 -0.5**
baz=289
C19K Lookout Ridge 83.90 20 P **P 13 52 29.5 -0.2**
baz=291
M11K Mekoryuk 83.91 29 P **P 13 52 29.2 -0.6**
baz=286
A21K Barrow 84.01 18 P **P 13 52 29.1 -1.0**
baz=293
E18K Tukpahlearik C 84.12 22 P **P 13 52 30.4 -0.4**
baz=290
G16K Koyuk River 84.12 24 P **P 13 52 30.2 -0.6**
baz=288
K13K Kusilvak Mount 84.19 28 P **P 13 52 30.8 -0.4**
baz=287
F17K Baldwin Pennin 84.21 23 P **P 13 52 29.9 -1.4**
baz=289
B20K Meade River 84.36 19 P **P 13 52 31.5 -0.5**
baz=293
NIKH Nikolski High 84.39 37 P **P 13 52 31.9 -0.5**
baz=284
H16K Elim 84.41 25 P **P 13 52 31.7 -0.6**
baz=289
J14K Nanvaranak Lak 84.44 27 P **P 13 52 32.3 -0.2**
baz=288
D19K Kuna River 84.62 21 P **P 13 52 32.6 -0.8**
baz=292
A22K Sinclair Lake 84.63 18 P **P 13 52 33.0 -0.2**
baz=295
F18K Selawik 84.76 23 P **P 13 52 34.0 0.0**
baz=291
G17K Kiwalik Mounta 84.76 24 P **P 13 52 34.0 -0.1**
baz=290
D20K Etivluk River 85.04 20 P **P 13 52 35.6 +0.1**
baz=293
H17K Granite Mounta 85.25 24 P **P 13 52 35.9 -0.7**
baz=291
M13K Dall Lake 85.25 29 P **P 13 52 36.3 -0.3**
baz=288
L14K Kuka Creek 85.27 28 P **P 13 52 36.6 -0.1**
baz=289
I17K Unalakleet 85.30 25 P **P 13 52 36.7 -0.1**
baz=290
B21K Ikpikpuk River 85.32 19 P **P 13 52 37.6 +0.9**
B21K lAmb lAmb 13 52 58.1
comp=Z,13nm,0.9s
B21K Ikpikpuk River 85.32 19 P **P 13 52 36.1 -0.7**
baz=295
E19K Redstone River 85.32 21 P **P 13 52 36.8 -0.1**
baz=293
E20K Nigu River 85.37 20 P **P 13 52 37.0 -0.2**
baz=294
F19K Shaleruckik Mo 85.37 22 P **P 13 52 36.6 -0.5**
baz=292
B22K Teshekpuk Lake 85.38 18 P **P 13 52 36.6 -0.5**
baz=296
G18K Tagagawik 85.39 23 P **P 13 52 36.2 -1.0**
baz=292
C21K Knifeblade Rid 85.47 19 P **P 13 52 37.2 -0.3**
baz=295
K15K Wolf Creek Mou 85.48 27 P **P 13 52 37.5 -0.2**
baz=290
UNV Unalaska Valle 85.52 36 P **P 13 52 37.1 -0.9**
baz=286
J16K Anvik River 85.54 26 P **P 13 52 37.5 -0.6**
baz=290
L15K Ungalak Mounta 85.70 27 P **P 13 52 38.5 -0.3**
baz=290
H18K Honhosa River 85.78 24 P **P 13 52 38.2 -1.1**
baz=292
M14K Bethel 85.80 28 P **P 13 52 38.6 -0.7**
baz=289
G19K Purcell Mounta 85.89 23 **P 13 52 40.4 +0.7**
G19K lAmb lAmb 13 53 03.5
comp=Z,8.9nm,0.9s
G19K Purcell Mounta 85.89 23 P **P 13 52 39.7 0.0**
baz=293,SNR=6.9
F20K Avaraart Lake 86.03 22 **P 13 52 40.8 +0.5**
F20K lAmb lAmb 13 52 57.4
comp=Z,22nm,1.4s
F20K Avaraart Lake 86.03 22 P **P 13 52 39.9 -0.4**
baz=294,SNR=9.3
E21K Killik River 86.04 20 **P 13 52 41.1 +0.7**
E21K lAmb lAmb 13 53 01.3
comp=Z,12nm,0.9s
E21K Killik River 86.04 20 P **P 13 52 40.1 -0.4**
baz=296,SNR=11
J17K VABM Dome 86.15 25 P **P 13 52 40.0 -1.0**
baz=292
N14K Kuskokwak Cree 86.20 29 P **P 13 52 40.8 -0.5**
baz=290
D22K Ayikyak River 86.27 19 P **P 13 52 41.0 -0.6**
baz=297
H19K Roundabout Mou 86.38 23 P **P 13 52 41.3 -0.8**
baz=294,SNR=5.5
M15K Kasigluk River 86.40 28 P **P 13 52 41.7 -0.6**
baz=290
C23K Itkillik River 86.47 18 P **P 13 52 41.9 -0.5**
baz=299
GCSA Galena City Sc 86.52 24 P **P 13 52 42.5 -0.3**
baz=293
L16K Owhat River 86.59 27 P **P 13 52 42.7 -0.5**
baz=291
O14K Tigyukauivet M 86.63 30 P **P 13 52 42.6 -0.8**
baz=290
K17K Iditarod 86.73 26 P **P 13 52 43.4 -0.5**
baz=292
F21K Alatna River 86.74 21 P **P 13 52 43.9 -0.1**
baz=296
N15K Kwethluk River 86.86 29 P **P 13 52 44.2 -0.4**
baz=291
D23K Nanushuk River 86.87 19 **P 13 52 45.5 +1.0**
D23K lAmb lAmb 13 53 05.8
comp=Z,18nm,1.1s
D23K Nanushuk River 86.87 19 P **P 13 52 44.2 -0.2**
baz=299
E22K Anaktuvuk Pass 86.89 20 P **P 13 52 44.2 -0.4**
baz=298
FALS False Pass 86.95 34 P **P 13 52 44.0 -1.1**
baz=288
L17K Donlin 86.95 27 P **P 13 52 44.7 -0.3**
baz=292
H20K Anotleneega Mo 86.99 23 P **P 13 52 45.1 -0.1**
baz=295,SNR=7.1
G21K Allakaket 87.05 22 P **P 13 52 45.2 -0.2**
baz=296
F22K John River 87.06 21 P **P 13 52 45.0 -0.5**
baz=298
M16K Timber Creek 87.08 28 P **P 13 52 45.1 -0.5**
baz=292
C24K Franklin Bluff 87.10 18 P **P 13 52 45.2 -0.3**
baz=301
J18K Innoko River 87.10 25 P **P 13 52 45.3 -0.4**
baz=294
IMAR Indian Mountai 87.20 22 P **P 13 52 47.1 +1.0**
ESDC Sonseca Array 87.24 310 P **P 13 52 46.9 -0.1**
comp=Z,0.7nm,0.5s,baz=60,slow=4.9,SNR=7.1
ESDC LR LR 14 35 39.1
comp=Z,17nm,19.4s,baz=66,slow=38
comp=Z,0.7nm,0.5s
J19K Poorman 87.33 24 P **P 13 52 46.4 -0.4**
baz=295
O15K Ungalikthiuk R 87.35 30 P **P 13 52 46.3 -0.6**
baz=291
D24K Happy Valley 87.35 18 P **P 13 52 46.2 -0.6**
baz=301
N16K Nishlik Lake 87.37 28 P **P 13 52 46.4 -0.7**
baz=292
TOLK Toolik Lake Re 87.38 19 P **P 13 52 46.5 -0.5**
baz=300
S12K Black Hills 87.41 33 P **P 13 52 45.9 -1.5**
baz=289
I20K Naaghedeneel 87.44 23 P **P 13 52 46.5 -0.8**
baz=296
G22K Bettles 87.57 21 P **P 13 52 47.7 -0.1**
baz=298
M17K Holitna River 87.61 27 P **P 13 52 47.8 -0.4**
baz=293
L18K Granite Mounta 87.61 26 P **P 13 52 47.7 -0.5**
baz=294
E23K Chandalar 87.65 20 P **P 13 52 48.0 -0.4**
baz=300
H21K Melozitna Rive 87.69 22 P **P 13 52 48.0 -0.5**
baz=297
J20K Nowinta River 87.84 24 P **P 13 52 48.4 -0.8**
baz=296
COLD Coldfoot 87.87 20 P **P 13 52 48.4 -1.0**
baz=299
D25K Kavik River 88.01 18 P **P 13 52 49.1 -0.9**
baz=303
E24K Your Creek 88.01 19 P **P 13 52 48.6 -1.5**
baz=301
O16K Kokwok River B 88.01 29 P **P 13 52 49.1 -1.0**
baz=293
N17K Nushagak Hills 88.07 28 P **P 13 52 49.4 -1.0**
baz=293
H22K Ishtalitna Cre 88.10 22 P **P 13 52 49.4 -1.1**
baz=298,SNR=6.0
C26K Camden Bay 88.11 17 P **P 13 52 49.2 -1.1**
baz=304
G23K Bananza Creek 88.19 21 P **P 13 52 49.6 -1.3**
baz=300
I21K Tanana 88.22 23 P **P 13 52 49.8 -1.2**
baz=298,SNR=5.2
K20K Telida 88.23 25 P **P 13 52 50.0 -1.1**
baz=296,SNR=5.5
P16K Nushagak River 88.28 29 P **P 13 52 50.5 -0.9**
baz=293
M18K Stony River 88.29 27 P **P 13 52 50.4 -1.0**
baz=294
BORG Borgarnes 88.35 337 LR LR 14 34 17.0
comp=Z,90nm,21.7s,baz=77,slow=37
SDPT Sand Point 88.38 33 P **P 13 52 50.6 -1.3**
baz=291
O17K Koliganek Bris 88.41 28 P **P 13 52 51.2 -0.8**
baz=294
L19K White Mountain 88.41 26 P **P 13 52 50.6 -1.4**
baz=295
F24K Squaw Lake 88.50 20 P **P 13 52 51.6 -0.7**
baz=302
S14K Fog Glacier 88.53 32 P **P 13 52 52.1 -0.7**
baz=292
TORD Torodi Ar. Bea 88.58 283 P **P 13 52 53.9 +0.2**
comp=Z,4.0nm,0.8s,baz=66,slow=4.9,SNR=22
comp=Z,4.0nm,0.8s
N18K Kilae Creek 88.59 27 P **P 13 52 51.7 -1.2**
baz=294
C27K Jago River 88.62 17 P **P 13 52 51.8 -1.0**
baz=305
CHUM Lake Minchumin 88.69 24 P **P 13 52 52.8 -0.4**
baz=298,SNR=5.0
L20K Farewell, AK 88.69 25 P **P 13 52 52.2 -1.2**
baz=296
M19K Big River Lodg 88.73 26 P **P 13 52 52.8 -0.7**
baz=296
MLY Manley 88.75 22 P **P 13 52 52.5 -1.1**
baz=299
H23K Yukon River 88.80 21 P **P 13 52 55.0 +1.2**
H23K lAmb lAmb 13 53 11.2
comp=Z,10nm,1.3s
H23K Yukon River 88.80 21 P **P 13 52 52.8 -0.9**
baz=300
E25K Arctic Village 88.92 19 P **P 13 52 53.5 -0.8**
baz=304
P17K Kvichak River 88.95 29 P **P 13 52 53.6 -0.9**
baz=294
CAST Castle Rocks 89.00 24 P **P 13 52 54.4 -0.4**
baz=298,SNR=17
CHNA Chernabura Isl 89.04 34 P **P 13 52 54.7 -0.3**
baz=292
R16K Pilot Point 89.05 31 P **P 13 52 55.2 +0.1**
baz=293
Q16K King Salmon 89.06 29 P **P 13 52 54.5 -0.5**
baz=294
G24K Hadweenzic Riv 89.06 20 P **P 13 52 54.4 -0.6**
baz=302
BPAW Bear Paw Mtn. 89.11 23 P **P 13 52 56.6 +1.4**
BPAW lAmb lAmb 13 53 11.9
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 89.11 23 P **P 13 52 54.7 -0.6**
baz=299,SNR=5.3
N19K Bonanza Creek 89.16 27 P **P 13 52 55.4 -0.2**
baz=296
F25K Christian Rive 89.18 19 P **P 13 52 55.0 -0.6**
baz=304
PPLA Purkeypile 89.20 25 P **P 13 52 55.1 -0.8**
baz=298
I23K Minto, Yukon-K 89.20 22 P **P 13 52 54.5 -1.1**
baz=300
M20K Styx River 89.27 26 P **P 13 52 55.1 -1.0**
baz=297
H24K Noodor Dome 89.38 21 P **P 13 52 55.4 -1.1**
baz=302
P18K Big Mountain, 89.43 28 P **P 13 52 55.4 -1.4**
baz=295
G25K Bearman Lake 89.49 20 P **P 13 52 55.7 -1.2**
baz=303
O19K Port Alsworth 89.50 28 P **P 13 52 56.0 -1.1**
baz=296
NEA2 Nenana 89.59 22 P **P 13 52 56.0 -1.5**
baz=300
Q17K Contact Creek 89.59 30 P **P 13 52 56.9 -0.8**
baz=294
F26K Sheenjek River 89.60 19 P **P 13 52 56.6 -0.9**
baz=305
R17L Mt. Peulik Vol 89.62 30 P **P 13 52 56.7 -1.1**
baz=294
D27M Malcolm River 89.63 17 P **P 13 52 56.6 -1.1**
baz=308
TRF Thorofare Moun 89.69 24 P **P 13 52 57.3 -0.9**
baz=299
Q18K Katmai Hardscr 89.85 29 P **P 13 52 57.7 -1.2**
baz=295
H25L Birch Creek 89.86 20 P **P 13 52 57.7 -1.0**
baz=303
COLA College 89.89 22 P **P 13 52 58.3 -0.5**
baz=302
SKT Skwentna 89.90 25 P **P 13 52 58.5 -0.5**
baz=298,SNR=12
POKR Poker Flat Res 89.92 22 P **P 13 52 58.1 -0.9**
baz=302
N20K Mount Spurr 89.98 26 P **P 13 52 58.4 -1.0**
baz=298
SYO Syowa Base 90.07 197 *e*P **P 13 53 00.8 +1.4**
SYO Syowa Base 90.07 197 *ep*P pP 13 53 15.0 +1.3
MCK McKinley 90.08 23 P **P 13 52 58.4 -1.4**
baz=301
E27K Coleen River 90.09 18 P **P 13 52 58.7 -1.1**
baz=307
G26K Porcupine Rive 90.14 19 **P 13 53 01.1 +1.2**
G26K lAmb lAmb 13 53 04.8
comp=Z,6.8nm,0.7s
G26K Porcupine Rive 90.14 19 P **P 13 52 58.8 -1.2**
baz=305
P19K Oil Pt 90.24 28 P **P 13 52 59.0 -1.6**
baz=297
RPZ Rata Peaks 90.30 135 LR LR 14 34 59.6
comp=Z,125nm,19.3s,baz=184,slow=36
ILAR Eielson Array 90.30 22 P **P 13 53 00.3 -0.5**
comp=Z,0.6nm,0.6s,baz=285,slow=4.4,SNR=13
ILAR PKKPbc **PKKPbc 14 10 29.4 -2.5**
comp=Z,0.4nm,0.6s,baz=144,slow=1.8,SNR=9.6

ILAR				LR	LR	14 40 04.8		
	comp=Z,57nm,18.3s,baz=284,slow=40							
	comp=Z,0.6nm,0.6s							
O20K	**Slope Mountain**	**90.31**	**27**	P	**P**	**13 52 59.6**	**-1.4**	
	baz=297							
PRP	**Porcupine Dome**	**90.37**	**21**	P	**P**	**13 52 59.5**	**-1.8**	
	baz=304							
E28M	**Babbage River**	**90.43**	**17**	P	**P**	**13 53 00.2**	**-1.2**	
	baz=309							
HDA	**Harding Lake**	**90.47**	**22**	P	**P**	**13 53 00.9**	**-0.7**	
	baz=302							
SUA	**Susitna One**	**90.48**	**26**	P	**P**	**13 53 01.3**	**-0.5**	
	baz=299,SNR=7.2							
M22K	**Willow**	**90.60**	**25**	P	**P**	**13 53 01.8**	**-0.3**	
	baz=300							
CAPN	**Captain Cook N**	**90.64**	**26**	P	**P**	**13 53 01.8**	**-0.6**	
	baz=299							
WAT1	**Susitna Watana**	**90.69**	**24**	P	**P**	**13 53 01.6**	**-1.1**	
	baz=301							
CHIR	**Chirikof Islan**	**90.74**	**32**	P	**P**	**13 53 01.6**	**-1.4**	
	baz=295							
G27K	**Doyon Strip**	**90.91**	**19**	P	**P**	**13 53 01.8**	**-1.8**	
	baz=307							
J25K	**Salcha River,**	**90.93**	**22**	P	**P**	**13 53 02.5**	**-1.3**	
	baz=304							
HOM	**Homer**	**90.95**	**27**	P	**P**	**13 53 02.7**	**-1.2**	
	baz=298							
F28M	**Old Crow**	**90.96**	**18**	P	**P**	**13 53 03.1**	**-0.7**	
	baz=309							
DHY	**Denali Highway**	**91.02**	**23**	P	**P**	**13 53 03.1**	**-1.3**	
	baz=302							
E29M	**Blow River**	**91.03**	**17**	P	**P**	**13 53 03.3**	**-0.8**	
	baz=311							
RC01	**Rabbit Creek A**	**91.08**	**26**	P	**P**	**13 53 03.3**	**-1.2**	
	baz=300							
PMR	**Palmer**	**91.09**	**25**	P	**P**	**13 53 03.5**	**-0.9**	
	baz=300							
Q20K	**Shuyak Island**	**91.10**	**28**	P	**P**	**13 53 03.0**	**-1.5**	
	baz=298							
WAT6	**Susitna Watana**	**91.14**	**24**	P	**P**	**13 53 04.0**	**-1.0**	
	baz=302							
SII	**Sitkinak Islan**	**91.15**	**31**	P	**P**	**13 53 04.5**	**-0.5**	
	baz=296							
K24K	**Donnelly Dome**	**91.23**	**22**	P	**P**	**13 53 04.0**	**-1.1**	
	baz=303							
H27K	**Steamboat Moun**	**91.30**	**19**	P	**P**	**13 53 04.2**	**-1.2**	
	baz=307							
OHAK	**Old Harbor**	**91.30**	**30**	P	**P**	**13 53 04.4**	**-1.2**	
	baz=297							
I26K	**Coal Creek Min**	**91.31**	**20**	P	**P**	**13 53 04.5**	**-0.9**	
	baz=306							
A36M	**Sachs Harbour**	**91.38**	**11**	P	**P**	**13 53 04.6**	**-1.0**	
	baz=323							
KDAK	**Kodiak Island**	**91.39**	**29**	LR	LR	14 38 24.8		
	comp=Z,77nm,18.5s,baz=289,slow=38							
KDAK	**Kodiak Island**	**91.39**	**29**	P	**P**	**13 53 04.7**	**-1.2**	
	baz=297							
O22K	**Cooper Landing**	**91.39**	**26**	P	**P**	**13 53 04.8**	**-1.1**	
	baz=300							
KNK	**Knik Glacier**	**91.45**	**25**	P	**P**	**13 53 05.1**	**-1.1**	
	baz=301							
M23K	**Glacier View**	**91.56**	**25**	P	**P**	**13 53 05.8**	**-0.9**	
	baz=302							
RIDG	**Independent Ri**	**91.61**	**22**	P	**P**	**13 53 06.0**	**-0.9**	
	baz=304							
J26L	**Joseph Creek**	**91.64**	**21**	P	**P**	**13 53 06.4**	**-0.8**	
	baz=305							
I27K	**Kandik River**	**91.65**	**20**	P	**P**	**13 53 06.5**	**-0.6**	
	baz=307							
SCM	**Sheep Creek Mo**	**91.70**	**24**	P	**P**	**13 53 06.2**	**-1.2**	
	baz=302							
SEW	**Seward**	**91.70**	**26**	P	**P**	**13 53 06.6**	**-0.7**	
	baz=300							
SCRK	**Sand Creek**	**91.79**	**22**	P	**P**	**13 53 07.1**	**-0.8**	
	baz=305							
PWL	**Port Wells**	**91.79**	**26**	P	**P**	**13 53 08.8**	**+1.0**	
PWL	**Port Wells**	**91.79**	**26**	P	**P**	**13 53 07.1**	**-0.7**	
	baz=301							
PAX	**Paxson**	**91.81**	**23**	P	**P**	**13 53 06.9**	**-1.0**	
	baz=304							
G29M	**Pine Creek**	**91.96**	**18**	P	**P**	**13 53 07.7**	**-0.8**	
	baz=311							
M24K	**Tolsona, Glenn**	**92.01**	**24**	P	**P**	**13 53 08.1**	**-0.7**	
	baz=303							
F30M	**Barrier River**	**92.15**	**17**	P	**P**	**13 53 08.8**	**-0.5**	
	baz=313							
SNZO	**South Karori**	**92.20**	**132**	*e*LR	LR	14 22 49.5		
	comp=Z,12nm,23.0s							
HARP	**HAARP**	**92.25**	**23**	P	**P**	**13 53 09.2**	**-0.7**	
	baz=304							
INK	**Inuvik**	**92.28**	**16**	LR	LR	14 40 16.0		
	comp=Z,39nm,20.4s,baz=18,slow=39							
INK	**Inuvik**	**92.28**	**16**	P	**P**	**13 53 09.6**	**-0.2**	
	baz=315							
RES	**Resolute Bay**	**92.30**	**2**	LR	LR	14 38 14.9		
	comp=Z,53nm,19.8s,baz=10.0,slow=38							
GLI	**Glacier Island**	**92.30**	**25**	P	**P**	**13 53 08.8**	**-1.4**	
	baz=302							
I28M	**Miner Creek**	**92.30**	**20**	P	**P**	**13 53 09.6**	**-0.6**	
	baz=309							
H29M	**Whitestone**	**92.31**	**19**	P	**P**	**13 53 09.2**	**-0.9**	
	baz=310							
K27K	**Chicken**	**92.44**	**21**	P	**P**	**13 53 10.1**	**-0.7**	
	baz=307							
KLU	**Klutina**	**92.45**	**24**	P	**P**	**13 53 10.1**	**-0.8**	
	baz=303							
G30M	**tAoh Zraii Nji**	**92.45**	**17**	P	**P**	**13 53 09.8**	**-0.9**	
	baz=312							
EPYK	**Eagle Plains**	**92.71**	**18**	P	**P**	**13 53 11.5**	**-0.5**	
	baz=312							
F31M	**Tsiigehtchic**	**92.83**	**16**	P	**P**	**13 53 11.9**	**-0.5**	
	baz=315							
I29M	**Ogilvie Camp,**	**92.88**	**19**	P	**P**	**13 53 11.9**	**-0.8**	
	baz=310							
N25K	**Chitina, Valde**	**92.91**	**24**	P	**P**	**13 53 11.8**	**-1.3**	
	baz=304							
EYAK	**Cordova Ski Ar**	**93.03**	**25**	P	**P**	**13 53 12.2**	**-1.2**	
	baz=303							
JOHN	**Johnston Islan**	**93.04**	**72**	*e*LR	LR	14 23 14.1		
	comp=Z,55nm,25.4s							
G31M	**Satah River**	**93.05**	**17**	P	**P**	**13 53 12.2**	**-1.2**	
	baz=314							
M26K	**Nabesna, AK**	**93.07**	**23**	P	**P**	**13 53 12.7**	**-1.0**	
	baz=306							
L27K	**Beaver Creek,**	**93.11**	**22**	P	**P**	**13 53 13.0**	**-0.9**	
	baz=307							
URZ	**Urewera**	**93.22**	**128**	LR	LR	14 38 08.1		
	comp=Z,116nm,18.8s,baz=266,slow=37							
BMRM	**Bremner River**	**93.27**	**24**	P	**P**	**13 53 13.5**	**-1.1**	
	baz=304							
DAWY	**Dawson**	**93.35**	**20**	P	**P**	**13 53 13.9**	**-1.1**	
	baz=309							
Q23K	**Middleton Isla**	**93.39**	**26**	P	**P**	**13 53 14.1**	**-1.0**	
	baz=303							
M27K	**Edge Creek, AK**	**93.52**	**23**	P	**P**	**13 53 16.5**	**+0.6**	
M27K				IAmb	IAmb	13 53 34.4		
	comp=Z,7.6nm,1.1s							
M27K	**Edge Creek, AK**	**93.52**	**23**	P	**P**	**13 53 15.0**	**-0.9**	
	baz=307							
I30M	**Mount Dempster**	**93.58**	**19**	P	**P**	**13 53 14.8**	**-1.3**	
	baz=312							
MCARA	**McCarthy VSAT**	**93.66**	**24**	P	**P**	**13 53 15.8**	**-0.6**	
	baz=306							
C36M	**Paulatuk**	**93.73**	**12**	P	**P**	**13 53 15.5**	**-1.0**	
	baz=324							
H31M	**Peel River**	**93.81**	**18**	P	**P**	**13 53 15.3**	**-1.7**	
	baz=314							
BVCY	**Beaver Creek**	**93.86**	**22**	P	**P**	**13 53 16.3**	**-1.0**	
	baz=308							
KAIM	**Kayak Island**	**93.93**	**25**	P	**P**	**13 53 16.6**	**-1.1**	
	baz=304							
CRQE	**Cirque**	**94.00**	**24**	P	**P**	**13 53 16.9**	**-1.3**	
	baz=306							
J30M	**Hart River**	**94.03**	**19**	P	**P**	**13 53 17.1**	**-1.1**	
	baz=312							
K29M	**Barlow Dome**	**94.13**	**20**	P	**P**	**13 53 17.6**	**-1.0**	
	baz=311							
BGLC	**Bering Glacier**	**94.29**	**25**	P	**P**	**13 53 18.5**	**-0.7**	
	baz=306							
L29M	**L29M**	**94.40**	**21**	P	**P**	**13 53 18.8**	**-1.1**	
	baz=310							
YUK3	**Moose Creek**	**94.40**	**23**	P	**P**	**13 53 18.6**	**-1.5**	
	baz=308							
CTG	**Chitna Glacier**	**94.56**	**24**	P	**P**	**13 53 19.2**	**-1.5**	
	baz=307							
M29M	**Somme Creek**	**94.71**	**21**	P	**P**	**13 53 20.0**	**-1.4**	
	baz=310							
MESA	**MESA**	**94.80**	**24**	P	**P**	**13 53 20.3**	**-1.6**	
	baz=307							
MAYO	**Mayo, Yukon**	**94.84**	**20**	P	**P**	**13 53 20.5**	**-1.2**	
	baz=312							
YUK8	**Steele Glacier**	**94.97**	**23**	P	**P**	**13 53 20.7**	**-2.0**	
	baz=309							
O28M	**Mount Upton**	**95.13**	**23**	P	**P**	**13 53 22.1**	**-1.4**	
	baz=308							
M30M	**Minto, Yukon**	**95.21**	**21**	P	**P**	**13 53 22.9**	**-0.6**	
	baz=312							
YUK4	**Talbot Arm**	**95.35**	**22**	P	**P**	**13 53 22.8**	**-1.6**	
	baz=310							
PINM	**Pinnacle**	**95.52**	**24**	P	**P**	**13 53 23.8**	**-1.3**	
	baz=308							
YUK6	**Outpost Mounta**	**95.71**	**23**	P	**P**	**13 53 24.9**	**-1.2**	
	baz=310							
N30M	**Aishikik Lake**	**95.85**	**22**	P	**P**	**13 53 25.4**	**-1.0**	
	baz=311							
SFJD	**Kangerlussuaq**	**95.92**	**347**	LR	LR	14 48 14.7		
	comp=Z,22nm,18.2s,baz=30,slow=43							
O29M	**Mount Kennedy**	**96.04**	**23**	P	**P**	**13 53 26.0**	**-1.5**	
	baz=310							
HYT	**Haines Junctio**	**96.11**	**22**	P	**P**	**13 53 26.4**	**-1.4**	
	baz=311							
PNL	**Peninsula**	**96.13**	**24**	P	**P**	**13 53 26.8**	**-0.9**	
	baz=309							
M31M	**Dry Creek, Y**	**96.29**	**20**	P	**P**	**13 53 27.1**	**-1.4**	
	baz=314							
N31M	**Braeburn, Yuko**	**96.30**	**21**	P	**P**	**13 53 26.7**	**-1.8**	
	baz=312							
O30N	**Mendenhall**	**96.67**	**22**	P	**P**	**13 53 29.1**	**-1.1**	
	baz=312							
P30M	**Million Dollar**	**96.78**	**23**	P	**P**	**13 53 29.4**	**-1.3**	
	baz=311							
P29M	**Windy Craggy**	**96.80**	**23**	P	**P**	**13 53 28.9**	**-1.8**	
	baz=310							
MMPY	**Sheldon Lake,**	**97.03**	**19**	P	**P**	**13 53 29.7**	**-2.1**	
	baz=317							
WHY	**Whitehorse**	**97.18**	**22**	P	**P**	**13 53 31.0**	**-1.6**	
	baz=313							
PLBC	**Pleasant Camp**	**97.44**	**23**	P	**P**	**13 53 32.2**	**-1.5**	
	baz=312							
N32M	**Quiet Lake**	**97.47**	**21**	P	**P**	**13 53 32.3**	**-1.6**	
	baz=315							
SKAG	**Skagway**	**97.83**	**23**	P	**P**	**13 53 33.2**	**-2.2**	
	baz=313							
VNDA	**Vanda**	**98.14**	**168**	LR	LR	14 34 20.9		
	comp=Z,54nm,18.5s,baz=356,slow=33							
P33M	**Teslin, Yukon**	**98.23**	**21**	P	**P**	**13 53 35.1**	**-2.2**	
	baz=315							
P32M	**Atlin**	**98.34**	**22**	P	**P**	**13 53 36.0**	**-1.7**	
	baz=314							
S31K	**Pelican**	**98.49**	**24**	P	**P**	**13 53 36.5**	**-1.8**	
	baz=312							
TGTN	**Haland Airport**	**98.78**	**19**	P	**P**	**13 53 38.3**	**-1.4**	
	baz=319							
R32K	**Eaglecrest**	**98.95**	**23**	P	**P**	**13 53 39.0**	**-1.5**	
	baz=313							
Q32M	**Nakina River**	**99.32**	**22**	P	**Pdif**	**13 53 40.4**	**-1.9**	
	baz=315							
SIT	**Sitka**	**99.46**	**25**	P	**Pdif**	**13 53 41.3**	**-1.3**	
	baz=312							
R33M	**Jennings River**	**99.47**	**21**	P	**Pdif**	**13 53 41.9**	**-1.0**	
	baz=317							
WTLY	**Watson Lake, Y**	**99.68**	**20**	P	**Pdif**	**13 53 42.8**	**-0.9**	
	baz=319							
S34M	**Telegraph Cree**	**100.49**	**22**	P	**Pdif**	**13 53 45.7**	**-1.5**	
	baz=316							
NIUE	**Niue**	**100.50**	**107**	*e*LR	LR	14 26 33.9		
	comp=Z,96nm,28.3s							
DLBC	**Dease Lake**	**100.50**	**22**	P	**Pdif**	**13 53 47.1**	**-0.4**	
	baz=317							
U33K	**Whale Pass**	**100.99**	**24**	P	**Pdif**	**13 53 48.9**	**-0.6**	
	baz=314							
WRAK	**Wrangell Islan**	**101.09**	**24**	P	**Pdif**	**13 53 49.2**	**-0.7**	
	baz=315							
KOTAN	**Kotaneelee Air**	**101.17**	**18**	P	**Pdif**	**13 53 49.2**	**-1.1**	
	baz=323							
CRAG	**Craig**	**101.44**	**25**	P	**Pdif**	**13 53 50.5**	**-1.1**	
	baz=314							
T35M	**Bob Quinn**	**101.49**	**23**	P	**Pdif**	**13 53 50.4**	**-1.4**	
	baz=317							
TOAD	**Toad River Com**	**101.82**	**19**	P	**Pdif**	**13 53 52.2**	**-1.1**	
	baz=322							
V35K	**Ketchikan**	**102.15**	**24**	P	**Pdif**	**13 53 53.8**	**-0.9**	
	baz=315							
POHA	**Pohakuloa**	**104.87**	**65**	*e*LR	LR	14 28 38.1		
	comp=Z,3.1nm,28.9s							
RAR	**Rarotonga**	**110.25**	**108**	*e*LR	LR	14 31 07.9		
	comp=Z,42nm,22.0s							
PPT2	**Papeete2**	**119.46**	**103**	*e*LR	LR	14 35 16.8		
	comp=Z,38nm,22.5s							
PPT2				*e*LR	LR	14 35 26.0		
	comp=Z,115nm,26.5s							
TBI	**Tubuai**	**119.93**	**110**	*e*LR	LR	14 35 37.8		
	comp=Z,573nm,33.5s							
PDAR	**Pinedale Array**	**120.64**	**19**	PKP	**PKPdf**	**13 58 52.2**	**-0.2**	
	comp=Z,0.6nm,0.4s,baz=96,slow=1.5,SNR=6.6							
PDAR				PKPbc	**PKKPbc**	**14 08 56.4**	**-2.4**	
	comp=Z,0.4nm,0.5s,baz=140,slow=4.6,SNR=4.2							
NVAR	**Mina Array Bea**	**120.88**	**29**	PKP	**PKiKP**	**13 58 54.1**	**+1.0**	
	comp=Z,1.6nm,0.6s,baz=315,slow=2.7,SNR=12							
PMSA	**Palmer Station**	**126.02**	**192**	*e*LR	LR	14 38 23.7		
	comp=Z,183nm,23.0s							
TXAR	**Lajitas Array**	**134.81**	**21**	PKP	**PKiKP**	**13 59 20.3**	**-0.7**	
	comp=Z,1.0nm,0.5s,baz=112,slow=0.4,SNR=20							
TXAR				SKPbc	**SKPbc**	**14 02 47.3**	**+1.3**	
	comp=Z,2.0nm,0.9s,baz=270,slow=0.7,SNR=12							
PLCA	**Paso Flores**	**148.98**	**204**	PKPbc	**PKiKP**	**13 59 49.0**	**-0.6**	
	comp=Z,10nm,0.7s,baz=153,slow=2.5,SNR=23							
CPUP	**Villa Florida**	**149.41**	**240**	PKPbc	**PKPbc**	**13 59 49.4**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=26,slow=5.8,SNR=3.2							
LPAZ	**La Paz**	**161.71**	**258**	PKP	**PKPdf**	**14 00 03.3**	**+0.6**	
	comp=Z,1.9nm,0.6s,baz=56,slow=1.4,SNR=7.1							

BUC 28 13:49:34.1±0.2, 46°38'N×25°30'E, h4km±2km, ml1.4/10, 9C-7D, Error ellipse: s-maj=1.5km s-min=1.5km az=127.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DOPR	**Dopca**	**0.42**	**171**	⇓S	Sg	13 49 47.8	+0.3
OZUR		**0.44**	**130**	⇓P	Pg	13 49 42.1	-0.5
OZUR				⇑S	Sg	13 49 48.7	+0.4
COVR	**Voineasa-Covas**	**0.82**	**130**	⇓S	Sg	13 50 01.2	+0.6
MLR	**Muntele Rosu**	**1.00**	**153**	⇑P	Pg	13 49 53.5	+0.3
MLR				⇑S	Sb	13 50 07.1	-0.4
TNR	**Turnu Rosu**	**1.02**	**225**	⇑S	Sb	13 50 07.7	-0.5
PLOR	**Plostina**	**1.08**	**119**	⇑P	Pg	13 49 55.0	+0.3
PLOR				⇑S	Sb	13 50 09.6	-0.1
ARR	**Arges**	**1.11**	**205**	⇑S	Sn	13 50 11.8	-0.5
VRI	**Vrincioaia**	**1.12**	**117**	⇓P	Pb	13 49 56.0	0.0
VRI				⇑S	Sb	13 50 11.6	+0.7
BURAR	**Bucovina Array**	**1.24**	**357**	⇑S	Sn	13 50 16.2	+0.7
MARR	**Marisel-Cluj**	**1.54**	**282**	⇓S	Sg	13 50 23.9	+0.5
DRGR		**1.83**	**284**	⇓P	Pn	13 50 06.5	0.0
DRGR				⇓S	Sn	13 50 30.7	+0.6

*SOME **28** 14:11:45.2, 42°.95N×79°.30E, h20km*
*NNC **28** 14:11:45.4±0.5, 42°.97N×79°.32E, h0km, mb3.6, mpv2.7, Error ellipse: s-maj=3.8km s-min=1.6km az=148.0*

ISC 28 14:11:41.6±3.6, 42°.7N±0°.2×79°.37E±0°.09, h12km±16km, n9, σ2°.69/17, 1C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.46**	**8**	P	**Pn**	**14 11 54.9**	**+0.8**
	9.9nm,0.1s						
SHLS				S	**Sn**	**14 12 01.5**	**+4.7**
	71nm,0.3s						
SHLS	**Shalkode**	**0.46**	**8**	*e*P	**Pn**	**14 11 54.9**	**+0.8**
	9.9nm,0.1s						
SHLS				*e*S	**Sn**	**14 12 01.5**	**+4.7**
	71nm,0.3s						
UZB	**Uzymbulak**	**0.51**	**330**	P	**Pb**	**14 11 51.8**	**-0.8**
	10.0nm,0.1s						
UZB				S	**Sg**	**14 11 56.2**	**-2.3**
	66nm,0.1s						
UZB	**Uzynbulak**	**0.51**	**330**	*e*P	**Pb**	**14 11 51.8**	**-0.8**
	10.0nm,0.1s						
UZB				*e*S	**Sg**	**14 11 56.2**	**-2.3**
	66nm,0.1s						
PDGK	**Podgornoye**	**0.63**	**8**	⇓P	**Pb**	**14 11 52.9**	**-1.8**
	1.5nm,0.2s						
PDGK				⇑S	**Sg**	**14 11 58.3**	**-4.0**
	16nm,0.5s						
SATY	**Saty**	**0.79**	**297**	P	**Pn**	**14 11 58.6**	**-0.1**
	2.5nm,0.2s						
SATY				S	**Sg**	**14 12 08.0**	**+0.6**
	28nm,0.1s						
KPKS	**Kokpek**	**0.91**	**327**	P	**Pg**	**14 11 58.5**	**-0.7**
	0.1nm,0.1s						
KPKS				S	**Sg**	**14 12 07.7**	**-3.4**
	21nm,0.2s						
KNDC	**Almaty**	**1.84**	**287**	⇓P	**Pg**	**14 12 16.3**	**-0.6**
	18nm,0.5s						
KNDC				⇓S	**Sb**	**14 12 40.1**	**+1.9**
	8.6nm,0.5s						
KTBS	**Karatobe**	**2.21**	**298**	Pg	**Pg**	**14 12 22.9**	**-1.0**
	1.3nm,0.2s						
KTBS				Lg	Lg	14 12 49.8	
	3.5nm,0.6s						

IDC 28 14:17:49.5±1.5, 4°.30S×138°.86E, h0km, mb3.3/1, mbtmp3.3/5, ML3.2/4, Error ellipse: s-maj=45.4km s-min=16.1km az=130.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.55**	**46**	P	Pn	14 18 34.0	+1.8
	1.4nm,0.3s,baz=229,slow=7.4,SNR=12						
JAY				Lg	Lg	14 19 09.9	
	3.0nm,0.3s,baz=168,slow=21,SNR=6.7						
	4.1nm,0.4s						
WRA	**Warramunga Arr**	**16.17**	**195**	P	Pn	14 21 36.5	-1.8
	0.1nm,0.3s,baz=18,slow=12,SNR=5.9						
	0.2nm,0.3s						
FITZ	**Fitzroy Crossi**	**18.86**	**222**	P	Pn	14 22 13.3	+1.5
	0.1nm,0.3s,baz=32,slow=13,SNR=1.3						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**19.84**	**194**	P	P	14 22 21.9	-0.3
	0.1nm,0.3s,baz=27,slow=8.9,SNR=18						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**71.13**	**323**	P	P	14 29 09.2	-0.8
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.4						
	0.2nm,0.5s						

*AFAD **28** 14:37:40.6, 35°.71N×27°.65E, h3km±3km, ML2.4*
*ATH **28** 14:37:42.9, 35°.86N×27°.52E, h14km±4km, ML2.7/6, Manual Solution by A.Plessa First location: 2019/08/28 14:39:25, This location: 2019/08/28 14:57:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 6 km*
*ISK **28** 14:37:43.1, 35°.80N×27°.60E, h5km, ML2.8/9*
*THE **28** 14:37:43.3, 36°N±24°×2°.7E±2°.0, h5km±20km, M2.7/4, MLh2.7/4*

ISC 28 14:37:42.9±1.1, 35°.79N±0°.04×27°.58E±0°.04, h13km±9km, n33, σ0°85/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.42**	**235**	P	**Pg**	**14 37 51.5**	**+0.3**
KARP				S	**Sb**	**14 37 58.7**	**+0.3**
KARP	**Karpathos**	**0.42**	**235**	P	**Pg**	**14 37 51.5**	**+0.3**
KARP				S	**Sg**	**14 37 57.7**	**+0.9**
ARG	**Arkhangelos**	**0.61**	**46**	Pg	**Pb**	**14 37 55.2**	**-0.3**
ARG				Sg	**Sb**	**14 38 04.0**	**-0.1**
ARG	**Arkhangelos**	**0.61**	**46**	P	**Pb**	**14 37 55.2**	**-0.3**
ARG				S	**Sb**	**14 38 04.0**	**-0.1**
ARG	**Arkhangelos**	**0.61**	**46**	P	**Pg**	**14 37 55.0**	**+0.1**
ARG				S	**Sg**	**14 38 03.0**	**0.0**
YAZI	**Mula-Dat§a-**	**0.90**	**353**	P	**Pg**	**14 37 59.9**	**-0.3**
YAZI				S	**Sb**	**14 38 13.1**	**+0.8**
YAZI				*i* IAML		14 38 18.0	
	comp=N,59nm,0.6s						
YAZI				*i* IAML		14 38 19.0	
	comp=E,51nm,0.4s						
DAT	**Datca**	**0.94**	**360**	Pg	**Pb**	**14 38 01.6**	**+0.5**
DAT				Sg	**Sn**	**14 38 15.1**	**-0.2**
DAT	**Datca**	**0.94**	**360**	P	**Pb**	**14 38 01.6**	**+0.5**
DAT				S	**Sn**	**14 38 15.2**	**-0.2**
DAT				*i* IAML		14 38 18.0	
	comp=E,150nm,0.6s						
DAT				*i* IAML		14 38 19.0	
	comp=N,133nm,0.4s						
TURN	**Turunc**	**1.12**	**28**	Pn	**Pb**	**14 38 04.1**	**-0.1**
TURN				Sn	**Sn**	**14 38 20.0**	**+0.3**
TURN	**Turunc**	**1.12**	**28**	P	**Pb**	**14 38 03.2**	**-0.9**
TURN				S	**Sn**	**14 38 19.7**	**+0.1**
TURN				*i* IAML		14 38 22.0	
	comp=E,127nm,0.3s						
TURN				*i* IAML		14 38 27.0	
	comp=N,169nm,0.4s						
BDRM	**Kayabasi**	**1.28**	**355**	P	**Pn**	**14 38 05.1**	**-1.5**
BDRM				S	**Sb**	**14 38 23.7**	**+0.4**
BDRM				*i* IAML		14 38 30.0	
	comp=E,61nm,0.5s						
ZKR	**Zakros**	**1.30**	**239**	P	**Pn**	**14 38 07.0**	**+0.2**
ZKR	**Zakros**	**1.30**	**239**	P	**Pn**	**14 38 06.9**	**+0.1**
ZKR				S	**Sb**	**14 38 23.6**	**-0.3**
IZZE	**Mula-Seydike**	**1.48**	**63**	P	**Pn**	**14 38 08.7**	**-0.6**
IZZE				S	**Sg**	**14 38 29.6**	**-0.9**
IZZE				*i* IAML		14 38 30.0	
	comp=N,154nm,0.4s						
IZZE				*i* IAML		14 38 30.0	
	comp=E,123nm,0.4s						
SABU	**Mula-Dalaman**	**1.52**	**47**	P	**Pn**	**14 38 09.7**	**-0.2**
SABU				S	**Sg**	**14 38 31.7**	**-0.3**
SABU				*i* IAML		14 38 39.0	
	comp=E,53nm,0.5s						
SABU				*i* IAML		14 38 41.0	
	comp=N,69nm,0.4s						
NPS	**Neapolis**	**1.69**	**253**	P	**Pn**	**14 38 11.6**	**-0.6**
NPS	**Neapolis**	**1.69**	**253**	P	**Pn**	**14 38 11.6**	**-0.6**
THERA	**Ancient Thera,**	**1.80**	**289**	P	**Pn**	**14 38 12.9**	**-0.8**
CAME	**Cameli-Denizli**	**1.81**	**50**	Pn	**Pb**	**14 38 15.7**	**-0.2**
CAME				Sn	**Sb**	**14 38 38.9**	**+0.4**
DNZT	**Denizli-Tavas-**	**1.89**	**37**	P	**Pn**	**14 38 16.1**	**+1.1**
DNZT				S	**Sg**	**14 38 43.7**	**+0.1**
DNZT				*i* IAML		14 38 46.0	
	comp=E,22nm,0.5s						
DNZT				*i* IAML		14 38 48.0	
	comp=N,30nm,0.5s						
KNIK	**Mula-Seydike**	**1.92**	**56**	P	**Pn**	**14 38 15.4**	**-0.1**
KNIK				*i* IAML		14 38

mbtmp4.1/11,ML4.2/5,MS3.3/1,Error ellipse: s-maj=24.2km s-min=18.6km az=51.0

ISC 28 14:44:16.2±1.1,**10°15S**±0.05×**120°63E**±0.04,**h37**km±1km, **n35,σ2ᵍ64/42,mb4.0/6,Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
BASI	**Baing, Sumba**	**0.09**	**216**	P		**Pn**	**14 44 22.1**	**-0.4**
WSI	**Waingapu**	**0.58**	**325**	P		**Pn**	**14 44 25.5**	**-2.5**
WSI				S		**Sn**	**14 44 33.1**	**-3.1**
WBSI	**Waikabubak, Su**	**1.32**	**292**	P		**Pn**	**14 44 37.8**	**-0.3**
WBSI				S		**Sn**	**14 44 55.6**	**+1.1**
EDFI	**Ende, Flores**	**1.73**	**37**	P		**Pn**	**14 44 40.7**	**-3.2**
MMRI	**Maumere**	**2.18**	**47**	P		**Pn**	**14 44 48.2**	**-1.7**
MMRI	**Maumere**	**2.18**	**47**	P		**Pn**	**14 44 47.7**	**-2.2**
BATI	**Baumata**	**2.98**	**91**	P		**Pn**	**14 45 04.0**	**+3.0**
	32nm,0.3s,baz=72,slow=1.2,SNR=39							
BATI				S		**Sn**	**14 45 40.9**	**+5.4**
	90nm,0.5s,baz=304,slow=22,SNR=7.8 109nm,0.3s							
BATI	**Baumata**	**2.98**	**91**	P		**Pn**	**14 45 03.5**	**+2.5**
BATI				S		**Sn**	**14 45 40.4**	**+4.8**
PLAI	**Plampang**	**3.11**	**295**	P		**Pn**	**14 45 05.0**	**+2.3**
PLAI	**Plampang**	**3.11**	**295**	P		**Pn**	**14 45 04.8**	**+2.1**
PLAI				S		**Sn**	**14 45 42.7**	**+4.1**
SOEI	**Soe**	**3.60**	**84**	P		**Pn**	**14 45 12.2**	**+2.6**
BSSI	**Bau Bau, Buton**	**3.98**	**358**	P		**Pn**	**14 45 13.9**	**-0.8**
BKSI	**Bulukumba**	**4.82**	**354**	P		**Pn**	**14 45 25.4**	**-0.8**
BBSI	**Bau Bau**	**5.01**	**23**	P		**Pn**	**14 45 28.9**	**+0.1**
KAPI	**Kappang**	**5.17**	**350**	P		**Pn**	**14 45 33.1**	**+2.0**
	10nm,0.3s,baz=171,slow=5.6,SNR=16 21nm,0.3s							
KAPI	**Kappang**	**5.17**	**350**	P		**Pn**	**14 45 32.2**	**+1.1**
BNSI	**Bone**	**5.73**	**355**	P		**Pn**	**14 45 40.2**	**+1.5**
JAGI	**Jajag, Banyuwa**	**6.61**	**284**	P		**Pn**	**14 45 51.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**9.28**	**149**	P		**Pn**	**14 46 28.1**	**+0.6**
	2.1nm,0.3s,baz=340,slow=10.0,SNR=61							
FITZ				S		**Sn**	**14 48 08.9**	**-1.7**
	11nm,0.5s,baz=238,slow=16,SNR=5.6 12nm,0.6s							
UGM	**Wanagama**	**10.23**	**282**	P		**Pn**	**14 46 42.1**	**+1.6**
DRS	**Darwin Rock St**	**10.32**	**104**	P		**Pn**	**14 46 43.9**	**+2.1**
MTN	**Manton Dam**	**10.63**	**106**	P		**Pn**	**14 46 44.4**	**-1.6**
KDU	**Kakadu**	**11.88**	**103**	P		**Pn**	**14 47 03.5**	**+0.3**
FAKI	**Fak Fak**	**13.59**	**59**	P		**Pn**	**14 47 27.2**	**+0.8**
WRA	**Warramunga Arr**	**16.42**	**128**	P		**Pn**	**14 48 03.1**	**-0.9**
	0.6nm,0.3s,baz=304,slow=14,SNR=34							
WRA				S		**Sn**	**14 50 57.4**	**-7.8**
	1.4nm,0.7s,baz=242,slow=22,SNR=6.6 3.9nm,0.7s							
MEEK	**Meekatharra**	**16.52**	**186**	P		**Pn**	**14 48 05.8**	**+0.7**
ASAR	**Alice Springs**	**18.47**	**138**	P		**Pn**	**14 48 30.6**	**+1.2**
	0.7nm,0.3s,baz=315,slow=12,SNR=79							
ASAR				S		**Sn**	**14 51 49.0**	**-5.8**
	1.6nm,0.6s,baz=313,slow=25,SNR=5.5 4.0nm,0.6s							
MORW	**Morawa**	**19.31**	**192**	P		**Pn**	**14 48 41.2**	**+1.8**
JAY	**Jayapura**	**21.33**	**71**	P		**P**	**14 49 00.8**	**+0.6**
	9.9nm,0.9s,baz=44,slow=20,SNR=4.2 9.9nm,0.9s							
PMG	**Port Moresby**	**26.15**	**91**	LR		LR	15 01 46.6	
	comp=Z,54nm,18.6s,baz=87,slow=40							
SONM	**Songino Array**	**59.09**	**349**	P		**P**	**14 54 11.8**	**-1.0**
	0.5nm,0.4s,baz=134,slow=4.2,SNR=2.8 0.5nm,0.4s							
MKAR	**Makanchi Array**	**66.21**	**332**	P		**P**	**14 54 59.9**	**-0.3**
	0.6nm,0.6s,baz=142,slow=7.2,SNR=6.9 0.6nm,0.6s							
PETK	**Petropavlovsk-**	**70.49**	**23**	P		**P**	**14 55 26.8**	**+0.1**
	1.3nm,0.7s,baz=232,slow=6.6,SNR=2.6 1.3nm,0.7s							
ZALV	**Zalesovo Beam**	**70.68**	**338**	P		**P**	**14 55 27.1**	**-0.8**
	0.9nm,0.3s,baz=134,slow=6.4,SNR=4.6 0.9nm,0.3s							
KURBB	**Kurchatov Arra**	**70.71**	**333**	P		**P**	**14 55 27.2**	**-0.9**
	0.3nm,0.6s,baz=141,slow=6.6,SNR=4.9 0.3nm,0.6s							

*GII **28** 15:08:42.1±0.0,35°.77N×27°.57E,h10km,Mws3.7, confirmed*
*IDC **28** 15:08:46.7±0.7,35°.74N×27°.63E,h0km,mb4.0/14, mbtmp3.8/25,ML3.5/10,MS3.1/4,Error ellipse: s-maj=15.6km s-min=12.0km az=161.0*
*NIC **28** 15:08:49.5,35°.68N×27°.75E,h14km±1km,Ml3.7/11*
*ISK **28** 15:08:49.9,35°.81N×27°.58E,h11km,ML4.0/27*
*NEIC **28** 15:08:49.7±2.1,35°.68N±0°.05×27°.72E±0°.04,h13km±6km, mb4.0/7,Error ellipse: s-maj=8.1km s-min=2.7km az=143.0*
*THE **28** 15:08:50.4,36°N±4°×2°8E±°,h9km±7km,M3.7/10, MLh3.7/10*
*ATH **28** 15:08:50.1,35°.80N×27°.58E,h15km±1km,ML3.8/8, Manual Solution by A.Plessa First location: 2019/08/28 15:10:05, This location: 2019/08/28 15:23:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*AFAD **28** 15:08:51.3,35°.84N×27°.65E,h29km±1km,MW3.9*

ISC 28 15:08:49.4±0.8,**35°.67N**±0°.03×**27°.67E**±0°.02,**h18**km±3km, **n183,σ1ᵍ51/223,mb3.9/15,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KARP	**Karpathos**	**0.43**	**253**	Pg		**Pb**	**15 08 58.8**	**+0.2**
KARP				Sg		**Sb**	**15 09 05.3**	**+0.5**
KARP	**Karpathos**	**0.43**	**253**			**Pb**	**15 08 58.6**	**0.0**
KARP				Sg		**Sb**	**15 09 05.4**	**+0.6**
KARP	**Karpathos**	**0.43**	**253**	P		**Pb**	**15 08 58.7**	**+0.2**
KARP				S		**Sb**	**15 09 05.7**	**+0.9**
KARP	**Karpathos**	**0.43**	**253**	P		**Pb**	**15 08 58.6**	**0.0**
KARP				S		**Sn**	**15 09 06.9**	**-1.3**
KARP				AML	AML		15 09 08.9	
	44nm,0.3s							
KARP				AML	AML		15 09 09.2	
	35nm,0.2s							
KARP	**Karpathos**	**0.43**	**253**	P		**Pb**	**15 08 58.7**	**+0.2**
KARP				S		**Sb**	**15 09 05.4**	**+0.6**
ARG	**Arkhangelos**	**0.66**	**34**	Pg		**Pb**	**15 09 02.1**	**-0.2**
ARG				Sg		**Sb**	**15 09 11.1**	**+0.1**
ARG	**Arkhangelos**	**0.66**	**34**	Pg		**Pb**	**15 09 01.9**	**-0.4**
ARG				Sg		**Sb**	**15 09 10.2**	**-0.8**
ARG	**Arkhangelos**	**0.66**	**34**	P		**Pb**	**15 09 02.2**	**0.0**
ARG				S		**Sb**	**15 09 10.5**	**-0.6**
ARG	**Arkhangelos**	**0.66**	**34**	P		**Pb**	**15 09 01.9**	**-0.4**
ARG				S		**Sb**	**15 09 10.4**	**-0.6**
ARG				AML	AML		15 09 11.9	
	31nm,0.5s							
ARG				AML	AML		15 09 14.0	
	33nm,0.3s							
ARG	**Arkhangelos**	**0.66**	**34**	P		**Pb**	**15 09 01.9**	**-0.4**
ARG				S		**Sb**	**15 09 10.4**	**-0.6**
RODB	**Rodos**	**0.89**	**30**	Pg		**Pb**	**15 09 06.5**	**+0.2**
RODB				S		**Sb**	**15 09 17.9**	**0.0**
YAZI	**Mula-Dat§a-**	**1.02**	**350**	P		**Pb**	**15 09 08.1**	**-0.4**
YAZI				S		**Sb**	**15 09 20.7**	**-1.0**
NISR	**Nisiros**	**1.03**	**335**	P		**Pb**	**15 09 07.2**	**-1.5**
DAT	**Datca**	**1.06**	**356**	Pg		**Pb**	**15 09 08.2**	**-1.0**
DAT				Sg		**Sb**	**15 09 21.6**	**-1.2**
DATC	**Datca-Mugla**	**1.08**	**360**	Pg		**Pb**	**15 09 08.6**	**-1.0**
TURN	**Turunc**	**1.19**	**23**	Pn		**Pb**	**15 09 11.6**	**+0.1**
TURN				Sn		**Sn**	**15 09 27.3**	**+0.4**
TURN	**Turunc**	**1.19**	**23**	P		**Pn**	**15 09 11.3**	**+0.1**
TURN				S		**Sb**	**15 09 26.6**	**0.0**
ZKR	**Zakros**	**1.31**	**245**	Pn		**Pg**	**15 09 14.2**	**-0.5**
ZKR				Sn		**Sg**	**15 09 32.9**	**+1.0**
ZKR	**Zakros**	**1.31**	**245**	P		**Pg**	**15 09 14.2**	**-0.5**
ZKR	**Zakros**	**1.31**	**245**	P		**Pb**	**15 09 13.7**	**+0.3**
ZKR				S		**Sg**	**15 09 33.4**	**+1.5**
ZKR				AML	AML		15 09 35.2	
	18nm,0.9s							
ZKR				AML	AML		15 09 36.5	
	6.6nm,0.7s							
ZKR	**Zakros**	**1.31**	**245**	P		**Pb**	**15 09 13.9**	**+0.4**
ZKR				S		**Sg**	**15 09 30.8**	**-1.0**
ASTA	**Astypalaia**	**1.38**	**310**	P		**Pn**	**15 09 12.7**	**-1.0**
KLNA	**Kalymnos**	**1.40**	**336**	P		**Pn**	**15 09 13.3**	**-0.7**
BDRM	**Kayabasi**	**1.40**	**353**	P		**Pn**	**15 09 13.8**	**-0.2**
BDRM				S		**Sn**	**15 09 30.6**	**-1.5**
IZZE	**Mula-Seydike**	**1.47**	**58**	P		**Pb**	**15 09 16.4**	**+0.2**
IZZE				S		**Sg**	**15 09 36.3**	**-0.7**
YKAV	**Yalikavak-Bodr**	**1.48**	**348**	Pn		**Pn**	**15 09 15.1**	**0.0**
SABU	**Mula-Dalaman**	**1.56**	**42**	P		**Pb**	**15 09 17.9**	**+0.3**
SABU				S		**Sb**	**15 09 37.0**	**0.0**
KSL	**Kastellorizon**	**1.62**	**72**	P		**Pb**	**15 09 18.8**	**0.0**
KSL				S		**Sg**	**15 09 41.4**	**-0.4**
KSL	**Kastellorizon**	**1.62**	**72**	P		**Pn**	**15 09 17.9**	**+0.9**
KSL				AML	AML		15 09 42.3	
	2.2nm,0.6s							
KSL				AML	AML		15 09 55.1	
	1.1nm,0.6s							
KSL	**Kastellorizon**	**1.62**	**72**	P		**Pb**	**15 09 18.7**	**0.0**
KSL				S		**Sb**	**15 09 40.2**	**+1.2**
NPS	**Neapolis**	**1.73**	**257**	P		**Pb**	**15 09 20.3**	**-0.3**
NPS	**Neapolis**	**1.73**	**257**	P		**Pb**	**15 09 19.7**	**-1.0**
NPS				S		**Sb**	**15 09 41.2**	**-0.8**
DIDI	**Didim-Aydin**	**1.74**	**349**	Pn		**Pn**	**15 09 18.8**	**+0.2**
DDIM	**Aydin, Didim**	**1.81**	**349**	P		**Pb**	**15 09 20.9**	**-1.1**
DDIM				S		**Sn**	**15 09 40.5**	**-1.7**
CAME	**Cameli-Denizli**	**1.83**	**46**	Pn		**Pb**	**15 09 22.6**	**+0.2**
DEMR	**Demre-Antalya**	**1.90**	**72**	Pn		**Pb**	**15 09 23.8**	**+0.3**
THERA	**Ancient Thera,**	**1.91**	**292**	P		**Pn**	**15 09 21.0**	**-0.1**
THERA	**Ancient Thera,**	**1.91**	**292**	P		**Pn**	**15 09 20.5**	**-0.6**
KNIK	**Mula-Seydike**	**1.93**	**52**	P		**Pb**	**15 09 23.6**	**-0.5**
KNIK				S		**Sb**	**15 09 49.2**	**+1.2**
DNZT	**Denizli-Tavas-**	**1.94**	**34**	P		**Pb**	**15 09 24.2**	**-0.1**
DNZT				S		**Sb**	**15 09 49.5**	**+1.4**
CAEL	**Denizli, Camel**	**1.97**	**42**	P		**Pb**	**15 09 24.6**	**-0.1**
CAEL				S		**Sb**	**15 09 48.5**	**-0.4**
THR3	**Thira Island,**	**1.98**	**292**	P		**Pn**	**15 09 22.1**	**+0.1**
SNTS	**Nea Kammeni, S**	**1.98**	**292**	P		**Pn**	**15 09 21.9**	**-0.2**
AYDN	**Tasoluk**	**1.99**	**5**	P		**Pn**	**15 09 22.9**	**+0.7**
AYDN				S		**Sn**	**15 09 43.8**	**-2.9**
TAVA	**DENIZLI_Tavas**	**2.05**	**29**	P		**Pb**	**15 09 26.2**	**+0.1**
TAVA				S		**Sb**	**15 09 52.2**	**+0.9**
GCAM	**G?zelcaml?**	**2.05**	**350**	Pn		**Pn**	**15 09 23.5**	**+0.5**
SMG	**Samos**	**2.14**	**342**	P		**Pn**	**15 09 23.7**	**-0.5**
SMG	**Samos**	**2.14**	**342**	P		**Pn**	**15 09 23.7**	**-0.5**
IACM	**Heraklion**	**2.15**	**261**	P		**Pn**	**15 09 25.1**	**+0.8**
ESEN	**Aydn-Nazilli**	**2.19**	**14**	P		**Pn**	**15 09 26.0**	**+1.1**
ESEN				S		**Sn**	**15 09 51.2**	**-0.3**
APMY	**Acipayam-Deniz**	**2.22**	**36**	Pn		**Pb**	**15 09 27.7**	**-1.4**
DNIZ	**Denizli-Tavas-**	**2.24**	**29**	P		**Pb**	**15 09 28.4**	**-0.9**
DNIZ				S		**Sb**	**15 09 57.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.28**	**4**	Pn		**Pn**	**15 09 26.3**	**+0.1**
IDI	**Anoyia**	**2.30**	**261**	Pn		**Pb**	**15 09 28.5**	**-1.9**
IDI	**Anoyia**	**2.30**	**261**	P		**Pn**	**15 09 27.6**	**+1.2**
IDI	**Anoyia**	**2.30**	**261**	Pn		**Pn**	**15 09 26.9**	**+0.5**
	60nm,0.3s,baz=77,slow=14,SNR=78							
IDI						Sn	**15 09 55.2**	**+0.8**
	81nm,0.3s,baz=42,slow=18,SNR=12							
IDI	**Anoyia**	**2.30**	**261**	P		**Pn**	**15 09 27.2**	**+0.7**
NAZL	**Nazilli-Aydin**	**2.34**	**12**	Pn		**Pn**	**15 09 28.6**	**+1.6**
IZMR	**zmir-demi**	**2.47**	**5**	P		**Pn**	**15 09 28.7**	**0.0**
IZMR				S		**Sn**	**15 09 55.0**	**-3.4**
GMLD	**Gumuldur**	**2.48**	**346**	Pn		**Pn**	**15 09 29.7**	**+0.9**
KORT	**Korkueli**	**2.54**	**58**	Pn		**Pn**	**15 09 31.9**	**+2.1**
KIRA	**zmir-Kiraz**	**2.59**	**13**	P		**Pn**	**15 09 31.4**	**+1.0**
PRNS	**Prines Rethymn**	**2.60**	**264**	P		**Pn**	**15 09 32.5**	**+2.0**
ODEM	**Odemis-Izmir**	**2.62**	**7**	Pn		**Pn**	**15 09 31.2**	**+0.4**
ANTB	**Antalya**	**2.70**	**62**	Pn		**Pb**	**15 09 34.9**	**-2.3**
BLCB	**Balcova**	**2.75**	**350**	Pn		**Pn**	**15 09 33.1**	**+0.5**
BLCB	**Balcova**	**2.75**	**350**	P		**Pn**	**15 09 31.9**	**-0.9**
MANT	**Manisa**	**2.90**	**14**	Pn		**Pn**	**15 09 35.2**	**+0.4**
BASM	**Basmaki-Afyon**	**2.94**	**40**	Pn		**Pn**	**15 09 37.9**	**+2.6**
KULA	**Kula-Manisa**	**2.94**	**15**	Pn		**Pn**	**15 09 36.5**	**+1.2**
GOMA	**Golmarmara-Man**	**3.04**	**4**	Pn		**Pn**	**15 09 37.9**	**+1.4**
GVD	**Gavdhos**	**3.05**	**255**	Pn		**Pn**	**15 09 39.1**	**+2.4**
ISP	**Isparta**	**3.14**	**46**	Pn		**Pn**	**15 09 39.8**	**+1.8**
ISP	**Isparta**	**3.14**	**46**	Pn		**Pn**	**15 09 39.2**	**+1.2**
AKS	**Akhisar**	**3.20**	**2**	Pn		**Pn**	**15 09 39.4**	**+0.6**
GORD	**Gordes-Manisa**	**3.25**	**7**	Pn		**Pn**	**15 09 40.3**	**+0.7**
KNDR	**Palaiochora Ch**	**3.28**	**263**	Pn		**Pn**	**15 09 43.3**	**+3.4**
ANKY	**Antikythira Is**	**3.56**	**274**	P		**Pn**	**15 09 45.4**	**+1.7**
KTHA	**Kythira Island**	**3.78**	**280**	Pn		**Pn**	**15 09 47.9**	**+1.1**
AKMS	**Akamas**	**3.87**	**98**	P		**Pn**	**15 09 48.4**	**+0.5**
AKMS				S		**Sn**	**15 10 33.8**	**+0.9**
AKMS				AML	AML		15 10 37.7	
	0.9nm,0.6s							
AKMS				AML	AML		15 10 42.0	
	0.4nm,0.4s							
ALFC	**Alefka**	**4.06**	**96**	P		**Pn**	**15 09 50.9**	**+0.4**
ALFC				S		**Sn**	**15 10 38.5**	**+0.8**
ALFC				AML	AML		15 10 42.0	
	0.5nm,0.3s							
ALFC				AML	AML		15 10 43.2	
	0.6nm,0.4s							
TROD	**Troodos**	**4.31**	**98**	P		**Pn**	**15 09 54.0**	**-0.2**
TROD				S		**Sn**	**15 10 43.8**	**-0.3**
TROD				AML	AML		15 10 54.4	
	0.4nm,0.5s							
TROD				AML	AML		15 10 55.6	
	0.2nm,0.5s							
XYLS	**Xyliatos**	**4.45**	**97**	P		**Pn**	**15 09 56.5**	**+0.6**
XYLS				S		**Sn**	**15 10 47.9**	**+0.7**
XYLS				AML	AML		15 10 49.4	
	0.3nm,0.6s							
XYLS				AML	AML		15 10 51.2	
	0.3nm,0.3s							
ASGA	**Asgata**	**4.65**	**99**	P		**Pn**	**15 09 59.4**	**+0.7**
ASGA				S		**Sn**	**15 10 53.1**	**+0.9**
ASGA				AML	AML		15 10 56.1	
	0.3nm,0.4s							
ASGA				AML	AML		15 10 56.5	
	0.4nm,1.0s							
CSS	**Mathiatis**	**4.68**	**97**	Pn		**Pn**	**15 09 58.9**	**-0.2**
CSS	**Mathiatis**	**4.68**	**97**	P		**Pn**	**15 09 59.5**	**+0.3**
CSS				S		**Sn**	**15 10 53.4**	**+0.4**
CSS				AML	AML		15 10 55.1	
	0.3nm,0.9s							
CSS				AML	AML		15 11 00.4	
	0.3nm,0.7s							
CSS	**Mathiatis**	**4.68**	**97**	P		Pn	15 09 54.4	-4.7
CSS	**Mathiatis**	**4.68**	**97**	S		**Sn**	**15 10 49.9**	**-3.1**
ITM	**Ithomi**	**4.87**	**290**	Pn		**Pn**	**15 10 04.9**	**+3.1**
MVOU	**Mavrovouni**	**4.92**	**96**	P		**Pn**	**15 10 02.6**	**+0.3**
MVOU				S		**Sn**	**15 11 00.0**	**+1.3**
MVOU				AML	AML		15 11 04.7	
	0.1nm,0.6s							
MVOU				AML	AML		15 11 11.8	
	0.1nm,0.5s							
ALN	**Alexandroupoli**	**5.37**	**347**	Pn		**Pn**	**15 10 10.1**	**+1.6**
RDO	**Rodhopi**	**5.72**	**344**	Pn		**Pn**	**15 10 13.6**	**+0.3**
ANTO	**Ankara**	**5.83**	**43**	Pn		**Pn**	**15 10 15.3**	**+0.3**
BRTR	**Keskin Array S**	**6.22**	**48**	Pn		**Pn**	**15 10 21.4**	**+0.9**
BRTR	**Keskin Array B**	**6.22**	**48**	Pn		**Pn**	**15 10 21.3**	**+0.8**
BRTR	**Keskin Array B**	**6.22**	**48**	Pn		**Pn**	**15 10 20.8**	**+0.3**
	0.4nm,0.3s,baz=218,slow=14,SNR=17							
BRTR						Sn	**15 11 31.1**	**-0.1**
	0.5nm,0.3s,baz=215,slow=27,SNR=5.1 4.3nm,0.8s							
HNTI	**Hanita**	**6.72**	**110**	P		Pn	15 10 22.6	-4.6
HNTI	**Hanita**	**6.72**	**110**	S		**Sn**	**15 11 40.1**	**-3.1**
MMA0B	**Mount Meron ar**	**6.92**	**110**	P		Pn	15 10 25.5	-4.5
MMA0B	**Mount Meron ar**	**6.92**	**110**	S		**Sn**	**15 11 45.9**	**-2.5**
MMAI	**Mount Meron Ar**	**6.92**	**110**	Pn		**Pn**	**15 10 29.0**	**-1.0**
	5.8nm,0.3s,baz=293,slow=13,SNR=17							
MMAI						Sn	**15 11 46.4**	**-1.9**
	8.9nm,0.3s,baz=325,slow=23,SNR=6.5 2.2nm,0.3s							
HWQ	**Hawqa**	**6.93**	**99**	*e*P		**Pn**	**15 10 30.6**	**+0.4**
QRWL	**Qaraoun**	**6.94**	**105**	*e*P		**Pn**	**15 10 30.2**	**0.0**
GEM	**Giv'at Ha'Em**	**7.04**	**108**	P		**Pn**	**15 10 27.9**	**-3.7**
GEM	**Giv'at Ha'Em**	**7.04**	**108**	S		**Sn**	**15 11 48.5**	**-2.7**
SHBL	**Chebaa**	**7.05**	**107**	*e*P		**Pn**	**15 10 31.3**	**-0.6**
BEIL	**Beino**	**7.07**	**97**	*e*P		**Pn**	**15 10 31.4**	**-0.5**
RCY	**Rachaya**	**7.08**	**106**	*e*P		**Pn**	**15 10 32.0**	**-0.1**
NATI	**Neve Ativ**	**7.08**	**108**	P		**Pn**	**15 10 28.0**	**-4.1**
NATI	**Neve Ativ**	**7.08**	**108**	S		**Sn**	**15 11 50.0**	**-2.1**
FNA	**Florina**	**7.11**	**318**	Pn		**Pn**	**15 10 36.0**	**+3.4**
MMLI	**Mount Malkishu**	**7.20**	**114**	P		Pn	15 10 29.0	-4.7
MMLI	**Mount Malkishu**	**7.20**	**114**	S		**Sn**	**15 11 52.2**	**-2.8**
SALP	**Salfit**	**7.21**	**118**	P		**Pn**	**15 10 29.6**	**-4.3**
SALP	**Salfit**	**7.21**	**118**	S		**Sn**	**15 11 52.7**	**-2.7**
KSHT	**Keshet**	**7.25**	**109**	P		Pn	15 10 29.7	-4.8
KSHT	**Keshet**	**7.25**	**109**	S		**Sn**	**15 11 54.2**	**-2.2**
BNN	**Bunyan**	**7.25**	**62**	Pn		**Pn**	**15 10 37.2**	**+2.6**
AMAZ	**Amatzia**	**7.32**	**122**	P		Pn	15 10 30.6	-4.8
AMAZ	**Amatzia**	**7.32**	**122**	S		**Sn**	**15 11 56.2**	**-1.8**
HMDT	**Nahal Hemdat**	**7.36**	**115**	P		**Pn**	**15 10 31.9**	**-4.0**
KZIT	**Kziot**	**7.37**	**128**	P		**Pn**	**15 10 31.8**	**-4.3**
KZIT	**Kziot**	**7.37**	**128**	S		**Sn**	**15 11 57.0**	**-2.2**
YTIR	**Yattir**	**7.56**	**123**	P		**Pn**	**15 10 34.6**	**-4.1**
YTIR	**Yattir**	**7.56**	**123**	S		**Sn**	**15 12 01.2**	**-2.7**
DSI	**Dead Sea**	**7.62**	**120**	P		Pn	15 10 34.8	-4.7
MSBI	**Mazada**	**7.75**	**122**	P		**Pn**	**15 10 37.6**	**-3.7**
MSBI	**Mazada**	**7.75**	**122**	S		**Sn**	**15 12 06.7**	**-1.9**
GHAJ	**Ghor Haditha**	**7.90**	**121**	Pn		**Pn**	**15 10 44.4**	**+1.0**
GHAJ	**Ghor Haditha**	**7.90**	**121**	P		Pn	15 10 38.6	-4.7
GHAJ	**Ghor Haditha**	**7.90**	**121**	S		**Sn**	**15 12 09.5**	**-2.8**
KRMI	**Paran Flat**	**8.11**	**131**	P		**Pn**	**15 10 42.8**	**-3.5**
PRNI	**Paran**	**8.13**	**129**	P		**Pn**	**15 10 43.0**	**-3.5**
HRFI	**Mount Harif**	**8.36**	**130**	P		**Pn**	**15 10 45.7**	**-4.0**
HRFI	**Mount Harif**	**8.36**	**130**	S		**Sn**	**15 12 21.2**	**-2.5**
SCTE	**Santa Cesarea**	**8.50**	**304**	Pn		**Pn**	**15 10 52.8**	**+1.3**
EIL	**Elat**	**8.57**	**132**	Pn		**Pn**	**15 10 52.5**	**-0.1**
	0.1nm,0.3s,baz=340,slow=7.0,SNR=16							
EIL						Sn	**15 12 24.2**	**-4.6**
	0.2nm,0.3s,baz=0.6,slow=16,SNR=8.7 0.4nm,0.4s							
CEL	**Celeste**	**9.77**	**289**	Pn		**Pn**	**15 11 11.3**	**+2.3**
MLR	**Muntele Rosu**	**9.89**	**353**	Pn		**Pn**	**15 11 10.8**	**0.0**
	baz=303,slow=6.8,SNR=4.0							
MLR				LR		LR	15 15 09.6	
	comp=Z,62nm,20.7s,baz=170,slow=39 2.9nm,0.7s							
CUC	**Castrocucco**	**10.32**	**298**	Pn		**Pn**	**15 11 16.4**	**-0.2**
RAFF	**Raffo Rosso**	**10.83**	**282**	Pn		**Pn**	**15 11 24.6**	**+1.1**
KBZ	**Khabaz**	**14.20**	**51**	Pn		**Pn**	**15 12 12.9**	**+3.5**
	0.2nm,0.3s,baz=231,slow=5.5,SNR=9.5 0.8nm,0.6s							
VYHS	**Vyhne**	**14.38**	**336**	*e*P		**P**	**15 12 20.7**	**+1.9**
KEST	**Kesra**	**14.89**	**276**	Pn		**Pn**	**15 12 20.2**	**+1.2**
	0.2nm,0.3s,baz=311,slow=4.5,SNR=3.7 2.5nm,0.8s							
KIEV	**Kiev**	**15.06**	**4**	P		**P**	**15 12 25.7**	**-0.6**
KIEV				IAmb		IAmb	15 12 29.1	
	comp=Z,3.5nm,0.7s							
AKASG	**Malin Array Be**	**15.06**	**4**	Pn		**Pn**	**15 12 20.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=200,slow=12,SNR=9.3 comp=Z,0.2nm,0.3s							
AKBB	**Malin Array Si**	**15.06**	**4**			**P**	**15 12 26.2**	**-0.2**
AKBB				IAmb		IAmb	15 12 29.1	
	comp=Z,4.0nm,0.6s							
OJC	**Ojcow**	**15.62**	**341**	P		**P**	**15 12 33.5**	**+0.9**
ABTA	**Abfaltersbach**	**15.86**	**319**	*i* Pn		**P**	**15 12 34.9**	**-0.4**
	comp=Z,3.9nm,0.6s							
VRAC	**Vranov**	**15.86**	**333**	Pn		**Pn**	**15 12 31.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=256,slow=19,SNR=4.2 comp=Z,3.8nm,0.7s							
CTI	**Castel Tesino**	**15.92**	**316**	P		**P**	**15 12 34.7**	**-1.3**
CTI				IAmb		IAmb	15 12 37.9	
	comp=Z,8.4nm,0.7s							
LESA	**Schwarzleotal**	**16.21**	**321**	*e*Pn		**P**	**15 12 38.7**	**-0.5**
	comp=Z,6.7nm,0.6s							
WTTA	**Wattenberg**	**16.65**	**319**	*i* Pn		**P**	**15 12 45.3**	**+1.1**
	comp=Z,3.7nm,0.7s							
GERES	**GERESS Array B**	**16.70**	**326**	Pn		**Pn**	**15 12 42.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=11 comp=Z,1.4nm,0.6s							
WATA	**Walderalm**	**16.73**	**319**	*i* Pn		**P**	**15 12 46.9**	**+1.9**
	comp=Z,6.4

BOAB			S	Sg	15 17 17.6	+0.3
YUSH	**Yuscaran**	**1.70 346**	P	Pn	15 17 24.5	+0.6
YUSH			S	Sb	15 17 47.6	+0.5

NEIC ***28*** *15:26:48.7±1.6, 8.°31S±0.°09×109.°03E±0.°06, h96km±4km, mb4.3/17, Error ellipse: s-maj=14.1km s-min=7.9km az=202.0*

DJA ***28*** *15:26:48.0±0.3, 9.°5S×10.°9E±.°, h76km±8km, M4.3/23, mB5.0/2, mb4.5/8, MLv4.2/23, Mw(mB)4.4/2*

IDC ***28*** *15:26:50.7±1.2, 8.°03S×109.°19E, h126km±12km, mb3.7/10, mbtmp4.0/11, MS3.4/1, Error ellipse: s-maj=33.9km s-min=11.3km az=50.0*

ISC 28 15:26:47.9±0.6, 8.°40S±0.°08×109.°02E±0.°06, h100km, n60, σ1§69/57, mb4.1/15, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**1.06**	**356**	P	**Pn**	**15 27 09.8**	**+0.8**
KPJI				S	**Sn**	**15 27 24.2**	**-0.7**
UGM	**Wanagama**	**1.57**	**72**	Pn	**Pn**	**15 27 14.5**	**-0.6**
UGM	**Wanagama**	**1.57**	**72**	P	**Pn**	**15 27 15.1**	**0.0**
SMRI	**Semarang**	**1.95**	**47**	Pn	**Pn**	**15 27 20.6**	**+0.8**
SMRI	**Semarang**	**1.95**	**47**	P	**Pn**	**15 27 21.3**	**+1.4**
WOJI	**Wonogiri, Jawa**	**1.97**	**74**	P	**Pn**	**15 27 19.7**	**-0.4**
LEM	**Lembang**	**2.09**	**318**	P	**Pn**	**15 27 22.2**	**+0.4**
	130nm,0.7s,baz=87,slow=7.1,SNR=27						
LEM				S	**Sn**	**15 27 50.5**	**+2.8**
	181nm,0.6s,baz=337,slow=18,SNR=10						
LEM	**Lembang**	**2.09**	**318**	P	**Pn**	**15 27 21.9**	**+0.1**
PCJI	**Pacitan**	**2.15**	**85**	P	**Pn**	**15 27 23.1**	**+0.7**
CNJI	**Cibinong**	**2.16**	**300**	P	**Pn**	**15 27 22.0**	**-0.6**
NGJI	**Ngawi**	**2.63**	**67**	P	**Pn**	**15 27 29.5**	**+0.7**
SKJI	**Sukabumi**	**2.80**	**299**	P	**Pn**	**15 27 30.3**	**-0.8**
TBJI	**Tambak Boyo**	**3.22**	**61**	P	**Pn**	**15 27 37.8**	**+1.2**
GRJI	**Gresik**	**3.74**	**67**	P	**Pn**	**15 27 44.9**	**+1.3**
CGJI	**Cibinong**	**3.74**	**298**	P	**Pn**	**15 27 43.4**	**-0.2**
GMJI	**Gumukmas**	**4.38**	**89**	P	**Pn**	**15 27 53.4**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.08**	**91**	Pn	**Pn**	**15 28 02.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**5.08**	**91**	P	**Pn**	**15 28 02.7**	**+0.9**
	0.4nm2µm34nm,0.7s						
KASI	**Kota Agung**	**5.32**	**302**	P	**Pn**	**15 28 05.6**	**+0.6**
SRBI	**Singaraja**	**6.14**	**88**	P	**Pn**	**15 28 17.6**	**+1.4**
	0.3nm34nm,0.9s						
PLAI	**Plampang**	**8.68**	**93**	P	**Pn**	**15 28 51.6**	**+0.9**
	28nm,0.9s						
WBSI	**Waikabubak, Su**	**10.32**	**98**	P	**Pn**	**15 29 13.6**	**+0.5**
	54nm,1.0s						
GIRL	**Giralia**	**15.03**	**161**	Pn	**Pn**	**15 30 13.6**	**-1.4**
GIRL				IAmb	IAmb	15 30 23.0	
	comp=Z,72nm,1.4s						
MYLDM	**Lahad Datu**	**16.48**	**35**		**P**	**15 30 34.1**	**0.0**
MYLDM				IAmb	IAmb	15 31 16.3	
	comp=Z,52nm,1.4s						
FITZ	**Fitzroy Crossi**	**18.82**	**122**	P	**P**	**15 31 00.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.82**	**122**	P	**P**	**15 31 01.4**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=292,slow=5.9,SNR=8.9						
FITZ				S	**S**	**15 34 20.3**	**-8.5**
	comp=Z,3.3nm,1.0s,baz=168,slow=23,SNR=5.7						
KNRA	**Kununurra**	**20.61**	**112**	P	**P**	**15 31 20.4**	**+1.1**
KNRA				IAmb	IAmb	15 31 20.7	
	comp=Z,8.9nm,0.9s						
MTN	**Manton Dam**	**22.18**	**103**	P	**P**	**15 31 36.3**	**+0.3**
MTN				IAmb	IAmb	15 32 01.5	
	comp=Z,32nm,1.4s						
WB0	**Warramunga Arr**	**27.04**	**117**	P	**P**	**15 32 21.8**	**+0.7**
WB0				IAmb	IAmb	15 32 47.5	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**27.06**	**118**	P	**P**	**15 32 21.4**	**+0.2**
WRA	**Warramunga Arr**	**27.06**	**118**	P	**P**	**15 32 22.0**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=291,slow=11,SNR=14						
	comp=Z,1.6nm,0.9s						
WR8	**Warramunga Arr**	**27.20**	**118**	P	**P**	**15 32 23.0**	**+0.5**
WR8				IAmb	IAmb	15 32 34.0	
	comp=Z,6.8nm,1.2s						
AS31	**Alice Springs**	**28.26**	**125**	P	**P**	**15 32 32.8**	**+0.9**
ASAR	**Alice Springs**	**28.26**	**125**	P	**P**	**15 32 33.0**	**+1.1**
ASAR	**Alice Springs**	**28.26**	**125**	P	**P**	**15 32 32.7**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=302,slow=8.9,SNR=51						
ASAR				PcP	**PcP**	**15 35 42.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=301,slow=2.3,SNR=4.5						
	comp=Z,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.48**	**340**	P	**P**	**15 32 32.5**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=153,slow=9.8,SNR=1.9						
	comp=Z,0.4nm,0.4s						
COEN	**Coen**	**33.94**	**102**	P	**P**	**15 33 21.9**	**-0.1**
BBOO	**Buckleboo**	**34.88**	**138**	P	**P**	**15 33 30.2**	**+0.3**
H08S2	**Diego Garcia H**	**36.16**	**269**	T	T	16 12 22.6	
	baz=94						
H08S3	**Diego Garcia H**	**36.17**	**269**	T	T	16 12 10.3	
	baz=94,SNR=11						
H08S1	**Diego Carcia H**	**36.18**	**269**	T	T	16 12 08.1	
	baz=94,SNR=22						
STKA	**Stephens Creek**	**38.23**	**132**	P	**P**	**15 33 59.4**	**+1.1**
STKA	**Stephens Creek**	**38.23**	**132**	P	**P**	**15 34 00.0**	**+1.7**
	comp=Z,3.2nm,0.4s,baz=318,slow=7.3,SNR=13						
	comp=Z,3.2nm,0.4s						
ENH	**Enshi**	**38.45**	**1**	P	**P**	**15 34 01.0**	**+0.8**
MJAR	**Matsushiro Arr**	**52.44**	**30**	LR	LR	15 57 48.0	
	comp=Z,36nm,19.7s,baz=224,slow=36						
MKAR	**Makanchi Array**	**59.88**	**339**	P	**P**	**15 36 41.1**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=146,slow=7.4,SNR=10						
	comp=Z,0.8nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.53**	**222**	T	T	16 44 18.9	
	baz=70,slow=75,SNR=20						
H04N1	**CROZET ISLANDS**	**61.54**	**222**	T	T	16 44 17.2	
	baz=70,slow=75,SNR=20						
H04N3	**CROZET ISLANDS**	**61.55**	**222**	T	T	16 44 18.0	
	baz=70,slow=75,SNR=20						
KURBB	**Kurchatov Arra**	**64.45**	**339**	P	**P**	**15 37 12.0**	**-1.6**
	comp=Z,1.0nm,0.2s,baz=149,slow=6.0,SNR=5.9						
	comp=Z,1.0nm,0.2s						
ZAA0	**Zalesovo Array**	**65.39**	**345**	P	**P**	**15 37 17.4**	**-2.2**
ZAA0				IAmb	IAmb	15 37 19.2	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**65.39**	**345**	P	**P**	**15 37 17.6**	**-1.9**
ZALV	**Zalesovo Beam**	**65.39**	**345**	P	**P**	**15 37 16.4**	**-3.2**
	comp=Z,1.0nm,0.4s,baz=158,slow=6.6,SNR=6.5						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**69.44**	**336**	P	**P**	**15 37 44.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=134,slow=8.5,SNR=3.7						
	comp=Z,0.6nm,0.6s						
AB31	**Akbulak array**	**71.64**	**329**	P	**P**	**15 37 57.4**	**-1.2**
AB31				IAmb	IAmb	15 37 58.0	
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**71.64**	**329**	P	**P**	**15 37 57.5**	**-1.1**
QSPA	**South Pole Qui**	**81.60**	**180**	P	**P**	**15 38 57.0**	**+2.3**
QSPA	**South Pole Qui**	**81.60**	**180**	P	**P**	**15 38 56.4**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=283,slow=1.5,SNR=5.8						
	comp=Z,0.9nm,0.8s						
SNAA	**Sanae**	**88.79**	**197**	P	**P**	**15 39 31.2**	**+0.9**
SNAA				IAmb	IAmb	15 39 49.2	
	comp=Z,5.9nm,1.5s						
SNAA	**Sanae**	**88.79**	**197**	P	**P**	**15 39 31.6**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=134,slow=7.7,SNR=8.0						
	comp=Z,0.7nm,0.6s						

GII ***28*** *15:31:39.0±0.0, 35.°78N×27.°57E, h10km, Mws3.7, confirmed*

IDC ***28*** *15:31:43.3±0.8, 35.°78N×27.°55E, h0km, mb4.0/12, mbtmp3.8/20, ML3.3/5, MS3.0/7, Error ellipse: s-maj=16.3km s-min=13.2km az=154.0*

MOS ***28*** *15:31:44.2±2.0, 35.°59N×27.°68E, h17km, mb4.3/3, Error ellipse: s-maj=10.7km s-min=6.0km az=85.7*

NEIC ***28*** *15:31:46.8±1.9, 35.°70N±0.°04×27.°71E±0.°04, h18km±4km, mb4.2/14, Error ellipse: s-maj=6.7km s-min=2.6km az=137.0*

AFAD ***28*** *15:31:46.8, 35.°75N×27.°68E, h18km±1km, MW3.9*

ISK ***28*** *15:31:47.5, 35.°83N×27.°56E, h16km, ML3.9/35*

THE ***28*** *15:31:47.7, 36.°N×3.°×2.°8E±.°, h8km±4km, M3.6/13, MLh3.6/13*

ATH ***28*** *15:31:47.1, 35.°78N×27.°62E, h15km±1km, ML3.7/8, Manual Solution by A.Plessa First location: 2019/08/28 15:33:01, This location: 2019/08/28 15:40:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*

NIC ***28*** *15:31:48.0, 35.°79N×27.°76E, h32km±26km, Ml3.8/12*

ISC 28 15:31:46.8±0.9, 35.°70N±0.°03×27.°65E±0.°02, h26km±7km, n208, σ1§62/249, mb4.1/16, **MS3.0**/3, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.43**	**249**	Pg	**Pb**	**15 31 56.5**	**+0.6**
KARP				Sg	**Sn**	**15 32 03.4**	**-0.9**
KARP	**Karpathos**	**0.43**	**249**		**Pb**	**15 31 55.8**	**0.0**
KARP				Sg	**Sb**	**15 32 02.6**	**+0.5**
KARP	**Karpathos**	**0.43**	**249**	P	**Pb**	**15 31 56.0**	**+0.2**
KARP				S	**Sb**	**15 32 02.6**	**+0.5**
KARP	**Karpathos**	**0.43**	**249**	P	**Pb**	**15 31 55.8**	**0.0**
KARP				AML	AML	15 32 04.6	
	29nm,0.2s						
KARP				AML	AML	15 32 04.7	
	29nm,0.2s						
KARP	**Karpathos**	**0.43**	**249**	P	**Pb**	**15 31 56.0**	**+0.2**
KARP				S	**Sb**	**15 32 02.5**	**+0.5**
ARG	**Arkhangelos**	**0.64**	**37**	Pg	**Pn**	**15 31 59.6**	**-0.6**
ARG				Sg	**Sb**	**15 32 08.2**	**+0.2**
ARG	**Arkhangelos**	**0.64**	**37**	Pg	**Pb**	**15 31 59.0**	**-0.4**
ARG				Sg	**Sb**	**15 32 07.6**	**-0.4**
ARG	**Arkhangelos**	**0.64**	**37**	P	**Pb**	**15 31 59.3**	**-0.1**
ARG				S	**Sb**	**15 32 07.5**	**-0.5**
ARG	**Arkhangelos**	**0.64**	**37**	P	**Pb**	**15 31 59.0**	**-0.4**
ARG						15 32 07.6	
ARG	**Arkhangelos**	**0.64**	**37**	P	**Pb**	**15 31 59.0**	**-0.4**
ARG				S	**Sb**	**15 32 07.1**	**-0.9**
ARG				AML	AML	15 32 08.1	
	17nm,0.4s						
ARG				AML	AML	15 32 10.2	
	24nm,0.3s						
ARG	**Arkhangelos**	**0.64**	**37**	P	**Pb**	**15 31 59.0**	**-0.4**
ARG				S	**Sb**	**15 32 07.1**	**-0.9**
RODB	**Rodos**	**0.88**	**32**	P	**Pn**	**15 32 03.7**	**+0.3**
RODB				S	**Sn**	**15 32 14.9**	**-0.4**
YAZI	**Mula-Dat§a-**	**0.99**	**351**	P	**Pn**	**15 32 05.0**	**0.0**
YAZI				S	**Sn**	**15 32 18.4**	**+0.3**
NISR	**Nisiros**	**1.00**	**335**	P	**Pn**	**15 32 05.4**	**+0.3**
NISR	**Nisiros**	**1.00**	**335**	P	**Pn**	**15 32 05.0**	**-0.1**
NISR				S	**Sn**	**15 32 18.1**	**-0.2**
DAT	**Datca**	**1.02**	**357**	Pg	**Pb**	**15 32 05.2**	**-0.7**
DAT				Sg	**Sn**	**15 32 19.9**	**+0.7**
DATC	**Datca-Mugla**	**1.05**	**1**	Pg	**Pn**	**15 32 06.0**	**+0.1**
TURN	**Turunc**	**1.17**	**24**	Pn	**Pb**	**15 32 08.1**	**+0.1**
TURN				Sn	**Sn**	**15 32 23.9**	**+1.3**
TURN	**Turunc**	**1.17**	**24**	P	**Pb**	**15 32 08.6**	**+0.2**
TURN				S	**Sn**	**15 32 23.3**	**+0.7**
ZKR	**Zakros**	**1.31**	**244**	Pn	**Pb**	**15 32 11.5**	**+0.7**
ZKR	**Zakros**	**1.31**	**244**	P	**Pb**	**15 32 11.4**	**+0.7**
ZKR				S	**Sb**	**15 32 29.8**	**+2.7**
ZKR				AML	AML	15 32 32.4	
	9.8nm,0.8s						
ZKR				AML	AML	15 32 35.9	
	4.8nm,0.9s						
ZKR	**Zakros**	**1.31**	**244**	P	**Pb**	**15 32 11.4**	**+0.7**
ZKR				S	**Sb**	**15 32 28.6**	**+1.5**
ASTA	**Astypalaia**	**1.34**	**309**	P	**Pn**	**15 32 09.8**	**-0.1**
KLNA	**Kalymnos**	**1.36**	**337**	P	**Pn**	**15 32 10.1**	**0.0**
BDRM	**Kayabasi**	**1.37**	**353**	P	**Pb**	**15 32 10.7**	**-1.1**
BDRM				S	**Sn**	**15 32 27.3**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.45**	**348**	Pn	**Pn**	**15 32 10.9**	**-0.4**
IZZE	**Mula-Seydike**	**1.47**	**60**	P	**Pb**	**15 32 13.6**	**+0.1**
IZZE				S	**Sb**	**15 32 33.7**	**+1.9**
SABU	**Mula-Dalaman**	**1.54**	**43**	P	**Pb**	**15 32 15.0**	**+0.2**
SABU				S	**Sb**	**15 32 35.2**	**+1.3**
KSL	**Kastellorizon**	**1.63**	**74**	P	**Pb**	**15 32 15.8**	**-0.4**
KSL				S	**Sb**	**15 32 38.6**	**+2.2**
KSL	**Kastellorizon**	**1.63**	**74**	P	**Pb**	**15 32 15.4**	**-0.8**
KSL				S	**Sn**	**15 32 31.9**	**-2.1**
KSL				AML	AML	15 32 39.2	
	3.3nm,0.5s						
KSL				AML	AML	15 32 40.0	
	2.0nm,0.5s						
KSL	**Kastellorizon**	**1.63**	**74**	P	**Pb**	**15 32 15.7**	**-0.5**
DIDI	**Didim-Aydin**	**1.70**	**349**	Pn	**Pn**	**15 32 15.3**	**+0.5**
NPS	**Neapolis**	**1.72**	**256**	P	**Pb**	**15 32 17.4**	**-0.3**
NPS				S	**Sb**	**15 32 39.0**	**+0.1**
NPS	**Neapolis**	**1.72**	**256**	P	**Pb**	**15 32 17.0**	**-0.7**
NPS				S	**Sb**	**15 32 39.0**	**+0.1**
NPS	**Neapolis**	**1.72**	**256**	P	**Pb**	**15 32 17.1**	**-0.6**
CAME	**Cameli-Denizli**	**1.82**	**47**	Pn	**Pb**	**15 32 18.9**	**-0.6**
THERA	**Ancient Thera,**	**1.88**	**291**	P	**Pn**	**15 32 17.9**	**+0.7**
THERA				S	**Sb**	**15 32 41.8**	**-1.7**
THERA	**Ancient Thera,**	**1.88**	**291**	P	**Pn**	**15 32 18.0**	**+0.7**
DEMR	**Demre-Antalya**	**1.91**	**73**	Pn	**Pb**	**15 32 21.1**	**+0.2**
DNZT	**Denizli-Tavas-**	**1.92**	**35**	P	**Pb**	**15 32 21.3**	**0.0**
DNZT				S	**Sb**	**15 32 46.8**	**+2.0**
KNIK	**Mula-Seydike**	**1.93**	**53**	P	**Pb**	**15 32 19.9**	**-1.5**
KNIK				S	**Sb**	**15 32 45.4**	**+0.4**
THR6	**Thira Island,**	**1.94**	**290**	P	**Pn**	**15 32 19.2**	**+1.2**
THR3	**Thira Island,**	**1.95**	**292**	P	**Pn**	**15 32 19.2**	**+1.0**
SNT5	**Nea Kammeni, S**	**1.95**	**292**	P	**Pn**	**15 32 18.9**	**+0.6**
SNT5	**Nea Kammeni, S**	**1.95**	**292**	P	**Pn**	**15 32 18.9**	**+0.6**
CAEL	**Denizli, Camel**	**1.96**	**43**	P	**Pb**	**15 32 21.5**	**-0.3**
CAEL				S	**Sb**	**15 32 47.0**	**+1.2**
AYDN	**Tasoluk**	**1.96**	**5**	P	**Pb**	**15 32 19.8**	**-2.0**
THR5	**Thira Island,**	**2.00**	**292**	P	**Pb**	**15 32 21.2**	**-1.1**
THR5	**Thira Island,**	**2.00**	**292**	P	**Pb**	**15 32 20.6**	**-1.8**
SAP3	**Santorini-Thir**	**2.00**	**292**	P	**Pb**	**15 32 21.0**	**-1.5**
SAP3				S	**Sb**	**15 32 47.1**	**+0.1**
SAP3	**Santorini-Thir**	**2.00**	**292**	P	**Pn**	**15 32 20.5**	**+1.5**
GCAM	**G?zelcaml?**	**2.02**	**351**	Pn	**Pn**	**15 32 20.0**	**+0.9**
GCAM	**G?zelcaml?**	**2.02**	**351**	P	**Pn**	**15 32 20.2**	**+1.1**
TAVA	**DENIZLI_Tavas**	**2.03**	**30**	P	**Pb**	**15 32 23.1**	**0.0**
TAVA				S	**Sb**	**15 32 48.7**	**+0.7**
SMG	**Samos**	**2.10**	**342**	P	**Pn**	**15 32 20.8**	**+0.5**
SMG				S	**Sb**	**15 32 49.9**	**0.0**
SMG	**Samos**	**2.10**	**342**	P	**Pn**	**15 32 20.8**	**+0.5**
ESEN	**Aydn-Nazilli**	**2.16**	**15**	P	**Pb**	**15 32 23.1**	**-2.1**
ESEN				S	**Sn**	**15 32 48.0**	**+0.9**
APMY	**Acipayam-Deniz**	**2.21**	**37**	Pn	**Pb**	**15 32 24.3**	**-1.8**
DNIZ	**Denizli-Tavas-**	**2.22**	**30**	P	**Pb**	**15 32 25.6**	**-0.7**
DNIZ				S	**Sb**	**15 32 54.4**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.25**	**5**	Pn	**Pn**	**15 32 23.3**	**+0.9**
IDI	**Anoyia**	**2.29**	**260**	Pn	**Pb**	**15 32 25.3**	**-2.1**
IDI	**Anoyia**	**2.29**	**260**		**Pn**	**15 32 24.5**	**+1.6**
IDI				Sn	**Sn**	**15 32 52.1**	**+1.8**
IDI	**Anoyia**	**2.29**	**260**	P	**Pn**	**15 32 24.9**	**+2.0**
IDI				S	**Sn**	**15 32 51.3**	**+1.0**
IDI	**Anoyia**	**2.29**	**260**	Pn	**Pn**	**15 32 23.1**	**+0.2**
	34nm,0.4s,baz=47,slow=5.8,SNR=50						
IDI				Sn	**Sn**	**15 32 52.0**	**+1.6**
	46nm,0.3s,baz=179,slow=4.6,SNR=13						
IDI	**Anoyia**	**2.29**	**260**	P	**Pn**	**15 32 24.3**	**+1.4**
NAZL	**Nazilli-Aydin**	**2.31**	**13**	Pn	**Pn**	**15 32 24.3**	**+1.1**
TMBK	**Timbaki Herakl**	**2.44**	**256**	P	**Pb**	**15 32 28.3**	**-1.6**
TMBK	**Timbaki Herakl**	**2.44**	**256**	P	**Pb**	**15 32 27.5**	**-2.4**
IZMR	**zmir-demi**	**2.44**	**6**	P	**Pn**	**15 32 26.0**	**+1.1**
IZMR				S	**Sn**	**15 32 53.9**	**0.0**
KORT	**Korkueli**	**2.54**	**59**	Pn	**Pb**	**15 32 29.9**	**-1.8**
KIRA	**zmir-Kiraz**	**2.56**	**13**	P	**Pn**	**15 32 28.6**	**+1.9**
KIRA				S	**Sn**	**15 32 57.2**	**+0.1**
ODEM	**Odemis-Izmir**	**2.59**	**7**	Pn	**Pn**	**15 32 27.9**	**+0.8**
ANTB	**Antalya**	**2.71**	**63**	Pn	**Pb**	**15 32 31.9**	**-2.6**
BLCB	**Balcova**	**2.72**	**350**	Pn	**Pn**	**15 32 29.3**	**+0.5**
BLCB	**Balcova**	**2.72**	**350**	P	**Pn**	**15 32 29.6**	**+0.8**
MANT	**Manisa**	**2.88**	**14**	Pn	**Pn**	**15 32 32.2**	**+1.1**
KULA	**Kula-Manisa**	**2.92**	**16**	Pn	**Pn**	**15 32 33.3**	**+1.7**
BASM	**Basmaki-Afyon**	**2.93**	**40**	Pn	**Pn**	**15 32 34.1**	**+2.3**
GVD	**Gavdhos**	**3.04**	**255**	Pn	**Pn**	**15 32 36.6**	**+3.4**
ISP	**Isparta**	**3.13**	**47**	Pn	**Pn**	**15 32 37.3**	**+2.8**
ISP	**Isparta**	**3.13**	**47**	Pn	**Pn**	**15 32 36.5**	**+2.0**
ISP	**Isparta**	**3.13**	**47**	P	**Pn**	**15 32 36.5**	**+2.0**
ISP	**Isparta**	**3.13**	**47**	P	Pn	15 32 28.7	-5.8
AKS	**Akhisar**	**3.17**	**2**	Pn	**Pn**	**15 32 36.5**	**+1.5**
GORD	**Gordes-Manisa**	**3.23**	**7**	Pn	**Pn**	**15 32 37.1**	**+1.3**
KNDR	**Palaiochora Ch**	**3.27**	**263**	Pn	**Pn**	**15 32 39.7**	**+3.4**
SOMA	**Soma-Manisa**	**3.45**	**359**	Pn	**Pn**	**15 32 40.5**	**+1.7**
ANKY	**Antikythira Is**	**3.54**	**274**	P	**Pn**	**15 32 42.9**	**+2.8**
ANKY				S	**Sn**	**15 33 20.0**	**-1.0**
ALAN	**Alanya-ANTALYA**	**3.65**	**75**	Pn	**Pn**	**15 32 43.2**	**+1.6**
KTHA	**Kythira Island**	**3.76**	**280**	Pn	**Pn**	**15 32 45.2**	**+2.1**
SEYD	**Seydisehir-KON**	**3.78**	**62**	Pn	**Pn**	**15 32 46.8**	**+3.4**
SIGR	**SIGRI**	**3.78**	**338**	Pn	**Pn**	**15 32 44.7**	**+1.4**
GAZI	**Gazipasa**	**3.82**	**81**	Pn	**Pn**	**15 32 44.8**	**+0.8**
AKMS	**Akamas**	**3.89**	**99**	P	**Pn**	**15 32 45.7**	**+0.8**
AKMS				S	**Sn**	**15 33 29.2**	**-0.6**
AKMS				AML	AML	15 33 34.4	
	0.7nm,0.4s						
AKMS				AML	AML	15 33 34.7	
	1.3nm,0.5s						
YAYO	**Edremit-Balk**	**3.93**	**353**	Pn	**Pn**	**15 32 46.9**	**+1.5**

TVSB	**Tavsanli**	**4.01**	**21**	Pn	**Pn**	**15 32 48.8**	**+2.2**
ALFC	**Alefka**	**4.08**	**96**	P	**Pn**	**15 32 48.1**	**+0.6**
ALFC				S	**Sn**	**15 33 34.3**	**-0.2**
ALFC				AML	AML	15 33 38.3	
	0.7nm,0.4s						
ALFC				AML	AML	15 33 39.2	
	0.6nm,0.4s						
ALFC	**Alefka**	**4.08**	**96**	P	**Pn**	**15 32 48.2**	**+0.7**
NATA	**Nata**	**4.13**	**101**	P	**Pn**	**15 32 49.4**	**+1.1**
NATA				S	**Sn**	**15 33 35.7**	**-0.1**
NATA				AML	AML	15 33 39.0	
	1.8nm,0.7s						
NATA				AML	AML	15 33 43.9	
	1.4nm,0.8s						
EZN	**Ezine**	**4.25**	**346**	Pn	**Pn**	**15 32 51.5**	**+1.8**
EZN	**Ezine**	**4.25**	**346**	P	**Pn**	**15 32 51.3**	**+1.6**
TROD	**Troodos**	**4.33**	**99**	P	**Pn**	**15 32 51.3**	**+0.1**
TROD				S	**Sn**	**15 33 41.2**	**+0.2**
TROD				AML	AML	15 33 49.4	
	0.4nm,0.4s						
TROD				AML	AML	15 33 50.4	
	0.4nm,0.4s						
XYLS	**Xyliatos**	**4.47**	**97**	P	**Pn**	**15 32 53.5**	**+0.6**
XYLS				S	**Sn**	**15 33 43.5**	**-0.5**
XYLS				AML	AML	15 33 47.3	
	0.4nm,0.5s						
XYLS				AML	AML	15 33 49.0	
	0.5nm,0.4s						
ASGA	**Asgata**	**4.67**	**100**	P	**Pn**	**15 32 55.8**	**+0.2**
ASGA				S	**Sn**	**15 33 49.2**	**+0.1**
ASGA				AML	AML	15 33 54.6	
	0.3nm,0.6s						
ASGA				AML	AML	15 34 01.9	
	0.4nm,0.7s						
CSS	**Mathiatis**	**4.70**	**97**	Pn	**Pn**	**15 32 55.9**	**-0.2**
CSS	**Mathiatis**	**4.70**	**97**	P	**Pn**	**15 32 56.5**	**+0.4**
CSS				S	**Sn**	**15 33 49.5**	**-0.3**
CSS				AML	AML	15 33 52.1	
	0.3nm,1.2s						
CSS				AML	AML	15 33 57.4	
	0.2nm,0.7s						
CSS	**Mathiatis**	**4.70**	**97**	P	**Pn**	**15 32 56.2**	**+0.1**
CSS	**Mathiatis**	**4.70**	**97**	S	**Sn**	**15 33 47.6**	**-2.2**
ITM	**Ithomi**	**4.84**	**289**	Pn	**Pn**	**15 33 01.8**	**+3.8**
MVOU	**Mavrovouni**	**4.94**	**96**	P	**Pn**	**15 32 59.5**	**+0.3**
MVOU				S	**Sn**	**15 33 55.7**	**+0.2**
MVOU				AML	AML	15 33 59.1	
	0.1nm,0.4s						
MVOU				AML	AML	15 34 03.5	
	0.2nm,0.6s						
ALN	**Alexandroupoli**	**5.33**	**347**	Pn	**Pn**	**15 33 07.0**	**+2.3**
ALN	**Alexandroupoli**	**5.33**	**347**	P	**Pn**	**15 33 07.0**	**+2.3**
RDO	**Rodhopi**	**5.68**	**344**	Pn	**Pn**	**15 33 11.1**	**+1.6**
BR131	**Keskin Array S**	**6.22**	**48**	Pn	**Pn**	**15 33 18.5**	**+1.5**
BR131	**Keskin Array S**	**6.22**	**48**	P	**Pn**	**15 33 18.5**	**+1.5**
BRTR	**Keskin Array B**	**6.22**	**48**	Pn	**Pn**	**15 33 18.0**	**+1.0**
BRTR	**Keskin Array B**	**6.22**	**48**	P	**Pn**	**15 33 18.9**	**+1.9**
	0.5nm,0.3s,baz=218,slow=15,SNR=14						
BRTR					**Sn**	**15 34 27.4**	**+0.2**
	0.6nm,0.3s,baz=208,slow=24,SNR=7.1						
	3.1nm,0.8s						
MMA0B	**Mount Meron ar**	**6.95**	**110**	P	**Pn**	**15 33 23.1**	**-3.9**
MMA0B	**Mount Meron ar**	**6.95**	**110**	S	**Sn**	**15 34 41.9**	**-3.4**
MMAI	**Mount Meron Ar**	**6.95**	**110**	Pn	**Pn**	**15 33 26.0**	**-1.0**
	4.4nm,0.4s,baz=298,slow=12,SNR=19						
MMAI				Sn	**Sn**	**15 34 43.8**	**-1.5**
	12nm,0.3s,baz=311,slow=23,SNR=9.2						
MMA2	**Mount Meron ar**

FIA1	FINESS Array S	25.78	358	P		P		15 37 15.2	0.0
HFS	Hagfors	26.06	344	P		P		15 37 16.1	-1.7
	comp=Z,3.3nm,0.7s,baz=149,slow=12,SNR=7.3								
	comp=Z,3.3nm,0.7s								
AKTO	Aktyubinsk	26.39	47	LR		LR		15 51 33.4	
	comp=Z,41nm,19.4s,baz=278,slow=45								
NOA	NORSAR Array B	27.44	343	P		P		15 37 28.9	-1.4
	comp=Z,0.6nm,0.8s,baz=146,slow=8.8,SNR=3.4								
NOA				LR		LR		15 50 12.9	
	comp=Z,24nm,19.3s,baz=90,slow=41								
	comp=Z,0.6nm,0.8s								
TORD	Torodi Ar. Bea	32.41	233	P		P		15 38 16.0	+1.3
TORD	Torodi Ar. Bea	32.41	233	P		P		15 38 15.7	+1.0
	comp=Z,1.5nm,0.4s,baz=33,slow=9.2,SNR=23								
	comp=Z,1.5nm,0.4s								
ARCES	ARCESS Array B	33.91	359	P		P		15 38 26.4	-0.8
ARCES				IAmb		IAmb		15 38 27.2	
	comp=Z,1.5nm,0.8s								
ARCES	ARCESS Array B	33.91	359	P		P		15 38 25.9	-1.3
	comp=Z,1.1nm,0.7s,baz=180,slow=9.5,SNR=13								
	comp=Z,1.1nm,0.7s								
ARCES	ARCESS Array B	33.91	359	P		P		15 38 26.4	-0.8
ARCES				pmax		pmax			
	comp=Z,1.0nm,0.8s								
KURBB	Kurchatov Arra	39.20	51	P		P		15 39 14.1	+1.6
	comp=Z,0.6nm,0.3s,baz=279,slow=8.9,SNR=5.9								
	comp=Z,0.6nm,0.3s								
KURK	Kurchatov	39.26	51	P		P		15 39 14.1	+1.1
DBIC	Dimbokro	41.51	234	P		P		15 39 30.2	-1.8
	comp=Z,4.7nm,0.9s,baz=90,slow=6.1,SNR=3.2								
	comp=Z,4.7nm,0.9s								
MKAR	Makanchi Array	41.78	57	P		P		15 39 33.6	-0.3
MKAR	Makanchi Array	41.78	57	P		P		15 39 35.1	+1.2
	comp=Z,0.4nm,0.5s,baz=270,slow=8.3,SNR=6.7								
	comp=Z,0.4nm,0.5s								
MKAR	Makanchi Array	41.78	57	P		P		15 39 33.6	-0.3
ZALV	Zalesovo Beam	43.16	47	P		P		15 39 46.0	+1.0
	comp=Z,1.0nm,0.6s,baz=278,slow=8.8,SNR=5.2								
	comp=Z,1.0nm,0.6s								
MA2	Magadan	74.11	26	P		P		15 43 22.0	+1.6
MA2				IAmb		IAmb		15 43 22.6	
	comp=Z,3.5nm,0.8s								
MA2	Magadan	74.11	26	P		P		15 43 22.0	+1.6
MA2				pmax		pmax			
	comp=Z,4.0nm,0.8s								
USRK	Ussuriysk Ar.	75.01	46	P		P		15 43 26.9	+1.0
USRK	Ussuriysk Ar.	75.01	46	P		P		15 43 27.1	+1.2
	comp=Z,1.4nm,0.6s,baz=330,slow=5.4,SNR=4.2								
	comp=Z,1.4nm,0.6s								
USRK	Ussuriysk Ar.	75.01	46	P		P		15 43 26.9	+1.0
C18K	Utukok River	75.75	3	P		P		15 43 30.3	+0.5
E22K	Anaktuvuk Pass	76.48	360	P		P		15 43 35.1	+1.2
E19K	Redstone River	77.09	2	P		P		15 43 38.0	+0.7
E19K				IAmb		IAmb		15 43 48.6	
	comp=Z,3.8nm,0.9s								
IMAR	Indian Mountai	78.63	1	P		P		15 43 46.8	+0.9
K20K	Telida	81.27	1	P		P		15 44 01.7	+1.5
K20K				IAmb		IAmb		15 44 25.4	
	comp=Z,6.9nm,1.5s								
PPLA	Purkeypile	81.74	360	P		P		15 44 03.7	+0.8
PPLA				IAmb		IAmb		15 44 04.2	
	comp=Z,3.8nm,0.7s								
SKT	Skwentna	82.66	360	P		P		15 44 07.6	0.0
SKT				IAmb		IAmb		15 44 08.9	
	comp=Z,2.6nm,0.9s								
ASAR	Alice Springs	116.16	101	PKPdf		PKiKP		15 50 28.7	+0.8
ASAR	Alice Springs	116.16	101	PKP		PKPdf		15 50 28.1	+0.1
	comp=Z,0.2nm,0.7s,baz=324,slow=1.2,SNR=5.2								

IDC 28 15:41:18.8±4.2, 7°.17N×1°.61W, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=57.8km s-min=16.8km az=145.0, Ghana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	Dimbokro	3.26	261	Pn	Pn	15 42 12.1	+0.8
	0.1nm,0.3s,baz=83,slow=8.1,SNR=2.4						
DBIC				Pg	Pg	15 42 19.6	-1.8
	0.9nm,0.3s,baz=109,slow=13,SNR=12						
DBIC				Lg	Lg	15 42 59.7	
	1.3nm,0.3s,baz=328,slow=20,SNR=6.8						
	5.1nm,1.1s						
I17CI	DIMBOKRO INFRA	3.26	261	I	I	16 02 00.0	
	baz=86,slow=309,SNR=2.8						
TORD	Torodi Ar. Bea	6.77	28	Pn	Pn	15 43 00.7	+1.2
	0.1nm,0.3s,baz=210,slow=13,SNR=5.9						
TORD				Sn	Sn	15 44 17.2	-0.2
	0.2nm,0.3s,baz=209,slow=23,SNR=6.2						
TORD				Lg	Lg	15 44 50.6	
	0.4nm,0.3s,baz=205,slow=28,SNR=7.2						
	0.2nm,0.2s						

*AFAD **28** 15:47:41.4, 36°.93N×27°.07E, h7km±5km, ML3.2*
*ISK **28** 15:47:44.6, 36°.95N×27°.24E, h14km, ML3.1/18*
*THE **28** 15:47:45.4, 37°N±1°14′×2°7′E±9′0, h9km±47km, M3.0/6, MLh3.0/6*
*IDC **28** 15:47:45.5±4.3, 36°.91N×27°.60E, h0km, mb3.5/3, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=201.0km s-min=58.3km az=151.0*
*ATH **28** 15:47:45.3, 36°.95N×27°.27E, h13km±2km, ML3.1/3, Manual Solution by A.Plessa First location: 2019/08/28 15:49:19, This location: 2019/08/28 16:59:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

ISC 28 15:47:45.4±0.8, 36°.96N±0°.02×27°.28E±0°.02, h11km±6km, n48, σ1s00/72, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKAV	Yalikavak-Bodr	0.17	360	Pg	Pg	15 47 48.8	-0.3
YKAV				Sg	Sg	15 47 52.2	+0.6
BDRM	Kayabasi	0.17	51	P	Pg	15 47 48.5	-0.6
BDRM				S	Sg	15 47 52.2	+0.5
BDRM				*i* IAML		15 47 54.0	
	comp=E,3μm,0.3s						
KLNA	Kalymnos	0.25	270	P	Pg	15 47 50.5	0.0
KLNA				S	Sg	15 47 54.1	+0.2
YAZI	Mula-Dat§a-	0.31	153	P	Pg	15 47 48.5	-3.1
YAZI				S	Sg	15 47 56.3	+0.5
DAT	Datca	0.33	134	Pg	Pg	15 47 52.2	+0.1
DAT				Sg	Sg	15 47 57.6	+1.1
DAT	Datca	0.33	134	P	Pg	15 47 52.3	+0.2
DAT				S	Sb	15 47 59.1	+0.3
DATC	Datca-Mugla	0.36	123	Pg	Pg	15 47 52.9	+0.3
DATC				Sg	Sg	15 47 58.8	+1.3
DIDI	Didim-Aydin	0.42	355	Pg	Pg	15 47 53.9	+0.2
DDIM	Aydin, Didim	0.50	356	P	Pg	15 47 52.1	-3.1
DDIM				S	Sg	15 48 03.4	+1.6
DDIM				*i* IAML		15 48 04.0	
	comp=N,3μm,0.5s						
DDIM				*i* IAML		15 48 04.0	
	comp=E,2μm,0.2s						
GCAM	G?zelcaml?	0.74	357	Pg	Pg	15 47 59.5	-0.2
GCAM	G?zelcaml?	0.74	357	P	Pg	15 47 56.8	-3.0
GCAM				S	Sg	15 48 10.5	+1.0
GCAM				*i* IAML		15 48 14.0	
	comp=N,1μm,0.2s						
GCAM				*i* IAML		15 48 15.0	
	comp=E,852nm,0.2s						
TURN	Turunc	0.79	103	Pg	Pg	15 48 00.6	-0.1
TURN				Sg	Sb	15 48 13.1	+1.1
TURN	Turunc	0.79	103	P	Pg	15 48 00.4	-0.3
TURN				S	Sb	15 48 12.7	+0.7
TURN				*i* IAML		15 48 15.0	
	comp=N,982nm,0.5s						
TURN				*i* IAML		15 48 16.0	
	comp=E,1μm,0.3s						
SMG	Samos	0.83	335	P	Pg	15 48 01.3	-0.1
SMG				S	Sn	15 48 15.7	+0.3
SMG	Samos	0.83	335	P	Pg	15 48 01.4	0.0
SMG				S	Sg	15 48 12.6	+0.4
AYDN	Tasoluk	0.85	34	P	Pg	15 47 58.7	-3.1
AYDN				S	Sg	15 48 14.6	+1.7
AYDN				*i* IAML		15 48 17.0	
	comp=N,806nm,0.4s						
AYDN				*i* IAML		15 48 18.0	
	comp=E,755nm,0.3s						
ASTA	Astypalaia	0.85	241	P	Pb	15 48 01.9	-0.3
ASTA				S	Sb	15 48 13.5	-0.1
KRL1	Karlovasi Samo	0.95	331	P	Pg	15 48 04.0	+0.3
KRL1				S	Sg	15 48 16.6	+0.5
ARG	Arkhangelos	1.01	137	Pg	Pb	15 48 04.8	-0.1
ARG	Arkhangelos	1.01	137	P	Pb	15 48 04.7	-0.1
ARG				S	Sn	15 48 19.7	+0.1
ARG	Arkhangelos	1.01	137	P	Pb	15 48 04.8	-0.1
ARG				S	Sb	15 48 18.7	+0.6
AYDB	Zeytinkoy-Aydi	1.10	26	Pn	Pg	15 48 06.2	-0.4
GMLD	Gumuldur	1.15	346	Pn	Pb	15 48 07.3	-0.1
ESEN	Aydn-Nazilli	1.19	45	P	Pn	15 48 06.7	-1.4
ESEN				S	Sb	15 48 23.1	-0.4
NAZL	Nazilli-Aydin	1.29	38	Pn	Pn	15 48 08.9	-0.5
IZMR	zmir-demi	1.29	24	P	Pn	15 48 08.6	-0.8
IZMR				S	Sb	15 48 26.1	-0.3
SABU	Mula-Dalaman	1.36	95	P	Pn	15 48 08.9	-1.5
SABU				S	Sn	15 48 29.6	+1.1
SABU				*i* IAML		15 48 35.0	
	comp=N,254nm,0.6s						
TAVA	DENIZLI_Tavas	1.40	68	P	Pn	15 48 10.0	-1.0
TAVA				S	Sn	15 48 29.9	+0.4
KARP	Karpathos	1.41	184	Pn	Pn	15 48 10.1	-1.0
KARP	Karpathos	1.41	184	P	Pn	15 48 10.1	-1.0
KARP	Karpathos	1.41	184	P	Pn	15 48 09.8	-1.3
KARP				S	Sb	15 48 28.8	-1.0
BLCB	Balcova	1.44	352	Pn	Pn	15 48 11.7	+0.3
BLCB	Balcova	1.44	352	P	Pn	15 48 11.5	0.0
ODEM	Odemis-Izmir	1.46	25	Pn	Pn	15 48 11.3	-0.5
THERA	Ancient Thera,	1.57	248	P	Pg	15 48 15.7	+0.2
THERA	Ancient Thera,	1.57	248	P	Pg	15 48 15.5	0.0
CAME	Cameli-Denizli	1.62	90	Pn	Pn	15 48 13.8	-0.3
APMY	Acipayam-Deniz	1.69	72	Pn	Pn	15 48 14.8	-0.2
KULA	Kula-Manisa	1.90	35	Pn	Pn	15 48 17.7	-0.2
ZKR	Zakros	2.03	205	Pn	Pn	15 48 19.4	-0.2
IDI	Anoyia	2.56	230	Pn	Pn	15 48 26.3	-0.6
DION	Dionisos Attik	2.89	294	P	Pn	15 48 31.1	-0.3
LIA	Limnos Island	3.37	331	P	Pn	15 48 37.4	-0.5
SMTH	Samothraki Isl	3.76	339	P	Pn	15 48 43.0	-0.5
BRTR	Keskin Array B	5.71	59	Pn	Pn	15 49 11.3	+1.0
	0.2nm,0.3s,baz=241,slow=15,SNR=3.6						
BRTR				Sn	Sn	15 50 15.1	-0.8
	0.1nm,0.3s,baz=101,slow=32,SNR=0.9						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	38.66	53	P	P	15 55 09.4	+0.6
	0.4nm,0.5s,baz=277,slow=8.5,SNR=4.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	41.36	58	P	P	15 55 31.4	0.0
	0.4nm,0.6s,baz=270,slow=8.0,SNR=5.6						
	0.4nm,0.6s						
ZALV	Zalesovo Beam	42.52	48	P	P	15 55 40.9	+0.1
	0.3nm,0.4s,baz=282,slow=8.3,SNR=1.8						
	0.3nm,0.4s						

*NEIC **28** 15:53:00.5, 20°.59S×70°.33W, h24km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16^Nm; Mrr1.80; Mθθ0.05; Mφφ-1.85; Mrθ1.24; Mθφ0.48; Mφr-1.56; Fault plane solution: M0 2.74000×10^16^ NP1:φs3.59000°, δ25.16000°, λ122.19000°. NP2:φs148.78000°, δ68.92000°, λ75.95000°. Principal axes: T 2.7620, Plg63.0000°, Azm36.0000°; N -0.0361, Plg13.0000°, Azm154.0000°; P -2.7259, Plg23.0000°, Azm249.0000°;*
*NEIC **28** 15:53:00.5, 20°.59S×70°.44W, h24km*
*NEIC **28** 15:53:02.0±1.4, 20°.58S±0°.03×70°.39W±0°.05, h30km±1km, mb5.0/110, Mww4.9/13, Mwr5.0(GUC), Error ellipse: s-maj=7.2km s-min=3.8km az=89.0*
*GUC **28** 15:53:03.0±0.6, 20°.56S×70°.36W, h32km±1km, ML4.9*
*IDC **28** 15:53:05.8±2.1, 20°.51S×70°.14W, h56km±18km, mb4.0/12, mbtmp4.2/17, ML4.1/6, MS4.2/46, Error ellipse: s-maj=19.2km s-min=13.7km az=66.0*
*GCMT **28** 15:53:07.0±0.3, 20°.49S±0°.02×70°.56W±0°.02, h35km±1km, MW5.0/87, Moment Tensor Solution. s55,c64; s87,c106; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.11±.16; Mθθ-0.31±.10; Mφφ-2.80±.11; Mrθ1.01±.10; Mθφ0.39±.07; Mrr-3.25±.16; Best double couple: M0 4.52500×10^16^ NP1:φs356.00000°, δ21.00000°, λ100.00000°. NP2: φs165.00000°, δ69.00000°, λ86.00000°. Principal axes: T 4.6670, Plg65.0000°, Azm68.0000°; N -0.2840, Plg4.0000°, Azm166.0000°; P -4.3830, Plg24.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **28** 15:53:13.4±0.6, 20°.07S×69°.53W, h80km±4km, mb4.7*

ISC 28 15:53:02.0±0.5, 20°.50S±0°.02×70°.33W±0°.04, h31km±3km, n266, σ1s45/209, mb4.9/60, MS4.2/42, 6C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA01	Diego Aracena	0.15	114	Pg	Pb	15 53 08.3	+0.4
TA01				Sg	Sb	15 53 12.7	+0.7
TA01	Diego Aracena	0.15	114	*e*P	Pb	15 53 08.3	+0.4
TA01				*i* S	Sn	15 53 12.8	+0.8
TA01				IAML		15 53 13.9	
	comp=E,392μm,0.3s						
TA02	Huaiquique	0.30	39	↓*i* P	Pn	15 53 10.4	+0.2
TA02				*i* S	Sn	15 53 16.4	+0.9
TA02				IAML		15 53 17.6	
	comp=N,304μm,0.1s						
PATCX	Punta Patache	0.36	152	Pg	Pb	15 53 10.1	-0.3
PATCX				Sg	Sb	15 53 15.8	-0.4
PATCX	Punta Patache	0.36	152	↓*i* P	Pb	15 53 10.2	-0.3
PATCX				*i* S	Sb	15 53 16.0	-0.2
HMBC	Humberstone	0.47	62		Pn	15 53 12.8	+0.1
HMBC				Sn	Sn	15 53 20.5	+0.5
HMBC	Humberstone	0.47	62	↓*i* P	Pn	15 53 13.1	+0.3
HMBC				*e*S	Sn	15 53 20.9	+0.8
PB02	IPOC Station P	0.66	82	*e*P	Pb	15 53 15.0	-0.3
PB02	IPOC Station P	0.91	154	Pn	Pn	15 53 18.1	-0.6
PB02				Sn	Sn	15 53 29.9	-1.0
PB02	IPOC Station P	0.91	154	*e*P	Pn	15 53 18.2	-0.6
PB02				*i* S	Sn	15 53 30.0	-0.8
PB02				IAML		15 53 33.3	
	comp=E,53μm,0.4s						
PB01	IPOC Station P	0.95	124		Pn	15 53 19.1	-0.3
PB01					Sn	15 53 32.2	+0.2
PB01	IPOC Station P	0.95	124	↓*i* P	Pn	15 53 19.4	+0.1
PB01				*i* S	Sn	15 53 32.1	+0.1
PB11	IPOC Station P	0.97	41		Pb	15 53 20.7	+0.3
PB11					Sb	15 53 34.2	+1.1
PB11	IPOC Station P	0.97	41	↓*i* P	Pb	15 53 20.7	+0.3
PB11				*i* S	Sb	15 53 34.7	+1.6
PB11				IAML		15 53 38.3	
	comp=N,84μm,0.3s						
PB08	IPOC Station P	1.16	72		Pb	15 53 23.9	+0.2
PB08	IPOC Station P	1.16	72	↓*i* P	Pb	15 53 24.0	+0.2
PB08				*i* S	Sb	15 53 40.1	+1.4
GO01	Chusmiza	1.35	52		Pb	15 53 27.1	+0.1
GO01	Chusmiza	1.35	52	*e*P	Pb	15 53 27.0	-0.1
GO01				*i* S	Sb	15 53 45.8	+1.6
PX02	IPOC Station P	1.54	5	*e*P	Pn	15 53 28.0	+0.6
PX02				*i* S	Sb	15 53 47.6	-1.5
PX02				IAML		15 53 54.6	
	comp=N,16μm,0.5s						
PB03	IPOC Station P	1.63	161		Pn	15 53 28.6	-0.1
PB03	IPOC Station P	1.63	161	↓*i* P	Pn	15 53 29.0	+0.3
PB03				*i* S	Sn	15 53 50.7	+1.9
PB09	IPOC Station P	1.64	142		Pn	15 53 30.4	+1.5
PB09	IPOC Station P	1.64	142	*e*P	Pn	15 53 30.4	+1.5
PB09				*i* S	Sb	15 53 52.3	+0.2
PB09				IAML		15 53 56.6	
	comp=E,12μm,0.2s						
PB12	IPOC Station P	1.88	0		Pn	15 53 33.0	+0.9
PB12	IPOC Station P	1.88	0	*e*P	Pn	15 53 33.0	+0.9
PB12				*i* S	Sb	15 53 57.7	-1.1
PB12				IAML		15 54 03.3	
	comp=E,19μm,0.4s						
AP01	Chacalluta	2.12	360		Pn	15 53 36.7	+1.4
AP01	Chacalluta	2.12	360	*e*P	Pb	15 53 37.5	-2.2
AP01				*i* S	Sn	15 54 02.1	+1.5
PB16	IPOC Station P	2.29	20	Pn	Pn	15 53 39.5	+1.3
PB06	IPOC Station P	2.30	162		Pn	15 53 37.4	-0.7
PB06	IPOC Station P	2.30	162	↓*i* P	Pn	15 53 37.8	-0.3
PB05	IPOC Station P	2.34	177		Pn	15 53 37.0	-1.5
PB05	IPOC Station P	2.34	177	*e*P	Pn	15 53 37.1	-1.5
PB05				*i* S	Sn	15 54 09.1	+2.8
PB10	IPOC Station P	3.00	184		Pn	15 53 45.4	-2.0
PB10	IPOC Station P	3.00	184	*e*P	Pn	15 53 45.5	-2.0
AF01	San Pedro de A	3.15	141		Pn	15 53 48.9	-0.9
PB14	IPOC Station P	4.11	181		Pn	15 54 00.3	-2.6
LPAZ	La Paz	4.68	27	Pn	Pn	15 54 13.9	+2.8
LPAZ	La Paz	4.68	27	P	Pn	15 54 15.0	+3.8
	comp=E,16nm,0.3s,baz=134,slow=2.6,SNR=119						
LPAZ				LR	LR	15 56 21.4	
	comp=E,6μm,18.1s,baz=228,slow=42						
	comp=E,18nm,0.3s						
LPAZ	La Paz	4.68	27	*e*P	Pn	15 54 14.4	+3.3
GO02	Mina Guanaco	4.69	172		Pn	15 54 09.3	-1.6
AC01	Pan de Azucar	5.62	182		Pn	15 54 20.3	-3.3
AC02	Maricunga	6.40	170	Pn	Pn	15 54 33.4	-1.2
GO03	Copiapo	7.06	179	Pn	Pn	15 54 40.4	-2.9
CO01	Juntas del Tor	9.44	179	Pn	Pn	15 55 14.7	-1.4
SIV	San Ignacio	9.87	64	P	Pn	15 55 23.3	+1.4
	comp=E,1.4nm,0.3s,baz=254,slow=9.2,SNR=254						
SIV				LR	LR	15 59 53.3	
	comp=E,2μm,20.7s,baz=262,slow=42						
NNA	Nana	10.52	323	P	Pn	15 55 34.3	+3.5
	comp=E,1.5nm,0.3s,baz=198,slow=6.5,SNR=4.8						
	comp=E,9.6nm,0.5s						
CFA	Coronel Fontan	11.21	171	P	Pn	15 55 43.9	+3.7
	comp=E,1.1nm,0.3s,baz=0.9,slow=19,SNR=6.4						
CFA				LR	LR	16 00 11.6	
	comp=E,339nm,21.4s,baz=354,slow=38						
	comp=E,0.9nm,0.3s						
PTLB	Pontes e Lacer	11.78	67		Pn	15 55 48.3	+0.4
PTLB	Pontes e Lacer	11.78	67	*e*P	Pn	15 55 46.7	-1.2
VILB	Vilhena	12.26	54	Pn	Pn	15 55 56.0	+1.3
VILB	Vilhena	12.26	54	*e*P	Pn	15 55 53.2	-1.4
VILB				*e*S	Sn	15 57 59.2	-11
BDQN	Bodoquena, MS	12.73	92	*e*P	Pn	15 56 00.7	-0.3
CZSB	Cruzeiro do Su	12.90	349		Pn	15 56 02.7	-0.7
CZSB	Cruzeiro do Su	12.90	349	*e*P	P	15 56 10.3	-3.4
CZSB				*e*S	Sn	15 58 29.9	+3.9
CPUP	Villa Florida	13.27	118		Pn	15 56 05.4	-2.8
CPUP	Villa Florida	13.27	118	P	Pn	15 56 09.1	+0.8
	comp=E,0.1nm,0.3s,baz=154,slow=12,SNR=8.5						
CPUP				LR	LR	16 02 13.4	
	comp=E,351nm,20.4s,baz=156,slow=42						
	comp=E,0.9nm,0.6s						
SAML	Samuel	13.40	32		Pn	15 56 10.0	-0.2
SAML	Samuel	13.40	32	*e*P	Pn	15 56 09.1	-1.0
SAML				*e*S	Sn	15 58 29.5	-8.6
AQDB	Aquidauana	13.71	92	*e*P	Pn	15 56 15.3	+1.0
SJPY	San Joaquin	13.87	111	*e*P	Pn	15 56 18.6	+2.2
BO02	Sierra Bellavi	14.24	182	Pn	Pn	15 56 20.1	-1.5
AMBA	Amambai (Brazi	14.46	102	*e*P	Pn	15 56 26.6	+2.0
SALV	Santo Antonio	14.64	74	*e*P	Pn	15 56 25.9	-1.1
PP1B	Ponte de Pedra	14.89	81	*e*P	Pn	15 56 29.6	-0.9
H03N1	Juan Fernandez	14.98	209	T	T	16 12 00.9	
	baz=33,slow=72,SNR=2811						
H03N2	Juan Fernandez	14.98	209	T	T	16 11 58.4	
	baz=33,slow=72,SNR=1728						
H03N3	Juan Fernandez	14.99	209	T	T	16 11 58.8	
	baz=33,slow=72,SNR=1903						
ATAH	Atahualpa	15.41	328	P	P	15 56 40.5	-1.5
	comp=E,0.2nm,0.3s,baz=167,slow=16,SNR=3.9						
	comp=E,1.4nm,0.4s						
RPRD	Ribas do Rio P	15.58	93	*e*P	Pn	15 56 39.7	+0.1
PDRB	Porto dos Gac	15.77	58	*e*P	Pn	15 56 39.7	-2.3
C2SB	Chapadao do Su	16.57	87	*e*P	Pn	15 56 52.0	-0.2
TRCB	Terra Rica	16.61	101	*e*P	Pn	15 56 53.6	+0.9
CLDB	Colider	16.94	58	*e*P	Pn	15 56 55.5	-1.4
PTGB	Pitanga	17.38	107	*e*P	P	15 57 04.3	+0.8
TEFE	Tefe	17.78	19	*e*P	Pn	15 57 06.4	-0.9
ITAB	Concordia	17.93	115		Pn	15 57 08.9	-0.2
ITAB	Concordia	17.93	115	*e*P	Pn	15 57 09.5	+0.4
CPSB	Cacapava Do Su	18.14	126	*e*P	P	15 57 14.5	+2.7
ARAG	Araguaiana, MT	18.23	78	*e*P	P	15 57 11.2	-1.6
ARAG				*e*pP	sP	15 57 24.4	-1.1
ITRB	Iturama	18.77	91	*e*P	P	15 57 18.6	-0.4
TRQA	Tornquist	18.93	159		P	15 57 20.1	-0.3
MACA	Manacapuru-AM	19.63	30	P	Pn	15 57 29.5	-0.2
MACA				IAmb	IAmb	15 57 42.0	
	comp=Z,88nm,0.9s						
NPGB	Novo Progresso	19.73	49	*e*P	P	15 57 28.4	-0.9
SNDB	Serra Nova Dou	20.13	68	*e*P	P	15 57 30.3	-3.3
PLCA	Paso Flores	20.17	180	P	P	15 57 34.6	+0.7
	comp=Z,2.8nm,0.9s,baz=15,slow=13,SNR=2.9						
PLCA				LR	LR	16 05 00.8	
	comp=Z,484nm,20.4s,baz=2.5,slow=36						
	comp=Z,2.8nm,0.9s						
BB19B	Bebedouro	20.39	95	*e*P	P	15 57 37.3	+0.7
IPMB	Ipameri, GO	21.03	87	*e*P	P	15 57 42.9	-0.6
ITTB	Itaituba	21.42	43	*e*P	P	15 57 46.1	-1.5
BDFB	Brasilia	21.75	81		P	15 57 51.0	-0.3
BDFB	Brasilia	21.75	81	P	P	15 57 50.7	-0.5
	comp=Z,5.6nm,0.8s,baz=259,slow=8.6,SNR=3.9						
BDFB				LR	LR	16 07 42.2	
	comp=Z,2μm,19.8s,baz=267,slow=41						
	comp=Z,5.6nm,0.8s						
OTAV	Otavalo	22.09	338	*e*P	P	15 58 01.7	+6.5
MAL2	Monte Alegre,	24.21	43	P	P	15 58 15.5	-0.6
MAL2				IAmb	IAmb	15 58 17.1	
	comp=Z,42nm,0.8s						
PRPB	Parauapebas	24.48	57	*e*P	P	15 58 16.6	-1.9
BOAV	Boa Vista	24.70	24	P	P	15 58 21.1	+0.6
BOAV				IAmb	IAmb	15 58 33.4	
	comp=Z,48nm,0.9s						
SMTB	Santa Maria do	24.82	66	*e*P	P	15 58 20.4	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WTFS				IAmb	IAmb	16 03 17.6	
	comp=Z,15nm,0.9s						
S44A	**Carbondale**	**60.56**	**343**	IAmb	IAmb	16 03 29.3	
	comp=Z,13nm,0.8s						
APMT	**Aspermont**	**60.61**	**331**	IAmb	IAmb	16 03 20.1	
	comp=Z,16nm,1.0s						
HHAR	**Hobbs**	**60.73**	**338**	P	**P**	**16 03 10.2**	**-0.5**
HHAR				IAmb	IAmb	16 03 19.9	
	comp=Z,14nm,1.1s						
SN07	**Snyder 07**	**60.76**	**331**	IAmb	IAmb	16 03 20.8	
	comp=Z,15nm,1.1s						
VHRN	**Van Horn**	**60.90**	**326**		**P**	**16 03 11.9**	**-0.2**
VHRN				IAmb	IAmb	16 03 22.6	
	comp=Z,9.8nm,1.2s						
MGMO	**Mountain Grove**	**60.97**	**340**	IAmb	IAmb	16 03 21.4	
	comp=Z,21nm,1.4s						
RLO	**Rose Lookout**	**61.01**	**337**	IAmb	IAmb	16 03 22.1	
	comp=Z,13nm,1.0s						
TUL3	**Leonard**	**61.07**	**336**	P	**P**	**16 03 12.6**	**-0.3**
FVM	**French Village**	**61.17**	**342**	IAmb	IAmb	16 03 23.6	
	comp=Z,9.4nm,0.8s						
DKNS	**Dickens**	**61.26**	**331**	IAmb	IAmb	16 03 24.2	
	comp=Z,7.3nm,0.9s						
DEOK	**Depew**	**61.27**	**336**	P	**P**	**16 03 14.8**	**+0.5**
VNA3	**Neumayer Olymp**	**61.44**	**161**	⇑P	**P**	**16 03 17.1**	**+2.0**
	comp=Z,2.2nm,0.7s						
OK052	**Battle Ridge R**	**61.52**	**336**	P	**P**	**16 03 15.9**	**-0.1**
QUOK	**Quay**	**61.65**	**336**	P	**P**	**16 03 16.6**	**-0.2**
VNA1	**Neumayer--Stat**	**61.66**	**160**	⇑P	**P**	**16 03 18.0**	**+1.5**
	comp=Z,5.1nm,1.0s						
R40A	**Maddies Statio**	**62.01**	**341**	IAmb	IAmb	16 03 28.6	
	comp=Z,11nm,1.2s						
VNA2	**Neumayer--Watz**	**62.03**	**161**	⇑P	**P**	**16 03 21.3**	**+2.3**
	comp=Z,3.2nm,0.8s,baz=292,slow=6.0						
T35A	**Sooner Cattle**	**62.23**	**336**	P	**P**	**16 03 20.1**	**-0.7**
T35A				IAmb	IAmb	16 03 31.4	
	comp=Z,13nm,0.9s						
L59A	**Walton**	**62.53**	**356**	P	**P**	**16 03 23.0**	**+0.3**
BINY	**Binghamton**	**62.60**	**355**	IAmb	IAmb	16 03 24.1	
	comp=Z,17nm,1.1s						
SNAA	**Sanae**	**63.65**	**161**	⇑P	**P**	**16 03 30.6**	**+0.7**
	comp=Z,80nm,0.7s						
SNAA	**Sanae**	**63.65**	**161**	P	**P**	**16 03 30.2**	**+0.4**
SNAA				IAmb	IAmb	16 03 40.1	
	comp=Z,8.5nm,1.0s						
SNAA	**Sanae**	**63.65**	**161**	P	**P**	**16 03 30.6**	**+0.7**
	comp=Z,8.8nm,1.1s,baz=276,slow=8.5,SNR=20						
SNAA				LR	LR	16 31 59.0	
	comp=Z,101nm,18.7s,baz=284,slow=37						
	comp=Z,8.8nm,1.1s						
319A	**Douglas**	**63.70**	**323**	P	**P**	**16 03 29.9**	**-0.8**
319A				IAmb	IAmb	16 03 42.7	
	comp=Z,12nm,1.0s						
NCB	**Newcomb**	**64.25**	**357**	IAmb	IAmb	16 03 49.3	
	comp=Z,8.4nm,0.8s						
BNM	**Barren Site**	**64.41**	**327**	P	**P**	**16 03 35.1**	**-0.4**
FRNY	**Flat Rock**	**65.09**	**357**	IAmb	IAmb	16 03 51.0	
	comp=Z,16nm,1.2s						
TROLL	**Troll, Antarti**	**65.37**	**161**	⇑P	**P**	**16 03 42.0**	**+0.8**
	comp=Z,157nm,0.7s						
SADO	**Sadowa**	**65.45**	**353**	LR	LR	16 33 07.2	
	comp=Z,189nm,21.7s,baz=152,slow=37						
SDCO	**Great Sand Dun**	**66.72**	**330**	IAmb	IAmb	16 04 01.6	
	comp=Z,10nm,0.9s						
D62A	**Allapoint, All**	**67.28**	**1**	P	**P**	**16 03 53.7**	**+0.3**
D62A				IAmb	IAmb	16 03 55.3	
	comp=Z,8.5nm,0.8s						
S22A	**4UR Ranch, Cre**	**67.35**	**329**	P	**P**	**16 03 55.2**	**+0.7**
MVCO	**Mesa Verde**	**67.74**	**328**	P	**P**	**16 03 57.4**	**+0.5**
TAOE	**Nuku Hiva Isla**	**68.11**	**268**	*e*LR	LR	16 24 37.2	
	comp=Z,158nm,21.8s						
LDAQ	**Lac Daran**	**68.15**	**359**	IAmb	IAmb	16 04 00.2	
	comp=Z,12nm,1.2s						
ECSD	**EROS Data Cent**	**68.32**	**340**	IAmb	IAmb	16 04 10.1	
	comp=Z,9.5nm,1.1s						
PV15	**Paradox Valley**	**68.62**	**329**	IAmb	IAmb	16 04 14.6	
	comp=Z,14nm,0.9s						
PV13	**Radium Mtn., P**	**68.64**	**328**	IAmb	IAmb	16 04 14.3	
	comp=Z,8.5nm,1.0s						
PV05	**Paradox Valley**	**68.72**	**328**	IAmb	IAmb	16 04 14.6	
	comp=Z,8.2nm,1.0s						
PV18	**Skein Mesa, Pa**	**68.75**	**328**	IAmb	IAmb	16 04 13.9	
	comp=Z,12nm,1.1s						
IRM	**Iron Mountain**	**69.09**	**321**	P	**P**	**16 04 06.1**	**+0.9**
PFO	**Pinyon Flats O**	**69.49**	**320**	LR	LR	16 29 26.7	
	comp=Z,84nm,21.9s,baz=144,slow=31						
QSPA	**South Pole Qui**	**69.68**	**180**	P	**P**	**16 04 09.4**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=334,slow=1.7,SNR=13						
QSPA				LR	LR	16 34 08.2	
	comp=Z,137nm,19.8s,baz=176,slow=35						
	comp=Z,2.1nm,0.8s						
DBIC	**Dimbokro**	**69.74**	**74**	P	**P**	**16 04 09.3**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=242,slow=2.5,SNR=4.1						
DBIC				LR	LR	16 33 48.5	
	comp=Z,436nm,19.4s,baz=257,slow=35						
	comp=Z,5.2nm,0.9s						
ICQ	**Pointe Anglais**	**69.76**	**2**	P	**P**	**16 04 09.3**	**+0.4**
ICQ				IAmb	IAmb	16 04 23.2	
	comp=Z,17nm,0.9s						
O20A	**White River Ci**	**69.91**	**330**	IAmb	IAmb	16 04 21.6	
	comp=Z,8.7nm,0.9s						
V12A	**Nelson**	**70.04**	**323**	P	**P**	**16 04 11.8**	**+0.7**
P17A	**Butcher Ranch,**	**70.61**	**328**	IAmb	IAmb	16 04 26.0	
	comp=Z,17nm,1.0s						
RSSD	**Black Hills**	**71.33**	**335**		**P**	**16 04 19.1**	**+0.2**
CCCA	**Chr Cany lake**	**71.35**	**321**	P	**P**	**16 04 19.9**	**+0.9**
BSUT	**Blindstream Ca**	**71.43**	**329**	IAmb	IAmb	16 04 31.9	
	comp=Z,7.5nm,0.8s						
DUG	**Dugway, Tooele**	**72.20**	**327**	IAmb	IAmb	16 04 36.0	
	comp=Z,11nm,1.0s						
TBI	**Tubuai**	**72.56**	**251**	*e*LR	LR	16 26 59.2	
	comp=Z,1µm,24.2s						
PDAR	**Pinedale Array**	**72.59**	**331**	P	**P**	**16 04 26.1**	**-0.4**
PDAR	**Pinedale Array**	**72.59**	**331**	P	**P**	**16 04 27.6**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=155,slow=8.2,SNR=5.0						
PDAR				LR	LR	16 37 45.0	
	comp=Z,35nm,21.3s,baz=127,slow=37						
	comp=Z,1.1nm,0.9s						
HWUT	**Hardware Ranch**	**72.64**	**329**	IAmb	IAmb	16 04 39.7	
	comp=Z,9.0nm,0.9s						
AHID	**Auburn Hatcher**	**73.31**	**330**	IAmb	IAmb	16 04 41.7	
	comp=Z,13nm,1.1s						
ELK	**Elko**	**73.86**	**326**	P	**P**	**16 04 34.2**	**+0.2**
ELK	**Elko**	**73.86**	**326**	LR	LR	16 37 31.0	
	comp=Z,61nm,18.5s,baz=137,slow=36						
NVAR	**Mina Array Bea**	**73.90**	**323**	P	**P**	**16 04 34.4**	**+0.1**
NVAR	**Mina Array Bea**	**73.90**	**323**	P	**P**	**16 04 35.6**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=145,slow=5.1,SNR=7.1						
	comp=Z,1.9nm,1.0s						
PPT2	**Papeete2**	**74.25**	**257**	*e*LR	LR	16 27 30.9	
	comp=Z,402nm,24.5s						
PPT2				*e*LR	LR	16 27 57.0	
	comp=Z,336nm,26.2s						
PPT	**Papeete**	**74.26**	**257**	LR	LR	16 29 41.3	
	comp=Z,30nm,21.1s,baz=127,slow=30						
YHL	**Hebgen Lake**	**74.95**	**331**	P	**P**	**16 04 42.3**	**+1.9**
YHL				IAmb	IAmb	16 04 52.6	
	comp=Z,11nm,1.0s						
SCHQ	**Schefferville**	**75.09**	**2**	LR	LR	16 40 05.4	
	comp=Z,55nm,19.6s,baz=182,slow=38						
BMO	**Blue Mountains**	**77.86**	**328**	P	**P**	**16 04 57.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**78.28**	**71**	P	**P**	**16 04 58.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**78.28**	**71**	P	**P**	**16 04 58.7**	**-0.8**
	comp=Z,7.0nm,0.7s,baz=259,slow=4.8,SNR=37						
TORD				LR	LR	16 38 55.2	
	comp=Z,569nm,18.9s,baz=300,slow=35						
	comp=Z,7.0nm,0.7s						
TSUM	**Tsumeb**	**81.60**	**107**	P	**P**	**16 05 17.7**	**+0.1**
	comp=Z,5.9nm,0.9s,baz=253,slow=5.9,SNR=3.5						
TSUM				LR	LR	16 38 06.6	
	comp=Z,116nm,21.3s,baz=227,slow=33						
	comp=Z,5.9nm,0.9s						
MD01	**Midelt array s**	**82.06**	**51**	P	**P**	**16 05 19.4**	**-0.3**
MDT	**Midelt**	**82.14**	**51**	LR	LR	16 42 26.5	
	comp=Z,153nm,18.5s,baz=245,slow=36						
RAR	**Rarotonga**	**82.31**	**250**	*e*LR	LR	16 31 07.5	
	comp=Z,167nm,26.0s						
RAR	**Rarotonga**	**82.31**	**250**	LR	LR	16 34 00.1	
	comp=Z,107nm,19.6s,baz=124,slow=30						
FRB	**Frobisher Bay**	**83.98**	**1**	LR	LR	16 46 10.9	
	comp=Z,68nm,18.2s,baz=162,slow=38						
BOSA	**Boshof**	**85.09**	**119**	LR	LR	16 40 07.5	
	comp=Z,192nm,20.3s,baz=189,slow=33						
TAM	**Tamanrasset**	**85.57**	**64**	P	**P**	**16 05 38.1**	**+0.3**
MAW	**Mawson**	**85.66**	**164**	LR	LR	16 44 14.2	
	comp=Z,149nm,19.4s,baz=256,slow=36						
ESDC	**Sonseca Array**	**86.06**	**45**	P	**P**	**16 05 40.1**	**+0.3**
ESDC	**Sonseca Array**	**86.06**	**45**	P	**P**	**16 05 39.5**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=254,slow=4.7,SNR=7.5						
ESDC				LR	LR	16 40 33.9	
	comp=Z,202nm,21.7s,baz=232,slow=33						
	comp=Z,1.4nm,1.0s						
LBTB	**Lobatse**	**86.64**	**115**	LR	LR	16 40 22.9	
	comp=Z,132nm,21.0s,baz=236,slow=33						
XMAS	**Kiritimati**	**88.00**	**273**	*e*LR	LR	16 33 40.1	
	comp=Z,17nm,24.0s						
SFJD	**Kangerlussuaq**	**88.47**	**8**	LR	LR	16 44 34.3	
	comp=Z,70nm,21.5s,baz=202,slow=35						
YKAW1	**Yellowknife Wh**	**89.77**	**341**	P	**P**	**16 05 57.4**	**+0.5**
YKAW1				IAmb	IAmb	16 06 08.0	
	comp=Z,8.8nm,0.9s						
YKA	**Yellowknife Ar**	**89.81**	**341**	P	**P**	**16 05 57.6**	**+0.5**
	comp=Z,4.3nm,1.0s,baz=131,slow=4.6,SNR=16						
YKA				LR	LR	16 50 07.8	
	comp=Z,122nm,19.4s,baz=112,slow=38						
	comp=Z,4.3nm,1.0s						
YKAW3	**Yellowknife Wh**	**89.87**	**341**	P	**P**	**16 05 58.5**	**+1.2**
YKAW3				IAmb	IAmb	16 06 19.3	
	comp=Z,36nm,1.8s						
MATP	**Matopo**	**90.81**	**112**	LR	LR	16 43 33.7	
	comp=Z,273nm,20.0s,baz=236,slow=33						
NIUE	**Niue**	**91.99**	**249**	*e*LR	LR	16 35 51.5	
	comp=Z,174nm,22.9s						
LSZ	**Lusaka**	**92.46**	**107**	LR	LR	16 45 37.6	
	comp=Z,185nm,19.3s,baz=252,slow=34						
POHA	**Pohakuloa**	**92.47**	**290**	*e*LR	LR	16 35 48.1	
	comp=Z,6.8nm,25.1s						
DLBC	**Dease Lake**	**92.71**	**333**	LR	LR	16 51 38.7	
	comp=Z,50nm,18.1s,baz=81,slow=38						
BORG	**Borgarnes**	**92.91**	**19**	LR	LR	16 44 39.3	
	comp=Z,55nm,21.7s,baz=233,slow=33						
CASY	**Casey**	**93.48**	**180**	*e*LR	LR	16 34 53.5	
	comp=Z,148nm,25.0s						
KEST	**Kesra**	**93.77**	**53**	LR	LR	16 48 29.1	
	comp=Z,274nm,20.5s,baz=252,slow=36						
URZ	**Urewera**	**93.92**	**227**	LR	LR	16 40 45.6	
	comp=Z,272nm,18.3s,baz=130,slow=30						
SNZO	**South Karori**	**93.96**	**223**	*e*LR	LR	16 36 46.8	
	comp=Z,33nm,26.0s						
RES	**Resolute Bay**	**96.26**	**354**	LR	LR	16 51 32.6	
	comp=Z,92nm,21.9s,baz=156,slow=36						
O29M	**Mount Kennedy**	**97.41**	**332**	P	Pdif	16 06 32.5	+0.1
VAE	**Valguarnera**	**98.20**	**53**	LR	LR	16 53 19.0	
	comp=Z,222nm,18.3s,baz=318,slow=37						
DAVOX	**Davos/Dischmat**	**98.24**	**43**	LR	LR	16 51 49.1	
	comp=Z,109nm,18.1s,baz=258,slow=36						
O28M	**Mount Upton**	**98.33**	**332**	P	Pdif	16 06 38.5	+1.8
INK	**Inuvik**	**99.56**	**340**	LR	LR	16 56 03.7	
	comp=Z,86nm,19.9s,baz=92,slow=38						
JOHN	**Johnston Islan**	**104.08**	**283**	*e*LR	LR	16 40 56.9	
	comp=Z,233nm,25.7s						
NFK	**Norfolk Island**	**105.28**	**231**	*e*LR	LR	16 41 54.3	
DZM	**Mont Dzumac**	**110.27**	**236**	*e*LR	LR	16 43 59.8	
	comp=Z,246nm,24.2s						
H11S2	**WAKE ISLAND Hy**	**126.43**	**278**	T	T	18 31 23.4	
	baz=102,slow=74,SNR=2224						
H11S1	**WAKE ISLAND Hy**	**126.44**	**278**	T	T	18 31 23.4	
	baz=102,slow=74,SNR=1462						
H11S3	**WAKE ISLAND Hy**	**126.45**	**278**	T	T	18 31 27.3	
	baz=102,slow=74,SNR=1271						
H11N3	**WAKE ISLAND Hy**	**126.49**	**280**	T	T	18 31 14.4	
	baz=102,slow=75,SNR=827						
H11N2	**WAKE ISLAND Hy**	**126.50**	**280**	T	T	18 31 15.5	
	baz=102,slow=75,SNR=365						
H11N1	**WAKE ISLAND Hy**	**126.50**	**280**	T	T	18 31 40.3	
	baz=102,slow=75,SNR=368						
ASAR	**Alice Springs**	**130.15**	**209**	PKPdf	**PKPdf**	**16 12 09.5**	**-0.3**
ASAR	**Alice Springs**	**130.15**	**209**	PKP	**PKPdf**	**16 12 09.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=124,slow=1.6,SNR=6.9						
AB31	**Akbulak array**	**131.31**	**42**	PKPdf	**PKiKP**	**16 12 12.2**	**+0.2**
ABKAR	**Akbulak array**	**131.31**	**42**	PKPdf	**PKiKP**	**16 12 11.7**	**-0.2**
WRA	**Warramunga Arr**	**133.11**	**213**	PKP	**PKPdf**	**16 12 15.6**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=135,slow=1.7,SNR=31						
BVAR	**Borovoye Array**	**135.71**	**33**	PKP	**PKPdf**	**16 12 19.8**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=280,slow=2.7,SNR=7.5						
KURBB	**Kurchatov Arra**	**141.21**	**32**	PKP	**PKPdf**	**16 12 26.8**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=298,slow=2.7,SNR=5.4						
ZAA0	**Zalesovo Array**	**141.60**	**24**	PKPdf	**PKPdf**	**16 12 30.7**	**+0.9**
ZALV	**Zalesovo Beam**	**141.60**	**24**	PKPdf	**PKPdf**	**16 12 30.0**	**+0.2**
ZALV	**Zalesovo Beam**	**141.60**	**24**	PKP	**PKPdf**	**16 12 28.8**	**-1.1**
	comp=Z,4.5nm,0.7s,baz=287,slow=2.7,SNR=22						
KDJ	**Kajisay**	**145.17**	**44**		**PKPdf**	**16 12 37.0**	**+0.2**
NIL	**Nilore**	**145.21**	**60**		**PKPbc**	**16 12 36.0**	**-0.7**
KSH	**Kashi**	**145.48**	**49**	PKPbc	**PKPab**	**16 12 38.3**	**+0.6**
KSH				pPKP	pPKPbc	16 12 47.8	+0.1
KSH				sPKP		16 12 52.5	
MKAR	**Makanchi Array**	**145.58**	**34**	PKPdf	**PKPdf**	**16 12 37.0**	**-0.1**
MKAR	**Makanchi Array**	**145.58**	**34**	PKPbc	**PKPbc**	**16 12 37.6**	**+0.3**
	comp=Z,8.0nm,0.7s,baz=322,slow=3.5,SNR=80						
HEH	**HeiHe**	**147.15**	**339**	*e*P	**PKPbc**	**16 12 41.5**	**-0.4**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**149.96**	**327**	PKPbc	**PKPbc**	**16 12 49.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**149.96**	**327**	PKPbc	**PKiKP**	**16 12 50.3**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=8.2,slow=1.4,SNR=12						
USRK				PKPab	**sPKPdf**	**16 12 57.4**	**-0.6**
	comp=Z,7.5nm,0.9s,baz=43,slow=2.2,SNR=11						
WMQ	**Urumqi**	**150.40**	**33**	*e*PKPbc	**PKPdf**	**16 12 45.0**	**-0.2**
MJAR	**Matsushiro Arr**	**150.41**	**309**	PKPbc	**PKPbc**	**16 12 51.1**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=64,slow=1.2,SNR=7.9						
MJAR				PKPab	**sPKPdf**	**16 12 59.8**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=59,slow=1.5,SNR=8.0						
HYB	**Hyderabad**	**150.44**	**91**	*e*PKiKP	**PKPbc**	**16 12 51.5**	**+0.2**
BNX	**BinXian**	**150.91**	**334**	⇑P	**PKPdf**	**16 12 44.5**	**-1.4**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.8s						
SONM	**Songino Array**	**152.60**	**5**	PKP	**PKPdf**	**16 12 49.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=149,slow=3.1,SNR=4.7						
SONM				PKPbc	**PKiKP**	**16 12 56.3**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=346,slow=1.3,SNR=8.7						
GTA	**Gaotai**	**159.34**	**22**	PKP	**PKPdf**	**16 12 59.3**	**+1.6**
HHC	**Hu-ho-hao-te**	**159.65**	**356**	*e*P	**PKPdf**	**16 12 57.0**	**-1.0**
NJ2	**Nanjing**	**165.86**	**326**	*e*P	**PKPdf**	**16 13 02.5**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PZH	**PanZhiHua**	**170.59**	**49**	PKP	**PKPdf**	**16 13 06.0**	**-1.7**

---

*IDC **28** 16:08:52.9±6.0, 0°.33N×99°.32E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=315.8km s-min=31.6km az=55.0*

*DJA **28** 16:08:55.0±0.3, 0°S±3°×9°8E±°, h10km, M3.6/6, MLv3.6/6*

ISC 28 16:08:55.7±1.1**, 0°.08S**±0°.07×**98°.33E**±0°.09**, h35**km**, n18, σ2s.59**/10**, mb3.2**/3**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.06**	**295**	P	**Pn**	**16 09 00.0**	**-1.6**
SISI	**Saibi**	**1.45**	**149**	P	**Pn**	**16 09 19.2**	**-0.3**
SISI				S	**Sn**	**16 09 41.0**	**+3.7**
MNSI	**Mandailing Nat**	**1.52**	**55**	P	**Pn**	**16 09 17.8**	**-2.6**
GSI	**Gunungsitoli**	**1.57**	**331**	P	**Pn**	**16 09 22.4**	**+1.3**
SBSI	**Sibolga**	**1.71**	**19**	P	**Pn**	**16 09 24.6**	**+1.5**
PPI	**Padang Panjang**	**2.10**	**100**	P	**Pn**	**16 09 30.7**	**+2.3**
H08S2	**Diego Garcia H**	**26.84**	**253**	T	T	16 42 20.2	
	baz=75,slow=75,SNR=7.5						
H08S3	**Diego Garcia H**	**26.84**	**253**	T	T	16 42 21.0	
	baz=75,slow=75,SNR=37						
H08S1	**Diego Carcia H**	**26.85**	**253**	T	T	16 42 25.4	
	baz=75,slow=75,SNR=5.7						
WRA	**Warramunga Arr**	**40.40**	**121**	P	**P**	**16 16 28.0**	**-2.9**
	0.3nm,0.9s,baz=298,slow=9.6,SNR=1.7						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**41.73**	**127**	P	**P**	**16 16 39.5**	**-2.2**
	0.3nm,0.6s,baz=300,slow=7.6,SNR=9.3						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**48.75**	**345**	P	**P**	**16 17 38.3**	**+1.2**
	0.2nm,0.5s,baz=157,slow=7.8,SNR=2.9						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.37**	**215**	T	T	17 25 29.8	
	baz=55,slow=75,SNR=7.7						
H04N1	**CROZET ISLANDS**	**61.38**	**215**	T	T	17 25 30.3	
	baz=55,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**61.39**	**215**	T	T	17 25 28.9	
	baz=55,slow=75,SNR=12						
H04S1	**CROZET ISLANDS**	**61.69**	**214**	T	T	17 25 48.0	
	baz=56,slow=74						
H04S3	**CROZET ISLANDS**	**61.70**	**214**	T	T	17 25 52.7	
	baz=56,slow=74						
H04S2	**CROZET ISLANDS**	**61.71**	**214**	T	T	17 25 54.2	
	baz=56						

---

*PRE **28** 16:12:01.2±0.7, 26°.44S×27°.58E, h2km, ML2.7*

*BGSI **28** 16:12:04.8±1.3, 26°.85S×27°.66E, h69km±39km, ML3.1*

ISC 28 16:12:01.7±1.3**, 26°.47S**±0°.03×**27°.63E**±0°.03**, h6**km±10km**, n25, σ1s.57**/48**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**208**	*e*P	**Pg**	**16 12 11.7**	**+0.1**
PRYS				*e*S	**Sg**	**16 12 19.0**	**+0.7**
PRYS				IAML		16 12 24.5	
	comp=Z,245nm,0.5s						
HRAO	**HartRAO**	**0.58**	**5**	*e*P	**Pg**	**16 12 12.4**	**-0.5**
HRAO				*e*S	**Sg**	**16 12 18.9**	**-1.6**
HRAO				IAML		16 12 22.9	
	comp=Z,184nm,0.1s						
SNKL	**Senekal, Frees**	**1.80**	**176**	*e*P	**Pn**	**16 12 34.3**	**+0.8**
SNKL				*e*S	**Sb**	**16 12 58.7**	**+0.5**
SNKL				IAML		16 13 04.2	
	comp=Z,208nm,0.6s						
SWZ	**Schweizer**	**2.17**	**250**	*e*P	**Pn**	**16 12 39.3**	**+0.8**
SWZ				*e*S	**Sn**	**16 13 06.6**	**+0.8**
SWZ				IAML		16 13 11.1	
	comp=Z,165nm,0.2s						
CRLN	**Carolina, Mapu**	**2.21**	**78**	*e*P	**Pn**	**16 12 40.5**	**+1.4**
CRLN				*e*S	**Sb**	**16 13 08.4**	**-1.4**
CRLN				IAML		16 13 12.4	
	comp=Z,34nm,0.2s						
LBTB	**Lobatse**	**2.33**	**308**	*e*P	**Pn**	**16 12 41.3**	**+0.5**
LBTB				*e*S	**Sn**	**16 13 09.5**	**-0.4**
LBTB				IAML		16 13 14.8	
	comp=Z,157nm,0.6s						
NWCL	**Newcastle**	**2.38**	**122**	*e*P	**Pn**	**16 12 42.5**	**+1.0**
NWCL				*e*S	**Sb**	**16 13 13.0**	**-1.8**
NWCL				IAML		16 13 25.1	
	comp=Z,52nm,0.4s						
LEPH	**Lephalale, Lim**	**2.60**	**3**	*e*P	**Pn**	**16 12 44.7**	**+0.2**
LEPH				*e*S	**Sn**	**16 13 16.6**	**+0.1**
LEPH				IAML		16 13 23.8	
	comp=Z,54nm,0.4s						
MAKGR	**Makgori**	**2.62**	**284**	*i* P	**Pn**	**16 12 46.5**	**+1.8**
MAKGR				*i* S	**Sn**	**16 13 15.4**	**-1.6**
MAKGR				IAML		16 13 24.7	
	comp=N,514nm,0.6s						
BOSA	**Boshof**	**3.00**	**224**	*e*P	**Pn**	**16 12 51.0**	**+1.1**
BOSA				*e*S	**Sn**	**16 13 26.0**	**-0.2**
BOSA				IAML		16 13 36.5	
	comp=Z,24nm,0.4s						
PILG	**Pilgrimsrest,**	**3.18**	**62**	*e*P	**Pn**	**16 12 53.7**	**+1.2**
PILG				*e*S	**Sn**	**16 13 31.6**	**+0.8**
PILG				IAML		16 13 49.4	
	comp=Z,75nm,0.5s						
LPHEP	**Lephephe**	**3.48**	**332**	*i* P	**Pn**	**16 12 59.8**	**+3.2**
LPHEP				*i* S	**Sn**	**16 13 41.8**	**+3.6**
LPHEP				IAML		16 13 55.0	
	comp=E,64nm,0.4s						
SKOMA	**Sekoma**	**3.86**	**299**	*i* P	**Pn**	**16 13 03.2**	**+1.4**
SKOMA				IAML		16 14 06.4	
	comp=E,61nm,0.4s						
PMBG	**Pietermaritzbu**	**3.96**	**141**	*e*P	**Pn**	**16 13 04.5**	**+1.4**
PMBG				*e*S	**Sn**	**16 13 51.0**	**+1.0**
PMBG				IAML		16 14 10.7	
	comp=Z,32nm,0.4s						
KDWAN	**Kaudwane**	**4.09**	**318**	*i* P	**Pn**	**16 13 07.2**	**+2.3**
KDWAN				IAML		16 14 11.3	
	comp=N,122nm,0.7s						
KSTD	**Kokstad**	**4.39**	**161**	*e*P	**Pn**	**16 13 10.2**	**+1.2**
KSTD				*e*S	**Sn**	**16 14 01.4**	**+0.8**
KSTD				IAML		16 14 26.9	
	comp=Z,17nm,0.5s						
MOPA	**Mopani**	**4.51**	**50**	*e*P	**Pn**	**16 13 11.4**	**+0.8**
MOPA				*e*S	**Sn**	**16 14 02.7**	**-0.8**
MOPA				IAML		16 14 40.2	
	comp=Z,43nm,0.6s						
MUSN	**Musina, Limpop**	**4.64**	**27**	*e*P	**Pn**	**16 13 12.9**	**+0.6**
MUSN				*e*S	**Sn**	**16 14 05.3**	**-1.3**
MUSN				IAML		16 14 29.4	
	comp=Z,14nm,0.5s						
BROLN	**Tlhalogang**	**5.35**	**357**	*i* P	**Pn**	**16 13 24.9**	**+2.6**
BROLN				*i* S	**Sn**	**16 14 23.7**	**-0.7**
BROLN				IAML		16 14 50.8	
	comp=E,36nm,0.8s						
ALKP	**Alkanpan, Nort**	**5.87**	**233**	*e*P	**Pn**	**16 13 29.8**	**+0.4**
ALKP				*e*S	**Sn**	**16 14 35.1**	**-2.0**
ALKP				IAML		16 15 08.3	
	comp=Z,21nm,0.5s						
UPI	**Upington**	**5.97**	**250**	*e*P	**Pn**	**16 13 31.3**	**+0.6**
UPI				*e*S	**Sn**	**16 14 36.7**	**-2.8**
UPI				IAML		16 15 11.8	
	comp=Z,16nm,0.5s						
BFON	**Badsfontein, M**	**6.33**	**212**	*e*P	**Pn**	**16 13 36.6**	**+0.9**
BFON				*e*S	**Sn**	**16 14 46.5**	**-1.9**
BFON				IAML		16 15 25.3	
	comp=Z,12nm,0.5s						
GRAF	**Camdeboo Natio**	**6.40**	**205**	*e*P	**Pn**	**16 13 37.3**	**+0.6**
GRAF				*e*S	**Sn**	**16 14 48.2**	**-1.9**
GRAF				IAML		16 15 35.4	
	comp=Z,8.3nm,0.8s						
BRAK	**Brakfontein**	**6.72**	**217**	*e*P	**Pn**	**16 13 41.8**	**+0.8**
BRAK				*e*S	**Sn**	**16 14 55.6**	**-2.3**
BRAK				IAML		16 15 34.0	
	comp=Z,6.6nm,0.6s						
FRAZ	**Fraserburg**	**7.69**	**224**	*e*P	**Pn**	**16 13 55.5**	**+1.1**
FRAZ				*e*S	**Sn**	**16 15 18.5**	**-3.4**
FRAZ				IAML		16 15 25.2	
	comp=Z,4.8nm,0.5s						

---

*IDC **28** 16:15:15.4±8.5, 7°.44S×129°.37E, h150km±90km, mb3.3/3, mbtmp4.0/7, Error ellipse: s-maj=80.5km s-min=23.6km az=37.0*

ISC 28 16:15:17.0±1.0**, 7°.63S**±0°.09×**129°.28E**±0°.08**, h150**km**, n13, σ3s.18**/16**, mb3.5**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.03**	**100**	P	**Pn**	**16 15 51.6**	**-0.9**
DRS	**Darwin Rock St**	**5.04**	**162**	P	**Pn**	**16 16 33.9**	**+3.0**
MTN	**Manton Dam**	**5.50**	**161**	P	**Pn**	**16 16 39.2**	**+2.2**
BATI	**Baumata**	**6.11**	**245**	P	**Pn**	**16 16 46.9**	**+1.7**
	28nm,0.4s,baz=84,slow=5.4,SNR=15						
BATI				S	**Sn**	**16 17 56.6**	**+2.3**
	40nm,0.4s,baz=101,slow=22,SNR=14						
FITZ	**Fitzroy Crossi**	**11.00**	**198**	P	**Pn**	**16 17 50.4**	**+0.2**
	5.6nm,0.4s,baz=34,slow=12,SNR=61						
FITZ				S	**Sn**	**16 19 47.1**	**-4.7**
	6.0nm,0.4s,baz=120,slow=24,SNR=7.5						
WRA	**Warramunga Arr**	**13.19**	**159**	P	**Pn**	**16 18 17.8**	**-0.9**
	2.5nm,0.4s,baz=338,slow=14,SNR=35						
WRA				S	**Sn**	**16 20 38.5**	**-6.3**
	8.5nm,0.7s,baz=332,slow=22,SNR=14						
QIS	**Mount Isa**	**16.28**	**143**	P	**P**	**16 19 01.8**	**+4.3**
ASAR	**Alice Springs**	**16.56**	**165**	P	**Pn**	**16 19 02.6**	**+2.0**
	1.7nm,0.4s,baz=340,slow=9.8,SNR=82						
ASAR				S	S	16 21 55.2	-10
	0.9nm,0.7s,baz=338,slow=21,SNR=5.2						
AS01	**Alice Springs**	**16.57**	**165**	P	**Pn**	**16 19 02.8**	**+2.1**
MTSU	**Mount Surprise**	**17.98**	**127**	P	**Pn**	**16 19 20.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**39.59**	**311**	P	**P**	**16 22 32.2**	**-1.8**
	0.5nm,0.4s,baz=128,slow=8.4,SNR=1.8						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**68.36**	**327**	P	**P**	**16 25 59.5**	**-2.8**
	0.3nm,0.5s,baz=118,slow=6.2,SNR=4.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.67**	**329**	P	**P**	**16 26 26.2**	**-2.0**
	0.3nm,0.3s,baz=126,slow=4.8,SNR=2.9						
	0.3nm,0.3s						

---

*DSN **28** 16:36:03.0±1.4, 27°.84N×58°.75E, h10km, ML3.0/6, Error ellipse: s-maj=39.5km s-min=10.8km az=120.0*

*TEH **28** 16:36:14.0, 27°.40N×57°.76E, h15km±87km*

*OMAN **28** 16:36:15.5±0.1, 27°.39N×57°.75E, h5km±3km, ml3.0/14, Error ellipse: s-maj=5.9km s-min=1.2km az=18.0*

*IDC **28** 16:36:17.6±3.1, 28°.34N×57°.66E, h0km, mb3.5/5, mbtmp3.5/5, MS3.3/1, Error ellipse: s-maj=78.0km s-min=27.4km az=155.0*

ISC 28 16:36:15.4±0.8**, 27°.53N**±0°.04×**57°.74E**±0°.06**, h25**km**, n47, σ1s.54**/53**, mb3.4**/4**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.07**	**266**	Pg	**Pb**	**16 36 35.0**	**-0.2**
GENO	**Geno**	**1.40**	**265**	Pg	**Pb**	**16 36 40.2**	**-0.8**
KBAM	**BAM**	**1.72**	**21**	Pn	**Pn**	**16 36 46.2**	**+2.4**

SHME	Shamm	2.05	225	P	Pb	16 36 50.4	-1.6
	SNR=15						
SHME				S	Sb	16 37 17.4	+0.3
SHME	Shamm	2.05	225	P	Pb	16 36 50.0	-2.0
NGRK	Negar Kerman	2.29	337	Pn	Pb	16 36 55.0	-1.2
CHMN	Cheshme madani	2.33	356	Pn	Pb	16 36 56.0	-1.0
MDH	Madha	2.57	211	P	Pn	16 36 55.6	+0.1
MDH	Madha	2.57	211	P	Pn	16 36 54.7	-0.8
MASF	Masafi	2.58	214	P	Pb	16 36 57.8	-3.2
MSFE	Esma-Masafi	2.58	214	P	Pn	16 36 55.2	-0.5
KRBR	Kerman	2.59	341	Pn	Pb	16 36 59.8	-1.6
UOSS	Minazif	2.92	209	P	Pn	16 37 01.8	+1.5
UOSS				S	Sn	16 37 35.2	+0.6
KRM1	Kerman Provinc	2.99	352	Pn	Pb	16 37 05.9	-2.2
KHGB	Koh Gabri	3.04	339	Pn	Pb	16 37 06.4	-2.7
HATD	Hatta, Dubai	3.06	209	P	Pn	16 37 03.9	+1.7
HATD	Hatta, Dubai	3.06	209	P	Pn	16 37 02.5	+0.4
NAZ	Nazwa, Dubai	3.15	217	P	Pn	16 37 05.0	+1.6
ASHO	Ashiyiah	3.21	208	P	Pn	16 37 05.1	+0.7
	SNR=11						
ASHO	Ashiyiah	3.21	208	P	Pn	16 37 04.3	0.0
ASHO				S	Sb	16 37 51.7	+1.2
SOHO	SOHO	3.55	198	P	Pn	16 37 08.3	-0.7
ZRDN	Zarand Kerman	3.58	343	Pn	Pn	16 37 13.4	+3.8
ASUD	Al Ashush, Dub	3.62	217	P	Pn	16 37 11.8	+2.0
ASUD	Al Ashush, Dub	3.62	217	P	Pn	16 37 10.7	+0.9
ALNE	Al Ain	3.90	208	P	Pn	16 37 16.0	+2.3
HOQ	Hoqain	3.95	186	Pn	Pn	16 37 14.3	-0.1
HOQ	Hoqain	3.95	186	P	Pn	16 37 14.2	-0.3
HOQ				S	Sn	16 38 01.5	+1.5
BIDO	Bidbid	4.01	175	P	Pn	16 37 15.4	+0.2
ARQ	Araqi	4.32	195	P	Pn	16 37 22.0	+2.4
	SNR=22						
ARQ				S	Sn	16 38 11.4	+2.3
WSAR	Wadi Sarin	4.35	169	P	Pn	16 37 21.3	+1.4
	SNR=13						
WSAR				S	Sn	16 38 09.7	-0.1
SMDO	Samad	4.46	176	P	Pn	16 37 22.8	+1.2
	SNR=5.8						
SMDO				S	Sn	16 38 14.2	+1.4
JMDO	Jabal Madar	5.15	176	P	Pn	16 37 32.8	+1.8
JMDO				S	Sn	16 38 29.9	+0.3
JLN	Jalan Bani Buh	5.57	164	P	Pn	16 37 38.4	+1.7
MZR	Muzera	5.93	221	P	Pn	16 37 42.1	+0.4
KLNJ	Kolanjah	6.39	304	Pn	Pn	16 37 50.7	+2.4
TRNA	Turayna	6.49	246	P	Pn	16 37 48.8	-0.6
	SNR=6.2						
MHTO	MHTO	6.52	178	P	Pn	16 37 52.0	+2.3
DOK	Doka	9.47	201	P	Pn	16 38 30.4	+0.1
DMTO	DMTO	10.10	195	P	Pn	16 38 37.9	-1.1
WHFO	Wadi Hawf	10.24	202	P	Pn	16 38 39.7	-1.2
ABTO	Aybut	10.93	203	P	Pn	16 38 48.8	-1.5
AAK	Ala-Archa	20.32	38	LR	LR	16 48 33.0	
	comp=Z,82nm,18.2s,baz=146,slow=37						
BRTR	Keskin Array B	23.39	307	P	P	16 41 22.2	-0.2
	1.0nm,0.7s,baz=97,slow=9.1,SNR=6.4						
	1.0nm,0.7s						
BVAR	Borovoye Array	27.15	17	P	P	16 41 56.2	-0.3
	0.5nm,0.5s,baz=204,slow=10,SNR=4.1						
	0.5nm,0.5s						
MKAR	Makanchi Array	27.25	39	P	P	16 41 57.9	+0.5
	0.2nm,0.8s,baz=222,slow=9.4,SNR=1.8						
	0.2nm,0.8s						
ZALV	Zalesovo Beam	33.05	30	P	P	16 42 48.3	-0.3
	0.4nm,0.3s,baz=231,slow=9.8,SNR=2.6						
	0.4nm,0.3s						
TORD	Torodi Ar. Bea	54.05	266	P	P	16 45 44.0	+5.9
	0.4nm,0.5s,baz=56,slow=7.6,SNR=4.2						
	0.4nm,0.5s						

*CATAC **28** 16:36:33.8±0.6, 13°N±3°×9°0W±°, h11km±3km, M3.3/12, MLv3.3/12, Error ellipse: s-maj=6.8km s-min=5.1km az=21.8, confirmed*

*GCG **28** 16:36:35.7±0.8, 13°.37N×90°.19W, h26km±11km, MD3.8, ML3.5*

*SNET **28** 16:36:36.7±1.3, 13°.30N×90°.06W, h31km, ML3.2*

ISC 28 16:36:36.0±1.8**, 13°.26N**±0°.07×**90°.07W**±0°.05**, h24**km±13km**, n57,** σ**1s.25**/67**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.59	5	S	Sn	16 36 57.0	-0.7
FAME	Alcaldia de Sa	0.59	5	P	Pn	16 36 47.3	-1.6
NUBE	Las Nubes	0.70	24	eP	Pb	16 36 49.3	-0.5
NUBE				eS	Sn	16 36 59.7	-1.1
NUBE	Las Nubes	0.70	24	S	Sn	16 37 00.4	-0.4
NUBE	Las Nubes	0.70	24	P	Pn	16 36 49.5	-1.1
CEVE	Cerro Verde	0.71	37	eP	Pn	16 36 50.0	-0.9
CEVE				eS	Sn	16 37 01.9	+0.7
CEVE	Cerro Verde	0.71	37	P	Pn	16 36 50.2	-0.7
CEVE	Cerro Verde	0.71	37	S	Sn	16 37 02.2	+1.0
JAYA	Jayaque - finc	0.72	57	eP	Pb	16 36 49.8	-0.2
JAYA				eS	Sn	16 37 00.5	-0.8
JAYA	Jayaque - finc	0.72	57	eP	Pb	16 36 49.9	-0.2
JAYA				eS	Sn	16 37 00.7	-0.6
JAYA	Jayaque - finc	0.72	57	P	Pb	16 36 49.9	-0.2
JAYA	Jayaque - finc	0.72	57	S	Sn	16 37 01.9	+0.6
SBLS	San Blas	0.72	37	eP	Pn	16 36 50.2	-0.8
SNJE	San Jose	0.76	36	eP	Pb	16 36 50.5	-0.2
SNJE				eS	Sn	16 37 02.1	-0.1
RTR	El Retiro	0.76	33	eP	Pn	16 36 50.6	-0.8
LALI	Alcalda de L	0.76	72	eS	Sb	16 37 01.1	+0.5
LALI	Alcalda de L	0.76	72	P	Pn	16 36 52.6	+1.3
LALI	Alcalda de L	0.76	72	S	Sb	16 37 01.2	+0.5
LOAL	Lomas de Alarc	0.79	21	eP	Pn	16 36 51.2	-0.6
LOAL				eS	Sn	16 37 03.2	+0.4
LOAL	Lomas de Alarc	0.79	21	P	Pn	16 36 51.3	-0.4
SLOZ	Alcaldia de Sa	0.81	20	P	Pn	16 36 51.5	-0.6
SLOZ	Alcaldia de Sa	0.81	20	S	Sn	16 37 04.1	+0.7
CEDA	San Andres	0.85	50	P	Pb	16 36 48.9	-3.4
PMON	Piamonte	0.86	58	eP	Pb	16 36 52.2	-0.2
PMON				eS	Sn	16 37 05.4	+0.7
PMON	Piamonte	0.86	58	P	Pb	16 36 51.0	-1.5
UNIC	Universidad Ca	0.88	35	S	Sn	16 37 05.9	+0.9
UNIC	Universidad Ca	0.88	35	P	Pn	16 36 52.5	-0.6
BOQS	Boqueron	0.90	58	eP	Pb	16 36 52.8	-0.4
BOQS				eS	Sn	16 37 07.0	+1.2
PANCS	Alcalda de	0.93	68	P	Pb	16 36 53.6	0.0
PANCS	Alcalda de	0.93	68	S	Sn	16 37 06.3	-0.1
LOMA	Loma Larga	0.95	66	eP	Pn	16 36 52.9	-1.2
LOMA	Loma Larga	0.95	66	S	Sn	16 37 08.3	+1.3
LOMA	Loma Larga	0.95	66	P	Pn	16 36 49.6	-4.4
LFRS	El Faro	1.04	69	eP	Pn	16 36 54.5	-0.8
FG16	Alotenango, Sa	1.10	337	eP	Pb	16 36 57.9	+1.4
FG16				eS	Sn	16 37 15.0	+4.3
FG16				IAML		16 37 19.3	
	comp=N,2μm,0.3s						
PAVA	Las Pavas	1.19	67	eP	Pn	16 36 56.8	-0.5
PAVA	Las Pavas	1.19	67	P	Pn	16 36 57.0	-0.3
TECO	Alcaldia de Te	1.28	77	S	Sn	16 37 15.4	+0.5
TECO	Alcaldia de Te	1.28	77	P	Pn	16 36 58.7	+0.2
MTO3	Montecristo	1.33	31	eP	Pn	16 36 59.0	-0.3
MTO3	Montecristo	1.33	31	eP	Pn	16 36 59.2	-0.1
MTO3	Montecristo	1.33	31	S	Sb	16 37 18.5	+1.4
MTO3	Montecristo	1.33	31	P	Pb	16 36 59.3	-1.1
ESSG	Sabana Grande	1.34	327	iP	Pn	16 36 56.6	-2.8
SCLA	Alcaldia de Sa	1.38	71	eP	Pn	16 36 59.9	+0.1
SCLA	Alcaldia de Sa	1.38	71	P	Pn	16 36 59.9	+0.1
SCLA	Alcaldia de Sa	1.38	71	S	Sb	16 37 19.5	+1.2
LLGN	La Laguna	1.42	50	P	Pb	16 37 01.5	-0.3
ESQI	Esquipulas	1.48	28	eP	Pb	16 37 02.2	-0.7
ESQI	Esquipulas	1.48	28	P	Pb	16 37 02.3	-0.6
ESQI	Esquipulas	1.48	28	S	Sb	16 37 23.6	+2.3
TECA	Tecapa	1.54	81	eP	Pn	16 37 02.7	+0.5
TECA				eS	Sb	16 37 22.9	-0.4
PACA	Pacayal	1.71	83	eP	Pn	16 37 05.0	+0.5
SOKI	Kika Raxquin	2.02	320	iP	Pn	16 37 07.4	-1.6
CNCH	Conchagua	2.18	89	eP	Pn	16 37 11.0	+0.1
CNCH	Conchagua	2.18	89	S	Sn	16 37 37.5	+0.3
CNCH	Conchagua	2.18	89	P	Pb	16 37 13.9	-1.0

*IDC **28** 16:37:29.6±1.7, 35°.48N×142°.22E, h0km, mb4.0/3, mbtmp4.1/6, ML3.1/4, Error ellipse: s-maj=39.6km s-min=21.3km az=68.0*

*JMA **28** 16:37:33.2±0.3, 35°.6N±0°.7×14°2E±°, h65km, MV3.2/25, FAR E OFF KANTO*

ISC 28 16:37:32.2±1.2**, 35°.47N**±0°.06×**142°.2E**±0°.1**, h22**km**, n18,** σ**1s.21**/15**, mb4.1**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.27	231	eP	Pb	16 37 55.1	-0.1
BSO3	Boso 3	1.52	245	P	Pb	16 37 59.1	-0.4
JHYU	Hitachinakayam	1.56	305	P	Pn	16 37 58.1	-0.5
JHYU				S	Sn	16 38 15.7	-2.4
JAG	Ashikaga	2.41	294	iP	Pn	16 38 10.0	-0.3
JOTO	OTAMA OYAMA	2.56	325	P	Pn	16 38 12.3	-0.2
JHJ	Hachijo jima 2	3.07	221	Pn	Pn	16 38 19.6	+0.3
	5.3nm,0.3s,baz=36,slow=19,SNR=1.6						
JHJ				Sn	Sn	16 38 53.7	-1.6
	22nm,0.3s,baz=265,slow=22,SNR=1.8						
	212nm,1.0s						
MJAR	Matsushiro Arr	3.39	290	Pn	Pn	16 38 24.3	+0.5
	0.2nm,0.3s,baz=89,slow=14,SNR=11						
MJAR				Sn	Sn	16 39 05.2	+1.8
	0.2nm,0.3s,baz=87,slow=23,SNR=4.1						
JCJ	Chichijima	8.34	180	Pn	Pn	16 39 30.7	-1.1
	1.5nm,0.3s,baz=0.2,slow=16,SNR=1.8						
	20nm,0.7s						
ASAJ	Asahikawa	8.65	2	Pn	Pn	16 39 35.0	-0.9
	0.3nm,0.3s,baz=219,slow=11,SNR=5.2						
	4.1nm,0.8s						
H11N2	WAKE ISLAND Hy	26.83	119	T	T	17 11 40.7	
	baz=310,slow=74						
H11N1	WAKE ISLAND Hy	26.84	119	T	T	17 11 37.9	
	baz=310,slow=74						
H11N3	WAKE ISLAND Hy	26.85	119	T	T	17 11 43.3	
	baz=310,slow=74						
H11S1	WAKE ISLAND Hy	27.50	121	T	T	17 12 27.3	
	baz=310						
H11S3	WAKE ISLAND Hy	27.50	122	T	T	17 12 34.7	
	baz=310						
H11S2	WAKE ISLAND Hy	27.52	121	T	T	17 12 30.2	
	baz=310						
KURBB	Kurchatov Arra	47.46	309	P	P	16 46 06.1	+1.0
	2.5nm,0.2s,baz=86,slow=7.8,SNR=1.2						
	2.5nm,0.2s						
WRA	Warramunga Arr	55.60	189	P	P	16 47 07.4	+1.2
	1.0nm,0.5s,baz=6.8,slow=7.6,SNR=16						
	1.0nm,0.5s						
ASAR	Alice Springs	59.33	189	P	P	16 47 33.5	+1.1
	0.3nm,0.6s,baz=358,slow=6.1,SNR=12						
	0.3nm,0.6s						

*IDC **28** 16:43:34.8±1.2, 28°.64N×142°.66E, h0km, mb3.9/11, mbtmp3.9/13, ML3.2/2, Error ellipse: s-maj=40.8km s-min=14.5km az=85.0*

*NEIC **28** 16:43:37.0±1.4, 28°.68N±0°.06×142°.6E±0°.2, h10km±1km, mb4.6/8, Error ellipse: s-maj=26.4km s-min=10.6km az=91.0*

ISC 28 16:43:38.4±0.8**, 28°.69N**±0°.06×**142°.6E**±0°.2**, h25**km**, n31,** σ**1s.03**/33**, mb4.0**/15**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCJ	Chichijima	1.63	194	Pn	Pn	16 44 04.7	-0.9
JCJ	Chichijima	1.63	194	Pn	Pn	16 44 03.8	-1.8
	6.8nm,0.3s,baz=17,slow=19,SNR=11						
JCJ				Sn	Sn	16 44 25.1	-0.7
	32nm,0.3s,baz=75,slow=23,SNR=16						
MJAR	Matsushiro Arr	8.67	336	Pn	Pn	16 45 41.4	-1.0
MJAR	Matsushiro Arr	8.67	336	Pn	Pn	16 45 41.6	-0.8
	0.3nm,0.3s,baz=155,slow=12,SNR=6.8						
MJAR				Sn	Sn	16 47 17.8	-1.5
	0.1nm,0.3s,baz=175,slow=26,SNR=1.4						
	2.0nm,0.4s						
MAJO	Matsushiro	8.68	336	Pn	Pn	16 45 42.2	-0.1
MJB9	Matsu-Tunnel	8.68	336	Pn	Pn	16 45 43.7	+1.3
JMM	Marumori	9.28	351	Pn	Pn	16 45 48.0	-2.6
KSRS	Korea Array	15.10	309	Pn	P	16 47 13.5	-1.6
	0.2nm,0.3s,baz=111,slow=12,SNR=6.0						
USRK	Ussuriysk Ar.	17.67	334	P	Pn	16 47 41.8	-0.9
	0.1nm,0.3s,baz=167,slow=12,SNR=5.6						
	2.3nm,0.9s						
SONM	Songino Array	33.87	314	P	P	16 50 19.8	+0.8
	0.5nm,0.5s,baz=111,slow=8.1,SNR=3.6						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	48.56	318	P	P	16 52 20.9	+1.5
	0.6nm,0.3s,baz=91,slow=10,SNR=2.4						
	0.6nm,0.3s						
WB0	Warramunga Arr	48.82	190	P	P	16 52 22.6	+0.9
WR8	Warramunga Arr	48.99	190	P	P	16 52 23.0	-0.1
WR8				IAmb	IAmb	16 52 39.7	
	comp=Z,9.6nm,1.4s						
WRA	Warramunga Arr	49.00	190	P	P	16 52 23.8	+0.6
WRA	Warramunga Arr	49.00	190	P	P	16 52 23.4	+0.2
	comp=Z,1.9nm,0.8s,baz=13,slow=8.6,SNR=9.8						
	comp=Z,1.9nm,0.8s						
MKAR	Makanchi Array	49.78	309	P	P	16 52 29.8	+0.8
MKAR	Makanchi Array	49.78	309	P	P	16 52 29.2	+0.3
	comp=Z,0.9nm,0.8s,baz=89,slow=10,SNR=9.2						
	comp=Z,0.9nm,0.8s						
KURK	Kurchatov	52.17	314	P	P	16 52 47.6	+0.8
KURK				IAmb	IAmb	16 52 48.9	
	comp=Z,8.0nm,1.1s						
KURBB	Kurchatov Arra	52.22	314	P	P	16 52 47.7	+0.5
	comp=Z,2.6nm,0.2s,baz=90,slow=7.1,SNR=11						
	comp=Z,2.6nm,0.2s						
ASAR	Alice Springs	52.72	190	P	P	16 52 51.5	+0.3
	comp=Z,0.2nm,0.6s,baz=9.5,slow=7.3,SNR=5.5						
	comp=Z,0.2nm,0.6s						
KDAK	Kodiak Island	52.86	37	P	P	16 52 52.2	+0.5
D20K	Etivluk River	53.04	24	P	P	16 52 53.5	+0.5
D20K				IAmb	IAmb	16 52 56.5	
	comp=Z,11nm,1.4s						
ILAR	Eielson Array	56.13	29	P	P	16 53 15.6	+0.1
	comp=Z,0.4nm,0.8s,baz=270,slow=6.2,SNR=3.0						
	comp=Z,0.4nm,0.8s						
BVAR	Borovoye Array	57.15	317	P	P	16 53 23.6	+0.7
	comp=Z,2.2nm,0.6s,baz=104,slow=8.5,SNR=14						
	comp=Z,2.2nm,0.6s						
KK31	Karatay Array	58.48	305	P	P	16 53 33.1	+0.6
KKAR	Karatay Array	58.48	305	P	P	16 53 32.8	+0.4
AB31	Akbulak array	64.28	314	P	P	16 54 12.2	+0.7
AB31				IAmb	IAmb	16 54 13.0	
	comp=Z,1.8nm,0.7s						
ABKAR	Akbulak array	64.28	314	P	P	16 54 12.4	+0.9
KBZ	Khabaz	77.22	313	P	P	16 55 31.9	+1.6
	comp=Z,1.0nm,0.6s,baz=118,slow=5.5,SNR=3.6						
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	82.28	338	P	P	16 55 57.7	+0.2
	comp=Z,0.9nm,0.8s,baz=42,slow=5.3,SNR=3.0						
	comp=Z,0.9nm,0.8s						
BRTR	Keskin Array B	85.21	313	P	P	16 56 13.1	0.0
	comp=Z,0.9nm,0.8s,baz=72,slow=4.7,SNR=3.8						
	comp=Z,0.9nm,0.8s						

IDC 28 17:00:18.1±8.2**, 2°.22S**×**99°.89E, h0**km**, mb3.3**/3**, mbtmp3.3**/3**, Error ellipse: s-maj=419.3km s-min=29.5km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	27.81	258	T	T	17 34 50.4	
	baz=80						
H08S3	Diego Garcia H	27.81	258	T	T	17 34 56.6	
	baz=80						
H08S1	Diego Carcia H	27.82	258	T	T	17 34 58.3	
	baz=80						
WRA	Warramunga Arr	37.98	120	P	P	17 07 38.9	+0.8
	0.2nm,0.7s,baz=310,slow=9.0,SNR=1.2						
	0.2nm,0.7s						
ASAR	Alice Springs	39.22	126	P	P	17 07 47.7	-0.7
	0.2nm,0.7s,baz=298,slow=8.1,SNR=8.8						
	0.2nm,0.7s						
MKAR	Makanchi Array	51.21	345	P	P	17 09 23.2	-0.1
	0.5nm,0.7s,baz=153,slow=9.2,SNR=5.0						
	0.5nm,0.7s						
H04N2	CROZET ISLANDS	60.55	216	T	T	18 16 09.8	
	baz=59,slow=75,SNR=3.9						
H04N1	CROZET ISLANDS	60.56	216	T	T	18 16 12.7	
	baz=59,slow=75,SNR=4.9						
H04N3	CROZET ISLANDS	60.57	216	T	T	18 16 11.2	
	baz=59,slow=75,SNR=4.9						

*SJA **28** 17:42:33.0±0.7, 24°.96S×71°.08W, h34km±3km, ML3.3, MW3.7*

*GUC **28** 17:42:34.3±0.7, 24°.93S×71°.01W, h35km±2km, ML3.3*

ISC 28 17:42:32.7±2.3**, 24°.99S**±0°.03×**71°.09W**±0°.07**, h13**km±15km**, n19,** σ**1s.23**/36**, 3C-2D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB14	IPOC Station P	0.72	60	⇓iP	Pb	17 42 47.2	0.0
PB14				iS	Sg	17 42 56.3	+0.2
PB14				IAML		17 42 59.5	
	comp=N,2μm,0.4s						
PB14	IPOC Station P	0.72	60	eP	Pb	17 42 47.5	+0.3
PB14				eS	Sn	17 42 58.9	-1.0
PB14				IAML		17 42 59.1	
	comp=Z,2μm,0.6s						
AC01	Pan de Azucar	1.24	159	⇓iP	Pn	17 42 56.0	+0.2
AC01				iS	Sb	17 43 11.5	-0.4
AC01	Pan de Azucar	1.24	159	eP	Pb	17 42 56.1	+0.2
AC01				IAML		17 43 16.8	
	comp=Z,280nm,0.4s						
GO02	Mina Guanaco	1.37	98	⇑iP	Pb	17 42 58.2	-0.2
GO02				iS	Sb	17 43 15.2	-0.6
GO02				IAML		17 43 22.2	
	comp=E,785nm,0.5s						
GO02	Mina Guanaco	1.37	98	eP	Pn	17 42 57.5	-0.3
GO02				eS	Sn	17 43 16.3	+0.3
GO02				IAML		17 43 20.8	
	comp=Z,612nm,0.6s						
PB10	IPOC Station P	1.54	18	⇑iP	Pn	17 42 59.9	-0.1
PB10				iS	Sn	17 43 19.1	-0.8
PB10	IPOC Station P	1.54	18	eP	Pn	17 42 59.8	-0.2
PB10				eS	Sn	17 43 19.9	0.0
PB10				IAML		17 43 26.8	
	comp=Z,251nm,0.6s						
PB05	IPOC Station P	2.27	21	⇑iP	Pn	17 43 10.0	-0.1
PB05				iS	Sn	17 43 36.1	-1.9
PB05	IPOC Station P	2.27	21	eP	Pn	17 43 10.2	+0.1
PB05				eS	Sb	17 43 40.9	-0.9
PB05				IAML		17 43 49.6	
	comp=Z,188nm,0.7s						
AC06	Mina Casimiro	2.45	165	eP	Pn	17 43 13.5	+1.0
AC06				iS	Sn	17 43 42.7	+0.3
AC02	Maricunga	2.55	137	eP	Pb	17 43 17.0	-1.6
AC02				iS	Sb	17 43 48.0	-2.1
AC02				IAML		17 43 57.1	
	comp=N,248nm,0.5s						
AC02	Maricunga	2.55	137	eP	Pb	17 43 16.6	-2.0
AC02				eP	Pn	17 43 17.4	+3.1
AC02				IAML		17 43 54.4	
	comp=Z,147nm,0.4s						
PB06	IPOC Station P	2.66	32	eP	Pn	17 43 16.9	+1.5
PB06				iS	Sn	17 43 47.7	+0.1
GO03	Copiapo	2.71	164	eP	Pn	17 43 17.0	+0.9
GO03				eS	Sn	17 43 48.7	-0.1
GO03				IAML		17 43 51.5	
	comp=E,100nm,0.3s						
GO03	Copiapo	2.71	164	eP	Pn	17 43 17.4	+1.3
GO03				eS	Sn	17 43 50.5	+1.8
GO03				IAML		17 43 51.1	
	comp=Z,125nm,0.3s						
PB03	IPOC Station P	3.17	23	eP	Pn	17 43 22.6	+0.1
PB03				iS	Sn	17 43 59.6	-0.7
AC04	Llanos de Chal	3.21	180	eP	Pn	17 43 22.8	-0.1
AC04				IAML		17 44 22.7	
	comp=Z,46nm,1.9s						
PB09	IPOC Station P	3.60	28	eP	Pn	17 43 30.1	+1.7
PB09				eS	Sb	17 44 22.9	+2.9
PB09				IAML		17 44 33.8	
	comp=Z,174nm,1.2s						

*IDC **28** 17:57:44.1±6.0, 7°.27S×128°.76E, h116km±53km, mb3.4/4, mbtmp3.7/7, Error ellipse: s-maj=72.4km s-min=23.2km az=62.0*

ISC 28 17:57:47.7±1.3**, 7°.7S**±0°.1×**128°.6E**±0°.1**, h150**km**, n8,** σ**2s.64**/11**, mb3.5**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.52	242	P	Pn	17 59 09.2	+1.1
	96nm,0.4s,baz=340,slow=0.6,SNR=40						
BATI				S	Sn	18 00 08.7	-2.1
	34nm,0.4s,baz=348,slow=13,SNR=7.5						
FITZ	Fitzroy Crossi	10.77	195	P	Pn	18 00 18.9	+1.0
	1.3nm,0.3s,baz=22,slow=13,SNR=15						
FITZ				S	Sn	18 02 12.7	-4.3
	3.3nm,0.3s,baz=166,slow=21,SNR=7.3						
WRA	Warramunga Arr	13.40	156	P	Pn	18 00 52.8	+0.8
	0.3nm,0.4s,baz=330,slow=14,SNR=7.4						
WRA				S	Sn	18 03 16.2	-4.2
	1.0nm,0.5s,baz=334,slow=23,SNR=7.3						
ASAR	Alice Springs	16.69	163	P	Pn	18 01 36.9	+3.9
	1.4nm,0.5s,baz=339,slow=10,SNR=67						
ASAR				S	S	18 04 37.9	-0.7
	0.3nm,0.6s,baz=320,slow=22,SNR=4.1						
MKAR	Makanchi Array	68.05	328	P	P	18 08 29.8	-1.2
	0.2nm,0.4s,baz=139,slow=7.7,SNR=4.5						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	71.59	334	P	P	18 08 50.5	-2.0
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.1						
	0.3nm,0.3s						
KURBB	Kurchatov Arra	72.38	329	P	P	18 08 55.4	-1.8
	0.7nm,0.6s,baz=130,slow=5.0,SNR=7.3						
	0.7nm,0.6s						
QSPA	South Pole Qui	82.31	180	P	P	18 09 54.9	+2.5
	0.5nm,0.6s,baz=331,slow=4.7,SNR=5.6						
	0.5nm,0.6s						

*KRNET **28** 18:07:32.9±0.1, 41°.65N×73°.09E, h30km, mb2.4*

*SOME **28** 18:07:33.1, 41°.67N×73°.12E, h5km*

*NNC **28** 18:07:35.8±0.9, 41°.75N×73°.09E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=7.4km s-min=3.3km az=169.0*

*KNET **28** 18:07:36.7±0.5, 41°.75N×73°.24E, h8km±1km, ml1.7, Error ellipse: s-maj=3.9km s-min=2.8km az=104.0*

ISC 28 18:07:33.0±1.1**, 41°.63N**±0°.03×**73°.08E**±0°.03**, h15**km±9km**, n31,** σ**0s.88**/55**, 24C-18D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.31	194	⇑eP	Pb	18 07 40.9	+0.4
ARSB				⇑eS	Sb	18 07 46.1	+0.6
SALK	Salom-Alik	0.93	143	⇓eP	Pb	18 07 50.6	-0.4
SALK				⇓eS	Sg	18 08 03.4	+0.2
MRKS	Merke	1.12	5	P	Pg	18 07 55.2	+0.6
	11nm,0.2s						
MRKS				S	Sn	18 08 09.6	0.0
	11nm,0.3s						
MRKS	Merke	1.12	5	eP	Pg	18 07 55.2	+0.6
	11nm,0.2s						
MRKS				eS	Sn	18 08 10.3	+0.7
	15nm,0.1s						
EKS2	Erkin-Say	1.15	26	⇑P	Pg	18 07 55.6	+0.3
	1.4nm,0.1s						
EKS2				⇑S	Sn	18 08 10.4	0.0
	3.9nm,0.1s						
EKS2	Erkin-Say	1.15	26	⇑eP	Pb	18 07 53.9	-0.9
EKS2				⇑eS	Sb	18 08 09.1	-0.5
UCH	Uchtor	1.22	60	⇑P	Pg	18 07 57.1	+0.5
	9.1nm,0.1s						
UCH				⇓S	Sn	18 08 13.4	+0.8
UCH	Uchtor	1.22	60	⇓eP	Pn	18 07 55.4	-0.7
UCH				⇓eS	Sb	18 08 11.6	-0.3
AAK	Ala-Archa	1.46	46	⇑P	Pg	18 08 01.8	+0.8
	3.6nm,0.2s						
AAK				⇑S	Sg	18 08 20.2	+0.2
	7.1nm,0.3s						
AAK	Ala-Archa	1.46	46	⇑P	Pg	18 08 02.2	+1.2
	0.3nm,0.3s						
AAK				⇑S	Sg	18 08 20.1	+0.1
	0.7nm,0.4s						
AAK	Ala-Archa	1.46	46	⇑eP	Pn	18 07 59.0	0.0
AAK				⇑eS	Sn	18 08 17.9	0.0
TRKS	Terek-Say	1.46	267	⇑eP	Pn	18 07 59.1	0.0
TRKS				⇑eS	Sn	18 08 18.1	0.0
KBK	Karagaybulak	1.73	53	⇓P	Pg	18 08 06.3	+0.1
	4.9nm,0.2s						
KBK				⇑S	Sg	18 08 29.1	+0.5
	12nm,0.2s						
KBK	Karagaybulak	1.73	53	⇑eP	Pn	18 08 03.1	+0.4
KBK				⇑eS	Sn	18 08 24.9	+0.3
CHMS	Chumysh	1.84	42	⇓P	Pg	18 08 08.6	+0.2
	1.2nm,0.1s						
CHMS				⇓S	Sg	18 08 32.5	+0.1
	11nm,0.3s						
CHMS	Chumysh	1.84	42	⇑eP	Pn	18 08 04.6	+0.4
CHMS				⇑eS	Sn	18 08 27.5	+0.2
USP	Ospenovka	1.94	32	⇑P	Pg	18 08 09.9	-0.4
	3.9nm,0.2s						
USP				⇓S	Sg	18 08 34.9	-0.6
	13nm,0.2s						

USP	**Ospenovka**	**1.94**	**32**	⇓*eP*	**Pn**	**18 08 05.9**	**+0.3**
USP				⇓*eS*	**Sn**	**18 08 29.9**	**+0.1**
SGDS	**Sogindy**	**2.15**	**32**	Pg	**Pg**	**18 08 14.1**	**-0.2**
	1.3nm,0.3s						
SGDS				Lg	Lg	18 08 41.7	
	6.1nm,0.2s						
TKM2	**Tokmak 2**	**2.27**	**54**	⇑*P*	**Pb**	**18 08 15.1**	**+1.2**
	3.4nm,0.2s						
TKM2				⇓*S*	**Sg**	**18 08 45.2**	**-0.8**
	9.7nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**54**	⇓*eP*	**Pn**	**18 08 10.6**	**+0.4**
TKM2				⇓*eS*	**Sn**	**18 08 38.0**	**0.0**
IUG	**Iuzhnay**	**2.34**	**284**	Pg	**Pg**	**18 08 17.9**	**+0.1**
	2.8nm,0.2s						
IUG				Lg	Lg	18 08 47.8	
	21nm,0.3s						
KK31	**Karatay Array**	**2.41**	**309**	⇑*Pg*	**Pg**	**18 08 17.8**	**-1.4**
	0.9nm,0.3s,baz=123,slow=12,SNR=11						
KK31				⇑*Lg*	Lg	18 08 50.3	
	3.5nm,0.5s,baz=128,slow=28,SNR=14						
ULHL	**Ulahol**	**2.44**	**74**	⇓*P*	**Pb**	**18 08 17.4**	**+0.7**
	1.1nm,0.2s						
ULHL				⇓*S*	**Sg**	**18 08 49.8**	**-1.5**
	1.2nm,0.1s						
ULHL	**Ulahol**	**2.44**	**74**	⇓*eP*	**Pn**	**18 08 13.0**	**+0.5**
ULHL				⇓*eS*	**Sn**	**18 08 42.3**	**+0.1**
KST	**Kastek**	**2.56**	**56**	Pg	**Pg**	**18 08 21.6**	**-0.5**
	3.1nm,0.2s						
KST				Lg	Lg	18 08 54.6	
	11nm,0.3s						
KST	**Kastek**	**2.56**	**56**	*eP*	**Pg**	**18 08 20.9**	**-1.2**
	3.1nm,0.2s						
KST				*eS*	**Sg**	**18 08 54.6**	**-0.7**
	11nm,0.3s						
DGS	**Degeres**	**2.56**	**50**	Pg	**Pg**	**18 08 21.0**	**-1.1**
	1.4nm,0.5s						
DGS				Lg	Lg	18 08 53.8	
	4.0nm,0.5s						
KTBS	**Karatobe**	**3.37**	**51**	Pg	**Pg**	**18 08 35.7**	**-1.9**
	0.7nm,0.4s						
KTBS				Lg	Lg	18 09 18.6	
	5.7nm,0.4s						
CHKK	**Chushkaly**	**3.63**	**51**	Pg	**Pg**	**18 08 40.5**	**-2.1**
	0.5nm,0.1s						
CHKK				Lg	Lg	18 09 27.3	
	4.5nm,0.3s						
CHKK	**Chushkaly**	**3.63**	**51**	*eP*	**Pb**	**18 08 39.6**	**+2.6**
	0.5nm,0.1s						
CHKK				*eS*	**Sg**	**18 09 27.3**	**-2.4**
	4.5nm,0.3s						

*IDC **28** 18:14:47.4±6.3, 17°.77S×177°.82W, h466km±65km, mb3.3/5, mbtmp4.2/5, Error ellipse: s-maj=37.3km s-min=21.1km az=59.0*

*NEIC **28** 18:14:58.4±1.2, 18°.0S±0°.1×178°.0W±0°.2, h592km±9km, mb4.1/19, Error ellipse: s-maj=25.0km s-min=16.3km az=102.0*

ISC 28 18:14:58.1±0.7, **18°.0S**±0°.1×**178°.0W**±0°.1, **h590**km, **n31**, σ1§**00**/32, **mb4.0**/14, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUTU	**Fugatoga**	**3.71**	**358**	P	**P**	**18 16 19.9**	**-1.0**
MSVF	**Nonsavu**	**3.77**	**274**		**P**	**18 16 21.1**	**-0.3**
URZ	**Urewera**	**20.60**	**191**	P	**P**	**18 18 54.9**	**-2.6**
	3.2nm,0.4s,baz=296,slow=4.0,SNR=9.4						
	3.2nm,0.4s						
CTAO	**Charters Tower**	**33.81**	**261**	P	**P**	**18 20 52.8**	**-0.1**
CTAO				IAmb	IAmb	18 21 06.8	
	comp=Z,11nm,1.3s						
COEN	**Coen**	**37.50**	**270**	P	**P**	**18 21 23.6**	**+0.4**
WR8	**Warramunga Arr**	**44.84**	**260**	P	**P**	**18 22 20.9**	**-0.3**
WR8				IAmb	IAmb	18 23 01.2	
	comp=Z,6.2nm,1.1s						
WB0	**Warramunga Arr**	**44.96**	**260**	P	**P**	**18 22 22.0**	**-0.1**
WB0				IAmb	IAmb	18 22 35.6	
	comp=Z,4.7nm,1.1s						
WRAB	**Tennant Creek**	**44.98**	**260**	P	**P**	**18 22 21.9**	**-0.4**
WRAB				IAmb	IAmb	18 22 54.1	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**44.99**	**260**	P	**P**	**18 22 22.2**	**-0.1**
WRA	**Warramunga Arr**	**44.99**	**260**	P	**P**	**18 22 22.0**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.3,SNR=22						
	comp=Z,1.1nm,0.6s						
AS31	**Alice Springs**	**45.13**	**254**	P	**P**	**18 22 23.6**	**+0.2**
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**18 22 23.0**	**-0.4**
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**18 22 23.4**	**0.0**
	comp=Z,3.7nm,0.8s,baz=86,slow=8.7,SNR=64						
ASAR				PcP	**PcP**	**18 23 51.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=104,slow=3.8,SNR=5.5						
	comp=Z,3.7nm,0.8s						
KNRA	**Kununurra**	**50.86**	**264**	P	**P**	**18 23 05.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.39**	**261**	P	**P**	**18 23 22.6**	**-1.4**
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**18 25 25.2**	**+2.3**
QSPA				IAmb	IAmb	18 25 26.7	
	comp=Z,4.1nm,1.2s						
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**18 25 25.3**	**+2.3**
	comp=Z,1.9nm,0.6s,baz=45,slow=6.1,SNR=17						
	comp=Z,1.9nm,0.6s						
PETK	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**18 25 34.0**	**+0.4**
PETK	**Petropavlovsk-**	**73.90**	**345**	P	**P**	**18 25 33.0**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=119,slow=7.8,SNR=6.3						
	comp=Z,1.2nm,0.6s						
N15K	**Kwethluk River**	**79.27**	**9**	P	**P**	**18 26 03.4**	**+0.6**
N15K				IAmb	IAmb	18 26 09.8	
	comp=Z,17nm,1.4s						
M16K	**Timber Creek**	**80.26**	**9**	P	**P**	**18 26 08.9**	**+1.0**
M16K				IAmb	IAmb	18 26 10.0	
	comp=Z,16nm,1.5s						
K15K	**Wolf Creek Mou**	**81.11**	**8**	P	**P**	**18 26 13.5**	**+1.2**
K15K				IAmb	IAmb	18 26 43.0	
	comp=Z,11nm,1.3s						
L18K	**Granite Mounta**	**81.75**	**10**	P	**P**	**18 26 16.2**	**+0.6**
L18K				IAmb	IAmb	18 27 00.0	
	comp=Z,6.4nm,1.4s						
K17K	**Iditarod**	**81.97**	**9**	P	**P**	**18 26 16.8**	**+0.2**
K17K				IAmb	IAmb	18 26 59.1	
	comp=Z,12nm,1.4s						
BELA	**Belgrano 2**	**81.99**	**173**	P	**P**	**18 26 17.3**	**+0.5**
SCM	**Sheep Creek Mo**	**83.25**	**14**	P	**P**	**18 26 22.9**	**-0.3**
PMSA	**Palmer Station**	**83.54**	**157**	P	**P**	**18 26 23.4**	**-1.3**
CAST	**Castle Rocks**	**83.67**	**11**	P	**P**	**18 26 24.1**	**-1.1**
CAST				IAmb	IAmb	18 26 44.6	
	comp=Z,4.2nm,1.5s						
BRTR	**Keskin Array B**	**145.15**	**315**	PKPbc	**PKPbc**	**18 33 31.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=48,slow=2.1,SNR=4.4						
MMAI	**Mount Mergn Ar**	**146.54**	**303**	PKPbc	**PKPbc**	**18 33 35.3**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=61,slow=6.8,SNR=5.5						
GERES	**GERESS Array B**	**147.83**	**345**	PKPbc	**PKPbc**	**18 33 37.6**	**0.0**
	comp=Z,0.7nm,0.5s,baz=31,slow=3.7,SNR=6.7						

*IDC **28** 18:15:53.1±1.3, 52°.09N×169°.80W, h0km, mb3.8/10, mbtmp3.8/12, MLL3.6/2, Error ellipse: s-maj=33.5km s-min=23.6km az=171.0*

*NEIC **28** 18:15:54.0±2.6, 51°.93N±0°.10×169°.7W±0°.1, h10km±2km, mb3.7/20, MLL3.6/20, MLL3.0(AEIC), Error ellipse: s-maj=18.0km s-min=8.8km az=152.0*

*AEIC **28** 18:16:02.1±3.6, 52°.4N±0°.1×169°.6W±0°.1, h39km±8km, Error ellipse: s-maj=17.9km s-min=8.1km az=150.0*

ISC 28 18:15:56.7±0.9, **52°.0N**±0°.1×**169°.61W**±0°.06, **h30**km, **n74**, σ1§**59**/69, **mb3.9**/10, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLES	**Cleveland East**	**0.84**	**348**		**Pb**	**18 16 12.8**	**0.0**
NIKH	**Nikolski High**	**1.08**	**25**		**Pb**	**18 16 16.2**	**-0.6**
NIKH	**Nikolski High**	**1.08**	**25**		**Sn**	**18 16 25.9**	**-3.8**
NIKH	**Nikolski High**	**1.08**	**25**	IAML		18 16 37.1	
	comp=N,1μm,0.7s						
NIKH				IAML		18 16 45.8	
	comp=E,823nm,0.5s						
OKSP	**Okmok Steeple**	**1.49**	**32**		**Pb**	**18 16 22.3**	**-1.5**
OKCE	**Okmok Cone E**	**1.68**	**31**		**Pb**	**18 16 25.6**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.69**	**34**		**Pb**	**18 16 25.5**	**-1.5**
OKNC	**Okmok New Cone**	**1.72**	**31**		**Pb**	**18 16 25.9**	**-1.7**
OKFG	**Magazine Ridge**	**1.75**	**35**		**Pb**	**18 16 26.5**	**-1.7**
MAPS	**Pakushin South**	**2.43**	**41**		**Pn**	**18 16 35.6**	**+1.3**
MGOD	**Makushin Gods**	**2.45**	**42**		**Pn**	**18 16 36.1**	**+1.5**
MGOD					**Sn**	**18 17 05.1**	**+1.6**
MREP	**Makushin Rep't**	**2.51**	**43**		**Pn**	**18 16 37.2**	**+1.7**
MSW	**Makushin Switc**	**2.57**	**41**		**Pn**	**18 16 38.0**	**+1.7**
MSW					**Sn**	**18 17 08.2**	**+1.7**
MNAT	**Makushin Natee**	**2.59**	**42**		**Pn**	**18 16 38.1**	**+1.5**
UNV	**Unalaska Valle**	**2.64**	**44**		**Pn**	**18 16 37.5**	**+0.4**
UNV				IAML		18 17 29.1	
	comp=N,145nm,0.8s						
ATKA	**Atka Island**	**2.83**	**276**	Pn	**Pn**	**18 16 39.5**	**-0.3**
AKRB	**Akutan Reef Bi**	**3.02**	**44**		**Pn**	**18 16 45.4**	**+2.9**
LVA	**Lava Point**	**3.06**	**43**		**Pn**	**18 16 45.4**	**+2.4**
AKBBA	**Akutan Broad B**	**3.06**	**45**		**Pb**	**18 16 46.1**	**-4.2**
AKUT	**Akutan**	**3.15**	**46**		**Pn**	**18 16 42.8**	**-1.5**
GSTR	**Great Sitkin T**	**3.98**	**274**	Pn	**Pn**	**18 16 55.4**	**-0.3**
GSTR				IAML		18 18 11.0	
	comp=E,102nm,0.7s						
ADK	**Adak**	**4.38**	**271**	Pn	**Pn**	**18 17 01.2**	**+0.1**
ADK				IAML		18 18 08.8	
	comp=E,50nm,1.1s						
ADK				IAML		18 18 13.7	
	comp=E,50nm,0.9s						
P08K	**Saint George I**	**4.61**	**0**	Pn	**Pn**	**18 17 02.8**	**-1.4**
P08K				IAML		18 18 55.3	
	comp=E,79nm,1.1s						
P08K				IAML		18 18 56.6	
	comp=N,81nm,1.1s						
KIWB	**Kanaga Island**	**4.67**	**271**	Pn	**Pn**	**18 17 05.2**	**+0.1**
KIWB				IAML		18 18 04.2	
	comp=E,60nm,1.1s						
KIWB				IAML		18 18 05.3	
	comp=N,63nm,0.6s						
SPIA	**Saint Paul Isl**	**5.20**	**356**	Pn	Pn	18 17 16.0	+3.7
SDPT	**Sand Point**	**6.38**	**55**	Pn	**Pn**	**18 17 30.8**	**+2.3**
CNBA	**Chernabura Isl**	**6.63**	**61**	Pn	**Pn**	**18 17 32.8**	**+0.9**
AMKA	**Amchitka**	**6.92**	**269**	Pn	**Pn**	**18 17 37.2**	**+1.3**
CHGN	**Chignik**	**7.86**	**52**	Pn	**Pn**	**18 17 50.8**	**+2.0**
N14K	**Kuskokwak Cree**	**9.10**	**26**	Pn	**Pn**	**18 18 06.9**	**+1.2**
PLK4	**Peulik 4**	**9.50**	**48**	Pn	**Pn**	**18 18 10.1**	**-1.3**
N15K	**Kwethluk River**	**9.76**	**29**	Pn	Pn	18 18 19.7	+4.9
O16K	**Kokwok River B**	**9.99**	**36**	Pn	**Pn**	**18 18 20.5**	**+2.6**
K13K	**Kusilvak Mount**	**10.32**	**13**	Pn	**Pn**	**18 18 23.1**	**+0.7**
OHAK	**Old Harbor**	**10.81**	**55**	Pn	**Pn**	**18 18 28.0**	**-1.2**
N17K	**Nushagak Hills**	**10.97**	**34**	Pn	**Pn**	**18 18 34.1**	**+2.7**
K15K	**Wolf Creek Mou**	**11.21**	**20**	Pn	**Pn**	**18 18 37.8**	**+3.2**
KDAK	**Kodiak Island**	**11.37**	**53**	Pn	**Pn**	**18 18 35.9**	**-1.0**
KDAK	**Kodiak Island**	**11.37**	**53**	Pn	**Pn**	**18 18 36.4**	**-0.4**
	comp=N,0.5nm,0.3s,baz=225,slow=5.2,SNR=9.4						
BPAW	**Bear Paw Mtn.**	**15.54**	**32**	IAmb	IAmb	18 19 39.3	
	comp=Z,3.6nm,0.7s						
SCM	**Sheep Creek Mo**	**15.57**	**42**		**Pn**	**18 19 32.9**	**-0.9**
KLU	**Klutina**	**16.01**	**44**		**Pn**	**18 19 38.1**	**-1.4**
RAGM	**Ragged Mountai**	**16.13**	**49**	Pn	**Pn**	**18 19 39.8**	**-1.3**
RAGM				IAmb	IAmb	18 19 49.9	
	comp=Z,13nm,1.0s						
M24K	**Tolsona, Glenn**	**16.18**	**42**	Pn	**Pn**	**18 19 41.9**	**+0.3**
DHY	**Denali Highway**	**16.19**	**38**		**Pn**	**18 19 41.6**	**-0.2**
HMT	**Hamilton**	**16.31**	**49**	Pn	**Pn**	**18 19 42.9**	**-0.3**
BMRM	**Bremner River**	**16.38**	**47**		**Pn**	**18 19 41.7**	**-2.4**
BMRM				IAmb	IAmb	18 20 23.3	
	comp=Z,9.4nm,1.2s						
N25K	**Chitina, Valde**	**16.63**	**45**	Pn	**Pn**	**18 19 47.1**	**-0.3**
GLB	**Gilahina Butte**	**16.91**	**46**	Pn	**Pn**	**18 19 50.2**	**-0.7**
GLB				IAmb	IAmb	18 20 26.9	
	comp=Z,8.0nm,1.4s						
H23K	**Yukon River**	**17.18**	**29**	Pn	**P**	**18 19 54.5**	**-1.0**
ILAR	**Eielson Array**	**17.34**	**34**	P	**Pn**	**18 19 55.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=220,slow=9.5,SNR=4.2						
	comp=Z,0.3nm,0.6s						
RIDG	**Independent Ri**	**17.51**	**38**	Pn	**Pn**	**18 19 55.8**	**-2.6**
RIDG				IAmb	IAmb	18 20 23.5	
	comp=Z,8.5nm,1.4s						
J25K	**Salcha River,**	**17.78**	**35**		**Pn**	**18 20 00.3**	**-1.4**
M27K	**Edge Creek, AK**	**18.11**	**44**	P	**Pn**	**18 20 04.6**	**-1.1**
M27K				IAmb	IAmb	18 20 17.8	
	comp=Z,4.8nm,1.2s						
J26L	**Joseph Creek**	**18.39**	**37**		**P**	**18 20 08.0**	**-0.9**
J26L				IAmb	IAmb	18 20 18.8	
	comp=Z,2.7nm,0.7s						
I26K	**Coal Creek Min**	**18.95**	**35**	P	**P**	**18 20 13.5**	**-1.6**
I26K				IAmb	IAmb	18 20 23.8	
	comp=Z,2.3nm,0.5s						
HYT	**Haines Junctio**	**19.65**	**51**	P	**Pn**	**18 20 26.9**	**+2.6**
BMAR	**Burnt Mountain**	**19.73**	**29**	P	**P**	**18 20 23.4**	**-0.2**
PETK	**Petropavlovsk-**	**19.82**	**286**	P	**Pn**	**18 20 24.7**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=83,slow=14,SNR=34						
	comp=Z,3.1nm,0.4s						
H29M	**Whitestone**	**21.12**	**36**	P	**P**	**18 20 39.1**	**+0.5**
G31M	**Satah River**	**22.91**	**36**	P	**P**	**18 20 56.5**	**-1.1**
YKA	**Yellowknife Ar**	**30.60**	**48**	P	**P**	**18 22 09.3**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=250,slow=12,SNR=4.7						
	comp=Z,0.5nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**38.26**	**218**	T	T	19 04 24.0	
	baz=23,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**38.27**	**218**	T	T	19 04 25.1	
	baz=23,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**38.27**	**218**	T	T	19 04 30.3	
	baz=23,slow=76,SNR=7.9						
TXAR	**Lajitas Array**	**52.91**	**88**	P	**P**	**18 25 11.7**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=310,slow=6.1,SNR=3.6						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**58.27**	**354**	P	**P**	**18 25 47.9**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=15,slow=5.0,SNR=3.8						
	comp=Z,0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**62.66**	**318**	P	**P**	**18 26 17.9**	**0.0**
	comp=Z,0.6nm,0.2s,baz=43,slow=6.6,SNR=2.3						
	comp=Z,0.6nm,0.2s						
BVAR	**Borovoye Array**	**63.92**	**324**	P	**P**	**18 26 26.6**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=52,slow=7.5,SNR=13						
	comp=Z,1.9nm,0.4s						
MKAR	**Makanchi Array**	**63.95**	**313**	P	**P**	**18 26 26.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=34,slow=8.6,SNR=2.1						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**66.22**	**352**	P	**P**	**18 26 41.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=4.6,slow=9.6,SNR=6.8						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**67.31**	**360**	P	**P**	**18 26 48.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=357,slow=6.2,SNR=1.9						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**68.19**	**358**	P	**P**	**18 26 54.1**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=15,slow=6.1,SNR=6.7						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**90.04**	**230**	P	**P**	**18 28 54.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=26,slow=4.7,SNR=9.8						
	comp=Z,0.5nm,0.7s						

*IDC **28** 18:27:02.0±0.6, 25°.93N×142°.67E, h0km, mb3.9/20, mbtmp3.9/22, MLL3.3/2, MS3.3/10, Error ellipse: s-maj=20.6km s-min=13.7km az=83.0*

*NEIC **28** 18:27:04.5±1.4, 25°.97N±0°.09×142°.5E±0°.2, h10km±1km, mb4.6/24, Error ellipse: s-maj=24.3km s-min=14.8km az=84.0*

*JMA **28** 18:27:05.6±0.2, 26°.0N±0°.7×14°.3E±°, h0km, MV4.4/13, IOTO ISLANDS REGION*

ISC 28 18:27:07.6±0.6, **25°.98N**±0°.06×**142°.6E**±0°.1, **h36**km, **n74**, σ1§**85**/72, **mb4.2**/33, **MS3.6**/6, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.75**	**331**	*eP*	**Pn**	**18 27 21.5**	**-0.2**
JHH2				*eS*	**Sn**	**18 27 33.0**	**+1.3**
CBIJ	**Chichi jima**	**1.17**	**342**	*eP*	**Pn**	**18 27 29.1**	**+1.6**
CBIJ				*eS*	**Sn**	**18 27 45.0**	**+2.9**
JCJ	**Chichijima**	**1.17**	**342**		**Pn**	**18 27 26.8**	**-0.7**
JCJ				Sn	**Sn**	**18 27 47.7**	**+5.5**
JCJ	**Chichijima**	**1.17**	**342**	Pn	**Pn**	**18 27 27.5**	**0.0**
	130nm,0.3s,baz=217,slow=20,SNR=289						
JCJ				Sn	**Sn**	**18 27 45.5**	**+3.3**
	481nm,0.3s,baz=284,slow=23,SNR=18						
JYT	**Yasato**	**10.42**	**349**	*eP*	**Pn**	**18 29 35.1**	**+0.6**
JYT				*eS*	**Sn**	**18 31 29.4**	**-0.5**
JHO	**Hitachi**	**10.74**	**351**	*eP*	**Pn**	**18 29 36.3**	**-2.5**
JHO				*eS*	**Sn**	**18 31 32.3**	**-5.4**
JAG	**Ashikaga**	**10.75**	**346**	*eP*	**Pn**	**18 29 36.3**	**-2.7**
JAG				*eS*	**Sn**	**18 31 33.2**	**-5.0**
MJAR	**Matsushiro Arr**	**11.18**	**342**	Pn	**Pn**	**18 29 45.3**	**+0.5**
	0.1nm,0.3s,baz=158,slow=13,SNR=5.0						
MJAR				Sn	**Sn**	**18 31 48.4**	**-0.1**
	baz=170,slow=26,SNR=2.2						
MJAR				LR	LR	18 34 16.0	
	comp=Z,86nm,19.7s,baz=161,slow=39						
	0.8nm,0.3s						
MJB9	**Matsu-Tunnel**	**11.18**	**342**	Pn	**Pn**	**18 29 41.8**	**-3.2**
JMM	**Marumori**	**11.95**	**353**	Pn	**Pn**	**18 29 53.4**	**-2.0**
JMM					**Sn**	**18 32 00.7**	**-6.7**
JNU	**Nakatsue**	**12.42**	**308**	LR	LR	18 34 11.8	
	comp=Z,112nm,20.3s,baz=130,slow=34						
GUMO	**Guam**	**12.51**	**170**	LR	LR	18 34 06.6	
	comp=Z,79nm,19.2s,baz=3.0,slow=34						
JTM	**Tenmabayashi**	**14.82**	**356**	Pn	**Pn**	**18 30 33.6**	**-0.9**
ASAJ	**Asahikawa**	**18.10**	**0**	P	**Pn**	**18 31 14.7**	**-1.4**
	0.3nm,0.3s,baz=167,slow=14,SNR=2.0						
ASAJ				LR	LR	18 38 32.8	
	comp=Z,40nm,21.9s,baz=162,slow=38						
	3.9nm,0.9s						
USA0B	**Ussuriysk Arra**	**20.11**	**337**	P	**P**	**18 31 39.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**20.11**	**337**	P	**P**	**18 31 38.5**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**23.23**	**100**	T	T	18 56 01.7	
	baz=290,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**23.23**	**101**	T	T	18 55 53.1	
	baz=290,slow=74,SNR=13						
H11N3	**WAKE ISLAND Hy**	**23.25**	**101**	T	T	18 56 02.9	
	baz=290,slow=74,SNR=15						
H11S3	**WAKE ISLAND Hy**	**23.50**	**104**	T	T	18 56 21.4	
	baz=293						
H11S1	**WAKE ISLAND Hy**	**23.50**	**104**	T	T	18 56 27.3	
	baz=293						
H11S2	**WAKE ISLAND Hy**	**23.52**	**104**	T	T	18 56 27.7	
	baz=293						
HEH	**HeiHe**	**26.91**	**338**	*eP*	**P**	**18 32 49.8**	**+4.6**
HEH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SHEM	**Shemya Is, Ala**	**35.66**	**33**	LR	LR	18 45 44.8	
	comp=Z,13nm,22.0s,baz=290,slow=32						
MTN	**Manton Dam**	**40.16**	**197**	P	**P**	**18 34 40.7**	**+0.3**
MTN				IAmb	IAmb	18 35 18.3	
	comp=Z,30nm,1.4s						
CMAR	**Chiang Mai Arr**	**40.94**	**269**	P	**P**	**18 34 47.2**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=63,slow=9.2,SNR=1.8						
	comp=Z,0.4nm,0.4s						
WB0	**Warramunga Arr**	**46.16**	**191**	P	**P**	**18 35 29.2**	**+0.3**
WB0				IAmb	IAmb	18 35 37.2	
	comp=Z,7.5nm,1.0s						
WR8	**Warramunga Arr**	**46.33**	**191**	P	**P**	**18 35 30.1**	**0.0**
WR8				IAmb	IAmb	18 35 38.6	
	comp=Z,5.9nm,0.8s						
WRAB	**Tennant Creek**	**46.33**	**191**	P	**P**	**18 35 29.1**	**-1.0**
WRA	**Warramunga Arr**	**46.34**	**191**	P	**P**	**18 35 30.0**	**-0.3**
WRA	**Warramunga Arr**	**46.34**	**191**	P	**P**	**18 35 30.0**	**-0.3**
	comp=Z,4.9nm,0.6s,baz=11,slow=8.4,SNR=66						
	comp=Z,4.9nm,0.6s						
GSI	**Gunungsitoli**	**49.75**	**248**	P	**P**	**18 35 54.7**	**-2.1**
AS31	**Alice Springs**	**50.06**	**190**	P	**P**	**18 35 57.8**	**-1.2**
ASAR	**Alice Springs**	**50.06**	**190**	P	**P**	**18 35 58.3**	**-0.7**
ASAR	**Alice Springs**	**50.06**	**190**	P	**P**	**18 35 58.4**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=16,slow=14,SNR=13						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**50.57**	**320**	P	**P**	**18 36 03.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=102,slow=6.6,SNR=1.9						
ZALV				PcP	**PcP**	**18 37 19.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=3.7						
ZALV				LR	LR	18 58 13.9	
	comp=Z,47nm,18.7s,baz=104,slow=37						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**51.46**	**310**	P	**P**	**18 36 09.2**	**-0.2**
MKAR	**Makanchi Array**	**51.46**	**310**	P	**P**	**18 36 10.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=88,slow=9.5,SNR=5.8						
	comp=Z,0.2nm,0.4s						
O15K	**Ungalikthiuk R**	**51.55**	**34**	P	**P**	**18 36 10.6**	**+0.8**
N17K	**Nushagak Hills**	**53.16**	**32**	P	**P**	**18 36 22.6**	**+0.9**
N17K				IAmb	IAmb	18 36 58.6	
	comp=Z,11nm,1.4s						
K17K	**Iditarod**	**53.16**	**30**	P	**P**	**18 36 23.4**	**+1.8**
K17K				IAmb	IAmb	18 36 24.8	
	comp=Z,9.7nm,1.1s						
M17K	**Holitna River**	**53.23**	**31**	P	**P**	**18 36 23.2**	**+1.0**
M17K				IAmb	IAmb	18 37 01.0	
	comp=Z,16nm,1.4s						
KURBB	**Kurchatov Arra**	**54.08**	**315**	P	**P**	**18 36 28.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=91,slow=7.9,SNR=9.4						
	comp=Z,0.8nm,0.4s						
KDAK	**Kodiak Island**	**55.05**	**36**	P	**P**	**18 36 35.9**	**+0.4**
KDAK	**Kodiak Island**	**55.05**	**36**	P	**P**	**18 36 35.3**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=262,slow=4.9,SNR=7.0						
	comp=Z,2.

GCSA Sb 18 28 14.7 +0.6
H20K Anotleneega Mo 0.70 19 Pg 18 28 06.2 -0.7
H20K Sg 18 28 15.7 -0.6
H19K Roundabout Mou 0.82 329 Pb 18 28 08.7 -0.2
H19K Sg 18 28 20.3 +0.5
H19K Roundabout Mou 0.82 329 IAML 18 28 20.8
comp=E,3µm,0.4s
H19K IAML 18 28 20.9
comp=N,2µm,0.4s
J19K Poorman 0.84 185 Pg 18 28 09.6 +0.1
J19K Poorman 0.84 185 Sg 18 28 21.3 +0.7
J20K Nowinta River 0.86 139 Pb 18 28 09.7 0.0
J20K Sg 18 28 21.4 +0.3
H18K Honhosa River 1.28 286 Pn 18 28 16.6 +0.2
H18K Sn 18 28 33.3 0.0
H18K Honhosa River 1.28 286 IAML 18 28 35.0
comp=N,1µm,0.5s
H18K IAML 18 28 35.9
comp=E,1µm,0.8s
IMAR Indian Mountai 1.36 31 Pn 18 28 16.6 -0.7
H21K Melozitna Rive 1.39 52 Pn 18 28 18.0 +0.2
H21K Sn 18 28 35.5 -0.3
H21K Melozitna Rive 1.39 52 IAML 18 28 38.7
comp=N,622nm,0.5s
J18K Innoko River 1.48 203 Pn 18 28 18.9 -0.2
J18K Sb 18 28 38.5 -0.3
J18K Innoko River 1.48 203 IAML 18 28 41.0
comp=E,993nm,0.6s
G19K Purcell Mounta 1.49 333 Pn 18 28 19.0 -0.2
G19K Sn 18 28 38.5 +0.3
G19K Purcell Mounta 1.49 333 IAML 18 28 41.0
comp=N,739nm,0.5s
G19K IAML 18 28 41.7
comp=E,756nm,0.3s
I21K Tanana 1.51 75 Pn 18 28 18.9 -0.6
I21K Sb 18 28 39.4 -0.2
I21K Tanana 1.51 75 IAML 18 28 43.8
comp=E,437nm,0.5s
I21K IAML 18 28 50.0
comp=N,474nm,1.1s
K20K Telida 1.60 157 Pn 18 28 20.6 -0.1
K20K IAML 18 28 44.8
comp=E,764nm,0.8s
G18K Tagagawik 1.72 310 Pn 18 28 22.6 +0.2
G18K IAML 18 28 53.3
comp=N,352nm,0.7s
G18K IAML 18 28 54.2
comp=E,495nm,0.8s
G21K Allakaket 1.87 24 Pn 18 28 24.4 -0.1
G21K Sb 18 28 49.0 -1.1
G21K Sg 18 28 50.9 -2.4
H17K Granite Mounta 1.91 275 Pn 18 28 25.3 +0.3
H17K IAML 18 28 53.6
comp=E,645nm,0.8s
H17K IAML 18 28 53.9
comp=N,562nm,0.5s
H22K Ishtalitna Cre 2.01 56 Pn 18 28 26.5 +0.1
MLY Manley 2.01 82 Pn 18 28 25.8 -0.6
CAST Castle Rocks 2.04 132 Pn 18 28 27.1 +0.2
CAST Castle Rocks 2.04 132 IAML 18 29 04.2
comp=N,318nm,0.8s
CAST IAML 18 29 04.5
comp=E,294nm,1.1s
BPAW Bear Paw Mtn. 2.06 109 Pn 18 28 27.0 -0.1
J17K VABM Dome 2.15 230 Pn 18 28 28.3 0.0
F19K Shaleruckik Mo 2.23 336 Pn 18 28 29.3 -0.1
F19K IAML 18 29 09.0
comp=N,202nm,0.8s
F20K Avaraart Lake 2.23 357 Pn 18 28 29.8 +0.4
G17K Kiwalik Mounta 2.30 289 Pn 18 28 30.8 +0.5
KTH Kantishna Hill 2.36 121 Pn 18 28 30.7 -0.5
KTH IAML 18 29 17.7
comp=N,184nm,0.8s
PPLA Purkeypile 2.42 142 Pn 18 28 32.7 +0.6
PPLA Purkeypile 2.42 142 IAML 18 29 16.7
comp=N,239nm,0.9s
PPLA IAML 18 29 18.3
comp=E,177nm,0.8s
L20K Farewell, AK 2.46 163 Pn 18 28 33.0 +0.5
K17K Iditarod 2.47 212 Pn 18 28 32.4 -0.4
K17K Iditarod 2.47 212 IAML 18 29 12.7
comp=N,414nm,0.8s
I17K Unalakleet 2.48 250 Pn 18 28 33.4 +0.7
F18K Selawik 2.49 317 Pn 18 28 33.3 +0.5
F21K Alatna River 2.53 18 Pn 18 28 33.6 +0.1
I23K Minto, Yukon-K 2.60 80 IAML 18 29 18.9
comp=E,171nm,0.8s
I23K IAML 18 29 19.7
comp=N,177nm,0.6s
I23K Minto, Yukon-K 2.60 80 Pn 18 28 34.2 -0.2
I23K Pb 18 28 34.5 -4.8
TRF Thorofare Moun 2.65 119 Pn 18 28 35.9 +0.6
TRF Thorofare Moun 2.65 119 IAML 18 29 34.2
comp=E,134nm,1.0s
H23K Yukon River 2.67 65 IAML 18 29 25.0
comp=E,200nm,0.8s
BWN Browne 2.67 102 Pn 18 28 35.5 +0.2
BWN Browne 2.67 102 IAML 18 29 37.8
comp=N,247nm,1.0s
L19K White Mountain 2.67 174 Pn 18 28 35.2 -0.3
L18K Granite Mounta 2.68 193 Pn 18 28 35.7 +0.2
L18K IAML 18 29 22.9
comp=E,212nm,0.6s
L18K IAML 18 29 25.1
comp=N,343nm,0.7s
E19K Redstone River 2.74 345 Pn 18 28 37.1 +0.8
E19K Redstone River 2.74 345 IAML 18 29 22.9
comp=E,152nm,1.1s
E19K IAML 18 29 24.2
comp=N,144nm,0.7s
NEA2 Nenana 2.75 92 Pn 18 28 35.7 -0.7
J16K Anvik River 2.75 238 Pn 18 28 36.3 -0.2
F17K Baldwin Pennin 2.90 306 Pn 18 28 38.9 +0.3
F17K IAML 18 29 35.9
comp=E,134nm,0.8s
F17K IAML 18 29 40.0
comp=N,138nm,1.1s
H16K Elim 2.92 269 Pn 18 28 38.7 -0.2
G23K Bananza Creek 2.92 47 Pn 18 28 38.4 -0.6
G23K IAML 18 29 26.5
comp=N,131nm,0.8s
G16K Koyuk River 2.98 284 Pn 18 28 40.0 +0.3
G16K Koyuk River 2.98 284 IAML 18 29 30.6
comp=N,240nm,0.7s
G16K IAML 18 29 31.5
comp=E,179nm,0.8s
L17K Donlin 3.00 207 Pn 18 28 39.9 0.0
MCK McKinley 3.04 108 Pn 18 28 40.2 -0.3
MCK IAML 18 29 39.7
comp=N,137nm,1.2s
M20K Styx River 3.14 160 Pn 18 28 42.6 +0.7
M20K IAML 18 29 37.2
comp=N,124nm,1.0s
M20K IAML 18 29 39.5
comp=E,123nm,0.8s
WRH Wood River Hil 3.18 93 Pn 18 28 41.4 -1.0
RND Reindeer 3.22 113 Pn 18 28 43.1 0.0
COLA College 3.24 86 Pn Pn 18 28 42.4 -0.8
CCB Clear Creek Bu 3.28 90 Pn 18 28 42.5 -1.2
H24K Noodor Dome 3.33 69 Pn 18 28 43.8 -0.7
H24K IAML 18 29 41.4
comp=E,118nm,0.8s
H24K IAML 18 29 41.4
comp=N,120nm,0.5s
E18K Tukpahlearik C 3.34 323 Pn 18 28 45.3 +0.7
E18K IAML 18 29 47.4
comp=N,89nm,1.0s
E18K IAML 18 29 49.5
comp=E,83nm,1.1s
CUT Chulitna 3.35 134 IAML 18 29 44.1
comp=N,197nm,0.9s
SKT Skwentna 3.36 147 IAML 18 29 42.2
comp=E,179nm,1.1s
SKT IAML 18 29 48.5
comp=N,145nm,1.0s
M17K Holitna River 3.56 196 Pn 18 28 47.5 -0.1
E22K Anaktuvuk Pass 3.62 22 Pn 18 28 48.0 -0.5
L16K Owhat River 3.62 212 Pn 18 28 48.3 -0.2
ILAR Eielson Array 3.66 87 Pn 18 28 48.0 -1.0
E21K Killik River 3.67 8 Pn 18 28 49.4 +0.2
E21K IAML 18 29 55.1
comp=E,64nm,1.0s
HDA Harding Lake 3.68 93 IAML 18 29 53.5
comp=N,82nm,0.7s

STLK Strandline Lak 3.72 152 IAML 18 29 54.7
comp=E,57nm,1.0s
D19K Kuna River 3.83 345 IAML 18 29 55.9
comp=E,61nm,0.9s
D19K IAML 18 30 03.3
comp=N,74nm,1.1s
DHY Denali Highway 3.97 113 IAML 18 30 08.1
comp=N,58nm,1.0s
DHY IAML 18 30 09.5
comp=E,53nm,0.7s
F15K North Star Dit 3.97 287 Pn 18 28 53.2 -0.1
F15K Pb 18 28 54.0 -8.6
F15K North Star Dit 3.97 287 IAML 18 30 09.2
comp=E,55nm,1.0s
SUA Susitna One 3.99 146 IAML 18 30 01.6
comp=N,70nm,1.1s
SUA IAML 18 30 10.5
comp=E,60nm,1.0s
N19K Bonanza Creek 4.06 173 IAML 18 30 05.5
comp=E,92nm,0.6s
N19K IAML 18 30 07.9
comp=N,89nm,0.8s
M16K Timber Creek 4.15 204 IAML 18 30 15.7
comp=N,74nm,0.9s
M16K IAML 18 30 21.9
comp=E,69nm,0.8s
J14K Nanvaranak Lak 4.16 244 Pn 18 28 55.8 -0.1
N18K Kilae Creek 4.17 183 Pn 18 28 56.4 +0.3
N18K IAML 18 30 15.6
comp=N,90nm,0.9s
D22K Ayikyak River 4.21 14 Pn 18 28 58.3 +1.7
D22K IAML 18 30 12.8
comp=E,74nm,0.9s
D22K IAML 18 30 18.4
comp=N,81nm,0.9s
D17K Noatak River 4.22 316 Pn 18 28 57.1 +0.4
GHO Glory Hole Cre 4.25 133 IAML 18 29 53.3
comp=E,50nm,0.5s
GHO IAML 18 30 23.3
comp=N,56nm,1.1s
J25K Salcha River, 4.32 88 IAML 18 30 11.4
comp=N,39nm,0.8s
K24K Donnelly Dome 4.33 99 IAML 18 30 23.6
comp=N,86nm,1.1s
K24K IAML 18 30 31.5
comp=E,81nm,0.9s
N17K Nushagak Hills 4.39 191 IAML 18 30 18.6
comp=N,68nm,0.7s
N17K IAML 18 30 24.0
comp=E,59nm,1.0s
C18K Utukok River 4.46 332 Pn 18 29 00.4 +0.3
TOLK Toolik Lake Re 4.48 29 IAML 18 30 26.3
comp=E,32nm,1.0s
TOLK IAML 18 30 30.8
comp=N,32nm,1.1s
D23K Nanushuk River 4.56 22 IAML 18 30 20.6
comp=E,46nm,1.1s
D23K IAML 18 30 30.5
comp=N,30nm,1.2s
FYU Fort Yukon 4.56 63 IAML 18 30 28.1
comp=N,64nm,0.9s
FYU IAML 18 30 36.3
comp=E,58nm,1.0s
KNK Knik Glacier 4.67 134 IAML 18 30 00.6
comp=N,36nm,0.6s
KNK IAML 18 30 26.4
comp=E,44nm,0.7s
SCM Sheep Creek Mo 4.73 126 IAML 18 30 31.9
comp=N,49nm,1.0s
SCM IAML 18 30 32.5
comp=E,65nm,1.1s
RIDG Independent Ri 4.74 99 IAML 18 30 27.6
comp=E,37nm,1.0s
RIDG IAML 18 30 41.1
comp=N,34nm,0.8s
F25K Christian Rive 4.84 51 IAML 18 30 28.9
comp=E,43nm,0.8s
F25K IAML 18 30 36.6
comp=N,53nm,1.2s
SLKM Skilak Lake 4.96 149 IAML 18 30 38.5
comp=E,28nm,1.1s
M24K Tolsona, Glenn 4.97 119 IAML 18 30 43.9
comp=E,41nm,0.9s
M14K Bethel 5.07 219 Pn 18 29 08.7 +0.4
DOT Dot Lake 5.10 98 IAML 18 30 41.7
comp=E,26nm,0.7s
DOT IAML 18 30 44.0
comp=N,20nm,0.9s
J26L Joseph Creek 5.11 88 IAML 18 30 33.2
comp=N,23nm,0.8s
BMAR Burnt Mountain 5.12 55 Pn 18 29 09.3 +0.2
PWL Port Wells 5.14 138 IAML 18 30 46.1
comp=N,36nm,0.9s
PWL IAML 18 30 46.8
comp=E,24nm,0.9s
N15K Kwethluk River 5.15 207 Pn 18 29 09.2 -0.3
I26K Coal Creek Min 5.22 79 IAML 18 30 47.8
comp=E,38nm,0.9s
I26K IAML 18 30 48.3
comp=N,36nm,0.8s
G26K Porcupine Rive 5.23 61 IAML 18 30 50.9
comp=E,42nm,1.2s
O16K Kokwok River B 5.40 194 Pn 18 29 13.0 +0.1
P18K Big Mountain, 5.46 179 Pn 18 29 13.8 +0.1
P17K Kvichak River 5.68 185 Pn 18 29 16.6 0.0
M1K Dall Lake 5.74 223 Pn 18 29 18.2 +0.7
KAHC Katmai Hardscr 6.21 178 Pn 18 29 24.1 0.0
BCAR Beaver Creek A 6.27 100 Pn 18 29 24.1 -0.8

*GCG **28** 18:29:25.1±0.5, 13°.65N×90°.60W, h57km±12km, MD3.5, ML3.4,MW3.1*
*SNET **28** 18:29:25.6±0.8, 13°.62N×90°.53W, h58km±11km, ML3.2*
ISC 28 18:29:21.7±2.6, 13°.5N±0°.1×90°.61W±0°.09, h1km±12km, n14, σ1°17/22, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG16	**Alotenango, Sa**	**0.78**	**7**	*i* P	**Pn**	**18 29 41.7**	**+1.7**
FG16				*i* S	**Sn**	**18 29 54.9**	**+2.4**
FG16				IAML		18 29 58.6	
	comp=E,2µm,0.2s						
NUBE	**Las Nubes**	**0.90**	**63**	*e*P	**Pb**	**18 29 40.8**	**+0.6**
NUBE				*e*S	**Sb**	**18 29 52.1**	**-0.8**
ESSG	**Sabana Grande**	**0.91**	**347**	*i* P	**Pb**	**18 29 40.1**	**-0.2**
ESSG				*i* S	**Sb**	**18 29 52.0**	**-0.9**
CEVE	**Cerro Verde**	**1.02**	**71**	*e*P	**Pb**	**18 29 43.0**	**+0.8**
CEVE				*e*S	**Sn**	**18 29 57.4**	**-0.9**
CEVE				IAML		18 29 58.2	
	comp=Z,586nm,0.2s						
SBLS	**San Blas**	**1.02**	**70**	*e*P	**Pb**	**18 29 43.0**	**+0.7**
SNJE	**San Jose**	**1.05**	**69**	*e*P	**Pb**	**18 29 43.4**	**+0.7**
SNJE				*e*S	**Sn**	**18 29 57.7**	**-1.3**
JAYA	**Jayaque - finc**	**1.14**	**82**	*e*P	**Pg**	**18 29 44.2**	**+0.6**
JAYA				*e*S	**Sg**	**18 29 58.9**	**+0.4**
JAYA				IAML		18 30 00.8	
	comp=Z,510nm,0.2s						
JAYA	**Jayaque - finc**	**1.14**	**82**	*i* P	**Pg**	**18 29 44.6**	**+1.0**
JAYA				*i* S	**Sb**	**18 29 59.4**	**-0.3**
PMON	**Piamonte**	**1.28**	**80**	*e*P	**Pg**	**18 29 46.6**	**+0.4**
LOMA	**Loma Larga**	**1.41**	**84**	*e*P	**Pn**	**18 29 48.5**	**-0.1**
LOMA				*e*S	**Sg**	**18 30 05.4**	**-1.6**
MTO3	**Montecristo**	**1.51**	**53**	*e*P	**Pn**	**18 29 49.3**	**-0.7**
MTO3	**Montecristo**	**1.51**	**53**	*i* P	**Pn**	**18 29 49.4**	**-0.7**
LFRS	**El Faro**	**1.51**	**85**	*e*P	**Pn**	**18 29 50.0**	**0.0**
SOKI	**Kika Raxquin**	**1.52**	**330**	*i* S	**Sg**	**18 30 08.7**	**-2.1**

*IDC **28** 18:46:41.0±2.6, 61°.99N×2°.45E, h0km, mbtmp3.0/5, ML2.4/4, Error ellipse: s-maj=29.9km s-min=22.1km az=170.0*
*NAO **28** 18:46:42.4±0.0, 62°.05N×2°.33E, h2km±3km, ML2.2*
*BER **28** 18:46:44.1±2.1, 62°.10N×2°.21E, h15km, ML2.3, ML2.2(NAO), Confirmed Earthquake*
*DNK **28** 18:46:44.3±2.0, 61°.84N×2°.64E, h0km±68km, ML2.5*
*UPP **28** 18:46:48.8±3.4, 61°.87N×3°.29E, h0km, ML2.3, Presumed earthquake*
ISC 28 18:46:41.7±1.6, 62°.11N±0°.04×2°.28E±0°.06, h30km±13km, n94, σ2s42/152, 2C-2D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.41**	**110**	Pg	**Pb**	**18 47 08.2**	**+1.0**
FOO				Sg	**Sb**	**18 47 25.3**	**+0.6**

FOO Floro 1.41 110 *e*P **Pb** **18 47 08.1 +0.9**
FOO *e*S **Sb** **18 47 25.3 +0.6**
FOO IAML 18 47 27.9
comp=Z,55nm,0.3s
BAS01 BAS01 1.90 139 ‖ *e*P **Pb** **18 47 14.4 -1.2**
BAS01 BAS01 1.90 139 *e*S **Sn** **18 47 36.5 +1.6**
BAS01 IAML 18 47 38.3
comp=Z,73nm,0.1s
BAS02 BAS02 1.98 138 *e*P **Pb** **18 47 15.5 -1.5**
BAS02 BAS02 1.98 138 *e*S **Sn** **18 47 38.7 +1.7**
BAS02 IAML 18 47 39.7
comp=Z,46nm,0.1s
BAS03 BAS03 2.08 138 *e*P **Pb** **18 47 17.1 -1.6**
BAS03 BAS03 2.08 138 *e*S **Sn** **18 47 40.6 +1.4**
BAS03 IAML 18 47 44.4
comp=Z,208nm,0.2s
HYA Hoyanger 2.09 115 *e*P **Pb** **18 47 17.6 -1.3**
HYA *e*S **Sb** **18 47 42.5 -1.9**
HYA IAML 18 47 47.0
comp=Z,32nm,0.2s
ASK Askoy 2.15 138 *e*P **Pb** **18 47 18.0 -1.9**
ASK *e*S **Sn** **18 47 42.9 +1.7**
ASK IAML 18 47 44.7
comp=Z,36nm,0.1s
BER Bergen 2.28 138 Pn **Pn** **18 47 18.3 +1.2**
BER Sn **Sn** **18 47 45.6 +1.4**
BER Bergen 2.28 138 *e*S **Sn** **18 47 45.6 +1.4**
BER IAML 18 47 48.3
comp=Z,28nm,0.2s
BAS15 BAS15 2.28 144 *e*P **Pn** **18 47 19.6 +2.4**
BAS15 BAS15 2.28 144 *e*S **Sn** **18 47 45.2 +1.0**
BAS15 IAML 18 47 47.1
comp=Z,37nm,0.2s
BAS16 BAS16 2.35 142 *e*P **Pn** **18 47 20.5 +2.3**
BAS16 BAS16 2.35 142 *e*S **Sn** **18 47 47.2 +1.2**
BAS16 IAML 18 47 48.3
comp=Z,18nm,0.1s
BAS17 BAS17 2.44 141 *e*P **Pn** **18 47 21.9 +2.4**
BAS17 BAS17 2.44 141 *e*S **Sn** **18 47 49.7 +1.4**
BAS17 IAML 18 47 51.5
comp=Z,18nm,0.2s
MOL Molde 2.50 77 Pn **Pb** **18 47 24.1 -1.7**
MOL Sn **Sn** **18 47 52.2 +2.5**
MOL Molde 2.50 77 *e*P **Pb** **18 47 23.9 -1.9**
MOL *e*S **Sn** **18 47 52.1 +2.5**
MOL IAML 18 47 54.0
comp=Z,41nm,0.5s
LRW Lerwick 2.60 222 Pn **Pn** **18 47 23.3 +1.7**
LRW Sn **Sn** **18 47 52.9 +0.8**
LRW Lerwick 2.60 222 Pn **Pn** **18 47 23.3 +1.7**
LRW Sn **Sn** **18 47 52.9 +0.8**
BAS10 BAS10 2.76 134 ‖ *e*P **Pn** **18 47 26.6 +2.7**
BAS10 BAS10 2.76 134 *e*S **Sn** **18 47 57.6 +1.6**
BAS10 IAML 18 47 59.3
comp=Z,62nm,0.1s
ODD1 Odda 3.06 134 Pn **Pn** **18 47 30.9 +2.9**
ODD1 Sn **Sn** **18 48 05.1 +1.6**
ODD1 Odda 3.06 134 *e*P **Pn** **18 47 30.7 +2.7**
ODD1 *e*S **Sn** **18 48 05.0 +1.4**
ODD1 IAML 18 48 05.8
comp=Z,59nm,0.3s
BAS14 BAS14 3.18 134 ⇑ *e*P **Pn** **18 47 32.4 +2.8**
DOMB Dombas 3.19 88 Pn **Pn** **18 47 33.6 +3.8**
DOMB Sn **Sn** **18 48 09.7 +2.9**
DOMB Dombas 3.19 88 *e*P **Pn** **18 47 33.4 +3.5**
DOMB *e*S **Sn** **18 48 09.7 +2.9**
DOMB IAML 18 48 18.3
comp=Z,12nm,0.2s
SKAR Skarslia 3.23 114 Pn **Pn** **18 47 33.9 +3.5**
SKAR Sn **Sn** **18 48 10.0 +2.2**
SKAR Skarslia 3.23 114 *e*P **Pn** **18 47 33.6 +3.2**
SKAR *e*S **Sn** **18 48 09.3 +1.5**
SKAR IAML 18 48 11.9
comp=Z,21nm,0.2s
KMY Karmoy 3.25 152 Pn **Pn** **18 47 32.8 +2.2**
KMY Sn **Sn** **18 48 08.9 +0.6**
KMY Karmoy 3.25 152 ⇑ *e*P **Pn** **18 47 32.8 +2.2**
KMY *e*S **Sn** **18 48 08.5 +0.3**
KMY IAML 18 48 13.8
comp=Z,31nm,0.3s
BLS5 Blasjo 3.39 141 Pn **Pn** **18 47 35.1 +2.6**
BLS5 Sn **Sn** **18 48 11.8 +0.3**
BLS5 Blasjo 3.39 141 *e*P **Pn** **18 47 35.0 +2.5**
BLS5 *e*S **Sn** **18 48 11.9 +0.3**
BLS5 IAML 18 48 12.8
comp=Z,32nm,0.1s
STAV Stavanger 3.61 151 Pn **Pn** **18 47 37.3 +1.8**
STAV Sn **Sn** **18 48 16.1 -0.8**
NC2 NORSAR Subarra 4.16 98 Pn **Pn** **18 47 46.2 +3.1**
NC2 Sn **Sn** **18 48 31.0 +0.3**
NC2 NORSAR Subarra 4.16 98 Pn **Pn** **18 47 46.2 +3.1**
NC2 Sn **Sn** **18 48 31.0 +0.3**
NBO NORSAR Subarra 4.20 101 Pn **Pn** **18 47 47.1 +3.4**
NBO Sn **Sn** **18 48 33.1 +1.3**
NBO NORSAR Subarra 4.20 101 Pn **Pn** **18 47 47.1 +3.4**
NBO Sn **Sn** **18 48 33.1 +1.3**
NBO00 NORSAR Array S 4.20 101 IAML 18 48 36.4
comp=Z,5.2nm,0.1s
NAO NORSAR Subarra 4.30 104 Pn **Pn** **18 47 48.3 +3.3**
NAO Sn **Sn** **18 48 34.7 +0.6**
NAO NORSAR Subarra 4.30 104 Pn **Pn** **18 47 48.3 +3.3**
NAO Sn **Sn** **18 48 34.7 +0.6**
NAO01 NORSAR Array S 4.32 103 *e*P **Pn** **18 47 48.7 +3.5**
NB2 NORSAR Subarra 4.40 100 Pn **Pn** **18 47 49.8 +3.3**
NB2 Pn **Pn** **18 47 49.8 +3.3**
baz=284,slow=14
NB2 Sn **Sn** **18 48 37.8 +1.1**
NB2 Sn **Sn** **18 48 38.7 +2.0**
baz=284,slow=28
NB2 NORSAR Subarra 4.40 100 Pn **Pn** **18 47 49.8 +3.3**
NB2 Sn **Sn** **18 48 37.8 +1.1**
NOA NORSAR Array B 4.40 100 Pn **Pn** **18 47 48.4 +2.0**
comp=Z,0.1nm,0.3s,baz=283,slow=12,SNR=7.7
NOA Sn **Sn** **18 48 35.9 -0.8**
comp=Z,0.2nm,0.3s,baz=91,slow=18,SNR=5.2
NOA Lg Lg 18 48 52.8
comp=Z,0.2nm,0.3s,baz=273,slow=19,SNR=2.8
comp=Z,0.2nm,0.2s
NC303 NORSAR Array S 4.42 98 *e*P Pn 18 47 51.9 +5.2
NC303 *e*S **Sn** **18 48 37.9 +0.8**
NC303 IAML 18 48 59.9
comp=Z,3.6nm,0.2s
NC3 NORSAR Subarra 4.43 97 Pn **Pn** **18 47 51.0 +4.2**
NC3 Sn **Sn** **18 48 37.6 +0.3**
NB201 NORSAR Array S 4.44 100 *e*P **Pn** **18 47 49.6 +2.7**
NB201 *e*S **Sn** **18 48 37.9 +0.4**
NB201 IAML 18 48 58.8
comp=Z,11nm,0.3s
SNART Snartemo 4.51 145 *e*P **Pn** **18 47 50.4 +2.5**
SNART Snartemo 4.51 145 *i* P **Pn** **18 47 50.2 +2.3**
SNART *e*S **Sn** **18 48 35.6 -3.6**
SNART IAML 18 48 53.3
comp=Z,7.0nm,0.4s
NC6 NORSAR Subarra 4.61 103 Pn **Pn** **18 47 52.4 +3.1**
NC6 Sn **Sn** **18 48 41.4 -0.4**
NC6 NORSAR Subarra 4.61 103 Pn **Pn** **18 47 52.4 +3.1**
NC6 Sn **Sn** **18 48 41.4 -0.4**
NC4 NORSAR Subarra 4.62 99 Pn **Pn** **18 47 52.4 +2.9**
NC4 Sn **Sn** **18 48 42.2 +0.1**
NC4 NORSAR Subarra 4.62 99 Pn **Pn** **18 47 52.4 +2.9**
NC4 Sn **Sn** **18 48 42.2 +0.1**
NRA0 NORESS Array S 4.66 103 Pn **Pn** **18 47 52.3 +2.4**
baz=296,slow=12
NRA0 Sn **Sn** **18 48 41.6 -1.3**
baz=296,slow=22
NRA0 NORESS Array S 4.66 103 Pn **Pn** **18 47 52.3 +2.4**
baz=296,slow=12
NRA0 Sn **Sn** **18 48 41.6 -1.3**
baz=296,slow=22
HOMB Homborsund 4.95 138 *e*P **Pn** **18 47 56.6 +2.7**
HOMB Homborsund 4.95 138 *i* P **Pn** **18 47 55.7 +1.8**
HOMB *i* S **Sn** **18 48 48.2 -1.7**
HOMB IAML 18 48 59.6
comp=Z,2.7nm,0.4s
NSS Namsos 4.99 57 *e*P **Pn** **18 47 58.1 +3.6**
NSS *e*S **Sn** **18 48 50.6 -0.5**
NSS IAML 18 48 57.2
comp=Z,5.5nm,0.2s
STRU Stroemstad 5.36 121 P **Pn** **18 48 01.1 +1.5**
STRU S **Sn** **18 48 57.9 -2.3**
STRU Stroemstad 5.36 121 P **Pn** **18 48 01.1 +1.5**
STRU *i* P **Pn** **18 48 01.6 +2.1**
STRU S **Sn** **18 48 57.9 -2.3**

STRU				*i* S		**Sn**	**18 48 58.8**	**-1.4**
FINU	**Finntorp**	**5.69**	**114**	P		**Pn**	**18 48 06.0**	**+1.9**
FINU	**Finntorp**	**5.69**	**114**	P		**Pn**	**18 48 06.0**	**+1.9**
HFS	**Hagfors**	**5.88**	**105**	Pn		**Pn**	**18 48 09.6**	**+3.0**
	baz=286,slow=12							
HFS				Sn		**Sn**	**18 49 12.6**	**-0.3**
	baz=290,slow=37							
HFS	**Hagfors**	**5.88**	**105**	Pn		**Pn**	**18 48 09.3**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=298,slow=11,SNR=9.8							
HFS				Sn		**Sn**	**18 49 12.0**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=291,slow=25,SNR=7.7							
HFS				Lg		Lg	18 49 42.1	
	comp=Z,0.6nm,0.3s,baz=288,slow=29,SNR=3.6							
	comp=Z,0.5nm,0.3s							
HFS	**Hagfors**	**5.88**	**105**	Pn		**Pn**	**18 48 09.6**	**+3.0**
	baz=286,slow=12							
HFS				Sn		**Sn**	**18 49 12.6**	**-0.3**
	baz=290,slow=37							
VANU	**Vaenersborg**	**6.07**	**122**	P		**Pn**	**18 48 11.2**	**+1.9**
VANU	**Vaenersborg**	**6.07**	**122**	P		**Pn**	**18 48 11.2**	**+1.9**
TJOU	**Tjoern**	**6.21**	**127**	P		**Pn**	**18 48 13.5**	**+2.3**
TJOU	**Tjoern**	**6.21**	**127**	P		**Pn**	**18 48 13.5**	**+2.3**
TJOU				*i* S		**Sn**	**18 49 18.1**	**-3.0**
LEIR	**Leirfjorden**	**6.21**	**45**	*e*P		**Pn**	**18 48 13.5**	**+2.3**
LEIR	**Leirfjorden**	**6.21**	**45**	*e*P		**Pn**	**18 48 13.0**	**+1.8**
LEIR				*e*S		**Sn**	**18 49 16.8**	**-4.2**
LEIR				IAML			18 49 24.0	
	comp=Z,6.6nm,0.2s							
NASU	**Vaermlandsnaes**	**6.26**	**116**	P		**Pn**	**18 48 14.2**	**+2.4**
NASU	**Vaermlandsnaes**	**6.26**	**116**	P		**Pn**	**18 48 14.2**	**+2.4**
STOK	**Stokkvaagen**	**6.31**	**43**	*e*P		**Pn**	**18 48 14.0**	**+1.5**
STOK	**Stokkvaagen**	**6.31**	**43**	*e*P		**Pn**	**18 48 13.6**	**+1.1**
STOK				*e*S		**Sn**	**18 49 17.9**	**-5.6**
STOK				IAML			18 49 25.6	
	comp=Z,10nm,0.6s							
VAGH	**Vaagaholmen**	**6.64**	**41**	*e*P		**Pn**	**18 48 18.5**	**+1.5**
VAGH				*e*S		**Sn**	**18 49 25.2**	**-6.3**
VAGH				IAML			18 49 31.6	
	comp=Z,5.8nm,0.4s							
MOR8	**Moi Rana**	**6.69**	**47**	*e*P		Pn	18 48 23.2	+5.4
MOR8				*e*S		**Sn**	**18 49 33.6**	**+0.6**
MOR8				IAML			18 49 41.8	
	comp=Z,4.5nm,0.2s							
ONAU	**Onsala**	**6.78**	**130**	*e*S		**Sn**	**18 49 32.5**	**-2.6**
FKPU	**Falk**	**6.95**	**120**	P		**Pn**	**18 48 23.4**	**+2.0**
FKPU	**Falk**	**6.95**	**120**	P		**Pn**	**18 48 23.4**	**+2.0**
EKA	**Eskdalemuir Ar**	**7.36**	**205**	Pn		**Pn**	**18 48 28.5**	**+1.5**
	baz=23,slow=18							
EKA				Sn		**Sn**	**18 49 46.3**	**-3.1**
	baz=23,slow=37							
EKA	**Eskdalemuir Ar**	**7.36**	**205**	Pn		**Pn**	**18 48 27.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=14,slow=13,SNR=18							
EKA				Sn		**Sn**	**18 49 44.8**	**-4.7**
	baz=20,slow=24							
EKA	**Eskdalemuir Ar**	**7.36**	**205**	Pn		**Pn**	**18 48 28.5**	**+1.5**
	baz=23,slow=18							
EKA				Sn		**Sn**	**18 49 46.3**	**-3.1**
	baz=23,slow=37							
FAUS	**Fauske**	**7.66**	**41**	*e*P		**Pn**	**18 48 32.5**	**+1.5**
FAUS				*e*S		**Sn**	**18 49 50.4**	**-6.3**
FAUS				IAML			18 49 57.1	
	comp=Z,4.0nm,0.5s							
STEI	**Steigen**	**8.00**	**38**	*e*P		**Pn**	**18 48 38.6**	**+2.9**
DEL	**Delary**	**8.19**	**128**	*i* S		**Sn**	**18 50 06.2**	**-3.5**
LUNU	**Lund**	**8.69**	**133**	*e*P		**Pn**	**18 48 45.4**	**+0.3**
LUNU				*e*S		**Sn**	**18 50 14.5**	**-7.4**
FINES	**FINESS Array B**	**11.27**	**83**	Pn		**Pn**	**18 49 22.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=281,slow=15,SNR=2.4							
FINES				Sn		**Sn**	**18 51 21.8**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=279,slow=21,SNR=1.8							
	comp=Z,1.0nm,0.8s							
ARA0	**ARCESS Array S**	**12.00**	**42**	Pn		**Pn**	**18 49 29.8**	**-0.6**
	baz=232,slow=14							
ARA0				Sn		Sn	18 51 33.7	-9.4
	baz=238,slow=22							
ARA0	**ARCESS Array S**	**12.00**	**42**	Pn		**Pn**	**18 49 29.8**	**-0.6**
	baz=232,slow=14							
ARA0				Sn		Sn	18 51 33.7	-9.4
	baz=238,slow=22							
ARCES	**ARCESS Array B**	**12.00**	**42**	Pn		**Pn**	**18 49 31.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=238,slow=13,SNR=2.1							
ARCES				Sn		Sn	18 51 33.5	-9.5
	comp=Z,0.1nm,0.3s,baz=158,slow=36,SNR=2.8							
	comp=Z,0.2nm,0.3s							

*SDD **28** 18:49:13.9±2.7, 19.°37N×67.°95W, h25km±9km, MD3.1, ML3.5,MW3.7*
*NEIC **28** 18:49:16.1±1.0, 19.°34N±0.°06×67.°90W±0.°05, h10km±1km, ML3.5/18, Md3.5/14(RSPR), Error ellipse: s-maj=11.4km s-min=4.8km az=212.0*
*RSPR **28** 18:49:17.6, 19.°51N×67.°88W, h14km±5km, MD3.5/14*
ISC 28 18:49:10.4±1.4, 19.°71N±0.°06×67.°90W±0.°03, h23km±15km, n74, σ1°27/85, 18C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**1.28**	**201**	*e*Pg		**Pn**		**18 49 31.2**	**-1.7**
PCDR				IAML				18 49 51.0	
	comp=N,1μm,0.7s								
SMDR	**Samana, DR**	**1.29**	**251**	⇑*e*P		**Pb**		**18 49 36.8**	**+2.8**
SMDR	**Samana, DR**	**1.29**	**251**	*e*S		**Sb**		**18 49 53.0**	**+2.9**
SMDR	**Samana, DR**	**1.29**	**251**	⇑*e*Pg		**Pb**		**18 49 36.8**	**+2.8**
SMDR				IAML				18 49 53.7	
	comp=E,586nm,0.3s								
SMDR				IAML				18 49 58.6	
	comp=N,708nm,0.8s								
SMDR				IAML				18 49 58.6	
	comp=N,708nm,0.8s								
MIDR	**Miches**	**1.31**	**237**	*e*Pg		**Pb**		**18 49 35.1**	**+0.8**
MIDR				⇑*e*Sg		**Sn**		**18 49 50.5**	**+0.4**
MIDR				IAML				18 49 51.7	
	comp=E,486nm,0.6s								
MIDR				IAML				18 49 52.2	
	comp=N,417nm,0.4s								
HIDR	**Higuey Centro**	**1.36**	**215**	⇓*e*Pg		**Pn**		**18 49 33.1**	**-0.9**
HIDR				IAML				18 49 48.9	
	comp=E,2μm,0.3s								
HIDR				IAML				18 49 51.9	
	comp=N,2μm,0.2s								
HIDR				IAML				18 49 51.9	
	comp=N,2μm,0.2s								
IDE	**Isla Desecheo**	**1.38**	**163**			**Pn**		**18 49 34.1**	**-0.1**
IDE						**Sn**		**18 49 51.0**	**-0.9**
IDE	**Isla Desecheo**	**1.38**	**163**	⇑*e*P		**Pn**		**18 49 34.1**	**-0.1**
IDE	**Isla Desecheo**	**1.38**	**163**	*e*S		**Sn**		**18 49 51.0**	**-0.9**
AGPR	**Aguadilla, PR**	**1.44**	**149**	Pn		**Pb**		**18 49 36.7**	**+0.1**
AGPR	**Aguadilla, PR**	**1.44**	**149**			**Sn**		**18 49 54.0**	**+0.5**
AGPR	**Aguadilla, PR**	**1.44**	**149**	⇑*e*P		**Pb**		**18 49 36.7**	**+0.1**
AGPR	**Aguadilla, PR**	**1.44**	**149**	*e*S		**Sn**		**18 49 54.0**	**+0.5**
AGPR	**Aguadilla, PR**	**1.44**	**149**	*e*Pg		**Pb**		**18 49 36.6**	**0.0**
AGPR				*e*Sg		**Sn**		**18 49 52.8**	**-0.7**
AGPR				IAML				18 49 54.3	
	comp=E,2μm,0.3s								
AGPR				IAML				18 49 54.4	
	comp=N,1μm,0.4s								
AGPR				IAML				18 49 54.4	
	comp=N,1μm,0.4s								
PRSN	**Puerto Rico Se**	**1.65**	**154**	Pn		**Pb**		**18 49 40.1**	**+0.1**
PRSN	**Puerto Rico Se**	**1.65**	**154**			**Sn**		**18 49 59.3**	**+0.8**
PRSN	**Puerto Rico Se**	**1.65**	**154**	⇑*e*P		**Pb**		**18 49 40.2**	**+0.1**
PRSN	**Puerto Rico Se**	**1.65**	**154**	*e*S		**Sn**		**18 49 59.3**	**+0.8**
PRSN	**Puerto Rico Se**	**1.65**	**154**	⇑*e*Pg		**Pb**		**18 49 40.2**	**+0.1**
PRSN				IAML				18 50 01.9	
	comp=E,1μm,0.2s								
PRSN				IAML				18 50 01.9	
	comp=N,3μm,0.2s								
PRSN				IAML				18 50 01.9	
	comp=N,3μm,0.2s								
LSP	**Las Mesas**	**1.71**	**153**			**Pb**		**18 49 41.5**	**+0.3**
LSP						**Sn**		**18 50 01.0**	**+1.0**
LSP	**Las Mesas**	**1.71**	**153**	⇓*e*P		**Pb**		**18 49 41.5**	**+0.3**
LSP	**Las Mesas**	**1.71**	**153**	*e*S		**Sn**		**18 50 01.0**	**+1.0**
SADR	**Isla Saona**	**1.73**	**209**	*e*Pg		**Pn**		**18 49 39.0**	**-0.1**
SADR				*e*Sg		**Sn**		**18 49 56.9**	**-3.5**
SADR				IAML				18 50 03.1	
	comp=N,982nm,0.4s								
SADR				IAML				18 50 04.7	
	comp=E,788nm,0.4s								
EMPR	**Esperanza - Ma**	**1.78**	**133**			**Pb**		**18 49 44.0**	**+1.6**
EMPR						**Sb**		**18 50 05.4**	**+1.1**
EMPR	**Esperanza - Ma**	**1.78**	**133**	Pn		**Pb**		**18 49 43.5**	**+1.1**
EMPR	**Esperanza - Ma**	**1.78**	**133**	⇑*e*P		**Pb**		**18 49 44.0**	**+1.6**
EMPR	**Esperanza - Ma**	**1.78**	**133**	*e*S		**Sb**		**18 50 05.4**	**+1.1**
UUPR	**Utuado, UPR, P**	**1.83**	**142**			**Pb**		**18 49 43.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.85**	**156**			**Pb**		**18 49 43.2**	**-0.4**
MLPR	**Magueyes Islan**	**1.91**	**155**	⇑*e*P		**Pb**		**18 49 44.3**	**-0.3**
MLPR	**Magueyes Islan**	**1.91**	**155**	*e*S		**Sn**		**18 50 05.2**	**+0.2**
MLPR	**Magueyes Islan**	**1.91**	**155**	⇑*e*Pg		**Pb**		**18 49 44.1**	**-0.5**
MLPR				IAML				18 50 07.0	
	comp=E,259nm,0.3s								
MLPR				IAML				18 50 10.2	
	comp=N,170nm,0.6s								
MLPR				IAML				18 50 10.2	
	comp=N,170nm,0.6s								
GBPR	**Guanica, Bosqu**	**1.98**	**151**			**Pb**		**18 49 45.6**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.98**	**151**	⇑*e*P		**Pb**		**18 49 45.6**	**-0.1**
ECPR	**Experimental S**	**2.01**	**133**	⇑*e*P		**Pb**		**18 49 45.8**	**-0.4**
ECPR	**Experimental S**	**2.01**	**133**	*e*S		**Sn**		**18 50 08.6**	**+1.3**
CELP	**Cerrillos**	**2.05**	**142**			**Pb**		**18 49 46.4**	**-0.6**
CELP						**Sn**		**18 50 09.0**	**+0.6**
CELP	**Cerrillos**	**2.05**	**142**	IAML				18 50 11.8	
	comp=N,597nm,0.4s								
CELP				IAML				18 50 12.1	
	comp=E,511nm,0.2s								
CELP	**Cerrillos**	**2.05**	**142**	⇑*e*P		**Pb**		**18 49 46.4**	**-0.6**
CELP	**Cerrillos**	**2.05**	**142**	*e*Pg		**Pb**		**18 49 46.2**	**-0.7**
CELP				*i*				18 50 09.0	
CELP				*i* S		**Sn**		**18 50 09.1**	**+0.6**
CELP				IAML				18 50 12.0	
	comp=E,532nm,0.2s								
CELP				IAML				18 50 13.1	
	comp=N,531nm,0.3s								
CELP				IAML				18 50 13.2	
	comp=N,531nm,0.3s								
OBIP	**Obispado Ponce**	**2.06**	**143**			**Pb**		**18 49 46.8**	**-0.3**
OBIP						**Sn**		**18 50 09.4**	**+0.7**
OBIP	**Obispado Ponce**	**2.06**	**143**	IAML				18 50 10.7	
	comp=E,456nm,0.4s								
OBIP				IAML				18 50 13.9	
	comp=N,518nm,0.5s								
OBIP	**Obispado Ponce**	**2.06**	**143**	⇓*e*P		**Pb**		**18 49 46.8**	**-0.3**
OBIP	**Obispado Ponce**	**2.06**	**143**	*e*S		**Sn**		**18 50 09.4**	**+0.7**
GCPR	**Guaynabo City**	**2.21**	**129**			**Pb**		**18 49 50.0**	**+0.3**
GCPR						**Sn**		**18 50 12.8**	**+0.5**
GCPR	**Guaynabo City**	**2.21**	**129**	⇑*e*P		**Pb**		**18 49 50.0**	**+0.3**
GCPR	**Guaynabo City**	**2.21**	**129**	*e*S		**Sn**		**18 50 12.8**	**+0.5**
SDD	**Santo Domingo**	**2.28**	**237**			**Pb**		**18 49 50.5**	**-0.4**
SDD						**Sb**		**18 50 17.3**	**-1.4**
SDD	**Santo Domingo**	**2.28**	**237**	⇑*e*P		**Pb**		**18 49 50.5**	**-0.4**
SDD	**Santo Domingo**	**2.28**	**237**	*e*S		**Sb**		**18 50 17.3**	**-1.4**
SDD	**Santo Domingo**	**2.28**	**237**	*e*Pg		**Pb**		**18 49 50.7**	**-0.2**
SDD				*i* S		**Sn**		**18 50 15.4**	**+1.4**
SDD				IAML				18 50 17.5	
	comp=E,79nm,0.8s								
SDD				IAML				18 50 25.6	
	comp=N,76nm,0.5s								
SDD				IAML				18 50 25.6	
	comp=N,76nm,0.5s								
SJG	**San Juan**	**2.29**	**134**			**Pb**		**18 49 50.7**	**-0.4**
SJG	**San Juan**	**2.29**	**134**	IAML				18 50 21.5	
	comp=N,325nm,0.3s								
SJG				IAML				18 50 21.6	
	comp=N,328nm,0.2s								
SJG	**San Juan**	**2.29**	**134**	⇑*e*P		**Pb**		**18 49 50.7**	**-0.4**
SJG	**San Juan**	**2.29**	**134**	*e*S		**Sn**		**18 50 15.7**	**+1.3**
SJG	**San Juan**	**2.29**	**134**	*e*Pg		**Pb**		**18 49 50.6**	**-0.4**
IGPR	**InterUniversit**	**2.43**	**135**			**Pb**		**18 49 52.5**	**-0.8**
IGPR						**Sn**		**18 50 19.0**	**+1.3**
IGPR	**InterUniversit**	**2.43**	**135**	⇓*e*P		**Pb**		**18 49 52.5**	**-0.8**
IGPR	**InterUniversit**	**2.43**	**135**	*e*S		**Sn**		**18 50 19.0**	**+1.3**
PDPR	**Patillas Dam,**	**2.45**	**133**			**Pb**		**18 49 51.7**	**-2.0**
PDPR				IAML				18 50 27.4	
	comp=N,230nm,0.4s								
PDPR				IAML				18 50 29.2	
	comp=E,228nm,0.7s								
PDPR	**Patillas Dam,**	**2.45**	**133**	⇑*e*P		**Pb**		**18 49 52.8**	**-1.0**
PDPR	**Patillas Dam,**	**2.45**	**133**	*e*S		**Sn**		**18 50 20.5**	**+2.4**
HUMP	**Col San Antoni**	**2.49**	**129**	Pn		**Pb**		**18 49 52.6**	**-1.8**
HUMP				IAML				18 50 29.8	
	comp=E,274nm,0.2s								
HUMP				IAML				18 50 32.0	
	comp=N,228nm,0.2s								
HUMP	**Col San Antoni**	**2.49**	**129**			**Sn**		**18 50 20.7**	**+1.5**
HUMP	**Col San Antoni**	**2.49**	**129**	⇑*e*P		**Pb**		**18 49 52.6**	**-1.8**
HUMP	**Col San Antoni**	**2.49**	**129**	*e*S		**Sn**		**18 50 20.7**	**+1.5**
BANI	**BANI**	**2.67**	**241**			**Pb**		**18 49 56.9**	**-0.8**
BANI	**BANI**	**2.67**	**241**	*e*Pg		**Pb**		**18 49 57.1**	**-0.6**
BANI				IAML				18 50 33.2	
	comp=E,468nm,0.7s								
BANI				IAML				18 50 38.4	
	comp=N,454nm,0.3s								
BANI				IAML				18 50 38.4	
	comp=N,454nm,0.3s								
SC01	**Santiago de lo**	**2.69**	**264**			Pb		18 50 02.9	+5.1
SC01						Sb		18 50 43.3	+13
ABDR	**Alto Bandera**	**2.73**	**251**	⇓*e*Pg		**Pb**		**18 49 59.2**	**+0.4**
ABDR				IAML				18 50 39.8	
	comp=N,380nm,0.5s								
ABDR				IAML				18 50 39.8	
	comp=N,380nm,0.5s								
ABDR				IAML				18 50 43.8	
	comp=E,290nm,0.6s								
SDDR	**Presa de Saban**	**3.29**	**258**			**Pb**		**18 50 06.8**	**-1.2**
SDDR	**Presa de Saban**	**3.29**	**258**	⇓*e*P		**Pb**		**18 50 06.8**	**-1.2**
SDDR	**Presa de Saban**	**3.29**	**258**	*i* P		**Pb**		**18 50 06.9**	**-1.2**
SDDR				*i* S		**Sn**		**18 50 43.8**	**+4.8**
SDDR				IAML				18 51 01.8	
	comp=N,181nm,0.7s								
SDDR				IAML				18 51 01.8	
	comp=N,181nm,0.7s								
SDDR				IAML				18 51 02.2	
	comp=E,273nm,0.7s								
GRTK	**Grand Turk**	**3.52**	**301**	*i* P		**Pb**		**18 50 10.4**	**-1.7**
GRTK				*i* S		**Sb**		**18 50 52.9**	**-1.5**
GRTK				IAML				18 51 16.4	
	comp=N,55nm,1.1s								

*NOU **28** 19:03:15.1, 22.°33S×170.°66E, h0km, MLv4.3/7, Southeast of Loyalty Islands*
*IDC **28** 19:03:26.5±3.9, 21.°32S×169.°39E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=205.7km s-min=40.8km az=155.0*
ISC 28 19:03:27.9±1.8, 21.°9S±0.°2×169.°8E±0.°2, h25km, n11, σ1°33/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.31**	**251**	P		**Pn**	**19 04 03.9**	**-0.5**
INH	**Isangel**	**2.37**	**348**	P		**Pn**	**19 04 03.5**	**-1.8**
OUENC	**Ouen Island, N**	**2.81**	**258**	P		**Pn**	**19 04 11.2**	**-0.1**
DZM	**Mont Dzumac**	**3.14**	**266**	P		**Pn**	**19 04 16.0**	**+0.1**
ONTNC	**Ouen Toro**	**3.15**	**262**	P		**Pn**	**19 04 16.1**	**+0.2**
DVP	**Devils Point**	**4.41**	**339**	P		**Pn**	**19 04 34.8**	**+1.6**
ASAR	**Alice Springs**	**33.11**	**260**	P		**P**	**19 10 01.9**	**-0.3**
	0.2nm,0.6s,baz=86,slow=8.2,SNR=1.3							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**33.15**	**267**	P		**P**	**19 10 01.5**	**-1.1**
	0.3nm,0.7s,baz=101,slow=8.3,SNR=2.0							
	0.3nm,0.7s							
ARCES	**ARCESS Array B**	**127.74**	**345**	PKP		**PKiKP**	**19 22 33.6**	**+2.6**
	0.3nm,0.5s,baz=60,slow=1.3,SNR=9.9							
EKA	**Eskdalemuir Ar**	**146.18**	**353**	PKPbc		**PKPdf**	**19 23 04.2**	**-0.5**
	0.7nm,0.4s,baz=357,slow=2.9,SNR=9.3							
GERES	**GERESS Array B**	**147.05**	**331**	PKPbc		**PKPbc**	**19 23 08.2**	**-0.4**
	1.0nm,0.6s,baz=50,slow=3.1,SNR=9.5							

*RSNC **28** 19:21:05.0±1.3, 2.°S±17.°×7.°6W±1.°3, h399km±14km, M3.7, ML3.4*
IGQ 28 19:21:11.3±0.3, 3.°S±2.°×7.°8W±.°, h10km, MLv3.4/15, 2C-3D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TAIS	**Taisha**	**0.34**	**55**	P		Pg	19 21 18.0	0.0
TAIS				S		Sb	19 21 24.0	-0.9
BOSC	**San Juan Bosco**	**0.92**	**231**	⇓P		Pg	19 21 27.7	-1.4
BOSC				S		Sg	19 21 40.5	-0.6
PUYO	**Puyo, Santa Ro**	**1.10**	**347**	⇑P		Pg	19 21 31.5	-1.1
PUYO				S		Sg	19 21 46.0	-0.9
APUY	**Puyo**	**1.13**	**349**	P		Pb	19 21 31.7	-1.3
APUY				S		Sg	19 21 47.6	-0.1
ACUE	**Ecuador-Cuenca**	**1.23**	**254**	P		Pg	19 21 35.1	+0.1
BPAT	**Tungurahua Vol**	**1.25**	**328**	P		Pb	19 21 33.6	-1.7
BPAT				S		Sb	19 21 50.4	-1.2
ARIO	**Riobamba**	**1.30**	**315**	P		Pn	19 21 35.2	-0.7
JUI6	**Juive**	**1.33**	**329**	P		Pn	19 21 35.0	-1.3
JSCH	**Cashca Tororas**	**1.47**	**305**	⇓P		Pn	19 21 37.8	-0.5
COHC	**Cochancay**	**1.48**	**274**	⇓P		Pn	19 21 38.1	0.0
COHC				S		Sb	19 21 58.2	+0.3
CHSH	**Refugio Sur-Vo**	**1.53**	**314**	P		Pn	19 21 38.7	-0.5
ARDO	**Archidona, Ten**	**1.57**	**359**	P		Pn	19 21 37.4	-1.9
PIS1	**Pisayambo**	**1.62**	**338**	P		Pn	19 21 39.9	-0.6
PIAT	**Ana Tenorio**	**1.64**	**343**	P		Pn	19 21 39.8	-0.8
PIAT	**Ana Tenorio**	**1.64**	**343**	P		Pn	19 21 39.6	-1.0
PIAT				S		Sn	19 22 01.8	-0.1
MILO	**Milagro-Astudi**	**1.80**	**279**	P		Pb	19 21 44.7	+0.2
PCRA	**Pucara 2**	**1.84**	**250**	⇑P		Pb	19 21 44.5	-0.8
VCES	**Cotopaxi**	**1.87**	**341**	P		Pn	19 21 43.6	-0.2
TAMB	**Tambo**	**1.96**	**342**	P		Pn	19 21 44.7	-0.4
BTAM	**Cotopaxi Volca**	**1.98**	**342**	P		Pn	19 21 45.4	-0.1
BREF	**Cotopaxi Volca**	**2.00**	**341**	P		Pn	19 21 46.2	+0.3
BVC2	**Cotopaxi Volca**	**2.01**	**342**	P		Pn	19 21 45.9	+0.1
ANTS	**Antisana-Sarah**	**2.10**	**349**	P		Pn	19 21 47.3	+0.2
ANTG	**Antisana-Guama**	**2.11**	**347**	P		Pn	19 21 47.6	+0.4
ANTI	**Antisana**	**2.15**	**350**	P		Pn	19 21 47.4	-0.3
GGPT	**Toaza - Volcan**	**2.48**	**340**	P		Pb	19 21 54.8	-1.5
ARNL	**Arenillas**	**2.48**	**247**	P		Pb	19 21 55.1	-1.0
REVN	**San Rafael**	**2.49**	**3**	P		Pb	19 21 54.4	-1.9
TERV	**Terraza Guagua**	**2.52**	**341**	P		Pb	19 21 56.3	-0.8
ANGU	**Angureal**	**2.61**	**355**	P		Pn	19 21 54.6	+0.4
ZUMB	**Zumba**	**2.65**	**211**	P		Pn	19 21 55.1	+0.8
OTAV	**Otavalo**	**2.87**	**346**	P		Pn	19 21 59.7	+2.1
GCUF	**Volcan Galeras**	**3.80**	**7**	P		Pn	19 22 13.6	+3.2
PTLC	**Puerto Leguiza**	**4.04**	**48**	P		Pn	19 22 07.4	-5.9
PTLC				S		Sn	19 22 49.0	-12
FLOC	**Florencia**	**4.64**	**27**	P		Pn	19 22 18.3	-3.3
FLOC				S		Sn	19 23 09.9	-5.7
GARC	**Garzon, Huila**	**5.25**	**26**	P		Pn	19 22 27.1	-3.1
MACC	**Macarena, Meta**	**6.12**	**40**	P		Pn	19 22 13.5	-28

*NEIC **28** 19:35:00.5±1.5, 31.°3N±0.°1×66.°7E±0.°1, h10km±2km, mb4.0/7, Error ellipse: s-maj=20.9km s-min=11.0km az=143.0*
*IDC **28** 19:35:00.9±0.8, 31.°49N×66.°94E, h0km, mb3.7/16, mbtmp3.7/19, ML3.2/3, MS3.4/8, Error ellipse: s-maj=18.5km s-min=15.2km az=2.0*
ISC 28 19:35:03.5±0.6, 31.°53N±0.°07×66.°81E±0.°06, h17km, n49, σ1°66/41, mb3.8/17, MS3.4/6, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.54**	**31**	Pn		**Pn**	**19 36 00.1**	**+2.2**
NIL	**Nilore**	**5.83**	**67**			**Pn**	**19 36 28.7**	**-0.5**
JMU	**Jammu**	**6.96**	**78**	*e*P		**Pb**	**19 37 02.0**	**-2.0**
JMU				*e*S		Sb	19 38 17.5	-9.3
JMU				IAML			19 39 19.1	
	comp=N,106nm,1.2s							
JMU				IAML			19 39 25.4	
	comp=E,136nm,0.5s							
SRNI	**Srinagar**	**7.24**	**67**	*e*P		**Pb**	**19 37 08.5**	**-0.1**
SRNI				*e*S		Sb	19 38 24.4	-10
SRNI				IAML			19 39 03.2	
	comp=E,123nm,0.3s							
SRNI				IAML			19 39 03.3	
	comp=N,89nm,0.2s							
SIMJ	**Simiganj**	**7.34**	**14**			**Pn**	**19 36 50.2**	**+0.2**
CHGR	**Chuyangaron**	**7.37**	**15**			**Pn**	**19 36 49.8**	**-0.5**
GAR	**Garm**	**7.98**	**20**			**Pn**	**19 37 01.0**	**+2.2**
DHRM	**DHARAMSHALA**	**8.10**	**82**	*e*P		Pb	19 37 17.8	-5.7
DHRM				*e*S		Sn	19 38 45.4	+13
DHRM				IAML			19 38 48.9	
	comp=N,76nm,1.1s							
DHRM				IAML			19 38 54.6	
	comp=E,99nm,1.2s							
BHK	**Bhakra**	**8.21**	**88**	*e*S		Sb	19 38 57.6	-5.0
SMLA	**Simla**	**8.

comp=Z,1.0nm,0.9s
FINES FINESS Array B 39.89 331 P **P** **19 42 36.6 +0.6**
comp=Z,1.7nm,0.8s,baz=148,slow=11,SNR=4.8
comp=Z,1.7nm,0.8s
ARCES ARCESS Array B 44.54 341 P **P** **19 43 14.2 +0.3**
comp=Z,1.4nm,0.7s,baz=104,slow=5.1,SNR=8.8
comp=Z,1.4nm,0.7s
NOA NORSAR Array B 46.41 326 P **P** **19 43 28.4 -0.5**
comp=Z,0.7nm,0.8s,baz=83,slow=7.6,SNR=2.3
comp=Z,0.7nm,0.8s
KSRS Korea Array 49.95 66 P **P** **19 43 55.6 -0.9**
comp=Z,1.3nm,0.8s,baz=282,slow=6.0,SNR=4.9
comp=Z,1.3nm,0.8s
JNU Nakatsue 53.39 70 LR LR 20 09 57.7
comp=Z,46nm,18.6s,baz=196,slow=39
ESDC Sonseca Array 56.77 299 P **P** **19 44 47.3 +0.6**
comp=Z,0.3nm,0.7s,baz=74,slow=8.0,SNR=5.9
comp=Z,0.3nm,0.7s
TORD Torodi Ar. Bea 62.12 269 P **P** **19 45 25.3 +1.4**
comp=Z,1.4nm,0.8s,baz=56,slow=7.8,SNR=9.3
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 82.50 119 P **P** **19 47 25.1 -0.3**
comp=Z,0.7nm,1.0s,baz=312,slow=5.1,SNR=2.9
comp=Z,0.7nm,1.0s
ASAR Alice Springs 84.43 122 P **P** **19 47 35.2 -0.2**
comp=Z,0.4nm,0.5s,baz=306,slow=5.2,SNR=6.8
comp=Z,0.4nm,0.5s

---

*NNC **28** 19:36:14.5±1.9, 42°.02N×81°.47E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=14.1km s-min=7.6km az=157.0*
*SOME **28** 19:36:15.4, 42°.00N×81°.40E, h15km*
ISC 28 19:36:14.6±2.3, 41°.9N±0°.1×81°.27E±0°.08, h16km, n22, σ1s75/33, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.81**	**313**		*e*P	**Pn**	**19 36 45.8**	**+0.5**
	25nm,0.1s							
SHLS					*e*S	**Sn**	**19 37 08.0**	**0.0**
	523nm,0.5s							
PDGK	**Podgornoye**	**1.91**	**317**	⇑Pn		**Pb**	**19 36 50.1**	**+0.9**
	4.6nm,0.3s							
PDGK				⇓Sn		**Sg**	**19 37 16.4**	**+0.2**
	25nm,0.3s							
UZB	**Uzynbulak**	**2.06**	**307**	Pg		**Pg**	**19 36 54.0**	**-0.1**
	6.4nm,0.4s							
UZB				Lg		Lg	19 37 22.2	
	38nm,0.3s							
UZB	**Uzynbulak**	**2.06**	**307**	*e*P		**Pg**	**19 36 54.0**	**-0.1**
	6.4nm,0.4s							
UZB				*e*S		**Sg**	**19 37 22.2**	**+1.4**
	48nm,0.3s							
KPKS	**Kokpek**	**2.44**	**310**	Pg		**Pg**	**19 37 00.2**	**-1.2**
	0.3nm,0.1s							
KPKS				Lg		Lg	19 37 32.3	
	102nm,0.5s							
KOTS	**Kotyrbulak**	**3.33**	**294**	Pg		**Pg**	**19 37 16.4**	**-2.1**
	5.2nm,0.4s							
KOTS				Lg		Lg	19 38 00.2	
	35nm,0.5s							
KOTS	**Kotyrbulak**	**3.33**	**294**	*e*P		**Pg**	**19 37 16.4**	**-2.1**
	5.2nm,0.4s							
KOTS				*e*S		**Sg**	**19 38 00.2**	**-1.4**
	35nm,0.5s							
TNSS	**Tian-Shan**	**3.38**	**291**	Pg		**Pg**	**19 37 18.8**	**-0.6**
	1.5nm,0.3s							
TNSS				Lg		Lg	19 38 04.7	
	6.5nm,0.6s							
TNSS	**Tian-Shan**	**3.38**	**291**	*e*P		**Pg**	**19 37 18.8**	**-0.6**
	1.5nm,0.3s							
TNSS				*e*S		**Sg**	**19 38 04.7**	**+1.5**
	6.5nm,0.6s							
ARXS	**Arharly**	**3.40**	**313**	*e*P		**Pb**	**19 37 17.1**	**+2.6**
ARXS				*e*S		**Sg**	**19 38 01.1**	**-2.6**
CHKK	**Chushkaly**	**3.68**	**303**	Pg		**Pg**	**19 37 23.2**	**-2.0**
	1.8nm,0.3s							
CHKK				Lg		Lg	19 38 11.9	
	17nm,0.3s							
CHKK	**Chushkaly**	**3.68**	**303**	*e*P		**Pg**	**19 37 23.2**	**-2.0**
	1.8nm,0.3s							
CHKK				*e*S		**Sg**	**19 38 11.9**	**-1.0**
	17nm,0.3s							
MTBS	**Maitube**	**3.77**	**290**	Pg		**Pg**	**19 37 24.8**	**-2.0**
	1.8nm,0.1s							
MTBS				Lg		Lg	19 38 14.8	
	16nm,0.6s							
MTBS	**Maitube**	**3.77**	**290**	*e*P		**Pg**	**19 37 24.8**	**-2.0**
	1.8nm,0.1s							
MTBS				*e*S		**Sg**	**19 38 14.8**	**-0.9**
	16nm,0.6s							
KTBS	**Karatobe**	**3.81**	**299**	Pg		**Pg**	**19 37 26.4**	**-1.2**
	3.6nm,0.4s							
KTBS				Lg		Lg	19 38 17.1	
	30nm,0.4s							
KST	**Kastek**	**4.08**	**288**	Pg		**Pb**	**19 37 28.7**	**+2.7**
	2.2nm,0.4s							
KST				Lg		Lg	19 38 21.6	
	10.0nm,0.8s							
KST	**Kastek**	**4.08**	**288**	*e*P		**Pg**	**19 37 30.5**	**-2.2**
	1.1nm,0.3s							
KST				*e*S		**Sg**	**19 38 24.1**	**-1.3**
	5.0nm,0.5s							
DGS	**Degeres**	**4.26**	**290**	Pg		**Pg**	**19 37 34.7**	**-1.6**
	0.8nm,0.2s							
DGS				Lg		Lg	19 38 31.8	
	8.0nm,0.3s							
KRBS	**Karabastau**	**4.47**	**295**	Pg		**Pg**	**19 37 38.2**	**-2.1**
	7.0nm,0.3s							
KRBS				Lg		Lg	19 38 37.6	
	1.9nm,0.8s							
MAKZ	**Makanchi**	**4.90**	**6**	Pn		**Pn**	**19 37 28.7**	**+1.1**
	0.8nm,0.5s							
MAKZ				Sn		**Sn**	**19 38 25.3**	**+1.3**
	2.8nm,0.5s							
MAKZ				Lg		Lg	19 38 45.4	
	4.9nm,0.6s							
MK31	**Makanchi Array**	**4.92**	**8**	⇓Pn		**Pn**	**19 37 24.2**	**-3.7**
	0.3nm,0.3s,baz=185,slow=13,SNR=13							
MK31				⇓Sn		**Sn**	**19 38 26.0**	**+1.6**
	2.3nm,0.5s,baz=189,slow=24,SNR=4.7							
MK31				⇓Lg		Lg	19 38 43.9	
	8.0nm,0.7s,baz=185,slow=31,SNR=8.6							
AAK	**Ala-Archa**	**5.07**	**280**	⇓Pg		**Pg**	**19 37 50.7**	**-1.0**
	4.8nm,0.9s							
AAK				⇑Lg		Lg	19 39 00.6	
	1.8nm,0.6s							

---

*IDC **28** 19:36:13.9±1.5, 31°.36N×66°.75E, h0km, mb3.8/10, mbtmp3.8/11, ML3.2/1, MS3.4/2, Error ellipse: s-maj=35.2km s-min=23.7km az=51.0*
ISC 28 19:36:19.2±1.6, 31°.4N±0°.2×66°.8E±0°.2, h35km, n13, σ0s70/11, mb3.8/10, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.48**	**33**	P		**P**	**19 40 43.2**	**+0.1**
	0.1nm,0.3s,baz=214,slow=9.8,SNR=4.0							
	2.2nm,0.7s							
KURBB	**Kurchatov Arra**	**21.11**	**21**	P		**P**	**19 41 01.6**	**+0.9**
	1.7nm,0.6s,baz=212,slow=11,SNR=5.7							
	1.7nm,0.6s							
BVAR	**Borovoye Array**	**21.77**	**6**	P		**P**	**19 41 07.5**	**-0.2**
	2.4nm,0.5s,baz=177,slow=7.5,SNR=6.0							
	2.4nm,0.5s							
ZALV	**Zalesovo Beam**	**26.01**	**25**	P		**P**	**19 41 47.5**	**-1.2**
	1.6nm,0.6s,baz=217,slow=10.0,SNR=4.2							
	1.6nm,0.6s							
SONM	**Songino Array**	**34.23**	**50**	P		**P**	**19 43 02.1**	**+0.4**
	0.9nm,0.7s,baz=251,slow=7.5,SNR=3.9							
	0.9nm,0.7s							
FINES	**FINESS Array B**	**39.98**	**331**	P		**P**	**19 43 50.3**	**+0.3**
	0.8nm,0.6s,baz=132,slow=11,SNR=4.1							
	0.8nm,0.6s							
ARCES	**ARCESS Array B**	**44.65**	**341**	P		**P**	**19 44 28.3**	**+0.3**
	1.9nm,0.6s,baz=124,slow=6.6,SNR=13							
	1.9nm,0.6s							
NOA	**NORSAR Array B**	**46.50**	**326**	P		**P**	**19 44 42.2**	**-0.6**
	0.6nm,0.8s,baz=86,slow=7.7,SNR=1.7							
	0.6nm,0.8s							
KSRS	**Korea Array**	**50.05**	**65**	P		**P**	**19 45 09.7**	**-0.8**
	0.7nm,0.5s,baz=269,slow=6.9,SNR=2.2							
	0.7nm,0.5s							
ESDC	**Sonseca Array**	**56.80**	**299**	LR		LR	20 11 55.0	
	comp=Z,19nm,18.5s,baz=100,slow=38							
WRA	**Warramunga Arr**	**82.48**	**119**	P		**P**	**19 48 38.4**	**0.0**
	0.4nm,0.7s,baz=310,slow=5.3,SNR=2.2							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**84.41**	**122**	P		**P**	**19 48 48.9**	**+0.6**
	0.4nm,0.5s,baz=309,slow=5.6,SNR=4.6							
	0.4nm,0.5s							
KDAK	**Kodiak Island**	**85.21**	**20**	LR		LR	20 34 08.9	
	comp=Z,32nm,18.0s,baz=323,slow=41							

---

*IDC **28** 19:57:07.7±2.1, 20°.84S×32°.76E, h0km, mb3.7/3, mbtmp3.8/4, ML4.0/1, MS3.1/2, Error ellipse: s-maj=63.8km s-min=27.9km az=126.0*
*NEIC **28** 19:57:09.3±2.2, 20°.61S±0°.03×32°.8E±0°.1, h10km±2km, mb4.2/2, Error ellipse: s-maj=20.6km s-min=5.0km az=95.0*
*PRE **28** 19:57:09.5±0.7, 20°.76S×32°.64E, h5km, ML3.6*
*BUL **28** 19:57:10.7±4.0, 20°.79S×33°.11E, h10km, MD3.5*
ISC 28 19:57:09.0±0.9, 20°.76S±0°.04×32°.65E±0°.06, h10km, n55, σ2s77/85, mb3.8/3, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHIPN	**CHIPINGE**	**0.52**	**359**	*i* P		**Pg**	**19 57 17.2**	**-2.0**
MOPA	**Mopani**	**2.98**	**203**	*e*P		**Pn**	**19 57 58.4**	**+2.0**
MOPA				*e*S		**Sn**	**19 58 33.5**	**+1.2**
MOPA				IAML			19 58 50.5	
	comp=Z,514nm,0.5s							
MOPA	**Mopani**	**2.98**	**203**	*i* P		**Pb**	**19 58 00.2**	**-2.0**
MOPA				*i* S		**Sb**	**19 58 36.8**	**-1.9**
MUSN	**Musina, Limpop**	**3.01**	**239**	*e*P		**Pn**	**19 57 58.4**	**+1.5**
MUSN				*e*S		**Sn**	**19 58 34.4**	**+1.4**
MUSN				IAML			19 58 51.9	
	comp=Z,494nm,0.5s							
MUSN	**Musina, Limpop**	**3.01**	**239**	*i* P		**Pb**	**19 58 02.0**	**-0.8**
MUSN				*i* S		**Sb**	**19 58 42.3**	**+2.7**
BLWY	**Bulawayo**	**3.84**	**279**	*i* P		**Pn**	**19 58 12.0**	**+3.7**
BLWY				*i* S		**Sb**	**19 59 06.9**	**+3.3**
PILG	**Pilgrimsrest,**	**4.52**	**203**	*e*P		**Pn**	**19 58 20.0**	**+2.3**
PILG				*e*S		**Sn**	**19 59 10.3**	**-0.3**
PILG				IAML			19 59 42.4	
	comp=Z,75nm,0.4s							
KRI	**Karoi**	**4.85**	**323**	*i* P		**Pn**	**19 58 24.0**	**+1.7**
KRI				*i* S		Sn	19 59 07.4	-11
BROLN	**Tlhalogang**	**4.98**	**265**	*i* P		**Pn**	**19 58 27.4**	**+3.4**
BROLN				IAML			19 59 49.0	
	comp=N,348nm,0.7s							
MREMI	**Moremi**	**5.17**	**249**	*i* P		**Pn**	**19 58 31.1**	**+4.6**
MREMI				*i* S		**Sb**	**19 59 36.6**	**-5.1**
MREMI				IAML			19 59 57.3	
	comp=E,2μm,0.3s							
MREMI	**Moremi**	**5.17**	**249**			**Pn**	**19 58 30.6**	**+4.1**
MREMI					Sn	**Sn**	**19 59 27.7**	**+1.5**
LEPH	**Lephalale, Lim**	**5.45**	**235**	*e*P		**Pn**	**19 58 32.9**	**+2.5**
LEPH				*e*S		**Sn**	**19 59 32.9**	**-0.4**
LEPH				IAML			20 00 08.0	
	comp=Z,201nm,0.4s							
CRLN	**Carolina, Mapu**	**5.75**	**204**	*e*P		**Pn**	**19 58 36.7**	**+2.2**
CRLN				*e*S		**Sn**	**19 59 40.7**	**0.0**
CRLN				IAML			20 00 29.4	
	comp=Z,30nm,0.6s							
SOOWA	**Sowa**	**6.03**	**271**	*i* P		**Pn**	**19 58 41.7**	**+3.3**
SOOWA				IAML			20 00 31.3	
	comp=E,686nm,0.5s							
LPHEP	**Lephephe**	**6.81**	**246**	*i* P		**Pn**	**19 58 53.3**	**+4.2**
LPHEP				IAML			20 00 53.0	
	comp=N,155nm,0.6s							
LPHEP	**Lephephe**	**6.81**	**246**			**Pn**	**19 58 52.9**	**+3.8**
HRAO	**HartRAO**	**6.85**	**221**	*e*P		**Pn**	**19 58 52.3**	**+2.6**
HRAO				*e*S		**Sn**	**20 00 06.0**	**-1.8**
HRAO				IAML			20 00 52.9	
	comp=Z,53nm,0.4s							
LSZ	**Lusaka**	**6.91**	**321**			**Pn**	**19 58 51.6**	**+1.1**
LSZ					Sn	**Sn**	**20 00 04.2**	**-5.1**
LSZ	**Lusaka**	**6.91**	**321**	*e*P		**Pn**	**19 58 52.2**	**+1.7**
LSZ				*e*S		**Sn**	**20 00 07.7**	**-1.6**
LSZ				IAML			20 00 50.2	
	comp=Z,198nm,0.8s							
LSZ	**Lusaka**	**6.91**	**321**	*i* P		**Pn**	**19 58 54.9**	**+4.4**
LSZ				*i* S		**Sn**	**20 00 11.2**	**+1.9**
NWCL	**Newcastle**	**7.39**	**199**	*e*P		**Pn**	**19 58 59.0**	**+2.0**
NWCL				*e*S		**Sn**	**20 00 19.0**	**-2.0**
NWCL				IAML			20 01 09.0	
	comp=Z,36nm,0.5s							
PHDHD	**Phuduhudu**	**7.63**	**273**	Pn		**Pn**	**19 58 59.4**	**-1.0**
PHDHD				Sn		**Sn**	**20 00 27.3**	**+0.3**
KSANE	**Kasane**	**7.66**	**291**	*i* P		**Pn**	**19 59 04.9**	**+4.1**
KSANE				IAML			20 01 12.1	
	comp=N,228nm,0.4s							
KSANE	**Kasane**	**7.66**	**291**			**Pn**	**19 59 02.9**	**+2.1**
KSANE					Sn	**Sn**	**20 00 22.7**	**-5.1**
LBTB	**Lobatse**	**7.76**	**236**			**Pn**	**19 59 05.3**	**+3.2**
LBTB	**Lobatse**	**7.76**	**236**	LR		LR	20 02 13.2	
	comp=N,135nm,18.3s,baz=64,slow=39							
LBTB	**Lobatse**	**7.76**	**236**	*e*P		**Pn**	**19 59 03.9**	**+1.8**
LBTB				*e*S		**Sn**	**20 00 28.6**	**-1.6**
LBTB				IAML			20 01 23.6	
	comp=Z,66nm,0.5s							
LBTB	**Lobatse**	**7.76**	**236**	*i* P		**Pn**	**19 59 06.5**	**+4.3**
LBTB				*i* S		**Sn**	**20 00 31.8**	**+1.6**
PRYS	**Parys**	**7.82**	**217**	*e*P		**Pn**	**19 59 05.6**	**+2.6**
PRYS				*e*S		**Sn**	**20 00 29.5**	**-2.2**
PRYS				IAML			20 01 27.9	
	comp=Z,36nm,0.6s							
KDWAN	**Kaudwane**	**7.86**	**249**	*i* P		**Pn**	**19 59 06.9**	**+3.4**
KDWAN				*i* S		**Sn**	**20 00 35.9**	**+3.4**
KDWAN				IAML			20 01 20.7	
	comp=N,229nm,1.2s							
KDWAN	**Kaudwane**	**7.86**	**249**			**Pn**	**19 59 07.0**	**+3.5**
CKGRV	**CKGRV**	**8.32**	**264**	*i* P		**Pn**	**19 59 12.8**	**+3.0**
CKGRV				*i* S		**Sn**	**20 00 46.9**	**+2.9**
CKGRV				IAML			20 01 41.5	
	comp=N,943nm,1.1s							
MAKGR	**Makgori**	**8.80**	**234**	*i* P		**Pn**	**19 59 19.5**	**+3.2**
MAKGR				*i* S		**Sn**	**20 00 57.0**	**+1.4**
MAKGR				IAML			20 01 49.2	
	comp=N,197nm,0.6s							
SKOMA	**Sekoma**	**8.88**	**243**	*i* P		**Pn**	**19 59 20.2**	**+2.7**
SKOMA				IAML			20 01 57.2	
	comp=N,132nm,0.6s							
KGCAE	**Kacgae**	**9.93**	**256**	*i* P		**Pn**	**19 59 35.5**	**+3.6**
KGCAE				*i* S		**Sn**	**20 01 23.0**	**-0.4**
KGCAE				IAML			20 02 29.9	
	comp=E,247nm,0.8s							
KGCAE	**Kacgae**	**9.93**	**256**			**Pn**	**19 59 35.3**	**+3.5**
PHPEN	**Phepeng**	**10.16**	**241**	*i* P		**Pn**	**19 59 37.4**	**+2.3**
PHPEN				*i* S		**Sn**	**20 01 29.6**	**+0.3**
PHPEN	**Phepeng**	**10.16**	**241**	Pn		**Pn**	**19 59 37.4**	**+2.3**
BOSA	**Boshof**	**10.31**	**219**	Pn		**Pn**	**19 59 38.5**	**+1.4**
BOSA	**Boshof**	**10.31**	**219**	Pn		**Pn**	**19 59 38.8**	**+1.6**
	comp=E,0.8nm,0.3s,baz=37,slow=13,SNR=31							
BOSA					Sn	**Sn**	**20 01 29.7**	**-3.2**
	comp=E,1.0nm,0.3s,baz=314,slow=18,SNR=3.2							
BOSA					Lg	Lg	20 02 32.4	
	comp=E,1.9nm,0.3s,baz=132,slow=19,SNR=6.5							
BOSA					LR	LR	20 03 42.5	
	comp=E,112nm,20.6s,baz=15,slow=38							
	comp=E,3.8nm,0.4s							
BOSA	**Boshof**	**10.31**	**219**	*i* P		**Pn**	**19 59 39.6**	**+2.5**
BOSA				*i* S		**Sn**	**20 01 28.6**	**-4.3**
GRTLG	**Ghanzi**	**10.70**	**265**	*i* P		**Pn**	**19 59 44.6**	**+2.1**
GRTLG				*i* S		**Sn**	**20 01 40.6**	**-1.8**
GRTLG				IAML			20 02 48.1	
	comp=N,118nm,0.8s							
GRTLG	**Ghanzi**	**10.70**	**265**	Pn		**Pn**	**19 59 44.2**	**+1.8**
QNGWA	**Qangwa**	**10.85**	**274**	*i* P		**Pn**	**19 59 46.5**	**+1.9**
QNGWA				*i* S		**Sn**	**20 01 43.7**	**-2.5**
QNGWA				IAML			20 02 58.4	
	comp=N,61nm,0.8s							
LKGWB	**Lokgwabe**	**11.09**	**250**			**Pn**	**19 59 44.1**	**-3.7**
KOOLE	**Kule**	**11.78**	**257**	*i* P		**Pn**	**19 59 58.9**	**+1.5**
KOOLE				*i* S		**Sn**	**20 02 06.2**	**-2.7**
KOOLE				IAML			20 03 30.6	
	comp=N,164nm,1.4s							
KOOLE	**Kule**	**11.78**	**257**	Pn		**Pn**	**19 59 58.8**	**+1.5**
TSUM	**Tsumeb**	**14.25**	**274**	Pn		**Pn**	**20 00 30.8**	**-0.4**
TSUM	**Tsumeb**	**14.25**	**274**	*i* P		**Pn**	**20 00 33.7**	**+2.6**
TSUM				*i* S		**Sn**	**20 03 02.1**	**-7.3**
WIIN	**Windhoek**	**14.57**	**260**	Pn		**Pn**	**20 00 34.4**	**-1.2**
SUR	**Sutherland**	**15.67**	**220**	Pn		**Pn**	**20 00 51.9**	**+1.7**
SUR				IAmb		IAmb	20 00 56.6	
	comp=Z,27nm,0.9s							
TORD	**Torodi Ar. Bea**	**45.40**	**315**	P		**P**	**20 05 26.0**	**-2.0**
TORD				IAmb		IAmb	20 05 35.8	
	comp=Z,1.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**45.40**	**315**	P		**P**	**20 05 29.2**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=125,slow=7.2,SNR=6.0							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**80.77**	**32**	P		**P**	**20 09 22.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=234,slow=5.8,SNR=3.5							
	comp=Z,0.3nm,0.7s							
FINES	**FINESS Array B**	**82.08**	**357**	P		**P**	**20 09 30.5**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=193,slow=5.7,SNR=1.4							
	comp=Z,0.5nm,0.6s							

---

*IDC **28** 20:19:52.5±0.6, 60°.58S×26°.48W, h0km, mb4.4/8, mbtmp4.4/9, ML4.5/1, MS4.0/36, Error ellipse: s-maj=24.9km s-min=19.5km az=41.0*
*NEIC **28** 20:19:53.9±1.9, 60°.63S±0°.06×26°.6W±0°.2, h10km±1km, mb5.1/63, Error ellipse: s-maj=17.3km s-min=9.9km az=106.0*
*GCMT **28** 20:19:59.9±0.2, 60°.73S±0°.02×26°.03W±0°.03, h21km±1km, MW5.0/111, Moment Tensor Solution. s22,c23; s111,c153; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.48±.14; Mθθ-1.93±.12; Mϕϕ1.46±.11; Mrθ0.98±.21; Mθϕ3.00±.11; Mϕr0.67±.22; Best double couple: Mo3.66600×10^16 NP1:ϕs344.00000°, δ71.00000°, λ171.00000°. NP2:ϕs77.00000°, δ82.00000°, λ19.00000°. Principal axes: T 3.5870, Plg19.0000°, Azm302.0000°; N 0.1640, Plg69.0000°, Azm100.0000°; P -3.7460, Plg7.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 20:19:54.2±0.3, 60°.74S±0°.07×26°.71W±0°.07, h10km, n205, σ1s67/148, mb5.1/37, MS4.1/35, 5C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.33**	**317**	Pn		Pn	20 22 01.1	+6.3
VNA1	**Neumayer--Stat**	**12.44**	**151**	⇑P		**Pn**	**20 22 51.5**	**+0.5**
	comp=Z,38nm,0.3s							
VNA3	**Neumayer Olymp**	**12.55**	**154**	⇑P		**Pn**	**20 22 52.8**	**+0.2**
	comp=Z,123nm,0.8s							
VNA2	**Neumayer--Watz**	**12.84**	**151**	⇑P		**Pn**	**20 22 56.5**	**0.0**
	comp=Z,27nm,0.8s,baz=310,slow=15							
ESPZ	**Base Esperanza**	**14.37**	**246**	Pn		**Pn**	**20 23 18.9**	**+1.6**
ESPZ				P		**P**	**20 23 26.0**	**+1.7**
SNAA	**Sanae**	**14.45**	**149**	⇑P		**Pn**	**20 23 18.8**	**+0.3**
	comp=Z,258nm,0.4s							
SNAA	**Sanae**	**14.45**	**149**	Pn		**Pn**	**20 23 17.5**	**-1.0**
SNAA	**Sanae**	**14.45**	**149**	Pn		**Pn**	**20 23 17.7**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=314,slow=15,SNR=32							
SNAA					Sn	Sn	20 25 46.0	-12
	comp=Z,0.3nm,0.3s,baz=12,slow=20,SNR=1.5							
SNAA					LR	LR	20 27 30.1	
	comp=Z,793nm,19.9s,baz=288,slow=32							
	comp=Z,7.0nm,0.4s							
TROLL	**Troll, Antarti**	**16.04**	**147**	⇑P		**Pn**	**20 23 40.0**	**+0.4**
	comp=Z,410nm,0.7s							
PMSA	**Palmer Station**	**17.38**	**240**	Pn		**Pn**	**20 23 56.5**	**+0.1**
PMSA	**Palmer Station**	**17.38**	**240**	*e*P		**Pn**	**20 23 52.2**	**-4.2**
	comp=Z,62nm,22.0s							
PMSA				*e*LR		LR	20 27 58.0	
	comp=Z,799nm,26.0s							
PMSA	**Palmer Station**	**17.38**	**240**	LR		LR	20 30 15.4	
	comp=Z,363nm,18.3s,baz=89,slow=36							
BELA	**Belgrano 2**	**17.41**	**186**			**Pn**	**20 23 57.1**	**+0.3**
EFI	**East Falkland**	**19.47**	**284**			**P**	**20 24 18.0**	**-2.8**
SYO	**Syowa Base**	**27.92**	**135**	‖*e*pP		pP	20 25 48.2	+2.4
QSPA	**South Pole Qui**	**29.50**	**180**			P	20 26 04.5	+6.3
QSPA					IAmb	IAmb	20 26 17.1	
	comp=Z,32nm,1.2s							
QSPA	**South Pole Qui**	**29.50**	**180**	P		P	20 26 03.5	+5.3
	comp=Z,4.1nm,0.5s,baz=15,slow=1.3,SNR=67							
QSPA					LR	LR	20 37 58.4	
	comp=Z,291nm,19.3s,baz=189,slow=37							
TRQA	**Tornquist**	**31.64**	**300**			**P**	**20 26 16.1**	**-1.1**
TRQA					IAmb	IAmb	20 26 29.8	
	comp=Z,28nm,1.1s							
PLCA	**Paso Flores**	**33.34**	**287**	P		**P**	**20 26 32.6**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=278,slow=3.6,SNR=3.2							
PLCA					LR	LR	20 40 04.7	
	comp=Z,344nm,18.7s,baz=141,slow=36							
	comp=Z,1.6nm,0.7s							
PLTB	**Pedras Altas**	**33.95**	**316**	P		**P**	**20 26 36.2**	**-1.2**
PLTB					IAmb	IAmb	20 26 48.0	
	comp=Z,40nm,0.9s							
CPSB	**Cacapava Do Su**	**35.14**	**318**	*e*P		**P**	**20 26 46.3**	**-1.4**
PSAL	**Palomas, Salto**	**35.98**	**311**	*e*P		**P**	**20 26 53.6**	**-1.3**
MAW	**Mawson**	**36.31**	**140**	LR		LR	20 40 33.2	
	comp=Z,524nm,19.1s,baz=268,slow=34							
BO02	**Sierra Bellavi**	**38.25**	**292**	P		**P**	**20 27 13.9**	**-0.4**
BO01	**Tunca**	**38.73**	**292**	P		**P**	**20 27 17.9**	**-0.2**
LMEL	**Las Melosas**	**38.78**	**294**	P		**P**	**20 27 18.9**	**0.0**
BO04	**La Punta**	**38.85**	**293**	P		**P**	**20 27 19.2**	**0.0**
BO04					IAmb	IAmb	20 27 21.1	
	comp=Z,38nm,0.8s							
MT08	**Bocatoma Ro**	**39.04**	**294**	P		**P**	**20 27 21.7**	**+0.6**
MT08					IAmb	IAmb	20 27 24.2	
	comp=Z,42nm,0.9s							
ARCO	**CERRO ARCO**	**39.06**	**296**	*e*P		**P**	**20 27 22.3**	**+1.1**
MT09	**Talagante**	**39.20**	**293**	P		**P**	**20 27 21.6**	**-0.6**
MT03	**Universidad Ad**	**39.22**	**294**	P		**P**	**20 27 22.1**	**-0.3**
ASAL	**Salagasta**	**39.24**	**296**	*e*P		**P**	**20 27 22.3**	**-0.2**
MT01	**Popeta**	**39.24**	**293**	P		**P**	**20 27 20.7**	**-1.8**
MT01

AC02 IAmb IAmb 20 28 14.8
comp=Z,40nm,1.1s
AC06 Mina Casimiro 44.41 299 IAmb IAmb 20 28 05.6
comp=Z,23nm,0.9s
PMNB Patos De Minas 44.44 333 *eP* **P 20 28 07.3 +2.2**
RPRD Ribas do Rio P 44.48 323 *eP* **P 20 28 07.5 +2.0**
MURT Porto Murtinho 44.62 317 *eP* **P 20 28 08.4 +2.0**
GUA01 Guaratinga, BA 45.09 342 *eP* **P 20 28 12.5 +2.2**
AQDB Aquidauana 45.10 320 P 20 28 07.9 -2.5
AQDB Aquidauana 45.10 320 *eP* **P 20 28 12.3 +2.0**
IPMB Ipameri, GO 45.38 331 *eP* **P 20 28 14.7 +2.0**
BDQN Bodoquena, MS 45.46 319 *eP* **P 20 28 15.2 +2.0**
H04S2 CROZET ISLANDS 45.57 110 T T 21 17 26.7
baz=223,slow=74,SNR=13
H04S3 CROZET ISLANDS 45.58 110 T T 21 17 46.8
baz=223,slow=74,SNR=14
H04S1 CROZET ISLANDS 45.59 110 T T 21 17 32.3
baz=223,slow=74,SNR=12
C2SB Chapadao do Su 45.85 324 *eP* **P 20 28 18.2 +1.9**
GO02 Mina Guanaco 46.01 301 P 20 28 16.8 -1.1
CMC01 Camacan, BA 46.25 343 *eP* **P 20 28 21.8 +2.3**
BOSA Boshof 47.07 71 P P **20 28 23.0 -3.0**
BOSA Boshof 47.07 71 P P **20 28 23.8 -2.1**
comp=Z,7.6nm,0.7s,baz=216,slow=8.6,SNR=14
BOSA LR LR 20 44 33.3
comp=Z,93nm,18.1s,baz=210,slow=32
comp=Z,7.6nm,0.7s
JANB Januaria 47.36 337 *eP* **P 20 28 29.9 +1.6**
PP1B Ponte de Pedra 47.55 322 *eP* **P 20 28 31.4 +1.7**
BDFB Brasilia 47.59 332 LR LR 20 48 01.4
comp=Z,224nm,18.2s,baz=152,slow=36
ARAG Araguaiana, MT 48.48 327 *eP* **P 20 28 38.7 +1.9**
PB03 IPOC Station P 48.84 303 IAmb IAmb 20 28 48.6
comp=Z,21nm,0.9s
MAKGR Makgori 49.25 69 *i* P **P 20 28 42.5 -0.3**
SALV Santo Antonio 49.40 322 *eP* **P 20 28 45.8 +1.9**
CASY Casey 49.42 159 P P **20 28 45.4 +2.0**
CASY IAmb IAmb 20 30 09.1
comp=Z,16nm,0.9s
CASY Casey 49.42 159 *eS* **S 20 35 49.8 -0.1**
comp=Z,96nm,24.0s
CASY *e*LR LR 20 42 50.2
comp=Z,333nm,22.0s
PB02 IPOC Station P 49.54 303 IAmb IAmb 20 28 46.6
comp=Z,24nm,0.8s
PB01 IPOC Station P 49.62 304 IAmb IAmb 20 28 46.7
comp=Z,23nm,0.7s
SDBA SAO DESIDERIO 50.06 337 *eP* **P 20 28 51.8 +2.8**
PB08 IPOC Station P 50.30 304 IAmb IAmb 20 29 10.5
comp=Z,22nm,1.1s
LBTB Lobatse 50.30 69 LR LR 20 45 57.4
comp=Z,141nm,18.4s,baz=212,slow=31
NBLA Lagarto - SE 50.32 346 *eP* **P 20 28 54.6 +3.7**
HMBC Humberstone 50.47 304 IAmb IAmb 20 29 04.3
comp=Z,16nm,0.6s
KGCAE Kacgae 50.64 64 *i* P **P 20 28 53.6 +0.1**
GO01 Chusmiza 50.74 305 IAmb IAmb 20 29 06.2
comp=Z,18nm,0.7s
PB11 IPOC Station P 50.84 304 IAmb IAmb 20 29 07.4
comp=Z,14nm,0.7s
PTLB Pontes e Lacer 50.91 318 P P **20 28 54.0 -1.3**
PTLB IAmb IAmb 20 29 11.3
comp=Z,24nm,0.8s
SIV San Ignacio 51.05 316 LR LR 20 50 56.4
comp=Z,190nm,19.8s,baz=123,slow=36
GRTLG Ghanzi 51.52 62 *i* P **P 20 28 59.7 -0.3**
LPHEP Lephephe 51.84 68 P P **20 29 00.1 -2.3**
TSUM Tsumeb 51.90 57 LR LR 20 46 50.5
comp=Z,188nm,20.2s,baz=216,slow=31
SNDB Serra Nova Dou 51.92 329 *eP* **P 20 29 04.3 +1.4**
CKGRV CKGRV 52.60 65 *i* P **P 20 29 08.2 +0.1**
PB18 Visviri 52.72 306 IAmb IAmb 20 29 57.0
comp=Z,22nm,0.9s
MREMI Moremi 53.25 69 IAmb IAmb 20 29 15.5
comp=Z,16nm,0.8s
LPAZ La Paz 53.37 308 IAmb IAmb 20 29 32.6
comp=Z,16nm,0.9s
LPAZ La Paz 53.37 308 P P **20 29 14.3 0.0**
comp=Z,6.2nm,0.8s,baz=140,slow=6.8,SNR=17
LPAZ LR LR 20 53 53.5
comp=Z,161nm,19.1s,baz=147,slow=38
comp=Z,6.2nm,0.8s
LPAZ La Paz 53.37 308 *eP* **P 20 29 14.1 -0.2**
H10N1 ASCENSION HYDR 53.57 15 T T 21 27 55.3
baz=193
H10N3 ASCENSION HYDR 53.57 15 T T 21 27 44.1
baz=193
H10N2 ASCENSION HYDR 53.59 15 T T 21 28 14.9
baz=193
VILB Vilhena 53.60 318 *eP* **P 20 29 16.1 +0.8**
PDRB Porto dos Gac 53.77 323 *eP* **P 20 29 16.1 -0.5**
PHDHD Phuduhudu 54.00 65 P P **20 29 16.2 -2.1**
NBMA Murити-CE 54.02 345 *eP* **P 20 29 21.3 +2.9**
SMTB Santa Maria do 54.06 334 *eP* **P 20 29 20.3 +1.7**
CLDB Colider 54.20 324 *eP* **P 20 29 21.0 +1.3**
BRDLN Thalogang 54.47 68 *i* P **P 20 29 21.0 -0.8**
NBPV Pedro Velho 54.58 350 *eP* **P 20 29 25.4 +3.0**
RCBR Riachuelo 55.22 349 LR LR 20 48 22.1
comp=Z,54nm,20.9s,baz=194,slow=31
MATP Matopo 55.59 69 LR LR 20 49 11.2
comp=Z,97nm,18.3s,baz=206,slow=32
KSANE Kasane 56.38 64 IAmb IAmb 20 29 45.8
comp=Z,16nm,0.9s
NPGB Novo Progresso 57.72 326 *eP* **P 20 29 46.2 +1.3**
SAML Samuel 58.33 316 P 20 29 46.9 -2.4
SAML Samuel 58.33 316 *eP* **P 20 29 47.8 -1.4**
LSZ Lusaka 59.95 66 P P **20 30 00.2 -0.4**
LSZ IAmb IAmb 20 30 03.9
comp=Z,12nm,0.8s
LSZ Lusaka 59.95 66 LR LR 20 51 49.5
comp=Z,186nm,19.9s,baz=191,slow=32
ITTB Itaituba 60.38 326 *eP* **P 20 30 04.7 +1.4**
NNA Nana 60.80 301 LR LR 20 56 33.9
comp=Z,90nm,19.3s,baz=152,slow=36
RPN Rapa Nui 63.18 262 LR LR 20 52 56.6
comp=Z,52nm,20.1s,baz=140,slow=31
ATAH Atahualpa 65.81 301 LR LR 20 58 43.4
comp=Z,116nm,21.3s,baz=156,slow=35
BOAV Boa Vista 68.18 323 P P **20 30 51.7 -2.7**
MDP Montagnes des 68.70 332 LR LR 20 58 23.6
comp=Z,132nm,21.7s,baz=149,slow=34
DBIC Dimbokro 69.36 23 P P **20 31 00.3 -1.4**
DBIC IAmb IAmb 20 33 21.2
comp=Z,28nm,1.4s
DBIC Dimbokro 69.36 23 P P **20 31 00.8 -0.9**
comp=Z,3.6nm,0.7s,baz=207,slow=6.8,SNR=3.3
DBIC LR LR 20 54 04.0
comp=Z,71nm,21.5s,baz=186,slow=30
comp=Z,3.6nm,0.7s
COHC Cochancay 70.38 303 P P **20 31 06.7 -1.4**
OTAV Otavalo 72.50 305 P P **20 31 21.1 -0.4**
OTAV IAmb IAmb 20 31 36.0
comp=Z,17nm,1.1s
OTAV Otavalo 72.50 305 *eP* **P 20 31 21.7 +0.2**
ROSC El Rosal 75.10 310 LR LR 21 05 11.1
comp=Z,136nm,21.2s,baz=233,slow=36
PCRV Puerto La Cruz 76.78 322 LR LR 21 08 14.2
comp=Z,87nm,18.9s,slow=38
SNZO South Karori 76.81 196 *eP* **P 20 31 44.4 -1.2**
comp=Z,2.9nm,24.0s
SNZO South Karori 76.81 196 *eLR* LR 20 55 32.4
comp=Z,8.2nm,22.0s
TORD Torodi Ar. Bea 77.05 28 **P 20 31 46.2 -0.9**
TORD IAmb IAmb 20 32 01.3
comp=Z,14nm,0.9s
TORD Torodi Ar. Bea 77.05 28 P **P 20 31 46.2 -0.9**
comp=Z,4.9nm,0.4s,baz=199,slow=5.4,SNR=71
TORD LR LR 20 59 28.2
comp=Z,66nm,20.3s,baz=138,slow=31
comp=Z,4.9nm,0.4s
SDV Santo Domingo 77.52 315 LR LR 21 08 05.8
comp=Z,268nm,18.9s,baz=125,slow=37
SDV Santo Domingo 77.52 315 *eP* **P 20 31 50.3 +0.2**
URZ Urewera 79.44 199 LR LR 21 02 26.5
comp=Z,117nm,21.9s,baz=184,slow=32
NWAO Narrogin (SRO) 82.12 150 LR LR 21 05 55.0
comp=Z,130nm,18.1s,baz=145,slow=34
JTS Las Juntas de 84.26 303 LR LR 21 12 58.1
comp=Z,22nm,18.4s,baz=32,slow=38
SJG San Juan 84.73 323 LR LR 21 09 03.2
comp=Z,52nm,21.9s,baz=164,slow=35
FURI Furi 86.08 64 LR LR 21 07 55.9
comp=Z,130nm,18.6s,baz=198,slow=34
STKA Stephens Creek 87.23 170 LR LR 21 10 52.6
comp=Z,188nm,18.1s,baz=199,slow=35
TAM Tamanrasset 87.25 30 P P **20 32 40.4 -0.2**

PPT2 Papeete2 89.58 233 *e*LR LR 21 01 23.0
comp=Z,110nm,23.2s
PPT2 *e*LR LR 21 01 23.1
comp=Z,103nm,28.5s
PPT Papeete 89.60 233 LR LR 21 05 38.0
comp=Z,66nm,18.5s,baz=182,slow=31
NFK Norfolk Island 89.75 193 *e*LR LR 21 01 31.9
RAR Rarotonga 89.98 223 *e*LR LR 21 01 30.5
comp=Z,911nm,32.0s
RAR Rarotonga 89.98 223 LR LR 21 10 36.9
comp=Z,35nm,19.1s,baz=5.0,slow=34
ATD Arta Tunnel 90.28 67 LR LR 21 11 46.9
comp=Z,5.4nm,18.1s,baz=176,slow=35
ASAR Alice Springs 94.44 162 P **P 20 33 15.8 +1.5**
comp=Z,1.4nm,0.9s,baz=180,slow=4.6,SNR=8.9
ASAR LR LR 21 14 25.0
comp=Z,309nm,18.1s,baz=198,slow=35
comp=Z,1.4nm,0.9s
MDT Midelt 94.96 19 LR LR 21 09 33.3
comp=Z,131nm,21.8s,baz=208,slow=32
DZM Mont Dzumac 96.80 192 *e*LR LR 21 04 42.0
comp=Z,124nm,21.7s
FITZ Fitzroy Crossi 98.34 154 LR LR 21 14 27.9
comp=Z,93nm,19.7s,baz=196,slow=33
XMAS Kiritimati 110.57 234 *e*LR LR 21 11 02.6
comp=Z,8.0nm,27.0s
CMAR Chiang Mai Arr 123.09 113 PKP **PKPdf 20 38 49.7 -0.9**
comp=Z,1.1nm,0.6s,baz=239,slow=3.3,SNR=7.4
HFS Hagfors 124.53 23 PKP **PKPdf 20 38 50.7 -1.3**
comp=Z,1.4nm,0.8s,baz=201,slow=7.4,SNR=2.2
NB2 NORSAR Subarra 124.91 21 PKPdf **PKiKP 20 38 54.8 +1.7**
comp=Z,1.1nm,0.8s,baz=202,slow=1.9
NOA NORSAR Array B 124.91 21 PKP **PKiKP 20 38 52.6 -0.5**
comp=Z,1.1nm,0.8s,baz=196,slow=1.5,SNR=4.3
POHA Pohakuloa 125.65 245 *e*LR LR 21 18 08.4
comp=Z,3.4nm,25.9s
FINES FINESS Array B 128.39 29 PKP **PKPdf 20 38 58.8 -0.5**
comp=Z,3.0nm,0.8s,baz=222,slow=1.7,SNR=9.6
JOHN Johnston Islan 128.63 228 *e*LR LR 21 19 32.2
comp=Z,89nm,25.2s
KSH Kashi 129.45 78 PKP **PKiKP 20 39 05.0 +2.0**
AB31 Akbulak array 129.73 58 PKiKP 20 39 02.4 -0.7
ABKAR Akbulak array 129.73 58 PKPdf 20 39 01.9 -0.4
PZH PanZhiHua 131.33 111 PKP **PKiKP 20 39 07.5 +0.3**
ARCES ARCESS Array B 135.19 23 PKP **PKiKP 20 39 12.7 -0.8**
comp=Z,1.0nm,0.7s,baz=182,slow=2.7,SNR=5.1
MKAR Makchi Array 137.97 76 PKP **PKiKP 20 39 18.6 -1.3**
comp=Z,1.3nm,0.9s,baz=245,slow=5.2,SNR=7.6
WMQ Urumqi 138.41 83 *e*PKP **PKiKP 20 39 20.8 -0.2**
KURBB Kurchatov Arra 138.91 69 PKP **PKiKP 20 39 21.0 -0.7**
comp=Z,0.7nm,0.8s,baz=226,slow=2.2,SNR=6.4
YKA Yellowknife Ar 139.73 314 PKPdf 20 39 20.5 0.0
YKA Yellowknife Ar 139.73 314 PKP **PKPdf 20 39 21.2 +0.7**
comp=Z,1.3nm,0.9s,baz=113,slow=1.6,SNR=4.4
GTA Gaotai 141.01 98 PKP **PKiKP 20 39 28.0 +1.5**
GTA pPKP sPKPdf 20 39 35.0 +8.2
NJ2 Nanjing 143.52 126 *e*P **PKPdf 20 39 29.0 +0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 144.01 69 PKP PKPbc 20 39 25.6 -0.8
comp=Z,0.7nm,0.5s,baz=232,slow=3.9,SNR=3.9
P33M Teslin, Yukon 145.35 302 PKPab 20 39 30.6 -0.2
P32M Atlin 145.38 301 PKPab 20 39 31.3 +0.3
BTO Baotou 146.83 107 *e*PKPbc **PKPbc 20 39 35.3 -0.5**
BTO PP **PP 20 43 06.5 +6.1**
HHC Hu-ho-hao-te 147.75 109 *eP* **PKPdf 20 39 33.0 -2.4**
SONM Songino Array 150.44 94 PKPbc **PKPbc 20 39 43.4 -1.5**
comp=Z,6.1nm,0.9s,baz=208,slow=3.3,SNR=18
KSRS Korea Array 151.73 134 PKPbc **PKiKP 20 39 50.2 +1.8**
comp=Z,1.7nm,0.8s,baz=205,slow=4.2,SNR=5.6
XLT XiLinHaoTe 152.22 110 *e*PKPbc **PKiKP 20 39 51.3 +1.9**
XLT pPKP pPKPab 20 40 00.0 -1.1
XLT sPKP 20 40 04.8
ILAR Eielson Array 153.22 305 PKPbc **PKiKP 20 39 50.9 +0.2**
comp=Z,0.6nm,0.6s,baz=81,slow=0.0,SNR=8.1
ILAR PKPab **PKPab 20 40 01.9 -0.6**
comp=Z,3.0nm,0.9s,baz=123,slow=0.8,SNR=13
CN2 Changchun 156.25 123 PKP **PKPdf 20 39 40.5 -7.4**

*MEX **28** 20:26:02.9±0.5, 14°.28N×92°.49W, h72km±20km, MD3.9*
*GCG **28** 20:26:02.0±1.7, 14°.14N×92°.47W, h33km±65km, MD3.8*
ISC 28 20:25:59.1±2.1, 14°.25N±0°.07×92°.49W±0°.04, h9km±13km, n20, σ1°.68/28, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.69**	**18**	*eP*	**Pn**	**20 26 15.7**	**+0.7**
THIG				*eS*	**Sn**	**20 26 26.1**	**+0.3**
SMCA	**Catarina**	**0.72**	**34**	*i* P	**Pn**	**20 26 16.6**	**+1.0**
RTAL	**Retalhuleu**	**0.82**	**70**	*eP*	**Pn**	**20 26 17.8**	**+1.0**
RTAL				*eS*	**Sn**	**20 26 30.0**	**+1.0**
PATR	**El Naranjo**	**0.90**	**16**	*eP*	**Pn**	**20 26 18.4**	**+0.4**
PATR				*eS*	**Sn**	**20 26 31.0**	**-0.3**
CHUJ	**Union Juarez**	**0.92**	**24**	*eS*	**Sn**	**20 26 32.0**	**+0.2**
PAVE	**Pavencul**	**0.98**	**18**	*eP*	**Pn**	**20 26 19.8**	**+0.5**
PCIG		**1.61**	**334**	*eP*	**Pn**	**20 26 28.0**	**+0.3**
PCIG				*eS*	**Sn**	**20 26 47.4**	**-1.1**
ESSG	**Sabana Grande**	**1.61**	**85**	*i* P	**Pn**	**20 26 28.3**	**+0.5**
FG16	**Alotenango, Sa**	**1.92**	**89**	*i* P	Pn	20 26 28.4	-3.7
CCIG	**Comitan**	**2.05**	**9**	*eP*	**Pb**	**20 26 36.5**	**-0.1**
CCIG				*eS*	**Sg**	**20 27 04.2**	**-0.8**
CCIG	**Comitan**	**2.05**	**9**	*i* P	**Pg**	**20 26 38.1**	**-0.4**
TGIG		**2.59**	**346**	*eP*	**Pn**	**20 26 42.6**	**+1.4**
TGIG				*eS*	**Sn**	**20 27 12.4**	**-0.4**
TGIG		**2.59**	**346**	*i* P	**Pn**	**20 26 42.6**	**+1.4**
TGIG				*i* S	**Sn**	**20 27 14.3**	**+1.4**
NUBE	**Las Nubes**	**2.65**	**97**	*i* P	**Pn**	**20 26 43.5**	**+1.3**
NUBE				*i* S	**Sn**	**20 27 11.6**	**-2.9**
CMIG	**Matias Romero**	**3.65**	**321**	*eP*	**Pn**	**20 26 56.4**	**+0.7**
CMIG				*eS*	**Sn**	**20 27 35.5**	**-3.4**
HUIG	**Huatulco**	**3.81**	**294**	*eP*	Pn	20 26 54.4	-3.5
HUIG				*eS*	Sn	20 27 35.3	-7.6
NEUV	**Arroyo Zacate**	**4.69**	**318**	*eP*	Pn	20 27 15.5	+5.4
NEUV				*eS*	**Sn**	**20 28 03.5**	**-1.2**
PEIG	**Puerto Escondi**	**4.82**	**292**	*eP*	**Pn**	**20 27 13.1**	**+1.1**
PEIG				*eS*	Sn	20 28 00.3	-7.7
TOIG	**Toxpalan**	**5.83**	**312**	*eP*	**Pn**	**20 27 29.9**	**+4.1**
TOIG				*eS*	**Sn**	**20 28 29.6**	**-3.2**
PNIG	**Pinotepa**	**5.84**	**292**	*eP*	**Pn**	**20 27 27.8**	**+1.8**
PNIG				*eS*	Sn	20 28 24.5	-8.6

IDC 28 21:19:12.2±53.0, 19°.04S×176°.97W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=977.2km s-min=173.4km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.30**	**243**	P	P	21 26 42.5	-0.5
	1.3nm,0.7s,baz=63,slow=6.8,SNR=2.0						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**45.78**	**260**	P	P	21 27 35.8	-0.2
	0.5nm,0.5s,baz=97,slow=7.3,SNR=6.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.81**	**255**	P	P	21 27 36.4	+0.2
	1.1nm,0.7s,baz=88,slow=8.5,SNR=11						
	1.1nm,0.7s						

*IDC **28** 21:36:17.9±1.7, 3°.49S×145°.43E, h0km, mb3.6/5, mbtmp3.7/6, ML3.9/1, MS3.2/4, Error ellipse: s-maj=53.1km s-min=25.7km az=105.0*
ISC 28 21:36:21.2±1.7, 3°.6S±0°.2×145°.5E±0°.4, h23km, n8, σ0°45/6, mb3.7/5, MS3.3/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.47**	**113**	LR	LR	21 46 01.4	
	comp=Z,63nm,19.6s,baz=310,slow=38						
WRA	**Warramunga Arr**	**19.59**	**213**	P	**P**	**21 40 48.2**	**+0.3**
	0.4nm,0.3s,baz=33,slow=10,SNR=24						
	7.5nm,1.0s						
DAV	**Davao City (W)**	**22.53**	**298**	LR	LR	21 48 09.6	
	comp=Z,62nm,21.0s,baz=54,slow=32						
ASAR	**Alice Springs**	**22.92**	**208**	P	**P**	**21 41 23.5**	**-0.2**
	2.2nm,1.0s,baz=34,slow=11,SNR=10						
ASAR				LR	LR	21 51 42.2	
	comp=Z,106nm,19.8s,baz=2.0,slow=40						
	2.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**50.81**	**297**	P	**P**	**21 45 19.9**	**-0.4**
	0.5nm,0.3s,baz=118,slow=7.5,SNR=5.4						
CMAR				LR	LR	22 07 31.3	
	comp=Z,26nm,18.8s,baz=70,slow=37						
	0.5nm,0.3s						

MKAR Makanchi Array 74.69 321 P **P 21 47 59.6 +0.5**
0.2nm,0.6s,baz=115,slow=6.5,SNR=1.4
0.2nm,0.6s
ILAR Eielson Array 83.84 23 P **P 21 48 48.5 -0.1**
0.3nm,0.6s,baz=264,slow=4.6,SNR=5.1
0.3nm,0.6s
BVAR Borovoye Array 83.94 324 P **P 21 48 49.3 0.0**
0.6nm,0.8s,baz=116,slow=6.6,SNR=1.4
0.6nm,0.8s

*JMA **28** 21:42:05.4±0.1, 37°.9N±0°.6×139°.3E±0°.7, h156km±1km, MV2.8/37, NE NIIGATA PREF*
*IDC **28** 21:42:05.3±1.2, 37°.90N×139°.17E, h162km±11km, mb3.3/6, mbtmp3.8/9, Error ellipse: s-maj=21.7km s-min=14.3km az=72.0*
ISC 28 21:42:05.1±0.8, 37°.92N±0°.05×139°.25E±0°.06, h159km±6km, n25, σ0°.58/37, mb3.5/6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.12**	**154**	P	Pn	**21 42 25.9**	**-0.3**
JNS				S	**Sn**	**21 42 41.7**	**-0.7**
JAW	**Awa shima**	**0.53**	**360**	P	**Pn**	**21 42 27.6**	**+0.1**
JAW				S	**Sn**	**21 42 44.0**	**-0.7**
JIZZ	**Izumozaki**	**0.58**	**228**	P	**Pn**	**21 42 28.4**	**+0.6**
JIZZ				S	**Sn**	**21 42 46.4**	**+1.3**
JYS	**Shirataka**	**0.71**	**65**	P	**Pn**	**21 42 28.8**	**+0.3**
JYS				S	**Sn**	**21 42 46.9**	**+0.4**
JUON	**Uonuma**	**0.73**	**192**	*eP*	**Pn**	**21 42 28.6**	**-0.1**
JUON				*eS*	**Sn**	**21 42 46.7**	**0.0**
JYA	**Atsumi**	**0.76**	**28**	P	**Pn**	**21 42 29.2**	**+0.3**
JYA				S	**Sn**	**21 42 47.1**	**-0.1**
JSD	**Sado**	**0.79**	**278**	*i* P	**Pn**	**21 42 29.0**	**-0.1**
JSD				*eS*	**Sn**	**21 42 46.9**	**-0.5**
JOTO	**OTAMA OYAMA**	**0.93**	**113**	P	**Pn**	**21 42 30.2**	**+0.1**
JYK	**Kaneyama**	**1.32**	**41**	P	**Pn**	**21 42 33.6**	**+0.1**
JYK				*eS*	**Sn**	**21 42 55.4**	**+0.1**
JAG	**Ashikaga**	**1.50**	**174**	*i* P	**Pn**	**21 42 35.6**	**+0.2**
JSZ	**Suzu**	**1.57**	**253**	P	**Pn**	**21 42 36.2**	**+0.3**
MAT	**Matsushiro**	**1.61**	**211**	*i* P	**Pn**	**21 42 36.7**	**+0.2**
MAT				*eS*	**Sn**	**21 43 00.4**	**-0.2**
MJAR	**Matsushiro Arr**	**1.61**	**211**	P	**Pn**	**21 42 35.6**	**-0.9**
	31nm,0.4s,baz=28,slow=9.9,SNR=119						
MJAR				S	**Sn**	**21 43 01.0**	**+0.4**
	3.4nm,0.3s,baz=10,slow=21,SNR=5.6						
JHG	**Hegura jima**	**1.85**	**268**	P	**Pn**	**21 42 39.2**	**+0.3**
JMK	**Ichinoseki**	**1.85**	**56**	P	**Pn**	**21 42 39.1**	**+0.1**
JRY	**Ryogami san**	**1.92**	**188**	P	**Pn**	**21 42 40.5**	**+0.6**
JRY				*eS*	**Sn**	**21 43 07.3**	**+0.6**
JHJ	**Hachijo jima 2**	**4.81**	**175**	P	**Pn**	**21 43 15.4**	**-0.7**
	74nm,0.7s,baz=0.0,slow=20,SNR=1.5						
JHJ				S	**Sn**	**21 44 11.1**	**-0.6**
	28nm,0.3s,baz=59,slow=19,SNR=1.6						
ASAJ	**Asahikawa**	**6.68**	**21**	P	**Pn**	**21 43 40.1**	**-0.7**
	7.2nm,0.9s,baz=190,slow=13,SNR=4.8						
USRK	**Ussuriysk Ar.**	**8.33**	**321**	P	**Pn**	**21 44 03.9**	**+1.2**
	1.9nm,0.7s,baz=134,slow=12,SNR=4.2						
SONM	**Songino Array**	**25.86**	**303**	P	P	**21 47 22.0**	**+0.1**
	0.4nm,0.4s,baz=111,slow=8.0,SNR=3.9						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**40.04**	**312**	P	P	**21 49 23.2**	**-1.1**
	0.6nm,0.4s,baz=95,slow=7.2,SNR=2.6						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**44.10**	**307**	P	P	**21 49 56.5**	**-0.7**
	1.1nm,0.4s,baz=84,slow=8.0,SNR=14						
	1.1nm,0.4s						
BVAR	**Borovoye Array**	**48.70**	**311**	P	P	**21 50 33.4**	**+0.4**
	0.3nm,0.4s,baz=77,slow=7.9,SNR=2.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**57.74**	**185**	P	P	**21 51 39.0**	**-0.4**
	0.3nm,0.6s,baz=7.6,slow=7.7,SNR=1.4						
	0.3nm,0.6s						
DLBC	**Dease Lake**	**58.98**	**38**	P	P	**21 51 48.4**	**+0.7**
	1.0nm,0.4s,baz=307,slow=5.1,SNR=3.1						
	1.0nm,0.4s						

*IDC **28** 22:05:10.6±2.4, 37°.64N×69°.70E, h0km, mb3.5/6, mbtmp3.5/12, ML3.2/6, MS3.0/1, Error ellipse: s-maj=41.0km s-min=15.1km az=149.0*
*NNC **28** 22:05:20.5±1.5, 38°.57N×69°.14E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=11.6km s-min=8.9km az=174.0*
ISC 28 22:05:16.5±1.5, 38°.2N±0°.1×69°.21E±0°.09, h10km, n16, σ1°.77/21, mb3.5/4, 2C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.98**	**11**	⇑Pn	**Pn**	**22 06 32.3**	**+0.9**
	1.1nm,0.2s,baz=197,slow=15,SNR=17						
KK31				Pg	**Pb**	**22 06 44.9**	**+1.1**
	9.1nm,0.4s,baz=193,slow=16,SNR=20						
KK31				⇓Sn	**Sn**	**22 07 28.2**	**-0.8**
	15nm,0.6s						
KK31				Lg	Lg	22 07 46.7	
	72nm,0.8s,baz=194,slow=30,SNR=15						
AAK	**Ala-Archa**	**5.98**	**41**	Pn	**Pn**	**22 06 45.8**	**+0.6**
	1.8nm,0.3s,baz=230,slow=17,SNR=6.3						
AAK				Sn	**Sn**	**22 07 54.3**	**+0.4**
	2.7nm,0.3s,baz=216,slow=17,SNR=4.5						
	2.5nm,0.3s						
AAK	**Ala-Archa**	**5.98**	**41**	⇑Pn	**Pn**	**22 06 46.7**	**+1.5**
	1.4nm,0.6s						
AAK				⇓Sn	**Sn**	**22 07 55.4**	**+1.6**
	4.9nm,0.7s						
AAK				⇓Lg	Lg	22 08 23.2	
	5.3nm,0.6s						
MKAR	**Makanchi Array**	**12.89**	**44**	Pn	**Pn**	**22 08 18.2**	**-1.6**
	0.1nm,0.3s,baz=225,slow=12,SNR=3.6						
MKAR				Lg	Lg	22 12 03.5	
	baz=231,slow=29,SNR=1.4						
	0.3nm,0.7s						
AB31	**Akbulak array**	**12.89**	**332**	Pn	**Pn**	**22 08 21.1**	**+1.3**
	0.6nm,0.3s,baz=145,slow=14,SNR=45						
AB31				⇓Sn	**Sn**	**22 10 40.8**	**-2.4**
	1.2nm,0.6s,baz=156,slow=23,SNR=3.8						
KURBB	**Kurchatov Arra**	**14.06**	**25**	Pn	**Pn**	**22 08 32.1**	**-3.6**
	0.1nm,0.3s,baz=220,slow=8.4,SNR=1.4						
KURBB				Lg	Lg	22 12 29.4	
	0.1nm,0.3s,baz=216,slow=26,SNR=7.1						
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**14.58**	**330**	Pn	**Pn**	**22 08 45.0**	**+2.2**
	0.4nm,0.3s,baz=138,slow=9.5,SNR=4.7						
AKTO				Sn	**Sn**	**22 11 23.1**	**-1.3**
	0.2nm,0.3s,baz=150,slow=20,SNR=1.9						
AKTO				Lg	Lg	22 13 03.1	
	0.1nm,0.3s,baz=211,slow=18,SNR=1.2						
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**14.83**	**3**	Pn	**Pn**	**22 08 45.2**	**-1.0**
	0.1nm,0.3s,baz=186,slow=8.9,SNR=8.0						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**19.03**	**29**	P	**P**	**22 09 37.0**	**-1.4**
	0.2nm,0.3s,baz=229,slow=11,SNR=4.7						
	0.7nm,0.6s						
ARTI	**Arti**	**19.56**	**342**	P	**Pn**	**22 09 45.8**	**+0.2**
	0.8nm,0.4s,baz=126,slow=17,SNR=2.1						
	0.8nm,0.4s						
MLR	**Muntele Rosu**	**32.71**	**297**	LR	LR	22 31 14.4	
	comp=Z,24nm,19.0s,baz=62,slow=47						
FINES	**FINESS Array B**	**35.26**	**325**	P	**P**	**22 12 10.9**	**-0.1**
	0.7nm,0.6s,baz=103,slow=8.1,SNR=1.9						
	0.7nm,0.6s						
ARCES	**ARCESS Array B**	**39.01**	**337**	P	**P**	**22 12 43.9**	**+1.1**
	1.5nm,1.0s,baz=109,slow=7.7,SNR=3.8						
	1.5nm,1.0s						
HFS	**Hagfors**	**40.84**	**321**	P	**P**	**22 13 00.6**	**+2.6**
	0.5nm,0.5s,baz=110,

Fault plane solution: $M_0$1.12000×10^{15} NP1: ϕ_s331.00000°, δ8.00000°, λ159.00000°. NP2:ϕ_s81.00000°, δ87.00000°, λ82.00000°.

*JMA **28** 22:09:15.6±0.1, 26°.6N±0°.5×129°.6E±0°.5, h46km, MV3.7/20, NEAR OKINAWAJIMA ISLAND*

ISC 28 22:09:13.6±1.5, 26°.65N±0°.03×129°.61E±0°.03, h9km±9km, n51, σ1§37/68, mb3.8/17, MS3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.10**	**290**	*i* P	**Pg**	**22 09 34.8**	**+0.1**
JYRO				eS	**Sg**	**22 09 48.8**	**-0.3**
JOKE	**Okinoerabujima**	**1.17**	**308**	*i* P	**Pb**	**22 09 36.1**	**+0.1**
JOW	**Kunigami**	**1.21**	**279**		**Pb**	**22 09 36.3**	**-0.3**
JOW					**Sb**	**22 09 51.0**	**-1.3**
JOW	**Kunigami**	**1.21**	**279**	Pn	**Pb**	**22 09 36.5**	**-0.2**
	351nm,0.3s,baz=114,slow=19,SNR=1135						
JOW				Sn	**Sb**	**22 09 50.9**	**-1.4**
	232nm,0.3s,baz=107,slow=19,SNR=59						
JOW	**Kunigami**	**1.21**	**279**	*i* P	**Pb**	**22 09 36.5**	**-0.2**
JOW				S	**Sb**	**22 09 51.1**	**-1.2**
JTK	**Tokunoshima**	**1.27**	**333**	*i* P	**Pg**	**22 09 37.8**	**-0.4**
JTK				eS	**Sb**	**22 09 52.7**	**-1.7**
JNTH	**Nagotoyohara**	**1.43**	**265**	P	**Pn**	**22 09 39.2**	**-0.5**
JNTH				eS	**Sn**	**22 09 56.5**	**-2.0**
JIH	**Iheya**	**1.52**	**285**	*i* P	**Pn**	**22 09 41.0**	**-0.1**
JIH				eS	**Sn**	**22 09 59.5**	**-1.2**
JAMN	**Amaminishikomi**	**1.63**	**346**	P	**Pn**	**22 09 42.6**	**+0.1**
JAMN				eS	**Sn**	**22 10 02.2**	**-1.5**
JKDJ	**Kitadaitoujima**	**1.67**	**114**	*i* P	**Pn**	**22 09 43.2**	**+0.2**
JKDJ				S	**Sn**	**22 10 03.2**	**-1.3**
JMZ	**Minamidaito 2**	**1.67**	**119**		**Pn**	**22 09 43.1**	**+0.1**
JMZ				Sn	**Sn**	**22 10 01.4**	**-3.1**
JMZ	**Minamidaito 2**	**1.67**	**119**	P	**Pn**	**22 09 42.8**	**-0.2**
JMZ				S	**Sn**	**22 10 01.5**	**-3.1**
JZK	**Kikaishima**	**1.69**	**11**	P	**Pb**	**22 09 44.3**	**-0.6**
JZK				S	**Sb**	**22 10 05.5**	**-0.8**
JJT3	**Tamagusuku3**	**1.71**	**253**	P	**Pn**	**22 09 43.8**	**+0.2**
JJT3				S	**Sn**	**22 10 04.1**	**-1.6**
JAM	**Amami Oshima**	**1.76**	**360**	*i* P	**Pn**	**22 09 44.2**	**0.0**
JAM				eS	**Sn**	**22 10 04.6**	**-2.1**
JAGN	**Aguni-jima**	**2.12**	**269**	P	**Pn**	**22 09 49.4**	**+0.2**
JAGN				eS	**Sn**	**22 10 13.1**	**-2.6**
JKE	**Kume jima 2**	**2.55**	**263**	P	**Pn**	**22 09 54.7**	**-0.5**
JKE				eS	**Sn**	**22 10 24.7**	**-1.6**
JNN	**Nakanoshima**	**3.19**	**4**	P	**Pn**	**22 10 03.9**	**-0.1**
JNN				eS	**Sn**	**22 10 40.4**	**-1.8**
JYAK	**Yakushimahirau**	**3.66**	**12**	P	**Pn**	**22 10 10.7**	**+0.2**
JYAK				S	**Sn**	**22 10 51.1**	**-2.7**
JNU	**Nakatsue**	**6.54**	**9**		**Pn**	**22 10 51.8**	**+1.6**
JNU	**Nakatsue**	**6.54**	**9**	Pn	**Pn**	**22 10 52.0**	**+1.9**
	4.9nm,0.3s,baz=192,slow=11,SNR=31						
JNU				Sn	**Sn**	**22 12 00.5**	**-4.5**
	0.6nm,0.3s,baz=216,slow=19,SNR=1.9 14nm,0.3s						
JMN	**Monobe**	**7.96**	**27**	Pn	**Pn**	**22 11 10.0**	**+0.4**
YULB	**Yu-li**	**8.20**	**249**	Pn	**Pn**	**22 11 12.3**	**-0.7**
KSRS	**Korea Array**	**10.87**	**353**	Pn	**Pn**	**22 11 51.7**	**+2.4**
	0.7nm,0.5s,baz=171,slow=14,SNR=2.1						
USRK	**Ussuriysk Ar.**	**17.62**	**6**	P	**P**	**22 13 22.1**	**+1.8**
	0.2nm,0.3s,baz=191,slow=13,SNR=3.8 2.7nm,0.8s						
XAN	**Xi'an**	**19.29**	**297**	P	**P**	**22 13 39.0**	**+0.1**
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
SONM	**Songino Array**	**27.89**	**325**	P	**P**	**22 15 05.2**	**+1.3**
	comp=Z,1.2nm,0.9s,baz=138,slow=11,SNR=6.3						
SONM				LR	LR	22 27 52.2	
	comp=Z,59nm,18.8s,baz=174,slow=40 comp=Z,1.2nm,0.9s						
KNRA	**Kununurra**	**42.08**	**181**	P	**P**	**22 17 05.9**	**-0.1**
MKAR	**Makanchi Array**	**42.18**	**311**	P	**P**	**22 17 04.6**	**-2.1**
MKAR	**Makanchi Array**	**42.18**	**311**	P	**P**	**22 17 05.8**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=96,slow=12,SNR=4.9 comp=Z,0.1nm,0.4s						
ZALV	**Zalesovo Beam**	**42.67**	**322**	P	**P**	**22 17 10.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=97,slow=12,SNR=2.1 comp=Z,0.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**44.65**	**185**	P	**P**	**22 17 26.2**	**-0.5**
FITZ				IAmb	IAmb	22 17 47.3	
	comp=Z,2.0nm,1.4s						
KURBB	**Kurchatov Arra**	**45.41**	**316**	P	**P**	**22 17 31.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=100,slow=8.8,SNR=5.0 comp=Z,0.4nm,0.3s						
WB0	**Warramunga Arr**	**46.37**	**174**	P	**P**	**22 17 40.4**	**0.0**
WB0				IAmb	IAmb	22 17 44.6	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**46.54**	**174**	P	**P**	**22 17 40.5**	**-1.2**
WRA	**Warramunga Arr**	**46.54**	**174**	P	**P**	**22 17 42.5**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=354,slow=7.8,SNR=13 comp=Z,2.6nm,0.7s						
KKAR	**Karatay Array**	**50.18**	**305**	P	**P**	**22 18 09.6**	**-0.1**
AS31	**Alice Springs**	**50.19**	**175**	P	**P**	**22 18 09.7**	**-0.2**
AS31				IAmb	IAmb	22 18 11.4	
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**50.19**	**175**	P	**P**	**22 18 10.0**	**+0.1**
ASAR	**Alice Springs**	**50.19**	**175**	P	**P**	**22 18 11.0**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=4.0,slow=8.2,SNR=20 comp=Z,1.4nm,0.7s						
BVAR	**Borovoye Array**	**50.79**	**318**	LR	LR	22 42 18.7	
	comp=Z,55nm,18.2s,baz=151,slow=39						
KBL	**Kabul**	**52.06**	**294**	P	**P**	**22 18 24.3**	**+0.1**
KBL				IAmb	IAmb	22 18 28.4	
	comp=Z,3.0nm,0.7s						
BMAR	**Burnt Mountain**	**64.10**	**25**	P	**P**	**22 19 48.5**	**+0.7**
F26K	**Sheenjek River**	**64.23**	**25**	P	**P**	**22 19 50.4**	**+1.7**
F26K				IAmb	IAmb	22 20 20.1	
	comp=Z,5.1nm,1.4s						
KBZ	**Khabaz**	**69.85**	**310**	P	**P**	**22 20 25.5**	**+0.8**
	comp=Z,3.4nm,0.9s,baz=91,slow=4.4,SNR=5.3 comp=Z,3.4nm,0.9s						
FINES	**FINESS Array B**	**73.10**	**331**	P	**P**	**22 20 43.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=63,slow=5.9,SNR=8.9 comp=Z,1.5nm,0.8s						
AKASG	**Malin Array Be**	**76.01**	**320**	P	**P**	**22 21 01.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=64,slow=6.1,SNR=3.1 comp=Z,0.4nm,0.4s						
BBB	**Bella Bella**	**76.45**	**38**	LR	LR	22 53 30.1	
	comp=Z,10.0nm,20.8s,baz=284,slow=35						
BRTR	**Keskin Array B**	**77.75**	**308**	P	**P**	**22 21 12.9**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=64,slow=6.6,SNR=2.0 comp=Z,0.6nm,0.9s						
NOA	**NORSAR Array B**	**79.48**	**334**	P	**P**	**22 21 20.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=53,slow=5.2,SNR=2.2 comp=Z,0.2nm,0.5s						
GERES	**GERESS Array B**	**85.61**	**323**	P	**P**	**22 21 53.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=59,slow=6.1,SNR=1.7 comp=Z,0.1nm,0.3s						

*NEIC **28** 22:15:02.6±1.4, 60°.2S±0°.1×26°.1W±0°.3, h10km±1km, mb4.5/14, Error ellipse: s-maj=24.5km s-min=22.7km az=196.0*

*IDC **28** 22:15:03.5±0.9, 60°.38S×25°.39W, h0km, mb4.1/5, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=32.2km s-min=24.2km az=67.0*

ISC 28 22:15:02.6±0.7, 60°.32S±0°.09×26°.1W±0°.1, h10km, n36, σ1§79/26, mb4.4/9, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.66**	**152**	⇑P	**Pn**	**22 18 00.1**	**-2.3**
	comp=Z,29nm,0.4s						
VNA3	**Neumayer Olymp**	**12.79**	**156**	⇑P	**Pn**	**22 18 01.1**	**-3.1**
	comp=Z,14nm,0.4s						
VNA2	**Neumayer--Watz**	**13.06**	**152**	⇑P	**Pn**	**22 18 05.8**	**-2.0**
	comp=Z,4.9nm,0.4s,baz=309,slow=14						
SNAA	**Sanae**	**14.65**	**150**	⇑P	**Pn**	**22 18 28.1**	**-1.5**
	comp=Z,93nm,0.4s						
SNAA	**Sanae**	**14.65**	**150**		**Pn**	**22 18 26.4**	**-3.1**
SNAA	**Sanae**	**14.65**	**150**	Pn	**Pn**	**22 18 26.8**	**-2.8**
	comp=Z,0.9nm,0.3s,baz=311,slow=14,SNR=22 comp=Z,4.0nm,0.5s						
ESPZ	**Base Esperanza**	**14.83**	**245**	Pn	**Pn**	**22 18 33.1**	**+1.1**
TROLL	**Troll, Antarti**	**16.22**	**148**	⇑P	**Pn**	**22 18 51.2**	**+1.0**
	comp=Z,227nm,0.6s						
BELA	**Belgrano 2**	**17.86**	**186**	P	**Pn**	**22 19 11.3**	**+0.6**
QSPA	**South Pole Qui**	**29.92**	**180**	P	**P**	**22 21 12.5**	**+2.1**
QSPA				IAmb	IAmb	22 21 14.5	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**29.92**	**180**	P	**P**	**22 21 13.4**	**+3.0**
	comp=Z,3.5nm,0.6s,baz=198,slow=2.5,SNR=41 comp=Z,3.5nm,0.6s						
TRQA	**Tornquist**	**31.72**	**298**	P	**P**	**22 21 24.7**	**-1.5**
PLTB	**Pedras Altas**	**33.87**	**315**	P	**P**	**22 21 45.9**	**+0.8**
PLTB				IAmb	IAmb	22 22 00.7	
	comp=Z,11nm,1.1s						
MT09	**Talagante**	**39.33**	**292**	P	**P**	**22 22 30.7**	**-1.1**
MT09				IAmb	IAmb	22 22 31.9	
	comp=Z,11nm,0.8s						
MT02	**Curacav**	**39.83**	**292**	P	**P**	**22 22 35.0**	**-0.8**
CPUP	**Villa Florida**	**40.14**	**314**	P	**P**	**22 22 37.7**	**-0.7**
CPUP	**Villa Florida**	**40.14**	**314**	P	P	22 22 44.0	+5.6
	comp=Z,0.4nm,0.5s,baz=159,slow=17,SNR=4.1 comp=Z,0.4nm,0.5s						
AC02	**Maricunga**	**44.41**	**299**	P	**P**	**22 23 13.2**	**-0.6**
AC02				IAmb	IAmb	22 23 25.0	
	comp=Z,4.7nm,0.9s						
H04S2	**CROZET ISLANDS**	**45.41**	**110**	T	T	23 12 31.6	
	baz=223,slow=75,SNR=4.3						
H04S3	**CROZET ISLANDS**	**45.41**	**109**	T	T	23 12 56.0	
	baz=223,slow=75,SNR=3.8						
H04S1	**CROZET ISLANDS**	**45.42**	**110**	T	T	23 12 31.2	
	baz=223,slow=75,SNR=3.6						
BOSA	**Boshof**	**46.63**	**71**	P	**P**	**22 23 30.1**	**-0.8**
BOSA				IAmb	IAmb	22 23 44.8	
	comp=Z,8.2nm,1.2s						
BOSA	**Boshof**	**46.63**	**71**	P	**P**	**22 23 32.6**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=198,slow=13,SNR=1.5 comp=Z,1.5nm,0.8s						
PB03	**IPOC Station P**	**48.88**	**302**	P	**P**	**22 23 47.7**	**-0.8**
PB01	**IPOC Station P**	**49.66**	**303**	P	**P**	**22 23 53.7**	**-0.7**
PB01				IAmb	IAmb	22 23 55.2	
	comp=Z,5.1nm,0.7s						
H10S2	**ASCENSION HYDR**	**51.96**	**14**	T	T	23 21 31.9	
	baz=184						
H10S3	**ASCENSION HYDR**	**51.97**	**14**	T	T	23 21 43.3	
	baz=36						
H10N1	**ASCENSION HYDR**	**53.08**	**14**	T	T	23 22 59.2	
	baz=190						
H10N3	**ASCENSION HYDR**	**53.08**	**14**	T	T	23 23 02.9	
	baz=190						
H10N2	**ASCENSION HYDR**	**53.10**	**14**	T	T	23 23 00.4	
	baz=190						
LPAZ	**La Paz**		**53.37**	**307**	P	P	22 24 27.9	+5.1
	comp=Z,1.4nm,0.7s,baz=153,slow=9.0,SNR=3.8 comp=Z,1.4nm,0.7s						
BOAV	**Boa Vista**	**68.04**	**322**	P	**P**	**22 26 00.3**	**-1.6**
BOAV				IAmb	IAmb	22 26 01.0	
	comp=Z,2.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.53**	**28**	P	**P**	**22 26 53.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**76.53**	**28**	P	**P**	**22 26 54.6**	**+2.0**
	comp=Z,2.0nm,0.5s,baz=197,slow=5.7,SNR=26 comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**150.15**	**93**	PKPbc	**PKPbc**	**22 34 52.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=238,slow=2.7,SNR=3.7						
ILAR	**Eielson Array**	**153.25**	**305**	PKPbc	**PKiKP**	**22 34 60.0**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=120,slow=7.0,SNR=1.4						

*IDC **28** 22:20:59.9±3.4, 43°.70N×105°.24W, h0km, mbtmp2.9/3, ML3.9/1, Error ellipse: s-maj=47.8km s-min=19.1km az=11.0*

*NEIC **28** 22:21:00.6±2.6, 43°.75N±0°.02×105°.23W±0°.05, h0km±1km, ML3.3/40, Error ellipse: s-maj=7.0km s-min=2.7km az=64.0*

ISC 28 22:21:01.6±1.0, 43°.70N±0°.05×105°.23W±0°.07, h0km, n32, σ1§26/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**64**		**Pb**	**22 21 21.4**	**+0.1**
K22A	**Casper**	**1.42**	**223**		**Pg**	**22 21 27.3**	**-1.4**
LAO	**LASA Array**	**3.07**	**347**	Pn	**Pn**	**22 21 51.2**	**-0.3**
LAO				IAML		22 22 46.2	
	126nm,0.8s						
LAO				IAML		22 22 54.3	
	116nm,0.8s						
RLMT	**Red Lodge**	**3.23**	**298**	Pn	**Pn**	**22 21 53.0**	**-0.7**
RLMT				IAML		22 22 57.5	
	45nm,0.8s						
RLMT				IAML		22 23 03.1	
	60nm,0.8s						
PD31	**Pinedale Array**	**3.30**	**255**	Pn	**Pn**	**22 21 56.1**	**+1.3**
PDAR	**Pinedale Array**	**3.30**	**255**	Pn	**Pn**	**22 21 55.6**	**+0.8**
PDAR	**Pinedale Array**	**3.30**	**255**	Pn	**Pn**	**22 21 56.1**	**+1.3**
	1.7nm,0.3s,baz=77,slow=17,SNR=22						
PDAR				Lg	Lg	22 22 42.1	
	3.4nm,0.3s,baz=84,slow=32,SNR=1.8 1.8nm,0.3s						
HAYD	**Hayden**	**3.52**	**206**		**Pn**	**22 22 00.2**	**+2.4**
LOHW	**Long Hollow**	**3.90**	**271**		**Pn**	**22 22 05.2**	**+2.1**
ISCO	**Idaho Springs**	**3.91**	**184**	Pn	**Pn**	**22 22 04.3**	**+1.1**
ISCO				IAML		22 23 18.1	
	34nm,0.9s						
TPAW	**Teton Pass**	**4.16**	**269**		**Pn**	**22 22 08.1**	**+1.4**
TPAW				IAML		22 23 32.1	
	48nm,0.8s						
TPAW				IAML		22 23 41.2	
	29nm,0.9s						
YHH	**Holmes Hill**	**4.18**	**287**	Pn	**Pn**	**22 22 06.4**	**-0.6**
O20A	**White River Ci**	**4.21**	**213**	Pn	**Pn**	**22 22 07.6**	**+0.3**
O20A				IAML		22 23 29.0	
	40nm,0.9s						
YHL	**Hebgen Lake**	**4.43**	**287**		**Pn**	**22 22 09.5**	**-0.9**
YHL				IAML		22 23 41.4	
	comp=N,27nm,1.0s						
YHL				IAML		22 23 57.9	
	comp=E,37nm,1.2s						
Q24A	**Divide**	**4.73**	**179**		**Pn**	**22 22 14.3**	**-0.2**
Q24A				IAML		22 23 38.7	
	comp=E,29nm,1.0s						
Q24A				IAML		22 23 58.2	
	comp=N,15nm,1.1s						
DGMT	**Dagmar**	**4.82**	**8**		**Pn**	**22 22 17.0**	**+1.5**
BOZ	**Bozeman (W)**	**4.95**	**295**		**Pn**	**22 22 18.7**	**+1.4**
BOZ				IAML		22 23 48.3	
	comp=N,14nm,1.0s						
HWUT	**Hardware Ranch**	**5.12**	**248**		**Pn**	**22 22 20.7**	**+1.0**
HWUT				IAML		22 23 58.3	
	comp=N,22nm,0.9s						
BSUT	**Blindstream Ca**	**5.19**	**234**	Pn	**Pn**	**22 22 20.0**	**-0.9**
BSUT				IAML		22 24 09.4	
	comp=E,14nm,1.1s						
BSUT				IAML		22 24 13.0	
	comp=N,13nm,1.6s						
TCUT	**Toone Canyon**	**5.25**	**243**		**Pn**	**22 22 23.0**	**+1.4**
EGMT	**Eagleton**	**5.36**	**325**		**Pn**	**22 22 25.3**	**+2.5**
P18A	**Preston Nutter**	**5.54**	**224**		**Pn**	**22 22 26.4**	**+0.8**
PV22	**Blue Mesa, Par**	**5.82**	**209**		**Pn**	**22 22 28.5**	**-0.8**
PV21	**Cone Mtn., Par**	**5.86**	**210**		**Pn**	**22 22 29.4**	**-0.6**
PV23	**Carpenter Ridg**	**5.97**	**210**		**Pn**	**22 22 31.5**	**0.0**
PV11	**David Mesa, Pa**	**6.06**	**208**		**Pn**	**22 22 30.9**	**-1.7**
PV16	**Nyswonger Mesa**	**6.06**	**209**		**Pn**	**22 22 31.6**	**-1.1**
S22A	**ÁUR Ranch, Cre**	**6.07**	**192**	Pn	**Pn**	**22 22 31.8**	**-1.1**
ECSD	**EROS Data Cent**	**6.24**	**87**	Pn	**Pn**	**22 22 35.4**	**+0.4**
I56US	**NEWPORT INFRAS**	**9.46**	**303**	I	I	23 17 30.0	
	baz=118,slow=319,SNR=6.4						
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**Pn**	**22 23 43.9**	**+0.9**
	comp=N,0.2nm,0.4s,baz=57,slow=12,SNR=1.3						
TXAR	**Lajitas Array**	**14.39**	**175**	Pn	**Pn**	**22 24 25.8**	**-0.9**
	comp=N,0.2nm,0.6s,baz=8.6,slow=15,SNR=2.0						
TXAR				Lg	Lg	22 28 31.9	
	baz=1.0,slow=27						

*IDC **28** 22:28:33.5±0.8, 35°.78N×27°.63E, h0km, mb3.7/14, mbtmp3.6/22, ML3.2/7, Error ellipse: s-maj=16.1km s-min=12.4km az=155.0*

*NIC **28** 22:28:35.3, 35°.70N×27°.74E, h5km±1km, Ml3.3/12*

*ISK **28** 22:28:36.7, 35°.84N×27°.52E, h10km, ML3.6/21*

*ATH **28** 22:28:36.5, 35°.71N×27°.68E, h15km±2km, ML3.6/11, Manual Solution by M.Papanikolaou First location: 2019/08/28 22:29:17, This location: 2019/08/28 22:37:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*

*THE **28** 22:28:37.5, 36°N±3°×2°.8E±°, h10km±5km, M3.4/11, MLh3.4/11*

*AFAD **28** 22:28:37.2, 35°.87N×27°.47E, h27km±3km, MW3.6*

ISC 28 22:28:36.4±0.9, 35°.73N±0°.03×27°.66E±0°.02, h19km±2km, n99, σ1§22/135, mb3.6/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.44**	**245**	Pg	**Pg**	**22 28 45.3**	**-0.2**
KARP				Sg	**Sg**	**22 28 51.5**	**-0.2**
KARP	**Karpathos**	**0.44**	**245**	P	**Pg**	**22 28 45.4**	**-0.2**
KARP				S	**Sb**	**22 28 53.3**	**+1.3**
KARP				AML	AML	22 28 54.0	
	18nm,0.3s						
KARP				AML	AML	22 28 56.1	
	15nm,0.2s						
KARP	**Karpathos**	**0.44**	**245**	P	**Pg**	**22 28 45.6**	**0.0**
KARP				S	**Sb**	**22 28 52.1**	**+0.1**
ARG	**Arkhangelos**	**0.61**	**38**	Pg	**Pg**	**22 28 48.9**	**+0.2**
ARG				Sg	**Sg**	**22 28 57.5**	**+0.6**
ARG	**Arkhangelos**	**0.61**	**38**	P	**Pg**	**22 28 49.2**	**+0.5**
ARG				S	**Sg**	**22 28 58.0**	**+1.0**
ARG	**Arkhangelos**	**0.61**	**38**	P	**Pb**	**22 28 48.6**	**+0.1**
ARG				S	**Sb**	**22 28 56.8**	**+0.1**
ARG				AML	AML	22 28 59.8	
	18nm,0.4s						
ARG				AML	AML	22 29 00.6	
	14nm,0.3s						
ARG	**Arkhangelos**	**0.61**	**38**	P	**Pg**	**22 28 48.7**	**+0.1**
ARG				S	**Sb**	**22 28 56.9**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.96**	**350**	P	**Pb**	**22 28 54.5**	**0.0**
YAZI				S	**Sn**	**22 29 08.0**	**0.0**
NISR	**Nisiros**	**0.97**	**334**	P	**Pn**	**22 28 54.9**	**-0.1**
DAT	**Datca**	**0.99**	**356**	Pg	**Pb**	**22 28 54.5**	**-0.6**
DATC	**Datca-Mugla**	**1.02**	**0**	Pg	**Pb**	**22 28 54.9**	**-0.6**
DATC				Sg	**Sb**	**22 29 08.4**	**-0.2**
TURN	**Turunc**	**1.14**	**24**	Pn	**Pb**	**22 28 57.9**	**+0.3**
TURN				Sn	**Sg**	**22 29 14.2**	**+0.6**
TURN	**Turunc**	**1.14**	**24**	P	**Pb**	**22 28 57.8**	**+0.3**
TURN				S	**Sg**	**22 29 13.2**	**-0.4**
ZKR	**Zakros**	**1.33**	**243**	Pn	**Pb**	**22 29 01.1**	**+0.4**
ZKR	**Zakros**	**1.33**	**243**	P	**Pb**	**22 29 00.9**	**+0.2**
ZKR	**Zakros**	**1.33**	**243**	P	**Pb**	**22 29 00.8**	**0.0**
ZKR				S	**Sg**	**22 29 20.8**	**+1.4**
ZKR				AML	AML	22 29 21.5	
	5.8nm,0.4s						
ZKR				AML	AML	22 29 25.3	
	2.2nm,0.5s						
ZKR	**Zakros**	**1.33**	**243**	P	**Pb**	**22 29 00.7**	**0.0**
ZKR				S	**Sg**	**22 29 19.5**	**+0.1**
BDRM	**Kayabasi**	**1.34**	**353**	P	**Pb**	**22 29 00.7**	**-0.3**
BDRM				S	**Sn**	**22 29 16.5**	**-0.9**
YKAV	**Yalikavak-Bodr**	**1.42**	**348**	Pn	**Pn**	**22 29 01.6**	**+0.4**
SABU	**Mula-Dalaman**	**1.52**	**44**	P	**Pb**	**22 29 04.6**	**+0.6**
SABU				S	**Sb**	**22 29 24.2**	**+1.3**
MULA	**Mugla, Merkez-**	**1.61**	**19**	P	**Pb**	**22 29 06.0**	**+0.4**
MULA				S	**Sg**	**22 29 27.7**	**-0.8**
KSL	**Kastellorizon**	**1.62**	**75**	P	**Pb**	**22 29 05.5**	**-0.2**
KSL				S	**Sg**	**22 29 28.5**	**-0.2**
KSL	**Kastellorizon**	**1.62**	**75**	P	**Pn**	**22 29 04.9**	**+0.9**
KSL				AML	AML	22 29 29.0	
	1.0nm,0.6s						
KSL				AML	AML	22 29 29.7	
	0.6nm,0.4s						
KSL	**Kastellorizon**	**1.62**	**75**	P	**Pb**	**22 29 05.2**	**-0.5**
NPS	**Neapolis**	**1.73**	**255**	P	**Pb**	**22 29 07.5**	**-0.1**
NPS	**Neapolis**	**1.73**	**255**	P	**Pn**	**22 29 06.4**	**+0.9**
DDIM	**Aydin, Didim**	**1.75**	**349**	P	**Pn**	**22 29 06.2**	**+0.4**
DDIM				S	**Sn**	**22 29 26.9**	**-0.6**
CAME	**Cameli-Denizli**	**1.80**	**47**	Pn	**Pb**	**22 29 08.9**	**+0.1**
THERA	**Ancient Thera,**	**1.88**	**290**	P	**Pn**	**22 29 07.9**	**+0.4**
THERA	**Ancient Thera,**	**1.88**	**290**	P	**Pn**	**22 29 07.7**	**+0.3**
DEMR	**Demre-Antalya**	**1.89**	**74**	Pn	**Pb**	**22 29 11.2**	**+0.8**
DNZT	**Denizli-Tavas-**	**1.90**	**35**	P	**Pb**	**22 29 10.7**	**+0.2**
DNZT				S	**Sb**	**22 29 35.4**	**+1.6**
AYDN	**Tasoluk**	**1.93**	**5**	P	**Pn**	**22 29 09.1**	**+0.8**
AYDN				S	**Sn**	**22 29 31.9**	**-0.2**
SNT5	**Nea Kammeni, S**	**1.95**	**291**	P	**Pn**	**22 29 08.8**	**+0.3**
GCAM	**G?zelcaml?**	**1.99**	**350**	Pn	**Pn**	**22 29 09.7**	**+0.7**
GCAM	**G?zelcaml?**	**1.99**	**350**	P	**Pn**	**22 29 09.8**	**+0.7**
GCAM				S	**Sn**	**22 29 32.3**	**-1.2**
SAP3	**Santorini-Thir**	**2.00**	**291**	P	**Pn**	**22 29 10.4**	**+1.2**
SMG	**Samos**	**2.08**	**342**	P	**Pn**	**22 29 10.4**	**+0.1**
SMG	**Samos**	**2.08**	**342**	P	**Pn**	**22 29 10.4**	**+0.1**
ESEN	**Aydn-Nazilli**	**2.13**	**15**	P	**Pb**	**22 29 12.8**	**-1.6**
ESEN				S	**Sn**	**22 29 37.8**	**+0.9**
APMY	**Acipayam-Deniz**	**2.18**	**37**	Pn	**Pb**	**22 29 14.2**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.22**	**5**	Pn	**Pn**	**22 29 13.1**	**+0.8**
NAZL	**Nazilli-Aydin**	**2.28**	**13**	Pn	**Pn**	**22 29 14.6**	**+1.5**
IDI	**Anoyia**	**2.30**	**260**	Pn	**Pn**	**22 29 14.7**	**+1.3**
IDI	**Anoyia**	**2.30**	**260**	P	**Pn**	**22 29 14.3**	**+1.0**
IDI	**Anoyia**	**2.30**	**260**	Pn	**Pn**	**22 29 14.4**	**+1.0**
	33nm,0.3s,baz=70,slow=15,SNR=84						
IDI				Sn	**Sn**	**22 29 41.6**	**+0.4**
	47nm,0.3s,baz=36,slow=19,SNR=12						
IDI	**Anoyia**	**2.30**	**260**	P	**Pn**	**22 29 14.0**	**+0.6**
KORT	**Korkueli**	**2.52**	**59**	Pn	**Pb**	**22 29 20.1**	**-1.0**
ODEM	**Odemis-Izmir**	**2.56**	**7**

MMAI				Sn		Sn	22 31 32.8	-3.2
	3.8nm,0.3s,baz=313,slow=20,SNR=6.9							
	0.8nm,0.3s							
ASF	Jabal al Asfar	8.46	112	Pn		Pn	22 30 39.6	+1.6
	0.3nm,0.3s,baz=254,slow=7.4,SNR=1.8							
ASF				Sn		Sn	22 32 11.5	-1.5
	0.4nm,0.3s,baz=233,slow=20,SNR=4.0							
	0.6nm,0.3s							
EIL	Elat	8.62	132	Pn		Pn	22 30 39.1	-1.1
	baz=315,slow=2.9,SNR=6.3							
EIL				Sn		Sn	22 32 10.6	-6.3
	0.1nm,0.3s,baz=318,slow=14,SNR=6.3							
MLR	Muntele Rosu	9.83	353	Pn		Pn	22 30 57.3	+0.4
	2.3nm,1.1s,baz=180,slow=11							
AKASG	Malin Array Be	15.00	4	Pn		Pn	22 32 07.5	+0.2
	0.7nm,0.3s,baz=190,slow=11,SNR=4.5							
	0.3nm,0.5s							
VRAC	Vranov	15.80	333	Pn		Pn	22 32 19.5	+1.7
	0.1nm,0.3s,baz=150,slow=13,SNR=2.4							
	1.1nm,0.6s							
GERES	GERESS Array B	16.64	326	Pn		Pn	22 32 27.6	-1.0
	baz=137,slow=12,SNR=5.4							
	0.3nm,0.6s							
BELG	Belogornoye	21.86	34	P		P	22 33 29.1	+1.3
	10nm,0.7s,baz=233,slow=20,SNR=4.1							
	10nm,0.7s							
ESDC	Sonseca Array	25.25	288	P		P	22 34 00.4	-1.0
	0.2nm,0.5s,baz=90,slow=8.8,SNR=5.3							
	0.2nm,0.5s							
FINES	FINESS Array B	25.75	358	P		P	22 34 04.2	-1.3
	1.0nm,0.5s,baz=184,slow=10,SNR=9.2							
FINES			PcP			PcP	22 37 34.1	-0.9
	0.5nm,0.7s,baz=178,slow=4.2,SNR=3.3							
	1.0nm,0.5s							
HFS	Hagfors	26.03	344	P		P	22 34 07.4	-0.7
	0.8nm,0.6s,baz=187,slow=23,SNR=2.4							
	0.8nm,0.6s							
NOA	NORSAR Array B	27.41	343	P		P	22 34 20.5	-0.1
	0.3nm,0.7s,baz=152,slow=9.4,SNR=1.0							
	0.3nm,0.7s							
TORD	Torodi Ar. Bea	32.44	233	P		P	22 35 06.1	+0.6
	1.0nm,0.3s,baz=34,slow=8.7,SNR=29							
	1.0nm,0.3s							
ARCES	ARCESS Array B	33.88	359	P		P	22 35 16.3	-1.2
	1.3nm,0.9s,baz=178,slow=9.1,SNR=13							
	1.3nm,0.9s							
BVAR	Borovoye Array	34.48	46	P		P	22 35 24.0	+1.0
	0.2nm,0.4s,baz=270,slow=4.3,SNR=2.0							
	0.2nm,0.4s							
KURBB	Kurchatov Arra	39.17	51	P		P	22 36 03.8	+1.0
	0.6nm,0.5s,baz=274,slow=8.8,SNR=7.6							
	0.6nm,0.5s							
DBIC	Dimbokro	41.53	234	P		P	22 36 22.8	+0.1
	4.4nm,0.8s,baz=81,slow=8.1,SNR=4.4							
	4.4nm,0.8s							
MKAR	Makanchi Array	41.76	57	P		P	22 36 24.7	+0.3
	0.3nm,0.5s,baz=275,slow=7.7,SNR=6.6							
	0.3nm,0.5s							
ZALV	Zalesovo Beam	43.13	47	P		P	22 36 34.8	-0.6
	0.6nm,0.4s,baz=273,slow=9.7,SNR=4.8							
	0.6nm,0.4s							
SONM	Songino Array	57.54	52	P		P	22 38 24.9	+0.2
	0.3nm,0.5s,baz=292,slow=7.6,SNR=2.1							
	0.3nm,0.5s							
USRK	Ussuriysk Ar.	74.98	46	P		P	22 40 14.7	-1.7
	1.1nm,0.5s,baz=309,slow=8.1,SNR=5.1							
	1.1nm,0.5s							

*IDC **28** 22:44:58.7±1.1,30.°90N×49.°99E,h0km,mb3.8/17, mbtmp3.7/20,ML3.5/3,MS3.0/1, Error ellipse: s-maj=23.2km s-min=14.9km az=177.0*
*NEIC **28** 22:45:00.9±1.4,30.°87N±0.°07×50.°12E±0.°09,h10km±1km, mb4.0/17, Error ellipse: s-maj=16.3km s-min=4.0km az=48.0*
*TEH **28** 22:45:01.8,30.°91N×50.°15E,h16km±14km*
*SGS **28** 22:45:02.5,31.°18N×50.°18E,h24km,Ml4.2*
*OMAN **28** 22:45:09.0±0.2,30.°50N×50.°61E,h11km,mb4.6/21, Error ellipse: s-maj=4.8km s-min=3.7km az=22.0*
*DSN **28** 22:45:09.8±1.9,30.°13N×50.°23E,h10km,ML3.7/13, Error ellipse: s-maj=24.4km s-min=10.2km az=3.0*

ISC 28 22:45:00.5±0.4,30.°91N±0.°04×50.°20E±0.°04,h10km,n152, σ2s21/175,mb3.9/21,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABEH	Behbahan	0.31	172	Pg	Pg	22 45 08.9	+2.1
KLNJ	Kolanjah	1.20	85	Pg	Pn	22 45 24.9	+1.2
ZNGN	Zangian	1.32	25	Pg	Pn	22 45 26.9	+1.5
IBRJ	Brojen	1.34	42	Pg	Pn	22 45 27.3	+1.7
JHBN	Jahan bin	1.37	17	Pg	Pb	22 45 27.9	+1.4
AHWZ	Ahwaz	1.40	288	Pg	Pg	22 45 27.8	+0.3
IPIR	Pirpir	1.86	18	Pn	Pb	22 45 35.4	+0.6
IGAR	Gharneh	2.16	46	Pn	Pn	22 45 39.8	+3.0
SHI	Shiraz	2.36	122	Pn	Pn	22 45 42.7	+3.2
IKLH	Kolahrood	2.67	26	Pn	Pn	22 45 46.8	+3.0
IZEF	Zefreh	2.68	42	Pn	Pn	22 45 47.4	+3.4
DSBU	Dashti - Bushe	2.70	160	Pn	Pn	22 45 46.5	+2.5
KFJS2	Khafji	3.00	212	P	Pn	22 45 50.7	+2.6
KFJS2	Khafji	3.00	212	S	Sn	22 46 27.5	+3.3
BDRS	Dareh Seyedi	3.23	340	Pn	Pn	22 45 53.7	+2.1
KFJS1	Al Wafrah	3.35	217	P	Pn	22 45 55.5	+2.5
QIR1	Qir	3.46	134	Pn	Pn	22 45 56.9	+2.4
ANAR	Anarak	3.76	52	Pn	Pn	22 46 01.9	+3.2
IMEH	Mehriz	3.81	82	Pn	Pn	22 46 02.6	+3.2
ICHK	Chekchek	3.83	66	Pn	Pn	22 46 02.8	+3.1
IQOM	Qom	3.99	10	Pn	Pn	22 46 04.5	+2.5
HAGD	Aghdareh	4.00	347	Pn	Pn	22 46 04.1	+2.0
IBZA	Bozab	4.06	332	Pn	Pn	22 46 05.0	+2.1
QYSM	Um Kedad	4.21	224	P	Pg	22 46 21.8	+0.7
IVRN	Varamin	4.27	17	Pn	Pn	22 46 08.4	+2.7
WANAN	Al Wanan	4.28	201	S	Sn	22 46 56.9	+1.3
WANAN	Al Wanan	4.28	201	P	Pn	22 46 07.9	+2.2
ILBA	Ilam Banvizeh	4.33	310	Pn	Pn	22 46 07.6	+1.1
SNQR	Sonqor, Kerman	4.49	332	Pn	Pn	22 46 10.7	+1.8
IBAF	Bafgh	4.64	80	Pn	Pn	22 46 13.8	+3.0
HGHA	Hamedan- Ghaye	4.70	346	Pn	Pn	22 46 13.8	+2.1
QABG	Abgarm-Qazvin	4.81	354	Pn	Pn	22 46 15.8	+2.5
GLG1	Golan-e-Gharb	4.83	312	Pn	Pn	22 46 14.8	+1.4
IDMV	Damavand	4.90	18	Pn	Pn	22 46 17.0	+2.5
SAKB	Bahrain	4.92	177	P	Pn	22 46 17.1	+2.6
SAKB				S	Sn	22 47 12.9	+1.3
IDHR	Dehrash	4.96	321	Pn	Pn	22 46 17.0	+1.8
ILAS	Lasjerd	5.02	27	Pn	Pn	22 46 18.7	+2.6
BOQSS		5.08	188	P	Pn	22 46 19.3	+2.6
SMAN	Sihmah	5.08	202	P	Pg	22 46 39.4	+1.7
SHMA	Al-Shehemyia	5.08	172	P	Pn	22 46 18.9	+2.2
	SNR=26						
SHMA				S	Sn	22 47 16.1	+0.6
RQBS	RQBS	5.14	227	P	Pn	22 46 18.7	+1.1
IFIR	Firoozkooh	5.18	24	Pn	Pn	22 46 21.1	+2.8
KHGB	Koh Gabri	5.43	94	Pn	Pn	22 46 24.3	+2.6
IGZV	Ghazvin	5.46	0	Pn	Pn	22 46 24.7	+2.5
IALA	Alasht	5.60	22	Pn	Pn	22 46 27.1	+3.0
IPRN	Peran	5.61	18	Pn	Pn	22 46 26.7	+2.6
KRBR	Kerman	5.74	98	Pn	Pn	22 46 29.2	+3.2
NGRK	Negar Kerman	5.78	101	Pn	Pn	22 46 30.1	+3.4
TPRV	Parvadeh(Tabas	5.90	67	Pn	Pn	22 46 31.3	+3.2
IKIA	Kiasar	6.03	28	Pn	Pn	22 46 32.9	+3.0
TNSJ	Nastanj	6.21	59	Pn	Pn	22 46 35.6	+3.2
TRNA	Turayna	6.22	172	P	Pn	22 46 34.3	+2.0
TRNA				S	Sn	22 47 42.7	-0.8
NHRD	Haradh	6.25	190	P	Pn	22 46 34.5	+1.6
RMAH	Rumah	6.27	209	P	Pn	22 46 34.0	+0.8
MJMS	Al Majmaah	6.28	221	S	Sn	22 47 47.2	+1.9
MJMS				P	Pn	22 46 34.0	+0.7
IGLO	Ghaloghah	6.34	27	Pn	Pn	22 46 37.4	+3.1
JRN	Qarnain Island	6.39	158	P	Pn	22 46 37.2	+2.5
JRN				S	Sn	22 47 46.6	-1.1
TKDS	Koohdasht(Taba	6.45	64	Pn	Pn	22 46 38.7	+3.1
SLWR	Sila	6.94	169	P	Pn	22 46 44.2	+1.9
SLWR				S	Sn	22 48 00.2	-1.2
TAPT	Tabas- Tapeh t	7.06	54	Pn	Pn	22 46 46.7	+2.6
SHME	Shamm	7.12	131	P	Pn	22 46 46.6	+1.8
SHME				S	Sn	22 48 02.3	-3.5
SHME	Shamm	7.12	131	P	Pn	22 46 46.6	+1.8
ISRB	Sarab	7.21	344	Pn	Pn	22 46 48.4	+2.2
GHWR	Ruwais	7.32	160	P	Pn	22 46 49.3	+1.9
GHWR				S	Sn	22 48 08.7	-1.9
KBAM	BAM	7.37	102	Pn	Pn	22 46 50.7	+2.5
AJN	Ajban	7.61	145	P	Pn	22 46 53.8	+2.4
AJN				S	Sn	22 48 15.2	-2.6
MASF	Masafi	7.62	135	P	Pn	22 46 52.8	+1.1
MASF				S	Sn	22 48 14.3	-3.8
NAZ	Nazwa, Dubai	7.62	139	P	Pn	22 46 53.7	+2.1
	SNR=9.2						
NAZ	Nazwa, Dubai	7.62	139	*i* P	Pn	22 46 53.5	+1.8
	SNR=7.8						
MSFE	Esma-Masafi	7.63	135	P	Pn	22 46 52.9	+1.1
ASUD	Al Ashush, Dub	7.73	143	P	Pn	22 46 55.2	+2.0
	SNR=25						
ASUD				S	Sn	22 48 19.0	-1.9
ASUD	Al Ashush, Dub	7.73	143	*i* P	Pn	22 46 55.0	+1.8
	SNR=25						
MDH	Madha	7.76	135	P	Pn	22 46 54.7	+1.2
MDH				S	Sn	22 48 17.1	-4.4
FAQ	Al Faqa, Dubai	7.78	141	P	Pn	22 46 55.5	+1.8
FAQ				S	Sn	22 48 18.6	-3.3
FAQ	Al Faqa, Dubai	7.78	141	P	Pn	22 46 55.3	+1.5
QSMS	Sumairaa	7.83	239	P	Pn	22 46 53.9	-0.8
IHRS	Heris	7.83	341	Pn	Pn	22 46 57.1	+2.4
MZWR	Madinat Zayed	7.84	154	P	Pn	22 46 56.6	+2.0
MZWR				S	Sn	22 48 21.0	-2.4
UOSS	Minazif	7.97	137	Pn	Pn	22 46 57.6	+1.2
UOSS	Minazif	7.97	137	P	Pn	22 46 58.7	+2.4
UOSS				S	Sn	22 48 21.5	-5.1
UOSS	Minazif	7.97	137	P	Pn	22 46 58.1	+1.7
HATD	Hatta, Dubai	8.02	138	P	Pn	22 46 58.5	+1.4
HATD				S	Sn	22 48 24.5	-3.3
HATD	Hatta, Dubai	8.02	138	P	Pn	22 46 58.3	+1.3
ASHO	Ashiyiah	8.08	139	P	Pn	22 46 59.4	+1.4
	SNR=17						
ASHO				S	Sn	22 48 25.8	-3.7
ASHO	Ashiyiah	8.08	139	*i* P	Pn	22 46 58.9	+0.9
	SNR=17						
ASHO				S	Sn	22 48 24.6	-5.0
MZR	Muzera	8.40	159	P	Pn	22 47 03.9	+1.5
	SNR=8.1						
MZR				S	Sn	22 48 34.4	-2.9
MZR	Muzera	8.40	159	*i* P	Pn	22 47 03.4	+1.1
	SNR=9.8						
ALNE	Al Ain	8.42	143	P	Pn	22 47 04.3	+1.7
ALNE				S	Sn	22 48 34.3	-3.4
ALNE	Al Ain	8.42	143	P	Pn	22 47 03.8	+1.2
RAYN	Ar Rayn	8.46	211	Pn	Pn	22 47 01.8	-1.4
RAYN	Ar Rayn	8.46	211	P	Pn	22 47 02.4	-0.8
SOHO	SOHO	8.78	139	P	Pn	22 47 08.3	+0.7
SOHO				S	Sn	22 48 43.6	-3.0
SOHO	SOHO	8.78	139	P	Pn	22 47 07.6	+0.1
ISFR	Sfrayin	8.91	44	Pn	Pn	22 47 13.1	+3.5
SHRT	Shahrakht	8.96	70	Pn	Pn	22 47 13.5	+3.4
UMZA	Um Al Zommool	9.29	150	P	Pn	22 47 16.0	+1.5
UMZA				S	Sn	22 48 54.4	-4.6
ARQ	Araqi	9.41	142	P	Pn	22 47 18.0	+1.8
	SNR=10						
ARQ				S	Sn	22 48 58.1	-4.1
HOQ	Hoqain	9.65	137	P	Pn	22 47 21.3	+1.7
HOQ				S	Sn	22 49 01.9	-6.2
BIDO	Bidbid	10.19	134	P	Pn	22 47 27.6	+0.7
SMDO	Samad	10.49	136	P	Pn	22 47 32.3	+1.2
SMDO				S	Sn	22 49 24.0	-4.7
WSAR	Wadi Sarin	10.71	134	Pn	Pn	22 47 34.2	+0.2
	baz=322,slow=19,SNR=8.0						
WSAR				Sn	Sn	22 49 27.1	-6.9
	baz=323,slow=20,SNR=5.6						
WSAR	Wadi Sarin	10.71	134	P	Pn	22 47 34.6	+0.6
WSAR				S	Sn	22 49 27.1	-6.9
JMDD	Jabal Madar	11.05	138	P	Pn	22 47 40.3	+1.6
NGCH	Negor - Chabah	11.12	117	P	Pn	22 47 39.2	-0.3
ASF	Jabal al Asfar	11.42	280	Pn	Pn	22 47 40.6	-3.3
	0.3nm,0.3s,baz=72,slow=19,SNR=2.2						
ASF				Sn	Sn	22 49 40.1	-11
	0.2nm,0.3s,baz=66,slow=19,SNR=1.6						
ASF				Lg	Lg	22 50 55.0	
	baz=126,slow=14						
	0.8nm,0.3s						
JLN	Jalan Bani Buh	12.00	134	P	Pn	22 47 54.6	+3.0
MHTO	MHTO	12.10	143	P	Pn	22 47 53.3	+0.3
	SNR=9.7						
GHAJ	Ghor Haditha	12.55	276	Pn	Pn	22 47 59.6	+0.5
MMAI	Mount Meron Ar	12.74	283	Pn	Pn	22 47 58.9	-3.0
	0.4nm,0.3s,baz=108,slow=17,SNR=1.9						
	0.2nm,0.3s						
DOK	Doka	12.75	163	P	Pn	22 48 02.0	+0.1
	SNR=15						
EIL	Elat	13.24	269	Lg	Lg	22 51 55.6	
	baz=76,slow=12,SNR=1.3						
BRTR	Keskin Array B	16.11	308	Pn	Pn	22 48 45.4	-1.8
	0.1nm,0.3s,baz=118,slow=12,SNR=4.6						
	0.4nm,0.7s						
SIMJ	Simiganj	17.25	58		Pn	22 49 03.8	+2.1
CHGR	Chuyangaron	17.36	58		P	22 49 05.6	+1.3
CHGR				IAmb	IAmb	22 49 06.9	
	comp=Z,7.5nm,0.7s						
AB31	Akbulak array	19.75	19	P	P	22 49 30.7	+0.3
ABKAR	Akbulak array	19.75	19	P	P	22 49 30.8	+0.4
KK31	Karatay Array	20.21	47	P	P	22 49 36.3	+0.7
KK31				IAmb	IAmb	22 49 40.2	
	comp=Z,4.7nm,1.1s						
KKAR	Karatay Array	20.21	47	P	P	22 49 36.8	+1.2
AKTO	Aktyubinsk	20.36	14	P	P	22 49 37.7	+0.7
	comp=Z,2.0nm,0.4s,baz=203,slow=9.8,SNR=7.4						
	comp=Z,2.0nm,0.4s						
ARSB	Arslanbob	21.07	54	P	P	22 49 45.9	+0.8
ARSB				IAmb	IAmb	22 49 55.7	
	comp=Z,4.0nm,0.7s						
BELG	Belogornoye	21.55	356	P	P	22 49 49.3	-0.5
	comp=Z,11nm,0.6s,baz=172,slow=7.1,SNR=5.8						
	comp=Z,11nm,0.6s						
ITM	Ithomi	24.20	293	P	P	22 50 17.8	+0.5
TARG	Taragay, Kyrgy	24.62	56	P	P	22 50 23.0	+1.5
TARG				IAmb	IAmb	22 50 30.4	
	comp=Z,2.0nm,0.7s						
AKASG	Malin Array Be	25.20	328	P	P	22 50 26.1	0.0
AKASG	Malin Array Be	25.20	328	P	P	22 50 25.3	-0.8
	comp=Z,0.8nm,0.5s,baz=133,slow=9.3,SNR=6.6						
	comp=Z,0.8nm,0.5s						
AKBB	Malin Array Si	25.20	328	P	P	22 50 25.5	-0.6
AKBB				IAmb	IAmb	22 50 50.4	
	comp=Z,4.0nm,1.2s						
FNA	Florina	25.26	301	P	P	22 50 27.0	+0.1
BURAR	Bucovina Array	25.38	318	P	P	22 50 28.0	+0.1
BUR08	Bucovina Ar. S	25.41	318	P	P	22 50 27.9	-0.2
BUR08				IAmb	IAmb	22 50 42.1	
	comp=Z,4.8nm,1.3s						
ARTI	Arti	26.11	10	LR	LR	23 03 32.9	
	comp=Z,32nm,18.2s,baz=148,slow=43						
BVAR	Borovoye Array	26.54	28	P	P	22 50 38.8	+0.6
	comp=Z,1.4nm,0.7s,baz=224,slow=6.0,SNR=8.2						
	comp=Z,1.4nm,0.7s						
KURBB	Kurchatov Arra	28.84	39	P	P	22 51 00.9	+2.0
	comp=Z,0.5nm,0.7s,baz=241,slow=9.4,SNR=4.4						
	comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	29.34	48	P	P	22 51 03.4	0.0
MKAR	Makanchi Array	29.34	48	P	P	22 51 04.6	+1.2
	comp=Z,0.6nm,0.8s,baz=251,slow=7.9,SNR=5.1						
	comp=Z,0.6nm,0.8s						
ZALV	Zalesovo Beam	33.86	37	P	P	22 51 43.7	+0.7
	comp=Z,0.3nm,0.3s,baz=252,slow=7.4,SNR=4.2						
	comp=Z,0.3nm,0.3s						
KEST	Kesra	34.30	289	P	P	22 51 44.7	-2.5
	comp=Z,1.8nm,0.6s,baz=100,slow=6.1,SNR=4.3						
	comp=Z,1.8nm,0.6s						
FIA1	FINESS Array S	34.39	340	P	P	22 51 46.8	-0.7
FINES	FINESS Array B	34.39	340	P	P	22 51 46.5	-1.0
FINES	FINESS Array B	34.39	340	P	P	22 51 46.3	-1.2
	comp=Z,0.9nm,0.2s,baz=137,slow=7.8,SNR=26						
	comp=Z,0.9nm,0.2s						
HFS	Hagfors	37.97	331	P	P	22 52 17.0	-1.2
	comp=Z,1.0nm,0.5s,baz=131,slow=7.5,SNR=8.2						
	comp=Z,1.0nm,0.5s						
NC405	NORSAR Array S	39.33	332	P	P	22 52 28.5	-1.1
NC405				IAmb	IAmb	22 52 39.0	
	comp=Z,8.9nm,1.2s						
NOA	NORSAR Array B	39.49	331	P	P	22 52 30.1	-0.9
	comp=Z,0.3nm,0.6s,baz=122,slow=8.9,SNR=3.7						
	comp=Z,0.3nm,0.6s						
KEV	Kevo	41.05	348	P	P	22 52 43.5	-0.1
ARCES	ARCESS Array B	41.14	347	P	P	22 52 44.0	-0.5
	comp=Z,0.7nm,0.9s,baz=147,slow=8.0,SNR=5.9						
	comp=Z,0.7nm,0.9s						
ESDC	Sonseca Array	44.49	297	P	P	22 53 12.1	-0.1
	comp=Z,0.1nm,0.4s,baz=87,slow=9.4,SNR=1.3						
	comp=Z,0.1nm,0.4s						
EKA	Eskdalemuir Ar	44.56	319	P	P	22 53 11.2	-1.2
	comp=Z,0.7nm,0.7s,baz=108,slow=7.4,SNR=1.5						
	comp=Z,0.7nm,0.7s						
CMAR	Chiang Mai Arr	45.66	94	P	P	22 53 22.5	+0.9
	comp=Z,1.8nm,0.3s,baz=302,slow=6.5,SNR=2.3						
	comp=Z,1.8nm,0.3s						
TORD	Torodi Ar. Bea	47.92	259	P	P	22 53 37.8	-1.5
TORD				IAmb	IAmb	22 53 49.7	
	comp=Z,1.3nm,1.2s						
TORD	Torodi Ar. Bea	47.92	259	P	P	22 53 38.4	-0.9
	comp=Z,0.5nm,0.4s,baz=59,slow=8.1,SNR=13						
	comp=Z,0.5nm,0.4s						
KOOLE	Kule	60.84	212	P	P	22 55 12.6	-0.7
ILAR	Eielson Array	83.70	7	P	P	22 57 29.0	-0.2
	comp=Z,0.2nm,0.6s,baz=320,slow=3.9,SNR=2.7						
	comp=Z,0.2nm,0.6s						
TXAR	Lajitas Array	115.13	335	PKP	PKiKP	23 03 40.8	-1.8
	comp=Z,0.4nm,0.6s,baz=354,slow=2.4,SNR=2.7						

KRSC 28 22:56:03.9±3.0,49.°38N×156.°97E,h8km±57km,Ml3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.41	338	*e*P	Pn	22 56 27.6	-2.2
SKR				*e*S	Sb	22 56 46.9	-1.7
PAU	Pauzhetka	2.09	357	*e*P	Pb	22 56 41.4	-0.5
PAU				*e*S	Sb	22 57 08.5	+0.4
MTVR	Mutnovka	3.20	13	*e*P	Pb	22 56 58.5	-2.5
KOK	Koryaka	4.05	14	*e*P	Pb	22 57 11.8	-3.7
KRX	Arik	4.12	14	*e*P	Pb	22 57 12.4	-4.2
MKZ	Mys Kozlova	5.96	28	*e*P	Pn	22 57 35.7	+3.4

*IDC **28** 22:56:25.9±0.7,31.°92N×142.°48E,h0km,mb3.9/14, mbtmp3.9/18,ML3.7/4,MS2.9/4, Error ellipse: s-maj=22.0km s-min=16.3km az=60.0*
*NEIC **28** 22:56:28.1±1.2,31.°98N±0.°04×142.°4E±0.°1,h10km±1km, mb4.4/12, Error ellipse: s-maj=15.9km s-min=6.0km az=72.0*
*NIED **28** 22:56:29.7,32.°08N×142.°43E,h62km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=-0.86; Mθθ0.22; Mφφ0.64; Mrθ-0.63; Mθφ0.11; Mφ/0.58; Fault plane solution: Mo1.09000×10¹⁵ NP1:φs15.00000°, δ27.00000°,λ-52.00000°. NP2:φs153.00000°,δ69.00000°, λ-107.00000°.*
*JMA **28** 22:56:29.7±0.4,32.°N±1.°×14.°2E±.°,h62km,MV4.3/22,FAR E OFF IZU ISLANDS*

ISC 28 22:56:32.3±0.6,32.°02N±0.°06×142.°37E±0.°07,h44km,n59, σ1s79/66,mb4.0/20,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.25	282	P	Pn	22 57 06.2	-0.8
JHCJ	Hachijojimakas	2.41	296	*e*P	Pn	22 57 07.8	-1.4
JHJ2	Mitsune	2.41	297	Pn	Pn	22 57 07.6	-1.6
JHJ2				Sn	Sn	22 57 36.3	-1.2
JHJ2	Mitsune	2.41	297	P	Pn	22 57 07.9	-1.3
JHJ2				*e*S	Sn	22 57 36.8	-0.7
JHJ	Hachijo jima 2	2.44	297	Pn	Pn	22 57 07.6	-2.0
	37nm,0.3s,baz=108,slow=20,SNR=21						
JHJ				Sn	Sn	22 57 34.9	-3.3
	83nm,0.3s,baz=108,slow=20,SNR=7.0						
	74nm,0.3s						
BSO1	Boso 1	2.87	336	*e*P	Pn	22 57 14.1	-0.9
BSO1				*e*S	Sn	22 57 50.3	+2.3
JMYK	Miyake Tsubota	3.12	311	*e*S	Sn	22 57 54.3	-0.6
BSO3	Boso 3	3.18	331	*e*P	Pn	22 57 18.6	-0.9
BSO3				*e*S	Sn	22 57 55.7	-0.3
JOD2	Odawara 2	4.23	321	P	Pn	22 57 32.8	-1.4
JOD2				*e*S	Sn	22 58 21.1	-1.3
JYN	Shimob	4.71	318	P	Pn	22 57 40.7	-0.1
JYN				*e*S	Sn	22 58 34.1	-0.1
CBIJ	Chichi jima	4.91	182	*e*P	Pn	22 57 39.9	-3.7
CBIJ				*e*S	Sn	22 58 32.5	-6.7
JCJ	Chichijima	4.91	182	Pn	Pn	22 57 39.5	-4.1
JCJ	Chichijima	4.91	182	Pn	Pn	22 57 38.8	-4.8
	13nm,0.3s,baz=342,slow=20,SNR=36						
JCJ				Sn	Sn	22 58 29.7	-9.5
	21nm,0.3s,baz=308,slow=19,SNR=5.5						
JCJ				LR	LR	23 01 20.2	
	comp=Z,51nm,18.0s,baz=92,slow=61						
	30nm,0.3s						
JRY	Ryogami san	4.91	325	*e*P	Pn	22 57 42.4	-1.2
JRY				*e*S	Sn	22 58 38.4	-0.8
JAG	Ashikaga	5.01	332	*i* P	Pn	22 57 43.6	-1.3
JAG				*e*S	Sn	22 58 40.7	-0.8
JGF	Kuroka	5.49	312		Pn	22 57 51.1	-0.4
MJAR	Matsushiro Arr	5.67	324		Pn	22 57 53.5	-0.5
MJAR	Matsushiro Arr	5.67	324	Pn	Pn	22 57 52.6	-1.4
	1.3nm,0.3s,baz=144,slow=11

FINES **FINESS Array B** 73.62 333 P P 23 08 00.9 +0.3
comp=Z,1.4nm,0.7s,baz=58,slow=5.4,SNR=6.6
comp=Z,1.4nm,0.7s
NVAR **Mina Array Bea** 77.38 53 P P 23 08 22.9 -0.1
comp=Z,0.3nm,0.2s,baz=315,slow=10.0,SNR=2.0
comp=Z,0.3nm,0.2s
HFS **Hagfors** 78.98 337 P P 23 08 31.4 +0.3
comp=Z,1.2nm,0.7s,baz=98,slow=4.4,SNR=1.9
comp=Z,1.2nm,0.7s
NB2 **NORSAR Subarra** 79.11 338 P P 23 08 32.7 +0.8
comp=Z,0.5nm,0.7s,baz=41,slow=5.3
NOA **NORSAR Array B** 79.11 338 P P 23 08 32.3 +0.5
comp=Z,0.9nm,0.8s,baz=41,slow=4.8,SNR=3.9
comp=Z,0.9nm,0.8s
PDAR **Pinedale Array** 80.62 45 P P 23 08 40.7 0.0
comp=Z,0.2nm,0.4s,baz=308,slow=3.9,SNR=2.3
comp=Z,0.2nm,0.4s
TXAR **Lajitas Array** 92.53 53 P P 23 09 40.3 +1.1
comp=Z,0.3nm,0.5s,baz=287,slow=4.2,SNR=4.1
comp=Z,0.3nm,0.5s
LPAZ **La Paz** 148.21 68 PKPbc PKPbc 23 16 15.3 +0.5
comp=Z,1.4nm,0.8s,baz=323,slow=5.1,SNR=6.5

NEIC ***28*** *22:58:06.2±0.8, 35.°120N±0.°009×97.°78W±0.°01, h5km±1km, ML1.7/26, ML2.0/5, Error ellipse: s-maj=2.7km s-min=2.0km az=328.0*
NEIC 28 22:58:06.3±0.9, 35.12N±0.°01×97.78W±0.°01, h8km±3km, Error ellipse: s-maj=1.7km s-min=1.3km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	0.40	43		Pg	22 58 14.2	+0.1
OKCFA					Sg	22 58 19.8	+0.5
X34A	**Smith Ranch, M**	0.52	185		Pg	22 58 16.8	+0.4
WMOK	**Wichita Mounta**	0.91	245		Pg	22 58 23.9	+0.1
WMOK				Sg	Sg	22 58 35.4	-0.2
DEOK	**Depew**	1.27	55		Pn	22 58 29.3	-1.1
DEOK					Sb	22 58 46.5	-0.5
DEOK	comp=E,18nm,2.9s			IAML		22 58 51.1	
DEOK	comp=N,16nm,0.2s			IAML		22 58 54.6	
CROK	**Carrier**	1.39	353		Pn	22 58 31.5	-0.6
WTFS	**Witchita Falls**	1.47	203		Pn	22 58 32.8	-0.4
OK038	**West end E0370**	1.56	330		Pn	22 58 34.2	-0.2
RLO	**Rose Lookout**	2.47	64	Pn	Pn	22 58 47.1	+0.1
MIAR	**Mount Ida**	3.50	98	Pn	Pn	22 59 01.6	+0.4

IDC ***28*** *23:17:20.9±0.9, 8.°86N×82.°68W, h0km, mb3.9/7, mbtmp4.2/14, ML3.8/6, MS3.5/18, Error ellipse: s-maj=30.3km s-min=15.3km az=33.0*
NEIC ***28*** *23:17:23.9±1.8, 8.°39N±0.°05×82.°88W±0.°04, h22km±4km, mb4.5/56, Error ellipse: s-maj=7.1km s-min=5.2km az=178.0*
UCR ***28*** *23:17:23.0±1.3, 8.°34N×82.°86W, h28km±2km, MW5.0, Fault plane solution: NP1:φs108.49000°, δ65.10000°, λ-2.33000°.*
CATAC ***28*** *23:17:23.2±0.4, 8.°1N±3.°×8.°3W±.°, h17km±1km, M5.2/24, MLv5.2/24, Error ellipse: s-maj=6.7km s-min=3.5km az=15.1, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.20; Mθθ0.98; Mφφ-1.18; Mrθ-0.20; Mrφ0.07; Mθφ0.17; Fault plane solution: M0 1.12710×10^16 NP1: φs313.91124°, δ85.68600°, λ14.95031°. NP2: φs222.76056°, δ75.09303°, λ175.53546°. Principal axes: T 1.0265, Plg13.5971°, Azm179.2535°; N 0.1796, Plg74.4534°, Azm329.6443°; P -1.2061, Plg7.3952°, Azm87.4545°; confirmed*
UPA ***28*** *23:17:23.9±1.7, 8.°45N×82.°85W, h15km±2km, MW4.8*
ISC 28 23:17:24.2±0.6, 8.42N±0.02×82.87W±0.02, h31km±4km, n322, σ1°32/348, mb4.5/28, MS3.4/12, 44C-46D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	0.12	16	↑eP	Pb	23 17 29.2	-0.6
LPPC				eS	Sb	23 17 33.9	+0.3
CDITO	**Canoas**	0.15	0	S	Sn	23 17 34.8	+0.4
CDITO	**Canoas**	0.15	0	↑P	Pb	23 17 29.4	-0.7
PTPM	**Petroterminale**	0.21	182	↓eP	Pb	23 17 29.7	-1.0
PTPM				eS	Sb	23 17 33.9	-1.1
BRRLN	**Bren.**	0.22	16	↑eP	Pb	23 17 30.4	-0.5
PTPA	**Petro Terminal**	0.22	179	eP	Pb	23 17 29.6	-1.2
NELY	**Ciudad Neily**	0.24	343	↑eP	Pb	23 17 30.2	-0.8
NELY				eS	Sn	23 17 36.3	-0.2
DMCAL	**E. de Neily**	0.26	17	↑eP	Pb	23 17 30.9	-0.4
FITO	**Golfito**	0.35	306	↑eP	Pb	23 17 30.6	-1.8
FITO				eS	Sb	23 17 36.9	-1.0
EDAD	**Golfito**	0.37	309	↑eP	Pb	23 17 31.1	-1.7
EDAD				eS	Sb	23 17 37.8	-0.9
VITO	**San Vito**	0.41	346	↑eP	Pb	23 17 33.0	-0.4
VITO				eS	Sn	23 17 41.3	+0.4
CLLRA	**Cordillera,**	0.41	38	↓iP	Pb	23 17 32.9	-0.6
BRU2	**Volcan**	0.41	26		Pb	23 17 33.0	-0.5
BRU2				Sg	Sn	23 17 40.7	-0.3
BRU2	**Volcan**	0.41	26	↑iP	Pb	23 17 33.0	-0.5
BRU2				eS	Sn	23 17 41.2	+0.2
BRU2	**Volcan**	0.41	26	↑iP	Pb	23 17 33.0	-0.5
BRU2				eS	Sb	23 17 38.6	-1.2
BRU2	**Volcan**	0.41	26	↓eP	Pb	23 17 32.7	-0.8
BRU2				eS	Sn	23 17 40.9	-0.2
BRU2	**Volcan**	0.41	26	S	Sn	23 17 41.1	+0.1
BRU2	**Volcan**	0.41	26	↑P	Pb	23 17 32.9	-0.5
DVD	**David**	0.42	88	↑iP	Pb	23 17 32.6	-0.8
DVD				eS	Sb	23 17 38.5	-1.2
DVD	**David**	0.42	88	↓iP	Pb	23 17 32.3	-1.1
DVD				eS	Sb	23 17 38.5	-1.2
JEFFS	**S de V. Baru**	0.42	53	↓eP	Pb	23 17 32.8	-0.8
SCLRA	**Santa Clara, W**	0.42	12	iP	Pb	23 17 33.3	-0.3
SCLRA	**Santa Clara, W**	0.42	12	↑eP	Pb	23 17 33.2	-0.3
PTJ1	**Puerto Jimnez**	0.44	285	↓eP	Pb	23 17 32.8	-1.0
PTJ1				eS	Sb	23 17 40.8	+0.5
PTJ1	**Puerto Jimnez**	0.44	285	↓eP	Pb	23 17 32.4	-1.3
PTJ1				eS	Sb	23 17 40.6	+0.3
PTJ1	**Puerto Jimnez**	0.44	285	S	Sn	23 17 41.9	+0.5
PTJ1	**Puerto Jimnez**	0.44	285	P	Pb	23 17 32.6	-1.2
PEDE3	**Pedregal, Chir**	0.45	94	↑eP	Pb	23 17 33.0	-0.9
LOCO3	**Loma Colorada,**	0.45	91	↓iP	Pb	23 17 32.7	-1.2
BANCO	**falda S V. Bar**	0.45	49	↓eP	Pb	23 17 33.3	-0.8
BANCO				eS	Sb	23 17 41.1	+0.3
PIRO	**Carate, Puerto**	0.46	268		Pb	23 17 32.4	-1.7
PIRO	**Carate, Puerto**	0.46	268	↓iPn	Pb	23 17 32.4	-1.7
PIRO				eS	Sn	23 17 41.4	-0.5
PIRO	**Carate, Puerto**	0.46	268	↓eP	Pb	23 17 32.3	-1.7
PIRO	**Carate, Puerto**	0.46	268	S	Sn	23 17 44.3	+2.4
PIRO	**Carate, Puerto**	0.46	268	↓P	Pb	23 17 32.4	-1.7
PTAR3	**Potrerillos Ar**	0.46	54	↓iP	Pb	23 17 33.4	-0.8
BC3P	**Paso Ancho**	0.47	33	eP	Pb	23 17 33.0	-1.4
BC3P				eS	Sn	23 17 45.8	+3.2
BC3P	**Paso Ancho**	0.47	33	↑iP	Pb	23 17 33.6	-0.8
LOMA3	**Las Lomas, Chi**	0.48	88	↓iP	Pb	23 17 33.0	-1.4
CGUAY	**Guayabal, Coch**	0.52	85	↓iP	Pb	23 17 33.6	-1.4
CGUAY	**Guayabal, Coch**	0.52	85	↓eP	Pb	23 17 33.4	-1.5
BQTLY	**Boquete Panama**	0.53	50	iP	Pb	23 17 34.1	-1.2
BQTLY	**Boquete Panama**	0.53	50	↓eP	Pb	23 17 34.1	-1.2
ALCO	**Alturas Coton,**	0.53	4	↑eP	Pb	23 17 34.3	-1.0
ALCO				eS	Sn	23 17 43.6	-0.3
BQSF3	**Alto Boquete,**	0.54	53	eP	Pb	23 17 33.8	-1.6
BQSF3	**Alto Boquete,**	0.54	53	↓eP	Pb	23 17 34.2	-1.3
WILLF	**Boquete**	0.54	53	↓eP	Pb	23 17 34.2	-1.3
LNBQ3	**Los Naranjos,**	0.56	49	↑iPn	Pb	23 17 36.0	+0.1
DAP26	**falda E V. Bar**	0.58	50	↓eP	Pb	23 17 34.5	-1.6
GUAL3	**Gualaca, Chiri**	0.58	79	↓iPn	Pn	23 17 37.0	+0.6
EDP2	**Potrero Grande**	0.67	333	↑eP	Pb	23 17 36.5	-1.0
EDP2				eS	Sn	23 17 47.5	+0.5
FIMO	**Fila Mora**	0.74	320	↑eP	Pn	23 17 37.4	-1.3
PANP	**Palmar Norte**	0.79	313	eP	Pn	23 17 37.8	-1.5
PANP				eS	Sb	23 17 49.8	-0.1
PBNVO	**Pueblo Nuevo,**	0.82	55	↓eP	Pn	23 17 38.0	-1.7
PBNVO				eS	Sn	23 17 49.1	-1.7
RBALA	**Bur**	0.85	57	↓iP	Pn	23 17 38.7	-1.3
RBALA				eS	Sn	23 17 50.5	-0.9
RBALA	**Bur**	0.85	57	↓eP	Pn	23 17 38.7	-1.3
BURE	**Buenos Aires**	0.88	329	eP	Pn	23 17 39.2	-1.4
CHGR2	**Aguacate**	0.89	54	↓iP	Pn	23 17 38.8	-1.9
CHGR2				eS	Sn	23 17 51.2	-1.3
CHGR2	**Aguacate**	0.89	54	↓iP	Pn	23 17 39.1	-1.6
CHGR2				eS	Sn	23 17 51.1	-1.4
DRK0	**Durika**	0.92	336	eP	Pn	23 17 39.7	-1.4
DRK0				eS	Sn	23 17 53.5	0.0
DRK0	**Durika**	0.92	336	↑eP	Pn	23 17 39.8	-1.4
DRK0				eS	Sn	23 17 53.4	0.0
DRK0	**Durika**	0.92	336	↑eP	Pn	23 17 39.6	-1.6
DRK0	**Durika**	0.92	336	↑P	Pn	23 17 39.8	-1.4
EDPE	**Pejibaye, P**	1.01	317	↑eP	Pn	23 17 41.2	-1.1
OCHAL	**Ojochal**	1.02	312	S	Sb	23 17 56.6	+0.2
OCHAL	**Ojochal**	1.02	312	↑P	Pn	23 17 41.3	-1.2
RMDIO	**Remedios, Chir**	1.05	100	↓iP	Pn	23 17 41.4	-1.4
RMDIO	**Remedios, Chir**	1.05	100	↓eP	Pn	23 17 40.9	-1.9
KKNTU	**Kakint²**	1.14	68	↓iP	Pn	23 17 42.5	-1.5
KKNTU				eS	Sn	23 17 57.0	-1.6
KKNTU	**Kakint²**	1.14	68	↓eP	Pn	23 17 42.4	-1.7
CEUJA	**Cerro Uatsi, L**	1.20	357	↑eP	Pn	23 17 45.4	+0.4
LAES	**El Progreso Va**	1.35	353	↑eP	Pn	23 17 47.1	+0.1
VERH	**Veragua Rainfo**	1.53	348	↑eP	Pn	23 17 49.4	-0.2
PIEC	**Cerro El Cedra**	1.61	318	eP	Pn	23 17 50.1	-0.6
QUEP	**Quepos**	1.62	308	eP	Pn	23 17 50.3	-0.5
QUEP	**Quepos**	1.62	308	S	Sb	23 18 13.0	-0.7
QUEP	**Quepos**	1.62	308	↑P	Pn	23 17 50.9	+0.1
REPA	**Paraso**	1.71	325	eP	Pn	23 17 52.4	+0.3
VERB	**Verbena**	1.72	332	eP	Pn	23 17 52.4	+0.2
LCR2	**La Lucha 2**	1.73	320		Pn	23 17 51.5	-0.9
LCR2	**La Lucha 2**	1.73	320	eP	Pn	23 17 51.5	-0.9
LCR2	**La Lucha 2**	1.73	320	S	Sb	23 18 15.9	-0.9
LCR2	**La Lucha 2**	1.73	320	↑P	Pn	23 17 51.6	-0.8
GMAL	**Guarumal, Vera**	1.75	112	↑eP	Pn	23 17 50.9	-1.6
GMAL				eS	Sn	23 18 14.3	+0.5
GMAL	**Guarumal, Vera**	1.75	112	↓eP	Pn	23 17 50.0	-2.5
GMAL	**Guarumal, Vera**	1.75	112	P	Pn	23 17 50.5	-2.0
GMAL				S	Sn	23 18 14.2	+0.5
PCAYA	**Pacayas**	1.75	328	eP	Pn	23 17 53.2	+0.4
RESJ	**San Isidro (Tu**	1.77	335	eP	Pn	23 17 53.4	+0.5
TAGO	**Cartago**	1.77	324	eP	Pn	23 17 53.5	+0.5
IRES	**Siquirres**	1.78	340	eP	Pn	23 17 53.4	+0.4
ABRB	**Las Abras (San**	1.78	332	eP	Pn	23 17 53.6	+0.4
LCOCO	**El Coco**	1.79	338	↑eP	Pn	23 17 53.6	+0.6
RAFA	**San Farael, Vo**	1.79	329	eP	Pn	23 17 53.6	+0.3
PAR1A	**Puntarenas Pro**	1.80	311	↑eP	Pn	23 17 53.9	+0.7
CVTV	**Tajo**	1.80	331	eP	Pn	23 17 53.6	+0.2
VTR0	**Volcan Turrial**	1.81	331	↑eP	Pn	23 17 53.9	+0.1
CVTR	**Volcan Turrial**	1.82	331	↑eP	Pn	23 17 53.7	-0.1
VICA	**Volcano Irazu**	1.83	328	eP	Pn	23 17 53.9	-0.1
ACOS	**Acosta**	1.87	317	eP	Pn	23 17 54.5	+0.3
CORON	**Coronado**	1.91	324	eP	Pn	23 17 55.6	+0.8
ECI	**Escuela Centro**	1.91	322	eP	Pn	23 17 54.8	0.0
CVIMO	**Finca Echandi**	1.91	327	eP	Pn	23 17 55.9	+0.9
HDC	**Heredia**	1.99	322		Pn	23 17 56.7	+0.6
HDC				Sn	Sb	23 18 22.5	-1.9
HDC	**Heredia**	1.99	322	↑ePn	Pn	23 17 57.4	+1.4
HDC				eSn	Sb	23 18 24.8	+0.3
HDC	**Heredia**	1.99	322	↑eP	Pn	23 17 56.1	+0.2
HDC	**Heredia**	1.99	322	eP	Pn	23 17 56.6	+0.6
HDC				eS	Sb	23 18 24.7	+0.3
CALO3	**Calobre, Verag**	2.01	93	ePn	Pn	23 17 55.7	-0.4
BELE	**Belen**	2.02	320	eP	Pn	23 17 57.0	+0.7
ATEO	**Atenas**	2.15	316	eP	Pn	23 17 58.6	+0.5
CHIT3	**Chitre**	2.47	101	eP	Pn	23 17 59.3	-3.2
CHIT3				eP	Pb	23 18 00.4	-7.6
CHIT3				eS	Sb	23 18 35.2	-2.8
CHIT3	**Chitre**	2.47	101	↓ePn	Pn	23 18 02.9	+0.4
CHIT3				eSn	Sn	23 18 31.1	-0.5
PNME	**Penonome**	2.52	88	↓ePn	Pn	23 18 02.9	-0.2
PNME				eSn	Sn	23 18 35.0	+2.2
SOCE	**Pocosol**	2.60	319		Pn	23 18 05.7	+1.2
SOCE	**Pocosol**	2.60	319	P	Pn	23 18 05.7	+1.4
AZU	**Azuero**	2.65	103	↓ePn	Pn	23 18 05.7	+0.8
AZU				eSn	Sn	23 18 37.8	+1.8
AZU	**Azuero**	2.65	103	eP	Pn	23 18 04.3	-0.6
AZU	**Azuero**	2.65	103	P	Pn	23 18 04.7	-0.1
COVE	**Coope Vega, Sa**	2.74	327	P	Pn	23 18 07.6	+1.5
JTS	**Las Juntas de**	2.77	312	Pn	Pn	23 18 06.4	-0.2
JTS	634nm,0.4s,baz=150,slow=9.8,SNR=245				Sn		
JTS	206nm,0.3s,baz=133,slow=18,SNR=4.2				Sn	23 18 39.8	+0.8
JTS	comp=Z,273nm,21.5s,baz=132,slow=40				LR	23 19 07.7	
JTS	**Las Juntas de**	2.77	312	↓ePn	Pn	23 18 06.5	0.0
JTS				eSn	Sn	23 18 40.1	+1.1
JTS	**Las Juntas de**	2.77	312	eP	Pn	23 18 06.3	-0.2
JTS	**Las Juntas de**	2.77	312	P	Pn	23 18 06.3	-0.2
PCRI3	**Pocri, Los San**	2.83	105	↓ePn	Pn	23 18 09.0	+1.6
ACHO3	**Achotines, Los**	2.85	110	ePn	Pn	23 18 09.0	+1.3
INDI	**Punta indio, G**	2.97	299	P	Pn	23 18 08.4	-0.9
ZANG	**Zanguenga, Cho**	3.02	80	↓ePn	Pn	23 18 10.5	+0.5
ZANG				eSn	Sn	23 18 42.7	-2.4
BCIP	**Isla Barro Col**	3.09	76		Pn	23 18 11.0	0.0
BCIP	**Isla Barro Col**	3.09	76	eP	Pn	23 18 10.9	0.0
BCIP				eS	Sb	23 19 04.3	+8.5
BCIP	**Isla Barro Col**	3.09	76	↓iPn	Pn	23 18 10.7	-0.2
BCIP				eSn	Sn	23 18 47.1	+0.2
BCIP	**Isla Barro Col**	3.09	76	↓eP	Pn	23 18 10.5	-0.5
BCIP	**Isla Barro Col**	3.09	76	↓P	Pn	23 18 11.3	+0.3
BCIP	**Isla Barro Col**	3.09	76	P	Pn	23 18 10.9	0.0
MLIR	**Monte Lirio**	3.09	74	↓ePn	Pn	23 18 11.3	+0.3
GAMB1	**Gamboa**	3.20	77	↓ePn	Pn	23 18 12.5	+0.1
GAMB1				eSn	Sn	23 18 49.8	+0.2
FRIJ	**El Hiral**	3.21	75	↓ePn	Pn	23 18 12.8	+0.2
UPAL	**Upala**	3.24	320	↑P	Pn	23 18 15.4	+2.3
FLAM	**Flamenco Islan**	3.33	81	eP	Pn	23 18 14.5	+0.2
FLAM	**Flamenco Islan**	3.33	81	ePn	Pn	23 18 14.8	+0.5
UPA	**Univ. de Panam**	3.35	80	↓ePn	Pn	23 18 15.6	+1.1
UPA				eSn	Sn	23 18 53.3	+0.1
ALIBA	**Liberia Airpor**	3.41	310	↑eP	Pn	23 18 17.4	+2.1
ELI1	**Hacienda Flor**	3.45	310	P	Pn	23 18 18.1	+2.2
CAZU	**Cerro Azul, Pa**	3.52	76	↓eP	Pn	23 18 16.4	-0.6
CORNA	**Casa Canada**	3.73	357	↑eP	Pn	23 18 20.0	+0.2
CARN	**Rivas**	3.79	317	↑P	Pn	23 18 22.9	+2.3
ESPN	**Las Esperanzas**	4.01	340		Pn	23 18 24.2	+0.7
ESPN	**Las Esperanzas**	4.01	340	↑eP	Pn	23 18 23.8	+0.2
ESPN	**Las Esperanzas**	4.01	340	P	Pn	23 18 24.3	+0.7
ESPN	**Las Esperanzas**	4.01	340	↑P	Pn	23 18 24.0	+0.4
OMEN	**Al SSO del Vol**	4.10	319	P	Pn	23 18 27.5	+1.5
CONN	**Concepcion**	4.14	319	↓P	Pn	23 18 27.5	+2.1
MORN	**Al O del Volca**	4.14	319	P	Pn	23 18 27.6	+2.2
JAPN	**Al SSO del Vol**	4.14	318	P	Pn	23 18 27.7	+2.2
ACON	**Acoyapa**	4.19	327		Pn	23 18 26.2	+0.1
ACON	**Acoyapa**	4.19	327	↑eP	Pn	23 18 25.6	-0.5
ACON	**Acoyapa**	4.19	327	P	Pn	23 18 26.2	+0.1
ACON	**Acoyapa**	4.19	327	P	Pn	23 18 25.9	-0.2
SAIC	**Isla e San And**	4.25	15	P	Pn	23 18 26.6	-0.3
TOTI	**Torti**	4.54	83	ePn	Pn	23 18 31.7	+0.8
NANN	**Nandasmo**	4.74	318	P	Pn	23 18 37.6	+3.9
BOAB	**BOACO BROADBAN**	4.86	326		Pn	23 18 35.5	+0.2
BOAB	**BOACO BROADBAN**	4.86	326	P	Pn	23 18 36.3	+1.0
PRVC	**Isla de Provid**	5.14	17		Pn	23 18 39.6	+0.4
PRVC	**Isla de Provid**	5.14	17	↓ePn	Pn	23 18 39.4	+0.2
PRVC				ePn	Pn	23 18 39.8	+0.6
PRVC				eSn	Sn	23 19 37.6	0.0
PRVC	**Isla de Provid**	5.14	17	P	Pn	23 18 39.6	-0.2
PTAC	**Punta Ardita,**	5.17	104	↑ePn	Pn	23 18 38.9	-0.8
COPN	**Copaltepe**	5.23	316	P	Pn	23 18 42.2	+1.8
CAPC	**Capurgana** 148nm,0.9s	5.46	87	P	Pn	23 18 44.4	+0.8
CNGN	**Cerro Negro**	5.53	317		Pn	23 18 46.5	+1.9
CNGN	**Cerro Negro** 25µm3µm,0.7s	5.53	317	P	Pn	23 18 46.7	+2.1
SIUN	**Universidad Ur**	5.59	341		Pn	23 18 45.6	+0.3
BILN	**Bilwi Airport**	5.62	355	Pn	Pn	23 18 46.1	+0.4
CRIN	**San Cristobal**	5.91	316		Pn	23 18 51.0	+1.2
CRIN	**San Cristobal** 4µm359nm,0.7s	5.91	316	P	Pn	23 18 51.0	+1.2
APAC	**Apartado, Choc** 2µm211nm,0.8s	6.25	94	P	Pn	23 18 56.1	+1.7
LCBC	**Los crdobas,**	6.45	86	ePn	Pn	23 18 59.2	+2.1
DBBC	**Dabeiba**	6.75	101	P	Pn	23 19 01.4	+0.1
TGUH	**Tegucigalpa,Un**	7.07	323		Pn	23 19 07.0	+1.1
UREC	**San Jos de Ur**	7.30	95	ePn	Pn	23 19 10.4	+1.6
PLMC	**San Jos del P** 836nm62nm,0.9s	7.42	118	P	Pn	23 19 09.8	-0.7
HELC	**Santa Helena** 599nm50nm,0.8s	7.61	106	P	Pn	23 19 14.0	+0.5
SJCC	**San Jacinto, C** 1µm147nm,0.7s	7.74	78	P	Pn	23 19 15.1	+0.2
YOTC	**Yotoco, Valle** 29nm,0.8s	7.84	124	P	Pn	23 19 15.1	-1.3
ZARC	**Zaragoza, Cauc** 6µm55nm,0.7s	7.99	96	P	Pn	23 19 19.0	+0.6
GUY2C	**Guyana, Caldas** 835nm100nm,1.1s	8.10	113	P	Pn	23 19 20.3	0.0
ANIL	**Santa Ana**	8.38	117	P	Pn	23 19 26.8	+2.8
BBAC	**Balboa, Cauca** 32nm,0.9s	8.47	138	P	Pn	23 19 29.0	+3.9
POPC	**Popayan, Colom** 28nm,1.0s	8.49	133	P	Pn	23 19 28.4	+3.0
ARGC	**Ariguani, Magd** 112nm,0.8s	8.64	80	P	Pn	23 19 30.2	+3.0
MTO3	**Montecristo**	8.70	314		Pn	23 19 30.2	+1.9
ESQI	**Esquipulas**	8.80	315		Pn	23 19 31.1	+1.6
ORTC	**Ortega, Tolima** 698nm45nm,0.8s	8.81	120	P	Pn	23 19 31.3	+1.7
SMRC	**Santa Marta, M**	8.95	72		Pn	23 19 30.8	-0.7
ROSC	**El Rosal**	9.21	112		Pn	23 19 36.5	+1.1
ROSC	**El Rosal** 4.4nm,0.3s,baz=310,slow=18,SNR=21	9.21	112	Pn	Pn	23 19 36.9	+1.5
ROSC	comp=Z,532nm,19.5s,baz=333,slow=36 31nm,0.5s			LR	LR	23 22 50.4	
PRAC	**Prado**	9.21	120	P	Pn	23 19 36.4	+1.2
OTAV	**Otavalo**	9.24	151		Pn	23 19 36.1	+0.2
OTAV	**Otavalo**	9.24	151	eP	Pn	23 19 36.8	+0.9
FLOC	**Florencia**	9.89	133		Pn	23 19 46.2	+1.8
RUSC	**La Rusia**	10.03	104		Pn	23 19 48.2	+1.4
RUSC	**La Rusia** 1µm111nm,1.1s	10.03	104	P	Pn	23 19 50.4	+3.6
VILC	**Villavicencio,** 2µm234nm,1.0s	10.08	115	P	Pn	23 19 52.0	+4.9
PAMC	**Pamplona, Colo**	10.13	95	P	Pn	23 19 50.0	+1.8
HUEH	**Huehuetenango**	10.88	310	Pn	Pn	23 19 59.5	+1.4
MTDJ	**Mount Denham**	11.04	27		Pn	23 20 01.8	+1.5
MTDJ	**Mount Denham**	11.04	27	eP	Pn	23 20 00.8	+0.5
COHC	**Cochancay**	11.40	161		Pn	23 20 05.4	+0.3
COHC	**Cochancay**	11.40	161	P	Pn	23 20 07.5	+2.4
CCIG	**Comitan**	11.95	312		Pn	23 20 13.9	+1.1
SDV	**Santo Domingo**	12.11	87	Pn	Pn	23 20 16.7	+1.7
SDV	**Santo Domingo** 4.6nm,0.3s,baz=288,slow=6.4,SNR=5.0	12.11	87	Pn	Pn	23 20 13.8	-1.2
SDV	comp=Z,531nm,20.7s,baz=288,slow=42 14nm,0.5s			LR	LR	23 25 41.6	
PILO	**Pilon**	12.59	24	eP	Pn	23 20 18.6	-2.7
TEIG	**Tepich**	12.85	337	Pn	Pn	23 20 27.2	+2.3
CHIV	**Chivirico**	13.08	28	Pn	Pn	23 20 28.1	+0.1
MARVS	**Santiago de Cu**	13.35	30	eP	Pn	23 20 33.0	+1.3
GTBY	**Guantanamo Bay**	13.69	32	eP	Pn	23 20 37.7	+1.4
PINC	**Pinares de May**	13.81	29	eP	Pn	23 20 39.8	+1.8
HLGC	**Holguin**	14.04	27	eP	Pn	23 20 41.4	+0.3
QMBU	**Quimbuelo**	14.07	33	eP	Pn	23 20 42.8	+1.2
NMDO	**Nuevo Mundo**	14.28	31		Pn	23 20 46.2	+1.8
SOR	**Soroa**	14.29	359		Pn	23 20 45.6	+1.0
CMIG	**Matias Romero** 1.8nm,0.3s,baz=125,slow=10.0,SNR=16 6.5nm,0.4s	14.54	308	Pn	Pn	23 20 47.9	0.0
BAUV	**El Baul**	14.67	87		Pn	23 20 48.1	-1.7
SDDR	**Presa de Saban**	15.38	46		Pn	23 20 59.5	+0.2
SDDR	comp=Z,29nm,1.0s			IAmb	IAmb	23 21 14.2	
BANI	**BANI**	15.69	50		Pn	23 21 02.0	-1.3
ATAH	**Atahualpa**	16.08	164	Pn	P	23 21 15.1	+3.4
ATAH	comp=Z,0.2nm,0.3s,baz=353,slow=13,SNR=5.2			LR	LR	23 26 42.6	
TLIG	**Tlapa**	17.78	302		Pn	23 21 28.2	-1.4
PCRV	**Puerto La Cruz**

PDAR	**Pinedale Array**	**41.47**	**330**	P		**P**	**23 25 08.3**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=142,slow=8.4,SNR=13							
	comp=Z,1.1nm,0.7s							
HWUT	**Hardware Ranch**	**41.66**	**327**	P		**P**	**23 25 09.6**	**-0.7**
HWUT				IAmb		IAmb	23 25 13.1	
	comp=Z,7.1nm,0.9s							
CLC	**China Lake**	**41.79**	**316**	P		**P**	**23 25 11.4**	**+0.3**
H03N2	**Juan Fernandez**	**41.79**	**175**	T		T	00 09 39.4	
	baz=354,slow=76,SNR=5.6							
H03N1	**Juan Fernandez**	**41.80**	**175**	T		T	00 09 43.0	
	baz=354,slow=76,SNR=5.1							
H03N3	**Juan Fernandez**	**41.81**	**175**	T		T	00 09 37.4	
	baz=354,slow=76,SNR=7.7							
BDFB	**Brasilia**	**42.00**	**125**	LR		LR	23 43 40.3	
	comp=Z,160nm,18.9s,baz=320,slow=38							
BGU	**Big Grassy Mou**	**42.00**	**325**	P		**P**	**23 25 13.0**	**+0.1**
CPUP	**Villa Florida**	**42.53**	**145**	LR		LR	23 45 49.0	
	comp=Z,19nm,18.2s,baz=180,slow=40							
LOHW	**Long Hollow**	**42.60**	**330**	P		**P**	**23 25 18.1**	**+0.2**
TPH	**Tonopah**	**42.78**	**319**	P		**P**	**23 25 20.2**	**+0.8**
TPH				IAmb		IAmb	23 25 22.4	
	comp=Z,8.5nm,1.2s							
NV11	**Mina Array Sit**	**43.59**	**319**	P		**P**	**23 25 27.0**	**+1.1**
NV11				IAmb		IAmb	23 25 29.2	
	comp=Z,13nm,1.5s							
YHH	**Holmes Hill**	**43.59**	**331**			**P**	**23 25 26.7**	**+0.7**
RPN	**Rapa Nui**	**43.66**	**215**	LR		LR	23 38 58.9	
	comp=Z,47nm,21.6s,baz=150,slow=29							
NVAR	**Mina Array Bea**	**43.68**	**319**	P		**P**	**23 25 27.5**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=112,slow=5.8,SNR=14							
	comp=Z,1.8nm,0.6s							
BUCR	**Buckhorn Ranch**	**44.51**	**317**	P		**P**	**23 25 33.4**	**+0.2**
MCMT	**McKenzie Canyo**	**44.60**	**330**			**P**	**23 25 34.5**	**+0.6**
MFID	**Camas Ranch**	**45.21**	**326**			**P**	**23 25 39.5**	**+0.8**
MFID				IAmb		IAmb	23 25 41.9	
	comp=Z,4.7nm,0.9s							
WVOR	**Wild Horse Val**	**46.20**	**323**	P		**P**	**23 25 46.9**	**+0.3**
PINE	**Pine Mountain**	**48.37**	**323**			**P**	**23 26 04.0**	**+0.4**
PINE				IAmb		IAmb	23 26 06.3	
	comp=Z,5.9nm,0.9s							
RCBR	**Riachuelo**	**48.93**	**105**	LR		LR	23 50 26.3	
	comp=Z,38nm,18.4s,baz=308,slow=41							
PLCA	**Paso Flores**	**50.21**	**168**	P		**P**	**23 26 22.0**	**+4.6**
	comp=Z,1.6nm,0.7s,baz=343,slow=20,SNR=2.9							
	comp=Z,1.6nm,0.7s							
YKA	**Yellowknife Ar**	**58.70**	**343**	P		**P**	**23 27 17.1**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=138,slow=6.2,SNR=6.6							
	comp=Z,0.9nm,0.7s							
M29M	**Somme Creek**	**67.12**	**335**	P		**P**	**23 28 15.5**	**+0.6**
M29M				IAmb		IAmb	23 28 29.8	
	comp=Z,3.7nm,1.0s							
K29M	**Barlow Dome**	**67.41**	**337**			**P**	**23 28 17.2**	**+0.5**
K29M				IAmb		IAmb	23 28 18.6	
	comp=Z,2.8nm,0.8s							
I30M	**Mount Dempster**	**67.67**	**339**			**P**	**23 28 18.8**	**+0.4**
I30M				IAmb		IAmb	23 28 20.3	
	comp=Z,6.1nm,0.9s							
F30M	**Barrier River**	**68.72**	**341**			**P**	**23 28 25.1**	**+0.3**
BCAR	**Beaver Creek A**	**68.77**	**335**			**P**	**23 28 25.8**	**+0.6**
SUMG	**Summit**	**69.42**	**13**	P		**P**	**23 28 28.1**	**-1.3**
HDA	**Harding Lake**	**71.41**	**336**	P		**P**	**23 28 40.9**	**-0.3**
HDA				IAmb		IAmb	23 28 56.7	
	comp=Z,8.1nm,1.0s							
ILAR	**Eielson Array**	**71.51**	**336**	P		**P**	**23 28 41.4**	**-0.5**
ILAR	**Eielson Array**	**71.51**	**336**	P		**P**	**23 28 41.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=110,slow=6.7,SNR=9.9							
	comp=Z,0.9nm,0.6s							
BMAR	**Burnt Mountain**	**71.63**	**339**	P		**P**	**23 28 42.7**	**+0.1**
ESPZ	**Base Esperanza**	**74.28**	**168**	P		**P**	**23 28 56.7**	**-1.4**
ESDC	**Sonseca Array**	**76.15**	**51**	P		**P**	**23 29 08.7**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=269,slow=5.5,SNR=6.2							
	comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.87**	**78**	P		**P**	**23 29 47.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**82.87**	**78**	P		**P**	**23 29 48.1**	**+1.5**
	comp=Z,0.5nm,1.1s,baz=281,slow=6.0,SNR=4.1							
	comp=Z,0.5nm,1.1s							
SNAA	**Sanae**	**94.81**	**162**	P		**P**	**23 30 39.9**	**-2.7**
KURBB	**Kurchatov Arra**	**119.02**	**13**	PKP		**PKPdf**	**23 36 09.2**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=327,slow=1.5,SNR=2.7							
MKAR	**Makanchi Array**	**123.47**	**12**	PKP		**PKPdf**	**23 36 17.1**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=325,slow=2.3,SNR=1.4							
KSRS	**Korea Array**	**126.03**	**330**	PKhKP		PKPpre	23 36 19.4	
	comp=Z,0.5nm,0.4s,baz=21,slow=1.0,SNR=1.9							
ASAR	**Alice Springs**	**141.69**	**242**	PKhKP		PKPpre	23 36 46.8	
	comp=Z,0.4nm,0.6s,baz=110,slow=2.4,SNR=5.0							
WRA	**Warramunga Arr**	**142.24**	**248**	PKhKP		PKPpre	23 36 46.9	
	comp=Z,1.0nm,0.7s,baz=101,slow=2.5,SNR=6.5							
FITZ	**Fitzroy Crossi**	**150.67**	**248**	PKPbc		**PKPbc**	**23 37 13.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**153.24**	**356**	PKPdf		**PKPdf**	**23 37 11.5**	**-1.2**
CMAR				PKPbc		**PKPbc**	**23 37 18.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**153.24**	**356**	PKP		**PKPdf**	**23 37 11.1**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=336,slow=2.2,SNR=1.3							
CMAR				PKPbc		**PKPbc**	**23 37 18.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=4.9,slow=3.0,SNR=6.8							

*UCR **28** 23:20:11.5±1.0, 8.°32N×82.°85W, h28km±2km, MW3.8*
*UPA **28** 23:20:12.3±0.9, 8.°42N×82.°84W, h37km±5km, MW3.9*
ISC 28 23:20:12.2±1.1, 8.°39N±0.°04×82.°85W±0.°03, h33km±3km, n39, σ0°70/53, 1C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	**0.15**	**3**	*eP*	**Pb**	**23 20 18.1**	**-0.3**
LPPC				*eS*	**Sb**	**23 20 22.9**	**+0.3**
PTPM	**Petroterminale**	**0.18**	**190**	*eP*	**Pb**	**23 20 18.8**	**+0.1**
PTPM				*eS*	**Sb**	**23 20 24.9**	**+1.8**
BRNON	**Bren.**	**0.24**	**8**	*eP*	**Pb**	**23 20 19.2**	**-0.2**
NELY	**Ciudad Neily**	**0.28**	**340**	*eP*	**Pb**	**23 20 19.1**	**-0.6**
NELY				*eS*	**Sn**	**23 20 25.3**	**+0.9**
DMCAL	**E. de Neily**	**0.29**	**11**	*eP*	**Pb**	**23 20 19.8**	**-0.1**
DVD	**David**	**0.40**	**83**	*i P*	**Pn**	**23 20 21.1**	**-0.5**
DVD				*eS*	**Sn**	**23 20 28.1**	**+0.2**
EDAD	**Golfito**	**0.41**	**310**	*eP*	**Pb**	**23 20 20.2**	**-1.4**
EDAD				*eS*	**Sb**	**23 20 26.9**	**-1.1**
JEFFS	**S de V. Baru**	**0.42**	**48**	*eP*	**Pb**	**23 20 21.5**	**-0.2**
CLLRA	**Cordillera,**	**0.42**	**33**	↓*iP*	**Pb**	**23 20 21.7**	**-0.2**
CLLRA				*eS*	**Sn**	**23 20 29.4**	**+0.7**
BRU2	**Volcan**	**0.43**	**21**	↓*iP*	**Pb**	**23 20 21.8**	**-0.2**
BRU2				*eP*	**Pb**	**23 20 21.8**	**-0.2**
BRU2				*eS*	**Sn**	**23 20 29.3**	**+0.2**
BRU2				*eS*	**Sb**	**23 20 29.7**	**+1.0**
BRU2	**Volcan**	**0.43**	**21**	*eP*	**Pb**	**23 20 21.7**	**-0.2**
BRU2				*eS*	**Sn**	**23 20 29.2**	**+0.1**
TBS2		**0.45**	**25**	*eP*	**Pn**	**23 20 22.7**	**+0.2**
VITO	**San Vito**	**0.45**	**344**	*eP*	**Pb**	**23 20 21.9**	**-0.3**
SCLRA	**Santa Clara, W**	**0.45**	**8**	↑*iP*	**Pb**	**23 20 22.2**	**0.0**
SCLRA	**Santa Clara, W**	**0.45**	**8**	*eP*	**Pb**	**23 20 22.1**	**-0.1**
BANCO	**falda S V. Bar**	**0.46**	**44**	*eP*	**Pb**	**23 20 22.1**	**-0.2**
PIRO	**Carate, Puerto**	**0.48**	**272**	*eP*	**Pb**	**23 20 21.7**	**-0.9**
JIME	**Puerto Jimenez**	**0.50**	**288**	*eP*	**Pb**	**23 20 21.8**	**-1.0**
BQTLY	**Boquete Panama**	**0.53**	**46**	↓*iP*	**Pb**	**23 20 23.0**	**-0.5**
BQTLY				*eS*	**Sb**	**23 20 31.2**	**0.0**
BQTLY	**Boquete Panama**	**0.53**	**46**	*eP*	**Pb**	**23 20 22.9**	**-0.6**
WILLF	**Boquete**	**0.55**	**48**	*eP*	**Pb**	**23 20 23.0**	**-0.7**
ALCO	**Alturas Coton,**	**0.56**	**1**	*eP*	**Pb**	**23 20 23.2**	**-0.7**
DAP26	**falda E V. Bar**	**0.58**	**46**	*eP*	**Pb**	**23 20 23.3**	**-0.9**
EDP2	**Potrero Grande**	**0.71**	**333**	*eP*	**Pn**	**23 20 25.5**	**-0.4**
EDP2				*eS*	**Sb**	**23 20 36.3**	**+0.6**
PBNVO	**Pueblo Nuevo,**	**0.82**	**52**	*eP*	**Pn**	**23 20 26.7**	**-0.8**
PANP	**Palmar Norte**	**0.83**	**313**	*eP*	**Pn**	**23 20 27.0**	**-0.6**
RBALA	**Bur**	**0.84**	**54**	↓*iP*	**Pn**	**23 20 27.6**	**-0.2**
RBALA	**Bur**	**0.84**	**54**	*eP*	**Pn**	**23 20 27.4**	**-0.4**
CHGR2	**Aguacate**	**0.89**	**52**	*eP*	**Pn**	**23 20 27.9**	**-0.5**
CHGR2				*eS*	**Sn**	**23 20 39.5**	**-0.6**
DRK0	**Durika**	**0.96**	**336**	*eP*	**Pn**	**23 20 28.8**	**-0.7**
DRK0				*eS*	**Sn**	**23 20 42.3**	**+0.3**
DRK0	**Durika**	**0.96**	**336**	*eP*	**Pn**	**23 20 28.9**	**-0.6**
KKNTU	**Kakinᵍ**	**1.12**	**66**	↓*iP*	**Pn**	**23 20 31.5**	**-0.2**
KKNTU	**Kakinᵍ**	**1.12**	**66**	*eP*	**Pn**	**23 20 31.1**	**-0.5**
CEUA	**Cerro Uatsi, L**	**1.33**	**356**	*eP*	**Pb**	**23 20 35.1**	**0.0**
LAES	**El Progreso Ya**	**1.38**	**352**	*eP*	**Pb**	**23 20 36.4**	**-1.1**
PIEC	**Cerro El Cedra**	**1.65**	**318**	*eP*	**Pn**	**23 20 39.4**	**+0.3**
ABRB	**Las Abras (San**	**1.82**	**332**	↓*eP*	**Pn**	**23 20 42.9**	**+1.4**
CVTQ	**Turrialba Volc**	**1.85**	**331**	*eP*	**Pn**	**23 20 43.2**	**+1.2**
VTR0	**Volcan Turrial**	**1.85**	**331**	*eP*	**Pn**	**23 20 43.4**	**+1.3**

*BJI **28** 23:46:36.4, 41.°10N×143.°05E, h20km, mB6.1/72, mb6.0/95, Ms6.1/99, Ms7 6.0/99*
*MOS **28** 23:46:38.1±0.8, 41.°04N×142.°97E, h26km, mb6.2/118, MS6.0/80, Error ellipse: s-maj=5.1km s-min=3.7km az=101.8*

MOS Felt (II) at Goryachiy Plyazh, Yuzhno-Kuril'sk.
*NEIC **28** 23:46:39, 41.°06N×143.°01E, h15km*
*NIED **28** 23:46:39.4, 40.°98N×143.°03E, h21km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.57; Mθθ0.05; Mϕϕ -0.63; Mrθ0.54; Mθϕ -0.20; Mrϕ0.90; Fault plane solution: M₀1.22000×10¹⁸ NP1: ϕs178.00000°, δ17.00000°, λ61.00000°. NP2:ϕs29.00000°, δ75.00000°, λ99.00000°.*
*NEIC **28** 23:46:39.4, 41.°07N×143.°01E, h22km*
*IPGP **28** 23:46:39.0, 41.°07N×142.°99E, h29km, Mw6.0, Fault plane solution: NP1:ϕs218.00000°, δ19.00000°, λ102.00000°. NP2:ϕs25.00000°, δ72.00000°, λ86.00000°.*
*NEIC **28** 23:46:39.4, 40.°97N×143.°14E, h22km, Moment Tensor Solution. Duration: 4s7 Moment tensor: Scale 10¹⁸Nm; Mrr0.47; Mθθ0.02; Mϕϕ -0.49; Mrθ0.41; Mθϕ -0.14; Mrϕ0.80; Fault plane solution: M₀1.03000×10¹⁸ NP1: ϕs181.24000°, δ15.45000°, λ66.14000°. NP2:ϕs25.89000°, δ75.90000°, λ96.38000°. Principal axes: T 1.0162, Plg59.0000°, Azm305.0000°; N 0.0289, Plg6.0000°, Azm204.0000°; P -1.0451, Plg31.0000°, Azm111.0000°;*
*JMA **28** 23:46:39.4±0.1, 41.°0N±0.°5×143.°0E±0.°7, h21km, MD6.1/37, MW6.0/37, E OFF AOMORI PREF*
JMA Felt III J1 at E OFF AOMORI PREF .
*ISC-PP **28** 23:46:40, 41.°07N×143.°00E, h47km, Mwpsm6.5, Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁸Nm; Mrr0.25±.14; Mθθ-0.20±.21; Mϕϕ -0.04±.15; Mrθ0.04±.11; Mθϕ0.51±.11; Mrϕ-0.44±.13; Fault plane solution: M₀7.00000×10¹⁸ NP1:ϕs267.70000°, δ39.40000°, λ159.20000°. NP2:ϕs14.00000°, δ76.90000°, λ52.40000°.*
*NEIC **28** 23:46:40.1±1.4, 41.°07N±0.°04×143.°00E±0.°07, h24km±2km, mb6.0/328, Ms_20 5.8/1122, Mwb6.0/84, Mww5.9/34 Error ellipse: s-maj=9.0km s-min=5.0km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.59; Mθθ0.07; Mϕϕ -0.66; Mrθ0.38; Mθϕ -0.28; Mrϕ0.83; Fault plane solution: M₀1.14000×10¹⁸ NP1:ϕs23.90000°, δ71.91000°, λ94.23000°. NP2:ϕs190.50000°, δ18.56000°, λ77.27000°. Principal axes: T 1.0584, Plg63.0000°, Azm300.0000°; N 0.1535, Plg4.0000°, Azm203.0000°; P -1.2118, Plg27.0000°, Azm111.0000°;*
*IDC **28** 23:46:41.9±0.8, 41.°00N×143.°00E, h42km±5km, mb5.4/28, mbtmp5.6/34, ML4.6/6, MS5.8/88 Error ellipse: s-maj=7.2km s-min=6.1km az=100.0*
*GCMT **28** 23:46:44.1±0.1, 41.°05N×143.°10E, h30km, MW6.0/169, Moment Tensor Solution. s162,c365; s169,c555; Duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr0.76±.01; Mθθ0.00±.01; Mϕϕ -0.75±.01; Mrθ0.45±.01; Mθϕ-0.22±.00; Mrϕ1.02±.02; Best double couple: M₀1.36400×10¹⁸ NP1:ϕs187.00000°, δ18.00000°, λ75.00000°. NP2:ϕs22.00000°, δ72.00000°, λ95.00000°. Principal axes: T 1.3410, Plg62.0000°, Azm299.0000°; N 0.0460, Plg4.0000°, Azm201.0000°; P -1.3880, Plg27.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **28** 23:46:45.5, 42.°08N×144.°25E, h33km, mb6.0, mB_BB6.4, Ms6.3*
ISC 28 23:46:40.5±0.3, 41.°03N±0.°02×143.°01E±0.°02, h32km±1km, h34km: pP-P, n2829, σ1°89/2860, mb6.0/459, MS5.8/708, 335C-111D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.99**	**6**		**Pb**	**23 46 58.6**	**-0.6**
ERM				Sn	**Sb**	**23 47 11.3**	**-0.6**
ERM	**Erimo**	**0.99**	**6**	P	**Pb**	**23 46 59.4**	**+0.2**
ERM	**Erimo**	**0.99**	**6**	*c iP*	**Pb**	**23 46 58.6**	**-0.6**
ERM	**Erimo**	**0.99**	**6**	⇑P	**Pb**	**23 46 58.4**	**-0.7**
JEM	**Erimo**	**0.99**	**6**	P	**Pb**	**23 47 00.0**	**+0.8**
JEM	**Erimo**	**0.99**	**6**	S	**Sb**	**23 47 13.8**	**+1.8**
JEM	**Erimo**	**0.99**	**6**	P	**Pb**	**23 46 58.4**	**-0.7**
JEM				S	**Sb**	**23 47 11.9**	**-0.1**
JEM	**Erimo**	**0.99**	**6**	A	A	23 46 58.4	
	comp=N,592nm,2.8s,comp=E,717nm,3.1s						
JARK	**Aomorirokkasho**	**1.24**	**270**	↓*iP*	**Pn**	**23 47 01.6**	**+0.1**
JARK	**Aomorirokkasho**	**1.24**	**270**	A	A	23 47 01.6	
	comp=N,356nm,4.6s,comp=E,283nm,1.8s						
JNBK	**Urakawa-nobuka**	**1.27**	**351**	*i* P	**Pb**	**23 47 02.9**	**-0.9**
JNBK				S	**Sb**	**23 47 20.8**	**+1.1**
JNBK	**Urakawa-nobuka**	**1.27**	**351**	A	A	23 47 02.9	
	comp=N,840nm,2.1s,comp=E,898nm,3.7s						
JAHD	**Aomorihigashid**	**1.28**	**281**	↓*iP*	**Pn**	**23 47 02.4**	**+0.3**
JAHD	**Aomorihigashid**	**1.28**	**281**	A	A	23 47 02.4	
	comp=N,651nm,1.9s,comp=E,663nm,1.5s						
JKEN	**Kujiedanarisaw**	**1.28**	**231**	↓P	**Pn**	**23 47 01.8**	**-0.3**
JKEN				↓eS	**Sn**	**23 47 18.6**	**+0.4**
JKEN	**Kujiedanarisaw**	**1.28**	**231**	A	A	23 47 01.8	
	comp=N,302nm,1.6s,comp=E,318nm,1.7s						
JTHR	**Tokachihiroo**	**1.28**	**10**	A	A	23 47 02.8	
	comp=N,362nm,4.8s,comp=E,663nm,2.7s						
JANG	**Nango**	**1.31**	**241**	↓*iP*	**Pn**	**23 47 02.5**	**0.0**
JANG	**Nango**	**1.31**	**241**	A	A	23 47 02.5	
	comp=N,210nm,4.9s,comp=E,214nm,3.5s						
JTH	**Tanohata**	**1.39**	**219**	A	A	23 47 03.5	
	comp=N,227nm,2.4s,comp=E,242nm,2.2s						
JSHD	**Hidakashinhida**	**1.44**	**344**	A	A	23 47 05.3	
	comp=N,1μm,2.3s,comp=E,2μm,2.5s						
JTM	**Tenmabayashi**	**1.49**	**261**		**Pn**	**23 47 05.6**	**+0.7**
JTM				Sn	**Sb**	**23 47 25.1**	**-0.9**
JTM	**Tenmabayashi**	**1.49**	**261**	P	**Pb**	**23 47 06.5**	**-1.0**
JTM	**Tenmabayashi**	**1.49**	**261**	S	**Sb**	**23 47 25.7**	**-0.3**
JTM	**Tenmabayashi**	**1.49**	**261**	↓P	**Pn**	**23 47 05.5**	**+0.7**
JTM	**Tenmabayashi**	**1.49**	**261**	↓*iP*	**Pn**	**23 47 05.7**	**+0.7**
JTM	**Tenmabayashi**	**1.49**	**261**	A	A	23 47 05.7	
	comp=N,421nm,1.7s,comp=E,322nm,2.1s						
JOT	**Ohata**	**1.52**	**284**	↓*iP*	**Pn**	**23 47 06.0**	**+0.7**
JOT				↓S	**Sb**	**23 47 26.1**	**-0.8**
JOT	**Ohata**	**1.52**	**284**	A	A	23 47 06.0	
	comp=N,283nm,3.9s,comp=E,374nm,3.5s						
JCH	**Churui**	**1.61**	**9**	P	**Pn**	**23 47 06.8**	**+0.2**
JCH				S	**Sn**	**23 47 27.1**	**+0.8**
JCH	**Churui**	**1.61**	**9**	A	A	23 47 06.8	
	comp=N,314nm,2.3s,comp=E,439nm,3.7s						
JKZ	**Kuzumaki**	**1.65**	**231**	A	A	23 47 07.5	
	comp=N,207nm,3.0s,comp=E,230nm,3.8s						
MIYJ	**Miyakonagasawa**	**1.71**	**212**	A	A	23 47 08.1	
	comp=N,98nm,1.8s,comp=E,221nm,2.3s						
JKB	**Kayabe**	**1.71**	**301**	↓*iP*	**Pn**	**23 47 09.0**	**+0.9**
JKB				↓eS	**Sb**	**23 47 31.1**	**-1.4**
JKB	**Kayabe**	**1.71**	**301**	A	A	23 47 09.0	
	comp=N,439nm,3.5s,comp=E,542nm,4.0s						
JIAM	**Iburiatsuma**	**1.79**	**333**	P	**Pb**	**23 47 11.5**	**-1.0**
JIAM	**Iburiatsuma**	**1.79**	**333**	A	A	23 47 11.5	
	comp=N,2μm,3.9s,comp=E,1μm,1.7s						
JBT2	**Biratori 2**	**1.81**	**345**	*i* P	**Pn**	**23 47 10.8**	**+1.4**
JBT2				S	**Sb**	**23 47 34.6**	**-0.8**
JBT2	**Biratori 2**	**1.81**	**345**	A	A	23 47 10.8	
	comp=N,396nm,6.5s,comp=E,472nm,5.0s						
JSI2	**Shiura 2**	**1.96**	**272**	A	A	23 47 12.6	
	comp=N,460nm,1.5s,comp=E,626nm,2.0s						
JOB	**Onbets**	**1.98**	**18**	A	A	23 47 13.1	
	comp=N,423nm,1.9s,comp=E,431nm,4.4s						
JOB	**Onbets**	**1.98**	**18**	P	**Pn**	**23 47 12.1**	**+0.5**
JAH	**Hinai**	**1.99**	**246**	↓*iP*	**Pn**	**23 47 13.5**	**+1.7**
JAH	**Hinai**	**1.99**	**246**	A	A	23 47 13.5	
	comp=N,393nm,1.8s,comp=E,350nm,2.9s						
JSR	**Shiriuchi**	**2.02**	**285**	↓*iP*	**Pn**	**23 47 13.9**	**+1.7**
JSR	**Shiriuchi**	**2.02**	**285**	A	A	23 47 13.9	
	comp=N,504nm,2.3s,comp=E,686nm,2.8s						
JSZI	**Iwateshizukuis**	**2.03**	**231**	A	A	23 47 13.1	
	comp=N,710nm,2.4s,comp=E,835nm,2.2s						
JOM	**Ohasama**	**2.03**	**221**	A	A	23 47 12.9	
	comp=N,192nm,2.6s,comp=E,300nm,2.4s						
JOM	**Ohasama**	**2.03**	**221**	P	**Pn**	**23 47 13.4**	**+1.0**
JHHS	**Hirosakihyakuz**	**2.04**	**260**	A	A	23 47 13.6	
	comp=N,757nm,5.5s,comp=E,641nm,4.2s						
JNB	**Noboribetsu**	**2.06**	**315**	*i* P	**Pn**	**23 47 13.9**	**+1.1**
JNB	**Noboribetsu**	**2.06**	**315**	A	A	23 47 13.9	
	comp=N,189nm,2.3s,comp=E,207nm,2.2s						
JEW	**Eniwo**	**2.15**	**328**	*i* P	**Pn**	**23 47 15.9**	**+1.8**
JEW	**Eniwo**	**2.15**	**328**	A	A	23 47 15.9	
	comp=N,1μm,1.7s,comp=E,914nm,3.7s						
JFR	**Furan**	**2.16**	**352**	A	A	23 47 15.8	
	comp=N,249nm,2.6s,comp=E,232nm,1.3s						
JFR	**Furan**	**2.16**	**352**	P	**Pn**	**23 47 14.6**	**+0.5**
OFUJ	**Ofunato**	**2.20**	**208**	A	A	23 47 15.2	
	comp=N,114nm,1.7s,comp=E,146nm,1.5s						
JYM2	**Yakumo 2**	**2.26**	**300**	A	A	23 47 17.1	
	comp=N,339nm,2.2s,comp=E,393nm,2.5s						
JYM2	**Yakumo 2**	**2.26**	**300**	P	**Pn**	**23 47 17.5**	**+2.0**
JNTW	**Noshirotokiwa**	**2.29**	**252**	A	A	23 47 17.1	
	comp=N,968nm,4.3s,comp=E,1μm,2.3s						
JOMM	**Oshimamatsumae**	**2.31**	**283**	P	**Pn**	**23 47 17.5**	**+1.2**
JOMM	**Oshimamatsumae**	**2.31**	**283**	A	A	23 47 17.5	
	comp=N,158nm,3.1s,comp=E,279nm,2.6s						
JIW	**Iwasaki**	**2.32**	**260**	A	A	23 47 17.6	
	comp=N,249nm,6.2s,comp=E,315nm,3.8s						
JIW	**Iwasaki**	**2.32**	**260**	P	**Pn**	**23 47 18.5**	**+2.1**
JAK	**Akkeshi**	**2.34**	**32**	A	A	23 47 18.1	
	comp=N,412nm,1.6s,comp=E,381nm,2.2s						
JAR	**Ashorobuto**	**2.34**	**14**	A	A	23 47 18.4	
	comp=N,189nm,5.7s,comp=E,274nm,2.4s						
JRG	**Rokugo**	**2.44**	**229**	A	A	23 47 18.9	
	comp=N,282nm,1.8s,comp=E,191nm,6.2s						
JRG	**Rokugo**	**2.44**	**229**	P	**Pn**	**23 47 19.9**	**+1.9**
JMK	**Ichinoseki**	**2.48**	**214**	A	A	23 47 19.4	
	comp=N,136nm,2.2s,comp=E,242nm,2.7s						
JMK	**Ichinoseki**	**2.48**	**214**	P	**Pn**	**23 47 19.9**	**+1.2**
JKMT	**Kesennumamotoy**	**2.51**	**209**	A	A	23 47 19.6	
	comp=N,92nm,3.2s,comp=E,146nm,7.5s						
JISS	**Ishikarishitsu**	**2.54**	**333**	A	A	23 47 21.4	
	comp=N,890nm,3.0s,comp=E,746nm,5.0s						
JISS	**Ishikarishitsu**	**2.54**	**333**	P	**Pn**	**23 47 20.9**	**+1.5**
JAB	**Ashibetsu**	**2.54**	**347**	A	A	23 47 21.4	
	comp=N,612nm,3.2s,comp=E,660nm,3.1s						
JAB	**Ashibetsu**	**2.54**	**347**	P	**Pn**	**23 47 21.0**	**+1.6**
JYW	**Yuwa**	**2.60**	**236**	A	A	23 47 21.4	
	comp=N,429nm,3.8s,comp=E,403nm,2.0s						
JKHN	**Kushirohamanak**	**2.61**	**37**	A	A	23 47 21.9	
	comp=N,342nm,1.6s,comp=E,306nm,2.7s						
JHST	**Hiyamasetana**	**2.73**	**302**	A	A	23 47 23.9	
	comp=N,193nm,3.9s,comp=E,245nm,2.9s						
JHST	**Hiyamasetana**	**2.73**	**302**	P	**Pn**	**23 47 23.3**	**+1.4**
JSH	**Shimam**	**2.74**	**307**	A	A	23 47 24.1	
	comp=N,156nm,3.9s,comp=E,148nm,3.5s						
JSH	**Shimam**	**2.74**	**307**	P	**Pn**	**23 47 23.4**	**+1.2**
JKK2	**Kamakawa 2**	**2.85**	**356**	A	A	23 47 25.8	
	comp=N,143nm,3.1s,comp=E,159nm,2.0s						
JOSM	**Okushiri--Mats**	**2.85**	**293**	A	A	23 47 25.6	
	comp=N,130nm,2.9s,comp=E,147nm,9.5s						
JOSM	**Okushiri--Mats**	**2.85**	**293**	P	**Pn**	**23 47 25.1**	**+1.5**
JNK	**Nakash**	**2.85**	**26**	A	A	23 47 25.6	
	comp=N,74nm,3.2s,comp=E,103nm,4.2s						
JNK	**Nakash**	**2.85**	**26**	P	**Pn**	**23 47 22.9**	**-0.8**
JIO	**Ouri**	**2.87**	**207**	A	A	23 47 24.9	
	comp=N,82nm,5.2s,comp=E,119nm,2.5s						
JIO	**Ouri**	**2.87**	**207**	P	**Pn**	**23 47 24.4**	**+0.5**
JHR	**Hokuryu**	**2.88**	**341**	A	A	23 47 26.1	
	comp=N,458nm,2.9s,comp=E,460nm,7.4s						
JHR	**Hokuryu**	**2.88**	**341**	P	**Pn**	**23 47 26.1**	**+2.1**
JOFO	**Osakifurukawao**	**2.91**	**214**	A	A	23 47 25.6	
	comp

comp=N,417nm,3.6s,comp=E,419nm,5.2s
JWK2 Keihoku 4.36 350 A A 23 47 47.2
comp=N,123nm,3.7s,comp=E,185nm,3.3s
JFFD Fukushimafurud 4.37 207 A A 23 47 46.0
comp=N,38nm,4.9s,comp=E,60nm,8.2s
JFY Yanaizu 4.43 216 A A 23 47 47.0
comp=N,130nm,3.7s,comp=E,76nm,2.7s
JFY Yanaizu 4.43 216 P **Pn** **23 47 47.5 +2.1**
JRBN Rebuntou 4.62 343 A A 23 47 50.8
comp=N,43nm,3.9s,comp=E,54nm,4.2s
JRBN Rebuntou 4.62 343 P **Pn** **23 47 49.1 +1.2**
JSB Shiboa 4.71 212 A A 23 47 50.9
comp=N,109nm,2.6s,comp=E,175nm,3.2s
JSD Sado 4.73 232 P **Pn** **23 47 51.8 +2.3**
JSD Sado 4.73 232 ⇑P **Pn** **23 47 51.4 +1.9**
JSD Sado 4.73 232 P **Pn** **23 47 51.6 +2.1**
JIZZ Izumozaki 4.83 225 A A 23 47 52.6
comp=N,237nm,4.3s,comp=E,243nm,3.7s
JUON Uonuma 4.90 220 A A 23 47 53.6
comp=N,42nm,5.7s,comp=E,55nm,3.9s
JHYU Hitachinakayam 5.05 203 A A 23 47 55.5
comp=N,43nm,2.1s,comp=E,57nm,1.8s
JKT Katashina 5.17 216 A A 23 47 57.4
comp=N,53nm,3.7s,comp=E,69nm,6.0s
JYT Yasato 5.27 206 A A 23 47 58.8
comp=N,43nm,3.2s,comp=E,57nm,2.7s
JAG Ashikaga 5.37 212 A A 23 48 00.1
comp=N,49nm,3.8s,comp=E,39nm,4.2s
JAG Ashikaga 5.37 212 P **Pn** **23 47 59.5 +1.2**
JIHU Itakohorinouch 5.41 202 A A 23 48 00.8
comp=N,288nm,5.1s,comp=E,272nm,6.7s
JJN Nakama 5.44 225 A A 23 48 01.2
comp=N,66nm,2.4s,comp=E,71nm,2.2s
KUR Kuril'sk 5.51 39*d i*P **Pn** **23 47 59.7 -0.4**
KUR *i* S **Sn** **23 48 58.6 -3.7**
KUR pmax pmax
comp=E,1μm,0.8s
KUR pmax pmax
comp=Z,7μm,0.8s
KUR pmax pmax
comp=N,3μm,0.6s
KUR pmax pmax
comp=Z,31μm,2.7s
KUR smax smax
comp=E,64μm,4.1s
KUR smax smax
comp=N,64μm,4.2s
KUR smax smax
comp=N,4.0nm,0.5s
KUR smax smax
comp=E,3.0nm,0.5s
KUR MLR MLR
comp=Z,88μm,15.0s
JGK Kuni 5.61 219 A A 23 48 03.6
comp=N,78nm,3.5s,comp=E,120nm,4.2s
JSZ Suzu 5.65 233 A A 23 48 04.3
comp=N,22nm,3.0s,comp=E,22nm,9.8s
JHG Hegura jima 5.68 238 A A 23 48 04.8
comp=N,24nm,3.4s,comp=E,26nm,4.1s
JHG Hegura jima 5.68 238 P **Pn** **23 48 05.3 +2.8**
JSMT Sammumatsuo 5.74 201 A A 23 48 05.2
comp=N,210nm,3.8s,comp=E,295nm,4.4s
MJB9 Matsu-Tunnel 5.84 222 **Pn** **23 48 08.0 +3.3**
MAJO Matsushiro 5.84 221 **Pn** **23 48 06.8 +2.1**
MAJO Matsushiro 5.84 221 P **Pn** **23 48 07.6 +2.8**
MAJO Matsushiro 5.84 221*c i*P **Pn** **23 48 06.9 +2.1**
MAJO MLR MLR
comp=Z,39μm,13.0s
MAJO Matsushiro 5.84 221 ⇑P **Pn** **23 48 06.9 +2.1**
MAT Matsushiro 5.84 221 P **Pn** **23 48 06.9 +2.1**
MJAR Matsushiro Arr 5.84 221 **Pn** **23 48 06.8 +2.1**
MJAR Matsushiro Arr 5.84 221 P **Pn** **23 48 07.0 +2.2**
comp=Z,5.0nm,0.3s,baz=32,slow=13,SNR=366
MJAR S **Sn** **23 49 09.4 -1.2**
comp=Z,440nm,1.0s,baz=27,slow=14,SNR=1.4
MJAR LR LR 23 50 48.2
comp=Z,94μm,20.8s,baz=55,slow=42
comp=Z,422nm,1.0s
MJAR Matsushiro Arr 5.84 221 P **Pn** **23 48 06.8 +2.1**
TOK Tokyo 5.91 207 A A 23 48 07.7
comp=N,232nm,4.0s,comp=E,178nm,5.7s
YSS Yuzhno-Sakhali 5.93 358 **Pn** **23 48 06.6 +0.7**
YSS Yuzhno-Sakhali 5.93 358 P **Pn** **23 48 08.5 +2.6**
YSS Yuzhno-Sakhali 5.93 358*αe*P **Pn** **23 48 07.4 +1.5**
YSS *e*S **Sn** **23 49 12.8 +0.1**
YSS pmax pmax
comp=Z,7μm,5.3s
YSS pmax pmax
comp=N,7μm,5.5s
YSS pmax pmax
comp=Z,1μm,1.0s
YSS pmax pmax
comp=N,880nm,1.1s
YSS pmax pmax
comp=E,890nm,0.9s
YSS smax smax
comp=E,12μm,6.0s
YSS smax smax
comp=N,2μm,1.1s
YSS smax smax
comp=E,990nm,1.2s
YSS MLR MLR
comp=Z,66μm,14.0s
YSS MLR MLR
comp=N,57μm,13.0s
YSS MLR MLR
comp=E,37μm,13.0s
YSS Yuzhno-Sakhali 5.93 358 ⇑P **Pn** **23 48 06.8 +0.9**
JRY Ryogami san 5.95 214 A A 23 48 08.2
comp=N,44nm,5.3s,comp=E,35nm,5.2s
JNG Nsakai 6.00 221 A A 23 48 09.0
comp=N,35nm,5.1s,comp=E,31nm,7.8s
TEY Ternei 6.17 313⇑*eP* **Pn** **23 48 11.3 +2.1**
TEY pmax pmax
comp=E,1μm,4.4s
TEY pmax pmax
comp=N,800nm,4.3s
TEY pmax pmax
comp=Z,1μm,4.5s
TEY pmax pmax
comp=N,240nm,1.2s
TEY pmax pmax
comp=E,320nm,1.2s
TEY pmax pmax
comp=Z,370nm,1.2s
JSGW Sagamiharawaka 6.18 210 A A 23 48 11.5
comp=N,48nm,5.2s,comp=E,37nm,5.6s
JTT Ttatey 6.25 227 A A 23 48 12.7
comp=N,49nm,3.9s,comp=E,65nm,3.3s
JKUC kamogawauchiur 6.26 202 A A 23 48 12.5
comp=N,67nm,3.1s,comp=E,86nm,4.7s
JGF Kuroka 7.00 221 **Pn** **23 48 22.3 +1.5**
JGF Kuroka 7.00 221 P **Pn** **23 48 24.3 +3.5**
JGF Kuroka 7.00 221 ⇑P **Pn** **23 48 22.4 +1.7**
INU Inuyama 7.37 222 **Pn** **23 48 26.8 +1.0**
INU Inuyama 7.37 222 P **Pn** **23 48 30.0 +4.2**
INU Inuyama 7.37 222 ⇑P **Pn** **23 48 27.2 +1.4**
JSG Sagara 7.40 213 **Pn** **23 48 26.7 +0.6**
JSG Sagara 7.40 213 P **Pn** **23 48 29.9 +3.8**
JSG Sagara 7.40 213 ⇓P **Pn** **23 48 29.5 +3.4**
UGL Uglegorsk 8.08 356 *eP* **Pn** **23 48 36.6 +1.2**
UGL pmax pmax
comp=Z,700nm,1.1s
JKY Yasaka 8.22 232 P **Pn** **23 48 40.5 +3.0**
JWT Wachi 8.29 229 P **Pn** **23 48 41.4 +3.0**
JHJ2 Mitsune 8.30 199 **Pn** **23 48 38.6 +0.1**
JHJ2 Mitsune 8.30 199 *e*Pn **Pn** **23 48 36.5 -2.0**
comp=Z,234nm,1.0s
JHJ2 *e*Sn **Sn** **23 50 09.4 -1.7**
JHJ2 *e*LR LR 23 50 29.5
comp=Z,7μm,24.0s
JHJ2 Mitsune 8.30 199 P **Pn** **23 48 38.3 -0.2**
JHJ2 Mitsune 8.30 199 ⇑P **Pn** **23 48 37.8 -0.7**
JHJ Hachijo jima 2 8.30 199 P **Pn** **23 48 36.1 -2.5**
comp=Z,231nm,0.4s,baz=45,slow=16,SNR=2.6
JHJ S **Sn** **23 50 05.1 -6.1**
comp=Z,455nm,0.4s,baz=73,slow=20,SNR=1.8
JKSM Kasumi 8.51 233 P **Pn** **23 48 44.4 +2.9**
USA0B Ussuriysk Arra 8.72 295 **Pn** **23 48 46.2 +2.0**
USA0B Ussuriysk Arra 8.72 295⇓*eP* **Pn** **23 48 45.7 +1.4**
USRK Ussuriysk Ar. 8.72 295 **Pn** **23 48 45.3 +1.1**
USRK Ussuriysk Ar. 8.72 295 P **Pn** **23 48 44.1 -0.1**
comp=Z,22nm,0.3s,baz=102,slow=14,SNR=202
USRK S **Sn** **23 50 26.1 +4.7**
comp=Z,44nm,0.6s,baz=100,slow=23,SNR=1.1
USRK LR LR 23 52 17.5
comp=Z,107μm,19.0s,baz=86,slow=38
comp=Z,698nm,1.0s
I45RU USSURIYSK INFR 8.73 295 I I 00 28 37.6
baz=111,slow=319,SNR=1.0
JKS Kasai 8.82 229 P **Pn** **23 48 48.4 +2.7**
MSHR Mys Shultsa 8.99 284*c i*P **Pn** **23 48 49.4 +1.5**
MSHR pmax pmax
comp=Z,578nm,1.1s
MSHR MLR MLR
comp=Z,79μm,19.0s
JAD Aida 9.25 232 P **Pn** **23 48 54.3 +2.8**
TYV Tymovskoe 9.84 359 *eP* **Pn** **23 49 00.7 +1.1**
TYV *e*S **Sn** **23 50 54.4 +5.6**
TYV pmax pmax
comp=Z,3μm,4.0s
TYV pmax pmax
comp=Z,178nm,0.9s
TYV smax smax
comp=N,89nm,1.4s
TYV smax smax
comp=E,62nm,1.4s
TYV smax smax
comp=N,6μm,7.9s
TYV smax smax
comp=E,8μm,7.9s
JHS Saijyo 9.85 236 P **Pn** **23 49 02.7 +2.9**
JGT2 ShimaneMisato 10.19 238 P **Pn** **23 49 07.5 +3.1**
JMN Monobe 10.28 228 **Pn** **23 49 05.6 -0.1**
JMN Monobe 10.28 228 P **Pn** **23 49 07.9 +2.2**
JMN Monobe 10.28 228 ⇑P **Pn** **23 49 06.5 +0.8**
MDJ Mudanjiang 10.49 294 **Pn** **23 49 10.2 +1.8**
MDJ Mudanjiang 10.49 294 P **Pn** **23 49 11.3 +2.9**
MDJ S **Sn** **23 51 09.3 +4.6**
MDJ pmax pmax
comp=E,300nm,1.2s
MDJ LR LR
comp=E,57μm,18.2s
MDJ LR LR
comp=E,100μm,19.2s
MDJ LR LR
comp=E,155μm,18.9s
MDJ Mudanjiang 10.49 294 P **Pn** **23 49 10.3 +1.8**
GRNR Gornyy 10.76 337⇑*iP* **Pn** **23 49 13.4 +1.2**
GRNR pmax pmax
comp=E,30nm,0.7s
GRNR pmax pmax
comp=N,50nm,0.8s
GRNR pmax pmax
comp=Z,50nm,0.7s
GRNR MLR MLR
comp=N,49μm,16.0s
KLR Kul'dur 11.41 320 LR LR 23 54 28.7
comp=N,41μm,19.6s,baz=132,slow=41
KSRS Korea Array 12.23 258 P **Pn** **23 49 34.7 +2.4**
comp=N,1.1nm,0.3s,baz=66,slow=13,SNR=72
KSRS S **Sn** **23 51 48.5 +1.2**
comp=N,24nm,0.9s,baz=68,slow=24,SNR=2.9
KSRS LR LR 23 54 09.1
comp=N,49715μm,18.3s,baz=65,slow=36
comp=N,39nm,0.9s
NKL Nikolayevsk 12.23 353 *eP* **Pn** **23 49 31.5 -0.7**
NKL *e*S **Sn** **23 51 48.4 +1.1**
NKL pmax pmax
comp=E,647nm,1.1s
NKL pmax pmax
comp=N,353nm,0.8s
NKL pmax pmax
comp=Z,1μm,1.3s
NKL smax smax
comp=E,2μm,3.4s
NKL smax smax
comp=N,2μm,2.3s
NKL MLR MLR
comp=E,73μm,16.0s
NKL MLR MLR
comp=N,50μm,19.0s
NKL MLR MLR
comp=Z,125μm,20.0s
KS19 Wonju Array Si 12.25 258 **Pn** **23 49 34.3 +1.7**
KSAR Wonju Array Be 12.26 258 **Pn** **23 49 33.4 +0.7**
KSAR Wonju Array Be 12.26 258 P **Pn** **23 49 33.4 +0.7**
BNX BinXian 12.29 298 ⇑P **Pn** **23 49 34.0 +1.0**
BNX S **Sn** **23 51 47.0 -1.7**
BNX pmax pmax
comp=Z,950nm,1.0s
BNX pmax pmax
comp=Z,7μm,6.5s
BNX LR LR
comp=Z,30μm,13.5s
BNX LR LR
comp=Z,45μm,18.1s
BNX LR LR
comp=Z,89μm,17.3s
JNU Nakatsue 12.48 235 **Pn** **23 49 36.3 +0.5**
JNU Nakatsue 12.48 235 P **Pn** **23 49 36.5 +0.6**
comp=Z,2.0nm,0.3s,baz=48,slow=8.9,SNR=18
JNU S **Sn** **23 51 55.0 +1.3**
comp=Z,23nm,1.0s,baz=24,slow=18,SNR=0.7
JNU LR LR 23 54 47.6
comp=Z,41μm,18.8s,baz=58,slow=39
comp=Z,121nm,1.1s
JNU Nakatsue 12.48 235 P **Pn** **23 49 38.0 +2.2**
JNU Nakatsue 12.48 235 ⇑P **Pn** **23 49 36.5 +0.6**
OKH Okha 12.53 360*c i*P **Pn** **23 49 32.1 -4.2**
OKH *i* S **Sn** **23 51 50.6 -4.0**
OKH pmax pmax
comp=Z,1μm,12.4s
OKH smax smax
comp=E,4μm,15.9s
OKH MLR MLR
comp=E,68μm,14.0s
JTU Tsushima 12.56 243 P **Pn** **23 49 38.6 +1.7**
JTU Tsushima 12.56 243 ⇑P **Pn** **23 49 38.5 +1.7**
TJN Taejon 13.07 254 **Pn** **23 49 44.6 +0.9**
TJN Taejon 13.07 254 P **Pn** **23 49 47.1 +3.4**
TJN Taejon 13.07 254*c i*P **Pn** **23 49 46.4 +2.7**
TJN pmax pmax
comp=Z,13nm,1.3s
INCN Inchon 13.17 260 **Pn** **23 49 45.1 -0.1**
INCN Inchon 13.17 260 P **Pn** **23 49 46.5 +1.3**
INCN P **Pn** **23 49 46.5 +1.3**
INCN P **Pn** **23 49 46.5 +1.3**
INCN S **Sn** **23 52 16.3 +5.7**
INCN S **Sn** **23 52 16.3 +5.7**
INCN S **Sn** **23 52 16.3 +5.7**
INCN Inchon 13.17 260 P **Pn** **23 49 46.5 +1.3**
INCN Inchon 13.17 260 P **Pn** **23 49 45.1 -0.1**
CN2 Changchun 13.27 288 P **Pn** **23 49 46.8 +0.3**
CN2 PP **P** **23 49 58.3 +2.5**
CN2 S **Sn** **23 52 13.0 +0.2**
CN2 pmax pmax
comp=Z,190nm,1.0s
CN2 pmax pmax
comp=Z,7μm,7.0s
CN2 LR LR
comp=Z,34μm,20.0s
CN2 LR LR
comp=Z,56μm,20.0s
CN2 LR LR
comp=Z,66μm,20.0s
SKR Severo-Kuril's 13.28 39 *eP* Pn 23 49 40.6 -5.9
SKR *e*S **Sn** **23 52 05.3 -7.5**
SKR pmax pmax
comp=Z,3μm,4.3s
SKR MLR MLR
comp=Z,48μm,16.0s
JCJ Chichijima 13.91 183 P **Pn** **23 49 50.9 -4.5**
comp=Z,125nm,0.4s,baz=357,slow=7.9,SNR=23
JCJ S Sn 23 52 14.7 -14
comp=Z,56nm,0.4s,baz=292,slow=19,SNR=1.5
HEH HeiHe 14.26 316 *eP* **Pn** **23 49 57.8 -2.2**
HEH sP **P** **23 50 07.3 +0.5**
HEH S **Sn** **23 52 39.0 +2.1**
HEH pmax pmax
comp=Z,110nm,1.1s
HEH pmax pmax
comp=Z,6μm,6.7s
HEH LR LR
comp=Z,42μm,15.6s
HEH LR LR
comp=Z,51μm,17.6s
HEH LR LR
comp=Z,73μm,17.8s
SNY Shenyang 14.60 280 ⇑P **Pn** **23 50 05.8 +1.2**
SNY S **Sn** **23 52 46.5 +1.3**
SNY pmax pmax
comp=Z,170nm,1.8s
SNY pmax pmax
comp=Z,5μm,11.3s
SNY LR LR
comp=Z,16μm,17.3s
SNY LR LR
comp=Z,32μm,16.9s
SNY LR LR
comp=Z,51μm,17.7s
PEA0B Petropavlovsk- 15.65 35 **Pn** **23 50 14.2 -4.3**
PEA0B Petropavlovsk- 15.65 35*de*P **Pn** **23 50 19.3 +0.8**
PETK Petropavlovsk- 15.65 35 **Pn** **23 50 13.7 -4.8**
PETK Petropavlovsk- 15.65 35 P **Pn** **23 50 14.5 -4.0**
comp=Z,17nm,0.7s,baz=216,slow=7.6,SNR=17
PETK S **Sn** **23 53 04.9 -5.8**
comp=Z,17nm,0.8s,baz=212,slow=7.6,SNR=1.8
PETK LR LR 23 56 48.8
PETK comp=Z,22μm,19.0s,baz=219,slow=39 P3KPbc 00 25 32.5
comp=Z,0.5nm,0.3s,baz=48,slow=2.1,SNR=1.4
PETK Petropavlovsk- 15.65 35 P **Pn** **23 50 13.7 -4.8**
PET Petropavlovsk 16.01 36 P **P** **23 50 25.4 -0.8**
PET Petropavlovsk 16.01 36 *eP* **Pn** **23 50 21.2 -1.8**
PET *e*S **Sn** **23 53 20.5 +1.1**
PET pmax pmax
comp=Z,300nm,5.0s
PET pmax pmax
comp=Z,400nm,5.6s
PET pmax pmax
comp=Z,170nm,1.2s
PET MLR MLR
comp=Z,25μm,17.0s
PET MLR MLR
comp=Z,24μm,16.0s
DL2 Dalian 16.52 270⇑*iP* **Pn** **23 50 29.5 -0.2**
DL2 S **Sn** **23 53 32.3 +0.3**
DL2 pmax pmax
comp=Z,2μm,1.2s
DL2 pmax pmax
comp=Z,10μm,6.3s
DL2 LR LR
comp=Z,13μm,18.9s
DL2 LR LR
comp=Z,22μm,23.3s
DL2 LR LR
comp=Z,29μm,27.1s
ZEA Zeya 16.55 326 *eP* **Pn** **23 50 27.8 -2.1**
ZEA *e* 23 53 39.0
ZEA pmax pmax
comp=E,330nm,1.0s
ZEA pmax pmax
comp=N,320nm,1.1s
ZEA pmax pmax
comp=Z,720nm,1.1s
ZEA pmax pmax
comp=E,300nm,1.7s
ZEA pmax pmax
comp=N,600nm,1.5s
ZEA pmax pmax
comp=Z,800nm,1.5s
ZEA MLR MLR
comp=E,24μm,15.0s
ZEA MLR MLR
comp=N,17μm,16.0s
ZEA MLR MLR
comp=Z,32μm,16.0s
JMZ Minamidaito 2 18.05 216 **Pn** **23 50 48.1 -0.6**
JMZ IAmb IAmb 23 50 54.8
comp=Z,2μm,1.7s
JMZ Minamidaito 2 18.05 216 P **P** **23 50 50.9 +2.0**
HIA Hailar 18.31 305 **P** **23 50 49.6 -2.1**
HIA Hailar 18.31 305 P **P** **23 50 50.3 -1.4**
HIA Hailar 18.31 305 P **P** **23 50 49.6 -2.1**
HIA pmax pmax
comp=Z,328nm,0.9s
JOW Kunigami 18.67 225 **P** **23 50 54.8 -1.0**
JOW Kunigami 18.67 225 *e*Pn **P** **23 50 51.2 -4.5**
comp=Z,677nm,1.4s
JOW *e*S **Sn** **23 54 19.3 -4.7**
comp=Z,5μm,26.6s
JOW *e*LR LR 23 55 20.8
comp=Z,58μm,25.4s
JOW Kunigami 18.67 225 P **P** **23 50 54.2 -1.6**
comp=Z,3.5nm,0.3s,baz=36,slow=9.1,SNR=22
JOW S **Sn** **23 54 21.0 -3.0**
comp=Z,5.0nm,0.3s,baz=42,slow=19,SNR=1.1
JOW LR LR 23 59 20.4
comp=Z,14μm,19.1s,baz=47,slow=41
comp=Z,122nm,1.0s
JOW Kunigami 18.67 225 P **Pn** **23 50 57.0 +0.8**
MA2 Magadan 19.20 12 **P** **23 50 59.0 -2.3**
MA2 Magadan 19.20 12 P **P** **23 50 57.1 -4.1**
comp=Z,93nm,0.7s,baz=199,slow=11,SNR=53
MA2 S **Sn** **23 54 29.4 -6.9**
comp=Z,5.4nm,0.3s,baz=288,slow=20,SNR=1.2
MA2 LR LR 23 58 25.8
comp=Z,20μm,21.7s,baz=198,slow=37
MA2 Magadan 19.20 12 P **P** **23 50 59.7 -1.6**
MA2 Magadan 19.20 12⇓*iP* **P** **23 50 59.1 -2.2**
MA2 pmax pmax
comp=Z,120nm,0.8s
MA2 MLR MLR
comp=Z,18μm,16.0s
XLT XiLinHaoTe 20.04 287 *eP* **P** **23 51 08.5 -2.2**
XLT pP pwP 23 51 21.0 0.0
XLT pmax pmax
comp=Z,250nm,1.1s
XLT pmax pmax
comp=Z,2μm,3.6s
XLT LR LR
comp=Z,22μm,22.7s
XLT LR LR
comp=Z,30μm,22.0s
SSE Sheshan 20.19 248 P **P** **23 51 11.0 -1.3**
SSE S **S** **23 54 53.8 -3.3**
SSE pmax pmax
comp=Z,840nm,3.5s
SSE LR LR
comp=Z,10μm,18.4s
SSE LR LR
comp=Z,1μm,21.0s
BJI Beijing 20.39 276 P **P** **23 51 12.5 -2.0**
BJI S **S** **23 54 56.5 -4.6**
BJI pmax pmax
comp=Z,180nm,1.4s
BJI pmax pmax
comp=Z,2μm,3.5s
BJI LR LR
comp=Z,5μm,16.9s
BJI LR LR
comp=Z,18μm,19.0s
BJI LR LR
comp=Z,25μm,18.8s
BJT Baijiatuan 20.40 276 P **P** **23 51 12.7 -1.9**
BJT Baijiatuan 20.40 276 IAMs_20 IAMs_20 23 59 03.0
comp=Z,43μm,19.0s
BJT Baijiatuan 20.40 276 P **P** **23 51 13.3 -1.3**
BJT Baijiatuan 20.40 276 P **P** **23 51 12.7 -1.9**
BJT pmax pmax
comp=Z,452nm,1.1s
BJT MLR MLR
comp=Z,43μm,19.0s
TIA Tai'an 20.75 265 P **P** **23 51 16.8 -1.7**
TIA S **S** **23 55 01.5 -6.9**
TIA pmax pmax
comp=Z,260nm,1.4s
TIA pmax pmax
comp=Z,5μm,3.6s
TIA LR LR
comp=Z,23μm,17.1s
TIA LR LR
comp=Z,28μm,20.4s
TIA LR LR
comp=Z,43μm,19.0s
NJ2 Nanjing 21.32 253⇑*iP* **P** **23 51 22.3 -2.2**
NJ2 pmax pmax
comp=Z,330nm,1.3s
NJ2 pmax pmax
comp=Z,3μm,5.9s
NJ2 LR LR
comp=Z,32μm,17.1s
NJ2 LR LR
comp=Z,44μm,17.1s
NJ2 LR LR
comp=Z,52μm,20.8s
JMJ Miyako jima 2 21.90 228 P **P** **23 51 31.9 +1.1**
HNS HongShan 22.18 270 ⇑P **P** **23 51 31.0 -2.7**

HNS				S	**S**	**23 55 28.0**	**-8.1**
HNS				pmax	pmax		
	comp=Z,360nm,1.0s						
HNS				LR	LR		
	comp=Z,10μm,19.1s						
HNS				LR	LR		
	comp=Z,15μm,19.1s						
HNS				LR	LR		
	comp=Z,21μm,18.3s						
YAK	**Yakutsk**	**22.52 344**			**P**	**23 51 33.1**	**-4.0**
YAK	**Yakutsk**	**22.52 344**		IAMs_20	IAMs_20	00 00 51.8	
	comp=Z,29μm,20.0s						
YAK	**Yakutsk**	**22.52 344**		P	**P**	**23 51 33.0**	**-4.1**
	comp=Z,938nm,0.8s,baz=110,slow=3.7,SNR=153						
YAK				S	S	23 55 30.9	-11
	comp=Z,300nm,1.0s,baz=163,slow=19,SNR=8.1						
YAK				LR	LR	00 01 18.3	
	comp=Z,28μm,18.1s,baz=150,slow=39						
YAK	**Yakutsk**	**22.52 344**	*c*	*i*P	**P**	**23 51 33.2**	**-4.0**
YAK				*e**PP	**pP**	**23 51 42.0**	**-3.2**
YAK				*e*S	**S**	**23 55 34.8**	**-7.0**
YAK				*e**SS	**pS**	**23 55 49.5**	**-1.6**
YAK				*e*SSS	SSS	23 56 17.0	
YAK				pmax	pmax		
	comp=Z,1μm,0.9s						
YAK				pmax	pmax		
	comp=N,380nm,1.1s						
YAK				pmax	pmax		
	comp=E,312nm,1.3s						
YAK				smax	smax		
	comp=N,6μm,3.3s						
YAK				smax	smax		
	comp=E,6μm,4.6s						
YAK				MLR	MLR		
	comp=Z,41μm,26.0s						
YAK				MLR	MLR		
	comp=N,41μm,26.0s						
YAK				MLR	MLR		
	comp=E,30μm,21.0s						
SEY	**Seymchan**	**22.64 11**		P	**P**	**23 51 35.2**	**-3.2**
	comp=E,174nm,0.8s,baz=198,slow=9.2,SNR=167						
SEY				S	**S**	**23 55 37.2**	**-6.8**
	comp=E,19nm,1.0s,baz=252,slow=19,SNR=15						
SEY				LR	LR	00 02 11.5	
	comp=E,18μm,18.4s,baz=195,slow=41						
SEY	**Seymchan**	**22.64 11**		*e*P	**P**	**23 51 33.8**	**-4.6**
SEY				pmax	pmax		
	comp=Z,420nm,1.3s						
CIT	**Chita**	**22.90 309**		*e*P	**P**	**23 51 38.3**	**-3.0**
CIT				*e*		23 51 52.6	
CIT				*e*		23 52 06.2	
CIT				*e*S	**S**	**23 55 46.7**	**-2.1**
CIT				pmax	pmax		
	comp=Z,2μm,2.3s						
YOJ	**Yonaguni jima**	**23.48 231**			**P**	**23 51 44.1**	**-3.2**
YOJ	**Yonaguni jima**	**23.48 231**		P	**P**	**23 51 48.7**	**+1.4**
YOJ	**Yonaguni jima**	**23.48 231**		P	**P**	**23 51 44.1**	**-3.2**
YOJ				pmax	pmax		
	comp=Z,135nm,0.7s						
YOJ				MLR	MLR		
	comp=Z,17μm,19.0s						
HHC	**Hu-ho-hao-te**	**23.69 280**		*e*P	**P**	**23 51 47.0**	**-2.3**
HHC				sP	pP	23 51 53.5	-4.4
HHC				PP	**PnPn**	**23 52 19.5**	**+2.3**
HHC				S	**S**	**23 55 56.8**	**-5.4**
HHC				SS	**SnSn**	**23 56 48.0**	**+6.9**
HHC				pmax	pmax		
	comp=Z,150nm,1.2s						
HHC				LR	LR		
	comp=Z,12μm,14.9s						
HHC				LR	LR		
	comp=Z,33μm,15.7s						
HHC				LR	LR		
	comp=Z,50μm,17.2s						
TIY	**Taiyuan**	**23.81 272**		P	**P**	**23 51 48.0**	**-2.4**
TIY				S	**S**	**23 55 59.8**	**-4.2**
TIY				pmax	pmax		
	comp=Z,110nm,1.1s						
TIY				pmax	pmax		
	comp=Z,2μm,12.0s						
TIY				LR	LR		
	comp=Z,8μm,17.2s						
TIY				LR	LR		
	comp=Z,12μm,17.9s						
TIY				LR	LR		
	comp=Z,15μm,17.9s						
TATO	**Taipei**	**24.02 235**		P	**P**	**23 51 50.9**	**-1.5**
TATO	**Taipei**	**24.02 235**		IAMs_20	IAMs_20	00 01 52.4	
	comp=Z,27μm,20.0s						
TATO	**Taipei**	**24.02 235**		P	**P**	**23 51 50.9**	**-1.5**
TATO				P	**P**	**23 51 50.9**	**-1.5**
TATO				P	**P**	**23 51 50.9**	**-1.5**
TATO				S	**S**	**23 56 11.5**	**+4.1**
TATO				S	**S**	**23 56 11.5**	**+4.1**
TATO				S	**S**	**23 56 11.5**	**+4.1**
TATO	**Taipei**	**24.02 235**		P	**P**	**23 51 53.3**	**+0.9**
SHEM	**Shemya Is, Ala**	**24.06 50**		P	**P**	**23 51 54.2**	**+1.6**
	comp=Z,122nm,1.1s,baz=267,slow=7.3,SNR=7.5						
SHEM				S	**S**	**23 56 08.3**	**+0.7**
	comp=Z,17nm,0.5s,baz=270,slow=20,SNR=1.5						
SHEM				LR	LR	00 03 03.9	
	comp=Z,4μm,19.1s,baz=273,slow=41						
	comp=Z,122nm,1.1s						
SMY	**Shemya**	**24.06 50**		P	**P**	**23 51 52.4**	**-0.1**
SMY	**Shemya**	**24.06 50**		P	**P**	**23 51 54.7**	**+2.2**
SMY	**Shemya**	**24.06 50**		P	**P**	**23 51 52.4**	**-0.1**
SMY				pmax	pmax		
	comp=Z,2μm,1.3s						
SMY				MLR	MLR		
	comp=Z,16μm,22.0s						
YHNB	**Yeheng**	**24.32 235**		P	**P**	**23 51 52.8**	**-2.5**
YHNB				IAMs_20	IAMs_20	00 02 03.2	
	comp=Z,28μm,19.0s						
YHNB	**Yeheng**	**24.32 235**		P	**P**	**23 51 54.5**	**-0.7**
NACB	**Ninganchiao**	**24.55 233**		P	**P**	**23 51 54.8**	**-2.4**
NACB	**Ninganchiao**	**24.55 233**		P	**P**	**23 51 55.4**	**-1.8**
BTO	**Baotou**	**24.89 280**		*e*P	**P**	**23 51 59.8**	**-0.5**
BTO				pP	**pwP**	**23 52 11.5**	**+0.1**
BTO				PP	**PnPn**	**23 52 37.5**	**+3.9**
BTO				S	**S**	**23 56 17.5**	**-3.9**
BTO				SS	**SnSn**	**23 57 20.3**	**+10**
BTO				pmax	pmax		
	comp=Z,700nm,1.4s						
BTO				pmax	pmax		
	comp=Z,7μm,10.9s						
BTO				LR	LR		
	comp=Z,36μm,16.4s						
BTO				LR	LR		
	comp=Z,82μm,18.4s						
BTO				LR	LR		
	comp=Z,106μm,20.3s						
LYN	**LuoYang**	**24.90 265**	⇑	*i*P	**P**	**23 51 57.8**	**-2.6**
LYN				sP	sP	23 52 15.5	+2.7
LYN				S	**S**	**23 56 23.5**	**+2.0**
LYN				pmax	pmax		
	comp=Z,840nm,1.0s						
LYN				pmax	pmax		
	comp=Z,5μm,4.8s						
LYN				LR	LR		
	comp=Z,25μm,18.1s						
LYN				LR	LR		
	comp=Z,33μm,18.2s						
LYN				LR	LR		
	comp=Z,43μm,19.6s						
BOD	**Bodaibo**	**24.97 322**		*e*P	**P**	**23 51 58.9**	**-1.9**
BOD				pmax	pmax		
	comp=Z,780nm,1.2s						
SSLB	**Suanglung**	**25.23 234**		IAMs_20	IAMs_20	00 02 44.3	
	comp=Z,39μm,20.0s						
SSLB	**Suanglung**	**25.23 234**		P	**P**	**23 52 02.9**	**-0.5**
YULB	**Yu-li**	**25.32 233**		P	**P**	**23 52 02.7**	**-1.5**
YULB				IAmb	IAmb	23 52 34.1	
	comp=Z,382nm,1.4s						
YULB	**Yu-li**	**25.32 233**		P	**P**	**23 52 02.1**	**-2.1**
WHN	**Wuhan**	**25.39 255**	⇓	P	**P**	**23 52 03.0**	**-1.8**
WHN				pmax	pmax		
	comp=Z,2μm,0.9s						
WHN				LR	LR		
	comp=Z,95μm,15.3s						
WHN				LR	LR		
	comp=Z,129μm,16.2s						
WHN				LR	LR		
	comp=Z,198μm,17.0s						
TPUB	**Ta-pu**	**25.79 234**		IAMs_20	IAMs_20	00 03 22.2	
	comp=Z,35μm,19.0s						
TPUB	**Ta-pu**	**25.79 234**		P	**P**	**23 52 07.8**	**-0.7**
TWGBT	**Beinan**	**25.88 232**		P	**P**	**23 52 10.6**	**+1.3**
TWG	**Pinlang**	**25.88 232**		P	**P**	**23 52 08.2**	**-1.1**
TWG				IAmb	IAmb	23 52 14.5	
	comp=Z,965nm,1.7s						
QZH	**Quanzhou**	**25.89 239**	⇑	*i*P	**P**	**23 52 09.5**	**+0.2**
QZH				S	**S**	**23 56 37.8**	**+0.6**
QZH				pmax	pmax		
	comp=Z,640nm,1.3s						
QZH				pmax	pmax		
	comp=Z,5μm,5.7s						
QZH				LR	LR		
	comp=Z,19μm,22.0s						
QZH				LR	LR		
	comp=Z,27μm,20.3s						
QZH				LR	LR		
	comp=Z,36μm,19.2s						
KNMB	**Chin-men Tao**	**26.35 239**		P	**P**	**23 52 13.7**	**+0.2**
KNMB				IAMs_20	IAMs_20	00 03 42.1	
	comp=Z,24μm,19.0s						
ULN	**Ulaanbaatar**	**26.38 297**			**P**	**23 52 13.4**	**-0.4**
ULN				IAmb	IAmb	23 52 16.1	
	comp=Z,833nm,1.4s						
ULN	**Ulaanbaatar**	**26.38 297**		P	**P**	**23 52 14.1**	**+0.2**
ULN				P	**P**	**23 52 14.1**	**+0.2**
ULN				P	**P**	**23 52 14.1**	**+0.2**
ULN				S	**S**	**23 56 47.0**	**+2.0**
ULN				S	**S**	**23 56 47.0**	**+2.0**
ULN				S	**S**	**23 56 47.0**	**+2.0**
ULN	**Ulaanbaatar**	**26.38 297**	*c*	*i*P	**P**	**23 52 13.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,691nm,1.4s						
ULN	**Ulaanbaatar**	**26.38 297**	⇑	P	**P**	**23 52 13.6**	**-0.3**
SONM	**Songino Array**	**26.83 297**		P	**P**	**23 52 17.5**	**-0.4**
SONM	**Songino Array**	**26.83 297**		P	**P**	**23 52 17.9**	**0.0**
	comp=Z,236nm,1.1s,baz=94,slow=8.3,SNR=557						
SONM				PcP	**PcP**	**23 55 40.2**	**+0.4**
	comp=Z,17nm,1.0s,baz=125,slow=2.8,SNR=2.0						
SONM				S	**S**	**23 56 49.8**	**-2.2**
	comp=Z,5.3nm,1.0s,baz=97,slow=19,SNR=1.0						
SONM				ScP	**ScP**	**23 59 17.9**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=116,slow=3.4,SNR=2.4						
SONM				LR	LR	00 03 54.0	
	comp=Z,55μm,18.1s,baz=94,slow=38						
	comp=Z,236nm,1.1s						
AMKA	**Amchitka**	**26.91 55**		P	**P**	**23 52 18.8**	**+0.5**
GUMO	**Guam**	**27.38 176**		LR	LR	00 02 25.2	
	comp=Z,10μm,21.5s,baz=7.0,slow=34						
CNSH	**ChangSha**	**27.73 252**		P	**P**	**23 52 26.0**	**+0.1**
CNSH				S	**S**	**23 57 07.5**	**+1.3**
CNSH				pmax	pmax		
	comp=Z,370nm,1.7s						
CNSH				LR	LR		
	comp=Z,44μm,17.8s						
CNSH				LR	LR		
	comp=Z,38μm,18.0s						
CNSH				LR	LR		
	comp=Z,38μm,18.8s						
XAN	**Xi'an**	**27.79 267**	⇑	P	**P**	**23 52 25.0**	**-1.5**
XAN				pP	pP	23 52 30.0	-5.3
XAN				S	**S**	**23 57 06.3**	**-1.0**
XAN				sS	pS	23 57 17.8	+0.7
XAN				pmax	pmax		
	comp=Z,220nm,1.2s						
XAN				pmax	pmax		
	comp=Z,5μm,3.8s						
XAN				LR	LR		
	comp=Z,14μm,18.4s						
XAN				LR	LR		
	comp=Z,29μm,18.2s						
XAN				LR	LR		
	comp=Z,32μm,19.2s						
IRK	**Irkutsk**	**28.53 306**		*e*P	P	23 52 22.3	-11
IRK				*e*S	S	23 57 08.6	-10
IRK				pmax	pmax		
	comp=Z,1μm,2.4s						
ZAK	**Zakamensk**	**28.97 302**		*e*P	**P**	**23 52 36.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,332nm,1.5s						
ENH	**Enshi**	**29.11 259**		P	**P**	**23 52 37.0**	**-1.2**
ENH				IAmb	IAmb	23 52 39.5	
	comp=Z,209nm,0.8s						
ENH				IAMs_20	IAMs_20	00 04 56.0	
	comp=Z,30μm,18.0s						
ENH	**Enshi**	**29.11 259**		P	**P**	**23 52 38.7**	**+0.4**
KIWB	**Kanaga Island**	**29.16 55**		P	**P**	**23 52 38.0**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**29.41 129**		P	**P**	**23 52 42.2**	**+1.5**
H11N2				T	T	00 24 12.4	
	baz=317,slow=75,SNR=1207						
H11N1	**WAKE ISLAND Hy**	**29.42 129**		P	**P**	**23 52 42.3**	**+1.5**
	SNR=3.6						
H11N1				T	T	00 23 46.3	
	baz=317,slow=75,SNR=897						
H11N3	**WAKE ISLAND Hy**	**29.43 129**		P	**P**	**23 52 42.4**	**+1.5**
H11N3				T	T	00 24 05.5	
	baz=317,slow=75,SNR=1156						
ADK	**Adak**	**29.45 55**		P	**P**	**23 52 40.2**	**-0.8**
ADK				IAmb	IAmb	23 52 54.6	
	comp=Z,329nm,1.4s						
ADK	**Adak**	**29.45 55**		P	**P**	**23 52 44.3**	**+3.3**
ADK	**Adak**	**29.45 55**		P	**P**	**23 52 40.2**	**-0.8**
ADK				pmax	pmax		
	comp=Z,329nm,1.4s						
ADK				MLR	MLR		
	comp=Z,18μm,21.0s						
WAKE	**Wake Island**	**29.62 130**		P	**P**	**23 52 42.4**	**-0.4**
WAKE				IAmb	IAmb	23 53 49.0	
	comp=Z,333nm,1.4s						
WAKE	**Wake Island**	**29.62 130**		IAMs_20	IAMs_20	00 02 22.3	
	comp=Z,20μm,19.0s						
BILL	**Bilibino**	**29.85 17**		P	**P**	**23 52 43.7**	**-0.7**
BILL				IAmb	IAmb	23 52 46.0	
	comp=Z,316nm,1.2s						
BILL				IAMs_20	IAMs_20	00 05 37.7	
	comp=Z,21μm,21.0s						
BILL	**Bilibino**	**29.85 17**	*c*	*i*P	**P**	**23 52 44.2**	**-0.2**
BILL				pmax	pmax		
	comp=Z,314nm,1.2s						
GSTR	**Great Sitkin T**	**29.86 54**		P	**P**	**23 52 43.4**	**-1.3**
GSTR				IAmb	IAmb	23 53 03.7	
	comp=Z,185nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**30.26 131**		T	T	00 25 13.4	
	baz=324,slow=76,SNR=640						
H11S3	**WAKE ISLAND Hy**	**30.26 131**		T	T	00 25 27.1	
	baz=324,slow=76,SNR=720						
H11S2	**WAKE ISLAND Hy**	**30.28 131**		T	T	00 25 17.8	
	baz=324,slow=76,SNR=228						
MOY	**Mondy**	**30.49 305**		*e*P	**P**	**23 52 50.5**	**+0.1**
MOY				pmax	pmax		
	comp=Z,992nm,2.3s						
GZH	**Guangzhou**	**30.64 243**		P	**P**	**23 52 47.8**	**-4.0**
GZH				S	**S**	**23 57 44.5**	**-7.6**
GZH				LR	LR		
	comp=Z,30μm,19.4s						
GZH				LR	LR		
	comp=Z,20μm,17.5s						
GZH				LR	LR		
	comp=Z,38μm,19.0s						
HKPS	**Hong Kong Po S**	**30.66 241**			**P**	**23 52 52.3**	**+0.3**
HKPS				IAmb	IAmb	23 52 54.3	
	comp=Z,397nm,1.4s						
HKPS	**Hong Kong Po S**	**30.66 241**		IAMs_20	IAMs_20	00 06 16.2	
	comp=Z,26μm,18.0s						
HKPS	**Hong Kong Po S**	**30.66 241**		P	**P**	**23 52 52.9**	**+0.9**
LZH	**Lanzhou**	**30.84 274**	⇑	P	**P**	**23 52 53.5**	**-0.2**
LZH				pP	pP	23 52 58.8	-3.7
LZH				sP	pwP	23 53 02.8	-2.0
LZH				S	**S**	**23 57 53.0**	**-2.3**
LZH				SS	**SnSn**	**23 59 37.0**	**+1.4**
LZH				pmax	pmax		
	comp=Z,170nm,1.2s						
LZH				pmax	pmax		
	comp=Z,3μm,4.1s						
LZH				LR	LR		
	comp=Z,13μm,13.3s						
LZH				LR	LR		
	comp=Z,13μm,15.5s						
LZH				LR	LR		
	comp=Z,22μm,15.6s						
ATKA	**Atka Island**	**31.01 54**			**P**	**23 52 54.3**	**-0.5**
ATKA				IAMs_20	IAMs_20	00 04 42.1	
	comp=Z,19μm,21.0s						
ATKA	**Atka Island**	**31.01 54**		P	**P**	**23 52 56.7**	**+1.9**
ATKA	**Atka Island**	**31.01 54**	⇓	P	**P**	**23 52 55.6**	**+0.8**
TIXI	**Tiksi**	**31.50 351**			**P**	**23 52 55.7**	**-3.2**
TIXI				IAMs_20	IAMs_20	00 07 12.4	
	comp=Z,22μm,19.0s						
TIXI	**Tiksi**	**31.50 351**		LR	LR	00 07 32.3	
	comp=Z,22μm,18.7s,baz=168,slow=40						
TIXI	**Tiksi**	**31.50 351**	⇑	*i*P	**P**	**23 53 00.0**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,32nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,20μm,18.0s						
GTA	**Gaotai**	**32.77 282**		P	**P**	**23 53 11.0**	**+0.4**
GTA				sP	pwP	23 53 21.3	-0.5
GTA				PP	**PP**	**23 54 23.5**	**-1.4**
GTA				PcP	**PcP**	**23 55 56.5**	**+1.2**
GTA				S	**S**	**23 58 27.0**	**+1.5**
GTA				ScP	**ScP**	**23 59 39.5**	**+2.7**
GTA				PcS	**PcS**	**23 59 42.0**	**+1.4**
GTA				pmax	pmax		
	comp=Z,200nm,1.4s						
GTA				pmax	pmax		
	comp=Z,2μm,8.4s						
GTA				LR	LR		
	comp=Z,15μm,20.7s						
GTA				LR	LR		
	comp=Z,43μm,18.7s						
GTA				LR	LR		
	comp=Z,56μm,19.9s						
CD2	**Chengdu**	**33.09 265**		P	**P**	**23 53 12.5**	**-0.8**
CD2				sP	pP	23 53 19.8	-2.4
CD2				PP	**PnPn**	**23 54 23.8**	**+0.4**
CD2				S	**S**	**23 58 25.5**	**-4.8**
CD2				sS	sS	23 58 43.0	-1.9
CD2				pmax	pmax		
	comp=Z,510nm,0.8s						
CD2				pmax	pmax		
	comp=Z,2μm,5.9s						
CD2				LR	LR		
	comp=Z,25μm,15.9s						
CD2				LR	LR		
	comp=Z,20μm,16.3s						
CD2				LR	LR		
	comp=Z,20μm,15.9s						
GYA	**Guiyang**	**33.27 256**	⇑	P	**P**	**23 53 15.0**	**0.0**
GYA				S	**S**	**23 58 33.3**	**0.0**
GYA				pmax	pmax		
	comp=Z,730nm,1.1s						
GYA				pmax	pmax		
	comp=Z,4μm,4.9s						
GYA				LR	LR		
	comp=Z,23μm,18.8s						
GYA				LR	LR		
	comp=Z,27μm,19.0s						
GYA				LR	LR		
	comp=Z,44μm,20.6s						
SPIA	**Saint Paul Isl**	**33.82 45**		P	**P**	**23 53 19.2**	**-0.1**
	baz=262						
SPIA				S	**S**	**23 58 43.0**	**+2.0**
	baz=262						
P08K	**Saint George I**	**34.13 47**		IAMs_20	IAMs_20	00 06 51.1	
	comp=Z,15μm,22.0s						
P08K	**Saint George I**	**34.13 47**		P	**P**	**23 53 22.3**	**+0.3**
	baz=263						
P08K				S	**S**	**23 58 45.6**	**-0.1**
	baz=263						
NIKH	**Nikolski High**	**34.30 53**		P	**P**	**23 53 23.7**	**+0.2**
	baz=269						
GAMB	**Gambell**	**34.69 34**		P	**P**	**23 53 27.3**	**+0.6**
	baz=251						
GAMB				S	**S**	**23 58 55.2**	**+1.1**
	baz=251						
MIDW	**Midway**	**34.73 99**		P	**P**	**23 53 27.7**	**+0.2**
MIDW				IAmb	IAmb	23 53 29.4	
	comp=Z,172nm,0.9s						
MIDW	**Midway**	**34.73 99**		P	**P**	**23 53 29.4**	**+1.9**
UNV	**Unalaska Valle**	**35.71 52**		P	**P**	**23 53 37.4**	**+1.7**
UNV	**Unalaska Valle**	**35.71 52**		P	**P**	**23 53 36.5**	**+0.8**
	baz=270						
QIZ	**Qiongzhong**	**35.80 242**		IAMs_20	IAMs_20	00 08 56.9	
	comp=Z,13μm,19.0s						
QIZ	**Qiongzhong**	**35.80 242**		P	**P**	**23 53 38.5**	**+1.7**
QIZ				sP	**sP**	**23 53 48.5**	**-0.9**
QIZ				PP	**PP**	**23 55 00.0**	**+1.6**
QIZ				S	**S**	**23 59 16.3**	**+4.2**
QIZ				pmax	pmax		
	comp=Z,99nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,2μm,5.1s						
QIZ				LR	LR		
	comp=Z,11μm,19.2s						
QIZ				LR	LR		
	comp=Z,14μm,17.9s						
QIZ				LR	LR		
	comp=Z,13μm,20.2s						
M11K	**Mekoryuk**	**36.38 40**		P	**P**	**23 53 43.3**	**+2.0**
	baz=261						
M11K				S	**S**	**23 59 24.5**	**+4.3**
	baz=261						
PATS	**Pohnpei**	**36.68 154**		P	**P**	**23 53 45.0**	**+0.7**
	comp=Z,273nm,2.0s						
PATS	**Pohnpei**	**36.68 154**		P	**P**	**23 53 46.5**	**+2.2**
TNA	**Tin City**	**36.79 32**			**P**	**23 53 45.1**	**+0.4**
TNA				IAmb	IAmb	23 54 01.7	
	comp=Z,215nm,1.0s						
TNA	**Tin City**	**36.79 32**		P	**P**	**23 53 46.0**	**+1.3**
	baz=253,SNR=6.8						
TNA				S	**S**	**23 59 27.2**	**+0.9**
	baz=253						
PZH	**PanZhiHua**	**36.88 260**		P	**P**	**23 53 46.0**	**-0.2**
PZH				S	**S**	**23 59 30.0**	**+1.1**
PZH				sS	**sS**	**23 59 41.5**	**-2.1**
PZH				ScP	**ScP**	**23 59 50.8**	**-0.9**
PZH				SS	**SnSn**	**00 01 57.0**	**-5.4**
PZH				pmax	pmax		
	comp=Z,550nm,1.1s						
PZH				pmax	pmax		
	comp=Z,4μm,6.3s						
PZH				LR	LR		
	comp=Z,13μm,19.0s						
PZH				LR	LR		
	comp=Z,9μm,19.0s						
PZH				LR	LR		
	comp=Z,12μm,21.1s						
KMI	**Kunming**	**36.92 257**	⇑	P	**P**	**23 53 47.0**	**+0.3**
KMI				PP	**PnPn**	**23 55 12.0**	**+0.7**
KMI				PcP	**PcP**	**23 56 09.0**	**+1.3**
KMI				S	**S**	**23 59 24.3**	**-5.4**
KMI				PcS	**PcS**	**23 59 53.5**	**-2.7**
KMI				pmax	pmax		
	comp=Z,510nm,1.4s						
KMI				pmax	pmax		
	comp=Z,4μm,5.8s						
KMI				LR	LR		
	comp=Z,20μm,16.0s						
KMI				LR	LR		
	comp=Z,23μm,16.9s						
KMI				LR	LR		
	comp=Z,32μm,19.7s						
DAV	**Davao City (W)**	**37.21 209**		P	**P**	**23 53 49.1**	**+0.2**
DAV				IAmb	IAmb	23 53 51.1	
	comp=Z,369nm,0.9s						
DAV	**Davao City (W)**	**37.21 209**		LR	LR	00 09 58.9	
	comp=Z,8μm,19.9s,baz=43,slow=38						
K13K	**Kusilvak Mount**	**37.37 38**		P	**P**	**23 53 51.5**	**+1.9**
	baz=261,SNR=16						
K13K				S	**S**	**23 59 37.6**	**+2.4**
	baz=261						
F14K	**Arctic Creek**	**37.40 32**		P	**P**	**23 53 52.0**	**+2.0**
	baz=254,SNR=8.9						
F14K				S	**S**	**23 59 36.9**	**+1.1**
	baz=254						
FALS	**False Pass**	**37.51 50**		IAMs_20	IAMs_20	00 08 37.8	
	comp=Z,12μm,20.0s						
FALS	**False Pass**	**37.51 50**		P	**P**	**23 53 50.7**	**-0.2**
	baz=271						
FALS				S	**S**	**23 59 33.0**	**-4.5**
	baz=271						
ANM	**Nome**	**37.57 34**			**P**	**23 53 52.3**	**+0.9**
ANM	**Nome**	**37.57 34**		P	**P**	**23 53 52.3**	**+0.9**
ANM				pmax	pmax		
	comp=Z,823nm,1.4s						
ANM				MLR	MLR		
	comp=Z,7μm,21.0s						
ANM	**Nome**	**37.57 34**		P	**P**	**23 53 53.3**	**+1.9**
	baz=257,SNR=6.6						
ANM				S	**S**	**23 59 41.0**	**+2.8**
	baz=257						
GOMU	**GeErMu**	**37.59 279**		P	**P**	**23 53 52.5**	**+0.2**
GOMU				PP	**PnPn**	**23 55 19.3**	**0.0**
GOMU				PcP	**PcP**	**23 56 11.0**	**+1.3**

GOMU S **S** **23 59 41.8 +1.9**
GOMU pmax pmax
comp=Z,390nm,1.1s
GOMU pmax pmax
comp=Z,2µm,5.9s
GOMU LR LR
comp=Z,5µm,20.0s
GOMU LR LR
comp=Z,10µm,20.2s
GOMU LR LR
comp=Z,17µm,21.2s
M13K Dall Lake 37.79 41 P **P** **23 53 55.2 +1.9**
baz=264,SNR=8.9
M13K S **S** **23 59 46.0 +4.4**
baz=264
J14K Nanvaranak Lak 38.01 37 P **P** **23 53 56.9 +1.8**
baz=261,SNR=11
J14K S **S** **23 59 47.8 +2.9**
baz=261
F15K North Star Dit 38.14 32 IAMs_20 IAMs_20 00 09 18.9
comp=Z,14µm,22.0s
F15K North Star Dit 38.14 32 P **P** **23 53 58.1 +1.9**
baz=256,SNR=19
F15K S **S** **23 59 48.9 +2.0**
baz=256
L14K Kuka Creek 38.22 39 P **P** **23 53 58.4 +1.5**
L14K IAmb IAmb 23 54 12.9
comp=Z,332nm,1.2s
L14K IAMs_20 IAMs_20 00 09 38.2
comp=Z,12µm,22.0s
L14K Kuka Creek 38.22 39 P **P** **23 53 59.0 +2.2**
baz=263,SNR=16
L14K S **S** **23 59 52.0 +3.9**
baz=263
G15K Niukluk 38.22 33 P **P** **23 53 58.9 +2.0**
baz=258
G15K S **S** **23 59 51.3 +3.2**
baz=258
S12K Black Hills 38.27 48 P **P** **23 53 58.9 +1.5**
baz=271
SLVN Son La 38.38 251 P **P** **23 53 59.0 +0.2**
SLVN IAmb IAmb 23 54 01.3
comp=Z,153nm,0.9s
SLVN Son La 38.38 251 P **P** **23 53 59.9 +1.1**
M14K Bethel 38.51 40 IAMs_20 IAMs_20 00 09 24.8
comp=Z,13µm,22.0s
M14K Bethel 38.51 40 P **P** **23 54 01.0 +1.7**
baz=265,SNR=14
M14K S **S** **23 59 55.8 +3.3**
baz=265
N14K Kuskokwak Cree 38.58 42 P **P** **23 54 01.7 +1.8**
baz=266,SNR=11
N14K S **S** **23 59 55.3 +1.8**
baz=266
C16K Lisburne Hills 38.59 28 IAMs_20 IAMs_20 00 11 07.6
comp=Z,13µm,19.0s
C16K Lisburne Hills 38.59 28 P **P** **23 54 00.4 +0.5**
baz=252,SNR=34
C16K S **S** **23 59 52.3 -1.2**
baz=252
O14K Tigyukauivet M 38.75 43 P **P** **23 54 02.8 +1.4**
baz=267,SNR=6.8
O14K S **S** **23 59 58.2 +2.0**
baz=267
L15K Ungalak Mounta 38.82 39 P **P** **23 54 03.6 +1.7**
baz=264,SNR=7.5
L15K S **S** **23 59 59.5 +2.2**
baz=264
K15K Wolf Creek Mou 38.87 38 P **P** **23 54 04.4 +2.0**
baz=263,SNR=11
K15K S **S** **00 00 01.2 +3.2**
baz=263
H16K Elim 38.91 34 P **P** **23 54 04.1 +1.5**
baz=260,SNR=26
H16K S **S** **00 00 01.8 +3.4**
baz=260
G16K Koyuk River 39.00 33 IAMs_20 IAMs_20 00 09 33.7
comp=Z,15µm,22.0s
G16K Koyuk River 39.00 33 P **P** **23 54 05.0 +1.6**
baz=259,SNR=26
G16K S **S** **00 00 02.6 +2.8**
baz=259
M15K Kasigluk River 39.12 40 P **P** **23 54 05.7 +1.2**
baz=266,SNR=21
M15K S **S** **00 00 03.7 +1.9**
baz=266
SDPT Sand Point 39.18 49 **P** **23 54 04.3 -0.7**
SDPT Sand Point 39.18 49 P **P** **23 54 05.6 +0.6**
SDPT Sand Point 39.18 49 P **P** **23 54 03.6 -1.4**
baz=273,SNR=6.1
SDPT S **S** **23 59 57.3 -5.4**
baz=273
D17K Noatak River 39.24 29 P **P** **23 54 06.3 +0.9**
baz=255,SNR=52
D17K S **S** **00 00 02.9 -0.5**
baz=255
N15K Kwethluk River 39.39 41 P **P** **23 54 08.5 +1.7**
baz=267,SNR=24
N15K S **S** **00 00 08.3 +2.4**
baz=267
RDOG Red Dog Mine 39.40 29 P **P** **23 54 06.9 +0.2**
RDOG IAMs_20 IAMs_20 00 11 26.1
comp=Z,14µm,20.0s
RDOG Red Dog Mine 39.40 29 P **P** **23 54 07.4 +0.6**
baz=255,SNR=7.8
RDOG S **S** **00 00 04.5 -1.3**
baz=255
C17K DeLong Mountai 39.41 28 P **P** **23 54 07.7 +0.8**
baz=254,SNR=33
C17K S **S** **00 00 05.4 -0.7**
baz=254
J16K Anvik River 39.41 36 P **P** **23 54 08.8 +1.9**
baz=263,SNR=12
J16K S **S** **00 00 10.2 +4.1**
baz=263
I17K Unalakleet 39.45 35 IAMs_20 IAMs_20 00 10 34.7
comp=Z,12µm,22.0s
I17K Unalakleet 39.45 35 P **P** **23 54 09.1 +1.9**
baz=262,SNR=6.5
I17K S **S** **00 00 09.8 +3.2**
baz=262
O15K Ungalikthiuk R 39.49 43 P **P** **23 54 08.4 +0.8**
baz=269,SNR=9.0
O15K S **S** **00 00 08.1 +0.8**
baz=269
E17K Hotham Inlet 39.56 30 P **P** **23 54 09.5 +1.4**
baz=257,SNR=77
E17K S **S** **00 00 08.3 0.0**
baz=257
F17K Baldwin Pennin 39.65 31 P **P** **23 54 10.5 +1.7**
baz=259,SNR=26
F17K S **S** **00 00 10.8 +1.2**
baz=259
S14K Fog Glacier 39.66 47 P **P** **23 54 08.9 -0.2**
baz=272,SNR=5.3
S14K S **S** **00 00 06.8 -3.4**
baz=272
G17K Kiwalik Mounta 39.72 33 P **P** **23 54 11.4 +2.0**
baz=260,SNR=110
G17K S **S** **00 00 13.4 +2.7**
baz=260
CHNA Chernabura Isl 39.72 50 P **P** **23 54 11.0 +1.5**
CHNA Chernabura Isl 39.72 50 P **P** **23 54 09.5 -0.1**
baz=274,SNR=12
CHNA S **S** **00 00 06.6 -4.2**
baz=274
CNBA Chernabura Isl 39.72 50 P **P** **23 54 09.0 -0.6**
CNBA IAmb IAmb 23 54 22.6
comp=Z,637nm,1.7s
CNBA IAMs_20 IAMs_20 00 11 00.3
comp=Z,14µm,22.0s
L16K Owhat River 39.78 39 P **P** **23 54 11.5 +1.5**
baz=266,SNR=23
L16K S **S** **00 00 13.9 +2.3**
baz=266
H17K Granite Mounta 39.94 34 P **P** **23 54 13.0 +1.7**
baz=262,SNR=38
H17K S **S** **00 00 17.6 +3.7**
baz=262
M16K Timber Creek 39.99 40 IAMs_20 IAMs_20 00 10 21.0
comp=Z,16µm,22.0s
M16K Timber Creek 39.99 40 P **P** **23 54 13.4 +1.7**
baz=267,SNR=15
M16K S **S** **00 00 16.3 +1.5**
baz=267
N16K Nishlik Lake 40.06 41 P **P** **23 54 14.1 +1.8**
baz=268,SNR=22
N16K S **S** **00 00 18.0 +2.0**
baz=268
E18K Tukpahlearik C 40.10 30 IAMs_20 IAMs_20 00 11 26.7
comp=Z,12µm,21.0s
E18K Tukpahlearik C 40.10 30 P **P** **23 54 14.0 +1.4**
baz=258,SNR=41
E18K S **S** **00 00 16.6 +0.2**
baz=258
J17K VABM Dome 40.11 36 P **P** **23 54 14.9 +2.2**
baz=264,SNR=47
J17K S **S** **00 00 19.4 +2.8**
baz=264
TNCH TengChong 40.11 261 ⇑P **P** **23 54 14.8 +1.4**
TNCH pP pP 23 54 19.0 -3.3
TNCH sP pwP 23 54 21.0 -3.7
TNCH PP **PnPn** **23 55 50.8 +1.3**
TNCH S **S** **00 00 16.5 -1.3**
TNCH sS sS 00 00 30.8 -1.8
TNCH SS **SS** **00 03 08.0 -7.9**
TNCH ScS **ScS** **00 04 18.5 +0.6**
TNCH pmax pmax
comp=Z,1µm,1.5s
TNCH pmax pmax
comp=Z,8µm,2.6s
TNCH LR LR
comp=Z,7µm,18.9s
TNCH LR LR
comp=Z,7µm,17.4s
TNCH LR LR
comp=Z,19µm,18.9s
B18K Kodiik River 40.13 27 P **P** **23 54 14.0 +1.2**
baz=255
B18K S **S** **00 00 14.8 -2.0**
baz=255
C18K Utukok River 40.16 28 IAMs_20 IAMs_20 00 12 10.3
comp=Z,12µm,20.0s
C18K Utukok River 40.16 28 P **P** **23 54 13.8 +0.7**
baz=256,SNR=67
C18K S **S** **00 00 15.0 -2.4**
baz=256
ZAA0 Zalesovo Array 40.26 309 P **P** **23 54 13.8 -0.2**
ZALV Zalesovo Beam 40.26 309 P **P** **23 54 13.8 -0.2**
ZALV Zalesovo Beam 40.26 309 P **P** **23 54 13.9 -0.1**
comp=Z,262nm,0.9s,baz=87,slow=7.5,SNR=294
ZALV PcP **PcP** **23 56 18.5 +1.3**
comp=Z,100nm,0.9s,baz=98,slow=4.4,SNR=4.4
ZALV ScP **ScP** **00 00 04.7 +0.7**
comp=Z,15nm,1.0s,baz=58,slow=3.6,SNR=4.4
ZALV LR LR 00 11 50.1
comp=Z,31µm,19.7s,baz=76,slow=37
comp=Z,262nm,0.9s
ZALV Zalesovo Beam 40.26 309 *i* P **P** **23 54 13.8 -0.2**
ZALV pmax pmax
comp=Z,183nm,0.8s
WMQ Urumqi 40.28 293 ⇑*i* P **P** **23 54 15.3 +0.8**
WMQ sP sP 23 54 27.5 +0.4
WMQ PcS **PcS** **00 00 06.3 -1.8**
WMQ S **S** **00 00 22.5 +2.7**
WMQ ScS **ScS** **00 04 13.5 -4.7**
WMQ pmax pmax
comp=Z,190nm,1.3s
WMQ pmax pmax
comp=Z,4µm,3.7s
WMQ LR LR
comp=Z,14µm,13.7s
WMQ LR LR
comp=Z,34µm,15.5s
WMQ LR LR
comp=Z,22µm,12.9s
CHGN Chignik 40.29 47 **P** **23 54 14.0 -0.2**
CHGN IAMs_20 IAMs_20 00 10 35.1
comp=Z,11µm,21.0s
CHGN Chignik 40.29 47 P **P** **23 54 15.2 +1.0**
baz=273
F18K Selawik 40.31 31 P **P** **23 54 15.8 +1.6**
baz=260,SNR=53
F18K S **S** **00 00 22.1 +2.7**
baz=260
SGSI Sangihe 40.36 208 P **P** **23 54 17.1 +1.8**
comp=Z,9µmcomp=Z,335nm,1.3s
L17K Donlin 40.37 38 P **P** **23 54 16.8 +1.9**
baz=266,SNR=32
L17K S **S** **00 00 23.6 +3.2**
baz=266
O16K Kokwok River B 40.38 42 P **P** **23 54 16.7 +1.7**
baz=270,SNR=16
O16K S **S** **00 00 22.7 +2.0**
baz=270
K17K Iditarod 40.40 37 P **P** **23 54 17.0 +1.8**
baz=266,SNR=34
K17K S **S** **00 00 25.3 +4.3**
baz=266
P16K Nushagak River 40.43 43 P **P** **23 54 17.3 +2.0**
baz=270,SNR=6.7
P16K S **S** **00 00 24.2 +2.7**
baz=270
G18K Tagagawik 40.60 32 IAMs_20 IAMs_20 00 10 32.9
comp=Z,16µm,22.0s
G18K Tagagawik 40.60 32 P **P** **23 54 18.2 +1.5**
baz=262,SNR=137
G18K S **S** **00 00 25.1 +1.3**
baz=262
A19K Wainwright 40.61 26 P **P** **23 54 17.7 +1.1**
baz=254,SNR=7.1
A19K S **S** **00 00 21.7 -2.0**
baz=254
H18K Honhosa River 40.62 34 P **P** **23 54 18.7 +1.8**
baz=263,SNR=73
H18K S **S** **00 00 27.0 +2.9**
baz=263
R16K Pilot Point 40.69 45 P **P** **23 54 18.7 +1.2**
baz=272
M17K Holitna River 40.74 39 IAMs_20 IAMs_20 00 10 54.7
comp=Z,14µm,22.0s
M17K Holitna River 40.74 39 P **P** **23 54 20.2 +2.3**
baz=268,SNR=34
M17K S **S** **00 00 28.7 +2.7**
baz=268
C19K Lookout Ridge 40.84 28 IAMs_20 IAMs_20 00 12 33.1
comp=Z,15µm,20.0s
C19K Lookout Ridge 40.84 28 P **P** **23 54 19.7 +1.0**
baz=257,SNR=60
C19K S **S** **00 00 25.3 -2.0**
baz=257
N17K Nushagak Hills 40.84 41 P **P** **23 54 20.6 +1.8**
baz=269,SNR=13
N17K S **S** **00 00 30.3 +2.7**
baz=269
LKP Lekhapani 40.86 266 *e*P P 23 54 13.2 -6.2
LKP IAmb IAmb 23 54 14.9
comp=Z,345nm,1.1s
O17K Koliganek Bris 40.89 42 P **P** **23 54 20.9 +1.8**
baz=270,SNR=33
O17K S **S** **00 00 31.0 +2.8**
baz=270
F19K Shaleruckik Mo 41.09 31 IAMs_20 IAMs_20 00 12 46.8
comp=Z,9µm,19.0s
F19K Shaleruckik Mo 41.09 31 P **P** **23 54 21.7 +1.1**
baz=262,SNR=110
F19K S **S** **00 00 31.2 +0.2**
baz=262
L18K Granite Mounta 41.12 38 P **P** **23 54 23.0 +1.9**
baz=268,SNR=41
L18K S **S** **00 00 34.6 +2.9**
baz=268
Q16K King Salmon 41.13 44 P **P** **23 54 22.6 +1.5**
baz=272
Q16K S **S** **00 00 34.7 +2.9**
baz=272
J18K Innoko River 41.17 36 P **P** **23 54 22.9 +1.5**
baz=266,SNR=56
J18K S **S** **00 00 34.0 +1.5**
baz=266
GCSA Galena City Sc 41.20 34 P **P** **23 54 22.6 +1.0**
baz=265
GCSA S **S** **00 00 34.2 +1.5**
baz=265
P17K Kvichak River 41.23 43 P **P** **23 54 23.5 +1.6**
baz=272,SNR=14
P17K S **S** **00 00 35.9 +2.6**
baz=272
D19K Kuna River 41.23 29 IAMs_20 IAMs_20 00 12 47.6
comp=Z,14µm,20.0s
D19K Kuna River 41.23 29 P **P** **23 54 22.9 +1.0**
baz=259,SNR=123
D19K S **S** **00 00 31.7 -1.6**
baz=259
G19K Purcell Mounta 41.27 32 IAMs_20 IAMs_20 00 11 27.5
comp=Z,11µm,21.0s
G19K Purcell Mounta 41.27 32 P **P** **23 54 23.3 +1.1**
baz=263,SNR=136
G19K S **S** **00 00 33.7 0.0**
baz=263
ZSN Zaisan 41.30 299 *e*P **P** **23 54 23.0 +0.3**
ZSN *e*S **S** **00 00 34.8 +0.1**
ZSN Zaisan 41.30 299 *e*P **P** **23 54 23.1 +0.3**
ZSN *e*S **S** **00 00 34.8 +0.1**
R17L Mt. Peulik Vol 41.34 45 P **P** **23 54 22.9 -0.1**
baz=273
R17L S **S** **00 00 32.6 -2.4**
baz=273
PLK4 Peulik 4 41.34 45 IAMs_20 IAMs_20 00 11 15.9
comp=Z,13µm,21.0s
UBPT Khong Chiam 41.39 243 P **P** **23 54 23.7 0.0**
E19K Redstone River 41.39 30 P **P** **23 54 24.6 +1.4**
baz=261,SNR=113
E19K S **S** **00 00 34.7 -0.8**
baz=261
H19K Roundabout Mou 41.46 33 IAMs_20 IAMs_20 00 11 10.6
comp=Z,11µm,22.0s
H19K Roundabout Mou 41.46 33 P **P** **23 54 25.7 +1.9**
baz=264,SNR=284
H19K S **S** **00 00 38.4 +1.9**
baz=264
N18K Kilae Creek 41.48 41 IAMs_20 IAMs_20 00 11 07.4
comp=Z,11µm,22.0s
N18K Kilae Creek 41.48 41 P **P** **23 54 26.2 +2.1**
baz=270,SNR=32
N18K S **S** **00 00 41.0 +3.9**
baz=270
M18K Stony River 41.52 39 P **P** **23 54 26.3 +2.0**
baz=270,SNR=19
M18K S **S** **00 00 41.3 +3.8**
baz=270
Q17K Contact Creek 41.56 44 P **P** **23 54 25.0 +0.2**
baz=273,SNR=15
Q17K S **S** **00 00 37.5 -0.9**
baz=273
J19K Poorman 41.69 36 IAMs_20 IAMs_20 00 11 42.9
comp=Z,12µm,22.0s
J19K Poorman 41.69 36 P **P** **23 54 27.1 +1.4**
baz=267,SNR=67
J19K S **S** **00 00 40.3 +0.2**
baz=267
D20K Etivluk River 41.82 28 IAMs_20 IAMs_20 00 13 08.0
comp=Z,12µm,20.0s
D20K Etivluk River 41.82 28 P **P** **23 54 27.7 +1.0**
baz=261,SNR=207
D20K S **S** **00 00 40.2 -1.6**
baz=261
P18K Big Mountain, 41.84 43 P **P** **23 54 28.4 +1.4**
baz=272,SNR=19
P18K S **S** **00 00 45.3 +2.8**
baz=272
B20K Meade River 41.86 26 IAMs_20 IAMs_20 00 13 06.7
comp=Z,11µm,21.0s
B20K Meade River 41.86 26 P **P** **23 54 27.9 +1.0**
baz=259
B20K S **S** **00 00 39.9 -2.5**
baz=259
DLV Lat 41.88 236 P **P** **23 54 28.9 +0.8**
DLV IAmb IAmb 23 54 31.0
comp=Z,254nm,0.9s
DLV Lat 41.88 236 P **P** **23 54 28.8 +0.8**
DLV Lat 41.88 236 ⇑P **P** **23 54 29.6 +1.6**
CHIR Chirikof Islan 41.89 48 P **P** **23 54 28.0 +0.6**
CHIR IAmb IAmb 23 54 41.9
comp=Z,437nm,1.3s
CHIR IAMs_20 IAMs_20 00 12 25.7
comp=Z,11µm,21.0s
CHIR Chirikof Islan 41.89 48 P **P** **23 54 28.9 +1.5**
CHIR Chirikof Islan 41.89 48 P **P** **23 54 28.2 +0.8**
baz=276
CHIR S **S** **00 00 42.3 -0.9**
baz=276
E20K Nigu River 41.90 29 P **P** **23 54 28.6 +1.1**
baz=262,SNR=234
E20K S **S** **00 00 42.3 -0.9**
baz=262
MYLDM Lahad Datu 41.90 218 P **P** **23 54 29.9 +1.9**
MYLDM IAmb IAmb 23 54 32.5
comp=Z,474nm,1.3s
MYLDM IAMs_20 IAMs_20 00 13 54.1
comp=Z,13µm,19.0s
MYLDM Lahad Datu 41.90 218 P **P** **23 54 29.3 +1.4**
MYLDM Lahad Datu 41.90 218 ⇑P **P** **23 54 30.8 +2.9**
F20K Avaraart Lake 41.91 31 P **P** **23 54 28.7 +1.3**
baz=263
F20K S **S** **00 00 42.8 -0.5**
baz=263
L19K White Mountain 41.98 38 P **P** **23 54 29.7 +1.5**
baz=270,SNR=26
L19K S **S** **00 00 46.1 +1.6**
baz=270
Q18K Katmai Hardscr 41.99 44 P **P** **23 54 28.4 0.0**
baz=273,SNR=24
Q18K S **S** **00 00 43.5 -1.4**
baz=273
H20K Anotleneega Mo 42.11 33 P **P** **23 54 30.8 +1.7**
baz=266,SNR=138
H20K S **S** **00 00 48.4 +2.3**
baz=266
N19K Bonanza Creek 42.17 40 IAMs_20 IAMs_20 00 11 27.7
comp=Z,12µm,22.0s
N19K Bonanza Creek 42.17 40 P **P** **23 54 31.7 +1.9**
baz=271,SNR=24
N19K S **S** **00 00 50.4 +3.0**
baz=271
M19K Big River Lodg 42.20 39 P **P** **23 54 31.8 +1.9**
baz=270,SNR=25
M19K S **S** **00 00 51.3 +3.6**
baz=270
I20K Naaghedeneel 42.23 34 P **P** **23 54 32.2 +2.1**
baz=267,SNR=16
I20K S **S** **00 00 51.9 +3.9**
baz=267
KKM Kota Kinabalu 42.26 222 P **P** **23 54 31.2 +0.3**
KKM IAmb IAmb 23 54 34.2
comp=Z,387nm,1.9s
ZIRO ZIRO 42.27 267 *e*P **P** **23 54 28.3 -2.8**
ZIRO IAmb IAmb 23 54 34.0
comp=Z,392nm,1.3s
O19K Port Alsworth 42.27 41 P **P** **23 54 31.7 +1.2**
baz=272
O19K S **S** **00 00 51.9 +3.2**
baz=272
A21K Barrow 42.31 25 P **P** **23 54 31.2 +0.6**
baz=258
A21K S **S** **00 00 46.3 -2.7**
baz=258
J20K Nowinta River 42.35 35 IAMs_20 IAMs_20 00 12 14.2
comp=Z,12µm,22.0s
J20K Nowinta River 42.35 35 P **P** **23 54 32.9 +1.9**
baz=268,SNR=115
J20K S **S** **00 00 52.8 +3.1**
baz=268
K20K Telida 42.36 37 P **P** **23 54 33.0 +1.9**
baz=269,SNR=38
K20K S **S** **00 00 52.9 +2.9**
baz=269
R18K Karluk 42.37 45 P **P** **23 54 31.5 +0.2**
baz=275
R18K S **S** **00 00 46.9 -3.3**
baz=275
JORH JORHAT 42.38 266 *e*P **P** **23 54 28.1 -3.6**
JORH IAmb IAmb 23 54 35.9
comp=Z,266nm,1.0s
L20K Farewell, AK 42.44 38 P **P** **23 54 33.7 +1.8**
baz=270,SNR=19
L20K S **S** **00 00 53.9 +2.7**
baz=270
BAKI Biak 42.49 190 P **P** **23 54 35.5 +2.9**
comp=Z,3µmcomp=Z,185nm,1.4s
TNTI Ternate 42.50 204 P **P** **23 54 33.3 +0.5**
TNTI IAmb IAmb 23 54 47.0
comp=Z,374nm,1.4s
TNTI Ternate 42.50 204 P **P** **23 54 34.1 +1.3**
TNTI Ternate 42.50 204 P **P** **23 54 34.3 +1.5**
comp=Z,4µmcomp=Z,203nm,1.9s
C21K Knifeblade Rid 42.54 28 P **P** **23 54 34.0 +1.4**
baz=262,SNR=68
C21K S **S** **00 00 51.6 -0.9**
baz=262
IMAR Indian Mountai 42.61 33 P **P** **23 54 34.2 +1.1**
SII Sitkinak Islan 42.61 47 P **P** **23 54 34.1 +0.8**
SII IAmb IAmb 23 54 47.6

comp=Z,589nm,1.4s
SII Sitkinak Islan 42.61 47 P **P** **23 54 36.6 +3.3**
SII Sitkinak Islan 42.61 47 P **P** **23 54 33.9 +0.6**
baz=276
SII S **S** **00 00 53.7 -0.2**
baz=276
B21K Ikpikpuk River 42.66 27 IAMs_20 IAMs_20 00 14 05.4
comp=Z,10µm,20.0s
B21K Ikpikpuk River 42.66 27 P **P** **23 54 34.8 +1.2**
baz=262,SNR=132
B21K S **S** **00 00 53.6 -0.6**
baz=262
Q19K Cape Douglas, 42.69 43 IAMs_20 IAMs_20 00 12 11.4
comp=Z,10µm,21.0s
Q19K Cape Douglas, 42.69 43 P **P** **23 54 34.3 +0.4**
baz=274,SNR=19
Q19K S **S** **00 00 52.5 -2.4**
baz=274
E21K Killik River 42.74 29 IAMs_20 IAMs_20 00 13 36.0
comp=Z,14µm,20.0s
E21K Killik River 42.74 29 P **P** **23 54 35.2 +1.0**
baz=264
E21K S **S** **00 00 53.9 -1.6**
baz=264
G21K Allakaket 42.74 32 IAMs_20 IAMs_20 00 11 50.5
comp=Z,11µm,22.0s
G21K Allakaket 42.74 32 P **P** **23 54 36.0 +1.8**
baz=266,SNR=179
G21K S **S** **00 00 57.7 +2.2**
baz=266
A22K Sinclair Lake 42.77 25 P **P** **23 54 35.2 +0.8**
baz=260
A22K S **S** **00 00 53.8 -1.9**
baz=260
M20K Styx River 42.80 39 IAMs_20 IAMs_20 00 12 21.7
comp=Z,10µm,21.0s
M20K Styx River 42.80 39 P **P** **23 54 36.7 +1.9**
baz=271
M20K S **S** **00 01 00.6 +4.0**
baz=271
F21K Alatna River 42.80 31 P **P** **23 54 35.7 +1.0**
baz=265,SNR=121
F21K S **S** **00 00 56.8 +0.4**
baz=265
P19K Oil Pt 42.85 42 P **P** **23 54 36.4 +1.1**
baz=274,SNR=6.0
P19K S **S** **00 00 57.9 +0.7**
baz=274
H21K Melozitna Rive 42.98 33 P **P** **23 54 37.9 +1.7**
baz=268,SNR=123
H21K S **S** **00 01 01.7 +2.7**
baz=268
SMPI Sarmi 42.99 186 P **P** **23 54 38.8 +2.1**
comp=Z,5µmcomp=Z,215nm,1.3s
OHAK Old Harbor 43.03 46 P **P** **23 54 36.8 +0.2**
OHAK IAmb IAmb 23 54 50.9
comp=Z,400nm,1.3s
OHAK IAMs_20 IAMs_20 00 14 11.6
comp=Z,11µm,21.0s
OHAK Old Harbor 43.03 46 P **P** **23 54 37.5 +0.9**
OHAK Old Harbor 43.03 46 P **P** **23 54 36.8 +0.2**
baz=276,SNR=19
OHAK S **S** **00 00 58.7 -1.1**
baz=276
KOHI KOHIMA 43.04 265 *e*P **P** **23 54 33.6 -3.7**
SWI Sorong 43.04 197 P **P** **23 54 38.4 +1.3**
comp=Z,3µmcomp=Z,195nm,1.1s
SWI Sorong 43.04 197 P **P** **23 54 37.3 +0.2**
MANU Manus Island 43.05 174 P **P** **23 54 37.6 +0.4**
RKPI Ransiki, Papua 43.09 193 P **P** **23 54 39.2 +1.6**
comp=Z,204nm,1.1s
O20K Slope Mountain 43.12 41 P **P** **23 54 38.1 +0.6**
baz=274,SNR=7.8
O20K S **S** **00 01 01.5 +0.1**
baz=274
CHUM Lake Minchumin 43.15 36 P **P** **23 54 39.6 +2.1**
baz=270,SNR=14
CHUM S **S** **00 01 04.8 +3.3**
baz=270
MK31 Makanchi Array 43.16 299 *i* P **P** **23 54 38.0 0.0**
MK31 pmax pmax
comp=Z,682nm,1.0s
MKAR Makanchi Array 43.16 299 P **P** **23 54 38.2 +0.2**
MKAR Makanchi Array 43.16 299 P **P** **23 54 38.1 +0.1**
comp=Z,179nm,0.9s,baz=80,slow=10,SNR=659
MKAR PcP **PcP** **23 56 27.7 +0.7**
comp=Z,40nm,0.9s,baz=87,slow=3.2,SNR=2.3
MKAR ScP **ScP** **00 00 16.0 +0.3**
comp=Z,7.6nm,1.0s,baz=84,slow=5.9,SNR=2.3
MKAR S **S** **00 00 59.4 -2.8**
comp=Z,2.1nm,0.8s,baz=88,slow=9.8,SNR=1.4
MKAR LR LR 00 14 00.4
comp=Z,33µm,18.9s,baz=72,slow=38
comp=Z,179nm,0.9s
MKAR Makanchi Array 43.16 299 *i* P **P** **23 54 38.0 +0.1**
MKAR pmax pmax
comp=Z,181nm,0.9s
B22K Teshekpuk Lake 43.17 26 IAMs_20 IAMs_20 00 14 09.8
comp=Z,11µm,20.0s
B22K Teshekpuk Lake 43.17 26 P **P** **23 54 38.4 +0.8**
baz=262,SNR=18
B22K S **S** **00 01 00.2 -1.5**
baz=262
LSA Lhasa 43.20 272 P **P** **23 54 38.5 -0.5**
LSA pmax pmax
comp=Z,97nm,1.3s
LSA LR LR
comp=Z,6µm,20.1s
LSA LR LR
comp=Z,20µm,20.5s
PPLA Purkeypile 43.21 37 P **P** **23 54 40.5 +2.3**
baz=271,SNR=39
PPLA S **S** **00 01 05.7 +2.9**
baz=271
CAST Castle Rocks 43.25 36 P **P** **23 54 40.4 +1.9**
baz=271,SNR=83
CAST S **S** **00 01 06.3 +3.2**
baz=271
D22K Ayikyak River 43.26 28 P **P** **23 54 39.3 +0.9**
D22K IAmb IAmb 23 54 53.5
comp=Z,244nm,1.0s
D22K Ayikyak River 43.26 28 P **P** **23 54 39.7 +1.3**
baz=264,SNR=86
D22K S **S** **00 01 02.2 -0.8**
baz=264
N20K Mount Spurr 43.26 40 P **P** **23 54 40.4 +1.8**
baz=273
N20K S **S** **00 01 06.8 +3.3**
baz=273
SPCR Spurr Chakacha 43.26 40 P **P** **23 54 40.7 +2.1**
baz=273,SNR=12
SPCR S **S** **00 01 06.4 +3.0**
baz=273
I21K Tanana 43.31 34 P **P** **23 54 41.0 +2.2**
baz=269,SNR=24
I21K S **S** **00 01 06.7 +3.0**
baz=269
F22K John River 43.33 30 P **P** **23 54 40.7 +1.8**
baz=266
F22K S **S** **00 01 04.8 +0.7**
baz=266
KDAK Kodiak Island 43.35 45 P **P** **23 54 39.4 +0.3**
KDAK IAmb IAmb 23 54 53.5
comp=Z,640nm,1.3s
KDAK Kodiak Island 43.35 45 IAMs_20 IAMs_20 00 14 30.0
comp=Z,16µm,20.0s
KDAK Kodiak Island 43.35 45 LR LR 00 13 03.3
comp=Z,14µm,22.0s,baz=248,slow=36
KDAK Kodiak Island 43.35 45*c i* P **P** **23 54 39.6 +0.4**
KDAK pmax pmax
comp=Z,78nm,0.9s
KDAK MLR MLR
comp=Z,21µm,21.0s
KDAK Kodiak Island 43.35 45 ⇑P **P** **23 54 39.5 +0.3**
KDAK Kodiak Island 43.35 45 P **P** **23 54 39.6 +0.4**
baz=276
KDAK S **S** **00 01 02.7 -1.8**
baz=276
Q20K Shuyak Island 43.36 44 P **P** **23 54 39.5 +0.2**
baz=276,SNR=9.0
Q20K S **S** **00 01 02.4 -2.3**
baz=276
SYI Shuyak Island 43.36 44 IAMs_20 IAMs_20 00 12 22.3
comp=Z,12µm,22.0s
JAY Jayapura 43.38 183 LR LR 00 13 54.4
comp=Z,2µm,20.0s,baz=7.0,slow=38
JAY Jayapura 43.38 183 P **P** **23 54 41.5 +1.5**
GENI Genyem 43.49 184 P **P** **23 54 42.9 +2.2**
GENI Genyem 43.49 184 P **P** **23 54 43.1 +2.4**
comp=Z,4µmcomp=Z,4µmcomp=Z,167nm,1.4s
E22K Anaktuvuk Pass 43.51 30 IAMs_20 IAMs_20 00 14 20.8
comp=Z,13µm,20.0s
E22K Anaktuvuk Pass 43.51 30 P **P** **23 54 41.9 +1.4**
baz=266,SNR=166
E22K S **S** **00 01 05.6 -1.2**
baz=266
TEZP TEZPUR 43.54 267 *e*P **P** **23 54 37.7 -3.5**
TEZP IAmb IAmb 23 54 43.5
comp=Z,292nm,2.4s
SKT Skwentna 43.55 39 P **P** **23 54 41.4 +0.5**
SKT IAMs_20 IAMs_20 00 12 47.1
comp=Z,11µm,21.0s
SKT Skwentna 43.55 39 P **P** **23 54 42.1 +1.3**
baz=273,SNR=7.3
SKT S **S** **00 01 07.7 +0.2**
baz=273
G22K Bettles 43.56 31 P **P** **23 54 42.1 +1.3**
baz=268
G22K S **S** **00 01 07.7 +0.3**
baz=268
CHTO Chiang Mai 43.57 253 P **P** **23 54 42.0 +0.5**
CHTO IAmb IAmb 23 54 46.3
comp=Z,706nm,1.6s
CHTO IAMs_20 IAMs_20 00 12 22.1
comp=Z,15µm,22.0s
CHTO Chiang Mai 43.57 253 P **P** **23 54 42.3 +0.9**
CHTO P **P** **23 54 42.3 +0.9**
CHTO S **S** **00 01 10.9 +2.3**
CHTO S **S** **00 01 10.9 +2.3**
CHTO Chiang Mai 43.57 253 P **P** **23 54 42.1 +0.7**
CHTO Chiang Mai 43.57 253 P **P** **23 54 42.0 +0.5**
CHTO pmax pmax
comp=Z,706nm,1.7s
CHTO MLR MLR
comp=Z,15µm,22.0s
CHTO Chiang Mai 43.57 253 ⇑P **P** **23 54 42.3 +0.9**
H22K Ishtalitna Cre 43.57 33 P **P** **23 54 43.0 +2.1**
baz=269,SNR=144
H22K S **S** **00 01 10.3 +2.5**
baz=269
HOM Homer 43.65 42 P **P** **23 54 42.3 +0.7**
baz=275
HOM S **S** **00 01 06.1 -2.8**
baz=275
IMP Imphal 43.65 264 *e*P P 23 54 35.4 -6.7
IMP IAmb IAmb 23 54 45.1
comp=Z,334nm,1.6s
BPAW Bear Paw Mtn. 43.73 35 IAMs_20 IAMs_20 00 12 54.8
comp=Z,12µm,22.0s
BPAW Bear Paw Mtn. 43.73 35 P **P** **23 54 44.1 +1.8**
baz=271,SNR=41
BPAW S **S** **00 01 12.9 +2.8**
baz=271
KTH Kantishna Hill 43.77 36 IAMs_20 IAMs_20 00 12 45.9
comp=Z,12µm,22.0s
CM31 Chiang Mai Arr 43.80 253 P **P** **23 54 43.7 +0.4**
CM31 Chiang Mai Arr 43.80 253 P **P** **23 54 43.9 +0.6**
SNR=42
CM31 P **P** **23 54 43.9 +0.6**
SNR=42
CM31 S **S** **00 01 14.1 +2.2**
CM31 S **S** **00 01 14.1 +2.2**
CMAR Chiang Mai Arr 43.80 253 P **P** **23 54 44.0 +0.7**
CMAR Chiang Mai Arr 43.80 253 P **P** **23 54 44.4 +1.1**
comp=Z,56nm,0.8s,baz=49,slow=8.3,SNR=220
CMAR PcP **PcP** **23 56 30.9 +1.3**
comp=Z,17nm,1.0s,baz=48,slow=4.9,SNR=2.7
CMAR ScP **ScP** **00 00 19.2 +0.5**
comp=Z,0.7nm,0.3s,baz=48,slow=3.6,SNR=1.5
CMAR S **S** **00 01 14.8 +2.8**
comp=Z,0.7nm,0.3s,baz=40,slow=8.5,SNR=1.2
CMAR LR LR 00 13 57.4
comp=Z,11µm,19.6s,baz=55,slow=37
comp=Z,56nm,0.8s
CMAR Chiang Mai Arr 43.80 253 *i* P **P** **23 54 44.4 +1.1**
CMAR pmax pmax
comp=Z,60nm,0.9s
KMSI Cibinong 43.80 208 P **P** **23 54 46.3 +3.0**
CAPN Captain Cook N 43.80 40 IAMs_20 IAMs_20 00 12 28.9
comp=Z,13µm,22.0s
CAPN Captain Cook N 43.80 40 P **P** **23 54 44.4 +1.6**
baz=274
CAPN S **S** **00 01 13.5 +2.4**
baz=274
MLY Manley 43.83 34 P **P** **23 54 44.8 +1.7**
baz=270,SNR=62
MLY S **S** **00 01 14.7 +3.1**
baz=270
SUA Susitna One 43.95 39 P **P** **23 54 44.4 +0.2**
SUA IAmb IAmb 23 55 01.5
comp=Z,193nm,1.0s
SUA Susitna One 43.95 39 P **P** **23 54 45.0 +0.8**
baz=274,SNR=8.5
SUA S **S** **00 01 13.0 -0.6**
baz=274
D23K Nanushuk River 43.98 28 P **P** **23 54 45.9 +1.7**
baz=266
D23K S **S** **00 01 13.5 -0.1**
baz=266
TRF Thorofare Moun 44.06 36 IAMs_20 IAMs_20 00 12 44.5
comp=Z,10µm,22.0s
TRF Thorofare Moun 44.06 36 P **P** **23 54 46.4 +1.3**
baz=272,SNR=26
TRF S **S** **00 01 16.6 +1.4**
baz=272
C23K Itkillik River 44.07 27 IAMs_20 IAMs_20 00 16 28.6
comp=Z,9µm,18.0s
C23K Itkillik River 44.07 27 P **P** **23 54 46.0 +1.1**
baz=265,SNR=72
C23K S **S** **00 01 13.9 -1.0**
baz=265
COLD Coldfoot 44.08 31 IAMs_20 IAMs_20 00 14 50.8
comp=Z,9µm,20.0s
COLD Coldfoot 44.08 31 P **P** **23 54 46.6 +1.6**
baz=268,SNR=57
COLD S **S** **00 01 14.6 -0.4**
baz=268
CUT Chulitna 44.12 38 P **P** **23 54 45.6 +0.2**
CUT IAmb IAmb 23 55 00.2
comp=Z,432nm,1.2s
CUT Chulitna 44.12 38 P **P** **23 54 45.8 +0.4**
baz=273
CUT S **S** **00 01 15.4 -0.3**
baz=273
G23K Bananza Creek 44.14 32 P **P** **23 54 47.0 +1.5**
baz=269,SNR=194
G23K S **S** **00 01 17.5 +1.5**
baz=269
FIS Fire Island 44.23 40 P **P** **23 54 47.6 +1.4**
M22K Willow 44.23 39 IAMs_20 IAMs_20 00 13 40.1
comp=Z,13µm,22.0s
M22K Willow 44.23 39 P **P** **23 54 46.4 +0.2**
baz=274
M22K S **S** **00 01 17.6 +0.3**
baz=274
H23K Yukon River 44.33 33 IAMs_20 IAMs_20 00 12 48.5
comp=Z,12µm,22.0s
H23K Yukon River 44.33 33 P **P** **23 54 49.3 +2.3**
baz=270,SNR=134
H23K S **S** **00 01 22.1 +3.4**
baz=270
E23K Chandalar 44.33 30 IAMs_20 IAMs_20 00 14 48.4
comp=Z,11µm,19.0s
E23K Chandalar 44.33 30 P **P** **23 54 48.6 +1.6**
baz=268,SNR=115
E23K S **S** **00 01 19.4 +0.5**
baz=268
TOLK Toolik Lake Re 44.37 29 IAMs_20 IAMs_20 00 14 19.4
comp=Z,15µm,21.0s
TOLK Toolik Lake Re 44.37 29 P **P** **23 54 48.4 +1.1**
baz=268,SNR=32
TOLK S **S** **00 01 18.7 -0.7**
baz=268
BWN Browne 44.40 35 IAMs_20 IAMs_20 00 13 28.3
comp=Z,11µm,22.0s
I23K Minto, Yukon-K 44.41 34 P **P** **23 54 49.5 +1.9**
baz=271,SNR=67
I23K S **S** **00 01 22.5 +2.6**
baz=271
RC01 Rabbit Creek A 44.47 40 P **P** **23 54 49.1 +0.9**
baz=275,SNR=26
RC01 S **S** **00 01 19.8 -1.0**
baz=275
O22K Cooper Landing 44.53 41 IAMs_20 IAMs_20 00 16 51.2
comp=Z,10µm,20.0s
O22K Cooper Landing 44.53 41 P **P** **23 54 49.8 +1.1**
baz=276,SNR=8.8
O22K S **S** **00 01 19.7 -2.0**
baz=276
TOLI2 Tolitoli 44.53 213 P **P** **23 54 49.7 +0.5**
TOLI2 IAmb IAmb 23 54 52.7
comp=Z,384nm,1.8s
TOLI2 Tolitoli 44.53 213 P **P** **23 54 49.9 +0.7**
KURK Kurchatov 44.55 305 P **P** **23 54 49.1 +0.2**
KURK Kurchatov 44.55 305 IAMs_20 IAMs_20 00 14 10.8
comp=Z,15µm,19.0s
KURK Kurchatov 44.55 305 S **S** **00 01 21.9 -0.3**
KURK Kurchatov 44.55 305*c i* P **P** **23 54 49.0 +0.1**
KURK pmax pmax
comp=Z,391nm,1.0s
KURK MLR MLR
comp=Z,12µm,15.0s
KURK Kurchatov 44.55 305 ⇑P **P** **23 54 49.0 +0.1**
NEA2 Nenana 44.55 35 P **P** **23 54 50.3 +1.4**
baz=272,SNR=83
NEA2 S **S** **00 01 24.3 +2.3**
baz=272
GUWA GUWAHATI 44.61 267 *e*P **P** **23 54 46.3 -3.4**
GUWA IAmb IAmb 23 54 55.4
comp=Z,279nm,1.0s
KURBB Kurchatov Arra 44.62 305 P **P** **23 54 49.6 0.0**
comp=Z,388nm,0.9s,baz=79,slow=8.7,SNR=868
KURBB S **S** **00 01 23.1 -0.2**
comp=Z,1.8nm,0.9s,baz=66,slow=14,SNR=1.0
KURBB LR LR 00 14 25.3
comp=Z,15µm,19.2s,baz=77,slow=37
comp=Z,388nm,0.9s
MRSI Marisa 44.65 211 P **P** **23 54 51.3 +1.2**
comp=Z,5µmcomp=Z,7µmcomp=Z,586nm,1.1s
MCK McKinley 44.65 36 IAMs_20 IAMs_20 00 13 24.1
comp=Z,14µm,22.0s
MCK McKinley 44.65 36 P **P** **23 54 50.8 +1.2**
baz=273,SNR=26
MCK S **S** **00 01 23.3 -0.2**
baz=273
D24K Happy Valley 44.66 28 P **P** **23 54 50.8 +1.2**
baz=268,SNR=67
D24K S **S** **00 01 22.7 -0.7**
baz=268
SEW Seward 44.71 41 P **P** **23 54 50.4 +0.4**
baz=276
SEW S **S** **00 01 22.1 -2.1**
baz=276
RND Reindeer 44.71 36 P **P** **23 54 50.5 +0.4**
RND IAmb IAmb 23 55 04.9
comp=Z,402nm,1.3s
RND IAMs_20 IAMs_20 00 13 15.6
comp=Z,10µm,22.0s
RND Reindeer 44.71 36 P **P** **23 54 50.5 +0.4**
RND pmax pmax
comp=Z,402nm,1.3s
RND MLR MLR
comp=Z,10µm,22.0s
PMR Palmer 44.72 39 P **P** **23 54 51.5 +1.4**
PMR Palmer 44.72 39 P **P** **23 54 50.3 +0.2**
baz=275
PMR S **S** **00 01 23.9 -0.5**
baz=275
C24K Franklin Bluff 44.73 27 IAMs_20 IAMs_20 00 15 04.0
comp=Z,9µm,20.0s
C24K Franklin Bluff 44.73 27 P **P** **23 54 51.2 +1.1**
baz=267,SNR=49
C24K S **S** **00 01 23.2 -1.1**
baz=267
E24K Your Creek 44.75 30 IAMs_20 IAMs_20 00 15 11.2
comp=Z,11µm,19.0s
E24K Your Creek 44.75 30 P **P** **23 54 52.0 +1.6**
baz=269
E24K S **S** **00 01 25.5 +0.6**
baz=269
GHO Glory Hole Cre 44.80 39 P **P** **23 54 51.7 +0.8**
GHO IAMs_20 IAMs_20 00 14 07.1
comp=Z,10µm,22.0s
FAKI Fak Fak 44.83 195 P **P** **23 54 51.2 -0.3**
FAKI Fak Fak 44.83 195 P **P** **23 54 52.9 +1.4**
FAKI Fak Fak 44.83 195 P **P** **23 54 52.9 +1.4**
comp=Z,5µmcomp=Z,315nm,1.3s
FAKI Fak Fak 44.83 195 ⇑P **P** **23 54 52.2 +0.7**
WAT1 Susitna Watana 44.88 37 P **P** **23 54 52.1 +0.5**
baz=274
WAT1 S **S** **00 01 25.5 -1.4**
baz=274
F24K Squaw Lake 44.98 31 P **P** **23 54 53.8 +1.6**
baz=270,SNR=71
F24K S **S** **00 01 28.3 +0.1**
baz=270
WRH Wood River Hil 44.98 35 P **P** **23 54 52.8 +0.6**
WRH IAmb IAmb 23 55 11.4
comp=Z,223nm,1.2s
H24K Noodor Dome 45.01 33 IAMs_20 IAMs_20 00 13 08.6
comp=Z,11µm,22.0s
H24K Noodor Dome 45.01 33 P **P** **23 54 54.7 +2.2**
baz=272,SNR=103
H24K S **S** **00 01 32.4 +3.7**
baz=272
KNK Knik Glacier 45.05 39 IAMs_20 IAMs_20 00 13 54.9
comp=Z,14µm,22.0s
KNK Knik Glacier 45.05 39 P **P** **23 54 53.8 +0.9**
baz=276,SNR=14
KNK S **S** **00 01 29.3 0.0**
baz=276
COLA College 45.06 34 P **P** **23 54 54.1 +1.3**
COLA College 45.06 34 P **P** **23 54 54.1 +1.3**
COLA College 45.06 34*c i* P **P** **23 54 54.2 +1.4**
COLA pmax pmax
comp=Z,125nm,1.0s
COLA College 45.06 34 ⇑P **P** **23 54 54.2 +1.4**
COLA College 45.06 34 P **P** **23 54 54.3 +1.5**
baz=273
COLA S **S** **00 01 32.1 +2.8**
baz=273
G24K Hadweenzic Riv 45.15 32 P **P** **23 54 55.8 +2.2**
baz=271,SNR=115
G24K S **S** **00 01 33.5 +2.8**
baz=271
PWL Port Wells 45.17 40 P **P** **23 54 53.8 0.0**
PWL IAmb IAmb 23 55 10.8
comp=Z,418nm,1.3s
PWL IAMs_20 IAMs_20 00 17 01.1
comp=Z,10µm,20.0s
PWL Port Wells 45.17 40 P **P** **23 54 54.5 +0.7**
baz=276,SNR=12
PWL S **S** **00 01 30.3 -0.8**
baz=276
AZL Aizawl 45.21 264 *e*P **P** **23 54 51.6 -3.1**
AZL IAmb IAmb 23 54 56.1
comp=Z,222nm,0.9s
POKR Poker Plat Res 45.23 34 P **P** **23 54 56.2 +2.0**
baz=273,SNR=36
POKR S **S** **00 01 34.4 +2.7**
baz=273
WAT6 Susitna Watana 45.28 38 P **P** **23 54 55.5 +0.7**
baz=275,SNR=40
WAT6 S **S** **00 01 33.1 +0.3**
baz=275
M23K Glacier View 45.36 39 P **P** **23 54 56.2 +0.9**
baz=276,SNR=19
M23K S **S** **00 01 35.2 +1.4**
baz=276
DHY Denali Highway 45.40 37 P **P** **23 54 56.0 +0.3**
DHY Denali Highway 45.40 37 P **P** **23 54 56.6 +0.8**
baz=275,SNR=55
DHY S **S** **00 01 34.1 -0.5**
baz=275
HDA Harding Lake 45.48 35 P **P** **23 54 56.5 +0.3**
HDA IAmb IAmb 23 55 10.8
comp=Z,195nm,1.0s
HDA IAMs_20 IAMs_20 00 14 32.2
comp=Z,9µm,22.0s
HDA Harding Lake 45.48 35 P **P** **23 54 56.9 +0.7**
baz=274,SNR=24
HDA S **S** **00 01 34.4 -1.0**
baz=274
ILAR Eielson Array 45.48 34 P **P** **23 54 56.6 +0.4**
ILAR Eielson Array 45.48 34 P **P** **23 54 56.7 +0.6**
comp=Z,23nm,0.8s,baz=275,slow=7.7,SNR=196
ILAR S **S** **00 01 35.3 -0.1**
comp=Z,0.7nm,1.0s,baz=280,slow=16,SNR=2.8
ILAR LR LR 00 14 44.0
comp=Z,5µm,21.8s,baz=274,slow=37
comp=Z,23nm,0.8s
ILAR Eielson Array 45.48 34 P **P** **23 54 56.6 +0.4**

D25K Kavik River 45.54 28 IAMs_20 IAMs_20 00 15 59.3
comp=Z,15µm,20.0s
D25K Kavik River 45.54 28 P **P** **23 54 57.6 +1.0**
baz=270,SNR=43
D25K S **S** **00 01 34.8 -1.4**
baz=270
SCM Sheep Creek Mo 45.55 39 P **P** **23 54 57.5 +0.7**
SCM IAmb IAmb 23 55 14.5
comp=Z,341nm,1.2s
SCM IAMs_20 IAMs_20 00 17 25.9
comp=Z,9µm,21.0s
SCM Sheep Creek Mo 45.55 39 P **P** **23 54 57.5 +0.7**
SCM pmax pmax
comp=Z,341nm,1.2s
SCM MLR MLR
comp=Z,10µm,21.0s
SCM Sheep Creek Mo 45.55 39 P **P** **23 54 58.1 +1.3**
baz=276,SNR=26
SCM S **S** **00 01 37.6 +1.1**
baz=276
SANI Sanana 45.59 204 P **P** **23 54 55.2 -2.4**
SANI Sanana 45.59 204 P **P** **23 54 58.5 +0.9**
SANI Sanana 45.59 204 P **P** **23 54 57.8 +0.2**
comp=Z,3µmcomp=Z,4µmcomp=Z,357nm,1.2s
SANI Sanana 45.59 204 ⇑P **P** **23 54 57.7 +0.1**
G25K Bearman Lake 45.69 32 P **P** **23 55 00.0 +2.2**
baz=273,SNR=60
G25K S **S** **00 01 41.5 +3.2**
baz=273
LUWI Luwuk 45.74 209 P **P** **23 54 55.2 -3.5**
LUWI Luwuk 45.74 209 P **P** **23 54 57.5 -1.2**
LUWI IAmb IAmb 23 55 12.2
comp=Z,362nm,1.1s
LUWI Luwuk 45.74 209 P **P** **23 54 57.8 -0.9**
LUWI Luwuk 45.74 209 P **P** **23 54 58.0 -0.7**
comp=Z,4µmcomp=Z,5µmcomp=Z,340nm,1.5s
LUWI Luwuk 45.74 209 ⇑P **P** **23 54 57.8 -0.9**
GLI Glacier Island 45.77 40 IAMs_20 IAMs_20 00 14 29.9
comp=Z,9µm,22.0s
GLI Glacier Island 45.77 40 P **P** **23 54 59.2 +0.7**
baz=278,SNR=11
GLI S **S** **00 01 40.1 +0.5**
baz=278
RABL Rabaul 45.77 167 P **P** **23 54 59.5 +0.5**
H25L Birch Creek 45.83 32 P **P** **23 55 01.4 +2.5**
baz=273,SNR=51
H25L S **S** **00 01 45.4 +5.0**
baz=273
F25K Christian Rive 45.84 30 P **P** **23 55 01.5 +2.5**
baz=272,SNR=77
F25K S **S** **00 01 43.0 +2.4**
baz=272
E25K Arctic Village 45.85 30 IAMs_20 IAMs_20 00 16 43.6
comp=Z,12µm,19.0s
E25K Arctic Village 45.85 30 P **P** **23 55 01.1 +2.0**
baz=272,SNR=74
E25K S **S** **00 01 42.1 +1.4**
baz=272
MSAI Masohi 45.99 200 P **P** **23 55 04.1 +3.4**
comp=Z,5µmcomp=Z,319nm,1.1s
PRP Porcupine Dome 46.00 33 IAMs_20 IAMs_20 00 13 39.8
comp=Z,10µm,22.0s
PRP Porcupine Dome 46.00 33 P **P** **23 55 01.8 +1.3**
baz=274,SNR=49
PRP S **S** **00 01 45.3 +2.2**
baz=274
APSI Ampana 46.03 210 P **P** **23 55 01.8 +0.7**
comp=Z,7µmcomp=Z,589nm,1.3s
K24K Donnelly Dome 46.05 36 IAMs_20 IAMs_20 00 17 58.0
comp=Z,11µm,20.0s
K24K Donnelly Dome 46.05 36 P **P** **23 55 01.5 +0.8**
baz=276,SNR=30
K24K S **S** **00 01 42.9 -0.7**
baz=276
C26K Camden Bay 46.05 27 P **P** **23 55 02.3 +1.8**
baz=271
C26K S **S** **00 01 42.9 -0.5**
baz=271
M24K Tolsona, Glenn 46.05 38 P **P** **23 55 02.8 +2.0**
baz=277,SNR=17
M24K S **S** **00 01 46.8 +3.0**
baz=277
HIN Hinchinbrook I 46.13 40 IAMs_20 IAMs_20 00 16 06.3
comp=Z,10µm,20.0s
J25K Salcha River, 46.15 35 P **P** **23 55 01.4 -0.1**
baz=275,SNR=23
J25K S **S** **00 01 43.7 -1.4**
baz=275
SHLS Shalkode 46.19 295 *c* *i*P **P** **23 54 59.7 -2.5**
SHLS *e*S **S** **00 01 41.6 -4.7**
SHLS pmax pmax
comp=Z,365nm,2.2s
SHLS Shalkode 46.19 295 ⇑ *i*P **P** **23 54 59.7 -2.5**
comp=Z,365nm,2.2s
SHLS *e*S **S** **00 01 41.7 -4.7**
AGT Agartala 46.22 265 *e*P **P** **23 55 02.7 +0.2**
AGT IAmb IAmb 23 55 05.4
comp=Z,209nm,1.2s
KLU Klutina 46.25 39 IAMs_20 IAMs_20 00 17 29.6
comp=Z,10µm,20.0s
KLU Klutina 46.25 39 P **P** **23 55 03.6 +1.1**
baz=278,SNR=27
KLU S **S** **00 01 48.7 +2.0**
baz=278
BMAR Burnt Mountain 46.25 31 P **P** **23 55 04.1 +1.8**
PAX Paxson 46.27 37 IAMs_20 IAMs_20 00 14 27.1
comp=Z,10µm,22.0s
PAX Paxson 46.27 37 P **P** **23 55 03.4 +0.8**
baz=277,SNR=34
PAX S **S** **00 01 47.5 +0.5**
baz=277
TDK Taldyqorghan 46.29 298 *e*P **P** **23 55 03.0 +0.2**
TDK *e*S **S** **00 01 47.4 -0.1**
TDK pmax pmax
comp=Z,301nm,0.9s
TDK MLR MLR
comp=Z,15µm,17.0s
TDK Taldyqorghan 46.29 298 *e*P **P** **23 55 03.0 +0.2**
comp=Z,301nm,0.9s
TDK *e*S **S** **00 01 47.5 -0.1**
TDK LR LR 00 14 44.7
comp=Z,15µm,17.4s
GTK Tadong 46.34 271 *e*P **P** **23 55 00.5 -3.1**
GTK IAmb IAmb 23 55 09.0
comp=Z,125nm,0.9s
Q23K Middleton Isla 46.35 42 P **P** **23 55 04.5 +1.4**
baz=280
Q23K S **S** **00 01 51.6 +3.7**
baz=280
Q23K S **S** **00 01 51.6 +3.7**
baz=280
DIV Divide 46.38 39 IAMs_20 IAMs_20 00 14 48.8
comp=Z,12µm,22.0s
NLAI Namlea 46.39 202 P **P** **23 55 06.6 +2.8**
comp=Z,3µmcomp=Z,127nm,1.1s
F26K Sheenjek River 46.41 30 P **P** **23 55 05.9 +2.4**
baz=274,SNR=200
F26K S **S** **00 01 51.6 +2.9**
baz=274
RIDG Independent Ri 46.46 36 IAMs_20 IAMs_20 00 15 25.0
comp=Z,9µm,21.0s
RIDG Independent Ri 46.46 36 P **P** **23 55 04.6 +0.6**
baz=277,SNR=44
RIDG S **S** **00 01 49.3 -0.3**
baz=277
C27K Jago River 46.47 28 IAMs_20 IAMs_20 00 16 58.0
comp=Z,15µm,19.0s
C27K Jago River 46.47 28 P **P** **23 55 05.7 +1.7**
baz=272,SNR=50
C27K S **S** **00 01 48.3 -1.2**
baz=272
EYAK Cordova Ski Ar 46.47 40 IAMs_20 IAMs_20 00 16 29.5
comp=Z,14µm,21.0s
EYAK Cordova Ski Ar 46.47 40 P **P** **23 55 06.8 +2.8**
EYAK Cordova Ski Ar 46.47 40 P **P** **23 55 05.6 +1.6**
baz=279,SNR=11
EYAK S **S** **00 01 52.2 +2.5**
baz=279
HARP HAARP 46.49 38 P **P** **23 55 06.2 +2.0**
baz=278,SNR=28
HARP S **S** **00 01 53.3 +3.3**
baz=278
UZB Uzynbulak 46.49 295 *e*P **P** **23 55 04.4 -0.2**
UZB Uzynbulak 46.49 295 *e*P **P** **23 55 04.5 -0.2**
AAI Ambon 46.51 201 P **P** **23 55 06.6 +1.8**
comp=Z,5µmcomp=Z,6µmcomp=Z,446nm,1.1s
G26K Porcupine Rive 46.60 31 P **P** **23 55 07.5 +2.6**
baz=274,SNR=168
G26K S **S** **00 01 55.1 +3.8**
baz=274
BRDH Bariadhala 46.61 263 LR LR 00 17 10.1
comp=Z,9µm,20.8s,baz=72,slow=39
KPKS Kokpek 46.61 295 *e*P **P** **23 55 05.5 0.0**
KPKS Kokpek 46.61 295 *e*P **P** **23 55 05.5 0.0**
SCRK Sand Creek 46.81 35 IAMs_20 IAMs_20 00 18 28.2
comp=Z,8µm,19.0s
SCRK Sand Creek 46.81 35 P **P** **23 55 07.8 +1.0**
baz=277,SNR=156
SCRK S **S** **00 01 54.4 -0.4**
baz=277
N25K Chitina, Valde 46.86 39 IAMs_20 IAMs_20 00 17 47.7
comp=Z,8µm,20.0s
N25K Chitina, Valde 46.86 39 P **P** **23 55 08.7 +1.5**
baz=279,SNR=16
N25K S **S** **00 01 58.0 +2.5**
baz=279
BNDI Bandanaira 46.89 198 P **P** **23 55 09.8 +2.0**
BNDI Bandanaira 46.89 198 P **P** **23 55 09.7 +2.0**
J26L Joseph Creek 46.93 35 P **P** **23 55 08.3 +0.6**
baz=277,SNR=20
J26L S **S** **00 01 56.4 0.0**
baz=277
ARXS Arharly 46.94 297 *e*P **P** **23 55 08.1 +0.1**
SATY Saty 46.95 295 *e*P **P** **23 55 08.0 -0.1**
SATY *e*S **S** **00 01 56.7 -0.5**
SATY Saty 46.95 295 *e*P **P** **23 55 08.0 -0.1**
SATY *e*S **S** **00 01 56.8 -0.5**
BMRM Bremner River 46.96 40 IAMs_20 IAMs_20 00 15 19.4
comp=Z,10µm,21.0s
BMRM Bremner River 46.96 40 P **P** **23 55 09.6 +1.7**
baz=279,SNR=22
BMRM S **S** **00 01 59.8 +2.9**
baz=279
I26K Coal Creek Min 47.01 33 P **P** **23 55 08.3 +0.1**
baz=277
I26K S **S** **00 01 59.8 +2.5**
baz=277
RAGM Ragged Mountai 47.02 40 IAMs_20 IAMs_20 00 17 33.0
comp=Z,11µm,20.0s
MENT Mentasta 47.07 37 IAMs_20 IAMs_20 00 14 06.2
comp=Z,9µm,22.0s
MENT Mentasta 47.07 37 P **P** **23 55 10.8 +2.0**
PRZ Przheval'sk 47.16 294 P **P** **23 55 10.6 +0.7**
PRZ Przheval'sk 47.16 294 P **P** **23 55 10.6 +0.7**
PRZ pmax pmax
comp=Z,834nm,1.3s
PRZ MLR MLR
comp=Z,60µm,18.0s
L26K Log Cabin Wild 47.23 37 IAMs_20 IAMs_20 00 14 56.3
comp=Z,12µm,22.0s
L26K Log Cabin Wild 47.23 37 P **P** **23 55 12.0 +2.0**
baz=279,SNR=29
L26K S **S** **00 02 03.5 +3.0**
baz=279
KAIM Kayak Island 47.23 41 P **P** **23 55 12.0 +2.0**
baz=281,SNR=7.2
KAIM S **S** **00 02 05.3 +4.7**
baz=281
HMT Hamilton 47.24 40 IAMs_20 IAMs_20 00 17 47.6
comp=Z,10µm,20.0s
GLB Gilahina Butte 47.26 39 IAMs_20 IAMs_20 00 14 45.3
comp=Z,9µm,21.0s
E27K Coleen River 47.33 29 IAMs_20 IAMs_20 00 16 15.7
comp=Z,9µm,20.0s
E27K Coleen River 47.33 29 P **P** **23 55 12.7 +2.0**
baz=275,SNR=79
E27K S **S** **00 02 03.6 +1.7**
baz=275
JOHN Johnston Islan 47.37 106 IAMs_20 IAMs_20 00 12 04.3
comp=Z,15µm,20.0s
JOHN Johnston Islan 47.37 106 *e*P **P** **23 55 11.2 -0.4**
comp=Z,723nm,1.5s
JOHN Johnston Islan 47.37 106 *e*PP **PP** **23 56 58.3 -4.7**
comp=Z,406nm,29.8s
JOHN *e*S **S** **00 01 56.1 -7.4**
comp=Z,5µm,27.0s
JOHN *e*SS **SS** **00 05 35.0 +3.7**
comp=Z,4µm,25.4s
JOHN *e*LR LR 00 08 39.5
comp=Z,29µm,23.0s
SBUM Sibu 47.38 224 P **P** **23 55 11.7 +0.1**
SBUM Sibu 47.38 224 P **P** **23 55 12.5 +0.9**
SBUM Sibu 47.38 224 ⇑P **P** **23 55 12.5 +0.9**
G27K Doyon Strip 47.45 31 P **P** **23 55 13.6 +1.9**
baz=276,SNR=98
G27K S **S** **00 02 07.3 +3.7**
baz=276
D27M Malcolm River 47.46 28 IAMs_20 IAMs_20 00 17 02.8
comp=Z,11µm,20.0s
D27M Malcolm River 47.46 28 P **P** **23 55 13.3 +1.6**
baz=275,SNR=27
D27M S **S** **00 02 04.3 +0.5**
baz=275
VRDI Verde Repeater 47.47 39 P **P** **23 55 13.3 +1.2**
VRDI IAmb IAmb 23 55 27.7
comp=Z,227nm,1.2s
M26K Nabesna, AK 47.48 37 P **P** **23 55 14.1 +2.1**
baz=279,SNR=44
M26K S **S** **00 02 08.3 +4.0**
baz=279
BERG Berg Lake 47.50 40 IAMs_20 IAMs_20 00 15 22.6
comp=Z,8µm,22.0s
H27K Steamboat Moun 47.57 32 IAMs_20 IAMs_20 00 17 28.1
comp=Z,7µm,19.0s
H27K Steamboat Moun 47.57 32 P **P** **23 55 15.0 +2.4**
baz=277,SNR=67
H27K S **S** **00 02 10.6 +5.3**
baz=277
I27K Kandik River 47.61 33 P **P** **23 55 14.3 +1.4**
baz=278,SNR=32
I27K S **S** **00 02 09.2 +3.2**
baz=278
CHKK Chushkaly 47.63 297 *e*P **P** **23 55 13.2 -0.1**
CHKK Chushkaly 47.63 297 *e*P **P** **23 55 13.2 -0.1**
K27K Chicken 47.64 35 P **P** **23 55 15.0 +1.9**
baz=279
K27K S **S** **00 02 09.1 +2.8**
baz=279
MCARA McCarthy VSAT 47.65 39 P **P** **23 55 14.3 +1.1**
MCARA IAMs_20 IAMs_20 00 15 59.4
comp=Z,8µm,21.0s
MCARA McCarthy VSAT 47.65 39 P **P** **23 55 15.2 +2.1**
baz=280,SNR=21
MCARA S **S** **00 02 09.5 +3.1**
baz=280
CRQE Cirque 47.73 40 P **P** **23 55 15.9 +1.9**
baz=281,SNR=26
CRQE S **S** **00 02 10.5 +2.6**
baz=281
BGLC Bering Glacier 47.76 40 P **P** **23 55 16.0 +2.0**
baz=281
BGLC S **S** **00 02 11.8 +3.8**
baz=281
MDOK Medeo 47.84 296 *e*P **P** **23 55 15.1 0.0**
MDOK *e*S **S** **00 02 09.7 -0.2**
MDOK MLR MLR
comp=Z,2µm,20.0s
MDOK Medeo 47.84 296 *e*P **P** **23 55 15.2 0.0**
MDOK *e*S **S** **00 02 09.7 -0.2**
MDOK LR LR 00 15 51.1
comp=Z,2µm,19.5s
TARG Taragay, Kyrgy 47.84 294 P **P** **23 55 15.9 +0.4**
TARG Taragay, Kyrgy 47.84 294 P **P** **23 55 15.9 +0.4**
TARG pmax pmax
comp=Z,278nm,1.0s
TARG MLR MLR
comp=Z,39µm,20.0s
WAX Waxell Ridge 47.90 40 IAMs_20 IAMs_20 00 18 18.2
comp=Z,8µm,20.0s
L27K Beaver Creek, 47.91 36 IAMs_20 IAMs_20 00 15 38.2
comp=Z,10µm,22.0s
L27K Beaver Creek, 47.91 36 P **P** **23 55 17.2 +2.0**
baz=280,SNR=77
L27K S **S** **00 02 13.9 +3.8**
baz=280
AAA Alma-Ata 47.91 296 *e*P **P** **23 55 15.7 +0.1**
AAA pmax pmax
comp=Z,148nm,1.1s
AAA MLR MLR
comp=Z,16µm,20.0s
AAA Alma-Ata 47.91 296 *e*P **P** **23 55 15.8 +0.1**
comp=Z,148nm,1.1s
AAA LR LR 00 15 54.1
comp=Z,16µm,20.0s
BCAR Beaver Creek A 47.92 36 P **P** **23 55 17.0 +1.6**
TNSS Tian-Shan 47.95 296 *e*P **P** **23 55 16.0 -0.3**
TNSS Tian-Shan 47.95 296 *e*P **P** **23 55 16.0 -0.3**
SNH Sunshine Point 47.96 40 P **P** **23 55 17.0 +1.3**
M27K Edge Creek, AK 48.01 37 IAMs_20 IAMs_20 00 15 09.9
comp=Z,9µm,22.0s
M27K Edge Creek, AK 48.01 37 P **P** **23 55 18.1 +2.0**
baz=280,SNR=56
M27K S **S** **00 02 15.0 +3.2**
baz=280
F28M Old Crow 48.04 30 P **P** **23 55 18.5 +2.3**
baz=277,SNR=125
F28M S **S** **00 02 15.3 +3.3**
baz=277
E28M Babbage River 48.04 29 P **P** **23 55 18.5 +2.4**
baz=277,SNR=83
E28M S **S** **00 02 13.2 +1.3**
baz=277
ISLE Juniper Island 48.12 40 IAMs_20 IAMs_20 00 16 05.1
comp=Z,13µm,22.0s
KDJ Kajisay 48.13 294 P **P** **23 55 17.6 +0.2**
KDJ Kajisay 48.13 294 P **P** **23 55 17.6 +0.2**
KDJ pmax pmax
comp=Z,512nm,1.3s
KDJ MLR MLR
comp=Z,60µm,19.0s
D28M Stokes Point 48.24 28 P **P** **23 55 19.6 +2.0**
baz=277
D28M S **S** **00 02 15.8 +1.2**
baz=277
BKB Balikpapan 48.32 216 IAMs_20 IAMs_20 00 19 11.6
comp=Z,10µm,18.0s
I28M Miner Creek 48.33 33 IAMs_20 IAMs_20 00 15 56.2
comp=Z,10µm,20.0s
I28M Miner Creek 48.33 33 P **P** **23 55 20.5 +1.9**
baz=279,SNR=100
I28M S **S** **00 02 19.6 +3.4**
baz=279
GRNC Granite Creek 48.38 39 P **P** **23 55 19.9 +0.8**
GRNC IAMs_20 IAMs_20 00 16 01.8
comp=Z,11µm,22.0s
MESA MESA 48.40 40 IAMs_20 IAMs_20 00 17 53.3
comp=Z,10µm,20.0s
MESA MESA 48.40 40 P **P** **23 55 21.0 +1.8**
baz=282,SNR=14
MESA S **S** **00 02 20.2 +2.7**
baz=282
BRZS Berezniki 48.41 306 *c* *i*P **P** **23 55 19.3 0.0**
BRZS Berezniki 48.41 306 ⇑ *i*P **P** **23 55 19.4 +0.1**
YAH Yahtse 48.46 40 IAMs_20 IAMs_20 00 16 17.1
comp=Z,10µm,22.0s
BVCY Beaver Creek 48.46 37 P **P** **23 55 21.2 +1.7**
baz=281,SNR=35
BVCY S **S** **00 02 21.0 +2.9**
baz=281
CTG Chitna Glacier 48.53 39 P **P** **23 55 21.8 +1.6**
baz=282,SNR=20
CTG S **S** **00 02 21.1 +1.9**
baz=282
CTGM Chitina Glacie 48.53 39 P **P** **23 55 20.8 +0.6**
CTGM IAmb IAmb 23 55 35.8
comp=Z,308nm,1.3s
CTGM IAMs_20 IAMs_20 00 16 18.7
comp=Z,11µm,22.0s
E29M Blow River 48.67 29 IAMs_20 IAMs_20 00 17 08.1
comp=Z,11µm,21.0s
E29M Blow River 48.67 29 P **P** **23 55 23.2 +2.3**
baz=278,SNR=158
E29M S **S** **00 02 22.9 +2.1**
baz=278
LOGN Logan Glacier 48.72 39 IAMs_20 IAMs_20 00 16 23.8
comp=Z,10µm,22.0s
ULHL Ulahol 48.73 295 P **P** **23 55 22.4 +0.3**
SNR=39
TABL Table Mountain 48.73 40 IAMs_20 IAMs_20 00 16 26.2
comp=Z,10µm,22.0s
YUK3 Moose Creek 48.77 38 P **P** **23 55 23.6 +1.4**
baz=282,SNR=40
YUK3 S **S** **00 02 25.1 +2.3**
baz=282
DAWY Dawson 48.80 35 P **P** **23 55 22.8 +0.7**
DAWY Dawson 48.80 35 P **P** **23 55 23.4 +1.2**
baz=281
DAWY S **S** **00 02 24.9 +2.1**
baz=281
H29M Whitestone 48.84 32 IAMs_20 IAMs_20 00 17 48.6
comp=Z,8µm,20.0s
H29M Whitestone 48.84 32 P **P** **23 55 24.4 +2.1**
baz=280,SNR=34
H29M S **S** **00 02 27.6 +4.4**
baz=280
G29M Pine Creek 48.85 31 P **P** **23 55 24.9 +2.4**
baz=280,SNR=108
G29M S **S** **00 02 28.0 +4.6**
baz=280
BVA0 Borovoye Array 48.88 310 *i*P **P** **23 55 21.8 -1.0**
BVAR Borovoye Array 48.88 310 P **P** **23 55 23.2 +0.4**
comp=Z,153nm,0.9s,baz=78,slow=6.8,SNR=240
BVAR S **S** **00 02 26.2 +2.1**
comp=Z,5.7nm,0.9s,baz=85,slow=16,SNR=2.0
BVAR LR LR 00 17 26.9
comp=Z,27µm,19.5s,baz=75,slow=38
comp=Z,153nm,0.9s
BORK Borovoye 48.91 310 ⇑P **P** **23 55 23.6 +0.5**
TKM2 Toknak 2 48.91 296 P **P** **23 55 24.0 +0.5**
SNR=478
I29M Ogilvie Camp, 49.01 33 IAMs_20 IAMs_20 00 15 33.3
comp=Z,12µm,22.0s
I29M Ogilvie Camp, 49.01 33 P **P** **23 55 25.5 +1.8**
baz=281,SNR=54
I29M S **S** **00 02 28.6 +2.9**
baz=281
O28M Mount Upton 49.12 39 IAMs_20 IAMs_20 00 16 37.4
comp=Z,9µm,21.0s
O28M Mount Upton 49.12 39 P **P** **23 55 26.3 +1.4**
baz=283,SNR=16
O28M S **S** **00 02 29.4 +1.6**
baz=283
BTLS Baital 49.18 299 *c* *i*P **P** **23 55 25.2 0.0**
BTLS *e*S **S** **00 02 28.2 -0.3**
BTLS Baital 49.18 299 ⇑ *i*P **P** **23 55 25.2 0.0**
BTLS *e*S **S** **00 02 28.2 -0.3**
YUK8 Steele Glacier 49.20 38 P **P** **23 55 27.0 +1.4**
baz=283,SNR=15
YUK8 S **S** **00 02 30.8 +1.8**
baz=283
KSM Kuching 49.22 225 P **P** **23 55 26.4 +0.5**
KSM IAmb IAmb 23 55 28.7
comp=Z,236nm,1.1s
KSM Kuching 49.22 225 P **P** **23 55 27.4 +1.6**
J29N Klondike Camp 49.23 34 IAMs_20 IAMs_20 00 15 19.0
comp=Z,8µm,22.0s
J29N Klondike Camp 49.23 34 P **P** **23 55 26.9 +1.4**
baz=282
J29N S **S** **00 02 31.6 +2.8**
baz=282
PCA Pinnacle 49.24 40 IAMs_20 IAMs_20 00 17 04.7
comp=Z,10µm,21.0s
PINM Pinnacle 49.24 40 P **P** **23 55 27.0 +1.4**
baz=284,SNR=5.6
PINM S **S** **00 02 31.1 +1.9**
baz=284
SGDS Sogindy 49.37 297 ⇑ *i*P **P** **23 55 26.9 0.0**
comp=Z,267nm,2.3s
SGDS *e*S **S** **00 02 31.2 -0.2**
KBK Karagaybulak 49.46 296 P **P** **23 55 27.7 +0.1**
SNR=142
CHMS Chumysh 49.46 296 P **P** **23 55 27.7 +0.3**
SNR=24
EPYK Eagle Plains 49.46 32 P **P** **23 55 29.1 +1.9**
baz=281,SNR=79
EPYK S **S** **00 02 35.4 +3.4**
baz=281
USP Uspenovka 49.53 297 P **P** **23 55 28.3 +0.3**
SNR=155
G30M tAoh Zraii Nji 49.54 31 P **P** **23 55 29.4 +1.7**
baz=281,SNR=76
G30M S **S** **00 02 35.7 +2.6**
baz=281
M29M Somme Creek 49.55 37 P **P** **23 55 30.1 +2.1**
baz=283,SNR=20
M29M S **S** **00 02 38.2 +4.8**
baz=283
L29M L29M 49.55 36 IAMs_20 IAMs_20 00 20 05.5
comp=Z,9µm,20.0s
L29M L29M 49.55 36 P **P** **23 55 30.4 +2.6**
baz=283,SNR=91

L29M S **S** **00 02 38.5 +5.2**
baz=283
SPSI Sidrap Palu 49.56 211 P **P** **23 55 27.2 -1.2**
comp=Z,3µmcomp=Z,161nm,1.2s
BCPM Bancas Point 49.58 40 IAMs_20 IAMs_20 00 17 14.6
comp=Z,9µm,21.0s
F30M Barrier River 49.59 30 IAMs_20 IAMs_20 00 17 25.3
comp=Z,8µm,21.0s
F30M Barrier River 49.59 30 P **P** **23 55 30.5 +2.5**
baz=281,SNR=97
F30M S **S** **00 02 36.7 +3.1**
baz=281
FRU1 Bishkek 49.62 296 P **P** **23 55 28.7 0.0**
FRU1 Bishkek 49.62 296 P **P** **23 55 28.7 0.0**
FRU1 pmax pmax
comp=Z,1µm,1.8s
FRU1 MLR MLR
comp=Z,15µm,20.0s
K29M Barlow Dome 49.65 35 P **P** **23 55 30.7 +2.0**
baz=283,SNR=81
K29M S **S** **00 02 38.6 +3.7**
baz=283
YUK4 Talbot Arm 49.72 38 P **P** **23 55 31.3 +1.9**
baz=284,SNR=34
YUK4 S **S** **00 02 38.6 +2.6**
baz=284
SURA Surathani 49.72 243 P **P** **23 55 31.9 +2.2**
PNL Peninsula 49.77 40 P **P** **23 55 30.8 +1.3**
PNL Peninsula 49.77 40 P **P** **23 55 30.9 +1.3**
baz=285,SNR=5.2
PNL S **S** **00 02 38.2 +1.8**
baz=285
AAK Ala-Archa 49.77 296 P **P** **23 55 29.8 -0.2**
AAK Ala-Archa 49.77 296 LR LR 00 17 40.1
comp=Z,24µm,21.9s,baz=78,slow=37
AAK Ala-Archa 49.77 296 P **P** **23 55 30.0 +0.1**
AAK P **P** **23 55 30.0 +0.1**
AAK S **S** **00 02 38.6 +1.3**
AAK S **S** **00 02 38.6 +1.3**
AAK Ala-Archa 49.77 296 P **P** **23 55 30.2 +0.2**
SNR=24
AAK Ala-Archa 49.77 296*c i*P **P** **23 55 30.1 +0.1**
AAK pmax pmax
comp=Z,124nm,1.2s
AAK Ala-Archa 49.77 296 *i* P **P** **23 55 30.2 +0.2**
SNR=31
AAK Ala-Archa 49.77 296 ⇑P **P** **23 55 30.1 +0.1**
BNSI Bone 49.83 211 P **P** **23 55 31.1 +0.7**
comp=Z,4µmcomp=Z,4µmcomp=Z,376nm,1.1s
I30M Mount Dempster 49.84 33 IAMs_20 IAMs_20 00 20 20.1
comp=Z,11µm,20.0s
I30M Mount Dempster 49.84 33 P **P** **23 55 31.9 +1.8**
baz=282,SNR=177
I30M S **S** **00 02 40.0 +2.6**
baz=282
UCH Uchtor 49.92 295 P **P** **23 55 32.0 +0.5**
SNR=65
BBSI Bau Bau 49.94 207 P **P** **23 55 33.0 +1.8**
comp=Z,6µmcomp=Z,491nm,1.1s
YUK6 Outpost Mounta 49.95 39 P **P** **23 55 33.2 +2.1**
baz=284,SNR=17
YUK6 S **S** **00 02 42.6 +3.3**
baz=284
J30M Hart River 50.00 34 P **P** **23 55 33.2 +1.8**
baz=283,SNR=45
J30M S **S** **00 02 43.3 +3.6**
baz=283
KSH Kashi 50.00 292 P **P** **23 55 35.8 +4.1**
KSH PP **PP** **23 57 33.5 +6.8**
KSH S **S** **00 02 48.3 +7.9**
KSH pmax pmax
comp=Z,85nm,1.8s
KSH pmax pmax
comp=Z,2µm,6.7s
KSH LR LR
comp=Z,24µm,17.5s
KSH LR LR
comp=Z,15µm,19.0s
KSH LR LR
comp=Z,32µm,17.4s
O29M Mount Kennedy 50.01 40 IAMs_20 IAMs_20 00 17 06.8
comp=Z,10µm,21.0s
O29M Mount Kennedy 50.01 40 P **P** **23 55 33.5 +2.0**
baz=285,SNR=15
O29M S **S** **00 02 43.8 +3.8**
baz=285
GAYA Gaya 50.25 270 *e*P **P** **23 55 30.2 -3.4**
GAYA IAmb IAmb 23 55 37.8
comp=Z,183nm,1.9s
EKS2 Erkin-Say 50.25 296 P **P** **23 55 33.9 +0.3**
SNR=140
M30M Minto, Yukon 50.27 36 P **P** **23 55 35.5 +2.2**
baz=284,SNR=61
M30M S **S** **00 02 49.1 +5.8**
baz=284
INK Inuvik 50.28 29 P **P** **23 55 34.5 +1.3**
INK Inuvik 50.28 29 LR LR 00 19 03.0
comp=Z,9µm,20.2s,baz=280,slow=39
INK Inuvik 50.28 29 P **P** **23 55 34.5 +1.3**
INK pmax pmax
comp=Z,516nm,1.1s
INK Inuvik 50.28 29 ⇑P **P** **23 55 34.7 +1.5**
INK Inuvik 50.28 29 P **P** **23 55 34.8 +1.5**
baz=282,SNR=59
INK S **S** **00 02 44.4 +1.2**
baz=282
G31M Satah River 50.30 31 P **P** **23 55 34.9 +1.4**
baz=283,SNR=41
G31M S **S** **00 02 45.2 +1.7**
baz=283
BOK Bokaro 50.31 268 *e*P **P** **23 55 31.5 -2.6**
BOK IAmb IAmb 23 55 36.3
comp=Z,77nm,0.7s
PMG Port Moresby 50.33 175 P **P** **23 55 34.8 +0.6**
PMG Port Moresby 50.33 175 LR LR 00 14 21.1
comp=Z,3µm,22.0s,baz=349,slow=33
PMG Port Moresby 50.33 175 P **P** **23 55 34.8 +0.6**
PMG pmax pmax
comp=Z,74nm,1.2s
HYT Haines Junctio 50.38 39 P **P** **23 55 36.0 +1.7**
HYT Haines Junctio 50.38 39 P **P** **23 55 36.9 +2.5**
baz=285,SNR=154
HYT S **S** **00 02 49.4 +4.2**
baz=285
F31M Tsiigehtchic 50.39 30 P **P** **23 55 35.5 +1.5**
baz=283
F31M S **S** **00 02 46.9 +2.2**
baz=283
N30M Aishikik Lake 50.41 38 IAMs_20 IAMs_20 00 16 47.5
comp=Z,11µm,22.0s
N30M Aishikik Lake 50.41 38 P **P** **23 55 36.4 +1.9**
baz=285,SNR=21
N30M S **S** **00 02 48.9 +3.4**
baz=285
MAYO Mayo, Yukon 50.41 35 P **P** **23 55 36.4 +2.1**
baz=284
MAYO S **S** **00 02 49.9 +4.6**
baz=284
KAPI Kappang 50.53 211 P **P** **23 55 36.3 +0.6**
KAPI Kappang 50.53 211 LR LR 00 16 59.8
comp=Z,2µm,21.8s,baz=12,slow=36
KAPI Kappang 50.53 211 P **P** **23 55 36.6 +0.9**
KAPI P **P** **23 55 36.6 +0.9**
KAPI P **P** **23 55 36.6 +0.9**
KAPI S **S** **00 02 49.3 +1.6**
KAPI S **S** **00 02 49.3 +1.6**
KAPI S **S** **00 02 49.3 +1.6**
KAPI Kappang 50.53 211 P **P** **23 55 37.3 +1.6**
KAPI Kappang 50.53 211*c i*P **P** **23 55 36.6 +0.9**
KAPI pmax pmax
comp=Z,388nm,1.5s
KAPI MLR MLR
comp=Z,3µm,20.0s
KAPI Kappang 50.53 211 ⇑P **P** **23 55 36.5 +0.9**
H31M Peel River 50.53 32 IAMs_20 IAMs_20 00 16 42.4
comp=Z,9µm,22.0s
H31M Peel River 50.53 32 P **P** **23 55 37.1 +1.9**
baz=284,SNR=91
H31M S **S** **00 02 49.4 +2.5**
baz=284
GKPR Gorakhpur 50.56 273 *e*P **P** **23 55 31.4 -4.5**
GKPR IAmb IAmb 23 55 46.5
comp=Z,202nm,0.8s
P29M Windy Craggy 50.59 40 IAMs_20 IAMs_20 00 16 37.3
comp=Z,9µm,22.0s
P29M Windy Craggy 50.59 40 P **P** **23 55 38.3 +2.5**
baz=286,SNR=80
P29M S **S** **00 02 53.0 +5.1**
baz=286
BKSI Bulukumba 50.67 210 P **P** **23 55 36.7 -0.1**
comp=Z,4µmcomp=Z,1µmcomp=Z,122nm,1.1s
P30M Million Dollar 50.83 39 P **P** **23 55 40.0 +2.4**
baz=286,SNR=34
P30M S **S** **00 02 56.2 +4.9**
baz=286
N31M Braeburn, Yuko 51.01 38 IAMs_20 IAMs_20 00 17 16.4
comp=Z,9µm,22.0s
N31M Braeburn, Yuko 51.01 38 P **P** **23 55 41.4 +2.5**
baz=286,SNR=48
N31M S **S** **00 02 58.5 +4.9**
baz=286
O30N Mendenhall 51.07 39 IAMs_20 IAMs_20 00 17 08.8
comp=Z,10µm,22.0s
O30N Mendenhall 51.07 39 P **P** **23 55 41.4 +2.0**
baz=286,SNR=12
O30N S **S** **00 02 58.9 +4.5**
baz=286
PLBC Pleasant Camp 51.31 40 P **P** **23 55 43.4 +2.2**
baz=287,SNR=33
PLBC S **S** **00 03 02.5 +4.8**
baz=287
M31M Drury Creek, Y 51.45 36 IAMs_20 IAMs_20 00 19 42.8
comp=Z,9µm,20.0s
M31M Drury Creek, Y 51.45 36 P **P** **23 55 44.1 +2.0**
baz=286,SNR=42
M31M S **S** **00 03 04.2 +4.6**
baz=286
ALCI Alchi Leh 51.48 285 *e*P **P** **23 55 41.1 -2.1**
ALCI IAmb IAmb 23 55 46.0
comp=Z,171nm,0.7s
JOSI Joshimath 51.50 280 *e*P **P** **23 55 39.9 -3.4**
JOSI IAmb IAmb 23 55 49.1
comp=Z,116nm,0.8s
BRCI Bahraich 51.52 275 *e*P **P** **23 55 39.3 -3.9**
BRCI IAmb IAmb 23 55 43.9
comp=Z,160nm,0.4s
PTH Pithoragarh 51.52 278 *e*P **P** **23 55 39.9 -3.5**
TATA Tatamba Isabel 51.54 159 P **P** **23 55 45.5 +2.2**
LGTI Lohaghat 51.55 278 *e*P **P** **23 55 41.0 -2.3**
LGTI IAmb IAmb 23 55 45.9
comp=Z,126nm,1.9s
WHY Whitehorse 51.67 38 P **P** **23 55 45.1 +1.2**
WHY Whitehorse 51.67 38 P **P** **23 55 46.1 +2.1**
baz=287,SNR=40
WHY S **S** **00 03 07.6 +4.7**
baz=287
DZA Taraz 51.81 297 *e*P **P** **23 55 45.1 -0.1**
DZA Taraz 51.81 297 *e*P **P** **23 55 45.1 -0.1**
SKAG Skagway 51.81 40 P **P** **23 55 46.2 +1.3**
SKAG Skagway 51.81 40 P **P** **23 55 47.2 +2.3**
baz=288,SNR=6.2
SKAG S **S** **00 03 09.4 +4.7**
baz=288
S31K Pelican 51.83 42 P **P** **23 55 47.2 +2.2**
baz=288
S31K S **S** **00 03 08.8 +4.0**
baz=288
KULM Kulim 51.93 238 P **P** **23 55 47.2 +1.0**
KULM IAmb IAmb 23 55 49.2
comp=Z,278nm,0.9s
KULM Kulim 51.93 238 P **P** **23 55 47.3 +1.0**
KULM Kulim 51.93 238 ⇑P **P** **23 55 47.5 +1.2**
R31K City Hall, Gus 51.94 41 P **P** **23 55 47.9 +2.1**
baz=288
KLP Kalpa 51.99 281 *e*P **P** **23 55 43.7 -3.3**
KLP IAmb IAmb 23 55 50.4
A36M Sachs Harbour 52.10 23 P **P** **23 55 48.6 +1.8**
baz=287,SNR=8.8
A36M S **S** **00 03 09.6 +1.4**
baz=287
ALEG Aligegeo Malai 52.15 158 P **P** **23 55 49.8 +2.0**
KK31 Karatay Array 52.27 298 P **P** **23 55 48.4 -0.3**
KK31 IAmb IAmb 23 56 03.3
comp=Z,281nm,1.1s
KK31 Karatay Array 52.27 298 *i* P **P** **23 55 48.2 -0.4**
KKAR Karatay Array 52.27 298 P **P** **23 55 48.4 -0.2**
KKAR Karatay Array 52.27 298 P **P** **23 55 48.4 -0.2**
SAVO Savo Central 52.27 159 P **P** **23 55 51.5 +2.7**
IPM Ipoh 52.30 237 P **P** **23 55 49.4 +0.3**
IPM IAmb IAmb 23 55 51.2
comp=Z,191nm,1.0s
IPM Ipoh 52.30 237 P **P** **23 55 49.9 +0.8**
IPM Ipoh 52.30 237 ⇑P **P** **23 55 49.7 +0.6**
N32M Quiet Lake 52.35 38 IAMs_20 IAMs_20 00 18 31.0
comp=Z,9µm,22.0s
N32M Quiet Lake 52.35 38 P **P** **23 55 50.6 +1.6**
baz=288,SNR=6.2
N32M S **S** **00 03 15.1 +2.9**
baz=288
BWNR Bhubaneshwar 52.40 265 *e*P **P** **23 55 47.0 -2.8**
BWNR IAmb IAmb 23 55 52.0
comp=Z,100nm,0.5s
LKN LUCKNOW 52.47 275 *e*P **P** **23 55 47.5 -2.8**
P32M Atlin 52.55 40 IAMs_20 IAMs_20 00 19 17.2
comp=Z,7µm,21.0s
P32M Atlin 52.55 40 P **P** **23 55 52.4 +1.9**
baz=289,SNR=19
P32M S **S** **00 03 20.3 +5.4**
baz=289
ALBI Allahabad 52.56 273 *e*P P 23 55 45.5 -5.4
ALBI IAmb IAmb 23 55 51.0
comp=Z,149nm,1.2s
HNR Honiara 52.58 159 P **P** **23 55 51.9 +0.9**
HNR IAmb IAmb 23 56 19.8
comp=Z,289nm,0.9s
HNR Honiara 52.58 159 IAMs_20 IAMs_20 00 14 52.7
comp=Z,9µm,22.0s
HNR Honiara 52.58 159 LR LR 00 16 11.6
comp=Z,6µm,21.8s,baz=328,slow=34
HNR Honiara 52.58 159 P **P** **23 55 51.9 +0.9**
HNR pmax pmax
comp=Z,289nm,1.0s
SIT Sitka 52.59 43 P **P** **23 55 52.4 +1.8**
SIT Sitka 52.59 43 P **P** **23 55 53.8 +3.2**
SIT Sitka 52.59 43 P **P** **23 55 52.8 +2.1**
baz=290
SIT S **S** **00 03 22.3 +7.1**
baz=290
R32K Eaglecrest 52.59 41 P **P** **23 55 53.1 +2.4**
baz=289,SNR=20
R32K S **S** **00 03 21.3 +6.0**
baz=289
JIS Juneau Island 52.66 41 P **P** **23 55 53.4 +2.3**
MMPY Sheldon Lake, 52.71 35 P **P** **23 55 52.6 +1.0**
MMPY IAmb IAmb 23 56 10.6
comp=Z,362nm,1.6s
MMPY Sheldon Lake, 52.71 35 P **P** **23 55 53.8 +2.2**
baz=289,SNR=33
MMPY S **S** **00 03 22.1 +5.1**
baz=289
BRLS Borolday 52.76 298*c i*P **P** **23 55 53.6 +1.4**
BRLS Borolday 52.76 298⇑*i*P **P** **23 55 53.6 +1.4**
PBA Port Blair 52.77 251 P **P** **23 55 53.2 +0.7**
PBA IAMs_20 IAMs_20 00 18 60.0
comp=Z,11µm,20.0s
PBA Port Blair 52.77 251 P **P** **23 55 52.9 +0.4**
PBA Port Blair 52.77 251 *e*P **P** **23 55 49.5 -3.0**
P33M Teslin, Yukon 52.78 39 IAMs_20 IAMs_20 00 18 13.1
comp=Z,13µm,22.0s
P33M Teslin, Yukon 52.78 39 P **P** **23 55 54.1 +2.0**
baz=289,SNR=59
P33M S **S** **00 03 23.7 +5.6**
baz=289
MMRI Maumere 52.99 206 P **P** **23 55 54.2 +0.1**
MMRI Maumere 52.99 206 P **P** **23 55 55.5 +1.4**
SMLA Simla 52.99 282 *e*P **P** **23 55 50.9 -3.1**
SMLA IAmb IAmb 23 56 02.2
comp=Z,178nm,1.1s
IUG luznay 52.99 297 *e*P **P** **23 55 54.0 0.0**
IUG pmax pmax
comp=Z,442nm,2.1s
IUG luznay 52.99 297 *e*P **P** **23 55 54.0 0.0**
comp=Z,442nm,2.1s
SVE Sverdlovsk 53.03 317*d i*P **P** **23 55 54.8 +0.9**
SVE *e* 23 57 53.8
SVE *e*S **S** **00 03 21.9 +0.6**
SVE pmax pmax
comp=Z,556nm,1.3s
SVE MLR MLR
comp=E,23µm,17.0s
SVE MLR MLR
comp=Z,28µm,17.0s
BTDF Bukit Timah Da 53.04 232 P **P** **23 55 56.6 +2.1**
JHSG JHARSUGUGA 53.07 268 *e*P **P** **23 55 51.7 -3.1**
JHSG IAmb IAmb 23 55 56.2
comp=Z,127nm,1.3s
DHRM DHARAMSHALA 53.08 283 *e*P **P** **23 55 51.6 -3.3**
DHRM IAmb IAmb 23 55 59.0
comp=Z,170nm,1.8s
KIP Kipapa 53.08 93 P **P** **23 55 55.5 +0.7**
KIP Kipapa 53.08 93 IAMs_20 IAMs_20 00 12 41.9
comp=Z,9µm,22.0s
KIP Kipapa 53.08 93 P **P** **23 55 56.6 +1.8**
KIP Kipapa 53.08 93 P **P** **23 55 55.5 +0.7**
KIP pmax pmax
comp=Z,107nm,1.1s
FRKB FARRUKHABAD 53.12 276 *e*P **P** **23 55 51.9 -3.1**
FRKB IAmb IAmb 23 56 01.2
comp=Z,108nm,1.2s
CHM Chimkent 53.21 297 *e*P **P** **23 55 55.3 -0.2**
CHM pmax pmax
comp=Z,211nm,1.3s
CHM MLR MLR
comp=Z,6µm,19.0s
CHM Chimkent 53.21 297 *e*P **P** **23 55 55.4 -0.2**
comp=Z,211nm,1.3s
CHM LR LR 00 19 06.2
comp=Z,6µm,18.7s
EDFI Ende, Flores 53.28 207 P **P** **23 55 55.7 -0.6**
comp=Z,3µmcomp=Z,187nm,1.3s
C36M Paulatuk 53.30 26 P **P** **23 55 56.9 +1.2**
baz=290,SNR=13
C36M S **S** **00 03 26.7 +2.1**
baz=290
BHK Bhakra 53.40 282 *e*P P 23 55 51.2 -5.9
BHK IAmb IAmb 23 55 59.0
comp=Z,125nm,1.4s
SOEI Soe 53.40 203 P **P** **23 55 55.5 -1.7**
SOEI Soe 53.40 203 P **P** **23 55 57.5 +0.2**
SOEI Soe 53.40 203 P **P** **23 55 58.7 +1.5**
SOEI Soe 53.40 203 P **P** **23 55 57.9 +0.7**
SOEI Soe 53.40 203 ⇑P **P** **23 55 57.1 -0.2**
Q32M Nakina River 53.47 40 P **P** **23 55 59.7 +2.3**
baz=290,SNR=15
Q32M S **S** **00 03 33.6 +5.9**
baz=290
TLWR Talawar 53.48 283 *e*P **P** **23 55 54.5 -3.1**
TLWR IAmb IAmb 23 56 11.9
comp=Z,103nm,1.3s
ASOR Ausora 53.76 279 *e*P **P** **23 55 55.4 -4.3**
ASOR IAmb IAmb 23 56 02.8
comp=Z,110nm,0.5s
JMU Jammu 53.87 284 *e*P **P** **23 55 56.0 -4.5**
JMU IAmb IAmb 23 56 07.5
comp=Z,109nm,0.7s
T33K Petersburg 53.89 43 P **P** **23 56 02.2 +2.0**
baz=291
R33M Jennings River 53.94 39 IAMs_20 IAMs_20 00 18 57.8
comp=Z,11µm,22.0s
R33M Jennings River 53.94 39 P **P** **23 56 03.2 +2.4**
baz=291,SNR=31
R33M S **S** **00 03 39.4 +5.5**
baz=291
BATI Baumata 54.01 204 LR LR 00 19 16.4
comp=Z,2µm,22.0s,baz=2.5,slow=36
DSRI Dabo 54.04 230 P **P** **23 56 03.3 +1.5**
comp=Z,5µmcomp=Z,4µmcomp=Z,174nm,1.7s
U33K Whale Pass 54.06 43 P **P** **23 56 04.0 +2.5**
baz=292,SNR=12
U33K S **S** **00 03 41.8 +6.5**
baz=292
BLSP Bilaspur 54.10 269 *e*P **P** **23 55 58.7 -3.6**
BLSP IAmb IAmb 23 56 03.1
comp=Z,100nm,1.0s
GNR GANAUR 54.12 279 *e*P **P** **23 55 59.2 -3.1**
HURO Huro Makira 54.12 157 P **P** **23 56 04.7 +2.4**
GAR Garm 54.18 293 P **P** **23 56 02.5 -0.3**
TPI Tanjungpandan 54.19 225 P **P** **23 56 02.7 -0.2**
comp=Z,6µmcomp=Z,4µmcomp=Z,293nm,1.1s
NDI New Delhi 54.21 279 *e*P **P** **23 56 00.0 -3.0**
JMIU JAMIA UNIVERSI 54.21 279 *e*P **P** **23 56 00.4 -2.6**
JMIU IAmb IAmb 23 56 05.8
comp=Z,114nm,0.2s
NRLA Narela 54.25 279 *e*P P 23 55 58.0 -5.3
LDR Lodi Road 54.26 279 *e*P **P** **23 55 59.1 -4.2**
NPLP NPLP New Delhi 54.27 279 *e*P **P** **23 56 00.4 -3.1**
CRAG Craig 54.30 44 IAMs_20 IAMs_20 00 17 46.6
comp=Z,7µm,21.0s
CRAG Craig 54.30 44 P **P** **23 56 06.2 +3.0**
CRAG Craig 54.30 44 ⇓P **P** **23 56 06.0 +2.7**
CRAG Craig 54.30 44 P **P** **23 56 05.1 +1.9**
baz=292,SNR=6.2
CRAG S **S** **00 03 44.9 +6.3**
baz=292
KDU Kakadu 54.32 193 P **P** **23 56 04.1 +0.3**
comp=Z,0.0nmcomp=Z,127nm,1.6s
KDU Kakadu 54.32 193 P **P** **23 56 04.4 +0.6**
KDU Kakadu 54.32 193 ⇑P **P** **23 56 04.2 +0.4**
ARTI Arti 54.35 317 P **P** **23 56 03.8 +0.2**
ARTI Arti 54.35 317 LR LR 00 20 37.8
comp=Z,11µm,21.9s,baz=66,slow=37
ARTI Arti 54.35 317*c i*P **P** **23 56 03.9 +0.3**
ARTI *PP **sP** **23 56 17.3 +0.9**
ARTI 23 57 07.3
ARTI 23 58 03.9
ARTI S **S** **00 03 40.4 +1.2**
ARTI 00 05 46.1
ARTI pmax pmax
comp=Z,767nm,1.2s
ARTI MLR MLR
comp=Z,28µm,17.0s
ARTI Arti 54.35 317 ⇑P **P** **23 56 03.8 +0.2**
WRAK Wrangell Islan 54.35 43 ⇑P **P** **23 56 05.9 +2.3**
WRAK Wrangell Islan 54.35 43 P **P** **23 56 05.5 +2.0**
baz=292,SNR=5.7
WRAK S **S** **00 03 45.6 +6.4**
baz=292
DRS Darwin Rock St 54.35 195 P **P** **23 56 05.3 +1.3**
AYAN Aya Nagar 54.38 279 *e*P **P** **23 56 01.3 -2.9**
AYAN IAmb IAmb 23 56 09.6
comp=Z,173nm,1.2s
S34M Telegraph Cree 54.40 41 P **P** **23 56 06.5 +2.5**
baz=292,SNR=17
S34M S **S** **00 03 45.9 +6.0**
baz=292
TGTN Hyland Airport 54.41 36 P **P** **23 56 05.9 +1.9**
baz=292,SNR=22
TGTN S **S** **00 03 44.5 +4.5**
baz=292
PPBI Pangkal Pinang 54.52 227 P **P** **23 56 07.3 +1.9**
KHLH Kahului Airpor 54.58 92 P **P** **23 56 06.8 +1.0**
KHLH IAMs_20 IAMs_20 00 13 45.7
comp=Z,8µm,21.0s
NIL Nilore 54.62 286 P **P** **23 56 06.5 +0.6**
NIL Nilore 54.62 286 IAMs_20 IAMs_20 00 21 20.1
comp=Z,11µm,20.0s
NIL Nilore 54.62 286 P **P** **23 56 06.9 +0.9**
NIL P **P** **23 56 06.9 +0.9**
NIL Nilore 54.62 286 P **P** **23 56 06.5 +0.6**
NIL pmax pmax
comp=Z,1µm,1.4s
NIL MLR MLR
comp=Z,11µm,20.0s
NGOA Tingoa Renbel 54.64 159 P **P** **23 56 08.1 +2.0**
JHJR Jhajjar 54.67 279 *e*P **P** **23 56 03.4 -3.0**
JHJR IAmb IAmb 23 56 12.7
comp=Z,134nm,1.0s
WTLY Watson Lake, Y 54.70 38 IAMs_20 IAMs_20 00 20 16.8
comp=Z,7µm,21.0s
WTLY Watson Lake, Y 54.70 38 P **P** **23 56 08.2 +2.1**
baz=292
WTLY S **S** **00 03 48.7 +4.8**
baz=292
COEN Coen 54.70 180 P **P** **23 56 06.4 -0.1**
comp=Z,106nm,1.4s
COEN Coen 54.70 180 P **P** **23 56 06.9 +0.3**
COEN IAmb IAmb 23 56 20.0
comp=Z,384nm,1.9s
COEN Coen 54.70 180 P **P** **23 56 06.1 -0.5**
COEN Coen 54.70 180 ⇑P **P** **23 56 07.9 +1.3**
MTN Manton Dam 54.71 194 P **P** **23 56 06.7 +0.2**
comp=Z,0.0nmcomp=Z,173nm,1.5s
MTN Manton Dam 54.71 194 P **P** **23 56 06.8 +0.2**
MTN IAmb IAmb 23 56 20.4
comp=Z,214nm,1.2s
MTN Manton Dam 54.71 194 P **P** **23 56 07.0 +0.4**
MTN Manton Dam 54.71 194 ⇑P **P** **23 56 06.8 +0.2**
DLBC Dease Lake 54.75 40 LR LR 00 19 20.9

comp=Z,3µm,21.7s,baz=286,slow=36
DLBC Dease Lake 54.75 40 P **P** **23 56 09.1 +2.5**
baz=292,SNR=31
DLBC S **S** **00 03 50.1 +5.4**
baz=292
PLAI Plampang 54.78 211 P **P** **23 56 06.3 -0.9**
comp=Z,85nm,1.4s
HLK Haleakala 54.80 92 IAMs_20 IAMs_20 00 14 02.5
comp=Z,9µm,22.0s
PSI Prapat 54.93 238 LR LR 00 21 01.3
comp=Z,3µm,19.2s,baz=22,slow=38
PSI Prapat 54.93 238 P **P** **23 56 09.2 +0.7**
PSI Prapat 54.93 238 P **P** **23 56 08.9 +0.4**
PSI pmax pmax
comp=Z,126nm,0.9s
JHNI Jhansi 54.94 275 *e*P **P** **23 56 03.9 -4.5**
JHNI IAmb IAmb 23 56 08.7
comp=Z,104nm,1.2s
RPSI Rantau Prapat 55.01 238 P **P** **23 56 08.9 0.0**
RPSI IAmb IAmb 23 56 10.6
comp=Z,126nm,0.9s
KUDL Kundal 55.04 279 *e*P **P** **23 56 06.0 -2.9**
KUDL IAmb IAmb 23 56 11.6
KCSI Kotacane, Aceh 55.13 240 P **P** **23 56 09.2 -0.6**
CHGR Chuyangaron 55.14 294 P **P** **23 56 09.4 -0.4**
CHGR Chuyangaron 55.14 294 P **P** **23 56 09.4 -0.4**
CHGR pmax pmax
comp=Z,724nm,1.0s
CHGR MLR MLR
comp=Z,63µm,20.0s
V35K Ketchikan 55.15 44 IAMs_20 IAMs_20 00 18 57.0
comp=Z,8µm,21.0s
V35K Ketchikan 55.15 44 P **P** **23 56 11.1 +1.8**
baz=293
V35K S **S** **00 03 55.8 +5.9**
baz=293
CMBY CAMPBELL BAY 55.17 246 *e*P **P** **23 56 10.2 +0.1**
CMBY IAmb IAmb 23 56 15.2
comp=Z,183nm,1.5s
T35M Bob Quinn 55.20 42 IAMs_20 IAMs_20 00 20 36.3
comp=Z,7µm,21.0s
T35M Bob Quinn 55.20 42 P **P** **23 56 12.8 +3.0**
baz=293,SNR=37
T35M S **S** **00 03 57.9 +7.2**
baz=293
SIMJ Simiganj 55.24 294 P **P** **23 56 10.2 -0.4**
MLSI Meulaboh, Aceh 55.48 242 P **P** **23 56 12.3 0.0**
comp=Z,7µmcomp=Z,5µmcomp=Z,372nm,1.2s
BKNI Bangkinang 55.51 234 P **P** **23 56 09.2 -3.4**
BKNI Bangkinang 55.51 234 P **P** **23 56 13.4 +0.9**
BKNI Bangkinang 55.51 234 P **P** **23 56 15.4 +2.9**
H02S2 DAWSON INLET T 55.54 47 P **P** **23 56 13.4 +1.2**
SNR=16
LUES Luesalemba Tem 55.61 152 P **P** **23 56 14.9 +1.8**
HPAH Hawaii Prepara 55.65 93 IAMs_20 IAMs_20 00 14 16.9
comp=Z,9µm,22.0s
U35K Hyder 55.74 43 P **P** **23 56 15.7 +2.1**
baz=294
U35K S **S** **00 04 04.2 +6.4**
baz=294
HUH Hualalai 55.75 93 IAMs_20 IAMs_20 00 13 56.6
comp=Z,9µm,22.0s
WRGLY Wrigley 55.81 33 IAMs_20 IAMs_20 00 20 51.1
comp=Z,7µm,21.0s
WRGLY Wrigley 55.81 33 P **P** **23 56 15.7 +1.6**
baz=294
WRGLY S **S** **00 04 02.5 +3.9**
baz=294
MOBC Moresby Island 55.84 46 P **P** **23 56 15.1 +0.6**
MOBC IAmb IAmb 23 56 33.5
comp=Z,389nm,1.8s
PMBI Palembang 55.92 228 P **P** **23 56 16.7 +1.2**
PMBI Palembang 55.92 228 P **P** **23 56 16.8 +1.4**
POHA Pohakuloa 55.93 93 P **P** **23 56 15.6 -0.2**
POHA IAmb IAmb 23 56 34.8
comp=Z,277nm,1.1s
POHA Pohakuloa 55.93 93 IAMs_20 IAMs_20 00 14 35.5
comp=Z,9µm,21.0s
POHA Pohakuloa 55.93 93 *e*P **P** **23 56 15.0 -0.8**
comp=Z,32nm,1.3s
POHA *e*S **S** **00 04 02.8 +1.0**
comp=Z,363nm,26.1s
POHA *e*SS **SS** **00 07 55.1 +7.3**
comp=Z,144nm,26.8s
POHA *e*LR LR 00 12 27.7
comp=Z,1µm,24.9s
POHA Pohakuloa 55.93 93 P **P** **23 56 16.5 +0.7**
JAGI Jajag, Banyuwa 55.96 215 P **P** **23 56 14.8 -0.8**
JAGI IAmb IAmb 23 56 47.2
comp=Z,292nm,1.9s
JAGI Jajag, Banyuwa 55.96 215 P **P** **23 56 15.0 -0.6**
JAGI Jajag, Banyuwa 55.96 215 P **P** **23 56 14.6 -1.0**
MWH Mokuaweoweo 56.05 93 IAMs_20 IAMs_20 00 14 17.5
comp=Z,10µm,22.0s
MNSI Mandailing Nat 56.05 236 P **P** **23 56 16.7 +0.3**
comp=Z,5µmcomp=Z,2µmcomp=Z,87nm,0.8s
HMH Humu'ula Sheep 56.06 93 IAMs_20 IAMs_20 00 14 26.9
comp=Z,10µm,21.0s
MLH Mauna Loa 56.20 93 IAMs_20 IAMs_20 00 14 20.6
comp=Z,11µm,22.0s
AIN Ainahou 56.22 93 IAMs_20 IAMs_20 00 14 21.1
comp=Z,11µm,22.0s
LIRD Liard River Hi 56.23 38 P **P** **23 56 19.3 +2.1**
baz=295,SNR=25
LIRD S **S** **00 04 09.7 +5.4**
baz=295
RSD Rainshed 56.30 93 P **P** **23 56 17.8 -0.5**
UWE Uwekahuna 56.31 93 IAMs_20 IAMs_20 00 14 12.6
comp=Z,11µm,22.0s
HATHI Halema'uma'u T 56.34 93 IAMs_20 IAMs_20 00 14 02.2
comp=Z,9µm,22.0s
AB31 Akbulak array 56.37 309 P **P** **23 56 18.6 +0.4**
AB31 Akbulak array 56.37 309 *i* P **P** **23 56 18.1 -0.1**
ABKAR Akbulak array 56.37 309 P **P** **23 56 18.6 +0.3**
HLP Hilina Pali 56.38 93 IAMs_20 IAMs_20 00 14 14.3
comp=Z,11µm,22.0s
PUH Pauahi 56.40 93 IAMs_20 IAMs_20 00 14 37.9
comp=Z,9µm,22.0s
SMRI Semarang 56.42 220 P **P** **23 56 19.7 +0.8**
SMRI IAmb IAmb 23 56 21.2
comp=Z,262nm,1.0s
SMRI Semarang 56.42 220 P **P** **23 56 19.9 +1.0**
SMRI Semarang 56.42 220 P **P** **23 56 19.6 +0.7**
comp=Z,7µmcomp=Z,342nm,1.2s
HOPEN Hopen 56.48 346 *e*P **P** **23 56 19.8 +1.1**
HOPEN IVmB_BB 23 56 20.1
comp=Z,3µm,1.4s
HOPEN *e*S **S** **00 04 09.3 +2.1**
JOKA Jonika Flow 56.52 93 IAMs_20 IAMs_20 00 14 30.1
comp=Z,10µm,22.0s
SPA0 Spitsbergen Ar 56.86 349 ⇑*i* P **P** **23 56 21.4 +0.1**
SPB2 Spitsbergen Ar 56.86 349 P **P** **23 56 21.7 +0.4**
SPB2 IAmb IAmb 23 56 50.6
comp=Z,179nm,1.0s
SPITS Spitsbergen Ar 56.86 349 P **P** **23 56 21.5 +0.1**
comp=Z,132nm,1.1s,baz=56,slow=8.8,SNR=18
SPITS S **S** **00 04 11.4 -0.8**
comp=Z,9.7nm,1.0s,baz=53,slow=24,SNR=2.0
SPITS LR LR 00 23 34.1
comp=Z,10µm,19.8s,baz=32,slow=39
comp=Z,132nm,1.1s
SPITS Spitsbergen Ar 56.86 349 P **P** **23 56 21.6 +0.3**
SPITS pmax pmax
comp=Z,256nm,1.1s
KOTAN Kotaneelee Air 56.86 37 P **P** **23 56 23.2 +1.6**
baz=296
KOTAN S **S** **00 04 16.9 +4.3**
baz=296
WOJI Wonogiri, Jawa 56.87 219 P **P** **23 56 22.9 +0.8**
comp=Z,3µmcomp=Z,138nm,1.3s
TOAD Toad River Com 56.87 38 P **P** **23 56 23.6 +1.9**
baz=296
TOAD S **S** **00 04 16.7 +3.8**
baz=296
GSI Gunungsitoli 56.94 238 P **P** **23 56 23.0 +0.4**
GSI IAMs_20 IAMs_20 00 21 35.0
comp=Z,8µm,18.0s
GSI Gunungsitoli 56.94 238 P **P** **23 56 23.4 +0.7**
GSI Gunungsitoli 56.94 238 P **P** **23 56 23.1 +0.4**
comp=Z,480nm,1.8s
GSI Gunungsitoli 56.94 238 ⇑P **P** **23 56 23.4 +0.7**
KBS Kingsbay 56.94 350 P **P** **23 56 22.5 +0.6**
KBS IAMs_20 IAMs_20 00 22 51.4
comp=Z,8µm,19.0s
KBS Kingsbay 56.94 350 *c i*P **P** **23 56 22.9 +1.0**
KBS pmax pmax
comp=Z,437nm,1.1s
KBS MLR MLR
comp=Z,7µm,19.0s
KBS Kingsbay 56.94 350 *e*P **P** **23 56 23.1 +1.2**
KBS IVmB_BB 23 56 23.8
comp=Z,2µm,0.7s
KBS *e*S **S** **00 04 15.8 +2.6**
AKTO Aktyubinsk 56.98 311 LR LR 00 22 25.5
comp=Z,23µm,20.9s,baz=58,slow=38
BHPL Bhopal 57.03 273 *e*P **P** **23 56 19.7 -3.6**
BHPL IAmb IAmb 23 56 24.1
comp=Z,106nm,1.1s
UGM Wanagama 57.13 219 P **P** **23 56 23.6 -0.3**
UGM Wanagama 57.13 219 P **P** **23 56 24.1 +0.1**
UGM Wanagama 57.13 219 P **P** **23 56 24.4 +0.4**
comp=Z,262nm,1.8s
NOR Nord 57.15 357 ⇑P **P** **23 56 23.5 +0.2**
NOR Nord 57.15 357 *i* P **P** **23 56 23.6 +0.2**
NOR IAmb IAmb 23 56 25.0
comp=Z,71nm,1.0s
KBU Kabul Universi 57.16 289 P **P** **23 56 21.2 -3.1**
KBL Kabul 57.21 289 P **P** **23 56 24.1 -0.6**
KBL IAmb IAmb 23 56 38.7
comp=Z,289nm,1.2s
KBL Kabul 57.21 289 P **P** **23 56 24.1 -0.6**
KBL pmax pmax
comp=Z,289nm,1.2s
LHSI Lahat 57.36 229 P **P** **23 56 26.6 +0.9**
KPJI Karang Pucung 57.40 221 P **P** **23 56 25.6 -0.3**
comp=Z,4µmcomp=Z,293nm,1.0s
KLI Kotabumi 57.47 227 P **P** **23 56 26.8 +0.4**
BKNR BIKANER 57.50 280 *e*P **P** **23 56 22.4 -4.2**
BKNR IAmb IAmb 23 56 28.1
comp=Z,134nm,1.4s
NRDN NARMADA NAGAR 57.52 273 *e*P **P** **23 56 26.7 -0.1**
NRDN IAmb IAmb 23 56 32.9
comp=Z,102nm,1.4s
PBSI Pulau Batu 57.53 237 P **P** **23 56 27.7 +0.9**
comp=Z,5µmcomp=Z,279nm,2.0s
MDSI Maura Dua 57.53 228 P **P** **23 56 26.4 -0.5**
comp=Z,6µmcomp=Z,6µmcomp=Z,319nm,1.7s
LEM Lembang 57.64 223 LR LR 00 23 25.7
comp=Z,3µm,18.9s,baz=9.0,slow=38
LEM Lembang 57.64 223 P **P** **23 56 29.6 +1.8**
comp=Z,5µmcomp=Z,311nm,1.4s
HSPB Hornsund (broa 57.81 348 *e*P **P** **23 56 28.8 +0.8**
HSPB *e*L L 00 23 29.8
comp=Z,13µm,20.4s
KIRV Kirov 57.85 322 LR LR 00 24 34.3
comp=Z,17µm,18.9s,baz=52,slow=39
KIRV Kirov 57.85 322 *c i*P **P** **23 56 28.9 +0.4**
KNRA Kunumurra 57.94 196 P **P** **23 56 29.7 +0.1**
comp=Z,122nm,1.0s
KNRA Kunumurra 57.94 196 P **P** **23 56 29.9 +0.4**
KNRA IAmb IAmb 23 56 43.7
comp=Z,198nm,1.2s
SISI Saibi 58.01 235 P **P** **23 56 30.4 +0.2**
comp=Z,4µmcomp=Z,323nm,1.1s
MNAI Manna 58.12 229 P **P** **23 56 30.8 -0.2**
BBJI Bungbulang 58.16 222 P **P** **23 56 30.2 -1.1**
KASI Kota Agung 58.21 227 P **P** **23 56 29.6 -2.0**
comp=Z,97nm,1.1s
BBB Bella Bella 58.37 46 P **P** **23 56 33.1 +0.8**
BBB IAmb IAmb 23 56 47.7
comp=Z,290nm,1.6s
BBB Bella Bella 58.37 46 LR LR 00 19 36.1
comp=Z,4µm,21.4s,baz=302,slow=34
BBB Bella Bella 58.37 46 ⇑P **P** **23 56 33.8 +1.5**
RES Resolute Bay 58.43 15 P **P** **23 56 32.5 +0.1**
RES IAmb IAmb 23 56 50.3
comp=Z,176nm,1.1s
RES Resolute Bay 58.43 15 LR LR 00 26 05.8
comp=Z,5µm,18.1s,baz=312,slow=40
RES Resolute Bay 58.43 15 P **P** **23 56 32.5 +0.1**
RES pmax pmax
comp=Z,176nm,1.1s
RES Resolute Bay 58.43 15 ⇑P **P** **23 56 32.8 +0.4**
VJD Vijayawada 58.57 265 *e*P **P** **23 56 31.2 -3.0**
PPSI Pulau Pagai 58.57 233 P **P** **23 56 35.4 +1.2**
comp=Z,7µmcomp=Z,542nm,1.4s
AKL Akola 58.80 271 *e*P **P** **23 56 33.0 -2.8**
AKL IAML 23 56 37.2
comp=Z,138nm,0.8s
MTSU Mount Surprise 58.87 179 P **P** **23 56 37.6 +1.5**
BJO1 Bjornoya 58.93 345 *e*P **P** **23 56 36.5 +0.6**
BJO1 IVmB_BB 23 56 42.2
comp=Z,2µm,3.2s
BJO1 *e*S **S** **00 04 41.3 +2.0**
BJO1 IVMs_BB IVMs_BB 00 26 42.7
comp=Z,6µm,15.8s
LVZ Lovozero 59.00 335 P **P** **23 56 36.0 -0.5**
LVZ IAmb IAmb 23 56 37.5
comp=Z,173nm,1.2s
LVZ Lovozero 59.00 335 *c i*P **P** **23 56 36.1 -0.4**
LVZ pmax pmax
comp=Z,169nm,1.1s
LVZ MLR MLR
comp=Z,12µm,16.0s
LVZ Lovozero 59.00 335 ⇑P **P** **23 56 36.0 -0.5**
UDPR Udaipur 59.07 277 *e*P **P** **23 56 33.4 -4.2**
UDPR IAmb IAmb 23 56 38.6
comp=Z,196nm,2.1s
HOLB Holberg 59.08 48 P **P** **23 56 37.5 +0.2**
HOLB IAmb IAmb 23 56 52.5
comp=Z,106nm,1.0s
VADS Vadso 59.29 339 ⇑*i* P **P** **23 56 38.8 +0.3**
VADS IVmB_BB 23 56 39.3
comp=Z,2µm,1.5s
VADS *e*S **S** **00 04 47.6 +3.5**
VADS IVMs_BB IVMs_BB 00 27 20.1
comp=Z,7µm,19.7s
APA Apatity 59.57 335 *i* P **P** **23 56 38.9 -1.5**
APA *i* 23 57 27.1
APA *i* S **S** **00 04 45.9 -1.9**
APA *i* 00 06 27.4
APA *i* SS **SS** **00 08 41.1 -1.5**
APA MLR MLR
comp=Z,17µm,16.5s
HYB Hyderabad 59.60 267 *e*P **P** **23 56 41.1 -0.2**
HYB *es*P **pwP** **23 56 52.8 -0.4**
HYB *e*PP **PP** **23 58 53.8 +0.7**
HYB *e*S **S** **00 04 51.3 +1.8**
YKA Yellowknife Ar 59.75 32 P **P** **23 56 42.3 +0.6**
YKA Yellowknife Ar 59.75 32 P **P** **23 56 42.4 +0.7**
comp=Z,15nm,0.9s,baz=302,slow=7.4,SNR=49
YKA S **S** **00 04 49.8 -0.4**
comp=Z,0.5nm,0.8s,baz=305,slow=12,SNR=1.3
YKA PKP2bc 00 26 16.3
comp=Z,0.7nm,0.8s,baz=104,slow=2.6,SNR=3.7
YKA LR LR 00 26 49.5
comp=Z,4µm,18.4s,baz=312,slow=40
comp=Z,15nm,0.9s
YKA Yellowknife Ar 59.75 32 *i* P **P** **23 56 42.4 +0.7**
YKA pmax pmax
comp=Z,16nm,0.9s
KEV Kevo 60.16 339 P **P** **23 56 43.7 -0.7**
KEV IAmb IAmb 23 56 46.1
comp=Z,169nm,1.0s
KEV Kevo 60.16 339 P **P** **23 56 43.7 -0.7**
KEV pmax pmax
comp=Z,169nm,1.0s
KEV MLR MLR
comp=Z,12µm,22.0s
KEV Kevo 60.16 339 ⇑P **P** **23 56 44.6 +0.2**
HAMF Hammerfest 60.47 340 *e*P **P** **23 56 46.0 -0.5**
HAMF IVmB_BB 23 56 47.1
comp=Z,2µm,3.5s
HAMF *e*S **S** **00 05 02.2 +3.1**
HAMF IVMs_BB IVMs_BB 00 29 11.4
comp=Z,4µm,19.2s
ARA0 ARCESS Array S 60.71 339 *e*P **P** **23 56 48.4 +0.2**
ARCES ARCESS Array B 60.71 339 P **P** **23 56 48.2 0.0**
ARCES IAmb IAmb 23 56 50.0
comp=Z,160nm,1.2s
ARCES ARCESS Array B 60.71 339 P **P** **23 56 48.4 +0.2**
comp=Z,62nm,0.9s,baz=52,slow=6.4,SNR=89
ARCES S **S** **00 05 05.8 +3.4**
comp=Z,1.9nm,1.0s,baz=44,slow=5.6,SNR=1.1
ARCES LR LR 00 27 49.8
comp=Z,15µm,19.4s,baz=40,slow=41
comp=Z,62nm,0.9s
ARCES ARCESS Array B 60.71 339 P **P** **23 56 48.2 0.0**
ARCES pmax pmax
comp=Z,160nm,1.2s
CTA Charters Tower 60.88 177 P **P** **23 56 50.8 +1.0**
CTAO Charters Tower 60.88 177 P **P** **23 56 50.0 +0.2**
CTAO pmax pmax
comp=Z,45nm,1.2s
CTAO Charters Tower 60.88 177 ⇑P **P** **23 56 50.4 +0.5**
CBB Campbell River 60.93 48 P **P** **23 56 50.5 +0.5**
TULEG Thule 60.98 8 P **P** **23 56 50.1 +0.2**
TULEG Thule 60.98 8 ⇓P **P** **23 56 50.2 +0.3**
TULEG Thule 60.98 8 *i* P **P** **23 56 49.6 -0.3**
FITZ Fitzroy Crossi 60.99 199 P **P** **23 56 50.7 0.0**
comp=Z,19nm,1.3s
FITZ Fitzroy Crossi 60.99 199 P **P** **23 56 51.3 +0.6**
FITZ Fitzroy Crossi 60.99 199 LR LR 00 23 05.9
comp=Z,974nm,21.6s,baz=5.0,slow=36
FITZ Fitzroy Crossi 60.99 199 P **P** **23 56 51.8 +1.2**
FITZ Fitzroy Crossi 60.99 199 ⇑P **P** **23 56 51.1 +0.5**
WB0 Warramunga Arr 61.01 189 P **P** **23 56 50.4 -0.4**
WB0 IAmb IAmb 23 57 07.5
comp=Z,129nm,0.9s
KLMR Klimovskoe 61.07 327 *d i*P **P** **23 56 48.2 -2.5**
KLMR *e* 23 59 02.2
KLMR S **S** **00 05 04.1 -3.0**
KLMR SS **SS** **00 09 07.4 +1.2**
KLMR pmax pmax
comp=Z,867nm,1.3s
KLMR MLR MLR
comp=Z,23µm,18.0s
WRAB Tennant Creek 61.18 189 *c i*P **P** **23 56 51.7 -0.2**
WRAB pmax pmax
comp=Z,141nm,1.3s
WR0 Warramunga Arr 61.18 189 P **P** **23 56 51.4 -0.5**
WR0 IAmb IAmb 23 57 08.7
comp=Z,124nm,1.1s
WRA Warramunga Arr 61.19 189 P **P** **23 56 50.6 -1.4**
WRA Warramunga Arr 61.19 189 P **P** **23 56 51.7 -0.3**
comp=Z,56nm,1.0s,baz=7.5,slow=6.8,SNR=178
WRA S **S** **00 05 05.5 -3.9**
comp=Z,13nm,1.2s,baz=4.1,slow=12,SNR=9.6
WRA LR LR 00 22 46.7
comp=Z,3µm,21.8s,baz=23,slow=35
WRA PKPPKP **P'P'df** **00 26 07.8 +7.1**
comp=Z,0.3nm,0.3s,baz=225,slow=1.1,SNR=3.5
WRA PKP2bc 00 26 15.0
comp=Z,2.6nm,0.9s,baz=201,slow=2.8,SNR=7.0
comp=Z,56nm,1.0s
QIS Mount Isa 61.35 184 P **P** **23 56 52.7 -0.3**
comp=Z,88nm,1.3s
QIS Mount Isa 61.35 184 P **P** **23 56 53.7 +0.7**
OZB Mount Ozzard 61.40 49 P **P** **23 56 53.8 +0.6**
NEEM North Greenlan 61.48 3 ⇑P **P** **23 56 53.9 +0.2**
NEEM North Greenlan 61.48 3 *i* P **P** **23 56 53.6 0.0**
NEEM IAmb IAmb 23 56 57.1
comp=Z,126nm,0.8s
KTK1 Kautokeino 61.66 339 ⇑*i* P **P** **23 56 55.0 +0.3**
KTK1 IVmB_BB 23 56 55.7
comp=Z,2µm,3.6s
KTK1 *e*S **S** **00 05 15.3 +0.8**
KTK1 *e*SS **SS** **00 09 21.7 +6.4**
KTK1 IVMs_BB IVMs_BB 00 29 12.6
comp=Z,6µm,17.8s
BELG Belogornoye 61.76 316 LR LR 00 26 31.7
comp=Z,26µm,18.5s,baz=59,slow=39
BELG Belogornoye 61.76 316 *c i*P **P** **23 56 55.9 +0.4**
BELG pmax pmax
comp=Z,220nm,1.0s
SGF Sodankyl 61.76 337 P **P** **23 56 55.7 +0.4**
DAG Danmarks Havn 61.91 355 P **P** **23 56 54.7 -1.4**
DAG Danmarks Havn 61.91 355 P **P** **23 56 55.5 -0.6**
DAG Danmarks Havn 61.91 355 ⇑P **P** **23 56 56.3 +0.2**
DAG Danmarks Havn 61.91 355 *i* P **P** **23 56 56.8 +0.7**
DAG IAmb IAmb 23 56 57.7
comp=Z,105nm,1.1s
MSF Maaselka 61.96 335 P **P** **23 56 57.1 +0.4**
JETT Jettan, Norway 62.03 340 *e*P **P** **23 56 58.0 +0.9**
CLRS Cowichan Lake 62.24 48 P **P** **23 56 58.9 +0.1**
CLRS IAmb IAmb 23 57 17.7
comp=Z,216nm,1.7s
TRO Tromso 62.35 341 ⇑*i* P **P** **23 56 59.3 +0.1**
TRO IVmB_BB 23 56 60.0
comp=Z,3µm,2.5s
TRO *e*S **S** **00 05 26.6 +3.6**
TRO IVMs_BB IVMs_BB 00 30 41.0
comp=Z,5µm,16.1s
C03A Quillayute Air 62.45 49 IAMs_20 IAMs_20 00 19 43.4
comp=Z,5µm,22.0s
POO Poona 62.49 271 *e*P **P** **23 56 59.7 -1.2**
POO IAmb IAmb 23 57 02.2
comp=Z,140nm,1.5s
LLLB Lillooet 62.55 46 P **P** **23 57 01.6 +0.7**
LLLB IAmb IAmb 23 57 16.4
comp=Z,189nm,1.4s
KAD Karad 62.97 270 *e*P **P** **23 57 00.4 -3.8**
KAD IAmb IAmb 23 57 05.2
comp=Z,160nm,1.4s
JOF Joensuu 63.04 332 *e*P **P** **23 57 04.1 +0.2**
POIN Pond Inlet 63.06 13 P **P** **23 57 03.9 0.0**
A04D Lummi Island 63.10 48 IAMs_20 IAMs_20 00 21 05.4
comp=Z,7µm,22.0s
NLWA Neilton Lookou 63.14 50 P **P** **23 57 05.3 +0.4**
NLWA IAmb IAmb 23 57 24.7
comp=Z,302nm,1.6s
NLWA IAMs_20 IAMs_20 00 20 25.8
comp=Z,6µm,22.0s
NLWA Neilton Lookou 63.14 50 ⇑P **P** **23 57 06.8 +1.9**
WISH Wishkah 63.35 50 IAMs_20 IAMs_20 00 20 20.2
comp=Z,5µm,22.0s
OUL Oulu 63.49 335 P **P** **23 57 07.2 +0.3**
MALK Mahakanadarawa 63.84 258 P **P** **23 57 08.5 -1.4**
MALK Mahakanadarawa 63.84 258 ⇑P **P** **23 57 10.2 +0.3**
KULLO Kullorsuaq 63.89 6 *i* P **P** **23 57 09.1 -0.3**
GOA Goa 64.35 269 *e*P **P** **23 57 10.1 -3.1**
GOA IAmb IAmb 23 57 28.0
comp=Z,163nm,1.1s
DBG Daneborg 64.40 355 ⇑P **P** **23 57 12.7 0.0**
DBG Daneborg 64.40 355 *i* P **P** **23 57 10.7 -2.1**
PALK Pallekele 64.46 257 P **P** **23 57 14.1 0.0**
PALK IAmb IAmb 23 57 15.9
comp=Z,146nm,1.1s
PALK Pallekele 64.46 257 LR LR 00 26 39.0
comp=Z,9µm,20.7s,baz=48,slow=37
PALK Pallekele 64.46 257 P **P** **23 57 13.7 -0.4**
PALK P **P** **23 57 13.7 -0.4**
PALK P pP 23 57 14.0 -9.4
PALK P pP 23 57 14.0 -9.4
PALK Pallekele 64.46 257 P **P** **23 57 14.1 0.0**
PALK pmax pmax
comp=Z,146nm,1.1s
PALK MLR MLR
comp=Z,10µm,20.0s
STEI Steigen 64.51 341 ⇑*i* P **P** **23 57 13.6 0.0**
STEI IVmB_BB 23 57 14.2
comp=Z,3µm,2.8s
STEI *e*S **S** **00 05 55.0 +5.0**
STEI IVMs_BB IVMs_BB 00 31 09.7
comp=Z,4µm,18.0s
SJUU Sjulsmark 64.53 337 *e*P **P** **23 57 13.1 -0.6**
LON Longmire 64.67 49 P **P** **23 57 16.1 +1.0**
LON Longmire 64.67 49 P **P** **23 57 16.1 +1.0**
LON pmax pmax
comp=Z,71nm,1.2s
G03D McMinnville, O 64.68 51 IAMs_20 IAMs_20 00 19 56.4
comp=Z,5µm,22.0s
LOF Lofoten 64.78 341 ⇑*i* P **P** **23 57 15.0 -0.2**
LOF IVmB_BB 23 57 16.2
comp=Z,2µm,1.3s
LOF *e*S **S** **00 05 55.5 +2.2**
MOS Moscow 64.80 323 *e*P **P** **23 57 11.7 -3.9**
MOS *e* 23 57 27.0
MOS *e* 23 59 34.9
MOS *e*S **S** **00 05 50.9 -3.0**
MOS *e*PS **PnS** **00 06 14.1 -0.5**
MOS *e* 00 07 04.3
MOS *e*SS **SS** **00 10 02.1 -2.5**
MOS pmax pmax
comp=N,900nm,2.2s
MOS pmax pmax
comp=Z,2µm,2.2s
MOS pmax pmax
comp=E,600nm,2.2s
MOS pmax pmax
comp=Z,941nm,1.6s
MOS pmax pmax
comp=N,307nm,1.1s

MOS pmax pmax
comp=E,216nm,1.1s
MOS smax smax
comp=N,2μm,4.2s
MOS smax smax
comp=E,900nm,4.2s
MOS MLR MLR
comp=N,10μm,16.0s
MOS MLR MLR
comp=E,11μm,16.0s
MOS MLR MLR
comp=Z,16μm,16.0s
AS01 Alice Springs 64.91 189 P **P** **23 57 17.6 +1.0**
AS31 Alice Springs 64.91 189 P **P** **23 57 16.7 0.0**
comp=Z,22nm,1.1s
AS31 Alice Springs 64.91 189 P **P** **23 57 16.8 +0.1**
ASAR Alice Springs 64.92 189 P **P** **23 57 17.1 +0.4**
ASAR Alice Springs 64.92 189 P **P** **23 57 17.0 +0.3**
comp=Z,59nm,0.9s,baz=8.7,slow=5.7,SNR=239
ASAR S **S** **00 05 51.3 -4.7**
comp=Z,0.6nm,0.8s,baz=348,slow=8.7,SNR=1.7
ASAR LR LR 00 24 28.6
comp=Z,4μm,21.9s,baz=0.0,slow=35
ASAR PKPPKP **P'P'df** **00 26 01.2 +6.4**
comp=Z,2.2nm,1.0s,baz=202,slow=2.0,SNR=8.4
comp=Z,59nm,0.9s
ASAR Alice Springs 64.92 189 P **P** **23 57 17.1 +0.4**
FAUS Fauske 64.92 340 *e*P **P** **23 57 16.6 +0.4**
FAUS IVmB_BB 23 57 17.1
comp=Z,3μm,1.0s
FAUS *e*S **S** **00 05 57.2 +2.2**
FAUS IVMs_BB IVMs_BB 00 30 37.2
comp=Z,6μm,15.6s
KOD Kodaikanal 64.93 262 *e*P **P** **23 57 14.7 -2.7**
KOD IAmb IAmb 23 57 34.0
comp=Z,75nm,0.7s
COR Corvallis 65.00 52 P **P** **23 57 18.6 +1.5**
COR IAmb IAmb 23 57 37.3
comp=Z,252nm,1.2s
COR Corvallis 65.00 52 P **P** **23 57 18.6 +1.5**
COR pmax pmax
comp=Z,252nm,1.3s
COR Corvallis 65.00 52 ⇓P **P** **23 57 19.9 +2.8**
LTY Liberty 65.04 48 IAMs_20 IAMs_20 00 22 04.0
comp=Z,6μm,22.0s
ILON Igloolik, Nuna 65.08 16 P **P** **23 57 16.9 -0.3**
BLKN Baker Lake 65.24 24 P **P** **23 57 18.3 0.0**
HALK Hakmana 65.27 256 ⇑P **P** **23 57 19.6 +0.3**
KEBM Edson Butte 65.33 54 P **P** **23 57 19.9 +0.6**
KEBM IAmb IAmb 23 57 37.2
comp=Z,249nm,1.2s
BUCK Buck Mountain 65.40 52 IAMs_20 IAMs_20 00 20 39.7
comp=Z,5μm,22.0s
I03D Drain, OR 65.46 53 IAMs_20 IAMs_20 00 20 16.4
comp=Z,5μm,22.0s
VRH Novokhopyorsk 65.47 317 *e*P **P** **23 57 19.7 -0.3**
VRH *e* 23 59 40.0
VRH *e*S **S** **00 05 58.1 -4.2**
VRH pmax pmax
comp=Z,770nm,0.9s
VRH smax smax
comp=N,1μm,8.8s
VRH MLR MLR
comp=Z,24μm,18.0s
MBWA Marble Bar 65.54 204 P **P** **23 57 20.0 -0.7**
comp=Z,0.0nmcomp=Z,122nm,1.8s
MBWA Marble Bar 65.54 204 P **P** **23 57 20.7 0.0**
MBWA IAmb IAmb 23 57 34.5
comp=Z,302nm,1.6s
MBWA Marble Bar 65.54 204 P **P** **23 57 20.7 0.0**
MBWA P **P** **23 57 20.7 0.0**
MBWA Marble Bar 65.54 204 P **P** **23 57 21.6 +0.9**
MBWA Marble Bar 65.54 204 ⇑P **P** **23 57 20.7 0.0**
MXC Moxie City 65.64 49 IAMs_20 IAMs_20 00 21 47.6
comp=Z,5μm,22.0s
OBN Obninsk 65.66 323 P **P** **23 57 21.2 +0.1**
OBN Obninsk 65.66 323 LR LR 00 28 37.6
comp=Z,13μm,18.0s,baz=348,slow=38
OBN Obninsk 65.66 323*c* *i*P **P** **23 57 21.3 +0.1**
OBN *i* *PP **sP** **23 57 34.0 -0.1**
OBN *i* 23 57 51.7
OBN *i* 23 59 49.6
OBN *i*S **S** **00 05 56.2 -8.2**
OBN *i*SS **SS** **00 10 17.6 -0.4**
OBN pmax pmax
comp=Z,787nm,1.1s
OBN MLR MLR
comp=Z,18μm,16.0s
OBN Obninsk 65.66 323 ⇑P **P** **23 57 21.3 +0.1**
FUTU Fugatoga 65.77 138 P **P** **23 57 23.7 +1.4**
FUTU IAmb IAmb 23 58 08.1
comp=Z,155nm,1.3s
KEF Keuruu 65.80 333 *e*P **P** **23 57 21.9 -0.1**
FIA1 FINESS Array S 65.87 332 P **P** **23 57 22.4 0.0**
FINES FINESS Array B 65.87 332 P **P** **23 57 22.5 +0.1**
comp=Z,214nm,0.8s,baz=46,slow=5.8,SNR=465
FINES PP **PP** **23 59 43.9 -3.1**
comp=Z,31nm,0.8s,baz=51,slow=7.3,SNR=3.8
FINES S **S** **00 06 05.0 -1.9**
comp=Z,5.7nm,1.1s,baz=49,slow=15,SNR=2.3
FINES LR LR 00 29 13.3
comp=Z,30μm,18.4s,baz=44,slow=39
comp=Z,214nm,0.8s
PSA00 Pilbara Seismi 65.89 204 P **P** **23 57 22.8 -0.3**
comp=Z,99nm,1.3s
PSA00 Pilbara Seismi 65.89 204 P **P** **23 57 22.9 -0.1**
PSA00 IAmb IAmb 23 57 36.8
comp=Z,164nm,1.4s
PSA00 Pilbara Seismi 65.89 204 P **P** **23 57 22.7 -0.3**
PSA00 IAmb IAmb 23 57 36.8
comp=Z,172nm,1.4s
PSA00 Pilbara Seismi 65.89 204 P **P** **23 57 24.4 +1.4**
VAGH Vaagaholmen 65.93 340 ⇑P **P** **23 57 22.5 -0.2**
VAGH *e*S **S** **00 06 12.9 +5.5**
VAGH IVMs_BB IVMs_BB 00 31 17.0
comp=Z,7μm,18.2s
XMAS Kiritimati 66.02 109 *e*P **P** **23 57 27.2 +3.1**
comp=Z,35nm,36.0s
XMAS *e*S **S** **00 06 05.0 -5.0**
comp=Z,222nm,27.0s
XMAS *e*SS **SS** **00 10 29.8 +4.0**
comp=Z,109nm,27.0s
XMAS *e*LQ LQ 00 13 58.0
comp=Z,76nm,25.0s
XMAS *e*LR LR 00 17 14.1
comp=Z,2μm,22.0s
LPSR Galich'ya Gora 66.05 320 *e*P **P** **23 57 23.7 0.0**
LPSR *e*S **S** **00 06 06.7 -2.6**
LPSR pmax pmax
comp=Z,930nm,1.0s
LPSR smax smax
comp=N,620nm,6.0s
LPSR MLR MLR
comp=Z,12μm,17.0s
MOR8 Moi Rana 66.05 340 ⇑*i*P **P** **23 57 22.2 -1.4**
MOR8 IVmB_BB 23 57 23.1
comp=Z,3μm,1.1s
MOR8 *e*S **S** **00 06 08.8 -0.2**
MOR8 IVMs_BB IVMs_BB 00 31 05.9
comp=Z,9μm,19.5s
HAWA Hanford 66.17 49 P **P** **23 57 25.4 +0.8**
HAWA IAmb IAmb 23 57 44.0
comp=Z,334nm,1.8s
HAWA Hanford 66.17 49 ⇑P **P** **23 57 26.0 +1.3**
STOK Stokkvaagen 66.30 340 ⇑*i*P **P** **23 57 24.9 -0.2**
STOK IVmB_BB 23 57 25.7
comp=Z,2μm,2.6s
STOK *e*S **S** **00 06 15.4 +3.5**
STOK IVMs_BB IVMs_BB 00 31 25.7
comp=Z,6μm,16.5s
JNW Jan Mayen West 66.38 350 *e*P **P** **23 57 27.0 +1.5**
JNW *e*S **S** **00 06 19.0 +6.2**
E08A Dider Farm, El 66.39 48 IAMs_20 IAMs_20 00 22 56.6
comp=Z,5μm,22.0s
JNE Jan Mayen East 66.40 350 *e*P **P** **23 57 27.6 +1.9**
JNE *e*S **S** **00 06 18.1 +5.1**
DGTI Dogotuki 66.43 141 P **P** **23 57 29.0 +2.5**
JMIC Jan Mayen 66.43 350 LR LR 00 27 24.8
comp=Z,2μm,19.4s,baz=22,slow=37
NEW Newport 66.43 46 P **P** **23 57 26.9 +0.5**
NEW IAmb IAmb 23 57 41.8
comp=Z,283nm,1.6s
NEW Newport 66.43 46 IAMs_20 IAMs_20 00 23 40.6
comp=Z,5μm,22.0s
NEW Newport 66.43 46 LR LR 00 24 37.1
comp=Z,5μm,22.0s,baz=319,slow=34
NEW Newport 66.43 46 P **P** **23 57 26.9 +0.5**
NEW pmax pmax
comp=Z,283nm,1.7s
NEW Newport 66.43 46 ⇑P **P** **23 57 27.4 +1.0**
DZM Mont Dzumac 66.45 156 P **P** **23 57 27.1 +0.5**
DZM IAMs_20 IAMs_20 00 25 51.1
comp=Z,7μm,20.0s
DZM Mont Dzumac 66.45 156 *e*P **P** **23 57 26.1 -0.5**
comp=Z,130nm,1.4s
DZM *e*S **S** **00 06 08.4 -6.4**
DZM *e*SS **SS** **00 10 39.2 +6.6**
comp=Z,3μm,26.2s
DZM *e*LQ LQ 00 14 31.8
comp=Z,7μm,29.2s
DZM *e*LR LR 00 17 25.4
comp=Z,15μm,22.9s
DZM Mont Dzumac 66.45 156 LR LR 00 22 11.9
comp=Z,7μm,21.8s,baz=333,slow=32
DZM Mont Dzumac 66.45 156 P **P** **23 57 29.0 +2.4**
DZM Mont Dzumac 66.45 156 ⇑P **P** **23 57 30.1 +3.4**
LEIR Leirfjorden 66.45 340 ⇑*i*P **P** **23 57 26.0 -0.1**
LEIR IVmB_BB 23 57 26.5
comp=Z,3μm,2.7s
LEIR *e*S **S** **00 06 17.1 +3.3**
LEIR IVMs_BB IVMs_BB 00 31 35.4
comp=Z,5μm,16.5s
VORR Voronezh 66.47 319 *e*P **P** **23 57 26.8 +0.4**
VORR *e* 23 59 49.5
VORR *e*S **S** **00 06 12.4 -2.0**
VORR pmax pmax
comp=Z,800nm,1.1s
VORR smax smax
comp=N,230nm,3.5s
VORR MLR MLR
comp=Z,15μm,14.0s
EIDS Eidsvold 66.48 172 P **P** **23 57 28.2 +1.5**
comp=Z,0.0nmcomp=Z,80nm,1.7s
EIDS Eidsvold 66.48 172 P **P** **23 57 27.4 +0.8**
EIDS IAmb IAmb 23 57 41.5
comp=Z,89nm,1.1s
EIDS Eidsvold 66.48 172 P **P** **23 57 28.8 +2.1**
EIDS Eidsvold 66.48 172 ⇑P **P** **23 57 28.2 +1.5**
JMI Jan Mayen 66.52 350 *e*P **P** **23 57 28.1 +1.7**
JMI *e*S **S** **00 06 21.7 +7.3**
JCC Jacoby Creek, 66.67 56 P **P** **23 57 29.2 +1.3**
JCC IAmb IAmb 23 57 45.3
comp=Z,187nm,1.2s
ONTNC Ouen Toro 66.67 156 P **P** **23 57 29.4 +1.5**
ONTNC IAmb IAmb 23 58 17.3
comp=Z,99nm,1.3s
ONTNC IAMs_20 IAMs_20 00 21 45.1
comp=Z,6μm,22.0s
SUMG Summit 66.69 0 P **P** **23 57 26.7 -1.4**
SUMG Summit 66.69 0 P **P** **23 57 28.7 +0.6**
SUMG Summit 66.69 0 P **P** **23 57 28.7 +0.6**
SUMG pmax pmax
comp=Z,282nm,1.0s
SUMG MLR MLR
comp=Z,9μm,19.0s
SUMG Summit 66.69 0 ⇑P **P** **23 57 29.2 +1.1**
SUMG Summit 66.69 0 *i* P **P** **23 57 29.0 +1.0**
SUMG IAmb IAmb 23 57 30.6
comp=Z,159nm,1.0s
YPT Yellepit 66.70 49 IAMs_20 IAMs_20 00 22 42.8
comp=Z,6μm,22.0s
VSR Storozhevoye 66.76 318 *e*P **P** **23 57 28.6 +0.3**
VSR *e*S **S** **00 06 14.3 -3.7**
VSR pmax pmax
comp=Z,670nm,1.0s
VSR smax smax
comp=N,890nm,6.6s
VSR MLR MLR
comp=Z,19μm,15.0s
PINE Pine Mountain 66.85 52 IAMs_20 IAMs_20 00 21 26.0
comp=Z,5μm,22.0s
VORD Divnogorie 66.85 318 *e*P **P** **23 57 29.0 +0.1**
VORD *e* 23 59 52.4
VORD *e*S **S** **00 06 14.3 -4.8**
VORD pmax pmax
comp=Z,620nm,1.0s
VORD smax smax
comp=N,160nm,3.8s
VORD MLR MLR
comp=Z,6μm,13.0s
MSVF Nonsavu 66.90 143 P **P** **23 57 31.1 +1.5**
MSVF Nonsavu 66.90 143 P **P** **23 57 32.7 +3.1**
MSVF Nonsavu 66.90 143 P **P** **23 57 31.1 +1.5**
MSVF pmax pmax
comp=Z,46nm,1.2s
YBH Yreka Blue Hor 66.96 54 LR LR 00 21 43.5
comp=Z,160nm,21.9s,baz=298,slow=31
J05D Fort Rock, OR 66.97 52 IAMs_20 IAMs_20 00 21 41.2
comp=Z,5μm,22.0s
MAK Makhachkala 67.00 307*c* *i*P **P** **23 57 28.4 -1.5**
MAK *e*S **S** **00 06 18.6 -2.5**
MAK *e*SS **SS** **00 10 37.0 -2.3**
MAK pmax pmax
comp=Z,411nm,1.5s
MAK MLR MLR
comp=Z,14μm,17.0s
WRKA Warakurna 67.13 194 P **P** **23 57 30.2 -0.7**
comp=Z,36nm,1.2s
NUUG Nuugaatsiaq 67.15 6 ⇑P **P** **23 57 30.6 +0.2**
NUUG Nuugaatsiaq 67.15 6 *i* P **P** **23 57 30.1 -0.3**
LNOR Lincton Mounta 67.18 49 IAMs_20 IAMs_20 00 22 45.7
comp=Z,6μm,22.0s
KMRM Mali Ridge 67.21 56 IAMs_20 IAMs_20 00 21 07.1
comp=Z,7μm,21.0s
PINNC Pines Island, 67.26 156 IAMs_20 IAMs_20 00 23 31.8
comp=Z,7μm,22.0s
ARBE Arbavere 67.27 330 *e*P **P** **23 57 32.4 +1.0**
QLP Quilpie 67.27 179 P **P** **23 57 32.1 +0.4**
comp=Z,148nm,1.0s
QLP Quilpie 67.27 179 P **P** **23 57 33.5 +1.8**
QLP Quilpie 67.27 179 ⇑P **P** **23 57 32.3 +0.6**
MEF Metsahovi 67.31 332 *e*P **P** **23 57 32.0 +0.4**
RMQ Roma 67.38 174 P **P** **23 57 34.8 +2.4**
KCPM Cahto Peak 67.59 56 IAMs_20 IAMs_20 00 21 14.1
comp=Z,5μm,21.0s
VSU Vasula 67.65 329*c* *i*P **P** **23 57 33.0 -0.8**
VSU pmax pmax
comp=Z,554nm,1.0s
VSU MLR MLR
comp=Z,12μm,17.0s
VSU Vasula 67.65 329 *e*P **P** **23 57 32.6 -1.2**
VSU Vasula 67.65 329 ⇑P **P** **23 57 33.1 -0.8**
RAF Rauma 67.66 333 *e*P **P** **23 57 33.7 -0.2**
AKT Akhty 67.72 306*c* *i*P **P** **23 57 35.0 +0.3**
AKT *e* 23 58 02.0
AKT *e* 00 00 07.0
AKT *e*S **S** **00 06 26.6 -3.5**
AKT pmax pmax
comp=Z,408nm,1.0s
AKT MLR MLR
comp=Z,12μm,15.0s
F10A Beach Ranch, E 67.72 48 IAMs_20 IAMs_20 00 24 00.8
comp=Z,5μm,22.0s
O02D Mt. Diablo Mer 67.81 56 IAMs_20 IAMs_20 00 21 28.7
comp=Z,7μm,22.0s
NIAQ Niaqornat 67.85 6 *i* P **P** **23 57 35.1 +0.3**
NGCH Negor - Chabah 67.96 285 P **P** **23 57 36.6 +0.3**
COCO West Island 67.97 230 P **P** **23 57 37.4 +1.1**
COCO West Island 67.97 230 P **P** **23 57 37.8 +1.5**
COCO West Island 67.97 230 P **P** **23 57 37.4 +1.1**
COCO pmax pmax
comp=Z,749nm,1.5s
COCO MLR MLR
comp=Z,4μm,18.0s
SAATT Saattut 67.97 5 *i* P **P** **23 57 36.2 +0.6**
NSS Namsos 67.99 339 *e*P **P** **23 57 35.0 -0.8**
NSS IVmB_BB 23 57 36.5
comp=Z,2μm,2.8s
NSS *e*S **S** **00 06 36.6 +4.3**
NSS IVMs_BB IVMs_BB 00 32 57.9
comp=Z,7μm,17.5s
SEKA Sheki 68.20 306 P **P** **23 57 37.3 -0.4**
SCO Scoresbysund 68.27 355 P **P** **23 57 37.7 +0.2**
SCO IAmb IAmb 23 57 40.0
comp=Z,142nm,1.2s
SCO Scoresbysund 68.27 355 P **P** **23 57 37.7 +0.2**
SCO pmax pmax
comp=Z,142nm,1.2s
SCO MLR MLR
comp=Z,3μm,19.0s
SCO Scoresbysund 68.27 355 ⇑P **P** **23 57 38.2 +0.7**
JTMT Jette 68.27 45 P **P** **23 57 39.2 +1.1**
HOPS Hopland Field 68.32 57 IAMs_20 IAMs_20 00 20 27.3
comp=Z,6μm,22.0s
BMO Blue Mountains 68.34 49 P **P** **23 57 39.5 +0.9**
BMO IAmb IAmb 23 57 58.0
comp=Z,237nm,1.8s
BMO IAMs_20 IAMs_20 00 23 32.4
comp=Z,5μm,22.0s
BMO Blue Mountains 68.34 49 P **P** **23 57 39.5 +0.9**
BMO pmax pmax
comp=Z,237nm,1.8s
BMO Blue Mountains 68.34 49 ⇑P **P** **23 57 39.8 +1.2**
GOF Gofitskoye 68.38 311*c* *i*P **P** **23 57 39.5 +0.9**
GOF *e*S **S** **00 06 37.0 -0.6**
INKA Innaminka 68.45 182 P **P** **23 57 39.8 +0.8**
MNGR Mingechevir, A 68.52 306 P **P** **23 57 40.1 +0.5**
GDXM Geysers 68.60 57 IAMs_20 IAMs_20 00 20 47.8
comp=Z,9μm,22.0s
LKRN Lenkeran, Azer 68.68 303 P **P** **23 57 40.9 +0.3**
TW1H Toowoomba 1 Ha 68.73 171 P **P** **23 57 42.5 +1.6**
SAQQ Saqqaq 68.74 5 *i* P **P** **23 57 40.2 -0.2**
GIRL Giralia 68.75 208 P **P** **23 57 41.5 +0.4**
MNRC McLaughlin Min 68.78 57 IAMs_20 IAMs_20 00 21 05.6
comp=Z,7μm,22.0s
AFI Afiamalu 68.82 132 IAMs_20 IAMs_20 00 20 45.6
comp=Z,6μm,22.0s
MCCM Marconi Confer 68.94 57 P **P** **23 57 42.5 +0.3**
MCCM IAmb IAmb 23 58 01.1
comp=Z,103nm,1.4s
MCCM IAMs_20 IAMs_20 00 21 14.7
comp=Z,6μm,22.0s
PLID Pearl Lake 68.94 48 P **P** **23 57 42.7 +0.3**
PLID IAmb IAmb 23 58 01.3
comp=Z,167nm,1.5s
PLID IAMs_20 IAMs_20 00 23 52.2
comp=Z,6μm,22.0s
WVOR Wild Horse Val 69.01 52 P **P** **23 57 44.2 +1.4**
WVOR Wild Horse Val 69.01 52 ⇑P **P** **23 57 44.2 +1.4**
MSO Missoula 69.02 46 ⇑P **P** **23 57 43.4 +0.7**
GANJ Ganja 69.07 306 P **P** **23 57 43.5 +0.4**
CVS Carmenet Viney 69.09 57 IAMs_20 IAMs_20 00 21 10.7
comp=Z,7μm,22.0s
GUDG Gudauri 69.09 308 P **P** **23 57 44.6 +1.1**
FARB Farallon Islan 69.12 58 IAMs_20 IAMs_20 00 21 17.6
comp=Z,5μm,22.0s
KVAR Kislovodsk Arr 69.24 311 LR LR 00 32 13.9
comp=Z,8μm,18.1s,baz=268,slow=39
KIV Kislovodsk 69.24 311 P **P** **23 57 45.1 +1.0**
KIV Kislovodsk 69.24 311 P **P** **23 57 45.2 +1.0**
KIV P **P** **23 57 45.2 +1.0**
KIV P **P** **23 57 45.2 +1.0**
KIV Kislovodsk 69.24 311 *e*P **P** **23 57 45.2 +1.0**
KIV *e* 00 00 18.2
KIV *e*PPP PPP 00 01 59.4
KIV *e*S **S** **00 06 48.7 +0.6**
KIV *e*SS **SS** **00 11 14.7 +0.5**
KIV pmax pmax
comp=Z,617nm,3.3s
KIV pmax pmax
comp=Z,1μm,1.1s
KIV Kislovodsk 69.24 311 *i* P **P** **23 57 45.5 +1.3**
SNR=531
KIV Kislovodsk 69.24 311 ⇑P **P** **23 57 45.3 +1.0**
KBZ Khabaz 69.26 310 P **P** **23 57 45.3 +1.2**
comp=Z,386nm,0.9s,baz=57,slow=1.4,SNR=352
KBZ S **S** **00 06 50.4 +2.4**
comp=Z,1.1nm,0.6s,baz=82,slow=18,SNR=1.1
KBZ LR LR 00 33 33.3
comp=Z,7μm,18.5s,baz=35,slow=41
KBZ Khabaz 69.26 310*c* *i*P **P** **23 57 45.4 +1.3**
KBZ pmax pmax
comp=Z,644nm,1.0s
RUSS Russell Ranch 69.34 57 IAMs_20 IAMs_20 00 21 10.2
comp=Z,5μm,22.0s
GDH Godhavn 69.36 6 *i* P **P** **23 57 43.6 -0.7**
SHA1 Shidzhatmaz 69.39 310*c* *i*P **P** **23 57 46.6 +1.3**
ERBR Yeremizino-Bor 69.41 313 ⇑*i*P **P** **23 57 46.3 +1.2**
ERBR *e* 00 00 20.7
ERBR *e*S **S** **00 06 52.0 +2.1**
ERBR pmax pmax
comp=Z,1μm,1.0s
ERBR MLR MLR
comp=N,12μm,15.0s
ILULI Ilulissat 69.58 5 P **P** **23 57 46.0 +0.3**
ILULI Ilulissat 69.58 5 P **P** **23 57 46.0 +0.3**
ILULI pmax pmax
comp=Z,351nm,1.5s
ILULI MLR MLR
comp=Z,9μm,19.0s
ILULI Ilulissat 69.58 5 ⇑P **P** **23 57 46.1 +0.4**
ILULI Ilulissat 69.58 5 *i* P **P** **23 57 45.8 +0.1**
FFC Flin Flon 69.69 34 P **P** **23 57 47.2 +0.6**
FFC IAmb IAmb 23 58 05.0
comp=Z,220nm,1.2s
FFC Flin Flon 69.69 34 IAMs_20 IAMs_20 00 28 41.2
comp=Z,6μm,21.0s
FFC Flin Flon 69.69 34 P **P** **23 57 47.2 +0.6**
FFC pmax pmax
comp=Z,220nm,1.2s
FFC MLR MLR
comp=Z,6μm,21.0s
FFC Flin Flon 69.69 34 ⇑P **P** **23 57 47.3 +0.6**
TRLG Trialeti 69.88 308 P **P** **23 57 49.3 +1.1**
ISAL Salakas 69.89 327 *e*P **P** **23 57 50.0 +2.2**
FCC Fort Churchill 69.89 28 P **P** **23 57 48.0 +0.3**
FCC IAmb IAmb 23 58 09.6
comp=Z,183nm,1.2s
FCC Fort Churchill 69.89 28 P **P** **23 57 48.0 +0.3**
FCC pmax pmax
comp=Z,183nm,1.2s
MNK Minsk 69.89 326 *i* P **P** **23 57 48.9 +1.1**
MNK *i* *PP **sP** **23 58 02.0 +1.1**
MNK *i* 23 58 11.0
MNK *i* 00 00 21.7
MNK *i* PPP PPP 00 02 04.4
MNK *i*S **S** **00 06 55.1 -0.1**
MNK *i* *SS **sS** **00 07 17.5 +6.7**
MNK pmax pmax
comp=N,255nm,0.9s
MNK pmax pmax
comp=Z,938nm,0.9s
MNK pmax pmax
comp=E,489nm,1.0s
MNK MLR MLR
comp=Z,29μm,17.0s
MNK MLR MLR
comp=N,16μm,18.0s
MNK MLR MLR
comp=E,18μm,18.0s
UPP Uppsala 69.92 334 *e*P **P** **23 57 48.1 +0.2**
SLIT Slitere, Latvi 69.92 330 *e*P **P** **23 57 47.5 -0.4**
SLIT Slitere, Latvi 69.92 330 ⇑P **P** **23 57 47.8 -0.1**
WELL Well Preserv 70.13 56 IAMs_20 IAMs_20 00 21 49.9
comp=Z,6μm,22.0s
MTOS Mt Oso, Westle 70.30 57 IAMs_20 IAMs_20 00 22 18.7
comp=Z,5μm,22.0s
GNI Garni 70.33 306 LR LR 00 31 55.6
comp=Z,9μm,20.5s,baz=54,slow=39
GNI Garni 70.33 306 P **P** **23 57 52.8 +1.7**
GNI P **P** **23 57 52.8 +1.7**
GNI Garni 70.33 306*c* *i*P **P** **23 57 52.6 +1.6**
GNI pmax pmax
comp=Z,486nm,1.5s
GNI Garni 70.33 306 P **P** **23 57 52.6 +1.6**
GNI Garni 70.33 306 ⇑P **P** **23 57 52.6 +1.6**
HMDM Hanimaadhoo 70.38 262 P **P** **23 57 52.0 +0.6**
NAX Nakhchivan 70.46 305 P **P** **23 57 52.0 +0.3**
VSVD Vaisvydziai 70.48 329 *e*P **P** **23 57 52.0 +0.7**
EGMT Eagleton 70.48 43 IAMs_20 IAMs_20 00 34 21.5
comp=Z,5μm,20.0s
EGMT Eagleton 70.48 43 ⇑P **P** **23 57 52.6 +0.9**
CMB Columbia Colle 70.58 56 IAMs_20 IAMs_20 00 22 24.2
comp=Z,6μm,22.0s
CMB Columbia Colle 70.58 56 P **P** **23 57 54.1 +1.6**
SAO San Andreas Ge 70.67 58 P **P** **23 57 53.1 +0.1**
MOL Molde 70.74 340 ⇑*i*P **P** **23 57 53.2 +0.3**
MOL IVmB_BB 23 57 54.1
comp=Z,3μm,3.0s
MOL IVMs_BB IVMs_BB 00 33 35.4
comp=Z,5μm,17.3s
DOMB Dombas 70.77 339 *e*P **P** **23 57 53.5 +0.3**
DOMB IVmB_BB 23 57 54.0
comp=Z,3μm,2.7s

DOMB IVMs_BB IVMs_BB 00 32 55.2
comp=Z,7µm,17.4s
HLID Hailey 70.78 49 P **P** **23 57 54.8 +1.1**
HLID IAMs_20 IAMs_20 00 24 48.8
comp=Z,5µm,22.0s
HLID Hailey 70.78 49 ⇑P **P** **23 57 55.1 +1.4**
PABE Paberze 70.80 328 P **P** **23 57 53.8 +0.4**
PABE Paberze 70.80 328 *eP* **P** **23 57 54.3 +0.9**
BUCR Buckhorn Ranch 70.95 56 IAMs_20 IAMs_20 00 22 20.8
comp=Z,6µm,22.0s
HFS Hagfors 70.96 336 P **P** **23 57 54.3 0.0**
comp=Z,129nm,0.9s,baz=40,slow=5.8,SNR=150
HFS S **S** **00 07 05.6 -1.9**
comp=Z,3.2nm,1.0s,baz=35,slow=11,SNR=2.1
HFS LR LR 00 32 55.4
comp=Z,16µm,18.9s,baz=33,slow=39
comp=Z,129nm,0.9s
NB2 NORSAR Subarra 70.98 337 P **P** **23 57 54.6 +0.1**
comp=Z,1µm,2.5s,baz=36,slow=6.2
NB2 NORSAR Subarra 70.98 337 P **P** **23 57 50.5 -4.0**
NB2 pmax pmax
comp=Z,3µm,2.6s
NB2 NORSAR Subarra 70.98 337 P **P** **23 57 54.6 +0.1**
baz=36,slow=6.2
NOA NORSAR Array B 70.98 337 P **P** **23 57 54.5 +0.1**
comp=Z,104nm,0.9s,baz=36,slow=6.0,SNR=292
NOA PP **PP** **00 00 29.3 -2.1**
comp=Z,14nm,1.1s,baz=33,slow=8.5,SNR=3.3
NOA S **S** **00 07 09.7 +1.9**
comp=Z,0.6nm,0.8s,baz=54,slow=16,SNR=1.9
NOA LR LR 00 32 38.2
comp=Z,17µm,20.9s,baz=35,slow=39
comp=Z,104nm,0.9s
MEEK Meekatharra 71.03 203 P **P** **23 57 54.9 -0.1**
comp=Z,46nm,1.5s
MEEK Meekatharra 71.03 203 P **P** **23 57 55.5 +0.5**
BOZ Bozeman (W) 71.04 46 IAMs_20 IAMs_20 00 30 33.6
comp=Z,4µm,21.0s
BOZ Bozeman (W) 71.04 46 P **P** **23 57 55.6 +0.3**
BOZ Bozeman (W) 71.04 46 ⇑P **P** **23 57 56.4 +1.2**
BBGB Big Mountain B 71.05 58 P **P** **23 57 56.2 +0.9**
BBGB IAmb IAmb 23 58 31.8
comp=Z,118nm,1.0s
BBGB IAMs_20 IAMs_20 00 22 35.6
comp=Z,4µm,21.0s
WSAR Wadi Sarin 71.05 285 LR LR 00 32 37.8
comp=Z,23nm,21.1s,baz=105,slow=39
WSAR Wadi Sarin 71.05 285 P **P** **23 57 56.1 +0.6**
SNR=14
VSLR Vesoyloye 71.06 311*c* *i*P **P** **23 57 56.1 +0.9**
VSLR pmax pmax
comp=Z,878nm,1.1s
NBO00 NORSAR Array S 71.12 338 P **P** **23 57 55.4 +0.1**
JLN Jalan Bani Buh 71.13 283 P **P** **23 57 56.6 +0.7**
SNR=18
JLN P **P** **23 57 56.6 +0.7**
SNR=18
NC602 NORSAR Array S 71.13 337 ⇑*i*P **P** **23 57 55.0 -0.3**
SHME Shamm 71.17 288 P **P** **23 57 56.4 +0.2**
SNR=53
SHME P **P** **23 57 56.4 +0.2**
SNR=53
SHME Shamm 71.17 288 *i* P **P** **23 57 56.2 +0.1**
SNR=116
SOC Sochi 71.17 312 *e*P **P** **23 57 54.0 -1.8**
SOC *e* 00 00 28.7
SOC *e*PPP PPP 00 02 15.7
SOC *e*S **S** **00 07 08.9 -1.5**
SOC *e*SS **SS** **00 11 44.4 +0.9**
SOC pmax pmax
comp=Z,341nm,1.1s
SOC MLR MLR
comp=Z,7µm,20.0s
PBUR Paburge 71.22 329 *e*P **P** **23 57 56.7 +0.8**
BIDO Bidbid 71.25 285 P **P** **23 57 57.4 +0.7**
SNR=34
BIDO P **P** **23 57 57.4 +0.7**
SNR=34
HULI Fort Hunter Li 71.26 58 IAMs_20 IAMs_20 00 22 29.2
comp=Z,5µm,21.0s
PMPB Monarch Peak 71.42 58 IAMs_20 IAMs_20 00 22 45.5
comp=Z,4µm,21.0s
MDH Madha 71.50 288 P **P** **23 57 57.7 -0.5**
SNR=12
MDH P **P** **23 57 57.7 -0.5**
SNR=12
MDH Madha 71.50 288 *i* P **P** **23 57 57.6 -0.5**
SNR=12
ARMA Armidale 71.53 172 P **P** **23 57 59.0 +0.9**
comp=Z,56nm,1.4s
ARMA Armidale 71.53 172 P **P** **23 57 58.9 +0.8**
ARMA IAmb IAmb 23 58 13.3
comp=Z,138nm,1.5s
ARMA Armidale 71.53 172 P **P** **23 58 00.2 +2.1**
ARMA Armidale 71.53 172 ⇓P **P** **23 58 00.2 +2.1**
MASF Masafi 71.56 288 P **P** **23 57 59.0 +0.4**
SNR=27
MASF P **P** **23 57 59.0 +0.4**
SNR=27
MSFE Esma-Masafi 71.57 288 *i* P **P** **23 57 58.9 +0.2**
SNR=45
SMDO Samad 71.58 285 P **P** **23 57 59.1 +0.3**
SNR=23
SMDO P **P** **23 57 59.1 +0.3**
SNR=23
NVAR Mina Array Bea 71.64 55 P **P** **23 57 59.8 +0.8**
NVAR Mina Array Bea 71.64 55 P **P** **23 58 00.4 +1.4**
comp=Z,29nm,0.8s,baz=309,slow=6.9,SNR=87
NVAR S **S** **00 07 14.5 -2.1**
comp=Z,0.1nm,0.3s,baz=332,slow=7.3,SNR=1.0
NVAR LR LR 00 23 36.4
comp=Z,3µm,21.7s,baz=303,slow=31
comp=Z,29nm,0.8s
ANN Anapa 71.66 314*c* *i*P **P** **23 57 59.1 +0.3**
ANN *e* 00 00 40.8
ANN *e*PPP PPP 00 02 24.3
ANN *e*S **S** **00 07 15.3 -0.8**
ANN *e*SS **SS** **00 11 59.4 +8.3**
ANN pmax pmax
comp=Z,587nm,1.0s
ANN MLR MLR
comp=Z,11µm,18.0s
ANN MLR MLR
comp=E,10µm,17.0s
RAMR Ramage Ranch 71.73 59 IAMs_20 IAMs_20 00 22 31.5
comp=Z,6µm,21.0s
NV11 Mina Array Sit 71.73 55 P **P** **23 58 00.5 +0.9**
NV11 IAmb IAmb 23 58 19.1
comp=Z,136nm,1.4s
YHL Hebgen Lake 71.76 46 P **P** **23 58 00.4 +0.6**
YHL IAmb IAmb 23 58 19.1
comp=Z,140nm,1.1s
UOSS Minazif 71.79 287 P **P** **23 57 59.5 -0.3**
UOSS IAmb IAmb 23 58 01.7
comp=Z,180nm,0.8s
UOSS Minazif 71.79 287 P **P** **23 57 59.5 -0.3**
UOSS P **P** **23 57 59.5 -0.3**
UOSS Minazif 71.79 287 *i* P **P** **23 57 59.8 -0.1**
SNR=34
UOSS Minazif 71.79 287 ⇑P **P** **23 57 59.5 -0.3**
SFJD Kangerlussuaq 71.80 6 P **P** **23 57 59.4 +0.2**
SFJD IAmb IAmb 23 58 16.7
comp=Z,142nm,1.1s
SFJD Kangerlussuaq 71.80 6 LR LR 00 33 03.2
comp=Z,7µm,19.0s,baz=346,slow=39
SFJD Kangerlussuaq 71.80 6 P **P** **23 57 59.4 +0.2**
SFJD pmax pmax
comp=Z,142nm,1.1s
SFJD MLR MLR
comp=Z,9µm,22.0s
SFJD Kangerlussuaq 71.80 6 ⇑P **P** **23 58 00.5 +1.3**
SFJD Kangerlussuaq 71.80 6 *i* P **P** **23 57 59.1 -0.1**
HOQ Hoqain 71.81 286 P **P** **23 58 00.4 +0.4**
SNR=39
HOQ P **P** **23 58 00.4 +0.4**
SNR=39
YHB Horse Butte 71.82 46 P **P** **23 58 01.2 +1.1**
YHB IAmb IAmb 23 58 18.8
comp=Z,95nm,0.9s
UMQ Umm Al-Quwin 71.83 288 P **P** **23 58 01.0 +1.0**
SNR=11
UMQ P **P** **23 58 01.0 +1.0**
SNR=11
UMQ Umm Al-Quwin 71.83 288 *i* P **P** **23 58 01.2 +1.1**
SNR=9.6
AKASG Malin Array Be 71.90 322 P **P** **23 58 00.2 0.0**
AKASG Malin Array Be 71.90 322 P **P** **23 58 00.1 0.0**
comp=Z,337nm,0.9s,baz=46,slow=6.2,SNR=836
AKASG PP **PP** **00 00 35.9 -3.6**
comp=Z,29nm,1.0s,baz=41,slow=9.1,SNR=4.2
AKASG S **S** **00 07 20.7 +2.1**
comp=Z,0.4nm,0.3s,baz=43,slow=13,SNR=4.8
AKASG LR LR 00 32 53.1
comp=Z,12µm,19.3s,baz=38,slow=38
comp=Z,337nm,0.9s
AKASG Malin Array Be 71.90 322 *i* P **P** **23 58 00.3 +0.2**
AKASG pmax pmax
comp=Z,344nm,0.9s
AKBB Malin Array Si 71.90 322*c* *i*P **P** **23 58 00.3 +0.2**
AKBB pmax pmax
comp=Z,693nm,1.0s
HATD Hatta, Dubai 71.91 287 P **P** **23 58 01.0 +0.4**
SNR=57
HATD P **P** **23 58 01.0 +0.4**
SNR=57
HATD Hatta, Dubai 71.91 287 *i* P **P** **23 58 01.1 +0.4**
SNR=114
KIEV Kiev 71.92 322 P **P** **23 58 00.1 0.0**
KIEV Kiev 71.92 322 P **P** **23 58 00.2 0.0**
KIEV pmax pmax
comp=Z,558nm,1.0s
KIEV MLR MLR
comp=Z,16µm,18.0s
KIEV Kiev 71.92 322 *i* P **P** **23 58 00.4 +0.2**
SNR=56
KIEV Kiev 71.92 322 ⇑P **P** **23 58 00.2 0.0**
JMDO Jabal Madar 71.96 284 P **P** **23 58 01.5 +0.5**
SNR=19
OSL Oslo 72.02 337 ⇑*i*P **P** **23 58 01.0 +0.4**
OSL IVmB_BB 23 58 01.7
comp=Z,4µm,2.6s
OSL *e*S **S** **00 07 22.0 +2.4**
OSL IVMs_BB IVMs_BB 00 33 36.0
comp=Z,6µm,17.4s
SOHO SOHO 72.04 287 P **P** **23 58 01.5 +0.1**
SOHO P **P** **23 58 01.5 +0.1**
SOHO SOHO 72.04 287 *i* P **P** **23 58 02.0 +0.6**
SNR=17
ASHO Ashiyiah 72.05 287 P **P** **23 58 01.8 +0.3**
SNR=65
ASHO P **P** **23 58 01.8 +0.3**
SNR=65
ASHO Ashiyiah 72.05 287 *i* P **P** **23 58 01.8 +0.3**
SNR=105
ELK Elko 72.06 51 P **P** **23 58 02.5 +0.9**
ELK IAMs_20 IAMs_20 00 24 34.9
comp=Z,5µm,22.0s
ELK Elko 72.06 51 LR LR 00 28 09.3
comp=Z,1µm,20.1s,baz=324,slow=34
ELK Elko 72.06 51 P **P** **23 58 02.5 +0.9**
ELK pmax pmax
comp=Z,95nm,1.4s
ELK Elko 72.06 51 ⇑P **P** **23 58 03.1 +1.6**
Q09A Carvers 72.08 54 P **P** **23 58 02.4 +0.7**
Q09A IAmb IAmb 23 58 21.0
comp=Z,119nm,0.9s
SKAR Skarslia 72.11 338 ⇑*i*P **P** **23 58 02.0 +0.7**
SKAR IVmB_BB 23 58 02.6
comp=Z,3µm,2.6s
SKAR *e*S **S** **00 07 23.9 +3.1**
SKAR IVMs_BB IVMs_BB 00 33 24.5
comp=Z,6µm,16.3s
NAZ Nazwa, Dubai 72.15 288 P **P** **23 58 02.2 +0.2**
SNR=31
NAZ P **P** **23 58 02.2 +0.2**
SNR=31
NAZ Nazwa, Dubai 72.15 288 *i* P **P** **23 58 02.1 +0.1**
SNR=17
SUW Suwalki 72.19 327 *e*P **P** **23 58 01.9 +0.1**
SUW *e*S **S** **00 07 20.4 -1.5**
SUW *e*L L 00 31 47.1
comp=Z,12µm,22.4s
SUW Suwalki 72.19 327 P **P** **23 58 01.6 -0.2**
SUW Suwalki 72.19 327 P **P** **23 58 01.6 -0.2**
SUW Suwalki 72.19 327 *e*P **P** **23 58 01.6 -0.2**
SUW Suwalki 72.19 327 ⇑P **P** **23 58 01.9 +0.1**
FOO Floro 72.20 340 *e*P **P** **23 58 02.5 +0.8**
FOO IVmB_BB 23 58 02.9
comp=Z,2µm,3.4s
FOO *e*S **S** **00 07 25.0 +3.3**
FOO IVMs_BB IVMs_BB 00 34 31.2
comp=Z,4µm,15.0s
CMSA Cobar Meteorol 72.25 178 P **P** **23 58 02.5 +0.3**
comp=Z,32nm,1.2s
CMSA Cobar Meteorol 72.25 178 P **P** **23 58 04.5 +2.3**
HYA Hoyanger 72.27 340 *e*P **P** **23 58 03.0 +0.9**
HYA IVmB_BB 23 58 03.4
comp=Z,2µm,2.4s
HYA *e*S **S** **00 07 26.4 +3.9**
HYA IVMs_BB IVMs_BB 00 34 21.1
comp=Z,6µm,20.1s
FAQ Al Faqa, Dubai 72.35 288 P **P** **23 58 03.2 0.0**
SNR=35
FAQ P **P** **23 58 03.2 0.0**
SNR=35
FAQ Al Faqa, Dubai 72.35 288 *i* P **P** **23 58 03.3 0.0**
SNR=19
GEVA Gevas 72.49 306 P **P** **23 58 04.7 +0.6**
GEVA IAmb IAmb 23 58 06.1
comp=Z,200nm,1.4s
TPH Tonopah 72.53 55 P **P** **23 58 05.4 +1.0**
TPH IAmb IAmb 23 58 23.8
comp=Z,208nm,1.3s
TPH Tonopah 72.53 55 P **P** **23 58 05.4 +1.0**
TPH pmax pmax
comp=Z,208nm,1.3s
ARQ Araqi 72.53 286 P **P** **23 58 04.9 +0.5**
SNR=37
ARQ P **P** **23 58 04.9 +0.5**
SNR=37
TIN Tinemaha, Big 72.53 56 IAMs_20 IAMs_20 00 23 12.9
comp=Z,6µm,22.0s
STKA Stephens Creek 72.55 181 P **P** **23 58 04.1 +0.1**
STKA Stephens Creek 72.55 181 P **P** **23 58 04.8 +0.8**
STKA IAmb IAmb 23 58 17.9
comp=Z,186nm,1.4s
STKA Stephens Creek 72.55 181 P **P** **23 58 05.0 +0.9**
comp=Z,6.6nm,0.6s,baz=349,slow=10.0,SNR=15
STKA S **S** **00 07 26.3 +0.1**
comp=Z,0.4nm,0.3s,baz=315,slow=20,SNR=1.4
STKA LR LR 00 29 04.5
comp=Z,2µm,21.4s,baz=19,slow=35
comp=Z,6.6nm,0.6s
STKA Stephens Creek 72.55 181 P **P** **23 58 05.5 +1.4**
STKA Stephens Creek 72.55 181 ⇓*i*P **P** **23 58 05.4 +1.4**
KONO Kongsberg 72.59 337 P **P** **23 58 04.2 +0.2**
KONO Kongsberg 72.59 337*c* *i*P **P** **23 58 04.4 +0.3**
KONO pmax pmax
comp=Z,111nm,1.2s
KONO MLR MLR
comp=Z,17µm,21.0s
KONO Kongsberg 72.59 337 ⇑*i*P **P** **23 58 04.4 +0.3**
KONO IVmB_BB 23 58 05.0
comp=Z,2µm,2.9s
KONO *e*S **S** **00 07 29.6 +3.4**
KONO IVMs_BB IVMs_BB 00 34 12.0
comp=Z,5µm,19.0s
KONO Kongsberg 72.59 337 ⇑P **P** **23 58 04.2 +0.2**
DY2G Dye2 72.59 4 ⇑P **P** **23 58 04.8 +0.5**
DY2G Dye2 72.59 4 *i* P **P** **23 58 05.0 +0.7**
FRB Frobisher Bay 72.61 14 LR LR 00 35 00.3
comp=Z,11µm,18.3s,baz=347,slow=40
FRB Frobisher Bay 72.61 14 P **P** **23 58 03.7 -0.4**
FRB Frobisher Bay 72.61 14 ⇑P **P** **23 58 04.2 +0.1**
ASUD Al Ashush, Dub 72.61 288 P **P** **23 58 05.4 +0.6**
SNR=26
ASUD P **P** **23 58 05.4 +0.6**
SNR=26
ASUD Al Ashush, Dub 72.61 288 *i* P **P** **23 58 05.4 +0.6**
SNR=50
STRU Stroemstad 72.61 336 *i* P **P** **23 58 04.5 +0.3**
RLMT Red Lodge 72.62 45 P **P** **23 58 05.6 +0.8**
RLMT IAmb IAmb 23 58 24.4
comp=Z,211nm,1.6s
RLMT Red Lodge 72.62 45 ⇑P **P** **23 58 06.2 +1.3**
ALNE Al Ain 72.65 287 P **P** **23 58 05.5 +0.4**
SNR=56
ALNE P **P** **23 58 05.5 +0.4**
SNR=56
ALNE Al Ain 72.65 287 *i* P **P** **23 58 05.4 +0.3**
SNR=79
HVU Hansel Valley 72.84 49 P **P** **23 58 07.0 +0.9**
HVU IAmb IAmb 23 58 25.6
comp=Z,110nm,1.1s
HVU Hansel Valley 72.84 49 P **P** **23 58 07.0 +0.9**
HVU pmax pmax
comp=Z,110nm,1.1s
LOHW Long Hollow 72.88 47 P **P** **23 58 07.4 +1.0**
AJN Ajban 72.90 288 P **P** **23 58 06.3 -0.2**
SNR=16
AJN P **P** **23 58 06.3 -0.2**
SNR=16
AJN Ajban 72.90 288 *i* P **P** **23 58 06.3 -0.2**
SNR=18
MHTO MHTO 72.90 283 P **P** **23 58 07.0 +0.4**
SNR=47
MHTO P **P** **23 58 07.0 +0.4**
SNR=47
DGMT Dagmar 72.96 40 P **P** **23 58 06.7 +0.1**
DGMT IAmb IAmb 23 58 22.9
comp=Z,152nm,1.1s
DGMT Dagmar 72.96 40 ⇑P **P** **23 58 07.4 +0.9**
KOPT Kop Dagi 72.97 308 P **P** **23 58 08.1 +1.1**
KOPT IAMs_20 IAMs_20 00 32 57.7
comp=Z,8µm,22.0s
GURO Guroymak-BITLI 72.97 306 P **P** **23 58 08.2 +1.3**
GURO IAMs_20 IAMs_20 00 32 24.9
comp=Z,7µm,22.0s
GURO Guroymak-BITLI 72.97 306 ⇑P **P** **23 58 08.4 +1.5**
CWC Cottonwood Cre 73.01 56 IAMs_20 IAMs_20 00 23 34.5
comp=Z,5µm,22.0s
ASK Askoy 73.11 340 *e*P **P** **23 58 06.8 -0.3**
ASK IVmB_BB 23 58 08.4
comp=Z,3µm,2.8s
ASK *e*S **S** **00 07 33.6 +1.5**
ASK IVMs_BB IVMs_BB 00 34 47.0
comp=Z,6µm,15.4s
AHID Auburn Hatcher 73.15 48 P **P** **23 58 08.7 +0.7**
AHID IAMs_20 IAMs_20 00 27 04.6
comp=Z,5µm,22.0s
BER Bergen 73.16 340 *e*P **P** **23 58 08.3 +0.9**
BER IVmB_BB 23 58 08.7
comp=Z,3µm,2.6s
BER *e*S **SKiKP** **00 07 35.3 -1.3**
BER IVMs_BB IVMs_BB 00 34 38.6
comp=Z,6µm,15.6s
LAO LASA Array 73.17 42 IAMs_20 IAMs_20 00 30 26.6
comp=Z,4µm,20.0s
LAO LASA Array 73.17 42 ⇑P **P** **23 58 09.1 +1.2**
ODD1 Odda 73.21 339 ⇑*i*P **P** **23 58 08.1 +0.3**
ODD1 IVmB_BB 23 58 09.1
comp=Z,3µm,2.8s
ODD1 *e*S **SKiKP** **00 07 36.2 -0.6**
ODD1 IVMs_BB IVMs_BB 00 34 16.9
comp=Z,6µm,18.6s
BORU Boraas 73.24 335 *i* P **P** **23 58 07.8 -0.1**
ISA Isabella, Lake 73.25 57 IAMs_20 IAMs_20 00 24 06.8
comp=Z,4µm,20.0s
BLEU Blekinge 73.26 332 *i* P **P** **23 58 07.7 -0.4**
TJOU Tjoern 73.29 335 *i* P **P** **23 58 08.1 -0.1**
NFK Norfolk Island 73.44 157 *e*P P 23 58 15.6 +6.2
NFK *e*S **S** **00 07 30.6 -5.9**
NFK *e*SS **SS** **00 12 19.8 -0.2**
NFK *e*LR LR 00 20 39.4
MPMC Manual Prospec 73.62 56 IAMs_20 IAMs_20 00 24 03.7
comp=Z,5µm,22.0s
HWUT Hardware Ranch 73.64 49 P **P** **23 58 11.7 +0.8**
HWUT IAmb IAmb 23 58 30.5
comp=Z,236nm,1.3s
HWUT Hardware Ranch 73.64 49 ⇑P **P** **23 58 12.3 +1.4**
BLS5 Blasjo 73.67 339 *e*P **P** **23 58 11.3 +0.8**
BLS5 IVmB_BB 23 58 12.0
comp=Z,2µm,2.3s
BLS5 *e*S **S** **00 07 40.7 +2.1**
BLS5 IVMs_BB IVMs_BB 00 34 21.3
comp=Z,7µm,17.6s
ANGG Ammassalik, Gr 73.69 0 P **P** **23 58 10.2 -0.2**
ANGG IAMs_20 IAMs_20 00 33 01.8
comp=Z,7µm,21.0s
ANGG Ammassalik, Gr 73.69 0 ⇑P **P** **23 58 10.4 0.0**
ANGG Ammassalik, Gr 73.69 0 *i* P **P** **23 58 09.8 -0.6**
ONAU Onsala 73.71 335 *i* P **P** **23 58 10.5 -0.2**
OSI Osito Audit: C 73.74 58 IAMs_20 IAMs_20 00 23 32.9
comp=Z,7µm,21.0s
ISOG Isortoq, Green 73.75 1 ⇑P **P** **23 58 10.8 +0.1**
ISOG Isortoq, Green 73.75 1 *i* P **P** **23 58 10.9 +0.1**
BBOO Buckleboo 73.75 186 P **P** **23 58 11.4 +0.3**
comp=Z,98nm,1.1s
BBOO Buckleboo 73.75 186 P **P** **23 58 11.7 +0.6**
BBOO Buckleboo 73.75 186 P **P** **23 58 12.8 +1.7**
FURC Furnace Creek, 73.76 56 IAMs_20 IAMs_20 00 24 04.2
comp=Z,4µm,22.0s
DEL Delary 73.80 333 *i* P **P** **23 58 11.1 -0.2**
TPNV Topopah Spring 73.84 55 P **P** **23 58 12.8 +0.7**
TPNV IAmb IAmb 23 58 30.9
comp=Z,143nm,1.1s
TPNV IAMs_20 IAMs_20 00 24 59.1
comp=Z,6µm,22.0s
TPNV Topopah Spring 73.84 55 P **P** **23 58 12.8 +0.7**
TPNV pmax pmax
comp=Z,143nm,1.1s
TPNV Topopah Spring 73.84 55 ⇑P **P** **23 58 13.3 +1.3**
BORG Borgarnes 73.85 353 P **P** **23 58 12.8 +1.4**
BORG IAmb IAmb 23 58 14.8
comp=Z,149nm,1.1s
BORG Borgarnes 73.85 353 LR LR 00 31 28.1
comp=Z,2µm,19.3s,baz=4.6,slow=36
BORG Borgarnes 73.85 353 P **P** **23 58 12.8 +1.4**
BORG pmax pmax
comp=Z,149nm,1.1s
BORG MLR MLR
comp=Z,3µm,19.0s
BORG Borgarnes 73.85 353 ⇓P **P** **23 58 14.1 +2.7**
WHYH Whyalla 73.86 185 P **P** **23 58 13.3 +1.6**
DQM DQM 73.87 282 P **P** **23 58 12.5 +0.2**
SNR=8.0
DQM P **P** **23 58 12.5 +0.2**
SNR=8.0
TPO Tropico Hills 73.89 58 IAMs_20 IAMs_20 00 24 13.9
comp=Z,6µm,21.0s
UMZA Um Al Zommool 73.90 286 P **P** **23 58 12.2 -0.2**
UMZA P **P** **23 58 12.2 -0.2**
PD31 Pinedale Array 74.01 47 P **P** **23 58 13.5 +0.4**
PD31 IAmb IAmb 23 58 31.2
comp=Z,175nm,1.6s
PDAR Pinedale Array 74.01 47 P **P** **23 58 13.4 +0.4**
PDAR Pinedale Array 74.01 47 P **P** **23 58 13.7 +0.6**
comp=Z,14nm,0.7s,baz=312,slow=4.3,SNR=150
PDAR S **S** **00 07 42.3 -1.1**
comp=Z,0.1nm,0.3s,baz=294,slow=13,SNR=1.5
PDAR LR LR 00 28 20.8
comp=Z,2µm,21.6s,baz=321,slow=34
comp=Z,14nm,0.7s
NIUE Niue 74.04 134 *e*P **P** **23 58 17.0 +3.9**
comp=Z,579nm,28.4s
NIUE Niue 74.04 134 *e*PP **PP** **00 00 54.8 -4.1**
comp=Z,118nm,23.2s
NIUE *e*S **SKiKP** **00 07 39.4 +0.6**
comp=Z,2µm,27.6s
NIUE *e*SS **SS** **00 12 35.0 +5.7**
comp=Z,1µm,25.8s
NIUE *e*LQ LQ 00 17 48.6
comp=Z,1µm,25.5s
NIUE *e*LR LR 00 20 52.0
comp=Z,9µm,21.8s
HOMB Homborsund 74.05 337 *e*P **P** **23 58 13.1 +0.5**
HOMB IVmB_BB 23 58 13.6
comp=Z,2µm,2.7s
HOMB *e*S **S** **00 07 45.6 +2.9**
HOMB IVMs_BB IVMs_BB 00 33 47.0
comp=Z,5µm,20.2s
HOMB Homborsund 74.05 337 *i* P **P** **23 58 12.4 -0.3**
MORW Morawa 74.08 204 P **P** **23 58 13.0 -0.1**
comp=Z,0.0nmcomp=Z,69nm,1.1s
MORW Morawa 74.08 204 P **P** **23 58 13.3 +0.2**
MORW Morawa 74.08 204 P **P** **23 58 14.0 +0.9**
MORW Morawa 74.08 204 ⇑P **P** **23 58 13.6 +0.4**
KMY Karmoy 74.18 339 *e*P **P** **23 58 13.9 +0.5**
KMY IVmB_BB 23 58 14.8
comp=Z,3µm,2.7s
KMY *e*S **S** **00 07 47.7 +3.5**
KMY IVMs_BB IVMs_BB 00 34 58.2
comp=Z,6µm,16.7s
MZWR Madinat Zayed 74.18 288 P **P** **23 58 13.6 -0.5**
MZWR P **P** **23 58 13.6 -0.5**
HTT Hallett 74.19 184 P **P** **23 58 14.8 +1.1**
comp=Z,31nm,1.9s

HTT Hallett 74.19 184 P P 23 58 16.1 +2.4
HTT Hallett 74.19 184 P P 23 58 14.8 +1.1
HTT Hallett 74.19 184 ⇑P P 23 58 15.2 +1.5
JRN Qarnain Island 74.20 289 P P 23 58 12.7 -1.4
SNR=7.1
JRN P P 23 58 12.7 -1.4
SNR=7.1
PRN Pahroc Range 74.28 54 ⇑P P 23 58 16.3 +1.7
OVD Ostervraa, Den 74.31 336 *i* P P 23 58 14.7 +0.4
R9F13 Warsaw-Wawer 74.35 327 *e*P P 23 58 14.9 +0.4
comp=Z,6.0nm,0.6s
R9F13 *e*pP PcP 23 58 28.7 -0.5
R9F13 *e*S S 00 07 48.3 +2.0
PASC Pasadena Art C 74.36 58 IAMs_20 IAMs_20 00 23 39.5
comp=Z,7μm,22.0s
SNART Snartemo 74.37 338 ⇑*i*P P 23 58 15.2 +0.6
SNART IVmB_BB 23 58 15.8
comp=Z,5μm,3.0s
SNART *e*S S 00 07 51.0 +4.6
SNART IVMs_BB IVMs_BB 00 36 01.7
comp=Z,5μm,17.6s
SNART Snartemo 74.37 338 *i* P P 23 58 14.7 +0.1
MWC Mount Wilson 74.41 58 IAMs_20 IAMs_20 00 23 41.7
comp=Z,7μm,22.0s
PURM Purcari 74.47 319 ⇓P P 23 58 16.4 +1.0
NUUK Nuuk 74.49 7 ⇑P P 23 58 16.1 +0.9
NUUK Nuuk 74.49 7 *i* P P 23 58 16.2 +1.1
BSD Bornholm Skovb 74.51 332 P P 23 58 15.6 +0.2
BSD Bornholm Skovb 74.51 332 *e*P P 23 58 15.8 +0.4
BSD Bornholm Skovb 74.51 332 ⇑P P 23 58 15.5 +0.1
BSD Bornholm Skovb 74.51 332 *i* P P 23 58 15.6 +0.2
BSD IAmb IAmb 23 58 17.0
comp=Z,120nm,1.1s
MARD Mardin 74.52 306 P P 23 58 16.7 +0.7
MARD IAMs_20 IAMs_20 00 34 09.0
comp=Z,6μm,21.0s
LUNU Lund 74.61 333 *i* P P 23 58 16.0 0.0
BFSC Mount Baldy Ra 74.66 58 IAMs_20 IAMs_20 00 24 02.3
comp=Z,7μm,22.0s
KIS Kishinev 74.66 320 ⇑*i*P P 23 58 16.5 0.0
comp=Z,520nm,1.8s
KIS Kishinev 74.66 320 *e*PcP PcP 23 58 30.0 -0.6
KIS *e*S S 00 07 47.0 -3.0
KIS Kishinev 74.66 320 *e*L L 00 26 23.0
KIS Kishinev 74.66 320 *d i*P P 23 58 16.5 0.0
KIS *e* 23 58 30.0
KIS *e*S S 00 07 47.0 -3.0
KIS *i* PS PnS 00 08 13.0 -14
KIS pmax pmax
comp=Z,520nm,1.8s
KIS Kishinev 74.66 320 *i* PS 00 08 13.0
KIS Kishinev 74.66 320 LRM MLR 00 24 46.0
comp=Z,5μm,18.5s
KAAM Kaadhehdhoo 74.68 257 P P 23 58 19.1 +2.1
MILM Milestii Mici 74.72 320 ⇑*i*P P 23 58 16.0 -0.8
MILM Milestii Mici 74.72 320 *e*PcP PcP 23 58 29.0 -1.9
MILM Milestii Mici 74.72 320 *i* PP PP 00 01 03.5 0.0
MILM *i* S S 00 07 47.0 -3.7
MILM Milestii Mici 74.72 320 LRM MLR 00 34 50.0
comp=Z,12μm,18.0s
MILM Milestii Mici 74.72 320 *c i*P P 23 58 16.0 -0.8
MILM *e* 23 58 29.0
MILM *i* 00 01 03.5
MILM *i* S S 00 07 47.0 -3.7
MILM *i* PS PnS 00 08 13.0 -15
MILM *e* 00 08 48.0
MILM pmax pmax
comp=Z,2μm,2.3s
MILM Milestii Mici 74.72 320 *i* PS 00 08 13.0
MILM Milestii Mici 74.72 320 *e*L L 00 22 51.0
BEL Belsk 74.78 327 *e*P P 23 58 18.1 +1.1
BEL *e*S S 00 07 51.2 0.0
BEL *e*L L 00 33 51.5
comp=Z,411μm,21.3s
BEL Belsk 74.78 327 P P 23 58 18.4 +1.3
GHWR Ruwais 74.78 289 P P 23 58 16.8 -0.7
GHWR P P 23 58 16.8 -0.7
ARPR Arapgir-MALATY 74.84 309 P P 23 58 19.2 +1.3
COP Copenhagen 74.92 334 *i* P P 23 58 18.5 +0.8
COP IAmb IAmb 23 58 19.7
comp=Z,224nm,1.1s
MZR Muzera 74.94 287 P P 23 58 17.9 -0.6
SNR=38
MZR P P 23 58 17.9 -0.6
SNR=38
MZR Muzera 74.94 287 *i* P P 23 58 18.3 -0.2
SNR=22
SHMA Al-Shehemyia 74.97 291 P P 23 58 18.0 -0.6
SNR=33
GKP Gorka Klasztor 75.10 330 *e*P P 23 58 19.5 +0.7
GKP *e*S SKSac 00 08 17.8 -7.6
GKP *e*L L 00 32 57.8
comp=Z,9μm,22.3s
GKP Gorka Klasztor 75.10 330 P P 23 58 19.6 +0.7
GKP Gorka Klasztor 75.10 330 *e*P P 23 58 19.5 +0.7
TOKA Tokat 75.11 311 P P 23 58 20.2 +0.9
TOKA IAmb IAmb 23 58 22.1
comp=Z,274nm,1.2s
TOKA IAMs_20 IAMs_20 00 37 38.4
comp=Z,7μm,22.0s
YNG Young 75.12 175 P P 23 58 19.3 +0.3
comp=Z,37nm,1.2s
IASR Iasi 75.14 320 ⇓P P 23 58 20.1 +0.9
ELS Elsinore Mount 75.18 58 IAMs_20 IAMs_20 00 24 35.2
comp=Z,6μm,21.0s
SAKB Bahrain 75.19 292 P P 23 58 19.3 -0.6
MSU Marysvale 75.30 52 P P 23 58 22.0 +1.4
MSU Marysvale 75.30 52 P P 23 58 22.0 +1.4
BLDU Ballidu 75.32 203 P P 23 58 20.1 -0.1
comp=Z,72nm,1.1s
BLDU Ballidu 75.32 203 P P 23 58 20.9 +0.6
MUD Monsted U'grnd 75.35 336 *i* P P 23 58 21.0 +0.8
MUD IAmb IAmb 23 58 21.8
comp=Z,48nm,0.9s
BZK Bozkurt 75.41 313 P P 23 58 21.4 +0.5
BZK Bozkurt 75.41 313 ⇑P P 23 58 21.9 +1.1
VASR Vaslui 75.41 320 ⇑P P 23 58 22.1 +1.3
TRNA Turayna 75.49 290 P P 23 58 20.6 -1.0
RGN Rugen 75.52 332 P P 23 58 21.9 +0.6
RGN Rugen 75.52 332 *e*P P 23 58 22.6 +1.3
comp=Z,517nm,1.3s,baz=34,slow=5.4
MDND Maddock 75.59 38 IAMs_20 IAMs_20 00 31 28.4
comp=Z,7μm,22.0s
KWP Kalwaria Pacla 75.61 325 *e*P P 23 58 23.0 +1.2
KWP *e*S S 00 08 00.7 +0.2
KWP *e*L L 00 35 09.0
comp=Z,18μm,17.7s
KWP Kalwaria Pacla 75.61 325 P P 23 58 23.1 +1.2
PRAR RASCA 75.65 321 ⇓P P 23 58 23.3 +1.1
BIR Birlad 75.76 320 ⇓P P 23 58 24.9 +2.0
BIR Birlad 75.76 320 P P 23 58 24.8 +2.0
PFO Pinyon Flats O 75.83 58 P P 23 58 23.9 +0.3
PFO Pinyon Flats O 75.83 58 LR LR 00 25 10.8
comp=Z,8μm,21.8s,baz=302,slow=30
PFO Pinyon Flats O 75.83 58 P P 23 58 23.9 +0.3
PFO pmax pmax
comp=Z,39nm,1.1s
VLDR Vladesti 75.83 319 ⇓P P 23 58 24.7 +1.5
BELC Belle Mtn. Jos 75.87 57 IAMs_20 IAMs_20 00 25 17.1
comp=Z,6μm,21.0s
CPE Camp Elliot 75.87 59 P P 23 58 24.3 +0.6
CPE IAMs_20 IAMs_20 00 25 13.3
comp=Z,5μm,21.0s
DPP Dos Picos Cty 75.91 59 IAMs_20 IAMs_20 00 24 33.2
comp=Z,5μm,21.0s
VARL Varlezi 75.91 319 ⇓P P 23 58 25.2 +1.6
BUR08 Bucovina Ar. S 75.93 322 P P 23 58 24.5 +0.6
BUR08 IAmb IAmb 23 58 26.2
comp=Z,227nm,0.9s
TLCR 75.93 318 ⇓P P 23 58 25.0 +1.2
TLCR 75.93 318 P P 23 58 24.9 +1.2
BURAR Bucovina Array 75.94 322 P P 23 58 24.7 +0.7
BURAR IAmb IAmb 23 58 26.6
comp=Z,232nm,0.9s
BURAR Bucovina Array 75.94 322 P P 23 58 24.8 +0.8
BURAR pmax pmax
comp=Z,232nm,0.9s
SCTR Scanteiesti 76.00 319 ⇓P P 23 58 25.9 +1.7
SSRD Sdr. Stenderup 76.01 335 *i* P P 23 58 25.1 +1.1
GHRR 76.01 320 ⇓P P 23 58 26.4 +2.1
RSSD Black Hills 76.05 43 P P 23 58 25.1 +0.3
RSSD Black Hills 76.05 43 IAMs_20 IAMs_20 00 31 12.8
comp=Z,5μm,22.0s
RSSD Black Hills 76.05 43 P P 23 58 25.1 +0.3
comp=Z,104nm,1.1s
RSSD pmax pmax
comp=Z,5μm,22.0s
RSSD Black Hills 76.05 43 ⇑P P 23 58 25.4 +0.6
BORC Borrego Spring 76.07 58 IAMs_20 IAMs_20 00 25 14.5
comp=Z,6μm,21.0s
NEGRR Negrea 76.15 319 ⇓P P 23 58 26.7 +1.6
CAN Canberra 76.17 175 P P 23 58 26.9 +1.7
comp=Z,36nm,1.7s
CAN Canberra 76.17 175 P P 23 58 27.3 +2.2
CAN Canberra 76.17 175 P P 23 58 26.8 +1.7
JURR Jurilovca 76.20 318 ⇓P P 23 58 26.7 +1.4
IZVR Izvoarele 76.20 319 ⇓P P 23 58 27.1 +1.8
TUDR 76.22 319 ⇓P P 23 58 27.1 +1.7
PANC Panciu 76.27 320 ⇓P P 23 58 27.9 +2.2
CFR Carcaliu 76.28 319 ⇑P P 23 58 26.7 +1.0
CFR Carcaliu 76.28 319 P P 23 58 26.7 +1.0
BAR Barrett 76.29 59 IAMs_20 IAMs_20 00 25 15.2
comp=Z,5μm,22.0s
ONER Baraj Valea Uz 76.31 320 ⇓P P 23 58 27.6 +1.7
IRM Iron Mountain 76.31 57 IAMs_20 IAMs_20 00 25 45.7
comp=Z,4μm,21.0s
KOLS Kolonicke sedl 76.31 324 *e*P P 23 58 26.7 +0.8
KOLS pmax pmax
comp=Z,221nm,1.0s
KOLS Kolonicke sedl 76.31 324 *e*P P 23 58 26.7 +0.8
SALN Salton City 76.34 58 IAMs_20 IAMs_20 00 25 03.6
comp=Z,6μm,22.0s
TPGR Topolog 76.36 318 ⇓P P 23 58 27.8 +1.5
STHS Stebnicka Huta 76.40 325 *e*P P 23 58 26.7 +0.2
STHS pmax pmax
comp=Z,181nm,1.0s
STHS Stebnicka Huta 76.40 325 *e*P P 23 58 26.7 +0.2
OJC Ojcow 76.41 326 *e*P P 23 58 27.3 +0.8
OJC *e*S S 00 08 08.3 -1.1
OJC *e*L L 00 35 03.9
comp=Z,20μm,21.1s
OJC Ojcow 76.41 326 P P 23 58 27.2 +0.7
OJC Ojcow 76.41 326 P P 23 58 27.2 +0.7
OJC Ojcow 76.41 326 ⇑P P 23 58 27.3 +0.8
BC3 Big Chuckawall 76.44 57 IAMs_20 IAMs_20 00 25 33.2
comp=Z,7μm,22.0s
BNN Bunyan 76.45 310 P P 23 58 28.2 +1.1
BNN IAmb IAmb 23 58 29.8
comp=Z,266nm,1.0s
BNN Bunyan 76.45 310 ⇑P P 23 58 28.2 +1.1
SHAO Shalim 76.47 282 P P 23 58 30.0 +2.7
SNR=5.1
SHAO Shalim 76.47 282 *i* P P 23 58 27.5 +0.2
SNR=6.7
VRI Vrincioaia 76.48 320 ⇓P P 23 58 28.8 +1.8
VRI Vrincioaia 76.48 320 P P 23 58 28.7 +1.8
CBX Cerro Bola 76.53 59 P P 23 58 27.9 +0.3
PLOR Plostina 76.53 320 ⇓P P 23 58 28.7 +1.4
PLOR Plostina 76.53 320 P P 23 58 28.7 +1.4
U15A North Rim 76.60 53 IAMs_20 IAMs_20 00 26 28.1
comp=Z,6μm,22.0s
TIRR Tirgusor 76.65 318 P P 23 58 28.2 +0.3
TIRR IAmb IAmb 23 58 30.0
comp=Z,186nm,1.0s
TIRR Tirgusor 76.65 318 ⇓P P 23 58 29.0 +1.1
TIRR Tirgusor 76.65 318 P P 23 58 29.0 +1.1
TIRR Tirgusor 76.65 318 ⇑P P 23 58 28.3 +0.4
TURR Turia 76.69 320 ⇓P P 23 58 30.5 +2.3
BMR Baia Mare 76.70 323 ⇓P P 23 58 29.8 +1.6
BMR Baia Mare 76.70 323 P P 23 58 29.7 +1.6
GRER 76.71 319 ⇑P P 23 58 30.5 +2.3
BISRR Bisoca 76.72 320 ⇓P P 23 58 30.5 +2.1
HARR Harsova 76.73 318 ⇓P P 23 58 29.8 +1.4
HARR Harsova 76.73 318 P P 23 58 29.7 +1.4
ARCR ARCALIA 76.73 322 ⇑P P 23 58 30.5 +2.1
MUN Mundaring 76.75 203 P P 23 58 27.3 -1.1
comp=Z,42nm,1.3s
MUN Mundaring 76.75 203 P P 23 58 29.6 +1.3
MUN Mundaring 76.75 203 P P 23 58 27.2 -1.1
COVR Voineasa-Covas 76.75 320 ⇓P P 23 58 30.4 +1.9
TLBR Topalu 76.77 318 ⇓P P 23 58 30.1 +1.5
OZUR 76.77 321 ⇓P P 23 58 30.7 +2.1
YUH Yuha Desert 76.79 58 IAMs_20 IAMs_20 00 25 01.5
comp=Z,5μm,22.0s
EFOR EFORIE 76.81 318 ⇓P P 23 58 30.5 +1.8
NIE Niedzica 76.81 326 *e*P P 23 58 30.2 +1.4
NIE *e*S S 00 08 14.1 +0.4
NIE *e*L L 00 35 51.9
comp=Z,16μm,18.6s
CCX Cicese 76.81 59 IAMs_20 IAMs_20 00 28 03.2
comp=Z,4μm,20.0s
MFTR Murfatlar 76.84 318 ⇓P P 23 58 30.4 +1.4
CVDA Cernavoda 76.93 318 ⇓P P 23 58 30.9 +1.5
AGMN Agassiz Nation 76.96 36 IAMs_20 IAMs_20 00 33 11.7
comp=Z,6μm,22.0s
AGMN Agassiz Nation 76.96 36 ⇑P P 23 58 29.6 0.0
RUE Ruedersdorf 77.01 331 *e*P P 23 58 30.4 +0.6
RUE Ruedersdorf 77.01 331 *e*P P 23 58 30.7 +0.9
comp=Z,446nm,1.3s,baz=34,slow=5.4
PGOR Pogoanele 77.04 319 ⇑P P 23 58 32.6 +2.5
DOPR Dopca 77.06 321 ⇓P P 23 58 32.5 +2.2
AMRR Amara 77.08 319 ⇓P P 23 58 32.3 +1.9
AMRR Amara 77.08 319 P P 23 58 32.2 +1.9
ISR Istrita 77.11 319 ⇓P P 23 58 32.8 +2.2
ISR Istrita 77.11 319 P P 23 58 32.8 +2.2
BR131 Keskin Array S 77.13 312 P P 23 58 31.2 +0.3
BR131 Keskin Array S 77.13 312 P P 23 58 31.3 +0.5
SNR=59
BR131 P P 23 58 31.3 +0.5
SNR=59
BR131 Keskin Array S 77.13 312 *c i*P P 23 58 31.5 +0.6
BRTR Keskin Array B 77.13 312 P P 23 58 31.0 +0.1
BRTR Keskin Array B 77.13 312 P P 23 58 31.6 +0.6
comp=Z,46nm,1.0s,baz=52,slow=2.7,SNR=163
BRTR PP PP 00 01 24.2 0.0
comp=Z,17nm,1.0s,baz=42,slow=5.9,SNR=4.2
BRTR S S 00 08 20.1 +2.2
comp=Z,0.6nm,0.8s,baz=41,slow=7.7,SNR=1.9
BRTR LR LR 00 37 27.4
comp=Z,4μm,18.6s,baz=43,slow=40
comp=Z,46nm,1.0s
MLR Muntele Rosu 77.14 320 P P 23 58 31.2 +0.4
MLR IAmb IAmb 23 58 33.3
comp=Z,287nm,1.3s
MLR Muntele Rosu 77.14 320 LR LR 00 36 43.3
comp=Z,15μm,18.2s,baz=42,slow=39
MLR Muntele Rosu 77.14 320 ⇓P P 23 58 32.2 +1.3
MLR Muntele Rosu 77.14 320 P P 23 58 32.1 +1.3
PV21 Cone Mtn., Par 77.15 50 IAMs_20 IAMs_20 00 27 55.4
comp=Z,4μm,22.0s
CEI Carei 77.16 323 ⇓P P 23 58 32.5 +1.8
CEI Carei 77.16 323 P P 23 58 32.5 +1.8
DMTO DMTO 77.16 282 P P 23 58 30.2 -1.0
DMTO P P 23 58 30.2 -1.0
ESJX Sierra Juarez 77.19 59 P P 23 58 31.8 +0.4
ESJX IAMs_20 IAMs_20 00 25 08.1
comp=Z,6μm,21.0s
PV23 Carpenter Ridg 77.20 50 IAMs_20 IAMs_20 00 28 18.8
comp=Z,6μm,22.0s
DOK Doka 77.20 284 P P 23 58 30.9 -0.5
SNR=10
DOK P P 23 58 30.9 -0.5
SNR=10
ICOR Ion Corvin 77.20 318 ⇓P P 23 58 33.2 +2.2
GLA Glamis 77.23 57 IAMs_20 IAMs_20 00 26 06.1
comp=Z,7μm,21.0s
PV10 Paradox Valley 77.23 50 IAMs_20 IAMs_20 00 28 41.3
comp=Z,7μm,22.0s
PV14 Lion Creek, Pa 77.25 50 IAMs_20 IAMs_20 00 28 11.0
comp=Z,4μm,21.0s
PV20 West Nyswonger 77.30 50 IAMs_20 IAMs_20 00 28 42.4
comp=Z,7μm,22.0s
PV04 Paradox Valley 77.30 50 IAMs_20 IAMs_20 00 28 08.5
comp=Z,4μm,21.0s
CPBX Cerro Prieto 77.33 58 IAMs_20 IAMs_20 00 25 19.9
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 77.33 202 P P 23 58 32.3 +0.7
NWAO Narrogin (SRO) 77.33 202 LR LR 00 32 20.1
comp=Z,1μm,21.6s,baz=29,slow=35
NWAO Narrogin (SRO) 77.33 202 P P 23 58 32.6 +1.0
NWAO P P 23 58 32.6 +1.0
NWAO Narrogin (SRO) 77.33 202 P P 23 58 33.1 +1.5
NWAO Narrogin (SRO) 77.33 202 P P 23 58 32.3 +0.7
NWAO pmax pmax
comp=Z,101nm,1.2s
CBBR Cluj-Babes-Bol 77.34 322 ⇓P P 23 58 33.6 +1.8
PV17 East Wray Mesa 77.34 50 IAMs_20 IAMs_20 00 27 47.6
comp=Z,4μm,22.0s
PV16 Nyswonger Mesa 77.35 50 IAMs_20 IAMs_20 00 28 10.7
comp=Z,4μm,22.0s
KSP Ksiaz 77.35 329 *e*P P 23 58 32.7 +0.9
KSP *e*S S 00 08 18.0 -1.6
KSP *e*L L 00 36 26.3
comp=Z,19μm,17.8s
KSP Ksiaz 77.35 329 P P 23 58 32.1 +0.3
CJR Cluj-Napoca 77.36 322 ⇑P P 23 58 33.7 +1.8
CJR Cluj-Napoca 77.36 322 P P 23 58 33.7 +1.8
LANS Liptovska Anna 77.36 326 *e*P P 23 58 33.7 +1.8
LANS *e* 23 58 47.0
LANS pmax pmax
comp=Z,153nm,1.2s
LANS Liptovska Anna 77.36 326 *e*P P 23 58 33.7 +1.8
LANS *e* 23 58 47.0
PSN Preselentsi 77.37 318 *e*P P 23 58 33.0 +1.0
KIRS Kirsehir-Merke 77.38 311 ⇑P P 23 58 33.5 +1.3
OKC Ostrava-Krasne 77.39 327 P P 23 58 33.0 +1.0
OKC Ostrava-Krasne 77.39 327 ⇑*e*S S 00 08 20.7 +0.7
OKC AMS AMS 00 35 50.0
comp=Z,21μm,17.4s
PV05 Paradox Valley 77.40 50 IAMs_20 IAMs_20 00 28 46.9
comp=Z,4μm,22.0s
PV03 Paradox Valley 77.43 50 IAMs_20 IAMs_20 00 28 46.8
comp=Z,4μm,21.0s
ARPS Mount Arapiles 77.43 181 P P 23 58 33.0 +0.9
comp=Z,24nm,1.4s
KECS Kecovo 77.44 325 *e*P P 23 58 33.5 +1.2
KECS pmax pmax
comp=Z,94nm,1.2s
KECS Kecovo 77.44 325 *e*P P 23 58 33.5 +1.2
LEHL Lehliu 77.44 319 ⇑P P 23 58 33.8 +1.5
STEB Steborice 77.47 327 ⇑*i*P P 23 58 33.5 +1.1
GORT1 Trebel 77.49 332 *e*P P 23 58 33.5 +1.1
comp=Z,506nm,1.4s,baz=34,slow=5.4
ANTO Ankara 77.51 312 P P 23 58 33.8 +0.9
ANTO Ankara 77.51 312 IAMs_20 IAMs_20 00 37 30.2
comp=Z,5μm,22.0s
ANTO Ankara 77.51 312 P P 23 58 33.5 +0.6
ANTO P P 23 58 33.5 +0.6
ANTO Ankara 77.51 312 ⇑P P 23 58 34.4 +1.5
ANTO Ankara 77.51 312 P P 23 58 33.8 +0.9
ANTO pmax pmax
ANTO comp=Z,402nm,1.2s MLR MLR
comp=Z,5μm,22.0s
ANTO Ankara 77.51 312 ⇑P P 23 58 33.8 +0.9
PV13 Radium Mtn., P 77.51 50 IAMs_20 IAMs_20 00 28 58.9
comp=Z,4μm,21.0s
PV02 Paradox Valley 77.52 50 IAMs_20 IAMs_20 00 28 49.4
comp=Z,7μm,22.0s
CICN Ciocanesti 77.53 319 ⇑P P 23 58 34.1 +1.2
SULR 77.57 319 ⇓P P 23 58 34.5 +1.4
PV15 Paradox Valley 77.58 50 IAMs_20 IAMs_20 00 28 33.9
comp=Z,4μm,22.0s
MARR Marisel-Cluj 77.61 322 ⇑P P 23 58 34.5 +1.2
OSTC Ostas 77.61 328 ⇑*i*P P 23 58 34.6 +1.4
OSTC *e*S S 00 08 20.8 -1.6
OSTC MLR MLR
comp=Z,22μm,17.2s
OSTC Ostas 77.61 328 ⇑*i*P P 23 58 34.6 +1.4
OSTC *e*S S 00 08 20.8 -1.6
OSTC AMS AMS 00 36 20.0
comp=Z,22μm,17.2s
CHVC Chvalec 77.65 329 ⇑*i*P P 23 58 34.4 +1.0
CHVC *e*S S 00 08 22.6 -0.2
CHVC MLR MLR
comp=Z,20μm,16.9s
CHVC Chvalec 77.65 329 ⇑*i*P P 23 58 34.4 +1.0
CHVC *e*S S 00 08 22.6 -0.2
CHVC AMS AMS 00 36 20.0
comp=Z,20μm,16.9s
HLG Helgoland 77.65 335 *e*P P 23 58 33.4 +0.1
comp=Z,246nm,1.1s,baz=34,slow=5.4
HLG *e*L L 00 36 23.5
comp=Z,21μm,19.6s
PV01 Paradox Valley 77.67 50 IAMs_20 IAMs_20 00 28 56.2
comp=Z,4μm,22.0s
MORC Moravsky Berou 77.69 327 P P 23 58 34.6 +0.9
MORC Moravsky Berou 77.69 327 *e*P P 23 58 34.6 +0.9
MORC *e*PP PP 00 01 26.9 -1.5
MORC *e*S S 00 08 23.5 +0.2
MORC Moravsky Berou 77.69 327 ⇓P P 23 58 35.3 +1.6
MORC Moravsky Berou 77.69 327 P P 23 58 34.6 +0.9
MORC pmax pmax
MORC comp=Z,307nm,1.1s MLR MLR
comp=Z,23μm,18.0s
MORC Moravsky Berou 77.69 327 ⇑P P 23 58 34.5 +0.9
VTX Valle De La Tr 77.69 59 IAMs_20 IAMs_20 00 25 21.5
comp=Z,5μm,22.0s
DRGR 77.71 323 ⇓P P 23 58 35.4 +1.5
DRGR 77.71 323 P P 23 58 35.4 +1.5
IVI Ivigtut 77.71 6 P P 23 58 33.7 +0.2
IVI IAmb IAmb 23 58 35.3
comp=Z,146nm,1.1s
IVI Ivigtut 77.71 6 ⇑P P 23 58 33.9 +0.4
IVI Ivigtut 77.71 6 *i* P P 23 58 34.1 +0.6
DPC Dobruska-Polom 77.73 328 ⇑*i*P P 23 58 35.3 +1.4
DPC *e* 23 58 48.6
DPC *e*S S 00 08 24.9 +1.1
DPC MLR MLR
comp=Z,19μm,17.2s
DPC Dobruska-Polom 77.73 328 ⇑*i*P P 23 58 35.3 +1.4
DPC *ex* x 23 58 48.6
DPC *e*S S 00 08 24.9 +1.1
DPC AMS AMS 00 36 20.0
comp=Z,19μm,17.2s
UPC Upice 77.73 329 ⇑*i*P P 23 58 34.8 +0.9
UPC *e*S S 00 08 23.5 -0.2
UPC MLR MLR
comp=Z,22μm,17.0s
UPC Upice 77.73 329 ⇑*i*P P 23 58 34.8 +0.9
UPC *e*S S 00 08 23.5 -0.2
UPC AMS AMS 00 36 20.0
comp=Z,22μm,17.0s
WUAZ Wupatki 77.76 54 IAMs_20 IAMs_20 00 27 00.9
comp=Z,5μm,22.0s
WUAZ Wupatki 77.76 54 ⇑P P 23 58 36.3 +1.8
KRLC Kraliky 77.76 328 ⇑*i*P P 23 58 35.1 +1.0
KRLC MLR MLR
comp=Z,13μm,17.5s
KRLC Kraliky 77.76 328 ⇑*i*P P 23 58 35.1 +1.0
KRLC AMS AMS 00 36 30.0
comp=Z,13μm,17.5s
KUQ Kuujjuuaa 77.80 16 P P 23 58 34.1 +0.1
KUQ IAmb IAmb 23 58 48.7
comp=Z,334nm,1.8s
TNR Turnu Rosu 77.82 321 ⇑P P 23 58 37.0 +2.4
TNR Turnu Rosu 77.82 321 P P 23 58 36.9 +2.4
RBK Rabkut 77.84 283 P P 23 58 34.7 -0.4
SNR=7.6
RBK P P 23 58 34.7 -0.4
SNR=7.6
MAUC Maruska 77.89 327 ⇑*e*P P 23 58 35.8 +1.0
MAUC *e*S S 00 08 25.4 -0.1
WHFO Wadi Hawf 77.90 283 P P 23 58 34.8 -0.6
SNR=6.3
WHFO P P 23 58 34.8 -0.6
SNR=6.3
BORR Bors 77.91 323 ⇓P P 23 58 37.1 +2.2
MILA Mila 77.91 175 ⇓P P 23 58 37.1 +2.3
NRS Narsarsuaq 77.94 4 P P 23 58 34.8 0.0
NRS IAMs_20 IAMs_20 00 37 47.3
comp=Z,5μm,19.0s
NRS Narsarsuaq 77.94 4 P P 23 58 34.8 0.0
NRS pmax pmax
NRS comp=Z,68nm,1.0s MLR MLR
comp=Z,5μm,19.0s
NRS Narsarsuaq 77.94 4 ⇓P P 23 58 35.3 +0.5
NRS Narsarsuaq 77.94 4 *i* P P 23 58 34.6 -0.1
MDUB Mudurnu 77.97 314 P P 23 58 36.5 +1.0
SGRR Singureni 78.04 319 ⇑P P 23 58 36.4 +0.7
FLTG Flechtingen 78.05 332 ⇑P P 23 58 35.7 +0.1
FLTG Flechtingen 78.05 332 *e*P P 23 58 35.9 +0.3
comp=Z,319nm,1.3s,baz=34,slow=5.4
PRD Provadia 78.08 318 *e*P P 23 58 37.2 +1.3
113A Mohawk Valley, 78.09 57 IAMs_20 IAMs_20 00 26 33.8
comp=Z,6μm,22.0s
PSZ Piszkesteto 78.12 325 P P 23 58 37.0 +0.8
PSZ Piszkesteto 78.12 325 ⇓P P 23 58 37.9 +1.7
PSZ Piszkesteto 78.12 325 P P 23 58 37.0 +0.8

PSZ pmax pmax
comp=Z,466nm,1.2s
PSZ MLR MLR
comp=Z,30µm,19.0s
PSZ Piszkesteto 78.12 325 *e*P **P 23 58 37.1 +1.0**
PSZ Piszkesteto 78.12 325 ⇑P **P 23 58 37.2 +1.0**
VYHS Vyhne 78.14 326 *e*P **P 23 58 37.3 +1.1**
VYHS pmax pmax
comp=Z,256nm,1.3s
VYHS Vyhne 78.14 326 *e*P **P 23 58 37.3 +1.1**
BRAT Ballarat 78.20 179 P **P 23 58 38.3 +2.0**
ISCO Idaho Springs 78.20 47 P **P 23 58 38.4 +1.3**
ISCO IAMs_20 IAMs_20 00 34 11.2
comp=Z,4µm,22.0s
ISCO Idaho Springs 78.20 47 P **P 23 58 38.4 +1.3**
ISCO pmax pmax
comp=Z,96nm,1.3s
ISCO MLR MLR
comp=Z,4µm,22.0s
BRG Berggiesshubel 78.24 330 *e*P **P 23 58 38.7 +2.1**
comp=Z,170nm,1.3s,baz=34,slow=5.4
BRG Berggiesshubel 78.24 330 *e*P **P 23 58 38.5 +1.8**
BRG Amp 23 58 40.3
comp=Z,104nm,1.1s
BRG Berggiesshubel 78.24 330 S **S 00 08 31.0 +1.9**
BRG Berggiesshubel 78.24 330 SS SS 00 13 33.0 +2.6
CLL Collm 78.24 331 P **P 23 58 36.9 +0.3**
CLL IAmb IAmb 23 58 52.1
comp=Z,251nm,1.1s
CLL Collm 78.24 331 ⇑*i*P **P 23 58 37.0 +0.3**
CLL *e**PP **sP 23 58 51.0 +1.2**
CLL *e*S **S 00 08 27.0 -2.1**
CLL pmax pmax
comp=Z,253nm,1.2s
CLL MLR MLR
comp=Z,14µm,21.2s
CLL Collm 78.24 331 *e*P **P 23 58 37.1 +0.4**
comp=Z,227nm,1.1s,baz=34,slow=5.4
CLL *e*L L 00 36 08.5
comp=Z,14µm,21.2s
RAZG Razgrad 78.25 318 ⇓P **P 23 58 38.3 +1.4**
TOO Toolangi 78.25 178 P **P 23 58 37.5 +0.8**
comp=Z,22nm,1.3s
TOO Toolangi 78.25 178 P **P 23 58 38.0 +1.3**
TOO Toolangi 78.25 178 P **P 23 58 38.0 +1.3**
TOO pmax pmax
comp=Z,53nm,1.7s
TOO Toolangi 78.25 178 ⇓P **P 23 58 38.9 +2.2**
PVCC Panska Ves 78.28 329 ⇑*i*P **P 23 58 38.0 +1.1**
PVCC *e*S **S 00 08 30.2 +0.7**
PVCC MLR MLR
comp=Z,14µm,16.2s
PVCC Panska Ves 78.28 329 ⇑*i*P **P 23 58 38.0 +1.1**
PVCC *e*S **S 00 08 30.2 +0.7**
PVCC AMS AMS 00 38 10.0
comp=Z,14µm,16.2s
DEV Deva 78.30 322 ⇓P **P 23 58 38.5 +1.4**
DEV Deva 78.30 322 P **P 23 58 38.5 +1.4**
NRDL Niedersach Rie 78.31 333 *e*P **P 23 58 37.8 +0.8**
comp=Z,164nm,1.3s,baz=34,slow=5.4
MVCO Mesa Verde 78.34 51 P **P 23 58 38.4 +0.6**
MVCO Mesa Verde 78.34 51 ⇑P **P 23 58 38.6 +0.8**
JAVC Velka Javorina 78.34 327 *e*P **P 23 58 39.3 +1.9**
JAVC *e*S **S 00 08 31.1 +0.6**
LOZB Loznitsa 78.35 318 ⇓P **P 23 58 38.7 +1.3**
RETH Rethem/Aller, 78.37 333 *e*P **P 23 58 38.2 +0.9**
comp=Z,254nm,1.3s,baz=34,slow=5.4
ASSE Asse, Remlinge 78.42 332 *e*P **P 23 58 38.2 +0.7**
comp=Z,206nm,1.3s,baz=34,slow=5.4
VRAC Vranov 78.44 327 LR LR 00 37 02.2
comp=Z,16µm,18.4s,baz=28,slow=38
VRAC Vranov 78.44 327 *e*P **P 23 58 39.0 +1.2**
VRAC *e*PP **PP 00 01 34.5 -0.2**
VRAC *e*S **S 00 08 32.2 +0.9**
VRAC Vranov 78.44 327 ⇓P **P 23 58 39.7 +1.8**
VRAC Vranov 78.44 327 P **P 23 58 39.6 +1.8**
RICC Richard 78.44 330⇓*e*P **P 23 58 38.4 +0.6**
RICC AMS AMS 00 36 50.0
comp=Z,10µm,16.7s
COPA Copaceanca 78.48 319 ⇓P **P 23 58 39.1 +1.0**
SFX San Felipe 78.53 59 IAMs_20 IAMs_20 00 29 08.6
comp=Z,4µm,20.0s
SIRR Siria 78.58 323 ⇑P **P 23 58 39.9 +1.2**
F33A 5 Mile Ranch, 78.61 38 P **P 23 58 39.0 +0.2**
F33A IAmb IAmb 23 58 58.2
comp=Z,128nm,1.1s
F33A IAMs_20 IAMs_20 00 32 06.2
comp=Z,5µm,22.0s
ABTO Aybut 78.61 283 P **P 23 58 39.1 -0.2**
SNR=16
ABTO P **P 23 58 39.1 -0.2**
SNR=16
HSKC Hora Svate Kat 78.65 330⇑*i*P **P 23 58 39.7 +0.7**
HSKC *e*S **S 00 08 32.6 -1.0**
HSKC AMS AMS 00 36 40.0
comp=Z,12µm,17.2s
PRA Prague 78.69 329⇑*i*P **P 23 58 40.3 +1.1**
PRA *e* 23 58 53.0
PRA *e*S **S 00 08 34.4 +0.4**
PRA MLR MLR
comp=Z,15µm,15.6s
PRA Prague 78.69 329⇑*i*P **P 23 58 40.3 +1.1**
PRA *ex* x 23 58 53.0
PRA *e*S **S 00 08 34.4 +0.4**
PRA AMS AMS 00 38 10.0
comp=Z,15µm,15.6s
KRUC Moravsky 78.71 327 *e*P **P 23 58 40.3 +1.0**
KRUC *e*PP **PP 00 01 37.2 +0.3**
KRUC *e*S **S 00 08 35.0 +0.8**
ISK Istanbul-Kandi 78.71 315 P **P 23 58 40.1 +0.6**
SMOL Smolenice 78.71 327 *e*P **P 23 58 40.9 +1.5**
SMOL pmax pmax
comp=Z,124nm,1.2s
PRU Pruhonice 78.72 329⇑*i*P **P 23 58 40.2 +0.9**
PRU *e*S **S 00 08 34.1 -0.2**
PRU MLR MLR
comp=Z,12µm,17.1s
PRU Pruhonice 78.72 329⇑*i*P **P 23 58 40.2 +0.9**
PRU *e*S **S 00 08 34.1 -0.2**
PRU AMS AMS 00 36 50.0
comp=Z,12µm,17.1s
GZR Gura Zlata 78.72 322 ⇓P **P 23 58 40.7 +1.1**
GZR Gura Zlata 78.72 322 P **P 23 58 40.6 +1.1**
SZH Strazhitsa 78.73 318 *e*P **P 23 58 40.8 +1.3**
SZH Strazhitsa 78.73 318 P **P 23 58 40.1 +0.6**
RAO Raoul Island 78.73 146 LR LR 00 29 03.7
comp=Z,6µm,20.6s,baz=352,slow=32
SURR Surduc 78.76 322 ⇓P **P 23 58 41.4 +1.8**
NEUB Neuenburg 78.78 331 *e*P **P 23 58 40.4 +0.8**
comp=Z,281nm,1.2s,baz=34,slow=5.4
BUD Budapest 78.83 325 P **P 23 58 41.2 +1.2**
SRO Srobarova 78.89 326 *e*P **P 23 58 41.9 +1.6**
SRO *e* 23 58 55.0
SRO pmax pmax
comp=Z,424nm,1.2s
SRO Srobarova 78.89 326 *e*P **P 23 58 41.9 +1.6**
SRO *e* 23 58 55.0
TREC Trest 78.89 328⇑*i*P **P 23 58 41.2 +0.8**
TREC *e*S **S 00 08 36.7 +0.5**
TREC MLR MLR
comp=Z,15µm,17.2s
TREC Trest 78.89 328⇑*i*P **P 23 58 41.2 +0.8**
TREC *e*S **S 00 08 36.7 +0.5**
TREC AMS AMS 00 37 20.0
comp=Z,15µm,17.2s
VLAD Vladila 78.97 320 ⇓P **P 23 58 42.2 +1.4**
RKGY Rocky Gully 78.99 202 P **P 23 58 41.7 +0.9**
comp=Z,117nm,1.3s
JMB Yambol 79.01 318 *e*P **P 23 58 42.0 +0.9**
JMB Yambol 79.01 318 P **P 23 58 41.7 +0.6**
W18A Petrified Fore 79.02 53 IAMs_20 IAMs_20 00 27 44.2
comp=Z,6µm,22.0s
ELND Elena 79.03 318 ⇓P **P 23 58 42.4 +1.2**
Q24A Divide 79.04 47 IAMs_20 IAMs_20 00 30 38.8
comp=Z,5µm,22.0s
PIX Pinacate 79.08 58 P **P 23 58 42.3 +0.7**
PIX IAMs_20 IAMs_20 00 26 23.1
comp=Z,4µm,22.0s
BZS Buzias 79.09 322 ⇑P **P 23 58 42.3 +0.9**
BZS Buzias 79.09 322 P **P 23 58 42.3 +0.9**
BZS Buzias 79.09 322 ⇑P **P 23 58 41.5 +0.1**
ZST Bratislava 79.10 327 *e*P **P 23 58 43.2 +1.8**
ZST pmax pmax
comp=Z,233nm,2.6s
ZST Bratislava 79.10 327 *e*P **P 23 58 43.2 +1.8**
PHSR Pinarhisar 79.12 316 ⇑P **P 23 58 43.1 +1.4**
EYMN Ely 79.12 34 P **P 23 58 41.6 0.0**
EYMN IAmb IAmb 23 58 42.9
comp=Z,100nm,0.8s
EYMN Ely 79.12 34 ⇑P **P 23 58 41.6 0.0**
GTTG Gottingen 79.15 332 *e*P **P 23 58 42.5 +0.9**
comp=Z,177nm,1.1s,baz=34,slow=5.4
TANN Tannenbergstha 79.17 330 *e*P **P 23 58 42.6 +0.7**
comp=Z,143nm,1.4s,baz=34,slow=5.4
PLN Plauen 79.22 331 *e*P **P 23 58 42.9 +0.8**
comp=Z,62nm,1.4s,baz=34,slow=5.4
214A Organ Pipe Nat 79.23 57 IAMs_20 IAMs_20 00 27 16.1
comp=Z,5µm,21.0s
IBBN Ibbenburen 79.27 334 ⇑P **P 23 58 42.5 +0.3**
IBBN Ibbenburen 79.27 334 *e*P **P 23 58 43.0 +0.7**
comp=Z,223nm,1.1s,baz=34,slow=5.4
HERR Herculane 79.27 321 ⇑P **P 23 58 43.2 +0.7**
X18A Snowflake 79.29 53 IAMs_20 IAMs_20 00 27 58.3
comp=Z,5µm,22.0s
MOX Moxa 79.30 331 *e*P **P 23 58 43.2 +0.7**
comp=Z,166nm,1.3s,baz=34,slow=5.4
MOX *e*L L 00 37 08.7
comp=Z,16µm,19.9s
PLVB Pleven 79.32 319 ⇑P **P 23 58 43.7 +1.0**
OGNE Ogallala 79.34 44 IAMs_20 IAMs_20 00 39 50.0
comp=Z,3µm,20.0s
TBO Thunder Bay 79.43 32 P **P 23 58 43.4 +0.1**
PUNG Punghina 79.48 321 ⇓P **P 23 58 44.9 +1.3**
BANR Banloc 79.49 323 ⇓P **P 23 58 45.4 +1.8**
MANZ Manzenberg 79.65 330 *e*P **P 23 58 45.3 +0.8**
comp=Z,30nm,1.2s,baz=34,slow=5.4
VALD Valchedram 79.67 320 *e*P **P 23 58 45.9 +1.3**
MDVR Moldovita 79.68 322 ⇓P **P 23 58 45.7 +0.9**
SDCO Great Sand Dun 79.70 49 P **P 23 58 45.8 +0.5**
SDCO Great Sand Dun 79.70 49 ⇑P **P 23 58 46.5 +1.2**
SOP Sopron 79.73 326 P **P 23 58 46.3 +1.4**
BAND Balkesir-Ban 79.73 315 ⇑P **P 23 58 46.3 +1.2**
UBBA Unterbreizbach 79.74 332 *e*P **P 23 58 45.4 +0.7**
comp=Z,248nm,1.7s,baz=34,slow=5.4
CKRC Cesky Krumlov 79.74 328⇑*i*P **P 23 58 46.5 +1.5**
CKRC *e*S **S 00 08 46.4 +1.1**
CKRC MLR MLR
comp=Z,11µm,16.6s
CKRC Cesky Krumlov 79.74 328⇑*i*P **P 23 58 46.5 +1.5**
CKRC *e*S **S 00 08 46.4 +1.1**
CKRC AMS AMS 00 37 30.0
comp=Z,11µm,16.6s
EKA Eskdalemuir Ar 79.77 341 P **P 23 58 45.5 +0.5**
comp=Z,54nm,0.9s,baz=25,slow=5.2,SNR=51
EKA PP **PP 00 01 46.1 +0.6**
comp=Z,17nm,1.0s,baz=28,slow=6.5,SNR=5.9
comp=Z,54nm,0.9s
MPEP Malo Peshtene 79.77 320 *e*P **P 23 58 46.2 +1.0**
KHC Kasperske Hory 79.78 329⇑*i*P **P 23 58 46.1 +0.9**
KHC *e* 00 01 44.7
KHC *e*S **S 00 08 43.9 -1.8**
KHC MLR MLR
comp=Z,13µm,16.8s
KHC Kasperske Hory 79.78 329⇑*i*P **P 23 58 46.1 +0.9**
KHC *e*PP **PP 00 01 44.7 -1.2**
KHC *e*S **S 00 08 43.9 -1.8**
KHC AMS AMS 00 37 40.0
comp=Z,13µm,16.8s
KHC Kasperske Hory 79.78 329 ⇑P **P 23 58 46.1 +0.9**
ROTZ Rotzenmuhle 79.79 330 *e*P **P 23 58 46.0 +0.8**
comp=Z,55nm,1.3s,baz=34,slow=5.4
ESK Eskdalemuir 79.80 341 P **P 23 58 45.5 +0.4**
ESK Eskdalemuir 79.80 341 P **P 23 58 45.5 +0.4**
ESK pmax pmax
comp=Z,60nm,0.9s
ESK Eskdalemuir 79.80 341 ⇑P **P 23 58 45.7 +0.6**
DIM Dimitrovgrad 79.82 318 *e*P **P 23 58 47.4 +1.9**
DIM Dimitrovgrad 79.82 318 P **P 23 58 46.7 +1.2**
CONA Conrad Observa 79.82 327 *i* P **P 23 58 46.8 +1.3**
comp=Z,260nm,1.2s,SNR=212
CONA *e*S **S 00 08 47.2 +0.9**
comp=Z,7.5nm,1.8s
RONA Rosalia, Austr 79.82 327 *i* P **P 23 58 47.0 +1.5**
comp=Z,351nm,1.1s,SNR=286
RONA *e*S **S 00 08 46.6 +0.4**
comp=Z,7.8nm,1.6s
GEC2 GERESS Array S 79.96 329 P **P 23 58 46.3 0.0**
GEC2 IAmb IAmb 23 58 47.6
comp=Z,133nm,1.3s
GEC2 GERESS Array S 79.96 329 *e*P **P 23 58 46.9 +0.6**
comp=Z,155nm,1.3s,baz=34,slow=5.4
GEC2 *e*L L 00 38 21.2
comp=Z,12µm,18.1s
GERES GERESS Array B 79.96 329 P **P 23 58 46.5 +0.2**
comp=Z,30nm,0.9s,baz=32,slow=5.2,SNR=180
GERES PP **PP 00 01 46.4 -1.1**
comp=Z,10nm,0.9s,baz=42,slow=11,SNR=3.6
GERES S **S 00 08 42.7 -5.0**
comp=Z,0.6nm,0.8s,baz=38,slow=8.7,SNR=3.6
GERES PKKPbc **PKKPbc 00 17 30.5 +0.4**
comp=Z,0.6nm,0.7s,baz=225,slow=0.1,SNR=6.1
GERES LR LR 00 37 56.3
comp=Z,9µm,18.1s,baz=24,slow=38
comp=Z,30nm,0.9s
KASTN Kahler Asten 79.97 333 *e*P **P 23 58 46.9 +0.7**
comp=Z,141nm,1.2s,baz=34,slow=5.4
MORH Mrgy, Hungar 79.98 324⇑*i*P **P 23 58 46.3 +0.1**
MORH Mrgy, Hungar 79.98 324 ⇓P **P 23 58 47.0 +0.7**
ECSD EROS Data Cent 80.03 39 P **P 23 58 46.7 +0.1**
ECSD IAmb IAmb 23 59 04.2
comp=Z,116nm,1.1s
ECSD EROS Data Cent 80.03 39 IAMs_20 IAMs_20 00 32 49.0
comp=Z,5µm,22.0s
ECSD EROS Data Cent 80.03 39 ⇑P **P 23 58 46.8 +0.2**
WET Wettzell 80.04 329 *e*P **P 23 58 47.8 +1.2**
comp=Z,234nm,1.2s,baz=34,slow=5.4
WET *e*L L 00 38 09.8
comp=Z,12µm,18.5s
E38A The Farm, Brul 80.14 35 IAMs_20 IAMs_20 00 39 02.7
comp=Z,4µm,20.0s
PLD Plovdiv 80.17 318 *e*P **P 23 58 48.5 +1.1**
PLD Plovdiv 80.17 318 P **P 23 58 48.1 +0.8**
PGB Panagyurishte 80.18 319 *e*P **P 23 58 48.8 +1.3**
ISP Isparta 80.20 312 P **P 23 58 47.7 -0.1**
ISP IAmb IAmb 23 58 51.2
comp=Z,180nm,1.2s
ISP Isparta 80.20 312 IAMs_20 IAMs_20 00 36 59.3
comp=Z,6µm,22.0s
ISP Isparta 80.20 312 P **P 23 58 47.7 -0.1**
ISP pmax pmax
comp=Z,181nm,1.2s
ISP MLR MLR
comp=Z,6µm,22.0s
ISP Isparta 80.20 312 ⇑P **P 23 58 47.9 +0.1**
GRA1 Grafenberg Arr 80.22 331 P **P 23 58 48.6 +1.0**
GRF Grafenberg Arr 80.22 331 P **P 23 58 48.6 +1.0**
GRF pmax pmax
comp=Z,371nm,1.2s
GRF MLR MLR
comp=Z,15µm,19.0s
GRF Grafenberg Arr 80.22 331 *e*P **P 23 58 48.8 +1.3**
comp=Z,186nm,1.7s,baz=34,slow=5.4
GRF *e*L L 00 37 37.5
comp=Z,16µm,20.5s
GRFO Grafenberg 80.22 331 P **P 23 58 48.5 +0.9**
GRFO Grafenberg 80.22 331 P **P 23 58 48.5 +0.9**
GRFO pmax pmax
comp=Z,375nm,1.2s
GRFO MLR MLR
comp=Z,16µm,20.0s
KDZ Kurdzhali 80.25 318 *e*P **P 23 58 48.9 +1.1**
KDZ Kurdzhali 80.25 318 P **P 23 58 48.2 +0.4**
TUC Tucson 80.27 56 IAMs_20 IAMs_20 00 28 10.5
comp=Z,5µm,21.0s
TUC Tucson 80.27 56 P **P 23 58 49.4 +1.2**
TUC pmax pmax
comp=Z,46nm,1.1s
RAYN Ar Rayn 80.28 293 P **P 23 58 48.3 -0.1**
RAYN IAmb IAmb 23 58 50.0
comp=Z,130nm,1.0s
RAYN Ar Rayn 80.28 293 IAMs_20 IAMs_20 00 38 45.1
comp=Z,6µm,20.0s
RAYN Ar Rayn 80.28 293 P **P 23 58 48.8 +0.5**
RAYN Ar Rayn 80.28 293 P **P 23 58 49.1 +0.7**
RAYN Ar Rayn 80.28 293 *i* P **P 23 58 48.6 +0.2**
SNR=30
RAYN Ar Rayn 80.28 293 ⇑P **P 23 58 48.2 -0.1**
ASF Jabal al Asfar 80.30 304 LR LR 00 39 08.1
comp=Z,5µm,18.4s,baz=53,slow=39
KOVH Kovagotottos 80.31 325 ⇑P **P 23 58 48.2 +0.1**
GEM Giv'at Ha'Em 80.36 306 ⇑P **P 23 58 49.6 +1.0**
KSCO Kaye Shedlock' 80.40 46 IAMs_20 IAMs_20 00 31 24.2
comp=Z,4µm,22.0s
ALN Alexandroupoli 80.42 317 P **P 23 58 49.3 +0.6**
ALN IAmb IAmb 23 58 51.1
comp=Z,322nm,1.2s
ALN Alexandroupoli 80.42 317 P **P 23 58 48.8 +0.1**
ALN Alexandroupoli 80.42 317 P **P 23 58 49.3 +0.6**
ALN pmax pmax
comp=Z,322nm,1.2s
ALN MLR MLR
comp=Z,10µm,21.0s
ALN Alexandroupoli 80.42 317 ⇑P **P 23 58 49.3 +0.6**
DGAR Diego Garcia 80.44 252 IAMs_20 IAMs_20 00 35 49.9
comp=Z,4µm,19.0s
DGAR Diego Garcia 80.44 252 P **P 23 58 50.5 +1.4**
DGAR P **P 23 58 50.5 +1.4**
RDO Rodhopi 80.50 317 P **P 23 58 50.1 +1.0**
RDO Rodhopi 80.50 317 P **P 23 58 50.2 +1.0**
RDO Rodhopi 80.50 317 ⇑P **P 23 58 50.2 +1.1**
ARSA Arzberg 80.50 327 P **P 23 58 49.9 +0.8**
ARSA IAmb IAmb 23 58 51.8
comp=Z,180nm,1.3s
ARSA Arzberg 80.50 327 *i* P **P 23 58 50.1 +1.0**
comp=Z,147nm,1.3s,SNR=72
ARSA *e*S **S 00 08 52.9 -0.4**
comp=Z,4.2nm,1.1s
ARSA Arzberg 80.50 327 ⇑P **P 23 58 49.9 +0.8**
RZN Rozhen 80.50 318 *e*P **P 23 58 50.7 +1.3**
RZN Rozhen 80.50 318 P **P 23 58 50.0 +0.6**
MOA Molln 80.54 328 *i* P **P 23 58 49.8 +0.5**
comp=Z,145nm,1.8s,SNR=79
MOA S **S 00 08 52.2 -1.4**
comp=Z,2.1nm,0.9s
BOVS Bovan 80.55 321 ⇑P **P 23 58 50.0 +0.6**
VTS Vitosha 80.57 319 *e*P **P 23 58 50.8 +1.1**
VTS Vitosha 80.57 319 P **P 23 58 50.7 +0.9**
CSS Mathiatis 80.57 308 P **P 23 58 50.2 +0.4**
CSS IAmb IAmb 23 58 54.8
comp=Z,200nm,1.0s
CSS IAMs_20 IAMs_20 00 39 27.6
comp=Z,4µm,19.0s
CSS Mathiatis 80.57 308 ⇑P **P 23 58 50.1 +0.4**
PLNA Plana 80.58 319 *e*P **P 23 58 51.0 +1.2**
BEHE Becsehely 80.59 326 P **P 23 58 50.1 +0.5**
BEHE Becsehely 80.59 326⇑*i*P **P 23 58 49.9 +0.3**
MMAI Mount Meron Ar 80.66 306 P **P 23 58 51.4 +1.1**
comp=Z,180nm,0.9s,baz=36,slow=5.4,SNR=286
MMAI PP **PP 00 01 53.3 -0.4**
comp=Z,7.1nm,0.9s,baz=43,slow=6.5,SNR=3.1
MMAI S **S 00 08 57.4 +1.9**
comp=Z,0.2nm,0.3s,baz=90,slow=10,SNR=1.4
MMAI LR LR 00 38 48.0
comp=Z,10µm,20.0s,baz=24,slow=39
comp=Z,180nm,0.9s
SPMN Marine on St. 80.67 36 IAMs_20 IAMs_20 00 34 30.6
comp=Z,6µm,21.0s
TRAN Tran 80.69 320 *e*P **P 23 58 48.2 -2.1**
TNS Taunus Mts 80.78 332 *e*P **P 23 58 51.3 +0.7**
comp=Z,144nm,1.2s,baz=34,slow=5.4
TNS *e*L L 00 38 31.8
comp=Z,16µm,18.8s
MANT Manisa 80.82 314 P **P 23 58 51.4 +0.2**
MANT IAmb IAmb 23 58 53.2
comp=Z,280nm,1.1s
KOGS Kog 80.83 326 *i* P **P 23 58 50.8 -0.1**
BIOA Bad Ischl, Aus 80.92 328 *i* P **P 23 58 52.2 +0.9**
comp=Z,253nm,1.3s,SNR=135
BIOA *e*S **S 00 08 56.7 -1.0**
comp=Z,1.8nm,0.5s
SMTH Samothraki Isl 81.00 317 P **P 23 58 51.5 -0.4**
GADA Gvkgeada 81.01 316 P **P 23 58 51.2 -0.7**
IDGL Inch Island, C 81.02 343 P **P 23 58 52.6 +1.0**
EZN Ezine 81.05 316 P **P 23 58 52.5 +0.3**
EZN Ezine 81.05 316 ⇓P **P 23 58 53.3 +1.1**
EZN Ezine 81.05 316 P **P 23 58 53.2 +1.1**
ANMO Albuquerque 81.09 51 P **P 23 58 53.6 +0.9**
ANMO Albuquerque 81.09 51 LR LR 00 30 21.4
comp=Z,4µm,21.8s,baz=58,slow=32
ANMO Albuquerque 81.09 51 P **P 23 58 53.6 +0.9**
ANMO pmax pmax
comp=Z,53nm,1.1s
ANMO Albuquerque 81.09 51 ⇑P **P 23 58 54.1 +1.4**
MMB Musomishta 81.11 318 *e*P **P 23 58 53.7 +1.2**
MMB Musomishta 81.11 318 P **P 23 58 53.2 +0.7**
KAVA Kavala 81.13 318 P **P 23 58 53.4 +0.8**
PERS Pernice 81.16 327 *i* P **P 23 58 53.2 +0.5**
PERS *e*PcP **sP 23 59 06.4 +0.6**
PERS *e*PP **PP 00 01 60.0 +2.6**
PERS *e* 00 03 46.2
PERS *e*S **S 00 08 59.3 -0.9**
SOKA Soboth 81.16 327 *e*P **P 23 58 53.5 +0.8**
comp=Z,373nm,1.2s,SNR=355
SOKA S **S 00 08 59.5 -0.8**
comp=Z,9.0nm,1.7s
SCHQ Schefferville 81.16 17 P **P 23 58 52.4 -0.1**
SCHQ Schefferville 81.16 17 P **P 23 58 52.8 +0.4**
comp=Z,58nm,0.9s,baz=351,slow=6.3,SNR=36
SCHQ S **S 00 08 58.5 -1.4**
comp=Z,3.1nm,0.8s,baz=319,slow=11,SNR=2.1
SCHQ LR LR 00 39 38.2
comp=Z,3µm,18.6s,baz=344,slow=39
comp=Z,58nm,0.9s
KKB Krupnik 81.20 319 *e*P **P 23 58 54.2 +1.3**
KKB Krupnik 81.20 319 P **P 23 58 54.0 +1.0**
RJOB Jochberg 81.21 329 *e*P **P 23 58 54.2 +1.2**
comp=Z,222nm,1.2s,baz=34,slow=5.4
BEBN Eben Emael 81.24 334 *d*P **P 23 58 53.0 +0.1**
comp=Z,119nm,1.1s
BTNL Ternell 81.27 334 *d*P **P 23 58 53.3 +0.1**
comp=Z,57nm,1.1s
BTNL *dx* x 23 59 06.7
MOSL Moslavina 81.27 325⇑*i*P **P 23 58 53.1 -0.1**
MEM Membach 81.29 334 *d*P **P 23 58 53.4 +0.2**
comp=Z,74nm,1.1s
THAS Thassos island 81.32 317 P **P 23 58 53.9 +0.4**
I37A Lemond, Waseca 81.33 37 IAMs_20 IAMs_20 00 33 51.2
comp=Z,6µm,22.0s
Y22D IRIS PASSCAL I 81.42 52 IAMs_20 IAMs_20 00 29 38.8
comp=Z,6µm,22.0s
Y22D IRIS PASSCAL I 81.42 52 P **P 23 58 56.2 +1.8**
baz=314
Y22D S **S 00 09 06.4 +2.7**
baz=314
SALP Salfit 81.43 305 ⇑P **P 23 58 55.4 +1.1**
FUR Furstenfeldbru 81.45 330 *e*P **P 23 58 55.2 +1.1**
comp=Z,352nm,1.2s,baz=34,slow=5.4
FUR *e*L L 00 37 00.3
comp=Z,11µm,22.0s
BSTI Sart Tilman 81.46 334 *d*P **P 23 58 54.6 +0.5**
comp=Z,18nm,1.2s
L34A Svendsen Farm, 81.47 40 IAMs_20 IAMs_20 00 37 51.3
comp=Z,4µm,20.0s
Y22A Socorro 81.49 52 IAMs_20 IAMs_20 00 29 40.6
comp=Z,6µm,22.0s
OBKA Obir 81.50 327 *i* P **P 23 58 55.0 +0.5**
comp=Z,87nm,1.0s,SNR=50
OBKA S **S 00 09 03.9 +0.1**
comp=Z,6.9nm,1.5s
BHOU Houvegnez 81.51 334 *d*P **P 23 58 54.8 +0.3**
comp=Z,47nm,1.3s
SRS Serrai 81.51 318 P **P 23 58 55.0 +0.4**
LESA Schwarzleotal 81.52 328 *e*P **P 23 58 55.6 +1.0**
comp=Z,272nm,1.3s,SNR=110
LESA S **S 00 09 04.1 +0.1**
comp=Z,7.9nm,1.6s
KBA Koelnbreinsper 81.53 328 *e*P **P 23 58 55.5 +0.7**
comp=Z,262nm,1.4s
KBA *e*S **S 00 09 02.7 -1.6**
comp=Z,3.7nm,1.1s
KBA Koelnbreinsper 81.53 328 ⇑P **P 23 58 55.3 +0.5**
RAR Rarotonga 81.55 128 *e*P P 23 58 46.6 -8.2
comp=Z,475nm,27.0s
RAR Rarotonga 81.55 128 *e*PP **PP 00 01 55.5 -6.3**
comp=Z,221nm,27.0s
RAR *e*S **S 00 09 00.2 -4.3**
comp=Z,1µm,26.0s
RAR *e*SS **SS 00 14 27.8 +5.4**
comp=Z,730nm,26.0s
RAR *e*LQ LQ 00 20 02.8
comp=Z,474µm,35.0s
RAR *e*LR LR 00 24 17.2
comp=Z,10µm,23.0s
RAR Rarotonga 81.55 128 LR LR 00 29 06.0
comp=Z,5µm,20.7s,baz=324,slow=31

COWI	**Conover**	**81.57**	**34**	P		**P**		**23 58 54.7**	**-0.1**
COWI				IAMs_20	IAMs_20	00 41 03.4			
	comp=Z,5µm,20.0s								
COWI	**Conover**	**81.57**	**34**	⇑P		**P**		**23 58 54.8**	**-0.1**
LIA	**Limnos Island**	**81.60**	**317**	P		**P**		**23 58 55.2**	**+0.2**
RUDO	**Rudo**	**81.66**	**322**	*e*P		**P**		**23 58 55.2**	**-0.1**
UCC	**Uccle**	**81.67**	**335**	P		**P**		**23 58 55.1**	**-0.1**
UCC	**Uccle**	**81.67**	**335**	P		**P**		**23 58 55.1**	**-0.1**
UCC				pmax	pmax				
	comp=Z,109nm,1.3s								
UCC				MLR	MLR				
	comp=Z,24µm,19.0s								
UCC	**Uccle**	**81.67**	**335**	*d*P		**P**		**23 58 55.1**	**-0.1**
	comp=Z,38nm,1.3s								
A051A	**Mrakovica**	**81.68**	**325**	⇑*i*P		**P**		**23 58 55.6**	**+0.1**
BCLA	**Clavier**	**81.69**	**334**	*d*P		**P**		**23 58 55.6**	**+0.3**
	comp=Z,51nm,1.1s								
BLCB	**Balcova**	**81.72**	**314**	P		**P**		**23 58 55.7**	**0.0**
ILTH	**Belurgan, Co L**	**81.72**	**342**	P		**P**		**23 58 56.0**	**+0.6**
GHAJ	**Ghor Haditha**	**81.72**	**304**	P		**P**		**23 58 56.7**	**+0.9**
GHAJ				IAmb	IAmb	23 58 58.4			
	comp=Z,233nm,1.0s								
STU	**Stuttgart**	**81.73**	**331**	P		**P**		**23 58 55.9**	**+0.3**
STU				IAmb	IAmb	23 59 11.4			
	comp=Z,264nm,1.2s								
STU	**Stuttgart**	**81.73**	**331**	P		**P**		**23 58 55.9**	**+0.3**
STU				pmax	pmax				
	comp=Z,264nm,1.2s								
STU				MLR	MLR				
	comp=Z,8µm,19.0s								
STU	**Stuttgart**	**81.73**	**331**	⇑P		**P**		**23 58 56.1**	**+0.6**
STU	**Stuttgart**	**81.73**	**331**	*e*P		**P**		**23 58 56.3**	**+0.7**
	comp=Z,536nm,1.2s,baz=34,slow=5.4								
SIGR	**SIGRI**	**81.75**	**316**	P		**P**		**23 58 55.6**	**-0.3**
BLY	**Banja Luka**	**81.76**	**324**	⇑*i*P		**P**		**23 58 56.1**	**+0.2**
BLY	**Banja Luka**	**81.76**	**324**	⇑P		**P**		**23 58 56.6**	**+0.8**
BLY	**Banja Luka**	**81.76**	**324**	⇑P		**P**		**23 58 56.0**	**+0.2**
MYKA	**Terra Mystica**	**81.77**	**327**	*e*P		**P**		**23 58 56.0**	**+0.1**
	comp=Z,189nm,1.3s,SNR=100								
MYKA				S		**S**		**00 09 05.6**	**-1.1**
	comp=Z,2.0nm,1.0s								
BGES	**Gesves**	**81.79**	**334**	*d*P		**P**		**23 58 56.0**	**+0.2**
	comp=Z,56nm,1.1s								
OZLJ	**Ozalj**	**81.82**	**326**	⇑*i*P		**P**		**23 58 56.3**	**+0.2**
KNT	**Kendrikon**	**81.83**	**319**	P		**P**		**23 58 56.7**	**+0.5**
319A	**Douglas**	**81.84**	**55**	IAMs_20	IAMs_20	00 29 09.1			
	comp=Z,6µm,21.0s								
MSBI	**Mazada**	**81.84**	**305**	⇑P		**P**		**23 58 57.3**	**+0.8**
SOH	**Sokhos**	**81.85**	**318**	P		**P**		**23 58 56.4**	**0.0**
VAY	**Valandovo**	**81.87**	**319**	*i*P		**P**		**23 58 57.4**	**+1.0**
LJU	**Ljubljana**	**81.88**	**327**	*i*P		**P**		**23 58 56.5**	**+0.1**
LJU				*e*PcP		**sP**		**23 59 09.7**	**+0.2**
LJU				*e*S		**S**		**00 09 05.7**	**-1.9**
OUR	**Ouranopolis**	**81.90**	**318**	P		**P**		**23 58 56.9**	**+0.4**
KSL	**Kastellorizon**	**81.92**	**311**	P		**P**		**23 58 56.4**	**-0.4**
SKO	**Skopje**	**81.93**	**320**	*i*P		**P**		**23 58 57.9**	**+1.1**
RCHB	**Rochefort**	**81.94**	**334**	*d*P		**P**		**23 58 56.7**	**+0.1**
	comp=Z,72nm,1.2s								
RCHB				*d*x		x		23 59 09.4	
BMRD	**Maredsous**	**81.96**	**334**	*d*P		**P**		**23 58 57.0**	**+0.3**
	comp=Z,105nm,1.1s								
BMRD				*d*x		x		23 59 07.7	
AMAZ	**Amatzia**	**81.97**	**305**	⇑P		**P**		**23 58 58.2**	**+1.1**
IVA	**Berane**	**81.99**	**322**	⇑*i*P		**P**		**23 58 58.0**	**+0.8**
WATA	**Walderalm**	**82.02**	**329**	*e*P		**P**		**23 58 57.8**	**+0.5**
	comp=Z,242nm,1.4s,SNR=41								
WATA				*e*S		**S**		**00 09 08.4**	**-0.9**
	comp=Z,7.9nm,1.4s								
WLF	**Walferdange**	**82.05**	**333**	P		**P**		**23 58 56.7**	**-0.6**
WLF	**Walferdange**	**82.05**	**333**	P		**P**		**23 58 57.6**	**+0.4**
WLF	**Walferdange**	**82.05**	**333**	P		**P**		**23 58 57.6**	**+0.4**
WLF				pmax	pmax				
	comp=Z,98nm,1.2s								
WLF				MLR	MLR				
	comp=Z,18µm,22.0s								
WLF	**Walferdange**	**82.05**	**333**	*d*P		**P**		**23 58 57.4**	**+0.2**
	comp=Z,37nm,1.8s								
WLF	**Walferdange**	**82.05**	**333**	⇑P		**P**		**23 58 57.8**	**+0.5**
WLF	**Walferdange**	**82.05**	**333**	*e*P		**P**		**23 58 58.0**	**+0.8**
	comp=Z,245nm,1.6s,baz=34,slow=5.4								
WTTA	**Wattenberg**	**82.06**	**329**	*e*P		**P**		**23 58 58.2**	**+0.7**
	comp=Z,261nm,2.0s,SNR=62								
WTTA				*e*S		**S**		**00 09 08.9**	**-0.9**
	comp=Z,5.8nm,0.9s								
CBKS	**Cedar Bluff**	**82.10**	**45**	P		**P**		**23 58 57.3**	**-0.5**
CBKS				IAmb	IAmb	23 59 15.7			
	comp=Z,173nm,1.2s								
CBKS				IAMs_20	IAMs_20	00 37 14.0			
	comp=Z,3µm,21.0s								
CBKS	**Cedar Bluff**	**82.10**	**45**	P		**P**		**23 58 57.3**	**-0.5**
CBKS				pmax	pmax				
	comp=Z,173nm,1.2s								
CBKS				MLR	MLR				
	comp=Z,3µm,21.0s								
CBKS	**Cedar Bluff**	**82.10**	**45**	⇑P		**P**		**23 58 57.5**	**-0.2**
ABTA	**Abfaltersbach**	**82.13**	**328**	*e*P		**P**		**23 58 57.5**	**-0.4**
	comp=Z,89nm,1.2s,SNR=60								
ABTA				*e*SKS		**S**		**00 09 14.3**	**+4.0**
	comp=Z,11nm,2.0s								
PLG	**Polygyros**	**82.14**	**318**	P		**P**		**23 58 58.2**	**+0.3**
HORT	**Hortiatis**	**82.15**	**318**	P		**P**		**23 58 57.7**	**-0.3**
KOME	**Kolasin**	**82.18**	**322**	⇑*i*P		**P**		**23 58 58.9**	**+0.7**
RTBA	**Rita Blanca**	**82.18**	**48**	P		**P**		**23 58 58.8**	**+0.4**
THE	**Thessaloniki**	**82.19**	**318**	P		**P**		**23 58 58.0**	**-0.1**
UPM	**Unac-Piva**	**82.19**	**322**	⇑*i*P		**P**		**23 58 58.4**	**0.0**
DOU	**Dourbes**	**82.20**	**334**	*d*P		**P**		**23 58 57.9**	**-0.1**
	comp=Z,40nm,1.2s								
MOTA	**Moosalm**	**82.20**	**329**	*e*P		**P**		**23 58 59.0**	**+0.7**
	comp=Z,265nm,1.1s,SNR=118								
MOTA				*e*S		**S**		**00 09 10.0**	**-1.2**
	comp=Z,6.7nm,1.7s								
RETA	**Reutte**	**82.21**	**330**	*e*P		**P**		**23 58 59.0**	**+0.8**
	comp=Z,205nm,1.1s,SNR=116								
RETA				*e*S		**S**		**00 09 09.9**	**-1.2**
	comp=Z,7.8nm,1.6s								
SQTA	**Sankt Quirin**	**82.26**	**329**	*e*P		**P**		**23 58 59.3**	**+0.8**
	comp=Z,167nm,1.2s,SNR=54								
SQTA				*e*S		**S**		**00 09 10.9**	**-0.8**
	comp=Z,5.0nm,0.9s								
A050A	**Klekovaca**	**82.26**	**324**	⇑*i*P		**P**		**23 58 58.9**	**+0.3**
BCI	**Bajram Curri**	**82.29**	**321**	P		**P**		**23 58 58.9**	**+0.2**
SABO	**M.te Sabotino**	**82.31**	**327**	P		**P**		**23 58 58.1**	**-0.6**
SABO				IAmb	IAmb	23 58 59.8			
	comp=Z,249nm,1.3s								
SMG	**Samos**	**82.32**	**314**	P		**P**		**23 58 58.9**	**0.0**
KLINJ	**Klinje**	**82.36**	**322**	⇑*i*P		**P**		**23 58 58.9**	**-0.2**
HSIG		**82.39**	**58**	P		**P**		**23 58 59.9**	**+0.5**
BFO	**Black Forest**	**82.42**	**331**	P		**P**		**23 58 59.4**	**+0.2**
BFO				IAmb	IAmb	23 59 14.9			
	comp=Z,179nm,1.2s								
BFO	**Black Forest**	**82.42**	**331**	P		**P**		**23 58 59.4**	**+0.2**
BFO				pmax	pmax				
	comp=Z,179nm,1.2s								
BFO	**Black Forest**	**82.42**	**331**	⇑P		**P**		**23 58 59.6**	**+0.3**
BFO	**Black Forest**	**82.42**	**331**	*e*P		**P**		**23 58 59.9**	**+0.7**
	comp=Z,5µm,4.0s,baz=34,slow=5.4								
BFO				*e*L		L		00 36 12.8	
	comp=Z,9µm,21.9s								
STAL	**STALIGIAL**	**82.45**	**328**	P		**P**		**23 58 58.9**	**-0.6**
STAL				IAmb	IAmb	23 59 16.4			
	comp=Z,209nm,1.1s								
DSB	**Dublin**	**82.45**	**342**	P		**P**		**23 58 58.8**	**-0.5**
DSB	**Dublin**	**82.45**	**342**	P		**P**		**23 59 00.1**	**+0.8**
DSB	**Dublin**	**82.45**	**342**	P		**P**		**23 58 59.4**	**+0.2**
DSB				IAMs_20	IAMs_20	00 40 27.2			
	comp=Z,4µm,21.0s								
DSB	**Dublin**	**82.45**	**342**	⇑P		**P**		**23 58 59.8**	**+0.5**
TRI	**Trieste**	**82.46**	**327**	P		**P**		**23 58 58.0**	**-1.5**
TRI				IAmb	IAmb	23 58 59.4			
	comp=Z,239nm,1.2s								
TRI	**Trieste**	**82.46**	**327**	P		**P**		**23 58 58.0**	**-1.5**
TRI				pmax	pmax				
	comp=Z,239nm,1.2s								
TRI				MLR	MLR				
	comp=Z,15µm,20.0s								
NKME	**Niksic**	**82.51**	**322**	⇑*i*P		**P**		**23 58 59.9**	**+0.1**
BRY	**Bratogost**	**82.59**	**322**	⇑*i*P		**P**		**23 59 00.2**	**-0.2**
FETA	**Feichten**	**82.61**	**329**	*e*P		**P**		**23 59 01.1**	**+0.6**
	comp=Z,113nm,1.1s,SNR=90								
FETA				SKS		**S**		**00 09 16.9**	**+1.5**
	comp=Z,6.9nm,1.9s								
PUK	**Puka**	**82.62**	**321**	P		**P**		**23 59 01.0**	**+0.5**
PDG	**Podgorica**	**82.63**	**322**	⇑P		**P**		**23 59 00.7**	**+0.3**
PDG	**Podgorica**	**82.63**	**322**	⇑*i*P		**P**		**23 59 00.8**	**+0.4**
N35A	**Tabor**	**82.67**	**41**	IAMs_20	IAMs_20	00 38 39.9			
	comp=Z,4µm,20.0s								
SKY	**Skiros Island**	**82.68**	**316**	P		**P**		**23 59 01.1**	**+0.3**
ARG	**Arkhangelos**	**82.69**	**312**	IAMs_20	IAMs_20	00 41 49.5			
	comp=Z,5µm,20.0s								
ARG	**Arkhangelos**	**82.69**	**312**	P		**P**		**23 59 01.2**	**+0.4**
ARG	**Arkhangelos**	**82.69**	**312**	P		**P**		**23 59 01.8**	**+1.0**
ARG	**Arkhangelos**	**82.69**	**312**	⇑P		**P**		**23 59 01.4**	**+0.6**
CEME	**Cevo**	**82.69**	**322**	⇑*i*P		**P**		**23 59 00.9**	**+0.1**
KIJV	**Kijevo**	**82.69**	**324**	⇑*i*P		**P**		**23 59 00.9**	**+0.2**
SRIG	**Santa Rosalia**	**82.70**	**60**	IAMs_20	IAMs_20	00 28 41.1			
	comp=Z,6µm,22.0s								
DAVA	**Damuels**	**82.71**	**330**	*e*P		**P**		**23 59 01.6**	**+0.7**
	comp=Z,174nm,1.0s,SNR=88								
DAVA				*e*S		**S**		**00 09 13.7**	**-2.7**
	comp=Z,4.8nm,1.3s								
DAVA	**Damuels**	**82.71**	**330**	⇑P		**P**		**23 59 01.5**	**+0.5**
KZIT	**Kziot**	**82.72**	**305**	⇑P		**P**		**23 59 01.8**	**+0.7**
MCH1	**Michaelchurch**	**82.75**	**340**	⇑P		**P**		**23 59 01.2**	**+0.4**
AOS	**Alonnisos**	**82.81**	**317**	P		**P**		**23 59 01.7**	**+0.2**
TREB	**Trebinje**	**82.83**	**322**	*e*P		**P**		**23 59 01.4**	**0.0**
SLE	**Schleitheim**	**82.83**	**331**	P		**P**		**23 59 01.5**	**+0.1**
DRME	**Dracevica, Mon**	**82.85**	**322**	⇑*i*P		**P**		**23 59 02.3**	**+0.8**
FNA	**Florina**	**82.87**	**319**	P		**P**		**23 59 01.7**	**0.0**
FNA	**Florina**	**82.87**	**319**	⇑P		**P**		**23 59 00.3**	**-1.4**
BUM	**Brajici-Budva**	**82.89**	**322**	⇑*i*P		**P**		**23 59 02.1**	**+0.2**
OHR	**Ohrid**	**82.90**	**320**	*i*P		**P**		**23 59 02.4**	**+0.5**
R32A	**Long Quarter,**	**82.93**	**44**	IAMs_20	IAMs_20	00 39 23.0			
	comp=Z,4µm,20.0s								
ECH	**Echery**	**82.93**	**332**	P		**P**		**23 59 01.5**	**-0.4**
ECH				IAmb	IAmb	23 59 03.0			
	comp=Z,128nm,1.2s								
ECH	**Echery**	**82.93**	**332**	P		**P**		**23 59 01.5**	**-0.4**
ECH				pmax	pmax				
	comp=Z,128nm,1.2s								
ECH				MLR	MLR				
	comp=Z,9µm,19.0s								
ECH	**Echery**	**82.93**	**332**	⇑P		**P**		**23 59 01.8**	**-0.2**
IGLA	**Glengowla, Co**	**82.96**	**344**	P		**P**		**23 59 02.2**	**+0.3**
ULC	**Ulcinj**	**82.99**	**321**	⇑*i*P		**P**		**23 59 02.5**	**+0.2**
STON	**Ston**	**83.00**	**323**	⇑*i*P		**P**		**23 59 01.7**	**-0.6**
KUZ	**Kuaotunu**	**83.00**	**154**	P		**P**		**23 59 03.8**	**+1.7**
KZN	**Kozani**	**83.03**	**319**	P		**P**		**23 59 01.9**	**-0.8**
SCIA	**State Center**	**83.04**	**39**	IAMs_20	IAMs_20	00 34 55.7			
	comp=Z,6µm,22.0s								
NEO	**Neokhori**	**83.05**	**317**	P		**P**		**23 59 01.9**	**-0.8**
KYMI	**Kymi, Euboea I**	**83.10**	**316**	P		**P**		**23 59 02.5**	**-0.4**
BRJN	**Brijuni**	**83.12**	**326**	⇑*i*P		**P**		**23 59 02.2**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**83.12**	**329**	P		**P**		**23 59 04.0**	**+0.8**
DAVOX	**Davos/Dischmat**	**83.13**	**330**	LR	LR	00 40 09.9			
	comp=Z,6µm,18.7s,baz=16,slow=39								
LRSO	**Larissa Observ**	**83.20**	**318**	P		**P**		**23 59 03.7**	**+0.3**
EIL	**Elat**	**83.23**	**304**	LR	LR	00 40 10.7			
	comp=Z,320nm,20.9s,baz=44,slow=38								
EIL	**Elat**	**83.23**	**304**	⇑P		**P**		**23 59 04.5**	**+0.7**
TYRN	**Tyrnavos**	**83.25**	**318**	P		**P**		**23 59 03.0**	**-0.6**
EPT	**El Paso**	**83.28**	**53**	P		**P**		**23 59 04.2**	**0.0**
KBN	**Korca**	**83.28**	**320**	P		**P**		**23 59 04.2**	**+0.3**
E46A	**Sault Ste Mari**	**83.31**	**31**	IAMs_20	IAMs_20	00 42 20.2			
	comp=Z,4µm,19.0s								
IWEX	**Carrickbyrne,**	**83.35**	**342**	P		**P**		**23 59 04.8**	**+0.9**
KARY	**Karystos**	**83.37**	**316**	P		**P**		**23 59 04.0**	**-0.3**
PENT	**Pentalofos**	**83.43**	**319**	P		**P**		**23 59 04.6**	**-0.1**
I42A	**Draeger Farm,**	**83.43**	**35**	IAMs_20	IAMs_20	00 42 05.7			
	comp=Z,3µm,21.0s								
H43A	**Windswept, Lux**	**83.46**	**34**	IAMs_20	IAMs_20	00 42 02.3			
	comp=Z,3µm,18.0s								
THL	**Klokotos Trika**	**83.47**	**318**	P		**P**		**23 59 03.4**	**-1.4**
TUE	**Stuetta**	**83.59**	**330**	⇑P		**P**		**23 59 06.1**	**+0.5**
DION	**Dionisos Attik**	**83.60**	**316**	P		**P**		**23 59 04.6**	**-1.0**
ATAL	**Atalanti**	**83.61**	**317**	P		**P**		**23 59 05.1**	**-0.4**
LKR	**Lokris**	**83.66**	**317**	P		**P**		**23 59 05.1**	**-0.7**
PTL	**Penteli**	**83.66**	**316**	P		**P**		**23 59 05.1**	**-0.8**
KARP	**Karpathos**	**83.71**	**312**	P		**P**		**23 59 06.1**	**0.0**
KARP				IAMs_20	IAMs_20	00 43 05.5			
	comp=Z,19.0s								
KARP	**Karpathos**	**83.71**	**312**	P		**P**		**23 59 06.2**	**0.0**
KARP	**Karpathos**	**83.71**	**312**	⇑P		**P**		**23 59 06.3**	**+0.1**
PARN1	**Fyli,Attica,Gr**	**83.72**	**316**	P		**P**		**23 59 05.3**	**-0.8**
AGG	**Agios Georgios**	**83.72**	**318**	P		**P**		**23 59 05.3**	**-0.9**
STFN	**Stefani**	**83.73**	**316**	P		**P**		**23 59 05.4**	**-0.8**
AXAR	**Agios Charalam**	**83.75**	**317**	P		**P**		**23 59 05.7**	**-0.5**
ATHU	**Athens Univers**	**83.76**	**316**	P		**P**		**23 59 05.4**	**-1.0**
PARN2	**Moni Osiou Mel**	**83.76**	**316**	P		**P**		**23 59 05.5**	**-0.9**
ATH	**Athens Observa**	**83.79**	**316**	P		**P**		**23 59 05.0**	**-1.4**
MAGU	**Magoula**	**83.82**	**316**	P		**P**		**23 59 05.4**	**-1.2**
TOZ	**Tahuroa Road**	**83.83**	**155**	P		**P**		**23 59 07.9**	**+1.6**
TOZ				IAmb	IAmb	23 59 22.5			
	comp=Z,183nm,1.9s								
TOZ				IAMs_20	IAMs_20	00 31 47.8			
	comp=Z,4µm,22.0s								
MAKR	**Makrakomi, Fth**	**83.83**	**318**	P		**P**		**23 59 05.9**	**-0.8**
PARN3	**Mandra,Attica,**	**83.83**	**316**	P		**P**		**23 59 05.5**	**-1.1**
VLY	**Voula,Athens**	**83.84**	**316**	P		**P**		**23 59 05.5**	**-1.2**
L40A	**Anamosa**	**83.85**	**37**	IAMs_20	IAMs_20	00 35 18.0			
	comp=Z,5µm,22.0s								
VILL	**Villia**	**83.86**	**316**	P		**P**		**23 59 05.8**	**-1.1**
N38A	**Joes South For**	**83.89**	**39**	IAMs_20	IAMs_20	00 36 53.3			
	comp=Z,5µm,21.0s								
AMTX	**Amarillo**	**83.90**	**48**	⇑P		**P**		**23 59 08.3**	**+1.1**
PRMD	**Pramanda**	**83.96**	**319**	P		**P**		**23 59 08.1**	**+0.7**
MNTX	**Cornudas Mount**	**84.01**	**53**	⇑P		**P**		**23 59 08.8**	**+1.0**
TETR	**Tetrakomo, Epi**	**84.01**	**318**	P		**P**		**23 59 07.8**	**+0.1**
VLO	**Vlora**	**84.03**	**320**	P		**P**		**23 59 08.2**	**+0.6**
THERA	**Ancient Thera,**	**84.04**	**314**	P		**P**		**23 59 05.7**	**-2.1**
THR3	**Thira Island,**	**84.05**	**314**	P		**P**		**23 59 07.3**	**-0.6**
EVR	**Evrytania**	**84.07**	**318**	P		**P**		**23 59 07.5**	**-0.5**
LTK	**Loutraki**	**84.15**	**317**	P		**P**		**23 59 06.4**	**-1.9**
SRN	**Sarande**	**84.23**	**320**	P		**P**		**23 59 08.5**	**-0.2**
ANX	**Ano Chora**	**84.25**	**318**	P		**P**		**23 59 08.6**	**-0.4**
VLDQ	**Val d'Or**	**84.29**	**26**	P		**P**		**23 59 07.8**	**-1.0**
KALE	**Kalithea**	**84.30**	**317**	P		**P**		**23 59 08.2**	**-0.9**
SERG	**Sergoula**	**84.32**	**317**	P		**P**		**23 59 08.1**	**-1.1**
HIZ	**Hauiti**	**84.34**	**155**	IAMs_20	IAMs_20	00 31 49.3			
	comp=Z,4µm,21.0s								
IGT	**Igoumenitsa**	**84.34**	**319**	P		**P**		**23 59 08.9**	**-0.3**
OK038	**West end E0370**	**84.35**	**46**	IAMs_20	IAMs_20	00 43 00.8			
	comp=Z,4µm,19.0s								
AMPL	**Ampelaki**	**84.36**	**318**	P		**P**		**23 59 09.4**	**0.0**
EFP	**Efpalio**	**84.39**	**317**	P		**P**		**23 59 09.1**	**-0.4**
PVO	**Paravola**	**84.44**	**318**	P		**P**		**23 59 09.9**	**+0.1**
I45A	**Fountain**	**84.45**	**33**	IAMs_20	IAMs_20	00 38 15.6			
	comp=Z,4µm,21.0s								
GLMI	**Grayling**	**84.46**	**32**	IAMs_20	IAMs_20	00 40 53.8			
	comp=Z,5µm,20.0s								
KEK	**Kerkira**	**84.46**	**320**	⇑P		**P**		**23 59 13.2**	**+3.4**
VAL	**Valentia**	**84.53**	**344**	P		**P**		**23 59 09.9**	**-0.1**
VAL	**Valentia**	**84.53**	**344**	P		**P**		**23 59 11.0**	**+1.1**
GUR	**Goura**	**84.54**	**317**	P		**P**		**23 59 09.3**	**-1.1**
LFKM	**Lefkimmi**	**84.54**	**319**	P		**P**		**23 59 10.4**	**+0.1**
KLV	**Kalavryta, Ach**	**84.55**	**317**	P		**P**		**23 59 09.3**	**-1.1**
MXZ	**Matakaoa Point**	**84.62**	**153**	IAMs_20	IAMs_20	00 33 13.8			
	comp=Z,4µm,21.0s								
K43A	**Burlington**	**84.64**	**35**	IAMs_20	IAMs_20	00 44 10.6			
	comp=Z,3µm,19.0s								
P38A	**Dawn**	**84.65**	**40**	IAMs_20	IAMs_20	00 37 33.4			
	comp=Z,4µm,21.0s								
PMOR	**Pomariorio Ree**	**84.69**	**115**	*e*S		**S**		**00 09 39.4**	**+2.8**
	comp=Z,3µm,29.7s								
PMOR	**Pomariorio Ree**	**84.69**	**115**	*e*LR	LR	00 25 56.4			
	comp=Z,15µm,24.7s								
TSLK	**Tsoukalades, L**	**84.72**	**318**	P		**P**		**23 59 10.7**	**-0.5**
LKD2	**Lefkada island**	**84.75**	**318**	P		**P**		**23 59 11.1**	**-0.2**
CLF	**Chambon-Foret**	**84.76**	**335**	P		**P**		**23 59 11.6**	**+0.5**
CLF	**Chambon-Foret**	**84.76**	**335**	⇑P		**P**		**23 59 11.8**	**+0.7**
NPS	**Neapolis**	**84.78**	**313**	P		**P**		**23 59 10.8**	**-0.8**
NYDR	**Nydri-Lefkada**	**84.78**	**318**	P		**P**		**23 59 11.1**	**-0.3**
AXS	**Araxos**	**84.83**	**318**	P		**P**		**23 59 11.6**	**-0.2**
URZ	**Urewera**	**84.84**	**154**	LR	LR	00 33 49.2			
	comp=Z,4µm,20.1s,baz=328,slow=33								
DRO	**Drossia**	**84.85**	**317**	P		**P**		**23 59 11.8**	**-0.1**
EVGI	**Lefkada island**	**84.88**	**318**	P		**P**		**23 59 11.9**	**-0.1**
LOR	**Lormes**	**84.89**	**333**	⇑P		**P**		**23 59 12.1**	**+0.2**
RLS	**Riolos of Patr**	**84.89**	**318**	P		**P**		**23 59 12.3**	**+0.2**
VLX	**Vlachokerasia**	**84.94**	**317**	P		**P**		**23 59 11.3**	**-1.1**
BOB	**Bobbio (Coli)**	**84.98**	**329**	⇑P		**P**		**23 59 12.7**	**+0.2**
VAH	**Vaihoa**	**85.03**	**115**	*e*LR	LR	00 26 07.6			
	comp=Z,7µm,24.5s								
FSK	**Fiskardo**	**85.05**	**318**	P		**P**		**23 59 12.1**	**-0.7**
JSA	**Saint Aubin**	**85.07**	**338**	⇓P		**P**		**23 59 13.8**	**+1.1**
N41A	**Harden Midland**	**85.09**	**38**	IAMs_20	IAMs_20	00 36 02.7			
	comp=Z,4µm,21.0s								
VLC	**Villacollemand**	**85.11**	**328**	P		**P**		**23 59 12.6**	**-0.5**
VLC	**Villacollemand**	**85.11**	**328**	⇑P		**P**		**23 59 13.0**	**-0.1**
RTZ	**Ruatahuna**	**85.12**	**154**	P		**P**		**23 59 13.3**	**+0.3**
RTZ				IAmb	IAmb	23 59 40.8			
	comp=Z,84nm,1.2s								
RTZ				IAMs_20	IAMs_20	00 35 14.9			
	comp=Z,4µm,20.0s								
VLI	**Veliai**	**85.14**	**316**	P		**P**		**23 59 11.4**	**-1.9**
IDI	**Anoyia**	**85.16**	**314**	P		**P**		**23 59 12.4**	**-1.1**
IDI	**Anoyia**	**85.16**	**314**	P		**P**		**23 59 12.2**	**-1.4**
IDI	**Anoyia**	**85.16**	**314**	LR	LR	00 42 45.3			
	comp=Z,4µm,18.1s,baz=22,slow=40								
MATE	**Matera**	**85.21**	**322**	⇑P		**P**		**23 59 13.7**	**+0.1**
T35A	**Sooner Cattle**	**85.21**	**44**	IAMs_20	IAMs_20	00 38 36.4			
	comp=Z,5µm,21.0s								
RTZL	**Ratzakli, Kefa**	**85.23**	**318**	P		**P**		**23 59 13.7**	**-0.1**
L44A	**Lake County Fo**	**85.25**	**35**	IAMs_20	IAMs_20	00 41 23.7			
	comp=Z,4µm,20.0s								
VLS	**Valsamata**	**85.25**	**318**	P		**P**		**23 59 13.6**	**-0.3**
PSDA	**Pessada-Kefalo**	**85.30**	**318**	P		**P**		**23 59 13.6**	**-0.4**
MONC	**Moncucco Torin**	**85.31**	**330**	⇑P		**P**		**23 59 14.2**	**+0.2**
DMLN	**Damoulianata-K**	**85.31**	**318**	P		**P**		**23 59 14.5**	**+0.3**
ITM	**Ithomi**	**85.32**	**317**	P		**P**		**23 59 13.4**	**-0.9**
ITM	**Ithomi**	**85.32**	**317**	⇑P		**P**		**23 59 13.8**	**-0.5**
AQU	**L'Aquila**	**85.33**	**325**	P		**P**		**23 59 14.5**	**+0.3**
AQU	**L'Aquila**	**85.33**	**325**	⇑*i*P		**P**		**23 59 14.7**	**+0.4**
AQU	**L'Aquila**	**85.33**	**325**	⇑P		**P**		**23 59 14.7**	**+0.4**
PPT	**Papeete**	**85.36**	**118**	LR	LR	00 31 39.0			
	comp=Z,13µm,20.3s,baz=322,slow=32								
PPT2	**Papeete2**	**85.37**	**118**	*e*P		P		23 59 07.2	-7.5
	comp=Z,572nm,27.0s

TRQ	**Mont Tremblant**	**86.89**	**25**	P	**P**	**23 59 21.9**	**-0.1**
TRQ				IAmb	IAmb	23 59 23.2	
	comp=Z,113nm,1.0s						
AAM	**Ann Arbor**	**86.95**	**33**	P	**P**	**23 59 22.3**	**+0.2**
AAM				IAmb	IAmb	23 59 41.9	
	comp=Z,82nm,1.1s						
AAM				IAMs_20	IAMs_20	00 42 53.6	
	comp=Z,3µm,19.0s						
AAM	**Ann Arbor**	**86.95**	**33**	P	**P**	**23 59 22.3**	**+0.2**
AAM				pmax	pmax		
	comp=Z,83nm,1.2s						
K50A	**Casco**	**86.97**	**32**	IAMs_20	IAMs_20	00 39 17.1	
	comp=Z,5µm,22.0s						
LMQ	**La Malbaie**	**86.97**	**22**	P	**P**	**23 59 21.8**	**-0.4**
LMQ				IAmb	IAmb	23 59 23.6	
	comp=Z,113nm,1.1s						
BHW	**Baring Head**	**86.99**	**157**	IAMs_20	IAMs_20	00 32 38.5	
	comp=Z,4µm,21.0s						
CCM	**Cathedral Cave**	**86.99**	**40**	P	**P**	**23 59 22.1**	**-0.4**
CCM				IAmb	IAmb	23 59 42.7	
	comp=Z,81nm,1.1s						
CCM	**Cathedral Cave**	**86.99**	**40**	IAMs_20	IAMs_20	00 38 27.3	
	comp=Z,4µm,22.0s						
CCM	**Cathedral Cave**	**86.99**	**40**	P	**P**	**23 59 22.1**	**-0.4**
CCM				pmax	pmax		
	comp=Z,81nm,1.1s						
CCM				MLR	MLR		
	comp=Z,4µm,22.0s						
CCM	**Cathedral Cave**	**86.99**	**40**	⇑P	**P**	**23 59 22.6**	**+0.2**
SLM	**Saint Louis**	**87.02**	**39**	IAMs_20	IAMs_20	00 38 58.9	
	comp=Z,6µm,22.0s						
HHAR	**Hobbs**	**87.03**	**43**	P	**P**	**23 59 22.4**	**-0.3**
SFIN	**Lafayette**	**87.06**	**36**	IAMs_20	IAMs_20	00 38 06.9	
	comp=Z,6µm,21.0s						
HPIG		**87.19**	**56**	P	**P**	**23 59 24.2**	**+0.3**
HPIG				IAMs_20	IAMs_20	00 31 12.9	
	comp=Z,4µm,22.0s						
MGMO	**Mountain Grove**	**87.20**	**41**	IAMs_20	IAMs_20	00 42 32.8	
	comp=Z,3µm,20.0s						
INZ	**Inchbonnie**	**87.24**	**159**	IAMs_20	IAMs_20	00 38 14.0	
	comp=Z,4µm,19.0s						
N47A	**Urbana**	**87.27**	**35**	IAMs_20	IAMs_20	00 37 48.2	
	comp=Z,4µm,21.0s						
DELO	**Deloro Mine**	**87.36**	**28**	IAMs_20	IAMs_20	00 45 44.2	
	comp=Z,4µm,19.0s						
Q44A	**Meyer Farm, Va**	**87.38**	**38**	IAMs_20	IAMs_20	00 44 17.4	
	comp=Z,3µm,20.0s						
CEL	**Celeste**	**87.49**	**321**	⇑P	**P**	**23 59 23.7**	**-1.3**
LTZ	**Lake Taylor**	**87.51**	**159**	IAMs_20	IAMs_20	00 36 13.3	
	comp=Z,5µm,20.0s						
Z35A	**Perchaven, San**	**87.51**	**47**	IAMs_20	IAMs_20	00 35 49.6	
	comp=Z,5µm,22.0s						
N49A	**Columbus Grove**	**87.88**	**34**	IAMs_20	IAMs_20	00 46 12.3	
	comp=Z,4µm,19.0s						
OLIL	**Olney**	**87.94**	**38**	IAMs_20	IAMs_20	00 37 42.2	
	comp=Z,3µm,20.0s						
M50A	**Fremont**	**87.95**	**33**	IAMs_20	IAMs_20	00 41 05.1	
	comp=Z,3µm,21.0s						
OXZ	**Oxford**	**87.95**	**159**	IAMs_20	IAMs_20	00 40 35.0	
	comp=Z,4µm,19.0s						
O48B	**Farmland**	**88.01**	**35**	IAMs_20	IAMs_20	00 38 20.9	
	comp=Z,4µm,21.0s						
E62A	**Clayton Lake**	**88.05**	**22**	IAMs_20	IAMs_20	00 44 54.1	
	comp=Z,5µm,18.0s						
RPZ	**Rata Peaks**	**88.06**	**160**	LR	LR	00 34 42.0	
	comp=Z,3µm,21.1s,baz=341,slow=33						
JCT	**Junction City**	**88.19**	**50**	IAMs_20	IAMs_20	00 34 13.8	
	comp=Z,5µm,22.0s						
MEDO	**Medina**	**88.23**	**29**	IAMs_20	IAMs_20	00 46 55.4	
	comp=Z,3µm,19.0s						
S44A	**Carbondale**	**88.23**	**39**	IAMs_20	IAMs_20	00 39 58.1	
	comp=Z,5µm,21.0s						
SIUC	**Southern Illin**	**88.24**	**39**	IAMs_20	IAMs_20	00 39 47.1	
	comp=Z,5µm,21.0s						
FCAR	**Ozark Folk Cen**	**88.26**	**42**	IAMs_20	IAMs_20	00 38 23.9	
	comp=Z,4µm,21.0s						
LONY	**Lake Ozonia**	**88.30**	**26**	P	**P**	**23 59 28.4**	**-0.3**
LONY	**Lake Ozonia**	**88.30**	**26**	⇑P	**P**	**23 59 28.5**	**-0.2**
J55A	**Hilton**	**88.38**	**29**	IAMs_20	IAMs_20	00 46 22.2	
	comp=Z,4µm,18.0s						
PBMO	**Poplar Bluff**	**88.40**	**40**	IAMs_20	IAMs_20	00 38 47.5	
	comp=Z,4µm,21.0s						
WHTX	**Lake Whitney,**	**88.41**	**48**	IAMs_20	IAMs_20	00 40 36.3	
	comp=Z,3µm,20.0s						
O49A	**Covington**	**88.42**	**34**	IAMs_20	IAMs_20	00 38 35.7	
	comp=Z,4µm,20.0s						
FRNY	**Flat Rock**	**88.44**	**25**	P	**P**	**23 59 28.7**	**-0.6**
FRNY				IAmb	IAmb	23 59 43.7	
	comp=Z,117nm,2.0s						
FRNY				IAMs_20	IAMs_20	00 42 43.6	
	comp=Z,3µm,21.0s						
LBZ	**Lake Benmore**	**88.47**	**161**	IAMs_20	IAMs_20	00 32 41.6	
	comp=Z,4µm,21.0s						
P48A	**Milroy**	**88.55**	**35**	IAMs_20	IAMs_20	00 39 37.2	
	comp=Z,5µm,22.0s						
LCAR	**Lake Charles**	**88.60**	**41**	IAMs_20	IAMs_20	00 41 57.0	
	comp=Z,3µm,21.0s						
USIN	**University of**	**88.76**	**38**	IAMs_20	IAMs_20	00 45 36.0	
	comp=Z,3µm,19.0s						
Z38A	**Mt. Pleasant**	**88.80**	**45**	IAMs_20	IAMs_20	00 42 57.6	
	comp=Z,5µm,20.0s						
MMNY	**Mt. Morris Dam**	**88.81**	**29**	IAMs_20	IAMs_20	00 46 45.6	
	comp=Z,3µm,18.0s						
VAE	**Valguarnera**	**88.81**	**322**	LR	LR	00 45 10.6	
	comp=Z,10µm,18.5s,baz=35,slow=40						
PARMO	**Parma**	**88.82**	**40**	IAMs_20	IAMs_20	00 39 43.6	
	comp=Z,5µm,22.0s						
MTLF	**Montolieu**	**88.88**	**333**	⇑P	**P**	**23 59 32.4**	**+1.0**
J57A	**Williamstown**	**88.89**	**27**	IAMs_20	IAMs_20	00 46 11.8	
	comp=Z,5µm,19.0s						
ACSO	**Alum Creek Sta**	**88.95**	**33**	P	**P**	**23 59 31.9**	**+0.1**
ACSO				IAmb	IAmb	23 59 50.5	
	comp=Z,91nm,0.9s						
ACSO				IAMs_20	IAMs_20	00 41 01.8	
	comp=Z,4µm,21.0s						
ACSO	**Alum Creek Sta**	**88.95**	**33**	⇑P	**P**	**23 59 32.4**	**+0.6**
NCB	**Newcomb**	**89.00**	**26**	IAMs_20	IAMs_20	00 44 35.5	
	comp=Z,5µm,20.0s						
G62A	**West of Eustis**	**89.03**	**23**	IAMs_20	IAMs_20	00 47 27.3	
	comp=Z,4µm,19.0s						
PVMO	**Portageville**	**89.04**	**40**	IAMs_20	IAMs_20	00 39 49.6	
	comp=Z,5µm,22.0s						
T45A	**Paducah**	**89.07**	**39**	IAMs_20	IAMs_20	00 40 12.2	
	comp=Z,5µm,21.0s						
VT1	**Waterbury**	**89.15**	**25**	P	**P**	**23 59 32.9**	**+0.2**
VT1				IAmb	IAmb	23 59 52.4	
	comp=Z,72nm,1.0s						
VT1				IAMs_20	IAMs_20	00 46 48.8	
	comp=Z,4µm,20.0s						
HICK	**Hickman**	**89.17**	**40**	IAMs_20	IAMs_20	00 40 04.9	
	comp=Z,5µm,22.0s						
WCI	**Wyandotte Cave**	**89.17**	**37**	P	**P**	**23 59 32.7**	**-0.1**
WCI				IAmb	IAmb	23 59 52.8	
	comp=Z,46nm,0.9s						
WCI	**Wyandotte Cave**	**89.17**	**37**	IAMs_20	IAMs_20	00 39 42.8	
	comp=Z,3µm,21.0s						
WCI	**Wyandotte Cave**	**89.17**	**37**	P	**P**	**23 59 32.7**	**-0.1**
WCI				pmax	pmax		
	comp=Z,46nm,0.9s						
WCI				MLR	MLR		
	comp=Z,4µm,21.0s						
WCI	**Wyandotte Cave**	**89.17**	**37**	⇑P	**P**	**23 59 33.4**	**+0.6**
PAOC	**Oil Creek Stat**	**89.19**	**31**	IAMs_20	IAMs_20	00 41 35.8	
	comp=Z,5µm,22.0s						
ODZ	**Otahua Downs**	**89.20**	**161**	IAMs_20	IAMs_20	00 33 04.9	
	comp=Z,5µm,22.0s						
PEBM	**Pemiscott Bayo**	**89.20**	**40**	IAMs_20	IAMs_20	00 39 11.9	
	comp=Z,4µm,20.0s						
HBAR	**Harrisburg**	**89.25**	**41**	IAMs_20	IAMs_20	00 37 44.3	
	comp=Z,4µm,22.0s						
K57A	**Scipio Center**	**89.31**	**28**	IAMs_20	IAMs_20	00 41 53.8	
	comp=Z,3µm,21.0s						
PKME	**Peaks-Kenny Pk**	**89.35**	**22**	P	**P**	**23 59 33.9**	**+0.4**
PKME				IAmb	IAmb	23 59 50.5	
	comp=Z,53nm,0.9s						
PKME	**Peaks-Kenny Pk**	**89.35**	**22**	⇑P	**P**	**23 59 34.2**	**+0.7**
GLAT	**Glass**	**89.36**	**40**	IAMs_20	IAMs_20	00 40 10.9	
	comp=Z,5µm,21.0s						
WHZ	**Wether Hill Ro**	**89.36**	**163**	IAMs_20	IAMs_20	00 35 50.2	
	comp=Z,4µm,21.0s						
LNXT	**Lenox**	**89.39**	**40**	IAMs_20	IAMs_20	00 39 16.9	
	comp=Z,4µm,21.0s						
VSL	**Villasalto**	**89.41**	**326**	⇑P	**P**	**23 59 33.6**	**-0.4**
EJON	**La Jonquera**	**89.43**	**332**	P	**P**	**23 59 33.9**	**-0.1**
L56A	**Greenwood**	**89.45**	**29**	IAMs_20	IAMs_20	00 46 48.6	
	comp=Z,4µm,19.0s						
LBNH	**Lisbon**	**89.50**	**24**	P	**P**	**23 59 34.7**	**+0.5**
LBNH				IAmb	IAmb	23 59 48.9	
	comp=Z,129nm,1.7s						
LBNH	**Lisbon**	**89.50**	**24**	P	**P**	**23 59 34.7**	**+0.5**
LBNH				pmax	pmax		
	comp=Z,129nm,1.7s						
LBNH				MLR	MLR		
	comp=Z,8µm,22.0s						
LBNH	**Lisbon**	**89.50**	**24**	⇑P	**P**	**23 59 35.1**	**+0.8**
UTMT	**University of**	**89.50**	**39**	IAMs_20	IAMs_20	00 40 14.6	
	comp=Z,5µm,22.0s						
PAMR	**Moraine State**	**89.52**	**31**	P	**P**	**23 59 34.8**	**+0.3**
PAMR				IAmb	IAmb	23 59 51.5	
	comp=Z,138nm,1.1s						
O52A	**Adamsville**	**89.53**	**33**	IAMs_20	IAMs_20	00 44 24.0	
	comp=Z,3µm,20.0s						
TBI	**Tubuai**	**89.54**	**122**	*e*P	**P**	**23 59 31.3**	**-3.2**
	comp=Z,1µm,29.5s						
TBI	**Tubuai**	**89.54**	**122**	*e*PP	**PP**	**00 03 02.0**	**-4.7**
	comp=Z,1µm,29.2s						
TBI				*e*S	**S**	**00 10 20.4**	**-2.7**
	comp=Z,9µm,27.8s						
TBI				*e*SS	**SS**	**00 16 13.5**	**-6.5**
	comp=Z,4µm,28.0s						
TBI				*e*LQ	LQ	00 23 53.6	
	comp=Z,3µm,26.2s						
TBI				*e*LR	LR	00 27 54.8	
	comp=Z,38µm,23.8s						
TBI				*e*LR	LR	00 27 59.0	
	comp=Z,10µm,24.0s						
P51A	**Williamsport**	**89.55**	**34**	P	**P**	**23 59 34.8**	**+0.2**
P51A				IAmb	IAmb	23 59 54.0	
	comp=Z,80nm,1.0s						
P51A				IAMs_20	IAMs_20	00 47 10.6	
	comp=Z,3µm,19.0s						
HALT	**Halls**	**89.62**	**40**	IAMs_20	IAMs_20	00 39 23.8	
	comp=Z,4µm,22.0s						
O53A	**New Philadelph**	**89.67**	**32**	IAMs_20	IAMs_20	00 44 42.5	
	comp=Z,4µm,20.0s						
P52A	**Corning**	**89.81**	**33**	IAMs_20	IAMs_20	00 44 02.4	
	comp=Z,4µm,21.0s						
Q51A	**Peebles**	**89.81**	**34**	IAMs_20	IAMs_20	00 39 37.5	
	comp=Z,5µm,22.0s						
T47A	**Sharon Grove**	**89.81**	**38**	IAMs_20	IAMs_20	00 38 56.9	
	comp=Z,3µm,21.0s						
HNH	**Hanover**	**89.86**	**25**	IAMs_20	IAMs_20	00 46 49.4	
	comp=Z,4µm,19.0s						
CEST	**Esterri de Car**	**89.87**	**333**	P	**P**	**23 59 36.7**	**+0.5**
CEST				IAmb	IAmb	23 59 37.9	
	comp=Z,86nm,1.1s						
WVL	**Waterville**	**89.89**	**23**	P	**P**	**23 59 36.3**	**+0.3**
G65A	**Princeton**	**89.89**	**21**	IAMs_20	IAMs_20	00 43 07.9	
	comp=Z,3µm,20.0s						
MET	**Memphis--Engin**	**89.96**	**41**	IAMs_20	IAMs_20	00 38 16.9	
	comp=Z,3µm,20.0s						
BINY	**Binghamton**	**89.96**	**28**	IAMs_20	IAMs_20	00 46 48.1	
	comp=Z,3µm,18.0s						
BINY	**Binghamton**	**89.96**	**28**	⇑P	**P**	**23 59 36.8**	**+0.3**
CCAR	**Cane Creek**	**89.98**	**43**	IAMs_20	IAMs_20	00 40 37.6	
	comp=Z,5µm,22.0s						
LMN	**Caledonia Moun**	**90.00**	**19**	P	**P**	**23 59 37.0**	**+0.5**
LMN				IAmb	IAmb	23 59 38.4	
	comp=Z,66nm,0.9s						
R50A	**Paris**	**90.01**	**35**	IAMs_20	IAMs_20	00 40 20.8	
	comp=Z,5µm,22.0s						
ATD	**Arta Tunnel**	**90.05**	**285**	P	**P**	**23 59 38.1**	**+0.7**
ATD				IAMs_20	IAMs_20	00 42 57.7	
	comp=Z,4µm,22.0s						
ATD	**Arta Tunnel**	**90.05**	**285**	LR	LR	00 46 06.7	
	comp=Z,136nm,18.1s,baz=34,slow=40						
ATD	**Arta Tunnel**	**90.05**	**285**	P	**P**	**23 59 39.3**	**+1.9**
	SNR=21						
ATD	**Arta Tunnel**	**90.05**	**285**	⇑P	**P**	**23 59 38.8**	**+1.4**
I63A	**Otisfield**	**90.08**	**24**	IAMs_20	IAMs_20	00 42 51.0	
	comp=Z,4µm,21.0s						
WDD	**Wied Dalam**	**90.08**	**321**	P	**P**	**23 59 36.5**	**-0.6**
WDD				IAmb	IAmb	23 59 55.1	
	comp=Z,66nm,1.1s						
J61A	**Chester**	**90.10**	**25**	IAMs_20	IAMs_20	00 41 23.7	
	comp=Z,5µm,22.0s						
NATX	**Nacogdoches**	**90.12**	**46**	IAMs_20	IAMs_20	00 44 05.7	
	comp=Z,5µm,21.0s						
WVT	**Waverly**	**90.17**	**39**	P	**P**	**23 59 37.4**	**-0.1**
WVT	**Waverly**	**90.17**	**39**	P	**P**	**23 59 37.4**	**-0.1**
WVT				pmax	pmax		
	comp=Z,18nm,0.9s						
WVT				MLR	MLR		
	comp=Z,5µm,21.0s						
WVT	**Waverly**	**90.17**	**39**	⇑P	**P**	**23 59 37.9**	**+0.4**
P53A	**Whipple**	**90.24**	**33**	IAMs_20	IAMs_20	00 44 54.8	
	comp=Z,4µm,20.0s						
TRY	**Troy**	**90.29**	**26**	IAMs_20	IAMs_20	00 45 54.6	
	comp=Z,4µm,20.0s						
Q52A	**Bidwell**	**90.32**	**34**	IAMs_20	IAMs_20	00 41 43.9	
	comp=Z,5µm,22.0s						
EMMW	**East Machias**	**90.38**	**21**	IAMs_20	IAMs_20	00 42 40.8	
	comp=Z,4µm,22.0s						
SSPA	**Standing Stone**	**90.63**	**30**	P	**P**	**23 59 39.7**	**+0.1**
SSPA				IAmb	IAmb	23 59 58.5	
	comp=Z,100nm,1.0s						
SSPA	**Standing Stone**	**90.63**	**30**	IAMs_20	IAMs_20	00 42 30.0	
	comp=Z,3µm,20.0s						
SSPA	**Standing Stone**	**90.63**	**30**	⇑P	**P**	**23 59 40.2**	**+0.6**
OXF	**Oxford**	**90.70**	**41**	IAMs_20	IAMs_20	00 48 12.6	
	comp=Z,3µm,19.0s						
MCWV	**Mont Chateau**	**90.72**	**32**	⇑P	**P**	**23 59 41.0**	**+1.0**
U49A	**Red Boiling Sp**	**90.81**	**37**	IAMs_20	IAMs_20	00 39 22.3	
	comp=Z,5µm,22.0s						
K62A	**Royalston**	**90.82**	**25**	IAMs_20	IAMs_20	00 43 30.6	
	comp=Z,4µm,22.0s						
HKT	**Hockley**	**90.86**	**48**	P	**P**	**23 59 40.5**	**-0.2**
HKT	**Hockley**	**90.86**	**48**	IAMs_20	IAMs_20	00 47 40.9	
	comp=Z,4µm,18.0s						
HKT	**Hockley**	**90.86**	**48**	P	**P**	**23 59 40.5**	**-0.2**
HKT				pmax	pmax		
	comp=Z,42nm,1.7s						
S51A	**Beattyville**	**90.86**	**35**	IAMs_20	IAMs_20	00 40 58.4	
	comp=Z,5µm,22.0s						
Q54A	**Coxs Mills**	**90.89**	**33**	IAMs_20	IAMs_20	00 45 23.1	
	comp=Z,5µm,20.0s						
V48A	**Smith Brothers**	**90.96**	**38**	IAMs_20	IAMs_20	00 41 31.3	
	comp=Z,4µm,20.0s						
PLAL	**Pickwick Lake**	**90.98**	**40**	IAMs_20	IAMs_20	00 40 57.8	
	comp=Z,5µm,22.0s						
143A	**Socs Landing,**	**91.12**	**43**	IAMs_20	IAMs_20	00 41 14.9	
	comp=Z,5µm,22.0s						
Y45A	**Yeager Farm, C**	**91.15**	**41**	IAMs_20	IAMs_20	00 40 49.5	
	comp=Z,3µm,20.0s						
MSEY	**Mahe Island**	**91.17**	**265**	IAMs_20	IAMs_20	00 39 28.6	
	comp=Z,4µm,21.0s						
HRV	**Adam Dziewonsk**	**91.17**	**25**	P	**P**	**23 59 42.4**	**+0.3**
HRV				IAmb	IAmb	00 00 02.2	
	comp=Z,78nm,1.1s						
HRV	**Adam Dziewonsk**	**91.17**	**25**	IAMs_20	IAMs_20	00 48 39.0	
	comp=Z,4µm,18.0s						
HRV	**Adam Dziewonsk**	**91.17**	**25**	P	**P**	**23 59 42.4**	**+0.3**
HRV				pmax	pmax		
	comp=Z,77nm,1.1s						
HRV	**Adam Dziewonsk**	**91.17**	**25**	⇑P	**P**	**23 59 42.9**	**+0.8**
WES	**Weston**	**91.36**	**25**	IAMs_20	IAMs_20	00 42 45.9	
	comp=Z,5µm,22.0s						
BCX	**Boston College**	**91.45**	**25**	IAMs_20	IAMs_20	00 42 44.4	
	comp=Z,5µm,22.0s						
KVTX	**Kingsville**	**91.48**	**51**	IAMs_20	IAMs_20	00 38 44.1	
	comp=Z,3µm,20.0s						
P57A	**Homestead Farm**	**91.58**	**31**	IAMs_20	IAMs_20	00 46 58.2	
	comp=Z,3µm,19.0s						
UCCT	**U. Connecticut**	**91.60**	**26**	IAMs_20	IAMs_20	00 44 04.4	
	comp=Z,3µm,21.0s						
441A	**DeRidder**	**91.70**	**46**	IAMs_20	IAMs_20	00 43 52.4	
	comp=Z,4µm,20.0s						
S54A	**Dingess, Beckl**	**91.70**	**34**	IAMs_20	IAMs_20	00 40 29.5	
	comp=Z,5µm,22.0s						
PAL	**Palisades**	**91.74**	**27**	IAMs_20	IAMs_20	00 46 55.2	
	comp=Z,5µm,20.0s						
MVL	**Millersville**	**91.76**	**29**	IAMs_20	IAMs_20	00 49 11.8	
	comp=Z,5µm,19.0s						
R55A	**Marlinton**	**91.78**	**33**	IAMs_20	IAMs_20	00 49 16.6	
	comp=Z,4µm,19.0s						
TZTN	**Tazewell**	**91.79**	**36**	P	**P**	**23 59 45.4**	**+0.3**
TZTN				IAmb	IAmb	00 00 05.0	
	comp=Z,50nm,1.2s						
TZTN	**Tazewell**	**91.79**	**36**	⇓P	**P**	**23 59 46.1**	**+1.0**
ETOS	**Mallorca**	**91.80**	**330**	P	**P**	**23 59 44.6**	**-0.4**
SWET	**Sewanee**	**91.81**	**38**	IAMs_20	IAMs_20	00 42 07.6	
	comp=Z,5µm,21.0s						
CTZ	**Chatham Island**	**91.87**	**152**	IAMs_20	IAMs_20	00 35 38.7	
	comp=Z,4µm,20.0s						
X48A	**Hartselle**	**91.90**	**39**	IAMs_20	IAMs_20	00 41 48.3	
	comp=Z,4µm,21.0s						
VBMS	**Vicksburg**	**91.97**	**43**	IAMs_20	IAMs_20	00 44 38.2	
	comp=Z,5µm,20.0s						
WUPA	**West Chester U**	**92.09**	**29**	IAMs_20	IAMs_20	00 48 45.5	
	comp=Z,3µm,18.0s						
W50A	**Signal Mountai**	**92.11**	**38**	IAMs_20	IAMs_20	00 42 47.6	
	comp=Z,4µm,22.0s						
ZAIG	**Zacatecas**	**92.13**	**57**	P	**P**	**23 59 47.5**	**+0.3**
ZAIG				IAmb	IAmb	00 02 56.6	
	comp=Z,26nm,0.4s						
M65A	**Busby, Falmout**	**92.32**	**25**	P	**P**	**23 59 47.9**	**+0.6**
	baz=335						
M65A				S	**S**	**00 10 46.9**	**-1.3**
	baz=335						
Z47A	**Carrollton**	**92.42**	**41**	IAMs_20	IAMs_20	00 41 10.0	
	comp=Z,3µm,20.0s						
TKL	**Tuckaleechee C**	**92.43**	**36**	P	**P**	**23 59 47.8**	**-0.2**
TKL	**Tuckaleechee C**	**92.43**	**36**	LR	LR	00 42 41.4	
	comp=Z,5µm,21.9s,baz=338,slow=36						
TKL	**Tuckaleechee C**	**92.43**	**36**	P	**P**	**23 59 47.8**	**-0.2**
TKL				pmax	pmax		
	comp=Z,34nm,1.1s						
TKL	**Tuckaleechee C**	**92.43**	**36**	⇑P	**P**	**23 59 48.4**	**+0.4**
FPAL	**Fort Paine**	**92.51**	**38**	IAMs_20	IAMs_20	00 42 28.3	
	comp=Z,3µm,21.0s						
KEST	**Kesra**	**92.57**	**324**	P	**P**	**23 59 48.0**	**-0.8**
KEST				IAmb	IAmb	23 59 49.5	
	comp=Z,65nm,1.2s						
KEST	**Kesra**	**92.57**	**324**	P	**P**	**23 59 48.2**	**-0.5**
	comp=Z,27nm,0.9s,baz=10,slow=1.1,SNR=16						
KEST				S	**SKSac**	**00 10 12.3**	**-7.8**
	comp=Z,4.4nm,1.1s,baz=0.0,slow=3.0,SNR=1.9						
KEST				LR	LR	00 46 31.9	
	comp=Z,20µm,19.5s,baz=9.2,slow=39						
	comp=Z,27nm,0.9s						
KEST	**Kesra**	**92.57**	**324**	P	**P**	**23 59 49.3**	**+0.5**
KEST				P	**P**	**23 59 49.3**	**+0.5**
U54A	**Nelsons Funny**	**92.57**	**35**	IAMs_20	IAMs_20	00 47 34.5	
	comp=Z,5µm,20.0s						
BLA	**Blacksburg**	**92.57**	**33**	P	**P**	**23 59 48.8**	**+0.1**
BLA				IAmb	IAmb	00 00 07.3	
	comp=Z,54nm,1.1s						
BLA				IAMs_20	IAMs_20	00 43 24.6	
	comp=Z,5µm,22.0s						
BLA	**Blacksburg**	**92.57**	**33**	P	**P**	**23 59 48.8**	**+0.1**
BLA				pmax	pmax		
	comp=Z,54nm,1.1s						
BLA				MLR	MLR		
	comp=Z,5µm,22.0s						
BLA	**Blacksburg**	**92.57**	**33**	⇓P	**P**	**23 59 49.5**	**+0.8**
Y49A	**Blount Mountai**	**92.69**	**39**	IAMs_20	IAMs_20	00 41 51.1	
	comp=Z,5µm,22.0s						
S57A	**Dark Hollow, R**	**92.70**	**32**	IAMs_20	IAMs_20	00 43 06.9	
	comp=Z,5µm,22.0s						
X51A	**Calhoun**	**92.84**	**38**	IAMs_20	IAMs_20	00 43 09.0	
	comp=Z,4µm,21.0s						
V53A	**Saluda**	**92.85**	**36**	IAMs_20	IAMs_20	00 41 15.1	
	comp=Z,5µm,21.0s						
CBN	**Corbin Frederi**	**92.94**	**31**	IAMs_20	IAMs_20	00 45 21.1	
	comp=Z,3µm,20.0s						
ECAL	**Calabor**	**92.99**	**338**	P	**P**	**23 59 49.9**	**-0.7**
EIBI	**Ibiza**	**92.99**	**331**	P	**P**	**23 59 50.6**	**+0.1**
LRAL	**Lakeview Retre**	**93.08**	**40**	IAMs_20	IAMs_20	00 42 25.3	
	comp=Z,3µm,22.0s						
PBRG	**Braganca**	**93.12**	**338**	*e*P	**P**	**23 59 50.9**	**-0.2**
PBRG				*i* IAmb	IAmb	00 00 08.4	
	comp=Z,83nm,1.5s						
PBRG				*e*PP	**PP**	**00 03 34.2**	**+0.8**
346A	**Big Creek Wild**	**93.17**	**43**	IAMs_20	IAMs_20	00 43 32.0	
	comp=Z,3µm,22.0s						
ECHE	**Chera**	**93.31**	**333**	P	**P**	**23 59 52.2**	**+0.1**
U56A	**King**	**93.33**	**34**	IAMs_20	IAMs_20	00 46 52.5	
	comp=Z,5µm,20.0s						
BG3	**Lake Jocassee**	**93.36**	**36**	P	**P**	**23 59 52.7**	**+0.3**
V55A	**Taylorsville**	**93.39**	**35**	IAMs_20	IAMs_20	00 48 08.4	
	comp=Z,5µm,20.0s						
UCM	**Universidad Co**	**93.42**	**335**	P	**P**	**23 59 52.7**	**+0.2**
PCAB	**Cabril**	**93.56**	**339**	*e*P	**P**	**23 59 53.0**	**-0.2**
PCAB				*i* IAmb	IAmb	00 00 11.2	
	comp=Z,78nm,1.7s						
PCAB				*e*PP	**PP**	**00 03 37.3**	**+0.3**
R61A	**Willards**	**93.60**	**29**	IAMs_20	IAMs_20	00 49 17.5	
	comp=Z,4µm,18.0s						
MVO	**Moncorvo**	**93.79**	**338**	*e*P	**P**	**23 59 54.2**	**-0.1**
MVO				*i* IAmb	IAmb	00 00 11.5	

PCAS *e*PP **PP** **00 03 52.1 +2.1**
MOIG Morelia 95.25 58 IAms_20 IAms_20 00 37 58.4
comp=Z,4µm,21.0s
154A Montrose 95.27 38 IAms_20 IAms_20 00 47 31.4
comp=Z,3µm,19.0s
TLOR Lorca, Murcia 95.29 333 P **P** **00 00 00.5 -0.6**
X58A Rowland 95.30 34 IAms_20 IAms_20 00 44 00.7
comp=Z,5µm,22.0s
352A Blakely 95.35 40 IAms_20 IAms_20 00 43 44.9
comp=Z,4µm,22.0s
V61A Roper 95.36 31 IAms_20 IAms_20 00 48 55.1
comp=Z,3µm,20.0s
PMRV Marv??o 95.50 337 *e*P **P** **00 00 01.6 -0.5**
PMRV *i* IAmb IAmb 00 00 05.3
comp=Z,36nm,2.3s
PMRV *e*PP **PP** **00 03 53.1 +1.1**
PMRV *e*SKS **SKSac** **00 10 42.4 +6.6**
PMRV eLR LR 00 36 59.6
PMRV *i* IAMs_20 IAMs_20 00 49 02.9
comp=Z,6µm,20.0s
PSARD Sardoal 95.56 338 *e*P **P** **00 00 02.2 -0.2**
PSARD *i* IAmb IAmb 00 00 19.5
comp=Z,28nm,1.8s
PSARD *e*PP **PP** **00 03 55.1 +2.6**
451A Vernon 95.66 41 IAMs_20 IAMs_20 00 44 17.9
comp=Z,3µm,20.0s
Y58A Scranton 95.71 35 IAMs_20 IAMs_20 00 43 50.8
comp=Z,5µm,22.0s
EADA Adamuz 95.80 335 P **P** **00 00 03.2 -0.2**
EBAD Badajoz 96.01 337 P **P** **00 00 03.2 -1.1**
TIGA Tifton 96.03 39 IAMs_20 IAMs_20 00 44 38.3
comp=Z,5µm,21.0s
PMTG Montargil 96.08 338 *e*P **P** **00 00 03.9 -0.8**
PMTG *i* IAmb IAmb 00 00 21.7
comp=Z,35nm,1.7s
PMTG *e*PP **PP** **00 03 54.0 -2.5**
PESTR Estremoz 96.08 337 P **P** **00 00 03.2 -1.5**
PESTR Estremoz 96.08 337 P **P** **00 00 03.8 -0.9**
PESTR Estremoz 96.08 337 *e*P **P** **00 00 04.3 -0.4**
PESTR *i* IAmb IAmb 00 00 18.9
comp=Z,30nm,1.4s
PESTR *e*PP **PP** **00 03 57.4 +0.8**
ENIJ Nijar 96.09 333 P **P** **00 00 03.2 -1.6**
ECAB El Cabril 96.15 335 P **P** **00 00 04.5 -0.6**
Y60A Bolivia 96.24 33 IAMs_20 IAMs_20 00 46 18.7
comp=Z,4µm,22.0s
EQTA Presa de Quent 96.30 334 P **P** **00 00 04.9 -0.9**
EVO Evora 96.51 338 P **P** **00 00 04.8 -1.8**
EVO Evora 96.51 338 *e*P **P** **00 00 06.5 -0.2**
EVO *i* IAmb IAmb 00 00 21.9
comp=Z,34nm,1.9s
EVO *e*PP **PP** **00 04 00.6 +0.7**
PARRA Arraiolos 96.54 338 *e*P **P** **00 00 05.1 -1.7**
PARRA *i* IAmb IAmb 00 00 22.5
comp=Z,35nm,2.0s
PARRA *e*PP **PP** **00 03 59.2 -0.9**
PBAR Barrancos 96.56 337 *e*P **P** **00 00 06.7 -0.1**
PBAR *i* IAmb IAmb 00 00 22.3
comp=Z,35nm,1.7s
PBAR *e*PP **PP** **00 04 00.9 +0.7**
553A Crawfordville 96.66 40 IAMs_20 IAMs_20 00 44 02.3
comp=Z,3µm,22.0s
LIS Lisbon 96.66 338 *e*P **P** **00 00 07.5 +0.2**
LIS *e*PP **PP** **00 04 02.1 +1.1**
LIS IAMs_20 IAMs_20 00 49 03.2
comp=N,14µm,23.2s
257A Skidaway Islan 96.76 37 IAMs_20 IAMs_20 00 44 40.6
comp=Z,5µm,22.0s
UNM Universidad Na 96.79 57 IAMs_20 IAMs_20 00 39 34.2
comp=Z,4µm,20.0s
PBEJ Beja 96.94 337 *e*P **P** **00 00 08.7 +0.1**
PBEJ *i* IAmb IAmb 00 00 25.0
comp=Z,33nm,1.8s
PBEJ *e*PP **PP** **00 04 04.7 +1.5**
EMAL Malaga-Limoner 97.03 334 P **P** **00 00 07.2 -1.8**
MESJ Messejana 97.22 337 *e*P Pdif 00 00 09.9 0.0
MESJ *e*PP **PP** **00 04 06.6 +1.3**
MESJ IAMs_20 IAMs_20 00 51 50.9
comp=Z,6µm,15.5s
MESJ Messejana 97.22 337 P **P** **00 00 09.8 0.0**
MESJ Messejana 97.22 337 *e*P **P** **00 00 09.7 -0.2**
MESJ *i* IAmb IAmb 00 00 27.3
comp=Z,43nm,1.9s
MESJ *e*PP **PP** **00 04 04.4 -0.9**
MESJ Messejana 97.22 337 P **P** **00 00 09.8 0.0**
MESJ pmax pmax
comp=Z,25nm,1.2s
PCVE Castro Verde 97.36 337 *e*P **P** **00 00 10.2 -0.3**
PCVE *i* IAmb IAmb 00 00 32.2
comp=Z,30nm,1.5s
PCVE *e*PP **PP** **00 04 06.8 +0.5**
456A Hilliard 97.36 38 IAMs_20 IAMs_20 00 45 58.5
comp=Z,4µm,21.0s
PVAQ Vaqueiros 97.47 337 *e*P P 00 00 04.5 -6.5
PVAQ *i* IAmb IAmb 00 00 13.8
comp=Z,27nm,1.8s
PVAQ *e*PP **PP** **00 04 07.7 +0.4**
PVAQ *e*SKS **SKSac** **00 10 51.1 +5.0**
PVAQ *i* tx tx 00 18 38.6
PVAQ eLR LR 00 41 39.0
PVAQ *i* IAMs_20 IAMs_20 00 49 41.1
comp=Z,18µm,20.0s
PTEO Sao Teotonio 97.63 338 *e*P Pdif 00 00 11.8 0.0
PTEO *i* IAmb IAmb 00 00 27.3
comp=Z,71nm,1.6s
PTEO *e*PP **PP** **00 04 08.8 +0.3**
PBDV Barranco-do-Ve 97.68 337 *e*P Pdif 00 00 12.0 0.0
PBDV *i* IAmb IAmb 00 00 44.3
comp=Z,28nm,1.4s
PBDV *e*PP **PP** **00 04 09.7 +0.8**
MORF Marmelete 97.84 338 *e*P Pdif 00 00 12.8 +0.1
MORF *e*PP **PP** **00 04 11.1 +1.0**
MORF IAMs_20 IAMs_20 00 45 02.4
comp=E,10µm,18.3s
PFVI Vila Bisbo 98.05 338 *e*PP **PP** **00 04 08.1 -3.6**
CEU Ceuta 98.13 335 P **P** **00 00 12.9 -1.1**
656A Willston 98.25 39 IAMs_20 IAMs_20 00 45 57.4
comp=Z,5µm,22.0s
TLIG Tlapa 98.48 58 IAMs_20 IAMs_20 00 40 09.2
comp=Z,3µm,20.0s
RKT Rikitea 99.13 113 *e*S **S** **00 11 44.8 -2.7**
RKT comp=Z,7µm,31.0s
RKT *e*SS **SS** **00 18 32.2 -4.5**
comp=Z,5µm,25.8s
RKT Rikitea 99.13 113 eLR LR 00 32 27.8
comp=Z,24µm,30.0s
DWPF Disney Wildern 99.83 39 IAMs_20 IAMs_20 00 47 05.2
comp=Z,4µm,21.0s
LODK Lodwar 100.96 284 Pdif **Pdif** **00 00 27.2 +0.1**
LODK IAMs_20 IAMs_20 00 53 46.7
comp=Z,3µm,18.0s
LODK Lodwar 100.96 284 P **Pdif** **00 00 28.0 +0.9**
060A Indiantown 101.24 39 IAMs_20 IAMs_20 00 50 43.5
comp=Z,4µm,20.0s
061Z Ochoppi 101.97 40 IAMs_20 IAMs_20 00 48 22.9
comp=Z,4µm,21.0s
KMBO Kilima Mbogo 102.60 280 P **Pdif** **00 00 35.0 +0.5**
comp=Z,18nm,0.9s,baz=34,slow=8.5,SNR=13
KMBO PP **PP** **00 04 48.8 +0.9**
comp=Z,3.9nm,0.4s,baz=49,slow=9.0,SNR=5.6
BBSR BB Station 102.62 24 IAMs_20 IAMs_20 00 48 11.9
comp=Z,3µm,21.0s
TEIG Tepich 102.69 49 IAMs_20 IAMs_20 00 51 21.8
comp=Z,3µm,22.0s
KIBK Kibwezi 102.81 278 Pdif **Pdif** **00 00 35.0 -0.3**
KIBK IAMs_20 IAMs_20 00 49 36.4
comp=Z,3µm,21.0s
KIBK Kibwezi 102.81 278 P **Pdif** **00 00 35.5 +0.2**
SOR Soroa 103.47 43 IAMs_20 IAMs_20 00 54 29.1
comp=Z,3µm,21.0s
CAMR Camarioca 104.09 42 IAMs_20 IAMs_20 00 56 35.2
comp=Z,6µm,20.0s
PMOZ Porto Moniz, M 104.28 343 eLR LR 00 41 51.4
PMOZ *i* IAMs_20 IAMs_20 00 46 51.4
comp=Z,3µm,22.0s
PETF Flores 104.36 52 IAMs_20 IAMs_20 00 42 43.5
comp=Z,4µm,22.0s
TAM Tamanrasset 105.23 320 Pdif **Pdif** **00 00 44.5 -1.6**
TAM IAMs_20 IAMs_20 00 54 46.5
comp=Z,3µm,20.0s
TAM Tamanrasset 105.23 320 P **Pdif** **00 00 44.5 -1.6**
ABPO Ambohimpanom 106.49 259 IAMs_20 IAMs_20 00 46 35.8
comp=Z,4µm,22.0s
MTO3 Montecristo 106.62 53 IAMs_20 IAMs_20 00 44 21.5
comp=Z,3µm,21.0s

TGUH Tegucigalpa,Un 108.14 52 IAMs_20 IAMs_20 00 54 30.6
comp=Z,3µm,21.0s
VOI Vohitsoka 108.58 257 IAMs_20 IAMs_20 00 47 09.1
comp=Z,3µm,22.0s
CHIV Chivirico 109.13 39 IAMs_20 IAMs_20 00 53 25.5
comp=Z,5µm,21.0s
NMDO Nuevo Mundo 109.30 38 IAMs_20 IAMs_20 00 51 28.9
comp=Z,3µm,22.0s
HERN Volcan Telica 109.54 52 IAMs_20 IAMs_20 00 54 44.8
comp=Z,2µm,22.0s
GTBY Guantanamo Bay 109.78 38 IAMs_20 IAMs_20 00 51 34.9
comp=Z,3µm,22.0s
CASY Casey 109.86 193 *e*PP **PP** **00 05 35.7 -4.8**
comp=Z,150nm,26.0s
CASY *e*S 00 12 56.2
comp=Z,723nm,32.0s
CASY *e*SS **SS** **00 21 08.0 +5.5**
comp=Z,1µm,30.0s
CASY Casey 109.86 193 eLR LR 00 37 32.5
comp=Z,3µm,25.0s
SIUN Universidad Ur 109.88 50 IAMs_20 IAMs_20 00 53 41.5
comp=Z,1µm,22.0s
MTDJ Mount Denham 110.07 41 IAMs_20 IAMs_20 00 54 37.7
comp=Z,3µm,21.0s
GRTK Grand Turk 110.17 34 IAMs_20 IAMs_20 00 51 16.5
comp=Z,3µm,22.0s
BILN Bilwi Airport 110.41 49 IAMs_20 IAMs_20 01 00 03.5
comp=Z,2µm,20.0s
ACON Acoyapa 111.03 51 IAMs_20 IAMs_20 00 55 48.2
comp=Z,2µm,22.0s
SC01 Santiago de lo 112.19 34 IAMs_20 IAMs_20 01 00 08.1
comp=Z,3µm,20.0s
GCPR Guaynabo City 115.08 31 IAMs_20 IAMs_20 00 55 34.6
comp=Z,2µm,22.0s
SJG San Juan 115.24 31 IAMs_20 IAMs_20 00 57 36.7
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 115.31 318 **PKiKP** **00 05 17.5 -1.6**
TORD Torodi Ar. Bea 115.31 318 PKP **PKiKP** **00 05 18.4 -0.7**
comp=Z,1.9nm,0.5s,baz=22,slow=2.2,SNR=33
TORD PKKPbc **PKKPbc** **00 15 52.3 +0.2**
comp=Z,0.8nm,0.6s,baz=205,slow=2.1,SNR=7.7
HUMP Col San Antoni 115.32 31 IAMs_20 IAMs_20 00 55 33.0
comp=Z,2µm,22.0s
BCIP Isla Barro Col 116.38 49 IAMs_20 IAMs_20 00 55 08.5
comp=Z,2µm,22.0s
SMRT St. Maarten 116.43 28 IAMs_20 IAMs_20 00 56 16.1
comp=Z,3µm,22.0s
SABA Saba 116.77 28 IAMs_20 IAMs_20 00 56 06.0
comp=Z,3µm,22.0s
SEUS St. Eustatius 116.98 28 IAMs_20 IAMs_20 00 55 45.6
comp=Z,3µm,22.0s
ANWB Willy Bob 117.23 27 IAMs_20 IAMs_20 00 55 36.2
comp=Z,2µm,22.0s
SMRC Santa Marta, M 117.73 42 IAMs_20 IAMs_20 01 03 59.8
comp=Z,2µm,21.0s
GDHS Morne Mazeau, 118.53 27 IAMs_20 IAMs_20 00 57 14.4
comp=Z,3µm,22.0s
LSZ Lusaka 118.54 274 **PKPdf** **00 05 24.9 -0.5**
LSZ Lusaka 118.54 274 IAMs_20 IAMs_20 00 59 00.4
comp=Z,3µm,20.0s
LSZ Lusaka 118.54 274 PKIKP **PKPdf** **00 05 24.9 -0.5**
VNDA Vanda 118.85 175 PKPdf **PKiKP** **00 05 25.1 +1.0**
VNDA Vanda 118.85 175 PKP **PKiKP** **00 05 24.0 0.0**
comp=Z,2.2nm,0.9s,baz=329,slow=4.7,SNR=4.9
VNDA PKKPbc **PKKPbc** **00 15 40.3 -0.3**
comp=Z,2.1nm,0.9s,baz=180,slow=3.2,SNR=4.4
MAGL Barre de l'ile 119.00 27 IAMs_20 IAMs_20 00 57 14.1
comp=Z,3µm,22.0s
SVN Savane Anatole 120.07 27 IAMs_20 IAMs_20 00 57 34.5
comp=Z,3µm,22.0s
FDF Fort de France 120.18 27 IAMs_20 IAMs_20 00 57 38.3
comp=Z,3µm,22.0s
ILAM Ilet Lapin Mar 120.23 27 IAMs_20 IAMs_20 00 57 26.8
comp=Z,3µm,22.0s
BIM Bigot 120.41 27 IAMs_20 IAMs_20 00 57 44.3
comp=Z,3µm,22.0s
SDV Santo Domingo 121.47 40 IAMs_20 IAMs_20 01 01 21.7
comp=Z,3µm,21.0s
KSANE Kasane 122.37 274 *i* P **PKiKP** **00 05 33.7 +0.9**
KSANE Kasane 122.37 274 **PKiKP** **00 05 32.9 +0.1**
GRGR Grenville 122.40 29 IAMs_20 IAMs_20 00 58 41.4
comp=Z,3µm,22.0s
BROLN Tlhalogang 122.69 270 *i* P **PKPdf** **00 05 33.2 0.0**
RUSC La Rusia 122.79 44 IAMs_20 IAMs_20 01 05 20.9
comp=Z,2µm,22.0s
SACV Santiago Islan 122.92 345 IAMs_20 IAMs_20 01 02 17.6
comp=Z,3µm,20.0s
ROSC El Rosal 123.00 46 IAMs_20 IAMs_20 01 09 14.7
comp=Z,2µm,20.0s
PCRV Puerto La Cruz 123.03 33 PKP **PKPdf** **00 05 33.7 -0.3**
comp=Z,6.1nm,0.7s,baz=0.0,slow=2.0,SNR=4.1
PCRV PP **PP** **00 07 12.0 -0.3**
comp=Z,2.7nm,0.8s,baz=356,slow=12,SNR=1.3
SOOWA Sowa 123.22 271 *i* P **PKiKP** **00 05 35.3 +0.9**
MREMI Moremi 123.45 268 *i* P **PKiKP** **00 05 35.3 +0.5**
MREMI Moremi 123.45 268 **PKPdf** **00 05 34.7 +0.1**
MREMI IAMs_20 IAMs_20 00 59 21.0
comp=Z,2µm,20.0s
MAW Mawson 123.66 207 PKP **PKiKP** **00 05 33.9 +0.2**
comp=Z,10nm,0.8s,baz=322,slow=4.0,SNR=18
DBIC Dimbokro 124.12 320 **PKPdf** **00 05 35.5 -0.6**
DBIC Dimbokro 124.12 320 PKP **PKiKP** **00 05 36.5 +0.1**
comp=Z,5.3nm,0.7s,baz=47,slow=2.2,SNR=8.2
DBIC PP **PP** **00 07 16.9 -2.9**
comp=Z,43nm,1.1s,baz=40,slow=8.5,SNR=3.1
DBIC Dimbokro 124.12 320 PKIKP **PKPdf** **00 05 35.5 -0.6**
PHDHD Phuduhudu 124.28 272 PKPdf **PKiKP** **00 05 36.6 +0.1**
LPHEP Lephephe 125.11 268 *i* P **PKiKP** **00 05 38.7 +0.6**
LPHEP Lephephe 125.11 268 **PKPdf** **00 05 37.8 0.0**
LPHEP IAMs_20 IAMs_20 01 09 28.8
comp=Z,3µm,19.0s
CKGRV CKGRV 125.56 272 *i* P **PKiKP** **00 05 39.6 +0.5**
KDWAN Kaudwane 126.02 269 *i* P **PKiKP** **00 05 40.6 +0.6**
KDWAN Kaudwane 126.02 269 **PKiKP** **00 05 39.8 -0.1**
KDWAN IAMs_20 IAMs_20 01 02 44.0
comp=Z,3µm,21.0s
LBTB Lobatse 126.23 267 **PKiKP** **00 05 40.2 -0.1**
LBTB Lobatse 126.23 267 PKIKP **PKiKP** **00 05 40.2 -0.1**
QNGWA Qamea 126.42 275 *i* P **PKiKP** **00 05 41.4 +0.6**
SKOMA Sekoma 127.21 268 *i* P **PKiKP** **00 05 42.6 +0.3**
MAKGR Makgori 127.26 266 *i* P **PKiKP** **00 05 42.5 +0.1**
GRTLG Ghanzi 127.47 273 *i* P **PKiKP** **00 05 43.4 +0.5**
GRTLG Ghanzi 127.47 273 **PKiKP** **00 05 43.2 +0.3**
KGCAE Kacgae 127.58 271 *i* P **PKiKP** **00 05 43.8 +0.7**
KGCAE Kacgae 127.58 271 **PKiKP** **00 05 43.1 0.0**
BOSA Boshof 128.41 263 PKP **PKiKP** **00 05 44.3 -0.3**
comp=Z,17nm,1.0s,baz=63,slow=2.3,SNR=11
BOSA PP **PP** **00 07 48.4 -1.0**
comp=Z,7.0nm,1.0s,baz=90,slow=6.2,SNR=3.1
PHPEN Phepeng 128.55 268 *i* P **PKiKP** **00 05 45.0 +0.1**
TSUM Tsumeb 128.92 278 **PKPdf** **00 05 45.4 +0.2**
TSUM Tsumeb 128.92 278 IAMs_20 IAMs_20 01 07 58.3
comp=Z,2µm,20.0s
KOOLE Kule 129.18 272 *i* P **PKiKP** **00 05 46.6 +0.3**
KOOLE Kule 129.18 272 **PKPdf** **00 05 45.6 0.0**
GRHM Grahamstown, E 129.88 257 PKPdf **PKPdf** **00 05 46.4 -0.1**
ATAH Atahualpa 130.08 59 PKP **PKiKP** **00 05 48.6 -0.2**
comp=Z,10nm,1.0s,baz=324,slow=8.9,SNR=10
QSPA South Pole Qui 130.76 180 **PKiKP** **00 05 48.6 +0.6**
QSPA South Pole Qui 130.76 180 IAMs_20 IAMs_20 00 59 08.0
comp=Z,2µm,21.0s
QSPA South Pole Qui 130.76 180 PKP **PKPdf** **00 05 46.9 -0.2**
comp=Z,16nm,1.0s,baz=310,slow=1.4,SNR=18
QSPA PP **PP** **00 08 05.6 +1.9**
comp=Z,9.1nm,1.0s,baz=90,slow=1.8,SNR=2.8
QSPA SKPbc **SKPbc** **00 09 04.7 -3.9**
comp=Z,7.5nm,1.0s,baz=30,slow=2.0,SNR=4.7
BOAV Boa Vista 131.75 32 **PKPdf** **00 05 50.4 -0.2**
BOAV IAMs_20 IAMs_20 01 05 49.5
comp=Z,2µm,22.0s
SYO Syowa Base 132.32 208 *e*PPdiff pPdif 00 02 56.4 +1.7
SYO Syowa Base 132.32 208 *i* PKPdf **PKiKP** **00 05 50.8 -0.2**
TBTG Tabatinga, AM 132.91 48 IAMs_20 IAMs_20 01 09 24.6
comp=Z,2µm,22.0s
NNA Nana 134.69 62 IAMs_20 IAMs_20 00 53 13.1
comp=Z,3µm,21.0s
NNA Nana 134.69 62 PKP **PKPdf** **00 05 55.7 -0.4**
comp=Z,5.4nm,0.3s,baz=247,slow=2.4,SNR=2.3
TROLL Troll, Antarti 143.41 199 P PKPbc 00 06 07.2 -0.5
comp=Z,2µm,0.9s
LPAZ La Paz 143.53 57 PKhKP PKPpre 00 06 10.3
comp=Z,8.4nm,0.9s,baz=317,slow=4.7,SNR=23
PB18 Visviri 143.62 60 IAMs_20 IAMs_20 01 05 22.5
comp=Z,2µm,21.0s
PB12 IPOC Station P 143.79 62 IAMs_20 IAMs_20 01 02 10.6
comp=Z,2µm,20.0s

PB16 IPOC Station P 144.14 61 PKPbc 00 06 12.4 +0.4
SNAA Sanae 144.92 198 P **PKPab** **00 06 12.2 0.0**
comp=Z,3µm,1.0s
SNAA Sanae 144.92 198 **PKPab** **00 06 12.3 0.0**
SNAA IAMs_20 IAMs_20 01 09 29.3
comp=Z,1µm,20.0s
SNAA Sanae 144.92 198 PKP PKPbc 00 06 12.5 +0.2
comp=Z,183nm,1.0s,baz=147,slow=1.4,SNR=304
SNAA PP **PP** **00 09 33.3 +1.8**
comp=Z,12nm,1.0s,baz=172,slow=7.8,SNR=4.7
RCBR Riachuelo 144.94 358 PKPbc 00 06 13.9 0.0
RCBR Riachuelo 144.94 358 IAMs_20 IAMs_20 01 10 42.5
comp=Z,2µm,22.0s
RCBR Riachuelo 144.94 358 PKIKP PKPbc 00 06 14.0 0.0
RCBR MLR MLR
comp=Z,2µm,22.0s
VILB Vilhena 145.44 43 **PKPab** **00 06 16.0 +0.3**
PB08 IPOC Station P 145.65 62 PKP **PKPdf** **00 06 14.3 -1.9**
PB02 IPOC Station P 145.96 65 **PKPab** **00 06 17.4 -0.3**
H03N2 Juan Fernandez 146.02 91 T T 02 49 38.9
baz=300,slow=76,SNR=32
H03N3 Juan Fernandez 146.03 91 T T 02 49 37.5
baz=300,slow=76,SNR=26
H03N1 Juan Fernandez 146.04 91 T T 02 49 40.1
baz=300,slow=76,SNR=28
VNA2 Neumayer--Watz 146.49 197 ⇑P **PKPdf** **00 06 15.6 0.0**
comp=Z,97nm,0.8s,baz=117,slow=3.5
VNA3 Neumayer Olymp 146.74 196 ⇑P **PKPdf** **00 06 16.0 0.0**
comp=Z,109nm,0.9s
PB05 IPOC Station P 146.76 67 **PKPbc** **00 06 18.6 -0.8**
PB05 IAMs_20 IAMs_20 01 00 01.7
comp=Z,2µm,21.0s
VNA1 Neumayer--Stat 146.89 197 ⇑P **PKPdf** **00 06 16.8 +0.6**
comp=Z,131nm,0.9s
SIV San Ignacio 147.50 47 PKPbc **PKPbc** **00 06 20.6 -0.9**
comp=Z,58nm,0.7s,baz=316,slow=3.3,SNR=111
SIV PP **PP** **00 09 48.5 +1.2**
comp=Z,7.1nm,0.9s,baz=337,slow=7.7,SNR=2.9
PB14 IPOC Station P 147.75 70 PKP **PKPdf** **00 06 17.7 -1.8**
PB14 IPOC Station P 147.75 70 **PKPdf** **00 06 19.1 -0.4**
AC01 Pan de Azucar 148.54 72 **PKPbc** **00 06 23.7 -0.3**
AC06 Mina Casimiro 149.42 74 PKPdf **PKPdf** **00 06 22.1 +0.3**
AC02 Maricunga 150.00 72 PKPbc **PKPbc** **00 06 27.2 -1.1**
LCO Las Campanas 150.09 77 **PKPbc** **00 06 26.9 -1.3**
LCO Las Campanas 150.09 77 PKIKP **PKPbc** **00 06 26.9 -1.3**
CO06 Fray Jorge 150.25 81 **PKPbc** **00 06 27.8 -0.3**
GO04 Tololo Observa 150.62 79 **PKPbc** **00 06 29.1 -0.3**
CO02 Combarbal 150.99 81 **PKPbc** **00 06 28.4 -1.7**
VA06 Catapilco 151.40 84 **PKPbc** **00 06 29.6 -1.2**
PMSA Palmer Station 151.59 156 **PKiKP** **00 06 30.4 -0.1**
PMSA Palmer Station 151.59 156 *e*P **PKPdf** **00 06 24.8 +0.9**
comp=Z,522nm,26.0s
PMSA Palmer Station 151.59 156 *e*PP **PP** **00 10 07.4 -3.0**
comp=Z,500nm,31.0s
PMSA Palmer Station 151.59 156 *e*SS SS 00 29 33.7 +0.9
comp=Z,1µm,34.0s
PMSA Palmer Station 151.59 156 *e*LR LR 00 56 51.4
comp=Z,4µm,21.0s
MT02 Curacav 151.83 85 **PKPbc** **00 06 31.7 -0.1**
MT09 Talagante 152.17 86 **PKPdf** **00 06 25.9 -0.1**
BO01 Tunca 152.35 87 **PKPbc** **00 06 32.2 -0.7**
BO04 La Punta 152.54 86 **PKPbc** **00 06 33.0 -0.4**
MT13 San Alfonso 152.69 85 **PKiKP** **00 06 34.1 +0.1**
BO02 Sierra Bellavi 152.74 88 **PKPdf** **00 06 26.1 -0.6**
MT08 Bocatoma Ro 152.76 85 PKPdf **PKPdf** **00 06 27.0 0.0**
LMEL Las Melosas 152.79 86 **PKPbc** **00 06 33.5 -0.7**
BDFB Brasilia 152.96 24 PKPdf **PKPdf** **00 06 27.4 -0.3**
BDFB PKPbc **PKiKP** **00 06 35.2 -0.1**
BDFB Brasilia 152.96 24 PKP **PKPdf** **00 06 28.2 +0.6**
comp=Z,12nm,1.2s,baz=45,slow=1.3,SNR=5.7
BDFB PKPbc **PKiKP** **00 06 35.2 +0.1**
comp=Z,27nm,0.9s,baz=344,slow=1.7,SNR=26
BDFB Brasilia 152.96 24 PKIKP **PKPdf** **00 06 27.4 -0.3**
BDFB 00 06 35.2
BI02 San Fabin de 153.06 92 **PKPdf** **00 06 27.6 +0.4**
CFA Coronel Fontan 153.25 79 PKP **PKPdf** **00 06 27.3 -0.2**
comp=Z,1.9nm,1.0s,baz=316,slow=0.3,SNR=4.1
CFA PKPbc **PKPbc** **00 06 34.9 -0.1**
comp=Z,7.3nm,0.9s,baz=295,slow=5.0,SNR=18
PLCA Paso Flores 154.71 100 **PKPdf** **00 06 29.3 -0.1**
PLCA Paso Flores 154.71 100 PKP **PKPdf** **00 06 28.9 -0.4**
comp=Z,9.3nm,1.3s,baz=285,slow=10,SNR=3.4
PLCA PKPbc **pPKPdf** **00 06 39.0 -0.3**
comp=Z,6.3nm,0.9s,baz=268,slow=3.1,SNR=8.0
CPUP Villa Florida 157.69 55 **PKPdf** **00 06 33.2 -0.4**
CPUP Villa Florida 157.69 55 PKP **PKPdf** **00 06 33.8 +0.2**
comp=Z,0.4nm,0.4s,baz=263,slow=7.0,SNR=4.7
CPUP PKPab **PKPab** **00 07 03.4 -2.6**
comp=Z,0.7nm,0.5s,baz=1.7,slow=3.9,SNR=2.8
CPUP PP **PP** **00 10 45.4 +0.1**
comp=Z,1.0nm,1.0s,baz=338,slow=1.0,SNR=3.3
CPUP Villa Florida 157.69 55 PKIKP **PKPdf** **00 06 33.2 -0.4**
PLTB Pedras Altas 163.76 61 **PKPdf** **00 06 39.7 -0.4**

IDC ***28*** *23:59:03.5±1.1,21°.27N×45°.81W,h0km,mb4.0/10, mbtmp4.0/10,Error ellipse: s-maj=35.2km s-min=20.9km az=165.0*

ISC 28 23:59:04.9±0.9,21°.3N±0°.2×45°.8W±0°.1,h10km,n16, σ0878/9,mb4.0/9,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H05S1	**Guadeloupe/Mar**	**15.83**	**247**	T	T	00 18 54.2	
	SNR=3.3						
PCRV	**Puerto La Cruz**	**21.18**	**242**	P	**P**	**00 03 50.1**	**-0.5**
	6.5nm,0.9s,baz=50,slow=10,SNR=4.5						
	6.5nm,0.9s						
ROSC	**El Rosal**	**32.11**	**243**	P	**P**	**00 05 33.1**	**+0.1**
	6.0nm,0.3s,baz=111,slow=18,SNR=1.6						
	6.0nm,0.3s						
ESDC	**Sonseca Array**	**40.06**	**53**	P	**P**	**00 06 39.3**	**-1.2**
	0.4nm,0.4s,baz=252,slow=7.2,SNR=2.5						
	0.4nm,0.4s						
DBIC	**Dimbokro**	**42.15**	**104**	P	**P**	**00 06 57.9**	**0.0**
	9.7nm,0.9s,baz=289,slow=1.0,SNR=3.0						
	9.7nm,0.9s						
H10N3	**ASCENSION HYDR**	**42.20**	**130**	T	T	00 51 38.4	
	baz=313,slow=75,SNR=188						
H10N2	**ASCENSION HYDR**	**42.20**	**130**	T	T	00 51 38.5	
	baz=313,slow=75,SNR=185						
H10N1	**ASCENSION HYDR**	**42.22**	**130**	T	T	00 51 39.8	
	baz=313,slow=75,SNR=211						
H10S3	**ASCENSION HYDR**	**42.86**	**131**	T	T	00 52 43.5	
	baz=312,slow=74,SNR=63						
H10S2	**ASCENSION HYDR**	**42.87**	**131**	T	T	00 52 44.7	
	baz=268,slow=74,SNR=58						
PDAR	**Pinedale Array**	**56.80**	**308**	P	**P**	**00 08 50.1**	**+0.4**
	0.6nm,0.8s,baz=89,slow=5.8,SNR=2.8						
	0.6nm,0.8s						
YKA	**Yellowknife Ar**	**61.59**	**331**	P	**P**	**00 09 21.4**	**-0.8**
	1.0nm,0.9s,baz=98,slow=8.4,SNR=3.5						
	1.0nm,0.9s						
AKASG	**Malin Array Be**	**64.45**	**43**	P	**P**	**00 09 41.8**	**+0.3**
	0.3nm,0.4s,baz=280,slow=5.5,SNR=2.7						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**68.83**	**54**	P	**P**	**00 10 10.8**	**+0.9**
	0.4nm,0.7s,baz=272,slow=6.5,SNR=4.6						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**75.60**	**334**	P	**P**	**00 10 50.2**	**+0.5**
	1.5nm,0.8s,baz=71,slow=5.9,SNR=14						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**97.68**	**33**	P	Pdif	00 12 40.3	+0.1
	0.1nm,0.4s,baz=322,slow=6.6,SNR=2.1						
	0.1nm,0.4s						

PRU 29 00:06:23.2,50°.08N×18°.42E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.30**	**216**	*e*PG	Pg	00 06 28.3	-0.6
OKC				*e*SG	Sg	00 06 33.1	+0.3
	10nm,0.9s						
STEB	**Steborice**	**0.44**	**251**	*e*PG	Pg	00 06 31.3	-0.4
STEB				*e*SG	Sg	00 06 37.6	+0.2
MORC	**Moravsky Berou**	**0.64**	**242**	*e*PG	Pg	00 06 34.5	-1.0
MORC				*e*SG	Sg	00 06 43.3	-0.5
KRLC	**Kraliky**	**1.06**	**270**	*e*PG	Pg	00 06 41.9	-1.5
KRLC				*e*SG	Sg	00 06 56.3	-0.8
LANS	**Liptovska Anna**	**1.15**	**143**	*e*PG	Pg	00 06 44.0	-1.3
LANS				*e*SG	Sb	00 07 01.7	+0.2
LANS				eLG	Lg	00 07 02.6	
DPC	**Dobruska-Polom**	**1.38**	**282**	*e*PG	Pg	00 06 47.9	-1.6
DPC				*e*SG	Sg	00 07 07.2	-0.1
OSTC	**Ostas**	**1.49**	**289**	*e*PG	Pn	00 06 50.0	-1.3

OSTC				*e*SG	Sg	00 07 10.2	-0.9
VYHS	**Vyhne**	**1.61**	**170**	*e*PG	Pn	00 06 51.2	-1.7
VYHS				*e*SG	Sn	00 07 13.3	-1.1

SOME ***29*** *00:45:09.5,41.°90N×83.°08E,h10km*
NNC ***29*** *00:45:12.8±1.9,41.°93N×82.°93E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=17.4km s-min=9.6km az=171.0*

ISC 29 00:45:14.6±2.4**, 42.°0N**±0.°1×**82.°83E**±0.°07**, h10**km**, n26, σ2.°36**/37**, 4C, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**2.74**	**296**	Pg	**Pn**	**00 45 59.2**	**+0.4**
	26nm,0.6s						
SHLS				Lg	Lg	00 46 34.7	
	93nm,0.8s						
SHLS	**Shalkode**	**2.74**	**296**	*e*P	**Pn**	**00 45 59.2**	**+0.4**
	26nm,0.6s						
SHLS				*e*S	**Sn**	**00 46 34.7**	**+2.6**
	93nm,0.8s						
PDGK	**Podgornoye**	**2.80**	**300**	⇑Pn	**Pb**	**00 46 02.3**	**-2.5**
	7.6nm,0.6s						
PDGK				⇑Sn	**Sb**	**00 46 40.1**	**+0.9**
	65nm,0.9s						
UZB	**Uzynbulak**	**3.04**	**293**	Pg	**Pb**	**00 46 08.6**	**-0.3**
	3.9nm,0.4s						
UZB				Lg	Lg	00 46 51.5	
	26nm,0.6s						
UZB	**Uzynbulak**	**3.04**	**293**	*e*P	**Pb**	**00 46 08.6**	**-0.3**
	3.9nm,0.4s						
UZB				*e*S	**Sg**	**00 46 51.5**	**-0.6**
	26nm,0.6s						
KPKS	**Kokpek**	**3.39**	**297**	Pg	**Pb**	**00 46 15.0**	**+0.2**
	0.4nm,0.1s						
KPKS				Lg	Lg	00 47 02.2	
	17nm,0.4s						
SATY	**Saty**	**3.44**	**289**	Pg	**Pb**	**00 46 16.4**	**+0.8**
	8.2nm,0.5s						
SATY				Lg	Lg	00 47 04.8	
	20nm,0.4s						
KNOS	**Konyrlen**	**3.56**	**313**	Pg	**Pb**	**00 46 18.2**	**+0.4**
	6.1nm,0.7s						
KNOS				Lg	Lg	00 47 07.7	
	26nm,0.2s						
KURS	**Kuram**	**3.74**	**295**	Pg	**Pb**	**00 46 21.1**	**+0.3**
	9.0nm,0.9s						
KURS				Lg	Lg	00 47 12.8	
	16nm,0.9s						
ARXS	**Arharly**	**4.28**	**303**	Pg	**Pb**	**00 46 32.7**	**+2.8**
	4.7nm,0.4s						
ARXS				Lg	Lg	00 47 33.0	
	19nm,0.7s						
ARXS	**Arharly**	**4.28**	**303**	*e*P	**Pb**	**00 46 32.7**	**+2.8**
ARXS				*e*S	**Sg**	**00 47 33.0**	**+1.0**
KOTS	**Kotyrbulak**	**4.39**	**288**	Pg	**Pb**	**00 46 34.1**	**+2.1**
	9.0nm,0.6s						
KOTS				Lg	Lg	00 47 35.0	
	14nm,0.6s						
KOTS	**Kotyrbulak**	**4.39**	**288**	*e*P	**Pb**	**00 46 34.1**	**+2.1**
	9.0nm,0.6s						
KOTS				*e*S	**Sg**	**00 47 35.0**	**-0.7**
	14nm,0.6s						
TNSS	**Tian-Shan**	**4.47**	**285**	Pg	**Pb**	**00 46 36.6**	**+3.2**
	0.9nm,0.3s						
TNSS				Lg	Lg	00 47 39.5	
	3.0nm,0.9s						
TNSS	**Tian-Shan**	**4.47**	**285**	*e*P	**Pb**	**00 46 36.6**	**+3.2**
	0.9nm,0.3s						
TNSS				*e*S	**Sg**	**00 47 39.5**	**+1.3**
	3.0nm,0.9s						
CHKK	**Chushkaly**	**4.67**	**295**	Pg	**Pb**	**00 46 40.1**	**+3.4**
	2.1nm,0.1s						
CHKK				Lg	Lg	00 47 45.3	
	8.5nm,0.3s						
CHKK	**Chushkaly**	**4.67**	**295**	*e*P	**Pb**	**00 46 40.1**	**+3.4**
	2.1nm,0.1s						
CHKK				*e*S	**Sg**	**00 47 45.3**	**+0.7**
	8.5nm,0.3s						
MK31	**Makanchi Array**	**4.81**	**356**	⇑Pn	**Pn**	**00 46 27.7**	**+0.6**
	0.1nm,0.2s,baz=190,slow=11,SNR=12						
MK31				Pg	**Pb**	**00 46 41.7**	**+2.7**
	1.0nm,0.3s,baz=172,slow=15,SNR=15						
MK31				⇑Lg	Lg	00 47 46.4	
	5.5nm,0.7s,baz=176,slow=26,SNR=3.7						
KTBS	**Karatobe**	**4.83**	**293**	Pg	**Pb**	**00 46 42.5**	**+3.1**
KTBS				Lg	Lg	00 47 49.6	
	16nm,0.7s						
MTBS	**Maitube**	**4.86**	**286**	Pg	**Pb**	**00 46 42.4**	**+2.5**
	1.6nm,0.1s						
MTBS				Lg	Lg	00 47 49.4	
	3.0nm,0.1s						
MTBS	**Maitube**	**4.86**	**286**	*e*P	**Pb**	**00 46 42.4**	**+2.5**
	1.6nm,0.1s						
MTBS				*e*S	**Sg**	**00 47 49.4**	**-1.2**
	3.0nm,0.1s						
KST	**Kastek**	**5.18**	**284**	Pg	**Pg**	**00 46 49.5**	**-4.3**
	2.4nm,0.4s						
KST				Lg	Lg	00 48 01.5	
	10nm,1.1s						
KST	**Kastek**	**5.18**	**284**	*e*P	**Pg**	**00 46 49.5**	**-4.3**
	2.4nm,0.4s						
KST				*e*S	**Sg**	**00 48 01.5**	**+0.6**
	10nm,1.1s						
DGS	**Degeres**	**5.35**	**286**	Pg	**Pg**	**00 46 53.8**	**-3.3**
	2.1nm,0.5s						
DGS				Lg	Lg	00 48 09.3	
	5.1nm,0.6s						
ZSN	**Zaisan**	**5.64**	**14**	Pg	**Pb**	**00 46 55.5**	**+2.4**
	3.0nm,0.3s						
ZSN				Lg	Lg	00 48 12.2	
	9.7nm,0.6s						
ZSN	**Zaisan**	**5.64**	**14**	*e*P	**Pb**	**00 46 55.5**	**+2.4**
	3.0nm,0.3s						
ZSN				*e*S	**Sg**	**00 48 12.2**	**-3.4**
	9.7nm,0.6s						

JMA ***29*** *00:46:55.2±0.1,41.°0N±0.°5×143.°0E±0.°7,h21km,MV3.7/36, E OFF AOMORI PREF*
IDC ***29*** *00:46:59.6±3.8,41.°41N×141.°75E,h0km,mb3.4/5, mbtmp3.4/6,ML3.5/1,Error ellipse: s-maj=73.6km s-min=42.7km az=149.0*

ISC 29 00:46:53.9±1.6**, 41.°10N**±0.°04×**142.°87E**±0.°07**, h9**km±11**km, n28, σ1.°48**/31**, mb3.4/5, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.94**	**13**	*i* P	**Pn**	**00 47 14.0**	**+0.8**
JEM				*e*S	**Sn**	**00 47 27.9**	**+1.1**
JARK	**Aomorirokkasho**	**1.14**	**266**	*e*P	**Pg**	**00 47 17.1**	**+1.3**
JNBK	**Urakawa-nobuka**	**1.18**	**356**	*i* P	**Pg**	**00 47 18.5**	**+1.9**
JKEN	**Kujiedanarisaw**	**1.26**	**225**	*e*P	**Pg**	**00 47 17.6**	**-0.5**
JKEN				*e*S	**Sg**	**00 47 34.8**	**+0.4**
JANG	**Nango**	**1.26**	**235**	*e*P	**Pg**	**00 47 18.1**	**0.0**
JOT	**Ohata**	**1.40**	**282**	*i* P	**Pg**	**00 47 21.6**	**+0.8**
JCH	**Churui**	**1.56**	**14**	P	**Pb**	**00 47 22.5**	**-0.4**
JCH				*e*S	**Sb**	**00 47 41.9**	**-0.7**
JKB	**Kayabe**	**1.59**	**300**	*e*P	**Pg**	**00 47 24.4**	**0.0**
JKB				*e*S	**Sg**	**00 47 45.6**	**+0.7**
JBT2	**Biratori 2**	**1.72**	**348**	*e*P	**Pg**	**00 47 28.4**	**+1.5**
JBT2				*e*S	**Sg**	**00 47 50.2**	**+1.1**
JOM	**Ohasama**	**2.02**	**217**	*e*P	**Pb**	**00 47 29.4**	**-1.4**
JEW	**Eniwo**	**2.03**	**329**	*e*P	**Pg**	**00 47 32.1**	**-0.7**
JEW				*e*S	**Sg**	**00 47 58.9**	**-0.3**
JOMM	**Oshimamatsumae**	**2.19**	**282**	*e*S	**Sg**	**00 48 02.8**	**-1.7**
JAR	**Ashorobuto**	**2.29**	**17**	P	**Pn**	**00 47 32.5**	**+0.5**
JAR				*e*S	**Sn**	**00 47 59.1**	**-1.2**
JAK	**Akkeshi**	**2.33**	**35**	P	**Pn**	**00 47 30.7**	**-1.7**
JAK				S	**Sn**	**00 47 57.9**	**-3.3**
JMK	**Ichinoseki**	**2.49**	**211**	*e*P	**Pn**	**00 47 35.6**	**+0.9**
JMK				*e*S	**Sn**	**00 48 05.5**	**+0.3**
ASAJ	**Asahikawa**	**3.02**	**356**	Pn	**Pb**	**00 47 45.4**	**-2.4**
	5.0nm,0.3s,baz=200,slow=12,SNR=7.9						
	12nm,0.3s						
SONM	**Songino Array**	**26.70**	**297**	P	**P**	**00 52 32.9**	**-0.5**
	0.3nm,0.5s,baz=86,slow=7.8,SNR=1.5						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.54**	**129**	T	T	01 23 44.0	
	baz=322,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**29.55**	**129**	T	T	01 24 08.9	
	baz=322,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.56**	**129**	T	T	01 24 09.1	
	baz=322,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**30.39**	**131**	T	T	01 25 26.7	
	baz=324,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.39**	**131**	T	T	01 24 11.4	
	baz=324						
H11S2	**WAKE ISLAND Hy**	**30.41**	**131**	T	T	01 25 29.3	
	baz=324,slow=74						
ZALV	**Zalesovo Beam**	**40.12**	**309**	P	**P**	**00 54 29.5**	**-0.2**
	0.3nm,0.3s,baz=79,slow=7.8,SNR=1.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.04**	**299**	P	**P**	**00 54 53.3**	**-0.5**
	0.1nm,0.4s,baz=94,slow=5.1,SNR=2.1						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**44.49**	**305**	P	**P**	**00 55 05.2**	**-0.2**
	0.4nm,0.4s,baz=77,slow=8.8,SNR=4.0						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**48.75**	**310**	P	**P**	**00 55 39.1**	**+0.4**
	0.2nm,0.4s,baz=64,slow=7.9,SNR=4.3						
	0.2nm,0.4s						
LPAZ	**La Paz**	**143.58**	**56**	PKP	**PKiKP**	**01 06 37.8**	**+4.2**
	3.4nm,0.3s,baz=305,slow=2.1,SNR=34						

MOS ***29*** *00:50:10.2±1.2,51.°64N×16.°19E,h10km,mb4.5/8,Error ellipse: s-maj=5.4km s-min=2.9km az=83.9*
DNK ***29*** *00:50:11.5±2.9,51.°61N×16.°17E,h0km±27km,ML3.8*
NEIC ***29*** *00:50:11.5±1.7,51.°63N±0.°06×16.°19E±0.°07,h5km±1km, mb4.1/10,Error ellipse: s-maj=11.5km s-min=6.7km az=24.0*
IPEC ***29*** *00:50:11.8±0.2,51.°55N×16.°23E,h1km,ML3.7/7, Error ellipse: s-maj=2.5km s-min=1.3km az=70.0*
IDC ***29*** *00:50:12.3±0.5,51.°48N×15.°98E,h0km,mb3.8/10, mbtmp3.8/20,ML3.3/9,MS4.4/1, Error ellipse: s-maj=8.7km s-min=6.0km az=98.0*
BNS ***29*** *00:50:13.1±1.2,51.°51N×16.°14E,h2km,ML3.9*
BGR ***29*** *00:50:13.1±0.2,51.°51N×16.°16E,h1km,ML4.0/24, Error ellipse: s-maj=2.2km s-min=1.1km az=27.0*
PRU ***29*** *00:50:14.6,51.°45N×16.°10E,h0km,M4.1, Felt In Harrachov*
VIE ***29*** *00:50:14.8±0.4,51.°38N×15.°90E,h0km,mb3.5/23, ml3.6/18,ms4.0/4,Error ellipse: s-maj=3.1km s-min=2.4km az=37.0 83 km WNW of Wroclaw Suspected Mining induced.*
UPP ***29*** *00:50:17.3±3.4,51.°88N×15.°58E,h0km,ML3.1,Presumed earthquake*

ISC 29 00:50:10.8±0.4**, 51.°56N**±0.°02×**16.°16E**±0.°02**, h0**km**, n370, σ1.°48**/498**, mb4.0**/21**, 22C-29D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.72**	**173**	*i* Pg	**Pb**	**00 50 25.8**	**-0.3**
KSP				*e*Sg	**Sg**	**00 50 35.2**	**+1.3**
KSP	**Ksiaz**	**0.72**	**173**	P	**Pb**	**00 50 25.9**	**-0.3**
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pb**	**00 50 25.8**	**-0.3**
	SNR=198						
KSP				*e*Sg	**Sb**	**00 50 35.6**	**-1.0**
	SNR=2.4						
CHVC	**Chvalec**	**0.97**	**184**	*e*P	**Pb**	**00 50 30.7**	**+0.2**
CHVC				*e*		00 50 42.8	
CHVC	**Chvalec**	**0.97**	**184**	*e*PG	**Pb**	**00 50 30.7**	**+0.2**
CHVC				*e*SG	**Sg**	**00 50 42.8**	**+0.9**
OSTC	**Ostas**	**1.00**	**178**	*e*P	**Pb**	**00 50 31.2**	**+0.2**
OSTC				*e*		00 50 43.8	
OSTC	**Ostas**	**1.00**	**178**	*e*PG	**Pb**	**00 50 31.2**	**+0.2**
OSTC				*e*SG	**Sg**	**00 50 43.8**	**+0.9**
UPC	**Upice**	**1.05**	**185**	*e*P	**Pb**	**00 50 32.0**	**+0.1**
UPC				*e*		00 50 45.7	
UPC				smax	smax		
	comp=N,1μm,0.6s						
UPC	**Upice**	**1.05**	**185**	*e*PG	**Pb**	**00 50 32.0**	**+0.1**
UPC				*e*SG	**Sb**	**00 50 45.7**	**-0.5**
	comp=N,1μm,0.6s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*P	**Pb**	**00 50 34.7**	**+0.1**
DPC				*e*		00 50 49.5	
DPC				smax	smax		
	comp=N,655nm,0.7s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*PG	**Pb**	**00 50 34.7**	**+0.1**
DPC				*e*SG	**Sg**	**00 50 49.5**	**-0.2**
	comp=N,655nm,0.7s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*Pg	**Pb**	**00 50 34.5**	**-0.1**
	SNR=407						
DPC				*e*Sg	**Sb**	**00 50 50.9**	**+0.1**
	SNR=3.2						
PIVO	**Bartosovice**	**1.40**	**170**	*e*Pg	**Pn**	**00 50 37.6**	**+0.1**
	baz=352						
PIVO				*e*Sg	**Sg**	**00 50 55.0**	**-0.5**
	comp=N,832nm,0.4s,baz=352						
PVCC	**Panska Ves**	**1.44**	**225**	*e*P	**Pb**	**00 50 38.8**	**+0.4**
PVCC				*e*		00 50 57.6	
PVCC				smax	smax		
	comp=N,2μm,0.8s						
PVCC	**Panska Ves**	**1.44**	**225**	*e*PG	**Pb**	**00 50 38.8**	**+0.4**
PVCC				*e*SG	**Sn**	**00 50 57.6**	**0.0**
	comp=N,2μm,0.8s						
PVCC	**Panska Ves**	**1.44**	**225**	*e*Pn	**Pb**	**00 50 38.6**	**+0.2**
	SNR=20						
PVCC				*e*Pg	**Pg**	**00 50 39.4**	**+1.2**
	SNR=370						
PVCC				*e*Sg	**Sn**	**00 50 59.1**	**+1.5**
	SNR=2.5						
KRLC	**Kraliky**	**1.54**	**165**	*e*P	**Pb**	**00 50 40.2**	**+0.1**
KRLC				*e*		00 51 01.2	
KRLC	**Kraliky**	**1.54**	**165**	*e*PG	**Pb**	**00 50 40.2**	**+0.1**
KRLC				*e*SG	**Sb**	**00 51 01.2**	**+1.1**
BRG	**Berggiesshubel**	**1.55**	**245**	P	**Pg**	**00 50 41.0**	**+0.5**
BRG	**Berggiesshubel**	**1.55**	**245**	*e*Pn	**Pg**	**00 50 41.0**	**+0.5**
	SNR=8.1						
BRG				*e*Pg	**Pb**	**00 50 42.6**	**+2.3**
	SNR=199						
BRG				*e*Sg	**Sg**	**00 51 03.0**	**+2.5**
	SNR=9.5						
BRG	**Berggiesshubel**	**1.55**	**245**	Pn	**Pg**	**00 50 41.0**	**+0.5**
BRG				Pg	**Pb**	**00 50 42.5**	**+2.2**
BRG				Sg	**Sg**	**00 51 02.8**	**+2.3**
BRG				Amp		00 51 04.0	
	comp=Z,467nm,0.5s						
RUE	**Ruedersdorf**	**1.73**	**303**	*e*P	**Pb**	**00 50 43.1**	**-0.3**
RUE	**Ruedersdorf**	**1.73**	**303**	*e*Pn	**Pn**	**00 50 42.6**	**+0.5**
	SNR=7.7						
RUE				*e*Sg	**Sg**	**00 51 09.3**	**+2.9**
	SNR=3.0						
RUE	**Ruedersdorf**	**1.73**	**303**	*i* P	**Pn**	**00 50 42.5**	**+0.4**
RUE				*i* S	**Sg**	**00 51 09.2**	**+2.8**
RYBC	**Ceska Rybna**	**1.75**	**182**	*e*Pn	**Pn**	**00 50 42.9**	**+0.5**
	baz=3.4						
RYBC				*e*Sg	**Sb**	**00 51 06.4**	**+0.1**
	comp=Z,445nm,0.4s,baz=3.4						
GKP	**Gorka Klasztor**	**1.84**	**21**	P	**Pg**	**00 50 46.6**	**+0.6**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*P	**Pg**	**00 50 49.7**	**+3.8**
FBE	**Freiberg**	**1.87**	**251**	*e*Pn	**Pb**	**00 50 45.2**	**-0.6**
FBE				*e*Sn	**Sb**	**00 51 10.1**	**+0.4**
PRU	**Pruhonice**	**1.88**	**214**	*e*P	**Pn**	**00 50 44.2**	**+0.2**
PRU				*e*		00 51 11.1	
PRU				smax	smax		
	comp=N,329nm,0.2s						
PRU	**Pruhonice**	**1.88**	**214**	*e*PN	**Pn**	**00 50 44.2**	**+0.2**
PRU				*e*PG	**Pb**	**00 50 46.0**	**+0.2**
PRU				*e*SG	**Sg**	**00 51 11.1**	**+0.1**
	comp=N,329nm,0.2s						
PRU	**Pruhonice**	**1.88**	**214**	*e*Pn	**Pn**	**00 50 44.3**	**+0.2**
	SNR=18						
PRU				*e*Sn	**Sn**	**00 51 09.0**	**+0.6**
PRU				*e*Sg	**Sg**	**00 51 11.0**	**+0.1**
	SNR=3.0						
STEB	**Steborice**	**1.92**	**147**	*e*PN	**Pn**	**00 50 45.6**	**+0.9**
STEB				*e*PG	**Pg**	**00 50 48.9**	**+1.3**
STEB				*e*SG	**Sg**	**00 51 12.8**	**+0.3**
	comp=N,1μm,0.6s						
RAC	**Raciborz**	**1.96**	**138**	*e*PN	**Pn**	**00 50 45.4**	**+0.2**
RAC				*e*PG	**Pg**	**00 50 49.0**	**+0.7**
RAC				*e*SG	**Sg**	**00 51 15.4**	**+1.7**
RAC	**Raciborz**	**1.96**	**138**	*e*P	**Pn**	**00 50 45.4**	**+0.2**
RAC				*e*		00 51 15.4	
HSKC	**Hora Svate Kat**	**1.96**	**242**	*e*PG	**Pb**	**00 50 47.9**	**+0.5**
HSKC				*e*SG	**Sg**	**00 51 13.4**	**-0.4**
	comp=N,465nm,0.5s						
CLL	**Collm**	**1.99**	**264**		**Pn**	**00 50 45.6**	**0.0**
CLL				Sn	**Sn**	**00 51 10.6**	**-0.6**
CLL	**Collm**	**1.99**	**264**	*i* P	**Pn**	**00 50 45.7**	**0.0**
CLL				*i*		00 51 15.3	
CLL	**Collm**	**1.99**	**264**	*e*Pn	**Pn**	**00 50 45.6**	**0.0**
	SNR=43						
CLL				*e*Sg	**Sg**	**00 51 15.7**	**+1.1**
	SNR=2.4						
CLL	**Collm**	**1.99**	**264**	*i* Pn	**Pn**	**00 50 45.7**	**+0.1**
CLL				*e*Pg	**Pg**	**00 50 49.0**	**+0.2**
CLL				*i* x	x	00 50 52.0	
CLL				*i* Sg	**Sg**	**00 51 15.3**	**+0.7**
	comp=Z,624nm,0.7s						
MORC	**Moravsky Berou**	**1.99**	**153**		**Pn**	**00 50 46.2**	**+0.6**
MORC				Sn	**Sn**	**00 51 10.8**	**-0.5**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**00 50 46.1**	**+0.4**
	baz=335						
MORC				*e*Sg	**Sb**	**00 51 13.3**	**+0.1**
	comp=Z,293nm,0.6s,baz=335						
MORC	**Moravsky Berou**	**1.99**	**153**	⇓P	**Pn**	**00 50 46.3**	**+0.6**
MORC	**Moravsky Berou**	**1.99**	**153**	P	**Pn**	**00 50 46.2**	**+0.6**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**00 50 46.2**	**+0.6**
	SNR=158						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*P	**Pn**	**00 50 47.8**	**+0.1**
OKC				*e*		00 51 18.7	
OKC				smax	smax		
	comp=N,942nm,0.8s						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*PN	**Pn**	**00 50 47.8**	**+0.1**
OKC				*e*PG	**Pg**	**00 50 51.9**	**+0.2**
OKC				*e*SG	**Sg**	**00 51 18.7**	**-0.7**
	comp=N,942nm,0.8s						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*Pn	**Pn**	**00 50 47.7**	**0.0**
	SNR=8.5						
OKC				*e*Sg	**Sg**	**00 51 19.2**	**-0.1**
	SNR=6.7						
VRAC	**Vranov**	**2.27**	**173**	Pn	**Pn**	**00 50 50.2**	**+0.7**
	comp=N,6.6nm,0.3s,baz=327,slow=17,SNR=41						
VRAC				Lg	Lg	00 51 21.5	
	comp=N,30nm,0.3s,baz=84,slow=23,SNR=12						
	comp=N,43nm,0.4s						
VRAC	**Vranov**	**2.27**	**173**	*e*Pn	**Pn**	**00 50 50.2**	**+0.7**
	baz=354						
VRAC				*e*Sg	**Sb**	**00 51 22.3**	**+1.1**
	comp=N,492nm,1.0s,baz=354						
VRAC	**Vranov**	**2.27**	**173**	⇓P	**Pn**	**00 50 50.4**	**+0.9**
VRAC	**Vranov**	**2.27**	**173**	P	**Pn**	**00 50 50.4**	**+0.9**
VRAC	**Vranov**	**2.27**	**173**	*e*Pn	**Pn**	**00 50 50.2**	**+0.7**
	SNR=13						
VRAC				*e*Sg	**Sg**	**00 51 23.1**	**-0.5**
	SNR=4.3						
TREC	**Trest**	**2.31**	**191**	*e*P	**Pg**	**00 50 54.3**	**-0.6**
TREC	**Trest**	**2.31**	**191**	*e*PG	**Pg**	**00 50 54.3**	**-0.6**
TREC	**Trest**	**2.31**	**191**	*e*Pn	**Pn**	**00 50 50.9**	**+0.9**
	SNR=23						
TREC				*e*Sg	**Sg**	**00 51 24.3**	**-0.5**
	SNR=5.5						
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**00 50 53.3**	**+0.6**
	baz=358						
KRUC				*e*Sg	**Sg**	**00 51 29.9**	**-1.2**
	comp=N,369nm,0.8s,baz=358						
KRUC	**Moravsky**	**2.50**	**176**	P	**Pn**	**00 50 53.9**	**+1.2**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**00 50 53.7**	**+1.0**
	SNR=23						
KRUC				*e*Sg	**Sg**	**00 51 30.8**	**-0.4**
	SNR=4.0						
SCHF	**Schoenfels**	**2.52**	**251**	*e*Pn	**Pn**	**00 50 53.5**	**+0.5**
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Pn	**Pn**	**00 50 54.7**	**+0.6**
	SNR=32						
TANN				*e*Sg	**Sg**	**00 51 34.6**	**+0.4**
	SNR=8.3						
OJC	**Ojcow**	**2.67**	**119**	*e*Pn	**Pn**	**00 50 54.2**	**-0.8**
OJC				*e*Pg	**Pg**	**00 51 02.3**	**+0.4**
OJC				*e*Sg	**Sg**	**00 51 37.7**	**+1.3**
OJC	**Ojcow**	**2.67**	**119**		**Pn**	**00 50 54.2**	**-0.8**
OJC	**Ojcow**	**2.67**	**119**	P	**Pn**	**00 50 54.2**	**-0.8**
OJC	**Ojcow**	**2.67**	**119**	*e*Pn	**Pn**	**00 50 54.5**	**-0.5**
	SNR=7.7						
OJC				*e*Pg	**Pg**	**00 51 02.3**	**+0.4**
	SNR=16						
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**00 50 55.6**	**+0.6**
PLN	**Plauen**	**2.74**	**249**	*e*Pn	**Pn**	**00 50 56.7**	**+0.7**
	SNR=16						
PLN				*e*Sg	**Sg**	**00 51 39.2**	**+0.4**
	SNR=5.1						
NEUB	**Neuenburg**	**2.77**	**264**	*e*Sg	**Sg**	**00 51 41.1**	**+1.5**
	SNR=5.2						
JAVC	**Velka Javorina**	**2.87**	**160**	*e*Pn	**Pn**	**00 50 58.3**	**+0.5**
	baz=342						
JAVC				*e*Sg	**Sg**	**00 51 41.1**	**-1.8**
	comp=N,316nm,0.9s,baz=342						
JAVC	**Velka Javorina**	**2.87**	**160**	*e*PN	**Pn**	**00 50 58.4**	**+0.6**
JAVC				*e*SG	**Sg**	**00 51 41.2**	**-1.7**
WIMM	**Wimmelburg**	**2.90**	**271**	*e*Pn	**Pn**	**00 50 58.5**	**+0.3**
WIMM				*e*Sn	**Sn**	**00 51 32.6**	**-1.2**
KHC	**Kasperske Hory**	**2.94**	**215**	*d* iP	**Pn**	**00 50 58.8**	**+0.1**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*Pn	**Pn**	**00 50 59.0**	**+0.3**
KHC				*e*PG	**Pb**	**00 51 05.2**	**+1.2**
KHC				*e*SN	**Sn**	**00 51 34.3**	**-0.4**
KHC				*e*SG	**Sg**	**00 51 43.2**	**-1.8**
	comp=N,186nm,0.6s						
KHC	**Kasperske Hory**	**2.94**	**215**	*e*Pn	**Pn**	**00 50 59.0**	**+0.3**
	SNR=51						
KHC				*e*Sg	**Sg**	**00 51 44.2**	**-0.9**
	SNR=1.9						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*P	**Pn**	**00 51 01.1**	**+1.7**
CKRC				*e*		00 51 45.8	
CKRC				smax	smax		
	comp=N,295nm,0.9s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*PN	**Pn**	**00 51 01.1**	**+1.7**
CKRC				*e*PG	**Pg**	**00 51 07.3**	**-0.6**
CKRC				*e*SG	**Sg**	**00 51 45.8**	**-0.8**
	comp=N,295nm,0.9s						
CKRC	**Cesky Krumlov**	**2.99**	**204**	*e*Pn	**Pn**	**00 51 00.6**	**+1.3**
	SNR=44						
MOX	**Moxa**	**3.00**	**254**	P	**Pn**	**00 51 00.3**	**+0.7**
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**00 51 00.0**	**+0.4**
	SNR=9.8						
MOX				*e*Sg	**Sg**	**00 51 48.7**	**+1.5**
	SNR=8.0						
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**00 51 00.7**	**+1.0**
	SNR=34

GRA4 Grafenberg Arr 3.61 238 *e*Pn **Pn 00 51 07.6 -0.3**
CONA Conrad Observa 3.64 183 *e*Pg **Pn 00 51 09.2 +0.8**
comp=N,45nm,0.9s,SNR=38
CONA Sg **Sg 00 52 07.2 -0.4**
comp=N,231nm,0.7s
BSD Bornholm Skovb 3.64 349 *e*P **Pn 00 51 09.2 +0.9**
BSD Bornholm Skovb 3.64 349 *i*P **Pn 00 51 08.4 +0.1**
BSD *e*S **Sn 00 51 48.6 -3.3**
BSD IAML 00 52 21.7
comp=Z,68nm,1.0s
GRA1 Grafenberg Arr 3.65 241 Pn 00 51 09.0 +0.5
GRF Grafenberg Arr 3.65 241 P **Pn 00 51 09.0 +0.5**
GRF Grafenberg Arr 3.65 241 *e*Pn **Pn 00 51 09.7 +1.1**
SNR=21
GRF *e*Sg **Sg 00 52 08.4 +0.4**
SNR=4.5
GRFO Grafenberg 3.66 241 Pn 00 51 09.6 +1.0
GRFO Grafenberg 3.66 241 P **Pn 00 51 09.6 +1.0**
NRDL Niedersach Rie 3.85 286 *e*Pn **Pn 00 51 12.9 +1.8**
SNR=12
NRDL Niedersach Rie 3.85 286 *i*P **Pn 00 51 12.6 +1.4**
RONA Rosalia, Austr 3.86 179 *i*Pn **Pn 00 51 12.3 +0.9**
comp=Z,1.7nm,0.3s,SNR=9.9
RONA *i*Pg **Pg 00 51 25.0 +0.3**
comp=Z,14nm,0.5s
RONA Sg **Sg 00 52 15.6 +0.8**
comp=Z,87nm,0.5s
GTTG Gottingen 3.86 272 *e*Sg **Sg 00 52 15.1 +0.3**
SNR=3.7
SOP Sopron 3.89 176 P **Pn 00 51 13.0 +1.3**
STHS Stebnicka Huta 3.89 121 *e*P **Pn 00 51 12.1 +0.3**
STHS Stebnicka Huta 3.89 121 *e*PN **Pn 00 51 12.1 +0.3**
STHS *e*PG **Pg 00 51 25.2 -0.1**
STHS *e*SG **Sg 00 52 18.5 +2.8**
MOA Molln 3.91 199 *e*Pn **Pn 00 51 13.0 +0.9**
comp=Z,17nm,0.3s,SNR=53
MOA *e*Sg **Sg 00 52 18.4 +2.2**
comp=Z,73nm,0.4s
GRC1 Grafenberg Arr 3.92 231 P **Pn 00 51 12.9 +0.7**
UBBA Unterbreizbach 3.94 262 *e*Pn **Pn 00 51 13.1 +0.7**
SNR=3.0
UBBA *e*Sg **Sg 00 52 18.2 +0.9**
SNR=3.3
SRO Srobarova 4.00 159 *e*P **Pn 00 51 16.1 +2.8**
SRO Srobarova 4.00 159 *e*PN **Pn 00 51 16.1 +2.8**
SRO *e*PG **Pg 00 51 28.4 +1.0**
HAM4 Hamburger Ster 4.09 300 *i*P **Pn 00 51 16.2 +1.7**
KECS Kecovo 4.16 136 *e*P **Pn 00 51 16.5 +1.1**
KECS Kecovo 4.16 136 *e*PN **Pn 00 51 16.5 +1.1**
KECS *e*PG **Pg 00 51 31.7 +1.4**
BIOA Bad Ischl, Aus 4.20 204 *i*Pn **Pn 00 51 17.1 +1.1**
comp=Z,9.2nm,0.3s,SNR=30
BIOA Sg **Sg 00 52 24.7 -1.0**
comp=Z,97nm,0.4s
ARSA Arzberg 4.33 186 Pn 00 51 18.9 +1.1
ARSA Arzberg 4.33 186 *i*Pn **Pn 00 51 19.5 +1.6**
comp=Z,7.3nm,0.7s,SNR=12
ARSA Sg **Sg 00 52 31.6 +1.8**
comp=Z,66nm,0.5s
PSZ Piszkesteto 4.38 145 Pn 00 51 19.8 +1.3
PSZ Piszkesteto 4.38 145 ⇓P **Pn 00 51 19.3 +0.8**
PSZ Piszkesteto 4.38 145 P **Pn 00 51 19.8 +1.3**
PSZ Piszkesteto 4.38 145 *e*P **Pn 00 51 20.1 +1.6**
LUNU Lund 4.39 340 *i*P **Pn 00 51 17.0 -1.6**
LUNU *i*P **Pn 00 51 18.2 -0.4**
LUNU *e*S **Sn 00 52 08.5 -1.9**
RJOB Jochberg 4.40 211 *e*Pn **Pn 00 51 20.5 +1.7**
SNR=17
BUD Budapest 4.49 154 P **Pn 00 51 22.2 +2.3**
BUD pmax pmax
comp=Z,29nm,1.0s
KWP Kalwaria Pacla 4.60 112 P **Pn 00 51 22.1 +0.6**
FUR Furstenfeldbru 4.63 225 P **Pn 00 51 23.1 +1.1**
FUR Furstenfeldbru 4.63 225 *e*Pn **Pn 00 51 23.3 +1.3**
SNR=7.3
FUR *e*Sg **Sg 00 52 39.5 0.0**
SNR=3.2
COP Copenhagen 4.69 333 *e*P **Pn 00 51 22.4 -0.4**
COP *i*S **Sn 00 52 15.8 -2.0**
COP IAML 00 53 20.6
comp=Z,128nm,0.9s
LESA Schwarzleotal 4.72 210 *e*Pn **Pn 00 51 24.1 +0.9**
comp=Z,1.8nm,0.2s,SNR=11
LESA Sg **Sg 00 52 42.7 +0.5**
comp=Z,5.1nm,0.2s
KOLS Kolonicke sedl 4.72 121 *e*P **Pn 00 51 24.2 +1.0**
KOLS Kolonicke sedl 4.72 121 *e*PN **Pn 00 51 24.2 +1.0**
KOLS *e*PG **Pg 00 51 41.9 +0.7**
BLEU Blekinge 4.76 358 P **Pn 00 51 24.5 +0.8**
BLEU Blekinge 4.76 358 *i*P **Pn 00 51 23.7 0.0**
BLEU P **Pn 00 51 24.5 +0.8**
BLEU *e*S **Sn 00 52 17.3 -2.2**
STE02 Stenlille02 4.81 328 *e*P **Pn 00 51 23.5 -0.8**
STE02 Stenlille02 4.81 328 *i*S **Sn 00 52 17.9 -2.7**
STE02 Stenlille02 4.81 328 IAML 00 53 17.2
comp=Z,72nm,1.4s
STE01 Stenlille01 4.82 328 *i*P **Pn 00 51 23.0 -1.4**
STE01 Stenlille01 4.82 328 *i*S **Sn 00 52 19.6 -1.3**
STE01 Stenlille01 4.82 328 IAML 00 53 17.6
comp=Z,53nm,1.0s
STE00 Stenlille00 4.83 328 *i*P **Pn 00 51 25.1 +0.5**
STE00 Stenlille00 4.83 328 *e*S **Sn 00 52 19.1 -1.9**
STE00 Stenlille00 4.83 328 IAML 00 53 05.7
comp=Z,100nm,0.7s
KBA Koelnbreinsper 4.84 203 P **Pn 00 51 26.3 +1.3**
KBA Koelnbreinsper 4.84 203 *i*Pn **Pn 00 51 26.4 +1.4**
comp=Z,27nm,0.6s
KBA Sg **Sg 00 52 45.1 -1.2**
comp=Z,31nm,0.6s
STE03 Stenlille03 4.85 328 *e*S **Sn 00 52 20.3 -1.4**
KASTN Kahler Asten 4.86 269 *e*Pn **Pn 00 51 25.5 +0.4**
SNR=7.7
STE05 Stenlille05 4.87 328 *i*P **Pn 00 51 24.2 -1.0**
STE05 Stenlille05 4.87 328 *i*S **Sn 00 52 19.6 -2.5**
STE05 Stenlille05 4.87 328 IAML 00 53 36.8
comp=Z,92nm,0.9s
SOKA Soboth 4.94 189 *e*Pn **Pn 00 51 27.9 +1.6**
comp=Z,2.6nm,0.4s,SNR=9.1
SOKA Sg **Sg 00 52 50.9 +1.6**
comp=Z,45nm,0.8s
BSZH Besenyszg 5.04 146 ⇑P **Pn 00 51 28.5 +1.1**
TNS Taunus Mts 5.06 258 P **Pn 00 51 28.5 +0.6**
TNS Taunus Mts 5.06 258 *e*Pn **Pn 00 51 28.6 +0.7**
SNR=21
TNS *e*Sg **Sg 00 52 53.9 +0.8**
SNR=3.8
DEL Delary 5.10 346 P **Pn 00 51 28.6 +0.2**
DEL S **Sn 00 52 23.4 -4.5**
DEL Delary 5.10 346 *i*P **Pn 00 51 27.6 -0.8**
DEL *i*P **Pn 00 51 28.0 -0.4**
DEL P **Pn 00 51 28.6 +0.2**
DEL S **Sn 00 52 23.4 -4.5**
DEL *i*S **Sn 00 52 24.6 -3.4**
BEHE Becsehely 5.11 175 Pn 00 51 29.1 +0.6
KOGS Kog 5.11 179 *i*Pn **Pn 00 51 29.6 +1.1**
SKMB Sankelmark Bun 5.13 311 *e*P **Pn 00 51 28.9 +0.1**
SKMB *e*S **Sn 00 52 26.9 -1.8**
OBKA Obir 5.16 192 *e*Pn **Pn 00 51 30.8 +1.5**
comp=Z,2.5nm,0.4s,SNR=6.7
OBKA *e*Pg **Pg 00 51 49.9 +0.2**
comp=Z,17nm,0.8s
OBKA Sg **Sg 00 52 58.0 +1.5**
comp=Z,70nm,0.8s
WATA Walderalm 5.17 217 *e*Pn **Pn 00 51 30.9 +1.4**
comp=Z,37nm,0.6s,SNR=27
MYKA Terra Mystica 5.20 199 *i*Pn **Pn 00 51 31.0 +1.2**
comp=Z,1.2nm,0.4s
MYKA *e*Sg **Sg 00 52 58.3 +0.6**
comp=Z,56nm,0.7s
WTTA Wattenberg 5.21 216 P **Pn 00 51 31.8 +1.7**
WTTA pmax pmax
comp=Z,49nm,1.3s
WTTA Wattenberg 5.21 216 *i*Pn **Pn 00 51 31.2 +1.2**
comp=Z,7.6nm,0.4s,SNR=23
IBBN Ibbenburen 5.25 282 *e*Pn **Pn 00 51 31.9 +1.5**
SNR=9.1
IBBN Ibbenburen 5.25 282 *i*P **Pn 00 51 31.5 +1.1**
STU Stuttgart 5.27 241 Pn 00 51 29.2 -1.5
STU Stuttgart 5.27 241 P **Pn 00 51 29.2 -1.5**
MOTA Moosalm 5.35 220 *i*Pn **Pn 00 51 32.4 +0.4**
comp=Z,6.4nm,0.4s,SNR=17
MOTA Sg **Sg 00 53 03.5 +0.9**
comp=Z,51nm,0.7s
ABTA Abfaltersbach 5.37 208 *e*Pn **Pn 00 51 33.8 +1.6**
comp=Z,6.6nm,0.5s,SNR=36
ABTA Sg **Sg 00 53 02.9 -0.4**
comp=Z,22nm,0.8s
RETA Reutte 5.38 223 *i*Pn **Pn 00 51 33.0 +0.7**
comp=Z,10nm,0.6s,SNR=14
RETA Sg **Sg 00 53 03.5 +0.1**
comp=Z,28nm,0.6s
SQTA Sankt Quirin 5.41 219 *e*Pn **Pn 00 51 34.3 +1.6**
comp=Z,6.5nm,0.2s,SNR=21
SQTA *e*Sg **Sg 00 53 05.3 +0.8**
comp=Z,15nm,0.4s
VXJU Vaexsjoe 5.42 353 P **Pn 00 51 33.6 +0.9**
VXJU Vaexsjoe 5.42 353 P **Pn 00 51 33.6 +0.9**
KOE Koeppel 5.44 261 *e*Pn **Pn 00 51 33.6 +0.6**
SSRD Sdr. Stenderup 5.53 318 *i*P **Pn 00 51 33.6 -0.6**
SSRD *i*S **Sn 00 52 35.8 -2.6**
SSRD IAML 00 53 38.4
comp=Z,122nm,1.2s
CADS Cadrg 5.57 198 *i*Pn **Pn 00 51 35.9 +1.1**
HOBG Hohbusch 5.57 268 *e*Pn **Pn 00 51 35.6 +0.8**
MORH Mrgy, Hungar 5.59 162 ⇓P **Pn 00 51 36.3 +1.2**
OSKU Oskarshamn 5.65 360 P **Pn 00 51 36.9 +1.0**
OSKU Oskarshamn 5.65 360 P **Pn 00 51 36.9 +1.0**
PTJ Puntijarka 5.66 181 P **Pn 00 51 37.7 +1.6**
HLG Helgoland 5.66 301 *e*Pn **Pn 00 51 36.5 +0.5**
SNR=3.4
HLG Helgoland 5.66 301 *i*P **Pn 00 51 35.5 -0.5**
HLG *e*S **Sn 00 52 39.6 -2.0**
BNS Bensberg 5.67 267 *e*Pn **Pn 00 51 36.7 +0.5**
BGG Burgeitz 5.74 260 *e*Pn **Pn 00 51 37.6 +0.4**
FETA Feichten 5.76 220 *e*Pn **Pn 00 51 38.9 +1.3**
comp=Z,5.4nm,0.6s,SNR=9.5
LAUG Laupendahl 5.76 272 *e*Pn **Pn 00 51 38.0 +0.6**
BYXU Byxelkrok 5.77 5 P **Pn 00 51 38.8 +1.3**
BYXU Byxelkrok 5.77 5 P **Pn 00 51 38.8 +1.3**
STAL STALIGIAL 5.77 205 Pn 00 51 38.6 +1.1
SABO M.te Sabotino 5.83 198 Pn 00 51 38.0 -0.4
DAVA Damuels 5.92 226 *e*Pn **Pn 00 51 39.9 +0.1**
comp=Z,2.7nm,0.4s,SNR=6.5
STB Steinbach 5.95 264 *e*Pn **Pn 00 51 40.8 +0.8**
BFO Black Forest 6.00 240 Pn 00 51 39.9 -0.8
BFO Black Forest 6.00 240 *i*P **Pn 00 51 40.3 -0.4**
BFO Black Forest 6.00 240 *e*Pn **Pn 00 51 39.9 -0.8**
SNR=5.3
EKSU Eksjoe 6.05 356 P **Pn 00 51 42.3 +0.9**
EKSU Eksjoe 6.05 356 P **Pn 00 51 42.3 +0.9**
TRI Trieste 6.06 196 Pn **Pn 00 51 41.3 -0.3**
TRI Trieste 6.06 196 P **Pn 00 51 41.3 -0.3**
PABE Paberze 6.11 47 Pn 00 51 42.0 -0.1
PABE Paberze 6.11 47 *e*P **Pn 00 51 42.6 +0.4**
VSTU Vaestervik 6.12 2 P **Pn 00 51 43.6 +1.3**
VSTU Vaestervik 6.12 2 P **Pn 00 51 43.6 +1.3**
BMR Baia Mare 6.15 126 ⇑P **Pn 00 51 42.2 -0.6**
BMR Baia Mare 6.15 126 P **Pn 00 51 42.2 -0.6**
SLE Schleitheim 6.26 236 P Pn 00 51 50.7 +6.4
CTI Castel Tesino 6.26 210 Pn 00 51 45.4 +0.9
CTI Castel Tesino 6.26 210 P **Pn 00 51 45.4 +0.9**
KLL Kalltalsperre 6.27 265 *e*Pn **Pn 00 51 44.2 -0.2**
KLL *e*Sn **Sn 00 52 55.2 -1.5**
comp=Z,27nm,0.8s
FUORN Ofenpass-Fuorn 6.27 220 Pn 00 51 45.2 +0.5
DAVOX Davos/Dischmat 6.31 223 Pn **Pn 00 51 46.1 +1.0**
comp=Z,1.2nm,0.3s,baz=14,slow=11,SNR=31
DAVOX Lg Lg 00 53 30.8
comp=Z,1.2nm,0.3s,baz=291,slow=10,SNR=3.9
comp=Z,8.9nm,0.5s
DREG Dreilaegerbach 6.31 266 *e*Pn **Pn 00 51 45.1 0.0**
DREG *e*Sn **Sn 00 52 56.6 -1.2**
comp=Z,38nm,1.4s
BTNL Ternell 6.39 265 *d*P **Pn 00 51 46.4 +0.2**
BTNL *d*S **Sn 00 52 59.5 -0.4**
BORU Boraas 6.40 343 *i*P **Pn 00 51 45.8 -0.4**
MUD Monsted U'grnd 6.40 323 *e*P **Pn 00 51 49.8 +3.6**
MUD *i*S **Sn 00 52 58.2 -1.7**
MUD IAML 00 54 07.6
comp=Z,27nm,1.6s
SIRR Siria 6.42 143 ⇑P **Pn 00 51 47.1 +0.6**
DRGR 6.42 135 ⇑P **Pn 00 51 46.4 -0.2**
DRGR 6.42 135 P **Pn 00 51 46.3 -0.2**
MEM Membach 6.46 266 P **Pn 00 51 48.3 +1.2**
MEM pmax pmax
comp=Z,27nm,0.9s
MEM Membach 6.46 266 *d*P **Pn 00 51 47.6 +0.5**
BHOU Houvegnez 6.53 263 *d*P **Pn 00 51 49.2 +1.3**
BHOU *d*S **Sn 00 53 00.6 -2.5**
WLF Walferdange 6.64 257 Pn **Pn 00 51 49.1 -0.4**
WLF Walferdange 6.64 257 P **Pn 00 51 49.1 -0.4**
WLF Walferdange 6.64 257 *d*P **Pb 00 52 07.3 +0.3**
WLF *d*S Sb 00 53 17.6 -9.3
LLS Linth-Limmern 6.64 228 P **Pn 00 51 50.6 +0.9**
LLS pmax pmax
comp=Z,12nm,0.7s
MARR Marisel-Cluj 6.69 134 ⇑P **Pn 00 51 50.1 -0.1**
LNKU Linkoeping 6.69 357 P **Pn 00 51 51.0 +0.8**
LNKU Linkoeping 6.69 357 P **Pn 00 51 51.0 +0.8**
ECH Echery 6.71 244 Pn 00 51 49.2 -1.2
ECH Echery 6.71 244 P **Pn 00 51 49.3 -1.2**
BSTI Sart Tilman 6.75 266 *d*P **Pn 00 51 52.5 +1.5**
BSTI *d*S **Sg 00 53 47.3 +0.1**
TUE Stuetta 6.78 224 Pn 00 51 52.2 +0.6
BLY Banja Luka 6.85 174 ⇑P **Pn 00 51 53.5 +1.1**
BCLA Clavier 6.95 265 *d*P **Pn 00 51 54.1 +0.4**
BZS Buzias 6.96 147 ⇑P **Pn 00 51 53.9 0.0**
BZS Buzias 6.96 147 P **Pn 00 51 53.9 0.0**
VIKU Vikbolandet 6.97 2 P **Pn 00 51 55.0 +1.0**
VIKU Vikbolandet 6.97 2 P **Pn 00 51 55.0 +1.0**
ARCR ARCALIA 6.98 127 ⇑P **Pn 00 51 54.0 -0.1**
TJOU Tjoern 7.00 340 *e*P **Pn 00 51 54.4 +0.1**
TJOU *e*S **Sn 00 53 10.7 -3.8**
SURR Surduc 7.02 143 ⇑P **Pn 00 51 55.3 +0.5**
SLIT Slitere, Latvi 7.05 28 *e*P **Pn 00 51 55.1 +0.1**
RCHB Rochefort 7.06 263 *d*P **Pn 00 51 56.5 +1.3**
RCHB *d*S **Sb 00 53 30.6 -8.2**
BUR08 Bucovina Ar. S 7.06 120 Pn 00 51 56.4 +1.0
BURAR Bucovina Array 7.09 120 Pn 00 51 57.1 +1.3
BURAR Bucovina Array 7.09 120 ⇑P **Pn 00 51 54.1 -1.7**
BURAR Bucovina Array 7.09 120 P **Pn 00 51 54.0 -1.7**
NACGM Naroch 7.21 58 *e*P **Pn 00 52 00.1 +2.9**
DEV Deva 7.22 139 ⇑P **Pn 00 51 57.1 -0.4**
DEV Deva 7.22 139 P **Pn 00 51 57.0 -0.4**
BMRD Maredsous 7.31 265 *d*P **Pn 00 51 59.8 +1.1**
DOU Dourbes 7.47 263 *d*P **Pn 00 52 02.1 +1.3**
GZR Gura Zlata 7.57 142 ⇓P **Pn 00 52 02.4 -0.1**
GZR Gura Zlata 7.57 142 P **Pn 00 52 02.3 -0.1**
MNK Minsk 7.66 63 *i*P **Pn 00 52 04.0 +0.5**
comp=E,4.0nm,0.7s
MNK *i*P **Pn 00 52 04.0 +0.5**
comp=N,4.0nm,0.7s
MNK *i*P **Pn 00 52 04.0 +0.5**
comp=Z,3.0nm,0.6s,baz=252
MNK *i*PP **PnPn 00 52 11.7 +0.9**
MNK *i*S **Sn 00 53 31.9 +1.0**
MNK *i*SS **SnSn 00 53 40.8 -1.2**
MNK *i*LQ LQ 00 54 18.4
MNK *i*LR LR 00 54 50.7
MDVR Moldovita 7.73 149 ⇓P **Pn 00 52 06.0 +1.5**
HERR Herculane 7.88 146 ⇑P **Pn 00 52 06.7 +0.2**
LOT Lotru 7.93 137 ⇑P **Pn 00 52 07.0 -0.3**
ZCCA Zocca 8.00 208 Pn Pn 00 52 09.2 +0.9
STRU Stroemstad 8.01 341 *e*P **Pn 00 52 08.1 -0.2**
STRU Stroemstad 8.01 341 *e*P **Pn 00 52 08.2 0.0**
STRU *e*S **Sn 00 53 31.2 -8.2**
HOMB Homborsund 8.04 330 *i*P **Pn 00 52 06.0 -2.6**
KIEV Kiev 8.26 91 Pn 00 52 11.7 0.0
KIEV Kiev 8.26 91 ⇑P **Pn 00 52 09.9 -1.8**
KIEV Kiev 8.26 91 P **Pn 00 52 11.7 0.0**
AKASG Malin Array Be 8.27 91 Pn 00 52 11.3 -0.5
AKASG Malin Array Be 8.27 91 Pn **Pn 00 52 11.4 -0.4**
comp=Z,8.3nm,0.7s,baz=280,slow=12,SNR=19
AKASG Sn **Sn 00 53 43.2 -2.7**
comp=Z,2.0nm,0.3s,baz=269,slow=23,SNR=5.0
AKASG Lg Lg 00 54 39.9
comp=Z,0.9nm,0.3s,baz=274,slow=27,SNR=4.7
AKASG Malin Array Be 8.27 91 *i*P **Pn 00 52 11.3 -0.5**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKBB Malin Array Si 8.27 91 Pn 00 52 11.4 -0.5
AKBB Malin Array Si 8.27 91 ⇓*i*P **Pn 00 52 11.6 -0.2**
AKBB pmax pmax
comp=Z,22nm,0.7s
UPP Uppsala 8.36 5 *e*P **Pn 00 52 13.0 0.0**
SNART Snartemo 8.52 326 *i*P **Pn 00 52 19.0 +3.8**

SORM Soroca 8.59 109 ⇑P **Pn 00 52 14.9 -1.4**
SORM Soroca 8.59 109 P **Pn 00 52 14.8 -1.4**
MURB Monte Urbino 8.65 198 Pn 00 52 17.4 +0.1
PCP Piancastagn 8.67 219 P **Pn 00 52 19.9 +2.5**
PCP pmax pmax
comp=Z,49nm,0.6s
HFS Hagfors 8.71 352 Pn **Pn 00 52 18.2 +0.4**
comp=Z,0.3nm,0.3s,baz=169,slow=14,SNR=10
HFS Sn **Sn 00 53 52.1 -4.4**
comp=Z,0.5nm,0.3s,baz=162,slow=24,SNR=2.6
HFS Lg Lg 00 54 53.1
comp=Z,0.2nm,0.3s,baz=171,slow=29,SNR=2.0
comp=Z,2.1nm,0.6s
FDMO Fiordimonte 8.78 195 Pn 00 52 18.4 -0.4
PLOR Plostina 8.98 125 ⇓P **Pn 00 52 21.1 -0.6**
PLOR Plostina 8.98 125 P **Pn 00 52 21.0 -0.6**
BNI Bardonecchia 9.06 228 Pn **Pn 00 52 23.3 +0.4**
BNI Bardonecchia 9.06 228 P **Pn 00 52 23.3 +0.4**
LOR Lormes 9.09 247 P **Pn 00 52 24.1 +1.0**
LOR pmax pmax
comp=Z,11nm,0.7s
RRL Rocca Remolon 9.11 227 P **Pn 00 52 27.7 +4.1**
RRL pmax pmax
comp=Z,9.0nm,0.7s
VSU Vasula 9.20 37*de*P **Pn 00 52 23.5 -1.0**
VSU pmax pmax
comp=Z,16nm,0.8s
VSU Vasula 9.20 37 *e*P **Pn 00 52 24.9 +0.4**
CAMP Campotosto 9.22 193 Pn 00 52 24.6 -0.4
PZZ Stroppo 9.29 224 P **Pn 00 52 28.5 +2.5**
PZZ pmax pmax
comp=Z,10.0nm,0.6s
SAOF Saorge 9.53 221 P **Pn 00 52 30.5 +1.3**
SAOF pmax pmax
comp=Z,25nm,1.3s
ISO Isola 9.58 223 P **Pn 00 52 33.9 +4.0**
ISO pmax pmax
comp=Z,10.0nm,0.7s
CLF Chambon-Foret 9.65 254 Pn 00 52 30.8 0.0
ARBE Arbavere 9.66 31 *e*P **Pn 00 52 32.8 +2.0**
MEF Metsahovi 9.83 25 *e*P **Pn 00 52 33.2 +0.1**
NB201 NORSAR Array S 9.89 346 Pn Pn 00 52 32.9 -1.1
NOA NORSAR Array B 9.89 346 Pn Pn 00 52 33.3 -0.8
baz=243,slow=19,SNR=11
NOA Sn **Sn 00 54 20.9 -4.8**
baz=168,slow=12,SNR=3.7
NOA Lg Lg 00 55 24.1
baz=104,slow=18,SNR=4.7
comp=Z,0.3nm,0.5s
RAF Rauma 9.98 16 *e*P **Pn 00 52 35.4 +0.1**
FINES FINESS Array B 11.31 25 Pn 00 52 52.5 -0.9
FINES FINESS Array B 11.31 25 Pn **Pn 00 52 52.8 -0.6**
comp=Z,0.7nm,0.3s,baz=202,slow=11,SNR=23
FINES Sn **Sn 00 54 57.3 -3.0**
comp=Z,0.8nm,0.3s,baz=208,slow=20,SNR=5.2
FINES Lg Lg 00 56 14.4
comp=Z,0.3nm,0.3s,baz=219,slow=24,SNR=2.8
comp=Z,3.8nm,0.5s
EKA Eskdalemuir Ar 12.11 296 Pn **Pn 00 53 01.2 -3.2**
baz=103,slow=14
EKA Eskdalemuir Ar 12.11 296 P **Pn 00 53 04.9 +0.5**
ESK Eskdalemuir 12.13 296 Pn **Pn 00 53 02.6 -2.1**
ESK Eskdalemuir 12.13 296 P **Pn 00 53 02.6 -2.1**
OBN Obninsk 12.70 66 Pn **Pn 00 53 10.0 -2.4**
comp=Z,1.8nm,0.3s,baz=267,slow=17,SNR=3.2
OBN Lg Lg 00 56 56.9
comp=Z,3.7nm,0.3s,baz=63,slow=22,SNR=1.8
comp=Z,7.1nm,0.4s
OBN Obninsk 12.70 66*ce*P **Pn 00 53 10.1 -2.3**
OBN S **Sn 00 55 33.0 -1.3**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,1μm,17.0s
MOS Moscow 13.39 63 *e*P **Pn 00 53 17.4 -4.4**
MOS *e* 00 55 54.8
MOS pmax pmax
comp=Z,23nm,0.9s
JOF Joensuu 13.98 30 *e*P **Pn 00 53 26.0 -3.9**
SJUU Sjulsmark 14.27 9 *e*P **Pn 00 53 29.9 -3.9**
KLMR Klimovskoe 15.90 45 *e*P **Pn 00 53 53.1 -2.5**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
BRTR Keskin Array B 16.96 127 P **P 00 54 12.3 +0.9**
baz=327,slow=10,SNR=2.0
comp=Z,0.5nm,0.8s
ESDC Sonseca Array 18.35 237 P **P 00 54 27.1 +0.4**
comp=Z,0.1nm,0.3s,baz=48,slow=10,SNR=7.4
ESDC LR LR 01 01 04.5
comp=Z,1μm,19.9s,baz=50,slow=36
comp=Z,1.2nm,1.1s
ARCES ARCESS Array B 18.57 10 P **P 00 54 25.9 -3.0**
ARCES IAmb IAmb 00 54 39.5
comp=Z,27nm,1.5s
ARCES ARCESS Array B 18.57 10 P **P 00 54 26.2 -2.7**
comp=Z,1.9nm,0.5s,baz=196,slow=13,SNR=23
ARCES ARCESS Array B 18.57 10 P **P 00 54 25.9 -3.0**
ARCES pmax pmax
comp=Z,27nm,1.5s
LVZ Lovozero 18.71 22 P **P 00 54 28.2 -2.2**
LVZ IAmb IAmb 00 55 07.2
comp=Z,16nm,1.3s
LVZ Lovozero 18.71 22⇑*i*P **P 00 54 27.8 -2.7**
LVZ pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 18.96 12 P **P 00 54 31.2 -1.9**
KEV IAmb IAmb 00 54 38.2
comp=Z,11nm,1.0s
KEV Kevo 18.96 12 P **P 00 54 31.2 -1.9**
KEV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 19.31 103 *e*P **Pn 00 54 38.8 +0.5**
KIV pmax pmax
comp=Z,4.0nm,1.1s
BELG Belogornoye 19.33 75*d i*P **P 00 54 36.2 -1.1**
BELG pmax pmax
comp=Z,3.0nm,0.9s
BTLR Botlikh 22.18 102⇑*i*P **P 00 55 10.1 +1.8**
BTLR pmax pmax
comp=Z,28nm,1.6s
MMAI Mount Meron Ar 23.24 135 P **P 00 55 21.1 +1.5**
comp=Z,1.3nm,0.7s,baz=341,slow=8.4,SNR=2.7
comp=Z,1.3nm,0.7s
MD01 Midelt array s 24.11 227 P **P 00 55 28.4 +0.2**
ARTI Arti 25.00 62 P **P 00 55 35.1 -0.8**
ARTI IAmb IAmb 00 55 42.1
comp=Z,5.4nm,0.7s
ARTI Arti 25.00 62*c i*P **P 00 55 35.4 -0.5**
ARTI S **S 00 59 59.7 -0.8**
ARTI pmax pmax
comp=Z,7.0nm,1.0s
AB31 Akbulak array 27.69 77 P **P 00 55 59.7 -0.6**
AB31 IAmb IAmb 00 56 22.1
comp=Z,3.2nm,1.1s
ABKAR Akbulak array 27.69 77 P **P 00 56 00.2 -0.1**
BVAR Borovoye Array 32.54 66 P **P 00 56 45.5 +2.4**
comp=Z,1.7nm,0.6s,baz=297,slow=7.5,SNR=13
comp=Z,1.7nm,0.6s
KK31 Karatay Array 37.03 81 P **P 00 57 22.4 +0.4**
KK31 Karatay Array 37.03 81 P **P 00 57 22.4 +0.4**
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 37.03 81 P **P 00 57 22.7 +0.7**
KKAR Karatay Array 37.03 81 P **P 00 57 22.7 +0.7**
KURBB Kurchatov Arra 38.13 66 P **P 00 57 32.3 +1.1**
comp=Z,1.5nm,0.8s,baz=298,slow=9.0,SNR=9.0
comp=Z,1.5nm,0.8s
KURK Kurchatov 38.14 66*d i*P **P 00 57 32.2 +0.9**
KURK pmax pmax
comp=Z,5.0nm,1.5s
GAR Garm 39.24 87 P **P 00 57 40.5 -0.4**
ARSB Arslanbob 39.54 82 P **P 00 57 44.2 +0.8**
ARSB IAmb IAmb 00 57 47.8
comp=Z,3.7nm,0.9s
ARSB Arslanbob 39.54 82 P **P 00 57 44.2 +0.8**
ARSB pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 39.73 79 P **P 00 57 45.4 +0.4**
AAK Ala-Archa 39.73 79*d i*P **P 00 57 44.2 -0.8**
TORD Torodi Ar. Bea 40.05 202 P **P 00 57 47.9 +0.2**
comp=Z,1.5nm,0.8s,baz=13,slow=9.8,SNR=10
comp=Z,1.5nm,0.8s
ZALV Zalesovo Beam 40.15 59 P **P 00 57 48.0 -0.1**
ZALV Zalesovo Beam 40.15 59 P **P 00 57 49.9 +1.9**
comp=Z,1.2nm,0.8s,baz=302,slow=8.5,SNR=6.6
comp=Z,1.2nm,0.8s

MK31	**Makanchi Array**	**42.17**	**69**	⇑*e*P	**P**	**00 58 02.8**	**-2.0**
MKAR	**Makanchi Array**	**42.17**	**69**	P	**P**	**00 58 06.0**	**+1.2**
MKAR	**Makanchi Array**	**42.17**	**69**	P	**P**	**00 58 06.2**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=300,slow=5.5,SNR=6.2						
	comp=Z,0.8nm,0.8s						
WMQ	**Urumqi**	**46.99**	**70**	*e*P	**P**	**00 58 45.3**	**+1.9**
WMQ				LR	LR		
	comp=N,870nm,15.5s						
WMQ				LR	LR		
	comp=E,590nm,16.3s						
WMQ				LR	LR		
	comp=Z,420nm,21.9s						
SONM	**Songino Array**	**54.87**	**55**	P	**P**	**00 59 44.4**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=290,slow=9.7,SNR=6.5						
	comp=Z,0.5nm,0.5s						
YAK	**Yakutsk**	**55.15**	**32**	*de*P	**P**	**00 59 44.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ULN	**Ulaanbaatar**	**55.18**	**55**	*e*P	**P**	**00 59 44.4**	**-0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.2s						
BILL	**Bilibino**	**58.65**	**13**	*d i*P	**P**	**01 00 09.6**	**+0.5**
BILL				pmax	pmax		
	comp=Z,18nm,2.0s						
HHC	**Hu-ho-hao-te**	**62.33**	**59**	*e*P	**P**	**01 00 33.0**	**-1.8**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.0s						
MA2	**Magadan**	**63.30**	**24**	⇑*i*P	**P**	**01 00 40.5**	**-0.3**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.2s						
PZH	**PanZhiHua**	**67.06**	**76**	P	**P**	**01 01 06.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**71.32**	**84**	P	**P**	**01 01 34.0**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=308,slow=5.1,SNR=4.6						
	comp=Z,1.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**71.32**	**84**	*ce*P	**P**	**01 01 35.2**	**+2.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PDAR	**Pinedale Array**	**74.92**	**322**	P	**P**	**01 01 55.0**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=56,slow=5.6,SNR=5.0						
	comp=Z,0.5nm,0.7s						
BOSA	**Boshof**	**80.22**	**172**	P	**P**	**01 02 24.3**	**+1.4**
BOSA	**Boshof**	**80.22**	**172**	P	**P**	**01 02 24.3**	**+1.4**
BOSA				pmax	pmax		
	comp=Z,18nm,1.5s						
TXAR	**Lajitas Array**	**83.70**	**310**	P	**P**	**01 02 43.4**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=54,slow=6.4,SNR=5.6						
	comp=Z,0.2nm,0.5s						

*IDC **29** 01:06:28.5±3.8, 6°.52S×129°.92E, h111km±37km, mb3.7/10, mbtmp4.1/14, Error ellipse: s-maj=29.6km s-min=17.6km az=65.0*

ISC 29 01:06:31.8±0.7, **6°.65S**±0°.08×**129°.82E**±0°.09, **h146**km, **n20,** σ1§**96**/21, **mb3.8**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DRS	**Darwin Rock St**	**5.84**	**170**	P		**Pn**	**01 07 59.0**	**+2.7**
MTN	**Manton Dam**	**6.29**	**168**	P		**Pn**	**01 08 04.6**	**+2.3**
SOEI	**Soe**	**6.30**	**240**	P		Pn	01 08 08.5	+5.8
KDU	**Kakadu**	**6.54**	**157**	P		**Pn**	**01 08 07.3**	**+1.6**
BATI	**Baumata**	**7.04**	**239**	P		**Pn**	**01 08 11.8**	**-0.7**
	58nm,0.5s,baz=291,slow=1.7,SNR=6.0							
BATI				S		**Sn**	**01 09 31.4**	**0.0**
	45nm,0.4s,baz=68,slow=20,SNR=3.8							
FITZ	**Fitzroy Crossi**	**12.09**	**199**	P		**Pn**	**01 09 18.4**	**-0.9**
	2.0nm,0.3s,baz=35,slow=9.0,SNR=18							
FITZ				S		Sn	01 11 24.5	-8.4
	6.9nm,0.3s,baz=41,slow=22,SNR=8.9							
PLAI	**Plampang**	**12.13**	**259**	P		**Pn**	**01 09 22.3**	**+2.3**
WRA	**Warramunga Arr**	**13.92**	**162**	P		**Pn**	**01 09 40.8**	**-2.1**
	1.8nm,0.5s,baz=346,slow=13,SNR=12							
WRA				S		Sn	01 12 07.6	-10
	4.0nm,0.4s,baz=338,slow=22,SNR=9.1							
QIS	**Mount Isa**	**16.76**	**146**	P		**Pn**	**01 10 19.6**	**+1.5**
ASAR	**Alice Springs**	**17.36**	**167**	P		**Pn**	**01 10 26.2**	**+0.9**
	2.1nm,0.4s,baz=345,slow=9.6,SNR=18							
ASAR				S		**S**	**01 13 32.6**	**-5.5**
	0.9nm,0.3s,baz=355,slow=28,SNR=6.6							
STKA	**Stephens Creek**	**27.40**	**158**	P		**P**	**01 12 05.1**	**+1.4**
	0.6nm,0.3s,baz=342,slow=9.6,SNR=2.3							
	0.6nm,0.3s							
MJAR	**Matsushiro Arr**	**43.68**	**10**	P		**P**	**01 14 20.4**	**-1.8**
	2.7nm,0.7s,baz=179,slow=8.2,SNR=5.6							
	2.7nm,0.7s							
SONM	**Songino Array**	**58.06**	**342**	P		**P**	**01 16 09.8**	**+0.1**
	0.5nm,0.4s,baz=156,slow=6.2,SNR=3.3							
	0.5nm,0.4s							
PETK	**Petropavlovsk-**	**64.05**	**18**	P		**P**	**01 16 50.5**	**+0.7**
	1.0nm,0.3s,baz=204,slow=10,SNR=2.0							
	1.0nm,0.3s							
MKAR	**Makanchi Array**	**67.84**	**327**	P		**P**	**01 17 15.1**	**+0.9**
	4.8nm,0.4s,baz=114,slow=8.4,SNR=58							
	4.8nm,0.4s							
ZALV	**Zalesovo Beam**	**71.20**	**334**	P		**P**	**01 17 34.0**	**-0.6**
	0.8nm,0.5s,baz=115,slow=4.3,SNR=4.3							
	0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**72.12**	**329**	P		**P**	**01 17 40.8**	**+0.5**
	1.2nm,0.5s,baz=126,slow=4.9,SNR=10							
	1.2nm,0.5s							
BVAR	**Borovoye Array**	**77.68**	**328**	P		**P**	**01 18 12.0**	**-0.2**
	1.0nm,0.7s,baz=108,slow=9.5,SNR=6.7							
	1.0nm,0.7s							
QSPA	**South Pole Qui**	**83.32**	**180**	P		**P**	**01 18 43.3**	**+1.1**
	0.8nm,0.9s,baz=271,slow=1.0,SNR=6.9							
	0.8nm,0.9s							
ILAR	**Eielson Array**	**93.11**	**25**	P		**P**	**01 19 27.4**	**-1.5**
	0.3nm,0.6s,baz=275,slow=5.2,SNR=3.2							
	0.3nm,0.6s							

GCG 29 01:23:09.7±0.8, **13°.41N**×**91°.85W**, **h18**km±7km, **MD4.0, ML3.5, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ESSG	**Sabana Grande**	**1.39**	**45**	*i* P		Pn	01 23 34.2	-0.1
ESSG					IAML		01 24 02.2	
	comp=N,187nm,0.3s							
FG16	**Alotenango, Sa**	**1.56**	**56**	*i* P		Pn	01 23 34.7	-2.1
FG16					IAML		01 23 58.7	
	comp=N,2µm,0.2s							
QUIS	**Sacapulas**	**2.01**	**21**	*i* P		Pn	01 23 43.6	+0.7
JAYA	**Jayaque - finc**	**2.35**	**84**	*i* P		Pn	01 23 49.3	+1.8
MTO3	**Montecristo**	**2.61**	**68**	*i* P		Pn	01 23 50.8	-0.4
CCIG	**Comitan**	**2.87**	**354**	*i* P		Pn	01 23 56.5	+1.7

*NDI **29** 01:27:41.5±0.7, 31°.76N×69°.26E, h10km, ML3.8, MW3.6*
*IDC **29** 01:27:45.9±1.4, 36°.62N×73°.06E, h0km, mb3.6/8, mbtmp3.6/14, ML3.2/6, Error ellipse: s-maj=25.7km s-min=21.9km az=165.0*
*NNC **29** 01:27:57.8±8.2, 37°.15N×72°.22E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=90.3km s-min=44.9km az=137.0*

ISC 29 01:27:49.9±0.8, **36°.79N**±0°.06×**72°.9E**±0°.1, **h10**km, **n23,** σ2§**29**/24, **mb3.6/8, 6C, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JMU	**Jammu**	**4.39**	**157**	*e*P		Pn	01 28 53.9	-2.8
JMU				*e*S		**Sn**	**01 29 47.4**	**-0.5**
JMU					IAML		01 30 05.7	
	comp=E,149nm,0.5s							
JMU					IAML		01 30 07.4	
	comp=N,143nm,0.7s							
DHRM	**DHARAMSHALA**	**5.34**	**147**	*e*P		**Pn**	**01 29 10.4**	**+0.5**
DHRM				*e*S		**Sn**	**01 30 15.0**	**+3.4**
DHRM					IAML		01 30 15.0	
	comp=N,101nm,0.5s							
DHRM					IAML		01 30 16.8	
	comp=E,93nm,0.3s							
AAK	**Ala-Archa**	**5.97**	**12**	Pn		**Pn**	**01 29 20.5**	**+1.9**
	comp=E,1.3nm,0.3s,baz=125,slow=3.8,SNR=4.8							
AAK				Sn		**Sn**	**01 30 28.6**	**+1.5**
	comp=E,0.5nm,0.3s,baz=6.5,slow=18,SNR=3.8							
	comp=E,1.6nm,0.3s							
AAK	**Ala-Archa**	**5.97**	**12**	⇑P		Pn	01 29 26.2	+7.7
	comp=E,3.9nm,0.7s							
AAK				⇑S		**Sn**	**01 30 31.5**	**+4.4**
	comp=E,8.0nm,0.8s							
BHK	**Bhakra**	**6.11**	**150**	*e*S		**Sn**	**01 30 28.2**	**-2.2**
BHK					IAML		01 30 36.4	
	comp=E,88nm,0.4s							
BHK					IAML		01 30 36.7	
	comp=N,64nm,0.4s							
KK31	**Karatay Array**	**6.56**	**345**	⇑P		**Pn**	**01 29 28.7**	**+2.2**
	comp=N,1.9nm,0.3s,baz=150,slow=11,SNR=30							
KK31				⇑S		**Sn**	**01 30 44.4**	**+3.0**
	comp=N,2.3nm,0.4s,baz=156,slow=25,SNR=3.5							
SMLA	**Simla**	**6.68**	**146**	*e*P		Pn	01 29 21.3	-6.8
SMLA				*e*S		Sn	01 30 33.2	-11
SMLA					IAML		01 30 46.0	
	comp=N,95nm,0.3s							
SMLA					IAML		01 30 46.5	
	comp=E,315nm,0.6s							
KLP	**Kalpa**	**6.88**	**138**	*e*P		**Pn**	**01 29 32.4**	**+1.2**
KLP					IAML		01 30 52.0	
	comp=E,58nm,0.6s							
KLP				*e*S		**Sn**	**01 30 53.8**	**+4.1**
KLP					IAML		01 30 56.9	
	comp=N,65nm,0.8s							
MKAR	**Makanchi Array**	**12.21**	**32**	Pn		**Pn**	**01 30 41.1**	**-2.7**
	comp=N,0.1nm,0.3s,baz=209,slow=9.7,SNR=4.5							
	comp=N,0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**14.42**	**15**	Pn		**Pn**	**01 31 12.4**	**-1.5**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=7.4							
	comp=N,0.2nm,0.3s							
AB31	**Akbulak array**	**15.61**	**327**	⇑P		**Pn**	**01 31 28.7**	**-1.3**
	comp=N,0.8nm,0.5s,baz=138,slow=12,SNR=21							
BVAR	**Borovoye Array**	**16.33**	**355**	Pn		**Pn**	**01 31 37.4**	**-1.7**
	comp=N,1.0nm,0.3s,baz=157,slow=8.3,SNR=5.9							
	comp=N,0.3nm,0.4s							
AKTO	**Aktyubinsk**	**17.32**	**327**	P		**Pn**	**01 31 51.7**	**-0.1**
	comp=N,0.1nm,0.3s,baz=125,slow=12,SNR=7.0							
	comp=N,1.6nm,0.6s							
AKTO	**Aktyubinsk**	**17.32**	**327**	⇑P		**Pn**	**01 31 53.3**	**+1.6**
	comp=N,1.4nm,0.7s							
ZALV	**Zalesovo Beam**	**19.06**	**22**	P		**P**	**01 32 09.9**	**-2.2**
	comp=N,0.4nm,0.3s,baz=211,slow=11,SNR=7.3							
	comp=N,1.2nm,0.4s							
ARTI	**Arti**	**21.90**	**338**	P		**P**	**01 32 42.6**	**-0.4**
	comp=N,0.7nm,0.4s,baz=141,slow=8.4,SNR=3.1							
	comp=N,0.7nm,0.4s							
SONM	**Songino Array**	**26.93**	**55**	P		**P**	**01 33 28.9**	**-2.6**
	comp=N,0.4nm,0.5s,baz=255,slow=5.5,SNR=5.7							
	comp=N,0.4nm,0.5s							
BRTR	**Keskin Array B**	**30.78**	**288**	P		P	01 34 03.2	-2.6
	comp=N,0.3nm,0.6s,baz=76,slow=7.8,SNR=5.3							
	comp=N,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**41.46**	**337**	P		**P**	**01 35 35.6**	**-0.9**
	comp=N,1.7nm,0.9s,baz=105,slow=10,SNR=6.9							
	comp=N,1.7nm,0.9s							
HFS	**Hagfors**	**43.77**	**322**	P		**P**	**01 35 56.3**	**+0.9**
	comp=N,1.2nm,0.8s,baz=81,slow=9.2,SNR=4.7							
	comp=N,1.2nm,0.8s							
NOA	**NORSAR Array B**	**45.06**	**323**	P		**P**	**01 36 03.5**	**-2.2**
	comp=N,0.7nm,0.8s,baz=93,slow=7.8,SNR=3.5							
	comp=N,0.7nm,0.8s							
ESDC	**Sonseca Array**	**58.65**	**298**	P		**P**	**01 37 47.8**	**+0.3**
	comp=N,0.3nm,0.7s,baz=68,slow=8.3,SNR=2.6							
	comp=N,0.3nm,0.7s							
WRA	**Warramunga Arr**	**80.88**	**123**	P		P	01 40 01.2	-3.3
	comp=N,0.3nm,0.4s,baz=315,slow=5.6,SNR=2.2							
	comp=N,0.3nm,0.4s							

*NEIC **29** 01:41:41.6±1.2, 60°.5S±0°.1×26°.3W±0°.3, h10km±1km, mb4.6/29, Error ellipse: s-maj=27.1km s-min=19.3km az=231.0*
*IDC **29** 01:41:43.2±1.0, 60°.30S×25°.34W, h0km, mb4.1/4, mbtmp4.1/5, ML4.3/1, Error ellipse: s-maj=38.3km s-min=23.3km az=66.0*

ISC 29 01:41:41.8±0.6, **60°.4S**±0°.1×**26°.2W**±0°.1, **h10**km, **n39,** σ1§**50**/38, **mb4.5**/16, **4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.59**	**152**	⇑P		**Pn**	**01 44 39.7**	**-0.9**
	comp=Z,20nm,0.3s							
VNA3	**Neumayer Olymp**	**12.72**	**155**	⇑P		**Pn**	**01 44 40.4**	**-2.1**
	comp=Z,16nm,0.2s							
SNAA	**Sanae**	**14.59**	**150**	⇑P		**Pn**	**01 45 06.0**	**-1.9**
	comp=Z,97nm,0.3s							
SNAA	**Sanae**	**14.59**	**150**			**Pn**	**01 45 06.4**	**-1.6**
SNAA	**Sanae**	**14.59**	**150**	Pn		**Pn**	**01 45 07.3**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=314,slow=16,SNR=65							
	comp=Z,3.2nm,0.3s							
TROLL	**Troll, Antarti**	**16.16**	**148**	⇑P		**Pn**	**01 45 27.4**	**-1.3**
	comp=Z,56nm,0.3s							
QSPA	**South Pole Qui**	**29.81**	**180**	P		**P**	**01 47 51.5**	**+3.0**
QSPA					IAmb	IAmb	01 47 53.6	
	comp=Z,15nm,1.4s							
QSPA	**South Pole Qui**	**29.81**	**180**	P		**P**	**01 47 52.3**	**+3.8**
	comp=Z,2.2nm,0.5s,baz=194,slow=6.9,SNR=27							
	comp=Z,2.2nm,0.5s							
TRQA	**Tornquist**	**31.70**	**299**	P		**P**	**01 48 03.7**	**-1.6**
TRQA					IAmb	IAmb	01 48 20.1	
	comp=Z,7.3nm,1.1s							
PLCA	**Paso Flores**	**33.48**	**286**	P		**P**	**01 48 20.0**	**-1.0**
PLTB	**Pedras Altas**	**33.90**	**315**	P		**P**	**01 48 24.1**	**-0.4**
BO02	**Sierra Bellavi**	**38.37**	**291**	P		**P**	**01 49 01.7**	**-1.1**
BO01	**Tunca**	**38.84**	**292**	P		**P**	**01 49 06.0**	**-0.7**
BO01					IAmb	IAmb	01 49 08.5	
	comp=Z,13nm,1.2s							
BO04	**La Punta**	**38.95**	**292**	P		**P**	**01 49 07.6**	**-0.1**
BO04					IAmb	IAmb	01 49 08.2	
	comp=Z,10.0nm,0.8s							
MT08	**Bocatoma Ro**	**39.14**	**294**	P		**P**	**01 49 08.9**	**-0.6**
MT09	**Talagante**	**39.30**	**292**	P		**P**	**01 49 09.6**	**-1.2**
MT09					IAmb	IAmb	01 49 10.8	
	comp=Z,14nm,0.8s							
MT03	**Universidad Ad**	**39.32**	**293**	P		**P**	**01 49 11.1**	**+0.2**
MT03					IAmb	IAmb	01 49 11.6	
	comp=Z,15nm,0.9s							
MT01	**Popeta**	**39.35**	**292**	P		**P**	**01 49 09.5**	**-1.5**
MT01					IAmb	IAmb	01 49 27.1	
	comp=Z,23nm,1.5s							
MT02	**Curacav**	**39.80**	**292**	P		**P**	**01 49 14.2**	**-0.6**
MT02					IAmb	IAmb	01 49 23.7	
	comp=Z,11nm,1.1s							
VA03	**San Esteban**	**39.95**	**294**	P		**P**	**01 49 15.9**	**-0.2**
VA03					IAmb	IAmb	01 49 17.1	
	comp=Z,11nm,0.8s							
CPUP	**Villa Florida**	**40.17**	**314**	P		P	01 49 23.0	+5.2
	comp=Z,0.5nm,0.5s,baz=74,slow=7.4,SNR=7.0							
	comp=Z,0.5nm,0.5s							
CO02	**Combarbal**	**41.47**	**294**	P		**P**	**01 49 27.8**	**-0.9**
CO02					IAmb	IAmb	01 49 46.3	
	comp=Z,14nm,0.8s							
CO03	**El Pedregal**	**41.64**	**295**	P		**P**	**01 49 30.1**	**0.0**
CO03					IAmb	IAmb	01 49 47.6	
	comp=Z,7.9nm,0.8s							
CO01	**Juntas del Tor**	**42.11**	**296**	P		**P**	**01 49 33.8**	**-0.3**
LCO	**Las Campanas**	**43.20**	**296**	P		**P**	**01 49 42.4**	**-0.6**
AC04	**Llanos de Chal**	**44.06**	**296**	P		**P**	**01 49 49.5**	**-0.1**
AC02	**Maricunga**	**44.40**	**300**	P		**P**	**01 49 52.5**	**-0.4**
AC02					IAmb	IAmb	01 50 05.9	
	comp=Z,5.4nm,0.7s							
GO02	**Mina Guanaco**	**46.06**	**300**	P		**P**	**01 50 06.0**	**+0.1**
BOSA	**Boshof**	**46.74**	**71**	P		**P**	**01 50 11.7**	**+0.7**
PB05	**IPOC Station P**	**48.35**	**301**	P		**P**	**01 50 22.5**	**-1.0**
CASY	**Casey**	**49.62**	**159**	P		**P**	**01 50 31.8**	**-0.7**
PB01	**IPOC Station P**	**49.66**	**303**	P		**P**	**01 50 33.1**	**-0.4**
PB01					IAmb	IAmb	01 50 45.6	
	comp=Z,5.8nm,0.8s							
PB11	**IPOC Station P**	**50.87**	**303**	P		**P**	**01 50 42.3**	**-0.6**
LPAZ	**La Paz**	**53.38**	**307**	P		**P**	**01 51 01.3**	**-0.7**
LPAZ	**La Paz**	**53.38**	**307**	P		**P**	**01 51 06.7**	**+4.7**
	comp=Z,0.6nm,0.5s,baz=100,slow=4.5,SNR=13							
	comp=Z,0.6nm,0.5s							
DBIC	**Dimbokro**	**68.98**	**23**	P		**P**	**01 52 47.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**76.66**	**28**	P		**P**	**01 53 32.8**	**+0.3**
TORD					IAmb	IAmb	01 53 34.2	
	comp=Z,2.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.66**	**28**	P		**P**	**01 53 33.0**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=196,slow=5.3,SNR=34							
	comp=Z,3.9nm,0.7s							
SONM	**Songino Array**	**150.22**	**93**	PKPbc		**PKPab**	**02 01 35.8**	**-2.4**
	comp=Z,1.9nm,0.8s,baz=207,slow=2.9,SNR=7.5							

*KNET **29** 01:49:03.7±0.5, 42°.22N×75°.43E, h0km, ml3.0, Error ellipse: s-maj=3.9km s-min=2.2km az=9.0*
*KRNET **29** 01:49:04.1±0.1, 42°.19N×75°.45E, h19km, mb3.8*
*SOME **29** 01:49:04.7, 42°.17N×75°.45E, h15km*
*NNC **29** 01:49:06.1±0.7, 42°.30N×75°.40E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=5.9km s-min=1.8km az=174.0*

ISC 29 01:49:03.0±1.0, **42°.16N**±0°.02×**75°.38E**±0°.01, **h14**km±9km,

n67, σ1§**41**/120, **36C-22D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KBK	**Karagaybulak**	**0.59**	**327**	P		**Pn**	**01 49 16.2**	**-1.0**
	1µm,0.3s,SNR=769							
KBK				⇑S		**Sb**	**01 49 23.9**	**+0.3**
	1µm,0.2s							
KBK	**Karagaybulak**	**0.59**	**327**	⇓*i*P		**Pb**	**01 49 15.8**	**+0.5**
KBK				⇓*i*S		**Sb**	**01 49 24.1**	**+0.4**
ULHL	**Ulahol**	**0.64**	**82**	⇓P		**Pb**	**01 49 15.5**	**-0.7**
	50nm,0.1s,SNR=11							
ULHL				⇓S		**Sg**	**01 49 23.7**	**-0.4**
	112nm,0.2s							
ULHL	**Ulahol**	**0.64**	**82**	⇑*i*P		**Pb**	**01 49 15.4**	**-0.7**
ULHL				⇑*i*S		**Sg**	**01 49 23.8**	**-0.3**
UCH	**Uchtor**	**0.65**	**276**	⇑P		**Pn**	**01 49 17.7**	**-0.5**
	71nm,0.4s,SNR=144							
UCH				⇑S		**Sn**	**01 49 27.0**	**-1.6**
	292nm,0.3s							
UCH	**Uchtor**	**0.65**	**276**	⇑*i*P		**Pn**	**01 49 17.6**	**-0.7**
UCH				⇑*i*S		**Sn**	**01 49 27.3**	**-1.3**
TKM2	**Tokmak 2**	**0.78**	**12**	P		**Pb**	**01 49 18.4**	**-0.1**
	284nm,0.2s,SNR=778							
TKM2				⇓S		**Sg**	**01 49 27.8**	**-0.6**
	404nm,0.2s							
TKM2	**Tokmak 2**	**0.78**	**12**	⇓*i*P		**Pb**	**01 49 18.3**	**-0.1**
TKM2				⇓*i*S		**Sg**	**01 49 28.2**	**-0.2**
AAK	**Ala-Archa**	**0.81**	**306**	P		**Pn**	**01 49 20.2**	**-0.1**
	63nm,0.1s,SNR=121							
AAK				⇓S		**Sn**	**01 49 31.1**	**-1.1**
	433nm,0.3s							
AAK	**Ala-Archa**	**0.81**	**306**	⇓P		**Pn**	**01 49 20.1**	**-0.1**
	178nm,0.3s							
AAK				⇓S		**Sn**	**01 49 31.3**	**-0.9**
	3µm,0.8s							
AAK	**Ala-Archa**	**0.81**	**306**	⇑*i*P		**Pn**	**01 49 19.8**	**-0.5**
AAK				⇑*i*S		**Sn**	**01 49 31.3**	**-0.9**
FRU1	**Bishkek**	**0.86**	**320**	⇑*i*P		**Pn**	**01 49 21.0**	**+0.2**
FRU1				⇑*i*S		**Sn**	**01 49 33.1**	**-0.1**
CHMS	**Chumysh**	**0.96**	**331**	⇑P		**Pn**	**01 49 22.5**	**+0.3**
	162nm,0.3s,SNR=78							
CHMS				⇓S		**Sn**	**01 49 35.2**	**-0.6**
	675nm,0.1s							
CHMS	**Chumysh**	**0.96**	**331**	⇑*i*P		**Pn**	**01 49 22.1**	**-0.1**
CHMS				⇑*i*S		**Sn**	**01 49 35.1**	**-0.6**
KST	**Kastek**	**0.98**	**26**	P		**Pn**	**01 49 22.0**	**-0.6**
	73nm,0.2s							
KST				S		**Sb**	**01 49 34.5**	**-0.3**
	358nm,0.5s							
KST	**Kastek**	**0.98**	**26**	*e*P		**Pn**	**01 49 22.0**	**-0.6**
KST				*e*S		**Sb**	**01 49 34.5**	**-0.3**
KST	**Kastek**	**0.98**	**26**	*e*P		**Pn**	**01 49 22.0**	**-0.6**
	73nm,0.2s							
KST				*e*S		**Sb**	**01 49 34.5**	**-0.3**
	358nm,0.5s							
DGS	**Degeres**	**1.12**	**15**	P		**Pg**	**01 49 24.7**	**+0.1**
	47nm,0.4s							
DGS				S		**Sg**	**01 49 38.9**	**-0.2**
	105nm,0.3s							
DGS	**Degeres**	**1.12**	**15**	*e*P		**Pg**	**01 49 24.7**	**+0.1**
DGS				*e*S		**Sg**	**01 49 39.0**	**-0.2**
MTBS	**Maitube**	**1.24**	**38**	P		**Pg**	**01 49 26.6**	**-0.2**
	31nm,0.3s							
MTBS				S		**Sn**	**01 49 42.3**	**-0.3**
	180nm,0.5s							
MTBS	**Maitube**	**1.24**	**38**	*e*P		**Pg**	**01 49 26.7**	**-0.2**
MTBS				*e*S		**Sn**	**01 49 42.4**	**-0.2**
MTBS	**Maitube**	**1.24**	**38**	*e*P		**Pg**	**01 49 26.6**	**-0.2**
	31nm,0.3s							
MTBS				*e*S		**Sn**	**01 49 42.3**	**-0.3**
	180nm,0.5s							
USP	**Ospenovka**	**1.29**	**330**	⇓P		**Pg**	**01 49 28.1**	**+0.4**
	74nm,0.2s,SNR=222							
USP				⇓S		**Sg**	**01 49 45.1**	**+0.6**
	97nm,0.1s							
USP	**Ospenovka**	**1.29**	**330**	⇑*i*P		**Pg**	**01 49 27.9**	**+0.2**
USP				⇑*i*S		**Sg**	**01 49 44.8**	**+0.3**
EKS2	**Erkin-Say**	**1.29**	**293**	⇓P		**Pg**	**01 49 29.3**	**+1.5**
	20nm,0.2s,SNR=48							
EKS2				⇓S		**Sg**	**01 49 47.1**	**+2.4**
	56nm,0.2s							
EKS2	**Erkin-Say**	**1.29**	**293**	⇑*i*P		**Pg**	**01 49 28.7**	**+0.9**
EKS2				⇑*i*S		**Sg**	**01 49 46.4**	**+1.7**
KDJ	**Kajisay**	**1.34**	**91**	⇑*i*P		**Pg**	**01 49 28.1**	**-0.6**
KDJ				⇑*i*S		**Sg**	**01 49 45.5**	**-0.6**
SGDS	**Sogindy**	**1.41**	**337**	P		**Pg**	**01 49 30.3**	**+0.3**
	36nm,0.2s							
SGDS				S		**Sg**	**01 49 48.7**	**+0.4**
	110nm,0.2s							
TNSS	**T

BTLS					Lg	Lg	01 50 39.2		
	24nm,0.3s								
BTLS	**Baital**	**3.04**	**342**	*eP*	**Pg**	**01 49 59.8**	**-1.4**		
	31nm,0.3s								
BTLS				*eS*	**Sg**	**01 50 39.2**	**-1.5**		
	24nm,0.3s								
DZA	**Taraz**	**3.08**	**285**	Pg	**Pg**	**01 50 01.6**	**-0.5**		
	66nm,0.1s								
DZA					Lg	Lg	01 50 42.4		
	157nm,0.3s								
DZA	**Taraz**	**3.08**	**285**	*eP*	**Pg**	**01 50 01.6**	**-0.5**		
	66nm,0.1s								
DZA				*eS*	**Sg**	**01 50 42.4**	**+0.4**		
	157nm,0.3s								
SHLS	**Shalkode**	**3.17**	**70**	Pg	**Pg**	**01 50 07.0**	**+3.3**		
	15nm,0.4s								
SHLS					Lg	Lg	01 50 51.5		
	60nm,0.4s								
SHLS	**Shalkode**	**3.17**	**70**	*eP*	**Pg**	**01 50 07.0**	**+3.3**		
	15nm,0.4s								
SHLS				*eS*	**Sg**	**01 50 51.5**	**+6.8**		
	60nm,0.4s								
TRKS	**Terek-Say**	**3.23**	**260**	⇓*iP*	**Pb**	**01 49 57.5**	**-2.8**		
TRKS				⇓*iS*	**Sb**	**01 50 37.0**	**-2.6**		
PDGK	**Podgornoye**	**3.24**	**67**	⇓Pn	**Pb**	**01 49 58.7**	**-1.7**		
	6.9nm,0.5s								
PDGK				⇑Sn	**Sb**	**01 50 41.9**	**+2.1**		
	67nm,0.9s								
KNOS	**Konyrlen**	**3.54**	**50**	Pg	**Pg**	**01 50 08.2**	**-2.6**		
	11nm,0.4s								
KNOS					Lg	Lg	01 50 53.8		
	34nm,0.4s								
TDK	**Taldyqorghan**	**3.59**	**37**	*eP*	**Pb**	**01 50 07.0**	**+0.7**		
	31nm,0.2s								
TDK				*eS*	**Sb**	**01 50 51.2**	**+1.5**		
	90nm,0.6s								
KK31	**Karatay Array**	**3.72**	**286**	⇓Pn	**Pb**	**01 50 05.9**	**-2.5**		
	0.4nm,0.4s,baz=108,slow=16,SNR=28								
KK31				⇑Pg	**Pg**	**01 50 15.7**	**+1.6**		
	1.9nm,0.2s								
KK31				Lg	Lg	01 51 01.1			
	12nm,0.3s,baz=94,slow=29,SNR=13								
IUG	**Iuzhnay**	**3.98**	**272**	Pg	**Pg**	**01 50 18.2**	**-1.0**		
	50nm,0.7s								
IUG					Lg	Lg	01 51 11.2		
	112nm,0.6s								
BRLS	**Borolday**	**4.19**	**284**	Pg	**Pg**	**01 50 23.4**	**+0.2**		
	6.2nm,0.8s								
BRLS					Lg	Lg	01 51 20.2		
	20nm,0.4s								
BRLS	**Borolday**	**4.19**	**284**	*eP*	**Pg**	**01 50 23.4**	**+0.2**		
	6.2nm,0.8s								
BRLS				*eS*	**Sg**	**01 51 20.2**	**+2.8**		
	20nm,0.4s								
MK31	**Makanchi Array**	**6.77**	**44**	⇑Pn	Pn	01 50 47.0	+5.0		
	2.0nm,0.5s,baz=224,slow=15,SNR=24								
MK31				⇑Sn	**Sn**	**01 52 03.9**	**+5.0**		
	0.5nm,0.3s,baz=225,slow=26,SNR=4.7								
MK31				⇓Lg	Lg	01 52 36.8			
	3.0nm,0.6s								
KURBB	**Kurchatov Arra**	**8.74**	**13**	⇑Pn	**Pn**	**01 51 12.2**	**+3.3**		
	0.8nm,0.3s								
KURBB				⇑Sn	**Sn**	**01 52 46.6**	**-0.6**		
	3.4nm,0.5s								
KURBB				⇓Lg	Lg	01 53 37.5			
	16nm,0.8s								
KURK	**Kurchatov**	**8.85**	**13**	⇑Pn	**Pn**	**01 51 13.1**	**+2.8**		
	0.8nm,0.5s								
KURK				⇑Sn	**Sn**	**01 52 50.4**	**+0.6**		
	1.1nm,0.4s								
KURK				⇑Lg	Lg	01 53 39.8			
	11nm,0.8s								
AB31	**Akbulak array**	**12.90**	**309**	P	P	01 52 10.9	-5.7		
	0.8nm,0.7s,baz=118,slow=12,SNR=7.6								
AB31				S	Sn	01 54 38.0	+8.8		
	0.4nm,0.3s,baz=252,slow=39,SNR=6.1								

RSNC 29 02:04:05.9±0.0, 13°N±4°×7°0W±°, h41km±395km, M2.5, mB4.8, mb3.7, ML2.5, Mw(mB)4.1, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.73**	**241**	P	Pn	02 04 33.0	-0.5
URIC				S	Sn	02 04 53.8	-0.6
CRJC	**Cerrejon, Guaj**	**2.83**	**238**	P	Pn	02 04 47.4	-1.3
CRJC				S	Sn	02 05 21.2	-0.4
ARGC	**Ariguani, Magd**	**4.59**	**235**	P	Pn	02 05 13.5	+0.7
ARGC				S	Sn	02 06 04.6	-0.3
OCAC	**Ocana**	**5.13**	**214**	P	Pn	02 05 19.6	-0.8
	1μm31nm,0.5s						
OCAC				S	Sn	02 06 16.1	-2.3
	1μm31nm,0.5s						
SJCC	**San Jacinto, C**	**5.34**	**241**	P	Pn	02 05 21.7	-1.5
	13nm,1.4s						
SJCC				S	Sn	02 06 19.8	-3.7
	13nm,1.4s						
PAMC	**Pamplona, Colo**	**5.63**	**204**	P	Pn	02 05 27.7	+0.2
	4.4nm,2.9s						
PAMC				S	Sn	02 06 29.5	-1.7
	4.4nm,2.9s						
ZARC	**Zaragoza, Cauc**	**6.64**	**221**	P	Pn	02 05 40.7	-0.3

*NEIC **29** 02:13:38.8±1.2, 60°34S±0°09×26°3W±0°2, h10km±1km, mb4.9/56, Error ellipse: s-maj=20.9km s-min=12.2km az=240.0*
*IDC **29** 02:13:39.1±1.9, 60°21S×27°02W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=68.1km s-min=31.5km az=7.0*
ISC 29 02:13:37.7±0.6, 60°46S±0°09×26°23W±0°10, h10km, n68, σ0°94/67, mb4.9/30, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.57**	**152**	⇓P	**Pn**	**02 16 34.9**	**-1.3**
	comp=Z,14nm,0.3s						
VNA3	**Neumayer Olymp**	**12.70**	**155**	⇓P	**Pn**	**02 16 35.9**	**-2.2**
	comp=Z,7.6nm,0.2s						
SNAA	**Sanae**	**14.56**	**150**	⇓P	**Pn**	**02 17 01.5**	**-2.0**
	comp=Z,65nm,0.3s						
SNAA	**Sanae**	**14.56**	**150**		**Pn**	**02 17 01.7**	**-1.9**
ESPZ	**Base Esperanza**	**14.70**	**245**	Pn	**Pn**	**02 17 05.8**	**+0.5**
TROLL	**Troll, Antarti**	**16.14**	**147**	⇓P	**Pn**	**02 17 23.8**	**-0.6**
	comp=Z,177nm,0.8s						
BELA	**Belgrano 2**	**17.71**	**186**		**P**	**02 17 46.4**	**+1.6**
EFI	**East Falkland**	**19.64**	**282**	P	**P**	**02 18 04.9**	**-1.3**
QSPA	**South Pole Qui**	**29.77**	**180**	P	P	02 19 47.9	+3.7
QSPA				IAmb	IAmb	02 19 49.5	
	comp=Z,20nm,1.4s						
TRQA	**Tornquist**	**31.72**	**299**	P	**P**	**02 20 02.0**	**+0.7**
TRQA				IAmb	IAmb	02 20 02.7	
	comp=Z,9.7nm,0.7s						
PLCA	**Paso Flores**	**33.49**	**286**	P	**P**	**02 20 16.4**	**-0.5**
PLCA	**Paso Flores**	**33.49**	**286**	P	**P**	**02 20 15.8**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=141,slow=8.7,SNR=4.0						
	comp=Z,1.3nm,0.7s						
PLTB	**Pedras Altas**	**33.92**	**315**	P	**P**	**02 20 20.4**	**-0.3**
PLTB				IAmb	IAmb	02 20 47.3	
	comp=Z,15nm,1.2s						
ITQB	**Itaqui**	**36.89**	**313**	P	**P**	**02 20 46.6**	**+0.4**
ITQB				IAmb	IAmb	02 20 49.2	
	comp=Z,33nm,1.4s						
BO02	**Sierra Bellavi**	**38.37**	**292**	P	**P**	**02 20 58.2**	**-0.6**
BO02				IAmb	IAmb	02 21 20.5	
	comp=Z,41nm,1.8s						
BO01	**Tunca**	**38.84**	**292**		**P**	**02 21 02.8**	**+0.2**
LMEL	**Las Melosas**	**38.89**	**293**	P	**P**	**02 21 03.4**	**+0.1**
BO04	**La Punta**	**38.96**	**292**	P	**P**	**02 21 03.0**	**-0.7**
BO04				IAmb	IAmb	02 21 05.1	
	comp=Z,21nm,0.8s						
MT08	**Bocatoma Ro**	**39.14**	**294**	P	**P**	**02 21 06.4**	**+0.9**
MT08				IAmb	IAmb	02 21 08.2	
	comp=Z,24nm,0.8s						
MT09	**Talagante**	**39.31**	**292**	P	**P**	**02 21 06.4**	**-0.4**
MT09				IAmb	IAmb	02 21 08.3	
	comp=Z,37nm,0.9s						
MT03	**Universidad Ad**	**39.33**	**293**	P	**P**	**02 21 07.4**	**+0.6**
MT01	**Popeta**	**39.36**	**292**		**P**	**02 21 06.6**	**-0.4**
MT01				IAmb	IAmb	02 21 07.8	
	comp=Z,16nm,0.7s						
MT16	**CCHEN**	**39.39**	**293**	P	**P**	**02 21 07.3**	**0.0**
MT05	**Renca**	**39.52**	**293**	P	**P**	**02 21 09.3**	**+0.9**
MT05				IAmb	IAmb	02 21 09.5	
	comp=Z,26nm,0.6s						

PEL	**Peldehue**	**39.70**	**293**		P	**P**	**02 21 10.1**	**+0.2**	
MT02	**Curacav**	**39.81**	**292**		P	**P**	**02 21 11.1**	**+0.4**	
MT02					IAmb	IAmb	02 21 11.6		
	comp=Z,17nm,0.7s								
VA03	**San Esteban**	**39.96**	**294**		P	**P**	**02 21 12.7**	**+0.6**	
VA03					IAmb	IAmb	02 21 14.1		
	comp=Z,39nm,0.8s								
CPUP	**Villa Florida**	**40.19**	**314**		P	**P**	**02 21 13.7**	**-0.2**	
CPUP	**Villa Florida**	**40.19**	**314**		P	**P**	**02 21 13.0**	**-0.9**	
	comp=Z,0.5nm,0.5s,baz=4.3,slow=9.4,SNR=6.7								
	comp=Z,0.5nm,0.5s								
VA06	**Catapilco**	**40.47**	**293**		P	**P**	**02 21 17.0**	**+0.8**	
CO02	**Combarbal**	**41.48**	**294**			**P**	**02 21 25.1**	**+0.4**	
CO02					IAmb	IAmb	02 21 27.0		
	comp=Z,22nm,1.1s								
CO03	**El Pedregal**	**41.65**	**295**		P	**P**	**02 21 26.8**	**+0.7**	
CO01	**Juntas del Tor**	**42.12**	**296**		P	**P**	**02 21 31.2**	**+1.1**	
CO01					IAmb	IAmb	02 21 32.4		
	comp=Z,17nm,0.8s								
CO06	**Fray Jorge**	**42.21**	**294**		P	**P**	**02 21 30.9**	**+0.3**	
CO06					IAmb	IAmb	02 21 51.0		
	comp=Z,46nm,1.3s								
GO04	**Tololo Observa**	**42.26**	**295**		P	**P**	**02 21 31.1**	**-0.2**	
GO04					IAmb	IAmb	02 21 45.6		
	comp=Z,16nm,0.8s								
LCO	**Las Campanas**	**43.21**	**296**		P	**P**	**02 21 39.5**	**+0.5**	
AC04	**Llanos de Chal**	**44.07**	**297**		P	**P**	**02 21 46.6**	**+1.0**	
AC02	**Maricunga**	**44.41**	**300**			**P**	**02 21 49.5**	**+0.6**	
AC02					IAmb	IAmb	02 21 50.6		
	comp=Z,12nm,0.6s								
AC06	**Mina Casimiro**	**44.49**	**298**		P	**P**	**02 21 49.0**	**0.0**	
AC06					IAmb	IAmb	02 21 49.7		
	comp=Z,15nm,1.0s								
AC01	**Pan de Azucar**	**45.65**	**298**		P	**P**	**02 21 58.1**	**0.0**	
AC01					IAmb	IAmb	02 21 58.4		
	comp=Z,17nm,1.0s								
GO02	**Mina Guanaco**	**46.07**	**300**			**P**	**02 22 01.8**	**-0.1**	
PB14	**IPOC Station P**	**46.89**	**300**		P	**P**	**02 22 07.7**	**-0.7**	
PB10	**IPOC Station P**	**47.93**	**300**		P	**P**	**02 22 16.3**	**+0.2**	
PB05	**IPOC Station P**	**48.37**	**301**		P	**P**	**02 22 19.7**	**+0.2**	
PB03	**IPOC Station P**	**48.89**	**302**		P	**P**	**02 22 23.6**	**-0.1**	
PB03					IAmb	IAmb	02 22 24.9		
	comp=Z,20nm,1.1s								
PB09	**IPOC Station P**	**48.90**	**303**		P	**P**	**02 22 24.3**	**+0.5**	
PB01	**IPOC Station P**	**49.67**	**303**		P	**P**	**02 22 29.5**	**0.0**	
PB01					IAmb	IAmb	02 22 31.1		
	comp=Z,16nm,0.8s								
PB08	**IPOC Station P**	**50.34**	**304**		P	**P**	**02 22 34.9**	**-0.1**	
HMBC	**Humberstone**	**50.52**	**303**		P	**P**	**02 22 36.1**	**+0.1**	
HMBC					IAmb	IAmb	02 22 37.0		
	comp=Z,7.1nm,0.7s								
GO01	**Chusmiza**	**50.78**	**304**		P	**P**	**02 22 38.8**	**+0.3**	
GO01					IAmb	IAmb	02 22 39.9		
	comp=Z,6.6nm,0.7s								
PTLB	**Pontes e Lacer**	**50.87**	**318**			**P**	**02 22 38.2**	**-0.3**	
PB16	**IPOC Station P**	**52.10**	**304**		P	**P**	**02 22 48.4**	**0.0**	
PB12	**IPOC Station P**	**52.19**	**303**		P	**P**	**02 22 48.2**	**-0.3**	
PB12					IAmb	IAmb	02 23 19.3		
	comp=Z,15nm,1.2s								
ASCN	**Ascension**	**53.17**	**15**		P	**P**	**02 22 54.1**	**-1.5**	
LPAZ	**La Paz**	**53.40**	**307**			**P**	**02 22 58.0**	**0.0**	
LPAZ	**La Paz**	**53.40**	**307**		P	**P**	**02 22 58.1**	**0.0**	
	comp=Z,2.7nm,0.5s,baz=142,slow=9.3,SNR=26								
	comp=Z,2.7nm,0.5s								
PHDHD	**Phuduhudu**	**53.67**	**65**		P	**P**	**02 23 00.2**	**+0.7**	
RCBR	**Riachuelo**	**55.00**	**348**		P	**P**	**02 23 09.0**	**-0.1**	
MAL2	**Monte Alegre,**	**62.11**	**328**		P	**P**	**02 23 59.0**	**+0.4**	
MAL2					IAmb	IAmb	02 24 26.1		
	comp=Z,9.6nm,0.8s								
CZSB	**Cruzeiro do Su**	**62.98**	**306**		P	**P**	**02 24 03.2**	**-1.2**	
CZSB					IAmb	IAmb	02 24 04.2		
	comp=Z,7.1nm,0.7s								
BOAV	**Boa Vista**	**68.10**	**323**		P	**P**	**02 24 36.3**	**-1.2**	
ROSC	**El Rosal**	**75.11**	**310**		P	**P**	**02 25 20.3**	**+0.1**	
ROSC					IAmb	IAmb	02 25 48.5		
	comp=Z,8.2nm,0.4s								
TORD	**Torodi Ar. Bea**	**76.69**	**28**		P	**P**	**02 25 30.2**	**+1.5**	
TORD	**Torodi Ar. Bea**	**76.69**	**28**		P	**P**	**02 25 31.4**	**+2.7**	
	comp=Z,3.6nm,0.6s,baz=194,slow=4.4,SNR=23								
	comp=Z,3.6nm,0.6s								
DZM	**Mont Dzumac**	**97.12**	**192**		P	**P**	**02 27 12.8**	**+2.6**	
P33M	**Teslin, Yukon**	**145.41**	**303**		PKPbc	**PKPab**	**02 33 15.1**	**+0.6**	
SONM	**Songino Array**	**150.22**	**93**		PKPbc	**PKPab**	**02 33 32.8**	**-1.4**	
	comp=Z,0.3nm,0.5s,baz=160,slow=4.6,SNR=1.6								
ILAR	**Eielson Array**	**153.26**	**305**		PKPbc	**PKiKP**	**02 33 35.0**	**+0.7**	
	comp=Z,0.7nm,0.8s,baz=150,slow=3.1,SNR=6.9								

*IDC **29** 02:24:41.9±0.8, 35°57N×70°13E, h0km, mb4.1/20, mbtmp4.1/23, ML3.7/3, Error ellipse: s-maj=16.5km s-min=13.0km az=11.0*
*NNC **29** 02:24:45.6±5.8, 35°67N×69°61E, h40km±117km, mb4.5, mpv4.5, Error ellipse: s-maj=46.1km s-min=38.6km az=113.0*
*NEIC **29** 02:24:46.4±1.9, 35°63N±0°04×70°01E±0°06, h28km±6km, mb4.5/27, Error ellipse: s-maj=8.1km s-min=5.1km az=123.0*
*MOS **29** 02:24:46.1±1.2, 35°77N×70°15E, h36km, mb4.6/15, Error ellipse: s-maj=8.1km s-min=5.0km az=86.6*
ISC 29 02:24:47.2±0.4, 35°71N±0°05×70°02E±0°04, h35km, n147, σ18°79/147, mb4.2/40, 10C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.41**	**215**	Pn	**Pn**	**02 25 08.7**	**-1.9**
KBL				Sn	**Sn**	**02 25 27.0**	**-1.1**
KBL	**Kabul**	**1.41**	**215**	P	**Pn**	**02 25 08.7**	**-1.9**
KBL						02 25 27.0	
CHGR	**Chuyangaron**	**3.02**	**347**		**Pn**	**02 25 33.5**	**+1.0**
CHGR	**Chuyangaron**	**3.02**	**347**	PN	**Pn**	**02 25 33.6**	**+1.0**
SIMJ	**Simiganj**	**3.05**	**345**		**Pn**	**02 25 33.8**	**+0.8**
GAR	**Garm**	**3.29**	**4**		**Pn**	**02 25 37.6**	**+1.3**
NIL	**Nilore**	**3.37**	**127**		**Pn**	**02 25 39.0**	**+1.8**
NIL	**Nilore**	**3.37**	**127**	PN	**Pn**	**02 25 39.1**	**+1.8**
SRNI	**Srinagar**	**4.29**	**111**	*eP*	Pn	02 25 56.3	+6.4
SRNI				*eS*	**Sn**	**02 26 41.9**	**+3.2**
SRNI				IAML		02 27 04.7	
	comp=E,3μm,0.5s						
SRNI				IAML		02 27 06.0	
	comp=N,2μm,0.5s						
JMU	**Jammu**	**5.03**	**125**	*eP*	Pn	02 26 04.7	+4.6
JMU				*eS*	**Sn**	**02 26 57.9**	**+0.9**
JMU				IAML		02 27 24.2	
	comp=E,635nm,0.3s						
JMU				IAML		02 27 25.3	
	comp=N,887nm,0.7s						
KSH	**Kashi**	**6.07**	**49**	Pn	**Pn**	**02 26 13.3**	**-1.2**
KSH				Sn	**Sn**	**02 27 21.3**	**-1.4**
KSH				smax	smax		
	comp=N,200nm,0.7s						
KSH				smax	smax		
	comp=E,150nm,0.7s						
ARSB	**Arslanbob**	**6.07**	**22**		**Pn**	**02 26 14.6**	**+0.1**
ARSB	**Arslanbob**	**6.07**	**22**	PN	**Pn**	**02 26 14.6**	**+0.1**
DHRM	**DHARAMSHALA**	**6.26**	**122**	*eP*	Pn	02 26 22.1	+4.9
DHRM				*eS*	**Sn**	**02 27 29.0**	**+1.4**
DHRM				IAML		02 28 04.0	
	comp=N,315nm,0.4s						
DHRM				IAML		02 28 05.2	
	comp=E,372nm,0.8s						
HRA	**Herat**	**6.51**	**261**	Pn	**Pn**	**02 26 20.0**	**-0.6**
UCH	**Uchtor**	**7.39**	**27**	P	**Pn**	**02 26 33.6**	**+0.7**
	SNR=57						
KK31	**Karatay Array**	**7.39**	**3**		**Pn**	**02 26 32.8**	**+0.3**
KK31	**Karatay Array**	**7.39**	**3**	Pn	**Pn**	**02 26 32.9**	**+0.3**
	comp=E,12nm,0.4s,baz=198,slow=15,SNR=139						
KK31				⇑Sn	**Sn**	**02 27 54.4**	**-0.8**
	comp=E,14nm,0.4s,baz=152,slow=19,SNR=4.0						
KK31	**Karatay Array**	**7.39**	**3**	*i* P	**Pn**	**02 26 32.9**	**+0.3**
KK31				*i* S	**Sn**	**02 27 59.3**	**+4.1**
KKAR	**Karatay Array**	**7.39**	**3**		**Pn**	**02 26 33.0**	**+0.4**
KKAR	**Karatay Array**	**7.39**	**3**	P	Pn	**02 26 33.0**	**+0.4**
SMLA	**Simla**	**7.52**	**125**	*eP*	Pn	02 26 39.6	+5.2
SMLA				*eS*	**Sn**	**02 27 58.4**	**0.0**
SMLA				IAML		02 28 47.9	
	comp=E,198nm,0.5s						
SMLA				IAML		02 28 48.0	
	comp=N,181nm,0.5s						
EKS2	**Erkin-Say**	**7.53**	**22**	P	**Pn**	**02 26 35.6**	**+1.0**
	SNR=37						
AAK	**Ala-Archa**	**7.74**	**25**		**Pn**	**02 26 37.8**	**+0.3**
AAK	**Ala-Archa**	**7.74**	**25**	Pn	**Pn**	**02 26 38.6**	**+1.1**
	comp=N,6.0nm,0.3s,baz=214,slow=9.8,SNR=20						

AAK					Sn	**Sn**	**02 28 07.7**	**+3.8**	
	comp=N,1.9nm,0.3s,baz=310,slow=16,SNR=1.2								
	comp=N,23nm,0.5s								
AAK	**Ala-Archa**	**7.74**	**25**		P	**Pn**	**02 26 38.7**	**+1.2**	
	SNR=16								
AAK	**Ala-Archa**	**7.74**	**25**	⇑Pn		**Pn**	**02 26 38.4**	**+0.9**	
	comp=N,13nm,0.5s								
AAK				⇑Sn		**Sn**	**02 28 09.3**	**+5.3**	
	comp=N,19nm,0.7s								
AAK	**Ala-Archa**	**7.74**	**25**	*c iP*		**Pn**	**02 26 38.6**	**+1.1**	
AAK				pmax		pmax			
	comp=Z,168nm,0.5s								
KBK	**Karagaybulak**	**7.92**	**27**	P		**Pn**	**02 26 41.8**	**+1.8**	
	SNR=9.0								
FRU1	**Bishkek**	**7.94**	**25**	Pn		**Pn**	**02 26 38.6**	**-1.6**	
FRU1	**Bishkek**	**7.94**	**25**	P		Pn	**02 26 38.6**	**-1.6**	
HNLY	**HANLEY**	**7.97**	**109**	*eP*		Pn	02 26 45.5	+4.5	
HNLY				*eS*		**Sn**	**02 28 10.1**	**-0.2**	
KLP	**Kalpa**	**8.03**	**119**	*eP*		Pn	02 26 46.4	+4.7	
KLP				*eS*		**Sn**	**02 28 10.8**	**-0.7**	
KLP				IAML			02 28 19.3		
	comp=N,119nm,0.8s								
KLP				IAML			02 28 21.6		
	comp=E,166nm,0.9s								
ULHL	**Ulahol**	**8.13**	**35**	P		**Pn**	**02 26 43.1**	**+0.3**	
	SNR=11								
CHMS	**Chumysh**	**8.15**	**25**	P		**Pn**	**02 26 44.0**	**+1.1**	
	SNR=9.5								
USP	**Ospenovka**	**8.30**	**23**	P		**Pn**	**02 26 45.3**	**+0.2**	
	SNR=36								
TKM2	**Tokmak 2**	**8.40**	**29**	P		**Pn**	**02 26 47.2**	**+0.7**	
	SNR=27								
KDJ	**Kajisay**	**8.50**	**39**			**Pn**	**02 26 47.4**	**-0.5**	
KDJ	**Kajisay**	**8.50**	**39**	P		**Pn**	**02 26 47.4**	**-0.5**	
TARG	**Taragay, Kyrgy**	**8.55**	**43**			**Pn**	**02 26 48.8**	**-0.1**	
TARG	**Taragay, Kyrgy**	**8.55**	**43**	P		**Pn**	**02 26 48.8**	**-0.1**	
PRZ	**Przheval'sk**	**9.39**	**41**			**Pn**	**02 27 00.6**	**+0.5**	
PRZ	**Przheval'sk**	**9.39**	**41**	P		**Pn**	**02 27 00.6**	**+0.5**	
PDGK	**Podgornoye**	**10.55**	**41**	⇑P		**Pn**	**02 27 15.2**	**-0.8**	
	comp=E,8.9nm,0.7s								
PDGK	**Podgornoye**	**10.55**	**41**	P		**Pn**	**02 27 15.2**	**-0.8**	
LGTI	**Lohaghat**	**10.65**	**123**	*eP*		Pn	02 27 21.2	+4.0	
LGTI				*eS*		**Sn**	**02 29 10.1**	**-5.0**	
LGTI				IAML			02 29 13.3		
	comp=N,37nm,0.6s								
LGTI				IAML			02 29 18.6		
	comp=E,24nm,0.7s								
MAKZ	**Makanchi**	**14.26**	**35**			**Pn**	**02 28 05.8**	**-0.7**	
MAKZ	**Makanchi**	**14.26**	**35**	P		**Pn**	**02 28 05.8**	**-0.7**	
MK31	**Makanchi Array**	**14.40**	**36**	Pn		**Pn**	**02 28 07.9**	**-0.5**	
MK31	**Makanchi Array**	**14.40**	**36**	P		**Pn**	**02 28 08.4**	**0.0**	
	comp=E,7.6nm,0.7s,baz=221,slow=13,SNR=30								
MK31	**Makanchi Array**	**14.40**	**36**	*d eP*		**Pn**	**02 28 06.7**	**-1.7**	
MK31				pmax		pmax			
	comp=Z,5.0nm,0.5s								
MKAR	**Makanchi Array**	**14.40**	**36**			**Pn**	**02 28 07.2**	**-1.2**	
MKAR	**Makanchi Array**	**14.40**	**36**	Pn		**Pn**	**02 28 07.3**	**-1.1**	
	comp=Z,0.2nm,0.3s,baz=221,slow=13,SNR=12								
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**14.40**	**36**	*eP*		**Pn**	**02 28 09.0**	**+0.6**	
AB31	**Akbulak array**	**15.42**	**334**			**Pn**	**02 28 19.3**	**-2.6**	
AB31	**Akbulak array**	**15.42**	**334**	P		**Pn**	**02 28 19.2**	**-2.8**	
	comp=Z,2.3nm,0.3s,baz=158,slow=13,SNR=118								
AB31				S		**Sn**	**02 31 04.0**	**-7.5**	
	comp=Z,3.3nm,0.6s,baz=148,slow=24,SNR=4.8								
AB31	**Akbulak array**	**15.42**	**334**	*eP*		**Pn**	**02 28 19.1**	**-2.8**	
ABKAR	**Akbulak array**	**15.42**	**334**	Pn		**Pn**	**02 28 19.3**	**-2.7**	
WMQ	**Urumqi**	**15.80**	**54**	*eP*		**P**	**02 28 31.3**	**+0.8**	
WMQ				LR		LR			
	comp=N,330nm,22.3s								
WMQ				LR		LR			
	comp=E,430nm,18.1s								
WMQ				LR		LR			
	comp=Z,260nm,20.5s								
KURBB	**Kurchatov Arra**	**16.13**	**20**	Pn		**Pn**	**02 28 26.0**	**-5.1**	
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=10.0								
KURBB				Lg		Lg	02 33 20.1		
	comp=Z,0.1nm,0.3s,baz=216,slow=28,SNR=4.3								
	comp=Z,1.0nm,0.6s								
EVN	**Everest**	**16.22**	**114**	Pn		**Pn**	**02 28 29.6**	**-3.4**	
EVN				IAmb		IAmb	02 28 43.2		
	comp=Z,16nm,0.6s								
KURK	**Kurchatov**	**16.24**	**20**	Pn		**Pn**	**02 28 32.8**	**+0.4**	
KURK	**Kurchatov**	**16.24**	**20**	⇑*eP*		**Pn**	**02 28 33.7**	**+1.3**	
KURK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
AKTO	**Aktyubinsk**	**17.09**	**333**	P		**Pn**	**02 28 41.4**	**-1.8**	
	comp=Z,7.4nm,0.6s,baz=140,slow=12,SNR=20				

BR131	**Keskin Array S**	28.93	289	⇓	*eP*		P		02 30 48.2 +5.1
BRTR	**Keskin Array B**	28.93	289		P		**P**		**02 30 45.0 +1.9**
	comp=Z,0.7nm,0.9s,baz=80,slow=7.9,SNR=6.9								
	comp=Z,0.7nm,0.9s								
SONM	**Songino Array**	29.44	54		P		**P**		**02 30 48.5 +0.9**
	comp=Z,2.0nm,0.8s,baz=256,slow=9.7,SNR=7.6								
	comp=Z,2.0nm,0.8s								
ULN	**Ulaanbaatar**	29.88	54	⇑	*eP*		**P**		**02 30 51.9 +0.4**
ULN					pmax		pmax		
	comp=Z,1.0nm,0.7s								
OBN	**Obninsk**	30.03	321	⇓	*eP*		**P**		**02 30 54.3 +1.8**
OBN					*SP		**pP**		**02 31 01.0 -2.8**
OBN									02 31 51.0
OBN					PPP		PPP		02 32 03.0
OBN					SS		SS		02 37 31.0 -25
OBN					pmax		pmax		
	comp=Z,3.0nm,0.7s								
OBN					MLR		MLR		
	comp=Z,93nm,18.0s								
CMAR	**Chiang Mai Arr**	30.80	116		P		**P**		**02 30 59.0 -0.7**
	comp=Z,2.5nm,0.3s,baz=307,slow=10,SNR=5.1								
	comp=Z,2.5nm,0.3s								
CMAR	**Chiang Mai Arr**	30.80	116		*eP*		**P**		**02 31 02.0 +2.3**
CMAR					pmax		pmax		
	comp=Z,2.0nm,0.3s								
KLMR	**Klimovskoe**	31.79	332		*eP*		**P**		**02 31 08.1 +0.2**
KLMR					pmax		pmax		
	comp=Z,10.0nm,1.9s								
XAN	**Xi'an**	31.82	81		P		P		02 31 02.0 -6.7
XAN					pmax		pmax		
	comp=Z,9.0nm,1.2s								
AKASG	**Malin Array Be**	32.83	310		P		**P**		**02 31 19.1 +1.9**
	comp=Z,0.9nm,0.5s,baz=88,slow=7.1,SNR=8.7								
	comp=Z,0.9nm,0.5s								
AKASG	**Malin Array Be**	32.83	310		*eP*		P		02 31 22.7 +5.5
AKASG					pmax		pmax		
	comp=Z,2.0nm,0.6s								
AKBB	**Malin Array Si**	32.83	310	⇓	*eP*		P		02 31 22.0 +4.8
MLR	**Muntele Rosu**	34.48	300				**P**		**02 31 32.1 +0.3**
MLR					IAmb		IAmb		02 31 41.4
	comp=Z,5.1nm,0.7s								
MLR	**Muntele Rosu**	34.48	300		P		**P**		**02 31 32.1 +0.3**
MLR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
BURAR	**Bucovina Array**	35.05	304		P		**P**		**02 31 37.1 +0.4**
BJT	**Baijiatuan**	36.38	69		P		**P**		**02 31 47.7 -0.3**
BJT					IAmb		IAmb		02 31 52.5
	comp=Z,6.1nm,0.9s								
BJT	**Baijiatuan**	36.38	69		P		**P**		**02 31 47.7 -0.3**
BJT					pmax		pmax		
	comp=Z,6.0nm,0.9s								
KOLS	**Kolonicke sedl**	37.09	306		*eP*		P		02 32 01.5 +7.6
KOLS	**Kolonicke sedl**	37.09	306		*eP*		P		02 32 01.5 +7.6
FINES	**FINESS Array B**	37.70	327		P		**P**		**02 31 59.8 +0.8**
FINES	**FINESS Array B**	37.70	327		P		**P**		**02 32 00.3 +1.3**
	comp=Z,0.6nm,0.5s,baz=103,slow=8.1,SNR=4.2								
	comp=Z,0.6nm,0.5s								
FINES	**FINESS Array B**	37.70	327		*eP*		**P**		**02 32 02.0 +3.1**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.7s								
LVZ	**Lovozero**	37.90	339		P		**P**		**02 32 00.5 -0.2**
LVZ	**Lovozero**	37.90	339		P		**P**		**02 32 00.5 -0.2**
LVZ					pmax		pmax		
	comp=Z,17nm,1.4s								
KEV	**Kevo**	41.24	339		P		**P**		**02 32 27.4 -1.0**
KEV					IAmb		IAmb		02 32 33.0
	comp=Z,16nm,1.2s								
KEV	**Kevo**	41.24	339		P		**P**		**02 32 27.4 -1.0**
KEV					pmax		pmax		
	comp=Z,16nm,1.2s								
ARCES	**ARCESS Array B**	41.57	338		P		**P**		**02 32 31.6 +0.5**
ARCES	**ARCESS Array B**	41.57	338		P		**P**		**02 32 32.2 +1.1**
	comp=Z,2.2nm,0.7s,baz=96,slow=4.3,SNR=16								
	comp=Z,2.2nm,0.7s								
GERES	**GERESS Array B**	42.74	306		P		**P**		**02 32 43.3 +2.3**
	comp=Z,0.1nm,0.3s,baz=60,slow=8.1,SNR=4.1								
	comp=Z,0.1nm,0.3s								
HFS	**Hagfors**	43.20	323		P		**P**		**02 32 45.9 +1.4**
	comp=Z,2.6nm,0.6s,baz=98,slow=11,SNR=9.2								
	comp=Z,2.6nm,0.6s								
HEH	**HeiHe**	43.36	52		*eP*		**P**		**02 32 46.3 +0.4**
NC405	**NORSAR Array S**	44.30	324		P		**P**		**02 32 54.9 +1.6**
NC405					IAmb		IAmb		02 33 00.8
	comp=Z,9.9nm,1.2s								
NC303	**NORSAR Array S**	44.48	324		P		**P**		**02 32 55.2 +0.5**
NC303					IAmb		IAmb		02 33 05.3
	comp=Z,11nm,1.2s								
NB2	**NORSAR Subarra**	44.53	324		P		**P**		**02 32 56.0 +0.8**
	comp=Z,6.8nm,1.1s,baz=99,slow=8.6								
NOA	**NORSAR Array B**	44.53	324		P		**P**		**02 32 56.0 +0.8**
	comp=Z,1.8nm,0.8s,baz=98,slow=8.0,SNR=11								
	comp=Z,1.8nm,0.8s								
KONO	**Kongsberg**	45.20	322		P		**P**		**02 33 01.5 +1.0**
KONO					IAmb		IAmb		02 33 40.0
	comp=Z,9.8nm,1.2s								
KONO	**Kongsberg**	45.20	322		P		**P**		**02 33 01.5 +1.0**
KONO					pmax		pmax		
	comp=Z,10.0nm,1.2s								
KSRS	**Korea Array**	45.90	70		P		**P**		**02 33 06.2 0.0**
	comp=Z,2.0nm,0.6s,baz=273,slow=7.3,SNR=6.4								
	comp=Z,2.0nm,0.6s								
UCC	**Uccle**	48.55	310		P		**P**		**02 33 25.2 -1.4**
UCC	**Uccle**	48.55	310		P		**P**		**02 33 25.3 -1.4**
UCC					pmax		pmax		
	comp=Z,13nm,1.2s								
MJAR	**Matsushiro Arr**	53.99	68		P		**P**		**02 34 05.3 -2.5**
MJAR					IAmb		IAmb		02 34 20.8
	comp=Z,6.2nm,1.4s								
MJAR	**Matsushiro Arr**	53.99	68		P		**P**		**02 34 05.3 -2.5**
MJAR					pmax		pmax		
	comp=Z,6.0nm,1.4s								
ESBB	**Sonseca Array**	57.12	298		P		**P**		**02 34 28.2 -2.0**
ESBB					IAmb		IAmb		02 34 43.9
	comp=Z,8.2nm,1.4s								
ESDC	**Sonseca Array**	57.12	298		P		**P**		**02 34 30.9 +0.7**
	comp=Z,0.4nm,0.7s,baz=66,slow=7.4,SNR=6.7								
	comp=Z,0.4nm,0.7s								
TORD	**Torodi Ar. Bea**	64.90	268		P		**P**		**02 35 22.3 -1.0**
TORD					IAmb		IAmb		02 35 28.5
	comp=Z,1.6nm,0.8s								
TORD	**Torodi Ar. Bea**	64.90	268		P		**P**		**02 35 22.7 -0.6**
	comp=Z,1.7nm,0.8s,baz=48,slow=6.3,SNR=22								
	comp=Z,1.7nm,0.8s								
WRA	**Warramunga Arr**	82.26	121		P		**P**		**02 37 04.1 -1.1**
	comp=Z,0.6nm,0.5s,baz=324,slow=4.8,SNR=5.8								
	comp=Z,0.6nm,0.5s								
WRA	**Warramunga Arr**	82.26	121		*i* P		**P**		**02 37 05.0 -0.1**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.5s								
WRAB	**Tennant Creek**	82.26	121	⇓	*eP*		**P**		**02 37 05.7 +0.6**
WRAB					pmax		pmax		
	comp=Z,7.0nm,0.8s								
ASAR	**Alice Springs**	84.47	124		P		**P**		**02 37 15.7 -0.8**
	comp=Z,0.6nm,0.5s,baz=311,slow=5.1,SNR=6.4								
	comp=Z,0.6nm,0.5s								
NVL	**N'lazarevskaya**	113.96	198		*e*PKIKP		**PKiKP**		**02 43 28.0 +6.8**
NVL					pmax		pmax		
	comp=Z,13nm,1.1s								

*NEIC **29** 02:27:38.0±0.6, 15.°5S±0.°1×167.°78E±0.°09, h101km±9km, mb4.6/14, Error ellipse: s-maj=20.4km s-min=10.0km az=154.0*

*IDC **29** 02:27:44.0±4.2, 16.°01S×167.°87E, h168km±47km, mb3.6/7, mbtmp4.1/8, Error ellipse: s-maj=46.7km s-min=26.6km az=135.0*

*NOU **29** 02:27:45.7, 16.°19S×167.°27E, h0km, MLv4.4/11, Vanuatu Islands*

ISC 29 02:27:44.5±0.8, 16.°02S±0.°07×168.°08E±0.°2, h177km, n35, σ1§41/34, mb4.2/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	1.70	174	P	**Pn**	**02 28 15.8**	**-2.4**
DVP	**Devils Point**	1.70	174	S	**Sn**	**02 28 42.0**	**-2.4**
DZM	**Mont Dzumac**	6.20	194		**Pn**	**02 29 12.8**	**-1.3**
DZM	**Mont Dzumac**	6.20	194	P	**Pn**	**02 29 13.8**	**-0.3**
	10.0nm,0.3s,baz=76,slow=9.2,SNR=62						
DZM				S	**Sn**	**02 30 23.5**	**-1.2**
	15nm,0.5s,baz=318,slow=21,SNR=12						
DZM	**Mont Dzumac**	6.20	194	P	**Pn**	**02 29 14.5**	**+0.4**
DZM	**Mont Dzumac**	6.20	194	S	**Sn**	**02 30 24.0**	**-0.7**
ONTNC	**Ouen Toro**	6.42	193	Pn	**Pn**	**02 29 16.0**	**-1.0**
ONTNC	**Ouen Toro**	6.42	193	P	**Pn**	**02 29 19.4**	**+2.4**
ONTNC	**Ouen Toro**	6.42	193	S	**Sn**	**02 30 30.3**	**+0.4**
OUENC	**Ouen Island, N**	6.46	190	P	**Pn**	**02 29 18.1**	**+0.7**
OUENC	**Ouen Island, N**	6.46	190	S	**Sn**	**02 30 29.7**	**-1.0**
PINNC	**Pines Island,**	6.58	185	Pn	**Pn**	**02 29 18.6**	**-0.4**
EIDS	**Eidsvold**	18.35	237	Pn	**Pn**	**02 31 46.4**	**-1.5**
STKA	**Stephens Creek**	28.73	232	P	**P**	**02 33 25.7**	**+0.3**
	2.1nm,0.8s,baz=21,slow=8.6,SNR=2.9						
	2.1nm,0.8s						
MLZ	**Mavora Lakes**	29.25	180	P	P	02 33 34.5	+4.7
TOO	**Toolangi**	29.26	219	P	**P**	**02 33 33.3**	**+3.2**
TOO				IAmb	IAmb	02 33 48.0	
	comp=Z,15nm,1.3s						
WR8	**Warramunga Arr**	32.08	258	P	**P**	**02 33 53.7**	**-1.3**
WR8				IAmb	IAmb	02 34 21.5	
	comp=Z,7.1nm,1.2s						
WB0	**Warramunga Arr**	32.18	258	P	**P**	**02 33 54.4**	**-1.5**
WB0				IAmb	IAmb	02 34 37.3	
	comp=Z,21nm,1.5s						
WRA	**Warramunga Arr**	32.23	258	P	**P**	**02 33 54.5**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=86,slow=8.0,SNR=5.5						
	comp=Z,0.9nm,0.6s						
AS31	**Alice Springs**	32.91	251	P	**P**	**02 34 01.8**	**-0.4**
AS31				IAmb	IAmb	02 34 02.4	
	comp=Z,1.9nm,0.3s						
ASAR	**Alice Springs**	32.91	251	P	**P**	**02 34 01.7**	**-0.6**
ASAR	**Alice Springs**	32.91	251	P	**P**	**02 34 01.3**	**-0.9**
	comp=Z,2.6nm,0.5s,baz=78,slow=8.8,SNR=46						
	comp=Z,2.6nm,0.5s						
BBOO	**Buckleboo**	33.38	234	P	**P**	**02 34 06.8**	**+0.6**
BBOO				IAmb	IAmb	02 34 48.4	
	comp=Z,15nm,1.3s						
KNRA	**Kununurra**	37.72	265	P	**P**	**02 34 41.8**	**-1.5**
FITZ	**Fitzroy Crossi**	40.50	261	P	**P**	**02 35 05.8**	**-0.5**
MJAR	**Matsushiro Arr**	59.38	332	P	**P**	**02 37 27.6**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=167,slow=7.4,SNR=5.0						
	comp=Z,2.1nm,0.7s						
SBA	**Scott Base**	61.85	180	P	P	02 37 50.4	+6.0
USRK	**Ussuriysk Ar.**	68.36	333	P	**P**	**02 38 27.4**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=128,slow=7.1,SNR=5.8						
	comp=Z,2.0nm,0.6s						
QSPA	**South Pole Qui**	74.01	180	P	**P**	**02 39 03.7**	**+3.2**
M13K	**Dall Lake**	79.59	14	P	**P**	**02 39 31.1**	**-0.3**
M13K				IAmb	IAmb	02 40 05.8	
	comp=Z,28nm,1.5s						
Q19K	**Cape Douglas,**	80.99	19	P	**P**	**02 39 37.9**	**-1.1**
Q19K				IAmb	IAmb	02 39 57.5	
	comp=Z,24nm,1.1s						
SONM	**Songino Array**	83.96	323	P	**P**	**02 39 55.3**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=139,slow=5.3,SNR=5.4						
	comp=Z,1.1nm,0.8s						
I20K	**Naaghedeneel**	85.48	15	P	**P**	**02 40 02.3**	**+0.5**
I20K				IAmb	IAmb	02 40 02.6	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	87.53	18	P	**P**	**02 40 11.3**	**-0.5**
	comp=Z,0.4nm,1.1s,baz=252,slow=4.9,SNR=1.6						
	comp=Z,0.4nm,1.1s						
ARCES	**ARCESS Array B**	121.68	345	PKP	**PKiKP**	**02 46 17.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=99,slow=2.8,SNR=4.8						

*KRSC **29** 02:48:02.9±0.9, 53.°80N×162.°04E, h41km±14km, Mc4.0, Ml4.8*

*MOS **29** 02:48:04.5±1.1, 53.°94N×161.°87E, h44km, mb4.8/40, Error ellipse: s-maj=7.6km s-min=5.3km az=78.6*

*BGR **29** 02:48:04.5, 53.°40N×161.°50E, h33km, mb4.3, Ms3.9*

*NEIC **29** 02:48:06.1±1.6, 54.°04N±0.°04×161.°82E±0.°10, h35km±2km, mb4.4/129, Error ellipse: s-maj=9.8km s-min=7.4km az=74.0*

*IDC **29** 02:48:06.8±0.7, 53.°97N×161.°92E, h47km±4km, mb4.1/23, mbtmp4.3/27, MS3.4/5, Error ellipse: s-maj=15.1km s-min=8.0km az=148.0*

ISC 29 02:48:04.3±0.5, 53.°84N±0.°04×161.°94E±0.°04, h34km±1km, h35km:pP-P,n295,σ1§53/298, mb4.4/141, MS3.8/4, 8C-12D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	0.73	350	PN	**Pb**	**02 48 18.3**	**-0.2**
MKZ				S	**Sn**	**02 48 29.0**	**+1.1**
MKZ	**Mys Kozlova**	0.73	350	*eP*	**Pb**	**02 48 18.4**	**-0.2**
MKZ				*eS*	**Sn**	**02 48 29.0**	**+1.1**
SPN	**Mys Shipunski**	1.37	238	PN	**Pn**	**02 48 27.0**	**+0.1**
SPN				S	**Sn**	**02 48 44.1**	**+0.4**
SPN	**Mys Shipunski**	1.37	238	*eP*	**Pn**	**02 48 27.0**	**+0.1**
SPN				*eS*	**Sn**	**02 48 44.2**	**+0.4**
KII	**Karymskiy**	1.49	279	PN	**Pb**	**02 48 29.9**	**-1.4**
KII				S	**Sb**	**02 48 48.7**	**-1.2**
KII	**Karymskiy**	1.49	279	*eP*	**Pb**	**02 48 29.9**	**-1.4**
KII				*eS*	**Sb**	**02 48 48.8**	**-1.2**
TUMD	**Tumrok D**	1.64	327	PN	**Pb**	**02 48 32.2**	**-1.6**
TUMD				S	**Sb**	**02 48 53.3**	**-0.8**
TUMD	**Tumrok D**	1.64	327	*eP*	**Pb**	**02 48 32.3**	**-1.6**
TUMD				*eS*	**Sb**	**02 48 53.4**	**-0.8**
NLC	**Nalytchevo**	1.69	248	PN	**Pn**	**02 48 31.9**	**+0.7**
NLC				S	**Sn**	**02 48 53.0**	**+1.3**
NLC	**Nalytchevo**	1.69	248	*eP*	**Pn**	**02 48 32.0**	**+0.7**
NLC				*eS*	**Sn**	**02 48 53.1**	**+1.3**
SDLR	**Sedlovina**	1.91	254	PN	**Pn**	**02 48 35.9**	**+1.5**
SDLR	**Sedlovina**	1.91	254	*eP*	**Pn**	**02 48 35.9**	**+1.5**
SMAR	**Somma**	1.96	254	PN	**Pn**	**02 48 36.5**	**+1.3**
SMAR	**Somma**	1.96	254	*eP*	**Pn**	**02 48 36.6**	**+1.3**
UGLR	**Uglovaya**	1.97	252	PN	**Pn**	**02 48 37.0**	**+1.8**
UGLR	**Uglovaya**	1.97	252	*eP*	**Pn**	**02 48 37.0**	**+1.8**
KRER	**Koryakskii**	1.98	256	PN	**Pn**	**02 48 37.3**	**+1.9**
KRER	**Koryakskii**	1.98	256	*eP*	**Pn**	**02 48 37.4**	**+1.9**
AVH	**Avacha**	2.00	254	PN	**Pn**	**02 48 37.4**	**+1.8**
AVH	**Avacha**	2.00	254	*eP*	**Pn**	**02 48 37.5**	**+1.8**
KRX	**Arik**	2.02	257	PN	**Pn**	**02 48 37.6**	**+1.6**
KRX	**Arik**	2.02	257	*eP*	**Pn**	**02 48 37.6**	**+1.6**
KOK	**Koryaka**	2.05	256	PN	**Pn**	**02 48 38.1**	**+1.8**
KOK	**Koryaka**	2.05	256	*eP*	**Pn**	**02 48 38.1**	**+1.8**
PET	**Petropavlovsk**	2.13	249		**Pn**	**02 48 38.3**	**+0.9**
PET				Sn	**Sn**	**02 49 04.5**	**+2.0**
PET	**Petropavlovsk**	2.13	249	*eP*N	**Pn**	**02 48 38.5**	**+1.1**
PET				*eS*	**Sn**	**02 49 04.6**	**+2.0**
PET				pmax	pmax		
	comp=Z,166nm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.8s						
PET				smax	smax		
	comp=N,2μm,0.7s						
PET				MLR	MLR		
	comp=Z,900nm,10.0s						
PET				MLR	MLR		
	comp=Z,2μm,7.0s						
KMNR	**Kamenistaya**	2.16	333	PN	**Pb**	**02 48 41.0**	**-1.7**
KMNR	**Kamenistaya**	2.16	333	*eP*	**Pb**	**02 48 41.0**	**-1.7**
KBTR	**Krutoberegovo**	2.42	12	PN	**Pn**	**02 48 41.8**	**+0.4**
KBTR	**Krutoberegovo**	2.42	12	*eP*	**Pn**	**02 48 41.9**	**+0.4**
RUS	**Russkaya**	2.50	237	PN	**Pn**	**02 48 43.8**	**+1.4**
RUS	**Russkaya**	2.50	237	*eP*	**Pn**	**02 48 43.8**	**+1.4**
PEA0B	**Petropavlovsk-**	2.64	256		**Pn**	**02 48 46.5**	**+2.2**
PEA0B	**Petropavlovsk-**	2.64	256	*d i*PN	**Pn**	**02 48 46.6**	**+2.2**
PETK	**Petropavlovsk-**	2.64	256		**Pn**	**02 48 46.3**	**+1.9**
PETK	**Petropavlovsk-**	2.64	256	P	**Pn**	**02 48 46.1**	**+1.8**
	comp=Z,57nm,0.6s,baz=76,slow=17,SNR=116						
PETK				S	**Sb**	**02 49 20.0**	**-2.9**
	comp=Z,325nm,0.7s,baz=263,slow=12,SNR=22						
PETK				LR	LR	02 50 04.7	
	comp=Z,898nm,18.2s,baz=104,slow=44						
ASAK	**Asacha**	2.84	241	PN	**Pn**	**02 48 49.6**	**+2.4**
ASAK	**Asacha**	2.84	241	*eP*	**Pn**	**02 48 49.7**	**+2.4**
SKR	**Severo-Kuril's**	4.78	231	*e*PN	**Pn**	**02 49 14.2**	**+0.5**
SKR				pmax	pmax		
	comp=Z,53nm,0.5s						
SKR				pmax	pmax		
	comp=Z,200nm,12.3s						
SKR				MLR	MLR		
	comp=Z,400nm,16.0s						
SHEM	**Shemya Is, Ala**	7.37	94	P	**Pn**	**02 49 49.3**	**-0.1**
	comp=Z,28nm,0.3s,baz=293,slow=2.9,SNR=10						
SHEM				S	**Sn**	**02 51 04.0**	**-7.7**
	comp=Z,24nm,0.3s,baz=288,slow=23,SNR=11						
SHEM				LR	LR	02 52 54.6	
	comp=Z,86nm,18.9s,baz=284,slow=39						
SMY	**Shemya**	7.37	94	Pn	**Pn**	**02 49 47.5**	**-1.8**
SMY	**Shemya**	7.37	94	PN	**Pn**	**02 49 47.5**	**-1.8**
MA2	**Magadan**	8.41	318		**Pn**	**02 50 02.4**	**-1.1**
MA2	**Magadan**	8.41	318	P	**Pn**	**02 50 05.8**	**+2.3**
	comp=Z,13nm,0.7s,baz=122,slow=9.1,SNR=9.5						
MA2				LR	LR	02 54 00.9	
	comp=Z,252nm,18.9s,baz=252,slow=43						
MA2	**Magadan**	8.41	318	⇓ *i*PN	**Pn**	**02 50 02.4**	**-1.1**
MA2				pmax	pmax		
SEY	**Seymchan**	10.39	335	P	**Pn**	**02 50 30.3**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=128,slow=23,SNR=2.2						
JKA	**Kamikawa-asahi**	15.95	240		**Pn**	**02 51 47.1**	**+1.2**
JKA				IAmb	IAmb	02 52 02.9	
	comp=Z,32nm,1.1s						
ASAJ	**Asahikawa**	15.95	240	P	**Pn**	**02 51 47.3**	**+1.5**
	comp=Z,13nm,0.9s,baz=64,slow=6.2,SNR=6.2						
ASAJ	**Asahikawa**	15.95	240	P	**Pn**	**02 51 47.1**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,32nm,1.1s						
ERM	**Erimo**	17.21	234	*de*P	**Pn**	**02 52 01.5**	**-0.3**
YAK	**Yakutsk**	18.81	309	LR	LR	03 01 33.3	
	comp=Z,178nm,18.4s,baz=156,slow=43						
YAK	**Yakutsk**	18.81	309	*eP*	**P**	**02 52 19.4**	**-1.1**
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,1.6s						
M13K	**Dall Lake**	19.77	57	P	**P**	**02 52 31.5**	**+0.5**
M13K				IAmb	IAmb	02 52 35.4	
	comp=Z,21nm,0.9s						
J14K	**Nanvaranak Lak**	19.97	50	P	**Pn**	**02 52 36.0**	**+1.0**
J14K				IAmb	IAmb	02 52 53.4	
	comp=Z,19nm,1.1s						
L14K	**Kuka Creek**	20.17	54		**P**	**02 52 35.8**	**+0.5**
F15K	**North Star Dit**	20.29	41	P	**P**	**02 52 37.0**	**+0.4**
F15K				IAmb	IAmb	02 52 52.2	
	comp=Z,20nm,0.8s						
M14K	**Bethel**	20.48	56		Pn	02 52 41.4	+0.5
M14K				IAmb	IAmb	02 52 53.8	
	comp=Z,15nm,0.8s						
N14K	**Kuskokwak Cree**	20.58	58	P	**P**	**02 52 40.1**	**+0.3**
N14K				IAmb	IAmb	02 52 43.2	
	comp=Z,25nm,1.1s						
K15K	**Wolf Creek Mou**	20.82	51		**P**	**02 52 42.2**	**-0.3**
K15K				IAmb	IAmb	02 52 57.8	
	comp=Z,16nm,0.9s						
N15K	**Kwethluk River**	21.38	58		**P**	**02 52 50.8**	**+2.3**
N15K				IAmb	IAmb	02 53 08.6	
	comp=Z,16nm,0.9s						
J16K	**Anvik River**	21.39	49	P	**P**	**02 52 50.7**	**+2.3**
J16K				IAmb	IAmb	02 53 03.7	
	comp=Z,14nm,0.9s						
HEH	**HeiHe**	21.41	274	*eP*	**P**	**02 52 47.8**	**-1.0**
USA0B	**Ussuriysk Arra**	21.73	256	⇑ *i*P	**P**	**02 52 51.3**	**-1.0**
USRK	**Ussuriysk Ar.**	21.73	256	P	**P**	**02 52 51.3**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=55,slow=7.2,SNR=5.6						
L16K	**Owhat River**	21.74	53	P	**P**	**02 52 54.9**	**+2.7**
L16K				IAmb	IAmb	02 53 10.7	
	comp=Z,9.3nm,0.7s						
F17K	**Baldwin Pennin**	21.83	40	P	**P**	**02 52 54.2**	**+1.0**
M16K	**Timber Creek**	21.95	55	P	**P**	**02 52 56.1**	**+1.5**
H17K	**Granite Mounta**	21.98	45		**P**	**02 52 53.1**	**-1.8**
H17K				IAmb	IAmb	02 53 09.3	
	comp=Z,12nm,0.9s						
J17K	**VABM Dome**	22.08	49	P	**P**	**02 52 58.2**	**+2.3**
J17K				IAmb	IAmb	02 53 10.0	
	comp=Z,16nm,1.1s						
K17K	**Iditarod**	22.36	51		**P**	**02 52 59.5**	**+0.5**
K17K				IAmb	IAmb	02 53 19.0	
	comp=Z,13nm,1.0s						
C18K	**Utukok River**	22.61	35		**P**	**02 53 02.5**	**+0.9**
C18K				IAmb	IAmb	02 53 17.3	
	comp=Z,11nm,0.9s						
M17K	**Holitna River**	22.70	54	IAmb	IAmb	02 53 18.9	
	comp=Z,11nm,0.9s						
G18K	**Tagagawik**	22.71	42		**P**	**02 53 02.1**	**-0.5**
F19K	**Shaleruckik Mo**	23.27	40		**P**	**02 53 08.8**	**+0.4**
PLK4	**Peulik 4**	23.50	64	P	**P**	**02 53 13.1**	**+2.3**
PLK4				IAmb	IAmb	02 53 26.2	
	comp=Z,12nm,0.8s						
BNX	**BinXian**	23.53	264	⇓P	**P**	**02 53 09.8**	**-1.2**
BNX				pP	**pP**	**02 53 17.5**	**-2.0**
BNX				sP	**sP**	**02 53 21.5**	**-2.2**
BNX				S	**S**	**02 57 21.5**	**-0.9**
BNX				pmax	pmax		
	comp=Z,21nm,0.8s						
BNX				pmax	pmax		
	comp=Z,78nm,3.7s						
BNX				LR	LR		
	comp=N,170nm,17.9s						
BNX				LR	LR		
	comp=E,140nm,18.4s						
BNX				LR	LR		
	comp=Z,150nm,17.3s						
D19K	**Kuna River**	23.61	36	IAmb	IAmb	02 53 24.6	
	comp=Z,17nm,1.1s						
E19K	**Redstone River**	23.64	39	IAmb	IAmb	02 53 31.2	
	comp=Z,15nm,1.1s						
J19K	**Poorman**	23.68	48	P	**P**	**02 53 14.2**	**+1.9**
MJB9	**Matsu-Tunnel**	23.88	233	P

H11S1 WAKE ISLAND Hy 35.46 172 T T 03 33 57.6
baz=353
H11S3 WAKE ISLAND Hy 35.47 172 T T 03 32 42.3
baz=353
H11S2 WAKE ISLAND Hy 35.48 172 T T 03 34 08.1
baz=353
S34M Telegraph Cree 36.38 56 IAmb IAmb 02 55 04.6
comp=Z,4.2nm,0.8s
BTO Baotou 36.82 271 *e*P **P** **02 55 07.8 -1.1**
BTO pP **pP** **02 55 17.5 -0.2**
BTO sP **sP** **02 55 21.5 -0.4**
BTO PP **PP** **02 56 32.8 -0.1**
BTO pmax pmax
comp=Z,19nm,0.7s
BTO pmax pmax
comp=Z,230nm,5.1s
BBB Bella Bella 40.55 63 LR LR 03 11 28.1
comp=Z,104nm,20.5s,baz=242,slow=35
WHN Wuhan 41.23 255 P **P** **02 55 47.0 +1.4**
GTA Gaotai 43.62 277 *e*P **P** **02 56 04.0 -1.2**
GTA sP sP 02 56 16.5 -1.4
GTA pmax pmax
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 46.58 351 P **P** **02 56 25.4 -2.6**
comp=Z,3.5nm,0.5s,baz=49,slow=9.1,SNR=7.1
B08A Colville Reser 47.35 63 **P** **02 56 35.3 +0.7**
B08A IAmb IAmb 02 56 36.8
comp=Z,3.4nm,0.8s
KURK Kurchatov 48.27 302⇓ *i*P **P** **02 56 39.4 -2.1**
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURBB Kurchatov Arra 48.38 302 P **P** **02 56 40.1 -2.2**
comp=Z,1.0nm,0.4s,baz=57,slow=8.0,SNR=8.7
KURBB pP **sP** **02 56 54.6 -0.9**
comp=Z,1.9nm,0.7s,baz=57,slow=8.7,SNR=3.2
KURBB PcP **PcP** **02 58 08.3 0.0**
comp=Z,1.2nm,0.9s,baz=50,slow=3.5,SNR=5.0
MK31 Makanchi Array 48.82 296*ce*P **P** **02 56 45.5 -0.4**
MKAR Makanchi Array 48.82 296 P **P** **02 56 43.4 -2.5**
comp=Z,1.4nm,0.6s,baz=59,slow=7.7,SNR=6.3
E09A Wood Farm, Sta 49.14 64 P **P** **02 56 49.1 +0.8**
E09A IAmb IAmb 02 56 50.7
comp=Z,3.5nm,0.8s
BVAR Borovoye Array 50.78 309 P **P** **02 56 59.6 -1.0**
comp=Z,4.3nm,0.6s,baz=58,slow=8.8,SNR=20
BVAR pP **pwP** **02 57 14.8 -0.1**
comp=Z,2.0nm,0.5s,baz=60,slow=8.3,SNR=6.0
comp=Z,4.3nm,0.6s
O03E Paynes Creek 51.20 72 IAmb IAmb 02 57 07.0
comp=Z,9.8nm,1.3s
PLID Pearl Lake 51.20 64 P **P** **02 57 05.0 +0.8**
ARCES ARCESS Array B 52.91 342 P **P** **02 57 15.7 -0.6**
comp=Z,2.7nm,0.9s,baz=1.1,slow=12,SNR=5.0
comp=Z,2.7nm,0.9s
ARTI Arti 53.69 318 **P** **02 57 21.9 -0.3**
ARTI Arti 53.69 318*c i*P **P** **02 57 21.8 -0.3**
ARTI *PP **sP** **02 57 34.8 0.0**
ARTI 02 58 23.1
ARTI 02 59 19.3
ARTI S **S** **03 04 52.8 -0.5**
ARTI SS **SS** **03 08 29.4 -4.0**
ARTI pmax pmax
comp=Z,5.0nm,0.8s
WAKR Walker 53.76 72 IAmb IAmb 02 57 26.5
comp=Z,4.5nm,0.7s
RYN Ryan 54.19 72 IAmb IAmb 02 57 29.3
comp=Z,3.7nm,0.8s
NVAR Mina Array Bea 54.45 72 **P** **02 57 30.3 +2.0**
NVAR Mina Array Bea 54.45 72 P **P** **02 57 30.4 +2.2**
comp=Z,3.1nm,0.7s,baz=298,slow=7.1,SNR=25
comp=Z,3.1nm,0.7s
NV11 Mina Array Sit 54.53 72 IAmb IAmb 02 57 31.9
comp=Z,2.9nm,0.8s
ELK Elko 54.55 68 IAmb IAmb 02 57 32.0
comp=Z,2.4nm,0.8s
RLMT Red Lodge 54.71 60 IAmb IAmb 02 57 46.0
comp=Z,6.5nm,1.0s
LOHW Long Hollow 55.06 62 IAmb IAmb 02 57 44.9
comp=Z,4.9nm,1.4s
HVU Hansel Valley 55.17 65 IAmb IAmb 02 57 36.4
comp=Z,3.1nm,0.9s
TPH Tonopah 55.31 71 IAmb IAmb 02 57 37.4
comp=Z,5.4nm,0.9s
KIRV Kirov 55.44 324⇓ *i*P **P** **02 57 35.2 +0.4**
HWUT Hardware Ranch 55.94 65 IAmb IAmb 02 57 42.0
comp=Z,3.6nm,0.8s
CWC Cottonwood Cre 55.98 73 IAmb IAmb 02 57 42.1
comp=Z,3.7nm,1.0s
PD31 Pinedale Array 56.19 62 IAmb IAmb 02 57 43.4
comp=Z,3.2nm,1.0s
PDAR Pinedale Array 56.19 62 **P** **02 57 41.3 +0.6**
PDAR Pinedale Array 56.19 62 P **P** **02 57 42.4 +1.7**
comp=Z,2.2nm,0.9s,baz=336,slow=3.3,SNR=13
comp=Z,2.2nm,0.9s
SPR3 Spring Creek 3 56.27 69 IAmb IAmb 02 57 45.2
comp=Z,5.2nm,0.9s
S11A Rachel 56.44 71 P **P** **02 57 44.0 +1.6**
S11A IAmb IAmb 02 57 45.6
comp=Z,4.2nm,0.8s
FURC Furnace Creek, 56.65 72 P **P** **02 57 46.0 +2.3**
TPNV Topopah Spring 56.65 72 P **P** **02 57 45.5 +1.6**
TPNV IAmb IAmb 02 57 47.0
comp=Z,4.4nm,1.1s
TPNV Topopah Spring 56.65 72 P **P** **02 57 45.6 +1.6**
TPNV pmax pmax
comp=Z,4.0nm,1.2s
KLMR Klimovskoe 56.85 330 *e*P **P** **02 57 42.4 -2.4**
KLMR pmax pmax
comp=Z,7.0nm,0.6s
PRN Pahroc Range 57.00 70 P **P** **02 57 48.0 +1.6**
PRN IAmb IAmb 02 57 49.5
comp=Z,3.3nm,0.8s
CCCA Chr Cany lake 57.03 74 P **P** **02 57 48.5 +2.0**
BSUT Blindstream Ca 57.13 65 **P** **02 57 48.8 +1.2**
BSUT IAmb IAmb 02 58 02.4
comp=Z,6.2nm,1.2s
TMUT Trail Mountain 57.77 66 P **P** **02 57 53.3 +1.3**
TMUT IAmb IAmb 02 57 55.0
comp=Z,3.4nm,0.7s
RSSD Black Hills 58.07 58 P **P** **02 57 55.9 +1.9**
RSSD pmax pmax
comp=Z,7.0nm,0.8s
AB31 Akbulak array 58.14 311 **P** **02 57 53.3 -0.8**
AB31 IAmb IAmb 02 57 55.1
comp=Z,3.2nm,0.8s
ABKAR Akbulak array 58.14 311 **P** **02 57 52.9 -1.2**
SRU San Rafael Swe 58.27 66 P **P** **02 57 57.3 +1.9**
SRU San Rafael Swe 58.27 66 P **P** **02 57 57.3 +1.9**
SRU pmax pmax
comp=Z,6.0nm,0.8s
LCMT Little Creek M 58.28 70 P **P** **02 57 56.6 +1.1**
LCMT IAmb IAmb 02 57 58.7
comp=Z,2.5nm,0.9s
KNB Kanab 58.52 69 P **P** **02 57 59.3 +2.2**
KNB IAmb IAmb 02 58 10.5
comp=Z,8.3nm,1.5s
KNB Kanab 58.52 69 P **P** **02 57 59.3 +2.2**
KNB pmax pmax
comp=Z,8.0nm,1.5s
HMU Henry Mountain 59.00 67 P **P** **02 58 02.4 +1.8**
CHTO Chiang Mai 59.13 259 **P** **02 58 01.8 +0.4**
CHTO Chiang Mai 59.13 259 P **P** **02 58 01.8 +0.4**
CHTO pmax pmax
comp=Z,14nm,0.8s
CMAR Chiang Mai Arr 59.41 259 **P** **02 58 04.5 +1.2**
CMAR Chiang Mai Arr 59.41 259 P **P** **02 58 05.3 +2.0**
comp=Z,8.8nm,0.7s,baz=23,slow=6.8,SNR=29
CMAR pP **pwP** **02 58 18.1 +0.7**
comp=Z,3.6nm,0.3s,baz=25,slow=6.8,SNR=3.8
comp=Z,8.8nm,0.7s
CMAR Chiang Mai Arr 59.41 259 P **P** **02 58 04.5 +1.2**
PV23 Carpenter Ridg 59.56 66 P **P** **02 58 06.0 +1.5**
PV10 Paradox Valley 59.60 66 P **P** **02 58 06.5 +1.8**
PV22 Blue Mesa, Par 59.62 65 IAmb IAmb 02 58 07.3
comp=Z,3.6nm,0.8s
PV04 Paradox Valley 59.66 66 P **P** **02 58 06.0 +1.0**
PV04 IAmb IAmb 02 58 07.8
comp=Z,4.9nm,0.9s
PV20 West Nyswonger 59.67 66 P **P** **02 58 06.7 +1.6**
PV17 East Wray Mesa 59.72 66 P **P** **02 58 06.2 +0.7**
PV16 Nyswonger Mesa 59.72 66 **P** **02 58 06.4 +0.9**
PV18 Skein Mesa, Pa 59.77 66 P **P** **02 58 06.5 +0.7**
PV12 Saucer Basin, 59.77 66 P **P** **02 58 07.2 +1.4**
PV05 Paradox Valley 59.79 66 P **P** **02 58 07.5 +1.5**
PV03 Paradox Valley 59.80 66 P **P** **02 58 08.1 +2.1**
PV03 IAmb IAmb 02 58 08.6
comp=Z,4.1nm,0.9s
FINES FINESS Array B 59.87 337 P **P** **02 58 05.5 -0.3**
FINES FINESS Array B 59.87 337 P **P** **02 58 06.4 +0.6**
comp=Z,7.6nm,0.7s,baz=42,slow=8.9,SNR=26
comp=Z,7.6nm,0.7s
PV13 Radium Mtn., P 59.88 66 P **P** **02 58 08.0 +1.4**
PV02 Paradox Valley 59.89 66 P **P** **02 58 08.1 +1.4**
PV15 Paradox Valley 59.93 65 P **P** **02 58 08.1 +1.1**
ISCO Idaho Springs 60.39 62 - **P** **02 58 12.0 +1.8**
ISCO IAmb IAmb 02 58 13.4
comp=Z,3.2nm,0.9s
ISCO Idaho Springs 60.39 62 P **P** **02 58 12.0 +1.8**
ISCO pmax pmax
comp=Z,3.0nm,0.9s
BELG Belogornoye 60.86 320*d i*P **P** **02 58 13.1 +0.4**
BELG pmax pmax
comp=Z,4.0nm,1.0s
X16A Lo Mia Camp, P 61.18 70 **P** **02 58 17.4 +2.0**
X16A IAmb IAmb 02 58 27.8
comp=Z,3.3nm,0.8s
S22A 4UR Ranch, Cre 61.25 65 **P** **02 58 18.4 +2.3**
S22A IAmb IAmb 02 58 19.3
comp=Z,2.5nm,0.9s
W18A Petrified Fore 61.61 69 P **P** **02 58 19.8 +1.5**
VSU Vasula 62.34 335⇑ *i*P **P** **02 58 22.0 -0.6**
VSU pmax pmax
comp=Z,13nm,0.9s
OBN Obninsk 62.47 328*d i*P **P** **02 58 24.1 +0.6**
OBN *e*PP **sP** **02 58 34.9 -1.8**
OBN *e*SP **pwP** **02 58 43.7 +5.9**
OBN 02 59 04.0
OBN *SS **sS** **03 07 07.0 +4.5**
OBN pmax pmax
comp=Z,9.0nm,0.7s
OBN MLR MLR
comp=Z,93nm,17.0s
NC204 NORSAR Array S 62.97 345 P **P** **02 58 26.9 -0.1**
NC405 NORSAR Array S 62.98 344 **P** **02 58 26.9 0.0**
NB201 NORSAR Array S 63.10 344 P **P** **02 58 27.5 -0.2**
NB2 NORSAR Subarra 63.12 345 P **P** **02 58 28.2 +0.3**
comp=Z,2.7nm,0.5s,baz=20,slow=6.9
NB2 NORSAR Subarra 63.12 345 P **P** **02 58 28.2 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 63.12 345 P **P** **02 58 28.1 +0.1**
comp=Z,3.1nm,0.6s,baz=20,slow=6.7,SNR=32
NOA pP **sP** **02 58 40.9 -0.3**
comp=Z,3.6nm,0.7s,baz=20,slow=6.7,SNR=12
comp=Z,3.1nm,0.6s
ANMO Albuquerque 63.53 67⇑ *i*P **P** **02 58 31.7 +0.5**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
HFS Hagfors 63.57 343 P **P** **02 58 30.8 0.0**
comp=Z,3.5nm,0.5s,baz=31,slow=3.5,SNR=37
HFS pP **sP** **02 58 43.4 -0.5**
comp=Z,2.3nm,0.6s,baz=41,slow=9.8,SNR=3.9
comp=Z,3.5nm,0.5s
LPSR Galich'ya Gora 63.81 325 *e*P **P** **02 58 30.2 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 63.99 323 *e*P **P** **02 58 30.3 -3.4**
VRH pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 64.88 324 *e*P **P** **02 58 37.5 -2.0**
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD Divnogorie 65.05 324 *e*P **P** **02 58 39.1 -1.5**
VORD pmax pmax
comp=Z,8.0nm,0.9s
PABE Paberze 65.67 335 **P** **02 58 45.3 +0.8**
VHRN Van Horn 67.49 68 P **P** **02 58 57.5 +0.8**
VHRN IAmb IAmb 02 58 59.3
comp=Z,2.7nm,0.8s
WMOK Wichita Mounta 67.78 61 P **P** **02 58 59.6 +1.2**
WMOK pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 68.53 330 P **P** **02 59 02.6 -0.2**
comp=Z,4.7nm,0.8s,baz=31,slow=6.0,SNR=22
AKASG pP **sP** **02 59 15.9 0.0**
comp=Z,1.2nm,0.6s,baz=31,slow=6.3,SNR=2.2
comp=Z,4.7nm,0.8s
AKASG Malin Array Be 68.53 330*ce*P **P** **02 59 02.9 +0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 68.53 330⇓ *i*P **P** **02 59 02.9 +0.1**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 68.54 330 **P** **02 59 02.3 -0.5**
KIEV Kiev 68.54 330 P **P** **02 59 02.3 -0.5**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
TXAR Lajitas Array 69.33 69 **P** **02 59 09.0 +0.8**
TXAR Lajitas Array 69.33 69 P **P** **02 59 09.6 +1.3**
comp=Z,2.4nm,0.7s,baz=300,slow=4.5,SNR=36
comp=Z,2.4nm,0.7s
TXAR Lajitas Array 69.33 69 P **P** **02 59 09.0 +0.8**
AKT Akhty 69.58 313 *e*P **P** **02 59 09.9 +0.3**
AKT *e* 02 59 34.3
AKT *ePPP PPP 03 03 26.3
AKT pmax pmax
comp=Z,9.0nm,0.8s
KIV Kislovodsk 69.64 318 *e*P **P** **02 59 07.8 -2.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,52nm,17.0s
KBZ Khabaz 69.74 318 P **P** **02 59 10.9 +0.5**
comp=Z,5.1nm,0.9s,baz=89,slow=5.4,SNR=6.8
comp=Z,5.1nm,0.9s
KBZ Khabaz 69.74 318*d i*P **P** **02 59 11.7 +1.3**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
EKA Eskdalemuir Ar 70.50 351 P **P** **02 59 14.5 -0.3**
comp=Z,1.0nm,0.7s,baz=6.4,slow=5.0,SNR=2.1
comp=Z,2.4nm,0.7s
KWP Kalwaria Pacla 71.33 333 P **P** **02 59 21.3 +1.3**
KWP pmax pmax
comp=Z,21nm,1.3s
KSP Ksiaz 71.78 338 P **P** **02 59 23.6 +0.9**
KSP pmax pmax
comp=Z,9.0nm,1.6s
CLL Collm 72.04 340 *i* P **P** **02 59 24.7 +0.5**
CLL *i* *SP **sP** **02 59 37.5 +0.2**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 72.04 340 *e*P **P** **02 59 24.8 +0.6**
comp=Z,6.6nm,1.1s,baz=15,slow=5.0
CLL Collm 72.04 340 *i* P **P** **02 59 24.7 +0.5**
comp=Z,8.0nm,1.2s
CLL *i* pP **sP** **02 59 37.5 +0.2**
comp=Z,11nm,1.2s
OSTC Ostas 72.06 338 *e*P **P** **02 59 24.9 +0.5**
OSTC Ostas 72.06 338 *e*P **P** **02 59 24.9 +0.5**
CHVC Chvalec 72.07 338 *e*P **P** **02 59 25.6 +1.1**
CHVC Chvalec 72.07 338 *e*P **P** **02 59 25.6 +1.1**
KOLS Kolonicke sedl 72.08 333 *e*P **P** **02 59 25.4 +0.8**
KOLS *e* 02 59 38.2
KOLS pmax pmax
comp=Z,5.0nm,0.7s
KOLS Kolonicke sedl 72.08 333 *e*P **P** **02 59 25.4 +0.8**
KOLS *e* 02 59 38.2
DPC Dobruska-Polom 72.23 338 *e*P **P** **02 59 26.6 +1.1**
DPC Dobruska-Polom 72.23 338 *e*P **P** **02 59 26.6 +1.1**
NEUB Neuenburg 72.38 341 *e*P **P** **02 59 27.2 +1.0**
comp=Z,5.5nm,0.6s,baz=15,slow=5.0
GTTG Gottingen 72.39 342 *e*P **P** **02 59 27.5 +1.1**
comp=Z,4.6nm,0.7s,baz=15,slow=5.0
MORC Moravsky Berou 72.49 337 *e*P **P** **02 59 27.6 +0.6**
MORC Moravsky Berou 72.49 337 P **P** **02 59 28.5 +1.5**
MORC pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 72.61 335 *e*P **P** **02 59 29.2 +1.5**
LANS *e* 02 59 43.6
LANS pmax pmax
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 72.61 335 *e*P **P** **02 59 29.2 +1.5**
LANS *e* 02 59 43.6
MAUC Maruska 72.80 336 *e*P **P** **02 59 29.6 +0.7**
MOX Moxa 72.94 341 *e*P **P** **02 59 30.5 +0.9**
comp=Z,2.5nm,0.7s,baz=15,slow=5.0
MOX *eL L 03 44 35.5
comp=Z,64nm,20.0s
PLN Plauen 72.99 340 *e*P **P** **02 59 31.0 +1.0**
comp=Z,1.1nm,0.8s,baz=15,slow=5.0
VRAC Vranov 73.15 337 *e*P **P** **02 59 32.2 +1.3**
VYHS Vyhne 73.37 335 *e*P **P** **02 59 33.3 +1.1**
VYHS *e* 02 59 47.6
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 73.37 335 *e*P **P** **02 59 33.3 +1.1**
VYHS *e* 02 59 47.6
TREC Trest 73.41 338 P **P** **02 59 33.7 +1.2**
TREC pmax pmax
comp=Z,3.0nm,0.9s
KRUC Moravsky 73.42 337 *e*P **P** **02 59 33.5 +1.0**
MANZ Manzenberg 73.47 340 *e*P **P** **02 59 33.7 +0.9**
comp=Z,0.4nm,0.7s,baz=15,slow=5.0
ROTZ Rotzenmuhle 73.66 340 *e*P **P** **02 59 34.8 +0.9**
comp=Z,0.7nm,1.0s,baz=15,slow=5.0
DRGR 73.93 332 P **P** **02 59 36.3 +0.7**
DRGR pmax pmax
comp=Z,3.0nm,2.2s
GRF Grafenberg Arr 73.93 341 *e*P **P** **02 59 36.7 +1.2**
comp=Z,5.4nm,0.6s,baz=15,slow=5.0
GRF *eL L 03 45 22.9
comp=Z,72nm,20.6s
MEM Membach 73.97 344 P **P** **02 59 36.6 +0.9**
MEM pmax pmax
comp=Z,13nm,0.9s
KHC Kasperske Hory 73.98 339 *e*P **P** **02 59 36.9 +1.1**
KHC Kasperske Hory 73.98 339 *e*P **P** **02 59 36.9 +1.1**
WET Wettzell 74.12 339 P **P** **02 59 37.9 +1.3**
WET pmax pmax
comp=Z,4.0nm,0.8s
WET Wettzell 74.12 339 *e*P **P** **02 59 38.2 +1.6**
comp=Z,3.2nm,0.9s,baz=15,slow=5.0
MLR Muntele Rosu 74.18 329 P **P** **02 59 39.1 +2.0**
MLR pmax pmax
comp=Z,6.0nm,2.1s
GEC2 GERESS Array S 74.23 339 *e*P **P** **02 59 38.2 +0.8**
comp=Z,2.5nm,0.8s,baz=15,slow=5.0
GERES GERESS Array B 74.23 339 P **P** **02 59 38.0 +0.6**
comp=Z,1.6nm,0.6s,baz=36,slow=5.3,SNR=19
GERES pP **PcP** **02 59 52.0 -0.1**
comp=Z,0.9nm,0.7s,baz=20,slow=4.3,SNR=5.3
comp=Z,1.6nm,0.6s
CONA Conrad Observa 74.61 337 *e*pP **P** **02 59 41.1 +1.6**
comp=Z,1.4nm,0.7s
RONA Rosalia, Austr 74.72 337 *e*pP **P** **02 59 41.9 +1.7**
comp=Z,2.2nm,0.9s
BIOA Bad Ischl, Aus 75.33 338 *e*P **P** **02 59 45.0 +1.4**
comp=Z,1.3nm,0.8s
RJOB Jochberg 75.47 339 *e*P **P** **02 59 46.0 +1.5**
comp=Z,4.5nm,0.8s,baz=15,slow=5.0
BFO Black Forest 75.78 342 *e*P **P** **02 59 47.0 +0.7**
comp=Z,1.0nm,0.7s,baz=15,slow=5.0
LESA Schwarzleotal 75.79 339 *e*P **P** **02 59 47.6 +1.2**
comp=Z,1.3nm,0.5s
KBA Koelnbreinsper 75.98 338 P **P** **02 59 49.5 +2.0**
KBA pmax pmax
comp=Z,12nm,1.0s
KBA Koelnbreinsper 75.98 338 *e*pP **P** **02 59 49.3 +1.8**
comp=Z,7.5nm,0.9s
SOKA Soboth 75.98 337 *e*P **P** **02 59 48.7 +1.2**
comp=Z,2.5nm,0.6s
WATA Walderalm 76.11 340 *e*P **P** **02 59 49.3 +1.1**
comp=Z,6.6nm,1.2s
RETA Reutte 76.13 340 *i* P **P** **02 59 49.7 +1.4**
comp=Z,2.1nm,0.8s
WTTA Wattenberg 76.16 340 *e*pP **P** **02 59 50.1 +1.5**
comp=Z,2.3nm,0.8s
MOTA Moosalm 76.19 340 *e*P **P** **02 59 49.9 +1.1**
comp=Z,4.0nm,0.8s
OBKA Obir 76.25 337 *e*P **P** **02 59 50.3 +1.3**
comp=Z,4.6nm,0.7s
SQTA Sankt Quirin 76.29 340 *e*pP **P** **02 59 50.8 +1.6**
comp=Z,2.4nm,0.7s
MYKA Terra Mystica 76.34 338 *e*pP **P** **02 59 51.0 +1.5**
comp=Z,2.6nm,0.7s
ABTA Abfaltersbach 76.47 339 *e*P **P** **02 59 51.4 +1.2**
comp=Z,5.0nm,0.8s
DAVA Damuels 76.49 341 *e*pP **P** **02 59 52.4 +1.9**
comp=Z,4.2nm,1.4s
FETA Feichten 76.58 340 *e*P **P** **02 59 52.2 +1.2**
comp=Z,3.5nm,0.8s
BR131 Keskin Array S 76.73 322*c i*P **P** **02 59 52.4 +0.5**
BRTR Keskin Array B 76.73 322 P **P** **02 59 52.5 +0.6**
comp=Z,2.7nm,0.7s,baz=42,slow=5.2,SNR=14
BRTR pP **sP** **03 00 05.3 -0.1**
comp=Z,1.4nm,0.8s,baz=53,slow=4.8,SNR=4.3
comp=Z,2.7nm,0.7s
WRA Warramunga Arr 77.24 207 P **P** **02 59 55.2 +0.6**
comp=Z,1.4nm,0.6s,baz=21,slow=6.1,SNR=8.2
comp=Z,1.4nm,0.6s
WRA Warramunga Arr 77.24 207 *i* P **P** **02 59 55.2 +0.6**
WRA pmax pmax
comp=Z,2.0nm,0.6s
ASAR Alice Springs 80.91 206 P **P** **03 00 16.1 +1.4**
comp=Z,2.6nm,1.0s,baz=12,slow=5.6,SNR=11
comp=Z,2.6nm,1.0s
MMAI Mount Meron Ar 81.93 317 P **P** **03 00 20.7 +0.4**
comp=Z,1.7nm,0.5s,baz=34,slow=8.0,SNR=5.9
MMAI pP **pwP** **03 00 34.9 +0.1**
comp=Z,3.0nm,0.6s,baz=42,slow=6.7,SNR=5.4
comp=Z,1.7nm,0.5s
ESDC Sonseca Array 86.07 349 P **P** **03 00 42.2 +1.0**
comp=Z,1.3nm,0.6s,baz=0.4,slow=4.5,SNR=12
comp=Z,1.3nm,0.6s
STKA Stephens Creek 87.17 197 P **P** **03 00 46.6 +0.4**
comp=Z,2.2nm,0.7s,baz=9.5,slow=6.4,SNR=3.9
comp=Z,2.2nm,0.7s
QSPA South Pole Qui 143.59 180 PKhKP PKPpre 03 07 31.6
comp=Z,1.8nm,0.8s,baz=27,slow=1.2,SNR=9.4

---

*IDC **29** 03:03:43.9±1.1, 37.°21N×31.°80E, h0km, mb3.6/5, mbtmp3.5/8, ML2.5/3, Error ellipse: s-maj=21.2km s-min=17.7km az=105.0*
*ISK **29** 03:03:45.1, 37.°07N×31.°91E, h9km, ML3.6/37*
*AFAD **29** 03:03:45.4, 37.°11N×31.°96E, h15km±2km, MW3.5*
*NIC **29** 03:03:48.8, 36.°80N×32.°03E, h4km±3km, Ml3.0/7*
ISC 29 03:03:45.2±1.1, **37.°10N**±0.°02×**31.°94E**±0.°02, **h9**km±8km, **n73**,σ**1°15**/100, **mb3.5/4**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEYD	**Seydisehir-KON**	**0.32**	**346**	Pg	**Pb**	**03 03 52.8**	**-0.3**
SEYD				Sg	**Sb**	**03 03 57.3**	**-1.1**
SEDI	**Konya, Seydise**	**0.38**	**338**	P	**Pb**	**03 03 53.9**	**-0.4**
SEDI				S	**Sg**	**03 03 59.0**	**+1.1**
HDMB	**Hadim**	**0.46**	**107**	Pg	**Pb**	**03 03 54.9**	**-0.7**
HDMB				Sg	**Sb**	**03 04 01.7**	**-0.9**
MNVG	**Manavgat-Antal**	**0.52**	**234**	Pg	**Pg**	**03 03 54.9**	**-0.3**
ALAN	**Alanya-ANTALYA**	**0.55**	**172**	Pg	**Pg**	**03 03 55.9**	**+0.1**
KKBE	**Karaman, Kazim**	**0.81**	**81**	P	**Pg**	**03 04 00.8**	**0.0**
KKBE				S	**Sb**	**03 04 12.0**	**-0.6**
GAZI	**Gazipasa**	**0.91**	**160**	Pg	**Pg**	**03 04 03.1**	**+0.3**
GAZI	**Gazipasa**	**0.91**	**160**	P	**Pg**	**03 04 03.0**	**+0.3**
GAZI				S	**Sb**	**03 04 15.6**	**+0.2**
DOGA	**KONYA_Doganhis**	**1.03**	**348**	P	**Pg**	**03 04 04.5**	**-0.5**
DOGA				S	**Sg**	**03 04 16.5**	**-1.9**
ANTB	**Antalya**	**1.05**	**259**	Pg	**Pg**	**03 04 05.4**	**+0.1**
KRMN	**Karaman**	**1.06**	**86**	Pn	**Pb**	**03 04 05.9**	**+0.1**
BUCA	**Burdur, Bucak-**	**1.12**	**282**	P	**Pb**	**03 04 07.4**	**+0.5**
BUCA				S	**Sn**	**03 04 24.5**	**+1.8**
LADK	**Ladik-KONYA**	**1.15**	**17**	Pn	**Pn**	**03 04 08.3**	**+0.7**
KEMT	**Kemer-ANTALYA**	**1.21**	**246**	Pn	**Pn**	**03 04 07.9**	**-0.4**
KORT	**Korkueli**	**1.27**	**266**	Pn	**Pn**	**03 04 09.3**	**0.0**
KORT	**Korkueli**	**1.27**	**266**	P	**Pn**	**03 04 08.6**	**-0.7**
BAGO	**Egridir - ISPA**	**1.28**	**315**	P	**Pb**	**03 04 09.9**	**+0.5**
BAGO				S	**Sg**	**03 04 26.7**	**+0.4**
BOZY	**Bozyazi-Mersin**	**1.29**	**139**	Pn	**Pn**	**03 04 09.5**	**+0.1**
YVAC	**Isparta, Yalva**	**1.29**	**335**	P	**Pn**	**03 04 09.6**	**0.0**
YVAC				S	**Sb**	**03 04 24.6**	**-2.0**
ISP	**Isparta**	**1.34**	**303**	Pn	**Pn**	**03 04 10.5**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.34**	**135**	Pn	**Pn**	**03 04 09.9**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.38**	**118**	Pn	**Pb**	**03 04 11.2**	**0.0**
KDHN	**Kadinhani**	**1.43**	**6**	P	**Pb**	**03 04 12.0**	**0.0**
KDHN				S	**Sg**	**03 04 31.2**	**+0.1**
AKUM	**Antalya-Kumluc**	**1.50**	**239**	P	**Pn**	**03 04 12.5**	**+0.3**
YORU	**Yoruktepe-Mers**	**1.51**	**128**	Pn	**Pn**	**03 04 12.9**	**+0.5**
OREN	**Orenkoy-Mersin**	**1.51**	**126**	Pn	**Pn**	**03 04 12.9**	**+0.5**
TEPK	**Tepekoy-MERSIN**	**1.56**	**124**	Pn	**Pn**	**03 04 13.7**	**+0.6**
KEBE	**Keben-Mersin**	**1.57**	**114**	Pn	**Pb**	**03 04 14.0**	**-0.4**
UCKU	**Afyonkarahisar**	**1.59**	**345**	P	**Pb**	**03 04 14.7**	**-0.1**
UCKU				S	**Sn**	**03 04 34.2**	**-0.1**
AKK1	**Akkuyu-Mersin**	**1.60**	**126**	Pn	**Pn**	**03 04 14.3**	**+0.6**
BECE	**Buyukeceli-Mer**	**1.61**	**125**	Pn	**Pb**	**03 04 14.6**	**-0.5**
BRDR	**BURDUR-Merkez**	**1.61**	**292**	P	**Pb**	**03 04 15.6**	**+0.5**
BRDR				S	**Sg**	**03 04 37.3**	**+0.3**

AFYN	**Afyon-Dinar-K**	**1.63**	**316**	P	**Pb**	**03 04 16.1**	**+0.5**
AFYN				S	**Sb**	**03 04 36.8**	**+0.5**
YESI	**Yesilovacik-Me**	**1.64**	**123**	Pn	**Pb**	**03 04 15.0**	**-0.6**
KARG	**Kargicak-Mersi**	**1.68**	**122**	Pn	**Pn**	**03 04 15.5**	**+0.7**
TISA	**Tisan-Mersin**	**1.68**	**123**	Pn	**Pb**	**03 04 15.8**	**-0.5**
BASM	**Basmaki-Afyon**	**1.71**	**299**	Pn	**Pn**	**03 04 15.9**	**+0.6**
CBEY	**Konya-Cihanbey**	**1.72**	**23**	P	**Pb**	**03 04 16.7**	**-0.4**
CBEY				S	**Sg**	**03 04 41.0**	**+0.4**
SILI	**Silifke-Mersin**	**1.75**	**114**	Pn	**Pb**	**03 04 16.8**	**-0.7**
SLFK	**Silifke-Mersin**	**1.76**	**113**	Pn	**Pn**	**03 04 16.7**	**+0.9**
KURO	**Afyon-Bolvadin**	**1.82**	**334**	P	**Pb**	**03 04 18.4**	**-0.3**
KURO				S	**Sn**	**03 04 40.1**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.84**	**310**	P	**Pb**	**03 04 18.4**	**-0.6**
KIZK	**Mersin**	**1.88**	**109**	Pn	**Pn**	**03 04 18.4**	**+1.0**
CTIK	**Konya-Celtik**	**1.94**	**353**	P	**Pn**	**03 04 19.2**	**+0.8**
BYAT	**Afyon-Bayat**	**1.99**	**338**	P	**Pb**	**03 04 20.9**	**-0.8**
BYAT				S	**Sb**	**03 04 46.7**	**+0.1**
ALFC	**Alefka**	**2.01**	**164**	P	**Pn**	**03 04 19.0**	**-0.3**
ALFC				S	**Sn**	**03 04 42.5**	**-2.1**
ALFC				AML	AML	03 04 50.9	
	0.6nm,0.5s						
ALFC				AML	AML	03 04 56.8	
	0.6nm,0.4s						
MERS	**Mersin**	**2.08**	**96**	Pn	**Pb**	**03 04 21.8**	**-1.4**
AKMS	**Akamas**	**2.10**	**171**	P	**Pn**	**03 04 20.5**	**-0.1**
AKMS				S	**Sn**	**03 04 45.0**	**-1.8**
AKMS				AML	AML	03 04 57.3	
	0.6nm,0.7s						
AKMS				AML	AML	03 04 59.5	
	0.5nm,0.5s						
CAME	**Cameli-Denizli**	**2.12**	**267**	Pn	**Pn**	**03 04 21.2**	**+0.3**
KSL	**Kastellorizon**	**2.12**	**244**	P	**Pb**	**03 04 24.2**	**+0.5**
KSL				S	**Sb**	**03 04 52.4**	**+2.3**
APMY	**Acipayam-Deniz**	**2.13**	**281**	Pn	**Pn**	**03 04 21.7**	**+0.6**
XYLS	**Xyliatos**	**2.27**	**156**	P	**Pn**	**03 04 22.8**	**0.0**
XYLS				S	**Sn**	**03 04 49.3**	**-1.6**
XYLS				AML	AML	03 04 54.4	
	0.3nm,0.5s						
XYLS				AML	AML	03 05 00.8	
	0.4nm,0.4s						
TROD	**Troodos**	**2.27**	**160**	P	**Pn**	**03 04 23.5**	**+0.3**
TROD				S	**Sn**	**03 04 49.8**	**-1.5**
TROD				AML	AML	03 05 09.7	
	0.3nm,0.6s						
TROD				AML	AML	03 05 10.7	
	0.3nm,0.5s						
CIFT	**Cifteler, Eski**	**2.36**	**343**	Pn	**Pn**	**03 04 24.9**	**+0.7**
NATA	**Nata**	**2.37**	**167**	P	**Pb**	**03 04 26.7**	**-1.4**
NATA				S	**Sb**	**03 04 57.4**	**0.0**
CSS	**Mathiatis**	**2.41**	**152**	Pn	**Pn**	**03 04 25.7**	**+0.9**
CSS	**Mathiatis**	**2.41**	**152**	P	**Pn**	**03 04 26.6**	**+1.7**
CSS				S	**Sn**	**03 04 53.8**	**-0.7**
CSS				AML	AML	03 05 04.7	
	0.2nm,0.6s						
CSS				AML	AML	03 05 07.9	
	0.2nm,0.5s						
MVOU	**Mavrovouni**	**2.49**	**146**	P	**Pn**	**03 04 26.0**	**+0.1**
MVOU				S	**Sn**	**03 04 54.8**	**-1.6**
MVOU				AML	AML	03 05 06.2	
	0.3nm,0.6s						
MVOU				AML	AML	03 05 08.9	
	0.3nm,0.7s						
KARA	**Karaisali**	**2.50**	**85**	Pn	**Pn**	**03 04 27.2**	**+1.2**
CMRD	**Camardi-Nigde**	**2.50**	**76**	Pn	**Pn**	**03 04 27.5**	**+1.4**
AFSR	**Afar-Bala (An**	**2.51**	**20**	Pn	**Pn**	**03 04 27.8**	**+1.5**
ASGA	**Asgata**	**2.54**	**155**	P	**Pn**	**03 04 28.1**	**+1.5**
ASGA				S	**Sn**	**03 04 59.0**	**+1.3**
ASGA				AML	AML	03 05 16.5	
	0.3nm,0.7s						
ASGA				AML	AML	03 05 16.6	
	0.3nm,0.5s						
KAMT	**Kaman**	**2.66**	**31**	Pn	**Pn**	**03 04 29.8**	**+1.4**
BRTR	**Keskin Array B**	**2.94**	**26**	Pn	**Pn**	**03 04 32.7**	**+0.4**
	0.5nm,0.3s,baz=247,slow=16,SNR=14						
CEYT	**Ceyhan**	**3.05**	**91**	Pn	**Pn**	**03 04 35.3**	**+1.7**
MMAI	**Mount Meron Ar**	**4.97**	**144**	Pn	**Pn**	**03 05 01.6**	**+1.6**
	1.8nm,0.3s,baz=337,slow=13,SNR=12						
MMAI				Sn	**Sn**	**03 06 01.0**	**+3.4**
	3.2nm,0.3s,baz=317,slow=30,SNR=5.5						
IDI	**Anoyia**	**5.98**	**255**	Pn	**Pn**	**03 05 12.9**	**-1.0**
	1.0nm,0.3s,baz=3.5,slow=6.8,SNR=8.0						
	2.0nm,0.3s						
ASF	**Jabal al Asfar**	**6.39**	**139**	Pn	**Pn**	**03 05 23.6**	**+4.0**
	0.9nm,0.3s,baz=57,slow=20,SNR=5.6						
ASF				Sn	**Sn**	**03 06 37.6**	**+4.9**
	0.4nm,0.3s,baz=255,slow=21,SNR=1.5						
	1.3nm,0.4s						
FINES	**FINESS Array B**	**24.65**	**353**	P	**P**	**03 09 05.6**	**-0.2**
	0.7nm,0.8s,baz=147,slow=9.2,SNR=3.5						
	0.7nm,0.8s						
ARCES	**ARCESS Array B**	**32.68**	**356**	P	**P**	**03 10 16.2**	**-1.2**
	0.5nm,0.6s,baz=158,slow=10.0,SNR=5.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**35.61**	**53**	P	**P**	**03 10 43.3**	**+0.3**
	0.8nm,0.5s,baz=266,slow=8.8,SNR=4.6						
	0.8nm,0.5s						
TORD	**Torodi Ar. Bea**	**36.04**	**237**	P	**P**	**03 10 46.3**	**-0.7**
	0.9nm,0.8s,baz=32,slow=12,SNR=7.6						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**38.10**	**59**	P	**P**	**03 11 04.4**	**+0.1**
	0.4nm,0.6s,baz=262,slow=8.3,SNR=4.2						
	0.4nm,0.6s						

*NNC **29** 03:09:21.4±1.5,42.°86N×78.°32E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=11.7km s-min=5.7km az=171.0*
*KRNET **29** 03:09:22.9±0.1,42.°93N×78.°19E,h35km,mb2.3*
*SOME **29** 03:09:22.7,42.°88N×78.°30E,h15km*

ISC 29 03:09:21.8±0.9, 42.°89N±0.°04×78.°30E±0.°03, h17km±7km, n14, σ1§25/28, 11C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.19**	**24**	P	P	**Pg**	**03 09 27.0**	**+0.3**
	36nm,0.1s							
SATY				S		**Sg**	**03 09 30.2**	**+0.2**
	308nm,0.1s							
PRZ	**Przheval'sk**	**0.41**	**169**	⇑*i*P		**Pn**	**03 09 34.3**	**+1.2**
PRZ				⇑*i*S		**Sn**	**03 09 42.6**	**+2.2**
UZB	**Uzynbulak**	**0.59**	**63**	P		**Pg**	**03 09 33.2**	**-0.5**
	11nm,0.1s							
UZB				S		**Sg**	**03 09 40.9**	**-0.8**
	20nm,0.1s							
UZB	**Uzynbulak**	**0.59**	**63**	*e*P		**Pg**	**03 09 33.2**	**-0.5**
	11nm,0.1s							
UZB				*e*S		**Sg**	**03 09 40.9**	**-0.8**
	20nm,0.1s							
KPKS	**Kokpek**	**0.65**	**26**	P		**Pg**	**03 09 34.3**	**-0.4**
	0.4nm,0.2s							
KPKS				S		**Sg**	**03 09 42.7**	**-0.6**
	66nm,0.1s							
PDGK	**Podgornoye**	**0.98**	**63**	⇑P		**Pb**	**03 09 39.6**	**-0.8**
	0.9nm,0.5s							
PDGK				⇓S		**Sb**	**03 09 52.9**	**-0.2**
	1.5nm,0.4s							
KDJ	**Kajisay**	**1.12**	**228**	⇑*i*P		**Pb**	**03 09 42.6**	**-0.2**
KDJ				⇑*i*S		**Sb**	**03 09 57.2**	**+0.1**
TARG	**Taragay, Kyrgy**	**1.21**	**198**	⇑*i*P		**Pn**	**03 09 44.8**	**+0.5**
TARG				⇑*i*S		**Sb**	**03 10 00.8**	**+0.8**
ARXS	**Arharly**	**1.37**	**346**	P		**Pn**	**03 09 47.5**	**+1.3**
	1.7nm,0.1s							
ARXS				S		**Sn**	**03 10 05.2**	**+1.2**
	7.0nm,0.5s							
KTBS	**Karatobe**	**1.44**	**306**	P		**Pn**	**03 09 48.7**	**+1.5**
	1.4nm,0.1s							
KTBS				S		**Sb**	**03 10 07.4**	**+1.2**
	14nm,0.2s							
ULHL	**Ulahol**	**1.65**	**248**	⇑*i*P		**Pn**	**03 09 49.9**	**-0.3**
ULHL				⇑*i*S		**Sn**	**03 10 09.6**	**-1.4**
DGS	**Degeres**	**1.89**	**282**	P		**Pb**	**03 09 56.8**	**+0.9**
	1.6nm,0.4s							
DGS				S		**Sb**	**03 10 21.0**	**+1.9**
	5.0nm,0.3s							
TKM2	**Tokmak 2**	**1.98**	**272**	⇓*i*P		**Pn**	**03 09 54.2**	**-0.6**
TKM2				⇓*i*S		**Sn**	**03 10 17.2**	**-2.1**
USP	**Ospenovka**	**2.81**	**279**	⇑*i*P		**Pn**	**03 10 05.5**	**-0.5**
USP				⇑*i*S		**Sn**	**03 10 36.5**	**-2.9**

*KRNET **29** 03:52:44.2±0.1,41.°11N×73.°72E,h18km,mb2.3*
*SOME **29** 03:52:45.7,41.°20N×73.°75E,h15km*
*ISU **29** 03:52:46,41.°14N×73.°50E,h5km*
*NNC **29** 03:52:46.3±2.1,41.°17N×73.°78E,h0km,mb2.9,mpv2.9, Error ellipse: s-maj=16.3km s-min=8.4km az=165.0*

ISC 29 03:52:44.5±1.2, 41.°12N±0.°03×73.°79E±0.°03, h4km±12km, n25, σ1§02/41, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.24**	**174**	⇑*i*P		**Pg**	**03 52 49.1**	**-0.1**
SALK				⇑*i*S		**Sg**	**03 52 52.7**	**+0.4**
ARSB	**Arslanbob**	**0.64**	**289**	⇑*i*P		**Pg**	**03 52 55.8**	**-1.1**
ARSB				⇑*i*S		**Sg**	**03 53 04.2**	**-1.0**
TSTA	**Tashata**	**1.14**	**242**	S		**Sb**	**03 53 22.2**	**+0.3**
UCH	**Uchtor**	**1.23**	**26**	⇓*i*P		**Pn**	**03 53 07.8**	**-1.2**
UCH				⇓*i*S		**Sg**	**03 53 25.1**	**+1.0**
EKS2	**Erkin-Say**	**1.54**	**360**	⇑*i*P		**Pn**	**03 53 12.7**	**-0.2**
EKS2				⇑*i*S		**Sg**	**03 53 33.5**	**-0.5**
AAK	**Ala-Archa**	**1.60**	**19**	⇓P		**Pg**	**03 53 16.4**	**+1.1**
	0.8nm,0.5s							
AAK				⇑S		**Sg**	**03 53 37.5**	**+1.5**
	1.6nm,0.4s							
MRKS	**Merke**	**1.68**	**346**	P		**Pb**	**03 53 15.9**	**-0.1**
	7.2nm,0.2s							
MRKS				S		**Sg**	**03 53 37.6**	**-0.7**
	53nm,0.4s							
MRKS	**Merke**	**1.68**	**346**	*e*P		**Pb**	**03 53 15.9**	**-0.1**
	7.2nm,0.2s							
MRKS				*e*S		**Sg**	**03 53 37.6**	**-0.7**
	53nm,0.4s							
FRG	**Fergana**	**1.70**	**245**	S		**Sb**	**03 53 37.4**	**-0.7**
CHMI	**Chimion**	**1.92**	**244**	P		**Pb**	**03 53 21.2**	**+1.0**
CHMI				S		**Sb**	**03 53 44.6**	**0.0**
CHMS	**Chumysh**	**2.01**	**21**	⇑*i*P		**Pb**	**03 53 20.8**	**-0.8**
CHMS				⇑*i*S		**Sb**	**03 53 47.0**	**0.0**
TRKS	**Terek-Say**	**2.04**	**282**	⇑*i*P		**Pn**	**03 53 19.6**	**-0.2**
TRKS				⇑*i*S		**Sn**	**03 53 45.3**	**-0.5**
ULHL	**Ulahol**	**2.15**	**58**	⇓*i*P		**Pb**	**03 53 23.3**	**-0.9**
ULHL				⇓*i*S		**Sb**	**03 53 51.6**	**+0.2**
TKM2	**Tokmak 2**	**2.25**	**36**	⇑*i*P		**Pb**	**03 53 24.3**	**-1.5**
TKM2				⇑*i*S		**Sb**	**03 53 53.5**	**-0.6**
SGDS	**Sogindy**	**2.41**	**15**	Pg		**Pb**	**03 53 28.9**	**+0.4**
	1.4nm,0.5s							
SGDS				Lg		Lg	03 53 59.8	
	7.0nm,0.4s							
KST	**Kastek**	**2.51**	**39**	Pg		**Pb**	**03 53 31.4**	**+1.2**
	1.5nm,0.3s							
KST				Lg		Lg	03 54 04.3	
	6.9nm,0.4s							
KST	**Kastek**	**2.51**	**39**	*e*P		**Pb**	**03 53 31.4**	**+1.2**
	1.5nm,0.3s							
KST				*e*S		**Sg**	**03 54 04.3**	**-0.8**
	6.9nm,0.4s							
DGS	**Degeres**	**2.58**	**34**	Pg		**Pb**	**03 53 32.7**	**+1.2**
	3.1nm,0.5s							
DGS				Lg		Lg	03 54 06.3	
	7.5nm,0.7s							
MTBS	**Maitube**	**2.81**	**44**	Pg		**Pb**	**03 53 36.6**	**+1.3**
	2.7nm,0.2s							
MTBS				Lg		Lg	03 54 13.1	
	10.0nm,0.4s							
MTBS	**Maitube**	**2.81**	**44**	*e*P		**Pb**	**03 53 36.6**	**+1.3**
	2.7nm,0.2s							
MTBS				*e*S		**Sg**	**03 54 13.1**	**-1.6**
	10.0nm,0.4s							
IUG	**Iuzhnay**	**3.00**	**291**	Pg		**Pb**	**03 53 39.7**	**+1.2**
	9.7nm,0.2s							
IUG				Lg		Lg	03 54 18.4	
	16nm,0.5s							
KK31	**Karatay Array**	**3.14**	**310**	⇑Pn		**Pb**	**03 53 40.5**	**-0.5**
	0.2nm,0.2s,baz=121,slow=16,SNR=2.9							
KK31				⇓Sn		**Sb**	**03 54 21.2**	**+1.6**
	2.8nm,0.5s,baz=124,slow=28,SNR=8.1							
KTBS	**Karatobe**	**3.36**	**39**	Pg		**Pb**	**03 53 46.1**	**+1.4**
	0.8nm,0.3s							
KTBS				Lg		Lg	03 54 29.5	
	5.3nm,0.6s							
BRLS	**Borolday**	**3.51**	**304**	Pg		**Pb**	**03 53 47.8**	**+0.6**
	1.2nm,0.2s							
BRLS				Lg		Lg	03 54 32.4	
	2.9nm,0.2s							
BRLS	**Borolday**	**3.51**	**304**	*e*P		**Pb**	**03 53 47.8**	**+0.6**
	1.2nm,0.2s							
BRLS				*e*S		**Sb**	**03 54 32.4**	**+2.2**
	2.9nm,0.2s							

*TAP **29** 04:10:10.9,23.°61N×121.°66E,h42km,ML3.8,B*
*JMA **29** 04:10:10.5±0.1,23.°6N±0.°5×12.°2E±.°,h47km±2km, MV3.7/13,TAIWAN REGION*

ISC 29 04:10:11.1±1.0, 23.°58N±0.°02×121.°69E±0.°02, h34km±2km, n129, σ0§77/214, 21C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHUL	**Shoufeng**	**0.23**	**331**	⇑*i*P		**Pb**	**04 10 18.6**	**+0.4**
SHUL				*e*S		**Sb**	**04 10 24.6**	**+1.6**
EGFH	**Guangfu**	**0.25**	**290**	P		**Pb**	**04 10 18.8**	**+0.4**
EGFH				*e*S		**Sb**	**04 10 24.4**	**+1.1**
HGSD	**Ruisui**	**0.26**	**249**	⇑*i*P		**Pb**	**04 10 18.9**	**+0.5**
HGSD				*e*S		**Sb**	**04 10 25.0**	**+1.5**
TEYL	**Yanliau Villag**	**0.29**	**344**	⇑*i*P		**Pb**	**04 10 19.4**	**+0.5**
TEYL				*e*S		**Sb**	**04 10 26.1**	**+1.9**
WARBT	**Fenglin Townsh**	**0.31**	**296**	⇑*i*P		**Pb**	**04 10 18.9**	**-0.2**
WARBT				*i* S		**Sn**	**04 10 24.5**	**+0.8**
EHYH	**Wanrong**	**0.33**	**254**	⇑*i*P		**Pb**	**04 10 19.5**	**+0.2**
EHYH				*e*S		**Sb**	**04 10 25.7**	**+0.9**
ESL	**Shilin**	**0.33**	**315**	⇑*i*P		**Pb**	**04 10 19.1**	**-0.2**
ESL				S		**Sb**	**04 10 25.2**	**+0.3**
ECBN	**Changbin**	**0.34**	**219**	⇑*i*P		**Pb**	**04 10 20.0**	**+0.3**
ECBN				*e*S		**Sb**	**04 10 26.5**	**+1.3**
EHY	**Hungye**	**0.34**	**257**	⇑*i*P		**Pb**	**04 10 19.4**	**-0.1**
EHY				*e*S		**Sn**	**04 10 25.6**	**+0.6**
HWA	**Hwalien**	**0.40**	**349**	⇑*i*P		**Pb**	**04 10 20.3**	**0.0**
HWA				*e*S		**Sn**	**04 10 27.4**	**+0.8**
YULB	**Yu-li**	**0.41**	**242**	⇑*i*P		**Pb**	**04 10 20.3**	**0.0**
YULB				*e*S		**Sb**	**04 10 27.1**	**+0.3**
EYUL	**Yuli**	**0.41**	**235**	*e*P		**Pb**	**04 10 20.8**	**+0.4**
ETM	**Tongmen**	**0.42**	**335**	⇑*i*P		**Pb**	**04 10 20.2**	**-0.3**
ETM				*e*S		**Sb**	**04 10 26.9**	**-0.2**
TWF1	**Yuli**	**0.43**	**237**	⇑*i*P		**Pb**	**04 10 20.6**	**0.0**
TWF1				*e*S		**Sb**	**04 10 27.6**	**+0.4**
TWD	**Chiawan**	**0.50**	**350**	⇑*i*P		**Pb**	**04 10 21.1**	**-0.7**
TWD				*i* S		**Sb**	**04 10 29.0**	**-0.1**
FULB	**Fuli**	**0.53**	**223**	*e*P		**Pn**	**04 10 22.4**	**+0.2**
FULB				*e*S		**Sn**	**04 10 31.6**	**+1.7**
CHKT	**Chengkung**	**0.57**	**212**	⇑*i*P		**Pb**	**04 10 22.1**	**-0.5**
CHKT				*e*S		**Sb**	**04 10 30.6**	**-0.2**
ETL	**Fush Village**	**0.57**	**354**	*e*P		**Pn**	**04 10 21.9**	**-0.9**
ETL				*e*S		**Sb**	**04 10 30.7**	**-0.4**
NACB	**Ninganchiao**	**0.59**	**352**	⇑*i*P		**Pn**	**04 10 22.2**	**-0.8**
NACB				S		**Sn**	**04 10 30.6**	**-0.9**
OWD	**Renai**	**0.60**	**308**	⇑*i*P		**Pn**	**04 10 22.8**	**-0.4**
OWD				S		**Sb**	**04 10 30.7**	**-1.1**
EHD	**Haiduan**	**0.62**	**226**	⇓*e*P		**Pn**	**04 10 22.6**	**-0.8**
EHD				*e*S		**Sn**	**04 10 31.4**	**-0.7**
ETLH	**Xiulin Townshi**	**0.65**	**343**	*e*P		**Pn**	**04 10 22.9**	**-0.9**
ETLH				*e*S		**Sn**	**04 10 32.6**	**-0.4**
ECS	**Chishang**	**0.65**	**222**	*e*P		**Pn**	**04 10 23.9**	**+0.1**
ECS				*e*S		**Sn**	**04 10 33.5**	**+0.6**
WUSB	**Renai**	**0.66**	**308**	⇑*i*P		**Pn**	**04 10 23.8**	**-0.3**
WUSB				*e*S		**Sn**	**04 10 32.2**	**-1.1**
WHF	**Hehuan Shan**	**0.68**	**325**	⇑*i*P		**Pn**	**04 10 23.7**	**-0.9**
WHF				*e*S		**Sn**	**04 10 32.7**	**-1.5**
SSLB	**Suanglung**	**0.70**	**287**	⇓*i*P		**Pn**	**04 10 24.3**	**-0.3**
SSLB				*e*S		**Sn**	**04 10 33.3**	**-0.9**
EDH	**Donghe**	**0.70**	**210**	P		**Pn**	**04 10 24.1**	**-0.5**
EDH				*i* S		**Sn**	**04 10 34.3**	**0.0**
ELDTW	**Lidau**	**0.73**	**238**	⇓*i*P		**Pn**	**04 10 24.3**	**-0.8**
ELDTW				*e*S		**Sn**	**04 10 34.1**	**-1.0**
WHYT	**Xinyi Township**	**0.77**	**278**	⇓*e*P		**Pn**	**04 10 25.6**	**0.0**
WHYT				*i* S		**Sn**	**04 10 36.2**	**+0.2**
FUSS	**Fushou**	**0.78**	**329**	⇑P		**Pn**	**04 10 25.4**	**-0.4**
FUSS				*i* S		**Sn**	**04 10 35.5**	**-0.8**
SMLT	**Sun Moon Lake**	**0.78**	**293**	P		**Pn**	**04 10 25.7**	**-0.1**
SMLT				*i* S		**Sn**	**04 10 36.6**	**+0.3**
EOS4	**EOS4**	**0.79**	**47**	*e*P		**Pn**	**04 10 25.4**	**0.0**
ALS	**Alishan**	**0.81**	**265**	⇓*i*P		**Pn**	**04 10 26.7**	**+0.4**
ALS				*i* S		**Sn**	**04 10 37.9**	**+0.6**
TWT	**Tachien**	**0.81**	**325**	⇑*i*P		**Pn**	**04 10 26.3**	**0.0**
TWT				S		**Sn**	**04 10 36.6**	**-0.6**
TDCB	**Techi**	**0.82**	**324**	⇑*i*P		**Pn**	**04 10 26.3**	**-0.1**
TDCB				*i* S		**Sn**	**04 10 35.9**	**-1.5**
TYC	**Yuchr**	**0.82**	**293**	⇓P		**Pn**	**04 10 26.1**	**-0.2**
TYC				*i* S		**Sn**	**04 10 37.6**	**+0.4**
ENA	**Nanau**	**0.84**	**3**	*e*P		**Pn**	**04 10 25.7**	**-0.8**
NNSB	**Datong**	**0.89**	**342**	*e*P		**Pn**	**04 10 26.6**	**-0.6**
NNSB				*e*S		**Sn**	**04 10 37.6**	**-1.3**
EOS3	**EOS3**	**0.91**	**39**	*e*P		**Pn**	**04 10 27.6**	**+0.3**
WJS	**Zhushan**	**0.91**	**285**	*e*P		**Pn**	**04 10 28.1**	**+0.6**
WJS				S		**Sb**	**04 10 40.9**	**+0.6**
CHN5	**Tsauling**	**0.93**	**271**	⇓*i*P		**Pn**	**04 10 28.3**	**+0.6**
CHN5				*i* S		**Sb**	**04 10 41.2**	**+0.3**
LDUT	**Ludao**	**0.93**	**192**	*e*P		**Pn**	**04 10 26.4**	**-1.2**
STYH	**Taoyuan**	**0.93**	**244**	*e*P		**Pn**	**04 10 28.0**	**+0.3**
STYH				*e*S		**Sn**	**04 10 40.0**	**+0.1**
TWGBT	**Beinan**	**0.95**	**216**	*e*P		**Pn**	**04 10 26.9**	**-1.0**
TWG	**Pinlang**	**0.95**	**217**	*e*P		**Pn**	**04 10 27.1**	**-0.9**
TWG				*e*S		**Sn**	**04 10 39.3**	**-1.0**
LATG	**Datong**	**0.96**	**351**	*e*P		**Pn**	**04 10 27.6**	**-0.7**
WNT	**Mingjian**	**0.96**	**288**	⇓P		**Pn**	**04 10 28.9**	**+0.7**
WNT				*e*S		**Sb**	**04 10 42.0**	**+0.2**
WHP	**Taichung City**	**0.97**	**316**	*e*P		**Pn**	**04 10 28.9**	**+0.6**
EOS2	**EOS2**	**0.97**	**31**	*e*P		**Pn**	**04 10 28.8**	**+0.6**
WCKO	**Fanlu**	**1.00**	**262**	*e*P		**Pn**	**04 10 29.7**	**+1.0**
WCKO				S		**Sb**	**04 10 43.6**	**+0.6**
TPUB	**Ta-pu**	**1.01**	**254**	⇓P		**Pn**	**04 10 29.6**	**+0.7**
TPUB				*e*S		**Sb**	**04 10 43.5**	**+0.3**
CHN4	**Tsaushan**	**1.03**	**257**	P		**Pn**	**04 10 30.1**	**+1.0**
CHN4				*e*S		**Sb**	**04 10 44.5**	**+0.7**
TWC	**Suao**	**1.03**	**8**	*e*P		**Pn**	**04 10 29.2**	**+0.1**
TWC				*e*S		**Sn**	**04 10 42.4**	**0.0**
WGK	**Gukeng**	**1.04**	**276**	*e*P		**Pn**	**04 10 29.1**	**-0.1**
WGK				*e*S		**Sb**	**04 10 43.8**	**-0.1**
WTP	**Ta-pu**	**1.04**	**251**	⇓*i*P		**Pn**	**04 10 30.1**	**+0.9**
WTP				*e*S		**Sb**	**04 10 44.5**	**+0.4**
ENTT	**Nioudou**	**1.06**	**354**	*e*P		**Pn**	**04 10 29.1**	**-0.4**
WDLH	**Douliu**	**1.06**	**276**	*e*P		**Pn**	**04 10 30.2**	**+0.8**
WDLH				*i* S		**Sb**	**04 10 44.7**	**+0.2**
WDL	**Douliou City**	**1.06**	**277**	*e*P		**Pb**	**04 10 31.3**	**+0.4**
WDL				*e*S		**Sb**	**04 10 44.6**	**0.0**
TCU	**Taichung**	**1.08**	**301**	*e*P		**Pn**	**04 10 30.9**	**+1.1**
TCU				*e*S		**Sb**	**04 10 45.2**	**+0.1**
CHN2	**Minshiung**	**1.11**	**268**	*e*P		**Pb**	**04 10 31.6**	**-0.3**
CHN2				*e*S		**Sb**	**04 10 46.4**	**+0.3**
YHNB	**Yeheng**	**1.12**	**345**	P		**Pn**	**04 10 30.2**	**-0.2**
TWQ1	**Liyutan**	**1.13**	**312**	⇓*i*P		**Pn**	**04 10 31.3**	**+0.8**
TWQ1				*e*S		**Sb**	**04 10 46.2**	**-0.4**
TWE	**Neicheng**	**1.13**	**359**	*e*P		**Pn**	**04 10 30.4**	**-0.1**
CHN1	**Nanshi**	**1.14**	**250**	P		**Pn**	**04 10 31.6**	**+1.1**
CHN1				*i* S		**Sb**	**04 10 47.3**	**+0.5**
WCHH	**Zhanghua**	**1.15**	**296**	P		**Pn**	**04 10 31.8**	**+1.2**
TWK	**Hsinying**	**1.15**	**254**	*i* P		**Pn**	**04 10 31.6**	**+0.9**
TWK				*i* S		**Sb**	**04 10 47.2**	**+0.2**
SNST	**Tainan City**	**1.15**	**252**	*e*P		**Pb**	**04 10 33.4**	**+0.9**
SNST				*i* S		**Sb**	**04 10 47.1**	**-0.1**
WCH1	**Changhua City**	**1.15**	**295**	*e*P		**Pn**	**04 10 32.0**	**+1.3**
WCH1				*e*S		**Sb**	**04 10 47.9**	**+0.8**
CHY	**Chiayi**	**1.16**	**266**	*e*P		**Pn**	**04 10 31.8**	**+1.0**
CHY				*i* S		**Sb**	**04 10 47.2**	**-0.3**
NFF	**Wufeng Townshi**	**1.17**	**334**	*e*P		**Pn**	**04 10 31.6**	**+0.5**
NFF				*e*S		**Sn**	**04 10 46.0**	**+0.3**
NSY	**Sanyi**	**1.18**	**315**	*e*P		**Pb**	**04 10 32.7**	**-0.4**
NSY				*e*S		**Sb**	**04 10 48.2**	**+0.1**
ECL	**Taimali**	**1.19**	**215**	*e*P		**Pn**	**04 10 30.2**	**-1.2**
ECL				*e*S		**Sn**	**04 10 44.7**	**-1.6**
WTK	**Tuku**	**1.20**	**275**	*e*P		**Pn**	**04 10 31.9**	**+0.5**
WTK				*e*S		**Sb**	**04 10 48

2µm,0.3s,baz=258,slow=19,SNR=76
ATAH Atahualpa 3.24 323 P **Pn** 04 22 23.7 +2.6
645nm,0.5s,baz=151,slow=4.8,SNR=777
ATAH S **Sn** 04 23 00.7 +1.5
210nm,0.6s,baz=147,slow=22,SNR=8.7
CZSB Cruzeiro do Su 4.21 62 **Pn** 04 22 36.3 +2.5
CZSB Cruzeiro do Su 4.21 62 *eP* **Pn** 04 22 34.2 +0.4
TBTG Tabatinga, AM 8.53 50 **Pn** 04 23 33.7 +1.2
TBTG Tabatinga, AM 8.53 50 *eP* **Pn** 04 23 32.1 -0.4
OTAV Otavalo 10.13 349 **Pn** 04 23 55.9 +1.2
OTAV Otavalo 10.13 349 *eP* **Pn** 04 23 56.2 +1.5
LPAZ La Paz 10.38 130 **Pn** 04 23 59.0 +0.8
LPAZ La Paz 10.38 130 P **Pn** 04 23 58.4 +0.2
0.9nm,0.6s,baz=312,slow=9.5,SNR=9.0
LPAZ S **Sn** 04 25 55.2 +2.4
5.9nm,0.6s,baz=166,slow=7.6,SNR=2.3
LPAZ La Paz 10.38 130 *eP* **Pn** 04 24 01.2 +3.0
PB16 IPOC Station P 10.86 142 **Pn** 04 24 04.2 -0.5
FLOC Florencia 11.30 4 **Pn** 04 24 09.5 -0.7
TEFE Tefe 13.27 63 *eP* **Pn** 04 24 34.4 -1.9
ROSC El Rosal 14.66 8 P **Pn** 04 24 55.5 +0.9
3.7nm,0.4s,baz=112,slow=23,SNR=2.1
ROSC S **Sn** 04 27 38.1 +1.6
5.2nm,0.5s,baz=59,slow=20,SNR=1.4
RUSC La Rusia 15.91 12 **P** 04 25 13.5 +1.4
RUSC IAmb IAmb 04 25 30.8
comp=Z,15nm,0.5s
SIV San Ignacio 16.21 114 P **Pn** 04 25 14.0 +0.3
comp=Z,1.0nm,0.4s,baz=295,slow=12,SNR=8.1
SIV S **Sn** 04 28 11.3 -2.3
comp=Z,2.8nm,0.5s,baz=208,slow=22,SNR=2.1
VILB Vilhena 16.24 103 **Pn** 04 25 14.5 +0.3
VILB IAmb IAmb 04 25 57.2
comp=Z,38nm,1.3s
VILB Vilhena 16.24 103 *eP* **Pn** 04 25 13.5 -0.6
PTLB Pontes e Lacer 17.81 110 **P** 04 25 33.2 +0.6
PTLB Pontes e Lacer 17.81 110 *eP* **P** 04 25 32.9 +0.3
BCIP Isla Barro Col 19.10 350 P **P** 04 25 47.9 +1.1
BCIP IAmb IAmb 04 26 05.9
comp=Z,47nm,1.5s
PDRB Porto dos Gac 19.46 97 *eP* **P** 04 25 51.5 +0.7
BOAV Boa Vista 19.93 54 P **P** 04 25 56.4 +0.5
BOAV IAmb IAmb 04 26 00.5
comp=Z,18nm,0.9s
BOAV Boa Vista 19.93 54 *eP* **P** 04 25 54.9 -1.0
CLDB Colider 20.35 95 *eP* **P** 04 25 59.6 -0.7
BAUV El Baul 20.38 24 P **P** 04 26 02.3 +1.7
BAUV IAmb IAmb 04 26 44.3
comp=Z,24nm,0.8s
LCR2 La Lucha 2 20.78 339 P **P** 04 26 06.6 +1.4
LCR2 IAmb IAmb 04 26 10.2
comp=Z,12nm,0.7s
NPGB Novo Progresso 21.03 84 *eP* **P** 04 26 06.5 -1.3
SALV Santo Antonio 21.12 109 *eP* **P** 04 26 09.2 +0.5
ITTB Itaituba 21.23 77 *eP* **P** 04 26 09.6 -0.3
PCRV Puerto La Cruz 23.03 31 P **P** 04 26 29.2 +0.6
comp=Z,1.4nm,0.4s,baz=215,slow=12,SNR=2.0
comp=Z,1.4nm,0.4s
SNDB Serra Nova Dou 24.80 97 *eP* **P** 04 26 44.7 +0.1
CELP Cerrillos 29.32 19 P **P** 04 27 25.3 +0.2
SJG San Juan 29.50 20 P **P** 04 27 26.8 +0.1
TEIG Tepich 31.99 339 P **P** 04 27 48.8 +0.2
TEIG IAmb IAmb 04 27 49.6
comp=Z,15nm,1.0s
LRAL Lakeview Retre 43.73 347 P **P** 04 29 26.1 -1.0
LRAL IAmb IAmb 04 29 26.7
comp=Z,11nm,1.1s
HODGE Hodges 44.10 353 P **P** 04 29 29.1 -0.9
HODGE IAmb IAmb 04 29 54.2
comp=Z,9.8nm,1.4s
Y49A Blount Mountai 44.40 348 P **P** 04 29 30.9 -1.6
Y49A IAmb IAmb 04 29 31.2
comp=Z,4.5nm,0.6s
HNDO Hondo 44.84 331 P **P** 04 29 36.2 +0.2
FPAL Fort Paine 44.91 349 P **P** 04 29 35.1 -1.5
DRIO Del Rio 45.39 330 **P** 04 29 40.1 -0.4
DRIO IAmb IAmb 04 29 41.0
comp=Z,10nm,1.1s
W50A Signal Mountai 45.50 350 P **P** 04 29 40.0 -1.2
W50A IAmb IAmb 04 29 40.6
comp=Z,6.1nm,0.8s
HPIG 46.20 323 **P** 04 29 46.6 -0.5
Z38A Mt. Pleasant 46.28 338 P **P** 04 29 46.6 -0.8
Z38A IAmb IAmb 04 29 48.7
comp=Z,12nm,0.9s
SAND Sanderson 46.58 329 **P** 04 29 49.6 -0.3
TXAR Lajitas Array 46.90 327 P **P** 04 29 51.5 -0.9
TXAR Lajitas Array 46.90 327 P **P** 04 29 52.1 -0.3
comp=Z,2.6nm,0.6s,baz=150,slow=8.9,SNR=37
TXAR PcP **PcP** 04 31 22.9 -0.8
comp=Z,0.5nm,0.5s,baz=150,slow=2.8,SNR=6.0
comp=Z,2.6nm,0.6s
TX31 Lajitas Ar. Si 46.90 327 P **P** 04 29 51.6 -0.7
MIAR Mount Ida 46.96 341 **P** 04 29 51.5 -1.2
MIAR IAmb IAmb 04 29 53.0
comp=Z,7.1nm,0.8s
PLPT Palo Pinto 47.20 335 **P** 04 29 54.2 -0.3
PLPT IAmb IAmb 04 29 54.8
comp=Z,8.5nm,0.6s
ABTX Abilene, Hawle 47.61 333 **P** 04 29 57.3 -0.5
ABTX IAmb IAmb 04 29 58.4
comp=Z,12nm,0.9s
FCAR Ozark Folk Cen 47.75 343 P **P** 04 29 57.5 -1.2
LOOK Love County 47.76 337 P **P** 04 29 58.8 -0.1
MNHN Monahans 48.02 329 P **P** 04 30 00.4 -0.6
MNHN IAmb IAmb 04 30 01.6
comp=Z,8.0nm,0.6s
PBMO Poplar Bluff 48.12 345 P **P** 04 29 59.7 -1.9
PBMO IAmb IAmb 04 30 00.3
comp=Z,5.7nm,0.6s
APMT Aspermont 48.41 333 P **P** 04 30 03.8 -0.2
X34A Smith Ranch, M 48.55 336 P **P** 04 30 05.0 +0.1
PECS Pecos 48.61 328 P **P** 04 30 05.3 -0.2
PECS IAmb IAmb 04 30 05.9
comp=Z,3.3nm,0.6s
VHRN Van Horn 48.74 327 **P** 04 30 06.3 -0.4
VHRN IAmb IAmb 04 30 07.3
comp=Z,5.7nm,0.9s
POST Post 48.83 332 P **P** 04 30 06.7 -0.4
TUL3 Leonard 48.95 339 **P** 04 30 07.4 -0.6
U38A Gravette 48.96 341 **P** 04 30 07.3 -0.7
U38A IAmb IAmb 04 30 08.1
comp=Z,7.5nm,0.9s
MGMO Mountain Grove 48.97 343 **P** 04 30 06.8 -1.4
MGMO IAmb IAmb 04 30 07.4
comp=Z,5.1nm,0.8s
WMOK Wichita Mounta 49.05 336 P **P** 04 30 08.4 -0.4
DKNS Dickens 49.06 333 P **P** 04 30 07.8 -1.1
DKNS IAmb IAmb 04 30 09.5
comp=Z,9.8nm,0.9s
OK052 Battle Ridge R 49.39 338 P **P** 04 30 10.2 -1.1
CLN7 Carlsbad 7 49.41 329 P **P** 04 30 11.6 -0.1
OK029 Liberty Lake 49.46 337 P **P** 04 30 10.6 -1.3
CSTR Hydro, Custer 49.81 336 **P** 04 30 13.9 -0.6
SMWD Samnorwood 49.98 334 **P** 04 30 15.2 -0.7
T35A Sooner Cattle 50.11 339 **P** 04 30 16.2 -0.6
O48B Farmland 50.41 351 P **P** 04 30 17.3 -1.6
N47A Urbana 51.11 351 P **P** 04 30 22.2 -1.9
319A Douglas 51.60 324 **P** 04 30 27.8 -0.4
121A Cookes Peak, D 51.61 326 P **P** 04 30 27.3 -1.0
121A IAmb IAmb 04 30 29.2
comp=Z,4.8nm,0.8s
R32A Long Quarter, 52.25 338 **P** 04 30 31.9 -0.9
ANMO Albuquerque 52.76 329 P **P** 04 30 36.6 -0.3
TUC Tucson 53.16 323 P **P** 04 30 39.3 -0.4
T25A Trinidad 53.52 332 **P** 04 30 41.2 -1.2
SDCO Great Sand Dun 54.52 332 **P** 04 30 48.2 -1.6
SDCO IAmb IAmb 04 30 50.4
comp=Z,7.7nm,0.9s
X16A Lo Mia Camp, P 55.05 325 **P** 04 30 52.8 -0.7
WUAZ Wupatki 55.81 326 **P** 04 30 58.4 -0.5
WUAZ IAmb IAmb 04 31 01.6
comp=Z,4.5nm,0.9s
ISCO Idaho Springs 56.24 333 **P** 04 31 01.0 -1.1
PV01 Paradox Valley 56.31 330 P **P** 04 31 01.7 -0.8
PV01 IAmb IAmb 04 31 03.2
comp=Z,4.4nm,0.8s
ECSD EROS Data Cent 56.31 343 IAmb IAmb 04 31 01.4
comp=Z,5.3nm,0.8s
PV15 Paradox Valley 56.43 330 P **P** 04 31 02.3 -1.0
PV15 IAmb IAmb 04 31 04.2
comp=Z,7.5nm,0.9s
PV02 Paradox Valley 56.45 330 P **P** 04 31 01.8 -1.7
PV13 Radium Mtn., P 56.45 330 P **P** 04 31 02.4 -1.1
PV13 IAmb IAmb 04 31 04.0
comp=Z,6.4nm,0.8s
PV05 Paradox Valley 56.53 329 P **P** 04 31 03.0 -1.1
PV05 IAmb IAmb 04 31 04.4
comp=Z,4.9nm,1.0s
PV03 Paradox Valley 56.54 330 P **P** 04 31 03.1 -1.0
PV03 IAmb IAmb 04 31 04.5
comp=Z,2.8nm,0.8s
PV18 Skein Mesa, Pa 56.56 330 IAmb IAmb 04 31 04.7
comp=Z,9.0nm,1.0s
PV12 Saucer Basin, 56.57 330 IAmb IAmb 04 31 05.6
comp=Z,7.1nm,1.1s
W13A Hualapai Mount 56.95 324 **P** 04 31 06.2 -0.9
IRM Iron Mountain 57.06 322 **P** 04 31 07.2 -0.5
IRM IAmb IAmb 04 31 08.7
comp=Z,3.9nm,0.9s
HMU Henry Mountain 57.27 328 IAmb IAmb 04 31 14.1
comp=Z,2.3nm,0.6s
DANC Danby, Needles 57.53 322 P **P** 04 31 10.2 -0.7
KNB Kanab 57.71 326 **P** 04 31 11.2 -1.1
KNB IAmb IAmb 04 31 14.4
comp=Z,3.5nm,0.8s
O20A White River Ci 57.71 331 **P** 04 31 12.2 -0.1
O20A IAmb IAmb 04 31 12.9
comp=Z,5.6nm,1.0s
PKCU Pink Cliffs 57.74 327 **P** 04 31 12.6 -0.1
PKCU IAmb IAmb 04 31 14.1
comp=Z,10nm,1.3s
LCMT Little Creek M 57.94 326 P **P** 04 31 12.8 -1.1
P18A Preston Nutter 58.29 330 P **P** 04 31 15.9 -0.6
P18A IAmb IAmb 04 31 18.1
comp=Z,4.1nm,1.1s
P17A Butcher Ranch, 58.42 329 P **P** 04 31 16.2 -1.1
P17A IAmb IAmb 04 31 17.7
comp=Z,2.9nm,0.8s
SHPR Sheep Range 58.67 324 P **P** 04 31 18.3 -0.8
BSUT Blindstream Ca 59.24 330 **P** 04 31 22.4 -0.8
BSUT IAmb IAmb 04 31 23.7
comp=Z,4.0nm,0.8s
PSUT Pine Spring 59.37 326 IAmb IAmb 04 31 25.1
comp=Z,3.3nm,0.6s
WCT Wildcat Mounta 59.73 323 IAmb IAmb 04 31 27.4
comp=Z,4.1nm,1.1s
PDAR Pinedale Array 60.39 332 P **P** 04 31 30.0 -0.8
PDAR Pinedale Array 60.39 332 P **P** 04 31 29.8 -1.1
comp=Z,1.3nm,0.6s,baz=125,slow=8.6,SNR=16
comp=Z,1.3nm,0.6s
HWUT Hardware Ranch 60.45 330 P **P** 04 31 30.5 -0.6
HWUT IAmb IAmb 04 31 31.2
comp=Z,5.9nm,0.8s
DSP Deep Springs 60.91 323 P **P** 04 31 34.1 0.0
TPH Tonopah 60.94 324 IAmb IAmb 04 31 35.0
comp=Z,4.6nm,1.2s
LOHW Long Hollow 61.53 332 IAmb IAmb 04 31 38.6
comp=Z,2.8nm,0.7s
NVAR Mina Array Bea 61.81 324 P **P** 04 31 40.7 +0.2
comp=Z,1.1nm,0.8s,baz=137,slow=6.3,SNR=8.9
comp=Z,1.1nm,0.8s
HULI Fort Hunter Li 62.06 320 P **P** 04 31 41.4 -0.5
WELL Weller Preserv 63.26 322 IAmb IAmb 04 31 51.0
comp=Z,4.4nm,1.0s
BOZ Bozeman (W) 63.53 333 IAmb IAmb 04 31 52.0
comp=Z,4.3nm,0.8s
DLMT Dillon 63.79 332 IAmb IAmb 04 31 53.8
comp=Z,4.1nm,0.8s
MFID Camas Ranch 63.91 329 IAmb IAmb 04 31 55.1
comp=Z,7.6nm,0.8s
BEKR Beckworth 63.96 324 IAmb IAmb 04 31 55.7
comp=Z,4.5nm,1.0s
MSO Missoula 65.51 333 IAmb IAmb 04 32 05.2
comp=Z,6.4nm,0.8s
F10A Beach Ranch, E 66.43 330 IAmb IAmb 04 32 11.5
comp=Z,3.5nm,0.6s
PINE Pine Mountain 66.86 326 IAmb IAmb 04 32 14.9
comp=Z,7.4nm,1.0s
E09A Wood Farm, Sta 67.27 330 IAmb IAmb 04 32 16.2
comp=Z,4.7nm,0.8s
KSXB Camp Six Broad 67.27 323 IAmb IAmb 04 32 16.4
comp=Z,7.0nm,0.7s
WAH2 Wahluke Slope 68.14 330 IAmb IAmb 04 32 22.1
comp=Z,4.5nm,0.9s
B08A Colville Reser 69.13 331 IAmb IAmb 04 32 27.5
comp=Z,5.0nm,0.7s
QSPA South Pole Qui 80.36 180 P **P** 04 33 33.1 +1.2
comp=Z,1.5nm,0.9s,baz=159,slow=1.1,SNR=8.9
comp=Z,1.5nm,0.9s
TORD Torodi Ar. Bea 80.84 75 P **P** 04 33 35.0 -0.2
comp=Z,0.9nm,0.9s,baz=252,slow=3.8,SNR=7.9
comp=Z,0.9nm,0.9s
ESDC Sonseca Array 83.00 48 P **P** 04 33 45.8 -0.3
comp=Z,0.4nm,0.5s,baz=235,slow=5.4,SNR=6.2
comp=Z,0.4nm,0.5s
ILAR Eielson Array 90.62 336 P **P** 04 34 21.1 -1.5
comp=Z,0.5nm,0.8s,baz=141,slow=1.7,SNR=8.0
comp=Z,0.5nm,0.8s
BVAR Borovoye Array 129.25 25 PKP **PKPdf** 04 40 27.2 -1.2
comp=Z,0.5nm,0.5s,baz=337,slow=2.2,SNR=1.9
ZALV Zalesovo Beam 133.44 15 PKP **PKPdf** 04 40 34.7 -1.5
comp=Z,1.3nm,0.4s,baz=0.0,slow=1.5,SNR=4.9
KURBB Kurchatov Arra 134.33 22 PKP **PKPdf** 04 40 37.4 -0.6
comp=Z,0.9nm,0.6s,baz=321,slow=2.4,SNR=9.7
WRA Warramunga Arr 137.69 226 PKP **PKPdf** 04 40 43.9 -1.3
comp=Z,0.2nm,0.3s,baz=122,slow=2.1,SNR=4.8
MKAR Makanchi Array 138.90 22 PKP **PKPdf** 04 40 45.6 -1.0
comp=Z,0.4nm,0.7s,baz=315,slow=3.1,SNR=3.7
SONM Songino Array 141.98 357 PKhKP PKPpre 04 40 46.8
comp=Z,0.3nm,0.4s,baz=17,slow=1.5,SNR=2.6
KSRS Korea Array 144.74 325 PKP **PKPab** 04 40 55.4 -0.9
comp=Z,8.4nm,0.7s,baz=54,slow=3.9,SNR=23

*IDC **29** 04:42:25.5±1.7,37.79N×29.69E,h0km,mb3.5/2, mbtmp3.5/4,ML3.2/2,MS3.0/1,Error ellipse: s-maj=43.8km s-min=20.9km az=144.0*
*ISK **29** 04:42:26.6,37.87N×29.65E,h7km,ML3.1/22*
*AFAD **29** 04:42:27.2,37.83N×29.58E,h7km±3km, ML3.1*
ISC 29 04:42:27.0±1.0,37.84N±0.02×29.64E±0.02,h9km±7km, n35,σ0°57/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.14**	**202**	P	**Pg**		**04 42 30.0**	**-0.1**
INCE				S	**Sg**		**04 42 33.0**	**+0.7**
INCE				*i*	IAML		04 42 33.0	
	comp=N,6µm,0.6s							
INCE				*i*	IAML		04 42 33.0	
	comp=E,5µm,0.8s							
BASM	**Basmaki-Afyon**	**0.33**	**76**	Pg	**Pg**		**04 42 32.9**	**-0.6**
BASM				Sg	**Sg**		**04 42 38.2**	**+0.3**
APMY	**Acipayam-Deniz**	**0.46**	**216**	Pg	**Pg**		**04 42 35.7**	**-0.2**
APMY				Sg	**Sb**		**04 42 43.9**	**-0.3**
KHL	**Karahalli**	**0.49**	**349**	Pg	**Pg**		**04 42 36.1**	**-0.4**
DNIZ	**Denizli-Tavas-**	**0.53**	**246**	P	**Pg**		**04 42 37.4**	**+0.2**
DNIZ				S	**Sb**		**04 42 45.5**	**-0.7**
DNIZ				*i*	IAML		04 42 46.0	
	comp=N,3µm,0.4s							
GOLH	**Golhisar**	**0.61**	**186**	P	**Pg**		**04 42 38.5**	**-0.2**
GOLH				S	**Sb**		**04 42 48.5**	**0.0**
GOLH				*i*	IAML		04 42 57.0	
	comp=N,1µm,1.1s							
GOLH				*i*	IAML		04 43 00.0	
	comp=E,985nm,1.0s							
TAVA	**DENIZLI_Tavas**	**0.69**	**237**	P	**Pg**		**04 42 39.9**	**-0.3**
TAVA				S	**Sg**		**04 42 49.4**	**+0.1**
ISP	**Isparta**	**0.70**	**91**	Pg	**Pg**		**04 42 40.1**	**-0.3**
ISP				Sg	**Sb**		**04 42 50.9**	**-0.2**
DNZT	**Denizli-Tavas-**	**0.75**	**221**	P	**Pg**		**04 42 40.7**	**-0.6**
DNZT				S	**Sg**		**04 42 51.3**	**+0.2**
CAEL	**Denizli, Camel**	**0.76**	**200**	P	**Pb**		**04 42 42.6**	**+0.1**
CAEL				S	**Sb**		**04 42 52.7**	**-0.3**
CAEL				*i*	IAML		04 42 58.0	
	comp=E,788nm,0.6s							
CAEL				*i*	IAML		04 43 07.0	
	comp=N,808nm,1.3s							
CAME	**Cameli-Denizli**	**0.94**	**197**	Pg	**Pb**		**04 42 45.3**	**-0.2**
CAME				Sg	**Sn**		**04 42 59.4**	**-0.7**
KORT	**Korkueli**	**1.01**	**146**	Pg	**Pb**		**04 42 46.6**	**-0.1**
KULA	**Kula-Manisa**	**1.03**	**311**	Pg	**Pg**		**04 42 46.6**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.08**	**277**	Pg	**Pg**		**04 42 47.5**	**-0.1**
SABU	**Mula-Dalaman**	**1.15**	**208**	P	**Pn**		**04 42 49.4**	**+0.1**
SABU				S	**Sb**		**04 43 04.2**	**+0.1**
MULA	**Mugla, Merkez-**	**1.20**	**241**	P	**Pb**		**04 42 49.8**	**-0.1**
MULA				S	**Sn**		**04 43 07.6**	**+1.0**
GEDZ	**Gediz**	**1.22**	**351**	Pn	**Pg**		**04 42 49.8**	**-0.5**
SHAP	**Saphane-Kutahy**	**1.23**	**344**	Pn	**Pg**		**04 42 49.9**	**-0.6**
ANTB	**Antalya**	**1.24**	**139**	Pn	**Pn**		**04 42 50.9**	**+0.5**
ODEM	**Odemis-Izmir**	**1.31**	**290**	Pn	**Pn**		**04 42 51.6**	**0.0**
SMAA	**Simav-Kutahya**	**1.36**	**338**	Pn	**Pb**		**04 42 52.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.39**	**275**	Pn	**Pg**		**04 42 53.3**	**-0.3**
TURN	**Turunc**	**1.54**	**227**	Pn	**Pb**		**04 42 55.5**	**-0.2**
GORD	**Gordes-Manisa**	**1.57**	**313**	Pn	**Pn**		**04 42 55.4**	**+0.3**
TVSB	**Tavsanli**	**1.61**	**355**	Pn	**Pn**		**04 42 55.8**	**0.0**
SEYD	**Seydisehir-KON**	**1.80**	**103**	Pn	**Pn**		**04 42 58.7**	**+0.4**
GCAM	**G?zelcaml?**	**1.92**	**267**	Pn	**Pn**		**04 43 00.8**	**+1.0**
DAT	**Datca**	**1.99**	**237**	Pn	**Pn**		**04 43 01.9**	**+1.0**
ARG	**Arkhangelos**	**2.03**	**217**	Pn	**Pb**		**04 43 02.6**	**-1.4**
BLCB	**Balcova**	**2.12**	**286**	Pn	**Pn**		**04 43 03.4**	**+0.8**
BRTR	**Keskin Array B**	**3.65**	**58**	Pn	**Pn**		**04 43 24.7**	**+1.0**
	0.5nm,0.3s,baz=235,slow=16,SNR=12							
BRTR				Pn		**Sn**	**04 44 08.7**	**+1.7**
	0.9nm,0.3s,baz=234,slow=28,SNR=9.4							
	3.6nm,0.7s							
MMAI	**Mount Meron Ar**	**6.73**	**134**	Pn	**Pn**		**04 44 06.1**	**+0.1**
	2.1nm,0.3s,baz=311,slow=13,SNR=12							
	5.0nm,0.5s							
HFS	**Hagfors**	**24.51**	**341**	LR	LR		04 58 09.5	
	comp=Z,33nm,18.2s,baz=59,slow=38							
TORD	**Torodi Ar. Bea**	**34.98**	**233**	P	**P**		**04 49 19.3**	**-0.4**
	0.8nm,0.7s,baz=35,slow=9.7,SNR=5.2							
	0.8nm,0.7s							
MKAR	**Makanchi Array**	**39.29**	**60**	P	**P**		**04 49 55.9**	**-0.2**
	0.3nm,0.5s,baz=269,slow=7.1,SNR=2.8							
	0.3nm,0.5s							

*KRSC **29** 05:38:48.2±3.0,48.88N×155.05E,h164km±36km,Ml3.8*
*IDC **29** 05:38:50.2±8.5,49.31N×153.83E,h138km±52km,mb3.2/6, mbtmp3.6/7,Error ellipse: s-maj=109.8km s-min=23.1km az=175.0*
ISC 29 05:38:50.7±2.0,49.3N±0.3×154.1E±0.2,h150km,n28, σ1°22/22,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.93**	**42**	*eP*		**Pn**	**05 39 25.2**	**+0.3**
PAU	**Pauzhetka**	**2.81**	**37**	*eP*		**Pn**	**05 39 35.2**	**-0.4**
PAU				*eS*		**Sn**	**05 40 10.2**	**-0.1**
MIPR	**Malaya Ipel'ka**	**3.46**	**28**	*eP*		**Pn**	**05 39 43.3**	**-0.5**
ASAK	**Asacha**	**3.95**	**36**	*eP*		**Pn**	**05 39 49.8**	**-0.5**
MTVR	**Mutnovka**	**4.14**	**37**	*eP*		**Pn**	**05 39 52.3**	**-0.5**
MTVR				*eS*		**Sn**	**05 40 40.4**	**-0.7**
GRL	**Goreliy**	**4.15**	**36**	*eP*		**Pn**	**05 39 53.3**	**+0.4**
KRMR	**Karymshinskiy**	**4.39**	**34**	*eP*		**Pn**	**05 39 55.8**	**-0.1**
PETK	**Petropavlovsk-**	**4.47**	**29**	P		**Pn**	**05 39 56.9**	**-0.1**
	12nm,0.7s,baz=201,slow=13,SNR=32							
KOK	**Koryaka**	**4.94**	**34**	*eP*		**Pn**	**05 40 03.8**	**+0.5**
UGLR	**Uglovaya**	**4.95**	**35**	*eP*		**Pn**	**05 40 05.5**	**+2.1**
SMAR	**Somma**	**4.98**	**35**	*eP*		**Pn**	**05 40 06.1**	**+2.2**
KRX	**Arik**	**5.00**	**33**	*eP*		**Pn**	**05 40 04.1**	**0.0**
SDLR	**Sedlovina**	**5.02**	**35**	*eP*		**Pn**	**05 40 04.0**	**-0.4**
GNL	**Ganaly**	**5.05**	**27**	*eP*		**Pn**	**05 40 05.0**	**+0.3**
SPN	**Mys Shipunski**	**5.36**	**42**	*eP*		**Pn**	**05 40 06.7**	**-1.9**
MKZ	**Mys Kozlova**	**7.10**	**39**	*eP*		**Pn**	**05 40 28.8**	**-3.0**
H11N2	**WAKE ISLAND Hy**	**31.21**	**156**	T		T	06 17 15.0	
	baz=340,slow=74							
H11N1	**WAKE ISLAND Hy**	**31.22**	**156**	T		T	06 17 02.1	
	baz=340,slow=74							
H11N3	**WAKE ISLAND Hy**	**31.22**	**156**	T		T	06 17 17.0	
	baz=340							
H11S1	**WAKE ISLAND Hy**	**32.33**	**157**	T		T	06 18 48.3	
	baz=344,slow=76,SNR=39							
H11S3	**WAKE ISLAND Hy**	**32.34**	**157**	T		T	06 18 32.8	
	baz=344,slow=76,SNR=47							
H11S2	**WAKE ISLAND Hy**	**32.34**	**157**	T		T	06 18 48.8	
	baz=344,slow=76,SNR=33							
ILAR	**Eielson Array**	**34.20**	**41**	P		**P**	**05 45 22.2**	**+0.9**
	0.9nm,0.7s,baz=270,slow=8.1,SNR=16							
	0.9nm,0.7s							
MKAR	**Makanchi Array**	**46.40**	**296**	P		**P**	**05 47 00.9**	**-0.9**
	0.4nm,0.6s,baz=82,slow=12,SNR=3.7							
	0.4nm,0.6s							
YKA	**Yellowknife Ar**	**48.53**	**38**	P		**P**	**05 47 19.4**	**+1.4**
	0.9nm,0.7s,baz=299,slow=7.7,SNR=6.4							
	0.9nm,0.7s							
BVAR	**Borovoye Array**	**49.79**	**308**	P		**P**	**05 47 27.3**	**-0.3**
	0.5nm,0.4s,baz=56,slow=5.4,SNR=2.1							
	0.5nm,0.4s							
PDAR	**Pinedale Array**	**62.76**	**55**	P		P	05 49 01.6	+1.6
	0.3nm,0.6s,baz=288,slow=1.4,SNR=4.4							
	0.3nm,0.6s							
TXAR	**Lajitas Array**	**75.71**	**62**	P		P	05 50 21.3	+1.6
	0.2nm,0.6s,baz=319,slow=6.6,SNR=4.3							
	0.2nm,0.6s							

DJA 29 06:14:12.9±1.5,3°S±10°×14°3E±°,h17km±16km,M4.8/6, mb5.0/2,MLv4.7/6,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.80**	**285**	P		Pn	06 14 57.6	+0.6
JAY				S		Sn	06 15 31.6	+1.1
GENI	**Genyem**	**3.31**	**281**	P		Pn	06 15 04.2	+0.3
GENI				S		Sn	06 15 42.2	-0.6
SMPI	**Sarmi**	**4.86**	**285**	P		Pn	06 15 25.1	-0.2
SMPI				S		Sn	06 16 22.4	+1.1

*NOU **29** 06:17:41.8,35.15S×179.87E,h0km,MLv3.9/7, Off E. Coast of N. Island, N.Z.*
*WEL **29** 06:17:43.6±1.1,35°S±6°×18°E±°,h12km,M3.9/12, ML4.0/14,MLv3.9/12,Error ellipse: s-maj=12.1km s-min=7.2km az=89.7,confirmed*
ISC 29 06:17:42.8±3.9,35.0S±0.1×179.9W±0.2,h35km,n26, σ0°73/36,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.90**	**209**	P		**Pn**	**06 18 27.1**	**+0.7**
MXZ	**Matakaoa Point**	**2.90**	**209**	S		**Sn**	**06 19 01.0**	**+0.9**
MXZ	**Matakaoa Point**	**2.90**	**209**	P		**Pn**	**06 18 27.2**	**+0.7**
MXZ				S		**Sn**	**06 19 00.9**	**+0.9**
WMGZ	**Waiomatatini S**	**3.09**	**205**	P		**Pn**	**06 18 30.3**	**+1.2**
PKGZ	**Pakihiroa**	**3.25**	**209**	P		**Pn**	**06 18 31.1**	**-0.2**
PKGZ				S		**Sn**	**06 19 09.3**	**+0.5**
HAZ	**Te Kaha**	**3.29**	**214**	P		**Pn**	**06 18 30.9**	**-0.9**
PUZ	**Puketiti**	**3.37**	**205**	P		**Pn**	**06 18 33.0**	**+0.1**
PUZ				S		**Sn**	**06 19 11.6**	**0.0**
RUGZ	**Raukumara Rang**	**3.51**	**213**	P		**Pn**	**06 18 35.4**	**+0.4**
RUGZ				S		**Sn**	**06 19 15.2**	**0.0**
TKGZ	**Te Karaka**	**3.84**	**207**	P		**Pn**	**06 18 40.1**	**+0.8**
TKGZ				S		**Sn**	**06 19 24.6**	**+1.3**
KUZ	**Kuaotunu**	**3.93**	**243**	P		**Pn**	**06 18 40.9**	**+0.3**
KUZ	**Kuaotunu**	**3.93**	**243**	S		**Sn**	**06 19 25.5**	**0.0**
KUZ	**Kuaotunu**	**3.93**	**243**	P		**Pn**	**06 18 40.2**	**-0.4**
KUZ				S		**Sn**	**06 19 24.4**	**-1.1**
URZ	**Urewera**	**4.01**	**216**	P		**Pn**	**06 18 41.3**	**-0.4**
URZ	**Urewera**	**4.01**	**216**	P		**Pn**	**06 18 41.5**	**-0.2**
RAGZ	**Rawiri**	**4.06**	**211**	P		**Pn**	**06 18 43.0**	**+0.5**
RIGZ	**Rimuhau**	**4.11**	**206**	P		**Pn**	**06 18 43.2**	**+0.1**
RIGZ				S		**Sn**	**06 19 29.7**	**-0.2**
PRGZ	**Paritu Road**	**4.26**	**204**	P		**Pn**	**06 18 44.3**	**-0.8**
PRGZ				S		**Sn**	**06 19 32.9**	**-0.8**
SNGZ	**Shannon Statio**	**4.34**	**210**	P		**Pn**	**06 18 47.0**	**+0.8**
SNGZ				S		**Sn**	**06 19 34.7**	**-0.9**
MUGZ	**Murupara**	**4.34**	**217**	P		**Pn**	**06 18 46.0**	**-0.3**
MUGZ				S		**Sn**	**06 19 35.6**	**-0.1**
MHGZ	**Mahia Peninsul**	**

GENI				S		Sb	06 29 28.3	+1.2
JAY	**Jayapura**	**1.68**	**109**	Pn		**Pn**	**06 29 15.9**	**-0.7**
	9.2nm,0.3s,baz=242,slow=12,SNR=42							
JAY				Sn		**Sn**	**06 29 36.9**	**-0.3**
	32nm,0.3s,baz=138,slow=16,SNR=13							
JAY	**Jayapura**	**1.68**	**109**	P		**Pn**	**06 29 16.1**	**-0.5**
WAMI	**Wamena**	**1.96**	**192**	P		**Pb**	**06 29 23.3**	**-0.8**
SRPI	**Serui, Papua**	**2.88**	**272**	P		**Pn**	**06 29 33.4**	**+0.2**
SRPI				S		**Sn**	**06 30 08.2**	**+1.3**
BAKI	**Biak**	**3.11**	**284**	P		**Pn**	**06 29 36.2**	**-0.1**
SWI	**Sorong**	**7.93**	**278**	P		**Pn**	**06 30 43.1**	**+0.5**
WRA	**Warramunga Arr**	**18.47**	**194**	P		**P**	**06 33 01.8**	**-1.1**
	0.8nm,0.3s,baz=18,slow=12,SNR=11							
WRA				S		Sn	06 36 18.2	-11
	1.1nm,0.8s,baz=14,slow=22,SNR=3.7 2.1nm,0.5s							
FITZ	**Fitzroy Crossi**	**20.79**	**219**	P		**P**	**06 33 28.2**	**0.0**
	1.7nm,0.8s,baz=46,slow=11,SNR=1.5 1.7nm,0.8s							
ASAR	**Alice Springs**	**22.16**	**193**	P		**P**	**06 33 42.7**	**-0.3**
	1.7nm,0.5s,baz=23,slow=10,SNR=22 1.7nm,0.5s							
JCJ	**Chichijima**	**29.04**	**6**	LR		LR	06 45 01.8	
	comp=Z,12nm,20.0s,baz=126,slow=34							
STKA	**Stephens Creek**	**29.85**	**176**	P		**P**	**06 34 54.9**	**+0.8**
	0.9nm,0.5s,baz=354,slow=10,SNR=3.0 0.9nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**33.90**	**52**	T		T	07 11 10.0	
	baz=236,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**33.91**	**52**	T		T	07 11 07.6	
	baz=236,slow=76,SNR=13							
H11S1	**WAKE ISLAND Hy**	**33.91**	**52**	T		T	07 11 12.1	
	baz=236,slow=76,SNR=9.2							
MKAR	**Makanchi Array**	**69.45**	**322**	P		**P**	**06 39 55.1**	**+0.2**
	0.4nm,0.7s,baz=124,slow=7.7,SNR=3.9 0.4nm,0.7s							

JMA ***29*** *06:34:21.7±0.4,23˚N±1˚×12˚4E±˚, h28km±4km, MV3.1/11, NEAR ISHIGAKIJIMA ISLAND*

ISC 29 06:34:21.8±2.2,23˚45N±0˙09×124˚24E±0˙07, h26km±15km, n15,σ0s56/20, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.72**	**327**	*e*P		**Pb**	**06 34 35.3**	**-0.4**
HATJ				*e*S		**Sb**	**06 34 45.0**	**-0.3**
JKRS	**Kuro-shima**	**0.81**	**345**	*e*P		**Pb**	**06 34 37.4**	**+0.2**
JKRS				*e*S		**Sb**	**06 34 48.1**	**+0.3**
JIJ	**Ishigaki jima**	**0.91**	**354**	*e*P		**Pn**	**06 34 38.6**	**-0.3**
IRIF	**Iriomote-Funau**	**0.99**	**332**	*e*P		**Pn**	**06 34 40.1**	**0.0**
IRIF				*e*S		**Sn**	**06 34 53.0**	**-0.3**
JISG	**Ishigakijimahi**	**1.13**	**3**	*e*P		**Pn**	**06 34 41.9**	**-0.1**
JISG				*e*S		**Sn**	**06 34 57.0**	**+0.3**
JTJ	**Tarama**	**1.26**	**20**	*e*P		**Pb**	**06 34 44.6**	**-0.3**
JTJ				*e*S		**Sb**	**06 35 01.1**	**+0.5**
YOJ	**Yonaguni jima**	**1.51**	**312**	P		**Pn**	**06 34 47.4**	**+0.3**
YOJ	**Yonaguni jima**	**1.51**	**312**	*e*P		**Pn**	**06 34 47.6**	**+0.5**
JOGS	**Gusukube**	**1.68**	**39**	*e*S		**Sb**	**06 35 12.8**	**0.0**
NACB	**Ninganchiao**	**2.53**	**287**	P		**Pn**	**06 35 01.2**	**+0.1**
YULB	**Yu-li**	**2.70**	**269**	P		**Pn**	**06 35 02.9**	**-0.7**
YHNB	**Yeheng**	**2.88**	**295**	P		**Pn**	**06 35 06.7**	**+0.6**
SSLB	**Suanglung**	**3.03**	**277**	P		**Pn**	**06 35 09.1**	**+1.0**
TPUB	**Ta-pu**	**3.32**	**268**	P		**Pn**	**06 35 13.1**	**+1.0**
TPUB	**Ta-pu**	**3.32**	**268**	S		**Sn**	**06 35 49.8**	**-0.9**

JSN ***29*** *06:35:47.9±0.4, 18˚24N×76˚47W, h8km±5km, MD2.7*
SSNC ***29*** *06:35:47.3±1.2, 18˚27N×76˚47W, h2km±5km, MD3.3, ML1.6*

ISC 29 06:35:42.7±1.7,18˚29N±0˙06×76˚41W±0˙06, h9km±13km, n15,σ0s73/24, 2C-4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GWJ	**Greenwich**	**0.37**	**235**	*i* P		**Pn**	**06 35 53.9**	**-0.5**
HOJ	**Hope**	**0.43**	**229**	⇓*i* P		**Pn**	**06 35 54.7**	**-0.4**
STH	**Stony Hill**	**0.43**	**241**	*e*P		**Pn**	**06 35 54.8**	**-0.4**
STH				*e*S		**Sb**	**06 35 59.8**	**+0.5**
STH	**Stony Hill**	**0.43**	**241**	⇓*i*P		**Pn**	**06 35 54.9**	**-0.3**
MTDJ	**Mount Denham**	**1.07**	**267**	*e*P		**Pn**	**06 36 05.2**	**+1.1**
MTDJ				*e*S		**Sn**	**06 36 18.9**	**-0.2**
MTDJ	**Mount Denham**	**1.07**	**267**	*i* P		**Pn**	**06 36 05.8**	**+1.8**
CHIV	**Chivirico**	**1.68**	**360**	⇑*e*P		**Pg**	**06 36 15.0**	**0.0**
CHIV				⇑*e*S		**Sb**	**06 36 35.6**	**+0.5**
CHIV				IAML			06 36 37.6	
	comp=N,2.9nm,0.1s							
CHIV				IAML			06 36 37.7	
	comp=E,2.9nm,0.1s							
MARVS	**Santiago de Cu**	**1.77**	**16**	*e*P		**Pg**	**06 36 17.2**	**+0.4**
MARVS				*e*S		**Sg**	**06 36 38.9**	**-0.8**
MARVS				IAML			06 36 40.6	
	comp=N,2.2nm,0.1s							
MARVS				IAML			06 36 41.0	
	comp=E,2.5nm,0.1s							
RCC	**Rio Carpintero**	**1.83**	**22**	*e*P		**Pg**	**06 36 17.9**	**+0.1**
RCC				⇓*e*S		**Sb**	**06 36 39.8**	**+0.4**
RCC				IAML			06 36 42.2	
	comp=E,2.1nm,0.1s							
RCC				IAML			06 36 42.3	
	comp=N,2.6nm,0.1s							
LMGC	**Las Mercedes**	**1.86**	**342**	*e*P		**Pb**	**06 36 16.8**	**0.0**
LMGC				*e*S		**Sn**	**06 36 37.3**	**-1.0**
LMGC				IAML			06 36 40.5	
	comp=N,29nm,0.1s							
LMGC				IAML			06 36 40.7	
	comp=E,20nm,0.0s							
PILO	**Pilon**	**1.87**	**330**	*e*P		**Pb**	**06 36 16.7**	**-0.4**
PILO				*e*S		**Sn**	**06 36 38.1**	**-0.6**
PILO				IAML			06 36 40.5	
	comp=N,7.7nm,0.2s							
PILO				IAML			06 36 40.6	
	comp=E,5.3nm,0.1s							
GTBY	**Guantanamo Bay**	**2.04**	**37**	*e*P		**Pb**	**06 36 21.3**	**+1.3**
GTBY				⇓*e*S		**Sb**	**06 36 45.5**	**0.0**
GTBY				IAML			06 36 50.3	
	comp=E,5.2nm,0.3s							
GTBY				IAML			06 36 50.6	
	comp=E,2.7nm,0.2s							
PINC	**Pinares de May**	**2.27**	**15**	*e*P		**Pb**	**06 36 23.5**	**-0.3**
QMBU	**Quimbuelo**	**2.43**	**38**	*e*P		**Pb**	**06 36 26.0**	**-0.6**
QMBU				*e*S		**Sn**	**06 36 52.3**	**-0.2**
QMBU				IAML			06 36 55.8	
	comp=E,3.4nm,0.2s							
QMBU				IAML			06 36 57.0	
	comp=N,4.3nm,0.2s							
HLGC	**Holguin**	**2.61**	**7**	*e*P		**Pb**	**06 36 29.3**	**-0.4**

ASRS ***29*** *07:15:29.0±0.6,53˚67N×86˚84E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 07:15:30.8±2.9,53˚77N×86˚98E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.9km s-min=16.5km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**279**	I		I	07 24 05.0	
	baz=100,slow=316,SNR=8.5							
ZALV	**Zalesovo Beam**	**1.29**	**279**	Pg		Pg	07 15 54.8	-0.8
	1.6nm,0.3s,baz=98,slow=16,SNR=16							
ZALV				Lg		Lg	07 16 12.1	
	1.2nm,0.3s,baz=93,slow=27,SNR=6.3							
KURBB	**Kurchatov Arra**	**6.08**	**242**	Pn		Pn	07 17 03.0	+1.2
	0.1nm,0.3s,baz=58,slow=14,SNR=1.6							
KURBB				Lg		Lg	07 18 45.0	
	0.1nm,0.3s,baz=60,slow=30,SNR=2.2 0.4nm,0.3s							
MKAR	**Makanchi Array**	**7.60**	**205**	Pn		Pn	07 17 23.8	+1.0
	0.1nm,0.3s,baz=24,slow=13,SNR=2.9							
MKAR				Lg		Lg	07 19 33.2	
	baz=23,slow=30,SNR=1.6 0.2nm,0.4s							

CATAC ***29*** *07:20:31.2±0.9, 13˚N±5˚×9˚0W±˚, h16km±8km, M3.2/13, MLv3.2/13, Error ellipse: s-maj=9.8km s-min=7.6km az=12.8, confirmed*
SNET ***29*** *07:20:32.0±1.0, 13˚21N×89˚94W, h29km±4km, ML3.0*
GCG ***29*** *07:20:32.2±1.0, 13˚24N×90˚04W, h26km±6km, MD3.9, ML2.9*

ISC 29 07:20:31.9±2.9,13˚2N±0˙1×89˚95W±0˙10, h25km±15km, n47,σ0s40/53, 5C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FAME	**Alcaldia de Sa**	**0.65**	**354**	P		**Pb**	**07 20 44.7**	**0.0**
JAYA	**Jayaque - finc**	**0.67**	**46**	⇑*e*P		**Pn**	**07 20 45.5**	**-0.5**
JAYA				*e*S		**Sn**	**07 20 55.1**	**-0.7**
JAYA	**Jayaque - finc**	**0.67**	**46**	*e*P		**Pn**	**07 20 45.5**	**-0.5**
JAYA				*e*S		**Sn**	**07 20 55.9**	**+0.2**
JAYA	**Jayaque - finc**	**0.67**	**46**	P		**Pn**	**07 20 45.4**	**-0.5**
LALI	**Alcalda de L**	**0.68**	**64**	*e*P		**Pb**	**07 20 45.2**	**+0.1**
LALI	**Alcalda de L**	**0.68**	**64**	*e*P		**Pb**	**07 20 45.2**	**+0.1**
LALI				IAML			07 20 58.0	
	comp=E,89nm,0.1s							
CEVE	**Cerro Verde**	**0.71**	**26**	*e*P		**Pn**	**07 20 46.2**	**-0.4**
SBLS	**San Blas**	**0.72**	**26**	⇑*e*P		**Pn**	**07 20 46.3**	**-0.4**
NUBE	**Las Nubes**	**0.72**	**13**	⇑*i*P		**Pn**	**07 20 46.2**	**-0.5**
NUBE				*e*S		**Sn**	**07 20 56.6**	**-0.5**
NUBE	**Las Nubes**	**0.72**	**13**	*e*P		**Pn**	**07 20 46.2**	**-0.5**
NUBE				⇓*i*S		**Sn**	**07 20 56.7**	**-0.5**
NUBE	**Las Nubes**	**0.72**	**13**	P		**Pb**	**07 20 46.1**	**+0.1**
SNJE	**San Jose**	**0.75**	**26**	⇑*i*P		**Pn**	**07 20 46.8**	**-0.4**
RTR	**El Retiro**	**0.76**	**23**	*e*P		**Pn**	**07 20 47.1**	**-0.2**
PMON	**Piamonte**	**0.80**	**50**	*e*P		**Pb**	**07 20 47.4**	**+0.1**
PMON	**Piamonte**	**0.80**	**50**	P		**Pb**	**07 20 47.3**	**-0.1**
PMON	**Piamonte**	**0.80**	**50**	S		**Sn**	**07 20 59.7**	**+0.7**
CEDA	**San Andres**	**0.81**	**41**	*e*P		**Pn**	**07 20 47.7**	**-0.2**
LOAL	**Lomas de Alarc**	**0.82**	**11**	*e*P		**Pn**	**07 20 48.0**	**+0.1**
BOQS	**Boqueron**	**0.84**	**50**	*e*P		**Pn**	**07 20 48.5**	**+0.1**
BOQS				*e*S		**Sn**	**07 21 00.2**	**0.0**
SLOZ	**Alcaldia de Sa**	**0.84**	**11**	*e*P		**Pn**	**07 20 48.2**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.84**	**11**	P		**Pn**	**07 20 48.2**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.84**	**11**	S		**Sn**	**07 21 00.7**	**+0.7**
UEES	**Universidad Ev**	**0.86**	**53**	*e*P		**Pb**	**07 20 48.0**	**-0.3**
UEES	**Universidad Ev**	**0.86**	**53**	P		**Pb**	**07 20 48.1**	**-0.3**
UEES	**Universidad Ev**	**0.86**	**53**	S		**Sn**	**07 21 01.3**	**+0.8**
UNIC	**Universidad Ca**	**0.88**	**26**	P		**Pb**	**07 20 48.4**	**-0.1**
LOMA	**Loma Larga**	**0.88**	**59**	*e*P		**Pb**	**07 20 48.2**	**-0.4**
LOMA	**Loma Larga**	**0.88**	**59**	P		**Pb**	**07 20 48.2**	**-0.4**
LOMA	**Loma Larga**	**0.88**	**59**	S		**Sn**	**07 21 00.8**	**-0.1**
LFRS	**El Faro**	**0.96**	**63**	⇑*e*P		**Pn**	**07 20 49.5**	**-0.4**
LFRS				*e*S		**Sb**	**07 21 02.6**	**+0.2**
LFU	**La Fuente**	**0.98**	**55**	*e*P		**Pn**	**07 20 50.0**	**-0.2**
LBRS	**Las Brisas**	**1.03**	**58**	*e*P		**Pn**	**07 20 50.8**	**-0.1**
PAVA	**Las Pavas**	**1.11**	**62**	*e*P		**Pb**	**07 20 52.3**	**-0.2**
PAVA	**Las Pavas**	**1.11**	**62**	P		**Pn**	**07 20 52.0**	**0.0**
TECO	**Alcaldia de Te**	**1.19**	**73**	*e*P		**Pn**	**07 20 52.3**	**-0.7**
TECO	**Alcaldia de Te**	**1.19**	**73**	P		**Pn**	**07 20 52.3**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.29**	**67**	*e*P		**Pn**	**07 20 54.7**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.29**	**67**	P		**Pn**	**07 20 54.7**	**+0.3**
MTO3	**Montecristo**	**1.33**	**25**	*e*P		**Pn**	**07 20 55.5**	**+0.3**
MTO3	**Montecristo**	**1.33**	**25**	*i* P		**Pn**	**07 20 55.5**	**+0.3**
MTO3	**Montecristo**	**1.33**	**25**	P		**Pn**	**07 20 55.4**	**+0.3**
LLGN	**La Laguna**	**1.37**	**45**	P		**Pn**	**07 20 55.8**	**+0.2**
PQSS	**Presa 15 de Se**	**1.42**	**72**	*e*P		**Pn**	**07 20 56.2**	**+0.1**
PQSS	**Presa 15 de Se**	**1.42**	**72**	P		**Pn**	**07 20 56.2**	**+0.1**
ESQI	**Esquipulas**	**1.48**	**23**	*e*P		**Pn**	**07 20 57.7**	**+0.5**
ESQI	**Esquipulas**	**1.48**	**23**	P		**Pn**	**07 20 57.7**	**+0.5**
PACA	**Pacayal**	**1.60**	**80**	P		**P**	**07 20 59.4**	**+0.6**

IDC ***29*** *07:30:35.8±0.8,25˚84N×99˚93E, h0km, mb3.9/14, mbtmp3.9/15, ML4.1/1, MS3.3/14, Error ellipse: s-maj=28.3km s-min=14.8km az=68.0*

ISC 29 07:30:37.8±0.7,25˚73N±0˙08×100˚12E±0˙07, h10km, n32, σ1s89/23, mb4.0/16, MS3.3/13, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNCH	**TengChong**	**1.60**	**244**	Pg		**Pn**	**07 31 07.0**	**+0.6**
TNCH				Sg		**Sn**	**07 31 29.5**	**+2.3**
TNCH				smax	smax			
	comp=N,4μm,0.8s							
TNCH				smax	smax			
	comp=E,3μm,0.6s							
TNCH				LR	LR			
	comp=N,4μm,2.2s							
TNCH				LR	LR			
	comp=E,3μm,2.0s							
PZH	**PanZhiHua**	**1.65**	**62**	Pg		**Pn**	**07 31 05.5**	**-1.5**
PZH				Sg		**Sn**	**07 31 27.8**	**-0.6**
PZH				smax	smax			
	comp=N,2μm,1.1s							
PZH				smax	smax			
	comp=E,3μm,0.8s							
CD2	**Chengdu**	**6.08**	**31**	Pn		**Pn**	**07 32 09.0**	**+1.2**
CD2				Pg		**Pb**	**07 32 25.3**	**+1.5**
CD2				Sg		**Sb**	**07 33 42.3**	**+5.6**
CD2				smax	smax			
	comp=N,110nm,0.8s							
CD2				smax	smax			
	comp=E,150nm,1.5s							
CMAR	**Chiang Mai Arr**	**7.32**	**189**	Pn		**Pn**	**07 32 26.1**	**+1.2**
	comp=E,0.8nm,0.3s,baz=13,slow=12,SNR=6.0							
CMAR				Lg		Lg	07 34 32.6	
	comp=E,1.2nm,0.3s,baz=3.0,slow=30,SNR=5.3							
CMAR				LR		LR	07 35 53.3	
	comp=E,81nm,18.3s,baz=0.0,slow=43 comp=E,1.7nm,0.4s							
LZH	**Lanzhou**	**10.81**	**16**	*e*P		**Pn**	**07 33 14.5**	**+1.7**
LZH				pmax	pmax			
	comp=Z,23nm,0.7s							
LZH				LR	LR			
	comp=N,690nm,9.2s							
LZH				LR	LR			
	comp=E,790nm,8.9s							
LZH				LR	LR			
	comp=Z,690nm,10.8s							
XLT	**XiLinHaoTe**	**22.30**	**32**	*e*P		**P**	**07 35 34.8**	**-0.6**
XLT				sP	sP		07 35 43.0	+2.3
XLT				pmax	pmax			
	comp=Z,7.0nm,0.5s							
XLT				pmax	pmax			
	comp=Z,66nm,4.9s							
SONM	**Songino Array**	**22.61**	**11**	P		**P**	**07 35 38.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=202,slow=11,SNR=4.3							
SONM				LR		LR	07 45 12.4	
	comp=Z,108nm,19.9s,baz=200,slow=39 comp=Z,0.9nm,0.6s							
KSH	**Kashi**	**24.45**	**310**	P		**P**	**07 35 57.5**	**+0.5**
KSH				pmax	pmax			
	comp=Z,7.0nm,0.7s							
JOW	**Kunigami**	**25.25**	**81**	LR		LR	07 47 08.7	
	comp=Z,87nm,18.4s,baz=246,slow=39							
MKAR	**Makanchi Array**	**25.35**	**331**	P		**P**	**07 36 04.1**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=134,slow=11,SNR=30 comp=Z,4.1nm,0.7s							
PALK	**Pallekele**	**26.07**	**229**	LR		LR	07 49 38.8	
	comp=Z,75nm,18.1s,baz=38,slow=44							
KSRS	**Korea Array**	**26.32**	**57**	P		**P**	**07 36 13.8**	**0.0**
	comp=Z,1.2nm,0.8s,baz=232,slow=9.8,SNR=1.8 comp=Z,1.2nm,0.8s							
JNU	**Nakatsue**	**27.72**	**67**	LR		LR	07 47 33.6	
	comp=Z,50nm,19.0s,baz=296,slow=37							
KURBB	**Kurchatov Arra**	**29.88**	**332**	P		**P**	**07 36 44.2**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=145,slow=9.6,SNR=6.0 comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**30.40**	**342**	P		**P**	**07 36 48.2**	**-1.8**
	comp=Z,2.7nm,0.4s,baz=156,slow=8.9,SNR=12 comp=Z,2.7nm,0.4s							
MJAR	**Matsushiro Arr**	**34.14**	**62**	LR		LR	07 51 21.1	
	comp=Z,28nm,20.4s,baz=218,slow=36							
BVAR	**Borovoye Array**	**35.19**	**329**	P		**P**	**07 37 30.4**	**-1.5**
	comp=Z,2.5nm,0.5s,baz=124,slow=9.4,SNR=12 comp=Z,2.5nm,0.5s							
YAK	**Yakutsk**	**41.35**	**21**	LR		LR	07 55 35.6	
	comp=Z,20nm,18.7s,baz=60,slow=36							
GUMO	**Guam**	**43.65**	**97**	LR		LR	07 57 05.4	
	comp=Z,11nm,20.2s,baz=144,slow=36							
MA2	**Magadan**	**48.49**	**32**	LR		LR	08 01 23.5	
	comp=Z,30nm,18.3s,baz=254,slow=38							
WRA	**Warramunga Arr**	**56.27**	**140**	P		**P**	**07 40 19.4**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=329,slow=7.7,SNR=7.2							
WRA				LR		LR	08 07 25.1	
	comp=Z,94nm,18.3s,baz=216,slow=39 comp=Z,1.5nm,0.7s							
BRTR	**Keskin Array B**	**56.46**	**302**	P		**P**	**07 40 18.3**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=112,slow=11,SNR=2.4 comp=Z,0.6nm,0.6s							
AKASG	**Malin Array**	**58.60**	**315**	P		P	07 40 32.1	-2.7
	comp=Z,0.4nm,0.4s,baz=77,slow=6.9,SNR=2.6 comp=Z,0.4nm,0.4s							
ASAR	**Alice Springs**	**59.01**	**143**	P		**P**	**07 40 38.9**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=325,slow=6.6,SNR=3.8 comp=Z,0.6nm,0.9s							
FINES	**FINESS Array B**	**60.14**	**328**	P		**P**	**07 40 43.1**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=71,slow=6.4,SNR=1.1 comp=Z,0.8nm,0.7s							
SHEM	**Shemya Is, Ala**	**60.39**	**42**	LR		LR	08 08 01.7	
	comp=Z,17nm,18.8s,baz=292,slow=37							
ARCES	**ARCESS Array B**	**60.77**	**337**	P		**P**	**07 40 47.5**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=84,slow=10,SNR=5.5 comp=Z,1.6nm,0.7s							
HFS	**Hagfors**	**66.30**	**327**	LR		LR	08 12 46.1	
	comp=Z,36nm,18.6s,baz=87,slow=38							
NOA	**NORSAR Array B**	**67.32**	**328**	P		P	07 41 29.5	-3.3
	comp=Z,0.7nm,0.7s,baz=76,slow=6.3,SNR=2.4 comp=Z,0.7nm,0.7s							
GERES	**GERESS Array B**	**68.81**	**315**	P		**P**	**07 41 41.0**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=73,slow=6.9,SNR=3.7 comp=Z,0.4nm,0.3s							
STKA	**Stephens Creek**	**69.64**	**143**	LR		LR	08 18 33.1	
	comp=Z,46nm,18.5s,baz=33,slow=41							
INK	**Inuvik**	**78.34**	**18**	LR		LR	08 22 00.6	
	comp=Z,29nm,18.1s,baz=356,slow=39							

ASRS ***29*** *07:30:40.0±0.6,54˚38N×86˚83E, h0km, M2.8, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC ***29*** *07:30:43.4±2.8,54˚32N×86˚79E, h0km, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=23.1km s-min=14.5km az=67.0*

ISC 29 07:30:45.7±3.7,54˚3N±0˙2×86˚5E±0˙2, h0km, n5,σ0s89/6, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**253**	I		I	07 39 20.0	
	baz=68,slow=318,SNR=8.4							
ZALV	**Zalesovo Beam**	**1.05**	**253**	Pg		**Pg**	**07 31 05.0**	**-0.8**
	2.1nm,0.3s,baz=67,slow=16,SNR=14							
ZALV				Lg		Lg	07 31 22.8	
	2.1nm,0.3s,baz=74,slow=32,SNR=6.4							
KURBB	**Kurchatov Arra**	**6.10**	**237**	Pn		**Pn**	**07 32 17.1**	**+0.1**
	0.1nm,0.3s,baz=54,slow=14,SNR=1.4							
KURBB				Sn		**Sn**	**07 33 28.6**	**+1.2**
	0.1nm,0.3s,baz=56,slow=25,SNR=1.7							
KURBB				Lg		Lg	07 34 03.5	
	baz=54,slow=30,SNR=5.5 2.1nm,0.5s							
MKAR	**Makanchi Array**	**7.95**	**202**	Pn		**Pn**	**07 32 42.8**	**+0.3**
	baz=23,slow=13,SNR=3.0							
MKAR				Sn		**Sn**	**07 34 12.6**	**-0.4**
	0.1nm,0.3s,baz=23,slow=28,SNR=3.9							
MKAR				Lg		Lg	07 34 58.9	
	baz=15,slow=29,SNR=3.0 0.2nm,0.4s							
BVAR	**Borovoye Array**	**9.67**	**269**	Pn		**Pn**	**07 33 06.0**	**+0.2**
	baz=78,slow=13,SNR=2.6 0.5nm,0.4s							

IDC 29 07:44:01.1±3.3,12˚93S×167˚61E, h590km±108km, mb3.4/3, mbtmp4.5/4, Error ellipse: s-maj=121.1km s-min=57.0km az=96.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.16**	**187**	P		P	07 46 11.4	0.0
	8.2nm,0.8s,baz=30,slow=20,SNR=14							
STKA	**Stephens Creek**	**30.43**	**227**	P		P	07 49 26.6	-0.4
	1.8nm,0.5s,baz=69,slow=10,SNR=8.5 1.8nm,0.5s							
WRA	**Warramunga Arr**	**32.62**	**253**	P		P	07 49 45.9	0.0
	3.7nm,0.3s,baz=83,slow=8.6,SNR=38							
WRA				S		S	07 54 21.1	-0.1
	0.9nm,0.9s,baz=88,slow=14,SNR=3.1 3.7nm,0.3s							
ASAR	**Alice Springs**	**33.65**	**247**	P		P	07 49 54.4	-0.2
	6.1nm,0.5s,baz=76,slow=8.9,SNR=135							
ASAR				S		S	07 54 37.6	+0.8
	1.0nm,0.8s,baz=70,slow=16,SNR=6.5 6.1nm,0.5s							

ASRS ***29*** *07:59:17.0±1.5,53˚76N×91˚11E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 07:59:22.2±3.8,53˚86N×90˚93E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=29.6km s-min=24.8km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.62**	**274**	I		I	08 23 50.0	
	baz=90,slow=325,SNR=7.2							
ZALV	**Zalesovo Beam**	**3.62**	**274**	Pg		Pb	08 00 26.2	-0.7
	0.4nm,0.3s,baz=91,slow=14,SNR=8.0							
ZALV				Lg		Lg	08 01 17.5	
	0.8nm,0.3s,baz=90,slow=26,SNR=7.4							
KURBB	**Kurchatov Arra**	**8.27**	**252**	Pn		Pn	08 01 23.4	+0.2
	0.1nm,0.3s,baz=66,slow=14,SNR=5.0							
KURBB				Sn		Sn	08 02 55.5	-1.8
	baz=67,slow=26							
KURBB				Lg		Lg	08 03 44.1	
	0.1nm,0.3s,baz=66,slow=34,SNR=2.2 0.6nm,0.

JKHN	**Kushirohamanak**	**2.08**	**240**	*e*P		**Pn**	**08 07 00.0**	**+0.7**
JKHN				*e*S		**Sn**	**08 07 24.1**	**-1.0**
JNK	**Nakash**	**2.17**	**256**	P		**Pn**	**08 07 01.6**	**+1.0**
JNK				*e*S		**Sn**	**08 07 27.2**	**-0.1**
AKK	**Akkeshi**	**2.31**	**241**	*i* P		**Pn**	**08 07 03.1**	**+0.6**
AKK				*e*S		**Sn**	**08 07 29.4**	**-1.5**
JAK	**Akkeshi**	**2.42**	**242**	S		**Sn**	**08 07 31.8**	**-1.6**
JTKR	**Abashiri--Toko**	**2.67**	**267**	*e*P		**Pn**	**08 07 08.2**	**+0.7**
JAR	**Ashorobuto**	**2.91**	**254**	P		**Pn**	**08 07 12.5**	**+1.7**
JOB	**Onbets**	**3.02**	**247**	P		**Pn**	**08 07 13.6**	**+1.4**
JOB				*e*S		**Sn**	**08 07 48.1**	**-0.2**
JMP	**Maruseppu**	**3.06**	**269**	P		**Pn**	**08 07 13.4**	**+0.4**
JCH	**Churui**	**3.46**	**245**	*e*P		**Pn**	**08 07 19.9**	**+1.6**
JKK2	**Kamakawa 2**	**3.52**	**267**	*e*P		**Pn**	**08 07 20.1**	**+0.9**
JNBK	**Urakawa-nobuka**	**4.01**	**244**	P		**Pn**	**08 07 26.8**	**+0.8**

IDC ***29*** *08:21:51.7±8.6, 47°.44N×152°.18E, h133km±57km, mb3.2/5, mbtmp3.5/6, Error ellipse: s-maj=94.8km s-min=24.6km az=179.0*

ISC 29 08:21:50.3±2.3**, 47°.3N**±0°.4×**152°.2E**±0°.2**, h124**km**, n15, σ0s19/6, mb3.4/5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.78**	**29**	P	**Pn**	**08 23 27.3**	**+0.1**
	1.0nm,0.5s,baz=215,slow=10,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**30.04**	**151**	T	T	08 59 22.7	
	baz=340,slow=75,SNR=115						
H11N1	**WAKE ISLAND Hy**	**30.05**	**151**	T	T	08 59 23.4	
	baz=340,slow=75,SNR=97						
H11N3	**WAKE ISLAND Hy**	**30.05**	**151**	T	T	08 59 22.3	
	baz=340,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**31.12**	**153**	T	T	09 00 45.7	
	baz=341,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**31.13**	**153**	T	T	09 00 46.4	
	baz=341,slow=76,SNR=95						
H11S2	**WAKE ISLAND Hy**	**31.14**	**153**	T	T	09 00 47.1	
	baz=341,slow=76,SNR=86						
ILAR	**Eielson Array**	**36.50**	**39**	P	**P**	**08 28 42.9**	**-0.2**
	0.4nm,0.9s,baz=276,slow=8.5,SNR=4.3						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**46.10**	**296**	P	**P**	**08 30 01.8**	**+0.1**
	0.4nm,0.6s,baz=76,slow=7.7,SNR=3.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.60**	**303**	P	**P**	**08 30 05.5**	**+0.1**
	0.4nm,0.7s,baz=70,slow=8.6,SNR=1.6						
	0.4nm,0.7s						
HFS	**Hagfors**	**67.68**	**339**	P	**P**	**08 32 33.4**	**-0.1**
	0.6nm,0.4s,baz=62,slow=7.2,SNR=7.4						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**77.76**	**60**	P	**P**	**08 33 33.9**	**+0.1**
	0.5nm,0.7s,baz=305,slow=4.3,SNR=9.2						
	0.5nm,0.7s						
H03N2	**Juan Fernandez**	**139.39**	**89**	T	T	11 16 45.9	
	baz=306						
H03N1	**Juan Fernandez**	**139.41**	**89**	T	T	11 16 45.1	
	baz=306,slow=74						
H03N3	**Juan Fernandez**	**139.41**	**89**	T	T	11 16 40.8	
	baz=306,slow=74						

IDC 29 08:23:31.8±3.5**, 25°.96N**×**142°.64E, h0**km**, mb3.7**/4**, mbtmp3.7**/4**, MS3.5**/1**, Error ellipse: s-maj=172.7km s-min=28.4km az=80.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**23.18**	**101**	T	T	08 52 24.3	
	baz=291,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**23.18**	**101**	T	T	08 52 13.0	
	baz=291,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**23.20**	**101**	T	T	08 52 22.3	
	baz=291,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**23.44**	**104**	T	T	08 52 42.7	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**23.45**	**104**	T	T	08 52 48.5	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**23.46**	**104**	T	T	08 52 50.3	
	baz=294						
WRA	**Warramunga Arr**	**46.34**	**191**	P	P	08 31 59.2	-0.5
	1.5nm,0.8s,baz=11,slow=8.5,SNR=7.3						
WRA				LR	LR	08 50 32.8	
	comp=Z,54nm,18.3s,baz=338,slow=35						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**50.06**	**190**	P	P	08 32 28.9	+0.4
	0.4nm,0.9s,baz=16,slow=11,SNR=3.3						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**54.12**	**315**	P	P	08 32 58.6	+0.1
	0.3nm,0.3s,baz=92,slow=7.9,SNR=2.4						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**79.14**	**334**	P	P	08 35 37.9	-0.2
	0.7nm,0.5s,baz=48,slow=4.1,SNR=3.8						
	0.7nm,0.5s						

ASRS ***29*** *08:30:32.0±1.3, 54°.64N×86°.36E, h0km, M2.6, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 08:30:34.8±3.3**, 54°.57N**×**86°.31E, h0**km**, mbtmp3.0**/2**, ML2.8**/2**, Error ellipse: s-maj=25.1km s-min=14.9km az=51.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**235**	I	I	08 38 20.0	
	baz=53,slow=313,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.08**	**235**	Pg	Pg	08 30 54.6	-0.9
	1.5nm,0.3s,baz=51,slow=16,SNR=12						
ZALV				Lg	Lg	08 31 10.7	
	5.9nm,0.3s,baz=54,slow=29,SNR=25						
KURBB	**Kurchatov Arra**	**6.17**	**233**	Pn	Pn	08 32 08.2	+1.0
	0.1nm,0.3s,baz=46,slow=13,SNR=8.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.20**	**200**	Pn	Pn	08 32 35.5	+0.6
	0.2nm,0.3s,baz=23,slow=14,SNR=3.3						
MKAR				Sn	Sn	08 34 07.0	-1.2
	0.1nm,0.3s,baz=14,slow=25,SNR=2.0						
MKAR				Lg	Lg	08 34 53.9	
	0.2nm,0.3s,baz=19,slow=30,SNR=1.6						
	0.2nm,0.3s						

ASRS ***29*** *08:39:32.0±1.1, 53°.68N×86°.86E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 29 08:39:33.2±2.7**, 53°.68N**×**86°.99E, h0**km**, mbtmp2.7**/2**, ML2.3**/2**, Error ellipse: s-maj=22.6km s-min=15.7km az=76.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**283**	I	I	08 47 50.0	
	baz=100,slow=316,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.32**	**283**	Pg	Pg	08 39 56.6	-1.8
	1.1nm,0.3s,baz=100,slow=15,SNR=9.0						
ZALV				Lg	Lg	08 40 15.8	
	1.8nm,0.3s,baz=102,slow=29,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.04**	**243**	Pn	Pn	08 41 04.6	+0.9
	0.1nm,0.3s,baz=56,slow=13,SNR=5.7						
KURBB				Sn	Sn	08 42 13.9	+0.4
	baz=61,slow=23,SNR=1.5						
KURBB				Lg	Lg	08 42 42.0	
	baz=62,slow=33,SNR=7.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.52**	**205**	Pn	Pn	08 41 25.9	+1.7
	0.1nm,0.3s,baz=24,slow=13,SNR=2.8						
MKAR				Lg	Lg	08 43 28.5	
	0.1nm,0.3s,baz=24,slow=30,SNR=1.6						
	0.2nm,0.4s						

NEIC ***29*** *08:39:35.8±1.7, 35°.10N±0°.01×96°.32W±0°.02, h3km±5km, Error ellipse: s-maj=2.3km s-min=1.6km az=81.0*

NEIC 29 08:39:35.6±1.7**, 35°.09N**±0°.01×**96°.30W**±0°.02**, h5**km±1km**, mb_Lg2.9**/116**, ML3.0**/17**, ML3.2**/32**, Error ellipse: s-maj=3.0km s-min=2.9km az=114.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEOK	**Depew**	**0.77**	**348**		Pg	08 39 50.2	-0.2
DEOK					Sg	08 40 00.8	+0.4
TUL3	**Leonard**	**0.92**	**27**		Pg	08 39 52.8	-0.5
TUL3					Sg	08 40 05.7	+0.4
TUL3				IAML		08 40 06.1	
	615nm,0.3s						

OKCSW	**OKLAHOMA CITY**	**0.98**	**289**		Pg		08 39 54.0	-0.4
OKCSW					Sg		08 40 07.6	+0.4
OK052	**Battle Ridge R**	**0.99**	**336**		Pg		08 39 53.7	-0.9
OK052					Sg		08 40 07.7	+0.2
OK052				IAML			08 40 10.5	
	713nm,0.3s							
OK052				IAML			08 40 10.6	
	533nm,0.2s							
OKCFA	**Oklahoma City**	**0.99**	**289**		Pg		08 39 54.5	-0.1
OKCFA					Sg		08 40 08.0	+0.4
ADOK	**Arcadia Dam**	**1.04**	**303**		Pg		08 39 54.2	-1.4
OK004	**Okla Sci Mus**	**1.05**	**295**		Pg		08 39 55.7	0.0
OK004					Sg		08 40 09.8	+0.4
QUOK	**Quay**	**1.13**	**343**		Pg		08 39 56.4	-0.9
QUOK					Sg		08 40 12.0	0.0
QUOK				IAML			08 40 14.6	
	comp=E,754nm,0.3s							
QUOK				IAML			08 40 16.9	
	comp=N,711nm,0.3s							
OK029	**Liberty Lake**	**1.18**	**307**		Pg		08 39 57.5	-0.7
OK029					Sg		08 40 13.2	-0.3
OK029				IAML			08 40 15.2	
	comp=N,461nm,0.3s							
OK029				IAML			08 40 15.3	
	comp=N,515nm,0.3s							
LOOK	**Love County**	**1.31**	**214**		Pn		08 40 00.5	-0.1
LOOK				IAML			08 40 20.5	
	comp=E,405nm,0.6s							
LOOK				IAML			08 40 20.5	
	comp=N,465nm,0.3s							
X34A	**Smith Ranch, M**	**1.35**	**249**		Pn		08 40 00.7	-0.4
RLO	**Rose Lookout**	**1.50**	**44**		Pn		08 40 03.3	+0.1
BLOK	**Blackwell**	**1.82**	**336**		Pn		08 40 08.0	+0.3
BLOK				IAmb_Lg			08 40 36.5	
	comp=Z,63nm,0.7s							
T35A	**Sooner Cattle**	**1.83**	**355**		Pn		08 40 08.4	+0.6
Z35A	**Perchaven, San**	**1.92**	**204**		Pn		08 40 09.6	+0.6
Z35A				IAmb_Lg			08 40 40.4	
	comp=Z,91nm,1.1s							
CSTR	**Hydro, Custer**	**2.03**	**287**		Pn		08 40 11.1	+0.6
U38A	**Gravette**	**2.06**	**49**		Pn		08 40 11.8	+0.8
WMOK	**Wichita Mounta**	**2.07**	**261**		Pn		08 40 11.6	+0.7
Z38A	**Mt. Pleasant**	**2.13**	**149**		Pn		08 40 13.0	+1.2
Z38A				IAmb_Lg			08 40 45.3	
	comp=Z,60nm,0.8s							
KAN13	**South Haven SW**	**2.14**	**334**		Pb		08 40 13.9	-1.1
WTFS	**Witchita Falls**	**2.22**	**234**		Pn		08 40 14.3	+1.2
WTFS				IAmb_Lg			08 40 48.6	
	comp=Z,33nm,0.7s							
KAN14	**Manchester OK**	**2.30**	**325**		Pn		08 40 15.7	+1.5
MIAR	**Mount Ida**	**2.31**	**103**		Pb		08 40 16.3	-1.5
MIAR				IAmb_Lg			08 40 54.0	
	comp=Z,34nm,0.7s							
FW06	**Azle**	**2.35**	**207**		Pn		08 40 16.6	+1.7
TREL	**Terrell**	**2.36**	**176**		Pn		08 40 14.9	-0.1
KAN01	**Argonia South**	**2.37**	**331**		Pn		08 40 16.5	+1.3
OK038	**West end E0370**	**2.42**	**306**		Pn		08 40 15.6	-0.2
FW03	**Perrin-Whitt E**	**2.51**	**216**		Pb		08 40 19.7	-1.5
FW03					Sb		08 40 52.9	+0.4
KAN08	**Anthony NE Sta**	**2.52**	**328**		Pn		08 40 18.1	+0.9
ELIS	**Ellis County**	**2.72**	**292**	Pn	Pn		08 40 19.6	-0.4
ELIS				IAmb_Lg			08 41 03.1	
	comp=Z,56nm,0.8s							
PLPT	**Palo Pinto**	**2.82**	**217**		Pn		08 40 21.9	+0.6
PLPT					Sb		08 41 01.2	-0.1
FW13	**Cleburne**	**2.89**	**199**	IAmb_Lg			08 41 10.4	
	comp=Z,27nm,0.9s							
X40A	**Basin Creek Fa**	**2.92**	**101**		Pn		08 40 23.4	+0.7
X40A				IAmb_Lg			08 41 13.2	
	comp=Z,30nm,0.8s							
237A	**Washetta, Mont**	**3.11**	**172**	Pn	Pn		08 40 25.3	0.0
SMWD	**Samnorwood**	**3.23**	**271**		Pn		08 40 27.4	+0.3
SMWD				IAmb_Lg			08 41 20.9	
	comp=Z,32nm,0.8s							
UALR	**University of**	**3.27**	**94**		Pn		08 40 28.1	+0.6
UALR				IAmb_Lg			08 41 27.5	
	comp=Z,23nm,0.7s							
WHAR	**Wooly Hollow**	**3.29**	**85**		Pn		08 40 29.1	+1.2
Z41A	**Richland Creek**	**3.43**	**121**		Pn		08 40 30.7	+1.0
Z41A				IAmb_Lg			08 41 31.6	
	comp=Z,36nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.50**	**76**	IAmb_Lg			08 41 31.6	
	comp=Z,28nm,1.0s							
APMT	**Aspermont**	**3.62**	**242**		Pn		08 40 32.4	0.0
ABTX	**Abilene, Hawle**	**3.71**	**229**		Pn		08 40 34.8	+1.2
ABTX				IAmb_Lg			08 41 35.3	
	comp=Z,32nm,0.7s							
R32A	**Long Quarter,**	**3.85**	**331**		Pn		08 40 36.8	+1.3
R32A				IAmb_Lg			08 41 37.9	
	comp=Z,22nm,0.7s							
MGMO	**Mountain Grove**	**3.86**	**57**		Pn		08 40 36.5	+0.8
DKNS	**Dickens**	**4.08**	**251**	IAmb_Lg			08 41 54.4	
	comp=Z,20nm,0.8s							
SN07	**Snyder 07**	**4.30**	**244**	IAmb_Lg			08 42 03.5	
	comp=Z,19nm,0.7s							
BRDY	**Brady**	**4.41**	**212**		Pn		08 40 43.3	0.0
AMTX	**Amarillo**	**4.42**	**269**		Pn		08 40 43.3	-0.1
435B	**Jarrell**	**4.43**	**194**	IAmb_Lg			08 42 05.4	
	comp=Z,23nm,0.7s							
CBKS	**Cedar Bluff**	**4.62**	**325**	IAmb_Lg			08 42 13.0	
	comp=Z,18nm,0.8s							
143A	**Socs Landing,**	**4.72**	**119**	IAmb_Lg			08 42 18.1	
	comp=Z,25nm,1.0s							
POST	**Post**	**4.76**	**246**	IAmb_Lg			08 42 10.6	
	comp=Z,19nm,0.8s							
CCM	**Cathedral Cave**	**5.03**	**52**	IAmb_Lg			08 42 16.4	
	comp=Z,21nm,0.9s							
P38A	**Dawn**	**5.04**	**25**	IAmb_Lg			08 42 24.5	
	comp=Z,19nm,0.7s							
PBMO	**Poplar Bluff**	**5.06**	**69**	IAmb_Lg			08 42 13.4	
	comp=Z,15nm,0.7s							
SGCY	**Sterling City**	**5.12**	**233**	IAmb_Lg			08 42 29.2	
	comp=Z,32nm,0.9s							
GNAR	**Gosnell**	**5.20**	**79**	IAmb_Lg			08 42 34.1	
	comp=Z,30nm,1.0s							
PEBM	**Pemiscott Bayo**	**5.35**	**77**	IAmb_Lg			08 42 34.8	
	comp=Z,25nm,0.7s							
FVM	**French Village**	**5.54**	**57**	IAmb_Lg			08 42 30.8	
	comp=Z,14nm,0.7s							
PARMO	**Parma**	**5.55**	**72**	IAmb_Lg			08 42 40.5	
	comp=Z,28nm,0.8s							
OXF	**Oxford**	**5.70**	**94**	IAmb_Lg			08 42 48.0	
	comp=Z,16nm,1.0s							
CGM3	**Cape Girardeau**	**5.81**	**66**	IAmb_Lg			08 42 38.7	
	comp=Z,13nm,1.0s							
SLM	**Saint Louis**	**6.02**	**52**	IAmb_Lg			08 42 44.7	
	comp=Z,22nm,0.7s							
HNDO	**Hondo**	**6.09**	**205**	IAmb_Lg			08 42 48.3	
	comp=Z,18nm,0.8s							
S44A	**Carbondale**	**6.25**	**63**	IAmb_Lg			08 42 56.8	
	comp=Z,19nm,0.7s							
SIUC	**Southern Illin**	**6.29**	**63**	IAmb_Lg			08 42 59.5	
	comp=Z,19nm,0.8s							
MNHN	**Monahans**	**6.58**	**237**	IAmb_Lg			08 43 10.4	
	comp=Z,11nm,0.7s							
DRIO	**Del Rio**	**6.73**	**214**	IAmb_Lg			08 43 16.1	
	comp=Z,15nm,0.8s							
833A	**Chaparral WMA,**	**7.24**	**202**	IAmb_Lg			08 43 34.6	
	comp=Z,9.9nm,0.8s							
OGNE	**Ogallala**	**7.39**	**324**	IAmb_Lg			08 43 41.9	
	comp=Z,16nm,0.8s							
V48A	**Smith Brothers**	**7.77**	**82**	IAmb_Lg			08 43 45.8	
	comp=Z,13nm,0.9s							
SDCO	**Great Sand Dun**	**7.87**	**292**	IAmb_Lg			08 43 57.4	
	comp=Z,9.8nm,1.0s							
K30B	**Basset**	**8.00**	**342**	IAmb_Lg			08 43 57.1	
	comp=Z,14nm,0.9s							
Q24A	**Divide**	**8.06**	**301**	IAmb_Lg			08 43 57.7	
	comp=Z,11nm,0.8s							
ECSD	**EROS Data Cent**	**8.64**	**359**	IAmb_Lg			08 44 15.3	
	comp=Z,8.4nm,1.1s							
ISCO	**Idaho Springs**	**8.77**	**305**	IAmb_Lg			08 44 29.0	
	comp=Z,8.2nm,1.0s							
SFIN	**Lafayette**	**9.00**	**51**	IAmb_Lg			08 44 19.7	
	comp=Z,11nm,0.8s							
I37A	**Lemond, Waseca**	**9.19**	**13**	IAmb_Lg			08 44 49.4	
	comp=Z,15nm,0.9s							
I40A	**Norwalk**	**9.82**	**25**	IAmb_Lg			08 44 52.3	
	comp=Z,12nm,0.7s							

NOU ***29*** *08:41:24.7, 17°.95S×178°.30W, h522km, MLv3.4/6, Fiji Islands Region*
IDC ***29*** *08:41:26.8±3.1, 17°.92S×178°.51W, h563km±36km, mb3.1/8, mbtmp4.0/9, Error ellipse: s-maj=48.9km s-min=14.1km az=150.0*
NEIC ***29*** *08:41:31.2±1.8, 15°.9S±0°.1×179°.9E±0°.2, h530km±8km, mb4.1/15, Error ellipse: s-maj=23.0km s-min=16.9km az=97.0*

ISC 29 08:41:25.1±1.0**, 17°.8S**±0°.2×**178°.5W**±0°.2**, h550**km**, n37, σ1s24/35, mb4.0/17, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKBA	**Tubou, Lakemba**	**0.52**	**214**	P	P	08 42 27.2	-3.3
LKBA	**Tubou, Lakemba**	**0.52**	**214**	S	**S**	**08 43 19.2**	**-4.5**
TAVE	**Taveuni**	**1.72**	**309**	P	**P**	**08 42 32.3**	**-1.4**
DGTI	**Dogotuki**	**2.25**	**311**	P	**P**	**08 42 34.6**	**-1.5**
MSVF	**Nonsavu**	**3.28**	**271**		**P**	**08 42 41.8**	**-0.2**
MSVF	**Nonsavu**	**3.28**	**271**	P	**P**	**08 42 41.9**	**-0.2**
FUTU	**Fugatoga**	**3.50**	**6**	P	**P**	**08 42 41.5**	**-2.0**
YSA	**Yasawairara**	**3.90**	**286**	P	**P**	**08 42 44.5**	**-1.8**
PINNC	**Pines Island,**	**14.02**	**248**	P	**P**	**08 44 23.9**	**-0.7**
DZM	**Mont Dzumac**	**14.77**	**251**	P	**P**	**08 44 34.8**	**+2.4**
	9.2nm,1.1s,baz=122,slow=16,SNR=2.0						
EIDS	**Eidsvold**	**29.21**	**250**	P	**P**	**08 46 42.5**	**-0.3**
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**08 48 01.5**	**0.0**
	1.2nm,0.4s,baz=115,slow=14,SNR=3.6						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**44.55**	**259**	P	**P**	**08 48 47.5**	**-1.3**
WRA	**Warramunga Arr**	**44.55**	**259**	P	**P**	**08 48 48.9**	**+0.2**
	0.3nm,0.3s,baz=95,slow=7.9,SNR=6.5						
WRA				PcP	**PcP**	**08 50 20.1**	**+0.2**
	0.2nm,0.3s,baz=91,slow=3.1,SNR=1.3						
	0.3nm,0.3s						
AS31	**Alice Springs**	**44.72**	**254**	P	**P**	**08 48 49.9**	**-0.1**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**08 48 49.1**	**-1.0**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**08 48 50.3**	**+0.3**
	2.4nm,0.5s,baz=88,slow=8.2,SNR=60						
ASAR				S	**S**	**08 54 46.9**	**-0.2**
	0.5nm,1.0s,baz=86,slow=16,SNR=4.4						
	2.4nm,0.5s						
VNDA	**Vanda**	**60.54**	**185**	P	P	08 51 00.9	+19
VNDA				IAmb	IAmb	08 51 43.5	
	comp=Z,9.8nm,1.4s						
LVA	**Lava Point**	**72.47**	**8**	P	**P**	**08 51 55.7**	**-0.2**
PEA0B	**Petropavlovsk-**	**73.55**	**345**	P	P	08 51 56.5	-5.6
PEA0B				IAmb	IAmb	08 52 04.6	
	comp=Z,6.9nm,0.9s						
PETK	**Petropavlovsk-**	**73.55**	**345**	P	P	08 51 56.5	-5.6
PETK	**Petropavlovsk-**	**73.55**	**345**	P	**P**	**08 52 03.6**	**+1.5**
	comp=Z,2.9nm,0.6s,baz=119,slow=8.1,SNR=8.3						
	comp=Z,2.9nm,0.6s						
PLK4	**Peulik 4**	**77.38**	**12**	P	**P**	**08 52 23.4**	**0.0**
PLK4				IAmb	IAmb	08 52 26.9	
	comp=Z,9.9nm,0.9s						
OHAK	**Old Harbor**	**77.66**	**14**	P	**P**	**08 52 25.2**	**+0.5**
O16K	**Kokwok River B**	**78.90**	**10**	P	**P**	**08 52 31.1**	**-0.2**
O16K				IAmb	IAmb	08 52 51.2	
	comp=Z,6.5nm,1.2s						
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**08 52 35.6**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=244,slow=2.7,SNR=3.7						
	comp=Z,0.5nm,0.7s						
J18K	**Innoko River**	**82.77**	**10**		**P**	**08 52 52.1**	**+0.8**
J18K				IAmb	IAmb	08 52 53.3	
	comp=Z,4.1nm,0.8s						
K20K	**Telida**	**83.12**	**11**	P	**P**	**08 52 53.9**	**+0.9**
K20K				IAmb	IAmb	08 52 54.8	
	comp=Z,4.7nm,0.8s						
CAST	**Castle Rocks**	**83.55**	**12**		**P**	**08 52 54.2**	**-1.0**
CAST				IAmb	IAmb	08 52 55.4	
	comp=Z,6.2nm,1.0s						
TRF	**Thorofare Moun**	**83.93**	**12**		**P**	**08 52 56.9**	**-0.3**
TRF				IAmb	IAmb	08 52 58.4	
	comp=Z,6.0nm,0.7s						
K24K	**Donnelly Dome**	**85.22**	**14**	P	**P**	**08 53 04.2**	**+0.8**
CCB	**Clear Creek Bu**	**85.50**	**13**		**P**	**08 53 04.5**	**-0.2**
CCB				IAmb	IAmb	08 53 05.0	
	comp=Z,2.3nm,0.5s						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**08 53 06.2**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=221,slow=5.2,SNR=17						
	comp=Z,0.9nm,0.4s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**08 53 09.2**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=214,slow=6.0,SNR=12						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**08 53 14.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=180,slow=1.5,SNR=3.6						
	comp=Z,0.3nm,0.7s						
BRTR	**Keskin Array B**	**144.64**	**315**	PKP	**PKPdf**	**09 00 00.9**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=88,slow=1.6,SNR=3.0						
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**	**09 00 08.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=358,slow=4.5,SNR=5.8						

NIED ***29*** *08:50:49.0, 34°.22N×137°.25E, h351km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.82; Mθθ0.16; Mϕϕ-0.98; Mrθ-0.04; Mϕθ-0.25; Mϕr-1.13; Fault plane solution: M0 1.46000×10^15 NP1:ϕs24.00000°, δ21.00000°, λ110.00000°. NP2:ϕs183.00000°, δ71.00000°, λ83.00000°.*
JMA ***29*** *08:50:49.0±0.2, 34°.1N×137°.7E±0°.1, h351km±2km, MV3.6/38, ENSYUNADA*
IDC ***29*** *08:50:49.5±0.6, 34°.11N×137°.23E, h335km±5km, mb3.2/12, mbtmp3.9/17, Error ellipse: s-maj=12.1km s-min=9.6km az=63.0*

ISC 29 08:50:50.0±0.6**, 34°.19N**±0°.06×**137°.25E**±0°.05**, h342**km±5km**, n47, σ0s86/56, mb3.5/12, Near south coast of eastern Honshu**

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

2.0nm,0.7s,baz=114,slow=9.1,SNR=8.5
2.0nm,0.7s
CMAR Chiang Mai Arr 37.49 255 P **P 08 57 31.3 -0.9**
0.9nm,0.4s,baz=54,slow=6.2,SNR=5.8
0.9nm,0.4s
MKAR Makanchi Array 42.83 304 P **P 08 58 16.1 +0.8**
2.2nm,0.7s,baz=91,slow=9.6,SNR=17
2.2nm,0.7s
KURBB Kurchatov Arra 45.14 310 P **P 08 58 33.5 +0.2**
1.2nm,0.7s,baz=88,slow=6.3,SNR=10
1.2nm,0.7s
BVAR Borovoye Array 50.02 314 P **P 08 59 10.7 +0.2**
0.4nm,0.4s,baz=90,slow=6.3,SNR=2.0
0.4nm,0.4s
ILAR Eielson Array 53.69 31 P **P 08 59 36.9 -0.3**
0.7nm,0.9s,baz=274,slow=8.1,SNR=8.0
0.7nm,0.9s
WRA Warramunga Arr 53.90 183 P **P 08 59 37.8 -1.4**
0.6nm,0.3s,baz=1.1,slow=7.4,SNR=11
0.6nm,0.3s
ASAR Alice Springs 57.62 184 P **P 09 00 04.7 -0.6**
0.8nm,0.8s,baz=9.1,slow=14,SNR=6.6
0.8nm,0.8s
NVAR Mina Array Bea 79.41 51 P **P 09 02 20.1 +1.0**
0.5nm,0.6s,baz=297,slow=7.1,SNR=6.3
0.5nm,0.6s
PDAR Pinedale Array 82.06 43 P **P 09 02 34.2 +1.2**
0.6nm,0.8s,baz=282,slow=1.4,SNR=7.4
0.6nm,0.8s
TXAR Lajitas Array 94.54 50 P **P 09 03 33.7 +1.1**
0.4nm,0.7s,baz=290,slow=4.1,SNR=7.3
0.4nm,0.7s
QSPA South Pole Qui 123.94 180 PKP **PKiKP 09 09 07.3 +0.1**
0.6nm,0.7s,baz=81,slow=3.2,SNR=2.0
LPAZ La Paz 151.06 58 PKPbc **PKiKP 09 10 04.2 -0.3**
0.8nm,0.7s,baz=270,slow=4.0,SNR=3.6

CATAC 29 08:55:33.0±0.5,12°N±1°×8°6W±°, h11km±2km, M2.0/13, MLv2.0/13, Error ellipse: s-maj=3.8km s-min=2.6km az=50.7, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMTN	**Mateare**	**0.03**	**265**	P	Pg	08 55 35.4	+0.3
AMTN	**Mateare**	**0.03**	**265**	S	Sg	08 55 37.1	+0.5
APQ3	**Volcan Apoyequ**	**0.04**	**42**	P	Pg	08 55 35.8	+0.6
APQ3				S	Sg	08 55 37.1	+0.3
SAPS	**Ciudad Sandino**	**0.07**	**185**	S	Sg	08 55 37.6	+0.5
SAPS	**Ciudad Sandino**	**0.07**	**185**	P	Pg	08 55 35.8	+0.4
APQ2	**Apoyeque**	**0.08**	**120**	P	Pg	08 55 36.5	+1.0
APQ2				S	Sg	08 55 39.0	+1.6
ABCN	**Banco Central**	**0.15**	**143**	S	Sg	08 55 40.4	+1.6
ALLN	**Telcor Managua**	**0.15**	**125**	P	Pb	08 55 37.6	-0.2
ALLN	**Telcor Managua**	**0.15**	**125**	S	Sg	08 55 40.9	+2.0
R4DEC	**Barrio San Lui**	**0.17**	**121**	P	Pb	08 55 38.0	-0.2
R4DEC	**Barrio San Lui**	**0.17**	**121**	S	Sg	08 55 41.6	+2.1
UNAN	**Cigeo UNAN**	**0.18**	**136**	P	Pb	08 55 38.4	0.0
UNAN				S	Sg	08 55 41.5	+1.8
COPN	**Copaltepe**	**0.20**	**253**	P	Pb	08 55 38.3	-0.4
MOM2	**El Cardon**	**0.21**	**337**	P	Pb	08 55 38.8	-0.1
MOM2				S	Sg	08 55 43.3	+2.7
WILN	**Americas 2**	**0.22**	**111**	P	Pb	08 55 38.7	-0.3
WILN				S	Sg	08 55 42.9	+2.0
MOM3	**MOM3**	**0.29**	**337**	S	Sb	08 55 45.5	+0.3
NANN	**Nandasmo**	**0.40**	**138**	P	Pb	08 55 41.7	-0.5
BOAB	**BOACO BROADBAN**	**0.74**	**74**	P	Pb	08 55 48.1	+0.1
MATN	**Matagalpa**	**0.83**	**34**	P	Pg	08 55 48.4	-0.7
MATN				S	Sg	08 56 00.1	+0.2

*IDC **29** 08:59:15.2±0.7,25°.16N×144°.05E, h0km, mb4.0/12, mbtmp4.0/13, MLv3.6/1, Error ellipse: s-maj=24.3km s-min=16.2km az=78.0*
ISC 29 08:59:20.5±0.8,25°.1N±0°.1×144°.0E±0°.1, h35km, n18, σ0s89/16, mb4.0/12, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.55**	**320**	Pn	**Pn**	**08 59 58.3**	**-1.1**
	12nm,0.3s,baz=130,slow=16,SNR=28						
JCJ				Sn	**Sn**	**09 00 30.1**	**+0.9**
	22nm,0.3s,baz=72,slow=20,SNR=3.5						
	37nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**22.04**	**103**	T	T	09 26 42.6	
	baz=292,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**22.05**	**103**	T	T	09 26 43.1	
	baz=292,slow=74,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**22.06**	**103**	T	T	09 26 43.3	
	baz=292,slow=74,SNR=5.4						
CMAR	**Chiang Mai Arr**	**42.23**	**270**	P	**P**	**09 07 09.9**	**-0.7**
	0.7nm,0.3s,baz=61,slow=8.4,SNR=1.7						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**45.80**	**193**	P	**P**	**09 07 38.8**	**-0.1**
	2.3nm,0.5s,baz=13,slow=8.5,SNR=27						
	2.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**46.56**	**204**	P	**P**	**09 07 45.0**	**+0.1**
	2.9nm,0.9s,baz=40,slow=10,SNR=5.7						
	2.9nm,0.9s						
ASAR	**Alice Springs**	**49.50**	**192**	P	**P**	**09 08 07.5**	**-0.1**
	0.7nm,0.7s,baz=14,slow=11,SNR=15						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**52.99**	**311**	P	**P**	**09 08 33.5**	**-0.3**
	0.2nm,0.5s,baz=88,slow=8.9,SNR=5.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**55.58**	**315**	P	**P**	**09 08 52.1**	**-0.3**
	1.4nm,0.5s,baz=91,slow=7.8,SNR=5.8						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**58.64**	**28**	P	**P**	**09 09 12.6**	**-1.3**
	0.6nm,0.8s,baz=252,slow=6.9,SNR=6.6						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**60.59**	**318**	P	**P**	**09 09 27.6**	**0.0**
	3.2nm,0.6s,baz=96,slow=8.7,SNR=7.2						
	3.2nm,0.6s						
ARCES	**ARCESS Array B**	**75.92**	**341**	P	**P**	**09 11 05.1**	**+2.0**
	1.4nm,0.8s,baz=38,slow=6.4,SNR=2.0						
	1.4nm,0.8s						
NVAR	**Mina Array Bea**	**80.41**	**52**	P	**P**	**09 11 29.0**	**0.0**
	0.5nm,0.7s,baz=294,slow=6.0,SNR=5.8						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**80.42**	**335**	P	**P**	**09 11 27.9**	**-0.3**
	1.4nm,0.9s,baz=27,slow=7.2,SNR=1.5						
	1.4nm,0.9s						
KBZ	**Khabaz**	**80.55**	**314**	P	**P**	**09 11 30.5**	**+1.3**
	1.4nm,0.5s,baz=56,slow=4.3,SNR=3.8						
	1.4nm,0.5s						
PLCA	**Paso Flores**	**147.33**	**127**	PKPbc	**PKPbc**	**09 19 00.8**	**+0.3**
	2.3nm,1.1s,baz=247,slow=2.2,SNR=3.1						
LPAZ	**La Paz**	**148.72**	**80**	PKPbc	**PKPbc**	**09 19 06.0**	**+0.4**
	0.4nm,0.5s,baz=352,slow=7.1,SNR=4.2						

*ASRS **29** 09:00:02.0±1.5,53°.61N×87°.89E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 09:00:04.3±3.2,53°.55N×87°.91E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=28.4km s-min=18.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**283**	I	I	09 12 14.9	
	baz=98,slow=319,SNR=9.5						
ZALV	**Zalesovo Beam**	**1.88**	**283**	Pn	Pn	09 00 38.1	+0.4
	0.7nm,0.3s,baz=101,slow=16,SNR=5.4						
ZALV				Lg	Lg	09 01 04.1	
	1.6nm,0.3s,baz=101,slow=21,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	09 01 41.1	+0.2
	0.1nm,0.3s,baz=62,slow=15,SNR=2.4						
KURBB				Lg	Lg	09 03 28.9	
	baz=62,slow=34,SNR=3.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	09 01 58.5	+1.3
	0.1nm,0.3s,baz=25,slow=13,SNR=2.3						
MKAR				Lg	Lg	09 04 07.1	
	baz=26,slow=38,SNR=1.8						
	0.1nm,0.3s						

*AFAD **29** 09:02:35.3, 38°.76N×40°.15E, h7km±4km, ML2.9*
*ISK **29** 09:02:36.9, 38°.78N×40°.28E, h6km, ML2.7/8*
ISC 29 09:02:36.1±1.1, 38°.78N±0°.03×40°.16E±0°.02, h9km±10km, n18, σ0s95/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.28**	**254**	P	**Pg**	**09 02 41.4**	**-0.4**
KOVA				S	**Sg**	**09 02 46.6**	**+1.0**
KOVA				*i*	IAML	09 02 50.0	
	comp=N,571nm,0.4s						
KOVA				*i*	IAML	09 02 51.0	
	comp=E,647nm,0.6s						
TNCL	**Tunceli-Merkez**	**0.59**	**305**	P	**Pg**	**09 02 46.7**	**-0.7**
TNCL				S	**Sg**	**09 02 55.9**	**+0.7**
TNCL				*i*	IAML	09 02 58.0	
	comp=N,1μm,0.3s						
TNCL				*i*	IAML	09 02 59.0	
	comp=E,1μm,0.4s						
SLHN	**Bingol, Solhan**	**0.69**	**75**	P	**Pg**	**09 02 49.0**	**-0.4**
SLHN				S	**Sb**	**09 03 00.0**	**-0.1**
SLHN				*i*	IAML	09 03 02.0	
	comp=N,1μm,0.3s						
SLHN				*i*	IAML	09 03 03.0	
	comp=E,1μm,0.3s						
YEDI	**Yedisu-Bingol**	**0.72**	**24**	Pg	**Pb**	**09 02 50.5**	**-0.3**
YEDI				Sg	**Sb**	**09 03 00.6**	**-0.3**
DYBB	**Diyarbakir**	**0.83**	**181**	Pg	**Pn**	**09 02 53.5**	**-0.5**
KARO	**Karliova-Bingo**	**0.87**	**52**	Pg	**Pg**	**09 02 52.6**	**-0.2**
ELZG	**Elazig**	**0.96**	**253**	P	**Pg**	**09 02 52.8**	**-1.9**
ELZG				S	**Sb**	**09 03 09.8**	**+1.8**
SVAN	**Silvan-Diyarba**	**1.03**	**127**	Pg	**Pg**	**09 02 55.2**	**-0.6**
SVAN				Sg	**Sb**	**09 03 09.6**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.03**	**127**	P	**Pg**	**09 02 55.0**	**-0.9**
SVAN				S	**Sb**	**09 03 09.5**	**-0.1**
SVAN				*i*	IAML	09 03 10.0	
	comp=E,341nm,0.7s						
SVAN				*i*	IAML	09 03 11.0	
	comp=N,398nm,0.8s						
ECAT	**Cat-ERZURUM**	**1.04**	**37**	P	**Pg**	**09 02 55.2**	**-0.8**
ECAT				S	**Sb**	**09 03 09.9**	**-0.1**
ECAT				*i*	IAML	09 03 19.0	
	comp=E,223nm,0.4s						
ECAT				*i*	IAML	09 03 22.0	
	comp=N,205nm,0.4s						
NARI	**Adyaman-Kaht**	**1.42**	**231**	P	**Pn**	**09 03 02.4**	**+0.3**
NARI				S	**Sb**	**09 03 21.0**	**+0.1**
MAYA	**Malatya/Merkez**	**1.44**	**252**	P	**Pn**	**09 03 01.3**	**-1.1**
MAYA				S	**Sg**	**09 03 24.9**	**+2.6**
GURO	**Guroymak-BITLI**	**1.48**	**98**	Pn	**Pb**	**09 03 03.4**	**-0.4**
HANM	**anlurfa/Hi**	**1.57**	**220**	P	**Pn**	**09 03 03.8**	**-0.4**
HANM				S	**Sn**	**09 03 25.2**	**+0.6**
HANM				*i*	IAML	09 03 27.0	
	comp=N,341nm,0.3s						
HANM				*i*	IAML	09 03 27.0	
	comp=E,169nm,0.5s						
HEKM	**Malatya_Hekimh**	**1.72**	**274**	P	**Pn**	**09 03 06.2**	**-0.2**
HEKM				S	**Sg**	**09 03 32.3**	**+0.8**
KOPR	**Koprukoy-ERZUR**	**1.78**	**47**	Pn	**Pb**	**09 03 08.1**	**-0.9**
AKDM	**Akdamar-Van**	**2.25**	**101**	Pn	**Pn**	**09 03 14.5**	**+0.8**
AGRB	**Hanur-Agry**	**2.34**	**69**	Pn	**Pn**	**09 03 15.7**	**+0.9**

*ASRS **29** 09:07:48.0±1.3,53°.61N×87°.94E, h0km, M2.9, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 09:07:52.1±3.2,53°.60N×87°.87E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.6km s-min=17.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**282**	I	I	09 20 15.0	
	baz=98,slow=319,SNR=24						
ZALV	**Zalesovo Beam**	**1.85**	**282**	Pg	Pn	09 08 25.1	0.0
	2.5nm,0.3s,baz=96,slow=16,SNR=14						
ZALV				Lg	Lg	09 08 51.2	
	3.3nm,0.3s,baz=103,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	09 09 29.1	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=3.2						
KURBB				Lg	Lg	09 11 16.4	
	baz=58,slow=33						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	09 09 47.1	+1.7
	0.1nm,0.3s,baz=28,slow=14,SNR=1.9						
MKAR				Lg	Lg	09 11 55.2	
	0.1nm,0.3s,baz=32,slow=32,SNR=1.8						
	0.4nm,0.4s						

SCB 29 09:18:02.7±1.2,21°.96S×67°.25W, h178km±9km, ML3.6/3, MW3.1, Error ellipse: s-maj=4.5km s-min=2.9km az=0.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.62**	**98**	Pg	Pn	09 18 37.0	+0.9
MOCB	**Mochara**	**1.66**	**65**	Pg	Pn	09 18 37.4	+0.9
MOCB				Sg	Sn	09 19 02.6	0.0
MOCB				IAML		09 19 03.6	
	274nm,0.4s						
PB09	**IPOC Station P**	**1.86**	**275**	Pg	Pn	09 18 39.7	+1.4
PB01	**IPOC Station P**	**2.28**	**293**	Pg	Pn	09 18 43.3	+0.5
PB01				Sg	Sn	09 19 14.1	+0.2
PB01				IAML		09 19 14.8	
	356nm,0.3s						
PB06	**IPOC Station P**	**2.28**	**251**	Pg	Pn	09 18 43.8	+0.9
PB03	**IPOC Station P**	**2.33**	**267**	Pg	Pn	09 18 44.4	+0.9
AOVT	**TarijaAcel**	**2.40**	**80**	Pg	Pn	09 18 44.7	+0.4
PB08	**IPOC Station P**	**2.54**	**315**	Pg	Pn	09 18 47.1	+0.9
PB02	**IPOC Station P**	**2.55**	**284**	Pg	Pn	09 18 46.3	+0.4
PB02				Sg	Sn	09 19 19.1	-0.4
PB02				IAML		09 19 20.3	
	148nm,0.2s						
PB05	**IPOC Station P**	**2.88**	**251**	Pg	Pn	09 18 50.6	+0.7
GO01	**Chusmiza**	**2.92**	**321**	Pg	Pn	09 18 51.2	+0.4
PB10	**IPOC Station P**	**3.42**	**243**	Pg	Pn	09 18 56.8	+0.3
SOEO	**Opoqueri**	**3.43**	**350**	Pg	Pn	09 18 58.0	+0.9
PB14	**IPOC Station P**	**3.93**	**227**	Pg	Pn	09 19 03.6	+0.4
SOET	**ToroToro**	**4.06**	**20**	Pg	Pn	09 19 04.4	-0.5
AOEA	**Aiquile**	**4.21**	**27**	Pg	Pn	09 19 08.0	+1.2
BBOJ	**La Paz, Jacaqu**	**5.04**	**350**	Pg	Pn	09 19 18.5	+0.8
BBOE	**La Paz, Chanca**	**5.17**	**352**	Pg	Pn	09 19 20.4	+1.0
LPAZ	**La Paz**	**5.70**	**351**	Pg	Pn	09 19 26.0	-0.5
BBOB	**La Paz, Bander**	**5.85**	**352**	Pg	Pn	09 19 27.9	-0.4

*ASRS **29** 09:24:56.0±2.1,53°.57N×87°.63E, h0km, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*
IDC 29 09:24:56.4±3.1,53°.58N×87°.89E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.3km s-min=15.4km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**	I	I	09 36 30.0	
	0.1nm,0.9s,baz=101,slow=318,SNR=15						
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pg	Pn	09 25 29.1	-0.3
	1.7nm,0.3s,baz=99,slow=17,SNR=8.7						
ZALV				Lg	Lg	09 25 56.1	
	3.4nm,0.3s,baz=99,slow=26,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn	Pn	09 26 33.7	+0.7
	baz=63,slow=14,SNR=1.3						
KURBB				Lg	Lg	09 28 20.7	
	0.1nm,0.3s,baz=62,slow=30,SNR=5.9						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.69**	**210**	Pn	Pn	09 26 50.7	+1.2
	0.3nm,0.3s,baz=26,slow=11,SNR=9.3						
MKAR				Sn	Sn	09 28 17.4	+0.1
	baz=29,slow=27,SNR=2.1						
MKAR				Lg	Lg	09 29 00.3	
	0.1nm,0.3s,baz=19,slow=27,SNR=3.9						
	0.2nm,0.4s						

*SOME **29** 09:29:43.6, 40°.88N×73°.73E, h15km*
*KRNET **29** 09:29:44.1±0.1, 40°.94N×73°.80E, h14km, mb2.6*
*NNC **29** 09:29:46.9±2.5, 40°.98N×73°.92E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=17.0km s-min=12.2km az=179.0*
ISC 29 09:29:41.4±1.5, 40°.87N±0°.07×73°.76E±0°.04, h18km±6km, n17, σ0s82/29, 9C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.05**	**70**	⇑*i*S	**Pg**	**09 29 45.4**	**+0.5**
SALK				⇑*i*S	**Sg**	**09 29 46.4**	**-0.9**
ARSB	**Arslanbob**	**0.74**	**308**	⇑*i*P	**Pn**	**09 29 58.3**	**+1.1**
ARSB				⇑*i*S	**Sn**	**09 30 08.1**	**-0.1**
UCH	**Uchtor**	**1.47**	**22**	⇑*i*P	**Pg**	**09 30 10.3**	**+0.4**
UCH				⇑*i*S	**Sg**	**09 30 29.6**	**+0.4**
EKS2	**Erkin-Say**	**1.79**	**0**	⇑*i*P	**Pg**	**09 30 16.1**	**+0.2**
EKS2				⇑*i*S	**Sg**	**09 30 39.4**	**+0.1**
AAK	**Ala-Archa**	**1.85**	**17**	⇓P	**Pg**	**09 30 17.3**	**+0.2**
	1.6nm,0.5s						
AAK				⇑S	**Sg**	**09 30 41.9**	**+0.7**
	0.9nm,0.4s						
AAK	**Ala-Archa**	**1.85**	**17**	⇓*i*P	**Pg**	**09 30 17.0**	**-0.1**
AAK				⇓*i*S	**Sg**	**09 30 41.0**	**-0.2**
MRKS	**Merke**	**1.92**	**348**	P	**Pg**	**09 30 18.5**	**+0.2**
	8.2nm,0.1s						
MRKS				S	**Sg**	**09 30 43.8**	**+0.5**
	39nm,0.4s						
MRKS	**Merke**	**1.92**	**348**	*e*P	**Pg**	**09 30 18.5**	**+0.2**
	8.2nm,0.1s						
MRKS				*e*S	**Sg**	**09 30 43.8**	**+0.5**
	39nm,0.4s						
SGDS	**Sogindy**	**2.66**	**14**	Pg	**Pg**	**09 30 32.2**	**-0.3**
	3.0nm,0.1s						
SGDS				Lg	Lg	09 31 07.2	
	12nm,0.2s						
KST	**Kastek**	**2.73**	**36**	Pg	**Pg**	**09 30 33.4**	**-0.3**
	2.1nm,0.3s						
KST				Lg	Lg	09 31 09.3	
	10nm,0.5s						
KST	**Kastek**	**2.73**	**36**	*e*P	**Pg**	**09 30 33.4**	**-0.3**
	2.1nm,0.3s						
KST				*e*S	**Sg**	**09 31 09.2**	**+0.2**
	10nm,0.5s						
MTBS	**Maitube**	**3.01**	**40**	Pg	**Pg**	**09 30 39.0**	**-0.2**
	4.1nm,0.2s						
MTBS				Lg	Lg	09 31 18.7	
	8.2nm,0.4s						
MTBS	**Maitube**	**3.01**	**40**	*e*P	**Pg**	**09 30 39.0**	**-0.2**
	4.1nm,0.2s						
MTBS				*e*S	**Sg**	**09 31 18.7**	**+0.4**
	8.2nm,0.4s						
KK31	**Karatay Array**	**3.29**	**314**	Pn	**Pg**	**09 30 43.5**	**-1.0**
	0.6nm,0.2s,baz=144,slow=17,SNR=11						
KK31				⇓Sn	**Sg**	**09 31 26.9**	**-0.4**
	1.3nm,0.3s,baz=138,slow=28,SNR=5.6						
BTLS	**Baital**	**4.18**	**3**	Pg	**Pg**	**09 30 59.6**	**-1.8**
	1.3nm,0.2s						
BTLS				Lg	Lg	09 31 54.3	
	2.3nm,0.5s						
BTLS	**Baital**	**4.18**	**3**	*e*P	**Pg**	**09 30 59.6**	**-1.8**
	1.3nm,0.2s						
BTLS				*e*S	**Sg**	**09 31 54.2**	**-1.3**
	2.3nm,0.5s						
KPKS	**Kokpek**	**4.49**	**53**	Pg	**Pg**	**09 31 05.6**	**-1.8**
	0.3nm,0.2s						
KPKS				Lg	Lg	09 32 04.7	
	4.2nm,0.4s						

NNC 29 09:51:43.4±8.0, 37°.14N×70°.58E, h0km, mb3.7, mpv3.2, 3C-1D, Error ellipse: s-maj=78.9km s-min=54.4km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.96**	**360**	P	Pn	09 53 14.6	+1.7
	1.4nm,0.2s,baz=179,slow=12,SNR=69						
KK31				⇓S	Sn	09 54 23.1	+1.2
	3.0nm,0.4s,baz=186,slow=21,SNR=9.1						
AAK	**Ala-Archa**	**6.26**	**28**	⇑P	Pn	09 53 16.7	-0.5
	0.5nm,0.4s						
AAK				⇑S	Sn	09 54 30.4	+0.8
	1.3nm,0.5s						
AB31	**Akbulak array**	**14.36**	**331**	⇑P	Pn	09 55 05.1	-2.8
	0.9nm,0.6s,baz=156,slow=12,SNR=14						

AFAD 29 09:54:20.4, 37°.86N×29°.71E, h7km±4km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INCE	**Denizli-Bozkur**	**0.18**	**215**	*i*	IAML	09 54 28.0	
	comp=N,80nm,0.4s						
INCE				P	Pg	09 54 28.1	+3.9
INCE				*i*	IAML	09 54 29.0	
	comp=E,92nm,0.4s						
INCE				S	Sg	09 54 35.6	+8.9
INCE	**Denizli-Bozkur**	**0.18**	**215**	P	Pg	09 54 24.2	0.0
INCE				*i*	IAML	09 54 28.0	
	comp=N,80nm,0.4s						
INCE				S	Sg	09 54 28.4	+1.7
INCE				*i*	IAML	09 54 29.0	
	comp=E,92nm,0.4s						
BRDR	**BURDUR-Merkez**	**0.32**	**120**	P	Pn	09 54 32.0	+0.4
BRDR				*i*	IAML	09 54 35.0	
	comp=E,32nm,0.3s						
BRDR				*i*	IAML	09 54 40.0	
	comp=N,18nm,0.3s						
BRDR				S	Sb	09 54 43.5	+9.4
BRDR	**BURDUR-Merkez**	**0.32**	**120**	P	Pg	09 54 26.7	-0.1
BRDR				*i*	IAML	09 54 32.0	
	comp=N,34nm,0.4s						
BRDR				*i*	IAML	09 54 32.0	
	comp=E,36nm,0.2s						
BRDR				S	Sg	09 54 32.3	+1.3
UZP	**Denizli**	**0.46**	**292**	P	Pn	09 54 37.0	+3.5
UZP				S	Sb	09 54 45.9	+8.0
UZP				*i*	IAML	09 54 46.0	
	comp=N,79nm,0.3s						
UZP				*i*	IAML	09 54 46.0	
	comp=E,103nm,0.2s						
PASA	**Karahalli, USA**	**0.52**	**340**	P	Pn	09 54 38.0	+3.7
PASA				*i*	IAML	09 54 56.0	
	comp=N,24nm,0.3s						
PASA				*i*	IAML	09 54 57.0	
	comp=E,30nm,0.4s						
PASA	**Karahalli, USA**	**0.52**	**340**	P	Pg	09 54 30.3	-0.1
PASA				S	Sg	09 54 38.2	+1.0
PASA				*i*	IAML	09 54 56.0	
	comp=N,24nm,0.3s						
PASA				*i*	IAML	09 54 56.0	
	comp=E,25nm,0.2s						
KZIL	**AFYON_Kizioren**	**0.52**	**41**	P	Pg	09 54 31.1	+0.6
KZIL				S	Sb	09 54 41.0	+1.2
KZIL				*i*	IAML	09 54 47.0	
	comp=E,22nm,0.4s						
KZIL				*i*	IAML	09 54 54.0	
	comp=N,22nm,0.4s						
DNIZ	**Denizli-Tavas-**	**0.58**	**246**	P	Pn	09 54 40.8	+5.7
DNIZ				S	Sn	09 54 49.6	+4.6
DNIZ				*i*	IAML	09 54 50.0	
	comp=N,64nm,0.4s						
DNIZ				*i*	IAML	09 54 50.0	
	comp=E,68nm,0.4s						
GOLH	**Golhisar**	**0.63**	**191**	P	Pn	09 54 41.5	+5.7
GOLH				S	Sn	09 54 55.6	+9.3
GOLH				*i*	IAML	09 54 59.0	
	comp=E,20nm,0.5s						
GOLH				*i*	IAML	09 55 01.0	
	comp=N,17nm,1.3s						
GOLH	**Golhisar**	**0.63**	**191**	P	Pg	09 54 31.7	-0.9
GOLH				S	Sb	09 54 42.8	-0.1
GOLH				*i*	IAML	09 54 51.0	
	comp=N,17nm,0.9s						
GOLH				*i*	IAML	09 54 59.0	
	comp=E,20

0.1nm,0.3s,baz=20,slow=31,SNR=5.9
0.1nm,0.3s

IDC ***29*** *10:18:07.6±2.4,5.85S×147.35E,h0km,mb3.6/3, mbtmp3.5/5,ML2.6/2,MS2.3/1,Error ellipse: s-maj=56.0km s-min=34.3km az=90.0*

ISC 29 10:18:08.1±3.6,5.75S±0.2×147.8E±0.5,h35km,n6,σ1s80/5, mb3.8/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.71**	**189**	Pn		Pn	10 19 05.0	+2.1
	6.8nm,0.3s,baz=3.0,slow=13,SNR=11							
PMG				Sn		**Sn**	**10 19 45.8**	**+0.4**
	4.9nm,0.3s,baz=30,slow=18,SNR=3.7							
PMG				LR		LR	10 20 56.1	
	comp=Z,50nm,21.9s,baz=190,slow=48							
	12nm,0.3s							
WRA	**Warramunga Arr**	**19.23**	**221**	P		**Pn**	**10 22 28.9**	**-1.8**
	0.1nm,0.3s,baz=44,slow=11,SNR=1.2							
	0.1nm,0.3s							
ASAR	**Alice Springs**	**22.27**	**215**	P		**P**	**10 23 02.3**	**-0.1**
	0.3nm,0.4s,baz=39,slow=10,SNR=6.7							
	0.3nm,0.4s							
FITZ	**Fitzroy Crossi**	**24.85**	**238**	P		**P**	**10 23 29.2**	**+1.8**
	2.0nm,0.7s,baz=81,slow=9.9,SNR=1.7							
	2.0nm,0.7s							
QSPA	**South Pole Qui**	**84.25**	**180**	P		P	10 30 40.0	+4.0
	0.6nm,0.8s,baz=347,slow=2.3,SNR=1.7							
	0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**145.75**	**285**	PKPbc		**PKiKP**	**10 37 47.8**	**-0.3**
	0.4nm,0.4s,baz=68,slow=3.4,SNR=6.4							

IDC ***29*** *10:20:31.6±0.5,7.48N×127.12E,h0km,mb4.5/23, mbtmp4.5/25,ML4.9/2,MS3.8/52,Error ellipse: s-maj=12.8km s-min=10.7km az=98.0*

NEIC ***29*** *10:20:34.6±1.6,7.40N±0.08×126.87E±0.08,h10km±1km, mb4.9/182,Error ellipse: s-maj=13.9km s-min=12.0km az=34.0*

DJA ***29*** *10:20:42.5±0.5,7°N±3'×12°7E±°,h57km±4km,M5.0/37, mb4.9/37,mB5.5/13,MLv5.2/8,Mw(mB)4.9/13, MwMwp6.7/1,Mwp6.6/1*

ISC 29 10:20:39.2±0.3,7.37N±0.04×126.98E±0.06,h52km,n499, σ1s28/380,mb4.8/122,MS3.8/52,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**1.42**	**258**			**Pn**	**10 21 02.6**	**-0.1**
DAV	**Davao City (W)**	**1.42**	**258**	Pg		**Pn**	**10 21 01.9**	**-0.8**
	542nm,0.3s,baz=76,slow=8.4,SNR=50							
DAV				Lg		Lg	10 21 23.5	
	400nm,0.3s,baz=86,slow=23,SNR=14							
DAV				LR		LR	10 21 28.4	
	comp=Z,5μm,19.4s,baz=168,slow=36							
DAV	**Davao City (W)**	**1.42**	**258**	P		**Pn**	**10 21 00.0**	**-2.7**
SGSI	**Sangihe**	**3.93**	**202**	P		**Pn**	**10 21 39.0**	**+1.9**
TNTI	**Ternate**	**6.56**	**177**			**Pn**	**10 22 12.0**	**-1.3**
TNTI	**Ternate**	**6.56**	**177**	P		**Pn**	**10 22 15.3**	**+2.1**
TNTI	**Ternate**	**6.56**	**177**	P		**Pn**	**10 22 15.3**	**+2.1**
	0.5nm2μm190nm,0.9s							
KMSI	**Cibinong**	**7.38**	**204**	P		Pn	10 22 29.5	+5.1
MRSI	**Marisa**	**8.49**	**217**	P		**Pn**	**10 22 38.1**	**-1.6**
	144nm,1.1s							
MYLDM	**Lahad Datu**	**8.71**	**256**			**Pn**	**10 22 38.1**	**-4.5**
MYLDM	**Lahad Datu**	**8.71**	**256**	P		Pn	10 22 47.5	+4.9
TOLI2	**Tolitoli**	**8.76**	**225**			**Pn**	**10 22 40.0**	**-3.4**
TGY	**Tagaytay City**	**8.95**	**319**	LR		LR	10 26 42.7	
	comp=Z,489nm,21.4s,baz=350,slow=42							
LUWI	**Luwuk**	**9.35**	**207**			**Pn**	**10 22 48.8**	**-2.6**
LUWI	**Luwuk**	**9.35**	**207**	P		**Pn**	**10 22 54.6**	**+3.2**
LUWI	**Luwuk**	**9.35**	**207**	P		**Pn**	**10 22 54.9**	**+3.5**
SANI	**Sanana**	**9.41**	**186**	P		**Pn**	**10 22 55.2**	**+3.0**
SANI	**Sanana**	**9.41**	**186**	P		**Pn**	**10 22 50.5**	**-1.7**
	42nm,0.8s							
APSI	**Ampana**	**9.79**	**213**	P		**Pn**	**10 23 02.2**	**+4.7**
	2μm132nm,1.1s							
NLAI	**Namlea**	**10.54**	**179**	P		**Pn**	**10 23 10.9**	**+3.2**
	45nm,0.8s							
FAKI	**Fak Fak**	**11.49**	**153**			**Pn**	**10 23 20.6**	**-0.1**
FAKI	**Fak Fak**	**11.49**	**153**	P		Pn	10 23 28.1	+7.4
FAKI	**Fak Fak**	**11.49**	**153**	P		**Pn**	**10 23 24.9**	**+4.2**
	78nm,1.3s							
TTSI	**Tana Toraja**	**12.57**	**215**	P		**Pn**	**10 23 39.1**	**+3.6**
	755nm91nm,0.9s							
SPSI	**Sidrap Palu**	**13.36**	**213**	P		**Pn**	**10 23 49.1**	**+2.8**
	45nm,1.3s							
BNSI	**Bone**	**13.55**	**211**	P		**Pn**	**10 23 51.5**	**+2.6**
KAPI	**Kappang**	**14.26**	**211**			**Pn**	**10 23 55.9**	**-2.5**
KAPI	**Kappang**	**14.26**	**211**	Pn		**Pn**	**10 23 56.2**	**-2.2**
	2.0nm,0.3s,baz=9.7,slow=14,SNR=6.0							
	21nm,0.7s							
SMPI	**Sarmi**	**14.95**	**128**	P		**P**	**10 24 11.5**	**-0.5**
	1μm83nm,1.5s							
SBUM	**Sibu**	**15.49**	**252**			**Pn**	**10 24 09.2**	**-5.3**
SBUM	**Sibu**	**15.49**	**252**	P		**P**	**10 24 20.1**	**+2.1**
GENI	**Genyem**	**16.46**	**126**	P		P	10 24 39.3	+10
GENI	**Genyem**	**16.46**	**126**	P		**P**	**10 24 31.0**	**+2.2**
	4μm55nm,0.7s							
MMRI	**Maumere**	**16.59**	**197**	P		**Pn**	**10 24 27.8**	**-0.6**
JAY	**Jayapura**	**16.85**	**125**	LR		LR	10 29 34.8	
	comp=Z,333nm,21.9s,baz=0.5,slow=32							
EDFI	**Ende, Flores**	**16.86**	**198**	P		**P**	**10 24 35.4**	**+2.1**
	41nm,0.8s							
STKI	**Sintang**	**17.08**	**246**	P		**P**	**10 24 40.1**	**+4.5**
SOEI	**Soe**	**17.22**	**189**	P		**Pn**	**10 24 33.9**	**-2.5**
SOEI	**Soe**	**17.22**	**189**	P		**P**	**10 24 41.0**	**+3.7**
SOEI	**Soe**	**17.22**	**189**	P		**P**	**10 24 40.4**	**+3.1**
	76nm,1.0s							
KSM	**Kuching**	**17.62**	**251**			**Pn**	**10 24 39.9**	**-1.3**
BATI	**Baumata**	**17.77**	**191**	P		**Pn**	**10 24 43.0**	**-0.1**
	9.0nm,0.3s,baz=18,slow=6.4,SNR=4.6							
	97nm,1.0s							
PLAI	**Plampang**	**18.52**	**210**	P		**Pn**	**10 24 54.9**	**+2.7**
	68nm,0.9s							
GUMO	**Guam**	**18.64**	**69**	LR		LR	10 30 32.1	
	comp=Z,256nm,21.8s,baz=228,slow=32							
JOW	**Kunigami**	**19.40**	**3**	P		**P**	**10 24 59.5**	**-1.5**
JOW	**Kunigami**	**19.40**	**3**	*eP*		**P**	**10 25 01.3**	**+0.3**
	244nm,1.3s							
JOW				*e*LR		LR	10 29 31.7	
	785nm,25.4s							
JOW	**Kunigami**	**19.40**	**3**	P		**P**	**10 25 00.7**	**-0.4**
	64nm,1.1s,baz=181,slow=14,SNR=6.4							
JOW				LR		LR	10 33 32.3	
	comp=Z,268nm,19.4s,baz=270,slow=40							
DRS	**Darwin Rock St**	**20.05**	**169**	P		Pn	10 25 12.3	+1.9
MTN	**Manton Dam**	**20.50**	**168**			**P**	**10 25 13.7**	**+0.6**
KNRA	**Kununurra**	**22.96**	**176**	P		**P**	**10 25 39.1**	**-0.3**
KPJI	**Karang Pucung**	**23.18**	**231**	P		**P**	**10 25 43.6**	**+2.0**
	44nm,0.8s							
JCJ	**Chichijima**	**24.36**	**35**	LR		LR	10 33 24.9	
	comp=Z,161nm,21.8s,baz=237,slow=32							
FITZ	**Fitzroy Crossi**	**25.34**	**183**			**P**	**10 26 01.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.34**	**183**	P		**P**	**10 26 01.4**	**-0.1**
	42nm,0.9s,baz=347,slow=3.4,SNR=29							
	42nm,0.9s							
MDSI	**Maura Dua**	**25.62**	**243**	P		**P**	**10 26 06.1**	**+2.0**
	30nm,1.0s							
NJ2	**Nanjing**	**25.70**	**344**	*eP*		**P**	**10 26 07.0**	**+2.4**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
JNU	**Nakatsue**	**25.88**	**8**			**P**	**10 26 06.1**	**-0.2**
JNU				IAmb		IAmb	10 26 08.6	
	comp=Z,38nm,1.0s							
JNU	**Nakatsue**	**25.88**	**8**	LR		LR	10 35 49.0	
	comp=Z,129nm,21.7s,baz=182,slow=36							
COEN	**Coen**	**26.59**	**143**	P		**P**	**10 26 13.6**	**+0.7**
COEN				IAmb		IAmb	10 26 31.9	
	comp=Z,30nm,1.5s							
JMN	**Monobe**	**27.00**	**13**			**P**	**10 26 14.8**	**-1.6**
WB0	**Warramunga Arr**	**27.93**	**165**			**P**	**10 26 24.6**	**-0.3**
WB0				IAmb		IAmb	10 27 12.1	
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**28.09**	**165**	P		**P**	**10 26 24.9**	**-1.3**
WRA	**Warramunga Arr**	**28.09**	**165**	P		**P**	**10 26 25.4**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=343,slow=9.9,SNR=13							
WRA				PcP		**PcP**	**10 29 39.9**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=347,slow=2.7,SNR=1.4							
	comp=Z,2.4nm,0.7s							
WR8	**Warramunga Arr**	**28.14**	**165**			**P**	**10 26 26.2**	**-0.5**
JHJ2	**Mitsune**	**28.25**	**23**	*e*LR		LR	10 33 43.3	
	comp=Z,63nm,25.3s							
PSI	**Prapat**	**28.30**	**262**	LR		LR	10 39 22.6	
	comp=Z,215nm,18.4s,baz=72,slow=40							
MBWA	**Marble Bar**	**29.23**	**194**	P		**P**	**10 26 36.0**	**-0.3**
MBWA				IAmb		IAmb	10 26 42.8	
	comp=Z,23nm,1.1s							
INU	**Inuyama**	**29.33**	**17**			**P**	**10 26 37.4**	**+0.3**
INU				IAmb		IAmb	10 26 38.5	
	comp=Z,26nm,0.8s							
CMAR	**Chiang Mai Arr**	**29.42**	**295**	P		**P**	**10 26 38.6**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=123,slow=8.0,SNR=5.3							
CMAR				PcP		**PcP**	**10 29 42.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=62,slow=1.0,SNR=4.9							
CMAR				LR		LR	10 39 26.2	
	comp=Z,236nm,18.1s,baz=110,slow=38							
	comp=Z,1.1nm,0.3s							
PSA00	**Pilbara Seismi**	**29.60**	**194**	P		**P**	**10 26 39.0**	**-0.6**
PSA00				IAmb		IAmb	10 26 58.8	
	comp=Z,27nm,1.4s							
KSRS	**Korea Array**	**29.96**	**2**	P		**P**	**10 26 41.6**	**-1.0**
	comp=Z,7.0nm,0.9s,baz=173,slow=9.6,SNR=18							
	comp=Z,7.0nm,0.9s							
PZH	**PanZhiHua**	**30.63**	**311**	P		**P**	**10 26 50.3**	**+1.5**
MAJO	**Matsushiro**	**30.80**	**18**			**P**	**10 26 49.8**	**-0.3**
MAJO				IAmb		IAmb	10 26 50.4	
	comp=Z,12nm,0.9s							
MJAR	**Matsushiro Arr**	**30.80**	**18**			**P**	**10 26 50.1**	**+0.1**
MJAR	**Matsushiro Arr**	**30.80**	**18**	P		**P**	**10 26 48.7**	**-1.3**
	comp=Z,8.3nm,0.8s,baz=194,slow=8.9,SNR=19							
MJAR				LR		LR	10 38 19.0	
	comp=Z,216nm,20.4s,baz=209,slow=35							
	comp=Z,8.3nm,0.8s							
MJB9	**Matsu-Tunnel**	**30.80**	**18**	IAmb		IAmb	10 26 51.8	
	comp=Z,11nm,0.8s							
XAN	**Xi'an**	**31.35**	**330**	P		P	10 26 48.0	-7.0
XAN				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ASAR	**Alice Springs**	**31.58**	**168**	P		**P**	**10 26 56.9**	**-0.1**
ASAR	**Alice Springs**	**31.58**	**168**	P		**P**	**10 26 57.0**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=350,slow=7.6,SNR=25							
ASAR				PcP		**PcP**	**10 29 48.5**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=349,slow=2.3,SNR=6.8							
ASAR				LR		LR	10 41 48.5	
	comp=Z,126nm,19.1s,baz=343,slow=40							
	comp=Z,2.2nm,0.6s							
LZH	**Lanzhou**	**35.56**	**327**	*e*P		**P**	**10 27 36.3**	**+4.5**
LZH				pP		sP	10 27 51.5	+1.0
LZH				pmax		pmax		
	comp=Z,18nm,0.9s							
JTM	**Tenmabayashi**	**35.57**	**19**	P		**P**	**10 27 32.9**	**+1.3**
HHC	**Hu-ho-hao-te**	**36.06**	**340**	*e*P		**P**	**10 27 39.8**	**+3.8**
HHC				S		**S**	**10 33 13.5**	**+1.9**
HHC				pmax		pmax		
	comp=Z,13nm,0.6s							
HHC				pmax		pmax		
	comp=Z,79nm,5.0s							
HHC				LR		LR		
	comp=Z,130nm,15.1s							
HHC				LR		LR		
	comp=Z,140nm,12.6s							
HHC				LR		LR		
	comp=Z,190nm,16.0s							
CN2	**Changchun**	**36.31**	**358**	P		**P**	**10 27 35.5**	**-2.4**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
BTO	**Baotou**	**36.40**	**338**	*e*P		**P**	**10 27 41.5**	**+2.7**
BTO				pP		**sP**	**10 27 59.8**	**+3.0**
BTO				sP		pwP	10 28 08.8	+13
BTO				S		**S**	**10 33 17.5**	**+0.8**
BTO				sS		**ScP**	**10 33 49.8**	**+5.1**
BTO				pmax		pmax		
	comp=Z,13nm,0.7s							
BTO				pmax		pmax		
	comp=Z,220nm,5.5s							
BTO				LR		LR		
	comp=Z,410nm,17.1s							
BTO				LR		LR		
	comp=Z,370nm,18.5s							
BTO				LR		LR		
	comp=Z,470nm,17.2s							
USA0B	**Ussuriysk Arra**	**36.95**	**6**	IAmb		IAmb	10 27 45.0	
	comp=Z,29nm,0.9s							
USRK	**Ussuriysk Ar.**	**36.95**	**6**			**P**	**10 27 43.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**36.95**	**6**	P		**P**	**10 27 43.0**	**-0.2**
	comp=Z,27nm,0.9s,baz=192,slow=8.3,SNR=68							
USRK				LR		LR	10 42 59.1	
	comp=Z,83nm,20.9s,baz=182,slow=37							
	comp=Z,27nm,0.9s							
MDJ	**Mudanjiang**	**37.17**	**3**	IAmb		IAmb	10 27 47.3	
	comp=Z,16nm,0.8s							
MDJ	**Mudanjiang**	**37.17**	**3**	P		**P**	**10 27 46.3**	**+1.1**
MDJ				pmax		pmax		
	comp=Z,25nm,0.8s							
BRDH	**Bariadhala**	**37.24**	**298**	LR		LR	10 43 27.2	
	comp=Z,322nm,18.1s,baz=132,slow=37							
INKA	**Innaminka**	**37.36**	**160**	P		**P**	**10 27 47.6**	**+0.7**
MORW	**Morawa**	**37.73**	**196**	P		**P**	**10 27 50.5**	**+0.4**
ASAJ	**Asahikawa**	**39.07**	**18**	LR		LR	10 42 58.7	
	comp=Z,248nm,21.4s,baz=210,slow=35							
JKA	**Kamikawa-asahi**	**39.07**	**18**	P		**P**	**10 28 00.1**	**-1.1**
H11N1	**WAKE ISLAND Hy**	**40.58**	**68**	T		T	11 12 20.2	
	baz=265,slow=74,SNR=32							
H11N2	**WAKE ISLAND Hy**	**40.59**	**68**	T		T	11 12 20.7	
	baz=265,slow=74,SNR=31							
H11N3	**WAKE ISLAND Hy**	**40.60**	**68**	T		T	11 12 21.6	
	baz=265,slow=74,SNR=37							
BBOO	**Buckleboo**	**40.88**	**168**			**P**	**10 28 16.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**41.13**	**192**	P		**P**	**10 28 18.4**	**0.0**
STKA	**Stephens Creek**	**41.45**	**161**			**P**	**10 28 21.3**	**+0.3**
STKA	**Stephens Creek**	**41.45**	**161**	P		**P**	**10 28 20.8**	**-0.2**
	comp=Z,7.4nm,0.8s,baz=351,slow=9.0,SNR=10.0							
STKA				LR		LR	10 50 17.2	
	comp=Z,71nm,18.1s,baz=12,slow=43							
	comp=Z,7.4nm,0.8s							
HEH	**HeiHe**	**42.75**	**0**	*e*P		**P**	**10 28 30.8**	**-0.5**
HEH				pmax		pmax		
	comp=Z,7.0nm,0.9s							
HEH				LR		LR		
	comp=Z,160nm,17.7s							
HEH				LR		LR		
	comp=Z,110nm,17.3s							
HEH				LR		LR		
	comp=Z,190nm,18.2s							
EVN	**Everest**	**43.12**	**303**	P		**P**	**10 28 35.2**	**-0.3**
SONM	**Songino Array**	**43.97**	**340**	P		**P**	**10 28 40.9**	**-0.5**
SONM	**Songino Array**	**43.97**	**340**	P		**P**	**10 28 40.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=154,slow=8.5,SNR=1.8							
SONM				LR		LR	10 49 28.2	
	comp=Z,132nm,19.2s,baz=148,slow=40							
	comp=Z,0.5nm,0.4s							
DZM	**Mont Dzumac**	**48.49**	**128**	*e*P		P	10 29 10.7	-6.6
	comp=Z,42nm,21.8s							
DZM				*e*S		**S**	**10 36 09.2**	**-5.9**
	comp=Z,36nm,24.4s							
DZM				*e*SS		**SS**	**10 39 42.7**	**-3.1**
	comp=Z,56nm,23.9s							
DZM				*e*LR		LR	10 43 08.6	
	comp=Z,129nm,24.4s							
DZM	**Mont Dzumac**	**48.49**	**128**	LR		LR	10 50 09.2	
	comp=Z,85nm,19.1s,baz=8.5,slow=37							
WMQ	**Urumqi**	**49.94**	**323**	*e*P		**P**	**10 29 29.0**	**+1.0**
WMQ				LR		LR		
	comp=Z,300nm,18.9s							
PEA0B	**Petropavlovsk-**	**52.00**	**23**	P		**P**	**10 29 43.6**	**+0.4**
PEA0B				IAmb		IAmb	10 30 01.4	
	comp=Z,22nm,1.2s							
PETK	**Petropavlovsk-**	**52.00**	**23**	P		**P**	**10 29 43.5**	**+0.3**
PETK	**Petropavlovsk-**	**52.00**	**23**	P		**P**	**10 29 43.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=221,slow=7.0,SNR=17							
PETK				LR		LR	10 50 42.0	
	comp=Z,50nm,20.6s,baz=210,slow=35							
NFK	**Norfolk Island**	**53.53**	**134**	*e*LR		LR	10 45 27.6	
YAK	**Yakutsk**	**54.59**	**2**	LR		LR	10 56 23.7	
	comp=Z,63nm,18.4s,baz=188,slow=40							
MKAR	**Makanchi Array**	**54.76**	**324**	P		**P**	**10 30 02.3**	**-1.3**
MKAR	**Makanchi Array**	**54.76**	**324**	P		**P**	**10 30 02.2**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=123,slow=7.8,SNR=26							
MKAR				LR		LR	10 56 11.5	
	comp=Z,205nm,18.3s,baz=120,slow=39							
	comp=Z,3.7nm,0.8s							
MA2	**Magadan**	**55.14**	**14**	P		**P**	**10 30 07.1**	**+1.0**
MA2				IAmb		IAmb	10 30 08.3	
	comp=Z,16nm,0.9s							
MA2	**Magadan**	**55.14**	**14**	LR		LR	10 53 11.2	
	comp=Z,38nm,20.1s,baz=197,slow=36							
NIL	**Nilore**	**55.96**	**306**			**P**	**10 30 11.0**	**-1.6**
NIL				IAmb		IAmb	10 30 12.1	
	comp=Z,16nm,0.9s							
ZALV	**Zalesovo Beam**	**57.50**	**332**	P		**P**	**10 30 20.5**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.8,SNR=4.9							
ZALV				LR		LR	10 56 37.2	
	comp=Z,79nm,20.1s,baz=110,slow=38							
	comp=Z,0.8nm,0.3s							
AAK	**Ala-Archa**	**57.88**	**316**	LR		LR	10 57 27.5	
	comp=Z,134nm,21.0s,baz=78,slow=38							
SEY	**Seymchan**	**58.46**	**13**	LR		LR	10 56 44.3	
	comp=Z,31nm,19.2s,baz=62,slow=37							
KURBB	**Kurchatov Arra**	**58.85**	**326**	P		**P**	**10 30 30.9**	**-1.6**
	comp=Z,3.9nm,0.8s,baz=126,slow=6.0,SNR=28							
KURBB				LR		LR	10 57 52.0	
	comp=Z,118nm,18.2s,baz=168,slow=38							
	comp=Z,3.9nm,0.8s							
SHEM	**Shemya Is, Ala**	**59.23**	**31**	LR		LR	10 52 00.5	
	comp=Z,31nm,21.7s,baz=160,slow=32							
GAR	**Garm**	**59.70**	**311**	P		**P**	**10 30 37.4**	**-1.4**
CHGR	**Chuyangaron**	**60.47**	**310**	P		**P**	**10 30 42.4**	**-1.7**
CHGR				IAmb		IAmb	10 30 43.9	
	comp=Z,13nm,1.0s							
KK31	**Karatay Array**	**60.79**	**316**	IAmb		IAmb	10 30 45.2	
	comp=Z,6.1nm,0.8s							
KKAR	**Karatay Array**	**60.79**	**316**	P		**P**	**10 30 44.1**	**-1.9**
JOHN	**Johnston Islan**	**62.57**	**75**	*e*LR		LR	10 49 40.1	
	comp=Z,90nm,24.6s							
TIXI	**Tiksi**	**64.22**	**1**	LR		LR	10 58 56.9	
	comp=Z,101nm,21.6s,baz=202,slow=36							
RAO	**Raoul Island**	**64.28**	**127**	LR		LR	10 58 44.0	
	comp=Z,29nm,18.1s,baz=108,slow=36							
BVAR	**Borovoye Array**	**64.44**	**326**	P		**P**	**10 31 08.8**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=132,slow=8.8,SNR=10							
BVAR				LR		LR	11 01 19.2	
	comp=Z,75nm,19.7s,baz=133,slow=38							
	comp=Z,2.4nm,0.7s							
URZ	**Urewera**	**65.04**	**138**	LR		LR	11 02 45.6	
	comp=Z,69nm,18.1s,baz=298,slow=39							
SNZO	**South Karori**	**65.24**	**142**	*e*LR		LR	10 50 52.2	
	comp=Z,8.1nm,23.0s							
NIUE	**Niue**	**67.47**	**114**	*e*LR		LR	10 52 00.6	
	comp=Z,121nm,26.6s							
SPIA	**Saint Paul Isl**	**69.27**	**31**	P		**P**	**10 31 40.9**	**+0.2**
	baz=251							
AB31	**Akbulak array**	**69.53**	**320**	P		**P**	**10 31 41.1**	**-1.4**
ABKAR	**Akbulak array**	**69.53**	**320**	P		**P**	**10 31 40.6**	**-1.9**
UNV	**Unalaska Valle**	**70.32**	**35**	P		**P**	**10 31 47.5**	**+0.3**
	baz=255							
AKTO	**Aktyubinsk**	**71.00**	**321**	LR		LR	11 05 58.2	
	comp=Z,186nm,18.6s,baz=232,slow=38							
ARTI	**Arti**	**72.11**	**327**	LR		LR	11 05 43.6	
	comp=Z,70nm,19.9s,baz=64,slow=38							
FALS	**False Pass**	**72.31**	**35**	P		**P**	**10 32 00.0**	**+0.8**
	baz=258							
TNA	**Tin City**	**73.17**	**23**	P		**P**	**10 32 04.3**	**+0.2**
	baz=250							
K13K	**Kusilvak Mount**	**73.43**	**27**	P		**P**	**10 32 06.2**	**+0.4**
	baz=254							
M13K	**Dall Lake**	**73.64**	**29**	P		**P**	**10 32 07.4**	**+0.3**
	baz=256							
F14K	**Arctic Creek**	**73.76**	**24**	P		**P**	**10 32 07.9**	**+0.2**
	baz=252							
SDPT	**Sand Point**	**74.07**	**35**	P		**P**	**10 32 10.6**	**+0.9**
	baz=260							
J14K	**Nanvaranak Lak**	**74.14**	**27**	P		**P**	**10 32 11.0**	**+1.1**
	baz=255							
L14K	**Kuka Creek**	**74.19**	**28**	P		**P**	**10 32 11.5**	**+1.3**
	baz=256							
M14K	**Bethel**	**74.39**	**29**	P		**P**	**10 32 12.4**	**+1.0**
	baz=257							
O14K	**Tigyukauivet M**	**74.41**	**30**	P		**P**	**10 32 12.4**	**+0.9**
	baz=258							
CASY	**Casey**	**74.44**	**187**			**P**	**10 32 11.8**	**+0.4**
CASY				IAmb		IAmb	10 32 15.7	
	comp=Z,7.9nm,0.8s							
CASY	**Casey**	**74.44**	**187**	*e*S		**S**	**10 41 40.6**	**-1.4**
	comp=Z,51nm,31.0s							
CASY	**Casey**	**74.44**	**187**	*e*LR		LR	10 55 11.8	
	comp=Z,64nm,26.0s							
CHNA	**Chernabura Isl**	**74.48**	**35**	P		**P**	**10 32 12.4**	**+0.4**
	baz=261							
F15K	**North Star Dit**	**74.50**	**24**	P		**P**	**10 32 12.7**	**+0.7**
	baz=253							
S14K	**Fog Glacier**	**74.74**	**34**	P		**P**	**10 32 14.2**	**+0.5**
	baz=260							
L15K	**Unganek Mounta**	**74.82**	**28**	P		**P**	**10 32 13.8**	**-0.1**
	baz=257							
K15K	**Wolf Creek Mou**	**74.94**	**27**	P		**P**	**10 32 15.4**	**+0.8**
	baz=257							
M15K	**Kasigluk River**	**74.99**	**29**	P		**P**	**10 32 15.2**	**+0.4**
	baz=258							
C16K	**Lisburne Hills**	**75.02**	**21**	P		**P**	**10 32 15.6**	**+0.7**
	baz=252							
O15K	**Ungalikthiuk R**	**75.11**	**31**	P		**P**	**10 32 16.2**	**+0.5**
	baz=259							
N15K	**Kwethluk River**	**75.17**	**30**	IAmb		IAmb	10 32 19.4	
	comp=Z,16nm,1.0s							
N15K	**Kwethluk River**	**75.17**	**30**	P		**

F18K	**Selawik**	76.69	23	P	P	10 32 25.3	+0.8			
	baz=258									
P17K	**Kvichak River**	76.84	31	P	P	10 32 26.1	+0.6			
	baz=262									
CHIR	**Chirikof Islan**	76.86	34	P	P	10 32 26.7	+1.1			
	baz=264									
G18K	**Tagagawik**	76.94	24	P	P	10 32 26.2	+0.3			
	baz=259									
Q17K	**Contact Creek**	77.00	32	P	P	10 32 27.0	+0.5			
	baz=263									
L18K	**Granite Mounta**	77.15	28	IAmb	IAmb	10 33 13.1				
	comp=Z,28nm,1.9s									
L18K	**Granite Mounta**	77.15	28	P	P	10 32 27.6	+0.5			
	baz=262									
RAR	**Rarotonga**	77.24	114	*e*LR	LR	10 56 25.4				
	comp=Z,41nm,27.0s									
KIRV	**Kirov**	77.27	328	LR	LR	11 09 22.1				
	comp=Z,78nm,19.2s,baz=99,slow=38									
C19K	**Lookout Ridge**	77.27	21	P	P	10 32 27.9	+0.1			
	baz=257,SNR=8.2									
ACHA	**Angle Creek He**	77.29	32	IAmb	IAmb	10 32 31.9				
	comp=Z,9.9nm,1.4s									
N18K	**Kilae Creek**	77.31	29	IAmb	IAmb	10 32 31.2				
	comp=Z,9.4nm,1.1s									
N18K	**Kilae Creek**	77.31	29	P	P	10 32 28.7	+0.6			
	baz=262									
J18K	**Innoko River**	77.33	27	P	P	10 32 29.1	+0.9			
	baz=261									
M18K	**Stony River**	77.45	29	P	P	10 32 29.5	+0.6			
	baz=262,SNR=5.8									
GCSA	**Galena City Sc**	77.47	25	P	P	10 32 28.8	0.0			
	baz=261									
F19K	**Shaleruckik Mo**	77.47	23	P	P	10 32 28.9	+0.1			
	baz=259									
P18K	**Big Mountain,**	77.48	31	P	P	10 32 29.0	-0.2			
	baz=263									
Q18K	**Katmai Hardscr**	77.51	32	P	P	10 32 29.4	0.0			
	baz=264									
G19K	**Purcell Mounta**	77.62	24	P	P	10 32 30.6	+0.9			
	baz=260									
D19K	**Kuna River**	77.66	21	IAmb	IAmb	10 32 32.3				
	comp=Z,10nm,0.9s									
D19K	**Kuna River**	77.66	21	P	P	10 32 30.9	+0.9			
	baz=259									
SII	**Sitkinak Islan**	77.74	34	P	P	10 32 30.9	+0.3			
	baz=265									
H19K	**Roundabout Mou**	77.77	24	IAmb	IAmb	10 32 33.4				
	comp=Z,14nm,1.1s									
H19K	**Roundabout Mou**	77.77	24	P	P	10 32 31.2	+0.6			
	baz=261,SNR=11									
E19K	**Redstone River**	77.79	22	IAmb	IAmb	10 32 33.3				
	comp=Z,11nm,1.0s									
E19K	**Redstone River**	77.79	22	P	P	10 32 32.1	+1.4			
	baz=260									
J19K	**Poorman**	77.89	26	P	P	10 32 31.6	+0.3			
	baz=262									
L19K	**White Mountain**	78.00	28	P	P	10 32 31.9	0.0			
	baz=263									
N19K	**Bonanza Creek**	78.01	29	P	P	10 32 32.1	0.0			
	baz=264									
O19K	**Port Alsworth**	78.03	30	P	P	10 32 32.5	+0.5			
	baz=264									
M19K	**Big River Lodg**	78.18	28	P	P	10 32 33.3	+0.4			
	baz=264									
Q19K	**Cape Douglas,**	78.24	31	P	P	10 32 33.9	+0.5			
	baz=265									
D20K	**Etivluk River**	78.25	21	IAmb	IAmb	10 32 35.6				
	comp=Z,13nm,1.0s									
OHAK	**Old Harbor**	78.28	33	P	P	10 32 34.0	+0.5			
	baz=266									
B20K	**Meade River**	78.29	20	IAmb	IAmb	10 33 56.3				
	comp=Z,26nm,1.5s									
B20K	**Meade River**	78.29	20	P	P	10 32 33.9	+0.6			
	baz=259									
F20K	**Avaraart Lake**	78.30	23	P	P	10 32 34.0	+0.5			
	baz=261,SNR=6.7									
E20K	**Nigu River**	78.32	22	P	P	10 32 34.4	+0.7			
	baz=261									
H20K	**Anotleneega Mo**	78.42	25	P	P	10 32 34.7	+0.5			
	baz=262,SNR=8.8									
L20K	**Farewell, AK**	78.48	28	P	P	10 32 35.1	+0.5			
	baz=264									
I20K	**Naaghedeneel**	78.49	25	IAmb	IAmb	10 32 37.6				
	comp=Z,16nm,1.1s									
I20K	**Naaghedeneel**	78.49	25	P	P	10 32 34.8	+0.3			
	baz=263,SNR=5.4									
K20K	**Telida**	78.50	27	P	P	10 32 35.0	+0.4			
	baz=264									
P19K	**Oil Pt**	78.52	31	P	P	10 32 35.2	+0.3			
	baz=265									
J20K	**Nowinta River**	78.56	26	IAmb	IAmb	10 32 37.9				
	comp=Z,12nm,1.4s									
J20K	**Nowinta River**	78.56	26	P	P	10 32 35.6	+0.7			
	baz=263,SNR=5.8									
KDAK	**Kodiak Island**	78.70	33	LR	LR	11 02 25.2				
	comp=Z,76nm,21.1s,baz=237,slow=32									
KDAK	**Kodiak Island**	78.70	33	P	P	10 32 36.9	+1.0			
	baz=266									
A21K	**Barrow**	78.71	19	P	P	10 32 36.4	+0.7			
	baz=260									
M20K	**Styx River**	78.77	28	P	P	10 32 36.7	+0.4			
	baz=265,SNR=5.7									
O20K	**Slope Mountain**	78.86	30	P	P	10 32 37.1	+0.3			
	baz=266									
Q20K	**Shuyak Island**	78.86	32	P	P	10 32 37.0	+0.3			
	baz=266									
IMAR	**Indian Mountai**	78.94	24	P	P	10 32 37.7	+0.7			
C21K	**Knifeblade Rid**	78.97	21	P	P	10 32 37.4	+0.3			
	baz=262									
B21K	**Ikpikpuk River**	79.10	20	IAmb	IAmb	10 32 40.7				
	comp=Z,9.3nm,0.9s									
B21K	**Ikpikpuk River**	79.10	20	P	P	10 32 38.0	+0.2			
	baz=262									
G21K	**Allakaket**	79.10	24	IAmb	IAmb	10 32 40.5				
	comp=Z,10nm,1.1s									
G21K	**Allakaket**	79.10	24	P	P	10 32 39.0	+1.1			
	baz=264									
E21K	**Killik River**	79.16	22	IAmb	IAmb	10 32 40.5				
	comp=Z,9.3nm,1.1s									
E21K	**Killik River**	79.16	22	P	P	10 32 39.2	+0.9			
	baz=263									
A22K	**Sinclair Lake**	79.18	19	P	P	10 32 38.5	+0.2			
	baz=261									
F21K	**Alatna River**	79.19	23	P	P	10 32 38.7	+0.3			
	baz=263									
H21K	**Melozitna Rive**	79.29	25	P	P	10 32 39.2	+0.3			
	baz=264,SNR=6.5									
PPLA	**Pureypile**	79.30	27	P	P	10 32 39.1	-0.1			
	baz=265									
RAYN	**Ar Rayn**	79.31	293	P	P	10 32 38.5	-1.5			
RAYN				IAmb	IAmb	10 32 39.6				
	comp=Z,9.0nm,0.9s									
CHUM	**Lake Minchumin**	79.33	26	P	P	10 32 39.6	+0.4			
	baz=265									
GNI	**Garni**	79.37	309	LR	LR	11 12 51.1				
	comp=Z,39nm,19.8s,baz=80,slow=40									
CAST	**Castle Rocks**	79.39	27		P	10 32 40.8	+1.2			
CAST				IAmb	IAmb	10 32 42.0				
	comp=Z,10nm,1.0s									
CAST	**Castle Rocks**	79.39	27	P	P	10 32 40.1	+0.5			
	baz=265,SNR=12									
SKT	**Skwentna**	79.53	28	IAmb	IAmb	10 32 41.8				
	comp=Z,8.8nm,1.0s									
SKT	**Skwentna**	79.53	28	P	P	10 32 40.7	+0.3			
	baz=266									
I21K	**Tanana**	79.59	25	P	P	10 32 40.7	+0.2			
	baz=265,SNR=11									
B22K	**Teshekpuk Lake**	79.60	20	P	P	10 32 41.5	+1.0			
	baz=263									
D22K	**Ayikyak River**	79.68	21	P	P	10 32 41.4	+0.4			
	baz=264									
F22K	**John River**	79.73	23	P	P	10 32 41.5	+0.1			
	baz=264,SNR=6.8									
SUA	**Susitna One**	79.88	29	IAmb	IAmb	10 32 45.1				
	comp=Z,11nm,0.9s									
SUA	**Susitna One**	79.88	29	P	P	10 32 42.3	0.0			
	baz=267									
H22K	**Ishtalitna Cre**	79.90	24	P	P	10 32 41.8	-0.4			
	baz=266,SNR=7.9									
E22K	**Anaktuvuk Pass**	79.93	22	IAmb	IAmb	10 32 45.1				
	comp=Z,10nm,1.1s									
E22K	**Anaktuvuk Pass**	79.93	22	P	P	10 32 42.4	0.0			
	baz=265,SNR=7.3									
BPAW	**Bear Paw Mtn.**	79.93	26	P	P	10 32 43.2	+0.8			
BPAW				IAmb	IAmb	10 32 44.8				
	comp=Z,14nm,1.0s									
BPAW	**Bear Paw Mtn.**	79.93	26	P	P	10 32 42.7	+0.2			
	baz=266,SNR=13									
G22K	**Bettles**	79.93	23	P	P	10 32 42.7	+0.3			
	baz=265									
MLY	**Manley**	80.10	25	IAmb	IAmb	10 32 48.0				
	comp=Z,9.9nm,1.0s									
MLY	**Manley**	80.10	25	P	P	10 32 43.6	+0.2			
	baz=266,SNR=13									
M22K	**Willow**	80.19	29	P	P	10 32 44.0	+0.2			
	baz=267									
TRF	**Thorofare Moun**	80.20	27	IAmb	IAmb	10 32 47.5				
	comp=Z,11nm,1.0s									
TRF	**Thorofare Moun**	80.20	27	P	P	10 32 44.2	0.0			
	baz=267,SNR=9.2									
RC01	**Rabbit Creek A**	80.34	29	P	P	10 32 44.8	0.0			
	baz=268									
D23K	**Nanushuk River**	80.41	21	IAmb	IAmb	10 32 47.9				
	comp=Z,10.0nm,1.1s									
D23K	**Nanushuk River**	80.41	21	P	P	10 32 45.3	+0.4			
	baz=266									
SEW	**Seward**	80.45	30	P	P	10 32 45.5	+0.3			
	baz=268									
COLD	**Coldfoot**	80.47	23	P	P	10 32 46.0	+0.7			
	baz=266,SNR=7.1									
G23K	**Bananza Creek**	80.50	24	P	P	10 32 45.5	0.0			
	baz=267,SNR=6.7									
C23K	**Itkillik River**	80.51	20	IAmb	IAmb	10 32 47.9				
	comp=Z,21nm,1.2s									
C23K	**Itkillik River**	80.51	20	P	P	10 32 45.7	+0.3			
	baz=266,SNR=5.6									
H23K	**Yukon River**	80.65	24	P	P	10 32 46.6	+0.3			
	baz=267,SNR=8.5									
PMR	**Palmer**	80.66	29	P	P	10 32 46.8	+0.5			
PMR				IAmb	IAmb	10 32 47.9				
	comp=Z,9.1nm,1.0s									
PMR	**Palmer**	80.66	29	P	P	10 32 46.5	+0.2			
	baz=268,SNR=6.4									
KBZ	**Ikabaz**	80.68	313	LR	LR	11 12 13.3				
	comp=Z,193nm,20.5s,baz=64,slow=38									
I23K	**Minto, Yukon-K**	80.69	25	P	P	10 32 46.9	+0.4			
I23K	**Minto, Yukon-K**	80.69	25	P	P	10 32 46.9	+0.4			
	baz=268,SNR=9.4									
E23K	**Chandalar**	80.74	22	IAmb	IAmb	10 32 50.3				
	comp=Z,12nm,1.1s									
E23K	**Chandalar**	80.74	22	P	P	10 32 47.3	+0.5			
	baz=267,SNR=11									
NEA2	**Nenana**	80.79	26	IAmb	IAmb	10 32 49.8				
	comp=Z,7.8nm,1.0s									
NEA2	**Nenana**	80.79	26	P	P	10 32 47.4	+0.3			
	baz=268									
TOLK	**Toolik Lake Re**	80.79	22	IAmb	IAmb	10 32 49.6				
	comp=Z,8.9nm,1.0s									
TOLK	**Toolik Lake Re**	80.79	22	P	P	10 32 47.5	+0.4			
	baz=267									
MCK	**McKinley**	80.82	27	P	P	10 32 47.7	+0.4			
	baz=268,SNR=12									
RND	**Reindeer**	80.84	27	IAmb	IAmb	10 32 48.9				
	comp=Z,18nm,1.2s									
WAT1	**Susitna Watana**	80.96	28	P	P	10 32 48.5	+0.4			
	baz=269									
KNK	**Knik Glacier**	80.97	29	IAmb	IAmb	10 32 51.6				
	comp=Z,14nm,1.1s									
KNK	**Knik Glacier**	80.97	29	P	P	10 32 48.5	+0.4			
	baz=269									
PWL	**Port Wells**	81.02	30	IAmb	IAmb	10 32 50.4				
	comp=Z,16nm,1.0s									
PWL	**Port Wells**	81.02	30	P	P	10 32 48.5	+0.1			
	baz=269,SNR=6.7									
D24K	**Happy Valley**	81.09	21	IAmb	IAmb	10 32 51.2				
	comp=Z,10nm,0.9s									
D24K	**Happy Valley**	81.09	21	P	P	10 32 48.9	+0.3			
	baz=267									
C24K	**Franklin Bluff**	81.16	21	P	P	10 32 49.2	+0.3			
	baz=267									
E24K	**Your Creek**	81.17	22	P	P	10 32 49.3	+0.3			
	baz=268,SNR=5.6									
WRH	**Wood River Hil**	81.21	26	IAmb	IAmb	10 32 51.5				
	comp=Z,11nm,1.0s									
COLA	**College**	81.32	25	P	P	10 32 50.5	+0.6			
COLA				IAmb	IAmb	10 32 53.3				
	comp=Z,9.8nm,0.9s									
COLA	**College**	81.32	25	P	P	10 32 50.5	+0.6			
	baz=269									
M23K	**Glacier View**	81.33	29	P	P	10 32 50.6	+0.5			
	baz=270									
WAT6	**Susitna Watana**	81.33	28	P	P	10 32 50.3	+0.1			
	baz=269,SNR=14									
H24K	**Noodor Dome**	81.33	25	IAmb	IAmb	10 32 54.4				
	comp=Z,7.7nm,0.8s									
H24K	**Noodor Dome**	81.33	25	P	P	10 32 50.6	+0.6			
	baz=269,SNR=12									
CCB	**Clear Creek Bu**	81.34	26	IAmb	IAmb	10 32 51.2				
	comp=Z,12nm,1.2s									
F24K	**Squaw Lake**	81.38	23	P	P	10 32 50.3	+0.1			
	baz=266,SNR=6.0									
DHY	**Denali Highway**	81.50	27	P	P	10 32 51.5	+0.4			
	baz=270									
G24K	**Hadweenzic Riv**	81.52	24	IAmb	IAmb	10 32 53.7				
	comp=Z,12nm,1.1s									
G24K	**Hadweenzic Riv**	81.52	24	P	P	10 32 50.8	0.0			
	baz=269,SNR=5.9									
SCM	**Sheep Creek Mo**	81.52	29	IAmb	IAmb	10 32 53.3				
	comp=Z,20nm,1.2s									
SCM	**Shep Creek Mo**	81.52	29	P	P	10 32 51.7	+0.7			
	baz=270,SNR=5.6									
GLI	**Glacier Island**	81.63	30	P	P	10 32 51.5	0.0			
	baz=270									
HDA	**Harding Lake**	81.70	26	P	P	10 32 52.0	+0.1			
	baz=270,SNR=8.6									
IL31		81.73	26	P	P	10 32 52.1	+0.1			
ILAR	**Eielson Array**	81.73	26	P	P	10 32 51.9	-0.1			
ILAR	**Eielson Array**	81.73	26	P	P	10 32 52.4	+0.3			
	comp=Z,3.7nm,0.9s,baz=241,slow=5.8,SNR=34									
	comp=Z,3.7nm,0.9s									
G25K	**Bearman Lake**	82.06	24	P	P	10 32 54.5	+0.8			
	baz=270									
M24K	**Tolsona, Glenn**	82.06	28	P	P	10 32 54.4	+0.5			
	baz=271									
H25L	**Birch Creek**	82.18	24	P	P	10 32 55.0	+0.7			
	baz=271,SNR=8.4									
KLU	**Klutina**	82.19	29	P	P	10 32 55.0	+0.4			
	baz=271									
K24K	**Donnelly Dome**	82.22	27	P	P	10 32 55.4	+0.7			
	baz=271,SNR=12									
F25K	**Christian Rive**	82.24	23	P	P	10 32 55.6	+0.9			
	baz=271,SNR=6.4									
E25K	**Arctic Village**	82.26	22	P	P	10 32 55.2	+0.4			
	baz=271,SNR=6.4									
DIV	**Divide**	82.27	29	IAmb	IAmb	10 32 57.7				
	comp=Z,15nm,1.2s									
EYAK	**Cordova Ski Ar**	82.29	30	P	P	10 32 55.6	+0.5			
	baz=271									
PRP	**Porcupine Dome**	82.31	25	P	P	10 32 55.7	+0.4			
	baz=271									
PAX	**Paxson**	82.37	27	P	P	10 32 56.0	+0.4			
	baz=271,SNR=5.5									
J25K	**Salcha River,**	82.39	26	P	P	10 32 55.9	+0.3			
	baz=271,SNR=8.7									
C26K	**Camden Bay**	82.48	20	P	P	10 32 55.7	-0.1			
	baz=271									
RIDG	**Independent Ri**	82.64	27	P	P	10 32 56.8	0.0			
	baz=272,SNR=11									
BMAR	**Burnt Mountain**	82.65	23	P	P	10 32 58.0	+1.2			
F26K	**Sheenjek River**	82.81	23	P	P	10 32 57.7	0.0			
	baz=272									
N25K	**Chitina, Valde**	82.82	29	IAmb	IAmb	10 33 00.8				
	comp=Z,15nm,1.5s									
N25K	**Chitina, Valde**	82.82	29	P	P	10 32 57.8	-0.1			
	baz=272									
BMRM	**Bremner River**	82.84	29	IAmb	IAmb	10 33 00.6				
	comp=Z,15nm,1.2s									
BMRM	**Bremner River**	82.84	29	P	P	10 32 57.8	-0.2			
	baz=272									
C27K	**Jago River**	82.90	21	IAmb	IAmb	10 33 00.8				
	comp=Z,6.0nm,0.9s									
C27K	**Jago River**	82.90	21	P	P	10 32 58.0	-0.1			
	baz=272									
G26K	**Porcupine Rive**	82.97	23	IAmb	IAmb	10 33 01.9				
	comp=Z,24nm,1.7s									
G26K	**Porcupine Rive**	82.97	23	P	P	10 32 58.4	0.0			
	baz=272									
KAIM	**Kayak Island**	82.98	30	P	P	10 32 58.5	-0.1			
	baz=273									
DOT	**Dot Lake**	82.99	27	P	P	10 32 59.8	+1.1			
SCRK	**Sand Creek**	83.01	26	IAmb	IAmb	10 33 01.0				
	comp=Z,9.0nm,1.3s									
SCRK	**Sand Creek**	83.01	26	P	P	10 32 59.0	+0.1			
	baz=273,SNR=5.4									
J26L	**Joseph Creek**	83.17	26	P	P	10 32 59.9	+0.2			
	baz=273,SNR=6.3									
MENT	**Mentasta**	83.17	27	P	P	10 33 00.6	+1.0			
MENT				IAmb	IAmb	10 33 01.7				
	comp=Z,6.9nm,1.2s									
GLB	**Gilahina Butte**	83.21	29	IAmb	IAmb	10 33 02.4				
	comp=Z,14nm,1.1s									
I26K	**Coal Creek Min**	83.30	25	IAmb	IAmb	10 33 03.2				
	comp=Z,11nm,0.9s									
I26K	**Coal Creek Min**	83.30	25	P	P	10 33 00.5	+0.2			
	baz=273									
L26K	**Log Cabin Wild**	83.34	27	IAmb	IAmb	10 33 03.1				
	comp=Z,5.7nm,1.1s									
L26K	**Log Cabin Wild**	83.34	27	P	P	10 33 00.7	+0.2			
	baz=273,SNR=7.3									
VRDI	**Verde Repeater**	83.39	29	IAmb	IAmb	10 33 03.3				
	comp=Z,8.3nm,1.0s									
BGLC	**Bering Glacier**	83.54	30	P	P	10 33 02.3	+0.8			
	baz=274									
M26K	**Nabesna, AK**	83.54	28	IAmb	IAmb	10 33 04.2				
	comp=Z,9.7nm,1.1s									
M26K	**Nabesna, AK**	83.54	28	P	P	10 33 01.5	-0.1			
	baz=274,SNR=6.5									
MCARA	**McCarthy VSAT**	83.59	29	P	P	10 33 03.0	+1.2			
	baz=274									
CRQE	**Cirque**	83.59	30	P	P	10 33 02.3	+0.4			
	baz=274,SNR=5.9									
WAX	**Waxell Ridge**	83.73	30	IAmb	IAmb	10 33 05.5				
	comp=Z,8.7nm,0.8s									
E27K	**Coleen River**	83.75	22	IAmb	IAmb	10 33 05.3				
	comp=Z,14nm,1.1s									
E27K	**Coleen River**	83.75	22	P	P	10 33 03.1	+0.6			
	baz=274,SNR=10									
G27K	**Doyon Strip**	83.82	23	IAmb	IAmb	10 33 06.0				
	comp=Z,9.8nm,1.1s									
G27K	**Doyon Strip**	83.82	23	P	P	10 33 03.3	+0.4			
	baz=274,SNR=13									
K27K	**Chicken**	83.85	26	P	P	10 33 04.1	+1.1			
	baz=274									
D27M	**Malcolm River**	83.89	21	IAmb	IAmb	10 33 06.0				
	comp=Z,10.0nm,0.9s									
D27M	**Malcolm River**	83.89	21	P	P	10 33 04.0	+0.7			
	baz=275,SNR=6.0									
H27K	**Steamboat Moun**	83.92	24	P	P	10 33 04.5	+1.0			
	baz=274,SNR=11									
I27K	**Kandik River**	83.93	25	P	P	10 33 04.6	+1.1			
	baz=274,SNR=61									
L27K	**Beaver Creek,**	84.03	27	IAmb	IAmb	10 33 07.0				
	comp=Z,10nm,1.1s									
L27K	**Beaver Creek,**	84.03	27	P	P	10 33 05.2	+1.2			
	baz=275,SNR=13									
BCAR	**Beaver Creek A**	84.05	27	P	P	10 33 05.2	+1.0			
M27K	**Edge Creek, AK**	84.06	28	IAmb	IAmb	10 33 07.1				
	comp=Z,9.3nm,1.1s									
M27K	**Edge Creek, AK**	84.06	28	P	P	10 33 05.6	+1.2			
	baz=275,SNR=10									
MESA	**MESA**	84.20	30	P	P	10 33 05.9	+0.8			
	baz=275									
BARN	**Barnard Glacie**	84.27	29	P	P	10 33 07.5	+2.0			
CTG	**Chitna Glacier**	84.43	29	P	P	10 33 07.5	+1.2			
	baz=275,SNR=19									
F28M	**Old Crow**	84.44	23	P	P	10 33 07.6	+1.5			
	baz=276,SNR=31									
E28M	**Babbage River**	84.47	22	P	P	10 33 07.2	+1.1			
	baz=276,SNR=14									
BVCY	**Beaver Creek**	84.53	28	P	P	10 33 06.9	+0.3			
	baz=276,SNR=5.4									
TABL	**Table Mountain**	84.58	30	P	P	10 33 09.5	+2.4			
LOGN	**Logan Glacier**	84.61	29	P	P	10 33 08.8	+1.6			
I28M	**Miner Creek**	84.64	25	P	P	10 33 08.1	+0.9			
	baz=276,SNR=27									
D28M	**Stokes Point**	84.67	21	P	P	10 33 08.5	+1.4			
	baz=277									
YUK3	**Moose Creek**	84.78	28	P	P	10 33 08.5	+0.4			
	baz=276									
O28M	**Mount Upton**	85.01	29	IAmb	IAmb	10 33 12.9				
	comp=Z,10nm,0.9s									
O28M	**Mount Upton**	85.01	29	P	P	10 33 09.4	0.0			
	baz=276,SNR=7.7									
DAWY	**Dawson**	85.02	26		P	10 33 10.3	+1.3			
DAWY				IAmb	IAmb	10 33 11.6				
	comp=Z,9.0nm,1.0s									
DAWY	**Dawson**	85.02	26	P	P	10 33 09.5	+0.4			
	baz=277,SNR=12									
PINM	**Pinnacle**	85.05	30	P	P	10 33 10.1	+0.8			
	baz=276									
E29M	**Blow River**	85.09	22	IAmb	IAmb	10 33 11.4				
	comp=Z,6.6nm,1.1s									
E29M	**Blow River**	85.09	22	P	P	10 33 09.9	+0.6			
	baz=278,SNR=6.8									
YUK8	**Steele Glacier**	85.16	29	P	P	10 33 10.5	+0.5			
	baz=277									
H29M	**Whitestone**	85.19	24	P	P	10 33 10.7	+0.9			
	baz=277,SNR=11									
G29M	**Pine Creek**	85.24	23	P	P	10 33 11.0	+0.9			
	baz=278,SNR=15									
I29M	**Ogilvie Camp,**	85.33	25	IAmb	IAmb	10 33 13.5				
	comp=Z,12nm,1.0s									
I29M	**Ogilvie Camp,**	85.33	25	P	P	10 33 11.6	+1.1			
	baz=278									
J29N	**Klondike Camp**	85.48	26	P	P	10 33 12.3	+0.9			
	baz=278									
PNL	**Peninsula**	85.53	31	P	P	10 33 12.6	+0.9

comp=Z,4.7nm,1.1s,baz=320,slow=5.0,SNR=6.2
VNDA LR LR 11 14 23.8
comp=Z,36nm,18.6s,baz=344,slow=37
comp=Z,4.7nm,1.1s
O30N Mendenhall 87.00 29 P **P 10 33 19.3 +0.4**
baz=280
N31M Braeburn, Yuko 87.03 28 IAmb IAmb 10 33 23.6
comp=Z,5.3nm,1.0s
N31M Braeburn, Yuko 87.03 28 P **P 10 33 19.6 +0.6**
baz=280
PLBC Pleasant Camp 87.09 31 P **P 10 33 19.9 +0.6**
baz=280
ARCES ARCESS Array B 87.14 340 P **P 10 33 19.4 +0.1**
ARCES ARCESS Array B 87.14 340 P **P 10 33 18.3 -1.0**
comp=Z,0.6nm,0.5s,baz=79,slow=6.3,SNR=5.1
ARCES LR LR 11 17 40.0
comp=Z,35nm,18.5s,baz=140,slow=39
comp=Z,0.6nm,0.5s
MAW Mawson 87.23 200 P **P 10 33 20.1 +0.4**
comp=Z,2.5nm,1.0s,baz=46,slow=5.8,SNR=3.7
MAW LR LR 11 12 19.6
comp=Z,67nm,20.9s,baz=72,slow=36
comp=Z,2.5nm,1.0s
MMAI Mount Meron Ar 87.35 303 LR LR 11 18 49.6
comp=Z,25nm,19.1s,baz=109,slow=40
S31K Pelican 87.40 32 P **P 10 33 21.1 +0.3**
baz=280
M31M Drury Creek, Y 87.55 28 P **P 10 33 21.5 0.0**
baz=281
R31K City Hall, Gus 87.58 32 P **P 10 33 21.4 -0.3**
baz=280
SKAG Skagway 87.61 30 P **P 10 33 21.3 -0.4**
baz=280
WHY Whitehorse 87.61 29 IAmb IAmb 10 33 25.5
comp=Z,8.6nm,1.0s
WHY Whitehorse 87.61 29 P **P 10 33 21.8 -0.1**
baz=281
BRTR Keskin Array B 87.91 310 P **P 10 33 22.1 -1.7**
comp=Z,0.9nm,0.8s,baz=134,slow=3.6,SNR=3.6
BRTR LR LR 11 16 42.5
comp=Z,18nm,20.9s,baz=132,slow=38
comp=Z,0.9nm,0.8s
N32M Quiet Lake 88.37 29 P **P 10 33 26.3 +0.8**
baz=282
P32M Atlin 88.39 30 P **P 10 33 25.9 +0.4**
baz=282
A36M Sachs Harbour 88.46 17 P **P 10 33 26.1 +0.6**
baz=289
P33M Teslin, Yukon 88.70 29 P **P 10 33 27.2 +0.1**
baz=283
FINES FINESS Array B 88.76 332 P **P 10 33 25.6 -1.6**
comp=Z,2.0nm,0.8s,baz=46,slow=5.5,SNR=3.7
FINES LR LR 11 16 26.8
comp=Z,79nm,20.0s,baz=48,slow=38
comp=Z,2.0nm,0.8s
MMPY Sheldon Lake, 88.88 27 IAmb IAmb 10 33 30.8
comp=Z,5.4nm,1.1s
MMPY Sheldon Lake, 88.88 27 P **P 10 33 28.5 +0.7**
baz=284
AKASG Malin Array Be 89.24 321 P **P 10 33 28.0 -1.7**
comp=Z,2.1nm,0.6s,baz=70,slow=4.2,SNR=6.9
comp=Z,2.1nm,0.6s
CRAG Craig 89.56 34 P **P 10 33 31.2 +0.2**
baz=282
C36M Paulatuk 89.72 20 P **P 10 33 31.8 +0.3**
baz=290
WRAK Wrangell Islan 89.78 33 P **P 10 33 32.3 +0.2**
baz=283
R33M Jennings River 89.80 30 P **P 10 33 32.8 +0.6**
baz=284
S34M Telegraph Cree 90.08 31 P **P 10 33 33.1 -0.3**
baz=284
DLBC Dease Lake 90.51 31 LR LR 11 10 44.9
comp=Z,36nm,20.2s,baz=230,slow=33
TGTN Hyland Airport 90.53 28 P **P 10 33 36.1 +0.6**
baz=287
WTLY Watson Lake, Y 90.67 29 IAmb IAmb 10 33 39.1
comp=Z,11nm,1.4s
WTLY Watson Lake, Y 90.67 29 P **P 10 33 36.9 +0.6**
baz=286
LIRD Liard River Hi 92.19 29 P **P 10 33 44.1 +0.9**
baz=288
MLR Muntele Rosu 92.46 316 LR LR 11 20 04.3
comp=Z,75nm,21.8s,baz=74,slow=39
TOAD Toad River Com 92.79 30 P **P 10 33 46.9 +0.9**
baz=289
KOTAN Kotaneelee Air 92.93 28 P **P 10 33 47.1 +0.5**
baz=290
TAOE Nuku Hiva Isla 93.93 98 *e*LR LR 11 04 10.6
comp=Z,231nm,26.0s
RES Resolute Bay 94.21 10 LR LR 11 17 51.6
comp=Z,18nm,20.6s,baz=42,slow=37
HFS Hagfors 94.93 333 LR LR 11 20 28.7
comp=Z,89nm,19.7s,baz=64,slow=38
NOA NORSAR Array B 95.66 334 LR LR 11 20 45.6
comp=Z,51nm,20.6s,baz=50,slow=38
YKA Yellowknife Ar 96.10 24 P **P 10 34 01.5 +0.4**
comp=Z,2.3nm,0.9s,baz=304,slow=4.4,SNR=6.3
YKA LR LR 11 16 51.0
comp=Z,34nm,21.8s,baz=308,slow=35
comp=Z,2.3nm,0.9s
QSPA South Pole Qui 97.25 180 P Pdif 10 34 06.8 +0.5
comp=Z,0.8nm,0.7s,baz=323,slow=2.2,SNR=5.2
QSPA LR LR 11 20 17.5
comp=Z,26nm,19.4s,baz=342,slow=37
comp=Z,0.8nm,0.7s
VRAC Vranov 97.46 322 LR LR 11 22 44.2
comp=Z,34nm,18.9s,baz=52,slow=38
GERES GERESS Array B 99.40 322 P **Pdif 10 34 15.3 -1.1**
comp=Z,0.7nm,0.8s,baz=63,slow=9.1,SNR=4.4
comp=Z,0.7nm,0.8s
TXAR Lajitas Array 119.15 51 PKP **PKPdf 10 39 23.4 +0.1**
comp=Z,0.3nm,0.6s,baz=140,slow=0.4,SNR=7.9
TORD Torodi Ar. Bea 121.96 290 PKP **PKPdf 10 39 28.2 -0.7**
comp=Z,1.5nm,0.8s,baz=37,slow=2.8,SNR=8.6
PMSA Palmer Station 122.16 174 *e*LR LR 11 17 10.2
comp=Z,38nm,22.0s
LPAZ La Paz 162.77 122 PKP **PKPdf 10 40 37.8 +0.5**
comp=Z,1.0nm,0.8s,baz=225,slow=2.9,SNR=3.8

*ISU **29** 10:27:09,41.91N×70.98E,h16km*
*KRNET **29** 10:27:14.5±0.1,41.11N×70.19E,mb2.6*
ISC 29 10:27:15.8±1.1,**41.08N**±0.04×**70.26E**±0.05,**h10**km,**n6,**
σ2s10/12,7C,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMG	**Chimgan**	**0.50**	**339**	P	**Pg**	**10 27 24.3**	**-1.3**
CHMG				S	**Sb**	**10 27 34.7**	**+0.4**
TRKS	**Terek-Say**	**0.80**	**56**	⇑*i*P	**Pg**	**10 27 30.5**	**-0.8**
TRKS				⇑*i*S	**Sb**	**10 27 42.1**	**-0.9**
CHMI	**Chimion**	**1.26**	**130**	P	**Pg**	**10 27 39.8**	**-0.2**
CHMI				S	**Sn**	**10 28 01.8**	**+5.2**
KK31	**Karatay Array**	**2.03**	**5**	P	**Pb**	**10 27 52.7**	**-0.1**
	0.6nm,0.2s,baz=186,slow=15,SNR=8.6						
KK31				⇑S	**Sg**	**10 28 22.4**	**+1.4**
	2.4nm,0.4s,baz=192,slow=22,SNR=6.7						
GAR	**Garm**	**2.08**	**179**	⇑*i*P	**Pb**	**10 27 53.1**	**-0.6**
GAR				⇑*i*S	**Sg**	**10 28 21.5**	**-1.2**
SALK	**Salom-Alik**	**2.71**	**93**	⇑*i*P	**Pb**	**10 28 02.2**	**-2.2**
SALK				⇑*i*S	**Sb**	**10 28 37.4**	**-0.4**

STR 29 10:29:04.5±0.3,**46°N**±2°×°±°,**h0**km,**MLv1.4/7,LOCSAT**
earthModelID alpes_taup-2.11 preliminary,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLDF	**La Plantade**	**0.63**	**266**	Pg	Pg	10 29 16.9	+0.3
PLDF				Sg	Sg	10 29 24.8	+0.1
OG35	**Corcelles**	**0.73**	**87**	Pg	Pg	10 29 18.8	+0.2
OG35				Sg	Sg	10 29 28.9	+0.9
SSB	**Saint Sauveur**	**0.74**	**179**	Pg	Pg	10 29 18.1	-0.5
SSB				Sg	Sg	10 29 28.9	+0.6
COLF	**Collangettes**	**0.76**	**229**	Pg	Pg	10 29 19.8	+0.6
COLF				Sg	Sg	10 29 30.1	+1.1
OGSM	**Saint Maurice**	**0.92**	**116**	Pg	Pg	10 29 22.2	+0.1
OGSM				Sg	Sb	10 29 35.3	-0.8
PLYF	**Puligny Montra**	**0.95**	**9**	Pg	Pg	10 29 22.9	+0.1
PLYF				Sg	Sg	10 29 35.7	+0.6
OGMY	**Moye**	**0.96**	**98**	Pg	Pg	10 29 23.1	+0.1
OGMY				Sg	Sg	10 29 36.2	+0.6
AGO	**Saint Agoulin**	**0.97**	**273**	Pg	Pg	10 29 23.2	+0.1
AGO				Sg	Sb	10 29 36.7	-0.8
GRN	**Grenoble**	**1.16**	**132**	Pg	Pg	10 29 26.6	-0.1
GRN				Sg	Sg	10 29 42.3	+0.6
LBL	**Lubilhac**	**1.19**	**229**	Pg	Pg	10 29 27.4	+0.1
LBL				Sg	Sb	10 29 43.9	-0.1
LOR	**Lormes**	**1.33**	**340**	Pg	Pg	10 29 30.2	+0.2
LOR				Sg	Sb	10 29 48.0	-0.1

*IDC **29** 10:53:03.9±3.0,0.09N×123.71E,h111km±29km,mb4.0/19,*
mbtmp4.4/21,MS2.5/1,Error ellipse: s-maj=21.8km
s-min=11.4km az=71.0
*NEIC **29** 10:53:06.9±1.7,0.01N±0.08×123.79E±0.06,h124km±4km,*
mb4.5/26,Error ellipse: s-maj=11.4km s-min=9.3km
az=177.0
*DJA **29** 10:53:08.5±0.2,0.2S±2°×12.4E±°,h112km±4km,M4.8/24,*
mB5.3/6,mb4.8/17,MLv4.8/24,Mw(mB)4.7/6
ISC 29 10:53:05.2±0.4,**0.05S**±0.04×**123.85E**±0.05,**h110**km,**n106,**
σ2s07/101,mb4.4/32,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.63**	**12**	P	Pn	10 53 28.9	+5.9
KMSI				S	**Sn**	**10 53 43.9**	**+7.5**
LUWI	**Luwuk**	**1.46**	**227**		**Pn**	**10 53 33.8**	**+2.3**
LUWI	**Luwuk**	**1.46**	**227**	P	**Pn**	**10 53 34.0**	**+2.5**
LUWI	**Luwuk**	**1.46**	**227**	S	**Sn**	**10 53 52.9**	**+1.4**
LUWI	**Luwuk**	**1.46**	**227**	P	**Pn**	**10 53 33.5**	**+2.0**
MRSI	**Marisa**	**1.97**	**285**	P	**Pn**	**10 53 39.8**	**+2.0**
APSI	**Ampana**	**2.36**	**249**	P	**Pn**	**10 53 44.4**	**+1.6**
SANI	**Sanana**	**2.92**	**133**	P	**Pn**	**10 53 51.6**	**+1.4**
SANI	**Sanana**	**2.92**	**133**	S	**Sn**	**10 54 24.7**	**-0.2**
SANI	**Sanana**	**2.92**	**133**	P	**Pn**	**10 53 51.1**	**+0.9**
TOLI2	**Tolitoli**	**3.27**	**291**		**Pn**	**10 53 56.4**	**+1.6**
TOLI2	**Tolitoli**	**3.27**	**291**	P	**Pn**	**10 53 56.8**	**+2.0**
TNTI	**Ternate**	**3.61**	**77**		**Pn**	**10 54 01.4**	**+2.0**
TNTI	**Ternate**	**3.61**	**77**	P	**Pn**	**10 54 02.5**	**+3.1**
TNTI	**Ternate**	**3.61**	**77**	S	**Sn**	**10 54 42.4**	**+1.1**
TNTI	**Ternate**	**3.61**	**77**	P	**Pn**	**10 54 02.4**	**+3.1**
SGSI	**Sangihe**	**4.07**	**24**	P	**Pn**	**10 54 10.3**	**+4.7**
KDI	**Kendari**	**4.07**	**197**	P	**Pn**	**10 54 06.8**	**+1.2**
PCI	**Palu**	**4.10**	**258**	P	**Pn**	**10 54 09.5**	**+3.6**
NLAI	**Namlea**	**4.54**	**134**	P	**Pn**	**10 54 15.0**	**+3.1**
TTSI	**Tana Toraja**	**5.01**	**233**	P	**Pn**	**10 54 20.4**	**+2.3**
BBSI	**Bau Bau**	**5.55**	**193**	P	**Pn**	**10 54 26.4**	**+0.8**
	71nm,1.0s						
SPSI	**Sidrap Palu**	**5.63**	**226**	P	**Pn**	**10 54 28.8**	**+2.2**
	0.4nm36nm,0.5s						
BNSI	**Bone**	**5.71**	**221**	P	**Pn**	**10 54 29.1**	**+1.4**
MSAI	**Masohi**	**6.05**	**123**	P	**Pn**	**10 54 36.0**	**+3.8**
KAPI	**Kappang**	**6.41**	**220**	P	**Pn**	**10 54 36.4**	**-0.8**
	10nm,0.3s,baz=41,slow=20,SNR=3.9						
KAPI				S	**Sn**	**10 55 48.0**	**-0.9**
	16nm,0.4s,baz=136,slow=19,SNR=7.0						
BSSI	**Bau Bau, Buton**	**6.92**	**209**	P	**Pn**	**10 54 45.9**	**+1.8**
	0.3nm58nm,0.6s						
MYLDM	**Lahad Datu**	**7.45**	**314**		Pn	10 54 56.9	+5.7
MYLDM	**Lahad Datu**	**7.45**	**314**	S	**Sn**	**10 56 20.3**	**+6.2**
MYLDM	**Lahad Datu**	**7.45**	**314**	P	**Pn**	**10 54 55.1**	**+3.9**
SWI	**Sorong**	**7.46**	**96**	P	**Pn**	**10 54 54.7**	**+3.3**
	0.3nm76nm,0.7s						
FAKI	**Fak Fak**	**8.87**	**109**	Pn	**Pn**	**10 55 12.3**	**+1.7**
FAKI	**Fak Fak**	**8.87**	**109**	P	**Pn**	**10 55 12.0**	**+1.4**
FAKI	**Fak Fak**	**8.87**	**109**	S	**Sn**	**10 56 48.7**	**-0.2**
FAKI	**Fak Fak**	**8.87**	**109**	P	**Pn**	**10 55 12.7**	**+2.1**
	33nm,0.8s						
KKM	**Kota Kinabalu**	**9.73**	**309**	Pn	**Pn**	**10 55 24.2**	**+2.0**
KKM	**Kota Kinabalu**	**9.73**	**309**	P	**Pn**	**10 55 25.8**	**+3.5**
DRS	**Darwin Rock St**	**14.16**	**151**	P	**Pn**	**10 56 21.4**	**+0.6**
MTN	**Manton Dam**	**14.62**	**151**	P	**Pn**	**10 56 29.6**	**+2.7**
MTN	**Manton Dam**	**14.62**	**151**	P	**Pn**	**10 56 27.9**	**+1.1**
KDU	**Kakadu**	**15.20**	**146**	P	**Pn**	**10 56 35.3**	**+1.2**
KNRA	**Kununurra**	**16.27**	**163**	P	**Pn**	**10 56 49.8**	**+2.4**
KPJI	**Karang Pucung**	**16.54**	**244**	P	**Pn**	**10 56 53.4**	**+2.6**
	47nm,0.8s						
BBJI	**Bungbulang**	**17.75**	**245**	P	**P**	**10 57 06.2**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**10 57 08.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**10 57 08.2**	**+0.5**
	12nm,0.5s,baz=358,slow=8.7,SNR=43						
FITZ	**Fitzroy Crossi**	**18.03**	**174**	P	**P**	**10 57 08.2**	**+0.5**
MBWA	**Marble Bar**	**21.36**	**191**	P	**P**	**10 57 44.0**	**+0.1**
PSA00	**Pilbara Seismi**	**21.75**	**190**	IAmb	IAmb	10 57 48.4	
	comp=Z,12nm,0.9s						
PSA00				P	**P**	**10 57 48.4**	**+0.4**
WB0	**Warramunga Arr**	**22.16**	**153**		**P**	**10 57 52.0**	**-0.3**
WB0				IAmb	IAmb	10 57 55.1	
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**22.28**	**153**	P	**P**	**10 57 54.0**	**+0.4**
WRAB				IAmb	IAmb	10 57 56.4	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**22.29**	**153**		**P**	**10 57 52.5**	**-1.2**
WRA	**Warramunga Arr**	**22.29**	**153**	P	**P**	**10 57 53.1**	**-0.5**
	comp=Z,29nm,0.7s,baz=332,slow=9.9,SNR=54						
	comp=Z,29nm,0.7s						
WR8	**Warramunga Arr**	**22.37**	**153**		**P**	**10 57 54.2**	**-0.3**
WR8				IAmb	IAmb	10 57 57.2	
	comp=Z,27nm,0.7s						
COEN	**Coen**	**23.61**	**127**	P	**P**	**10 58 07.4**	**+1.0**
COEN				IAmb	IAmb	10 58 09.2	
	comp=Z,40nm,1.5s						
COEN	**Coen**	**23.61**	**127**	P	**P**	**10 58 07.2**	**+0.8**
AS31	**Alice Springs**	**25.43**	**158**	P	**P**	**10 58 23.4**	**+0.5**
ASAR	**Alice Springs**	**25.43**	**158**	P	**P**	**10 58 23.8**	**+0.9**
ASAR	**Alice Springs**	**25.43**	**158**	P	**P**	**10 58 23.0**	**+0.1**
	comp=Z,5.4nm,0.4s,baz=334,slow=9.4,SNR=58						
	comp=Z,5.4nm,0.4s						
AS01	**Alice Springs**	**25.45**	**158**	P	**P**	**10 58 23.8**	**+0.8**
QIS	**Mount Isa**	**25.56**	**144**	P	**P**	**10 58 25.3**	**+1.2**
MEEK	**Meekatharra**	**26.91**	**190**	P	**P**	**10 58 35.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.61**	**308**	P	**P**	**10 59 07.6**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=137,slow=7.8,SNR=13						
	comp=Z,2.5nm,0.3s						
BLDU	**Ballidu**	**31.15**	**192**	P	**P**	**10 59 13.9**	**+0.2**
INKA	**Innaminka**	**31.96**	**151**	IAmb	IAmb	10 59 22.9	
	comp=Z,3.6nm,0.7s						
JCJ	**Chichijima**	**32.24**	**32**	LR	LR	11 14 23.3	
	comp=Z,7.3nm,18.4s,baz=208,slow=40						
NWAO	**Narrogin (SRO)**	**33.29**	**190**	P	**P**	**10 59 31.6**	**-0.8**
	comp=Z,21nm,1.1s,baz=27,slow=9.0,SNR=2.4						
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	**33.29**	**190**	P	**P**	**10 59 32.6**	**+0.2**
BBOO	**Buckleboo**	**34.56**	**162**	P	**P**	**10 59 43.6**	**+0.2**
BBOO				IAmb	IAmb	11 00 22.3	
	comp=Z,13nm,1.2s						
BBOO	**Buckleboo**	**34.56**	**162**	P	**P**	**10 59 43.2**	**-0.2**
JMN	**Monobe**	**34.90**	**15**	P	**P**	**10 59 45.7**	**-0.6**
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**10 59 54.8**	**+0.5**
STKA	**Stephens Creek**	**35.84**	**154**	P	**P**	**10 59 54.9**	**+0.5**
	comp=Z,8.0nm,0.4s,baz=332,slow=7.5,SNR=16						
	comp=Z,8.0nm,0.4s						
HTT	**Hallett**	**36.11**	**158**	P	**P**	**10 59 57.2**	**+0.5**
KSRS	**Korea Array**	**37.50**	**5**	P	**P**	**11 00 05.3**	**-3.0**
	comp=Z,0.8nm,0.6s,baz=186,slow=8.7,SNR=2.7						
	comp=Z,0.8nm,0.6s						
CMSA	**Cobar Meteorol**	**37.54**	**149**	P	**P**	**11 00 10.0**	**+1.2**
MJAR	**Matsushiro Arr**	**38.77**	**19**	P	**P**	**11 00 16.8**	**-2.2**
	comp=Z,2.6nm,0.9s,baz=194,slow=9.1,SNR=5.4						
	comp=Z,2.6nm,0.9s						
ARMA	**Armidale**	**40.12**	**141**	P	**P**	**11 00 31.9**	**+1.3**
ARMA				IAmb	IAmb	11 01 12.5	
	comp=Z,14nm,1.2s						
ARMA	**Armidale**	**40.12**	**141**	P	**P**	**11 00 32.2**	**+1.7**
CAN	**Canberra**	**42.21**	**149**	P	**P**	**11 00 49.0**	**+1.6**
CAN	**Canberra**	**42.21**	**149**	P	**P**	**11 00 47.8**	**+0.3**
TOO	**Toolangi**	**42.35**	**154**	P	**P**	**11 00 50.4**	**+1.8**
TOO				IAmb	IAmb	11 00 51.4	
	comp=Z,7.3nm,1.2s						
USRK	**Ussuriysk Ar.**	**44.65**	**8**	P	**P**	**11 01 05.9**	**-0.9**
USRK	**Ussuriysk Ar.**	**44.65**	**8**	P	**P**	**11 01 04.0**	**-2.8**
	comp=Z,2.8nm,0.6s,baz=186,slow=4.8,SNR=6.9						
	comp=Z,2.8nm,0.6s						
SONM	**Songino Array**	**50.05**	**345**	P	P	11 01 44.4	-4.4
	comp=Z,0.5nm,0.5s,baz=165,slow=6.0,SNR=2.3						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.10**	**328**	P	**P**	**11 02 52.0**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=120,slow=7.6,SNR=4.2						
MKAR				PcP	**PcP**	**11 03 39.4**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=136,slow=5.3,SNR=3.7						
	comp=Z,1.3nm,0.3s						
PETK	**Petropavlovsk-**	**60.00**	**23**	P	**P**	**11 02 59.2**	**-0.9**
PETK	**Petropavlovsk-**	**60.00**	**23**	P	**P**	**11 02 59.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=240,slow=1.8,SNR=5.2						
	comp=Z,0.7nm,0.6s						
BKZ	**Black Stump Fm**	**61.83**	**135**	P	**P**	**11 03 13.4**	**+0.6**
ZALV	**Zalesovo Beam**	**62.71**	**335**	P	**P**	**11 03 15.9**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=130,slow=6.0,SNR=4.1						
	comp=Z,0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**63.43**	**330**	P	**P**	**11 03 20.4**	**-2.8**
	comp=Z,2.1nm,0.2s,baz=132,slow=6.0,SNR=12						
	comp=Z,2.1nm,0.2s						
KURK	**Kurchatov**	**63.44**	**330**		**P**	**11 03 20.8**	**-2.5**
CASY	**Casey**	**66.77**	**186**	P	**P**	**11 03 44.4**	**0.0**
CASY				IAmb	IAmb	11 03 44.9	
	comp=Z,3.5nm,0.7s						
BVAR	**Borovoye Array**	**68.96**	**329**	P	**P**	**11 03 55.5**	**-3.0**
	comp=Z,1.1nm,0.7s,baz=128,slow=9.6,SNR=4.6						
	comp=Z,1.1nm,0.7s						
AB31	**Akbulak array**	**73.28**	**322**	P	P	11 04 20.5	-4.1
AKTO	**Aktyubinsk**	**74.86**	**323**	P	P	11 04 30.5	-3.2
	comp=Z,1.7nm,0.3s,baz=94,slow=5.0,SNR=6.0						
	comp=Z,1.7nm,0.3s						
VOI	**Vohitsoka**	**77.97**	**248**	P	**P**	**11 04 50.3**	**-1.8**
VOI				IAmb	IAmb	11 04 55.5	
	comp=Z,5.8nm,0.9s						
L16K	**Owhat River**	**83.74**	**28**	P	**P**	**11 05 22.2**	**+0.4**
L16K				IAmb	IAmb	11 05 44.8	
	comp=Z,13nm,1.5s						
C19K	**Lookout Ridge**	**85.26**	**20**	P	**P**	**11 05 29.5**	**+0.1**
C19K				IAmb	IAmb	11 05 52.0	
	comp=Z,8.6nm,1.3s						
H19K	**Roundabout Mou**	**85.77**	**24**	P	**P**	**11 05 31.8**	**0.0**
QSPA	**South Pole Qui**	**89.89**	**180**	P	**P**	**11 05 52.3**	**+0.6**
QSPA				IAmb	IAmb	11 05 58.7	
	comp=Z,7.8nm,1.4s						
QSPA	**South Pole Qui**	**89.89**	**180**	P	**P**	**11 05 52.2**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=307,slow=5.1,SNR=7.2						
	comp=Z,1.0nm,1.0s						
ARCES	**ARCESS Array B**	**92.97**	**340**	P	**P**	**11 06 04.0**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=72,slow=4.2,SNR=5.7						
	comp=Z,1.6nm,0.8s						
SPITS	**Spitsbergen Ar**	**93.59**	**349**	P	**P**	**11 06 05.7**	**-2.8**
	comp=Z,4.7nm,0.9s,baz=54,slow=2.5,SNR=1.6						
	comp=Z,4.7nm,0.9s						
FINES	**FINESS Array B**	**93.76**	**332**	P	P	11 06 05.4	-4.1
	comp=Z,0.6nm,0.6s,baz=76,slow=8.7,SNR=4.0						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**121.23**	**285**	PKP	**PKPdf**	**11 11 43.2**	**-3.2**
	comp=Z,0.5nm,0.7s,baz=40,slow=3.3,SNR=2.6						

*CATAC **29** 10:57:53.8±1.0,14°N±6°×8°8W±°,h3km±5km,M2.7/4,*
MLv2.7/4,Error ellipse: s-maj=15.6km s-min=4.9km
az=38.6,confirmed
*SNET **29** 10:57:54.9±1.4,14.44N×88.42W,h13km±9km,ML2.6*
*GCG **29** 10:57:54.7±0.8,14.58N×88.43W,h32km±7km,MD3.7*
ISC 29 10:57:54.4±1.3,**14.42N**±0.04×**88.44W**±0.05,**h14**km±11km,
n22,σ0s63/28,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARH	**Santa Rosa de**	**0.47**	**319**	*i* P	**Pg**	**10 58 03.5**	**-0.2**
SARH				*e*S	**Sg**	**10 58 10.4**	**+0.3**
LLGN	**La Laguna**	**0.55**	**242**	*e*P	**Pg**	**10 58 05.2**	**-0.2**
LLGN				*e*S	**Sg**	**10 58 13.3**	**+0.5**
LLGN	**La Laguna**	**0.55**	**242**	P	**Pg**	**10 58 05.1**	**-0.2**
CAHU	**Cacacuatique**	**0.69**	**161**	*e*P	**Pg**	**10 58 08.6**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.77**	**201**	*e*P	**Pg**	**10 58 08.8**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.77**	**201**	P	**Pg**	**10 58 08.8**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.77**	**201**	S	**Sg**	**10 58 20.0**	**+0.4**
ESQI	**Esquipulas**	**0.88**	**279**	*e*P	**Pg**	**10 58 11.6**	**+0.1**
ESQI	**Esquipulas**	**0.88**	**279**	S	**Sg**	**10 58 23.7**	**+0.5**
MTO3	**Montecristo**	**0.89**	**269**	*e*P	**Pg**	**10 58 11.7**	**-0.1**
MTO3				*e*S	**Sg**	**10 58 24.0**	**+0.5**
MTO3	**Montecristo**	**0.89**	**269**	*i* P	**Pg**	**10 58 11.7**	**-0.1**
MTO3	**Montecristo**	**0.89**	**269**	P	**Pg**	**10 58 11.6**	**-0.1**
MTO3	**Montecristo**	**0.89**	**269**	S	**Sg**	**10 58 24.2**	**+0.6**
TECO	**Alcaldia de Te**	**0.94**	**201**	*e*P	**Pb**	**10 58 11.1**	**-1.4**
PACA	**Pacayal**	**0.95**	**173**	*e*P	**Pn**	**10 58 13.9**	**+0.3**
PACA				*e*S	**Sb**	**10 58 26.4**	**+1.0**
JAYA	**Jayaque - finc**	**1.24**	**232**	*i* P	**Pn**	**10 58 17.2**	**-0.3**
JAYA				*i* S	**Sb**	**10 58 34.4**	**+0.7**
SNJE	**San Jose**	**1.26**	**244**	*e*P	**Pn**	**10 58 17.7**	**-0.1**
RTR	**El Retiro**	**1.28**	**246**	*e*P	**Pn**	**10 58 18.1**	**0.0**
CNCH	**Conchagua**	**1.28**	**153**	P	**Pn**	**10 58 17.7**	**-0.4**
CNCH	**Conchagua**	**1.28**	**153**	S	**Sb**	**10 58 35.6**	**+0.7**
NUBE	**Las Nubes**	**1.40**	**248**	*e*P	**Pn**	**10 58 19.8**	**+0.1**
NUBE	**Las Nubes**	**1.40**	**248**	*i* P	**Pn**	**10 58 19.7**	**0.0**
NUBE				*i* S	**Sb**	**10 58 39.6**	**+1.4**

*SDD **29** 11:19:08.7±1.4,18.61N×68.72W,h142km±10km,MD3.2,*
ML2.8,MW2.9
*RSPR **29** 11:19:09.6,18.57N×68.82W,h128km±1km,MD2.7/10*
*NEIC **29** 11:19:09.1±0.1,18.7N±0.3×68.79W±0.06,h137km±13km,*
ML2.5/10,Md2.7/10(RSPR),Error ellipse: s-maj=46.0km
s-min=5.7km az=187.0
ISC 29 11:19:09.4±1.5,**18.62N**±0.08×**68.82W**±0.04,**h128**km±9km,
n46,σ0s45/52,9C-12D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.10**	**104**	⇓*e*P	**Pn**	**11 19 26.9**	**+0.1**
HIDR	**Higuey Centro**	**0.10**	**104**	*e*S	**Sn**	**11 19 39.8**	**-0.2**
HIDR	**Higuey Centro**	**0.10**	**104**	*e*Pg	**Pn**	**11 19 26.5**	**-0.3**
HIDR				⇓*e*Sg	**Sn**	**11 19 40.5**	**+0.5**
HIDR				IAML		11 19 40.8	
	comp=N,320nm,0.1s						
SADR	**Isla Saona**	**0.42**	**175**	⇓*e*P	**Pn**	**11 19 27.3**	**-0.6**
SADR	**Isla Saona**	**0.42**	**175**	*e*S	**

PDPR	**Patillas Dam,**	**2.72**	**102**	Pn		**Pn**	**11 19 52.5**	**+0.2**
PDPR				IAML			11 20 33.9	
	comp=E,14nm,2.0s							
PDPR				IAML			11 21 00.0	
	comp=N,18nm,2.5s							
PDPR	**Patillas Dam,**	**2.72**	**102**⇑	*eP*		**Pn**	**11 19 52.9**	**+0.6**
PDPR	**Patillas Dam,**	**2.72**	**102**	*eS*		**Sn**	**11 20 25.7**	**+0.3**
HUMP	**Col San Antoni**	**2.86**	**99**			**Pn**	**11 19 53.4**	**-0.7**
HUMP	**Col San Antoni**	**2.86**	**99**			**Sn**	**11 20 27.7**	**-0.8**
HUMP	**Col San Antoni**	**2.86**	**99**	IAML			11 20 22.3	
	comp=N,19nm,3.0s							
HUMP	**Col San Antoni**	**2.86**	**99**⇑	*eP*		**Pn**	**11 19 53.4**	**-0.7**
HUMP	**Col San Antoni**	**2.86**	**99**	*eS*		**Sn**	**11 20 27.7**	**-0.8**

*IDC **29** 11:25:10.7±0.9,8˚.89N×92˚.88E, h0km, mb3.8/9, mbtmp3.8/11, ML3.8/2, MS3.5/3, Error ellipse: s-maj=31.0km s-min=19.9km az=49.0*
*NEIC **29** 11:25:12.0±2.2, 8˚.33N±0˚.09×92˚.2E±0˚.2, h10km±2km, mb4.3/8, Error ellipse: s-maj=31.9km s-min=6.7km az=244.0*
*NDI **29** 11:25:19.8±0.7, 8˚.35N×92˚.18E, h10km, ML4.0, MW4.0, mb4.3(NEIC)*
*BKK **29** 11:25:25.6±1.7, 9˚N±5˚×9˚4E±1˚5, h10km, M5.5/14, mB7.3/6, mb4.6/9, Mjma4.8/14, ML5.2/13, MLv5.2/13, Mw(mB)7.4/6*

ISC 29 11:25:11.8±0.7, 8˚38N±0˚06×92˚25E±0˚08, h10km, n40, σ2ᵠ12/30, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**2.15**	**129**	*eP*	**Pg**	**11 25 54.7**	**+1.7**
CMBY				*eS*	**Sg**	**11 26 21.3**	**+0.4**
CMBY				IAML		11 26 28.0	
	comp=N,1μm,0.3s						
CMBY				IAML		11 26 29.5	
	comp=E,940nm,0.4s						
PBA	**Port Blair**	**3.29**	**8**		**Pn**	**11 26 03.9**	**+0.5**
PBA	**Port Blair**	**3.29**	**8**	*eP*	**Pb**	**11 26 12.7**	**+2.4**
PBA				*eS*	**Sb**	**11 26 50.7**	**+0.3**
PBA				IAML		11 27 03.2	
	comp=N,795nm,0.1s						
PBA				IAML		11 27 57.4	
	comp=E,871nm,0.0s						
DGPR	**DIGLIPUR**	**4.81**	**8**	*eP*	**Pb**	**11 26 32.6**	**-3.6**
DGPR				*eS*	**Sn**	**11 27 25.9**	**+5.7**
LHMI	**Lhok Sumawe**	**5.62**	**124**	Pn	**Pn**	**11 26 35.3**	**-0.1**
PKDT	**Phuket**	**6.04**	**94**	P	**Pn**	**11 26 37.8**	**-3.5**
RNTT	**Ranong**	**6.23**	**80**	P	Pn	11 26 37.5	-6.4
SURA	**Surathani**	**7.33**	**83**	P	Pn	11 26 52.5	-6.5
	comp=E,0.5nmcomp=E,0.3nmcomp=E,1.0nmcomp=E,8μm comp=E,55nm,0.8s						
KULM	**Kulim**	**8.89**	**110**	Pn	**Pn**	**11 27 20.6**	**+0.2**
IPM	**Ipoh**	**9.54**	**113**	Pn	**Pn**	**11 27 29.9**	**+0.5**
UTHA	**Uthaitani**	**10.02**	**44**	P	Pn	11 27 29.5	-6.4
	comp=E,8.0nm,0.7s						
PALK	**Pallekele**	**11.49**	**265**	Pn	Pn	11 28 05.6	+9.4
	comp=E,0.3nm,0.3s,baz=82,slow=13,SNR=1.0						
PALK				Sn	Sn	11 30 16.2	+11
	comp=E,3.6nm,0.3s,baz=169,slow=18,SNR=9.2						
PALK				LR	LR	11 31 58.0	
	comp=E,120nm,20.6s,baz=84,slow=34 comp=E,9.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.94**	**32**	Pn	Pn	11 27 53.9	-8.3
	comp=E,0.3nm,0.3s,baz=218,slow=15,SNR=8.2 comp=E,0.7nm,0.5s						
VJD	**Vijayawada**	**13.91**	**307**	*eP*	**P**	**11 28 35.6**	**-1.7**
EVN	**Everest**	**20.14**	**346**	P	**P**	**11 29 47.3**	**+0.5**
H08S3	**Diego Garcia H**	**25.32**	**232**	T	T	11 58 08.7	
	baz=50,slow=75,SNR=219						
H08S2	**Diego Garcia H**	**25.32**	**232**	T	T	11 57 55.9	
	baz=50,slow=75,SNR=41						
H08S1	**Diego Garcia H**	**25.34**	**232**	T	T	11 58 06.6	
	baz=50,slow=75,SNR=8.0						
SIMJ	**Simiganj**	**36.69**	**329**	P	**P**	**11 32 19.4**	**+0.3**
SIMJ				IAmb	IAmb	11 32 20.6	
	comp=Z,4.5nm,0.6s						
ARSB	**Arslanbob**	**36.99**	**336**	P	**P**	**11 32 22.4**	**+0.8**
AAK	**Ala-Archa**	**37.52**	**338**	LR	LR	11 49 02.5	
	comp=Z,56nm,18.0s,baz=170,slow=38						
MKAR	**Makanchi Array**	**39.21**	**349**	P	**P**	**11 32 37.4**	**-2.8**
	comp=Z,0.4nm,0.5s,baz=169,slow=8.0,SNR=4.7						
MKAR				PcP	**PcP**	**11 34 48.6**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=180,slow=1.2,SNR=3.9 comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**41.11**	**15**	P	P	11 32 50.5	-5.5
	comp=Z,0.6nm,0.5s,baz=188,slow=7.3,SNR=2.7 comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**43.62**	**347**	P	**P**	**11 33 12.9**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=172,slow=7.4,SNR=1.6 comp=Z,0.9nm,0.3s						
AB31	**Akbulak array**	**48.90**	**332**		**P**	**11 33 58.4**	**+0.5**
AB31				IAmb	IAmb	11 33 59.3	
	comp=Z,2.1nm,1.1s						
ABKAR	**Akbulak array**	**48.90**	**332**	P	**P**	**11 33 57.7**	**-0.2**
WB0	**Warramunga Arr**	**50.04**	**124**	P	**P**	**11 34 04.7**	**-2.4**
WB0				IAmb	IAmb	11 34 47.2	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**50.08**	**125**	P	**P**	**11 34 06.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=305,slow=8.5,SNR=7.5 comp=Z,0.2nm,0.3s						
WB2	**Warramunga Arr**	**50.09**	**125**	P	**P**	**11 34 05.6**	**-1.8**
WR8	**Warramunga Arr**	**50.22**	**125**	P	**P**	**11 34 06.9**	**-1.5**
WR8				IAmb	IAmb	11 34 08.9	
	comp=Z,5.0nm,1.1s						
AS31	**Alice Springs**	**51.68**	**129**	P	**P**	**11 34 18.2**	**-1.2**
ASAR	**Alice Springs**	**51.68**	**129**	P	**P**	**11 34 18.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=302,slow=7.9,SNR=9.3 comp=Z,0.2nm,0.3s						
KVAR	**Kislovodsk Arr**	**55.69**	**318**	LR	LR	11 59 46.2	
	comp=Z,101nm,21.2s,slow=37						
BRTR	**Keskin Array B**	**60.68**	**311**	P	**P**	**11 35 25.5**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=119,slow=7.6,SNR=5.8 comp=Z,1.2nm,0.8s						
H04N2	**CROZET ISLANDS**	**65.22**	**210**	T	T	12 47 48.1	
	baz=45,slow=75						
H04N1	**CROZET ISLANDS**	**65.23**	**210**	T	T	12 47 47.8	
	baz=45,slow=75						
H04N3	**CROZET ISLANDS**	**65.23**	**210**	T	T	12 47 52.3	
	baz=45,slow=75						
GERES	**GERESS Array B**	**76.20**	**318**	P	**P**	**11 37 01.8**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=90,slow=8.0,SNR=6.2 comp=Z,1.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**78.96**	**348**	P	**P**	**11 37 13.9**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=92,slow=4.3,SNR=4.1 comp=Z,1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**88.66**	**283**	P	**P**	**11 38 08.8**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=60,slow=5.2,SNR=2.4 comp=Z,0.4nm,0.8s						

*IDC **29** 11:39:10.7±0.7, 4˚.36S×135˚.61E, h0km, mb4.2/8, mbtmp4.3/12, ML4.7/3, MS3.3/9, Error ellipse: s-maj=26.8km s-min=17.9km az=73.0*
*NEIC **29** 11:39:13.1±1.2, 4˚.32S±0˚.08×135˚.66E±0˚.07, h10km±1km, mb4.5/20, Error ellipse: s-maj=14.0km s-min=12.5km az=187.0*
*DJA **29** 11:39:16.1±1.1, 4˚S±3˚×13˚6E±˚, h23km±11km, M4.5/13, mB5.4/3, mb4.5/7, MLv4.4/13, Mw(mB)4.9/3*

ISC 29 11:39:13.8±0.5, 4˚39S±0˚06×135˚59E±0˚05, h20km, n63, σ1ᵠ59/59, mb4.4/15, MS3.4/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**2.02**	**291**	P	**Pb**	**11 39 48.2**	**-1.6**
SRPI	**Serui, Papua**	**2.58**	**15**	P	**Pn**	**11 39 55.8**	**+1.3**
SRPI				S	**Sn**	**11 40 24.6**	**-0.7**
BAKI	**Biak**	**3.22**	**9**	P	**Pn**	**11 40 04.2**	**+1.0**
FAKI	**Fak Fak**	**3.64**	**294**		**Pn**	**11 40 09.2**	**+0.1**
FAKI	**Fak Fak**	**3.64**	**294**	P	**Pn**	**11 40 10.1**	**+1.0**
SMPI	**Sarmi**	**3.92**	**53**	P	**Pn**	**11 40 13.6**	**+0.7**
GENI	**Genyem**	**4.90**	**69**	P	**Pn**	**11 40 29.2**	**+2.8**
JAY	**Jayapura**	**5.43**	**70**	Pn	**Pn**	**11 40 33.0**	**-0.7**
	3.1nm,0.3s,baz=165,slow=22,SNR=7.6						
JAY				Sn	**Sn**	**11 41 32.7**	**-3.0**
	baz=324,slow=24						
JAY	**Jayapura**	**5.43**	**70**	P	**Pn**	**11 40 35.4**	**+1.7**
SWI	**Sorong**	**5.57**	**309**	P	**Pn**	**11 40 34.8**	**-0.7**
	0.3nm1μm44nm,0.7s						
BNDI	**Bandanaira**	**5.67**	**268**	P	**Pn**	**11 40 38.3**	**+1.3**
MTN	**Manton Dam**	**9.49**	**207**		**Pn**	**11 41 30.4**	**+1.0**
COEN	**Coen**	**12.10**	**142**		**Pn**	**11 42 04.4**	**-0.8**
SOEI	**Soe**	**12.44**	**244**		**Pn**	**11 42 10.5**	**+0.6**
KNRA	**Kununurra**	**13.07**	**210**		**Pn**	**11 42 17.6**	**-0.9**
BATI	**Baumata**	**13.16**	**243**	Pn	**Pn**	**11 42 20.1**	**+0.3**
	5.7nm,0.3s,baz=106,slow=9.2,SNR=2.5 13nm,0.3s						
LUWI	**Luwuk**	**13.23**	**284**	Pn	**Pn**	**11 42 19.4**	**-1.2**
WB0	**Warramunga Arr**	**15.33**	**184**		**Pn**	**11 42 45.4**	**-3.8**
WRAB	**Tennant Creek**	**15.50**	**184**		**Pn**	**11 42 47.7**	**-3.7**
WRAB				IAmb	IAmb	11 43 01.1	
	comp=Z,17nm,0.7s						
WRA	**Warramunga Arr**	**15.51**	**184**		**Pn**	**11 42 48.0**	**-3.6**
WRA	**Warramunga Arr**	**15.51**	**184**	Pn	**Pn**	**11 42 47.7**	**-3.8**
	comp=Z,0.8nm,0.3s,baz=359,slow=13,SNR=25						
WRA				Sn	Sn	11 45 30.5	-12
	comp=Z,1.9nm,0.3s,baz=3.2,slow=23,SNR=8.4						
WRA				LR	LR	11 48 56.2	
	comp=Z,125nm,21.8s,baz=349,slow=38						
WR8	**Warramunga Arr**	**15.51**	**184**		**Pn**	**11 42 48.4**	**-3.1**
WR8				IAmb	IAmb	11 43 01.4	
	comp=Z,15nm,0.6s						
KAPI	**Kappang**	**15.80**	**267**	LR	LR	11 48 51.3	
	comp=Z,62nm,20.3s,baz=78,slow=37						
FITZ	**Fitzroy Crossi**	**16.75**	**215**		**Pn**	**11 43 05.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**16.75**	**215**	Pn	**Pn**	**11 43 05.6**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=32,slow=10,SNR=23						
FITZ				Sn	Sn	11 46 01.7	-11
	comp=Z,3.4nm,0.3s,baz=319,slow=19,SNR=9.5 comp=Z,2.7nm,0.3s						
AS31	**Alice Springs**	**19.23**	**185**		**P**	**11 43 37.4**	**+0.4**
ASAR	**Alice Springs**	**19.24**	**185**		**P**	**11 43 37.6**	**+0.7**
ASAR	**Alice Springs**	**19.24**	**185**	P	**P**	**11 43 37.1**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=8.5,slow=10,SNR=70						
ASAR				S	Sn	11 46 59.3	-14
	comp=Z,2.7nm,0.7s,baz=5.7,slow=28,SNR=5.0						
ASAR				LR	LR	11 51 30.2	
	comp=Z,91nm,20.9s,baz=348,slow=38 comp=Z,14nm,0.5s						
GUMO	**Guam**	**20.09**	**27**	LR	LR	11 50 04.9	
	comp=Z,17nm,21.2s,baz=194,slow=33						
MBWA	**Marble Bar**	**22.70**	**221**	P	**P**	**11 44 14.6**	**+0.2**
MBWA				IAmb	IAmb	11 44 21.7	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**22.92**	**220**		**P**	**11 44 19.2**	**+2.5**
PSA00				IAmb	IAmb	11 44 22.6	
	comp=Z,15nm,1.2s						
PSA00	**Pilbara Seismi**	**22.92**	**220**	P	**P**	**11 44 18.8**	**+2.1**
PSA00				IAmb	IAmb	11 44 29.9	
	comp=Z,34nm,1.4s						
TGY	**Tagaytay City**	**23.43**	**322**	LR	LR	11 56 04.0	
	comp=Z,151nm,18.6s,baz=353,slow=43						
INKA	**Innaminka**	**23.74**	**169**	P	**P**	**11 44 25.8**	**+1.0**
STKA	**Stephens Creek**	**27.92**	**169**	P	**P**	**11 45 04.1**	**+1.4**
STKA	**Stephens Creek**	**27.92**	**169**	P	**P**	**11 45 01.8**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=348,slow=7.3,SNR=5.0						
STKA				LR	LR	11 57 17.7	
	comp=Z,148nm,19.2s,baz=17,slow=39 comp=Z,2.9nm,0.7s						
LEM	**Lembang**	**27.94**	**264**	LR	LR	11 58 04.2	
	comp=Z,103nm,18.4s,baz=72,slow=40						
BBOO	**Buckleboo**	**28.28**	**179**	P	**P**	**11 45 07.2**	**+1.2**
JCJ	**Chichijima**	**31.94**	**11**	LR	LR	11 58 08.2	
	comp=Z,23nm,19.4s,baz=162,slow=36						
NWAO	**Narrogin (SRO)**	**33.17**	**209**	LR	LR	11 59 39.6	
	comp=Z,66nm,18.1s,baz=18,slow=37						
CMAR	**Chiang Mai Arr**	**42.66**	**303**	P	**P**	**11 47 10.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=116,slow=8.0,SNR=4.2 comp=Z,0.6nm,0.3s						
USA0B	**Ussuriysk Arra**	**48.47**	**357**	P	**P**	**11 47 54.8**	**-0.2**
USA0B				IAmb	IAmb	11 48 23.5	
	comp=Z,9.2nm,1.3s						
USRK	**Ussuriysk Ar.**	**48.47**	**357**	P	**P**	**11 47 54.5**	**-0.6**
OXZ	**Oxford**	**50.41**	**146**	P	**P**	**11 48 10.3**	**+0.4**
MKAR	**Makanchi Array**	**69.26**	**324**		**P**	**11 50 19.9**	**+0.4**
MKAR	**Makanchi Array**	**69.26**	**324**	P	**P**	**11 50 20.3**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=113,slow=8.7,SNR=20 comp=Z,2.8nm,0.6s						
MAKZ	**Makanchi**	**69.45**	**324**	P	**P**	**11 50 21.0**	**+0.3**
MAKZ				IAmb	IAmb	11 50 22.4	
	comp=Z,6.0nm,1.1s						
ZALV	**Zalesovo Beam**	**71.85**	**331**	P	**P**	**11 50 34.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=123,slow=5.3,SNR=1.9 comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**73.33**	**326**	P	**P**	**11 50 44.5**	**+0.4**
KURK				IAmb	IAmb	11 50 50.9	
	comp=Z,3.3nm,0.9s						
KURBB	**Kurchatov Arra**	**73.34**	**326**	P	**P**	**11 50 44.2**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=121,slow=5.0,SNR=14 comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**78.93**	**326**	P	**P**	**11 51 15.8**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=122,slow=6.8,SNR=9.1 comp=Z,2.0nm,0.6s						
J17K	**VABM Dome**	**83.14**	**24**	P	**P**	**11 51 38.9**	**+0.9**
J17K				IAmb	IAmb	11 52 09.9	
	comp=Z,6.2nm,1.3s						
ABKAR	**Akbulak array**	**84.00**	**320**	P	**P**	**11 51 42.8**	**0.0**
H19K	**Roundabout Mou**	**85.02**	**23**	P	**P**	**11 51 48.1**	**+0.5**
H19K				IAmb	IAmb	11 52 02.5	
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**85.57**	**180**	P	**P**	**11 51 51.9**	**+1.3**
QSPA	**South Pole Qui**	**85.57**	**180**	P	**P**	**11 51 51.7**	**+1.1**
	comp=Z,4.3nm,1.1s,baz=3.5,slow=0.9,SNR=6.3 comp=Z,4.3nm,1.1s						
D19K	**Kuna River**	**85.57**	**20**	P	**P**	**11 51 50.7**	**+0.4**
ILAR	**Eielson Array**	**88.64**	**25**	P	**P**	**11 52 03.8**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=241,slow=4.5,SNR=4.5 comp=Z,0.4nm,0.7s						
ULM	**Lac du Bonnet**	**117.20**	**34**	PKP	**PKPdf**	**11 57 58.3**	**+0.6**
	baz=323,slow=5.1						
TXAR	**Lajitas Array**	**118.82**	**59**	PKP	**PKPdf**	**11 58 01.3**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=257,slow=2.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**133.68**	**284**	PKP	**PKPdf**	**11 58 28.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=63,slow=4.2,SNR=1.9						
CPUP	**Villa Florida**	**147.00**	**158**	PKPbc	**PKPdf**	**11 58 55.5**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=292,slow=19,SNR=6.9						
LPAZ	**La Paz**	**148.81**	**132**	PKPbc	**PKiKP**	**11 59 03.8**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=262,slow=1.0,SNR=8.8						

*NOU **29** 11:44:56.0, 36˚.41S×175˚.93E, h4km, MLv3.4/8, Off E. Coast of N. Island, N.Z.*
*WEL **29** 11:45:00.6±1.1, 37˚.5S±9˚×17˚8E±˚, h160km, M2.7/13, ML2.8/8, MLv2.7/13, Error ellipse: s-maj=12.0km s-min=9.9km az=25.8, confirmed*

ISC 29 11:44:57.4±3.6, 36˚.8S±0˚.2×177˚.7E±0˚.1, h197km±17km, n31, σ1ᵠ27/39, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.93**	**146**	P	**Pn**	**11 45 26.6**	**+0.3**
MXZ				S	**Sn**	**11 45 47.0**	**-1.9**
HAZ	**Te Kaha**	**0.97**	**174**	P	**Pn**	**11 45 27.0**	**+0.4**
HAZ				S	**Sn**	**11 45 47.3**	**-2.1**
PKGZ	**Pakihiroa**	**1.13**	**163**	P	**Pn**	**11 45 29.2**	**+1.4**
RUGZ	**Raukumara Rang**	**1.18**	**179**	P	**Pn**	**11 45 28.2**	**-0.1**
WMGZ	**Waiomatatini S**	**1.20**	**150**	S	**Sn**	**11 45 51.5**	**-0.8**
PUZ	**Puketiti**	**1.37**	**160**	P	**Pn**	**11 45 30.6**	**+0.9**
PUZ				S	**Sn**	**11 45 53.4**	**-1.6**
TWGZ	**Tauwhareparae**	**1.41**	**170**	P	**Pn**	**11 45 30.8**	**+0.8**
TWGZ				S	**Sn**	**11 45 55.5**	**-0.1**
URZ	**Urewera**	**1.54**	**196**	P	**Pn**	**11 45 31.6**	**+0.5**
URZ	**Urewera**	**1.54**	**196**	S	**Sn**	**11 45 57.1**	**-0.3**
URZ	**Urewera**	**1.54**	**196**	P	**Pn**	**11 45 31.8**	**+0.7**
URZ				S	**Sn**	**11 45 56.5**	**-0.9**
TKGZ	**Te Karaka**	**1.66**	**175**	P	**Pn**	**11 45 33.4**	**+1.2**
TKGZ				S	**Sn**	**11 45 58.5**	**-1.0**
RAGZ	**Rawiri**	**1.72**	**186**	P	**Pn**	**11 45 34.3**	**+1.4**
RAGZ				S	**Sn**	**11 46 01.4**	**+0.7**
CNGZ	**Carnagh Statio**	**1.75**	**166**	P	**Pn**	**11 45 35.0**	**+1.9**
MUGZ	**Murupara**	**1.83**	**202**	P	**Pn**	**11 45 34.9**	**+1.0**
MUGZ				S	**Sn**	**11 46 01.7**	**-0.8**
RTZ	**Ruatahuna**	**1.91**	**196**	P	**Pn**	**11 45 35.4**	**+0.6**
RIGZ	**Rimuhau**	**1.92**	**178**	P	**Pn**	**11 45 35.6**	**+0.7**
RIGZ				S	**Sn**	**11 46 04.0**	**-0.2**
TOZ	**Tahuroa Road**	**1.96**	**241**	P	**Pn**	**11 45 36.9**	**+1.7**
SNGZ	**Shannon Statio**	**2.01**	**187**	P	**Pn**	**11 45 36.9**	**+1.2**
PRGZ	**Paritu Road**	**2.14**	**175**	P	**Pn**	**11 45 39.0**	**+1.9**
MTHZ	**Maungataniwha**	**2.16**	**197**	P	**Pn**	**11 45 38.1**	**+0.8**
RAHZ	**Arahi**	**2.18**	**192**	P	**Pn**	**11 45 38.8**	**+1.3**
KNZ	**Kokohu**	**2.23**	**180**	P	**Pn**	**11 45 39.1**	**+1.1**
MRHZ	**Matea Rd**	**2.27**	**205**	P	**Pn**	**11 45 39.5**	**+0.9**
WHHZ	**Waihua**	**2.31**	**188**	P	**Pn**	**11 45 40.3**	**+1.3**
MHGZ	**Mahia Peninsul**	**2.37**	**175**	P	**Pn**	**11 45 40.9**	**+1.3**
NMHZ	**Naumai**	**2.41**	**196**	P	**Pn**	**11 45 41.7**	**+1.6**
BKZ	**Black Stump Fm**	**2.55**	**201**	P	**Pn**	**11 45 41.9**	**+0.3**
BKZ	**Black Stump Fm**	**2.55**	**201**	P	**Sn**	**11 46 17.9**	**+1.6**
SNZO	**South Karori**	**5.07**	**206**	P	**Pn**	**11 46 11.3**	**-1.2**
KHZ	**Kahutara**	**6.46**	**208**	P	Pn	11 46 28.7	-1.7
KHZ	**Kahutara**	**6.46**	**208**	S	**Sn**	**11 47 41.7**	**-2.5**

*SOME **29** 11:46:45.6, 43˚.63N×69˚.75E*
NNC 29 11:46:48.4±1.4, 43˚.64N×69˚.84E, h0km, mb3.6, mpv3.1, 1C-1D, Error ellipse: s-maj=9.5km s-min=5.8km az=122.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.72**	**137**	⇑P	Pg	11 47 01.0	-1.3
	0.9nm,0.3s,baz=327,slow=17,SNR=7.0						
KK31				⇓S	Sg	11 47 12.6	+1.0
	7.6nm,0.3s,baz=319,slow=26,SNR=195						
IUG	**luzhnay**	**1.50**	**175**	P	Pn	11 47 15.3	-1.3
	16nm,0.4s						
IUG				S	Sn	11 47 37.0	+0.1
	68nm,0.5s						
MRKS	**Merke**	**2.63**	**109**	Pg	Pb	11 47 36.5	+0.1
	1.9nm,0.3s						
MRKS				Lg	Lg	11 48 13.2	
	11nm,0.6s						
BTLS	**Baital**	**3.33**	**64**	Pg	Pb	11 47 50.1	+1.8
	11nm,0.5s						
BTLS				Lg	Lg	11 48 36.4	
	2.1nm,0.4s						
SGDS	**Sogindy**	**3.49**	**91**	Pg	Pb	11 47 51.4	+0.3
	1.6nm,0.2s						
SGDS				Lg	Lg	11 48 38.3	
	7.2nm,0.4s						
KST	**Kastek**	**4.51**	**95**	Pg	Pb	11 48 10.6	+2.2
	1.2nm,0.2s						
KST				Lg	Lg	11 49 11.7	
	9.7nm,0.8s						

*DJA **29** 11:51:59.6±1.0, 4˚N±5˚×9˚6E±˚, h19km±14km, M4.3/11, mb4.7/1, MLv4.1/11*
*NEIC **29** 11:52:01.8±1.4, 3˚.84N±0˚.06×95˚.82E±0˚.07, h52km±9km, mb4.2/11, Error ellipse: s-maj=12.6km s-min=4.4km az=46.0*
*IDC **29** 11:52:01.5±4.8, 3˚.76N×95˚.69E, h59km±41km, mb3.6/11, mbtmp3.9/13, ML3.9/2, MS3.1/5, Error ellipse: s-maj=48.0km s-min=16.5km az=57.0*

ISC 29 11:52:00.7±0.7, 3˚.77N±0˚.06×95˚.80E±0˚.08, h50km, n56, σ1ᵠ15/45, mb4.0/18, MS3.4/3, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.78**	**51**	P	**Pn**	**11 52 14.3**	**-1.2**
LHMI	**Lhok Sumawe**	**1.85**	**38**		**Pn**	**11 52 30.4**	**+0.4**
LHMI	**Lhok Sumawe**	**1.85**	**38**	P	**Pn**	**11 52 30.1**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.98**	**97**	P	**Pn**	**11 52 31.8**	**-0.1**
TSI	**Tuntungan**	**2.77**	**95**	P	**Pn**	**11 52 41.0**	**-1.7**
GSI	**Gunungsitoli**	**3.03**	**144**	Pn	**Pn**	**11 52 49.0**	**+2.9**
GSI					**Sn**	**11 53 20.8**	**-0.4**
GSI	**Gunungsitoli**	**3.03**	**144**	P	**Pn**	**11 52 43.5**	**-2.7**
PSI	**Prapat**	**3.27**	**107**	P	**Pn**	**11 52 52.6**	**+3.0**
	2.8nm,0.3s,baz=277,slow=5.3,SNR=5.9						
PSI				S	**Sn**	**11 53 27.0**	**-0.3**
	29nm,0.6s,baz=279,slow=4.8,SNR=4.2						
PSI				LR	LR	11 54 29.3	
	comp=Z,83nm,19.9s,baz=329,slow=44 6.8nm,0.2s						
RPSI	**Rantau Prapat**	**3.30**	**109**		**Pn**	**11 52 51.4**	**+1.5**
RPSI	**Rantau Prapat**	**3.30**	**109**		**Pn**	**11 52 52.6**	**+2.7**
RPSI					**Sn**	**11 53 27.0**	**-0.9**
PBSI	**Pulau Batu**	**4.54**	**147**	P	**Pn**	**11 53 06.5**	**-0.4**
MNSI	**Mandailing Nat**	**4.80**	**128**	P	**Pn**	**11 53 09.0**	**-1.5**
KULM	**Kulim**	**5.07**	**72**		**Pn**	**11 53 13.7**	**-0.5**
IPM	**Ipoh**	**5.26**	**82**		**Pn**	**11 53 16.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**14.92**	**12**	P	**Pn**	**11 55 30.4**	**+1.8**
	0.6nm,0.3s,baz=200,slow=11,SNR=11						
CMAR				LR	LR	12 02 03.9	
	comp=Z,48nm,19.2s,baz=185,slow=40 2.6nm,0.8s						
KKM	**Kota Kinabalu**	**20.47**	**83**	P	**P**	**11 56 34.0**	**-0.6**
MYLDM	**Lahad Datu**	**22.68**	**86**	P	**P**	**11 56 58.6**	**+0.4**
H08S2	**Diego Garcia H**	**25.87**	**244**	T	T	12 24 10.9	
	baz=65						
H08S3	**Diego

FINES	**FINESS Array B**	**77.09**	**332**	P		**P**	**12 03 48.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=165,slow=5.8,SNR=1.6							
	comp=Z,0.8nm,0.6s							
ARCES	**ARCESS Array B**	**79.66**	**340**	P		**P**	**12 04 02.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=89,slow=6.2,SNR=4.7							
	comp=Z,0.3nm,0.3s							
NOA	**NORSAR Array B**	**84.09**	**331**	LR		LR	12 43 43.1	
	comp=Z,15nm,16.2s,baz=95,slow=37							
TXAR	**Lajitas Array**	**142.16**	**28**	PKP		**PKPdf**	**12 11 26.6**	**-1.8**
	comp=Z,0.1nm,0.5s,baz=6.7,slow=3.9,SNR=2.0							

*IDC **29** 11:54:19.2±7.9, 32.°84S×179.°84W, h105km±58km, mb3.5/5, mbtmp3.8/6, Error ellipse: s-maj=60.0km s-min=21.8km az=49.0*

ISC 29 11:54:18.4±1.3, **32.°8S**±0.°1×**179.°8W**±0.°2, **h100**km, **n8,** σ1**8**/**32**/10, **mb3.8/5, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**5.99**	**204**	P		**Pn**	**11 55 45.3**	**+0.8**
	5.7nm,1.0s,baz=70,slow=12,SNR=3.1							
URZ				S		**Sn**	**11 56 50.7**	**-1.0**
	8.3nm,0.3s,baz=300,slow=20,SNR=13							
STKA	**Stephens Creek**	**32.52**	**261**	P		**P**	**12 00 40.3**	**+0.6**
	1.0nm,0.6s,baz=74,slow=6.2,SNR=1.7							
	1.0nm,0.6s							
ASAR	**Alice Springs**	**41.53**	**270**	P		**P**	**12 01 56.4**	**+0.2**
	0.2nm,0.4s,baz=106,slow=7.4,SNR=7.5							
ASAR				PcP		**PcP**	**12 03 49.8**	**-2.1**
	1.2nm,1.2s,baz=121,slow=3.5,SNR=2.2							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**42.74**	**276**	P		**P**	**12 02 05.8**	**-0.2**
	0.7nm,0.6s,baz=116,slow=7.5,SNR=6.9							
	0.7nm,0.6s							
QSPA	**South Pole Qui**	**57.30**	**180**	P		**P**	**12 03 56.7**	**+1.2**
	1.4nm,0.6s,baz=9.5,slow=0.2,SNR=18							
	1.4nm,0.6s							
SNAA	**Sanae**	**75.78**	**179**	P		**P**	**12 05 52.7**	**-0.3**
	0.5nm,0.3s,baz=180,slow=5.1,SNR=7.7							
	0.5nm,0.3s							
FINES	**FINESS Array B**	**146.83**	**337**	PKPbc		**PKPdf**	**12 13 47.4**	**+1.1**
	0.6nm,0.5s,baz=60,slow=5.6,SNR=1.6							
TORD	**Torodi Ar. Bea**	**160.38**	**184**	PKPab		**PKPab**	**12 14 46.1**	**-1.8**
	0.2nm,0.4s,baz=151,slow=3.2,SNR=2.0							

IDC 29 11:59:16.6±2.6, **9.°01N**×**126.°57E**, **h0**km, **mb3.7**/5, **mbtmp3.7/5, Error ellipse: s-maj=241.1km s-min=20.9km az=67.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.77**	**165**	P		P	12 05 24.5	-0.7
	0.6nm,1.1s,baz=344,slow=8.6,SNR=1.9							
	0.6nm,1.1s							
ASAR	**Alice Springs**	**33.26**	**168**	P		P	12 05 56.3	+0.4
	0.2nm,0.5s,baz=351,slow=7.1,SNR=12							
	0.2nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.01**	**72**	T		T	12 49 55.1	
	baz=262,slow=75							
H11S1	**WAKE ISLAND Hy**	**40.02**	**72**	T		T	12 49 54.2	
	baz=262,slow=75							
H11S2	**WAKE ISLAND Hy**	**40.02**	**72**	T		T	12 49 54.5	
	baz=262,slow=75							
MKAR	**Makanchi Array**	**53.20**	**323**	P		P	12 08 37.0	+0.2
	0.9nm,0.6s,baz=120,slow=7.7,SNR=6.6							
	0.9nm,0.6s							
ZALV	**Zalesovo Beam**	**55.87**	**332**	P		P	12 08 55.0	-1.0
	0.3nm,0.3s,baz=124,slow=7.5,SNR=1.8							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**57.27**	**326**	P		P	12 09 06.3	+0.3
	0.9nm,0.5s,baz=129,slow=7.0,SNR=11							
	0.9nm,0.5s							

*IDC **29** 12:03:36.3±11.0, 17.°53S×178.°18W, h428km±129km, mb3.2/6, mbtmp4.0/6, Error ellipse: s-maj=36.7km s-min=28.3km az=83.0*

*NEIC **29** 12:03:47.9±1.1, 17.°1S±0.°2×178.°7W±0.°2, h557km±15km, mb4.0/15, Error ellipse: s-maj=30.7km s-min=22.8km az=77.0*

ISC 29 12:03:47.6±0.9, **17.°2S**±0.°2×**178.°8W**±0.°2, **h550**km, **n24,** σ1**15**/**23, mb4.0**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FUTU	**Fugatoga**	**2.95**	**13**	P		**P**	**12 05 03.3**	**+0.8**
MSVF	**Nonsavu**	**3.03**	**259**	P		**P**	**12 05 02.7**	**-0.2**
RAO	**Raoul Island**	**12.03**	**176**	P		**P**	**12 06 27.1**	**+0.8**
ARMA	**Armidale**	**29.96**	**239**	P		**P**	**12 09 11.9**	**-0.1**
TOO	**Toolangi**	**37.32**	**230**	P		**P**	**12 10 13.7**	**+0.2**
TOO				IAmb		IAmb	12 10 19.7	
	comp=Z,8.6nm,1.4s							
STKA	**Stephens Creek**	**38.63**	**240**	P		**P**	**12 10 25.0**	**+0.8**
STKA	**Stephens Creek**	**38.63**	**240**	P		**P**	**12 10 24.9**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=94,slow=9.4,SNR=5.6							
	comp=Z,1.8nm,0.5s							
INKA	**Innaminka**	**38.65**	**247**	P		**P**	**12 10 25.1**	**+0.6**
INKA				IAmb		IAmb	12 10 39.8	
	comp=Z,6.0nm,1.3s							
BBOO	**Buckleboo**	**43.41**	**240**	P		**P**	**12 11 02.7**	**+0.6**
WR8	**Warramunga Arr**	**44.23**	**259**	P		**P**	**12 11 08.7**	**0.0**
WR8				IAmb		IAmb	12 11 53.5	
	comp=Z,7.6nm,1.2s							
WB0	**Warramunga Arr**	**44.34**	**259**	P		**P**	**12 11 09.7**	**+0.1**
WB0				IAmb		IAmb	12 11 30.3	
	comp=Z,14nm,1.4s							
WRAB	**Tennant Creek**	**44.37**	**259**	P		**P**	**12 11 09.9**	**+0.2**
WRAB				IAmb		IAmb	12 11 22.9	
	comp=Z,5.4nm,1.2s							
WRA	**Warramunga Arr**	**44.38**	**259**	P		**P**	**12 11 10.2**	**+0.3**
WRA	**Warramunga Arr**	**44.38**	**259**	P		**P**	**12 11 10.8**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=95,slow=7.1,SNR=16							
	comp=Z,0.9nm,0.6s							
AS31	**Alice Springs**	**44.61**	**254**	P		**P**	**12 11 12.9**	**+1.3**
AS31				IAmb		IAmb	12 11 13.5	
	comp=Z,2.8nm,0.6s							
ASAR	**Alice Springs**	**44.61**	**254**	P		**P**	**12 11 12.1**	**+0.5**
ASAR	**Alice Springs**	**44.61**	**254**	P		**P**	**12 11 13.0**	**+1.4**
	comp=Z,8.9nm,0.6s,baz=89,slow=8.1,SNR=206							
ASAR				PcP		**PcP**	**12 12 44.1**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=87,slow=3.7,SNR=2.3							
	comp=Z,8.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.76**	**260**	P		**P**	**12 12 14.1**	**+2.0**
NWAO	**Narrogin (SRO)**	**59.20**	**242**	P		**P**	**12 12 53.2**	**-3.1**
VNDA	**Vanda**	**61.11**	**185**	P		P	12 13 02.5	-5.7
VNDA				IAmb		IAmb	12 13 07.9	
	comp=Z,2.2nm,1.0s							
VNDA	**Vanda**	**61.11**	**185**	P		P	12 13 03.1	-5.1
	comp=Z,0.9nm,0.5s,baz=22,slow=5.4,SNR=7.4							
	comp=Z,0.9nm,0.5s							
QSPA	**South Pole Qui**	**72.85**	**180**	P		**P**	**12 14 20.8**	**+0.1**
QSPA	**South Pole Qui**	**72.85**	**180**	P		**P**	**12 14 20.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=53,slow=7.4,SNR=7.7							
	comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**79.19**	**44**	P		**P**	**12 14 54.9**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=209,slow=3.4,SNR=4.6							
	comp=Z,0.1nm,0.4s							

*NEIC **29** 12:12:47.5, 47.°33N×70.°38W, h12km*
*OTT **29** 12:12:47.3±0.1, 47.°28N×70.°37W, h9km, MN3.6/21*
OTT 11km northwest from Saint-Jean-Port-Joli, Qc. Felt Charlevoix Seismic Zone, Qc. Felt in Charlevoix, Saint-Jean Port Joli, Riviere Du Loup, Qc.
*NEIC **29** 12:12:47.1±1.3, 47.°30N±0.°04×70.°43W±0.°03, h4km±9km, mb_Lg3.3/46, Mwr3.3/17, mb_Lg3.7(OTT), Error ellipse: s-maj=5.3km s-min=3.0km az=198.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.98; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-0.54; $M_{r\theta}$-0.31; $M_{\theta\phi}$0.49; $M_{\phi r}$-0.66; Fault plane solution: M_o1.23000×10^{14} NP1:ϕ_s164.86000°, δ59.68000°, λ119.34000°. NP2:ϕ_s296.78000°, δ41.20000°, λ50.04000°. Principal axes: T 1.3520, Plg63.0000°, Azm124.0000°; N -0.3138, Plg25.0000°, Azm329.0000°; P -1.0382, Plg10.0000°, Azm234.0000°;*

ISC 29 12:12:47.0±0.9, **47.°29N**±0.°02×**70.°38W**±0.°02, **h13**km±5km, **n73,** σ0**82**/**93, 1C-6D, Southern Quebec**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
A11	**Saint Roch-des**	**0.14**	**111**	⇓PG		**Pg**	**12 12 49.9**	**-0.6**
A11				SG		**Sg**	**12 12 51.8**	**-1.1**
A11				Trac			12 12 53.4	
	comp=Z,847nm,0.1s							
A54	**Misere**	**0.17**	**353**	⇑PG		**Pg**	**12 12 50.9**	**0.0**
A54				SG		**Sg**	**12 12 53.6**	**-0.1**
A54				Trac			12 12 53.7	
	comp=Z,1μm,0.0s							
BSPQ	**Baie-St-Paul**	**0.17**	**330**	PG		**Pg**	**12 12 51.1**	**+0.1**
BSPQ				SG		**Sg**	**12 12 53.8**	**+0.1**
LMQ	**La Malbaie**	**0.26**	**8**	PG		**Pg**	**12 12 52.4**	**-0.1**
LMQ				Sg		**Sg**	**12 12 55.9**	**-0.3**
LMQ	**La Malbaie**	**0.26**	**8**	⇓PG		**Pg**	**12 12 52.4**	**-0.1**
LMQ				SG		**Sg**	**12 12 56.0**	**-0.2**
LMQ				Trac			12 12 56.7	
	comp=Z,1μm,0.1s							
A16	**Riviere Ouelle**	**0.31**	**55**	⇓PG		**Pg**	**12 12 53.1**	**-0.3**
A16				SG		**Sg**	**12 12 57.4**	**-0.3**
A16				Trac			12 12 58.9	
	comp=Z,296nm,0.0s							
SFA	**Sept-Chutes**	**0.35**	**241**	PG		**Pg**	**12 12 54.0**	**0.0**
SFA				SG		**Sg**	**12 12 59.0**	**+0.2**
A61	**Sainte Mathild**	**0.45**	**26**	⇓PG		**Pg**	**12 12 55.6**	**-0.3**
A61				SG		**Sg**	**12 13 01.7**	**-0.2**
A61				Trac			12 13 02.9	
	comp=Z,182nm,0.1s							
STPQ	**St-Pascal**	**0.46**	**59**	PG		**Pg**	**12 12 55.9**	**-0.2**
STPQ				SG		**Sg**	**12 13 02.0**	**-0.3**
SLBQ	**St-Lucie-de-Be**	**0.61**	**156**	PG		**Pg**	**12 12 59.0**	**+0.2**
SLBQ				SG		**Sg**	**12 13 06.0**	**-0.8**
A21	**Saint Andre**	**0.62**	**49**	⇓PG		**Pg**	**12 12 58.8**	**-0.4**
A21				SG		**Sg**	**12 13 07.2**	**-0.2**
A21				Trac			12 13 08.8	
	comp=Z,694nm,0.2s							
A64	**Saint Simeon**	**0.63**	**32**	PG		**Pg**	**12 12 58.7**	**-0.6**
A64				SG		**Sg**	**12 13 07.0**	**-0.6**
A64				Trac			12 13 09.5	
	comp=Z,272nm,0.1s							
QCQ	**Quebec**	**0.80**	**230**	PG		**Pg**	**12 13 00.7**	**-1.7**
QCQ				SG		**Sg**	**12 13 12.1**	**-0.8**
CACQ	**Cacouna**	**0.89**	**42**	⇓PG		**Pg**	**12 13 03.3**	**-0.9**
CACQ				SG		**Sg**	**12 13 15.2**	**-0.6**
CACQ				Trac			12 13 20.2	
	comp=Z,114nm,0.1s							
LDAQ	**Lac Daran**	**0.89**	**319**			**Pg**	**12 13 02.6**	**-1.6**
LDAQ				Sg		**Sg**	**12 13 14.9**	**-1.0**
LDAQ	**Lac Daran**	**0.89**	**319**	PG		**Pg**	**12 13 03.2**	**-1.0**
LDAQ				SG		**Sg**	**12 13 15.8**	**0.0**
LDAQ				Trac			12 13 18.6	
	comp=Z,150nm,0.1s							
E62A	**Clayton Lake**	**0.89**	**138**			**Pg**	**12 13 03.7**	**-0.6**
D62A	**Allapoint, All**	**0.93**	**103**			**Pg**	**12 13 05.2**	**+0.1**
D62A				Sg		**Sg**	**12 13 17.1**	**-0.1**
BSCQ	**Baie-Sainte-Ca**	**0.95**	**28**	PG		**Pg**	**12 13 04.1**	**-1.1**
BSCQ				SG		**Sg**	**12 13 16.7**	**-0.9**
BSCQ				Trac			12 13 17.9	
	comp=Z,263nm,0.1s							
CHIQ	**Chicoutimi-Nor**	**1.27**	**341**	PG		**Pg**	**12 13 09.9**	**-1.6**
CHIQ				SG		**Sb**	**12 13 27.7**	**+0.7**
SANQ	**St-Andre-du-La**	**1.49**	**314**	PG		**Pn**	**12 13 13.8**	**+0.3**
SANQ				SG		**Sb**	**12 13 34.0**	**+0.6**
BECQ	**Becancour**	**1.73**	**237**	PN		**Pn**	**12 13 17.2**	**+0.6**
BECQ				SN		**Sn**	**12 13 39.9**	**+1.4**
BECQ				Trac			12 13 42.4	
	comp=Z,183nm,0.2s							
DPQ	**Saint Jean**	**1.75**	**250**	PN		**Pn**	**12 13 17.5**	**+0.5**
DPQ				SN		**Sn**	**12 13 40.5**	**+1.4**
DPQ				Trac			12 13 44.3	
	comp=Z,336nm,0.1s							
F64A	**Sherman**	**2.00**	**135**			**Pn**	**12 13 21.1**	**+0.6**
G62A	**West of Eustis**	**2.08**	**183**			**Pn**	**12 13 23.0**	**+1.5**
G62A				IAmb_Lg			12 13 59.0	
	comp=Z,143nm,0.7s							
PKME	**Peaks-Kenny Pk**	**2.17**	**159**			**Pn**	**12 13 23.9**	**+1.2**
SNFQ	**Sainte-Felicit**	**2.58**	**51**	PN		**Pn**	**12 13 29.4**	**+1.0**
SNFQ				SN		**Sn**	**12 14 00.7**	**+1.0**
SNFQ				Trac			12 14 08.7	
	comp=Z,97nm,0.2s							
MCNB	**McAdam**	**2.71**	**128**	PN		**Pn**	**12 13 30.4**	**+0.2**
MCNB				SN		**Sn**	**12 14 02.8**	**-0.1**
MCNB				Trac			12 14 20.0	
	comp=Z,24nm,0.1s							
H62A	**Milan**	**2.77**	**192**			**Pn**	**12 13 31.9**	**+0.8**
H62A				IAmb_Lg			12 14 19.9	
	comp=Z,83nm,0.7s							
WVL	**Waterville**	**2.77**	**169**			**Pn**	**12 13 31.2**	**+0.1**
WVL				IAmb_Lg			12 14 18.6	
	comp=Z,73nm,0.8s							
G65A	**Princeton**	**2.87**	**136**			**Pn**	**12 13 32.2**	**-0.1**
MNTQ	**Montreal, Queb**	**2.87**	**233**			**Pn**	**12 13 32.9**	**+0.5**
MNTQ				IAmb_Lg			12 14 16.3	
	comp=Z,129nm,0.8s							
MNTQ	**Montreal, Queb**	**2.87**	**233**	PN		**Pn**	**12 13 32.2**	**-0.2**
MNTQ				SN		**Sn**	**12 14 05.9**	**-0.8**
MNTQ				LG		Lg	12 14 14.3	
MNTQ				Trac			12 14 16.5	
	comp=Z,121nm,0.1s							
BATG	**Bathurst New B**	**2.94**	**89**			**Pn**	**12 13 33.0**	**-0.4**
HSNB	**Heath Steele M**	**2.94**	**89**	PN		**Pn**	**12 13 34.0**	**+0.6**
HSNB				SN		**Sn**	**12 14 06.9**	**-1.7**
HSNB				Trac			12 14 24.0	
	comp=Z,59nm,0.2s							
ICQ	**Pointe Anglais**	**3.04**	**42**			**Pn**	**12 13 35.1**	**+0.3**
ICQ				IAmb_Lg			12 14 32.1	
	comp=Z,79nm,0.8s							
ICQ	**Pointe Anglais**	**3.04**	**42**	PN		**Pn**	**12 13 35.5**	**+0.7**
ICQ				SN		**Sn**	**12 14 11.8**	**+0.8**
ICQ				LG		Lg	12 14 21.9	
ICQ				Trac			12 14 24.0	
	comp=Z,42nm,0.1s							
TRQ	**Mont Tremblant**	**3.06**	**251**			**Pn**	**12 13 35.4**	**+0.3**
TRQ				IAmb_Lg			12 14 29.2	
	comp=Z,82nm,0.7s							
TRQ	**Mont Tremblant**	**3.06**	**251**	PN		**Pn**	**12 13 34.9**	**-0.2**
TRQ				SN		**Sn**	**12 14 10.9**	**-0.7**
TRQ				LG		Lg	12 14 23.6	
TRQ				Trac			12 14 27.8	
	comp=Z,122nm,0.2s							
LBNH	**Lisbon**	**3.24**	**200**	Pn		**Pn**	**12 13 38.6**	**+1.1**
LBNH				IAmb_Lg			12 14 31.7	
	comp=Z,112nm,0.9s							
I63A	**Otisfield**	**3.25**	**183**			**Pn**	**12 13 38.4**	**+0.9**
RIGQ	**Rigaud**	**3.26**	**237**	SN		**Sn**	**12 14 16.2**	**0.0**
RIGQ				LG		Lg	12 14 28.6	
GGN	**Saint George**	**3.28**	**130**			**Pn**	**12 13 38.4**	**+0.4**
GGN	**Saint George**	**3.28**	**130**	PN		**Pn**	**12 13 38.6**	**+0.5**
GGN				SN		**Sn**	**12 14 16.7**	**-0.2**
GGN				Trac			12 14 40.9	
	comp=Z,26nm,0.2s							
EMMW	**East Machias**	**3.29**	**141**			**Pn**	**12 13 38.5**	**+0.3**
FRNY	**Flat Rock**	**3.32**	**223**			**Pn**	**12 13 39.4**	**+0.8**
FRNY	**Flat Rock**	**3.32**	**223**	PN		**Pn**	**12 13 39.0**	**+0.5**
FRNY				SN		**Sn**	**12 14 17.9**	**+0.1**
FRNY				LG		Lg	12 14 29.8	
FRNY				Trac			12 14 35.1	
	comp=Z,38nm,0.1s							
I62A	**Tamworth**	**3.48**	**191**			**Pn**	**12 13 42.6**	**+1.8**
I62A				IAmb_Lg			12 14 47.1	
	comp=Z,67nm,0.7s							
HKNB	**Havelock Quarr**	**3.69**	**109**	PN		Pn	12 13 38.6	-5.0
HKNB				Trac			12 14 52.1	
	comp=Z,105nm,0.5s							
CHGQ	**Chibougamau**	**3.73**	**316**	PN		**Pn**	**12 13 45.8**	**+1.6**
CHGQ				Trac			12 14 49.0	
	comp=Z,22nm,0.2s							
WCNB	**Wards Creek**	**3.75**	**114**	PN		**Pn**	**12 13 44.5**	**0.0**
WCNB				Trac			12 14 58.9	
	comp=Z,44nm,0.4s							
SMQ	**Clarke City**	**3.81**	**38**	PN		**Pn**	**12 13 46.1**	**+0.7**
SMQ				SN		**Sn**	**12 14 30.0**	**+0.1**
SMQ				Trac			12 14 50.1	
	comp=Z,45nm,0.2s							
GRQ	**Grand Remous**	**3.81**	**262**	PN		**Pn**	**12 13 45.6**	**+0.2**
GRQ				Trac			12 14 48.9	
	comp=Z,101nm,0.2s							
HNH	**Hanover**	**3.83**	**201**	IAmb_Lg			12 14 54.6	
	comp=Z,87nm,0.9s							
LONY	**Lake Ozonia**	**3.96**	**229**			**Pn**	**12 13 47.8**	**+0.3**
WBO	**Williamsburg**	**4.10**	**238**			**Pn**	**12 13 49.3**	**0.0**
WBO				IAmb_Lg			12 14 59.3	
	comp=Z,89nm,0.7s							
LMN	**Caledonia Moun**	**4.11**	**108**	PN		**Pn**	**12 13 48.9**	**-0.6**
LMN				Trac			12 14 57.8	
	comp=Z,3.3nm,0.1s							
J61A	**Chester**	**4.23**	**202**			**Pn**	**12 13 53.4**	**+2.3**
J61A				IAmb_Lg			12 15 06.8	
	comp=Z,74nm,0.8s							
NCB	**Newcomb**	**4.28**	**220**	IAmb_Lg			12 15 04.3	
	comp=Z,55nm,0.8s							
J59A	**Piesco**	**4.80**	**219**	Pn		**Pn**	**12 13 59.5**	**+0.5**
J59A				IAmb_Lg			12 15 24.8	
	comp=Z,56nm,1.0s							
K62A	**Royalston**	**4.81**	**197**	Pn		**Pn**	**12 14 00.2**	**+1.1**
K62A				IAmb_Lg			12 15 23.5	
	comp=Z,56nm,1.0s							
VLDQ	**Val d'Or**	**4.84**	**282**	IAmb_Lg			12 15 24.4	
	comp=Z,50nm,0.9s							
WES	**Weston**	**4.95**	**188**	IAmb_Lg			12 15 27.9	
	comp=Z,49nm,0.9s							
BCX	**Boston College**	**4.99**	**187**	IAmb_Lg			12 15 33.6	
	comp=Z,49nm,0.9s							
L61B	**Northampton**	**5.11**	**199**	IAmb_Lg			12 15 32.2	
	comp=Z,43nm,0.9s							
L64A	**Middleborough**	**5.37**	**184**	IAmb_Lg			12 15 37.5	
	comp=Z,37nm,0.7s							
UCCT	**U. Connecticut**	**5.65**	**194**	IAmb_Lg			12 15 56.6	
	comp=Z,48nm,0.9s							
PECO	**Prince Edward**	**5.72**	**236**	Pn		**Pn**	**12 14 12.4**	**+0.8**
PECO				IAmb_Lg			12 16 02.9	
	comp=Z,34nm,0.7s							
L59A	**Walton**	**6.08**	**215**	Pn		**Pn**	**12 14 18.4**	**+1.7**
L59A				IAmb_Lg			12 16 05.5	
	comp=Z,53nm,1.1s							
GBN	**Guysborough**	**6.42**	**104**	Pn		**Pn**	**12 14 19.8**	**-1.4**
SADO	**Sadowa**	**6.60**	**251**	Pn		**Pn**	**12 14 22.8**	**-0.9**
PAL	**Palisades**	**6.78**	**203**	IAmb_Lg			12 16 23.1	
	comp=Z,27nm,0.8s							
WUPA	**West Chester U**	**8.27**	**209**	IAmb_Lg			12 17 08.9	
	comp=Z,20nm,1.2s							

JMA 29 12:13:29.0±0.0, **33.°6N**±0.°2×**134.°6E**±0.°2, **h14**km±1km, **MV1.0**/26, **SE OFF SHIKOKU, Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAI	**Aioi**	**0.24**	**327**	*i* P		Pg	12 13 34.3	+0.1
JAI				S		Sg	12 13 38.0	+0.2
MRT2	**Murotomisaki 2**	**0.44**	**243**	*e*P		Pg	12 13 37.6	-0.1
MRT2				*e*S		Sg	12 13 43.4	-0.3
JMN	**Monobe**	**0.62**	**283**	*e*P		Pg	12 13 41.3	+0.1
JMN				*e*S		Sg	12 13 49.5	0.0
JMN	**Monobe**	**0.62**	**283**	P		Pn	12 13 49.8	+6.3
JWM	**Minabe**	**0.67**	**67**	*e*P		Pg	12 13 41.9	-0.2
JTNC	**Tanabenakahech**	**0.86**	**74**	*e*P		Pg	12 13 45.1	-0.6

*AEIC **29** 12:15:13.3±1.6, 50.°19N±0.°09×178.°96E±0.°09, h25km±9km, Error ellipse: s-maj=12.4km s-min=8.0km az=189.0*

NEIC 29 12:15:13.4±0.9, **50.°31N**±0.°03×**178.°94E**±0.°09, **h32**km±4km, **mb3.6**/5, **ML3.6**/10, **ML3.1**(AEIC), **Error ellipse: s-maj=8.1km s-min=4.4km az=104.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AMKA	**Amchitka**	**1.10**	**12**			Pn	12 15 32.2	-0.3
AMKA						Sb	12 15 48.0	+0.2
LSSA	**Little Sitkin**	**1.67**	**351**			Pn	12 15 40.2	-0.2
LSSA						Sn	12 15 58.9	-1.8
LSPA	**Little Sitkin**	**1.67**	**352**			Pn	12 15 40.2	-0.1
LSPA						Sn	12 15 59.7	-1.0
CERB	**Semis' Cerberu**	**1.68**	**15**			Pn	12 15 40.8	+0.2
CERB						Sn	12 16 00.6	-0.5
LSNW	**Little Sitkin**	**1.69**	**351**			Pn	12 15 40.6	0.0
CEPE	**Semis' Perret**	**1.72**	**15**			Pn	12 15 41.6	+0.5
CEPE						Sn	12 16 01.2	-0.8
CEAP	**Semis' Anvil P**	**1.75**	**13**			Pn	12 15 41.5	+0.1
CEAP						Sn	12 16 00.9	-1.7
GAKI	**Gareloi-Kavalg**	**1.89**	**48**			Pn	12 15 43.1	-0.3
GAKI						Sn	12 16 07.0	+0.9
GASW	**Gareloi Southw**	**2.03**	**42**			Pn	12 15 45.1	-0.2
GASW						Sn	12 16 09.7	+0.2
GALAA	**Gareloi Lava P**	**2.05**	**44**			Pn	12 15 45.5	-0.1
GALAA						Sn	12 16 10.3	+0.2
GANE	**Gareloi Northe**	**2.09**	**43**			Sn	12 16 11.1	+0.1
TASE	**Tanaga Southea**	**2.44**	**50**			Sn	12 16 20.7	+0.8
TANO	**Tanaga North**	**2.45**	**48**			Sn	12 16 20.8	+0.8
TAPA	**Tanaga Point A**	**2.54**	**52**			Pn	12 15 52.8	+0.3
TAPA						Sn	12 16 23.6	+1.2
KIMD	**Kanaga Island**	**2.82**	**57**			Sn	12 16 28.7	-0.2
KIWB	**Kanaga Island**	**2.91**	**56**			Pn	12 15 57.4	0.0
KIWB				IAML			12 16 35.5	
	comp=N,159nm,0.6s							
KIWB				IAML			12 16 35.6	
	comp=E,207nm,0.6s							
KIKV	**Kanaga Island**	**2.91**	**56**			Sn	12 16 31.0	-0.4
KICM	**Kanaga Island**	**2.92**	**55**			Pn	12 15 58.1	+0.5
KICM						Sn	12 16 32.4	+0.9
ADK	**Adak**	**3.18**	**59**			Pn	12 16 00.9	-0.2

CTAO	**Charters Tower**	**38.63**	260	P	**P**	**12**	**28**	**58.6 -0.8**
CTAO				IAmb	IAmb	12	29	11.1
	comp=Z,14nm,1.2s							
POHA	**Pohakuloa**	**41.10**	**25**	*e*LR	LR	12	40	11.9
	comp=Z,6.8nm,24.9s							
WR8	**Warramunga Arr**	**49.65**	259	P	**P**	**12**	**30**	**26.0 -1.8**
WR8				IAmb	IAmb	12	30	44.5
	comp=Z,7.7nm,1.3s							
WB0	**Warramunga Arr**	**49.77**	259	P	**P**	**12**	**30**	**26.0 -2.7**
WRAB	**Tennant Creek**	**49.79**	259	P	**P**	**12**	**30**	**27.9 -1.0**
WRAB				IAmb	IAmb	12	30	50.4
	comp=Z,5.9nm,1.2s							
WRA	**Warramunga Arr**	**49.80**	259	P	**P**	**12**	**30**	**27.0 -2.0**
WRA	**Warramunga Arr**	**49.80**	259	P	**P**	**12**	**30**	**27.4 -1.6**
	comp=Z,0.7nm,0.5s,baz=98,slow=6.4,SNR=20							
	comp=Z,0.7nm,0.5s							
AS31	**Alice Springs**	**49.85**	254	P	**P**	**12**	**30**	**27.9 -1.5**
ASAR	**Alice Springs**	**49.85**	254	P	**P**	**12**	**30**	**27.9 -1.5**
ASAR	**Alice Springs**	**49.85**	254	P	**P**	**12**	**30**	**27.4 -2.0**
	comp=Z,3.3nm,0.8s,baz=87,slow=8.6,SNR=22							
	comp=Z,3.3nm,0.8s							
CASY	**Casey**	**68.38**	205	P	**P**	**12**	**32**	**37.6 +0.5**
CASY				IAmb	IAmb	12	32	55.9
	comp=Z,4.0nm,1.2s							
MJAR	**Matsushiro Arr**	**71.14**	320	P	**P**	**12**	**32**	**51.2 -3.3**
	comp=Z,1.5nm,0.7s,baz=159,slow=6.1,SNR=4.1							
	comp=Z,1.5nm,0.7s							
QSPA	**South Pole Qui**	**72.18**	180	P	**P**	**12**	**33**	**04.0 +3.5**
QSPA				IAmb	IAmb	12	33	20.7
	comp=Z,2.9nm,1.1s							
QSPA	**South Pole Qui**	**72.18**	180	P	**P**	**12**	**33**	**03.7 +3.2**
	comp=Z,0.5nm,0.8s,baz=26,slow=2.1,SNR=5.2							
	comp=Z,0.5nm,0.8s							
PETK	**Petropavlovsk-**	**75.13**	342	P	**P**	**12**	**33**	**18.7 +1.0**
	comp=Z,2.6nm,0.8s,baz=120,slow=8.9,SNR=5.9							
	comp=Z,2.6nm,0.8s							
NVAR	**Mina Array Bea**	**75.85**	**41**	P	**P**	**12**	**33**	**24.8 +2.3**
	comp=Z,0.7nm,0.7s,baz=229,slow=9.8,SNR=8.3							
	comp=Z,0.7nm,0.7s							
LEM	**Lembang**	**77.97**	267	P	**P**	**12**	**33**	**34.7 -0.1**
	comp=Z,22nm,0.5s,baz=142,slow=20,SNR=7.5							
KSRS	**Korea Array**	**78.26**	316	P	**P**	**12**	**33**	**35.5 -0.2**
	comp=Z,1.7nm,0.9s,baz=108,slow=6.5,SNR=3.2							
	comp=Z,1.7nm,0.9s							
TXAR	**Lajitas Array**	**81.59**	**56**	P	**P**	**12**	**33**	**57.3 +3.2**
	comp=Z,0.3nm,1.0s,baz=247,slow=4.8,SNR=4.0							
	comp=Z,0.3nm,1.0s							
PMSA	**Palmer Station**	**81.73**	156	*e*LR	LR	12	59	22.5
	comp=Z,88nm,24.0s							
PDAR	**Pinedale Array**	**83.78**	**41**	P	**P**	**12**	**34**	**07.4 +2.0**
	comp=Z,1.2nm,0.8s,baz=226,slow=3.9,SNR=10							
	comp=Z,1.2nm,0.8s							
ILAR	**Eielson Array**	**84.77**	**11**	P	**P**	**12**	**34**	**09.0 -0.6**
	comp=Z,0.6nm,0.8s,baz=205,slow=4.0,SNR=6.6							
	comp=Z,0.6nm,0.8s							
MAW	**Mawson**	**85.61**	199	LR	LR	13	13	16.2
	comp=Z,70nm,18.1s,baz=88,slow=36							
SNAA	**Sanae**	**90.42**	177	P	**P**	**12**	**34**	**41.1 +4.1**
	comp=Z,0.6nm,0.8s,baz=192,slow=9.3,SNR=2.5							
	comp=Z,0.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.85**	288	P	**P**	**12**	**34**	**54.6 +0.8**
	comp=Z,0.5nm,0.3s,baz=115,slow=7.2,SNR=1.7							
	comp=Z,0.5nm,0.3s							
BVAR	**Borovoye Array**	**120.12**	321	PKP	**PKPdf**	**12**	**40**	**26.0 -0.6**
	comp=Z,0.4nm,0.4s,baz=82,slow=3.2,SNR=3.6							
CLL	**Collm**	**146.32**	353	*i* PKPbc	**PKPab**	**12**	**41**	**17.1 -0.1**
	comp=Z,7.0nm,1.0s							
BRTR	**Keskin Array B**	**148.36**	319	PKPbc	**PKPbc**	**12**	**41**	**23.3 +0.6**
	comp=Z,1.1nm,0.8s,baz=90,slow=4.3,SNR=5.0							
GERES	**GERESS Array B**	**148.65**	352	PKPbc	**PKiKP**	**12**	**41**	**24.1 -0.5**
	comp=Z,0.3nm,0.2s,baz=46,slow=3.9,SNR=3.8							

IDC 29 12:24:37.3±1.1, 2°35N×120°58E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=157.4km s-min=21.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
FITZ	**Fitzroy Crossi**	**20.92**	**166**	P	P	12	29	21.8	+0.1
	2.1nm,0.9s,baz=337,slow=13,SNR=1.6								
	2.1nm,0.9s								
WRA	**Warramunga Arr**	**25.95**	149	P	P	12	30	11.8	+0.1
	0.5nm,0.8s,baz=328,slow=10.0,SNR=6.0								
	0.5nm,0.8s								
MKAR	**Makanchi Array**	**55.36**	329	P	P	12	34	14.2	+1.0
	1.1nm,0.7s,baz=125,slow=8.1,SNR=9.3								
	1.1nm,0.7s								
KURBB	**Kurchatov Arra**	**59.74**	330	P	P	12	34	43.1	-0.8
	0.9nm,0.5s,baz=123,slow=6.8,SNR=9.0								
	0.9nm,0.5s								
ARCES	**ARCESS Array B**	**89.60**	339	P	P	12	37	34.6	-2.0
	1.1nm,0.7s,baz=72,slow=4.0,SNR=5.1								
	1.1nm,0.7s								
FINES	**FINESS Array B**	**90.11**	331	P	P	12	37	40.9	+1.8
	1.5nm,1.0s,baz=74,slow=4.4,SNR=1.2								
	1.5nm,1.0s								

*BJI **29** 12:25:10.0, 11°.02S×166°.75E, h41km, mB5.1/14, mb4.9/47, Ms4.7/4, Ms7 4.4/8*

*NEIC **29** 12:25:12.8±1.7, 11°.48S±0°.08×166°.43E±0°.09, h53km±6km, mb4.9/40, Error ellipse: s-maj=13.3km s-min=11.1km az=58.0*

*GCMT **29** 12:25:12.8±0.2, 11°.61S±0°.02×166°.00E±0°.01, h52km, MW5.1/94, Moment Tensor Solution. s94,c128; s86,c122; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.86±.12; Mθθ-0.51±.09; Mϕϕ-4.36±.09; Mrθ-0.53±.08; Mθϕ1.05±.08; Mϕr0.95±.08; Best double couple: Mo4.86600×10^16 NP1:ϕs169.00000°, δ39.00000°, λ95.00000°. NP2:ϕs343.00000°, δ51.00000°, λ86.00000°. Principal axes: T 4.9900, Plg83.0000°, Azm229.0000°; N -0.2520, Plg3.0000°, Azm345.0000°; P -4.7430, Plg6.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **29** 12:25:12.9±2.3, 11°.45S×166°.29E, h53km±18km, mb4.3/21, mbtmp4.5/23, ML4.7/2, MS4.0/40 Error ellipse: s-maj=17.0km s-min=13.1km az=87.0*

*NOU **29** 12:25:14.6, 11°.52S×166°.09E, h24km, mb5.2/20, Santa Cruz Islands*

ISC 29 12:25:12.1±0.3, 11°.55S±0°.04×166°.49E±0°.04, h59km, n167, σ28.11/150, mb4.8/55, MS4.1/42, 2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
LUES	**Luesalemba Tem**	**1.05**	327	P	**Pn**	**12**	**25**	**29.8**	**-1.0**
LUES	**Luesalemba Tem**	**1.05**	327	S	**Sn**	**12**	**25**	**43.5**	**-1.2**
HURO	**Huro Makira**	**4.63**	283	P	**Pn**	**12**	**26**	**17.9**	**-1.7**
HURO	**Huro Makira**	**4.63**	283	S	**Sn**	**12**	**27**	**05.3**	**-6.8**
NGOA	**Tingoa Renbel**	**6.30**	269	P	**Pn**	**12**	**26**	**40.3**	**-2.1**
ALEG	**Aligegeo Malai**	**6.35**	295	P	**Pn**	**12**	**26**	**42.3**	**-0.8**
DVP	**Devils Point**	**6.35**	165	P	Pn	12	26	49.9	+6.8
HNR	**Honiara**	**6.77**	288		**Pn**	**12**	**26**	**48.4**	**-0.5**
HNR	**Honiara**	**6.77**	288	P	**Pn**	**12**	**26**	**48.6**	**-0.3**
	104nm,0.3s,baz=170,slow=4.0,SNR=38								
HNR				S	**Sn**	**12**	**28**	**00.4**	**-4.3**
	172nm,0.5s,baz=78,slow=20,SNR=3.5								
HNR				LR	LR	12	29	41.1	
	comp=Z,2μm,19.8s,baz=122,slow=41								
	386nm,0.5s								
SAVO	**Savo Central**	**6.99**	289	P	**Pn**	**12**	**26**	**52.0**	**+0.1**
SAVO	**Savo Central**	**6.99**	289	S	**Sn**	**12**	**28**	**07.5**	**-2.6**
TATA	**Tatamba Isabel**	**7.30**	295	P	**Pn**	**12**	**26**	**55.9**	**-0.2**
TATA	**Tatamba Isabel**	**7.30**	295	S	**Sn**	**12**	**28**	**13.7**	**-3.9**
KOUNC	**Koumac, New Ca**	**9.19**	193	P	**Pn**	**12**	**27**	**24.9**	**+2.9**
DZM	**Mont Dzumac**	**10.46**	180		**Pn**	**12**	**27**	**38.8**	**-0.7**
DZM	**Mont Dzumac**	**10.46**	180	*e*P	**Pn**	**12**	**27**	**40.6**	**+1.1**
	60nm,1.4s								
DZM				*e*LR	LR	12	30	00.0	
	3μm,25.9s								
DZM	**Mont Dzumac**	**10.46**	180	P	**Pn**	**12**	**27**	**43.1**	**+3.6**
	1.0nm,0.3s,baz=334,slow=10,SNR=28								
DZM				S	**Sn**	**12**	**29**	**32.6**	**-2.6**
	11nm,0.8s,baz=319,slow=19,SNR=1.7								
	2.9nm,0.4s								
DZM	**Mont Dzumac**	**10.46**	180	P	**Pn**	**12**	**27**	**42.7**	**+3.2**
ONTNC	**Ouen Toro**	**10.69**	180	Pn	**Pn**	**12**	**27**	**45.0**	**+2.4**
PINNC	**Pines Island,**	**11.04**	175	Pn	**Pn**	**12**	**27**	**50.0**	**+2.8**
MSVF	**Nonsavu**	**12.76**	120		**Pn**	**12**	**28**	**11.8**	**+1.0**
FUNA	**Funafuti**	**12.87**	**78**	Pn	**Pn**	**12**	**28**	**14.0**	**+1.7**
TARA	**Tarawa**	**14.33**	**27**		**Pn**	**12**	**28**	**29.6**	**-2.4**
RABL	**Rabaul**	**15.96**	296	Pn	**Pn**	**12**	**28**	**51.9**	**-1.2**
NFK	**Norfolk Island**	**17.45**	176	*e*P	**Pn**	**12**	**29**	**09.2**	**-2.3**
NFK				*e*LR	LR	12	33	14.4	
PMG	**Port Moresby**	**19.13**	275	LR	LR	12	36	09.5	
	comp=Z,1μm,21.9s,baz=116,slow=35								
EIDS	**Eidsvold**	**20.03**	225		**P**	**12**	**29**	**38.8**	**-1.5**
EIDS	**Eidsvold**	**20.03**	225	P	Pn	12	29	44.2	+1.7
MANU	**Manus Island**	**21.19**	295	P	**P**	**12**	**29**	**52.3**	**-0.6**
MANU				IAmb	IAmb	12	30	11.7	
	comp=Z,81nm,1.2s								
CTA	**Charters Tower**	**21.22**	244	P	**P**	**12**	**29**	**55.3**	**+2.1**
CTAO	**Charters Tower**	**21.22**	244		**P**	**12**	**29**	**52.0**	**-1.3**
CTAO	**Charters Tower**	**21.22**	244	P	**P**	**12**	**29**	**55.5**	**+2.3**
MTSU	**Mount Surprise**	**22.40**	250	P	**P**	**12**	**30**	**07.8**	**+1.9**
RAO	**Raoul Island**	**22.84**	143	LR	LR	12	36	05.2	
	comp=Z,164nm,21.6s,baz=254,slow=28								
ARMA	**Armidale**	**23.29**	214		**P**	**12**	**30**	**16.0**	**+1.0**
ARMA				IAmb	IAmb	12	30	18.5	
	comp=Z,46nm,0.9s								
ARMA	**Armidale**	**23.29**	214	P	**P**	**12**	**30**	**17.6**	**+2.6**
NIUE	**Niue**	**23.92**	111	*e*P	**P**	**12**	**30**	**18.4**	**-2.4**
	comp=Z,119nm,25.4s								
NIUE				*e*S	**S**	**12**	**34**	**26.5**	**-6.8**
	comp=Z,286nm,30.2s								
NIUE				*e*LR	LR	12	36	18.2	
	comp=Z,926nm,29.1s								
JAY	**Jayapura**	**27.09**	287	LR	LR	12	42	46.2	
	comp=Z,398nm,19.0s,baz=132,slow=39								
BKZ	**Black Stump Fm**	**28.90**	164		**P**	**12**	**31**	**07.3**	**+1.8**
BKZ				IAmb	IAmb	12	31	12.2	
	comp=Z,13nm,0.5s								
INKA	**Innaminka**	**29.01**	233	P	**P**	**12**	**31**	**06.6**	**+0.1**
H11S2	**WAKE ISLAND Hy**	**29.86**	**0**	T	T	13	01	33.6	
	baz=181,slow=76,SNR=112								
H11S3	**WAKE ISLAND Hy**	**29.86**	**0**	T	T	13	02	01.9	
	baz=181,slow=76,SNR=78								
H11S1	**WAKE ISLAND Hy**	**29.87**	**0**	T	T	13	02	02.4	
	baz=181,slow=76,SNR=78								
SNZO	**South Karori**	**30.51**	168	*e*P	**P**	**12**	**31**	**17.2**	**-2.4**
	comp=Z,6.1nm,25.0s								
SNZO				*e*LR	LR	12	39	24.8	
	comp=Z,47nm,22.0s								
STKA	**Stephens Creek**	**30.59**	225	P	**P**	**12**	**31**	**21.2**	**+0.8**
STKA	**Stephens Creek**	**30.59**	225	P	**P**	**12**	**31**	**21.9**	**+1.4**
	comp=Z,12nm,0.7s,baz=40,slow=9.5,SNR=22								
STKA				LR	LR	12	42	43.2	
	comp=Z,618nm,21.2s,baz=43,slow=34								
	comp=Z,12nm,0.7s								
WR8	**Warramunga Arr**	**31.85**	251		**P**	**12**	**31**	**31.2**	**-0.6**
WR8				IAmb	IAmb	12	31	32.6	
	comp=Z,25nm,1.2s								
WRA	**Warramunga Arr**	**32.00**	251		**P**	**12**	**31**	**31.8**	**-1.3**
WRA	**Warramunga Arr**	**32.00**	251	P	**P**	**12**	**31**	**32.8**	**-0.3**
	comp=Z,12nm,0.9s,baz=82,slow=9.2,SNR=38								
WRA				PcP	**PcP**	**12**	**34**	**22.6**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=78,slow=3.1,SNR=7.0								
WRA				ScP	**ScP**	**12**	**38**	**02.2**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=75,slow=3.2,SNR=1.8								
WRA				LR	LR	12	43	45.5	
	comp=Z,297nm,18.4s,baz=54,slow=35								
	comp=Z,12nm,0.9s								
GUMO	**Guam**	**32.92**	319	LR	LR	12	45	36.4	
	comp=Z,125nm,18.7s,baz=136,slow=37								
AS31	**Alice Springs**	**33.22**	244	P	**P**	**12**	**31**	**43.3**	**-0.5**
ASAR	**Alice Springs**	**33.22**	244	P	**P**	**12**	**31**	**42.8**	**-1.0**
ASAR	**Alice Springs**	**33.22**	244	P	**P**	**12**	**31**	**43.2**	**-0.6**
	comp=Z,9.8nm,0.7s,baz=69,slow=9.6,SNR=24								
ASAR				PcP	**PcP**	**12**	**34**	**26.1**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=72,slow=2.2,SNR=9.4								
ASAR				ScP	**ScP**	**12**	**38**	**07.5**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=59,slow=2.1,SNR=2.3								
ASAR				LR	LR	12	44	20.7	
	comp=Z,475nm,20.4s,baz=72,slow=35								
	comp=Z,9.8nm,0.7s								
RAR	**Rarotonga**	**33.70**	111	*e*P	**P**	**12**	**31**	**46.9**	**-1.0**
	comp=Z,46nm,24.0s								
RAR				*e*S	**S**	**12**	**37**	**02.0**	**-5.1**
	comp=Z,142nm,30.0s								
RAR				*e*SS	**SS**	**12**	**39**	**31.1**	**-3.5**
	comp=Z,85μm,25.0s								
RAR				*e*LR	LR	12	40	47.1	
	comp=Z,1μm,27.0s								
RAR	**Rarotonga**	**33.70**	111	LR	LR	12	42	51.4	
	comp=Z,288nm,21.3s,baz=284,slow=31								
BBOO	**Buckleboo**	**35.02**	228	P	**P**	**12**	**31**	**59.8**	**+0.6**
JOHN	**Johnston Islan**	**36.77**	**41**	*e*P	**P**	**12**	**32**	**12.5**	**-1.8**
	comp=Z,83nm,27.8s								
JOHN				*e*LR	LR	12	42	07.0	
	comp=Z,1μm,27.8s								
KNRA	**Kununurra**	**36.86**	259		**P**	**12**	**32**	**14.5**	**-0.7**
XMAS	**Kiritimati**	**38.31**	**72**	*e*P	**P**	**12**	**32**	**27.3**	**-0.1**
	comp=Z,7.0nm,26.0s								
XMAS				*e*S	**S**	**12**	**38**	**14.2**	**-3.7**
	comp=Z,7.1nm,31.0s								
XMAS				*e*SS	**SS**	**12**	**41**	**09.1**	**+0.6**
	comp=Z,13nm,28.0s								
XMAS				*e*LR	LR	12	42	47.5	
	comp=Z,50nm,27.0s								
FITZ	**Fitzroy Crossi**	**39.96**	256		**P**	**12**	**32**	**41.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**39.96**	256	P	**P**	**12**	**32**	**41.0**	**-0.1**
	comp=Z,15nm,0.8s,baz=102,slow=7.1,SNR=22								
FITZ				LR	LR	12	48	06.9	
	comp=Z,590nm,20.2s,baz=81,slow=34								
	comp=Z,15nm,0.8s								
BATI	**Baumata**	**42.05**	268	LR	LR	12	50	16.5	
	comp=Z,278nm,21.4s,baz=124,slow=36								
PPT	**Papeete**	**42.87**	103	LR	LR	12	47	57.1	
	comp=Z,201nm,19.5s,baz=288,slow=32								
PPT2	**Papeete2**	**42.87**	103	*e*S	**S**	**12**	**39**	**25.1**	**-0.7**
	comp=Z,119nm,25.0s								
PPT2				*e*SS	**SS**	**12**	**42**	**37.2**	**-1.9**
	comp=Z,207nm,27.5s								
PPT2				*e*LR	LR	12	45	04.9	
	comp=Z,597nm,32.2s								
PPT2				*e*LR	LR	12	45	07.1	
	comp=Z,915nm,28.8s								
TBI	**Tubuai**	**43.47**	112	*e*S	**S**	**12**	**39**	**37.0**	**+2.7**
	comp=Z,704nm,29.5s								
TBI				*e*SS	**SS**	**12**	**42**	**55.7**	**+5.3**
	comp=Z,2μm,31.0s								
TBI				*e*LR	LR	12	45	17.9	
	comp=Z,1μm,31.2s								
TBI				*e*LR	LR	12	45	20.2	
	comp=Z,5μm,29.5s								
DAV	**Davao City (W)**	**44.71**	292	LR	LR	12	49	37.9	
	comp=Z,114nm,21.2s,baz=148,slow=33								
JCJ	**Chichijima**	**45.09**	329	LR	LR	12	49	33.8	
	comp=Z,142nm,21.9s,baz=148,slow=32								
PSA00	**Pilbara Seismi**	**45.66**	251	P	**P**	**12**	**33**	**26.6**	**-0.7**
PSA00				IAmb	IAmb	12	33	28.7	
	comp=Z,24nm,1.0s								
MBWA	**Marble Bar**	**45.73**	252	P	**P**	**12**	**33**	**28.4**	**+0.5**
MBWA				IAmb	IAmb	12	33	29.7	
	comp=Z,29nm,1.0s								
TOLI2	**Tolitoli**	**47.13**	282	P	**P**	**12**	**33**	**37.2**	**-1.6**
TOLI2				IAmb	IAmb	12	33	39.5	
	comp=Z,15nm,0.9s								
PCI	**Palu**	**47.49**	279	P	**P**	**12**	**33**	**44.9**	**+3.2**
	comp=Z,6μmcomp=Z,82nm,1.5s								
POHA	**Pohakuloa**	**48.65**	**51**	*e*P	**P**	**12**	**33**	**48.6**	**-2.2**
	comp=Z,2.9nm,26.0s								
POHA				*e*S	**S**	**12**	**40**	**42.8**	**-6.3**
	comp=Z,6.8nm,24.9s								
POHA				*e*LR	LR	12	47	41.1	
	comp=Z,47nm,26.1s								
NWAO	**Narrogin (SRO)**	**49.79**	237	LR	LR	12	54	59.2	
	comp=Z,654nm,19.5s,baz=82,slow=36								
MORW	**Morawa**	**50.02**	242	P	**P**	**12**	**34**	**01.2**	**+0.2**
MYLDM	**Lahad Datu**	**50.55**	287	P	**P**	**12**	**34**	**05.5**	**+0.3**
JHJ2	**Mitsune**	**51.19**	331	*e*LR	LR	12	48	34.7	
	comp=Z,47nm,27.4s								
TAOE	**Nuku Hiva Isla**	**52.53**	**92**	*e*LR	LR	12	49	30.7	
	comp=Z,360nm,26.6s								
KKM	**Kota Kinabalu**	**52.98**	287	P	**P**	**12**	**34**	**23.6**	**+0.2**
JOW	**Kunigami**	**53.23**	316	*e*S	S	12	41	37.7	-14
	comp=Z,87nm,25.3s								
JOW				*e*SS	SS	12	45	15.5	-17
	comp=Z,106nm,29.6s								
JOW				*e*LR	LR	12	49	34.7	
	comp=Z,542nm,26.2s								
JOW	**Kunigami**	**53.23**	316	LR	LR	12	56	32.7	
	comp=Z,118nm,18.9s,baz=152,slow=36								
JMN	**Monobe**	**54.69**	327	P	**P**	**12**	**34**	**35.9**	**+0.5**
MJAR	**Matsushiro Arr**	**54.76**	332	P	**P**	**12**	**34**	**35.2**	**-0.6**
MJAR	**Matsushiro Arr**	**54.76**	332	P	**P**	**12**	**34**	**34.9**	**-0.9**
	comp=Z,5.4nm,0.9s,baz=165,slow=8.3,SNR=8.9								
	comp=Z,5.4nm,0.9s								
SBUM	**Sibu**	**55.71**	281	P	**P**	**12**	**34**	**43.5**	**+0.4**
SBUM				IAmb	IAmb	12	34	45.5	
	comp=Z,11nm,1.2s								
JNU	**Nakatsue**	**55.92**	324	LR	LR	12	56	31.8	
	comp=Z,55nm,20.6s,baz=144,slow=34								
RKT	**Rikitea**	**56.73**	110	*e*LR	LR	12	51	29.8	
	comp=Z,5μm,30.5s								
DRV	**Dumont d'Urvil**	**57.86**	192	P	**P**	**12**	**34**	**58.2**	**+0.8**
LEM	**Lembang**	**58.23**	269	LR	LR	13	01	58.9	
	comp=Z,118nm,18.1s,baz=106,slow=38								
ASAJ	**Asahikawa**	**59.52**	340	LR	LR	12	57	23.5	
	comp=Z,178nm,20.8s,baz=160,slow=34								
KSRS	**Korea Array**	**60.71**	325	P	**P**	**12**	**35**	**17.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=144,slow=7.7,SNR=7.0								
	comp=Z,1.7nm,0.7s								
NJ2	**Nanjing**	**62.89**	315	*e*P	**P**	**12**	**35**	**33.8**	**+1.5**
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
USRK	**Ussuriysk Ar.**	**63.73**	333	P	**P**	**12**	**35**	**38.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**63.73**	333	P	**P**	**12**	**35**	**37.0**	**-0.6**
	comp=Z,9.1nm,1.0s,baz=123,slow=7.0,SNR=9.2								
	comp=Z,9.1nm,1.0s								
PETK	**Petropavlovsk-**	**64.84**	354	P	**P**	**12**	**35**	**45.0**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=130,slow=8.7,SNR=4.3								
	comp=Z,2.5nm,0.9s								
MDJ	**Mudanjiang**	**65.14**	332	P	**P**	**12**	**35**	**47.5**	**+0.7**
MDJ				pmax	pmax				
	comp=Z,11nm,1.0s								
VNDA	**Vanda**	**66.00**	181	P	**P**	**12**	**35**	**53.4**	**+1.4**
VNDA				IAmb	IAmb	12	35	54.5	
	comp=Z,17nm,1.6s								
VNDA	**Vanda**	**66.00**	181	P	**P**	**12**	**35**	**53.3**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=340,slow=6.7,SNR=9.7								
VNDA				LR	LR	13	00	49.0	
	comp=Z,109nm,21.1s,baz=355,slow=32								
	comp=Z,1.5nm,0.5s								
BKNI	**Bangkinang**	**66.04**	276	P	P	12	36	01.1	+7.8
CASY	**Casey**	**66.17**	201	P	**P**	**12**	**35**	**53.4**	**+0.2**
CASY				IAmb	IAmb	12	35	54.5	
	comp=Z,18nm,1.2s								
CASY	**Casey**	**66.17**	201	*e*P	**P**	**12**	**35**	**50.2**	**-3.0**
	comp=Z,55nm,26.0s								
CASY				*e*S	**S**	**12**	**44**	**29.0**	**-8.3**
	comp=Z,113nm,35.0s								
CASY				*e*SS	**SS**	**12**	**48**	**47.9**	**-5.9**
	comp=Z,89nm,34.0s								
CASY				*e*LQ	LQ	12	52	40.0	
	comp=Z,82nm,22.0s								
CASY				*e*LR	LR	12	55	49.6	
	comp=Z,337nm,26.0s								
CASY	**Casey**	**66.17**	201	P	**P**	**12**	**35**	**53.7**	**+0.5**
CN2	**Changchun**	**66.55**	329	P	**P**	**12**	**35**	**54.8**	**-1.1**
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CN2				LR	LR				
	comp=Z,100nm,15.0s								
CN2				LR	LR				
	comp=Z,200nm,15.0s								
CN2				LR	LR				
	comp=Z,100nm,16.0s								
BNX	**BinXian**	**67.00**	331	‖P	**P**	**12**	**35**	**59.3**	**+0.5**
BNX				pmax	pmax				
	comp=Z,12nm,1.1s								
IPM	**Ipoh**	**67.03**	280	P	**P**	**12**	**35**	**59.9**	**+0.3**
CCD	**Concordia, Ant**	**67.85**	191	P	**P**	**12**	**36**	**05.2**	**+0.9**
CCD				pP	**pP**	**12**	**36**	**20.6**	**+0.6**
LYN	**LuoYang**	**68.72**	314	P	**P**	**12**	**36**	**10.3**	**+0.5**
LYN				pmax	pmax				
	comp=Z,29nm,0.8s								
BJI	**Beijing**	**69.33**	321	P	**P**	**12**	**36**	**15.5**	**+2.0**
BJI				pmax	pmax				
	comp=Z,5.0nm,0.8s								
HEH	**HeiHe**	**70.38**	335	*e*P	**P**	**12**	**36**	**19.8**	**+0.1**
HEH				pmax	pmax				
	comp=Z,7.0nm,0.8s								
XAN	**Xi'an**	**71.00**

GOMU	**GeErMu**	**82.40**	**309**	P		**P**		**12 37 28.5**	**-0.1**
GOMU				pmax		pmax			
	comp=Z,8.0nm,0.9s								
K24K	**Donnelly Dome**	**83.44**	**19**	P		**P**		**12 37 33.5**	**+0.6**
K24K				IAmb		IAmb		12 38 27.0	
	comp=Z,9.6nm,1.1s								
ILAR	**Eielson Array**	**83.76**	**18**	P		**P**		**12 37 35.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=227,slow=5.2,SNR=10								
ILAR				LR		LR		13 10 56.3	
	comp=Z,40nm,20.1s,baz=190,slow=33								
	comp=Z,1.4nm,0.8s								
MAW	**Mawson**	**84.53**	**202**	P		**P**		**12 37 39.4**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=117,slow=4.5,SNR=4.1								
	comp=Z,1.9nm,0.6s								
BBB	**Bella Bella**	**84.58**	**34**	LR		LR		13 07 46.1	
	comp=Z,140nm,21.4s,baz=224,slow=30								
PFO	**Pinyon Flats O**	**85.78**	**55**	LR		LR		13 07 54.6	
	comp=Z,166nm,21.3s,baz=274,slow=30								
NVAR	**Mina Array Bea**	**85.79**	**50**	P		**P**		**12 37 47.7**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=231,slow=7.8,SNR=6.2								
NVAR				LR		LR		13 07 57.9	
	comp=Z,246nm,21.6s,baz=270,slow=30								
	comp=Z,0.6nm,0.7s								
G26K	**Porcupine Rive**	**86.19**	**18**	P		**P**		**12 37 48.5**	**+1.9**
DLBC	**Dease Lake**	**86.51**	**28**	LR		LR		13 08 21.7	
	comp=Z,67nm,21.8s,baz=219,slow=30								
PALK	**Pallekele**	**87.34**	**278**	LR		LR		13 20 31.6	
	comp=Z,90nm,18.7s,baz=108,slow=38								
LPIG	**La Paz**	**88.56**	**65**	LR		LR		13 10 58.8	
	comp=Z,38nm,20.1s,baz=258,slow=31								
NEW	**Newport**	**89.65**	**40**	LR		LR		13 10 27.0	
	comp=Z,95nm,21.7s,baz=256,slow=30								
WMQ	**Urumqi**	**89.97**	**315**	*e*P		**P**		**12 38 07.5**	**+2.2**
WMQ				LR		LR			
	comp=Z,180nm,22.5s								
INK	**Inuvik**	**90.14**	**19**	LR		LR		13 16 41.0	
	comp=Z,65nm,18.4s,baz=222,slow=34								
SYO	**Syowa Base**	**91.51**	**197**	*e*P		**P**		**12 38 12.9**	**+1.0**
PDAR	**Pinedale Array**	**93.36**	**47**	P		**P**		**12 38 24.7**	**+3.5**
	comp=Z,0.2nm,0.4s,baz=289,slow=4.5,SNR=2.5								
PDAR				LR		LR		13 13 58.7	
	comp=Z,39nm,20.8s,baz=258,slow=31								
	comp=Z,0.2nm,0.4s								
ANMO	**Albuquerque**	**94.13**	**55**	LR		LR		13 12 47.7	
	comp=Z,133nm,21.2s,baz=350,slow=30								
MKAR	**Makanchi Array**	**94.39**	**317**	P		**P**		**12 38 26.0**	**+0.4**
MKAR	**Makanchi Array**	**94.39**	**317**	P		**P**		**12 38 26.2**	**+0.6**
	comp=Z,11nm,0.8s,baz=97,slow=5.9,SNR=75								
MKAR				LR		LR		13 24 13.3	
	comp=Z,14nm,18.0s,baz=84,slow=38								
	comp=Z,11nm,0.8s								
ZALV	**Zalesovo Beam**	**94.39**	**324**	P		**P**		**12 38 25.2**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=111,slow=3.8,SNR=13								
ZALV				LR		LR		13 19 57.4	
	comp=Z,44nm,20.1s,baz=103,slow=35								
	comp=Z,2.7nm,0.6s								
PMSA	**Palmer Station**	**95.00**	**161**	*e*LR		LR		13 09 13.7	
	comp=Z,108nm,23.0s								
PMSA	**Palmer Station**	**95.00**	**161**	LR		LR		13 16 00.2	
	comp=Z,66nm,20.4s,baz=238,slow=32								
YKA	**Yellowknife Ar**	**95.09**	**27**	LR		LR		13 14 11.5	
	comp=Z,73nm,22.0s,baz=283,slow=31								
TXAR	**Lajitas Array**	**95.43**	**61**	P		**P**		**12 38 34.3**	**+3.4**
	comp=Z,0.2nm,0.5s,baz=255,slow=2.3,SNR=2.6								
TXAR				LR		LR		13 13 46.7	
	comp=Z,78nm,20.9s,baz=256,slow=30								
	comp=Z,0.2nm,0.5s								
SNAA	**Sanae**	**96.66**	**183**	P		**P**		**12 38 35.5**	**-0.1**
SNAA				IAmb		IAmb		12 39 37.6	
	comp=Z,9.2nm,1.7s								
SNAA	**Sanae**	**96.66**	**183**	P		**P**		**12 38 36.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=184,slow=13,SNR=6.0								
	comp=Z,0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**97.54**	**320**	P		**P**		**12 38 39.0**	**-0.8**
KURBB				LR		LR		13 24 34.8	
	comp=Z,52nm,18.5s,baz=166,slow=37								
	comp=Z,0.4nm,0.5s								
ARCES	**ARCESS Array B**	**117.01**	**346**	PKP		**PKiKP**		**12 43 50.0**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=75,slow=3.4,SNR=4.9								
BOSA	**Boshof**	**125.24**	**222**	PKP		**PKiKP**		**12 44 07.8**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=162,slow=2.0,SNR=6.4								
CLL	**Collm**	**134.86**	**337**	*i* x		x		12 41 24.4	
CLL				*i* x		x		12 41 28.0	
CLL				LmV				13 47 00.0	
	comp=Z,100nm,21.0s								
CLL				LmV				13 47 00.0	
	comp=Z,100nm,21.0s								
KEST	**Kesra**	**148.26**	**323**	PKPbc		**PKPbc**		**12 44 52.8**	**+0.5**
	comp=Z,7.1nm,1.0s,baz=45,slow=2.9,SNR=3.8								
ESDC	**Sonseca Array**	**150.74**	**345**	PKPbc		**PKPbc**		**12 44 58.4**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=20,slow=2.5,SNR=9.0								
TORD	**Torodi Ar. Bea**	**165.06**	**278**	PKP		**PKPdf**		**12 45 12.6**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=0.6,slow=1.2,SNR=2.4								
TORD				PKPab		**PKPab**		**12 46 08.4**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=78,slow=5.3,SNR=7.4								

DJA ***29*** *12:42:09.0±1.5,9°S±9°×10°8E±°, h35km±36km, M4.1/15, mb4.3/5, MLv4.0/15*

IDC ***29*** *12:42:09.7±0.9, 7°.92S×109°.65E, h0km, mb3.8/8, mbtmp3.8/10, ML3.5/2, MS3.8/6, Error ellipse: s-maj=41.5km s-min=15.5km az=48.0*

ISC 29 12:42:08.5±1.0, 9°.5S±0°.1×107°.77E±0°.08, h35km, n29, σ1§74/25, mb3.8/8, MS3.8/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CNJI	**Cibinong**	**2.27**	**344**	P		P	**Pn**	**12 42 43.4**	**-0.1**
CNJI				S		S	**Sn**	**12 43 08.3**	**-2.0**
KPJI	**Karang Pucung**	**2.45**	**28**	P		P	**Pn**	**12 42 45.4**	**-0.5**
LEM	**Lembang**	**2.66**	**357**	Pn		Pn	**Pn**	**12 42 50.7**	**+1.6**
	25nm,0.3s,baz=113,slow=13,SNR=12								
LEM				Sn		Sn	**Sn**	**12 43 20.6**	**+0.4**
	17nm,0.3s,baz=127,slow=20,SNR=4.8								
LEM				LR		LR		12 43 47.4	
	comp=Z,127nm,21.2s,baz=329,slow=43								
	52nm,0.4s								
LEM	**Lembang**	**2.66**	**357**	P		P	**Pn**	**12 42 51.5**	**+2.4**
SKJI	**Sukabumi**	**2.76**	**334**	P		P	**Pn**	**12 42 51.1**	**+0.9**
SKJI				S		S	**Sn**	**12 43 23.7**	**+1.4**
DBJI	**Dramaga**	**3.10**	**341**	P		P	**Pn**	**12 42 53.1**	**-1.8**
UGM	**Wanagama**	**3.15**	**60**	P		P	**Pn**	**12 42 55.5**	**-0.2**
CGJI	**Cibinong**	**3.53**	**324**	P		P	**Pn**	**12 42 58.4**	**-2.4**
WOJI	**Wonogiri, Jawa**	**3.54**	**62**	P		P	**Pn**	**12 43 00.2**	**-0.7**
PCJI	**Pacitan**	**3.61**	**69**	P		P	**Pn**	**12 43 01.2**	**-0.8**
KASI	**Kota Agung**	**5.11**	**320**	P		P	**Pn**	**12 43 23.9**	**+1.3**
GMJI	**Gumukmas**	**5.74**	**78**	P		P	**Pn**	**12 43 31.1**	**-0.2**
	0.2nm38nm,1.2s								
JAGI	**Jajag, Banyuwa**	**6.39**	**81**	P		P	**Pn**	**12 43 39.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.33**	**118**	P		P		**12 46 29.9**	**-1.1**
	0.1nm,0.3s,baz=323,slow=15,SNR=2.4								
FITZ				S		S		12 49 49.4	-19
	2.2nm,0.9s,baz=328,slow=17,SNR=1.9								
	1.6nm,0.8s								
WRA	**Warramunga Arr**	**27.67**	**115**	P		P		**12 47 51.3**	**-2.2**
	0.6nm,1.0s,baz=291,slow=8.7,SNR=2.2								
	0.6nm,1.0s								
ASAR	**Alice Springs**	**28.66**	**123**	P		P		**12 48 04.1**	**+1.9**
	0.3nm,0.9s,baz=302,slow=9.0,SNR=7.9								
ASAR				PcP		**PcP**		**12 51 16.1**	**+3.5**
	0.3nm,0.6s,baz=286,slow=2.0,SNR=1.8								
	0.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**29.12**	**343**	P		P		**12 48 03.0**	**-3.2**
	0.4nm,0.3s,baz=154,slow=10,SNR=5.0								
	0.4nm,0.3s								
SONM	**Songino Array**	**57.10**	**359**	P		P		12 51 46.0	-5.4
	0.4nm,0.4s,baz=165,slow=8.9,SNR=2.0								
	0.4nm,0.4s								
AAK	**Ala-Archa**	**60.14**	**332**	LR		LR		13 20 24.3	
	comp=Z,62nm,18.7s,baz=88,slow=38								
MKAR	**Makanchi Array**	**60.48**	**340**	P		P		**12 52 16.5**	**+1.6**
	2.0nm,0.6s,baz=142,slow=7.5,SNR=26								
	2.0nm,0.6s								
KURBB	**Kurchatov Arra**	**65.05**	**340**	P		P		**12 52 46.6**	**+1.5**
	1.1nm,0.8s,baz=157,slow=5.7,SNR=8.0								
	1.1nm,0.8s								
ZALV	**Zalesovo Beam**	**66.13**	**345**	P		P		**12 52 52.5**	**+0.4**
	0.4nm,0.3s,baz=181,slow=5.8,SNR=2.0								
	0.4nm,0.3s								
AKTO	**Aktyubinsk**	**73.65**	**329**	LR		LR		13 32 56.0	
	comp=Z,40nm,18.2s,baz=56,slow=42								
QSPA	**South Pole Qui**	**80.50**	**180**	P		P		12 54 30.6	+14
	0.9nm,0.8s,baz=293,slow=2.6,SNR=5.3								
	0.9nm,0.8s								
AKASG	**Malin Array Be**	**90.11**	**321**	LR		LR		13 43 41.8	
	comp=Z,29nm,18.3s,baz=56,slow=41								
MLR	**Muntele Rosu**	**91.02**	**316**	LR		LR		13 46 03.6	
	comp=Z,32nm,18.1s,baz=53,slow=42								
VRAC	**Vranov**	**97.89**	**319**	LR		LR		13 48 45.2	
	comp=Z,69nm,18.2s,baz=24,slow=41								
GERES	**GERESS Array B**	**99.75**	**318**	LR		LR		13 47 34.0	
	comp=Z,82nm,21.2s,baz=50,slow=39								
TXAR	**Lajitas Array**	**144.58**	**52**	PKP		**PKiKP**		**13 01 44.4**	**-1.5**
	0.2nm,0.5s,baz=324,slow=6.2,SNR=3.5								

IDC ***29*** *12:55:13.3±3.9, 2°.58N×128°.42E, h219km±42km, mb3.5/9, mbtmp4.2/11, Error ellipse: s-maj=28.5km s-min=12.2km az=84.0*

NEIC ***29*** *12:55:14.8±1.1, 2°.6N±0°.1×128°.4E±0°.1, h228km±12km, mb4.4/12, Error ellipse: s-maj=20.4km s-min=17.1km az=71.0*

DJA ***29*** *12:55:15.6±1.0, 3°N±7°×12°8E±°, h213km±11km, M4.5/12, mB5.0/2, mb4.9/2, MLv4.2/12, Mw(mB)4.3/2*

ISC 29 12:55:15.8±0.7, 2°.47N±0°.07×128°.38E±0°.08, h250km, n45, σ1§34/46, mb4.1/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TNTI	**Ternate**	**1.97**	**211**				**Pn**	**12 55 56.7**	**-1.3**
TNTI	**Ternate**	**1.97**	**211**	P		P	**Pn**	**12 55 56.6**	**-1.5**
TNTI	**Ternate**	**1.97**	**211**	P		P	**Pn**	**12 55 56.5**	**-1.5**
SGSI	**Sangihe**	**3.09**	**293**	P		P	**Pn**	**12 56 07.2**	**-2.1**
SWI	**Sorong**	**4.39**	**139**	P		P	**Pn**	**12 56 22.0**	**-2.3**
KMSI	**Cibinong**	**4.78**	**247**	P		P	**Pn**	**12 56 28.7**	**-0.3**
SANI	**Sanana**	**5.09**	**208**	P		P	**Pn**	**12 56 31.1**	**-1.6**
SANI	**Sanana**	**5.09**	**208**	S		S		**12 57 29.3**	**-4.8**
SANI	**Sanana**	**5.09**	**208**	P		P	**Pn**	**12 56 31.2**	**-1.5**
	1.1nm5µm228nm,0.6s								
LUWI	**Luwuk**	**6.60**	**238**				**Pn**	**12 56 51.2**	**-0.3**
LUWI	**Luwuk**	**6.60**	**238**	P		P	**Pn**	**12 56 51.1**	**-0.5**
LUWI	**Luwuk**	**6.60**	**238**	P		P	**Pn**	**12 56 51.9**	**+0.3**
FAKI	**Fak Fak**	**6.61**	**144**	Pn		P	**Pn**	**12 56 51.5**	**-0.1**
FAKI	**Fak Fak**	**6.61**	**144**	P		P	**Pn**	**12 56 51.7**	**0.0**
TOLI2	**Tolitoli**	**7.71**	**260**	Pn		P	**Pn**	**12 57 05.4**	**-0.1**
TOLI2	**Tolitoli**	**7.71**	**260**	P		P	**Pn**	**12 57 05.7**	**+0.1**
JAY	**Jayapura**	**13.28**	**112**	P		P		**12 58 15.7**	**-1.1**
	7.2nm,0.8s,baz=228,slow=14,SNR=2.0								
BATI	**Baumata**	**13.44**	**200**	P			**P**	**12 58 19.1**	**+0.6**
	18nm,0.4s,baz=312,slow=16,SNR=2.0								
DRS	**Darwin Rock St**	**15.02**	**170**	P		P	**Pn**	**12 58 36.8**	**+0.5**
PLAI	**Plampang**	**15.41**	**223**	P		P	**Pn**	**12 58 41.8**	**+0.6**
MTN	**Manton Dam**	**15.46**	**170**	P		P	**Pn**	**12 58 40.7**	**-1.0**
MTN	**Manton Dam**	**15.46**	**170**	P		P	**Pn**	**12 58 40.7**	**-1.0**
KDU	**Kakadu**	**15.60**	**165**	P		P	**Pn**	**12 58 42.8**	**-0.5**
KNRA	**Kununurra**	**18.04**	**179**	P		P	**Pn**	**12 59 10.4**	**-1.5**
KNRA				IAmb		IAmb		12 59 11.0	
	comp=Z,15nm,0.7s								
FITZ	**Fitzroy Crossi**	**20.62**	**187**	P		P		**12 59 36.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.62**	**187**	P		P		**12 59 36.5**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=11,slow=7.8,SNR=17								
	comp=Z,2.2nm,0.5s								
FITZ	**Fitzroy Crossi**	**20.62**	**187**	P		P		**12 59 37.0**	**+0.4**
WB0	**Warramunga Arr**	**22.88**	**165**				**P**	**12 59 58.8**	**+0.8**
WB0				IAmb		IAmb		13 00 00.0	
	comp=Z,13nm,1.0s								
WRAB	**Tennant Creek**	**23.02**	**166**	P		P		**13 00 00.5**	**+1.2**
WRAB				IAmb		IAmb		13 00 01.6	
	comp=Z,10nm,1.2s								
WRA	**Warramunga Arr**	**23.03**	**166**	P		P		**12 59 59.9**	**+0.5**
WRA	**Warramunga Arr**	**23.03**	**166**	P		P		**13 00 00.0**	**+0.6**
	comp=Z,3.1nm,0.5s,baz=344,slow=10,SNR=29								
	comp=Z,3.1nm,0.5s								
WR8	**Warramunga Arr**	**23.08**	**165**	P		P		**13 00 00.9**	**+1.0**
WR8				IAmb		IAmb		13 00 02.6	
	comp=Z,7.2nm,0.8s								
AS31	**Alice Springs**	**26.53**	**169**	P		P		**13 00 31.8**	**+0.8**
ASAR	**Alice Springs**	**26.53**	**169**	P		P		**13 00 32.0**	**+1.1**
ASAR	**Alice Springs**	**26.53**	**169**	P		P		**13 00 31.8**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=355,slow=8.0,SNR=65								
ASAR				PcP		**PcP**		**13 03 50.1**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=341,slow=1.4,SNR=1.8								
	comp=Z,2.6nm,0.5s								
KSRS	**Korea Array**	**34.82**	**359**	P		P		**13 01 42.3**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=173,slow=9.4,SNR=2.6								
	comp=Z,1.0nm,0.7s								
MJAR	**Matsushiro Arr**	**35.10**	**14**	P		P		**13 01 43.9**	**-1.8**
	comp=Z,3.2nm,0.9s,baz=185,slow=10,SNR=5.4								
	comp=Z,3.2nm,0.9s								
BBOO	**Buckleboo**	**35.84**	**169**	P		P		**13 01 53.1**	**+1.2**
STKA	**Stephens Creek**	**36.39**	**161**	P		P		**13 01 57.8**	**+1.1**
STKA	**Stephens Creek**	**36.39**	**161**	P		P		**13 01 57.9**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=348,slow=7.4,SNR=16								
	comp=Z,2.2nm,0.3s								
ARMA	**Armidale**	**39.52**	**148**	P		P		**13 02 24.1**	**+1.2**
ARMA				IAmb		IAmb		13 02 26.3	
	comp=Z,18nm,1.4s								
PETK	**Petropavlovsk-**	**55.99**	**21**	P		P		**13 04 28.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=169,slow=2.0,SNR=5.1								
	comp=Z,0.9nm,0.6s								
MKAR	**Makanchi Array**	**59.52**	**325**	P		P		**13 04 53.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=115,slow=8.2,SNR=4.7								
	comp=Z,0.3nm,0.4s								
KURBB	**Kurchatov Arra**	**63.68**	**327**	P		P		**13 05 21.0**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=124,slow=6.0,SNR=9.8								
	comp=Z,0.9nm,0.5s								
QSPA	**South Pole Qui**	**92.39**	**180**	P		P		**13 08 00.8**	**+2.9**
QSPA				IAmb		IAmb		13 08 05.5	
	comp=Z,5.8nm,1.4s								

NOU ***29*** *12:59:30.9, 14°.25S×175°.63W, h514km, MLv5.0/4, Samoa Islands Region*

NEIC ***29*** *12:59:54.4±1.7, 15°.49S±0°.09×177°.4W±0°.1, h412km±7km, mb4.2/43, Error ellipse: s-maj=18.5km s-min=13.4km az=96.0*

IDC ***29*** *12:59:54.8±5.9, 15°.42S×177°.51W, h423km±63km, mb3.3/10, mbtmp4.1/11, Error ellipse: s-maj=24.7km s-min=17.6km az=120.0*

ISC 29 12:59:52.6±0.6, 15°.5S±0°.1×177°.33W±0°.10, h400km, n62, σ1§26/48, mb4.1/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TAVE	**Taveuni**	**2.77**	**243**	P		P	Pn	13 00 56.9	+2.9
DGTI	**Dogotuki**	**2.94**	**253**	P		P	**Pn**	**13 00 57.9**	**+2.5**
LKBA	**Tubou, Lakemba**	**3.09**	**207**	P		P	**Pn**	**13 00 58.7**	**+2.1**
MSVF	**Nonsavu**	**4.97**	**242**				Pn	13 01 17.2	+2.8
MSVF	**Nonsavu**	**4.97**	**242**	P		P	Pn	13 01 17.6	+3.2
AFI	**Afiamalu**	**5.59**	**75**	P		P	**Pn**	**13 01 21.0**	**0.0**
DZM	**Mont Dzumac**	**16.70**	**244**	P		P		**13 03 23.8**	**+0.3**
	2.5nm,0.7s,baz=124,slow=20,SNR=1.2								
EIDS	**Eidsvold**	**31.13**	**246**	P		P		**13 05 34.6**	**-1.7**
EIDS				IAmb		IAmb		13 05 49.9	
	comp=Z,13nm,1.4s								
CTAO	**Charters Tower**	**34.93**	**257**	P		P		**13 06 08.9**	**-0.1**
CTAO				IAmb		IAmb		13 06 39.6	
	comp=Z,13nm,1.2s								
COEN	**Coen**	**38.20**	**267**	P		P		**13 06 36.6**	**+0.3**
INKA	**Innaminka**	**40.66**	**245**	P		P		**13 06 55.7**	**-0.4**
STKA	**Stephens Creek**	**40.74**	**239**	P		P		**13 06 55.9**	**-0.8**
STKA	**Stephens Creek**	**40.74**	**239**	P		P		**13 06 55.7**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=54,slow=12,SNR=4.9								
	comp=Z,1.0nm,0.3s								
BBOO	**Buckleboo**	**45.51**	**239**	P		P		**13 07 33.2**	**-1.2**
BBOO				IAmb		IAmb		13 08 02.6	
	comp=Z,13nm,1.1s								
WR8	**Warramunga Arr**	**45.98**	**257**	P		P		**13 07 37.0**	**-1.3**
WR8				IAmb		IAmb		13 07 37.7	
	comp=Z,10nm,1.3s								
WB0	**Warramunga Arr**	**46.09**	**257**	P		P		**13 07 37.8**	**-1.3**
WRAB	**Tennant Creek**	**46.13**	**257**	P		P		**13 07 34.8**	**-4.5**
WRAB				IAmb		IAmb		13 07 47.9	
	comp=Z,14nm,1.5s								
WRA	**Warramunga Arr**	**46.14**	**257**	P		P		**13 07 37.9**	**-1.5**
WRA	**Warramunga Arr**	**46.14**	**257**	P		P		**13 07 38.0**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=91,slow=6.3,SNR=41								
	comp=Z,0.9nm,0.3s								
AS31	**Alice Springs**	**46.48**	**252**				**P**	**13 07 41.4**	**-0.7**
ASAR	**Alice Springs**	**46.49**	**252**				**P**	**13 07 41.6**	**-0.5**
ASAR	**Alice Springs**	**46.49**	**252**	P			**P**	**13 07 41.2**	**-0.9**
	comp=Z,30nm,0.5s,baz=85,slow=7.7,SNR=661								
FITZ	**Fitzroy Crossi**	**54.48**	**259**	P			**P**	**13 08 41.0**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=84,slow=10,SNR=5.7								
	comp=Z,2.4nm,0.8s								
VNDA	**Vanda**	**62.95**	**185**	P		P		**13 09 37.8**	**+0.1**
VNDA	**Vanda**	**62.95**	**185**	P		P		**13 09 37.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=324,slow=7.2,SNR=5.3								
	comp=Z,0.6nm,0.6s								
KMRM	**Mail Ridge**	**74.49**	**40**				**P**	**13 10 50.0**	**+1.2**
QSPA	**South Pole Qui**	**74.57**	**180**	P		P		**13 10 49.9**	**+1.0**
QSPA	**South Pole Qui**	**74.57**	**180**	P		P		**13 10 49.7**	**+0.9**
	comp=Z,7.1nm,0.6s,baz=322,slow=0.4,SNR=17								
	comp=Z,1.7nm,0.6s								
KRPM	**Rodgers**	**74.86**	**39**	P		P		**13 10 52.0**	**+1.2**
O02D	**Mt. Diablo Mer**	**75.04**	**40**	P		P		**13 10 52.7**	**+0.8**
O02D				IAmb		IAmb		13 10 54.0	
	comp=Z,3.2nm,0.8s								
KHBM	**Hayfork Bally**	**75.05**	**40**	P		P		**13 10 52.9**	**+0.8**
KRMB	**Red Mountain**	**75.14**	**39**	P		P		**13 10 53.8**	**+1.4**
KDAK	**Kodiak Island**	**75.81**	**13**	P		P		**13 10 56.1**	**+0.5**
O16K	**Kokwok River B**	**76.42**	**10**	P		P		**13 10 58.3**	**-0.7**
O16K				IAmb		IAmb		13 11 07.8	
	comp=Z,7.4nm,1.2s								
DSP	**Deep Springs**	**76.63**	**45**				**P**	**13 11 02.2**	**+1.6**
N15K	**Kwethluk River**	**76.66**	**9**	P		P		**13 11 00.8**	**+0.5**
NVAR	**Mina Array Bea**	**76.96**	**44**	P		P		**13 11 03.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=228,slow=8.6,SNR=20								
	comp=Z,2.0nm,0.8s								
TPNV	**Topopah Spring**	**77.59**	**46**	P		P		**13 11 07.0**	**+0.7**
J05D	**Fort Rock, OR**	**77.78**	**38**				**P**	**13 11 07.9**	**+0.8**
J05D				IAmb		IAmb		13 11 08.7	
	comp=Z,3.5nm,0.6s								
PINE	**Pine Mountain**	**78.25**	**38**				**P**	**13 11 10.5**	**+0.8**
L18K	**Granite Mounta**	**79.13**	**10**	P		P		**13 11 14.6**	**+0.8**
L18K				IAmb		IAmb		13 11 15.5	
	comp=Z,4.1nm,0.8s								
SCM	**Sheep Creek Mo**	**80.63**	**14**	IAmb		IAmb		13 11 22.1	
	comp=Z,5.7nm,0.9s								
K20K	**Telida**	**80.64**	**10**	P		P		**13 11 21.9**	**+0.2**
K20K				IAmb		IAmb		13 11 22.6	
	comp=Z,3.0nm,0.8s								
TRF	**Thorofare Moun**	**81.43**	**12**	IAmb		IAmb		13 11 26.6	
	comp=Z,4.2nm,0.9s								
M26K	**Nabesna, AK**	**82.17**	**15**	IAmb		IAmb		13 11 30.5	
	comp=Z,3.0nm,0.8s								
SRU	**San Rafael Swe**	**82.59**	**46**	IAmb		IAmb		13 11 33.9	
	comp=Z,3.1nm,0.8s								
WRH	**Wood River Hil**	**82.78**	**12**	IAmb		IAmb		13 11 33.1	
	comp=Z,8.1nm,1.3s								
HDA	**Harding Lake**	**82.97**	**13**	IAmb		IAmb		13 11 33.9	
	comp=Z,4.1nm,0.7s								
CCB	**Clear Creek Bu**	**83.00**	**12**	IAmb		IAmb		13 11 33.8	
	comp=Z,4.8nm,0.7s								
BSUT	**Blindstream Ca**	**83.07**	**45**	IAmb		IAmb		13 11 36.9	
	comp=Z,3.6nm,0.9s								
IL31		**83.30**	**13**	P		P		**13 11 34.6**	**-0.6**
IL31				IAmb		IAmb		13 11 36.0	
	comp=Z,4.7nm,1.1s								
ILAR	**Eielson Array**	**83.30**	**13**	P		P		**13 11 34.2**	**-1.1**
ILAR	**Eielson Array**	**83.30**	**13**	P		P		**13 11 34.5**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=225,slow=5.1,SNR=28								
	comp=Z,1.4nm,0.6s								
J25K	**Salcha River,**	**83.49**	**13**	IAmb		IAmb		13 11 36.8	
	comp=Z,3.9nm,0.7s								
TXAR	**Lajitas Array**	**83.82**	**57**	P		P		**13 11 40.3**	**+1

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.78**	**124**	Pn	**Pn**	**14 19 50.4**	**-0.7**
HNR				Sn	**Sn**	**14 20 16.1**	**-0.1**
HNR	**Honiara**	**1.78**	**124**	P	**Pn**	**14 19 50.0**	**-1.2**
	264nm,0.4s,baz=213,slow=5.9,SNR=24						
HNR				S	**Sn**	**14 20 14.1**	**-2.1**
	370nm,0.4s,baz=0.0,slow=20,SNR=32						
EIDS	**Eidsvold**	**18.24**	**202**	Pn	**Pn**	**14 23 23.1**	**+0.9**
EIDS				IAmb	IAmb	14 23 36.5	
	comp=Z,18nm,1.4s						
JAY	**Jayapura**	**18.61**	**287**	P	**Pn**	**14 23 24.9**	**-1.8**
	comp=Z,4.3nm,0.5s,baz=108,slow=13,SNR=2.0						
ARMA	**Armidale**	**22.78**	**195**	P	**P**	**14 24 07.4**	**-1.0**
ARMA				IAmb	IAmb	14 24 25.9	
	comp=Z,19nm,1.2s						
INKA	**Innaminka**	**25.46**	**219**	P	**P**	**14 24 33.4**	**+0.8**
WR8	**Warramunga Arr**	**25.84**	**241**	P	**P**	**14 24 36.5**	**+0.3**
WR8				IAmb	IAmb	14 25 00.3	
	comp=Z,6.1nm,1.2s						
WB0	**Warramunga Arr**	**25.86**	**242**	P	**P**	**14 24 36.7**	**+0.3**
WB0				IAmb	IAmb	14 25 19.6	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**25.96**	**241**	P	**P**	**14 24 30.6**	**-6.7**
WRAB				IAmb	IAmb	14 24 32.9	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**25.98**	**241**	P	**P**	**14 24 36.9**	**-0.5**
WRA	**Warramunga Arr**	**25.98**	**241**	P	**P**	**14 24 37.6**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=66,slow=9.1,SNR=10						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**27.95**	**234**	P	**P**	**14 24 54.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=64,slow=9.5,SNR=11						
	comp=Z,0.8nm,0.6s						
STKA	**Stephens Creek**	**28.10**	**212**	P	**P**	**14 24 56.0**	**-0.2**
STKA	**Stephens Creek**	**28.10**	**212**	P	**P**	**14 24 58.2**	**+2.0**
	comp=Z,1.2nm,0.3s,baz=49,slow=11,SNR=5.6						
	comp=Z,1.2nm,0.3s						
BBOO	**Buckleboo**	**31.90**	**217**	P	**P**	**14 25 28.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**33.29**	**250**	P	**P**	**14 25 41.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**33.29**	**250**	P	**P**	**14 25 41.5**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=61,slow=8.2,SNR=2.3						
	comp=Z,1.8nm,0.5s						
BKZ	**Black Stump Fm**	**34.62**	**155**	P	**P**	**14 25 54.4**	**+1.1**
BKZ				IAmb	IAmb	14 26 33.5	
	comp=Z,21nm,1.4s						
MRZ	**Mangatainoka R**	**35.53**	**157**	P	**P**	**14 26 01.8**	**+0.8**
SONM	**Songino Array**	**72.41**	**326**	P	**P**	**14 30 29.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=134,slow=6.1,SNR=2.0						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**81.55**	**180**	P	**P**	**14 31 21.7**	**+2.5**
QSPA				IAmb	IAmb	14 32 02.9	
	comp=Z,7.1nm,1.5s						
QSPA	**South Pole Qui**	**81.55**	**180**	P	**P**	**14 31 21.3**	**+2.0**
	comp=Z,1.8nm,1.1s,baz=14,slow=4.2,SNR=6.0						
	comp=Z,1.8nm,1.1s						

*AFAD **29** 14:19:37.6, 34.°84N×33.°93E, h5km±2km, ML2.5*
*ISK **29** 14:19:41.4, 35.°02N×33.°90E, h6km, ML2.5/17*
*NIC **29** 14:19:41.8, 34.°93N×33.°97E, h16km±1km, Ml2.5/10*
*GII **29** 14:19:43.8±0.0, 34.°794N±0.°003×34.°026E±0.°001, h18km, Mws2.6, confirmed*

ISC 29 14:19:41.5±1.0, **34.°93N**±0.°02×**34.°01E**±0.°02, **h19**km±2km, **n90**, σ1°**04**/114, **2C-1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.07**	**23**	↑*iP*	**Pg**	**14 19 45.4**	**+0.4**
PARAL				S	**Sg**	**14 19 47.8**	**+0.4**
PARAL				AML	AML	14 19 48.6	
	34nm,0.6s						
PARAL				AML	AML	14 19 49.4	
	37nm,0.7s						
PAR1C	**Paralimni Civi**	**0.11**	**347**	P	**Pg**	**14 19 45.1**	**-0.2**
PAR1C				S	**Sg**	**14 19 48.0**	**+0.1**
MVOU	**Mavrovouni**	**0.32**	**286**	↑*iP*	**Pg**	**14 19 47.2**	**-1.1**
MVOU				S	**Sg**	**14 19 51.2**	**-1.9**
MVOU				AML	AML	14 19 52.2	
	5.0nm,0.3s						
MVOU				AML	AML	14 19 52.4	
	5.5nm,0.3s						
ATHAL	**Athalassa**	**0.54**	**293**	P	**Pg**	**14 19 52.2**	**-0.2**
ATHAL				S	**Sb**	**14 20 00.2**	**+0.4**
ATHAL				AML	AML	14 20 09.2	
	2.2nm,0.4s						
ATHAL				AML	AML	14 20 09.3	
	2.1nm,0.5s						
CSS	**Mathiatis**	**0.56**	**274**	Pg	**Pg**	**14 19 51.1**	**-1.5**
CSS	**Mathiatis**	**0.56**	**274**	P	**Pg**	**14 19 50.9**	**-1.7**
CSS	**Mathiatis**	**0.56**	**274**	P	**Pg**	**14 19 51.0**	**-1.7**
CSS				S	**Sb**	**14 20 00.3**	**+0.1**
CSS				AML	AML	14 20 04.0	
	0.8nm,0.4s						
CSS				AML	AML	14 20 09.8	
	0.7nm,0.4s						
CSS	**Mathiatis**	**0.56**	**274**	P	**Pg**	**14 19 52.1**	**-0.5**
ASGA	**Asgata**	**0.64**	**257**	P	**Pg**	**14 19 53.5**	**-0.7**
ASGA				S	**Sb**	**14 20 03.4**	**+0.9**
ASGA				AML	AML	14 20 09.8	
	1.5nm,0.5s						
ASGA				AML	AML	14 20 11.2	
	0.6nm,0.4s						
XYLS	**Xyliatos**	**0.79**	**277**	P	**Pg**	**14 19 55.2**	**-1.7**
XYLS				S	**Sb**	**14 20 07.8**	**+0.7**
XYLS				AML	AML	14 20 14.8	
	0.6nm,0.3s						
XYLS				AML	AML	14 20 16.9	
	0.6nm,0.3s						
TROD	**Troodos**	**0.94**	**272**	P	**Pb**	**14 19 59.0**	**-0.3**
TROD				S	**Sn**	**14 20 13.1**	**+0.2**
TROD				AML	AML	14 20 19.9	
	1.2nm,0.8s						
TROD				AML	AML	14 20 21.7	
	0.8nm,0.7s						
ALFC	**Alefka**	**1.18**	**282**	P	**Pn**	**14 20 03.0**	**0.0**
ALFC				S	**Sg**	**14 20 20.3**	**+0.7**
ALFC				AML	AML	14 20 27.7	
	0.6nm,0.5s						
ALFC				AML	AML	14 20 30.7	
	0.4nm,0.6s						
NATA	**Nata**	**1.19**	**263**	P	**Pg**	**14 20 04.6**	**+0.1**
NATA				S	**Sg**	**14 20 21.5**	**+1.4**
NATA				AML	AML	14 20 26.2	
	1.2nm,0.6s						
NATA				AML	AML	14 20 28.2	
	0.7nm,0.6s						
TISA	**Tisan-Mersin**	**1.26**	**348**	Pn	**Pn**	**14 20 03.8**	**-0.3**
AKK1	**Akkuyu-Mersin**	**1.27**	**343**	Pn	**Pn**	**14 20 03.9**	**-0.3**
BECE	**Buyukeceli-Mer**	**1.28**	**344**	Pn	**Pn**	**14 20 03.8**	**-0.6**
BECE				Sn	**Sb**	**14 20 20.6**	**-0.5**
KARG	**Kargicak-Mersi**	**1.30**	**349**	Pn	**Pn**	**14 20 04.6**	**0.0**
YESI	**Yesilovacik-Me**	**1.30**	**347**	Pn	**Pn**	**14 20 04.5**	**-0.1**
YESI				Sn	**Sb**	**14 20 21.6**	**0.0**
GULN	**MERSIN_Gulnar**	**1.31**	**343**	P	**Pn**	**14 20 02.8**	**-2.0**
GULN				S	**Sg**	**14 20 23.4**	**-0.5**
YORU	**Yoruktepe-Mers**	**1.32**	**338**	Pn	**Pn**	**14 20 04.7**	**-0.2**
AKMS	**Akamas**	**1.38**	**274**	↓*eP*	**Pg**	**14 20 07.5**	**-0.5**
AKMS				S	**Sg**	**14 20 28.0**	**+2.0**
AKMS				AML	AML	14 20 31.2	
	0.3nm,0.4s						
AKMS				AML	AML	14 20 32.6	
	0.3nm,0.5s						
SILI	**Silifke-Mersin**	**1.44**	**357**	Pn	**Pn**	**14 20 07.3**	**+0.7**
SLFK	**Silifke-Mersin**	**1.46**	**358**	Pn	**Pn**	**14 20 07.6**	**+0.7**
KEBE	**Keben-Mersin**	**1.54**	**351**	Pn	**Pn**	**14 20 08.1**	**+0.1**
KEBE				Sn	**Sn**	**14 20 28.2**	**+0.7**
BERE	**Bereket-Mersin**	**1.55**	**336**	Pn	**Pn**	**14 20 08.3**	**0.0**
KIZK	**Mersin**	**1.55**	**4**	P	**Pb**	**14 20 09.6**	**0.0**
GAZI	**Gazipasa**	**1.90**	**314**	P	**Pn**	**14 20 13.7**	**+0.8**
GAZI				S	**Sn**	**14 20 37.0**	**+0.7**
GAZI				*i* IAML		14 20 45.0	
	comp=E,34nm,1.1s						
ERMK	**Ermenek**	**1.93**	**333**	P	**Pn**	**14 20 14.6**	**+1.1**
ERMK				S	**Sg**	**14 20 42.8**	**-0.8**
ERMK				*i* IAML		14 20 43.0	
	comp=E,50nm,0.8s						
ERMK				*i* IAML		14 20 46.0	
	comp=N,72nm,0.3s						
MERS	**Mersin**	**1.98**	**12**	Pn	**Pn**	**14 20 15.2**	**+1.1**
HNTI	**Hanita**	**2.08**	**152**	P	**Pn**	**14 20 15.9**	**+0.5**
HNTI	**Hanita**	**2.08**	**152**	S	**Sn**	**14 20 39.8**	**-1.0**
DED	**Mersin**	**2.13**	**17**	P	**Pn**	**14 20 17.3**	**+1.2**
DED				S	**Sb**	**14 20 45.0**	**-0.6**
DED				*i* IAML		14 20 50.0	
	comp=E,26nm,0.7s						
NATI	**Neve Ativ**	**2.20**	**139**	P	**Pb**	**14 20 19.8**	**-0.8**
NATI	**Neve Ativ**	**2.20**	**139**	P	**Pn**	**14 20 18.0**	**+1.0**
NATI	**Neve Ativ**	**2.20**	**139**	S	**Sn**	**14 20 42.8**	**-0.8**
GEM	**Giv'at Ha'Em**	**2.20**	**141**	P	**Pn**	**14 20 17.7**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.20**	**141**	P	**Pn**	**14 20 17.7**	**+0.7**
GEM	**Giv'at Ha'Em**	**2.20**	**141**	S	**Sn**	**14 20 42.8**	**-0.8**
MMA0B	**Mount Meron ar**	**2.23**	**148**	P	**Pn**	**14 20 17.7**	**+0.1**
MMA0B	**Mount Meron ar**	**2.23**	**148**	S	**Sn**	**14 20 43.8**	**-0.8**
YURE	**YUREGIR**	**2.31**	**34**	P	**Pn**	**14 20 17.8**	**-0.8**
YURE				S	**Sg**	**14 20 54.6**	**-1.2**
KRMN	**Karaman**	**2.32**	**345**	Pn	**Pn**	**14 20 19.7**	**+0.9**
HDMB	**Hadim**	**2.38**	**329**	Pn	**Pn**	**14 20 20.3**	**+0.6**
GULE	**Gulek**	**2.43**	**15**	P	**Pn**	**14 20 22.5**	**+2.1**
GULE				S	**Sb**	**14 20 56.3**	**+1.9**
GULE				*i* IAML		14 21 05.0	
	comp=E,52nm,0.8s						
GULE				*i* IAML		14 21 13.0	
	comp=N,26nm,0.7s						
OFRI	**`Ofer**	**2.44**	**160**	P	**Pn**	**14 20 20.7**	**+0.3**
OFRI	**`Ofer**	**2.44**	**160**	P	**Pn**	**14 20 20.6**	**+0.3**
OFRI	**`Ofer**	**2.44**	**160**	S	**Sn**	**14 20 48.6**	**-1.2**
KKBE	**Karaman, Kazim**	**2.44**	**340**	P	**Pn**	**14 20 22.8**	**+2.2**
KKBE				S	**Sb**	**14 20 54.5**	**-0.2**
KSHT	**Keshet**	**2.45**	**142**	P	**Pn**	**14 20 21.7**	**+1.1**
KSHT	**Keshet**	**2.45**	**142**	S	**Sn**	**14 20 49.6**	**-0.5**
KARA	**Karaisali**	**2.48**	**20**	Pn	**Pn**	**14 20 22.6**	**+1.7**
KERG	**Konya-Eregli**	**2.48**	**2**	P	**Pn**	**14 20 21.9**	**+0.8**
KERG				S	**Sb**	**14 20 56.1**	**+0.3**
KERG				*i* IAML		14 21 03.0	
	comp=E,19nm,0.6s						
KERG				*i* IAML		14 21 54.0	
	comp=N,28nm,3.2s						
MMLI	**Mount Malkishu**	**2.75**	**154**	P	**Pn**	**14 20 26.2**	**+1.6**
MMLI	**Mount Malkishu**	**2.75**	**154**	P	**Pn**	**14 20 26.2**	**+1.6**
MMLI				S	**Sn**	**14 20 58.6**	**+1.2**
MMLI	**Mount Malkishu**	**2.75**	**154**	P	**Pn**	**14 20 25.5**	**+0.9**
MMLI	**Mount Malkishu**	**2.75**	**154**	S	**Sn**	**14 20 56.8**	**-0.5**
SLIT	**Sal'it**	**2.81**	**162**	P	**Pn**	**14 20 26.9**	**+0.4**
SLIT	**Sal'it**	**2.81**	**162**	S	**Sn**	**14 20 58.6**	**-0.4**
CMRD	**Camardi-Nigde**	**2.84**	**16**	Pn	**Pn**	**14 20 27.8**	**+1.8**
HMDT	**Nahal Hemdat**	**2.95**	**154**	P	**Pn**	**14 20 28.8**	**+1.4**
HMDT	**Nahal Hemdat**	**2.95**	**154**	P	**Pn**	**14 20 28.2**	**+0.8**
HMDT	**Nahal Hemdat**	**2.95**	**154**	S	**Sn**	**14 21 01.6**	**-0.8**
SEYD	**Seydisehir-KON**	**3.03**	**325**	Pn	**Pn**	**14 20 29.7**	**+1.1**
AMAZ	**Amatzia**	**3.47**	**167**	P	**Pn**	**14 20 35.5**	**+1.0**
AMAZ	**Amatzia**	**3.47**	**167**	S	**Sn**	**14 21 13.8**	**-1.3**
DSI	**Dead Sea**	**3.54**	**161**	P	**Pn**	**14 20 36.5**	**+1.0**
DSI				S	**Sn**	**14 21 18.6**	**+1.8**
DSI	**Dead Sea**	**3.54**	**161**	P	**Pn**	**14 20 36.2**	**+0.7**
DSI	**Dead Sea**	**3.54**	**161**	S	**Sn**	**14 21 16.1**	**-0.7**
YTIR	**Yattir**	**3.67**	**165**	P	**Pn**	**14 20 38.7**	**+1.3**
YTIR	**Yattir**	**3.67**	**165**	P	**Pn**	**14 20 38.6**	**+1.2**
YTIR	**Yattir**	**3.67**	**165**	S	**Sn**	**14 21 20.4**	**+0.1**
MSBI	**Mazada**	**3.78**	**162**	P	**Pn**	**14 20 40.4**	**+1.7**
MSBI	**Mazada**	**3.78**	**162**	P	**Pn**	**14 20 39.8**	**+1.1**
MSBI	**Mazada**	**3.78**	**162**	S	**Sn**	**14 21 21.6**	**-1.0**
GHAJ	**Ghor Haditha**	**3.84**	**160**	P	**Pn**	**14 20 40.9**	**+1.3**
GHAJ	**Ghor Haditha**	**3.84**	**160**	P	**Pn**	**14 20 40.6**	**+1.0**
GHAJ	**Ghor Haditha**	**3.84**	**160**	S	**Sn**	**14 21 23.6**	**-0.7**
KZIT	**Kziot**	**4.02**	**175**	P	**Pn**	**14 20 42.8**	**+0.7**
KZIT	**Kziot**	**4.02**	**175**	S	**Sn**	**14 21 28.1**	**-0.7**
ZFRI	**Zfri**	**4.47**	**167**	P	**Pn**	**14 20 49.1**	**+0.9**
ZFRI	**Zfri**	**4.47**	**167**	S	**Sn**	**14 21 38.6**	**-1.1**
PRNI	**Paran**	**4.64**	**169**	P	**Pn**	**14 20 51.5**	**+0.9**
PRNI	**Paran**	**4.64**	**169**	P	**Pn**	**14 20 51.6**	**+0.9**
PRNI	**Paran**	**4.64**	**169**	S	**Sn**	**14 21 43.4**	**-0.6**
KRMI	**Paran Flat**	**4.83**	**173**	P	**Pn**	**14 20 55.6**	**+2.3**
KRMI	**Paran Flat**	**4.83**	**173**	P	**Pn**	**14 20 54.6**	**+1.3**
KRMI	**Paran Flat**	**4.83**	**173**	S	**Sn**	**14 21 47.9**	**-0.9**
MBRI	**Mt Berech**	**5.18**	**171**	P	**Pn**	**14 20 59.9**	**+1.9**
MBRI	**Mt Berech**	**5.18**	**171**	P	**Pn**	**14 20 59.4**	**+1.3**
MBRI	**Mt Berech**	**5.18**	**171**	S	**Sn**	**14 21 56.9**	**-0.4**

*IDC **29** 14:20:13.0±2.8, 68.°17N×33.°56E, h0km, mbtmp3.0/2, ML2.0/2, Error ellipse: s-maj=29.4km s-min=12.5km az=65.0*
*HEL **29** 14:20:12.5±0.2, 68.°12N×33.°34E, h0km, ML1.7, Suspected explosion*
*KOLA **29** 14:20:13.1, 68.°07N×33.°40E, h0km, ML2.0, Error ellipse: s-maj=2.6km s-min=1.6km az=100.0, Olenegorsk City, Mines*

ISC 29 14:20:12.1±0.8, **68.°08N**±0.°03×**33.°36E**±0.°03, **h0**km, **n34**, σ1°**36**/55, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.50**	**197**	P	**Pg**	**14 20 21.8**	**+0.2**
APA0				S	**Sg**	**14 20 28.3**	**+0.3**
APA	**Apatity**	**0.52**	**178**	P	**Pg**	**14 20 22.4**	**+0.4**
APA				S	**Sg**	**14 20 29.3**	**+0.7**
LVZ	**Lovozero**	**0.52**	**110**	P	**Pg**	**14 20 22.6**	**+0.5**
LVZ				S	**Sg**	**14 20 28.0**	**-0.8**
LVZ	**Lovozero**	**0.52**	**110**	PG	**Pg**	**14 20 22.5**	**+0.5**
LVZ				SG	**Sg**	**14 20 29.1**	**+0.4**
TERR	**Teriberka**	**1.29**	**29**	P	**Pg**	**14 20 36.3**	**-0.5**
TERR				S	**Sb**	**14 20 54.3**	**-0.3**
KVDA	**Kovda**	**1.41**	**188**	P	**Pn**	**14 20 38.2**	**-0.8**
KVDA				S	**Sg**	**14 20 57.5**	**+0.2**
VRF	**Varrio** baz=74	**1.46**	**258**	PG	**Pn**	**14 20 39.0**	**-0.7**
VRF				MSG		14 20 56.3	
	comp=Z,5.6nm,0.2s						
VRF				SG	**Sg**	**14 20 57.7**	**-1.2**
RAJF	**Raja-Jooseppi**	**1.92**	**284**	PG	**Pn**	**14 20 46.6**	**+0.6**
RAJF				SG	**Sn**	**14 21 10.4**	**-0.4**
OLKF	**Oulanka, Finla**	**2.35**	**223**	PB	**Pn**	**14 20 53.4**	**+1.5**
OLKF				MSG		14 21 22.5	
	comp=Z,4.4nm,0.2s						
OLKF				SB	**Sb**	**14 21 23.3**	**-1.4**
KU6	**Riekki**	**2.47**	**215**	PB	**Pb**	**14 20 55.7**	**-1.6**
KU6				MSG		14 21 26.4	
	comp=Z,2.4nm,0.2s						
KU6				SB	**Sb**	**14 21 27.5**	**-0.8**
VADS	**Vadso**	**2.50**	**327**	P	**Pn**	**14 20 54.4**	**+0.5**
VADS				S	**Sn**	**14 21 24.8**	**-0.3**
VADS	**Vadso**	**2.50**	**327**	*eP*	**Pn**	**14 20 54.6**	**+0.7**
MSF	**Maaselka**	**2.76**	**220**	PB	**Pb**	**14 21 00.1**	**-2.2**
MSF				SG	**Sb**	**14 21 36.6**	**0.0**
KEV	**Kevo** baz=126	**2.85**	**309**	PB	**Pn**	**14 20 59.9**	**+1.2**
KEV				SB	**Sn**	**14 21 34.8**	**+1.2**
KU1	**Kurvinen**	**2.94**	**213**	PB	**Pn**	**14 21 02.4**	**+2.4**
KU2	**Taivalkoski**	**3.13**	**223**	SN	**Sn**	**14 21 41.4**	**+0.8**
ARA0	**ARCESS Array S**	**3.21**	**301**	*eP*	**Pn**	**14 21 04.0**	**+0.3**
ARA0	**ARCESS Array S**	**3.21**	**301**	PN	**Pn**	**14 21 04.3**	**+0.7**
ARA0				SG	**Sb**	**14 21 48.4**	**-0.9**
ARCES	**ARCESS Array B**	**3.21**	**301**	Pn	**Pn**	**14 21 04.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=111,slow=15,SNR=24						
ARCES				Sn	**Sn**	**14 21 42.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=114,slow=24,SNR=6.0						
ARCES				Lg	Lg	14 21 55.1	
	comp=Z,1.5nm,0.3s,baz=110,slow=34,SNR=7.0						
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**3.21**	**301**	P	**Pn**	**14 21 03.7**	**+0.1**
ARCES				S	**Sn**	**14 21 43.1**	**+0.6**
RNF	**Rovaniemi**	**3.21**	**246**	PN	**Pn**	**14 21 04.5**	**+0.8**
RNF				SN	**Sn**	**14 21 42.7**	**+0.2**
RANF	**Ranua**	**3.31**	**234**	PN	**Pn**	**14 21 05.9**	**+0.8**
RANF				SN	**Sn**	**14 21 44.2**	**-0.8**
HEF	**Hetta**	**3.63**	**280**	PN	**Pn**	**14 21 09.4**	**-0.1**
HEF				SN	**Sn**	**14 21 52.3**	**-0.6**
KTK1	**Kautokeino**	**3.84**	**289**	PN	**Pn**	**14 21 13.2**	**+0.9**
KTK1				SG	**Sb**	**14 22 10.1**	**+2.6**
TOF	**Tornio**	**4.07**	**245**	SN	**Sn**	**14 22 01.8**	**-1.9**
PAJU	**Pajala**	**4.07**	**260**	PN	**Pn**	**14 21 17.3**	**+1.7**
PAJU				SG	**Sb**	**14 22 15.9**	**+1.6**
RMF	**Romuvaara**	**4.12**	**201**	PN	**Pn**	**14 21 18.5**	**+2.2**
OUL	**Oulu**	**4.23**	**228**	SG	**Sb**	**14 22 21.2**	**+2.4**
LANU	**Lannavaara**	**4.26**	**275**	PG	**Pb**	**14 21 28.4**	**+0.5**
ERTU	**Ertsjaerv** baz=67	**4.59**	**256**	PN	**Pn**	**14 21 22.6**	**-0.1**
ERTU				SN	**Sn**	**14 22 15.2**	**-1.3**
KIF	**Kilpisjarvi**	**4.71**	**287**	SG	**Sb**	**14 22 35.2**	**+2.8**
I37NO	**I37NO** baz=94,slow=322,SNR=1.5	**5.50**	**287**	I	I	14 54 10.0	
FAUS	**Fauske**	**6.90**	**273**	S	**Sn**	**14 23 08.3**	**-5.1**
FINES	**FINESS Array B**	**7.35**	**208**	Pn	**Pn**	**14 22 01.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=19,slow=18,SNR=4.2						
FINES				Lg	Lg	14 24 05.6	
	comp=Z,0.6nm,0.3s,baz=23,slow=26,SNR=7.6						
	comp=Z,3.2nm,1.1s						

*PRU **29** 14:22:46.7, 47.°72N×9.°04E, h1km*
*VIE **29** 14:22:49.4±0.2, 47.°76N×9.°13E, h5km, mb2.9/20, ml3.4/21, Error ellipse: s-maj=1.7km s-min=1.0km az=46.0 12 km NNW of Konstanz*
*ZUR **29** 14:22:49.4, 47.°74N×9.°11E, h11km±1km, MLh3.5/137, Error ellipse: s-maj=2477.0km s-min=527.0km az=299.0*
*BGR **29** 14:22:49.9±0.1, 47.°76N×9.°12E, h5km, ML3.4/27, Error ellipse: s-maj=2.2km s-min=1.1km az=152.0*
*LDG **29** 14:22:50.2±0.1, 47.°74N×9.°10E, h3km, Ml3.5/46, Error ellipse: s-maj=1.0km s-min=0.8km az=84.0*
*BNS **29** 14:22:50.4±1.0, 47.°74N×9.°10E, h5km±4km, ML2.8*
*BUG **29** 14:22:52.7±0.4, 47.°87N×9.°13E, h4km±1km, MD3.4/9, ML4.0/9*

ISC 29 14:22:48.0±0.7, **47.°75N**±0.°01×**9.°09E**±0.°01, **h9**km±4km, **n272**, σ1°**52**/471, **38C-43D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALHA	**Wallhausen, DE**	**0.03**	**71**	Pg	**Pg**	**14 22 50.2**	**+0.6**
WALHA				Sg	**Sg**	**14 22 51.3**	**+0.1**
WALHA	**Wallhausen, DE**	**0.03**	**71**	Pg	**Pg**	**14 22 50.2**	**+0.6**
WALHA				Sg	**Sg**	**14 22 50.9**	**+0.1**
KONZ	**Konstanz**	**0.10**	**147**	↓Pg	**Pg**	**14 22 51.6**	**+1.1**
KONZ				Sg	**Sg**	**14 22 53.4**	**+1.3**
SKRK	**Kreuzlingen, K**	**0.12**	**147**	Pg	**Pg**	**14 22 51.9**	**+1.2**
STEIN	**Stein am Rhein**	**0.17**	**243**	↑Pg	**Pg**	**14 22 53.5**	**+2.0**
STEIN	**Stein am Rhein**	**0.17**	**243**	↑*i*Pg	**Pg**	**14 22 53.5**	**+2.0**
STEIN				Sg	**Sg**	**14 22 56.6**	**+2.6**
EMING	**Emmingen-Lipti**	**0.22**	**312**	↑Pg	**Pg**	**14 22 54.5**	**+1.9**
EMING				Sg	**Sg**	**14 22 58.2**	**+2.5**
EMING	**Emmingen-Lipti**	**0.22**	**312**	↑Pg	**Pg**	**14 22 54.5**	**+1.9**
EMING				Sg	**Sg**	**14 22 58.2**	**+2.5**
WEIN	**Weingarten**	**0.23**	**198**	↑Pg	**Pg**	**14 22 54.4**	**+1.8**
WEIN	**Weingarten**	**0.23**	**198**	↑Pg	**Pg**	**14 22 54.4**	**+1.8**
ROMAN	**Romanshorn, Fo**	**0.25**	**137**	↑Pg	**Pg**	**14 22 54.5**	**+1.5**
ROMAN	**Romanshorn, Fo**	**0.25**	**137**	↑Pg	**Pg**	**14 22 54.5**	**+1.5**
ROMAN				Sg	**Sg**	**14 22 58.2**	**+1.9**
NDTR1	**NAGRA Drilling**	**0.28**	**246**	↑Pg	**Pb**	**14 22 55.6**	**+0.4**
NDTR1				Sg	**Sb**	**14 23 00.1**	**0.0**
TRULL	**Truellikon**	**0.29**	**251**	↑Pg	**Pb**	**14 22 55.8**	**+0.4**
TRULL				Sg	**Sb**	**14 23 00.3**	**-0.1**
SGT18	**Golfpark Waldk**	**0.30**	**159**	Pg	**Pb**	**14 22 55.6**	**0.0**
SCHS	**Schaffhausen,**	**0.31**	**264**	↑Pg	**Pb**	**14 22 56.1**	**+0.4**
A103D	**Ravensburg, Wa**	**0.32**	**80**	↑Pg	**Pb**	**14 22 55.8**	**-0.1**
A103D	**Ravensburg, Wa**	**0.32**	**80**	↑Pg	**Pb**	**14 22 55.8**	**-0.1**
A103D				Sg	**Sb**	**14 23 00.5**	**-0.7**
GUT	**Gutenstein**	**0.33**	**3**	↓Pg	**Pb**	**14 22 56.2**	**+0.1**
GUT				Sg	**Sb**	**14 23 01.1**	**-0.4**
GUT	**Gutenstein**	**0.33**	**3**	↓*i*Pg	**Pb**	**14 22 56.1**	**+0.1**
GUT				Sg	**Sb**	**14 23 01.1**	**-0.4**
SARE	**Arbon, Evangel**	**0.33**	**135**	↑Pg	**Pb**	**14 22 56.2**	**+0.1**
WILA	**Wila**	**0.35**	**200**	↑Pg	**Pb**	**14 22 56.9**	**+0.3**
WILA	**Wila**	**0.35**	**200**	↑Pg	**Pb**	**14 22 56.9**	**+0.3**
WILA				Sg	**Sb**	**14 23 02.0**	**-0.2**
WILA				SmS		14 23 09.5	
TETT	**Tettnang**	**0.36**	**103**	↑Pg	**Pb**	**14 22 56.8**	**0.0**
TETT	**Tettnang**	**0.36**	**103**	↑Pg	**Pb**	**14 22 56.8**	**0.0**
TETT				Sg	**Sb**	**14 23 02.2**	**-0.3**
STIEG	**Stiegenhof Hun**	**0.38**	**230**	↑Pg	**Pb**	**14 22 57.5**	**+0.5**
SAUL	**Bad Saulgau**	**0.39**	**46**	Pg	**Pb**	**14 22 57.1**	**0.0**
SAUL				Sg	**Sb**	**14 23 02.6**	**-0.7**
FLACH	**Flaach**	**0.39**	**244**	↑Pg	**Pb**	**14 22 57.8**	**+0.6**
SGT05	**Eggersriet**	**0.39**	**141**	Pg	**Pb**	**14 22 57.4**	**+0.2**
A102A	**Sigmaringen, J**	**

BFO PmP 14 23 06.2
BFO eSg **Sb** **14 23 15.7 +1.3**
SNR=2.2
BFO SmS 14 23 18.1
TUBL Tuebingen-Lenn 0.78 360 ⇓Pg **Pb** **14 23 04.4 +0.7**
TUBL PmP 14 23 05.9
TUBL Sg **Sb** **14 23 15.1 +0.6**
TUBL SmS 14 23 17.9
A108A Ulm, Ringingen 0.78 39 Pg **Pb** **14 23 04.4 +0.5**
A108A PmP 14 23 06.8
A108A Sg **Sb** **14 23 14.9 +0.3**
KIZ Kirchzarten 0.82 285 ⇑Pg **Pn** **14 23 05.4 -0.4**
KIZ PmP 14 23 06.8
KIZ Sg **Sb** **14 23 16.7 +1.2**
KIZ SmS 14 23 19.1
FBB Freiburg im Br 0.87 288 PmP 14 23 07.7
FBB SmS 14 23 21.0
FREI Freiburg, Haup 0.88 288 Sg **Sn** **14 23 19.2 -0.3**
A105A Obersdorf, Sch 0.88 112 Pg **Pn** **14 23 07.3 +0.6**
A105A SmS 14 23 21.7
OBER Oberstdorf 0.88 112 *e*Pg **Pn** **14 23 07.0 +0.3**
OBER SmS 14 23 22.3
ENDD Endenburg 0.91 269 ⇑Pg **Pn** **14 23 07.2 +0.1**
ENDD Sg **Sn** **14 23 19.6 -0.8**
ENDD SmS 14 23 21.7
DEGG Deggingen-Nord 0.96 26 Pg **Pn** **14 23 07.8 +0.1**
DEGG Sg **Sn** **14 23 21.2 -0.3**
OPP Oppenau 0.96 322 Pg **Pn** **14 23 08.1 +0.2**
OPP PmP 14 23 08.8
VOGT Vogtsburg - To 1.01 290 Pg **Pn** **14 23 09.3 +0.8**
WEIL Weil am Rhein 1.02 262 SmS 14 23 25.4
BALST Balsthal 1.03 247 Pg **Pn** **14 23 09.5 +0.8**
BALST PmP 14 23 10.8
BALST eSg **Sn** **14 23 24.6 +1.2**
STU Stuttgart 1.03 4 *e*Pg **Pn** **14 23 09.2 +0.5**
STU PmP 14 23 10.0
STU eSg **Sn** **14 23 23.0 -0.3**
SNR=4.8
GALG Neuhausen (Enz 1.06 349 ⇓Pg **Pn** **14 23 09.8 +0.6**
GALG PmP 14 23 10.4
GALG Sg **Sn** **14 23 23.9 -0.2**
A106B Goeppingen, Ma 1.09 23 Pg **Pn** **14 23 09.9 +0.3**
A106B Sg **Sn** **14 23 24.9 0.0**
HDH Heidenheim-Cha 1.12 41 ⇓Pn **Pn** **14 23 10.1 +0.1**
HDH Sn **Sn** **14 23 25.6 -0.1**
HDH SmS 14 23 27.2
URBA Urbach, Forsts 1.14 17 ⇓Pn **Pn** **14 23 10.5 +0.2**
URBA Sn **Sn** **14 23 26.4 +0.3**
URBA SmS 14 23 28.3
BABA Baden-Baden-Ne 1.14 329 ⇓Pn **Pn** **14 23 10.9 +0.7**
BABA PmP 14 23 11.9
RETA Reutte 1.16 102 *e*Pg **Pn** **14 23 11.4 +0.8**
12nm,0.1s,SNR=29
RETA *i* Sg **Sn** **14 23 27.9 +1.3**
51nm,0.2s
RETA Reutte 1.16 102 Pg **Pn** **14 23 12.1 +1.6**
RETA eSg **Sn** **14 23 27.8 +1.2**
BRET Bretten 1.30 348 ⇓Pn **Pg** **14 23 13.1 +0.2**
BRET PmP 14 23 14.7
BRET Sn **Sb** **14 23 29.6 +0.3**
BOURR Bourrignon 1.31 255 ⇓Pn **Pg** **14 23 13.4 +0.3**
ZUGS Zugspitze, Sch 1.32 104 *e*Pg **Pg** **14 23 14.7 +1.3**
FUSIO Fusio 1.32 193 P **Pg** **14 23 14.7 +1.3**
FETA Feichten 1.33 122 *i* Pg **Pg** **14 23 14.8 +1.3**
7.5nm,0.2s,SNR=25
FETA *i* Sg **Sn** **14 23 33.0 +2.2**
27nm,0.3s
ECH Echery 1.38 291 Pn **Pb** **14 23 14.2 +0.2**
ECH Pg **Pg** **14 23 15.9 +1.4**
ECH eSg **Sg** **14 23 33.9 +1.5**
SNR=4.9
CDF Champ du Feu 1.39 299 *e*Pg **Pg** **14 23 16.1 +1.5**
CDF eSg **Sg** **14 23 34.6 +2.0**
303nm,0.2s
PART Garmisch-Parte 1.39 100 *e*Sg **Sg** **14 23 33.5 +0.7**
NORI Noerdlinger Ri 1.42 46 *e*Pn **Pn** **14 23 14.0 0.0**
SNR=46
NORI *e*Pg **Pg** **14 23 16.5 +1.3**
SNR=3.7
NORI eSg **Sg** **14 23 34.9 +1.3**
SNR=11
MOTA Moosalm 1.42 106 *e*Pn **Pg** **14 23 16.0 +0.7**
0.6nm,0.1s,SNR=23
MOTA eSn **Sg** **14 23 34.5 +0.7**
53nm,0.2s
FIESA Fiescheralp 1.47 207 P **Pg** **14 23 16.6 +0.4**
WOER Woert 1.49 31 ⇑Pn **Pn** **14 23 15.1 0.0**
WOER Sn **Sn** **14 23 34.7 0.0**
HINF Hinteralfeld 1.51 274 *e*Pn **Pn** **14 23 15.8 +0.5**
HINF Hinteralfeld 1.51 274 *e*Pg **Pg** **14 23 18.3 +1.3**
HINF eSn **Sn** **14 23 35.1 0.0**
HINF eSg **Sg** **14 23 37.8 +1.3**
195nm,0.3s
ROTT Steinweiler 1.52 336 *e*Pn **Pb** **14 23 16.7 +0.3**
SNR=10
ROTT *e*Pg **Pg** **14 23 19.5 +2.3**
SNR=1.5
FUR Furstenfeldbru 1.53 73 *e*Pg **Pg** **14 23 18.4 +1.1**
FUR eSn **Sb** **14 23 36.5 +0.4**
FUR eSg **Sg** **14 23 38.9 +1.7**
SNR=22
SQTA Sankt Quirin 1.53 109 *i* Pg **Pg** **14 23 18.4 +1.0**
14nm,0.1s,SNR=27
SQTA *i* Sg **Sg** **14 23 39.7 +2.5**
129nm,0.2s
LDE Landau 1.56 337 *e*Pg **Pg** **14 23 20.6 +2.6**
LDE eSg **Sb** **14 23 37.6 +0.5**
SNR=3.4
LAUCH Lauchernalp 1.61 215 P **Pb** **14 23 18.3 +0.3**
PEB Petersbachel 1.62 325 Pn **Pn** **14 23 17.6 +0.8**
SIND Sindeldorf 1.64 12 ⇓Pn **Pn** **14 23 16.9 -0.1**
SIND PmP 14 23 20.9
SIND Sn **Sn** **14 23 37.7 -0.6**
SIMPL Simplonpass 1.67 206 P **Pb** **14 23 19.6 +0.4**
CHMF Charmoille 1.73 254 Pn **Pn** **14 23 19.0 +0.7**
WATA Walderalm 1.73 103 *i* Pg **Pg** **14 23 21.7 +0.4**
21nm,0.2s,SNR=12
WATA *i* Sg **Sg** **14 23 45.3 +1.5**
166nm,0.2s
EMBD Embd, Matterta 1.75 210 P **Pg** **14 23 22.0 +0.3**
WTTA Wattenberg 1.79 105 *i* Pg **Pg** **14 23 22.8 +0.4**
6.2nm,0.1s,SNR=13
WTTA eSg **Sg** **14 23 46.4 +0.7**
55nm,0.2s
MUGIO Muggio 1.82 181 P **Pg** **14 23 22.7 -0.3**
SENIN Lac Senin/Sane 1.85 222 P **Pn** **14 23 21.1 +1.0**
MMK Mattmark 1.86 205 P **Pb** **14 23 22.6 +0.2**
HAU Haudompre 1.86 279 *e*Pn **Pn** **14 23 21.2 +1.0**
HAU Haudompre 1.86 279 *e*Pg **Pg** **14 23 24.9 +1.2**
HAU eSg **Sg** **14 23 49.1 +1.2**
379nm,0.4s
VARE Varese 1.89 187 P **Pb** **14 23 22.6 -0.2**
WBA Furth 1.92 355 ⇓Pn **Pn** **14 23 21.4 +0.4**
IMS Imsbach 2.01 337 ⇑Pn **Pn** **14 23 23.1 +0.9**
MDI Monti di Nese 2.01 167 P **Pb** **14 23 25.2 +0.4**
DIX Grande Dixence 2.02 215 P **Pb** **14 23 24.5 -0.7**
WBB Darmstadt 2.12 353 Pn **Pn** **14 23 24.4 +0.8**
BODE Bodenheim 2.23 347 *e*Pg **Pg** **14 23 33.5 +2.7**
BODE eSg **Sg** **14 24 00.8 +1.1**
SNR=3.7
GRB2 Grafenberg Arr 2.30 47 Pn **Pn** **14 23 25.8 -0.4**
CABF La Chapelle 2.34 242 *e*Pn **Pn** **14 23 28.1 +1.3**
CABF La Chapelle 2.34 242 *e*Pg **Pg** **14 23 33.9 +1.0**
CABF eSg **Sg** **14 24 05.4 +2.2**
75nm,0.3s
ABH Alteburg 2.37 335 ⇓Pn **Pn** **14 23 28.4 +1.3**
PAGF Fort de Pagny 2.39 291 *e*Pn **Pn** **14 23 28.5 +1.1**
PAGF Fort de Pagny 2.39 291 *e*Pg **Pg** **14 23 34.8 +0.9**
baz=113
PAGF eSn **Sn** **14 23 58.0 +1.1**
PAGF eSg **Sg** **14 24 06.8 +1.9**
78nm,0.2s
GRF Grafenberg Arr 2.41 35 Pn **Pn** **14 23 26.9 -0.7**
GRF *e*Pg **Pg** **14 23 35.3 +1.2**
SNR=2.7
GRF eSn **Sn** **14 23 56.2 -1.0**
GRF eSg **Sg** **14 24 04.7 -0.6**
SNR=3.4
WBG Bieber 2.44 4 Pn **Pn** **14 23 28.2 +0.2**
LESA Schwarzleotal 2.45 96 *i* Pn **Pb** **14 23 30.9 -1.4**
6.9nm,0.2s,SNR=20
LESA eSn **Sn** **14 24 00.3 +1.9**
13nm,0.2s

RIVT Riveris 2.50 323 *e*Pn **Pb** **14 23 31.3 -1.7**
SNR=17
RIVT *e*Pg **Pg** **14 23 37.1 +1.3**
SNR=6.5
RIVT eSg **Sg** **14 24 08.0 -0.1**
SNR=2.3
TNS Taunus Mts 2.52 351 *e*Pn **Pn** **14 23 30.1 +0.9**
SNR=7.9
TNS eSn **Sn** **14 23 58.0 -2.0**
TNS eSg **Sg** **14 24 10.2 +1.4**
SNR=1.9
ABTA Abfaltersbach 2.54 112 *i* Pn **Pb** **14 23 33.5 -0.2**
16nm,0.2s,SNR=14
ABTA eSn **Sn** **14 24 01.7 +1.1**
14nm,0.2s
WMG Wormeldange-Ha 2.58 317 Pn **Pn** **14 23 32.3 +2.2**
GWBC Aumenau 2.71 349 Pn **Pn** **14 23 33.2 +1.5**
BGG Burgeitz 2.72 336 *e*Pn **Pn** **14 23 33.6 +1.7**
WLF Walferdange 2.73 316 *d*P **Pb** **14 23 35.0 -2.1**
WLF *d*S **Sn** **14 24 06.2 +1.0**
WLF Walferdange 2.73 316 *e*Pn **Pb** **14 23 35.0 -2.1**
SNR=3.4
WLF *e*Pg **Pg** **14 23 42.3 +1.9**
SNR=1.9
WLF eSg **Sg** **14 24 16.0 +0.2**
SNR=3.6
LPL La Plagne 2.76 217 *e*Pg **Pg** **14 23 40.8 -0.1**
LPL eSg **Sg** **14 24 17.0 +0.4**
34nm,0.3s
SFTF Sexfontaines 2.76 281 *e*Pn **Pn** **14 23 33.8 +1.3**
SFTF Sexfontaines 2.76 281 *e*Pg **Pg** **14 23 41.6 +0.7**
baz=99
SFTF eSn **Sn** **14 24 04.6 -1.3**
SFTF eSg **Sg** **14 24 16.8 +0.2**
156nm,0.4s
LPG La Plagne 2.77 216 *e*Pg **Pg** **14 23 41.0 0.0**
LPG eSn **Sn** **14 24 05.8 -0.7**
LPG eSg **Sg** **14 24 17.1 +0.3**
26nm,0.3s
SAVF Savonnieres en 2.79 290 *e*Pn **Pn** **14 23 33.9 +1.0**
SAVF Savonnieres en 2.79 290 *e*Pn **Pn** **14 23 34.9 +2.0**
SAVF Savonnieres en 2.79 290 *e*Pg **Pg** **14 23 42.3 +0.8**
SAVF Savonnieres en 2.79 290 *e*Pg **Pg** **14 23 42.6 +1.1**
SAVF eSg **Sg** **14 24 17.6 -0.1**
16nm,0.1s
SAVF eSg **Sb** **14 24 18.1 +5.7**
45nm,0.3s
MEZF Maizieres J'vi 2.81 287 *e*Pn **Pn** **14 23 35.7 +2.6**
MEZF Maizieres J'vi 2.81 287 *e*Pg **Pg** **14 23 42.7 +0.9**
MEZF eSn **Sn** **14 24 07.0 -0.1**
MEZF eSg **Sg** **14 24 18.4 +0.2**
48nm,0.3s
KOE Koeppel 2.83 342 *e*Pn **Pn** **14 23 35.2 +1.8**
KOE eSn **Sn** **14 24 09.0 +1.4**
30nm,0.5s
WET Wettzell 2.88 60 *e*Pn **Pn** **14 23 34.5 +0.3**
SNR=6.5
WET *e*Pg **Pg** **14 23 43.2 -0.1**
SNR=5.7
WET eSn **Sn** **14 24 08.3 -0.8**
WET eSg **Sg** **14 24 19.5 -1.1**
SNR=4.4
ROTZ Rotzenmuhle 2.89 44 *e*Pn **Pn** **14 23 33.8 -0.5**
SNR=4.7
ROTZ *e*Pg **Pg** **14 23 42.7 -0.7**
SNR=2.8
ROTZ eSn **Sn** **14 24 07.3 -1.9**
ROTZ eSg **Sg** **14 24 19.9 -0.9**
SNR=4.2
KBA Koelnbreinsper 2.97 101 *e*Pn **Pn** **14 23 38.6 +3.1**
3.0nm,0.1s
KBA *i* Sn **Sn** **14 24 14.2 +2.9**
4.9nm,0.2s
MANZ Manzenberg 3.00 41 *e*Pg **Pg** **14 23 45.5 0.0**
MANZ eSn **Sn** **14 24 10.7 -1.3**
MANZ eSg **Sg** **14 24 25.0 +0.7**
SNR=3.2
BIOA Bad Ischl, Aus 3.07 89 *e*Pn **Pn** **14 23 38.6 +1.8**
2.5nm,0.3s,SNR=24
BIOA *i* Sn **Sn** **14 24 15.1 +1.4**
11nm,0.2s
UBBA Unterbreizbach 3.13 11 *e*Pg **Pg** **14 23 49.0 +1.0**
UBBA eSg **Sg** **14 24 28.0 -0.6**
SNR=3.2
STB Steinbach 3.21 333 *e*Pn **Pn** **14 23 40.6 +2.0**
GEC2 GERESS Array S 3.27 69 *e*Pn **Pn** **14 23 40.5 +0.9**
SNR=5.8
GEC2 *e*Pg **Pg** **14 23 50.1 -0.5**
SNR=5.0
GEC2 eSg **Sg** **14 24 32.9 -0.1**
SNR=1.8
KHC Kasperske Hory 3.29 63 *e*PN **Pn** **14 23 40.5 +0.6**
KHC *e*PG **Pb** **14 24 47.4 +0.7**
KHC eSG **Sg** **14 24 32.7 -1.1**
53nm,0.3s
MYKA Terra Mystica 3.30 108 *i* Pn **Pn** **14 23 43.2 +3.3**
2.3nm,0.1s
MYKA *i* Sn **Sn** **14 24 20.9 +1.6**
2.3nm,0.2s
BHOU Houvegnez 3.31 323 *d*P **Pn** **14 23 42.0 +2.0**
MOX Moxa 3.34 29 *e*Pn **Pn** **14 23 39.4 -1.1**
SNR=4.6
MOX *e*Pg **Pg** **14 23 52.8 +0.7**
SNR=3.9
MOX eSn **Sn** **14 24 20.4 +0.1**
MOX eSg **Sg** **14 24 34.6 -0.7**
SNR=5.8
PLN Plauen 3.40 35 *e*Pg **Pg** **14 23 53.2 0.0**
PLN eSn **Sn** **14 24 20.3 -1.5**
PLN eSg **Sg** **14 24 36.1 -1.2**
SNR=3.9
MBDF Montbardon 3.42 209 *e*P **Pn** **14 23 44.5 +2.8**
MBDF Montbardon 3.42 209 *e*Pg **Pg** **14 23 53.3 -0.2**
MBDF eSg **Sg** **14 24 39.3 +1.5**
76nm,0.6s
KLL Kalltalsperre 3.43 329 *e*Pn **Pn** **14 23 43.3 +1.6**
HOBG Hohbusch 3.44 341 *e*Pn **Pn** **14 23 43.6 +1.8**
HOBG eSn **Sn** **14 24 23.4 +0.8**
36nm,0.2s
BTNL Ternell 3.44 327 *d*P **Pn** **14 23 44.2 +2.3**
BTNL *d*S **Sn** **14 24 23.6 +0.8**
DREG Dreilaegerbach 3.47 328 *e*Pn **Pn** **14 23 44.2 +2.0**
DREG eSn **Sn** **14 24 24.2 +0.8**
16nm,0.6s
TANN Tannenbergstha 3.47 38 *e*Pg **Pg** **14 23 54.8 +0.2**
TANN eSg **Sg** **14 24 38.5 -1.0**
SNR=5.1
KASTN Kahler Asten 3.49 353 *e*Pn **Pn** **14 23 43.6 +1.0**
SNR=9.3
MOA Molln 3.49 86 *i* Pn **Pn** **14 23 44.7 +2.2**
2.2nm,0.1s
MOA *i* Sn **Sn** **14 24 23.6 -0.4**
9.2nm,0.2s
MEM Membach 3.51 326 *d*P **Pn** **14 23 44.8 +2.1**
MEM *d*S **Sn** **14 24 26.6 +2.3**
RCHB Rochefort 3.51 315 *d*P **Pn** **14 23 45.1 +2.4**
RCHB *d*S **Sn** **14 24 26.7 +2.4**
CADS Cadrg 3.52 114 *i* Pn **Pn** **14 23 45.8 +2.8**
LOR Lormes 3.58 264 *e*Pn **Pn** **14 23 45.8 +2.1**
LOR Lormes 3.58 264 *e*Pg **Pg** **14 23 56.4 -0.1**
baz=83
LOR eSn **Sn** **14 24 24.9 -1.2**
LOR eSg **Sg** **14 24 41.9 -0.9**
69nm,0.3s
ORIF Oris-en-Rattie 3.60 219 *e*Pn **Pn** **14 23 45.2 +1.2**
ORIF Oris-en-Rattie 3.60 219 *e*Pg **Pg** **14 23 55.9 -1.0**
ORIF eSn **Sn** **14 24 26.9 +0.2**
ORIF eSg **Sg** **14 24 41.2 -2.3**
24nm,0.3s
CKRC Cesky Krumlov 3.65 71 *e*PN **Pn** **14 23 45.9 +1.2**
CKRC eSG **Sg** **14 24 46.5 -0.6**
BCLA Clavier 3.66 319 *d*P **Pn** **14 23 46.9 +2.1**
BCLA *d*S **Sn** **14 24 28.0 +0.1**
BSTI Sart Tilman 3.66 322 *d*P **Pn** **14 23 47.4 +2.6**
BSTI *d*S **Sn** **14 24 29.5 +1.3**
GIVF Givet 3.67 312 *e*Pn **Pn** **14 23 47.2 +2.2**
GIVF Givet 3.67 312 *e*Pg **Pg** **14 23 58.4 +0.1**
GIVF eSn **Sn** **14 24 28.3 -0.1**
GIVF eSg **Sg** **14 24 45.7 -0.1**
20nm,0.3s
BGES Gesves 3.73 317 *d*P **Pn** **14 23 48.6 +2.8**
BGES *d*S **Sn** **14 24 30.9 +1.1**
SMF Signal de Mont 3.74 255 *e*Pn **Pn** **14 23 47.2 +1.2**
SMF Signal de Mont 3.74 255 *e*Pg **Pg** **14 23 59.3 -0.4**
SMF eSn **Sn** **14 24 27.1 -3.1**

SMF eSg **Sg** **14 24 46.8 -1.4**
48nm,0.3s
DOU Dourbes 3.78 310 *d*P **Pn** **14 23 49.0 +2.5**
DOU *d*S **Sn** **14 24 32.1 +1.0**
BMRD Maredsous 3.83 314 *d*P **Pn** **14 23 49.5 +2.4**
BMRD *d*S **Sn** **14 24 33.2 +1.1**
SSF Saint Saulge 3.85 262 *e*Pn **Pn** **14 23 49.0 +1.5**
SSF Saint Saulge 3.85 262 *e*Pg **Pg** **14 24 01.1 -0.7**
SSF eSn **Sn** **14 24 31.9 -1.0**
SSF eSg **Sg** **14 24 50.7 -1.0**
20nm,0.2s
JAVS Javornik 3.89 117 *i* Pn **Pn** **14 23 50.5 +2.5**
OBKA Obir 3.93 106 *i* Pn **Pn** **14 23 51.8 +3.2**
0.6nm,0.1s
OBKA eSn **Sn** **14 24 37.2 +2.4**
3.6nm,0.3s
BAIF Baives 3.97 308 *e*Pn **Pn** **14 23 51.2 +2.2**
BAIF Baives 3.97 308 *e*Pg **Pg** **14 24 04.3 +0.3**
BAIF eSn **Sn** **14 24 35.0 -0.6**
BAIF eSg **Sg** **14 24 54.2 -1.1**
5.2nm,0.3s
AVF Avril sur Loir 4.02 258 *e*Pn **Pn** **14 23 51.2 +1.4**
AVF Avril sur Loir 4.02 258 *e*Pg **Pg** **14 24 04.6 -0.4**
AVF eSn **Sn** **14 24 36.4 -0.6**
AVF eSg **Sg** **14 24 55.3 -1.8**
12nm,0.3s
HSKC Hora Svate Kat 4.04 43 *e*SG **Sg** **14 24 56.0 -1.7**
47nm,0.6s
SBF Sospel 4.05 197 *e*Pn **Pn** **14 23 51.3 +1.0**
SBF Sospel 4.05 197 *e*P **Pb** **14 23 55.3 -4.3**
SBF eSn **Sn** **14 24 38.0 +0.2**
14nm,0.3s
SOKA Soboth 4.19 103 *i* Pn **Pn** **14 23 54.9 +2.7**
4.5nm,0.3s,SNR=9.9
SOKA *i* Sn **Sn** **14 24 43.2 +1.9**
1.4nm,0.2s
VIVF Saint-Julien-l 4.21 228 *e*Pn **Pn** **14 23 52.1 -0.3**
VIVF Saint-Julien-l 4.21 228 *e*Pg **Pg** **14 24 07.7 -0.9**
VIVF eSn **Sn** **14 24 38.8 -2.9**
VIVF eSg **Sg** **14 24 59.1 -4.0**
28nm,0.4s
PRU Pruhonice 4.24 56 *e*SG **Sg** **14 25 02.1 -2.1**
24nm,0.3s
RICC Richard 4.32 48 *e*SG **Sg** **14 25 05.2 -1.4**
45nm,0.6s
CLL Collm 4.38 34 *e*Sg **Sg** **14 25 07.8 -0.9**
SNR=5.0
CLL Collm 4.38 34 *e*Pg **Pg** **14 24 10.0 -1.9**
CLL *ex* x 14 24 16.0
CLL eSg **Sg** **14 25 07.0 -1.7**
comp=Z,45nm,0.7s
ARSA Arzberg 4.39 94 *i* Pn **Pn** **14 23 58.6 +3.7**
comp=Z,2.0nm,0.2s
ARSA *i* Sn **Sn** **14 24 44.6 -1.5**
comp=Z,2.0nm,0.3s
HYF Humbligny 4.40 266 *e*Pn **Pn** **14 23 56.5 +1.5**
HYF Humbligny 4.40 266 *e*Pg **Pg** **14 24 12.0 -0.2**
HYF eSn **Sn** **14 24 45.3 -1.0**
HYF eSg **Sg** **14 25 08.6 -0.5**
BGF Bois d'Agland 4.42 257 *e*Pn **Pn** **14 23 56.0 +0.7**
BGF Bois d'Agland 4.42 257 *e*Pg **Pg** **14 24 12.4 -0.3**
BGF eSn **Sn** **14 24 44.7 -2.2**
BGF eSg **Sg** **14 25 07.0 -2.9**
comp=Z,27nm,0.3s
BRG Berggiesshubel 4.46 44 *e*Pg **Pg** **14 24 14.3 +0.9**
BRG eSg **Sg** **14 25 11.2 0.0**
SNR=3.1
BRG Berggiesshubel 4.46 44 Pg **Pg** **14 24 15.3 +1.9**
BRG Sg **Sg** **14 25 10.4 -0.7**
BRG Amp 14 25 20.3
comp=Z,23nm,0.4s
SMRF Simiane la Rot 4.50 214 *e*Pn **Pn** **14 23 57.0 +0.6**
SMRF Simiane la Rot 4.50 214 *e*Pg **Pg** **14 24 14.3 +0.1**
SMRF eSn **Sn** **14 24 47.4 -1.4**
comp=Z,4.0nm,0.3s
ASSE Asse, Remlinge 4.51 13 *e*Sg **Sg** **14 25 12.8 +0.2**
SNR=3.5
TREC Trest 4.53 68 *e*SG **Sg** **14 25 10.7 -2.6**
comp=Z,51nm,0.8s
CONA Conrad Observa 4.57 85 *i* Pn **Pn** **14 23 59.0 +1.7**
comp=Z,3.8nm,0.2s
CONA *i* Sn **Sn** **14 24 48.3 -2.2**
comp=Z,6.5nm,0.2s
LMR La Mourre 4.77 203 *e*Pn **Pn** **14 24 00.7 +0.6**
LMR La Mourre 4.77 203 *e*Pg **Pg** **14 24 19.1 -0.2**
LMR eSn **Sn** **14 24 53.3 -2.1**
comp=Z,3.4nm,0.2s
RONA Rosalia, Austr 4.87 88 *i* Pn **Pn** **14 24 03.6 +2.2**
comp=Z,2.2nm,0.3s
RONA *i* Sn **Sn** **14 24 55.1 -2.8**
comp=Z,4.3nm,0.4s
TCF Toulx Ste Croi 4.92 255 *e*Pn **Pn** **14 24 03.4 +1.2**
TCF Toulx Ste Croi 4.92 255 *e*Pg **Pg** **14 24 20.8 -1.5**
TCF eSn **Sn** **14 24 57.0 -2.3**
TCF eSg **Sg** **14 25 23.5 -2.6**
comp=Z,13nm,0.3s
KRUC Moravsky 5.04 72 *e*PN **Pn** **14 24 04.7 +0.9**
KRUC eSN **Sn** **14 24 58.7 -3.5**
LASF Ste Croix 5.17 227 *e*Pn **Pn** **14 24 05.9 +0.2**
LASF Ste Croix 5.17 227 *e*Pg **Pg** **14 24 26.1 -1.0**
LASF eSn **Sn** **14 25 03.0 -2.5**
LASF eSg **Sg** **14 25 31.8 -2.3**
comp=Z,6.3nm,0.3s
PGF Pioggiola 5.20 181 *e*Pn **Pn** **14 24 07.0 +0.9**
PGF eSn **Sn** **14 25 04.9 -1.3**
comp=Z,1.1nm,0.2s
VRAC Vranov 5.23 70 *e*PN **Pn** **14 24 07.9 +1.5**
VRAC eSN **Sn** **14 25 04.0 -2.7**
UPC Upice 5.32 56 *e*SG **Sg** **14 25 36.7 -2.0**
comp=Z,29nm,0.7s
ZST Bratislava 5.40 82 *e*PN **Pn** **14 24 10.9 +2.2**
ZST eSN **Sn** **14 25 07.2 -3.8**
ZST eSG **Sg** **14 25 40.9 -0.5**
KRLC Kraliky 5.58 62 eSG **Sg** **14 25 45.1 -2.1**
comp=Z,24nm,0.6s
CAF Calviac 5.62 242 *e*Pn **Pn** **14 24 12.1 +0.3**
CAF Calviac 5.62 242 *e*Pg **Pg** **14 24 33.6 -2.1**
CAF eSn **Sn** **14 25 15.4 -1.1**
CAF eSg **Sg** **14 25 45.9 -2.5**
comp=Z,7.9nm,0.3s
RJF Les Rejaudoux 5.77 248 *e*Pg **Pg** **14 24 37.6 -0.8**
RJF eSn **Sn** **14 25 17.3 -2.8**
RJF eSg **Sg** **14 25 50.6 -2.5**
comp=Z,6.6nm,0.3s
MORC Moravsky Berou 5.95 67 *e*PN **Pn** **14 24 16.6 +0.3**
MORC eSN **Sn** **14 25 20.4 -4.2**
LDF La Druitiere 6.22 281 *e*Pn **Pn** **14 24 21.3 +1.3**
LDF La Druitiere 6.22 281 *e*Pg **Pg** **14 24 45.5 -1.6**
LDF eSn **Sn** **14 25 29.7 -1.5**
LDF eSg **Sg** **14 26 04.7 -2.9**
comp=Z,32nm,0.5s
OKC Ostrava-Krasne 6.34 67 *e*SG **Sg** **14 26 09.3 -2.2**
MFF Saint Martin d 6.40 263 *e*Pn **Pn** **14 24 23.3 +0.9**
baz=75
MFF Saint Martin d 6.40 263 *e*Pn **Pn** **14 24 23.6 +1.2**
MFF Saint Martin d 6.40 263 *e*Pg **Pg** **14 24 48.7 -1.8**
MFF Saint Martin d 6.40 263 *e*Pg **Pg** **14 24 49.4 -1.1**
MFF eSn **Sn** **14 25 30.8 -4.8**
MFF eSn **Sn** **14 25 32.1 -3.5**
MFF eSg **Sg** **14 26 09.6 -3.7**
comp=Z,8.0nm,0.5s
MFF eSg **Sg** **14 26 10.3 -3.0**
comp=Z,6.3nm,0.3s
LFF La Frestale 6.42 247 eSg **Sg** **14 26 11.4 -2.7**
comp=Z,9.2nm,0.4s
FLN La Foliniere 6.47 283 *e*Pn **Pn** **14 24 24.5 +1.1**
baz=95
FLN La Foliniere 6.47 283 *e*Pg **Pg** **14 24 51.1 -0.8**
FLN eSn **Sn** **14 25 35.3 -2.1**
FLN eSg **Sg** **14 26 13.6 -2.1**
comp=Z,19nm,0.5s
MTLF Montolieu 6.53 230 *e*Pn **Pn** **14 24 24.8 +0.5**
MTLF Montolieu 6.53 230 *e*Pg **Pg** **14 24 51.0 -2.0**
MTLF eSn **Sn** **14 25 34.3 -4.6**
MTLF eSg **Sg** **14 26 14.2 -3.4**
comp=Z,1.6nm,0.2s
VYHS Vyhne 6.57 80 *e*PN **Pn** **14 24 25.2 +0.4**
VYHS eSN **Sn** **14 25 35.3 -4.5**
VYHS eSG **Sg** **14 26 17.5 -1.3**
GRR Gorron 6.70 279 *e*Pn **Pn** **14 24 27.9 +1.4**
GRR Gorron 6.70 279 *e*Pg **Pg** **14 24 55.0 -1.2**
GRR eSn **Sn** **14 25 39.2 -3.7**
GRR eSg **Sg** **14 26 19.4 -3.5**
comp=Z,8.0nm,0.4s

EPF	**Esparros**	**7.75**	**236**	*e*Pn		**Pn**	**14 24 39.3**	**-1.8**
EPF				*e*Sg		**Sg**	**14 26 52.8**	**-3.9**
	comp=Z,2.4nm,0.3s							
SGMF	**Saint Gilles**	**7.83**	**278**	*e*Pn		**Pn**	**14 24 42.5**	**+0.4**
SGMF				*e*Sg		**Sg**	**14 26 54.5**	**-4.7**
	comp=Z,3.1nm,0.4s							
ROSF	**Rostrenen**	**8.31**	**279**	*e*Pn		**Pn**	**14 24 48.7**	**+0.1**
ROSF	**Rostrenen**	**8.31**	**279**	*e*Pg		**Pg**	**14 25 25.1**	**-1.9**
ROSF				*e*Sn		**Sn**	**14 26 18.4**	**-4.1**
ROSF				*e*Sg		**Sg**	**14 27 09.5**	**-5.0**
	comp=Z,7.6nm,0.5s							

DJA 29 14:27:57.7±0.2, **1°S**±2°×**12°7E**±°, **h10**km, **M3.8**/14, **mb4.0**/3, **MLv3.7**/14, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.64**	**357**	P	Pn	14 28 25.4	-1.3
TNTI				S	Sn	14 28 47.1	-0.8
SANI	**Sanana**	**1.86**	**231**	P	Pn	14 28 29.5	-0.1
SANI				S	Sn	14 28 53.7	+0.5
NLAI	**Namlea**	**2.37**	**188**	P	Pn	14 28 36.8	+0.2
MSAI	**Masohi**	**2.87**	**149**	P	Pn	14 28 43.9	+0.4
AAI	**Ambon**	**2.89**	**165**	P	Pn	14 28 43.8	0.0
KMSI	**Cibinong**	**3.75**	**293**	P	Pn	14 28 56.2	+0.6
SWI	**Sorong**	**3.82**	**90**	P	Pn	14 28 57.2	+0.6
LUWI	**Luwuk**	**4.67**	**268**	P	Pn	14 29 07.0	-1.3
FAKI	**Fak Fak** 61nm,1.7s	**5.21**	**113**	P	Pn	14 29 15.5	-0.3
APSI	**Ampana** 0.1nm20nm,1.2s	**5.79**	**270**	P	Pn	14 29 24.2	+0.5

*SJA **29** 14:31:24.4±0.7, 34.˚34S×72.˚09W, h14km, ML3.8, MW3.8*
*GUC **29** 14:31:27.2±0.7, 34.˚36S×72.˚07W, h21km±2km, ML3.9*
*NEIC **29** 14:31:28.8±1.9, 34.˚36S±0.˚02×71.˚92W±0.˚06, h31km±8km, mb4.2/5, ML3.9(GUC), Error ellipse: s-maj=7.3km s-min=2.3km az=69.0*

ISC 29 14:31:26.7±1.0, **34.˚35S**±0.˚02×**72.˚05W**±0.˚04, **h19**km±3km, **n78**, σ1**s27**/127, **mb4.3**/3, **4C-17D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.16**	**154**	⇑*i*P	**Pg**	**14 31 31.5**	**+0.2**
BO03				*i* S	**Sg**	**14 31 34.6**	**+0.3**
BO03				IAML		14 31 35.1	
	comp=N,19μm,0.2s						
GO05	**Hualane**	**0.66**	**172**	⇑*i*P	**Pb**	**14 31 39.4**	**-0.3**
GO05				*i* S	**Sb**	**14 31 48.1**	**-0.3**
GO05	**Hualane**	**0.66**	**172**	*e*P	**Pb**	**14 31 38.7**	**-1.0**
GO05				*e*S	**Sb**	**14 31 48.2**	**-0.3**
GO05				IAML		14 31 49.2	
	comp=Z,4μm,0.6s						
BO01	**Tunca**	**0.80**	**93**		**Pb**	**14 31 40.8**	**-1.1**
BO01				Sn	**Sb**	**14 31 50.6**	**-1.7**
BO01	**Tunca**	**0.80**	**93**	⇓*i*P	**Pb**	**14 31 41.1**	**-0.9**
BO01				*i* S	**Sb**	**14 31 51.3**	**-1.1**
BO01				IAML		14 31 52.7	
	comp=N,7μm,0.2s						
BO01	**Tunca**	**0.80**	**93**	*e*P	Pb	14 31 37.0	-4.9
BO01				*e*P	**Pg**	**14 31 40.4**	**-1.9**
BO01				*e*S	**Sb**	**14 31 51.2**	**-1.1**
BO01				IAML		14 31 54.9	
	comp=Z,3μm,0.3s						
MT01	**Popeta**	**0.82**	**54**		**Pb**	**14 31 41.2**	**-1.2**
MT01	**Popeta**	**0.82**	**54**	⇓*i*P	**Pb**	**14 31 41.6**	**-0.8**
MT01				*i* S	**Sb**	**14 31 52.5**	**-0.5**
MT01				IAML		14 31 53.8	
	comp=E,6μm,0.3s						
MT01	**Popeta**	**0.82**	**54**	*e*P	**Pb**	**14 31 40.8**	**-1.6**
MT01				*e*S	**Sb**	**14 31 53.2**	**+0.2**
MT01				*e*S	**Sg**	**14 31 53.5**	**-0.2**
MT01				IAML		14 31 56.9	
	comp=Z,2μm,0.3s						
MT09	**Talagante**	**1.05**	**57**		**Pb**	**14 31 44.9**	**-1.4**
MT09				Sn	**Sb**	**14 31 58.3**	**-1.4**
MT09	**Talagante**	**1.05**	**57**	⇓*i*P	**Pb**	**14 31 45.4**	**-1.0**
MT09				*i* S	**Sb**	**14 31 59.4**	**-0.3**
MT09				IAML		14 32 00.9	
	comp=N,8μm,0.2s						
BO02	**Sierra Bellavi**	**1.13**	**113**		**Pn**	**14 31 46.8**	**-0.9**
BO02				Sn	**Sb**	**14 32 01.6**	**-0.5**
BO02	**Sierra Bellavi**	**1.13**	**113**	⇑*i*P	**Pn**	**14 31 47.0**	**-0.7**
BO02				*e*S	**Sb**	**14 32 01.9**	**-0.2**
BO02	**Sierra Bellavi**	**1.13**	**113**	*e*P	**Pn**	**14 31 46.4**	**-1.2**
BO02				*e*S	**Sn**	**14 32 03.6**	**+0.9**
BO04	**La Punta**	**1.24**	**73**		**Pn**	**14 31 47.8**	**-1.4**
BO04	**La Punta**	**1.24**	**73**	⇓*i*P	**Pn**	**14 31 48.6**	**-0.6**
BO04				*e*S	**Sb**	**14 32 05.1**	**-0.2**
BO04				IAML		14 32 10.6	
	comp=E,5μm,0.2s						
MT02	**Curacav**	**1.33**	**35**		**Pn**	**14 31 49.0**	**-1.3**
MT02				Sn	**Sn**	**14 32 06.6**	**-0.8**
MT02	**Curacav**	**1.33**	**35**	⇓*i*P	**Pn**	**14 31 49.2**	**-1.0**
MT02				*i* S	**Sn**	**14 32 07.1**	**-0.3**
MT02	**Curacav**	**1.33**	**35**	*e*P	**Pn**	**14 31 49.2**	**-1.0**
MT02				*e*S	**Sn**	**14 32 08.0**	**+0.7**
MT02				IAML		14 32 10.5	
	comp=Z,1μm,0.3s						
VA01	**Torpederas**	**1.37**	**14**		**Pn**	**14 31 50.4**	**-0.4**
VA01	**Torpederas**	**1.37**	**14**	*e*P	**Pn**	**14 31 50.7**	**0.0**
VA01				*i* S	**Sn**	**14 32 08.9**	**+0.6**
VA01				IAML		14 32 12.5	
	comp=E,2μm,0.2s						
VA01	**Torpederas**	**1.37**	**14**	*e*P	**Pn**	**14 31 50.0**	**-0.7**
VA01				*e*S	**Sb**	**14 32 09.7**	**+1.0**
VA01				IAML		14 32 11.8	
	comp=Z,1μm,0.5s						
MT12	**Pirque**	**1.39**	**64**	⇓*i*P	**Pn**	**14 31 50.9**	**-0.2**
MT12				*i* S	**Sn**	**14 32 09.3**	**+0.3**
MT12				IAML		14 32 14.2	
	comp=N,6μm,0.2s						
MT05	**Renca**	**1.45**	**49**		**Pn**	**14 31 51.9**	**-0.1**
MT05	**Renca**	**1.45**	**49**	*e*P	**Pn**	**14 31 51.8**	**-0.1**
MT05				*e*S	**Sn**	**14 32 10.1**	**-0.4**
MT05				IAML		14 32 15.5	
	comp=N,4μm,0.3s						
MT05	**Renca**	**1.45**	**49**	*e*P	**Pn**	**14 31 51.9**	**-0.1**
MT05				*e*S	**Sg**	**14 32 15.7**	**+2.1**
MT05				IAML		14 32 17.7	
	comp=Z,971nm,0.4s						
MT15	**Las Vizcachas**	**1.48**	**60**	⇓*i*P	**Pn**	**14 31 52.4**	**-0.1**
MT15				*e*S	**Sn**	**14 32 12.2**	**+0.9**
MT15				IAML		14 32 18.7	
	comp=N,6μm,0.2s						
ML02	**Panimavida**	**1.50**	**160**		**Pn**	**14 31 52.6**	**-0.1**
ML02	**Panimavida**	**1.50**	**160**	⇑*i*P	**Pn**	**14 31 52.5**	**-0.1**
ML02				*e*S	**Sn**	**14 32 11.6**	**0.0**
ML02	**Panimavida**	**1.50**	**160**	*e*P	**Pn**	**14 31 52.4**	**-0.2**
ML02				IAML		14 32 18.2	
	comp=Z,2μm,0.6s						
MT03	**Universidad Ad**	**1.54**	**57**		**Pn**	**14 31 53.3**	**+0.1**
MT03	**Universidad Ad**	**1.54**	**57**	⇓*i*P	**Pn**	**14 31 53.2**	**0.0**
MT03				*i* S	**Sn**	**14 32 13.7**	**+0.9**
MT03				IAML		14 32 20.8	
	comp=E,5μm,0.2s						
MT03	**Universidad Ad**	**1.54**	**57**	*e*P	**Pn**	**14 31 53.5**	**+0.3**
MT03				*e*S	**Sg**	**14 32 18.2**	**+1.8**
MT03				IAML		14 32 18.3	
	comp=Z,3μm,0.1s						
MT16	**CCHEN**	**1.57**	**54**		**Pn**	**14 31 53.8**	**+0.2**
MT16	**CCHEN**	**1.57**	**54**	⇓*i*P	**Pn**	**14 31 53.7**	**+0.2**
MT16				*i* S	**Sn**	**14 32 14.1**	**+0.7**
MT14	**Cerro Cal¡n**	**1.58**	**53**	⇓*i*P	**Pn**	**14 31 53.8**	**+0.1**
MT14				*i* S	**Sb**	**14 32 16.4**	**+1.5**
MT14				IAML		14 32 19.0	
	comp=N,2μm,0.2s						
MT13	**San Alfonso**	**1.58**	**68**		**Pn**	**14 31 54.2**	**+0.4**
MT13	**San Alfonso**	**1.58**	**68**	⇓*i*P	**Pn**	**14 31 54.1**	**+0.3**
MT13				*i* S	**Sn**	**14 32 14.7**	**+0.9**
MT13				IAML		14 32 15.3	
	comp=N,4μm,0.2s						
MT13	**San Alfonso**	**1.58**	**68**	*e*P	**Pn**	**14 31 54.3**	**+0.4**
MT13				*e*S	**Sb**	**14 32 15.4**	**+0.3**
MT13				IAML		14 32 19.1	
	comp=Z,2μm,0.2s						
ROCH	**El Roble**	**1.62**	**32**	⇓*i*P	**Pn**	**14 31 54.0**	**-0.5**
ROCH				*e*S	**Sn**	**14 32 16.6**	**+1.5**
ROCH				IAML		14 32 23.2	
	comp=N,3μm,0.6s						
MT10	**Hacienda Santa**	**1.65**	**50**	⇓*i*P	**Pn**	**14 31 55.3**	**+0.4**
MT10				*i* S	**Sn**	**14 32 16.5**	**+0.8**
MT10				IAML		14 32 22.2	
	comp=N,4μm,0.4s						
PEL	**Peldehue**	**1.65**	**44**		**Pn**	**14 31 55.0**	**+0.2**
PEL	**Peldehue**	**1.65**	**44**	⇓*i*P	**Pn**	**14 31 54.8**	**0.0**
PEL				*i* S	**Sn**	**14 32 17.2**	**+1.7**
PEL				IAML		14 32 21.7	
	comp=N,2μm,0.5s						
FCH	**Farellones**	**1.78**	**55**	*e*P	**Pn**	**14 31 57.2**	**+0.4**
FCH				*i* S	**Sn**	**14 32 20.8**	**+1.7**
FCH				IAML		14 32 29.1	
	comp=N,2μm,0.2s						
MT04	**Ro Olivares**	**1.85**	**60**	⇓*i*P	**Pn**	**14 31 58.3**	**+0.6**
MT04				*i* S	**Sn**	**14 32 22.3**	**+1.7**
MT04				IAML		14 32 26.7	
	comp=N,1μm,0.2s						
MT04	**Ro Olivares**	**1.85**	**60**	*e*P	**Pn**	**14 31 58.5**	**+0.8**
MT04				*e*S	**Sb**	**14 32 24.3**	**+1.5**
MT04				IAML		14 32 30.2	
	comp=Z,756nm,0.2s						
VA06	**Catapilco**	**1.89**	**19**		**Pn**	**14 31 59.0**	**+1.0**
VA06	**Catapilco**	**1.89**	**19**	*e*P	**Pn**	**14 31 58.6**	**+0.6**
VA06				*i* S	**Sn**	**14 32 22.7**	**+1.3**
VA06				IAML		14 32 28.9	
	comp=E,2μm,0.3s						
MT08	**Bocatoma Ro**	**1.91**	**62**		**Pn**	**14 31 59.5**	**+1.0**
MT08	**Bocatoma Ro**	**1.91**	**62**	⇓*i*P	**Pn**	**14 31 59.7**	**+1.1**
MT08				*i* S	**Sn**	**14 32 23.9**	**+1.7**
MT08				IAML		14 32 26.5	
	comp=N,1μm,0.5s						
MT08	**Bocatoma Ro**	**1.91**	**62**	*e*P	**Pn**	**14 31 59.8**	**+1.3**
MT08				*e*S	**Sb**	**14 32 26.4**	**+1.6**
MT08				IAML		14 32 27.3	
	comp=Z,582nm,0.2s						
VA03	**San Esteban**	**2.02**	**39**		**Pn**	**14 32 00.7**	**+0.8**
VA03	**San Esteban**	**2.02**	**39**	⇓*i*P	**Pn**	**14 32 00.7**	**+0.8**
VA03				*e*S	**Sb**	**14 32 27.1**	**-0.5**
VA03				IAML		14 32 31.7	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**2.02**	**39**	*e*P	**Pn**	**14 32 00.8**	**+1.0**
VA03				*e*S	**Sb**	**14 32 28.7**	**+1.1**
VA03				IAML		14 32 31.9	
	comp=Z,2μm,0.6s						
BI02	**San Fabin de**	**2.39**	**165**		**Pn**	**14 32 05.9**	**+1.0**
BI02	**San Fabin de**	**2.39**	**165**	*i* P	**Pn**	**14 32 05.7**	**+0.7**
BI02				*e*S	**Sn**	**14 32 35.0**	**+1.3**
BI02				IAML		14 32 44.7	
	comp=N,527nm,0.5s						
BI02	**San Fabin de**	**2.39**	**165**	*e*P	**Pn**	**14 32 05.9**	**+1.0**
BI02				IAML		14 32 44.9	
	comp=Z,280nm,1.2s						
BI05	**Punta Hualpn**	**2.57**	**201**		**Pn**	**14 32 07.5**	**+0.2**
BI05	**Punta Hualpn**	**2.57**	**201**	*e*P	**Pn**	**14 32 07.3**	**0.0**
BI05				*i* S	**Sn**	**14 32 39.1**	**+1.2**
BI05				IAML		14 32 51.4	
	comp=N,485nm,0.7s						
RFA	**San Rafael**	**2.98**	**99**	*e*P	**Pn**	**14 32 15.8**	**+2.7**
RFA				*e*S	**Sb**	**14 32 54.0**	**-1.4**
RFA				IAML		14 33 03.2	
	comp=Z,211nm,0.7s						
ARCO	**CERRO ARCO**	**3.00**	**61**	*e*P	**Pb**	**14 32 18.0**	**-1.7**
ARCO				IAML		14 33 07.2	
	comp=Z,198nm,1.1s						
CO02	**Combarbal**	**3.26**	**16**		**Pn**	**14 32 18.1**	**+1.2**
CO02	**Combarbal**	**3.26**	**16**	*e*P	**Pn**	**14 32 17.1**	**+0.1**
CO02				*e*S	**Sb**	**14 33 01.0**	**-2.4**
CO02				IAML		14 33 13.1	
	comp=Z,380nm,0.5s						
RTLS	**Leoncito**	**3.44**	**43**	*e*P	**Pn**	**14 32 21.3**	**+1.7**
RTLS				*e*S	**Sb**	**14 33 10.0**	**+1.4**
RTLS				IAML		14 33 20.5	
	comp=Z,514nm,0.6s						
CO06	**Fray Jorge**	**3.68**	**6**		**Pn**	**14 32 22.1**	**-0.6**
CO03	**El Pedregal**	**3.69**	**18**		**Pn**	**14 32 24.7**	**+1.9**
CFA	**Coronel Fontan**	**4.21**	**50**	*e*P	**Pn**	**14 32 32.5**	**+2.6**
CFA				*e*S	**Sb**	**14 33 37.0**	**+6.3**
RTLL	**Cerro Villicun**	**4.26**	**46**	*e*P	**Pn**	**14 32 34.2**	**+3.6**
RTLL				*e*S	**Sg**	**14 33 39.4**	**-4.0**
GO04	**Tololo Observa**	**4.30**	**15**		**Pn**	**14 32 31.6**	**+0.2**
ACCO	**Cerro Coronel**	**4.52**	**35**	*e*P	**Pn**	**14 32 37.1**	**+2.7**
LCO	**Las Campanas**	**5.45**	**12**		**Pn**	**14 32 47.1**	**-0.1**
PLCA	**Paso Flores**	**6.48**	**170**	Pn	**Pn**	**14 33 01.5**	**+0.3**
AC02	**Maricunga**	**7.90**	**19**		**Pn**	**14 33 21.1**	**+0.1**
PB16	**IPOC Station P**	**16.11**	**9**	Pn	**Pn**	**14 35 13.1**	**+0.3**
VILB	**Vilhena**	**23.87**	**30**	P	**P**	**14 36 38.5**	**-0.6**
VILB				IAmb	IAmb	14 36 48.1	
	comp=Z,7.4nm,0.8s						
SAML	**Samuel**	**26.56**	**20**	P	**P**	**14 37 02.3**	**-1.3**
SAML				IAmb	IAmb	14 37 13.8	
	comp=Z,3.7nm,1.3s						
SNAA	**Sanae**	**51.26**	**158**	P	**P**	**14 40 29.1**	**+0.2**
SNAA				IAmb	IAmb	14 40 57.9	
	comp=Z,5.9nm,1.5s						
QSPA	**South Pole Qui**	**55.88**	**180**	P	**P**	**14 41 03.7**	**+0.7**

*UPP **29** 14:59:12.7±0.2, 59.˚00N×18.˚19E, h0km, ML2.5, Unknown Suspected explosion*
*DNK **29** 14:59:13.2±1.7, 59.˚00N×18.˚23E, h0km, ML2.4, ML2.5(UPP), Explosion*
*IDC **29** 14:59:16.4±2.0, 59.˚22N×18.˚04E, h0km, mbtmp2.8/4, ML1.9/3, Error ellipse: s-maj=28.5km s-min=6.7km az=1.0*
*BER **29** 14:59:16.6±1.6, 59.˚14N×18.˚07E, h0km, ML1.7, Suspected explosion*

ISC 29 14:59:12.7±0.8, **59.˚02N**±0.˚03×**18.˚17E**±0.˚03, **h0**km, **n44**, σ1**s20**/67, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.70**	**20**	P	**Pg**	**14 59 26.2**	**0.0**
NRTU				S	**Sg**	**14 59 36.2**	**+1.0**
NRTU	**Norrtaelje**	**0.70**	**20**	P	**Pg**	**14 59 26.2**	**0.0**
NRTU				S	**Sg**	**14 59 36.2**	**+1.0**
UPP	**Uppsala**	**0.89**	**342**	P	**Pg**	**14 59 29.7**	**0.0**
UPP				S	**Sb**	**14 59 42.3**	**-1.0**
UPP	**Uppsala**	**0.89**	**342**	P	**Pg**	**14 59 29.7**	**0.0**
UPP				S	**Sb**	**14 59 42.3**	**-1.0**
VIKU	**Vikbolandet**	**0.92**	**237**	P	**Pg**	**14 59 30.0**	**-0.3**
VIKU				S	**Sg**	**14 59 42.2**	**-0.1**
VIKU	**Vikbolandet**	**0.92**	**237**	P	**Pg**	**14 59 30.0**	**-0.3**
VIKU				S	**Sg**	**14 59 42.2**	**-0.1**
ESKU	**Eskilstuna**	**0.94**	**284**	P	**Pg**	**14 59 30.4**	**-0.3**
ESKU				S	**Sg**	**14 59 43.4**	**+0.6**
ESKU	**Eskilstuna**	**0.94**	**284**	P	**Pg**	**14 59 30.4**	**-0.3**
ESKU				S	**Sg**	**14 59 43.4**	**+0.6**
FIBU	**Brunna**	**0.98**	**335**	P	**Pg**	**14 59 31.3**	**-0.1**
FIBU				S	**Sb**	**14 59 45.1**	**-0.9**
FIBU	**Brunna**	**0.98**	**335**	P	**Pg**	**14 59 31.3**	**-0.1**
FIBU				S	**Sb**	**14 59 45.1**	**-0.9**
BACU	**Backbrunna**	**1.00**	**328**	P	**Pg**	**14 59 31.8**	**-0.1**
BACU	**Backbrunna**	**1.00**	**328**	P	**Pg**	**14 59 31.8**	**-0.1**
FLYU	**Flymyra**	**1.12**	**353**	P	**Pg**	**14 59 34.1**	**-0.1**
FLYU	**Flymyra**	**1.12**	**353**	P	**Pg**	**14 59 34.1**	**-0.1**
OSTU	**Oestervaala**	**1.32**	**337**	P	**Pg**	**14 59 37.7**	**-0.4**
OSTU	**Oestervaala**	**1.32**	**337**	P	**Pg**	**14 59 37.7**	**-0.4**
GRAU	**Graesoe**	**1.33**	**8**	P	**Pg**	**14 59 37.9**	**-0.4**
GRAU	**Graesoe**	**1.33**	**8**	P	**Pg**	**14 59 37.9**	**-0.4**
FORU	**Forsmark**	**1.37**	**0**	P	**Pg**	**14 59 38.6**	**-0.4**
FORU	**Forsmark**	**1.37**	**0**	P	**Pg**	**14 59 38.6**	**-0.4**
AAL	**Aland**	**1.49**	**38**	P	**Pn**	**14 59 40.2**	**-0.4**
AAL	**Aland**	**1.49**	**38**	P	**Pn**	**14 59 40.2**	**-0.4**
LNKU	**Linkoeping**	**1.60**	**241**	P	**Pn**	**14 59 42.2**	**-0.1**
LNKU	**Linkoeping**	**1.60**	**241**	P	**Pn**	**14 59 42.2**	**-0.1**
VSTU	**Vaestervik**	**1.61**	**213**	P	**Pn**	**14 59 42.2**	**-0.2**
VSTU	**Vaestervik**	**1.61**	**213**	P	**Pn**	**14 59 42.2**	**-0.2**
NRAU	**Nora**	**1.70**	**290**	P	**Pb**	**14 59 44.4**	**-0.4**
NRAU	**Nora**	**1.70**	**290**	P	**Pb**	**14 59 44.4**	**-0.4**
HFS	**Hagfors** 0.8nm,0.3s,baz=112,slow=16,SNR=5.2	**2.54**	**298**	Pn	**Pn**	**14 59 56.5**	**+1.4**
HFS				Lg	Lg	15 00 29.4	
	4.1nm,0.3s,baz=109,slow=31,SNR=6.6 1.7nm,0.2s						
BLEU	**Blekinge**	**3.00**	**206**	*e*P	**Pn**	**15 00 02.1**	**+0.7**
BLEU				*e*S	**Sn**	**15 00 39.1**	**+1.1**
BORU	**Boraas**	**3.17**	**246**	*e*P	**Pn**	**15 00 06.0**	**+2.3**
BORU				*e*S	**Sn**	**15 00 43.7**	**+1.6**
DEL	**Delary**	**3.44**	**224**	*e*P	**Pn**	**15 00 07.7**	**+0.3**
DEL				*e*S	**Sn**	**15 00 48.4**	**-0.5**
TJOU	**Tjoern**	**3.57**	**257**	*e*P	**Pn**	**15 00 11.9**	**+2.6**
STRU	**Stroemstad**	**3.61**	**273**	*e*P	**Pn**	**15 00 11.0**	**+1.2**
ONAU	**Onsala**	**3.69**	**246**	*e*P	**Pn**	**15 00 13.2**	**+2.4**
ONAU				*e*S	**Sn**	**15 00 55.7**	**+0.8**
NB201	**NORSAR Array S**	**4.00**	**304**	*e*P	**Pn**	**15 00 15.8**	**+0.5**
NB201				*e*Sg	**Sg**	**15 01 18.8**	**-2.4**
NB201				IAML		15 01 22.1	
	comp=Z,4.3nm,0.2s						
NOA	**NORSAR Array B** baz=159,slow=14,SNR=6.4	**4.03**	**303**	Pn	**Pn**	**15 00 16.4**	**+0.7**
NOA				Pg	**Pb**	**15 00 24.9**	**+0.3**
	baz=133,slow=15,SNR=9.0						
NOA				Lg	Lg	15 01 17.4	
	comp=Z,0.1nm,0.3s,baz=133,slow=24,SNR=6.0 comp=Z,0.4nm,0.7s						
NC303	**NORSAR Array S**	**4.06**	**306**	*e*P	**Pn**	**15 00 16.4**	**+0.5**
NC303				*e*		15 01 05.8	
NC303				*e*Sg	**Sg**	**15 01 20.5**	**-2.5**
NC303				IAML		15 01 21.7	
	comp=Z,5.2nm,0.3s						
NAO01	**NORSAR Array S**	**4.10**	**300**	*e*P	**Pn**	**15 00 17.4**	**+0.9**
NAO01				*e*Sg	**Sg**	**15 01 21.0**	**-3.1**
NAO01				IAML		15 01 22.4	
	comp=Z,3.8nm,0.6s						
NBO00	**NORSAR Array S**	**4.22**	**302**	*e*P	**Pn**	**15 00 18.5**	**+0.2**
NBO00				*e*Sg	**Sg**	**15 01 25.0**	**-3.2**
NBO00				IAML		15 01 26.4	
	comp=Z,3.0nm,0.2s						
BSD	**Bornholm Skovb**	**4.30**	**206**	*e*P	**Pn**	**15 00 17.5**	**-1.7**
BSD				*e*S	**Sn**	**15 01 08.9**	**-1.2**
BSD				IAML		15 01 27.5	
	comp=Z,3.8nm,0.2s						
NC204	**NORSAR Array S**	**4.34**	**305**	*e*P	**Pn**	**15 00 20.5**	**+0.6**
NC204				*e*Sg	**Sb**	**15 01 26.4**	**+3.7**
FINES	**FINESS Array B** comp=Z,0.4nm,0.3s,baz=246,slow=12,SNR=16	**4.63**	**55**	Pn	**Pn**	**15 00 25.2**	**+1.4**
FINES				Pg	**Pb**	**15 00 35.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=244,slow=14,SNR=12						
FINES				Sn	**Sn**	**15 01 18.8**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=244,slow=21,SNR=14						
FINES				Lg	Lg	15 01 35.4	
	comp=Z,1.7nm,0.3s,baz=240,slow=33,SNR=12 comp=Z,0.7nm,0.3s						
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=9.1	**11.02**	**14**	Pn	**Pn**	**15 01 49.8**	**-1.5**

*BJI **29** 15:07:54.9, 43.˚68N×127.˚97W, h10km, mB6.0/57, mb5.7/79, Ms6.3/98, Ms7 6.0/95*
*MOS **29** 15:07:57.2±1.0, 43.˚54N×128.˚08W, h10km, mb6.1/86, MS6.0/55, Error ellipse: s-maj=5.8km s-min=3.7km az=96.9*
*IDC **29** 15:07:57.2±0.4, 43.˚57N×128.˚10W, h0km, mb5.4/39, mbtmp5.4/45, ML4.8/6, MS5.9/81, Error ellipse: s-maj=13.5km s-min=8.1km az=42.0*
*ISC-PP **29** 15:07:58, 43.˚54N×127.˚88W, h13km, Mwppsm6.3, Moment Tensor Solution. s48 Moment tensor: Scale 10^{18}Nm; M_{rr}0.46±.15; $M_{\theta\theta}$-0.21±.14; $M_{\phi\phi}$0.65±.12; $M_{r\theta}$0.12±.14; $M_{\theta\phi}$0.25±.09; $M_{\phi r}$-0.29±.12; Fault plane solution: M_o3.16000×10^{18} NP1:ϕ_s295.70000°, δ58.70000°, λ168.00000°. NP2:ϕ_s32.00000°, δ79.80000°, λ31.80000°.*
*NEIC **29** 15:07:58.3, 43.˚54N×127.˚88W, h8km*
*NEIC **29** 15:07:58.8, 43.˚57N×127.˚83W, h12km, Moment Tensor Solution. Duration: 7s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.36; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$2.41; $M_{r\theta}$-0.39; $M_{\theta\phi}$-2.09; $M_{\phi r}$-0.03; Fault plane solution: M_o3.10000×10^{18} NP1: ϕ_s23.16000°, δ82.87000°, λ-4.48000°. NP2:ϕ_s113.72000°, δ85.55000°, λ-172.85000°. Principal axes: T 3.2435, Plg2.0000°, Azm248.0000°; N -0.3128, Plg82.0000°, Azm145.0000°; P -2.9307, Plg8.0000°, Azm339.0000°;*
*NEIC **29** 15:07:58.8, 43.˚57N×127.˚83W, h12km*
*IPGP **29** 15:07:58.0, 43.˚57N×127.˚87W, h7km, Mw6.3, Fault plane solution: NP1:ϕ_s204.00000°, δ85.00000°, λ-5.00000°. NP2:ϕ_s294.00000°, δ85.00000°, λ-175.00000°.*
*NEIC **29** 15:07:58.6±2.4, 43.˚54N±0.˚06×127.˚88W±0.˚09, h10km±1km, mb6.2/904, Ms_20 6.1/817, Mwb6.2/70, Mww6.3/60, Error ellipse: s-maj=11.2km s-min=9.9km az=236.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.13; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$1.29; $M_{r\theta}$0.38; $M_{\theta\phi}$-1.83; $M_{\phi r}$-0.23; Fault plane solution: M_o2.25000×10^{18} NP1: ϕ_s197.11000°, δ79.03000°, λ1.75000°. NP2:ϕ_s106.77000°, δ88.28000°, λ169.03000°. Principal axes: T 2.3272, Plg9.0000°, Azm61.0000°; N -0.1628, Plg79.0000°, Azm278.0000°; P -2.1644, Plg7.0000°, Azm152.0000°;*
*PGC **29** 15:07:59.9±0.9, 43.˚57N×127.˚81W, h12km, MLSn6.1/3, Mw6.7/3, 383km west of Eugene, Oregon, Usa Off Coast Of Oregon*
*PPT **29** 15:08:00.5±0.1, 43.˚62N×127.˚98W, h10km, mb5.9/11, MLv6.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BGR **29** 15:08:01.4±0.4, 43.˚59N×127.˚99W, h

WISH Sn Sn 15 09 58.7 -7.4
NLWA Neilton Lookou 4.97 35 Pn 15 09 09.0 -3.7
NLWA Neilton Lookou 4.97 35 ⇓P Pn 15 09 09.2 -3.6
TULE Intermountain 5.07 104 Pn Pn 15 09 13.6 -0.6
SMW South Mountain 5.15 39 Pn Pn 15 09 12.7 -2.4
C03A Quillayute Air 5.17 27 Pn 15 09 12.4 -3.0
G05A Wamic 5.18 67 Pn 15 09 13.6 -2.0
PINE Pine Mountain 5.19 83 Pn 15 09 13.8 -2.1
NC89 ODP889 5.35 9 Pn Pn 15 09 16.2 -1.4
OSD Olympics--Snow 5.38 33 Pn Pn 15 09 16.6 -2.0
HDW Hoodsport 5.52 38 Pn Pn 15 09 18.7 -1.7
LON Longmire 5.56 51 Pn Pn 15 09 18.5 -2.3
GNW Green Mountain 5.57 40 Pn Pn 15 09 18.7 -2.2
GNW Sn Sn 15 10 18.9 -6.0
B04A Port Angeles 5.65 33 Pn 15 09 19.0 -3.0
STW Striped Peak 5.66 31 Pn Pn 15 09 20.3 -1.9
D05A Enumclaw 5.73 46 Pn 15 09 20.2 -2.8
D05A Enumclaw 5.73 46 Pn Pn 15 09 21.0 -2.0
FMW Mount Fremont 5.74 50 Pn Pn 15 09 20.9 -2.5
PTRF Port Renfrew 5.75 25 Pn Pn 15 09 21.2 -2.1
PTRF Sn Sn 15 10 21.6 -7.7
B012 Ucluelet 5.80 17 Pn Pn 15 09 21.9 -2.2
B928 Bamfield 5.81 20 Sn Sn 15 10 23.0 -7.8
BFSB Bamfield 5.81 20 Sn Sn 15 10 23.3 -7.6
OZB Mount Ozzard 5.85 17 Pn Pn 15 09 22.6 -2.2
OZB Sn Sn 15 10 24.5 -7.4
OZB Mount Ozzard 5.85 17 ⇑P Pn 15 09 22.4 -2.4
SYMB Survey Mountai 5.96 28 Sn Sn 15 10 28.7 -6.0
VGZ Gonzales 6.01 32 Pn Pn 15 09 24.8 -2.2
VGZ Sn Sn 15 10 29.2 -6.6
MGRB Mount Grey 6.08 21 Sn Sn 15 10 30.2 -7.4
ETB Estevan Point 6.08 9 Pn Pn 15 09 26.6 -1.3
B926 Mesachie Lake 6.08 25 Sn Sn 15 10 30.6 -6.8
SHPB Sharp Point 6.08 11 Sn Sn 15 10 30.7 -6.9
B009 North Saanich 6.16 30 Sn Sn 15 10 33.3 -6.1
B010 North Saanich 6.16 30 Sn Sn 15 10 33.2 -6.2
PGC Sidney 6.16 30 Pn Pn 15 09 26.5 -2.4
PGC Sn Sn 15 10 33.4 -6.1
B011 North Saanich 6.16 30 Sn Sn 15 10 32.4 -7.1
SVOH Skagit Valley 6.19 36 Pn Pn 15 09 28.3 -1.1
PABB Port Alberni 6.25 20 Pn Pn 15 09 29.2 -1.0
MXC Moxie City 6.37 57 Pn 15 09 30.1 -1.8
SNB Saturna Island 6.37 31 Pn Pn 15 09 30.1 -1.8
SNB Sn Sn 15 10 39.2 -5.4
GOBB Galiano Island 6.39 28 Pn Pn 15 09 30.5 -1.7
GOBB Sn Sn 15 10 40.0 -5.3
JCW Jim Creek 6.44 40 Pn Pn 15 09 31.5 -1.3
LTY Liberty 6.49 51 Pn Pn 15 09 31.7 -1.9
A04D Lummi Island 6.50 33 Pn Pn 15 09 31.3 -2.4
EDB Eliza Dome 6.51 5 Pn 15 09 33.7 -0.2
GDR Gold River 6.54 12 Pn Pn 15 09 33.8 -0.4
HAWA Hanford 6.76 61 ⇑P Pn 15 09 35.3 -2.0
BPEB Brooks Peninsu 6.77 2 Pn Pn 15 09 37.3 -0.1
WOSB Woss 6.85 8 Pn Pn 15 09 37.3 -1.2
FARB Farallon Islan 6.87 144 Pn 15 09 38.5 -0.3
WAH2 Wahluke Slope 6.89 58 Pn 15 09 36.6 -2.5
CBB Campbell River 6.90 15 Pn Pn 15 09 38.7 -0.4
CBB Sn Sn 15 10 51.1 -6.5
WVOR Wild Horse Val 6.99 95 P Pn 15 09 39.5 -1.1
WVOR pmax pmax
comp=Z,1µm,1.3s
WVOR Wild Horse Val 6.99 95 ⇑P Pn 15 09 39.2 -1.3
VDEB Vedder Mountai 7.03 34 Pn Pn 15 09 39.8 -1.2
VDEB Sn Sn 15 10 56.0 -4.9
MAYB Maynard 7.04 5 Pn Pn 15 09 40.7 -0.5
PACB Port Alice, BC 7.06 3 Pn Pn 15 09 41.1 -0.1
WPB Watts Point 7.10 26 Pn Pn 15 09 40.2 -1.7
NCSB Newcastle Ridg 7.15 10 Pn Pn 15 09 41.8 -0.8
NCSB Sn Sn 15 10 58.1 -5.8
NCRB Newcastle Ridg 7.15 10 Pn Pn 15 09 42.0 -0.6
HOLB Holberg 7.25 360 Pn Pn 15 09 44.5 +0.5
PHC Port Hardy 7.33 3 Pn Pn 15 09 44.5 -0.6
HOPB Hope 7.55 35 Pn Pn 15 09 47.1 -1.0
WSLR Whistler 7.60 26 Pn Pn 15 09 48.2 -0.7
MTOS Mt Oso, Westle 7.81 137 Pn 15 09 52.7 +1.1
B08A Colville Reser 7.86 48 Pn Pn 15 09 50.3 -2.0
BMO Blue Mountains 7.88 76 P Pn 15 09 51.0 -1.7
BMO Blue Mountains 7.88 76 ⇑P Pn 15 09 50.4 -2.4
CMB Columbia Colle 7.92 130 P Pn 15 09 57.5 +4.3
SAO San Andreas Ge 8.34 140 P Pn 15 10 01.2 +2.2
SAO San Andreas Ge 8.34 140 ⇓P Pn 15 09 59.1 +0.2
LLLB Lillooet 8.36 28 Pn Pn 15 09 58.4 -0.9
BBB Bella Bella 8.80 360 Pn Pn 15 10 04.4 -0.7
comp=Z,20nm,0.3s,baz=192,slow=13,SNR=103
BBB Sn Sn 15 11 37.4 -6.9
comp=Z,6.6nm,0.3s,baz=74,slow=20,SNR=3.6
BBB LR LR 15 12 47.3
comp=Z,117µm,18.9s,baz=180,slow=34
comp=Z,1µm,1.0s
BBB Bella Bella 8.80 360 Pn Pn 15 10 05.2 +0.1
BBB Bella Bella 8.80 360 ⇓P Pn 15 10 05.0 -0.2
NVAR Mina Array Bea 8.90 121 Pn Pn 15 10 11.4 +4.5
comp=Z,24nm,0.3s,baz=296,slow=14,SNR=298
NVAR LR LR 15 13 34.2
comp=Z,115µm,19.4s,baz=306,slow=37
NVAR P3KPbc 15 47 17.9
comp=Z,0.2nm,0.3s,baz=124,slow=2.2,SNR=4.2
comp=Z,153nm,0.7s
MFID Camas Ranch 8.91 86 Pn 15 10 05.0 -1.9
NEW Newport 9.06 54 P Pn 15 10 06.7 -2.1
NEW pmax pmax
comp=Z,2µm,1.1s
NEW Newport 9.06 54 ⇑P Pn 15 10 05.9 -2.9
JEDB Jedway, Haida 9.15 348 Pn Pn 15 10 11.9 +2.0
BAIB Barry Inlet 9.51 346 Pn Pn 15 10 16.6 +1.6
BUTB Butedale 9.68 359 Pn Pn 15 10 17.8 +0.5
ELK Elko 9.90 101 Pn Pn 15 10 23.2 +2.6
comp=Z,12nm,0.3s,baz=295,slow=14,SNR=240
ELK LR LR 15 14 05.5
comp=Z,43µm,18.4s,baz=285,slow=37
comp=Z,99nm,0.6s
ELK Elko 9.90 101 ⇑P Pn 15 10 22.4 +1.9
HLID Hailey 9.93 84 ⇑P Pn 15 10 19.8 -1.1
GRIB Gribbell Islan 9.98 356 Pn Pn 15 10 21.9 +0.6
MOBC Moresby Island 10.10 346 Pn Pn 15 10 24.2 +1.2
H02S2 DAWSON INLET T 10.24 345 T T 15 21 07.4
SNR=24
DIB Dawson Inlet, 10.24 345 Pn Pn 15 10 27.1 +2.1
BSMT Bassoo Peak 10.31 60 Pn Pn 15 10 25.2 -0.9
GRNB Grenville Isla 10.54 354 Pn Pn 15 10 30.3 +1.3
MSO Missoula 10.56 66 ⇑P Pn 15 10 27.2 -2.2
JTMT Jette 10.60 61 Pn Pn 15 10 29.4 -0.6
MBLB Minette Bay Lo 10.66 358 Pn Pn 15 10 31.9 +1.3
KITB Kitimat 10.70 358 Pn Pn 15 10 32.4 +1.3
PCLB Port Clements 10.74 346 Pn Pn 15 10 33.8 +2.0
YBMT Yellow Bay 10.81 61 Pn Pn 15 10 32.3 -0.6
WCT Wildcat Mounta 10.96 123 Pn 15 10 39.9 +5.0
MCMT McKenzie Canyo 11.04 77 Pn 15 10 34.8 -1.3
NDB Naden 11.05 345 Pn Pn 15 10 38.0 +2.1
TPNV Topopah Spring 11.09 121 ⇓P Pn 15 10 42.2 +5.4
OVMT Ovando 11.24 66 Pn Pn 15 10 38.1 -0.8
DLMT Dillon 11.25 75 Pn 15 10 37.4 -1.5
QSM Queen of Sheba 11.37 127 Pn 15 10 44.3 +3.8
PRN Pahroc Range 11.58 117 ⇑P Pn 15 10 47.3 +3.8
HSPGA Hill Springs, 11.60 54 Pn Pn 15 10 42.9 -0.8
LYMT Lyon Mountain 11.70 67 Pn Pn 15 10 43.7 -1.4
DUG Dugway, Tooele 11.83 100 P Pn 15 10 48.6 +1.7
DUG pmax pmax
comp=Z,515nm,1.2s
DUG Dugway, Tooele 11.83 100 ⇑P Pn 15 10 48.5 +1.7
BOZ Bozeman (W) 11.95 74 Pn 15 10 46.4 -2.0
BOZ Bozeman (W) 11.95 74 P Pn 15 10 46.8 -1.7
BOZ Bozeman (W) 11.95 74 ⇑P Pn 15 10 47.3 -1.2
V35K Ketchikan 12.16 350 Pn Pn 15 10 53.4 +2.2
V35K Ketchikan 12.16 350 P Pn 15 10 53.7 +2.5
baz=167
V35K S Sn 15 13 03.6 -3.2
baz=167
HWUT Hardware Ranch 12.31 93 ⇑P Pn 15 10 54.5 +1.0
AHID Auburn Hatcher 12.43 87 ⇑P Pn 15 10 56.5 +1.4
CRAG Craig 12.52 347 P Pn 15 10 57.7 +1.6
CRAG Craig 12.52 347 ⇓P Pn 15 10 56.6 +0.5
CRAG Craig 12.52 347 P Pn 15 10 57.9 +1.8
baz=162,SNR=250
CRAG S Sn 15 13 13.5 -2.0
baz=162
U35K Hyder 12.60 355 P Pn 15 10 59.6 +2.5
baz=173
U35K S Sn 15 13 20.1 +2.7
baz=173
MKRVA Milk River, Al 12.65 57 Pn Pn 15 10 56.9 -1.0

LOHW Long Hollow 12.69 83 Pn 15 10 58.4 -0.3
LKWY Lake 12.78 79 ⇑P Pn 15 11 01.8 +1.8
BRLDA Berland Lookou 12.79 29 Pn Pn 15 11 02.2 +2.2
BDMTA Bald Mountain 12.89 24 Pn Pn 15 11 03.2 +1.9
U33K Whale Pass 13.14 347 Pn Pn 15 11 06.5 +2.0
U33K Whale Pass 13.14 347 P Pn 15 11 06.3 +1.8
baz=163
U33K S Sn 15 13 30.7 +0.1
baz=163
BELC Belle Mtn. Jos 13.28 131 Pn 15 11 10.1 +3.4
WRAK Wrangell Islan 13.32 350 Pn Pn 15 11 09.2 +2.2
WRAK Wrangell Islan 13.32 350 ⇓P Pn 15 11 07.9 +0.9
WRAK Wrangell Islan 13.32 350 P Pn 15 11 08.9 +1.9
baz=166,SNR=205
WRAK S Sn 15 13 35.7 +0.6
baz=166
PFO Pinyon Flats O 13.33 133 Pn Pn 15 11 10.6 +3.3
comp=Z,0.8nm,0.3s,baz=318,slow=12,SNR=73
PFO LR LR 15 16 07.1
comp=Z,114µm,19.3s,baz=312,slow=36
comp=Z,61nm,0.9s
PFO Pinyon Flats O 13.33 133 *d* iP Pn 15 11 11.5 +4.1
PDAR Pinedale Array 13.55 86 Pn Pn 15 11 11.7 +1.2
comp=Z,2.1nm,0.3s,baz=276,slow=10,SNR=278
PDAR LR LR 15 16 38.2
comp=Z,114µm,18.4s,baz=269,slow=38
PDAR P3KPbc 15 47 03.5
comp=Z,0.3nm,0.6s,baz=149,slow=4.6,SNR=1.6
WTMTA White Mountain 13.56 22 Pn Pn 15 11 11.6 +1.1
CPE Camp Elliot 13.57 137 Pn 15 11 11.5 +1.1
RLMT Red Lodge 13.59 76 ⇑P Pn 15 11 10.9 -0.1
EGMT Eagleton 13.60 64 ⇑P Pn 15 11 08.1 -2.9
T35M Bob Quinn 13.67 355 Pn Pn 15 11 14.3 +2.5
T35M Bob Quinn 13.67 355 P Pn 15 11 14.6 +2.8
baz=173
T35M S Sn 15 13 44.6 +0.9
baz=173
T33K Petersburg 13.79 349 P Pn 15 11 15.1 +1.7
baz=164
T33K S Sn 15 13 49.4 +2.9
baz=164
BAR Barrett 13.95 136 Pn 15 11 17.2 +1.5
SIT Sitka 14.43 344 P Pn 15 11 22.4 +0.3
SIT Sitka 14.43 344 P Pn 15 11 21.7 -0.4
SIT Sitka 14.43 344 P Pn 15 11 22.1 0.0
baz=158,SNR=90
SIT S Sn 15 14 04.8 +2.7
baz=158
NBC5 NorthernBC 5 14.55 12 Pn Pn 15 11 24.6 +0.7
STPRA Salt Prairie L 14.59 28 Pn Pn 15 11 23.3 -1.1
CCX Cicese 14.61 138 P Pn 15 11 28.0 +3.2
S34M Telegraph Cree 14.66 354 Pn Pn 15 11 27.5 +2.1
S34M Telegraph Cree 14.66 354 P Pn 15 11 28.1 +2.8
baz=171
S34M S Sn 15 14 11.8 +4.1
baz=171
Y14A Wickenburg 15.07 124 P 15 11 35.0 -1.3
WUAZ Wupatki 15.09 116 ⇑P P 15 11 34.7 -2.0
DLBC Dease Lake 15.11 356 Pn Pn 15 11 32.8 +1.4
comp=Z,1.9nm,0.3s,baz=157,slow=13,SNR=300
DLBC LR LR 15 16 29.3
comp=Z,62µm,19.7s,baz=157,slow=34
DLBC Dease Lake 15.11 356 P Pn 15 11 33.3 +1.9
baz=174,SNR=247
DLBC S Sn 15 14 22.5 +3.7
baz=174
PV23 Carpenter Ridg 15.22 102 IAmb IAmb 15 11 39.0
comp=Z,956nm,1.3s
PV14 Lion Creek, Pa 15.25 103 P Pn 15 11 34.2 +0.7
PV22 Blue Mesa, Par 15.35 102 Pn 15 11 35.4 +0.6
PV18 Skein Mesa, Pa 15.38 103 IAmb IAmb 15 11 39.2
comp=Z,2µm,2.0s
PV11 David Mesa, Pa 15.38 103 P Pn 15 11 36.3 +1.0
JIS Juneau Island 15.41 347 P Pn 15 11 35.9 +0.6
VTX Valle De La Tr 15.43 137 IAmb IAmb 15 11 43.0
comp=Z,3µm,1.9s
R32K Eaglecrest 15.43 347 Pn 15 11 35.4 -0.3
R32K Eaglecrest 15.43 347 Pn Pn 15 11 36.7 +1.1
R32K Eaglecrest 15.43 347 P Pn 15 11 36.4 +0.8
baz=162
R32K S Sn 15 14 32.3 +5.8
baz=162
S31K Pelican 15.46 344 Pn Pn 15 11 35.6 -0.3
S31K Pelican 15.46 344 P Pn 15 11 35.5 -0.4
baz=156
S31K S Sn 15 14 33.7 +6.7
baz=156
PV02 Paradox Valley 15.52 103 P Pn 15 11 37.8 +0.7
PV02 IAmb IAmb 15 11 41.0
comp=Z,2µm,1.8s
TOAD Toad River Com 15.58 5 P Pn 15 11 37.9 +0.4
baz=187,SNR=40
TOAD S Sn 15 14 32.5 +2.5
baz=187
X16A Lo Mia Camp, P 15.72 119 P 15 11 43.7 -0.1
NBC6 NorthernBC 6 15.78 13 Pn Pn 15 11 39.8 -0.2
BESE Bens Mountai 15.78 347 Pn Pn 15 11 41.0 +0.8
LAO LASA Array 15.78 70 Pn 15 11 38.0 -2.3
LAO LASA Array 15.78 70 ⇑P Pn 15 11 38.6 -1.7
R31K City Hall, Gus 15.78 345 P Pn 15 11 40.4 +0.3
baz=158
R31K S Sn 15 14 40.8 +6.0
baz=158
FNSB Fort Nelson 15.78 10 Pn Pn 15 11 40.2 0.0
Q32M Nakina River 15.80 352 IAmb IAmb 15 11 43.4
comp=Z,1µm,1.6s
Q32M Nakina River 15.80 352 Pn Pn 15 11 42.0 +1.4
Q32M Nakina River 15.80 352 P Pn 15 11 42.3 +1.6
baz=168
Q32M S Sn 15 14 41.9 +6.1
baz=168
LIRD Liard River Hi 16.09 4 Pn Pn 15 11 44.7 +0.7
LIRD Liard River Hi 16.09 4 P Pn 15 11 44.3 +0.3
baz=185,SNR=104
LIRD S Sn 15 14 44.7 +2.4
baz=185
R33M Jennings River 16.12 355 Pn P 15 11 46.5 -1.5
R33M Jennings River 16.12 355 P P 15 11 46.8 -1.2
baz=172
R33M S S 15 14 53.8 -3.2
baz=172
SFX San Felipe 16.19 135 P 15 11 48.5 -0.3
SFX IAmb IAmb 15 11 52.1
comp=Z,3µm,2.0s
W18A Petrified Fore 16.41 114 IAmb IAmb 15 11 54.5
comp=Z,3µm,2.0s
NBC1 NorthernBC 1 16.49 8 Pn Pn 15 11 49.2 -0.1
P32M Atlin 16.59 350 IAmb IAmb 15 11 56.0
comp=Z,5µm,1.8s
P32M Atlin 16.59 350 Pn Pn 15 11 51.5 +1.0
P32M Atlin 16.59 350 P P 15 11 51.9 -1.1
baz=165
P32M S S 15 15 02.8 -3.4
baz=165
SKAG Skagway 16.70 347 Pn 15 11 51.9 +0.1
SKAG IAmb IAmb 15 11 57.2
comp=Z,5µm,2.0s
SKAG Skagway 16.70 347 P Pn 15 11 52.3 +0.5
SKAG Skagway 16.70 347 ⇑P Pn 15 11 52.0 +0.1
SKAG Skagway 16.70 347 P Pn 15 11 52.8 +1.0
baz=161,SNR=274
SKAG S S 15 15 07.6 -0.7
baz=161
WTLY Watson Lake, Y 16.75 359 IAmb IAmb 15 11 58.2
comp=Z,2µm,1.6s
WTLY Watson Lake, Y 16.75 359 P P 15 11 54.2 -0.6
baz=178,SNR=169
WTLY S S 15 15 05.1 -4.5
baz=178
PLBC Pleasant Camp 16.87 345 Pn Pn 15 11 54.2 +0.2
PLBC Pleasant Camp 16.87 345 P Pn 15 11 54.3 +0.2
baz=158,SNR=258
PLBC S S 15 15 11.9 0.0
baz=158
KOTAN Kotaneelee Air 16.94 7 P Pn 15 11 54.7 -0.2
baz=190,SNR=111
KOTAN S Sn 15 15 05.2 +2.1
baz=190
P33M Teslin, Yukon 17.09 352 P P 15 11 57.9 -0.7
baz=168
P33M S S 15 15 16.0 -0.6
baz=168
ISCO Idaho Springs 17.17 94 P Pn 15 11 58.0 -0.2
ISCO pmax pmax
comp=Z,1µm,1.3s
ISCO Idaho Springs 17.17 94 ⇑P Pn 15 11 56.6 -1.6

P29M Windy Craggy 17.30 343 IAmb IAmb 15 12 06.3
comp=Z,4µm,1.9s
P29M Windy Craggy 17.30 343 P Pn 15 11 59.8 +0.2
baz=155
P29M S S 15 15 21.9 +1.1
baz=155
DGMT Dagmar 17.34 65 P Pn 15 11 58.2 -1.8
DGMT Dagmar 17.34 65 ⇑P Pn 15 11 58.4 -1.6
RSSD Black Hills 17.37 79 Pn 15 11 57.9 -2.7
RSSD Black Hills 17.37 79 P Pn 15 11 57.9 -2.7
RSSD pmax pmax
comp=Z,1µm,1.4s
RSSD Black Hills 17.37 79 ⇑P Pn 15 11 58.1 -2.5
TUC Tucson 17.54 123 P P 15 12 07.4 +3.7
TUC pmax pmax
comp=Z,285nm,1.7s
TUC Tucson 17.54 123 ⇓P P 15 12 06.6 +2.9
P30M Million Dollar 17.60 345 P P 15 12 03.7 -0.6
baz=158
P30M S S 15 15 29.8 +2.8
baz=158
YKU2 Yakutat 17.64 340 P P 15 12 04.9 +0.3
PNL Peninsula 17.71 341 P Pn 15 12 04.3 -0.3
PNL Peninsula 17.71 341 P Pn 15 12 04.5 -0.1
baz=151,SNR=430
PNL S S 15 15 28.1 -1.0
baz=151
WHY Whitehorse 17.77 349 Pn P 15 12 06.0 -0.2
WHY Whitehorse 17.77 349 P P 15 12 06.1 -0.1
baz=163,SNR=169
WHY S S 15 15 32.1 +1.5
baz=163
Q24A Divide 17.80 97 IAmb IAmb 15 12 09.0
comp=Z,3µm,1.6s
BCPM Bancas Point 18.02 341 P Pn 15 12 07.3 -1.0
SDCO Great Sand Dun 18.03 101 IAmb IAmb 15 12 12.9
comp=Z,2µm,1.2s
SDCO Great Sand Dun 18.03 101 ⇑P P 15 12 10.0 +0.6
N32M Quiet Lake 18.04 352 P P 15 12 09.6 +0.5
baz=168
N32M S S 15 15 37.6 +1.8
baz=168
O30N Mendenhall 18.06 347 IAmb IAmb 15 12 13.4
comp=Z,2µm,1.8s
O30N Mendenhall 18.06 347 P P 15 12 09.9 +0.6
baz=160
O30N S S 15 15 41.0 +4.7
baz=160
O29M Mount Kennedy 18.09 343 P P 15 12 09.5 -0.2
baz=154
O29M S S 15 15 39.6 +2.5
baz=154
TGTN Hyland Airport 18.16 360 P P 15 12 11.3 +0.9
baz=179,SNR=472
TGTN S S 15 15 37.9 -0.4
baz=179
YUK7 Dusty Glacier 18.21 344 Pn Pn 15 12 10.9 0.0
PINM Pinnacle 18.29 340 P P 15 12 11.8 -0.1
baz=150,SNR=281
PINM S S 15 15 44.3 +3.3
baz=150
PCA Pinnacle 18.30 340 IAmb IAmb 15 12 13.7
comp=Z,2µm,1.4s
HYT Haines Junctio 18.36 345 Pn P 15 12 12.9 +0.2
HYT Haines Junctio 18.36 345 P P 15 12 13.1 +0.4
baz=157,SNR=300
HYT S S 15 15 47.0 +4.6
baz=157
YUK6 Outpost Mounta 18.63 344 Pn Pn 15 12 16.2 +0.1
YUK6 Outpost Mounta 18.63 344 P Pn 15 12 16.4 +0.3
baz=155,SNR=478
YUK6 S S 15 15 54.4 +6.3
baz=155
N31M Braeburn, Yuko 18.70 348 IAmb IAmb 15 12 20.6
comp=Z,2µm,1.6s
N31M Braeburn, Yuko 18.70 348 P Pn 15 12 17.5 +0.8
baz=162
N31M S S 15 15 54.4 +5.4
baz=162
YUK5 Granite Creek 18.71 345 Pn Pn 15 12 17.5 +0.6
ANMO Albuquerque 18.72 110 Pn 15 12 19.0 +1.7
ANMO Albuquerque 18.72 110 P Pn 15 12 20.0 +2.6
comp=Z,2.1nm,0.3s,baz=37,slow=12,SNR=183
ANMO LR LR 15 19 00.5
comp=Z,53µm,18.2s,baz=28,slow=35
comp=Z,73nm,0.9s
ANMO Albuquerque 18.72 110 *c iP* Pn 15 12 19.9 +2.6
ANMO pmax pmax
comp=Z,959nm,2.3s
ANMO MLR MLR
comp=Z,47µm,16.0s
ANMO Albuquerque 18.72 110 ⇑P Pn 15 12 19.9 +2.6
SBM South Baldy 18.78 113 P Pn 15 12 21.2 +3.0
MESA MESA 18.80 338 P Pn 15 12 18.8 +0.7
baz=147,SNR=199
MESA S S 15 15 58.6 +7.0
baz=147
TABL Table Mountain 18.82 340 IAmb IAmb 15 12 24.6
comp=Z,3µm,1.5s
O28M Mount Upton 18.87 341 P Pn 15 12 19.2 +0.2
baz=151
O28M S S 15 15 57.6 +4.5
baz=151
N30M Aishikik Lake 18.88 347 P Pn 15 12 19.2 +0.4
baz=159
N30M S S 15 15 59.5 +6.7
baz=159
Y22D IRIS PASSCAL I 18.90 112 P Pn 15 12 24.0 +4.6
baz=306
Y22D S S 15 15 59.5 +5.8
baz=306
SNH Sunshine Point 19.05 337 IAmb IAmb 15 12 27.9
comp=Z,4µm,1.9s
YUK4 Talbot Arm 19.06 344 Pn Pn 15 12 21.6 +0.4
YUK4 Talbot Arm 19.06 344 P Pn 15 12 21.8 +0.7
baz=156,SNR=274
YUK4 S S 15 16 05.3 +8.6
baz=156
319A Douglas 19.10 123 IAmb IAmb 15 12 30.6
comp=Z,2µm,1.6s
LOGN Logan Glacier 19.11 340 P P 15 12 20.7 -0.3
LOGN IAmb IAmb 15 12 24.0
comp=Z,2µm,1.6s
BGLC Bering Glacier 19.13 336 P Pn 15 12 22.6 +0.7
baz=144,SNR=15
BGLC S S 15 16 04.3 +6.6
baz=144
BRWY Burwash Landin 19.16 344 Pn Pn 15 12 22.1 -0.1
M31M Drury Creek, Y 19.21 351 P P 15 12 22.2 +0.3
M31M IAmb IAmb 15 12 26.8
comp=Z,2µm,1.6s
M31M Drury Creek, Y 19.21 351 P Pn 15 12 22.7 -0.1
baz=165
M31M S S 15 16 03.9 +4.6
baz=165
YUK8 Steele Glacier 19.23 343 Pn Pn 15 12 23.2 -0.2
YUK8 Steele Glacier 19.23 343 P Pn 15 12 23.3 0.0
baz=153,SNR=226
YUK8 S S 15 16 08.0 +7.7
baz=153
ISLE Juniper Island 19.27 338 IAmb IAmb 15 12 27.1
comp=Z,2µm,1.4s
CTG Chitna Glacier 19.32 340 P Pn 15 12 24.5 +0.2
baz=149,SNR=327
CTG S S 15 16 08.3 +6.5
baz=149
KAIM Kayak Island 19.32 335 Pn 15 12 23.8 -0.3
KAIM Kayak Island 19.32 335 P Pn 15 12 24.7 +0.6
baz=141,SNR=88
KAIM S S 15 16 09.8 +8.3
baz=141
MMPY Sheldon Lake, 19.35 356 IAmb IAmb 15 12 28.0
comp=Z,2µm,1.5s
MMPY Sheldon Lake, 19.35 356 Pn Pn 15 12 24.3 -0.2
MMPY Sheldon Lake, 19.35 356 P Pn 15 12 24.5 0.0
baz=172,SNR=803
MMPY S S 15 16 06.1 +3.8
baz=172
OGNE Ogallala 19.43 88 IAmb IAmb 15 12 27.8
comp=Z,2µm,1.2s
OGNE Ogallala 19.43 88 ⇑P P 15 12 24.2 -0.3
BARN Barnard Glacie 19.48 340 IAmb IAmb 15 12 29.8
comp=Z,1µm,1.1s
Q23K Middleton Isla 19.58 331 P 15 12 26.4 +0.5
Q23K IAmb IAmb 15 12 30.8
comp=Z,4µm,1.8s
Q23K Middleton Isla 19.58 331 P Pn 15 12 27.2 0.0

baz=136
Q23K S **Sn** **15 16 13.5 +6.7**
baz=136
Q23K S **Sn** **15 16 13.5 +6.7**
baz=136
E28A Huff **19.59 71** P **P** **15 12 26.2 0.0**
HMT Hamilton **19.60 336** IAmb IAmb 15 12 36.3
comp=Z,2µm,1.5s
CRQE Cirque **19.60 338** P **Pn** **15 12 27.2 -0.3**
baz=145,SNR=297
CRQE S **Sn** **15 16 15.5 +8.1**
baz=145
RAGM Ragged Mountai **19.76 335** IAmb IAmb 15 12 32.3
comp=Z,2µm,1.5s
YUK3 Moose Creek **19.82 342** Pn **P** **15 12 29.2 +0.4**
YUK3 Moose Creek **19.82 342** P **P** **15 12 29.4 +0.6**
baz=152,SNR=370
YUK3 S **Sn** **15 16 17.2 +4.1**
baz=152
HSIG **19.86 131** **Pn** **15 12 31.6 +0.8**
HSIG **19.86 131** ⇓P **Pn** **15 12 32.9 +2.1**
M30M Minto, Yukon **19.89 348** IAmb IAmb 15 12 33.8
comp=Z,2µm,1.6s
M30M Minto, Yukon **19.89 348** P **Pn** **15 12 30.0 -0.9**
baz=161
M30M S **Sn** **15 16 19.3 +5.0**
baz=161
YUK2 White River **19.92 342** Pn **P** **15 12 30.1 +0.3**
M29M Somme Creek **20.04 346** P **P** **15 12 31.7 +0.8**
baz=157
M29M S Sn 15 16 21.9 +4.0
baz=157
WRGLY Wrigley **20.05 6** P **P** **15 12 29.9 -1.1**
WRGLY Wrigley **20.05 6** P **P** **15 12 30.7 -0.2**
baz=190,SNR=188
WRGLY S **S** **15 16 14.8 -1.3**
baz=190
VRDI Verde Repeater **20.09 338** **P** **15 12 31.8 +0.1**
VRDI IAmb IAmb 15 12 35.8
comp=Z,1µm,1.6s
MCARA McCarthy VSAT **20.11 339** IAmb IAmb 15 12 41.0
comp=Z,3µm,1.4s
MCARA McCarthy VSAT **20.11 339** P Pn 15 12 32.7 -0.8
baz=146,SNR=333
MCARA S Sn 15 16 23.8 +4.3
baz=146
BMRM Bremner River **20.20 336** IAmb IAmb 15 12 40.0
comp=Z,2µm,1.5s
BMRM Bremner River **20.20 336** P Pn 15 12 33.7 -1.0
baz=143,SNR=267
BMRM S Sn 15 16 25.6 +3.7
baz=143
EYAK Cordova Ski Ar **20.22 334** P **P** **15 12 33.6 +0.7**
EYAK IAmb IAmb 15 12 37.7
comp=Z,1µm,1.4s
EYAK IAMs_20 IAMs_20 15 18 31.6
comp=Z,77µm,18.0s
EYAK Cordova Ski Ar **20.22 334** P **P** **15 12 33.7 +0.8**
EYAK Cordova Ski Ar **20.22 334** P **P** **15 12 33.6 +0.8**
baz=140,SNR=151
EYAK S Sn 15 16 26.6 +4.3
baz=140
MDND Maddock **20.34 67** IAmb IAmb 15 12 39.3
comp=Z,1µm,1.2s
MDND IAMs_20 IAMs_20 15 20 10.3
comp=Z,110µm,20.0s
HIN Hinchinbrook I **20.35 333** P **P** **15 12 34.8 +0.4**
HIN IAMs_20 IAMs_20 15 18 06.6
comp=Z,96µm,22.0s
GLB Gilahina Butte **20.36 338** **P** **15 12 34.7 +0.2**
GLB IAmb IAmb 15 12 39.0
comp=Z,1µm,1.4s
FFC Flin Flon **20.38 47** **P** **15 12 33.5 -1.2**
FFC Flin Flon **20.38 47** IAMs_20 IAMs_20 15 20 14.7
comp=Z,84µm,19.0s
FFC Flin Flon **20.38 47** P **P** **15 12 33.5 -1.2**
FFC pmax pmax
comp=Z,8µm,1.3s
FFC MLR MLR
comp=Z,84µm,19.0s
FFC Flin Flon **20.38 47** ⇑P **P** **15 12 34.6 -0.1**
BVCY Beaver Creek **20.48 343** P **P** **15 12 36.6 +0.9**
baz=152,SNR=41
BVCY S Sn 15 16 29.8 +1.2
baz=152
SRIG Santa Rosalia **20.53 136** IAmb IAmb 15 12 47.0
comp=Z,938nm,1.3s
SRIG Santa Rosalia **20.53 136** ⇓P Pn 15 12 40.0 +1.3
RTBA Rita Blanca **20.59 101** IAmb IAmb 15 12 45.1
comp=Z,1µm,1.4s
EPT El Paso **20.59 117** IAMs_20 IAMs_20 15 21 05.0
comp=Z,78µm,19.0s
L29M L29M **20.60 347** IAMs_20 IAMs_20 15 19 08.8
comp=Z,82µm,20.0s
L29M L29M **20.60 347** P Pn 15 12 38.3 -1.0
baz=158
L29M S Sn 15 16 30.9 -0.4
baz=158
FID Port Fidalgo **20.61 334** IAmb IAmb 15 12 42.4
comp=Z,2µm,1.4s
M27K Edge Creek, AK **20.66 342** IAMs_20 IAMs_20 15 18 55.6
comp=Z,70µm,19.0s
M27K Edge Creek, AK **20.66 342** P Pn 15 12 39.0 -1.1
baz=150
M27K S Sn 15 16 30.8 -2.2
baz=150
YKA Yellowknife Ar **20.70 18** P **P** **15 12 36.7 -1.3**
YKA Yellowknife Ar **20.70 18** P **P** **15 12 36.9 -1.2**
comp=Z,48nm,0.7s,baz=211,slow=11,SNR=49
YKA PcP **PcP** **15 16 47.9 +0.5**
comp=Z,17nm,1.1s,baz=206,slow=2.7,SNR=3.6
YKA LR LR 15 20 39.7
comp=Z,36µm,18.2s,baz=207,slow=37
comp=Z,48nm,0.7s
YKAW1 Yellowknife Wh **20.72 18** **P** **15 12 37.1 -1.1**
YKAW1 IAmb IAmb 15 12 50.5
comp=Z,635nm,1.0s
YKAW1 Yellowknife Wh **20.72 18** Pn **P** **15 12 37.7 -0.5**
N25K Chitina, Valde **20.72 337** IAmb IAmb 15 12 43.8
comp=Z,3µm,1.8s
N25K Chitina, Valde **20.72 337** P Pn 15 12 39.9 -0.9
baz=144
N25K S **S** **15 16 31.6 +2.0**
baz=144
MAYO Mayo, Yukon **20.74 350** IAmb IAmb 15 12 52.7
comp=Z,1µm,1.3s
MAYO IAMs_20 IAMs_20 15 19 36.2
comp=Z,77µm,18.0s
MAYO Mayo, Yukon **20.74 350** P **P** **15 12 39.2 +0.7**
baz=163,SNR=23
MAYO S Sn 15 16 35.8 +1.1
baz=163
YKAW3 Yellowknife Wh **20.76 18** **P** **15 12 37.5 -1.2**
YKAW3 IAmb IAmb 15 12 50.9
comp=Z,603nm,0.9s
YKAW3 Yellowknife Wh **20.76 18** Pn **P** **15 12 38.5 -0.2**
K30B Basset **20.78 82** IAmb IAmb 15 12 45.2
comp=Z,1µm,1.0s
GLI Glacier Island **20.91 333** IAmb IAmb 15 12 45.5
comp=Z,2µm,1.5s
GLI Glacier Island **20.91 333** P **P** **15 12 41.1 +0.8**
baz=138,SNR=171
GLI S Sn 15 16 38.6 -0.1
baz=138
SUSD Miller **20.95 77** P **P** **15 12 40.8 -0.2**
SUSD IAMs_20 IAMs_20 15 20 52.0
comp=Z,66µm,19.0s
M26K Nabesna, AK **20.96 340** IAmb IAmb 15 12 46.4
comp=Z,2µm,1.6s
M26K IAMs_20 IAMs_20 15 19 02.7
comp=Z,56µm,18.0s
M26K Nabesna, AK **20.96 340** P **P** **15 12 41.8 +0.9**
baz=148
M26K S Sn 15 16 40.0 -0.1
baz=148
KLU Klutina **21.01 336** IAmb IAmb 15 12 47.2
comp=Z,2µm,1.4s
KLU Klutina **21.01 336** P **P** **15 12 42.8 +1.3**
baz=141,SNR=454
KLU S Sn 15 16 38.5 -2.9
baz=141
KDAK Kodiak Island **21.04 322** **P** **15 12 42.3 +0.6**
KDAK IAmb IAmb 15 12 44.5
comp=Z,1µm,1.2s
KDAK Kodiak Island **21.04 322** IAMs_20 IAMs_20 15 18 32.0
comp=Z,55µm,19.0s
KDAK Kodiak Island **21.04 322** P **P** **15 12 42.2 +0.4**
comp=Z,650nm,1.1s,baz=123,slow=7.5,SNR=238
KDAK LR LR 15 18 43.5
comp=Z,69µm,21.4s,baz=117,slow=31
comp=Z,650nm,1.1s
KDAK Kodiak Island **21.04 322***d i* P **P** **15 12 42.7 +1.0**
KDAK pmax pmax
comp=Z,2µm,1.2s
KDAK Kodiak Island **21.04 322** ⇓P **P** **15 12 42.7 +1.0**
KDAK Kodiak Island **21.04 322** P **P** **15 12 42.9 +1.2**
baz=122
KDAK S Sn 15 16 40.6 -1.2
baz=122
OHAK Old Harbor **21.07 320** **P** **15 12 42.2 +0.1**
OHAK IAmb IAmb 15 12 49.9
comp=Z,2µm,1.6s
OHAK Old Harbor **21.07 320** P **P** **15 12 41.2 -0.9**
OHAK Old Harbor **21.07 320** P **P** **15 12 43.0 +1.0**
baz=120,SNR=218
OHAK S Sn 15 16 41.0 -1.6
baz=120
SEW Seward **21.17 330** IAMs_20 IAMs_20 15 18 37.7
comp=Z,64µm,19.0s
SEW Seward **21.17 330** P **P** **15 12 44.5 +1.3**
baz=132,SNR=383
SEW S Sn 15 16 42.5 -2.6
baz=132
SII Sitkinak Islan **21.18 318** **P** **15 12 43.9 +0.5**
SII IAmb IAmb 15 12 48.6
comp=Z,1µm,1.0s
SII Sitkinak Islan **21.18 318** P **P** **15 12 43.6 +0.3**
SII Sitkinak Islan **21.18 318** P **P** **15 12 44.4 +1.1**
baz=117,SNR=67
SII S Sn 15 16 43.0 -2.4
baz=117
K29M Barlow Dome **21.20 348** IAmb IAmb 15 12 53.4
comp=Z,2µm,1.6s
K29M IAMs_20 IAMs_20 15 19 39.1
comp=Z,70µm,19.0s
K29M Barlow Dome **21.20 348** P **P** **15 12 44.5 +1.0**
baz=160
K29M S **S** **15 16 42.3 +3.2**
baz=160
BCAR Beaver Creek A **21.26 343** **P** **15 12 44.6 +0.4**
L27K Beaver Creek, **21.26 343** IAMs_20 IAMs_20 15 19 15.5
comp=Z,69µm,20.0s
L27K Beaver Creek, **21.26 343** P **P** **15 12 45.2 +1.0**
baz=151
L27K S Sn 15 16 46.9 -0.4
baz=151
PWL Port Wells **21.30 332** IAmb IAmb 15 12 57.1
comp=Z,1µm,1.4s
PWL IAMs_20 IAMs_20 15 18 44.9
comp=Z,56µm,19.0s
PWL Port Wells **21.30 332** P **P** **15 12 45.5 +0.9**
baz=136,SNR=340
PWL S **S** **15 16 43.7 +2.6**
baz=136
MNTX Cornudas Mount **21.37 116** ⇓P **P** **15 12 48.9 +3.3**
Q20K Shuyak Island **21.41 324** P **P** **15 12 47.4 +1.6**
baz=124
Q20K S Sn 15 16 48.3 -2.5
baz=124
CNPM China Poot **21.48 327** IAmb IAmb 15 12 49.2
comp=Z,2µm,1.3s
CNPM IAMs_20 IAMs_20 15 18 49.1
comp=Z,83µm,22.0s
BRLK Bradley Lake **21.49 328** IAmb IAmb 15 12 49.2
comp=Z,2µm,1.0s
BRLK IAMs_20 IAMs_20 15 18 49.3
comp=Z,78µm,21.0s
HARP HAARP **21.52 338** P **P** **15 12 48.8 +1.9**
baz=144
HARP S **S** **15 16 46.0 +0.8**
baz=144
O22K Cooper Landing **21.53 330** IAmb IAmb 15 12 54.4
comp=Z,1µm,0.9s
O22K IAMs_20 IAMs_20 15 18 50.7
comp=Z,65µm,19.0s
O22K Cooper Landing **21.53 330** P **P** **15 12 48.3 +1.3**
baz=132
O22K S **S** **15 16 48.4 +3.0**
baz=132
M24K Tolsona, Glenn **21.57 337** IAmb IAmb 15 13 05.5
comp=Z,1µm,1.3s
M24K IAMs_20 IAMs_20 15 19 04.5
comp=Z,62µm,22.0s
M24K Tolsona, Glenn **21.57 337** P **P** **15 12 49.3 +1.8**
baz=142
M24K S Sn 15 16 56.4 +1.7
baz=142
CPRX Cap Rock **21.58 111** **P** **15 12 49.5 +1.6**
L26K Log Cabin Wild **21.58 341** IAMs_20 IAMs_20 15 19 24.0
comp=Z,66µm,19.0s
L26K Log Cabin Wild **21.58 341** P **P** **15 12 48.9 +1.3**
baz=148
L26K S **S** **15 16 50.5 +4.1**
baz=148
CHIR Chirikof Islan **21.59 315** IAmb IAmb 15 12 55.4
comp=Z,2µm,1.7s
CHIR Chirikof Islan **21.59 315** P **P** **15 12 47.0 -0.7**
CHIR Chirikof Islan **21.59 315** P **P** **15 12 48.5 +0.9**
baz=113,SNR=13
CHIR S Sn 15 16 53.5 -1.6
baz=113
MENT Mentasta **21.59 340** IAmb IAmb 15 12 53.1
comp=Z,886nm,1.2s
MENT IAMs_20 IAMs_20 15 19 23.8
comp=Z,59µm,19.0s
MENT Mentasta **21.59 340** P **P** **15 12 48.7 +1.0**
DAWY Dawson **21.70 346** IAmb IAmb 15 12 53.6
comp=Z,2µm,1.4s
DAWY Dawson **21.70 346** Pn **P** **15 12 49.5 +0.6**
DAWY Dawson **21.70 346** P **P** **15 12 49.7 +0.8**
baz=157,SNR=380
DAWY S **S** **15 16 52.4 +3.6**
baz=157
SCM Sheep Creek Mo **21.70 335** IAmb IAmb 15 12 54.0
comp=Z,2µm,1.5s
SCM Sheep Creek Mo **21.70 335** P **P** **15 12 50.1 +1.2**
baz=139,SNR=378
SCM S **S** **15 16 50.9 +2.0**
baz=139
HOM Homer **21.72 327** IAMs_20 IAMs_20 15 19 06.6
comp=Z,63µm,20.0s
HOM Homer **21.72 327** P **P** **15 12 50.8 +1.7**
baz=128,SNR=92
HOM S **S** **15 16 53.4 +4.1**
baz=128
SLKM Skilak Lake **21.73 330** IAmb IAmb 15 12 51.8
comp=Z,1µm,1.1s
SLKM IAMs_20 IAMs_20 15 18 57.4
comp=Z,59µm,19.0s
J30M Hart River **21.73 350** IAmb IAmb 15 12 54.4
comp=Z,1µm,1.2s
J30M IAMs_20 IAMs_20 15 20 18.2
comp=Z,73µm,18.0s
J30M Hart River **21.73 350** P **P** **15 12 50.6 +1.3**
baz=163
J30M S **S** **15 16 53.9 +4.2**
baz=163
KNK Knik Glacier **21.75 333** IAmb IAmb 15 12 52.2
comp=Z,2µm,1.6s
KNK Knik Glacier **21.75 333** P **P** **15 12 50.7 +1.3**
baz=136,SNR=259
KNK S **S** **15 16 54.0 +4.2**
baz=136
CBKS Cedar Bluff **21.78 92** P **P** **15 12 50.7 +0.7**
CBKS IAMs_20 IAMs_20 15 21 44.2
comp=Z,76µm,18.0s
CBKS Cedar Bluff **21.78 92** P **P** **15 12 50.7 +0.7**
CBKS pmax pmax
comp=Z,5µm,2.0s
CBKS MLR MLR
comp=Z,76µm,18.0s
CBKS Cedar Bluff **21.78 92** ⇑P **P** **15 12 50.6 +0.7**
R18K Karluk **21.79 320** P **P** **15 12 51.1 +1.4**
baz=119
R18K S **S** **15 16 51.9 +1.4**
baz=119
M23K Glacier View **21.79 335** P **P** **15 12 51.3 +1.4**
baz=138
M23K S **S** **15 16 49.1 -1.6**
baz=138
MSTX Muleshoe **21.80 107** **P** **15 12 51.9 +1.5**
MSTX IAmb IAmb 15 13 01.9
comp=Z,2µm,1.9s
J29N Klondike Camp **21.87 348** IAmb IAmb 15 12 55.7
comp=Z,2µm,1.4s
J29N IAMs_20 IAMs_20 15 20 00.5
comp=Z,81µm,20.0s
J29N Klondike Camp **21.87 348** P **P** **15 12 51.9 +1.2**
baz=159
J29N S **S** **15 16 52.5 +0.2**
baz=159
RC01 Rabbit Creek A **21.95 331** IAmb IAmb 15 13 08.2
comp=Z,2µm,1.5s
RC01 IAMs_20 IAMs_20 15 19 05.2
comp=Z,62µm,20.0s
RC01 Rabbit Creek A **21.95 331** P **P** **15 12 52.5 +0.9**
baz=134,SNR=124
RC01 S **S** **15 16 55.6 +1.9**
baz=134
PAX Paxson **22.07 339** P **P** **15 12 53.6 +0.7**
baz=144,SNR=207
PAX S **S** **15 16 59.7 +3.6**
baz=144
AMTX Amarillo **22.09 104** ⇑P **P** **15 12 55.8 +2.4**
PMR Palmer **22.10 333** **P** **15 12 53.6 +0.5**
PMR IAmb IAmb 15 12 56.8
comp=Z,1µm,1.4s
PMR Palmer **22.10 333** P **P** **15 12 53.8 +0.7**
PMR Palmer **22.10 333** P **P** **15 12 53.6 +0.5**
PMR pmax pmax
comp=Z,1µm,1.4s
PMR Palmer **22.10 333** P **P** **15 12 54.2 +1.1**
baz=135,SNR=113
PMR S **S** **15 16 58.4 +1.9**
baz=135
BGNE Belgrade **22.13 85** IAmb IAmb 15 13 08.2
comp=Z,1µm,1.3s
Q19K Cape Douglas, **22.13 324** P **P** **15 12 54.9 +1.4**
baz=123
Q19K S Sn 15 17 03.9 -4.3
baz=123
FIS Fire Island **22.16 331** IAMs_20 IAMs_20 15 19 11.6
comp=Z,59µm,21.0s
GHO Glory Hole Cre **22.16 333** IAmb IAmb 15 13 12.4
comp=Z,2µm,1.5s
K27K Chicken **22.17 344** IAmb IAmb 15 13 02.4
comp=Z,2µm,1.8s
K27K IAMs_20 IAMs_20 15 19 45.3
comp=Z,67µm,21.0s
K27K Chicken **22.17 344** P **P** **15 12 54.9 +1.0**
baz=152
K27K S **S** **15 17 01.1 +3.2**
baz=152
VHRN Van Horn **22.22 117** IAmb IAmb 15 13 06.1
comp=Z,856nm,1.4s
CAPN Captain Cook N **22.24 329** P **P** **15 12 57.0 +2.3**
baz=130,SNR=18
CAPN S Sn 15 17 06.2 -4.6
baz=130
DOT Dot Lake **22.28 341** IAmb IAmb 15 13 01.7
comp=Z,954nm,1.5s
DOT IAMs_20 IAMs_20 15 19 46.0
comp=Z,88µm,21.0s
I30M Mount Dempster **22.36 351** IAMs_20 IAMs_20 15 20 38.8
comp=Z,80µm,18.0s
I30M Mount Dempster **22.36 351** P **P** **15 12 56.5 +0.4**
baz=164
I30M S **S** **15 17 02.5 +0.8**
baz=164
P19K Oil Pt **22.37 325** P **P** **15 12 57.3 +1.2**
baz=125
P19K S **S** **15 17 07.3 +5.6**
baz=125
O20K Slope Mountain **22.38 327** P **P** **15 12 57.4 +1.2**
baz=127
O20K S **S** **15 17 06.4 +4.5**
baz=127
WAT6 Susitna Watana **22.40 336** P **P** **15 12 57.1 +0.6**
baz=139,SNR=370
WAT6 S **S** **15 17 07.6 +5.2**
baz=139
SCRK Sand Creek **22.54 342** **P** **15 12 57.8 -0.2**
SCRK IAMs_20 IAMs_20 15 19 54.9
comp=Z,82µm,21.0s
SCRK Sand Creek **22.54 342** P **P** **15 12 58.5 +0.5**
baz=148,SNR=215
SCRK S **S** **15 17 06.5 +1.4**
baz=148
RIDG Independent Ri **22.55 340** IAMs_20 IAMs_20 15 19 53.1
comp=Z,85µm,21.0s
RIDG Independent Ri **22.55 340** P **P** **15 12 58.7 +0.7**
baz=146,SNR=330
RIDG S **S** **15 17 05.6 +0.6**
baz=146
M22K Willow **22.55 332** IAmb IAmb 15 13 09.9
comp=Z,1µm,1.1s
M22K IAMs_20 IAMs_20 15 19 26.8
comp=Z,54µm,21.0s
M22K Willow **22.55 332** P **P** **15 12 58.5 +0.6**
baz=134
M22K S **S** **15 17 05.1 +0.2**
baz=134
SUA Susitna One **22.56 331** IAmb IAmb 15 13 00.8
comp=Z,2µm,1.4s
SUA IAMs_20 IAMs_20 15 19 26.3
comp=Z,58µm,22.0s
SUA Susitna One **22.56 331** P **P** **15 12 59.0 +0.7**
baz=132,SNR=288
SUA S **S** **15 17 08.0 +2.5**
baz=132
PECS Pecos **22.58 114** IAmb IAmb 15 13 13.4
comp=Z,1µm,1.4s
Q18K Katmai Hardscr **22.59 322** P **P** **15 12 59.5 +1.0**
baz=120
Q18K S **S** **15 17 08.8 +2.9**
baz=120
RED Redoubt Volcan **22.64 327** IAmb IAmb 15 13 01.2
comp=Z,1µm,1.3s
RED IAMs_20 IAMs_20 15 19 36.8
comp=Z,54µm,20.0s
EGAK Eagle **22.67 345** IAMs_20 IAMs_20 15 20 10.5
comp=Z,62µm,21.0s
R32A Long Quarter, **22.67 93** IAmb IAmb 15 13 12.4
comp=Z,2µm,1.3s
R32A IAMs_20 IAMs_20 15 22 12.8
comp=Z,78µm,20.0s
F33A 5 Mile Ranch, **22.68 73** **P** **15 12 58.9 -0.5**
DHY Denali Highway **22.68 337** IAmb IAmb 15 13 02.9
comp=Z,1µm,1.1s
DHY Denali Highway **22.68 337** P **P** **15 13 00.1 +0.6**
baz=141,SNR=882
DHY S **S** **15 17 08.5 +1.0**
baz=141
PLK4 Peulik 4 **22.72 319** **P** **15 13 00.4 +0.4**
PLK4 IAmb IAmb 15 13 09.2
comp=Z,918nm,1.2s
R17L Mt. Peulik Vol **22.73 319** P **P** **15 13 00.9 +1.1**
baz=116
R17L S **S** **15 17 11.3 +3.1**
baz=116
H31M Peel River **22.73 353** IAMs_20 IAMs_20 15 20 55.3
comp=Z,62µm,19.0s
H31M Peel River **22.73 353** P **P** **15 13 00.1 +0.2**
baz=168
H31M S **S** **15 17 09.3 +1.1**
baz=168
ECSD EROS Data Cent **22.73 78** **P** **15 12 59.7 -0.4**
ECSD IAmb IAmb 15 13 08.1
comp=Z,2µm,1.5s
ECSD EROS Data Cent **22.73 78** ⇑P **P** **15 12 59.7 -0.4**
I29M Ogilvie Camp, **22.75 349** IAmb IAmb 15 13 12.2
comp=Z,986nm,1.3s
I29M IAMs_20 IAMs_20 15 20 39.4
comp=Z,75µm,20.0s
I29M Ogilvie Camp, **22.75 349** P **P** **15 13 00.2 +0.1**
baz=160
I29M S **S** **15 17 10.6 +2.0**
baz=160
Q17K Contact Creek **22.80 320** P **P** **15 13 01.6 +0.9**
baz=118
Q17K S **S** **15 17 11.0 +1.4**
baz=118
K24K Donnelly Dome **22.83 340** IAmb IAmb 15 13 22.2
comp=Z,1µm,1.8s
K24K IAMs_20 IAMs_20 15 20 01.1
comp=Z,63µm,21.0s
K24K Donnelly Dome **22.83 340** P **P** **15 13 01.7 +0.7**
baz=145
K24K S **S** **15 17 12.6 +2.5**
baz=145
WAT1 Susitna Watana **22.83 336** P **P** **15 13 01.6 +0.6**
baz=138
WAT1 S **S** **15 17 11.2 +1.0**

baz=138
AGMN Agassiz Nation 22.86 66 ⇑P **P** **15 13 00.6 -0.8**
J26L Joseph Creek 22.90 343 IAMs_20 IAMs_20 15 20 16.7
comp=Z,66µm,20.0s
J26L Joseph Creek 22.90 343 P **P** **15 13 02.3 +0.6**
baz=150
J26L S **S** **15 17 10.4 -1.0**
baz=150
N20K Mount Spurr 22.92 329 P **P** **15 13 02.7 +0.8**
baz=130
N20K S **S** **15 17 12.0 +0.3**
baz=130
SPCR Spurr Chakacha 22.92 329 P **P** **15 13 02.7 +0.8**
baz=130,SNR=86
SPCR S **S** **15 17 13.7 +2.0**
baz=130
STLK Strandline Lak 22.97 330 IAmb IAmb 15 13 14.2
comp=Z,1µm,1.8s
SMWD Samnorwood 23.00 102 IAmb IAmb 15 13 08.1
comp=Z,993nm,0.9s
CUT Chulitna 23.06 333 IAmb IAmb 15 13 06.4
comp=Z,1µm,1.2s
CUT Chulitna 23.06 333 P **P** **15 13 04.1 +0.8**
baz=135,SNR=37
CUT S **S** **15 17 14.6 +0.6**
baz=135
P18K Big Mountain, 23.07 323 IAmb IAmb 15 13 27.1
comp=Z,1µm,1.4s
P18K Big Mountain, 23.07 323 P **P** **15 13 03.7 +0.3**
baz=121
P18K S **S** **15 17 12.9 -1.5**
baz=121
I28M Miner Creek 23.07 347 IAMs_20 IAMs_20 15 20 46.8
comp=Z,74µm,20.0s
I28M Miner Creek 23.07 347 P **P** **15 13 03.5 0.0**
baz=157
I28M S **S** **15 17 16.0 +1.7**
baz=157
O19K Port Alsworth 23.13 326 P **P** **15 13 04.3 +0.3**
O19K IAMs_20 IAMs_20 15 20 01.5
comp=Z,66µm,19.0s
O19K Port Alsworth 23.13 326 P **P** **15 13 04.6 +0.6**
baz=124
O19K S **S** **15 17 16.3 +1.2**
baz=124
ELIS Ellis County 23.14 99 IAmb IAmb 15 13 09.0
comp=Z,948nm,0.9s
POST Post 23.19 107 IAmb IAmb 15 13 16.7
comp=Z,992nm,1.3s
SKT Skwentna 23.19 331 P **P** **15 13 04.6 -0.1**
SKT IAmb IAmb 15 13 07.4
comp=Z,840nm,1.3s
SKT IAMs_20 IAMs_20 15 20 04.9
comp=Z,61µm,19.0s
SKT Skwentna 23.19 331 P **P** **15 13 05.0 +0.4**
baz=132,SNR=321
SKT S **S** **15 17 17.4 +1.2**
baz=132
CHGN Chignik 23.22 314 IAmb IAmb 15 13 16.4
comp=Z,1µm,1.3s
CHGN Chignik 23.22 314 P **P** **15 13 05.5 +0.6**
baz=110,SNR=75
CHGN S **S** **15 17 16.7 0.0**
baz=110
R16K Pilot Point 23.29 318 P **P** **15 13 06.0 +0.4**
R16K Pilot Point 23.29 318 P **P** **15 13 06.7 +1.1**
baz=114
R16K S **S** **15 17 17.3 -0.5**
baz=114
Q16K King Salmon 23.35 321 P **P** **15 13 07.3 +1.1**
baz=118
Q16K S **S** **15 17 19.8 +1.0**
baz=118
RND Reindeer 23.36 336 IAmb IAmb 15 13 09.2
comp=Z,1µm,1.4s
RND IAMs_20 IAMs_20 15 20 17.9
comp=Z,52µm,19.0s
J25K Salcha River, 23.41 341 IAmb IAmb 15 13 09.5
comp=Z,1µm,1.7s
J25K IAMs_20 IAMs_20 15 20 30.2
comp=Z,68µm,20.0s
J25K Salcha River, 23.41 341 P **P** **15 13 07.1 +0.3**
baz=146
J25K S **S** **15 17 19.7 -0.1**
baz=146
I27K Kandik River 23.50 346 P **P** **15 13 08.2 +0.4**
baz=154
I27K S **S** **15 17 16.6 -4.7**
baz=154
P17K Kvichak River 23.50 322 P **P** **15 13 08.8 +1.0**
baz=119
P17K S **S** **15 17 22.3 +1.1**
baz=119
EPYK Eagle Plains 23.51 351 IAMs_20 IAMs_20 15 21 26.1
comp=Z,75µm,19.0s
EPYK Eagle Plains 23.51 351 Pn **P** **15 13 08.1 +0.2**
EPYK Eagle Plains 23.51 351 P **P** **15 13 08.0 +0.2**
baz=164
EPYK S **S** **15 17 16.6 -4.9**
baz=164
I26K Coal Creek Min 23.52 344 IAMs_20 IAMs_20 15 20 48.0
comp=Z,58µm,20.0s
I26K Coal Creek Min 23.52 344 P **P** **15 13 08.6 +0.7**
baz=151
I26K S **S** **15 17 24.7 +3.1**
baz=151
N19K Bonanza Creek 23.55 327 IAMs_20 IAMs_20 15 20 15.6
comp=Z,70µm,19.0s
N19K Bonanza Creek 23.55 327 P **P** **15 13 09.1 +0.7**
baz=125
N19K S **S** **15 17 22.7 +0.4**
baz=125
H29M Whitestone 23.57 350 IAMs_20 IAMs_20 15 21 14.7
comp=Z,59µm,19.0s
H29M Whitestone 23.57 350 P **P** **15 13 08.7 +0.3**
baz=161
H29M S **S** **15 17 20.2 -2.1**
baz=161
SN07 Snyder 07 23.60 107 IAmb IAmb 15 13 21.6
comp=Z,707nm,1.2s
HDA Harding Lake 23.62 339 IAmb IAmb 15 13 21.5
comp=Z,1µm,2.0s
HDA IAMs_20 IAMs_20 15 20 24.6
comp=Z,58µm,22.0s
HDA Harding Lake 23.62 339 P **P** **15 13 09.2 +0.2**
baz=144,SNR=165
HDA S **S** **15 17 23.1 -0.1**
baz=144
MCK McKinley 23.63 337 P **P** **15 13 09.6 +0.5**
baz=139,SNR=162
MCK S **S** **15 17 26.6 +3.2**
baz=139
M20K Styx River 23.70 330 IAMs_20 IAMs_20 15 20 11.0
comp=Z,60µm,20.0s
M20K Styx River 23.70 330 P **P** **15 13 10.7 +1.0**
baz=129
M20K S **S** **15 17 25.1 +0.5**
baz=129
S14K Fog Glacier 23.81 314 P **P** **15 13 11.9 +1.0**
baz=109
S14K S **S** **15 17 28.6 +2.1**
baz=109
G31M Satah River 23.82 354 IAMs_20 IAMs_20 15 21 40.1
comp=Z,76µm,18.0s
G31M Satah River 23.82 354 P **P** **15 13 10.8 0.0**
baz=168
G31M S **S** **15 17 27.6 +1.3**
baz=168
TRF Thorofare Moun 23.82 335 IAMs_20 IAMs_20 15 20 21.3
comp=Z,57µm,21.0s
TRF Thorofare Moun 23.82 335 P **P** **15 13 11.4 +0.4**
baz=136,SNR=331
TRF S **S** **15 17 29.0 +2.2**
baz=136
IL31 23.90 340 IAmb IAmb 15 13 22.9
comp=Z,927nm,1.8s
ILAR Eielson Array 23.90 340 P **P** **15 13 10.9 -0.8**
ILAR Eielson Array 23.90 340 P **P** **15 13 11.6 -0.1**
comp=Z,63nm,0.9s,baz=152,slow=8.4,SNR=516
ILAR PcP **PcP** **15 16 53.8 -0.1**
comp=Z,13nm,0.8s,baz=173,slow=2.6,SNR=8.2
ILAR LR LR 15 20 55.5
comp=Z,55µm,21.9s,baz=138,slow=33
ILAR P3KPbc 15 46 27.4
comp=Z,0.7nm,1.1s,baz=335,slow=3.9,SNR=4.8
ILAR P3KP 15 47 25.9
comp=Z,1.1nm,1.1s,baz=340,slow=2.1,SNR=4.6
comp=Z,63nm,0.9s

KSU1 Kansas State U 23.96 90 IAMs_20 IAMs_20 15 22 15.2
comp=Z,74µm,22.0s
WRH Wood River Hil 23.97 339 IAmb IAmb 15 13 25.7
comp=Z,1µm,1.6s
WRH IAMs_20 IAMs_20 15 20 33.9
comp=Z,52µm,22.0s
APMT Aspermont 24.01 105 IAmb IAmb 15 13 35.7
comp=Z,1µm,1.9s
TXAR Lajitas Array 24.03 118 **P** **15 13 14.9 +1.6**
TXAR Lajitas Array 24.03 118 P **P** **15 13 15.8 +2.5**
comp=Z,113nm,0.9s,baz=302,slow=7.2,SNR=363
TXAR PcP **PcP** **15 16 55.9 +1.0**
comp=Z,8.9nm,1.0s,baz=336,slow=3.3,SNR=3.6
TXAR LR LR 15 22 43.4
comp=Z,18µm,20.6s,baz=300,slow=37
TXAR P3KPbc 15 46 23.3
comp=Z,0.2nm,0.6s,baz=120,slow=2.6,SNR=1.7
comp=Z,113nm,0.9s
TXAR Lajitas Array 24.03 118 P **P** **15 13 14.9 +1.6**
CCB Clear Creek Bu 24.04 339 IAMs_20 IAMs_20 15 20 36.6
comp=Z,56µm,22.0s
PPLA Purkeypile 24.04 333 IAmb IAmb 15 13 14.8
comp=Z,1µm,1.3s
PPLA IAMs_20 IAMs_20 15 20 34.2
comp=Z,50µm,20.0s
PPLA Purkeypile 24.04 333 P **P** **15 13 13.9 +0.8**
baz=133,SNR=275
PPLA S **S** **15 17 33.8 +3.7**
baz=133
N18K Kilae Creek 24.05 326 IAMs_20 IAMs_20 15 20 31.5
comp=Z,61µm,21.0s
N18K Kilae Creek 24.05 326 P **P** **15 13 14.1 +1.0**
baz=123
N18K S **S** **15 17 29.4 -0.6**
baz=123
G30M tAoh Zraii Nji 24.05 352 IAmb IAmb 15 13 15.7
comp=Z,1µm,1.4s
G30M IAMs_20 IAMs_20 15 21 34.3
comp=Z,44µm,19.0s
G30M tAoh Zraii Nji 24.05 352 P **P** **15 13 12.8 -0.2**
baz=165
G30M S **S** **15 17 32.6 +2.6**
baz=165
H27K Steamboat Moun 24.05 347 IAMs_20 IAMs_20 15 21 06.8
comp=Z,57µm,22.0s
H27K Steamboat Moun 24.05 347 P **P** **15 13 13.7 +0.6**
baz=155
H27K S **S** **15 17 32.8 +2.7**
baz=155
O17K Koliganek Bris 24.08 323 P **P** **15 13 14.5 +1.2**
baz=120
O17K S **S** **15 17 29.8 -0.7**
baz=120
KTH Kantishna Hill 24.09 335 IAmb IAmb 15 13 39.4
comp=Z,1µm,1.8s
KTH IAMs_20 IAMs_20 15 20 29.4
comp=Z,48µm,20.0s
SGCY Sterling City 24.11 109 IAmb IAmb 15 13 28.1
comp=Z,1µm,1.4s
P16K Nushagak River 24.13 321 P **P** **15 13 15.1 +1.3**
baz=117
P16K S **S** **15 17 30.3 -1.0**
baz=117
LPIG La Paz 24.16 137 P **P** **15 13 17.1 +2.7**
LPIG La Paz 24.16 137 P **P** **15 13 17.1 +2.7**
comp=Z,490nm,1.1s,baz=321,slow=2.1,SNR=10
LPIG LR LR 15 21 48.5
comp=Z,50µm,20.0s,baz=324,slow=34
comp=Z,490nm,1.1s
M19K Big River Lodg 24.17 329 IAMs_20 IAMs_20 15 20 25.7
comp=Z,57µm,20.0s
M19K Big River Lodg 24.17 329 P **P** **15 13 15.5 +1.3**
baz=127
M19K S **S** **15 17 29.5 -2.6**
baz=127
G29M Pine Creek 24.18 350 IAMs_20 IAMs_20 15 21 35.9
comp=Z,56µm,20.0s
G29M Pine Creek 24.18 350 P **P** **15 13 14.6 +0.4**
baz=162
G29M S **S** **15 17 32.9 +0.8**
baz=162
PRP Porcupine Dome 24.21 342 IAmb IAmb 15 13 35.7
comp=Z,1µm,1.8s
PRP IAMs_20 IAMs_20 15 20 56.8
comp=Z,76µm,21.0s
PRP Porcupine Dome 24.21 342 P **P** **15 13 15.2 +0.6**
baz=147,SNR=83
PRP S **S** **15 17 34.1 +1.4**
baz=147
WMOK Wichita Mounta 24.23 101 IAmb IAmb 15 13 18.9
comp=Z,739nm,0.9s
WMOK Wichita Mounta 24.23 101 P **P** **15 13 16.7 +1.7**
WMOK pmax pmax
comp=Z,936nm,1.8s
WMOK Wichita Mounta 24.23 101 ⇑P **P** **15 13 16.4 +1.4**
COLA College 24.23 339 P **P** **15 13 14.2 -0.4**
COLA College 24.23 339 P **P** **15 13 14.6 -0.1**
COLA College 24.23 339*d* iP **P** **15 13 14.7 +0.1**
COLA pmax pmax
comp=Z,939nm,2.5s
COLA MLR MLR
comp=Z,44µm,19.0s
COLA College 24.23 339 ⇓P **P** **15 13 14.7 +0.1**
COLA College 24.23 339 P **P** **15 13 15.2 +0.5**
baz=143
COLA S **S** **15 17 34.5 +1.7**
baz=143
COLA College 24.23 339 ⇑P **P** **15 13 14.6 -0.1**
COLA S **S** **15 17 33.6 +0.8**
F31M Tsiigehtchic 24.30 355 IAmb IAmb 15 13 18.1
comp=Z,1µm,1.2s
F31M IAMs_20 IAMs_20 15 21 54.6
comp=Z,52µm,20.0s
F31M Tsiigehtchic 24.30 355 P **P** **15 13 15.0 -0.2**
baz=170
F31M S **S** **15 17 38.7 +4.9**
baz=170
POKR Poker Plat Res 24.32 340 IAmb IAmb 15 13 19.3
comp=Z,695nm,1.6s
POKR IAMs_20 IAMs_20 15 20 57.4
comp=Z,49µm,21.0s
POKR Poker Plat Res 24.32 340 P **P** **15 13 15.8 +0.3**
baz=144
POKR S **S** **15 17 33.5 -0.9**
baz=144
NEA2 Nenana 24.33 338 P **P** **15 13 16.1 +0.5**
baz=140,SNR=593
NEA2 S **S** **15 17 38.2 +3.7**
baz=140
L20K Farewell, AK 24.35 331 P **P** **15 13 16.4 +0.6**
baz=129
L20K S **S** **15 17 37.9 +3.0**
baz=129
CAST Castle Rocks 24.37 334 IAmb IAmb 15 13 27.4
comp=Z,858nm,1.7s
CAST IAMs_20 IAMs_20 15 20 34.8
comp=Z,49µm,20.0s
CAST Castle Rocks 24.37 334 P **P** **15 13 16.0 +0.1**
baz=134,SNR=195
CAST S **S** **15 17 36.3 +1.2**
baz=134
O16K Kokwok River B 24.44 322 P **P** **15 13 17.6 +1.0**
baz=118
O16K S **S** **15 17 33.0 -3.2**
baz=118
M18K Stony River 24.48 327 P **P** **15 13 17.5 +0.5**
baz=124
M18K S **S** **15 17 34.2 -2.6**
baz=124
HPIG 24.48 125 **P** **15 13 19.7 +2.2**
HPIG IAmb IAmb 15 13 33.1
comp=Z,486nm,1.2s
HPIG IAMs_20 IAMs_20 15 22 22.3
comp=Z,50µm,21.0s
HPIG 24.48 125 ⇓P **P** **15 13 20.6 +3.0**
N17K Nushagak Hills 24.50 325 IAMs_20 IAMs_20 15 20 33.7
comp=Z,49µm,22.0s
N17K Nushagak Hills 24.50 325 P **P** **15 13 18.7 +1.5**
baz=121
N17K S **S** **15 17 37.5 +0.2**
baz=121
BPAW Bear Paw Mtn. 24.51 336 P **P** **15 13 17.2 -0.1**
baz=136,SNR=289
BPAW S **S** **15 17 37.5 +0.1**
baz=136
L19K White Mountain 24.52 329 IAmb IAmb 15 13 20.7
comp=Z,606nm,1.1s
L19K IAMs_20 IAMs_20 15 20 46.6
comp=Z,64µm,20.0s
L19K White Mountain 24.52 329 P **P** **15 13 18.5 +1.1**
baz=127
L19K S **S** **15 17 38.5 +0.9**
baz=127
G27K Doyon Strip 24.60 347 IAmb IAmb 15 13 22.1
comp=Z,1µm,1.6s
G27K IAMs_20 IAMs_20 15 21 35.3
comp=Z,64µm,21.0s
G27K Doyon Strip 24.60 347 P **P** **15 13 19.0 +0.9**
baz=155
G27K S **S** **15 17 40.7 +1.8**
baz=155
F30M Barrier River 24.62 353 IAmb IAmb 15 13 45.1
comp=Z,428nm,1.1s
F30M IAMs_20 IAMs_20 15 22 03.4
comp=Z,47µm,19.0s
F30M Barrier River 24.62 353 P **P** **15 13 18.0 -0.2**
baz=166
F30M S **S** **15 17 38.8 -0.4**
baz=166
SAND Sanderson 24.64 114 IAmb IAmb 15 13 30.4
comp=Z,448nm,1.2s
SLBS Sierra La Lagu 24.69 137 **P** **15 13 21.2 +1.9**
SLBS Sierra La Lagu 24.69 137 IAMs_20 IAMs_20 15 21 53.8
comp=Z,57µm,19.0s
SLBS Sierra La Lagu 24.69 137 ⇓P **P** **15 13 22.2 +2.9**
OZNA Ozona 24.70 111 IAmb IAmb 15 13 28.5
comp=Z,761nm,1.7s
ABTX Abilene, Hawle 24.73 106 IAMs_20 IAMs_20 15 23 29.5
comp=Z,66µm,19.0s
CHUM Lake Minchumin 24.76 334 P **P** **15 13 19.9 +0.4**
baz=134,SNR=158
CHUM S **S** **15 17 39.4 -2.0**
baz=134
I23K Minto, Yukon-K 24.84 339 IAmb IAmb 15 13 24.6
comp=Z,686nm,1.2s
I23K Minto, Yukon-K 24.84 339 P **P** **15 13 21.1 +0.9**
baz=140
I23K S **S** **15 17 45.1 +2.4**
baz=140
H25L Birch Creek 24.91 343 P **P** **15 13 22.0 +1.2**
baz=148
H25L S **S** **15 17 50.5 +6.8**
baz=148
S12K Black Hills 24.98 311 IAmb IAmb 15 13 42.9
comp=Z,938nm,1.6s
S12K Black Hills 24.98 311 P **P** **15 13 22.2 +0.6**
baz=105
S12K S **S** **15 17 45.2 0.0**
baz=105
K20K Telida 24.98 332 P **P** **15 13 21.6 0.0**
K20K IAmb IAmb 15 13 25.4
comp=Z,880nm,1.4s
K20K IAMs_20 IAMs_20 15 21 12.7
comp=Z,42µm,19.0s
K20K Telida 24.98 332 P **P** **15 13 22.3 +0.8**
baz=130
K20K S **S** **15 17 44.6 -0.5**
baz=130
H24K Noodor Dome 25.02 341 IAmb IAmb 15 13 25.5
comp=Z,726nm,1.3s
H24K IAMs_20 IAMs_20 15 21 19.7
comp=Z,58µm,21.0s
H24K Noodor Dome 25.02 341 P **P** **15 13 22.7 +0.8**
baz=144
H24K S **S** **15 17 45.6 0.0**
baz=144
O15K Ungalikthiuk R 25.04 320 P **P** **15 13 22.6 +0.5**
baz=114
O15K S **S** **15 17 46.5 +0.4**
baz=114
FYU Fort Yukon 25.04 344 IAmb IAmb 15 13 24.6
comp=Z,917nm,1.3s
FYU IAMs_20 IAMs_20 15 21 35.8
comp=Z,63µm,21.0s
M17K Holitna River 25.07 326 IAMs_20 IAMs_20 15 21 12.6
comp=Z,57µm,19.0s
M17K Holitna River 25.07 326 P **P** **15 13 23.3 +0.9**
baz=122
M17K S **S** **15 17 45.6 -0.9**
baz=122
F28M Old Crow 25.09 349 IAMs_20 IAMs_20 15 22 11.9
comp=Z,65µm,19.0s
F28M Old Crow 25.09 349 P **P** **15 13 22.7 +0.3**
baz=159
F28M S **S** **15 17 46.0 -0.6**
baz=159
G26K Porcupine Rive 25.10 345 IAMs_20 IAMs_20 15 21 37.5
comp=Z,48µm,22.0s
G26K Porcupine Rive 25.10 345 P **P** **15 13 23.4 +0.9**
baz=152
G26K S **S** **15 17 50.2 +3.4**
baz=152
MLY Manley 25.13 337 IAmb IAmb 15 13 24.9
comp=Z,590nm,1.2s
MLY IAMs_20 IAMs_20 15 21 05.7
comp=Z,49µm,21.0s
MLY Manley 25.13 337 P **P** **15 13 23.4 +0.5**
baz=138,SNR=547
MLY S **S** **15 17 49.2 +1.8**
baz=138
INK Inuvik 25.14 355 **P** **15 13 22.1 -0.7**
INK IAmb IAmb 15 13 27.4
comp=Z,769nm,1.4s
INK Inuvik 25.14 355 LR LR 15 22 42.3
comp=Z,61µm,18.6s,baz=178,slow=36
INK Inuvik 25.14 355 Pn **P** **15 13 22.4 -0.4**
INK Inuvik 25.14 355 P **P** **15 13 22.1 -0.7**
INK pmax pmax
comp=Z,769nm,1.4s
INK Inuvik 25.14 355 ⇑P **P** **15 13 22.3 -0.5**
INK Inuvik 25.14 355 P **P** **15 13 22.4 -0.4**
baz=170,SNR=166
INK S **S** **15 17 46.5 -0.9**
baz=170
N16K Nishlik Lake 25.16 323 P **P** **15 13 24.2 +1.1**
baz=118
N16K S **S** **15 17 47.4 -0.5**
baz=118
SPMN Marine on St. 25.18 74 IAMs_20 IAMs_20 15 23 13.6
comp=Z,74µm,19.0s
L18K Granite Mounta 25.23 328 IAmb IAmb 15 13 27.5
comp=Z,708nm,0.9s
L18K IAMs_20 IAMs_20 15 21 20.6
comp=Z,44µm,19.0s
L18K Granite Mounta 25.23 328 P **P** **15 13 25.0 +1.2**
baz=125
L18K S **S** **15 17 48.9 -0.1**
baz=125
G25K Bearman Lake 25.39 343 P **P** **15 13 26.5 +1.3**
baz=148
G25K S **S** **15 17 52.9 +1.5**
baz=148
H23K Yukon River 25.42 339 IAmb IAmb 15 13 28.8
comp=Z,505nm,1.4s
H23K IAMs_20 IAMs_20 15 21 29.5
comp=Z,48µm,22.0s
H23K Yukon River 25.42 339 P **P** **15 13 26.4 +0.9**
baz=141
H23K S **S** **15 17 53.3 +1.2**
baz=141
M16K Timber Creek 25.51 325 IAMs_20 IAMs_20 15 21 05.2
comp=Z,53µm,22.0s
M16K Timber Creek 25.51 325 P **P** **15 13 27.9 +1.7**
baz=119
M16K S **S** **15 17 53.5 +0.1**
baz=119
FALS False Pass 25.54 309 IAmb IAmb 15 13 32.7
comp=Z,381nm,1.0s
FALS False Pass 25.54 309 P **P** **15 13 26.4 -0.2**
FALS False Pass 25.54 309 P **P** **15 13 26.7 +0.2**
baz=102
FALS S **S** **15 17 53.2 -0.7**
baz=102
J20K Nowinta River 25.55 333 IAmb IAmb 15 13 28.7
comp=Z,1µm,1.6s
J20K Nowinta River 25.55 333 P **P** **15 13 27.5 +0.9**
baz=132
J20K S **S** **15 17 48.7 -5.3**
baz=132
E29M Blow River 25.59 352 IAmb IAmb 15 13 30.7
comp=Z,932nm,1.4s
E29M IAMs_20 IAMs_20 15 22 41.9
comp=Z,67µm,18.0s
E29M Blow River 25.59 352 P **P** **15 13 27.4 +0.5**
baz=163
E29M S **S** **15 17 52.5 -2.1**

baz=163
I21K Tanana 25.59 337 P **P** **15 13 27.1 +0.1**
I21K IAmb IAmb 15 13 29.2
comp=Z,526nm,1.1s
I21K Tanana 25.59 337 P **P** **15 13 27.7 +0.7**
baz=136
I21K S **S** **15 17 52.9 -1.7**
baz=136
N15K Kwethluk River 25.60 322 IAMs_20 IAMs_20 15 21 18.8
comp=Z,39µm,19.0s
N15K Kwethluk River 25.60 322 P **P** **15 13 28.5 +1.4**
baz=116
N15K S **S** **15 17 55.3 +0.5**
baz=116
G24K Hadweenzic Riv 25.64 342 IAmb IAmb 15 13 29.9
comp=Z,422nm,1.1s
G24K IAMs_20 IAMs_20 15 21 52.0
comp=Z,60µm,21.0s
G24K Hadweenzic Riv 25.64 342 P **P** **15 13 28.5 +1.1**
baz=146
G24K S **S** **15 17 56.1 +0.7**
baz=146
BMAR Burnt Mountain 25.67 345 P **P** **15 13 28.1 +0.3**
O14K Tigyukauivet M 25.75 320 IAmb IAmb 15 13 32.5
comp=Z,794nm,1.4s
O14K IAMs_20 IAMs_20 15 21 11.1
comp=Z,45µm,20.0s
O14K Tigyukauivet M 25.75 320 P **P** **15 13 28.9 +0.4**
baz=113
O14K S **S** **15 17 57.8 +0.6**
baz=113
EYMN Ely 25.80 67 IAmb IAmb 15 13 44.0
comp=Z,581nm,1.0s
EYMN Ely 25.80 67 ⇑P **P** **15 13 29.0 -0.1**
L17K Donlin 25.81 327 P **P** **15 13 29.9 +0.9**
baz=122
L17K S **S** **15 18 03.0 +4.8**
baz=122
F26K Sheenjek River 25.83 346 IAmb IAmb 15 13 32.2
comp=Z,635nm,1.6s
F26K IAMs_20 IAMs_20 15 22 22.7
comp=Z,46µm,21.0s
F26K Sheenjek River 25.83 346 P **P** **15 13 30.5 +1.3**
baz=152
F26K S **S** **15 17 59.7 +1.3**
baz=152
TUL3 Leonard 25.83 96 IAMs_20 IAMs_20 15 24 04.1
comp=Z,54µm,21.0s
E27K Coleen River 25.86 348 IAmb IAmb 15 13 34.5
comp=Z,847nm,1.1s
E27K IAMs_20 IAMs_20 15 22 35.5
comp=Z,52µm,19.0s
E27K Coleen River 25.86 348 P **P** **15 13 30.7 +1.2**
baz=157
E27K S **S** **15 17 59.0 0.0**
baz=157
E38A The Farm, Brul 25.87 70 IAmb IAmb 15 13 47.3
comp=Z,855nm,1.4s
JCT Junction City 25.87 110 IAMs_20 IAMs_20 15 24 37.6
comp=Z,68µm,20.0s
JCT Junction City 25.87 110 ⇑P **P** **15 13 32.0 +2.1**
JCT Junction City 25.87 110 ⇑P **P** **15 13 32.0 +2.1**
J19K Poorman 25.93 332 IAmb IAmb 15 13 32.2
comp=Z,450nm,0.8s
J19K Poorman 25.93 332 P **P** **15 13 30.8 +0.8**
baz=129
J19K S **S** **15 17 58.0 -2.0**
baz=129
FCC Fort Churchill 25.94 42 P **P** **15 13 30.5 +0.4**
BRDY Brady 25.94 108 IAmb IAmb 15 13 36.8
comp=Z,349nm,1.0s
H22K Ishtalitna Cre 25.96 338 P **P** **15 13 31.4 +1.0**
baz=138
H22K S **S** **15 17 59.1 -1.4**
baz=138
J18K Innoko River 25.98 331 IAmb IAmb 15 13 32.6
comp=Z,458nm,0.9s
J18K IAMs_20 IAMs_20 15 21 44.1
comp=Z,55µm,19.0s
J18K Innoko River 25.98 331 P **P** **15 13 31.4 +0.9**
baz=127
J18K S **S** **15 18 02.5 +1.6**
baz=127
E28M Babbage River 25.98 350 IAmb IAmb 15 13 33.9
comp=Z,635nm,1.2s
E28M IAMs_20 IAMs_20 15 22 52.4
comp=Z,54µm,20.0s
E28M Babbage River 25.98 350 P **P** **15 13 31.1 +0.6**
baz=160
E28M S **S** **15 17 58.0 -2.8**
baz=160
DRIO Del Rio 25.98 113 IAmb IAmb 15 13 37.5
comp=Z,499nm,1.0s
FW06 Azle 26.01 103 IAmb IAmb 15 13 39.5
comp=Z,792nm,1.2s
F25K Christian Rive 26.02 345 P **P** **15 13 31.6 +0.7**
F25K IAmb IAmb 15 13 36.2
comp=Z,1µm,1.9s
F25K IAMs_20 IAMs_20 15 22 07.8
comp=Z,65µm,22.0s
F25K Christian Rive 26.02 345 P **P** **15 13 32.3 +1.4**
baz=150
F25K S **S** **15 18 06.3 +4.9**
baz=150
L16K Owhat River 26.07 326 IAmb IAmb 15 13 34.2
comp=Z,686nm,0.9s
L16K IAMs_20 IAMs_20 15 21 53.9
comp=Z,44µm,18.0s
L16K Owhat River 26.07 326 P **P** **15 13 32.8 +1.5**
baz=120
L16K S **S** **15 18 06.4 +4.2**
baz=120
I20K Naaghedeneel 26.08 334 P **P** **15 13 31.8 +0.4**
I20K Naaghedeneel 26.08 334 P **P** **15 13 32.2 +0.9**
baz=132
I20K S **S** **15 18 00.3 -2.0**
baz=132
M15K Kasigluk River 26.10 323 P **P** **15 13 32.9 +1.2**
baz=116
M15K S **S** **15 18 03.8 +1.1**
baz=116
C36M Paulatuk 26.10 3 P **P** **15 13 30.9 -0.6**
baz=186
C36M S **S** **15 18 00.8 -1.8**
baz=186
K17K Iditarod 26.13 328 IAMs_20 IAMs_20 15 21 49.4
comp=Z,44µm,20.0s
K17K Iditarod 26.13 328 P **P** **15 13 32.9 +1.0**
baz=123
K17K S **S** **15 18 05.9 +2.6**
baz=123
H21K Melozitna Rive 26.18 337 IAmb IAmb 15 13 46.0
comp=Z,626nm,1.4s
H21K Melozitna Rive 26.18 337 P **P** **15 13 33.0 +0.6**
baz=136
H21K S **S** **15 18 02.1 -1.8**
baz=136
N14K Kuskokwak Cree 26.21 321 P **P** **15 13 33.4 +0.7**
baz=114
N14K S **S** **15 18 02.9 -1.6**
baz=114
G23K Bananza Creek 26.24 340 IAMs_20 IAMs_20 15 21 57.1
comp=Z,50µm,22.0s
G23K Bananza Creek 26.24 340 P **P** **15 13 33.9 +0.9**
baz=142
G23K S **S** **15 18 05.5 +0.6**
baz=142
F24K Squaw Lake 26.41 343 IAmb IAmb 15 13 56.3
comp=Z,955nm,1.9s
F24K IAMs_20 IAMs_20 15 22 28.3
comp=Z,66µm,20.0s
F24K Squaw Lake 26.41 343 P **P** **15 13 35.5 +1.1**
baz=146
F24K S **S** **15 18 08.0 +0.3**
baz=146
FW13 Cleburne 26.44 104 IAmb IAmb 15 13 40.3
comp=Z,444nm,0.9s
E25K Arctic Village 26.46 345 IAmb IAmb 15 13 40.3
comp=Z,1µm,1.9s
E25K IAMs_20 IAMs_20 15 22 44.5
comp=Z,60µm,21.0s
E25K Arctic Village 26.46 345 P **P** **15 13 36.2 +1.3**
baz=150
E25K S **S** **15 18 11.3 +2.9**
baz=150
D28M Stokes Point 26.58 352 P **P** **15 13 36.3 +0.4**
baz=162
D28M S **S** **15 18 10.3 +0.2**
baz=162
WHTX Lake Whitney, 26.62 105 IAmb IAmb 15 13 45.6
comp=Z,630nm,1.2s
WHTX IAMs_20 IAMs_20 15 25 23.8
comp=Z,63µm,18.0s
U38A Gravette 26.62 94 IAmb IAmb 15 13 41.6
comp=Z,632nm,1.0s
U38A IAMs_20 IAMs_20 15 24 35.8
comp=Z,64µm,19.0s
H20K Anotleneega Mo 26.68 335 P **P** **15 13 37.7 +0.9**
baz=132
H20K S **S** **15 18 11.6 -0.3**
baz=132
M14K Bethel 26.68 322 IAMs_20 IAMs_20 15 21 53.6
comp=Z,39µm,20.0s
M14K Bethel 26.68 322 P **P** **15 13 38.0 +1.1**
baz=115
M14K S **S** **15 18 14.0 +2.1**
baz=115
IMAR Indian Mountai 26.69 337 P **P** **15 13 37.0 +0.1**
COLD Coldfoot 26.69 341 IAmb IAmb 15 13 50.0
comp=Z,676nm,1.7s
COLD IAMs_20 IAMs_20 15 22 23.6
comp=Z,51µm,21.0s
COLD Coldfoot 26.69 341 P **P** **15 13 38.1 +1.2**
baz=142,SNR=69
COLD S **S** **15 18 14.0 +2.0**
baz=142
D27M Malcolm River 26.76 350 IAmb IAmb 15 13 44.0
comp=Z,1µm,2.0s
D27M IAMs_20 IAMs_20 15 23 15.1
comp=Z,53µm,20.0s
D27M Malcolm River 26.76 350 P **P** **15 13 38.5 +0.9**
baz=158
D27M S **S** **15 18 13.9 +0.7**
baz=158
G22K Bettles 26.77 340 P **P** **15 13 38.6 +0.9**
baz=140
G22K S **S** **15 18 17.2 +4.0**
baz=140
J17K VABM Dome 26.80 329 IAmb IAmb 15 13 42.7
comp=Z,802nm,1.6s
J17K IAMs_20 IAMs_20 15 22 20.1
comp=Z,42µm,19.0s
J17K VABM Dome 26.80 329 P **P** **15 13 38.6 +0.6**
baz=123
J17K S **S** **15 18 12.9 -0.9**
baz=123
GCSA Galena City Sc 26.83 333 P **P** **15 13 39.0 +0.9**
baz=128,SNR=172
GCSA S **S** **15 18 16.4 +2.3**
baz=128
L15K Ungalak Mounta 26.89 324 P **P** **15 13 39.5 +0.7**
baz=117
L15K S **S** **15 18 15.8 +0.6**
baz=117
I40A Norwalk 26.96 76 IAmb IAmb 15 13 59.7
comp=Z,1µm,1.3s
I40A IAMs_20 IAMs_20 15 24 28.2
comp=Z,58µm,19.0s
G40A Rib Lake 26.99 73 IAmb IAmb 15 13 57.6
comp=Z,1µm,1.7s
E24K Your Creek 27.00 343 IAMs_20 IAMs_20 15 22 47.9
comp=Z,65µm,21.0s
E24K Your Creek 27.00 343 P **P** **15 13 41.2 +1.4**
baz=146
E24K S **S** **15 18 21.1 +4.2**
baz=146
G21K Allakaket 27.00 338 IAmb IAmb 15 13 45.0
comp=Z,799nm,1.2s
G21K Allakaket 27.00 338 P **P** **15 13 41.0 +1.3**
baz=136
G21K S **S** **15 18 18.3 +1.4**
baz=136
TBO Thunder Bay 27.14 65 P **P** **15 13 41.6 +0.3**
UNV Unalaska Valle 27.15 306 P **P** **15 13 40.8 -0.4**
UNV Unalaska Valle 27.15 306 P **P** **15 13 42.0 +0.8**
baz=96,SNR=14
UNV S **S** **15 18 23.4 +4.0**
baz=96
M13K Dall Lake 27.17 321 IAmb IAmb 15 13 49.3
comp=Z,731nm,1.2s
M13K Dall Lake 27.17 321 P **P** **15 13 42.3 +1.1**
baz=112
M13K S **S** **15 18 21.4 +1.7**
baz=112
H19K Roundabout Mou 27.19 334 P **P** **15 13 41.2 -0.2**
H19K IAMs_20 IAMs_20 15 22 35.7
comp=Z,38µm,20.0s
H19K Roundabout Mou 27.19 334 P **P** **15 13 42.3 +0.9**
baz=130
H19K S **S** **15 18 22.1 +2.3**
baz=130
K15K Wolf Creek Mou 27.20 326 IAMs_20 IAMs_20 15 22 38.8
comp=Z,40µm,18.0s
K15K Wolf Creek Mou 27.20 326 P **P** **15 13 42.7 +1.1**
baz=118
K15K S **S** **15 18 23.4 +3.3**
baz=118
435B Jarrell 27.22 107 IAmb IAmb 15 14 03.3
comp=Z,649nm,1.6s
E23K Chandalar 27.23 342 IAMs_20 IAMs_20 15 22 53.0
comp=Z,59µm,20.0s
E23K Chandalar 27.23 342 P **P** **15 13 42.9 +1.0**
baz=144
E23K S **S** **15 18 24.2 +3.5**
baz=144
L14K Kuka Creek 27.25 323 P **P** **15 13 41.9 -0.1**
L14K IAmb IAmb 15 14 02.4
comp=Z,556nm,1.4s
L14K Kuka Creek 27.25 323 P **P** **15 13 42.6 +0.5**
baz=115
L14K S **S** **15 18 21.0 +0.1**
baz=115
J16K Anvik River 27.32 328 IAmb IAmb 15 13 48.4
comp=Z,645nm,1.2s
J16K Anvik River 27.32 328 P **P** **15 13 43.6 +0.9**
baz=121
J16K S **S** **15 18 22.5 +0.5**
baz=121
F22K John River 27.39 340 P **P** **15 13 44.5 +1.2**
baz=139
F22K S **S** **15 18 22.8 -0.3**
baz=139
R40A Maddies Statio 27.42 88 IAMs_20 IAMs_20 15 24 59.4
comp=Z,46µm,19.0s
JFWS Jewell Farm 27.44 78 IAmb IAmb 15 14 02.7
comp=Z,539nm,1.2s
JFWS Jewell Farm 27.44 78 ⇑P **P** **15 13 44.5 +0.6**
C27K Jago River 27.50 348 IAmb IAmb 15 13 48.6
comp=Z,829nm,1.6s
C27K IAMs_20 IAMs_20 15 23 38.6
comp=Z,67µm,20.0s
C27K Jago River 27.50 348 P **P** **15 13 45.6 +1.5**
baz=154
C27K S **S** **15 18 27.4 +2.8**
baz=154
F21K Alatna River 27.51 339 IAMs_20 IAMs_20 15 22 33.9
comp=Z,47µm,22.0s
F21K Alatna River 27.51 339 P **P** **15 13 45.7 +1.3**
baz=137
F21K S **S** **15 18 26.8 +1.8**
baz=137
H18K Honhosa River 27.57 333 IAmb IAmb 15 13 50.8
comp=Z,337nm,1.0s
H18K Honhosa River 27.57 333 P **P** **15 13 45.6 +0.7**
baz=127
H18K S **S** **15 18 30.5 +4.5**
baz=127
COWI Conover 27.60 71 IAmb IAmb 15 14 07.5
comp=Z,1µm,1.9s
COWI Conover 27.60 71 ⇑P **P** **15 13 45.4 +0.1**
D25K Kavik River 27.66 346 IAMs_20 IAMs_20 15 23 35.1
comp=Z,60µm,21.0s
D25K Kavik River 27.66 346 P **P** **15 13 46.9 +1.2**
baz=150
D25K S **S** **15 18 29.9 +2.6**
baz=150
I17K Unalakleet 27.68 329 IAmb IAmb 15 13 52.8
comp=Z,446nm,1.2s
I17K IAMs_20 IAMs_20 15 22 37.2
comp=Z,49µm,22.0s
I17K Unalakleet 27.68 329 P **P** **15 13 47.0 +1.2**
baz=122
I17K S **S** **15 18 32.5 +5.0**
baz=122
TOLK Toolik Lake Re 27.70 343 IAmb IAmb 15 13 49.0
comp=Z,648nm,1.3s
TOLK IAMs_20 IAMs_20 15 23 20.3
comp=Z,60µm,20.0s
TOLK Toolik Lake Re 27.70 343 P **P** **15 13 47.4 +1.4**
baz=145
TOLK S **S** **15 18 33.2 +5.3**
baz=145
BLKN Baker Lake 27.71 30 P **P** **15 13 44.3 -1.8**
BLKN IAmb IAmb 15 14 11.8
comp=Z,630nm,1.2s
E22K Anaktuvuk Pass 27.79 341 IAmb IAmb 15 13 49.3
comp=Z,427nm,1.4s
E22K IAMs_20 IAMs_20 15 23 10.0
comp=Z,57µm,22.0s
E22K Anaktuvuk Pass 27.79 341 P **P** **15 13 47.8 +1.0**
baz=141
E22K S **S** **15 18 33.2 +3.8**
baz=141
G19K Purcell Mounta 27.79 335 IAmb IAmb 15 13 52.9
comp=Z,454nm,1.1s
G19K IAMs_20 IAMs_20 15 23 05.6
comp=Z,39µm,19.0s
G19K Purcell Mounta 27.79 335 P **P** **15 13 47.1 +0.3**
baz=130
G19K S **S** **15 18 32.4 +3.0**
baz=130
MGMO Mountain Grove 27.86 91 IAMs_20 IAMs_20 15 25 22.4
comp=Z,64µm,18.0s
C26K Camden Bay 27.94 348 P **P** **15 13 49.8 +1.7**
baz=153
C26K S **S** **15 18 32.4 +0.8**
baz=153
D24K Happy Valley 27.97 344 IAmb IAmb 15 13 51.2
comp=Z,531nm,1.6s
D24K IAMs_20 IAMs_20 15 23 31.4
comp=Z,66µm,21.0s
D24K Happy Valley 27.97 344 P **P** **15 13 49.6 +1.2**
baz=146
D24K S **S** **15 18 37.6 +5.5**
baz=146
H17K Granite Mounta 27.98 331 IAmb IAmb 15 14 05.7
comp=Z,560nm,1.6s
H17K IAMs_20 IAMs_20 15 23 07.4
comp=Z,42µm,19.0s
H17K Granite Mounta 27.98 331 P **P** **15 13 49.1 +0.6**
baz=124
H17K S **S** **15 18 37.1 +4.7**
baz=124
F20K Avaraart Lake 28.00 337 P **P** **15 13 49.4 +0.7**
baz=134
F20K S **S** **15 18 35.1 +2.6**
baz=134
EF04 Eagle Ford 04 28.03 110 IAmb IAmb 15 14 05.9
comp=Z,446nm,1.2s
MIAR Mount Ida 28.07 97 IAMs_20 IAMs_20 15 24 22.5
comp=Z,49µm,19.0s
MIAR Mount Ida 28.07 97 P **P** **15 13 51.4 +1.8**
MIAR pmax pmax
comp=Z,866nm,2.4s
MIAR Mount Ida 28.07 97 ⇑P **P** **15 13 50.9 +1.3**
L42A Oliver, Polo 28.09 79 IAMs_20 IAMs_20 15 25 47.6
comp=Z,34µm,18.0s
G18K Tagagawik 28.13 334 P **P** **15 13 50.4 +0.5**
baz=128
G18K S **S** **15 18 38.3 +3.6**
baz=128
I42A Draeger Farm, 28.16 75 P **P** **15 13 49.9 -0.5**
I42A IAmb IAmb 15 14 18.8
comp=Z,852nm,1.5s
I42A IAMs_20 IAMs_20 15 25 06.0
comp=Z,66µm,20.0s
D23K Nanushuk River 28.20 343 IAMs_20 IAMs_20 15 23 36.6
comp=Z,57µm,20.0s
D23K Nanushuk River 28.20 343 P **P** **15 13 52.1 +1.7**
baz=143
D23K S **S** **15 18 39.7 +4.0**
baz=143
J14K Nanvaranak Lak 28.24 326 IAmb IAmb 15 14 38.3
comp=Z,505nm,1.6s
J14K IAMs_20 IAMs_20 15 22 53.0
comp=Z,42µm,22.0s
J14K Nanvaranak Lak 28.24 326 P **P** **15 13 51.9 +1.0**
baz=116
J14K S **S** **15 18 41.6 +5.1**
baz=116
CCM Cathedral Cave 28.25 88 P **P** **15 13 51.0 -0.2**
CCM Cathedral Cave 28.25 88 IAMs_20 IAMs_20 15 25 35.5
comp=Z,64µm,19.0s
CCM Cathedral Cave 28.25 88 P **P** **15 13 51.0 -0.2**
CCM pmax pmax
comp=Z,3µm,1.8s
CCM MLR MLR
comp=Z,64µm,19.0s
CCM Cathedral Cave 28.25 88 ⇑P **P** **15 13 51.5 +0.2**
K13K Kusilvak Mount 28.36 324 IAMs_20 IAMs_20 15 22 56.2
comp=Z,43µm,21.0s
K13K Kusilvak Mount 28.36 324 P **P** **15 13 52.1 +0.3**
baz=113
K13K S **S** **15 18 37.7 -0.6**
baz=113
C24K Franklin Bluff 28.42 345 IAmb IAmb 15 13 54.9
comp=Z,526nm,1.4s
C24K IAMs_20 IAMs_20 15 23 57.4
comp=Z,55µm,21.0s
C24K Franklin Bluff 28.42 345 P **P** **15 13 53.1 +0.8**
baz=147
C24K S **S** **15 18 43.6 +4.4**
baz=147
F19K Shaleruckik Mo 28.45 336 P **P** **15 13 52.9 +0.2**
baz=130
F19K S **S** **15 18 38.2 -1.5**
baz=130
NIKH Nikolski High 28.48 304 IAmb IAmb 15 14 00.8
comp=Z,674nm,1.6s
NIKH Nikolski High 28.48 304 P **P** **15 13 52.3 -0.8**
baz=93
NIKH S **S** **15 18 42.4 +2.0**
baz=93
M11K Mekoryuk 28.48 320 IAmb IAmb 15 14 05.7
comp=Z,920nm,1.9s
M11K IAMs_20 IAMs_20 15 22 58.9
comp=Z,49µm,19.0s
M11K Mekoryuk 28.48 320 P **P** **15 13 53.4 +0.4**
baz=109
M11K S **S** **15 18 42.9 +2.6**
baz=109
FCAR Ozark Folk Cen 28.51 93 IAmb IAmb 15 14 08.7
comp=Z,443nm,1.5s
E21K Killik River 28.55 340 P **P** **15 13 53.0 -0.5**
E21K IAmb IAmb 15 14 52.7
comp=Z,700nm,1.8s
E21K IAMs_20 IAMs_20 15 23 33.0
comp=Z,47µm,22.0s
E21K Killik River 28.55 340 P **P** **15 13 54.1 +0.6**
baz=138
E21K S **S** **15 18 42.8 +1.6**
baz=138
G17K Kiwalik Mounta 28.56 332 P **P** **15 13 53.9 +0.2**
baz=124
G17K S **S** **15 18 46.1 +4.7**
baz=124
D22K Ayikyak River 28.57 342 IAmb IAmb 15 13 56.6
comp=Z,889nm,1.9s
D22K IAMs_20 IAMs_20 15 23 36.6
comp=Z,56µm,22.0s
D22K Ayikyak River 28.57 342 P **P** **15 13 54.8 +1.0**
baz=140
D22K S **S** **15 18 45.0 +3.4**
baz=140
H16K Elim 28.65 330 P **P** **15 13 55.5 +1.0**
baz=121
H16K S **S** **15 18 49.9 +7.1**
baz=121
WHAR Wooly Hollow 28.66 94 IAMs_20 IAMs_20 15 25 48.8
comp=Z,56µm,19.0s
A36M Sachs Harbour 28.70 2 IAmb IAmb 15 13 58.6
comp=Z,394nm,1.1s
A36M IAMs_20 IAMs_20 15 25 05.7
comp=Z,37µm,20.0s
A36M Sachs Harbour 28.70 2 P **P** **15 13 55.0 +0.1**
baz=184
A36M S **S** **15 18 44.7 +1.2**
baz=184
E19K Redstone River 28.71 337 IAmb IAmb 15 14 44.5
comp=Z,914nm,1.9s
E19K Redstone River 28.71 337 P **P** **15 13 56.0 +1.0**
baz=132
E19K S **S** **15 18 45.5 +1.7**
baz=132

NATX	**Nacogdoches**		**28.73**	**103**	IAMs_20	IAMs_20	15 26 25.4			
	comp=Z,41µm,19.0s									
NATX	**Nacogdoches**		**28.73**	**103**	⇑P	**P**	**15 13 57.0 +1.5**			
HDIL	**Hopedale**		**28.79**	**82**	⇑P	**P**	**15 13 56.6 +0.7**			
WLAR	**White Oak Lake**		**28.83**	**98**	IAMs_20	IAMs_20	15 25 39.6			
	comp=Z,59µm,19.0s									
H43A	**Windswept, Lux**		**28.84**	**74**	P	**P**	**15 13 56.3 -0.1**			
UALR	**University of**		**28.86**	**95**	IAmb	IAmb	15 14 09.4			
	comp=Z,692nm,1.6s									
FVM	**French Village**		**28.88**	**88**	IAmb	IAmb	15 14 07.7			
	comp=Z,265nm,0.8s									
F18K	**Selawik**		**28.88**	**334**	P	**P**	**15 13 57.4 +0.9**			
	baz=127									
F18K					S	**S**	**15 18 50.9 +4.5**			
	baz=127									
C23K	**Itkillik River**		**28.89**	**344**	IAmb	IAmb	15 13 59.3			
	comp=Z,1µm,1.9s									
C23K					IAMs_20	IAMs_20	15 24 11.8			
	comp=Z,61µm,21.0s									
C23K	**Itkillik River**		**28.89**	**344**	P	**P**	**15 13 57.5 +1.0**			
	baz=144									
C23K					S	**S**	**15 18 48.7 +2.2**			
	baz=144									
HKT	**Hockley**		**28.93**	**107**	*c i*P	**P**	**15 14 00.3 +3.1**			
HKT					pmax	pmax				
	comp=Z,552nm,1.5s									
HKT					MLR	MLR				
	comp=Z,89µm,16.0s									
HKT	**Hockley**		**28.93**	**107**	⇑P	**P**	**15 14 00.1 +2.9**			
E20K	**Nigu River**		**28.98**	**339**	P	**P**	**15 13 58.4 +1.0**			
	baz=134									
E20K					S	**S**	**15 18 51.1 +3.0**			
	baz=134									
KVTX	**Kingsville**		**29.02**	**113**	IAmb	IAmb	15 14 16.0			
	comp=Z,509nm,1.1s									
KVTX					IAMs_20	IAMs_20	15 24 47.3			
	comp=Z,36µm,18.0s									
G16K	**Koyuk River**		**29.09**	**331**	IAMs_20	IAMs_20	15 23 52.9			
	comp=Z,39µm,19.0s									
G16K	**Koyuk River**		**29.09**	**331**	P	**P**	**15 13 59.1 +0.7**			
	baz=122									
G16K					S	**S**	**15 18 55.8 +6.0**			
	baz=122									
LCAR	**Lake Charles**		**29.14**	**92**	IAmb	IAmb	15 14 10.9			
	comp=Z,578nm,1.4s									
LCAR					IAMs_20	IAMs_20	15 26 04.2			
	comp=Z,69µm,22.0s									
P08K	**Saint George I**		**29.26**	**311**	P	**P**	**15 14 02.0 +2.1**			
	baz=99									
Z41A	**Richland Creek**		**29.27**	**98**	IAmb	IAmb	15 14 11.7			
	comp=Z,861nm,1.5s									
C21K	**Knifeblade Rid**		**29.28**	**341**	P	**P**	**15 14 01.2 +1.1**			
	baz=138									
C21K					S	**S**	**15 18 55.2 +2.5**			
	baz=138									
F17K	**Baldwin Pennin**		**29.30**	**333**	IAmb	IAmb	15 14 02.9			
	comp=Z,646nm,1.6s									
F17K					IAMs_20	IAMs_20	15 24 10.2			
	comp=Z,33µm,18.0s									
F17K	**Baldwin Pennin**		**29.30**	**333**	P	**P**	**15 14 01.2 +1.0**			
	baz=125									
F17K					S	**S**	**15 18 58.6 +5.5**			
	baz=125									
PBMO	**Poplar Bluff**		**29.36**	**90**	IAmb	IAmb	15 14 12.0			
	comp=Z,297nm,1.1s									
PBMO					IAMs_20	IAMs_20	15 25 33.0			
	comp=Z,46µm,21.0s									
D20K	**Etivluk River**		**29.41**	**339**	IAmb	IAmb	15 14 56.1			
	comp=Z,730nm,1.7s									
D20K	**Etivluk River**		**29.41**	**339**	P	**P**	**15 14 01.9 +0.7**			
	baz=134									
D20K					S	**S**	**15 18 58.6 +3.8**			
	baz=134									
M44A	**Midewin, Midew**		**29.44**	**80**	P	**P**	**15 14 01.3 -0.4**			
ZAIG	**Zacatecas**		**29.46**	**126**	P	**P**	**15 14 03.0 +0.6**			
ZAIG					IAMs_20	IAMs_20	15 24 42.3			
	comp=Z,48µm,22.0s									
ZAIG	**Zacatecas**		**29.46**	**126**	⇓P	**P**	**15 14 05.8 +3.4**			
G15K	**Niukluk**		**29.49**	**330**	P	**P**	**15 14 02.9 +1.0**			
	baz=119									
G15K					S	**S**	**15 19 00.4 +4.3**			
	baz=119									
B21K	**Ikpikpuk River**		**29.59**	**342**	IAmb	IAmb	15 14 05.0			
	comp=Z,358nm,1.4s									
B21K					IAMs_20	IAMs_20	15 24 19.4			
	comp=Z,48µm,21.0s									
B21K	**Ikpikpuk River**		**29.59**	**342**	P	**P**	**15 14 03.4 +0.7**			
	baz=138									
B21K					S	**S**	**15 19 00.8 +3.4**			
	baz=138									
D19K	**Kuna River**		**29.66**	**338**	IAmb	IAmb	15 14 05.4			
	comp=Z,531nm,1.4s									
D19K					IAMs_20	IAMs_20	15 24 01.7			
	comp=Z,34µm,20.0s									
D19K	**Kuna River**		**29.66**	**338**	P	**P**	**15 14 03.9 +0.5**			
	baz=132									
D19K					S	**S**	**15 19 01.9 +3.1**			
	baz=132									
E18K	**Tukpahlearik C**		**29.68**	**335**	IAMs_20	IAMs_20	15 24 24.1			
	comp=Z,38µm,18.0s									
E18K	**Tukpahlearik C**		**29.68**	**335**	P	**P**	**15 14 04.2 +0.6**			
	baz=127									
E18K					S	**S**	**15 19 02.9 +3.8**			
	baz=127									
CCAR	**Cane Creek**		**29.68**	**96**	IAMs_20	IAMs_20	15 26 35.1			
	comp=Z,51µm,19.0s									
CGM3	**Cape Girardeau**		**29.71**	**89**	IAmb	IAmb	15 14 20.4			
	comp=Z,462nm,1.4s									
CGM3					IAMs_20	IAMs_20	15 26 21.1			
	comp=Z,33µm,20.0s									
HBAR	**Harrisburg**		**29.73**	**92**	IAmb	IAmb	15 14 07.1			
	comp=Z,367nm,0.9s									
SPIA	**Saint Paul Isl**		**29.73**	**312**	P	**P**	**15 14 04.9 +0.7**			
	baz=99									
SPIA					S	**S**	**15 19 02.6 +2.6**			
	baz=99									
ANM	**Nome**		**29.79**	**328**	IAmb	IAmb	15 15 06.7			
	comp=Z,918nm,2.0s									
ANM					IAMs_20	IAMs_20	15 24 41.1			
	comp=Z,33µm,18.0s									
ANM	**Nome**		**29.79**	**328**	P	**P**	**15 14 05.6 +1.0**			
	baz=117									
ANM					S	**S**	**15 19 06.8 +6.0**			
	baz=117									
E17K	**Hotham Inlet**		**29.86**	**334**	P	**P**	**15 14 06.2 +1.0**			
	baz=125									
E17K					S	**S**	**15 19 07.4 +5.6**			
	baz=125									
B22K	**Teshekpuk Lake**		**29.87**	**343**	IAMs_20	IAMs_20	15 24 51.9			
	comp=Z,51µm,19.0s									
B22K	**Teshekpuk Lake**		**29.87**	**343**	P	**P**	**15 14 06.1 +0.9**			
	baz=141									
B22K					S	**S**	**15 19 04.3 +2.4**			
	baz=141									
PARMO	**Parma**		**29.90**	**90**	IAMs_20	IAMs_20	15 26 01.3			
	comp=Z,29µm,18.0s									
PVMO	**Portageville**		**30.05**	**90**	IAMs_20	IAMs_20	15 25 54.2			
	comp=Z,45µm,20.0s									
PEBM	**Pemiscott Bayo**		**30.06**	**91**	IAmb	IAmb	15 14 19.6			
	comp=Z,648nm,1.1s									
PEBM					IAMs_20	IAMs_20	15 26 40.5			
	comp=Z,52µm,20.0s									
F15K	**North Star Dit**		**30.07**	**331**	IAMs_20	IAMs_20	15 24 23.8			
	comp=Z,40µm,19.0s									
F15K	**North Star Dit**		**30.07**	**331**	P	**P**	**15 14 08.3 +1.3**			
	baz=120									
F15K					S	**S**	**15 19 13.3 +8.1**			
	baz=120									
OLIL	**Olney**		**30.29**	**85**	IAmb	IAmb	15 14 11.4			
	comp=Z,638nm,1.1s									
SFIN	**Lafayette**		**30.43**	**81**	IAMs_20	IAMs_20	15 26 38.7			
	comp=Z,57µm,19.0s									
C19K	**Lookout Ridge**		**30.47**	**338**	IAmb	IAmb	15 14 12.9			
	comp=Z,641nm,1.8s									
C19K					IAMs_20	IAMs_20	15 24 29.0			
	comp=Z,38µm,22.0s									
C19K	**Lookout Ridge**		**30.47**	**338**	P	**P**	**15 14 11.1 +0.5**			
	baz=131									
C19K					S	**S**	**15 19 11.5 +0.1**			
	baz=131									
B20K	**Meade River**		**30.47**	**341**	IAMs_20	IAMs_20	15 24 57.9			
	comp=Z,40µm,21.0s									
B20K	**Meade River**		**30.47**	**341**	P	**P**	**15 14 11.5 +0.9**			
	baz=135									
B20K					S	**S**	**15 19 13.6 +2.3**			
	baz=135									
L46A	**Eue Claire**		**30.50**	**78**	P	**P**	**15 14 10.7 -0.4**			
L46A					IAmb	IAmb	15 14 26.0			
	comp=Z,476nm,1.2s									
L46A					IAMs_20	IAMs_20	15 26 40.2			
	comp=Z,29µm,18.0s									
HALT	**Halls**		**30.53**	**91**	IAMs_20	IAMs_20	15 26 08.9			
	comp=Z,48µm,19.0s									
143A	**Socs Landing,**		**30.56**	**98**	IAMs_20	IAMs_20	15 26 54.5			
	comp=Z,51µm,20.0s									
T45A	**Paducah**		**30.56**	**88**	IAMs_20	IAMs_20	15 26 56.6			
	comp=Z,49µm,19.0s									
F14K	**Arctic Creek**		**30.57**	**329**	P	**P**	**15 14 12.6 +1.2**			
	baz=117									
F14K					S	**S**	**15 19 17.7 +4.7**			
	baz=117									
D17K	**Noatak River**		**30.61**	**335**	P	**P**	**15 14 12.7 +0.8**			
	baz=124									
D17K					S	**S**	**15 19 16.0 +2.4**			
	baz=124									
P46A	**Rosedale**		**30.61**	**83**	IAmb	IAmb	15 14 23.2			
	comp=Z,291nm,1.0s									
C18K	**Utukok River**		**30.62**	**337**	IAmb	IAmb	15 15 10.6			
	comp=Z,589nm,1.7s									
C18K					IAMs_20	IAMs_20	15 24 50.7			
	comp=Z,32µm,20.0s									
C18K	**Utukok River**		**30.62**	**337**	P	**P**	**15 14 12.4 +0.4**			
	baz=128									
C18K					S	**S**	**15 19 16.0 +2.1**			
	baz=128									
UTMT	**University of**		**30.69**	**90**	IAMs_20	IAMs_20	15 27 09.0			
	comp=Z,40µm,22.0s									
A22K	**Sinclair Lake**		**30.72**	**343**	P	**P**	**15 14 13.7 +1.0**			
	baz=139									
A22K					S	**S**	**15 19 18.4 +3.3**			
	baz=139									
RDOG	**Red Dog Mine**		**30.77**	**335**	P	**P**	**15 14 13.3 +0.1**			
RDOG					IAMs_20	IAMs_20	15 25 00.8			
	comp=Z,32µm,19.0s									
RDOG	**Red Dog Mine**		**30.77**	**335**	P	**P**	**15 14 14.1 +0.9**			
	baz=125,SNR=19									
RDOG					S	**S**	**15 19 17.6 +1.5**			
	baz=125									
GLMI	**Grayling**		**30.96**	**72**	IAmb	IAmb	15 15 13.0			
	comp=Z,425nm,1.2s									
C17K	**DeLong Mountai**		**31.09**	**336**	P	**P**	**15 14 16.7 +0.6**			
	baz=125									
C17K					S	**S**	**15 19 18.2 -3.0**			
	baz=125									
OXF	**Oxford**		**31.11**	**93**	IAMs_20	IAMs_20	15 26 39.7			
	comp=Z,44µm,21.0s									
OXF	**Oxford**		**31.11**	**93**	⇑P	**P**	**15 14 16.0 -0.6**			
OXF	**Oxford**		**31.11**	**93**	⇑P	**P**	**15 14 17.0 +0.4**			
TNA	**Tin City**		**31.20**	**329**	IAmb	IAmb	15 14 35.7			
	comp=Z,415nm,1.7s									
TNA					IAMs_20	IAMs_20	15 25 44.4			
	comp=Z,29µm,18.0s									
TNA	**Tin City**		**31.20**	**329**	P	**P**	**15 14 17.5 +0.5**			
	baz=115,SNR=7.8									
TNA					S	**S**	**15 19 29.6 +6.7**			
	baz=115									
B18K	**Kokolik River**		**31.24**	**338**	P	**P**	**15 14 18.4 +1.1**			
	baz=128									
B18K					S	**S**	**15 19 25.3 +1.9**			
	baz=128									
BLO	**Bloomington**		**31.27**	**83**	IAmb	IAmb	15 14 20.0			
	comp=Z,400nm,0.9s									
N47A	**Urbana**		**31.28**	**80**	IAmb	IAmb	15 14 19.8			
	comp=Z,307nm,1.4s									
A21K	**Barrow**		**31.31**	**343**	P	**P**	**15 14 18.8 +0.9**			
	baz=138									
A21K					S	**S**	**15 19 27.8 +3.4**			
	baz=138									
Y45A	**Yeager Farm, C**		**31.33**	**95**	IAmb	IAmb	15 14 23.3			
	comp=Z,378nm,1.0s									
VBMS	**Vicksburg**		**31.45**	**98**	IAMs_20	IAMs_20	15 27 33.1			
	comp=Z,47nm,21.0s									
VBMS	**Vicksburg**		**31.45**	**98**	⇑P	**P**	**15 14 21.9 +2.4**			
WVT	**Waverly**		**31.53**	**89**	P	**P**	**15 14 20.0 -0.3**			
WVT					IAmb	IAmb	15 14 22.4			
	comp=Z,371nm,1.1s									
WVT	**Waverly**		**31.53**	**89**	IAMs_20	IAMs_20	15 26 51.4			
	comp=Z,44µm,19.0s									
WVT	**Waverly**		**31.53**	**89**	P	**P**	**15 14 20.0 -0.3**			
WVT					pmax	pmax				
	comp=Z,371nm,1.1s									
WVT					MLR	MLR				
	comp=Z,44µm,19.0s									
WVT	**Waverly**		**31.53**	**89**	⇑P	**P**	**15 14 20.9 +0.6**			
A19K	**Wainwright**		**31.58**	**339**	P	**P**	**15 14 21.1 +0.8**			
	baz=130									
A19K					S	**S**	**15 19 33.2 +4.5**			
	baz=130									
KAPO	**Kapuskasing**		**31.60**	**63**	P	**P**	**15 14 21.0 +0.3**			
C16K	**Lisburne Hills**		**31.64**	**335**	IAmb	IAmb	15 14 23.2			
	comp=Z,362nm,1.1s									
C16K					IAMs_20	IAMs_20	15 25 39.1			
	comp=Z,33µm,19.0s									
C16K	**Lisburne Hills**		**31.64**	**335**	P	**P**	**15 14 21.7 +0.8**			
	baz=122									
C16K					S	**S**	**15 19 33.9 +4.2**			
	baz=122									
T47A	**Sharon Grove**		**31.70**	**88**	IAmb	IAmb	15 14 23.8			
	comp=Z,340nm,1.1s									
ATKA	**Atka Island**		**31.73**	**302**	IAmb	IAmb	15 14 28.9			
	comp=Z,350nm,1.2s									
ATKA	**Atka Island**		**31.73**	**302**	P	**P**	**15 14 21.9 +0.1**			
ATKA	**Atka Island**		**31.73**	**302**	⇑P	**P**	**15 14 21.6 -0.3**			
WCI	**Wyandotte Cave**		**31.79**	**85**	P	**P**	**15 14 22.3 -0.2**			
WCI					IAmb	IAmb	15 14 33.6			
	comp=Z,280nm,1.0s									
WCI	**Wyandotte Cave**		**31.79**	**85**	P	**P**	**15 14 22.3 -0.2**			
WCI					pmax	pmax				
	comp=Z,280nm,1.0s									
WCI					MLR	MLR				
	comp=Z,145µm,19.0s									
WCI	**Wyandotte Cave**		**31.79**	**85**	⇑P	**P**	**15 14 22.8 +0.3**			
PLAL	**Pickwick Lake**		**31.87**	**92**	IAmb	IAmb	15 14 25.6			
	comp=Z,467nm,1.0s									
PLAL					IAMs_20	IAMs_20	15 27 37.5			
	comp=Z,44µm,22.0s									
O48B	**Farmland**		**31.87**	**81**	IAmb	IAmb	15 14 24.9			
	comp=Z,522nm,1.3s									
O48B					IAMs_20	IAMs_20	15 28 11.7			
	comp=Z,32µm,22.0s									
P48A	**Milroy**		**31.96**	**82**	IAmb	IAmb	15 14 25.7			
	comp=Z,483nm,1.1s									
GAMB	**Gambell**		**32.04**	**325**	IAMs_20	IAMs_20	15 25 40.9			
	comp=Z,31µm,19.0s									
GAMB	**Gambell**		**32.04**	**325**	P	**P**	**15 14 25.6 +1.2**			
	baz=108,SNR=12									
GAMB					S	**S**	**15 19 37.5 +1.6**			
	baz=108									
AAM	**Ann Arbor**		**32.29**	**76**	IAmb	IAmb	15 14 29.4			
	comp=Z,512nm,1.4s									
AAM					IAMs_20	IAMs_20	15 28 05.4			
	comp=Z,51µm,20.0s									
N49A	**Columbus Grove**		**32.35**	**79**	IAmb	IAmb	15 14 29.4			
	comp=Z,562nm,1.3s									
I49A	**Point Hope**		**32.42**	**73**	IAmb	IAmb	15 14 30.3			
	comp=Z,333nm,1.2s									
V48A	**Smith Brothers**		**32.44**	**89**	IAmb	IAmb	15 14 30.4			
	comp=Z,315nm,1.1s									
O49A	**Covington**		**32.49**	**80**	IAmb	IAmb	15 14 30.3			
	comp=Z,656nm,1.6s									
R49A	**Shelbyville**		**32.58**	**84**	IAmb	IAmb	15 14 50.0			
	comp=Z,275nm,1.4s									
HLK	**Haleakala**		**32.59**	**235**	IAmb	IAmb	15 14 33.5			
	comp=Z,545nm,1.2s									
HLK					IAMs_20	IAMs_20	15 23 29.7			
	comp=Z,41µm,21.0s									
KHLH	**Kahului Airpor**		**32.59**	**236**	IAmb	IAmb	15 14 40.8			
	comp=Z,347nm,1.1s									
KHLH					IAMs_20	IAMs_20	15 23 29.7			
	comp=Z,39µm,20.0s									
346A	**Big Creek Wild**		**32.65**	**98**	IAMs_20	IAMs_20	15 28 20.9			
	comp=Z,43µm,19.0s									
MOIG	**Morelia**		**32.67**	**128**	IAmb	IAmb	15 14 45.5			
	comp=Z,760nm,1.9s									
Z47A	**Carrollton**		**32.73**	**95**	P	**P**	**15 14 30.6 -0.2**			
Z47A					IAMs_20	IAMs_20	15 28 58.5			
	comp=Z,49µm,18.0s									
HPAH	**Hawaii Prepara**		**32.83**	**234**	P	**P**	**15 14 33.1 +1.3**			
HPAH					IAmb	IAmb	15 14 34.8			
	comp=Z,486nm,1.7s									
HPAH					IAMs_20	IAMs_20	15 23 54.0			
	comp=Z,31µm,21.0s									
U49A	**Red Boiling Sp**		**32.86**	**87**	IAmb	IAmb	15 14 34.5			
	comp=Z,359nm,1.1s									
X48A	**Hartselle**		**32.86**	**92**	IAmb	IAmb	15 14 34.0			
	comp=Z,358nm,1.2s									
X48A					IAMs_20	IAMs_20	15 28 16.9			
	comp=Z,44µm,22.0s									
K50A	**Casco**		**32.88**	**75**	IAmb	IAmb	15 14 34.2			
	comp=Z,319nm,1.2s									
GSTR	**Great Sitkin T**		**32.89**	**302**	IAmb	IAmb	15 14 39.1			
	comp=Z,383nm,1.2s									
JOKA	**Jonika Flow**		**32.89**	**232**	P	**P**	**15 14 33.7 +1.4**			
JOKA					IAMs_20	IAMs_20	15 24 16.8			
	comp=Z,33µm,19.0s									
POHA	**Pohakuloa**		**32.94**	**233**	P	**P**	**15 14 34.1 +1.1**			
POHA					IAmb	IAmb	15 15 39.3			
	comp=Z,468nm,1.6s									
POHA	**Pohakuloa**		**32.94**	**233**	IAMs_20	IAMs_20	15 23 40.1			
	comp=Z,37µm,20.0s									
POHA	**Pohakuloa**		**32.94**	**233**	*e*P	**P**	**15 14 32.3 -0.7**			
	comp=Z,17nm,1.2s									
POHA	**Pohakuloa**		**32.94**	**233**	*e*PP	**PP**	**15 15 49.1 +1.7**			
	comp=Z,152nm,24.9s									
POHA					*e*S	**S**	**15 19 46.7 -4.5**			
	comp=Z,339nm,25.9s									
POHA					*e*LR	LR	15 23 08.7			
	comp=Z,3µm,22.6s									
POHA	**Pohakuloa**		**32.94**	**233**	P	**P**	**15 14 34.9 +1.9**			
POHA	**Pohakuloa**		**32.94**	**233**	⇓P	**P**	**15 14 33.8 +0.8**			
STCH	**Steam Cracks**		**33.00**	**232**	IAMs_20	IAMs_20	15 24 42.6			
	comp=Z,30µm,20.0s									
M50A	**Fremont**		**33.01**	**78**	IAmb	IAmb	15 14 35.4			
	comp=Z,598nm,1.3s									
HMH	**Humu'ula Sheep**		**33.03**	**233**	IAmb	IAmb	15 14 44.6			
	comp=Z,218nm,1.1s									
HMH					IAMs_20	IAMs_20	15 24 00.5			
	comp=Z,35µm,20.0s									
HATHI	**Halema'uma'u T**		**33.05**	**232**	IAmb	IAmb	15 14 43.6			
	comp=Z,228nm,1.1s									
HATHI					IAMs_20	IAMs_20	15 23 42.9			
	comp=Z,34µm,21.0s									
BYL	**Byron's Ledge**		**33.05**	**232**	IAMs_20	IAMs_20	15 23 43.1			
	comp=Z,33µm,21.0s									
PUH	**Pauahi**		**33.06**	**232**	IAMs_20	IAMs_20	15 24 03.2			
	comp=Z,32µm,21.0s									
MLH	**Mauna Loa**		**33.06**	**233**	IAMs_20	IAMs_20	15 24 03.3			
	comp=Z,34µm,20.0s									
UWE	**Uwekahuna**		**33.07**	**232**	IAMs_20	IAMs_20	15 23 43.4			
	comp=Z,36µm,20.0s									
KIP	**Kipapa**		**33.16**	**238**	P	**P**	**15 14 36.0 +1.4**			
KIP					IAmb	IAmb	15 14 38.5			
	comp=Z,622nm,1.4s									
KIP	**Kipapa**		**33.16**	**238**	IAMs_20	IAMs_20	15 24 02.8			
	comp=Z,33µm,22.0s									
KIP	**Kipapa**		**33.16**	**238**	P	**P**	**15 14 37.3 +2.6**			
KIP	**Kipapa**		**33.16**	**238**	P	**P**	**15 14 37.6 +2.9**			
KIP	**Kipapa**		**33.16**	**238**	*c i*P	**P**	**15 14 36.9 +2.2**			
KIP					pmax	pmax				
	comp=Z,533nm,1.4s									
KIP					MLR	MLR				
	comp=Z,15µm,16.0s									
HLP	**Hilina Pali**		**33.17**	**232**	IAMs_20	IAMs_20	15 24 08.2			
	comp=Z,34µm,20.0s									
HUH	**Hualalai**		**33.17**	**233**	IAMs_20	IAMs_20	15 24 07.2			
	comp=Z,37µm,19.0s									
MWH	**Mokuaweoweo**		**33.19**	**233**	IAmb	IAmb	15 14 40.4			
	comp=Z,236nm,1.2s									
MWH					IAMs_20	IAMs_20	15 24 06.7			
	comp=Z,34µm,20.0s									
AIN	**Ainahou**		**33.20**	**232**	IAmb	IAmb	15 14 40.3			
	comp=Z,560nm,1.5s									
AIN					IAMs_20	IAMs_20	15 24 05.9			
	comp=Z,38µm,20.0s									
HON	**Honolulu**		**33.23**	**238**	IAMs_20	IAMs_20	15 23 43.6			
	comp=Z,41µm,20.0s									
HON	**Honolulu**		**33.23**	**238**	P	**P**	**15 14 38.5 +3.3**			
HON					pmax	pmax				
	comp=Z,431nm,1.3s									
ADK	**Adak**		**33.29**	**302**	P	**P**	**15 14 35.4 -0.1**			
ADK	**Adak**		**33.29**	**302**	P	**P**	**15 14 35.7 +0.2**			
ADK	**Adak**		**33.29**	**302**	P	**P**	**15 14 35.4 -0.1**			
ADK					pmax	pmax				
	comp=Z,200nm,1.2s									
ADK					MLR	MLR				
	comp=Z,9µm,21.0s									
ADK	**Adak**		**33.29**	**302**	⇑P	**P**	**15 14 35.3 -0.1**			
SWET	**Sewanee**		**33.32**	**90**	IAmb	IAmb	15 14 38.1			
	comp=Z,466nm,1.1s									
ACSO	**Alum Creek Sta**		**33.44**	**80**	⇑P	**P**	**15 14 37.5 +0.5**			
KIWB	**Kanaga Island**		**33.58**	**302**	IAmb	IAmb	15 14 45.4			
	comp=Z,312nm,1.5s									
LRAL	**Lakeview Retre**		**33.59**	**94**	IAmb	IAmb	15 14 40.6			
	comp=Z,298nm,1.1s									
LRAL					IAMs_20	IAMs_20	15 28 06.1			
	comp=Z,50µm,19.0s									
LRAL	**Lakeview Retre**		**33.59**	**94**	⇑P	**P**	**15 14 38.9 +0.6**			
Y49A	**Blount Mountai**		**33.61**	**92**	IAmb	IAmb	15 14 40.6			
	comp=Z,286nm,1.0s									
Y49A					IAMs_20	IAMs_20	15 28 02.6			
	comp=Z,29µm,22.0s									
P51A	**Williamsport**		**33.66**	**81**	IAmb	IAmb	15 14 40.7			
	comp=Z,418nm,1.2s									
W50A	**Signal Mountai**		**33.78**	**89**	IAMs_20	IAMs_20	15 28 48.9

comp=Z,32µm,21.0s
Q54A Coxs Mills **35.45** **81** IAmb IAmb 15 14 56.4
comp=Z,431nm,1.0s
S54A Dingess, Beckl **35.57** **83** IAmb IAmb 15 14 57.6
comp=Z,616nm,1.4s
BG3 Lake Jocassee **35.61** **88** IAmb IAmb 15 14 58.2
comp=Z,427nm,1.0s
MEDO Medina **35.69** **73** IAmb IAmb 15 14 58.2
comp=Z,499nm,1.3s
U54A Nelsons Funny **35.74** **85** IAmb IAmb 15 14 59.4
comp=Z,674nm,1.4s
451A Vernon **35.75** **97** P **P** **15 14 57.9 +0.9**
451A IAmb IAmb 15 15 00.1
comp=Z,500nm,0.9s
DELO Deloro Mine **35.87** **70** IAmb IAmb 15 14 59.6
comp=Z,559nm,1.5s
352A Blakely **35.89** **95** IAmb IAmb 15 15 00.8
comp=Z,518nm,1.0s
MCWV Mont Chateau **35.90** **79** IAMs_20 IAMs_20 15 29 48.0
comp=Z,28µm,18.0s
MCWV Mont Chateau **35.90** **79** ⇑P **P** **15 14 58.9 +0.6**
GOGA Godfrey **35.97** **91** IAMs_20 IAMs_20 15 28 50.9
comp=Z,34µm,22.0s
GOGA Godfrey **35.97** **91** ⇑P **P** **15 14 59.6 +0.7**
GOGA Godfrey **35.97** **91** ⇑P **P** **15 14 59.6 +0.7**
MMNY Mt. Morris Dam **36.20** **73** IAmb IAmb 15 15 02.4
comp=Z,799nm,1.9s
R55A Marlinton **36.23** **81** IAMs_20 IAMs_20 15 30 08.1
comp=Z,36µm,21.0s
HODGE Hodges **36.46** **89** P **P** **15 15 03.1 +0.1**
HODGE IAmb IAmb 15 15 05.2
comp=Z,426nm,1.0s
HODGE IAMs_20 IAMs_20 15 30 22.6
comp=Z,46µm,21.0s
BLA Blacksburg **36.46** **83** IAmb IAmb 15 15 05.7
comp=Z,534nm,1.1s
BLA Blacksburg **36.46** **83** ⇑P **P** **15 15 04.1 +1.0**
BLA Blacksburg **36.46** **83** ⇑P **P** **15 15 04.1 +1.0**
V55A Taylorsville **36.47** **86** IAmb IAmb 15 15 05.4
comp=Z,312nm,1.0s
L56A Greenwood **36.64** **74** IAmb IAmb 15 15 06.5
comp=Z,574nm,1.5s
KMSC Kings Mountain **36.71** **87** IAmb IAmb 15 15 06.9
comp=Z,424nm,1.0s
U56A King **36.86** **84** IAmb IAmb 15 15 08.7
comp=Z,436nm,1.1s
TIGA Tifton **36.88** **94** IAmb IAmb 15 15 09.2
comp=Z,533nm,1.0s
TIGA IAMs_20 IAMs_20 15 30 45.3
comp=Z,47µm,21.0s
OTT Ottawa **36.92** **68** P **P** **15 15 06.6 -0.2**
SSPA Standing Stone **36.93** **77** P **P** **15 15 06.5 -0.5**
SSPA IAmb IAmb 15 15 09.0
comp=Z,572nm,1.6s
SSPA Standing Stone **36.93** **77** ⇑P **P** **15 15 07.2 +0.2**
553A Crawfordville **36.94** **96** IAMs_20 IAMs_20 15 31 13.0
comp=Z,31µm,20.0s
GAC Glen Almond **36.99** **68** P **P** **15 15 06.8 -0.7**
GAC Glen Almond **36.99** **68** ⇓P **P** **15 15 07.3 -0.1**
K57A Scipio Center **37.17** **73** IAmb IAmb 15 15 10.6
comp=Z,448nm,1.3s
M57A Sunshine Farm, **37.22** **75** IAmb IAmb 15 15 11.6
comp=Z,699nm,1.2s
P57A Homestead Farm **37.27** **78** IAmb IAmb 15 15 12.6
comp=Z,654nm,1.2s
P57A IAMs_20 IAMs_20 15 30 51.4
comp=Z,35µm,18.0s
S57A Dark Hollow, R **37.29** **82** IAmb IAmb 15 15 12.8
comp=Z,972nm,1.7s
S57A IAMs_20 IAMs_20 15 30 59.0
comp=Z,40µm,18.0s
J57A Williamstown **37.32** **71** IAmb IAmb 15 15 11.7
comp=Z,510nm,1.1s
WBO Williamsburg **37.33** **69** IAmb IAmb 15 15 11.7
comp=Z,356nm,1.1s
TRQ Mont Tremblant **37.47** **67** IAmb IAmb 15 15 13.1
comp=Z,632nm,1.1s
BIRD Birdtown, Kers **37.57** **87** IAmb IAmb 15 15 14.3
comp=Z,385nm,1.1s
W57A Gilead **37.68** **86** IAmb IAmb 15 15 15.2
comp=Z,445nm,1.0s
N58A Sunbury **37.69** **76** IAmb IAmb 15 15 15.4
comp=Z,644nm,1.1s
N58A IAMs_20 IAMs_20 15 31 16.2
comp=Z,45µm,21.0s
BINY Binghamton **37.72** **73** IAmb IAmb 15 15 15.4
comp=Z,489nm,1.5s
BINY Binghamton **37.72** **73** ⇑P **P** **15 15 13.6 -0.2**
LONY Lake Ozonia **37.91** **69** IAmb IAmb 15 15 16.7
comp=Z,402nm,1.1s
LONY Lake Ozonia **37.91** **69** ⇑P **P** **15 15 15.1 -0.2**
Y57A Sumter **37.92** **88** IAmb IAmb 15 15 17.0
comp=Z,285nm,0.9s
R58B Mineral **37.98** **81** P **P** **15 15 16.0 +0.1**
R58B IAmb IAmb 15 15 18.8
comp=Z,634nm,1.5s
V58A Windy Hill, Pi **38.02** **85** IAmb IAmb 15 15 18.5
comp=Z,682nm,1.0s
SDMD Soldier's Deli **38.14** **78** IAMs_20 IAMs_20 15 31 17.3
comp=Z,29µm,18.0s
CBN Corbin Frederi **38.24** **80** IAmb IAmb 15 15 20.8
comp=Z,816nm,1.2s
CBN IAMs_20 IAMs_20 15 30 51.1
comp=Z,20µm,18.0s
MVL Millersville **38.26** **77** IAmb IAmb 15 15 20.3
comp=Z,430nm,1.2s
MNTQ Montreal, Queb **38.30** **67** IAmb IAmb 15 15 19.8
comp=Z,572nm,1.3s
J59A Piesco **38.33** **71** IAmb IAmb 15 15 20.4
comp=Z,759nm,1.1s
L59A Walton **38.38** **73** IAmb IAmb 15 15 21.0
comp=Z,472nm,1.2s
456A Hilliard **38.40** **94** IAMs_20 IAMs_20 15 31 05.4
comp=Z,35µm,20.0s
CMIG Matias Romero **38.43** **123** LR LR 15 32 10.9
comp=Z,15µm,19.3s,baz=316,slow=38
X58A Rowland **38.43** **86** IAmb IAmb 15 15 21.9
comp=Z,374nm,1.0s
257A Skidaway Islan **38.47** **91** IAMs_20 IAMs_20 15 30 17.1
comp=Z,30µm,20.0s
NHSC New Hope **38.52** **89** IAMs_20 IAMs_20 15 31 35.2
comp=Z,36µm,21.0s
NHSC New Hope **38.52** **89** ⇑P **P** **15 15 20.0 -0.5**
FRNY Flat Rock **38.52** **68** P **P** **15 15 19.8 -0.6**
FRNY IAmb IAmb 15 15 21.9
comp=Z,668nm,1.4s
T59A Double "B" Far **38.63** **82** IAmb IAmb 15 15 23.9
comp=Z,614nm,1.1s
T59A IAMs_20 IAMs_20 15 31 42.6
comp=Z,32µm,18.0s
SHEM Shemya Is, Ala **38.79** **305** LR LR 15 29 06.5
comp=Z,6µm,19.1s,baz=83,slow=33
W59A Clinton **38.80** **85** IAmb IAmb 15 15 25.3
comp=Z,456nm,1.0s
WUPA West Chester U **38.81** **77** IAMs_20 IAMs_20 15 32 04.1
comp=Z,29µm,18.0s
ACCN Adirondack Com **38.93** **71** IAmb IAmb 15 15 25.5
comp=Z,540nm,1.4s
FRB Frobisher Bay **38.96** **38** LR LR 15 31 48.3
comp=Z,43µm,18.3s,baz=270,slow=37
FRB Frobisher Bay **38.96** **38** P **P** **15 15 23.9 +0.1**
FRB Frobisher Bay **38.96** **38** ⇑P **P** **15 15 24.6 +0.8**
KUQ Kuujjuuaa **39.14** **47** P **P** **15 15 24.6 -0.7**
KUQ IAmb IAmb 15 15 26.5
comp=Z,810nm,1.2s
TRY Troy **39.15** **72** IAmb IAmb 15 15 27.6
comp=Z,688nm,1.0s
LDAQ Lac Daran **39.20** **63** IAmb IAmb 15 15 27.4
comp=Z,539nm,1.3s
VT1 Waterbury **39.25** **69** IAmb IAmb 15 15 28.4
comp=Z,677nm,1.2s
P61A Hammonton **39.49** **77** IAmb IAmb 15 15 30.8
comp=Z,1µm,1.6s
Y60A Bolivia **39.51** **86** IAmb IAmb 15 15 31.5
comp=Z,701nm,1.0s
KSCT Kent School, K **39.63** **73** IAMs_20 IAMs_20 15 31 57.5
comp=Z,24µm,19.0s
R61A Willards **39.65** **79** IAMs_20 IAMs_20 15 31 52.3
comp=Z,19µm,18.0s
CPNY Central Park **39.65** **75** IAmb IAmb 15 15 32.7
comp=Z,551nm,1.4s
J61A Chester **39.71** **70** P **P** **15 15 30.2 -0.1**
LBNH Lisbon **39.84** **69** IAmb IAmb 15 15 33.8
comp=Z,586nm,1.0s
LBNH Lisbon **39.84** **69** ⇑P **P** **15 15 32.2 +0.7**
V61A Roper **39.86** **83** IAmb IAmb 15 15 34.4
comp=Z,828nm,1.2s

LMQ La Malbaie **39.90** **63** IAmb IAmb 15 15 33.2
comp=Z,742nm,1.1s
L61B Northampton **39.93** **72** IAmb IAmb 15 15 34.7
comp=Z,634nm,1.4s
H62A Milan **40.25** **68** IAmb IAmb 15 15 36.7
comp=Z,585nm,1.1s
DWPF Disney Wildern **40.27** **97** P **P** **15 15 36.2 +1.0**
DWPF IAmb IAmb 15 15 38.3
comp=Z,586nm,1.0s
DWPF Disney Wildern **40.27** **97** IAMs_20 IAMs_20 15 33 14.3
comp=Z,27µm,18.0s
DWPF Disney Wildern **40.27** **97** *e*P **P** **15 15 34.7 -0.5**
DWPF Disney Wildern **40.27** **97** ⇑P **P** **15 15 36.8 +1.6**
SCHQ Schefferville **40.42** **51** IAmb IAmb 15 15 37.2
comp=Z,827nm,1.5s
SCHQ Schefferville **40.42** **51** P **P** **15 15 35.4 -0.8**
comp=Z,253nm,1.2s,baz=280,slow=7.0,SNR=56
SCHQ PP **PP** **15 17 07.8 -1.2**
comp=Z,200nm,1.1s,baz=286,slow=9.7,SNR=10
SCHQ LR LR 15 32 18.6
comp=Z,58µm,18.5s,baz=292,slow=36
comp=Z,253nm,1.2s
TEIG Tepich **40.42** **112** P **P** **15 15 37.3 +0.8**
TEIG Tepich **40.42** **112** ⇑P **P** **15 15 37.8 +1.2**
G62A West of Eustis **40.46** **67** IAMs_20 IAMs_20 15 31 52.0
comp=Z,38µm,20.0s
UCCT U. Connecticut **40.49** **72** P **P** **15 15 36.8 0.0**
HRV Adam Dziewonsk **40.69** **71** P **P** **15 15 38.2 -0.2**
HRV Adam Dziewonsk **40.69** **71** P **P** **15 15 38.3 -0.2**
HRV pmax pmax
comp=Z,387nm,1.2s
HRV MLR MLR
comp=Z,102µm,18.0s
HRV Adam Dziewonsk **40.69** **71** ⇑P **P** **15 15 39.1 +0.6**
E62A Clayton Lake **40.70** **64** IAmb IAmb 15 15 40.8
comp=Z,683nm,1.2s
CCIG Comitan **40.75** **120** IAMs_20 IAMs_20 15 31 13.2
comp=Z,29µm,22.0s
I63A Olisfield **40.81** **68** IAmb IAmb 15 15 41.8
comp=Z,587nm,1.4s
D62A Allapoint, All **40.87** **64** IAmb IAmb 15 15 42.1
comp=Z,568nm,1.1s
WES Weston **40.89** **71** IAmb IAmb 15 15 42.3
comp=Z,482nm,1.3s
BCX Boston College **41.02** **71** IAmb IAmb 15 15 43.3
comp=Z,396nm,1.1s
TULEG Thule **41.16** **18** IAMs_20 IAMs_20 15 30 25.7
comp=Z,27µm,18.0s
WVL Waterville **41.27** **67** IAmb IAmb 15 15 45.1
comp=Z,678nm,1.3s
PKME Peaks-Kenny Pk **41.28** **66** IAmb IAmb 15 15 45.2
comp=Z,488nm,1.4s
PKME IAMs_20 IAMs_20 15 32 15.5
comp=Z,33µm,22.0s
PKME Peaks-Kenny Pk **41.28** **66** ⇑P **P** **15 15 43.5 +0.2**
ICQ Pointe Anglais **41.32** **59** P **P** **15 15 42.9 -0.7**
ICQ IAmb IAmb 15 15 44.9
comp=Z,795nm,1.3s
L64A Middleborough **41.39** **72** IAmb IAmb 15 15 46.5
comp=Z,536nm,1.2s
BILL Bilibino **41.64** **329** P **P** **15 15 45.7 -0.4**
BILL IAmb IAmb 15 15 56.7
comp=Z,425nm,1.4s
BILL IAMs_20 IAMs_20 15 32 17.0
comp=Z,21µm,18.0s
BILL Bilibino **41.64** **329** *d* iP **P** **15 15 45.8 -0.2**
BILL pmax pmax
comp=Z,333nm,1.5s
BILL MLR MLR
comp=Z,21µm,16.0s
060A Indiantown **41.67** **97** P **P** **15 15 48.0 +1.3**
060A IAmb IAmb 15 15 50.0
comp=Z,619nm,1.1s
060A IAMs_20 IAMs_20 15 33 38.3
comp=Z,21µm,22.0s
M65A Busby, Falmout **41.67** **72** IAmb IAmb 15 15 48.9
comp=Z,599nm,0.9s
M65A Busby, Falmout **41.67** **72** P **P** **15 15 47.0 +0.5**
baz=293
M65A S **S** **15 22 03.0 -0.1**
baz=293
F64A Sherman **41.71** **65** IAmb IAmb 15 15 48.4
comp=Z,546nm,1.3s
HUEH Huehuetenango **41.87** **121** IAMs_20 IAMs_20 15 32 28.1
comp=Z,19µm,21.0s
MIDW Midway **42.14** **266** P **P** **15 15 51.3 +0.7**
MIDW IAmb IAmb 15 16 04.6
comp=Z,508nm,1.4s
MIDW IAMs_20 IAMs_20 15 28 26.8
comp=Z,23µm,20.0s
MIDW Midway **42.14** **266** P **P** **15 15 52.0 +1.4**
RTAL Retalhuleu **42.35** **122** IAMs_20 IAMs_20 15 31 45.9
comp=Z,19µm,21.0s
SOR Soroa **42.37** **104** *e*P **P** **15 15 51.5 -1.0**
G65A Princeton **42.45** **66** IAmb IAmb 15 15 55.0
comp=Z,755nm,1.2s
G65A IAMs_20 IAMs_20 15 33 22.5
comp=Z,36µm,22.0s
EMMW East Machias **42.69** **66** IAmb IAmb 15 15 56.9
comp=Z,651nm,1.3s
GGN Saint George **42.96** **66** IAmb IAmb 15 15 59.1
comp=Z,636nm,1.2s
CAMR Camarioca **43.36** **102** IAmb IAmb 15 16 08.0
comp=Z,1µm,1.7s
CAMR IAMs_20 IAMs_20 15 34 48.0
comp=Z,40µm,21.0s
CAMR Camarioca **43.36** **102** *e*P **P** **15 16 00.6 +0.1**
KULLO Kullorsuaq **43.65** **21** *i* P **P** **15 16 02.8 +0.6**
KULLO IAmb IAmb 15 16 12.2
comp=Z,160nm,1.0s
UPNV Upernavik **43.88** **24** *i* P **P** **15 16 03.9 -0.2**
UPNV IAmb IAmb 15 16 15.5
comp=Z,149nm,1.1s
MTO3 Montecristo **43.92** **119** IAMs_20 IAMs_20 15 36 29.1
comp=Z,20µm,20.0s
JOHN Johnston Islan **44.00** **246** P **P** **15 16 07.2 +1.5**
JOHN Johnston Islan **44.00** **246** IAMs_20 IAMs_20 15 29 45.3
comp=Z,21µm,20.0s
JOHN Johnston Islan **44.00** **246** *e*P **P** **15 16 06.4 +0.7**
comp=Z,2µm,1.2s
JOHN Johnston Islan **44.00** **246** *e*PP **PP** **15 17 51.0 +2.9**
comp=Z,2µm,30.5s
JOHN *e*S **S** **15 22 40.5 +2.8**
comp=Z,8µm,24.9s
JOHN *e*LR LR 15 28 01.3
comp=Z,50µm,23.6s
JOHN Johnston Islan **44.00** **246** P **P** **15 16 08.2 +2.5**
JOHN Johnston Islan **44.00** **246** ⇑P **P** **15 16 07.4 +1.7**
NIAQ Niaqornat **44.70** **27** *i* P **P** **15 16 10.9 +0.3**
NIAQ IAmb IAmb 15 16 24.0
comp=Z,165nm,1.2s
NUUG Nuugaatsiaq **44.80** **26** *i* P **P** **15 16 12.0 +0.5**
NUUG IAmb IAmb 15 16 20.3
comp=Z,48nm,1.0s
GDH Godhavn **44.85** **29** *i* P **P** **15 16 12.5 +0.6**
GDH IAmb IAmb 15 16 23.0
comp=Z,200nm,0.9s
CAIB Caibarien **45.07** **102** *e*P **P** **15 16 12.2 -2.0**
NEEM North Greenlan **45.26** **17** ⇑P **P** **15 16 15.8 +0.3**
NEEM North Greenlan **45.26** **17** *i* P **P** **15 16 16.4 +0.9**
NEEM IAmb IAmb 15 16 27.0
comp=Z,385nm,1.1s
SAQQ Saqqaq **45.34** **28** *i* P **P** **15 16 15.5 -0.2**
SAQQ IAmb IAmb 15 16 25.6
comp=Z,79nm,0.9s
SAATT Saattut **45.37** **27** *i* P **P** **15 16 16.4 +0.4**
SAATT IAmb IAmb 15 16 27.8
comp=Z,185nm,1.1s
TGUH Tegucigalpa,Un **45.51** **117** IAMs_20 IAMs_20 15 37 22.6
comp=Z,14µm,18.0s
TGUH Tegucigalpa,Un **45.51** **117** ⇓P **P** **15 16 21.1 +3.1**
ILULI Ilulissat **45.72** **29** P **P** **15 16 18.7 -0.1**
ILULI IAMs_20 IAMs_20 15 33 34.3
comp=Z,16µm,19.0s
ILULI Ilulissat **45.72** **29** P **P** **15 16 18.7 -0.1**
ILULI pmax pmax
comp=Z,110nm,1.0s
ILULI Ilulissat **45.72** **29** *i* P **P** **15 16 18.5 -0.3**
ILULI IAmb IAmb 15 16 20.6
comp=Z,171nm,1.4s
FSCY Frank Sound, G **45.93** **106** *e*P P 15 16 11.8 -9.2
SFJD Kangerlussuaq **46.23** **32** P **P** **15 16 22.9 +0.1**
SFJD Kangerlussuaq **46.23** **32** LR LR 15 35 22.2
comp=Z,15µm,18.5s,baz=281,slow=36
SFJD Kangerlussuaq **46.23** **32** P **P** **15 16 22.9 +0.1**
SFJD pmax pmax
comp=Z,620nm,1.4s
SFJD Kangerlussuaq **46.23** **32** ⇑P **P** **15 16 23.3 +0.4**
SFJD Kangerlussuaq **46.23** **32** *i* P **P** **15 16 23.3 +0.4**
SFJD IAmb IAmb 15 16 24.7
comp=Z,656nm,1.8s
SFJD Kangerlussuaq **46.23** **32** P **P** **15 16 23.2 +0.4**
SFJD S **S** **15 23 09.7 +0.8**
NUUK Nuuk **46.30** **36** ⇑P **P** **15 16 24.4 +1.0**
NUUK Nuuk **46.30** **36** *i* P **P** **15 16 24.0 +0.6**
NUUK IAmb IAmb 15 16 25.5
comp=Z,662nm,2.0s
CRIN San Cristobal **46.67** **118** IAMs_20 IAMs_20 15 37 41.9
comp=Z,18µm,20.0s
HERN Volcan Telica **46.88** **118** IAMs_20 IAMs_20 15 37 55.8
comp=Z,16µm,19.0s
SIUN Universidad Ur **47.40** **115** IAmb IAmb 15 16 44.9
comp=Z,170nm,1.4s
SIUN IAMs_20 IAMs_20 15 37 15.4
comp=Z,12µm,20.0s
BOAB BOACO BROADBAN **47.75** **117** P **P** **15 16 36.0 +0.7**
BOAB BOACO BROADBAN **47.75** **117** ⇑P **P** **15 16 37.1 +1.9**
PET Petropavlovsk **47.76** **309** P **P** **15 16 34.4 -0.5**
PET IAmb IAmb 15 16 42.4
comp=Z,185nm,1.0s
PET Petropavlovsk **47.76** **309** P **P** **15 16 35.6 +0.7**
PET Petropavlovsk **47.76** **309** *e*P **P** **15 16 34.7 -0.2**
PET *e* 15 18 09.5
PET *e* 15 18 24.9
PET *e*S **S** **15 23 32.1 +1.0**
PET pmax pmax
comp=Z,2µm,12.5s
PET pmax pmax
comp=Z,700nm,11.8s
PET pmax pmax
comp=Z,211nm,1.2s
PET pmax pmax
comp=Z,900nm,14.6s
PET MLR MLR
comp=Z,4µm,16.0s
PET MLR MLR
comp=Z,4µm,16.0s
PET Petropavlovsk **47.76** **309** ⇓P **P** **15 16 34.7 -0.2**
SEY Seymchan **47.99** **323** LR LR 15 35 32.9
comp=Z,15µm,20.4s,baz=84,slow=35
SEY Seymchan **47.99** **323** *d* iP **P** **15 16 36.3 -0.3**
SEY pmax pmax
comp=Z,275nm,1.3s
DY2G Dye2 **48.03** **32** *i* P **P** **15 16 37.6 +0.4**
BILN Bilwi Airport **48.09** **113** IAMs_20 IAMs_20 15 39 38.4
comp=Z,7µm,19.0s
PILO Pilon **48.20** **103** *e*P **P** **15 16 37.8 -1.1**
PEA0B Petropavlovsk- **48.27** **309** *d* iP **P** **15 16 38.9 -0.1**
PETK Petropavlovsk- **48.27** **309** P **P** **15 16 38.2 -0.8**
PETK Petropavlovsk- **48.27** **309** P **P** **15 16 38.2 -0.8**
comp=Z,78nm,0.9s,baz=77,slow=10,SNR=78
PETK PcP **PcP** **15 18 05.7 0.0**
comp=Z,11nm,0.9s,baz=94,slow=4.3,SNR=1.4
PETK LR LR 15 36 20.3
comp=Z,4µm,18.9s,baz=71,slow=35
comp=Z,78nm,0.9s
LMGC Las Mercedes **48.39** **102** *e*P **P** **15 16 38.5 -1.7**
ACON Acoyapa **48.42** **117** IAmb IAmb 15 16 50.9
comp=Z,285nm,1.6s
HLGC Holguin **48.53** **100** *e*P **P** **15 16 40.6 -0.8**
IVI Ivigtut **48.63** **39** P **P** **15 16 41.6 +0.1**
IVI IAmb IAmb 15 16 53.5
comp=Z,310nm,1.0s
IVI Ivigtut **48.63** **39** ⇑P **P** **15 16 42.2 +0.6**
IVI Ivigtut **48.63** **39** *i* P **P** **15 16 42.2 +0.6**
XMAS Kiritimati **48.77** **221** *e*P P 15 16 34.2 -9.0
comp=Z,49nm,26.0s
XMAS Kiritimati **48.77** **221** *e*P **P** **15 16 45.6 +2.4**
comp=Z,20nm,1.2s
XMAS Kiritimati **48.77** **221** *e*PP **PP** **15 18 32.6 -3.8**
comp=Z,20nm,36.0s
XMAS *e*S **S** **15 23 47.1 +0.9**
comp=Z,413nm,26.0s
XMAS *e*SS **SS** **15 27 20.0 +3.2**
comp=Z,318nm,28.0s
XMAS *e*LR LR 15 30 33.2
comp=Z,2µm,24.0s
ESPN Las Esperanzas **48.83** **116** IAMs_20 IAMs_20 15 39 31.3
comp=Z,15µm,20.0s
CHIV Chivirico **48.86** **102** IAmb IAmb 15 16 56.1
comp=Z,485nm,1.2s
CHIV IAMs_20 IAMs_20 15 36 52.8
comp=Z,23µm,20.0s
PINC Pinares de May **48.98** **101** *e*P **P** **15 16 43.4 -1.4**
SUMG Summit **49.14** **23** P **P** **15 16 44.0 -1.8**
SUMG Summit **49.14** **23** IAMs_20 IAMs_20 15 36 31.6
comp=Z,13µm,18.0s
SUMG Summit **49.14** **23** P **P** **15 16 45.8 0.0**
SUMG Summit **49.14** **23** ⇑P **P** **15 16 45.8 0.0**
SUMG Summit **49.14** **23** *i* P **P** **15 16 45.9 0.0**
SUMG IAmb IAmb 15 16 57.3
comp=Z,607nm,1.2s
MTDJ Mount Denham **49.22** **104** IAmb IAmb 15 17 14.8
comp=Z,259nm,1.2s
MTDJ IAMs_20 IAMs_20 15 40 41.4
comp=Z,13µm,18.0s
MTDJ Mount Denham **49.22** **104** *e*P **P** **15 16 47.6 +0.8**
MTDJ Mount Denham **49.22** **104** *i* P P 15 16 52.1 +5.4
MTDJ Mount Denham **49.22** **104** ⇑*i* P **P** **15 16 48.1 +1.4**
MTDJ Mount Denham **49.22** **104** ⇑P **P** **15 16 48.8 +2.0**
RCC Rio Carpintero **49.37** **101** *e*P **P** **15 16 45.5 -2.3**
MOAC Moa **49.47** **100** *e*P **P** **15 16 49.7 +1.2**
NMDO Nuevo Mundo **49.51** **100** IAmb IAmb 15 17 01.0
comp=Z,414nm,1.0s
NMDO IAMs_20 IAMs_20 15 39 38.8
comp=Z,31µm,18.0s
NMDO Nuevo Mundo **49.51** **100** *e*P **P** **15 16 45.5 -3.4**
MA2 Magadan **49.74** **319** P **P** **15 16 50.1 0.0**
MA2 IAmb IAmb 15 17 00.8
comp=Z,309nm,1.3s
MA2 IAMs_20 IAMs_20 15 36 27.4
comp=Z,13µm,19.0s
MA2 Magadan **49.74** **319** LR LR 15 36 38.9
comp=Z,13µm,19.6s,baz=78,slow=35
MA2 Magadan **49.74** **319** P **P** **15 16 50.5 +0.4**
MA2 Magadan **49.74** **319** *d* iP **P** **15 16 50.2 +0.1**
MA2 pmax pmax
comp=Z,322nm,1.5s
MA2 Magadan **49.74** **319** ⇑P **P** **15 16 49.0 -1.1**
MA2 Magadan **49.74** **319** P **P** **15 16 49.7 -0.4**
comp=Z,4µmcomp=Z,242nm,1.4s
JTS Las Juntas de **49.82** **118** LR LR 15 41 10.7
comp=Z,7µm,19.6s,baz=312,slow=40
JTS Las Juntas de **49.82** **118** *i* P **P** **15 16 53.0 +1.7**
JTS pmax pmax
comp=Z,15nm,0.5s
JTS MLR MLR
comp=Z,7µm,20.0s
GTBY Guantanamo Bay **49.83** **101** *e*P **P** **15 16 49.7 -1.6**
GTBY Guantanamo Bay **49.83** **101** ⇑*i* P **P** **15 16 53.0 +1.7**
GTBY Guantanamo Bay **49.83** **101** ⇑P **P** **15 16 53.0 +1.7**
STH Stony Hill **49.83** **104** *e*P **P** **15 16 50.4 -0.9**
STH Stony Hill **49.83** **104** *i* P **P** **15 16 53.1 +1.7**
STH Stony Hill **49.83** **104** ⇓*i* P **P** **15 16 53.6 +2.3**
QMBU Quimbuelo **49.87** **100** *e*P **P** **15 16 51.1 -0.5**
GWJ Greenwich **49.89** **104** *i* P **P** **15 16 53.6 +1.7**
NRS Narsarsuaq **49.91** **39** IAmb IAmb 15 16 53.1
comp=Z,561nm,1.7s
NRS Narsarsuaq **49.91** **39** P **P** **15 16 51.0 -0.4**
NRS Narsarsuaq **49.91** **39** ⇑P **P** **15 16 51.4 0.0**
NRS Narsarsuaq **49.91** **39** *i* P **P** **15 16 50.6 -0.7**
NRS IAmb IAmb 15 16 52.7
comp=Z,683nm,1.8s
PRVC Isla de Provid **49.92** **112** IAMs_20 IAMs_20 15 37 53.9
comp=Z,18µm,22.0s
SKR Severo-Kuril's **50.07** **306** *e*P **P** **15 16 51.1 -1.6**
SKR *e*S **S** **15 24 04.8 +1.1**
SKR pmax pmax
comp=Z,2µm,7.2s
SKR pmax pmax
comp=Z,205nm,1.1s
BBSR BB Station **50.12** **80** P **P** **15 16 53.5 +0.2**
BBSR IAmb IAmb 15 16 55.2
comp=Z,307nm,1.1s
BBSR BB Station **50.12** **80** ⇑P **P** **15 16 53.7 +0.4**
MASC Masc **50.30** **100** *e*P **P** **15 16 55.3 +0.5**
NOR Nord **50.35** **10** ⇑P **P** **15 16 55.4 +0.9**
NOR Nord **50.35** **10** ⇑P **P** **15 16 55.3 +0.8**
NOR Nord **50.35** **10** *i* P **P** **15 16 55.8 +1.3**
NOR IAmb IAmb 15 17 02.4
comp=Z,548nm,2.0s

ISOG	**Isortoq, Green**	**51.15**	**32**	⇑P		**P**		**15 17 00.3**	**-0.4**
ISOG	**Isortoq, Green**	**51.15**	**32**	*i* P		**P**		**15 16 59.5**	**-1.2**
ISOG				IAmb	IAmb	15 17 01.4			
	comp=Z,283nm,1.4s								
ANGG	**Ammassalik, Gr**	**51.65**	**32**	P		**P**		**15 17 03.5**	**-0.9**
ANGG				IAMs_20	IAMs_20	15 37 07.9			
	comp=Z,24µm,20.0s								
ANGG	**Ammassalik, Gr**	**51.65**	**32**	⇑P		**P**		**15 17 03.5**	**-0.9**
ANGG	**Ammassalik, Gr**	**51.65**	**32**	*i* P		**P**		**15 17 03.4**	**-1.0**
ANGG				IAmb	IAmb	15 17 05.1			
	comp=Z,273nm,1.4s								
GRTK	**Grand Turk**	**51.69**	**96**	IAMs_20	IAMs_20	15 38 50.1			
	comp=Z,20µm,21.0s								
GRTK	**Grand Turk**	**51.69**	**96**	*e*P		**P**		**15 17 03.7**	**-1.6**
GRTK	**Grand Turk**	**51.69**	**96**	⇑P		**P**		**15 17 06.3**	**+1.1**
DAG	**Danmarks Havn**	**52.38**	**16**	P		**P**		**15 17 10.6**	**+0.9**
DAG	**Danmarks Havn**	**52.38**	**16**	P		**P**		**15 17 09.6**	**-0.1**
DAG	**Danmarks Havn**	**52.38**	**16**	⇓P		**P**		**15 17 10.1**	**+0.4**
DAG	**Danmarks Havn**	**52.38**	**16**	*i* P		**P**		**15 17 10.4**	**+0.7**
DAG				IAmb	IAmb	15 17 19.8			
	comp=Z,83nm,0.8s								
LGNH	**Logne**	**52.54**	**100**	*e*P		**P**		**15 17 11.4**	**-0.2**
PAPH	**Port-au-Prince**	**52.76**	**100**	*e*P		**P**		**15 17 11.4**	**-1.8**
SOEG	**Soedalen**	**52.89**	**28**	*i* P		**P**		**15 17 12.4**	**-1.2**
SOEG				IAmb	IAmb	15 17 24.5			
	comp=Z,117nm,0.9s								
TAOE	**Nuku Hiva Isla**	**53.15**	**195**	*e*P		**P**		**15 17 17.9**	**+1.7**
	comp=Z,998nm,1.6s								
TAOE				*e*S		**S**		**15 24 46.6**	**-0.3**
	comp=Z,3µm,27.3s								
TAOE				*e*SS		**SS**		**15 28 19.0**	**-7.7**
	comp=Z,4µm,26.7s								
TAOE				*e*LQ		LQ		15 30 18.9	
	comp=Z,19µm,26.9s								
TAOE				*e*LR		LR		15 32 38.1	
	comp=Z,9µm,22.3s								
TAOE	**Nuku Hiva Isla**	**53.15**	**195**	P		P		15 17 23.5	+7.3
SDDR	**Presa de Saban**	**53.19**	**99**	IAMs_20	IAMs_20	15 39 54.0			
	comp=Z,23µm,19.0s								
SDDR	**Presa de Saban**	**53.19**	**99**	*e*P		**P**		**15 17 14.2**	**-2.3**
SDDR	**Presa de Saban**	**53.19**	**99**	⇑P		**P**		**15 17 17.5**	**+1.0**
DBG	**Daneborg**	**53.28**	**19**	⇑P		**P**		**15 17 16.6**	**+0.2**
DBG	**Daneborg**	**53.28**	**19**	*i* P		**P**		**15 17 16.6**	**+0.2**
DBG				IAmb	IAmb	15 17 18.5			
	comp=Z,197nm,1.1s								
TIXI	**Tiksi**	**53.34**	**337**	P		**P**		**15 17 15.6**	**-1.3**
TIXI	**Tiksi**	**53.34**	**337**	LR	LR	15 40 32.9			
	comp=Z,18µm,20.4s,baz=88,slow=37								
TIXI	**Tiksi**	**53.34**	**337**	*d i* P		**P**		**15 17 16.0**	**-0.8**
TIXI				pmax	pmax				
	comp=Z,272nm,2.3s								
TIXI				MLR	MLR				
	comp=Z,18µm,20.0s								
BCIP	**Isla Barro Col**	**54.00**	**114**	IAmb	IAmb	15 17 33.5			
	comp=Z,256nm,1.4s								
BCIP	**Isla Barro Col**	**54.00**	**114**	⇓P		**P**		**15 17 24.4**	**+2.0**
SDD	**Santo Domingo**	**54.52**	**98**	IAmb	IAmb	15 17 33.5			
	comp=Z,269nm,1.1s								
SCO	**Scoresbysund**	**54.78**	**23**	*i* P		**P**		**15 17 27.4**	**0.0**
SCO				IAmb	IAmb	15 17 28.9			
	comp=Z,266nm,1.6s								
PAYG	**Puerto Ayora**	**55.38**	**132**	P		**P**		**15 17 33.0**	**+0.6**
PAYG				IAmb	IAmb	15 17 37.5			
	comp=Z,336nm,1.2s								
KBS	**Kingsbay**	**55.69**	**9**	P		**P**		**15 17 33.4**	**-0.5**
KBS	**Kingsbay**	**55.69**	**9**	*i* P		**P**		**15 17 35.4**	**+1.6**
KBS				pmax	pmax				
	comp=Z,114nm,1.0s								
KBS				MLR	MLR				
	comp=Z,7µm,16.0s								
KBS	**Kingsbay**	**55.69**	**9**	*e*P		**P**		**15 17 35.4**	**+1.6**
KBS				IVMs_BB	IVMs_BB	15 41 16.1			
	comp=Z,4µm,12.2s								
KBS	**Kingsbay**	**55.69**	**9**	⇑P		**P**		**15 17 30.7**	**-3.1**
KBS	**Kingsbay**	**55.69**	**9**	*i* P		**P**		**15 17 35.0**	**+1.1**
SPA0	**Spitsbergen Ar**	**56.80**	**8**	*e*P		**P**		**15 17 42.0**	**+0.2**
SPITS	**Spitsbergen Ar**	**56.80**	**8**	P		**P**		**15 17 41.5**	**-0.3**
	comp=Z,160nm,0.9s,baz=40,slow=7.5,SNR=44								
SPITS				LR	LR	15 42 44.8			
	comp=Z,15µm,18.4s,baz=322,slow=37								
	comp=Z,160nm,0.9s								
SPB2	**Spitsbergen Ar**	**56.80**	**8**	IAmb	IAmb	15 18 00.8			
	comp=Z,207nm,1.0s								
CELP	**Cerrillos**	**57.17**	**96**	IAmb	IAmb	15 18 04.0			
	comp=Z,244nm,1.2s								
CELP				IAMs_20	IAMs_20	15 41 43.4			
	comp=Z,15µm,18.0s								
OBIP	**Obispado Ponce**	**57.17**	**96**	IAmb	IAmb	15 18 00.4			
	comp=Z,229nm,1.1s								
OBIP				IAMs_20	IAMs_20	15 41 11.4			
	comp=Z,11µm,18.0s								
GCPR	**Guaynabo City**	**57.38**	**95**	IAMs_20	IAMs_20	15 42 46.9			
	comp=Z,19µm,19.0s								
SJG	**San Juan**	**57.46**	**96**	IAMs_20	IAMs_20	15 41 58.0			
	comp=Z,16µm,21.0s								
SJG	**San Juan**	**57.46**	**96**	LR	LR	15 42 20.3			
	comp=Z,15µm,21.9s,baz=288,slow=36								
SJG	**San Juan**	**57.46**	**96**	*e*P		**P**		**15 17 45.6**	**-1.7**
SJG	**San Juan**	**57.46**	**96**	⇑P		**P**		**15 17 47.5**	**+0.3**
KUR	**Kuril'sk**	**57.48**	**304**	P		**P**		**15 17 48.0**	**+1.0**
KUR				*e*S		**S**		**15 25 45.7**	**+1.6**
KUR				*e*SSS		SSS		15 31 56.2	
KUR				pmax	pmax				
	comp=Z,448nm,1.9s								
KUR				MLR	MLR				
	comp=Z,4µm,18.0s								
NKL	**Nikolayevsk**	**57.53**	**314**	*e*P		**P**		**15 17 46.2**	**-1.0**
NKL				*e*S		**S**		**15 25 43.6**	**-1.0**
NKL				pmax	pmax				
	comp=N,237nm,1.4s								
NKL				pmax	pmax				
	comp=E,97nm,1.4s								
NKL				pmax	pmax				
	comp=Z,541nm,1.4s								
NKL				smax	smax				
	comp=E,220nm,2.7s								
NKL				smax	smax				
	comp=N,560nm,7.3s								
NKL				MLR	MLR				
	comp=E,15µm,17.0s								
NKL				MLR	MLR				
	comp=N,11µm,15.0s								
NKL				MLR	MLR				
	comp=Z,13µm,16.0s								
PDPR	**Patillas Dam,**	**57.62**	**96**	IAMs_20	IAMs_20	15 42 09.0			
	comp=Z,14µm,19.0s								
TYV	**Tymovskoe**	**57.63**	**311**	*e*P		**P**		**15 17 47.9**	**-0.1**
TYV				*e*S		**S**		**15 25 46.9**	**+0.9**
TYV				pmax	pmax				
	comp=Z,600nm,3.7s								
TYV				pmax	pmax				
	comp=Z,75nm,1.6s								
TYV				smax	smax				
	comp=N,1µm,9.4s								
TYV				smax	smax				
	comp=E,1µm,9.4s								
HUMP	**Col San Antoni**	**57.66**	**95**	IAMs_20	IAMs_20	15 46 31.2			
	comp=Z,11µm,18.0s								
HSPB	**Hornsund (broa**	**57.73**	**9**	*e*P		**P**		**15 17 49.5**	**+1.2**
YAK	**Yakutsk**	**57.94**	**327**	P		**P**		**15 17 48.9**	**-1.1**
YAK				IAmb	IAmb	15 17 50.6			
	comp=Z,208nm,1.1s								
YAK	**Yakutsk**	**57.94**	**327**	IAMs_20	IAMs_20	15 40 39.3			
	comp=Z,15µm,22.0s								
YAK	**Yakutsk**	**57.94**	**327**	LR	LR	15 40 57.6			
	comp=Z,16µm,21.6s,baz=66,slow=34								
YAK	**Yakutsk**	**57.94**	**327**	*d i* P		**P**		**15 17 49.1**	**-0.9**
YAK				*e**PP		**pwP**		**15 17 57.1**	**+0.9**
YAK				*e*				15 18 41.3	
YAK				*e*				15 19 57.1	
YAK				*e*S		**S**		**15 25 48.9**	**-0.8**
YAK				*e**SS		sS		15 26 04.9	+12
YAK				*e*				15 27 39.0	
YAK				*e*SS		**SS**		**15 29 40.2**	**+0.3**
YAK				pmax	pmax				
	comp=Z,209nm,1.3s								
YAK				pmax	pmax				
	comp=N,55nm,1.5s								
YAK				pmax	pmax				
	comp=E,105nm,1.5s								
YAK				pmax	pmax				
	comp=Z,632nm,3.0s								
YAK				pmax	pmax				
	comp=N,388nm,4.0s								
YAK				pmax	pmax				
	comp=E,252nm,3.4s								
YAK				smax	smax				
	comp=N,485nm,5.5s								
YAK				smax	smax				
	comp=E,976nm,7.7s								
YAK				MLR	MLR				
	comp=Z,11µm,20.0s								
YAK				MLR	MLR				
	comp=N,6µm,23.0s								
YAK				MLR	MLR				
	comp=E,10µm,27.0s								
YAK	**Yakutsk**	**57.94**	**327**	⇑P		**P**		**15 17 48.6**	**-1.4**
JMI	**Jan Mayen**	**58.05**	**20**	*e*P		**P**		**15 17 51.6**	**+1.0**
JMI				IVMs_BB	IVMs_BB	15 43 39.8			
	comp=Z,7µm,12.5s								
JNW	**Jan Mayen West**	**58.06**	**20**	*e*P		**P**		**15 17 51.6**	**+0.9**
JNW				*e*S		**S**		**15 25 50.7**	**-0.4**
JNW				IVMs_BB	IVMs_BB	15 42 21.5			
	comp=Z,7µm,10.4s								
JMIC	**Jan Mayen**	**58.07**	**20**	LR	LR	15 41 41.4			
	comp=Z,5µm,19.5s,baz=322,slow=35								
BORG	**Borgarnes**	**58.11**	**29**	P		**P**		**15 17 51.3**	**+0.2**
BORG				IAmb	IAmb	15 18 04.0			
	comp=Z,199nm,1.1s								
BORG	**Borgarnes**	**58.11**	**29**	IAMs_20	IAMs_20	15 43 46.7			
	comp=Z,12µm,19.0s								
BORG	**Borgarnes**	**58.11**	**29**	LR	LR	15 41 19.2			
	comp=Z,11µm,21.0s,baz=306,slow=34								
BORG	**Borgarnes**	**58.11**	**29**	P		**P**		**15 17 51.3**	**+0.2**
BORG				pmax	pmax				
	comp=Z,199nm,1.1s								
BORG				MLR	MLR				
	comp=Z,12µm,19.0s								
BORG	**Borgarnes**	**58.11**	**29**	⇑P		**P**		**15 17 52.3**	**+1.1**
JNE	**Jan Mayen East**	**58.12**	**20**	*e*P		**P**		**15 17 51.5**	**+0.3**
JNE				*e*S		**S**		**15 25 52.5**	**+0.7**
JNE				IVMs_BB	IVMs_BB	15 42 22.6			
	comp=Z,7µm,12.2s								
H11N3	**WAKE ISLAND Hy**	**58.70**	**268**	T	T	16 21 59.1			
	baz=50,slow=75								
H11N2	**WAKE ISLAND Hy**	**58.70**	**268**	T	T	16 22 04.4			
	baz=50,slow=75								
H11N1	**WAKE ISLAND Hy**	**58.71**	**268**	T	T	16 21 34.7			
	baz=50,slow=75								
UGL	**Uglegorsk**	**58.88**	**310**	*e*P		**P**		**15 17 55.7**	**-1.0**
UGL				pmax	pmax				
	comp=Z,200nm,1.0s								
HOPEN	**Hopen**	**59.15**	**7**	*e*P		**P**		**15 17 57.8**	**-0.4**
HOPEN				IVmB_BB		15 17 59.2			
	comp=Z,857nm,1.1s								
HOPEN				*e*S		**S**		**15 26 06.7**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**59.32**	**303**	*e*P		**P**		**15 18 02.6**	**+2.7**
YUK				*i* S		**S**		**15 26 04.8**	**-3.4**
YUK				*i* SS		**SS**		**15 30 09.6**	**+7.3**
YUK				pmax	pmax				
	comp=Z,753nm,1.7s								
YUK				pmax	pmax				
	comp=N,302nm,1.0s								
YUK				pmax	pmax				
	comp=E,340nm,1.6s								
YUK				MLR	MLR				
	comp=Z,6µm,22.0s								
YUK				MLR	MLR				
	comp=E,4µm,17.0s								
YSS	**Yuzhno-Sakhali**	**59.61**	**307**	P		**P**		**15 18 01.2**	**-0.6**
YSS				IAmb	IAmb	15 18 19.4			
	comp=Z,193nm,1.2s								
YSS	**Yuzhno-Sakhali**	**59.61**	**307**	P		**P**		**15 18 02.3**	**+0.4**
YSS	**Yuzhno-Sakhali**	**59.61**	**307**	*e*P		**P**		**15 18 01.6**	**-0.3**
YSS				*e*				15 18 51.4	
YSS				*e*				15 20 18.7	
YSS				*e*S		**S**		**15 26 07.7**	**-4.2**
YSS				*e*SS		**SS**		**15 30 04.9**	**-1.8**
YSS				pmax	pmax				
	comp=Z,1µm,7.2s								
YSS				pmax	pmax				
	comp=N,300nm,6.5s								
YSS				pmax	pmax				
	comp=E,700nm,7.4s								
YSS				pmax	pmax				
	comp=Z,100nm,1.1s								
YSS				smax	smax				
	comp=E,2µm,14.6s								
YSS				MLR	MLR				
	comp=Z,2µm,16.0s								
YSS	**Yuzhno-Sakhali**	**59.61**	**307**	⇓P		**P**		**15 18 02.0**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**59.62**	**267**	T	T	16 23 10.4			
	baz=50,slow=75								
H11S2	**WAKE ISLAND Hy**	**59.62**	**267**	T	T	16 23 12.1			
	baz=50,slow=75								
H11S3	**WAKE ISLAND Hy**	**59.63**	**267**	T	T	16 23 11.8			
	baz=50,slow=75								
SMRT	**St. Maarten**	**59.74**	**93**	IAmb	IAmb	15 18 08.9			
	comp=Z,208nm,1.1s								
SMRT				IAMs_20	IAMs_20	15 44 17.0			
	comp=Z,13µm,20.0s								
SABA	**Saba**	**59.89**	**94**	IAMs_20	IAMs_20	15 47 30.1			
	comp=Z,14µm,18.0s								
SEUS	**St. Eustatius**	**60.16**	**94**	IAMs_20	IAMs_20	15 45 37.3			
	comp=Z,14µm,20.0s								
BJO1	**Bjornoya**	**60.34**	**10**	*e*P		**P**		**15 18 06.9**	**+0.5**
BJO1				*e*S		**S**		**15 26 20.1**	**-0.4**
BJO1				IVMs_BB	IVMs_BB	15 44 47.5			
	comp=Z,4µm,11.3s								
SDV	**Santo Domingo**	**60.48**	**107**	P		**P**		**15 18 09.3**	**+0.9**
SDV				IAmb	IAmb	15 18 23.3			
	comp=Z,188nm,1.2s								
SDV				IAMs_20	IAMs_20	15 44 41.1			
	comp=Z,11µm,21.0s								
SDV	**Santo Domingo**	**60.48**	**107**	LR	LR	15 47 52.1			
	comp=Z,7µm,18.6s,baz=327,slow=40								
SDV	**Santo Domingo**	**60.48**	**107**	P		**P**		**15 18 10.1**	**+1.6**
SDV				S		**S**		**15 26 27.2**	**+3.0**
SDV	**Santo Domingo**	**60.48**	**107**	*e*P		**P**		**15 18 10.4**	**+1.9**
ROSC	**El Rosal**	**60.86**	**113**	P		**P**		**15 18 13.4**	**+2.1**
	comp=Z,19nm,0.3s,baz=353,slow=6.1,SNR=15								
ROSC				LR	LR	15 50 05.2			
	comp=Z,4µm,18.2s,baz=328,slow=42								
	comp=Z,19nm,0.3s								
PMOR	**Pomariorio Ree**	**60.88**	**202**	*e*S		**S**		**15 26 33.0**	**+4.4**
	comp=Z,4µm,35.9s								
PMOR				*e*SS		**SS**		**15 30 33.6**	**+5.3**
	comp=Z,2µm,25.8s								
PMOR				*e*LQ		LQ		15 33 36.1	
	comp=Z,5µm,26.4s								
PMOR				*e*LR		LR		15 36 05.4	
	comp=Z,6µm,23.7s								
ANWB	**Willy Bob**	**60.92**	**93**	IAMs_20	IAMs_20	15 45 47.3			
	comp=Z,11µm,21.0s								
ANWB	**Willy Bob**	**60.92**	**93**	*e*P		**P**		**15 18 07.4**	**-3.8**
GRNR	**Gornyy**	**61.03**	**314**	⇓P		**P**		**15 18 11.5**	**0.0**
GRNR				*e*S		**S**		**15 26 32.5**	**+2.5**
GRNR				pmax	pmax				
	comp=N,20nm,1.3s								
GRNR				pmax	pmax				
	comp=E,30nm,1.3s								
GRNR				pmax	pmax				
	comp=Z,90nm,1.2s								
GRNR				smax	smax				
	comp=N,4.0nm,1.3s								
VAH	**Vaihoa**	**61.04**	**202**	*e*P		**P**		**15 18 11.9**	**+0.1**
	comp=N,72nm,1.2s								
VAH	**Vaihoa**	**61.04**	**202**	*e*LR	LR	15 36 16.9			
	comp=N,17µm,31.7s								
MBFL	**Flemmings, Mon**	**61.20**	**94**	*e*P		**P**		**15 18 10.7**	**-2.4**
JKA	**Kamikawa-asahi**	**61.25**	**305**	IAmb	IAmb	15 18 30.8			
	comp=Z,251nm,1.3s								
OTAV	**Otavalo**	**61.63**	**120**	P		**P**		**15 18 19.1**	**+2.5**
OTAV	**Otavalo**	**61.63**	**120**	⇑P		**P**		**15 18 19.6**	**+3.0**
OTAV	**Otavalo**	**61.63**	**120**	P		**P**		**15 18 19.1**	**+2.5**
OTAV				S		**S**		**15 26 45.4**	**+6.0**
OTAV	**Otavalo**	**61.63**	**120**	*e*P		**P**		**15 18 18.3**	**+1.7**
DHSZ	**Broadband at M**	**61.84**	**94**	*e*P		**P**		**15 18 13.8**	**-3.6**
GDHS	**Morne Mazeau,**	**61.84**	**94**	IAmb	IAmb	15 18 23.0			
	comp=Z,299nm,1.4s								
GDHS				IAMs_20	IAMs_20	15 44 37.4			
	comp=Z,18µm,22.0s								
ABD	**La Joyeuse, An**	**61.91**	**94**	IAMs_20	IAMs_20	15 45 33.5			
	comp=Z,12µm,21.0s								
ATGZ	**Broadband at L**	**61.98**	**94**	*e*P		**P**		**15 18 18.0**	**-0.4**
MMLZ	**Guadeloupe Bro**	**62.05**	**94**	*e*P		**P**		**15 18 18.7**	**-0.2**
ERM	**Erimo**	**62.09**	**303**	P		**P**		**15 18 19.0**	**+0.3**
ERM				IAmb	IAmb	15 18 37.7			
	comp=Z,186nm,1.1s								
ERM	**Erimo**	**62.09**	**303**	P		**P**		**15 18 19.7**	**+0.9**
ERM	**Erimo**	**62.09**	**303**	*e*P		**P**		**15 18 19.1**	**+0.3**
ERM				pmax	pmax				
	comp=Z,132nm,1.2s								
ERM				MLR	MLR				
	comp=Z,3µm,18.0s								
ERM	**Erimo**	**62.09**	**303**	P		**P**		**15 18 18.0**	**-0.8**
ERM				S		**S**		**15 26 46.7**	**+3.1**
JEM	**Erimo**	**62.09**	**303**	P		**P**		**15 18 19.9**	**+1.1**
TBG	**Guadaloupe-3**	**62.20**	**94**	*e*P		**P**		**15 18 18.7**	**-1.1**
BAUV	**El Baul**	**62.26**	**105**	IAmb	IAmb	15 18 24.8			
	comp=Z,214nm,0.9s								
DSDZ	**La Diserade, G**	**62.32**	**93**	*e*P		**P**		**15 18 18.3**	**-2.3**
GDSD	**La Dsirade Is**	**62.32**	**93**	IAmb	IAmb	15 18 21.9			
	comp=Z,153nm,1.1s								
GDSD				IAMs_20	IAMs_20	15 46 05.4			
	comp=Z,12µm,20.0s								
MAGL	**Barre de l'ile**	**62.40**	**94**	IAMs_20	IAMs_20	15 45 03.6			
	comp=Z,16µm,21.0s								
FLOC	**Florencia**	**62.41**	**117**	IAmb	IAmb	15 18 34.5			
	comp=Z,296nm,1.3s								
DWS	**Wesley**	**62.62**	**94**	*e*P		**P**		**15 18 18.9**	**-3.8**
DSLB	**Salisbury**	**62.63**	**94**	*e*P		P		15 18 16.3	-6.5
MDN	**Morne-Daniel**	**62.73**	**95**	*e*P		**P**		**15 18 22.8**	**-0.6**
DLPL	**La Plaine**	**62.83**	**94**	*e*P		**P**		**15 18 24.8**	**+0.7**
SVN	**Savane Anatole**	**63.20**	**95**	IAMs_20	IAMs_20	15 48 54.1			
	comp=Z,13µm,18.0s								
SVN	**Savane Anatole**	**63.20**	**95**	*e*P		**P**		**15 18 24.3**	**-2.4**
FDF	**Fort de France**	**63.29**	**95**	IAmb	IAmb	15 18 38.9			
	comp=Z,141nm,1.1s								
FDF				IAMs_20	IAMs_20	15 45 03.3			
	comp=Z,13µm,22.0s								
FDF	**Fort de France**	**63.29**	**95**	P	P	**15 18 26.8**	**-0.4**		
ILAM	**Ilet Lapin Mar**	**63.46**	**95**	IAMs_20	IAMs_20	15 48 53.8			
	comp=Z,14µm,19.0s								
ILAM	**Ilet Lapin Mar**	**63.46**	**95**	*e*P		**P**		**15 18 25.0**	**-3.3**
BIM	**Bigot**	**63.49**	**95**	IAMs_20	IAMs_20	15 42 50.7			
	comp=Z,11µm,21.0s								
BIM	**Bigot**	**63.49**	**95**	*e*P		**P**		**15 18 26.4**	**-2.1**
PPT	**Papeete**	**63.80**	**203**	P		**P**		**15 18 33.6**	**+3.3**
	comp=Z,57nm,1.0s,baz=121,slow=4.4,SNR=4.5								
PPT				LR	LR	15 37 39.8			
	comp=Z,2µm,21.9s,baz=16,slow=28								
	comp=Z,57nm,1.0s								
PPTF	**Pamatai, Papee**	**63.81**	**203**	IAmb	IAmb	15 18 43.5			
	comp=Z,236nm,1.2s								
PPTF	**Pamatai, Papee**	**63.81**	**203**	P	P	15 18 37.6	+7.1		
PPT2	**Papeete2**	**63.82**	**203**	*e*P		**P**		**15 18 32.5**	**+2.0**
	comp=Z,121nm,1.1s								
PPT2				*e*S		**S**		**15 27 08.3**	**+2.6**
	comp=Z,625nm,24.0s								
PPT2				*e*SS		**SS**		**15 31 08.9**	**-5.4**
	comp=Z,2µm,29.5s								
PPT2				*e*LQ		LQ		15 34 41.1	
	comp=Z,18µm,27.8s								
PPT2				*e*LR		LR		15 37 32.0	
	comp=Z,5µm,25.0s								
PPT2				*e*LR		LR		15 37 38.0	
	comp=Z,5µm,24.2s								
ZEA	**Zeya**	**63.84**	**320**	*e*P		**P**		**15 18 29.7**	**-0.6**
ZEA				*e*S		**S**		**15 27 05.8**	**+0.6**
ZEA				pmax	pmax				
	comp=E,200nm,3.3s								
ZEA				pmax	pmax				
	comp=Z,600nm,3.2s								
ZEA				pmax	pmax				
	comp=E,20nm,0.8s								
ZEA				pmax	pmax				
	comp=Z,60nm,1.3s								
ZEA				smax	smax				
	comp=E,800nm,15.1s								
ZEA				smax	smax				
	comp=N,2µm,14.9s								
SLBI	**Saint Lucia, B**	**63.88**	**95**	*e*P		**P**		**15 18 28.6**	**-2.5**
PAE	**Paea**	**63.88**	**203**	*e*P		**P**		**15 18 33.7**	**+2.9**
	comp=N,51nm,1.1s								
PAE				*e*S		**S**		**15 27 07.9**	**+1.5**
	comp=N,209nm,25.5s								
PAE				*e*LQ		LQ		15 34 57.0	
	comp=N,646nm,23.1s								
PAE				*e*LR		LR		15 37 29.7	
	comp=N,1µm,25.5s								
TVO	**Taravao**	**63.91**	**203**	*e*P		**P**		**15 18 33.7**	**+2.6**
	comp=N,57nm,1.1s								
TVO				*e*S		**S**		**15 27 12.2**	**+5.4**
	comp=N,686nm,27.8s								
TVO				*e*SS		**SS**		**15 31 19.1**	**+3.4**
	comp=N,405nm,24.7s								
TVO				*e*LQ		LQ		15 34 59.0	
	comp=N,752nm,24.4s								
TVO				*e*LR		LR		15 37 29.0	
	comp=N,933nm,22.8s								
JTM	**Tenmabayashi**	**64.08**	**302**	IAmb	IAmb	15 18 39.2			
	comp=Z,272nm,1.6s								
JTM	**Tenmabayashi**	**64.08**	**302**	P	P	**15 18 32.6**	**+0.5**		
SVB	**Belmont**	**64.18**	**96**	*e*P		**P**		**15 18 30.9**	**-2.2**
TEY	**Ternei**	**64.23**	**308**	⇑*e*P		**P**		**15 18 33.1**	**+0.1**
TEY				*e*				15 31 23.5	
TEY				pmax	pmax				
	comp=N,10.0nm,1.2s								
TEY				pmax	pmax				
	comp=E,10.0nm,1.2s								
TEY				pmax	pmax				
	comp=Z,20nm,1.2s								
TEY				pmax	pmax				
	comp=E,100nm,4.2s								
TEY				pmax	pmax				
	comp=N,100nm,3.2s								
TEY				pmax	pmax				
	comp=Z,200nm,3.8s								
HAMF	**Hammerfest**	**64.45**	**10**	*e*P		**P**		**15 18 34.0**	**0.

ARCES PKPPKP **P'P'df** **15 47 22.9 -5.8**
comp=Z,5,6nm,1.1s,baz=153,slow=0.8,SNR=5.8
ARCES LR LR 15 48 28.3
comp=Z,8µm,19.0s,baz=336,slow=37
comp=Z,27nm,0.9s
TRN Trinidad (W) 65.83 98 *eP* **P** **15 18 41.6 -2.1**
KTK1 Kautokeino 65.91 11 *eP* **P** **15 18 43.7 +0.2**
KTK1 IVmB_BB 15 18 52.3
comp=Z,1µm,1.5s
KTK1 *eS* **S** **15 27 31.2 +0.9**
HEH HeiHe 65.95 317 *eP* **P** **15 18 43.0 -1.0**
HEH pP **pwP** **15 18 51.0 +0.8**
HEH S **S** **15 27 29.8 -1.5**
HEH SS **SS** **15 31 47.0 +1.6**
HEH pmax pmax
comp=Z,94nm,1.2s
HEH LR LR
comp=Z,2µm,15.1s
HEH LR LR
comp=Z,9µm,16.2s
HEH LR LR
comp=Z,9µm,20.0s
JMM Marumori 65.98 300 IAmb IAmb 15 19 08.7
comp=Z,233nm,1.6s
JMM Marumori 65.98 300 P **P** **15 18 44.3 -0.2**
JMM Marumori 65.98 300 ⇑P **P** **15 18 44.3 -0.2**
FAUS Fauske 66.11 15 *eP* **P** **15 18 45.5 +0.7**
FAUS IVmB_BB 15 18 53.8
comp=Z,1µm,2.8s
FAUS *eS* **S** **15 27 33.9 +1.3**
FAUS IVMs_BB IVMs_BB 15 44 30.1
comp=Z,4µm,13.3s
VAGH Vaagaholmen 66.29 16 *eP* **P** **15 18 44.3 -1.6**
VAGH IVmB_BB 15 18 55.6
comp=Z,1µm,2.3s
VAGH *eS* **S** **15 27 37.6 +2.6**
VAGH IVMs_BB IVMs_BB 15 48 57.1
comp=Z,3µm,14.2s
RKT Rikitea 66.49 187 *eS* **S** **15 27 41.9 +3.8**
comp=Z,7µm,25.8s
RKT *eSS* **SS** **15 31 54.8 -0.9**
comp=Z,9µm,31.8s
RKT *eLQ* LQ 15 35 48.4
comp=Z,42µm,31.2s
RKT *eLR* LR 15 38 43.6
comp=Z,56µm,27.8s
STOK Stokkvaagen 66.59 16 *eP* **P** **15 18 49.8 +1.9**
STOK IVmB_BB 15 18 57.3
comp=Z,2µm,2.9s
STOK *eS* **S** **15 27 40.2 +1.7**
BOD Bodaibo 66.70 329⇑ *iP* **P** **15 18 47.0 -1.7**
BOD pmax pmax
comp=Z,135nm,1.2s
LEIR Leirfjorden 66.80 16 *eP* **P** **15 18 49.2 0.0**
LEIR IVmB_BB 15 18 52.5
comp=Z,2µm,7.1s
LEIR *eS* **S** **15 27 41.9 +0.8**
LEIR IVMs_BB IVMs_BB 15 44 39.8
comp=Z,3µm,17.4s
TARA Tarawa 66.96 249 P **P** **15 18 51.6 +0.6**
TARA Tarawa 66.96 249 IAMs_20 IAMs_20 15 42 34.2
comp=Z,12µm,20.0s
TARA Tarawa 66.96 249 P **P** **15 18 53.3 +2.3**
MOR8 Moi Rana 67.01 16 *eP* **P** **15 18 51.1 +0.5**
MOR8 IVmB_BB 15 18 59.3
comp=Z,1µm,2.2s
MOR8 *eS* **S** **15 27 45.1 +1.4**
MOR8 IVMs_BB IVMs_BB 15 44 35.5
comp=Z,4µm,22.6s
USA0B Ussuriysk Arra 67.35 310 IAmb IAmb 15 19 03.4
comp=Z,192nm,1.2s
USA0B Ussuriysk Arra 67.35 310 *d iP* **P** **15 18 52.7 -0.4**
USRK Ussuriysk Ar. 67.35 310 P **P** **15 18 52.4 -0.8**
USRK Ussuriysk Ar. 67.35 310 P **P** **15 18 52.9 -0.2**
comp=Z,63nm,1.1s,baz=54,slow=4.8,SNR=43
USRK LR LR 15 46 54.0
comp=Z,5µm,20.3s,baz=43,slow=35
comp=Z,63nm,1.1s
JSD Sado 67.47 301 P **P** **15 18 54.3 +0.3**
LEWI Lewis, Hebride 67.66 29 *eP* **P** **15 18 56.0 +1.2**
LEWI IAMs_20 IAMs_20 15 45 59.9
comp=Z,12µm,19.6s
SGF Sodankyl 67.82 10 P **P** **15 18 55.9 +0.2**
NSS Namsos 67.93 17 *eP* **P** **15 18 56.0 -0.5**
NSS IVmB_BB 15 19 05.3
comp=Z,1µm,1.7s
NSS *eS* **S** **15 27 55.6 +0.8**
NSS IVMs_BB IVMs_BB 15 50 33.4
comp=Z,3µm,17.1s
LRW Lerwick 68.06 26 *eP* **P** **15 18 58.5 +1.2**
LRW IAMs_20 IAMs_20 15 49 40.2
comp=Z,17µm,15.7s
LVZ Lovozero 68.27 7 P **P** **15 18 57.6 -0.9**
LVZ IAmb IAmb 15 19 06.1
comp=Z,231nm,0.9s
LVZ IAMs_20 IAMs_20 15 48 30.7
comp=Z,9µm,20.0s
LVZ Lovozero 68.27 7 *d iP* **P** **15 18 57.9 -0.7**
LVZ pmax pmax
comp=Z,299nm,1.0s
LVZ MLR MLR
comp=Z,8µm,20.0s
LVZ Lovozero 68.27 7 P **P** **15 18 58.5 -0.1**
comp=Z,4µmcomp=Z,334nm,1.0s
MDJ Mudanjiang 68.41 311 P **P** **15 18 59.5 -0.3**
MDJ S **S** **15 28 00.0 -1.2**
MDJ pmax pmax
comp=Z,22nm,2.5s
MDJ LR LR
comp=Z,9µm,24.1s
MDJ LR LR
comp=Z,8µm,22.7s
MDJ LR LR
comp=Z,7µm,22.0s
MDJ Mudanjiang 68.41 311 P **P** **15 18 59.8 0.0**
MAJO Matsushiro 68.42 300 P **P** **15 18 59.6 -0.5**
MAJO Matsushiro 68.42 300 P **P** **15 19 00.1 0.0**
MAJO Matsushiro 68.42 300 *iP* **P** **15 19 00.2 +0.1**
MAJO pmax pmax
comp=Z,188nm,2.1s
MAJO MLR MLR
comp=Z,2µm,19.0s
MAJO Matsushiro 68.42 300 ⇑P **P** **15 19 00.0 0.0**
MAJO Matsushiro 68.42 300 P **P** **15 18 60.0 -0.1**
MAJO S **S** **15 28 01.7 +0.1**
MJAR Matsushiro Arr 68.42 300 P **P** **15 18 59.4 -0.7**
MJAR Matsushiro Arr 68.42 300 P **P** **15 18 59.7 -0.4**
comp=Z,10nm,0.9s,baz=32,slow=5.6,SNR=25
MJAR PKP2ab 15 47 19.2
comp=Z,2.7nm,1.1s,baz=180,slow=0.9,SNR=6.1
comp=Z,10nm,0.9s
BIGH Upper Bighouse 68.43 28 *eP* **P** **15 19 00.8 +1.1**
BIGH IAMs_20 IAMs_20 15 49 40.0
comp=Z,15µm,16.7s
APA Apatity 68.47 8 *iP* **P** **15 18 58.2 -1.6**
APA *e* 15 19 20.0
APA *e* 15 21 26.3
APA *iS* S 15 27 51.2 -10
APA *iSS* **SS** **15 32 27.7 +3.9**
APA MLR MLR
comp=Z,9µm,22.1s
MOL Molde 68.56 20 *eP* **P** **15 18 59.9 -0.5**
MOL IVmB_BB 15 19 09.6
comp=Z,2µm,2.1s
MOL *eS* **S** **15 28 04.9 +2.5**
MOL IVMs_BB IVMs_BB 15 48 05.0
comp=Z,2µm,14.4s
KPL Plockton 68.70 29 *eP* **P** **15 19 02.5 +1.2**
KPL IAMs_20 IAMs_20 15 46 29.5
comp=Z,12µm,20.2s
FOO Floro 68.71 22 *eP* **P** **15 19 02.0 +0.7**
FOO IVmB_BB 15 19 10.6
comp=Z,892nm,1.4s
FOO *eS* **S** **15 28 05.9 +1.8**
FOO IVMs_BB IVMs_BB 15 46 55.9
comp=Z,4µm,22.2s
MSHR Mys Shultsa 68.85 309 *iP* **P** **15 19 03.0 +0.5**
MSHR pmax pmax
comp=Z,147nm,1.4s
BNX BinXian 68.86 313 ⇓P **P** **15 19 02.5 -0.1**
BNX pP **sP** **15 19 06.0 +0.4**
BNX S **S** **15 28 09.3 +2.8**
BNX pmax pmax
comp=Z,91nm,2.1s
BNX pmax pmax
comp=Z,1µm,6.8s
BNX LR LR
comp=Z,5µm,24.9s
BNX LR LR
comp=Z,6µm,20.1s
BNX LR LR
comp=Z,6µm,18.2s
TBI Tubuai 69.27 201 *eS* **S** **15 28 10.8 -0.6**
comp=Z,30µm,29.2s
TBI *eSS* **SS** **15 32 34.7 -4.0**
comp=Z,10µm,30.5s
TBI *eLQ* LQ 15 36 48.5
comp=Z,36µm,28.5s
TBI *eLR* LR 15 40 00.8
comp=Z,22µm,28.2s
TBI *eLR* LR 15 40 03.3
comp=Z,4µm,23.5s
MCD Coleburn Disti 69.35 28 *eP* **P** **15 19 06.4 +1.0**
MCD IAMs_20 IAMs_20 15 50 15.8
comp=Z,13µm,15.6s
HYA Hoyanger 69.38 22 *eP* **P** **15 19 06.0 +0.5**
HYA IVmB_BB 15 19 14.6
comp=Z,2µm,2.1s
HYA *eS* **S** **15 28 15.8 +3.8**
HYA IVMs_BB IVMs_BB 15 48 38.7
comp=Z,4µm,19.9s
DOMB Dombas 69.39 20 *eP* **P** **15 19 06.1 +0.4**
DOMB IVmB_BB 15 19 14.5
comp=Z,1µm,2.2s
DOMB *eS* **S** **15 28 13.4 +1.1**
DOMB IVMs_BB IVMs_BB 15 50 01.1
comp=Z,3µm,16.0s
SGC2 Sao Gabriel da 69.48 111 P **P** **15 19 08.0 +1.2**
SGC2 S **S** **15 28 15.8 +1.3**
JHJ2 Mitsune 69.53 296 *eP* P 15 18 59.4 -7.6
comp=Z,76nm,29.9s
JHJ2 *eS* **S** **15 28 16.0 +1.2**
comp=Z,134nm,25.8s
JGF Kuroka 69.55 300 P **P** **15 19 07.2 +0.1**
MSF Maaselka 69.60 10 P **P** **15 19 07.6 +0.8**
AFI Afiamalu 69.62 226 P **P** **15 19 08.3 +0.7**
AFI IAmb IAmb 15 19 18.5
comp=Z,333nm,1.6s
AFI Afiamalu 69.62 226 P **P** **15 19 10.1 +2.4**
AFI Afiamalu 69.62 226 P **P** **15 19 08.3 +0.7**
AFI pmax pmax
comp=Z,333nm,1.6s
ASK Askoy 69.67 23 *eP* **P** **15 19 07.0 -0.3**
ASK IVmB_BB 15 19 16.7
comp=Z,2µm,2.0s
ASK *eS* **S** **15 28 17.0 +1.5**
ASK IVMs_BB IVMs_BB 15 48 09.2
comp=Z,4µm,16.5s
IDGL Inch Island, C 69.70 32 P **P** **15 19 07.6 0.0**
IDGL Inch Island, C 69.70 32 *eP* **P** **15 19 06.9 -0.7**
BER Bergen 69.80 23 *eP* **P** **15 19 08.8 +0.7**
BER IVmB_BB 15 19 17.7
comp=Z,1µm,1.1s
BER *eS* **S** **15 28 16.4 -0.6**
BER IVMs_BB IVMs_BB 15 49 50.8
comp=Z,3µm,16.4s
INU Inuyama 69.92 300 P **P** **15 19 08.9 -0.4**
OUL Oulu 69.96 11 P **P** **15 19 09.4 +0.4**
INVG Invergeldie, C 69.97 29 *eP* **P** **15 19 10.7 +1.5**
INVG IAMs_20 IAMs_20 15 47 07.5
comp=Z,15µm,19.9s
DRUM Mains of Drumt 70.14 28 *eP* **P** **15 19 10.9 +0.6**
DRUM IAMs_20 IAMs_20 15 48 11.1
comp=Z,12µm,19.4s
IGLA Glengowla, Co 70.19 34 P **P** **15 19 11.1 +0.5**
CLGH Cloghs, Cushen 70.23 31 *eP* **P** **15 19 11.9 +1.0**
PGBU Glenifferbraes 70.28 30 *eP* **P** **15 19 11.1 -0.1**
PGBU IAMs_20 IAMs_20 15 50 58.8
comp=Z,29µm,14.3s
HIA Hailar 70.31 320 IAMs_20 IAMs_20 15 50 19.2
comp=Z,8µm,20.0s
HIA Hailar 70.31 320 P **P** **15 19 11.5 0.0**
SKAR Skarslia 70.35 21 *eP* **P** **15 19 11.9 +0.3**
SKAR IVmB_BB 15 19 20.6
comp=Z,1µm,2.5s
SKAR *eS* **S** **15 28 25.4 +1.7**
SKAR IVMs_BB IVMs_BB 15 50 25.8
comp=Z,3µm,14.1s
TBTG Tabatinga, AM 70.50 116 P **P** **15 19 13.8 +0.8**
TBTG S **S** **15 28 28.3 +2.0**
ODD1 Odda 70.55 22 *eP* **P** **15 19 13.6 +0.8**
ODD1 IVmB_BB 15 19 22.3
comp=Z,1µm,1.5s
ODD1 *eS* **S** **15 28 27.2 +1.2**
ODD1 IVMs_BB IVMs_BB 15 50 36.5
comp=Z,4µm,16.8s
PCED Cedros 70.57 55 *eP* **P** **15 19 14.4 +1.2**
PCED *i* IAmb IAmb 15 19 16.1
comp=Z,386nm,1.8s
RAR Rarotonga 70.58 211 IAMs_20 IAMs_20 15 44 37.1
comp=Z,11µm,18.0s
RAR Rarotonga 70.58 211 *eP* **P** **15 19 09.2 -4.1**
comp=Z,269nm,25.0s
RAR *eS* **S** **15 28 26.2 -0.8**
comp=Z,1µm,29.0s
RAR *eSS* SS 15 32 47.0 -12
comp=Z,441µm,29.0s
RAR *eLQ* LQ 15 37 10.9
comp=Z,9037µm,28.0s
RAR *eLR* LR 15 40 38.2
comp=Z,10µm,23.0s
RAR Rarotonga 70.58 211 LR LR 15 44 37.3
comp=Z,6µm,18.9s,baz=18,slow=31
CALA Caldeira 70.60 55 *eP* **P** **15 19 13.6 +0.1**
CALA *i* IAmb IAmb 15 19 16.7
comp=Z,667nm,1.2s
EDI Edinburgh 70.66 29 *eP* **P** **15 19 14.6 +1.2**
EDI IAMs_20 IAMs_20 15 47 26.8
comp=Z,13µm,21.9s
NC303 NORSAR Array S 70.66 19 IAmb IAmb 15 19 24.3
comp=Z,197nm,0.9s
NBO00 NORSAR Array S 70.69 20 IAmb IAmb 15 19 24.4
comp=Z,159nm,1.0s
SRBC Serra Branca 70.70 54 *eP* **P** **15 19 11.6 -2.4**
SRBC *i* IAmb IAmb 15 19 15.6
comp=Z,1µm,1.7s
KMY Karmoy 70.74 23 *eP* **P** **15 19 14.7 +0.8**
KMY *eS* **S** **15 28 27.4 -0.7**
KMY IVMs_BB IVMs_BB 15 52 38.0
comp=Z,6µm,14.2s
ROSA Rosais 70.78 55 *eP* **P** **15 19 14.5 0.0**
ROSA *i* IAmb IAmb 15 19 17.6
comp=Z,206nm,1.6s
NB2 NORSAR Subarra 70.78 20 P **P** **15 19 14.4 +0.2**
comp=Z,132nm,1.4s,baz=329,slow=6.2
NB2 NORSAR Subarra 70.78 20 P **P** **15 19 11.5 -2.7**
NB2 pmax pmax
comp=Z,616nm,2.4s
NB2 NORSAR Subarra 70.78 20 P **P** **15 19 14.4 +0.2**
baz=329,slow=6.2
NOA NORSAR Array B 70.78 20 P **P** **15 19 14.2 -0.1**
comp=Z,42nm,1.1s,baz=332,slow=6.0,SNR=34
NOA PKPPKP **P'P'df** **15 47 13.7 -6.0**
comp=Z,2.4nm,0.9s,baz=135,slow=3.8,SNR=3.2
NOA LR LR 15 49 32.4
comp=Z,3µm,21.9s,baz=335,slow=35
comp=Z,42nm,1.1s
PCAN Candelaria 70.81 55 *eP* **P** **15 19 14.3 -0.4**
PCAN *i* IAmb IAmb 15 19 17.7
comp=Z,201nm,1.1s
PICO Pico 70.82 55 *eP* **P** **15 19 14.4 -0.4**
PICO *i* IAmb IAmb 15 19 18.0
comp=Z,310nm,1.5s
NAO01 NORSAR Array S 70.87 20 IAmb IAmb 15 19 25.6
comp=Z,280nm,1.0s
NEWG New Galloway 70.91 30 *eP* **P** **15 19 16.2 +1.2**
NEWG IAMs_20 IAMs_20 15 48 28.2
comp=Z,11µm,17.8s
BLS5 Blasjo 70.91 23 *eP* **P** **15 19 15.4 +0.4**
BLS5 *eS* **S** **15 28 31.7 +1.6**
BLS5 IVMs_BB IVMs_BB 15 53 06.8
comp=Z,6µm,14.4s
VAL Valentia 70.91 35 P **P** **15 19 15.6 +0.5**
GAL1 Galloway 70.92 31 *eP* **P** **15 19 15.6 +0.6**
GAL1 IAMs_20 IAMs_20 15 50 43.1
comp=Z,13µm,15.4s
PMAN Manadas 70.93 55 *eP* **P** **15 19 15.2 -0.2**
PMAN *i* IAmb IAmb 15 19 18.4
comp=Z,216nm,1.3s
PPNO Prainha do Nor 70.93 55 *eP* **P** **15 19 18.0 +2.5**
PPNO *i* IAmb IAmb 15 19 20.0
comp=Z,385nm,1.2s
ILTH Belurgan, Co L 70.94 32 P **P** **15 19 16.5 +1.3**
PID Ribeirinha 71.04 55 *eP* **P** **15 19 16.3 +0.2**
PID *i* IAmb IAmb 15 19 21.0
comp=Z,471nm,2.0s
CIT Chita 71.09 325 *eP* **P** **15 19 16.2 0.0**
CIT *e* 15 19 35.2
CIT *e* 15 21 55.4
CIT pmax pmax
comp=Z,537nm,2.6s
ESK Eskdalemuir 71.12 30 P **P** **15 19 15.8 -0.5**
ESK Eskdalemuir 71.12 30 IAMs_20 IAMs_20 15 48 17.8
comp=Z,13µm,19.0s
ESK Eskdalemuir 71.12 30 *eP* **P** **15 19 16.6 +0.3**
ESK IAMs_20 IAMs_20 15 51 32.0
comp=Z,15µm,14.8s
ESK Eskdalemuir 71.12 30 P **P** **15 19 15.8 -0.5**
ESK pmax pmax
comp=Z,71nm,1.2s
EKA Eskdalemuir Ar 71.13 30 P **P** **15 19 15.8 -0.5**
comp=Z,7.8nm,0.9s,baz=325,slow=5.6,SNR=8.8
EKA PP **PP** **15 21 54.0 +0.7**
comp=Z,11nm,1.0s,baz=308,slow=6.9,SNR=4.0
comp=Z,7.8nm,0.9s
NC602 NORSAR Array S 71.13 20 *eP* **P** **15 19 15.6 -0.6**
NORES NORESS Array B 71.13 20 P **P** **15 19 16.3 +0.1**
CN2 Changchun 71.19 313 P **P** **15 19 16.5 -0.4**
CN2 PP **PP** **15 21 55.3 +1.1**
CN2 S **S** **15 28 29.8 -4.0**
CN2 SS **SS** **15 33 03.8 -2.8**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,600nm,3.0s
CN2 LR LR
comp=Z,4µm,23.0s
CN2 LR LR
comp=Z,8µm,23.0s
CN2 LR LR
comp=Z,5µm,24.0s
PAGU Agualva, Azore 71.38 54 *eP* **P** **15 19 18.4 +0.2**
PAGU *i* IAmb IAmb 15 19 22.9
comp=Z,387nm,1.3s
CZSB Cruzeiro do Su 71.39 121 IAmb IAmb 15 19 30.4
comp=Z,380nm,1.3s
CZSB Cruzeiro do Su 71.39 121 P **P** **15 19 18.0 -0.4**
CZSB *S* **S** **15 28 41.1 +4.3**
IOMK Kirk Michael 71.44 31 *eP* **P** **15 19 19.0 +0.8**
PSCM Serra do Cume 71.46 54 *eP* **P** **15 19 19.0 +0.3**
PSCM *i* IAmb IAmb 15 19 21.9
comp=Z,427nm,1.2s
DSB Dublin 71.52 33 P **P** **15 19 19.4 +0.7**
DSB Dublin 71.52 33 IAMs_20 IAMs_20 15 50 05.3
comp=Z,8µm,18.0s
KONO Kongsberg 71.57 21 P **P** **15 19 18.4 -0.6**
KONO Kongsberg 71.57 21 *i* P **P** **15 19 19.0 +0.1**
KONO pmax pmax
comp=Z,101nm,1.0s
KONO MLR MLR
comp=Z,5µm,15.0s
KONO Kongsberg 71.57 21 *eP* **P** **15 19 19.9 +0.9**
KONO *eS* **S** **15 28 39.1 +1.3**
KONO IVMs_BB IVMs_BB 15 53 57.6
comp=Z,3µm,15.3s
OSL Oslo 71.62 20 *eP* **P** **15 19 18.9 -0.2**
OSL *eS* **S** **15 28 40.7 +2.5**
OSL IVMs_BB IVMs_BB 15 53 03.1
comp=Z,3µm,14.3s
KESW Keswick, Cumbr 71.73 30 *eP* **P** **15 19 20.7 +0.8**
KESW IAMs_20 IAMs_20 15 48 51.2
comp=Z,13µm,20.2s
JCJ Chichijima 71.76 290 P **P** **15 19 19.5 -1.1**
JCJ Chichijima 71.76 290 LR LR 15 46 00.4
comp=Z,2µm,20.6s,baz=51,slow=32
JCJ Chichijima 71.76 290 P **P** **15 19 21.1 +0.5**
EDMD Edmundbyers 71.95 29 *eP* **P** **15 19 21.6 +0.3**
EDMD IAMs_20 IAMs_20 15 48 29.0
comp=Z,11µm,19.8s
IWEX Carrickbyrne, 72.02 33 P **P** **15 19 22.9 +1.2**
IWEX Carrickbyrne, 72.02 33 *eP* **P** **15 19 20.7 -1.1**
SNART Snartemo 72.04 23 *eP* **P** **15 19 24.0 +2.3**
SNART *eS* **S** **15 28 46.3 +3.2**
SNART IVMs_BB IVMs_BB 15 52 26.5
comp=Z,7µm,18.0s
SNART Snartemo 72.04 23 *i* P **P** **15 19 21.4 -0.3**
WPS Cemaes, Angles 72.13 32 *eP* **P** **15 19 23.0 +0.7**
WPS IAMs_20 IAMs_20 15 50 08.4
comp=Z,12µm,16.5s
BOAV Boa Vista 72.15 104 IAMs_20 IAMs_20 15 52 08.0
comp=Z,11µm,20.0s
BOAV Boa Vista 72.15 104 P **P** **15 19 23.9 +0.8**
BOAV S **S** **15 28 47.2 +1.6**
HFS Hagfors 72.18 19 P **P** **15 19 22.8 +0.2**
HFS Hagfors 72.18 19 P **P** **15 19 22.8 +0.2**
comp=Z,36nm,0.9s,baz=328,slow=5.1,SNR=28
HFS LR LR 15 49 07.3
comp=Z,6µm,20.4s,baz=329,slow=34
comp=Z,36nm,0.9s
NNA Nana 72.22 127 P **P** **15 19 24.3 +0.9**
NNA IAmb IAmb 15 19 35.5
comp=Z,275nm,1.4s
NNA Nana 72.22 127 *ce* P **P** **15 19 24.8 +1.4**
NNA pmax pmax
comp=Z,262nm,1.1s
NNA MLR MLR
comp=Z,4µm,17.0s
WLF1 Llynfaes 72.25 32 *eP* **P** **15 19 24.1 +1.1**
WLF1 IAMs_20 IAMs_20 15 50 11.8
comp=Z,26µm,17.3s
RPN Rapa Nui 72.26 163 IAMs_20 IAMs_20 15 42 56.8
comp=Z,10µm,20.0s
RPN Rapa Nui 72.26 163 LR LR 15 44 02.0
comp=Z,6µm,19.3s,baz=342,slow=30
VA02 Isla de Pascua 72.27 163 IAMs_20 IAMs_20 15 42 58.1
comp=Z,8µm,21.0s
HOMB Homborsund 72.46 22 *eP* **P** **15 19 26.0 +1.8**
HOMB IVmB_BB 15 19 33.9
comp=Z,1µm,3.2s
HOMB *eS* **S** **15 28 50.1 +2.2**
HOMB IVMs_BB IVMs_BB 15 53 53.9
comp=Z,4µm,14.3s
HOMB Homborsund 72.46 22 *iP* **P** **15 19 24.7 +0.5**
STRU Stroemstad 72.52 21 *iP* **P** **15 19 25.2 +0.6**
GDLE Glaisdale, N Y 72.69 29 *eP* **P** **15 19 27.0 +1.3**
GDLE IAMs_20 IAMs_20 15 48 49.8
comp=Z,14µm,20.3s
HPK Haverah Park 72.76 30 *eP* **P** **15 19 28.0 +1.9**
HPK IAMs_20 IAMs_20 15 49 02.1
comp=Z,9µm,18.8s
LLW Llanuwchllyn 72.87 32 *eP* **P** **15 19 26.7 -0.1**
JMN Monobe 72.95 300 IAmb IAmb 15 19 38.4
comp=Z,196nm,1.4s
JMN Monobe 72.95 300 P **P** **15 19 29.1 +1.4**
FOEL Foel Wylfa 73.02 31 *eP* **P** **15 19 28.2 +0.5**
FOEL IAMs_20 IAMs_20 15 50 46.1
comp=Z,12µm,17.6s
NIUE Niue 73.08 221 IAMs_20 IAMs_20 15 42 23.2
comp=Z,10µm,20.0s
NIUE Niue 73.08 221 *eP* **P** **15 19 24.8 -3.6**
comp=Z,466nm,30.7s
NIUE Niue 73.08 221 *ePP* **PP** **15 22 07.0 -4.4**
comp=Z,299nm,24.5s
NIUE *eS* **S** **15 28 58.0 +2.2**
comp=Z,5µm,26.3s
NIUE *eSS* **SS** **15 33 31.2 -6.2**
comp=Z,2µm,29.9s
NIUE *eLQ* LQ 15 38 24.2
comp=Z,2µm,31.9s
NIUE *eLR* LR 15 41 38.5
comp=Z,18µm,26.0s
PGRON Lagoa das Cont 73.11 54 *eP* **P** **15 19 28.9 +0.4**
PGRON *i* IAmb IAmb 15 19 32.0
comp=Z,574nm,1.8s
BART Pico Bartolome 73.22 54 *eP* **P** **15 19 28.8 -0.5**
BART *i* IAmb IAmb 15 19 32.3
comp=Z,122nm,1.3s
STNC Stoke 73.23 31 *eP* **P** **15 19 30.8 +1.8**
STNC IAMs_20 IAMs_20 15 48 12.0
comp=Z,12µm,21.1s
FUTU Fugatoga 73.41 231 IAMs_20 IAMs_20 15 43 30.8
comp=Z,9µm,21.0s
HLM1 Long Mynd 73.43 31 *eP* **P** **15 19 30.2 0.0**
HLM1 IAMs_20 IAMs_20 15 51 06.9
comp=Z,12µm,18.8s
FIA1 FINESS Array S 73.43 13 IAmb IAmb 15 19 37.4

comp=Z,328nm,1.1s
FINES FINESS Array B 73.43 13 P **P** 15 19 29.8 -0.2
FINES FINESS Array B 73.43 13 P **P** 15 19 29.8 -0.2
comp=Z,76nm,1.0s,baz=7.6,slow=5.8,SNR=74
FINES LR LR 15 49 47.2
comp=Z,7µm,20.1s,baz=344,slow=34
comp=Z,76nm,1.0s
FINES FINESS Array B 73.43 13 *i* P **P** 15 19 30.1 +0.1
FINES pmax pmax
comp=Z,75nm,1.0s
PATS Pohnpei 73.44 264 P **P** 15 19 32.0 +1.3
TJOU Tjoern 73.51 21 *i* P **P** 15 19 30.6 +0.2
TEFE Tefe 73.51 111 P **P** 15 19 32.2 +1.0
TEFE S **SKiKP** 15 29 04.3 +2.5
SNY Shenyang 73.54 312 ⇑P **P** 15 19 31.5 +0.5
SNY S **SKiKP** 15 29 04.5 +3.2
SNY pmax pmax
comp=Z,48nm,1.1s
SNY pmax pmax
comp=Z,750nm,3.5s
SNY LR LR
comp=Z,3µm,20.6s
SNY LR LR
comp=Z,4µm,22.6s
SNY LR LR
comp=Z,5µm,24.2s
OVD Ostervraa, Den 73.75 22 *i* P **P** 15 19 31.9 0.0
OVD IAmb IAmb 15 19 34.5
comp=Z,99nm,0.4s
MCH1 Michaelchurch 73.79 32 *e*P **P** 15 19 32.0 -0.2
MCH1 IAMs_20 IAMs_20 15 51 39.9
comp=Z,10µm,18.0s
PSMN Pico do Norte, 73.80 54 *e*P **P** 15 19 30.8 -1.8
PSMN *i* IAmb IAmb 15 19 33.7
comp=Z,300nm,1.6s
CWF Charnwood Fore 73.85 30 *e*P **P** 15 19 34.2 +1.6
CWF IAMs_20 IAMs_20 15 48 30.6
comp=Z,12µm,20.8s
HTL Hartland 73.99 33 *e*P **P** 15 19 34.7 +1.3
HTL IAMs_20 IAMs_20 15 50 45.7
comp=Z,14µm,17.4s
KSRS Korea Array 74.09 307 P **P** 15 19 34.5 +0.2
comp=Z,15nm,1.0s,baz=55,slow=6.4,SNR=23
comp=Z,15nm,1.0s
KS19 Wonju Array Si 74.09 307 IAmb IAmb 15 19 42.5
comp=Z,302nm,1.9s
KSAR Wonju Array Be 74.12 307 P **P** 15 19 34.1 -0.3
KSAR Wonju Array Be 74.12 307 P **P** 15 19 34.1 -0.3
ONAU Onsala 74.14 21 *i* P **P** 15 19 33.6 -0.6
BORU Boraas 74.15 21 *i* P **P** 15 19 34.4 +0.1
MUD Monsted U'grnd 74.20 23 *i* P **P** 15 19 34.2 -0.3
MUD IAmb IAmb 15 19 45.8
comp=Z,341nm,1.5s
OLDB Oldbury-Upon-S 74.23 32 *e*P **P** 15 19 36.3 +1.5
OLDB IAMs_20 IAMs_20 15 49 04.7
comp=Z,11µm,18.3s
SBD Saint Breward 74.25 34 *e*P **P** 15 19 35.0 0.0
CCA1 Carnmenellis 74.32 34 *e*P **P** 15 19 35.3 -0.1
CCA1 IAMs_20 IAMs_20 15 50 45.1
comp=Z,12µm,18.3s
WACR West Acre 74.56 30 *e*P **P** 15 19 37.3 +0.5
WACR IAMs_20 IAMs_20 15 50 08.4
comp=Z,16µm,19.0s
IRK Irkutsk 74.57 330 *e*P **P** 15 19 34.9 -2.0
IRK *e*S **S** 15 29 14.2 +2.1
IRK pmax pmax
comp=Z,470nm,2.8s
SWN1 Swindon 74.63 32 *e*P **P** 15 19 37.6 +0.4
SWN1 IAMs_20 IAMs_20 15 49 29.2
comp=Z,13µm,23.3s
DYA Yadsworthy 74.65 33 *e*P **P** 15 19 38.0 +0.7
DYA IAMs_20 IAMs_20 15 51 05.0
comp=Z,13µm,16.5s
INCN Inchon 74.82 307 P **P** 15 19 38.5 -0.1
INCN Inchon 74.82 307 P **P** 15 19 39.7 +1.1
INCN Inchon 74.82 307 P **P** 15 19 38.5 -0.1
INCN pmax pmax
comp=Z,234nm,1.6s
WOL Wolverton 75.01 31 *e*P **P** 15 19 39.4 0.0
TJN Taejon 75.15 306 P **P** 15 19 43.1 +2.7
TJN Taejon 75.15 306 *i* P **P** 15 19 41.7 +1.3
SSRD Sdr. Stenderup 75.17 23 *i* P **P** 15 19 40.8 +0.6
SSRD IAmb IAmb 15 19 50.8
comp=Z,312nm,1.2s
JTU Tsushima 75.19 304 P **P** 15 19 43.5 +2.8
JNU Nakatsue 75.22 302 P **P** 15 19 41.9 +0.9
DEL Delary 75.47 21 *i* P **P** 15 19 42.0 +0.1
KLMR Klimovskoe 75.62 6 *e*P **P** 15 19 41.5 -1.2
KLMR S **S** 15 29 21.4 -1.9
KLMR SS **SS** 15 34 09.7 -3.3
KLMR pmax pmax
comp=Z,356nm,1.3s
KLMR MLR MLR
comp=Z,8µm,19.0s
PUL Pulkovo 75.67 11 *i* P **P** 15 19 42.5 -0.5
PUL pmax pmax
comp=Z,92nm,1.0s
PUL MLR MLR
comp=Z,6µm,16.0s
HLG Helgoland 75.77 25 *e*L L 15 53 38.9
comp=Z,8µm,18.4s
COP Copenhagen 75.78 22 *i* P **P** 15 19 43.9 +0.3
XLT XiLinHaoTe 75.92 318 *e*P **P** 15 19 45.3 +0.4
XLT pP sP 15 19 48.5 +0.6
XLT S **S** 15 29 27.0 -0.5
XLT pmax pmax
comp=Z,57nm,1.3s
XLT LR LR
comp=Z,6µm,19.8s
XLT LR LR
comp=Z,3µm,21.3s
MDP Montagnes des 75.93 96 LR LR 15 56 15.1
comp=Z,9µm,19.2s,baz=313,slow=38
HMNX Herstmonceux 75.96 31 *e*P **P** 15 19 46.9 +2.1
HMNX IAMs_20 IAMs_20 15 52 55.5
comp=Z,10µm,17.3s
MACA Manacapuru-AM 75.97 108 IAmb IAmb 15 19 51.9
comp=Z,144nm,0.9s
MACA Manacapuru-AM 75.97 108 P **P** 15 19 46.1 +0.7
MACA Manacapuru-AM 75.97 108 *e*P **P** 15 19 46.6 +1.2
ELSH Elham, Standar 76.03 30 *e*P **P** 15 19 46.0 +0.9
ELSH IAMs_20 IAMs_20 15 49 48.7
comp=Z,13µm,21.7s
LUNU Lund 76.10 21 *i* P **P** 15 19 45.3 -0.2
BLEU Blekinge 76.10 20 *i* P **P** 15 19 44.9 -0.7
MOY Mondy 76.22 331 *e*P **P** 15 19 46.8 +0.3
MOY pmax pmax
comp=Z,198nm,2.9s
JSA Saint Aubin 76.34 33 *e*P **P** 15 19 47.4 +0.4
JSA IAMs_20 IAMs_20 15 54 15.7
comp=Z,11µm,15.0s
TAVE Taveuni 76.35 231 P **P** 15 19 50.8 +3.4
VSU Vasula 76.37 13*c* *i*P **P** 15 19 46.2 -0.8
VSU pmax pmax
comp=Z,136nm,1.3s
VSU MLR MLR
comp=Z,6µm,18.0s
ZAK Zakamensk 76.44 329 *e*P **P** 15 19 46.9 -0.8
ZAK pmax pmax
comp=Z,61nm,1.8s
DL2 Dalian 76.65 311 P **P** 15 19 51.0 +2.0
DL2 S **S** 15 29 38.0 +2.5
DL2 SS **SS** 15 34 33.8 +3.9
DL2 pmax pmax
comp=Z,140nm,1.4s
DL2 pmax pmax
comp=Z,1µm,7.5s
DL2 LR LR
comp=Z,6µm,21.2s
DL2 LR LR
comp=Z,9µm,20.8s
DL2 LR LR
comp=Z,5µm,24.0s
BSD Bornholm Skovb 76.94 21 P **P** 15 19 49.9 -0.4
BSD Bornholm Skovb 76.94 21 *i* P **P** 15 19 50.2 -0.1
BSD IAmb IAmb 15 20 01.0
comp=Z,155nm,1.2s
ULN Ulaanbaatar 76.97 325*d* *i*P **P** 15 19 50.8 0.0
ULN pmax pmax
comp=Z,128nm,1.5s
ULN MLR MLR
comp=Z,14µm,19.0s
RGN Rugen 77.03 22 IAMs_20 IAMs_20 15 52 39.8
comp=Z,11µm,19.0s
LABB Lȷbrea 77.10 116 P **P** 15 19 51.9 +0.2
LABB S **S** 15 29 41.3 +0.4
SONM Songino Array 77.27 326 P **P** 15 19 52.5 0.0
SONM IAmb IAmb 15 20 04.6
comp=Z,188nm,1.4s
SONM Songino Array 77.27 326 P **P** 15 19 52.7 +0.3
comp=Z,46nm,1.0s,baz=46,slow=4.1,SNR=158
SONM PKPPKP **P'P'df** 15 47 02.7 -5.0
comp=Z,0.6nm,0.5s,baz=229,slow=5.7,SNR=4.6
SONM LR LR 15 53 55.3
comp=Z,12µm,18.7s,baz=37,slow=36
comp=Z,46nm,1.0s
IBBN Ibbenburen 77.33 26 *e*P **P** 15 19 53.4 +0.9
comp=Z,266nm,1.5s,baz=331,slow=5.4
RETH Rethem/Aller, 77.46 25 *e*P **P** 15 19 54.5 +1.3
comp=Z,234nm,1.7s,baz=331,slow=5.4
UCC Uccle 77.47 29 IAMs_20 IAMs_20 15 52 03.6
comp=Z,11µm,20.0s
UCC Uccle 77.47 29 *d*P **P** 15 19 53.9 +0.6
UCC *d*PcP **PcP** 15 20 02.9 -0.9
GORT1 Trebel 77.83 24 *e*P **P** 15 19 56.3 +1.0
comp=Z,208nm,1.6s,baz=331,slow=5.4
BEBN Eben Emael 77.93 28 *d*P **P** 15 19 56.3 +0.4
BMRD Maredsous 78.03 29 *d*P **P** 15 19 57.2 +0.7
BMRD *d*PcP **PcP** 15 20 06.0 -0.1
BSTI Sart Tilman 78.07 28 *d*P **P** 15 19 57.2 +0.6
BSTI *d*PcP **PcP** 15 20 06.5 +0.2
BGES Gesves 78.07 29 *d*P **P** 15 19 57.1 +0.4
BGES *d*PcP **PcP** 15 20 06.5 +0.1
BCLA Clavier 78.11 28 *d*P **P** 15 19 57.3 +0.4
BCLA *d*PcP **PcP** 15 20 06.4 -0.2
DOU Dourbes 78.14 29 *d*P **P** 15 19 57.7 +0.6
DOU *d*PcP **PcP** 15 20 06.8 +0.1
MEM Membach 78.20 28 *d*P **P** 15 19 58.0 +0.6
MEM *d*PcP **PcP** 15 20 06.8 -0.1
BTNL Ternell 78.26 28 *d*P **P** 15 19 57.0 -0.8
RCHB Rochefort 78.31 29 *d*P **P** 15 19 58.0 -0.1
RCHB *d*PcP **PcP** 15 20 07.4 0.0
MSVF Nonsavu 78.33 232 IAMs_20 IAMs_20 15 45 56.4
comp=Z,11µm,22.0s
MSVF Nonsavu 78.33 232 P P 15 20 03.6 +5.0
KIRV Kirov 78.36 1 LR LR 15 55 48.7
comp=Z,5µm,21.9s,baz=359,slow=37
KIRV Kirov 78.36 1*d* *i*P **P** 15 19 57.5 -0.6
FLTG Flechtingen 78.39 24 *e*P **P** 15 19 58.7 +0.3
comp=Z,212nm,1.7s,baz=331,slow=5.4
ASSE Asse, Remlinge 78.39 25 *e*P **P** 15 19 59.2 +0.8
comp=Z,166nm,1.6s,baz=331,slow=5.4
BHOU Houvegnez 78.41 28 *d*P **P** 15 19 59.6 +1.0
BHOU *d*PcP **PcP** 15 20 07.7 -0.1
SAML Samuel 78.47 114 P **P** 15 19 58.9 -0.5
SAML Samuel 78.47 114 P **P** 15 19 58.9 -0.5
SAML pmax pmax
comp=Z,106nm,1.2s
SAML Samuel 78.47 114 *e*P **P** 15 19 59.0 -0.4
KASTN Kahler Asten 78.49 26 *e*P **P** 15 19 59.6 +0.5
comp=Z,60nm,1.6s,baz=331,slow=5.4
PABE Paberze 78.66 16 IAmb IAmb 15 20 12.9
comp=Z,317nm,1.2s
GTTG Gottingen 78.68 25 *e*P **P** 15 20 01.3 +1.2
comp=Z,144nm,1.6s,baz=331,slow=5.4
GUMO Guam 78.69 278 IAMs_20 IAMs_20 15 46 56.1
comp=Z,9µm,21.0s
GUMO Guam 78.69 278 LR LR 15 47 17.8
comp=Z,8µm,22.0s,baz=59,slow=30
BJI Beijing 78.73 315 P **P** 15 20 00.5 0.0
BJI S **S** 15 30 01.0 +3.1
BJI SS **SS** 15 34 58.0 -3.0
BJI pmax pmax
comp=Z,410nm,8.7s
BJI LR LR
comp=Z,2µm,20.8s
BJI LR LR
comp=Z,1µm,20.3s
BJI LR LR
comp=Z,3µm,18.6s
BJT Baijiatuau 78.75 315 P **P** 15 20 03.3 +2.7
CLF Chambon-Foret 79.00 31 IAmb IAmb 15 20 14.4
comp=Z,298nm,1.2s
CLF IAMs_20 IAMs_20 15 52 12.3
comp=Z,10µm,20.0s
ZALV Zalesovo Beam 79.03 341 P **P** 15 20 01.3 -0.6
ZALV Zalesovo Beam 79.03 341 P **P** 15 20 01.6 -0.3
comp=Z,20nm,0.9s,baz=21,slow=5.4,SNR=79
ZALV PP **PP** 15 23 02.0 +1.9
comp=Z,13nm,1.1s,baz=14,slow=6.7,SNR=4.1
ZALV LR LR 15 57 17.2
comp=Z,5µm,18.2s,baz=29,slow=38
comp=Z,20nm,0.9s
WLF Walferdange 79.05 28 P **P** 15 20 02.8 +0.7
WLF Walferdange 79.05 28 IAMs_20 IAMs_20 15 56 19.3
comp=Z,11µm,20.0s
WLF Walferdange 79.05 28 *d*P **P** 15 20 03.0 +0.9
WLF Walferdange 79.05 28 *e*P **P** 15 20 03.1 +0.9
comp=Z,117nm,1.4s,baz=331,slow=5.4
GKP Gorka Klasztor 79.20 20 *e*P **P** 15 20 03.9 +1.0
UBBA Unterbreizbach 79.33 26 *e*P **P** 15 20 04.1 +0.6
comp=Z,154nm,1.7s,baz=331,slow=5.4
TNS Taunus Mts 79.34 27 *e*P **P** 15 20 04.4 +0.6
comp=Z,78nm,1.3s,baz=331,slow=5.4
TNS eL L 15 55 06.3
comp=Z,6µm,19.1s
NEUB Neuenburg 79.53 24 *e*P **P** 15 20 05.5 +0.8
comp=Z,56nm,1.2s,baz=331,slow=5.4
PCAB Cabril 79.60 41⇑ *i*P **P** 15 20 05.4 0.0
PCAB *i* IAmb IAmb 15 20 08.8
comp=Z,219nm,1.8s
MAL2 Monte Alegre, 79.73 103 P **P** 15 20 07.2 +0.8
MAL2 S **S** 15 30 11.5 +2.2
CLL Collm 79.81 24 IAmb IAmb 15 20 17.4
comp=Z,212nm,1.3s
CLL IAMs_20 IAMs_20 15 55 24.4
comp=Z,9µm,20.0s
CLL Collm 79.81 24⇑ *i*P **P** 15 20 06.6 +0.4
CLL *i* 15 20 14.1
CLL *e*S **S** 15 30 09.0 0.0
CLL pmax pmax
comp=Z,156nm,1.7s
CLL MLR MLR
comp=Z,9µm,20.5s
CLL Collm 79.81 24 P **P** 15 20 06.2 0.0
comp=Z,2µmcomp=Z,131nm,1.3s
CLL Collm 79.81 24 *e*P **P** 15 20 06.6 +0.4
comp=Z,171nm,1.7s,baz=331,slow=5.4
CLL eL L 15 55 24.3
comp=Z,9µm,20.6s
SVE Sverdlovsk 79.88 355*c* *i*P **P** 15 20 06.4 -0.1
SVE *e* 15 23 09.2
SVE *e*S **S** 15 30 09.7 +0.1
SVE *e*SS **SS** 15 35 19.2 +1.9
SVE pmax pmax
comp=Z,249nm,1.4s
SVE MLR MLR
comp=Z,6µm,17.0s
SUW Suwalki 79.90 17 *e*P **P** 15 20 07.1 +0.5
SUW Suwalki 79.90 17 IAMs_20 IAMs_20 15 56 06.7
comp=Z,7µm,19.0s
SUW Suwalki 79.90 17 P **P** 15 20 06.7 +0.1
MOX Moxa 79.98 25 *e*P **P** 15 20 07.7 +0.5
comp=Z,178nm,1.9s,baz=331,slow=5.4
MOX eL L 16 00 10.0
comp=Z,7µm,18.4s
ECAL Calabor 80.03 40 P **P** 15 20 07.0 -0.7
PVRL Vila Real 80.08 41 *e*P **P** 15 20 08.9 +1.0
PVRL *i* IAmb IAmb 15 20 11.6
comp=Z,255nm,1.8s
PBRG Braganca 80.14 40⇑ *i*P **P** 15 20 07.6 -0.7
PBRG *i* IAmb IAmb 15 20 19.5
comp=Z,145nm,1.4s
ITTB Itaituba 80.28 105 P **P** 15 20 10.0 +0.7
ITTB S **S** 15 30 16.8 +1.8
PLN Plauen 80.28 24 *e*P **P** 15 20 09.4 +0.5
comp=Z,11nm,1.2s,baz=331,slow=5.4
MNK Minsk 80.34 14*c* *i*P **P** 15 20 09.0 0.0
HHC Hu-ho-hao-te 80.42 318⇑ *i*P **P** 15 20 10.3 +0.4
HHC sP PcP 15 20 20.8 +3.9
HHC S **S** 15 30 15.5 -0.6
HHC SS **SS** 15 35 25.5 -1.0
HHC pmax pmax
comp=Z,62nm,1.1s
HHC pmax pmax
comp=Z,860nm,4.5s
HHC LR LR
comp=Z,6µm,20.2s
HHC LR LR
comp=Z,3µm,19.4s
HHC LR LR
comp=Z,9µm,19.1s
PVIS Viseu 80.43 42⇑ *i*P **P** 15 20 09.8 0.0
TANN Tannenbergstha 80.44 24 *e*P **P** 15 20 10.2 +0.4
comp=Z,30nm,1.3s,baz=331,slow=5.4
ARTI Arti 80.44 356 P **P** 15 20 08.9 -0.7
ARTI Arti 80.44 356 LR LR 15 57 02.8
comp=Z,2µm,21.1s,baz=4.0,slow=37
ARTI Arti 80.44 356*d* *i*P **P** 15 20 08.8 -0.7
ARTI 15 23 09.6
ARTI S **S** 15 30 14.0 -1.5
ARTI pmax pmax
comp=Z,138nm,1.0s
BRG Berggiesshubel 80.47 23 *e*P **P** 15 20 12.0 +2.1
comp=Z,231nm,1.8s,baz=331,slow=5.4
BRG Berggiesshubel 80.47 23⇑ *i*P **P** 15 20 11.9 +2.1
BRG Amp 15 20 14.2
comp=Z,50nm,1.0s
BRG ⇑PP **PcP** 15 20 20.6 +3.8
BRG Amp 15 20 22.7
comp=Z,206nm,1.2s
BRG Berggiesshubel 80.47 23 PP PP 15 23 16.0 +3.9
BRG Berggiesshubel 80.47 23 S **SKSac** 15 30 23.0 -4.7
BRG Berggiesshubel 80.47 23 SS SS 15 35 26.0 -0.4
MOS Moscow 80.50 8 *e*P **P** 15 20 08.2 -1.6
MOS *e* 15 23 12.5
MOS *e*S **S** 15 30 12.1 -4.0
MOS *e*SS **SS** 15 35 28.2 +1.7
MOS pmax pmax
comp=Z,104nm,0.9s
MOS pmax pmax
comp=N,500nm,2.3s
MOS pmax pmax
comp=Z,600nm,2.3s
MOS MLR MLR
comp=N,6µm,18.0s
MOS MLR MLR
comp=Z,7µm,18.0s
MVO Moncorvo 80.50 41⇑ *i*P **P** 15 20 10.7 +0.4
MVO *i* IAmb IAmb 15 20 21.6
comp=Z,178nm,1.2s
MVO *e*PP **PP** 15 23 12.9 +0.1
MVO *e*S **S** 15 30 16.7 -0.1
MVO *e*LQ LQ 15 40 49.0
MVO *e*LR LR 15 44 34.3
MVO *i* IAMs_20 IAMs_20 15 52 58.8
comp=Z,10µm,20.0s
HSKC Hora Svate Kat 80.56 24 *e*P **P** 15 20 11.0 +0.7
HSKC *e*S **S** 15 30 16.2 -0.8
HSKC AMS AMS 15 55 30.0
comp=Z,10µm,19.0s
COI Coimbra 80.56 42 IAmb IAmb 15 20 21.9
comp=Z,204nm,1.1s
COI Coimbra 80.56 42⇑ *e*P **P** 15 20 10.5 0.0
COI *i* IAmb IAmb 15 20 22.0
comp=Z,381nm,1.2s
ECH Echery 80.63 29 IAMs_20 IAMs_20 15 55 26.2
comp=Z,10µm,21.0s
ECH Echery 80.63 29 P **P** 15 20 11.3 +0.5
PCAS Casmilo, Conde 80.64 43 *e*P **P** 15 20 11.2 +0.3
PCAS *i* IAmb IAmb 15 20 22.4
comp=Z,248nm,1.1s
PCAS *e*PP **PP** 15 23 10.4 -3.6
GRA1 Grafenberg Arr 80.69 25 IAmb IAmb 15 20 22.9
comp=Z,225nm,1.2s
GRF Grafenberg Arr 80.69 25 *e*P **P** 15 20 12.0 +0.9
comp=Z,227nm,1.8s,baz=331,slow=5.4
GRF *e*L L 15 57 24.6
comp=Z,13µm,18.0s
GRFO Grafenberg 80.69 25 P **P** 15 20 11.0 -0.1
GRFO IAmb IAmb 15 20 22.9
comp=Z,247nm,1.3s
GRFO IAMs_20 IAMs_20 15 57 14.9
comp=Z,10µm,21.0s
GRFO Grafenberg 80.69 25 P **P** 15 20 11.0 -0.1
GRFO pmax pmax
comp=Z,247nm,1.3s
GRFO MLR MLR
comp=Z,10µm,21.0s
MANZ Manzenberg 80.71 25 *e*P **P** 15 20 11.7 +0.5
comp=Z,14nm,1.5s,baz=331,slow=5.4
LPAZ La Paz 80.80 123 IAmb IAmb 15 20 23.8
comp=Z,193nm,0.9s
LPAZ La Paz 80.80 123 P **P** 15 20 13.6 +0.9
comp=Z,71nm,0.8s,baz=340,slow=5.2,SNR=163
comp=Z,71nm,0.8s
LPAZ La Paz 80.80 123 P **P** 15 20 13.5 +0.9
LPAZ S **S** 15 30 22.9 +1.5
LPAZ La Paz 80.80 123 *e*P **P** 15 20 13.2 +0.4
RICC Richard 80.81 23 *e*P **P** 15 20 15.5 +3.9
RICC AMS AMS 15 55 50.0
comp=Z,6µm,19.6s
MTE Manteigas 80.84 42⇑ *i*P **P** 15 20 12.1 0.0
MTE *i* IAmb IAmb 15 20 15.6
comp=Z,168nm,1.6s
MTE *e*S **S** 15 30 20.7 +0.3
MTE eLQ LQ 15 40 45.7
MTE eLR LR 15 45 39.5
MTE *i* IAMs_20 IAMs_20 15 53 04.9
comp=Z,12µm,20.0s
STU Stuttgart 80.84 27 IAMs_20 IAMs_20 15 54 52.8
comp=Z,6µm,19.0s
STU Stuttgart 80.84 27 P **P** 15 20 12.8 +0.9
STU Stuttgart 80.84 27 *e*P **P** 15 20 12.7 +0.8
baz=331,slow=5.4
STU eL L 15 54 53.5
comp=Z,16µm,20.2s
ROTZ Rotzenmuhle 80.93 25 *e*P **P** 15 20 12.4 +0.1
comp=Z,21nm,1.7s,baz=331,slow=5.4
BFO Black Forest 80.93 28 P **P** 15 20 12.4 0.0
BFO IAmb IAmb 15 20 24.5
comp=Z,223nm,1.2s
BFO IAMs_20 IAMs_20 15 56 05.2
comp=Z,12µm,21.0s
BFO Black Forest 80.93 28 P **P** 15 20 12.4 0.0
BFO pmax pmax
comp=Z,223nm,1.2s
BFO MLR MLR
comp=Z,12µm,21.0s
BFO Black Forest 80.93 28 *e*P **P** 15 20 13.2 +0.8
comp=Z,182nm,1.6s,baz=331,slow=5.4
BFO *e*L L 15 56 05.0
comp=Z,11µm,20.4s
PVCC Panska Ves 80.95 23 *e*P **P** 15 20 13.7 +1.3
PVCC *e* 15 20 18.8
PVCC MLR MLR
comp=Z,7µm,15.3s
PVCC Panska Ves 80.95 23 *e*P **P** 15 20 13.7 +1.3
PVCC *e*pP **PcP** 15 20 18.8 -0.1
PVCC AMS AMS 15 59 10.0
comp=Z,7µm,15.3s
OBN Obninsk 81.00 9 P **P** 15 20 12.0 -0.6
OBN Obninsk 81.00 9 LR LR 15 57 41.4
comp=Z,5µm,20.2s,baz=294,slow=37
OBN Obninsk 81.00 9 ⇑P **P** 15 20 12.1 -0.4
OBN Obninsk 81.00 9*c* *i*P **P** 15 20 12.3 -0.2
OBN *i* *PP **sP** 15 20 14.7 -0.9
OBN *i* *SP **pwP** 15 20 16.9 -1.7
OBN *e* 15 23 17.0
OBN *e*S **S** 15 30 20.6 -0.7
OBN *i* 15 30 27.6
OBN *e*PS **PnS** 15 31 07.8 +1.0
OBN pmax pmax
comp=Z,174nm,1.0s
OBN MLR MLR
comp=Z,4µm,16.0s
OBN Obninsk 81.00 9 P **P** 15 20 12.7 +0.2
comp=Z,3µmcomp=Z,256nm,1.3s
TIA Tai'an 81.06 312 P **P** 15 20 13.3 0.0
TIA S **S** 15 30 25.3 +2.5
TIA pmax pmax
comp=Z,48nm,1.6s
TIA LR LR
comp=Z,7µm,19.4s
TIA LR LR
comp=Z,7µm,20.2s
TIA LR LR
comp=Z,7µm,25.0s
PMAFR Mafra 81.09 44 P **P** 15 20 13.4 0.0
PMAFR Mafra 81.09 44⇑ *i*P **P** 15 20 13.3 0.0
PMAFR *i* IAmb IAmb 15 20 24.7
comp=Z,301nm,1.3s
R9F13 Warsaw-Wawer 81.11 19 *e*P **P** 15 20 14.0 +0.8
comp=Z,4.1nm,0.7s
PSARD Sardoal 81.15 43⇑ *i*P **P** 15 20 14.0 +0.3

PSARD *i* IAmb IAmb 15 20 25.5
comp=Z,370nm,1.2s
KSP Ksiaz 81.15 22 *e*P **P 15 20 14.3 +0.8**
KSP Ksiaz 81.15 22 P **P 15 20 14.1 +0.6**
KSP Ksiaz 81.15 22 P **P 15 20 13.5 0.0**
comp=Z,2µmcomp=Z,148nm,1.3s
JOW Kunigami 81.17 299 *e*P **P 15 20 11.6 -2.4**
comp=Z,315nm,1.2s
JOW Kunigami 81.17 299 *e*PP PP 15 23 04.5 -14
comp=Z,216nm,30.1s
JOW *e*S **S 15 30 19.5 -4.6**
comp=Z,980nm,31.5s
JOW *e*SS **SS 15 35 44.3 +5.9**
comp=Z,2µm,24.1s
JOW *e*LQ LQ 15 41 38.7
comp=Z,4µm,28.6s
JOW *e*LR LR 15 45 29.3
comp=Z,6µm,26.8s
JOW Kunigami 81.17 299 LR LR 15 51 28.7
comp=Z,914nm,21.4s,baz=68,slow=32
JOW Kunigami 81.17 299 P **P 15 20 14.2 +0.2**
PCBR Castelo Branco 81.30 42⇑ *i*P **P 15 20 14.3 -0.2**
PCBR *i* IAmb IAmb 15 20 26.0
comp=Z,163nm,1.3s
PCBR *e*PP **PP 15 23 20.1 +0.7**
PARRA Arraiolos 81.31 44⇑ *i*P **P 15 20 16.8 +2.2**
PARRA *i* IAmb IAmb 15 20 28.1
comp=Z,208nm,1.5s
CHVC Chvalec 81.32 22 *e*P **P 15 20 15.0 +0.6**
CHVC MLR MLR
comp=Z,8µm,18.2s
CHVC Chvalec 81.32 22 *e*P **P 15 20 15.0 +0.6**
CHVC AMS AMS 15 58 10.0
comp=Z,8µm,18.2s
PRA Prague 81.33 23 *e*S **S 15 30 27.0 +2.1**
PRA AMS AMS 15 56 00.0
comp=Z,8µm,19.4s
LIS Lisbon 81.33 44 *e*P **P 15 20 15.1 +0.5**
LIS *e*S **S 15 30 25.8 +0.4**
LIS IAMs_20 IAMs_20 15 57 21.9
comp=Z,10µm,17.0s
LIS Lisbon 81.33 44 *e*P **P 15 20 15.1 +0.5**
LIS Lisbon 81.33 44 *e*P **P 15 20 15.1 +0.5**
LIS *e*S **S 15 30 25.8 +0.4**
PMOZ Porto Moniz, M 81.34 53 P **P 15 20 15.1 +0.1**
PMOZ Porto Moniz, M 81.34 53⇑ *e*P **P 15 20 15.5 +0.6**
PMOZ *i* IAmb IAmb 15 20 28.3
comp=Z,285nm,1.7s
PMOZ *e*S **SKSac 15 30 30.7 -3.8**
PMOZ *e*LR LR 15 46 15.5
PMOZ *i* IAMs_20 IAMs_20 15 53 40.6
comp=Z,9µm,18.0s
BTO Baotou 81.35 319 *e*P **P 15 20 14.3 -0.5**
BTO pP **pwP 15 20 19.0 -2.0**
BTO sP **PcP 15 20 21.3 +0.3**
BTO PP **PP 15 23 20.5 +0.6**
BTO S **S 15 30 25.5 -0.3**
BTO sS **sS 15 30 30.5 +1.1**
BTO SS **SS 15 35 35.8 -4.6**
BTO pmax pmax
comp=Z,84nm,1.3s
BTO pmax pmax
comp=Z,2µm,5.5s
BTO LR LR
comp=Z,19µm,22.6s
BTO LR LR
comp=Z,25µm,22.0s
BTO LR LR
comp=Z,12µm,21.2s
UPC Upice 81.38 22 *e*P **P 15 20 15.6 +0.9**
UPC MLR MLR
comp=Z,9µm,17.8s
UPC Upice 81.38 22 *e*P **P 15 20 15.6 +0.9**
UPC AMS AMS 15 58 00.0
comp=Z,9µm,17.8s
BEL Belsk 81.39 19 *e*P **P 15 20 15.7 +1.0**
BEL Belsk 81.39 19 P **P 15 20 16.4 +1.7**
OSTC Ostas 81.39 22 *e*P **P 15 20 15.8 +1.0**
OSTC *e*S **S 15 30 27.5 +1.8**
OSTC MLR MLR
comp=Z,8µm,18.0s
OSTC Ostas 81.39 22 *e*P **P 15 20 15.8 +1.0**
OSTC *e*S **S 15 30 27.5 +1.8**
OSTC AMS AMS 15 58 20.0
comp=Z,8µm,18.0s
PRU Pruhonice 81.43 23 *e*P **P 15 20 15.9 +0.9**
PRU *e* 15 20 22.8
PRU *e*S **S 15 30 20.0 -6.1**
PRU MLR MLR
comp=Z,8µm,19.3s
PRU Pruhonice 81.43 23 *e*P **P 15 20 15.9 +0.9**
PRU *ex* x 15 20 22.8
PRU *e*S **S 15 30 20.0 -6.1**
PRU AMS AMS 15 56 00.0
comp=Z,8µm,19.3s
HNS HongShan 81.46 314⇑ P **P 15 20 16.0 +0.7**
HNS S **S 15 30 25.5 -1.3**
HNS SS **SS 15 35 41.0 -1.1**
HNS pmax pmax
comp=Z,53nm,1.6s
HNS pmax pmax
comp=Z,1µm,5.3s
HNS LR LR
comp=Z,3µm,18.5s
HNS LR LR
comp=Z,8µm,18.1s
HNS LR LR
comp=Z,6µm,19.8s
SLE Schleitheim 81.48 28 P **P 15 20 15.6 +0.3**
PMTG Montargil 81.53 43⇑ *i*P **P 15 20 15.0 -0.7**
PMTG *i* IAmb IAmb 15 20 19.1
comp=Z,160nm,1.6s
PB16 IPOC Station P 81.54 125 IAmb IAmb 15 20 28.9
comp=Z,208nm,1.1s
PMAR Madeira 81.57 53⇑ *e*P **P 15 20 17.3 +1.1**
PMAR *i* IAmb IAmb 15 20 30.9
comp=Z,769nm,1.4s
DPC Dobruska-Polom 81.61 22 *e*P **P 15 20 17.0 +1.0**
DPC *e*S **S 15 30 28.7 +0.7**
DPC MLR MLR
comp=Z,7µm,18.1s
DPC Dobruska-Polom 81.61 22 *e*P **P 15 20 17.0 +1.0**
DPC *e*S **S 15 30 28.7 +0.7**
DPC AMS AMS 15 58 20.0
comp=Z,7µm,18.1s
DPC Dobruska-Polom 81.61 22 P **P 15 20 15.9 -0.1**
comp=Z,2µmcomp=Z,120nm,1.3s
PMPST Porto Santo, M 81.65 52 *e*P **P 15 20 17.1 +0.7**
PMPST *i* IAmb IAmb 15 20 19.3
comp=Z,325nm,1.4s
PMRV Marv??o 81.66 42⇑ *i*P **P 15 20 16.5 +0.1**
PMRV *i* IAmb IAmb 15 20 27.4
comp=Z,179nm,1.3s
PMRV *e*S **S 15 30 27.9 -1.0**
PMRV *e*LQ LQ 15 40 54.9
PMRV *e*LR LR 15 46 50.0
PMRV *i* IAMs_20 IAMs_20 15 53 40.7
comp=Z,12µm,18.0s
PMPS Porto Santo 81.67 52 *e*P **P 15 20 17.5 +1.0**
PMPS *i* IAmb IAmb 15 20 20.1
comp=Z,178nm,1.6s
WET Wettzell 81.69 25 *e*P **P 15 20 16.9 +0.5**
comp=Z,32nm,1.3s,baz=331,slow=5.4
WET *e*L L 15 56 24.9
comp=Z,8µm,19.0s
KHC Kasperske Hory 81.91 24 *e*P **P 15 20 18.6 +1.0**
KHC *e* 15 20 23.6
KHC *e*S **S 15 30 31.6 +0.4**
KHC MLR MLR
comp=Z,12µm,16.2s
KHC Kasperske Hory 81.91 24 *e*P **P 15 20 18.6 +1.0**
KHC *ep*P **PcP 15 20 23.6 +0.4**
KHC *e*S **S 15 30 31.6 +0.4**
KHC AMS AMS 15 59 10.0
comp=Z,12µm,16.2s
KHC Kasperske Hory 81.91 24 P **P 15 20 17.3 -0.3**
comp=Z,1µmcomp=Z,76nm,1.2s
KRLC Kraliky 81.98 22 *e*P **P 15 20 18.9 +1.0**
KRLC *e*S **SKSac 15 30 34.5 -3.7**
KRLC MLR MLR
comp=Z,8µm,15.9s
KRLC Kraliky 81.98 22 *e*P **P 15 20 18.9 +1.0**
KRLC *e*S **SKSac 15 30 34.5 -3.7**
KRLC AMS AMS 15 58 20.0
comp=Z,8µm,15.9s

PESTR Estremoz 82.00 43 P **P 15 20 17.0 -1.2**
PESTR Estremoz 82.00 43⇑ *i*P **P 15 20 17.6 -0.6**
PESTR *i* IAmb IAmb 15 20 31.9
comp=Z,224nm,1.7s
ATM1 UHE Belo Monte 82.01 102 P **P 15 20 19.3 +0.8**
ATM1 S **S 15 30 33.5 +0.5**
EVO Evora 82.05 43 P **P 15 20 18.4 0.0**
EVO Evora 82.05 43⇑ *i*P **P 15 20 18.6 +0.2**
EVO *i* IAmb IAmb 15 20 22.2
comp=Z,174nm,1.7s
FUR Furstenfeldbru 82.05 26 *e*L L 15 54 47.6
comp=Z,7µm,21.4s
SSB Saint Sauveur 82.16 32 IAMs_20 IAMs_20 15 54 06.9
comp=Z,7µm,21.0s
GEC2 GERESS Array S 82.20 24 IAMs_20 IAMs_20 15 56 50.8
comp=Z,9µm,20.0s
GEC2 GERESS Array S 82.20 24 *e*P **P 15 20 19.6 +0.4**
comp=Z,38nm,1.3s,baz=331,slow=5.4
GEC2 *e*L L 15 54 25.0
comp=Z,4µm,21.4s
GERES GERESS Array B 82.20 24 P **P 15 20 19.6 +0.4**
comp=Z,6.1nm,0.7s,baz=345,slow=4.6,SNR=44
GERES PKKPbc **PKKPbc 15 38 45.9 -0.2**
comp=Z,0.5nm,0.6s,baz=126,slow=2.7,SNR=4.6
GERES PKPPKP **P'P'df 15 46 52.6 -6.2**
comp=Z,1.3nm,1.1s,baz=98,slow=2.9,SNR=5.0
GERES LR LR 15 57 11.0
comp=Z,8µm,19.2s,baz=337,slow=36
BMO2 UHE Belo Monte 82.22 102 P **P 15 20 20.3 +0.7**
BMO2 S **S 15 30 35.7 +0.5**
BMO1 UHE Belo Monte 82.25 102 P **P 15 20 20.2 +0.4**
BMO1 S **S 15 30 36.7 +1.3**
GUD Guadarrama 82.26 40 P **P 15 20 20.2 +0.5**
TREC Trest 82.32 23 *e*S **SKSac 15 30 37.4 -3.1**
TREC AMS AMS 15 58 10.0
comp=Z,7µm,19.1s
DAVA Damuels 82.36 27 *i* pP pP 15 20 21.6 -0.7
comp=Z,90nm,1.1s,SNR=11
EBAD Badajoz 82.37 43 P **P 15 20 19.9 -0.2**
STEB Steborice 82.38 21 *e*P **P 15 20 20.5 +0.5**
TIY Taiyuan 82.39 316 P **P 15 20 22.5 +2.1**
TIY S **S 15 30 38.5 +1.9**
TIY pmax pmax
comp=Z,40nm,0.9s
TIY pmax pmax
comp=Z,580nm,3.5s
TIY LR LR
comp=Z,6µm,18.6s
TIY LR LR
comp=Z,7µm,17.2s
TIY LR LR
comp=Z,3µm,29.5s
CKRC Cesky Krumlov 82.41 24 *e*P **P 15 20 21.8 +1.6**
CKRC *e*S **SKSac 15 30 38.8 -2.3**
CKRC MLR MLR
comp=Z,8µm,16.1s
CKRC Cesky Krumlov 82.41 24 *e*P **P 15 20 21.8 +1.6**
CKRC *e*S **SKSac 15 30 38.8 -2.3**
CKRC AMS AMS 15 59 30.0
comp=Z,8µm,16.1s
NPGB Novo Progresso 82.44 107 P **P 15 20 20.9 +0.2**
NPGB S **S 15 30 39.1 +1.7**
PTEO Sao Teotonio 82.45 44⇑ *e*P **P 15 20 20.8 +0.2**
PTEO *i* IAmb IAmb 15 20 24.3
comp=Z,214nm,1.7s
MORC Moravsky Berou 82.46 22 *e*P **P 15 20 20.6 +0.2**
MORC Moravsky Berou 82.46 22⇑ P **P 15 20 21.1 +0.6**
MORC Moravsky Berou 82.46 22 P **P 15 20 21.0 +0.6**
MESJ Messejana 82.48 44 *e*P **P 15 20 20.9 +0.3**
MESJ *e*S **S 15 30 37.6 +0.3**
MESJ IAMs_20 IAMs_20 15 55 24.4
comp=Z,9µm,15.5s
MESJ Messejana 82.48 44 IAMs_20 IAMs_20 15 57 49.7
comp=Z,9µm,18.0s
MESJ Messejana 82.48 44⇑ *i*P **P 15 20 20.9 +0.3**
MESJ *i* IAmb IAmb 15 20 32.0
comp=Z,115nm,1.3s
MESJ Messejana 82.48 44 *e*P **P 15 20 21.0 +0.3**
MESJ *e*S **S 15 30 37.6 +0.3**
RETA Reutte 82.48 27 *i* pP pP 15 20 21.7 -1.2
comp=Z,35nm,1.4s,SNR=16
PBEJ Beja 82.51 44⇑ *e*P **P 15 20 21.3 +0.4**
PBEJ *i* IAmb IAmb 15 20 33.8
comp=Z,109nm,2.0s
SSE Sheshan 82.51 306 P **P 15 20 19.8 -1.2**
SSE S **S 15 30 36.3 -1.5**
SSE pmax pmax
comp=Z,22nm,1.3s
SSE pmax pmax
comp=Z,250nm,5.2s
SSE LR LR
comp=Z,2µm,20.9s
SSE LR LR
comp=Z,920nm,20.9s
PB11 IPOC Station P 82.56 126 P **P 15 20 21.9 +0.5**
OKC Ostrava-Krasne 82.56 21 *e*P **P 15 20 23.3 +2.4**
OKC *e*S **SKSac 15 30 39.0 -3.0**
OKC MLR MLR
comp=Z,7µm,15.5s
OKC Ostrava-Krasne 82.56 21 *e*P **P 15 20 23.3 +2.4**
OKC *e*S **SKSac 15 30 39.0 -3.0**
OKC AMS AMS 16 00 40.0
comp=Z,7µm,15.5s
VRAC Vranov 82.62 22 *e*P **P 15 20 21.8 +0.5**
VRAC Vranov 82.62 22⇑ P **P 15 20 22.0 +0.7**
VRAC Vranov 82.62 22 P **P 15 20 21.9 +0.7**
ALEG Aligegeo Malai 82.63 251 P **P 15 20 23.4 +1.7**
BRVK Borovoye 82.63 349 P **P 15 20 19.5 -1.7**
OJC Ojcow 82.64 20 *e*P **P 15 20 22.1 +0.8**
OJC Ojcow 82.64 20 P **P 15 20 21.7 +0.4**
OJC Ojcow 82.64 20 P **P 15 20 21.1 -0.2**
comp=Z,2µmcomp=Z,107nm,1.4s
BVA0 Borovoye Array 82.65 349 *i* P **P 15 20 19.5 -1.8**
BVAR Borovoye Array 82.65 349 P **P 15 20 21.4 +0.1**
comp=Z,42nm,0.9s,baz=29,slow=3.4,SNR=171
BVAR PKKPbc **PKKPbc 15 38 45.4 +0.4**
comp=Z,1.9nm,0.9s,baz=225,slow=1.9,SNR=5.5
BVAR PKPPKP **P'P'df 15 46 53.5 -4.7**
comp=Z,0.6nm,0.4s,baz=117,slow=0.3,SNR=3.9
BVAR LR LR 15 58 26.1
comp=Z,8µm,21.9s,baz=16,slow=37
comp=Z,42nm,0.9s
MORF Marmelete 82.67 44 *e*P **P 15 20 22.2 +0.5**
MORF *e*S **S 15 30 39.6 +0.3**
MORF IAMs_20 IAMs_20 15 42 20.6
comp=E,13µm,29.2s
MORF Marmelete 82.67 44 IAmb IAmb 15 20 33.1
comp=Z,119nm,0.9s
MORF Marmelete 82.67 44⇑ *i*P **P 15 20 22.2 +0.5**
MORF *i* IAmb IAmb 15 20 25.6
comp=Z,276nm,1.7s
MORF Marmelete 82.67 44 *e*P **P 15 20 22.2 +0.5**
MORF *e*S **S 15 30 39.6 +0.3**
PFVI Vila Bisbo 82.71 45 P **P 15 20 21.8 -0.1**
PFVI Vila Bisbo 82.71 45⇑ *i*P **P 15 20 22.2 +0.3**
PFVI *i* IAmb IAmb 15 20 25.9
comp=Z,356nm,1.7s
MOTA Moosalm 82.72 27 *i* pP pP 15 20 23.0 -1.2
comp=Z,48nm,1.9s,SNR=15
PCVE Castro Verde 82.73 44 P **P 15 20 21.8 -0.2**
PCVE Castro Verde 82.73 44⇑ *e*P **P 15 20 22.6 +0.6**
PCVE *i* IAmb IAmb 15 20 25.8
comp=Z,155nm,1.9s
GO01 Chusmiza 82.76 126 IAmb IAmb 15 20 34.7
comp=Z,167nm,0.9s
KRUC Moravsky 82.79 23 *e*P **P 15 20 22.5 +0.4**
DAVOX Davos/Dischmat 82.80 28 LR LR 15 56 37.3
comp=Z,12µm,20.5s,baz=326,slow=35
PBAR Barrancos 82.81 43 P **P 15 20 21.8 -0.6**
PBAR Barrancos 82.81 43⇑ *i*P **P 15 20 22.8 +0.4**
PBAR *i* IAmb IAmb 15 20 26.2
comp=Z,175nm,1.7s
HMBC Humberstone 82.82 126 IAmb IAmb 15 20 34.0
comp=Z,214nm,1.0s
SQTA Sankt Quirin 82.86 27 *i* pP pP 15 20 23.8 -1.1
comp=Z,70nm,1.7s,SNR=26
FETA Feichten 82.88 27 *i* pP pP 15 20 24.1 -0.9
comp=Z,61nm,1.5s,SNR=27
TA01 Diego Aracena 82.88 127 IAmb IAmb 15 20 34.4
comp=Z,269nm,1.1s
WATA Walderalm 82.88 26 *i* pP **P 15 20 23.6 +0.8**
comp=Z,62nm,1.4s,SNR=24
TUE Stuetta 82.89 28 IAmb IAmb 15 20 38.0
comp=Z,156nm,1.3s

TUE Stuetta 82.89 28 P **P 15 20 22.4 -0.5**
comp=Z,7µmcomp=Z,386nm,1.6s
RNPP9 Sopachiv 82.91 16 P **P 15 20 22.5 -0.1**
MAUC Maruska 82.91 22 *e*P **P 15 20 23.8 +1.0**
MAUC *e*S **SKSac 15 30 44.3 -0.1**
RJOB Jochberg 82.91 25 *e*P **P 15 20 23.5 +0.7**
baz=331,slow=5.4
RJOB *e*L L 15 58 49.4
comp=Z,8µm,20.5s
UCM Universidad Co 82.95 39 P **P 15 20 22.2 -0.9**
WTTA Wattenberg 82.96 26 *i* pP pP 15 20 24.3 -1.2
comp=Z,84nm,1.6s,SNR=30
RNPP8 Varash 82.97 16 P **P 15 20 22.9 -0.1**
TATA Tatamba Isabel 82.98 252 P **P 15 20 25.7 +2.2**
RNPP2 Kostyukhnivka 82.99 16 P **P 15 20 23.0 -0.1**
HURO Huro Makira 83.03 249 P **P 15 20 25.5 +1.7**
PAB San Pablo 83.04 40 P **P 15 20 22.7 -1.0**
PAB San Pablo 83.04 40 IAMs_20 IAMs_20 15 55 26.4
comp=Z,9µm,18.0s
PAB San Pablo 83.04 40 P **P 15 20 24.5 +0.8**
PVAQ Vaqueiros 83.06 44 P **P 15 20 23.3 -0.5**
PVAQ Vaqueiros 83.06 44⇑ *i*P **P 15 20 24.4 +0.6**
PVAQ *i* IAmb IAmb 15 20 27.8
comp=Z,233nm,1.7s
PVAQ *e*S **S 15 30 43.1 -0.1**
PVAQ *e*LQ LQ 15 41 37.4
PVAQ *e*LR LR 15 47 20.9
PVAQ *i* IAMs_20 IAMs_20 15 54 51.9
comp=Z,8µm,18.0s
FUORN Ofenpass-Fuorn 83.07 27 IAmb IAmb 15 20 36.6
comp=Z,258nm,1.2s
CEST Esterri de Car 83.07 35 IAmb IAmb 15 20 36.4
comp=Z,195nm,1.2s
RNPP5 Staryi Chortor 83.08 16 P **P 15 20 23.4 -0.1**
PBDV Barranco-do-Ve 83.08 44 P **P 15 20 24.2 +0.3**
PBDV Barranco-do-Ve 83.08 44⇑ *i*P **P 15 20 24.6 +0.7**
PBDV *i* IAmb IAmb 15 20 27.2
comp=Z,151nm,1.7s
ESBB Sonseca Array 83.12 40 IAMs_20 IAMs_20 15 55 31.5
comp=Z,10µm,19.0s
ESDC Sonseca Array 83.12 40 P **P 15 20 23.3 -0.8**
ESDC Sonseca Array 83.12 40 P **P 15 20 24.1 0.0**
comp=Z,20nm,1.1s,baz=315,slow=4.8,SNR=98
ESDC PKKPbc **PKKPbc 15 38 48.1 +4.4**
comp=Z,1.6nm,1.0s,baz=177,slow=0.1,SNR=6.1
ESDC PKPPKP **P'P'df 15 46 52.5 -4.0**
comp=Z,0.5nm,0.5s,baz=174,slow=5.0,SNR=5.0
ESDC LR LR 15 55 42.7
comp=Z,10µm,18.0s,baz=317,slow=34
comp=Z,20nm,1.1s
PB08 IPOC Station P 83.15 126 P **P 15 20 28.2 +3.5**
LESA Schwarzleotal 83.15 26 *i* pP **P 15 20 24.8 +0.7**
comp=Z,49nm,1.6s,SNR=31
BNI Bardonecchia 83.16 30 IAmb IAmb 15 20 45.4
comp=Z,268nm,1.9s
BNI Bardonecchia 83.16 30 P **P 15 20 25.6 +1.3**
NJ2 Nanjing 83.17 308 *e*P **P 15 20 24.3 -0.1**
NJ2 SKS **S 15 30 43.3 -1.2**
NJ2 S **SKSac 15 30 46.0 -0.6**
NJ2 SS **SS 15 36 07.3 -0.4**
NJ2 pmax pmax
comp=Z,69nm,1.3s
NJ2 pmax pmax
comp=Z,550nm,5.3s
NJ2 LR LR
comp=Z,4µm,23.7s
NJ2 LR LR
comp=Z,8µm,23.7s
NJ2 LR LR
comp=Z,4µm,17.9s
BIOA Bad Ischl, Aus 83.21 25 *i* pP **P 15 20 25.0 +0.6**
comp=Z,43nm,1.6s,SNR=16
MOA Molln 83.26 24 *i* pP pP 15 20 25.6 -1.3
comp=Z,48nm,1.6s,SNR=18
JAVC Velka Javorina 83.33 22 *e*P **P 15 20 26.1 +1.1**
VILB Vilhena 83.38 115 IAMs_20 IAMs_20 15 58 09.0
comp=Z,7µm,22.0s
VILB Vilhena 83.38 115 P **P 15 20 27.4 +1.8**
KURK Kurchatov 83.43 343 P **P 15 20 24.9 -0.4**
KURK IAmb IAmb 15 20 36.1
comp=Z,196nm,1.1s
KURK Kurchatov 83.43 343 IAMs_20 IAMs_20 15 57 57.3
comp=Z,10µm,22.0s
KURK Kurchatov 83.43 343*d i*P **P 15 20 25.1 -0.3**
KURK pmax pmax
comp=Z,223nm,1.2s
KURK MLR MLR
comp=Z,6µm,19.0s
NIE Niedzica 83.50 20 *e*P **P 15 20 27.4 +1.5**
NIE Niedzica 83.50 20 P **P 15 20 27.0 +1.1**
NIE Niedzica 83.50 20 P **P 15 20 25.7 -0.2**
comp=Z,722nmcomp=Z,54nm,1.2s
SAVO Savo Central 83.52 251 P **P 15 20 27.4 +1.1**
KURBB Kurchatov Arra 83.54 343 P **P 15 20 25.6 -0.4**
comp=Z,52nm,0.9s,baz=17,slow=4.9,SNR=255
KURBB PKKPbc **PKKPbc 15 38 43.1 +0.2**
comp=Z,0.9nm,0.8s,baz=212,slow=2.6,SNR=4.4
KURBB PKPPKP **P'P'df 15 46 50.0 -6.4**
comp=Z,0.7nm,0.8s,baz=206,slow=2.7,SNR=5.2
KURBB LR LR 16 00 32.8
comp=Z,6µm,20.3s,baz=32,slow=38
comp=Z,52nm,0.9s
KURBB Kurchatov Arra 83.54 343 P **P 15 20 25.1 -0.8**
LANS Liptovska Anna 83.54 21 *e*P **P 15 20 27.6 +1.5**
LANS pmax pmax
comp=Z,30nm,1.2s
LANS Liptovska Anna 83.54 21 *e*P **P 15 20 27.6 +1.5**
LANS *e* 15 20 37.2
SMOL Smolenice 83.58 22 *e*P **P 15 20 27.6 +1.4**
SMOL pmax pmax
comp=Z,47nm,1.4s
HNR Honiara 83.63 251 P **P 15 20 26.9 +0.1**
comp=Z,36nm,0.5s,baz=0.0,slow=2.0,SNR=1.1
HNR LR LR 15 49 40.2
comp=Z,13µm,21.9s,baz=60,slow=30
comp=Z,36nm,0.5s
PB02 IPOC Station P 83.63 127 IAmb IAmb 15 20 38.5
comp=Z,147nm,0.9s
CONA Conrad Observa 83.66 23 *i* pP pP 15 20 27.7 -1.3
comp=Z,61nm,1.4s,SNR=39
KBA Koelnbreinsper 83.67 25 *i* PcP **P 15 20 28.2 +1.3**
comp=Z,57nm,1.4s
ABTA Abfaltersbach 83.70 26 *i* pP pP 15 20 28.1 -1.1
comp=Z,65nm,1.4s,SNR=38
MI28 Mi28,Pidlybu 83.71 15 P **P 15 20 26.7 -0.1**
LPSR Galich'ya Gora 83.73 8 *e*P **P 15 20 25.0 -1.8**
LPSR *e*S **S 15 30 46.7 -2.7**
LPSR *e*SS **SS 15 36 11.4 -3.2**
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR smax smax
comp=N,1µm,14.1s
STHS Stebnicka Huta 83.74 20 *e*P **P 15 20 27.1 +0.1**
STHS *e* 15 20 35.8
ZST Bratislava 83.78 23 *e*P **P 15 20 28.1 +0.9**
ZST *e* 15 20 34.5
ZST Bratislava 83.78 23 *e*P **P 15 20 28.1 +0.9**
ZST *e* 15 20 34.5
KWP Kalwaria Pacla 83.89 19 *e*P **P 15 20 28.8 +0.9**
KWP Kalwaria Pacla 83.89 19 P **P 15 20 28.7 +0.9**
VYHS Vyhne 83.98 21 *e*P **P 15 20 29.0 +0.7**
VYHS pmax pmax
comp=Z,55nm,1.4s
VYHS Vyhne 83.98 21 *e*P **P 15 20 29.0 +0.7**
RONA Rosalia, Austr 84.00 23 *i* pP pP 15 20 29.5 -1.2
comp=Z,58nm,1.4s,SNR=32
CTI Castel Tesino 84.03 27 IAmb IAmb 15 20 40.0
comp=Z,177nm,1.4s
CIMO Cimolais 84.06 26 IAMs_20 IAMs_20 15 59 45.0
comp=Z,6µm,19.0s
SOP Sopron 84.09 23 P **P 15 20 30.0 +1.2**
AK21 Malin Array Si 84.11 14 P **P 15 20 28.7 -0.2**
AK22 Malin Array Si 84.14 14 P **P 15 20 28.6 -0.4**
AK20 Malin Array Si 84.14 14 P **P 15 20 28.6 -0.4**
MYKA Terra Mystica 84.16 25 *i* pP **P 15 20 29.7 +0.4**
comp=Z,44nm,1.6s,SNR=17
AK18 Malin Array Si 84.17 14 P **P 15 20 28.8 -0.4**
ARSA Arzberg 84.18 24 IAmb IAmb 15 20 42.4
comp=Z,216nm,1.4s
ARSA Arzberg 84.18 24 *i* pP pP 15 20 30.4 -1.2
comp=Z,57nm,1.5s,SNR=29

AK04	**Malin Array Si**	**84.19**	**14**	P	**P**	**15 20 28.9**	**-0.4**		
STAL	**STALIGIAL**	**84.19**	**26**	IAMs_20	IAMs_20	16 01 40.4			
	comp=Z,6µm,19.0s								
AKASG	**Malin Array Be**	**84.22**	**14**	P	**P**	**15 20 28.9**	**-0.6**		
AKASG				IAmb	IAmb	15 20 41.7			
	comp=Z,166nm,1.1s								
AKASG	**Malin Array Be**	**84.22**	**14**	P	**P**	**15 20 28.8**	**-0.6**		
	comp=Z,38nm,0.9s,baz=345,slow=4.5,SNR=142								
AKASG				PKKPbc	**PKKPbc**	**15 38 40.8**	**-0.5**		
	comp=Z,0.3nm,0.5s,baz=181,slow=2.0,SNR=5.1								
AKASG				PKPPKP	**P'P'df**	**15 46 48.3**	**-6.8**		
	comp=Z,0.1nm,0.3s,baz=207,slow=1.0,SNR=4.7								
AKASG				LR	LR	15 58 18.1			
	comp=Z,6µm,18.2s,baz=344,slow=36								
	comp=Z,38nm,0.9s								
AKASG	**Malin Array Be**	**84.22**	**14**	*i* P	**P**	**15 20 29.1**	**-0.3**		
AKASG				pmax	pmax				
	comp=Z,38nm,0.9s								
AKBB	**Malin Array Si**	**84.22**	**14**	IAmb	IAmb	15 20 41.8			
	comp=Z,190nm,1.2s								
AKBB				IAMs_20	IAMs_20	15 59 11.2			
	comp=Z,7µm,19.0s								
AKBB	**Malin Array Si**	**84.22**	**14***c*	*i* P	**P**	**15 20 29.2**	**-0.2**		
AKBB				MLR	MLR				
	comp=Z,7µm,18.0s								
AKBB	**Malin Array Si**	**84.22**	**14**	P	**P**	**15 20 28.8**	**-0.6**		
KIEV	**Kiev**	**84.22**	**14**	P	**P**	**15 20 28.9**	**-0.5**		
KIEV				IAmb	IAmb	15 20 41.8			
	comp=Z,171nm,1.2s								
KIEV	**Kiev**	**84.22**	**14**	IAMs_20	IAMs_20	15 59 10.2			
	comp=Z,6µm,19.0s								
KIEV	**Kiev**	**84.22**	**14**	⇑P	**P**	**15 20 29.3**	**-0.2**		
KIEV	**Kiev**	**84.22**	**14**	P	**P**	**15 20 29.2**	**-0.2**		
KIEV	**Kiev**	**84.22**	**14**	P	**P**	**15 20 28.9**	**-0.5**		
	comp=Z,8µmcomp=Z,503nm,1.1s								
AK01	**Malin Array Si**	**84.23**	**14**	P	**P**	**15 20 28.8**	**-0.6**		
PB03	**IPOC Station P**	**84.28**	**127**	IAmb	IAmb	15 20 41.9			
	comp=Z,215nm,1.0s								
TMAB	**Tom-Au,PA,Br**	**84.34**	**99**	P	**P**	**15 20 32.2**	**+1.6**		
TMAB				S	**S**	**15 30 58.4**	**+1.7**		
PB09	**IPOC Station P**	**84.38**	**127**	IAmb	IAmb	15 20 43.4			
	comp=Z,232nm,1.1s								
KECS	**Kecovo**	**84.42**	**20**	*e*P	**P**	**15 20 31.7**	**+1.2**		
KECS				*e*		15 20 40.3			
KECS				pmax	pmax				
	comp=Z,61nm,1.2s								
KECS	**Kecovo**	**84.42**	**20**	*e*P	**P**	**15 20 31.7**	**+1.2**		
KECS				*e*		15 20 40.3			
KOLS	**Kolonicke sedl**	**84.44**	**19**	*e*P	**P**	**15 20 32.0**	**+1.4**		
KOLS	**Kolonicke sedl**	**84.44**	**19**	*e*P	**P**	**15 20 32.0**	**+1.4**		
SRO	**Srobarova**	**84.46**	**22**	*e*P	**P**	**15 20 32.0**	**+1.3**		
SRO				pmax	pmax				
	comp=Z,59nm,1.0s								
SRO	**Srobarova**	**84.46**	**22**	*e*P	**P**	**15 20 32.0**	**+1.3**		
BELG	**Belogornoye**	**84.52**	**3**	P	**P**	**15 20 30.3**	**-0.6**		
	comp=Z,109nm,1.0s,baz=35,slow=2.7,SNR=28								
BELG				LR	LR	16 00 39.2			
	comp=Z,4µm,20.6s,baz=354,slow=38								
	comp=Z,109nm,1.0s								
BELG	**Belogornoye**	**84.52**	**3***d*	*i* P	**P**	**15 20 30.0**	**-0.9**		
BELG				pmax	pmax				
	comp=Z,43nm,1.3s								
BELG				MLR	MLR				
	comp=Z,706nm,16.0s								
SOKA	**Soboth**	**84.54**	**25**	*i* pP	**P**	**15 20 31.3**	**+0.1**		
	comp=Z,101nm,1.4s,SNR=79								
CADS	**Cadrg**	**84.55**	**26**	*i* P	**P**	**15 20 31.0**	**-0.3**		
OBKA	**Obir**	**84.55**	**25**	*i* pP	**P**	**15 20 31.8**	**+0.5**		
	comp=Z,48nm,1.0s,SNR=29								
TUC4	**UHE Tucurui**	**84.60**	**101**	P	**P**	**15 20 32.7**	**+0.8**		
TUC4				S	**SKSac**	**15 30 57.4**	**+1.2**		
PERS	**Pernice**	**84.61**	**25**	*i* P	**P**	**15 20 31.8**	**+0.2**		
PERS				*e*S	**S**	**15 30 58.0**	**-0.6**		
PERS				*e*SS	**SS**	**15 36 33.3**	**+5.2**		
PB05	**IPOC Station P**	**84.65**	**128**	IAmb	IAmb	15 20 43.6			
	comp=Z,226nm,1.1s								
VORR	**Voronezh**	**84.67**	**8**	*e*P	**P**	**15 20 30.5**	**-1.2**		
VORR				*e*S	**SKSac**	**15 30 56.2**	**+0.5**		
VORR				*e*SS	**SS**	**15 36 30.5**	**+2.0**		
VORR				pmax	pmax				
	comp=Z,120nm,0.9s								
VORR				smax	smax				
	comp=E,310nm,5.8s								
LUBAR	**Lubar, Ukraine**	**84.69**	**15**	P	**P**	**15 20 31.6**	**-0.2**		
SABO	**M.te Sabotino**	**84.72**	**26**	IAMs_20	IAMs_20	16 00 18.6			
	comp=Z,9µm,18.0s								
UZHM	**Uzhgorod**	**84.73**	**19**	P	**P**	**15 20 32.0**	**0.0**		
PDRB	**Porto dos Gac**	**84.74**	**111**	P	**P**	**15 20 33.7**	**+1.1**		
PDRB				S	**S**	**15 31 03.4**	**+2.8**		
PSZ	**Piszkesteto**	**84.79**	**21**	IAmb	IAmb	15 20 46.5			
	comp=Z,266nm,1.2s								
PSZ	**Piszkesteto**	**84.79**	**21**	⇑P	**P**	**15 20 33.7**	**+1.2**		
PSZ	**Piszkesteto**	**84.79**	**21**	P	**P**	**15 20 33.7**	**+1.2**		
LYN	**LuoYang**	**84.81**	**314**	⇑P	**P**	**15 20 33.0**	**+0.3**		
LYN				PP	**PP**	**15 23 52.3**	**+4.0**		
LYN				SKS	**SKSac**	**15 30 53.8**	**-3.4**		
LYN				S	**S**	**15 31 00.5**	**-0.3**		
LYN				pmax	pmax				
	comp=Z,64nm,1.4s								
LYN				pmax	pmax				
	comp=Z,1µm,4.0s								
LYN				LR	LR				
	comp=Z,4µm,19.4s								
LYN				LR	LR				
	comp=Z,7µm,18.7s								
LYN				LR	LR				
	comp=Z,7µm,25.5s								
MSSA	**Maissana**	**84.82**	**29**	IAmb	IAmb	15 20 44.8			
	comp=Z,248nm,1.3s								
MSSA				IAMs_20	IAMs_20	15 57 01.1			
	comp=Z,10µm,20.0s								
CLDB	**Colider**	**84.85**	**110**	P	**P**	**15 20 34.9**	**+1.8**		
CLDB				S	**S**	**15 31 04.2**	**+2.5**		
BUD	**Budapest**	**84.95**	**22**	P	**P**	**15 20 34.5**	**+1.3**		
LJU	**Ljubljana**	**84.96**	**25**	*e*P	**P**	**15 20 33.4**	**+0.1**		
LJU				*e*S	**S**	**15 31 01.7**	**-0.4**		
LJU				*e*SS	**SS**	**15 36 35.1**	**+1.9**		
LJU				*e*		15 42 49.3			
PB10	**IPOC Station P**	**84.96**	**129**	IAmb	IAmb	15 20 45.2			
	comp=Z,142nm,1.0s								
ZSN	**Zaisan**	**84.98**	**338**	*e*P	**P**	**15 20 33.0**	**-0.4**		
ZSN	**Zaisan**	**84.98**	**338**	*e*P	**P**	**15 20 33.0**	**-0.4**		
TRI	**Trieste**	**85.02**	**26**	IAmb	IAmb	15 20 44.9			
	comp=Z,201nm,1.5s								
TRI				IAMs_20	IAMs_20	15 58 35.3			
	comp=Z,9µm,22.0s								
SIV	**San Ignacio**	**85.03**	**117**	LR	LR	16 02 20.5			
	comp=Z,5µm,18.0s,baz=334,slow=38								
NGOA	**Tingoa Renbel**	**85.06**	**249**	P	**P**	**15 20 37.3**	**+3.2**		
VSR	**Storozhevoye**	**85.12**	**8**	*e*P	**P**	**15 20 32.4**	**-1.5**		
VSR				*e*S	**SKSac**	**15 30 55.2**	**-3.4**		
VSR				*e*SS	**SS**	**15 36 30.5**	**-4.6**		
VSR				pmax	pmax				
	comp=Z,100nm,1.1s								
VSR				smax	smax				
	comp=N,2µm,11.8s								
BRZS	**Berezniki**	**85.25**	**347**	*e*P	**P**	**15 20 34.2**	**-0.5**		
BRZS				*e*S	**SKSac**	**15 30 58.0**	**-1.5**		
BRZS	**Berezniki**	**85.25**	**347**	*e*P	**P**	**15 20 34.3**	**-0.5**		
BRZS				*e*S	**SKSac**	**15 30 58.1**	**-1.5**		
VLC	**Villacollemand**	**85.26**	**29**	P	**P**	**15 20 34.1**	**-0.8**		
ZCCA	**Zocca**	**85.30**	**28**	IAmb	IAmb	15 20 52.6			
	comp=Z,149nm,1.0s								
VRH	**Novokhopyorsk**	**85.37**	**6**	*e*P	**P**	**15 20 33.6**	**-1.6**		
VRH				*e*S	**SKSac**	**15 31 00.0**	**-0.1**		
VRH				*e*SS	**SS**	**15 36 41.9**	**+3.2**		
VRH				pmax	pmax				
	comp=Z,70nm,1.2s								
VRH				smax	smax				
	comp=N,2µm,11.8s								
VORD	**Divnogorie**	**85.38**	**8**	*e*P	**P**	**15 20 33.6**	**-1.6**		
VORD				*e*S	**SKSac**	**15 30 58.1**	**-2.1**		
VORD				*e*SS	**SS**	**15 36 39.0**	**+0.1**		
VORD				pmax	pmax				
	comp=Z,60nm,1.0s								
VORD				smax	smax				
	comp=N,570nm,7.8s								
RABL	**Rabaul**	**85.44**	**260**	P	**P**	**15 20 34.6**	**-1.6**		
RABL				IAmb	IAmb	15 20 36.5			
	comp=Z,156nm,1.4s								
RABL				IAMs_20	IAMs_20	15 50 10.2			
	comp=Z,8µm,22.0s								
RAO	**Raoul Island**	**85.53**	**222**	IAMs_20	IAMs_20	15 50 04.0			
	comp=Z,7µm,22.0s								
RAO	**Raoul Island**	**85.53**	**222**	LR	LR	15 50 37.1			
	comp=Z,6µm,21.6s,baz=39,slow=30								
KMPD	**K-Podol'skiy**	**85.73**	**17**	P	**P**	**15 20 36.7**	**-0.3**		
PRPB	**Parauapebas**	**85.73**	**103**	P	**P**	**15 20 38.8**	**+1.2**		
PRPB				S	**S**	**15 31 12.2**	**+1.7**		
PTLB	**Pontes e Lacer**	**85.90**	**116**	IAmb	IAmb	15 20 49.2			
	comp=Z,123nm,1.1s								
PTLB	**Pontes e Lacer**	**85.90**	**116**	P	**P**	**15 20 39.0**	**+0.7**		
BMR	**Baia Mare**	**85.91**	**19**	⇑P	**P**	**15 20 38.5**	**+0.6**		
BMR	**Baia Mare**	**85.91**	**19**	P	**P**	**15 20 38.5**	**+0.6**		
PB14	**IPOC Station P**	**85.92**	**130**	P	**P**	**15 20 38.8**	**+0.2**		
PB14				IAmb	IAmb	15 20 49.6			
	comp=Z,343nm,1.3s								
MORH	**Mrgy, Hungar**	**86.01**	**22**	⇑P	**P**	**15 20 38.8**	**+0.3**		
MORH	**Mrgy, Hungar**	**86.01**	**22**	P	**P**	**15 20 38.4**	**-0.1**		
	comp=Z,1µmcomp=Z,67nm,1.4s								
OSSC	**Osservatorio P**	**86.12**	**28**	IAmb	IAmb	15 20 51.1			
	comp=Z,205nm,1.1s								
OSSC				IAMs_20	IAMs_20	15 57 38.5			
	comp=Z,11µm,20.0s								
CART	**Cartagena**	**86.17**	**39**	IAMs_20	IAMs_20	15 55 58.3			
	comp=Z,8µm,20.0s								
YOJ	**Yonaguni jima**	**86.19**	**300**	IAmb	IAmb	15 20 49.0			
	comp=Z,159nm,1.2s								
YOJ	**Yonaguni jima**	**86.19**	**300**	P	**P**	**15 20 40.7**	**+1.0**		
YOJ	**Yonaguni jima**	**86.19**	**300**	P	**P**	**15 20 38.9**	**-0.8**		
MK31	**Makanchi Array**	**86.26**	**340**	*i* P	**P**	**15 20 37.9**	**-1.9**		
MK31				pmax	pmax				
	comp=Z,149nm,1.3s								
MKAR	**Makanchi Array**	**86.26**	**340**	P	**P**	**15 20 38.6**	**-1.2**		
MKAR	**Makanchi Array**	**86.26**	**340**	P	**P**	**15 20 39.0**	**-0.8**		
	comp=Z,13nm,1.0s,baz=46,slow=5.2,SNR=68								
MKAR				PKKPbc	**PKKPbc**	**15 38 35.1**	**-1.4**		
	comp=Z,1.4nm,0.9s,baz=191,slow=1.5,SNR=7.3								
MKAR				PKPPKP	**P'P'df**	**15 46 46.0**	**-5.3**		
	comp=Z,1.9nm,1.1s,baz=173,slow=2.0,SNR=5.8								
MKAR				LR	LR	16 01 20.1			
	comp=Z,10µm,19.6s,baz=17,slow=37								
	comp=Z,13nm,1.0s								
MKAR	**Makanchi Array**	**86.26**	**340**	*i* P	**P**	**15 20 39.0**	**-0.8**		
MKAR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BUR08	**Bucovina Ar. S**	**86.33**	**18**	IAmb	IAmb	15 21 04.7			
	comp=Z,157nm,1.4s								
MAKZ	**Makanchi**	**86.33**	**340**	IAMs_20	IAMs_20	16 01 20.6			
	comp=Z,10µm,20.0s								
MAKZ	**Makanchi**	**86.33**	**340**	P	**P**	**15 20 39.4**	**-0.7**		
BURAR	**Bucovina Array**	**86.36**	**18**	P	**P**	**15 20 40.0**	**-0.3**		
BURAR	**Bucovina Array**	**86.36**	**18**	⇑P	**P**	**15 20 41.7**	**+1.3**		
BURAR	**Bucovina Array**	**86.36**	**18**	P	**P**	**15 20 41.6**	**+1.3**		
AKTO	**Aktyubinsk**	**86.40**	**356**	LR	LR	16 00 08.5			
	comp=Z,2µm,21.5s,baz=2.0,slow=36								
AKTO	**Aktyubinsk**	**86.40**	**356**	P	**P**	**15 20 39.5**	**-0.9**		
SORM	**Soroca**	**86.52**	**16**	⇓P	**P**	**15 20 40.6**	**-0.3**		
SORM	**Soroca**	**86.52**	**16**	P	**P**	**15 20 40.6**	**-0.3**		
SORM	**Soroca**	**86.52**	**16**	P	**P**	**15 20 40.6**	**-0.3**		
	comp=Z,2µmcomp=Z,148nm,1.2s								
DRGR		**86.55**	**20**	⇑P	**P**	**15 20 42.1**	**+0.9**		
DRGR		**86.55**	**20**	P	**P**	**15 20 42.1**	**+0.9**		
CASP	**Castiglione de**	**86.63**	**29**	IAmb	IAmb	15 20 54.2			
	comp=Z,226nm,1.3s								
ARCR	**ARCALIA**	**86.66**	**18**	⇑P	**P**	**15 20 42.9**	**+1.2**		
MARR	**Marisel-Cluj**	**86.75**	**19**	⇓P	**P**	**15 20 42.5**	**+0.2**		
SIRR	**Siria**	**86.77**	**21**	⇓P	**P**	**15 20 42.9**	**+0.6**		
GO02	**Mina Guanaco**	**86.80**	**129**	*e*P	**P**	**15 20 44.4**	**+1.5**		
WHN	**Wuhan**	**86.85**	**310**	⇑P	**P**	**15 20 43.0**	**+0.1**		
WHN				pP	**sP**	**15 20 45.8**	**-0.1**		
WHN				S	**SKSac**	**15 31 13.5**	**+3.4**		
WHN				SS	**SS**	**15 37 00.5**	**-1.4**		
WHN				pmax	pmax				
	comp=Z,1µm,2.0s								
WHN				LR	LR				
	comp=Z,6µm,15.8s								
WHN				LR	LR				
	comp=Z,19µm,21.2s								
WHN				LR	LR				
	comp=Z,11µm,19.7s								
YJA	**Yavi**	**86.88**	**125**	*e*P	**P**	**15 20 45.6**	**+2.1**		
GTA	**Gaotai**	**86.90**	**325**	P	**P**	**15 20 42.8**	**-0.4**		
GTA				pP	sP	15 20 46.8	+0.6		
GTA				PP	**PP**	**15 24 06.5**	**+1.4**		
GTA				SKS	**SKSac**	**15 31 08.5**	**-1.9**		
GTA				S	**S**	**15 31 23.3**	**+1.8**		
GTA				pmax	pmax				
	comp=Z,27nm,1.1s								
GTA				LR	LR				
	comp=Z,13µm,23.9s								
GTA				LR	LR				
	comp=Z,15µm,24.7s								
GTA				LR	LR				
	comp=Z,15µm,24.7s								
BLY	**Banja Luka**	**86.93**	**24**	⇓P	**P**	**15 20 43.7**	**+0.7**		
BAL3X	**Bal3x, Balta**	**86.95**	**15**	P	**P**	**15 20 43.1**	**+0.1**		
AC01	**Pan de Azucar**	**87.00**	**131**	IAmb	IAmb	15 20 54.3			
	comp=Z,190nm,1.3s								
XAN	**Xi'an**	**87.04**	**316**	P	**P**	**15 20 43.8**	**0.0**		
XAN				pP	pwP	15 20 49.5	-0.6		
XAN				SKS	**SKSac**	**15 31 08.5**	**-2.8**		
XAN				S	**S**	**15 31 22.5**	**-0.4**		
XAN				pmax	pmax				
	comp=Z,47nm,1.3s								
XAN				pmax	pmax				
	comp=Z,1µm,3.8s								
XAN				LR	LR				
	comp=Z,6µm,17.9s								
XAN				LR	LR				
	comp=Z,8µm,20.8s								
XAN				LR	LR				
	comp=Z,9µm,20.3s								
YHNB	**Yeheng**	**87.06**	**301**	P	**P**	**15 20 44.7**	**+0.6**		
FDMO	**Fiordimonte**	**87.18**	**27**	IAmb	IAmb	15 20 56.8			
	comp=Z,270nm,1.2s								
GUMA	**Gualdo di Mace**	**87.24**	**27**	IAmb	IAmb	15 20 58.9			
	comp=Z,145nm,1.0s								
NACB	**Ninganchiao**	**87.28**	**301**	P	**P**	**15 20 46.6**	**+1.5**		
BZS	**Buzias**	**87.36**	**21**	⇑P	**P**	**15 20 45.4**	**+0.3**		
BZS	**Buzias**	**87.36**	**21**	P	**P**	**15 20 45.4**	**+0.3**		
NRCA	**Norcia**	**87.37**	**27**	IAmb	IAmb	15 21 10.4			
	comp=Z,127nm,1.3s								
SURR	**Surduc**	**87.37**	**20**	⇑P	**P**	**15 20 46.1**	**+1.0**		
CESX	**Cesi**	**87.38**	**28**	IAMs_20	IAMs_20	16 00 00.0			
	comp=Z,11µm,21.0s								
MANU	**Manus Island**	**87.44**	**265**	P	**P**	**15 20 46.4**	**+0.5**		
AB31	**Akbulak array**	**87.47**	**355**	IAmb	IAmb	15 20 58.3			
	comp=Z,102nm,1.1s								
AB31	**Akbulak array**	**87.47**	**355**	P	**P**	**15 20 45.1**	**-0.4**		
ABKAR	**Akbulak array**	**87.47**	**355**	P	**P**	**15 20 45.4**	**-0.1**		
WMQ	**Urumqi**	**87.47**	**335**	P	**P**	**15 20 47.0**	**+1.2**		
WMQ				sP	pwP	15 20 54.0	+2.1		
WMQ				PP	**PP**	**15 24 14.3**	**+4.8**		
WMQ				pmax	pmax				
	comp=Z,41nm,1.7s								
WMQ				pmax	pmax				
	comp=Z,640nm,3.7s								
WMQ				LR	LR				
	comp=Z,8µm,19.5s								
WMQ				LR	LR				
	comp=Z,6µm,23.5s								
WMQ				LR	LR				
	comp=Z,11µm,20.9s								
ROSB	**Rosrio**	**87.57**	**96**	S	**S**	**15 31 30.6**	**+2.3**		
PAL01	**Palmeiras do T**	**87.66**	**101**	P	**P**	**15 20 48.1**	**+1.1**		
PAL01				S	**S**	**15 31 32.7**	**+3.5**		
KIS	**Kishinev**	**87.70**	**16**	*i* SKS	S	15 31 19.0	-10		
KIS				*i* S	**SKKSac**	**15 31 28.0**	**+3.7**		
KIS				*e*L	L	15 54 46.0			
KIS				LRM	MLR	16 00 22.0			
	comp=Z,2µm,17.0s								
MAS01	**UHE Manso**	**87.70**	**113**	P	**P**	**15 20 48.0**	**+0.9**		
TESR	**Tescani**	**87.72**	**17**	⇓P	**P**	**15 20 47.1**	**+0.2**		
TESR	**Tescani**	**87.72**	**17**	P	**P**	**15 20 47.0**	**+0.2**		
	comp=Z,2µmcomp=Z,80nm,1.4s								
HJA	**Humahuaca**	**87.72**	**125**	*e*P	**P**	**15 20 49.7**	**+2.2**		
MILM	**Milestii Mici**	**87.77**	**16**	⇑*i*P	**P**	**15 20 45.7**	**-1.3**		
	comp=Z,140nm,1.6s								
MILM				*e*SKS	**SKSac**	**15 31 16.0**	**+0.8**		
MILM				*i* S	**S**	**15 31 28.0**	**-1.3**		
MILM	**Milestii Mici**	**87.77**	**16**	⇑P	**P**	**15 20 46.8**	**-0.3**		
MILM	**Milestii Mici**	**87.77**	**16***c*	*i*P	**P**	**15 20 45.7**	**-1.3**		
MILM				*e*		15 31 16.0			
MILM				*i* S	**S**	**15 31 28.0**	**-1.3**		
MILM				*e*PS	**PnS**	**15 32 25.0**	**-4.6**		
MILM				pmax	pmax				
	comp=Z,140nm,1.6s								
ONER	**Baraj Valea Uz**	**87.83**	**17**	⇑P	**P**	**15 20 48.6**	**+1.2**		
VASR	**Vaslui**	**87.83**	**16**	⇑P	**P**	**15 20 47.2**	**-0.1**		
LZH	**Lanzhou**	**87.87**	**320**	*e*P	**P**	**15 20 48.8**	**+0.9**		
LZH				pP	pwP	15 20 55.0	+0.8		
LZH				SS	SS	15 37 16.3	-0.4		
LZH				pmax	pmax				
	comp=Z,85nm,1.6s								
LZH				pmax	pmax				
	comp=Z,870nm,4.0s								
LZH				LR	LR				
	comp=Z,10µm,17.8s								
LZH				LR	LR				
	comp=Z,14µm,15.2s								
LZH				LR	LR				
	comp=Z,14µm,17.1s								
GZR	**Gura Zlata**	**87.87**	**20**	⇑P	**P**	**15 20 47.6**	**0.0**		
GZR	**Gura Zlata**	**87.87**	**20**	P	**P**	**15 20 47.6**	**0.0**		
AQU	**L'Aquila**	**87.89**	**28**	P	**P**	**15 20 47.2**	**-0.6**		
AQU	**L'Aquila**	**87.89**	**28**	P	**P**	**15 20 48.1**	**+0.3**		
AQU	**L'Aquila**	**87.89**	**28**	P	**P**	**15 20 47.9**	**+0.1**		
	comp=Z,1µmcomp=Z,83nm,1.1s								
PAL2	**UHE Estreito -**	**87.90**	**101**	P	**P**	**15 20 49.5**	**+1.3**		
PAL2				S	**S**	**15 31 33.4**	**+1.8**		
OZUR		**87.92**	**18**	⇑P	**P**	**15 20 47.7**	**-0.2**		
SALTA		**87.94**	**126**	*e*P	**P**	**15 20 50.9**	**+2.3**		
DOPR	**Dopca**	**87.95**	**18**	⇑P	**P**	**15 20 48.5**	**+0.5**		
SSLB	**Suanglung**	**87.96**	**301**	P	**P**	**15 20 49.2**	**+0.8**		
TNR	**Turnu Rosu**	**87.99**	**19**	⇓P	**P**	**15 20 49.3**	**+1.1**		
TNR	**Turnu Rosu**	**87.99**	**19**	P	**P**	**15 20 49.3**	**+1.1**		
MD01	**Midelt array s**	**88.12**	**45**	P	**P**	**15 20 48.6**	**-0.6**		
MDVR	**Moldovita**	**88.17**	**21**	⇓P	**P**	**15 20 49.2**	**+0.1**		
MDT	**Midelt**	**88.24**	**45**	P	**P**	**15 20 49.8**	**+0.1**		
MDT	**Midelt**	**88.24**	**45**	P	**P**	**15 20 49.8**	**+0.1**		
	comp=Z,4.8nm,0.5s,baz=316,slow=4.4,SNR=6.2								
MDT				LR	LR	15 58 51.6			
	comp=Z,5µm,18.1s,baz=336,slow=35								
	comp=Z,4.8nm,0.5s								
COVR	**Voineasa-Covas**	**88.25**	**18**	⇑P	**P**	**15 20 50.4**	**+1.0**		
HERR	**Herculane**	**88.26**	**21**	⇑P	**P**	**15 20 49.4**	**0.0**		
PLOR	**Plostina**	**88.34**	**17**	⇑P	**P**	**15 20 49.9**	**+0.1**		
PLOR	**Plostina**	**88.34**	**17**	P	**P**	**15 20 49.9**	**+0.1**		
ARR	**Arges**	**88.34**	**19**	⇓P	**P**	**15 20 50.4**	**+0.5**		
VRI	**Vrincioaia**	**88.35**	**17**	⇓P	**P**	**15 20 50.0**	**+0.2**		
VRI	**Vrincioaia**	**88.35**	**17**	P	**P**	**15 20 50.0**	**+0.2**		
PLOR5	**Plostina Array**	**88.35**	**17**	P	**P**	**15 20 50.0**	**+0.1**		
	comp=Z,1µmcomp=Z,92nm,1.4s								
PINNC	**Pines Island,**	**88.37**	**237**	IAMs_20	IAMs_20	15 54 11.1			
	comp=Z,9µm,20.0s								
PANC	**Panciu**	**88.43**	**17**	⇑P	**P**	**15 20 51.5**	**+1.3**		
SALV	**Santo Antonio**	**88.51**	**113**	P	**P**	**15 20 52.2**	**+1.3**		
SALV				S	**S**	**15 31 38.0**	**+1.0**		
TPUB	**Ta-pu**	**88.52**	**301**	P	**P**	**15 20 51.3**	**+0.2**		
MLR	**Muntele Rosu**	**88.53**	**18**	IAMs_20	IAMs_20	15 58 51.1			
	comp=Z,7µm,21.0s								
MLR	**Muntele Rosu**	**88.53**	**18**	LR	LR	16 00 38.2			
	comp=Z,6µm,18.4s,baz=341,slow=36								
MLR	**Muntele Rosu**	**88.53**	**18**	⇑P	**P**	**15 20 51.8**	**+0.9**		
MLR	**Muntele Rosu**	**88.53**	**18**	P	**P**	**15 20 51.7**	**+0.9**		
QZH	**Quanzhou**	**88.57**	**304**	P	**P**	**15 20 52.0**	**+0.8**		
QZH				S	**S**	**15 31 37.0**	**-0.6**		
QZH				SS	**SS**	**15 37 30.8**	**+3.5**		
QZH				LR	LR				
	comp=Z,5µm,23.7s								
QZH				LR	LR				
	comp=Z,3µm,21.6s								
QZH				LR	LR				
	comp=Z,4µm,16.8s								
DZM	**Mont Dzumac**	**88.58**	**238**	P	**P**	**15 20 51.5**	**+0.2**		
DZM				IAmb	IAmb	15 21 02.5			
	comp=Z,193nm,1.5s								
DZM				IAMs_20	IAMs_20	15 51 15.6			
	comp=Z,11µm,22.0s								
DZM	**Mont Dzumac**	**88.58**	**238**	*e*P	**P**	**15 20 52.3**	**+1.1**		
	comp=Z,276nm,1.4s								
DZM	**Mont Dzumac**	**88.58**	**238**	*e*PP	**PP**	**15 24 17.2**	**-2.7**		
	comp=Z,358nm,26.4s								
DZM				*e*S	**S**	**15 31 33.0**

SHLS Shalkode 90.37 340 *e*P P 15 20 58.6 -0.9
SHLS *e*S **SKSac** 15 31 29.1 -1.9
SHLS pmax pmax
comp=Z,108nm,1.3s
SHLS Shalkode 90.37 340 *e*P P 15 20 58.6 -0.9
comp=Z,108nm,1.3s
SHLS *e*S **SKSac** 15 31 29.1 -1.9
RAZG Razgrad 90.48 18 ⇑P P 15 21 00.2 +0.4
UZB Uzunbulak 90.49 341 *d* P P 15 20 59.4 -0.7
UZB Uzunbulak 90.49 341 ⇓P P 15 20 59.4 -0.7
MATE Matera 90.51 26 ⇑P P 15 21 00.8 +0.8
NBPS Pedro II - PI 90.53 95 P P 15 21 01.1 +0.5
NBPS S S 15 31 55.5 -0.8
VTS Vitosha 90.58 21 *i* P P 15 20 55.7 -4.9
VTS Vitosha 90.58 21 P P 15 20 58.7 -1.8
SIM Simferopol' 90.62 13 *e*P P 15 20 56.0 -4.5
SIM *e*S S 15 31 44.0 -12
SZH Strazhitsa 90.64 19 *i* P P 15 20 59.4 -1.2
SZH Strazhitsa 90.64 19 P P 15 20 58.6 -2.0
LOZB Loznitsa 90.69 18 ⇑P P 15 21 01.0 +0.2
SKO Skopje 90.70 22 *i* P P 15 21 01.3 +0.3
SATY Saty 90.72 341 *e*P P 15 21 00.5 -0.7
SATY *e*S **SKSac** 15 31 31.6 -1.4
SATY pmax pmax
comp=Z,86nm,1.2s
SATY Saty 90.72 341 *e*P P 15 21 00.5 -0.7
comp=Z,86nm,1.2s
SATY *e*S **SKSac** 15 31 31.7 -1.4
PLNA Plana 90.76 21 *i* P P 15 20 58.2 -3.2
AGUA GUANDACOL 90.77 131 *e*P P 15 21 06.1 +4.8
CUC Castrocucco 90.81 27 IAMs_20 IAMs_20 16 04 17.6
comp=Z,8µm,18.0s
AAA Alma-Ata 90.92 342 *e*P P 15 21 00.7 -1.3
AAA Alma-Ata 90.92 342 *e*P P 15 21 01.4 -0.6
comp=Z,84nm,1.1s
MDOK Medeo 90.94 342 *e*P P 15 21 01.4 -0.8
MDOK *e*S **SKSac** 15 31 32.8 -1.5
MDOK Medeo 90.94 342 *e*P P 15 21 01.5 -0.8
MDOK *e*S **SKSac** 15 31 32.9 -1.5
MDOK LR LR 16 04 07.7
SBBR Sobral 90.94 94 P P 15 21 02.5 +0.1
ACDV Cuesta del Vie 90.96 132 *e*P P 15 21 02.8 +0.5
TNSS Tian-Shan 91.08 342 *e*P P 15 21 02.1 -1.0
TNSS Tian-Shan 91.08 342 *e*P P 15 21 02.2 -1.0
SGDS Sogindy 91.18 344 *e*P P 15 21 02.8 -0.4
PRZ Przheval'sk 91.26 341 IAmb IAmb 15 21 15.8
comp=Z,118nm,1.2s
PRZ IAMs_20 IAMs_20 16 01 34.4
comp=Z,8µm,22.0s
KKB Krupnik 91.28 21 *i* P P 15 21 04.9 +1.3
KKB Krupnik 91.28 21 P P 15 21 02.8 -0.8
OHR Ohrid 91.32 23 *i* P P 15 21 04.6 +0.7
USP Ospenovka 91.39 344 P P 15 21 04.3 +0.1
SNR=20
PLD Plovdiv 91.41 20 *i* P P 15 21 04.5 +0.3
PLD Plovdiv 91.41 20 P P 15 21 02.8 -1.3
CYA Choya 91.47 129 *e*P P 15 21 03.2 -1.3
CYA *e*P **PcP** 15 21 05.7 +0.3
TKM2 Tokmak 2 91.49 343 P P 15 21 04.7 -0.1
SNR=57
JMB Yambol 91.51 19 P P 15 21 02.4 -2.2
ACLC CERRO LA CRUZ 91.57 130 *e*P P 15 21 04.9 -0.3
GOF Gofitskoye 91.58 6 *ce*P P 15 21 05.7 +0.8
SCTE Santa Cesarea 91.59 25 IAMs_20 IAMs_20 16 03 55.1
comp=Z,6µm,19.0s
CHMS Chumysh 91.59 343 P P 15 21 05.8 +0.7
SNR=8.7
VAY Valandovo 91.62 22 *i* P P 15 21 05.7 +0.5
GOMU GeErMu 91.69 327 P P 15 21 06.5 +0.4
GOMU PP PP 15 24 43.3 -0.4
GOMU S S 15 32 07.0 0.0
GOMU SS SS 15 38 13.3 +1.0
GOMU pmax pmax
comp=Z,37nm,1.9s
GOMU pmax pmax
comp=Z,470nm,8.3s
GOMU LR LR
comp=Z,11µm,20.6s
GOMU LR LR
comp=Z,5µm,20.5s
GOMU LR LR
comp=Z,14µm,19.4s
DIM Dimitrovgrad 91.70 19 *i* P P 15 21 06.3 +0.7
MMB Musomishta 91.72 21 *i* P P 15 21 05.3 -0.4
MMB Musomishta 91.72 21 P P 15 21 02.4 -3.3
AQDB Aquidauana 91.78 117 P P 15 21 07.1 +1.0
AQDB S S 15 32 05.7 -1.4
FNA Florina 91.79 23 P P 15 21 05.2 -0.9
FNA IAMs_20 IAMs_20 16 01 21.5
comp=Z,6µm,21.0s
FNA Florina 91.79 23 P P 15 21 02.2 -3.9
FNA Florina 91.79 23 P P 15 21 05.2 -0.9
FNA pmax pmax
comp=Z,39nm,1.5s
FNA MLR MLR
comp=Z,6µm,21.0s
RZN Rozhen 91.83 20 *i* P P 15 21 06.6 +0.2
RZN Rozhen 91.83 20 P P 15 21 05.3 -1.1
KNT Kendrikon 91.86 22 P P 15 21 02.2 -4.1
TIP Timpagrande 91.86 27 IAmb IAmb 15 21 18.2
comp=Z,136nm,1.3s
TIP IAMs_20 IAMs_20 16 00 11.3
comp=Z,10µm,22.0s
TIP Timpagrande 91.86 27 ⇓P P 15 21 07.5 +1.1
KBK Karagaybulak 91.88 343 P P 15 21 07.2 +0.6
SNR=13
KDJ Kajisay 91.89 341 IAmb IAmb 15 21 18.0
comp=Z,118nm,1.4s
KDJ IAMs_20 IAMs_20 16 05 36.2
comp=Z,5µm,20.0s
ULHL Ulahol 91.99 342 P P 15 21 07.3 +0.1
SNR=14
AAK Ala-Archa 91.99 344 P P 15 21 06.7 -0.4
AAK Ala-Archa 91.99 344 LR LR 16 05 30.7
comp=Z,9µm,18.7s,baz=24,slow=38
AAK Ala-Archa 91.99 344 P P 15 21 07.2 +0.1
SNR=7.7
AAK Ala-Archa 91.99 344 *d* iP P 15 21 07.0 -0.1
AAK pmax pmax
comp=Z,70nm,1.4s
AAK MLR MLR
comp=Z,9µm,18.0s
AAK Ala-Archa 91.99 344 P P 15 21 06.7 -0.4
AAK S S 15 32 08.0 -1.0
KDZ Kurdzhali 92.04 20 *i* P P 15 21 07.0 -0.1
KDZ Kurdzhali 92.04 20 P P 15 21 05.5 -1.6
SRS Serrai 92.08 21 P P 15 21 05.3 -2.0
EKS2 Erkin-Say 92.11 344 P P 15 21 08.1 +0.5
SNR=15
CD2 Chengdu 92.14 317 P P 15 21 08.0 +0.1
CD2 PP PP 15 24 47.8 +0.8
CD2 SKS SKSac 15 31 41.5 +0.2
CD2 S S 15 32 10.5 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,740nm,5.5s
CD2 LR LR
comp=Z,7µm,18.4s
CD2 LR LR
comp=Z,5µm,18.4s
CD2 LR LR
comp=Z,5µm,17.8s
KEST Kesra 92.22 33 IAmb IAmb 15 21 27.2
comp=Z,205nm,1.7s
KEST IAMs_20 IAMs_20 16 04 42.0
comp=Z,8µm,19.0s
KEST Kesra 92.22 33 P P 15 21 09.2 +1.0
comp=Z,20nm,1.2s,baz=192,slow=2.2,SNR=9.4
KEST LR LR 16 01 23.3
comp=Z,6µm,19.6s,baz=329,slow=35
comp=Z,20nm,1.2s
VA03 San Esteban 92.23 135 IAmb IAmb 15 21 19.4
comp=Z,117nm,1.1s
KK31 Karatay Array 92.29 346 *i* P P 15 21 07.7 -0.6
KKAR Karatay Array 92.29 346 P P 15 21 07.7 -0.6
KKAR Karatay Array 92.29 346 P P 15 21 07.7 -0.6
SOH Sokhos 92.29 21 P P 15 21 07.5 -0.9
MT02 Curacav 92.32 135 P P 15 21 08.9 +0.6
KEK Kerkira 92.32 24 IAMs_20 IAMs_20 16 03 24.5
comp=Z,5µm,20.0s
KZN Kozani 92.34 23 P P 15 21 06.8 -1.9
UCH Uchtor 92.38 343 P P 15 21 09.5 +0.2
SNR=8.0

CEL Celeste 92.40 28 IAMs_20 IAMs_20 16 02 31.7
comp=Z,5µm,18.0s
AUSP Uspallata 92.41 134 ⇓*e*P P 15 21 09.8 +0.7
KAVA Kavala 92.43 20 P P 15 21 07.0 -2.0
C2SB Chapadao do Su 92.46 114 P P 15 21 10.6 +1.4
PEL Peldehue 92.46 135 IAmb IAmb 15 21 19.8
comp=Z,96nm,1.2s
BRLS Borolday 92.47 347 *e*P P 15 21 09.8 +0.6
BRLS Borolday 92.47 347 *e*P P 15 21 09.8 +0.6
RDO Rodhopi 92.55 20 IAMs_20 IAMs_20 16 04 00.4
comp=Z,5µm,20.0s
RDO Rodhopi 92.55 20 P P 15 21 06.9 -2.6
CFA Coronel Fontan 92.55 132 LR LR 15 57 50.2
comp=Z,1µm,20.7s,baz=358,slow=32
APLL PUNTA DE LOS L 92.55 131 *e*P P 15 21 09.8 +0.3
JAY Jayapura 92.60 269 P P 15 21 10.1 -0.1
comp=Z,16nm,1.1s,baz=343,slow=6.2,SNR=4.5
JAY LR LR 15 54 41.1
comp=Z,4µm,21.5s,baz=43,slow=30
comp=Z,16nm,1.1s
JAY Jayapura 92.60 269 P P 15 21 11.8 +1.6
comp=Z,747nmcomp=Z,37nm,2.2s
PMG Port Moresby 92.61 260 IAMs_20 IAMs_20 15 54 24.2
comp=Z,8µm,22.0s
PMG Port Moresby 92.61 260 P P 15 21 09.4 -0.7
comp=Z,32nm,1.2s,baz=85,slow=7.2,SNR=4.4
PMG PP PP 15 24 52.7 +0.8
comp=Z,20nm,1.1s,baz=48,slow=12,SNR=3.7
PMG LR LR 15 54 57.5
comp=Z,5µm,20.9s,baz=104,slow=30
comp=Z,32nm,1.2s
MT05 Renca 92.63 135 IAmb IAmb 15 21 21.3
comp=Z,177nm,1.1s
KIV Kislovodsk 92.64 7 IAMs_20 IAMs_20 16 09 03.2
comp=Z,5µm,19.0s
KIV Kislovodsk 92.64 7 ⇑P P 15 21 09.4 -0.6
KIV Kislovodsk 92.64 7 *e*P P 15 21 09.2 -0.8
KIV *e* 15 24 50.5
KIV *e* 15 31 42.4
KIV *e*SS SS 15 38 26.4 +1.6
KIV pmax pmax
comp=Z,13nm,1.1s
KIV pmax pmax
comp=Z,75nm,4.5s
KIV MLR MLR
comp=Z,3µm,20.0s
KIV Kislovodsk 92.64 7 P P 15 21 09.2 -0.8
KIV S S 15 32 13.7 -1.0
KVAR Kislovodsk Arr 92.64 7 LR LR 16 05 01.0
comp=Z,3µm,18.7s,baz=270,slow=37
IGT Igoumenitsa 92.65 24 P P 15 21 07.7 -2.3
NBPB Pedra_Branca-C 92.67 95 P P 15 21 09.3 -1.1
NBCL Cascavel-CE 92.71 93 P P 15 21 11.7 +1.1
NBCL S S 15 32 17.2 +1.4
NBCL Cascavel-CE 92.71 93 *e*P P 15 21 10.5 -0.1
SOC Sochi 92.72 9 *e*P P 15 21 09.0 -1.2
SOC *e* 15 24 49.5
SOC *e*PPP PPP 15 26 57.7
SOC *e*S **SKSac** 15 31 42.1 -1.9
SOC *e*SS SS 15 38 25.0 -0.7
SOC pmax pmax
comp=Z,58nm,1.1s
SOC MLR MLR
comp=Z,4µm,19.0s
MT09 Talagante 92.80 136 P P 15 21 09.8 -0.8
MT03 Universidad Ad 92.82 135 IAmb IAmb 15 21 32.9
comp=Z,194nm,1.3s
SHA1 Shidzhatmaz 92.86 7 *i* P P 15 21 11.5 +0.3
KBZ Khabaz 92.89 7 P P 15 21 11.3 +0.4
comp=Z,6.4nm,1.0s,baz=84,slow=1.6,SNR=10
KBZ LR LR 16 05 13.7
comp=Z,4µm,19.9s,baz=348,slow=37
comp=Z,6.4nm,1.0s
KBZ Khabaz 92.89 7 *i* P P 15 21 10.9 -0.1
KBZ pmax pmax
comp=Z,12nm,0.9s
ALN Alexandroupoli 92.91 19 P P 15 21 09.5 -1.6
NFK Norfolk Island 92.91 232 *e*P P 15 21 09.3 -1.8
NFK Norfolk Island 92.91 232 *e*PP PP 15 24 50.5 -3.6
NFK *e*S S 15 32 16.2 -0.7
NFK *e*SS SS 15 38 23.5 -7.9
NFK *e*LQ LQ 15 47 06.0
NFK *e*LR LR 15 51 07.8
ASAL Salagasta 92.99 133 *e*P P 15 21 12.2 +0.7
MT08 Bocatoma Ro 93.04 135 IAmb IAmb 15 21 24.2
comp=Z,134nm,1.1s
GENI Genyem 93.05 269 P P 15 21 12.9 +0.7
GENI Genyem 93.05 269 P P 15 21 14.2 +2.0
comp=Z,74nm,1.4s
RPRD Ribas do Rio P 93.09 115 *e*P P 15 21 14.3 +2.1
TETR Tetrakomo, Epi 93.09 23 P P 15 21 09.6 -2.5
THL Klokotos Trika 93.10 23 P P 15 21 09.7 -2.3
GZH Guangzhou 93.11 306 P P 15 21 11.0 -1.4
GZH LR LR
comp=Z,4µm,19.8s
GZH LR LR
comp=Z,8µm,23.1s
GZH LR LR
comp=Z,4µm,23.5s
MT13 San Alfonso 93.14 135 IAmb IAmb 15 21 24.1
comp=Z,122nm,1.2s
BO04 La Punta 93.16 135 IAmb IAmb 15 21 23.5
comp=Z,90nm,1.1s
CHM Chimkent 93.21 347 *e*P P 15 21 12.0 -0.5
CHM pmax pmax
comp=Z,55nm,1.5s
CHM Chimkent 93.21 347 *e*P P 15 21 12.1 -0.5
comp=Z,55nm,1.5s
LMEL Las Melosas 93.26 135 IAmb IAmb 15 21 25.3
comp=Z,83nm,1.1s
IUG Iuzhnay 93.30 347 *e*P P 15 21 12.4 -0.7
IUG pmax pmax
comp=Z,88nm,1.6s
IUG Iuzhnay 93.30 347 *e*P P 15 21 12.5 -0.7
comp=Z,88nm,1.6s
AAGR Agrelo 93.38 134 *e*P P 15 21 14.3 +1.0
SDBA SÃO DESIDERIO 93.52 104 P P 15 21 15.8 +1.5
SDBA S S 15 32 23.5 +0.5
SDBA SÃO DESIDERIO 93.52 104 *e*P P 15 21 15.9 +1.5
GADA Gurgeada 93.54 20 P P 15 21 10.6 -3.5
BDFB Brasília 93.56 108 P P 15 21 15.7 +1.2
comp=Z,2.6nm,0.5s,baz=3.0,slow=5.3,SNR=4.9
BDFB LR LR 16 06 45.2
comp=Z,6µm,20.6s,baz=316,slow=38
comp=Z,2.6nm,0.5s
EVR Evrytania 93.64 23 P P 15 21 13.1 -1.6
MAKR Makrakomi, Fth 93.65 23 P P 15 21 12.8 -1.8
SMPI Sarmi 93.70 271 P P 15 21 15.1 -0.1
comp=Z,59nm,1.2s
PVO Paravola 93.84 23 P P 15 21 14.7 -0.8
MAK Makhachkala 93.94 3 *d* iP P 15 21 12.9 -2.9
MAK *e* 15 24 56.5
MAK *e* 15 31 44.9
MAK *e*SS SS 15 38 37.8 -5.3
MAK *e*SSS SSS 15 42 31.5
MAK pmax pmax
comp=Z,174nm,1.0s
MAK MLR MLR
comp=Z,7µm,19.0s
VLS Valsamata 93.97 24 P P 15 21 14.9 -1.3
ANX Ano Chora 93.98 23 P P 15 21 15.7 -0.5
EZN Ezine 93.99 19 ⇑P P 15 21 16.3 +0.1
EZN Ezine 93.99 19 P P 15 21 16.2 +0.1
AMBA Amambai (Brazi 93.99 118 *e*P P 15 21 15.9 -0.3
WDD Wied Dalam 94.10 30 IAMs_20 IAMs_20 16 00 38.7
comp=Z,6µm,21.0s
EFP Efpalio 94.13 23 P P 15 21 16.0 -0.8
MXZ Matakaoa Point 94.13 220 IAMs_20 IAMs_20 15 55 43.7
comp=Z,8µm,21.0s
AXS Araxos 94.19 24 P P 15 21 16.0 -1.1
GYA Guiyang 94.24 313 ⇑P P 15 21 17.8 +0.1
GYA PP PP 15 25 03.0 -0.8
GYA S S 15 32 30.0 +0.6
GYA pmax pmax
comp=Z,27nm,1.4s
GYA pmax pmax
comp=Z,410nm,3.1s
GYA LR LR
comp=Z,5µm,19.0s
GYA LR LR
comp=Z,5µm,20.4s
RLS Riolos of Patr 94.34 24 P P 15 21 16.9 -0.8
MDUB Mudurnu 94.44 16 P P 15 21 17.8 -0.6
MDUB IAmb IAmb 15 21 32.3
comp=Z,138nm,1.2s

NBMA Muriti-CE 94.50 96 P P 15 21 20.4 +1.5
OUZ Omahuta 94.57 224 IAMs_20 IAMs_20 15 55 47.5
comp=Z,5µm,20.0s
NBPA Parau_RN 94.60 94 P P 15 21 20.4 +1.1
KSH Kashi 94.65 342 P P 15 21 21.3 +1.9
KSH PP PP 15 25 13.5 +7.1
KSH SS SS 15 38 56.5 +2.7
KSH pmax pmax
comp=Z,12nm,1.4s
KSH pmax pmax
comp=Z,320nm,11.3s
KSH LR LR
comp=Z,9µm,18.6s
KSH LR LR
comp=Z,13µm,18.1s
KSH LR LR
comp=Z,9µm,22.1s
GUR Goura 94.71 23 P P 15 21 17.9 -1.8
ITU3 Corumbazu 94.76 110 P P 15 21 20.0 +0.1
SJPY San Joaquin 94.76 120 *e*P P 15 21 18.2 -1.6
ITRB Iturama 94.78 113 P P 15 21 21.4 +1.4
ITRB S S 15 32 32.5 -1.2
ITRB Iturama 94.78 113 *e*P P 15 21 21.5 +1.6
CPUP Villa Florida 94.95 122 P P 15 21 21.4 +0.9
comp=Z,2.0nm,1.1s,baz=33,slow=1.0,SNR=4.6
CPUP LR LR 16 05 57.4
comp=Z,750nm,20.5s,baz=191,slow=37
comp=Z,2.0nm,1.1s
CPUP Villa Florida 94.95 122 P P 15 21 21.7 +1.1
WAMI Wamena 94.99 269 P P 15 21 23.0 +1.9
TGY Tagaytay City 95.03 295 LR LR 15 57 20.6
comp=Z,3µm,21.5s,baz=46,slow=31
IPMB Ipameri, GO 95.04 110 P P 15 21 22.6 +1.4
IPMB S S 15 32 35.6 -0.5
IPMB Ipameri, GO 95.04 110 *e*P P 15 21 22.9 +1.6
BAT2 UHE Batalha 95.12 109 P P 15 21 22.2 +0.5
URZ Urewera 95.25 220 LR LR 15 56 33.2
comp=Z,10µm,20.8s,baz=40,slow=31
ITM Ithomi 95.29 24 IAmb IAmb 15 21 32.5
comp=Z,128nm,1.3s
ANTO Ankara 95.33 15 P P 15 21 21.8 -0.6
ANTO IAmb IAmb 15 21 35.6
comp=Z,83nm,1.2s
ANTO Ankara 95.33 15 ⇓P P 15 21 22.9 +0.5
ANTO Ankara 95.33 15 P P 15 21 22.9 +0.5
ANTO Ankara 95.33 15 P P 15 21 22.9 +0.5
ANTO S S 15 32 38.2 -0.2
SFA1 Serra Facao 95.38 110 P P 15 21 24.7 +1.8
SFA1 S S 15 32 39.7 +0.5
AKT Akhty 95.42 3 *e*P P 15 21 22.4 -0.5
AKT *e* 15 25 08.7
AKT *e*PPP PPP 15 27 16.5
AKT *e*S **SKSac** 15 31 56.9 -2.1
AKT pmax pmax
comp=Z,70nm,1.5s
AKT MLR MLR
comp=Z,8µm,20.0s
TRCB Terra Rica 95.43 116 *e*P P 15 21 25.1 +2.2
PCMB Pacaembu 95.50 114 P P 15 21 24.7 +1.5
PCMB Pacaembu 95.50 114 *e*P P 15 21 24.8 +1.6
RCBR Riachuelo 95.54 93 IAMs_20 IAMs_20 16 01 07.7
comp=Z,7µm,21.0s
RCBR Riachuelo 95.54 93 LR LR 16 03 10.4
comp=Z,2µm,21.5s,baz=310,slow=35
RCBR Riachuelo 95.54 93 P P 15 21 23.8 +0.2
RTZ Ruatahuna 95.60 220 IAMs_20 IAMs_20 15 56 22.6
comp=Z,10µm,22.0s
TOZ Tahuroa Road 95.60 222 IAMs_20 IAMs_20 16 01 32.7
comp=Z,7µm,19.0s
BRTR Keskin Array B 95.62 14 P P 15 21 22.9 -1.0
BRTR Keskin Array B 95.62 14 P P 15 21 23.8 -0.1
comp=Z,4.2nm,1.0s,baz=323,slow=1.9,SNR=18
BRTR PP PP 15 25 10.8 -3.1
comp=Z,6.1nm,1.1s,baz=329,slow=6.6,SNR=4.2
BRTR PKKPbc **PKKPbc** 15 38 13.8 +0.5
comp=Z,2.6nm,1.0s,baz=132,slow=2.1,SNR=4.6
BRTR PKPPKP **P'P'df** 15 46 27.4 -6.2
comp=Z,1.4nm,1.0s,baz=191,slow=1.5,SNR=5.6
BRTR LR LR 16 06 56.7
comp=Z,5µm,20.0s,baz=350,slow=37
comp=Z,4.2nm,1.0s
BRTR Keskin Array B 95.62 14 *i* P P 15 21 23.7 -0.1
BRTR pmax pmax
comp=Z,5.0nm,1.0s
SEKA Sheki 95.67 4 P P 15 21 22.2 -1.7
JANB Januaria 95.75 105 P P 15 21 25.6 +1.1
JANB Januaria 95.75 105 *e*P P 15 21 25.6 +1.1
MANT Manisa 95.78 18 IAMs_20 IAMs_20 16 09 38.1
comp=Z,5µm,19.0s
MNGR Mingechevir, A 96.10 4 P P 15 21 24.2 -1.6
GANJ Ganja 96.19 4 P P 15 21 24.5 -1.7
KIRS Kirsehir-Merke 96.25 14 ⇑P P 15 21 27.0 +0.4
BKZ Black Stump Fm 96.27 220 IAMs_20 IAMs_20 15 56 44.3
comp=Z,7µm,22.0s
NBPV Pedro Velho 96.38 93 P P 15 21 31.6 +4.2
GNI Garni 96.58 6 IAMs_20 IAMs_20 16 05 23.6
comp=Z,5µm,22.0s
GNI Garni 96.58 6 LR LR 16 06 54.0
comp=Z,4µm,21.7s,baz=356,slow=37
GNI Garni 96.58 6 *i* P P 15 21 28.0 -0.2
GNI pmax pmax
comp=Z,67nm,1.5s
GNI MLR MLR
comp=Z,5µm,21.0s
PZH PanZhiHua 96.76 316 P P 15 21 32.0 +2.8
PZH PP PP 15 25 26.3 +3.1
PZH SKS SKSac 15 32 06.3 -0.2
PZH S S 15 32 46.8 -4.4
PZH SS SS 15 39 19.8 -4.8
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,310nm,5.7s
PZH LR LR
comp=Z,3µm,17.5s
PZH LR LR
comp=Z,3µm,19.4s
PZH LR LR
comp=Z,3µm,24.0s
LR03 Panguipulli 96.77 140 IAMs_20 IAMs_20 16 00 15.9
comp=Z,5µm,20.0s
BNN Bunyan 96.85 13 IAMs_20 IAMs_20 16 04 24.3
comp=Z,5µm,22.0s
CHGR Chuyangaron 96.85 346 IAmb IAmb 15 21 41.3
comp=Z,65nm,1.1s
ISP Isparta 96.86 17 IAMs_20 IAMs_20 16 10 17.9
comp=Z,5µm,19.0s
SIMJ Simiganj 96.87 347 P P 15 21 29.1 -0.4
SIMJ IAMs_20 IAMs_20 16 09 55.7
comp=Z,7µm,19.0s
DAV Davao City (W) 96.89 286 IAMs_20 IAMs_20 15 56 43.4
comp=Z,7µm,22.0s
DAV Davao City (W) 96.89 286 LR LR 15 57 17.5
comp=Z,6µm,21.9s,baz=62,slow=31
BB19B Bebedouro 96.95 112 *e*P P 15 21 31.8 +2.0
CTZ Chatham Island 97.00 213 IAMs_20 IAMs_20 16 07 23.5
comp=Z,6µm,18.0s
PTGB Pitanga 97.14 117 P Pdif 15 21 32.4 +1.6
PTGB S S 15 32 50.8 -3.3
PTGB Pitanga 97.14 117 *e*P Pdif 15 21 31.6 +0.8
JQT1 Jequitai-MG 97.20 107 P Pdif 15 21 31.9 +0.8
KMI Kunming 97.38 315 ⇑P Pdif 15 21 35.3 +3.1
KMI SKS **SKSac** 15 32 09.5 -0.5
KMI pmax pmax
comp=Z,17nm,1.5s
KMI LR LR
comp=Z,4µm,21.1s
KMI LR LR
comp=Z,4µm,16.7s
KMI LR LR
comp=Z,4µm,21.0s
LR05 Currie 97.40 140 IAMs_20 IAMs_20 16 00 36.7
comp=Z,5µm,19.0s
BFZ Birch Farm 97.58 219 IAMs_20 IAMs_20 15 59 54.1
comp=Z,8µm,19.0s
NAX Nakhchivan 97.61 5 P P 15 21 30.9 -1.8
LL03 Petrohue 97.94 141 IAMs_20 IAMs_20 15 57 25.0
comp=Z,5µm,21.0s
PSAL Palomas, Salto 98.19 125 *e*P Pdif 15 21 35.6 +0.4
LKRN Lenkeran, Azer 98.23 2 P P 15 21 33.7 -1.7
KARP Karpathos 98.25 20 IAMs_20 IAMs_20 16 10 13.5
comp=Z,5µm,20.0s
QIZ Qiongzhong 98.31 306 P P 15 21 35.5 -0.6
QIZ PP PP 15 25 35.0 -0.3
QIZ S S 15 33 03.8 -0.6

QIZ				SS	**SS**		**15 39 48.0**	**+1.3**	
QIZ				LR	LR				
	comp=Z,3µm,17.6s								
QIZ				LR	LR				
	comp=Z,4µm,20.1s								
QIZ				LR	LR				
	comp=Z,3µm,17.9s								
PLCA	**Paso Flores**	**98.48 140**		P	Pdif		15 21 38.9	+2.5	
	comp=Z,5.1nm,1.0s,baz=302,slow=4.6,SNR=4.7								
PLCA				LR	LR		15 58 19.4		
	comp=Z,3µm,19.5s,baz=332,slow=31								
	comp=Z,5.1nm,1.0s								
PLCA	**Paso Flores**	**98.48 140**		P	Pdif		15 21 39.1	+2.7	
PLCA	**Paso Flores**	**98.48 140**		*eP*	Pdif		15 21 37.6	+1.3	
BHW	**Baring Head**	**98.80 220**		IAMs_20	IAMs_20		16 00 44.2		
	comp=Z,5µm,20.0s								
SNZO	**South Karori**	**98.80 220**		*eP*	**P**		**15 21 34.9**	**-2.7**	
	comp=Z,4.5nm,24.0s								
SNZO	**South Karori**	**98.80 220**		*ePP*	**PP**		**15 25 35.3**	**-4.2**	
	comp=Z,19nm,27.0s								
SNZO				*eS*	**S**		**15 33 07.1**	**0.0**	
	comp=Z,92nm,26.0s								
SNZO	**South Karori**	**98.80 220**		*e*LQ	LQ		15 48 53.0		
	comp=Z,149nm,31.0s								
SNZO				*e*LR	LR		15 53 27.4		
	comp=Z,859nm,22.0s								
LSA	**Lhasa**	**98.85 326**		P	**P**		**15 21 36.0**	**-3.0**	
LSA				LR	LR				
	comp=Z,8µm,20.1s								
LSA				LR	LR				
	comp=Z,11µm,20.1s								
LL01	**San Ignacio de**	**98.92 142**		IAMs_20	IAMs_20		15 57 39.9		
	comp=Z,4µm,20.0s								
GO07	**Milladeo Hill,**	**98.95 143**		IAMs_20	IAMs_20		15 58 23.8		
	comp=Z,6µm,19.0s								
NNZ	**Nelson**	**99.35 221**		IAMs_20	IAMs_20		16 06 54.9		
	comp=Z,5µm,18.0s								
SPB	**Sao Paulo**	**99.42 113**		IAMs_20	IAMs_20		16 08 58.9		
	comp=Z,5µm,20.0s								
QRZ	**Quartz Range**	**99.45 221**		IAMs_20	IAMs_20		15 58 52.7		
	comp=Z,8µm,21.0s								
BSCB	**Bom Sucesso**	**99.46 110**		*eP*	**Pdif**		**15 21 43.0**	**+1.8**	
TNCH	**TengChong**	**99.58 318**		*eP*	**Pdif**		**15 21 42.8**	**+0.8**	
TNCH				PP	**PP**		**15 25 49.3**	**+4.4**	
TNCH				SKS	**SKSac**		**15 32 20.5**	**-0.5**	
TNCH				S	**S**		**15 33 15.3**	**-0.1**	
TNCH				LR	LR				
	comp=Z,3µm,18.9s								
TNCH				LR	LR				
	comp=Z,3µm,20.5s								
TNCH				LR	LR				
	comp=Z,3µm,25.7s								
LHI	**Lord Howe Isla**	**99.95 236**		IAMs_20	IAMs_20		16 01 28.8		
	comp=Z,4µm,19.0s								
THZ	**Tophouse**	**100.00 221**		IAMs_20	IAMs_20		15 57 54.0		
	comp=Z,5µm,22.0s								
KHZ	**Kahutara**	**100.20 220**		P	**Pdif**		**15 21 49.2**	**+5.4**	
DSZ	**Denniston Nort**	**100.51 221**		IAMs_20	IAMs_20		15 59 57.6		
	comp=Z,7µm,22.0s								
EIDS	**Eidsvold**	**100.77 245**		IAMs_20	IAMs_20		16 03 25.2		
	comp=Z,5µm,20.0s								
GVZ	**Greta Valley S**	**100.86 220**		IAMs_20	IAMs_20		16 00 45.0		
	comp=Z,7µm,20.0s								
NIL	**Nilore**	**100.89 342**		IAMs_20	IAMs_20		16 10 29.3		
	comp=Z,8µm,20.0s								
LTZ	**Lake Taylor**	**101.08 220**		IAMs_20	IAMs_20		15 59 55.7		
	comp=Z,9µm,21.0s								
PLTB	**Pedras Altas**	**101.09 123**		P	**Pdif**		**15 21 47.2**	**-0.9**	
OXZ	**Oxford**	**101.61 220**		IAMs_20	IAMs_20		16 01 28.7		
	comp=Z,8µm,20.0s								
RPZ	**Rata Peaks**	**102.37 220**		IAMs_20	IAMs_20		16 01 07.8		
	comp=Z,6µm,21.0s								
SAUI	**Saumlaki**	**103.16 271**		IAMs_20	IAMs_20		16 07 48.5		
	comp=Z,7µm,20.0s								
ARMA	**Armidale**	**103.81 241**		IAMs_20	IAMs_20		15 59 54.1		
	comp=Z,5µm,21.0s								
CMAR	**Chiang Mai Arr**	**104.85 314**		Pdiff	**Pdif**		**15 22 05.7**	**+0.4**	
	comp=Z,1.0nm,0.5s,baz=18,slow=4.3,SNR=9.3								
CMAR				PP	**PP**		**15 26 24.8**	**+0.3**	
	comp=Z,5.7nm,1.0s,baz=36,slow=5.6,SNR=7.9								
MLZ	**Mavora Lakes**	**105.00 221**		IAMs_20	IAMs_20		16 02 13.3		
	comp=Z,8µm,22.0s								
PYZ	**Puysegur Point**	**106.27 221**		IAMs_20	IAMs_20		16 07 45.0		
	comp=Z,6µm,19.0s								
TORD	**Torodi Ar. Bea**	**107.42 52**		Pdiff	**Pdif**		**15 22 17.1**	**+0.4**	
	comp=Z,0.7nm,1.0s,baz=317,slow=3.7,SNR=2.6								
TORD				PP	**PP**		**15 26 43.0**	**-0.6**	
	comp=Z,17nm,1.2s,baz=332,slow=5.9,SNR=10.0								
TORD				PKKP	**PKKPdf**		**15 37 50.7**	**-0.1**	
	comp=Z,1.4nm,0.9s,baz=99,slow=2.1,SNR=6.3								
DBIC	**Dimbokro**	**108.52 61**		PP	**PP**		**15 26 51.8**	**0.0**	
	comp=Z,33nm,1.2s,baz=345,slow=11,SNR=6.0								
DBIC				PKKP	**PKKPdf**		**15 37 47.6**	**-1.4**	
	comp=Z,4.0nm,0.9s,baz=145,slow=4.0,SNR=3.2								
CAN	**Canberra**	**108.70 239**		IAMs_20	IAMs_20		16 07 10.6		
	comp=Z,9µm,19.0s								
WRA	**Warramunga Arr**	**108.83 260**		Pdiff	**Pdif**		**15 22 24.9**	**+2.1**	
	comp=Z,0.9nm,0.8s,baz=45,slow=5.1,SNR=7.1								
WRA				PKiKP	**PKiKP**		**15 26 26.7**	**-1.0**	
	comp=Z,3.0nm,0.9s,baz=33,slow=1.8,SNR=8.8								
WRA				PKKPbc	**PKKPbc**		**15 37 35.8**	**+1.4**	
	comp=Z,0.4nm,0.7s,baz=225,slow=2.2,SNR=4.9								
KNRA	**Kununurra**	**110.11 267**		IAMs_20	IAMs_20		16 04 29.1		
	comp=Z,4µm,22.0s								
STKA	**Stephens Creek**	**111.31 246**		PKiKP	**PKiKP**		**15 26 32.0**	**0.0**	
	comp=Z,2.0nm,0.7s,baz=92,slow=4.4,SNR=3.1								
STKA				PKKPab	**PKKPab**		**15 37 37.1**	**+1.7**	
	comp=Z,1.8nm,0.7s,baz=270,slow=2.0,SNR=3.6								
ASAR	**Alice Springs**	**111.50 257**		Pdiff	**Pdif**		**15 22 38.6**	**+4.0**	
	comp=Z,0.8nm,0.9s,baz=39,slow=5.8,SNR=4.9								
ASAR				PKiKP	**PKiKP**		**15 26 31.9**	**-0.8**	
	comp=Z,2.8nm,1.0s,baz=71,slow=2.0,SNR=11								
ASAR				PKKPbc	**PKKPbc**		**15 37 27.4**	**+1.5**	
	comp=Z,1.4nm,0.7s,baz=216,slow=2.0,SNR=22								
ASAR				SKKP			15 41 24.4		
	comp=Z,4.1nm,1.2s,baz=245,slow=5.1,SNR=5.1								
ASCN	**Ascension**	**112.59 79**		IAMs_20	IAMs_20		16 07 38.2		
	comp=Z,7µm,22.0s								
RAYN	**Ar Rayn**	**113.15 6**		IAMs_20	IAMs_20		16 24 54.3		
	comp=Z,4µm,19.0s								
PBA	**Port Blair**	**113.77 316**		IAMs_20	IAMs_20		16 12 42.7		
	comp=Z,5µm,22.0s								
HYB	**Hyderabad**	**114.74 332**		*e*Pdif	**Pdif**		**15 22 49.8**	**+0.4**	
HYB				*e*PKPdf	**PKiKP**		**15 26 39.1**	**0.0**	
HYB				*e*PP	**PP**		**15 27 37.1**	**+1.3**	
HYB				*e*SKSac	**SKSac**		**15 33 26.3**	**-0.9**	
HYB				*e*SKSdf	**SKSdf**		**15 33 51.3**	**-0.3**	
PMSA	**Palmer Station**	**118.80 154**			**PKiKP**		**15 26 45.6**	**+0.3**	
PMSA	**Palmer Station**	**118.80 154**		IAMs_20	IAMs_20		16 05 34.5		
	comp=Z,6µm,21.0s								
PMSA	**Palmer Station**	**118.80 154**		*ePP*	**PP**		**15 27 59.2**	**-5.4**	
	comp=Z,445nm,27.0s								
PMSA				*eS*			15 34 19.4		
	comp=Z,2µm,29.0s								
PMSA	**Palmer Station**	**118.80 154**		*e*SS	SS		15 44 23.8	+0.5	
	comp=Z,3µm,31.0s								
PMSA	**Palmer Station**	**118.80 154**		*e*LR	LR		16 03 05.6		
	comp=Z,15µm,26.0s								
PDSI	**Padang**	**119.57 301**		PKP	**PKiKP**		**15 26 48.6**	**+0.1**	
MBWA	**Marble Bar**	**120.18 269**		IAMs_20	IAMs_20		16 11 38.9		
	comp=Z,5µm,22.0s								
MBWA	**Marble Bar**	**120.18 269**		PKP	**PKiKP**		**15 26 49.7**	**+0.3**	
ESPZ	**Base Esperanza**	**120.32 150**		IAMs_20	IAMs_20		16 06 38.5		
	comp=Z,6µm,21.0s								
PSA00	**Pilbara Seismi**	**120.35 268**			**PKPdf**		**15 26 46.4**	**-3.3**	
MALK	**Mahakanadarawa**	**122.27 326**		PP	PP		15 28 31.1	+3.1	
SHEL	**Horse Pasture**	**124.19 79**		IAMs_20	IAMs_20		16 15 48.7		
	comp=Z,4µm,20.0s								
ATD	**Arta Tunnel**	**124.72 11**		PKP	**PKiKP**		**15 26 59.9**	**+1.2**	
	comp=Z,0.7nm,0.9s,baz=27,slow=5.1,SNR=2.2								
FURI	**Furi**	**126.58 16**		IAMs_20	IAMs_20		16 31 02.9		
	comp=Z,5µm,20.0s								
SBA	**Scott Base**	**127.17 194**			**PKPdf**		**15 27 01.0**	**-0.1**	
SBA	**Scott Base**	**127.17 194**		IAMs_20	IAMs_20		16 17 08.2		
	comp=Z,3µm,19.0s								
SBA	**Scott Base**	**127.17 194**		PKiKP	**PKPdf**		**15 27 01.0**	**-0.1**	
VNDA	**Vanda**	**127.89 195**			**PKPdf**		**15 27 02.2**	**-0.2**	
VNDA	**Vanda**	**127.89 195**		PKP	**PKiKP**		**15 27 04.3**	**+1.3**	
	comp=Z,8.4nm,1.0s,baz=334,slow=3.5,SNR=17								
LODK	**Lodwar**	**131.06 22**			**PKPdf**		**15 27 08.0**	**-2.6**	
BELA	**Belgrano 2**	**132.72 163**			**PKPdf**		**15 27 10.8**	**-0.8**	
QSPA	**South Pole Qui**	**133.20 180**			PKPpre		15 27 02.8		
QSPA	**South Pole Qui**	**133.20 180**		PKhKP	PKPpre		15 27 03.7		
	comp=Z,2.1nm,0.8s,baz=116,slow=1.3,SNR=9.1								
QSPA				PKP	pPKPdf		15 27 14.4	-0.7	
	comp=Z,14nm,0.9s,baz=108,slow=0.5,SNR=24								
MBAR	**Mbarara**	**133.37 30**		IAMs_20	IAMs_20		16 29 35.3		
	comp=Z,5µm,20.0s								
KMBO	**Kilima Mbogo**	**135.92 21**		PKP	**PKiKP**		**15 27 21.5**	**0.0**	
	comp=Z,6.5nm,0.6s,baz=357,slow=3.2,SNR=15								
KIBK	**Kibwezi**	**137.29 21**		IAMs_20	IAMs_20		16 36 28.3		
	comp=Z,4µm,21.0s								
VNA3	**Neumayer Olymp**	**139.46 154**		⇑P	PKPpre		15 27 14.7		
	comp=Z,28nm,0.8s								
VNA1	**Neumayer--Stat**	**140.01 153**		⇑P	PKPpre		15 27 17.8		
	comp=Z,18nm,1.0s								
VNA2	**Neumayer--Watz**	**140.25 154**		⇑P	PKPpre		15 27 18.4		
	comp=Z,19nm,0.7s,baz=299,slow=4.3								
CASY	**Casey**	**141.23 213**			PKPpre		15 27 19.9		
CASY	**Casey**	**141.23 213**		IAMs_20	IAMs_20		16 18 13.1		
	comp=Z,5µm,22.0s								
CASY	**Casey**	**141.23 213**		*eP*	PKPpre		15 27 17.4		
	comp=Z,122nm,23.0s								
CASY	**Casey**	**141.23 213**		*e*SS	SS		15 49 01.3	+2.3	
	comp=Z,3µm,28.0s								
CASY	**Casey**	**141.23 213**		*e*LQ	LQ		16 07 28.8		
	comp=Z,1µm,26.0s								
CASY				*e*LR	LR		16 13 26.2		
	comp=Z,9µm,23.0s								
MSEY	**Mahe Island**	**141.31 354**		IAMs_20	IAMs_20		16 41 51.3		
	comp=Z,3µm,20.0s								
SNAA	**Sanae**	**141.49 155**		⇑P	PKPpre		15 27 21.4		
	comp=Z,286nm,0.9s								
SNAA	**Sanae**	**141.49 155**			PKPpre		15 27 20.3		
SNAA	**Sanae**	**141.49 155**		PKhKP	PKPpre		15 27 21.6		
	comp=Z,5.8nm,0.9s,baz=250,slow=2.8,SNR=19								
SNAA	**Sanae**	**141.49 155**		PKHKP	PKPpre		15 27 20.3		
TSUM	**Tsumeb**	**142.43 61**			**PKPdf**		**15 27 25.0**	**-6.4**	
TSUM	**Tsumeb**	**142.43 61**		PKhKP	PKPpre		15 27 27.6		
	comp=Z,8.7nm,0.8s,baz=316,slow=3.2,SNR=13								
TROLL	**Troll, Antarti**	**142.95 157**		⇑P	**PKPdf**		**15 27 27.5**	**-3.2**	
	comp=Z,914nm,0.8s								
WIN	**Windhoek**	**144.52 65**		PKiKP	PKPbc		15 27 34.2	+0.5	
QNGWA	**Qangwa**	**144.91 57**		*i* P	**PKPdf**		**15 27 35.9**	**+0.2**	
LSZ	**Lusaka**	**145.41 63**		PKPbc	**PKPab**		**15 27 37.7**	**+0.9**	
	comp=Z,106nm,1.0s,baz=351,slow=3.3,SNR=86								
KSANE	**Kasane**	**145.90 50**		*i* P	**PKPab**		**15 27 39.1**	**+0.6**	
GRTLG	**Ghanzi**	**146.31 59**		*i* P	**PKPab**		**15 27 40.1**	**+0.1**	
KOOLE	**Kule**	**146.84 62**		*i* P	**PKPab**		**15 27 41.8**	**-0.3**	
KGCAE	**Kacgae**	**148.03 60**		*i* P	**PKPbc**		**15 27 42.8**	**-1.2**	
BROLN	**Tlhalogang**	**149.76 51**		*i* P	**PKPdf**		**15 27 45.2**	**+1.5**	
MATP	**Matopo**	**149.86 48**		PKPbc	**PKPbc**		**15 27 49.0**	**+0.3**	
	comp=Z,87nm,1.2s,baz=307,slow=1.5,SNR=35								
KDWAN	**Kaudwane**	**149.94 57**		*i* P	**PKPdf**		**15 27 45.6**	**+1.6**	
SKOMA	**Sekoma**	**150.31 60**		*i* P	**PKPdf**		**15 27 45.7**	**+1.2**	
LPHEP	**Lephephe**	**150.65 55**		*i* P	**PKPdf**		**15 27 46.6**	**+1.5**	
MREMI	**Moremi**	**150.98 52**		*i* P	**PKPdf**		**15 27 47.6**	**+2.0**	
LBTB	**Lobatse**	**151.72 58**		PKP	**PKPdf**		**15 27 47.8**	**+1.2**	
	comp=Z,31nm,1.2s,baz=306,slow=1.2,SNR=14								
LBTB				PKPbc	**PKiKP**		**15 27 53.9**	**+0.5**	
	comp=Z,39nm,0.9s,baz=329,slow=3.0,SNR=9.8								
MAKGR	**Makgori**	**151.79 60**		*i* P	**PKPdf**		**15 27 48.4**	**+1.7**	
SUR	**Sutherland**	**153.24 76**		PKPdf	**PKPdf**		**15 27 48.1**	**-0.7**	
SUR					**PKiKP**		**15 27 56.9**	**+0.4**	
SYO	**Syowa Base**	**153.53 170**		⇑*i*PKPdf	**PKPdf**		**15 27 48.0**	**+0.2**	
SYO	**Syowa Base**	**153.53 170**		⇑*i*pPKPdf	pPKPdf		15 27 51.2	+1.1	
SYO	**Syowa Base**	**153.53 170**		⇑*i*PKPbc	**PKiKP**		**15 27 56.0**	**+0.4**	
BOSA	**Boshof**	**154.00 64**		PKP	**PKPdf**		**15 27 50.4**	**+0.5**	
	comp=Z,12nm,0.9s,baz=5.0,slow=3.8,SNR=8.1								
BOSA				PKPbc	**PKiKP**		**15 27 58.2**	**+0.1**	
	comp=Z,18nm,0.8s,baz=326,slow=1.9,SNR=12								
BOSA	**Boshof**	**154.00 64**		PKP	**PKPdf**		**15 27 51.2**	**+1.3**	
ROCAM	**Rodrigues Isla**	**154.55 334**		IAMs_20	IAMs_20		16 48 15.3		
	comp=Z,4µm,21.0s								
OPO	**Ambohidratompo**	**154.93 11**		PKPbc	**PKiKP**		**15 28 00.5**	**+0.3**	
	comp=Z,26nm,1.2s,baz=280,slow=1.5,SNR=8.1								
MAW	**Mawson**	**155.03 190**		PKP	**PKPdf**		**15 27 50.3**	**+0.4**	
	comp=Z,11nm,1.1s,baz=108,slow=1.8,SNR=12								
ABPO	**Ambohimpanom**	**155.38 11**		PKPdf	**PKPdf**		**15 27 48.1**	**-4.0**	
ABPO					**sPKPdf**		**15 27 58.3**	**+3.1**	
ABPO	**Ambohimpanom**	**155.38 11**		PKIKP	**PKPdf**		**15 27 48.1**	**-4.0**	
ABPO							15 27 58.3		
ABPO				MLR	MLR				
	comp=Z,6µm,20.0s								

*IDC **29** 15:11:18.1±1.0,19.°84S×11.°89W,h0km,mb4.3/7, mbtmp4.3/7,MS4.6/4,Error ellipse: s-maj=40.8km s-min=21.3km az=106.0*
*NEIC **29** 15:11:19.8±1.1,20.°1S±0.°1×11.°8W±0.°1,h10km±1km, mb4.9/15,Error ellipse: s-maj=24.7km s-min=19.1km az=150.0*

ISC 29 15:11:20.0±0.5,19.°9S±0.°1×12.°0W±0.°1,h16km,n38, σ0s83/33,mb4.7/13,MS4.4/4,6C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TSUM	**Tsumeb**	**27.86**	**94**	LR	LR		15 26 17.0	
	comp=Z,789nm,20.1s,baz=266,slow=32							
BOSA	**Boshof**	**34.94**	**112**	P	P		15 18 04.8	-6.7
LBTB	**Lobatse**	**35.03**	**105**	LR	LR		15 30 23.8	
	comp=Z,756nm,20.4s,baz=224,slow=33							
TORD	**Torodi Ar. Bea**	**35.46**	**23**	P	**P**		**15 18 15.0**	**-0.9**
TORD				IAmb	IAmb		15 18 17.5	
	comp=Z,32nm,1.9s							
TORD	**Torodi Ar. Bea**	**35.46**	**23**	P	**P**		**15 18 15.9**	**0.0**
	comp=Z,3.7nm,0.8s,baz=201,slow=8.1,SNR=16							
	comp=Z,3.7nm,0.8s							
MATP	**Matopo**	**37.94**	**98**	P	**P**		**15 18 38.0**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=272,slow=8.0,SNR=3.7							
MATP				LR	LR		15 32 34.7	
	comp=Z,281nm,20.9s,baz=221,slow=34							
	comp=Z,2.7nm,0.9s							
LSZ	**Lusaka**	**38.50**	**90**	P	P		15 18 37.8	-4.2
LSZ	**Lusaka**	**38.50**	**90**	P	**P**		**15 18 41.2**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=255,slow=5.9,SNR=4.6							
	comp=Z,1.9nm,0.5s							
CPUP	**Villa Florida**	**42.04**	**252**	P	**P**		**15 19 09.9**	**-1.1**
PTLB	**Pontes e Lacer**	**45.04**	**268**	P	**P**		**15 19 36.1**	**+0.7**
TAM	**Tamanrasset**	**45.71**	**23**	P	**P**		**15 19 42.1**	**+1.5**
MBAR	**Mbarara**	**45.97**	**71**	P	**P**		**15 19 41.9**	**-1.1**
MBAR				IAmb	IAmb		15 19 58.6	
	comp=Z,7.6nm,0.6s							
TRQA	**Tornquist**	**46.77**	**236**	P	**P**		**15 19 49.1**	**+0.3**
VNA1	**Neumayer--Stat**	**50.83**	**178**	⇑P	**P**		**15 20 20.5**	**+1.0**
	comp=Z,13nm,0.9s							
VNA2	**Neumayer--Watz**	**51.13**	**178**	⇑P	**P**		**15 20 22.1**	**+0.3**
	comp=Z,9.0nm,0.7s,baz=352,slow=9.0							
VNA3	**Neumayer Olymp**	**51.40**	**179**	⇑P	**P**		**15 20 23.7**	**-0.1**
	comp=Z,5.8nm,1.2s							
LODK	**Lodwar**	**51.93**	**69**	P	**P**		**15 20 29.1**	**+0.5**
SNAA	**Sanae**	**52.09**	**176**	⇑P	**P**		**15 20 28.0**	**-0.9**
	comp=Z,83nm,1.0s							
SNAA	**Sanae**	**52.09**	**176**	P	**P**		**15 20 28.6**	**-0.3**
SNAA				IAmb	IAmb		15 20 30.2	
	comp=Z,13nm,1.2s							
SNAA	**Sanae**	**52.09**	**176**	P	**P**		**15 20 29.0**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=346,slow=8.8,SNR=12							
	comp=Z,4.5nm,1.0s							
AC02	**Maricunga**	**52.56**	**251**	P	**P**		**15 20 33.6**	**-0.1**
TROLL	**Troll, Antarti**	**52.82**	**174**	⇑P	**P**		**15 20 34.7**	**+0.2**
	comp=Z,182nm,0.7s							
SYO	**Syowa Base**	**58.27**	**161**	⇑*ep*P	**P**		**15 21 14.1**	**+0.7**
BELA	**Belgrano 2**	**59.08**	**185**	P	**P**		**15 21 18.2**	**-0.8**
BELA				IAmb	IAmb		15 21 20.6	
	comp=Z,9.4nm,1.2s							
ATAH	**Atahualpa**	**65.45**	**271**	LR	LR		15 51 00.5	
	comp=Z,2µm,19.6s,baz=329,slow=36							
MAW	**Mawson**	**66.03**	**156**	P	**P**		**15 22 05.7**	**+0.2**
	comp=Z,5.4nm,1.1s,baz=298,slow=4.0,SNR=4.8							
	comp=Z,5.4nm,1.1s							
QSPA	**South Pole Qui**	**70.32**	**180**	P	**P**		**15 22 31.6**	**-1.1**
QSPA				IAmb	IAmb		15 22 37.9	
	comp=Z,12nm,1.2s							
QSPA	**South Pole Qui**	**70.32**	**180**	P	**P**		**15 22 35.0**	**+2.3**
	comp=Z,4.9nm,1.1s,baz=205,slow=5.3,SNR=14							
	comp=Z,4.9nm,1.1s							
UOSS	**Minazif**	**79.87**	**59**	P	**P**		**15 23 28.2**	**-0.1**
VNDA	**Vanda**	**82.75**	**179**	P	**P**		**15 23 43.2**	**+0.5**
	comp=Z,1.6nm,1.0s,baz=206,slow=2.6,SNR=5.3							
	comp=Z,1.6nm,1.0s							
CASY	**Casey**	**84.02**	**160**	P	**P**		**15 23 48.8**	**-0.6**
CASY				IAmb	IAmb		15 23 50.6	
	comp=Z,14nm,1.5s							
ASAR	**Alice Springs**	**125.42**	**141**	PKP	**PKPdf**		**15 30 21.1**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=219,slow=1.9,SNR=7.1							
WRA	**Warramunga Arr**	**128.48**	**138**	PKP	**PKPdf**		**15 30 27.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=235,slow=1.8,SNR=5.2							
PETK	**Petropavlovsk-**	**145.87**	**11**		**PKPdf**		**15 30 57.4**	**-0.5**
PETK	**Petropavlovsk-**	**145.87**	**11**	PKPbc	**PKPdf**		**15 30 58.3**	**+0.5**
	comp=Z,5.1nm,1.1s,baz=64,slow=3.4,SNR=7.7							
YSS	**Yuzhno-Sakhali**	**146.02**	**32**		**PKPdf**		**15 30 57.0**	**-1.3**
MJAR	**Matsushiro Arr**	**149.09**	**51**		**PKPbc**		**15 31 07.2**	**-0.7**
MJAR	**Matsushiro Arr**	**149.09**	**51**	PKPbc	**PKPbc**		**15 31 08.3**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=291,slow=2.6,SNR=9.1							

*IDC **29** 15:23:02.8±12.0,2.°10N×127.°13E,h201km±115km, mb3.0/4,mbtmp3.5/4,Error ellipse: s-maj=183.4km s-min=23.2km az=65.0,Northern Molucca Sea*

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**162**	P	P		15 27 50.2	-0.1
	0.8nm,0.7s,baz=342,slow=9.5,SNR=8.2							
	0.8nm,0.7s							
ASAR	**Alice Springs**	**26.45**	**166**	P	P		15 28 21.6	+0.3
	0.8nm,1.0s,baz=341,slow=8.5,SNR=1.4							
ASAR				PcP	PcP		15 31 41.0	-0.2
	0.2nm,0.6s,baz=343,slow=2.4,SNR=1.5							
	0.8nm,1.0s							
MKAR	**Makanchi Array**	**59.12**	**326**	P	P		15 32 42.5	+0.3
	0.3nm,0.4s,baz=121,slow=8.5,SNR=4.2							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**63.32**	**328**	P	P		15 33 09.8	-0.5
	0.4nm,0.6s,baz=127,slow=6.3,SNR=4.6							
	0.4nm,0.6s							

*IDC **29** 15:41:36.8±0.8,19.°83S×11.°90W,h0km,mb3.8/8, mbtmp3.8/8,Error ellipse: s-maj=47.3km s-min=19.2km az=106.0*
*NEIC **29** 15:41:37.7±1.0,19.°91S±0.°10×11.°70W±0.°08,h10km±1km, mb4.4/14,Error ellipse: s-maj=19.5km s-min=7.0km az=34.0*

ISC 29 15:41:38.4±0.5,19.°8S±0.°1×11.°8W±0.°1,h16km,n35, σ0s93/35,mb4.2/15,5C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TORD	**Torodi Ar. Bea**	**35.35**	**23**	P	**P**		**15 48 32.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**35.35**	**23**	P	**P**		**15 48 34.3**	**+0.9**
	1.9nm,0.8s,baz=202,slow=7.7,SNR=11							
	1.9nm,0.8s							
AQDB	**Aquidauana**	**41.13**	**261**	P	**P**		**15 49 21.5**	**-0.6**
AQDB				IAmb	IAmb		15 49 25.5	
	comp=Z,14nm,1.4s							
CPUP	**Villa Florida**	**42.22**	**252**	P	**P**		**15 49 30.8**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=118,slow=13,SNR=3.0							
	comp=Z,0.7nm,1.0s							
PTLB	**Pontes e Lacer**	**45.21**	**268**	P	**P**		**15 49 54.8**	**-0.4**
PTLB				IAmb	IAmb	

GO04	**Tololo Observa**	**53.98**	**247**	P	**P**	**15 51 19.6**	**-0.6**
MT09	**Talagante**	**53.99**	**242**	P	**P**	**15 51 19.5**	**-0.6**
PB14	**IPOC Station P**	**54.16**	**254**	P	**P**	**15 51 20.5**	**-1.2**
PB02	**IPOC Station P**	**54.19**	**258**	P	**P**	**15 51 21.2**	**-0.5**
PB16	**IPOC Station P**	**54.38**	**261**	P	**P**	**15 51 23.1**	**-0.5**
PB16				IAmb	IAmb	15 51 37.4	
	comp=Z,23nm,1.9s						
CART	**Cartagena**	**58.08**	**10**	P	**P**	**15 51 49.2**	**+0.4**
BELA	**Belgrano 2**	**59.06**	**186**	P	**P**	**15 51 55.0**	**-0.3**
BELA				IAmb	IAmb	15 52 02.7	
	comp=Z,6.3nm,0.9s						
ESDC	**Sonseca Array**	**59.72**	**7**	P	**P**	**15 52 00.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=189,slow=6.9,SNR=7.1						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**70.28**	**180**	P	**P**	**15 53 08.6**	**-0.3**
QSPA	**South Pole Qui**	**70.28**	**180**	P	**P**	**15 53 10.1**	**+1.2**
	comp=Z,2.9nm,0.9s,baz=219,slow=5.6,SNR=9.4						
	comp=Z,2.9nm,0.9s						
BRTR	**Keskin Array B**	**72.89**	**35**	P	**P**	**15 53 26.3**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=206,slow=5.4,SNR=5.5						
	comp=Z,1.1nm,0.7s						
AKASG	**Malin Array Be**	**79.01**	**25**	P	**P**	**15 53 59.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=225,slow=5.6,SNR=6.1						
	comp=Z,0.7nm,0.6s						
VNDA	**Vanda**	**82.70**	**179**	P	**P**	**15 54 20.1**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=199,slow=3.7,SNR=5.5						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**123.30**	**45**	PKP	**PKiKP**	**16 00 53.4**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=235,slow=3.3,SNR=4.1						
ASAR	**Alice Springs**	**125.24**	**141**	PKP	**PKPdf**	**16 00 56.5**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=212,slow=2.0,SNR=8.1						
ILAR	**Eielson Array**	**126.29**	**338**	PKP	**PKiKP**	**16 00 58.3**	**0.0**
	comp=Z,0.4nm,0.8s,baz=1.7,slow=3.1,SNR=4.4						
WRA	**Warramunga Arr**	**128.29**	**138**	PKP	**PKPdf**	**16 01 01.9**	**-1.2**
	comp=Z,1.6nm,1.1s,baz=241,slow=2.0,SNR=4.7						
PEA0B	**Petropavlovsk-**	**145.87**	**11**		**PKPdf**	**16 01 33.7**	**-0.6**
PETK	**Petropavlovsk-**	**145.87**	**11**		**PKPdf**	**16 01 33.7**	**-0.6**
PETK	**Petropavlovsk-**	**145.87**	**11**	PKPbc	**PKPdf**	**16 01 34.2**	**-0.1**
	comp=Z,6.2nm,1.0s,baz=14,slow=3.1,SNR=6.9						
PET	**Petropavlovsk**	**146.12**	**10**	PKPdf	**PKPdf**	**16 01 34.8**	**+0.1**
MJAR	**Matsushiro Arr**	**148.93**	**51**	PKPbc	**PKPbc**	**16 01 44.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=286,slow=2.8,SNR=6.3						

RHSSO 29 16:13:33.3±0.4, 44.87N×16.99E, h4km±3km, ML1.4/4, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
A051A	**Mrakovica**	**0.15**	**339**	↑*i*P	Pg	16 13 36.8	+0.4
A051A				*e*Sg	Sg	16 13 39.3	+0.8
BLY	**Banja Luka**	**0.18**	**130**	↑*i*Pg	Pg	16 13 36.9	0.0
BLY				*e*Sg	Sg	16 13 39.8	+0.5
A050A	**Klekovaca**	**0.50**	**220**	↑*i*Pg	Pg	16 13 41.9	-1.1
A050A				*e*Sg	Sg	16 13 49.7	+0.2
MOSL	**Moslavina**	**0.76**	**348**	*e*Pg	Pg	16 13 47.0	-0.9
MOSL				*e*Sg	Sg	16 13 57.1	-0.8
MOSL	**Moslavina**	**0.76**	**348**	*e*Pg	Pg	16 13 48.5	+0.5
MOSL				Sg	Sg	16 13 57.6	-0.3
UDBI	**Udbina**	**0.94**	**249**	*e*Pg	Pb	16 13 51.8	-0.3
UDBI				Sg	Sg	16 14 02.5	-0.9
KIJV	**Kijevo**	**0.96**	**206**	*e*Pg	Pg	16 13 50.7	-0.9
KIJV				*e*Sg	Sg	16 14 04.1	0.0
OZLJ	**Ozalj**	**1.31**	**305**	*e*Pg	Pg	16 13 56.6	-1.8
OZLJ				*e*Sg	Sg	16 14 15.1	-0.2
KALN	**Kalnik**	**1.32**	**344**	*e*Pn	Pb	16 13 59.0	+0.4
KALN				Sg	Sg	16 14 15.0	-0.7
MORI	**Morici**	**1.36**	**223**	*e*Pn	Pn	16 13 58.6	-0.5
MORI				Sn	Sn	16 14 17.7	+0.1
RICI	**Ricice**	**1.38**	**176**	*e*Pn	Pg	16 14 00.1	+0.4
RICI				Sn	Sn	16 14 20.0	+1.9
VIRC	**Vir**	**1.50**	**248**	*e*Pn	Pg	16 14 02.2	+0.2
VIRC				Sn	Sg	16 14 21.4	+0.1
NVLJ	**Novalja**	**1.54**	**259**	Sn	Sg	16 14 22.8	+0.1
ZIRJ	**Zirje**	**1.55**	**219**	*e*Pn	Pb	16 14 02.4	-0.2
ZIRJ				Sn	Sg	16 14 23.8	+0.7

ROM 29 16:14:30.6±0.1, 46.153N±0.010×11.213E±0.009, h0km, ML1.0/14, 8C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANI	**Panarotta**	**0.13**	**140**	↑*e*Pg	Pg	16 14 33.9	+0.7
PANI	**Panarotta**	**0.13**	**140**	P	Pg	16 14 33.9	+0.7
PANI				AML	AML		
	comp=E,128μm,0.7s						
PANI				AML	AML		
	comp=N,178μm,0.5s						
PANI				AML	AML		
	comp=E,128μm,1.3s						
GAGG	**Gaggia**	**0.19**	**249**	↑*e*Pg	Pg	16 14 35.4	+1.1
GAGG	**Gaggia**	**0.19**	**249**	P	Pg	16 14 35.3	+1.0
GAGG				AML	AML		
	comp=E,50μm,1.6s						
GAGG				AML	AML		
	comp=N,41μm,0.6s						
LUSI	**Trento, Gardas**	**0.27**	**224**	P	Pg	16 14 36.6	+0.9
LUSI				AML	AML		
	comp=E,41μm,0.2s						
LUSI				AML	AML		
	comp=N,88μm,1.1s						
LUSI				AML	AML		
	comp=E,41μm,1.8s						
LUSI				AML	AML		
	comp=N,88μm,0.9s						
DOSS	**Dosso del Somm**	**0.27**	**184**	↑*e*Pg	Pg	16 14 36.5	+0.7
DOSS	**Dosso del Somm**	**0.27**	**184**	P	Pg	16 14 36.5	+0.7
DOSS				AML	AML		
	comp=E,42μm,0.3s						
DOSS				AML	AML		
	comp=N,48μm,0.4s						
ZIAN	**Ziano**	**0.27**	**63**	↑*e*Pg	Pg	16 14 37.0	+1.1
ZIAN	**Ziano**	**0.27**	**63**	P	Pg	16 14 36.9	+1.1
ZIAN				AML	AML		
	comp=N,38μm,0.6s						
ZIAN				AML	AML		
	comp=E,47μm,0.4s						
ZIAN				AML	AML		
	comp=N,38μm,1.4s						
OZOL	**Ozolo**	**0.28**	**336**	↑*e*Pg	Pb	16 14 37.4	-1.1
CTI	**Castel Tesino**	**0.32**	**109**	P	Pg	16 14 37.5	+0.7
CTI				AML	AML		
	comp=E,54μm,0.3s						
CTI				AML	AML		
	comp=N,77μm,0.2s						
CEKR	**Cima Ekar Asia**	**0.39**	**141**	↑*e*Pg	Pg	16 14 38.7	+0.5
CARE	**Lago del Cares**	**0.45**	**307**	↑*e*Pg	Pb	16 14 40.6	-1.0
CARE	**Lago del Cares**	**0.45**	**307**	P	Pb	16 14 40.5	-1.1
CGRP	**Cima Grappa**	**0.49**	**123**	↑*e*Pg	Pg	16 14 40.9	+0.8
MABI	**Malga Bissina**	**0.50**	**259**	P	Pg	16 14 41.1	+1.0
MABI				AML	AML		
	comp=E,8μm,0.5s						
MABI				AML	AML		
	comp=N,16μm,1.3s						
MARN	**Marana (Italy)**	**0.52**	**180**	*e*Pg	Pg	16 14 41.0	+0.5
BALD	**Monte Baldo**	**0.54**	**211**	*e*Pg	Pg	16 14 41.9	+0.8
VARN	**Col Varnada, M**	**0.64**	**104**	*e*Pg	Pg	16 14 43.7	+0.8
VARN	**Col Varnada, M**	**0.64**	**104**	P	Pb	16 14 44.2	-0.5
FETA	**Feichten**	**0.93**	**339**	*i* Pn	Pb	16 14 50.1	+0.4
	comp=N,0.2nm,0.1s						
SQTA	**Sankt Quirin**	**1.07**	**360**	*e*Pn	Pb	16 14 52.4	+0.3
	comp=N,0.9nm,0.1s						
MOTA	**Moosalm**	**1.20**	**356**	*e*Pn	Pn	16 14 54.7	0.0
	comp=N,1.0nm,0.3s						
WATA	**Walderalm**	**1.21**	**12**	*e*Pn	Pn	16 14 55.3	+0.4
	comp=N,1.7nm,0.2s						
RETA	**Reutte**	**1.37**	**347**	*e*Pn	Pb	16 14 57.1	0.0
	comp=N,0.4nm,0.3s						
DAVA	**Damuels**	**1.46**	**322**	*i* Pn	Pn	16 14 58.2	-0.1
	comp=N,0.3nm,0.2s						
LESA	**Schwarzleotal**	**1.62**	**38**	*e*Pn	Pn	16 14 59.5	-1.0
	comp=N,0.3nm,0.1s						
MYKA	**Terra Mystica**	**1.75**	**73**	*e*Pn	Pn	16 15 01.7	-0.5
	comp=N,0.7nm,0.1s						

*IDC **29** 16:45:30.6±1.2, 34.56N×45.85E, h0km, mb3.8/10, mbtmp3.7/13, ML3.2/4, MS4.6/2, Error ellipse: s-maj=30.1km s-min=14.3km az=159.0*
*TEH **29** 16:45:31.6, 34.48N×45.90E, h11km±13km*
*ISN **29** 16:45:32.7±1.0, 34.52N×45.92E, h20km±7km, ML3.6*
ISC 29 16:45:31.6±0.5, 34.48N±0.03×45.90E±0.03, h10km, n49, σ1≤44/53, mb3.8/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**276**	Pg	**Pg**	**16 45 37.1**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.37**	**179**	Pg	**Pg**	**16 45 39.1**	**+0.3**
IDHR	**Dehrash**	**0.45**	**61**	Pg	**Pg**	**16 45 40.5**	**0.0**
IGHG	**Ghaleghazi**	**0.57**	**105**	Pg	**Pb**	**16 45 43.4**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.89**	**163**	Pg	**Pg**	**16 45 48.7**	**0.0**
KCHF	**Cheshme Sefid,**	**0.96**	**102**	Pg	**Pb**	**16 45 50.6**	**+0.1**
IBDR	**Badra**	**1.37**	**179**	*e*Pg	**Pg**	**16 45 58.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**16 46 17.0**	**+1.4**
IBDR				AML	AML	16 46 22.1	
	comp=E,1μm,0.6s						
IBDR				AML	AML	16 46 29.5	
	comp=N,835nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.47**	**75**	Pg	**Pg**	**16 45 60.0**	**+0.1**
IKRK	**Kirkuk**	**1.58**	**306**	*e*Pn	**Pb**	**16 46 01.0**	**+0.1**
IKRK				*e*Sn	**Sg**	**16 46 23.0**	**+0.6**
IBZA	**Bozab**	**1.62**	**90**	Pg	**Pb**	**16 46 02.0**	**+0.3**
BHD	**Baghdad**	**1.75**	**227**	*e*Pn	**Pb**	**16 46 04.0**	**+0.2**
BHD				*e*Sn	**Sg**	**16 46 27.0**	**-0.9**
IDOB	**Doab**	**2.01**	**109**	Pn	**Pb**	**16 46 07.9**	**-0.5**
MAHB	**Mahabad**	**2.29**	**356**	Pn	**Pb**	**16 46 11.7**	**-1.3**
BDRS	**Dareh Seyedi**	**2.52**	**101**	Pn	**Pn**	**16 46 14.6**	**+1.8**
HGHA	**Hamedan- Ghaye**	**2.62**	**67**	Pn	**Pb**	**16 46 16.8**	**-2.0**
HAGD	**Aghdareh**	**2.69**	**82**	Pn	**Pn**	**16 46 17.0**	**+1.8**
RAFI	**Al-Rafai**	**2.75**	**176**	*e*Pn	**Pn**	**16 46 18.0**	**+2.2**
RAFI				*e*Sn	**Sb**	**16 46 52.0**	**-2.7**
IHSH	**Hashtrud**	**3.03**	**21**	Pn	**Pn**	**16 46 21.7**	**+1.8**
IAZR	**Azarshahr**	**3.19**	**1**	Pn	**Pn**	**16 46 23.8**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.25**	**67**	Pn	**Pn**	**16 46 25.5**	**+2.6**
ISHB	**Shabestar**	**3.80**	**357**	Pn	**Pn**	**16 46 32.0**	**+1.6**
IHRS	**Heris**	**3.94**	**13**	Pn	**Pn**	**16 46 34.3**	**+2.0**
IMRD	**Marand**	**4.23**	**358**	Pn	**Pn**	**16 46 38.3**	**+2.1**
IPIR	**Pirpir**	**4.53**	**112**	Pn	**Pn**	**16 46 41.8**	**+1.2**
JHBN	**Jahan bin**	**4.57**	**118**	Pn	**Pn**	**16 46 42.7**	**+1.6**
QAMS	**Qamsar**	**4.62**	**98**	Pn	**Pn**	**16 46 43.7**	**+2.1**
ZNGN	**Zangian**	**4.77**	**118**	Pn	**Pn**	**16 46 45.3**	**+1.5**
IVRN	**Varamin**	**4.82**	**82**	Pn	**Pn**	**16 46 46.4**	**+2.0**
IKLH	**Kolahrood**	**4.86**	**102**	Pn	**Pn**	**16 46 46.8**	**+1.8**
IDMV	**Damavand**	**5.15**	**76**	Pn	**Pn**	**16 46 50.6**	**+1.7**
KRSH	**Karshahi**	**5.19**	**94**	Pn	**Pn**	**16 46 51.6**	**+2.2**
ISFB	**Sefidab**	**5.24**	**90**	Pn	**Pn**	**16 46 51.6**	**+1.5**
IRAM	**Ramesheh**	**6.05**	**114**	Pn	**Pn**	**16 47 03.5**	**+2.2**
ASF	**Jabal al Asfar**	**7.88**	**256**	Pn	**Pn**	**16 47 27.7**	**+1.4**
	comp=N,0.5nm,0.3s,baz=66,slow=19,SNR=3.4						
ASF				Sn	**Sn**	**16 48 53.7**	**-1.9**
	comp=N,0.4nm,0.3s,baz=71,slow=22,SNR=1.3						
ASF				Lg	Lg	16 49 35.1	
	comp=N,0.8nm,0.3s,baz=207,slow=23,SNR=4.4						
	comp=N,1.1nm,0.3s						
MMAI	**Mount Meron Ar**	**8.87**	**263**	Pn	**Pn**	**16 47 41.1**	**+1.3**
	comp=N,0.5nm,0.3s,baz=84,slow=16,SNR=2.0						
MMAI				Lg	Lg	16 50 10.9	
	comp=N,1.2nm,0.3s,baz=71,slow=29,SNR=2.5						
	comp=N,0.3nm,0.3s						
EIL	**Elat**	**10.45**	**246**	Pn	**Pn**	**16 48 01.7**	**+0.1**
	baz=69,slow=17,SNR=2.4						
EIL				Lg	Lg	16 51 02.9	
	baz=0.4,slow=23,SNR=2.0						
WSAR	**Wadi Sarin**	**15.79**	**132**	Pn	**Pn**	**16 49 12.0**	**-2.0**
	baz=308,slow=19,SNR=4.5						
WSAR				Sn	Sn	16 51 56.8	-12
	baz=142,slow=24,SNR=2.0						
AKTO	**Aktyubinsk**	**18.24**	**25**	P	**P**	**16 49 45.2**	**+0.3**
	comp=N,0.2nm,0.3s,baz=212,slow=8.0,SNR=5.0						
	comp=N,2.0nm,0.6s						
AKASG	**Malin Array Be**	**20.26**	**328**	P	**P**	**16 50 06.0**	**-1.0**
	comp=N,0.2nm,0.3s,baz=142,slow=10,SNR=4.6						
	comp=N,0.2nm,0.3s						
BVAR	**Borovoye Array**	**25.41**	**36**	P	**P**	**16 50 59.7**	**+0.6**
	comp=N,1.1nm,0.6s,baz=237,slow=9.6,SNR=6.3						
	comp=N,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**28.65**	**46**	P	**P**	**16 51 29.5**	**+1.3**
	comp=N,2.0nm,0.8s,baz=252,slow=9.0,SNR=12						
	comp=N,2.0nm,0.8s						
FINES	**FINESS Array B**	**29.82**	**341**	P	**P**	**16 51 37.4**	**-1.0**
	comp=N,0.5nm,0.3s,baz=144,slow=9.3,SNR=5.8						
	comp=N,0.5nm,0.3s						
MKAR	**Makanchi Array**	**29.96**	**55**	P	**P**	**16 51 41.1**	**+1.1**
	comp=N,0.7nm,0.7s,baz=257,slow=11,SNR=5.2						
	comp=N,0.7nm,0.7s						
HFS	**Hagfors**	**33.10**	**331**	P	**P**	**16 52 06.6**	**-0.8**
	comp=N,2.6nm,0.4s,baz=127,slow=9.3,SNR=23						
	comp=N,2.6nm,0.4s						
ZALV	**Zalesovo Beam**	**33.44**	**42**	P	**P**	**16 52 10.7**	**+0.3**
	comp=N,1.4nm,0.7s,baz=252,slow=7.6,SNR=6.0						
	comp=N,1.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**45.24**	**253**	P	**P**	**16 53 49.5**	**+0.2**
	comp=N,0.4nm,0.6s,baz=55,slow=7.2,SNR=2.8						
TORD				LR	LR	17 15 23.2	
	comp=N,1μm,21.7s,baz=142,slow=40						
	comp=N,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.55**	**95**	P	**P**	**16 54 22.1**	**-0.8**
	comp=N,0.6nm,0.6s,baz=294,slow=7.7,SNR=2.0						
	comp=N,0.6nm,0.6s						
JCJ	**Chichijima**	**79.94**	**64**	LR	LR	17 37 29.9	
	comp=N,234nm,20.5s,baz=206,slow=39						
ILAR	**Eielson Array**	**80.57**	**6**	P	**P**	**16 57 43.9**	**+0.1**
	comp=N,0.3nm,0.8s,baz=308,slow=3.3,SNR=2.9						
	comp=N,0.3nm,0.8s						

*IDC **29** 16:47:37.2±1.0, 20.12N×147.37E, h0km, mb3.6/12, mbtmp3.7/14, ML4.1/2, Error ellipse: s-maj=31.6km s-min=16.8km az=88.0*
ISC 29 16:47:42.9±0.9, 20.19N±0.07×147.1E±0.2, h35km, n14, σ1≤53/16, mb3.6/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.91**	**199**	Pn	**Pn**	**16 49 21.6**	**-0.2**
	2.0nm,0.3s,baz=18,slow=19,SNR=1.3						
GUMO				Sn	**Sn**	**16 50 38.3**	**-1.0**
	1.8nm,0.3s,baz=312,slow=20,SNR=1.4						
	12nm,0.3s						
JCJ	**Chichijima**	**8.24**	**328**	Pn	**Pn**	**16 49 39.6**	**-0.3**
	4.5nm,0.3s,baz=82,slow=6.4,SNR=7.6						
JCJ				Sn	**Sn**	**16 51 08.0**	**-3.8**
	4.1nm,0.3s,baz=299,slow=23,SNR=7.7						
	10nm,0.3s						
KSRS	**Korea Array**	**23.99**	**320**	P	**P**	**16 52 54.7**	**+0.5**
	0.7nm,0.6s,baz=147,slow=11,SNR=5.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**41.81**	**198**	P	**P**	**16 55 28.2**	**-1.1**
	0.5nm,0.8s,baz=21,slow=8.2,SNR=5.3						
	0.5nm,0.8s						
SONM	**Songino Array**	**42.86**	**320**	P	**P**	**16 55 39.4**	**+1.6**
	0.6nm,0.5s,baz=133,slow=8.1,SNR=2.7						
	0.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**43.50**	**210**	P	**P**	**16 55 42.5**	**-0.6**
	1.3nm,0.7s,baz=21,slow=8.2,SNR=6.7						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.39**	**276**	P	**P**	**16 56 00.7**	**+2.3**
	0.3nm,0.3s,baz=98,slow=6.8,SNR=1.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.46**	**197**	P	**P**	**16 55 57.7**	**-1.1**
	0.3nm,0.7s,baz=19,slow=6.4,SNR=5.5						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**57.68**	**322**	P	**P**	**16 57 30.6**	**+0.8**
	0.6nm,0.5s,baz=101,slow=7.7,SNR=3.7						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**58.43**	**313**	P	**P**	**16 57 36.2**	**+1.0**
	0.3nm,0.6s,baz=99,slow=7.7,SNR=3.7						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**61.14**	**317**	P	**P**	**16 57 54.5**	**+0.8**
	0.7nm,0.5s,baz=91,slow=7.4,SNR=8.8						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**61.71**	**26**	P	**P**	**16 57 56.8**	**-0.6**
	0.4nm,0.8s,baz=257,slow=6.8,SNR=2.5						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**66.20**	**320**	P	**P**	**16 58 28.0**	**+0.9**
	0.9nm,0.4s,baz=87,slow=7.1,SNR=6.2						
	0.9nm,0.4s						
NVAR	**Mina Array Bea**	**81.16**	**52**	P	**P**	**16 59 55.0**	**-0.4**
	0.2nm,0.4s,baz=285,slow=7.6,SNR=2.5						
	0.2nm,0.4s						

DJA 29 16:57:22.5±0.6, 3.5S±6×14.0E±°, h54km±14km, M3.7/6, mB5.7/1, mb4.1/2, MLv3.5/6, Mw(mB)5.2/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.65**	**79**	P	Pn	16 57 37.1	+1.3
GENI				S	Sn	16 57 47.9	+2.4
SMPI	**Sarmi**	**1.09**	**311**	P	Pn	16 57 41.6	0.0
JAY	**Jayapura**	**1.19**	**80**	P	Pn	16 57 43.0	+0.1
WAMI	**Wamena**	**1.42**	**215**	P	Pn	16 57 47.4	+1.4
SRPI	**Serui, Papua**	**3.39**	**284**	P	Pn	16 58 13.0	0.0
BAKI	**Biak**	**3.74**	**294**	P	Pn	16 58 18.4	+0.6
RKPI	**Ransiki, Papua**	**5.48**	**283**	P	Pn	16 58 41.4	-0.3
	6μm21nm,0.8s						

*IDC **29** 17:01:41.9±7.8, 7.43S×128.25E, h169km±83km, mb3.0/2, mbtmp3.6/6, Error ellipse: s-maj=77.4km s-min=24.3km az=38.0*
ISC 29 17:01:40.7±1.3, 7.4S±0.1×128.4E±0.1, h150km, n7, σ1≤66/8, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.43**	**239**	P	**Pn**	**17 03 01.0**	**+1.2**
	8.3nm,0.3s,baz=90,slow=5.1,SNR=1.4						
BATI				S	**Sn**	**17 04 00.9**	**-0.7**
	26nm,0.4s,baz=182,slow=10,SNR=7.9						
FITZ	**Fitzroy Crossi**	**10.97**	**194**	P	**Pn**	**17 04 11.8**	**-1.7**
	0.9nm,0.3s,baz=25,slow=11,SNR=12						
FITZ				S	Sn	17 06 02.9	-12
	1.2nm,0.3s,baz=179,slow=21,SNR=6.4						
WRA	**Warramunga Arr**	**13.76**	**156**	P	**Pn**	**17 04 49.6**	**0.0**
	0.5nm,0.7s,baz=335,slow=11,SNR=13						
WRA				S	Sn	17 07 11.0	-11
	0.7nm,0.5s,baz=327,slow=24,SNR=7.6						
ASAR	**Alice Springs**	**17.03**	**162**	P	**Pn**	**17 05 31.0**	**+1.0**
	1.5nm,0.7s,baz=336,slow=11,SNR=24						
MKAR	**Makanchi Array**	**67.68**	**328**	P	**P**	**17 12 19.0**	**-2.6**
	0.4nm,0.8s,baz=134,slow=6.2,SNR=2.1						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**72.00**	**329**	P	**P**	**17 12 48.5**	**+0.5**
	0.3nm,0.5s,baz=126,slow=5.8,SNR=1.6						
	0.3nm,0.5s						
SNAA	**Sanae**	**94.91**	**194**	↓↓P	**P**	**17 14 46.4**	**+0.9**
	comp=Z,2.6nm,0.3s						

ROM 29 17:06:51.6±0.1, 41.669N±0.004×14.819E±0.006, h19km±1km, ML0.9/6, 4C-2D, Error ellipse: s-maj=0.5km s-min=0.3km az=214.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIGN	**Sant'Elia a Pi**	**0.07**	**102**	↓↓P	Pg	17 06 55.0	-0.2
CIGN				S	Sg	17 06 57.5	-0.1
BSSO	**Busso**	**0.21**	**234**	↑↑P	Pg	17 06 57.2	+0.4
BSSO				S	Sg	17 07 01.1	+0.7
BSSO				AML	AML		
	comp=N,41μm,0.9s						
BSSO				AML	AML		
	comp=E,22μm,0.9s						
BSSO				AML	AML		
	comp=N,76μm,0.5s						
BSSO				AML	AML		
	comp=E,57μm,0.6s						
TRIV	**Trivento**	**0.22**	**296**	↑↑P	Pg	17 06 57.4	+0.3
TRIV				S	Sg	17 07 01.7	+0.9
TRIV				AML	AML		
	comp=E,25μm,0.7s						
TRIV				AML	AML		
	comp=N,26μm,0.4s						
MELA	**Melanico ??? S**	**0.23**	**81**	↓↓P	Pg	17 06 57.2	+0.1
MELA				S	Sg	17 07 01.6	+0.7
SACR	**S. Croce Del S**	**0.28**	**197**	↑↑P	Pb	17 06 58.2	+0.1
SACR				S	Sg	17 07 02.5	+0.1
FRES	**Fresagrandinar**	**0.33**	**340**	P	Pg	17 06 58.7	+0.1
FRES				S	Sb	17 07 04.1	+0.5
PTRJ	**Pietraroja**	**0.37**	**216**	P	Pg	17 06 59.6	+0.1
PTRJ				S	Sb	17 07 05.8	+0.6
MIDA	**Miranda**	**0.42**	**267**	↑↑P	Pg	17 07 00.1	-0.3
MIDA				S	Sg	17 07 06.5	+0.1
SGTA	**Sant Agata di**	**0.67**	**142**	P	Pb	17 07 04.7	0.0
SGTA				S	Sg	17 07 14.4	+0.5

*LDG **29** 17:07:12.3±0.1, 42.65N×13.18E, h5km, Ml2.5/7, Error ellipse: s-maj=3.0km s-min=2.4km az=27.0*
ROM 29 17:07:11.7±0.0, 42.644N±0.003×13.181E±0.004, h10km, ML2.9/116, 10C, Error ellipse: s-maj=0.2km s-min=0.2km az=80.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.11**	**249**	↑↑P	Pg	17 07 15.2	+0.7
LNSS				S	Sg	17 07 17.5	+0.9
LNSS				AML	AML		
	comp=E,39750μm,0.3s						
LNSS				AML	AML		
	comp=N,52850μm,0.3s						
LNSS				AML	AML		
	comp=E,38850μm,0.2s						
LNSS				AML	AML		
	comp=N,60400μm,0.3s						
LNSS				AML

GAVE					AML	AML			
	comp=N,7855µm,0.4s								
GAVE					AML	AML			
	comp=E,10955µm,1.5s								
GAVE					AML	AML			
	comp=E,10980µm,1.5s								
MMO1	**Montemonaco**	**0.28**	**23**	⇑P		Pg	17 07 17.6	+0.2	
MMO1				S		Sg	17 07 22.0	+0.9	
ARRO	**Arrone**	**0.31**	**258**	P		Pg	17 07 18.4	+0.5	
ARRO				S		Sb	17 07 23.4	-1.1	
ARRO				AML	AML				
	comp=E,2330µm,1.6s								
ARRO				AML	AML				
	comp=N,2140µm,0.2s								
ARRO				AML	AML				
	comp=E,2330µm,0.4s								
TERO	**Teramo**	**0.31**	**94**	P		Pg	17 07 18.1	+0.2	
TERO				S		Sg	17 07 22.8	+0.6	
TERO				AML	AML				
	comp=E,3445µm,0.6s								
TERO				AML	AML				
	comp=N,4420µm,0.5s								
TERO				AML	AML				
	comp=E,6730µm,0.3s								
TERO				AML	AML				
	comp=N,7470µm,0.3s								
TERO				AML	AML				
	comp=E,3445µm,0.6s								
TERO				AML	AML				
	comp=N,4425µm,0.5s								
TERO				AML	AML				
	comp=N,7470µm,1.7s								
TERO				AML	AML				
	comp=N,4425µm,1.5s								
FEMA	**Monte Fema**	**0.33**	**343**	P		Pg	17 07 18.7	+0.3	
AQU	**L'Aquila**	**0.33**	**150**	P		Pg	17 07 18.7	+0.4	
AQU				S		Sb	17 07 24.7	-0.5	
GIGS	**Gran Sasso**	**0.35**	**124**	P		Pg	17 07 18.7	+0.1	
GIGS				S		Sg	17 07 24.0	+0.8	
GIGS				AML	AML				
	comp=E,1195µm,1.3s								
GIGS				AML	AML				
	comp=N,2005µm,0.1s								
FIAM	**Fiamignano**	**0.38**	**187**	⇑P		Pg	17 07 19.6	+0.4	
FIAM				S		Sb	17 07 25.5	-1.0	
FIAM				AML	AML				
	comp=N,3390µm,0.6s								
FIAM				AML	AML				
	comp=N,1740µm,0.6s								
FIAM				AML	AML				
	comp=N,1740µm,1.4s								
FIAM				AML	AML				
	comp=E,3975µm,0.7s								
FIAM				AML	AML				
	comp=E,2130µm,0.7s								
FIAM				AML	AML				
	comp=N,3390µm,1.4s								
FDMO	**Fiordimonte**	**0.40**	**350**	⇑P		Pg	17 07 19.6	+0.1	
FDMO				S		Sb	17 07 26.2	-0.9	
FDMO				AML	AML				
	comp=E,831µm,1.5s								
FDMO				AML	AML				
	comp=E,831µm,0.5s								
FDMO				AML	AML				
	comp=N,964µm,0.8s								
MF5	**Montefalcone A**	**0.40**	**31**	⇑P		Pg	17 07 20.1	+0.5	
MF5				S		Sb	17 07 27.0	-0.2	
MF5				AML	AML				
	comp=E,2065µm,0.5s								
MF5				AML	AML				
	comp=N,2165µm,0.4s								
MF5				AML	AML				
	comp=E,2060µm,0.5s								
MF5				AML	AML				
	comp=N,2170µm,0.4s								
CESI	**CESI - Serrava**	**0.41**	**331**	P		Pg	17 07 20.1	+0.2	
CESI				S		Sb	17 07 26.5	-1.0	
CESI				AML	AML				
	comp=E,1355µm,0.4s								
CESI				AML	AML				
	comp=N,1975µm,1.6s								
CESI				AML	AML				
	comp=N,1242µm,0.5s								
CESI				AML	AML				
	comp=E,1117µm,0.4s								
CESI				AML	AML				
	comp=N,1975µm,0.4s								
GUMA	**Gualdo di Mace**	**0.43**	**15**	P		Pg	17 07 20.7	+0.5	
GUMA				S		Sb	17 07 27.8	-0.3	
GUMA				AML	AML				
	comp=E,6720µm,0.9s								
GUMA				AML	AML				
	comp=N,5260µm,0.4s								
GUMA				AML	AML				
	comp=N,7250µm,0.4s								
GUMA				AML	AML				
	comp=E,9580µm,0.3s								
GUMA				AML	AML				
	comp=E,6725µm,0.9s								
CESX	**Cesi**	**0.45**	**266**	P		Pg	17 07 20.4	0.0	
CESX				S		Sb	17 07 27.8	-0.5	
CESX				AML	AML				
	comp=E,1830µm,0.5s								
CESX				AML	AML				
	comp=N,1525µm,0.4s								
CSP1	**Cessapalombo**	**0.45**	**2**	P		Pg	17 07 20.5	0.0	
CSP1				S		Sb	17 07 27.6	-1.0	
CSP1				AML	AML				
	comp=E,2400µm,0.6s								
CSP1				AML	AML				
	comp=E,2395µm,0.6s								
CSP1				AML	AML				
	comp=N,1970µm,0.4s								
OFFI	**Offida**	**0.47**	**52**	⇑P		Pb	17 07 21.8	-0.3	
OFFI				AML	AML				
	comp=N,4780µm,0.4s								
OFFI				AML	AML				
	comp=E,5740µm,0.4s								
MOMA	**Monte Martano**	**0.48**	**290**	P		Pg	17 07 21.2	+0.2	
MOMA				S		Sb	17 07 28.7	-0.7	
MOMA				AML	AML				
	comp=N,1285µm,1.2s								
MOMA				AML	AML				
	comp=N,1320µm,0.4s								
MOMA				AML	AML				
	comp=E,1185µm,0.9s								
MOMA				AML	AML				
	comp=N,1320µm,1.6s								
MOMA				AML	AML				
	comp=E,1185µm,1.1s								
MOMA				AML	AML				
	comp=N,1280µm,1.2s								
MOMA				AML	AML				
	comp=E,1225µm,0.2s								
SAP2	**Sant'Angelo in**	**0.48**	**19**	P		Pb	17 07 21.7	-0.5	
SAP2				S		Sb	17 07 29.4	0.0	
SAP2				AML	AML				
	comp=N,7880µm,0.4s								
SAP2				AML	AML				
	comp=E,1770µm,0.3s								
SAP2				AML	AML				
	comp=N,7885µm,0.4s								
FAGN	**Fagnano**	**0.48**	**142**	P		Pg	17 07 21.2	+0.1	
FAGN				S		Sb	17 07 29.5	+0.1	
FAGN				AML	AML				
	comp=E,2740µm,0.7s								
FAGN				AML	AML				
	comp=N,3260µm,1.5s								
FAGN				AML	AML				
	comp=N,3260µm,0.5s								
FAGN				AML	AML				
	comp=E,2740µm,1.3s								
MML1	**Montelago di S**	**0.49**	**342**	P		Pg	17 07 21.3	0.0	
PF6	**Pievefavera**	**0.51**	**1**	P		Pg	17 07 21.3	-0.3	
PF6				S		Sb	17 07 29.2	-0.9	
MNTT	**Montottone**	**0.52**	**36**	P		Pb	17 07 22.6	-0.3	
MNTT				AML	AML				
	comp=N,4155µm,0.6s								
MNTT				AML	AML				
	comp=E,4005µm,0.3s								
MNTT				AML	AML				
	comp=N,4150µm,0.6s								
SEF1	**Sefro**	**0.53**	**341**	P		Pg	17 07 22.4	+0.4	
MNTP	**Montappone**	**0.54**	**23**	P		Pg	17 07 22.6	+0.5	
VCEL	**Villa Celiera**	**0.55**	**117**	AML	AML				
	comp=N,4280µm,0.3s								
VCEL				AML	AML				
	comp=E,3890µm,1.2s								
VCEL				AML	AML				
	comp=E,3890µm,0.8s								
ASSB	**Assisi San Ben**	**0.55**	**316**	P		Pg	17 07 22.6	+0.2	
ASSB				S		Sb	17 07 31.2	-0.3	
ASSB				AML	AML				
	comp=E,594µm,1.6s								
ASSB				AML	AML				
	comp=E,594µm,0.4s								
ASSB				AML	AML				
	comp=N,670µm,0.8s								
TRTR	**Tortoreto Alta**	**0.56**	**73**	P		Pb	17 07 23.7	0.0	
TRTR				AML	AML				
	comp=E,6425µm,0.5s								
TRTR				AML	AML				
	comp=N,3875µm,0.4s								
TRTR				AML	AML				
	comp=E,6425µm,1.5s								
T0110	**Collepietro**	**0.61**	**133**	P		Pg	17 07 23.4	-0.1	
T0110				S		Sb	17 07 32.8	-0.3	
T0110				AML	AML				
	comp=N,2335µm,0.4s								
T0110				AML	AML				
	comp=E,1625µm,0.4s								
SNTG	**Esanatoglia**	**0.64**	**344**	P		Pg	17 07 23.7	-0.3	
SNTG				S		Sb	17 07 33.8	-0.1	
SNTG				AML	AML				
	comp=N,478µm,1.6s								
SNTG				AML	AML				
	comp=E,354µm,1.5s								
SNTG				AML	AML				
	comp=N,478µm,1.6s								
SNTG				AML	AML				
	comp=E,275µm,0.7s								
SNTG				AML	AML				
	comp=N,420µm,0.5s								
SNTG				AML	AML				
	comp=E,275µm,1.3s								
SNTG				AML	AML				
	comp=N,478µm,0.4s								
ATCC	**AVT- Casa Cast**	**0.67**	**324**	P		Pg	17 07 24.9	+0.3	
ATCC				S		Sb	17 07 35.2	+0.3	
ATCC				AML	AML				
	comp=E,812µm,0.6s								
ATCC				AML	AML				
	comp=N,658µm,0.3s								
ATCC				AML	AML				
	comp=N,658µm,1.7s								
ATCC				AML	AML				
	comp=E,812µm,0.6s								
EL6	**Elcito**	**0.69**	**355**	P		Pg	17 07 24.6	-0.4	
EL6				S		Sb	17 07 35.9	+0.5	
EL6				AML	AML				
	comp=E,962µm,0.5s								
EL6				AML	AML				
	comp=N,1152µm,0.4s								
EL6				AML	AML				
	comp=E,961µm,0.5s								
EL6				AML	AML				
	comp=E,961µm,1.5s								
EL6				AML	AML				
	comp=N,1157µm,0.4s								
CADA	**Capodarco di F**	**0.70**	**38**	P		Pb	17 07 26.5	+0.6	
CERT	**Cerreto**	**0.71**	**192**	P		Pg	17 07 25.1	-0.3	
CERT				S		Sb	17 07 36.0	0.0	
CERT				AML	AML				
	comp=E,1490µm,0.6s								
CERT				AML	AML				
	comp=N,811µm,0.4s								
FOSV	**Fossato di Vic**	**0.72**	**335**	P		Pb	17 07 26.1	-0.2	
CING	**Cingoli**	**0.73**	**1**	P		Pg	17 07 26.1	+0.3	
CIMA	**Civitanova Mar**	**0.75**	**28**	P		Pb	17 07 27.2	+0.3	
MURB	**Monte Urbino**	**0.78**	**322**	P		Pg	17 07 26.8	0.0	
MURB				AML	AML				
	comp=E,1092µm,0.3s								
MURB				AML	AML				
	comp=N,1100µm,0.4s								
PP3	**Marolino**	**0.80**	**23**	P		Pb	17 07 27.8	+0.2	
ATTE	**AVT- Monte Tez**	**0.82**	**313**	P		Pg	17 07 27.7	+0.2	
MGAB	**Montegabbione**	**0.83**	**289**	P		Pg	17 07 27.9	+0.2	
MGAB				S		Sb	17 07 40.5	+1.0	
MGAB				AML	AML				
	comp=N,810µm,0.7s								
MGAB				AML	AML				
	comp=N,798µm,0.4s								
MGAB				AML	AML				
	comp=E,931µm,0.5s								
MGAB				AML	AML				
	comp=E,867µm,0.6s								
VVLD	**Villa Vallelon**	**0.84**	**157**	P		Pb	17 07 28.7	+0.4	
VVLD				AML	AML				
	comp=N,559µm,0.9s								
VVLD				AML	AML				
	comp=N,566µm,0.8s								
VVLD				AML	AML				
	comp=E,481µm,0.6s								
VVLD				AML	AML				
	comp=E,560µm,0.6s								
VVLD				AML	AML				
	comp=N,566µm,1.2s								
VVLD				AML	AML				
	comp=N,559µm,1.1s								
ATFO	**Monte Foce - G**	**0.85**	**328**	P		Pg	17 07 28.1	+0.1	
DUGI	**Dugi Otok**	**1.92**	**45**	*e*Pn		Pn	17 07 45.6	+1.1	
DUGI				Sn		Sb	17 08 09.9	-0.9	
ZIRJ	**Zirje**	**2.07**	**60**	*i* Pn		Pn	17 07 46.9	+0.5	
ZIRJ				Sn		Sb	17 08 13.8	-1.2	
VIRC	**Vir**	**2.14**	**39**	*e*Pn		Pn	17 07 47.6	+0.3	
VIRC				Sn		Sn	17 08 14.8	+0.8	
MORI	**Morici**	**2.21**	**56**	*i* Pn		Pn	17 07 49.2	+0.8	
MORI				Sn		Sn	17 08 17.3	+1.5	
NVLJ	**Novalja**	**2.28**	**32**	*i* Pn		Pn	17 07 49.8	+0.5	
NVLJ				Sn		Sn	17 08 18.3	+0.9	
BDI	**Bagni Di Lucca**	**2.36**	**308**	AML	AML				
	comp=N,38µm,0.7s								
BDI				AML	AML				
	comp=E,37µm,0.5s								
BDI				AML	AML				
	comp=E,37µm,1.5s								
MCRV	**Calabrutti - M**	**2.38**	**141**	AML	AML				
	comp=E,28µm,0.8s								
MCRV				AML	AML				
	comp=N,29µm,0.5s								
UDBI	**Udbina**	**2.66**	**44**	*e*Pn		Pn	17 07 56.2	+1.6	
UDBI				Sn		Sn	17 08 29.1	+2.1	
KIJV	**Kijevo**	**2.72**	**59**	*e*Pn		Pn	17 07 57.0	+1.6	
KIJV				Sn		Sb	17 08 31.2	-2.6	
LSTV	**Lastovo**	**2.74**	**86**	*e*Pn		Pn	17 07 56.6	+0.9	
LSTV				Sn		Sn	17 08 29.2	+0.4	
RICI	**Ricice**	**3.02**	**72**	*i* Pn		Pn	17 08 00.9	+1.4	
RICI				Sn		Sn	17 08 38.6	+2.8	
PGF	**Pioggiola**	**3.09**	**270**	*e*P		Pn	17 08 01.6	+1.0	
PGF				*e*Sn		Sn	17 08 35.4	-2.2	
	comp=N,2.8nm,0.5s								
STON	**Ston**	**3.34**	**85**	Sn		Sn	17 08 43.8	+0.3	
DBRK	**Dubrovnik**	**3.66**	**88**	Sn		Sn	17 08 52.8	+1.2	
OBKA	**Obir**	**3.99**	**14**	*e*Pn		Pb	17 08 19.0	-3.1	
	comp=N,0.9nm,0.3s								
ABTA	**Abfaltersbach**	**4.13**	**354**	*i* Pn		Pn	17 08 16.6	+1.7	
	comp=N,2.0nm,0.3s								
SOKA	**Soboth**	**4.24**	**17**	*i* Pn		Pn	17 08 18.7	+2.3	
	comp=N,0.4nm,0.3s								
SBF	**Sospel**	**4.37**	**288**	*e*Pn		Pn	17 08 17.4	-0.8	
FETA	**Feichten**	**4.71**	**339**	*i* Pn		Pn	17 08 25.9	+3.0	
	comp=N,0.9nm,0.4s								
WTTA	**Wattenberg**	**4.75**	**347**	*e*Pn		Pn	17 08 27.2	+3.8	
	comp=N,1.4nm,0.3s								
SQTA	**Sankt Quirin**	**4.79**	**344**	*i* Pn		Pn	17 08 28.3	+4.4	
	comp=N,1.5nm,0.2s								
LESA	**Schwarzleotal**	**4.79**	**356**	*e*Pn		Pn	17 08 28.3	+4.3	
	comp=N,1.2nm,0.3s								
ARSA	**Arzberg**	**4.90**	**19**	*e*Pn		Pn	17 08 30.0	+4.7	
	comp=N,1.7nm,0.5s								
MOTA	**Moosalm**	**4.93**	**343**	*e*Pn		Pn	17 08 29.6	+3.7	
	comp=N,1.0nm,0.3s								
LMR	**La Mourre**	**4.94**	**280**	*e*Pn		Pn	17 08 25.3	-0.6	
LMR				*e*Sn		Sn	17 09 19.0	-4.1	
	comp=N,1.3nm,0.4s								
MBDF	**Montbardon**	**5.09**	**296**	*e*P		Pn	17 08 30.4	+2.2	
LPG	**La Plagne**	**5.44**	**304**	*e*Sn		Sn	17 09 29.6	-6.2	
	comp=N,0.8nm,0.2s								
RONA	**Rosalia, Austr**	**5.51**	**22**	*e*Pn		Pn	17 08 34.8	+1.0	
	comp=N,0.8nm,0.2s								
CONA	**Conrad Observa**	**5.61**	**19**	*i* Pn		Pn	17 08 38.1	+2.9	
	comp=N,1.0nm,0.4s								
SMRF	**Simiane la Rot**	**5.71**	**286**	*e*Pn		Pn	17 08 37.0	+0.5	
SMRF				*e*Sn		Sn	17 09 36.8	-5.3	
ORIF	**Oris-en-Rattie**	**5.75**	**296**	*e*P		Pn	17 08 41.4	+4.2	
ORIF				*e*Sn		Sn	17 09 38.2	-5.1	
	comp=N,0.3nm,0.2s								
CDF	**Champ du Feu**	**7.10**	**326**	*e*P		Pn	17 08 58.0	+2.3	
CDF				*e*Sn		Sn	17 10 11.8	-4.7	
	comp=N,0.4nm,0.2s								
HAU	**Haudompre**	**7.20**	**320**	*e*Pn		Pn	17 08 56.1	-0.9	
HAU				*e*Sn		Sn	17 10 13.6	-5.3	
	comp=N,3.1nm,0.3s								

NEIC ***29*** *17:17:47.9±1.3,34.00N±0.01×117.12W±0.01,h10km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=339.0*

PAS 29 17:17:48.5±1.1,34.02N±0.02×117.12W±0.01,h9km±6km, ML3.0/181,**ML2.8**/83(NEIC)**, Error ellipse: s-maj=2.5km s-min=1.4km az=174.0, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFT	**Crafton Hills**	**0.02**	**22**		Pg	17 17 51.4	+1.2
SVD	**Seven Oaks Dam**	**0.09**	**11**		Pg	17 17 52.7	+1.7
PEC	**Perris**	**0.13**	**195**		Pg	17 17 53.8	+2.3
HLNC	**Highland**	**0.13**	**321**		Pg	17 17 51.6	0.0
HLNC					Sg	17 17 54.0	+0.4
BBSC	**Beaumont Base**	**0.15**	**130**		Pg	17 17 52.1	+0.2
BBSC					Sg	17 17 55.0	+0.8
CFSC	**Central Fire S**	**0.16**	**303**		Sg	17 17 55.1	+0.7
CFSC	**Central Fire S**	**0.16**	**303**		Pg	17 17 52.2	+0.2
RSBC	**Riverside Bore**	**0.18**	**256**		Sg	17 17 55.0	+0.1
RSBC	**Riverside Bore**	**0.18**	**256**		Pg	17 17 52.3	0.0
RSBC	**Riverside Bore**	**0.18**	**256**		Pg	17 17 52.3	0.0
CLTC	**Calectric**	**0.18**	**295**		Pg	17 17 52.8	+0.5
CLTC					Sg	17 17 56.5	+1.5
FON	**Fontana**	**0.28**	**287**		Sg	17 17 58.2	+0.4
BBRC	**Big Bear Solar**	**0.29**	**34**		Sg	17 17 58.4	-0.1
HMTC	**Hemet**	**0.32**	**163**		Pg	17 17 54.8	-0.2
HMTC					Sg	17 17 59.2	-0.1
MLSC	**Mira Loma**	**0.37**	**268**		Sg	17 18 00.7	0.0
POB	**Polly Butte**	**0.37**	**154**		Pg	17 17 55.7	-0.2
POB					Sg	17 18 00.7	0.0
DGR	**Domenigoni Val**	**0.38**	**166**		Sg	17 18 00.8	-0.2
CRNC	**Corona**	**0.39**	**249**		Pg	17 17 56.0	-0.3
CRNC					Sg	17 18 01.4	-0.1
SIL	**Silver Peak**	**0.41**	**36**		Pg	17 17 56.2	-0.4
SIL					Sg	17 18 01.9	-0.2
BACC	**Bachelor Mtn.**	**0.41**	**171**		Sg	17 18 01.9	-0.1
MURC	**Murrieta**	**0.42**	**189**		Sg	17 18 02.7	+0.3
ELS	**Elsinore Mount**	**0.45**	**215**	Pg	Pg	17 17 56.9	-0.4
ELS				IAML		17 18 03.4	
	comp=E,677nm,0.4s						
ELS				IAML		17 18 04.3	
	comp=N,448nm,0.4s						
ELS	**Elsinore Mount**	**0.45**	**215**		Sg	17 18 03.2	-0.1
DEVC	**Devers**	**0.46**	**100**		Pg	17 17 57.4	-0.1
DEVC					Sg	17 18 04.3	+0.8
CHNC	**Chino**	**0.47**	**268**		Sg	17 18 04.2	+0.4
BFSC	**Mount Baldy Ra**	**0.50**	**296**		Pg	17 17 57.8	-0.4
BFSC					Sg	17 18 04.6	-0.3
BFSC	**Mount Baldy Ra**	**0.50**	**296**	IAML		17 18 04.9	
	comp=N,392nm,0.2s						
BFSC				IAML		17 18 06.5	
	comp=E,325nm,0.2s						
GVDA	**Garner Valley**	**0.51**	**133**		Pg	17 17 58.0	-0.4
GVDA					Sg	17 18 04.7	-0.5
CRY	**Cary Ranch**	**0.55**	**145**		Pg	17 17 59.0	-0.2
CRY					Sg	17 18 06.3	-0.2
VTV	**Victorville**	**0.57**	**342**		Pg	17 17 59.0	-0.6
VTV					Sg	17 18 06.5	-0.6
PSRC	**Puddingstone R**	**0.58**	**278**		Sg	17 18 07.5	+0.2
ADO	**Adelanto Recei**	**0.59**	**334**		Pn	17 18 08.3	+5.0
EW2	**E Wide Canyon**	**0.60**	**97**		Pg	17 17 59.8	-0.3
EW2					Sg	17 18 08.6	+0.7
DNR	**Dunn Ranch,Anz**	**0.61**	**138**		Pg	17 18 00.1	-0.2
DNR					Sg	17 18 08.5	+0.2
BLAC	**Blackrock camp**	**0.61**	**85**		Pg	17 17 60.0	-0.4
SNDA	**J Saunders Pla**	**0.63**	**138**		Pg	17 18 00.4	-0.3
BZNA	**Buzz No.'s Pla**	**0.65**	**144**		Pg	17 18 00.8	-0.3
BZNA					Sg	17 18 09.3	-0.2
FRD	**Ford Ranch, An**	**0.68**	**140**		Pg	17 18 01.1	-0.5
FRD					Sg	17 18 10.2	-0.2
FRD	**Ford Ranch, An**	**0.68**	**140**		Pg	17 18 01.2	-0.4
FRD					Sg	17 18 10.1	-0.4
PFO	**Pinyon Flats O**	**0.68**	**126**		Pg	17 18 01.1	-0.6
PFO	**Pinyon Flats O**	**0.68**	**126**		Pg	17 18 01.1	-0.6
PFO					Sg	17 18 10.1	-0.6
XPFO	**Pinon Flat**	**0.69**	**126**		Sg	17 18 10.0	-0.8
GTM	**Goat Mountain**	**0.69**	**66**		Pg	17 18 01.1	-0.8
PLM	**Palomar**	**0.70**	**162**		Sg	17 18 10.7	-0.5
SANC	**Santa Ana**	**0.71**	**244**		Sb	17 18 13.0	+0.1
PMD	**Palm Desert**	**0.72**	**121**	Pg	Pg	17 18 01.4	-1.0
PMD				IAML		17 18 12.2	
	comp=E,332nm,0.2s						
PMD	**Palm Desert**	**0.72**	**121**		Sg	17 18 11.1	-0.7
RHC	**Rose Hills Cem**	**0.74**	**269**		Pg	17 18 02.4	-0.5
RHC					Sb	17 18 13.4	-0.5
HOLC	**Holcomb Ridge**	**0.74**	**306**		Pg	17 18 02.3	-0.7
HOLC					Sg	17 18 12.6	-0.1
MWC	**Mount Wilson**	**0.81**	**285**	Pg	Pg	17 18 03.1	-1.0
MWC				IAML		17 18 14.8	
	comp=N,384nm,0.3s						
MWC				IAML		17 18 18.5	
	comp=E,390nm,0.4s						
MWC	**Mount Wilson**	**0.81**	**285**		Sg	17 18 14.2	-0.4
JNH	**Juniper Hills**	**0.81**	**302**		Pg	17 18 03.5	-0.8
JNH					Sg	17 18 14.2	-0.7
CHFC	**Chilao Flat St**	**0.81**	**293**		Sg	17 18 14.3	-0.6
GVRC	**Garvey Reservo**	**0.83**	**272**		Pg	17 18 03.2	-1.3
RRX	**Edison Barstow**	**0.86**	**7**		Pg	17 18 04.5	-0.7
RRX					Sg	17 18 16.3	-0.1
GORC	**Green Oak Ranc**	**0.87**	**186**		Pg	17 18 03.9	-1.3
GORC					Sg	17 18 15.2	-1.3
SBB	**Saddle Back Bu**	**0.89**	**319**		Pg	17 18 04.7	-1.0
SBB					Sg	17 18 16.3	-0.9
PASC	**Pasadena Art C**	**0.90**	**280**	Pg	Pg	17 18 04.1	-1.7
PASC					Pb	17 18 04.6	-1.7
PASC	**Pasadena Art C**	**0.90**	**280**	IAML		17 18 19.5	
	comp=E,194nm,0.3s						
PASC	**Pasadena Art C**	**0.90**	**280**		Sg	17 18 16.8	-0.7
LRRC	**Littlerock Res**	**0.91**	**304**		Pg	17 18 05.3	-0.7
LRRC					Sg	17 18 17.5	-0.3
MATG	**Mataguay Scout**	**0.91**	**154**		Pg	17 18 05.3	-0.7
MATG					Sg	17 18 17.0	-0.8
HYS	**Haystack Butte**	**0.92**	**336**		Pg	17 18 05.5	-0.8
HYS					Sg	17 18 17.5	-0.8
BELC	**Belle Mtn. Jos**	**0.93**	**91**		Pg	17 18 05.7	-0.8
BELC				IAML		17 18 21.2	
	comp=E,578nm,0.2s						
BELC				IAML		17 18 21.2	
	comp=N,593nm,0.6s						
WTT2	**Watts, South G**	**0.95**	**266**		Sb	17 18 20.7	+0.9
BORC	**Borrego Spring**	**0.95**	**142**		Pg	17 18 06.1	-0.7
BORC					Sg	17 18 18.4	-0.8
BORC	**Borrego Spring**	**0.95**	**142**	IAML		17 18 19.3	
	comp=E,424nm,0.2s						
BORC				IAML		17 18 20.0	
	comp=N,363nm,0.6s						
GR2C	**Griffith Obs.**	**0.98**	**276**		Pg	17 18 06.2	-1.3
GR2C					Sb	17 18 21.0	+0.1
CJV	**Casa Juvan**	**0.99**	**301**		Pg	17 18 06.5	-1.1
CJV					Sg	17 18 19.7	-0.9
CTCC	**Cactus City**	**1.01**	**111**		Pg	17 18 07.2	-0.7
CTCC					Sg	17 18 21.1	+0.1
DPP	**Dos Picos Cty**	**1.03**	**172**		Pg	17 18 06.5	-1.8
DPP				IAML		17 18 20.5	
	comp=N,150nm,0.2s						
DPP				IAML		17 18 20.0	
	comp=E,238nm,0.2s		

GSC					IAML			17 18 37.3	
	comp=N,106nm,0.8s								
BAR	**Barrett**	**1.39**	**164**			Pn		17 18 12.4	-1.7
BAR					IAML			17 18 31.0	
	comp=E,234nm,0.3s								
BAR					IAML			17 18 31.7	
	comp=N,244nm,0.2s								
BC3	**Big Chuckawall**	**1.43**	**104**		IAML			17 18 36.0	
	comp=N,78nm,0.3s								
OSI	**Osito Audit: C**	**1.46**	**295**		IAML			17 18 35.2	
	comp=E,134nm,0.5s								
OSI					IAML			17 18 40.4	
	comp=N,173nm,0.7s								
CCCA	**Chr Cany lake**	**1.52**	**352**		IAML			17 18 39.5	
	comp=E,224nm,0.5s								
DANC	**Danby, Needles**	**1.57**	**66**			Pn		17 18 16.1	-0.5
WSHM	**Spangler Hills**	**1.61**	**349**		IAML			17 18 41.1	
	comp=E,193nm,0.4s								
WSHM					IAML			17 18 41.5	
	comp=E,130nm,0.4s								
IRM	**Iron Mountain**	**1.64**	**85**			Pn		17 18 15.9	-1.8
IRM					IAML			17 18 42.4	
	comp=N,61nm,0.3s								
IRM					IAML			17 18 42.7	
	comp=E,124nm,0.3s								
YUH	**Yuha Desert**	**1.69**	**143**		IAML			17 18 42.5	
	comp=E,84nm,0.3s								
CBX	**Cerro Bola**	**1.74**	**167**			Pn		17 18 18.5	-0.6
CLC	**China Lake**	**1.84**	**348**		IAML			17 18 49.5	
	comp=E,47nm,0.4s								
QSM	**Queen of Sheba**	**1.95**	**6**			Pn		17 18 21.3	-0.6
QSM					IAML			17 18 52.9	
	comp=N,62nm,0.2s								
QSM					IAML			17 18 54.6	
	comp=E,53nm,0.6s								
MPMC	**Manual Prospec**	**2.06**	**352**			Pn		17 18 23.0	-0.5
MPMC					IAML			17 18 58.1	
	comp=E,43nm,0.8s								
MPMC					IAML			17 18 58.3	
	comp=N,40nm,0.5s								
GLA	**Glamis**	**2.14**	**116**			Pn		17 18 22.8	-1.7
GLA					IAML			17 18 57.9	
	comp=E,61nm,0.6s								
GLA					IAML			17 19 00.7	
	comp=N,43nm,0.6s								
GWY	**Greenwater Val**	**2.19**	**10**			Pn		17 18 24.7	-0.7
GWY					IAML			17 19 12.8	
	comp=E,43nm,0.6s								
NEE2	**Needles Airpor**	**2.20**	**69**			Pn		17 18 24.4	-0.8
V12A	**Nelson**	**2.53**	**47**			Pn		17 18 28.6	-1.2
V12A					IAML			17 19 09.2	
	comp=E,44nm,0.5s								
V12A					IAML			17 19 09.2	
	comp=N,39nm,0.4s								
CWC	**Cottonwood Cre**	**2.54**	**342**			Pn		17 18 29.1	-1.0
CWC					IAML			17 19 09.3	
	comp=N,25nm,0.2s								
CWC					IAML			17 19 09.7	
	comp=E,28nm,0.2s								
W13A	**Hualapai Mount**	**2.88**	**67**			Pn		17 18 34.6	-0.2
SHPR	**Sheep Range**	**2.95**	**32**			Pn		17 18 35.2	-0.7
TPNV	**Topopah Spring**	**3.01**	**13**		IAML			17 19 28.6	
	comp=E,23nm,0.7s								
TPNV					IAML			17 19 30.0	
	comp=E,19nm,0.7s								
113A	**Mohawk Valley,**	**3.07**	**113**			Pb		17 18 43.0	-0.4
DSP	**Deep Springs**	**3.42**	**349**			Pn		17 18 41.7	-0.3
Y14A	**Wickenburg**	**3.42**	**90**			Pn		17 18 40.9	-1.2
Y14A					IAML			17 20 11.7	
	comp=E,13nm,0.1s								
Y14A					IAML			17 20 11.9	
	comp=N,17nm,0.1s								
U15A	**North Rim**	**4.63**	**57**			Pn		17 18 57.3	-1.6
PSUT	**Pine Spring**	**5.22**	**29**	Pn		Pn		17 19 06.4	-0.6

*GRAL **29** 17:25:02.0±0.5,35°28N×36°31E,h0km±3km,MD3.2*
*AFAD **29** 17:25:03.0,35°54N×36°43E,h7km±5km,ML2.5*

ISC 29 17:24:59.2±1.3,35°35N±0°03×36°42E±0°08,h8km±12km, n16,σ0s65/23,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BEIL	**Beino**	**0.83**	**194**	*e*P	**Pg**	**17 25 15.2**	**+0.1**
BEIL				*e*S	**Sg**	**17 25 25.3**	**-0.6**
RHAN	**Hatay/Reyhanl**	**0.92**	**9**	P	**Pb**	**17 25 17.8**	**+0.4**
RHAN				S	**Sn**	**17 25 31.1**	**-0.8**
RHAN				*i* IAML		17 25 32.0	
	comp=N,460nm,0.5s						
RHAN				*i* IAML		17 25 32.0	
	comp=E,633nm,0.3s						
ASUZ	**Hatay-Arsuz**	**1.07**	**331**	P	**Pb**	**17 25 20.0**	**0.0**
ASUZ				S	**Sb**	**17 25 34.2**	**0.0**
FKH	**Fakeheh**	**1.10**	**181**	*e*P	**Pg**	**17 25 20.4**	**+0.1**
FKH				*e*S	**Sg**	**17 25 34.5**	**-0.2**
HWQ	**Hawqa**	**1.14**	**200**	*e*P	**Pg**	**17 25 20.5**	**-0.5**
HASA	**Hatay-Hassa-Ha**	**1.40**	**2**	P	**Pb**	**17 25 25.1**	**0.0**
HASA				S	**Sb**	**17 25 42.6**	**-1.0**
HASA				*i* IAML		17 25 46.0	
	comp=E,75nm,0.2s						
HASA				*i* IAML		17 25 47.0	
	comp=N,56nm,0.3s						
KUZU	**Kuzuini**	**1.52**	**20**	P	**Pg**	**17 25 28.7**	**+0.4**
KUZU				S	**Sb**	**17 25 47.2**	**+0.2**
KUZU				*i* IAML		17 25 50.0	
	comp=N,104nm,0.2s						
ZAHL	**Zahle**	**1.55**	**197**	*e*P	**Pn**	**17 25 28.0**	**+0.8**
BHL	**Bhannes**	**1.57**	**204**	*e*P	**Pn**	**17 25 28.0**	**+0.5**
YURE	**YUREGIR**	**1.61**	**337**	P	**Pb**	**17 25 28.4**	**-0.7**
DQRL	**Deir Qamar**	**1.78**	**204**	*e*P	**Pn**	**17 25 31.3**	**+0.9**
QRWL	**Qaraoun**	**1.90**	**199**	*e*P	**Pn**	**17 25 33.1**	**+1.1**
RCY	**Rachaya**	**1.91**	**195**	*e*P	**Pb**	**17 25 33.8**	**-0.5**
RCY				*e*S	**Sn**	**17 25 56.5**	**+0.1**
SHBL	**Chebaa**	**2.07**	**196**	*e*P	**Pn**	**17 25 35.4**	**+1.0**
GZT	**Gaziantep**	**2.20**	**24**	P	**Pn**	**17 25 36.2**	**-0.1**
AKO	**Adana**	**2.25**	**340**	P	**Pg**	**17 25 43.0**	**+0.7**

IDC 29 17:31:09.1±1.7,5°81N×126°58E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=126.9km s-min=18.0km az=70.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**23.77**	**182**	P	P	17 36 24.4	+1.0
	1.0nm,0.5s,baz=350,slow=11,SNR=7.6						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**26.70**	**164**	P	P	17 36 50.1	-0.2
	0.6nm,0.9s,baz=342,slow=9.6,SNR=7.8						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**30.16**	**167**	P	P	17 37 20.5	-0.6
	0.1nm,0.4s,baz=340,slow=8.5,SNR=9.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**55.78**	**325**	P	P	17 40 48.2	+0.2
	0.6nm,0.5s,baz=119,slow=8.2,SNR=9.3						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**59.92**	**327**	P	P	17 41 16.8	-0.2
	1.0nm,0.5s,baz=128,slow=7.1,SNR=4.6						
	1.0nm,0.5s						
BVAR	**Borovoye Array**	**65.51**	**327**	P	P	17 41 54.0	-0.2
	1.1nm,0.7s,baz=117,slow=8.8,SNR=6.4						
	1.1nm,0.7s						

*SOME **29** 17:31:20.6,41°.08N×82°.83E,h5km*
*NNC **29** 17:31:22.8±4.0,41°.24N×82°.94E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=30.7km s-min=20.3km az=172.0*

ISC 29 17:31:26.4±3.6,41°.5N±0°.2×82°.83E±0°.09,h10km,n13, σ2s43/17,1C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.01**	**305**	Pg	**Pb**	**17 32 17.9**	**-2.3**
SHLS				Lg	Lg	17 32 59.2	
SHLS	**Shalkode**	**3.01**	**305**	*e*P	**Pb**	**17 32 17.9**	**-2.3**
SHLS				*e*S	**Sb**	**17 32 59.2**	**+2.1**
PDGK	**Podgornoye**	**3.09**	**308**	⇓Pg	**Pg**	**17 32 24.6**	**-1.1**
	3.3nm,0.5s						
PDGK				⇑Lg	Lg	17 33 08.9	
	16nm,0.8s						
UZB	**Uzynbulak**	**3.28**	**302**	Pg	**Pb**	**17 32 25.5**	**+0.7**
	2.4nm,0.4s						
UZB				Lg	Lg	17 33 12.5	
	6.6nm,0.4s						
UZB	**Uzynbulak**	**3.28**	**302**	*e*P	**Pb**	**17 32 25.5**	**+0.7**
	2.4nm,0.4s						
UZB				*e*S	**Sg**	**17 33 12.5**	**+0.7**
	6.6nm,0.4s						
SATY	**Saty**	**3.65**	**297**	Pg	**Pb**	**17 32 32.2**	**+1.2**
	1.4nm,0.2s						
SATY				Lg	Lg	17 33 24.5	
	5.8nm,0.3s						
KPKS	**Kokpek**	**3.66**	**304**	Pg	**Pb**	**17 32 32.6**	**+1.4**
	0.2nm,0.1s						
KPKS				Lg	Lg	17 33 24.7	
	12nm,0.3s						
ARXS	**Arharly**	**4.59**	**308**	Pg	**Pg**	**17 32 51.1**	**-3.1**
	1.0nm,0.2s						
ARXS				Lg	Lg	17 33 56.2	
	3.5nm,0.5s						
KST	**Kastek**	**5.33**	**289**	Pg	**Pb**	**17 33 02.6**	**+2.9**
	0.3nm,0.1s						
KST				Lg	Lg	17 34 15.9	
	2.7nm,0.7s						
KST	**Kastek**	**5.33**	**289**	*e*P	**Pb**	**17 33 02.6**	**+2.9**
	0.3nm,0.1s						
KST				*e*S	**Sg**	**17 34 15.9**	**-1.7**
	2.7nm,0.7s						
MK31	**Makanchi Array**	**5.34**	**356**	⇓Pg	**Pb**	**17 32 59.1**	**-0.6**
	0.6nm,0.6s						
MK31				⇓Lg	Lg	17 34 14.7	
	1.5nm,0.6s						
ZSN	**Zaisan**	**6.15**	**13**	Pg	**Pg**	**17 33 21.9**	**-2.3**
	1.1nm,0.3s						
ZSN				Lg	Lg	17 34 48.5	
	6.5nm,0.8s						
ZSN	**Zaisan**	**6.15**	**13**	*e*P	**Pg**	**17 33 21.9**	**-2.3**
	1.1nm,0.3s						
ZSN				*e*S	**Sg**	**17 34 48.5**	**+4.7**
	6.5nm,0.8s						

NNC 29 17:48:40.0±4.2,37°59N×78°44E,h0km,mb3.9,mpv3.5, 5C-1D,Error ellipse: s-maj=31.2km s-min=26.7km az=126.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.46**	**360**	Pg	Pg	17 50 20.8	-4.0
	4.4nm,0.6s						
SATY				Lg	Lg	17 51 38.6	
	28nm,1.0s						
TNSS	**Tian-Shan**	**5.56**	**349**	Pg	Pb	17 50 22.3	+4.0
	2.0nm,0.4s						
TNSS				Lg	Lg	17 51 39.9	
	3.0nm,0.5s						
UZB	**Uzynbulak**	**5.57**	**4**	Pg	Pb	17 50 17.7	-0.6
	2.2nm,0.2s						
UZB				Lg	Lg	17 51 32.0	
	5.4nm,1.0s						
SHLS	**Shalkode**	**5.62**	**8**	Pg	Pb	17 50 21.5	+2.5
SHLS				Lg	Lg	17 51 39.7	
KOTS	**Kotyrbulak**	**5.73**	**350**	Pg	Pb	17 50 25.0	+4.0
	5.8nm,0.5s						
KOTS				Lg	Lg	17 51 45.7	
	18nm,0.6s						
KST	**Kastek**	**5.77**	**342**	Pg	Pg	17 50 27.3	-3.3
	2.3nm,0.5s						
KST				Lg	Lg	17 51 48.8	
	8.8nm,0.8s						
PDGK	**Podgornoye**	**5.79**	**8**	⇓Pn	Pn	17 50 08.7	+1.4
	4.7nm,0.7s						
PDGK				⇑Lg	Lg	17 51 38.5	
	14nm,0.7s						
KPKS	**Kokpek**	**5.88**	**2**	Pg	Pb	17 50 26.1	+2.7
	0.2nm,0.1s						
KPKS				Lg	Lg	17 51 47.6	
	7.9nm,0.6s						
AAK	**Ala-Archa**	**5.88**	**330**	⇑Pg	Pg	17 50 30.4	-2.3
	1.8nm,0.6s						
AAK				⇑Lg	Lg	17 51 51.3	
	11nm,0.8s						
KTBS	**Karatobe**	**6.26**	**348**	Pg	Pb	17 50 34.2	+4.2
	2.7nm,0.7s						
KTBS				Lg	Lg	17 52 00.5	
	9.9nm,0.6s						
CHKK	**Chushkaly**	**6.36**	**350**	Pg	Pb	17 50 36.0	+4.5
	1.2nm,0.1s						
CHKK				Lg	Lg	17 52 03.9	
	8.3nm,0.6s						
ARXS	**Arharly**	**6.63**	**356**	Pg	Pb	17 50 39.0	+2.7
	0.7nm,0.2s						
ARXS				Lg	Lg	17 52 09.2	
	6.2nm,0.5s						
KK31	**Karatay Array**	**8.18**	**315**	⇑Pn	Pn	17 50 42.1	+2.0
	0.2nm,0.3s						
KK31				⇑Sn	Sn	17 52 08.2	-5.0
	0.8nm,0.5s						

SDD 29 17:58:26.8±2.2,19°56N×70°32W,h18km±26km,MD2.9, ML2.4,MW2.7,11C-5D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFDR	**San Fco. de Ma**	**0.28**	**166**	*e*Pg	Pg	17 58 32.2	-0.8
SFDR				⇑*e*Sg	Sg	17 58 37.1	-0.2
SFDR				IAML		17 58 37.5	
	comp=N,2μm,0.1s						
SFDR				IAML		17 58 37.8	
	comp=E,2μm,0.5s						
SFDR	**San Fco. de Ma**	**0.28**	**166**	*e*Pg	Pg	17 58 32.1	-0.9
SFDR				⇑*e*Sg	Sg	17 58 36.0	-1.3
SFDR				IAML		17 58 37.5	
	comp=N,2μm,0.1s						
SC01	**Santiago de lo**	**0.41**	**251**	IAML		17 58 50.6	
	comp=E,124nm,0.3s						
NADR	**Nagua**	**0.48**	**115**	IAML		17 58 44.5	
	comp=N,509nm,0.2s						
NADR				IAML		17 58 46.9	
	comp=E,256nm,0.3s						
NADR	**Nagua**	**0.48**	**115**	⇑*e*Pg	Pg	17 58 35.0	-1.5
NADR				⇑*e*Sg	Sb	17 58 43.5	0.0
NADR				IAML		17 58 44.6	
	comp=N,509nm,0.2s						
DR08	**Loma La Naviza**	**0.66**	**155**	*e*Pg	Pb	17 58 37.5	-2.2
DR08				⇑*e*Sg	Sg	17 58 46.2	-2.4
DR08				IAML		17 58 46.6	
	comp=E,3μm,0.1s						
DR08				IAML		17 58 47.1	
	comp=N,3μm,0.1s						
DR08	**Loma La Naviza**	**0.66**	**155**	⇓*e*Pg	Pb	17 58 37.6	-2.1
DR08				⇓*e*Sg	Sg	17 58 46.1	-2.4
DR08				IAML		17 58 47.1	
	comp=N,3μm,0.1s						
LUDR	**Luperon**	**0.69**	**299**	⇑*e*Pg	Pg	17 58 40.5	+0.1
ABDR	**Alto Bandera**	**0.80**	**202**	*e*Pg	Pb	17 58 40.6	-1.8
ABDR				*e*Sg	Sb	17 58 52.3	-0.7
ABDR				IAML		17 58 54.2	
	comp=N,38nm,0.1s						
ABDR				IAML		17 58 54.6	
	comp=E,50nm,0.3s						
ABDR	**Alto Bandera**	**0.80**	**202**	⇑*e*Pg	Pb	17 58 40.7	-1.7
ABDR				⇓*e*Sg	Sb	17 58 49.4	-3.6
ABDR				IAML		17 58 52.2	
	comp=N,28nm,0.2s						
SMDR	**Samana, DR**	**1.10**	**104**	IAML		17 59 02.0	
	comp=E,60nm,0.5s						
SMDR				IAML		17 59 03.9	
	comp=N,62nm,0.7s						
BANI	**BANI**	**1.16**	**182**	*e*Pg	Pn	17 58 48.3	0.0
BANI				IAML		17 59 04.1	
	comp=E,64nm,0.1s						
BANI				IAML		17 59 05.1	
	comp=N,58nm,0.3s						
BANI	**BANI**	**1.16**	**182**	⇓*e*Pg	Pn	17 58 46.8	-1.5
BANI				⇓*e*Sg	Sb	17 58 59.7	-3.5
BANI				IAML		17 59 03.7	
	comp=N,64nm,0.3s						
MIDR	**Miches**	**1.33**	**115**	⇑*e*Pg	Pn	17 58 49.5	-0.9
MIDR				*e*Sg	Sb	17 59 07.9	+0.1
MIDR				IAML		17 59 08.2	
	comp=N,20nm,0.5s						
MIDR				IAML		17 59 08.6	
	comp=N,27nm,0.1s						
MIDR				IAML		17 59 09.6	
	comp=E,19nm,0.2s						
MIDR	**Miches**	**1.33**	**115**	⇑*e*Pg	Pn	17 58 49.2	-1.3
MIDR				IAML		17 59 08.2	
	comp=N,20nm,0.5s						
HIDR	**Higuey Centro**	**1.79**	**122**	⇑*e*Pg	Pn	17 58 56.6	-0.2
HIDR				⇑*e*Sg	Sn	17 59 17.8	-1.4
HIDR				IAML		17 59 23.8	
	comp=N,85nm,0.2s						

*NEIC **29** 17:58:49.4±2.5,36°.58S±0°.04×71°.0W±0°.1,h139km±10km, mb4.1/5,ML4.2(GUC),Error ellipse: s-maj=12.5km s-min=6.1km az=84.0*
*SJA **29** 17:58:50.1±0.9,36°.50S×70°.95W,h145km±22km,ML3.6, MW3.7*
*GUC **29** 17:58:50.7±0.9,36°.50S×70°.99W,h145km±6km,ML4.2*
*IDC **29** 17:58:51.1±2.2,36°.58S×70°.39W,h127km±19km,mb3.7/5, mbtmp4.1/7,Error ellipse: s-maj=67.6km s-min=16.0km az=93.0*

ISC 29 17:58:49.9±0.8,36°.51S±0°.04×70°.96W±0°.06,h138km±7km, n87,σ1s25/102,mb3.9/6,5C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI02	**San Fabin de**	**0.30**	**238**			**Pn**	**17 59 09.4**	**+0.3**
BI02	**San Fabin de**	**0.30**	**238**	*i* P		**Pn**	**17 59 09.5**	**+0.3**
BI02				IAML			17 59 27.0	
	comp=Z,293nm,0.9s							
ML02	**Panimavida**	**0.83**	**333**			**Pn**	**17 59 13.3**	**+1.2**
ML02				Sn		**Sn**	**17 59 29.9**	**+0.9**
ML02	**Panimavida**	**0.83**	**333**	*i* P		**Pn**	**17 59 13.0**	**+0.8**
ML02				IAML			17 59 34.0	
	comp=Z,2μm,0.3s							
CANA	**Caviahue**	**1.38**	**183**	*i* P		**Pn**	**17 59 18.5**	**+0.9**
CANA				IAML			17 59 46.4	
	comp=Z,76nm,1.0s							
EDS3	**Malargue**	**1.46**	**60**	*i* P		**Pn**	**17 59 19.5**	**+1.1**
GO05	**Hualane**	**1.69**	**332**	*e*P		**Pn**	**17 59 22.6**	**+1.8**
GO05				*i* S		**Sn**	**17 59 43.9**	**-0.5**
GO05				IAML			17 59 50.4	
	comp=E,2μm,0.4s							
GO05	**Hualane**	**1.69**	**332**	*i* P		**Pn**	**17 59 22.2**	**+1.4**
GO05				IAML			17 59 49.4	
	comp=Z,609nm,0.2s							
BO02	**Sierra Bellavi**	**1.71**	**5**			**Pn**	**17 59 22.2**	**+1.0**
BO02	**Sierra Bellavi**	**1.71**	**5**	⇓*i* P		**Pn**	**17 59 22.5**	**+1.3**
BO02				*i* S		**Sn**	**17 59 46.3**	**+1.3**
BO02				IAML			17 59 52.3	
	comp=N,3μm,0.2s							
BO02	**Sierra Bellavi**	**1.71**	**5**	*i* P		**Pn**	**17 59 22.5**	**+1.3**
BO02				IAML			17 59 51.8	
	comp=Z,1μm,0.2s							
BI05	**Punta Hualpn**	**1.81**	**262**			**Pn**	**17 59 22.3**	**+0.1**
BI05				Sn		**Sn**	**17 59 46.2**	**-0.6**
BI05	**Punta Hualpn**	**1.81**	**262**	*e*P		**Pn**	**17 59 23.0**	**+0.9**
BI05				*i* S		**Sn**	**17 59 46.5**	**-0.2**
BI05				IAML			17 59 54.0	
	comp=N,1μm,0.4s							
BI05	**Punta Hualpn**	**1.81**	**262**	*i* P		**Pn**	**17 59 23.0**	**+0.9**
BI05				IAML			17 59 51.7	
	comp=Z,448nm,0.3s							
BO01	**Tunca**	**2.11**	**357**			**Pn**	**17 59 26.2**	**+0.6**
BO01	**Tunca**	**2.11**	**357**	⇓*i* P		**Pn**	**17 59 26.4**	**+0.6**
BO01				*i* S		**Sn**	**17 59 52.1**	**-1.1**
BO01				IAML			17 59 54.8	
	comp=E,1μm,0.3s							
BO01	**Tunca**	**2.11**	**357**	*i* P		**Pn**	**17 59 25.7**	**0.0**
BO01				IAML			17 59 55.0	
	comp=Z,324nm,0.7s							
BO04	**La Punta**	**2.53**	**7**			**Pn**	**17 59 31.8**	**+0.9**
BO04	**La Punta**	**2.53**	**7**	*e*P		**Pn**	**17 59 31.8**	**+0.9**
BO04				*i* S		**Sn**	**18 00 02.8**	**+0.4**
BO04				IAML			18 00 04.5	
	comp=E,606nm,0.8s							
MT01	**Popeta**	**2.65**	**355**			**Pn**	**17 59 32.4**	**+0.1**
MT01				Sn		**Sn**	**18 00 04.5**	**-0.6**
MT01	**Popeta**	**2.65**	**355**	⇓*i* P		**Pn**	**17 59 32.4**	**+0.1**
MT01				*i* S		**Sn**	**18 00 03.4**	**-1.7**
MT01				IAML			18 00 06.7	
	comp=E,1μm,0.2s							
MT01	**Popeta**	**2.65**	**355**	*i* P		**Pn**	**17 59 32.5**	**+0.1**
MT01				*e*S		**Sn**	**18 00 04.5**	**-0.6**
MT01				IAML			18 00 09.6	
	comp=Z,479nm,0.3s							
RFA	**San Rafael**	**2.67**	**50**	*i* P		**Pn**	**17 59 32.6**	**0.0**
RFA				IAML			18 00 17.8	
	comp=Z,25nm,0.7s							
LMEL	**Las Melosas**	**2.72**	**13**			**Pn**	**17 59 34.7**	**+1.2**
LMEL	**Las Melosas**	**2.72**	**13**	*i* P		**Pn**	**17 59 34.3**	**+0.8**
LMEL				IAML			18 00 14.2	
	comp=Z,209nm,0.2s							
MT09	**Talagante**	**2.72**	**359**			**Pn**	**17 59 33.7**	**+0.3**
MT09				Sn		**Sn**	**18 00 05.3**	**-1.7**
MT09	**Talagante**	**2.72**	**359**	⇓*i* P		**Pn**	**17 59 33.8**	**+0.3**
MT09				*i* S		**Sn**	**18 00 05.8**	**-1.2**
MT09				IAML			18 00 08.6	
	comp=N,1μm,0.3s							
MT13	**San Alfonso**	**2.81**	**11**			**Pn**	**17 59 35.6**	**+1.1**
MT13	**San Alfonso**	**2.81**	**11**	*i* P		**Pn**	**17 59 35.4**	**+0.9**
MT13				IAML			18 00 12.6	
	comp=Z,223nm,0.3s							
MT03	**Universidad Ad**	**3.03**	**7**			**Pn**	**17 59 37.6**	**+0.2**
MT03	**Universidad Ad**	**3.03**	**7**	*i* P		**Pn**	**17 59 37.2**	**-0.2**
MT03				IAML			18 00 16.9	
	comp=Z,290nm,0.2s							
MT16	**CCHEN**	**3.09**	**7**			**Pn**	**17 59 38.5**	**+0.4**
GO06	**Curarrehue**	**3.10**	**187**	*i* P		**Pn**	**17 59 38.4**	**+0.1**
GO06				IAML			18 00 19.1	
	comp=Z,23nm,0.7s							
MT05	**Renca**	**3.11**	**3**			**Pn**	**17 59 38.5**	**+0.2**
MT05	**Renca**	**3.11**	**3**	*i* P		**Pn**	**17 59 38.2**	**-0.2**
MT05				IAML			18 00 17.9	
	comp=Z,304nm,0.4s							
MT08	**Bocatoma Ro**	**3.15**	**14**			**Pn**	**17 59 39.9**	**+0.8**
MT08	**Bocatoma Ro**	**3.15**	**14**	*i* P		**Pn**	**17 59 39.8**	**+0.7**
MT08				IAML			18 00 28.3	
	comp=Z,61nm,0.6s							
MT04	**Ro Olivares**	**3.17**	**12**	*e*P		**Pn**	**17 59 40.0**	**+0.8**
MT04				*i* S		**Sn**	**18 00 18.0**	**+0.7**
MT04				IAML			18 00 22.6	
	comp=N,240nm,0.2s							
MT04	**Ro Olivares**	**3.17**	**12**	*i* P		**Pn**	**17 59 39.4**	**+0.2**
MT04				IAML			18 00 23.1	
	comp=Z,88nm,0.3s							
MT02	**Curacav**	**3.24**	**357**			**Pn**	**17 59 40.0**	**-0.1**
MT02	**Curacav**	**3.24**	**357**	*e*P		**Pn**	**17 59 39.9**	**-0.1**
MT02				*i* S		**Sn**	**18 00 16.5**	**-2.2**
MT02				IAML			18 00 19.4	
	comp=N,382nm,0.3s							
MT02	**Curacav**	**3.24**	**357**	*i* P		**Pn**	**17 59 39.9**	**-0.1**
MT02				IAML			18 00 25.3	
	comp=Z,144nm,0.8s							
LR03	**Panguipulli**	**3.31**	**199**			**Pn**	**17 59 39.1**	**-1.7**
LR03	**Panguipulli**	**3.31**	**199**	*i* P		**Pn**	**17 59 39.5**	**-1.3**
LR03				IAML			18 00 33.6	
	comp=Z,221nm,0.3s							
PEL	**Peldehue**	**3.36**	**4**			**Pn**	**17 59 41.6**	**0.0**
VA01	**Torpederas**	**3.52**	**350**	Pn		**Pn**	**17 59 43.6**	**0.0**
ROCH	**El Roble**	**3.53**	**359**	*e*P		**Pn**	**17 59 43.5**	**-0.4**
ROCH

CO02 IAML 18 01 11.1
comp=Z,69nm,0.2s
CFA Coronel Fontan 5.38 26 P **Pn** **18 00 07.7 -0.6**
comp=Z,44nm,0.3s,baz=207,slow=12,SNR=206
CFA S **Sn** **18 01 05.3 -4.2**
comp=Z,9.3nm,0.4s,baz=80,slow=18,SNR=4.0
CO06 Fray Jorge 5.84 354 **Pn** **18 00 13.6 -0.8**
LL01 San Ignacio de 5.97 190 **Pn** **18 00 14.1 -1.9**
CO05 La Serena 6.57 358 Pn **Pn** **18 00 23.0 -1.2**
GO07 Milladeo Hill, 6.92 197 Pn **Pn** **18 00 25.7 -3.1**
TRQA Tornquist 7.32 105 **Pn** **18 00 32.6 -1.6**
LCO Las Campanas 7.48 2 Pn **Pn** **18 00 34.9 -1.8**
HMBC Humberstone 16.20 4 Pn **Pn** **18 02 27.7 -2.1**
PB11 IPOC Station P 16.72 4 **P** **18 02 34.5 -1.7**
PB16 IPOC Station P 18.15 4 Pn **Pn** **18 02 55.6 +1.8**
PB16 IAmb IAmb 18 02 57.2
comp=Z,5.8nm,0.7s
LPAZ La Paz 20.29 8 P **P** **18 03 16.7 +1.1**
LPAZ IAmb IAmb 18 03 23.2
comp=Z,9.3nm,0.8s
LPAZ La Paz 20.29 8 P Pn 18 03 18.1 -0.8
comp=Z,9.1nm,0.7s,baz=171,slow=7.8,SNR=26
comp=Z,9.1nm,0.7s
SIV San Ignacio 22.24 26 P **P** **18 03 36.3 +0.7**
comp=Z,1.5nm,0.6s,baz=193,slow=7.8,SNR=10.0
comp=Z,1.5nm,0.6s
VNA3 Neumayer Olymp 46.71 157 ⇑P **P** **18 07 05.7 +1.3**
comp=Z,2.6nm,0.8s
VNA1 Neumayer--Stat 47.03 156 ⇑P **P** **18 07 05.8 -1.0**
comp=Z,1.9nm,0.9s
VNA2 Neumayer--Watz 47.37 156 ⇑P **P** **18 07 10.1 +0.6**
comp=Z,1.3nm,0.6s,baz=287,slow=8.0
SNAA Sanae 48.94 157 ⇑P **P** **18 07 22.2 +0.7**
comp=Z,39nm,0.7s
SNAA Sanae 48.94 157 P **P** **18 07 22.5 +0.9**
SNAA IAmb IAmb 18 07 23.7
comp=Z,2.0nm,0.8s
SNAA Sanae 48.94 157 P **P** **18 07 22.3 +0.7**
comp=Z,1.5nm,0.7s,baz=264,slow=8.1,SNR=14
comp=Z,1.5nm,0.7s
TROLL Troll, Antarti 50.64 157 ⇑P **P** **18 07 35.4 +0.8**
comp=Z,108nm,0.6s
BOSA Boshof 78.14 117 P **P** **18 10 34.0 -0.1**
comp=Z,0.9nm,0.4s,baz=243,slow=5.0,SNR=5.8
comp=Z,0.9nm,0.4s
TORD Torodi Ar. Bea 84.25 69 P **P** **18 11 06.6 +0.3**
comp=Z,1.0nm,0.7s,baz=229,slow=4.3,SNR=5.8
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 148.44 46 PKPbc **PKiKP** **18 18 21.2 +0.2**
comp=Z,0.7nm,0.5s,baz=298,slow=3.1,SNR=6.0
KURBB Kurchatov Arra 153.99 48 PKPbc **PKiKP** **18 18 34.0 +1.4**
comp=Z,0.3nm,0.4s,baz=301,slow=3.1,SNR=4.0
MKAR Makanchi Array 157.62 54 PKPab **PKPab** **18 19 02.5 +0.2**
comp=Z,0.3nm,0.6s,baz=272,slow=2.4,SNR=5.2

*IDC **29** 18:28:49.2±2.1, 13°.85N×91°.79W, h0km, mb4.1/7, mbtmp4.1/9, ML4.2/2, MS2.8/1, Error ellipse: s-maj=45.5km s-min=31.8km az=12.0*
*CATAC **29** 18:28:57.0±0.7, 14°.N±3°×9°.2W±°, h14km±3km, M5.0/17, mb5.5/1, mB5.6/1, MLv4.8/17, Mw(mB)5.1/1, Error ellipse: s-maj=8.2km s-min=4.3km az=45.5, confirmed*
*GCG **29** 18:28:59.0±1.6, 14°.26N×92°.18W, h48km±20km, MD4.0, ML4.6*
*MEX **29** 18:29:00.2±0.7, 14°.32N×92°.24W, h61km±13km, MD4.7*
*NEIC **29** 18:29:01.2±1.9, 14°.31N±0°.07×92°.01W±0°.06, h58km±7km, mb4.2/57, Error ellipse: s-maj=11.4km s-min=8.2km az=208.0*

ISC 29 18:28:57.3±1.3, **14°.20N**±0°.05×**92°.30W**±0°.03, **h31**km±9km, **n131**, σ**2**.617/158, **mb4.3**/25, **6D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.67**	**61**		**Pn**	**18 29 11.3**	**+0.7**
RTAL				Sn	**Sb**	18 29 18.2	-1.3
RTAL	**Retalhuleu**	**0.67**	**61**	*i* P	**Pn**	**18 29 11.7**	**+1.1**
RTAL				*i* S	**Sn**	**18 29 21.0**	**+1.0**
RTAL	**Retalhuleu**	**0.67**	**61**	ǁP	**Pn**	**18 29 11.8**	**+1.1**
RTAL				S	**Sn**	**18 29 21.7**	**+1.7**
SMCA	**Catarina**	**0.68**	**18**	*i* P	**Pb**	**18 29 11.3**	**+0.5**
SMCA				*i* S	**Sb**	**18 29 20.2**	**+0.2**
THIG		**0.70**	**3**	*i* P	**Pn**	**18 29 11.8**	**+0.8**
THIG				*eS*	**Sb**	**18 29 20.5**	**0.0**
THIG		**0.70**	**3**	*i* P	**Pn**	**18 29 11.8**	**+0.8**
THIG				*i* S	**Sn**	**18 29 21.8**	**+1.0**
CHUJ	**Union Juarez**	**0.90**	**12**	*i* P	**Pb**	**18 29 13.8**	**-0.8**
CHUJ				*i* S	**Sb**	**18 29 25.4**	**-1.0**
PATR	**El Naranjo**	**0.91**	**4**	*i* P	**Pb**	**18 29 14.2**	**-0.6**
PATR				*i* S	**Sb**	**18 29 25.6**	**-1.0**
PAVE	**Pavencul**	**0.99**	**7**	*i* P	**Pb**	**18 29 15.4**	**-0.7**
PAVE				*i* S	**Sb**	**18 29 27.7**	**-1.2**
QUEO	**Labor Ovalle**	**1.01**	**49**	*i* P	**Pb**	**18 29 16.4**	**0.0**
QUEO				*eS*	**Sb**	**18 29 29.4**	**-0.1**
HUEH	**Huehuetenango**	**1.35**	**35**	Pn	**Pn**	**18 29 21.3**	**+1.1**
ESSG	**Sabana Grande**	**1.44**	**83**	*i* P	**Pn**	**18 29 21.3**	**+0.1**
ESSG				IAML		18 29 42.5	
comp=E,4μm,0.4s							
FG16	**Alotenango, Sa**	**1.73**	**87**	*i* P	**Pn**	**18 29 21.6**	**-3.8**
FG16				*i* S	Sn	18 29 38.2	-8.5
FG16				IAML		18 29 42.4	
comp=N,42μm,0.3s							
PCIG		**1.74**	**329**	*eP*	**Pn**	**18 29 26.2**	**+0.9**
PCIG				*i* S	**Sn**	**18 29 45.8**	**-0.6**
ESSJ	**San Jos, E**	**1.86**	**110**	*i* P	**Pn**	**18 29 22.9**	**-4.1**
ESSJ				*i* S	Sn	18 29 37.6	-12
CCIG	**Comitan**	**2.07**	**4**		**Pn**	**18 29 32.7**	**+2.5**
CCIG	**Comitan**	**2.07**	**4**	*eP*	**Pb**	**18 29 33.1**	**-1.2**
CCIG				*i* S	**Sn**	**18 29 55.8**	**+0.9**
CCIG	**Comitan**	**2.07**	**4**	*eP*	**Pn**	**18 29 32.6**	**+2.5**
CCIG				*i* S	**Sn**	**18 29 55.9**	**+1.0**
CCIG	**Comitan**	**2.07**	**4**	S	**Sb**	**18 29 59.4**	**-0.4**
CCIG	**Comitan**	**2.07**	**4**	ǁP	**Pb**	**18 29 33.1**	**-1.2**
FAME	**Alcaldia de Sa**	**2.25**	**99**	ǁP	**Pn**	**18 29 34.3**	**+2.0**
NUBE	**Las Nubes**	**2.46**	**97**	P	**Pn**	**18 29 37.3**	**+1.9**
CEVE	**Cerro Verde**	**2.62**	**98**	P	**Pn**	**18 29 39.8**	**+2.1**
CEVE	**Cerro Verde**	**2.62**	**98**	S	**Sn**	**18 30 12.4**	**+3.7**
TGBT	**Tuxtla Gutierr**	**2.67**	**344**	*eP*	**Pn**	**18 29 37.3**	**-0.8**
TGBT				*eS*	**Sn**	**18 30 09.5**	**0.0**
TGIG		**2.68**	**343**	*eP*	**Pn**	**18 29 38.9**	**+0.5**
TGIG				*eS*	**Sn**	**18 30 08.8**	**-1.0**
TGIG		**2.68**	**343**	*i* P	**Pn**	**18 29 39.5**	**+1.2**
JAYA	**Jayaque - finc**	**2.82**	**101**	*i* P	**Pn**	**18 29 41.7**	**+1.4**
JAYA				*i* S	**Sn**	**18 30 12.0**	**-1.4**
JAYA	**Jayaque - finc**	**2.82**	**101**	ǁP	**Pn**	**18 29 41.8**	**+1.4**
MTO3	**Montecristo**	**2.85**	**86**		**Pn**	**18 29 41.3**	**+0.4**
MTO3	**Montecristo**	**2.85**	**86**	P	**Pn**	**18 29 42.0**	**+1.1**
ESQI	**Esquipulas**	**2.89**	**83**		**Pn**	**18 29 41.2**	**-0.1**
PMON	**Piamonte**	**2.94**	**99**	ǁP	**Pn**	**18 29 44.1**	**+2.2**
PANCS	**Alcalda de**	**3.08**	**101**	P	**Pb**	**18 29 50.0**	**-1.5**
LOMA	**Loma Larga**	**3.09**	**100**	P	**Pn**	**18 29 46.1**	**+2.1**
UXUV	**UXUV**	**3.57**	**330**	*eP*	**Pn**	**18 29 53.0**	**+2.5**
UXUV				*eS*	**Sn**	**18 30 31.0**	**-0.7**
PETF	**Flores**	**3.57**	**41**		**Pn**	**18 29 52.3**	**+1.7**
PETF	**Flores**	**3.57**	**41**	*eP*	**Pn**	**18 29 53.1**	**+2.5**
PETF				*eS*	**Sn**	**18 30 31.8**	**+0.1**
PETF	**Flores**	**3.57**	**41**	P	**Pn**	**18 29 53.5**	**+2.9**
CMIG	**Matias Romero**	**3.80**	**319**	Pn	**Pn**	**18 29 55.5**	**+1.8**
comp=N,13nm,0.3s,baz=128,slow=10,SNR=48							
CMIG				Sn	**Sn**	**18 30 41.3**	**+4.0**
comp=N,44nm,0.3s,baz=75,slow=20,SNR=6.5							
CMIG				LR	LR	18 31 18.6	
comp=N,126nm,20.0s,baz=204,slow=34							
comp=N,47nm,0.3s							
CMIG	**Matias Romero**	**3.80**	**319**	*eP*	**Pn**	**18 29 55.1**	**+1.4**
CMIG				*eS*	**Sn**	**18 30 37.3**	**-0.1**
PACA	**Pacayal**	**3.93**	**100**	P	**Pn**	**18 29 58.0**	**+2.4**
HUIG	**Huatulco**	**4.00**	**293**	*eP*	**Pn**	**18 29 57.6**	**+1.2**
HUIG				*eS*	**Sn**	**18 30 37.9**	**-4.3**
HUIG	**Huatulco**	**4.00**	**293**	*i* P	**Pn**	**18 29 58.1**	**+1.7**
TUIG	**Tuzandepetl**	**4.32**	**332**	*i* P	**Pn**	**18 30 03.0**	**+2.1**
TUIG				*eS*	**Sn**	**18 30 51.0**	**+0.8**
CNCH	**Conchagua**	**4.43**	**101**	ǁP	**Pn**	**18 30 04.8**	**+2.3**
NEUV	**Arroyo Zacate**	**4.85**	**316**	*eP*	**Pn**	**18 30 08.9**	**+0.8**
NEUV				*eS*	**Sn**	**18 31 01.9**	**-1.4**
SCIG	**Sabancuy**	**4.86**	**13**	*eP*	**Pn**	**18 30 08.8**	**+0.6**
SCIG				*eS*	**Sn**	**18 30 58.5**	**-4.9**
TGUH	**Tegucigalpa,Un**	**4.88**	**91**	Pn	**Pn**	**18 30 06.4**	**-2.3**
PEIG	**Puerto Escondi**	**5.01**	**291**	*eP*	**Pn**	**18 30 12.0**	**+1.6**
PEIG				*eS*	**Sn**	**18 31 03.8**	**-3.5**
PMUV	**Sontecomapan**	**5.10**	**328**	*eP*	**Pn**	**18 30 14.0**	**+2.4**
PMUV				*eS*	**Sn**	**18 31 05.1**	**-4.4**
OXLC	**Oaxaca**	**5.11**	**304**	*eS*	**Sn**	**18 31 12.7**	**+2.7**
VHO	**Vista Hermosa**	**5.14**	**304**	*eP*	**Pn**	**18 30 16.2**	**+3.9**
VHO				*eS*	**Sn**	**18 31 12.8**	**+2.2**
PKGN	**Cerro Pekin**	**5.40**	**106**	P	**Pn**	**18 30 18.1**	**+2.4**
YOIG	**Yosondua**	**5.70**	**298**	*eP*	**Pn**	**18 30 24.3**	**+4.1**
YOIG				*eS*	**Sn**	**18 31 24.9**	**+0.1**
CNGN	**Cerro Negro**	**5.71**	**107**		**Pn**	**18 30 19.1**	**-0.9**
TOIG	**Toxpalan**	**6.00**	**311**	*eP*	**Pn**	**18 30 20.1**	**-3.9**
TOIG				*eS*	**Sn**	**18 31 30.2**	**-1.5**
PNIG	**Pinotepa**	**6.03**	**292**	*eP*	**Pn**	**18 30 27.3**	**+2.9**
PNIG				*eS*	**Sn**	**18 31 28.3**	**-4.1**
TXIG	**Tlaxiaco**	**6.08**	**301**	*eP*	**Pn**	**18 30 27.8**	**+2.6**
TXIG				*eS*	**Sn**	**18 31 34.6**	**+0.6**
HLIG	**Huajuapan de L**	**6.41**	**305**	*eP*	**Pn**	**18 30 32.9**	**+3.2**
HLIG				*i* S	**Sn**	**18 31 41.8**	**-0.1**
TPIG	**Tehuac#an**	**6.42**	**311**	*eP*	**Pn**	**18 30 30.8**	**+0.9**
TPIG				*eS*	**Sn**	**18 31 39.9**	**-2.3**
BOAB	**BOACO BROADBAN**	**6.69**	**104**		**Pn**	**18 30 35.2**	**+1.8**
JAUV	**Jalcomulco**	**6.71**	**321**	*eP*	**Pn**	**18 30 35.6**	**+1.9**
JAUV				*eS*	**Sn**	**18 31 46.5**	**-2.6**
FTIG	**Fresnillo de T**	**6.71**	**304**	*eP*	**Pn**	**18 30 37.2**	**+3.4**
FTIG				*eS*	**Sn**	**18 31 54.1**	**+4.8**
LVIG	**Laguna Verde**	**6.76**	**325**	*eP*	**Pn**	**18 30 32.0**	**-2.4**
LVIG				*eS*	**Sn**	**18 31 44.1**	**-6.2**
POHV	**Veracruz**	**6.80**	**316**	*eP*	**Pn**	**18 30 32.3**	**-3.1**
POHV				*eS*	**Sn**	**18 31 52.5**	**+0.5**
MGIG	**Malinaltepec**	**6.80**	**297**	*eP*	**Pn**	**18 30 32.4**	**-2.7**
MGIG				*eS*	**Sn**	**18 31 49.7**	**-2.0**
TLIG	**Tlapa**	**6.89**	**300**		Pn	18 30 43.0	+6.7
TLIG	**Tlapa**	**6.89**	**300**	*eP*	**Pn**	**18 30 39.7**	**+3.4**
TLIG				*i* S	**Sn**	**18 31 48.9**	**-4.9**
TEIG	**Tepich**	**7.12**	**32**		**Pn**	**18 30 39.1**	**-0.1**
TEIG	**Tepich**	**7.12**	**32**	Pn	**Pn**	**18 30 37.5**	**-1.7**
baz=310,slow=24,SNR=17							
TEIG				Sn	**Sn**	**18 31 54.9**	**-4.2**
baz=310,slow=24,SNR=7.6							
SIUN	**Universidad Ur**	**7.32**	**93**		**Pn**	**18 30 42.5**	**+0.4**
DAIG	**Los Arroyos**	**7.62**	**293**	*eP*	**Pn**	**18 30 48.4**	**+2.2**
DAIG				*i* S	**Sn**	**18 32 09.8**	**-1.7**
PPCL	**Tochimilco**	**7.66**	**309**	*eP*	**Pn**	**18 30 48.9**	**+1.9**
PPCL				*eS*	**Sn**	**18 32 13.4**	**+0.5**
PPM	**Popocatepetl**	**7.76**	**309**	*eP*	**Pn**	**18 30 45.7**	**-2.8**
PPM				*eS*	**Sn**	**18 32 11.2**	**-4.4**
CXUV	**Coxquihui**	**7.80**	**320**	*eP*	**Pn**	**18 30 48.3**	**-0.4**
CXUV				*i* S	**Sn**	**18 32 13.2**	**-2.7**
MEIG	**Mezcala**	**7.95**	**299**	*eP*	**Pn**	**18 30 50.7**	**-0.2**
MEIG				*i* S	**Sn**	**18 32 23.1**	**+3.2**
YAIG	**Yautepec**	**7.97**	**306**	*eP*	**Pn**	**18 30 54.1**	**+2.9**
YAIG				*i* S	**Sn**	**18 32 23.5**	**+3.0**
CAIG	**El Cayaco**	**8.18**	**291**	*eP*	**Pn**	**18 30 57.5**	**+3.6**
ARIG	**Puente Sto Nin**	**8.73**	**299**	*eP*	Pn	18 31 06.6	+5.1
GTIG	**Gomez Farias**	**10.96**	**325**	*eP*	**Pn**	**18 31 33.4**	**+1.4**
SOR	**Soroa**	**12.27**	**45**		**Pn**	**18 31 49.5**	**-0.4**
HNDO	**Hondo**	**16.56**	**338**	Pn	**Pn**	**18 32 47.8**	**+0.5**
HNVL	**Huntsville, TX**	**16.73**	**350**		**Pn**	**18 32 51.0**	**+1.6**
SAND	**Sanderson**	**18.11**	**332**		**P**	**18 33 08.8**	**+2.0**
TXAR	**Lajitas Array**	**18.37**	**327**	P	**Pn**	**18 33 12.0**	**+2.2**
TXAR	**Lajitas Array**	**18.37**	**327**	P	**Pn**	**18 33 12.4**	**+2.6**
comp=N,0.2nm,0.3s,baz=151,slow=11,SNR=18							
comp=N,1.0nm,0.5s							
TX31	**Lajitas Ar. Si**	**18.37**	**327**		**Pn**	**18 33 11.0**	**+1.2**
OZNA	**Ozona**	**18.51**	**335**	P	**Pn**	**18 33 12.7**	**+1.2**
MNHN	**Monahans**	**19.57**	**332**		**Pn**	**18 33 24.8**	**+0.5**
MNHN				IAmb	IAmb	18 33 26.5	
comp=Z,11nm,0.8s							
PECS	**Pecos**	**20.11**	**330**	P	Pn	18 33 30.7	0.0
VHRN	**Van Horn**	**20.21**	**327**		**P**	**18 33 30.9**	**+1.1**
MIAR	**Mount Ida**	**20.29**	**357**		**P**	**18 33 31.6**	**+1.1**
MIAR				IAmb	IAmb	18 33 49.5	
comp=Z,19nm,1.3s							
APMT	**Aspermont**	**20.32**	**341**		**P**	**18 33 30.5**	**-0.4**
APMT				IAmb	IAmb	18 33 37.3	
comp=Z,6.4nm,0.7s							
SN07	**Snyder 07**	**20.36**	**339**	P	**P**	**18 33 32.5**	**+1.1**
UALR	**University of**	**20.48**	**360**	P	**P**	**18 33 32.5**	**0.0**
POST	**Post**	**20.56**	**338**	IAmb	IAmb	18 33 35.6	
comp=Z,6.1nm,0.7s							
X48A	**Hartselle**	**20.71**	**12**	P	**P**	**18 33 32.4**	**-2.6**
X48A				IAmb	IAmb	18 33 52.3	
comp=Z,11nm,1.2s							
DKNS	**Dickens**	**20.90**	**339**	P	**P**	**18 33 38.4**	**+1.2**
DKNS				IAmb	IAmb	18 33 44.3	
comp=Z,6.3nm,0.5s							
SWET	**Sewanee**	**21.70**	**14**	IAmb	IAmb	18 34 11.2	
comp=Z,15nm,1.3s							
CPCT	**Cooper Cave**	**22.28**	**17**	IAmb	IAmb	18 34 22.8	
comp=Z,7.2nm,1.2s							
TKL	**Tuckaleechee C**	**22.70**	**18**	P	**P**	**18 33 55.3**	**-1.0**
TKL				IAmb	IAmb	18 34 16.5	
comp=Z,6.5nm,0.8s							
TKL	**Tuckaleechee C**	**22.70**	**18**	P	**P**	**18 33 55.3**	**-1.0**
comp=Z,3.7nm,0.6s,baz=185,slow=13,SNR=5.1							
comp=Z,3.7nm,0.6s							
U49A	**Red Boiling Sp**	**22.97**	**14**	IAmb	IAmb	18 33 57.8	
comp=Z,5.8nm,0.6s							
121A	**Cookes Peak, D**	**23.08**	**325**	IAmb	IAmb	18 34 04.2	
comp=Z,8.7nm,0.9s							
T47A	**Sharon Grove**	**23.16**	**11**	P	**P**	**18 33 59.2**	**-1.9**
T47A				IAmb	IAmb	18 34 00.7	
comp=Z,7.1nm,0.6s							
T50A	**Nancy**	**23.68**	**15**	P	**P**	**18 34 03.5**	**-2.6**
T50A				IAmb	IAmb	18 34 25.5	
comp=Z,15nm,1.4s							
RTBA	**Rita Blanca**	**24.03**	**339**	IAmb	IAmb	18 34 10.9	
comp=Z,4.7nm,0.7s							
ANMO	**Albuquerque**	**24.28**	**331**		**P**	**18 34 13.1**	**+1.0**
ANMO				IAmb	IAmb	18 34 14.4	
comp=Z,5.7nm,0.6s							
ANMO	**Albuquerque**	**24.28**	**331**	P	**P**	**18 34 14.0**	**+1.9**
comp=Z,7.2nm,0.6s,baz=234,slow=12,SNR=14							
comp=Z,7.2nm,0.6s							
WCI	**Wyandotte Cave**	**24.52**	**11**		**P**	**18 34 11.9**	**-2.0**
T25A	**Trinidad**	**25.27**	**337**	IAmb	IAmb	18 34 27.2	
comp=Z,9.0nm,1.4s							
MVCO	**Mesa Verde**	**27.08**	**331**	IAmb	IAmb	18 34 40.3	
comp=Z,5.9nm,0.8s							
PV13	**Radium Mtn., P**	**28.00**	**331**	IAmb	IAmb	18 34 48.1	
comp=Z,4.1nm,0.9s							
PV05	**Paradox Valley**	**28.06**	**331**	IAmb	IAmb	18 34 49.0	
comp=Z,8.0nm,1.2s							
PV18	**Skein Mesa, Pa**	**28.11**	**331**	IAmb	IAmb	18 34 48.6	
comp=Z,4.6nm,0.7s							
PV04	**Paradox Valley**	**28.23**	**332**	IAmb	IAmb	18 34 50.3	
comp=Z,3.9nm,0.6s							
HMU	**Henry Mountain**	**28.75**	**329**	IAmb	IAmb	18 34 55.1	
comp=Z,3.9nm,0.9s							
P17A	**Butcher Ranch,**	**29.95**	**331**	IAmb	IAmb	18 35 05.5	
comp=Z,3.4nm,0.6s							
MPMC	**Manual Prospec**	**31.35**	**318**	P	**P**	**18 35 16.8**	**+1.5**
PDAR	**Pinedale Array**	**32.12**	**336**	P	**P**	**18 35 23.1**	**+1.0**
comp=Z,0.2nm,0.3s,baz=149,slow=12,SNR=2.4							
PDAR				PcP	**PcP**	**18 38 10.5**	**-0.4**
comp=Z,0.5nm,0.4s,baz=175,slow=4.5,SNR=4.2							
comp=Z,0.2nm,0.3s							
HVU	**Hansel Valley**	**32.72**	**331**	IAmb	IAmb	18 35 29.5	
comp=Z,3.3nm,0.7s							
NVAR	**Mina Array Bea**	**33.33**	**321**		**P**	**18 35 34.8**	**+2.0**
NVAR	**Mina Array Bea**	**33.33**	**321**	P	**P**	**18 35 34.5**	**+1.7**
comp=Z,2.5nm,0.6s,baz=135,slow=8.5,SNR=19							
comp=Z,2.5nm,0.6s							
HLID	**Hailey**	**34.86**	**331**	IAmb	IAmb	18 35 50.2	
comp=Z,2.4nm,0.7s							
SAML	**Samuel**	**36.92**	**127**		**P**	**18 36 02.0**	**-1.6**
LON	**Longmire**	**40.77**	**329**	P	**P**	**18 36 36.9**	**+1.3**
LON				IAmb	IAmb	18 36 40.1	
comp=Z,3.5nm,0.8s							
YKA	**Yellowknife Ar**	**50.76**	**347**	P	**P**	**18 37 52.7**	**-1.5**
comp=Z,1.5nm,0.7s,baz=148,slow=7.0,SNR=8.2							
comp=Z,1.5nm,0.7s							
ILAR	**Eielson Array**	**62.54**	**337**	P	**P**	**18 39 17.8**	**-0.1**
comp=Z,2.4nm,0.9s,baz=126,slow=5.3,SNR=17							
comp=Z,2.4nm,0.9s							
EKA	**Eskdalemuir Ar**	**77.97**	**36**	P	P	18 40 47.6	-4.8
comp=Z,1.1nm,0.6s,baz=278,slow=5.8,SNR=5.1							
comp=Z,1.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**145.71**	**341**	PKPbc	**PKPdf**	**18 48 32.4**	**-1.2**
comp=Z,4.8nm,0.8s,baz=335,slow=3.6,SNR=27							

IDC 29 18:49:02.0±5.0, **24°.46S**×**177°.93W**, **h0**km, **mb3.4**/2, **mbtmp3.4**/2, **Error ellipse: s-maj=296.0km s-min=46.6km az=156.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.81**	**261**	P	P	18 57 09.8	-0.3
0.2nm,0.4s,baz=102,slow=8.1,SNR=8.0							
0.2nm,0.4s							
WRA	**Warramunga Arr**	**44.26**	**266**	P	P	18 57 13.7	0.0
0.2nm,0.4s,baz=103,slow=7.5,SNR=4.5							
0.2nm,0.4s							
NOA	**NORSAR Array B**	**142.90**	**353**	PKP	PKPdf	19 08 35.6	-1.6
1.4nm,0.9s,baz=16,slow=2.4,SNR=3.6							
HFS	**Hagfors**	**143.44**	**350**	PKP	PKPdf	19 08 37.6	-0.4
1.1nm,0.4s,baz=48,slow=2.1,SNR=7.6							
AKASG	**Malin Array Be**	**146.45**	**328**	PKPbc	PKPbc	19 08 44.6	-0.2
0.3nm,0.3s,baz=46,slow=4.1,SNR=4.3							
BRTR	**Keskin Array B**	**149.42**	**307**	PKPbc	PKPbc	19 08 52.5	-0.9
0.5nm,0.5s,baz=108,slow=3.2,SNR=3.7							
MMAI	**Mount Meron Ar**	**149.65**	**294**	PKPbc	PKPbc	19 08 53.8	-0.4
1.0nm,0.5s,baz=90,slow=6.1,SNR=2.6							

*NEIC **29** 18:50:07.1±1.3, 69°.57N±0°.05×144°.23W±0°.05, h10km±2km, Error ellipse: s-maj=8.9km s-min=3.0km az=16.0*

AEIC 29 18:50:05.8±2.2, **69°.50N**±0°.04×**144°.26W**±0°.06, **h11**km±5km, **ML3.4, mL3.5**/132(NEIC), **Error ellipse: s-maj=6.5km s-min=2.4km az=161.0, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.23**	**56**		Sg	18 50 14.2	+0.4
C27K	**Jago River**	**0.23**	**56**	Pg	Pg	18 50 10.5	-0.1
C27K				IAML		18 50 14.8	
comp=E,5μm,0.3s							
C27K				IAML		18 50 15.5	
comp=N,5μm,0.4s							
C26K	**Camden Bay**	**0.48**	**332**		Pg	18 50 15.5	+0.3
C26K					Sb	18 50 23.1	-0.1
D25K	**Kavik River**	**0.77**	**258**		Pg	18 50 19.8	-0.9
D25K					Sg	18 50 30.7	0.0
D27M	**Malcolm River**	**1.19**	**101**		Pb	18 50 27.9	-0.4
D27M					Sn	18 50 44.7	+0.1
D27M	**Malcolm River**	**1.19**	**101**	IAML		18 50 49.5	
comp=N,1μm,0.5s							
D27M				IAML		18 50 51.1	
comp=E,883nm,0.3s							
E25K	**Arctic Village**	**1.47**	**200**		Pg	18 50 34.1	+0.3
E25K					Sg	18 50 55.1	+2.3
E25K	**Arctic Village**	**1.47**	**200**	IAML		18 50 57.0	
comp=E,551nm,0.9s							
E25K				IAML		18 50 57.3	
comp=N,791nm,0.6s							
C24K	**Franklin Bluff**	**1.57**	**280**		Pb	18 50 35.2	+0.4
C24K					Sg	18 50 57.0	+0.7
C24K	**Franklin Bluff**	**1.57**	**280**	IAML		18 50 57.8	
comp=N,657nm,0.6s							
C24K				IAML		18 51 01.0	
comp=E,500nm,1.1s							
E27K	**Coleen River**	**1.64**	**143**		Pb	18 50 36.5	+0.6
E27K					Sg	18 50 59.8	+1.6
E27K	**Coleen River**	**1.64**	**143**	IAML		18 51 02.3	
comp=N,392nm,0.6s							
E27K				IAML		18 51 03.9	
comp=E,407nm,0.5s							
D24K	**Happy Valley**	**1.66**	**260**		Pg	18 50 37.1	-0.4
D24K					Sg	18 51 00.3	+1.3
D24K	**Happy Valley**	**1.66**	**260**	IAML		18 51 00.9	
comp=N,631nm,0.6s							
F26K	**Sheenjek River**	**1.81**	**179**		Pb	18 50 39.7	+0.7
F26K					Sg	18 51 03.6	-0.3
F26K	**Sheenjek River**	**1.81**	**179**	IAML		18 51 07.8	
comp=N,443nm,0.5s							
E28M	**Babbage River**	**1.92**	**116**		Pb	18 50 40.9	+0.1
E28M				IAML		18 51 11.4	
comp=N,410nm,0.7s							
E28M	**Babbage River**	**1.92**	**116**		Sg	18 51 07.0	-0.4
D28M	**Stokes Point**	**1.96**	**92**		Pb	18 50 41.9	+0.5
F25K	**Christian Rive**	**1.98**	**196**		Pb	18 50 42.4	+0.6
F25K					Sg	18 51 08.7	-0.7
F25K	**Christian Rive**	**1.98**	**196**	IAML		18 51 12.8	
comp=E,404nm,1.1s							
BMAR	**Burnt Mountain**	**2.08**	**183**		Pb	18 50 42.9	-0

D20K	**Etivluk River**	**4.50**	**266**		Pn		18 51 16.0	+2.3
D20K	**Etivluk River**	**4.50**	**266**	IAML			18 52 44.6	
	comp=E,42nm,1.0s							
D20K				IAML			18 52 47.8	
	comp=N,44nm,1.1s							
B20K	**Meade River**	**4.51**	**283**		Pn		18 51 14.8	+0.9
B20K				IAML			18 52 47.7	
	comp=N,44nm,1.1s							
G31M	**Satah River**	**4.53**	**120**		Pn		18 51 16.2	+2.1
POKR	**Poker Plat Res**	**4.57**	**197**		Pn		18 51 16.9	+2.2
POKR	**Poker Plat Res**	**4.57**	**197**	IAML			18 52 13.0	
	comp=N,38nm,0.3s							
POKR				IAML			18 52 44.0	
	comp=E,47nm,1.1s							
G21K	**Allakaket**	**4.59**	**234**		Pn		18 51 16.3	+1.3
G21K	**Allakaket**	**4.59**	**234**	IAML			18 52 39.4	
	comp=E,48nm,0.9s							
G21K				IAML			18 52 42.0	
	comp=N,44nm,0.8s							
I23K	**Minto, Yukon-K**	**4.79**	**207**		Pn		18 51 20.0	+2.3
I23K	**Minto, Yukon-K**	**4.79**	**207**	IAML			18 52 45.4	
	comp=N,36nm,1.0s							
I23K				IAML			18 52 57.7	
	comp=E,28nm,1.1s							
ILAR	**Eielson Array**	**4.86**	**193**		Pn		18 51 19.6	+1.0
F20K	**Avaraart Lake**	**4.92**	**245**		Pn		18 51 21.7	+2.2
F20K	**Avaraart Lake**	**4.92**	**245**	IAML			18 52 47.2	
	comp=N,23nm,1.1s							
J25K	**Salcha River,**	**4.93**	**186**		Pn		18 51 22.1	+2.5
J25K	**Salcha River,**	**4.93**	**186**	IAML			18 52 47.1	
	comp=N,25nm,0.6s							
J25K				IAML			18 52 47.3	
	comp=E,37nm,1.1s							
J26L	**Joseph Creek**	**5.03**	**177**		Pn		18 51 23.7	+2.6
J26L	**Joseph Creek**	**5.03**	**177**	IAML			18 52 49.2	
	comp=E,33nm,0.8s							
J26L				IAML			18 52 49.8	
	comp=N,23nm,0.7s							
IMAR	**Indian Mountai**	**5.04**	**230**		Pn		18 51 24.0	+2.8
H21K	**Melozitna Rive**	**5.06**	**224**		Pn		18 51 23.4	+2.0
H21K	**Melozitna Rive**	**5.06**	**224**	IAML			18 52 53.5	
	comp=E,30nm,1.0s							
H21K				IAML			18 52 55.1	
	comp=N,29nm,1.1s							
D19K	**Kuna River**	**5.09**	**265**	IAML			18 53 09.4	
	comp=N,37nm,1.0s							
MLY	**Manley**	**5.14**	**212**		Pn		18 51 24.7	+2.1
E19K	**Redstone River**	**5.20**	**253**		Pn		18 51 24.7	+1.4
E19K	**Redstone River**	**5.20**	**253**	IAML			18 52 25.9	
	comp=N,27nm,0.6s							
E19K				IAML			18 53 01.7	
	comp=E,21nm,0.8s							
HDA	**Harding Lake**	**5.22**	**193**	IAML			18 52 58.4	
	comp=N,27nm,0.9s							
HDA				IAML			18 53 00.0	
	comp=E,33nm,1.0s							
I30M	**Mount Dempster**	**5.26**	**141**	IAML			18 52 31.7	
	comp=N,29nm,0.5s							
I21K	**Tanana**	**5.26**	**218**	IAML			18 53 09.7	
	comp=N,32nm,1.0s							
WRH	**Wood River Hil**	**5.27**	**198**		Pn		18 51 27.1	+2.8
WRH	**Wood River Hil**	**5.27**	**198**	IAML			18 52 57.0	
	comp=E,21nm,0.6s							
WRH				IAML			18 53 03.1	
	comp=N,20nm,0.7s							
H31M	**Peel River**	**5.29**	**130**		Pn		18 51 26.0	+1.4
H31M	**Peel River**	**5.29**	**130**	IAML			18 53 05.7	
	comp=E,27nm,0.8s							
H31M				IAML			18 53 09.2	
	comp=N,28nm,0.9s							
DAWY	**Dawson**	**5.79**	**158**		Pn		18 51 34.1	+2.6
DOT	**Dot Lake**	**5.88**	**179**		Pn		18 51 35.2	+2.5
RND	**Reindeer**	**6.39**	**199**		Pn		18 51 42.7	+3.0
BCAR	**Beaver Creek A**	**6.54**	**170**		Pn		18 51 43.5	+1.7
DHY	**Denali Highway**	**6.57**	**193**		Pn		18 51 45.9	+3.6
PAX	**Paxson**	**6.58**	**185**		Pn		18 51 45.4	+3.1
A36M	**Sachs Harbour**	**6.75**	**60**		Pn		18 51 44.3	-0.2
WACK	**Wrangell Chich**	**7.55**	**180**		Pn		18 51 58.8	+3.1
KIAG	**Kiagna River**	**8.65**	**174**		Pn		18 52 15.1	+4.3
CTGM	**Chitina Glacie**	**8.66**	**170**		Pn		18 52 13.9	+3.0
MMPY	**Sheldon Lake,**	**8.67**	**136**		Pn		18 52 13.0	+2.0
BAGL	**Bagley Icefiel**	**9.09**	**173**		Pn		18 52 20.8	+4.2
BARK	**Barkley Ridge**	**9.16**	**174**		Pn		18 52 22.9	+5.1
YAH	**Yahtse**	**9.23**	**172**		Pn		18 52 21.9	+3.1
O29M	**Mount Kennedy**	**9.54**	**163**		Pn		18 52 26.7	+3.8

*IDC **29** 18:50:22.8±6.7, 12°.79N×93°.11E, h0km, mb3.8/7, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=130.6km s-min=37.9km az=158.0*

ISC 29 18:50:26.0±5.1, 12°.5N±0°.6×93°.2E±0°.3, h35km, n8, σ0s55/9, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.07**	**42**	Pn	**Pn**	**18 52 20.6**	**-0.2**
	0.4nm,0.3s,baz=236,slow=16,SNR=14						
CMAR				Sn	**Sn**	**18 53 51.2**	**+0.4**
	0.3nm,0.3s,baz=236,slow=31,SNR=6.3						
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**35.37**	**347**	P	**P**	**18 57 17.7**	**-0.5**
	0.8nm,0.8s,baz=160,slow=7.4,SNR=5.1						
	0.8nm,0.8s						
SONM	**Songino Array**	**36.87**	**15**	P	**P**	**18 57 30.9**	**-0.3**
	0.3nm,0.6s,baz=188,slow=8.7,SNR=2.0						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**39.83**	**345**	P	**P**	**18 57 56.0**	**+0.2**
	1.4nm,0.2s,baz=164,slow=7.8,SNR=4.1						
	1.4nm,0.2s						
ZALV	**Zalesovo Beam**	**41.84**	**353**	P	**P**	**18 58 11.6**	**-0.8**
	0.7nm,0.5s,baz=178,slow=8.1,SNR=3.9						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**44.31**	**340**	P	**P**	**18 58 32.3**	**-0.1**
	0.5nm,0.5s,baz=145,slow=8.7,SNR=4.3						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**68.20**	**332**	P	**P**	**19 01 23.1**	**+0.5**
	1.1nm,0.8s,baz=116,slow=8.7,SNR=3.7						
	1.1nm,0.8s						
ARCES	**ARCESS Array B**	**70.60**	**340**	P	**P**	**19 01 37.9**	**+0.5**
	1.5nm,0.8s,baz=106,slow=8.7,SNR=4.9						
	1.5nm,0.8s						

IDC 29 18:51:26.5±12.0, 15°.07S×178°.06W, h421km±133km, mb3.1/4, mbtmp3.8/4, Error ellipse: s-maj=116.0km s-min=40.2km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.54**	**257**	P	P	18 59 06.6	-0.4
	0.4nm,0.7s,baz=92,slow=8.1,SNR=7.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**45.94**	**252**	P	P	18 59 10.2	+0.1
	3.3nm,0.4s,baz=84,slow=7.7,SNR=53						
	3.3nm,0.4s						
ILAR	**Eielson Array**	**83.06**	**13**	P	P	19 03 06.1	+0.1
	0.8nm,0.9s,baz=206,slow=8.0,SNR=5.9						
	0.8nm,0.9s						
TXAR	**Lajitas Array**	**84.20**	**58**	P	P	19 03 12.6	-0.1
	0.4nm,0.7s,baz=239,slow=7.1,SNR=4.8						
	0.4nm,0.7s						
BRTR	**Keskin Array B**	**142.97**	**318**	PKP	PKPdf	19 10 10.3	-1.3
	1.0nm,0.8s,baz=56,slow=3.1,SNR=4.8						
GERES	**GERESS Array B**	**144.96**	**346**	PKP	PKPdf	19 10 14.7	0.0
	0.2nm,0.3s,baz=26,slow=6.0,SNR=3.4						

*CNRM **29** 19:05:08.3, 35°.93N×10°.53W, h27km, ML2.9*
*MDD **29** 19:05:11.3±1.1, 36°.10N×10°.32W, h16km±26km, mb_Lg2.7/8, Error ellipse: s-maj=30.1km s-min=8.5km az=47.0*
*INMG **29** 19:05:12.4±1.4, 36°.03N×10°.41W, h31km, ML2.1, Error ellipse: s-maj=7.4km s-min=5.7km az=103.0, #DIST_RANGE: REGIONAL #IPMA_REGION: Gorringe*
*IGIL **29** 19:05:12.3, 36°.03N×10°.40W, h30km, ML2.0*

ISC 29 19:05:04.5±2.0, 35°.97N±0°.05×10°.46W±0°.09, h9km±13km, n46, σ1s94/72, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.75**	**48**	Sn	**Sn**	**19 05 57.2**	**-0.3**
PFVI				Pn	**Pg**	**19 05 38.1**	**0.0**
PFVI	**Vila Bisbo**	**1.75**	**48**	*e*P	**Pg**	**19 05 38.0**	**0.0**
PFVI				*e*S	**Sn**	**19 05 56.8**	**-0.7**
PFVI				*i* IAML		19 05 58.1	
PFVI				*i* IAML		19 05 58.2	
PFVI				*i* IAML		19 05 58.3	
MORF	**Marmelete**	**1.97**	**47**	*e*P	**Pb**	**19 05 41.4**	**+0.8**
MORF				*e*S	**Sn**	**19 06 02.5**	**-0.4**
MORF				IAML		19 06 05.0	
	comp=N,15nm,0.1s						
MORF	**Marmelete**	**1.97**	**47**	*e*P	**Pb**	**19 05 41.4**	**+0.8**
MORF				*e*S	**Sn**	**19 06 02.9**	**0.0**
MORF				*i* IAML		19 06 04.7	
MORF				*i* IAML		19 06 04.8	
MORF				*i* IAML		19 06 04.9	
PTEO	**Sao Teotonio**	**2.10**	**41**	*e*S	**Sn**	**19 06 06.0**	**0.0**
PTEO				*i* IAML		19 06 07.2	
PTEO				*i* IAML		19 06 08.1	
PTEO				*i* IAML		19 06 10.7	
PBDV	**Barranco-do-Ve**	**2.40**	**57**	Sn	**Sn**	**19 06 12.3**	**-1.1**
PBDV	**Barranco-do-Ve**	**2.40**	**57**	*e*P	**Pb**	**19 05 47.0**	**-0.8**
PBDV				*e*S	**Sn**	**19 06 13.0**	**-0.4**
PBDV				*i* IAML		19 06 15.7	
PBDV				*i* IAML		19 06 16.2	
PBDV				*i* IAML		19 06 19.1	
PCVE	**Castro Verde**	**2.55**	**49**	Pn	**Pb**	**19 05 49.7**	**-0.8**
PCVE				Sn	**Sn**	**19 06 17.6**	**+0.3**
PCVE	**Castro Verde**	**2.55**	**49**	*e*P	**Pb**	**19 05 49.7**	**-0.8**
PCVE				*e*S	**Sn**	**19 06 17.5**	**+0.3**
PCVE				*i* IAML		19 06 18.5	
PCVE				*i* IAML		19 06 19.4	
PCVE				*i* IAML		19 06 20.5	
MESJ	**Messejana**	**2.59**	**43**	*e*P	**Pb**	**19 05 50.0**	**-1.1**
MESJ				*e*S	**Sn**	**19 06 17.0**	**-1.1**
MESJ				IAML		19 06 19.2	
	comp=N,5.2nm,0.3s						
MESJ	**Messejana**	**2.59**	**43**	*e*P	**Pb**	**19 05 50.0**	**-1.1**
MESJ				*e*S	**Sn**	**19 06 17.3**	**-0.8**
MESJ				*i* IAML		19 06 20.0	
MESJ				*i* IAML		19 06 20.2	
MESJ				*i* IAML		19 06 20.4	
PVAQ	**Vaqueiros**	**2.63**	**56**	Pn	**Pb**	**19 05 50.2**	**-1.5**
PVAQ	**Vaqueiros**	**2.63**	**56**	*e*P	**Pb**	**19 05 50.2**	**-1.5**
PVAQ				*e*S	**Sn**	**19 06 18.4**	**-0.6**
PVAQ				*i* IAML		19 06 20.8	
PVAQ				*i* IAML		19 06 20.8	
PVAQ				*i* IAML		19 06 24.7	
PVAQ	**Vaqueiros**	**2.63**	**56**	P	**Pn**	**19 05 49.4**	**+2.4**
PVAQ	**Vaqueiros**	**2.63**	**56**	S	**Sb**	**19 06 22.4**	**-1.6**
EGRO	**El Granado**	**2.85**	**56**	Pn	**Pb**	**19 05 53.6**	**-1.9**
EGRO				Sn	**Sn**	**19 06 24.3**	**-0.3**
EGRO	**El Granado**	**2.85**	**56**	Pn	**Pn**	**19 05 53.4**	**+3.2**
EGRO				Sn	**Sn**	**19 06 24.0**	**-0.6**
EGRO				*i* lVmb_Lg		19 06 26.4	
PBEJ	**Beja**	**2.92**	**45**	*e*S	**Sn**	**19 06 25.2**	**-1.0**
PBEJ				*i* IAML		19 06 27.0	
PBEJ				*i* IAML		19 06 27.1	
PBEJ				*i* IAML		19 06 28.1	
PARRA	**Arraiolos**	**3.06**	**21**	*e*P	**Pg**	**19 06 01.3**	**-1.8**
PARRA				*e*S	**Sb**	**19 06 37.8**	**+1.4**
PARRA				*i* IAML		19 06 39.0	
PARRA				*i* IAML		19 06 39.8	
PARRA				*i* IAML		19 06 40.4	
PMAFR	**Mafra**	**3.12**	**17**	*e*P	**Pn**	**19 05 56.4**	**+2.5**
PMAFR				*e*S	**Sn**	**19 06 30.0**	**-1.4**
PMAFR				*i* IAML		19 06 33.8	
PMAFR				*i* IAML		19 06 36.7	
PMAFR				*i* IAML		19 06 37.7	
EVO	**Evora**	**3.22**	**37**	Sn	**Sn**	**19 06 32.3**	**-1.2**
EVO	**Evora**	**3.22**	**37**	*e*S	**Sn**	**19 06 32.5**	**-1.1**
EVO				*i* IAML		19 06 34.1	
EVO				*i* IAML		19 06 34.2	
EVO				*i* IAML		19 06 34.3	
PBAR	**Barrancos**	**3.51**	**50**	Sn	**Sn**	**19 06 40.7**	**-0.1**
PBAR				Pn	**Pn**	**19 06 02.5**	**+3.3**
PBAR	**Barrancos**	**3.51**	**50**	*e*P	**Pn**	**19 06 02.3**	**+3.1**
PBAR				*e*S	**Sn**	**19 06 40.0**	**-0.8**
PBAR				*i* IAML		19 06 42.2	
PBAR				*i* IAML		19 06 42.9	
PBAR				*i* IAML		19 06 43.1	
EMIN	**Mina Concepcio**	**3.52**	**58**	Sn	**Sn**	**19 06 40.7**	**-0.5**
EMIN	**Mina Concepcio**	**3.52**	**58**	Pn	**Pn**	**19 06 02.5**	**+3.1**
EMIN				Sn	**Sn**	**19 06 39.1**	**-2.1**
EMIN				*i* lVmb_Lg		19 06 43.3	
PMTG	**Montargil**	**3.57**	**29**	*e*P	**Pn**	**19 06 03.0**	**+3.1**
PMTG				*e*S	**Sn**	**19 06 41.1**	**-1.2**
PMTG				*i* IAML		19 06 41.5	
PMTG				*i* IAML		19 06 42.0	
PMTG				*i* IAML		19 06 43.7	
PESTR	**Estremoz**	**3.68**	**37**	*e*S	**Sn**	**19 06 44.7**	**-0.5**
ESPR	**Espera**	**3.82**	**75**	Sn	**Sn**	**19 06 47.8**	**-0.6**
ESPR				Pn	**Pn**	**19 06 07.0**	**+3.6**
ESPR	**Espera**	**3.82**	**75**	Pn	**Pn**	**19 06 06.5**	**+3.1**
ESPR				Sn	**Sn**	**19 06 47.3**	**-1.1**
ESPR				*i* lVmb_Lg		19 06 48.7	
EBAD	**Badajoz**	**3.91**	**44**	Sn	**Sn**	**19 06 49.1**	**-1.5**
EBAD	**Badajoz**	**3.91**	**44**	Pn	**Pn**	**19 06 07.5**	**+2.9**
EBAD				Sn	**Sn**	**19 06 48.9**	**-1.7**
EBAD				*i* lVmb_Lg		19 06 51.2	
PSARD	**Sardoal**	**4.05**	**26**	*e*P	**Pn**	**19 06 08.7**	**+2.0**
PSARD				*e*S	**Sn**	**19 06 51.6**	**-2.6**
PSARD				*i* IAML		19 06 53.8	
PSARD				*i* IAML		19 06 54.2	
PSARD				*i* IAML		19 06 54.3	
PMRV	**Marv??o**	**4.22**	**34**	*e*S	**Sn**	**19 06 56.2**	**-2.2**
PMRV				*i* IAML		19 06 57.1	
PMRV				*i* IAML		19 06 58.6	
PMRV				*i* IAML		19 06 59.2	
PCBR	**Castelo Branco**	**4.53**	**30**	*e*S	**Sn**	**19 07 04.2**	**-1.6**
ECAB	**El Cabril**	**4.55**	**61**	Pn	**Pn**	**19 06 15.9**	**+2.4**
ECAB				Sn	**Sn**	**19 07 03.7**	**-2.7**
ECAB				*i* lVmb_Lg		19 07 06.8	
EADA	**Adamuz**	**5.19**	**63**	Sn	**Sn**	**19 07 20.1**	**-2.1**
EADA	**Adamuz**	**5.19**	**63**	Pn	**Pn**	**19 06 24.8**	**+2.5**
EADA				Sn	**Sn**	**19 07 19.8**	**-2.5**
EADA				*i* lVmb_Lg		19 07 23.3	
OUK	**Oukaimeden**	**5.22**	**155**	P	**Pn**	**19 06 24.9**	**+1.9**
EPLA	**Plasencia**	**5.35**	**39**	Pn	**Pn**	**19 06 27.5**	**+2.9**
EPLA				Sn	**Sn**	**19 07 23.6**	**-2.7**
EPLA				*i* lVmb_Lg		19 07 25.9	
AKLM	**AKL**	**5.59**	**103**	P	**Pn**	**19 06 30.9**	**+3.1**
MD31	**MD31**	**5.63**	**122**	P	**Pn**	**19 06 29.9**	**+1.4**
MDT	**Midelt**	**5.77**	**121**	P	**Pn**	**19 06 32.0**	**+1.7**
MVO	**Moncorvo**	**5.84**	**26**	*e*S	**Sn**	**19 07 35.3**	**-3.1**
OUZM	**OUZ**	**5.92**	**147**	P	**Pn**	**19 06 33.8**	**+1.4**
PSIM	**Granatula de C**	**6.05**	**60**	Pn	**Pn**	**19 06 37.2**	**+3.1**
PSIM				Sn	**Sn**	**19 07 39.5**	**-3.9**

*MOS **29** 19:24:50.1±0.8, 43°.14N×145°.84E, h30km, mb4.0/1, Error ellipse: s-maj=17.3km s-min=8.8km az=100.4*
*NIED **29** 19:24:52.4, 43°.14N×145°.81E, h45km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr5.16; Mθθ-1.32; Mϕϕ-3.84; Mrθ0.90; Mθϕ-2.88; Mϕr3.62; Fault plane solution: Mo6.61000×10^14^ NP1: ϕs225.00000°, δ30.00000°, λ111.00000°. NP2: ϕs22.00000°, δ62.00000°, λ79.00000°.*
*JMA **29** 19:24:52.4±0.2, 43°.1N±0°.6×145°.8E±0°.9, h45km±1km, MV3.9/39, OFF NEMURO PENINSULA*
JMA Felt II J1 at OFF NEMURO PENINSULA .
*IDC **29** 19:24:52.9±3.2, 43°.13N×145°.80E, h55km±28km, mb3.5/15, mbtmp3.8/17, ML4.0/1, MS2.7/1, Error ellipse: s-maj=23.1km s-min=18.2km az=80.0*
*SKHL **29** 19:24:52.3±0.3, 43°.10N×145°.90E, h61km±3km, mb5.2/5*

ISC 29 19:24:51.6±0.9, 43°.10N±0°.06×145°.88E±0°.05, h43km±7km, n56, σ0s88/65, mb3.8/15, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.29**	**340**	P	**Pn**	**19 25 00.4**	**+0.4**
NEM2				S	**Sn**	**19 25 05.1**	**-0.8**
NMR	**Nemuro--Hokkai**	**0.29**	**339**	*i*P||	**Pn**	**19 25 00.4**	**+0.3**
NMR				*i* S	**Sn**	**19 25 06.1**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.29**	**339**	*e*P	**Pn**	**19 25 00.4**	**+0.3**
NMR				*e*S	**Sn**	**19 25 06.4**	**+0.4**
JKHN	**Kushirohamanak**	**0.52**	**269**	*e*P	**Pn**	**19 25 03.1**	**+0.3**
JKHN				S	**Sn**	**19 25 11.5**	**+0.8**
GLVR	**Golovnino**	**0.69**	**338**	*i*P||	**Pn**	**19 25 05.1**	**+0.1**
GLVR				*i* S	**Sn**	**19 25 14.4**	**-0.3**
GLVR				pmax	pmax		
	comp=N,765nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,4μm,0.3s						
GLVR				pmax	pmax		
	comp=E,130nm,0.1s						
GLVR				smax	smax		
	comp=N,12μm,0.2s						
GLVR				smax	smax		
	comp=E,30μm,0.2s						
GLVR	**Golovnino**	**0.69**	**338**	*i* P	**Pn**	**19 25 05.1**	**+0.1**
GLVR				AMB	AMB	19 25 05.3	
	comp=E,4μm,0.3s						
GLVR				*e*S	**Sn**	**19 25 14.4**	**-0.3**
GLVR				A	A	19 25 15.5	
	comp=E,12μm,0.3s						
GLVR				A	A	19 25 15.5	
	comp=E,30μm,0.3s						
AKK	**Akkeshi**	**0.76**	**264**	*i* P	**Pn**	**19 25 06.0**	**+0.1**
AKK				*i* S	**Sn**	**19 25 15.9**	**-0.4**
JAK	**Akkeshi**	**0.87**	**264**	P	**Pn**	**19 25 07.4**	**0.0**
JAK				*e*S	**Sn**	**19 25 18.5**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.93**	**317**	P	**Pn**	**19 25 08.1**	**-0.1**
JNSB				*e*S	**Sn**	**19 25 19.7**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**0.94**	**359**	*d* iPN	**Pn**	**19 25 08.1**	**-0.3**
YUK				*i* S	**Sn**	**19 25 19.6**	**-1.0**
YUK				pmax	pmax		
	comp=N,406nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=E,408nm,0.3s						
YUK				smax	smax		
	comp=N,6μm,0.2s						
YUK				smax	smax		
	comp=E,10μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.94**	**359**	*i* P	**Pn**	**19 25 08.2**	**-0.2**
YUK				AMB	AMB	19 25 09.1	
	comp=E,3μm,0.3s						
YUK				*e*S	**Sn**	**19 25 20.0**	**-0.6**
YUK				A	A	19 25 21.5	
	comp=E,6μm,0.5s						
YUK				A	A	19 25 21.5	
	comp=E,10μm,0.5s						
JNK	**Nakash**	**0.98**	**301**	P	**Pn**	**19 25 08.6**	**-0.3**
JNK				S	**Sn**	**19 25 20.2**	**-1.3**
JRA	**Rausu**	**1.00**	**327**	P	**Pn**	**19 25 09.3**	**+0.1**
JRA				S	**Sn**	**19 25 21.8**	**-0.4**
RUSJ	**Misakicho**	**1.11**	**336**	*i*P||	**Pn**	**19 25 11.2**	**+0.5**
RUSJ				*i* S	**Sn**	**19 25 25.6**	**+0.9**
JOB	**Onbets**	**1.51**	**263**	*e*P	**Pn**	**19 25 16.2**	**0.0**
JAR	**Ashorobuto**	**1.55**	**278**	P	**Pn**	**19 25 17.0**	**+0.2**
JAR				*e*S	**Sn**	**19 25 35.8**	**+0.1**
JTKR	**Abashiri--Toko**	**1.68**	**302**	P	**Pn**	**19 25 19.3**	**+0.9**
KUR	**Kuril'sk**	**2.57**	**33**	*e*PN	**Pn**	**19 25 31.5**	**+0.8**
KUR				*e*S	**Sn**	**19 26 00.8**	**0.0**
KUR				pmax	pmax		
	comp=Z,64nm,0.4s						
KUR				smax	smax		
	comp=E,310nm,0.5s						
KUR				smax	smax		
	comp=N,302nm,0.4s						
KUR	**Kuril'sk**	**2.57**	**33**	*e*P	**Pn**	**19 25 32.6**	**+1.9**
KUR				AMB	AMB	19 25 32.8	
	comp=N,60nm,0.4s						
KUR				*e*S	**Sn**	**19 26 01.7**	**+0.9**
KUR				A	A	19 26 03.9	
	comp=N,350nm,0.4s						
KUR				A	A	19 26 03.9	
	comp=N,360nm,0.4s						
ASAJ	**Asahikawa**	**2.59**	**294**	P	**Pn**	**19 25 32.1**	**+1.1**
	comp=N,20nm,0.3s,baz=113,slow=11,SNR=110						
ASAJ				S	**Sn**	**19 26 06.2**	**+4.9**
	comp=N,64nm,0.6s,baz=348,slow=12,SNR=4.0						
ASAJ				LR	LR	19 26 49.2	
	comp=N,146nm,19.6s,baz=132,slow=46						
	comp=N,78nm,0.4s						
YSS	**Yuzhno-Sakhali**	**4.45**	**331**	*e*PN	**Pn**	**19 25 57.8**	**+1.3**
YSS				pmax	pmax		
	comp=Z,30nm,0.3s						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS	**Yuzhno-Sakhali**	**4.45**	**331**	*e*P	**Pn**	**19 25 58.0**	**+1.5**
YSS				AMB	AMB	19 25 58.2	
	comp=N,90nm,0.3s						
MJAR	**Matsushiro Arr**	**8.81**	**225**	P	**Pn**	**19 26 56.5**	**+0.2**
	comp=N,1.3nm,0.8s,baz=32,slow=12,SNR=4.2						
SONM	**Songino Array**	**27.87**	**294**	P	**P**	**19 30 37.0**	**-0.3**
	comp=N,0.8nm,0.5s,baz=98,slow=11,SNR=5.1						
	comp=N,0.8nm,0.5s						
SONM	**Songino Array**	**27.87**	**294**	P	**P**	**19 30 37.0**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**29.24**	**136**	T	T	20 01 40.0	
	baz=328,slow=75,SNR=1086						
H11N1	**WAKE ISLAND Hy**	**29.24**	**136**	T	T	20 01 36.7	
	baz=328,slow=75,SNR=1026						
H11N3	**WAKE ISLAND Hy**	**29.26**	**136**	T	T	20 01 41.3	
	baz=328,slow=75,SNR=765						
H11S1	**WAKE ISLAND Hy**	**30.18**	**138**	T	T	20 02 50.4	
	baz=330,slow=76,SNR=1211						
H11S3	**WAKE ISLAND Hy**	**30.18**	**138**	T	T	20 02 49.9	
	baz=330,slow=76,SNR=2370						
H11S2	**WAKE ISLAND Hy**	**30.20**	**138**	T	T	20 02 44.7	
	baz=330,slow=76,SNR=1241						
ZALV	**Zalesovo Beam**	**40.66**	**307**	PcP	**PcP**	**19 34 28.1**	**-0.3**
	comp=N,0.9nm,0.5s,baz=85,slow=3.1,SNR=4.8						
ILAR	**Eielson Array**	**42.56**	**36**	P	**P**	**19 32 43.0**	**+0.2**
	comp=N,0.3nm,0.6s,baz=264,slow=4.7,SNR=5.1						
	comp=N,0.3nm,0.6s						
ILAR	**Eielson Array**	**42.56**	**36**	P	**P**	**19 32 43.0**	**+0.2**
MKAR	**Makanchi Array**	**44.07**	**298**	P	**P**	**19 32 54.9**	**-0.3**
	comp=N,1.1nm,0.7s,baz=73,slow=9.0,SNR=7.2						
	comp=N,1.1nm,0.7s						
KURK	**Kurchatov**	**45.13**	**304**	P	**P**	**19 33 03.8**	**+0.3**
KURK	**Kurchatov**	**45.13**	**304**	*e*P	**P**	**19 33 03.8**	**+0.3

*DJA **29** 19:37:01.8±0.2,1°N±2°×12°6E±°, h10km, M4.5/18, mB4.8/4, mb4.7/12, MLv4.5/18, Mw(mB)4.0/4*
*NEIC **29** 19:37:03.6±1.9, 0°.73N±0°.07°×126°.13E±0°.05, h46km±7km, mb4.6/24, Error ellipse: s-maj=10.8km s-min=7.2km az=160.0*

ISC 29 19:37:03.5±0.4, **0°.78N**±0°.05×**126°.16E**±0°.06, **h44**km, **n82**, σ1ᵍ**46**/78, **mb4.5**/31, **MS3.0**/7, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**90**				**Pn**	**19 37 23.4**	**-0.6**
TNTI	**Ternate**	**1.21**	**90**	P			**Pn**	**19 37 23.6**	**-0.4**
KMSI	**Cibinong**	**2.18**	**265**	P			**Pn**	**19 37 36.1**	**-1.2**
KMSI				S			**Sn**	**19 38 04.8**	**+1.6**
SGSI	**Sangihe**	**2.95**	**348**	P			**Pn**	**19 37 47.1**	**-0.8**
SGSI				S			**Sn**	**19 38 22.9**	**+0.7**
LUWI	**Luwuk**	**3.84**	**242**				**Pn**	**19 37 59.3**	**-0.7**
LUWI	**Luwuk**	**3.84**	**242**	P			**Pn**	**19 38 01.9**	**+1.8**
MRSI	**Marisa**	**4.22**	**266**	P			**Pn**	**19 38 06.4**	**+1.0**
APSI	**Ampana**	**4.81**	**250**	P			**Pn**	**19 38 15.4**	**+2.0**
AAI	**Ambon**	**4.88**	**155**	P			**Pn**	**19 38 16.2**	**+1.7**
	0.3nm45nm,0.8s								
MSAI	**Masohi**	**4.95**	**146**	P			**Pn**	**19 38 19.2**	**+3.8**
	0.3nm62nm,0.6s								
TOLI2	**Tolitoli**	**5.38**	**274**				**Pn**	**19 38 20.2**	**-1.1**
PCI	**Palu**	**6.54**	**255**	P			**Pn**	**19 38 35.6**	**-1.6**
	0.2nm58nm,1.0s								
BBSI	**Bau Bau**	**7.18**	**210**	P			**Pn**	**19 38 47.8**	**+1.8**
	0.2nm57nm,0.9s								
TTSI	**Tana Toraja**	**7.38**	**239**	P			**Pn**	**19 38 48.7**	**-0.1**
SPSI	**Sidrap Palu**	**7.93**	**234**	P			**Pn**	**19 38 57.4**	**+1.1**
	0.2nm751nm42nm,0.7s								
BNSI	**Bone**	**7.94**	**230**	P			**Pn**	**19 38 56.7**	**+0.3**
RKPI	**Ransiki, Papua**	**8.34**	**106**	P			**Pn**	**19 39 03.9**	**+2.0**
	35nm,1.2s								
BKSI	**Bulukumba**	**8.55**	**225**	P			**Pn**	**19 39 05.9**	**+1.2**
	38nm,0.6s								
KAPI	**Kappang**	**8.60**	**228**	Pn			**Pn**	**19 39 04.6**	**-0.9**
KAPI	**Kappang**	**8.60**	**228**	Pn			**Pn**	**19 39 03.8**	**-1.8**
	3.2nm,0.3s,baz=58,slow=2.0,SNR=24								
KAPI						LR	LR	19 42 46.2	
	comp=Z,193nm,20.1s,baz=56,slow=41 7.7nm,0.2s								
MYLDM	**Lahad Datu**	**8.80**	**300**				**Pn**	**19 39 08.7**	**+0.4**
BSSI	**Bau Bau, Buton**	**8.90**	**219**	P			**Pn**	**19 39 12.6**	**+2.9**
EDFI	**Ende, Flores**	**10.46**	**205**	P			**Pn**	**19 39 32.3**	**+1.2**
SBUM	**Sibu**	**14.03**	**277**				**Pn**	**19 40 19.5**	**-0.2**
MTN	**Manton Dam**	**14.41**	**160**	Pn			**Pn**	**19 40 24.3**	**-0.6**
KNRA	**Kununurra**	**16.55**	**171**				**Pn**	**19 40 52.6**	**0.0**
FITZ	**Fitzroy Crossi**	**18.77**	**182**	P			**P**	**19 41 15.2**	**-3.8**
FITZ	**Fitzroy Crossi**	**18.77**	**182**	P			**P**	**19 41 17.9**	**-1.2**
	0.3nm,0.3s,baz=303,slow=16,SNR=2.7 3.4nm,0.8s								
LEM	**Lembang**	**19.98**	**247**		LR		LR	19 50 02.9	
	comp=Z,98nm,19.5s,baz=167,slow=40								
WB0	**Warramunga Arr**	**21.96**	**159**				**P**	**19 41 52.2**	**-1.5**
WB0						IAmb	IAmb	19 41 57.7	
	comp=Z,14nm,0.8s								
WRAB	**Tennant Creek**	**22.10**	**159**	P			**P**	**19 41 54.0**	**-1.1**
WRAB						IAmb	IAmb	19 41 59.0	
	comp=Z,15nm,0.6s								
WRA	**Warramunga Arr**	**22.10**	**159**				**P**	**19 41 52.0**	**-3.2**
WRA	**Warramunga Arr**	**22.10**	**159**	P			**P**	**19 41 53.6**	**-1.7**
	comp=Z,9.8nm,0.5s,baz=338,slow=11,SNR=102 comp=Z,9.8nm,0.5s								
WR8	**Warramunga Arr**	**22.17**	**159**				**P**	**19 41 54.4**	**-1.6**
WR8						IAmb	IAmb	19 41 59.7	
	comp=Z,14nm,0.8s								
COEN	**Coen**	**22.33**	**132**	P			**P**	**19 41 57.8**	**+0.1**
COEN						IAmb	IAmb	19 42 04.5	
	comp=Z,17nm,0.8s								
PMG	**Port Moresby**	**23.24**	**116**	LR			LR	19 52 30.7	
	comp=Z,101nm,18.8s,baz=300,slow=40								
AS31	**Alice Springs**	**25.44**	**163**				**P**	**19 42 26.2**	**-1.2**
ASAR	**Alice Springs**	**25.44**	**163**	P			**P**	**19 42 26.3**	**-1.1**
ASAR	**Alice Springs**	**25.44**	**163**	P			**P**	**19 42 26.8**	**-0.6**
	comp=Z,3.3nm,0.4s,baz=348,slow=12,SNR=75 comp=Z,3.3nm,0.4s								
JCJ	**Chichijima**	**30.36**	**29**	LR			LR	19 53 05.8	
	comp=Z,12nm,21.6s,baz=199,slow=32								
INKA	**Innaminka**	**31.63**	**155**	P			**P**	**19 43 22.7**	**+0.1**
INKA						IAmb	IAmb	19 43 35.8	
	comp=Z,7.4nm,1.5s								
NJ2	**Nanjing**	**31.86**	**348**	*e*P			**P**	**19 43 27.0**	**+2.5**
NJ2						pmax	pmax		
	comp=Z,6.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**31.97**	**305**	P			**P**	**19 43 25.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=130,slow=9.0,SNR=4.3 comp=Z,0.3nm,0.4s								
BBOO	**Buckleboo**	**34.69**	**165**	P			**P**	**19 43 48.8**	**-0.4**
BBOO						IAmb	IAmb	19 44 06.5	
	comp=Z,19nm,1.3s								
HNR	**Honiara**	**35.15**	**108**	LR			LR	19 58 00.9	
	comp=Z,43nm,18.0s,baz=153,slow=36								
STKA	**Stephens Creek**	**35.62**	**157**				**P**	**19 43 56.8**	**-0.4**
STKA	**Stephens Creek**	**35.62**	**157**	P			**P**	**19 43 56.3**	**-0.9**
	comp=Z,3.3nm,0.4s,baz=340,slow=9.7,SNR=15 comp=Z,3.3nm,0.4s								
KSRS	**Korea Array**	**36.53**	**2**	P			**P**	**19 44 04.9**	**0.0**
	comp=Z,0.7nm,0.4s,baz=187,slow=10,SNR=2.7 comp=Z,0.7nm,0.4s								
MJAR	**Matsushiro Arr**	**37.30**	**16**	P			**P**	**19 44 10.9**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=182,slow=8.7,SNR=4.6 comp=Z,2.1nm,0.9s								
ARMA	**Armidale**	**39.38**	**144**	P			**P**	**19 44 30.1**	**+0.9**
ARMA						IAmb	IAmb	19 44 41.0	
	comp=Z,27nm,1.4s								
HHC	**Hu-ho-hao-te**	**42.02**	**343**	*e*P			**P**	**19 44 53.0**	**+2.2**
HHC						pmax	pmax		
	comp=Z,16nm,0.6s								
HHC						pmax	pmax		
	comp=Z,77nm,6.7s								
USRK	**Ussuriysk Ar.**	**43.54**	**6**	P			**P**	**19 45 03.2**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=196,slow=4.6,SNR=6.9 comp=Z,2.4nm,0.6s								
MDJ	**Mudanjiang**	**43.76**	**4**	P			**P**	**19 45 06.5**	**+1.9**
MDJ						pmax	pmax		
	comp=Z,10.0nm,0.9s								
ASAJ	**Asahikawa**	**45.56**	**17**	LR			LR	20 03 52.6	
	comp=Z,18nm,20.5s,baz=204,slow=36								
SONM	**Songino Array**	**49.91**	**343**	P			**P**	**19 45 52.2**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=154,slow=8.0,SNR=4.5 comp=Z,0.6nm,0.6s								
WMQ	**Urumqi**	**54.83**	**327**	*e*P			**P**	**19 46 32.5**	**+3.2**
WMQ						LR	LR		
	comp=Z,80nm,24.1s								
PETK	**Petropavlovsk-**	**58.36**	**22**	P			**P**	**19 46 55.5**	**+1.2**
PETK	**Petropavlovsk-**	**58.36**	**22**	P			**P**	**19 46 53.6**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=166,slow=4.9,SNR=3.6								
PETK						LR	LR	20 10 12.5	
	comp=Z,13nm,21.9s,baz=149,slow=34 comp=Z,0.7nm,0.5s								
MKAR	**Makanchi Array**	**59.66**	**327**				**P**	**19 47 02.1**	**-1.3**
MKAR	**Makanchi Array**	**59.66**	**327**	P			**P**	**19 47 02.2**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=121,slow=7.5,SNR=23 comp=Z,1.7nm,0.5s								
BKZ	**Black Stump Fm**	**60.81**	**137**	P			**P**	**19 47 10.3**	**-1.2**
MA2	**Magadan**	**61.69**	**14**	LR			LR	20 12 22.9	
	comp=Z,7.7nm,21.9s,baz=275,slow=34								
ZALV	**Zalesovo Beam**	**62.95**	**334**	P			**P**	**19 47 24.7**	**-0.8**
ZALV	**Zalesovo Beam**	**62.95**	**334**	P			**P**	**19 47 23.4**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=130,slow=5.6,SNR=5.8 comp=Z,0.9nm,0.5s								
GAR	**Garm**	**63.51**	**314**	P			**P**	**19 47 29.0**	**-0.6**
GAR						IAmb	IAmb	19 47 30.4	
	comp=Z,8.5nm,1.0s								
KURBB	**Kurchatov Arra**	**63.92**	**328**	P			**P**	**19 47 30.3**	**-1.6**
	comp=Z,3.0nm,0.5s,baz=129,slow=6.1,SNR=23 comp=Z,3.0nm,0.5s								
KURK	**Kurchatov**	**63.92**	**329**	P			**P**	**19 47 30.6**	**-1.4**
KURK						IAmb	IAmb	19 47 32.5	
	comp=Z,5.1nm,0.8s								
KKAR	**Karatay Array**	**65.01**	**318**	P			**P**	**19 47 37.4**	**-1.9**
BVAR	**Borovoye Array**	**69.48**	**328**	P			**P**	**19 48 05.9**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=134,slow=8.5,SNR=12 comp=Z,1.5nm,0.7s								
AB31	**Akbulak array**	**74.07**	**321**	P			**P**	**19 48 33.8**	**-1.2**
ABKAR	**Akbulak array**	**74.07**	**321**	P			**P**	**19 48 33.7**	**-1.3**
ARTI	**Arti**	**77.19**	**328**	P			**P**	**19 48 50.9**	**-1.8**
ARTI						IAmb	IAmb	19 48 51.9	
	comp=Z,6.3nm,0.8s								
VNDA	**Vanda**	**80.59**	**173**	P			**P**	**19 49 10.8**	**-0.1**
VNDA	**Vanda**	**80.59**	**173**	P			**P**	**19 49 10.2**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=332,slow=5.5,SNR=6.8 comp=Z,1.4nm,0.8s								
L16K	**Owhat River**	**81.94**	**28**	P			**P**	**19 49 19.4**	**+1.1**
L16K						IAmb	IAmb	19 49 21.5	
	comp=Z,8.7nm,1.4s								
M16K	**Timber Creek**	**82.02**	**28**	P			**P**	**19 49 18.6**	**-0.3**
K17K	**Iditarod**	**82.70**	**27**				**P**	**19 49 23.4**	**+1.0**
KBZ	**Khabaz**	**84.58**	**314**	P			**P**	**19 49 31.6**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=176,slow=10,SNR=3.6 comp=Z,2.1nm,0.9s								
KDAK	**Kodiak Island**	**84.68**	**32**	P			**P**	**19 49 33.0**	**+0.4**
GURO	**Guroymak-BITLI**	**84.91**	**308**	P			**P**	**19 49 34.0**	**-0.4**
GURO						IAmb	IAmb	19 49 35.5	
	comp=Z,8.0nm,0.9s								
QSPA	**South Pole Qui**	**90.71**	**180**	P			**P**	**19 50 02.6**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=135,slow=0.9,SNR=9.7 comp=Z,0.6nm,0.5s								
TORD	**Torodi Ar. Bea**	**123.23**	**286**	PKP			**PKPdf**	**19 55 56.4**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=44,slow=3.1,SNR=6.3								

TAP 29 19:42:04.5, 24°.69N×121°.88E, h65km, ML2.4, 2C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.08**	**200**	*e*P			Pn	19 42 14.8	+0.6
TWC				*e*S			Sn	19 42 22.1	+0.9
ESAO	**Su ao**	**0.11**	**196**	*e*P			Pn	19 42 14.9	+0.6
ESAO				*e*S			Sn	19 42 22.4	+1.1
EWUT	**Wuta**	**0.26**	**201**	*e*P			Pn	19 42 15.6	+0.7
EWUT				*e*S			Sn	19 42 23.6	+1.1
FUSB	**Fushanzhiwuyua**	**0.28**	**286**	*e*P			Pn	19 42 15.6	+0.5
FUSB				*e*S			Sn	19 42 22.3	-0.6
ENA	**Nanau**	**0.29**	**206**	*i* P			Pn	19 42 15.9	+0.8
ENA				*i* S			Sn	19 42 24.2	+1.4
ENTT	**Nioudou**	**0.29**	**261**	P			Pn	19 42 16.1	+0.9
TIPB	**Shuangxi**	**0.29**	**350**	*i* P			Pn	19 42 15.3	+0.1
TIPB				*i* S			Sn	19 42 22.8	-0.1
TWB1	**Santiao Chiao**	**0.34**	**17**	*e*P			Pn	19 42 15.3	-0.1
TWB1				*e*S			Sn	19 42 23.1	-0.4
LATG	**Datong**	**0.35**	**245**	*e*P			Pn	19 42 16.7	+0.9
LATG				*e*S			Sn	19 42 25.3	+1.4
NWLT	**Wulai**	**0.35**	**285**	*e*P			Pn	19 42 16.0	+0.3
NWLT				*e*S			Sn	19 42 24.3	+0.5
SXI1	**Grass Mountain**	**0.41**	**360**	*e*P			Pn	19 42 16.1	-0.1
SXI1				*e*S			Sn	19 42 24.7	0.0
EOS2	**EOS2**	**0.42**	**130**	*e*P			Pn	19 42 17.1	+1.1
EOS2				*e*S			Sn	19 42 26.3	+1.9
YHNB	**Yeheng**	**0.46**	**268**	⇑P			Pn	19 42 17.2	+0.6
YHNB				*e*S			Sn	19 42 26.3	+0.9
YHNB	**Yeheng**	**0.46**	**268**	P			Pn	19 42 16.8	+0.2
NSK	**Sanguang**	**0.47**	**269**	⇑P			Pn	19 42 17.2	+0.5
NSK				*e*S			Sn	19 42 26.4	+0.7
YM01	**YM01**	**0.54**	**329**	*e*P			Pn	19 42 17.4	+0.1
YM01				*e*S			Sn	19 42 26.5	-0.3
ZUZH	**Zhuzihu**	**0.56**	**327**	*e*P			Pn	19 42 17.6	0.0
ZUZH				*e*S			Sn	19 42 26.8	-0.5
EOS3	**EOS3**	**0.56**	**135**	*e*P			Pn	19 42 18.6	+1.1
YM08	**YM08**	**0.56**	**332**	*e*P			Pn	19 42 17.5	-0.2
YM08				*e*S			Sn	19 42 26.4	-0.9
NTST	**Danshui**	**0.62**	**321**	*e*P			Pn	19 42 18.6	+0.4
NTST				*e*S			Sn	19 42 29.0	+0.9
KSHI	**Guanxi Townshi**	**0.65**	**278**	*e*P			Pn	19 42 19.4	+0.9
KSHI				*e*S			Sn	19 42 30.7	+1.9
EOS4	**EOS4**	**0.69**	**144**	*e*S			Sn	19 42 30.0	+1.1
NFF	**Wufeng Townshi**	**0.69**	**266**	*e*P			Pn	19 42 19.6	+0.5
NFF				*e*S			Sn	19 42 30.6	+0.8
FUSS	**Fushou**	**0.72**	**233**	*e*P			Pn	19 42 21.1	+1.4
WHF	**Hehuan Shan**	**0.78**	**226**	*e*P			Pn	19 42 21.7	+1.2
LIOB	**Emei**	**0.79**	**267**	*e*P			Pn	19 42 20.9	+0.7
LIOB				*e*S			Sn	19 42 32.6	+0.9
NSTT	**Nanjuang**	**0.80**	**266**	*e*P			Pn	19 42 20.9	+0.6
NSTT				*e*S			Sn	19 42 33.0	+1.0
WHP	**Taichung City**	**0.94**	**245**	*e*P			Pn	19 42 23.5	+1.3
WHP				*e*S			Sn	19 42 36.7	+1.5
WUSB	**Renai**	**0.98**	**225**	*e*P			Pn	19 42 23.6	+0.9
WARBT	**Fenglin Townsh**	**1.06**	**205**	*e*P			Pn	19 42 24.7	+1.0
WHYT	**Xinyi Township**	**1.36**	**224**	*e*P			Pn	19 42 29.4	+1.9
WHYT				*e*S			Sn	19 42 47.1	+2.3
ALS	**Alishan**	**1.53**	**220**	*e*P			Pn	19 42 31.2	+1.2

*SDD **29** 19:44:37.1±2.1, 19°.49N×70°.30W, h23km±12km, MD3.2, ML2.7, MW3.2*
*OSPL **29** 19:44:38.6±2.0, 19°.43N×70°.29W, h11km±11km, ML2.2*

ISC 29 19:44:37.1±1.0, **19°.44N**±0°.05×**70°.28W**±0°.03, **h25**km±7km, **n20**, σ0ᵍ**89**/26, **5C-5D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SFDR	**San Fco. de Ma**	**0.15**	**168**	*e*Pg			**Pb**	**19 44 41.6**	**-0.6**
SFDR				⇑*e*Sg			**Sb**	**19 44 46.6**	**+0.9**
SFDR						IAML		19 44 46.7	
	comp=N,4μm,0.1s								
SFDR						IAML		19 44 46.9	
	comp=E,6μm,0.7s								
NADR	**Nagua**	**0.40**	**102**	⇓*e*Pg			**Pb**	**19 44 44.8**	**-0.9**
NADR				⇑*e*Sg			**Sn**	**19 44 52.8**	**-1.3**
NADR						IAML		19 44 53.8	
	comp=E,753nm,0.5s								
NADR						IAML		19 44 53.9	
	comp=N,976nm,0.5s								
SC01	**Santiago de lo**	**0.43**	**269**	*i* P			**Pb**	**19 44 45.2**	**-0.9**
SC01				*e*S			**Sb**	**19 44 53.0**	**+0.7**
SC01	**Santiago de lo**	**0.43**	**269**	*e*Pg			**Pb**	**19 44 45.4**	**-0.7**
SC01						IAML		19 44 54.0	
	comp=N,347nm,1.1s								
SC01						IAML		19 45 00.7	
	comp=E,353nm,0.5s								
DR08	**Loma La Naviza**	**0.53**	**153**	*e*Pg			**Pb**	**19 44 47.0**	**-0.8**
DR08				⇑*e*Sg			**Sb**	**19 44 55.6**	**+0.5**
DR08						IAML		19 44 56.0	
	comp=E,9μm,0.1s								
DR08						IAML		19 44 56.3	
	comp=N,9μm,0.1s								
ABDR	**Alto Bandera**	**0.70**	**208**	⇑*e*Pg			**Pb**	**19 44 50.0**	**-1.0**
ABDR						IAML		19 45 04.1	
	comp=E,164nm,0.3s								
ABDR						IAML		19 45 06.7	
	comp=N,119nm,0.2s								
LUDR	**Luperon**	**0.79**	**306**			IAML		19 45 09.6	
	comp=E,439nm,0.3s								
MADR	**Mao Valverde**	**0.79**	**280**			IAML		19 45 09.9	
	comp=N,605nm,0.7s								
LOPP1	**Punta Rusia, P**	**0.96**	**296**	*i* P			**Pn**	**19 44 55.5**	**+0.5**
LOPP1						IAML		19 45 16.1	
	comp=Z,62nm,0.5s								
SDD	**Santo Domingo**	**1.03**	**161**	*e*S			**Sb**	**19 45 09.9**	**+0.5**
SMDR	**Samana, DR**	**1.04**	**98**	⇓*e*Pg			**Pb**	**19 44 55.2**	**-1.2**
SMDR				⇑*e*Sg			**Sn**	**19 45 11.0**	**+1.3**
SMDR						IAML		19 45 11.3	
	comp=E,152nm,0.4s								
SMDR						IAML		19 45 18.5	
	comp=N,98nm,0.3s								
BANI	**BANI**	**1.04**	**184**	*e*Pg			**Pn**	**19 44 56.5**	**+0.3**
BANI						IAML		19 45 13.6	
	comp=E,191nm,0.2s								
BANI						IAML		19 45 53.7	
	comp=N,803nm,1.4s								
SDDR	**Presa de Saban**	**1.06**	**245**	*i* P			**Pn**	**19 44 55.8**	**-0.6**
SDDR				*e*S			**Sb**	**19 45 09.9**	**-0.4**
SDDR						IAML		19 45 13.5	
	comp=Z,32nm,0.9s								
SDDR	**Presa de Saban**	**1.06**	**245**	*e*Pg			**Pn**	**19 44 55.7**	**-0.6**
SDDR				⇓*e*Sg			**Sn**	**19 45 11.0**	**+0.7**
SDDR						IAML		19 45 12.6	
	comp=E,50nm,0.2s								
SDDR						IAML		19 45 14.2	
	comp=N,66nm,0.5s								
MIDR	**Miches**	**1.24**	**111**	⇓*e*Pg			**Pn**	**19 44 58.8**	**0.0**
MIDR				⇓*e*Sg			**Sb**	**19 45 17.5**	**+2.0**
MIDR						IAML		19 45 18.1	
	comp=N,43nm,0.1s								
MIDR						IAML		19 45 18.1	
	comp=N,43nm,0.4s								
MIDR						IAML		19 45 21.3	
	comp=E,49nm,0.9s								
LODU1	**El Espartillar**	**1.56**	**227**	*i* P			**Pb**	**19 45 05.4**	**0.0**
LODU1						IAML		19 45 32.4	
	comp=Z,41nm,0.4s								
PODR	**Polo**	**1.58**	**217**	*i* P			**Pb**	**19 45 05.3**	**-0.5**
PODR	**Polo**	**1.58**	**217**	*e*Pg			**Pb**	**19 45 05.5**	**-0.3**
PODR						IAML		19 45 35.6	
	comp=E,60nm,0.8s								
PODR						IAML		19 45 38.1	
	comp=N,51nm,0.6s								
SADR	**Isla Saona**	**1.88**	**131**	*e*Pg			**Pb**	**19 45 09.9**	**-0.8**
SADR						IAML		19 45 46.7	
	comp=N,71nm,0.7s								
SADR						IAML		19 45 46.7	
	comp=N,71nm,0.7s								
SADR						IAML		19 45 51.0	
	comp=E,42nm,0.8s								
GRTK	**Grand Turk**	**2.22**	**339**	*e*S			**Sn**	**19 45 39.3**	**+0.5**
GRTK						IAML		19 45 45.8	
	comp=Z,51nm,1.8s								

*IDC **29** 20:19:28.2±1.1, 12°.45N×48°.10E, h0km, mb3.8/13, mbtmp3.8/13, ML2.5/1, MS3.5/31, Error ellipse: s-maj=26.8km s-min=19.7km az=7.0*
*NEIC **29** 20:19:28.2±2.2, 12°.3N±0°.1×48°.0E±0°.1, h10km±2km, mb4.2/25, Error ellipse: s-maj=22.3km s-min=16.2km az=141.0*

ISC 29 20:19:28.7±0.8, **12°.4N**±0°.1×**48°.00E**±0°.09, **h12**km, **n73**, σ1ᵍ**48**/47, **mb4.2**/25, **MS3.5**/31, **Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**5.11**	**261**				**Pn**	**20 20 45.1**	**-0.1**
ATD	**Arta Tunnel**	**5.11**	**261**	Pn			**Pn**	**20 20 49.4**	**+4.2**
	0.2nm,0.3s,baz=32,slow=10,SNR=7.4								
ATD						LR	LR	20 22 22.9	
	comp=Z,21nm,19.6s,baz=69,slow=34								
FURI	**Furi**	**9.79**	**250**	Pn			**Pn**	**20 21 47.8**	**-2.0**
RAYN	**Ar Rayn**	**11.34**	**348**	Pn			**Pn**	**20 22 10.1**	**-0.6**
UOSS	**Minazif**	**14.72**	**31**				**Pn**	**20 22 56.5**	**-0.4**
LODK	**Lodwar**	**15.34**	**236**				**Pn**	**20 23 01.4**	**-4.0**
MMAI	**Mount Meron Ar**	**23.56**	**333**	P			**P**	**20 24 40.7**	**+1.4**
	0.3nm,0.3s,baz=141,slow=7.4,SNR=2.8 0.3nm,0.3s								
MARD	**Mardin**	**25.66**	**347**	P			**P**	**20 24 58.6**	**-0.1**
MARD						IAmb	IAmb	20 25 06.7	
	comp=Z,6.4nm,0.9s								
GEVA	**Gevas**	**26.20**	**351**	P			**P**	**20 25 02.3**	**-1.3**
GEVA						IAmb	IAmb	20 25 13.8	
	comp=Z,7.3nm,0.9s								
GAZ	**Gaziantep**	**26.52**	**340**	P			**P**	**20 25 03.6**	**-2.8**
GAZ						IAmb	IAmb	20 25 37.3	
	comp=Z,4.6nm,1.0s								
GURO	**Guroymak-BITLI**	**26.61**	**350**	P			**P**	**20 25 07.8**	**+0.6**
GURO						IAmb	IAmb	20 25 47.5	
	comp=Z,2.7nm,0.5s								
GNI	**Garni**	**27.82**	**355**	LR			LR	20 37 44.1	
	comp=Z,117nm,19.7s,baz=174,slow=40								
BRTR	**Keskin Array B**	**30.05**	**338**	P			**P**	**20 25 38.5**	**+0.5**
	comp=Z,0.9nm,1.1s,baz=150,slow=6.1,SNR=3.9 comp=Z,0.9nm,1.1s								
OPO	**Ambohidratompo**	**30.76**	**181**	LR			LR	20 37 09.0	
	comp=Z,63nm,18.9s,baz=152,slow=34								
KBZ	**Khabaz**	**31.55**	**353**	LR			LR	20 38 53.9	
	comp=Z,75nm,18.3s,baz=163,slow=37								
SIMJ	**Simiganj**	**32.16**	**32**	P			**P**	**20 25 55.8**	**-0.8**
SIMJ						IAmb	IAmb	20 26 00.5	
	comp=Z,2.7nm,0.9s								
CHGR	**Chuyangaron**	**32.24**	**32**	P			**P**	**20 25 56.6**	**-0.6**
PALK	**Pallekele**	**32.61**	**96**	LR			LR	20 35 53.2	
	comp=Z,88nm,21.0s,baz=269,slow=30								
GAR	**Garm**	**33.10**	**33**	P			**P**	**20 26 06.0**	**+1.3**
LSZ	**Lusaka**	**33.75**	**216**	LR			LR	20 39 29.9	
	comp=Z,162nm,18.8s,baz=56,slow=36								
ARSB	**Arslanbob**	**36.19**	**33**	P			**P**	**20 26 33.0**	**+1.5**
KK31	**Karatay Array**	**36.29**	**28**	P			**P**	**20 26 30.8**	**-1.4**
KKAR	**Karatay Array**	**36.29**	**28**	P			**P**	**20 26 32.9**	**+0.7**
MATP	**Matopo**	**37.82**	**211**	LR			LR	20 42 34.6	
	comp=Z,152nm,19.7s,baz=34,slow=36								
AAK	**Ala-Archa**	**37.91**	**32**	P			**P**	**20 26 47.5**	**+1.3**
AAK	**Ala-Archa**	**37.91**	**32**	LR			LR	20 45 02.7	
	comp=Z,56nm,19.6s,baz=264,slow=41								
MLR	**Munt

YAK	**Yakutsk**	**75.26**	**29**	LR	LR	21 06 26.5	
	comp=Z,34nm,18.0s,baz=268,slow=38						
TIXI	**Tiksi**	**75.46**	**19**	LR	LR	21 08 15.6	
	comp=Z,34nm,19.0s,baz=302,slow=39						
JOW	**Kunigami**	**75.94**	**65**	LR	LR	21 03 52.0	
	comp=Z,26nm,20.6s,baz=141,slow=35						
USRK	**Ussuriysk Ar.**	**77.21**	**47**	LR	LR	21 08 53.6	
	comp=Z,20nm,20.8s,baz=254,slow=38						
MJAR	**Matsushiro Arr**	**82.92**	**54**	LR	LR	21 11 29.3	
	comp=Z,17nm,19.2s,baz=220,slow=38						
ASAJ	**Asahikawa**	**84.77**	**46**	LR	LR	21 13 19.5	
	comp=Z,17nm,19.0s,baz=328,slow=38						
MA2	**Magadan**	**85.80**	**30**	LR	LR	21 15 20.7	
	comp=Z,15nm,18.6s,baz=302,slow=39						
WRA	**Warramunga Arr**	**90.78**	**110**	P	**P**	**20 32 33.3 +0.8**	
	comp=Z,1.4nm,0.9s,baz=299,slow=3.9,SNR=6.8						
	comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**91.21**	**114**	P	**P**	**20 32 36.9 +2.4**	
	comp=Z,1.4nm,1.0s,baz=286,slow=3.9,SNR=4.2						
	comp=Z,1.4nm,1.0s						
INK	**Inuvik**	**99.53**	**1**	LR	LR	21 29 20.6	
	comp=Z,15nm,18.1s,baz=65,slow=42						

NEIC ***29*** *20:35:01.2±1.1,26°.8N±0°.1×125°.33E±0°.05,h199km±10km, mb4.1/11, Error ellipse: s-maj=20.7km s-min=1.8km az=161.0*

IDC ***29*** *20:35:02.4±2.5,26°.91N×125°.72E,h214km±32km,mb3.3/8, mbtmp3.9/9, Error ellipse: s-maj=56.1km s-min=14.4km az=64.0*

JMA ***29*** *20:35:02.4±0.4,27°.N×3°×12°5E±°,h189km,MV3.8/25,NW OFF MIYAKOJIMA ISLAND*

ISC 29 20:35:01.1±0.7,26°.75N±0°.08×125°.41E±0°.06,h204km±8km, n52,σ1°.44/70,mb4.0/14,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.30**	**109**	*i*	P		**Pn**	**20 35 34.3**	**+0.9**
JAGN	**Aguni-jima**	**1.65**	**95**	*i*	P		**Pn**	**20 35 37.1**	**+0.7**
JAGN					S		**S**	**20 36 03.1**	**-0.3**
JIKM	**Ikemajima**	**1.82**	**185**		P		**Pn**	**20 35 38.8**	**+0.7**
JIKM					S		**S**	**20 36 05.7**	**-0.8**
JIRB	**Irabujima**	**1.93**	**186**		P		**Pn**	**20 35 39.5**	**+0.4**
JIRB					S		**S**	**20 36 06.7**	**-1.6**
JOGS	**Gusukube**	**1.98**	**180**		P		**Pn**	**20 35 40.7**	**+1.0**
JOGS					S		**S**	**20 36 08.9**	**-0.4**
JMJ2	**Miyako jima3**	**2.00**	**182**		P		**Pn**	**20 35 40.8**	**+0.9**
JMJ2					S		**S**	**20 36 09.2**	**-0.5**
JTJ	**Tarama**	**2.19**	**197**		P		**Pn**	**20 35 42.3**	**+0.4**
JTJ					S		**S**	**20 36 11.5**	**-1.7**
JJT3	**Tamagusuku3**	**2.21**	**105**		P		**Pn**	**20 35 43.6**	**+1.5**
JJT3					S		**S**	**20 36 13.7**	**+0.3**
JIH	**Iheya**	**2.30**	**82**		P		**Pn**	**20 35 43.9**	**+0.9**
JIH					S		**S**	**20 36 14.1**	**-0.9**
JNTH	**Nagotoyohara**	**2.35**	**95**	*i*	P		**Pn**	**20 35 44.4**	**+0.9**
JNTH					S		**S**	**20 36 14.4**	**-1.6**
JISG	**Ishigakijimahi**	**2.37**	**205**	*i*	P		**Pn**	**20 35 44.0**	**+0.2**
JISG					S		**S**	**20 36 14.7**	**-1.8**
JOW	**Kunigami**	**2.56**	**88**		Pn		**Pn**	**20 35 46.5**	**+0.7**
JOW					Sn		**S**	**20 36 17.3**	**-2.9**
JOW	**Kunigami**	**2.56**	**88**		P		**Pn**	**20 35 46.6**	**+0.7**
	266nm,0.3s,baz=111,slow=25,SNR=364								
JOW					S		**S**	**20 36 18.1**	**-2.1**
	175nm,0.2s,baz=87,slow=24,SNR=20								
JOW	**Kunigami**	**2.56**	**88**	*i*	P		**Pn**	**20 35 46.6**	**+0.7**
JOW					S		**S**	**20 36 18.2**	**-2.0**
JIJ	**Ishigaki jima**	**2.64**	**206**		P		**Pn**	**20 35 46.4**	**-0.4**
JIJ					S		**S**	**20 36 18.6**	**-3.2**
JYRO	**Yoronjima**	**2.73**	**84**	*i*	P		**Pn**	**20 35 48.4**	**+0.7**
JYRO					S		**S**	**20 36 21.2**	**-2.3**
JKRS	**Kuro-shima**	**2.80**	**207**	*e*	P		**Pn**	**20 35 48.5**	**-0.2**
JKRS					S		**S**	**20 36 23.3**	**-1.9**
JOKE	**Okinoerabujima**	**2.88**	**77**	*i*	P		**Pn**	**20 35 49.9**	**+0.3**
HATJ	**Hateruma jima**	**3.05**	**209**		S		**S**	**20 36 28.3**	**-2.1**
YOJ	**Yonaguni jima**	**3.14**	**224**		Pn		**Pn**	**20 35 53.0**	**+0.3**
JTK	**Tokunoshima**	**3.32**	**71**		P		**Pn**	**20 35 54.6**	**0.0**
JAMN	**Amaminishikomi**	**3.66**	**65**		P		**Pn**	**20 35 58.6**	**-0.2**
JAMN					S		**S**	**20 36 41.4**	**-2.1**
JAM	**Amami Oshima**	**4.07**	**65**		S		**S**	**20 36 49.7**	**-3.0**
NACB	**Ninganchiao**	**4.30**	**234**		Pn		**Pn**	**20 36 05.0**	**-1.7**
SSLB	**Suanglung**	**5.00**	**235**		Pn		**Pn**	**20 36 15.4**	**-0.2**
JMZ	**Minamidaito 2**	**5.30**	**99**		Pn		**Pn**	**20 36 20.0**	**+0.6**
JMZ					Sn		**S**	**20 37 15.7**	**-5.1**
JMZ	**Minamidaito 2**	**5.30**	**99**		P		**Pn**	**20 36 19.8**	**+0.4**
JKDJ	**Kitadaitoujima**	**5.34**	**97**	*e*	S		**S**	**20 37 18.4**	**-3.4**
SONM	**Songino Array**	**25.79**	**330**		P		**P**	**20 40 15.8**	**+2.4**
	1.8nm,0.4s,baz=148,slow=11,SNR=12								
	1.8nm,0.4s								
MKAR	**Makanchi Array**	**39.31**	**312**		P		**P**	**20 42 10.7**	**+0.4**
MKAR	**Makanchi Array**	**39.31**	**312**		P		**P**	**20 42 10.5**	**+0.2**
	1.6nm,0.4s,baz=98,slow=10,SNR=35								
	1.6nm,0.4s								
KURK	**Kurchatov**	**42.71**	**317**		P		**P**	**20 42 37.6**	**-0.3**
KURBB	**Kurchatov Arra**	**42.74**	**317**		P		**P**	**20 42 38.3**	**+0.2**
	0.4nm,0.4s,baz=108,slow=9.0,SNR=8.3								
	0.4nm,0.4s								
WB0	**Warramunga Arr**	**47.05**	**168**		P		**P**	**20 43 12.2**	**-0.2**
WB0					IAmb		IAmb	20 43 52.2	
	comp=Z,11nm,1.5s								
WRA	**Warramunga Arr**	**47.22**	**169**		P		**P**	**20 43 14.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=350,slow=8.8,SNR=5.5								
	comp=Z,0.5nm,0.5s								
WR8	**Warramunga Arr**	**47.26**	**168**		P		**P**	**20 43 14.4**	**+0.4**
WR8					IAmb		IAmb	20 43 27.9	
	comp=Z,14nm,1.5s								
ASAR	**Alice Springs**	**50.79**	**170**		P		**P**	**20 43 42.4**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=352,slow=7.5,SNR=5.0								
	comp=Z,0.3nm,0.8s								
SPIA	**Saint Paul Isl**	**54.10**	**37**		P		**P**	**20 44 04.2**	**-0.4**
AB31	**Akbulak array**	**54.45**	**313**		P		**P**	**20 44 06.8**	**-0.4**
ABKAR	**Akbulak array**	**54.45**	**313**		P		**P**	**20 44 07.2**	**-0.1**
F15K	**North Star Dit**	**57.69**	**27**		P		**P**	**20 44 29.1**	**-0.8**
F15K					IAmb		IAmb	20 45 12.9	
	comp=Z,5.6nm,1.1s								
G18K	**Tagagawik**	**60.17**	**27**		P		**P**	**20 44 47.4**	**+0.4**
G18K					IAmb		IAmb	20 45 13.4	
	comp=Z,7.2nm,1.5s								
I20K	**Naaghedeneel**	**61.95**	**29**		P		**P**	**20 44 59.2**	**+0.3**
H23K	**Yukon River**	**63.91**	**27**		P		**P**	**20 45 12.8**	**+0.9**
H23K					IAmb		IAmb	20 45 27.7	
	comp=Z,5.1nm,1.4s								
BMAR	**Burnt Mountain**	**65.61**	**25**		P		**P**	**20 45 24.6**	**+1.7**
BCAR	**Beaver Creek A**	**67.75**	**29**		P		**P**	**20 45 38.1**	**+1.6**
ARCES	**ARCESS Array B**	**68.59**	**338**		P		**P**	**20 45 41.2**	**-0.3**
ARCES					IAmb		IAmb	20 46 21.4	
	comp=Z,4.9nm,1.1s								
ARCES	**ARCESS Array B**	**68.59**	**338**		P		**P**	**20 45 41.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=66,slow=7.1,SNR=3.8								
	comp=Z,0.8nm,0.6s								
I30M	**Mount Dempster**	**69.38**	**26**		P		**P**	**20 45 46.9**	**+0.3**
I30M					IAmb		IAmb	20 45 50.3	
	comp=Z,5.7nm,1.5s								
FINES	**FINESS Array B**	**71.16**	**330**		P		**P**	**20 45 57.7**	**+0.5**
FINES	**FINESS Array B**	**71.16**	**330**		P		**P**	**20 45 57.6**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=35,slow=5.1,SNR=1.7								
	comp=Z,1.2nm,0.9s								
HFS	**Hagfors**	**77.17**	**332**		P		**P**	**20 46 31.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=64,slow=3.4,SNR=2.0								
	comp=Z,1.2nm,0.7s								

AUST 29 21:10:12.7±0.7,18°S±5°×12°0E±°,h10km,mb4.1/2, ML3.1/3,ML3.1/5,Error ellipse: s-maj=12.2km s-min=5.9km az=149.4,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.50**	**124**		P		Pn	21 10 39.9	+0.2
CAAN					S		Sb	21 11 00.0	+0.2
AUBRM	**Broome Senior**	**1.99**	**77**		P		Pn	21 10 46.9	+0.5
AUBRM					S		Sn	21 11 10.8	-0.5
MBWA	**Marble Bar**	**2.76**	**189**		P		Pn	21 10 57.7	+0.7
MBWA					S		Sn	21 11 29.8	-0.7
PSA00	**Pilbara Seismi**	**3.15**	**186**		P		Pn	21 11 02.9	+0.4
PSA00					S		Sn	21 11 39.0	-1.2
FITZ	**Fitzroy Crossi**	**5.18**	**87**		P		Pn	21 11 26.5	-3.8
GIRL	**Giralia**	**6.99**	**232**		P		Pn	21 11 55.0	-0.2
	comp=Z,152µmcomp=Z,38nm,2.0s,comp=Z,0.1nm								
GIRL					S		Sn	21 13 09.7	-5.2
MEEK	**Meekatharra**	**8.31**	**190**		P		Pn	21 12 13.4	+0.1
	comp=Z,0.1nmcomp=Z,22nm,2.1s								

IDC ***29*** *21:13:19.5±1.9,9°.09S×124°.36E,h0km,mb3.3/1, mbtmp3.7/4,ML3.8/3,MS3.9/1,Error ellipse: s-maj=34.4km s-min=17.9km az=113.0*

DJA ***29*** *21:13:28.2±0.8,9°S±4°×12°4E±°,h75km±9km,M3.5/6, MLv3.5/6*

ISC 29 21:13:27.0±0.9,9°.57S±0°.07×124°.03E±0°.06,h66km,n18, σ3°18/24,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.30**	**129**		P		**Pn**	**21 13 40.9**	**+3.0**
SOEI	**Soe**	**0.30**	**129**		P		**Pn**	**21 13 41.2**	**+3.3**
SOEI					S		**Sn**	**21 13 52.0**	**+6.2**
BATI	**Baumata**	**0.73**	**210**		Pg		**Pn**	**21 13 45.9**	**+3.8**
	36nm,0.3s,baz=326,slow=1.8,SNR=71								
BATI					Lg		Lg	21 14 00.6	
	149nm,0.3s,baz=328,slow=23,SNR=15								
BATI	**Baumata**	**0.73**	**210**		P		**Pn**	**21 13 46.1**	**+4.0**
BATI					S		**Sn**	**21 13 59.0**	**+5.8**
MMRI	**Maumere**	**2.00**	**297**		P		**Pn**	**21 14 00.5**	**+1.9**
MMRI	**Maumere**	**2.00**	**297**		S		**Sn**	**21 14 24.4**	**+1.7**
MMRI	**Maumere**	**2.00**	**297**		P		**Pn**	**21 14 00.1**	**+1.5**
MMRI					S		**Sn**	**21 14 24.2**	**+1.5**
EDFI	**Ende, Flores**	**2.45**	**289**		P		**Pn**	**21 14 05.7**	**+0.8**
EDFI					S		**Sn**	**21 14 34.5**	**+0.7**
BASI	**Baing, Sumba**	**3.47**	**259**		P		**Pn**	**21 14 19.7**	**+1.1**
BASI					S		**Sn**	**21 15 00.7**	**+2.2**
WSI	**Waingapu**	**3.69**	**268**		P		**Pn**	**21 14 22.4**	**+0.8**
PLAI	**Plampang**	**6.22**	**276**		P		**Pn**	**21 14 58.7**	**+2.4**
FITZ	**Fitzroy Crossi**	**8.62**	**170**		Pn		**Pn**	**21 15 30.6**	**+1.5**
	1.3nm,0.3s,baz=15,slow=10,SNR=16								
FITZ					Sn		**Sn**	**21 17 01.5**	**-3.4**
	3.6nm,0.3s,baz=223,slow=16,SNR=13								
	2.7nm,0.3s								
FITZ	**Fitzroy Crossi**	**8.62**	**170**		P		**Pn**	**21 15 30.1**	**+1.0**
KDU	**Kakadu**	**8.84**	**111**		P		**Pn**	**21 15 34.2**	**+2.0**
WRA	**Warramunga Arr**	**14.33**	**137**		Pn		**Pn**	**21 16 44.6**	**-2.1**
	0.3nm,0.3s,baz=315,slow=15,SNR=10								
WRA					Sn		Sn	21 19 14.9	-10
	0.9nm,0.3s,baz=311,slow=23,SNR=11								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**16.90**	**147**		P		**P**	**21 17 20.9**	**+0.4**
	0.3nm,0.3s,baz=319,slow=11,SNR=22								
ASAR					S		**Sn**	**21 20 20.1**	**-6.5**
	1.0nm,0.5s,baz=324,slow=23,SNR=7.5								
	1.7nm,0.6s								
RAO	**Raoul Island**	**57.56**	**119**	LR		LR		21 46 46.1	
	comp=Z,102nm,19.9s,baz=138,slow=35								
MKAR	**Makanchi Array**	**67.32**	**330**		P		**P**	**21 24 14.2**	**-0.8**
	0.2nm,0.5s,baz=146,slow=8.0,SNR=1.5								
	0.2nm,0.5s								

PRU ***29*** *21:16:35.9,47°.08N×9°.57E,h1km,Schruns*

BUG ***29*** *21:16:39.5±1.2,46°.98N×9°.97E,h3km±4km,MD2.5/7, ML2.3/7*

VIE ***29*** *21:16:39.9±0.2,47°.07N×9°.94E,h3km±9km,mb1.5/7, ml1.9/11,Error ellipse: s-maj=1.0km s-min=0.8km az=163.0 2 km SE of Schruns*

ZUR ***29*** *21:16:39.5,47°.07N×9°.94E,h-1km±1km,MLh1.8/31,Error ellipse: s-maj=2466.0km s-min=659.9km az=226.0*

LDG ***29*** *21:16:40.1±0.1,47°.04N×9°.98E,h2km,Ml2.1/11,Error ellipse: s-maj=2.7km s-min=2.1km az=60.0*

ROM ***29*** *21:16:40.2±0.3,47°.02N±0°.01×9°.89E±0°.01,h10km±1km, ML1.2/12,Error ellipse: s-maj=1.4km s-min=0.7km az=210.0*

BGR ***29*** *21:16:41.1±0.4,47°.07N×9°.93E,h10km,ML1.8/15,Error ellipse: s-maj=4.4km s-min=2.2km az=170.0*

ISC 29 21:16:40.1±0.9,47°.06N±0°.02×9°.92E±0°.01,h9km±7km,n70, σ0°79/128,4C-4D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**0.23**	**353**	⇓	Pg		**Pg**	**21 16 44.3**	**-0.6**
DAVA					Sg		**Sg**	**21 16 47.6**	**-0.4**
DAVA	**Damuels**	**0.23**	**353**	*i*	Pg		**Pg**	**21 16 44.3**	**-0.6**
	4.4nm,0.1s,SNR=48								
DAVA				*i*	Sg		**Sg**	**21 16 47.6**	**-0.4**
	73nm,0.1s								
STRW	**Triesenberg, W**	**0.26**	**283**	⇓	Pg		**Pg**	**21 16 45.0**	**-0.3**
DAVOX	**Davos/Dischmat**	**0.28**	**185**	⇓	Pg		**Pg**	**21 16 45.8**	**-0.1**
DAVOX					Sg		**Sg**	**21 16 50.0**	**+0.4**
DAVOX	**Davos/Dischmat**	**0.28**	**185**		P		**Pg**	**21 16 45.8**	**-0.1**
DAVOX					S		**Sg**	**21 16 50.0**	**+0.4**
DAVOX					AML		AML		
	comp=N,51µm,0.3s								
DAVOX					AML		AML		
	comp=E,104µm,0.2s								
SBUA2	**Buchs, Altendo**	**0.32**	**288**		Pg		**Pg**	**21 16 46.2**	**-0.3**
SMELS	**Mels Schulhaus**	**0.34**	**268**	⇓	Pg		**Pg**	**21 16 46.7**	**-0.1**
SARD	**Ardez Schule,**	**0.35**	**145**		Pg		**Pg**	**21 16 46.7**	**-0.3**
SARD					Sg		**Sg**	**21 16 52.0**	**+0.4**
PLONS	**Plons/SG**	**0.37**	**268**	⇑	Pg		**Pg**	**21 16 47.1**	**-0.3**
PLONS					Sg		**Sg**	**21 16 53.0**	**+0.7**
PLONS	**Plons/SG**	**0.37**	**268**	*e*	Pg		**Pg**	**21 16 47.2**	**-0.3**
	SNR=78								
PLONS				*e*	Sg		**Sg**	**21 16 53.0**	**+0.7**
	SNR=6.8								
PLONS	**Plons/SG**	**0.37**	**268**	⇑	P		**Pg**	**21 16 47.2**	**-0.3**
PLONS					S		**Sg**	**21 16 52.9**	**+0.7**
PLONS					AML		AML		
	comp=E,68µm,0.1s								
PLONS					AML		AML		
	comp=N,82µm,0.9s								
LIENZ	**Kamor/St.Gall**	**0.37**	**309**		Sg		**Sg**	**21 16 53.5**	**+1.0**
A105A	**Obersdorf, Sch**	**0.43**	**36**		Pg		**Pg**	**21 16 48.0**	**-0.6**
A105A					Sg		**Sg**	**21 16 54.2**	**-0.1**
OBER	**Oberstdorf**	**0.43**	**36**	*e*	Pg		**Pg**	**21 16 48.4**	**-0.2**
	SNR=3.3								
OBER				*e*	Sg		**Sg**	**21 16 54.6**	**+0.3**
	SNR=8.1								
SGT05	**Eggersriet**	**0.49**	**321**		Pg		**Pb**	**21 16 50.7**	**-0.4**
SGT05					Sg		**Sb**	**21 16 58.0**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**0.50**	**152**	⇑	Pg		**Pg**	**21 16 49.7**	**-0.2**
FUORN	**Ofenpass-Fuorn**	**0.50**	**152**		P		**Pg**	**21 16 49.7**	**-0.2**
FUORN					S		**Sg**	**21 16 57.3**	**+0.7**
FUORN					AML		AML		
	comp=E,41µm,0.3s								
FUORN					AML		AML		
	comp=N,39µm,1.1s								
FUORN					AML		AML		
	comp=E,41µm,1.7s								
FETA	**Feichten**	**0.56**	**94**	⇑	Pg		**Pg**	**21 16 49.9**	**-1.0**
FETA	**Feichten**	**0.56**	**94**	*i*	Pg		**Pg**	**21 16 50.2**	**-0.7**
	comp=E,0.9nm,0.1s,SNR=20								
FETA				*i*	Sg		**Sg**	**21 16 58.0**	**-0.3**
	comp=E,1.1nm,0.1s								
MOSI	**Grossmontoni**	**0.62**	**136**		P		**Pg**	**21 16 51.9**	**-0.3**
MOSI					S		**Sg**	**21 17 01.1**	**+0.7**
BERNI	**Berninapass**	**0.65**	**174**		P		**Pg**	**21 16 52.6**	**-0.1**
BERNI					S		**Sg**	**21 17 01.4**	**+0.1**
BERNI					AML		AML		
	comp=N,15µm,0.5s								
BERNI					AML		AML		
	comp=E,20µm,1.5s								
BERNI					AML		AML		
	comp=E,20µm,0.5s								
BERNI					AML		AML		
	comp=N,15µm,0.5s								
BRMO	**Bormio**	**0.66**	**152**		P		**Pg**	**21 16 52.5**	**-0.4**
BRMO					S		**Sg**	**21 17 01.5**	**-0.2**
BRMO					AML		AML		
	comp=N,22µm,1.4s								
BRMO					AML		AML		
	comp=E,23µm,0.3s								
BRMO					AML		AML		
	comp=N,22µm,0.6s								
TUE	**Stuetta**	**0.71**	**214**		P		**Pg**	**21 16 53.9**	**+0.1**
RETA	**Reutte**	**0.71**	**53**	*i*	Pg		**Pg**	**21 16 53.8**	**-0.1**
	comp=N,0.5nm,0.2s,SNR=4.8								
RETA				*i*	Sg		**Sg**	**21 17 03.1**	**-0.2**
	comp=N,0.6nm,0.1s,SNR=7.8								
WILA	**Wila**	**0.77**	**298**	*e*	Pg		**Pg**	**21 16 55.3**	**+0.2**
	SNR=1.6								
WILA				*e*	Sg		**Sb**	**21 17 06.6**	**+0.1**
	SNR=2.6								
A103D	**Ravensburg, Wa**	**0.78**	**341**		Pg		**Pn**	**21 16 57.6**	**+0.2**
A103D					Sg		**Sn**	**21 17 10.4**	**+1.2**
CARE	**Lago del Cares**	**0.83**	**140**		P		**Pg**	**21 16 55.6**	**-0.6**
CARE					S		**Sg**	**21 17 06.7**	**-0.3**
MOTA	**Moosalm**	**0.86**	**70**	*i*	Pg		**Pg**	**21 16 56.0**	**-0.7**
	comp=N,0.4nm,0.1s								
MOTA				*i*	Sg		**Sg**	**21 17 07.8**	**0.0**
	comp=N,0.7nm,0.1s								
WALHA	**Wallhausen, DE**	**0.88**	**322**	*e*	Pg		**Pb**	**21 16 57.9**	**+0.4**
	SNR=1.5								
WALHA				*e*	Sg		**Sb**	**21 17 10.0**	**+0.6**
	SNR=3.2								
SQTA	**Sankt Quirin**	**0.90**	**79**	*i*	Pg		**Pg**	**21 16 56.2**	**-1.1**
	comp=N,1.3nm,0.1s,SNR=6.7								
SQTA				*e*	Sg		**Sb**	**21 17 10.1**	**+0.1**
	comp=N,3.4nm,0.3s								
ROSI	**Rosskopf**	**1.03**	**97**		P		**Pg**	**21 16 58.7**	**-1.3**
BNALP	**Bannalp**	**1.04**	**260**		P		**Pg**	**21 16 59.6**	**-0.5**
FUSIO	**Fusio**	**1.05**	**235**		P		**Pg**	**21 16 59.9**	**-0.6**
A104C	**Biberach, Ahle**	**1.08**	**351**		Pg		**Pn**	**21 17 01.8**	**+0.3**
EMING	**Emmingen-Lipti**	**1.11**	**319**	*e*	Pg		**Pn**	**21 17 02.5**	**+0.6**
	SNR=6.2								
EMING				*e*	Sg		**Sb**	**21 17 16.7**	**+0.7**
	SNR=3.3								
WATA	**Walderalm**	**1.16**	**76**	*i*	Pg		**Pb**	**21 17 02.3**	**-0.3**
	comp=N,0.6nm,0.1s								
WATA				*i*	Sg		**Sb**	**21 17 18.2**	**+0.5**
	comp=N,6.6nm,0.2s								
A102A	**Sigmaringen, J**	**1.18**	**336**		Pg		**Pn**	**21 17 03.3**	**+0.3**
A102A					Sg		**Sn**	**21 17 19.7**	**+0.5**
WTTA	**Wattenberg**	**1.19**	**80**	*i*	Pg		**Pg**	**21 17 02.0**	**-0.9**
	comp=N,1.2nm,0.1s								
WTTA				*i*	Sg		**Sn**	**21 17 20.0**	**+0.4**
	comp=N,1.0nm,0.2s								
WTTA	**Wattenberg**	**1.19**	**80**		P		**Pn**	**21 17 03.6**	**+0.5**
WTTA					S		**Sn**	**21 17 20.5**	**+0.9**
WTTA					AML		AML		
	comp=E,33µm,0.6s								
WTTA					AML		AML		
	comp=E,33µm,1.4s								
WTTA					AML		AML		
	comp=N,24µm,0.4s								
SLE	**Schleitheim**	**1.20**	**307**	*e*	Pg		**Pn**	**21 17 03.7**	**+0.6**
	SNR=4.2								
SLE				*e*	Sg		**Sn**	**21 17 20.2**	**+0.7**
	SNR=6.8								
A108A	**Ulm, Ringingen**	**1.29**	**357**		Pg		**Pg**	**21 17 04.3**	**-0.6**
A108A					Sg		**Sn**	**21 17 22.7**	**+0.9**
METMA	**Mettma DE**	**1.31**	**301**	*e*	Pg		**Pb**	**21 17 05.6**	**+0.7**
	SNR=3.8								
METMA				*e*	Sg		**Sn**	**21 17 23.0**	**+0.8**
	SNR=9.2								
SULZ	**Cheisacher**	**1.31**	**291**	*e*	Pg		**Pb**	**21 17 06.3**	**+1.2**
	SNR=1.6								
SULZ				*e*	Sg		**Sn**	**21 17 23.9**	**+1.5**
	SNR=10.0								
A101B	**Rottweil, Deis**	**1.41**	**319**		Pg		**Pg**	**21 17 07.2**	**+0.1**
A101B					Sg		**Sn**	**21 17 25.9**	**+1.2**
BERGE	**Lenzkirch (DE)**	**1.43**	**305**	*e*	Pg		**Pg**	**21 17 08.0**	**+0.4**
	SNR=3.2								
BERGE				*e*	Sg		**Sn**	**21 17 26.8**	**+1.4**
	SNR=7.5								
FUR	**Furstenfeldbru**	**1.44**	**39**	*e*	Pg		**Pg**	**21 17 07.6**	**-0.1**
	SNR=1.7								
FUR				*e*	Sg		**Sn**	**21 17 26.9**	**+1.5**
	SNR=1.6								
BALST	**Balsthal**	**1.54**	**281**	*e*	Pn		**Pn**	**21 17 08.2**	**+0.4**
	SNR=1.2								
BALST				*e*	Pg		**Pg**	**21 17 10.5**	**+0.8**
	SNR=2.5								
BALST				*e*	Sn		**Sn**	**21 17 28.0**	**0.0**
	SNR=1.7								
BALST				*e*	Sg		**Sg**	**21 17 30.8**	**+1.1**
	SNR=8.7								
A100A	**Rottenburg, We**	**1.54**	**335**		Pn		**Pn**	**21 17 07.6**	**-0.3**
A100A					Sg		**Sg**	**21 17 29.8**	**0.0**
BFO	**Black Forest**	**1.66**	**320**		Pn		**Pn**	**21 17 09.7**	**+0.1**
BFO					Sg		**Pg**	**21 17 12.0**	**0.0**
	SNR=2.2								
BFO					Sg		**Sg**	**21 17 33.5**	**-0.1**
	SNR=7.6								
NORI	**Noerdlinger Ri**	**1.73**	**16**	*e*	Sg		**Sg**	**21 17 35.5**	**-0.2**
	SNR=4.3								
ABTA	**Abfaltersbach**	**1.81**	**99**	*i*	Pg		**Pg**	**21 17 14.3**	**-0.4**
	comp=N,0.1nm,0.1s								
ABTA				*i*	Sg		**Sg**	**21 17 39.7**	**+1.5**
	comp=N,0.5nm,0.2s								
LESA	**Schwarzleotal**	**1.91**	**78**	*i*	Pg		**Pb**	**21 17 15.7**	**+0.5**
	com

CNGN	**Cerro Negro**	**0.39**	**23**	⇓P	Pn	21 48 43.4	+1.8
ROCN	**Rota Cerro Neg**	**0.39**	**16**	P	Pn	21 48 42.2	+0.6
ROCN				S	Sn	21 48 53.6	+1.5
SAPS	**Ciudad Sandino**	**0.44**	**86**	S	Sn	21 48 55.6	+2.9
SAPS	**Ciudad Sandino**	**0.44**	**86**	P	Pn	21 48 43.4	+1.5
PLRN	**Geotermica Pol**	**0.45**	**11**	⇓P	Pn	21 48 42.8	+0.8
PLRN				S	Sn	21 48 54.8	+2.0
ILCN	**San Idelfonso**	**0.46**	**19**	P	Pn	21 48 42.6	+0.5
ILCN				S	Sn	21 48 55.2	+2.3
MOM2	**El Cardon**	**0.47**	**51**	⇓P	Pn	21 48 43.4	+1.3
MOM2				S	Sn	21 48 55.9	+2.9
APQ3	**Volcan Apoyequ**	**0.49**	**74**	P	Pn	21 48 43.5	+1.2
APQ3				S	Sn	21 48 56.0	+2.7
MOM3	**MOM3**	**0.49**	**42**	P	Pn	21 48 44.8	+2.5
MOM3				S	Sn	21 48 56.4	+3.0
APQ2	**Apoyeque**	**0.52**	**84**	⇓P	Pn	21 48 43.7	+1.2
APQ2				S	Sn	21 48 56.3	+2.7
ABCN	**Banco Central**	**0.53**	**92**	P	Pn	21 48 43.9	+1.3
ABCN	**Banco Central**	**0.53**	**92**	S	Sn	21 48 56.6	+2.8
PKGN	**Cerro Pekin**	**0.54**	**347**	⇓P	Pn	21 48 44.1	+1.4
PKGN				S	Sn	21 48 57.4	+3.4
CRUN	**El Crucero**	**0.56**	**106**	⇓P	Pn	21 48 43.4	+0.4
ALLN	**Telcor Managua**	**0.57**	**88**	S	Sn	21 48 57.2	+2.8
ALLN	**Telcor Managua**	**0.57**	**88**	P	Pn	21 48 44.0	+1.1
UNAN	**Cigeo UNAN**	**0.57**	**93**	P	Pn	21 48 44.8	+1.9
UNAN				S	Sn	21 48 56.8	+2.4
TISN	**Laguna Tiscapa**	**0.57**	**90**	⇓P	Pn	21 48 43.9	+0.9
CRIN	**San Cristobal**	**0.59**	**341**	⇑P	Pn	21 48 44.5	+1.3
R4DEC	**Barrio San Lui**	**0.59**	**89**	S	Sn	21 48 57.3	+2.6
R4DEC	**Barrio San Lui**	**0.59**	**89**	P	Pn	21 48 44.0	+0.9
WILN	**Americas 2**	**0.65**	**88**	P	Pn	21 48 44.6	+1.0
SABN	**Sabanita**	**0.70**	**105**	P	Pn	21 48 44.3	+0.2
NANN	**Nandasmo**	**0.74**	**105**	P	Pn	21 48 45.5	+0.9
CSGN	**Cosiguina Volc**	**1.08**	**320**	⇓P	Pn	21 48 49.1	+0.8
CSGN				S	Sn	21 49 04.6	+0.7
BOAB	**BOACO BROADBAN**	**.20**	**75**	⇓P	Pn	21 48 50.3	+0.7
PACA	**Pacayal**	**1.95**	**313**	P	Pn	21 49 00.1	+0.8

*DJA **29** 21:53:12.4±0.6,8°S±3°×12°3E±°, h187km±7km, M3.9/11, mb4.1/1, MLv3.8/11*
*IDC **29** 21:53:12.3±1.3,8°.17S×122°.97E, h220km±14km, mb3.4/2, mbtmp4.0/5, Error ellipse: s-maj=61.3km s-min=19.0km az=66.0*
ISC 29 21:53:11.5±0.9, 8°.10S±0°.06×122°.95E±0°.07, h221km, n17, σ2s44/26, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.88**	**233**	P	**Pn**	**21 54 40.4**	**-2.3**
MMRI				S	**Sn**	**21 54 02.6**	**-4.5**
EDFI	**Ende, Flores**	**1.40**	**242**	P	**Pn**	**21 53 44.6**	**-1.8**
SOEI	**Soe**	**2.10**	**142**	P	**Pn**	**21 53 52.1**	**-0.7**
SOEI				S	**S**	**21 54 23.5**	**-1.4**
BATI	**Baumata**	**2.21**	**161**	P	**Pn**	**21 53 53.6**	**-0.2**
	496nm,0.3s,baz=0.7,slow=2.5,SNR=131						
BATI				S	**S**	**21 54 26.7**	**-0.1**
	498nm,0.5s,baz=331,slow=21,SNR=16						
BATI	**Baumata**	**2.21**	**161**	P	**Pn**	**21 53 53.9**	**+0.1**
BATI				S	**S**	**21 54 26.2**	**-0.6**
BBSI	**Bau Bau**	**2.62**	**352**	P	**Pn**	**21 53 57.1**	**-1.0**
WSI	**Waingapu**	**3.05**	**239**	P	**Pn**	**21 54 02.2**	**-0.6**
WSI				S	**S**	**21 54 40.5**	**-2.3**
BSSI	**Bau Bau, Buton**	**3.12**	**308**	P	Pn	21 54 00.3	-3.3
BASI	**Baing, Sumba**	**3.15**	**228**	P	**Pn**	**21 54 03.0**	**-1.0**
BASI				S	**S**	**21 54 43.2**	**-1.8**
WBSI	**Waikabubak, Su**	**3.83**	**246**	P	**Pn**	**21 54 11.6**	**-0.5**
WBSI				S	**S**	**21 54 57.9**	**-1.7**
BKSI	**Bulukumba**	**3.93**	**314**	P	**Pn**	**21 54 11.2**	**-2.1**
PLAI	**Plampang**	**5.17**	**262**	P	**Pn**	**21 54 28.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.28**	**165**	P	**Pn**	**21 55 33.8**	**-0.3**
	3.5nm,0.3s,baz=9.4,slow=12,SNR=37						
FITZ				S	**S**	**21 57 24.4**	**-5.0**
	14nm,0.6s,baz=157,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**16.14**	**138**	P	**P**	**21 56 46.3**	**+0.6**
	1.5nm,0.7s,baz=314,slow=12,SNR=11						
WRA				S	**S**	**21 59 40.8**	**-3.1**
	1.1nm,0.5s,baz=310,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**18.71**	**147**	P	**P**	**21 57 15.1**	**+1.3**
	4.8nm,0.7s,baz=326,slow=13,SNR=30						
ASAR				S	**S**	**22 00 41.8**	**+6.7**
	1.0nm,0.7s,baz=313,slow=22,SNR=6.0						
USRK	**Ussuriysk Ar.**	**52.69**	**8**	P	**P**	**22 02 03.6**	**+0.4**
	2.5nm,1.0s,baz=189,slow=7.0,SNR=4.6						
	2.5nm,1.0s						
MKAR	**Makanchi Array**	**65.52**	**331**	P	**P**	**22 03 33.1**	**+1.9**
	0.6nm,0.7s,baz=139,slow=8.2,SNR=4.3						
	0.6nm,0.7s						

IDC 29 21:55:26.9±4.2, 20°.78S×175°.66W, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=107.5km s-min=36.7km az=40.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.65**	**245**	P	P	22 03 01.4	+0.7
	1.8nm,0.7s,baz=96,slow=10,SNR=3.7						
	1.8nm,0.7s						
JAY	**Jayapura**	**46.22**	**287**	P	P	22 03 54.7	+0.5
	6.7nm,0.6s,baz=135,slow=6.4,SNR=4.3						
	6.7nm,0.6s						
ASAR	**Alice Springs**	**46.59**	**257**	P	P	22 03 56.9	-0.2
	1.8nm,0.8s,baz=90,slow=8.8,SNR=9.6						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**46.73**	**262**	P	P	22 03 57.3	-0.9
	1.4nm,0.8s,baz=98,slow=7.0,SNR=6.4						
	1.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.16**	**262**	P	P	22 05 01.1	-0.6
	1.3nm,0.8s,baz=117,slow=11,SNR=1.2						
	1.3nm,0.8s						
QSPA	**South Pole Qui**	**69.29**	**180**	P	P	22 06 35.9	0.0
	1.6nm,0.8s,baz=34,slow=1.2,SNR=6.4						
	1.6nm,0.8s						

*IDC **29** 22:01:45.1±2.7, 0°.77S×128°.74E, h0km, mb3.4/2, mbtmp3.5/3, ML3.8/1, MS3.3/1, Error ellipse: s-maj=197.1km s-min=28.4km az=68.0*
*DJA **29** 22:01:49.5±0.9, 1°S±2°×12°8E±°, h16km±6km, M4.1/13, mB4.8/1, mb4.2/2, MLv4.0/13, Mw(mB)4.0/1*
ISC 29 22:01:47.3±3.8, 0°.77S±0°.07×128°.50E±0°.05, h12km±29km, n12, σ1s38/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.91**	**323**	P	**Pb**	**22 02 22.5**	**+0.3**
TNTI				S	**Sb**	**22 02 47.3**	**+1.3**
MSAI	**Masohi**	**2.59**	**171**	P	**Pn**	**22 02 30.6**	**+1.5**
MSAI				S	**Sn**	**22 03 02.3**	**+1.7**
SWI	**Sorong**	**2.76**	**92**	P	**Pb**	**22 02 35.8**	**-0.8**
SWI				S	**Sb**	**22 03 08.8**	**-1.6**
SANI	**Sanana**	**2.82**	**243**	P	**Pn**	**22 02 31.6**	**-0.6**
SANI				S	**Sn**	**22 03 04.3**	**-1.9**
NLAI	**Namlea**	**2.82**	**210**	P	**Pn**	**22 02 32.3**	**0.0**
NLAI				S	**Sn**	**22 03 05.9**	**-0.4**
AAI	**Ambon**	**2.91**	**186**	P	**Pn**	**22 02 35.2**	**+1.7**
AAI				S	**Sn**	**22 03 08.8**	**+0.3**
BNDI	**Bandanaira**	**3.98**	**159**	P	**Pn**	**22 02 49.9**	**+1.7**
FAKI	**Fak Fak**	**4.31**	**120**	P	**Pn**	**22 02 53.5**	**+0.7**
WRA	**Warramunga Arr**	**19.89**	**164**	P	**P**	**22 06 16.9**	**-2.0**
	0.3nm,0.3s,baz=347,slow=12,SNR=10.0						
	1.1nm,0.5s						
LEM	**Lembang**	**21.68**	**253**	LR	LR	22 16 09.7	
	comp=Z,69nm,19.4s,baz=328,slow=40						
ASAR	**Alice Springs**	**23.35**	**167**	P	**P**	**22 06 55.5**	**-0.4**
	0.6nm,0.3s,baz=349,slow=12,SNR=14						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**62.25**	**326**	P	**P**	**22 12 09.7**	**+0.5**
	0.1nm,0.3s,baz=118,slow=6.9,SNR=1.5						
	0.1nm,0.3s						

*NIED **29** 22:14:27.8, 37°.36N×142°.03E, h36km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{13}Nm; M_{rr}=4.03; $M_{\theta\theta}$1.81; $M_{\phi\phi}$2.22; $M_{r\theta}$3.59; $M_{\theta\phi}$0.90; $M_{r\phi}$7.70; Fault plane solution: $M_0$9.17000×10^{13} NP1:ϕ_s39.00000°, δ11.00000°, λ-77.00000°. NP2:ϕ_s206.00000°, δ79.00000°, λ-93.00000°.*
JMA 29 22:14:27.8±0.2, 37°.4N±0°.5×142°.0E±1°.0, h36km±3km, MV3.6/38, E OFF FUKUSHIMA PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.92**	**271**	*i* P	Pn	22 14 44.6	+0.4
JFK				S	Sn	22 14 56.1	-0.2
JMST	**Minamisoumatoc**	**0.98**	**292**	*i* P	Pn	22 14 45.4	+0.4
JMST				S	Sn	22 14 57.6	0.0
ONAJ	**Iwakimizuishiy**	**1.01**	**256**	*i* P	Pn	22 14 45.8	+0.3
ONAJ				S	Sn	22 14 58.1	-0.5
JIKH	**Ishinomakikobu**	**1.05**	**335**	*i* P	Pn	22 14 46.4	+0.3
JIKH				S	Sn	22 14 59.1	-0.4
JMM	**Marumori**	**1.11**	**298**	*i* P	Pn	22 14 47.4	+0.7
JMM				*eS*	Sn	22 14 59.3	-1.4
JIO	**Ouri**	**1.22**	**334**	*i* P	Pn	22 14 49.0	+0.7
JIO				*eS*	Sn	22 15 03.5	-0.1
JOTO	**OTAMA OYAMA**	**1.36**	**279**	*i* P	Pn	22 14 52.0	+1.6
JOTO				*eS*	Sn	22 15 08.9	+1.7
JOU	**Okura**	**1.48**	**313**	*i* P	Pn	22 14 53.4	+1.5
JOU				S	Sn	22 15 12.4	+2.4
JMK	**Ichinoseki**	**1.72**	**338**	*i* P	Pn	22 14 56.9	+1.8
JMK				*eS*	Sn	22 15 17.4	+1.6
JYS	**Shirataka**	**1.78**	**300**	*eP*	Pn	22 14 58.1	+2.1
JYS				*eS*	Sn	22 15 20.6	+3.2
JFY	**Yanaizu**	**1.85**	**272**	P	Pn	22 14 58.9	+1.9
JYK	**Kaneyama**	**2.04**	**320**	P	Pn	22 15 01.5	+1.8

*NIC **29** 22:15:04.8, 36°.36N×35°.86E, h17km±31km, Ml3.6/10*
*IDC **29** 22:15:06.0±0.8, 36°.35N×35°.41E, h0km, mb3.7/13, mbtmp3.7/18, ML3.7/4, MS3.2/9, Error ellipse: s-maj=15.8km s-min=12.9km az=84.0*
*ISK **29** 22:15:06.1, 36°.30N×35°.48E, h12km, ML3.8/23*
*AFAD **29** 22:15:07.7, 36°.39N×35°.56E, h18km±2km, MW4.0*
*GII **29** 22:15:10.2±0.0, 36°.122N±0°.002×35°.315E±0°.001, h1km, Mws3.8, confirmed*
ISC 29 22:15:07.6±1.0, 36°.35N±0°.02×35°.48E±0°.02, h10km±7km, n154, σ1s25/173, mb3.7/16, MS3.6/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.26**	**103**	P	**Pg**	**22 15 12.7**	**-0.1**
ASUZ				S	**Sg**	**22 15 16.9**	**+0.6**
ASUZ				*i* IAML		22 15 18.0	
	comp=N,6μm,0.5s						
YURE	**YUREGIR**	**0.49**	**15**	P	**Pb**	**22 15 18.7**	**+0.4**
TAHT	**Tahtakopru-Hat**	**0.57**	**87**	Pg	**Pg**	**22 15 17.7**	**-1.0**
TAHT				Sg	**Sg**	**22 15 26.3**	**0.0**
CEYT	**Ceyhan**	**0.69**	**18**	Pg	**Pg**	**22 15 21.0**	**0.0**
DED	**Mersin**	**0.82**	**319**	P	**Pg**	**22 15 23.7**	**+0.3**
HASA	**Hatay-Hassa-Ha**	**0.91**	**63**	P	**Pg**	**22 15 23.9**	**-1.1**
HASA				S	**Sg**	**22 15 35.3**	**-1.6**
HASA				*i* IAML		22 15 39.0	
	comp=E,1μm,0.3s						
HASA				*i* IAML		22 15 40.0	
	comp=N,1μm,0.3s						
RHAN	**Hatay/Reyhanl**	**0.91**	**95**	P	**Pg**	**22 15 24.7**	**-0.4**
RHAN				S	**Sg**	**22 15 35.6**	**-1.5**
RHAN				*i* IAML		22 15 40.0	
	comp=N,1μm,0.4s						
MERS	**Mersin**	**0.93**	**304**	Pg	**Pg**	**22 15 25.2**	**-0.2**
KARA	**Karaisali**	**0.97**	**340**	Pg	**Pg**	**22 15 25.9**	**-0.4**
KIZK	**Mersin**	**1.08**	**277**	P	**Pg**	**22 15 28.2**	**-0.2**
GULE	**Gulek**	**1.09**	**329**	P	**Pg**	**22 15 28.6**	**0.0**
AKO	**Adana**	**1.11**	**359**	P	**Pg**	**22 15 27.2**	**-1.8**
SLFK	**Silifke-Mersin**	**1.23**	**272**	Pn	**Pg**	**22 15 30.0**	**-1.3**
SLFK				Sn	**Sg**	**22 15 47.3**	**-0.1**
SILI	**Silifke-Mersin**	**1.25**	**271**	Pn	**Pg**	**22 15 30.3**	**-0.8**
SILI				Sn	**Sg**	**22 15 47.5**	**-0.4**
KAMA	**Osmaniye**	**1.27**	**48**	P	**Pg**	**22 15 31.2**	**-0.2**
KAMA				S	**Sg**	**22 15 46.4**	**-2.1**
KUZU	**Kuzuini**	**1.35**	**71**	P	**Pg**	**22 15 32.1**	**-0.5**
KUZU				S	**Sb**	**22 15 49.8**	**-0.7**
KUZU				*i* IAML		22 15 57.0	
	comp=N,5μm,0.4s						
ANDN	**Andirin**	**1.41**	**29**	P	**Pn**	**22 15 33.7**	**+0.3**
ANDN				S	**Sb**	**22 15 52.2**	**0.0**
ANDN				*i* IAML		22 15 55.0	
	comp=E,2μm,0.9s						
ANDN				*i* IAML		22 15 58.0	
	comp=N,2μm,0.6s						
KEBE	**Keben-Mersin**	**1.43**	**274**	Pn	**Pn**	**22 15 32.7**	**-0.8**
KARG	**Kargicak-Mersi**	**1.44**	**265**	Pn	**Pn**	**22 15 32.9**	**-0.7**
TISA	**Tisan-Mersin**	**1.47**	**263**	Pn	**Pn**	**22 15 32.5**	**-1.5**
YESI	**Yesilovacik-Me**	**1.49**	**265**	Pn	**Pn**	**22 15 33.6**	**-0.7**
KERG	**Konya-Eregli**	**1.52**	**315**	P	**Pn**	**22 15 35.3**	**+0.5**
BECE	**Buyukeceli-Mer**	**1.56**	**264**	Pn	**Pn**	**22 15 34.3**	**-1.0**
TEPK	**Tepekoy-MERSIN**	**1.56**	**266**	Pn	**Pn**	**22 15 34.6**	**-0.8**
GULN	**MERSIN_Gulnar**	**1.57**	**265**	P	**Pn**	**22 15 32.9**	**-2.5**
AKK1	**Akkuyu-Mersin**	**1.58**	**263**	Pn	**Pn**	**22 15 34.3**	**-1.2**
GAZ	**Gaziantep**	**1.62**	**59**	Pn	**Pn**	**22 15 35.2**	**-1.0**
GAZ	**Gaziantep**	**1.62**	**59**	P	**Pn**	**22 15 35.6**	**-0.6**
GAZ				S	**Sn**	**22 15 56.2**	**-0.9**
OREN	**Orenkoy-Mersin**	**1.64**	**266**	Pn	**Pn**	**22 15 35.3**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.64**	**274**	Pn	**Pn**	**22 15 35.9**	**-0.6**
YORU	**Yoruktepe-Mers**	**1.69**	**264**	Pn	**Pn**	**22 15 35.8**	**-1.3**
SAIM	**ADANA**	**1.70**	**16**	P	**Pn**	**22 15 37.8**	**+0.5**
KHMN	**Narli-Kahraman**	**1.70**	**52**	Pn	**Pn**	**22 15 37.4**	**+0.1**
NIDE	**Nigde/Merkez-G**	**1.74**	**341**	P	**Pn**	**22 15 38.3**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.75**	**357**	P	**Pn**	**22 15 38.6**	**+0.6**
PARAL	**Paralimni**	**1.79**	**221**	P	**Pn**	**22 15 36.7**	**-1.8**
PARAL				S	**Sb**	**22 16 04.5**	**+1.7**
PARAL				AML	AML	22 16 14.9	
	1.9nm,1.2s						
PARAL				AML	AML	22 16 32.0	
	1.7nm,0.9s						
BERE	**Bereket-Mersin**	**1.82**	**271**	Pn	**Pn**	**22 15 38.7**	**-0.3**
BEIL	**Beino**	**1.89**	**162**	*eP*	**Pn**	**22 15 40.0**	**+0.1**
NZIP	**Nizip/Gaziante**	**1.90**	**68**	P	**Pn**	**22 15 38.9**	**-1.2**
GZT	**Gaziantep**	**1.95**	**58**	P	**Pb**	**22 15 44.0**	**+0.7**
KRMN	**Karaman**	**1.96**	**296**	Pn	**Pn**	**22 15 40.4**	**-0.2**
MVOU	**Mavrovouni**	**2.00**	**229**	P	**Pn**	**22 15 41.2**	**-0.2**
MVOU				S	**Sb**	**22 16 09.7**	**+0.6**
MVOU				AML	AML	22 16 23.6	
	0.8nm,0.8s						
MVOU				AML	AML	22 16 28.9	
	0.9nm,1.2s						
BOZY	**Bozyazi-Mersin**	**2.04**	**264**	Pn	**Pn**	**22 15 41.3**	**-0.5**
ATHAL	**Athalassa**	**2.08**	**235**	P	**Pn**	**22 15 43.0**	**+0.6**
ATHAL				S	**Sb**	**22 16 11.4**	**+0.2**
ATHAL				AML	AML	22 16 36.4	
	1.8nm,0.6s						
ATHAL				AML	AML	22 17 04.7	
	1.8nm,0.9s						
ERMK	**Ermenek**	**2.09**	**279**	P	**Pn**	**22 15 43.0**	**+0.2**
HWQ	**Hawqa**	**2.10**	**169**	*eP*	**Pn**	**22 15 42.9**	**0.0**
BSIR	**Belisirma, Guz**	**2.14**	**334**	P	**Pn**	**22 15 44.6**	**+1.2**
KKBE	**Karaman, Kazim**	**2.21**	**294**	P	**Pn**	**22 15 46.2**	**+1.8**
CSS	**Mathiatis**	**2.23**	**232**	Pn	**Pn**	**22 15 43.1**	**-1.4**
CSS	**Mathiatis**	**2.23**	**232**	P	**Pn**	**22 15 43.3**	**-1.2**
CSS				S	**Sb**	**22 16 16.4**	**+0.9**
CSS				AML	AML	22 16 35.0	
	0.7nm,1.0s						
CSS				AML	AML	22 16 39.2	
	0.7nm,0.7s						
FKH	**Fakeheh**	**2.23**	**160**	*eP*	**Pn**	**22 15 45.2**	**+0.5**
AKCA	**Adyaman/G¶l**	**2.28**	**50**	P	**Pb**	**22 15 49.5**	**+0.6**
XYLS	**Xyliatos**	**2.38**	**237**	P	**Pn**	**22 15 46.4**	**-0.3**
XYLS				S	**Sb**	**22 16 20.4**	**+0.4**
XYLS				AML	AML	22 16 34.3	
	0.7nm,0.7s						
XYLS				AML	AML	22 16 35.6	
	0.6nm,1.0s						
ASGA	**Asgata**	**2.39**	**230**	P	**Pn**	**22 15 47.7**	**+0.9**
ASGA				S	**Sn**	**22 16 19.2**	**+3.0**
ASGA				AML	AML	22 16 31.6	
	1.1nm,1.0s						
ASGA				AML	AML	22 16 40.7	
	0.8nm,0.6s						
BHL	**Bhannes**	**2.44**	**177**	*eP*	**Pn**	**22 15 47.9**	**+0.3**
HDMB	**Hadim**	**2.48**	**285**	Pn	**Pn**	**22 15 47.7**	**-0.5**
AVNS	**Nevsehir-Avano**	**2.50**	**349**	P	**Pn**	**22 15 48.8**	**+0.4**
ZAHL	**Zahle**	**2.51**	**172**	*eP*	**Pn**	**22 15 49.1**	**+0.7**
ATAB	**Bozova**	**2.52**	**63**	P	**Pb**	**22 15 54.5**	**+1.6**
ATAB				S	**Sb**	**22 16 25.6**	**+1.6**
TROD	**Troodos**	**2.54**	**237**	P	**Pn**	**22 15 50.2**	**+1.1**
TROD				S	**Sb**	**22 16 23.8**	**-1.0**
TROD				AML	AML	22 16 40.9	
	1.3nm,1.1s						
TROD				AML	AML	22 16 41.0	
	1.2nm,0.6s						
GUNE	**Kayseri**	**2.55**	**3**	P	**Pn**	**22 15 51.4**	**+2.3**
GAZI	**Gazipasa**	**2.56**	**268**	P	**Pn**	**22 15 49.8**	**+0.7**
SURC	**SANLIURFA_SURC**	**2.58**	**77**	P	**Pb**	**22 15 54.5**	**+0.6**
ALFC	**Alefka**	**2.62**	**244**	P	**Pn**	**22 15 47.3**	**-2.7**
ALFC				S	**Sn**	**22 16 14.5**	**-7.5**
ALFC				AML	AML	22 16 32.1	
	0.9nm,0.6s						
ALFC				AML	AML	22 16 32.5	
	0.7nm,0.6s						
DQRL	**Deir Qamar**	**2.64**	**178**	*eP*	**Pn**	**22 15 50.0**	**-0.2**
AZEY	**Adyaman-Merk**	**2.65**	**56**	P	**Pn**	**22 15 51.4**	**+0.9**
AKCD	**Akcadag**	**2.75**	**44**	P	**Pn**	**22 15 51.9**	**+0.1**
QRWL	**Qaraoun**	**2.80**	**176**	*eP*	**Pn**	**22 15 52.5**	**0.0**
NATA	**Nata**	**2.84**	**237**	P	**Pn**	**22 15 55.0**	**+2.0**
NATA				S	**Sn**	**22 16 30.8**	**+3.7**
NATA				AML	AML	22 16 43.5	
	3.0nm,0.8s						
NATA				AML	AML	22 16 49.5	
	2.1nm,1.2s						
RCY	**Rachaya**	**2.86**	**174**	*eP*	**Pn**	**22 15 53.2**	**-0.2**
AKMS	**Akamas**	**2.88**	**243**	P	**Pn**	**22 15 53.3**	**-0.2**
AKMS				S	**Sb**	**22 16 35.5**	**+1.2**
AKMS				AML	AML	22 16 40.1	
	1.3nm,0.9s						
AKMS				AML	AML	22 16 46.3	
	0.8nm,1.0s						
MCUR	**KIREHR**	**2.91**	**345**	P	**Pn**	**22 15 54.0**	**+0.1**
SANL	**SANLIURFA_Merk**	**2.94**	**73**	P	**Pb**	**22 16 01.5**	**+1.4**
SIRC	**Yozgat**	**2.99**	**355**	P	**Pn**	**22 15 57.0**	**+1.8**
SHBL	**Chebaa**	**3.00**	**176**	*eP*	**Pn**	**22 15 55.4**	**+0.1**
KIRS	**Kirsehir-Merke**	**3.04**	**336**	P	**Pn**	**22 15 55.9**	**+0.1**
MAYA	**Malatya/Merkez**	**3.07**	**49**	P	**Pn**	**22 15 56.8**	**+0.7**
CUAYA	**Sivas-Altinyay**	**3.08**	**19**	P	**Pn**	**22 15 59.1**	**+2.7**
NATI	**Neve Ativ**	**3.09**	**176**	P	**Pn**	**22 15 56.6**	**+0.3**
NATI	**Neve Ativ**	**3.09**	**176**	S	**Sn**	**22 16 33.9**	**+0.7**
GEM	**Giv'at Ha'Em**	**3.13**	**177**	P	**Pn**	**22 15 57.8**	**+0.8**
GEM	**Giv'at Ha'Em**	**3.13**	**177**	S	**Sn**	**22 16 33.9**	**-0.5**
HNTI	**Hanita**	**3.27**	**184**	P	**Pn**	**22 15 59.1**	**+0.3**
HNTI	**Hanita**	**3.27**	**184**	S	**Sn**	**22 16 36.6**	**-1.2**
MMA0B	**Mount Meron ar**	**3.33**	**181**	P	**Pn**	**22 16 00.3**	**+0.6**
MMA0B	**Mount Meron ar**	**3.33**	**181**	S	**Sn**	**22 16 36.5**	**-0.8**
MMAI	**Mount Meron Ar**	**3.33**	**181**	Pn	**Pn**	**22 15 59.8**	**+0.1**
	28nm,0.3s,baz=357,slow=13,SNR=56						
MMAI				Sn	**Sn**	**22 16 38.7**	**-0.6**
	44nm,0.3s,baz=12,slow=21,SNR=5.3						
MMAI				LR	LR	22 17 37.6	
	comp=Z,143nm,20.2s,baz=20,slow=46						
	18nm,0.3s						
KSHT	**Keshet**	**3.37**	**175**	P	**Pn**	**22 16 01.2**	**+1.0**
KSHT	**Keshet**	**3.37**	**175**	S	**Sn**	**22 16 40.1**	**-0.2**
BLGI	**Bet Lehem HaGe**	**3.61**	**184**	P	**Pn**	**22 16 04.1**	**+0.6**
BLGI	**Bet Lehem HaGe**	**3.61**	**184**	S	**Sn**	**22 16 45.8**	**-0.4**
BRTR	**Keskin Array B**	**3.67**	**337**	Pn	**Pn**	**22 16 05.5**	**+1.0**
	1.3nm,0.3s,baz=176,slow=15,SNR=27						
	6.8nm,0.6s						
OFRI	**`Ofer**	**3.74**	**186**	P	**Pn**	**22 16 05.9**	**+0.5**
OFRI	**`Ofer**	**3.74**	**186**	S	**Sn**	**22 16 47.7**	**-1.7**
MMLI	**Mount Malkishu**	**3.90**	**181**	Pn	**Pn**	**22 16 07.3**	**-0.3**
MMLI	**Mount Malkishu**	**3.90**	**181**	P	**Pn**	**22 16 07.9**	**+0.4**
MMLI				S	**Sn**	**22 16 51.4**	**-2.0**
MMLI	**Mount Malkishu**	**3.90**	**181**	P	**Pn**	**22 16 08.2**	**+0.7**
MMLI	**Mount Malkishu**	**3.90**	**181**	S	**Sn**	**22 16 52.0**	**-1.4**
HMDT	**Nahal Hemdat**	**4.09**	**179**	P	**Pn**	**22 16 11.1**	**+1.0**
HMDT	**Nahal Hemdat**	**4.09**	**179**	S	**Sn**	**22 16 58.0**	**+0.1**
SLIT	**Sal'it**	**4.11**	**185**	P	**Pn**	**22 16 10.9**	**+0.5**
SLIT	**Sal'it**	**4.11**	**185**	S	**Sn**	**22 16 58.0**	**-0.6**
ASF	**Jabal al Asfar**	**4.33**	**164**	Pn	**Pn**	**22 16 14.6**	**+1.1**
	1.0nm,0.3s,baz=241,slow=23,SNR=19						
ASF				Lg	Lg	22 17 23.9	
	13nm,0.3s,baz=349,slow=18,SNR=8.0						
ASF				LR	LR	22 18 08.7	
	comp=Z,170nm,19.3s,baz=332,slow=42						
	5.3nm,0.3s						
DSI	**Dead Sea**	**4.77**	**181**	P	**Pn**	**22 16 19.9**	**+0.5**
DSI	**Dead Sea**	**4.77**	**181**	S	**Sn**	**22 17 13.4**	**

SONM					LR	LR	22 49 11.4		
	comp=Z,53nm,18.3s,baz=352,slow=39								
	0.6nm,0.8s								
SEY	**Seymchan**	**69.05**	**26**		LR	LR	23 02 14.0		
	comp=Z,22nm,18.6s,baz=330,slow=41								
DAV	**Davao City (W)**	**85.94**	**84**		LR	LR	23 10 51.1		
	comp=Z,26nm,18.5s,baz=197,slow=39								

*AEIC **29** 22:16:43.1±0.8,51°.48N±0°.07×176°.73W±0°.05,h43km±9km, Error ellipse: s-maj=11.2km s-min=3.5km az=164.0*

NEIC 29 22:16:42.9±0.7,51°.4N±0°.1×176°.72W±0°.06,h45km±17km, mb3.5/28,ML3.5(AEIC),Error ellipse: s-maj=15.1km s-min=4.3km az=166.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.47**	**3**	Pn	Pn	22 16 53.3	-0.3
ADK				Sn	Sn	22 17 00.9	-0.2
KIMD	**Kanaga Island**	**0.47**	**318**		Pn	22 16 53.1	-0.4
KIMD					Sn	22 17 00.6	-0.5
ETKA	**Kagalaska Isla**	**0.49**	**24**		Pn	22 16 53.4	-0.4
ETKA					Sn	22 17 01.0	-0.6
KIWB	**Kanaga Island**	**0.52**	**329**		Pn	22 16 54.0	-0.1
KIWB					Sn	22 17 01.9	-0.2
KIKV	**Kanaga Island**	**0.55**	**329**		Pn	22 16 54.3	-0.2
KIKV					Sn	22 17 02.8	0.0
ADAG	**Mount Adagdak**	**0.57**	**8**		Pn	22 16 55.0	+0.1
ADAG					Sn	22 17 04.0	+0.6
GSCK	**Great Sitkin C**	**0.70**	**30**		Pn	22 16 56.4	0.0
GSCK					Sn	22 17 06.3	+0.2
GSTD	**Great Sitkin T**	**0.74**	**29**		Pn	22 16 56.9	-0.2
GSTD					Sn	22 17 06.7	-0.7
GSMY	**Great Sitkin M**	**0.76**	**33**		Sn	22 17 07.6	0.0
GSIG	**Igitkin Island**	**0.76**	**40**		Pn	22 16 57.0	-0.3
GSIG					Sn	22 17 07.2	-0.5
TAPA	**Tanaga Point A**	**0.79**	**301**		Sn	22 17 08.4	-0.1
GSTR	**Great Sitkin T**	**0.80**	**31**		Pn	22 16 57.8	0.0
TAFL	**Tanaga Flats**	**0.81**	**296**		Pn	22 16 57.7	-0.2
TAFL					Sn	22 17 09.2	+0.4
TASE	**Tanaga Southea**	**0.92**	**298**		Pn	22 16 59.7	+0.2
TASE					Sn	22 17 11.8	+0.1
TANO	**Tanaga North**	**1.01**	**301**		Sn	22 17 15.3	+1.7
GAKI	**Gareloi-Kavalg**	**1.31**	**277**		Pn	22 17 04.8	+0.1
GAKI					Sn	22 17 21.2	+0.1
GAEA	**Gareloi East**	**1.32**	**287**		Pn	22 17 05.5	+0.7
GALAA	**Gareloi Lava P**	**1.32**	**286**		Sn	22 17 22.8	+1.3
GANE	**Gareloi Northe**	**1.34**	**288**		Sn	22 17 23.4	+1.6
GANO	**Gareloi North**	**1.36**	**288**		Pn	22 17 06.0	+0.5
GANO					Sn	22 17 23.8	+1.5
ATKA	**Atka Island**	**1.76**	**62**		Pn	22 17 11.0	+0.1
ATKA					Sn	22 17 31.3	-0.7
CEPE	**Semis' Perret**	**2.33**	**285**		Pn	22 17 19.2	+0.6
CEAP	**Semis' Anvil P**	**2.38**	**286**		Pn	22 17 20.1	+0.8
CETU	**Semis' Tuman**	**2.42**	**285**		Pn	22 17 20.7	+0.7
AMKA	**Amchitka**	**2.49**	**271**		Pn	22 17 20.6	-0.3
AMKA					Sn	22 17 50.1	+0.1
LSSE	**Little Sitkin**	**2.98**	**282**		Pn	22 17 28.6	+1.0
LSPA	**Little Sitkin**	**2.98**	**282**		Pn	22 17 28.4	+0.8
NIKH	**Nikolski High**	**5.09**	**69**	Pn	Pn	22 17 57.2	+0.7
UNV	**Unalaska Valle**	**6.68**	**65**	Pn	Pn	22 18 18.8	+0.4
SPIA	**Saint Paul Isl**	**6.91**	**31**	Pn	Pn	22 18 21.4	0.0
LVA	**Lava Point**	**7.04**	**63**	Pn	Pn	22 18 23.5	+0.1
CNBA	**Chernabura Isl**	**10.85**	**65**	Pn	Pn	22 19 14.4	-0.9
O16K	**Kokwok River B**	**13.32**	**45**	Pn	Pn	22 19 50.7	+1.6
M16K	**Timber Creek**	**13.75**	**39**	P	P	22 20 01.9	-0.5
L16K	**Owhat River**	**13.98**	**36**	P	P	22 20 04.6	-0.3
M17K	**Holitna River**	**14.57**	**39**	P	P	22 20 12.2	+0.7
J16K	**Anvik River**	**14.68**	**30**	P	P	22 20 14.5	+1.8
OHAK	**Old Harbor**	**14.82**	**58**	P	P	22 20 14.2	-0.1
N18K	**Kilae Creek**	**14.82**	**43**	P	P	22 20 17.0	+2.6
Q19K	**Cape Douglas,**	**15.12**	**51**	Pn	Pn	22 20 13.6	+0.3
J17K	**VABM Dome**	**15.24**	**31**	P	P	22 20 21.4	+2.4
KDAK	**Kodiak Island**	**15.32**	**56**	Pn	Pn	22 20 15.5	-0.4
L18K	**Granite Mounta**	**15.33**	**37**	P	P	22 20 20.6	+0.6
L18K				IAmb	IAmb	22 20 26.3	
	comp=Z,2.5nm,1.1s						
PEA0B	**Petropavlovsk-**	**15.73**	**286**	Pn	Pn	22 20 21.4	+0.2
PEA0B				IAmb	IAmb	22 20 31.6	
	comp=Z,4.1nm,1.1s						
L19K	**White Mountain**	**16.02**	**39**	P	P	22 20 28.6	+0.9
L19K				IAmb	IAmb	22 20 32.0	
	comp=Z,4.2nm,1.1s						
J18K	**Innoko River**	**16.09**	**34**	P	P	22 20 28.9	+0.5
CNPM	**China Poot**	**16.49**	**51**	Pn	Pn	22 20 30.8	+0.1
CNPM				IAmb	IAmb	22 20 32.3	
	comp=Z,5.5nm,1.2s						
H18K	**Honhosa River**	**16.72**	**28**	P	P	22 20 36.4	+1.1
H18K				IAmb	IAmb	22 20 44.8	
	comp=Z,3.9nm,1.1s						
J19K	**Poorman**	**16.80**	**33**	Pn	Pn	22 20 34.4	-0.2
K20K	**Telida**	**16.97**	**36**		Pn	22 20 36.9	+0.1
G18K	**Tagagawik**	**17.19**	**26**		P	22 20 41.0	+0.5
SKT	**Skwentna**	**17.29**	**43**	P	P	22 20 43.0	+1.4
SKT				IAmb	IAmb	22 20 44.9	
	comp=Z,2.4nm,0.9s						
J20K	**Nowinta River**	**17.42**	**34**	P	P	22 20 45.2	+2.1
J20K				IAmb	IAmb	22 20 46.0	
	comp=Z,2.8nm,1.1s						
PPLA	**Purkeypile**	**17.45**	**39**	P	P	22 20 45.8	+2.2
PPLA				IAmb	IAmb	22 20 53.1	
	comp=Z,3.8nm,0.8s						
SEW	**Seward**	**17.52**	**50**	P	Pn	22 20 43.7	+0.1
CAST	**Castle Rocks**	**17.76**	**38**	P	P	22 20 46.8	-0.1
C23K	**Itkillik River**	**22.15**	**24**	P	P	22 21 35.0	+0.6
E25K	**Arctic Village**	**22.54**	**30**	P	P	22 21 39.7	+1.1
E25K				IAmb	IAmb	22 21 55.8	
	comp=Z,1.8nm,1.1s						
G26K	**Porcupine Rive**	**22.55**	**34**	P	P	22 21 38.5	-0.1
F26K	**Sheenjek River**	**22.78**	**32**	P	P	22 21 41.3	+0.1
DAWY	**Dawson**	**23.20**	**43**	P	P	22 21 45.7	+0.2
DAWY				IAmb	IAmb	22 21 50.6	
	comp=Z,1.5nm,0.6s						
I28M	**Miner Creek**	**23.39**	**39**	P	P	22 21 46.8	-0.5
I28M				IAmb	IAmb	22 21 57.5	
	comp=Z,1.7nm,1.1s						
K29M	**Barlow Dome**	**23.95**	**44**	P	P	22 21 52.8	+0.2
K29M				IAmb	IAmb	22 21 59.0	
	comp=Z,1.2nm,1.1s						
I29M	**Ogilvie Camp,**	**24.01**	**40**	P	P	22 21 52.1	-1.0
I29M				IAmb	IAmb	22 21 52.8	
	comp=Z,1.4nm,0.8s						
H29M	**Whitestone**	**24.25**	**38**	P	P	22 21 54.3	-0.9
J30M	**Hart River**	**24.62**	**42**	P	P	22 21 59.6	+0.8
J30M				IAmb	IAmb	22 22 04.8	
	comp=Z,1.5nm,0.9s						
I30M	**Mount Dempster**	**24.75**	**41**	P	P	22 21 59.5	-0.5

*IDC **29** 22:17:20.6±2.6,27°.11N×53°.22E,h0km,mb3.6/9, mbtmp3.6/9,Error ellipse: s-maj=55.4km s-min=26.9km az=156.0*

*TEH **29** 22:17:22.4,27°.05N×53°.23E,h17km±17km*

*DSN **29** 22:17:24.2±1.4,27°.07N×53°.30E,h10km,ML3.0/11,Error ellipse: s-maj=19.8km s-min=8.7km az=6.0*

*OMAN **29** 22:17:26.9±0.1,26°.76N×53°.28E,h7km±1km,ml3.4/15, Error ellipse: s-maj=2.3km s-min=0.9km az=351.0*

ISC 29 22:17:22.6±0.7,27°.09N±0°.05×53°.25E±0°.05,h10km,n70, σ1s32/87,mb3.7/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.26**	**344**	Pg	**Pg**	**22 17 28.5**	**+0.5**
LAR1	**LAR**	**1.16**	**60**	Pg	**Pb**	**22 17 45.4**	**+0.6**
QIR1	**Qir**	**1.40**	**353**	Pg	**Pn**	**22 17 49.2**	**+0.9**
JHRM	**Jahrom**	**1.44**	**12**	Pg	**Pn**	**22 17 50.2**	**+1.3**
DSBU	**Dashti - Bushe**	**2.17**	**306**	Pn	**Pn**	**22 17 59.6**	**+0.8**
SHMA	**Al-Shehemyia**	**2.38**	**240**	P	**Pn**	**22 18 05.1**	**+3.3**
	SNR=7.6						
GENO	**Geno**	**2.62**	**83**	Pn	**Pn**	**22 18 05.6**	**+0.4**
SHI	**Shiraz**	**2.63**	**346**	Pn	**Pn**	**22 18 06.5**	**+1.2**
IBND	**Bandar-abas**	**2.95**	**82**	Pn	**Pn**	**22 18 10.2**	**+0.6**
NAZ	**Nazwa, Dubai**	**3.02**	**133**	P	**Pn**	**22 18 13.1**	**+2.6**
	SNR=9.3						
NAZ				S	**Sn**	**22 18 47.0**	**+0.3**
NAZ	**Nazwa, Dubai**	**3.02**	**133**	*e*P	**Pn**	**22 18 12.7**	**+2.3**
	SNR=9.3						
ASUD	**Al Ashush, Dub**	**3.09**	**142**	P	**Pn**	**22 18 13.8**	**+2.4**
ASUD				S	**Sn**	**22 18 48.3**	**-0.1**
ASUD	**Al Ashush, Dub**	**3.09**	**142**	P	**Pn**	**22 18 13.3**	**+1.9**
MASF	**Masafi**	**3.12**	**122**	P	**Pn**	**22 18 13.8**	**+1.8**
	SNR=9.2						
MASF				S	**Sn**	**22 18 49.5**	**+0.1**
	SNR=7.7						
MSFE	**Esma-Masafi**	**3.13**	**123**	P	**Pn**	**22 18 13.1**	**+1.0**
FAQ	**Al Faqa, Dubai**	**3.15**	**137**	P	**Pn**	**22 18 14.2**	**+2.0**
FAQ				S	**Sn**	**22 18 49.8**	**-0.1**
MDH	**Madha**	**3.27**	**122**	P	**Pn**	**22 18 15.7**	**+1.8**
MDH				S	**Sn**	**22 18 53.4**	**+0.5**
MDH	**Madha**	**3.27**	**122**	P	**Pn**	**22 18 13.8**	**-0.2**
SLWR	**Sila**	**3.32**	**205**	P	**Pn**	**22 18 15.1**	**+0.5**
MZWR	**Madinat Zayed**	**3.36**	**170**	P	**Pn**	**22 18 17.4**	**+2.2**
UOSS	**Minazif**	**3.41**	**128**	P	**Pn**	**22 18 17.3**	**+1.4**
UOSS				S	**Sn**	**22 18 55.8**	**-0.6**
UOSS	**Minazif**	**3.41**	**128**	P	**Pn**	**22 18 16.9**	**+1.0**
HATD	**Hatta, Dubai**	**3.44**	**130**	P	**Pn**	**22 18 18.2**	**+1.9**
HATD				S	**Sn**	**22 18 57.1**	**0.0**
HATD	**Hatta, Dubai**	**3.44**	**130**	P	**Pn**	**22 18 17.6**	**+1.3**
HATD				S	**Sn**	**22 18 57.0**	**-0.1**
ASHO	**Ashiyiah**	**3.48**	**133**	P	**Pn**	**22 18 18.7**	**+1.7**
	SNR=27						
ASHO				S	**Sn**	**22 18 58.3**	**0.0**
ASHO	**Ashiyiah**	**3.48**	**133**	P	**Pn**	**22 18 18.3**	**+1.3**
ALNE	**Al Ain**	**3.77**	**143**	P	**Pn**	**22 18 22.9**	**+2.1**
ALNE				S	**Sn**	**22 19 04.9**	**-0.4**
ALNE	**Al Ain**	**3.77**	**143**	*i* P	**Pn**	**22 18 22.8**	**+1.9**
	SNR=8.8						
NGRK	**Negar Kerman**	**3.99**	**50**	Pn	**Pn**	**22 18 24.5**	**+0.3**
MZR	**Muzera**	**4.07**	**177**	P	**Pn**	**22 18 27.1**	**+2.1**
MZR	**Muzera**	**4.07**	**177**	P	**Pn**	**22 18 26.7**	**+1.6**
KLNJ	**Kolanjah**	**4.17**	**340**	Pn	**Pn**	**22 18 27.6**	**+1.0**
SOHO	**SOHO**	**4.18**	**134**	P	**Pn**	**22 18 27.8**	**+1.4**
SOHO				S	**Sn**	**22 19 15.1**	**-0.2**
SOHO	**SOHO**	**4.18**	**134**	*i* P	**Pn**	**22 18 27.4**	**+1.0**
	SNR=10						
KRBR	**Kerman**	**4.23**	**46**	Pn	**Pn**	**22 18 28.5**	**+1.1**
KHGB	**Koh Gabri**	**4.33**	**40**	Pn	**Pn**	**22 18 30.0**	**+1.2**
IMEH	**Mehriz**	**4.45**	**15**	Pn	**Pn**	**22 18 31.9**	**+1.5**
UMZA	**Um Al Zommool**	**4.69**	**158**	P	**Pn**	**22 18 35.5**	**+2.1**
UMZA				S	**Sn**	**22 19 27.0**	**-0.9**
IRAM	**Ramesheh**	**4.76**	**351**	Pn	**Pn**	**22 18 35.4**	**+0.6**
ARQ	**Araqi**	**4.77**	**141**	P	**Pn**	**22 18 36.1**	**+1.5**
	SNR=13						
ARQ				S	**Sn**	**22 19 29.4**	**-0.6**
IBAF	**Bafgh**	**4.92**	**24**	Pn	**Pn**	**22 18 38.1**	**+1.3**
KBAM	**BAM**	**5.03**	**65**	Pn	**Pn**	**22 18 39.7**	**+1.4**
HOQ	**Hoqain**	**5.07**	**133**	Pn	**Pn**	**22 18 39.5**	**+0.8**
HOQ	**Hoqain**	**5.07**	**133**	P	**Pn**	**22 18 40.1**	**+1.4**
	SNR=13						
HOQ				S	**Sn**	**22 19 36.1**	**-1.3**
	SNR=5.9						
ICHK	**Chekchek**	**5.24**	**11**	Pn	**Pn**	**22 18 42.4**	**+1.2**
BIDO	**Bidbid**	**5.67**	**128**	P	**Pn**	**22 18 48.6**	**+1.7**
BIDO				S	**Sn**	**22 19 50.2**	**-1.8**
SMDO	**Samad**	**5.92**	**132**	P	**Pn**	**22 18 51.9**	**+1.4**
	SNR=11						
SMDO				S	**Sn**	**22 19 58.0**	**-0.5**
	SNR=8.2						
ANAR	**Anarak**	**6.10**	**4**	Pn	**Pn**	**22 18 53.7**	**+0.7**
WSAR	**Wadi Sarin**	**6.20**	**127**	P	**Pn**	**22 18 55.7**	**+1.4**
WSAR				S	**Sn**	**22 20 02.4**	**-3.0**
JMDO	**Jabal Madar**	**6.45**	**136**	P	**Pn**	**22 18 59.0**	**+1.4**
TPRV	**Parvadeh(Tabas**	**6.63**	**26**	Pn	**Pn**	**22 19 01.6**	**+1.4**
NHDN	**Nehbandan**	**7.33**	**53**	Pn	**Pn**	**22 19 11.0**	**+1.1**
MHTO	**MHTO**	**7.45**	**144**	P	**Pn**	**22 19 12.8**	**+1.4**
JLN	**Jalan Bani Buh**	**7.46**	**130**	P	**Pn**	**22 19 12.3**	**+0.8**
RAYN	**Ar Rayn**	**7.85**	**245**	Pn	**Pn**	**22 19 17.5**	**+0.5**
RAYN	**Ar Rayn**	**7.85**	**245**	*i* P	**Pn**	**22 19 17.1**	**+0.1**
	SNR=14						
DQM	**DQM**	**8.14**	**150**	P	**Pn**	**22 19 21.3**	**+0.4**
DOK	**Doka**	**8.47**	**174**	P	**Pn**	**22 19 25.7**	**+0.3**
WHFO	**Wadi Hawf**	**9.14**	**177**	P	**Pn**	**22 19 35.1**	**+0.5**
	SNR=7.9						
DMTO	**DMTO**	**9.46**	**170**	P	**Pn**	**22 19 39.0**	**0.0**
ABTO	**Aybut**	**9.69**	**180**	P	**Pn**	**22 19 42.8**	**+0.6**
BRTR	**Keskin Array B**	**20.61**	**313**	P	**P**	**22 22 02.3**	**+0.2**
	0.3nm,0.5s,baz=127,slow=17,SNR=1.8 0.3nm,0.5s						
BVAR	**Borovoye Array**	**28.89**	**22**	P	**P**	**22 23 20.6**	**-0.8**
	0.4nm,0.3s,baz=203,slow=6.3,SNR=2.2 0.4nm,0.3s						
MKAR	**Makanchi Array**	**30.16**	**42**	P	**P**	**22 23 33.3**	**+0.5**
	0.3nm,0.5s,baz=227,slow=10,SNR=1.7 0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**35.48**	**32**	P	**P**	**22 24 18.2**	**-1.0**
	0.4nm,0.4s,baz=230,slow=8.9,SNR=2.3 0.4nm,0.4s						
FINES	**FINESS Array B**	**38.89**	**340**	P	**P**	**22 24 47.2**	**-0.8**
	0.8nm,0.3s,baz=142,slow=8.6,SNR=15 0.8nm,0.3s						
HFS	**Hagfors**	**42.59**	**332**	P	**P**	**22 25 17.9**	**-0.7**
	1.8nm,0.8s,baz=128,slow=11,SNR=1.8 1.8nm,0.8s						
NOA	**NORSAR Array B**	**44.11**	**332**	P	**P**	**22 25 29.4**	**-1.6**
	0.4nm,0.8s,baz=102,slow=16,SNR=1.6 0.4nm,0.8s						
ARCES	**ARCESS Array B**	**45.45**	**347**	P	**P**	**22 25 40.6**	**-0.8**
	2.2nm,1.0s,baz=144,slow=7.0,SNR=1.8 2.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**50.03**	**265**	P	**P**	**22 26 16.9**	**-0.7**
	0.2nm,0.5s,baz=60,slow=8.3,SNR=6.7 0.2nm,0.5s						

*NEIC **29** 22:24:13.0±2.0,44°.322N±0°.008×110°.48W±0°.02, h5km±1km,Error ellipse: s-maj=2.4km s-min=1.6km az=106.0*

UUSS 29 22:24:12.6±2.1,44°.330N±0°.007×110°.53W±0°.02, h2km±3km,ML2.7/9,ML2.4/35(NEIC),Error ellipse: s-maj=1.8km s-min=0.8km az=68.0,Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLT	**Little Thumb C**	**0.11**	**340**		Pg	22 24 16.3	+1.4
YTP	**The Promontory**	**0.19**	**71**		Pg	22 24 17.9	+1.6
YTP					Sg	22 24 20.9	+2.1
YFT	**Old Faithful**	**0.25**	**299**		Pg	22 24 18.8	+1.4
YFT				IAML		22 24 25.1	
	comp=E,1μm,0.6s						
LKWY	**Lake**	**0.25**	**22**		Pg	22 24 18.1	+0.6
LKWY					Sg	22 24 21.9	+1.0
YPLA	**Lake Butte**	**0.26**	**46**		Pb	22 24 19.4	-0.8
YUF	**Upper Falls**	**0.38**	**2**		Pb	22 24 22.3	0.0
YHR	**Hawk`s Rest**	**0.39**	**124**		Pb	22 24 22.0	-0.5
YNR	**Norris Junctio**	**0.40**	**345**		Pb	22 24 21.8	-0.8
YNR				IAML		22 24 30.6	
	comp=N,318nm,0.5s						
YNR				IAML		22 24 32.8	
	comp=E,294nm,0.5s						
YPPC	**Pelican Cone**	**0.40**	**37**		Pb	22 24 22.2	-0.4
YPM	**Purple Mountai**	**0.41**	**324**		Pb	22 24 22.7	0.0
YNM	**Yellowstone No**	**0.41**	**343**		Pg	22 24 21.5	+0.9
YNM				IAML		22 24 35.2	
	comp=N,183nm,0.5s						
MCID	**Moose Creek**	**0.49**	**254**		Pb	22 24 23.9	-0.1
YMP	**Mirror Lake Pl**	**0.49**	**33**		Pb	22 24 23.2	-1.0
YMP				IAML		22 24 33.3	
	comp=N,200nm,0.9s						
YMP				IAML		22 24 39.1	
	comp=E,216nm,1.2s						
YPWB	**West Boundary**	**0.49**	**304**		Pb	22 24 24.4	+0.3
YHH	**Holmes Hill**	**0.51**	**334**		Pg	22 24 23.4	+1.0
YMC	**Maple Creek**	**0.55**	**322**		Pb	22 24 25.1	+0.1
YPK	**Parker Peak, Y**	**0.59**	**47**		Pb	22 24 25.5	-0.4
GCR	**Grayling Creek**	**0.62**	**319**		Pb	22 24 25.6	-0.7
YPDC	**Denny Creek**	**0.63**	**307**		Pn	22 24 28.3	-0.5
YHB	**Horse Butte**	**0.63**	**312**		Pb	22 24 25.8	-0.7
YHB				Sg	Sb	22 24 35.5	-0.5
YHB				IAML		22 24 44.8	
	comp=N,119nm,0.8s						
YHL	**Hebgen Lake**	**0.70**	**319**		Pg	22 24 26.8	+0.8
LOHW	**Long Hollow**	**0.72**	**184**		Pb	22 24 27.2	-0.8
LOHW				Sg	Sb	22 24 37.3	-1.0
LOHW				IAML		22 24 38.9	
	comp=N,245nm,0.3s						
YNE	**Yellowstone No**	**0.78**	**29**		Pg	22 24 27.1	-0.3
QLMT	**Earthquake Lak**	**0.81**	**308**		Pg	22 24 28.3	+0.2
SNOW	**Snow King Moun**	**0.88**	**191**		Pb	22 24 30.3	-0.5
SNOW				IAML		22 24 45.2	
	comp=N,208nm,0.5s						
SNOW				IAML		22 24 46.1	
	comp=N,252nm,0.4s						
TPAW	**Teton Pass**	**0.89**	**200**		Pg	22 24 30.2	+0.5
TPAW				IAML		22 24 43.6	
	comp=N,174nm,0.7s						
RLMT	**Red Lodge**	**1.20**	**48**		Pg	22 24 35.4	-0.2
RLMT				IAML		22 24 54.2	
	comp=N,88nm,0.3s						
RLMT				IAML		22 24 54.2	
	comp=N,130nm,0.4s						
BOZ	**Bozeman (W)**	**1.49**	**329**		Pn	22 24 40.0	-0.5
AHID	**Auburn Hatcher**	**1.62**	**195**		Pn	22 24 42.5	+0.1
PD31	**Pinedale Array**	**1.72**	**155**		Pn	22 24 44.2	+0.6
PDAR	**Pinedale Array**	**1.72**	**155**		Pn	22 24 42.1	-1.6
MCMT	**McKenzie Canyo**	**1.73**	**288**		Pg	22 24 46.6	+0.9
DLMT	**Dillon**	**1.79**	**306**		Pn	22 24 43.4	-1.3
DLMT				IAML		22 25 16.1	
	comp=N,24nm,0.9s						
DLMT				IAML		22 25 18.2	
	comp=N,27nm,1.5s						
LRM	**Limekiln Ridge**	**2.02**	**318**		Pn	22 24 46.4	-1.5
HWUT	**Hardware Ranch**	**2.83**	**196**		Pn	22 24 56.3	-2.6
HWUT				IAML		22 25 47.2	
	comp=N,12nm,1.0s						
HWUT				IAML		22 25 50.8	
	comp=N,11nm,1.6s						
HLID	**Hailey**	**2.91**	**256**		Pn	22 24 59.3	-0.7
HLID				IAML		22 25 50.2	
	comp=N,7.6nm,0.9s						
HLID				IAML		22 25 55.4	
	comp=N,7.6nm,0.8s						
LYMT	**Lyon Mountain**	**2.91**	**336**		Pn	22 24 59.9	-0.2
BPMT	**Black Pine Rid**	**2.94**	**317**		Pb	22 25 04.2	-1.7
HVU	**Hansel Valley**	**3.03**	**214**		Pn	22 24 59.9	-1.9
OVMT	**Ovando**	**3.23**	**329**		Pn	22 25 03.0	-1.5
TCUT	**Toone Canyon**	**3.27**	**192**		Pg	22 25 15.5	+0.2
MSO	**Missoula**	**3.46**	**317**		Pn	22 25 08.8	+1.2
EGMT	**Eagleton**	**3.73**	**8**		Pn	22 25 09.8	-1.5
CTU	**Camp Tracy**	**3.75**	**194**		Pn	22 25 09.2	-2.3
JLU	**Jordanelle**	**3.79**	**191**	Pn	Pn	22 25 09.7	-2.5
BSUT	**Blindstream Ca**	**3.79**	**183**		Pn	22 25 09.3	-3.1
LAO	**LASA Array**	**3.84**	**51**	Pn	Pn	22 25 11.1	-1.6
BGU	**Big Grassy Mou**	**3.87**	**209**	Pn	Pn	22 25 11.6	-1.7
MFID	**Camas Ranch**	**3.94**	**258**		Pn	22 25 13.2	-0.9
PLID	**Pearl Lake**	**3.97**	**283**		Pn	22 25 14.6	-0.1

*NEIC **29** 23:16:37.7±0.7,19°.18N±0°.03×155°.47W±0°.03,h44km±3km, Error ellipse: s-maj=5.0km s-min=2.9km az=143.0*

HVO 29 23:16:39.3±1.0,19°.16N±0°.03×155°.46W±0°.02,h36km±2km, ML2.8/40,ML2.9/42(NEIC),Error ellipse: s-maj=3.8km s-min=2.3km az=161.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**39**		Pn	23 16 45.0	-0.5
HPO	**Honuapo**	**0.12**	**230**		Pn	23 16 44.9	-4.1
HPO					Sn	23 16 49.0	-8.5
KHU	**Kahuku**	**0.17**	**299**		Pn	23 16 45.2	-2.8
KHU					Sn	23 16 49.5	-5.9
HLP	**Hilina Pali**	**0.20**	**48**		Pn	23 16 45.8	-1.8
HLP					Sn	23 16 50.4	-4.3
HLP				IAML		23 16 52.5	
	comp=E,1μm,0.2s						
HLP				IAML		23 16 54.0	
	comp=N,2μm,0.3s						
AIN	**Ainahou**	**0.21**	**1**		Pn	23 16 45.8	-1.8
AIN					Sn	23 16 50.5	-4.1
AIN	**Ainahou**	**0.21**	**1**	IAML		23 16 50.7	
	comp=E,3μm,0.3s						
AIN				IAML		23 16 51.2	
	comp=N,4μm,0.4s						
SDHHI	**Sand Hill**	**0.27**	**35**		Pn	23 16 46.1	-1.3
SDHHI					Sn	23 16 51.1	-2.8
WRMHI	**West Rim**	**0.28**	**32**		Pn	23 16 46.1	-1.3
WRMHI					Sn	23 16 51.4	-2.5
RIM	**Rim**	**0.29**	**37**		Pn	23 16 46.2	-1.3
RIM					Sn	23 16 51.4	-2.5
KKO	**Keanakako'i**	**0.30**	**38**		Pn	23 16 46.3	-1.2
KKO					Sn	23 16 51.4	-2.6
UWE	**Uwekahuna**	**0.30**	**32**		Pn	23 16 46.5	-1.1
UWE	**Uwekahuna**	**0.30**	**32**		Sn	23 16 51.8	-2.2
OBL	**Observatory Le**	**0.30**	**33**		Pn	23 16 46.2	-1.3
OBL					Sn	23 16 51.9	-2.0
BYL	**Byron's Ledge**	**0.31**	**37**		Pn	23 16 46.4	-1.1
BYL					Sn	23 16 47.3	-6.6
BYL				IAML		23 16 51.9	
	comp=E,787nm,0.6s						
PUH	**Pauahi**	**0.31**	**48**		Pn	23 16 46.6	-1.0
PUH				IAML		23 16 51.9	
	comp=E,1μm,0.3s						
PUH				IAML		23 16 52.0	
	comp=N,802nm,0.2s						
UWB	**Uwekahuna Bluf**	**0.31**	**34**		Pn	23 16 46.2	-1.

ILBA					Sg		Sg	23 22 45.9	+0.3
RAFI	**Al-Rafai**	**1.13**	**195**	*e*Pg			**Pb**	**23 22 40.0**	**0.0**
RAFI				*e*Sg			**Sb**	**23 22 55.0**	**+0.4**
RAFI				AML			AML	23 23 20.6	
	comp=N,7.5nm,0.5s								
GLG1	**Gilan-e-Gharb**	**1.37**	**340**	Pg			**Pn**	**23 22 43.5**	**0.0**
GLG1				Sg			**Sg**	**23 23 04.1**	**+1.3**
IGHG	**Ghaleghazi**	**1.51**	**3**	Pg			**Pn**	**23 22 45.3**	**-0.2**
IDHR	**Dehrash**	**1.88**	**358**	Pn			**Pn**	**23 22 51.1**	**+0.6**

IDC ***29*** *23:24:53.1±2.3,31°.42S×71°.28W,h0km,mb4.0/2, mbtmp3.8/3,ML4.0/1,MS3.3/1,Error ellipse: s-maj=110.2km s-min=35.2km az=94.0*

SJA ***29*** *23:24:53.1±0.8,31°.42S×72°.09W,h33km,ML4.0,MW4.2*

GUC ***29*** *23:24:55.5±0.9,31°.49S×71°.69W,h25km±10km,ML3.8*

ISC 29 23:24:52.2±1.5,**31°.40S**±0°.03×**71°.97W**±0°.05,**h5**km±9km, **n51,σ1°62/78,1C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CO06	**Fray Jorge**	**0.78**	**22**	⇑*i*	P		**Pn**	**23 25 10.9**	**+0.9**
CO06				*i*	S		**Sn**	**23 25 22.3**	**+0.3**
CO02	**Combarbal**	**0.85**	**77**	⇓*i*	P		**Pb**	**23 25 09.6**	**0.0**
CO02				*i*	S		**Sg**	**23 25 19.3**	**-0.3**
CO02					IAML			23 25 24.1	
	comp=N,7μm,0.2s								
CO03	**El Pedregal**	**1.23**	**63**	⇓*i*	P		**Pb**	**23 25 15.9**	**-0.1**
CO03				*i*	S		**Sg**	**23 25 30.9**	**-0.9**
CO03	**El Pedregal**	**1.23**	**63**	*e*	P		**Sb**	**23 25 31.1**	**-1.2**
VA06	**Catapilco**	**1.29**	**154**	⇓*i*	P		**Pn**	**23 25 16.5**	**-0.4**
VA06				*i*	S		**Sb**	**23 25 31.7**	**-2.2**
VA06					IAML			23 25 35.7	
	comp=N,4μm,0.3s								
GO04	**Tololo Observa**	**1.58**	**40**	*e*	P		**Pb**	**23 25 22.4**	**+0.3**
GO04					IAML			23 25 46.8	
	comp=E,4μm,0.5s								
GO04	**Tololo Observa**	**1.58**	**40**	*e*	P		**Pg**	**23 25 22.7**	**+0.1**
GO04					eS		**Sg**	**23 25 44.0**	**+0.9**
GO04					IAML			23 25 47.9	
	comp=Z,1μm,0.6s								
CO05	**La Serena**	**1.60**	**23**	*e*	P		**Pg**	**23 25 24.2**	**+1.2**
CO05				*i*	S		**Sg**	**23 25 43.8**	**0.0**
VA01	**Torpederas**	**1.64**	**171**	*e*	P		**Pn**	**23 25 21.8**	**0.0**
VA01				*i*	S		**Sb**	**23 25 44.0**	**+0.1**
ROCH	**El Roble**	**1.76**	**153**	*e*	P		**Pn**	**23 25 23.8**	**+0.1**
ROC1	**El Roble**	**1.77**	**153**	*e*	P		**Pn**	**23 25 23.9**	**+0.2**
ROC1					eS		**Sb**	**23 25 47.3**	**-0.6**
VA03	**San Esteban**	**1.81**	**139**	*e*	P		**Pn**	**23 25 24.5**	**+0.2**
MT02	**Curacav**	**1.98**	**159**	*e*	P		**Pn**	**23 25 26.5**	**+0.1**
PEL	**Peldehue**	**2.05**	**148**	*e*	P		**Pn**	**23 25 28.0**	**+0.5**
CO01	**Juntas del Tor**	**2.15**	**49**	*e*	P		**Pb**	**23 25 31.5**	**-0.3**
CO01				*i*	S		**Sn**	**23 25 56.8**	**+0.6**
MT10	**Hacienda Santa**	**2.22**	**147**	*e*	P		**Pn**	**23 25 30.7**	**+0.7**
MT05	**Renca**	**2.24**	**153**	*e*	P		**Pn**	**23 25 31.6**	**+1.5**
MT05				*i*	S		**Sn**	**23 25 58.7**	**+0.5**
MT05					IAML			23 26 04.7	
	comp=E,2μm,0.4s								
RTLS	**Leoncito**	**2.31**	**101**	*e*	P		**Pb**	**23 25 33.8**	**-0.8**
RTLS					eS		**Sb**	**23 26 03.7**	**+0.1**
RTLS					IAML			23 26 05.2	
	comp=Z,947nm,0.4s								
MT14	**Cerro Cal¡n**	**2.33**	**149**	*e*	P		**Pn**	**23 25 32.0**	**+0.6**
AUSP	**Uspallata**	**2.34**	**111**	*e*	P		**Pb**	**23 25 34.0**	**-1.2**
AUSP					eS		**Sb**	**23 26 03.5**	**-1.1**
MT16	**CCHEN**	**2.36**	**149**	*e*	P		**Pn**	**23 25 33.2**	**+1.4**
MT03	**Universidad Ad**	**2.42**	**150**	*e*	P		**Pn**	**23 25 33.4**	**+0.7**
AROD	**Rodeo**	**2.47**	**61**	*e*	P		**Pb**	**23 25 37.6**	**+0.2**
AROD					eS		**Sb**	**23 26 08.9**	**+0.6**
MT09	**Talagante**	**2.51**	**161**	*e*	P		**Pn**	**23 25 34.6**	**+0.8**
MT15	**Las Vizcachas**	**2.52**	**151**	*e*	P		**Pn**	**23 25 35.3**	**+1.5**
MT04	**Ro Olivares**	**2.53**	**143**	*e*	P		**Pn**	**23 25 35.7**	**+1.5**
MT01	**Popeta**	**2.53**	**166**	*e*	P		**Pn**	**23 25 34.2**	**+0.2**
MT12	**Pirque**	**2.62**	**153**	*e*	P		**Pn**	**23 25 35.8**	**+0.6**
ACCO	**Cerro Coronel**	**2.62**	**73**	*e*	P		**Pb**	**23 25 39.5**	**-0.4**
ACCO					eS		**Sb**	**23 26 13.7**	**+1.2**
MT08	**Bocatoma Ro**	**2.62**	**142**	*e*	P		**Pn**	**23 25 37.7**	**+2.2**
MT13	**San Alfonso**	**2.73**	**149**	*e*	P		**Pn**	**23 25 38.1**	**+1.2**
ACDV	**Cuesta del Vie**	**2.74**	**64**	*e*	P		**Pb**	**23 25 41.3**	**-0.5**
ACDV					eS		**Sn**	**23 26 12.5**	**+1.8**
LMEL	**Las Melosas**	**2.86**	**149**	*e*	P		**Pn**	**23 25 40.0**	**+1.3**
ASAL	**Salagasta**	**2.91**	**115**	*e*	P		**Pn**	**23 25 38.0**	**-1.4**
ASAL				*e*	P		**Pb**	**23 25 43.5**	**-1.2**
ASAL					eS		**Sg**	**23 26 29.1**	**+3.2**
ARCO	**CERRO ARCO**	**2.95**	**120**	*e*	P		**Pn**	**23 25 38.5**	**-1.4**
ARCO				*e*	P		**Pb**	**23 25 43.9**	**-1.5**
ARCO					eS		**Sb**	**23 26 20.5**	**-1.3**
ARCO					IAML			23 26 30.4	
	comp=Z,304nm,0.4s								
RTLL	**Cerro Villicun**	**2.99**	**90**	*e*	P		**Pb**	**23 25 44.4**	**-1.6**
RTLL					eS		**Sn**	**23 26 19.0**	**+2.4**
RTLL					IAML			23 26 29.8	
	comp=Z,443nm,0.5s								
AAGR	**Agrelo**	**3.15**	**123**	*e*	P		**Pb**	**23 25 46.6**	**-2.1**
AAGR					eS		**Sg**	**23 26 33.5**	**+0.2**
AAGR					IAML			23 26 38.2	
	comp=Z,257nm,0.8s								
AGUA	**GUANDACOL**	**3.56**	**58**	*e*	P		Pn	23 25 32.7	-15
AGUA					eS		**Sb**	**23 26 38.5**	**-0.8**
AGUA					IAML			23 26 49.5	
	comp=Z,301nm,0.6s								
VCA	**Vinchina**	**4.20**	**52**	*e*	P		Pb	23 26 02.1	-4.7
VCA					eS		**Sg**	**23 27 04.4**	**-2.9**
VCA					IAML			23 27 04.7	
	comp=Z,209nm,0.6s								
ACHE	**Chepes**	**4.55**	**88**	*e*	P		**Pn**	**23 26 06.2**	**+4.3**
ACHE					eS		**Sn**	**23 26 56.5**	**+1.3**
ACHE					eS		**Sb**	**23 27 02.1**	**-5.7**
ACLC	**CERRO LA CRUZ**	**4.76**	**67**	*e*	P		**Pn**	**23 26 07.4**	**+2.6**
ACLC					eS		**Sn**	**23 27 00.0**	**-0.5**
ACLC					IAML			23 27 10.6	
	comp=Z,122nm,0.7s								
APLL	**PUNTA DE LOS L**	**4.78**	**79**	*e*	P		**Pn**	**23 26 07.5**	**+2.5**
APLL					eS		**Sn**	**23 27 04.5**	**+3.6**
AC02	**Maricunga**	**5.18**	**29**	*e*	P		**Pn**	**23 26 13.0**	**+2.1**
AC02					eS		**Sb**	**23 27 24.0**	**-2.4**
AC02					IAML			23 27 39.5	
	comp=Z,82nm,0.8s								
CYA	**Choya**	**6.11**	**63**	*e*	P		**Pn**	**23 26 25.8**	**+2.5**
CYA					eS		**Sn**	**23 27 31.0**	**-2.6**
CYA					IAML			23 28 06.4	
	comp=Z,38nm,0.7s								
TCA	**Tanti**	**6.30**	**91**	*e*	P		**Pn**	**23 26 27.9**	**+1.9**
TCA					eS		**Sn**	**23 27 38.0**	**-0.5**
TCA					IAML			23 27 58.4	
	comp=Z,85nm,0.8s								
PLCA	**Paso Flores**	**9.38**	**173**	Pn			**Pn**	**23 27 08.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=339,slow=12,SNR=6.1 comp=Z,0.9nm,0.4s								
BDFB	**Brasilia**	**26.90**	**60**	LR		LR		23 42 19.5	
	comp=Z,68nm,19.8s,baz=234,slow=40								
SNAA	**Sanae**	**53.97**	**159**	P			**P**	**23 34 16.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=304,slow=11,SNR=3.7 comp=Z,1.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**83.27**	**70**	P			**P**	**23 37 19.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=248,slow=6.1,SNR=7.5 comp=Z,1.3nm,0.8s								
ZALV	**Zalesovo Beam**	**151.97**	**30**	PKPbc			**PKPbc**	**23 44 48.1**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=294,slow=2.9,SNR=9.4								
MKAR	**Makanchi Array**	**154.95**	**45**	PKPbc			**PKiKP**	**23 44 57.0**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=272,slow=3.9,SNR=1.3								

MOS ***29*** *23:33:02.7±1.0,37°.26N×71°.61E,h112km,mb4.3/8,Error ellipse: s-maj=6.8km s-min=4.7km az=93.2*

BJI ***29*** *23:33:03.1,37°.37N×71°.58E,h110km,mB4.3/4,mb4.5/27*

NEIC ***29*** *23:33:04.3±1.2,37°.28N±0°.05×71°.55E±0°.09,h109km±5km, mb4.3/21,Error ellipse: s-maj=10.3km s-min=6.0km az=70.0*

IDC ***29*** *23:33:04.2±0.8,37°.11N×71°.73E,h121km±5km,mb3.5/19, mbtmp4.0/24,MS2.9/6,Error ellipse: s-maj=14.1km s-min=11.2km az=169.0*

NNC ***29*** *23:33:06.9±3.7,37°.49N×71°.55E,h147km±46km,mb3.8, mpv4.5,Error ellipse: s-maj=34.9km s-min=18.7km az=178.0*

ISC 29 23:33:03.8±0.5,**37°.25N**±0°.04×**71°.68E**±0°.04,**h113**km±4km, **h112**km;**pP-P,n220,σ1°95/243,mb4.1**/43,**14C-14D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GAR	**Garm**	**2.05**	**329**			**Pn**	**23 33 37.3**	**-0.3**
GAR					Sn	**Sn**	**23 34 01.7**	**-1.8**
CHGR	**Chuyangaron**	**2.44**	**306**			**Pn**	**23 33 40.8**	**-1.7**
CHGR					Sn	**Sn**	**23 34 08.9**	**-3.4**
CHGR	**Chuyangaron**	**2.44**	**306**	PN		**Pn**	**23 33 40.8**	**-1.7**
CHGR					S	**Sn**	**23 34 08.9**	**-3.4**
SIMJ	**Simiganj**	**2.53**	**304**			**Pn**	**23 33 42.1**	**-1.7**
KBL	**Kabul**	**3.45**	**219**	P		**Pn**	**23 33 55.9**	**-0.1**
KBL					S	**Sn**	**23 34 38.2**	**+1.8**
NIL	**Nilore**	**3.82**	**160**			**Pn**	**23 34 01.8**	**+1.0**
NIL	**Nilore**	**3.82**	**160**	PN		**Pn**	**23 34 01.8**	**+1.0**
KSH	**Kashi**	**4.06**	**55**	P		**Pn**	**23 34 01.8**	**-2.3**
KSH					S	**Sn**	**23 34 45.3**	**-5.6**
KSH					smax	smax		
	comp=N,1μm,0.8s							
KSH					smax	smax		
	comp=E,960nm,0.7s							
SRNI	**Srinagar**	**4.07**	**140**	*e*P		**Pn**	**23 34 02.8**	**-1.3**
SRNI				*e*S		**Sn**	**23 34 48.1**	**-2.7**
SRNI					IAML		23 34 52.1	
	comp=N,220nm,0.1s							
SRNI					IAML		23 34 53.2	
	comp=E,1μm,0.2s							
IUG	**Iuzhnay**	**5.05**	**346**	*e*PN		**Pn**	**23 34 17.7**	**+0.3**
JMU	**Jammu**	**5.24**	**149**	*e*P		**Pn**	**23 34 19.8**	**0.0**
JMU				*e*S		**Sn**	**23 35 13.1**	**-6.0**
JMU					IAML		23 35 15.4	
	comp=E,282nm,0.4s							
JMU					IAML		23 35 23.2	
	comp=N,351nm,0.3s							
UCH	**Uchtor**	**5.43**	**23**	P		**Pn**	**23 34 24.2**	**+1.4**
	SNR=93							
EKS2	**Erkin-Say**	**5.64**	**16**	P		**Pn**	**23 34 26.8**	**+1.5**
	SNR=189							
AAK	**Ala-Archa**	**5.80**	**21**			**Pn**	**23 34 29.2**	**+1.7**
AAK	**Ala-Archa**	**5.80**	**21**	P		**Pn**	**23 34 29.3**	**+1.8**
	comp=N,147nm,0.4s,baz=202,slow=8.6,SNR=318							
AAK					S	**Sn**	**23 35 33.4**	**+0.7**
	comp=N,47nm,0.4s,baz=143,slow=22,SNR=7.4							
AAK	**Ala-Archa**	**5.80**	**21**	P		**Pn**	**23 34 29.3**	**+1.7**
	SNR=177							
AAK	**Ala-Archa**	**5.80**	**21**	⇓P		**Pn**	**23 34 29.2**	**+1.7**
	comp=N,52nm,0.5s							
AAK				⇑	S	**Sn**	**23 35 33.3**	**+0.5**
	comp=N,156nm,0.9s							
AAK	**Ala-Archa**	**5.80**	**21**	*d i*	PN	**Pn**	**23 34 29.2**	**+1.7**
AAK	**Ala-Archa**	**5.80**	**21**	*i*	P	**Pn**	**23 34 29.3**	**+1.8**
	SNR=196							
AAK					P		23 34 29.3	
KK31	**Karatay Array**	**5.91**	**352**			**Pn**	**23 34 29.2**	**+0.3**
KK31	**Karatay Array**	**5.91**	**352**	⇑	P	**Pn**	**23 34 29.2**	**+0.3**
	comp=N,5.8nm,0.2s,baz=176,slow=12,SNR=391							
KK31				⇑	S	**Sn**	**23 35 31.5**	**-3.9**
	comp=N,67nm,0.5s,baz=166,slow=25,SNR=3.8							
KK31	**Karatay Array**	**5.91**	**352**		PN	**Pn**	**23 34 29.3**	**+0.3**
KKAR	**Karatay Array**	**5.91**	**352**			**Pn**	**23 34 29.1**	**+0.2**
KKAR	**Karatay Array**	**5.91**	**352**		PN	**Pn**	**23 34 29.1**	**+0.2**
BRLS	**Borolday**	**5.94**	**347**	*e*PN		**Pn**	**23 34 26.0**	**-3.3**
KBK	**Karagaybulak**	**5.95**	**24**	P		**Pn**	**23 34 31.8**	**+2.2**
	SNR=6.5							
FRU1	**Bishkek**	**6.00**	**21**			**Pn**	**23 34 31.9**	**+1.8**
FRU1	**Bishkek**	**6.00**	**21**	PN		**Pn**	**23 34 31.9**	**+1.8**
ULHL	**Ulahol**	**6.10**	**34**	P		**Pn**	**23 34 33.6**	**+1.9**
	SNR=19							
BOOM	**Boomskoye usch**	**6.17**	**31**	Pn		Pn	23 34 23.8	-8.8
CHMS	**Chumysh**	**6.20**	**21**	P		**Pn**	**23 34 34.4**	**+1.5**
	SNR=194							
DHRM	**DHARAMSHALA**	**6.27**	**141**	*e*P		**Pn**	**23 34 32.6**	**-1.5**
DHRM				*e*S		**Sn**	**23 35 39.5**	**-5.1**
DHRM					IAML		23 35 42.7	
	comp=E,847nm,0.5s							
USP	**Ospenovka**	**6.38**	**19**	P		**Pn**	**23 34 36.4**	**+1.1**
	SNR=71							
TKM2	**Tokmak 2**	**6.41**	**27**	P		**Pn**	**23 34 37.5**	**+1.7**
	SNR=37							
KDJ	**Kajisay**	**6.46**	**39**			**Pn**	**23 34 37.5**	**+1.0**
KDJ	**Kajisay**	**6.46**	**39**	PN		**Pn**	**23 34 37.5**	**+1.0**
BHK	**Bhakra**	**7.02**	**145**	*e*P		**Pn**	**23 34 46.0**	**+2.1**
BHK					IAML		23 35 58.1	
	comp=N,251nm,0.5s							
BHK					eS	**Sn**	**23 36 01.6**	**-0.7**
BHK					IAML		23 36 04.4	
	comp=E,299nm,0.4s							
PRZ	**Przheval'sk**	**7.35**	**43**			**Pn**	**23 34 50.6**	**+2.1**
PRZ	**Przheval'sk**	**7.35**	**43**	PN		**Pn**	**23 34 50.7**	**+2.1**
SMLA	**Simla**	**7.61**	**142**	*e*P		**Pn**	**23 34 50.5**	**-1.5**
SMLA				*e*S		**Sn**	**23 36 09.3**	**-7.4**
SMLA					IAML		23 36 11.4	
	comp=E,297nm,0.5s							
KLP	**Kalpa**	**7.88**	**134**	⇓*e*P		**Pn**	**23 34 53.6**	**-2.3**
KLP				*e*S		Sn	23 36 14.7	-8.9
KLP					IAML		23 36 17.0	
	comp=E,240nm,0.7s							
KLP					IAML		23 36 19.3	
	comp=N,216nm,0.3s							
BTLS	**Baital**	**7.98**	**12**	*e*PN		**Pn**	**23 34 56.9**	**0.0**
UZB	**Uzynbulak**	**8.14**	**41**	*e*PN		**Pn**	**23 34 59.4**	**+0.2**
ARXS	**Arharly**	**8.37**	**32**	*e*PN		**Pn**	**23 35 04.7**	**+2.4**
SHLS	**Shalkode**	**8.38**	**43**	*e*PN		**Pn**	**23 35 05.5**	**+3.1**
PDGK	**Podgornoye**	**8.51**	**42**	⇓P		**Pn**	**23 35 04.6**	**+0.3**
	comp=N,14nm,0.7s							
PDGK				⇑	S	**Sn**	**23 36 39.3**	**+0.8**
	comp=N,26nm,1.0s							
PDGK	**Podgornoye**	**8.51**	**42**	PN		**Pn**	**23 35 04.5**	**+0.3**
LGTI	**Lohaghat**	**10.57**	**135**	*e*P		**Pn**	**23 35 29.1**	**-2.9**
LGTI				*e*S		Sn	23 37 16.3	-12
LGTI					IAML		23 37 19.4	
	comp=E,46nm,0.4s							
LGTI					IAML		23 37 19.7	
	comp=N,40nm,0.3s							
MAKZ	**Makanchi**	**12.23**	**35**	Pn		**Pn**	**23 35 52.9**	**-1.2**
MAKZ	**Makanchi**	**12.23**	**35**	P		**Pn**	**23 35 52.9**	**-1.2**
MK31	**Makanchi Array**	**12.36**	**36**	Pn		**Pn**	**23 35 55.8**	**-0.1**
MK31	**Makanchi Array**	**12.36**	**36**	⇓P		**Pn**	**23 35 56.0**	**+0.2**
	comp=N,6.7nm,0.7s,baz=224,slow=14,SNR=76							
MK31	**Makanchi Array**	**12.36**	**36**	*i*	P	**Pn**	**23 35 56.6**	**+0.8**
MKAR	**Makanchi Array**	**12.36**	**36**	P		**Pn**	**23 35 55.9**	**+0.1**
	comp=N,8.0nm,0.7s,baz=224,slow=13,SNR=62							
MKAR					LR	LR	23 41 18.7	
	comp=N,40nm,19.3s,baz=213,slow=40							
MKAR	**Makanchi Array**	**12.36**	**36**	*e*P		**Pn**	**23 35 55.0**	**-0.8**
WMQ	**Urumqi**	**13.83**	**57**	*e*P		**Pn**	**23 36 15.3**	**+0.4**
WMQ					sP	P	23 36 47.8	+28
WMQ					pmax	pmax		
	comp=N,23nm,1.1s							
WMQ					LR	LR		
	comp=N,100nm,21.7s							
KURBB	**Kurchatov Arra**	**14.24**	**18**	P		**Pn**	**23 36 17.6**	**-2.5**
	comp=N,1.2nm,0.3s,baz=209,slow=12,SNR=10							
KURK	**Kurchatov**	**14.35**	**18**	Pn		**Pn**	**23 36 22.6**	**+1.2**
KURK	**Kurchatov**	**14.35**	**18**	*ce*P		**Pn**	**23 36 19.6**	**-1.8**
KURK					pmax	pmax		
	comp=Z,5.0nm,0.8s							
AB31	**Akbulak array**	**14.71**	**328**	Pn		**Pn**	**23 36 23.4**	**-2.6**
AB31	**Akbulak array**	**14.71**	**328**	P		**Pn**	**23 36 23.4**	**-2.6**
	comp=Z,5.4nm,0.3s,baz=155,slow=11,SNR=301							
AB31	**Akbulak array**	**14.71**	**328**	P		**Sn**	**23 36 23.4**	**-2.6**
ABKAR	**Akbulak array**	**14.71**	**328**	Pn		**Pn**	**23 36 23.0**	**-3.0**
NGCH	**Negor - Chabah**	**14.88**	**220**	P		**Pn**	**23 36 28.1**	**-0.2**
EVN	**Everest**	**15.75**	**122**	Pn		**Pn**	**23 36 36.5**	**-3.4**
BVA0	**Borovoye Array**	**15.80**	**357**	⇑P		**Pn**	**23 36 40.1**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=165,slow=8.0,SNR=6.3							
BVA0	**Borovoye Array**	**15.80**	**357**	P		**Pn**	**23 36 40.1**	**+0.4**
BVAR	**Borovoye Array**	**15.80**	**357**	P		**Pn**	**23 36 39.6**	**0.0**
	comp=Z,2.0nm,0.5s,baz=159,slow=11,SNR=7.5							
BVAR					S	**Sn**	**23 39 26.5**	**-8.1**
	comp=Z,4.2nm,0.8s,baz=169,slow=25,SNR=5.0							
BVAR					LR	LR	23 43 25.0	
	comp=Z,13nm,21.3s,baz=195,slow=39							
AKTO	**Aktyubinsk**	**16.42**	**328**	P		**Pn**	**23 36 47.1**	**-0.2**
	comp=Z,12nm,0.5s,baz=136,slow=12,SNR=19							
AKTO					S	**Sn**	**23 39 39.0**	**-10**
	comp=Z,11nm,0.6s,baz=195,slow=22,SNR=4.6							
AKTO	**Aktyubinsk**	**16.42**	**328**	⇓P		**Pn**	**23 36 46.3**	**-1.1**
	comp=Z,8.1nm,0.7s							
SHME	**Shamm**	**17.29**	**234**	P		**P**	**23 36 56.6**	**-1.3**
SHME	**Shamm**	**17.29**	**234**	P		**P**	**23 36 56.4**	**-1.5**
MDH	**Madha**	**17.71**	**232**	P		**P**	**23 37 00.3**	**-2.3**
MASF	**Masafi**	**17.75**	**233**	P		**P**	**23 37 01.2**	**-1.9**
	SNR=7.2							
MSFE	**Esma-Masafi**	**17.76**	**233**	P		**P**	**23 37 01.4**	**-1.7**
LSA	**Lhasa**	**17.89**	**109**	P		**P**	**23 37 05.5**	**+0.5**
LSA					pmax	pmax		
	comp=Z,12nm,0.8s							
WSAR	**Wadi Sarin**	**17.92**	**222**	P		**P**	**23 37 02.1**	**-2.7**
	comp=Z,0.1nm,0.6s,baz=71,slow=24,SNR=16							
WSAR	**Wadi Sarin**	**17.92**	**222**	P		**P**	**23 37 05.0**	**+0.1**
	SNR=8.1							
BIDO	**Bidbid**	**17.97**	**224**	P		**P**	**23 37 04.5**	**-0.9**
UOSS	**Minazif**	**18.03**	**231**	P		**P**	**23 37 05.0**	**-1.0**
UOSS					IAmb	IAmb	23 37 08.2	
	comp=Z,18nm,0.8s							
UOSS	**Minazif**	**18.03**	**231**	P		**P**	**23 37 04.4**	**-1.7**
UOSS	**Minazif**	**18.03**	**231**	P		**P**	**23 37 04.2**	**-1.9**
LKRN	**Lenkeran, Azer**	**18.11**	**282**	P		**Pn**	**23 37 08.3**	**+0.4**
HATD	**Hatta, Dubai**	**18.16**	**231**	P		**P**	**23 37 07.8**	**+0.4**
	SNR=7.9							
HATD	**Hatta, Dubai**	**18.16**	**231**	P		**P**	**23 37 09.7**	**+0.4**
ASHO	**Ashiyiah**	**18.31**	**231**	P		**P**	**23 37 09.0**	**-0.1**
	SNR=16							
ASHO	**Ashiyiah**	**18.31**	**231**	*i* P		**P**	**23 37 09.1**	**-0.1**
	SNR=31							
NAZ	**Nazwa, Dubai**	**18.34**	**233**	P		**P**	**23 37 09.6**	**+0.2**
NAZ	**Nazwa, Dubai**	**18.34**	**233**	*i* P		**P**	**23 37 09.6**	**+0.2**
	SNR=6.8							
SMDO	**Samad**	**18.38**	**223**	P		**P**	**23 37 10.6**	**+0.6**
	SNR=5.6							
HOQ	**Hoqain**	**18.38**	**226**	P		**P**	**23 37 09.5**	**-0.5**
JLN	**Jalan Bani Buh**	**18.41**	**219**	P		**Pn**	**23 37 12.0**	**+0.3**
SOHO	**SOHO**	**18.42**	**229**	P		**P**	**23 37 08.6**	**-1.8**
GOMU	**GeErMu**	**18.57**	**86**	P		**Pn**	**23 37 14.0**	**+0.1**
GOMU					pmax	pmax		
	comp=Z,5.0nm,0.7s							
ASUD	**Al Ashush, Dub**	**18.81**	**233**	P		**P**	**23 37 14.1**	**-0.4**
JMDO	**Jabal Madar**	**18.91**	**222**	P		**P**	**23 37 16.5**	**+0.9**
ALNE	**Al Ain**	**18.96**	**231**	P		**P**	**23 37 15.7**	**-0.5**
	SNR=28							
ALNE	**Al Ain**	**18.96**	**231**	*i* P		**P**	**23 37 15.1**	**-1.1**
	SNR=28							
AKT	**Akhty**	**18.97**	**290**	*e*P		**Pn**	**23 37 13.7**	**-1.0**
AKT				*e*S		**S**	**23 40 43.8**	**-2.1**
AKT					pmax	pmax		
	comp=Z,8.0nm,0.4s							
AKT					smax	smax		
	comp=E,24nm,0.6s							
AKT					smax	smax		
	comp=N,32nm,0.7s							
ZAA0	**Zalesovo Array**	**19.01**	**24**			**P**	**23 37 17.1**	**+0.6**
ZALV	**Zalesovo Beam**	**19.01**	**24**			**P**	**23 37 16.9**	**+0.5**
ZALV	**Zalesovo Beam**	**19.01**	**24**	P		**Pn**	**23 37 17.8**	**-0.6**
	comp=N,7.0nm,0.6s,baz=222,slow=11,SNR=22							
ARQ	**Araqi**	**19.03**	**227**	P		**P**	**23 37 17.2**	**+0.2**
	SNR=5.5							
AJN	**Ajban**	**19.07**	**233**	P		**P**	**23 37 16.9**	**-0.5**
	SNR=8.8							
AJN	**Ajban**	**19.07**	**233**	*i* P		**P**	**23 37 16.9**	**-0.5**
	SNR=8.8							
SEKA	**Sheki**	**19.35**	**289**	P		**P**	**23 37 20.1**	**-0.3**
MNGR	**Mingechevir, A**	**19.41**	**288**	P		**P**	**23 37 21.9**	**+0.9**
GANJ	**Ganja**	**19.99**	**288**	P		**P**	**23 37 28.3**	**+1.0**
MHTO	**MHTO**	**20.11**	**220**	P		**P**	**23 37 29.4**	**+0.6**
JRN	**Qarnain Island**	**20.22**	**238**	P		**P**	**23 37 28.1**	**-1.7**
UMZA	**Um Al Zommool**	**20.32**	**229**	P		**P**	**23 37 29.8**	**-1.1**
MZWR	**Madinat Zayed**	**20.35**	**234**	P		**P**	**23 37 29.3**	**-1.9**
NAX	**Nakhchivan**	**20.64**	**283**	P		**P**	**23 37 35.5**	**+1.1**
SHL	**Shillong**	**20.76**	**118**	P		**P**	**23 37 36.6**	**+0.7**
SHL	**Shillong**	**20.76**	**118**	P		**P**	**23

	comp=Z,7.9nm,1.3s						
KIEV	**Kiev**	**32.91 308**	P	**P**	**23 39 26.7**	**-0.3**	
KIEV			pmax	pmax			
	comp=Z,8.0nm,1.3s						
KIEV	**Kiev**	**32.91 308**	P	**P**	**23 39 26.8**	**-0.3**	
	comp=Z,17nm,1.3s						
SORM	**Soroca**	**33.24 303**	⇑P	**P**	**23 39 30.3**	**+0.3**	
SORM	**Soroca**	**33.24 303**	⇑P	**P**	**23 39 30.3**	**+0.3**	
SORM	**Soroca**	**33.24 303**	P	**P**	**23 39 29.6**	**-0.3**	
	comp=Z,503nmcomp=Z,8.2nm,1.7s						
TESR	**Tescani**	**34.37 300**	⇑P	**P**	**23 39 41.0**	**+1.2**	
TESR	**Tescani**	**34.37 300**	P	**P**	**23 39 39.4**	**-0.4**	
	comp=Z,6.0nm,0.7s						
PLOR	**Plostina**	**34.39 299**	⇓P	**P**	**23 39 43.7**	**+3.7**	
PLOR	**Plostina**	**34.39 299**	⇓P	**P**	**23 39 43.7**	**+3.7**	
ARG	**Arkhangelos**	**34.69 282**	P	**P**	**23 39 43.0**	**+0.3**	
ARG	**Arkhangelos**	**34.69 282**	P	**P**	**23 39 43.0**	**+0.3**	
ARG			pmax	pmax			
	comp=Z,52nm,1.3s						
COVR	**Voineasa-Covas**	**34.70 299**	⇓P	**P**	**23 39 44.9**	**+2.3**	
TURR	**Turia**	**34.82 299**	⇑P	**P**	**23 39 44.9**	**+1.1**	
MLR	**Muntele Rosu**	**34.90 298**	P	**P**	**23 39 44.2**	**-0.3**	
MLR	**Muntele Rosu**	**34.90 298**	⇑P	P	23 39 49.8	+5.4	
MLR	**Muntele Rosu**	**34.90 298**	P	**P**	**23 39 44.2**	**-0.3**	
MLR			pmax	pmax			
	comp=Z,10.0nm,1.0s						
RNPP8	**Varash**	**35.09 309**	P	**P**	**23 39 46.2**	**+0.3**	
DOPR	**Dopca**	**35.26 299**	⇓P	**P**	**23 39 47.2**	**-0.3**	
BURAR	**Bucovina Array**	**35.34 302**	P	**P**	**23 39 47.9**	**-0.3**	
BURAR			IAmb	IAmb	23 40 16.2		
	comp=Z,2.6nm,0.9s						
BURAR	**Bucovina Array**	**35.34 302**	⇓P	**P**	**23 39 45.2**	**-3.0**	
BURAR	**Bucovina Array**	**35.34 302**	⇓P	**P**	**23 39 45.2**	**-3.0**	
BUR08	**Bucovina Ar. S**	**35.35 302**	P	**P**	**23 39 48.8**	**+0.5**	
BUR08			IAmb	IAmb	23 40 16.1		
	comp=Z,4.1nm,1.1s						
ARR	**Arges**	**35.82 298**	⇑P	**P**	**23 39 56.7**	**+4.4**	
LOT	**Lotru**	**36.43 298**	⇓P	**P**	**23 40 01.7**	**+4.2**	
MARR	**Marisel-Cluj**	**36.80 300**	⇓P	**P**	**23 39 56.6**	**-4.1**	
FINES	**FINESS Array B**	**37.17 325**	P	**P**	**23 40 04.3**	**+0.9**	
	comp=Z,2.3nm,0.9s,baz=128,slow=8.6,SNR=7.7						
FINES			pP	**pP**	**23 40 31.4**	**+1.7**	
	comp=Z,1.8nm,0.6s,baz=116,slow=9.2,SNR=3.0						
	comp=Z,2.3nm,0.9s						
FINES	**FINESS Array B**	**37.17 325**	*i* P	**P**	**23 40 07.4**	**+4.0**	
FINES			pmax	pmax			
	comp=Z,1.0nm,0.5s						
SURR	**Surduc**	**37.55 299**	⇓P	**P**	**23 40 08.6**	**+1.7**	
OJC	**Ojcow**	**38.89 306**	P	**P**	**23 40 18.0**	**-0.1**	
	comp=Z,3.5nm,0.8s						
PSZ	**Piszkesteto**	**38.92 303**	P	**P**	**23 40 18.1**	**-0.3**	
PSZ			IAmb	IAmb	23 41 02.0		
	comp=Z,2.7nm,0.8s						
PSZ	**Piszkesteto**	**38.92 303**	P	**P**	**23 40 18.1**	**-0.3**	
PSZ			pmax	pmax			
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**40.66 337**	P	**P**	**23 40 33.7**	**+1.2**	
	comp=Z,1.6nm,0.7s,baz=114,slow=7.5,SNR=8.5						
ARCES			pP	**pP**	**23 41 01.5**	**+2.3**	
	comp=Z,2.4nm,0.6s,baz=106,slow=7.2,SNR=4.2						
ARCES			LR	LR	23 58 16.3		
	comp=Z,18nm,18.2s,baz=220,slow=37						
	comp=Z,1.6nm,0.7s						
KSP	**Ksiaz**	**41.10 307**	P	**P**	**23 40 36.4**	**+0.1**	
	comp=Z,4.4nm,1.1s						
HEH	**HeiHe**	**41.36 53**	*e*P	**P**	**23 40 40.0**	**+1.6**	
HEH			pmax	pmax			
	comp=Z,9.0nm,0.7s						
CONA	**Conrad Observa**	**41.62 303**	*e*P	**P**	**23 40 41.2**	**+0.5**	
	comp=Z,1.4nm,0.6s						
OBKA	**Obir**	**42.69 301**	*e*P	**P**	**23 40 52.1**	**+2.7**	
	comp=Z,4.0nm,1.6s						
HFS	**Hagfors**	**42.81 321**	P	**P**	**23 40 50.9**	**+0.8**	
HFS			pP	**pP**	**23 41 17.8**	**+0.9**	
	comp=Z,2.5nm,0.5s,baz=99,slow=9.5,SNR=3.1						
	comp=Z,2.9nm,0.5s						
GERES	**GERESS Array B**	**42.94 305**	P	**P**	**23 40 51.5**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=61,slow=4.9,SNR=2.6						
	comp=Z,0.1nm,0.3s						
CLL	**Collm**	**43.15 308**	*e*P	**P**	**23 40 54.0**	**+1.1**	
CLL			*e**PP	**pP**	**23 41 20.0**	**+0.2**	
CLL	**Collm**	**43.15 308**	*e*P	**P**	**23 40 54.0**	**+1.1**	
CLL			*e*pP	**pP**	**23 41 20.0**	**+0.2**	
SABO	**M.te Sabotino**	**43.43 301**	P	**P**	**23 40 55.0**	**-0.3**	
SABO			IAmb	IAmb	23 41 23.5		
	comp=Z,9.3nm,1.1s						
NORES	**NORESS Array B**	**43.93 322**	P	P	23 41 04.5	+5.5	
NB2	**NORSAR Subarra**	**44.11 323**	P	**P**	**23 41 00.9**	**+0.4**	
	comp=Z,0.7nm,0.5s,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**44.11 323**	P	P	23 41 05.7	+5.2	
NOA	**NORSAR Array B**	**44.11 323**	P	**P**	**23 41 01.0**	**+0.4**	
	comp=Z,0.9nm,0.6s,baz=94,slow=7.8,SNR=7.9						
NOA			pP	**pP**	**23 41 28.2**	**+0.7**	
	comp=Z,1.3nm,0.7s,baz=96,slow=8.0,SNR=3.5						
NOA			LR	LR	00 01 51.6		
	comp=Z,10nm,19.5s,baz=180,slow=39						
	comp=Z,0.9nm,0.6s						
FETA	**Feichten**	**45.20 303**	*i* P	**P**	**23 41 06.0**	**-3.5**	
	comp=Z,0.6nm,0.4s						
DAVA	**Damuels**	**45.72 303**	*i* P	**P**	**23 41 13.9**	**+0.3**	
	comp=Z,2.1nm,0.6s						
KEST	**Kesra**	**49.31 288**	P	**P**	**23 41 42.7**	**+1.2**	
	comp=Z,1.7nm,0.8s,baz=297,slow=0.7,SNR=4.5						
	comp=Z,1.7nm,0.8s						
YSS	**Yuzhno-Sakhali**	**51.95 55**	*e*P	**P**	**23 42 04.5**	**+3.5**	
ESDC	**Sonseca Array**	**57.59 298**	P	**P**	**23 42 42.4**	**+0.5**	
	comp=Z,0.7nm,0.6s,baz=56,slow=7.4,SNR=12						
ESDC			pP	**pP**	**23 43 09.8**	**-0.3**	
	comp=Z,1.8nm,0.9s,baz=59,slow=6.5,SNR=6.0						
	comp=Z,0.7nm,0.6s						
BORG	**Borgarnes**	**58.23 330**	LR	LR	00 06 29.7		
	comp=Z,37nm,20.0s,baz=321,slow=34						
PETK	**Petropavlovsk-**	**59.05 45**	P	**P**	**23 42 52.1**	**+0.3**	
	comp=Z,0.8nm,0.4s,baz=285,slow=5.5,SNR=2.3						
	comp=Z,0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**66.28 269**	P	**P**	**23 43 38.8**	**-1.4**	
	comp=Z,0.9nm,0.5s,baz=48,slow=6.3,SNR=16						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**73.91 16**	P	**P**	**23 44 26.2**	**+0.2**	
	comp=Z,0.9nm,0.9s,baz=310,slow=4.3,SNR=8.1						
ILAR			pP	**pP**	**23 44 57.2**	**+1.5**	
	comp=Z,0.7nm,0.8s,baz=325,slow=6.2,SNR=4.5						
	comp=Z,0.9nm,0.9s						
YKA	**Yellowknife Ar**	**80.47 3**	P	**P**	**23 45 03.4**	**+0.7**	
	comp=Z,1.7nm,0.6s,baz=353,slow=6.2,SNR=9.8						
YKA			pP	**pP**	**23 45 35.4**	**+2.7**	
	comp=Z,0.8nm,0.6s,baz=355,slow=6.0,SNR=3.4						
	comp=Z,1.7nm,0.6s						
YKA	**Yellowknife Ar**	**80.47 3**	*i* P	**P**	**23 45 03.9**	**+1.2**	
YKA			pmax	pmax			
	comp=Z,2.0nm,0.6s						
ASAR	**Alice Springs**	**84.24 125**	P	**P**	**23 45 21.4**	**-1.5**	
	comp=Z,0.4nm,0.6s,baz=309,slow=4.9,SNR=4.2						
	comp=Z,0.4nm,0.6s						

IDC 29 23:33:55.8±3.4, 21°.33S×176°.16W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=192.8km s-min=63.2km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.01**	**257**	P	P	23 42 21.4	0.0
	0.6nm,0.6s,baz=99,slow=7.9,SNR=7.0						
ASAR				PcP	PcP	23 43 57.8	-0.4
	0.8nm,0.6s,baz=99,slow=3.5,SNR=8.8						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**46.19**	**262**	P	P	23 42 22.4	-0.4
	0.4nm,0.3s,baz=93,slow=7.6,SNR=6.3						
	0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**92.01**	**289**	P	P	23 47 07.5	+0.4
	1.2nm,0.3s,baz=126,slow=3.1,SNR=4.6						
	1.2nm,0.3s						
AKASG	**Malin Array Be**	**144.56**	**332**	PKP	PKPbc	23 53 33.2	+0.5
	1.9nm,0.5s,baz=44,slow=3.8,SNR=12						

WEL 29 23:57:04.6±0.8, 31°S±5°×17°.8E±1°.1, h12km, M4.4/12, mB5.0/10, ML4.8/17, MLv4.6/12, Mw(mB)4.2/10, Error ellipse: s-maj=15.5km s-min=3.9km az=113.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.89**	**57**	P	Pn	23 58 00.8	-3.3
GLKZ				S	Sn	23 58 49.3	-0.4
MXZ	**Matakaoa Point**	**6.09**	**180**	P	Pn	23 58 31.7	-2.8
MXZ				S	Sn	23 59 46.2	+2.2
HAZ	**Te Kaha**	**6.30**	**184**	P	Pn	23 58 40.0	+2.7
HAZ				S	Sn	23 59 53.7	+4.5
WMGZ	**Waiomatatini S**	**6.34**	**180**	P	Pn	23 58 38.2	+0.3
WMGZ				S	Sn	23 59 52.5	+2.1
PKGZ	**Pakihiroa**	**6.40**	**182**	P	Pn	23 58 39.9	+1.2
PKGZ				S	Sn	23 59 54.5	+2.8
RUGZ	**Raukumara Rang**	**6.51**	**185**	P	Pn	23 58 42.0	+1.6
RUGZ				S	Sn	23 59 56.9	+2.2
PUZ	**Puketiti**	**6.60**	**181**	P	Pn	23 58 43.2	+1.7
PUZ				S	Sn	23 59 57.7	+1.1
TWGZ	**Tauwhareparae**	**6.71**	**183**	P	Pn	23 58 47.2	+4.2
TWGZ				S	Sn	00 00 01.6	+2.2
URZ	**Urewera**	**6.86**	**188**	P	Pn	23 58 46.8	+1.8
URZ				S	Sn	00 00 04.7	+1.6
TKGZ	**Te Karaka**	**6.98**	**183**	S	Sn	00 00 07.2	+1.3
CNGZ	**Carnagh Statio**	**7.01**	**181**	P	Pn	23 58 49.4	+2.3
RAGZ	**Rawiri**	**7.06**	**186**	P	Pn	23 58 50.8	+2.9
RAGZ				S	Sn	00 00 09.6	+1.5
MUGZ	**Murupara**	**7.12**	**190**	P	Pn	23 58 51.7	+3.0
MUGZ				S	Sn	00 00 13.6	+4.1
RTZ	**Ruatahuna**	**7.23**	**189**	P	Pn	23 58 50.5	+0.4
RTZ				S	Sn	00 00 14.8	+2.6
RIGZ	**Rimuhau**	**7.25**	**184**	P	Pn	23 58 51.8	+1.4
RIGZ				S	Sn	00 00 13.5	+0.9
SNGZ	**Shannon Statio**	**7.35**	**186**	S	Sn	00 00 16.3	+1.1
PRGZ	**Paritu Road**	**7.46**	**183**	P	Pn	23 58 54.7	+1.5
MTHZ	**Maungataniwha**	**7.48**	**189**	P	Pn	23 58 55.1	+1.5
MTHZ				S	Sn	00 00 19.7	+1.4
RAHZ	**Arahi**	**7.51**	**188**	P	Pn	23 58 55.3	+1.3
RAHZ				S	Sn	00 00 20.6	+1.5
MHGZ	**Mahia Peninsul**	**7.69**	**183**	P	Pn	23 58 56.8	+0.5
NMHZ	**Naumai**	**7.73**	**189**	P	Pn	23 58 58.5	+1.6
NMHZ				S	Sn	00 00 25.8	+1.4
BKZ	**Black Stump Fm**	**7.84**	**191**	P	Pn	23 58 56.1	-2.4
BKZ				S	Sn	00 00 26.0	-1.2
ARHZ	**Aropaoanui**	**7.87**	**188**	P	Pn	23 58 59.2	+0.4
ARHZ				S	Sn	00 00 28.5	+0.7
ETVZ	**East Tongariro**	**7.96**	**195**	P	Pn	23 59 03.1	+2.9
TUVZ	**Tukino**	**8.10**	**195**	P	Pn	23 59 04.9	+2.7
WHVZ	**Whangaehu Hut**	**8.13**	**195**	P	Pn	23 59 04.7	+2.1
WNVZ	**Wahianoa**	**8.17**	**195**	P	Pn	23 59 04.3	+1.2
CKHZ	**Cape Kidnapper**	**8.25**	**187**	P	Pn	23 59 04.2	+0.1
CKHZ				S	Sn	00 00 33.7	-3.4
KRHZ	**Kereru**	**8.33**	**191**	P	Pn	23 59 04.9	-0.3
KRHZ				S	Sn	00 00 36.3	-2.8
KAHZ	**Kahuranaki**	**8.40**	**188**	P	Pn	23 59 01.2	-5.1
KAHZ				S	Sn	00 00 38.9	-2.2
PNHZ	**Pukenui**	**8.62**	**191**	P	Pn	23 59 04.6	-4.5
PNHZ				S	Sn	00 00 42.2	-4.1
PXZ	**Pawanui**	**8.64**	**188**	P	Pn	23 59 07.6	-1.8
PXZ				S	Sn	00 00 41.2	-5.5
TSZ	**Takapari Road**	**8.80**	**192**	P	Pn	23 59 10.6	-1.1
TSZ				S	Sn	00 00 48.9	-1.9
PRHZ	**Porangahau**	**8.90**	**189**	P	Pn	23 59 11.8	-1.2
BFZ	**Birch Farm**	**9.36**	**190**	P	Pn	23 59 16.2	-3.1
MRZ	**Mangatainoka R**	**9.46**	**193**	P	Pn	23 59 17.6	-3.0

*IDC **30** 00:03:35.7±3.7, 23°.41S×177°.86W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=172.0km s-min=55.4km az=152.0*
*NEIC **30** 00:04:07.3±0.7, 23°.7S±0°.2×178°.9W±0°.1, h230km±11km, mb4.0/17, Error ellipse: s-maj=28.1km s-min=7.3km az=152.0*
ISC 30 00:04:04.7±0.8, 23°.7S±0°.2×178°.9W±0°.1, h200km, n25, σ1s36/22, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**9.52**	**63**	Pn	**Pn**	**00 06 18.5**	**+0.7**
HNR	**Honiara**	**24.71**	**302**	P	**P**	**00 09 08.4**	**+0.7**
EIDS	**Eidsvold**	**27.35**	**260**	P	**P**	**00 09 32.3**	**+0.9**
CTAO	**Charters Tower**	**32.50**	**269**	P	**P**	**00 10 18.6**	**+1.8**
TOO	**Toolangi**	**33.42**	**237**	P	**P**	**00 10 24.4**	**-0.2**
TOO				IAmb	IAmb	00 10 39.5	
	comp=Z,0.8nm,0.9s						
STKA	**Stephens Creek**	**35.75**	**248**	P	**P**	**00 10 45.0**	**+0.5**
STKA	**Stephens Creek**	**35.75**	**248**	P	**P**	**00 10 45.5**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=79,slow=7.4,SNR=3.9						
	comp=Z,1.3nm,0.4s						
BBOO	**Buckleboo**	**40.47**	**247**	P	**P**	**00 11 23.1**	**-0.8**
BBOO				IAmb	IAmb	00 11 37.1	
	comp=Z,7.7nm,1.1s						
AS31	**Alice Springs**	**43.08**	**260**	P	**P**	**00 11 44.8**	**-0.5**
ASAR	**Alice Springs**	**43.08**	**260**	P	**P**	**00 11 44.6**	**-0.7**
ASAR	**Alice Springs**	**43.08**	**260**	P	**P**	**00 11 45.3**	**0.0**
	comp=Z,1.1nm,0.3s,baz=102,slow=7.7,SNR=21						
	comp=Z,1.1nm,0.3s						
WR8	**Warramunga Arr**	**43.30**	**266**	P	**P**	**00 11 46.3**	**-0.7**
WR8				IAmb	IAmb	00 11 46.8	
	comp=Z,4.0nm,0.7s						
WB0	**Warramunga Arr**	**43.44**	**266**	P	**P**	**00 11 47.8**	**-0.4**
WB0				IAmb	IAmb	00 11 48.4	
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**43.45**	**266**		**P**	**00 11 47.7**	**-0.5**
WRA	**Warramunga Arr**	**43.45**	**266**	P	**P**	**00 11 47.8**	**-0.4**
	comp=Z,4.5nm,0.5s,baz=103,slow=8.1,SNR=25						
	comp=Z,4.5nm,0.5s						
KNRA	**Kununurra**	**49.72**	**269**	P	**P**	**00 12 36.3**	**-0.6**
KNRA				IAmb	IAmb	00 12 43.3	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.87**	**265**	P	**P**	**00 12 52.4**	**-0.5**
PSA00	**Pilbara Seismi**	**56.21**	**259**	P	P	00 13 22.4	-1.9
PSA00				IAmb	IAmb	00 13 23.5	
	comp=Z,8.7nm,1.1s						
NWAO	**Narrogin (SRO)**	**56.25**	**245**	P	P	00 13 22.8	-1.7
MBWA	**Marble Bar**	**56.42**	**260**	P	**P**	**00 13 24.8**	**-1.0**
MBWA				IAmb	IAmb	00 13 41.2	
	comp=Z,3.9nm,0.9s						
MORW	**Morawa**	**57.91**	**250**	P	P	00 13 34.0	-2.1
QSPA	**South Pole Qui**	**66.38**	**180**	P	**P**	**00 14 32.8**	**+0.8**
QSPA				IAmb	IAmb	00 14 44.0	
	comp=Z,1.4nm,1.1s						
SNAA	**Sanae**	**84.85**	**179**	P	**P**	**00 16 15.9**	**-0.6**
HFS	**Hagfors**	**142.54**	**350**	PKP	**PKPdf**	**00 23 08.8**	**-4.4**
	comp=Z,3.1nm,0.9s,baz=23,slow=4.7,SNR=6.0						
MMAI	**Mount Meron Ar**	**148.55**	**295**	PKPbc	**PKPdf**	**00 23 26.5**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=82,slow=6.8,SNR=7.0						

*GCG **30** 00:25:17.6±2.1, 15°.93N×88°.98W, h1km±7km, MD3.9, ML3.8*
*CATAC **30** 00:25:19.1±0.3, 16°.N±2°×8°.9W±°, h1km, M3.8/9, MLv3.8/9, Error ellipse: s-maj=4.6km s-min=3.4km az=32.1, confirmed*
ISC 30 00:25:17.7±1.2, 15°.93N±0°.04×88°.99W±0°.04, h12km±12km, n26, σ0s80/31, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZABA	**Izabal, Puerto**	**0.44**	**117**	P	**Pg**	**00 25 26.4**	**-0.1**
IZABA				S	**Sb**	**00 25 34.2**	**+0.2**
SARH	**Santa Rosa de**	**1.17**	**169**	*i* P	**Pb**	**00 25 39.9**	**0.0**
SARH				*i* S	**Sg**	**00 25 57.1**	**+1.5**
SARH	**Santa Rosa de**	**1.17**	**169**	S	**Sg**	**00 25 56.7**	**+1.2**
SARH	**Santa Rosa de**	**1.17**	**169**	P	**Pg**	**00 25 40.1**	**-0.2**
PETF	**Flores**	**1.29**	**320**	*i* P	**Pg**	**00 25 42.3**	**-0.2**
PETF				*i* S	**Sg**	**00 25 59.9**	**+0.6**
PETF				IAML		00 26 05.4	
	comp=N,2μm,0.6s						
PETF	**Flores**	**1.29**	**320**	P	**Pg**	**00 25 42.7**	**+0.2**
ESQI	**Esquipulas**	**1.40**	**194**	S	**Sg**	**00 26 04.2**	**+1.2**
ESQI	**Esquipulas**	**1.40**	**194**	P	**Pg**	**00 25 44.4**	**-0.3**
AVCB	**Coban**	**1.44**	**252**	*i* S	**Sg**	**00 26 04.1**	**+0.1**
AVCB				IAML		00 26 07.7	
	comp=N,5μm,0.2s						
MTO3	**Montecristo**	**1.56**	**193**	*e*P	**Pn**	**00 25 45.5**	**0.0**
MTO3	**Montecristo**	**1.56**	**193**	P	**Pb**	**00 25 46.7**	**0.0**
MTO3	**Montecristo**	**1.56**	**193**	S	**Sg**	**00 26 08.4**	**+0.3**
LLGN	**La Laguna**	**1.76**	**178**	S	**Sg**	**00 26 14.1**	**-0.3**
LLGN	**La Laguna**	**1.76**	**178**	P	**Pb**	**00 25 49.8**	**-0.2**
MARCA	**Marcala la Paz**	**1.99**	**152**	*i* S	**Sg**	**00 26 20.0**	**-1.8**
QUIS	**Sacapulas**	**2.12**	**253**	*i* S	**Sg**	**00 26 25.1**	**-0.8**
QUIS				IAML		00 26 28.1	
	comp=N,2μm,0.4s						
NUBE	**Las Nubes**	**2.15**	**201**	*e*P	**Pb**	**00 25 56.4**	**-0.3**
NUBE				*i* S	**Sg**	**00 26 25.8**	**-1.3**
NUBE	**Las Nubes**	**2.15**	**201**	P	**Pb**	**00 25 56.6**	**-0.2**
FAME	**Alcaldia de Sa**	**2.30**	**206**	P	**Pb**	**00 25 59.3**	**+0.2**
FAME	**Alcaldia de Sa**	**2.30**	**206**	S	**Sb**	**00 26 28.9**	**+1.4**
JAYA	**Jayaque - finc**	**2.31**	**191**	*e*P	**Pb**	**00 25 59.0**	**-0.3**
JAYA				*e*S	**Sb**	**00 26 28.2**	**+0.4**
PACA	**Pacayal**	**2.53**	**165**	S	**Sb**	**00 26 35.5**	**+1.2**
PACA	**Pacayal**	**2.53**	**165**	P	**Pb**	**00 26 02.8**	**-0.4**
SOKI	**Kika Raxquin**	**2.57**	**245**	*i* S	**Sg**	**00 26 39.3**	**-1.2**
RANC	**El Ranchito**	**2.57**	**165**	P	**Pn**	**00 25 58.8**	**-0.6**
CCIG	**Comitan**	**3.04**	**277**	*i* S	**Sg**	**00 26 55.4**	**-0.1**
CCIG				IAML		00 27 13.1	
	comp=E,135nm,0.6s						

IDC 30 00:25:28.2±1.7, 3°.49S×136°.26E, h0km, mb3.4/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=34.6km s-min=30.4km az=127.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.54**	**78**	Pn	Pn	00 26 38.4	+0.1
	0.2nm,0.3s,baz=225,slow=16,SNR=2.1						
JAY				Sn	Sn	00 27 31.0	-0.8
	0.9nm,0.3s,baz=314,slow=22,SNR=1.1						
	7.5nm,0.8s						
WRA	**Warramunga Arr**	**16.46**	**186**	Pn	Pn	00 29 21.9	+1.2
	0.4nm,0.3s,baz=6.8,slow=12,SNR=10.0						
	1.8nm,0.5s						
ASAR	**Alice Springs**	**20.19**	**186**	P	P	00 30 04.0	-0.6
	1.1nm,0.6s,baz=12,slow=11,SNR=14						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**68.94**	**323**	P	P	00 36 35.4	+0.2
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.8						
	0.3nm,0.6s						

*IDC **30** 00:32:43.5±0.8, 12°.86S×45°.47E, h0km, mb3.8/9, mbtmp3.9/11, ML4.9/3, MS3.5/8, Error ellipse: s-maj=24.1km s-min=18.8km az=122.0*
*NEIC **30** 00:32:44.7±2.3, 12°.87S±0°.06×45°.6E±0°.1, h10km±1km, mb4.4/8, Error ellipse: s-maj=18.5km s-min=10.6km az=262.0*
ISC 30 00:32:43.8±0.5, 12°.95S±0°.05×45°.66E±0°.06, h10km, n49, σ2s02/55, mb3.9/11, MS3.4/6, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBV	**Sambava**	**4.18**	**97**	P	**Pn**	**00 33 49.1**	**+1.5**
SBV				S	**Sn**	**00 34 33.0**	**-3.5**
OPO	**Ambohidratompo**	**5.78**	**165**	Pn	**Pn**	**00 34 12.0**	**+2.2**
	16nm,0.3s,baz=338,slow=12,SNR=1638						
OPO				Sn	**Sn**	**00 35 13.4**	**-3.0**
	29nm,0.3s,baz=240,slow=20,SNR=25						
OPO				LR	LR	00 36 34.1	
	comp=Z,247nm,20.6s,baz=186,slow=39						
OPO	**Ambohidratompo**	**5.78**	**165**	P	**Pn**	**00 34 12.2**	**+2.3**
OPO				S	**Sn**	**00 35 13.5**	**-2.8**
FIRM	**Firavahana**	**5.84**	**169**	P	**Pn**	**00 34 13.1**	**+2.4**
FIRM				S	**Sn**	**00 35 15.3**	**-2.5**
ATG	**Ambohiby**	**5.92**	**175**	P	**Pn**	**00 34 13.5**	**+1.7**
ATG				S	**Sn**	**00 35 16.8**	**-3.0**
ABPO	**Ambohimpanom**	**6.22**	**166**		**Pn**	**00 34 17.6**	**+1.8**
ABPO				Sn	**Sn**	**00 35 24.0**	**-3.2**
ABPO	**Ambohimpanom**	**6.22**	**166**	P	**Pn**	**00 34 17.7**	**+1.8**
ABPO				S	**Sn**	**00 35 23.6**	**-3.6**
MDSM	**Mandiavato**	**6.24**	**168**	P	**Pn**	**00 34 18.5**	**+2.3**
MDSM				S	**Sn**	**00 35 24.3**	**-3.5**
AVY	**Angavokely**	**6.27**	**162**	P	**Pn**	**00 34 18.3**	**+1.7**
AVY				S	**Sn**	**00 35 24.4**	**-4.1**
DGRM	**Ambatolahisoa**	**6.32**	**173**	P	**Pn**	**00 34 19.4**	**+2.2**
DGRM				S	**Sn**	**00 35 26.7**	**-2.8**
ABM	**Ambohimiarambe**	**6.99**	**167**	P	**Pn**	**00 34 28.5**	**+2.0**
VOI	**Vohitsoka**	**8.98**	**173**		**Pn**	**00 34 55.3**	**+1.6**
MSEY	**Mahe Island**	**12.71**	**51**	Pn	**Pn**	**00 35 43.2**	**-1.6**
KIBK	**Kibwezi**	**12.96**	**324**		**Pn**	**00 35 44.5**	**-3.7**
LSZ	**Lusaka**	**17.11**	**260**		**Pn**	**00 36 42.0**	**-1.3**
LSZ				IAmb	IAmb	00 36 49.2	
	comp=Z,19nm,0.8s						
LSZ	**Lusaka**	**17.11**	**260**	Pn	**Pn**	**00 36 40.6**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=81,slow=9.5,SNR=17						
LSZ				Sn	Sn	00 39 40.2	-14
	comp=Z,0.7nm,0.3s,baz=359,slow=12,SNR=4.3						
LSZ				LR	LR	00 42 47.5	
	comp=Z,165nm,18.2s,baz=78,slow=36						
	comp=Z,3.9nm,0.5s						
MATP	**Matopo**	**18.03**	**243**	P	**Pn**	**00 36 54.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=73,slow=12,SNR=22						
	comp=Z,1.5nm,0.4s						
LODK	**Lodwar**	**19.21**	**327**	P	**Pn**	**00 37 08.7**	**-0.4**
MBAR	**Mbarara**	**19.21**	**309**	P	**P**	**00 37 08.2**	**-0.1**
BROLN	**Tlhalogang**	**19.30**	**243**	*i* P	**Pn**	**00 37 10.4**	**+0.2**
BROLN				IAML		00 42 12.2

s-min=47.2km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.21**	**217**	Pn	Pn	00 48 53.7	0.0
	4.2nm,0.3s,baz=256,slow=4.2,SNR=33						
URZ				Sn	Sn	00 49 37.1	-6.5
	5.2nm,0.3s,baz=80,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**41.68**	**273**	P	P	00 55 38.9	0.0
	12nm,0.3s						
	2.1nm,0.5s,baz=114,slow=7.9,SNR=23						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**43.08**	**278**	P	P	00 55 50.1	-0.3
	2.3nm,0.5s,baz=120,slow=7.6,SNR=25						
	2.3nm,0.5s						
FINES	**FINESS Array B**	**148.81**	**336**	PKPbc	PKPbc	01 07 36.4	-0.6
	0.9nm,0.8s,baz=44,slow=4.2,SNR=1.3						

*SNET **30** 01:32:29.6±0.9, 12°.44N×87°.57W, h46km±193km, ML3.0*
CATAC 30 01:32:29.4±0.2, 13°.N±2°×8°8W±°, h59km±3km, M3.3/29, MLv3.3/29, Error ellipse: s-maj=5.3km s-min=2.1km az=36.2, confirmed, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.45**	**358**	P	Pn	01 32 42.2	+1.2
CSGN				S	Sn	01 32 52.3	+3.0
POTN	**Potosi Cosigui**	**0.47**	**5**	P	Pn	01 32 42.2	+1.1
POTN				S	Sn	01 32 52.3	+2.7
CRIN	**San Cristobal**	**0.52**	**70**	P	Pn	01 32 43.0	+1.4
CRIN	**San Cristobal**	**0.52**	**70**	S	Sn	01 32 54.3	+3.9
PKGN	**Cerro Pekin**	**0.57**	**75**	P	Pn	01 32 43.1	+1.0
PKGN				S	Sn	01 32 54.6	+3.1
ALEN	**Leon**	**0.66**	**96**	P	Pn	01 32 44.3	+1.1
ALEN	**Leon**	**0.66**	**96**	S	Sn	01 32 55.6	+2.3
QUEN	**Al S del Volca**	**0.68**	**84**	P	Pn	01 32 44.1	+0.6
TEL3	**Telica 3**	**0.69**	**86**	P	Pn	01 32 44.3	+0.8
HERN	**Volcan Telica**	**0.70**	**83**	P	Pn	01 32 44.5	+0.7
HERN	**Volcan Telica**	**0.70**	**83**	S	Sn	01 32 56.8	+2.6
HOYN	**Al Sur del Vol**	**0.71**	**84**	P	Pn	01 32 44.8	+1.0
HOYN				S	Sn	01 32 57.0	+2.7
POLN	**Al Sur del Vol**	**0.73**	**80**	P	Pn	01 32 39.5	-4.5
POLN				S	Sn	01 32 51.8	-2.9
PLRN	**Geotermica Pol**	**0.76**	**85**	P	Pn	01 32 44.8	+0.4
PLRN				S	Sn	01 32 57.2	+1.8
ROCN	**Rota Cerro Neg**	**0.78**	**90**	P	Pn	01 32 39.0	-5.8
ROCN				S	Sn	01 32 51.7	-4.3
CNCH	**Conchagua**	**0.80**	**340**	eP	Pn	01 32 45.5	+0.5
CNCH				eS	Sn	01 32 58.3	+1.9
CNCH	**Conchagua**	**0.80**	**340**	P	Pn	01 32 45.3	+0.3
CNCH	**Conchagua**	**0.80**	**340**	S	Sn	01 32 57.7	+1.3
CNGA	**Al SSO del Vol**	**0.83**	**92**	P	Pn	01 32 45.6	+0.4
ILCN	**San Idelfonso**	**0.83**	**86**	P	Pn	01 32 44.8	-0.4
ILCN				S	Sn	01 32 58.3	+1.4
CNGN	**Cerro Negro**	**0.83**	**92**	P	Pn	01 32 45.6	+0.3
CNGN	**Cerro Negro**	**0.83**	**92**	S	Sn	01 32 58.4	+1.4
LCND	**La Caada**	**0.85**	**337**	eS	Sn	01 32 59.2	+1.9
COPN	**Copaltepe**	**0.99**	**110**	P	Pn	01 32 47.7	+0.3
MOM3	**MOM3**	**1.00**	**91**	P	Pn	01 32 48.1	+0.6
MOM3				S	Sn	01 33 02.6	+1.7
CHOHN	**Orocuina**	**1.02**	**22**	P	Pn	01 32 48.0	+0.2
CHOHN	**Orocuina**	**1.02**	**22**	S	Sn	01 33 02.0	+0.5
MOM2	**El Cardon**	**1.04**	**95**	P	Pn	01 32 49.1	+1.1
MOM2				S	Sn	01 33 03.9	+2.2
AMTN	**Mateare**	**1.13**	**105**	P	Pn	01 32 47.4	-1.7
BLLM	**Bellamira**	**1.13**	**324**	eP	Pn	01 32 49.6	+0.3
SAPS	**Ciudad Sandino**	**1.17**	**107**	P	Pn	01 32 49.9	+0.2
SAPS	**Ciudad Sandino**	**1.17**	**107**	S	Sn	01 33 05.9	+1.1
APQ3	**Volcan Apoyequ**	**1.18**	**102**	S	Sn	01 33 06.1	+1.1
PACA	**Pacayal**	**1.21**	**321**	eS	Sn	01 33 08.3	+2.5
PACA	**Pacayal**	**1.21**	**321**	S	Sn	01 33 07.9	+2.0
PACA	**Pacayal**	**1.21**	**321**	P	Pn	01 32 50.7	+0.4
APQ2	**Apoyeque**	**1.24**	**105**	P	Pn	01 32 50.9	+0.4
APQ2				S	Sn	01 33 07.7	+1.3
TISN	**Laguna Tiscapa**	**1.30**	**107**	P	Pn	01 32 51.9	+0.4
UNAN	**Cigeo UNAN**	**1.31**	**108**	P	Pn	01 32 51.8	+0.2
UNAN				S	Sn	01 33 08.8	+0.5
R4DEC	**Barrio San Lui**	**1.32**	**106**	S	Sn	01 33 08.7	+0.3
CRUN	**El Crucero**	**1.33**	**114**	P	Pn	01 32 48.7	-3.2
WILN	**Americas 2**	**1.38**	**105**	S	Sn	01 33 09.7	0.0
MAS3	**Al N del Volca**	**1.43**	**110**	S	Sn	01 33 11.3	+0.2
NANN	**Nandasmo**	**1.51**	**113**	S	Sn	01 33 14.4	+1.5
NANN	**Nandasmo**	**1.51**	**113**	P	Pn	01 32 55.4	+1.2
OCON	**Estacion meteo**	**1.52**	**43**	P	Pn	01 32 54.3	0.0
TGUH	**Tegucigalpa,Un**	**1.55**	**10**	P	Pn	01 32 53.2	+1.0
TGUH				S	Sn	01 33 14.5	+0.5
TECO	**Alcaldia de Te**	**1.57**	**310**	P	Pn	01 32 55.0	-0.1
YUSH	**Yuscaran**	**1.58**	**26**	S	Sn	01 33 14.8	+0.1
YUSH	**Yuscaran**	**1.58**	**26**	P	Pn	01 32 55.0	-0.3
MATN	**Matagalpa**	**1.63**	**76**	P	Pn	01 32 54.1	-1.9
SCLA	**Alcaldia de Sa**	**1.64**	**316**	P	Pn	01 32 56.7	+0.6
NADN	**Granada**	**1.67**	**117**	P	Pn	01 32 55.6	-0.8
NADN				S	Sn	01 33 16.4	-0.4
RCVN	**Varillal2**	**1.69**	**51**	S	Sn	01 33 17.7	+0.3
RCVN	**Varillal2**	**1.69**	**51**	P	Pn	01 32 56.9	+0.1
RCPN	**Sur Rio San Ju**	**1.73**	**55**	P	Pn	01 32 56.5	-0.8
LFRS	**El Faro**	**1.84**	**307**	eP	Pn	01 32 59.8	+1.0
LFRS				eS	Sn	01 33 22.5	+1.5
BOAB	**BOACO BROADBAN**	**.84**	**92**	P	Pn	01 32 58.0	-0.7
BOAB	**BOACO BROADBAN**	**.84**	**92**	S	Sn	01 33 21.0	+0.1
OMEN	**Al SSO del Vol**	**2.13**	**118**	P	Pn	01 33 02.2	-0.5
JAYA	**Jayaque - finc**	**2.17**	**301**	eP	Pn	01 33 04.1	+0.8
JAYA				IAML		01 33 31.3	
	comp=Z,88nm,0.1s						
JAYA	**Jayaque - finc**	**2.17**	**301**	P	Pn	01 33 03.4	+0.1
JAYA	**Jayaque - finc**	**2.17**	**301**	S	Sn	01 33 28.5	-0.7
NUBE	**Las Nubes**	**2.57**	**302**	S	Sn	01 33 39.1	+0.1
NUBE	**Las Nubes**	**2.57**	**302**	P	Pn	01 33 09.9	+1.1

*IDC **30** 02:10:25.4±9.9, 4°.08S×126°.01E, h329km±111km, mb3.2/4, mbtmp4.0/6, Error ellipse: s-maj=100.2km s-min=30.4km az=58.0*
ISC 30 02:10:22.7±1.4, 4°.0S±0°.2×126°.2E±0°.4, h300km, n6, σ0§41/6, mb3.4/3, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.07**	**182**	P	**P**	**02 13 29.7**	**+0.1**
	5.6nm,0.3s,baz=17,slow=10,SNR=38						
WRA	**Warramunga Arr**	**17.78**	**154**	P	**P**	**02 14 10.6**	**+0.4**
	2.2nm,0.4s,baz=330,slow=11,SNR=25						
ASAR	**Alice Springs**	**20.98**	**160**	P	**P**	**02 14 43.6**	**+0.2**
	2.5nm,0.5s,baz=343,slow=9.2,SNR=25						
	2.5nm,0.5s						
STKA	**Stephens Creek**	**31.34**	**154**	P	**P**	**02 16 15.6**	**-0.3**
	1.5nm,0.4s,baz=332,slow=9.2,SNR=5.3						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**63.61**	**328**	P	**P**	**02 20 22.5**	**+0.3**
	0.4nm,0.4s,baz=123,slow=8.2,SNR=5.3						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**67.94**	**329**	P	**P**	**02 20 49.2**	**-0.3**
	0.3nm,0.5s,baz=137,slow=5.3,SNR=4.3						
	0.3nm,0.5s						

RSNC 30 02:12:17.6±0.0, 6°N±1°×7°4W±°, h104km±2km, M2.3, mb3.8, ML1.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.66**	**92**	P	Pn	02 12 35.5	-0.1
RUSC				S	Sn	02 12 48.8	-0.3
BARC	**Barichara**	**0.87**	**40**	P	Pn	02 12 37.3	0.0
BARC				S	Sn	02 12 52.7	+0.6
PTBC	**PUERTO BERRIO,**	**0.93**	**311**	P	Pn	02 12 35.7	-2.0
PTBC				S	Sn	02 12 52.4	-0.4
BRJC	**Barrancabermej**	**1.05**	**0**	P	Pn	02 12 38.3	-0.6
BRJC				S	Sn	02 12 54.7	-0.2
NORC	**Norcasia**	**1.17**	**252**	P	Pn	02 12 38.9	-1.3
NORC				S	Sn	02 12 57.4	+0.1
ROSC	**El Rosal**	**1.21**	**208**	P	Pn	02 12 40.1	-1.0
ROSC				S	Sn	02 12 58.4	-0.4
GUY2C	**Guyana, Caldas**	**1.75**	**247**	P	Pn	02 12 47.2	-0.4
GUY2C				S	Sn	02 13 10.9	+0.5
PAMC	**Pamplona, Colo**	**1.75**	**36**	P	Pn	02 12 47.2	-0.5
PAMC				S	Sn	02 13 09.9	-0.6
HELC	**Santa Helena**	**1.79**	**279**	P	Pn	02 12 47.2	-0.8
HELC				S	Sn	02 13 11.7	+0.6
VILC	**Villavicencio,**	**1.80**	**178**	P	Pn	02 12 46.6	-1.3
VILC				S	Sn	02 13 10.7	-0.3
ZARC	**Zaragoza, Cauc**	**1.91**	**325**	P	Pn	02 12 48.2	-1.0
ZARC				S	Sn	02 13 12.4	-1.0
ANIL	**Santa Ana**	**2.17**	**229**	P	Pn	02 12 52.1	-0.8
ANIL				S	Sn	02 13 20.1	+0.3
CBOC	**Ciudad Bolivar**	**2.25**	**269**	P	Pn	02 12 52.6	-1.1
CBOC				S	Sn	02 13 20.5	-0.9
OCAC	**Ocana**	**2.34**	**10**	P	Pn	02 12 55.2	+0.2
OCAC				S	Sn	02 13 23.4	-0.1
PRAC	**Prado**	**2.47**	**207**	P	Pn	02 12 55.6	-0.9
PRAC				S	Sn	02 13 27.1	+0.8
ORTC	**Ortega, Tolima**	**2.49**	**217**	P	Pn	02 12 56.0	-0.8
ORTC				S	Sn	02 13 27.6	+0.7
UREC	**San Jos de Ur**	**2.54**	**316**	P	Pn	02 12 54.6	-2.8
UREC				S	Sn	02 13 24.1	-3.8
DBBC	**Dabeiba**	**2.68**	**294**	P	Pn	02 12 58.4	-0.9
DBBC				S	Sn	02 13 31.2	-0.1
PLMC	**San Jos del P**	**2.72**	**248**	P	Pn	02 12 57.8	-2.0
PLMC				S	Sn	02 13 30.9	-1.3
APAC	**Apartado, Choc**	**3.43**	**305**	P	Pn	02 13 09.6	+0.4
APAC				S	Sn	02 13 48.4	-0.7
MACC	**Macarena, Meta**	**3.75**	**181**	P	Pn	02 13 11.8	-1.8
MACC				S	Sn	02 13 53.7	-3.2
SJCC	**San Jacinto, C**	**4.20**	**340**	P	Pn	02 13 15.9	-3.7
SJCC				S	Sn	02 14 01.9	-5.8
URIC	**Uribia, Colomb**	**6.00**	**17**	P	Pn	02 13 41.8	-2.2
URIC				S	Sn	02 14 46.5	-4.9

RSNC 30 02:18:03.3±0.0, 12°N±3°×7°2W±°, h62km±5km, M2.2, mB5.3, mb3.2, ML2.4, Mw(mB)4.7, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.51**	**144**	P	Pn	02 18 15.2	-0.4
URIC				S	Sn	02 18 24.3	-0.2
CRJC	**Cerrejon, Guaj**	**1.23**	**208**	P	Pn	02 18 23.8	-0.8
CRJC				S	Sn	02 18 39.0	-1.5
SMRC	**Santa Marta, M**	**2.11**	**243**	P	Pn	02 18 34.8	-1.5
SMRC				S	Sn	02 19 02.0	+0.5
ARGC	**Ariguani, Magd**	**2.95**	**221**	P	Pn	02 18 47.4	-0.4
ARGC				S	Sn	02 19 21.8	-0.2
SJCC	**San Jacinto, C**	**3.59**	**232**	P	Pn	02 18 57.7	+1.1
SJCC				S	Sn	02 19 38.9	+2.1
OCAC	**Ocana**	**3.98**	**195**	P	Pn	02 19 01.6	-0.5
OCAC				S	Sn	02 19 47.0	-0.7
PAMC	**Pamplona, Colo**	**4.77**	**185**	P	Pn	02 19 13.6	+0.5
PAMC				S	Sn	02 20 07.1	-0.2
ZARC	**Zaragoza, Cauc**	**5.24**	**209**	P	Pn	02 19 19.3	+0.1
ZARC				S	Sn	02 20 19.8	+1.4
PTBC	**PUERTO BERRIO,**	**5.94**	**201**	P	Pn	02 19 30.9	+2.2
PTBC				S	Sn	02 20 37.5	+2.0

*ISK **30** 02:25:37.1, 36°.59N×26°.77E, h135km±1km, ML2.1/8*
*THE **30** 02:25:38.3, 37°N±7°×2°7E±°, h129km±16km, M3.3/18, mb3.7/6, MLh3.0/18*
*ATH **30** 02:25:39.9, 36°.60N×26°.73E, h106km±10km, ML2.6/4, Manual Solution by A.Papageorgiou First location: 2019/08/30 02:27:17, This location: 2019/08/30 06:17:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*AFAD **30** 02:25:42.0, 36°.71N×27°.11E, h104km±11km, ML2.1*
ISC 30 02:25:37.4±1.4, 36°.58N±0°.04×26°.88E±0°.03, h135km±10km, n58, σ1§31/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**0.47**	**78**	P	**Pn**	**02 25 58.8**	**0.0**
DAT	**Datca**	**0.58**	**75**	Pg	**Sn**	**02 25 58.2**	**+0.6**
DAT				Sg	**Sn**	**02 26 13.3**	**+0.4**
BDRM	**Kayabasi**	**0.66**	**43**	P	**Pn**	**02 25 57.8**	**-0.2**
RGE1	**Gennadi, Rhode**	**1.02**	**123**	P	**Pn**	**02 26 01.7**	**+0.9**
RGE1				S	**Sn**	**02 26 18.9**	**+0.3**
KARP	**Karpathos**	**1.06**	**167**	Pn	**Pn**	**02 26 01.8**	**+0.5**
KARP				Sn	**Sn**	**02 26 19.8**	**+0.4**
KARP	**Karpathos**	**1.06**	**167**	P	**Pn**	**02 26 01.9**	**+0.6**
KARP				S	**Sn**	**02 26 20.1**	**+0.6**
KARP	**Karpathos**	**1.06**	**167**	P	**Pn**	**02 26 02.2**	**+0.9**
KARP				S	**Sn**	**02 26 17.6**	**-1.9**
ARG	**Arkhangelos**	**1.07**	**109**	Pn	**Pn**	**02 26 02.5**	**+1.2**
ARG				Sn	**Sn**	**02 26 21.1**	**+1.5**
ARG	**Arkhangelos**	**1.07**	**109**	P	**Pn**	**02 26 02.3**	**+1.0**
ARG				S	**Sn**	**02 26 20.9**	**+1.3**
ARG	**Arkhangelos**	**1.07**	**109**	P	**Pn**	**02 26 02.6**	**+1.3**
ARG				S	**Sn**	**02 26 20.6**	**+1.0**
TURN	**Turunc**	**1.12**	**80**	P	**Pn**	**02 26 01.9**	**+0.2**
TURN				S	**Sn**	**02 26 20.1**	**-0.2**
TURN				*i* IAML		02 26 21.0	
	comp=N,37nm,0.5s						
SMG	**Samos**	**1.13**	**358**	P	**Pn**	**02 26 02.1**	**+0.2**
SMG	**Samos**	**1.13**	**358**	P	**Pn**	**02 26 02.1**	**+0.2**
THERA	**Ancient Thera,**	**1.15**	**260**	P	**Pn**	**02 26 03.2**	**+1.1**
MULA	**Mugla, Merkez-**	**1.34**	**59**	P	**Pn**	**02 26 05.1**	**+1.0**
MULA				S	**Sn**	**02 26 24.4**	**-0.2**
AYDN	**Tasoluk**	**1.34**	**36**	P	**Pn**	**02 26 04.9**	**+0.7**
AYDN				S	**Sn**	**02 26 21.2**	**-3.4**
SIT2	**Siteia**	**1.51**	**205**	P	**Pn**	**02 26 05.7**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.58**	**30**	Pn	**Pn**	**02 26 07.6**	**+0.8**
AYDB				Sn	**Sn**	**02 26 29.8**	**+0.4**
NPS	**Neapolis**	**1.67**	**218**	P	**Pn**	**02 26 08.2**	**+0.5**
NPS				S	**Sn**	**02 26 30.4**	**-0.5**
NPS	**Neapolis**	**1.67**	**218**	P	**Pn**	**02 26 08.2**	**+0.5**
NPS				S	**Sn**	**02 26 29.2**	**-1.7**
ESEN	**Aydn-Nazilli**	**1.69**	**44**	P	**Pn**	**02 26 08.0**	**+0.1**
SABU	**Mula-Dalaman**	**1.70**	**81**	P	**Pn**	**02 26 08.6**	**+0.6**
SABU				S	**Sn**	**02 26 29.7**	**-1.8**
SABU				*i* IAML		02 26 37.0	
	comp=E,20nm,0.3s						
NAZL	**Nazilli-Aydin**	**1.78**	**39**	Pn	**Pn**	**02 26 09.9**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.85**	**61**	P	**Pn**	**02 26 10.3**	**+0.4**
TAVA				S	**Sn**	**02 26 34.3**	**-0.5**
DNZT	**Denizli-Tavas-**	**1.86**	**67**	P	**Pn**	**02 26 10.6**	**+0.6**
IZZE	**Mula-Seydike**	**1.90**	**94**	P	**Pn**	**02 26 11.5**	**+1.1**
IZZE				S	**Sn**	**02 26 31.7**	**-3.9**
IZZE				*i* IAML		02 26 36.0	
	comp=N,35nm,0.3s						
IZZE				*i* IAML		02 26 46.0	
	comp=E,18nm,0.3s						
CHOS	**Chios island**	**1.92**	**340**	P	**Pn**	**02 26 10.7**	**0.0**
ODEM	**Odemis-Izmir**	**1.94**	**29**	Pn	**Pn**	**02 26 11.7**	**+0.8**
CAME	**Cameli-Denizli**	**1.98**	**79**	Pn	**Pn**	**02 26 12.3**	**+0.8**
DNIZ	**Denizli-Tavas-**	**2.02**	**58**	P	**Pn**	**02 26 11.2**	**-0.7**
CAEL	**Denizli, Camel**	**2.03**	**74**	P	**Pn**	**02 26 12.4**	**+0.3**
CAEL				S	**Sn**	**02 26 35.8**	**-3.0**
CAEL				*i* IAML		02 26 46.0	
	comp=N,17nm,0.6s						
CAEL				*i* IAML		02 26 52.0	
	comp=E,33nm,1.4s						
IDI	**Anoyia**	**2.06**	**232**	P	**Pn**	**02 26 12.9**	**+0.4**
IDI				S	**Sn**	**02 26 37.2**	**-2.1**
IDI	**Anoyia**	**2.06**	**232**	P	**Pn**	**02 26 12.8**	**+0.4**
IDI				S	**Sn**	**02 26 36.9**	**-2.4**
APMY	**Acipayam-Deniz**	**2.13**	**65**	Pn	**Pn**	**02 26 13.9**	**+0.6**
KNIK	**Mula-Seydike**	**2.18**	**82**	P	**Pn**	**02 26 14.7**	**+0.8**
KSL	**Kastellorizon**	**2.23**	**100**	P	**Pn**	**02 26 15.3**	**+1.0**
KSL				S	**Sn**	**02 26 42.1**	**-0.6**
KSL	**Kastellorizon**	**2.23**	**100**	P	**Pn**	**02 26 15.3**	**+1.0**
GOLH	**Golhisar**	**2.25**	**72**	P	**Pn**	**02 26 15.3**	**+0.6**
GOLH				S	**Sn**	**02 26 41.3**	**-2.1**
GOLH				*i* IAML		02 26 50.0	
	comp=N,12nm,0.9s						
ANKY	**Antikythira Is**	**2.98**	**257**	P	**Pn**	**02 26 24.2**	**+0.4**
ANKY	**Antikythira Is**	**2.98**	**257**	P	**Pn**	**02 26 23.6**	**-0.2**
VLI	**Veliai**	**3.17**	**274**	P	**Pn**	**02 26 27.4**	**+1.1**
VLI				S	**Sn**	**02 27 02.0**	**-2.2**
VLI	**Veliai**	**3.17**	**274**	P	**Pn**	**02 26 26.7**	**+0.4**
ITM	**Ithomi**	**4.01**	**280**	P	**Pn**	**02 26 37.9**	**+0.5**
ITM	**Ithomi**	**4.01**	**280**	P	**Pn**	**02 26 37.8**	**+0.4**
KLV	**Kalavryta, Ach**	**4.04**	**293**	P	**Pn**	**02 26 39.2**	**+1.5**
KLV				S	**Sn**	**02 27 24.5**	**-0.1**
DRO	**Drossia**	**4.34**	**290**	P	**Pn**	**02 26 44.2**	**+2.5**
EVR	**Evrytania**	**4.64**	**302**	P	**Pn**	**02 26 50.0**	**+4.2**
LTHK	**Lithakia**	**4.96**	**285**	P	**Pn**	**02 26 50.7**	**+0.9**
RTZL	**Ratzakli, Kefa**	**5.09**	**289**	P	**Pn**	**02 26 52.6**	**+1.0**
ORTH	**Orthonies,Zaky**	**5.09**	**286**	P	**Pn**	**02 26 52.2**	**+0.5**
	0.0nm9.0nm,1.0s						
PSDA	**Pessada-Kefalo**	**5.24**	**289**	P	**Pn**	**02 26 54.2**	**+0.6**
	0.1nm25nm,1.0s						
VLS	**Valsamata**	**5.25**	**290**	P	**Pn**	**02 26 54.9**	**+1.1**
	0.0nm12nm,1.1s						
EVGI	**Lefkada island**	**5.34**	**294**	P	**Pn**	**02 26 56.6**	**+1.6**
	0.0nm8.2nm,1.5s						
FSK	**Fiskardo**	**5.36**	**292**	P	**Pn**	**02 26 55.8**	**+0.6**
	0.0nm16nm,1.1s						
LKD2	**Lefkada island**	**5.40**	**296**	P	**Pn**	**02 26 57.5**	**+1.6**
	0.0nm11nm,1.1s						
TSLK	**Tsoukalades, L**	**5.42**	**296**	P	**Pn**	**02 26 57.7**	**+1.7**
DMLN	**Damoulianata-K**	**5.43**	**290**	P	**Pn**	**02 26 57.8**	**+1.5**
IGT	**Igoumenitsa**	**5.95**	**302**	P	**Pn**	**02 27 04.4**	**+1.3**

*ISK **30** 02:38:50.7, 36°.93N×27°.12E, h6km, ML3.2/12*
*NEIC **30** 02:38:51.2±1.8, 36°.94N±0°.03×27°.25E±0°.06, h10km±1km, ML2.8/16, Error ellipse: s-maj=7.9km s-min=5.0km az=279.0*
*AFAD **30** 02:38:52.6, 36°.94N×27°.26E, h7km±2km, ML3.0*
*ATH **30** 02:38:52.6, 36°.96N×27°.28E, h15km±1km, ML3.0/5, Manual Solution by A.Papageorgiou First location: 2019/08/30 02:40:21, This location: 2019/08/30 06:29:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **30** 02:38:54.7, 37°N±3°×2°7E±°, h53km±18km, M2.9/15, MLh2.9/15*
ISC 30 02:38:52.5±0.8, 36°.95N±0°.02×27°.26E±0°.02, h15km±6km, n79, σ0§80/111, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKAV	**Yalikavak-Bodr**	**0.17**	**6**	Pg	**Pg**	**02 38 56.4**	**-0.4**
YKAV				Sg	**Sg**	**02 38 59.5**	**-0.1**
BDRM	**Kayabasi**	**0.19**	**53**	P	**Pg**	**02 38 57.1**	**+0.1**
BDRM				S	**Sg**	**02 38 59.5**	**-0.4**
BDRM				*i* IAML		02 39 00.0	
	comp=E,2µm,0.5s						
YAZI	**Mula-Dat§a-**	**0.31**	**150**	P	**Pg**	**02 38 59.3**	**+0.2**
YAZI				S	**Sg**	**02 39 03.6**	**+0.1**
YAZI				*i* IAML		02 39 04.0	
	comp=N,2µm,0.2s						
DAT	**Datca**	**0.34**	**131**	Pg	**Pg**	**02 38 59.5**	**-0.1**
DAT				Sg	**Sb**	**02 39 05.6**	**0.0**
NISR	**Nisiros**	**0.36**	**197**	P	**Pg**	**02 38 60.0**	**+0.1**
NISR				S	**Sb**	**02 39 05.5**	**-0.5**
DATC	**Datca-Mugla**	**0.38**	**121**	Pg	**Pg**	**02 38 59.9**	**-0.3**
DDIM	**Aydin, Didim**	**0.50**	**358**	P	**Pg**	**02 39 02.7**	**+0.1**
DDIM				S	**Sb**	**02 39 10.6**	**+0.3**
DDIM				*i* IAML		02 39 11.0	
	comp=N,2µm,0.5s						
GCAM	**G?zelcaml?**	**0.75**	**358**	P	**Pg**	**02 39 07.3**	**+0.2**
TURN	**Turunc**	**0.81**	**102**	P	**Pb**	**02 39 08.8**	**+0.4**
TURN				S	**Sb**	**02 39 28.7**	**+1.6**
TURN				*i* IAML		02 39 22.0	
	comp=N,1µm,0.8s						
TURN				*i* IAML		02 39 23.0	
	comp=E,1µm,0.3s						
SMG	**Samos**	**0.83**	**336**	P	**Pg**	**02 39 08.5**	**-0.2**
SMG				S	**Sb**	**02 39 21.4**	**+1.8**
SMG	**Samos**	**0.83**	**336**	P	**Pg**	**02 39 07.9**	**-0.7**
SMG				S	**Sg**	**02 39 19.4**	**-0.1**
ASTA	**Astypalaia**	**0.83**	**241**	P	**Pb**	**02 39 09.0**	**+0.3**
ASTA				S	**Sb**	**02 39 20.3**	**+0.6**
AYDN	**Tasoluk**	**0.86**	**35**	P	**Pg**	**02 39 08.8**	**-0.5**
MULA	**Mugla, Merkez-**	**0.90**	**70**	P	**Pg**	**02 39 09.8**	**-0.2**
MULA				S	**Sb**	**02 39 22.9**	**+1.1**
MULA				*i* IAML		02 39 24.0	
	comp=N,338nm,0.4s						
RDI1	**Rhodes Town Ha**	**0.92**	**123**	P	**Pg**	**02 39 09.7**	**-0.7**
RDI1				S	**Sb**	**02 39 23.2**	**+0.9**
RODB	**Rodos**	**0.92**	**123**	P	**Pg**	**02 39 09.4**	**-1.1**
RODB				S	**Sb**	**02 39 22.5**	**+0.1**
KRL1	**Karlovasi Samo**	**0.95**	**333**	P	**Pg**	**02 39 10.7**	**-0.2**
KRL1				S	**Sg**	**02 39 23.8**	**+0.5**
ARG	**Arkhangelos**	**1.01**	**136**	Pn	**Pg**	**02 39 12.0**	**-0.2**
ARG	**Arkhangelos**	**1.01**	**136**	Pn	**Pg**	**02 39 11.4**	**-0.7**
ARG				Sn	**Sb**	**02 39 25.9**	**+0.9**
ARG	**Arkhangelos**	**1.01**	**136**	P	**Pb**	**02 39 12.2**	**+0.4**
ARG				S	**Sb**	**02 39 26.1**	**+1.1**
ARG	**Arkhangelos**	**1.01**	**136**	P	**Pg**	**02 39 11.9**	**-0.2**
ARG				S	**Sb**	**02 39 25.8**	**+0.9**
RGE1	**Gennadi, Rhode**	**1.07**	**149**	P	**Pg**	**02 39 12.7**	**

SMTH	**Samothraki Isl**	**3.76**	**339**	P	**Pn**	**02 39 50.2**	**+0.2**
ALN	**Alexandroupoli**	**4.05**	**347**	Pn	**Pn**	**02 39 52.7**	**-1.3**
ITM	**Ithomi**	**4.27**	**275**	Pn	**Pn**	**02 39 56.6**	**-0.4**
ITM				IAML		02 40 49.5	
	comp=N,12nm,0.8s						
ITM				IAML		02 40 49.6	
	comp=E,13nm,0.7s						
RDO	**Rodhopi**	**4.40**	**343**	Pn	**Pn**	**02 39 58.7**	**0.0**
RDO				IAML		02 41 45.3	
	comp=E,6.3nm,2.5s						
RDO				IAML		02 41 56.2	
	comp=N,8.1nm,2.0s						
CSS	**Mathiatis**	**5.31**	**110**	Pn	**Pn**	**02 40 09.3**	**-2.1**
BRTR	**Keskin Array B**	**5.73**	**59**	Pn	**Pn**	**02 40 16.8**	**-0.4**
FNA	**Florina**	**5.97**	**312**	Pn	**Pn**	**02 40 21.3**	**+0.8**
TOKA	**Tokat**	**7.96**	**62**	Pn	**Pn**	**02 40 45.2**	**-2.5**
TIP	**Timpagrande**	**8.57**	**288**	Pn	**Pn**	**02 40 54.3**	**-1.9**

CATAC 30 02:39:02.6±0.4, 11°N±2°×8°6W±°, h77km±4km, M2.8/16, MLv2.8/16, Error ellipse: s-maj=7.3km s-min=3.1km az=51.0, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORN	**Al O del Volca**	**0.37**	**62**	P	Pn	02 39 16.2	+1.2
OMEN	**Al SSO del Vol**	**0.38**	**68**	P	Pn	02 39 15.6	+0.5
CARN	**Rivas**	**0.49**	**112**	P	Pn	02 39 17.3	+1.4
CARN				S	Sn	02 39 26.2	+0.5
NANN	**Nandasmo**	**0.58**	**346**	P	Pn	02 39 18.7	+1.8
NANN	**Nandasmo**	**0.58**	**346**	S	Sn	02 39 30.6	+3.3
UNAN	**Cigeo UNAN**	**0.79**	**339**	P	Pn	02 39 19.2	+0.2
UNAN				S	Sn	02 39 33.3	+2.1
ELI1	**Hacienda Flor**	**0.84**	**150**	P	Pn	02 39 21.2	+1.7
ELI1	**Hacienda Flor**	**0.84**	**150**	S	Sn	02 39 35.9	+3.8
SAPS	**Ciudad Sandino**	**0.90**	**333**	P	Pn	02 39 20.5	+0.3
SAPS	**Ciudad Sandino**	**0.90**	**333**	S	Sn	02 39 33.9	+0.6
ACON	**Acoyapa**	**0.99**	**53**	S	Sn	02 39 35.9	+0.6
ACON	**Acoyapa**	**0.99**	**53**	P	Pn	02 39 21.3	-0.1
COPN	**Copaltepe**	**1.00**	**324**	P	Pn	02 39 21.4	-0.1
BOAB	**BOACO BROADBAN**	**1.12**	**16**	S	Sn	02 39 38.7	+0.6
MOM2	**El Cardon**	**1.17**	**335**	S	Sn	02 39 39.3	+0.1
MOM3	**MOM3**	**1.25**	**335**	P	Pn	02 39 24.7	+0.1
MOM3				S	Sn	02 39 42.4	+1.4
CNGA	**Al SSO del Vol**	**1.32**	**328**	P	Pn	02 39 25.6	+0.1
CNGN	**Cerro Negro**	**1.32**	**328**	P	Pn	02 39 25.6	+0.1
ROCN	**Rota Cerro Neg**	**1.36**	**327**	P	Pn	02 39 19.9	-6.2
ROCN				S	Sn	02 39 38.0	-5.7
PLRN	**Geotermica Pol**	**1.43**	**328**	P	Pn	02 39 26.2	-0.7
PLRN				S	Sn	02 39 45.1	-0.2
JTS	**Las Juntas de**	**1.48**	**137**	P	Pn	02 39 28.0	+0.5
INDI	**Punta indio, G**	**1.57**	**162**	P	Pn	02 39 28.8	+0.1
INDI	**Punta indio, G**	**1.57**	**162**	S	Sn	02 39 47.7	-0.7
PKGN	**Cerro Pekin**	**1.62**	**323**	P	Pn	02 39 29.1	-0.2
PKGN				S	Sn	02 39 50.2	+0.7
CRIN	**San Cristobal**	**1.68**	**322**	P	Pn	02 39 29.9	-0.4
CRIN	**San Cristobal**	**1.68**	**322**	S	Sn	02 39 51.1	-0.2
CSGN	**Cosiguina Volc**	**2.22**	**316**	P	Pn	02 39 37.6	+0.1
CSGN				S	Sn	02 40 04.5	+0.5
CHOHN	**Orocuina**	**2.39**	**331**	P	Pn	02 39 39.6	-0.2

*IDC **30** 02:48:23.5±35.0, 36°.89N×69°.52E, h0km, mb3.8/3, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=654.9km s-min=39.4km az=165.0*
*NNC **30** 02:48:41.7±2.8, 37°.02N×70°.96E, h200km±48km, mb2.1, mpv3.0, Error ellipse: s-maj=30.9km s-min=14.3km az=23.0*
ISC 30 02:48:39.6±2.3, 36°.9N±0°.2×71°.0E±0°.2, h200km, n7, σ0^{6}67/9, mb3.5/3, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.23**	**357**	⇑P	**Pn**	**02 50 10.6**	**+0.9**
	0.6nm,0.3s,baz=175,slow=12,SNR=6.9						
KK31				S	**Sn**	**02 51 20.2**	**-0.9**
	2.7nm,0.4s,baz=181,slow=15,SNR=10						
AAK	**Ala-Archa**	**6.34**	**24**	⇑P	**Pn**	**02 50 11.7**	**+0.4**
	0.4nm,0.3s						
AAK				⇑S	**Sn**	**02 51 24.1**	**+0.1**
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**12.97**	**37**	Pn	**P**	**02 51 39.5**	**-0.3**
	0.1nm,0.3s,baz=214,slow=13,SNR=2.2 0.6nm,0.8s						
AB31	**Akbulak array**	**14.77**	**330**	P	**Pn**	**02 51 59.0**	**+0.3**
	0.3nm,0.3s,baz=147,slow=12,SNR=18						
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	**02 55 31.1**	**+0.1**
	1.2nm,0.9s,baz=120,slow=11,SNR=3.3 1.2nm,0.9s						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**02 56 01.3**	**+0.3**
	2.4nm,1.0s,baz=114,slow=8.4,SNR=4.5 2.4nm,1.0s						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**02 56 26.8**	**-0.8**
	0.6nm,0.6s,baz=97,slow=8.1,SNR=2.4 0.6nm,0.6s						

IDC 30 02:55:51.5±7.5, 5°.17N×94°.17E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=389.4km s-min=24.8km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.72**	**348**	P	P	03 03 50.0	-0.5
	0.5nm,0.4s,baz=165,slow=8.3,SNR=6.3 0.5nm,0.4s						
WRA	**Warramunga Arr**	**46.71**	**124**	P	P	03 04 22.3	-0.4
	0.8nm,0.9s,baz=299,slow=8.7,SNR=1.9 0.8nm,0.9s						
KURBB	**Kurchatov Arra**	**47.16**	**346**	P	P	03 04 25.9	+0.2
	1.0nm,0.3s,baz=170,slow=7.0,SNR=7.4 1.0nm,0.3s						
ASAR	**Alice Springs**	**48.20**	**128**	P	P	03 04 34.4	+0.2
	0.4nm,0.7s,baz=306,slow=7.5,SNR=4.5 0.4nm,0.7s						
H04N2	**CROZET ISLANDS**	**63.44**	**212**	T	T	04 16 03.8	
	baz=48,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**63.45**	**212**	T	T	04 16 05.6	
	baz=48,slow=75,SNR=5.0						
H04N3	**CROZET ISLANDS**	**63.46**	**212**	T	T	04 16 05.0	
	baz=48,slow=75,SNR=4.8						

KRSC 30 02:58:30.5±2.4, 50°.01N×157°.13E, h48km±28km, Ml3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.93**	**316**	*e*P	Pn	02 58 47.0	-0.2
SKR				*e*S	Sn	02 58 58.1	-1.5
PAU	**Pauzhetka**	**1.47**	**352**	*e*P	Pn	02 58 56.5	+1.9
PAU				*e*S	Sn	02 59 14.4	+1.8
MIPR	**Malaya Ipel'ka**	**2.28**	**354**	*e*P	Pn	02 59 06.7	+1.1
ASAK	**Asacha**	**2.42**	**11**	*e*P	Pn	02 59 11.1	+3.5
MTVR	**Mutnovka**	**2.56**	**15**	*e*P	Pn	02 59 13.4	+3.7
RUS	**Russkaya**	**2.57**	**19**	*e*P	Pn	02 59 12.6	+2.9
RUS				*e*S	Sn	02 59 42.4	+2.7
GRL	**Gorelyy**	**2.61**	**13**	*e*P	Pn	02 59 13.9	+3.6
KRMR	**Karymshinskiy**	**2.89**	**12**	*e*P	Pn	02 59 18.1	+4.1
APC	**Apacha**	**2.92**	**0**	*e*P	Pn	02 59 19.3	+4.9
DALK	**Dalny**	**3.19**	**18**	*e*P	Pn	02 59 21.6	+3.6
UGLR	**Uglovaya**	**3.37**	**18**	*e*P	Pn	02 59 25.4	+4.7
AVH	**Avacha**	**3.41**	**16**	*e*P	Pn	02 59 25.2	+4.1
KOK	**Koryaka**	**3.41**	**15**	*e*P	Pn	02 59 26.1	+4.8
SMAR	**Somma**	**3.42**	**17**	*e*P	Pn	02 59 25.3	+3.8
KRER	**Koryakskii**	**3.45**	**16**	*e*P	Pn	02 59 26.3	+4.4
KRER				*e*S	Sn	03 00 06.1	+4.7
SDLR	**Sedlovina**	**3.45**	**18**	*e*P	Pn	02 59 25.3	+3.5
KRX	**Arik**	**3.48**	**15**	*e*P	Pn	02 59 26.8	+4.5
KRX				*e*S	Sn	03 00 08.0	+5.8
SPN	**Mys Shipunski**	**3.58**	**29**	*e*P	Pn	02 59 27.1	+3.7
SPN				*e*S	Sn	03 00 08.5	+4.2
GNL	**Ganaly**	**3.72**	**7**	*e*P	Pn	02 59 28.8	+3.3
MKZ	**Mys Kozlova**	**5.35**	**30**	*e*P	Pn	02 59 49.3	+1.6
KBTR	**Krutoberegovo**	**7.08**	**27**	*e*P	Pn	03 00 14.3	+2.8

ISC 30 03:09:47.0±1.2, 45°.16N±0°.03×14°.85E±0°.06, h10km±18km, n9, σ0^{6}43/14, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.37**	**356**	*i* Pg	**Pg**	**03 09 54.2**	**-0.2**
GBRS				*i* Sg	**Sg**	**03 09 59.4**	**+0.1**
RABC	**Rab**	**0.41**	**186**	Sg	**Sg**	**03 10 01.3**	**+0.8**
BOJS	**Bojanci**	**0.45**	**40**	*i* Pg	**Pg**	**03 09 55.5**	**-0.3**
BOJS				*i* Sg	**Sg**	**03 10 02.0**	**+0.3**
BOJS				IAML		03 10 03.2	
	comp=Z,1.3nm,0.1s						
NVLJ	**Novalja**	**0.60**	**178**	Sg	**Sb**	**03 10 07.7**	**-0.3**
PLIT	**Plitvice**	**0.62**	**117**	Sg	**Sg**	**03 10 07.1**	**-0.1**
OZLJ	**Ozalj**	**0.63**	**44**	*e*Pg	**Pg**	**03 09 59.2**	**0.0**
OZLJ				Sg	**Sg**	**03 10 07.9**	**+0.3**
VISS	**Visnje**	**0.64**	**360**	*i* Pg	**Pg**	**03 09 59.3**	**-0.2**
VISS				*i* Sg	**Sg**	**03 10 07.9**	**0.0**
VISS				IAML		03 10 09.6	
	comp=Z,2.3nm,0.2s						
VIRC	**Vir**	**0.88**	**170**	*e*Pg	**Pg**	**03 10 03.4**	**-0.5**
VIRC				Sg	**Sb**	**03 10 16.8**	**+0.5**
DUGI	**Dugi Otok**	**1.18**	**173**	Sg	**Sg**	**03 10 25.1**	**+0.2**

*WEL **30** 03:15:13.1±1.0, 36°.5S±6°×17°.8E±°, h12km, M3.7/21, ML3.7/25, MLv3.7/21, Error ellipse: s-maj=10.4km s-min=5.8km az=44.7, confirmed*
*NOU **30** 03:15:15.0, 36°.10S×178°.61E, h0km, MLv3.4/5, Off E. Coast of N. Island, N.Z.*
ISC 30 03:15:03.0±2.8, 35°.3S±0°.1×178°.8E±0°.1, h200km, n51, σ3^{9}05/43, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.25**	**191**	P	**Pn**	**03 15 41.8**	**-2.3**
MXZ	**Matakaoa Point**	**2.25**	**191**	P	**Pn**	**03 15 41.8**	**-2.3**
MXZ				T	T	03 17 28.3	
WMGZ	**Waiomatatini S**	**2.49**	**188**	P	**Pn**	**03 15 47.3**	**+0.5**
HAZ	**Te Kaha**	**2.55**	**199**	P	**Pn**	**03 15 47.8**	**+0.4**
HAZ				T	T	03 17 33.8	
PKGZ	**Pakihiroa**	**2.59**	**193**	P	**Pn**	**03 15 47.8**	**-0.1**
PKGZ				S	**Sn**	**03 16 20.1**	**-3.0**
PUZ	**Puketiti**	**2.76**	**189**	P	**Pn**	**03 15 51.8**	**+1.9**
PUZ				S	**Sn**	**03 16 22.1**	**-4.5**
RUGZ	**Raukumara Rang**	**2.78**	**199**	P	**Pn**	**03 15 50.3**	**+0.2**
KUZ	**Kuaotunu**	**2.88**	**240**	P	**Pn**	**03 15 55.7**	**+4.5**
KUZ	**Kuaotunu**	**2.88**	**240**	P	**Pn**	**03 15 50.1**	**-1.1**
KUZ				S	Sn	03 16 18.3	-11
GRZ	**Great Barrier**	**2.89**	**251**	P	**Pn**	**03 15 50.2**	**-1.1**
TWGZ	**Tauwhareparae**	**2.91**	**193**	P	**Pn**	**03 15 54.3**	**+2.7**
CNGZ	**Carnagh Station**	**3.17**	**188**	P	**Pn**	**03 15 56.5**	**+3.9**
TKGZ	**Te Karaka**	**3.19**	**194**	P	**Pn**	**03 15 58.2**	**+3.4**
URZ	**Urewera**	**3.22**	**205**	P	**Pn**	**03 15 55.6**	**+0.4**
URZ	**Urewera**	**3.22**	**205**	P	**Pn**	**03 15 55.5**	**+0.3**
WIAZ	**Waiheke Island**	**3.33**	**243**	P	**Pn**	**03 15 57.0**	**+0.5**
RAGZ	**Rawiri**	**3.34**	**199**	P	**Pn**	**03 16 01.1**	**+4.3**
OMRZ	**Omania**	**3.39**	**215**	P	Pn	03 16 04.1	+6.8
MKAZ	**Moumakai**	**3.45**	**238**	P	**Pn**	**03 15 58.0**	**0.0**
RIGZ	**Rimuhau**	**3.46**	**194**	P	**Pn**	**03 16 01.7**	**+3.5**
MBAZ	**Motutapu North**	**3.49**	**245**	P	**Pn**	**03 15 59.0**	**+0.6**
MUGZ	**Murupara**	**3.54**	**207**	P	**Pn**	**03 15 60.0**	**+1.0**
RTZ	**Ruatahuna**	**3.59**	**204**	P	**Pn**	**03 15 56.9**	**-2.8**
SNGZ	**Shannon Statio**	**3.63**	**199**	P	**Pn**	**03 16 04.6**	**+4.4**
PRGZ	**Paritu Road**	**3.65**	**192**	P	**Pn**	**03 16 03.5**	**+3.0**
WCZ	**Waipu Caves**	**3.70**	**259**	P	**Pn**	**03 16 02.8**	**+1.7**
RAHZ	**Arahi**	**3.83**	**201**	P	**Pn**	**03 16 06.9**	**+4.3**
MTHZ	**Maungataniwha**	**3.85**	**204**	P	**Pn**	**03 16 07.1**	**+4.3**
MRHZ	**Matea Rd**	**3.98**	**208**	P	Pn	03 16 09.6	+5.0
NMHZ	**Naumai**	**4.08**	**203**	P	**Pn**	**03 16 10.7**	**+4.9**
ARHZ	**Arapoanui**	**4.18**	**200**	P	**Pn**	**03 16 10.4**	**+3.5**
BKZ	**Black Stump Fm**	**4.25**	**205**	P	**Pn**	**03 16 11.6**	**+3.7**
BKZ	**Black Stump Fm**	**4.25**	**205**	P	**Pn**	**03 16 12.2**	**+4.3**
RATZ	**Rangitukua**	**4.28**	**214**	P	Pn	03 16 15.1	+6.8
OUZ	**Omahuta**	**4.29**	**270**	P	**Pn**	**03 16 11.4**	**+3.0**
MCHZ	**McNeill Hill**	**4.43**	**202**	P	Pn	03 16 15.3	+5.2
HIZ	**Hauiti**	**4.49**	**224**	P	**Pn**	**03 16 15.1**	**+4.2**
KWHZ	**Kaweka Forest**	**4.50**	**205**	P	**Pn**	**03 16 15.1**	**+4.1**
TMVZ	**Te Maari**	**4.52**	**213**	P	Pn	03 16 17.6	+6.3
CKHZ	**Cape Kidnapper**	**4.53**	**197**	P	**Pn**	**03 16 14.8**	**+3.5**
KRVZ	**Karewarewa**	**4.53**	**213**	P	Pn	03 16 17.3	+5.8
ETVZ	**East Tongariro**	**4.53**	**212**	P	Pn	03 16 17.2	+5.7
NNVZ	**North Ngauruho**	**4.57**	**213**	P	Pn	03 16 18.3	+6.3
WHVZ	**Whangaehu Hut**	**4.71**	**212**	P	Pn	03 16 20.0	+6.2
KRHZ	**Kereru**	**4.72**	**204**	P	**Pn**	**03 16 16.4**	**+2.6**
WNVZ	**Wahianoa**	**4.74**	**212**	P	Pn	03 16 19.7	+5.5
MOVZ	**Moawhango**	**4.74**	**210**	P	Pn	03 16 19.7	+4.6
VRZ	**Vera Road**	**4.98**	**220**	P	Pn	03 16 26.3	+9.2
PNHZ	**Pukenui**	**5.02**	**204**	P	**Pn**	**03 16 20.6**	**+3.0**
PNHZ				S	**Sn**	**03 17 13.2**	**-3.3**
MRZ	**Mangatainoka R**	**5.90**	**205**	P	**Pn**	**03 16 30.9**	**+2.0**
MRZ				S	**Sn**	**03 17 33.9**	**-3.0**
CTZ	**Chatham Island**	**9.09**	**159**	P	Pn	03 17 19.2	+8.9
CTZ				S	**Sn**	**03 18 51.4**	**-0.6**

*UCR **30** 03:25:26.0±0.6, 8°.70N×83°.83W, h0km±2km, MW3.6*
*CATAC **30** 03:25:27.7±0.5, 9°.1N±3°×8°.4W±°, h1km±3km, M3.3/6, MLv3.3/6, Error ellipse: s-maj=9.9km s-min=4.3km az=57.2, confirmed*
ISC 30 03:25:27.5±1.1, 8°.75N±0°.04×83°.79W±0°.04, h8km, n60, σ0^{6}73/63, 1C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.38**	**23**	⇓P	**Pg**	**03 25 35.4**	**+0.5**
PANP	**Palmar Norte**	**0.39**	**57**	*e*P	**Pg**	**03 25 35.8**	**+0.6**
EDPE	**Pejibaye, P**	**0.47**	**28**	⇓*e*P	**Pg**	**03 25 37.0**	**+0.4**
EDPE				*e*S	**Sb**	**03 25 45.2**	**+0.1**
FIMO	**Fila Mora**	**0.50**	**61**	⇓*e*P	**Pg**	**03 25 37.9**	**+0.7**
JIME	**Puerto Jimenez**	**0.51**	**114**	*e*P	**Pg**	**03 25 38.0**	**+0.6**
PIRO	**Carate, Puerto**	**0.57**	**127**	*e*P	**Pg**	**03 25 38.6**	**+0.1**
PIRO	**Carate, Puerto**	**0.57**	**127**	P	**Pg**	**03 25 39.0**	**+0.5**
PIRO	**Carate, Puerto**	**0.57**	**127**	S	**Sg**	**03 25 46.4**	**+0.5**
ZEDO	**Perez Zeledon**	**0.61**	**10**	*e*P	**Pg**	**03 25 39.6**	**+0.2**
BURE	**Buenos Aires**	**0.62**	**47**	*e*P	**Pg**	**03 25 40.1**	**+0.7**
EDAD	**Golfito**	**0.63**	**99**	*e*P	**Pg**	**03 25 39.4**	**-0.3**
EDAD				*e*S	**Sg**	**03 25 49.0**	**+1.1**
EDP2	**Potrero Grande**	**0.67**	**66**	⇓*e*P	**Pg**	**03 25 40.8**	**+0.4**
DRK0	**Durika**	**0.75**	**47**	⇓*e*P	**Pg**	**03 25 41.9**	**-0.1**
DRK0	**Durika**	**0.75**	**47**	⇓P	**Pg**	**03 25 41.8**	**-0.1**
DRK0	**Durika**	**0.75**	**47**	S	**Sg**	**03 25 50.6**	**-1.0**
LLNJ	**Naranjito**	**0.78**	**337**	*e*P	**Pg**	**03 25 42.4**	**-0.2**
BUS1	**Rivas**	**0.80**	**3**	⇓*e*P	**Pg**	**03 25 42.5**	**-0.5**
BUS1				*e*S	**Sb**	**03 25 55.9**	**+0.7**
NELY	**Ciudad Neily**	**0.84**	**96**	*e*P	**Pg**	**03 25 43.5**	**-0.3**
PIEC	**Cerro El Cedra**	**0.89**	**349**	⇓*e*P	**Pg**	**03 25 43.7**	**-0.8**
PAR1A	**Puntarenas Pro**	**0.96**	**332**	*e*P	**Pg**	**03 25 45.5**	**-0.4**
PICV	**PH. Pirrs**	**0.96**	**336**	*e*P	**Pg**	**03 25 45.1**	**-0.8**
ALCO	**Alturas Coton,**	**0.97**	**78**	*e*P	**Pg**	**03 25 45.7**	**-0.5**
BRNON	**Bren.**	**0.98**	**97**	*e*P	**Pg**	**03 25 45.5**	**-0.8**
SCLRA	**Santa Clara, W**	**1.00**	**85**	*e*P	**Pg**	**03 25 46.4**	**-0.4**
LCR2	**La Lucha 2**	**1.01**	**348**	*e*P	**Pg**	**03 25 45.8**	**-1.2**
LCR2	**La Lucha 2**	**1.01**	**348**	P	**Pg**	**03 25 45.9**	**-1.0**
LCR2	**La Lucha 2**	**1.01**	**348**	S	**Sg**	**03 26 01.0**	**+0.8**
BRU2	**Volcan**	**1.09**	**87**	*e*P	**Pg**	**03 25 47.8**	**-0.7**
BRU2	**Volcan**	**1.09**	**87**	P	**Pg**	**03 25 47.8**	**-0.7**
BRU2	**Volcan**	**1.09**	**87**	S	**Sn**	**03 26 04.6**	**0.0**
ACOS	**Acosta**	**1.10**	**341**	*e*P	**Pg**	**03 25 47.9**	**-0.9**
TBS2		**1.12**	**88**	*e*P	**Pg**	**03 25 48.9**	**-0.2**
CEUA	**Cerro Uatsi, L**	**1.21**	**44**	*e*P	**Pb**	**03 25 51.2**	**+0.5**
VICA	**Volcano Irazu**	**1.23**	**358**	*e*P	**Pg**	**03 25 50.2**	**-1.0**
SANTA	**Santa Ana**	**1.24**	**342**	*e*P	**Pn**	**03 25 50.0**	**-1.3**
JEFFS	**S de V. Baru**	**1.25**	**93**	*e*P	**Pn**	**03 25 50.1**	**-1.2**
LAES	**El Progreso Va**	**1.25**	**36**	⇓*e*P	**Pn**	**03 25 50.9**	**-0.4**
CVTQ	**Turrialba Volc**	**1.25**	**1**	*e*P	**Pn**	**03 25 50.6**	**-1.0**
CVTV	**Tajo**	**1.25**	**2**	*e*P	**Pn**	**03 25 50.8**	**-0.8**
BANCO	**falda S V. Bar**	**1.25**	**91**	*e*P	**Pn**	**03 25 50.2**	**-1.2**
ABRB	**Las Abras (San**	**1.25**	**3**	⇑*e*P	**Pn**	**03 25 51.0**	**-0.5**
VTR0	**Volcan Turrial**	**1.26**	**1**	*e*P	**Pn**	**03 25 51.1**	**-0.7**
CVTR	**Volcan Turrial**	**1.27**	**2**	*e*P	**Pn**	**03 25 51.0**	**-0.9**
RESJ	**San Isidro (Tu**	**1.28**	**7**	*e*P	**Pn**	**03 25 51.5**	**-0.3**
VERH	**Veragua Rainfo**	**1.31**	**27**	⇓*e*P	**Pn**	**03 25 51.7**	**-0.6**
BQTLY	**Boquete Panama**	**1.32**	**89**	*e*P	**Pn**	**03 25 51.0**	**-1.3**
LCOCO	**El Coco**	**1.35**	**10**	*e*P	**Pn**	**03 25 52.8**	**+0.2**
RVLA	**Villa Bonita**	**1.37**	**9**	*e*P	**Pn**	**03 25 53.1**	**+0.2**
IRES	**Siquirres**	**1.37**	**12**	*e*P	**Pn**	**03 25 53.1**	**+0.2**
CGUAY	**Guayabal, Coch**	**1.46**	**101**	*e*P	**Pn**	**03 25 53.0**	**-1.1**
SRA1	**San Ramn**	**1.49**	**333**	*e*P	**Pn**	**03 25 54.1**	**-0.6**
PBNVO	**Pueblo Nuevo,**	**1.59**	**85**	*e*P	**Pn**	**03 25 55.1**	**-0.8**
RBALA	**Bur**	**1.63**	**85**	*e*P	**Pn**	**03 25 55.7**	**-0.8**
ARTO	**Ro Cuarto**	**1.64**	**345**	*e*P	**Pn**	**03 25 57.0**	**+0.3**
SOCE	**Pocosol**	**1.82**	**334**	P	**Pn**	**03 25 59.8**	**+0.6**
SOCE	**Pocosol**	**1.82**	**334**	S	**Sb**	**03 26 23.7**	**-0.4**
JTS	**Las Juntas de**	**1.91**	**323**	P	**Pn**	**03 26 01.0**	**+0.5**
ARE1	**Arenal 1**	**1.93**	**332**	*e*P	**Pn**	**03 26 01.9**	**+1.2**
KKNTU	**Kakint^{e}**	**1.97**	**87**	*e*P	**Pn**	**03 26 00.5**	**-0.7**
COVE	**Coope Vega, Sa**	**2.05**	**343**	P	**Pn**	**03 26 03.5**	**+1.2**

ASRS 30 03:27:26.7±0.4, 50°.N±3°×9°.7E±°, h5km, MLh3.8/10, Error ellipse: s-maj=5.7km s-min=2.7km az=176.5, confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**2.56**	**328**	Pg	Pg	03 28 16.4	+0.6
KZLR				Sg	Sg	03 28 56.2	+7.3
MOY	**Mondy**	**3.48**	**51**	Pg	Pg	03 28 34.2	+0.8
MOY				Sg	Sg	03 29 20.7	+2.2
ZAK	**Zakamensk**	**4.36**	**77**	Pg	Pg	03 28 50.7	+0.4
ZAK				Sg	Sg	03 29 47.5	+0.7
TEL	**Teeli**	**4.38**	**292**	Pg	Pg	03 28 53.6	+2.9
TEL				Sg	Sg	03 29 49.1	+1.7
CERR	**Cheremushki**	**4.66**	**317**	Sg	Sg	03 29 60.0	+3.8
DJO	**Djoy, Khakassi**	**4.70**	**315**	Pg	Pg	03 28 58.4	+1.7
DJO				Sg	Sg	03 29 60.0	+2.5
CUR	**Chagan-Uzun**	**5.40**	**279**	Pg	Pg	03 29 11.5	+1.4
CUR				Sg	Sg	03 30 24.2	+4.3
VEH	**Verkhnyaya Baz**	**5.42**	**315**	Pg	Pg	03 29 11.1	+0.6
VEH				Sg	Sg	03 30 24.0	+3.4
MINR	**Mina**	**5.56**	**345**	Pg	Pg	03 29 17.7	+4.6
MINR				Sg	Sg	03 30 31.4	+6.4
ULGR	**Ulagan, Altay**	**5.69**	**284**	Pg	Pg	03 29 20.0	+4.3
ULGR				Sg	Sg	03 30 32.8	+3.4
AKAR	**Aktash**	**5.88**	**281**	Pg	Pg	03 29 19.1	-0.2
AKAR				Sg	Sg	03 30 39.9	+4.6
DGZ	**Jazzator, Alta**	**5.99**	**275**	Pg	Pg	03 29 20.7	-0.7
DGZ				Sg	Sg	03 30 42.4	+3.5

*IDC **30** 03:28:37.8±2.4, 3°.65N×126°.25E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=213.2km s-min=27.9km az=65.0*
*DJA **30** 03:28:42.6±1.0, 4°.N±7°×12°7E±°, h52km±9km, M3.9/7, MLv3.9/7*
ISC 30 03:28:43.4±1.6, 3°.8N±0°.2×126°.6E±0°.1, h45km, n4, σ0^{6}75/5, mb3.3/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.08**	**265**	P	**Pn**	**03 29 02.2**	**+0.1**
SGSI				S	**Sn**	**03 29 15.9**	**-0.1**
WRA	**Warramunga Arr**	**24.76**	**162**	P	**P**	**03 34 02.0**	**+0.9**
	0.4nm,0.5s,baz=341,slow=11,SNR=5.9 0.4nm,0.5s						
ASAR	**Alice Springs**	**28.19**	**166**	P	**P**	**03 34 31.4**	**-0.5**
	0.3nm,0.6s,baz=348,slow=8.0,SNR=4.2 0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.45**	**325**	P	**P**	**03 38 27.7**	**0.0**
	0.2nm,0.3s,baz=119,slow=8.8,SNR=4.7 0.2nm,0.3s						

*BER **30** 03:33:52.5±2.7, 78°.43N×7°.26E, h10km, Mw3.9, ML3.2(NAO), Confirmed Earthquake*
*KOLA **30** 03:33:52.7, 78°.32N×8°.27E, h0km, ML2.8, Greenland sea,Knipovich ridge, middle*
*NAO **30** 03:33:52.8±0.6, 78°.48N×7°.16E, h25km±5km, ML3.2*
*FCIAR **30** 03:33:54.0, 78°.44N×7°.99E, h10km, station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**1.75**	**19**	*eP*	**Pg**	**03 45 36.2**	**+0.1**
TECA	**Tecapa**	**1.76**	**12**	*eP*	**Pb**	**03 45 35.8**	**+0.1**
TECA				*eP*	**Pb**	**03 45 35.9**	**+0.1**
TECO	**Alcaldia de Te**	**1.77**	**3**	*eP*	**Pb**	**03 45 35.6**	**-0.1**
TECO				*eS*	**Sb**	**03 45 58.5**	**0.0**
TECO	**Alcaldia de Te**	**1.77**	**3**	P	**Pb**	**03 45 35.7**	**-0.1**
CSGN	**Cosiguina Volc**	**1.77**	**47**	P	**Pb**	**03 45 35.9**	**+0.1**
CSGN				S	**Sg**	**03 45 59.7**	**+0.3**
PACA	**Pacayal**	**1.79**	**18**	*eP*	**Pg**	**03 45 36.8**	**+0.1**
PACA				*eS*	**Sg**	**03 45 59.5**	**-0.3**
PACA	**Pacayal**	**1.79**	**18**	P	**Pg**	**03 45 37.0**	**+0.3**
PACA	**Pacayal**	**1.79**	**18**	S	**Sg**	**03 46 02.0**	**+2.1**
BLLM	**Bellamira**	**1.79**	**21**	*eP*	**Pg**	**03 45 36.5**	**-0.3**
CNCH	**Conchagua**	**1.82**	**34**	*eP*	**Pb**	**03 45 36.6**	**-0.1**
CNCH				*eS*	**Sg**	**03 46 01.2**	**+0.1**
CNCH	**Conchagua**	**1.82**	**34**	P	**Pb**	**03 45 36.6**	**-0.1**
CNCH	**Conchagua**	**1.82**	**34**	S	**Sg**	**03 46 03.3**	**+2.2**
POTN	**Potosi Cosigui**	**1.82**	**47**	P	**Pb**	**03 45 36.3**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.94**	**4**	*eP*	**Pb**	**03 45 38.6**	**0.0**
SCLA				*eS*	**Sg**	**03 46 03.8**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.94**	**4**	S	**Sg**	**03 46 04.1**	**-0.7**
SCLA	**Alcaldia de Sa**	**1.94**	**4**	P	**Pb**	**03 45 38.6**	**0.0**
JAYA	**Jayaque - finc**	**1.96**	**344**	*eP*	**Pn**	**03 45 38.3**	**+1.3**
JAYA				*eS*	**Sn**	**03 46 03.0**	**+0.7**
JAYA	**Jayaque - finc**	**1.96**	**344**	P	**Pn**	**03 45 38.4**	**+1.4**
JAYA	**Jayaque - finc**	**1.96**	**344**	S	**Sn**	**03 46 01.9**	**-0.5**
PMON	**Piamonte**	**1.99**	**348**	P	**Pn**	**03 45 38.5**	**+1.2**
CRIN	**San Cristobal**	**2.02**	**62**	P	**Pb**	**03 45 39.4**	**-0.7**
PKGN	**Cerro Pekin**	**2.07**	**64**	P	**Pn**	**03 45 39.0**	**+0.7**
PKGN				S	**Sg**	**03 46 08.5**	**-0.6**
CEDA	**San Andres**	**2.09**	**346**	P	**Pn**	**03 45 35.4**	**-3.3**
POLN	**Al Sur del Vol**	**2.21**	**66**	P	Pn	03 45 35.4	-4.9
PLRN	**Geotermica Pol**	**2.23**	**68**	P	**Pn**	**03 45 40.4**	**-0.1**
PLRN				S	**Sb**	**03 46 10.5**	**-1.0**
ROCN	**Rota Cerro Neg**	**2.23**	**70**	P	Pn	03 45 35.0	-5.5
CNGN	**Cerro Negro**	**2.26**	**71**	P	**Pn**	**03 45 41.8**	**+0.8**
COPN	**Copaltepe**	**2.28**	**79**	P	**Pn**	**03 45 41.4**	**+0.1**
NUBE	**Las Nubes**	**2.30**	**338**	*eP*	**Pn**	**03 45 42.5**	**+0.8**
NUBE				*eS*	**Sn**	**03 46 11.2**	**+0.4**
NUBE	**Las Nubes**	**2.30**	**338**	P	**Pn**	**03 45 42.4**	**+0.8**
NUBE	**Las Nubes**	**2.30**	**338**	S	**Sn**	**03 46 11.0**	**+0.2**
FAME	**Alcaldia de Sa**	**2.35**	**332**	P	**Pn**	**03 45 42.8**	**+0.7**
FAME	**Alcaldia de Sa**	**2.35**	**332**	S	**Sn**	**03 46 11.3**	**-0.3**
CHOHN	**Orocuina**	**2.40**	**44**	P	**Pn**	**03 45 44.4**	**+1.4**
CHOHN	**Orocuina**	**2.40**	**44**	S	**Sb**	**03 46 15.8**	**-0.9**
SLOZ	**Alcaldia de Sa**	**2.42**	**339**	S	**Sn**	**03 46 14.9**	**+1.5**
SLOZ	**Alcaldia de Sa**	**2.42**	**339**	P	**Pb**	**03 45 46.4**	**-0.4**
MOM3	**MOM3**	**2.43**	**72**	S	**Sb**	**03 46 16.2**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.77**	**34**	P	**Pn**	**03 45 49.5**	**+1.4**
TGUH				S	**Sb**	**03 46 26.1**	**-1.3**
YUSH	**Yuscaran**	**2.95**	**42**	P	**Pn**	**03 45 52.4**	**+1.8**
YUSH	**Yuscaran**	**2.95**	**42**	S	**Sb**	**03 46 30.4**	**-2.2**
OCON	**Estacion meteo**	**3.00**	**51**	P	**Pn**	**03 45 52.4**	**+1.3**
MATN	**Matagalpa**	**3.12**	**68**	P	**Pn**	**03 45 52.6**	**-0.2**
MORN	**Al O del Volca**	**3.18**	**93**	P	**Pb**	**03 46 01.1**	**+1.4**
RCVN	**Varillal2**	**3.19**	**55**	P	**Pn**	**03 45 55.3**	**+1.4**
RCVN	**Varillal2**	**3.19**	**55**	S	**Sb**	**03 46 36.1**	**-3.4**
BOAB	**BOACO BROADBAN**	**3.22**	**77**	S	**Sn**	**03 46 34.6**	**+1.4**
BOAB	**BOACO BROADBAN**	**3.22**	**77**	P	**Pn**	**03 45 54.4**	**+0.2**
IZABA	**Izabal, Puerto**	**3.96**	**4**	P	**Pg**	**03 46 17.9**	**-0.5**
JTS	**Las Juntas de**	**4.13**	**110**	P	**Pn**	**03 46 06.8**	**+0.1**
JTS				S	**Sn**	**03 46 55.4**	**-0.2**

*NEIC **30** 03:46:55.9±1.1, 17°.33S±0°.08×70°.7W±0°.1, h119km±11km, mb4.3/4, Error ellipse: s-maj=19.7km s-min=9.6km az=108.0*

*IDC **30** 03:46:57.7±3.1, 17°.56S×70°.29W, h129km±22km, mb3.4/3, mbtmp3.8/6, Error ellipse: s-maj=32.7km s-min=30.5km az=130.0*

ISC 30 03:46:54.7±1.0, 17°.34S±0°.08×70°.6W±0°.1, h95km, n27, σ2§27/28, mb4.2/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.06**	**165**		**Pn**	**03 47 19.1**	**+3.7**
PB18	**Visviri**	**1.12**	**103**		**Pn**	**03 47 20.7**	**+4.1**
PB12	**IPOC Station P**	**1.30**	**168**		**Pn**	**03 47 21.7**	**+3.3**
PB16	**IPOC Station P**	**1.46**	**133**		**Pn**	**03 47 23.8**	**+3.1**
PB11	**IPOC Station P**	**2.58**	**159**		**Pn**	**03 47 36.9**	**+2.0**
LPAZ	**La Paz**	**2.61**	**67**		**Pn**	**03 47 38.6**	**+2.9**
LPAZ	**La Paz**	**2.61**	**67**	P	**Pn**	**03 47 37.8**	**+2.1**
LPAZ	18nm,0.4s,baz=250,slow=9.3,SNR=153			S	**Sn**	**03 48 08.6**	**+1.6**
GO01	**Chusmiza**	**2.69**	**150**		**Pn**	**03 47 39.9**	**+3.3**
PB08	**IPOC Station P**	**3.12**	**154**		**Pn**	**03 47 44.8**	**+2.6**
TA01	**Diego Aracena**	**3.24**	**173**		**Pn**	**03 47 45.5**	**+1.9**
PB01	**IPOC Station P**	**3.84**	**164**		**Pn**	**03 47 52.5**	**+0.8**
PB02	**IPOC Station P**	**4.02**	**170**		**Pn**	**03 47 56.2**	**+2.0**
PB09	**IPOC Station P**	**4.62**	**164**		**Pn**	**03 48 04.4**	**+2.0**
PB03	**IPOC Station P**	**4.76**	**170**		**Pn**	**03 48 05.8**	**+1.6**
PB06	**IPOC Station P**	**5.43**	**170**		**Pn**	**03 48 14.4**	**+1.0**
PB05	**IPOC Station P**	**5.50**	**176**		**Pn**	**03 48 15.3**	**+1.0**
PB14	**IPOC Station P**	**7.26**	**178**	Pn	**Pn**	**03 48 38.2**	**-0.2**
SIV	**San Ignacio**	**9.25**	**83**	P	**Pn**	**03 49 04.5**	**-0.8**
AC02	**Maricunga**	**9.55**	**172**	Pn	**Pn**	**03 49 09.7**	**-0.1**
CFA	**Coronel Fontan**	**14.37**	**172**	P	**Pn**	**03 50 11.4**	**-2.2**
PLTB	**Pedras Altas**	**21.08**	**136**	P	**P**	**03 51 30.2**	**-1.2**
PLTB				IAmb	IAmb	03 51 58.3	
BOAV	**Boa Vista**	**21.99**	**28**	P	**P**	**03 51 41.2**	**0.0**
MAL2	**Monte Alegre,**	**22.20**	**48**	P	**P**	**03 51 42.5**	**-1.0**
MAL2				IAmb	IAmb	03 51 43.9	
HOPE	**Hope Point**	**45.30**	**152**	P	**P**	**03 55 03.7**	**+1.0**
TXAR	**Lajitas Array**	**56.30**	**325**	P	**P**	**03 56 27.9**	**+2.1**

comp=Z,0.1nm,0.5s,baz=142,slow=7.1,SNR=1.8
comp=Z,0.1nm,0.5s

DBIC	**Dimbokro**	**69.19**	**76**	P	**P**	**03 57 48.9**	**-2.8**

comp=Z,1.6nm,0.5s,baz=267,slow=5.8,SNR=4.4
comp=Z,1.6nm,0.5s

TORD	**Torodi Ar. Bea**	**77.55**	**72**	P	**P**	**03 58 39.0**	**-1.7**

comp=Z,1.3nm,0.6s,baz=264,slow=5.0,SNR=9.2
comp=Z,1.3nm,0.6s

DJA 30 03:49:22.7±0.7, 8°S±3°×10°6E±°, h13km±5km, M3.7/12, mb3.8/1, MLv3.6/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.93**	**45**	P	Pg	03 49 40.6	-0.2
SKJI				S	Sb	03 49 53.7	+0.6
CGJI	**Cibinong**	**1.07**	**349**	P	Pb	03 49 42.9	-0.2
CGJI				S	Sg	03 49 57.3	0.0
CNJI	**Cibinong**	**1.28**	**74**	P	Pn	03 49 46.1	-0.2
CNJI				S	Sb	03 50 03.0	-0.1
DBJI	**Dramaga**	**1.40**	**38**	P	Pn	03 49 47.7	-0.3
DBJI				S	Sb	03 50 06.5	0.0
SBJI	**Serang**	**1.56**	**9**	P	Pn	03 49 50.3	+0.2
LEM	**Lembang**	**1.91**	**64**	P	Pn	03 49 55.7	+0.6
LEM				S	Sn	03 50 19.8	+0.7
KASI	**Kota Agung**	**2.54**	**327**	P	Pn	03 50 03.8	+0.1
KPJI	**Karang Pucung**	**3.03**	**84**	P	Pn	03 50 11.0	+0.6
KPJI				S	Sn	03 50 47.2	+0.5
MDSI	**Maura Dua**	**3.59**	**332**	P	Pn	03 50 18.3	+0.2

*IDC **30** 04:07:14.8±3.2, 14°.34N×145°.85E, h60km±27km, mb3.6/7, mbtmp3.9/7, MS3.1/2, Error ellipse: s-maj=34.1km s-min=25.4km az=97.0*

*NEIC **30** 04:07:18.2±1.0, 14°.26N±0°.09×145°.6E±0°.1, h76km±7km, mb4.2/8, Error ellipse: s-maj=22.5km s-min=6.0km az=124.0*

ISC 30 04:07:14.7±1.1, 14°.4N±0°.1×145°.8E±0°.2, h50km, n26, σ1§24/20, mb4.1/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.22**	**229**		**Pn**	**04 07 36.6**	**+1.3**
GUMO				Sn	**Sn**	**04 07 50.9**	**+0.2**
GUMO	**Guam**	**1.22**	**229**	P	**Pn**	**04 07 37.0**	**+1.7**
GUMO	454nm,0.3s,baz=11,slow=4.7,SNR=14 986nm,0.3s,baz=134,slow=7.3,SNR=7.0			S	**Sn**	**04 07 50.8**	**0.0**
H11S3	**WAKE ISLAND Hy**	**20.43**	**76**	T	T	04 33 20.1	
	baz=263,slow=74,SNR=68						
H11S1	**WAKE ISLAND Hy**	**20.44**	**76**	T	T	04 33 21.4	
	baz=263,slow=74,SNR=34						
H11S2	**WAKE ISLAND Hy**	**20.45**	**76**	T	T	04 33 15.1	
	baz=263,slow=74,SNR=51						
H11N1	**WAKE ISLAND Hy**	**20.83**	**72**	T	T	04 33 37.8	
	baz=257,slow=74						
H11N2	**WAKE ISLAND Hy**	**20.84**	**72**	T	T	04 33 47.7	
	baz=257,slow=74						
H11N3	**WAKE ISLAND Hy**	**20.85**	**72**	T	T	04 33 42.7	
	baz=257						
MJAR	**Matsushiro Arr**	**23.07**	**344**	LR	LR	04 20 15.3	
	comp=Z,23nm,19.1s,baz=192,slow=34						
WB0	**Warramunga Arr**	**35.76**	**199**	P	**P**	**04 14 07.8**	**-1.3**
WB0				IAmb	IAmb	04 14 35.8	
	comp=Z,6.3nm,1.1s						
WR8	**Warramunga Arr**	**35.91**	**198**	P	**P**	**04 14 09.0**	**-1.3**
WRA	**Warramunga Arr**	**35.94**	**199**	P	**P**	**04 14 09.5**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=22,slow=9.7,SNR=13 comp=Z,1.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**37.92**	**212**	P	**P**	**04 14 26.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**45.04**	**282**	P	**P**	**04 15 25.7**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=102,slow=8.1,SNR=4.0 comp=Z,1.3nm,0.3s						
SONM	**Songino Array**	**46.61**	**324**	P	**P**	**04 15 37.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=117,slow=7.5,SNR=2.4 comp=Z,0.4nm,0.5s						
K15K	**Wolf Creek Mou**	**60.45**	**25**	P	**P**	**04 17 20.9**	**+1.9**
MK31	**Makanchi Array**	**61.55**	**316**	P	**P**	**04 17 26.4**	**-0.3**
MK31				IAmb	IAmb	04 17 38.7	
	comp=Z,2.3nm,1.2s						
MKAR	**Makanchi Array**	**61.55**	**316**	P	**P**	**04 17 26.7**	**0.0**
MKAR	**Makanchi Array**	**61.55**	**316**	P	**P**	**04 17 26.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=93,slow=7.5,SNR=5.5 comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**64.60**	**319**	P	**P**	**04 17 46.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=99,slow=6.6,SNR=9.0 comp=Z,0.6nm,0.3s						
CAST	**Castle Rocks**	**64.87**	**26**	P	**P**	**04 17 49.7**	**+1.3**
D20K	**Etivluk River**	**65.18**	**20**	P	**P**	**04 17 51.3**	**+0.9**
D20K				IAmb	IAmb	04 17 53.6	
	comp=Z,3.2nm,1.2s						
ILAR	**Eielson Array**	**67.45**	**25**	P	**P**	**04 18 03.4**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=263,slow=6.1,SNR=7.9 comp=Z,0.3nm,0.5s						
BVAR	**Borovoye Array**	**69.86**	**321**	P	**P**	**04 18 19.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=76,slow=7.6,SNR=2.5 comp=Z,0.4nm,0.3s						
HYT	**Haines Junctio**	**71.05**	**30**	P	**P**	**04 18 29.8**	**+2.4**
HYT				IAmb	IAmb	04 18 29.9	
	comp=Z,3.0nm,1.1s						
GNI	**Garni**	**89.08**	**311**	LR	LR	05 02 19.4	
	comp=Z,16nm,20.2s,baz=341,slow=37						

*JSN **30** 04:20:59.3±0.3, 18°.15N×76°.64W, h0km±3km, MD2.3*
*SSNC **30** 04:20:59.2±1.6, 18°.24N×76°.58W, h7km±18km, MD2.8, ML1.7*

ISC 30 04:20:56.7±1.5, 18°.35N±0°.06×76°.58W±0°.06, h5km±15km, n9, σ1§03/15, 3D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.30**	**208**	⇓*iP*	**Pg**	**04 21 01.9**	**-0.8**
STH	**Stony Hill**	**0.35**	**220**	*iP*	**Pg**	**04 21 03.1**	**-0.4**
MTDJ	**Mount Denham**	**0.92**	**263**	*eP*	**Pg**	**04 21 14.2**	**-0.1**
MTDJ				⇓*eS*	**Sg**	**04 21 26.9**	**+0.6**
MTDJ	18nm,0.3s			IAML		04 21 29.0	
MTDJ	comp=Z,18nm,0.2s			IAML		04 21 29.1	
MTDJ	**Mount Denham**	**0.92**	**263**	⇓*iP*	**Pb**	**04 21 15.3**	**0.0**
CHIV	**Chivirico**	**1.63**	**5**	*eP*	**Pn**	**04 21 26.0**	**-0.2**
PILO	**Pilon**	**1.74**	**333**	*eP*	**Pn**	**04 21 28.0**	**+0.2**
PILO				*eS*	**Sn**	**04 21 48.4**	**-2.0**
LMGC	**Las Mercedes**	**1.76**	**347**	*eP*	**Pn**	**04 21 29.1**	**+1.2**
LMGC				*eS*	**Sn**	**04 21 51.0**	**+0.2**
LMGC				*eSg*	**Sb**	**04 21 52.7**	**+0.8**
LMGC	comp=N,9.1nm,0.1s			IAML		04 21 52.7	
LMGC	comp=E,15nm,0.1s			IAML		04 21 52.9	
PINC	**Pinares de May**	**2.26**	**19**	*eP*	**Pg**	**04 21 39.5**	**-0.5**
PINC				*eS*	**Sb**	**04 22 05.8**	**-0.5**
QMBU	**Quimbuelo**	**2.49**	**42**	*eP*	**Pn**	**04 21 39.7**	**+1.7**
QMBU				*eS*	**Sn**	**04 22 07.8**	**-1.0**

CATAC 30 04:22:35.6±0.4, 10°N±3°×8°5W±°, h10km±3km, M2.5/7, MLv2.5/7, Error ellipse: s-maj=5.8km s-min=3.8km az=23.3, confirmed, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**0.57**	**344**	P	Pg	04 22 46.8	+0.1
JTS				S	Sg	04 22 54.8	+0.6
SOCE	**Pocosol**	**0.66**	**15**	S	Sb	04 22 58.7	+0.2
SOCE	**Pocosol**	**0.66**	**15**	P	Pb	04 22 49.2	-0.1
INDI	**Punta indio, G**	**0.71**	**280**	P	Pg	04 22 49.7	+0.3
INDI	**Punta indio, G**	**0.71**	**280**	S	Sb	04 23 00.5	+0.6
LCR2	**La Lucha 2**	**0.77**	**90**	P	Pg	04 22 50.8	+0.2
LCR2	**La Lucha 2**	**0.77**	**90**	S	Sb	04 23 01.8	-0.2
COVE	**Coope Vega, Sa**	**1.04**	**21**	S	Sn	04 23 11.7	+0.8
COVE	**Coope Vega, Sa**	**1.04**	**21**	P	Pg	04 22 54.7	-1.0
ELI1	**Hacienda Flor**	**1.17**	**320**	P	Pb	04 22 57.2	-0.7
ELI1	**Hacienda Flor**	**1.17**	**320**	S	Sn	04 23 14.0	0.0
DRK0	**Durika**	**1.60**	**107**	S	Sn	04 23 24.7	-0.1
DRK0	**Durika**	**1.60**	**107**	P	Pn	04 23 03.8	-0.2

*NEIC **30** 04:36:58.9, 59°.08N×137°.00W, h4km*

*IDC **30** 04:36:58.1±0.8, 59°.19N×136°.82W, h0km, mb3.4/5, mbtmp3.6/10, ML3.4/5, MS3.1/8, Error ellipse: s-maj=14.9km s-min=7.7km az=41.0*

*ANF **30** 04:36:59.1±0.1, 59°.08N×136°.96W, h0km, ML4.3/47, Error ellipse: s-maj=2.1km s-min=1.2km az=22.0*

*NEIC **30** 04:36:59.6, 59°.07N×136°.95W, h19km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.35; Mθθ=0.55; Mφφ=0.46; Mrθ=-0.26; Mφθ=0.92; Mφr=-0.33; Fault plane solution: M₀1.20000×10¹⁵ NP1:φs163.00000°, δ70.00000°, λ163.00000°. NP2:φs259.00000°, δ74.00000°, λ20.00000°. Principal axes: T 1.1180, Plg26.0000°, Azm121.0000°; N 0.0625, Plg64.0000°, Azm296.0000°; P -1.1806, Plg2.0000°, Azm30.0000°;*

*AEIC **30** 04:36:59.0±1.7, 59°.08N±0°.02×137°.00W±0°.03, h7km±6km, ML3.9, mb3.9/5(NEIC), ML4.0/136(NEIC), Mwr4.0(OTT), Mwr3.9/63(NEIC) Error ellipse: s-maj=2.9km s-min=2.0km az=164.0*

*PGC **30** 04:36:59.6±0.1, 59°.07N×136°.95W, h2km, ML4.2/31, Mw4.0, ML3.8(AEIC), 104km southwest of Skagway, Ak Southeastern Alaska*

*NEIC **30** 04:37:00.4±1.6, 59°.11N±0°.03×136°.96W±0°.06, h15km±5km, Error ellipse: s-maj=5.1km s-min=3.6km az=58.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr3.56; Mθθ0.71; Mφφ-4.27; Mrθ-2.64; Mθφ6.86; Mφr-1.57; Fault plane solution: M₀8.49000×10¹⁴ NP1: φs183.98000°, δ64.47000°, λ153.44000°. NP2: φs286.14000°, δ66.20000°, λ28.10000°. Principal axes: T 7.7563, Plg36.0000°, Azm146.0000°; N 1.3218, Plg54.0000°, Azm323.0000°; P -9.0781, Plg1.0000°, Azm55.0000°;*

ISC 30 04:36:58.6±1.1, 59°.07N±0°.02×137°.04W±0°.02, h2km±8km, n426, σ1§04/509, mb3.8/8, MS3.2/4, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.52**	**41**		**Pg**	**04 37 08.9**	**+0.4**
PLBC					**Sg**	**04 37 15.5**	**+0.1**
PLBC	**Pleasant Camp**	**0.52**	**41**	P	**Pg**	**04 37 09.0**	**+0.4**
PLBC				S	**Sg**	**04 37 14.3**	**-1.0**
PLBC	**Pleasant Camp**	**0.52**	**41**	P	**Pg**	**04 37 08.9**	**+0.4**
PLBC	baz=221,SNR=1000 baz=221			S	**Sg**	**04 37 15.6**	**+0.3**
P29M	**Windy Craggy**	**0.67**	**328**		**Pg**	**04 37 11.7**	**+0.3**
P29M	comp=E,11μm,0.4s			IAML		04 37 21.8	
P29M	**Windy Craggy**	**0.67**	**328**		**Sg**	**04 37 20.7**	**+0.7**
P29M	**Windy Craggy**	**0.67**	**328**	P	**Pg**	**04 37 11.8**	**+0.3**
P29M				S	**Sg**	**04 37 20.8**	**+0.8**
P29M	**Windy Craggy**	**0.67**	**328**	P	**Pg**	**04 37 11.7**	**+0.3**
P29M	baz=145,SNR=1000 baz=145			S	**Sg**	**04 37 20.8**	**+0.7**
R31K	**City Hall, Gus**	**0.94**	**134**		**Pb**	**04 37 17.3**	**-0.4**
R31K					**Sb**	**04 37 30.7**	**+0.2**
R31K					**Sn**	**04 37 31.0**	**-1.9**
R31K	**City Hall, Gus**	**0.94**	**134**	P	**Pg**	**04 37 16.9**	**+0.3**
R31K				S	**Sg**	**04 37 28.9**	**+0.1**
R31K	**City Hall, Gus**	**0.94**	**134**	P	**Pb**	**04 37 17.2**	**-0.4**
R31K	baz=316,SNR=65 baz=316			S	**Sb**	**04 37 30.6**	**0.0**
SKAG	**Skagway**	**0.96**	**65**		**Pg**	**04 37 16.7**	**-0.3**
SKAG	comp=E,7μm,0.4s			IAML		04 37 29.4	
SKAG	**Skagway**	**0.96**	**65**		**Sg**	**04 37 29.1**	**-0.3**
SKAG	**Skagway**	**0.96**	**65**	P	**Pg**	**04 37 16.7**	**-0.3**
SKAG	baz=247,SNR=1000 baz=247			S	**Sg**	**04 37 29.0**	**-0.5**
P30M	**Million Dollar**	**1.06**	**2**		**Pg**	**04 37 18.4**	**-0.5**
P30M					**Sg**	**04 37 32.3**	**-0.3**
P30M	**Million Dollar**	**1.06**	**2**	IAML		04 37 34.1	
P30M	comp=E,3μm,0.8s **Million Dollar**	**1.06**	**2**	P	**Pg**	**04 37 18.6**	**-0.3**
P30M				S	**Sg**	**04 37 31.6**	**-0.9**
P30M	**Million Dollar**	**1.06**	**2**	P	**Pg**	**04 37 18.4**	**-0.5**
P30M	baz=181,SNR=1000 baz=181			S	**Sg**	**04 37 32.2**	**-0.4**
S31K	**Pelican**	**1.19**	**159**		**Pg**	**04 37 21.2**	**0.0**
S31K	comp=E,5μm,0.6s			IAML		04 37 39.2	
S31K	**Pelican**	**1.19**	**159**		**Sn**	**04 37 38.3**	**-0.5**
S31K	**Pelican**	**1.19**	**159**	P	**Pg**	**04 37 21.4**	**+0.2**
S31K				S	**Sg**	**04 37 37.2**	**+0.5**
S31K	**Pelican**	**1.19**	**159**	P	**Pg**	**04 37 21.3**	**0.0**
S31K	baz=341,SNR=1000 baz=341			S	**Sb**	**04 37 37.8**	**+0.3**
BESE	**Bessie Mountai**	**1.24**	**112**		**Pg**	**04 37 21.5**	**-0.7**
BESE	**Bessie Mountai**	**1.24**	**112**		**Sb**	**04 37 38.5**	**-0.6**
BESE	**Bessie Mountai**	**1.24**	**112**	P	**Pg**	**04 37 21.7**	**-0.5**
BESE				S	**Sg**	**04 37 37.0**	**-1.2**
PNL	**Peninsula**	**1.35**	**298**		**Pn**	**04 37 23.5**	**-1.0**
PNL					**Sg**	**04 37 41.1**	**-0.8**
PNL					**Sb**	**04 37 43.1**	**+0.8**
PNL	**Peninsula**	**1.35**	**298**	P	**Pn**	**04 37 23.6**	**-0.9**
PNL				S	**Sg**	**04 37 41.3**	**-0.6**
PNL	**Peninsula**	**1.35**	**298**	P	**Pn**	**04 37 23.4**	**-1.1**
PNL	baz=115,SNR=1000 baz=115			S	**Sg**	**04 37 41.4**	**-0.5**
YKU2	**Yakutat**	**1.42**	**289**		**Sn**	**04 37 45.5**	**+0.8**
YKU2					**Sb**	**04 37 46.4**	**+2.0**
YKU2	**Yakutat**	**1.42**	**289**		**Pn**	**04 37 25.8**	**+0.4**
O29M	**Mount Kennedy**	**1.46**	**328**		**Pn**	**04 37 24.9**	**-1.2**
O29M	**Mount Kennedy**	**1.46**	**328**		**Sg**	**04 37 44.9**	**-0.7**
O29M					**Sb**	**04 37 45.0**	**-0.6**
O29M	**Mount Kennedy**	**1.46**	**328**	P	**Pn**	**04 37 25.2**	**-1.0**
O29M				S	**Sg**	**04 37 44.9**	**-0.6**
O29M	**Mount Kennedy**	**1.46**	**328**	P	**Pn**	**04 37 25.0**	**-1.2**
O29M	baz=146,SNR=1000 baz=146			S	**Sg**	**04 37 45.0**	**-0.6**
R32K	**Eaglecrest**	**1.54**	**120**		**Pn**	**04 37 26.0**	**-1.1**
R32K	comp=N,2μm,0.4s			IAML		04 37 49.8	
R32K	comp=E,2μm,0.5s			IAML		04 37 50.9	
R32K	**Eaglecrest**	**1.54**	**120**		**Sn**	**04 37 47.2**	**-0.4**
R32K	**Eaglecrest**	**1.54**	**120**	P	**Pn**	**04 37 26.1**	**-0.9**
R32K				S	**Sn**	**04 37 46.4**	**-1.2**
R32K	**Eaglecrest**	**1.54**	**120**	P	**Pn**	**04 37 26.0**	**-1.1**
R32K	baz=303,SNR=429 baz=303			S	**Sg**	**04 37 47.8**	**-0.1**
YUK7	**Dusty Glacier**	**1.57**	**340**		**Pn**	**04 37 27.2**	**-0.4**
YUK7					**Pb**	**04 37 27.5**	**-1.0**
YUK7					**Sn**	**04 37 48.1**	**-0.7**
YUK7					**Sb**	**04 37 48.2**	**-0.7**
YUK7	**Dusty Glacier**	**1.57**	**340**	Pn	**Pn**	**04 37 27.3**	**-0.4**
YUK7				Sn	**Sn**	**04 37 48.0**	**-0.7**
BCPM	**Bancas Point**	**1.59**	**305**		**Sn**	**04 37 48.5**	**-0.5**
BCPM	**Bancas Point**	**1.59**	**305**		**Pn**	**04 37 27.5**	**-0.4**
JIS	**Juneau Island**	**1.60**	**119**		**Pn**	**04 37 26.8**	**-1.0**
JIS					**Sn**	**04 37 48.1**	**-0.8**
JIS					**Sb**	**04 37 49.1**	**-0.2**
O30N	**Mendenhall**	**1.77**	**15**		**Pn**	**04 37 30.1**	**-0.2**
O30N	**Mendenhall**	**1.77**	**15**		**Sb**	**04 37 54.2**	**-0.4**
O30N	**Mendenhall**	**1.77**	**15**	Pn	**Pn**	**04 37 30.2**	**-0.1**
O30N				Sn	**Sn**	**04 37 53.0**	**-0.5**
O30N	**Mendenhall**	**1.77**	**15**	P	**Pn**	**04 37 30.0**	**-0.4**
O30N	baz=195,SNR=1000 baz=195			S	**Sn**	**04 37 53.7**	**+0.2**
HYT	**Haines Junctio**	**1.78**	**353**		**Sn**	**04 37 54.2**	**+0.4**
HYT					**Sb**	**04 37 54.8**	**0.0**
HYT	**Haines Junctio**	**1.78**	**353**		**Pn**	**

O28M **Mount Upton** 2.33 318 Pn **Pn** 04 37 38.6 +0.3
O28M Sn **Sn** 04 38 08.3 +0.7
O28M Mount Upton 2.33 318 P **Pn** 04 37 38.6 +0.3
baz=135,SNR=137
O28M S **Sb** 04 38 09.8 -1.1
baz=135
N30M Aishikik Lake 2.40 359 **Pn** 04 37 38.9 0.0
N30M IAML 04 38 15.4
comp=E,840nm,0.6s
N30M IAML 04 38 16.1
comp=N,686nm,0.3s
N30M Aishikik Lake 2.40 359 Pn **Pn** 04 37 39.0 0.0
N30M Sg **Sb** 04 38 13.9 +1.3
N30M Aishikik Lake 2.40 359 P **Pn** 04 37 39.0 0.0
baz=179,SNR=1000
N30M Sb **Sb** 04 38 13.8 +1.3
baz=179
YUK4 Talbot Arm 2.42 341 Pn **Pn** 04 37 40.7 +1.4
YUK4 Pg **Pg** 04 37 44.6 -0.3
YUK4 Talbot Arm 2.42 341 P **Pn** 04 37 40.6 +1.2
baz=161,SNR=444
YUK4 Sb **Sg** 04 38 16.8 +0.5
baz=161
P33M Teslin, Yukon 2.43 60 **Pn** 04 37 38.6 -0.8
P33M IAML 04 38 16.4
comp=E,629nm,0.6s
P33M IAML 04 38 16.5
comp=N,839nm,0.7s
P33M Teslin, Yukon 2.43 60 **Sb** 04 38 11.4 -2.1
P33M Teslin, Yukon 2.43 60 Pn **Pn** 04 37 38.6 -0.8
P33M Sn **Sn** 04 38 08.5 -1.3
P33M Teslin, Yukon 2.43 60 P **Pn** 04 37 38.6 -0.8
baz=244,SNR=1000
P33M Sb **Sb** 04 38 13.6 +0.1
baz=244
Q32M Nakina River 2.47 90 **Pn** 04 37 39.4 -0.6
Q32M IAML 04 38 17.6
comp=E,1µm,0.9s
Q32M IAML 04 38 17.6
comp=N,1µm,0.7s
Q32M Nakina River 2.47 90 Pn **Pn** 04 37 39.4 -0.6
Q32M Nakina River 2.47 90 P **Pn** 04 37 39.5 -0.6
baz=275,SNR=161
Q32M Sb **Sb** 04 38 15.1 +0.4
baz=275
TABL Table Mountain 2.49 305 **Pn** 04 37 41.1 +0.8
TABL IAML 04 38 25.6
comp=N,506nm,1.1s
TABL Table Mountain 2.49 305 Pn **Pn** 04 37 40.8 +0.4
TABL Sn **Sn** 04 38 11.9 +0.5
N31M Braeburn, Yuko 2.51 14 **Pn** 04 37 40.6 +0.2
N31M Braeburn, Yuko 2.51 14 Pn **Pn** 04 37 40.5 +0.1
N31M Sn **Sn** 04 38 11.1 -0.4
N31M Sg **Sb** 04 38 16.7 +1.1
N31M Braeburn, Yuko 2.51 14 P **Pn** 04 37 40.6 +0.1
baz=195,SNR=929
N31M Sb **Sb** 04 38 16.8 +1.2
baz=195
RKAV Rock Avalanche 2.51 301 Pn **Pn** 04 37 40.8 +0.3
RKAV Sn **Sn** 04 38 12.9 +1.1
BRWY Burwash Landin 2.52 338 Pn **Pn** 04 37 41.0 +0.4
YUK8 Steele Glacier 2.61 330 **Pn** 04 37 42.7 +0.7
YUK8 Steele Glacier 2.61 330 P **Pn** 04 37 41.9 -0.1
YUK8 Sg **Sg** 04 38 21.9 -0.4
YUK8 Steele Glacier 2.61 330 P **Pn** 04 37 42.4 +0.4
baz=147,SNR=57
YUK8 Sb **Sb** 04 38 20.0 +1.3
baz=147
LOGN Logan Glacier 2.66 313 **Pn** 04 37 43.0 +0.4
LOGN Logan Glacier 2.66 313 Pn **Pn** 04 37 43.0 +0.4
LOGN Sn **Sn** 04 38 15.8 +0.3
YAH Yahtse 2.72 301 **Pn** 04 37 43.9 +0.4
YAH IAML 04 38 23.9
comp=E,400nm,0.7s
YAH IAML 04 38 31.2
comp=N,447nm,1.3s
MESA MESA 2.73 296 **Pn** 04 37 43.6 0.0
MESA MESA 2.73 296 IAML 04 38 24.8
comp=E,656nm,0.4s
MESA IAML 04 38 26.8
comp=N,781nm,0.4s
MESA MESA 2.73 296 Pn **Pn** 04 37 43.6 0.0
MESA MESA 2.73 296 P **Pn** 04 37 43.1 -0.5
baz=112,SNR=32
MESA S **Sn** 04 38 19.0 +1.7
baz=112
CTGM Chitina Glacie 2.88 313 **Pn** 04 37 46.4 +0.8
CTGM Chitina Glacie 2.88 313 Pn **Pn** 04 37 46.0 +0.4
CTG Chitina Glacier 2.88 313 P **Pn** 04 37 45.7 +0.2
baz=129,SNR=43
CTG S **Sb** 04 38 24.0 -2.4
baz=129
N32M Quiet Lake 2.88 42 **Pn** 04 37 45.2 -0.4
N32M Quiet Lake 2.88 42 Pn **Pn** 04 37 45.1 -0.4
N32M Sg **Sb** 04 38 27.8 +1.5
N32M Quiet Lake 2.88 42 P **Pn** 04 37 44.9 -0.7
baz=225
N32M Sb **Sb** 04 38 27.5 +1.2
baz=225
GRNC Granite Creek 2.90 307 **Pn** 04 37 46.8 +0.8
GRNC IAML 04 38 24.1
comp=N,357nm,0.9s
GRNC Granite Creek 2.90 307 Pn **Pn** 04 37 46.4 +0.4
GRNC Sn **Sn** 04 38 21.9 +0.3
BAGL Bagley Icefiel 2.93 301 **Pn** 04 37 46.7 +0.6
BARN Barnard Glacie 3.06 313 **Pn** 04 37 49.5 +1.4
BARN IAML 04 38 38.2
comp=E,298nm,0.5s
BARK Barkley Ridge 3.07 298 **Pn** 04 37 48.3 +0.2
ISLE Juniper Island 3.09 302 **Pn** 04 37 49.2 +0.7
ISLE IAML 04 38 39.6
comp=N,344nm,1.1s
ISLE IAML 04 38 50.1
comp=E,415nm,1.2s
R33M Jennings River 3.14 81 **Pn** 04 37 48.6 -0.5
R33M IAML 04 38 41.0
comp=N,664nm,1.1s
R33M IAML 04 38 41.7
comp=E,480nm,0.9s
R33M Jennings River 3.14 81 Pn **Pn** 04 37 48.5 -0.7
R33M Sn **Sn** 04 38 25.4 -1.8
R33M Sg **Sb** 04 38 35.1 +1.2
R33M Jennings River 3.14 81 P **Pn** 04 37 48.4 -0.7
baz=267,SNR=418
R33M Sb **Sb** 04 38 35.0 +1.2
baz=267
T33K Petersburg 3.14 134 Pn **Pn** 04 37 49.5 +0.5
T33K Petersburg 3.14 134 P **Pn** 04 37 49.3 +0.4
baz=318,SNR=9.8
SNH Sunshine Point 3.15 293 **Pn** 04 37 49.9 +0.7
SNH IAML 04 38 47.7
comp=N,487nm,0.8s
SNH IAML 04 39 04.5
comp=E,337nm,1.6s
YUK3 Moose Creek 3.20 329 **Pn** 04 37 50.6 +0.5
YUK3 Pb 04 37 51.0 -5.3
YUK3 Moose Creek 3.20 329 Pn **Pn** 04 37 50.4 +0.3
YUK3 Sn **Sn** 04 38 28.4 -0.5
YUK3 Moose Creek 3.20 329 P **Pn** 04 37 50.1 0.0
baz=146,SNR=68
YUK3 Sb **Sg** 04 38 38.9 -2.5
baz=146
WAX Waxell Ridge 3.25 298 **Pn** 04 37 51.0 +0.3
WAX Waxell Ridge 3.25 298 IAML 04 38 40.2
comp=E,432nm,0.6s
KIAG Kiagna River 3.26 307 **Pn** 04 37 51.1 +0.3
KIAG Kiagna River 3.26 307 Pn **Pn** 04 37 50.9 +0.1
KIAG Sn **Sn** 04 38 30.7 +0.5
S34M Telegraph Cree 3.31 108 **Pn** 04 37 50.8 -0.5
S34M Telegraph Cree 3.31 108 Pn **Pn** 04 37 51.2 -0.2
S34M Sn **Sn** 04 38 29.3 -2.0
S34M Telegraph Cree 3.31 108 P **Pn** 04 37 50.9 -0.4
baz=293,SNR=34
S34M Sb **Sg** 04 38 41.4 -3.4
baz=293
BALM Baldy 3.31 309 Sn **Sn** 04 38 32.3 +0.8
YUK2 White River 3.32 327 Pn **Pn** 04 37 52.2 +0.6
BGLC Bering Glacier 3.35 291 P **Pn** 04 37 52.1 +0.3
baz=105
BGLC Sb **Sg** 04 38 43.5 -2.5
baz=105
TGL Tana Glacier 3.37 303 **Pn** 04 37 53.4 +1.1
M31M Drury Creek, Y 3.41 21 **Pn** 04 37 53.6 +0.8
M31M IAML 04 38 48.9
comp=E,438nm,0.9s
M31M IAML 04 38 55.5
comp=N,305nm,0.7s
M31M Drury Creek, Y 3.41 21 Pn **Pn** 04 37 53.3 +0.6
M31M Sn **Sn** 04 38 32.6 -1.0
M31M Sg **Sb** 04 38 44.0 +2.5
M31M Drury Creek, Y 3.41 21 P **Pn** 04 37 53.4 +0.6
baz=203,SNR=36
M31M Sb **Sb** 04 38 43.1 +1.7
baz=203
PTPK Patty Peak 3.45 310 **Pn** 04 37 55.1 +1.6
PTPK Patty Peak 3.45 310 Pn **Pn** 04 37 54.5 +1.1
PTPK Sn **Sn** 04 38 35.4 +0.4
M29M Somme Creek 3.46 349 IAML 04 38 54.5
comp=E,389nm,1.4s
M29M IAML 04 38 54.9
comp=N,331nm,0.7s
M29M Somme Creek 3.46 349 Pn **Pn** 04 37 54.1 +0.6
M29M Sn **Sn** 04 38 34.9 -0.2
M29M Sg **Sg** 04 38 46.6 -3.0
M29M Somme Creek 3.46 349 P **Pn** 04 37 54.1 +0.6
baz=167,SNR=145
M29M Sb **Sb** 04 38 45.8 +2.7
baz=167
CRQE Cirque 3.49 302 P **Pn** 04 37 53.0 -0.9
baz=116,SNR=29
CRQE S **Sn** 04 38 37.5 +1.8
baz=116
CRQM Cirque 3.51 301 IAML 04 38 52.8
comp=E,313nm,0.9s
CRQM IAML 04 38 54.8
comp=N,289nm,0.8s
M30M Minto, Yukon 3.52 2 **Pn** 04 37 54.4 0.0
M30M Minto, Yukon 3.52 2 IAML 04 38 52.6
comp=E,360nm,0.9s
M30M IAML 04 38 55.6
comp=N,365nm,1.0s
M30M Minto, Yukon 3.52 2 Pn **Pn** 04 37 54.1 -0.2
M30M Sg **Sg** 04 38 48.5 -3.2
M30M Minto, Yukon 3.52 2 P **Pn** 04 37 54.4 0.0
baz=182,SNR=105
M30M Sb **Sb** 04 38 47.3 +2.5
baz=182
SUCK Suckling Hills 3.57 289 IAML 04 39 08.5
comp=E,199nm,0.9s
BERG Berg Lake 3.63 294 **Pn** 04 37 56.1 +0.3
BERG Pb 04 37 56.8 -6.5
U33K Whale Pass 3.63 143 IAML 04 39 02.3
comp=E,253nm,1.0s
U33K IAML 04 39 03.3
comp=N,215nm,0.8s
U33K Whale Pass 3.63 143 Pn **Pn** 04 37 54.7 -1.0
U33K Whale Pass 3.63 143 P **Pn** 04 37 54.8 -0.9
baz=327,SNR=5.1
WRAK Wrangell Islan 3.66 135 **Pn** 04 37 55.3 -0.8
WRAK IAML 04 39 02.7
comp=N,382nm,0.7s
WRAK IAML 04 39 06.1
comp=N,440nm,0.5s
WRAK Wrangell Islan 3.66 135 Pn **Pn** 04 37 55.2 -0.8
WRAK Wrangell Islan 3.66 135 P **Pn** 04 37 55.4 -0.7
baz=319,SNR=122
WRAK S **Sn** 04 38 39.6 -0.2
baz=319
DLBC Dease Lake 3.71 97 Pn **Pn** 04 37 56.5 -0.5
comp=N,4.6nm,0.3s,baz=289,slow=5.2,SNR=101
DLBC Pg **Pb** 04 38 05.7 +0.9
comp=N,17nm,0.3s,baz=252,slow=17,SNR=26
DLBC Sn **Sn** 04 38 40.5 -0.6
comp=N,18nm,0.3s,baz=124,slow=25,SNR=11
DLBC Lg Lg 04 38 53.6
comp=N,69nm,0.3s,baz=105,slow=26,SNR=19
DLBC LR LR 04 39 22.9
comp=N,208nm,19.5s,baz=239,slow=40
comp=N,13nm,0.3s
DLBC Dease Lake 3.71 97 P **Pn** 04 37 56.4 -0.5
baz=283,SNR=116
DLBC Sb **Sb** 04 38 52.8 +2.7
baz=283
NICHA Nichawak Mount 3.71 291 **Pn** 04 37 57.1 +0.3
MCARA McCarthy VSAT 3.78 310 IAML 04 39 00.7
comp=E,242nm,0.9s
MCARA IAML 04 39 20.4
comp=N,240nm,1.2s
MCARA McCarthy VSAT 3.78 310 Pn **Pn** 04 37 58.5 +0.7
MCARA McCarthy VSAT 3.78 310 P **Pn** 04 37 58.4 +0.6
baz=125,SNR=14
BVCY Beaver Creek 3.85 332 Pn **Pn** 04 37 59.1 +0.3
BVCY Beaver Creek 3.85 332 P **Pn** 04 37 58.9 +0.1
baz=149,SNR=12
KAIM Kayak Island 3.86 286 **Pn** 04 37 60.0 +1.1
KAIM IAML 04 39 26.7
comp=E,240nm,1.4s
KAIM IAML 04 39 26.7
comp=N,200nm,1.0s
KAIM Kayak Island 3.86 286 P **Pn** 04 37 59.2 +0.2
baz=100
VRDI Verde Repeater 3.87 307 **Pn** 04 37 59.7 +0.5
HMT Hamilton 3.88 292 **Pn** 04 37 59.2 +0.1
HMT Pb 04 37 60.0 -7.6
HMT Hamilton 3.88 292 IAML 04 39 05.3
comp=N,360nm,0.8s
M27K Edge Creek, AK 4.07 326 IAML 04 39 13.0
comp=E,188nm,1.6s
M27K IAML 04 39 14.8
comp=N,245nm,1.3s
M27K Edge Creek, AK 4.07 326 Pn **Pn** 04 38 02.7 +0.8
M27K Edge Creek, AK 4.07 326 P **Pn** 04 38 01.9 0.0
baz=142,SNR=19
RAGM Ragged Mountai 4.09 292 **Pn** 04 38 02.2 +0.1
L29M L29M 4.09 353 Pn **Pn** 04 38 02.7 +0.5
L29M Sg **Sb** 04 39 05.2 +4.1
L29M L29M 4.09 353 P **Pn** 04 38 02.5 +0.4
baz=172,SNR=122
GLB Gilahina Butte 4.13 308 **Pn** 04 38 04.2 +1.5
GOAT Goat Mountain 4.17 295 **Pn** 04 38 03.2 0.0
T35M Bob Quinn 4.17 117 **Pn** 04 38 03.2 0.0
T35M Bob Quinn 4.17 117 Pn **Pn** 04 38 03.3 0.0
T35M Bob Quinn 4.17 117 P **Pn** 04 38 03.2 0.0
baz=303,SNR=15
CRAG Craig 4.19 148 **Pn** 04 38 03.2 -0.2
CRAG IAML 04 39 22.0
comp=N,144nm,1.1s
CRAG IAML 04 39 30.2
comp=E,175nm,1.3s
CRAG Craig 4.19 148 P **Pn** 04 38 02.9 -0.5
baz=332
BMRM Bremner River 4.25 300 **Pn** 04 38 04.6 +0.2
BMRM Bremner River 4.25 300 IAML 04 39 18.2
comp=E,149nm,0.7s
BMRM IAML 04 39 19.9
comp=N,155nm,1.0s
BMRM Bremner River 4.25 300 P **Pn** 04 38 04.5 +0.2
baz=113
WTLY Watson Lake, Y 4.32 72 **Pn** 04 38 04.7 -0.6
WTLY Watson Lake, Y 4.32 72 P **Pn** 04 38 05.1 -0.1
baz=260
WTLY Sb **Sb** 04 39 11.7 +4.0
baz=260
M26K Nabesna, AK 4.44 321 Pn **Pn** 04 38 08.2 +1.2
N25K Chitina, Valde 4.54 307 Pn **Pn** 04 38 09.7 +1.3
N25K Chitina, Valde 4.54 307 P **Pn** 04 38 08.7 +0.3
baz=121
MMPY Sheldon Lake, 4.55 36 **Pn** 04 38 08.7 +0.3
MMPY Sheldon Lake, 4.55 36 Pn **Pn** 04 38 08.7 +0.3
MMPY Sheldon Lake, 4.55 36 P **Pn** 04 38 08.7 +0.3
baz=221,SNR=77
MAYO Mayo, Yukon 4.58 6 Sb **Sb** 04 39 19.4 +4.3
baz=187
L27K Beaver Creek, 4.63 332 Pn **Pn** 04 38 09.2 -0.4
L27K Beaver Creek, 4.63 332 P **Pn** 04 38 09.6 0.0
baz=148,SNR=16
BC04 Beaver Creek A 4.63 332 **Pn** 04 38 09.5 -0.2
EYAK Cordova Ski Ar 4.64 292 **Pn** 04 38 10.1 +0.5
EYAK **Pn** 04 38 10.4 +0.8
EYAK Cordova Ski Ar 4.64 292 P **Pn** 04 38 09.9 +0.3
baz=105,SNR=5.2
V35K Ketchikan 4.77 139 **Pn** 04 38 11.2 -0.1
V35K Ketchikan 4.77 139 IAML 04 39 33.5
comp=E,117nm,0.9s
V35K IAML 04 39 40.9
comp=N,93nm,0.9s
V35K Ketchikan 4.77 139 Pn **Pn** 04 38 11.0 -0.4
V35K Ketchikan 4.77 139 P **Pn** 04 38 11.2 -0.1
baz=324,SNR=7.8
Q23K Middleton Isla 4.79 278 **Pn** 04 38 11.5 -0.2
Q23K Middleton Isla 4.79 278 P **Pn** 04 38 11.3 -0.5
baz=90
K29M Barlow Dome 4.80 357 IAML 04 39 40.3
comp=N,116nm,0.8s
K29M IAML 04 39 40.5
comp=E,161nm,1.3s
K29M Barlow Dome 4.80 357 Pn **Pn** 04 38 12.4 +0.5
K29M Barlow Dome 4.80 357 P **Pn** 04 38 12.8 +0.9
baz=177,SNR=67
DIV Divide 4.83 299 Pn **Pn** 04 38 14.1 +1.7
U35K Hyder 4.93 127 Pn **Pn** 04 38 14.0 +0.4
U35K Hyder 4.93 127 P **Pn** 04 38 14.2 +0.6
baz=313
HIN Hinchinbrook I 4.97 290 **Pn** 04 38 14.5 +0.3
HIN IAML 04 39 38.9
comp=E,97nm,0.7s
HIN IAML 04 39 55.1
comp=N,100nm,0.8s
TGTN Hyland Airport 5.01 57 **Pn** 04 38 14.9 +0.1
TGTN Hyland Airport 5.01 57 Pn **Pn** 04 38 15.1 +0.3
TGTN Hyland Airport 5.01 57 P **Pn** 04 38 15.1 +0.3
baz=244,SNR=8.8
L26K Log Cabin Wild 5.02 325 IAML 04 39 40.7
comp=E,115nm,0.7s
L26K IAML 04 39 49.3
comp=N,87nm,0.5s
L26K Log Cabin Wild 5.02 325 Pn **Pn** 04 38 15.3 +0.5
FID Port Fidalgo 5.04 294 **Pn** 04 38 16.6 +1.4
KLU Klutina 5.05 303 **Pn** 04 38 16.6 +1.3
KLU **Pn** 04 38 16.9 +1.7
KLU Klutina 5.05 303 IAML 04 39 41.7
comp=E,77nm,0.9s
KLU IAML 04 39 47.9
comp=N,80nm,1.0s
KLU Klutina 5.05 303 P **Pn** 04 38 15.8 +0.6
baz=115,SNR=18
MENT Mentasta 5.06 323 IAML 04 40 01.2
comp=N,94nm,1.2s
MENT IAML 04 40 26.4
comp=E,67nm,0.8s
DAWY Dawson 5.14 348 **Pn** 04 38 17.6 +1.0
DAWY Dawson 5.14 348 Pn **Pn** 04 38 17.3 +0.8
DAWY Dawson 5.14 348 P **Pn** 04 38 17.3 +0.8
baz=166,SNR=23
HARP HAARP 5.20 313 P **Pn** 04 38 18.6 +1.3
baz=126
P23K Montague Islan 5.36 284 **Pn** 04 38 19.5 +0.1
GLI Glacier Island 5.37 294 **Pn** 04 38 20.0 +0.4
GLI Glacier Island 5.37 294 P **Pn** 04 38 20.0 +0.4
baz=105,SNR=12
M24K Tolsona, Glenn 5.44 308 **Pn** 04 38 22.0 +1.4
M24K **Pn** 04 38 22.2 +1.6
M24K Tolsona, Glenn 5.44 308 P **Pn** 04 38 21.8 +1.1
baz=120,SNR=12
K27K Chicken 5.53 336 **Pn** 04 38 22.6 +0.8
K27K Chicken 5.53 336 Pn **Pn** 04 38 22.1 +0.3
K27K Chicken 5.53 336 P **Pn** 04 38 22.6 +0.8
baz=152
J30M Hart River 5.54 3 **Pn** 04 38 23.3 +1.3
J30M Hart River 5.54 3 Pn **Pn** 04 38 23.1 +1.0
J30M Hart River 5.54 3 P **Pn** 04 38 23.0 +1.0
baz=184,SNR=26
NDB Naden 5.60 154 Pn **Pn** 04 38 24.3 +1.4
PAX Paxson 5.67 317 P **Pn** 04 38 25.0 +1.2
baz=130
DOT Dot Lake 5.70 327 **Pn** 04 38 23.7 -0.5
DOT Dot Lake 5.70 327 Pn **Pn** 04 38 24.5 +0.3
SCM Sheep Creek Mo 5.80 303 **Pn** 04 38 27.3 +1.7
SCM Sheep Creek Mo 5.80 303 P **Pn** 04 38 27.5 +1.9
baz=114
PCLB Port Clements 5.92 153 Pn **Pn** 04 38 28.4 +1.1
SCRK Sand Creek 5.94 329 **Pn** 04 38 27.5 -0.1
SCRK Sand Creek 5.94 329 P **Pn** 04 38 27.6 0.0
baz=143,SNR=14
PWL Port Wells 5.95 292 **Pn** 04 38 27.7 +0.1
PWL Port Wells 5.95 292 P **Pn** 04 38 28.1 +0.4
baz=102,SNR=9.0
TOAD Toad River Com 6.11 87 Pn **Pn** 04 38 30.4 +0.5
KNK Knik Glacier 6.15 297 P **Pn** 04 38 31.3 +0.8
baz=107,SNR=11
I30M Mount Dempster 6.19 3 Pn **Pn** 04 38 32.1 +1.2
I30M Mount Dempster 6.19 3 P **Pn** 04 38 32.2 +1.2
baz=183,SNR=60
J26L Joseph Creek 6.27 333 P **Pn** 04 38 32.2 +0.2
baz=147,SNR=8.9
WAT6 Susitna Watana 6.31 309 P **Pn** 04 38 33.2 +0.5
baz=119,SNR=13
SEW Seward 6.39 285 **Pn** 04 38 33.4 -0.3
SEW Seward 6.39 285 P **Pn** 04 38 33.1 -0.5
baz=94
DIB Dawson Inlet, 6.41 155 **Pn** 04 38 34.2 +0.3
DIB Dawson Inlet, 6.41 155 Pn **Pn** 04 38 34.2 +0.3
H02S2 DAWSON INLET T 6.41 155 Pn **Pn** 04 38 34.5 +0.6
H02S2 Sn **Sn** 04 39 45.5 -2.0
DHY Denali Highway 6.42 313 P **Pn** 04 38 35.8 +1.5
baz=124,SNR=5.2
GHO Glory Hole Cre 6.48 300 **Pn** 04 38 36.2 +1.2
PMR Palmer 6.52 298 P **Pn** 04 38 37.2 +1.9
baz=107,SNR=5.9
GRNB Grenville Isla 6.54 140 Pn **Pn** 04 38 35.7 0.0
I28M Miner Creek 6.55 349 **Pn** 04 38 36.7 +0.8
I28M Miner Creek 6.55 349 Pn **Pn** 04 38 36.6 +0.7
I28M Miner Creek 6.55 349 P **Pn** 04 38 37.0 +1.2
baz=167,SNR=17
MOBC Moresby Island 6.58 152 Pn **Pn** 04 38 36.9 +0.7
KOTAN Kotaneelee Air 6.68 75 P **Pn** 04 38 38.1 +0.5
baz=266
WAT1 Susitna Watana 6.75 309 P **Pn** 04 38 39.2 +0.5
baz=119
SLKM Skilak Lake 6.81 288 **Pn** 04 38 39.1 -0.3
J25K Salcha River, 6.81 328 Pn **Pn** 04 38 39.7 +0.1
J25K Salcha River, 6.81 328 P **Pn** 04 38 39.6 +0.1
baz=141,SNR=16
KITB Kitimat 6.82 134 **Pn** 04 38 39.1 -0.4
MBLB Minette Bay Lo 6.86 134 Pn **Pn** 04 38 40.8 +0.7
H31M Peel River 6.88 9 **Pn** 04 38 41.0 +0.7
H31M Peel River 6.88 9 Pn **Pn** 04 38 40.5 +0.2
H31M Peel River 6.88 9 P **Pn** 04 38 40.7 +0.3
baz=192,SNR=14
I26K Coal Creek Min 6.88 338 Pn **Pn** 04 38 41.5 +1.1
I26K Coal Creek Min 6.88 338 P **Pn** 04 38 41.5 +1.1
baz=152
I27K Kandik River 6.90 344 Pn **Pn** 04 38 41.2 +0.6
I27K Kandik River 6.90 344 P **Pn** 04 38 41.4 +0.8
baz=160,SNR=20
BAIB Barry Inlet 7.15 153 Pn **Pn** 04 38 44.2 0.0
H29M Whitestone 7.21 356 Pn **Pn** 04 38 45.0 +0.2
H29M Whitestone 7.21 356 P **Pn** 04 38 45.3 +0.5
baz=174,SNR=8.6
SUA Susitna One 7.23 295 P **Pn** 04 38 45.8 +0.6
baz=103
GRIB Gribbell Islan 7.23 139 Pn **Pn** 04 38 46.1 +0.8
CNPM China Poot 7.29 280 **Pn** 04 38 46.8 +0.8
ILAR Eielson Array 7.37 325 **Pn** 04 38 46.9 -0.1
ILAR Eielson Array 7.37 325 Pn **Pn** 04 38 46.4 -0.6
comp=E,0.1nm,0.3s,baz=142,slow=13,SNR=10
ILAR Lg Lg 04 40 51.3
comp=E,0.8nm,0.3s,baz=131,slow=27,SNR=9.8
ILAR LR LR 04 42 02.0
comp=E,71nm,20.5s,baz=190,slow=42
comp=E,1.1nm,1.0s
FNSB Fort Nelson 7.41 86 Pn **Pn** 04 38 48.4 +0.8
H27K Steamboat Moun 7.48 346 **Pn** 04 38 49.4 +0.8
H27K Steamboat Moun 7.48 346 Pn **Pn** 04 38 49.5 +0.9
H27K Steamboat Moun 7.48 346 P **Pn** 04 38 49.5 +0.9
baz=162,SNR=26
HOM Homer 7.49 281 P **Pn** 04 38 50.3 +1.7
baz=88
JEDB Jedway, Haida 7.55 152 Pn **Pn** 04 38 50.1 +0.6
PRP Porcupine Dome 7.58 332 P **Pn** 04 38 50.9 +0.8
baz=145
BUTB Butedale 7.69 138 Pn **Pn** 04 38 52.5 +0.9
SKT Skwentna 7.72 298 **Pn** 04 38 53.3 +1.4
SKT Skwentna 7.72 298 P **Pn** 04 38 53.2 +1.3
baz=106
NBC5 NorthernBC 5 7.72 95 Pn **Pn** 04 38 51.6 -0.4
TRF Thorofare Moun 7.75 310 **Pn** 04 38 54.4 +2.0
TRF Thorofare Moun 7.75 310 P **Pn** 04 38 53.8 +1.4
baz=118,SNR=20
WRGLY Wrigley 7.78 52 **Pn** 04 38 53.1 +0.5
WRGLY Wrigley 7.78 52 P **Pn** 04 38 52.9 +0.3
baz=244
G29M Pine Creek 7.89 357 Pn **Pn** 04 38 55.1 +0.9
RDT Redoubt 7.89 288 **Pn** 04 38 54.1 -0.2
NEA2 Nenana 7.94 319 P **Pn** 04 38 56.1 +1.3
baz=129,SNR=6.6

G30M	**tAoh Zraii Nji**	**7.95**	**2**	Pn		**Pn**	**04 38 56.0 +0.9**
G30M	**tAoh Zraii Nji**	**7.95**	**2**	P		**Pn**	**04 38 56.3 +1.2**
	baz=183						
O20K	**Slope Mountain**	**7.98**	**284**	P		**Pn**	**04 38 56.7 +1.2**
	baz=90						
SYI	**Shuyak Island**	**7.98**	**273**			**Pn**	**04 38 56.1 +0.7**
Q20K	**Shuyak Island**	**7.98**	**273**	P		**Pn**	**04 38 56.9 +1.5**
	baz=80						
G31M	**Satah River**	**7.99**	**8**	Pn		**Pn**	**04 38 56.5 +1.0**
G31M	**Satah River**	**7.99**	**8**	P		**Pn**	**04 38 56.2 +0.7**
	baz=190,SNR=31						
DFR	**Drift River**	**8.03**	**288**			**Pn**	**04 38 56.6 +0.4**
G27K	**Doyon Strip**	**8.05**	**347**	Pn		**Pn**	**04 38 57.7 +1.3**
G27K	**Doyon Strip**	**8.05**	**347**	P		**Pn**	**04 38 57.2 +0.8**
	baz=163						
NBC6	**NorthernBC 6**	**8.16**	**87**	Pn		**Pn**	**04 38 57.6 -0.4**
KDAK	**Kodiak Island**	**8.26**	**268**			**Pn**	**04 38 58.9 -0.4**
KDAK	**Kodiak Island**	**8.26**	**268**	Pn		**Pn**	**04 38 58.7 -0.6**
	comp=E,1.6nm,0.3s,baz=352,slow=3.4,SNR=116						
KDAK				Sn		**Sn**	**04 40 27.9 -5.2**
	comp=E,1.2nm,0.3s,baz=178,slow=18,SNR=6.8						
KDAK				LR		LR	04 42 14.4
	comp=E,103nm,20.0s,baz=59,slow=38						
	comp=E,9.6nm,0.5s						
KDAK	**Kodiak Island**	**8.26**	**268**	P		**Pn**	**04 38 58.6 -0.6**
	baz=74						
H25L	**Birch Creek**	**8.27**	**335**	P		**Pn**	**04 39 00.1 +0.7**
	baz=147						
P19K	**Oil Pt**	**8.29**	**281**	P		**Pn**	**04 39 00.9 +1.1**
	baz=87						
PPLA	**Purkeypile**	**8.30**	**304**	P		**Pn**	**04 39 01.5 +1.5**
	baz=111						
BPAW	**Bear Paw Mtn.**	**8.34**	**313**	P		**Pn**	**04 39 02.0 +1.6**
	baz=121						
M20K	**Styx River**	**8.43**	**296**	P		**Pn**	**04 39 02.7 +1.0**
	baz=102						
H24K	**Noodor Dome**	**8.44**	**328**	P		**Pn**	**04 39 02.4 +0.7**
	baz=138						
CAST	**Castle Rocks**	**8.46**	**307**	P		**Pn**	**04 39 03.4 +1.4**
	baz=114,SNR=12						
G26K	**Porcupine Rive**	**8.48**	**342**	Pn		**Pn**	**04 39 03.0 +0.8**
G26K	**Porcupine Rive**	**8.48**	**342**	P		**Pn**	**04 39 03.1 +0.8**
	baz=156						
F31M	**Tsiigehtchic**	**8.54**	**9**	Pn		**Pn**	**04 39 03.0 0.0**
BBB	**Bella Bella**	**8.54**	**140**	Pn		**Pn**	**04 39 03.2 +0.1**
	comp=E,0.8nm,0.3s,baz=328,slow=12,SNR=11						
BBB				Sn		**Sn**	**04 40 37.9 -2.1**
	comp=E,0.2nm,0.3s,baz=304,slow=7.9,SNR=2.3						
BBB				Lg		Lg	04 41 29.5
	comp=E,0.6nm,0.3s,baz=215,slow=14,SNR=2.7						
	comp=E,16nm,0.8s						
BBB	**Bella Bella**	**8.54**	**140**	Pn		**Pn**	**04 39 04.2 +1.1**
Q19K	**Cape Douglas,**	**8.57**	**276**	P		**Pn**	**04 39 04.1 +0.5**
	baz=82						
F30M	**Barrier River**	**8.60**	**3**	Pn		**Pn**	**04 39 04.1 +0.3**
F28M	**Old Crow**	**8.67**	**353**			**Pn**	**04 39 05.6 +0.6**
F28M	**Old Crow**	**8.67**	**353**	Pn		**Pn**	**04 39 05.3 +0.4**
F28M	**Old Crow**	**8.67**	**353**	P		**Pn**	**04 39 05.9 +1.0**
	baz=170						
CHUM	**Lake Minchumin**	**8.75**	**310**	P		**Pn**	**04 39 06.8 +0.9**
	baz=116,SNR=9.6						
G25K	**Bearman Lake**	**8.75**	**336**	Pn		**Pn**	**04 39 06.2 +0.3**
G25K	**Bearman Lake**	**8.75**	**336**	P		**Pn**	**04 39 06.6 +0.7**
	baz=148						
OHAK	**Old Harbor**	**8.79**	**265**			**Pn**	**04 39 05.9 -0.6**
OHAK	**Old Harbor**	**8.79**	**265**	P		**Pn**	**04 39 05.9 -0.6**
	baz=71						
L20K	**Farewell, AK**	**8.91**	**300**	P		**Pn**	**04 39 08.8 +0.5**
	baz=105,SNR=6.0						
N19K	**Bonanza Creek**	**8.93**	**289**	P		**Pn**	**04 39 08.0 -0.5**
	baz=94						
BM04	**Burnt Mountain**	**9.03**	**341**			**Pn**	**04 39 11.1 +1.3**
BMAR	**Burnt Mountain**	**9.05**	**341**			**Pn**	**04 39 11.5 +1.5**
KAHG	**Katmai Hook Gl**	**9.11**	**274**			**Pn**	**04 39 12.3 +1.3**
F26K	**Sheenjek River**	**9.22**	**343**	Pn		**Pn**	**04 39 12.4 -0.1**
F26K	**Sheenjek River**	**9.22**	**343**	P		**Pn**	**04 39 13.1 +0.7**
	baz=156,SNR=9.3						
K20K	**Telida**	**9.26**	**305**	P		**Pn**	**04 39 13.1 +0.1**
	baz=110						
I21K	**Tanana**	**9.29**	**318**	P		**Pn**	**04 39 14.3 +1.0**
	baz=124,SNR=5.8						
R18K	**Karluk**	**9.29**	**268**	P		**Pn**	**04 39 13.4 +0.1**
	baz=73						
L19K	**White Mountain**	**9.29**	**297**			**Pn**	**04 39 13.6 +0.3**
L19K	**White Mountain**	**9.29**	**297**	P		**Pn**	**04 39 14.1 +0.8**
	baz=102,SNR=5.2						
KAHC	**Katmai Hardscr**	**9.32**	**275**			**Pn**	**04 39 14.6 +0.7**
Q18K	**Katmai Hardscr**	**9.32**	**275**	P		**Pn**	**04 39 14.7 +0.8**
	baz=80						
E29M	**Blow River**	**9.37**	**358**	Pn		**Pn**	**04 39 14.6 +0.2**
E27K	**Coleen River**	**9.37**	**349**	Pn		**Pn**	**04 39 14.6 +0.1**
E27K	**Coleen River**	**9.37**	**349**	P		**Pn**	**04 39 14.7 +0.1**
	baz=165						
F25K	**Christian Rive**	**9.38**	**339**			**Pn**	**04 39 15.6 +1.0**
F25K	**Christian Rive**	**9.38**	**339**	Pn		**Pn**	**04 39 15.5 +0.8**
F25K	**Christian Rive**	**9.38**	**339**	P		**Pn**	**04 39 15.6 +1.0**
	baz=152,SNR=9.2						
INK	**Inuvik**	**9.40**	**8**	Pn		**Pn**	**04 39 12.1 -2.8**
	baz=230,slow=5.2,SNR=2.7						
INK				Sn		**Sn**	**04 40 55.2 -5.9**
	comp=E,0.1nm,0.3s,baz=181,slow=20,SNR=1.9						
INK				Lg		Lg	04 41 49.6
	comp=E,0.3nm,0.3s,baz=275,slow=20,SNR=3.4						
INK				LR		LR	04 43 24.8
	comp=E,69nm,20.0s,baz=68,slow=42						
	comp=E,2.5nm,1.1s						
KAKN	**Katmai Knife C**	**9.42**	**273**			**Pn**	**04 39 16.1 +0.9**
MGLS	**Mageik Landsli**	**9.50**	**272**			**Pn**	**04 39 17.2 +0.8**
CAHL	**Cahill**	**9.60**	**272**			**Pn**	**04 39 18.6 +1.0**
J20K	**Nowinta River**	**9.60**	**309**	P		**Pn**	**04 39 18.2 +0.5**
	baz=114						
N18K	**Kilae Creek**	**9.61**	**288**	P		**Pn**	**04 39 17.5 -0.3**
	baz=91						
M18K	**Stony River**	**9.63**	**293**	P		**Pn**	**04 39 18.2 +0.2**
	baz=96						
E28M	**Babbage River**	**9.64**	**355**	Pn		**Pn**	**04 39 18.1 -0.1**
E28M	**Babbage River**	**9.64**	**355**	P		**Pn**	**04 39 18.2 +0.1**
	baz=172						
G23K	**Bananza Creek**	**9.67**	**328**	P		**Pn**	**04 39 19.2 +0.6**
	baz=136						
F24K	**Squaw Lake**	**9.77**	**335**			**Pn**	**04 39 21.2 +1.3**
F24K	**Squaw Lake**	**9.77**	**335**	P		**Pn**	**04 39 20.7 +0.7**
	baz=145						
E25K	**Arctic Village**	**9.84**	**341**	Pn		**Pn**	**04 39 21.2 +0.3**
E25K	**Arctic Village**	**9.84**	**341**	P		**Pn**	**04 39 21.9 +1.0**
	baz=153						
H21K	**Melozitna River**	**9.84**	**319**	P		**Pn**	**04 39 21.8 +0.8**
	baz=125,SNR=6.6						
CNTC	**Contact Creek**	**9.85**	**273**			**Pn**	**04 39 21.6 +0.4**
Q17K	**Contact Creek**	**9.85**	**273**	P		**Pn**	**04 39 21.8 +0.6**
	baz=77						
P17K	**Kvichak River**	**9.97**	**279**	P		**Pn**	**04 39 23.3 +0.7**
	baz=82						
J19K	**Poorman**	**10.13**	**307**			**Pn**	**04 39 25.9 +1.1**
J19K	**Poorman**	**10.13**	**307**	P		**Pn**	**04 39 26.0 +1.1**
	baz=110						
O17K	**Koliganek Bris**	**10.24**	**283**			**Pn**	**04 39 26.7 +0.4**
O17K	**Koliganek Bris**	**10.24**	**283**	P		**Pn**	**04 39 27.4 +1.1**
	baz=85						
N17K	**Nushagak Hills**	**10.25**	**287**	P		**Pn**	**04 39 26.0 -0.5**
	baz=89						
R17L	**Mt. Peulik Vol**	**10.25**	**270**	P		**Pn**	**04 39 27.7 +1.1**
	baz=74						
IMAR	**Indian Mountai**	**10.35**	**319**			**Pn**	**04 39 28.4 +0.6**
D27M	**Malcolm River**	**10.36**	**352**	Pn		**Pn**	**04 39 27.6 -0.4**
E24K	**Your Creek**	**10.36**	**336**	P		**Pn**	**04 39 29.4 +1.4**
	baz=145						
M17K	**Holitna River**	**10.40**	**292**	P		**Pn**	**04 39 29.7 +1.2**
	baz=94						
J18K	**Innoko River**	**10.43**	**303**	P		**Pn**	**04 39 30.9 +2.0**
	baz=106						
H20K	**Anotleneega Mo**	**10.48**	**315**	P		**Pn**	**04 39 31.7 +2.0**
	baz=120						
G21K	**Allakaket**	**10.58**	**322**			**Pn**	**04 39 32.1 +1.1**
K17K	**Iditarod**	**10.96**	**298**	P		**Pn**	**04 39 37.8 +1.6**
	baz=100						
C27K	**Jago River**	**10.98**	**348**	Pn		**Pn**	**04 39 37.1 +0.6**
C27K	**Jago River**	**10.98**	**348**	P		**Pn**	**04 39 38.0 +1.6**
	baz=162						
N16K	**Nishlik Lake**	**11.03**	**287**	P		**Pn**	**04 39 38.2 +0.9**
	baz=88						
D25K	**Kavik River**	**11.05**	**343**	Pn		**Pn**	**04 39 39.9 +2.4**
D25K	**Kavik River**	**11.05**	**343**	P		**Pn**	**04 39 38.8 +1.4**
	baz=154						
TOLK	**Toolik Lake Re**	**11.05**	**336**			**Pn**	**04 39 38.1 +0.6**
TOLK	**Toolik Lake Re**	**11.05**	**336**	P		**Pn**	**04 39 38.8 +1.3**
	baz=144						
H19K	**Roundabout Mou**	**11.08**	**314**			**Pn**	**04 39 38.0 +0.2**
E22K	**Anaktuvuk Pass**	**11.19**	**330**			**Pn**	**04 39 41.0 +1.7**
E22K	**Anaktuvuk Pass**	**11.19**	**330**	P		**Pn**	**04 39 39.4 +0.1**
	baz=137,SNR=5.4						
YKA	**Yellowknife Ar**	**11.46**	**63**	Pn		**Pn**	**04 39 43.3 +0.2**
	comp=E,0.7nm,0.3s,baz=266,slow=13,SNR=10.0						
YKA				Lg		Lg	04 42 52.6
	comp=E,0.2nm,0.3s,baz=262,slow=27,SNR=6.3						
YKAW3	**Yellowknife Wh**	**11.47**	**63**	Pn		**Pn**	**04 39 42.6 -0.6**
O15K	**Ungalikthiuk R**	**11.70**	**280**	P		**Pn**	**04 39 47.1 +0.8**
	baz=81						
N15K	**Kwethluk River**	**11.71**	**285**	P		**Pn**	**04 39 46.6 +0.1**
	baz=85						
LLLB	**Lillooet**	**12.14**	**128**	Pn		**Pn**	**04 39 56.0 +3.5**
D20K	**Etivluk River**	**12.88**	**327**	P		**Pn**	**04 40 02.5 +0.1**
	baz=129,SNR=5.2						
YBH	**Yreka Blue Hor**	**19.53**	**146**	P		**Pn**	**04 41 30.6 +2.1**
	baz=352,slow=13,SNR=1.9						
BOZ	**Bozeman (W)**	**20.39**	**120**	P		Pn	04 41 38.2 -0.4
O03E	**Paynes Creek**	**21.12**	**146**	IAmb		IAmb	04 41 48.2
	comp=Z,5.4nm,1.1s						
TPAW	**Teton Pass**	**22.35**	**123**	P		**P**	**04 41 54.6 -3.3**
TPAW				IAmb		IAmb	04 42 01.4
	comp=Z,6.5nm,0.9s						
PDAR	**Pinedale Array**	**23.54**	**122**	P		**P**	**04 42 11.4 +1.2**
	comp=Z,0.8nm,0.8s,baz=297,slow=9.7,SNR=6.6						
	comp=Z,0.8nm,0.8s						
NVAR	**Mina Array Bea**	**23.90**	**141**	P		**P**	**04 42 15.3 +1.5**
	comp=Z,1.0nm,0.8s,baz=324,slow=11,SNR=8.1						
	comp=Z,1.0nm,0.8s						
R11B	**Troy Canyon, C**	**24.89**	**137**	P		**P**	**04 42 21.9 -0.9**
R11B				IAmb		IAmb	04 42 41.9
	comp=Z,4.0nm,1.5s						
ULM	**Lac du Bonnet**	**25.02**	**92**	LR		LR	04 52 40.9
	comp=Z,73nm,18.9s,baz=8.5,slow=38						
ANMO	**Albuquerque**	**31.40**	**127**	LR		LR	04 56 53.1
	comp=Z,51nm,20.0s,baz=132,slow=38						
MA2	**Magadan**	**35.17**	**303**	LR		LR	05 00 32.4
	comp=Z,24nm,18.9s,baz=58,slow=40						
PETK	**Petropavlovsk-**	**35.56**	**290**	P		**P**	**04 43 56.8 -0.1**
	comp=Z,0.6nm,0.4s,baz=36,slow=5.9,SNR=5.4						
	comp=Z,0.6nm,0.4s						
TXAR	**Lajitas Array**	**37.44**	**128**	P		**P**	**04 44 13.9 +0.8**
	comp=Z,0.2nm,0.7s,baz=329,slow=7.8,SNR=3.9						
	comp=Z,0.2nm,0.7s						
SJG	**San Juan**	**64.82**	**97**	LR		LR	05 17 54.4
	comp=Z,17nm,18.5s,baz=60,slow=38						
AKASG	**Malin Array Be**	**70.02**	**9**	P		**P**	**04 48 10.0 -1.2**
	comp=Z,0.3nm,0.4s,baz=354,slow=6.5,SNR=4.6						
	comp=Z,0.3nm,0.4s						

CATAC 30 04:39:31.9±0.4, 12°N±2°×8°7W±°, h46km±4km, M2.8/21, MLv2.8/21, Error ellipse: s-maj=5.8km s-min=2.9km az=32.9, confirmed, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.40**	**72**	P	Pn	04 39 42.8	+1.0
ALEN	**Leon**	**0.42**	**15**	P	Pn	04 39 42.8	+0.8
CNGA	**Al SSO del Vol**	**0.52**	**32**	P	Pn	04 39 44.1	+0.8
CNGN	**Cerro Negro**	**0.52**	**32**	P	Pn	04 39 44.3	+1.0
TEL3	**Telica 3**	**0.53**	**15**	P	Pn	04 39 44.7	+1.2
SAPS	**Ciudad Sandino**	**0.58**	**78**	S	Sn	04 39 54.8	+2.3
SAPS	**Ciudad Sandino**	**0.58**	**78**	P	Pn	04 39 44.9	+0.9
PKGN	**Cerro Pekin**	**0.61**	**0**	P	Pn	04 39 45.4	+1.0
PKGN				S	Sn	04 39 55.8	+2.5
MOM2	**El Cardon**	**0.62**	**52**	P	Pn	04 39 45.5	+1.0
MOM2				S	Sn	04 39 56.0	+2.5
APQ3	**Volcan Apoyequ**	**0.64**	**70**	P	Pn	04 39 45.4	+0.7
APQ3				S	Sn	04 39 56.5	+2.5
MOM3	**MOM3**	**0.64**	**45**	P	Pn	04 39 45.3	+0.5
MOM3				S	Sn	04 39 56.4	+2.4
CRIN	**San Cristobal**	**0.65**	**354**	S	Sn	04 39 57.2	+2.9
APQ2	**Apoyeque**	**0.66**	**77**	P	Pn	04 39 45.6	+0.6
APQ2				S	Sn	04 39 56.4	+2.0
UNAN	**Cigeo UNAN**	**0.70**	**85**	S	Sn	04 39 57.6	+2.2
R4DEC	**Barrio San Lui**	**0.72**	**82**	S	Sn	04 39 58.0	+2.1
R4DEC	**Barrio San Lui**	**0.72**	**82**	P	Pn	04 39 46.6	+0.7
WILN	**Americas 2**	**0.78**	**82**	P	Pn	04 39 47.3	+0.7
WILN				S	Sn	04 39 59.4	+2.0
MAS3	**Al N del Volca**	**0.79**	**92**	S	Sn	04 39 59.2	+1.7
NANN	**Nandasmo**	**0.85**	**98**	P	Pn	04 39 48.3	+0.7
NANN	**Nandasmo**	**0.85**	**98**	S	Sn	04 40 01.5	+2.5
NADN	**Granada**	**0.98**	**108**	P	Pn	04 39 49.1	-0.2
NADN				S	Sn	04 40 02.6	+0.6
POTN	**Potosi Cosigui**	**1.07**	**332**	P	Pn	04 39 50.3	-0.2
POTN				S	Sn	04 40 04.8	+0.5
CSGN	**Cosiguina Volc**	**1.08**	**329**	P	Pn	04 39 50.9	+0.1
CSGN				S	Sn	04 40 05.0	+0.4
BOAB	**BOACO BROADBAN**	**.34**	**73**	P	Pn	04 39 54.0	-0.3
BOAB	**BOACO BROADBAN**	**.34**	**73**	S	Sn	04 40 11.4	+0.4
MATN	**Matagalpa**	**1.35**	**50**	P	Pn	04 39 53.6	-0.9
MATN	**Matagalpa**	**1.35**	**50**	S	Sn	04 40 11.2	-0.1
CHOHN	**Orocuina**	**1.43**	**353**	P	Pn	04 39 56.0	+0.4
CHOHN	**Orocuina**	**1.43**	**353**	S	Sn	04 40 12.7	-0.5
CNCH	**Conchagua**	**1.47**	**326**	P	Pn	04 39 55.9	-0.3
CNCH	**Conchagua**	**1.47**	**326**	S	Sn	04 40 15.6	+1.2
OCON	**Estacion meteo**	**1.64**	**17**	P	Pn	04 39 58.8	+0.4
RCPN	**Sur Rio San Ju**	**1.70**	**31**	P	Pn	04 39 59.0	-0.3
RCPN	**Sur Rio San Ju**	**1.70**	**31**	S	Sn	04 40 17.2	+0.2
RCVN	**Varillal2**	**1.71**	**27**	P	Pn	04 39 59.6	+0.2
RCVN	**Varillal2**	**1.71**	**27**	S	Sn	04 40 20.9	+0.8
RANC	**El Ranchito**	**1.87**	**317**	S	Sn	04 40 25.1	+0.9
RANC	**El Ranchito**	**1.87**	**317**	P	Pn	04 40 00.6	-1.1
YUSH	**Yuscaran**	**1.90**	**4**	P	Pn	04 40 02.7	+0.7
PACA	**Pacayal**	**1.92**	**317**	P	Pn	04 40 03.1	+0.8
PACA	**Pacayal**	**1.92**	**317**	S	Sn	04 40 26.0	+0.6
TGUH	**Tegucigalpa,Un**	**2.01**	**352**	P	Pn	04 40 04.6	+1.0
TGUH				S	Sn	04 40 27.4	-0.2

RSNC 30 04:47:28.2±0.0, 7°N±1°×7°7W±°, h69km±5km, M2.8, mb4.1, ML2.6, MLv3.2, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.68**	**281**	P	Pn	04 47 41.4	-1.4
PTAC				S	Sn	04 47 53.4	-0.1
SOLC	**Bahia Solano**	**0.83**	**199**	P	Pn	04 47 43.7	-0.9
SOLC				S	Sn	04 47 57.7	+1.0
DBBC	**Dabeiba**	**0.92**	**90**	P	Pn	04 47 42.8	-3.0
DBBC				S	Sn	04 47 54.7	-4.1
APAC	**Apartado, Choc**	**1.04**	**32**	P	Pn	04 47 45.8	-1.3
APAC				S	Sn	04 48 01.0	-0.2
CBOC	**Ciudad Bolivar**	**1.60**	**136**	P	Pn	04 47 52.9	-1.8
CBOC				S	Sn	04 48 14.7	0.0
CAPC	**Capurgana**	**1.62**	**353**	P	Pn	04 47 54.2	-0.5
CAPC				S	Sn	04 48 14.3	-0.5
UREC	**San Jos de Ur**	**1.75**	**65**	P	Pn	04 47 56.3	-0.2
UREC				S	Sn	04 48 18.0	0.0
HELC	**Santa Helena**	**1.80**	**117**	P	Pn	04 47 57.1	-0.4
HELC				S	Sn	04 48 20.4	+0.7
LCBC	**Los crdobas,**	**1.98**	**23**	P	Pn	04 47 59.3	-0.3
LCBC				S	Sn	04 48 26.0	+2.6
PLMC	**San Jos del P**	**2.27**	**158**	P	Pn	04 48 01.6	-2.0
ZARC	**Zaragoza, Cauc**	**2.31**	**78**	P	Pn	04 48 04.2	+0.1
ZARC				S	Sn	04 48 30.8	-0.7
GUY2C	**Guyana, Caldas**	**2.51**	**135**	P	Pn	04 48 08.0	+0.8
GUY2C				S	Sn	04 48 38.2	+1.2
PTBC	**PUERTO BERRIO,**	**2.71**	**100**	P	Pn	04 48 10.4	+0.9
PTBC				S	Sn	04 48 42.8	+1.6
YOTC	**Yotoco, Valle**	**3.12**	**165**	P	Pn	04 48 14.3	-0.9
YOTC				S	Sn	04 48 49.5	-1.9
AZU	**Azuero**	**3.20**	**284**	P	Pn	04 48 17.5	+1.3
AZU				S	Sn	04 48 52.6	-0.6
BCIP	**Isla Barro Col**	**3.42**	**309**	P	Pn	04 48 19.3	+0.2
BCIP				S	Sn	04 48 59.7	+1.2
SJCC	**San Jacinto, C**	**3.45**	**34**	P	Pn	04 48 19.9	+0.2
SJCC				S	Sn	04 48 59.3	-0.2
ORTC	**Ortega, Tolima**	**3.62**	**149**	P	Pn	04 48 24.8	+2.9
CACAO	**El Cacao, Vera**	**3.71**	**275**	P	Pn	04 48 23.2	+0.2
CACAO				S	Sn	04 49 04.2	-1.3
BARC	**Barichara**	**3.95**	**96**	P	Pn	04 48 29.1	+2.5
BARC				S	Sn	04 49 14.5	+2.6
OCAC	**Ocana**	**3.98**	**72**	P	Pn	04 48 28.1	+1.2
OCAC				S	Sn	04 49 08.0	-4.4
PRAC	**Prado**	**3.98**	**146**	P	Pn	04 48 29.9	+3.1
GMAL	**Guarumal, Vera**	**4.13**	**281**	P	Pn	04 48 31.4	+2.6
GMAL				S	Sn	04 49 17.1	+1.3
RUSC	**La Rusia**	**4.18**	**105**	P	Pn	04 48 32.9	+2.9
RUSC				S	Sn	04 49 20.8	+2.9
CRJC	**Cerrejon, Guaj**	**5.79**	**46**	P	Pn	04 48 49.8	-1.8
	20nm,1.6s						
CRJC				S	Sn	04 49 52.4	-4.3
	20nm,1.6s						
MACC	**Macarena, Meta**	**5.85**	**146**	P	Pn	04 48 53.8	+1.4

*IDC **30** 04:49:57.7±5.7, 20°45S×176°48W, h142km±50km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=37.5km s-min=23.9km az=166.0*

*NEIC **30** 04:50:08.4±2.1, 20°4S±0°3×176°13W±0°04, h257km±17km, mb4.4/15, Error ellipse: s-maj=46.2km s-min=3.4km az=185.0*

ISC 30 04:50:08.6±0.6, 20°6S±0°1×176°27W±0°09, h250km, n32, σ1s45/33, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.08**	**297**	Pn	**Pn**	**04 51 37.9**	**0.0**
NIUE	**Niue**	**6.16**	**77**		**Pn**	**04 51 36.3**	**-2.6**
RAO	**Raoul Island**	**8.74**	**190**	P	Pn	04 52 01.8	-9.5
	142nm,0.3s,baz=12,slow=18,SNR=4.8						
PINNC	**Pines Island,**	**15.28**	**260**		**Pn**	**04 53 33.6**	**+1.4**
DZM	**Mont Dzumac**	**16.17**	**262**	P	**P**	**04 53 42.9**	**+1.3**
DZM	**Mont Dzumac**	**16.17**	**262**	P	**P**	**04 53 43.0**	**+1.5**
	24nm,0.7s,baz=104,slow=9.3,SNR=18						
URZ	**Urewera**	**18.50**	**197**	P	**P**	**04 54 03.9**	**-2.7**
	4.0nm,0.4s,baz=29,slow=2.8,SNR=5.6						
ARMA	**Armidale**	**30.48**	**245**	P	**P**	**04 55 58.6**	**-0.1**
ARMA				IAmb	IAmb	04 56 22.6	
	comp=Z,19nm,1.2s						
CTAO	**Charters Tower**	**35.09**	**264**	P	**P**	**04 56 38.3**	**-0.3**
CTAO				IAmb	IAmb	04 56 39.2	
	comp=Z,17nm,1.2s						
TOO	**Toolangi**	**37.15**	**235**	P	**P**	**04 56 54.4**	**-1.4**
STKA	**Stephens Creek**	**39.20**	**245**	P	**P**	**04 57 11.8**	**-1.1**
STKA	**Stephens Creek**	**39.20**	**245**	P	**P**	**04 57 10.9**	**-2.1**
	comp=Z,4.5nm,0.6s,baz=96,slow=11,SNR=9.2						
	comp=Z,4.5nm,0.6s						
COEN	**Coen**	**39.21**	**273**	P	**P**	**04 57 13.1**	**0.0**
COEN				IAmb	IAmb	04 57 17.2	
	comp=Z,18nm,1.4s						
WR8	**Warramunga Arr**	**46.04**	**262**	P	**P**	**04 58 06.5**	**-1.5**
WR8				IAmb	IAmb	04 58 07.7	
	comp=Z,6.3nm,0.9s						
AS31	**Alice Springs**	**46.07**	**257**	P	**P**	**04 58 07.2**	**-1.0**
ASAR	**Alice Springs**	**46.07**	**257**	P	**P**	**04 58 06.8**	**-1.3**
ASAR	**Alice Springs**	**46.07**	**257**	P	**P**	**04 58 07.0**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=89,slow=8.4,SNR=34						
ASAR				PcP	**PcP**	**04 59 40.5**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=97,slow=3.7,SNR=5.1						
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**46.19**	**262**	P	**P**	**04 58 07.6**	**-1.5**
WRA	**Warramunga Arr**	**46.19**	**262**	P	**P**	**04 58 07.2**	**-1.8**
	comp=Z,4.2nm,0.6s,baz=95,slow=5.1,SNR=42						
WRA				PcP	**PcP**	**04 59 40.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=102,slow=3.0,SNR=1.9						
	comp=Z,4.2nm,0.6s						
MTN	**Manton Dam**	**50.78**	**270**	P	**P**	**04 58 43.3**	**-0.7**
MTN				IAmb	IAmb	04 59 22.0	
	comp=Z,23nm,1.1s						
KNRA	**Kununurra**	**52.27**	**266**	P	**P**	**04 58 54.8**	**-0.2**
KNRA				IAmb	IAmb	04 59 22.7	
	comp=Z,30nm,1.5s						
VNDA	**Vanda**	**57.96**	**185**	P	**P**	**04 59 36.4**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=354,slow=9.2,SNR=2.5						
	comp=Z,0.5nm,0.9s						
MBWA	**Marble Bar**	**59.41**	**257**	P	**P**	**04 59 43.8**	**-1.7**
MBWA				IAmb	IAmb	04 59 58.3	
	comp=Z,16nm,1.3s						
CASY	**Casey**	**64.56**	**205**		**P**	**05 00 19.4**	**+0.5**
CASY				IAmb	IAmb	05 00 24.8	
	comp=Z,6.1nm,0.9s						
QSPA	**South Pole Qui**	**69.47**	**180**	P	**P**	**05 00 52.5**	**+2.6**
QSPA				IAmb

KURBB Lg Lg 05 03 17.1
0.2nm,0.3s,baz=36,slow=30,SNR=7.9
0.7nm,0.3s
MKAR Makanchi Array 9.26 197 Pn Pn 05 01 49.9 +3.1
0.1nm,0.3s,baz=14,slow=14,SNR=2.7
MKAR Lg Lg 05 04 23.2
baz=31,slow=28,SNR=2.8
0.2nm,0.4s
BVAR Borovoye Array 9.60 260 Pn Pn 05 01 55.7 +4.3
baz=62,slow=15,SNR=4.5
1.4nm,0.6s

---

*UPA **30** 05:37:07.8±2.1,8.36N×82.96W,h5km±4km,MD4.7, MW4.8*
*UCR **30** 05:37:08.0±0.7,8.30N×82.97W,h12km±2km,MW5.0, Fault plane solution: NP1:ϕ±115.00000°,δ35.00000°, λ90.00000°.*
*CATAC **30** 05:37:08.9±0.4,8.7N±3.3×8.3W±.3°,h5km±1km,M4.7/22, MLv4.7/22,Error ellipse: s-maj=5.6km s-min=2.7km az=14.5,confirmed*
*NEIC **30** 05:37:09.9±1.3,8.43N±0.07×82.97W±0.07,h7km±5km, mb4.8/33,Error ellipse: s-maj=14.0km s-min=5.5km az=225.0*
*IDC **30** 05:37:12.3±3.0,8.23N×83.00W,h40km±24km,mb3.9/9, mbtmp4.2/13,ML4.0/4,MS3.6/8,Error ellipse: s-maj=30.5km s-min=16.2km az=36.0*
ISC 30 05:37:09.1±0.8,8.33N±0.02×82.97W±0.02,h12km±5km, n466,σ1ϕ06/495,mb4.7/23,MS3.4/4,19C-65D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res	ISC
ARIEL	**Armuelles**	**0.12**	**108**	⇓	*eP*		**Pg**	**05 37 11.4**	**-0.9**
PTPM	**Petroterminale**	**0.15**	**143**	⇑	*iP*		**Pg**	**05 37 11.8**	**-0.9**
PTPM					*iS*		**Sg**	**05 37 14.8**	**-0.4**
PTPA	**Petro Terminal**	**0.16**	**141**	⇑	*eP*		**Pg**	**05 37 11.7**	**-1.1**
PTPA					*eS*		**Sg**	**05 37 18.9**	**+0.1**
LESP3	**La Esperanza,**	**0.20**	**66**	⇓	*iP*		**Pg**	**05 37 12.7**	**-0.7**
LPPC	**Paso Canoas**	**0.24**	**32**	⇓	*eP*		**Pg**	**05 37 13.9**	**-0.4**
LPPC					*eS*		**Sg**	**05 37 18.9**	**+1.1**
CDITO	**Canoas**	**0.27**	**21**	⇓	*P*		**Pg**	**05 37 14.0**	**-0.6**
CDITO	**Canoas**	**0.27**	**21**		*S*		**Sg**	**05 37 19.0**	**+0.6**
NELY	**Ciudad Neily**	**0.32**	**4**	⇓	*eP*		**Pg**	**05 37 15.1**	**-0.6**
NELY					*eS*		**Sb**	**05 37 21.4**	**-0.6**
BRNON	**Bren.**	**0.34**	**28**	⇓	*eP*		**Pg**	**05 37 15.5**	**-0.5**
FITO	**Golfito**	**0.35**	**329**	⇓	*eP*		**Pg**	**05 37 14.8**	**-1.4**
PIRO	**Carate, Puerto**	**0.37**	**282**				**Pg**	**05 37 15.9**	**-0.6**
PIRO	**Carate, Puerto**	**0.37**	**282**	⇑	*eP*		**Pg**	**05 37 15.7**	**-0.8**
PIRO					*iS*		**Sg**	**05 37 21.0**	**-0.5**
PIRO	**Carate, Puerto**	**0.37**	**282**	⇑	*eP*		**Pg**	**05 37 15.5**	**-1.0**
PIRO	**Carate, Puerto**	**0.37**	**282**	⇑	*P*		**Pg**	**05 37 15.8**	**-0.8**
EDAD	**Golfito**	**0.38**	**329**	⇓	*eP*		**Pg**	**05 37 15.3**	**-1.4**
JIME	**Puerto Jimenez**	**0.41**	**301**		*eP*		**Pg**	**05 37 16.4**	**-0.8**
RSRNO	**Rio Sereno**	**0.50**	**13**	⇓	*eP*		**Pg**	**05 37 18.8**	**-0.2**
DVD	**David**	**0.53**	**78**	⇓	*iP*		**Pg**	**05 37 18.4**	**-1.3**
DVD					*iS*		**Sg**	**05 37 25.7**	**-0.7**
SCLRA	**Santa Clara, W**	**0.54**	**20**	⇓	*eP*		**Pg**	**05 37 19.2**	**-0.4**
BRU2	**Volcan**	**0.54**	**31**				**Pg**	**05 37 19.0**	**-0.8**
BRU2	**Volcan**	**0.54**	**31**	⇓	*iP*		**Pg**	**05 37 19.1**	**-0.6**
BRU2					*iS*		**Sb**	**05 37 28.5**	**0.0**
BRU2	**Volcan**	**0.54**	**31**	⇓	*eP*		**Pg**	**05 37 19.1**	**-0.6**
BRU2	**Volcan**	**0.54**	**31**	⇓	*P*		**Pg**	**05 37 19.1**	**-0.6**
PEDE3	**Pedregal, Chir**	**0.55**	**84**	⇓	*iP*		**Pg**	**05 37 18.3**	**-1.5**
PEDE3					*iS*		**Sg**	**05 37 25.9**	**-1.2**
JEFFS	**S de V. Baru**	**0.55**	**52**	⇓	*eP*		**Pg**	**05 37 19.2**	**-0.7**
LOCO3	**Loma Colorada,**	**0.55**	**81**	⇓	*iP*		**Pg**	**05 37 18.6**	**-1.3**
LOCO3					*iS*		**Sb**	**05 37 28.3**	**-0.3**
TBS2		**0.56**	**34**	⇓	*eP*		**Pb**	**05 37 20.4**	**-0.5**
LOMA3	**Las Lomas, Chi**	**0.58**	**80**	⇓	*iP*		**Pg**	**05 37 19.0**	**-1.5**
LOMA3					*iS*		**Sg**	**05 37 27.5**	**-0.8**
BANCO	**falda S V. Bar**	**0.59**	**48**	⇓	*eP*		**Pg**	**05 37 19.7**	**-0.9**
PTAR3	**Potrerillos Ar**	**0.60**	**52**	⇓	*iP*		**Pg**	**05 37 19.8**	**-0.9**
PTAR3					*iS*		**Sg**	**05 37 28.3**	**-0.4**
BC3P	**Paso Ancho**	**0.60**	**36**	⇓	*iP*		**Pg**	**05 37 20.0**	**-0.9**
BC3P					*iS*		**Sb**	**05 37 29.8**	**-0.5**
CGUAY	**Guayabal, Coch**	**0.63**	**78**	⇓	*eP*		**Pg**	**05 37 19.8**	**-1.5**
ALCO	**Alturas Coton,**	**0.64**	**12**	⇓	*eP*		**Pg**	**05 37 20.4**	**-1.2**
CHIR3	**Chiriqui UPA,**	**0.64**	**84**	⇓	*iP*		**Pg**	**05 37 19.8**	**-1.7**
CHIR3					*iS*		**Sg**	**05 37 29.2**	**-0.7**
BQTLY	**Boquete Panama**	**0.66**	**49**	⇓	*eP*		**Pg**	**05 37 20.7**	**-1.3**
BQSF3	**Alto Boquete,**	**0.67**	**52**	⇓	*iP*		**Pg**	**05 37 20.8**	**-1.4**
BQSF3					*iS*		**Sg**	**05 37 30.7**	**-0.4**
GUAL3	**Gualaca, Chiri**	**0.70**	**73**	⇓	*iP*		**Pg**	**05 37 21.0**	**-1.7**
GUAL3					*eS*		**Sg**	**05 37 29.4**	**-2.5**
LNBQ3	**Los Naranjos,**	**0.70**	**48**	⇓	*iP*		**Pb**	**05 37 23.1**	**-0.2**
EDP2	**Potrero Grande**	**0.72**	**344**	⇓	*eP*		**Pg**	**05 37 22.0**	**-1.0**
FIMO	**Fila Mora**	**0.76**	**330**	⇓	*eP*		**Pg**	**05 37 22.4**	**-1.5**
PANP	**Palmar Norte**	**0.79**	**323**	⇓	*eP*		**Pg**	**05 37 22.5**	**-2.0**
BURE	**Buenos Aires**	**0.90**	**337**	⇓	*eP*		**Pg**	**05 37 23.0**	**-1.8**
PBNVO	**Pueblo Nuevo,**	**0.95**	**54**	⇓	*eP*		**Pg**	**05 37 25.0**	**-2.5**
DRK0	**Durika**	**0.97**	**344**	⇓	*eP*		**Pg**	**05 37 25.9**	**-2.0**
DRK0					*iS*		**Sb**	**05 37 40.0**	**-0.8**
DRK0	**Durika**	**0.97**	**344**	⇓	*eP*		**Pg**	**05 37 25.8**	**-2.0**
DRK0	**Durika**	**0.97**	**344**	⇓	*P*		**Pg**	**05 37 25.9**	**-2.0**
RBALA	**Bur**	**0.98**	**56**	⇓	*eP*		**Pg**	**05 37 25.7**	**-2.3**
OCHAL	**Ojochal**	**1.02**	**319**		*S*		**Sb**	**05 37 42.5**	**+0.5**
OCHAL	**Ojochal**	**1.02**	**319**	⇑	*P*		**Pg**	**05 37 25.9**	**-2.8**
EDPE	**Pejibaye, P**	**1.02**	**324**	⇓	*eP*		**Pg**	**05 37 26.4**	**-2.4**
CHGR2	**Aguacate**	**1.02**	**53**	⇓	*eP*		**Pg**	**05 37 26.1**	**-2.6**
CHGR2					*iS*		**Sg**	**05 37 39.9**	**-2.2**
RMDIO	**Remedios, Chir**	**1.13**	**95**	⇓	*eP*		**Pg**	**05 37 27.6**	**-3.2**
KKNTU	**Kakint²**	**1.26**	**66**	⇓	*eP*		**Pn**	**05 37 29.6**	**-2.9**
CEUA	**Cerro Uatsi, L**	**1.29**	**1**	⇓	*eP*		**Pn**	**05 37 32.2**	**-0.8**
LAES	**El Progreso Va**	**1.43**	**357**	⇓	*eP*		**Pn**	**05 37 34.1**	**-0.8**
BUS1	**Rivas**	**1.44**	**328**	⇓	*eP*		**Pn**	**05 37 33.2**	**-2.2**
LLNJ	**Naranjito**	**1.60**	**316**		*eP*		**Pn**	**05 37 35.9**	**-1.2**
VERH	**Veragua Rainfo**	**1.61**	**352**	⇓	*eP*		**Pn**	**05 37 36.2**	**-1.1**
QUEP	**Quepos**	**1.61**	**313**		*P*		**Pn**	**05 37 36.4**	**-0.9**
QUEP	**Quepos**	**1.61**	**313**		*S*		**Sg**	**05 38 00.1**	**-0.9**
PIEC	**Cerro El Cedra**	**1.62**	**323**	⇓	*eP*		**Pn**	**05 37 36.4**	**-1.2**
RAZU	**San Marcos de**	**1.69**	**322**	⇑	*eP*		**Pn**	**05 37 37.5**	**-1.0**
REPA	**Paraso**	**1.74**	**329**		*eP*		**Pn**	**05 37 37.7**	**-1.5**
VINA	**Juan Vinas**	**1.74**	**334**		*eP*		**Pn**	**05 37 38.7**	**-0.5**
LCR2	**La Lucha 2**	**1.74**	**324**				**Pn**	**05 37 38.3**	**-1.0**
LCR2						Sn	**Sn**	**05 38 00.8**	**-0.7**
LCR2	**La Lucha 2**	**1.74**	**324**		*eP*		**Pn**	**05 37 37.7**	**-1.6**
LCR2	**La Lucha 2**	**1.74**	**324**		*S*		**Sg**	**05 38 03.5**	**-1.6**
LCR2	**La Lucha 2**	**1.74**	**324**	⇑	*P*		**Pn**	**05 37 38.3**	**-1.0**
VERB	**Verbena**	**1.76**	**336**	⇓	*eP*		**Pn**	**05 37 38.2**	**-1.3**
PICV	**PH. Pirrs**	**1.77**	**317**		*eP*		**Pn**	**05 37 38.5**	**-1.1**
MESA3	**La Mesa, Verag**	**1.78**	**96**	⇓	*eP*		**Pn**	**05 37 37.2**	**-2.4**
MESA3					*eS*		**Sn**	**05 38 00.9**	**-1.2**
TAAN	**Batan**	**1.79**	**348**		*eP*		**Pn**	**05 37 39.7**	**-0.1**
PAR1A	**Puntarenas Pro**	**1.79**	**315**		*eP*		**Pn**	**05 37 39.1**	**-0.7**
GMAL	**Guarumal, Vera**	**1.81**	**108**	⇑	*eP*		**Pn**	**05 37 37.3**	**-2.8**
GMAL					*eS*		**Sn**	**05 38 00.4**	**-2.5**
GMAL	**Guarumal, Vera**	**1.81**	**108**	⇓	*eP*		**Pn**	**05 37 36.3**	**-3.7**
GMAL	**Guarumal, Vera**	**1.81**	**108**		*P*		**Pn**	**05 37 37.1**	**-3.0**
GMAL					*S*		**Sn**	**05 38 00.8**	**-2.1**
RESJ	**San Isidro (Tu**	**1.82**	**339**	⇓	*eP*		**Pn**	**05 37 39.8**	**-0.5**
RSUS3	**Rio de Jesus,**	**1.82**	**101**		*eP*		**Pn**	**05 37 38.3**	**-2.0**
ABRB	**Las Abras (San**	**1.83**	**336**	⇓	*eP*		**Pn**	**05 37 39.8**	**-0.7**
CVTV	**Tajo**	**1.84**	**335**	⇓	*eP*		**Pn**	**05 37 39.9**	**-0.8**
IRES	**Siquirres**	**1.84**	**343**	⇓	*eP*		**Pn**	**05 37 39.7**	**-0.8**
LCOCO	**El Coco**	**1.84**	**342**	⇓	*eP*		**Pn**	**05 37 40.2**	**-0.4**
CVTQ	**Turrialba Volc**	**1.84**	**335**	⇓	*eP*		**Pn**	**05 37 39.9**	**-1.0**
VTR0	**Volcan Turrial**	**1.85**	**335**	⇓	*eP*		**Pn**	**05 37 40.0**	**-1.1**
CVTR	**Volcan Turrial**	**1.86**	**335**	⇓	*eP*		**Pn**	**05 37 40.1**	**-0.9**
VICA	**Volcano Irazu**	**1.86**	**332**	⇓	*eP*		**Pn**	**05 37 39.9**	**-1.2**
RVLA	**Villa Bonita**	**1.88**	**341**		*eP*		**Pn**	**05 37 40.6**	**-0.3**
ACOS	**Acosta**	**1.88**	**321**	⇑	*eP*		**Pn**	**05 37 40.6**	**-0.5**
AMPA	**Desamparados**	**1.90**	**325**		*eP*		**Pn**	**05 37 41.0**	**-0.4**
ECI	**Escuela Centro**	**1.93**	**326**		*eP*		**Pn**	**05 37 41.5**	**-0.3**
SJS3	**Mercedes San J**	**1.93**	**326**		*eP*		**Pn**	**05 37 42.1**	**+0.3**
CORON	**Coronado**	**1.93**	**328**		*eP*		**Pn**	**05 37 41.8**	**-0.1**
CENT	**San Jose**	**1.94**	**326**		*eP*		**Pn**	**05 37 41.3**	**-0.7**
LUPE	**Guadalupe**	**1.94**	**327**		*eP*		**Pn**	**05 37 41.6**	**-0.3**
CVIMO	**Finca Echandi**	**1.94**	**330**		*eP*		**Pn**	**05 37 41.5**	**-0.6**
DOMI	**Santo Domingo**	**1.98**	**326**		*eP*		**Pn**	**05 37 43.0**	**+0.4**
STIA3	**Santiago, Vera**	**1.99**	**96**		*eP*		**Pn**	**05 37 41.2**	**-1.4**
STIA3					*iS*		**Sn**	**05 38 06.7**	**-0.7**
HDC	**Heredia**	**2.01**	**326**				**Pn**	**05 37 42.9**	**-0.1**
HDC	**Heredia**	**2.01**	**326**		*eP*		**Pn**	**05 37 42.4**	**-0.6**
BELE	**Belen**	**2.03**	**324**	⇑	*eP*		**Pn**	**05 37 43.2**	**-0.1**
PILE	**Guapiles**	**2.04**	**337**	⇓	*eP*		**Pn**	**05 37 42.8**	**-0.5**
MARI3	**Mariato, Verag**	**2.07**	**109**	⇓	*eP*		**Pn**	**05 37 43.0**	**-0.7**
MARI3					*iS*		**Sn**	**05 38 11.1**	**+1.6**
CALO3	**Calobre, Verag**	**2.11**	**90**		*eP*		**Pn**	**05 37 42.9**	**-1.3**
CALO3					*iS*		**Sn**	**05 38 10.4**	**+0.1**
ATEO	**Atenas**	**2.15**	**320**		*eP*		**Pn**	**05 37 44.6**	**-0.3**
CARI	**Cariari**	**2.16**	**340**		*eP*		**Pn**	**05 37 44.8**	**-0.1**
CACAO	**El Cacao, Vera**	**2.31**	**115**		*eP*		**Pn**	**05 37 45.8**	**-1.1**
CACAO	**El Cacao, Vera**	**2.31**	**115**		*P*		**Pn**	**05 37 45.7**	**-1.2**
CACAO					*S*		**Sn**	**05 38 16.0**	**+0.8**
ARTO	**Ro Cuarto**	**2.35**	**329**		*eP*		**Pn**	**05 37 47.4**	**-0.2**
SARA	**Sarapiqu**	**2.35**	**334**		*eP*		**Pn**	**05 37 47.4**	**-0.1**
PESE3	**Pese, Herrera**	**2.37**	**100**		*eP*		**Pn**	**05 37 44.7**	**-3.1**
VPL2	**V. Platanar**	**2.41**	**325**	⇓	*eP*		**Pn**	**05 37 48.9**	**+0.4**
CBL1	**Cabuya**	**2.44**	**301**		*eP*		**Pn**	**05 37 46.8**	**-1.9**
CHIT3	**Chitre**	**2.55**	**98**	⇓	*iP*		**Pn**	**05 37 49.8**	**-0.5**
CHIT3					*iS*		**Sn**	**05 38 21.2**	**-0.1**
SOCE	**Pocosol**	**2.61**	**322**				**Pn**	**05 37 52.4**	**+1.3**
SOCE	**Pocosol**	**2.61**	**322**		*eP*		**Pn**	**05 37 51.6**	**+0.4**
SOCE	**Pocosol**	**2.61**	**322**	⇓	*P*		**Pn**	**05 37 52.0**	**+0.8**
SOCE	**Pocosol**	**2.61**	**322**		*S*		**Sb**	**05 38 27.0**	**-1.0**
PNME	**Penonome**	**2.62**	**86**	⇑	*eP*		**Pn**	**05 37 51.3**	**+0.1**
PNME					*eS*		**Sb**	**05 38 26.5**	**-1.7**
AZU	**Azuero**	**2.72**	**101**		*eP*		**Pn**	**05 37 52.4**	**-0.2**
AZU					*iS*		**Sb**	**05 38 32.4**	**+1.4**
AZU	**Azuero**	**2.72**	**101**		*eP*		**Pn**	**05 37 51.5**	**-1.1**
AZU	**Azuero**	**2.72**	**101**		*P*		**Pn**	**05 37 52.8**	**+0.2**
AZU					*S*		**Sn**	**05 38 28.0**	**+2.5**
JTS	**Las Juntas de**	**2.76**	**315**				**Pn**	**05 37 52.4**	**-0.8**
JTS	**Las Juntas de**	**2.76**	**315**		*P*		**Pn**	**05 37 53.0**	**-0.2**
54nm,0.3s,baz=90,slow=23,SNR=129									
JTS						LR	LR	05 38 25.5	
comp=Z,101nm,19.3s,baz=147,slow=26									
JTS						S	**Sn**	**05 38 28.2**	**+1.6**
355nm,0.6s,baz=320,slow=22,SNR=6.6									
157nm,0.3s									
JTS	**Las Juntas de**	**2.76**	**315**		*eP*		**Pn**	**05 37 54.6**	**+1.3**
JTS					*iS*		**Sn**	**05 38 26.3**	**-0.3**
JTS	**Las Juntas de**	**2.76**	**315**	⇑	*P*		**Pn**	**05 37 52.7**	**-0.5**
JTS					*S*		**Sn**	**05 38 27.9**	**+1.3**
JTS	**Las Juntas de**	**2.76**	**315**		*P*		**Pn**	**05 37 52.6**	**-0.6**
COVE	**Coope Vega, Sa**	**2.77**	**329**	⇑	*P*		**Pn**	**05 37 53.8**	**+0.6**
COVE	**Coope Vega, Sa**	**2.77**	**329**		*S*		**Sb**	**05 38 30.6**	**-1.7**
PCRI3	**Pocri, Los San**	**2.90**	**103**		*eP*		**Pn**	**05 37 54.2**	**-0.9**
ACHO3	**Achotines, Los**	**2.92**	**108**		*eP*		**Pn**	**05 37 56.0**	**+0.8**
ACHO3					*eS*		**Sn**	**05 38 33.8**	**+3.6**
INDI	**Punta indio, G**	**2.93**	**302**		*P*		**Pn**	**05 37 54.7**	**-0.8**
INDI	**Punta indio, G**	**2.93**	**302**		*S*		**Sn**	**05 38 31.2**	**+0.5**
PEDA3	**Pedasi**	**3.02**	**105**	⇓	*eP*		**Pn**	**05 37 57.8**	**+1.1**
ZANG	**Zanguenga, Cho**	**3.13**	**78**	⇓	*eP*		**Pn**	**05 37 59.8**	**+1.5**
ZANG					*eS*		**Sn**	**05 38 35.0**	**-0.6**
BAGA	**Bagaces**	**3.15**	**314**		*eP*		**Pn**	**05 37 58.9**	**+0.4**
BCIP	**Isla Barro Col**	**3.21**	**75**				**Pn**	**05 37 59.7**	**+0.4**
BCIP	**Isla Barro Col**	**3.21**	**75**	⇑	*eP*		**Pn**	**05 37 58.6**	**-0.7**
BCIP					*eS*		**Sb**	**05 38 42.6**	**-2.5**
BCIP	**Isla Barro Col**	**3.21**	**75**		*eP*		**Pn**	**05 37 58.4**	**-0.9**
BCIP	**Isla Barro Col**	**3.21**	**75**		*P*		**Pn**	**05 37 58.7**	**-0.7**
BCIP					*S*		**Sn**	**05 38 41.2**	**+3.7**
BCIP	**Isla Barro Col**	**3.21**	**75**		*P*		**Pn**	**05 37 58.3**	**-1.0**
MLIR	**Monte Lirio**	**3.21**	**73**		*eP*		**Pn**	**05 38 01.1**	**+1.8**
CHOR3	**La Chorrera**	**3.22**	**80**	⇓	*eP*		**Pn**	**05 38 00.6**	**+1.1**
UPAL	**Upala**	**3.25**	**322**		*P*		**Pn**	**05 38 02.1**	**+2.2**
UPAL	**Upala**	**3.25**	**322**		*S*		**Sn**	**05 38 39.6**	**+1.0**
GAMB1	**Gamboa**	**3.32**	**76**		*eP*		**Pn**	**05 38 01.2**	**+0.8**
FRIJ	**El Hiral**	**3.33**	**74**		*eP*		**Pn**	**05 38 01.7**	**+0.8**
ARRA3	**Arraijan, Pana**	**3.34**	**79**		*eP*		**Pn**	**05 38 02.5**	**+1.4**
ARRA3					*eS*		**Sb**	**05 38 47.9**	**-1.0**
ALIBA	**Liberia Airpor**	**3.40**	**312**		*eP*		**Pn**	**05 38 03.0**	**+1.1**
ELI1	**Hacienda Flor**	**3.44**	**312**		*P*		**Pn**	**05 38 04.0**	**+1.5**
ELI1	**Hacienda Flor**	**3.44**	**312**		*S*		**Sn**	**05 38 43.2**	**+0.1**
FLAM	**Flamenco Islan**	**3.45**	**80**		*eP*		**Pb**	**05 38 07.4**	**-2.7**
UPA	**Univ. de Panam**	**3.46**	**79**		*eP*		**Pn**	**05 38 03.8**	**+1.0**
UPA					*eS*		**Sn**	**05 38 48.2**	**+4.5**
CARN	**Rivas**	**3.80**	**319**		*P*		**Pn**	**05 38 06.3**	**-1.1**
CARN					*S*		**Sb**	**05 39 00.6**	**-1.4**
ESPN	**Las Esperanzas**	**4.06**	**341**				**Pn**	**05 38 10.9**	**-0.1**
OMEN	**Al SSO del Vol**	**4.11**	**321**		*P*		**Pn**	**05 38 12.3**	**+0.6**
ACON	**Acoyapa**	**4.22**	**329**				**Pn**	**05 38 12.0**	**-1.2**
ACON	**Acoyapa**	**4.22**	**329**	⇑	*eP*		**Pn**	**05 38 13.0**	**-0.2**
ACON	**Acoyapa**	**4.22**	**329**		*P*		**Pn**	**05 38 14.1**	**+0.9**
ACON	**Acoyapa**	**4.22**	**329**		*S*		**Sn**	**05 39 01.4**	**-1.1**
ACON	**Acoyapa**	**4.22**	**329**		*P*		**Pn**	**05 38 13.5**	**+0.3**
SAIC	**Isla e San And**	**4.37**	**16**		*P*		**Pn**	**05 38 14.2**	**-1.0**
TOTI	**Torti**	**4.65**	**82**	⇓	*eP*		**Pn**	**05 38 18.9**	**-0.2**
NANN	**Nandasmo**	**4.75**	**319**		*P*		**Pn**	**05 38 20.8**	**+0.3**
BOAB	**BOACO BROADBAN**	**4.88**	**327**				**Pn**	**05 38 22.3**	**0.0**
BOAB	**BOACO BROADBAN**	**4.88**	**327**		*P*		**Pn**	**05 38 22.7**	**+0.4**
UPD2	**Meteti**	**4.91**	**87**	⇓	*iP*		**Pn**	**05 38 22.2**	**-0.5**
PRVC	**Isla de Provid**	**5.26**	**17**		*eP*		**Pn**	**05 38 26.1**	**-1.5**
PRVC	**Isla de Provid**	**5.26**	**17**		*P*		**Pn**	**05 38 27.8**	**+0.2**
0.6nm2µm142nm,1.2s									
CNGN	**Cerro Negro**	**5.54**	**319**				**Pn**	**05 38 31.0**	**-0.4**
CNGN	**Cerro Negro**	**5.54**	**319**		*P*		**Pn**	**05 38 33.9**	**+2.5**
16µm2µm,1.1s									
SIUN	**Universidad Ur**	**5.64**	**342**				**Pn**	**05 38 33.1**	**+0.3**
CRIN	**San Cristobal**	**5.92**	**318**				**Pn**	**05 38 34.1**	**-2.5**
APAC	**Apartado, Choc**	**6.34**	**93**		*P*		**Pn**	**05 38 45.4**	**+3.0**
TGUH	**Tegucigalpa,Un**	**7.09**	**324**				**Pn**	**05 38 53.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**7.09**	**324**		*P*		**Pn**	**05 38 54.9**	**+2.1**
715nm68nm,0.9s									
CBOC	**Ciudad Bolivar**	**7.33**	**109**		*P*		**Pn**	**05 38 56.0**	**-0.1**
12nm,1.2s									
UREC	**San Jos de Ur**	**7.39**	**94**		*eP*		**Pn**	**05 38 59.9**	**+3.1**
PLMC	**San Jos del P**	**7.46**	**117**		*P*		**Pn**	**05 38 57.0**	**-0.9**
15nm,0.8s									
HELC	**Santa Helena**	**7.68**	**106**		*P*		**Pn**	**05 39 03.6**	**+2.4**
SJCC	**San Jacinto, C**	**7.85**	**78**		*P*		**Pn**	**05 39 04.0**	**+0.8**
YOTC	**Yotoco, Valle**	**7.87**	**128**		*P*		**Pn**	**05 39 04.0**	**+0.4**
POPC	**Popayan, Clom**	**8.50**	**132**		*P*		**Pn**	05 39 17.8	**+5.5**
MTO3	**Montecristo**	**8.70**	**315**				**Pn**	**05 39 14.8**	**-0.2**
ESQI	**Esquipulas**	**8.79**	**315**				**Pn**	**05 39 17.6**	**+1.3**
OTAV	**Otavalo**	**9.21**	**151**				**Pn**	**05 39 25.4**	**+3.2**
ROSC	**El Rosal**	**9.26**	**111**				**Pn**	**05 39 26.2**	**+3.3**
ROSC	**El Rosal**	**9.26**	**111**		*P*		**Pn**	**05 39 27.0**	**+4.1**
4.0nm,0.3s,baz=314,slow=8.5,SNR=8.8									
HUEH	**Huehuetenango**	**10.86**	**311**				**Pn**	**05 39 46.4**	**+1.8**
MTDJ	**Mount Denham**	**11.17**	**28**				**Pn**	**05 39 48.4**	**-0.4**
COHC	**Cochancay**	**11.34**	**161**				**Pn**	**05 39 53.3**	**+2.3**
SDV	**Santo Domingo**	**12.21**	**86**			LR	LR	05 45 33.7	
comp=Z,354nm,18.5s,baz=250,slow=41									
CHIV	**Chivirico**	**13.21**	**28**			Pn	**Pn**	**05 40 16.1**	**-0.4**
CMIG	**Matias Romero**	**14.52**	**308**			P	**Pn**	**05 40 36.0**	**+1.6**
0.5nm,0.3s,baz=100,slow=11,SNR=4.1									
5.0nm,0.8s									
CAMR	**Camarioca**	**14.73**	**6**			Pn	**Pn**	**05 40 36.6**	**-0.8**
SDDR	**Presa de Saban**	**15.52**	**46**				**Pn**	**05 40 47.0**	**-0.9**
ATAH	**Atahualpa**	**16.02**	**163**			LR	LR	05 46 24.3	
comp=Z,99nm,18.4s,baz=348,slow=35									
SC01	**Santiago de Io**	**16.21**	**46**			Pn	**Pn**	**05 40 56.1**	**-0.6**
SC01						IAmb	IAmb	05 41 04.7	
comp=Z,29nm,0.8s									
PCRV	**Puerto La Cruz**	**18.19**	**83**			P	**P**	**05 41 24.1**	**+2.2**
comp=Z,0.2nm,0.3s,baz=348,slow=20,SNR=4.3									
PCRV						LR	LR	05 50 06.7	
comp=Z,252nm,19.1s,slow=42									
comp=Z,31nm,1.2s									
OBIP	**Obispado Ponce**	**18.62**	**57**				**Pn**	**05 41 27.6**	**+0.8**
OBIP						IAmb	IAmb	05 41 29.4	
comp=Z,77nm,1.3s									
CELP	**Cerrillos**	**18.66**	**57**				**Pn**	**05 41 27.9**	**+0.6**
SJG	**San Juan**	**19.03**	**58**			P	**Pn**	**05 41 32.6**	**+0.8**
comp=Z,0.7nm,0.3s,baz=245,slow=9.8,SNR=11									
SJG						LR	LR	05 48 12.9	
comp=Z,111nm,20.3s,baz=242,slow=35									
comp=Z,25nm,0.8s									
PDPR	**Patillas Dam,**	**19.09**	**58**			P	**P**	**05 41 31.3**	**-0.5**
GCPR	**Guaynabo City**	**19.18**	**57**			P	**P**	**05 41 33.2**	**+0.5**
HUMP	**Col San Antoni**	**19.30**	**58**			P	**P**	**05 41 34.4**	**+0.4**
GDHS	**Morne Mazeau,**	**22.16**	**67**			P	**P**	**05 42 05.5**	**+0.4**
BOAV	**Boa Vista**	**23.10**	**104**			P	**P**	**05 42 16.0**	**+0.9**
346A	**Big Creek Wild**	**23.73**	**346**			P	**P**	**05 42 20.8**	**-0.4**
346A						IAmb	IAmb	05 42 26.6	
comp=Z,59nm,1.7s									
250A	**Grady**	**23.73**	**353**				**P**	**05 42 22.6**	**+1.4**
154A	**Montrose**	**24.17**	**360**			P	**P**	**05 42 25.6**	**+0.4**
441A	**DeRidder**	**24.27**	**338**			P	**P**	**05 42 27.5**	**+1.3**
152A	**Waverly Hall**	**24.28**	**356**			P	**P**	**05 42 26.5**	**+0.2**
152A						IAmb	IAmb	05 42 29.3	
comp=Z,22nm,1.2s									
HKT	**Hockley**	**24.66**	**332**			P	**P**	**05 42 30.0**	**+0.3**
LRAL	**Lakeview Retre**

A36M	**Sachs Harbour** baz=134	**68.62 347**	P	**P**	**05 48 12.1**	**+0.5**
MCARA	**McCarthy VSAT** baz=113	**68.66 333**	P	**P**	**05 48 12.4**	**+0.3**
F30M	**Barrier River** baz=122	**68.78 341**	P	**P**	**05 48 12.7**	**0.0**
BCAR	**Beaver Creek A**	**68.81 335**		**P**	**05 48 13.7**	**+0.6**
L27K	**Beaver Creek,** baz=115,SNR=6.7	**68.83 335**	P	**P**	**05 48 12.8**	**-0.3**
H29M	**Whitestone** baz=119	**68.94 339**	P	**P**	**05 48 13.5**	**-0.2**
M26K	**Nabesna, AK** baz=113	**69.05 334**	P	**P**	**05 48 14.2**	**-0.4**
I28M	**Miner Creek** baz=117	**69.14 338**	P	**P**	**05 48 14.9**	**-0.3**
G29M	**Pine Creek** baz=120	**69.16 340**	P	**P**	**05 48 14.9**	**-0.2**
BMRM	**Bremner River** baz=111	**69.21 333**	P	**P**	**05 48 15.9**	**+0.3**
K27K	**Chicken** baz=115	**69.34 336**	P	**P**	**05 48 16.2**	**0.0**
N25K	**Chitina, Valde** baz=112	**69.44 333**	P	**P**	**05 48 16.5**	**-0.5**
L26K	**Log Cabin Wild** baz=113	**69.45 335**	P	**P**	**05 48 17.1**	**+0.1**
Q23K	**Middleton Isla** baz=109	**69.50 331**	P	**P**	**05 48 17.6**	**+0.4**
EYAK	**Cordova Ski Ar** baz=110	**69.59 332**	P	**P**	**05 48 18.1**	**+0.3**
I27K	**Kandik River** baz=116	**69.83 338**	P	**P**	**05 48 19.5**	**+0.1**
E29M	**Blow River** baz=120	**69.86 341**	P	**P**	**05 48 19.3**	**-0.1**
HARP	**HAARP** baz=111	**69.98 334**	P	**P**	**05 48 21.0**	**+0.7**
KLU	**Klutina** baz=110	**70.00 333**	P	**P**	**05 48 20.4**	**-0.1**
H27K	**Steamboat Moun** baz=116	**70.08 338**	P	**P**	**05 48 20.9**	**0.0**
SCRK	**Sand Creek** baz=113,SNR=5.2	**70.08 336**	P	**P**	**05 48 20.5**	**-0.5**
J26L	**Joseph Creek** baz=114,SNR=8.7	**70.12 336**	P	**P**	**05 48 21.0**	**-0.2**
F28M	**Old Crow** baz=118	**70.13 340**	P	**P**	**05 48 21.1**	**0.0**
I26K	**Coal Creek Min** baz=114	**70.29 337**	P	**P**	**05 48 21.7**	**-0.4**
M24K	**Tolsona, Glenn** baz=110	**70.32 334**	P	**P**	**05 48 21.8**	**-0.6**
PAX	**Paxson** baz=111	**70.32 335**	P	**P**	**05 48 22.4**	**-0.1**
RIDG	**Independent Ri** baz=112	**70.35 335**	P	**P**	**05 48 23.2**	**+0.7**
G27K	**Doyon Strip** baz=116	**70.38 339**	P	**P**	**05 48 22.9**	**+0.3**
E28M	**Babbage River** baz=119	**70.50 341**	P	**P**	**05 48 23.5**	**+0.2**
D28M	**Stokes Point** baz=120	**70.60 342**	P	**P**	**05 48 24.3**	**+0.4**
SCM	**Sheep Creek Mo** baz=109	**70.74 333**	P	**P**	**05 48 24.5**	**-0.5**
K24K	**Donnelly Dome** baz=111	**70.75 335**	P	**P**	**05 48 25.0**	**0.0**
J25K	**Salcha River,** baz=112,SNR=7.2	**70.89 336**	P	**P**	**05 48 25.6**	**-0.3**
PWL	**Port Wells** baz=108	**70.89 332**	P	**P**	**05 48 25.6**	**-0.3**
M23K	**Glacier View** baz=109	**70.91 333**	P	**P**	**05 48 25.6**	**-0.4**
E27K	**Coleen River** baz=117	**70.97 340**	P	**P**	**05 48 26.0**	**-0.3**
KNK	**Knik Glacier** baz=108	**71.12 332**	P	**P**	**05 48 27.6**	**+0.3**
WAT6	**Susitna Watana** baz=109,SNR=6.1	**71.17 334**	P	**P**	**05 48 27.6**	**-0.1**
DHY	**Denali Highway** baz=109	**71.17 334**	P	**P**	**05 48 27.5**	**-0.2**
SEW	**Seward** baz=106	**71.20 331**	P	**P**	**05 48 27.6**	**-0.1**
G26K	**Porcupine Rive** baz=114	**71.20 339**	P	**P**	**05 48 27.8**	**+0.2**
D27M	**Malcolm River** baz=118	**71.25 341**	P	**P**	**05 48 28.2**	**+0.3**
PRP	**Porcupine Dome** baz=112	**71.29 337**	P	**P**	**05 48 28.0**	**-0.3**
HDA	**Harding Lake** baz=110,SNR=8.2	**71.45 336**	P	**P**	**05 48 29.4**	**+0.3**
PMR	**Palmer** baz=107	**71.48 333**	P	**P**	**05 48 29.5**	**+0.2**
ILAR	**Eielson Array** comp=Z,6.5nm,1.2s,baz=114,slow=4.1,SNR=21 comp=Z,6.5nm,1.2s	**71.55 336**	P	**P**	**05 48 28.7**	**-1.1**
WAT1	**Susitna Watana** baz=108	**71.60 334**	P	**P**	**05 48 30.1**	**0.0**
RC01	**Rabbit Creek A** baz=107	**71.61 332**	P	**P**	**05 48 30.4**	**+0.2**
F26K	**Sheenjek River** baz=114	**71.64 339**	P	**P**	**05 48 30.3**	**0.0**
H25L	**Birch Creek** baz=112	**71.68 338**	P	**P**	**05 48 30.6**	**+0.1**
POKR	**Poker Plat Res** baz=110	**71.89 336**	P	**P**	**05 48 31.7**	**-0.1**
G25K	**Bearman Lake** baz=112	**71.97 338**	P	**P**	**05 48 32.3**	**+0.1**
MCK	**McKinley** baz=108	**72.05 335**	P	**P**	**05 48 32.7**	**-0.1**
F25K	**Christian Rive** baz=112	**72.12 339**	P	**P**	**05 48 33.3**	**+0.1**
KDAK	**Kodiak Island** baz=103	**72.17 328**	P	**P**	**05 48 33.4**	**-0.2**
SUA	**Susitna One** baz=106	**72.19 332**	P	**P**	**05 48 33.4**	**-0.4**
Q20K	**Shuyak Island** baz=103	**72.27 329**	P	**P**	**05 48 33.7**	**-0.5**
C27K	**Jago River** baz=115	**72.30 341**	P	**P**	**05 48 33.7**	**-0.5**
E25K	**Arctic Village** baz=113	**72.30 340**	P	**P**	**05 48 34.3**	**0.0**
H24K	**Noodor Dome** baz=110,SNR=5.5	**72.31 337**	P	**P**	**05 48 33.8**	**-0.6**
NEA2	**Nenana** baz=108	**72.38 336**	P	**P**	**05 48 34.5**	**-0.2**
OHAK	**Old Harbor** baz=102	**72.42 328**	P	**P**	**05 48 34.2**	**-0.8**
G24K	**Hadweenzic Riv** baz=110,SNR=6.2	**72.46 338**	P	**P**	**05 48 34.9**	**-0.3**
TRF	**Thorofare Moun** baz=107	**72.54 334**	P	**P**	**05 48 35.4**	**-0.6**
I23K	**Minto, Yukon-K** baz=108,SNR=6.2	**72.67 336**	P	**P**	**05 48 37.3**	**+0.9**
SKT	**Skwentna** baz=105	**72.69 333**	P	**P**	**05 48 37.3**	**+0.6**
F24K	**Squaw Lake** baz=110	**72.89 339**	P	**P**	**05 48 38.6**	**+0.8**
P19K	**Oil Pt** baz=103	**72.92 330**	P	**P**	**05 48 38.0**	**-0.1**
H23K	**Yukon River** baz=108	**72.96 337**	P	**P**	**05 48 38.3**	**+0.1**
BPAW	**Bear Paw Mtn.** baz=106	**73.03 335**	P	**P**	**05 48 38.7**	**+0.1**
D25K	**Kavik River** baz=112,SNR=5.3	**73.03 341**	P	**P**	**05 48 38.2**	**-0.4**
R18K	**Karluk** baz=101	**73.11 328**	P	**P**	**05 48 38.9**	**-0.3**
MLY	**Manley**	**73.19 336**		**P**	**05 48 39.1**	**-0.5**
MLY	 comp=Z,8.8nm,1.2s		IAmb	IAmb	05 48 42.8	
MLY	**Manley** baz=107,SNR=6.3	**73.19 336**	P	**P**	**05 48 39.8**	**+0.2**
PPLA	**Purkeypile** baz=105	**73.22 333**	P	**P**	**05 48 39.3**	**-0.7**
E24K	**Your Creek** baz=110	**73.30 339**	P	**P**	**05 48 40.6**	**+0.3**
CAST	**Castle Rocks** baz=105	**73.31 334**	P	**P**	**05 48 40.2**	**-0.2**
M20K	**Styx River** baz=104	**73.39 332**	P	**P**	**05 48 40.7**	**-0.3**
G23K	**Bananza Creek** baz=108,SNR=5.4	**73.42 338**	P	**P**	**05 48 40.9**	**0.0**
CHIR	**Chirikof Islan** baz=100	**73.42 326**	P	**P**	**05 48 40.6**	**-0.4**
CHUM	**Lake Minchumin** baz=105	**73.53 334**	P	**P**	**05 48 41.5**	**-0.1**
COLD	**Coldfoot** baz=108	**73.64 338**	P	**P**	**05 48 42.0**	**-0.2**
E23K	**Chandalar** baz=109,SNR=5.7	**73.70 339**	P	**P**	**05 48 42.6**	**+0.1**
H22K	**Ishtalitna Cre** baz=106	**73.70 337**	P	**P**	**05 48 42.9**	**+0.3**
I21K	**Tanana** baz=106,SNR=6.8	**73.74 336**	P	**P**	**05 48 42.8**	**0.0**
N19K	**Bonanza Creek** baz=102	**73.79 331**	P	**P**	**05 48 43.2**	**-0.1**
P18K	**Big Mountain,** baz=101	**73.87 330**	P	**P**	**05 48 43.6**	**-0.1**
TOLK	**Toolik Lake Re** baz=109	**73.87 340**	P	**P**	**05 48 43.5**	**0.0**
L20K	**Farewell, AK** baz=103	**73.88 333**	P	**P**	**05 48 43.7**	**0.0**
C24K	**Franklin Bluff** baz=110	**73.94 341**	P	**P**	**05 48 43.8**	**0.0**
M19K	**Big River Lodg** baz=102	**73.98 332**	P	**P**	**05 48 44.0**	**-0.3**
Q17K	**Contact Creek** baz=100	**73.99 328**	P	**P**	**05 48 44.0**	**-0.6**
R17L	**Mt. Peulik Vol** baz=100	**74.13 328**	P	**P**	**05 48 45.0**	**-0.2**
K20K	**Telida** baz=103	**74.16 334**	P	**P**	**05 48 45.3**	**-0.1**
H21K	**Melozitna Rive** baz=105	**74.20 336**	P	**P**	**05 48 45.6**	**+0.1**
L19K	**White Mountain** baz=102	**74.25 332**	P	**P**	**05 48 45.1**	**-0.8**
D23K	**Nanushuk River** baz=108	**74.36 340**	P	**P**	**05 48 46.0**	**-0.3**
J20K	**Nowinta River** baz=103	**74.39 335**	P	**P**	**05 48 46.4**	**-0.1**
N18K	**Kilae Creek** baz=101	**74.44 331**	P	**P**	**05 48 46.3**	**-0.7**
P17K	**Kvichak River** baz=100	**74.44 329**	P	**P**	**05 48 47.0**	**+0.1**
F22K	**John River** baz=106	**74.46 338**	P	**P**	**05 48 46.9**	**-0.1**
Q16K	**King Salmon** baz=100	**74.46 329**	P	**P**	**05 48 47.3**	**+0.2**
E22K	**Anaktuvuk Pass** baz=107	**74.50 339**	P	**P**	**05 48 47.4**	**+0.1**
M18K	**Stony River** baz=101	**74.56 332**	P	**P**	**05 48 46.7**	**-1.0**
C23K	**Itkillik River** baz=108	**74.61 341**	P	**P**	**05 48 48.2**	**+0.4**
I20K	**Naaghedeneel** baz=103	**74.67 335**	P	**P**	**05 48 49.0**	**+0.8**
G21K	**Allakaket** baz=105,SNR=9.4	**74.70 337**	P	**P**	**05 48 48.7**	**+0.3**
R16K	**Pilot Point** baz=98	**74.77 327**	P	**P**	**05 48 48.5**	**-0.4**
O17K	**Koliganek Bris** baz=100	**74.87 330**	P	**P**	**05 48 49.6**	**+0.2**
F21K	**Alatna River** baz=105,SNR=6.6	**74.87 338**	P	**P**	**05 48 48.8**	**-0.6**
J19K	**Poorman** baz=102	**74.98 334**	P	**P**	**05 48 50.2**	**+0.2**
H20K	**Anotleneega Mo** baz=103	**75.00 336**	P	**P**	**05 48 50.5**	**+0.4**
D22K	**Ayikyak River** baz=106	**75.02 339**	P	**P**	**05 48 50.6**	**+0.4**
N17K	**Nushagak Hills** baz=100	**75.04 330**	P	**P**	**05 48 50.7**	**+0.3**
CHGN	**Chignik** baz=98	**75.05 326**	P	**P**	**05 48 51.4**	**+0.9**
L18K	**Granite Mounta** baz=100	**75.10 332**	P	**P**	**05 48 51.6**	**+0.9**
P16K	**Nushagak River** baz=98	**75.20 329**	P	**P**	**05 48 52.0**	**+0.6**
M17K	**Holitna River** baz=100	**75.31 331**	P	**P**	**05 48 52.0**	**0.0**
O16K	**Kokwok River B** baz=99	**75.34 329**	P	**P**	**05 48 52.3**	**+0.2**
J18K	**Innoko River** baz=101	**75.35 334**	P	**P**	**05 48 52.8**	**+0.6**
E21K	**Killik River** baz=105	**75.36 339**	P	**P**	**05 48 53.1**	**+0.9**
CHNA	**Chernabura Isl** baz=96	**75.53 324**	P	**P**	**05 48 53.4**	**+0.1**
H19K	**Roundabout Mou** baz=102	**75.64 336**	P	**P**	**05 48 54.0**	**+0.3**
S14K	**Fog Glacier** baz=96	**75.67 326**	P	**P**	**05 48 54.2**	**0.0**
B22K	**Teshekpuk Lake** baz=106	**75.67 341**	P	**P**	**05 48 54.3**	**+0.4**
F20K	**Avaraart Lake** baz=103	**75.68 337**	P	**P**	**05 48 54.0**	**0.0**
N16K	**Nishlik Lake** baz=98	**75.81 330**	P	**P**	**05 48 54.7**	**-0.1**
C21K	**Knifeblade Rid** baz=104	**75.83 339**	P	**P**	**05 48 55.3**	**+0.5**
L17K	**Donlin** baz=99	**75.83 332**	P	**P**	**05 48 55.3**	**+0.4**
B21K	**Ikpikpuk River** baz=104	**75.88 340**	P	**P**	**05 48 54.9**	**-0.1**
K17K	**Iditarod** baz=99	**75.93 333**	P	**P**	**05 48 55.5**	**+0.1**
G19K	**Purcell Mounta** baz=101,SNR=6.4	**76.02 336**	P	**P**	**05 48 56.6**	**+0.7**
E20K	**Nigu River** baz=102,SNR=5.2	**76.12 338**	P	**P**	**05 48 56.9**	**+0.4**
O15K	**Ungalikthiuk R** baz=97	**76.16 329**	P	**P**	**05 48 56.2**	**-0.7**
ESDC	**Sonseca Array** comp=Z,0.6nm,0.8s,baz=265,slow=6.0,SNR=3.1 comp=Z,0.6nm,0.8s	**76.28 51**	P	**P**	**05 48 57.8**	**-0.3**
L16K	**Owhat River** baz=98	**76.32 332**	P	**P**	**05 48 57.2**	**-0.5**
E19K	**Redstone River** baz=101	**76.34 338**	P	**P**	**05 48 57.8**	**+0.1**
A22K	**Sinclair Lake** baz=104	**76.35 341**	P	**P**	**05 48 58.2**	**+0.6**
H18K	**Honhosa River** baz=100	**76.36 335**	P	**P**	**05 48 58.3**	**+0.4**
D20K	**Etivluk River**	**76.37 339**		**P**	**05 48 58.9**	**+0.9**
D20K	 comp=Z,8.2nm,1.1s		IAmb	IAmb	05 49 01.5	
D20K	**Etivluk River** baz=102	**76.37 339**	P	**P**	**05 48 58.6**	**+0.7**
J17K	**VABM Dome** baz=99	**76.38 333**	P	**P**	**05 48 58.8**	**+0.7**
N15K	**Kwethluk River** baz=97	**76.42 330**	P	**P**	**05 48 58.4**	**+0.1**
F19K	**Shaleruckik Mo** baz=101	**76.42 337**	P	**P**	**05 48 58.7**	**+0.5**
G18K	**Tagagawik** baz=100	**76.61 336**	P	**P**	**05 48 59.6**	**+0.3**
M15K	**Kasigluk River** baz=97	**76.77 330**	P	**P**	**05 49 00.9**	**+0.6**
B20K	**Meade River** baz=102	**76.83 340**	P	**P**	**05 49 01.2**	**+0.7**
D19K	**Kuna River** baz=101	**76.86 339**	P	**P**	**05 49 01.4**	**+0.6**
A21K	**Barrow** baz=103	**76.94 341**	P	**P**	**05 49 01.4**	**+0.3**
H17K	**Granite Mounta** baz=98	**76.97 335**	P	**P**	**05 49 01.5**	**+0.1**
S12K	**Black Hills** baz=94	**77.02 325**	P	**P**	**05 49 02.3**	**+0.5**
F18K	**Selawik** baz=99	**77.12 337**	P	**P**	**05 49 02.9**	**+0.8**
C19K	**Lookout Ridge** baz=100	**77.50 339**	P	**P**	**05 49 04.6**	**+0.3**
E18K	**Tukpahlearik C** baz=98	**77.61 337**	P	**P**	**05 49 05.3**	**+0.4**
F17K	**Baldwin Pennin** baz=97	**77.73 336**	P	**P**	**05 49 06.1**	**+0.6**
H16K	**Elim** baz=96	**77.93 334**	P	**P**	**05 49 06.8**	**+0.1**
C18K	**Utukok River** baz=98	**78.01 338**	P	**P**	**05 49 07.6**	**+0.5**
E17K	**Hotham Inlet** baz=97	**78.04 337**	P	**P**	**05 49 07.8**	**+0.5**
G16K	**Koyuk River** baz=96	**78.06 335**	P	**P**	**05 49 08.4**	**+1.0**
M13K	**Dall Lake** baz=94	**78.06 330**	P	**P**	**05 49 07.4**	**-0.1**
A19K	**Wainwright** baz=98	**78.19 340**	P	**P**	**05 49 08.2**	**+0.2**
C17K	**DeLong Mountai** baz=96	**78.71 338**	P	**P**	**05 49 12.1**	**+1.1**
G15K	**Niukluk** baz=94	**78.73 335**	P	**P**	**05 49 11.6**	**+0.5**
K13K	**Kusilvak Mount** baz=93	**78.79 332**	P	**P**	**05 49 11.6**	**+0.1**
F15K	**North Star Dit** baz=94	**79.03 335**	P	**P**	**05 49 13.2**	**+0.4**
ANM	**Nome** baz=93	**79.27 334**	P	**P**	**05 49 14.7**	**+0.6**
C16K	**Lisburne Hills** baz=94	**79.49 338**	P	**P**	**05 49 16.0**	**+0.8**
UNV	**Unalaska Valle** baz=90	**79.52 323**	P	**P**	**05 49 16.1**	**+0.5**
F14K	**Arctic Creek** baz=92	**79.72 335**	P	**P**	**05 49 17.5**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,1.0s,baz=282,slow=7.2,SNR=4.2 comp=Z,1.0nm,1.0s	**82.98 78**	P	**P**	**05 49 33.7**	**-1.1**
IDI	**Anoyia** comp=Z,113nm,21.1s,baz=290,slow=33	**99.53 52**	LR	LR	06 32 36.7	
ASAR	**Alice Springs** comp=Z,0.5nm,0.6s,baz=103,slow=2.7,SNR=3.6	**141.56 242**	PKhKP	PKPpre	05 56 35.3	
WRA	**Warramunga Arr** comp=Z,0.3nm,0.3s,baz=93,slow=2.0,SNR=2.3	**142.12 248**	PKP	**PKPdf**	**05 56 40.1**	**-2.1**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=35,slow=1.6,SNR=4.3	**153.32 356**	PKPbc	**PKPbc**	**05 57 06.7**	**-1.4**

*IDC **30** 05:38:23.5±0.5, 7.°52S×130.°26E, h0km, mb4.6/16, mbtmp4.6/19, ML3.7/3, MS4.1/24, Error ellipse: s-maj=23.5km s-min=12.3km az=81.0*

*BJI **30** 05:38:26.6, 7.°71S×130.°70E, h49km, mB5.0/14, mb4.9/49, Ms4.5/10, Ms7 4.2/11*

*GCMT **30** 05:38:29.5±0.3, 7.°55S±0.°02×130.°45E±0.°03, h35km, MW5.0/72, Moment Tensor Solution. s32,c36; s72,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.88±.21; $M_{\theta\theta}$-2.78±.13; $M_{\phi\phi}$-1.10±.14; $M_{r\theta}$0.95±.09; $M_{\theta\phi}$-0.82±.08; $M_{\phi r}$-0.39±.11; Best double couple: $M_0$3.62700×10^{16} NP1:ϕ_s240.00000°, δ40.00000°, λ77.00000°. NP2: ϕ_s77.00000°, δ52.00000°, λ101.00000°. Principal axes: T 4.0610, Plg80.0000°, Azm34.0000°; N -0.8680, Plg8.0000°, Azm250.0000°; P -3.1930, Plg6.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **30** 05:38:29.5±1.5, 7.°50S±0.°05×130.°35E±0.°05, h35km±2km, mb4.9/51 Error ellipse: s-maj=9.9km s-min=6.6km az=209.0*

*DJA **30** 05:38:32.7±0.2, 8°S±2°×13°1E±°, h45km±4km, M4.8/37, mb4.9/37, mB5.3/17, MLv5.2/14, Mw(mB)4.7/17, MwMwp4.7/3, Mwp5.0/3*

ISC 30 05:38:27.6±0.3, **7.°67S**±0.°03×**130.°46E**±0.°03, **h27**km, **n467**, σ**1.°57**/434, **mb4.9**/61, **MS4.1**/23, **6C-1D, Tanimbar Islands region**

Code	Station Name	Δ° AZ°	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.89 110**		**Pb**	**05 38 48.6**	**+4.2**
SAUI			Sn	**Sn**	**05 39 02.6**	**+6.3**
SAUI	**Saumlaki**	**0.89 110**	P	**Pb**	**05 38 48.6**	**+4.2**
SAUI	**Saumlaki**	**0.89 110**	P	**Pb**	**05 38 48.4**	**+4.0**
BNDI	**Bandanaira**	**3.18 350**	P	**Pn**	**05 39 16.6**	**+0.7**
BNDI	**Bandanaira**	**3.18 350**	S	**Sn**	**05 39 55.3**	**+2.3**
BNDI	**Bandanaira**	**3.18 350**	P	**Pn**	**05 39 17.8**	**+1.9**
AAI	**Ambon**	**4.56 330**	P	**Pn**	**05 39 37.0**	**+2.1**
MSAI	**Masohi**	**4.56 340**	P	**Pn**	**05 39 36.6**	**+1.7**
DRS	**Darwin Rock St**	**4.75 175**	P	**Pn**	**05 39 39.1**	**+1.6**
DRS	**Darwin Rock St**	**4.75 175**	S	**Sn**	**05 40 34.9**	**+3.2**
FAKI	**Fak Fak**	**5.05 21**		**Pn**	**05 39 41.6**	**0.0**
FAKI			Sn	**Sn**	**05 40 38.1**	**-1.0**
FAKI	**Fak Fak**	**5.05 21**	P	**Pn**	**05 39 42.1**	**+0.5**
FAKI	**Fak Fak**	**5.05 21**	S	**Sn**	**05 40 38.3**	**-0.8**
FAKI	**Fak Fak**	**5.05 21**	P	**Pn**	**05 39 42.1**	**+0.5**
KMPI	**Kaimana, Papua**	**5.13 39**	P	**Pn**	**05 39 45.4**	**+2.7**
KMPI			S	**Sn**	**05 40 42.4**	**+1.3**
MTN	**Manton Dam**	**5.18 173**	P	**Pn**	**05 39 45.2**	**+1.8**
MTN	**Manton Dam**	**5.18 173**	S	**Sn**	**05 40 44.5**	**+2.1**
KDU	**Kakadu**	**5.36 158**	P	**Pn**	**05 39 47.4**	**+1.5**
KDU	**Kakadu**	**5.36 158**	S	**Sn**	**05 40 47.9**	**+1.1**
NLAI	**Namlea**	**5.53 323**	P	**Pn**	**05 39 52.0**	**+3.7**
SOEI	**Soe**	**6.46 251**		**Pn**	**05 40 02.3**	**+1.1**
SOEI	**Soe**	**6.46 251**	P	Pn	05 40 07.2	+6.0
SOEI	**Soe**	**6.46 251**	S	**Sn**	**05 41 22.3**	**+8.1**
SOEI	**Soe**	**6.46 251**	P	**Pn**	**05 40 05.5**	**+4.3**
SOEI			S	Sb	05 41 25.6	-11
SWI	**Sorong**	**6.81 7**	P	**Pn**	**05 40 06.6**	**+0.7**
SANI	**Sanana**	**7.15 321**	P	Pn	05 40 15.1	+4.6
SANI	**Sanana** 0.8nm3μm178nm,1.5s	**7.15 321**	P	Pn	05 40 15.1	+4.6
RKPI	**Ransiki, Papua**	**7.16 31**	P	**Pn**	**05 40 12.5**	**+1.9**
BATI	**Baumata** 9.0nm,0.3s,baz=121,slow=12,SNR=1.5	**7.17 249**	Pn	**Pn**	**05 40 13.1**	**+2.3**
BATI	 13nm,0.3s,baz=51,slow=12,SNR=1.3		Sn	**Sn**	**05 41 33.6**	**+2.1**
BATI	**Baumata** 0.8nm152nm,0.6s	**7.17 249**	P	Pn	05 40 18.1	+7.3
KNRA	**Kununurra**	**8.13 192**		**Pn**	**05 40 25.0**	**+1.1**
MMRI	**Maumere**	**8.20 263**	Pn	**Pn**	**05 40 26.0**	**+1.1**
BAKI	**Biak** 2μm194nm,1.1s	**8.55 41**	P	**Pn**	**05 40 31.7**	**+1.9**
EDFI	**Ende, Flores** 616nm36nm,0.9s	**8.75 262**	P	Pn	05 40 38.2	+5.7
TNTI	**Ternate**	**8.94 340**	Pn	**Pn**	**05 40 33.3**	**-1.8**
TNTI	**Ternate** 97nm,1.1s	**8.94 340**	P	Pn	05 40 39.9	+4.8
SMPI	**Sarmi** 80nm,0.5s	**9.97 56**	P	**Pn**	**05 40 51.4**	**+2.2**
BSSI	**Bau Bau, Buton** 110nm,1.5s	**10.02 278**	P	Pn	05 40 54.9	+5.1
LUWI	**Luwuk** 106nm,1.6s	**10.11 310**	P	Pn	05 40 55.2	+4.1
KMSI	**Cibinong**	**10.44 321**	P	Pn	05 41 00.2	+4.6
BKSI	**Bulukumba** 842nm47nm,1.2s	**10.53 282**	P	Pn	05 41 03.4	+6.4
BNSI	**Bone** 1μm62nm,1.6s	**10.80 287**	P	Pn	05 41 06.2	+5.6
GENI	**Genyem** 91nm,0.8s	**10.90 63**	P	**Pn**	**05 41 03.5**	**+1.5**
KAPI	**Kappang** 0.7nm,0.3s,baz=73,slow=16,SNR=1.6	**10.97 283**	Pn	**Pn**	**05 41 03.4**	**+0.5**
KAPI	 comp=Z,1μm,21.9s,baz=108,slow=37		LR	LR	05 44 57.9	
APSI	**Ampana** 2μm87nm,1.7s	**11.06 307**	P	Pn	05 41 10.2	+6.1
WBSI	**Waikabubak, Su**	**11.12 259**	P	Pn	05 41 12.2	+7.2
SPSI	**Sidrap Palu** 34nm,1.6s	**11.26 289**	P	Pn	05 41 13.3	+6.5
FITZ	**Fitzroy Crossi**	**11.38 204**		**Pn**	**05 41 07.7**	**-0.8**
FITZ	**Fitzroy Crossi** 2.7nm,0.3s,baz=27,slow=12,SNR=79	**11.38 204**	Pn	**Pn**	**05 41 06.6**	**-1.9**
FITZ	 14nm,0.3s,baz=68,slow=21,SNR=10		Sn	**Sn**	**05 43 07.8**	**-7.0**
FITZ	 comp=Z,1μm,20.2s,baz=18,slow=41 11nm,0.3s		LR	LR	05 46 11.1	
JAY	**Jayapura** 0.4nm,0.3s,baz=281,slow=5.2,SNR=5.7	**11.41 64**	Pn	**Pn**	**05 41 09.0**	**-0.1**
JAY	 0.4nm,0.3s,baz=90,slow=6.7,SNR=3.6 33nm,1.0s		Sn	**Sn**	**05 43 14.9**	**-0.9**
JAY	**Jayapura** 45nm,0.9s	**11.41 64**	P	**Pn**	**05 41 10.9**	**+1.8**
TTSI	**Tana Toraja** 26nm,1.2s	**11.55 293**	P	Pn	05 41 15.8	+5.0
MRSI	**Marisa** 141nm,1.2s	**11.74 313**	P	Pn	05 41 18.5	+5.1
PCI	**Palu** 81nm,1.0s	**12.54 302**	P	P	05 41 30.7	-5.1
PLAI	**Plampang**	**12.61 264**	P	Pn	05 41 30.3	+5.0
PLAI	**Plampang**	**12.61 264**	P	**Pn**	**05 41 28.7**	**+3.4**
WB0	**Warramunga Arr**	**12.61 163**		**Pn**	**05 41 23.4**	**-2.0**
WRAB	**Tennant Creek**	**12.76 163**		**Pn**	**05 41 24.8**	**-2.6**
WRA	**Warramunga Arr**	**12.76 163**		**Pn**	**05 41 26.4**	**-1.0**
WRA	**Warramunga Arr** 3.2nm,0.3s,baz=344,slow=13,SNR=54	**12.76 163**	Pn	**Pn**	**05 41 24.9**	**-2.6**
WRA	 8.7nm,0.3s,baz=332,slow=22,SNR=13		Sn	Sn	05 43 38.8	-10
WRA	 comp=Z,2μm,19.1s,baz=352,slow=40		LR	LR	05 47 08.1	
WR8	**Warramunga Arr**	**12.82 163**		**Pn**	**05 41 27.7**	**-0.6**
TOLI2	**Tolitoli**	**13.01 312**		**Pn**	**05 41 29.8**	**-1.1**
TWSI	**Taliwang, Sumb** 38nm,1.1s	**13.48 265**	P	**P**	**05 41 42.5**	**-3.8**
COEN	**Coen**	**13.96 118**		**Pn**	**05 41 44.1**	**+0.3**
COEN	**Coen**	**13.96 118**	P	**Pn**	**05 41 42.8**	**-1.0**
COEN	**Coen**	**13.96 118**	S	**Sn**	**05 44 13.6**	**-4.4**
DAV	**Davao City (W)** comp=Z,761nm,21.4s,baz=168,slow=41	**15.43 341**	LR	LR	05 48 47.8	
QIS	**Mount Isa**	**15.57 146**	P	**Pn**	**05 42 04.1**	**-1.3**
JAGI	**Jajag, Banyuwa**	**16.17 266**	P	**P**	**05 42 16.9**	**+0.8**
AS31	**Alice Springs**	**16.24 169**		**Pn**	**05 42 13.4**	**-0.7**
ASAR	**Alice Springs**	**16.24 169**		**Pn**	**05 42 14.1**	**0.0**
ASAR	**Alice Springs**	**16.24 169**	Pn	**Pn**	**05 42 12.1**	**-2.0**

1.2nm,0.3s,baz=343,slow=10,SNR=46
ASAR Sn Sn 05 45 07.0 -6.6
3.6nm,0.3s,baz=358,slow=29,SNR=6.1
ASAR LR LR 05 49 14.2
comp=Z,2µm,18.1s,baz=342,slow=40
AS01 Alice Springs 16.25 168 P Pn **05 42 13.5 -0.7**
PMG Port Moresby 16.60 97 Pn **05 42 19.9 +1.3**
PMG Port Moresby 16.60 97 Pn P **05 42 20.6 -0.4**
1.8nm,0.3s,baz=294,slow=12,SNR=6.1
PMG LR LR 05 50 01.9
comp=Z,650nm,20.1s,baz=270,slow=42
41nm,0.9s
GMJI Gumukmas 16.86 267 P P **05 42 28.1 +4.3**
MBWA Marble Bar 16.95 217 Pn **05 42 21.1 -1.9**
PSA00 Pilbara Seismi 17.20 215 Pn **05 42 24.9 -1.3**
PSA00 Pilbara Seismi 17.20 215 P P **05 42 28.8 +1.2**
MYLDM Lahad Datu 17.48 317 Pn **05 42 27.8 -1.8**
CTAO Charters Tower 19.66 130 Pn **05 42 57.0 +0.9**
KKM Kota Kinabalu 19.69 313 P P **05 42 53.3 -1.7**
SBUM Sibu 20.79 298 P **05 43 06.3 -0.7**
GIRL Giralia 21.57 225 P P **05 43 15.6 +0.4**
GIRL IAmb IAmb 05 43 22.2
comp=Z,152nm,1.7s
MEEK Meekatharra 21.97 209 P P **05 43 20.5 +1.0**
MEEK Meekatharra 21.97 209 S S **05 47 21.6 +0.8**
QLP Quilpie 22.91 147 P P **05 43 27.8 -1.8**
TGY Tagaytay City 23.61 336 LR LR 05 54 21.3
comp=Z,70nm,18.2s,baz=201,slow=41
MORW Morawa 25.25 211 P **05 43 52.4 +0.8**
MORW IAmb IAmb 05 44 00.1
comp=Z,39nm,1.1s
GUMO Guam 25.51 34 LR LR 05 55 42.9
comp=Z,67nm,19.3s,baz=217,slow=41
BBOO Buckleboo 25.55 169 P **05 43 55.4 +1.2**
BBOO IAmb IAmb 05 44 09.6
comp=Z,27nm,0.8s
BBOO Buckleboo 25.55 169 P P **05 43 52.8 -1.5**
BLDU Ballidu 26.21 208 P P **05 44 00.8 +0.5**
STKA Stephens Creek 26.22 158 P **05 43 59.5 -0.9**
STKA Stephens Creek 26.22 158 P P **05 44 01.5 +1.1**
comp=Z,5.8nm,0.6s,baz=321,slow=13,SNR=8.4
STKA LR LR 05 55 33.5
comp=Z,1µm,19.9s,baz=329,slow=39
comp=Z,5.8nm,0.6s
STKA Stephens Creek 26.22 158 P P **05 43 58.8 -1.6**
KLBR Kellerberrin 26.59 205 P P **05 44 03.9 +0.2**
HTT Hallett 26.80 164 P P **05 44 03.9 -1.8**
MNAI Manna 27.55 275 P P **05 44 11.9 -0.7**
CMSA Cobar Meteorol 27.67 151 P P **05 44 11.7 -1.7**
NWAO Narrogin (SRO) 27.96 204 LR LR 05 55 57.0
comp=Z,615nm,21.2s,baz=50,slow=38
HNR Honiara 29.21 96 LR LR 05 56 22.1
comp=Z,223nm,21.2s,baz=212,slow=37
CAN Canberra 32.35 151 P P **05 44 55.9 +1.1**
TOO Toolangi 32.74 158 P P **05 45 00.7 +2.5**
TOO IAmb IAmb 05 45 13.0
comp=Z,33nm,2.0s
COCO West Island 33.41 260 P P **05 45 04.9 +0.6**
JOW Kunigami 34.37 357 P P **05 45 11.1 -1.4**
JOW Kunigami 34.37 357 eP P **05 45 11.8 -0.7**
comp=Z,66nm,0.9s
JOW eLR LR 05 54 17.5
comp=Z,738nm,23.0s
JOW Kunigami 34.37 357 LR LR 05 57 40.9
comp=Z,421nm,22.0s,baz=147,slow=34
JOW Kunigami 34.37 357 P P **05 45 11.7 -0.7**
JCJ Chichijima 36.38 18 P P **05 45 28.2 -1.6**
JCJ IAmb IAmb 05 45 44.3
comp=Z,7.8nm,0.6s
DZM Mont Dzumac 37.48 116 eS S **05 51 19.6 -7.3**
comp=Z,182nm,28.6s
DZM eSS SnSn **05 54 05.1 -0.5**
comp=Z,186nm,25.2s
DZM eLR LR 05 55 49.1
comp=Z,467nm,26.1s
CM31 Chiang Mai Arr 40.51 310 P P **05 46 02.9 -1.8**
CM31 IAmb IAmb 05 46 17.9
comp=Z,22nm,1.5s
CMAR Chiang Mai Arr 40.51 310 P P **05 46 02.5 -2.2**
CMAR Chiang Mai Arr 40.51 310 P P **05 46 02.4 -2.3**
comp=Z,1.7nm,0.7s,baz=140,slow=7.8,SNR=9.9
CMAR PcP **PcP 05 48 08.0 +0.9**
comp=Z,1.2nm,0.3s,baz=147,slow=2.8,SNR=5.7
CMAR LR LR 06 03 36.2
comp=Z,212nm,21.3s,baz=125,slow=38
comp=Z,1.7nm,0.7s
JNU Nakatsue 40.57 1 P P **05 46 03.6 -1.3**
JNU IAmb IAmb 05 46 13.7
comp=Z,29nm,1.2s
JNU Nakatsue 40.57 1 LR LR 06 00 39.1
comp=Z,294nm,20.3s,baz=154,slow=33
CHTO Chiang Mai 40.73 311 P **05 46 04.8 -1.6**
CHTO Chiang Mai 40.73 311 P P **05 46 04.9 -1.6**
CHTO pP **sP 05 46 14.8 -2.2**
WHN Wuhan 41.02 339 ⇑P P **05 46 08.8 +0.1**
NJ2 Nanjing 41.03 345 eP P **05 46 10.8 +2.1**
NJ2 pmax pmax
comp=Z,13nm,0.7s
GYA Guiyang 41.05 327 ⇑P P 05 46 16.0 +6.9
GYA pmax pmax
comp=Z,29nm,0.6s
NFK Norfolk Island 41.16 126 eSS SS 05 55 19.9 -5.5
NFK eLR LR 05 57 27.7
JMN Monobe 41.30 4 P P **05 46 10.2 -0.7**
JHJ2 Mitsune 41.52 12 eLR LR 05 57 35.0
comp=Z,98nm,26.6s
JHJ Hachijo jima 2 41.52 12 LR LR 06 01 22.9
comp=Z,178nm,21.2s,baz=69,slow=33
JGF Kuroka 43.53 8 P **05 46 27.9 -1.2**
JGF IAmb IAmb 05 46 29.4
comp=Z,57nm,1.7s
PZH PanZhiHua 43.94 322 P P **05 46 35.0 +2.3**
PZH pmax pmax
comp=Z,20nm,0.9s
MAJO Matsushiro 44.58 9 P **05 46 35.5 -2.0**
MAJO IAmb IAmb 05 46 48.1
comp=Z,43nm,1.1s
MJAR Matsushiro Arr 44.58 9 P **05 46 36.1 -1.3**
MJAR IAmb IAmb 05 46 48.0
comp=Z,15nm,1.1s
MJAR Matsushiro Arr 44.58 9 P P **05 46 35.4 -2.1**
comp=Z,21nm,1.0s,baz=186,slow=8.7,SNR=28
MJAR LR LR 06 04 30.6
comp=Z,107nm,21.9s,baz=206,slow=35
comp=Z,21nm,1.0s
MJB9 Matsu-Tunnel 44.58 9 P P **05 46 36.6 -0.9**
MJB9 IAmb IAmb 05 46 49.5
comp=Z,41nm,1.1s
KSAR Wonju Array Be 44.94 357 P **05 46 39.1 -1.3**
KSRS Korea Array 44.95 357 P P **05 46 38.6 -1.8**
comp=Z,2.1nm,0.6s,baz=174,slow=9.0,SNR=9.8
comp=Z,2.1nm,0.6s
XAN Xi'an 46.24 335 P P **05 46 48.0 -2.7**
XAN pP pwP 05 47 00.0 -1.1
XAN pmax pmax
comp=Z,25nm,0.8s
JMM Marumori 46.32 11 P P **05 46 50.2 -1.0**
HNS HongShan 47.20 343 ⇑P P **05 46 57.8 -0.3**
HNS pmax pmax
comp=Z,18nm,0.9s
BRDH Bariadhala 48.52 309 LR LR 06 10 44.0
comp=Z,165nm,19.3s,baz=137,slow=40
BJI Beijing 49.28 346 P P **05 47 13.5 -0.6**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI pmax pmax
comp=Z,59nm,3.7s
LZH Lanzhou 50.21 332 eP P **05 47 21.3 -0.2**
LZH pP sP 05 47 32.0 -0.1
LZH sP pwP 05 47 39.0 +7.0
LZH pmax pmax
comp=Z,34nm,0.7s
LZH LR LR
comp=Z,180nm,21.1s
LZH LR LR
comp=Z,250nm,20.3s
LZH LR LR
comp=Z,260nm,21.5s
TUWZ Tuamarina 51.08 138 P P **05 47 29.1 +1.2**
HHC Hu-ho-hao-te 51.32 342 eP P **05 47 32.5 +2.8**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,60nm,4.5s
CN2 Changchun 51.43 355 P P **05 47 31.0 +0.6**
CN2 LR LR
comp=Z,120nm,17.0s
CN2 LR LR
comp=Z,100nm,17.0s
SNZO South Karori 51.53 138 eS S **05 54 55.0 +4.9**
comp=Z,3.8nm,24.0s
SNZO eSS SS **05 58 29.2 +2.8**
comp=Z,7.4nm,26.0s
SNZO eLR LR 06 02 26.8
comp=Z,35nm,22.0s
BTO Baotou 51.60 340 eP P **05 47 34.5 +2.7**
BTO PP PP **05 49 28.8 -0.8**
BTO S S **05 54 56.0 +4.8**
BTO pmax pmax
comp=Z,14nm,0.5s
BTO pmax pmax
comp=Z,280nm,4.2s
BTO LR LR
comp=Z,160nm,7.2s
BTO LR LR
comp=Z,190nm,8.5s
BTO LR LR
comp=Z,150nm,9.2s
USRK Ussuriysk Ar. 51.65 1 P P **05 47 31.1 -0.9**
comp=Z,4.2nm,0.8s,baz=189,slow=8.6,SNR=6.9
comp=Z,4.2nm,0.8s
PALK Pallekele 51.79 285 LR LR 06 09 53.3
comp=Z,184nm,21.6s,baz=100,slow=37
URZ Urewera 51.87 133 LR LR 06 10 31.4
comp=Z,318nm,18.4s,baz=296,slow=37
MDJ Mudanjiang 52.05 359 P P **05 47 34.3 -0.7**
MDJ pmax pmax
comp=Z,14nm,1.6s
ASAJ Asahikawa 52.70 11 LR LR 06 10 40.1
comp=Z,102nm,20.3s,baz=187,slow=37
JKA Kamikawa-asahi 52.70 11 P P **05 47 38.7 -1.2**
XLT XiLinHaoTe 52.96 347 eP P **05 47 40.5 -1.3**
XLT sP sP 05 47 56.8 +4.3
XLT pmax pmax
comp=Z,6.0nm,1.0s
BNX BinXian 53.24 357 ⇑P P **05 47 43.5 -0.2**
BNX pmax pmax
comp=Z,8.0nm,1.1s
GTA Gaotai 54.78 331 P P **05 47 54.5 -0.8**
GTA PcP **PcP 05 48 58.5 +0.9**
GTA pmax pmax
comp=Z,13nm,1.4s
GTA LR LR
comp=Z,110nm,18.7s
GTA LR LR
comp=Z,120nm,21.5s
GTA LR LR
comp=Z,200nm,21.1s
HEH HeiHe 57.75 358 eP P **05 48 15.3 -0.8**
HEH pmax pmax
comp=Z,22nm,1.2s
HEH LR LR
comp=Z,220nm,18.7s
HEH LR LR
comp=Z,110nm,15.7s
HEH LR LR
comp=Z,220nm,17.4s
NIUE Niue 58.85 108 eLR LR 06 05 34.9
comp=Z,152nm,24.6s
ULN Ulaanbaatar 59.04 342 P **05 48 24.3 -1.1**
ULN IAmb IAmb 05 48 26.7
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 59.04 342 P P **05 48 24.7 -0.7**
ULN pP **pwP 05 48 34.5 -1.9**
ULN sP **sP 05 48 38.9 +2.8**
SONM Songino Array 59.22 341 P **05 48 25.4 -1.2**
SONM Songino Array 59.22 341 P P **05 48 25.4 -1.2**
comp=Z,2.9nm,0.8s,baz=161,slow=7.7,SNR=12
comp=Z,2.9nm,0.8s
CASY Casey 60.11 189 P **05 48 33.4 +1.1**
CASY IAmb IAmb 05 48 46.9
comp=Z,19nm,1.6s
CASY Casey 60.11 189 eP P 05 48 27.7 -4.6
comp=Z,42nm,22.0s
CASY eS S **05 56 41.2 -2.4**
comp=Z,58nm,25.0s
CASY eSS SS **06 00 43.1 +2.4**
comp=Z,104nm,27.0s
CASY eLQ LQ 06 03 43.5
comp=Z,77nm,23.0s
CASY eLR LR 06 06 22.3
comp=Z,619nm,23.0s
JOHN Johnston Islan 64.10 67 eLR LR 06 08 17.4
comp=Z,146nm,24.1s
WMQ Urumqi 64.20 327 eP P **05 49 01.8 +1.6**
WMQ LR LR
comp=Z,320nm,18.1s
WMQ LR LR
comp=Z,310nm,22.9s
WMQ LR LR
comp=Z,120nm,21.3s
PETK Petropavlovsk- 64.82 18 P **05 49 03.6 -0.3**
PETK Petropavlovsk- 64.82 18 P P **05 49 04.3 +0.3**
comp=Z,2.8nm,0.5s,baz=214,slow=7.1,SNR=8.7
PETK LR LR 06 15 40.8
comp=Z,24nm,21.8s,baz=214,slow=35
comp=Z,2.8nm,0.5s
CCD Concordia, Ant 67.51 182 P P **05 49 23.2 +1.8**
ZSN Zaisan 68.08 328 eP P **05 49 23.8 -1.2**
RAR Rarotonga 68.43 110 eS S 05 58 16.7 -11
comp=Z,36nm,31.0s
RAR eSS SS **06 02 43.7 -8.5**
comp=Z,46nm,32.0s
RAR eLQ LQ 06 07 12.0
comp=Z,38µm,25.0s
RAR eLR LR 06 10 07.3
comp=Z,87nm,33.0s
SHLS Shalkode 68.53 322 eP P **05 49 25.1 -2.9**
comp=Z,10.0nm,0.7s
TARG Taragay, Kyrgy 68.77 320 P P **05 49 30.1 +0.2**
UZB Uzynbulak 68.79 322 eP P **05 49 28.2 -1.5**
comp=Z,16nm,1.7s
KSH Kashi 68.82 318 P P **05 49 31.0 +1.1**
KSH pP sP 05 49 39.3 -1.4
KSH PcP **PcP 05 49 56.3 +1.9**
KSH pmax pmax
comp=Z,7.0nm,0.7s
MA2 Magadan 68.97 11 P P **05 49 30.2 0.0**
MA2 IAmb IAmb 05 49 42.2
comp=Z,23nm,1.2s
MA2 Magadan 68.97 11 P P **05 49 29.8 -0.4**
MA2 pP **pwP 05 49 41.0 +0.2**
MA2 PcP **PcP 05 49 54.8 +0.5**
MKAR Makanchi Array 69.04 327 P **05 49 30.4 -0.6**
MKAR Makanchi Array 69.04 327 P P **05 49 30.3 -0.7**
comp=Z,34nm,0.8s,baz=116,slow=8.0,SNR=130
comp=Z,34nm,0.8s
SATY Saty 69.12 322 eP P **05 49 30.5 -1.2**
comp=Z,8.5nm,0.8s
MAKZ Makanchi 69.22 327 P P **05 49 31.0 -1.1**
MAKZ pP **sP 05 49 42.5 -0.3**
KDJ Kajisay 69.38 320 P **05 49 31.5 -1.9**
KDJ IAmb IAmb 05 49 36.0
comp=Z,13nm,0.8s
YAK Yakutsk 69.50 360 P P **05 49 33.0 -0.4**
YAK sP **pwP 05 49 48.3 +4.3**
MDOK Medeo 70.01 321 eP P **05 49 35.9 -1.3**
AAA Alma-Ata 70.12 321 eP P **05 49 36.3 -1.5**
TDK Taldyqorghan 70.19 324 eP P **05 49 36.9 -1.2**
CHKK Chushkaly 70.42 322 eP P **05 49 38.4 -1.1**
KUU Kurty 70.83 322 eP P **05 49 40.9 -1.2**
AAK Ala-Arcna 71.35 320 P **05 49 45.2 -0.1**
AAK IAmb IAmb 05 50 04.8
comp=Z,16nm,1.1s
VNDA Vanda 71.73 173 P P **05 49 47.1 +0.2**
VNDA Vanda 71.73 173 P P **05 49 47.5 +0.6**
comp=Z,1.7nm,0.8s,baz=311,slow=7.1,SNR=11
VNDA LR LR 06 21 48.1
comp=Z,133nm,18.2s,baz=336,slow=36
comp=Z,1.7nm,0.8s
ZAA0 Zalesovo Array 72.39 334 P **05 49 49.7 -1.4**
ZAA0 IAmb IAmb 05 49 50.9
comp=Z,7.6nm,0.8s
ZALV Zalesovo Beam 72.39 334 P P **05 49 49.7 -1.4**
ZALV Zalesovo Beam 72.39 334 P P **05 49 48.9 -2.2**
comp=Z,5.2nm,0.7s,baz=118,slow=5.4,SNR=19
comp=Z,5.2nm,0.7s
GAR Garm 72.46 315 P P **05 49 51.8 -0.3**
XMAS Kiritimati 72.55 85 eSS SS 06 03 56.4 +0.5
comp=Z,4.7nm,31.0s
XMAS eLR LR 06 12 03.3
comp=Z,8.3nm,24.0s
BTLS Baital 72.83 322 eP P **05 49 52.9 -1.1**
CHGR Chuyangaron 73.14 314 P **05 49 55.4 -0.7**
SIMJ Simiganj 73.24 314 P **05 49 55.4 -1.4**
SIMJ IAmb IAmb 05 50 15.1
comp=Z,14nm,1.0s
KURBB Kurchatov Arra 73.32 328 P P **05 49 55.2 -1.5**
comp=Z,5.5nm,0.7s,baz=127,slow=4.9,SNR=56
comp=Z,5.5nm,0.7s
KURK Kurchatov 73.33 329 P **05 49 55.8 -0.9**
KURK IAmb IAmb 05 49 57.2
comp=Z,11nm,0.9s
DZA Taraz 73.51 319 eP P **05 49 57.1 -1.1**
IUG Iuzhnay 74.03 318 eP P **05 49 59.9 -1.4**
comp=Z,18nm,1.1s
KK31 Karatay Array 74.14 319 P **05 50 00.4 -1.4**
KKAR Karatay Array 74.14 319 P P **05 49 59.8 -2.0**
CHM Chimkent 74.39 318 eP P **05 50 02.1 -1.2**
MAW Mawson 74.50 202 P P **05 50 03.4 +0.1**
comp=Z,5.6nm,0.8s,baz=68,slow=6.6,SNR=11
MAW LR LR 06 20 22.4
comp=Z,163nm,20.0s,baz=54,slow=34
comp=Z,5.6nm,0.8s
BRLS Boroldoy 74.56 318 eP P **05 50 02.7 -1.5**
BRZS Berezniki 76.12 326 eP P **05 50 11.9 -1.1**
POHA Pohakuloa 77.72 68 eLR LR 06 14 26.4
comp=Z,4.4nm,21.7s
TBI Tubuai 77.92 112 eLR LR 06 14 31.5
comp=Z,990nm,29.8s
TBI eLR LR 06 14 39.2
comp=Z,703nm,30.8s
PPT2 Papeete2 78.19 106 eS S **06 00 21.9 +2.9**
comp=Z,164nm,24.2s
PPT2 Papeete2 78.19 106 eLR LR 06 14 46.1
comp=Z,146nm,28.0s
PPT2 eLR LR 06 14 48.6
comp=Z,141nm,29.8s
BVAR Borovoye Array 78.87 328 P P **05 50 27.4 -0.9**
comp=Z,5.7nm,0.8s,baz=125,slow=9.0,SNR=21
comp=Z,5.7nm,0.8s
NIKH Nikolski High 79.17 32 P P **05 50 30.1 +0.2**
baz=242
SPIA Saint Paul Isl 80.54 28 P P **05 50 37.5 +0.2**
baz=240
P08K Saint George I 80.58 29 P P **05 50 38.5 +1.0**
baz=240
UNV Unalaska Valle 80.82 32 P P **05 50 39.6 +0.7**
baz=244
QSPA South Pole Qui 82.31 180 P P **05 50 48.1 +1.4**
comp=Z,3.2nm,0.7s,baz=295,slow=0.9,SNR=18
comp=Z,3.2nm,0.7s
SYO Syowa Base 83.20 201 ⇓eP P **05 50 51.2 +0.1**
AB31 Akbulak array 83.32 322 P P **05 50 50.8 -1.2**
AB31 IAmb IAmb 05 50 54.3
comp=Z,12nm,1.1s
ABKAR Akbulak array 83.32 322 P **05 50 50.4 -1.6**
GAMB Gambell 83.36 22 P P **05 50 52.2 +0.3**
baz=238
M11K Mekoryuk 83.93 27 P P **05 50 55.1 +0.2**
baz=243
S12K Black Hills 83.94 32 P P **05 50 55.1 -0.1**
baz=247
SDPT Sand Point 84.64 32 P P **05 50 58.7 0.0**
baz=248
CHNA Chernabura Isl 84.93 33 P P **05 51 00.4 +0.2**
baz=249
M13K Dall Lake 85.22 27 P P **05 51 01.7 +0.3**
baz=246
K13K Kusilvak Mount 85.29 25 P P **05 51 02.5 +0.8**
baz=244
S14K Fog Glacier 85.47 32 P P **05 51 02.5 -0.5**
baz=249
TNA Tin City 85.67 22 P P **05 51 04.0 +0.4**
baz=241
O14K Tigyukauivet M 85.72 29 P P **05 51 04.8 +0.9**
baz=248
N14K Kuskokwak Cree 85.78 28 P P **05 51 04.5 +0.2**
baz=247
L14K Kuka Creek 85.89 26 P P **05 51 05.5 +0.7**
L14K Kuka Creek 85.89 26 P P **05 51 04.8 0.0**
baz=246
M14K Bethel 85.98 27 P P **05 51 05.4 +0.2**
baz=247
CHGN Chignik 86.07 32 P P **05 51 05.8 +0.1**
baz=250
J14K Nanvaranak Lak 86.11 25 P P **05 51 06.3 +0.5**
baz=245
F14K Arctic Creek 86.22 22 P P **05 51 06.6 +0.3**
baz=242
O15K Ungalikthiuk R 86.37 29 P P **05 51 06.7 -0.5**
baz=249
M15K Kasigluk River 86.53 27 P P **05 51 08.3 +0.3**
baz=248
L15K Ungalak Mounta 86.56 26 P P **05 51 08.3 +0.2**
baz=247
N15K Kwethluk River 86.61 28 P P **05 51 09.0 +0.6**
baz=248
K15K Wolf Creek Mou 86.78 26 P P **05 51 10.7 +1.6**
baz=247
G15K Niukluk 86.87 23 P P **05 51 10.7 +1.1**
baz=245
R16K Pilot Point 86.93 31 P P **05 51 10.7 +0.8**
baz=251
F15K North Star Dit 86.95 22 P P **05 51 10.1 +0.2**
baz=244
P16K Nushagak River 87.21 29 P P **05 51 11.5 +0.2**
baz=250
N16K Nishlik Lake 87.34 28 P P **05 51 13.2 +1.2**
baz=250
O16K Kokwok River B 87.35 29 P P **05 51 12.6 +0.6**
baz=250
CHIR Chirikof Islan 87.39 33 P P **05 51 12.8 +0.6**
baz=252
H16K Elim 87.42 23 P P **05 51 12.9 +0.7**
baz=246
M16K Timber Creek 87.44 27 P P **05 51 13.0 +0.6**
baz=249
L16K Owhat River 87.46 27 P P **05 51 13.4 +1.0**
baz=249
J16K Anvik River 87.55 25 P P **05 51 13.3 +0.4**
baz=248
R17L Mt. Peulik Vol 87.57 31 P P **05 51 13.2 +0.1**
baz=252
G16K Koyuk River 87.68 23 P P **05 51 14.6 +1.1**
baz=246
I17K Unalakleet 87.75 24 P P **05 51 15.2 +1.4**
baz=248
C16K Lisburne Hills 87.85 20 P P **05 51 14.9 +0.8**
baz=243
O17K Koliganek Bris 87.89 29 P P **05 51 14.9 +0.3**
baz=251
Q17K Contact Creek 88.00 30 P P **05 51 16.3 +1.0**
baz=252
P17K Kvichak River 88.02 30 P P **05 51 15.5 +0.3**
baz=252
N17K Nushagak Hills 88.09 28 P P **05 51 16.6 +1.1**
baz=251
L17K Donlin 88.13 26 P P **05 51 16.9 +1.2**
baz=250
J17K VABM Dome 88.23 25 P P **05 51 17.3 +1.1**
baz=249
TAOE Nuku Hiva Isla 88.24 99 eLR LR 06 19 22.0
comp=Z,331nm,25.7s
M17K Holitna River 88.27 27 P P **05 51 17.4 +1.1**
baz=251
K17K Iditarod 88.33 26 P P **05 51 17.7 +1.1**
baz=250
D17K Noatak River 88.37 20 P P **05 51 17.1 +0.4**
baz=245
G17K Kiwalik Mounta 88.38 23 P P **05 51 17.7 +0.9**
baz=248
SII Sitkinak Islan 88.38 32 P P **05 51 17.6 +0.6**
baz=254
RAYN Ar Rayn 88.44 294 P P **05 51 17.1 -1.0**
RAYN IAmb IAmb 05 51 19.2
comp=Z,15nm,1.2s
H17K Granite Mounta 88.45 24 P P **05 51 17.6 +0.5**
baz=248
F17K Baldwin Pennin 88.52 22 P P **05 51 18.4 +1.0**
baz=247
R18K Karluk 88.53 31 P P **05 51 17.9 +0.3**
baz=253
E17K Hotham Inlet 88.56 21 P P **05 51 17.7 +0.1**
baz=247
Q18K Katmai Hardscr 88.56 30 P P **05 51 17.7 -0.2**
baz=253
P18K Big Mountain, 88.67 30 P P **05 51 17.1 -1.3**
baz=253

N18K	**Kilae Creek**	88.75	28	P		P	05 51 18.6	-0.1
	baz=252							
L18K	**Granite Mounta**	88.87	27	P		P	05 51 19.2	0.0
	baz=251							
M18K	**Stony River**	89.03	27	P		P	05 51 20.3	+0.4
	baz=252							
OHAK	**Old Harbor**	89.04	32	P		P	05 51 20.3	+0.3
	baz=254							
E18K	**Tukpahlearik C**	89.13	21	P		P	05 51 21.6	+1.3
	baz=248							
H18K	**Honhosa River**	89.15	24	P		P	05 51 21.1	+0.7
	baz=250							
F18K	**Selawik**	89.17	22	P		P	05 51 21.4	+1.0
	baz=249							
J18K	**Innoko River**	89.26	25	P		P	05 51 21.6	+0.6
	baz=251							
G18K	**Tagagawik**	89.29	23	P		P	05 51 21.4	+0.3
	baz=250							
O19K	**Port Alsworth**	89.35	29	P		P	05 51 22.6	+1.2
	baz=254							
C18K	**Utukok River**	89.40	20	P		P	05 51 22.4	+0.8
	baz=247							
N19K	**Bonanza Creek**	89.45	28	P		P	05 51 22.7	+0.7
	baz=253							
B18K	**Kokolik River**	89.48	19	P		P	05 51 22.4	+0.5
	baz=247							
KDAK	**Kodiak Island**	89.55	31	P		P	05 51 22.9	+0.5
	baz=255							
L19K	**White Mountain**	89.67	27	P		P	05 51 23.2	+0.2
	baz=253							
P19K	**Oil Pt**	89.72	30	P		P	05 51 24.0	+0.8
	baz=254							
M19K	**Big River Lodg**	89.80	27	P		P	05 51 24.6	+1.0
	baz=253							
Q20K	**Shuyak Island**	89.86	31	P		P	05 51 24.0	+0.1
	baz=255							
J19K	**Poorman**	89.89	25	P		P	05 51 24.4	+0.5
J19K				IAmb		IAmb	05 51 45.8	
	comp=Z,6.6nm,1.3s							
J19K	**Poorman**	89.89	25	P		P	05 51 24.8	+0.9
	baz=252							
F19K	**Shaleruckik Mo**	89.95	22	P		P	05 51 24.8	+0.7
	baz=250							
G19K	**Purcell Mounta**	89.98	23	P		P	05 51 25.2	+0.9
	baz=251							
H19K	**Roundabout Mou**	90.03	23	P		P	05 51 25.4	+0.9
	baz=252							
A19K	**Wainwright**	90.05	18	P		P	05 51 25.2	+0.7
	baz=247							
C19K	**Lookout Ridge**	90.11	20	P		P	05 51 25.5	+0.6
	baz=249							
O20K	**Slope Mountain**	90.13	29	P		P	05 51 25.5	+0.2
	baz=255							
L20K	**Farewell, AK**	90.20	27	P		P	05 51 26.5	+1.1
	baz=254							
E19K	**Redstone River**	90.36	22	P		P	05 51 26.9	+0.9
	baz=251							
K20K	**Telida**	90.36	26	P		P	05 51 27.3	+1.1
	baz=254							
M20K	**Styx River**	90.37	27	P		P	05 51 26.7	+0.4
	baz=254							
D19K	**Kuna River**	90.39	20	P		P	05 51 26.5	+0.3
	baz=250							
J20K	**Nowinta River**	90.56	25			P	05 51 27.0	0.0
J20K				IAmb		IAmb	05 51 30.7	
	comp=Z,17nm,1.8s							
J20K	**Nowinta River**	90.56	25	P		P	05 51 28.2	+1.2
	baz=254							
I20K	**Naaghedeneel**	90.60	24	P		P	05 51 29.0	+1.8
	baz=253							
N20K	**Mount Spurr**	90.62	28	P		P	05 51 28.5	+1.0
	baz=255							
H20K	**Anotleneega Mo**	90.64	24	P		P	05 51 28.6	+1.2
	baz=251							
F20K	**Avaraart Lake**	90.78	22	P		P	05 51 28.9	+0.9
	baz=252							
D20K	**Etivluk River**	90.99	20	P		P	05 51 29.8	+0.9
	baz=251							
E20K	**Nigu River**	90.99	21	P		P	05 51 29.0	-0.1
	baz=252							
PPLA	**Purkeypile**	91.06	27	P		P	05 51 30.0	+0.4
	baz=255							
SKT	**Skwentna**	91.13	28	P		P	05 51 29.9	+0.2
	baz=256							
B20K	**Meade River**	91.22	19	P		P	05 51 30.3	+0.4
	baz=251							
CAST	**Castle Rocks**	91.24	26	P		P	05 51 30.4	+0.2
	baz=256							
CHUM	**Lake Minchumin**	91.26	26	P		P	05 51 30.8	+0.6
	baz=255							
SUA	**Susitna One**	91.37	28	P		P	05 51 31.9	+0.9
	baz=257							
G21K	**Allakaket**	91.47	23	P		P	05 51 31.5	+0.3
	baz=254							
H21K	**Melozitna Rive**	91.52	24	P		P	05 51 32.6	+1.1
	baz=255							
F21K	**Alatna River**	91.67	22	P		P	05 51 32.3	+0.1
	baz=254							
SEW	**Seward**	91.68	30	P		P	05 51 32.8	+0.6
	baz=258							
M22K	**Willow**	91.72	28	P		P	05 51 33.6	+1.2
	baz=257							
I21K	**Tanana**	91.72	24	P		P	05 51 33.6	+1.2
	baz=256							
C21K	**Knifeblade Rid**	91.75	20	P		P	05 51 33.6	+1.1
	baz=253							
RC01	**Rabbit Creek A**	91.76	29	P		P	05 51 32.3	-0.4
	baz=258							
CUT	**Chulitna**	91.80	27	P		P	05 51 33.7	+0.9
	baz=257							
A21K	**Barrow**	91.82	18	P		P	05 51 33.4	+0.7
	baz=252							
E21K	**Killik River**	91.83	21	P		P	05 51 34.0	+1.1
	baz=254							
BPAW	**Bear Paw Mtn.**	91.88	26	P		P	05 51 33.4	+0.2
	baz=256							
B21K	**Ikpikpuk River**	91.95	20	P		P	05 51 33.9	+0.6
	baz=253							
TRF	**Thorofare Moun**	92.03	26	P		P	05 51 34.4	+0.3
	baz=257							
H22K	**Ishtalitna Cre**	92.14	24	P		P	05 51 34.8	+0.4
	baz=256							
MLY	**Manley**	92.20	25	P		P	05 51 34.6	-0.1
	baz=257							
A22K	**Sinclair Lake**	92.23	18	P		P	05 51 34.5	-0.1
	baz=253							
F22K	**John River**	92.23	22	P		P	05 51 34.7	-0.1
	baz=256							
G22K	**Bettles**	92.34	23	P		P	05 51 35.2	0.0
	baz=256							
D22K	**Ayikyak River**	92.40	21	P		P	05 51 35.3	-0.2
	baz=255							
KNK	**Knik Glacier**	92.43	28	P		P	05 51 35.5	-0.3
	baz=259							
E22K	**Anaktuvuk Pass**	92.53	21	P		P	05 51 35.6	-0.5
	baz=256							
B22K	**Teshekpuk Lake**	92.54	19	P		P	05 51 35.9	-0.1
	baz=254							
WAT1	**Susitna Watana**	92.67	27	P		P	05 51 36.1	-0.8
	baz=259							
MCK	**McKinley**	92.68	26	P		P	05 51 36.6	-0.3
	baz=258							
I23K	**Minto, Yukon-K**	92.80	25	P		P	05 51 37.6	+0.2
	baz=258							
NEA2	**Nenana**	92.80	25	P		P	05 51 37.3	-0.1
	baz=258							
H23K	**Yukon River**	92.86	24	P		P	05 51 37.3	-0.4
	baz=258							
G23K	**Bananza Creek**	92.87	23			P	05 51 36.7	-1.0
G23K				IAmb		IAmb	05 51 39.0	
	comp=Z,12nm,1.6s							
G23K	**Bananza Creek**	92.87	23	P		P	05 51 37.3	-0.4
	baz=258							
COLD	**Coldfoot**	92.91	23	P		P	05 51 37.5	-0.4
GLI	**Glacier Island**	92.98	29	P		P	05 51 38.1	-0.2
	baz=260							
WAT6	**Susitna Watana**	92.99	27	P		P	05 51 37.9	-0.7
	baz=259							
SCM	**Sheep Creek Mo**	93.04	28	P		P	05 51 38.3	-0.4
	baz=260							
D23K	**Nanushuk River**	93.13	21	P		P	05 51 39.1	+0.2
	baz=257							
DHY	**Denali Highway**	93.24	27	P		P	05 51 40.2	+0.5
	baz=260							
E23K	**Chandalar**	93.31	22			P	05 51 39.3	-0.5
E23K				IAmb		IAmb	05 52 00.1	
	comp=Z,3.7nm,0.9s							
E23K	**Chandalar**	93.31	22	P		P	05 51 40.2	+0.4
	baz=258							
C23K	**Itkillik River**	93.35	20	P		P	05 51 39.5	-0.3
	baz=257							
TOLK	**Toolik Lake Re**	93.45	21	P		P	05 51 40.4	0.0
	baz=258							
H24K	**Noodor Dome**	93.54	24			P	05 51 40.1	-0.8
H24K				IAmb		IAmb	05 51 41.9	
	comp=Z,11nm,1.4s							
H24K	**Noodor Dome**	93.54	24	P		P	05 51 40.7	-0.1
	baz=259							
EYAK	**Cordova Ski Ar**	93.57	29	P		P	05 51 40.9	-0.1
	baz=261							
POKR	**Poker Plat Res**	93.59	25	P		P	05 51 39.4	-1.6
	baz=260							
M24K	**Tolsona, Glenn**	93.62	28	P		P	05 51 40.9	-0.4
	baz=261							
TROLL	**Troll, Antarti**	93.63	194	⇑P		P	05 51 42.5	+1.1
	comp=Z,126nm,0.7s							
KLU	**Klutina**	93.64	29	P		P	05 51 41.2	-0.3
	baz=261							
KVAR	**Kislovodsk Arr**	93.66	314	LR		LR	06 41 14.9	
	comp=Z,174nm,18.2s,slow=40							
HDA	**Harding Lake**	93.67	26	P		P	05 51 41.3	-0.2
	baz=260							
E24K	**Your Creek**	93.73	22	P		P	05 51 40.0	-1.7
	baz=259							
ILAR	**Eielson Array**	93.76	25	P		P	05 51 40.0	-1.9
	comp=Z,1.4nm,0.9s,baz=263,slow=4.1,SNR=10							
	comp=Z,1.4nm,0.9s							
F24K	**Squaw Lake**	93.85	22	P		P	05 51 42.6	+0.4
	baz=260							
G24K	**Hadweenzic Riv**	93.86	23	P		P	05 51 42.4	+0.1
	baz=260							
C24K	**Franklin Bluff**	93.97	20	P		P	05 51 43.2	+0.5
	baz=259							
K24K	**Donnelly Dome**	94.08	26	P		P	05 51 43.7	+0.4
	baz=261							
PAX	**Paxson**	94.08	27	P		P	05 51 43.8	+0.3
	baz=261							
HARP	**HAARP**	94.14	28	P		P	05 51 44.6	+0.9
	baz=262							
BMRM	**Bremner River**	94.19	29	P		P	05 51 43.9	-0.1
	baz=262							
N25K	**Chitina, Valde**	94.29	29	P		P	05 51 44.7	+0.2
	baz=262							
J25K	**Salcha River,**	94.38	25	P		P	05 51 45.1	+0.3
	baz=262							
G25K	**Bearman Lake**	94.41	23	P		P	05 51 45.2	+0.5
	baz=261							
H25L	**Birch Creek**	94.44	24	P		P	05 51 45.6	+0.8
	baz=261							
RIDG	**Independent Ri**	94.47	26	P		P	05 51 46.1	+0.9
	baz=262							
D25K	**Kavik River**	94.71	21	P		P	05 51 45.8	-0.4
	baz=261							
F25K	**Christian Rive**	94.71	22	P		P	05 51 46.2	0.0
	baz=262							
E25K	**Arctic Village**	94.82	22	P		P	05 51 46.8	+0.1
	baz=262							
SCRK	**Sand Creek**	94.89	26	P		P	05 51 46.8	-0.4
	baz=263							
CRQE	**Cirque**	94.90	29	P		P	05 51 47.2	-0.1
	baz=263							
MCARA	**McCarthy VSAT**	95.01	29	P		P	05 51 48.2	+0.6
	baz=263							
BMAR	**Burnt Mountain**	95.09	23			P	05 51 47.9	-0.1
SNAA	**Sanae**	95.12	193	⇑P		P	05 51 49.3	+1.2
SNAA	**Sanae**	95.12	193	P		P	05 51 48.8	+0.6
SNAA				IAmb		IAmb	05 52 07.1	
	comp=Z,4.2nm,1.1s							
SNAA	**Sanae**	95.12	193	P		P	05 51 48.7	+0.6
	comp=Z,1.8nm,0.8s,baz=161,slow=5.2,SNR=8.3							
	comp=Z,1.8nm,0.8s							
J26L	**Joseph Creek**	95.13	26	P		P	05 51 48.8	+0.5
	baz=263							
M26K	**Nabesna, AK**	95.14	28	P		P	05 51 49.1	+0.8
	baz=264							
F26K	**Sheenjek River**	95.29	22	P		P	05 51 49.5	+0.6
	baz=263							
G26K	**Porcupine Rive**	95.34	23	P		P	05 51 49.4	+0.4
	baz=263							
I26K	**Coal Creek Min**	95.40	25	P		P	05 51 49.8	+0.4
	baz=264							
M27K	**Edge Creek, AK**	95.65	28	P		P	05 51 51.4	+0.7
	baz=264							
C27K	**Jago River**	95.68	21	P		P	05 51 50.6	+0.1
	baz=264							
K27K	**Chicken**	95.73	26	P		P	05 51 51.5	+0.6
	baz=264							
L27K	**Beaver Creek,**	95.74	27	P		P	05 51 51.6	+0.5
	baz=265							
CTG	**Chitna Glacier**	95.77	29	P		P	05 51 51.4	+0.1
	baz=265							
I27K	**Kandik River**	96.07	25	P		P	05 51 53.0	+0.5
	baz=265							
BVCY	**Beaver Creek**	96.13	28	P		P	05 51 53.3	+0.5
	baz=265							
G27K	**Doyon Strip**	96.16	23	P		P	05 51 52.5	-0.3
	baz=265							
H27K	**Steamboat Moun**	96.16	24	P		P	05 51 53.1	+0.3
	baz=265							
PINM	**Pinnacle**	96.23	30	P		P	05 51 52.9	-0.4
	baz=266							
YUK3	**Moose Creek**	96.27	29	P		P	05 51 53.0	-0.6
	baz=266							
E27K	**Coleen River**	96.30	22	P		P	05 51 52.6	-0.9
	baz=265							
O28M	**Mount Upton**	96.32	30	P		P	05 51 52.4	-1.6
	baz=266							
YUK8	**Steele Glacier**	96.56	29	P		P	05 51 53.5	-1.6
	baz=266							
D27M	**Malcolm River**	96.61	21	P		P	05 51 55.4	+0.6
	baz=266							
PNL	**Peninsula**	96.64	31	P		P	05 51 55.3	+0.2
	baz=266							
I28M	**Miner Creek**	96.76	25	P		P	05 51 55.4	-0.2
	baz=266							
DAWY	**Dawson**	96.91	26	P		P	05 51 56.5	+0.2
	baz=264							
F28M	**Old Crow**	96.91	23	P		P	05 51 57.4	+1.2
	baz=267							
O29M	**Mount Kennedy**	97.08	30	P		Pdif	05 51 57.9	+0.5
	baz=267							
E28M	**Babbage River**	97.09	22	P		Pdif	05 51 56.9	-0.2
	baz=267							
YUK6	**Outpost Mounta**	97.22	29	P		P	05 51 57.7	-0.3
	baz=267							
M29M	**Somme Creek**	97.24	28	P		P	05 51 57.1	-0.8
	baz=268							
L29M	**L29M**	97.42	27	P		P	05 51 57.8	-0.8
	baz=268							
I29M	**Ogilvie Camp,**	97.43	25	P		Pdif	05 51 58.8	+0.1
	baz=268							
H29M	**Whitestone**	97.44	24	P		Pdif	05 51 58.8	+0.2
	baz=268							
P29M	**Windy Craggy**	97.47	31	P		Pdif	05 51 59.0	0.0
	baz=268							
G29M	**Pine Creek**	97.60	23	P		Pdif	05 51 59.2	-0.1
	baz=268							
HYT	**Haines Junctio**	97.64	30	P		P	05 51 59.3	-0.4
	baz=268							
E29M	**Blow River**	97.69	22	P		P	05 51 59.3	-0.3
	baz=269							
K29M	**Barlow Dome**	97.72	27	P		P	05 51 59.5	-0.6
	baz=268							
N30M	**Aishikik Lake**	97.86	29	P		P	05 51 59.5	-1.1
	baz=269							
M30M	**Minto, Yukon**	98.02	28	P		P	05 52 00.6	-0.8
	baz=269							
EPYK	**Eagle Plains**	98.11	24	P		Pdif	05 52 01.9	+0.2
	baz=270							
PLBC	**Pleasant Camp**	98.17	31	P		Pdif	05 52 01.8	-0.2
	baz=269							
S31K	**Pelican**	98.20	33	P		Pdif	05 52 02.0	-0.2
	baz=269							
I30M	**Mount Dempster**	98.24	25	P		Pdif	05 52 02.1	-0.3
	baz=270							
J30M	**Hart River**	98.26	26	P		Pdif	05 52 02.5	0.0
	baz=270							
G30M	**tAoh Zraii Nji**	98.31	23	P		Pdif	05 52 02.6	+0.1
	baz=270							
F30M	**Barrier River**	98.47	23	P		Pdif	05 52 03.4	+0.2
	baz=271							
N31M	**Braeburn, Yuko**	98.49	29	P		P	05 52 02.3	-1.1
	baz=270							
WHY	**Whitehorse**	98.92	30	P		P	05 52 05.1	-0.4
	baz=270							
G31M	**Satah River**	99.08	23	P		Pdif	05 52 06.0	+0.1
	baz=272							
M31M	**Drury Creek, Y**	99.14	28	P		Pdif	05 52 06.1	-0.2
	baz=271							
F31M	**Tsiigehtchic**	99.27	23	P		Pdif	05 52 06.5	-0.2
	baz=272							
INK	**Inuvik**	99.31	22	P		Pdif	05 52 06.8	-0.1
	baz=273							
P32M	**Atlin**	99.52	31	P		Pdif	05 52 07.2	-0.9
	baz=271							
U33K	**Whale Pass**	99.90	34	P		Pdif	05 52 09.9	+0.1
	baz=271							
P33M	**Teslin, Yukon**	99.95	30	P		Pdif	05 52 09.7	-0.4
	baz=272							
Q32M	**Nakina River**	100.28	31	P		Pdif	05 52 10.6	-1.1
	baz=272							
WRAK	**Wrangell Islan**	100.33	34	P		Pdif	05 52 11.5	-0.2
	baz=272							
V35K	**Ketchikan**	100.77	35	P		Pdif	05 52 14.3	+0.6
	baz=272							
S34M	**Telegraph Cree**	100.92	33	P		Pdif	05 52 15.8	+1.5
	baz=273							
A36M	**Sachs Harbour**	101.67	18	P		Pdif	05 52 18.0	+0.7
	baz=281							
TGTN	**Hyland Airport**	102.08	29	P		Pdif	05 52 19.9	+0.5
	baz=276							
ARCES	**ARCESS Array B**	102.36	340	P		Pdif	05 52 18.8	-1.7
	comp=Z,1.6nm,0.7s,baz=74,slow=5.0,SNR=6.0							
C36M	**Paulatuk**	102.58	21	P		Pdif	05 52 22.1	+0.7
	baz=282							
PMSA	**Palmer Station**	106.94	174	*e*LR		LR	06 28 06.5	
	comp=Z,352nm,33.0s							
CLL	**Collm**	112.96	323	*e*PKiKP		PKiKP	05 57 03.0	+0.7
GERES	**GERESS Array B**	113.23	320	PKiKP		PKiKP	05 57 03.2	+0.2
	comp=Z,0.2nm,0.3s,baz=169,slow=2.6,SNR=3.8							
PDAR	**Pinedale Array**	117.03	46	PKP		PKiKP	05 57 11.7	+1.0
	comp=Z,0.1nm,0.4s,baz=269,slow=3.0,SNR=2.4							
ULM	**Lac du Bonnet**	122.75	34	PKP		PKiKP	05 57 21.8	+0.5
	comp=Z,3.2nm,0.9s,baz=214,slow=3.6,SNR=3.4							
TXAR	**Lajitas Array**	124.88	60	PKP		PKiKP	05 57 26.2	-0.1
	comp=Z,0.3nm,0.6s,baz=259,slow=3.8,SNR=4.8							
PLCA	**Paso Flores**	128.09	160	PKP		PKiKP	05 57 33.2	+0.7
	comp=Z,3.1nm,1.1s,baz=292,slow=1.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	129.38	281	PKP		PKPdf	05 57 34.5	-0.3
	comp=Z,0.9nm,0.7s,baz=61,slow=2.5,SNR=5.5							
DBIC	**Dimbokro**	135.67	272	PKP		PKPdf	05 57 45.5	-1.2
	comp=Z,3.6nm,0.8s,baz=11,slow=5.2,SNR=2.5							
CPUP	**Villa Florida**	145.36	168	PKPbc		PKPab	05 58 04.4	+0.6
	comp=Z,4.1nm,0.9s,baz=38,slow=2.8,SNR=17							
LPAZ	**La Paz**	149.91	142	PKPbc		PKiKP	05 58 18.8	+0.6
	comp=Z,16nm,0.9s,baz=246,slow=0.4,SNR=35							
ROSC	**El Rosal**	155.21	95	PKPab		PKPab	05 58 39.1	-5.8
	comp=Z,2.1nm,0.3s,baz=162,slow=6.4,SNR=3.8							

IDC ***30*** *05:57:14.8±0.3,23°.81N×45°.48W,h0km,mb4.7/41, mbtmp4.7/42,ML4.1/1,MS4.7/69,Error ellipse: s-maj=11.4km s-min=7.9km az=138.0*

MOS ***30*** *05:57:15.0±0.9,23°.80N×45°.41W,h11km,mb5.3/85, MS4.7/9,Error ellipse: s-maj=5.7km s-min=4.4km az=135.5*

BJI ***30*** *05:57:16.0,23°.80N×45°.40W,h10km,mb5.1/3,Ms5.4/14, Ms7 5.1/14*

INMG ***30*** *05:57:17.0±3.2,23°.70N×45°.43W,h10km,mb5.0,Ms4.7, MW5.0,#DIST_RANGE: DISTANT*

NEIC ***30*** *05:57:17.3,23°.77N×45°.45W,h12km*

NEIC ***30*** *05:57:17.3,23°.77N×45°.45W,h12km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16Nm; Mrr-3.47; Mθθ-1.91; Mϕϕ5.38; Mrθ2.38; Mrϕ-7.32; Mθr-3.41; Fault plane solution: M◎9.65000×10^16 NP1: ϕs194.94000°,δ74.05000°,λ6.74000°. NP2:ϕs103.08000°, δ83.52000°,λ163.94000°. Principal axes: T 11.0947, Plg16.0000°, Azm58.0000°; N -4.6322, Plg73.0000°, Azm262.0000°; P -6.4625, Plg7.0000°, Azm150.0000°;*

NEIC ***30*** *05:57:17.3±1.3,23°.8N±0°.1×45°.45W±0°.09,h10km±1km, mb5.2/87,Mww5.3/18 Error ellipse: s-maj=18.0km s-min=14.3km az=163.0*

GCMT ***30*** *05:57:19.3±0.1,23°.80N±0°.01×45°.33W±0°.01,h12km, MW5.3/157,Moment Tensor Solution. s106,c151; s157,c306; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.06±.02; Mθθ-0.40±.02; Mϕϕ0.45±.02; Mrθ0.15±.04; Mθϕ-1.20±.01; Mϕr0.07±.04; Best double couple: M◎1.28400×10^17 NP1:ϕs190.00000°,δ84.00000°, λ-4.00000°. NP2:ϕs280.00000°,δ86.00000°, λ-174.00000°. Principal axes: T 1.3030, Plg1.0000°, Azm55.0000°; N -0.0390, Plg82.0000°, Azm315.0000°; P -1.2640, Plg7.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***30*** *05:57:27.0,24°.20N×44°.34W,h33km,mb5.1,Ms4.9*

ISC 30 05:57:16.9±0.2,23°.80N±0°.04×45°.49W±0°.04,h12km,n895, σ1s15/853,mb5.1/249,MS4.8/87,17C-26D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar**	16.40	246	T	T	06 18 11.3	
	SNR=41						
GDSD	**La Dsirade Is**	16.41	246	Pn	Pn	06 01 04.4	-2.8
GDSD				IAmb	IAmb	06 01 10.0	
	comp=Z,269nm,1.5s						
ABD	**La Joyeuse, An**	16.69	247	Pn	Pn	06 01 09.5	-1.2
ABD				IAmb	IAmb	06 01 12.9	
	comp=Z,268nm,1.2s						
MAGL	**Barre de l'ile**	16.77	245	Pn	Pn	06 01 09.9	-1.9
CBE	**Ff, Capester**	16.98	246		Pn	06 01 15.0	+0.5
CBE				IAmb	IAmb	06 01 24.1	
	comp=Z,148nm,0.9s						
GDHS	**Morne Mazeau,**	17.02	247		Pn	06 01 14.7	-0.2
GDHS				IAmb	IAmb	06 01 21.1	
	comp=Z,355nm,1.2s						
BBGH	**Gun Hill**	17.02	234		P	06 01 17.9	+1.1
ILAM	**Ilet Lapin Mar**	17.06	241		Pn	06 01 14.8	-0.6
ILAM				IAmb	IAmb	06 01 21.9	
	comp=Z,268nm,0.9s						
H05S1	**Guadeloupe/Mar**	17.23	240	T	T	06 18 38.4	
	SNR=124						
MPOM	**Morne Pois Mar**	17.23	240	Pn	Pn	06 01 16.9	-0.7
SVN	**Savane Anatole**	17.26	242		Pn	06 01 17.8	-0.1
FDF	**Fort de France**	17.30	241		Pn	06 01 18.6	+0.1
FDF	**Fort de France**	17.30	241	P	Pn	06 01 18.6	+0.1
FDF				pmax	pmax		
	comp=Z,375nm,1.0s						
BIM	**Bigot**	17.36	241		Pn	06 01 19.2	0.0
SMRT	**St. Maarten**	17.39	254	P	Pn	06 01 18.8	-0.7
SEUS	**St. Eustatius**	17.52	252	Pn	Pn	06 01 21.1	-0.1
SEUS				IAmb	IAmb	06 01 26.7	
	comp=Z,123nm,0.8s						
SABA	**Saba**	17.70	253	P	Pn	06 01 23.8	+0.4
SABA				IAmb	IAmb	06 01 32.3	
	comp=Z,258nm,1.3s						
BBSR	**BB Station**	18.96	301	P	P	06 01 38.2	+0.2
GRGR	**Grenville**	19.24	236	P	Pn	06 01 41.8	-0.4
HUMP	**Col San Antoni**	19.82	257	P	P	06 01 48.3	+0.7
MDP	**Montagnes des**	19.82	201	P	P	06 01 47.9	+0.3
	comp=Z,0.5nm,0.3s,baz=15,slow=13,SNR=11						
MDP				S	S	06 05 27.4	-3.5
	comp=Z,3.5nm,0.8s,baz=46,slow=6.4,SNR=1.3						
MDP				LR	LR	06 07 37.5	
	comp=Z,1μm,19.6s,baz=22,slow=31						
	comp=Z,18nm,0.8s						

CALA *i* IAMs_20 IAMs_20 06 07 51.2
comp=Z,3µm,16.0s
OBIP Obispado Ponce 20.53 258 P P 06 01 55.6 +0.3
HOR Horta 20.54 40 *e*P Pn 06 01 57.7 +0.3
HOR *i* IAmb IAmb 06 02 01.3
comp=Z,198nm,1.6s
PCED Cedros 20.56 40 *e*P Pn 06 01 57.1 -0.6
PCED *i* IAmb IAmb 06 01 59.3
comp=Z,208nm,1.5s
UUPR Utuado, UPR, P 20.56 258 P P 06 01 56.3 +0.7
PICO Pico 20.64 41 *e*P Pn 06 01 58.0 -0.7
PICO *i* IAmb IAmb 06 02 00.3
comp=Z,162nm,1.3s
PICO *e*LR LR 06 06 46.0
PICO *i* IAMs_20 IAMs_20 06 07 46.9
comp=Z,4µm,18.0s
PPNO Prainha do Nor 20.72 41 *e*P Pn 06 01 58.5 -1.1
PPNO *i* IAmb IAmb 06 02 03.0
comp=Z,164nm,1.1s
PID Ribeirinha 20.79 41 *e*P Pn 06 01 59.1 -1.2
PID *i* IAmb IAmb 06 02 05.9
comp=Z,225nm,1.9s
ROSA Rosais 20.89 41 *e*P **P 06 02 00.2 +1.2**
ROSA *i* IAmb IAmb 06 02 02.7
comp=Z,166nm,1.5s
ROSA *e*LR LR 06 06 57.2
ROSA *i* IAMs_20 IAMs_20 06 08 02.9
comp=Z,3µm,16.0s
PMAN Manadas 20.93 41 *e*P **P 06 02 00.3 +0.9**
PMAN *i* IAmb IAmb 06 02 01.6
comp=Z,122nm,1.5s
PRSN Puerto Rico Se 20.96 259 P P 06 02 00.2 +0.3
PSBA Serra de Santa 21.47 42 *e*P **P 06 02 06.9 +1.5**
PSBA *i* IAmb IAmb 06 02 09.8
comp=Z,383nm,1.6s
PAGU Agualva, Azore 21.56 42 *e*P **P 06 02 07.5 +1.2**
PAGU *i* IAmb IAmb 06 02 10.8
comp=Z,418nm,1.5s
PSCM Serra do Cume 21.56 42 *e*P **P 06 02 07.5 +1.3**
PSCM *i* IAmb IAmb 06 02 09.7
comp=Z,312nm,1.6s
PSET Sete Cidades 21.93 46 *e*P **P 06 02 10.3 +0.1**
PSET *i* IAmb IAmb 06 02 13.8
comp=Z,334nm,1.3s
PSET *e*LR LR 06 07 06.8
PSET *i* IAMs_20 IAMs_20 06 08 19.0
comp=Z,4µm,18.0s
PSMN Pico do Norte, 21.93 48 *e*P **P 06 02 09.4 -0.8**
PSMN *i* IAmb IAmb 06 02 13.0
comp=Z,150nm,1.8s
PSMN *e*LR LR 06 06 57.2
PSMN *i* IAMs_20 IAMs_20 06 08 15.9
comp=Z,3µm,20.0s
CMLA Cha da Macela 22.03 46 P P 06 02 10.7 -0.6
CMLA IAmb IAmb 06 02 28.1
comp=Z,150nm,1.0s
CMLA Cha da Macela 22.03 46 *e*P **P 06 02 12.2 +0.9**
CMLA *i* IAmb IAmb 06 02 16.9
comp=Z,147nm,1.4s
CMLA *e*LR LR 06 06 34.9
CMLA *i* IAMs_20 IAMs_20 06 08 21.9
comp=Z,3µm,18.0s
CMLA Cha da Macela 22.03 46 P P 06 02 10.7 -0.6
CMLA pmax pmax
comp=Z,150nm,1.0s
PGRON Lagoa das Cont 22.13 46 *e*P **P 06 02 13.8 +1.4**
PGRON *i* IAmb IAmb 06 02 21.4
comp=Z,251nm,1.5s
BART Pico Bartolome 22.27 47 *e*P **P 06 02 13.7 -0.3**
BART *i* IAmb IAmb 06 02 20.3
comp=Z,109nm,1.2s
SACV Santiago Islan 22.41 109 P P 06 02 15.3 -0.2
SACV IAmb IAmb 06 02 26.1
comp=Z,75nm,0.9s
PCRV Puerto La Cruz 22.74 237 P P 06 02 19.3 +0.2
comp=Z,57nm,0.9s,baz=110,slow=2.0,SNR=26
PCRV LR LR 06 09 58.0
comp=Z,2µm,22.0s,slow=34
comp=Z,57nm,0.9s
SC01 Santiago de lo 23.85 264 P P 06 02 31.3 +1.1
SC01 IAmb IAmb 06 02 34.4
comp=Z,168nm,1.4s
SDDR Presa de Saban 24.48 264 P 06 02 37.9 +1.8
SDDR IAmb IAmb 06 02 55.4
comp=Z,68nm,1.1s
BOAV Boa Vista 25.77 217 P 06 02 47.4 -0.4
BOAV IAmb IAmb 06 02 50.3
comp=Z,75nm,1.4s
BOAV Boa Vista 25.77 217 *e*P **P 06 02 47.2 -0.5**
BAUV El Baul 26.14 239 P P 06 02 49.6 -1.5
PMOZ Porto Moniz, M 26.42 64 *e*P **P 06 02 53.4 -0.2**
PMOZ *i* IAmb IAmb 06 03 16.6
comp=Z,142nm,1.4s
PMOZ *e*LR LR 06 09 03.2
PMOZ *i* IAMs_20 IAMs_20 06 10 23.0
comp=Z,1µm,20.0s
PMAR Madeira 26.63 64 *e*P **P 06 02 58.3 +2.6**
PMAR *i* IAmb IAmb 06 03 10.0
comp=Z,165nm,1.6s
LMN Caledonia Moun 26.99 329 P P 06 02 58.7 +0.2
GGN Saint George 27.46 326 P P 06 03 03.3 +0.6
G65A Princeton 27.89 325 P P 06 03 07.0 +0.5
SDV Santo Domingo 28.25 243 P P 06 03 10.1 -0.2
SDV IAmb IAmb 06 03 12.4
comp=Z,47nm,0.9s
SDV Santo Domingo 28.25 243 LR LR 06 13 01.4
comp=Z,2µm,21.8s,baz=60,slow=34
SDV Santo Domingo 28.25 243 *e*P **P 06 03 11.3 +1.0**
NBPS Pedro II - PI 28.30 171 *e*P **P 06 03 12.2 +1.7**
WES Weston 28.32 317 P P 06 03 10.8 +0.3
WES pmax pmax
comp=Z,106nm,1.8s
BATG Bathurst New B 28.62 330 P P 06 03 13.3 +0.2
BATG IAmb IAmb 06 03 23.7
comp=Z,50nm,0.9s
NBCL Cascavel-CE 28.72 165 *e*P **P 06 03 14.6 +0.4**
CHIV Chivirico 28.92 268 P P 06 03 15.9 -0.1
CHIV IAmb IAmb 06 03 20.9
comp=Z,36nm,1.2s
K62A Royalston 29.04 317 P P 06 03 18.0 +1.1
G62A West of Eustis 29.50 323 P P 06 03 21.8 +0.8
G62A IAmb IAmb 06 03 29.8
comp=Z,27nm,0.8s
J61A Chester 29.60 318 P P 06 03 22.9 +1.0
HNH Hanover 29.63 319 P P 06 03 23.4 +1.3
HNH IAmb IAmb 06 03 24.6
comp=Z,33nm,0.8s
ITTB Itaituba 29.72 201 *e*P **P 06 03 24.8 +1.6**
NBPB Pedra_Branca-C 29.73 168 *e*P **P 06 03 22.7 -0.5**
E62A Clayton Lake 29.85 326 P P 06 03 24.8 +0.7
E62A IAmb IAmb 06 03 32.9
comp=Z,35nm,0.9s
PRPB Parauapebas 30.08 189 *e*P **P 06 03 26.0 -0.3**
MTDJ Mount Denham 30.38 266 P P 06 03 29.8 +0.6
MTDJ IAmb IAmb 06 03 31.8
comp=Z,61nm,0.9s
NBPA Parau_RN 30.48 163 *e*P **P 06 03 29.9 +0.1**
MACA Manacapuru-AM 30.61 211 *e*P **P 06 03 31.2 +0.2**
RCBR Riachuelo 30.89 161 P P 06 03 33.5 0.0
comp=Z,6.4nm,0.8s,baz=14,slow=16,SNR=5.9
RCBR LR LR 06 12 44.0
comp=Z,331nm,20.3s,baz=332,slow=30
comp=Z,6.4nm,0.8s
RCBR Riachuelo 30.89 161 *e*P **P 06 03 33.4 -0.2**
NCB Newcomb 30.96 318 P P 06 03 34.9 +0.9
NCB IAmb IAmb 06 03 36.4
comp=Z,25nm,0.8s
LDAQ Lac Daran 31.62 326 P P 06 03 40.2 +0.5
LDAQ IAmb IAmb 06 03 48.4
comp=Z,39nm,0.9s
NBPV Pedro Velho 31.64 160 *e*P **P 06 03 40.2 +0.1**
NBMA Muriti-CE 31.66 167 *e*P **P 06 03 39.7 -0.6**
RUSC La Rusia 31.95 241 P P 06 03 43.9 +0.4
NPGB Novo Progresso 32.13 199 *e*P **P 06 03 44.2 -0.3**
SMTB Santa Maria do 32.52 184 *e*P **P 06 03 50.6 +2.8**
BLA Blacksburg 32.74 302 P P 06 03 52.1 +2.4
BLA pmax pmax
comp=Z,75nm,1.1s
JSC Jenkinsville 32.82 297 P P 06 03 51.9 +1.5
JSC pmax pmax
comp=Z,28nm,1.0s
TEFE Tefe 32.93 217 *e*P **P 06 03 52.2 +0.7**
V55A Taylorsville 33.06 300 P P 06 03 52.7 +0.2
V55A IAmb IAmb 06 04 02.5
comp=Z,39nm,1.4s

ROSC El Rosal 33.57 240 P P 06 03 58.0 +0.5
comp=Z,18nm,0.7s,baz=107,slow=10,SNR=14
ROSC LR LR 06 18 32.3
comp=Z,1µm,20.1s,baz=35,slow=38
comp=Z,18nm,0.7s
NBBL Bica de Lurdes 33.82 161 *e*P **P 06 04 01.4 +2.2**
PFVI Vila Bisbo 34.07 58 *e*P **P 06 04 01.7 +0.6**
PFVI *i* IAmb IAmb 06 05 09.0
comp=Z,122nm,1.8s
PMAFR Mafra 34.16 55 *e*P **P 06 04 02.3 +0.3**
PMAFR *i* IAmb IAmb 06 05 07.5
comp=Z,106nm,1.6s
PTEO Sao Teotonio 34.24 58 *e*P **P 06 04 03.7 +1.1**
PTEO *i* IAmb IAmb 06 04 22.2
comp=Z,89nm,1.4s
MORF Marmelete 34.24 58 *e*P **P 06 04 03.0 +0.3**
MORF *e*S **S 06 09 30.6 +1.2**
MORF IAMs_20 IAMs_20 06 13 22.6
comp=Z,2µm,19.0s
MORF Marmelete 34.24 58 *e*P **P 06 04 03.1 +0.3**
PARRA Arraiolos 34.30 55 *e*P P 06 04 09.3 +6.1
PARRA *i* IAmb IAmb 06 05 05.7
comp=Z,31nm,1.9s
SADO Sadowa 34.44 316 LR LR 06 15 28.6
comp=Z,15µm,21.4s,baz=140,slow=32
NBAN Anadia - AL 34.46 164 *e*P **P 06 04 04.6 -0.1**
MESJ Messejana 34.69 57 *e*P **P 06 04 06.9 +0.3**
MESJ *e*S **S 06 09 37.8 +1.4**
MESJ IAMs_20 IAMs_20 06 14 30.7
comp=Z,2µm,18.7s
MESJ Messejana 34.69 57 *e*P **P 06 04 06.9 +0.3**
MESJ *e*S **S 06 09 37.8 +1.4**
PCVE Castro Verde 34.79 58 *e*P **P 06 04 07.8 +0.4**
PBDV Barranco-do-Ve 34.79 58 *e*P **P 06 04 07.8 +0.3**
SCHQ Schefferville 34.83 338 P P 06 04 07.7 +0.1
comp=Z,172nm,0.7s,baz=137,slow=6.5,SNR=18
SCHQ PcP **PcP 06 06 41.2 +0.7**
comp=Z,58nm,0.7s,baz=72,slow=6.4,SNR=3.6
SCHQ S **S 06 09 31.1 -7.0**
comp=Z,36nm,0.8s,baz=169,slow=14,SNR=1.8
SCHQ LR LR 06 16 23.3
comp=Z,15µm,21.8s,baz=148,slow=33
PMTG Montargil 34.98 55 *e*P **P 06 04 08.6 -0.4**
PMTG *i* IAmb IAmb 06 04 10.3
comp=Z,43nm,1.8s
PVAQ Vaqueiros 34.99 58 *e*P **P 06 04 09.4 +0.3**
PVAQ *i* IAmb IAmb 06 04 11.9
comp=Z,83nm,2.0s
PVAQ *e*S **S 06 09 44.3 +3.4**
PVAQ *e*LR LR 06 13 08.6
PVAQ *i* IAMs_20 IAMs_20 06 15 08.0
comp=Z,1µm,20.0s
PBEJ Beja 35.01 57 *e*P **P 06 04 09.2 -0.1**
PBEJ *i* IAmb IAmb 06 04 10.4
comp=Z,37nm,1.7s
PCAS Casmilo, Conde 35.04 54 *e*P **P 06 04 08.0 -1.6**
PCAS *i* IAmb IAmb 06 04 10.9
comp=Z,40nm,1.8s
Y52A Lilburn 35.07 295 P P 06 04 10.8 +0.9
TKL Tuckaleechee C 35.08 299 LR LR 06 15 46.3
comp=Z,1µm,20.1s,baz=104,slow=32
TKL Tuckaleechee C 35.08 299 P P 06 04 11.6 +1.6
TKL pmax pmax
comp=Z,39nm,1.1s
PSARD Sardoal 35.17 54 *e*P **P 06 04 10.1 -0.6**
NBLA Lagarto - SE 35.39 167 *e*P **P 06 04 11.7 -1.0**
PVIS Viseu 35.67 53 *e*P **P 06 04 14.7 -0.4**
PBAR Barrancos 35.68 57 *e*P **P 06 04 15.0 0.0**
PBAR *i* IAmb IAmb 06 04 30.8
comp=Z,32nm,1.7s
PMRV Marv??o 35.70 55 *e*P **P 06 04 14.6 -0.6**
PMRV *i* IAmb IAmb 06 05 06.8
comp=Z,25nm,1.6s
PMRV *e*S **S 06 09 53.5 +1.7**
PMRV *e*LR LR 06 13 18.3
PMRV *i* IAMs_20 IAMs_20 06 15 21.1
comp=Z,1µm,20.0s
PCBR Castelo Branco 35.74 54 *e*P **P 06 04 15.0 -0.6**
PCBR *i* IAmb IAmb 06 04 39.8
comp=Z,26nm,1.4s
MTE Manteigas 35.84 53 P P 06 04 15.6 -1.0
MTE Manteigas 35.84 53 *e*P **P 06 04 15.8 -0.7**
MTE *i* IAmb IAmb 06 04 49.4
comp=Z,39nm,1.5s
MTE *e*S **S 06 09 59.0 +5.0**
MTE *e*LR LR 06 13 37.9
MTE *i* IAMs_20 IAMs_20 06 15 25.1
comp=Z,2µm,20.0s
PCAB Cabril 35.87 51 *e*P **P 06 04 17.3 +0.5**
PCAB *i* IAmb IAmb 06 04 41.7
comp=Z,40nm,1.6s
BCIP Isla Barro Col 35.88 252 P P 06 04 18.5 +1.4
CLDB Colider 35.90 197 *e*P **P 06 04 18.6 +1.4**
POLO Lamas de Olo 35.94 52 *e*P **P 06 04 17.2 -0.2**
POLO *i* IAmb IAmb 06 05 04.7
comp=Z,17nm,2.4s
PVRL Vila Real 35.96 52 *e*P **P 06 04 17.1 -0.4**
PVRL *i* IAmb IAmb 06 05 06.0
comp=Z,34nm,1.5s
SDBA SAO DESIDERIO 35.99 179 *e*P **P 06 04 17.2 -0.7**
SNDB Serra Nova Dou 36.00 190 *e*P **P 06 04 17.5 -0.5**
MVO Moncorvo 36.43 52 *e*P **P 06 04 21.1 -0.4**
MVO *i* IAmb IAmb 06 04 24.5
comp=Z,32nm,1.3s
MVO *e*S **S 06 10 04.8 +1.8**
MVO *e*LR LR 06 13 53.0
MVO *i* IAMs_20 IAMs_20 06 15 49.2
comp=Z,2µm,20.0s
AAM Ann Arbor 36.55 310 P P 06 04 24.3 +1.8
AAM pmax pmax
comp=Z,118nm,1.5s
TBTG Tabatinga, AM 36.61 224 *e*P **P 06 04 23.9 +0.6**
FLOC Florencia 36.62 237 P P 06 04 22.0 -1.4
SWET Sewanee 36.76 297 P P 06 04 24.9 +0.5
250A Grady 36.78 292 P P 06 04 24.8 +0.2
MD01 Midelt array s 36.79 66 P P 06 04 24.3 -0.5
MD31 MD31 36.79 66 P P 06 04 24.6 -0.2
PBRG Braganca 36.82 51 *e*P **P 06 04 24.2 -0.6**
PBRG *i* IAmb IAmb 06 04 28.6
comp=Z,32nm,1.7s
PDRB Porto dos Gac 36.87 199 *e*P **P 06 04 24.4 -1.0**
MDT Midelt 36.91 67 LR LR 06 16 31.7
comp=Z,1µm,19.7s,baz=288,slow=31
WCI Wyandotte Cave 37.51 302 P P 06 04 32.3 +1.6
WCI pmax pmax
comp=Z,40nm,0.8s
BLO Bloomington 37.86 304 P P 06 04 35.1 +1.4
BLO pmax pmax
comp=Z,38nm,0.8s
PAB San Pablo 38.02 56 P P 06 04 34.5 -0.6
ESDC Sonseca Array 38.34 56 P P 06 04 36.5 -1.3
comp=Z,3.3nm,1.0s,baz=257,slow=8.8,SNR=16
ESDC PcP **PcP 06 06 51.2 -0.3**
comp=Z,1.8nm,0.7s,baz=298,slow=3.6,SNR=4.1
ESDC LR LR 06 16 27.5
comp=Z,1µm,21.3s,baz=224,slow=30
comp=Z,3.3nm,1.0s
WVT Waverly 38.41 299 P P 06 04 39.6 +1.3
WVT pmax pmax
comp=Z,54nm,0.9s
JANB Januaria 38.63 178 *e*P **P 06 04 39.8 -0.6**
VILB Vilhena 39.26 203 *e*P **P 06 04 45.4 -0.2**
BDFB Brasilia 39.27 184 P P 06 04 47.1 +1.3
comp=Z,6.8nm,0.9s,baz=1.6,slow=6.5,SNR=6.7
BDFB LR LR 06 19 44.5
comp=Z,1µm,19.1s,baz=359,slow=34
comp=Z,6.8nm,0.9s
OXF Oxford 39.55 296 P P 06 04 49.0 +1.1
OXF pmax pmax
comp=Z,111nm,1.0s
OTAV Otavalo 39.63 239 P P 06 04 49.9 +0.6
OTAV Otavalo 39.63 239 *e*P **P 06 04 49.7 +0.4**
LNXT Lenox 39.74 298 P P 06 04 49.9 +0.5
ARAG Araguaiana, MT 39.74 190 *e*P **P 06 04 48.9 -0.7**
JTS Las Juntas de 39.90 257 LR LR 06 17 40.8
comp=Z,642nm,20.9s,baz=64,slow=31
JTS Las Juntas de 39.90 257 *i* P **P 06 04 49.8 -1.3**
JTS pmax pmax
comp=Z,12nm,0.8s
NUUK Nuuk 40.58 356 *i* P **P 06 04 57.4 +1.4**
NUUK IAmb IAmb 06 05 05.2
comp=Z,26nm,0.9s
FVM French Village 40.69 301 P P 06 04 58.6 +1.3
FVM pmax pmax
comp=Z,67nm,0.9s

SALV Santo Antonio 40.70 195 *e*P **P 06 04 57.3 -0.1**
CZSB Cruzeiro do Su 41.09 224 *e*P **P 06 04 59.3 -1.5**
PTLB Pontes e Lacer 41.22 200 *e*P **P 06 05 01.6 -0.2**
CCM Cathedral Cave 41.34 301 P P 06 05 03.9 +1.2
CCM pmax pmax
comp=Z,97nm,0.9s
DIAM Diamantina, MG 41.88 177 *e*P **P 06 05 07.8 +0.5**
ISOG Isortoq, Green 41.96 4 *i* P **P 06 05 08.2 +0.9**
ISOG IAmb IAmb 06 05 15.7
comp=Z,26nm,0.6s
PMNB Patos De Minas 42.09 181 *e*P **P 06 05 09.1 +0.1**
ANGG Ammassalik, Gr 42.12 5 *i* P **P 06 05 13.2 +4.6**
ANGG IAmb IAmb 06 05 18.2
comp=Z,20nm,0.9s
PP1B Ponte de Pedra 42.15 193 *e*P **P 06 05 10.6 +1.1**
ESQI Esquipulas 42.28 266 P P 06 05 12.3 +1.6
ESQI IAmb IAmb 06 05 13.6
comp=Z,61nm,0.8s
Z41A Richland Creek 42.32 294 P P 06 05 12.0 +1.2
SIV San Ignacio 42.38 203 P P 06 05 10.8 -0.5
comp=Z,4.8nm,1.1s,baz=30,slow=9.8,SNR=13
SIV LR LR 06 22 48.7
comp=Z,737nm,19.8s,baz=51,slow=36
comp=Z,4.8nm,1.1s
SJMB Sao Joao De Ma 42.45 174 *e*P **P 06 05 12.8 +1.0**
DBIC Dimbokro 42.54 107 P P 06 05 11.9 -0.9
DBIC Dimbokro 42.54 107 P P 06 05 11.9 -0.9
comp=Z,24nm,0.8s,baz=319,slow=8.0,SNR=19
comp=Z,24nm,0.8s
DBIC Dimbokro 42.54 107 P P 06 05 12.4 -0.4
BSFB Barra de Sao F 42.61 173 *e*P **P 06 05 13.2 +0.1**
DY2G Dye2 42.68 360 *i* P **P 06 05 13.8 +0.3**
DY2G IAmb IAmb 06 05 23.7
comp=Z,26nm,0.9s
FRB Frobisher Bay 42.76 345 LR LR 06 21 03.8
comp=Z,2µm,21.6s,baz=138,slow=33
MIAR Mount Ida 42.98 296 P P 06 05 18.3 +2.1
MIAR pmax pmax
comp=Z,48nm,1.1s
RIB01 Linhares ES 43.14 173 *e*P **P 06 05 15.7 -1.7**
SFJD Kangerlussuaq 43.32 357 LR LR 06 20 20.8
comp=Z,703nm,19.0s,baz=178,slow=32
SFJD Kangerlussuaq 43.32 357 P P 06 05 19.9 +1.5
SFJD pmax pmax
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 43.32 357 *i* P **P 06 05 18.3 -0.1**
SFJD IAmb IAmb 06 05 26.5
comp=Z,26nm,1.0s
BBSD Serra de San D 43.33 201 *e*P **P 06 05 17.6 -1.4**
ITRB Iturama 43.50 187 *e*P **P 06 05 20.0 -0.4**
H10N2 ASCENSION HYDR 43.65 132 T T 06 51 39.9
baz=317,slow=75,SNR=1807
H10N3 ASCENSION HYDR 43.65 132 T T 06 51 40.2
baz=317,slow=75,SNR=1833
H10N1 ASCENSION HYDR 43.66 132 T T 06 51 41.6
baz=317,slow=75,SNR=1647
EKA Eskdalemuir Ar 44.26 33 P P 06 05 25.7 -0.4
comp=Z,3.2nm,0.6s,baz=244,slow=9.5,SNR=12
EKA PcP **PcP 06 07 12.8 +2.3**
comp=Z,1.8nm,0.7s,baz=257,slow=2.8,SNR=4.3
comp=Z,3.2nm,0.6s
H10S3 ASCENSION HYDR 44.35 134 T T 06 52 40.3
baz=316,slow=74,SNR=3603
H10S2 ASCENSION HYDR 44.37 134 T T 06 52 40.9
baz=264,slow=74,SNR=3818
ATAH Atahualpa 44.47 230 LR LR 06 24 09.2
comp=Z,771nm,22.0s,baz=26,slow=36
BSCB Bom Sucesso 44.53 179 *e*P **P 06 05 28.7 0.0**
BB19B Bebedouro 44.69 184 *e*P **P 06 05 30.3 +0.4**
RPRD Ribas do Rio P 44.73 191 *e*P **P 06 05 31.3 +1.1**
HKT Hockley 45.04 289 *i* P **P 06 05 33.7 +1.1**
HKT pmax pmax
comp=Z,19nm,1.1s
AQDB Aquidauana 45.12 194 P P 06 05 34.0 +0.7
AQDB Aquidauana 45.12 194 *e*P **P 06 05 33.9 +0.7**
BDQN Bodoquena, MS 45.33 195 *e*P **P 06 05 35.6 +0.6**
CAM01 Campos-RJ 45.50 175 *e*P **P 06 05 37.2 +0.9**
LPAZ La Paz 45.57 211 P P 06 05 37.1 -0.6
comp=Z,22nm,0.8s,baz=18,slow=7.8,SNR=30
LPAZ S S 06 12 07.6 -13
comp=Z,0.3nm,0.2s,baz=27,slow=16,SNR=1.7
LPAZ LR LR 06 23 38.2
comp=Z,2µm,21.8s,baz=28,slow=35
comp=Z,22nm,0.8s
LPAZ La Paz 45.57 211 *e*P **P 06 05 37.1 -0.6**
SSB Saint Sauveur 45.61 49 P P 06 05 37.5 +0.4
SSB pmax pmax
comp=Z,7.0nm,1.0s
DUB01 Friburgo-RJ 45.70 176 *e*P **P 06 05 38.3 +0.4**
TORD Torodi Ar. Bea 45.80 95 P P 06 05 37.4 -1.5
TORD IAmb IAmb 06 05 39.2
comp=Z,25nm,1.2s
TORD Torodi Ar. Bea 45.80 95 P P 06 05 37.1 -1.8
comp=Z,16nm,0.8s,baz=301,slow=9.9,SNR=78
comp=Z,16nm,0.8s
VAS01 Vassouras-RJ 45.84 177 *e*P **P 06 05 39.7 +0.7**
RCLB Rio Claro- Sao 45.98 183 *e*P **P 06 05 41.5 +1.3**
VAO Valinhos 46.54 182 *e*P **P 06 05 44.9 +0.4**
CMIG Matias Romero 46.58 271 LR LR 06 22 52.3
comp=Z,891nm,21.4s,baz=78,slow=33
TAM Tamanrasset 46.66 81 P P 06 05 45.7 -0.1
TAM IAmb IAmb 06 06 09.3
comp=Z,28nm,0.9s
TAM Tamanrasset 46.66 81 P P 06 05 45.7 -0.1
TAM pmax pmax
comp=Z,28nm,0.9s
MURT Porto Murtinho 46.70 196 *e*P **P 06 05 46.2 +0.5**
DOU Dourbes 46.73 43 *d*P **P 06 05 44.3 -1.4**
comp=Z,6.4nm,1.4s
UCC Uccle 46.77 42 *d*P **P 06 05 46.1 0.0**
TRCB Terra Rica 46.83 189 *e*P **P 06 05 47.4 +0.6**
SLP01 Ubatuba-SP 46.84 180 *e*P **P 06 05 47.3 +0.3**
BMRD Maredsous 46.89 42 *d*P **P 06 05 46.8 -0.2**
NNA Nana 46.95 224 P P 06 05 46.6 -1.3
comp=Z,20nm,0.8s,baz=28,slow=6.5,SNR=10.0
NNA LR LR 06 24 53.8
comp=Z,698nm,21.4s,baz=10.0,slow=35
comp=Z,20nm,0.8s
NNA Nana 46.95 224 *e*P **P 06 05 46.2 -1.8**
NNA pmax pmax
comp=Z,38nm,0.9s
ULM Lac du Bonnet 46.95 317 P P 06 05 46.2 -1.3
comp=Z,34nm,1.1s,baz=90,slow=8.0,SNR=13
ULM LR LR 06 23 50.0
comp=Z,1µm,19.3s,baz=105,slow=34
comp=Z,34nm,1.1s
ULM Lac du Bonnet 46.95 317 *i* P **P 06 05 46.8 -0.7**
FRTB Fartura 47.03 185 *e*P **P 06 05 48.7 +0.3**
BNI Bardonecchia 47.06 50 P P 06 05 49.9 +1.3
BNI pmax pmax
comp=Z,93nm,1.6s
BGES Gesves 47.11 42 *d*P **P 06 05 48.7 0.0**
comp=Z,10.0nm,1.2s
RCHB Rochefort 47.14 43 *d*P **P 06 05 48.5 -0.5**
SPB Sao Paulo 47.14 182 *e*P **P 06 05 50.3 +1.1**
LDASE Londrina, Braz 47.23 187 *e*P **P 06 05 50.9 +1.0**
BCLA Clavier 47.25 42 *d*P **P 06 05 49.9 +0.1**
comp=Z,6.3nm,1.4s
WMOK Wichita Mounta 47.27 296 P P 06 05 50.8 +0.5
WMOK pmax pmax
comp=Z,80nm,1.0s
AMBA Amambai (Brazi 47.35 192 *e*P **P 06 05 51.8 +1.0**
BSTI Sart Tilman 47.45 42 *d*P **P 06 05 51.6 +0.2**
WLF Walferdange 47.60 44 *d*P **P 06 05 52.6 0.0**
comp=Z,14nm,1.3s
WLF Walferdange 47.60 44 *e*P **P 06 05 52.3 -0.2**
comp=Z,47nm,1.4s,baz=259,slow=7.6
BHOU Houvegnez 47.67 43 *d*P **P 06 05 53.5 +0.4**
comp=Z,14nm,1.4s
MEM Membach 47.73 42 *d*P **P 06 05 53.7 +0.1**
comp=Z,16nm,1.2s
BTNL Ternell 47.80 42 *d*P **P 06 05 54.3 +0.1**
comp=Z,15nm,1.3s
PET01 Itanhaem-SP 47.83 182 *e*P **P 06 05 54.9 +0.3**
ECH Echery 47.94 46 P P 06 05 55.2 0.0
ECH pmax pmax
comp=Z,14nm,1.1s
JCT Junction City 48.41 290 P P 06 05 59.8 +0.6
JCT pmax pmax
comp=Z,81nm,1.6s
KEST Kesra 48.51 63 P P 06 06 00.0 +0.1
comp=Z,38nm,0.9s,baz=243,slow=2.5,SNR=34
KEST LR LR 06 23 38.4
comp=Z,822nm,22.0s,baz=283,slow=33
comp=Z,38nm,0.9s
PTGB Pitanga 48.65 188 *e*P **P 06 06 00.9 0.0**

BUG Bochum–Univer 48.71 42 *e*P **P 06 06 01.2 +0.1**
comp=Z,16nm,1.2s,baz=259,slow=7.6
BFO Black Forest 48.73 46 P **P 06 06 00.7 -0.6**
BFO pmax pmax
comp=Z,95nm,1.7s
BFO Black Forest 48.73 46 *e*P **P 06 06 00.9 -0.4**
comp=Z,88nm,1.7s,baz=259,slow=7.6
SUMG Summit 48.97 3 P **P 06 06 03.9 +0.6**
SUMG pmax pmax
comp=Z,47nm,0.9s
SUMG Summit 48.97 3 *i* P **P 06 06 03.0 -0.3**
SUMG IAmb IAmb 06 06 11.6
comp=Z,22nm,0.9s
GO01 Chusmiza 49.00 210 P **P 06 06 03.1 -1.1**
GO01 IAmb IAmb 06 06 12.2
comp=Z,22nm,0.8s
TUE Stuetta 49.11 48 P **P 06 06 04.9 +0.3**
comp=Z,2µmcomp=Z,95nm,1.6s
TNS Taunus Mts 49.17 43 *e*P **P 06 06 04.8 0.0**
comp=Z,20nm,1.1s,baz=259,slow=7.6
IBBN Ibbenburen 49.21 41 *e*P **P 06 06 04.9 0.0**
comp=Z,22nm,0.8s,baz=259,slow=7.6
KASTN Kahler Asten 49.35 42 *e*P **P 06 06 05.9 -0.3**
comp=Z,18nm,1.3s,baz=259,slow=7.6
STU Stuttgart 49.37 45 *e*P **P 06 06 05.4 -0.8**
comp=Z,66nm,1.0s,baz=259,slow=7.6
DAVOX Davos/Dischmat 49.52 48 LR LR 06 23 44.9
comp=Z,1µm,20.1s,baz=261,slow=32
SJPY San Joaquin 49.58 193 *e*P **P 06 06 09.5 +1.5**
DAVA Damuels 49.59 47 *e*P **P 06 06 08.5 +0.3**
comp=Z,35nm,0.9s
FETA Feichten 50.13 48 *e*P **P 06 06 12.5 +0.3**
comp=Z,30nm,1.2s,SNR=17
RETA Reutte 50.21 47 *e*P **P 06 06 12.9 +0.1**
comp=Z,23nm,1.4s
UBBA Unterbreizbach 50.26 43 *e*P **P 06 06 12.8 0.0**
comp=Z,15nm,1.1s,baz=259,slow=7.6
RETH Rethem/Aller, 50.27 40 *e*P **P 06 06 13.2 +0.2**
comp=Z,25nm,1.2s,baz=259,slow=7.6
GTTG Gottingen 50.38 42 *e*P **P 06 06 13.8 0.0**
comp=Z,21nm,1.1s,baz=259,slow=7.6
MOTA Moosalm 50.42 47 *e*P **P 06 06 14.5 0.0**
comp=Z,22nm,1.2s
SQTA Sankt Quirin 50.48 48 *e*P **P 06 06 14.9 +0.1**
comp=Z,33nm,1.0s
FUR Furstenfeldbru 50.64 46 *e*P **P 06 06 15.6 -0.4**
comp=Z,15nm,0.5s,baz=259,slow=7.6
CTI Castel Tesino 50.65 49 P **P 06 06 16.2 +0.1**
CTI pmax pmax
comp=Z,96nm,1.5s
WATA Walderalm 50.74 47 *e*P **P 06 06 16.7 -0.2**
comp=Z,37nm,1.3s
WTTA Wattenberg 50.77 48 *e*P **P 06 06 17.0 -0.2**
comp=Z,55nm,1.7s,SNR=13
GRF Grafenberg Arr 50.83 44 *e*P **P 06 06 16.9 -0.5**
GRF *e*L L 06 23 30.4
comp=Z,31nm,1.2s,baz=259,slow=7.6
comp=Z,874nm,21.7s
ASSE Asse, Remlinge 50.92 41 *e*P **P 06 06 18.2 +0.4**
comp=Z,115nm,1.8s,baz=259,slow=7.6
MURB Monte Urbino 51.06 53 P **P 06 06 18.3 -1.0**
MURB IAmb IAmb 06 06 52.1
comp=Z,42nm,1.0s
CPUP Villa Florida 51.13 194 P **P 06 06 18.4 -1.3**
comp=Z,1.6nm,1.0s,baz=95,slow=3.0,SNR=6.2
CPUP LR LR 06 28 36.8
comp=Z,127nm,18.0s,baz=230,slow=37
comp=Z,1.6nm,1.0s
CPUP Villa Florida 51.13 194 *e*P **P 06 06 20.0 +0.3**
ITAB Concordia 51.14 188 *e*P **P 06 06 20.7 +0.9**
KULLO Kullorsuaq 51.20 356 *i* P **P 06 06 21.8 +2.1**
KULLO IAmb IAmb 06 06 29.1
comp=Z,116nm,1.7s
MOX Moxa 51.23 43 *e*P **P 06 06 20.1 -0.3**
comp=Z,14nm,1.1s,baz=259,slow=7.6
MOX *e*L L 06 23 45.7
comp=Z,2µm,20.9s
FLTG Flechtingen 51.30 41 *e*P **P 06 06 20.5 -0.3**
comp=Z,88nm,1.9s,baz=259,slow=7.6
ABTA Abfaltersbach 51.31 48 *i* P **P 06 06 20.7 -0.4**
comp=Z,50nm,1.6s,SNR=12
NEUB Neuenburg 51.43 43 *e*P **P 06 06 21.9 +0.2**
comp=Z,20nm,1.1s,baz=259,slow=7.6
MANZ Manzenberg 51.44 44 *e*P **P 06 06 22.1 +0.2**
comp=Z,14nm,1.8s,baz=259,slow=7.6
ROTZ Rotzenmuhle 51.48 44 *e*P **P 06 06 20.9 -1.3**
comp=Z,3.8nm,1.3s,baz=259,slow=7.6
GORT1 Trebel 51.48 40 *e*P **P 06 06 21.9 -0.1**
comp=Z,66nm,1.5s,baz=259,slow=7.6
LESA Schwarzleotal 51.49 47 *e*P **P 06 06 22.0 -0.4**
comp=Z,16nm,0.9s
RSSD Black Hills 51.49 308 P **P 06 06 23.3 +0.6**
RSSD Black Hills 51.49 308 P **P 06 06 23.3 +0.6**
RSSD pmax pmax
comp=Z,12nm,1.0s
PLN Plauen 51.55 44 *e*P **P 06 06 22.5 -0.2**
comp=Z,18nm,1.9s,baz=259,slow=7.6
FFC Flin Flon 51.67 322 P **P 06 06 24.1 +0.6**
FFC pmax pmax
comp=Z,19nm,0.8s
AQU L'Aquila 51.67 54 P **P 06 06 24.1 +0.3**
AQU L'Aquila 51.67 54 P **P 06 06 23.6 -0.2**
comp=Z,533nmcomp=Z,34nm,0.9s
TANN Tannenbergstha 51.73 44 *e*P **P 06 06 23.7 -0.4**
comp=Z,46nm,1.7s,baz=259,slow=7.6
WET Wettzell 51.83 45 *e*P **P 06 06 24.3 -0.5**
comp=Z,16nm,1.1s,baz=259,slow=7.6
TXAR Lajitas Array 51.88 289 P **P 06 06 25.1 -0.5**
comp=Z,4.8nm,0.8s,baz=99,slow=8.5,SNR=41
TXAR LR LR 06 30 49.4
comp=Z,105nm,18.0s,baz=77,slow=39
TXAR PKPPKP P'P'df 06 36 48.5 -17
comp=Z,0.2nm,0.7s,baz=279,slow=1.9,SNR=4.1
comp=Z,4.8nm,0.8s
KBA Koelnbreinsper 51.91 48 *i* P **P 06 06 25.1 -0.6**
comp=Z,19nm,0.9s
ROBS Robic 51.95 49 *i* P **P 06 06 25.0 -0.7**
SKAR Skarslia 52.01 30 *e*P **P 06 06 26.4 +0.4**
MYKA Terra Mystica 52.08 49 *e*P **P 06 06 26.1 -0.7**
comp=Z,38nm,1.4s,SNR=12
BIOA Bad Ischl, Aus 52.17 47 *i* P **P 06 06 26.7 -0.7**
comp=Z,38nm,1.6s
CLL Collm 52.21 43⇑ *i*P **P 06 06 27.2 -0.4**
CLL *i* 06 06 30.8
CLL *e*S **S 06 13 55.0 +3.0**
CLL pmax pmax
comp=Z,18nm,0.9s
CLL MLR MLR
comp=Z,1µm,20.4s
CLL Collm 52.21 43 P **P 06 06 27.2 -0.4**
comp=Z,311nmcomp=Z,23nm,1.4s
CLL Collm 52.21 43 *e*P **P 06 06 27.1 -0.4**
comp=Z,14nm,0.8s,baz=259,slow=7.6
KHC Kasperske Hory 52.28 45 *e*P **P 06 06 28.1 -0.1**
KHC *e* 06 06 31.4
KHC *e*S **S 06 13 52.7 -0.5**
KHC MLR MLR
comp=Z,700nm,15.5s
KHC Kasperske Hory 52.28 45 *e*P **P 06 06 28.1 -0.1**
KHC *e*pP **sP 06 06 31.4 -0.3**
KHC *e*S **S 06 13 52.7 -0.5**
KHC AMS AMS 06 30 00.0
comp=Z,700nm,15.5s
KHC Kasperske Hory 52.28 45 P **P 06 06 27.8 -0.4**
comp=Z,320nmcomp=Z,21nm,1.6s
DBG Daneborg 52.30 8 *i* P **P 06 06 29.2 +1.4**
DBG IAmb IAmb 06 06 37.3
comp=Z,26nm,1.1s
JAVS Javornik 52.31 50 *i* P **P 06 06 28.5 -0.1**
JAVS *e*S **S 06 13 53.7 -0.2**
GEC2 GERESS Array S 52.33 46 *e*P **P 06 06 28.0 -0.6**
comp=Z,55nm,1.5s,baz=259,slow=7.6
GERES GERESS Array B 52.33 46 P **P 06 06 27.9 -0.8**
comp=Z,3.2nm,0.7s,baz=263,slow=7.5,SNR=29
comp=Z,3.2nm,0.7s
MOL Molde 52.36 28 *e*P **P 06 06 27.8 -0.7**
HSKC Hora Svate Kat 52.37 44 *e*P **P 06 06 28.8 -0.1**
HSKC *e*S **S 06 13 58.3 +3.9**
HSKC AMS AMS 06 24 10.0
comp=Z,1µm,19.4s
VAE Valguarnera 52.52 60 LR LR 06 26 48.7
comp=Z,1µm,18.4s,baz=342,slow=34
MOA Molln 52.60 47 *e*P **P 06 06 29.8 -0.8**
comp=Z,19nm,1.2s
ISCO Idaho Springs 52.60 303 P **P 06 06 32.8 +1.7**
ISCO pmax pmax
comp=Z,11nm,0.8s

COP Copenhagen 52.69 37 *i* P **P 06 06 31.5 +0.5**
COP IAmb IAmb 06 06 32.4
comp=Z,48nm,0.5s
OBKA Obir 52.69 49 *e*P **P 06 06 30.9 -0.5**
comp=Z,27nm,0.8s
BRG Berggiesshubel 52.73 43 *e*P **P 06 06 32.6 +1.1**
comp=Z,15nm,1.0s,baz=259,slow=7.6
BRG Berggiesshubel 52.73 43 *i* P **P 06 06 32.8 +1.4**
BRG Amp 06 06 33.7
comp=Z,15nm,1.0s
BRG Berggiesshubel 52.73 43 S **S 06 14 07.0 +7.8**
BRG Berggiesshubel 52.73 43 SP S 06 14 12.0 +13
BRG Berggiesshubel 52.73 43 SS **SKiKP 06 17 49.0 -3.1**
RICC Richard 52.78 44 AMS AMS 06 24 20.0
comp=Z,1µm,21.3s
GBRS Gornja Briga 52.81 50 *i* P **P 06 06 32.1 -0.1**
DOMB Dombas 52.83 29 *e*P **P 06 06 32.2 +0.2**
RUE Ruedersdorf 52.86 41 *e*P **P 06 06 33.3 +0.9**
comp=Z,33nm,0.7s,baz=259,slow=7.6
PRA Prague 52.94 44 *e*S **S 06 14 07.1 +5.0**
PRA AMS AMS 06 24 40.0
comp=Z,700nm,19.2s
PRU Pruhonice 53.00 44 *e*S **S 06 14 06.5 +3.6**
PRU AMS AMS 06 25 50.0
comp=Z,600nm,18.9s
SOKA Soboth 53.03 49 *i* P **P 06 06 32.8 -1.1**
comp=Z,19nm,1.3s,SNR=12
CNLB Canela 53.06 186 *e*P **P 06 06 34.5 +0.4**
PVCC Panska Ves 53.08 44 P **P 06 06 34.4 +0.3**
PVCC Panska Ves 53.08 44 AMS AMS 06 24 30.0
comp=Z,1µm,21.2s
ARSA Arzberg 53.41 48 *e*P **P 06 06 35.5 -1.0**
comp=Z,24nm,1.1s,SNR=11
NB2 NORSAR Subarra 53.47 30 P **P 06 06 36.9 +0.1**
comp=Z,83nm,2.0s,baz=252,slow=7.9
NB2 NORSAR Subarra 53.47 30 P **P 06 06 36.8 0.0**
NB2 pmax pmax
comp=Z,61nm,1.8s
NB2 NORSAR Subarra 53.47 30 P **P 06 06 36.9 +0.1**
baz=252,slow=7.9
NOA NORSAR Array B 53.47 30 P **P 06 06 36.6 -0.2**
comp=Z,7.3nm,0.8s,baz=253,slow=7.9,SNR=24
NOA LR LR 06 26 35.1
comp=Z,433nm,18.3s,baz=250,slow=33
comp=Z,7.3nm,0.8s
NC602 NORSAR Array S 53.53 31 *e*P **P 06 06 37.7 +0.5**
NORES NORESS Array B 53.53 31 P **P 06 06 37.3 +0.1**
ANMO Albuquerque 53.56 297 LR LR 06 27 21.2
comp=Z,737nm,20.7s,baz=182,slow=34
ANMO Albuquerque 53.56 297 *i* P **P 06 06 39.0 +0.9**
ANMO pmax pmax
comp=Z,32nm,1.0s
CONA Conrad Observa 53.68 47 *i* P **P 06 06 37.9 -0.7**
comp=Z,15nm,0.9s,SNR=12
NEEM North Greenlan 53.78 358 *i* P **P 06 06 39.2 +0.1**
NEEM IAmb IAmb 06 06 40.4
comp=Z,381nm,2.7s
HAYD Hayden 53.85 304 P **P 06 06 40.2 +0.1**
RONA Rosalia, Austr 53.96 47 *e*P **P 06 06 40.0 -0.6**
comp=Z,27nm,1.0s
UPC Upice 53.99 44 *e*S **S 06 14 19.9 +3.5**
UPC AMS AMS 06 25 10.0
comp=Z,1µm,19.8s
CHVC Chvalec 54.03 44 AMS AMS 06 25 00.0
comp=Z,1µm,22.7s
KRUC Moravsky 54.12 46 *e*P **P 06 06 41.1 -0.6**
OSTC Ostas 54.13 44 AMS AMS 06 25 20.0
comp=Z,1µm,19.1s
SOP Sopron 54.13 47 P **P 06 06 41.9 +0.1**
DPC Dobruska-Polom 54.18 44 *e*S **S 06 14 21.5 +2.5**
DPC AMS AMS 06 27 50.0
comp=Z,600nm,16.4s
DPC Dobruska-Polom 54.18 44 P **P 06 06 41.8 -0.4**
comp=Z,325nmcomp=Z,9.9nm,1.1s
KSP Ksiaz 54.21 44 *e*P **P 06 06 42.5 +0.1**
KSP Ksiaz 54.21 44 P **P 06 06 42.7 +0.4**
KSP Ksiaz 54.21 44 P **P 06 06 42.0 -0.3**
comp=Z,399nmcomp=Z,15nm,1.2s
ITQB Itaqui 54.23 192 *e*P **P 06 06 42.7 +0.2**
VRAC Vranov 54.26 45 *e*P **P 06 06 42.3 -0.5**
VRAC Vranov 54.26 45⇑P **P 06 06 42.2 -0.5**
VRAC Vranov 54.26 45 P **P 06 06 42.2 -0.5**
HFS Hagfors 54.39 32 P **P 06 06 43.0 -0.5**
comp=Z,20nm,0.7s,baz=260,slow=7.4,SNR=35
HFS LR LR 06 25 36.4
comp=Z,1µm,20.8s,baz=254,slow=31
comp=Z,20nm,0.7s
CPSB Cacapava Do Su 54.43 188 *e*P **P 06 06 44.1 +0.1**
KRLC Kraliky 54.45 45 *e*P **P 06 06 44.6 +0.5**
KRLC *e* 06 06 48.2
KRLC *e*S **S 06 14 23.1 +0.5**
KRLC MLR MLR
comp=Z,400nm,17.1s
KRLC Kraliky 54.45 45 *e*P **P 06 06 44.6 +0.5**
KRLC *e*pP **sP 06 06 48.2 +0.6**
KRLC *e*S **S 06 14 23.1 +0.5**
KRLC AMS AMS 06 29 40.0
comp=Z,400nm,17.1s
ZST Bratislava 54.53 47 *e*P **P 06 06 44.8 +0.1**
ZST pmax pmax
comp=Z,16nm,1.6s
ZST Bratislava 54.53 47 *e*P **P 06 06 44.8 +0.1**
SMOL Smolenice 54.76 46 *e*P **P 06 06 46.1 -0.3**
SMOL pmax pmax
comp=Z,20nm,1.7s
NSS Namsos 54.91 26 *e*P **P 06 06 47.4 +0.2**
MORC Moravsky Berou 54.91 45 *e*P **P 06 06 47.5 0.0**
MORC Moravsky Berou 54.91 45⇓P **P 06 06 47.6 0.0**
MORC Moravsky Berou 54.91 45 P **P 06 06 47.5 0.0**
JAVC Velka Javorina 54.94 46 *e*P **P 06 06 47.4 -0.4**
MAUC Maruska 55.07 45 *e*P **P 06 06 49.3 +0.6**
STEB Steborice 55.07 45 *e*P **P 06 06 48.7 +0.1**
PV17 East Wray Mesa 55.28 301 P **P 06 06 50.6 0.0**
OKC Ostrava-Krasne 55.31 45 AMS AMS 06 31 30.0
comp=Z,600nm,14.9s
SRO Srobarova 55.32 47 *e*P **P 06 06 50.5 +0.1**
SRO pmax pmax
comp=Z,24nm,0.7s
SRO Srobarova 55.32 47 *e*P **P 06 06 50.5 +0.1**
PDAR Pinedale Array 55.50 307 P **P 06 06 52.2 +0.1**
comp=Z,9.8nm,0.9s,baz=96,slow=7.3,SNR=62
PDAR LR LR 06 28 29.0
comp=Z,666nm,21.1s,baz=82,slow=34
comp=Z,9.8nm,0.9s
MORH Mrgy, Hungar 55.51 49⇓P **P 06 06 51.8 0.0**
MORH Mrgy, Hungar 55.51 49 P **P 06 06 51.2 -0.6**
comp=Z,304nmcomp=Z,21nm,1.4s
VYHS Vyhne 55.70 47 *e*P **P 06 06 52.6 -0.6**
VYHS pmax pmax
comp=Z,16nm,1.0s
VYHS Vyhne 55.70 47 *e*P **P 06 06 52.6 -0.6**
PLTB Pedras Altas 55.79 188 *e*P **P 06 06 55.0 +1.2**
BUD Budapest 55.79 48 P **P 06 06 53.3 -0.5**
LEIR Leirfjorden 55.89 25 *e*P **P 06 06 54.5 +0.4**
STOK Stokkvaagen 55.93 25 *e*P **P 06 06 53.9 -0.5**
PDG Podgorica 56.01 54⇓P **P 06 06 56.2 +0.7**
VAGH Vaagaholmen 56.16 24 *e*P **P 06 06 56.0 -0.1**
OJC Ojcow 56.39 44 *e*P **P 06 06 58.2 +0.1**
OJC Ojcow 56.39 44 P **P 06 06 58.5 +0.4**
OJC Ojcow 56.39 44 P **P 06 06 57.8 -0.3**
comp=Z,15nm,1.2s
MOR8 Moi Rana 56.42 25 *e*P **P 06 06 58.9 +0.8**
SRU San Rafael Swe 56.44 302 P **P 06 06 59.9 +1.1**
SRU pmax pmax
comp=Z,52nm,0.8s
NIE Niedzica 56.69 45 *e*P **P 06 07 01.5 +1.3**
NIE Niedzica 56.69 45 P **P 06 07 01.8 +1.5**
NIE Niedzica 56.69 45 P **P 06 07 01.2 +0.9**
comp=Z,205nmcomp=Z,9.2nm,1.8s
BOZ Bozeman (W) 56.92 310 P **P 06 07 02.6 +0.5**
BOZ pmax pmax
comp=Z,23nm,1.0s
RES Resolute Bay 56.96 346 LR LR 06 29 12.7
comp=Z,790nm,21.2s,baz=116,slow=34
FAUS Fauske 57.11 24 *e*P **P 06 07 03.2 +0.3**
EDA Edea 57.17 101 P **P 06 07 03.9 -0.2**
EDA IAmb IAmb 06 07 05.7
comp=Z,28nm,1.2s
STHS Stebnicka Huta 57.31 45 *e*P **P 06 07 05.4 +0.8**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 57.31 45 *e*P **P 06 07 05.4 +0.8**
TUC Tucson 57.48 294 P **P 06 07 07.0 +0.8**
TUC pmax pmax
comp=Z,29nm,1.0s

BZS Buzias 57.59 50⇓P **P 06 07 07.5 +0.8**
BZS Buzias 57.59 50 P **P 06 07 07.4 +0.8**
SIRR Siria 57.60 49⇓P **P 06 07 07.5 +0.8**
MDVR Moldovita 57.69 51⇓P **P 06 07 07.8 +0.4**
FNA Florina 57.70 56 P **P 06 07 08.4 +0.8**
FNA pmax pmax
comp=Z,14nm,1.1s
BOVS Bovan 57.75 52⇑P **P 06 07 08.1 +0.3**
HVU Hansel Valley 57.94 306 P **P 06 07 09.8 +0.4**
HVU pmax pmax
comp=Z,14nm,0.8s
SURR Surduc 57.95 50⇑P **P 06 07 09.6 +0.4**
KOLS Kolonicke sedl 57.98 46 *e*P **P 06 07 09.6 +0.3**
KOLS pmax pmax
comp=Z,6.0nm,0.7s
KOLS Kolonicke sedl 57.98 46 *e*P **P 06 07 09.6 +0.3**
HERR Herculane 58.19 51⇓P **P 06 07 11.3 +0.5**
KWP Kalwaria Pacla 58.26 45 *e*P **P 06 07 12.3 +1.0**
KWP Kalwaria Pacla 58.26 45 P **P 06 07 12.2 +0.9**
comp=Z,578nmcomp=Z,22nm,1.6s
KWP pP **sP 06 07 15.3 +0.5**
comp=Z,578nmcomp=Z,22nm,1.6s
DRGR 58.31 49⇓P **P 06 07 12.1 +0.2**
DRGR 58.31 49 P **P 06 07 12.0 +0.2**
CO01 Juntas del Tor 58.46 205 P **P 06 07 13.1 0.0**
CO01 IAmb IAmb 06 08 17.6
comp=Z,21nm,1.2s
KNB Kanab 58.46 300 P **P 06 07 14.0 +0.8**
KNB pmax pmax
comp=Z,47nm,1.7s
MARR Marisel-Cluj 58.60 49⇑P **P 06 07 14.1 +0.3**
LPIG La Paz 58.73 285 LR LR 06 33 19.4
comp=Z,265nm,19.7s,baz=81,slow=37
NOR Nord 59.01 5 *i* P **P 06 07 15.8 -0.2**
NOR IAmb IAmb 06 07 27.2
comp=Z,34nm,1.3s
TRO Tromso 59.05 22 *e*P **P 06 07 16.9 +0.5**
CFA Coronel Fontan 59.23 203 P **P 06 07 17.4 -0.8**
comp=Z,3.8nm,1.1s,baz=35,slow=8.4,SNR=8.3
CFA LR LR 06 33 18.4
comp=Z,486nm,21.6s,baz=358,slow=36
comp=Z,3.8nm,1.1s
YKA Yellowknife Ar 59.54 330 P **P 06 07 19.2 -0.7**
comp=Z,4.1nm,0.8s,baz=91,slow=7.8,SNR=15
YKA LR LR 06 32 04.1
comp=Z,811nm,20.5s,baz=85,slow=35
comp=Z,4.1nm,0.8s
ARR Arges 59.73 50⇓P **P 06 07 22.3 +0.6**
ELK Elko 59.88 305 LR LR 06 32 57.5
comp=Z,809nm,18.1s,baz=86,slow=36
ELK Elko 59.88 305 P **P 06 07 23.6 +0.6**
ELK pmax pmax
comp=Z,29nm,0.8s
BURAR Bucovina Array 59.98 48⇓P **P 06 07 24.6 +1.1**
BURAR Bucovina Array 59.98 48 P **P 06 07 24.5 +1.1**
DOPR Dopca 60.21 49⇓P **P 06 07 25.1 +0.2**
RNPP8 Varash 60.25 43 P **P 06 07 25.2 +0.2**
RNPP9 Sopachiv 60.27 43 P **P 06 07 24.7 -0.4**
RNPP5 Staryi Chortor 60.27 43 P **P 06 07 24.7 -0.4**
KTK1 Kautokeino 60.40 23 *e*P **P 06 07 25.9 +0.2**
OZUR 60.48 49⇑P **P 06 07 27.3 +0.6**
NEW Newport 60.57 313 P **P 06 07 27.9 +0.6**
NEW pmax pmax
comp=Z,32nm,0.9s
FINES FINESS Array B 60.59 32 P **P 06 07 26.6 -0.5**
comp=Z,7.1nm,0.8s,baz=257,slow=5.1,SNR=14
FINES LR LR 06 29 07.0
comp=Z,1µm,21.7s,baz=262,slow=32
comp=Z,7.1nm,0.8s
MLR Muntele Rosu 60.64 50⇑P **P 06 07 28.5 +0.5**
MLR Muntele Rosu 60.64 50 P **P 06 07 28.4 +0.5**
MLR Muntele Rosu 60.64 50 P **P 06 07 28.2 +0.3**
comp=Z,636nmcomp=Z,55nm,1.0s
GLA Glamis 60.71 296 P **P 06 07 30.2 +1.7**
GLA pmax pmax
comp=Z,32nm,1.0s
KMPD K-Podol'skiy 60.76 46 P **P 06 07 27.6 -0.9**
VSU Vasula 60.77 35*c*eP **P 06 07 26.8 -1.6**
VSU pmax pmax
comp=Z,18nm,1.0s
ELND Elena 60.84 53⇑P **P 06 07 29.9 +0.7**
BMO Blue Mountains 60.97 309 P **P 06 07 30.0 -0.1**
BMO Blue Mountains 60.97 309 P **P 06 07 30.0 -0.1**
BMO pmax pmax
comp=Z,7.0nm,0.8s
ISR Istrita 61.09 50 P **P 06 07 30.1 -0.8**
comp=Z,21nm,1.2s
BC3 Big Chuckawall 61.11 296 P **P 06 07 32.4 +1.0**
BC3 IAmb IAmb 06 07 41.1
comp=Z,14nm,1.0s
VRI Vrincioaia 61.15 49⇓P **P 06 07 32.5 +1.2**
VRI Vrincioaia 61.15 49 P **P 06 07 32.5 +1.2**
VRI Vrincioaia 61.15 49 P **P 06 07 30.5 -0.8**
comp=Z,575nmcomp=Z,25nm,1.5s
TPNV Topopah Spring 61.19 300 P **P 06 07 33.4 +1.5**
TPNV Topopah Spring 61.19 300 P **P 06 07 33.4 +1.5**
TPNV pmax pmax
comp=Z,35nm,1.0s
SPITS Spitsbergen Ar 61.20 12 P **P 06 07 30.6 -0.5**
comp=Z,6.3nm,0.9s,baz=217,slow=14,SNR=1.9
comp=Z,6.3nm,0.9s
ARCES ARCESS Array B 61.28 22 P **P 06 07 31.4 -0.4**
comp=Z,13nm,0.7s,baz=258,slow=5.7,SNR=13
ARCES LR LR 06 27 24.1
comp=Z,381nm,20.8s,baz=260,slow=30
comp=Z,13nm,0.7s
MNK Minsk 61.39 40 *i* P **P 06 07 30.6 -2.1**
MNK *i* 06 09 45.5
MNK *i* S **S 06 15 51.5 -1.8**
MNK *i* SS **SS 06 19 54.0 +0.5**
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK MLR MLR
comp=N,234nm,16.0s
MNK MLR MLR
comp=Z,399nm,16.0s
MNK MLR MLR
comp=E,108nm,19.0s
MI28 Mi28,Pidlybu 61.41 44 P **P 06 07 32.7 -0.2**
LUBAR Lubar, Ukraine 61.52 45 P **P 06 07 33.1 -0.6**
EZN Ezine 61.57 56 P **P 06 07 34.3 +0.1**
comp=E,15nm,1.2s
TPH Tonopah 61.77 302 P **P 06 07 36.8 +0.9**
TPH pmax pmax
comp=Z,14nm,1.0s
KEV Kevo 61.83 22 P **P 06 07 35.6 +0.2**
KEV pmax pmax
comp=Z,30nm,1.0s
PFO Pinyon Flats O 61.95 297 LR LR 06 32 38.2
comp=Z,444nm,21.6s,baz=88,slow=34
PFO Pinyon Flats O 61.95 297 *i* P **P 06 07 37.7 +0.7**
PFO pmax pmax
comp=Z,31nm,1.1s
SORM Soroca 62.05 47⇓P **P 06 07 38.3 +1.0**
SORM Soroca 62.05 47 P **P 06 07 38.2 +1.0**
SORM Soroca 62.05 47 P **P 06 07 35.8 -1.5**
comp=Z,21nm,0.7s
WVOR Wild Horse Val 62.20 307 P **P 06 07 39.3 +0.7**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
CFR Carcaliu 62.21 50⇓P **P 06 07 38.0 -0.4**
CFR Carcaliu 62.21 50 P **P 06 07 38.0 -0.4**
AK20 Malin Array Si 62.27 44 P **P 06 07 37.8 -0.9**
AK19 Malin Array Si 62.27 44 P **P 06 07 37.8 -0.9**
AK21 Malin Array Si 62.28 44 P **P 06 07 37.8 -1.0**
AK17 Malin Array Si 62.30 44 P **P 06 07 38.2 -0.7**
AK22 Malin Array Si 62.30 44 P **P 06 07 37.9 -1.0**
AK18 Malin Array Si 62.30 44 P **P 06 07 38.0 -0.9**
AK13 Malin Array Si 62.31 44 P **P 06 07 38.0 -1.0**
AK16 Malin Array Si 62.33 44 P **P 06 07 38.4 -0.7**
AK14 Malin Array Si 62.34 44 P **P 06 07 38.4 -0.7**
AK04 Malin Array Si 62.37 44 P **P 06 07 38.4 -0.9**
AK11 Malin Array Si 62.37 44 P **P 06 07 38.4 -1.0**
KIEV Kiev 62.40 44⇓P **P 06 07 39.2 -0.4**
KIEV Kiev 62.40 44 P **P 06 07 39.1 -0.4**
KIEV Kiev 62.40 44 P **P 06 07 38.7 -0.8**
comp=Z,96nm,0.9s
AK02 Malin Array Si 62.40 44 P **P 06 07 38.3 -1.2**
AK01 Malin Array Si 62.40 44 P **P 06 07 38.6 -1.0**
AK05 Malin Array Si 62.40 44 P **P 06 07 38.5 -1.1**

AK03	**Malin Array Si**	**62.40**	**44**	P		**P**		**06 07 38.6**	**-1.0**
AK07	**Malin Array Si**	**62.40**	**44**	P		**P**		**06 07 39.0**	**-0.6**
AKASG	**Malin Array Be**	**62.40**	**44**	P		**P**		**06 07 38.7**	**-0.9**
	comp=Z,8.7nm,0.7s,baz=274,slow=6.2,SNR=57								
AKASG				LR		LR		06 31 13.3	
	comp=Z,739nm,20.6s,baz=272,slow=33								
AKASG				PKP2bc				06 36 52.9	
	comp=Z,0.4nm,0.3s,baz=75,slow=1.1,SNR=5.4								
	comp=Z,8.7nm,0.7s								
AKBB	**Malin Array Si**	**62.40**	**44**	*ce*P		**P**		**06 07 38.7**	**-0.9**
AKBB				pmax		pmax			
	comp=Z,15nm,0.9s								
AKBB	**Malin Array Si**	**62.40**	**44**	P		**P**		**06 07 38.5**	**-1.1**
AK08	**Malin Array Si**	**62.43**	**44**	P		**P**		**06 07 38.8**	**-1.0**
KIS	**Kishinev**	**62.48**	**48**	*e*P		**P**		**06 07 39.0**	**-1.2**
	comp=Z,60nm,1.7s								
KIS				*e*L		L		06 30 45.0	
KIS				LRM		MLR		06 36 35.0	
	comp=Z,130nm,23.0s								
KIS	**Kishinev**	**62.48**	**48**	*e*P		**P**		**06 07 39.0**	**-1.2**
KIS				pmax		pmax			
	comp=Z,60nm,1.7s								
MILM	**Milestii Mici**	**62.48**	**48**	*e*P		**P**		**06 07 38.0**	**-2.2**
MILM				*e*S		**S**		**06 16 02.0**	**-5.3**
MILM				pmax		pmax			
	comp=Z,190nm,2.0s								
NVAR	**Mina Array Bea**	**62.55**	**302**	P		**P**		**06 07 40.9**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=89,slow=7.0,SNR=15								
NVAR				LR		LR		06 32 43.3	
	comp=Z,1µm,21.4s,baz=84,slow=34								
	comp=Z,2.0nm,0.6s								
ISA	**Isabella, Lake**	**63.18**	**299**	P		**P**		**06 07 47.1**	**+1.9**
ISA				pmax		pmax			
	comp=Z,44nm,0.8s								
TRQA	**Tornquist**	**63.45**	**195**	*e*P		**P**		**06 07 47.6**	**+1.0**
WRGLY	**Wrigley**	**63.63**	**330**	P		**P**		**06 07 47.7**	**+0.2**
	baz=89								
PINE	**Pine Mountain**	**63.68**	**309**	P		**P**		**06 07 49.1**	**+0.6**
C36M	**Paulatuk**	**63.93**	**337**	P		**P**		**06 07 49.4**	**0.0**
	baz=92								
KOTAN	**Kotaneelee Air**	**64.01**	**327**	P		**P**		**06 07 50.0**	**-0.1**
	baz=87								
APA	**Apatity**	**64.01**	**25**	*e*P		**P**		**06 07 49.0**	**-1.0**
APA				*e*				06 10 07.8	
APA				*e*S		**S**		**06 16 28.2**	**+2.5**
APA				*e*				06 17 41.6	
APA				MLR		MLR			
	comp=Z,349nm,3.3s								
CMB	**Columbia Colle**	**64.24**	**302**	P		**P**		**06 07 52.3**	**+0.2**
CMB				pmax		pmax			
	comp=Z,11nm,0.9s								
A36M	**Sachs Harbour**	**64.41**	**340**	P		**P**		**06 07 53.2**	**+0.7**
	baz=92								
TOAD	**Toad River Com**	**64.69**	**326**	P		**P**		**06 07 54.2**	**-0.4**
	baz=86								
O03E	**Paynes Creek**	**64.90**	**305**	P		**P**		**06 07 56.5**	**+0.1**
PMPB	**Monarch Peak**	**64.92**	**300**	P		**P**		**06 07 57.3**	**+0.7**
LIRD	**Liard River Hi**	**65.09**	**326**	P		**P**		**06 07 57.0**	**-0.2**
	baz=85								
YBH	**Yreka Blue Hor**	**65.31**	**307**	LR		LR		06 35 00.8	
	comp=Z,60nm,20.5s,baz=82,slow=35								
YBH	**Yreka Blue Hor**	**65.31**	**307**	P		**P**		**06 07 58.6**	**-0.5**
YBH				pmax		pmax			
	comp=Z,21nm,0.9s								
TGTN	**Hyland Airport**	**65.97**	**329**	P		**P**		**06 08 02.9**	**0.0**
	baz=84								
OBN	**Obninsk**	**66.35**	**38**	LR		LR		06 33 42.6	
	comp=Z,1µm,20.6s,baz=216,slow=33								
OBN	**Obninsk**	**66.35**	**38**	*c i*P		**P**		**06 08 05.5**	**+0.1**
OBN				*e*				06 10 26.3	
OBN				*i* S		S		06 16 44.2	-11
OBN				*i* SS		**SS**		**06 21 04.2**	**-6.6**
OBN				pmax		pmax			
	comp=Z,129nm,2.5s								
OBN	**Obninsk**	**66.35**	**38**	P		**P**		**06 08 05.4**	**+0.1**
	comp=Z,63nm,0.6s								
WTLY	**Watson Lake, Y**	**66.38**	**327**	P		**P**		**06 08 05.3**	**-0.2**
	baz=83								
ANTO	**Ankara**	**66.46**	**55**	P		**P**		**06 08 05.6**	**-0.9**
MOS	**Moscow**	**66.86**	**38**	*e*P		**P**		**06 08 05.5**	**-3.1**
MOS				*e*				06 08 32.9	
MOS				*e*				06 10 35.8	
MOS				*e*S		**S**		**06 16 58.0**	**-2.9**
MOS				pmax		pmax			
	comp=Z,33nm,0.7s								
MOS				MLR		MLR			
	comp=Z,400nm,19.0s								
BR106	**Keskin Array S**	**67.11**	**55**	P		**P**		**06 08 10.9**	**+0.2**
	comp=Z,114nmcomp=Z,16nm,1.1s								
BR105	**Keskin Array S**	**67.11**	**55**	P		**P**		**06 08 10.9**	**+0.2**
	comp=Z,131nmcomp=Z,17nm,1.1s								
KLMR	**Klimovskoe**	**67.11**	**32**	*e*P		**P**		**06 08 08.3**	**-1.8**
KLMR				S		**S**		**06 17 07.3**	**+3.4**
KLMR				pmax		pmax			
	comp=Z,27nm,1.4s								
BR131	**Keskin Array S**	**67.13**	**55**	*i* P		**P**		**06 08 10.4**	**-0.4**
BRTR	**Keskin Array B**	**67.13**	**55**	P		**P**		**06 08 10.8**	**-0.1**
BRTR	**Keskin Array B**	**67.13**	**55**	P		**P**		**06 08 10.6**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=268,slow=4.8,SNR=32								
BRTR				LR		LR		06 35 13.3	
	comp=Z,284nm,20.5s,baz=300,slow=34								
	comp=Z,5.8nm,0.6s								
BRTR	**Keskin Array B**	**67.13**	**55**	*i* P		**P**		**06 08 11.1**	**+0.3**
BRTR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BBB	**Bella Bella**	**67.14**	**318**	LR		LR		06 37 30.9	
	comp=Z,764nm,18.0s,baz=70,slow=36								
BR104	**Keskin Array S**	**67.14**	**55**	P		**P**		**06 08 11.0**	**+0.1**
	comp=Z,124nmcomp=Z,13nm,0.9s								
DLBC	**Dease Lake**	**67.23**	**325**	LR		LR		06 37 13.4	
	comp=Z,581nm,18.7s,baz=52,slow=36								
DLBC	**Dease Lake**	**67.23**	**325**	P		**P**		**06 08 10.7**	**-0.3**
	baz=81,SNR=6.2								
MMPY	**Sheldon Lake,**	**67.23**	**330**	P		**P**		**06 08 10.4**	**-0.6**
	baz=82,SNR=5.6								
INK	**Inuvik**	**67.41**	**336**	LR		LR		06 36 04.4	
	comp=Z,977nm,20.9s,baz=74,slow=35								
INK	**Inuvik**	**67.41**	**336**	P		**P**		**06 08 11.4**	**-0.5**
INK				pmax		pmax			
	comp=Z,20nm,1.0s								
INK	**Inuvik**	**67.41**	**336**	P		**P**		**06 08 11.5**	**-0.3**
	baz=82,SNR=7.0								
KIRS	**Kirsehir-Merke**	**67.47**	**56**	⇑P		**P**		**06 08 13.7**	**+0.8**
R33M	**Jennings River**	**67.56**	**327**	P		**P**		**06 08 13.8**	**+0.6**
	baz=81,SNR=9.8								
T35M	**Bob Quinn**	**67.57**	**324**	P		**P**		**06 08 14.2**	**+1.1**
	baz=81								
F31M	**Tsiigehtchic**	**67.61**	**335**	P		**P**		**06 08 12.6**	**-0.5**
	baz=82								
S34M	**Telegraph Cree**	**67.89**	**325**	P		**P**		**06 08 14.4**	**-0.7**
	baz=80								
G31M	**Satah River**	**67.89**	**335**	P		**P**		**06 08 14.6**	**-0.3**
	baz=81,SNR=8.4								
H31M	**Peel River**	**68.09**	**334**	P		**P**		**06 08 16.4**	**+0.1**
	baz=81,SNR=8.6								
H09N1	**TRISTAN DA CUN**	**68.13**	**152**	T		T		07 22 22.4	
	SNR=10								
LPSR	**Galich'ya Gora**	**68.14**	**41**	*e*P		**P**		**06 08 14.9**	**-1.9**
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
H09W1	**TRISTAN DA CUN**	**68.15**	**152**	T		T		07 22 22.8	
	SNR=47								
Q32M	**Nakina River**	**68.30**	**326**	P		**P**		**06 08 18.4**	**+0.5**
	baz=80,SNR=5.8								
PLCA	**Paso Flores**	**68.30**	**200**	P		**P**		**06 08 18.1**	**+0.2**
PLCA				IAmb		IAmb		06 08 34.4	
	comp=Z,20nm,1.1s								
PLCA	**Paso Flores**	**68.30**	**200**	P		**P**		**06 08 17.6**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=18,slow=5.9,SNR=12								
PLCA				PcP		**PcP**		**06 08 44.2**	**+0.7**
	comp=Z,6.6nm,0.9s,baz=2.6,slow=4.3,SNR=3.5								
PLCA				LR		LR		06 37 33.6	
	comp=Z,505nm,21.8s,baz=26,slow=35								
	comp=Z,4.8nm,0.9s								
PLCA	**Paso Flores**	**68.30**	**200**	P		**P**		**06 08 18.1**	**+0.2**
PLCA				pmax		pmax			
	comp=Z,20nm,1.1s								
PLCA	**Paso Flores**	**68.30**	**200**	*e*P		**P**		**06 08 17.9**	**+0.1**
N32M	**Quiet Lake**	**68.31**	**329**	P		**P**		**06 08 17.6**	**-0.2**
	baz=80								
P33M	**Teslin, Yukon**	**68.35**	**328**	P		**P**		**06 08 18.2**	**+0.1**
	baz=80,SNR=6.3								
F30M	**Barrier River**	**68.36**	**336**	P		**P**		**06 08 17.6**	**-0.3**
	baz=80								
VSR	**Storozhevoye**	**68.56**	**42**	*e*P		**P**		**06 08 17.6**	**-1.8**
VSR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
V35K	**Ketchikan**	**68.62**	**322**	P		**P**		**06 08 19.0**	**-0.7**
	baz=79								
G30M	**tAoh Zraii Nji**	**68.64**	**335**	P		**P**		**06 08 18.6**	**-1.1**
	baz=80								
VORD	**Divnogorie**	**68.68**	**43**	*e*P		**P**		**06 08 19.2**	**-1.0**
VORD				pmax		pmax			
	comp=Z,7.0nm,1.0s								
M31M	**Drury Creek, Y**	**68.74**	**330**	P		**P**		**06 08 20.0**	**-0.4**
	baz=79								
WRAK	**Wrangell Islan**	**68.81**	**323**	P		**P**		**06 08 21.4**	**+0.6**
	baz=79								
P32M	**Atlin**	**68.91**	**327**	P		**P**		**06 08 21.2**	**-0.3**
	baz=79								
EPYK	**Eagle Plains**	**68.94**	**334**	P		**P**		**06 08 21.2**	**-0.4**
	baz=79,SNR=6.6								
E29M	**Blow River**	**69.00**	**337**	P		**P**		**06 08 21.6**	**-0.2**
	baz=79								
I30M	**Mount Dempster**	**69.03**	**333**	P		**P**		**06 08 22.1**	**-0.2**
	baz=79,SNR=7.6								
D28M	**Stokes Point**	**69.11**	**338**	P		**P**		**06 08 23.1**	**+0.6**
	baz=78								
J30M	**Hart River**	**69.14**	**332**	P		**P**		**06 08 23.2**	**+0.2**
	baz=78,SNR=12								
MAYO	**Mayo, Yukon**	**69.14**	**331**	P		**P**		**06 08 23.0**	**+0.1**
	baz=78								
WHY	**Whitehorse**	**69.27**	**328**	P		**P**		**06 08 23.7**	**-0.1**
	baz=78								
U33K	**Whale Pass**	**69.29**	**323**	P		**P**		**06 08 23.6**	**-0.2**
	baz=78								
G29M	**Pine Creek**	**69.34**	**335**	P		**P**		**06 08 24.0**	**-0.1**
G29M				IAmb		IAmb		06 08 50.4	
	comp=Z,18nm,0.9s								
G29M	**Pine Creek**	**69.34**	**335**	P		**P**		**06 08 24.3**	**+0.2**
	baz=78,SNR=5.3								
CRAG	**Craig**	**69.43**	**323**	P		**P**		**06 08 23.7**	**-1.0**
	baz=78								
N31M	**Braeburn, Yuko**	**69.53**	**329**	P		**P**		**06 08 25.5**	**+0.2**
N31M	**Braeburn, Yuko**	**69.53**	**329**	P		**P**		**06 08 25.8**	**+0.5**
	baz=78,SNR=13								
E28M	**Babbage River**	**69.54**	**337**	P		**P**		**06 08 25.0**	**-0.2**
E28M				IAmb		IAmb		06 08 33.7	
	comp=Z,14nm,1.1s								
E28M	**Babbage River**	**69.54**	**337**	P		**P**		**06 08 25.1**	**-0.2**
	baz=77,SNR=9.6								
R32K	**Eaglecrest**	**69.58**	**326**	P		**P**		**06 08 25.5**	**-0.1**
	baz=78								
H29M	**Whitestone**	**69.63**	**334**	P		**P**		**06 08 26.0**	**+0.2**
	baz=77,SNR=9.6								
SKAG	**Skagway**	**69.74**	**327**	P		**P**		**06 08 26.6**	**0.0**
	baz=78								
M30M	**Minto, Yukon**	**69.76**	**330**	P		**P**		**06 08 26.4**	**-0.3**
M30M				IAmb		IAmb		06 08 35.7	
	comp=Z,23nm,1.4s								
M30M	**Minto, Yukon**	**69.76**	**330**	P		**P**		**06 08 27.1**	**+0.3**
	baz=77,SNR=6.5								
I29M	**Ogilvie Camp,**	**69.79**	**334**	P		**P**		**06 08 26.7**	**-0.2**
	baz=77,SNR=11								
K29M	**Barlow Dome**	**69.80**	**332**	P		**P**		**06 08 27.1**	**+0.1**
	baz=77,SNR=5.2								
O30N	**Mendenhall**	**69.83**	**328**	P		**P**		**06 08 27.6**	**+0.4**
	baz=77,SNR=9.7								
F28M	**Old Crow**	**69.89**	**336**	P		**P**		**06 08 27.8**	**+0.3**
	baz=76,SNR=14								
D27M	**Malcolm River**	**69.90**	**338**	P		**P**		**06 08 28.5**	**+1.0**
	baz=76								
J29N	**Klondike Camp**	**69.96**	**333**	P		**P**		**06 08 28.1**	**+0.2**
	baz=77								
VRH	**Novokhopyorsk**	**70.13**	**42**	*e*P		**P**		**06 08 27.3**	**-1.8**
VRH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
N30M	**Aishikik Lake**	**70.14**	**329**	P		**P**		**06 08 29.4**	**+0.2**
	baz=77,SNR=6.9								
MMAI	**Mount Meron Ar**	**70.16**	**62**	P		**P**		**06 08 29.4**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=270,slow=9.2,SNR=6.1								
	comp=Z,0.8nm,0.3s								
L29M	**L29M**	**70.23**	**331**	P		**P**		**06 08 30.1**	**+0.4**
	baz=76,SNR=7.1								
PLBC	**Pleasant Camp**	**70.26**	**327**	P		**P**		**06 08 30.3**	**+0.6**
	baz=77								
SIT	**Sitka**	**70.28**	**325**	P		**P**		**06 08 30.2**	**+0.3**
	baz=77								
E27K	**Coleen River**	**70.38**	**337**	P		**P**		**06 08 30.9**	**+0.5**
	baz=75,SNR=12								
P30M	**Million Dollar**	**70.39**	**328**	P		**P**		**06 08 31.6**	**+0.9**
	baz=76,SNR=5.5								
I28M	**Miner Creek**	**70.44**	**334**	P		**P**		**06 08 30.8**	**-0.1**
	baz=76,SNR=7.5								
HYT	**Haines Junctio**	**70.49**	**329**	P		**P**		**06 08 31.9**	**+0.6**
	baz=76,SNR=5.6								
S31K	**Pelican**	**70.54**	**326**	P		**P**		**06 08 31.8**	**+0.3**
	baz=76								
M29M	**Somme Creek**	**70.54**	**330**	P		**P**		**06 08 32.0**	**+0.4**
	baz=76,SNR=13								
DAWY	**Dawson**	**70.55**	**332**	P		**P**		**06 08 31.8**	**+0.2**
	baz=76,SNR=14								
SOC	**Sochi**	**70.65**	**50**	*e*P		**P**		**06 08 31.8**	**-0.7**
SOC				*e*PPP		PPP		06 12 50.8	
SOC				*e*S		**S**		**06 17 48.0**	**+1.5**
SOC				pmax		pmax			
	comp=Z,24nm,1.0s								
SOC				MLR		MLR			
	comp=Z,190nm,16.0s								
C27K	**Jago River**	**70.73**	**338**	P		**P**		**06 08 33.5**	**+1.0**
	baz=74,SNR=23								
G27K	**Doyon Strip**	**70.76**	**335**	P		**P**		**06 08 33.0**	**+0.2**
	baz=75,SNR=6.9								
GHAJ	**Ghor Haditha**	**70.77**	**64**	P		**P**		**06 08 34.0**	**+0.6**
GHAJ				IAmb		IAmb		06 08 58.9	
	comp=Z,36nm,1.1s								
ARPR	**Arapgir-MALATY**	**70.81**	**55**	P		**P**		**06 08 34.1**	**+0.3**
ARPR				IAmb		IAmb		06 08 49.2	
	comp=Z,23nm,0.9s								
H27K	**Steamboat Moun**	**70.87**	**335**	P		**P**		**06 08 33.6**	**+0.1**
	baz=75,SNR=12								
YUK6	**Outpost Mounta**	**70.87**	**329**	P		**P**		**06 08 34.7**	**+0.9**
	baz=76,SNR=12								
P29M	**Windy Craggy**	**70.89**	**327**	P		**P**		**06 08 33.7**	**0.0**
	baz=76								
YUK4	**Talbot Arm**	**70.90**	**329**	P		**P**		**06 08 34.0**	**0.0**
	baz=76,SNR=7.5								
VSLR	**Vesyoloye**	**70.91**	**50**	*i* P		**P**		**06 08 33.0**	**-1.1**
VSLR				pmax		pmax			
	comp=Z,32nm,1.1s								
C26K	**Camden Bay**	**71.05**	**339**	P		**P**		**06 08 34.2**	**-0.3**
	baz=73								
I27K	**Kandik River**	**71.07**	**334**	P		**P**		**06 08 35.0**	**+0.3**
	baz=74,SNR=8.8								
O29M	**Mount Kennedy**	**71.13**	**328**	P		**P**		**06 08 35.2**	**-0.1**
	baz=75								
YUK8	**Steele Glacier**	**71.44**	**329**	P		**P**		**06 08 37.8**	**+0.5**
	baz=74								
F26K	**Sheenjek River**	**71.44**	**337**	P		**P**		**06 08 38.2**	**+1.3**
	baz=73,SNR=28								
G26K	**Porcupine Rive**	**71.53**	**336**	P		**P**		**06 08 38.2**	**+0.8**
	baz=73,SNR=24								
YUK3	**Moose Creek**	**71.62**	**330**	P		**P**		**06 08 38.6**	**+0.3**
	baz=74,SNR=16								
BVCY	**Beaver Creek**	**71.63**	**331**	P		**P**		**06 08 38.5**	**+0.4**
	baz=74								
PNL	**Peninsula**	**71.70**	**328**	P		**P**		**06 08 37.9**	**-0.6**
	baz=74								
K27K	**Chicken**	**71.70**	**333**	P		**P**		**06 08 38.5**	**0.0**
	baz=73								
D25K	**Kavik River**	**71.72**	**338**	P		**P**		**06 08 39.4**	**+0.8**
	baz=71,SNR=28								
I26K	**Coal Creek Min**	**71.77**	**334**	P		**P**		**06 08 38.9**	**0.0**
	baz=73								
O28M	**Mount Upton**	**71.78**	**329**	P		**P**		**06 08 40.0**	**+0.6**
	baz=74,SNR=24								
E25K	**Arctic Village**	**71.83**	**337**	P		**P**		**06 08 40.4**	**+1.2**
	baz=72,SNR=32								
L27K	**Beaver Creek,**	**71.87**	**332**	P		**P**		**06 08 39.7**	**+0.1**
	baz=73,SNR=28								
PINM	**Pinnacle**	**71.99**	**328**	P		**P**		**06 08 40.4**	**0.0**
	baz=74								
F25K	**Christian Rive**	**72.02**	**337**	P		**P**		**06 08 41.8**	**+1.4**
	baz=71,SNR=27								
M27K	**Edge Creek, AK**	**72.10**	**331**	P		**P**		**06 08 41.4**	**+0.3**
	baz=73,SNR=10								
J26L	**Joseph Creek**	**72.18**	**333**	P		**P**		**06 08 41.2**	**-0.3**
	baz=72,SNR=12								
CTG	**Chitna Glacier**	**72.26**	**329**	P		**P**		**06 08 43.0**	**+0.9**
	baz=73,SNR=5.8								
C24K	**Franklin Bluff**	**72.36**	**339**	P		**P**		**06 08 42.9**	**+0.6**
	baz=69								
G25K	**Bearman Lake**	**72.46**	**336**	P		**P**		**06 08 43.9**	**+1.0**
	baz=71,SNR=7.5								
KIRV	**Kirov**	**72.50**	**33**	P		**P**		**06 08 40.0**	**-3.3**
	comp=Z,8.5nm,0.7s,baz=295,slow=6.2,SNR=5.9								
KIRV				LR		LR		06 36 15.4	
	comp=Z,856nm,21.6s,baz=288,slow=32								
KIRV	**Kirov**	**72.50**	**33**	*ce*P		**P**		**06 08 43.0**	**-0.3**
H25L	**Birch Creek**	**72.52**	**335**	P		**P**		**06 08 44.3**	**+1.0**
	baz=71,SNR=18								
SCRK	**Sand Creek**	**72.52**	**333**	P		**P**		**06 08 43.4**	**-0.2**
	baz=72								
L26K	**Log Cabin Wild**	**72.54**	**332**	P		**P**		**06 08 43.8**	**+0.3**
	baz=72								
GOF	**Gofitskoye**	**72.56**	**48**	*ce*P		P		06 08 36.5	-7.5
M26K	**Nabesna, AK**	**72.58**	**331**	P		**P**		**06 08 43.9**	**0.0**
	baz=72								
D24K	**Happy Valley**	**72.60**	**339**	P		**P**		**06 08 44.8**	**+1.0**
	baz=69								
KIV	**Kislovodsk**	**72.63**	**49**	*e*P		**P**		**06 08 44.8**	**+0.3**
KIV				*e*				06 11 26.3	
KIV				*e*S		**S**		**06 18 10.2**	**+0.8**
KIV				*e*SS		**SS**		**06 22 50.5**	**+2.3**
KIV				pmax		pmax			
	comp=Z,18nm,1.1s								
KIV				MLR		MLR			
	comp=Z,244nm,18.0s								
PRP	**Porcupine Dome**	**72.65**	**335**	P		**P**		**06 08 45.0**	**+0.7**
	baz=71,SNR=23								
SHA1	**Shidzhatmaz**	**72.67**	**49**	*i* P		**P**		**06 08 45.0**	**+0.1**
MESA	**MESA**	**72.78**	**329**	P		**P**		**06 08 45.5**	**+0.2**
	baz=72								
ISLE	**Juniper Island**	**72.84**	**329**	P		**P**		**06 08 46.0**	**+0.5**
ISLE				IAmb		IAmb		06 08 55.6	
	comp=Z,48nm,1.3s								
KBZ	**Khabaz**	**72.84**	**49**	P		**P**		**06 08 46.1**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=284,slow=6.3,SNR=7.4								
	comp=Z,4.7nm,0.9s								
KBZ	**Khabaz**	**72.84**	**49**	*ce*P		**P**		**06 08 45.6**	**0.0**
KBZ				pmax		pmax			
	comp=Z,14nm,1.8s								
F24K	**Squaw Lake**	**72.86**	**337**	P		**P**		**06 08 46.2**	**+0.8**
F24K				IAmb		IAmb		06 08 57.3	
	comp=Z,23nm,0.8s								
F24K	**Squaw Lake**	**72.86**	**337**	P		**P**		**06 08 46.6**	**+1.2**
	baz=69,SNR=30								
E24K	**Your Creek**	**72.87**	**337**	P		**P**		**06 08 46.7**	**+1.2**
	baz=69								
J25K	**Salcha River,**	**72.89**	**334**	P		**P**		**06 08 45.9**	**+0.2**
J25K	**Salcha River,**	**72.89**	**334**	P		**P**		**06 08 45.6**	**-0.1**
	baz=71,SNR=7.1								
MCARA	**McCarthy VSAT**	**72.91**	**330**	P		**P**		**06 08 46.1**	**+0.4**
MCARA	**McCarthy VSAT**	**72.91**	**330**	P		**P**		**06 08 46.7**	**+1.0**
	baz=72,SNR=8.1								
C23K	**Itkillik River**	**72.93**	**340**	P		**P**		**06 08 47.2**	**+1.5**
	baz=68,SNR=15								
RIDG	**Independent Ri**	**72.96**	**333**	P		**P**		**06 08 46.2**	**+0.1**
	baz=71								
G24K	**Hadweenzic Riv**	**73.00**	**336**	P		**P**		**06 08 47.0**	**+0.8**
	baz=70,SNR=12								
TOLK	**Toolik Lake Re**	**73.04**	**338**	P		**P**		**06 08 47.5**	**+1.1**
	baz=68,SNR=5.5								
CRQE	**Cirque**	**73.14**	**329**	P		**P**		**06 08 47.4**	**+0.1**
	baz=72								
E23K	**Chandalar**	**73.27**	**338**	P		**P**		**06 08 48.0**	**+0.1**
	baz=68,SNR=13								
D23K	**Nanushuk River**	**73.29**	**339**	P		**P**		**06 08 48.0**	**+0.1**
	baz=67								
K24K	**Donnelly Dome**	**73.33**	**333**	P		**P**		**06 08 48.2**	**0.0**
	baz=70								
BELG	**Belogornoye**	**73.35**	**40**	*i* P		**P**		**06 08 46.6**	**-1.8**
BELG				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ILAR	**Eielson Array**	**73.44**	**334**	P		**P**		**06 08 49.0**	**+0.1**
	comp=Z,9.0nm,0.8s,baz=72,slow=4.8,SNR=104								
ILAR				LR		LR		06 41 35.9	
	comp=Z,1µm,18.1s,baz=59,slow=36								
	comp=Z,9.0nm,0.8s								
ILAR	**Eielson Array**	**73.44**	**334**	P		**P**		**06 08 49.0**	**+0.1**
H24K	**Noodor Dome**	**73.45**	**335**	P		**P**		**06 08 49.6**	**+0.6**
	baz=69,SNR=5.7								
PAX	**Paxson**	**73.48**	**332**	P		**P**		**06 08 49.4**	**+0.2**
PAX				pmax		pmax			
	comp=Z,15nm,1.1s								
PAX	**Paxson**	**73.48**	**332**	P		**P**		**06 08 49.1**	**-0.1**
	baz=70,SNR=7.9								
HARP	**HAARP**	**73.54**	**331**	P		**P**		**06 08 49.8**	**+0.3**
	baz=70,SNR=7.6								
POKR	**Poker Plat Res**	**73.54**	**334**	P		**P**		**06 08 50.0**	**+0.6**
	baz=69								
N25K	**Chitina, Valde**	**73.56**	**331**	P		**P**		**06 08 49.7**	**0.0**
	baz=70								
HDA	**Harding Lake**	**73.60**	**334**	P		**P**		**06 08 49.4**	**-0.4**
	baz=69								
B22K	**Teshekpuk Lake**	**73.61**	**340**	P		**P**		**06 08 51.0**	**+1.3**

GNI Garni 75.23 52 *i* P **P** **06 09 00.8 +0.8**
GNI pmax pmax
comp=Z,48nm,1.4s
G21K Allakaket 75.28 337 P **P** **06 09 00.7 +1.2**
baz=64,SNR=17
I21K Tanana 75.29 335 P **P** **06 09 00.4 +0.8**
baz=65,SNR=9.4
TRF Thorofare Moun 75.33 333 P **P** **06 09 00.5 +0.5**
baz=66,SNR=19
D20K Etivluk River 75.35 339 P **P** **06 09 00.8 +1.0**
baz=62,SNR=7.4
BPAW Bear Paw Mtn. 75.35 334 P **P** **06 08 59.9 -0.1**
baz=66,SNR=12
KNK Knik Glacier 75.35 331 P **P** **06 09 00.0 0.0**
baz=67
H21K Melozitna Rive 75.40 336 P **P** **06 09 01.1 +0.8**
baz=65,SNR=22
E20K Nigu River 75.42 339 P **P** **06 09 01.4 +1.0**
baz=62,SNR=5.5
PWL Port Wells 75.51 330 P **P** **06 09 01.1 +0.2**
baz=67
PMR Palmer 75.58 331 P **P** **06 09 01.9 +0.6**
PMR pmax pmax
comp=Z,23nm,1.2s
PMR Palmer 75.58 331 P **P** **06 09 01.6 +0.4**
baz=67
CUT Chulitna 75.74 332 P **P** **06 09 02.2 0.0**
baz=66
F20K Avaraart Lake 75.83 338 P **P** **06 09 03.6 +1.0**
baz=62
D19K Kuna River 75.94 339 P **P** **06 09 04.5 +1.2**
baz=61,SNR=8.0
M22K Willow 75.95 332 P **P** **06 09 03.6 +0.3**
baz=66
A19K Wainwright 75.97 342 P **P** **06 09 03.3 0.0**
baz=58
CHUM Lake Minchumin 75.97 334 P **P** **06 09 03.7 +0.2**
baz=65,SNR=13
RC01 Rabbit Creek A 76.05 331 P **P** **06 09 04.0 0.0**
baz=66
CAST Castle Rocks 76.08 334 P **P** **06 09 03.9 -0.2**
baz=65,SNR=6.6
C19K Lookout Ridge 76.09 340 P **P** **06 09 05.4 +1.2**
baz=59,SNR=5.3
E19K Redstone River 76.15 338 P **P** **06 09 05.5 +1.0**
baz=61,SNR=8.5
H20K Anotleneega Mo 76.24 336 P **P** **06 09 05.7 +0.7**
baz=63,SNR=12
MAK Makhachkala 76.27 49 *e*P P 06 09 00.6 -5.0
MAK *e* 06 11 54.9
MAK *e*S **S** **06 18 42.7 -7.3**
MAK *e*SS **SS** **06 23 39.8 -3.6**
MAK *e*SSS SSS 06 26 55.5
MAK pmax pmax
comp=Z,137nm,1.2s
MAK MLR MLR
comp=Z,558nm,16.0s
O22K Cooper Landing 76.29 330 P **P** **06 09 05.6 +0.3**
baz=66
SEW Seward 76.32 330 P **P** **06 09 05.3 -0.2**
baz=66
SUA Susitna One 76.34 332 P **P** **06 09 06.0 +0.2**
baz=65
PPLA Purkeypile 76.34 333 P **P** **06 09 06.2 +0.4**
baz=64
I20K Naaghedeneel 76.41 335 P **P** **06 09 06.6 +0.6**
baz=63,SNR=6.5
SKT Skwentna 76.46 332 P **P** **06 09 06.0 -0.3**
SKT IAmb IAmb 06 09 15.1
comp=Z,27nm,1.3s
SKT Skwentna 76.46 332 P **P** **06 09 06.8 +0.4**
baz=65
J20K Nowinta River 76.56 335 P **P** **06 09 07.2 +0.4**
baz=63
B18K Kokolik River 76.63 341 P **P** **06 09 07.8 +0.6**
baz=58
F19K Shaleruckik Mo 76.64 338 P **P** **06 09 07.6 +0.4**
baz=60,SNR=5.4
G19K Purcell Mounta 76.74 337 P **P** **06 09 08.7 +0.8**
baz=61,SNR=12
H19K Roundabout Mou 76.81 336 P **P** **06 09 08.4 +0.3**
baz=61
C18K Utukok River 76.83 340 P **P** **06 09 08.0 -0.4**
baz=58
K20K Telida 76.91 334 P **P** **06 09 08.8 -0.1**
baz=63,SNR=6.6
AKT Akhty 76.93 50 *e*P **P** **06 09 08.9 -0.6**
AKT *e* 06 09 20.0
AKT *e* 06 12 02.1
AKT pmax pmax
comp=Z,23nm,1.3s
AKT MLR MLR
comp=Z,358nm,17.0s
N20K Mount Spurr 77.09 332 P **P** **06 09 10.0 0.0**
baz=64
SPCR Spurr Chakacha 77.09 332 P **P** **06 09 10.1 +0.1**
baz=64
M20K Styx River 77.18 332 P **P** **06 09 10.4 -0.1**
baz=64
J19K Poorman 77.22 335 P **P** **06 09 10.6 0.0**
baz=62,SNR=6.3
L20K Farewell, AK 77.23 333 P **P** **06 09 10.6 -0.1**
baz=63,SNR=5.4
E18K Tukpahlearik C 77.29 339 P **P** **06 09 11.7 +0.8**
baz=58
F18K Selawik 77.40 338 P **P** **06 09 12.3 +0.8**
baz=59,SNR=6.6
G18K Tagagawik 77.42 337 P **P** **06 09 12.3 +0.7**
baz=60
HOM Homer 77.51 330 P **P** **06 09 12.9 +0.7**
baz=64
C17K DeLong Mountai 77.54 340 P **P** **06 09 12.6 +0.3**
baz=56
MBAR Mbarara 77.65 96 *i* P **P** **06 09 14.5 +0.4**
MBAR pmax pmax
comp=Z,10.0nm,1.1s
RDOG Red Dog Mine 77.69 340 P **P** **06 09 13.8 +0.7**
baz=56
H18K Honhosa River 77.69 337 P **P** **06 09 13.6 +0.4**
baz=60
M19K Big River Lodg 77.71 333 P **P** **06 09 12.9 -0.4**
baz=62
O20K Slope Mountain 77.77 331 P **P** **06 09 13.4 -0.4**
baz=64
L19K White Mountain 77.77 333 P **P** **06 09 13.4 -0.3**
baz=62
ARTI Arti 77.80 34 P **P** **06 09 14.2 +0.2**
ARTI comp=Z,2.0nm,0.4s,baz=282,slow=8.8,SNR=5.2 LR LR 06 40 42.7
comp=Z,726nm,20.1s,baz=296,slow=34
comp=Z,2.0nm,0.4s
E17K Hotham Inlet 77.88 339 P **P** **06 09 14.5 +0.4**
baz=57
J18K Innoko River 77.91 335 P **P** **06 09 14.3 -0.2**
baz=61,SNR=5.0
D17K Noatak River 77.94 340 P **P** **06 09 14.9 +0.4**
baz=56
F17K Baldwin Pennin 78.03 338 P **P** **06 09 14.9 -0.1**
baz=57
P19K Oil Pt 78.23 330 P **P** **06 09 16.2 -0.1**
baz=63
N19K Bonanza Creek 78.25 332 P **P** **06 09 15.8 -0.7**
baz=62
C16K Lisburne Hills 78.31 341 P **P** **06 09 16.2 -0.3**
baz=54
Q20K Shuyak Island 78.32 329 P **P** **06 09 16.8 +0.1**
baz=63
G17K Kiwalik Mounta 78.33 337 P **P** **06 09 16.8 +0.1**
baz=58
H17K Granite Mounta 78.36 337 P **P** **06 09 17.1 +0.2**
baz=58,SNR=7.0
O19K Port Alsworth 78.47 331 P **P** **06 09 16.9 -0.7**
baz=62
M18K Stony River 78.50 333 P **P** **06 09 17.9 +0.2**
baz=61
L18K Granite Mounta 78.51 334 P **P** **06 09 17.7 0.0**
baz=61
SVE Sverdlovsk 78.74 33 *e*P **P** **06 09 20.3 +1.2**
SVE pmax pmax
comp=Z,24nm,1.1s
Q19K Cape Douglas, 78.75 330 P **P** **06 09 18.9 -0.3**
baz=62
KDAK Kodiak Island 78.78 329 LR LR 06 44 14.7
comp=Z,748nm,19.6s,baz=49,slow=36
KDAK Kodiak Island 78.78 329 *i* P **P** **06 09 19.5 +0.2**
KDAK pmax pmax
comp=Z,27nm,1.3s
KDAK Kodiak Island 78.78 329 P **P** **06 09 19.3 -0.1**
baz=63
J17K VABM Dome 78.86 335 P **P** **06 09 19.5 -0.2**
baz=59
K17K Iditarod 78.91 334 P **P** **06 09 20.0 +0.1**
baz=59
N18K Kilae Creek 78.92 332 P **P** **06 09 20.0 -0.1**
baz=61
KOOLE Kule 78.95 121 *i* P **P** **06 09 23.4 +2.5**
G16K Koyuk River 78.99 338 P **P** **06 09 20.9 +0.6**
baz=56
L17K Donlin 79.20 334 P **P** **06 09 22.2 +0.6**
baz=59,SNR=5.8
I17K Unalakleet 79.21 336 P **P** **06 09 21.8 +0.2**
baz=58
M17K Holitna River 79.22 333 P **P** **06 09 21.8 0.0**
baz=60
P18K Big Mountain, 79.26 331 P **P** **06 09 22.5 +0.5**
baz=61
H16K Elim 79.37 337 P **P** **06 09 22.8 +0.4**
baz=56
OHAK Old Harbor 79.38 328 P **P** **06 09 22.6 +0.1**
baz=62
J16K Anvik River 79.50 335 P **P** **06 09 23.4 +0.2**
baz=58
Q18K Katmai Hardscr 79.51 330 P **P** **06 09 23.4 -0.1**
baz=61
N17K Nushagak Hills 79.56 332 P **P** **06 09 23.7 +0.1**
baz=60
F15K North Star Dit 79.59 338 P **P** **06 09 23.8 +0.2**
baz=54
RPN Rapa Nui 79.75 234 LR LR 06 43 12.1
comp=Z,113nm,18.6s,baz=92,slow=35
R18K Karluk 79.77 329 P **P** **06 09 25.1 +0.4**
baz=62
G15K Niukluk 79.80 338 P **P** **06 09 25.2 +0.4**
baz=55
P17K Kvichak River 79.89 331 P **P** **06 09 25.9 +0.5**
baz=60
O17K Koliganek Bris 79.90 331 P **P** **06 09 25.9 +0.5**
baz=60
L16K Owhat River 79.90 334 P **P** **06 09 26.3 +1.0**
baz=58
M16K Timber Creek 80.05 333 P **P** **06 09 26.6 +0.4**
baz=58,SNR=6.4
Q17K Contact Creek 80.10 330 P **P** **06 09 27.4 +0.7**
baz=61
AKTO Aktyubinsk 80.11 39 P **P** **06 09 27.1 +0.3**
comp=Z,2.8nm,0.3s,baz=298,slow=5.5,SNR=13
AKTO LR LR 06 41 42.1
comp=Z,790nm,21.6s,baz=282,slow=33
comp=Z,2.8nm,0.3s
SII Sitkinak Islan 80.12 328 P **P** **06 09 26.9 +0.2**
baz=62
Q16K King Salmon 80.25 330 P **P** **06 09 27.3 +0.1**
baz=60
N16K Nishlik Lake 80.26 333 P **P** **06 09 27.4 0.0**
baz=59
F14K Arctic Creek 80.29 339 P **P** **06 09 27.3 -0.2**
baz=53
K15K Wolf Creek Mou 80.40 335 P **P** **06 09 28.0 -0.1**
baz=56
O16K Kokwok River B 80.42 332 P **P** **06 09 28.1 -0.1**
baz=59
KGCAE Kacgae 80.46 120 *i* P **P** **06 09 31.5 +2.3**
ANM Nome 80.52 338 P **P** **06 09 29.0 +0.4**
baz=54
R17L Mt. Peulik Vol 80.64 329 P **P** **06 09 29.9 +0.4**
baz=60
P16K Nushagak River 80.67 331 P **P** **06 09 29.6 0.0**
baz=59
L15K Ungalak Mounta 80.72 334 P **P** **06 09 30.4 +0.6**
baz=56
USHA Usuaia 80.75 193 LR LR 06 46 09.5
comp=Z,861nm,19.6s,baz=36,slow=36
TNA Tin City 80.77 339 P **P** **06 09 30.0 +0.1**
baz=52
J14K Nanvaranak Lak 80.92 336 P **P** **06 09 31.4 +0.6**
baz=55
M15K Kasigluk River 80.94 333 P **P** **06 09 31.6 +0.6**
baz=57
N15K Kwethluk River 80.98 333 P **P** **06 09 31.0 -0.2**
baz=57
CKGRV CKGRV 80.98 118 *i* P **P** **06 09 32.1 +0.1**
FURI Furi 81.16 84 LR LR 06 45 14.2
comp=Z,523nm,19.1s,baz=300,slow=36
CHIR Chirikof Islan 81.18 328 P **P** **06 09 32.6 +0.2**
baz=60
L14K Kuka Creek 81.39 334 P **P** **06 09 33.7 +0.4**
baz=55
O15K Ungalikthiuk R 81.40 332 P **P** **06 09 33.8 +0.3**
baz=58
M14K Bethel 81.43 334 P **P** **06 09 33.7 +0.2**
baz=56
RAYN Ar Rayn 81.68 68 P **P** **06 09 36.8 +1.1**
RAYN pmax pmax
comp=Z,9.0nm,1.3s
LSZ Lusaka 81.75 111 LR LR 06 42 59.2
comp=Z,133nm,18.2s,baz=300,slow=34
N14K Kuskokwak Cree 81.78 333 P **P** **06 09 35.6 +0.1**
baz=56
K13K Kusilvak Mount 81.81 335 P **P** **06 09 35.8 +0.2**
baz=54
O14K Tigyukauivet M 81.98 332 P **P** **06 09 36.6 +0.1**
baz=56
M13K Dall Lake 82.19 334 P **P** **06 09 38.0 +0.5**
baz=55
SKOMA Sekoma 82.66 121 *i* P **P** **06 09 42.8 +2.0**
KDWAN Kaudwane 82.68 119 *i* P **P** **06 09 43.3 +2.4**
S14K Fog Glacier 82.83 329 P **P** **06 09 40.9 -0.3**
baz=57
GAMB Gambell 83.16 339 P **P** **06 09 42.6 0.0**
baz=48
M11K Mekoryuk 83.34 335 P **P** **06 09 43.4 -0.1**
baz=52
LPHEP Lephephe 83.63 119 *i* P **P** **06 09 48.2 +2.5**
CHNA Chernabura Isl 83.64 328 P **P** **06 09 45.2 +0.1**
baz=57
SDPT Sand Point 83.78 329 P **P** **06 09 45.9 -0.1**
baz=57
KMBO Kilima Mbogo 83.81 94 P **P** **06 09 47.8 +0.6**
comp=Z,1.8nm,0.3s,baz=276,slow=3.3,SNR=5.9
KMBO LR LR 06 46 47.2
comp=Z,414nm,19.3s,baz=296,slow=36
comp=Z,1.8nm,0.3s
KMBO Kilima Mbogo 83.81 94 *i* P **P** **06 09 47.1 0.0**
ATD Arta Tunnel 83.93 80 LR LR 06 44 57.8
comp=Z,31nm,21.9s,baz=299,slow=34
LBTB Lobatse 84.22 120 LR LR 06 42 07.2
comp=Z,429nm,19.0s,baz=300,slow=32
S12K Black Hills 84.33 329 P **P** **06 09 49.1 +0.3**
baz=55
MATP Matopo 84.39 115 LR LR 06 43 12.5
comp=Z,169nm,19.1s,baz=306,slow=33
TIXI Tiksi 84.73 2 LR LR 06 45 15.1
comp=Z,108nm,18.1s,baz=16,slow=34
FALS False Pass 85.45 329 P **P** **06 09 53.9 -0.4**
baz=54
BILL Bilibino 85.48 349 *i* P **P** **06 09 52.5 -1.8**
BILL pmax pmax
comp=Z,16nm,1.1s
BVAR Borovoye Array 85.51 33 P **P** **06 09 55.4 +0.6**
comp=Z,2.8nm,0.6s,baz=316,slow=4.1,SNR=9.5
BVAR LR LR 06 44 56.0
comp=Z,564nm,20.3s,baz=302,slow=34
comp=Z,2.8nm,0.6s
BOSA Boshof 85.73 124 P **P** **06 09 57.6 +1.3**
comp=Z,5.0nm,0.9s,baz=343,slow=4.0,SNR=6.4
BOSA LR LR 06 44 24.8
comp=Z,191nm,18.8s,baz=304,slow=33
comp=Z,5.0nm,0.9s
SPIA Saint Paul Isl 87.01 333 P **P** **06 10 02.0 0.0**
baz=49
P08K Saint George I 87.10 333 P **P** **06 10 01.5 -0.9**
baz=49
UNV Unalaska Valle 87.50 329 P **P** **06 10 04.0 -0.5**
baz=52
NIKH Nikolski High 89.15 330 P **P** **06 10 11.4 -0.9**
baz=50
PMSA Palmer Station 89.45 188 *e*S **S** **06 20 56.4 -6.5**
comp=Z,43nm,30.0s
PMSA *e*SS **SS** **06 27 06.3 +7.4**
comp=Z,76nm,28.0s
PMSA Palmer Station 89.45 188 *e*LR LR 06 38 33.3
comp=Z,544nm,24.0s
PMSA Palmer Station 89.45 188 LR LR 06 52 11.0
comp=Z,172nm,19.1s,baz=350,slow=37
KURK Kurchatov 90.96 32 P **P** **06 10 20.7 -0.1**
KURBB Kurchatov Arra 90.98 32 P **P** **06 10 20.7 -0.2**
KURBB LR LR 06 47 26.2
comp=Z,2.2nm,0.2s,baz=308,slow=4.8,SNR=16
comp=Z,652nm,21.3s,baz=306,slow=33
comp=Z,2.2nm,0.2s
ZALV Zalesovo Beam 91.53 27 P **P** **06 10 23.4 +0.1**
comp=Z,3.5nm,0.8s,baz=339,slow=7.9,SNR=9.0
ZALV LR LR 06 49 29.0
comp=Z,418nm,20.7s,baz=309,slow=34
comp=Z,3.5nm,0.8s
ZALV Zalesovo Beam 91.53 27 *i* P **P** **06 10 23.8 +0.4**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 93.84 40 LR LR 06 52 18.6
comp=Z,484nm,18.0s,baz=324,slow=35
AAK Ala-Archa 93.84 40 *i* P **P** **06 10 33.5 -1.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 95.39 33 P **P** **06 10 41.4 0.0**
comp=Z,1.2nm,0.9s,baz=347,slow=4.0,SNR=2.4
MKAR LR LR 06 50 18.7
comp=Z,676nm,21.7s,baz=314,slow=33
comp=Z,1.2nm,0.9s
MA2 Magadan 95.86 352 *ce*P **P** **06 10 41.7 -1.5**
MA2 pmax pmax
comp=Z,7.0nm,1.0s
SHEM Shemya Is, Ala 96.36 337 LR LR 06 55 45.8
comp=Z,305nm,18.7s,baz=54,slow=36
KSH Kashi 96.63 42 P **P** **06 10 48.8 +1.5**
KSH pP pwP 06 10 53.3 -2.1
KSH pmax pmax
comp=Z,5.0nm,1.2s
KSH LR LR
comp=Z,500nm,21.0s
KSH LR LR
comp=Z,410nm,20.4s
KSH LR LR
comp=Z,620nm,20.2s
POHA Pohakuloa 99.26 296 *e*SS SS 06 29 20.9 +0.7
comp=Z,5.0nm,27.1s
POHA Pohakuloa 99.26 296 *e*LR LR 06 43 18.9
comp=Z,14nm,23.3s
SNAA Sanae 99.64 167 P **Pdif** **06 10 60.0 +0.2**
comp=Z,0.7nm,0.9s,baz=292,slow=5.6,SNR=5.5
SNAA LR LR 06 46 17.6
comp=Z,158nm,21.8s,baz=294,slow=30
comp=Z,0.7nm,0.9s
SNAA Sanae 99.64 167 P **Pdif** **06 11 00.0 +0.2**
WMQ Urumqi 100.19 32 *e*P **Pdif** **06 11 05.8 +2.7**
WMQ LR LR
comp=Z,620nm,18.7s
WMQ LR LR
comp=Z,760nm,17.7s
WMQ LR LR
comp=Z,540nm,18.7s
XMAS Kiritimati 109.15 281 *e*SS SS 06 31 40.3 +3.9
comp=Z,4.5nm,28.0s
XMAS Kiritimati 109.15 281 *e*LR LR 06 47 55.0
comp=Z,19nm,24.0s
PPT2 Papeete2 109.46 259 *e*LR LR 06 47 57.0
comp=Z,193nm,37.0s
PPT2 *e*LR LR 06 47 58.1
comp=Z,199nm,25.5s
GOMU GeErMu 109.52 33 Pdif **Pdif** **06 11 44.0 -1.1**
GOMU SS SS 06 31 40.0 +0.5
GOMU LR LR
comp=Z,240nm,17.5s
GOMU LR LR
comp=Z,330nm,17.1s
GOMU LR LR
comp=Z,460nm,19.4s
TBI Tubuai 111.19 253 *e*SS SS 06 32 12.2 +8.4
comp=Z,970nm,31.0s
TBI Tubuai 111.19 253 *e*LR LR 06 48 45.4
comp=Z,1μm,30.5s
BTO Baotou 112.00 20 *e*PKP **PKiKP** **06 15 45.5 -7.0**
BTO PP **PP** **06 16 35.0 +0.2**
BTO Baotou 112.00 20 SS SS 06 32 13.5 +2.1
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,250nm,7.4s
BTO LR LR
comp=N,310nm,13.2s
BTO LR LR
comp=E,260nm,11.4s
BTO LR LR
comp=Z,360nm,13.2s
JOHN Johnston Islan 112.12 301 *e*LR LR 06 49 23.8
comp=Z,390nm,26.0s
HHC Hu-ho-hao-te 112.24 19 *e*PKP **PKiKP** **06 15 49.5 -3.4**
HHC LR LR
comp=Z,330nm,16.3s
HHC LR LR
comp=Z,270nm,16.7s
HHC LR LR
comp=Z,470nm,16.7s
QSPA South Pole Qui 113.73 180 PKKPbc PKKPbc 06 26 40.3 -0.1
comp=Z,2.3nm,1.0s,baz=331,slow=2.9,SNR=5.1
RAR Rarotonga 119.72 258 *e*SS SS 06 34 00.0 +4.1
comp=Z,61μm,32.0s
RAR Rarotonga 119.72 258 *e*LR LR 06 52 43.5
comp=Z,163nm,27.0s
PZH PanZhiHua 120.80 34 PKP **PKiKP** **06 16 10.0 +0.1**
NJ2 Nanjing 122.48 16 *e*PKP **PKiKP** **06 16 14.0 +1.1**
VNDA Vanda 124.65 187 PKP **PKPdf** **06 16 15.3 -0.1**
comp=Z,1.6nm,0.8s,baz=274,slow=2.5,SNR=8.5
CMAR Chiang Mai Arr 125.52 43 PKP **PKPdf** **06 16 18.6 -0.3**
comp=Z,1.3nm,0.3s,baz=305,slow=1.2,SNR=8.4
NIUE Niue 128.34 264 *e*LR LR 06 56 42.1
comp=Z,169nm,25.0s
JOW Kunigami 129.31 7 *e*LR LR 06 57 01.4
comp=Z,427nm,24.4s
CASY Casey 134.87 167 *e*LR LR 06 59 37.3
comp=Z,338nm,25.0s
SNZO South Karori 142.28 233 *e*SS SS 06 38 32.1 +1.2
comp=Z,13nm,30.0s
SNZO South Karori 142.28 233 *e*LR LR 07 03 08.3
comp=Z,14nm,25.0s
NFK Norfolk Island 149.67 253 *e*LR LR 07 06 39.7
DZM Mont Dzumac 150.57 267 *e*SS SS 06 40 09.2 +2.5
comp=Z,139nm,28.3s
DZM Mont Dzumac 150.57 267 *e*LR LR 07 07 10.9
comp=Z,178nm,23.9s
WRA Warramunga Arr 176.16 2 PKP **PKPdf** **06 17 29.5 +1.7**
comp=Z,0.2nm,0.2s,baz=255,slow=1.6,SNR=4.7
WRA PKPab **PKPab** **06 19 07.7 +0.3**
comp=Z,2.3nm,0.8s,baz=9.9,slow=4.6,SNR=7.9
ASAR Alice Springs 179.43 77 PKP **PKPdf** **06 17 25.9 -2.3**
comp=Z,1.7nm,1.1s,baz=135,slow=0.4,SNR=6.4
ASAR PKPab pPKPab 06 19 26.1 +1.2
comp=Z,2.4nm,1.0s,baz=196,slow=3.2,SNR=5.9

---

*ASRS **30** 05:59:47.0±0.9, 53°.50N×87°.47E, h0km, M2.5, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 30 06:00:10.1±3.5, 54°.28N×87°.49E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.7km s-min=20.2km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA 1.61 259**			I	I	06 10 00.0	
	baz=76,slow=318,SNR=0.6						
ZALV	**Zalesovo Beam 1.61 259**			Pg	Pn	06 00 38.2	-1.5
	1.6nm,0.3s,baz=76,slow=16,SNR=7.0						
ZALV				Lg	Lg	06 01 01.4	
	2.3nm,0.3s,baz=80,slow=31,SNR=6.5						
KURBB	**Kurchatov Arra 6.59 240**			Pn	Pn	06 01 48.9	+0.8
	0.1nm,0.3s,baz=55,slow=14,SNR=4.2						
KURBB				Sn	Sn	06 03 03.2	-0.7
	baz=58,slow=31,SNR=1.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array 8.19 206**			Pn	Pn	06 02 11.3	+1.1
	baz=28,slow=13,SNR=1.1						
	0.2nm,0.5s						

---

*IDC **30** 06:01:32.6±1.6, 60°.66S×26°.75W, h0km, mb3.8/4, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=54.5km s-min=33.8km az=24.0*

ISC 30 06:01:35.2±1.0, 60.7S×0°.2×26°.8W×0°.3, h19km, n10, σ1°.03/10, mb3.7/3, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat 12.46 151**			⇓P	**Pn**	**06 04 31.4**	**+0.1**

comp=Z,2.0nm,0.2s
VNA3 Neumayer Olymp 12.57 154 ⇓P **Pn 06 04 32.7 0.0**
comp=Z,1.3nm,0.2s
SNAA Sanae 14.47 149 ⇓P **Pn 06 04 57.7 -1.0**
comp=Z,5.6nm,0.2s
SNAA Sanae 14.47 149 Pn **Pn 06 04 57.9 -0.7**
comp=Z,0.1nm,0.3s,baz=293,slow=13,SNR=12
comp=Z,0.8nm,0.5s
TROLL Troll, Antarti 16.06 147 ⇓P **Pn 06 05 20.7 +0.9**
comp=Z,54nm,0.7s
CFA Coronel Fontan 39.79 298 P **P 06 09 06.8 0.0**
comp=Z,0.8nm,0.5s,baz=178,slow=7.0,SNR=4.7
comp=Z,0.8nm,0.5s
SIV San Ignacio 51.03 316 P **P 06 10 34.2 -1.8**
comp=Z,0.5nm,0.5s,baz=192,slow=7.9,SNR=1.6
comp=Z,0.5nm,0.5s
LPAZ La Paz 53.34 308 P **P 06 10 54.5 +0.6**
comp=Z,0.6nm,0.4s,baz=215,slow=5.8,SNR=6.2
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 77.06 28 P **P 06 13 27.0 +0.2**
comp=Z,1.1nm,0.7s,baz=195,slow=5.6,SNR=9.5
comp=Z,1.1nm,0.7s
ILAR Eielson Array 153.19 305 PKPbc **PKiKP 06 21 31.4 +1.2**
comp=Z,0.2nm,0.8s,baz=122,slow=1.2,SNR=4.1

---

*IDC **30** 06:02:00.7±1.3,0.46S×128.01E,h0km,mb3.8/5, mbtmp3.9/6,ML3.8/1,Error ellipse: s-maj=55.0km s-min=21.0km az=72.0*
*DJA **30** 06:02:06.6±0.6,1.5±4.4×12.8E±.,h25km±5km,M3.7/6, MLv3.7/6*
ISC 30 06:02:05.6±1.1,0.66S±0.07×127.8E±0.1,h35km,n10, σ1♀01/11,mb4.1/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.49**	**342**	P	**Pn**	**06 02 30.1**	**+0.1**
SANI	**Sanana**	**2.31**	**233**	P	**Pn**	**06 02 40.7**	**-0.5**
SANI				S	**Sn**	**06 03 07.5**	**-0.8**
NLAI	**Namlea**	**2.67**	**196**	P	**Pn**	**06 02 45.1**	**-1.1**
MSAI	**Masohi**	**2.89**	**158**	P	**Pn**	**06 02 48.9**	**-0.3**
KAPI	**Kappang**	**9.16**	**242**	Pn	**Pn**	**06 04 16.5**	**+1.1**
	0.9nm,0.3s,baz=174,slow=11,SNR=1.5 4.7nm,0.4s						
WRA	**Warramunga Arr**	**20.20**	**162**	P	**P**	**06 06 38.5**	**+0.9**
	1.1nm,0.5s,baz=347,slow=12,SNR=9.7 1.1nm,0.5s						
ASAR	**Alice Springs**	**23.62**	**166**	P	**P**	**06 07 15.5**	**+1.8**
	4.5nm,0.9s,baz=343,slow=10.0,SNR=23 4.5nm,0.9s						
SONM	**Songino Array**	**51.78**	**342**	P	**P**	**06 11 09.4**	**-0.7**
	0.5nm,0.7s,baz=144,slow=5.4,SNR=2.1 0.5nm,0.7s						
MKAR	**Makanchi Array**	**61.78**	**326**	P	**P**	**06 12 21.2**	**+0.3**
	1.5nm,0.9s,baz=133,slow=5.9,SNR=4.7 1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**66.01**	**328**	P	**P**	**06 12 48.3**	**-0.3**
	0.6nm,0.2s,baz=125,slow=5.4,SNR=4.4 0.6nm,0.2s						

---

*IDC **30** 06:05:33.0±3.6,54.55N×87.39E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=33.5km s-min=21.6km az=27.0*
ASRS 30 06:05:36.0±1.2,54.41N×86.85E,h0km,M2.6,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**250**	I	I	06 14 10.0	
	baz=68,slow=316,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.28**	**250**	Pg	Pg	06 06 00.6	+0.1
	1.8nm,0.3s,baz=66,slow=16,SNR=22						
ZALV				Lg	Lg	06 06 25.3	
	2.8nm,0.3s,baz=71,slow=13,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	Pn	06 07 13.0	+2.4
	0.2nm,0.3s,baz=54,slow=14,SNR=12 2.0nm,0.4s						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	06 07 37.0	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=5.4 0.3nm,0.4s						

---

*IDC **30** 06:21:28.4±1.8,9.75S×118.94E,h0km,mb3.9/1, mbtmp3.7/5,ML3.6/4,Error ellipse: s-maj=59.6km s-min=21.6km az=64.0*
*DJA **30** 06:21:30.6±0.3,10.5±2.2×11.9E±.,h11km±2km,M4.3/18, mB5.5/2,mb4.4/5,MLv4.2/18,Mw(mB)5.0/2*
ISC 30 06:21:30.7±1.3,9.82S±0.05×119.13E±0.04,h19km±4km, n26,σ1♀42/32,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.31**	**56**	P	**Pg**	**06 21 36.9**	**-0.7**
WBSI				S	**Sg**	**06 21 41.7**	**-0.6**
WSI	**Waingapu**	**1.16**	**83**	P	**Pn**	**06 21 52.0**	**0.0**
WSI				S	**Sb**	**06 22 07.5**	**+0.5**
BASI	**Baing, Sumba**	**1.48**	**106**	P	**Pn**	**06 21 56.3**	**-0.2**
BASI				S	**Sn**	**06 22 16.8**	**+1.4**
PLAI	**Plampang**	**1.66**	**306**	P	**Pn**	**06 21 58.5**	**-0.3**
PLAI				S	**Sb**	**06 22 20.3**	**-0.9**
TWSI	**Taliwang, Sumb**	**2.46**	**296**	P	**Pn**	**06 22 10.7**	**+0.8**
TWSI				S	**Sn**	**06 22 41.5**	**+2.0**
EDFI	**Ende, Flores**	**2.74**	**67**	P	**Pn**	**06 22 14.4**	**+0.5**
EDFI				S	**Sn**	**06 22 46.7**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.89**	**20**	P	**Pn**	**06 22 30.0**	**+0.4**
BSSI				S	**Sn**	**06 23 15.1**	**+0.2**
SRBI	**Singaraja**	**4.23**	**294**	P	**Pn**	**06 22 34.5**	**+0.2**
BATI	**Baumata**	**4.49**	**95**	P	**Pn**	**06 22 38.1**	**+0.3**
BATI				S	**Sn**	**06 23 31.0**	**+1.5**
BKSI	**Bulukumba**	**4.57**	**13**	P	**Pn**	**06 22 39.3**	**+0.3**
BKSI				S	**Sn**	**06 23 32.3**	**+0.6**
KAPI	**Kappang**	**4.81**	**7**	Pn	**Pn**	**06 22 43.3**	**+1.0**
	2.7nm,0.3s,baz=192,slow=6.8,SNR=14						
KAPI				Sn	**Sn**	**06 23 36.4**	**-1.2**
	6.4nm,0.3s,baz=4.7,slow=23,SNR=4.1 11nm,0.4s						
SOEI	**Soe**	**5.07**	**90**	P	**Pn**	**06 22 46.8**	**+0.9**
	0.2nm26nm,0.8s						
SOEI				S	**Sn**	**06 23 44.8**	**+0.8**
	0.2nm26nm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.09**	**285**	P	**Pn**	**06 22 46.2**	**+0.1**
BNSI	**Bone**	**5.47**	**10**	P	**Pn**	**06 22 52.3**	**+1.0**
	0.1nm32nm,0.8s						
GMJI	**Gumukmas**	**5.82**	**285**	P	**Pn**	**06 22 56.9**	**+0.8**
	0.2nm34nm,1.0s						
BLJI	**Banyuglugur**	**5.84**	**290**	P	**Pn**	**06 22 56.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**10.38**	**143**	Pn	**Pn**	**06 24 00.6**	**+1.9**
	0.5nm,0.3s,baz=351,slow=9.7,SNR=9.1						
FITZ				Sn	**Sn**	**06 25 49.0**	**-5.5**
	0.9nm,0.3s,baz=186,slow=23,SNR=10.0 1.3nm,0.3s						
WRA	**Warramunga Arr**	**17.80**	**126**	P	**Pn**	**06 25 39.4**	**+1.7**
	0.2nm,0.3s,baz=302,slow=13,SNR=6.0						
WRA				S	Sn	06 28 44.9	-11
	0.2nm,0.5s,baz=302,slow=25,SNR=1.3 1.0nm,0.6s						
ASAR	**Alice Springs**	**19.72**	**136**	P	**Pn**	**06 26 02.2**	**+1.3**
	0.2nm,0.3s,baz=317,slow=11,SNR=8.8						
ASAR				S	S	06 29 31.6	-10
	0.3nm,0.6s,baz=309,slow=22,SNR=4.3 1.2nm,0.7s						
H08S2	**Diego Garcia H**	**46.12**	**269**	T	T	07 19 05.5	
	baz=96,slow=75,SNR=28						
H08S3	**Diego Garcia H**	**46.13**	**269**	T	T	07 19 07.2	
	baz=96,slow=75,SNR=122						
H08S1	**Diego Garcia H**	**46.14**	**269**	T	T	07 19 07.0	
	baz=96,slow=75,SNR=5.7						
MKAR	**Makanchi Array**	**65.24**	**333**	P	**P**	**06 32 10.6**	**-0.5**
	0.6nm,0.5s,baz=157,slow=7.2,SNR=6.9 0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**67.30**	**224**	T	T	07 45 58.8	
	baz=81						
H04N1	**CROZET ISLANDS**	**67.32**	**224**	T	T	07 45 56.7	
	baz=81						
H04N3	**CROZET ISLANDS**	**67.32**	**224**	T	T	07 45 57.9	
	baz=81						

---

*GCG **30** 06:30:09.6±0.7,13.06N×89.19W,h55km±5km,MD3.8, ML2.9,MW3.3*
*CATAC **30** 06:30:09.3±0.4,13°N±2.2°×8.9W±.,h26km±2km,M2.9/21, MLv2.9/21,Error ellipse: s-maj=5.5km s-min=2.7km az=30.9,confirmed*

*SNET **30** 06:30:11.5±1.4,13.22N×89.12W,h51km,ML2.8*
ISC 30 06:30:09.4±1.4,13.04N±0.06×89.17W±0.03,h27km±12km, n81,σ0♀45/104,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.47**	**342**	*eP*	**Pn**	**06 30 20.6**	**+0.2**
LALI				*eS*	**Sn**	**06 30 28.2**	**+0.4**
LALI	**Alcalda de L**	**0.47**	**342**	*i* P	**Pn**	**06 30 20.6**	**+0.2**
LALI				*i* S	**Sn**	**06 30 28.8**	**+0.9**
LALI	**Alcalda de L**	**0.47**	**342**	P	**Pn**	**06 30 20.3**	**-0.1**
LFRS	**El Faro**	**0.59**	**10**	*eP*	**Pb**	**06 30 21.4**	**0.0**
LFRS				*eS*	**Sn**	**06 30 31.1**	**+0.1**
TECO	**Alcaldia de Te**	**0.62**	**37**	*eP*	**Pb**	**06 30 21.9**	**0.0**
TECO				*eS*	**Sn**	**06 30 31.4**	**-0.2**
TECO	**Alcaldia de Te**	**0.62**	**37**	P	**Pb**	**06 30 21.9**	**0.0**
UTEC	**Universidad Te**	**0.66**	**357**	P	**Pn**	**06 30 23.0**	**-0.1**
UTEC	**Universidad Te**	**0.66**	**357**	S	**Sn**	**06 30 32.6**	**0.0**
SEMO	**Seminario San**	**0.66**	**355**	P	**Pn**	**06 30 23.1**	**0.0**
SEMO	**Seminario San**	**0.66**	**355**	S	**Sn**	**06 30 32.9**	**+0.2**
JAYA	**Jayaque - finc**	**0.67**	**336**	*eP*	**Pn**	**06 30 23.1**	**+0.4**
JAYA				*eS*	**Sn**	**06 30 32.7**	**-0.3**
JAYA	**Jayaque - finc**	**0.67**	**336**	*i* P	**Pb**	**06 30 23.1**	**+0.4**
JAYA				*i* S	**Sn**	**06 30 33.4**	**+0.5**
JAYA	**Jayaque - finc**	**0.67**	**336**	P	**Pb**	**06 30 23.1**	**+0.4**
IGN	**Direccin Gen**	**0.67**	**0**	S	**Sn**	**06 30 33.4**	**+0.5**
UDBS	**Universidad Do**	**0.67**	**1**	*eP*	**Pn**	**06 30 23.3**	**+0.1**
UDBS				*eS*	**Sn**	**06 30 32.9**	**0.0**
UDBS	**Universidad Do**	**0.67**	**1**	P	**Pn**	**06 30 23.0**	**-0.2**
UDBS	**Universidad Do**	**0.67**	**1**	S	**Sn**	**06 30 33.4**	**+0.5**
UEES	**Universidad Ev**	**0.68**	**354**	*eP*	**Pb**	**06 30 23.1**	**+0.3**
UEES	**Universidad Ev**	**0.68**	**354**	P	**Pn**	**06 30 23.3**	**0.0**
UEES	**Universidad Ev**	**0.68**	**354**	S	**Sn**	**06 30 33.3**	**+0.2**
UESS	**Universidad de**	**0.68**	**357**	*eP*	**Pn**	**06 30 23.4**	**0.0**
PMON	**Piamonte**	**0.69**	**348**	*eP*	**Pn**	**06 30 23.4**	**-0.1**
PMON				*eS*	**Sn**	**06 30 33.9**	**+0.6**
PMON	**Piamonte**	**0.69**	**348**	P	**Pb**	**06 30 23.2**	**+0.3**
BOQS	**Boqueron**	**0.70**	**351**	*eP*	**Pn**	**06 30 23.8**	**0.0**
BOQS				*eS*	**Sn**	**06 30 34.1**	**+0.3**
PIC2	**El Picacho**	**0.71**	**353**	*eP*	**Pn**	**06 30 23.9**	**0.0**
LFU	**La Fuente**	**0.71**	**4**	*eP*	**Pn**	**06 30 23.6**	**-0.2**
PAVA	**Las Pavas**	**0.71**	**19**	*eP*	**Pb**	**06 30 23.4**	**+0.1**
PAVA				*eS*	**Sn**	**06 30 33.5**	**-0.3**
PAVA	**Las Pavas**	**0.71**	**19**	P	**Pb**	**06 30 23.4**	**+0.1**
PAVA	**Las Pavas**	**0.71**	**19**	S	**Sn**	**06 30 34.0**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.79**	**33**	*eP*	**Pn**	**06 30 24.7**	**0.0**
SCLA	**Alcaldia de Sa**	**0.79**	**33**	P	**Pn**	**06 30 24.8**	**0.0**
SCLA	**Alcaldia de Sa**	**0.79**	**33**	S	**Sn**	**06 30 35.9**	**+0.2**
CEDA	**San Andres**	**0.79**	**344**	P	**Pb**	**06 30 24.5**	**-0.2**
CEDA	**San Andres**	**0.79**	**344**	S	**Sn**	**06 30 36.5**	**+0.7**
TECA	**Tecapa**	**0.79**	**55**	*eP*	**Pb**	**06 30 24.8**	**+0.1**
TECA				*eS*	**Sn**	**06 30 36.8**	**+0.7**
PQSS	**Presa 15 de Se**	**0.83**	**45**	*eP*	**Pb**	**06 30 25.2**	**-0.1**
PQSS				*eS*	**Sn**	**06 30 36.3**	**-0.4**
PQSS	**Presa 15 de Se**	**0.83**	**45**	P	**Pb**	**06 30 25.1**	**-0.1**
PQSS	**Presa 15 de Se**	**0.83**	**45**	S	**Sn**	**06 30 37.0**	**+0.3**
CEVE	**Cerro Verde**	**0.90**	**331**	*eP*	**Pb**	**06 30 26.6**	**0.0**
CEVE	**Cerro Verde**	**0.90**	**331**	P	**Pb**	**06 30 26.4**	**-0.2**
CEVE	**Cerro Verde**	**0.90**	**331**	S	**Sn**	**06 30 38.5**	**-0.3**
SBLS	**San Blas**	**0.91**	**331**	*eP*	**Pn**	**06 30 26.6**	**0.0**
PACA	**Pacayal**	**0.93**	**62**	*eP*	**Pb**	**06 30 27.2**	**+0.2**
PACA				*eS*	**Sn**	**06 30 39.7**	**+0.4**
PACA	**Pacayal**	**0.93**	**62**	P	**Pb**	**06 30 27.4**	**+0.4**
PACA	**Pacayal**	**0.93**	**62**	S	**Sn**	**06 30 40.3**	**+1.0**
SNJE	**San Jose**	**0.93**	**333**	*eP*	**Pn**	**06 30 26.5**	**-0.4**
SNJE				*eS*	**Sn**	**06 30 40.0**	**+0.7**
LCY	**Lacayo**	**0.94**	**66**	*eP*	**Pb**	**06 30 27.2**	**+0.1**
VSM	**San Miguel**	**0.95**	**66**	*eP*	**Pn**	**06 30 27.4**	**+0.2**
RTR	**El Retiro**	**0.97**	**332**	*eP*	**Pn**	**06 30 27.3**	**-0.1**
RTR				*eS*	**Sn**	**06 30 41.3**	**+0.9**
BLLM	**Bellamira**	**0.99**	**66**	*eP*	**Pn**	**06 30 27.7**	**+0.1**
UNIC	**Universidad Ca**	**1.01**	**339**	*eP*	**Pn**	**06 30 27.8**	**-0.1**
UNIC	**Universidad Ca**	**1.01**	**339**	P	**Pn**	**06 30 27.9**	**+0.1**
UNIC	**Universidad Ca**	**1.01**	**339**	S	**Sn**	**06 30 41.3**	**+1.0**
NUBE	**Las Nubes**	**1.04**	**325**	*eP*	**Pn**	**06 30 28.1**	**-0.4**
NUBE				*eS*	**Sn**	**06 30 41.2**	**-1.0**
NUBE	**Las Nubes**	**1.04**	**325**	*i* P	**Pn**	**06 30 28.2**	**-0.2**
NUBE				*i* S	**Sb**	**06 30 42.5**	**+0.1**
NUBE	**Las Nubes**	**1.04**	**325**	P	**Pn**	**06 30 28.0**	**-0.4**
CNRM	**Centro Naciona**	**1.07**	**66**	S	**Sb**	**06 30 43.7**	**+0.9**
LLGN	**La Laguna**	**1.14**	**11**	P	**Pb**	**06 30 30.6**	**0.0**
LLGN	**La Laguna**	**1.14**	**11**	S	**Sb**	**06 30 44.5**	**-0.5**
FAME	**Alcaldia de Sa**	**1.15**	**314**	P	**Pn**	**06 30 29.1**	**-0.6**
FAME	**Alcaldia de Sa**	**1.15**	**314**	S	**Sb**	**06 30 45.1**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.15**	**329**	*eP*	**Pn**	**06 30 29.7**	**-0.1**
SLOZ				*eS*	**Sb**	**06 30 45.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.15**	**329**	P	**Pn**	**06 30 29.9**	**+0.2**
CNCH	**Conchagua**	**1.32**	**79**	*eP*	**Pn**	**06 30 32.2**	**0.0**
CNCH				*eS*	**Sn**	**06 30 49.3**	**+0.3**
CNCH	**Conchagua**	**1.32**	**79**	P	**Pn**	**06 30 32.9**	**+0.7**
MTO3	**Montecristo**	**1.37**	**352**	*eP*	**Pn**	**06 30 32.4**	**-0.5**
MTO3	**Montecristo**	**1.37**	**352**	*i* P	**Pn**	**06 30 32.7**	**-0.3**
MTO3	**Montecristo**	**1.37**	**352**	P	**Pn**	**06 30 32.6**	**-0.3**
MTO3	**Montecristo**	**1.37**	**352**	S	**Sn**	**06 30 49.8**	**-0.5**
ESQI	**Esquipulas**	**1.52**	**354**	*eP*	**Pn**	**06 30 35.0**	**0.0**
ESQI				*eS*	**Sn**	**06 30 54.0**	**0.0**
ESQI	**Esquipulas**	**1.52**	**354**	P	**Pn**	**06 30 35.0**	**0.0**
ESQI	**Esquipulas**	**1.52**	**354**	S	**Sn**	**06 30 54.2**	**+0.3**
MARCA	**Marcala la Paz**	**1.57**	**45**	*i* P	**Pn**	**06 30 35.4**	**-0.2**
MARCA	**Marcala la Paz**	**1.57**	**45**	P	**Pn**	**06 30 35.7**	**+0.1**
MARCA	**Marcala la Paz**	**1.57**	**45**	S	**Sb**	**06 30 55.9**	**-1.5**
CSGN	**Cosiguina Volc**	**1.57**	**92**	P	**Pn**	**06 30 35.6**	**0.0**
CSGN				S	**Sn**	**06 30 55.9**	**+0.8**
POTN	**Potosi Cosigui**	**1.62**	**91**	P	**Pn**	**06 30 36.2**	**0.0**
POTN				S	**Sn**	**06 30 56.9**	**+0.7**
SARH	**Santa Rosa de**	**1.77**	**13**	S	**Sn**	**06 31 00.4**	**+0.3**
CHOHN	**Orocuina**	**2.01**	**77**	P	**Pn**	**06 30 40.4**	**-1.3**
CRIN	**San Cristobal**	**2.09**	**99**	P	**Pn**	**06 30 43.1**	**+0.3**
PKGN	**Cerro Pekin**	**2.17**	**99**	P	**Pn**	**06 30 43.0**	**-0.7**
PKGN				S	**Sn**	**06 31 08.5**	**-1.3**

---

*JMA **30** 06:46:16.7±0.4,23°N±1°×12°1E±°,h9km,MV4.2/10, TAIWAN REGION*
*IDC **30** 06:46:17.1±1.4,22.61N×120.90E,h0km,mb3.6/5, mbtmp3.7/6,ML3.3/1,Error ellipse: s-maj=46.8km s-min=24.9km az=96.0*
*TAP **30** 06:46:19.1,22.85N×120.66E,h19km,ML4.2,B*
ISC 30 06:46:19.7±0.8,22.83N±0.01×120.67E±0.01,h18km±3km, n165,σ1♀25/270,mb3.6/4,14C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.09**	**201**	⇑*i*P	**Pg**	**06 46 23.2**	**-0.1**
SSD				*i* S	**Sg**	**06 46 25.9**	**+0.2**
SGLT	**Jiouru**	**0.19**	**237**	⇑*i*P	Pg	06 46 25.4	+0.8
SGLT				S	**Sg**	**06 46 29.3**	**+1.4**
MASBT	**Mashibuluo**	**0.22**	**188**	⇑*i*P	Pg	06 46 25.1	+0.1
MASBT				S	**Sg**	**06 46 28.9**	**+0.3**
TWM1	**Shoushan**	**0.23**	**268**	⇓*i*P	**Pg**	**06 46 25.7**	**+0.6**
TWM1				S	**Sg**	**06 46 30.9**	**+2.1**
SNJT	**Kaohsiung City**	**0.32**	**256**	*eP*	**Pn**	**06 46 28.2**	**-1.2**
SHHT	**Tainan City**	**0.35**	**303**	⇓P	**Pn**	**06 46 28.1**	**-1.8**
SHHT				*eS*	**Sb**	**06 46 36.5**	**+3.8**
STYH	**Taoyuan**	**0.35**	**16**	⇑*i*P	**Pb**	**06 46 27.2**	**-0.3**
STYH				S	**Sb**	**06 46 33.0**	**+0.3**
ECL	**Taimali**	**0.35**	**131**	⇓*i*P	**Pn**	**06 46 27.6**	**-2.3**
ECL				S	**Sb**	**06 46 32.8**	**0.0**
CHN3	**Shinhua**	**0.37**	**311**	⇓*i*P	**Pn**	**06 46 28.4**	**-1.8**
CHN3				*eS*	**Sb**	**06 46 35.5**	**+2.3**
CHN1	**Nanshi**	**0.37**	**340**	⇓*i*P	**Pb**	**06 46 27.6**	**-0.3**
CHN1				S	**Sb**	**06 46 34.2**	**+0.7**
TWG	**Pinlang**	**0.37**	**92**	⇓*i*P	**Pn**	**06 46 28.2**	**-2.0**
TWG				S	**Sb**	**06 46 33.5**	**+0.2**
TWGBT	**Beinan**	**0.38**	**92**	P	**Pn**	**06 46 28.0**	**-2.3**
TWGBT	**Beinan**	**0.38**	**92**	S	**Sb**	**06 46 34.6**	**+1.0**
TWGBT	**Beinan**	**0.38**	**92**	⇓*i*P	**Pn**	**06 46 28.2**	**-2.2**
TWGBT				S	**Sb**	**06 46 33.5**	**-0.1**
WTP	**Ta-pu**	**0.41**	**353**	⇓*i*P	**Pb**	**06 46 28.2**	**-0.4**
WTP				S	**Sg**	**06 46 34.9**	**+0.7**
SNST	**Tainan City**	**0.42**	**338**	⇓*e*P	**Pn**	**06 46 30.4**	**-0.5**
SNST				*eS*	**Sb**	**06 46 35.1**	**+0.4**
KAU	**Kaohsiung**	**0.42**	**232**	*eP*	**Pn**	**06 46 30.0**	**-0.9**
LONT	**Longtian**	**0.43**	**80**	⇓P	**Pn**	**06 46 29.1**	**-2.0**
LONT				S	**Sb**	**06 46 35.5**	**+0.4**
TTN	**Taitung**	**0.45**	**100**	⇓*i*P	**Pn**	**06 46 30.3**	**-0.9**
TTN				*eS*	**Sb**	**06 46 37.9**	**+2.4**
TAI1	**Yung-k'ang**	**0.46**	**297**	*eP*	**Pn**	**06 46 29.5**	**-1.8**
TAI1				*eS*	**Sb**	**06 46 37.6**	**+1.9**
SCZT	**Fangliau**	**0.46**	**185**	⇓*i*P	**Pn**	**06 46 29.2**	**-2.2**
SCZT				S	**Sb**	**06 46 35.9**	**+0.1**
TWK	**Hsinying**	**0.46**	**339**	⇓*i*P	**Pb**	**06 46 28.9**	**-0.6**
TWK				*eS*	**Sb**	**06 46 36.7**	**+0.7**
TPUB	**Ta-pu**	**0.47**	**356**	P	**Pg**	**06 46 28.6**	**-0.7**
TPUB	**Ta-pu**	**0.47**	**356**	S	**Sg**	**06 46 36.5**	**+0.8**
TPUB	**Ta-pu**	**0.47**	**356**	⇓*i*P	**Pb**	**06 46 28.8**	**-0.7**
TPUB				S	**Sg**	**06 46 36.0**	**+0.3**
ELDTW	**Lidau**	**0.48**	**42**	P	**Pb**	**06 46 29.7**	**-0.1**
ELDTW				*eS*	**Sg**	**06 46 36.4**	**+0.3**
TAW	**Tawu**	**0.52**	**156**	*eP*	**Pn**	**06 46 30.5**	**-1.7**
TAW				*eS*	**Sb**	**06 46 38.4**	**+1.0**
TAWH	**Dawu Township**	**0.53**	**157**	⇓P	**Pn**	**06 46 30.7**	**-1.7**
TAWH				*eS*	**Sb**	**06 46 38.6**	**+0.9**
WLCH	**Liuqiu**	**0.55**	**209**	*eP*	**Pn**	**06 46 33.9**	**+1.3**
WLCH				*eS*	**Sb**	**06 46 42.7**	**+4.5**
SCLT	**Jiali**	**0.55**	**308**	P	**Pn**	**06 46 31.1**	**-1.6**
SCLT				S	**Sn**	**06 46 41.1**	**-0.3**
TWP	**Hsiaoliuchiu**	**0.56**	**210**	*eP*	**Pn**	**06 46 33.8**	**+1.0**
TWP				*eS*	**Sb**	**06 46 42.1**	**+3.6**
ECS	**Chishang**	**0.57**	**63**	*eP*	**Pn**	**06 46 31.6**	**-1.4**
ECS				*i* S	**Sb**	**06 46 40.9**	**+1.9**
EHD	**Haiduan**	**0.59**	**57**	⇑P	**Pb**	**06 46 31.1**	**-0.3**
EHD				*eS*	**Sb**	**06 46 39.5**	**+0.1**
EDH	**Donghe**	**0.60**	**76**	*i* P	**Pn**	**06 46 32.2**	**-1.2**
EDH				S	**Sn**	**06 46 41.9**	**-0.8**
WCKO	**Fanlu**	**0.61**	**355**	*eP*	**Pb**	**06 46 31.6**	**-0.2**
WCKO				*eS*	**Sb**	**06 46 40.7**	**+0.7**
TSCK	**Chigu Township**	**0.62**	**300**	*eP*	**Pn**	**06 46 32.6**	**-1.1**
TSCK				*eS*	**Sn**	**06 46 43.4**	**+0.3**
SLIU	**Shizi**	**0.62**	**169**	*eP*	**Pn**	**06 46 32.4**	**-1.3**
SLIU				*eS*	**Sn**	**06 46 41.6**	**-1.7**
ICHU	**Yijhu**	**0.64**	**326**	*eP*	**Pb**	**06 46 32.3**	**0.0**
ICHU				*eS*	**Sn**	**06 46 43.2**	**-0.3**
CHN8	**Yiju**	**0.66**	**321**	*eP*	**Pb**	**06 46 32.5**	**-0.2**
CHN8				*eS*	**Sn**	**06 46 43.9**	**-0.3**
FULB	**Fuli**	**0.68**	**58**	⇑*i*P	**Pn**	**06 46 33.7**	**-0.9**
FULB				*i* S	**Sn**	**06 46 44.6**	**-0.2**
ALS	**Alishan**	**0.69**	**11**	⇓P	**Pb**	**06 46 33.0**	**-0.3**
ALS				S	**Sb**	**06 46 43.4**	**+0.8**
CHKT	**Chengkung**	**0.70**	**67**	*eP*	**Pn**	**06 46 33.7**	**-1.0**
CHKT				*eS*	**Sn**	**06 46 44.2**	**-0.8**
CHY	**Chiayi**	**0.70**	**341**	*eP*	**Pb**	**06 46 33.2**	**-0.2**
CHY				*eS*	**Sb**	**06 46 44.8**	**+2.1**
CHN2	**Minshiung**	**0.72**	**346**	⇓P	**Pb**	**06 46 33.7**	**-0.1**
CHN2				S	**Sb**	**06 46 45.0**	**+1.8**
LDUT	**Ludao**	**0.76**	**102**	*eP*	**Pn**	**06 46 34.5**	**-1.0**
LDUT				*eS*	**Sn**	**06 46 46.2**	**-0.3**
CHKH	**Chenggong**	**0.76**	**62**	⇑*e*P	**Pn**	**06 46 34.5**	**-1.1**
CHKH				*eS*	**Sb**	**06 46 45.8**	**+1.3**
CHN5	**Tsauling**	**0.76**	**1**	*eP*	**Pg**	**06 46 33.3**	**-0.8**
CHN5				*i* S	**Sb**	**06 46 45.7**	**+1.1**
TWF1	**Yuli**	**0.78**	**48**	⇑*i*P	**Pb**	**06 46 34.6**	**-0.1**
TWF1				S	**Sg**	**06 46 44.7**	**-0.7**
EYUL	**Yuli**	**0.79**	**49**	*eP*	**Pb**	**06 46 34.9**	**0.0**
EYUL				*eS*	**Sg**	**06 46 45.2**	**-0.5**
WSL	**Shuilin Townsh**	**0.80**	**330**	⇑*i*P	**Pb**	**06 46 34.7**	**-0.3**
WSL				*eS*	**Sb**	**06 46 47.1**	**+1.6**
SMST	**Manzhou Townsh**	**0.82**	**169**	*eP*	**Pn**	**06 46 36.5**	**+0.1**
SMST				*eS*	**Sn**	**06 46 48.8**	**+0.7**
HEN	**Hengchun**	**0.82**	**175**	*eP*	**Pn**	**06 46 35.8**	**-0.6**
HEN				*eS*	**Sn**	**06 46 49.4**	**+1.3**
WGK	**Gukeng**	**0.86**	**354**	*eP*	**Pb**	**06 46 36.1**	**+0.1**
WGK				*i* S	**Sb**	**06 46 49.0**	**+1.8**
WDLH	**Douliu**	**0.86**	**352**	*eP*	**Pb**	**

NSY				eS		Sn	06 47 08.3	+1.4
NACB	**Ninganchiao**	**1.58**	**32**	P		Pn	06 46 47.2	+0.3
NACB	**Ninganchiao**	**1.58**	**32**	S		Sb	06 47 09.5	+1.3
NACB	**Ninganchiao**	**1.58**	**32**	P		Pn	06 46 47.2	+0.3
NACB				eS		Sn	06 47 08.4	+1.4
ETL	**Fush Village**	**1.59**	**33**	eP		Pb	06 46 48.5	-0.1
NNSB	**Datong**	**1.72**	**22**	eP		Pb	06 46 49.8	-1.1
NNSB				eS		Sn	06 47 11.9	+1.4
NNS	**Nan Shan**	**1.73**	**22**	eP		Pb	06 46 50.3	-0.7
EAHA	**Aohua**	**1.79**	**33**	eP		Pb	06 46 50.6	-1.3
EAHA				eS		Sb	06 47 15.4	+1.4
NSTT	**Nanjuang**	**1.82**	**10**	eP		Pn	06 46 50.7	+0.6
NSTT				eS		Sn	06 47 13.7	+1.0
NFF	**Wufeng Townshi**	**1.84**	**13**	eP		Pn	06 46 51.1	+0.6
NFF				eS		Sn	06 47 14.6	+1.3
ENA	**Nanau**	**1.87**	**32**	eP		Pn	06 46 51.6	+0.8
ENA				eS		Sb	06 47 16.5	+0.1
LATG	**Datong**	**1.87**	**25**	eP		Pb	06 46 52.3	-1.1
LATG				eS		Sn	06 47 16.3	+2.2
EWUT	**Wuta**	**1.90**	**32**	eP		Pn	06 46 52.2	+0.9
YHNB	**Yeheng**	**1.94**	**19**	P		Pb	06 46 53.4	-1.2
YHNB	**Yeheng**	**1.94**	**19**	S		Sn	06 47 18.5	+2.6
YHNB	**Yeheng**	**1.94**	**19**	eP		Pn	06 46 53.1	+1.2
YHNB				eS		Sn	06 47 15.4	-0.4
NSK	**Sanguang**	**1.94**	**19**	eP		Pb	06 46 53.3	-1.3
NSK				eS		Sn	06 47 17.4	+1.5
SBCB	**Hsinchu**	**1.97**	**8**	eP		Pn	06 46 52.9	+0.6
ENTT	**Nioudou**	**1.98**	**24**	eP		Pb	06 46 54.2	-1.0
ENTT				eS		Sb	06 47 19.8	+0.2
EOS4	**EOS4**	**1.99**	**49**	eP		Pb	06 46 53.7	-1.5
EOS4				eS		Sn	06 47 17.3	+1.0
TWC	**Suao**	**2.08**	**31**	eP		Pb	06 46 55.2	-1.6
TWC				eS		Sb	06 47 22.6	+0.3
NWLT	**Wulai**	**2.08**	**21**	eP		Pb	06 46 56.3	-0.7
NWLT				eS		Sn	06 47 21.7	+2.4
TWE	**Neicheng**	**2.09**	**26**	eP		Pb	06 46 55.6	-1.6
EOS3	**EOS3**	**2.10**	**46**	eP		Pb	06 46 55.1	-2.0
FUSB	**Fushanzhiwuyua**	**2.10**	**24**	eP		Pb	06 46 56.2	-1.0
EOS2	**EOS2**	**2.13**	**42**	eP		Pb	06 46 56.3	-1.5
TWA	**Mucha**	**2.30**	**21**	eP		Pb	06 46 59.5	-1.1
EGS		**2.31**	**30**	eP		Pb	06 46 59.5	-1.5
TWS1	**Kuangyinshan**	**2.36**	**17**	eP		Pn	06 46 57.8	+0.2
TIPB	**Shuangxi**	**2.38**	**26**	eP		Pn	06 46 59.5	+1.6
VWUC	**VWUC**	**2.42**	**333**	eP		Pn	06 46 56.9	-1.5
YM01	**YM01**	**2.45**	**20**	eP		Pn	06 46 58.4	-0.4
ZUZH	**Zhuzihu**	**2.46**	**19**	eP		Pn	06 46 58.2	-0.7
TWB1	**Santiao Chiao**	**2.48**	**29**	eP		Pn	06 47 00.7	+1.5
SXI1	**Grass Mountain**	**2.51**	**26**	eP		Pn	06 47 00.1	+0.4
KNM	**Kinmen**	**2.59**	**308**	eP		Pn	06 47 00.6	-0.1
PTMZ	**Houxiangcun**	**2.62**	**328**	eP		Pn	06 46 59.5	-1.6
KNMB	**Chin-men Tao**	**2.65**	**308**	eP		Pn	06 46 59.8	-1.7
YOJ	**Yonaguni jima**	**2.69**	**52**	P		Pn	06 47 03.7	+1.6
YOJ	**Yonaguni jima**	**2.69**	**52**	eP		Pn	06 47 03.1	+1.0
YOJ	**Yonaguni jima**	**2.69**	**52**	eP		Pn	06 47 03.4	+1.3
YOJ				eS		Sn	06 47 36.0	+1.8
ZPLA	**Ao Xicun**	**2.90**	**293**	eP		Pn	06 47 03.2	-1.7
PCYT	**Pengchaiyu**	**3.07**	**24**	eP		Pn	06 47 08.4	+1.2
HATJ	**Hateruma jima**	**3.13**	**66**	eP		Pn	06 47 09.2	+1.0
HATJ				eS		Sn	06 47 45.1	0.0
IRIF	**Iriomote-Funau**	**3.18**	**61**	eP		Pn	06 47 10.1	+1.2
IRIF				eS		Sn	06 47 49.5	+3.1
AXDP	**Jialang**	**3.21**	**310**	eP		Pn	06 47 08.2	-1.1
MATB	**Ma-tsu**	**3.37**	**349**	eP		Pn	06 47 10.2	-1.3
JKRS	**Kuro-shima**	**3.37**	**65**	eP		Pn	06 47 12.3	+0.8
JKRS				eS		Sn	06 47 52.7	+1.6
JIJ	**Ishigaki jima**	**3.53**	**64**	eP		Pn	06 47 14.0	+0.3
JIJ				eS		Sn	06 47 55.3	+0.3
MHZQ	**Yeshan**	**3.58**	**336**	eP		Pn	06 47 13.2	+1.2
JISG	**Ishigakijimahi**	**3.77**	**62**	eP		Pn	06 47 17.4	+0.5
JISG				eS		Sn	06 48 00.6	-0.2
JOW	**Kunigami**	**7.97**	**58**	Pn		Pn	06 48 13.7	-1.0
	1.0nm,0.3s,baz=147,slow=15,SNR=6.4							
	4.8nm,0.3s							
MJAR	**Matsushiro Arr**	**20.42**	**44**	P		**P**	06 50 56.1	+0.1
	1.8nm,0.6s,baz=240,slow=12,SNR=4.8							
	1.8nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**43.05**	**85**	T		T	07 39 40.6	
	baz=283							
H11N2	**WAKE ISLAND Hy**	**43.06**	**85**	T		T	07 39 44.9	
	baz=283							
H11N3	**WAKE ISLAND Hy**	**43.07**	**85**	T		T	07 39 52.5	
	baz=283							
H11S3	**WAKE ISLAND Hy**	**43.15**	**87**	T		T	07 39 56.2	
	baz=285							
H11S1	**WAKE ISLAND Hy**	**43.16**	**87**	T		T	07 39 48.3	
	baz=285							
H11S2	**WAKE ISLAND Hy**	**43.16**	**87**	T		T	07 39 56.8	
	baz=285							
WRA	**Warramunga Arr**	**44.56**	**162**	P		**P**	06 54 28.0	-2.8
	0.6nm,0.7s,baz=344,slow=8.3,SNR=3.0							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**47.98**	**164**	P		**P**	06 54 56.2	-1.4
	0.2nm,0.3s,baz=342,slow=8.2,SNR=4.6							
	0.2nm,0.3s							
ARCES	**ARCESS Array B**	**70.61**	**338**	P		**P**	06 57 35.7	+2.1
	1.9nm,0.9s,baz=60,slow=9.9,SNR=3.6							
	1.9nm,0.9s							
ILAR	**Eielson Array**	**70.63**	**27**	P		**P**	06 57 35.0	+1.2
	0.2nm,0.6s,baz=284,slow=6.1,SNR=3.3							
	0.2nm,0.6s							

ISN ***30*** *06:56:39.7±2.5,32°.86N×47°.97E,h10km,ML2.5*
TEH ***30*** *06:56:40.3,32°.81N×47°.97E,h10km±91km*
ISC 30 06:56:41.4±1.6,32°.7N±0°.1×47°.91E±0°.06,h10km,n7,
σ1§52/8,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
BDRS	**Dareh Seyedi**	**1.47**	**34**	Pg		**Pn**	**06 57 06.3**	**-2.0**
ILBA	**Ilam Banvizeh**	**1.68**	**303**	Pg		**Pn**	**06 57 12.0**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.70**	**335**	Pg		**Pn**	**06 57 12.2**	**+0.8**
IBDR	**Badra**	**1.70**	**283**	*e*Pg		**Pn**	**06 57 09.0**	**-2.2**
	baz=98							
IBDR				*e*Sg		**Sb**	**06 57 35.0**	**+0.7**
IBDR				AML		AML	06 57 49.5	
	comp=E,61nm,0.2s							
IBDR				AML		AML	06 57 50.6	
	comp=N,71nm,1.2s							
IBZA	**Bozab**	**1.74**	**359**	Pg		**Pn**	**06 57 12.1**	**+0.2**
JHBN	**Jahan bin**	**2.39**	**101**	Pn		**Pn**	**06 57 21.6**	**+0.7**
IPIR	**Pirpir**	**2.52**	**90**	Pn		**Pn**	**06 57 22.6**	**-0.1**

MOS ***30*** *07:00:03.2±0.8,45°.68N×26°.62E,h142km,mb4.5/10,Error ellipse: s-maj=7.0km s-min=4.3km az=73.8*
SIGU ***30*** *07:00:03.9,45°.68N×26°.59E,h141km,mb3.4*
BUC ***30*** *07:00:04.7±0.2,45°.67N×26°.58E,h135km±1km,ml4.1/72, Error ellipse: s-maj=1.2km s-min=1.0km az=13.0*
SOF ***30*** *07:00:04.6,45°.62N±0°.03×26°.49E±0°.01,h140km±1km, MD4.3/11*
NEIC ***30*** *07:00:04.4±2.1,45°.73N±0°.07×26°.64E±0°.09,h135km±6km, mb4.5/13,Error ellipse: s-maj=10.4km s-min=7.5km az=214.0*
IDC ***30*** *07:00:04.1±0.5,45°.78N×26°.29E,h136km±4km,mb3.7/10, mbtmp4.2/17,MS3.1/2,Error ellipse: s-maj=21.0km s-min=10.4km az=140.0*
CFUSG ***30*** *07:00:06.0,45°.76N×26°.83E,h127km,mb3.4/5,MD3.5/4, Romania Magtype MSH 3.4 from 6 stations*
ISC 30 07:00:04.4±0.5,45°.68N±0°.03×26°.60E±0°.02,h142km±3km,
n238,σ1§20/334,mb4.4/26,93C-69D,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
BISRR	**Bisoca**	**0.15**	**151**	⇑P		**Pn**	**07 00 24.0**	**+0.3**
BISRR				⇓S		Sn	07 00 38.1	-0.2
PLOR	**Plostina**	**0.17**	**11**	⇑P		**Pn**	**07 00 23.4**	**-0.3**
PLOR				⇑S		Sn	07 00 37.0	-1.4
PLOR	**Plostina**	**0.17**	**11**	P		**Pn**	**07 00 23.1**	**-0.6**
VRI	**Vrincioaia**	**0.20**	**25**	⇓P		**Pn**	**07 00 23.6**	**-0.1**
VRI				⇑S		Sn	07 00 38.0	-0.5
VRI	**Vrincioaia**	**0.20**	**25**	P		**Pn**	**07 00 23.5**	**-0.2**
COVR	**Voineasa-Covas**	**0.32**	**301**	⇑P		**Pn**	**07 00 23.7**	**-0.5**
COVR				⇓S		Sn	07 00 38.2	-0.8
ODBI	**Odobesti**	**0.33**	**75**	⇓P		**Pn**	**07 00 24.9**	**+0.9**
ODBI				⇓S		Sn	07 00 39.9	+0.9
NEHR	**Nehoiu**	**0.33**	**221**	⇑P		**Pn**	**07 00 24.4**	**+0.2**
NEHR				⇑S		Sn	07 00 38.5	-0.6
PANC	**Panciu**	**0.43**	**63**	⇓P		**Pn**	**07 00 24.6**	**+0.2**
PANC				⇑S		Sn	07 00 39.5	-0.2
MLR	**Muntele Rosu**	**0.50**	**248**	⇑P		**Pn**	**07 00 24.9**	**-0.1**
MLR				⇑S		Sn	07 00 39.9	-0.7
MLR	**Muntele Rosu**	**0.50**	**248**	P		**Pn**	**07 00 24.8**	**-0.1**
MLR				⇓S		Sn	07 00 39.5	-1.1
MLR	**Muntele Rosu**	**0.50**	**248**	P		**Pn**	**07 00 24.9**	**-0.1**
	1μm,0.4s,baz=125,slow=1.0,SNR=3802							
MLR				S		Sn	07 00 39.1	-1.5
	322nm,0.3s,baz=66,slow=20,SNR=8.1							
COSR	**Cosmesti PH**	**0.53**	**70**	⇓P		**Pn**	**07 00 24.8**	**-0.1**
COSR				⇑S		Sn	07 00 41.0	+0.5
TURR	**Turia**	**0.56**	**313**	⇓P		**Pn**	**07 00 24.9**	**-0.3**
TURR				⇑S		Sn	07 00 39.9	-1.1
ISR	**Istrita**	**0.56**	**184**	⇑P		**Pn**	**07 00 25.6**	**+0.3**
ISR				⇓S		Sn	07 00 40.6	-0.4
ISR	**Istrita**	**0.56**	**184**	P		**Pn**	**07 00 25.3**	**0.0**
ONER	**Baraj Valea Uz**	**0.67**	**348**	⇓P		**Pn**	**07 00 25.6**	**-0.2**
ONER				⇓S		Sn	07 00 41.1	-1.1
GHRR		**0.68**	**56**	⇓P		**Pn**	**07 00 26.2**	**+0.3**
GHRR				⇓S		Sn	07 00 42.7	+0.5
OZUR		**0.70**	**306**	⇑P		**Pn**	**07 00 25.4**	**-0.7**
OZUR				⇑S		Sn	07 00 41.0	-1.7
TUDR		**0.75**	**96**	⇓P		**Pn**	**07 00 26.2**	**-0.2**
TUDR				⇑S		Sn	07 00 42.8	-0.2
IZVR	**Izvoarele**	**0.83**	**99**	⇓P		**Pn**	**07 00 26.6**	**-0.3**
IZVR				⇓S		Sn	07 00 43.2	-0.8
TESR	**Tescani**	**0.83**	**2**	⇓P		**Pn**	**07 00 26.3**	**-0.7**
SCHL	**Schela**	**0.88**	**101**	⇓P		**Pn**	**07 00 27.1**	**-0.3**
SCHL				⇓S		Sn	07 00 44.1	-0.7
SCHLR	**Schela**	**0.89**	**103**	⇓P		**Pn**	**07 00 27.2**	**-0.2**
SCHLR				⇓S		Sn	07 00 44.2	-0.7
SCHLR	**Schela**	**0.89**	**103**	⇓P		**Pn**	**07 00 27.2**	**-0.2**
SCHLR				⇓S		Sn	07 00 44.2	-0.7
DOPR	**Dopca**	**0.90**	**289**	⇑P		**Pn**	**07 00 27.2**	**-0.4**
DOPR				⇑S		Sn	07 00 44.4	-0.8
VARL	**Varlezi**	**0.90**	**75**	⇓P		**Pn**	**07 00 27.5**	**0.0**
VARL				⇑S		Sn	07 00 44.8	-0.3
NEGRR	**Negrea**	**0.91**	**99**	⇓P		**Pn**	**07 00 27.8**	**+0.2**
NEGRR				⇑S		Sn	07 00 44.8	-0.4
BIR	**Birlad**	**0.92**	**50**	⇓P		**Pn**	**07 00 27.7**	**0.0**
BIR				⇓S		Sn	07 00 44.4	-1.1
BIR	**Birlad**	**0.92**	**50**	P		**Pn**	**07 00 27.7**	**0.0**
SCTR	**Scanteiesti**	**0.98**	**90**	⇓P		**Pn**	**07 00 28.5**	**+0.3**
SCTR				⇓S		Sn	07 00 45.9	-0.3
TATR	**Tatarca**	**1.02**	**94**	⇓P		**Pn**	**07 00 28.9**	**+0.3**
TATR				⇓S		Sn	07 00 46.6	-0.3
SULR		**1.03**	**194**	⇑P		**Pn**	**07 00 29.1**	**+0.4**
GISR	**Galati**	**1.05**	**103**	⇓P		**Pn**	**07 00 29.1**	**+0.3**
GISR				⇓S		Sn	07 00 47.3	0.0
VLDR	**Vladesti**	**1.05**	**81**	⇓P		**Pn**	**07 00 29.0**	**+0.2**
VLDR				⇑S		Sn	07 00 46.8	-0.6
GIUM	**Giurgiulesti**	**1.14**	**99**	⇑P		**Pn**	**07 00 30.2**	**+0.5**
GIUM				⇑S		Sn	07 00 48.8	-0.2
GIUM	**Giurgiulesti**	**1.14**	**99**	P		**Pn**	**07 00 30.2**	**+0.5**
GIUM				S		Sn	07 00 48.7	-0.2
MTUR	**Matau**	**1.18**	**248**	⇑P		**Pn**	**07 00 30.2**	**0.0**
MTUR	**Matau**	**1.18**	**248**	P		**Pn**	**07 00 30.1**	**0.0**
AMRR	**Amara**	**1.19**	**154**	⇑P		**Pn**	**07 00 30.6**	**+0.4**
AMRR				⇓S		Sn	07 00 50.0	+0.2
AMRR	**Amara**	**1.19**	**154**	P		**Pn**	**07 00 30.5**	**+0.4**
CFR	**Carcaliu**	**1.19**	**114**	⇓P		**Pn**	**07 00 30.1**	**0.0**
CFR				⇑S		Sn	07 00 49.0	-0.7
CFR	**Carcaliu**	**1.19**	**114**	P		**Pn**	**07 00 30.1**	**0.0**
LEHL	**Lehliu**	**1.22**	**173**	⇑P		**Pn**	**07 00 30.8**	**+0.3**
LEHL				⇓S		Sn	07 00 51.5	+0.3
VASR	**Vaslui**	**1.27**	**40**	⇓P		**Pn**	**07 00 30.8**	**-0.1**
INCR	**INCERC-Sediu C**	**1.28**	**194**	⇑P		**Pn**	**07 00 31.1**	**+0.1**
INCR				⇓S		Sn	07 00 51.1	-0.2
BIZ	**Bicaz**	**1.30**	**345**	⇓P		**Pn**	**07 00 52.0**	**+0.1**
BUC	**Bucharest**	**1.32**	**196**	⇓P		**Pn**	**07 00 31.5**	**+0.1**
BUC				⇑S		Sn	07 00 52.1	+0.1
BUC	**Bucharest**	**1.32**	**196**	P		**Pn**	**07 00 31.5**	**+0.1**
CIOR	**Ciorogarla**	**1.33**	**203**	⇑P		**Pn**	**07 00 31.6**	**-0.1**
CIOR				⇑S		Sn	07 00 52.1	-0.3
HARR	**Harsova**	**1.36**	**136**	⇑P		**Pn**	**07 00 32.1**	**+0.2**
HARR	**Harsova**	**1.36**	**136**	P		**Pn**	**07 00 32.1**	**+0.2**
BUC1	**Bucharest**	**1.39**	**197**	⇑P		**Pn**	**07 00 32.4**	**+0.1**
BUC1				⇑S		Sn	07 00 53.4	0.0
BUC1	**Bucharest**	**1.39**	**197**	⇑P		**Pn**	**07 00 32.4**	**+0.1**
BUC1				⇑S		Sn	07 00 53.4	0.0
BUC1	**Bucharest**	**1.39**	**197**	P		**Pn**	**07 00 32.3**	**+0.1**
ARR	**Arges**	**1.42**	**258**	⇑P		**Pn**	**07 00 32.3**	**-0.3**
ARR				⇑S		Sn	07 00 52.8	-1.2
CICN	**Ciocanesti**	**1.51**	**168**	⇑P		**Pn**	**07 00 33.6**	**+0.1**
CICN				⇑S		Sn	07 00 55.2	-0.5
SGRR	**Singureni**	**1.52**	**197**	⇑P		**Pn**	**07 00 33.5**	**-0.1**
SGRR				⇑S		Sn	07 00 55.0	-0.9
TPGR	**Topolog**	**1.52**	**122**	⇓P		**Pn**	**07 00 33.5**	**-0.2**
TPGR				⇓S		Sn	07 00 54.9	-1.0
TLBR	**Topalu**	**1.53**	**138**	⇑P		**Pn**	**07 00 33.9**	**+0.2**
TLBR				⇑S		Sn	07 00 55.1	-0.9
HUMR	**Humele**	**1.63**	**225**	⇑P		**Pn**	**07 00 34.4**	**-0.4**
HUMR				⇑S		Sn	07 00 56.8	-1.2
TLCR		**1.63**	**107**	⇑P		**Pn**	**07 00 34.9**	**0.0**
TLCR				⇓S		Sn	07 00 57.9	-0.1
TLCR		**1.63**	**107**	P		**Pn**	**07 00 34.8**	**0.0**
TNR	**Turnu Rosu**	**1.63**	**270**	⇑P		**Pn**	**07 00 34.5**	**-0.4**
TNR				⇑S		Sn	07 00 57.2	-0.9
TNR	**Turnu Rosu**	**1.63**	**270**	P		**Pn**	**07 00 34.5**	**-0.4**
IASR	**Iasi**	**1.64**	**24**	⇓P		**Pn**	**07 00 34.5**	**-0.4**
CVDA	**Cernavoda**	**1.69**	**142**	⇑P		**Pn**	**07 00 35.7**	**+0.3**
CVDA				⇑S		Sn	07 00 58.2	-0.9
TIRR	**Tirgusor**	**1.77**	**133**	⇑P		**Pn**	**07 00 36.5**	**+0.1**
TIRR				⇑S		Sn	07 01 00.2	-0.6
TIRR	**Tirgusor**	**1.77**	**133**			**Pn**	**07 00 36.1**	**-0.2**
TIRR						Sn	07 00 59.2	-1.6
TIRR	**Tirgusor**	**1.77**	**133**	P		**Pn**	**07 00 36.5**	**+0.1**
ICOR	**Ion Corvin**	**1.78**	**151**	⇑P		**Pn**	**07 00 37.0**	**+0.6**
ICOR				⇓S		Sn	07 01 00.3	-0.7
COPA	**Copaceanca**	**1.83**	**213**	⇑P		**Pn**	**07 00 36.8**	**-0.3**
COPA				⇑S		Sn	07 01 00.9	-1.2
MILM	**Milestii Mici**	**1.97**	**50**	⇓*i*P		**Pn**	**07 00 37.8**	**-0.8**
	760nm,0.2s							
MILM				*i* S		Sn	07 01 02.3	-2.6
	1μm,0.2s							
MILM	**Milestii Mici**	**1.97**	**50**	P		**Pn**	**07 00 37.9**	**-0.7**
MILM	**Milestii Mici**	**1.97**	**50**	⇑*i*P		**Pn**	**07 00 37.8**	**-0.8**
MILM				Pm			07 00 38.0	
MILM				*i* S		Sn	07 01 02.3	-2.6
MILM				Sm			07 01 02.4	
MFTR	**Murfatlar**	**1.98**	**139**	⇑P		**Pn**	**07 00 39.0**	**+0.2**
MFTR				⇑S		Sn	07 01 04.5	-0.7
LOT	**Lotru**	**2.00**	**264**	⇑P		**Pn**	**07 00 39.0**	**-0.2**
LOT				⇓S		Sn	07 01 05.8	-0.1
KIS	**Kishinev**	**2.02**	**49**	⇓P		**Pn**	**07 00 39.1**	**-0.1**
KIS	**Kishinev**	**2.02**	**49**	⇓*i*P		**Pn**	**07 00 39.0**	**-0.3**
	810nm,0.2s							
KIS				*i* S		Sn	07 01 04.2	-1.8
	1μm,0.4s							
KIS	**Kishinev**	**2.02**	**49**	P		**Pn**	**07 00 39.1**	**-0.1**
KIS	**Kishinev**	**2.02**	**49**	⇑*i*P		**Pn**	**07 00 39.0**	**-0.3**
KIS				Pm			07 00 39.3	
KIS				*i* S		Sn	07 01 04.2	-1.8
KIS				Sm			07 01 04.4	
TSCT	**Constanta Port**	**2.11**	**135**	⇑P		**Pn**	**07 00 40.6**	**+0.3**
TSCT				⇓S		Sn	07 01 07.1	-0.8
RAZG	**Razgrad**	**2.12**	**182**	⇑P		**Pn**	**07 00 40.4**	**-0.1**
RAZG				⇑S		Sn	07 01 07.4	-0.7
BURAR	**Bucovina Array**	**2.16**	**334**	⇓P		**Pn**	**07 00 41.7**	**+0.7**
BURAR	**Bucovina Array**	**2.16**	**334**			**Pn**	**07 00 41.0**	**0.0**
BURAR	**Bucovina Array**	**2.16**	**334**	P		**Pn**	**07 00 41.7**	**+0.7**
BUR08	**Bucovina Ar. S**	**2.19**	**334**			**Pn**	**07 00 41.1**	**-0.2**
ZIMR		**2.21**	**204**	⇑P		**Pn**	**07 00 41.3**	**-0.2**
ZIMR		**2.21**	**204**	P		**Pn**	**07 00 41.4**	**-0.2**
VLAD	**Vladila**	**2.30**	**224**	⇑P		**Pn**	**07 00 42.0**	**-0.7**
LOZB	**Loznitsa**	**2.31**	**180**	⇑P		**Pn**	**07 00 42.4**	**-0.4**
PSN	**Preselentsi**	**2.32**	**151**	*i* P		**Pn**	**07 00 43.1**	**+0.2**
PSN				S		Sn	07 01 12.0	-0.4
PSN	**Preselentsi**	**2.32**	**151**	P		**Pn**	**07 00 40.7**	**-2.2**
PSN				S		Sn	07 01 11.3	-1.1
MANR	**Mangalia**	**2.34**	**142**	⇓P		**Pn**	**07 00 43.6**	**+0.4**
MANR				⇑S		Sn	07 01 12.6	-0.3
TSMN	**Mangalia Port-**	**2.36**	**142**	⇓P		**Pn**	**07 00 43.5**	**+0.2**
TSMN				⇑S		Sn	07 01 12.7	-0.5
PURM	**Purcari**	**2.43**	**68**	⇓P		**Pn**	**07 00 44.2**	**+0.1**
PURM				⇓S		Sn	07 01 14.3	-0.5
SZH	**Strazhitsa**	**2.46**	**191**	*i* P		**Pn**	**07 00 44.5**	**-0.2**
SZH				S		Sn	07 01 13.7	-1.8
SZH	**Strazhitsa**	**2.46**	**191**	P		**Pn**	**07 00 44.4**	**-0.2**
NEF	**NEVSHA**	**2.46**	**169**	*i* P		**Pn**	**07 00 45.0**	**+0.3**
PRD	**Provadia**	**2.59**	**167**	*i* P		**Pn**	**07 00 46.5**	**+0.3**
PRD				S		Sn	07 01 17.8	-0.6
PRD	**Provadia**	**2.59**	**167**	P		**Pn**	**07 00 46.2**	**0.0**
DEV	**Deva**	**2.60**	**276**	P		**Pn**	**07 00 47.0**	**+0.7**
SRE	**Strehaia**	**2.61**	**248**	⇑P		**Pn**	**07 00 45.9**	**-0.7**
SRE	**Strehaia**	**2.61**	**248**	P		**Pn**	**07 00 45.8**	**-0.7**
MARR	**Marisel-Cluj**	**2.62**	**294**	⇑P		**Pn**	**07 00 46.3**	**-0.3**
KALB	**Balgarevo**	**2.62**	**150**	⇓P		**Pn**	**07 00 47.2**	**+0.6**
KALB				⇓S		Sn	07 01 19.7	+0.6
ROIA	**ROIAK**	**2.65**	**168**	*i* P		**Pn**	**07 00 47.5**	**+0.5**
PLVB	**Pleven**	**2.70**	**212**	⇑P		**Pn**	**07 00 47.2**	**-0.4**
GZR	**Gura Zlata**	**2.70**	**265**	⇓P		**Pn**	**07 00 47.4**	**-0.3**
GZR				⇓S		Sn	07 01 21.2	+0.1
GZR	**Gura Zlata**	**2.70**	**265**	P		**Pn**	**07 00 47.4**	**-0.3**
SORM	**Soroca**	**2.73**	**25**	P		**Pn**	**07 00 47.1**	**-0.9**
PVL	**Pavlikeni**	**2.76**	**202**	*i* P		**Pn**	**07 00 48.1**	**-0.3**
PVL				S		Sn	07 01 19.9	-2.3
PVL	**Pavlikeni**	**2.76**	**202**	P		**Pn**	**07 00 47.7**	**-0.7**
ELND	**Elena**	**2.80**	**191**	⇑P		**Pn**	**07 00 48.9**	**0.0**
KSV	**Kosov**	**2.84**	**339**	*i* P		**Pn**	**07 00 49.5**	**+0.2**
KSV				Pm			07 00 51.4	
KSV				*i* S		Sn	07 01 24.4	+0.3
KSV				Sm			07 01 27.7	
RAKU	**Rahkiv**	**2.88**	**325**	*e*P		**Pn**	**07 00 50.3**	**+0.4**
RAKU				Pm			07 00 54.8	
RAKU				*i* S		Sn	07 01 25.4	+0.4
RAKU				Sm			07 01 56.6	
NSLU	**Nyzhne Selyshc**	**2.92**	**330**	*e*P		Pn	07 00 56.0	+5.7
NSLU				Pm			07 01 04.0	
NSLU				*e*S		Sn	07 01 35.6	+10
NSLU				Sm			07 02 01.0	
DRGR		**2.92**	**294**	⇓P		**Pn**	**07 00 49.9**	**-0.6**
DRGR		**2.92**	**294**	P		**Pn**	**07 00 49.9**	**-0.6**
PUNG	**Punghina**	**2.96**	**243**	⇓P		**Pn**	**07 00 49.7**	**-1.2**
NDNU	**Novodnistrovsk**	**2.96**	**10**	*i* P		**Pn**	**07 00 50.6**	**-0.3**
NDNU				Pm			07 01 27.0	
NDNU				*i* S		Sn	07 01 27.4	+0.5
NDNU				Sm			07 01 40.1	
VALD	**Valchedram**	**3.01**	**230**	*i* P		**Pn**	**07 00 50.9**	**-0.7**
HERR	**Herculane**	**3.06**	**256**	⇑P		**Pn**	**07 00 51.1**	**-1.1**
MPEP	**Malo Peshtene**	**3.10**	**222**	*i* P		**Pn**	**07 00 52.2**	**-0.5**
MPEP				S		Sn	07 01 26.8	-3.2
SURR	**Surduc**	**3.14**	**273**	⇑P		**Pn**	**07 00 53.1**	**-0.1**
JMB	**Yambol**	**3.19**

SUDU					Sm			07 02 41.2
	comp=N,63nm,0.5s							
MNK	**Minsk**	**8.87**	**5**	*i*	P	**Pn**	**07 02 05.0**	**-4.3**
	comp=E,48nm,0.9s							
MNK				*i*	P	**Pn**	**07 02 05.0**	**-4.3**
	comp=N,10.0nm,0.9s							
MNK				*i*	P	**Pn**	**07 02 05.0**	**-4.3**
	comp=Z,10.0nm,0.9s,baz=185							
MNK				*i*	S	**Sn**	**07 03 43.0**	**-4.6**
MNK				*i*	LRM	MLR	07 06 04.6	
	comp=N,198nm,24.2s							
MNK				*i*	LRM	MLR	07 06 11.8	
	comp=E,222nm,25.6s							
MNK				*i*	LRM	MLR	07 07 14.8	
	comp=Z,56nm,16.7s							
MNK	**Minsk**	**8.87**	**5**	*i*	P	**Pn**	**07 02 04.9**	**-4.3**
MNK				*i*	S	**Sn**	**07 03 42.9**	**-4.6**
MNK					pmax	pmax		
	comp=N,10.0nm,0.9s							
MNK					pmax	pmax		
	comp=E,48nm,0.9s							
MNK					pmax	pmax		
	comp=Z,10.0nm,0.9s							
MNK					MLR	MLR		
	comp=N,198nm,24.0s							
MNK					MLR	MLR		
	comp=E,222nm,26.0s							
MNK					MLR	MLR		
	comp=Z,56nm,17.0s							
ITM	**Ithomi**	**9.19**	**204**		Pn	**Pn**	**07 02 10.7**	**-3.1**
NACGM	**Naroch**	**9.23**	**1**	*e*	P	**Pn**	**07 02 11.5**	**-2.7**
	comp=Z,7.0nm,0.9s,baz=180							
GERES	**GERESS Array B**	**9.33**	**294**		P	**Pn**	**07 02 15.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=112,slow=13,SNR=4.4							
TIP	**Timpagrande**	**9.75**	**232**		Pn	**Pn**	**07 02 20.1**	**-1.2**
OBN	**Obninsk**	**11.37**	**30**	*e*	P	**Pn**	**07 02 40.4**	**-2.1**
OBN					pmax	pmax		
	comp=Z,14nm,0.5s							
KBZ	**Khabaz**	**11.76**	**94**	*e*	P	**Pn**	**07 02 46.5**	**-1.2**
KBZ					pmax	pmax		
	comp=Z,5.0nm,1.4s							
VAE	**Valguarnera**	**12.26**	**232**		P	**Pn**	**07 02 53.2**	**-1.1**
	comp=Z,18nm,0.5s,baz=159,slow=4.9,SNR=3.5							
RAFF	**Raffo Rosso**	**12.47**	**232**		Pn	**P**	**07 03 02.8**	**-0.3**
VSU	**Vasula**	**12.80**	**0**		P	**P**	**07 03 05.7**	**-0.8**
PGF	**Pioggiola**	**13.03**	**262**		P	**P**	**07 03 10.3**	**+1.0**
SENIN	**Lac Senin/Sane**	**13.44**	**280**		P	**P**	**07 03 12.8**	**-1.1**
VSL	**Villasalto**	**14.10**	**250**		P	**P**	**07 03 21.6**	**+0.5**
MMAI	**Mount Meron Ar**	**14.35**	**149**		LR	LR	07 09 32.2	
	comp=Z,40nm,19.2s,baz=112,slow=39							
GNI	**Garni**	**14.39**	**106**	*e*	P	**Pn**	**07 03 20.3**	**-1.3**
GNI					pmax	pmax		
	comp=Z,7.0nm,0.9s							
BELG	**Belogornoye**	**15.30**	**56**		P	**P**	**07 03 35.0**	**+0.7**
	comp=Z,34nm,0.7s,baz=309,slow=4.0,SNR=7.2							
BELG	**Belogornoye**	**15.30**	**56**	*e*	P	**P**	**07 03 34.2**	**-0.1**
BELG					pmax	pmax		
	comp=Z,8.0nm,0.9s							
FINES	**FINESS Array B**	**15.80**	**359**		P	**Pn**	**07 03 35.6**	**-3.1**
	comp=Z,2.9nm,0.4s,baz=168,slow=11,SNR=18							
FIA1	**FINESS Array S**	**15.80**	**359**		P	**Pn**	**07 03 38.0**	**-0.7**
FIA1					IAmb	IAmb	07 03 41.7	
	comp=Z,21nm,1.0s							
HFS	**Hagfors**	**16.39**	**337**		P	**Pn**	**07 03 43.3**	**-2.7**
	comp=Z,1.7nm,0.5s,baz=146,slow=16,SNR=6.6							
KLMR	**Klimovskoe**	**17.00**	**22**	*e*	P	**P**	**07 03 52.1**	**-0.8**
KLMR				*e*			07 06 48.4	
KLMR					pmax	pmax		
	comp=Z,5.0nm,0.5s							
NOA	**NORSAR Array B**	**17.84**	**335**		P	**P**	**07 04 00.8**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=156,slow=11,SNR=4.6							
NC204	**NORSAR Array S**	**18.16**	**335**		P	**Pn**	**07 04 07.6**	**+0.3**
NC204					IAmb	IAmb	07 04 40.9	
	comp=Z,16nm,1.3s							
KIRV	**Kirov**	**18.93**	**39**		P	**P**	**07 04 14.3**	**+0.4**
	comp=Z,8.3nm,0.5s,baz=243,slow=3.0,SNR=3.9							
KIRV	**Kirov**	**18.93**	**39**	*e*	P	**P**	**07 04 14.6**	**+0.6**
MSF	**Maaselka**	**20.32**	**3**		P	**P**	**07 04 28.5**	**-0.5**
MSF					pmax	pmax		
	comp=Z,29nm,1.9s							
AKTO	**Aktyubinsk**	**21.43**	**66**		P	**P**	**07 04 42.3**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=274,slow=10.0,SNR=7.5							
	comp=Z,1.2nm,0.3s							
SGF	**Sodankyl**	**21.82**	**360**		P	**P**	**07 04 44.9**	**0.0**
SGF					pmax	pmax		
	comp=Z,10.0nm,1.3s							
APA	**Apatity**	**22.23**	**7**	*e*	P	**P**	**07 04 52.0**	**+2.9**
APA				*e*	*PP	**pP**	**07 05 16.6**	**+1.5**
APA				*e*	S	**S**	**07 08 44.4**	**+1.0**
APA					MLR	MLR		
	comp=Z,319nm,3.6s							
ARTI	**Arti**	**22.47**	**50**		P	**P**	**07 04 50.9**	**-0.7**
ARTI					IAmb	IAmb	07 04 52.1	
	comp=Z,19nm,0.4s							
ARTI	**Arti**	**22.47**	**50**	*c*	*i*P	**P**	**07 04 51.5**	**-0.1**
ARTI							07 05 24.1	
ARTI					S	**S**	**07 08 47.5**	**0.0**
ARTI					SS	**SnSn**	**07 09 35.4**	**+2.5**
ARTI					pmax	pmax		
	comp=Z,3.0nm,0.4s							
LVZ	**Lovozero**	**22.67**	**8**	*e*	P	**P**	**07 04 55.4**	**+2.0**
LVZ					pmax	pmax		
	comp=Z,41nm,0.8s							
AB31	**Akbulak array**	**22.71**	**69**		P	**P**	**07 04 53.6**	**-0.4**
ABKAR	**Akbulak array**	**22.71**	**69**		P	**P**	**07 04 54.2**	**+0.2**
ESDC	**Sonseca Array**	**23.17**	**266**		P	**P**	**07 04 56.5**	**-2.0**
	comp=Z,1.2nm,0.8s,baz=60,slow=9.4,SNR=8.3							
	comp=Z,1.2nm,0.8s							
ARCES	**ARCESS Array B**	**23.93**	**359**		P	**P**	**07 05 04.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=171,slow=8.5,SNR=12							
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**29.07**	**59**		P	**P**	**07 05 52.8**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=271,slow=7.0,SNR=4.3							
	comp=Z,0.9nm,0.5s							
KK31	**Karatay Array**	**31.19**	**79**		P	**P**	**07 06 09.6**	**-0.4**
KK31	**Karatay Array**	**31.19**	**79**		P	**P**	**07 06 09.6**	**-0.4**
KK31					pmax	pmax		
	comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**31.19**	**79**		P	**P**	**07 06 10.1**	**+0.1**
KKAR	**Karatay Array**	**31.19**	**79**		P	**P**	**07 06 10.1**	**+0.1**
AAK	**Ala-Archa**	**34.09**	**78**	*e*	P	**P**	**07 06 36.9**	**+1.5**
AAK					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KURBB	**Kurchatov Array**	**34.40**	**63**		P	**P**	**07 06 38.9**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=287,slow=9.1,SNR=4.6							
	comp=Z,1.3nm,0.4s							
KURK	**Kurchatov**	**34.44**	**62**	*e*	P	**P**	**07 06 37.7**	**-0.4**
KURK					pmax	pmax		
	comp=Z,7.0nm,0.7s							
ZAA0	**Zalesovo Array**	**37.49**	**56**		P	**P**	**07 07 04.1**	**+0.1**
ZAA0					IAmb	IAmb	07 07 05.7	
	comp=Z,3.2nm,0.8s							
ZALV	**Zalesovo Beam**	**37.49**	**56**		P	**P**	**07 07 04.0**	**-0.1**
ZALV	**Zalesovo Beam**	**37.49**	**56**		P	**P**	**07 07 05.0**	**+1.0**
	comp=Z,6nm,0.5s,baz=278,slow=9.5,SNR=9.9							
	comp=Z,2.6nm,0.5s							
MK31	**Makanchi Array**	**37.85**	**68**	*e*	P	**P**	**07 07 08.2**	**+1.0**
MKAR	**Makanchi Array**	**37.85**	**68**		P	**P**	**07 07 07.8**	**+0.6**
MKAR	**Makanchi Array**	**37.85**	**68**		P	**P**	**07 07 08.6**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=278,slow=8.3,SNR=17							
MKAR					pP	**pP**	**07 07 38.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=276,slow=8.2,SNR=2.9							
	comp=Z,1.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**38.69**	**221**		P	**P**	**07 07 14.2**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=26,slow=9.3,SNR=16							
	comp=Z,2.2nm,0.5s							
CMLA	**Cha da Macela**	**39.11**	**277**		P	**P**	**07 07 18.5**	**+0.7**
CMLA	**Cha da Macela**	**39.11**	**277**		P	**P**	**07 07 18.5**	**+0.7**
CMLA					pmax	pmax		
	comp=Z,86nm,1.2s							
WMQ	**Urumqi**	**42.49**	**70**	*e*	P	**P**	**07 07 47.0**	**+1.5**
ILULI	**Ilulissat**	**43.99**	**330**		P	**P**	**07 07 59.8**	**+2.7**
ILULI	**Ilulissat**	**43.99**	**330**		P	**P**	**07 07 59.8**	**+2.7**
ILULI					pmax	pmax		
	comp=Z,47nm,1.4s							
DBIC	**Dimbokro**	**47.45**	**225**		P	**P**	**07 08 24.0**	**-0.8**
	comp=Z,6.2nm,0.3s,baz=54,slow=6.5,SNR=48							
	comp=Z,6.2nm,0.3s							
DBIC	**Dimbokro**	**47.45**	**225**		P	**P**	**07 08 24.0**	**-0.8**
KMBO	**Kilima Mbogo**	**47.55**	**165**		LR	LR	07 30 30.3	
	comp=Z,48nm,20.6s,baz=297,slow=38							
TIXI	**Tiksi**	**51.01**	**23**	*e*	P	**P**	**07 08 49.3**	**-1.8**
TIXI					pmax	pmax		
	comp=Z,28nm,1.3s							
SONM	**Songino Array**	**52.36**	**57**		P	**P**	**07 09 03.2**	**+1.4**
SONM	**Songino Array**	**52.36**	**57**		P	**P**	**07 09 02.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=293,slow=8.9,SNR=5.8							
SONM					pP	**pP**	**07 09 34.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=307,slow=3.1,SNR=2.2							
	comp=Z,1.4nm,0.6s							
SONM	**Songino Array**	**52.36**	**57**		P	**P**	**07 09 03.2**	**+1.4**
YAK	**Yakutsk**	**56.35**	**33**	*e*	P	**P**	**07 09 31.9**	**+1.8**
YAK					pmax	pmax		
	comp=Z,9.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**59.25**	**62**	*e*	P	**P**	**07 09 50.8**	**-0.1**
HHC					pmax	pmax		
	comp=Z,19nm,0.5s							
HHC					pmax	pmax		
	comp=Z,92nm,5.3s							
PZH	**PanZhiHua**	**61.47**	**80**		P	**P**	**07 10 07.8**	**+1.6**
C36M	**Paulatuk**	**63.26**	**349**		P	**P**	**07 10 18.4**	**+1.1**
SEY	**Seymchan**	**63.47**	**25**	*e*	P	**P**	**07 10 19.7**	**+1.0**
SEY					pmax	pmax		
	comp=Z,4.0nm,1.5s							
C24K	**Franklin Bluff**	**64.86**	**358**		P	**P**	**07 10 28.1**	**+0.4**
C24K					IAmb	IAmb	07 10 57.3	
	comp=Z,8.7nm,1.3s							
C18K	**Utukok River**	**65.84**	**3**		P	**P**	**07 10 34.6**	**+0.5**
C18K					IAmb	IAmb	07 11 01.8	
	comp=Z,9.1nm,1.2s							
F31M	**Tsiigehtchic**	**66.22**	**352**		P	**P**	**07 10 35.8**	**-0.7**
F31M					IAmb	IAmb	07 10 55.0	
	comp=Z,14nm,1.4s							
NJ2	**Nanjing**	**69.31**	**65**	*e*	P	**P**	**07 10 56.0**	**-0.4**
NJ2					pmax	pmax		
	comp=Z,15nm,0.5s							

SOME ***30*** *07:27:52.7,40.72N×73.18E,h10km*
ISU ***30*** *07:27:53,40.72N×73.27E,h8km*
KRNET ***30*** *07:27:54.0±0.1,40.75N×73.23E,h18km,mb3.4*
NNC ***30*** *07:27:54.6±1.3,40.77N×73.19E,h0km,mb3.9,mpv3.7,*
Error ellipse: s-maj=10.8km s-min=4.5km az=172.0
KNET ***30*** *07:27:56.8±0.6,40.89N×73.25E±0.02,h11km±5km,ml2.9,Error ellipse: s-maj=8.2km s-min=3.7km az=92.0*

ISC 30 07:27:54.1±1.0**,40.78N**±0.03×**73.25E**±0.02**,h13**km±10km**,**
n54,σ1s76/87,26C-17D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.45**	**76**	⇓	*i*P		**Pg**	**07 28 03.1**	**0.0**
SALK				⇓	*i*S		**Sg**	**07 28 09.5**	**+0.4**
TSTA	**Tashata**	**0.62**	**251**		P		**Pg**	**07 28 05.5**	**-0.7**
TSTA					S		**Sb**	**07 28 14.6**	**-0.8**
ANR	**Andizhan**	**0.67**	**268**		S		**Sn**	**07 28 18.4**	**-1.4**
FRG	**Fergana**	**1.19**	**250**		P		**Pg**	**07 28 17.3**	**+0.3**
FRG					S		**Sg**	**07 28 35.0**	**+2.6**
NAM	**Namangan**	**1.22**	**280**		S		**Sg**	**07 28 37.2**	**+3.6**
CHMI	**Chimion**	**1.41**	**249**		P		**Pg**	**07 28 20.1**	**-1.1**
CHMI					S		**Sg**	**07 28 39.8**	**+0.3**
UCH	**Uchtor**	**1.73**	**33**	⇓	P		**Pb**	**07 28 26.9**	**+0.9**
	14nm,0.2s,SNR=75								
UCH				⇓	S		**Sg**	**07 28 51.1**	**+1.2**
	83nm,0.3s								
UCH	**Uchtor**	**1.73**	**33**	⇑	*i*P		**Pb**	**07 28 26.3**	**+0.2**
UCH				⇑	*i*S		**Sg**	**07 28 49.7**	**-0.2**
MINT	**Mingtut**	**1.76**	**260**		P		**Pb**	**07 28 25.2**	**-1.0**
MINT					S		**Sg**	**07 28 49.5**	**-1.2**
TRKS	**Terek-Say**	**1.76**	**296**	⇑	*i*P		**Pb**	**07 28 25.3**	**-1.0**
TRKS				⇑	*i*S		**Sb**	**07 28 48.1**	**-0.3**
EKS2	**Erkin-Say**	**1.92**	**12**		P		**Pg**	**07 28 30.5**	**-0.5**
	16nm,0.2s,SNR=28								
EKS2				⇓	S		**Sg**	**07 28 56.4**	**+0.4**
	54nm,0.2s								
EKS2	**Erkin-Say**	**1.92**	**12**	⇑	*i*P		**Pb**	**07 28 28.9**	**-0.2**
EKS2				⇑	*i*S		**Sb**	**07 28 54.4**	**+1.3**
MRKS	**Merke**	**1.96**	**360**		Pg		**Pb**	**07 28 30.8**	**+1.0**
	56nm,0.4s								
MRKS					Lg		Lg	07 28 57.8	
	210nm,0.4s								
MRKS	**Merke**	**1.96**	**360**	*e*	P		**Pb**	**07 28 30.8**	**+1.0**
	56nm,0.4s								
MRKS				*e*	S		**Sg**	**07 28 58.2**	**+0.9**
	268nm,0.3s								
AAK	**Ala-Archa**	**2.08**	**26**	⇓	P		**Pb**	**07 28 32.3**	**+0.5**
	49nm,0.2s,SNR=35								
AAK				⇓	S		**Sg**	**07 29 00.6**	**-0.4**
	80nm,0.2s								
AAK	**Ala-Archa**	**2.08**	**26**	⇓	Pn		**Pb**	**07 28 32.2**	**+0.4**
	10nm,0.4s								
AAK				⇑	Sn		**Sg**	**07 29 00.7**	**-0.2**
	14nm,0.4s								
AAK	**Ala-Archa**	**2.08**	**26**	⇑	*i*P		**Pb**	**07 28 31.3**	**-0.5**
AAK				⇑	*i*S		**Sb**	**07 28 58.3**	**+0.7**
KBK	**Karagaybulak**	**2.27**	**34**	⇑	P		**Pb**	**07 28 35.9**	**+0.9**
	17nm,0.1s,SNR=13								
KBK				⇓	S		**Sg**	**07 29 06.4**	**-0.6**
	62nm,0.2s								
KBK	**Karagaybulak**	**2.27**	**34**	⇓	*e*P		**Pb**	**07 28 33.9**	**-1.1**
KBK				⇑	*i*S		**Sb**	**07 29 02.9**	**-0.1**
FRU1	**Bishkek**	**2.28**	**27**	⇓	*e*P		**Pb**	**07 28 34.1**	**-1.0**
FRU1				⇑	*i*S		**Sb**	**07 29 03.4**	**+0.2**
CHMS	**Chumysh**	**2.49**	**26**	⇓	P		**Pb**	**07 28 38.0**	**-0.7**
	28nm,0.4s,SNR=7.0								
CHMS				⇓	S		**Sb**	**07 29 10.3**	**+1.1**
	52nm,0.4s								
CHMS	**Chumysh**	**2.49**	**26**	⇑	*i*P		**Pb**	**07 28 36.8**	**-1.9**
CHMS				⇑	*i*S		**Sb**	**07 29 07.8**	**-1.4**
DZA	**Taraz**	**2.55**	**326**		Pg		**Pg**	**07 28 41.8**	**-1.2**
	11nm,0.0s								
DZA					Lg		Lg	07 29 16.1	
	232nm,0.2s								
DZA	**Taraz**	**2.55**	**326**	*e*	P		**Pg**	**07 28 41.4**	**-1.6**
	65nm,0.1s								
DZA				*e*	S		**Sg**	**07 29 16.0**	**-0.1**
	232nm,0.2s								
CHMG	**Chimgan**	**2.56**	**289**		S		**Sg**	**07 29 16.6**	**+0.1**
CHRV	**Charvak**	**2.63**	**290**		S		**Sg**	**07 29 18.3**	**-0.4**
USP	**Ospenovka**	**2.66**	**20**	⇑	P		**Pb**	**07 28 41.0**	**-0.6**
	14nm,0.2s,SNR=11								
USP				⇑	S		**Sb**	**07 29 15.8**	**+1.7**
	28nm,0.3s								
USP	**Ospenovka**	**2.66**	**20**	⇑	*i*P		**Pb**	**07 28 39.2**	**-2.4**
USP				⇑	*i*S		**Sb**	**07 29 12.0**	**-2.1**
ULHL	**Ulahol**	**2.68**	**56**	⇓	*i*P		**Pb**	**07 28 39.6**	**-2.6**
ULHL				⇓	*i*S		**Sb**	**07 29 12.9**	**-2.2**
TKM2	**Tokmak 2**	**2.77**	**39**	⇓	P		**Pb**	**07 28 43.0**	**-0.6**
	9.6nm,0.2s,SNR=12								
TKM2	**Tokmak 2**	**2.77**	**39**	⇑	*i*P		**Pb**	**07 28 40.9**	**-2.7**
TKM2				⇑	*i*S		**Sb**	**07 29 14.9**	**-2.6**
IUG	**Iuzhnay**	**2.78**	**301**		Pg		**Pb**	**07 28 44.5**	**+0.9**
	23nm,0.2s								
IUG					Lg		Lg	07 29 21.5	
	102nm,0.5s								
SGDS	**Sogindy**	**2.86**	**21**		Pg		**Pb**	**07 28 46.2**	**+1.1**
	4.3nm,0.3s								
SGDS					Lg		Lg	07 29 24.9	
	36nm,0.4s								
GAR	**Garm**	**2.87**	**233**	⇓	*i*P		**Pn**	**07 28 41.2**	**+1.5**
GAR				⇓	*i*S		**Sb**	**07 29 15.8**	**-4.6**
KST	**Kastek**	**3.04**	**41**		Pg		**Pb**	**07 28 50.2**	**+2.1**
	4.7nm,0.2s								
KST					Lg		Lg	07 29 30.5	
	21nm,0.7s								
KST	**Kastek**	**3.04**	**41**	*e*	P		**Pb**	**07 28 50.2**	**+2.1**
	4.8nm,0.2s								
KST				*e*	S		**Sg**	**07 29 31.4**	**-0.3**
	28nm,0.4s								
KK31	**Karatay Array**	**3.09**	**320**	⇑	Pg		**Pb**	**07 28 50.4**	**+1.4**
	5.3nm,0.3s,baz=132,slow=13,SNR=45								
KK31				⇑	Lg		Lg	07 29 31.3	
	20nm,0.6s,baz=143,slow=30,SNR=6.3								
MTBS	**Maitube**	**3.34**	**44**		Pg		**Pb**	**07 28 55.8**	**+2.5**
	3.4nm,0.3s								
MTBS					Lg		Lg	07 29 40.0	
	32nm,0.3s								
MTBS	**Maitube**	**3.34**	**44**	*e*	P		**Pb**	**07 28 55.8**	**+2.5**
	3.1nm,0.2s								
MTBS				*e*	S		**Sg**	**07 29 40.8**	**-0.5**
	32nm,0.3s								
BRLS	**Borolday**	**3.40**	**313**		Pg		**Pb**	**07 28 55.1**	**+1.0**
	14nm,0.4s								
BRLS					Lg		Lg	07 29 39.2	
	12nm,0.4s								
BRLS	**Borolday**	**3.40**	**313**	*e*	P		**Pb**	**07 28 55.1**	**+1.0**
	4.1nm,0.1s								
BRLS				*e*	S		**Sg**	**07 29 39.7**	**-3.5**
	20nm,0.1s								
TARG	**Taragay, Kyrgy**	**3.56**	**73**	⇑	*i*P		**Pn**	**07 28 52.0**	**+2.5**
TARG				⇑	*i*S		**Sn**	**07 29 34.0**	**+2.3**
TNSS	**Tian-Shan**	**3.57**	**50**		Pg		**Pg**	**07 29 00.5**	**-2.0**
	1.2nm,0.2s								
TNSS					Lg		Lg	07 29 48.0	
	7.0nm,0.4s								
TNSS	**Tian-Shan**	**3.57**	**50**	*e*	P		**Pb**	**07 28 59.8**	**+2.5**
	1.3nm,0.1s								
TNSS				*e*	S		**Sg**	**07 29 48.0**	**-0.7**
	7.1nm,0.4s								
KOTS	**Kotyrbulak**	**3.78**	**48**		Pg		**Pg**	**07 29 04.4**	**-2.2**
	6.6nm,0.4s								
KOTS					Lg		Lg	07 29 54.8	
	40nm,0.4s								
KOTS	**Kotyrbulak**	**3.78**	**48**	*e*	P		**Pg**	**07 29 04.4**	**-2.2**
	2.7nm,0.2s								
KOTS				*e*	S		**Sg**	**07 29 55.5**	**-0.1**
	51nm,0.5s								
KUU	**Kurty**	**3.86**	**35**		Pg		**Pb**	**07 29 04.1**	**+1.9**
	2.4nm,0.1s								
KUU					Lg		Lg	07 29 54.3	
	64nm,0.4s								
KUU	**Kurty**	**3.86**	**35**	*e*	P		**Pb**	**07 29 04.5**	**+2.4**
	1.6nm,0.1s								
KUU				*e*	S		**Sg**	**07 29 55.6**	**-2.6**
	64nm,0.4s								
KTBS	**Karatobe**	**3.88**	**40**		Pg		**Pb**	**07 29 05.2**	**+2.6**
	2.4nm,0.3s								
KTBS					Lg		Lg	07 29 56.8	
	30nm,0.5s								
CHKK	**Chushkaly**	**4.14**	**41**		Pg		**Pg**	**07 29 10.3**	**-3.1**
	3.3nm,0.4s								
CHKK					Lg		Lg	07 30 04.8	
	16nm,0.2s								
CHKK	**Chushkaly**	**4.14**	**41**	*e*	P		**Pg**	**07 29 10.3**	**-3.1**
	0.8nm,0.0s								
CHKK				*e*	S		**Sg**	**07 30 05.6**	**-1.4**
	6.3nm,0.1s								
BTLS	**Baital**	**4.30**	**8**		Pg		**Pb**	**07 29 12.6**	**+3.0**
	6.1nm,0.4s								
BTLS					Lg		Lg	07 30 09.1	
	20nm,0.7s								
BTLS	**Baital**	**4.30**	**8**	*e*	P		**Pb**	**07 29 12.3**	**+2.7**
	1.2nm,0.3s								
BTLS				*e*	S		**Sg**	**07 30 09.1**	**-3.1**
	18nm,0.3s								
PDGK	**Podgornoye**	**5.30**	**59**	⇓	Lg		Lg	07 30 45.1	
	14nm,1.1s								

IDC 30 07:33:45.3±999.0**,51.11N×54.22E,h0km,Error ellipse: s-maj=924.4km s-min=176.1km az=125.0,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASONI**	**1.47**	**306**			I	I	08 40 20.0	
	baz=112,slow=323,SNR=2.4								
I37NO	**I37NO**	**24.69**	**330**			I	I	10 05 00.0	
	baz=119,slow=326,SNR=1.1								
I26DE	**FREYUNG INFRAS**	**25.91**	**281**			I	I	10 12 59.1	
	baz=70,slow=318,SNR=0.5								

NEIC ***30*** *08:00:16.9±1.7,18.71N±0.10×145.2E±0.2,h192km±8km,*
mb4.0/18,Error ellipse: s-maj=24.3km s-min=14.2km az=89.0
IDC ***30*** *08:00:17.9±2.6,18.68N×145.21E,h199km±24km,mb3.2/6,*
mbtmp3.8/7,Error ellipse: s-maj=39.9km s-min=18.4km az=103.0

ISC 30 08:00:17.4±0.6**,18.68N**±0.07×**145.2E**±0.2**,h200**km**,n34,**
σ0s80/30,mb3.9/16,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.07**	**184**			Pn	**Pn**	**08 01 32.9**	**+0.2**
GUMO	**Guam**	**5.07**	**184**			P	**Pn**	**08 01 34.3**	**+1.5**
	37nm,0.8s,baz=18,slow=6.4,SNR=3.8								
GUMO						S	**Sn**	**08 02 32.2**	**0.0**
	49nm,0.4s,baz=11,slow=19,SNR=6.7								
JOW	**Kunigami**	**17.58**	**301**			P	**P**	**08 04 08.0**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**20.38**	**87**			T	T	08 26 00.4	
	baz=275,slow=74,SNR=2.3								
H11S1	**WAKE ISLAND Hy**	**20.39**	**87**			T	T	08 25 54.8	
	baz=275,slow=74								
H11S2	**WAKE ISLAND Hy**	**20.39**	**87**			T	T	08 25 50.7	
	baz=275								
H11N1	**WAKE ISLAND Hy**	**20.52**	**84**			T	T	08 25 59.3	
	baz=270								
H11N2	**WAKE ISLAND Hy**	**20.52**	**84**			T	T	08 26 00.5	
	baz=270								
H11N3	**WAKE ISLAND Hy**	**20.54**	**84**			T	T	08 26 09.7	
	baz=270								
COEN	**Coen**	**32.49**	**184**			P	**P**	**08 06 28.7**	**-0.6**
COEN						IAmb	IAmb	08 06 45.5	
	comp=Z,5.2nm,1.1s								
MTN	**Manton Dam**	**34.25**	**205**	

TRKS	**Terek-Say**	**2.40**	**358**	⇓*i*P		**Pn**	**08 03 47.5**	**-0.4**
TRKS				⇓*i*S		**Sn**	**08 04 17.2**	**+1.0**
SALK	**Salom-Alik**	**2.63**	**47**	⇑*e*P		**Pn**	**08 03 50.5**	**-0.6**
SALK				⇑*i*S		**Sn**	**08 04 22.4**	**+0.4**
UCH	**Uchtor**	**3.96**	**38**	P		**Pn**	**08 04 10.2**	**+0.5**
	SNR=44							
EKS2	**Erkin-Say**	**4.01**	**28**	P		**Pn**	**08 04 11.0**	**+0.9**
	SNR=19							
KK31	**Karatay Array**	**4.01**	**352**	Pn		**Pn**	**08 04 10.7**	**+0.7**
	12nm,0.4s,baz=174,slow=14,SNR=77							
KK31				⇑Sn		**Sn**	**08 05 01.7**	**+5.9**
	24nm,0.5s,baz=175,slow=21,SNR=6.7							
AAK	**Ala-Archa**	**4.27**	**34**	P		**Pn**	**08 04 14.7**	**+1.0**
	SNR=30							
AAK	**Ala-Archa**	**4.27**	**34**	⇓Pn		**Pn**	**08 04 14.8**	**+1.0**
	4.8nm,0.4s							
AAK				⇓Sn		**Sb**	**08 05 14.1**	**-2.5**
	10nm,0.5s							
KBK	**Karagaybulak**	**4.49**	**37**	P		**Pn**	**08 04 18.9**	**+2.1**
	SNR=11							
CHMS	**Chumysh**	**4.68**	**33**	P		**Pn**	**08 04 20.3**	**+1.1**
	SNR=9.0							
USP	**Ospenovka**	**4.80**	**30**	P		**Pn**	**08 04 21.1**	**+0.2**
	SNR=52							
TKM2	**Tokmak 2**	**5.01**	**39**	P		**Pn**	**08 04 23.9**	**+0.1**
	SNR=12							
MKAR	**Makanchi Array**	**11.12**	**43**	Pn		**Pn**	**08 05 47.4**	**-0.1**
	0.1nm,0.3s,baz=235,slow=12,SNR=4.7							
	0.8nm,0.6s							
AB31	**Akbulak array**	**12.96**	**325**	Pn		**Pn**	**08 06 09.8**	**-2.7**
	1.4nm,0.6s,baz=147,slow=12,SNR=30							
BVAR	**Borovoye Array**	**13.91**	**358**	Pn		**Pn**	**08 06 22.7**	**-2.8**
	baz=172,slow=12,SNR=2.7							
	0.8nm,0.5s							
AKTO	**Aktyubinsk**	**14.68**	**325**	Pn		**Pn**	**08 06 35.4**	**-0.5**
	0.4nm,0.3s,baz=135,slow=13,SNR=4.6							
AKTO				Sn		**Sn**	**08 09 13.5**	**-3.8**
	0.2nm,0.3s,baz=16,slow=19,SNR=4.3							
	1.5nm,0.4s							
AKTO	**Aktyubinsk**	**14.68**	**325**	⇑Pn		**Pn**	**08 06 35.3**	**-0.7**
	3.2nm,0.8s							
ZALV	**Zalesovo Beam**	**17.46**	**27**	P		**Pn**	**08 07 11.0**	**-0.5**
	1.4nm,0.4s,baz=216,slow=12,SNR=2.7							
HFS	**Hagfors**	**41.16**	**320**	P		**P**	**08 10 52.2**	**+0.6**
	1.1nm,0.5s,baz=100,slow=10,SNR=7.3							
	1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**66.01**	**268**	P		**P**	**08 13 55.7**	**+1.3**
	0.6nm,0.6s,baz=45,slow=6.0,SNR=5.3							
	0.6nm,0.6s							
WRA	**Warramunga Arr**	**83.21**	**122**	P		**P**	**08 15 35.1**	**+1.2**
	0.3nm,0.8s,baz=321,slow=5.2,SNR=1.7							
	0.3nm,0.8s							

*IDC **30** 08:05:12.1±3.1,53°.63N×87°.87E, h0km, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=29.6km s-min=18.4km az=50.0*

ASRS 30 08:05:08.0±1.4**, 53°.59N×87°.92E, h0**km**, M2.7, The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**282**	I	I	08 17 10.0	
	baz=98,slow=320,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.88**	**282**	Pn	Pg	08 05 45.1	+1.2
	2.9nm,0.3s,baz=96,slow=15,SNR=24						
ZALV				Lg	Lg	08 06 10.3	
	2.6nm,0.3s,baz=96,slow=33,SNR=11						
KURBB	**Kurchatov Arra**	**6.50**	**247**	Pn	Pn	08 06 49.6	+4.7
	0.2nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Lg	Lg	08 08 36.3	
	0.1nm,0.3s,baz=61,slow=34,SNR=2.3						
	1.9nm,0.4s						
MKAR	**Makanchi Array**	**7.70**	**210**	Pn	Pn	08 07 06.6	+5.3
	0.2nm,0.3s,baz=27,slow=11,SNR=4.7						
	0.3nm,0.3s						

*IDC **30** 08:25:43.0±1.2,4°.87S×133°.89E, h0km, mb3.8/4, mbtmp4.0/8, ML4.2/4, MS3.2/7, Error ellipse: s-maj=37.2km s-min=25.0km az=91.0*

*DJA **30** 08:25:49.9±0.8,5°.S×3°.×13°.4E±°, h27km±7km, M4.6/8, mB5.8/3, mb4.8/3, MLv4.5/8, Mw(mB)5.4/3*

ISC 30 08:25:45.0±0.8**,4°.92S**±0°.05**×133°.86E**±0°.06**, h28**km**, n19, σ3°.45/21, mb4.0/4, MS3.3/4, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.26**	**353**	P	**Pn**	**08 26 06.0**	**-0.7**
KMPI				S	**Sn**	**08 26 17.9**	**-4.8**
FAKI	**Fak Fak**	**2.56**	**321**	P	**Pn**	**08 26 24.2**	**-0.4**
FAKI				S	**Sn**	**08 26 48.7**	**-6.1**
RKPI	**Ransiki, Papua**	**3.40**	**5**	P	**Pn**	**08 26 36.4**	**+0.2**
RKPI				S	**Sn**	**08 27 11.8**	**-3.8**
BNDI	**Bandanaira**	**3.96**	**276**	P	**Pn**	**08 26 46.1**	**+2.2**
BNDI				S	**Sn**	**08 27 29.4**	**-0.1**
MSAI	**Masohi**	**5.16**	**287**	P	**Pn**	**08 26 59.3**	**-1.1**
GENI	**Genyem**	**6.70**	**70**	P	Pn	08 27 27.1	+5.5
JAY	**Jayapura**	**7.23**	**71**	Pn	**Pn**	**08 27 28.8**	**-0.2**
	1.3nm,0.3s,baz=197,slow=14,SNR=5.4						
JAY				Sn	**Sn**	**08 28 47.1**	**-3.2**
	0.4nm,0.3s,baz=105,slow=22,SNR=1.4						
JAY				LR	LR	08 30 35.2	
	comp=Z,120nm,18.2s,baz=306,slow=41						
	14nm,0.8s						
PMG	**Port Moresby**	**13.92**	**109**	LR	LR	08 35 35.4	
	comp=Z,116nm,18.6s,baz=296,slow=43						
WRA	**Warramunga Arr**	**14.94**	**178**	Pn	**Pn**	**08 29 15.1**	**+0.7**
	0.8nm,0.3s,baz=356,slow=13,SNR=17						
WRA				Sn	**Sn**	**08 31 56.1**	**-3.0**
	0.9nm,0.3s,baz=354,slow=24,SNR=6.0						
	1.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.37**	**211**	Pn	**Pn**	**08 29 21.8**	**+1.7**
	2.3nm,0.3s,baz=36,slow=12,SNR=31						
FITZ				Sn	**Sn**	**08 32 03.6**	**-5.9**
	2.6nm,0.3s,baz=194,slow=16,SNR=9.0						
	5.3nm,0.3s						
ASAR	**Alice Springs**	**18.64**	**180**	P	**Pn**	**08 30 03.8**	**+2.7**
	0.7nm,0.3s,baz=358,slow=12,SNR=30						
ASAR				Sn	**Sn**	**08 33 22.1**	**-6.7**
	0.3nm,0.3s,baz=357,slow=28,SNR=5.7						
ASAR				LR	LR	08 37 33.1	
	comp=Z,100nm,19.5s,baz=344,slow=38						
	2.4nm,0.6s						
GUMO	**Guam**	**21.39**	**31**	LR	LR	08 39 54.4	
	comp=Z,18nm,18.4s,baz=101,slow=40						
JOW	**Kunigami**	**32.02**	**351**	LR	LR	08 43 40.4	
	comp=Z,97nm,21.2s,baz=330,slow=34						
PETK	**Petropavlovsk-**	**61.22**	**16**	P	**P**	**08 35 59.8**	**+2.6**
	0.9nm,0.8s,baz=224,slow=7.0,SNR=2.3						
	0.9nm,0.8s						
SHEM	**Shemya Is, Ala**	**66.74**	**25**	LR	LR	09 05 06.3	
	comp=Z,13nm,19.3s,baz=119,slow=35						
MKAR	**Makanchi Array**	**68.68**	**325**	P	**P**	**08 36 49.2**	**+3.2**
	0.6nm,0.5s,baz=119,slow=6.5,SNR=9.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**72.82**	**327**	P	**P**	**08 37 12.7**	**+1.7**
	0.2nm,0.3s,baz=123,slow=5.9,SNR=4.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**78.41**	**327**	P	**P**	**08 37 44.6**	**+1.6**
	0.7nm,0.5s,baz=114,slow=6.2,SNR=3.8						
	0.7nm,0.5s						
KDAK	**Kodiak Island**	**85.46**	**31**	LR	LR	09 14 03.1	
	comp=Z,20nm,19.5s,baz=210,slow=34						

*VAO **30** 08:27:49.0±0.4,22°.63S×67°.92W, h126km±3km, mb4.7*
*SJA **30** 08:27:50.1±1.8,22°.79S×68°.02W, h125km, ML4.2, MW4.1*
*NEIC **30** 08:27:50.4±1.3,22°.80S±0°.06×68°.0W±0°.1, h142km±8km, mb4.7/14, Mwr4.4(GUC), Error ellipse: s-maj=14.9km s-min=8.6km az=89.0*
*GUC **30** 08:27:51.1±0.9,22°.75S×68°.06W, h148km±5km, ML4.3*
*IDC **30** 08:27:51.0±2.1,22°.67S×67°.79W, h135km±19km, mb4.1/9, mbtmp4.5/13, Error ellipse: s-maj=20.3km s-min=13.1km az=91.0*

ISC 30 08:27:50.2±0.6**, 22°.75S**±0°.03×**67°.99W**±0°.03**, h143**km±5km**, n153**, σ1°.60/194**, mb4.5**/12**, 10C-7D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.27**	**221**		**Pn**	**08 28 10.2**	**0.0**
AF01	**San Pedro de A**	**0.27**	**221**	⇑*i*P	**Pn**	**08 28 10.7**	**+0.4**
AF01				*e*S	**Sn**	**08 28 25.6**	**+0.2**
AF01				IAML		08 28 26.9	
	comp=N,6μm,0.4s						
AF01	**San Pedro de A**	**0.27**	**221**	*e*P	**Pn**	**08 28 10.6**	**+0.4**
AF01				*e*S	**Sn**	**08 28 31.8**	**+6.4**
AF01				IAML		08 28 45.4	
	comp=Z,3μm,0.5s						
PB06	**IPOC Station P**	**1.46**	**271**		**Pn**	**08 28 19.1**	**+0.1**
PB06	**IPOC Station P**	**1.46**	**271**	⇑*i*P	**Pn**	**08 28 19.6**	**+0.5**
PB06				*e*S	**Sn**	**08 28 40.9**	**-0.1**
PB06				IAML		08 28 42.7	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	**1.46**	**271**	*e*P	**Pn**	**08 28 19.4**	**+0.5**
PB06				*e*S	**Sn**	**08 28 41.7**	**+0.8**
PB06				IAML		08 28 45.7	
	comp=Z,2μm,0.4s						
PB09	**IPOC Station P**	**1.50**	**309**		**Pn**	**08 28 20.4**	**+1.0**
PB09	**IPOC Station P**	**1.50**	**309**	⇓*i*P	**Pn**	**08 28 20.6**	**+1.2**
PB09				*e*S	**Sn**	**08 28 42.3**	**+0.6**
PB09	**IPOC Station P**	**1.50**	**309**	*e*P	**Pn**	**08 28 20.6**	**+1.2**
PB09				*e*S	**Sn**	**08 28 43.5**	**+1.8**
PB09				IAML		08 28 44.9	
	comp=Z,1μm,0.7s						
PB03	**IPOC Station P**	**1.77**	**293**		**Pn**	**08 28 23.0**	**+0.5**
PB03	**IPOC Station P**	**1.77**	**293**	⇑*i*P	**Pn**	**08 28 23.0**	**+0.5**
PB03				*e*S	**Sn**	**08 28 46.8**	**-0.3**
PB03				IAML		08 28 49.3	
	comp=E,5μm,0.1s						
PB03	**IPOC Station P**	**1.77**	**293**	*e*P	**Pn**	**08 28 23.1**	**+0.6**
PB03				*e*S	**Sn**	**08 28 47.3**	**+0.1**
PB03				IAML		08 28 49.3	
	comp=Z,4μm,0.3s						
PB05	**IPOC Station P**	**2.04**	**267**		**Pn**	**08 28 25.6**	**0.0**
PB05	**IPOC Station P**	**2.04**	**267**	⇑*i*P	**Pn**	**08 28 25.7**	**+0.2**
PB05				*e*S	**Sn**	**08 28 51.4**	**-1.3**
PB05				IAML		08 28 53.7	
	comp=N,1μm,0.4s						
PB05	**IPOC Station P**	**2.04**	**267**	*e*P	**Pn**	**08 28 25.8**	**+0.2**
PB05				*e*S	**Sn**	**08 28 52.1**	**-0.5**
PB05				IAML		08 28 53.9	
	comp=Z,904nm,0.3s						
PB01	**IPOC Station P**	**2.19**	**320**		**Pn**	**08 28 27.6**	**+0.3**
PB01	**IPOC Station P**	**2.19**	**320**	⇓*i*P	**Pn**	**08 28 28.0**	**+0.6**
PB01				IAML		08 28 58.2	
	comp=E,2μm,0.7s						
PB01	**IPOC Station P**	**2.19**	**320**	*e*P	**Pn**	**08 28 28.0**	**+0.6**
PB01				*e*S	**Sn**	**08 28 56.4**	**+0.5**
PB01				IAML		08 28 58.0	
	comp=Z,1μm,0.8s						
PB02	**IPOC Station P**	**2.27**	**308**		**Pn**	**08 28 28.4**	**+0.2**
PB02	**IPOC Station P**	**2.27**	**308**	⇓*i*P	**Pn**	**08 28 28.7**	**+0.5**
PB02	**IPOC Station P**	**2.27**	**308**	*e*P	**Pn**	**08 28 28.1**	**-0.1**
PB02				*e*S	**Sn**	**08 28 57.9**	**+0.4**
PB02				IAML		08 29 01.0	
	comp=Z,3μm,0.3s						
YJA	**Yavi**	**2.36**	**76**	*e*P	**Pn**	**08 28 32.0**	**+2.3**
YJA				*e*S	**Sn**	**08 29 02.4**	**+2.4**
HJA	**Humahuaca**	**2.42**	**101**	*e*P	**Pn**	**08 28 32.3**	**+1.9**
PB10	**IPOC Station P**	**2.48**	**252**		**Pn**	**08 28 30.1**	**-0.6**
PB10	**IPOC Station P**	**2.48**	**252**	⇑*i*P	**Pn**	**08 28 30.6**	**-0.1**
PB10				IAML		08 29 01.1	
	comp=N,898nm,0.2s						
PB10	**IPOC Station P**	**2.48**	**252**	*e*P	**Pn**	**08 28 30.2**	**-0.5**
PB10				*e*S	**Sn**	**08 29 00.4**	**-1.6**
PB10				IAML		08 29 00.9	
	comp=Z,514nm,0.3s						
PATCX	**Punta Patache**	**2.78**	**313**		**Pn**	**08 28 34.1**	**-0.4**
PB08	**IPOC Station P**	**2.81**	**337**		**Pn**	**08 28 36.0**	**+0.7**
PB08	**IPOC Station P**	**2.81**	**337**	⇓*i*P	**Pn**	**08 28 36.9**	**+1.6**
PB08				IAML		08 29 13.2	
	comp=E,841nm,0.2s						
PB08	**IPOC Station P**	**2.81**	**337**	*e*P	**Pn**	**08 28 36.2**	**+0.9**
PB08				*e*S	**Sn**	**08 29 12.3**	**+2.3**
PB08				IAML		08 29 13.2	
	comp=Z,422nm,0.3s						
GO02	**Mina Guanaco**	**2.81**	**211**		**Pn**	**08 28 34.6**	**-0.6**
GO02	**Mina Guanaco**	**2.81**	**211**	⇑*i*P	**Pn**	**08 28 35.3**	**+0.1**
GO02	**Mina Guanaco**	**2.81**	**211**	*e*P	**Pn**	**08 28 34.7**	**-0.6**
GO02				*e*S	**Sn**	**08 29 09.4**	**-0.6**
GO02				IAML		08 29 12.4	
	comp=Z,2μm,0.3s						
PB14	**IPOC Station P**	**2.90**	**229**		**Pn**	**08 28 35.2**	**-1.0**
PB14	**IPOC Station P**	**2.90**	**229**	⇑*i*P	**Pn**	**08 28 35.8**	**-0.4**
PB14	**IPOC Station P**	**2.90**	**229**	*e*P	**Pn**	**08 28 35.4**	**-0.8**
PB14				*e*S	**Sn**	**08 29 10.2**	**-1.6**
PB14				IAML		08 29 11.7	
	comp=Z,488nm,0.4s						
TA01	**Diego Aracena**	**2.98**	**316**		**Pn**	**08 28 37.7**	**+0.6**
TA01	**Diego Aracena**	**2.98**	**316**	*e*P	**Pn**	**08 28 36.4**	**-0.6**
TA01	**Diego Aracena**	**2.98**	**316**	*e*P	**Pn**	**08 28 36.6**	**-0.4**
TA01				*e*S	**Sn**	**08 29 12.9**	**-0.3**
TA01				IAML		08 29 14.0	
	comp=Z,582nm,0.6s						
SLA	**San Lorenzo**	**3.01**	**131**	*e*P	**Pn**	**08 28 40.6**	**+3.1**
AZAP	**Zapla**	**3.06**	**119**	*e*P	**Pn**	**08 28 39.3**	**+1.1**
AZAP				*e*S	**Sn**	**08 29 11.8**	**-3.6**
AZAP				IAML		08 29 17.5	
	comp=Z,219nm,0.6s						
TA02	**Huaiquique**	**3.17**	**321**	*e*P	**Pn**	**08 28 39.2**	**-0.2**
TA02				*e*S	**Sn**	**08 29 17.8**	**+0.2**
TA02				IAML		08 29 21.6	
	comp=Z,488nm,0.5s						
GO01	**Chusmiza**	**3.26**	**340**		**Pn**	**08 28 41.4**	**+0.2**
GO01	**Chusmiza**	**3.26**	**340**	*e*P	**Pn**	**08 28 41.9**	**+0.7**
GO01	**Chusmiza**	**3.26**	**340**	*e*P	**Pn**	**08 28 41.4**	**+0.2**
GO01				*e*S	**Sn**	**08 29 22.8**	**+2.3**
GO01				IAML		08 29 23.5	
	comp=Z,224nm,0.6s						
PB11	**IPOC Station P**	**3.35**	**332**		**Pn**	**08 28 41.4**	**-0.6**
PB11	**IPOC Station P**	**3.35**	**332**	⇓*i*P	**Pn**	**08 28 41.7**	**-0.3**
PB11	**IPOC Station P**	**3.35**	**332**	*e*P	**Pn**	**08 28 41.7**	**-0.3**
PB11				*e*P		08 28 41.9	
PB11				*e*S	**Sn**	**08 29 21.6**	**-0.5**
PB11				IAML		08 29 22.4	
	comp=Z,588nm,0.4s						
FSA	**Cafayete**	**3.82**	**152**	*e*P	Pn	08 28 37.9	-10
ALOL	**LOMAS DE OLMED**	**3.83**	**107**	*e*P	**Pn**	**08 28 48.7**	**+0.6**
AC01	**Pan de Azucar**	**4.14**	**215**		**Pn**	**08 28 50.4**	**-1.7**
AC01	**Pan de Azucar**	**4.14**	**215**	*e*P	**Pn**	**08 28 50.3**	**-1.7**
AC01	**Pan de Azucar**	**4.14**	**215**	*e*P	**Pn**	**08 28 50.5**	**-1.5**
AC01				*e*S	**Sn**	**08 29 36.9**	**-3.2**
AC01				IAML		08 29 37.8	
	comp=Z,330nm,0.2s						
AC02	**Maricunga**	**4.20**	**194**		**Pn**	**08 28 53.0**	**-0.4**
AC02	**Maricunga**	**4.20**	**194**	*e*P	**Pn**	**08 28 53.4**	**+0.1**
AC02	**Maricunga**	**4.20**	**194**	*e*P	**Pn**	**08 28 52.9**	**-0.4**
AC02				*e*S	**Sn**	**08 29 44.1**	**+1.7**
AC02				IAML		08 29 46.3	
	comp=Z,137nm,0.3s						
PB16	**IPOC Station P**	**4.62**	**342**		**Pn**	**08 28 58.9**	**-0.1**
PB16	**IPOC Station P**	**4.62**	**342**	*e*P	**Pn**	**08 28 59.3**	**+0.3**
PB16	**IPOC Station P**	**4.62**	**342**	*e*P	**Pn**	**08 28 59.0**	**+0.1**
PB16				*e*S	**Sn**	**08 29 50.8**	**-1.6**
PB16				IAML		08 29 56.4	
	comp=Z,102nm,0.6s						
PB12	**IPOC Station P**	**4.66**	**332**		**Pn**	**08 28 56.9**	**-2.2**
PB12	**IPOC Station P**	**4.66**	**332**	*e*P	**Pn**	**08 28 57.3**	**-1.7**
PB12	**IPOC Station P**	**4.66**	**332**	*e*P	**Pn**	**08 28 57.4**	**-1.7**
PB12				*e*S	**Sn**	**08 29 50.0**	**-2.7**
PB12				IAML		08 30 06.9	
	comp=Z,174nm,0.7s						
AC06	**Mina Casimiro**	**5.07**	**205**		**Pn**	**08 29 02.0**	**-2.3**
AC06	**Mina Casimiro**	**5.07**	**205**	*e*P	**Pn**	**08 29 01.7**	**-2.7**
GO03	**Copiapo**	**5.24**	**202**		**Pn**	**08 29 04.4**	**-2.2**
GO03	**Copiapo**	**5.24**	**202**	*e*P	**Pn**	**08 29 04.3**	**-2.4**
GO03	**Copiapo**	**5.24**	**202**	*e*P	**Pn**	**08 29 04.7**	**-2.0**
GO03				IAML		08 30 05.3	
	comp=Z,427nm,0.3s						
PB18	**Visviri**	**5.32**	**344**		**Pn**	**08 29 09.1**	**+0.8**
AC04	**Llanos de Chal**	**6.11**	**207**		**Pn**	**08 29 14.0**	**-4.2**
AANI	**Anillaco**	**6.11**	**171**	*e*P	Pn	08 29 09.4	-9.1
LPAZ	**La Paz**	**6.43**	**359**		**Pn**	**08 29 24.7**	**+1.5**
LPAZ	**La Paz**	**6.43**	**359**	P	**Pn**	**08 29 24.9**	**+1.8**
	comp=Z,18nm,0.4s,baz=161,slow=6.6,SNR=106						
LPAZ				S	**Sn**	**08 30 34.9**	**-0.9**
	comp=Z,7.4nm,0.6s,baz=311,slow=19,SNR=1.5						
LPAZ	**La Paz**	**6.43**	**359**	*e*P	**Pn**	**08 29 19.5**	**-3.7**
LPAZ				*e*S	**Sn**	**08 30 31.1**	**-4.7**
LCO	**Las Campanas**	**6.70**	**201**		**Pn**	**08 29 23.0**	**-3.3**
CO01	**Juntas del Tor**	**7.44**	**194**		**Pn**	**08 29 34.5**	**-1.8**
GO04	**Tololo Observa**	**7.81**	**198**		**Pn**	**08 29 38.0**	**-3.3**
CO03	**El Pedregal**	**8.41**	**196**		**Pn**	**08 29 45.8**	**-3.4**
CFA	**Coronel Fontan**	**8.82**	**181**	P	**Pn**	**08 29 51.8**	**-2.8**
	comp=Z,7.8nm,0.5s,baz=15,slow=15,SNR=38						
CFA				S	Sn	08 31 22.3	-10
	comp=Z,6.9nm,0.4s,baz=287,slow=19,SNR=10						
SIV	**San Ignacio**	**9.37**	**45**	P	**Pn**	**08 29 58.9**	**-3.1**
	comp=Z,34nm,0.3s,baz=224,slow=9.3,SNR=213						
SIV				S	Sn	08 31 31.1	-15
	comp=Z,16nm,0.6s,baz=226,slow=17,SNR=4.4						
MURT	**Porto Murtinho**	**9.68**	**86**	*e*P	**Pn**	**08 30 03.1**	**-2.9**
MURT				*e*S	**Sn**	**08 31 50.9**	**-2.3**
VA03	**San Esteban**	**10.23**	**192**		**Pn**	**08 30 09.5**	**-3.9**
CPUP	**Villa Florida**	**10.34**	**112**	P	**Pn**	**08 30 14.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=225,slow=8.6,SNR=3.9						
BDQN	**Bodoquena, MS**	**10.71**	**80**	*e*P	**Pn**	**08 30 16.4**	**-3.3**
BDQN				*e*S	**Sn**	**08 32 15.1**	**-2.9**
PTLB	**Pontes e Lacer**	**11.08**	**51**		**Pn**	**08 30 22.6**	**-2.1**
PTLB	**Pontes e Lacer**	**11.08**	**51**	*e*P	**Pn**	**08 30 21.1**	**-3.5**
AQDB	**Aquidauana**	**11.65**	**81**		**Pn**	**08 30 31.9**	**-0.3**
AMBA	**Amambai (Brazi**	**11.99**	**93**	*e*P	**Pn**	**08 30 36.2**	**-0.4**
AMBA				*e*S	**Sn**	**08 32 47.3**	**-1.7**
VILB	**Vilhena**	**12.24**	**39**		**Pn**	**08 30 38.3**	**-1.6**
VILB	**Vilhena**	**12.24**	**39**	*e*P	**Pn**	**08 30 37.7**	**-2.1**
BO02	**Sierra Bellavi**	**12.25**	**191**		**Pn**	**08 30 36.9**	**-3.0**
SALV	**Santo Antonio**	**13.45**	**62**	*e*P	Pn	08 30 51.4	-4.1
RPRD	**Ribas do Rio P**	**13.48**	**83**	*e*P	**Pn**	**08 30 54.6**	**-1.3**
BI02	**San Fabin de**	**14.16**	**191**		**Pn**	**08 31 03.4**	**-1.0**
TRCB	**Terra Rica**	**14.17**	**93**	*e*P	**Pn**	**08 31 03.6**	**-0.9**
TRCB				*e*S	**Sn**	**08 33 39.8**	**-1.8**
PTGB	**Pitanga**	**14.72**	**101**	*e*P	**Pn**	**08 31 11.4**	**-0.1**
PTGB				*e*S	**Sn**	**08 33 54.4**	**-0.4**
CPSB	**Cacapava Do Su**	**15.08**	**123**	*e*P	**Pn**	**08 31 16.2**	**+0.3**
CPSB				*e*S	**Sn**	**08 34 03.2**	**0.0**
PDRB	**Porto dos Gac**	**15.43**	**46**	*e*P	**Pn**	**08 31 19.5**	**-0.9**
PDRB				*e*S	**Sn**	**08 34 08.6**	**-3.3**
PCMB	**Pacaembu**	**15.54**	**89**	*e*P	**Pn**	**08 31 21.5**	**-0.2**
PCMB				*e*S	**Sn**	**08 34 12.6**	**-1.9**
TRQA	**Tornquist**	**16.11**	**163**		**Pn**	**08 31 26.6**	**-1.9**
TRQA				IAmb	IAmb	08 31 30.7	
	comp=Z,46nm,1.2s						
CLDB	**Colider**	**16.59**	**47**	*e*P	**P**	**08 31 33.7**	**-0.9**
ITRB	**Iturama**	**16.71**	**83**	*e*P	**P**	**08 31 35.9**	**0.0**
ARAG	**Araguaiana, MT**	**16.80**	**68**	*e*P	**P**	**08 31 36.5**	**-0.4**
FRTB	**Fartura**	**16.97**	**96**	*e*P	**P**	**08 31 39.2**	**+0.4**
FRTB				*e*S	**S**	**08 34 46.9**	**-1.5**
LR05	**Currie**	**17.76**	**190**		**P**	**08 31 46.0**	**-1.1**
LR05				IAmb	IAmb	08 31 50.3	
	comp=Z,58nm,1.3s						
PLCA	**Paso Flores**	**18.06**	**186**		**P**	**08 31 50.0**	**-0.5**
PLCA	**Paso Flores**	**18.06**	**186**	P	**Pn**	**08 31 51.3**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=6.0,slow=11,SNR=16						
PLCA	**Paso Flores**	**18.06**	**186**	*e*P	**Pn**	**08 31 50.8**	**-1.3**
PLCA				*e*S	**Sn**	**08 35 13.8**	**-0.8**
BB19B	**Bebedouro**	**18.14**	**88**	*e*P	**P**	**08 31 51.7**	**+0.2**
TBTG	**Tabatinga, AM**	**18.55**	**354**	P	**P**	**08 31 56.8**	**+0.8**
TBTG				IAmb	IAmb	08 31 58.9	
	comp=Z,21nm,0.5s						
RCLB	**Rio Claro- Sao**	**18.90**	**93**	*e*P	**P**	**08 31 59.3**	**-0.5**
SPB	**Sao Paulo**	**18.92**	**97**	P	**P**	**08 31 59.1**	**-0.9**
PET01	**Itanhaem-SP**	**19.06**	**99**	*e*P	**P**	**08 32 01.2**	**-0.3**
IPMB	**Ipameri, GO**	**19.14**	**79**	*e*P	**P**	**08 32 02.5**	**+0.1**
IPMB				*e*S	**S**	**08 35 31.8**	**-0.2**
SNDB	**Serra Nova Dou**	**19.18**	**59**	*e*P	**P**	**08 32 02.2**	**-0.7**
VAO	**Valinhos**	**19.38**	**95**	P	**P**	**08 32 04.1**	**-0.9**
VAO				IAmb	IAmb	08 32 05.8	
	comp=Z,37nm,0.8s						
VAO	**Valinhos**	**19.38**	**95**	*e*P	**P**	**08 32 04.4**	**-0.7**
TEFE	**Tefe**	**19.40**	**10**	*e*P	**P**	**08 32 04.2**	**-1.0**
NPGB	**Novo Progresso**	**19.79**	**40**	*e*P	**P**	**08 32 07.9**	**-1.6**
LL01	**San Ignacio de**	**19.92**	**190**	P	**P**	**08 32 10.9**	**+0.3**
LL01				IAmb

JAVC	**Velka Javorina**	**1.11**	**210**	*e*Pg		**Pb**	**08 28 45.1**	**+0.1**
	baz=31							
KRLC	**Kraliky**	**1.14**	**284**	*e*PG		**Pg**	**08 28 44.6**	**-0.2**
KRLC				*e*SG		**Sb**	**08 29 00.6**	**-0.4**
	61nm,0.3s							
NIE	**Niedzica**	**1.23**	**108**	*e*Pg		**Pg**	**08 28 46.8**	**+0.3**
NIE				*e*Sg		**Sn**	**08 29 05.8**	**+1.0**
VYHS	**Vyhne**	**1.34**	**171**	*e*PG		**Pg**	**08 28 48.5**	**-0.2**
VYHS				*e*SG		**Sn**	**08 29 07.2**	**-0.3**
VRAC	**Vranov**	**1.35**	**248**	*e*Pg		**Pg**	**08 28 48.8**	**+0.1**
	baz=68							
VRAC				*e*Sg		**Sb**	**08 29 06.5**	**-0.3**
	54nm,0.3s,baz=68							
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*PG		**Pn**	**08 28 51.4**	**+0.2**
DPC				*e*SG		**Sg**	**08 29 11.2**	**0.0**
	43nm,0.4s							
KRUC	**Moravsky**	**1.57**	**242**	*e*Pg		**Pn**	**08 28 52.4**	**+0.3**
	baz=61							
KRUC				*e*Sg		**Sg**	**08 29 13.5**	**0.0**
	33nm,0.3s,baz=61							
OSTC	**Ostas**	**1.65**	**297**	*e*PG		**Pb**	**08 28 54.0**	**-0.2**
OSTC				*e*SG		**Sn**	**08 29 15.2**	**+0.2**
	52nm,0.7s							
UPC	**Upice**	**1.75**	**294**	*e*PG		**Pb**	**08 28 55.9**	**+0.1**
KSP	**Ksiaz**	**1.75**	**307**	*e*Pg		**Pg**	**08 28 56.4**	**-0.1**
KSP				*e*Sg		**Sg**	**08 29 19.9**	**+0.8**
CHVC	**Chvalec**	**1.75**	**297**	*e*PG		**Pb**	**08 28 55.8**	**-0.2**
STHS	**Stebnicka Huta**	**1.82**	**102**	*e*PN		**Pb**	**08 28 57.1**	**-0.1**
STHS				*e*SG		**Sg**	**08 29 22.3**	**+0.8**
STHS				*e*LG		Lg	08 29 30.2	
KECS	**Kecovo**	**1.86**	**135**	*e*PN		**Pn**	**08 28 56.2**	**+0.1**
KECS				*e*SN		**Sn**	**08 29 20.5**	**+0.2**
KECS				*e*LG		Lg	08 29 25.8	
TREC	**Trest**	**2.04**	**256**	*e*SG		**Sg**	**08 29 27.8**	**-0.5**
PRU	**Pruhonice**	**2.57**	**275**	*e*SG		**Sg**	**08 29 44.1**	**-1.3**
	18nm,0.4s							
CONA	**Conrad Observa**	**2.58**	**224**	*e*Pn		**Pn**	**08 29 06.6**	**+0.6**
	2.0nm,0.3s							
CONA				Sn		**Sn**	**08 29 37.9**	**-0.2**
	17nm,0.8s							
RONA	**Rosalia, Austr**	**2.58**	**215**	*e*Sn		**Sn**	**08 29 38.6**	**+0.6**
	6.1nm,0.4s							
PVCC	**Panska Ves**	**2.63**	**287**	*e*SG		**Sg**	**08 29 46.8**	**-0.6**
	34nm,0.3s							
BRG	**Berggiesshubel**	**3.11**	**292**	Pg		**Pg**	**08 29 22.1**	**-0.4**
BRG				Sg		**Sg**	**08 30 03.6**	**+0.9**
BRG				Amp			08 30 11.8	
	comp=Z,10nm,0.4s							
KHC	**Kasperske Hory**	**3.29**	**260**	*e*PG		**Pg**	**08 29 24.6**	**-1.3**
KHC				*e*SG		**Sg**	**08 30 09.3**	**+0.8**
	comp=Z,18nm,0.4s							
MOA	**Molln**	**3.43**	**236**	*e*Pg		**Pg**	**08 29 28.3**	**-0.2**
	comp=Z,0.6nm,0.1s							
MOA				Sg		**Sg**	**08 30 12.7**	**-0.3**
	comp=Z,5.0nm,0.3s							
CLL	**Collm**	**3.81**	**295**	*e*Sg		**Sg**	**08 30 25.0**	**-0.3**
	comp=Z,13nm,0.5s							
BIOA	**Bad Ischl, Aus**	**3.86**	**238**	*e*Sn		**Sn**	**08 30 10.0**	**+0.3**
	comp=Z,3.7nm,0.4s							
KBA	**Koelnbreinsper**	**4.40**	**233**	*e*Sn		**Sn**	**08 30 22.9**	**-0.2**
	comp=Z,2.1nm,0.4s							

*ASRS **30** 08:29:43.0±1.5,54.°16N×86.°41E,h0km,M2.5,The earthquakes of Russia in 2019. Obninsk, GS RAS, 214 p + CD-ROM, 2021.*

IDC 30 08:29:44.7±2.7,54.°11N×86.°45E,h0km,mbtmp3.0/2, ML2.8/2,Error ellipse: s-maj=21.7km s-min=14.0km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**261**	I	I	08 36 40.0	
	baz=79,slow=318,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.97**	**261**	Pg	Pg	08 30 02.2	-1.1
	1.4nm,0.3s,baz=79,slow=16,SNR=9.3						
ZALV				Lg	Lg	08 30 17.4	
	2.0nm,0.3s,baz=81,slow=27,SNR=7.6						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	08 31 15.5	+1.2
	0.1nm,0.3s,baz=54,slow=13,SNR=6.6						
KURBB				Lg	Lg	08 32 52.8	
	baz=55,slow=31,SNR=4.4						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	08 31 40.1	+0.8
	0.2nm,0.3s,baz=21,slow=12,SNR=6.6						
	0.3nm,0.3s						

*CATAC **30** 08:44:21.2±0.8,15.°N±6.°×9.°4W±.°,h73km±6km,M3.3/4, MLv3.3/4,Error ellipse: s-maj=12.9km s-min=6.9km az=26.0,confirmed*
*GCG **30** 08:44:23.0±2.5,15.°63N×93.°60W,h66km±67km,MD4.6, ML3.1*
*MEX **30** 08:44:24.6±1.2,15.°55N×93.°67W,h72km±12km,MD4.1*

ISC 30 08:44:22.7±1.2,15.°58N±0.°04×93.°64W±0.°03,h78km±11km, n35,σ1°56/61,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.43**	**72**	*e*P	**Pn**	**08 44 35.8**	**+0.1**
PCIG				*e*S	**Sn**	**08 44 45.2**	**+0.1**
TGIG		**1.29**	**23**	*e*P	**Pn**	**08 44 45.7**	**+0.4**
TGIG				*e*S	**Sn**	**08 45 01.8**	**-0.7**
TGIG		**1.29**	**23**	*i* P	**Pn**	**08 44 45.8**	**+0.4**
TGIG				*i* S	**Sn**	**08 45 01.7**	**-0.7**
TGIG				IAML		08 45 02.9	
	comp=E,122nm,0.2s						
TGBT	**Tuxtla Gutierr**	**1.31**	**24**	*i* P	**Pn**	**08 44 45.6**	**+0.2**
TGBT				*i* S	**Sn**	**08 45 01.8**	**-0.7**
PATR	**El Naranjo**	**1.43**	**108**	*e*P	**Pn**	**08 44 47.5**	**+0.2**
PATR				*e*S	**Sn**	**08 45 05.6**	**-0.1**
PAVE	**Pavencul**	**1.46**	**105**	*e*P	**Pn**	**08 44 48.1**	**+0.5**
PAVE				*e*S	**Sn**	**08 45 07.0**	**+0.5**
THIG		**1.48**	**116**	*e*P	**Pn**	**08 44 48.3**	**+0.6**
THIG				*e*S	**Sn**	**08 45 05.8**	**-0.8**
THIG		**1.48**	**116**	*i* S	**Sn**	**08 45 07.1**	**+0.5**
CHUJ	**Union Juarez**	**1.55**	**108**	*e*P	**Pn**	**08 44 49.4**	**+0.5**
CHUJ				*e*S	**Sn**	**08 45 08.8**	**+0.2**
CCIG	**Comitan**	**1.61**	**64**	*e*P	**Pn**	**08 44 50.0**	**+0.5**
CCIG				*e*S	**Sn**	**08 45 10.0**	**+0.2**
CCIG	**Comitan**	**1.61**	**64**	*i* P	**Pn**	**08 44 50.1**	**+0.5**
CCIG				*i* S	**Sn**	**08 45 08.3**	**-1.5**
CCIG				IAML		08 45 16.9	
	comp=N,182nm,0.4s						
CCIG	**Comitan**	**1.61**	**64**	P	**Pn**	**08 44 50.2**	**+0.7**
SMCA	**Catarina**	**1.67**	**115**	*e*P	**Pn**	**08 44 50.3**	**+0.1**
SMCA				*e*S	**Sn**	**08 45 10.0**	**-1.1**
UXUV	**UXUV**	**1.80**	**344**	*e*P	**Pn**	**08 44 53.5**	**+1.6**
UXUV				*e*S	**Sn**	**08 45 13.5**	**-0.6**
CMIG	**Matias Romero**	**1.92**	**322**	*e*P	**Pn**	**08 44 54.2**	**+0.7**
CMIG				*e*S	**Sn**	**08 45 17.2**	**+0.3**
HUEH	**Huehuetenango**	**2.08**	**97**	*e*P	**Pn**	**08 44 57.3**	**+1.5**
HUEH				*e*S	**Sn**	**08 45 21.8**	**+0.8**
RTAL	**Retalhuleu**	**2.15**	**119**	*e*P	**Pn**	**08 44 58.4**	**+1.9**
RTAL				*e*S	**Sn**	**08 45 23.3**	**+0.8**
HUIG	**Huatulco**	**2.38**	**275**	*e*P	**Pn**	**08 44 59.0**	**-0.8**
HUIG				*e*S	**Sn**	**08 45 24.9**	**-3.1**
HUIG	**Huatulco**	**2.38**	**275**	*i* P	**Pn**	**08 44 59.3**	**-0.4**
NEUV	**Arroyo Zacate**	**2.97**	**316**	*e*P	**Pn**	**08 45 09.4**	**+1.8**
NEUV				*e*S	**Sn**	**08 45 42.4**	**+0.3**
VHO	**Vista Hermosa**	**3.32**	**297**	*e*P	**Pn**	**08 45 16.6**	**+4.0**
VHO				*e*S	**Sn**	**08 45 52.1**	**+1.0**
PEIG	**Puerto Escondi**	**3.40**	**278**	*e*P	**Pn**	**08 45 13.2**	**-0.4**
PEIG				*e*S	**Sn**	**08 45 50.9**	**-1.9**
PETF	**Flores**	**3.86**	**69**	*e*P	**Pn**	**08 45 20.5**	**+0.8**
PETF				*e*S	**Sn**	**08 46 02.2**	**-1.8**
PETF	**Flores**	**3.86**	**69**	*e*P	**Pn**	**08 45 20.1**	**+0.4**
PETF				*e*S	**Sn**	**08 46 01.6**	**-2.4**
PETF				IAML		08 46 06.6	
	comp=N,109nm,0.5s						
PETF	**Flores**	**3.86**	**69**	P	**Pn**	**08 45 20.0**	**+0.2**
YOIG	**Yosondua**	**3.96**	**289**	*e*P	**Pn**	**08 45 23.0**	**+1.6**
YOIG				*e*S	**Sn**	**08 46 06.7**	**-0.1**
SCIG	**Sabancuy**	**4.11**	**34**	*e*P	**Pn**	**08 45 23.6**	**+0.6**
SCIG				*e*S	**Sn**	**08 46 09.4**	**-0.5**
TXIG	**Tlaxiaco**	**4.30**	**293**	*e*P	**Pn**	**08 45 27.9**	**+1.9**
TXIG				*e*S	**Sn**	**08 46 15.4**	**+0.4**
PNIG	**Pinotepa**	**4.39**	**281**	*e*P	**Pn**	**08 45 27.3**	**+0.3**
PNIG				*e*S	**Sn**	**08 46 13.8**	**-3.2**
CEDA	**San Andres**	**4.47**	**113**	P	**Pn**	**08 45 23.9**	**-4.1**
HLIG	**Huajuapan de L**	**4.58**	**300**	*e*S	**Sn**	**08 46 23.3**	**+1.6**
JAUV	**Jalcomulco**	**4.83**	**322**	*e*P	**Pn**	**08 45 32.2**	**-0.8**
JAUV				*e*S	**Sn**	**08 46 22.4**	**-5.3**
FTIG	**Fresnillo de T**	**4.89**	**299**	*e*P	**Pn**	**08 45 36.6**	**+2.7**
FTIG				*e*S	**Sn**	**08 46 28.7**	**-0.6**
TLIG	**Tlapa**	**5.12**	**293**	*e*S	**Sn**	**08 46 36.1**	**+1.2**
RANC	**El Ranchito**	**5.60**	**112**	P	Pn	08 45 36.0	-7.6

*NNC **30** 08:44:37.4±1.1,41.°91N×70.°42E,h0km,mb3.4,mpv3.4, Error ellipse: s-maj=7.2km s-min=4.5km az=13.0*
*SOME **30** 08:44:37.1,41.°85N×70.°35E,h15km*
*KRNET **30** 08:44:37.9±0.1,41.°71N×70.°32E,mb2.9*

ISC 30 08:44:36.2±1.4,41.°83N±0.°06×70.°32E±0.°05,h13km±12km, n17,σ1°99/28,10C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.38**	**325**	P	**Pg**	**08 44 44.2**	**+0.3**
	77nm,0.2s						
IUG				S	**Sg**	**08 44 50.0**	**+0.9**
	201nm,0.2s						
TRKS	**Terek-Say**	**0.69**	**116**	⇑*i*P	**Pb**	**08 44 51.0**	**+0.9**
TRKS				⇑*i*S	**Sb**	**08 45 00.6**	**+1.1**
BRLS	**Borolday**	**1.25**	**343**	P	**Pn**	**08 44 57.3**	**-2.0**
	55nm,0.1s						
BRLS				S	**Sb**	**08 45 12.7**	**-3.0**
	82nm,0.2s						
KK31	**Karatay Array**	**1.28**	**6**	P	**Pn**	**08 45 00.1**	**+0.3**
	1.8nm,0.2s,baz=190,slow=18,SNR=66						
KK31				S	**Sb**	**08 45 16.4**	**0.0**
	11nm,0.3s,baz=186,slow=30,SNR=22						
MRKS	**Merke**	**2.34**	**66**	Pg	**Pb**	**08 45 19.5**	**+1.3**
	9.6nm,0.2s						
MRKS				Lg	Lg	08 45 50.6	
	70nm,0.3s						
MRKS	**Merke**	**2.34**	**66**	*e*P	**Pb**	**08 45 19.9**	**+1.6**
	9.6nm,0.2s						
MRKS				*e*S	**Sg**	**08 45 50.7**	**-0.7**
	70nm,0.3s						
EKS2	**Erkin-Say**	**2.70**	**71**	⇑*i*P	**Pb**	**08 45 24.8**	**+0.4**
EKS2				⇑*i*S	**Sb**	**08 45 59.0**	**+1.6**
SALK	**Salom-Alik**	**2.80**	**109**	⇑*e*P	**Pb**	**08 45 25.3**	**-0.9**
SALK				⇑*i*S	**Sb**	**08 45 59.6**	**-0.8**
UCH	**Uchtor**	**3.15**	**81**	⇑*e*P	**Pb**	**08 45 30.8**	**-1.5**
UCH				⇑*i*S	**Sb**	**08 46 09.8**	**-0.9**
AAK	**Ala-Archa**	**3.20**	**74**	⇑⇑Pg	**Pb**	**08 45 35.0**	**+2.1**
	0.6nm,0.3s						
AAK				⇑Lg	Lg	08 46 17.0	
	1.3nm,0.4s						
AAK	**Ala-Archa**	**3.20**	**74**	⇓*i*P	**Pb**	**08 45 31.9**	**-1.1**
AAK				⇓*i*S	**Sb**	**08 46 11.1**	**-0.8**
SGDS	**Sogindy**	**3.57**	**62**	Pg	**Pb**	**08 45 35.9**	**-3.3**
	1.5nm,0.2s						
SGDS				Lg	Lg	08 46 19.8	
	3.4nm,0.5s						
BTLS	**Baital**	**4.20**	**39**	Pg	**Pn**	**08 45 43.0**	**+3.1**
	3.0nm,0.4s						
BTLS				Lg	Lg	08 46 31.7	
	2.6nm,0.5s						
BTLS	**Baital**	**4.20**	**39**	*e*P	**Pb**	**08 45 53.3**	**+3.4**
	1.1nm,0.1s						
BTLS				*e*S	**Sg**	**08 46 48.3**	**-2.7**
	7.4nm,0.4s						
KST	**Kastek**	**4.35**	**72**	Pg	**Pb**	**08 45 53.2**	**+0.7**
	1.4nm,0.2s						
KST				Lg	Lg	08 46 50.9	
	7.4nm,0.5s						
KST	**Kastek**	**4.35**	**72**	*e*P	**Pb**	**08 45 55.4**	**+2.9**
	0.5nm,0.2s						
KST				*e*S	**Sg**	**08 46 52.2**	**-3.5**
	6.7nm,0.3s						
KTBS	**Karatobe**	**5.04**	**66**	Pg	**Pb**	**08 46 05.2**	**+0.9**
	2.2nm,0.4s						
KTBS				Lg	Lg	08 47 12.1	
	12nm,0.4s						

*NEIC **30** 09:00:57.2±1.7,17.°6S±0.°1×178.°5W±0.°1,h613km±9km, mb4.1/18,Error ellipse: s-maj=20.0km s-min=15.9km az=59.0*
*IDC **30** 09:00:59.1±6.7,17.°49S×178.°82W,h616km±84km,mb3.0/6, mbtmp4.0/7,Error ellipse: s-maj=106.1km s-min=28.2km az=152.0*

ISC 30 09:00:56.6±0.6,17.°6S±0.°1×178.°59W±0.°10,h600km,n35, σ1°08/36,mb4.0/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.21**	**267**	P	**P**	**09 02 17.9**	**+0.8**
FUTU	**Fugatoga**	**3.28**	**8**	P	**P**	**09 02 17.2**	**-0.3**
AFI	**Afiamalu**	**7.51**	**62**	P	**P**	**09 02 49.2**	**-2.2**
NIUE	**Niue**	**8.36**	**102**	P	**P**	**09 02 57.6**	**-1.8**
DZM	**Mont Dzumac**	**14.77**	**250**	P	**P**	**09 04 02.9**	**+0.2**
	7.6nm,0.9s,baz=114,slow=20,SNR=2.3						
EIDS	**Eidsvold**	**29.22**	**249**	P	**P**	**09 06 11.0**	**-0.7**
CTAO	**Charters Tower**	**33.33**	**260**	P	**P**	**09 06 46.0**	**-0.7**
CTAO				IAmb	IAmb	09 07 26.6	
	comp=Z,8.5nm,1.1s						
COEN	**Coen**	**36.93**	**270**	P	**P**	**09 07 17.0**	**+0.4**
INKA	**Innaminka**	**38.71**	**247**	P	**P**	**09 07 30.9**	**+0.1**
BBOO	**Buckleboo**	**43.41**	**241**	P	**P**	**09 08 07.8**	**-0.1**
WR8	**Warramunga Arr**	**44.37**	**259**	P	**P**	**09 08 15.3**	**-0.1**
WR8				IAmb	IAmb	09 08 41.4	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**44.49**	**259**	P	**P**	**09 08 16.8**	**+0.5**
WB0				IAmb	IAmb	09 08 48.7	
	comp=Z,6.6nm,1.1s						
WB2	**Warramunga Arr**	**44.51**	**259**	P	**P**	**09 08 16.4**	**-0.1**
WB2				IAmb	IAmb	09 08 33.6	
	comp=Z,7.9nm,1.3s						
WRAB	**Tennant Creek**	**44.51**	**259**	P	**P**	**09 08 16.1**	**-0.4**
WRAB				IAmb	IAmb	09 08 56.1	
	comp=Z,9.3nm,1.3s						
WRA	**Warramunga Arr**	**44.52**	**259**	P	**P**	**09 08 16.7**	**+0.2**
WRA	**Warramunga Arr**	**44.52**	**259**	P	**P**	**09 08 16.6**	**0.0**
	comp=Z,1.4nm,0.5s,baz=95,slow=7.2,SNR=47						
	comp=Z,1.4nm,0.5s						
AS31	**Alice Springs**	**44.71**	**254**	P	**P**	**09 08 18.3**	**+0.3**
AS31				IAmb	IAmb	09 08 19.2	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**09 08 18.2**	**+0.2**
	comp=Z,8.8nm,0.6s,baz=87,slow=8.5,SNR=149						
ASAR				PcP	**PcP**	**09 09 47.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=94,slow=3.4,SNR=1.8						
	comp=Z,8.8nm,0.6s						
KNRA	**Kununurra**	**50.35**	**264**	P	**P**	**09 08 59.0**	**-1.1**
KNRA				IAmb	IAmb	09 09 19.6	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.91**	**260**	P	**P**	**09 09 16.4**	**-2.1**
PSA00	**Pilbara Seismi**	**57.82**	**255**	P	**P**	**09 09 51.5**	**-0.9**
PSA00				IAmb	IAmb	09 10 05.4	
	comp=Z,11nm,1.1s						
MBWA	**Marble Bar**	**57.98**	**256**	P	**P**	**09 09 53.6**	**+0.1**
MBWA				IAmb	IAmb	09 10 24.0	
	comp=Z,29nm,1.5s						
VNDA	**Vanda**	**60.76**	**185**	P	**P**	**09 10 12.0**	**+1.1**
QSPA	**South Pole Qui**	**72.47**	**180**	P	**P**	**09 11 23.4**	**+0.1**
QSPA				IAmb	IAmb	09 11 51.2	
	comp=Z,4.5nm,1.4s						
PEA0B	**Petropavlovsk-**	**73.32**	**345**	P	**P**	**09 11 27.5**	**-0.5**
PETK	**Petropavlovsk-**	**73.32**	**345**	P	**P**	**09 11 27.9**	**-0.1**
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**09 12 02.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=230,slow=5.5,SNR=4.5						
	comp=Z,0.5nm,0.7s						
IMAR	**Indian Mountai**	**85.39**	**10**	P	**P**	**09 12 32.1**	**+1.0**
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**09 12 32.2**	**0.0**
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**09 12 33.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=216,slow=6.2,SNR=5.8						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**09 12 36.9**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=216,slow=6.5,SNR=11						
	comp=Z,0.6nm,0.7s						
PDAR	**Pinedale Array**	**87.23**	**44**	P	**P**	**09 12 42.2**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=190,slow=2.7,SNR=5.3						
	comp=Z,0.4nm,0.7s						
BMAR	**Burnt Mountain**	**88.38**	**12**	P	**P**	**09 12 44.0**	**-1.2**
BR131	**Keskin Array S**	**144.43**	**315**	PKPdf	**PKPdf**	**09 19 23.9**	**-2.0**
BRTR	**Keskin Array B**	**144.43**	**315**	PKPdf	**PKPdf**	**09 19 23.9**	**-2.0**

*UPP **30** 09:02:08.6±0.2,67.°42N×23.°35E,h0km,ML2.0,Unknown Suspected explosion*
*IDC **30** 09:02:09.1±1.7,67.°40N×23.°48E,h0km,mbtmp2.7/2, ML2.0/2,Error ellipse: s-maj=37.4km s-min=12.7km az=96.0*
*HEL **30** 09:02:09.2±0.1,67.°42N×23.°31E,h0km,ML1.5,Suspected explosion*

ISC 30 09:02:08.8±0.8,67.°43N±0.°02×23.°28E±0.°03,h0km,n36, σ0°91/53,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.41**	**189**	P	**Pg**	**09 02 16.5**	**-0.2**
PAJU				S	**Sg**	**09 02 22.1**	**+0.2**
PAJU	**Pajala**	**0.41**	**189**	PG	**Pg**	**09 02 16.4**	**-0.2**
	baz=6.0						
PAJU				SG	**Sg**	**09 02 22.0**	**+0.1**
MASU	**Masugnsbyn**	**0.49**	**274**	P	**Pg**	**09 02 18.5**	**+0.3**
MASU				S	**Sg**	**09 02 25.7**	**+1.0**
LANU	**Lannavaara**	**0.79**	**323**	P	**Pg**	**09 02 23.8**	**-0.2**
LANU	**Lannavaara**	**0.79**	**323**	PB	**Pg**	**09 02 23.8**	**-0.2**
LANU				SB	**Sb**	**09 02 36.5**	**-0.2**
ERTU	**Ertsjaerv**	**0.98**	**206**	P	**Pg**	**09 02 26.8**	**-0.7**
ERTU				S	**Sg**	**09 02 40.4**	**+0.3**
ERTU	**Ertsjaerv**	**0.98**	**206**	PB	**Pg**	**09 02 27.0**	**-0.5**
HEF	**Hetta**	**1.00**	**8**	*e*P	**Pg**	**09 02 27.5**	**-0.3**
HEF	**Hetta**	**1.00**	**8**	PG	**Pg**	**09 02 27.6**	**-0.3**
	baz=190						
HEF				MSG		09 02 39.8	
	comp=Z,4.7nm,0.2s						
HEF				SB	**Sb**	**09 02 42.0**	**-0.6**
DUNU	**Dundret**	**1.10**	**255**	P	**Pg**	**09 02 29.6**	**-0.2**
KUA	**Kurravaara**	**1.24**	**297**	P	**Pg**	**09 02 32.2**	**-0.3**
KUA				S	**Sb**	**09 02 49.3**	**-0.3**
RNF	**Rovaniemi**	**1.35**	**126**	PG	**Pg**	**09 02 33.2**	**-1.5**
RNF				SN	**Sn**	**09 02 55.4**	**+1.9**
TOF	**Tornio**	**1.42**	**162**	PG	**Pn**	**09 02 34.6**	**-1.2**
TOF				MSG		09 02 51.5	
	comp=Z,2.6nm,0.2s						
KOVU	**Salmi**	**1.43**	**305**	P	**Pn**	**09 02 35.7**	**-0.3**
RATU	**Laukkuluspa**	**1.47**	**287**	P	**Pn**	**09 02 36.1**	**-0.4**
HARU	**Harads**	**1.56**	**217**	P	**Pn**	**09 02 37.4**	**-0.4**
KALU	**Kalix**	**1.57**	**179**	P	**Pn**	**09 02 37.4**	**-0.5**
KALU	**Kalix**	**1.57**	**179**	PG	**Pn**	**09 02 37.4**	**-0.5**
KALU				SN	**Sg**	**09 03 02.1**	**+2.8**
KTK1	**Kautokeino**	**1.59**	**359**	*e*P	**Pn**	**09 02 37.6**	**-0.6**
KTK1	**Kautokeino**	**1.59**	**359**	PG	**Pn**	**09 02 37.8**	**-0.4**
KTK1				SN	**Sg**	**09 03 00.7**	**+0.8**
NIKU	**Nikkaluokta**	**1.68**	**287**	P	**Pn**	**09 02 39.8**	**+0.4**
KIF	**Kilpisjarvi**	**1.83**	**331**	PG	**Pb**	**09 02 42.8**	**-0.4**
KIF				MSG		09 03 05.2	
	comp=Z,3.5nm,0.2s						
RANF	**Ranua**	**1.99**	**134**	PG	**Pn**	**09 02 44.0**	**+0.4**
RANF				SG	**Sb**	**09 03 10.9**	**-0.2**
RAJF	**Raja-Jooseppi**	**2.17**	**59**	PG	**Pn**	**09 02 46.1**	**0.0**
ARA0	**ARCESS Array S**	**2.27**	**20**	PB	**Pn**	**09 02 47.9**	**+0.4**
ARA0				SG	**Sb**	**09 03 18.1**	**-1.2**
ARCES	**ARCESS Array B**	**2.27**	**20**	Pn	**Pn**	**09 02 47.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=201,slow=15,SNR=6.9						
ARCES				Sn	**Sb**	**09 03 17.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=200,slow=27,SNR=11						
	comp=Z,1.5nm,0.5s						
I37NO	**I37NO**	**2.40**	**316**	I	I	09 17 10.0	
	baz=130,slow=320,SNR=13						
VRF	**Varrio**	**2.45**	**80**	PG	**Pn**	**09 02 51.5**	**+1.5**
	baz=266						
VRF				MSG		09 03 21.2	
	comp=Z,2.9nm,0.2s						
VRF				SG	**Sb**	**09 03 24.2**	**-0.1**
KU2	**Taivalkoski**	**2.63**	**129**	PB	**Pb**	**09 02 54.5**	**-2.2**
KU2				SG	**Sb**	**09 03 29.2**	**-0.1**
OLKF	**Oulanka, Finla**	**2.66**	**112**	PB	**Pn**	**09 02 53.8**	**+0.9**
OLKF				MSG		09 03 27.2	
	comp=Z,1.5nm,0.2s						
OLKF				SG	**Sb**	**09 03 31.0**	**+0.6**
KEV	**Kevo**	**2.71**	**29**	PB	**Pn**	**09 02 55.1**	**+1.6**
MSF	**Maaselka**	**2.75**	**121**	SG	**Sb**	**09 03 33.4**	**+0.4**
KU6	**Riekki**	**2.98**	**115**	PB	**Pn**	**09 02 57.9**	**+0.6**
KU6				MSG		09 03 36.3	
	comp=Z,1.0nm,0.2s						
KU6				SG	**Sb**	**09 03 39.0**	**-0.6**
OUF	**Merijarvi**	**3.13**	**168**	PB	**Pn**	**09 03 01.5**	**+2.2**
OUF				MSG		09 03 40.7	
	comp=Z,0.9nm,0.2s						
KU1	**Kurvinen**	**3.14**	**124**	PN	**Pn**	**09 02 59.8**	**+0.4**
KU1				SN	**Sn**	**09 03 38.3**	**+0.8**
FINES	**FINESS Array B**	**6.13**	**167**	Pn	**Pn**	**09 03 40.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=355,slow=14,SNR=4.2						
	comp=Z,1.3nm,0.6s						

*NEIC **30** 09:18:32.8±1.2,7.°80S±0.°04×127.°13E±0.°07,h90km±8km, mb4.6/22,Error ellipse: s-maj=10.1km s-min=5.0km az=83.0*
*IDC **30** 09:18:34.1±3.6,7.°77S×126.°98E,h99km±31km,mb3.8/12, mbtmp4.1/13,Error ellipse: s-maj=37.1km s-min=13.7km az=76.0*
*DJA **30** 09:18:35.8±0.3,8.°S±4.°×12.°7E±.°,h122km±

	comp=Z,19nm,1.2s							
COEN	**Coen**	**16.93**	**112**			**Pn**	**09 22 22.7**	**-1.6**
COEN				IAmb		IAmb	09 22 27.5	
	comp=Z,14nm,0.7s							
AS31	**Alice Springs**	**16.97**	**158**	P		**Pn**	**09 22 24.9**	**+0.1**
ASAR	**Alice Springs**	**16.97**	**158**			**Pn**	**09 22 25.0**	**+0.2**
ASAR	**Alice Springs**	**16.97**	**158**	P		**Pn**	**09 22 24.8**	**0.0**
	comp=Z,2.3nm,0.4s,baz=338,slow=12,SNR=62							
ASAR				S		Sn	09 25 22.3	-11
	comp=Z,2.9nm,0.4s,baz=339,slow=24,SNR=9.9							
MORW	**Morawa**	**23.44**	**205**	P		**P**	**09 23 34.6**	**+0.7**
MORW				IAmb		IAmb	09 23 54.6	
	comp=Z,35nm,1.4s							
INKA	**Innaminka**	**23.58**	**148**	P		**P**	**09 23 35.3**	**+0.1**
BBOO	**Buckleboo**	**26.13**	**163**	P		**P**	**09 23 59.0**	**+0.8**
BBOO				IAmb		IAmb	09 24 10.3	
	comp=Z,36nm,1.5s							
NWAO	**Narrogin (SRO)**	**26.48**	**199**	P		**P**	**09 24 02.6**	**+1.2**
NWAO				IAmb		IAmb	09 24 24.1	
	comp=Z,42nm,1.2s							
STKA	**Stephens Creek**	**27.41**	**152**	P		**P**	**09 24 09.1**	**-0.6**
STKA				IAmb		IAmb	09 24 09.5	
	comp=Z,44nm,1.5s							
STKA	**Stephens Creek**	**27.41**	**152**	P		**P**	**09 24 11.8**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=334,slow=10,SNR=3.7							
	comp=Z,1.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**38.16**	**314**	P		**P**	**09 25 43.8**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=142,slow=6.3,SNR=9.3							
	comp=Z,1.9nm,0.3s							
PINNC	**Pines Island,**	**41.46**	**115**	P		**P**	**09 26 08.7**	**-2.0**
KSRS	**Korea Array**	**45.16**	**1**	P		**P**	**09 26 40.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=187,slow=8.8,SNR=2.4							
	comp=Z,0.6nm,0.5s							
JMM	**Marumori**	**47.34**	**15**	P		**P**	**09 26 56.1**	**-1.1**
NIUE	**Niue**	**62.00**	**107**	P		**P**	**09 28 43.0**	**-0.6**
PEA0B	**Petropavlovsk-**	**66.15**	**20**	P		**P**	**09 29 09.5**	**-0.5**
PEA0B				IAmb		IAmb	09 29 16.5	
	comp=Z,14nm,1.2s							
PETK	**Petropavlovsk-**	**66.15**	**20**	P		**P**	**09 29 10.3**	**+0.3**
PETK	**Petropavlovsk-**	**66.15**	**20**	P		**P**	**09 29 10.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=134,slow=4.3,SNR=4.5							
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**67.44**	**328**			**P**	**09 29 17.9**	**-0.5**
MKAR	**Makanchi Array**	**67.44**	**328**	P		**P**	**09 29 18.1**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=128,slow=7.6,SNR=21							
	comp=Z,2.6nm,0.6s							
ZALV	**Zalesovo Beam**	**71.16**	**335**	P		**P**	**09 29 40.7**	**-0.4**
ZALV	**Zalesovo Beam**	**71.16**	**335**	P		**P**	**09 29 40.3**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=149,slow=6.9,SNR=4.8							
	comp=Z,2.1nm,0.5s							
KURBB	**Kurchatov Arra**	**71.81**	**330**	P		**P**	**09 29 44.9**	**-0.2**
	comp=Z,0.6nm,0.2s,baz=137,slow=5.3,SNR=5.7							
	comp=Z,0.6nm,0.2s							
VNDA	**Vanda**	**71.89**	**172**	P		**P**	**09 29 47.0**	**+1.8**
VNDA	**Vanda**	**71.89**	**172**	P		**P**	**09 29 46.9**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=322,slow=6.4,SNR=5.7							
	comp=Z,0.3nm,0.5s							
KK31	**Karatay Array**	**72.14**	**320**	P		**P**	**09 29 46.2**	**-1.1**
KKAR	**Karatay Array**	**72.14**	**320**	P		**P**	**09 29 46.5**	**-0.8**
SMY	**Shemya**	**72.45**	**28**	P		**P**	**09 29 48.2**	**-0.7**
MAW	**Mawson**	**73.02**	**201**	P		**P**	**09 29 53.5**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=85,slow=8.4,SNR=4.0							
	comp=Z,1.2nm,0.5s							
BVAR	**Borovoye Array**	**77.31**	**329**	P		**P**	**09 30 16.1**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=131,slow=6.7,SNR=8.1							
	comp=Z,1.7nm,0.5s							
AB31	**Akbulak array**	**81.43**	**322**	P		**P**	**09 30 38.8**	**-0.6**
ABKAR	**Akbulak array**	**81.43**	**322**	P		**P**	**09 30 38.6**	**-0.8**
QSPA	**South Pole Qui**	**82.05**	**180**	P		**P**	**09 30 44.6**	**+2.0**
QSPA				IAmb		IAmb	09 30 51.1	
	comp=Z,6.4nm,1.4s							
QSPA	**South Pole Qui**	**82.05**	**180**	P		**P**	**09 30 44.7**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=311,slow=0.3,SNR=10							
	comp=Z,1.0nm,0.7s							
D19K	**Kuna River**	**91.83**	**21**	P		**P**	**09 31 29.4**	**-0.5**
D19K				IAmb		IAmb	09 31 49.8	
	comp=Z,3.8nm,1.2s							
PMR	**Palmer**	**93.98**	**28**	P		**P**	**09 31 38.7**	**-1.2**
PMR				IAmb		IAmb	09 31 41.4	
	comp=Z,3.4nm,1.2s							
SNAA	**Sanae**	**94.06**	**194**	P		**P**	**09 31 41.1**	**+0.9**
SNAA				IAmb		IAmb	09 31 47.6	
	comp=Z,6.2nm,1.5s							
SNAA	**Sanae**	**94.06**	**194**	P		**P**	**09 31 41.6**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=204,slow=10,SNR=9.1							
	comp=Z,0.4nm,0.5s							
G23K	**Bananza Creek**	**94.44**	**23**	P		**P**	**09 31 41.3**	**-0.7**
G23K				IAmb		IAmb	09 31 50.9	
	comp=Z,2.2nm,1.4s							
CPUP	**Villa Florida**	**145.68**	**173**	PKPbc		**PKPab**	**09 38 01.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=251,slow=2.3,SNR=6.3							
LPAZ	**La Paz**	**151.63**	**148**	PKPbc		**PKiKP**	**09 38 19.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=270,slow=2.0,SNR=3.6							

*CATAC **30** 09:22:53.6±0.5, 13°N±4°×8°9W±°, h35km±6km, M3.5/18, MLv3.5/18, Error ellipse: s-maj=8.5km s-min=2.5km az=27.0, confirmed*
*SNET **30** 09:22:53.7±1.8, 12.87N×88.71W, h37km, ML3.4*
*GCG **30** 09:22:54.8±1.1, 12.93N×88.76W, h56km±56km, MD4.2*
ISC 30 09:22:52.6±1.5, 12.83N±0.05×88.74W±0.03, h24km±14km, n64, σ0°58/86, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TECA	**Tecapa**	**0.70**	**19**	*eP*	**Pn**	**09 23 07.5**	**+0.4**
TECA				*eP*	**Pn**	09 23 07.5	+0.4
TECA				*eS*	**Sn**	09 23 16.1	-1.2
TECO	**Alcaldia de Te**	**0.70**	**357**	*eP*	**Pn**	**09 23 07.4**	**+0.3**
TECO				*eS*	**Sb**	**09 23 15.3**	**-0.2**
TECO	**Alcaldia de Te**	**0.70**	**357**	P	**Pn**	**09 23 07.3**	**+0.3**
TECO	**Alcaldia de Te**	**0.70**	**357**	S	**Sn**	**09 23 17.0**	**-0.2**
LCY	**Lacayo**	**0.73**	**36**	*eP*	**Pn**	**09 23 08.1**	**+0.5**
VSM	**San Miguel**	**0.75**	**37**	*eP*	**Pn**	**09 23 08.4**	**+0.5**
VSM				*eS*	**Sn**	**09 23 19.3**	**+0.7**
PACA	**Pacayal**	**0.75**	**33**	*eP*	**Pn**	**09 23 08.3**	**+0.5**
PACA				*eS*	**Sn**	**09 23 17.4**	**-1.2**
PACA	**Pacayal**	**0.75**	**33**	P	**Pn**	**09 23 08.4**	**+0.5**
PACA	**Pacayal**	**0.75**	**33**	S	**Sn**	**09 23 18.7**	**+0.1**
BLLM	**Bellamira**	**0.78**	**39**	*eP*	**Pn**	**09 23 08.6**	**+0.4**
PQSS	**Presa 15 de Se**	**0.81**	**13**	*eP*	**Pn**	**09 23 08.7**	**+0.2**
PQSS				*eS*	**Sb**	**09 23 17.5**	**-1.0**
PQSS	**Presa 15 de Se**	**0.81**	**13**	P	**Pn**	**09 23 08.8**	**+0.3**
PQSS	**Presa 15 de Se**	**0.81**	**13**	S	**Sn**	**09 23 20.4**	**+0.7**
LFRS	**El Faro**	**0.85**	**338**	*eP*	**Pn**	**09 23 09.1**	**-0.1**
LFRS				*eS*	**Sn**	**09 23 20.0**	**-0.8**
CNRM	**Centro Naciona**	**0.85**	**41**	*eP*	**Pn**	**09 23 09.4**	**+0.4**
LALI	**Alcalda de L**	**0.86**	**319**	S	**Sb**	**09 23 20.2**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.87**	**1**	*eP*	**Pn**	**09 23 09.9**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.87**	**1**	P	**Pn**	**09 23 09.9**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.87**	**1**	S	**Sn**	**09 23 22.3**	**+1.0**
PAVA	**Las Pavas**	**0.90**	**348**	*eP*	**Pn**	**09 23 10.1**	**+0.3**
PAVA				*eS*	**Sn**	**09 23 21.1**	**-1.1**
PAVA	**Las Pavas**	**0.90**	**348**	P	**Pn**	**09 23 10.2**	**+0.3**
PAVA	**Las Pavas**	**0.90**	**348**	S	**Sn**	**09 23 22.7**	**+0.6**
LOMA	**Loma Larga**	**0.91**	**333**	*eP*	**Pn**	**09 23 10.1**	**+0.1**
LOMA				*eS*	**Sn**	**09 23 21.6**	**-0.9**
LOMA	**Loma Larga**	**0.91**	**333**	P	**Pn**	**09 23 10.4**	**+0.4**
LOMA	**Loma Larga**	**0.91**	**333**	S	**Sn**	**09 23 22.8**	**+0.4**
LBRS	**Las Brisas**	**0.95**	**342**	*eP*	**Pn**	**09 23 11.0**	**+0.5**
LFU	**La Fuente**	**0.98**	**338**	*eP*	**Pn**	**09 23 11.3**	**+0.4**
LFU				*eS*	**Sn**	**09 23 23.4**	**-0.7**
CNCH	**Conchagua**	**0.99**	**63**	P	**Pb**	**09 23 11.3**	**+0.1**
CNCH	**Conchagua**	**0.99**	**63**	S	**Sn**	**09 23 25.1**	**+0.7**
UESS	**Universidad de**	**0.99**	**333**	*eP*	**Pn**	**09 23 11.7**	**+0.6**
UESS				*eS*	**Sn**	**09 23 24.1**	**-0.2**
UEES	**Universidad Ev**	**1.00**	**331**	*eP*	**Pb**	**09 23 11.5**	**+0.1**
UEES				*eS*	**Sn**	**09 23 24.4**	**-0.3**
PMON	**Piamonte**	**1.04**	**328**	*eP*	**Pn**	**09 23 12.0**	**+0.3**
PMON				*eS*	**Sn**	**09 23 25.1**	**-0.5**
PMON	**Piamonte**	**1.04**	**328**	P	**Pn**	**09 23 12.1**	**+0.3**
CAHU	**Cacacuatique**	**1.07**	**29**	*eP*	**Pb**	**09 23 12.6**	**+0.1**
JAYA	**Jayaque - finc**	**1.07**	**320**	*eP*	**Pn**	**09 23 12.3**	**+0.1**
JAYA	**Jayaque - finc**	**1.07**	**320**	*eP*	**Pn**	**09 23 12.4**	**+0.2**
JAYA				*i* S	**Sn**	**09 23 26.4**	**0.0**
JAYA	**Jayaque - finc**	**1.07**	**320**	P	**Pn**	**09 23 12.4**	**+0.2**
CSGN	**Cosiguina Volc**	**1.16**	**83**	P	**Pn**	**09 23 13.8**	**+0.4**
CSGN				S	**Sn**	**09 23 28.7**	**+0.1**
POTN	**Potosi Cosigui**	**1.22**	**82**	P	**Pb**	**09 23 15.2**	**+0.2**
POTN				S	**Sn**	**09 23 29.7**	**-0.1**
LLGN	**La Laguna**	**1.34**	**352**	*eP*	**Pn**	**09 23 15.8**	**0.0**
LLGN	**La Laguna**	**1.34**	**352**	P	**Pn**	**09 23 16.0**	**+0.2**
RTR	**El Retiro**	**1.38**	**320**	*eP*	**Pn**	**09 23 17.4**	**+1.0**
NUBE	**Las Nubes**	**1.47**	**317**	*eP*	**Pn**	**09 23 18.3**	**+0.6**
NUBE				*eS*	**Sn**	**09 23 35.5**	**-0.7**
NUBE	**Las Nubes**	**1.47**	**317**	*eP*	**Pn**	**09 23 18.3**	**+0.6**
NUBE				*eS*	**Sn**	**09 23 35.9**	**-0.4**
NUBE	**Las Nubes**	**1.47**	**317**	P	**Pn**	**09 23 18.1**	**+0.4**
NUBE	**Las Nubes**	**1.47**	**317**	S	**Sn**	**09 23 36.3**	**0.0**
MARCA	**Marcala la Paz**	**1.49**	**27**	*i* P	**Pn**	**09 23 18.1**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.56**	**320**	*eP*	**Pn**	**09 23 19.5**	**+0.6**
SLOZ				*eS*	**Sn**	**09 23 38.6**	**+0.2**
FAME	**Alcaldia de Sa**	**1.60**	**309**	P	**Pn**	**09 23 20.2**	**+0.8**
FAME	**Alcaldia de Sa**	**1.60**	**309**	S	**Sn**	**09 23 38.0**	**-1.2**
CRIN	**San Cristobal**	**1.66**	**94**	P	**Pn**	**09 23 21.1**	**+0.8**
CRIN	**San Cristobal**	**1.66**	**94**	S	**Sn**	**09 23 41.8**	**+1.0**
PKGN	**Cerro Pekin**	**1.73**	**95**	P	**Pn**	**09 23 21.9**	**+0.7**
PKGN				S	**Sn**	**09 23 42.9**	**+0.4**
SARH	**Santa Rosa de**	**1.93**	**359**	*i* P	**Pn**	**09 23 24.9**	**+0.8**
PLRN	**Geotermica Pol**	**1.94**	**97**	P	**Pn**	**09 23 24.1**	**0.0**
PLRN				S	**Sn**	**09 23 46.6**	**-1.2**
CNGA	**Al SSO del Vol**	**2.02**	**99**	P	**Pn**	**09 23 25.7**	**+0.5**
CNGA				S	**Sn**	**09 23 48.7**	**-1.0**
CNGN	**Cerro Negro**	**2.02**	**99**	P	**Pn**	**09 23 25.5**	**+0.3**
CNGN	**Cerro Negro**	**2.02**	**99**	S	**Sn**	**09 23 48.6**	**-1.2**
COPN	**Copaltepe**	**2.20**	**107**	P	**Pn**	**09 23 27.8**	**+0.2**
OCON	**Estacion meteo**	**2.34**	**70**	P	**Pn**	**09 23 29.6**	**-0.1**
RCVN	**Varillal2**	**2.59**	**73**	P	**Pn**	**09 23 33.3**	**+0.1**
RCPN	**Sur Rio San Ju**	**2.67**	**75**	P	**Pn**	**09 23 34.3**	**+0.1**
MATN	**Matagalpa**	**2.75**	**88**	P	**Pn**	**09 23 34.3**	**-1.0**
BOAB	**BOACO BROADBAN**	**3.03**	**97**	P	**Pn**	**09 23 39.2**	**+0.2**

*MEX **30** 09:26:10.0±1.2, 14.46N×92.84W, h17km±835km, MD3.9*
*GCG **30** 09:26:11.2±1.0, 14.43N×92.58W, h30km±10km, MD3.6, ML3.1*
ISC 30 09:26:08.4±2.4, 14.5N±0.1×92.77W±0.06, h34km±3km, n13, σ1°04/23, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.63**	**51**	*i* P	**Pb**	**09 26 21.7**	**+0.6**
THIG				*i* S	**Sb**	**09 26 29.7**	**-0.1**
SMCA	**Catarina**	**0.76**	**63**	*i* P	**Pb**	**09 26 23.6**	**+0.4**
SMCA				*eS*	**Sb**	**09 26 33.7**	**+0.4**
PATR	**El Naranjo**	**0.80**	**40**	*eP*	**Pn**	**09 26 23.5**	**0.0**
PATR				*eS*	**Sn**	**09 26 34.1**	**-0.1**
CHUJ	**Union Juarez**	**0.86**	**48**	*eP*	**Pb**	**09 26 24.5**	**-0.7**
CHUJ				*eS*	**Sb**	**09 26 36.1**	**-0.5**
PAVE	**Pavencul**	**0.89**	**40**	*eP*	**Pb**	**09 26 24.6**	**-0.5**
PAVE				*eS*	**Sn**	**09 26 36.8**	**+0.2**
PCIG		**1.27**	**340**	*eP*	**Pn**	**09 26 30.0**	**+0.3**
PCIG				*eS*	**Sn**	**09 26 45.1**	**-0.4**
QUEO	**Labor Ovalle**	**1.27**	**73**	*i* P	**Pb**	**09 26 31.1**	**-0.8**
QUEO				*i* S	**Sb**	**09 26 47.3**	**-0.7**
QUEO				IAML		09 26 47.6	
	comp=E,488nm,0.2s						
HUEH	**Huehuetenango**	**1.47**	**57**	*eP*	**Pn**	**09 26 33.3**	**+0.6**
HUEH				*eS*	**Sb**	**09 26 53.8**	**+0.1**
HUEH	**Huehuetenango**	**1.47**	**57**	*i* P	**Pb**	**09 26 35.3**	**0.0**
HUEH				IAML		09 27 01.2	
	comp=N,197nm,0.4s						
QUIS	**Sacapulas**	**1.80**	**64**	*i* S	Sb	09 27 19.3	+16
TGIG		**2.28**	**351**	*eP*	**Pn**	**09 26 45.4**	**+0.1**
TGIG				*eS*	**Sn**	**09 27 10.8**	**+0.1**
UXUV	**UXUV**	**3.09**	**335**	*eP*	**Pn**	**09 26 57.2**	**+2.4**
UXUV				*eS*	**Sn**	**09 27 27.8**	**-2.8**
CMIG	**Matias Romero**	**3.28**	**322**	*eP*	**Pn**	**09 26 57.6**	**+0.2**
CMIG				*eS*	**Sn**	**09 27 34.6**	**-0.6**

*SNET **30** 09:39:04.3±2.5, 14.01N×91.56W, h42km, ML3.6*
*GCG **30** 09:39:04.7±1.7, 14.09N×91.52W, h47km±17km, MD3.9, ML3.8*
*CATAC **30** 09:39:04.1±0.6, 14°N±3°×9°2W±°, h29km±4km, M3.5/10, MLv3.5/10, Error ellipse: s-maj=8.2km s-min=4.1km az=33.8, confirmed*
ISC 30 09:39:04.8±1.6, 14.05N±0.07×91.52W±0.05, h35km±7km, n25, σ1°23/40, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**0.50**	**341**	*eP*	**Pb**	**09 39 16.0**	**+0.4**
RTAL				*eS*	**Sb**	**09 39 21.8**	**-1.1**
RTAL	**Retalhuleu**	**0.50**	**341**	P	**Pb**	**09 39 15.9**	**+0.4**
RTAL				S	**Sn**	**09 39 23.9**	**+1.0**
ESSG	**Sabana Grande**	**0.75**	**64**	*i* P	**Pn**	**09 39 19.2**	**+0.1**
ESSG				*i* S	**Sb**	**09 39 30.0**	**+0.3**
SOKI	**Kika Raxquin**	**0.77**	**9**	*eP*	**Pn**	**09 39 19.7**	**0.0**
SOKI				*i* S	**Sn**	**09 39 30.7**	**+0.4**
SOKI				IAML		09 39 37.7	
	comp=N,3μm,0.7s						
QUEO	**Labor Ovalle**	**0.81**	**1**	*i* P	**Pn**	**09 39 20.5**	**+0.4**
QUEO				*i* S	**Sn**	**09 39 32.0**	**+0.8**
QUEO				IAML		09 39 44.2	
	comp=E,2μm,0.6s						
SMCA	**Catarina**	**0.96**	**326**	*eP*	**Pn**	**09 39 21.4**	**-0.5**
SMCA				*i* S	**Sn**	**09 39 33.1**	**-1.3**
SMCA				IAML		09 39 35.7	
	comp=N,1μm,0.2s						
FG16	**Alotenango, Sa**	**1.01**	**77**	*i* P	**Pn**	**09 39 19.6**	**-3.1**
FG16				*i* S	**Sn**	**09 39 31.2**	**-4.6**
FG16				IAML		09 39 42.4	
	comp=N,12μm,0.2s						
THIG		**1.11**	**320**	*eP*	**Pn**	**09 39 23.8**	**-0.1**
THIG				*eS*	**Sn**	**09 39 36.9**	**-1.2**
HUEH	**Huehuetenango**	**1.26**	**1**	*eP*	**Pn**	**09 39 26.4**	**+0.2**
HUEH				*eS*	**Sn**	**09 39 42.4**	**+0.4**
HUEH	**Huehuetenango**	**1.26**	**1**	*i* P	**Pn**	**09 39 26.5**	**+0.2**
HUEH				*i* S	**Sn**	**09 39 43.3**	**+1.2**
HUEH				IAML		09 39 54.8	
	comp=N,1μm,0.6s						
HUEH	**Huehuetenango**	**1.26**	**1**	P	**Pn**	**09 39 26.1**	**-0.1**
QUIS	**Sacapulas**	**1.30**	**19**	*i* P	**Pn**	**09 39 27.2**	**+0.5**
QUIS				*eS*	**Sb**	**09 39 44.8**	**-0.5**
QUIS				IAML		09 39 47.1	
	comp=E,1μm,0.4s						
FAME	**Alcaldia de Sa**	**1.48**	**98**	P	**Pn**	**09 39 29.1**	**+0.1**
FAME	**Alcaldia de Sa**	**1.48**	**98**	S	**Sn**	**09 39 46.2**	**-1.0**
SLOZ	**Alcaldia de Sa**	**1.69**	**91**	*eP*	**Pn**	**09 39 32.5**	**+0.5**
SLOZ				*eS*	**Sn**	**09 39 53.8**	**+1.4**
SLOZ	**Alcaldia de Sa**	**1.69**	**91**	P	**Pn**	**09 39 32.6**	**+0.7**
SLOZ	**Alcaldia de Sa**	**1.69**	**91**	S	**Sn**	**09 39 54.4**	**+2.0**
NUBE	**Las Nubes**	**1.70**	**95**	*eP*	**Pn**	**09 39 32.8**	**+0.7**
NUBE				*eS*	**Sn**	**09 39 54.7**	**+0.9**
NUBE	**Las Nubes**	**1.70**	**95**	*i* P	**Pn**	**09 39 32.9**	**+0.7**
NUBE				*eS*	**Sn**	**09 39 51.8**	**-1.0**
NUBE	**Las Nubes**	**1.70**	**95**	P	**Pn**	**09 39 32.6**	**+0.4**
SBLS	**San Blas**	**1.86**	**96**	*eP*	**Pn**	**09 39 35.6**	**+1.2**
JAYA	**Jayaque - finc**	**2.05**	**101**	*eP*	**Pn**	**09 39 38.2**	**+1.1**
JAYA	**Jayaque - finc**	**2.05**	**101**	*eP*	**Pn**	**09 39 37.9**	**+0.9**
JAYA				*eS*	**Sn**	**09 40 01.0**	**-0.6**
JAYA	**Jayaque - finc**	**2.05**	**101**	P	**Pn**	**09 39 37.5**	**+0.5**
PETF	**Flores**	**3.27**	**29**	*eP*	**Pn**	**09 39 53.3**	**-0.2**

WEL 30 09:40:42.9±0.8, 32°S±10°×17°9E±2°, h294km±26km, M3.9/7, mB4.3/7, ML4.2/6, MLv4.3/7, Mw(mB)3.5/7, Error ellipse: s-maj=36.9km s-min=4.7km az=109.4, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.63**	**48**	P	Pn	09 41 44.9	+0.2
GLKZ				S	S	09 42 34.0	-0.2
MXZ	**Matakaoa Point**	**5.85**	**185**	P	Pn	09 42 12.7	+2.6
MXZ				S	S	09 43 21.5	+1.2
HAZ	**Te Kaha**	**6.09**	**189**	P	Pn	09 42 13.0	0.0
HAZ				S	S	09 43 26.7	+1.1
WMGZ	**Waiomatatini S**	**6.09**	**184**	P	Pn	09 42 14.0	+1.0
WMGZ				S	S	09 43 27.6	+2.0
PKGZ	**Pakihiroa**	**6.17**	**187**	P	Pn	09 42 14.6	+0.7
PKGZ				S	S	09 43 28.9	+1.6
MKAZ	**Moumakai**	**6.22**	**209**	P	Pn	09 42 13.0	-1.5
RUGZ	**Raukumara Rang**	**6.32**	**189**	P	Pn	09 42 16.9	+1.1
RUGZ				S	S	09 43 30.8	+0.1
PUZ	**Puketiti**	**6.36**	**185**	P	Pn	09 42 16.2	0.0
PUZ				S	S	09 43 29.9	-1.6
TWGZ	**Tauwhareparae**	**6.49**	**187**	P	Pn	09 42 17.1	-0.7
TWGZ				S	S	09 43 35.8	+1.5
URZ	**Urewera**	**6.70**	**193**	P	Pn	09 42 19.1	-1.2
URZ				S	S	09 43 39.7	+0.8
TKGZ	**Te Karaka**	**6.76**	**188**	P	Pn	09 42 21.3	+0.3
TKGZ				S	S	09 43 40.6	+0.3
RAGZ	**Rawiri**	**6.87**	**190**	P	Pn	09 42 24.2	+1.7
MUGZ	**Murupara**	**6.97**	**194**	P	Pn	09 42 23.8	+0.1
MUGZ				S	S	09 43 45.0	-0.1
RIGZ	**Rimuhau**	**7.03**	**188**	P	Pn	09 42 24.7	+0.3
RIGZ				S	S	09 43 44.6	-1.9
SNGZ	**Shannon Statio**	**7.17**	**190**	P	Pn	09 42 25.0	-1.0
SNGZ				S	S	09 43 50.2	+0.8
PRGZ	**Paritu Road**	**7.24**	**187**	P	Pn	09 42 28.0	+1.1
MTHZ	**Maungataniwha**	**7.32**	**193**	P	Pn	09 42 29.3	+1.3
MTHZ				S	S	09 43 53.4	+0.4
MHGZ	**Mahia Peninsul**	**7.46**	**186**	P	Pn	09 42 30.3	+0.7
MHGZ				S	S	09 43 53.8	-2.3
NGZ	**Ngauruhoe**	**7.93**	**199**	P	Pn	09 42 37.1	+1.6
WAZ	**Wanganui**	**8.64**	**201**	P	Pn	09 42 43.0	-1.1

*NEIC **30** 09:48:21.2±0.7, 19.24N±0.02×155.40W±0.02, h40km±2km, Error ellipse: s-maj=3.3km s-min=2.0km az=145.0*
HVO 30 09:48:22.8±0.8, 19.24N±0.06×155.38W±0.04, h32km±7km, ML2.3/40, ML2.6/42(NEIC), Error ellipse: s-maj=9.5km s-min=1.5km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.01**	**258**		Pb	09 48 28.0	-0.3
HLP	**Hilina Pali**	**0.09**	**52**		Pb	09 48 28.1	-0.4
HLP					Sb	09 48 31.4	-1.0
HLP				IAML		09 48 32.7	
	comp=N,1μm,0.1s						
HLP				IAML		09 48 38.7	
	comp=E,875nm,0.5s						
AIN	**Ainahou**	**0.15**	**332**		Pn	09 48 28.6	-0.4
AIN					Sn	09 48 33.0	+0.1
SDHHI	**Sand Hill**	**0.17**	**30**		Pb	09 48 28.5	-0.7
SDHHI					Sn	09 48 32.6	-0.7
WRMHI	**West Rim**	**0.18**	**25**		Pb	09 48 28.5	-0.8
WRMHI					Sn	09 48 33.0	-0.6
RIM	**Rim**	**0.19**	**34**		Pb	09 48 28.6	-0.8
KKO	**Keanakako'i**	**0.19**	**35**		Pb	09 48 28.6	-0.8
KKO					Sn	09 48 32.9	-1.0
UWE	**Uwekahuna**	**0.20**	**25**		Pb	09 48 28.7	-0.8
UWE					Sb	09 48 33.1	-0.9
UWE				IAML		09 48 34.0	
	comp=N,756nm,0.3s						
UWE				IAML		09 48 37.6	
	comp=E,693nm,0.3s						
OBL	**Observatory Le**	**0.20**	**28**		Pb	09 48 28.6	-0.9
OBL					Sb	09 48 32.9	-1.2
BYL	**Byron's Ledge**	**0.21**	**34**		Pb	09 48 28.7	-0.8
BYL					Sb	09 48 33.2	-0.9
PUH	**Pauahi**	**0.21**	**50**		Pb	09 48 28.8	-0.8
PUH					Sb	09 48 33.2	-0.9
PUH				IAML		09 48 33.2	
	comp=E,614nm,0.2s						
PUH				IAML		09 48 33.3	
	comp=N,460nm,0.4s						
UWB	**Uwekahuna Bluf**	**0.21**	**28**		Pb	09 48 28.6	-1.0
UWB					Sb	09 48 32.7	-1.5
SBLHI	**Steaming Bluff**	**0.21**	**30**		Pb	09 48 28.7	-1.0
SBLHI					Sb	09 48 33.3	-1.0
HATHI	**Halema'uma'u T**	**0.22**	**32**		Pb	09 48 28.7	-0.9
HATHI				IAML		09 48 33.3	
	comp=E,428nm,0.5s						
HATHI					Sb	09 48 33.4	-0.9
KHU	**Kahu

JGF Kuroka 14.20 339 Pn 10 09 56.6 -1.0
JAG Ashikaga 14.40 347 *e*P **Pn 10 09 56.6 -3.5**
JOW Kunigami 14.52 291 P **Pn 10 10 00.9 -0.8**
comp=E,7.8nm,0.8s,baz=103,slow=10,SNR=6.9
MJAR Matsushiro Arr 14.81 343 Pn 10 10 03.7 -1.7
MJAR Matsushiro Arr 14.81 343 P **Pn 10 10 03.2 -2.2**
comp=E,2.4nm,0.5s,baz=166,slow=9.3,SNR=18
MJAR LR LR 10 15 26.6
comp=E,35nm,21.6s,baz=184,slow=36
MJAR Matsushiro Arr 14.81 343 P **Pn 10 10 03.7 -1.7**
MAJO Matsushiro 14.81 343 Pn 10 10 04.0 -1.4
MAJO Matsushiro 14.81 343*c i*P **Pn 10 10 04.7 -0.7**
MJB9 Matsu-Tunnel 14.82 343 Pn **Pn 10 10 04.6 -0.9**
JNU Nakatsue 15.43 316 P **Pn 10 10 12.8 -0.4**
comp=E,2.4nm,0.7s,baz=252,slow=14,SNR=1.0
JMM Marumori 15.58 352 Pn **Pn 10 10 14.7 -0.3**
JTM Tenmabayashi 18.44 354 P 10 10 47.6 -0.5
ERM Erimo 19.56 359 P **P 10 10 59.0 -1.2**
ERM IAmb IAmb 10 11 20.0
comp=Z,63nm,1.4s
ERM Erimo 19.56 359 *i* P **Pn 10 11 02.9 +0.2**
ERM pmax pmax
comp=Z,35nm,1.0s
KSRS Korea Array 20.13 322 P **P 10 11 06.7 +0.2**
comp=Z,2.6nm,0.9s,baz=136,slow=12,SNR=6.9
KSRS LR LR 10 17 46.1
comp=Z,10µm,21.5s,baz=65,slow=33
comp=Z,2.6nm,0.9s
KSAR Wonju Array Be 20.14 322 P 10 11 05.3 -1.3
KSAR Wonju Array Be 20.14 322 P **P 10 11 05.3 -1.3**
KS19 Wonju Array Si 20.19 322 P **P 10 11 04.8 -2.5**
KS19 IAmb IAmb 10 11 13.5
comp=Z,26nm,0.9s
YHNB Yeheng 20.40 281 P **P 10 11 06.9 -2.7**
SSLB Suanglung 20.77 278 P **P 10 11 10.7 -2.9**
SSLB IAmb IAmb 10 11 18.9
comp=Z,28nm,1.0s
TPUB Ta-pu 21.08 277 P **P 10 11 16.0 -0.9**
TPUB IAmb IAmb 10 11 55.4
comp=Z,52nm,1.5s
YUK Yuzh-Kuril'sk 21.66 5⇓*e*P **P 10 11 24.3 +1.5**
JKA Kamikawa-asahi 21.67 358 P **P 10 11 22.4 -0.5**
JKA IAmb IAmb 10 11 38.6
comp=Z,45nm,1.4s
ASAJ Asahikawa 21.67 358 P **P 10 11 23.7 +0.8**
comp=Z,1.9nm,0.3s,baz=222,slow=12,SNR=7.0
comp=Z,1.9nm,0.3s
H11N1 WAKE ISLAND Hy 22.00 93 T T 10 34 09.5
baz=283
H11N2 WAKE ISLAND Hy 22.00 93 T T 10 34 03.0
baz=283
H11N3 WAKE ISLAND Hy 22.02 93 T T 10 34 00.2
baz=283
H11S3 WAKE ISLAND Hy 22.08 96 T T 10 34 05.8
baz=283,slow=74
H11S1 WAKE ISLAND Hy 22.09 96 T T 10 34 02.5
baz=283,slow=74
H11S2 WAKE ISLAND Hy 22.09 96 T T 10 34 07.5
baz=283
DAV Davao City (W) 23.03 231 LR LR 10 21 06.4
comp=Z,23nm,19.8s,baz=18,slow=38
USA0B Ussuriysk Arra 23.72 339 P **P 10 11 43.0 0.0**
USA0B IAmb IAmb 10 11 47.6
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 23.72 339 P **P 10 11 43.0 0.0**
USA0B pmax pmax
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 23.72 339 P **P 10 11 43.5 +0.5**
USRK Ussuriysk Ar. 23.72 339 P **P 10 11 44.6 +1.6**
comp=Z,9.7nm,0.6s,baz=164,slow=10.0,SNR=20
comp=Z,9.7nm,0.6s
NJ2 Nanjing 23.87 299 *e*P **P 10 11 46.3 +1.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
YSS Yuzhno-Sakhali 24.50 359 *e*P **P 10 11 48.6 -1.4**
YSS pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 26.72 334 ⇑P **P 10 12 12.0 +2.0**
BNX pmax pmax
comp=Z,7.0nm,1.0s
BJI Beijing 29.06 314 P **P 10 12 35.5 +4.5**
BJI pmax pmax
comp=Z,4.0nm,0.5s
HEH HeiHe 30.53 340 *e*P **P 10 12 45.3 +1.5**
HEH pmax pmax
comp=Z,22nm,0.9s
PEA0B Petropavlovsk- 32.52 16 P **P 10 13 01.2 -0.1**
PEA0B IAmb IAmb 10 13 18.1
comp=Z,24nm,1.4s
PEA0B Petropavlovsk- 32.52 16 P **P 10 13 01.2 -0.1**
PEA0B pmax pmax
comp=Z,24nm,1.5s
PETK Petropavlovsk- 32.52 16 P **P 10 13 00.1 -1.2**
PETK Petropavlovsk- 32.52 16 LR LR 10 25 02.6
comp=Z,11nm,21.6s,baz=227,slow=34
PETK Petropavlovsk- 32.52 16 P **P 10 13 00.1 -1.2**
HHC Hu-ho-hao-te 32.57 312 *e*P **P 10 13 04.0 +2.0**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,30nm,3.6s
HIA Hailar 32.73 331 P **P 10 13 04.4 +1.2**
HIA IAmb IAmb 10 13 04.9
comp=Z,8.8nm,0.7s
HIA Hailar 32.73 331 P **P 10 13 04.4 +1.2**
HIA pmax pmax
comp=Z,9.0nm,0.7s
ZEA Zeya 33.63 343 *e*P **P 10 13 12.3 +1.4**
ZEA *e* 10 13 39.0
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
GYA Guiyang 33.70 284 ⇑P **P 10 13 11.5 -0.5**
GYA pmax pmax
comp=Z,23nm,0.8s
COEN Coen 36.14 181 P **P 10 13 32.9 +0.1**
COEN IAmb IAmb 10 14 11.0
comp=Z,16nm,1.3s
SBUM Sibu 36.26 241 P **P 10 13 33.1 -0.8**
MTN Manton Dam 37.07 200 P **P 10 13 40.1 -0.6**
MA2 Magadan 37.50 6 P **P 10 13 44.0 +0.1**
MA2 IAmb IAmb 10 13 45.9
comp=Z,5.8nm,0.8s
MA2 Magadan 37.50 6 LR LR 10 29 14.8
comp=Z,13nm,19.2s,baz=204,slow=36
MA2 Magadan 37.50 6*d i*P **P 10 13 45.3 +1.4**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
PZH PanZhiHua 38.10 285 P **P 10 13 52.0 +2.4**
SHEM Shemya Is, Ala 38.26 30 LR LR 10 27 04.8
comp=Z,9.7nm,21.0s,baz=174,slow=32
ULN Ulaanbaatar 38.60 320*d i*P **P 10 13 54.6 +1.1**
ULN pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 38.98 320 P **P 10 13 57.2 +0.5**
SONM Songino Array 38.98 320 P **P 10 13 56.0 -0.6**
comp=Z,2.2nm,0.6s,baz=127,slow=8.0,SNR=6.1
comp=Z,2.2nm,0.6s
SONM Songino Array 38.98 320 P **P 10 13 57.2 +0.5**
SONM pmax pmax
comp=Z,2.0nm,0.7s
KNRA Kununurra 40.50 202 P **P 10 14 09.2 -0.1**
KNRA IAmb IAmb 10 14 21.3
comp=Z,19nm,1.4s
YAK Yakutsk 40.72 350 LR LR 10 33 02.5
comp=Z,21nm,18.1s,baz=164,slow=39
YAK Yakutsk 40.72 350 *e*P **P 10 14 10.7 +0.1**
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.7s
SEY Seymchan 40.95 6*de*P **P 10 14 12.4 -0.1**
SEY pmax pmax
comp=Z,9.0nm,1.1s
KIWB Kanaga Island 42.18 36 P **P 10 14 22.6 -0.1**
CTAO Charters Tower 42.32 176 P **P 10 14 24.3 +0.1**
CTAO IAmb IAmb 10 14 25.2
comp=Z,7.3nm,0.9s
CTAO Charters Tower 42.32 176 P **P 10 14 24.3 +0.1**
CTAO pmax pmax
comp=Z,7.0nm,0.9s
ADK Adak 42.45 36 P **P 10 14 25.9 +1.0**
ADK Adak 42.45 36 P **P 10 14 25.9 +1.0**
ADK pmax pmax
comp=Z,31nm,1.5s
WB0 Warramunga Arr 42.85 193 P **P 10 14 27.9 -0.5**
WB0 IAmb IAmb 10 14 31.0
comp=Z,6.1nm,1.1s
WR8 Warramunga Arr 43.01 192 P **P 10 14 29.4 -0.4**
WRAB Tennant Creek 43.02 193 P **P 10 14 29.5 -0.3**
WRAB IAmb IAmb 10 15 02.6
comp=Z,13nm,1.3s
WRAB Tennant Creek 43.02 193⇓*e*P **P 10 14 29.8 0.0**
WRAB pmax pmax
comp=Z,15nm,2.0s
WRA Warramunga Arr 43.03 193 P **P 10 14 29.3 -0.6**
WRA Warramunga Arr 43.03 193 P **P 10 14 29.9 0.0**
comp=Z,1.9nm,0.3s,baz=13,slow=8.5,SNR=85
comp=Z,1.9nm,0.3s
FITZ Fitzroy Crossi 43.88 205 P **P 10 14 36.1 -0.6**
ATKA Atka Island 43.96 37 P **P 10 14 37.4 +0.4**
AS31 Alice Springs 46.73 192 P **P 10 14 59.1 -0.1**
ASAR Alice Springs 46.73 192 P **P 10 14 59.5 +0.2**
ASAR Alice Springs 46.73 192 P **P 10 14 58.9 -0.4**
comp=Z,0.6nm,0.3s,baz=11,slow=7.1,SNR=40
ASAR ScP **ScP 10 20 13.1 -0.5**
comp=Z,0.2nm,0.7s,baz=356,slow=3.4,SNR=4.3
comp=Z,0.6nm,0.3s
ASAR Alice Springs 46.73 192 P **P 10 14 59.5 +0.2**
NIKH Nikolski High 47.25 37 P **P 10 15 01.3 -1.7**
BILL Bilibino 47.77 11⇑*e*P **P 10 15 08.0 +1.3**
BILL pmax pmax
comp=Z,10.0nm,1.3s
EIDS Eidsvold 48.06 171 P **P 10 15 08.3 -1.1**
EIDS IAmb IAmb 10 15 34.8
comp=Z,18nm,1.4s
UNV Unalaska Valle 48.88 37 P **P 10 15 14.5 -0.9**
baz=250
MBWA Marble Bar 49.11 210 P **P 10 15 18.3 +0.7**
PSA00 Pilbara Seismi 49.42 209 P **P 10 15 19.6 -0.3**
INKA Innaminka 49.92 183 P **P 10 15 22.5 -1.0**
WMQ Urumqi 50.35 309 *e*P **P 10 15 30.5 +3.6**
EVN Everest 51.21 289 P **P 10 15 32.0 -2.2**
EVN IAmb IAmb 10 15 36.7
comp=Z,5.2nm,0.7s
SDPT Sand Point 52.67 37 P **P 10 15 43.4 -0.5**
baz=255
CHNA Chernabura Isl 53.04 37 P **P 10 15 45.6 -0.9**
baz=256
TNA Tin City 53.18 23 P **P 10 15 46.5 -0.9**
baz=240
O14K Tigyukauivet M 53.41 32 P **P 10 15 48.6 -0.5**
baz=251
S14K Fog Glacier 53.42 36 P **P 10 15 48.8 -0.6**
baz=255
N14K Kuskokwak Cree 53.42 31 P **P 10 15 48.8 -0.5**
baz=250
L14K Kuka Creek 53.46 29 P **P 10 15 49.0 -0.5**
baz=248
M14K Bethel 53.58 30 P **P 10 15 50.2 -0.2**
baz=249
J14K Nanvaranak Lak 53.63 27 P **P 10 15 50.3 -0.3**
baz=246
ANM Nome 53.66 25 P **P 10 15 50.1 -0.8**
baz=243
F14K Arctic Creek 53.72 23 P **P 10 15 51.5 +0.2**
baz=242
ZAA0 Zalesovo Array 53.84 321 P **P 10 15 51.6 -0.8**
ZAA0 IAmb IAmb 10 15 53.6
comp=Z,2.9nm,0.8s
ZALV Zalesovo Beam 53.84 321 P 10 15 52.5 +0.1
ZALV Zalesovo Beam 53.84 321 P **P 10 15 52.7 +0.3**
comp=Z,2.0nm,0.3s,baz=105,slow=7.3,SNR=12
ZALV PcP **PcP 10 16 56.0 -0.6**
comp=Z,1.5nm,0.5s,baz=101,slow=5.3,SNR=3.6
comp=Z,2.0nm,0.3s
STKA Stephens Creek 54.01 182 P **P 10 15 52.4 -1.4**
STKA Stephens Creek 54.01 182 P **P 10 15 52.9 -0.9**
comp=Z,1.6nm,0.5s,baz=357,slow=6.9,SNR=8.0
comp=Z,1.6nm,0.5s
O15K Ungalikthiuk R 54.09 32 P **P 10 15 53.5 -0.6**
baz=253
L15K Ungalak Mounta 54.12 29 P **P 10 15 53.6 -0.8**
baz=249
M15K Kasigluk River 54.15 30 P **P 10 15 54.2 -0.3**
baz=251
K15K Wolf Creek Mou 54.32 28 P **P 10 15 55.8 0.0**
K15K IAmb IAmb 10 16 27.6
comp=Z,7.9nm,1.2s
MK31 Makanchi Array 54.43 312*d i*P **P 10 15 58.4 +1.5**
MKAR Makanchi Array 54.43 312 P **P 10 15 58.4 +1.5**
comp=Z,7.8nm,0.5s,baz=90,slow=9.1,SNR=62
comp=Z,7.8nm,0.5s
F15K North Star Dit 54.45 24 P **P 10 15 56.8 +0.1**
baz=243
MAKZ Makanchi 54.65 312 P **P 10 16 00.1 +1.7**
MAKZ Makanchi 54.65 312 P **P 10 16 00.1 +1.7**
MAKZ pmax pmax
comp=Z,12nm,1.0s
H16K Elim 54.92 25 P **P 10 15 59.6 -0.5**
baz=247
N16K Nishlik Lake 54.98 31 P **P 10 16 00.5 -0.1**
baz=253
L16K Owhat River 55.03 29 P **P 10 16 02.2 +1.2**
L16K IAmb IAmb 10 16 08.4
comp=Z,8.4nm,1.2s
L16K Owhat River 55.03 29 P **P 10 16 00.1 -0.9**
baz=251
O16K Kokwok River B 55.05 32 P **P 10 16 00.6 -0.4**
baz=254
M16K Timber Creek 55.06 30 P **P 10 16 00.9 -0.2**
baz=252
J16K Anvik River 55.08 27 P **P 10 16 01.0 -0.2**
baz=249
G16K Koyuk River 55.18 24 P **P 10 16 02.1 +0.2**
baz=246
I17K Unalakleet 55.26 26 P **P 10 16 01.7 -0.8**
baz=249
C16K Lisburne Hills 55.41 21 P **P 10 16 03.7 +0.3**
C16K Lisburne Hills 55.41 21 P **P 10 16 03.7 +0.3**
baz=241
O17K Koliganek Bris 55.59 32 P **P 10 16 05.2 +0.3**
baz=255
L17K Donlin 55.70 29 P **P 10 16 05.4 -0.2**
baz=252
N17K Nushagak Hills 55.75 31 P **P 10 16 05.6 -0.4**
baz=254
J17K VABM Dome 55.76 27 P **P 10 16 06.0 -0.1**
baz=251
P17K Kvichak River 55.77 33 P **P 10 16 06.0 -0.2**
baz=256
M17K Holitna River 55.87 30 P **P 10 16 06.4 -0.5**
baz=254
G17K Kiwalik Mounta 55.87 25 P **P 10 16 06.2 -0.7**
baz=248
K17K Iditarod 55.88 28 P **P 10 16 07.2 +0.3**
K17K Iditarod 55.88 28 P **P 10 16 07.0 +0.1**
baz=252
D17K Noatak River 55.89 22 P **P 10 16 06.7 -0.2**
baz=244
H17K Granite Mounta 55.95 25 P **P 10 16 07.0 -0.5**
baz=249
F17K Baldwin Pennin 56.02 23 P **P 10 16 07.6 -0.2**
baz=246
E17K Hotham Inlet 56.07 23 P **P 10 16 06.9 -1.3**
baz=245
C17K DeLong Mountai 56.21 21 P **P 10 16 09.1 -0.1**
baz=243
Q18K Katmai Hardscr 56.37 33 P **P 10 16 08.9 -1.7**
baz=258
SII Sitkinak Islan 56.39 36 P **P 10 16 09.5 -1.2**
baz=260
N18K Kilae Creek 56.40 31 P **P 10 16 09.9 -0.9**
baz=255
P18K Big Mountain, 56.42 33 P **P 10 16 10.2 -0.7**
baz=257
R18K Karluk 56.43 35 P **P 10 16 08.8 -2.2**
baz=259
L18K Granite Mounta 56.44 29 P **P 10 16 09.6 -1.4**
baz=254
E18K Tukpahlearik C 56.64 23 P **P 10 16 11.6 -0.7**
baz=246
M18K Stony River 56.64 30 P **P 10 16 11.7 -0.7**
baz=255
H18K Honhosa River 56.65 25 P **P 10 16 13.6 +1.2**
H18K IAmb IAmb 10 16 15.6
comp=Z,13nm,1.5s
H18K Honhosa River 56.65 25 P **P 10 16 11.6 -0.8**
baz=250
F18K Selawik 56.67 24 P **P 10 16 11.6 -0.9**
baz=248
G18K Tagagawik 56.79 25 P **P 10 16 14.7 +1.3**
G18K IAmb IAmb 10 16 15.3
comp=Z,2.9nm,0.8s
G18K Tagagawik 56.79 25 P **P 10 16 12.3 -1.1**
baz=249
J18K Innoko River 56.79 28 P **P 10 16 12.9 -0.5**
baz=253
C18K Utukok River 56.94 21 P **P 10 16 13.9 -0.6**
baz=245
OHAK Old Harbor 56.99 35 P **P 10 16 13.5 -1.4**
baz=260
O19K Port Alsworth 57.05 32 P **P 10 16 14.5 -0.7**
baz=257
B18K Kokolik River 57.05 20 P **P 10 16 14.8 -0.3**
baz=244
N19K Bonanza Creek 57.11 31 P **P 10 16 15.0 -0.8**
baz=257
GCSA Galena City Sc 57.11 26 P **P 10 16 14.9 -0.7**
baz=252
Q19K Cape Douglas, 57.12 33 P **P 10 16 14.3 -1.5**
baz=259
KURK Kurchatov 57.15 317 P 10 16 17.2 +1.1
KURK Kurchatov 57.15 317*c i*P **P 10 16 17.5 +1.3**
KURK pmax pmax
comp=Z,11nm,0.6s
KURBB Kurchatov Arra 57.20 317 P **P 10 16 17.6 +1.0**
comp=Z,13nm,0.7s,baz=95,slow=7.7,SNR=126
comp=Z,13nm,0.7s
L19K White Mountain 57.26 29 P **P 10 16 15.6 -1.2**
baz=256
M19K Big River Lodg 57.41 30 P **P 10 16 17.1 -0.7**
baz=256
J19K Poorman 57.41 27 P **P 10 16 16.5 -1.2**
baz=254
F19K Shaleruckik Mo 57.45 24 P **P 10 16 17.7 -0.3**
baz=250
KDAK Kodiak Island 57.46 35 P **P 10 16 18.8 +0.6**
KDAK Kodiak Island 57.46 35 LR LR 10 44 46.6
comp=Z,12nm,18.1s,baz=235,slow=40
KDAK Kodiak Island 57.46 35 P **P 10 16 18.8 +0.6**
KDAK pmax pmax
comp=Z,19nm,1.4s
KDAK Kodiak Island 57.46 35 P **P 10 16 16.6 -1.6**
baz=260
G19K Purcell Mounta 57.48 25 P **P 10 16 17.5 -0.7**
baz=251
H19K Roundabout Mou 57.53 25 P **P 10 16 18.7 +0.2**
baz=252
A19K Wainwright 57.65 19 P **P 10 16 18.5 -0.8**
baz=244
C19K Lookout Ridge 57.66 21 P **P 10 16 19.6 +0.1**
baz=246
Q20K Shuyak Island 57.70 34 P **P 10 16 18.3 -1.6**
baz=260
L20K Farewell, AK 57.78 29 P **P 10 16 20.5 +0.1**
baz=256
E19K Redstone River 57.86 23 P **P 10 16 20.5 -0.4**
baz=250
K20K Telida 57.91 28 P **P 10 16 21.5 +0.2**
baz=256
D19K Kuna River 57.92 22 P **P 10 16 21.3 -0.1**
baz=248
M20K Styx River 57.98 30 P **P 10 16 21.7 -0.2**
baz=257
J20K Nowinta River 58.08 27 P **P 10 16 22.2 -0.2**
baz=255
I20K Naaghedeneel 58.11 26 P **P 10 16 22.3 -0.3**
baz=254
H20K Anotleneega Mo 58.14 26 P **P 10 16 22.7 -0.2**
baz=253
F20K Avaraart Lake 58.28 24 P **P 10 16 25.5 +1.7**
F20K IAmb IAmb 10 16 25.7
comp=Z,1.7nm,0.6s
F20K Avaraart Lake 58.28 24 P **P 10 16 23.7 -0.1**
baz=252
E20K Nigu River 58.51 22 P **P 10 16 25.3 -0.2**
baz=250
D20K Etivluk River 58.52 22 IAmb IAmb 10 16 27.3
comp=Z,3.9nm,0.8s
D20K Etivluk River 58.52 22 P **P 10 16 25.6 +0.2**
baz=250
PPLA Purkeypile 58.63 29 P **P 10 16 26.0 -0.5**
baz=258
IMAR Indian Mountai 58.73 25 P **P 10 16 28.2 +1.3**
SKT Skwentna 58.74 30 P **P 10 16 26.8 -0.3**
baz=259
CAST Castle Rocks 58.79 28 P **P 10 16 28.9 +1.4**
CAST IAmb IAmb 10 16 29.5
comp=Z,5.3nm,1.2s
CAST Castle Rocks 58.79 28 P **P 10 16 27.2 -0.2**
baz=257
CHUM Lake Minchumin 58.79 28 P **P 10 16 27.3 -0.1**
baz=257
B20K Meade River 58.80 20 P **P 10 16 26.8 -0.5**
baz=248
G21K Allakaket 58.97 25 IAmb IAmb 10 16 30.9
comp=Z,4.5nm,1.1s
G21K Allakaket 58.97 25 P **P 10 16 29.2 +0.6**
baz=254
SUA Susitna One 59.01 31 P **P 10 16 28.7 -0.4**
baz=260
H21K Melozitna Rive 59.02 26 P **P 10 16 28.8 -0.2**
baz=255
KSH Kashi 59.07 304 P P 10 16 34.8 +4.9
KSH pmax pmax
comp=Z,6.0nm,0.5s
F21K Alatna River 59.17 24 P **P 10 16 29.6 -0.4**
baz=254
I21K Tanana 59.23 26 P 10 16 32.3 +1.9
I21K IAmb IAmb 10 16 33.0
comp=Z,5.0nm,1.1s
I21K Tanana 59.23 26 P **P 10 16 30.5 +0.1**
baz=256
C21K Knifeblade Rid 59.29 22 P **P 10 16 30.4 -0.3**
baz=251
O22K Cooper Landing 59.34 32 P **P 10 16 30.4 -0.8**
baz=261
E21K Killik River 59.35 22 P **P 10 16 31.1 -0.1**
baz=253
M22K Willow 59.36 30 P **P 10 16 30.9 -0.4**
baz=260
CUT Chulitna 59.40 30 P **P 10 16 31.7 +0.1**
baz=260
BPAW Bear Paw Mtn. 59.41 28 P **P 10 16 31.4 -0.4**
baz=258
SEW Seward 59.42 32 P **P 10 16 31.2 -0.6**
baz=262
RC01 Rabbit Creek A 59.43 31 P **P 10 16 31.2 -0.6**
baz=261
A21K Barrow 59.45 19 P **P 10 16 31.7 -0.1**
baz=248
B21K Ikpikpuk River 59.49 21 P **P 10 16 31.6 -0.5**
baz=251
TRF Thorofare Moun 59.59 28 P **P 10 16 31.8 -1.3**
baz=259
H22K Ishtalitna Cre 59.65 26 P **P 10 16 33.4 +0.1**
baz=257
MLY Manley 59.71 27 P **P 10 16 33.2 -0.6**
baz=258
PMR Palmer 59.80 31 P **P 10 16 34.2 -0.1**
baz=261
A22K Sinclair Lake 59.83 19 P **P 10 16 33.8 -0.6**
baz=250
G22K Bettles 59.84 24 P **P 10 16 34.6 +0.1**
baz=256
D22K Ayikyak River 59.92 22 P 10 16 37.0 +1.8
D22K Ayikyak River 59.92 22 P **P 10 16 35.0 -0.2**
baz=254,SNR=5.4
E22K Anaktuvuk Pass 60.03 23 P **P 10 16 35.1 -0.8**
baz=255
PWL Port Wells 60.08 32 P **P 10 16 35.6 -0.7**
baz=262
B22K Teshekpuk Lake 60.11 20 P **P 10 16 35.4 -0.9**
baz=252
MCK McKinley 60.23 28 P **P 10 16 36.1 -1.2**
baz=260
WAT1 Susitna Watana 60.26 29 P **P 10 16 37.0 -0.5**
baz=261
I23K Minto, Yukon-K 60.31 27 P **P 10 16 37.1 -0.7**
baz=259
NENA2 Nenana 60.33 27 P **P 10 16 37.4 -0.5**
baz=260
G23K Bananza Creek 60.36 25 P **P 10 16 39.8 +1.6**
G23K IAmb IAmb 10 16 40.8
comp=Z,5.1nm,1.2s
G23K Bananza Creek 60.36 25 P **P 10 16 37.6 -0.6**
baz=257

H23K	**Yukon River**	**60.37**	**26**	P		**P**	**10 16 38.0**	**-0.2**
	baz=258							
COLD	**Coldfoot**	**60.41**	**24**	P		**P**	**10 16 39.0**	**+0.6**
	baz=257							
M23K	**Glacier View**	**60.49**	**31**	P		**P**	**10 16 39.3**	**+0.2**
	baz=262							
WAT6	**Susitna Watana**	**60.59**	**30**	P		**P**	**10 16 39.8**	**-0.1**
	baz=262							
D23K	**Nanushuk River**	**60.65**	**22**	P		**P**	**10 16 39.8**	**-0.2**
	baz=256							
GLI	**Glacier Island**	**60.68**	**32**	P		**P**	**10 16 40.3**	**-0.1**
	baz=264							
SCM	**Sheep Creek Mo**	**60.68**	**31**	P		**P**	**10 16 40.5**	**0.0**
	baz=263							
E23K	**Chandalar**	**60.81**	**23**			**P**	**10 16 43.6**	**+2.3**
E23K				IAmb		IAmb	10 16 44.1	
	comp=Z,5.4nm,0.9s							
E23K	**Chandalar**	**60.81**	**23**	P		**P**	**10 16 41.1**	**-0.2**
	baz=257,SNR=5.8							
DHY	**Denali Highway**	**60.83**	**29**	P		**P**	**10 16 41.4**	**-0.1**
	baz=262							
C23K	**Itkillik River**	**60.89**	**21**			**P**	**10 16 43.5**	**+1.9**
C23K	**Itkillik River**	**60.89**	**21**	P		**P**	**10 16 41.8**	**+0.2**
	baz=255							
COLA	**College**	**60.89**	**27**	P		**P**	**10 16 42.0**	**+0.3**
	baz=260							
TOLK	**Toolik Lake Re**	**60.96**	**23**	P		**P**	**10 16 42.5**	**+0.3**
	baz=257							
H24K	**Noodor Dome**	**61.04**	**26**	P		**P**	**10 16 42.8**	**0.0**
	baz=260							
POKR	**Poker Plat Res**	**61.11**	**27**	P		**P**	**10 16 43.2**	**0.0**
	baz=261							
HDA	**Harding Lake**	**61.20**	**28**	P		**P**	**10 16 43.9**	**0.0**
	baz=262							
E24K	**Your Creek**	**61.23**	**23**	IAmb		IAmb	10 16 46.7	
	comp=Z,3.7nm,1.0s							
E24K	**Your Creek**	**61.23**	**23**	P		**P**	**10 16 44.3**	**+0.3**
	baz=258							
M24K	**Tolsona, Glenn**	**61.26**	**30**	P		**P**	**10 16 43.9**	**-0.5**
	baz=264							
IL31		**61.28**	**27**	P		**P**	**10 16 44.2**	**-0.1**
ILAR	**Eielson Array**	**61.28**	**27**	P		**P**	**10 16 43.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=260,slow=5.3,SNR=21							
	comp=Z,1.1nm,0.7s							
EYAK	**Cordova Ski Ar**	**61.30**	**32**	P		**P**	**10 16 44.5**	**0.0**
	baz=265							
KLU	**Klutina**	**61.31**	**31**	P		**P**	**10 16 44.5**	**-0.3**
	baz=264							
D24K	**Happy Valley**	**61.34**	**22**	P		**P**	**10 16 45.3**	**+0.6**
	baz=257							
F24K	**Squaw Lake**	**61.34**	**24**	P		**P**	**10 16 45.1**	**+0.3**
	baz=259							
G24K	**Hadweenzic Riv**	**61.35**	**25**	P		**P**	**10 16 45.0**	**+0.2**
	baz=260,SNR=5.2							
C24K	**Franklin Bluff**	**61.51**	**22**	P		**P**	**10 16 45.6**	**-0.2**
	baz=257							
K24K	**Donnelly Dome**	**61.63**	**28**	P		**P**	**10 16 46.3**	**-0.5**
	baz=263							
PAX	**Paxson**	**61.68**	**29**	P		**P**	**10 16 47.0**	**-0.2**
	baz=264							
HARP	**HAARP**	**61.76**	**30**	P		**P**	**10 16 47.6**	**-0.1**
	baz=264							
BMRM	**Bremner River**	**61.90**	**32**	IAmb		IAmb	10 16 52.5	
	comp=Z,4.0nm,0.8s							
BMRM	**Bremner River**	**61.90**	**32**	P		**P**	**10 16 48.3**	**-0.4**
	baz=266							
G25K	**Bearman Lake**	**61.90**	**25**	P		**P**	**10 16 48.2**	**-0.3**
	baz=261							
J25K	**Salcha River,**	**61.91**	**28**	P		**P**	**10 16 48.1**	**-0.6**
	baz=263							
H25L	**Birch Creek**	**61.94**	**26**	P		**P**	**10 16 48.7**	**0.0**
	baz=262							
N25K	**Chitina, Valde**	**61.95**	**31**	P		**P**	**10 16 48.6**	**-0.4**
	baz=265							
PRP	**Porcupine Dome**	**61.96**	**27**	P		**P**	**10 16 48.7**	**-0.4**
	baz=262							
RIDG	**Independent Ri**	**62.04**	**29**	P		**P**	**10 16 49.7**	**+0.1**
	baz=264							
F25K	**Christian Rive**	**62.21**	**24**	IAmb		IAmb	10 16 53.3	
	comp=Z,3.5nm,1.1s							
F25K	**Christian Rive**	**62.21**	**24**	P		**P**	**10 16 51.1**	**+0.5**
	baz=261							
D25K	**Kavik River**	**62.23**	**22**	IAmb		IAmb	10 16 53.0	
	comp=Z,5.4nm,0.6s							
D25K	**Kavik River**	**62.23**	**22**	P		**P**	**10 16 51.0**	**+0.3**
	baz=260,SNR=9.6							
E25K	**Arctic Village**	**62.32**	**24**	P		**P**	**10 16 51.3**	**0.0**
	baz=261							
BVAR	**Borovoye Array**	**62.32**	**319**	P		**P**	**10 16 52.6**	**+1.1**
	comp=Z,14nm,0.6s,baz=92,slow=7.7,SNR=53							
	comp=Z,14nm,0.6s							
SCRK	**Sand Creek**	**62.44**	**28**			**P**	**10 16 52.9**	**+0.6**
SCRK	**Sand Creek**	**62.44**	**28**	P		**P**	**10 16 51.9**	**-0.4**
	baz=265,SNR=5.4							
CRQE	**Cirque**	**62.62**	**32**	P		**P**	**10 16 53.3**	**-0.3**
	baz=267							
L26K	**Log Cabin Wild**	**62.65**	**29**	P		**P**	**10 16 53.5**	**-0.1**
	baz=266							
J26L	**Joseph Creek**	**62.67**	**28**	P		**P**	**10 16 53.3**	**-0.5**
	baz=265,SNR=5.0							
MCARA	**McCarthy VSAT**	**62.69**	**31**	P		**P**	**10 16 53.8**	**-0.1**
	baz=267							
M26K	**Nabesna, AK**	**62.76**	**30**	P		**P**	**10 16 54.1**	**-0.3**
	baz=266							
F26K	**Sheenjek River**	**62.79**	**24**	IAmb		IAmb	10 16 57.3	
	comp=Z,3.5nm,0.8s							
F26K	**Sheenjek River**	**62.79**	**24**	P		**P**	**10 16 54.7**	**+0.3**
	baz=263,SNR=5.7							
G26K	**Porcupine Rive**	**62.84**	**25**	P		**P**	**10 16 54.0**	**-0.7**
	baz=263							
C26K	**Camden Bay**	**62.84**	**22**	P		**P**	**10 16 54.9**	**+0.3**
	baz=261							
KK31	**Karatay Array**	**62.84**	**308**			**P**	**10 16 55.6**	**+0.4**
KK31				IAmb		IAmb	10 16 58.2	
	comp=Z,3.1nm,0.7s							
KK31	**Karatay Array**	**62.84**	**308**	P		**P**	**10 16 55.6**	**+0.4**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**62.84**	**308**			**P**	**10 16 56.5**	**+1.3**
KKAR	**Karatay Array**	**62.84**	**308**	P		**P**	**10 16 56.5**	**+1.3**
I26K	**Coal Creek Min**	**62.92**	**27**	P		**P**	**10 16 54.4**	**-0.9**
	baz=265							
MESA	**MESA**	**63.17**	**33**	P		**P**	**10 16 56.1**	**-1.2**
	baz=268							
C27K	**Jago River**	**63.20**	**22**	P		**P**	**10 16 57.2**	**+0.1**
	baz=262							
M27K	**Edge Creek, AK**	**63.28**	**30**	P		**P**	**10 16 57.7**	**-0.2**
	baz=267							
K27K	**Chicken**	**63.28**	**28**	P		**P**	**10 16 57.3**	**-0.4**
	baz=266							
L27K	**Beaver Creek,**	**63.34**	**29**	P		**P**	**10 16 57.7**	**-0.5**
	baz=267							
CTG	**Chitna Glacier**	**63.49**	**32**	P		**P**	**10 16 58.8**	**-0.6**
	baz=269							
I27K	**Kandik River**	**63.58**	**27**	P		**P**	**10 16 58.9**	**-0.9**
	baz=266							
G27K	**Doyon Strip**	**63.66**	**25**	P		**P**	**10 16 59.8**	**-0.4**
	baz=265							
H27K	**Steamboat Moun**	**63.66**	**26**			**P**	**10 17 02.0**	**+1.7**
H27K				IAmb		IAmb	10 17 02.5	
	comp=Z,3.1nm,0.8s							
H27K	**Steamboat Moun**	**63.66**	**26**	P		**P**	**10 17 00.4**	**+0.1**
	baz=266,SNR=5.1							
EGAK	**Eagle**	**63.73**	**28**	P		**P**	**10 17 01.3**	**+0.7**
BVCY	**Beaver Creek**	**63.76**	**30**	P		**P**	**10 17 01.3**	**+0.4**
	baz=268							
E27K	**Coleen River**	**63.80**	**24**	P		**P**	**10 17 01.9**	**+0.8**
	baz=265							
YUK3	**Moose Creek**	**63.93**	**31**	P		**P**	**10 17 01.7**	**-0.6**
	baz=269							
D27M	**Malcolm River**	**64.12**	**23**	IAmb		IAmb	10 17 05.5	
	comp=Z,3.3nm,0.7s							
D27M	**Malcolm River**	**64.12**	**23**	P		**P**	**10 17 02.9**	**-0.3**
	baz=265,SNR=5.1							
I28M	**Miner Creek**	**64.27**	**27**	P		**P**	**10 17 04.6**	**+0.2**
	baz=268							
F28M	**Old Crow**	**64.41**	**24**	P		**P**	**10 17 05.2**	**+0.2**
	baz=267							
CHGR	**Chuyangaron**	**64.44**	**303**			**P**	**10 17 07.1**	**+1.2**
CHGR	**Chuyangaron**	**64.44**	**303**	P		**P**	**10 17 07.1**	**+1.2**
CHGR				pmax		pmax		
	comp=Z,14nm,0.7s							
PNL	**Peninsula**	**64.45**	**33**	P		**P**	**10 17 05.3**	**-0.1**
	baz=271							
DAWY	**Dawson**	**64.47**	**28**	P		**P**	**10 17 06.9**	**+1.3**
DAWY	**Dawson**	**64.47**	**28**	P		**P**	**10 17 04.3**	**-1.2**
	baz=269							
E28M	**Babbage River**	**64.59**	**23**	P		**P**	**10 17 06.4**	**+0.2**
	baz=266							
YUK4	**Talbot Arm**	**64.80**	**31**	P		**P**	**10 17 08.0**	**+0.1**
	baz=271							
O29M	**Mount Kennedy**	**64.85**	**33**	P		**P**	**10 17 07.4**	**-0.8**
	baz=271							
M29M	**Somme Creek**	**64.87**	**30**	IAmb		IAmb	10 17 10.5	
	comp=Z,3.2nm,0.8s							
M29M	**Somme Creek**	**64.87**	**30**	P		**P**	**10 17 07.3**	**-1.0**
	baz=270,SNR=5.0							
D28M	**Stokes Point**	**64.92**	**23**	P		**P**	**10 17 08.3**	**0.0**
	baz=267							
H29M	**Whitestone**	**64.94**	**26**	P		**P**	**10 17 08.0**	**-0.5**
	baz=269							
YUK6	**Outpost Mounta**	**64.94**	**32**	P		**P**	**10 17 08.5**	**-0.5**
	baz=271							
I29M	**Ogilvie Camp,**	**64.95**	**27**	P		**P**	**10 17 08.1**	**-0.6**
	baz=269							
L29M	**L29M**	**65.02**	**29**	P		**P**	**10 17 08.0**	**-1.1**
	baz=270							
G29M	**Pine Creek**	**65.10**	**25**	P		**P**	**10 17 08.4**	**-1.1**
	baz=269							
E29M	**Blow River**	**65.19**	**24**	P		**P**	**10 17 09.5**	**-0.6**
	baz=268							
K29M	**Barlow Dome**	**65.29**	**29**	P		**P**	**10 17 10.2**	**-0.7**
	baz=271							
P29M	**Windy Craggy**	**65.30**	**33**	P		**P**	**10 17 10.1**	**-0.8**
	baz=272							
HYT	**Haines Junctio**	**65.37**	**32**	P		**P**	**10 17 11.0**	**-0.5**
	baz=272							
N30M	**Aishikik Lake**	**65.55**	**31**	P		**P**	**10 17 11.4**	**-1.2**
	baz=272							
EPYK	**Eagle Plains**	**65.61**	**26**	P		**P**	**10 17 12.5**	**-0.4**
	baz=270							
M30M	**Minto, Yukon**	**65.65**	**30**	P		**P**	**10 17 12.8**	**-0.3**
	baz=272							
P30M	**Million Dollar**	**65.67**	**33**	P		**P**	**10 17 12.7**	**-0.6**
	baz=273							
I30M	**Mount Dempster**	**65.76**	**27**	P		**P**	**10 17 13.5**	**-0.5**
	baz=271							
J30M	**Hart River**	**65.80**	**28**	P		**P**	**10 17 14.1**	**-0.2**
	baz=271							
G30M	**tAoh Zraii Nji**	**65.81**	**25**	P		**P**	**10 17 13.3**	**-0.8**
	baz=270							
F30M	**Barrier River**	**65.97**	**24**	P		**P**	**10 17 14.6**	**-0.5**
	baz=270							
PLBC	**Pleasant Camp**	**66.00**	**33**	P		**P**	**10 17 15.1**	**-0.3**
	baz=274							
O30N	**Mendenhall**	**66.06**	**32**	P		**P**	**10 17 15.4**	**-0.5**
	baz=273							
N31M	**Braeburn, Yuko**	**66.17**	**31**	P		**P**	**10 17 15.7**	**-0.9**
	baz=273							
S31K	**Pelican**	**66.18**	**35**	P		**P**	**10 17 16.1**	**-0.4**
	baz=274							
G31M	**Satah River**	**66.58**	**25**	IAmb		IAmb	10 17 20.6	
	comp=Z,6.9nm,0.8s							
G31M	**Satah River**	**66.58**	**25**	P		**P**	**10 17 19.0**	**+0.1**
	baz=272							
H31M	**Peel River**	**66.59**	**26**	P		**P**	**10 17 18.9**	**-0.3**
	baz=272							
WHY	**Whitehorse**	**66.66**	**32**	P		**P**	**10 17 18.7**	**-1.1**
	baz=274							
F31M	**Tsiigehtchic**	**66.76**	**25**	P		**P**	**10 17 19.5**	**-0.6**
	baz=272							
M31M	**Drury Creek, Y**	**66.78**	**30**	P		**P**	**10 17 20.1**	**-0.3**
	baz=274							
INK	**Inuvik**	**66.81**	**24**	P		**P**	**10 17 21.1**	**+0.7**
INK				IAmb		IAmb	10 17 21.8	
	comp=Z,3.1nm,0.8s							
INK	**Inuvik**	**66.81**	**24**	P		**P**	**10 17 21.1**	**+0.7**
INK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
INK	**Inuvik**	**66.81**	**24**	P		**P**	**10 17 20.0**	**-0.4**
	baz=272							
P32M	**Atlin**	**67.34**	**33**	P		**P**	**10 17 23.8**	**-0.2**
	baz=276							
N32M	**Quiet Lake**	**67.50**	**31**	P		**P**	**10 17 23.8**	**-1.2**
	baz=276							
P33M	**Teslin, Yukon**	**67.72**	**32**	P		**P**	**10 17 24.6**	**-1.8**
	baz=276							
U33K	**Whale Pass**	**68.06**	**37**	P		**P**	**10 17 28.3**	**-0.2**
	baz=278							
Q32M	**Nakina River**	**68.15**	**34**	P		**P**	**10 17 28.9**	**-0.4**
	baz=277							
CRAG	**Craig**	**68.15**	**38**	P		**P**	**10 17 28.6**	**-0.4**
	baz=278							
MMPY	**Sheldon Lake,**	**68.19**	**30**	P		**P**	**10 17 31.0**	**+1.7**
WRAK	**Wrangell Islan**	**68.45**	**36**	P		**P**	**10 17 30.4**	**-0.5**
	baz=278							
R33M	**Jennings River**	**68.75**	**33**	P		**P**	**10 17 31.5**	**-1.5**
	baz=278							
ARTI	**Arti**	**68.97**	**324**	P		**P**	**10 17 34.9**	**+0.8**
ARTI				IAmb		IAmb	10 17 35.6	
	comp=Z,6.5nm,0.7s							
ARTI	**Arti**	**68.97**	**324**	*d*	*i*	**P**	**10 17 34.5**	**+0.3**
ARTI				*PP		**PcP**	**10 17 58.1**	**+0.4**
ARTI				S		**S**	**10 26 36.0**	**+6.7**
ARTI							10 31 04.9	
ARTI				pmax		pmax		
	comp=Z,4.0nm,0.7s							
V35K	**Ketchikan**	**69.02**	**38**	P		**P**	**10 17 33.9**	**-0.5**
	baz=279							
AB31	**Akbulak array**	**69.24**	**316**			**P**	**10 17 36.8**	**+0.9**
AB31				IAmb		IAmb	10 17 37.4	
	comp=Z,8.4nm,0.6s							
ABKAR	**Akbulak array**	**69.24**	**316**			**P**	**10 17 36.8**	**+0.9**
DLBC	**Dease Lake**	**69.38**	**34**	P		**P**	**10 17 35.8**	**-1.0**
	baz=279							
WTLY	**Watson Lake, Y**	**69.73**	**32**	P		**P**	**10 17 38.5**	**-0.3**
	baz=280							
HG4B	**Hotspring**	**69.79**	**41**	P		**P**	**10 17 40.1**	**+0.8**
C36M	**Paulatuk**	**70.10**	**22**	P		**P**	**10 17 39.9**	**-0.9**
	baz=280							
DGAR	**Diego Garcia**	**75.54**	**256**	↓*e*		**P**	**10 18 11.9**	**-2.0**
YKA	**Yellowknife Ar**	**75.70**	**28**	P		**P**	**10 18 14.6**	**+0.6**
YKA	**Yellowknife Ar**	**75.70**	**28**	P		**P**	**10 18 14.1**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=302,slow=11,SNR=5.5							
	comp=Z,1.5nm,0.8s							
YKA	**Yellowknife Ar**	**75.70**	**28**	P		**P**	**10 18 14.6**	**+0.6**
YKAW1	**Yellowknife Wh**	**75.76**	**28**	P		**P**	**10 18 15.2**	**+0.8**
YKAW1				IAmb		IAmb	10 18 42.1	
	comp=Z,9.2nm,1.1s							
BELG	**Belogornoye**	**76.02**	**321**	*ce*		**P**	**10 18 16.9**	**+0.9**
BELG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
M02C	**Callahan**	**78.16**	**50**	P		**P**	**10 18 27.9**	**-0.5**
KCPM	**Cahto Peak**	**78.20**	**52**	P		**P**	**10 18 29.1**	**+0.4**
ARCES	**ARCESS Array B**	**78.34**	**342**	P		**P**	**10 18 29.8**	**+1.1**
ARCES	**ARCESS Array B**	**78.34**	**342**	P		**P**	**10 18 29.2**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=82,slow=8.7,SNR=5.9							
	comp=Z,2.3nm,0.7s							
ARCES	**ARCESS Array B**	**78.34**	**342**	P		**P**	**10 18 29.8**	**+1.1**
ARCES				pmax		pmax		
	comp=Z,5.0nm,1.3s							
O02D	**Mt. Diablo Mer**	**78.61**	**51**	P		**P**	**10 18 30.7**	**-0.2**
PINE	**Pine Mountain**	**78.68**	**47**	P		**P**	**10 18 32.0**	**+0.7**
PINE				IAmb		IAmb	10 18 33.7	
	comp=Z,4.9nm,1.0s							
K05A	**Summer Lake**	**79.08**	**48**	P		**P**	**10 18 32.7**	**-0.8**
K05A				IAmb		IAmb	10 18 35.8	
	comp=Z,13nm,1.4s							
BMO	**Blue Mountains**	**80.73**	**45**	P		**P**	**10 18 43.1**	**+0.8**
BMO	**Blue Mountains**	**80.73**	**45**	P		**P**	**10 18 43.1**	**+0.8**
BMO				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KBZ	**Khabaz**	**82.08**	**314**	P		**P**	**10 18 50.3**	**+1.1**
	comp=Z,4.8nm,0.8s,baz=171,slow=2.4,SNR=9.2							
	comp=Z,4.8nm,0.8s							
KBZ	**Khabaz**	**82.08**	**314**	*d*	*i*	**P**	**10 18 50.4**	**+1.2**
KBZ				pmax		pmax		
	comp=Z,7.0nm,0.9s							
NVAR	**Mina Array Bea**	**82.48**	**52**	P		**P**	**10 18 52.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=284,slow=4.9,SNR=7.5							
	comp=Z,0.5nm,0.7s							
FIA1	**FINESS Array S**	**82.67**	**335**	P		**P**	**10 18 51.9**	**0.0**
FINES	**FINESS Array B**	**82.67**	**335**	P		**P**	**10 18 51.7**	**-0.2**
FINES	**FINESS Array B**	**82.67**	**335**	P		**P**	**10 18 51.5**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=64,slow=4.5,SNR=30							
	comp=Z,2.4nm,0.3s							
FINES	**FINESS Array B**	**82.67**	**335**	P		**P**	**10 18 51.7**	**-0.2**
GEVA	**Gevas**	**84.14**	**309**	P		**P**	**10 18 59.4**	**-0.8**
FFC	**Flin Flon**	**85.08**	**32**	P		**P**	**10 19 05.0**	**+0.7**
FFC				IAmb		IAmb	10 19 06.1	
	comp=Z,7.5nm,1.1s							
FFC	**Flin Flon**	**85.08**	**32**	P		**P**	**10 19 05.0**	**+0.7**
FFC				pmax		pmax		
	comp=Z,8.0nm,1.2s							
DUG	**Dugway, Tooele**	**85.66**	**48**	P		**P**	**10 19 08.9**	**+1.2**
DUG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
RLMT	**Red Lodge**	**85.79**	**43**	P		**P**	**10 19 10.0**	**+1.6**
RLMT				IAmb		IAmb	10 19 20.6	
	comp=Z,3.5nm,1.1s							
CCX	**Cicese**	**86.31**	**57**	P		**P**	**10 19 10.0**	**-0.9**
BC3	**Big Chuckawall**	**86.50**	**55**	P		**P**	**10 19 11.2**	**-0.8**
TCRU	**Three Creeks R**	**86.60**	**50**	P		**P**	**10 19 11.9**	**-0.7**
PDAR	**Pinedale Array**	**86.69**	**45**	P		**P**	**10 19 12.5**	**-0.4**
AKASG	**Malin Array Be**	**87.10**	**325**	P		**P**	**10 19 13.5**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=50,slow=5.5,SNR=7.7							
	comp=Z,0.8nm,0.4s							
AKBB	**Malin Array Si**	**87.10**	**325**	P		**P**	**10 19 14.1**	**-0.2**
AKBB				IAmb		IAmb	10 19 14.2	
	comp=Z,3.9nm,0.4s							
AKBB	**Malin Array Si**	**87.10**	**325**	P		**P**	**10 19 14.1**	**-0.2**
AKBB				pmax		pmax		
	comp=Z,4.0nm,0.4s							
KIEV	**Kiev**	**87.11**	**325**	P		**P**	**10 19 14.1**	**-0.3**
KIEV				IAmb		IAmb	10 19 14.2	
	comp=Z,3.5nm,0.4s							
KIEV	**Kiev**	**87.11**	**325**	P		**P**	**10 19 14.1**	**-0.3**
KIEV				pmax		pmax		
	comp=Z,3.0nm,0.4s							
SRU	**San Rafael Swe**	**87.72**	**48**	P		**P**	**10 19 18.2**	**+0.4**
SRU	**San Rafael Swe**	**87.72**	**48**	P		**P**	**10 19 18.2**	**+0.4**
SRU				pmax		pmax		
	comp=Z,2.0nm,0.9s							
HFS	**Hagfors**	**88.19**	**337**	P		**P**	**10 19 18.2**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=98,slow=3.0,SNR=16							
	comp=Z,1.6nm,0.3s							
NOA	**NORSAR Array B**	**88.39**	**339**	P		**P**	**10 19 18.8**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=48,slow=4.8,SNR=2.6							
	comp=Z,0.7nm,0.7s							
BRTR	**Keskin Array B**	**90.06**	**313**	P		**P**	**10 19 28.3**	**-0.5**
BRTR	**Keskin Array B**	**90.06**	**313**	P		**P**	**10 19 27.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=96,slow=2.7,SNR=5.4							
	comp=Z,1.1nm,0.7s							
BRTR	**Keskin Array B**	**90.06**	**313**	*ce*		**P**	**10 19 29.8**	**+1.0**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
SFJD	**Kangerlussuaq**	**90.24**	**5**	LR		LR	10 59 44.9	
	comp=Z,10nm,20.0s,baz=313,slow=35							
ATD	**Arta Tunnel**	**95.29**	**285**	P		**P**	**10 19 52.0**	**-1.2**
DAVOX	**Davos/Dischmat**	**99.40**	**330**	LR		LR	11 06 46.1	
	comp=Z,11nm,18.0s,baz=90,slow=36							
PLCA	**Paso Flores**	**146.00**	**130**	PKPbc		**PKPab**	**10 26 08.6**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=210,slow=6.1,SNR=5.0							
LPAZ	**La Paz**	**149.59**	**84**	PKPbc		**PKiKP**	**10 26 20.1**	**0.0**
	comp=Z,0.9nm,0.6s,baz=251,slow=2.1,SNR=4.8							

*SOME **30** 10:28:04.2, 43.70N×69.65E*

NNC 30 10:28:04.7±2.1, 43.70N×69.65E, h0km, mb3.9, mpv3.4, 2C, Error ellipse: s-maj=12.3km s-min=10.4km az=145.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.68**	**169**	P	Pn	10 28 21.6	0.0
	5.3nm,0.3s						
BRLS				S	Sn	10 28 34.2	+1.3
	63nm,0.3s						
KK31	**Karatay Array**	**0.86**	**133**	P	Pg	10 28 20.4	-0.7
	2.9nm,0.2s,baz=322,slow=18,SNR=103						
KK31				S	Sb	10 28 33.5	-1.1
	41nm,0.5s,baz=303,slow=30,SNR=24						
IUG	**Iuzhnay**	**1.57**	**170**	P	Pg	10 28 35.1	+0.4
	51nm,0.3s						
IUG				S	Sg	10 28 57.2	+2.0
	109nm,0.3s						
MRKS	**Merke**	**2.78**	**109**	Pg	Pb	10 28 56.1	+0.9
	8.5nm,0.5s						
MRKS				Lg	Lg	10 29 32.8	
	18nm,0.4s						
BTLS	**Baital**	**3.42**	**65**	Pg	Pg	10 29 09.4	-0.9
	16nm,0.4s						
BTLS				Lg	Lg	10 29 57.9	
	4.9nm,0.5s						
SGDS	**Sogindy**	**3.62**	**92**	Pg	Pg	10 29 12.6	-1.5
	5.3nm,0.4s						
SGDS				Lg	Lg	10 29 59.9	
	11nm,0.4s						
AAK	**Ala-Archa**	**3.69**	**105**	⇑Pg	Pb	10 29 11.6	+0.7
	2.0nm,0.4s						
AAK				⇑Lg	Lg	10 30 00.0	
	2.7nm,0.5s						

*AEIC **30** 10:38:34.4±1.7, 52.79N±0.08×167.50W±0.06, h25km±8km, Error ellipse: s-maj=12.0km s-min=2.9km az=156.0*

NEIC 30 10:38:35.7±1.4, 52.84N±0.05×167.57W±0.06, h35km±2km, ML3.0/12, ML2.7(AEIC), Error ellipse: s-maj=10.1km s-min=4.9km az=330.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKSP	**Okmok Steeple**	**0.60**	**314**		Pn	10 38 47.3	-0.5
OKFG	**Magazine Ridge**	**0.61**	**341**		Pn	10 38 47.6	-0.3
OKFG					Sn	10 38 57.4	+0.9
OKTU	**Okmok Mt. Tuli**	**0.62**	**333**		Pn	10 38 47.9	-0.1
OKCE	**Okmok Cone E**	**0.69**	**329**		Pn	10 38 49.1	0.0
OKNC	**Okmok New Cone**	**0.70**	**332**		Pn	10 38 49.2	0.0
OKNC					Sn	10 39 00.2	+1.3
NIKH	**Nikolski High**	**0.79**	**280**		Pn	10 38 49.4	-0.9
NIKH					Sn	10 39 01.1	+0.3
NIKH				IAML		10 39 05.2	
	comp=E,822nm,0.5s						
MAPS	**Pakushin South**	**1.04**	**21**		Pn	10 38 52.9	-0.9
MGOD	**Makushin Gods**	**1.05**	**23**		Pn	10 38 53.0	-0.9
MGOD					Sn	10 39 06.7	-0.6
MREP	**Makushin Rep't**	**1.09**	**27**		Pn	10 38 53.8	-0.8
MNAT	**Makushin Natee**	**1.18**	**27**		Pn	10 38 54.9	-0.7
MSW	**Makushin Switc**	**1.18**	**23**		Pn	10 38 55.1	-0.6
MSW					Sn	10 39 10.3	-0.2
UNV	**Unalaska Valle**	**1.20**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.10**	**330**		**Pn**	**11 25 52.5**	**+1.2**
PB18				Sn	**Sn**	**11 26 09.8**	**+2.0**
PB18	**Visviri**	**0.10**	**330** ⇓	*i*P	**Pn**	**11 25 52.8**	**+1.5**
PB18				*i* S	**Sn**	**11 26 09.4**	**+1.6**
PB16	**IPOC Station P**	**0.66**	**187**		**Pn**	**11 25 54.5**	**+1.2**
PB16				Sn	**Sn**	**11 26 12.3**	**+0.8**
PB16	**IPOC Station P**	**0.66**	**187** ⇑	*i*P	**Pn**	**11 25 54.6**	**+1.3**
PB16				*e*S	**Sn**	**11 26 12.4**	**+0.9**
AP01	**Chacalluta**	**1.11**	**232**		**Pn**	**11 25 55.5**	**-0.5**
AP01				Sn	**Sn**	**11 26 14.6**	**-1.6**
AP01	**Chacalluta**	**1.11**	**232** ⇑	*i*P	**Pn**	**11 25 55.5**	**-0.5**
AP01				*e*S	**Sn**	**11 26 14.6**	**-1.6**
AP01				IAML		11 26 15.5	
	comp=E,5μm,0.3s						
PB12	**IPOC Station P**	**1.27**	**223**		**Pn**	**11 25 56.8**	**-0.6**
PB12	**IPOC Station P**	**1.27**	**223** ⇑	*i*P	**Pn**	**11 25 56.9**	**-0.6**
PB12				*e*S	**Sn**	**11 26 16.9**	**-2.1**
PB12				IAML		11 26 18.1	
	comp=N,2μm,0.4s						
LPAZ	**La Paz**	**1.86**	**42**	P	**Pn**	**11 26 06.3**	**+2.2**
	comp=N,364nm,0.3s,baz=250,slow=2.2,SNR=2109						
LPAZ				S	**Sn**	**11 26 30.6**	**-0.1**
	comp=N,94nm,0.6s,baz=66,slow=16,SNR=8.0						
LPAZ	**La Paz**	**1.86**	**42**	*e*P	**Pn**	**11 26 01.0**	**-3.2**
GO01	**Chusmiza**	**1.99**	**174**		**Pn**	**11 26 07.5**	**+2.0**
GO01	**Chusmiza**	**1.99**	**174** ⇑	*i*P	**Pn**	**11 26 07.3**	**+1.8**
GO01				IAML		11 26 39.0	
	comp=N,1μm,0.3s						
PB11	**IPOC Station P**	**2.08**	**186**		**Pn**	**11 26 07.0**	**+0.7**
PB11	**IPOC Station P**	**2.08**	**186** ⇑	*i*P	**Pn**	**11 26 06.9**	**+0.7**
PB11				IAML		11 26 35.2	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**2.46**	**174**		**Pn**	**11 26 12.7**	**+1.7**
PB08	**IPOC Station P**	**2.46**	**174**	*e*P	**Pn**	**11 26 12.7**	**+1.7**
PB08				IAML		11 26 45.8	
	comp=E,644nm,0.2s						
HMBC	**Humberstone**	**2.62**	**190**		**Pn**	**11 26 12.7**	**0.0**
TA01	**Diego Aracena**	**2.96**	**194**		**Pn**	**11 26 16.1**	**-0.6**
TA01	**Diego Aracena**	**2.96**	**194** ⇑	*i*P	**Pn**	**11 26 16.2**	**-0.5**
PATCX	**Punta Patache**	**3.20**	**192**		**Pn**	**11 26 20.0**	**+0.2**
PATCX	**Punta Patache**	**3.20**	**192**	*e*P	**Pn**	**11 26 19.8**	**0.0**
PATCX				IAML		11 27 07.4	
	comp=E,334nm,0.3s						
PB01	**IPOC Station P**	**3.35**	**181**		**Pn**	**11 26 22.4**	**+0.7**
PB01	**IPOC Station P**	**3.35**	**181** ⇑	*i*P	**Pn**	**11 26 22.3**	**+0.6**
PB02	**IPOC Station P**	**3.65**	**187**		**Pn**	**11 26 26.2**	**+0.6**
PB02	**IPOC Station P**	**3.65**	**187**	*e*P	**Pn**	**11 26 26.0**	**+0.4**
PB09	**IPOC Station P**	**4.10**	**178**		**Pn**	**11 26 32.8**	**+1.3**
PB03	**IPOC Station P**	**4.36**	**184**		**Pn**	**11 26 35.4**	**+0.6**
PB06	**IPOC Station P**	**5.00**	**182**		**Pn**	**11 26 43.5**	**+0.2**
PB05	**IPOC Station P**	**5.20**	**188**		**Pn**	**11 26 45.1**	**-0.8**
GO02	**Mina Guanaco**	**7.45**	**181**		**Pn**	**11 27 15.1**	**-0.8**
SIV	**San Ignacio**	**8.17**	**79**	P	**Pn**	**11 27 24.8**	**-0.6**
	comp=E,5.1nm,0.4s,baz=256,slow=9.7,SNR=23						
SIV				S	**Sn**	**11 28 52.6**	**-4.0**
	comp=E,10.0nm,0.7s,baz=341,slow=18,SNR=8.0						
AC01	**Pan de Azucar**	**8.50**	**187**	Pn	**Pn**	**11 27 27.3**	**-2.3**
AC02	**Maricunga**	**9.12**	**178**		**Pn**	**11 27 37.8**	**-0.4**
VILB	**Vilhena**	**10.06**	**63**	Pn	**Pn**	**11 27 50.5**	**+0.1**
VILB	**Vilhena**	**10.06**	**63**	*e*P	**Pn**	**11 27 50.7**	**+0.3**
PTLB	**Pontes e Lacer**	**10.11**	**79**	Pn	**Pn**	**11 27 51.0**	**0.0**
PTLB	**Pontes e Lacer**	**10.11**	**79**	*e*P	**Pn**	**11 27 50.6**	**-0.4**
SAML	**Samuel**	**10.59**	**36**	*e*P	**Pn**	**11 27 57.9**	**+0.6**
SALV	**Santo Antonio**	**13.27**	**84**	*e*P	**Pn**	**11 28 32.1**	**+0.1**
PDRB	**Porto dos Gac**	**13.68**	**66**	*e*P	**P**	**11 28 38.4**	**-2.4**
CFA	**Coronel Fontan**	**13.91**	**176**	P	**P**	**11 28 42.6**	**-0.6**
	comp=E,2.5nm,0.4s,baz=349,slow=13,SNR=5.6						
CFA				LR	LR	11 35 42.3	
	comp=E,125nm,20.4s,baz=140,slow=43						
CLDB	**Colider**	**14.84**	**65**	*e*P	**P**	**11 28 52.3**	**-1.4**
RPRD	**Ribas do Rio P**	**15.12**	**103**	*e*P	**Pn**	**11 28 53.6**	**-1.7**
NPGB	**Novo Progresso**	**17.32**	**54**	*e*P	**Pn**	**11 29 21.5**	**-0.6**
SNDB	**Serra Nova Dou**	**18.42**	**75**	*e*P	**Pn**	**11 29 33.8**	**-1.2**
ITTB	**Itaituba**	**18.84**	**47**	*e*P	**P**	**11 29 37.7**	**+0.1**
PLTB	**Pedras Altas**	**20.04**	**137**	P	**P**	**11 29 51.2**	**+0.6**
BDFB	**Brasilia**	**20.61**	**88**	P	**P**	**11 29 57.0**	**+0.1**
BDFB				IAmb	IAmb	11 30 06.0	
	comp=E,8.7nm,1.2s						
BDFB	**Brasilia**	**20.61**	**88**	P	Pn	11 29 58.8	-2.3
	comp=E,3.9nm,0.4s,baz=255,slow=2.8,SNR=6.3						
	comp=E,3.9nm,0.4s						
TRQA	**Tornquist**	**21.33**	**164**	P	**P**	**11 30 02.1**	**-2.1**
SPB	**Sao Paulo**	**21.40**	**110**	P	**P**	**11 30 05.7**	**+0.6**
SPB				IAmb	IAmb	11 30 20.8	
	comp=E,17nm,1.2s						
MAL2	**Monte Alegre,**	**21.59**	**46**	P	**P**	**11 30 07.1**	**-0.1**
MAL2				IAmb	IAmb	11 30 24.4	
	comp=E,24nm,0.9s						
BOAV	**Boa Vista**	**21.79**	**25**	P	**P**	**11 30 07.1**	**-2.2**
BOAV				IAmb	IAmb	11 30 11.7	
	comp=E,13nm,1.1s						
BOAV	**Boa Vista**	**21.79**	**25**	*e*P	**P**	**11 30 09.5**	**+0.3**
PRPB	**Parauapebas**	**22.31**	**62**	*e*P	**P**	**11 30 14.2**	**-0.2**
SMTB	**Santa Maria do**	**22.97**	**70**	*e*P	**P**	**11 30 22.0**	**+1.3**
PLCA	**Paso Flores**	**23.00**	**182**	P	**P**	**11 30 18.8**	**-1.9**
PLCA	**Paso Flores**	**23.00**	**182**	P	**P**	**11 30 23.2**	**+2.5**
	comp=E,2.1nm,0.7s,baz=351,slow=11,SNR=6.2						
	comp=E,2.1nm,0.7s						
LL05	**Los Muermos**	**23.90**	**188**	P	**P**	**11 30 25.9**	**-2.9**
JANB	**Januaria**	**24.23**	**88**	*e*P	**P**	**11 30 32.0**	**-0.1**
SDBA	**SAO DESIDERIO**	**24.24**	**81**	*e*P	**P**	**11 30 32.0**	**-0.3**
GO07	**Milladeo Hill,**	**25.61**	**187**	P	**P**	**11 30 43.0**	**-1.3**
BAUV	**El Baul**	**26.49**	**3**	P	**P**	**11 30 52.0**	**-0.4**
BAUV				IAmb	IAmb	11 30 53.0	
	comp=E,12nm,1.1s						
GO09	**Cerro Castillo**	**33.60**	**183**	P	**P**	**11 31 54.2**	**-0.5**
GO09				IAmb	IAmb	11 32 21.1	
	comp=E,9.6nm,0.9s						
MG04	**Isla Riesco**	**35.15**	**182**	P	**P**	**11 32 08.5**	**+0.5**
CELP	**Cerrillos**	**35.64**	**5**	P	**P**	**11 32 12.5**	**0.0**
CELP				IAmb	IAmb	11 32 16.1	
	comp=E,23nm,1.3s						
MG03	**Isla Dawson**	**36.11**	**181**	P	**P**	**11 32 15.0**	**-1.2**
V55A	**Taylorsville**	**54.40**	**348**	P	**P**	**11 34 40.9**	**+0.6**
V55A				IAmb	IAmb	11 35 03.9	
	comp=E,10nm,1.3s						
UALR	**University of**	**56.53**	**337**	P	**P**	**11 34 54.4**	**-1.1**
UALR				IAmb	IAmb	11 34 56.1	
	comp=E,7.1nm,1.0s						
EMMW	**East Machias**	**62.11**	**2**	P	**P**	**11 35 34.1**	**+0.5**
EMMW				IAmb	IAmb	11 36 00.9	
	comp=E,15nm,1.2s						
GGN	**Saint George**	**62.54**	**2**	P	**P**	**11 35 36.6**	**+0.1**
G65A	**Princeton**	**62.60**	**1**	P	**P**	**11 35 37.8**	**+0.9**
G65A				IAmb	IAmb	11 36 03.7	
	comp=E,7.5nm,1.0s						
F64A	**Sherman**	**63.25**	**1**	P	**P**	**11 35 41.3**	**+0.1**
T25A	**Trinidad**	**63.72**	**329**	P	**P**	**11 35 43.4**	**-1.3**
E62A	**Clayton Lake**	**63.99**	**360**	P	**P**	**11 35 46.6**	**+0.5**
E62A				IAmb	IAmb	11 36 10.8	
	comp=E,7.6nm,1.2s						
SNAA	**Sanae**	**66.04**	**161**	P	**P**	**11 36 01.9**	**+2.8**
SNAA	**Sanae**	**66.04**	**161**	P	**P**	**11 36 01.6**	**+2.5**
	comp=E,0.7nm,0.6s,baz=267,slow=7.9,SNR=8.0						
	comp=E,0.7nm,0.6s						
PV13	**Radium Mtn., P**	**66.73**	**327**	P	**P**	**11 36 03.4**	**-0.7**
DBIC	**Dimbokro**	**68.17**	**75**	P	**P**	**11 36 15.0**	**+1.6**
DBIC	**Dimbokro**	**68.17**	**75**	P	**P**	**11 36 14.9**	**+1.6**
	comp=E,12nm,0.7s,baz=266,slow=7.5,SNR=14						
	comp=E,12nm,0.7s						
EYMN	**Ely**	**68.25**	**344**	P	**P**	**11 36 14.1**	**+0.9**
EYMN				IAmb	IAmb	11 36 42.9	
	comp=E,6.3nm,1.1s						
PDAR	**Pinedale Array**	**70.58**	**330**	P	**P**	**11 36 28.7**	**+0.8**
	comp=E,0.2nm,0.6s,baz=142,slow=3.6,SNR=2.6						
	comp=E,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**71.55**	**342**	P	**P**	**11 36 33.9**	**+0.6**
	comp=E,2.9nm,0.5s,baz=151,slow=6.7,SNR=9.5						
	comp=E,2.9nm,0.5s						
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**11 36 38.6**	**-0.3**
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**11 36 42.7**	**+3.8**
	comp=E,0.4nm,0.6s,baz=130,slow=4.2,SNR=1.4						
	comp=E,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.57**	**71**	P	**P**	**11 37 04.3**	**+1.1**
	comp=E,3.4nm,0.5s,baz=266,slow=5.0,SNR=23						
	comp=E,3.4nm,0.5s						
WRA	**Warramunga Arr**	**135.93**	**213**	PKP	**PKiKP**	**11 44 35.1**	**+0.7**
	comp=E,0.2nm,0.7s,baz=142,slow=1.8,SNR=1.3						

*TEH **30** 11:28:09.2, 34.˚52N×45.˚88E, h10km±990km*

*ISN **30** 11:28:09.6±1.5, 34.˚56N×45.˚89E, h21km±10km, ML2.8*
ISC 30 11:28:09.5±1.3, **34.˚54N**±0.˚04×**45.˚89E**±0.˚04, **h5**km±12km, **n8**, σ0**.43/13**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.25**	**263**	Pg	**Pg**	**11 28 14.6**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.42**	**177**	Pg	**Pg**	**11 28 17.0**	**-0.8**
GLG1				Sg	**Sg**	**11 28 23.8**	**+0.5**
IDHR	**Dehrash**	**0.44**	**69**	Pg	**Pg**	**11 28 18.2**	**0.0**
IBDR	**Badra**	**1.43**	**179**	*e*Pg	**Pn**	**11 28 36.0**	**-0.1**
IBDR				*e*Sg	**Sb**	**11 28 55.0**	**0.0**
IBDR				AML	AML	11 29 07.0	
	comp=N,76nm,0.7s						
IBDR				AML	AML	11 29 09.7	
	comp=E,101nm,0.5s						
IKRK	**Kirkuk**	**1.53**	**305**	*e*Pn	**Pn**	**11 28 37.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**11 28 59.0**	**+0.2**
IKRK				AML	AML	11 29 04.2	
	comp=N,430nm,0.3s						
IKRK				AML	AML	11 29 04.7	
	comp=E,224nm,1.7s						
IBZA	**Bozab**	**1.63**	**92**	Pg	**Pg**	**11 28 40.8**	**-0.1**
BHD	**Baghdad**	**1.78**	**225**	*e*Pn	**Pn**	**11 28 41.0**	**+0.1**
BHD				*e*Sn	**Sn**	**11 29 04.0**	**+0.1**
RAFI	**Al-Rafai**	**2.81**	**176**	*e*Pn	**Pn**	**11 28 55.0**	**-0.2**
RAFI				*e*Sn	**Sn**	**11 29 30.0**	**+0.5**

*NEIC **30** 11:31:09.3±1.0, 35.˚449N±0.˚010×97.˚91W±0.˚01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=200.0*
NEIC 30 11:31:07.4±0.7, **35.˚452N**±0.˚004×**97.˚88W**±0.˚01, **h5**km±1km, **mb_Lg2.3**/38, **ML2.6**/7, **ML2.4**/50, **Error ellipse: s-maj=2.7km s-min=1.7km az=102.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCFA	**Oklahoma City**	**0.35**	**96**		Pg	11 31 14.9	+0.6
OKCFA					Sg	11 31 20.3	+1.3
OKCSW	**OKLAHOMA CITY**	**0.37**	**97**	Pg	Pg	11 31 14.9	+0.3
OKCSW				IAML		11 31 26.4	
	comp=E,390nm,0.7s						
ADOK	**Arcadia Dam**	**0.46**	**64**	Pg	Pg	11 31 17.1	+0.7
OK029	**Liberty Lake**	**0.49**	**45**		Pg	11 31 17.4	+0.5
OK029					Sb	11 31 24.7	-1.4
OK029				IAML		11 31 27.9	
	comp=E,253nm,0.4s						
OK029				IAML		11 31 27.9	
	comp=E,346nm,0.5s						
CSTR	**Hydro, Custer**	**0.68**	**287**		Pg	11 31 20.9	+0.3
CSTR					Sg	11 31 30.1	+0.7
X34A	**Smith Ranch, M**	**0.85**	**177**	Pg	Pg	11 31 23.8	0.0
X34A					Sg	11 31 35.4	+0.7
X34A				IAML		11 31 38.3	
	comp=E,108nm,0.2s						
X34A				IAML		11 31 39.4	
	comp=N,99nm,0.5s						
WMOK	**Wichita Mounta**	**1.02**	**226**		Pg	11 31 26.7	-0.4
OK052	**Battle Ridge R**	**1.03**	**58**		Pg	11 31 27.0	-0.3
OK052				IAML		11 31 42.1	
	comp=N,114nm,0.3s						
OK052				IAML		11 31 44.6	
	comp=N,101nm,0.5s						
DEOK	**Depew**	**1.19**	**71**		Pg	11 31 29.7	-0.6
DEOK				IAML		11 31 48.0	
	comp=E,90nm,0.2s						
QUOK	**Quay**	**1.20**	**53**		Pg	11 31 29.7	-0.6
OK038	**West end E0370**	**1.24**	**326**	Pg	Pn	11 31 31.6	+0.2
BLOK	**Blackwell**	**1.41**	**22**		Pg	11 31 34.6	0.0
NOKA	**Waynoka**	**1.45**	**325**		Pb	11 31 35.0	-0.1
LOOK	**Love County**	**1.57**	**158**		Pn	11 31 36.1	+0.2
KAN01	**Argonia South**	**1.70**	**3**		Pn	11 31 38.2	+0.4
KAN01				IAmb_Lg		11 32 05.3	
	comp=Z,21nm,0.8s						
WTFS	**Witchita Falls**	**1.75**	**196**		Pn	11 31 38.6	+0.2
TUL3	**Leonard**	**1.76**	**74**		Pn	11 31 39.3	+0.6
TUL3				IAmb_Lg		11 32 07.3	
	comp=Z,17nm,0.8s						
T35A	**Sooner Cattle**	**1.83**	**37**		Pn	11 31 40.4	+0.7
SMWD	**Samnorwood**	**1.96**	**260**		Pn	11 31 42.0	+0.6
Z35A	**Perchaven, San**	**2.18**	**166**	Pn	Pn	11 31 43.0	+0.6
Z35A				IAmb_Lg		11 32 20.5	
	comp=Z,10nm,0.7s						
RLO	**Rose Lookout**	**2.43**	**72**		Pn	11 31 48.5	+0.7
FW06	**Azle**	**2.49**	**174**		Pn	11 31 50.2	+1.6
FW06				IAmb_Lg		11 32 32.5	
	comp=Z,9.3nm,0.7s						
PLPT	**Palo Pinto**	**2.66**	**188**	IAmb_Lg		11 32 31.0	
	comp=Z,8.1nm,0.8s						
APMT	**Aspermont**	**2.81**	**222**		Pn	11 31 54.3	+1.2
U38A	**Gravette**	**3.00**	**70**	Pn	Pn	11 31 56.5	+0.8
R32A	**Long Quarter,**	**3.04**	**348**	Pn	Pn	11 31 56.6	+0.4
R32A				IAmb_Lg		11 32 47.8	
	comp=Z,10nm,0.7s						
AMTX	**Amarillo**	**3.16**	**261**	Pn	Pn	11 31 58.1	+0.1
AMTX				IAmb_Lg		11 32 56.2	
	comp=Z,6.1nm,0.8s						
ABTX	**Abilene, Hawle**	**3.18**	**208**	IAmb_Lg		11 32 45.6	
	comp=Z,6.7nm,0.8s						
HHAR	**Hobbs**	**3.31**	**74**	Pn	Pn	11 32 02.3	+2.4
SN07	**Snyder 07**	**3.43**	**227**	IAmb_Lg		11 33 01.5	
	comp=Z,6.1nm,0.9s						
MIAR	**Mount Ida**	**3.65**	**103**	Pn	Pn	11 32 06.1	+1.6
MIAR				IAmb_Lg		11 33 08.0	
	comp=Z,5.7nm,0.8s						
RTBA	**Rita Blanca**	**4.06**	**285**	Pn	Pn	11 32 11.7	+1.4
BRDY	**Brady**	**4.26**	**193**	Pn	Pn	11 32 14.2	+1.3
SGCY	**Sterling City**	**4.44**	**218**	IAmb_Lg		11 33 28.4	
	comp=Z,7.8nm,0.7s						
WHAR	**Wooly Hollow**	**4.58**	**90**	Pn	Pn	11 32 17.8	+0.5
WHAR				IAmb_Lg		11 33 35.3	
	comp=Z,5.8nm,0.8s						
MGMO	**Mountain Grove**	**4.84**	**68**	IAmb_Lg		11 33 51.9	
	comp=Z,6.2nm,0.8s						
OZNA	**Ozona**	**5.27**	**212**	IAmb_Lg		11 34 03.4	
	comp=Z,5.2nm,1.0s						
T25A	**Trinidad**	**5.53**	**290**	IAmb_Lg		11 34 06.5	
	comp=Z,6.7nm,0.9s						
DRIO	**Del Rio**	**6.44**	**202**	IAmb_Lg		11 34 43.8	
	comp=Z,4.0nm,0.8s						
Q24A	**Divide**	**6.77**	**303**	IAmb_Lg		11 34 49.6	
	comp=Z,5.4nm,0.8s						
ALPN	**Alpine**	**7.00**	**225**	IAmb_Lg		11 35 05.8	
	comp=Z,2.7nm,1.0s						

*GCG **30** 11:50:09.6±0.5, 13.˚46N×88.˚42W, h198km±8km, MD3.8*
*CATAC **30** 11:50:09.6±0.5, 14.˚N×4.˚×8.˚8W±.˚, h204km±3km, M2.9/14, MLv2.9/14, Error ellipse: s-maj=9.3km s-min=4.4km az=21.1, confirmed*
*SNET **30** 11:50:09.5±1.3, 13.˚60N×88.˚39W, h203km, ML3.3, ML2.7*
ISC 30 11:50:09.4±2.5, **13.˚57N**±0.˚09×**88.˚42W**±0.˚05, **h210**km±15km, **n47**, σ0**.64**/51, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	**Tecapa**	**0.11**	**229**	*e*P	**Pn**	**11 50 36.7**	**-0.3**
TECA				*e*P		11 50 37.2	
PACA	**Pacayal**	**0.13**	**136**	*e*P	**Pn**	**11 50 37.7**	**+0.7**
PACA	**Pacayal**	**0.13**	**136**	P	**Pn**	**11 50 37.5**	**+0.6**
RANC	**El Ranchito**	**0.18**	**136**	*e*P	**Pn**	**11 50 38.4**	**+1.3**
VSM	**San Miguel**	**0.20**	**134**	*e*P	**Pn**	**11 50 36.8**	**-0.4**
BLLM	**Bellamira**	**0.21**	**125**	*e*P	**Pn**	**11 50 36.3**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.33**	**294**	*e*P	**Pn**	**11 50 37.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.33**	**294**	S	**S**	**11 50 59.9**	**+1.1**
SCLA	**Alcaldia de Sa**	**0.33**	**294**	P	**Pn**	**11 50 37.5**	**+0.3**
PAVA	**Las Pavas**	**0.53**	**286**	*e*P	**Pn**	**11 50 37.6**	**-0.2**
PAVA	**Las Pavas**	**0.53**	**286**	P	**Pn**	**11 50 37.7**	**-0.2**
PAVA	**Las Pavas**	**0.53**	**286**	S	**S**	**11 51 00.7**	**+0.7**
LFRS	**El Faro**	**0.63**	**275**	*e*P	**Pn**	**11 50 38.1**	**-0.1**
CNCH	**Conchagua**	**0.64**	**117**	*e*P	**Pn**	**11 50 37.8**	**-0.5**
CNCH	**Conchagua**	**0.64**	**117**	P	**Pn**	**11 50 37.8**	**-0.5**
MARCA	**Marcala la Paz**	**0.70**	**32**	*i* P	**Pn**	**11 50 38.6**	**0.0**
MARCA				*i* S	**S**	**11 51 01.1**	**-0.2**
MARCA	**Marcala la Paz**	**0.70**	**32**	P	**Pn**	**11 50 38.0**	**-0.6**
MARCA	**Marcala la Paz**	**0.70**	**32**	S	**S**	**11 51 01.0**	**-0.4**
JAYA	**Jayaque - finc**	**1.00**	**275**	*e*P	**Pn**	**11 50 39.6**	**-0.8**
JAYA				IAML		11 51 07.3	
	comp=Z,213nm,0.2s						
JAYA	**Jayaque - finc**	**1.00**	**275**	*e*P	**Pn**	**11 50 39.6**	**-0.8**
JAYA				*i* S	**S**	**11 51 03.8**	**-0.5**
JAYA	**Jayaque - finc**	**1.00**	**275**	P	**Pn**	**11 50 39.2**	**-1.2**
JAYA	**Jayaque - finc**	**1.00**	**275**	S	**S**	**11 51 04.2**	**0.0**
CSGN	**Cosiguina Volc**	**1.02**	**125**	P	**Pn**	**11 50 39.5**	**-0.9**
SBLS	**San Blas**	**1.20**	**283**	*e*P	**Pn**	**11 50 42.8**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.22**	**66**	P	**Pn**	**11 50 41.4**	**-0.4**
TGUH				S	**S**	**11 51 06.6**	**-0.2**
CHOHN	**Orocuina**	**1.23**	**94**	S	**S**	**11 51 06.8**	**-0.1**
MTO3	**Montecristo**	**1.23**	**312**	*e*P	**Pn**	**11 50 42.2**	**+0.3**
MTO3	**Montecristo**	**1.23**	**312**	*i* P	**Pn**	**11 50 42.4**	**+0.3**
MTO3	**Montecristo**	**1.23**	**312**	P	**Pn**	**11 50 42.3**	**+0.3**
MTO3	**Montecristo**	**1.23**	**312**	S	**S**	**11 51 06.9**	**-0.4**
SARH	**Santa Rosa de**	**1.25**	**345**	*i* P	**Pn**	**11 50 42.7**	**+0.7**
SARH	**Santa Rosa de**	**1.25**	**345**	P	**Pn**	**11 50 42.5**	**+0.5**
ESQI	**Esquipulas**	**1.33**	**318**	*e*P	**Pn**	**11 50 43.3**	**+0.6**
ESQI	**Esquipulas**	**1.33**	**318**	P	**Pn**	**11 50 43.4**	**+0.6**
NUBE	**Las Nubes**	**1.36**	**284**	P	**Pn**	**11 50 42.1**	**-0.9**
FAME	**Alcaldia de Sa**	**1.57**	**280**	P	**Pn**	**11 50 43.9**	**-0.7**
FAME	**Alcaldia de Sa**	**1.57**	**280**	S	**S**	**11 51 11.6**	**-0.1**
YUSH	**Yuscaran**	**1.58**	**76**	P	**Pn**	**11 50 44.0**	**-0.7**
YUSH	**Yuscaran**	**1.58**	**76**	S	**S**	**11 51 11.4**	**-0.5**
CRIN	**San Cristobal**	**1.59**	**123**	P	**Pn**	**11 50 44.0**	**-0.8**
CRIN	**San Cristobal**	**1.59**	**123**	S	**S**	**11 51 12.9**	**+0.8**
PKGN	**Cerro Pekin**	**1.66**	**122**	P	**Pn**	**11 50 45.4**	**0.0**
PKGN				S	**S**	**11 51 14.6**	**+1.5**
CNGN	**Cerro Negro**	**1.98**	**122**	P	**Pn**	**11 50 48.8**	**+0.2**
CNGA	**Al SSO del Vol**	**1.98**	**122**	P	**Pn**	**11 50 48.4**	**-0.2**
RCVN	**Varillal2**	**2.16**	**89**	P	**Pn**	**11 50 50.0**	**-0.5**
COPN	**Copaltepe**	**2.25**	**128**	P	**Pn**	**11 50 51.7**	**+0.5**
BOAB	**BOACO BROADBAN**	**2.90**	**112**	P	**Pn**	**11 50 58.4**	**-0.1**

HEL 30 11:59:58.6±0.2, **64.˚52N**×**24.˚27E**, **h0**km, **ML0.8, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBF0	**Syolatti, Pyha**	**0.03**	**218**	PG	Pg	11 59 58.5	-0.6
OUF	**Merijarvi**	**0.25**	**127**	PG	Pg	12 00 02.9	-0.5
OUF				SG	Sg	12 00 06.6	0.0
OBF4	**Vikkela, Lumij**	**0.46**	**50**	PG	Pg	12 00 06.8	-0.7
OBF4				SG	Sg	12 00 12.9	-0.6
OBF4				MSG		12 00 13.9	
	comp=Z,1.1nm,0.2s						
TOF	**Tornio**	**1.57**	**1**	MSG		12 00 45.5	
	comp=Z,0.4nm,0.2s						
TOF				SN	Sn	12 00 47.3	-1.4
UMAU	**Umeaa**	**1.70**	**250**	PG	Pn	12 00 29.3	-0.1
	baz=67						
UMAU				SN	Sn	12 00 51.8	0.0
SUF	**Sumiainen**	**1.99**	**154**	MSG		12 00 57.7	
	comp=Z,0.4nm,0.2s						
SUF				SG	Sg	12 01 02.0	-0.4
RMF	**Romuvaara**	**2.48**	**94**	MSG		12 01 11.7	
	comp=Z,0.4nm,0.2s						
RMF				SG	Sb	12 01 15.7	+0.7
HEL1	**Helsinki**	**4.37**	**176**	PB	Pb	12 01 13.4	-2.6
KIF	**Kilpisjarvi**	**4.71**	**345**	PN	Pn	12 01 10.6	-0.2

IDC 30 12:04:36.4±2.8, **29.˚08S**×**75.˚09E**, **h0**km, **mb3.5**/3, **mbtmp3.5**/3, **MS3.5**/1, **Error ellipse: s-maj=475.7km s-min=36.7km az=12.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.46**	**353**	T	T	12 32 37.1	
	baz=174,slow=76,SNR=101						
H08S1	**Diego Garcia H**	**21.47**	**353**	T	T	12 32 30.7	
	baz=174,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**21.48**	**353**	T	T	12 32 38.1	
	baz=174,slow=76,SNR=133						
H04N2	**CROZET ISLANDS**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.02**	**293**	Pg	**Pn**	**12 12 22.2**	**-4.0**
	131nm,0.4s						
SHLS				Lg	Lg	12 12 58.7	
	1μm,0.6s						
SHLS	**Shalkode**	**3.02**	**293**	*eP*	**Pn**	**12 12 22.2**	**-4.0**
SHLS	**Shalkode**	**3.02**	**293**	*eP*	**Pn**	**12 12 23.4**	**-2.9**
	131nm,0.4s						
SHLS				*eS*	**Sn**	**12 12 58.9**	**-3.6**
	1μm,0.6s						
PDGK	**Podgornoye**	**3.07**	**296**	⇑Pn	**Pn**	**12 12 25.5**	**-1.4**
	94nm,0.8s						
PDGK				⇓Lg	Lg	12 13 09.2	
	640nm,0.9s						
PDGK	**Podgornoye**	**3.07**	**296**	P	**Pn**	**12 12 25.5**	**-1.4**
UZB	**Uzynbulak**	**3.32**	**291**	Pg	**Pn**	**12 12 32.7**	**+2.3**
	21nm,0.6s						
UZB				Lg	Lg	12 13 16.3	
	196nm,0.5s						
UZB	**Uzynbulak**	**3.32**	**291**	*eP*	**Pn**	**12 12 32.7**	**+2.3**
UZB	**Uzynbulak**	**3.32**	**291**	*eP*	**Pn**	**12 12 33.3**	**+3.0**
	5.8nm,0.2s						
UZB				*eS*	**Sb**	**12 13 16.0**	**-1.8**
	196nm,0.5s						
KPKS	**Kokpek**	**3.66**	**295**	Pg	**Pn**	**12 12 37.7**	**+2.7**
	5.3nm,0.7s						
KPKS				Lg	Lg	12 13 22.2	
	150nm,0.8s						
WMQ	**Urumqi**	**3.73**	**60**	*eP*	**Pb**	**12 12 43.5**	**-0.6**
WMQ				smax	smax		
	comp=N,120nm,0.9s						
WMQ				smax	smax		
	comp=E,180nm,0.9s						
SATY	**Saty**	**3.73**	**288**	Pg	**Pb**	**12 12 41.5**	**-2.8**
	comp=E,53nm,1.2s						
SATY				Lg	Lg	12 13 31.3	
	comp=E,226nm,0.6s						
KNOS	**Konyrlen**	**3.79**	**309**	Pg	**Pb**	**12 12 41.6**	**-3.6**
	comp=E,28nm,0.5s						
KNOS				Lg	Lg	12 13 29.8	
	comp=E,71nm,0.4s						
ARXS	**Arharly**	**4.54**	**301**	Pg	**Pb**	**12 12 55.9**	**-2.0**
	comp=E,50nm,0.5s						
ARXS				Lg	Lg	12 13 55.0	
	comp=E,160nm,0.8s						
ARXS	**Arharly**	**4.54**	**301**	*eP*	**Pn**	**12 12 50.2**	**+3.2**
TDK	**Taldyqorghan**	**4.62**	**312**	Pg	**Pb**	**12 12 55.8**	**-3.4**
	comp=E,91nm,0.2s						
TDK				Lg	Lg	12 13 53.6	
	comp=E,122nm,0.7s						
TDK	**Taldyqorghan**	**4.62**	**312**	*eP*	**Pb**	**12 12 58.5**	**-0.8**
	comp=E,26nm,0.1s						
TDK				*eS*	**Sb**	**12 13 58.6**	**+3.6**
	comp=E,48nm,0.2s						
KOTS	**Kotyrbulak**	**4.69**	**287**	Pg	**Pb**	**12 12 58.4**	**-2.2**
	comp=E,33nm,0.7s						
KOTS				Lg	Lg	12 13 56.7	
	comp=E,154nm,0.5s						
KOTS	**Kotyrbulak**	**4.69**	**287**	*eP*	**Pb**	**12 12 58.2**	**-2.4**
	comp=E,14nm,0.4s						
KOTS				*eS*	**Sb**	**12 13 58.8**	**+1.5**
	comp=E,142nm,0.4s						
TNSS	**Tian-Shan**	**4.77**	**284**	Pg	**Pb**	**12 13 01.0**	**-1.2**
	comp=E,12nm,0.6s						
TNSS				Lg	Lg	12 14 03.5	
	comp=E,29nm,0.9s						
TNSS	**Tian-Shan**	**4.77**	**284**	*eP*	**Pb**	**12 12 59.5**	**-2.7**
	comp=E,4.3nm,0.3s						
TNSS				*eS*	**Sb**	**12 14 00.6**	**+0.9**
	comp=E,30nm,0.8s						
MK31	**Makanchi Array**	**4.82**	**352**	Pn	**Pn**	**12 12 52.0**	**+1.2**
	comp=E,5.0nm,0.5s,baz=177,slow=13,SNR=65						
MK31				⇑Pg	**Pg**	**12 13 06.5**	**-4.1**
	comp=E,28nm,0.6s,baz=167,slow=16,SNR=14						
MK31				⇓Lg	Lg	12 14 12.7	
	comp=E,37nm,0.6s,baz=175,slow=28,SNR=3.5						
MK31	**Makanchi Array**	**4.82**	**352**	*d iP*	**Pn**	**12 12 52.5**	**+1.6**
MKAR	**Makanchi Array**	**4.82**	**352**	Pn	**Pn**	**12 12 52.6**	**+1.7**
	comp=E,1.5nm,0.3s,baz=175,slow=14,SNR=29						
MKAR				Lg	Lg	12 14 08.3	
	comp=E,8.9nm,0.3s,baz=180,slow=31,SNR=5.9						
	comp=E,4.5nm,0.6s						
MAKZ	**Makanchi**	**4.87**	**350**	⇑Pn	**Pn**	**12 12 52.6**	**+1.0**
	comp=E,14nm,1.1s						
MAKZ				⇓Pg	**Pg**	**12 13 07.2**	**-4.3**
	comp=E,19nm,0.6s						
MAKZ				⇓Lg	Lg	12 14 13.4	
	comp=E,44nm,0.8s						
CHKK	**Chushkaly**	**4.95**	**294**	Pg	**Pb**	**12 13 02.4**	**-2.6**
	comp=E,12nm,0.4s						
CHKK				Lg	Lg	12 14 06.4	
	comp=E,54nm,0.7s						
CHKK	**Chushkaly**	**4.95**	**294**	*eP*	**Pb**	**12 13 03.0**	**-2.0**
	comp=E,1.1nm,0.0s						
CHKK				*eS*	**Sb**	**12 14 06.7**	**+2.2**
	comp=E,53nm,0.3s						
KTBS	**Karatobe**	**5.12**	**291**	Pg	**Pb**	**12 13 07.9**	**0.0**
	comp=E,26nm,0.7s						
KTBS				Lg	Lg	12 14 16.0	
	comp=E,126nm,0.4s						
MTBS	**Maitube**	**5.16**	**285**	Pg	Pb	12 13 03.4	-5.2
	comp=E,11nm,0.6s						
MTBS				Lg	Lg	12 14 06.9	
	comp=E,45nm,0.6s						
MTBS	**Maitube**	**5.16**	**285**	*eP*	**Pb**	**12 13 06.1**	**-2.5**
	comp=E,3.5nm,0.1s						
MTBS				*eS*	**Sb**	**12 14 11.9**	**+1.3**
	comp=E,31nm,0.3s						
KUU	**Kurty**	**5.41**	**293**	*eP*	**Pb**	**12 13 13.2**	**+0.4**
	comp=E,0.9nm,0.0s						
KUU				*eS*	**Sb**	**12 14 23.6**	**+5.9**
	comp=E,148nm,0.7s						
KST	**Kastek**	**5.48**	**283**	Pg	**Pb**	**12 13 11.0**	**-3.1**
	comp=E,16nm,0.4s						
KST				Lg	Lg	12 14 20.6	
	comp=E,50nm,0.4s						
KST	**Kastek**	**5.48**	**283**	*eP*	**Pb**	**12 13 13.2**	**-1.0**
	comp=E,16nm,0.4s						
KST				*eS*	**Sb**	**12 14 24.1**	**+4.1**
	comp=E,70nm,0.6s						
ZSN	**Zaisan**	**5.55**	**11**	Pg	**Pb**	**12 13 17.8**	**+2.7**
	comp=E,8.9nm,0.5s						
ZSN				Lg	Lg	12 14 36.1	
	comp=E,72nm,0.9s						
ZSN	**Zaisan**	**5.55**	**11**	*eP*	**Pg**	**12 13 21.5**	**-2.9**
	comp=E,2.7nm,0.1s						
ZSN				*eS*	**Sg**	**12 14 38.6**	**+2.3**
	comp=E,70nm,0.5s						
KSH	**Kashi**	**6.07**	**248**	Pn	Pn	12 13 16.0	+7.9
KSH				Sn	**Sg**	**12 14 56.5**	**+3.6**
KSH				smax	smax		
	comp=N,73nm,1.0s						
KSH				smax	smax		
	comp=E,57nm,0.9s						
SGDS	**Sogindy**	**6.51**	**286**	Pg	**Pb**	**12 13 32.4**	**+0.8**
	comp=E,6.2nm,0.4s						
SGDS				Lg	Lg	12 14 57.4	
	comp=E,15nm,0.5s						
AAK	**Ala-Archa**	**6.52**	**278**	Pn	**Pn**	**12 13 18.2**	**+3.9**
	comp=E,0.3nm,0.3s,baz=55,slow=22,SNR=1.9						
AAK				Lg	Lg	12 14 58.2	
	comp=E,1.2nm,0.3s,baz=248,slow=17,SNR=3.7						
AAK				LR	LR	12 15 34.1	
	comp=E,22nm,18.2s,baz=97,slow=37						
	comp=E,1.9nm,0.5s						
AAK	**Ala-Archa**	**6.52**	**278**	⇓Pg	**Pb**	**12 13 31.9**	**0.0**
	comp=E,10nm,0.9s						
AAK				⇑Lg	Lg	12 14 54.9	
	comp=E,25nm,0.8s						
KURBB	**Kurchatov Arra**	**9.20**	**341**	Pn	**Pn**	**12 13 49.0**	**-1.9**
	comp=E,0.2nm,0.3s,baz=162,slow=12,SNR=17						
KURBB				Lg	Lg	12 16 26.9	
	comp=E,0.2nm,0.3s,baz=174,slow=32,SNR=5.4						
	comp=E,1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**9.20**	**341**	⇑Pn	**Pn**	**12 13 49.9**	**-1.0**
	comp=E,6.1nm,0.7s						
KURBB				⇓Lg	Lg	12 16 29.0	
	comp=E,55nm,0.7s						
KURBB	**Kurchatov Arra**	**9.20**	**341**	P	**Pn**	**12 13 51.9**	**+1.0**
KURK	**Kurchatov**	**9.27**	**341**	⇑Pn	**Pn**	**12 13 54.1**	**+2.3**
	comp=E,4.7nm,0.5s						
KURK				⇓Lg	Lg	12 16 29.7	
	comp=E,58nm,1.2s						
KURK	**Kurchatov**	**9.27**	**341**	⇑*eP*	**Pn**	**12 13 54.5**	**+2.7**
KK31	**Karatay Array**	**9.47**	**281**	⇑Lg	Lg	12 16 33.6	
	comp=E,6.3nm,0.7s,baz=78,slow=26,SNR=4.8						
ZALV	**Zalesovo Beam**	**11.98**	**4**	Pn	**Pn**	**12 14 26.9**	**-2.0**
	comp=E,0.6nm,0.3s,baz=184,slow=12,SNR=8.8						
ZALV				Lg	Lg	12 17 56.2	
	comp=E,0.2nm,0.3s,baz=199,slow=27,SNR=3.3						
ZALV				LR	LR	12 19 18.7	
	comp=E,38nm,21.4s,baz=356,slow=39						
	comp=E,1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**11.98**	**4**	*eP*	**Pn**	**12 14 30.4**	**+1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**14.00**	**326**	Pn	**Pn**	**12 14 54.2**	**-2.3**
	baz=128,slow=12,SNR=5.7						
BVAR				Lg	Lg	12 19 00.4	
	baz=159,slow=30,SNR=5.5						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**17.36**	**63**	P	**Pn**	**12 15 39.3**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=255,slow=13,SNR=3.8						
AB31	**Akbulak array**	**17.79**	**302**	P	**Pn**	**12 15 44.7**	**-1.1**
ULN	**Ulaanbaatar**	**17.80**	**63**	⇓*eP*	**P**	**12 15 48.6**	**+1.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BTO	**Baotou**	**20.13**	**85**	*eP*	**P**	**12 16 10.5**	**-1.9**
BTO				PP	**PnPn**	**12 16 29.3**	**+0.8**
BTO				S	**S**	**12 19 54.8**	**-3.6**
BTO				pmax	pmax		
	comp=Z,13nm,0.5s						
BTO				pmax	pmax		
	comp=Z,250nm,4.9s						
BTO				LR	LR		
	comp=N,200nm,5.0s						
BTO				LR	LR		
	comp=E,160nm,9.1s						
BTO				LR	LR		
	comp=Z,160nm,4.5s						
ARTI	**Arti**	**21.53**	**320**	*d iP*	**P**	**12 16 30.9**	**+3.7**
ARTI						12 16 51.8	
ARTI				S	Sn	12 20 31.5	-2.4
ARTI				SS	**SnSn**	**12 20 53.3**	**+4.4**
ARTI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.02**	**146**	P	**P**	**12 17 21.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=319,slow=7.9,SNR=5.1						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.02**	**146**	*eP*	**P**	**12 17 23.4**	**+2.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**29.53**	**288**	⇓*eP*	**P**	**12 17 46.5**	**+3.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BRTR	**Keskin Array B**	**37.17**	**284**	P	**P**	**12 18 47.5**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=95,slow=10.0,SNR=4.6						
	comp=Z,0.9nm,0.8s						
BRTR	**Keskin Array B**	**37.17**	**284**	*eP*	**P**	**12 18 51.6**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**37.53**	**302**	LR	LR	12 35 36.9	
	comp=Z,13nm,19.8s,baz=152,slow=38						
ARCES	**ARCESS Array B**	**40.17**	**333**	P	**P**	**12 19 12.3**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=96,slow=8.7,SNR=4.2						
	comp=Z,1.1nm,0.8s						
WRA	**Warramunga Arr**	**77.63**	**131**	P	**P**	**12 23 33.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=332,slow=5.3,SNR=1.9						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**80.39**	**134**	P	**P**	**12 23 49.5**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=326,slow=5.2,SNR=4.6						
	comp=Z,0.2nm,0.6s						

*UCR **30** 12:32:59.2±1.0, 8˚.28N×82˚.96W, h17km±4km, MW4.2*
*UPA **30** 12:32:59.6±2.4, 8˚.37N×82˚.95W, h6km±4km, MD3.8, MW4.1*
*CATAC **30** 12:33:00.6±0.6, 8˚N±4˚×8˚3W±˚, h4km±1km, M3.9/7, MLv3.9/7, Error ellipse: s-maj=7.7km s-min=4.2km az=167.2, confirmed*
ISC 30 12:32:59.3±0.8, 8˚36N±0˚.03×82˚.99W±0˚.02, h14km±6km, n81, σ0s94/111, 5C-27D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIEL	**Armuelles**	**0.15**	**119**	⇑*eP*	**Pg**	**12 33 03.0**	**-0.2**
PTPM	**Petroterminale**	**0.18**	**145**	⇑*iP*	**Pg**	**12 33 03.5**	**-0.2**
PTPM				*iS*	**Sg**	**12 33 06.3**	**-0.3**
PTPA	**Petro Terminal**	**0.19**	**144**	⇑*eP*	**Pg**	**12 33 03.4**	**-0.5**
PTPA				*eS*	**Sg**	**12 33 07.0**	**+0.2**
LESP3	**La Esperanza,**	**0.20**	**76**	*iP*	**Pg**	**12 33 04.2**	**+0.3**
LESP3				*iS*	**Sg**	**12 33 07.2**	**+0.2**
LPPC	**Paso Canoas**	**0.23**	**40**	*eP*	**Pg**	**12 33 05.1**	**+0.8**
CDITO	**Canoas**	**0.24**	**28**	⇓P	**Pb**	**12 33 05.5**	**0.0**
CDITO	**Canoas**	**0.24**	**28**	S	**Sb**	**12 33 09.3**	**-0.4**
NELY	**Ciudad Neily**	**0.29**	**8**	⇓*eP*	**Pb**	**12 33 06.4**	**0.0**
NELY				*eS*	**Sb**	**12 33 12.5**	**+1.4**
FITO	**Golfito**	**0.31**	**328**	*eP*	**Pb**	**12 33 06.2**	**-0.5**
FITO				*eS*	**Sb**	**12 33 11.5**	**-0.2**
BRNON	**Bren.**	**0.32**	**33**	⇓*eP*	**Pb**	**12 33 06.7**	**-0.1**
EDAD	**Golfito**	**0.34**	**329**	⇓*eP*	**Pb**	**12 33 06.7**	**-0.5**
PIRO	**Carate, Puerto**	**0.35**	**278**	⇓*iP*	**Pb**	**12 33 07.2**	**-0.2**
PIRO				*iS*	**Sb**	**12 33 12.9**	**+0.2**
PIRO	**Carate, Puerto**	**0.35**	**278**	⇓*eP*	**Pb**	**12 33 07.1**	**-0.2**
PIRO	**Carate, Puerto**	**0.35**	**278**	⇓P	**Pb**	**12 33 07.2**	**-0.2**
PTJ1	**Puerto Jimnez**	**0.36**	**300**	*iP*	**Pb**	**12 33 08.8**	**+1.3**
DMCAL	**E. de Neily**	**0.36**	**32**	⇓*eP*	**Pb**	**12 33 07.7**	**+0.1**
JIME	**Puerto Jimenez**	**0.38**	**298**	*eP*	**Pb**	**12 33 08.9**	**+1.0**
BAGA3	**Bagala, Chiriq**	**0.47**	**77**	*iP*	**Pb**	**12 33 09.0**	**-0.3**
BAGA3				*iS*	**Sb**	**12 33 16.0**	**-0.1**
RSRNO	**Rio Sereno**	**0.47**	**15**	*eP*	**Pb**	**12 33 10.1**	**+0.6**
SCLRA	**Santa Clara, W**	**0.51**	**23**	*eP*	**Pb**	**12 33 10.5**	**+0.3**
BRU2	**Volcan**	**0.52**	**34**	⇓*iP*	**Pb**	**12 33 10.5**	**+0.1**
BRU2				*iS*	**Sb**	**12 33 18.3**	**+0.5**
BRU2	**Volcan**	**0.52**	**34**	⇓*eP*	**Pb**	**12 33 10.4**	**+0.1**
BRU2				*eS*	**Sb**	**12 33 19.5**	**+1.6**
BRU2	**Volcan**	**0.52**	**34**	⇓P	**Pb**	**12 33 10.5**	**+0.1**
BRU2	**Volcan**	**0.52**	**34**	S	**Sb**	**12 33 17.9**	**0.0**
DVD	**David**	**0.54**	**82**	*iP*	**Pg**	**12 33 09.6**	**-0.3**
DVD				*iS*	**Sb**	**12 33 17.8**	**-0.2**
TBS2		**0.54**	**37**	*eP*	**Pb**	**12 33 11.9**	**+1.2**
JEFFS	**S de V. Baru**	**0.54**	**55**	⇓*eP*	**Pb**	**12 33 10.6**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.56**	**87**	*iP*	**Pg**	**12 33 09.9**	**-0.5**
PEDE3				*iS*	**Sg**	**12 33 16.1**	**-1.6**
LOCO3	**Loma Colorada,**	**0.56**	**85**	*iP*	**Pg**	**12 33 09.4**	**-1.0**
LOCO3				*iS*	**Sg**	**12 33 17.7**	**-0.3**
BANCO	**falda S V. Bar**	**0.58**	**52**	⇓*eP*	**Pb**	**12 33 11.1**	**-0.3**
BC3P	**Paso Ancho**	**0.59**	**39**	⇓*iP*	**Pb**	**12 33 11.4**	**-0.1**
BC3P				*iS*	**Sb**	**12 33 21.0**	**+1.2**
PTAR3	**Potrerillos Ar**	**0.59**	**55**	*iP*	**Pb**	**12 33 11.3**	**-0.2**
PTAR3				*iS*	**Sb**	**12 33 19.9**	**+0.2**
LOMA3	**Las Lomas, Chi**	**0.59**	**83**	⇑*iP*	**Pg**	**12 33 10.7**	**-0.3**
LOMA3				*iS*	**Sg**	**12 33 18.7**	**-0.2**
ALCO	**Alturas Coton,**	**0.61**	**14**	⇓*eP*	**Pb**	**12 33 11.7**	**-0.1**
ALCO				*eS*	**Sb**	**12 33 21.4**	**+1.1**
CGUAY	**Guayabal, Coch**	**0.64**	**81**	⇓*eP*	**Pg**	**12 33 11.2**	**-0.6**
CHIR3	**Chiriqui UPA,**	**0.65**	**87**	*eP*	**Pg**	**12 33 11.5**	**-0.6**
CHIR3				*iS*	**Sg**	**12 33 18.4**	**-2.3**
BQTLY	**Boquete Panama**	**0.65**	**52**	⇓*eP*	**Pg**	**12 33 12.0**	**-0.1**
BQSF3	**Alto Boquete,**	**0.67**	**55**	*iP*	**Pg**	**12 33 12.2**	**-0.2**
WILLF	**Boquete**	**0.67**	**54**	⇓*eP*	**Pg**	**12 33 12.2**	**-0.3**
EDP2	**Potrero Grande**	**0.68**	**344**	⇓*eP*	**Pb**	**12 33 13.3**	**+0.3**
EDP2				*eS*	**Sn**	**12 33 24.3**	**-0.7**
DAP26	**falda E V. Bar**	**0.70**	**52**	⇓*eP*	**Pg**	**12 33 12.5**	**-0.6**
GUAL3	**Gualaca, Chiri**	**0.70**	**76**	*iP*	**Pg**	**12 33 12.5**	**-0.5**
GUAL3				*iS*	**Sg**	**12 33 22.1**	**-0.2**
FIMO	**Fila Mora**	**0.73**	**330**	*eP*	**Pb**	**12 33 13.8**	**0.0**
PANP	**Palmar Norte**	**0.76**	**322**	*eP*	**Pb**	**12 33 14.5**	**+0.2**
DRK0	**Durika**	**0.94**	**344**	*iP*	**Pb**	**12 33 17.3**	**-0.2**
DRK0				*iS*	**Sb**	**12 33 30.3**	**+0.5**
DRK0	**Durika**	**0.94**	**344**	⇓*eP*	**Pb**	**12 33 17.1**	**-0.3**
DRK0	**Durika**	**0.94**	**344**	⇓P	**Pb**	**12 33 17.1**	**-0.3**
PBNVO	**Pueblo Nuevo,**	**0.95**	**56**	⇓*eP*	**Pg**	**12 33 16.4**	**-1.3**
RBALA	**Bur**	**0.97**	**58**	⇓*eP*	**Pg**	**12 33 17.0**	**-1.2**
OCHAL	**Ojochal**	**0.98**	**318**	P	**Pb**	**12 33 18.2**	**+0.1**
OCHAL	**Ojochal**	**0.98**	**318**	S	**Sn**	**12 33 33.5**	**+1.0**
EDPE	**Pejibaye, P**	**0.98**	**324**	*eP*	**Pb**	**12 33 18.0**	**-0.2**
CHGR2	**Aguacate**	**1.01**	**55**	⇓*iP*	**Pg**	**12 33 18.0**	**-1.0**
CHGR2				*eS*	**Sg**	**12 33 30.1**	**-2.1**
KKNTU	**Kakint²**	**1.26**	**68**	⇓*eP*	**Pn**	**12 33 20.9**	**-1.6**
LAES	**El Progreso Va**	**1.40**	**357**	*eP*	**Pg**	**12 33 25.4**	**-0.8**
BUS1	**Rivas**	**1.41**	**328**	*eP*	**Pn**	**12 33 25.2**	**+0.3**
VERH	**Veragua Rainfo**	**1.57**	**353**	*eP*	**Pn**	**12 33 27.7**	**+0.8**
PIEC	**Cerro El Cedra**	**1.58**	**323**	*eP*	**Pb**	**12 33 28.2**	**-0.3**
LCR2	**La Lucha 2**	**1.70**	**324**	P	**Pb**	**12 33 30.5**	**-0.1**
LCR2	**La Lucha 2**	**1.70**	**324**	S	**Sg**	**12 33 55.5**	**+1.2**
RESJ	**San Isidro (Tu**	**1.78**	**339**	*eP*	**Pb**	**12 33 31.1**	**-0.8**
ABRB	**Las Abras (San**	**1.79**	**336**	*eP*	**Pb**	**12 33 31.5**	**-0.6**
MESA3	**La Mesa, Verag**	**1.79**	**97**	*eP*	**Pn**	**12 33 29.1**	**-0.8**
MESA3				*iS*	**Sn**	**12 33 52.9**	**+0.4**
CVTR	**Volcan Turrial**	**1.82**	**335**	*eP*	**Pb**	**12 33 31.9**	**-0.8**
GMAL	**Guarumal, Vera**	**1.83**	**109**	*iP*	**Pn**	**12 33 28.8**	**-1.7**
RSUS3	**Rio de Jesus,**	**1.84**	**102**	*eP*	**Pn**	**12 33 31.2**	**+0.7**
STIA3	**Santiago, Vera**	**2.01**	**97**	*eP*	**Pn**	**12 33 31.5**	**-1.3**
STIA3				*eS*	**Sn**	**12 33 56.5**	**-1.3**
MARI3	**Mariato, Verag**	**2.10**	**109**	⇓*eP*	**Pn**	**12 33 35.3**	**+1.2**
MARI3				*iS*	**Sn**	**12 34 01.7**	**+1.7**
CALO3	**Calobre, Verag**	**2.12**	**91**	*iP*	**Pn**	**12 33 34.9**	**+0.5**
CALO3				*eS*	**Sn**	**12 34 01.6**	**+1.0**
CACAO	**El Cacao, Vera**	**2.33**	**115**	*iP*	**Pn**	**12 33 38.5**	**+1.2**
CACAO				*iS*	**Sn**	**12 34 07.8**	**+2.1**
CHIT3	**Chitre**	**2.57**	**99**	*eP*	**Pn**	**12 33 40.8**	**+0.2**
SOCE	**Pocosol**	**2.58**	**321**	P	**Pb**	**12 33 44.4**	**-1.0**
SOCE	**Pocosol**	**2.58**	**321**	S	**Sg**	**12 34 21.4**	**-0.9**
PNME	**Penonome**	**2.63**	**87**	*eP*	**Pn**	**12 33 43.1**	**+1.6**
JTS	**Las Juntas de**	**2.73**	**315**	*iP*	**Pb**	**12 33 45.9**	**-2.1**
JTS				*iS*	**Sn**	**12 34 17.6**	**+1.9**
JTS	**Las Juntas de**	**2.73**	**315**	⇑P	**Pb**	**12 33 46.0**	**-2.0**
JTS				S	**Sb**	**12 34 19.1**	**-2.3**
AZU	**Azuero**	**2.74**	**102**	*eP*	**Pn**	**12 33 44.1**	**+1.2**
AZU				*eS*	**Sn**	**12 34 18.1**	**+2.3**
ACHO3	**Achotines, Los**	**2.94**	**108**	*eP*	**Pn**	**12 33 45.2**	**-0.4**
ZANG	**Zanguenga, Cho**	**3.14**	**79**	*eP*	**Pn**	**12 33 49.6**	**+1.2**
BCIP	**Isla Barro Col**	**3.21**	**75**	*eP*	**Pn**	**12 33 50.7**	**+1.3**
BCIP				*eS*	**Sb**	**12 34 35.5**	**+0.3**
CHOR3	**La Chorrera**	**3.23**	**80**	*eP*	**Pn**	**12 33 50.8**	**+1.2**

*UPA **30** 12:53:24.6±0.7, 8˚.29N×82˚.97W, h22km±3km, MW3.9*
*CATAC **30** 12:53:24.9±0.9, 8˚N±5˚×8˚3W±˚, h13km±2km, M3.7/6, MLv3.7/6, Error ellipse: s-maj=13.1km s-min=5.1km az=151.0, confirmed*
*UCR **30** 12:53:25.3±1.1, 8˚.33N×82˚.94W, h9km±3km, MW4.1*
ISC 30 12:53:25.0±0.9, 8˚32N±0˚.03×82˚.95W±0˚.02, h17km±7km, n63, σ0s81/79, 3C-24D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIEL	**Armuelles**	**0.10**	**111**	⇑*eP*	**Pb**	**12 53 28.4**	**-0.1**
PTPM	**Petroterminale**	**0.14**	**149**	⇑*iP*	**Pg**	**12 53 28.9**	**0.0**
PTPM				*eS*	**Sb**	**12 53 32.8**	**+0.9**
PTPA	**Petro Terminal**	**0.15**	**147**	⇑*eP*	**Pg**	**12 53 28.9**	**-0.1**
PTPA				*eS*	**Sb**	**12 53 32.6**	**+0.5**
LESP3	**La Esperanza,**	**0.18**	**63**	*eP*	**Pb**	**12 53 29.7**	**-0.2**
LESP3				*eS*	**Sb**	**12 53 35.0**	**+1.9**
LPPC	**Paso Canoas**	**0.24**	**28**	⇓*eP*	**Pb**	**12 53 30.8**	**0.0**
CDITO	**Canoas**	**0.26**	**17**	P	**Pb**	**12 53 30.8**	**-0.4**
CDITO	**Canoas**	**0.26**	**17**	S	**Sb**	**12 53 36.2**	**+0.5**
NELY	**Ciudad Neily**	**0.33**	**1**	*eP*	**Pb**	**12 53 32.2**	**-0.2**
BRNON	**Bren.**	**0.33**	**24**	⇓*eP*	**Pb**	**12 53 32.3**	**-0.2**
FITO	**Golfito**	**0.36**	**326**	*eP*	**Pg**	**12 53 31.8**	**-0.7**
FITO				*eS*	**Sg**	**12 53 37.0**	**-0.6**
DMCAL	**E. de Neily**	**0.38**	**24**	⇓*eP*	**Pb**	**12 53 33.2**	**-0.1**
EDAD	**Golfito**	**0.39**	**327**	*eP*	**Pg**	**12 53 32.1**	**-0.9**
PIRO	**Carate, Puerto**	**0.39**	**282**	⇓*eP*	**Pg**	**12 53 32.6**	**-0.4**
PIRO	**Carate, Puerto**	**0.39**	**282**	P	**Pg**	**12 53 32.6**	**-0.4**
PIRO	**Carate, Puerto**	**0.39**	**282**	S	**Sb**	**12 53 39.6**	**+0.5**
PTJ1	**Puerto Jimnez**	**0.41**	**301**	P	**Pb**	**12 53 34.3**	**+0.5**
PTJ1	**Puerto Jimnez**	**0.41**	**301**	S	**Sn**	**12 53 42.8**	**-0.5**
JIME	**Puerto Jimenez**	**0.43**	**300**	*eP*	**Pb**	**12 53 33.9**	**-0.2**
JIME				*eS*	**Sb**	**12 53 42.4**	**+2.2**
BAGA3	**Bagala, Chiriq**	**0.44**	**71**	*eP*	**Pb**	**12 53 34.5**	**+0.1**
BAGA3				*eS*	**Sb**	**12 53

mB4.9,MLv4.9,Mw(mB)4.2
ISC 30 13:01:36.9s0.6,**44°62N**±0°02×**18°50E**±0°01,**h16**km±4km,
n1069,σ**1**ᵍ**63**/1100,**mb4.8**/163,**MS3.6**/16,**51C-50D,**
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
DOB	**Doboj**	**0.31**	**293**	⇑*i*Pg	**Pg**	**13 01 42.1**	**-1.3**
DOB				*e*Sg	**Sg**	**13 01 47.2**	**-0.7**
TEKS	**Tekeris**	**0.74**	**95**	*e*Pg	**Pb**	**13 01 50.7**	**-0.8**
TEKS				*e*Sg	**Sb**	**13 02 02.1**	**+0.7**
BLY	**Banja Luka**	**0.95**	**279**	⇑*i*Pg	**Pg**	**13 01 54.2**	**-1.1**
BLY				*e*Sg	**Sb**	**13 02 07.0**	**-0.3**
BLY	**Banja Luka**	**0.95**	**279**	⇑P	**Pb**	**13 01 54.9**	**0.0**
BLY	**Banja Luka**	**0.95**	**279**	*e*Pg	**Pn**	**13 01 56.0**	**+0.4**
BLY				*e*Sg	**Sb**	**13 02 06.8**	**-0.5**
BBLS	**Lazi&#263i**	**0.99**	**139**	*e*Pg	**Pg**	**13 01 55.3**	**-0.9**
BBLS				*e*Sg	**Sb**	**13 02 09.4**	**+0.7**
FRGS	**Fruska Gora**	**1.08**	**59**	*e*Pg	**Pn**	**13 01 57.4**	**0.0**
FRGS				*e*Sg	**Sb**	**13 02 11.4**	**+0.3**
RUDO	**Rudo**	**1.18**	**147**	⇑*i*Pg	**Pb**	**13 01 57.3**	**-1.6**
RUDO				*e*Sg	**Sg**	**13 02 14.5**	**-0.6**
RUDO	**Rudo**	**1.18**	**147**	*e*Pg	**Pb**	**13 01 57.6**	**-1.3**
RUDO				*e*Sg	**Sn**	**13 02 15.7**	**+1.2**
DIVS	**Divibare**	**1.19**	**115**	*e*Pg	**Pg**	**13 01 59.5**	**-0.4**
DIVS				*e*Sg	**Sn**	**13 02 15.2**	**+0.3**
A051A	**Mrakovica**	**1.20**	**290**	*e*Pg	**Pb**	**13 01 58.8**	**-0.5**
A051A				*e*Sg	**Sn**	**13 02 15.1**	**0.0**
A050A	**Klekovaca**	**1.41**	**265**	⇓*i*Pg	**Pb**	**13 02 02.4**	**-0.6**
A050A				*e*Sg	**Sg**	**13 02 21.3**	**-1.2**
BEO	**Beograd**	**1.42**	**81**	P	**Pn**	**13 02 01.8**	**-0.3**
BEO	**Beograd**	**1.42**	**81**	*e*Pg	**Pb**	**13 02 02.7**	**-0.4**
BEO				*e*Sg	**Sg**	**13 02 21.7**	**-1.1**
TRUS	**Trudelj**	**1.42**	**105**	*e*Pg	**Pg**	**13 02 03.5**	**-0.8**
TRUS				*e*Sg	**Sg**	**13 02 21.6**	**-1.3**
AVAS	**Avala Beograd**	**1.44**	**86**	*e*Pg	**Pb**	**13 02 03.1**	**-0.3**
AVAS				*e*Sg	**Sg**	**13 02 22.8**	**-0.6**
UPM	**Unac-Piva**	**1.44**	**168**	⇓*i*Pg	**Pb**	**13 02 03.4**	**-0.1**
UPM				*i* Sg	**Sg**	**13 02 24.0**	**+0.5**
KLINJ	**Klinje**	**1.45**	**177**	*e*Pg	**Pb**	**13 02 03.3**	**-0.3**
KLINJ				*e*Sg	**Sg**	**13 02 22.9**	**-0.7**
RICI	**Ricice**	**1.49**	**222**	*i* Pn	**Pg**	**13 02 04.4**	**-1.3**
RICI				*i* Sn	**Sg**	**13 02 28.4**	**+3.4**
IVAS	**Ivanjica**	**1.58**	**130**	*e*Pg	**Pn**	**13 02 04.4**	**0.0**
IVAS				*e*Sg	**Sg**	**13 02 27.3**	**-0.6**
MOSL	**Moslavina**	**1.59**	**310**	⇑*i*Pn	**Pn**	**13 02 04.4**	**0.0**
MOSL				*e*Sn	**Sb**	**13 02 25.9**	**+0.2**
MOSL	**Moslavina**	**1.59**	**310**	*i* Pn	**Pn**	**13 02 04.6**	**+0.2**
MOSL				*i* Sn	**Sg**	**13 02 27.1**	**-1.0**
MORH	**Mrgy, Hungar**	**1.60**	**4**	*e*Pn	**Pn**	**13 02 03.9**	**-0.7**
MORH				*e*Sn	**Sn**	**13 02 25.2**	**+0.2**
MORH	**Mrgy, Hungar**	**1.60**	**4**	⇑P	**Pn**	**13 02 03.9**	**-0.7**
MORH	**Mrgy, Hungar**	**1.60**	**4**	P	**Pn**	**13 02 03.6**	**-1.0**
KIJV	**Kijevo**	**1.62**	**249**	⇓*i*Pn	**Pb**	**13 02 06.2**	**-0.3**
KIJV				*e*Sn	**Sg**	**13 02 27.7**	**-1.5**
KIJV	**Kijevo**	**1.62**	**249**	*e*Pn	**Pb**	**13 02 06.2**	**-0.3**
MAKA	**Makarska**	**1.70**	**219**	*i* Pn	**Pb**	**13 02 07.3**	**-0.6**
MAKA				*i* Sn	**Sg**	**13 02 32.3**	**+0.5**
SUBS	**Subotica**	**1.70**	**28**	*e*Pg	**Pg**	**13 02 08.7**	**-1.0**
SUBS				*e*Sg	**Sg**	**13 02 32.2**	**+0.4**
BRY	**Bratogost**	**1.71**	**179**	⇓*i*Pn	**Pn**	**13 02 06.9**	**+0.6**
BRY				*i* Sn	**Sg**	**13 02 31.2**	**-1.0**
SJES	**Sjenica**	**1.72**	**141**	*e*Pg	**Pg**	**13 02 08.8**	**-1.3**
SJES				*e*Sg	**Sg**	**13 02 32.4**	**-0.1**
GRUS	**Gruza**	**1.75**	**114**	*e*Pn	**Pb**	**13 02 08.5**	**-0.2**
GRUS				*e*Sg	**Sg**	**13 02 32.2**	**-1.2**
STON	**Ston**	**1.84**	**199**	*e*Pn	**Pb**	**13 02 09.0**	**-1.1**
STON				*e*Sn	**Sb**	**13 02 33.1**	**+0.3**
STON	**Ston**	**1.84**	**199**	*i* Pn	**Pb**	**13 02 09.3**	**-0.7**
STON				*i* Sn	**Sg**	**13 02 37.6**	**+1.6**
STON	**Ston**	**1.84**	**199**	*e*Pn	**Pb**	**13 02 09.4**	**-0.7**
NKME	**Niksic**	**1.88**	**170**	⇓*i*Pn	**Pn**	**13 02 09.1**	**+0.7**
NKME				*i* Sn	**Sb**	**13 02 35.0**	**+0.9**
TREB	**Trebinje**	**1.90**	**183**	⇑*i*Pn	**Pb**	**13 02 09.9**	**-1.3**
TREB				*e*Sn	**Sb**	**13 02 34.6**	**-0.1**
TREB	**Trebinje**	**1.90**	**183**	*e*Pg	**Pb**	**13 02 09.6**	**-0.6**
TREB				*e*Sg	**Sg**	**13 02 38.2**	**+0.1**
KOME	**Kolasin**	**1.91**	**157**	⇑*i*Pn	**Pn**	**13 02 09.6**	**+0.6**
KOME				*i* Sn	**Sb**	**13 02 35.5**	**+0.3**
UDBI	**Udbina**	**1.96**	**268**	*i* Pn	**Pb**	**13 02 11.0**	**-1.2**
UDBI				*i* Sn	**Sg**	**13 02 38.6**	**-1.3**
DBRK	**Dubrovnik**	**1.96**	**188**	*e*Pn	**Pb**	**13 02 11.5**	**-0.8**
DBRK				*i* Sn	**Sg**	**13 02 40.5**	**+0.4**
SVIS	**Svilajnac**	**1.98**	**99**	*e*Pg	**Pb**	**13 02 12.3**	**-0.2**
SVIS				*e*Sg	**Sg**	**13 02 39.5**	**-1.1**
GOCS	**Kraljevo Serbi**	**2.01**	**121**	*e*Pg	**Pg**	**13 02 13.8**	**-1.7**
GOCS				*e*Sg	**Sb**	**13 02 39.1**	**+1.1**
IVA	**Berane**	**2.02**	**149**	⇓*i*Pn	**Pn**	**13 02 11.1**	**+0.7**
IVA				*i* Sn	**Sb**	**13 02 37.7**	**-0.4**
BANR	**Banloc**	**2.02**	**67**	⇑P	**Pn**	**13 02 10.5**	**+0.1**
PLIT	**Plitvice**	**2.06**	**278**	*i* Pn	**Pb**	**13 02 12.3**	**-1.7**
PLIT				*i* Sn	**Sb**	**13 02 40.0**	**+0.5**
VRSS	**Vrsac**	**2.07**	**75**	*e*Pg	**Pg**	**13 02 15.1**	**-1.6**
VRSS				*e*Sg	**Sg**	**13 02 42.0**	**-1.6**
KALN	**Kalnik**	**2.09**	**317**	*i* Pn	**Pn**	**13 02 11.5**	**+0.1**
KALN				*i* Sn	**Sg**	**13 02 44.3**	**+0.2**
CEME	**Cevo**	**2.09**	**171**	⇓*i*Pn	**Pn**	**13 02 12.1**	**+0.7**
CEME				*i* Sn	**Sb**	**13 02 40.0**	**-0.3**
MORI	**Morici**	**2.14**	**250**	*i* Pn	**Pb**	**13 02 14.3**	**-1.0**
MORI				*i* Sn	**Sg**	**13 02 43.5**	**-2.2**
ZAG	**Zagreb**	**2.15**	**305**	P	**Pn**	**13 02 12.9**	**+0.8**
ZAG	**Zagreb**	**2.15**	**305**	*e*Pn	**Pb**	**13 02 14.8**	**-0.6**
HCY	**Herceg Novi**	**2.17**	**180**	⇑*i*Pn	**Pb**	**13 02 13.9**	**-1.9**
HCY				*i* Sn	**Sb**	**13 02 42.3**	**-0.1**
LSTV	**Lastovo**	**2.18**	**213**	*e*Pn	**Pb**	**13 02 14.3**	**-1.7**
LSTV				*i* Sn	**Sb**	**13 02 43.9**	**+1.1**
PTJ	**Puntijarka**	**2.20**	**307**	P	**Pn**	**13 02 13.1**	**+0.1**
PTJ	**Puntijarka**	**2.20**	**307**	*e*Pn	**Pn**	**13 02 13.3**	**+0.3**
BEHE	**Becsehely**	**2.21**	**328**		**Pn**	**13 02 13.7**	**+0.6**
BEHE				*i* Sn	**Sn**	**13 02 36.4**	**-3.6**
BEHE	**Becsehely**	**2.21**	**328**	⇑*i*Pn	**Pn**	**13 02 13.6**	**+0.5**
BEHE				*e*Sn	**Sn**	**13 02 40.8**	**+0.7**
PDG	**Podgorica**	**2.25**	**166**		**Pn**	**13 02 14.5**	**+0.9**
PDG				*i* Sn	**Sn**	**13 02 41.3**	**+0.4**
PDG	**Podgorica**	**2.25**	**166**	⇑P	**Pn**	**13 02 14.2**	**+0.7**
PDG	**Podgorica**	**2.25**	**166**	*e*Pn	**Pn**	**13 02 14.7**	**+1.2**
PDG	**Podgorica**	**2.25**	**166**	⇓*i*Pn	**Pn**	**13 02 14.6**	**+1.1**
PDG				*i* Sn	**Sb**	**13 02 43.9**	**-0.9**
ZIRJ	**Zirje**	**2.27**	**246**	*i* Pn	**Pb**	**13 02 16.0**	**-1.5**
ZIRJ				*i* Sn	**Sb**	**13 02 45.7**	**+0.4**
MDVR	**Moldovita**	**2.30**	**85**	⇓P	**Pn**	**13 02 13.6**	**-0.6**
MDVR	**Moldovita**	**2.30**	**85**	*e*Pn	**Pb**	**13 02 16.3**	**-1.8**
LOBO	**Lobor**	**2.30**	**313**	*i* Pn	**Pn**	**13 02 14.2**	**-0.1**
LOBO				Sg	**Sg**	**13 02 50.5**	**-0.4**
BUM	**Brajici-Budva**	**2.33**	**173**	⇓*i*Pn	**Pb**	**13 02 16.5**	**-2.1**
BUM				*i* Sn	**Sb**	**13 02 46.1**	**-1.1**
SELS	**Selova**	**2.35**	**125**	*e*Pn	**Pn**	**13 02 15.8**	**+0.8**
SELS				*e*Sg	**Sg**	**13 02 52.3**	**-0.3**
OZLJ	**Ozalj**	**2.37**	**296**	⇑*i*Pn	**Pn**	**13 02 15.5**	**+0.4**
OZLJ				*e*Sn	**Sn**	**13 02 45.4**	**+1.6**
OZLJ	**Ozalj**	**2.37**	**296**	*e*Pn	**Pb**	**13 02 16.8**	**-2.4**
KOGS	**Kog**	**2.42**	**320**	*i* Pn	**Pn**	**13 02 16.1**	**+0.2**
BZS	**Buzias**	**2.42**	**65**	⇑P	**Pn**	**13 02 15.2**	**-0.8**
BZS	**Buzias**	**2.42**	**65**	P	**Pn**	**13 02 15.1**	**-0.8**
BZS	**Buzias**	**2.42**	**65**	*e*Pn	**Pn**	**13 02 15.0**	**-0.9**
BOJS	**Bojanci**	**2.46**	**292**	*e*Pn	**Pb**	**13 02 18.9**	**-2.0**
DRME	**Dracevica, Mon**	**2.48**	**168**	⇑*i*Pn	**Pn**	**13 02 18.3**	**+1.6**
DRME				*i* Sn	**Sn**	**13 02 49.1**	**+2.5**
VIRC	**Vir**	**2.49**	**264**	*i* Pn	**Pb**	**13 02 19.3**	**-1.9**
VIRC				*i* Sn	**Sb**	**13 02 50.4**	**-1.2**
BOVS	**Bovan**	**2.51**	**112**	⇑P	**Pn**	**13 02 18.2**	**+1.1**
BOVS	**Bovan**	**2.51**	**112**	*e*Pn	**Pn**	**13 02 17.6**	**+0.5**
BOVS				*e*Sg	**Sg**	**13 02 55.5**	**-2.1**
DUGI	**Dugi Otok**	**2.55**	**257**	*i* Pn	**Pb**	**13 02 20.0**	**-2.2**
DUGI				*i* Sn	**Sb**	**13 02 53.6**	**+0.3**
RABC	**Rab**	**2.65**	**274**	*i* Pn	**Pb**	**13 02 21.2**	**-2.8**
RABC				*i* Sn	**Sb**	**13 02 55.2**	**-1.2**
ULC	**Ulcinj**	**2.71**	**168**	⇓*i*Pn	**Pn**	**13 02 21.8**	**+2.0**
ULC				*i* Sn	**Sn**	**13 02 55.2**	**+3.0**
GBRS	**Gornja Briga**	**2.77**	**291**	*e*Pn	**Pn**	**13 02 21.0**	**+0.3**
GBRS				*i* Pg	**Pg**	**13 02 28.9**	**-1.1**
GBRS				*e*Sn	**Sn**	**13 02 53.6**	**-0.2**
GBRS				IAML		13 03 16.4	
	comp=Z,2μm,0.9s						
SIRR	**Siria**	**2.77**	**52**	⇑P	**Pn**	**13 02 19.8**	**-0.9**
SIRR	**Siria**	**2.77**	**52**	*e*Pn	**Pn**	**13 02 20.0**	**-0.7**
ZAGS	**Zajecar**	**2.80**	**105**	*e*Pn	**Pn**	**13 02 22.2**	**+1.1**
ZAGS				*e*Sg	**Sg**	**13 03 05.3**	**-1.7**
HERR	**Herculane**	**2.81**	**83**	⇑P	**Pn**	**13 02 20.8**	**-0.3**
SURR	**Surduc**	**2.81**	**65**	⇑P	**Pn**	**13 02 20.2**	**-0.9**
VISS	**Visnje**	**2.84**	**296**	*i* Pn	**Pn**	**13 02 22.6**	**+0.9**
DJES	**Djerdap**	**2.87**	**88**	⇑P	**Pn**	**13 02 22.2**	**+0.2**
DJES	**Djerdap**	**2.87**	**88**	*e*Pn	**Pn**	**13 02 22.3**	**+0.2**
BUD	**Budapest**	**2.89**	**7**	P	**Pn**	**13 02 21.6**	**-0.7**
BARS	**Barje**	**3.00**	**126**	*e*Pn	**Pn**	**13 02 24.4**	**+0.5**
CEY	**Cerknica**	**3.09**	**293**	*e*Pn	**Pn**	**13 02 26.7**	**+1.6**
PERS	**Pernice**	**3.12**	**312**	*i* Pn	**Pn**	**13 02 25.7**	**+0.2**
GZR	**Gura Zlata**	**3.13**	**74**	⇑P	**Pn**	**13 02 25.4**	**-0.3**
GZR	**Gura Zlata**	**3.13**	**74**	P	**Pn**	**13 02 25.4**	**-0.3**
GZR	**Gura Zlata**	**3.13**	**74**	*e*Pn	**Pn**	**13 02 25.3**	**-0.4**
LJU	**Ljubljana**	**3.14**	**298**	P	**Pn**	**13 02 27.4**	**+1.6**
LJU	**Ljubljana**	**3.14**	**298**	*e*Pn	**Pn**	**13 02 26.2**	**+0.4**
LJU				*e*Pg	**Pg**	**13 02 35.6**	**-1.5**
LJU				*i* Sn	**Sn**	**13 03 02.3**	**-0.7**
LJU				*i* Sg	**Sg**	**13 03 17.3**	**-0.5**
LJU				IAML		13 03 31.0	
	comp=Z,1μm,0.6s						
LJU	**Ljubljana**	**3.14**	**298**	*e*Pn	**Pn**	**13 02 26.6**	**+0.8**
SOKA	**Soboth**	**3.19**	**312**	*e*Pn	**Pn**	**13 02 26.5**	**0.0**
	comp=Z,38nm,0.2s,SNR=114						
SOKA				*e*Sn	**Sn**	**13 03 02.7**	**-1.5**
	comp=Z,133nm,0.6s						
PUNG	**Punghina**	**3.19**	**95**	⇓P	**Pn**	**13 02 26.8**	**+0.3**
PUNG	**Punghina**	**3.19**	**95**	*e*Pn	**Pn**	**13 02 27.1**	**+0.6**
SRO	**Srobarova**	**3.20**	**358**	*e*P	**Pn**	**13 02 27.2**	**+0.6**
SRO	**Srobarova**	**3.20**	**358**	*e*PN	**Pn**	**13 02 27.2**	**+0.6**
ZAPS	**Zavoj**	**3.27**	**113**	*e*Pn	**Pn**	**13 02 28.6**	**+1.0**
SKDS	**Skadanscina**	**3.31**	**288**	*i* Pn	**Pn**	**13 02 29.2**	**+1.1**
SKDS				*e*Sn	**Sn**	**13 03 08.3**	**+1.3**
SKDS	**Skadanscina**	**3.31**	**288**	*e*Pn	**Pn**	**13 02 29.8**	**+1.7**
ARSA	**Arzberg**	**3.35**	**323**		**Pn**	**13 02 29.2**	**+0.5**
ARSA	**Arzberg**	**3.35**	**323**	*i* Pn	**Pn**	**13 02 29.3**	**+0.5**
	comp=Z,558nm,0.6s,SNR=1026						
ARSA				*i* Sn	**Sn**	**13 03 07.4**	**-0.8**
	comp=Z,7.5nm,0.2s						
ARSA	**Arzberg**	**3.35**	**323**	*e*Pn	**Pn**	**13 02 29.3**	**+0.5**
OBKA	**Obir**	**3.36**	**306**	*i* Pn	**Pn**	**13 02 29.2**	**+0.4**
	comp=Z,27nm,0.3s,SNR=62						
OBKA				*e*Sg	**Sg**	**13 03 26.9**	**+2.2**
	comp=Z,130nm,0.4s						
DEV	**Deva**	**3.36**	**66**	⇓P	**Pn**	**13 02 28.9**	**+0.2**
DEV	**Deva**	**3.36**	**66**	P	**Pn**	**13 02 28.9**	**+0.2**
SRE	**Strehaia**	**3.36**	**88**	⇓P	**Pn**	**13 02 30.3**	**+1.4**
SRE	**Strehaia**	**3.36**	**88**	P	**Pn**	**13 02 30.2**	**+1.4**
BORR	**Bors**	**3.38**	**42**	⇓P	**Pn**	**13 02 29.8**	**+0.8**
BRJN	**Brijuni**	**3.39**	**277**	*e*Pn	**Pn**	**13 02 29.8**	**+0.6**
BRJN				*e*Sn	**Sn**	**13 03 10.1**	**+1.0**
PSZ	**Piszkesteto**	**3.44**	**16**		**Pn**	**13 02 28.8**	**-1.2**
PSZ	**Piszkesteto**	**3.44**	**16**	⇓P	**Pn**	**13 02 29.9**	**-0.1**
PSZ	**Piszkesteto**	**3.44**	**16**	P	**Pn**	**13 02 29.9**	**-0.1**
RONA	**Rosalia, Austr**	**3.44**	**334**	*i* Pn	**Pn**	**13 02 30.2**	**+0.2**
	comp=Z,0.7nm,0.1s,SNR=359						
RONA				*i* Sn	**Sn**	**13 03 10.0**	**-0.5**
	comp=Z,209nm,0.6s						
SGRT	**San Giovanni R**	**3.50**	**216**		**Pn**	**13 02 29.9**	**-0.8**
TRAN	**Tran**	**3.50**	**119**	P	**Pn**	**13 02 30.8**	**+0.1**
TRI	**Trieste**	**3.52**	**290**		**Pn**	**13 02 32.0**	**+1.1**
TRI				Sn	**Sn**	**13 03 12.9**	**+0.7**
VOJS	**Vojsko**	**3.55**	**295**	*i* Pn	**Pn**	**13 02 32.0**	**+0.6**
BOSS	**Bosilegrad**	**3.59**	**125**	*e*Pn	**Pn**	**13 02 32.4**	**+0.5**
DRGR		**3.67**	**52**	⇑P	**Pn**	**13 02 34.0**	**+0.9**
DRGR		**3.67**	**52**	P	**Pn**	**13 02 33.9**	**+0.9**
DRGR		**3.67**	**52**	*e*Pn	**Pn**	**13 02 32.7**	**-0.4**
VALD	**Valchedram**	**3.67**	**103**	P	**Pn**	**13 02 33.7**	**+0.7**
ZST	**Bratislava**	**3.71**	**345**	*e*P	**Pn**	**13 02 33.2**	**-0.4**
ZST				*e*		13 03 17.0	
ZST	**Bratislava**	**3.71**	**345**	*e*PN	**Pn**	**13 02 33.2**	**-0.4**
ZST				*e*SN	**Sn**	**13 03 17.0**	**+0.1**
SABO	**M.te Sabotino**	**3.71**	**293**		**Pn**	**13 02 34.1**	**+0.5**
CONA	**Conrad Observa**	**3.78**	**332**	*e*Pn	**Pn**	**13 02 34.9**	**+0.2**
	comp=Z,78nm,0.3s,SNR=268						
CONA				*i* Sn	**Sn**	**13 03 19.7**	**+0.8**
	comp=Z,213nm,0.5s						
LOT	**Lotru**	**3.83**	**76**	⇑P	**Pn**	**13 02 35.2**	**-0.1**
MARR	**Marisel-Cluj**	**3.84**	**56**	⇑P	**Pn**	**13 02 35.2**	**-0.3**
MODS	**Modra-Piesok**	**3.85**	**348**	*e*SN	**Sn**	**13 03 17.2**	**-3.3**
VYHS	**Vyhne**	**3.89**	**3**	*e*P	**Pn**	**13 02 35.9**	**-0.1**
VYHS				*e*		13 03 22.9	
VYHS	**Vyhne**	**3.89**	**3**	*e*PN	**Pn**	**13 02 35.9**	**-0.1**
VYHS				*e*PG	**Pg**	**13 02 50.1**	**-1.3**
VYHS				*e*SN	**Sn**	**13 03 22.9**	**+1.6**
OHR	**Ohrid**	**3.89**	**153**	*i* Pn	**Pn**	**13 02 39.3**	**+3.2**
MYKA	**Terra Mystica**	**3.96**	**302**	*i* Pn	**Pn**	**13 02 37.7**	**+0.6**
	comp=Z,47nm,0.5s,SNR=63						
MYKA				*i* Sn	**Sn**	**13 03 23.9**	**+0.7**
	comp=Z,0.2nm,0.1s						
SMOL	**Smolenice**	**3.97**	**350**	*e*P	**Pn**	**13 02 36.6**	**-0.5**
SMOL				*e*		13 03 24.3	
VTS	**Vitosha**	**3.98**	**118**	P	**Pn**	**13 02 38.0**	**+0.6**
VTS	**Vitosha**	**3.98**	**118**	*e*Pn	**Pn**	**13 02 38.0**	**+0.6**
MPEP	**Malo Peshtene**	**3.99**	**107**	P	**Pn**	**13 02 38.0**	**+0.6**
GUMA	**Gualdo di Mace**	**4.04**	**249**		**Pn**	**13 02 38.9**	**+0.7**
KECS	**Kecovo**	**4.11**	**19**	*e*P	**Pn**	**13 02 39.3**	**+0.3**
KECS	**Kecovo**	**4.11**	**19**	*e*PN	**Pn**	**13 02 39.3**	**+0.3**
KECS				*e*PG	**Pg**	**13 02 55.1**	**-0.4**
CJR	**Cluj-Napoca**	**4.15**	**58**	⇑P	**Pn**	**13 02 40.5**	**+0.9**
CJR	**Cluj-Napoca**	**4.15**	**58**	P	**Pn**	**13 02 40.5**	**+0.9**
PLNA	**Plana**	**4.17**	**119**	P	**Pb**	13 02 45.1	-4.9
MATE	**Matera**	**4.18**	**199**	⇑P	**Pn**	**13 02 40.4**	**+0.5**
TNR	**Turnu Rosu**	**4.22**	**74**	⇑P	**Pn**	**13 02 40.5**	**-0.1**
TNR	**Turnu Rosu**	**4.22**	**74**	P	**Pn**	**13 02 40.5**	**-0.1**
FDMO	**Fiordimonte**	**4.22**	**250**		**Pn**	**13 02 41.1**	**+0.5**
CAMP	**Campotosto**	**4.24**	**242**		**Pn**	**13 02 41.7**	**+0.7**
INTR	**Introdacqua**	**4.24**	**234**		**Pn**	**13 02 41.3**	**+0.4**
ACER	**Acerenza**	**4.26**	**207**		**Pn**	**13 02 41.1**	**-0.2**
JAVC	**Velka Javorina**	**4.28**	**353**	*e*PN	**Pn**	**13 02 41.2**	**-0.3**
NRCA	**Norcia**	**4.29**	**247**		**Pn**	**13 02 42.1**	**+0.5**
AQU	**L'Aquila**	**4.34**	**240**	P	**Pn**	**13 02 44.4**	**+2.1**
AQU	**L'Aquila**	**4.34**	**240**	P	**Pn**	**13 02 43.2**	**+0.9**
KBA	**Koelnbreinsper**	**4.36**	**306**	P	**Pn**	**13 02 43.5**	**+0.8**
KBA	**Koelnbreinsper**	**4.36**	**306**	*e*Pn	**Pn**	**13 02 43.0**	**+0.3**
	comp=Z,0.3nm,0.1s						
KBA				*e*Sn	**Sn**	**13 03 33.8**	**+0.5**
	comp=Z,65nm,0.6s						
MOA	**Molln**	**4.37**	**319**	*i* Pn	**Pn**	**13 02 43.6**	**+1.0**
	comp=Z,109nm,0.5s,SNR=55						
MOA				*i* Sn	**Sn**	**13 03 33.3**	**+0.1**
	comp=Z,30nm,0.2s						
MOA	**Molln**	**4.37**	**319**	*e*Pn	**Pn**	**13 02 44.0**	**+1.4**
KKB	**Krupnik**	**4.38**	**128**	P	**Pn**	**13 02 43.5**	**+0.8**
FNA	**Florina**	**4.38**	**150**		**Pn**	**13 02 44.2**	**+1.4**
FNA	**Florina**	**4.38**	**150**	P	**Pn**	**13 02 44.2**	**+1.4**
FNA	**Florina**	**4.38**	**150**	*e*Pn	**Pn**	**13 02 43.7**	**+0.9**
STAL	**STALIGIAL**	**4.39**	**294**		**Pn**	**13 02 43.4**	**+0.4**
ARR	**Arges**	**4.42**	**78**	⇑P	**Pn**	**13 02 44.8**	**+1.5**
MDB	**Medias**	**4.42**	**68**	⇓P	**Pn**	**13 02 44.3**	**+0.9**
MDB	**Medias**	**4.42**	**68**	P	**Pn**	**13 02 44.2**	**+0.9**
VAY	**Valandovo**	**4.45**	**136**	*i* Pn	**Pn**	**13 02 44.7**	**+1.0**
MURB	**Monte Urbino**	**4.52**	**255**		**Pn**	**13 02 45.9**	**+1.1**
BIOA	**Bad Ischl, Aus**	**4.57**	**314**	*i* Pn	**Pn**	**13 02 46.3**	**+1.0**
	comp=Z,49nm,0.3s,SNR=67						
BIOA				*i* Sn	**Sn**	**13 03 37.6**	**-0.5**
	comp=Z,179nm,0.5s						
PLVB	**Pleven**	**4.59**	**103**	⇓P	**Pn**	**13 02 47.3**	**+1.7**
PAOL	**Paolisi**	**4.60**	**220**		**Pn**	**13 02 46.8**	**+0.9**
HUMR	**Humele**	**4.63**	**89**	⇓P	**Pn**	**13 02 47.6**	**+1.4**
KRUC	**Moravsky**	**4.68**	**343**	*e*PN	**Pn**	**13 02 45.4**	**-1.4**
KRUC				*e*SN	**Sn**	**13 03 41.7**	**+1.0**
ABTA	**Abfaltersbach**	**4.70**	**299**	*i* Pn	**Pn**	**13 02 48.6**	**+1.3**
	comp=Z,22nm,0.5s,SNR=56						
ABTA				*i* Sn	**Sn**	**13 03 43.7**	**+2.1**
	comp=Z,3.7nm,0.2s						
MTUR	**Matau**	**4.70**	**80**	⇑P	**Pn**	**13 02 48.6**	**+1.2**
MTUR	**Matau**	**4.70**	**80**	P	**Pn**	**13 02 48.5**	**+1.2**
KNT	**Kendrikon**	**4.73**	**135**	P	**Pn**	**13 02 48.5**	**+0.9**
CESX	**Cesi**	**4.74**	**247**		**Pn**	**13 02 48.2**	**+0.5**
MAUC	**Maruska**	**4.77**	**355**	*e*PN	**Pn**	**13 02 48.5**	**+0.3**
VRAC	**Vranov**	**4.87**	**345**	Pn	**Pn**	**13 02 49.0**	**-0.5**
	comp=Z,2.7nm,0.3s,baz=172,slow=13,SNR=27						
VRAC				Sn	**Sn**	**13 03 44.6**	**-0.9**
	comp=Z,7.5nm,0.3s,baz=260,slow=23,SNR=5.0						
VRAC				LR	LR	13 04 50.2	
	comp=Z,196nm,21.6s,baz=192,slow=40						
	comp=Z,42nm,0.8s						
VRAC	**Vranov**	**4.87**	**345**	*e*PN	**Pn**	**13 02 48.6**	**-0.9**
VRAC				*e*SN	**Sn**	**13 03 46.0**	**+0.4**
VRAC	**Vranov**	**4.87**	**345**	⇓P	**Pn**	**13 02 49.6**	**0.0**
VRAC	**Vranov**	**4.87**	**345**	P	**Pn**	**13 02 49.5**	**0.0**
MMB	**Musomishta**	**4.92**	**127**	P	**Pn**	**13 02 50.7**	**+0.5**
LESA	**Schwarzleotal**	**4.93**	**307**	*e*Pn	**Pn**	**13 02 51.3**	**+0.9**
	comp=Z,38nm,0.4s,SNR=88						
LESA				*i* Sn	**Sn**	**13 03 47.2**	**+0.1**
	comp=Z,425nm,0.9s						
NIE	**Niedzica**	**4.96**	**14**	*e*P	**Pn**	**13 02 51.8**	**+1.0**
NIE	**Niedzica**	**4.96**	**14**	P	**Pn**	**13 02 52.1**	**+1.3**
NIE	**Niedzica**	**4.96**	**14**	P	**Pn**	**13 02 51.8**	**+1.0**
KEK	**Kerkira**	**4.99**	**168**		**Pn**	**13 02 54.1**	**+2.9**
CUC	**Castrocucco**	**5.03**	**204**		**Pn**	**13 02 52.1**	**+0.3**
KOLS	**Kolonicke sedl**	**5.04**	**30**	*e*P	**Pn**	**13 02 53.0**	**+1.2**
KOLS	**Kolonicke sedl**	**5.04**	**30**	*e*PN	**Pn**	**13 02 53.0**	**+1.2**
KOLS				*e*PG	**Pg**	**13 03 13.9**	**+0.5**
RJOB	**Jochberg**	**5.04**	**310**	*e*Pn	**Pn**	**13 02 53.2**	**+1.2**
RJOB				*e*Sn	**Sn**	**13 03 51.1**	**+1.2**
DOPP	**Dopca**	**5.05**	**72**

FUR pmax pmax
comp=Z,117nm,0.7s
FUR Furstenfeldbru 6.13 308 *e*Pn **Pn 13 03 08.2 +1.5**
FUR *e*Sn **Sn 13 04 15.4 -1.1**
UPC Upice 6.13 345 *e*P **Pn 13 03 06.7 -0.1**
UPC MLR MLR
comp=Z,2µm,8.8s
UPC Upice 6.13 345 *e*Pn **Pn 13 03 06.7 -0.1**
UPC AMS AMS 13 06 00.0
comp=Z,2µm,8.8s
OSTC Ostas 6.14 346 *e*P **Pn 13 03 07.1 +0.1**
OSTC Ostas 6.14 346 *e*Pn **Pn 13 03 07.1 +0.1**
CHVC Chvalec 6.20 345 *e*P **Pn 13 03 08.3 +0.5**
CHVC MLR MLR
comp=Z,2µm,8.9s
CHVC Chvalec 6.20 345 *e*Pn **Pn 13 03 08.3 +0.5**
CHVC AMS AMS 13 06 00.0
comp=Z,2µm,8.9s
EVGI Lefkada island 6.20 164 P **Pn 13 03 07.2 -0.7**
EVR Evrytania 6.21 155 P **Pn 13 03 10.0 +1.9**
MAKR Makrakomi, Fth 6.22 153 P **Pn 13 03 09.5 +1.4**
RDO Rodhopi 6.23 121 Pn 13 03 07.5 -0.7
OBER Oberstdorf 6.36 299 *e*Pn **Pn 13 03 10.3 +0.3**
KSP Ksiaz 6.41 347 *e*P **Pn 13 03 10.2 -0.3**
KSP Ksiaz 6.41 347 P **Pn 13 03 11.0 +0.4**
KSP pmax pmax
comp=Z,75nm,0.8s
KSP Ksiaz 6.41 347 P **Pn 13 03 10.5 -0.1**
comp=Z,0.3nmcomp=Z,594nmcomp=Z,75nm,0.8s
DAVOX Davos/Dischmat 6.41 293 Pn **Pn 13 03 12.7 +1.8**
comp=Z,9.6nm,0.3s,baz=90,slow=12,SNR=67
DAVOX Sn **Sn 13 04 27.8 +4.0**
baz=327,slow=19
DAVOX Lg Lg 13 05 00.8
comp=Z,3.3nm,0.3s,baz=79,slow=10.0,SNR=5.8
DAVOX LR LR 13 06 17.6
comp=Z,192nm,20.2s,baz=253,slow=44
comp=Z,76nm,0.6s
MSSA Maissana 6.43 270 Pn 13 03 11.9 +0.8
PVCC Panska Ves 6.48 337 *e*P **Pn 13 03 12.2 +0.5**
PVCC MLR MLR
comp=Z,2µm,8.9s
PVCC Panska Ves 6.48 337 *e*PN **Pn 13 03 12.2 +0.5**
PVCC AMS AMS 13 06 00.0
comp=Z,2µm,8.9s
DMLN Damoulianata-K 6.53 167 P **Pn 13 03 11.8 -0.5**
ANX Ano Chora 6.54 156 P **Pn 13 03 13.9 +1.3**
DAVA Damuels 6.57 297 *e*Pn **Pn 13 03 14.7 +1.6**
comp=Z,1.2nm,0.3s,SNR=19
DAVA *e*Sn **Sn 13 04 28.5 +0.8**
comp=Z,16nm,0.6s
PRD Provadia 6.60 100 P **Pn 13 03 15.0 +1.7**
VLS Valsamata 6.62 166 P **Pn 13 03 12.5 -1.1**
VLS Valsamata 6.62 166 P **Pn 13 03 12.6 -1.0**
CEL Celeste 6.64 198 Pn 13 03 13.5 -0.5
PSDA Pessada-Kefalo 6.68 166 P **Pn 13 03 13.3 -1.1**
ALN Alexandroupoli 6.68 121 Pn 13 03 15.5 +1.1
ALN Alexandroupoli 6.68 121 P **Pn 13 03 15.5 +1.1**
GRB1 Grafenberg Arr 6.69 318 P **Pn 13 03 15.1 +0.7**
GRB1 pmax pmax
comp=Z,154nm,0.8s
TUE Stuetta 6.69 289 Pn 13 03 15.5 +0.8
TUE Stuetta 6.69 289 P **Pn 13 03 16.1 +1.4**
comp=Z,1.6nmcomp=Z,3µmcomp=Z,292nm,1.0s
EFP Elpalio 6.69 156 P **Pn 13 03 15.6 +1.1**
ROTZ Rotzenmuhle 6.70 322 *e*Pn **Pn 13 03 14.0 -0.6**
NORI Noerdlinger Ri 6.79 310 *e*Pn **Pn 13 03 15.9 0.0**
HSKC Hora Svate Kat 6.90 332 *e*PN **Pn 13 03 17.1 -0.3**
HSKC AMS AMS 13 06 10.0
comp=Z,2µm,9.6s
MANZ Manzenberg 6.91 323 *e*Pn **Pn 13 03 18.3 +0.8**
ORTH Orthonies,Zaky 6.96 165 P **Pn 13 03 16.6 -1.6**
BRG Berggiesshubel 6.97 336 P **Pn 13 03 19.4 +1.1**
BRG pmax pmax
comp=Z,39nm,0.8s
BRG Berggiesshubel 6.97 336 *e*Pn **Pn 13 03 19.2 +0.9**
BRG Berggiesshubel 6.97 336 Pn **Pn 13 03 19.2 +0.9**
BRG Pb **Pb 13 03 40.0 +2.4**
BRG r 13 03 54.0
BRG r 13 04 35.2
BRG r 13 05 05.5
BRG Berggiesshubel 6.97 336 Sg **Sg 13 05 27.2 +6.7**
BRG Amp 13 05 32.6
comp=Z,74nm,0.9s
WERN Wernitzgruen 7.03 326 *e*Pn **Pn 13 03 19.0 -0.2**
TPGR Topolog 7.07 85 ⇓P **Pn 13 03 20.8 +1.0**
DRO Drossia 7.08 159 P **Pn 13 03 19.8 -0.2**
TIRR Tirgusor 7.09 88 Pn **Pn 13 03 21.1 +1.1**
TIRR Tirgusor 7.09 88 P **Pn 13 03 21.1 +1.1**
TANN Tannenbergstha 7.09 327 *e*Pn **Pn 13 03 20.2 +0.2**
GRA1 Grafenberg Arr 7.10 318 Pn 13 03 19.3 -0.8
GRF Grafenberg Arr 7.10 318 P **Pn 13 03 21.1 +1.0**
GRF pmax pmax
comp=Z,78nm,0.8s
GRF Grafenberg Arr 7.10 318 *e*Pn **Pn 13 03 20.7 +0.6**
GRFO Grafenberg 7.10 318 Pn 13 03 19.0 -1.1
GRO Grafenberg 7.10 318 P **Pn 13 03 19.0 -1.1**
GUNZ Gunzen 7.11 326 *e*Pn **Pn 13 03 20.4 +0.2**
MULD Muldenberg 7.12 327 *e*Pn **Pn 13 03 20.6 +0.3**
KLV Kalavryta, Ach 7.12 156 P **Pn 13 03 20.3 -0.1**
TRIB Obertriebel 7.17 325 *e*Pn **Pn 13 03 21.4 +0.2**
WERD Werda 7.18 327 *e*Pn **Pn 13 03 21.9 +0.7**
FBE Freiberg 7.20 333 *e*Pn **Pn 13 03 21.6 +0.2**
PGF Pioggiola 7.20 257 *e*Pn **Pn 13 03 22.5 +0.9**
PGF *e*Sn **Sn 13 04 39.3 -3.8**
comp=Z,34nm,0.9s
PGF Pioggiola 7.20 257 P **Pn 13 03 24.0 +2.4**
PGF pmax pmax
comp=Z,28nm,1.0s
PHSR Pinarhisar 7.25 111 ⇑P **Pn 13 03 23.5 +1.4**
PLN Plauen 7.27 326 *e*Pn **Pn 13 03 23.0 +0.5**
SCHF Schoenfels 7.33 328 *e*Pn **Pn 13 03 23.2 -0.1**
TLCR 7.35 82 ⇓P **Pn 13 03 24.8 +1.2**
TLCR 7.35 82 P **Pn 13 03 24.7 +1.2**
GRZ1 Mausoleum Wald 7.41 327 *e*Pn **Pn 13 03 25.8 +1.5**
GIB Gibilmanna 7.42 208 P **Pn 13 03 27.8 +3.1**
GIB pmax pmax
comp=Z,42nm,0.8s
HKWD Heukewalde 7.50 328 *e*Pn **Pn 13 03 25.8 +0.2**
EZN Ezine 7.53 127 ⇓P **Pn 13 03 26.5 +0.5**
EZN Ezine 7.53 127 P **Pn 13 03 26.5 +0.5**
MILM Milestii Mici 7.57 69 P **Pn 13 03 26.0 -0.6**
MILM *e*S **Sn 13 04 51.0 -1.0**
MOX Moxa 7.61 325 P **Pn 13 03 27.5 +0.4**
MOX pmax pmax
comp=Z,85nm,0.8s
MOX Moxa 7.61 325 *e*Pn **Pn 13 03 27.6 +0.4**
SLE Schleitheim 7.62 298 P **Pn 13 03 27.8 +0.5**
SLE pmax pmax
comp=Z,77nm,0.8s
STU Stuttgart 7.63 306 Pn 13 03 26.8 -0.5
STU Stuttgart 7.63 306 P **Pn 13 03 26.8 -0.5**
HWTS Hohenwarte Tal 7.63 324 *e*Pn **Pn 13 03 28.2 +0.8**
CLL Collm 7.64 333 Pn 13 03 27.5 0.0
CLL Collm 7.64 333 P **Pn 13 03 27.5 0.0**
CLL Collm 7.64 333 P **Pn 13 03 26.9 -0.6**
comp=Z,0.5nmcomp=Z,35nm,0.6s
CLL Collm 7.64 333 *e*Pn **Pn 13 03 27.2 -0.3**
CLL Collm 7.64 333 *e*Pn **Pn 13 03 27.0 -0.6**
CLL *i* x x 13 03 30.1
CLL *ex* x 13 03 35.0
CLL *e*Sn Sn 13 04 38.0 -16
CLL *ex* x 13 04 54.0
CLL *ex* x 13 05 22.0
CLL *ex* x 13 05 29.0
CLL *e*Sg 13 05 40.0
comp=Z,249nm,1.4s
CLL Lmax 13 06 00.0
VAE Valguarnera 7.77 205 Pn **Pn 13 03 32.9 +3.5**
comp=Z,14nm,0.7s,baz=76,slow=13,SNR=4.9
TAUT Tautenburg 7.84 327 *e*Pn **Pn 13 03 31.2 +1.0**
ITM Ithomi 7.87 160 Pn 13 03 30.5 -0.2
BFO Black Forest 7.94 301 Pn 13 03 30.2 -1.5
BFO Black Forest 7.94 301 P **Pn 13 03 30.2 -1.5**
BFO Black Forest 7.94 301 *e*Pn **Pn 13 03 31.4 -0.3**
SBF Sospel 7.98 268 *e*Pn **Pn 13 03 31.7 -0.6**
SBF *e*Sn **Sn 13 04 58.4 -3.8**
comp=Z,177nm,1.0s
NEUB Neuenburg 7.99 328 *e*Pn **Pn 13 03 32.8 +0.5**
RAFF Raffo Rosso 8.02 204 Pn **Pn 13 03 33.4 +0.6**
KIZ Kirchzarten 8.05 298 P **Pn 13 03 33.4 +0.2**
SENIN Lac Senin/Sane 8.06 286 Pn 13 03 33.5 0.0
ISO Isola 8.21 271 P **Pn 13 03 37.5 +2.1**
ISO pmax pmax
comp=Z,18nm,0.7s
LUBAR Lubar, Ukraine 8.23 47 P **Pn 13 03 37.8 +2.2**
RNPP5 Staryi Chortor 8.27 34 P **Pn 13 03 37.6 +1.5**
MBDF Montbardon 8.36 275 *e*Pn **Pn 13 03 37.0 -0.6**
MBDF *e*Sn **Sn 13 05 09.0 -2.7**
comp=Z,63nm,0.8s
MBDF Montbardon 8.36 275 P **Pn 13 03 38.7 +1.1**
LPG La Plagne 8.36 280 *e*Pn **Pn 13 03 40.1 +2.4**
LPG *e*Sn **Sn 13 05 09.9 -2.0**
comp=Z,57nm,0.6s
LPL La Plagne 8.38 280 *e*Pn **Pn 13 03 39.8 +1.9**
LPL *e*Sn **Sn 13 05 08.5 -3.7**
comp=Z,54nm,0.7s
LPL La Plagne 8.38 280 P **Pn 13 03 40.7 +2.8**
RNPP9 Sopachiv 8.41 33 P **Pn 13 03 39.2 +1.1**
BNI Bardonecchia 8.41 277 Pn 13 03 38.5 +0.2
BNI Bardonecchia 8.41 277 P **Pn 13 03 38.5 +0.2**
POSS Possen 8.44 325 *e*Pn **Pn 13 03 39.2 +0.6**
VSL Villasalto 8.49 236 Pn 13 03 39.1 -0.2
VLI Veliai 8.58 155 P **Pn 13 03 38.1 -2.3**
CDF Champ du Feu 8.62 300 *e*Pn **Pn 13 03 41.3 +0.3**
CDF *e*Sg 13 06 08.7
comp=Z,141nm,1.2s
CDF Champ du Feu 8.62 300 P **Pn 13 03 41.4 +0.4**
ECH Echery 8.62 299 Pn 13 03 40.4 -0.6
ECH Echery 8.62 299 P **Pn 13 03 40.4 -0.6**
HINF Hinteralfeld 8.69 296 *e*Pn **Pn 13 03 41.6 -0.3**
HINF *e*Sn **Sn 13 05 13.9 -5.6**
comp=Z,16nm,0.5s
HINF Hinteralfeld 8.69 296 P **Pn 13 03 42.4 +0.5**
LMR La Mourre 8.74 266 *e*Pn **Pn 13 03 42.9 +0.3**
LMR *e*Sn **Sn 13 05 16.9 -3.9**
comp=Z,17nm,0.8s
TNS Taunus Mts 8.82 313 P **Pn 13 03 44.6 +0.8**
TNS pmax pmax
comp=Z,166nm,0.8s
TNS Taunus Mts 8.82 313 *e*Pn **Pn 13 03 44.3 +0.5**
TNS *e*Sn **Sn 13 05 18.9 -3.9**
MI28 Mi28,Pidlybu 8.83 41 P **Pn 13 03 45.6 +1.8**
CABF La Chapelle 8.93 287 *e*Pn **Pn 13 03 45.1 -0.1**
CABF La Chapelle 8.93 287 P **Pn 13 03 46.7 +1.5**
ORIF Oris-en-Rattie 8.98 276 *e*Pn **Pn 13 03 47.4 +1.4**
ORIF *e*Sn **Sn 13 05 21.5 -5.4**
comp=Z,46nm,0.6s
ORIF Oris-en-Rattie 8.98 276 P **Pn 13 03 47.7 +1.7**
ORIF pmax pmax
comp=Z,30nm,0.6s
HAU Haudompre 9.07 296 *e*Pn **Pn 13 03 46.9 -0.2**
HAU *e*Sn **Sn 13 05 23.0 -5.8**
comp=Z,34nm,0.6s
HAU Haudompre 9.07 296 P **Pn 13 03 47.9 +0.8**
SMRF Simiane la Rot 9.29 271 *e*Pn **Pn 13 03 51.0 +0.8**
SMRF *e*Sn **Sn 13 05 35.2 +0.8**
comp=Z,6.7nm,0.5s
AK13 Malin Array Si 9.32 46 P **Pn 13 03 52.3 +1.8**
AK07 Malin Array Si 9.36 47 P **Pn 13 03 52.3 +1.3**
AK17 Malin Array Si 9.36 46 P **Pn 13 03 52.3 +1.3**
AK06 Malin Array Si 9.37 47 P **Pn 13 03 52.1 +0.9**
AK05 Malin Array Si 9.39 46 P **Pn 13 03 52.7 +1.2**
AK21 Malin Array Si 9.40 45 P **Pn 13 03 52.7 +1.0**
AK10 Malin Array Si 9.41 47 P **Pn 13 03 53.4 +1.7**
AK22 Malin Array Si 9.41 45 P **Pn 13 03 53.0 +1.2**
AK11 Malin Array Si 9.41 46 P **Pn 13 03 53.3 +1.5**
AK02 Malin Array Si 9.42 46 P **Pn 13 03 52.5 +0.6**
AK08 Malin Array Si 9.43 47 P **Pn 13 03 52.9 +0.9**
AK09 Malin Array Si 9.43 47 P **Pn 13 03 52.8 +0.7**
AK01 Malin Array Si 9.44 46 P **Pn 13 03 53.8 +1.6**
KIEV Kiev 9.44 46 Pn 13 03 52.9 +0.7
KIEV Kiev 9.44 46 P **Pn 13 03 52.9 +0.7**
KIEV Kiev 9.44 46 P **Pn 13 03 54.5 +2.3**
comp=Z,35nm,1.4s
AKASG Malin Array Be 9.45 46 Pn **Pn 13 03 50.7 -1.7**
AKASG Malin Array Be 9.45 46 Pn **Pn 13 03 53.2 +0.8**
comp=Z,0.4nm,0.3s,baz=235,slow=12,SNR=8.8
AKASG Sn **Sn 13 05 33.5 -4.7**
comp=Z,0.5nm,0.3s,baz=227,slow=26,SNR=6.1
AKASG Lg Lg 13 06 34.8
comp=Z,0.4nm,0.3s,baz=222,slow=29,SNR=2.4
AKASG LR LR 13 08 13.3
comp=Z,247nm,21.2s,baz=236,slow=42
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 9.45 46 *i* P **Pn 13 03 54.5 +2.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 9.45 46 **Pn 13 03 52.8 +0.5**
AKBB Malin Array Si 9.45 46 ⇑*i*P **Pn 13 03 55.0 +2.7**
AKBB Malin Array Si 9.45 46 P **Pn 13 03 54.1 +1.8**
AK03 Malin Array Si 9.47 46 P **Pn 13 03 54.4 +1.9**
PAGF Fort de Pagny 9.63 299 *e*Pn **Pn 13 03 55.0 +0.1**
baz=108
PAGF *e*Sg 13 06 44.6
comp=Z,47nm,0.8s
MANT Manisa 9.71 126 Pn **Pn 13 03 55.3 -0.8**
WLF Walferdange 9.81 305 Pn **Pn 13 03 55.0 -2.2**
WLF Walferdange 9.81 305 P **Pn 13 03 55.0 -2.2**
WLF Walferdange 9.81 305 *d*P **Pn 13 03 59.0 +1.8**
WLF *d*S **Sn 13 05 45.1 -1.8**
VIVF Saint-Julien-l 9.84 276 *e*Pn **Pn 13 03 57.4 -0.4**
VIVF *e*Sn **Sn 13 05 43.6 -4.3**
comp=Z,5.1nm,0.4s
VIVF Saint-Julien-l 9.84 276 P **Pn 13 03 59.3 +1.5**
SUW Suwalki 9.89 16 Pn **Pn 13 03 56.9 -1.4**
SUW Suwalki 9.89 16 P **Pn 13 03 56.9 -1.4**
SSB Saint Sauveur 9.92 279 Pn 13 03 57.8 -1.0
SSB Saint Sauveur 9.92 279 P **Pn 13 03 57.8 -1.0**
SFTF Sexfontaines 9.96 296 *e*Pn **Pn 13 04 00.6 +1.2**
SFTF *e*Sg Sn 13 06 45.4 +55
comp=Z,45nm,0.6s
MEZF Maizieres J'vi 10.04 298 *e*Pn **Pn 13 04 00.2 -0.2**
MEZF *e*Sg 13 06 59.4
comp=Z,43nm,0.9s
BUG Bochum–Univer 10.15 316 P **Pn 13 04 04.1 +2.2**
BUG pmax pmax
comp=Z,39nm,0.9s
MDUB Mudurnu 10.24 109 Pn **Pn 13 04 02.1 -1.3**
BTNL Ternell 10.26 310 *d*P **Pn 13 04 05.0 +1.5**
BTNL *d*S **Sn 13 05 52.6 -5.5**
MEM Membach 10.34 310 *d*P **Pn 13 04 06.0 +1.5**
MEM *d*S **Sn 13 05 53.2 -6.7**
SMF Signal de Mont 10.47 286 *e*Pn **Pn 13 04 06.8 +0.5**
SMF *e*Sn **Sn 13 06 00.2 -2.9**
comp=Z,9.1nm,0.4s
SMF Signal de Mont 10.47 286 P **Pn 13 04 07.3 +1.0**
RGN Rugen 10.49 343 *i* P Pn 13 03 59.2 -7.3
LASF Ste Croix 10.50 272 *e*Pn **Pn 13 04 07.1 +0.3**
LASF *e*Sn **Sn 13 05 57.4 -6.7**
comp=Z,5.3nm,0.6s
IDI Anoyia 10.53 150 Pn **Pn 13 04 07.4 +0.2**
IDI Anoyia 10.53 150 Pn **Pn 13 04 06.1 -1.1**
comp=Z,9.9nm,0.6s,baz=299,slow=16,SNR=9.3
LOR Lormes 10.54 290 *e*Pn **Pn 13 04 07.5 +0.3**
baz=100
LOR *e*Sn **Sn 13 05 57.0 -7.8**
comp=Z,13nm,0.6s
LOR Lormes 10.54 290 P **Pn 13 04 08.3 +1.1**
LOR pmax pmax
comp=Z,20nm,0.8s
RCHB Rochefort 10.56 306 *d*P **Pn 13 04 09.5 +1.9**
RCHB *d*S **Sn 13 05 59.1 -6.3**
BSTI Sart Tilman 10.57 309 *d*P **Pn 13 04 08.2 +0.6**
BSTI *d*S **Sn 13 06 02.0 -3.6**
BCLA Clavier 10.64 308 *d*P **Pn 13 04 10.0 +1.4**
BCLA *d*S **Sn 13 06 01.4 -5.9**
SSF Saint Saulge 10.74 288 *e*Pn **Pn 13 04 10.3 +0.2**
SSF *e*Sn **Sn 13 06 02.1 -7.8**
comp=Z,7.5nm,0.6s
BGES Gesves 10.75 307 *d*P **Pn 13 04 12.9 +2.9**
BGES *d*S **Sn 13 06 05.9 -4.0**
BSD Bornholm Skovb 10.76 349 *i* P Pn 13 04 04.4 -5.8
BSD *e*S 13 04 11.6
GIVF Givet 10.77 305 *e*Pn **Pn 13 04 10.7 +0.3**
GIVF *e*Sn **Sn 13 06 06.7 -3.9**
comp=Z,17nm,0.4s
AVF Avril sur Loir 10.81 287 *e*Pn **Pn 13 04 11.6 +0.6**
AVF *e*Sn **Sn 13 06 09.3 -2.3**
comp=Z,4.6nm,0.4s
AVF Avril sur Loir 10.81 287 P **Pn 13 04 11.3 +0.3**
BMRD Maredsous 10.89 306 *d*P **Pn 13 04 13.0 +0.9**
BMRD *d*S **Sn 13 06 14.1 +0.7**
DOU Dourbes 10.90 305 *d*P **Pn 13 04 10.7 -1.5**
DOU *d*S **Sn 13 06 09.9 -3.8**
BAIF Baives 11.11 304 *e*Pn **Pn 13 04 14.8 -0.3**
BAIF *e*Sn Sn 13 06 08.5 -10
comp=Z,10nm,0.5s
BGF Bois d'Agland 11.14 286 *e*Pn **Pn 13 04 15.5 0.0**
BGF *e*Sn **Sn 13 06 14.6 -5.1**
comp=Z,9.1nm,0.5s
BGF Bois d'Agland 11.14 286 P **Pn 13 04 16.3 +0.8**
KARP Karpathos 11.22 141 Pn **Pn 13 04 15.3 -1.3**
KEST Kesra 11.29 221 Pn 13 04 22.2 +4.5
KEST Kesra 11.29 221 Pn **Pn 13 04 20.6 +2.9**
comp=Z,0.9nm,0.3s,baz=221,slow=2.9,SNR=9.8
KEST LR LR 13 09 23.8
comp=Z,265nm,18.3s,baz=255,slow=41
comp=Z,4.4nm,0.6s
HYF Humbligny 11.36 289 *e*Pn **Pn 13 04 20.0 +1.5**
PABE Paberze 11.45 16 Pn **Pn 13 04 17.5 -2.1**
LUNU Lund 11.49 345 *i* S **Pn 13 04 20.2 0.0**
TCF Toulx Ste Croi 11.56 284 *e*Pn **Pn 13 04 21.0 -0.3**
TCF *e*Sn **Sn 13 06 22.4 -7.7**
comp=Z,8.0nm,0.5s
TCF Toulx Ste Croi 11.56 284 P **Pn 13 04 23.6 +2.3**
NACGM Naroch 11.60 24 *e*P **Pn 13 04 22.5 +0.8**
comp=Z,15nm,0.9s,baz=211
MNK Minsk 11.61 28 *i* P **Pn 13 04 18.6 -3.3**
comp=E,12nm,0.8s
MNK *i* P **Pn 13 04 18.6 -3.3**
comp=N,18nm,1.0s
MNK *i* P **Pn 13 04 18.6 -3.3**
comp=Z,16nm,0.9s,baz=216
MNK *i* PP **PnPn 13 04 26.4 -3.1**
MNK *i* PPP PPP 13 04 34.2
MNK *i* S **Sn 13 06 27.5 -3.6**
MNK *i* SS **SnSn 13 06 40.3 -2.5**
MNK *i* SSS SSS 13 06 52.4
MNK *i* LQ LQ 13 07 52.1
MNK *i* LR LR 13 08 31.0
MNK *i* LRM MLR 13 09 41.8
comp=Z,437nm,11.1s
MNK *i* LRM MLR 13 09 49.4
comp=N,394nm,25.2s
MNK *i* LRM MLR 13 09 50.0
comp=E,307nm,10.8s
MNK Minsk 11.61 28 *i* P **Pn 13 04 18.5 -3.3**
MNK *i* S **Sn 13 06 27.4 -3.6**
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK MLR MLR
comp=Z,437nm,11.0s
MNK MLR MLR
comp=N,394nm,25.0s
MNK MLR MLR
comp=E,307nm,11.0s
CAF Calviac 11.69 277 P **Pn 13 04 24.6 +1.6**
CLF Chambon-Foret 11.73 293 Pn 13 04 21.9 -1.7
MTLF Montolieu 11.80 270 *e*Pn **Pn 13 04 24.7 +0.2**
MTLF *e*Sn **Sn 13 06 27.7 -8.2**
comp=E,0.8nm,0.2s
PLTM Poltava 12.01 60 Pn **Pn 13 04 28.9 +1.5**
RJF Les Rejaudoux 12.05 279 *e*P Pn 13 04 32.6 +4.6
RJF *e*Sn **Sn 13 06 33.8 -8.2**
comp=E,2.5nm,0.5s
BR131 Keskin Array S 12.25 108 Pn **Pn 13 04 30.1 -0.7**
BR131 Keskin Array S 12.25 108⇓*i* *e*P **Pn 13 04 33.5 +2.7**
BRTR Keskin Array B 12.25 108 **Pn 13 04 29.3 -1.4**
BRTR Keskin Array B 12.25 108 Pn **Pn 13 04 32.7 +1.9**
comp=E,0.2nm,0.3s,baz=298,slow=11,SNR=7.5
comp=E,1.0nm,0.7s
LFF La Frestale 12.62 278 *e*Pn **Pn 13 04 37.4 +1.6**
LFF *e*Sn Sn 13 06 44.9 -11
comp=E,4.8nm,0.3s
CEST Esterri de Car 12.66 267 Pn **Pn 13 04 32.8 -3.7**
MFF Saint Martin d 13.20 285 *e*P **P 13 04 50.4 -3.2**
MFF *e*Sn **Sn 13 07 03.9 -6.2**
comp=E,3.8nm,0.5s
EPF Esparros 13.21 269 *e*Pn **Pn 13 04 45.2 +1.4**
LDF La Druitiere 13.40 294 *e*Pn **Pn 13 04 44.5 -1.8**
LDF *e*Sn **Sn 13 07 08.0 -6.9**
comp=E,2.0nm,0.4s
FLN La Foliniere 13.67 294 *e*Pn **Pn 13 04 48.6 -1.3**
GRR Gorron 13.85 293 *e*Pn **Pn 13 04 52.5 0.0**
GRR Gorron 13.85 293 P **Pn 13 04 52.9 +0.4**
BNN Bunyan 14.17 108 Pn **Pn 13 04 57.2 +0.2**
SJPF Ste Jean 14.31 271 *e*P **P 13 05 05.0 -0.9**
SJPF *e*Sn **Sn 13 07 29.9 -7.2**
comp=E,0.6nm,0.3s
VSU Vasula 14.77 17⇑ *e*P **Pn 13 05 03.5 -1.4**
VSU pmax pmax
comp=Z,22nm,0.8s
SGMF Saint Gilles 14.96 292 *e*P **P 13 05 14.3 +1.3**
ROSF Rostrenen 15.44 292 *e*Pn **P 13 05 18.1 -0.3**
ROSF *e*Sn **Sn 13 07 55.7 -8.9**
comp=Z,5.6nm,0.4s
VSLR Vesyoloye 15.53 87⇑ *e*P **P 13 05 18.1 -1.3**
VSLR pmax pmax
comp=Z,26nm,1.4s
ERBR Yeremizino-Bor 15.54 78 *e*P **Pn 13 05 14.2 -1.1**
ERBR *e*S **Sn 13 08 07.1 0.0**
ERBR pmax pmax
comp=Z,13nm,0.4s
OBN Obninsk 15.64 41 *de*P **Pn 13 05 15.3 -1.1**
OBN *e*S **Sn 13 08 10.6 +1.4**
OBN pmax pmax
comp=Z,27nm,1.7s
OBN MLR MLR
comp=Z,208nm,14.0s
HFS Hagfors 15.81 351 Pn **Pn 13 05 17.5 -1.2**
comp=Z,0.6nm,0.3s,baz=152,slow=13,SNR=14
HFS LR LR 13 11 51.6
comp=Z,81nm,18.4s,baz=180,slow=39
comp=Z,6.0nm,0.6s
KONO Kongsberg 15.99 343 *e*P **P 13 05 24.8 +0.3**
MOS Moscow 16.49 41 *e*P **Pn 13 05 20.5 -6.9**
NC602 NORSAR Array S 16.67 348 P **Pn 13 05 27.6 -2.1**
NC602 NORSAR Array S 16.67 348 *e*P **P 13 05 32.3 +0.3**
NAO01 NORSAR Array S 16.88 347 Pn **Pn 13 05 31.0 -1.3**
KOPT Kop Dagi 16.89 98 Pn **Pn 13 05 31.7 -1.2**
NC405 NORSAR Array S 17.01 349 P **Pn 13 05 32.4 -1.5**
NB2 NORSAR Subarra 17.01 348 P **Pn 13 05 31.7 -2.3**
comp=Z,30nm,1.4s,baz=162,slow=11
NB2 NORSAR Subarra 17.01 348 P **Pn 13 05 31.7 -2.3**
baz=162,slow=11
NOA NORSAR Array B 17.01 348 Pn **Pn 13 05 32.6 -1.4**
baz=167,slow=11,SNR=15
NOA LR LR 13 11 36.7
comp=Z,32nm,21.8s,baz=165,slow=35
comp=Z,2.1nm,0.8s
NC303 NORSAR Array S 17.17 348 P **Pn 13 05 34.1 -1.7**
SKAR Skarslia 17.20 343 *e*P **P 13 05 38.1 +0.2**
NC204 NORSAR Array S 17.30 347 P **Pn 13 05 35.8 -1.9**
KIV Kislovodsk 17.32 84 P **Pn 13 05 36.4 -1.7**
KIV Kislovodsk 17.32 84 *e*P **P 13 05 40.7 +1.3**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,45nm,14.0s
KIV Kislovodsk 17.32 84 P **P 13 05 41.2 +1.8**
comp=Z,27nm,1.2s
ESBB Sonseca Array 17.35 261 P **Pn 13 05 37.0 -1.4**
ESDC Sonseca Array 17.35 261 P **Pn 13 05 36.9 -1.6**
ESDC Sonseca Array 17.35 261 P **Pn 13 05 38.8 +0.4**
comp=Z,0.2nm,0.3s,baz=66,slow=12,SNR=36
comp=Z,3.4nm,0.7s
FINES FINESS Array B 17.44 12 P **Pn 13 05 37.5 -1.8**
comp=Z,0.4nm,0.3s,baz=179,slow=9.5,SNR=10.0
FINES LR LR 13 12 39.9
comp=Z,74nm,21.7s,baz=206,slow=38
comp=Z,7.2nm,0.8s
FIA1 FINESS Array S 17.44 12 P **Pn 13 05 37.4 -1.8**
EKA Eskdalemuir Ar 17.50 315 P **P 13 05 40.8 -0.3**
baz=114,slow=10
comp=Z,6.3nm,0.7s
MMAI Mount Meron Ar 17.50 126 P **P 13 05 42.8 +1.3**
comp=Z,0.6nm,0.3s,baz=1.5,slow=9.5,SNR=5.4
comp=Z,3.5nm,0.7s
ESK Eskdalemuir 17.52 315 P **Pn 13 05 38.5 -1.8**
ESK Eskdalemuir 17.52 315 P **Pn 13 05 38.5 -1.8**
ESK pmax pmax
comp=Z,23nm,1.1s
KBZ Khabaz 17.52 84 P **P 13 05 41.9 +0.5**
comp=Z,0.2nm,0.3s,baz=306,slow=10,SNR=6.9
comp=Z,3.8nm,0.8s
KBZ Khabaz 17.52 84⇓*i*P **P 13 05 41.5 +0.1**

KBZ pmax pmax
comp=Z,9.0nm,1.1s
PAB San Pablo 17.68 261 P **Pn** **13 05 40.8 -1.7**
PAB San Pablo 17.68 261 P **Pn** **13 05 40.8 -1.7**
PAB pmax pmax
comp=Z,16nm,1.3s
MARD Mardin 18.31 106 P **Pn** **13 05 48.7 -1.6**
DOMB Dombas 18.31 346 *e*P **P** **13 05 51.9 +1.9**
GURO Guroymak-BITLI 18.59 101 P **P** **13 05 51.8 -1.7**
PBRG Braganca 18.59 270 *e*P **Pn** **13 05 58.6 +5.0**
GHAJ Ghor Haditha 18.86 129 P **P** **13 05 54.7 -1.6**
MVO Moncorvo 18.99 268 *e*P **Pn** **13 06 00.2 +1.7**
MVO *i* IAmb IAmb 13 06 31.1
comp=Z,20nm,1.7s
MVO *e*LR LR 13 14 48.7
MVO *i* IAMs_20 IAMs_20 13 18 18.1
comp=Z,57nm,20.0s
POLO Lamas de Olo 19.47 270 *e*P **Pn** **13 06 06.4 +2.1**
POLO *i* IAmb IAmb 13 06 17.5
comp=Z,14nm,1.7s
MTE Manteigas 19.62 267 *e*P **Pn** **13 06 10.8 +4.7**
MTE *e*S **Sn** **13 09 50.8 +4.8**
MTE *e*LR LR 13 13 58.7
MTE *i* IAMs_20 IAMs_20 13 14 47.5
comp=Z,70nm,18.0s
PVIS Viseu 19.76 268 *e*P **Pn** **13 06 11.5 +3.8**
PCBR Castelo Branco 19.78 265 *e*P **Pn** **13 06 12.0 +4.1**
PCBR *i* IAmb IAmb 13 06 15.8
comp=Z,18nm,2.6s
GNI Garni 19.86 94 P **P** **13 06 05.6 -1.7**
GNI Garni 19.86 94 P **Pn** **13 06 08.8 -0.2**
comp=Z,0.9nm,0.3s,baz=207,slow=12,SNR=3.2
comp=Z,7.9nm,0.4s
GNI Garni 19.86 94⇑ *e*P **P** **13 06 07.9 +0.5**
GNI pmax pmax
comp=Z,56nm,1.8s
GNI Garni 19.86 94 P **Pn** **13 06 09.2 +0.2**
comp=Z,31nm,1.2s
PMRV Marv??o 19.88 264 *e*P **Pn** **13 06 10.1 +1.0**
PMRV *i* IAmb IAmb 13 06 20.8
comp=Z,20nm,1.9s
PMRV *e*S **S** **13 09 51.0 +0.3**
PMRV *e*LR LR 13 14 12.5
PMRV *i* IAMs_20 IAMs_20 13 15 46.2
comp=Z,45nm,16.0s
PBAR Barrancos 20.16 260 *e*P Pn 13 06 12.3 -0.1
PBAR *i* IAmb IAmb 13 06 22.2
comp=Z,30nm,1.9s
PESTR Estremoz 20.25 263 P **P** **13 06 09.5 -2.0**
PESTR Estremoz 20.25 263 *e*P Pn 13 06 13.9 +0.5
PESTR *i* IAmb IAmb 13 06 23.3
comp=Z,36nm,1.7s
NSS Namsos 20.29 352 *e*P **P** **13 06 12.0 +0.3**
PSARD Sardoal 20.36 265 *e*P Pn 13 06 15.4 +0.6
PSARD *i* IAmb IAmb 13 06 25.3
comp=Z,21nm,1.3s
KLMR Klimovskoe 20.50 30 *e*P **P** **13 06 12.7 -1.2**
KLMR pmax pmax
comp=Z,54nm,1.8s
KLMR MLR MLR
comp=Z,797nm,9.0s
PMTG Montargil 20.62 264 *e*P Pn 13 06 17.3 -0.5
PMTG *i* IAmb IAmb 13 06 23.3
comp=Z,20nm,1.7s
EVO Evora 20.69 262 *e*P Pn 13 06 17.6 -1.0
BELG Belogornoye 20.70 58 P **P** **13 06 17.0 +0.8**
comp=Z,28nm,0.9s,baz=73,slow=8.9,SNR=6.5
comp=Z,28nm,0.9s
BELG Belogornoye 20.70 58*c* *i*P **P** **13 06 16.6 +0.4**
BELG pmax pmax
comp=Z,11nm,1.0s
PBEJ Beja 20.81 261 *e*P Pn 13 06 19.1 -1.0
PBEJ *i* IAmb IAmb 13 06 33.4
comp=Z,23nm,1.3s
OUL Oulu 20.92 9 P **P** **13 06 19.1 +0.6**
OUL pmax pmax
comp=Z,29nm,1.8s
MAK Makhachkala 20.96 84 *e*P **P** **13 06 17.3 -1.8**
MAK *e*S **S** **13 10 10.3 -1.7**
MAK pmax pmax
comp=Z,274nm,1.6s
MAK MLR MLR
comp=Z,383nm,13.0s
PVAQ Vaqueiros 21.00 259 P **P** **13 06 19.9 +0.3**
PVAQ IAmb IAmb 13 06 25.1
comp=Z,38nm,1.1s
PVAQ Vaqueiros 21.00 259 *e*P Pn 13 06 22.1 0.0
PVAQ *e*S Sn 13 10 21.4 +2.4
PVAQ *e*LQ LQ 13 14 06.4
PVAQ *e*LR LR 13 15 06.6
PVAQ *i* IAMs_20 IAMs_20 13 15 52.2
comp=Z,84nm,18.0s
PCVE Castro Verde 21.11 260 *e*P **P** **13 06 23.1 +2.2**
PCVE *i* IAmb IAmb 13 06 28.8
comp=Z,48nm,1.5s
MESJ Messejana 21.15 261 *e*P **P** **13 06 22.9 +1.7**
MESJ *i* IAmb IAmb 13 06 25.7
comp=Z,37nm,1.8s
PBDV Barranco-do-Ve 21.22 259 *e*P **P** **13 06 25.0 +3.0**
PARRA Arraiolos 21.30 264 *e*P **P** **13 06 17.4 -5.4**
PMAFR Mafra 21.42 264 *e*P **P** **13 06 26.9 +2.9**
MDT Midelt 21.46 245 P **P** **13 06 26.6 +2.0**
comp=Z,1.5nm,0.4s,baz=216,slow=23,SNR=1.9
comp=Z,1.5nm,0.4s
MD01 Midelt array s 21.52 245 P **P** **13 06 22.8 -2.6**
MD31 MD31 21.52 245 P **P** **13 06 22.2 -3.1**
AKT Akhty 21.54 88 *e*P **P** **13 06 26.0 +0.5**
AKT *e* 13 06 45.3
AKT pmax pmax
comp=Z,20nm,1.0s
PTEO Sao Teotonio 21.64 260 *e*P **P** **13 06 25.2 -1.2**
PTEO *i* IAmb IAmb 13 06 54.7
comp=Z,91nm,2.0s
MOR8 Moi Rana 21.72 356 *e*P **P** **13 06 28.9 +1.8**
LEIR Leirfjorden 21.75 354 *e*P **P** **13 06 28.5 +1.2**
STOK Stokkvaagen 21.97 354 *e*P **P** **13 06 29.8 +0.1**
MSF Maaselka 22.11 12 P **P** **13 06 32.1 +0.8**
MSF pmax pmax
comp=Z,28nm,1.1s
KONS Konsvik 22.13 354 *e*P **P** **13 06 32.1 +0.7**
AVE Averroes 23.00 249 P **P** **13 06 38.5 -2.5**
SGF Sodankyl 23.28 8 P **P** **13 06 46.0 +2.5**
SGF pmax pmax
comp=Z,18nm,1.4s
KIRV Kirov 23.48 42 P **P** **13 06 45.0 -0.6**
comp=Z,7.5nm,0.7s,baz=258,slow=10,SNR=11
comp=Z,7.5nm,0.7s
KIRV Kirov 23.48 42*c* *e*P **P** **13 06 45.3 -0.3**
LOF Lofoten 23.72 355 *e*P **P** **13 06 48.2 +0.4**
TAM Tamanrasset 24.23 210 P **P** **13 06 50.9 -2.4**
TAM Tamanrasset 24.23 210 P **P** **13 06 50.9 -2.4**
TAM pmax pmax
comp=Z,18nm,0.5s
APA Apatity 24.33 14 *e*P **P** **13 06 50.0 -3.5**
APA *e*S **S** **13 11 10.8 -0.9**
APA MLR MLR
comp=Z,630nm,8.4s
KTK1 Kautokeino 24.58 4 *e*P **P** **13 06 54.7 -1.1**
LVZ Lovozero 24.84 15 P **P** **13 06 57.4 -0.8**
LVZ IAmb IAmb 13 07 00.9
comp=Z,32nm,1.1s
LVZ Lovozero 24.84 15⇑ *e*P **P** **13 06 59.4 +1.2**
LVZ pmax pmax
comp=Z,36nm,1.1s
LVZ Lovozero 24.84 15 P **P** **13 06 59.2 +1.0**
comp=Z,35nm,1.0s
JETT Jettan, Norway 25.02 2 *e*P **P** **13 07 01.6 +1.7**
TRO Tromso 25.08 0 P **P** **13 07 02.1 +1.8**
TRO Tromso 25.08 0 *e*P **P** **13 07 02.1 +1.8**
ARCES ARCESS Array B 25.24 6 P **P** **13 07 00.6 -1.2**
ARCES IAmb IAmb 13 07 15.4
comp=Z,39nm,1.6s
ARCES ARCESS Array B 25.24 6 P **P** **13 07 01.6 -0.2**
comp=Z,6.9nm,0.8s,baz=182,slow=7.3,SNR=13
comp=Z,6.9nm,0.8s
AKTO Aktyubinsk 27.07 63 LR LR 13 20 43.0
comp=Z,75nm,19.1s,baz=36,slow=42
ARTI Arti 27.57 50 P **P** **13 07 21.4 -1.5**
ARTI Arti 27.57 50 LR LR 13 18 49.0
comp=Z,135nm,18.5s,baz=258,slow=38
ARTI Arti 27.57 50*d* *i*P **P** **13 07 23.1 +0.2**
ARTI 13 08 05.3
ARTI S **S** **13 12 04.1 +0.8**
ARTI pmax pmax
comp=Z,9.0nm,1.0s

ABKAR Akbulak array 28.41 66 P **P** **13 07 28.9 -1.6**
SPITS Spitsbergen Ar 33.69 359 P **P** **13 08 17.1 +0.4**
comp=Z,23nm,1.2s,baz=193,slow=9.9,SNR=2.1
comp=Z,23nm,1.2s
TORD Torodi Ar. Bea 34.49 210 P **P** **13 08 25.6 +1.3**
comp=Z,9.7nm,0.7s,baz=15,slow=10,SNR=37
comp=Z,9.7nm,0.7s
BVAR Borovoye Array 34.51 57 P **P** **13 08 24.6 +0.5**
comp=Z,1.0nm,0.6s,baz=255,slow=11,SNR=5.9
BVAR PP **PnPn** **13 09 37.0 -2.2**
comp=Z,2.4nm,0.8s,baz=262,slow=10.0,SNR=3.8
comp=Z,1.0nm,0.6s
KK31 Karatay Array 37.01 74 P **P** **13 08 45.4 -0.3**
KK31 Karatay Array 37.01 74 P **P** **13 08 45.4 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 37.01 74 P **P** **13 08 45.1 -0.6**
KKAR Karatay Array 37.01 74 P **P** **13 08 45.1 -0.6**
ARSB Arslanbob 39.38 75 P **P** **13 09 06.8 +0.9**
ARSB Arslanbob 39.38 75 P **P** **13 09 06.8 +0.9**
ARSB pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 39.91 72 LR LR 13 27 18.2
comp=Z,38nm,18.4s,baz=294,slow=39
KURBB Kurchatov Arra 39.93 59 P **P** **13 09 10.2 +0.2**
comp=Z,0.5nm,0.6s,baz=287,slow=9.6,SNR=5.5
KURBB PP **PnPn** **13 10 43.6 -1.4**
comp=Z,1.0nm,0.8s,baz=290,slow=11,SNR=5.1
comp=Z,0.5nm,0.6s
KURK Kurchatov 39.96 59 P **P** **13 09 10.3 0.0**
KSH Kashi 42.22 76 P **P** **13 09 29.5 +0.3**
KSH pP sP 13 09 34.0 -2.3
KSH pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 42.77 53 P **P** **13 09 33.2 -0.1**
comp=Z,0.6nm,0.5s,baz=275,slow=10,SNR=5.6
ZALV PP **PP** **13 11 15.8 +3.4**
comp=Z,1.2nm,0.7s,baz=293,slow=8.9,SNR=3.6
ZALV LR LR 13 28 56.9
comp=Z,93nm,19.2s,baz=7.5,slow=38
comp=Z,0.6nm,0.5s
DBIC Dimbokro 42.94 215 P **P** **13 09 36.4 +1.3**
DBIC Dimbokro 42.94 215 P **P** **13 09 35.9 +0.8**
comp=Z,7.4nm,0.4s,baz=42,slow=8.1,SNR=16
DBIC LR LR 13 31 16.0
comp=Z,43nm,19.7s,baz=160,slow=41
comp=Z,7.4nm,0.4s
DBIC Dimbokro 42.94 215 P **P** **13 09 36.4 +1.3**
DBIC pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 43.51 64 P **P** **13 09 39.5 0.0**
comp=Z,0.7nm,0.6s,baz=274,slow=7.2,SNR=9.2
MKAR PcP **PcP** **13 11 28.0 +0.8**
comp=Z,1.7nm,0.8s,baz=280,slow=4.4,SNR=6.1
comp=Z,0.7nm,0.6s
WMQ Urumqi 48.20 65 *e*P **P** **13 10 18.5 +1.9**
FRB Frobisher Bay 49.96 325 LR LR 13 30 24.4
comp=Z,39nm,19.8s,baz=86,slow=35
TIXI Tiksi 54.19 21 LR LR 13 36 20.8
comp=Z,53nm,20.0s,baz=210,slow=38
SONM Songino Array 57.66 53 P **P** **13 11 27.3 +0.8**
comp=Z,0.8nm,0.8s,baz=292,slow=7.8,SNR=7.7
comp=Z,0.8nm,0.8s
YAK Yakutsk 60.29 30 LR LR 13 40 58.0
comp=Z,77nm,18.5s,baz=266,slow=39
YAK Yakutsk 60.29 30 *e*P **P** **13 11 42.2 -2.0**
YAK *e**PP **sP** **13 11 51.9 +0.5**
YAK *e* 13 12 27.1
YAK *e* 13 13 55.2
YAK *e*S **S** **13 19 54.7 -2.7**
YAK *e**SS sS 13 20 11.9 +5.9
YAK *e* 13 21 29.2
YAK *e*SS **SS** **13 23 53.6 -0.4**
YAK *e*SSS SSS 13 26 36.2
YAK pmax pmax
comp=Z,18nm,1.5s
YAK pmax pmax
comp=N,6.0nm,1.8s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,106nm,5.0s
YAK pmax pmax
comp=N,58nm,6.3s
YAK pmax pmax
comp=E,72nm,7.3s
YAK smax smax
comp=N,64nm,3.0s
YAK smax smax
comp=E,32nm,2.7s
C36M Paulatuk 63.05 346 P **P** **13 12 03.3 +0.6**
baz=29
A21K Barrow 64.32 358 P **P** **13 12 11.8 +0.8**
baz=3.9
A22K Sinclair Lake 64.60 358 P **P** **13 12 14.0 +1.1**
baz=5.1
HHC Hu-ho-hao-te 64.72 57 *e*P **P** **13 12 12.8 -1.5**
HHC pmax pmax
comp=E,15nm,0.6s
HHC pmax pmax
comp=E,63nm,5.2s
BILL Bilibino 65.08 13⇑ *e*P **P** **13 12 16.6 +0.5**
BILL pmax pmax
comp=Z,10.0nm,1.3s
D28M Stokes Point 65.13 351 P **P** **13 12 18.9 +2.5**
baz=18
C26K Camden Bay 65.14 354 P **P** **13 12 18.0 +1.6**
baz=13
B22K Teshekpuk Lake 65.21 357 P **P** **13 12 18.1 +1.2**
baz=6.3
C27K Jago River 65.33 353 P **P** **13 12 18.7 +1.1**
C27K IAmb IAmb 13 12 21.1
comp=Z,8.8nm,0.9s
C27K Jago River 65.33 353 P **P** **13 12 19.3 +1.7**
baz=14,SNR=6.8
D27M Malcolm River 65.45 352 IAmb IAmb 13 12 21.3
comp=Z,6.0nm,0.9s
D27M Malcolm River 65.45 352 P **P** **13 12 20.0 +1.5**
baz=16,SNR=7.9
INK Inuvik 65.46 349 P **P** **13 12 18.2 -0.3**
INK IAmb IAmb 13 12 22.3
comp=Z,5.2nm,1.0s
INK Inuvik 65.46 349 P **P** **13 12 18.2 -0.3**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 65.46 349 P **P** **13 12 19.5 +0.9**
baz=22
A19K Wainwright 65.50 360 P **P** **13 12 19.9 +1.1**
baz=0.3
C23K Itkillik River 65.58 356 P **P** **13 12 21.2 +1.9**
baz=8.5,SNR=6.4
C24K Franklin Bluff 65.59 355 P **P** **13 12 21.1 +1.7**
baz=10.0
B20K Meade River 65.65 358 P **P** **13 12 21.1 +1.3**
baz=3.4
D25K Kavik River 65.83 354 P **P** **13 12 22.5 +1.5**
baz=12
E28M Babbage River 65.92 351 IAmb IAmb 13 12 24.2
comp=Z,8.3nm,1.1s
E28M Babbage River 65.92 351 P **P** **13 12 23.0 +1.5**
baz=17,SNR=7.1
E29M Blow River 65.94 351 P **P** **13 12 22.6 +1.0**
baz=18,SNR=16
B21K Ikpikpuk River 65.97 357 P **P** **13 12 23.5 +1.7**
baz=5.4
D24K Happy Valley 66.16 355 P **P** **13 12 24.4 +1.3**
baz=9.8
F31M Tsiigehtchic 66.30 349 P **P** **13 12 24.7 +0.8**
baz=21,SNR=8.2
B18K Kokolik River 66.34 0 P **P** **13 12 25.0 +0.9**
baz=360
F30M Barrier River 66.42 350 P **P** **13 12 25.4 +0.6**
baz=20
C21K Knifeblade Rid 66.44 357 P **P** **13 12 26.3 +1.4**
baz=5.2
D23K Nanushuk River 66.45 356 P **P** **13 12 25.9 +0.9**
D23K Nanushuk River 66.45 356 P **P** **13 12 26.0 +1.1**
baz=8.4,SNR=6.5
E27K Coleen River 66.53 352 IAmb IAmb 13 12 28.3
comp=Z,10nm,1.2s
E27K Coleen River 66.53 352 P **P** **13 12 27.1 +1.6**
baz=15,SNR=8.1
C19K Lookout Ridge 66.59 359 P **P** **13 12 27.5 +1.6**
baz=1.5
D22K Ayikyak River 66.64 357 P **P** **13 12 27.8 +1.6**
baz=6.8
SEY Seymchan 66.68 21 *e*P **P** **13 12 25.7 -0.7**
SEY pmax pmax
comp=Z,5.0nm,0.8s
TOLK Toolik Lake Re 66.72 355 P **P** **13 12 28.2 +1.5**
baz=9.2
YKAW3 Yellowknife Wh 66.78 338 IAmb IAmb 13 12 29.0
comp=Z,11nm,0.8s
YKA Yellowknife Ar 66.84 338 P **P** **13 12 28.1 +0.6**
comp=Z,4.9nm,0.8s,baz=33,slow=6.4,SNR=11
comp=Z,4.9nm,0.8s
YKA Yellowknife Ar 66.84 338 *i*P **P** **13 12 28.2 +0.7**
YKA pmax pmax
comp=Z,5.0nm,0.8s
G31M Satah River 66.86 349 P **P** **13 12 28.6 +1.0**
baz=21
F28M Old Crow 66.90 351 IAmb IAmb 13 12 30.0
comp=Z,5.4nm,1.0s
F28M Old Crow 66.90 351 P **P** **13 12 29.0 +1.2**
baz=17
D20K Etivluk River 66.94 358 P **P** **13 12 29.5 +1.5**
baz=3.8
E25K Arctic Village 66.95 354 P **P** **13 12 29.8 +1.6**
baz=12
C18K Utukok River 67.06 360 P **P** **13 12 30.5 +1.6**
baz=0.2
G30M tAoh Zraii Nji 67.07 349 P **P** **13 12 30.0 +1.0**
baz=19
E21K Killik River 67.13 357 P **P** **13 12 30.4 +1.1**
baz=5.8
D19K Kuna River 67.19 359 P **P** **13 12 30.8 +1.1**
baz=2.6
E24K Your Creek 67.21 355 P **P** **13 12 30.8 +1.0**
baz=10.0
C17K DeLong Mountai 67.23 1 P **P** **13 12 31.2 +1.3**
baz=359
F26K Sheenjek River 67.25 353 IAmb IAmb 13 12 33.1
comp=Z,11nm,1.2s
F26K Sheenjek River 67.25 353 P **P** **13 12 31.3 +1.2**
baz=13,SNR=6.9
E23K Chandalar 67.30 355 IAmb IAmb 13 12 37.0
comp=Z,6.3nm,1.1s
E23K Chandalar 67.30 355 P **P** **13 12 31.6 +1.2**
baz=9.2
PZH PanZhiHua 67.30 75 P **P** **13 12 32.0 +0.9**
E22K Anaktuvuk Pass 67.34 356 P **P** **13 12 32.1 +1.5**
baz=7.5
G29M Pine Creek 67.36 350 P **P** **13 12 31.5 +0.7**
baz=18,SNR=9.0
E20K Nigu River 67.38 358 P **P** **13 12 32.0 +1.1**
baz=4.1
C16K Lisburne Hills 67.40 2 P **P** **13 12 32.1 +1.2**
baz=357
F25K Christian Rive 67.47 353 IAmb IAmb 13 13 01.4
comp=Z,11nm,1.6s
F25K Christian Rive 67.47 353 P **P** **13 12 32.7 +1.2**
baz=12
BMAR Burnt Mountain 67.55 353 P **P** **13 12 32.5 +0.6**
EPYK Eagle Plains 67.72 349 P **P** **13 12 33.2 +0.1**
baz=19
F24K Squaw Lake 67.72 354 IAmb IAmb 13 12 36.3
comp=Z,6.2nm,1.0s
F24K Squaw Lake 67.72 354 P **P** **13 12 34.4 +1.3**
baz=10,SNR=6.3
G27K Doyon Strip 67.87 352 IAmb IAmb 13 12 36.8
comp=Z,6.3nm,1.1s
G27K Doyon Strip 67.87 352 P **P** **13 12 34.9 +0.9**
baz=15,SNR=6.4
H31M Peel River 67.92 348 P **P** **13 12 35.2 +0.8**
baz=21
G26K Porcupine Rive 67.94 353 IAmb IAmb 13 12 37.7
comp=Z,7.3nm,1.0s
G26K Porcupine Rive 67.94 353 P **P** **13 12 35.7 +1.3**
baz=14,SNR=6.2
F22K John River 67.98 356 P **P** **13 12 36.2 +1.5**
baz=7.2
D17K Noatak River 68.01 1 P **P** **13 12 36.2 +1.4**
baz=359,SNR=5.5
H29M Whitestone 68.07 350 IAmb IAmb 13 12 37.7
comp=Z,6.3nm,0.9s
H29M Whitestone 68.07 350 P **P** **13 12 36.4 +1.2**
baz=18
COLD Coldfoot 68.16 355 IAmb IAmb 13 12 38.9
comp=Z,7.8nm,1.0s
COLD Coldfoot 68.16 355 P **P** **13 12 37.1 +1.4**
baz=8.7,SNR=8.0
E19K Redstone River 68.21 358 P **P** **13 12 37.1 +1.0**
baz=3.3
E18K Tukpahlearik C 68.29 360 IAmb IAmb 13 12 39.1
comp=Z,7.1nm,1.0s
E18K Tukpahlearik C 68.29 360 P **P** **13 12 37.5 +0.9**
baz=0.7
WRGLY Wrigley 68.32 343 P **P** **13 12 37.8 +1.0**
baz=28
F21K Alatna River 68.33 357 IAmb IAmb 13 12 39.8
comp=Z,10nm,1.1s
F21K Alatna River 68.33 357 P **P** **13 12 38.3 +1.5**
baz=6.1,SNR=7.2
G25K Bearman Lake 68.33 353 P **P** **13 12 38.7 +1.9**
baz=12,SNR=6.5
H27K Steamboat Moun 68.42 351 IAmb IAmb 13 12 40.6
comp=Z,7.1nm,1.1s
H27K Steamboat Moun 68.42 351 P **P** **13 12 38.9 +1.5**
baz=15,SNR=7.3
G24K Hadweenzic Riv 68.50 354 IAmb IAmb 13 12 41.1
comp=Z,6.7nm,1.2s
G24K Hadweenzic Riv 68.50 354 P **P** **13 12 39.1 +1.1**
baz=11
G22K Bettles 68.53 356 P **P** **13 12 39.5 +1.4**
baz=7.6
F20K Avaraart Lake 68.58 358 P **P** **13 12 39.7 +1.3**
baz=4.4
Q56A Snyder Ridge, 68.61 304 P **P** **13 12 39.3 +0.2**
E17K Hotham Inlet 68.63 0 P **P** **13 12 39.8 +1.1**
baz=360
G23K Bananza Creek 68.66 355 P **P** **13 12 40.1 +1.1**
baz=8.8
I30M Mount Dempster 68.76 349 IAmb IAmb 13 12 45.3
comp=Z,8.3nm,1.1s
I30M Mount Dempster 68.76 349 P **P** **13 12 40.7 +1.0**
baz=19
H25L Birch Creek 68.79 353 P **P** **13 12 40.6 +0.9**
baz=12,SNR=5.3
F19K Shaleruckik Mo 68.85 358 IAmb IAmb 13 12 42.6
comp=Z,5.4nm,0.9s
F19K Shaleruckik Mo 68.85 358 P **P** **13 12 41.0 +1.0**
baz=2.8,SNR=6.4
I29M Ogilvie Camp, 68.88 350 P **P** **13 12 41.4 +1.0**
baz=18
FFC Flin Flon 68.90 328 P **P** **13 12 40.4 -0.2**
FFC Flin Flon 68.90 328 P **P** **13 12 40.4 -0.2**
FFC pmax pmax
comp=Z,40nm,1.7s
I28M Miner Creek 69.00 351 IAmb IAmb 13 12 43.2
comp=Z,5.6nm,1.1s
I28M Miner Creek 69.00 351 P **P** **13 12 42.2 +1.0**
baz=16
MA2 Magadan 69.02 24 P **P** **13 12 41.9 +0.7**
MA2 IAmb IAmb 13 12 43.6
comp=Z,7.8nm,0.9s
MA2 Magadan 69.02 24 LR LR 13 46 59.9
comp=Z,51nm,19.0s,baz=314,slow=40
MA2 Magadan 69.02 24*d* *i*P **P** **13 12 42.8 +1.5**
MA2 pmax pmax
comp=Z,9.0nm,0.9s
G21K Allakaket 69.03 357 P **P** **13 12 42.2 +0.9**
baz=6.1
I27K Kandik River 69.04 351 P **P** **13 12 42.2 +0.9**
baz=15,SNR=5.1
F18K Selawik 69.11 359 P **P** **13 12 42.6 +1.0**
baz=1.4
F17K Baldwin Pennin 69.28 360 P **P** **13 12 43.3 +0.6**
baz=0.2
J30M Hart River 69.37 349 P **P** **13 12 44.3 +0.8**
baz=19
H24K Noodor Dome 69.38 354 P **P** **13 12 44.5 +1.1**
baz=10
I26K Coal Creek Min 69.49 352 P **P** **13 12 45.5 +1.4**
baz=14
PRP Porcupine Dome 69.50 353 P **P** **13 12 45.8 +1.4**
baz=12
H23K Yukon River 69.51 355 IAmb IAmb 13 12 47.9
comp=Z,6.6nm,0.9s
H23K Yukon River 69.51 355 P **P** **13 12 45.1 +0.9**
baz=9.1,SNR=9.0
G19K Purcell Mounta 69.52 358 IAmb IAmb 13 12 47.2
comp=Z,6.5nm,1.1s
G19K Purcell Mounta 69.52 358 P **P** **13 12 45.6 +1.3**
baz=3.4,SNR=5.4
H22K Ishtalitna Cre 69.55 356 P **P** **13 12 45.8 +1.4**

baz=7.7,SNR=13
IMAR **Indian Mountai** 69.57 357 P P 13 12 44.9 +0.4
LBTB **Lobatse** 69.59 173 LR LR 13 44 55.4
comp=Z,16nm,21.0s,baz=50,slow=37
ULM **Lac du Bonnet** 69.67 321 P P 13 12 45.6 +0.2
comp=Z,11nm,0.9s,baz=44,slow=6.6,SNR=6.9
ULM LR LR 13 42 23.2
comp=Z,26nm,18.6s,baz=357,slow=35
comp=Z,11nm,0.9s
G18K **Tagagawik** 69.80 359 IAmb IAmb 13 12 48.6
comp=Z,9.1nm,1.1s
G18K **Tagagawik** 69.80 359 P P 13 12 47.3 +1.2
baz=2.1
H21K **Melozitna Rive** 69.86 356 P P 13 12 47.7 +1.4
baz=6.6,SNR=12
F15K **North Star Dit** 69.99 1 P P 13 12 48.8 +1.6
baz=358
TNA **Tin City** 70.05 3 P P 13 12 48.9 +1.5
baz=355
POKR **Poker Plat Res** 70.06 354 P P 13 12 48.8 +1.3
baz=11
H20K **Anotleneega Mo** 70.11 357 P P 13 12 48.9 +1.0
baz=5.0
H19K **Roundabout Mou** 70.12 358 P P 13 12 49.2 +1.3
baz=3.8
I23K **Minto, Yukon-K** 70.17 355 IAmb IAmb 13 12 51.1
comp=Z,8.3nm,1.1s
I23K **Minto, Yukon-K** 70.17 355 P P 13 12 49.6 +1.4
baz=9.2,SNR=6.0
F14K **Arctic Creek** 70.18 2 P P 13 12 50.0 +1.6
baz=356
G17K **Kiwalik Mounta** 70.22 360 P P 13 12 50.2 +1.6
baz=0.6
K29M **Barlow Dome** 70.23 349 P P 13 12 50.1 +1.2
baz=18
MAYO **Mayo, Yukon** 70.24 348 P P 13 12 50.4 +1.7
baz=19
DAWY **Dawson** 70.26 350 P P 13 12 48.9 0.0
DAWY IAmb IAmb 13 12 51.5
comp=Z,11nm,1.0s
DAWY **Dawson** 70.26 350 P P 13 12 50.3 +1.3
baz=17,SNR=9.6
I21K **Tanana** 70.29 356 IAmb IAmb 13 12 52.3
comp=Z,7.1nm,1.0s
I21K **Tanana** 70.29 356 P P 13 12 50.6 +1.6
baz=7.2
J26L **Joseph Creek** 70.31 352 IAmb IAmb 13 12 52.3
comp=Z,7.7nm,0.9s
J26L **Joseph Creek** 70.31 352 P P 13 12 50.2 +0.9
baz=14,SNR=8.8
G16K **Koyuk River** 70.33 0 P P 13 12 50.2 +1.0
baz=359
COLA **College** 70.33 354 eP P 13 12 50.4 +1.2
COLA pmax pmax
comp=Z,9.0nm,1.3s
COLA **College** 70.33 354 P P 13 12 50.3 +1.1
baz=10
ILAR **Eielson Array** 70.35 353 P P 13 12 49.3 -0.1
ILAR **Eielson Array** 70.35 353 P P 13 12 50.0 +0.6
comp=Z,2.0nm,1.0s,baz=4.5,slow=5.2,SNR=14
comp=Z,2.0nm,1.0s
ILAR **Eielson Array** 70.35 353 P P 13 12 50.0 +0.6
MLY **Manley** 70.37 355 IAmb IAmb 13 12 52.6
comp=Z,9.8nm,1.1s
MLY **Manley** 70.37 355 P P 13 12 50.6 +1.1
baz=8.1,SNR=11
J25K **Salcha River,** 70.38 353 IAmb IAmb 13 12 54.0
comp=Z,16nm,1.9s
J25K **Salcha River,** 70.38 353 P P 13 12 50.7 +1.1
baz=12
MMPY **Sheldon Lake,** 70.40 346 P P 13 12 51.6 +1.8
baz=22
G40A **Rib Lake** 70.49 315 P P 13 12 51.0 +0.4
H18K **Honhosa River** 70.54 359 P P 13 12 51.7 +1.1
baz=2.4
CMAR **Chiang Mai Arr** 70.56 83 P P 13 12 52.0 +0.6
comp=Z,1.8nm,0.7s,baz=309,slow=7.4,SNR=10
comp=Z,1.8nm,0.7s
K27K **Chicken** 70.62 351 P P 13 12 52.6 +1.6
baz=15
NEA2 **Nenana** 70.69 354 IAmb IAmb 13 12 53.8
comp=Z,8.6nm,1.1s
NEA2 **Nenana** 70.69 354 P P 13 12 52.5 +1.0
baz=9.3,SNR=7.3
G15K **Niukluk** 70.71 1 P P 13 12 53.1 +1.5
baz=358
HDA **Harding Lake** 70.72 353 IAmb IAmb 13 12 53.7
comp=Z,11nm,1.0s
HDA **Harding Lake** 70.72 353 P P 13 12 52.8 +1.1
baz=11,SNR=7.6
H17K **Granite Mounta** 70.78 359 P P 13 12 52.8 +0.8
baz=1.2
I20K **Naaghedeneel** 70.79 357 P P 13 12 53.7 +1.6
baz=5.3
TGTN **Hyland Airport** 70.85 344 P P 13 12 53.9 +1.3
baz=24
SCRK **Sand Creek** 70.87 352 P P 13 12 54.1 +1.3
baz=13
GCSA **Galena City Sc** 70.92 358 P P 13 12 54.3 +1.5
baz=3.5
L29M **L29M** 71.02 349 P P 13 12 55.0 +1.5
baz=17
H16K **Elim** 71.09 0 P P 13 12 55.1 +1.3
baz=359
ANM **Nome** 71.12 2 P P 13 12 55.7 +1.6
baz=357
RIDG **Independent Ri** 71.19 352 P P 13 12 55.2 +0.7
RIDG **Independent Ri** 71.19 352 P P 13 12 55.7 +1.2
baz=12,SNR=8.5
DOT **Dot Lake** 71.20 352 IAmb IAmb 13 12 57.7
comp=Z,11nm,1.1s
KOTAN **Kotaneelee Air** 71.21 341 P P 13 12 55.5 +0.9
baz=27
K24K **Donnelly Dome** 71.21 353 P P 13 12 55.4 +0.8
baz=12
BPAW **Bear Paw Mtn.** 71.31 355 IAmb IAmb 13 12 57.3
comp=Z,7.2nm,1.0s
BPAW **Bear Paw Mtn.** 71.31 355 P P 13 12 56.3 +1.0
baz=7.9,SNR=6.5
M31M **Drury Creek, Y** 71.32 347 IAmb IAmb 13 12 58.7
comp=Z,15nm,1.6s
M31M **Drury Creek, Y** 71.32 347 P P 13 12 56.6 +1.2
baz=20,SNR=5.1
M30M **Minto, Yukon** 71.34 348 P P 13 12 56.6 +1.1
baz=18
J20K **Nowinta River** 71.40 357 P P 13 12 56.9 +1.2
baz=5.5
BCAR **Beaver Creek A** 71.52 351 P P 13 12 56.9 +0.4
L27K **Beaver Creek,** 71.53 351 IAmb IAmb 13 12 59.8
comp=Z,12nm,1.3s
L27K **Beaver Creek,** 71.53 351 P P 13 12 57.6 +1.0
baz=15,SNR=7.7
MCK **McKinley** 71.54 354 P P 13 12 57.4 +0.8
baz=9.4,SNR=5.9
CHUM **Lake Minchumin** 71.60 356 P P 13 12 57.8 +0.8
baz=6.9
J19K **Poorman** 71.64 357 IAmb IAmb 13 13 00.2
comp=Z,6.6nm,1.1s
J19K **Poorman** 71.64 357 P P 13 12 58.1 +0.9
baz=4.4
GAMB **Gambell** 71.65 5 P P 13 12 58.4 +1.2
baz=352
M29M **Somme Creek** 71.70 349 IAmb IAmb 13 13 00.9
comp=Z,8.9nm,0.9s
M29M **Somme Creek** 71.70 349 P P 13 12 59.4 +1.7
baz=17,SNR=12
L26K **Log Cabin Wild** 71.73 351 IAmb IAmb 13 13 01.0
comp=Z,8.9nm,1.0s
L26K **Log Cabin Wild** 71.73 351 P P 13 12 59.5 +1.7
baz=14,SNR=9.0
I17K **Unalakleet** 71.84 360 P P 13 13 00.0 +1.7
baz=0.6
TRF **Thorofare Moun** 71.91 355 P P 13 13 00.1 +1.1
baz=8.4
PAX **Paxson** 72.00 352 P P 13 13 00.0 +0.5
PAX **Paxson** 72.00 352 P P 13 13 00.0 +0.5
PAX pmax pmax
comp=Z,6.0nm,1.1s
PAX **Paxson** 72.00 352 P P 13 13 00.3 +0.8
baz=12
BVCY **Beaver Creek** 72.04 350 P P 13 13 00.9 +1.2
baz=15,SNR=6.2
CAST **Castle Rocks** 72.05 356 P P 13 13 00.8 +1.1
baz=7.0,SNR=6.5
DHY **Denali Highway** 72.07 353 P P 13 13 00.8 +0.8
baz=10,SNR=27
N32M **Quiet Lake** 72.09 346 P P 13 13 01.1 +1.1
baz=21
J18K **Innoko River** 72.20 358 IAmb IAmb 13 13 03.7
comp=Z,7.5nm,1.1s
J18K **Innoko River** 72.20 358 P P 13 13 02.0 +1.5
baz=3.6
K20K **Telida** 72.21 356 IAmb IAmb 13 13 03.9
comp=Z,8.6nm,1.1s
K20K **Telida** 72.21 356 P P 13 13 01.7 +1.0
baz=5.5,SNR=6.7
M27K **Edge Creek, AK** 72.22 351 IAmb IAmb 13 13 04.3
comp=Z,11nm,1.2s
M27K **Edge Creek, AK** 72.22 351 P P 13 13 02.2 +1.3
baz=15,SNR=7.1
N31M **Braeburn, Yuko** 72.22 347 IAmb IAmb 13 13 03.2
comp=Z,9.7nm,1.1s
N31M **Braeburn, Yuko** 72.22 347 P P 13 13 02.5 +1.7
baz=19,SNR=5.5
WTLY **Watson Lake, Y** 72.25 343 P P 13 13 02.9 +1.9
baz=24
M26K **Nabesna, AK** 72.30 351 IAmb IAmb 13 13 04.4
comp=Z,7.8nm,1.1s
M26K **Nabesna, AK** 72.30 351 P P 13 13 02.8 +1.5
baz=14,SNR=7.6
LIRD **Liard River Hi** 72.32 342 P P 13 13 03.3 +2.0
baz=26
J17K **VABM Dome** 72.32 359 P P 13 13 02.8 +1.5
baz=1.8
WAT1 **Susitna Watana** 72.40 354 P P 13 13 03.1 +1.2
baz=9.6
J16K **Anvik River** 72.44 360 P P 13 13 03.7 +1.6
baz=0.7
N30M **Aishikik Lake** 72.44 348 IAmb IAmb 13 13 05.0
comp=Z,9.3nm,1.2s
N30M **Aishikik Lake** 72.44 348 P P 13 13 03.7 +1.5
baz=18,SNR=5.3
HARP **HAARP** 72.53 352 P P 13 13 03.9 +1.3
baz=12
PPLA **Purkeypile** 72.58 356 P P 13 13 04.4 +1.3
baz=6.9
WAT6 **Susitna Watana** 72.58 353 P P 13 13 04.3 +1.2
baz=10
YUK3 **Moose Creek** 72.61 350 P P 13 13 04.4 +1.1
baz=16,SNR=9.5
TOAD **Toad River Com** 72.62 341 P P 13 13 05.0 +1.7
baz=26
YUK4 **Talbot Arm** 72.78 349 P P 13 13 05.3 +1.0
baz=17
WHY **Whitehorse** 72.86 347 P P 13 13 05.8 +1.2
baz=20
M24K **Tolsona, Glenn** 72.92 353 P P 13 13 05.9 +0.9
baz=11
P33M **Teslin, Yukon** 72.93 345 P P 13 13 05.9 +0.8
P33M **Teslin, Yukon** 72.93 345 P P 13 13 06.1 +1.1
baz=21
CUT **Chulitna** 72.95 355 P P 13 13 06.2 +1.2
baz=8.3
O30N **Mendenhall** 72.95 347 IAmb IAmb 13 13 07.5
comp=Z,7.4nm,1.1s
O30N **Mendenhall** 72.95 347 P P 13 13 06.0 +0.9
baz=19
J14K **Nanvaranak Lak** 72.97 1 P P 13 13 06.7 +1.6
baz=358
K17K **Iditarod** 72.99 358 P P 13 13 06.4 +1.1
baz=2.4
YUK8 **Steele Glacier** 72.99 349 P P 13 13 06.5 +0.8
baz=16
F33A **5 Mile Ranch,** 73.07 318 P P 13 13 06.0 0.0
F33A IAmb IAmb 13 13 09.9
comp=Z,11nm,1.0s
L20K **Farewell, AK** 73.08 356 P P 13 13 07.2 +1.3
baz=5.7
HYT **Haines Junctio** 73.11 348 P P 13 13 07.4 +1.2
baz=18,SNR=6.0
YUK6 **Outpost Mounta** 73.12 348 P P 13 13 07.4 +1.0
baz=17,SNR=5.8
BOSA **Boshof** 73.14 174 P P 13 13 07.9 +1.3
comp=Z,2.8nm,0.7s,baz=354,slow=6.5,SNR=4.7
comp=Z,2.8nm,0.7s
N25K **Chitina, Valde** 73.25 352 P P 13 13 08.8 +1.8
baz=12,SNR=5.3
SCM **Sheep Creek Mo** 73.29 353 P P 13 13 08.7 +1.5
baz=10,SNR=10
MCARA **McCarthy VSAT** 73.30 351 P P 13 13 09.1 +2.0
baz=14
R33M **Jennings River** 73.34 344 IAmb IAmb 13 13 11.3
comp=Z,7.1nm,0.9s
R33M **Jennings River** 73.34 344 P P 13 13 09.5 +1.9
baz=22,SNR=6.1
M23K **Glacier View** 73.36 353 P P 13 13 09.3 +1.8
baz=10,SNR=5.2
L19K **White Mountain** 73.42 357 IAmb IAmb 13 13 11.2
comp=Z,9.1nm,1.0s
L19K **White Mountain** 73.42 357 P P 13 13 09.5 +1.6
baz=4.9
K15K **Wolf Creek Mou** 73.44 0 P P 13 13 09.6 +1.6
baz=360
L18K **Granite Mounta** 73.45 358 P P 13 13 09.7 +1.7
baz=3.6
SKT **Skwentna** 73.45 355 P P 13 13 09.3 +1.2
baz=7.4
GHO **Glory Hole Cre** 73.48 354 IAmb IAmb 13 13 10.5
comp=Z,8.8nm,1.0s
KLU **Klutina** 73.50 352 IAmb IAmb 13 13 10.8
comp=Z,7.4nm,1.0s
KLU **Klutina** 73.50 352 P P 13 13 09.4 +1.0
baz=12,SNR=6.5
CTG **Chitna Glacier** 73.50 350 P P 13 13 09.8 +1.2
baz=15
O28M **Mount Upton** 73.54 349 P P 13 13 09.9 +0.9
baz=16
L17K **Donlin** 73.57 358 P P 13 13 10.0 +1.2
baz=2.4
M22K **Willow** 73.59 354 P P 13 13 09.4 +0.7
M22K **Willow** 73.59 354 P P 13 13 09.4 +0.7
baz=8.4
M20K **Styx River** 73.64 356 IAmb IAmb 13 13 13.9
comp=Z,20nm,1.7s
M20K **Styx River** 73.64 356 P P 13 13 09.7 +0.4
baz=6.2
USRK **Ussuriysk Ar.** 73.65 43 P P 13 13 09.9 +0.5
comp=Z,2.9nm,1.0s,baz=119,slow=2.4,SNR=5.2
comp=Z,2.9nm,1.0s
USRK **Ussuriysk Ar.** 73.65 43 P P 13 13 10.0 +0.5
P32M **Atlin** 73.67 346 P P 13 13 10.8 +1.3
baz=20
PMR **Palmer** 73.67 354 P P 13 13 10.2 +1.0
baz=9.2,SNR=5.7
M19K **Big River Lodg** 73.68 356 P P 13 13 10.6 +1.3
baz=3
P30M **Million Dollar** 73.70 347 P P 13 13 10.7 +1.1
baz=18
O29M **Mount Kennedy** 73.77 348 P P 13 13 11.2 +1.1
baz=17
K13K **Kusilvak Mount** 73.77 2 P P 13 13 11.1 +1.2
baz=358
GRNC **Granite Creek** 73.78 350 IAmb IAmb 13 13 13.0
comp=Z,11nm,1.0s
KNK **Knik Glacier** 73.80 354 P P 13 13 11.6 +1.5
baz=9.6
BMRM **Bremner River** 73.88 352 IAmb IAmb 13 13 13.2
comp=Z,14nm,1.2s
BMRM **Bremner River** 73.88 352 P P 13 13 11.7 +1.1
baz=12,SNR=5.8
TGL **Tana Glacier** 73.89 351 P P 13 13 10.6 -0.1
SUA **Susitna One** 73.92 355 P P 13 13 11.6 +0.6
baz=8.0,SNR=7.3
CRQE **Cirque** 73.92 351 P P 13 13 12.2 +1.2
baz=14,SNR=6.8
Q32M **Nakina River** 74.00 345 P P 13 13 13.1 +1.6
baz=21
L16K **Owhat River** 74.02 359 P P 13 13 12.6 +1.3
baz=1.5
DLBC **Dease Lake** 74.04 343 P P 13 13 13.5 +1.9
baz=23
L15K **Ungalak Mounta** 74.06 360 P P 13 13 13.1 +1.5
baz=0.0
SKAG **Skagway** 74.07 346 P P 13 13 13.3 +1.7
baz=19
M18K **Stony River** 74.15 357 P P 13 13 14.3 +2.2
baz=4.2
U49A **Red Boiling Sp** 74.17 306 IAmb IAmb 13 13 14.9
comp=Z,8.8nm,1.0s
PINM **Pinnacle** 74.20 349 P P 13 13 14.1 +1.5
baz=16
RC01 **Rabbit Creek A** 74.22 354 P P 13 13 13.7 +1.1
baz=8.7
PLBC **Pleasant Camp** 74.24 347 P P 13 13 14.5 +1.8
baz=18
M17K **Holitna River** 74.29 358 P P 13 13 14.2 +1.2
baz=3.0
P29M **Windy Craggy** 74.29 348 IAmb IAmb 13 13 15.8
comp=Z,10nm,0.8s
P29M **Windy Craggy** 74.29 348 P P 13 13 14.5 +1.5
baz=17,SNR=8.4
PWL **Port Wells** 74.33 353 IAmb IAmb 13 13 15.5
comp=Z,9.4nm,1.0s
PWL **Port Wells** 74.33 353 P P 13 13 14.4 +1.1
baz=9.7
MESA **MESA** 74.34 350 P P 13 13 15.3 +1.8
baz=14
L14K **Kuka Creek** 74.39 1 P P 13 13 14.5 +1.0
baz=359
EYAK **Cordova Ski Ar** 74.41 352 P P 13 13 15.2 +1.6
baz=12
PNL **Peninsula** 74.50 349 P P 13 13 15.8 +1.6
baz=16
E28A **Huff** 74.55 321 P P 13 13 15.3 +0.5
CAPN **Captain Cook N** 74.63 355 P P 13 13 15.6 +0.7
baz=7.6
M16K **Timber Creek** 74.70 359 P P 13 13 16.0 +0.7
baz=1.9
S34M **Telegraph Cree** 74.75 344 P P 13 13 17.5 +1.9
baz=22
N19K **Bonanza Creek** 74.77 356 P P 13 13 17.0 +1.1
baz=5.2
ECSD **EROS Data Cent** 74.78 317 IAmb IAmb 13 13 18.2
comp=Z,11nm,0.9s
CLTN **Cedars of Leba** 74.78 306 IAmb IAmb 13 13 18.5
comp=Z,7.0nm,0.9s
O22K **Cooper Landing** 74.82 354 P P 13 13 17.4 +1.4
baz=8.7
KAIM **Kayak Island** 74.88 351 P P 13 13 16.8 +0.4
baz=12
NJ2 **Nanjing** 74.89 60 eP P 13 13 16.5 -0.4
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
N18K **Kilae Creek** 74.96 357 P P 13 13 17.9 +1.0
baz=4.1
M14K **Bethel** 74.99 0 P P 13 13 18.6 +1.6
baz=360
M15K **Kasigluk River** 75.05 360 P P 13 13 18.8 +1.5
baz=0.6
R32K **Eaglecrest** 75.05 346 P P 13 13 18.5 +1.1
baz=20
N17K **Nushagak Hills** 75.16 358 P P 13 13 18.6 +0.7
baz=3.2
SEW **Seward** 75.17 354 IAmb IAmb 13 13 20.6
comp=Z,7.8nm,1.0s
SEW **Seward** 75.17 354 P P 13 13 19.2 +1.2
baz=8.8
N16K **Nishlik Lake** 75.24 359 P P 13 13 20.2 +1.7
baz=2.0
M11K **Mekoryuk** 75.29 2 P P 13 13 20.0 +1.3
baz=356
M13K **Dall Lake** 75.32 1 P P 13 13 20.6 +1.8
baz=359
O19K **Port Alsworth** 75.38 356 P P 13 13 20.3 +1.1
baz=5.3
O20K **Slope Mountain** 75.41 355 P P 13 13 20.3 +0.8
baz=6.5
T35M **Bob Quinn** 75.44 343 P P 13 13 21.5 +1.8
baz=22
Q23K **Middleton Isla** 75.57 352 P P 13 13 21.5 +1.2
baz=11
N15K **Kwethluk River** 75.57 359 P P 13 13 21.6 +1.2
baz=1.0
WVT **Waverly** 75.62 307 P P 13 13 21.1 +0.1
WVT IAmb IAmb 13 13 22.4
comp=Z,10nm,1.2s
WVT **Waverly** 75.62 307 P P 13 13 21.1 +0.1
WVT pmax pmax
comp=Z,10.0nm,1.2s
S31K **Pelican** 75.64 346 P P 13 13 22.0 +1.2
baz=18
HOM **Homer** 75.77 355 P P 13 13 22.7 +1.2
baz=7.2
N14K **Kuskokwak Cree** 75.82 0 P P 13 13 23.2 +1.4
baz=360
P19K **Oil Pt** 75.87 356 P P 13 13 23.0 +0.9
baz=6.1
O17K **Koliganek Bris** 75.91 358 P P 13 13 23.0 +0.7
baz=3.2
O16K **Kokwok River B** 76.11 358 P P 13 13 24.5 +1.0
baz=2.5
CCM **Cathedral Cave** 76.16 310 P P 13 13 24.4 +0.3
CCM IAmb IAmb 13 13 27.8
comp=Z,6.8nm,1.1s
CCM **Cathedral Cave** 76.16 310 P P 13 13 24.4 +0.3
CCM pmax pmax
comp=Z,7.0nm,1.1s
SIT **Sitka** 76.35 346 P P 13 13 26.0 +1.2
baz=19
WRAK **Wrangell Islan** 76.39 344 IAmb IAmb 13 13 28.4
comp=Z,5.9nm,0.9s
WRAK **Wrangell Islan** 76.39 344 P P 13 13 26.4 +1.3
baz=21
KSRS **Korea Array** 76.42 51 P P 13 13 26.9 +1.3
comp=Z,1.7nm,0.8s,baz=319,slow=5.5,SNR=5.6
comp=Z,1.7nm,0.8s
YSS **Yuzhno-Sakhali** 76.44 36 eP P 13 13 27.1 +1.6
YSS MLR MLR
comp=Z,100nm,15.0s
P17K **Kvichak River** 76.47 357 P P 13 13 26.4 +0.9
baz=3.7
O14K **Tigyukauivet M** 76.49 360 P P 13 13 26.4 +0.8
baz=0.2
PETK **Petropavlovsk-** 76.56 24 LR LR 13 52 10.6
comp=Z,50nm,18.3s,baz=242,slow=40
O15K **Ungalikthiuk R** 76.56 359 P P 13 13 26.7 +0.7
baz=1
PLAL **Pickwick Lake** 76.57 306 IAmb IAmb 13 13 28.2
comp=Z,12nm,1.0s
Q19K **Cape Douglas,** 76.61 356 P P 13 13 27.6 +1.2
baz=5.7
P16K **Nushagak River** 76.67 358 P P 13 13 27.9 +1.3
baz=2.6
U33K **Whale Pass** 76.83 344 P P 13 13 29.2 +1.7
baz=20
Q20K **Shuyak Island** 76.86 355 P P 13 13 28.9 +1.2
baz=6.6
Q16K **King Salmon** 76.99 357 P P 13 13 29.8 +1.4
baz=3.5
V35K **Ketchikan** 77.26 343 P P 13 13 31.6 +1.7
baz=21
Q17K **Contact Creek** 77.38 357 P P 13 13 31.6 +0.8
baz=4.1
CRAG **Craig** 77.43 344 P P 13 13 32.5 +1.6
baz=20
LCAR **Lake Charles** 77.54 309 IAmb IAmb 13 13 34.3
comp=Z,8.0nm,1.2s
KDAK **Kodiak Island** 77.70 355 P P 13 13 33.3 +0.9
baz=6.5
RSSD **Black Hills** 77.94 322 P P 13 13 34.3 0.0
RSSD IAmb IAmb 13 13 36.8
comp=Z,6.7nm,1.1s
RSSD **Black Hills** 77.94 322 P P 13 13 34.3 0.0
RSSD pmax pmax
comp=Z,7.0nm,1.1s
R18K **Karluk** 78.01 356 P P 13 13 34.8 +0.7
baz=5.1
R17L **Mt. Peulik Vol** 78.03 357 P P 13 13 36.1 +1.8
baz=3.7
FCAR **Ozark Folk Cen** 78.21 309 IAmb IAmb 13 13 38.2
comp=Z,16nm,1.3s
OHAK **Old Harbor** 78.30 355 P P 13 13 36.2 +0.5
baz=6.0
SPIA **Saint Paul Isl** 78.31 5 P P 13 13 37.2 +1.4
baz=354
ASAJ **Asahikawa** 78.63 37 LR LR 13 51 30.4
comp=Z,48nm,19.5s,baz=171,slow=38
WHAR **Wooly Hollow** 78.74 309 IAmb IAmb 13 13 41.3
comp=Z,14nm,1.1s
P08K **Saint George I** 78.93 5 P P 13 13 40.2 +1.0
baz=354
SII **Sitkinak Islan** 79.01 356 P P 13 13 41.4 +1.7
baz=5.3
U38A **Gravette** 79.05 311 IAmb IAmb 13 13 42.4
comp=Z,16nm,1.2s
DIB **Dawson Inlet,** 79.43 343 IAmb IAmb 13 13 47.6
comp=Z,12nm,1.0s
YNE **Yellowstone No** 79.75 326 IAmb IAmb 13 13 47.3
comp=Z,11nm,1.1s
T35A **Sooner Cattle** 79.83 312 P P 13 13 44.5 -0.1
T35A IAmb IAmb 13 13 46.9
comp=Z,13nm,0.9s
BOZ **Bozeman (W)** 79.91 327 IAmb IAmb 13 13 47.9
comp=Z,12nm,1.2s

MIAR	**Mount Ida**	**80.00**	**309**	IAmb	IAmb	13 13 48.5		
	comp=Z,9.5nm,1.0s							
S12K	**Black Hills**	**80.05**	**0**	P	**P**	**13 13 46.5**	**+1.1**	
	baz=360							
YHL	**Hebgen Lake**	**80.35**	**326**	IAmb	IAmb	13 13 52.9		
	comp=Z,10nm,1.1s							
SDPT	**Sand Point**	**80.40**	**359**	P	**P**	**13 13 48.6**	**+1.3**	
	baz=0.7							
DLMT	**Dillon**	**80.48**	**327**	P	**P**	**13 13 48.9**	**+0.8**	
DLMT				IAmb	IAmb	13 13 51.0		
	comp=Z,13nm,1.1s							
FALS	**False Pass**	**80.89**	**1**	P	**P**	**13 13 50.7**	**+0.9**	
	baz=359							
CHNA	**Chernabura Isl**	**80.91**	**359**	P	**P**	**13 13 51.2**	**+1.3**	
	baz=1.4							
PGC	**Sidney**	**81.32**	**336**	IAmb	IAmb	13 13 54.5		
	comp=Z,7.2nm,0.8s							
BAUV	**El Baul**	**81.33**	**274**	P	**P**	**13 13 52.9**	**0.0**	
BAUV				IAmb	IAmb	13 13 58.1		
	comp=Z,8.8nm,0.8s							
PDAR	**Pinedale Array**	**81.41**	**324**	P	**P**	**13 13 53.9**	**+0.7**	
PDAR	**Pinedale Array**	**81.41**	**324**	P	**P**	**13 13 54.1**	**+0.9**	
	comp=Z,4.0nm,0.7s,baz=51,slow=4.6,SNR=38							
PDAR				LR	LR	13 53 38.2		
	comp=Z,17nm,18.4s,baz=336,slow=38							
	comp=Z,4.0nm,0.7s							
E09A	**Wood Farm, Sta**	**81.51**	**331**	IAmb	IAmb	13 13 55.7		
	comp=Z,10nm,0.9s							
F10A	**Beach Ranch, E**	**81.66**	**331**	IAmb	IAmb	13 13 58.4		
	comp=Z,8.0nm,1.1s							
UNV	**Unalaska Valle**	**81.82**	**3**	P	**P**	**13 13 56.6**	**+1.8**	
	baz=356							
B04A	**Port Angeles**	**81.86**	**335**	IAmb	IAmb	13 13 59.5		
	comp=Z,7.2nm,1.0s							
AHID	**Auburn Hatcher**	**82.05**	**325**	IAmb	IAmb	13 13 59.3		
	comp=Z,7.3nm,0.9s							
HAWA	**Hanford**	**82.09**	**332**	IAmb	IAmb	13 13 59.4		
	comp=Z,7.2nm,0.9s							
GNW	**Green Mountain**	**82.10**	**335**	P	**P**	**13 13 57.6**	**+1.1**	
GNW				IAmb	IAmb	13 14 00.9		
	comp=Z,12nm,1.1s							
HAYD	**Hayden**	**82.25**	**321**	IAmb	IAmb	13 14 01.1		
	comp=Z,12nm,1.1s							
MJAR	**Matsushiro Arr**	**82.54**	**45**	P	**P**	**13 13 59.4**	**+0.5**	
	comp=Z,1.2nm,0.8s,baz=316,slow=8.8,SNR=4.1							
	comp=Z,1.2nm,0.8s							
Q24A	**Divide**	**82.54**	**319**	IAmb	IAmb	13 14 02.1		
	comp=Z,7.1nm,1.0s							
WMOK	**Wichita Mounta**	**82.68**	**312**	IAmb	IAmb	13 14 02.8		
	comp=Z,16nm,1.6s							
O20A	**White River Ci**	**83.00**	**322**	P	**P**	**13 14 01.8**	**+0.2**	
MFID	**Camas Ranch**	**83.36**	**328**	IAmb	IAmb	13 14 05.9		
	comp=Z,6.5nm,0.8s							
RTBA	**Rita Blanca**	**83.38**	**316**	IAmb	IAmb	13 14 05.9		
	comp=Z,8.2nm,0.9s							
HVU	**Hansel Valley**	**83.55**	**326**	IAmb	IAmb	13 14 07.2		
	comp=Z,9.2nm,1.0s							
T25A	**Trinidad**	**83.64**	**318**	IAmb	IAmb	13 14 07.7		
	comp=Z,6.0nm,1.0s							
BSUT	**Blindstream Ca**	**83.76**	**324**	IAmb	IAmb	13 14 08.1		
	comp=Z,4.7nm,0.9s							
P18A	**Preston Nutter**	**84.29**	**323**	IAmb	IAmb	13 14 11.0		
	comp=Z,5.1nm,1.0s							
BGU	**Big Grassy Mou**	**84.38**	**325**	IAmb	IAmb	13 14 11.4		
	comp=Z,6.5nm,1.0s							
APMT	**Aspermont**	**84.47**	**312**	P	**P**	**13 14 09.1**	**+0.1**	
APMT				IAmb	IAmb	13 14 11.1		
	comp=Z,6.2nm,0.8s							
PV22	**Blue Mesa, Par**	**84.55**	**321**	IAmb	IAmb	13 14 11.9		
	comp=Z,5.7nm,0.9s							
PV21	**Cone Mtn., Par**	**84.61**	**321**	IAmb	IAmb	13 14 16.4		
	comp=Z,6.1nm,1.1s							
PV20	**West Nyswonger**	**84.79**	**321**	IAmb	IAmb	13 14 13.1		
	comp=Z,6.1nm,0.8s							
PV16	**Nyswonger Mesa**	**84.79**	**321**	IAmb	IAmb	13 14 13.3		
	comp=Z,9.4nm,1.2s							
PV19	**Morning Glory**	**84.82**	**321**	IAmb	IAmb	13 14 13.4		
	comp=Z,10.0nm,1.2s							
SRU	**San Rafael Swe**	**84.84**	**323**	P	**P**	**13 14 10.6**	**-0.4**	
SRU				IAmb	IAmb	13 14 12.8		
	comp=Z,6.1nm,0.9s							
SRU	**San Rafael Swe**	**84.84**	**323**	P	**P**	**13 14 10.6**	**-0.4**	
SRU				pmax	pmax			
	comp=Z,6.0nm,0.9s							
PV18	**Skein Mesa, Pa**	**84.84**	**321**	IAmb	IAmb	13 14 16.0		
	comp=Z,8.7nm,1.0s							
PINE	**Pine Mountain**	**84.85**	**332**	IAmb	IAmb	13 14 14.6		
	comp=Z,7.3nm,1.0s							
TMUT	**Trail Mountain**	**84.98**	**323**	IAmb	IAmb	13 14 13.9		
	comp=Z,5.3nm,1.1s							
ELK	**Elko**	**85.41**	**327**	P	**P**	**13 14 14.3**	**+0.4**	
ELK	**Elko**	**85.41**	**327**	P	**P**	**13 14 14.3**	**+0.4**	
ELK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
I03D	**Drain, OR**	**85.73**	**333**	IAmb	IAmb	13 14 17.6		
	comp=Z,8.2nm,0.9s							
K05A	**Summer Lake**	**85.78**	**331**	IAmb	IAmb	13 14 19.6		
	comp=Z,12nm,1.2s							
BBOR	**Butler Butte**	**86.23**	**332**	IAmb	IAmb	13 14 19.5		
	comp=Z,7.4nm,0.8s							
OZNA	**Ozona**	**86.88**	**312**	IAmb	IAmb	13 14 24.3		
	comp=Z,4.7nm,0.7s							
M02C	**Callahan**	**87.63**	**332**	IAmb	IAmb	13 14 34.7		
	comp=Z,4.8nm,1.1s							
PAHR	**Pah Rah Range**	**87.90**	**329**	IAmb	IAmb	13 14 28.7		
	comp=Z,3.6nm,0.9s							
N02D	**Trinity Center**	**87.95**	**332**	P	**P**	**13 14 26.3**	**+0.3**	
PECS	**Pecos**	**87.96**	**314**	IAmb	IAmb	13 14 29.3		
	comp=Z,8.6nm,1.2s							
PRN	**Pahroc Range**	**88.19**	**325**	IAmb	IAmb	13 14 30.5		
	comp=Z,4.6nm,0.9s							
NVAR	**Mina Array Bea**	**88.60**	**327**	P	**P**	**13 14 30.6**	**+1.3**	
	comp=Z,0.7nm,0.6s,baz=36,slow=3.7,SNR=8.6							
	comp=Z,0.7nm,0.6s							
ALPN	**Alpine**	**88.63**	**313**	IAmb	IAmb	13 14 31.8		
	comp=Z,6.0nm,0.8s							
LHV	**Little Huntoon**	**88.84**	**328**	IAmb	IAmb	13 14 33.4		
	comp=Z,7.3nm,1.2s							
KMPM	**Mount Pierce**	**88.92**	**332**	IAmb	IAmb	13 14 34.1		
	comp=Z,6.7nm,0.9s							
WAKR	**Walker**	**88.97**	**328**	IAmb	IAmb	13 14 36.7		
	comp=Z,5.2nm,1.2s							
TX31	**Lajitas Ar. Si**	**89.47**	**312**	IAmb	IAmb	13 14 36.0		
	comp=Z,5.7nm,0.9s							
TXAR	**Lajitas Array**	**89.47**	**312**	P	**P**	**13 14 34.0**	**+0.6**	
TXAR	**Lajitas Array**	**89.47**	**312**	P	**P**	**13 14 35.2**	**+1.8**	
	comp=Z,4.0nm,0.8s,baz=61,slow=4.6,SNR=49							
	comp=Z,4.0nm,0.8s							
V12A	**Nelson**	**89.54**	**324**	IAmb	IAmb	13 14 36.4		
	comp=Z,4.8nm,0.9s							
HOPS	**Hopland Field**	**89.85**	**331**	IAmb	IAmb	13 14 40.4		
	comp=Z,8.2nm,1.0s							
GWY	**Greenwater Val**	**89.90**	**325**	IAmb	IAmb	13 14 38.5		
	comp=Z,4.8nm,0.8s							
TUC	**Tucson**	**90.61**	**319**	P	**P**	**13 14 39.4**	**+0.7**	
TUC	**Tucson**	**90.61**	**319**	P	**P**	**13 14 39.4**	**+0.7**	
TUC				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WRA	**Warramunga Arr**	**122.02**	**87**	PKP	**PKPdf**	**13 20 30.9**	**+0.2**	
	comp=Z,1.4nm,0.9s,baz=328,slow=2.1,SNR=6.8							
ASAR	**Alice Springs**	**124.08**	**91**	PKP	**PKPdf**	**13 20 34.8**	**+0.1**	
	comp=Z,0.8nm,0.7s,baz=290,slow=1.9,SNR=9.6							
QSPA	**South Pole Qui**	**134.47**	**180**	PKP	**PKiKP**	**13 20 55.8**	**+1.3**	
	comp=Z,1.1nm,0.8s,baz=121,slow=1.3,SNR=2.5							
VNDA	**Vanda**	**143.89**	**167**	PKP	**PKPdf**	**13 21 10.0**	**+0.1**	
	comp=Z,0.8nm,0.8s,baz=316,slow=3.4,SNR=4.8							

*NNC **30** 13:11:12.1±2.6,37.˚65N×71.˚61E,h151^{km}±36^{km}, mb3.1, mpv4.1, Error ellipse: s-maj=23.8km s-min=14.8km az=9.0*

ISC 30 13:11:08.4±3.5,37.˚4N±0.˚2×71.˚6E±0.˚2, h109^{km}, n12, σ1℗10/14, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**5.32**	**24**	P		**P**	**Pn**	**13 12 26.7**	**+0.7**
	SNR=28								
EKS2	**Erkin-Say**	**5.52**	**17**	P		**P**	**Pn**	**13 12 29.5**	**+1.2**
	SNR=25								
AAK	**Ala-Archa**	**5.69**	**22**	P		**P**	**Pn**	**13 12 31.8**	**+1.2**
	SNR=31								
AAK	**Ala-Archa**	**5.69**	**22**	⇑P			**Pn**	**13 12 31.7**	**+1.1**
	8.7nm,0.4s								
AAK				⇑S			**Sn**	**13 13 34.4**	**-0.3**
	3.8nm,0.4s								
KK31	**Karatay Array**	**5.75**	**352**	⇓P			**Pn**	**13 12 32.5**	**+1.0**
	11nm,0.3s,baz=176,slow=12,SNR=293								
KK31				⇓S			**Sn**	**13 13 35.1**	**-1.0**
	16nm,0.5s,baz=170,slow=20,SNR=14								
KBK	**Karagaybulak**	**5.85**	**25**	P			**Pn**	**13 12 34.1**	**+1.3**
	SNR=7.9								
CHMS	**Chumysh**	**6.09**	**22**	P			**Pn**	**13 12 37.0**	**+1.0**
	SNR=7.2								
USP	**Ospenovka**	**6.27**	**20**	P			**Pn**	**13 12 38.7**	**+0.3**
	SNR=24								
TKM2	**Tokmak 2**	**6.31**	**28**	P			**Pn**	**13 12 39.7**	**+0.5**
	SNR=29								
MK31	**Makanchi Array**	**12.29**	**37**	⇓P			**Pn**	**13 13 57.9**	**-1.7**
	3.0nm,1.0s,baz=222,slow=15,SNR=8.6								
AB31	**Akbulak array**	**14.54**	**328**	P			**Pn**	**13 14 28.0**	**-0.8**
	0.6nm,0.5s,baz=138,slow=11,SNR=19								
BVA0	**Borovoye Array**	**15.65**	**357**	P			**Pn**	**13 14 43.0**	**+0.3**
	1.1nm,0.8s,baz=163,slow=19,SNR=5.6								

*IDC **30** 13:14:39.7±1.2,4.˚09S×152.˚47E, h0^{km}, mb3.8/8, mbtmp3.8/9, ML2.1/1, MS3.5/9, Error ellipse: s-maj=38.9km s-min=22.3km az=105.0*

ISC 30 13:14:45.2±1.1,4.˚1S±0.˚1×152.˚4E±0.˚2, h35^{km}, n17, σ0℗91/9, mb3.7/8, MS3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.45**	**224**	Pn			**Pn**	**13 16 32.2**	**+0.7**
	1.6nm,0.3s,baz=6.4,slow=8.3,SNR=6.6								
	5.6nm,0.7s								
HNR	**Honiara**	**9.15**	**126**	LR			LR	13 20 47.7	
	comp=Z,486nm,21.0s,baz=242,slow=40								
JAY	**Jayapura**	**11.82**	**277**	LR			LR	13 21 12.4	
	comp=Z,484nm,19.0s,baz=52,slow=33								
GUMO	**Guam**	**19.10**	**337**	LR			LR	13 25 20.9	
	comp=Z,33nm,18.7s,baz=160,slow=34								
DZM	**Mont Dzumac**	**22.45**	**144**	LR			LR	13 28 03.3	
	comp=Z,234nm,18.2s,baz=316,slow=36								
WRA	**Warramunga Arr**	**23.66**	**227**	P			**P**	**13 19 52.4**	**-1.3**
	2.1nm,0.9s,baz=51,slow=9.7,SNR=9.3								
	2.1nm,0.9s								
ASAR	**Alice Springs**	**26.44**	**221**	P			**P**	**13 20 18.8**	**-0.4**
	0.7nm,0.7s,baz=60,slow=8.5,SNR=8.4								
	0.7nm,0.7s								
FITZ	**Fitzroy Crossi**	**29.69**	**240**	LR			LR	13 33 38.8	
	comp=Z,132nm,21.9s,baz=30,slow=38								
KAPI	**Kappang**	**32.60**	**267**	LR			LR	13 36 20.3	
	comp=Z,32nm,18.3s,baz=77,slow=40								
RAO	**Raoul Island**	**37.63**	**135**	LR			LR	13 35 56.7	
	comp=Z,91nm,19.9s,baz=248,slow=34								
CMAR	**Chiang Mai Arr**	**57.25**	**295**	P			**P**	**13 24 30.1**	**+0.3**
	1.0nm,0.9s,baz=113,slow=7.7,SNR=5.7								
CMAR				LR			LR	13 46 30.3	
	comp=Z,27nm,20.8s,baz=150,slow=33								
	1.0nm,0.9s								
SONM	**Songino Array**	**65.53**	**328**	P			**P**	**13 25 24.9**	**-0.5**
	0.5nm,0.5s,baz=131,slow=4.0,SNR=3.5								
	0.5nm,0.5s								
VNDA	**Vanda**	**73.56**	**178**	P			**P**	**13 26 13.2**	**-1.0**
	0.7nm,0.6s,baz=335,slow=8.1,SNR=2.7								
	0.7nm,0.6s								
MKAR	**Makanchi Array**	**79.55**	**319**	P			**P**	**13 26 48.5**	**-0.2**
	0.2nm,0.5s,baz=116,slow=3.4,SNR=2.7								
	0.2nm,0.5s								
ILAR	**Eielson Array**	**81.63**	**22**	P			**P**	**13 26 60.0**	**+0.5**
	0.6nm,1.0s,baz=253,slow=5.5,SNR=5.2								
	0.6nm,1.0s								
QSPA	**South Pole Qui**	**85.87**	**180**	P			**P**	**13 27 22.3**	**+1.0**
	3.2nm,1.2s,baz=28,slow=5.0,SNR=3.0								
	3.2nm,1.2s								
LPIG	**La Paz**	**98.27**	**66**	LR			LR	14 08 04.0	
	comp=Z,20nm,18.4s,baz=198,slow=33								

*MOS **30** 13:18:51.4±1.1,53.˚56N×158.˚96E, h137^{km}, mb4.1/8, Error ellipse: s-maj=11.1km s-min=4.6km az=79.2*
*KRSC **30** 13:18:51.3±0.7,53.˚47N×159.˚26E, h131^{km}±6^{km}, Ml4.4*
*NEIC **30** 13:18:53.0±1.2,53.˚7N±0.˚1×158.˚8E±0.˚1, h123^{km}±10^{km}, mb4.2/21, Error ellipse: s-maj=20.9km s-min=10.7km az=184.0*
*IDC **30** 13:18:52.8±0.5,53.˚70N×158.˚82E, h129^{km}±4^{km}, mb3.6/24, mbtmp4.0/30, MS2.5/1, Error ellipse: s-maj=12.8km s-min=8.5km az=157.0*

ISC 30 13:18:52.5±0.5,53.˚55N±0.˚04×159.˚14E±0.˚04, h131^{km}±4^{km}, h131^{km}:pP-P, n167, σ1930/207, mb4.1/39, 4C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**0.31**	**209**	PN			**Pn**	**13 19 10.6**	**-0.3**
SDLR				S			**Sn**	**13 19 24.3**	**-0.5**
SDLR	**Sedlovina**	**0.31**	**209**	*e*P			**Pn**	**13 19 10.7**	**-0.3**
SDLR				*e*S			**Sn**	**13 19 24.4**	**-0.5**
KRER	**Koryakskii**	**0.34**	**224**	PN			**Pn**	**13 19 11.3**	**+0.2**
KRER				S			**Sn**	**13 19 25.5**	**+0.3**
KRER	**Koryakskii**	**0.34**	**224**	*e*P			**Pn**	**13 19 11.4**	**+0.2**
KRER				*e*S			**Sn**	**13 19 25.5**	**+0.3**
KRX	**Arik**	**0.35**	**237**	PN			**Pn**	**13 19 10.9**	**-0.2**
KRX				S			**Sn**	**13 19 25.3**	**+0.2**
KRX	**Arik**	**0.35**	**237**	*e*P			**Pn**	**13 19 11.0**	**-0.2**
KRX				*e*S			**Sn**	**13 19 25.4**	**+0.2**
SMAR	**Somma**	**0.35**	**215**	PN			**Pn**	**13 19 11.1**	**-0.1**
SMAR				S			**Sn**	**13 19 25.3**	**0.0**
SMAR	**Somma**	**0.35**	**215**	*e*P			**Pn**	**13 19 11.1**	**-0.1**
SMAR				*e*S			**Sn**	**13 19 25.3**	**0.0**
AVH	**Avacha**	**0.37**	**220**	PN			**Pn**	**13 19 11.2**	**+0.1**
AVH				S			**Sn**	**13 19 25.6**	**+0.5**
AVH	**Avacha**	**0.37**	**220**	*e*P			**Pn**	**13 19 11.3**	**+0.1**
AVH				*e*S			**Sn**	**13 19 25.7**	**+0.5**
UGLR	**Uglovaya**	**0.39**	**209**	PN			**Pn**	**13 19 11.3**	**0.0**
UGLR				S			**Sn**	**13 19 25.6**	**+0.2**
UGLR	**Uglovaya**	**0.39**	**209**	*e*P			**Pn**	**13 19 11.3**	**0.0**
UGLR				*e*S			**Sn**	**13 19 25.6**	**+0.2**
KOK	**Koryaka**	**0.40**	**230**	PN			**Pn**	**13 19 11.2**	**0.0**
KOK				S			**Sn**	**13 19 25.6**	**+0.2**
KOK	**Koryaka**	**0.40**	**230**	*e*P			**Pn**	**13 19 11.2**	**0.0**
KOK				*e*S			**Sn**	**13 19 25.7**	**+0.2**
NLC	**Nalytchevo**	**0.40**	**162**	PN			**Pn**	**13 19 10.7**	**-0.4**
NLC				S			**Sn**	**13 19 24.6**	**-0.5**
NLC	**Nalytchevo**	**0.40**	**162**	*e*P			**Pn**	**13 19 10.7**	**-0.4**
NLC				*e*S			**Sn**	**13 19 24.7**	**-0.5**
KII	**Karymskiy**	**0.52**	**21**	PN			**Pn**	**13 19 11.9**	**+0.1**
KII	**Karymskiy**	**0.52**	**21**	*e*P			**Pn**	**13 19 12.0**	**+0.1**
DALK	**Dalny**	**0.57**	**204**	PN			**Pn**	**13 19 11.5**	**-0.5**
DALK				S			**Sn**	**13 19 25.6**	**-1.2**
DALK	**Dalny**	**0.57**	**204**	*e*P			**Pn**	**13 19 11.6**	**-0.5**
DALK				*e*S			**Sn**	**13 19 25.7**	**-1.2**
INSR	**Institute**	**0.58**	**214**	PN			**Pn**	**13 19 11.8**	**-0.3**
INSR				S			**Sn**	**13 19 26.8**	**-0.1**
INSR	**Institute**	**0.58**	**214**	*e*P			**Pn**	**13 19 11.9**	**-0.3**
INSR				*e*S			**Sn**	**13 19 26.9**	**-0.1**
PET	**Petropavlovsk**	**0.60**	**209**	P			**Pn**	**13 19 11.9**	**-0.3**
PET	**Petropavlovsk**	**0.60**	**209**	PN			**Pn**	**13 19 11.9**	**-0.3**
PET				S			**Sn**	**13 19 26.4**	**-0.7**
PET	**Petropavlovsk**	**0.60**	**209**	*e*P			**Pn**	**13 19 11.9**	**-0.3**
PET				*e*S			**Sn**	**13 19 26.5**	**-0.7**
SPN	**Mys Shipunski**	**0.70**	**130**	PN			**Pn**	**13 19 12.1**	**-0.8**
SPN				S			**Sn**	**13 19 27.1**	**-1.2**
SPN	**Mys Shipunski**	**0.70**	**130**	*e*P			**Pn**	**13 19 12.2**	**-0.8**
SPN				*e*S			**Sn**	**13 19 27.2**	**-1.2**
GNL	**Ganaly**	**0.73**	**282**	PN			**Pn**	**13 19 13.0**	**-0.3**
GNL	**Ganaly**	**0.73**	**282**	*e*P			**Pn**	**13 19 13.0**	**-0.3**
KRMR	**Karymshinskiy**	**0.94**	**220**	PN			**Pn**	**13 19 14.6**	**-0.3**
KRMR				S			**Sn**	**13 19 31.4**	**-0.5**
KRMR	**Karymshinskiy**	**0.94**	**220**	*e*P			**Pn**	**13 19 14.7**	**-0.3**
KRMR				*e*S			**Sn**	**13 19 31.5**	**-0.5**
I44RU	**PETROPAVLOVSK-**	**0.96**	**243**	P			**Pn**	**13 19 14.7**	**-0.4**
	baz=67,slow=14,SNR=5.0								
PEA0B	**Petropavlovsk-**	**0.97**	**243**				**Pn**	**13 19 14.1**	**-1.1**
PEA0B	**Petropavlovsk-**	**0.97**	**243**	*c*	*i*	PN	**Pn**	**13 19 14.9**	**-0.3**
PEA0B					*i*	S	**Sn**	**13 19 32.3**	**-0.1**
PETK	**Petropavlovsk-**	**0.97**	**243**	P			**Pn**	**13 19 14.1**	**-1.2**
	864nm,0.3s,baz=70,slow=14								
PETK				S			**Sn**	**13 19 32.0**	**-0.4**
	78nm,0.4s,baz=135,slow=21,SNR=5.0								
RUS	**Russkaya**	**1.18**	**199**	PN			**Pn**	**13 19 16.3**	**-0.9**
RUS				S			**Sn**	**13 19 34.1**	**-1.8**
RUS	**Russkaya**	**1.18**	**199**	*e*P			**Pn**	**13 19 16.4**	**-0.9**
RUS				*e*S			**Sn**	**13 19 34.1**	**-1.8**
GRL	**Gorelyy**	**1.19**	**213**	PN			**Pn**	**13 19 17.6**	**+0.1**
GRL	**Gorelyy**	**1.19**	**213**	*e*P			**Pn**	**13 19 17.6**	**+0.1**
MTVR	**Mutnovka**	**1.22**	**209**	PN			**Pn**	**13 19 17.7**	**0.0**
MTVR	**Mutnovka**	**1.22**	**209**	*e*P			**Pn**	**13 19 17.8**	**0.0**
APC	**Apacha**	**1.34**	**243**	PN			**Pn**	**13 19 21.1**	**+2.2**
APC				S			**Sn**	**13 19 41.0**	**+2.1**
APC	**Apacha**	**1.34**	**243**	*e*P			**Pn**	**13 19 21.1**	**+2.2**
APC				*e*S			**Sn**	**13 19 41.1**	**+2.1**
ASAK	**Asacha**	**1.39**	**213**	PN			**Pn**	**13 19 19.7**	**+0.2**
ASAK				S			**Sn**	**13 19 40.5**	**+0.5**
ASAK	**Asacha**	**1.39**	**213**	*e*P			**Pn**	**13 19 19.8**	**+0.2**
ASAK				*e*S			**Sn**	**13 19 40.6**	**+0.5**
TUMD	**Tumrok D**	**1.81**	**23**	PN			**Pn**	**13 19 25.2**	**+1.0**
TUMD	**Tumrok D**	**1.81**	**23**	*e*P			**Pn**	**13 19 25.3**	**+1.0**
MKZ	**Mys Kozlova**	**1.83**	**56**	PN			**Pn**	**13 19 24.6**	**+0.3**
MKZ				S			**Sn**	**13 19 47.9**	**-0.9**
MKZ	**Mys Kozlova**	**1.83**	**56**	*e*P			**Pn**	**13 19 24.7**	**+0.3**
MKZ				*e*S			**Sn**	**13 19 47.9**	**-0.9**
MIPR	**Malaya Ipel'ka**	**1.93**	**229**	PN			**Pn**	**13 19 25.6**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.93**	**229**	*e*P			**Pn**	**13 19 25.6**	**0.0**
KMNR	**Kamenistaya**	**2.30**	**16**	PN			**Pn**	**13 19 32.3**	**+2.0**
KMNR	**Kamenistaya**	**2.30**	**16**	*e*P			**Pn**	**13 19 32.3**	**+2.0**
ESO	**Esso**	**2.39**	**354**	PN			**Pn**	**13 19 32.0**	**+0.7**
ESO	**Esso**	**2.39**	**354**	*e*P			**Pn**	**13 19 32.1**	**+0.7**
BZP	**Bezymyannyi-Pe**	**2.50**	**18**	PN			**Pn**	**13 19 34.6**	**+1.8**
BZP	**Bezymyannyi-Pe**	**2.50**	**18**	*e*P			**Pn**	**13 19 34.6**	**+1.8**
KPT	**Kopyto**	**2.50**	**14**	PN			**Pn**	**13 19 34.3**	**+1.6**
KPT	**Kopyto**	**2.50**	**14**	*e*P			**Pn**	**13 19 34.4**	**+1.6**
BZMR	**Bezymyannaya**	**2.52**	**18**	PN			**Pn**	**13 19 34.7**	**+1.7**
BZMR	**Bezymyannaya**	**2.52**	**18**	*e*P			**Pn**	**13 19 34.8**	**+1.7**
PAU	**Pauzhetka**	**2.52**	**215**	PN			**Pn**	**13 19 33.7**	**+0.7**
PAU	**Pauzhetka**	**2.52**	**215**	*e*P			**Pn**	**13 19 33.8**	**+0.7**
BZWR	**Bezymyannyi-We**	**2.54**	**17**	PN			**Pn**	**13 19 35.4**	**+2.0**
BZWR	**Bezymyannyi-We**	**2.54**	**17**	*e*P			**Pn**	**13 19 35.4**	**+2.0**
KOZ	**Kozyrevsk**	**2.55**	**9**	PN			**Pn**	**13 19 34.6**	**+1.3**
KOZ	**Kozyrevsk**	**2.55**	**9**	*e*P			**Pn**	**13 19 34.7**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**2.56**	**20**	PN			**Pn**	**13 19 35.5**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**2.56**	**20**	*e*P			**Pn**	**13 19 35.5**	**+2.0**
SRDR	**Sredinnyy**	**2.79**	**7**	PN			**Pn**	**13 19 37.6**	**+1.2**
SRDR	**Sredinnyy**	**2.79**	**7**	*e*P			**Pn**	**13 19 37.7**	**+1.2**
KLY	**Klyuchi**	**2.90**	**17**	PN			**Pn**	**13 19 39.9**	**+2.2**
KLY	**Klyuchi**	**2.90**	**17**	*e*P			**Pn**	**13 19 40.0**	**+2.2**
KBTR	**Krutoberegovo**	**3.41**	**37**	PN			**Pn**	**13 19 45.4**	**+1.0**
KBTR	**Krutoberegovo**	**3.41**	**37**	*e*P			**Pn**	**13 19 45.4**	**+1.0**
SKR	**Severo-Kuril's**	**3.42**	**214**	⇓*i*PN			**Pn**	**13 19 44.5**	**-0.1**
SKR	**Severo-Kuril's**	**3.42**	**214**	*e*P			**Pn**	**13 19 45.1**	**+0.5**
BKI	**Bering**	**4.33**	**65**	PN			**Pn**	**13 19 56.3**	**-0.1**
BKI				S			**Sn**	**13 20 43.4**	**-2.7**
BKI	**Bering**	**4.33**	**65**	*e*P			**Pn**	**13 19 56.4**	**-0.1**
BKI				*e*S			**Sn**	**13 20 43.5**	**-2.7**
MA2	**Magadan**	**7.60**	**326**	P			**Pn**	**13 20 37.5**	**-2.9**
	4.6nm,0.7s,baz=146,slow=15,SNR=5.4								
MA2	**Magadan**	**7.60**	**326**	*ce*PN			**Pn**	**13 20 41.0**	**+0.6**
SHEM	**Shemya Is, Ala

KURK	**Kurchatov**	**47.01**	**301**	P	**P**		**13 27 09.1**	**-1.0**
KURK				*PP	**pP**		**13 27 40.5**	**+0.2**
KURK							13 28 39.8	
KURBB	**Kurchatov Arra**	**47.11**	**301**	P	**P**		**13 27 09.1**	**-1.8**
	comp=Z,2.6nm,0.4s,baz=60,slow=7.6,SNR=46							
KURBB				pP	**pP**		**13 27 40.5**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=58,slow=8.1,SNR=3.9							
KURBB				PcP	**PcP**		**13 28 39.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=52,slow=3.3,SNR=6.9							
	comp=Z,2.6nm,0.4s							
MKAR	**Makanchi Array**	**47.44**	**295**	P	**P**		**13 27 11.8**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=53,slow=6.8,SNR=23							
	comp=Z,0.9nm,0.4s							
BVAR	**Borovoye Array**	**49.66**	**308**	P	**P**		**13 27 28.4**	**-2.0**
	comp=Z,1.9nm,0.5s,baz=65,slow=7.5,SNR=13							
	comp=Z,1.9nm,0.5s							
KEV	**Kevo**	**52.20**	**341**	P	**P**		**13 27 47.7**	**-1.4**
KEV	**Kevo**	**52.20**	**341**	P	**P**		**13 27 47.7**	**-1.4**
KEV				pmax	pmax			
	comp=Z,36nm,1.4s							
ARCES	**ARCESS Array B**	**52.67**	**341**	P	**P**		**13 27 50.5**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=37,slow=8.3,SNR=5.2							
ARCES				PcP	**PcP**		**13 28 59.6**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=38,slow=5.0,SNR=4.1							
	comp=Z,0.5nm,0.4s							
YHH	**Holmes Hill**	**55.71**	**60**	P	**P**		**13 28 17.5**	**+2.1**
NVAR	**Mina Array Bea**	**56.12**	**70**	P	**P**		**13 28 20.9**	**+2.6**
NVAR	**Mina Array Bea**	**56.12**	**70**	P	**P**		**13 28 20.6**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=294,slow=6.8,SNR=7.1							
NVAR				pP	**pP**		**13 28 50.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=305,slow=7.7,SNR=4.7							
	comp=Z,0.5nm,0.5s							
KK31	**Karatay Array**	**56.16**	**298**	P	**P**		**13 28 16.5**	**-1.8**
KK31	**Karatay Array**	**56.16**	**298**	P	**P**		**13 28 16.5**	**-1.8**
KK31				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KKAR	**Karatay Array**	**56.16**	**298**	P	**P**		**13 28 16.5**	**-1.8**
KKAR	**Karatay Array**	**56.16**	**298**	P	**P**		**13 28 16.5**	**-1.8**
AB31	**Akbulak array**	**57.06**	**310**	P	**P**		**13 28 23.0**	**-1.5**
ABKAR	**Akbulak array**	**57.06**	**310**	P	**P**		**13 28 23.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**57.72**	**257**	P	**P**		**13 28 30.8**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=28,slow=6.4,SNR=5.3							
	comp=Z,0.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**57.72**	**257**	*eP*	**P**		**13 28 31.3**	**+1.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
PD31	**Pinedale Array**	**57.80**	**60**	P	**P**		**13 28 31.9**	**+1.9**
PD31				IAmb	IAmb		13 28 32.3	
	comp=Z,1.7nm,0.6s							
PDAR	**Pinedale Array**	**57.80**	**60**	P	**P**		**13 28 31.9**	**+1.9**
	comp=Z,1.3nm,0.6s,baz=313,slow=3.0,SNR=15							
PDAR				pP	**pP**		**13 29 01.6**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=334,slow=2.3,SNR=3.3							
	comp=Z,1.3nm,0.6s							
FINES	**FINESS Array B**	**59.47**	**336**	P	**P**		**13 28 40.1**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=31,slow=8.0,SNR=12							
	comp=Z,1.4nm,0.4s							
FINES	**FINESS Array B**	**59.47**	**336**	*eP*	**P**		**13 28 40.4**	**-0.6**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
RSSD	**Black Hills**	**59.63**	**56**	P	**P**		**13 28 44.5**	**+1.8**
RSSD	**Black Hills**	**59.63**	**56**	P	**P**		**13 28 44.5**	**+1.8**
RSSD				pmax	pmax			
	comp=Z,5.0nm,0.6s							
HMU	**Henry Mountain**	**60.64**	**65**	P	**P**		**13 28 51.9**	**+2.2**
HMU				IAmb	IAmb		13 28 52.5	
	comp=Z,3.6nm,0.7s							
NB2	**NORSAR Subarra**	**62.94**	**343**	P	**P**		**13 29 03.3**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=21,slow=6.9							
NB2	**NORSAR Subarra**	**62.94**	**343**	P	**P**		**13 29 03.0**	**-1.4**
NOA	**NORSAR Array B**	**62.94**	**343**	P	**P**		**13 29 03.6**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=24,slow=6.5,SNR=11							
	comp=Z,0.7nm,0.4s							
NORES	**NORESS Array B**	**63.17**	**343**	P	**P**		**13 29 04.9**	**-1.0**
HFS	**Hagfors**	**63.34**	**341**	P	**P**		**13 29 04.9**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=39,slow=6.6,SNR=10							
	comp=Z,0.9nm,0.3s							
AKASG	**Malin Array Be**	**67.92**	**328**	P	**P**		**13 29 34.9**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=32,slow=6.1,SNR=2.7							
	comp=Z,0.8nm,0.5s							
EKA	**Eskdalemuir Ar**	**70.50**	**349**	P	**P**		**13 29 53.4**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=26,slow=5.5,SNR=3.3							
	comp=Z,0.2nm,0.3s							
TX31	**Lajitas Ar. Si**	**70.98**	**66**		**P**		**13 29 57.6**	**+1.8**
TXAR	**Lajitas Array**	**70.98**	**66**	P	**P**		**13 29 57.6**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=297,slow=4.5,SNR=20							
TXAR				pP	**pP**		**13 30 28.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=302,slow=5.0,SNR=6.1							
	comp=Z,1.2nm,0.6s							
DSB	**Dublin**	**72.89**	**351**	P	**P**		**13 30 07.3**	**+0.6**
GERES	**GERESS Array B**	**73.87**	**337**	P	**P**		**13 30 12.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=43,slow=4.5,SNR=3.5							
	comp=Z,0.4nm,0.4s							
WRA	**Warramunga Arr**	**76.26**	**204**	P	**P**		**13 30 26.5**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=22,slow=6.2,SNR=5.3							
	comp=Z,0.5nm,0.7s							
WRA	**Warramunga Arr**	**76.26**	**204**	*eP*	**P**		**13 30 27.4**	**+0.9**
ASAR	**Alice Springs**	**79.94**	**203**	P	**P**		**13 30 47.7**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=6.4,slow=5.5,SNR=4.0							
	comp=Z,0.5nm,0.8s							
ESDC	**Sonseca Array**	**86.01**	**347**	P	**P**		**13 31 17.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=2.1,slow=5.1,SNR=6.1							
	comp=Z,0.4nm,0.5s							
QSPA	**South Pole Qui**	**143.29**	**180**	PKhKP	PKPpre		13 38 07.0	
	comp=Z,0.6nm,0.7s,baz=76,slow=1.4,SNR=5.4							
PLCA	**Paso Flores**	**144.58**	**89**	PKP	PKPbc		13 38 12.3	+0.4
	comp=Z,2.2nm,0.6s,baz=303,slow=5.1,SNR=5.3							

*NEIC **30** 13:21:31.2±2.2, 20.17N±0.01×155.80W±0.02, **h12**km±2km, Error ellipse: s-maj=17.5km s-min=6.8km az=56.0*

HVO 30 13:21:33.1±2.2, 20.17N±0.01×155.80W±0.02, h12km±2km**, ML2.5**/18**, ML2.5**/39(NEIC)**, Error ellipse: s-maj=2.6km s-min=1.4km az=58.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHA	**Mahukona**	**0.10**	**281**		Pg	13 21 36.4	+0.5
MHA	**Mahukona**	**0.10**	**281**	Sg	Sg	13 21 37.7	-0.3
HPAH	**Hawaii Prepara**	**0.17**	**145**		Pg	13 21 36.6	-0.4
HPAH					Sg	13 21 39.2	-0.7
POHA	**Pohakuloa**	**0.48**	**148**		Sg	13 21 47.1	-2.1
POHA	**Pohakuloa**	**0.48**	**148**		Pg	13 21 41.2	-1.5
POHA				IAML		13 21 48.4	
	224nm,0.2s						
POHA				IAML		13 21 52.0	
	168nm,0.5s						
HUH	**Hualalai**	**0.48**	**184**		Pg	13 21 42.2	-0.5
HMH	**Humu'ula Sheep**	**0.64**	**152**		Pg	13 21 44.1	-1.5
HMH					Sg	13 21 52.3	-1.8
ALEP	**Alea Permanent**	**0.64**	**167**		Pg	13 21 44.5	-1.2
ALEP					Sg	13 21 52.7	-1.6
CPH	**Captain Cook**	**0.69**	**189**		Pg	13 21 44.5	-2.0
MWH	**Mokuaweoweo**	**0.71**	**164**		Pg	13 21 45.0	-2.0
MWH					Sg	13 21 54.5	-1.8
HLK	**Haleakala**	**0.72**	**325**		Pg	13 21 45.6	-1.5
HLK	**Haleakala**	**0.72**	**325**		Sg	13 21 54.4	-2.3
MLH	**Mauna Loa**	**0.78**	**150**		Sg	13 21 56.0	-2.5
MLH				IAML		13 21 58.5	
	comp=E,111nm,0.1s						
MLH				IAML		13 22 07.8	
	comp=N,145nm,2.4s						
MLH	**Mauna Loa**	**0.78**	**150**		Pg	13 21 45.9	-2.3
AIN	**Ainahou**	**0.86**	**158**		Sg	13 21 57.4	-3.6
AIN	**Ainahou**	**0.86**	**158**		Pg	13 21 47.1	-2.6
AIN				IAML		13 22 00.7	
	comp=E,211nm,0.2s						
RSD	**Rainshed**	**0.86**	**145**		Pg	13 21 45.7	-4.0
UWE	**Uwekahuna**	**0.89**	**147**		Pg	13 21 47.2	-3.0
UWE					Sg	13 21 58.2	-3.7
UWB	**Uwekahuna Bluf**	**0.89**	**146**		Pg	13 21 47.1	-3.2
UWB					Sg	13 21 58.1	-3.9
OBL	**Observatory Le**	**0.89**	**147**		Pg	13 21 47.2	-3.2
OBL					Sg	13 21 58.4	-3.7
SBLHI	**Steaming Bluff**	**0.89**	**146**		Pg	13 21 47.2	-3.2
SBLHI					Sg	13 21 58.1	-4.0
WRMHI	**West Rim**	**0.89**	**148**		Pg	13 21 47.2	-3.2
WRMHI					Sg	13 21 58.0	-4.2
HATHI	**Halema'uma'u T**	**0.90**	**146**		Pg	13 21 47.2	-3.3
HATHI	**Halema'uma'u T**	**0.90**	**146**	IAML		13 21 58.3	
	comp=N,142nm,3.6s						
HATHI				IAML		13 22 04.7	
	comp=E,153nm,2.1s						
BYL	**Byron's Ledge**	**0.91**	**146**		Pg	13 21 47.4	-3.3
BYL	**Byron's Ledge**	**0.91**	**146**	IAML		13 22 07.1	
	comp=E,201nm,3.6s						
SDHHI	**Sand Hill**	**0.91**	**148**		Pg	13 21 47.6	-3.1
SDHHI					Sg	13 21 58.9	-3.8
RIM	**Rim**	**0.92**	**147**		Pg	13 21 47.6	-3.3
KKO	**Keanakako'i**	**0.92**	**147**		Pg	13 21 47.6	-3.2
KKO					Sg	13 21 59.0	-3.9
KHU	**Kahuku**	**0.94**	**169**		Pg	13 21 47.8	-3.4
KHU					Sg	13 21 59.3	-4.2
PUH	**Pauahi**	**0.96**	**145**		Pg	13 21 48.0	-3.7
PUH	**Pauahi**	**0.96**	**145**	IAML		13 22 08.7	
	comp=N,159nm,3.6s						
PUH				IAML		13 22 24.8	
	comp=E,100nm,3.8s						
HLP	**Hilina Pali**	**0.99**	**152**		Pb	13 21 48.7	-3.5
KNHH	**Kane Nui o Ham**	**0.99**	**143**		Pg	13 21 48.5	-3.7
HTC	**Hot Caves**	**1.00**	**158**		Pb	13 21 48.8	-3.6
STCH	**Steam Cracks**	**1.01**	**141**		Pb	13 21 48.7	-3.8
STCH				IAML		13 22 05.1	
	comp=E,92nm,0.3s						
STCH				IAML		13 22 21.3	
	comp=N,100nm,3.0s						
NPOC	**North of Pu'u**	**1.01**	**140**		Pb	13 21 48.8	-3.8
JCUZ	**Jacuzzi**	**1.02**	**140**		Pb	13 21 49.0	-3.8
JOKA	**Jonika Flow**	**1.05**	**134**		Pb	13 21 49.3	-3.9
JOKA					Sb	13 22 02.0	-4.9
JOKA	**Jonika Flow**	**1.05**	**134**	IAML		13 22 17.3	
	comp=E,104nm,2.7s						
JOKA				IAML		13 22 26.8	
	comp=N,177nm,2.7s						

*IDC **30** 13:38:51.3±1.7, 5.26S×146.43E, h177km±17km, mb3.3/6, mbtmp3.8/9, Error ellipse: s-maj=25.6km s-min=15.0km az=81.0*

*NEIC **30** 13:38:52.0±0.6, 5.22S±0.09×146.4E±0.1, h179km±8km, mb4.1/15, Error ellipse: s-maj=21.2km s-min=12.5km az=70.0*

ISC 30 13:38:53.4±0.6, 5.33S±0.07×146.3E±0.1, h200km**, n28**, σ1**1**7/29**, mb4.0**/12**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.14**	**168**	P	**Pn**	**13 39 55.9**	**-1.1**
	12nm,0.8s,baz=296,slow=9.9,SNR=7.2						
PMG				S	**Sn**	**13 40 44.1**	**-2.9**
	38nm,0.4s,baz=330,slow=23,SNR=24						
JAY	**Jayapura**	**6.24**	**296**	P	**Pn**	**13 40 21.8**	**-2.1**
	11nm,0.5s,baz=164,slow=8.7,SNR=17						
WR8	**Warramunga Arr**	**18.52**	**217**		**Pn**	**13 42 56.7**	**-1.0**
WR8				IAmb	IAmb	13 43 03.9	
	comp=Z,5.1nm,1.2s						
WRA	**Warramunga Arr**	**18.60**	**218**	P	**Pn**	**13 42 57.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=42,slow=9.9,SNR=20						
KNRA	**Kununurra**	**20.05**	**238**	P	**P**	**13 43 12.9**	**+1.5**
KNRA				IAmb	IAmb	13 43 46.6	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**21.79**	**212**	P	**P**	**13 43 31.0**	**+1.3**
ASAR	**Alice Springs**	**21.79**	**212**	P	**P**	**13 43 31.6**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=44,slow=7.5,SNR=28						
	comp=Z,1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.83**	**236**	P	**P**	**13 43 49.6**	**+1.1**
RAO	**Raoul Island**	**41.35**	**129**	P	**P**	**13 46 19.7**	**-0.3**
JKA	**Kamikawa-asahi**	**49.33**	**356**	P	**P**	**13 47 21.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**50.96**	**347**	P	**P**	**13 47 34.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=178,slow=7.2,SNR=2.0						
	comp=Z,0.5nm,0.4s						
PEA0B	**Petropavlovsk-**	**59.02**	**8**	P	**P**	**13 48 31.5**	**-0.5**
PEA0B				IAmb	IAmb	13 48 59.5	
	comp=Z,16nm,1.4s						
PETK	**Petropavlovsk-**	**59.02**	**8**	P	**P**	**13 48 31.7**	**-0.4**
PETK	**Petropavlovsk-**	**59.02**	**8**	P	**P**	**13 48 32.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=157,slow=5.4,SNR=6.3						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**63.48**	**331**	P	**P**	**13 49 02.3**	**0.0**
CASY	**Casey**	**65.71**	**195**	P	**P**	**13 49 18.0**	**+1.8**
CASY				IAmb	IAmb	13 49 31.4	
	comp=Z,6.1nm,1.3s						
VNDA	**Vanda**	**72.61**	**176**	P	**P**	**13 49 59.4**	**+0.9**
VNDA				IAmb	IAmb	13 50 00.2	
	comp=Z,3.0nm,1.4s						
VNDA	**Vanda**	**72.61**	**176**	P	**P**	**13 49 58.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=316,slow=5.8,SNR=5.5						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**76.54**	**321**	P	**P**	**13 50 20.7**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=133,slow=6.3,SNR=2.0						
	comp=Z,0.2nm,0.6s						
H18K	**Honhosa River**	**81.05**	**21**	P	**P**	**13 50 46.7**	**+0.9**
H18K				IAmb	IAmb	13 51 15.8	
	comp=Z,2.8nm,1.0s						
G18K	**Tagagawik**	**81.37**	**20**	P	**P**	**13 50 48.5**	**+1.1**
G18K				IAmb	IAmb	13 51 26.2	
	comp=Z,5.7nm,1.5s						
CAPN	**Captain Cook N**	**81.67**	**26**	P	**P**	**13 50 49.3**	**+0.2**
IMAR	**Indian Mountai**	**83.12**	**21**	P	**P**	**13 50 56.0**	**-0.5**
QSPA	**South Pole Qui**	**84.63**	**180**	P	**P**	**13 51 05.8**	**+1.5**
QSPA				IAmb	IAmb	13 51 29.4	
	comp=Z,3.6nm,1.2s						
IL31		**85.15**	**23**	P	**P**	**13 51 06.1**	**-0.5**
IL31				IAmb	IAmb	13 51 06.7	
	comp=Z,2.6nm,0.7s						
ILAR	**Eielson Array**	**85.15**	**23**	P	**P**	**13 51 06.4**	**-0.3**
ILAR	**Eielson Array**	**85.15**	**23**	P	**P**	**13 51 06.1**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=252,slow=5.1,SNR=33						
	comp=Z,1.8nm,0.6s						
BCAR	**Beaver Creek A**	**86.65**	**26**	P	**P**	**13 51 14.3**	**+0.1**

*UCR **30** 13:45:28.3±0.9, 8.32N±82.97W, h10km±2km, MW4.5, Fault plane solution: NP1:ϕs80.82000°, δ50.18000°, λ83.48000°.*

*UPA **30** 13:45:28.3±0.9, 8.34N×82.95W, h14km±2km, MW4.0*

*CATAC **30** 13:45:29.6±0.7, 8°N±4°×83°W±°, h5km±1km, M4.0/8, MLv4.0/8, Error ellipse: s-maj=8.2km s-min=4.0km az=160.4, confirmed*

ISC 30 13:45:28.6±0.8, 8.32N±0.03×82.96W±0.02, h18km±5km**, n76**, σ0**9**4/93**, 4C-25D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIEL	**Armuelles**	**0.11**	**109**	*eP*	**Pg**	**13 45 31.6**	**-0.6**
PTPM	**Petroterminale**	**0.14**	**146**	*iP*	**Pg**	**13 45 32.2**	**-0.4**
PTPM				eS	Sg	13 45 35.9	+0.6
PTPA	**Petro Terminal**	**0.15**	**144**	*eP*	**Pg**	**13 45 32.1**	**-0.6**
PTPA				eS	Sg	13 45 36.1	+0.0
LESP3	**La Esperanza,**	**0.19**	**63**	*iP*	**Pg**	**13 45 33.1**	**-0.2**
LPPC	**Paso Canoas**	**0.24**	**29**	*eP*	**Pg**	**13 45 34.0**	**-0.1**
CDITO	**Canoas**	**0.26**	**18**	P	**Pg**	**13 45 34.2**	**-0.3**
CDITO	**Canoas**	**0.26**	**18**	S	**Sg**	**13 45 37.8**	**-0.7**
NELY	**Ciudad Neily**	**0.33**	**2**	*eP*	**Pg**	**13 45 35.1**	**-0.4**
NELY				eS	**Sb**	**13 45 40.7**	**-0.2**
BRNON	**Bren.**	**0.34**	**25**	*eP*	**Pb**	**13 45 35.5**	**-0.6**
FITO	**Golfito**	**0.36**	**327**	*eP*	**Pg**	**13 45 34.9**	**-1.2**
FITO				eS	**Sg**	**13 45 40.4**	**-0.9**
DMCAL	**E. de Neily**	**0.38**	**25**	*eP*	**Pb**	**13 45 36.5**	**-0.4**
PIRO	**Carate, Puerto**	**0.38**	**282**	*eP*	**Pg**	**13 45 35.8**	**-0.8**
PIRO	**Carate, Puerto**	**0.38**	**282**	P	**Pg**	**13 45 35.7**	**-0.8**
PIRO	**Carate, Puerto**	**0.38**	**282**	S	**Sb**	**13 45 42.6**	**0.0**
EDAD	**Golfito**	**0.39**	**328**	*eP*	**Pg**	**13 45 35.4**	**-1.2**
PTJ1	**Puerto Jimnez**	**0.40**	**302**	*eP*	**Pg**	**13 45 37.0**	**-0.3**
PTJ1	**Puerto Jimnez**	**0.40**	**302**	P	**Pg**	**13 45 36.5**	**-0.4**
PTJ1	**Puerto Jimnez**	**0.40**	**302**	S	**Sb**	**13 45 42.4**	**-0.6**
JIME	**Puerto Jimenez**	**0.42**	**301**	*eP*	**Pb**	**13 45 37.2**	**-0.3**
BAGA3	**Bagala, Chiriq**	**0.45**	**71**	*eP*	**Pb**	**13 45 37.8**	**-0.2**
BAGA3				eS	**Sb**	**13 45 44.6**	**+0.2**
RSRNO	**Rio Sereno**	**0.50**	**11**	*eP*	**Pb**	**13 45 38.9**	**-0.1**
DVD	**David**	**0.51**	**77**	*eP*	**Pg**	**13 45 38.5**	**-0.5**
DVD				eS	**Sb**	**13 45 46.6**	**+0.4**
PEDE3	**Pedregal, Chir**	**0.53**	**83**	*eP*	**Pg**	**13 45 38.6**	**-0.7**
PEDE3				eS	**Sg**	**13 45 46.3**	**-0.2**
SCLRA	**Santa Clara, W**	**0.54**	**19**	*eP*	**Pb**	**13 45 39.4**	**-0.3**
BRU2	**Volcan**	**0.54**	**29**	*eP*	**Pb**	**13 45 39.3**	**-0.4**
BRU2				eS	**Sb**	**13 45 48.3**	**+1.2**
BRU2	**Volcan**	**0.54**	**29**	*eP*	**Pb**	**13 45 39.2**	**-0.4**
BRU2				eS	**Sb**	**13 45 48.1**	**+0.9**
BRU2	**Volcan**	**0.54**	**29**	P	**Pb**	**13 45 39.2**	**-0.4**
BRU2	**Volcan**	**0.54**	**29**	S	**Sb**	**13 45 47.4**	**+0.2**
LOCO3	**Loma Colorada,**	**0.54**	**81**	*eP*	**Pg**	**13 45 39.0**	**-0.4**
LOCO3				eS	**Sg**	**13 45 47.0**	**+0.3**
JEFFS	**S de V. Baru**	**0.54**	**50**	*eP*	**Pg**	**13 45 39.3**	**-0.2**
LOMA3	**Las Lomas, Chi**	**0.57**	**79**	*eP*	**Pg**	**13 45 39.4**	**-0.6**
LOMA3				eS	**Sb**	**13 45 47.9**	**0.0**
BANCO	**falda S V. Bar**	**0.58**	**47**	*eP*	**Pg**	**13 45 39.8**	**-0.4**
PTAR3	**Potrerillos Ar**	**0.59**	**51**	*eP*	**Pg**	**13 45 40.0**	**-0.3**
PTAR3				eS	**Sb**	**13 45 49.1**	**+0.6**
BC3P	**Paso Ancho**	**0.60**	**35**	*eP*	**Pg**	**13 45 40.1**	**-0.4**
BC3P				eS	**Sb**	**13 45 49.7**	**+0.8**
CGUAY	**Guayabal, Coch**	**0.61**	**77**	*eP*	**Pg**	**13 45 40.0**	**-0.8**
CHIR3	**Chiriqui UPA,**	**0.62**	**83**	*eP*	**Pg**	**13 45 40.1**	**-0.8**
ALCO	**Alturas Coton,**	**0.64**	**11**	*eP*	**Pg**	**13 45 40.5**	**-0.8**
BQTLY	**Boquete Panama**	**0.66**	**48**	*eP*	**Pg**	**13 45 40.8**	**-0.8**
BQSF3	**Alto Boquete,**	**0.67**	**51**	*i P*	**Pg**	**13 45 41.0**	**-0.8**
BQSF3				eS	**Sb**	**13 45 50.6**	**-0.2**
WILLF	**Boquete**	**0.67**	**50**	*eP*	**Pg**	**13 45 41.0**	**-0.9**
GUAL3	**Gualaca, Chiri**	**0.69**	**72**	*eP*	**Pg**	**13 45 41.2**	**-0.8**
GUAL3				eS	**Sb**	**13 45 51.6**	**+0.4**
DAP26	**falda E V. Bar**	**0.70**	**49**	*eP*	**Pg**	**13 45 41.3**	**-1.1**
EDP2	**Potrero Grande**	**0.72**	**343**	*eP*	**Pg**	**13 45 41.9**	**-0.9**
FIMO	**Fila Mora**	**0.77**	**329**	*eP*	**Pg**	**13 45 42.6**	**-1.2**
PBNVO	**Pueblo Nuevo,**	**0.94**	**53**	*eP*	**Pg**	**13 45 45.1**	**-1.8**
RBALA	**Bur**	**0.97**	**55**	*eP*	**Pg**	**13 45 45.8**	**-1.6**
DRK0	**Durika**	**0.98**	**343**	*eP*	**Pg**	**13 45 45.9**	**-1.8**
DRK0				eS	**Sb**	**13 45 59.8**	**0.0**
DRK0	**Durika**	**0.98**	**343**	*eP*	**Pg**	**13 45 45.9**	**-1.8**
DRK0	**Durika**	**0.98**	**343**	P	**Pb**	**13 45 47.3**	**+0.1**
OCHAL	**Ojochal**	**1.03**	**319**	S	**Sb**	**13 46 01.5**	**+0.4**
OCHAL	**Ojochal**	**1.03**	**319**	P	**Pn**	**13 45 48.3**	**+0.1**
EDPE	**Pejibaye, P**	**1.03**	**324**	*eP*	**Pg**	**13 45 46.6**	**-2.0**
RMDIO	**Remedios, Chir**	**1.12**	**95**	*eP*	**Pb**	**13 45 47.8**	**-1.6**
KKNTU	**Kakint²**	**1.25**	**66**	*eP*	**Pn**	**13 45 49.7**	**-1.5**
CEUA	**Cerro Uatsi, L**	**1.29**	**1**	*eP*	**Pg**	**13 45 52.9**	**-0.7**
LAES	**El Progreso Va**	**1.44**	**356**	*eP*	**Pn**	**13 45 54.1**	**+0.3**
BUS1	**Rivas**	**1.45**	**328**	*eP*	**Pn**	**13 45 53.9**	**-0.5**
VERH	**Veragua Rainfo**	**1.61**	**352**	*eP*	**Pn**	**13 45 56.6**	**+0.3**
QUEP	**Quepos**	**1.62**	**313**	P	**Pn**	**13 45 58.1**	**+0.0**
PIEC	**Cerro El Cedra**	**1.63**	**323**	*eP*	**Pn**	**13 45 56.7**	**+0.1**
LCR2	**La Lucha 2**	**1.75**	**324**	S	**Sb**	**13 46 22.3**	**+0.2**
GMAL	**Guarumal, Vera**	**1.79**	**108**	*eP*	**Pn**	**13 45 57.5**	**-1.2**
PAR1A	**Puntarenas Pro**	**1.80**	**315**	*eP*	**Pb**	**13 46 00.2**	**-0.9**
RESJ	**San Isidro (Tu**	**1.83**	**338**	*eP*	**Pn**	**13 46 00.2**	**+0.9**
ABRB	**Las Abras (San**	**1.83**	**336**	*eP*	**Pn**	**13 46 00.6**	**+1.1**
CVTV	**Tajo**	**1.85**	**335**	*eP*	**Pn**	**13 46 00.3**	**+0.5**
LCOCO	**El Coco**	**1.85**	**341**	*eP*	**Pn**	**13 46 00.3**	**+0.8**
CVTQ	**Turrialba Volc**	**1.85**	**335**	*eP*	**Pn**	**13 46 00.5**	**+0.6**
CVTR	**Volcan Turrial**	**1.86**	**335**	*eP*	**Pn**	**13 46 00.4**	**+0.4**
CACAO	**El Cacao, Vera**	**2.29**	**115**	*eP*	**Pn**	**13 46 05.6**	**+0.1**
CACAO				eS	**Sn**	**13 46 34.2**	**+0.9**
SOCE	**Pocosol**	**2.62**	**321**	S	**Sn**	**13 46 44.6**	**+3.0**
SOCE	**Pocosol**	**2.62**	**321**	P	**Pn**	**13 46 12.4**	**+2.2**
AZU	**Azuero**	**2.71**	**101**	*eP*	**Pn**	**13 46 12.2**	**+0.9**
VARE2	**V. Arenal**	**2.75**	**321**	*eP*	**Pb**	**13 46 15.0**	**-2.3**
BCIP	**Isla Barro Col**	**3.20**	**75**	*eP*	**Pn**	**13 46 19.2**	**+1.2**
ALIBA	**Liberia Airpor**	**3.41**	**312**	*eP*	**Pn**	**13 46 23.1**	**+2.2**

*IDC **30** 14:02:57.4±1.7, 29.37N×131.32E, h0km, mb3.8/10, mbtmp3.8/11,

WB2	**Warramunga Arr**	**49.11**	**176**	P	**P**	**14 11 49.6**	**+0.8**
WB2				IAmb	IAmb	14 12 04.3	
	comp=Z,5.7nm,1.1s						
BVAR	**Borovoye Array**	**49.60**	**316**	P	**P**	**14 11 52.4**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=93,slow=9.5,SNR=23						
	comp=Z,3.2nm,0.5s						
KK31	**Karatay Array**	**49.62**	**303**	P	**P**	**14 11 52.9**	**+0.3**
KK31				IAmb	IAmb	14 11 54.2	
	comp=Z,1.9nm,0.7s						
KKAR	**Karatay Array**	**49.62**	**303**	P	**P**	**14 11 52.9**	**+0.3**
AB31	**Akbulak array**	**56.30**	**312**	P	**P**	**14 12 41.6**	**-0.1**
AB31				IAmb	IAmb	14 12 42.2	
	comp=Z,1.7nm,0.7s						
ABKAR	**Akbulak array**	**56.30**	**312**	P	**P**	**14 12 41.7**	**0.0**
ARTI	**Arti**	**56.56**	**321**	P	**P**	**14 12 43.5**	**0.0**
AKTO	**Aktyubinsk**	**57.38**	**313**	LR	LR	14 39 21.0	
	comp=Z,68nm,20.6s,baz=207,slow=38						
D22K	**Ayikyak River**	**58.08**	**25**	P	**P**	**14 12 54.2**	**+0.2**
D22K				IAmb	IAmb	14 13 36.1	
	comp=Z,9.9nm,1.5s						
E22K	**Anaktuvuk Pass**	**58.39**	**25**	P	**P**	**14 12 57.5**	**+1.2**
E22K				IAmb	IAmb	14 13 32.2	
	comp=Z,5.6nm,1.4s						
E24K	**Your Creek**	**59.64**	**25**	P	**P**	**14 13 05.4**	**+0.5**
E24K				IAmb	IAmb	14 13 07.1	
	comp=Z,5.5nm,1.4s						
IL31		**60.57**	**29**	P	**P**	**14 13 11.4**	**+0.2**
ILAR	**Eielson Array**	**60.57**	**29**	P	**P**	**14 13 11.6**	**+0.3**
SCRK	**Sand Creek**	**61.94**	**30**	P	**P**	**14 13 21.8**	**+1.2**
SCRK				IAmb	IAmb	14 13 57.5	
	comp=Z,3.5nm,1.4s						
DOT	**Dot Lake**	**61.96**	**30**	P	**P**	**14 13 21.9**	**+1.2**
DOT				IAmb	IAmb	14 13 22.4	
	comp=Z,4.2nm,1.4s						
INK	**Inuvik**	**65.09**	**24**	LR	LR	14 44 56.1	
	comp=Z,34nm,18.1s,baz=16,slow=39						
ARCES	**ARCESS Array B**	**67.98**	**339**	P	**P**	**14 13 59.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=56,slow=5.8,SNR=1.0						
ARCES				LR	LR	14 48 58.1	
	comp=Z,31nm,18.3s,baz=143,slow=40						
	comp=Z,0.5nm,0.6s						
FINES	**FINESS Array B**	**71.33**	**331**	P	**P**	**14 14 20.1**	**-0.4**
FINES	**FINESS Array B**	**71.33**	**331**	P	**P**	**14 14 19.6**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=73,slow=6.6,SNR=5.5						
	comp=Z,1.7nm,0.9s						
AKASG	**Malin Array Be**	**74.70**	**320**	P	**P**	**14 14 38.5**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=61,slow=6.3,SNR=2.0						
AKASG				LR	LR	14 50 16.4	
	comp=Z,29nm,19.7s,baz=41,slow=38						
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**76.99**	**308**	P	**P**	**14 14 55.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=96,slow=7.4,SNR=2.5						
	comp=Z,0.5nm,0.6s						
NOA	**NORSAR Array B**	**77.56**	**334**	P	**P**	**14 14 55.4**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=51,slow=5.6,SNR=3.5						
	comp=Z,0.9nm,0.7s						
VRAC	**Vranov**	**82.34**	**323**	LR	LR	14 55 55.8	
	comp=Z,23nm,18.0s,baz=78,slow=38						
CASY	**Casey**	**96.59**	**188**	P	**P**	**14 16 30.4**	**+0.1**

AUST 30 14:27:31.8±0.3,35°S±2°×13°9E±°, h10km, mb3.9/1, ML2.0/5, ML2.5/11, Error ellipse: s-maj=4.8km s-min=3.9km az=172.6, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOX6	**Mt Lofy**	**0.13**	**227**	P	Pg	14 27 36.7	+1.8
GHSS	**Government Hou**	**0.18**	**261**	P	Pg	14 27 37.2	+1.5
AUMBR	**Murray Bridge**	**0.45**	**123**	P	Pb	14 27 41.8	-0.1
AUMBR				S	Sb	14 27 48.3	-0.4
SDAN	**Sedan**	**0.57**	**48**	P	Pb	14 27 44.1	+0.2
SDAN				S	Sb	14 27 52.3	+0.2
HTT	**Hallett**	**1.46**	**3**	P	Pn	14 27 58.4	+0.2
HTT				S	Sn	14 28 17.5	0.0
NAPP	**Napperby**	**1.79**	**342**	P	Pn	14 28 03.1	+0.3
KELC	**Kelly Hill Cav**	**1.90**	**235**	P	Pn	14 28 03.3	-1.0
YAPP	**Yappala Statio**	**3.05**	**352**	P	Pn	14 28 19.3	-0.7
ARPS	**Mount Arapiles**	**3.09**	**128**	P	Pn	14 28 19.7	-0.9
BBOO	**Buckleboo**	**3.10**	**311**	P	Pn	14 28 20.0	-0.8
LCRK	**Leigh Creek**	**4.46**	**353**	P	Pn	14 28 39.5	0.0
MULG	**Mulgathing**	**6.11**	**318**	P	Pn	14 29 00.3	-1.8
	comp=Z,52µmcomp=Z,0.1nmcomp=Z,14nm,1.3s						

*FUNV **30** 14:32:07.9, 8°.93N×73°.42W, h5km, MW3.2*

RSNC 30 14:32:08.2±0.0, 7°N±1°×73°W±°, h150km±2km, M2.8, ML2.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**188**	P	Pn	14 32 28.3	-0.6
BARC				S	Sn	14 32 43.3	-1.4
BRJC	**Barrancabermej**	**0.61**	**284**	P	Pn	14 32 29.9	-0.2
BRJC				S	Sn	14 32 47.0	+0.2
PAMC	**Pamplona, Colo**	**0.68**	**41**	P	Pn	14 32 31.2	+0.1
PAMC				S	Sn	14 32 48.5	-0.1
RUSC	**La Rusia**	**0.93**	**176**	P	Pn	14 32 32.3	-0.7
RUSC				S	Sn	14 32 51.0	-0.9
CAPV	**Capacho**	**1.32**	**39**	*eP*	Pn	14 32 36.4	+0.2
CAPV				*eS*	Sn	14 32 57.2	-0.4
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	14 32 34.9	-1.1
PTBC				S	Sn	14 32 55.3	-2.0
OCAC	**Ocana**	**1.41**	**353**	P	Pn	14 32 36.4	-0.6
OCAC				S	Sn	14 32 58.0	-1.1
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	P	Pn	14 32 41.5	+0.2
ZARC				S	Sn	14 33 05.1	-1.5
NORC	**Norcasia**	**2.12**	**234**	P	Pn	14 32 44.1	-0.7
NORC				S	Sn	14 33 12.1	-0.9
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	14 32 47.4	+0.2
ROSC				S	Sn	14 33 16.8	-0.4
HELC	**Santa Helena**	**2.45**	**255**	P	Pn	14 32 50.2	+1.1
HELC				S	Sn	14 33 21.4	+1.0
UREC	**San Jos de Ur**	**2.54**	**291**	P	Pn	14 32 53.0	+3.2
UREC				S	Sn	14 33 19.9	-1.9
GUY2C	**Guyana, Caldas**	**2.72**	**234**	P	Pn	14 32 52.7	+0.2
GUY2C				S	Sn	14 33 28.9	+2.2
VILC	**Villavicencio,**	**2.75**	**191**	P	Pn	14 32 52.1	-0.6
VILC				S	Sn	14 33 27.0	0.0
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	Pn	14 32 51.5	-1.6
PTGC				S	Sn	14 33 25.0	-2.9
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	14 32 56.6	+0.8
CBOC				S	Sn	14 33 34.4	+1.9
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	14 32 56.5	+0.3
DBBC				S	Sn	14 33 32.4	-0.9
ANIL	**Santa Ana**	**3.23**	**224**	P	Pn	14 32 58.6	-0.2
ANIL				S	Sn	14 33 39.5	+1.6
PRAC	**Prado**	**3.55**	**209**	P	Pn	14 33 02.0	-0.6
PRAC				S	Sn	14 33 44.5	-0.4
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	14 33 02.5	-0.5
ORTC				S	Sn	14 33 45.7	+0.2
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	14 33 02.0	-2.0
SJCC				S	Sn	14 33 43.1	-4.2
PLMC	**San Jos del P**	**3.66**	**239**	P	Pn	14 33 03.7	-0.4
PLMC				S	Sn	14 33 49.3	+1.9
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	14 33 05.6	+0.1
URMC				S	Sn	14 33 50.7	+0.7
CRJC	**Cerrejon, Guaj**	**4.17**	**4**	P	Pn	14 33 08.6	-2.2
CRJC				S	Sn	14 33 55.5	-4.1
BAUV	**El Baul**	**5.48**	**67**	*eP*	Pn	14 33 25.6	-2.4
BAUV				*eS*	Sn	14 34 25.0	-5.3
BENV	**Beln**	**6.31**	**60**	*eP*	Pn	14 33 34.8	-4.4
BENV				*eS*	Sn	14 34 37.8	-13

*JMA **30** 14:35:28.0±1.0, 45°N±4°×15°0E±°, h30km, MV3.8/13, SE OFF ETOROFU*

SKHL 30 14:35:28.8±0.5, 44°60N×149°70E, h50km±1km, mb4.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.45**	**297**	*i* P	Pn	14 35 50.8	-1.8
KUR				AMB	AMB	14 35 52.4	
	180nm,0.5s						
KUR				*eS*	Sn	14 36 06.8	-3.6
KUR				A	A	14 36 08.0	
	270nm,0.3s						
KUR				A	A	14 36 08.0	
	270nm,0.3s						
SHO	**Shikotan**	**2.19**	**252**	*eP*	Pn	14 36 04.2	+1.5
SHO				AMB	AMB	14 36 05.2	
	20nm,0.2s						
SHO				*eS*	Sn	14 36 27.7	-0.8
SHO				A	A	14 36 30.4	
	70nm,0.2s						
SHO				A	A	14 36 30.4	
	160nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.81**	**260**	*eP*	Pn	14 36 10.9	-0.3
YUK				AMB	AMB	14 36 12.0	
	80nm,0.2s						
YUK				*eS*	Sn	14 36 42.5	-1.4
YUK				A	A	14 36 44.4	
	260nm,0.4s						
YUK				A	A	14 36 44.4	
	290nm,0.4s						
NEM2	**Nemuro 2**	**3.11**	**248**	*eP*	Pn	14 36 13.0	-2.3
NEM2				*eS*	Sn	14 36 46.8	-4.4
NMR	**Nemuro--Hokkai**	**3.12**	**248**	*eP*	Pn	14 36 13.3	-2.1
NMR				*eS*	Sn	14 36 47.5	-3.9
JRA	**Rausu**	**3.35**	**260**	*eP*	Pn	14 36 18.6	0.0
JNK	**Nakash**	**3.73**	**256**	*eP*	Pn	14 36 23.8	-0.1
JNK				*eS*	Sn	14 37 04.2	-2.3
AKK	**Akkeshi**	**3.86**	**247**	*eP*	Pn	14 36 25.5	0.0
AKK				*eS*	Sn	14 37 07.9	-1.6
JAK	**Akkeshi**	**3.96**	**248**	*eP*	Pn	14 36 24.9	-2.1
JAK				*eS*	Sn	14 37 07.4	-4.8
JAR	**Ashorobuto**	**4.48**	**255**	*eP*	Pn	14 36 33.7	-0.3
JAR				*eS*	Sn	14 37 22.5	-2.3
JOB	**Onbets**	**4.58**	**250**	*eP*	Pn	14 36 34.9	-0.5
JCH	**Churui**	**5.01**	**249**	*eP*	Pn	14 36 40.8	-0.6
JCH				*eS*	Sn	14 37 34.1	-3.9
JNBK	**Urakawa-nobuka**	**5.56**	**248**	*eP*	Pn	14 36 46.8	-2.1
JANG	**Nango**	**7.38**	**238**	*eS*	Sn	14 38 24.9	-11
JTH	**Tanohata**	**7.45**	**234**	*eS*	Sn	14 38 27.3	-11

*IDC **30** 14:58:14.8±0.7, 27°.28N×140°.34E, h363km±7km, mb3.3/12, mbtmp4.0/16, Error ellipse: s-maj=22.6km s-min=10.1km az=78.0*

*JMA **30** 14:58:18.1±0.2, 28°N±1°×140°1E±°, h377km±3km, MV3.9/40, NEAR CHICHIJIMA ISLAND*

ISC 30 14:58:16.8±0.7, 27°46N±0°07×140°9E±0°.1, h400km, n31, σ2s80/36, mb3.5/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.18**	**108**	*eP*	**Pn**	**14 59 07.2**	**-1.4**
CBIJ				*eS*	**S**	**14 59 45.7**	**-4.6**
JCJ	**Chichijima**	**1.18**	**108**	P	**Pn**	**14 59 06.8**	**-1.7**
	35nm,0.3s,baz=353,slow=18,SNR=76						
JCJ				S	**S**	**14 59 45.1**	**-5.2**
	53nm,0.3s,baz=287,slow=20,SNR=6.6						
JHH2	**Haha-jima-NKT2**	**1.39**	**126**	*eP*	**Pn**	**14 59 08.5**	**-1.0**
JHH2				*eS*	**S**	**14 59 48.5**	**-3.4**
JHJ	**Hachijo jima 2**	**5.72**	**350**	P	**Pn**	**14 59 45.7**	**-0.6**
	27nm,0.3s,baz=252,slow=21,SNR=1.4						
JHJ				S	**S**	**15 00 52.5**	**-6.7**
	89nm,0.8s,baz=93,slow=22,SNR=2.1						
BSO1	**Boso 1**	**7.17**	**0**	*eP*	**P**	**15 00 03.7**	**+1.6**
BSO3	**Boso 3**	**7.32**	**357**	*eP*	**P**	**15 00 05.2**	**+1.0**
BSO4	**Boso 4**	**7.52**	**356**	*eS*	**S**	**15 01 32.7**	**-2.8**
JIE	**Ise**	**7.80**	**333**	*eP*	**P**	**15 00 10.8**	**+1.0**
JKN2	**Miekihoku**	**7.84**	**331**	*eP*	**P**	**15 00 11.5**	**+1.2**
JYT	**Yasato**	**8.76**	**356**	*eS*	**S**	**15 01 57.1**	**-4.7**
JAG	**Ashikaga**	**9.02**	**352**	*eP*	**P**	**15 00 23.8**	**+0.5**
JAG				*eS*	**S**	**15 01 60.0**	**-7.3**
JHO	**Hitachi**	**9.12**	**358**	*eP*	**Pn**	**15 00 25.9**	**+1.3**
MJAR	**Matsushiro Arr**	**9.34**	**346**	P	**Pn**	**15 00 25.8**	**-1.2**
	1.4nm,0.6s,baz=158,slow=9.1,SNR=4.1						
JFK	**Kawauchi**	**9.87**	**360**	*eP*	**Pn**	**15 00 35.6**	**+2.4**
JHS	**Saijyo**	**10.05**	**320**	*eP*	**Pn**	**15 00 36.4**	**+1.1**
JMK	**Ichinoseki**	**11.46**	**1**	*eP*	**Pn**	**15 00 54.2**	**+2.7**
KSRS	**Korea Array**	**14.80**	**316**	P	**P**	**15 01 26.1**	**-0.8**
	1.1nm,0.7s,baz=127,slow=9.7,SNR=3.5						
USRK	**Ussuriysk Ar.**	**18.18**	**339**	P	**P**	**15 02 04.2**	**+1.2**
	4.3nm,0.7s,baz=164,slow=9.9,SNR=10						
WRA	**Warramunga Arr**	**47.56**	**188**	P	**P**	**15 06 13.2**	**-0.9**
	3.5nm,0.5s,baz=6.0,slow=7.8,SNR=61						
WRA				ScP	**ScP**	**15 10 53.6**	**+1.6**
	0.6nm,0.7s,baz=3.8,slow=4.9,SNR=8.6						
	3.5nm,0.5s						
ZALV	**Zalesovo Beam**	**48.48**	**319**	P	**P**	**15 06 21.0**	**+0.3**
	0.4nm,0.4s,baz=117,slow=8.3,SNR=1.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**49.37**	**309**	ScP	**ScP**	**15 11 02.1**	**+2.6**
	0.3nm,0.6s,baz=78,slow=5.0,SNR=3.9						
ASAR	**Alice Springs**	**51.28**	**188**	P	**P**	**15 06 41.0**	**-0.9**
	0.7nm,0.5s,baz=358,slow=4.3,SNR=19						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**51.98**	**314**	P	**P**	**15 06 45.5**	**-1.1**
	1.0nm,0.3s,baz=90,slow=8.3,SNR=5.3						
	1.0nm,0.3s						
BVAR	**Borovoye Array**	**57.01**	**317**	P	**P**	**15 07 22.9**	**+0.5**
	1.2nm,0.5s,baz=84,slow=7.7,SNR=6.4						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**57.93**	**29**	P	**P**	**15 07 32.9**	**+4.4**
	0.6nm,0.8s,baz=250,slow=5.8,SNR=9.6						
	0.6nm,0.7s						
ARCES	**ARCESS Array B**	**72.82**	**341**	P	**P**	**15 09 04.8**	**+2.1**
	0.7nm,0.5s,baz=71,slow=9.1,SNR=10						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**77.12**	**333**	P	**P**	**15 09 28.6**	**+1.5**
	2.8nm,0.4s,baz=73,slow=5.8,SNR=36						
	2.8nm,0.4s						
NVAR	**Mina Array Bea**	**81.17**	**51**	P	P	15 09 55.1	+5.7
	0.5nm,0.6s,baz=306,slow=5.7,SNR=4.0						
	0.5nm,0.6s						
AKASG	**Malin Array Be**	**81.65**	**323**	P	**P**	**15 09 51.6**	**+0.2**
	0.3nm,0.3s,baz=46,slow=6.4,SNR=4.1						
	0.3nm,0.3s						
HFS	**Hagfors**	**82.64**	**336**	P	**P**	**15 09 56.3**	**0.0**
	2.9nm,0.9s,baz=162,slow=1.4,SNR=5.4						
	2.9nm,0.9s						
NOA	**NORSAR Array B**	**82.85**	**338**	P	**P**	**15 09 57.3**	**-0.2**
	0.6nm,0.6s,baz=52,slow=4.3,SNR=1.2						
	0.6nm,0.6s						

WEL 30 15:05:16.8±1.0, 36°S±7°×178°0W±°, h12km, M3.4/16, ML3.6/20, MLv3.4/16, Error ellipse: s-maj=13.8km s-min=7.1km az=121.3, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.90**	**231**	P	Pn	15 05 48.4	-0.6
MXZ				S	Sn	15 06 12.9	+0.1
WMGZ	**Waiomatatini S**	**2.00**	**224**	P	Pn	15 05 51.0	+0.6
WMGZ				S	Sn	15 06 16.6	+1.2
PKGZ	**Pakihiroa**	**2.23**	**228**	P	Pn	15 05 54.0	+0.4
PKGZ				S	Sn	15 06 21.9	+0.9
PUZ	**Puketiti**	**2.27**	**222**	P	Pn	15 05 54.4	+0.2
PUZ				S	Sn	15 06 21.8	-0.2
HAZ	**Te Kaha**	**2.35**	**234**	P	Pn	15 05 55.4	+0.3
HAZ				S	Sn	15 06 25.5	+1.6
TWGZ	**Tauwhareparae**	**2.50**	**224**	P	Pn	15 05 57.1	-0.1
TWGZ				S	Sn	15 06 28.2	+0.5
RUGZ	**Raukumara Rang**	**2.54**	**231**	P	Pn	15 05 58.5	+0.6
RUGZ				S	Sn	15 06 30.2	+1.5
CNGZ	**Carnagh Statio**	**2.61**	**216**	P	Pn	15 05 59.6	+0.9
TKGZ	**Te Karaka**	**2.76**	**221**	P	Pn	15 06 00.6	-0.2
TKGZ				S	Sn	15 06 34.9	+0.8
WHRZ	**Whale Island**	**2.94**	**239**	P	Pn	15 06 03.7	+0.3
RIGZ	**Rimuhau**	**3.00**	**219**	P	Pn	15 06 03.7	-0.5
RIGZ				S	Sn	15 06 40.6	+0.5
RAGZ	**Rawiri**	**3.04**	**225**	P	Pn	15 06 05.0	+0.3
RAGZ				S	Sn	15 06 41.1	+0.1
URZ	**Urewera**	**3.07**	**232**	P	Pn	15 06 05.0	-0.1
URZ				S	Sn	15 06 40.5	-1.3
PRGZ	**Paritu Road**	**3.12**	**215**	P	Pn	15 06 05.2	-0.5
PRGZ				S	Sn	15 06 43.8	+0.9
EDRZ	**Edgecumbe**	**3.23**	**237**	P	Pn	15 06 08.4	+1.0
OPRZ	**Ohinepanea**	**3.23**	**242**	P	Pn	15 06 06.5	-0.8
SNGZ	**Shannon Statio**	**3.28**	**222**	P	Pn	15 06 07.7	-0.3
SNGZ				S	Sn	15 06 49.5	+2.5
KNZ	**Kokohu**	**3.29**	**216**	P	Pn	15 06 06.9	-1.2
KNZ				S	Sn	15 06 45.5	-1.7
MHGZ	**Mahia Peninsul**	**3.29**	**212**	P	Pn	15 06 07.7	-0.4
RTZ	**Ruatahuna**	**3.37**	**228**	P	Pn	15 06 09.9	+0.5
RTZ				S	Sn	15 06 50.3	+0.9
MUGZ	**Murupara**	**3.42**	**231**	P	Pn	15 06 09.2	-0.6
MUGZ				S	Sn	15 06 49.1	-1.2
KUZ	**Kuaotunu**	**3.59**	**263**	P	Pn	15 06 11.0	-1.3
TOZ	**Tahuroa Road**	**3.96**	**249**	P	Pn	15 06 16.6	-0.7
BKZ	**Black Stump Fm**	**4.02**	**225**	P	Pn	15 06 16.5	-1.7
BKZ				S	Sn	15 07 03.7	-1.6
WIAZ	**Waiheke Island**	**4.07**	**263**	P	Pn	15 06 21.0	+2.2
ETAZ	**East Tamaki Re**	**4.25**	**261**	P	Pn	15 06 20.9	-0.4
RVAZ	**Riverhead Bore**	**4.51**	**263**	P	Pn	15 06 25.6	+0.7
NGZ	**Ngauruhoe**	**4.56**	**231**	P	Pn	15 06 26.5	+0.7
WAZ	**Wanganui**	**5.29**	**229**	P	Pn	15 06 35.0	-0.7
OUZ	**Omahuta**	**5.46**	**280**	P	Pn	15 06 36.6	-1.3

*NOU **30** 15:10:28.2, 18°.65S×169°.29E, h232km, MLv4.0/8, Vanuatu Islands*

*IDC **30** 15:10:28.2±2.6, 18°.74S×169°.23E, h246km±33km, mb3.3/7, mbtmp3.8/8, Error ellipse: s-maj=62.8km s-min=22.9km az=150.0*

*NEIC **30** 15:10:29.4±1.0, 18°.8S±0°.1×169°.2E±0°.1, h247km±12km, mb4.2/13, Error ellipse: s-maj=23.2km s-min=15.6km az=150.0*

ISC 30 15:10:28.4±0.6, 18°68S±0°07×169°18E±0°10, h250km, n33, σ0s99/35, mb3.9/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INH	**Isangel**	**0.87**	**174**	P	**Pn**	**15 11 00.8**	**-1.9**
INH	**Isangel**	**0.87**	**174**	S	**S**	**15 11 27.1**	**-2.8**
DVP	**Devils Point**	**1.33**	**315**	P	**Pn**	**15 11 04.6**	**-0.9**
DVP	**Devils Point**	**1.33**	**315**	S	**S**	**15 11 32.6**	**-2.1**
PINNC	**Pines Island,**	**4.24**	**202**	Pn	**Pn**	**15 11 34.7**	**-0.3**
PINNC	**Pines Island,**	**4.24**	**202**	P	**Pn**	**15 11 34.7**	**-0.3**
DZM	**Mont Dzumac**	**4.24**	**217**	Pn	**Pn**	**15 11 34.9**	**-0.3**
DZM	**Mont Dzumac**	**4.24**	**217**	P	**Pn**	**15 11 34.4**	**-0.7**
	7.6nm,0.8s,baz=342,slow=20,SNR=16						
DZM				S	**S**	**15 12 27.4**	**-0.8**
	6.6nm,0.4s,baz=108,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**4.24**	**217**	P	**Pn**	**15 11 35.0**	**-0.1**
OUENC	**Ouen Island, N**	**4.32**	**210**	P	**Pn**	**15 11 36.4**	**+0.5**
ONTNC	**Ouen Toro**	**4.42**	**215**	Pn	**Pn**	**15 11 36.4**	**-0.8**
MSVF	**Nonsavu**	**8.48**	**85**	Pn	**Pn**	**15 12 28.8**	**+0.8**
BKZ	**Black Stump Fm**	**21.38**	**164**	P	**P**	**15 14 57.1**	**+0.5**
BKZ				IAmb	IAmb	15 15 24.1	
	comp=Z,22nm,1.4s						
MRZ	**Mangatainoka R**	**22.59**	**167**	P	**P**	**15 15 07.9**	**+0.2**
WR8	**Warramunga Arr**	**32.72**	**262**	P	**P**	**15 16 37.8**	**-0.2**
WR8				IAmb	IAmb	15 16 51.8	
	comp=Z,5.4nm,1.2s						
WB0	**Warramunga Arr**	**32.83**	**262**	P	**P**	**15 16 38.8**	**-0.2**
WB0				IAmb	IAmb	15 17 21.5	
	comp=Z,9.5nm,1.4s						
WRA	**Warramunga Arr**	**32.87**	**262**	P	**P**	**15 16 38.9**	**-0.4**
WRA	**Warramunga Arr**	**32.87**	**262**	P	**P**	**15 16 39.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=96,slow=8.5,SNR=17						
WRA				PcP	**PcP**	**15 19 17.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=86,slow=3.9,SNR=2.1						
	comp=Z,0.5nm,0.6s						
AS31	**Alice Springs**	**33.21**	**255**	P	**P**	**15 16 42.7**	**+0.5**
ASAR	**Alice Springs**	**33.21**	**255**	P	**P**	**15 16 42.8**	**+0.6**
ASAR	**Alice Springs**	**33.21**	**255**	P	**P**	**15 16 43.1**	**+0.9**
	comp=Z,3.3nm,0.5s,baz=81,slow=8.7,SNR=140						
	comp=Z,3.3nm,0.5s						
MTN	**Manton Dam**	**37.02**	**273**	P	**P**	**15 17 15.4**	**+0.7**
KNRA	**Kununurra**	**38.67**	**268**	P	**P**	**15 17 28.7**	**+0.3**
KNRA				IAmb	IAmb	15 17 51.1	
	comp=Z,7.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**41.24**	**264**	P	**P**	**15 17 50.7**	**+1.2**
PSA00	**Pilbara Seismi**	**46.26**	**258**	P	**P**	**15 18 29.3**	**0.0**
PSA00				IAmb	IAmb	15 18 32.3	
	comp=Z,2.5nm,1.1s						
MBWA	**Marble Bar**	**46.41**	**258**	P	**P**	**15 18 30.7**	**+0.2**
MBWA				IAmb	IAmb	15 18 36.7	
	comp=Z,19nm,1.3s						
VNDA	**Vanda**	**58.99**	**182**	P	**P**	**15 20 00.5**	**-0.9**
PETK	**Petropavlovsk-**	**72.17**	**353**	P	**P**	**15 21 26.9**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=187,slow=7.0,SNR=8.0						
	comp=Z,1.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**78.22**	**294**	P	**P**	**15 22 02.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=123,slow=5.7,SNR=2.2						
	comp=Z,0.5nm,0.6s						
SONM	**Songino Array**	**86.74**	**323**	P	**P**	**15 22 45.1**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=132,slow=6.2,SNR=3.2						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**88.47**	**49**	P	**P**	**15 22 54.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=198,slow=3.1,SNR=1.4						
	comp=Z,0.1nm,0.3s						
ILAR	**Eielson Array**	**89.71**	**17**	P	**P**	**15 22 56.4**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=235,slow=5.5,SNR=4.4						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**89.72**

baz=312
H03N1 Juan Fernandez 136.66 90 T T 18 02 11.3
baz=312
H03N3 Juan Fernandez 136.66 90 T T 18 02 08.1
baz=312

*SNET **30** 15:18:27.1±0.4, 12°.02N×87°.58W, h21km±114km, ML2.9*
*CATAC **30** 15:18:27.8±0.6, 12°.N±3°×8°.8W±°, h13km±2km, M3.2/14, MLv3.2/14, Error ellipse: s-maj=7.8km s-min=3.6km az=42.3, confirmed*

ISC 30 15:18:26.6±1.8, 12°.00N±0°.07×87°.61W±0°.05, h15km±10km, n32, σ0951/40, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.88**	**38**	P	**Pn**	**15 18 44.5**	**-0.1**
PKGN	**Cerro Pekin**	**0.91**	**43**	P	**Pn**	**15 18 45.0**	**+0.2**
TEL3	**Telica 3**	**0.94**	**53**	P	**Pg**	**15 18 45.0**	**+0.2**
CSGN	**Cosiguina Volc**	**0.97**	**3**	P	**Pb**	**15 18 45.5**	**+0.3**
CSGN				S	**Sg**	**15 18 57.9**	**-0.2**
POTN	**Potosi Cosigui**	**1.00**	**6**	P	**Pg**	**15 18 46.1**	**+0.2**
POTN				S	**Sg**	**15 18 59.0**	**+0.1**
COPN	**Copaltepe**	**1.01**	**80**	P	**Pn**	**15 18 46.5**	**+0.2**
CNGN	**Cerro Negro**	**1.02**	**61**	P	**Pb**	**15 18 45.8**	**-0.1**
ILCN	**San Idelfonso**	**1.06**	**57**	P	**Pb**	**15 18 46.7**	**+0.1**
MOM3	**MOM3**	**1.18**	**65**	P	**Pb**	**15 18 48.9**	**+0.2**
MOM3				S	**Sg**	**15 19 04.6**	**-0.2**
MOM2	**El Cardon**	**1.18**	**68**	P	**Pn**	**15 18 48.5**	**-0.1**
MOM2				S	**Sg**	**15 19 04.6**	**-0.2**
SAPS	**Ciudad Sandino**	**1.19**	**82**	P	**Pb**	**15 18 49.2**	**+0.3**
SAPS	**Ciudad Sandino**	**1.19**	**82**	S	**Sn**	**15 19 04.4**	**-0.3**
APQ3	**Volcan Apoyequ**	**1.24**	**77**	P	**Pg**	**15 18 50.5**	**0.0**
APQ3				S	**Sg**	**15 19 07.0**	**+0.3**
CNCH	**Conchagua**	**1.28**	**350**	*eP*	**Pn**	**15 18 50.0**	**-0.2**
CNCH				*eS*	**Sg**	**15 19 07.7**	**-0.4**
CNCH	**Conchagua**	**1.28**	**350**	P	**Pn**	**15 18 49.9**	**-0.3**
UNAN	**Cigeo UNAN**	**1.31**	**85**	S	**Sg**	**15 19 09.1**	**+0.1**
LCND	**La Caada**	**1.33**	**348**	*eS*	**Sb**	**15 19 08.1**	**0.0**
WILN	**Americas 2**	**1.40**	**83**	P	**Pn**	**15 18 52.2**	**+0.6**
WILN				S	**Sb**	**15 19 10.5**	**+0.4**
CHOHN	**Orocuina**	**1.53**	**17**	S	**Sb**	**15 19 14.5**	**-0.1**
CHOHN	**Orocuina**	**1.53**	**17**	P	**Pn**	**15 18 53.7**	**+0.1**
BLLM	**Bellamira**	**1.56**	**337**	*eP*	**Pn**	**15 18 53.4**	**-0.5**
PACA	**Pacayal**	**1.62**	**335**	P	**Pn**	**15 18 54.8**	**+0.1**
MATN	**Matagalpa**	**1.89**	**61**	S	**Sn**	**15 19 22.2**	**+0.2**
MATN	**Matagalpa**	**1.89**	**61**	P	**Pb**	**15 19 01.5**	**+0.7**
BOAB	**BOACO BROADBAN**	**1.95**	**77**	P	**Pb**	**15 19 01.1**	**-0.7**
BOAB	**BOACO BROADBAN**	**1.95**	**77**	S	**Sb**	**15 19 24.5**	**-1.5**
YUSH	**Yuscaran**	**2.08**	**21**	P	**Pn**	**15 19 01.6**	**+0.5**
YUSH	**Yuscaran**	**2.08**	**21**	S	**Sn**	**15 19 27.7**	**+0.9**
RCVN	**Varillal2**	**2.09**	**41**	S	**Sb**	**15 19 28.7**	**-1.6**
RCVN	**Varillal2**	**2.09**	**41**	P	**Pn**	**15 19 01.8**	**+0.5**
LFRS	**El Faro**	**2.15**	**319**	*eP*	**Pn**	**15 19 02.3**	**+0.3**
JAYA	**Jayaque - finc**	**2.43**	**313**	*eP*	**Pn**	**15 19 05.8**	**-0.2**
JAYA				*eS*	**Sn**	**15 19 35.8**	**+0.2**
JAYA				IAML		15 19 37.2	
	comp=Z,61nm,0.2s						

*NOU **30** 15:17:11.3, 28°.33S×171°.74W, h21km, mb4.5/8, Kermadec Islands Region*
*NEIC **30** 15:18:45.8±1.6, 32°.94S±0°.10×178°.4W±0°.2, h10km±2km, mb4.3/7, Error ellipse: s-maj=30.0km s-min=13.0km az=111.0*
*IDC **30** 15:18:46.3±1.1, 32°.36S×178°.81W, h0km, mb4.1/3, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=34.9km s-min=25.2km az=110.0*
*WEL **30** 15:18:47.9±0.7, 33°.5±5°×17°.8W±1°.4, h12km, M4.1/13, mB4.7/8, ML4.6/18, MLv4.4/13, Mw(mB)3.9/8, Error ellipse: s-maj=18.6km s-min=3.9km az=109.1, confirmed*

ISC 30 15:18:44.9±1.0, 33°.11S±0°.07×178°.1W±0°.1, h10km, n66, σ2823/77, mb4.2/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.84**	**2**	P	**Pn**	**15 19 45.5**	**+1.5**
GLKZ				S	**Sn**	**15 20 27.2**	**-2.0**
RAO	**Raoul Island**	**3.85**	**2**	Pn	**Pn**	**15 19 42.9**	**-1.3**
RAO	**Raoul Island**	**3.85**	**2**	Pn	Pn	15 19 36.7	-7.4
	7.9nm,0.3s,baz=273,slow=22,SNR=1.1						
RAO				Sn	Sn	15 20 19.1	-10
	21nm,0.3s,baz=210,slow=20,SNR=1.4						
	43nm,0.3s						
MXZ	**Matakaoa Point**	**5.34**	**213**	Pn	**Pn**	**15 20 04.8**	**+0.1**
MXZ	**Matakaoa Point**	**5.34**	**213**	P	**Pn**	**15 20 07.1**	**+2.5**
MXZ	**Matakaoa Point**	**5.34**	**213**	P	**Pn**	**15 20 06.8**	**+2.2**
MXZ				S	**Sn**	**15 21 06.8**	**+0.6**
WMGZ	**Waiomatatini S**	**5.51**	**211**	P	**Pn**	**15 20 08.7**	**+1.8**
WMGZ				S	**Sn**	**15 21 13.2**	**+2.9**
PKGZ	**Pakihiroa**	**5.70**	**213**	P	**Pn**	**15 20 11.8**	**+2.3**
PKGZ				S	**Sn**	**15 21 15.6**	**+0.6**
HAZ	**Te Kaha**	**5.75**	**215**	P	**Pn**	**15 20 12.4**	**+2.3**
PUZ	**Puketiti**	**5.79**	**210**	P	**Pn**	**15 20 12.1**	**+1.3**
PUZ				S	**Sn**	**15 21 16.9**	**-0.3**
RUGZ	**Raukumara Rang**	**5.96**	**215**	P	**Pn**	**15 20 14.6**	**+1.3**
RUGZ				S	**Sn**	**15 21 22.6**	**+1.0**
TWGZ	**Tauwhareparae**	**6.00**	**211**	P	**Pn**	**15 20 14.4**	**+0.7**
TWGZ				S	**Sn**	**15 21 22.9**	**+0.5**
CNGZ	**Carnagh Statio**	**6.16**	**209**	P	**Pn**	**15 20 17.1**	**+1.2**
CNGZ				S	**Sn**	**15 21 29.0**	**+2.7**
GRZ	**Great Barrier**	**6.19**	**238**	P	**Pn**	**15 20 20.5**	**+4.1**
KUZ	**Kuaotunu**	**6.27**	**233**	P	**Pn**	**15 20 21.8**	**+4.5**
KUZ	**Kuaotunu**	**6.27**	**233**	P	**Pn**	**15 20 22.1**	**+4.8**
TKGZ	**Te Karaka**	**6.27**	**211**	P	**Pn**	**15 20 17.6**	**+0.2**
TKGZ				S	**Sn**	**15 21 29.1**	**0.0**
URZ	**Urewera**	**6.47**	**216**	Pn	**Pn**	**15 20 20.9**	**+0.8**
	3.4nm,0.3s,baz=90,slow=6.1,SNR=28						
URZ				Sn	**Sn**	**15 21 31.3**	**-2.6**
	3.9nm,0.3s,baz=123,slow=16,SNR=8.5						
URZ	**Urewera**	**6.47**	**216**	P	**Pn**	**15 20 22.4**	**+2.3**
URZ	**Urewera**	**6.47**	**216**	P	**Pn**	**15 20 20.2**	**+0.1**
URZ				S	**Sn**	**15 21 31.0**	**-2.9**
RAGZ	**Rawiri**	**6.51**	**213**	P	**Pn**	**15 20 24.4**	**+3.6**
RAGZ				S	**Sn**	**15 21 33.6**	**-1.6**
RIGZ	**Rimuhau**	**6.53**	**210**	P	**Pn**	**15 20 23.1**	**+2.1**
RIGZ				S	**Sn**	**15 21 34.0**	**-1.6**
PRGZ	**Paritu Road**	**6.67**	**208**	P	**Pn**	**15 20 26.6**	**+3.8**
PRGZ				S	**Sn**	**15 21 39.2**	**+0.3**
SNGZ	**Shannon Statio**	**6.78**	**212**	P	**Pn**	**15 20 27.8**	**+3.4**
SNGZ				S	**Sn**	**15 21 39.7**	**-1.9**
MUGZ	**Murupara**	**6.81**	**217**	P	**Pn**	**15 20 24.7**	**-0.1**
MUGZ				S	**Sn**	**15 21 38.0**	**-4.3**
RTZ	**Ruatahuna**	**6.81**	**215**		**Pn**	**15 20 24.9**	**0.0**
RTZ	**Ruatahuna**	**6.81**	**215**	P	**Pn**	**15 20 27.1**	**+2.2**
RTZ				S	**Sn**	**15 21 41.5**	**-1.0**
MKAZ	**Moumakai**	**6.84**	**233**	P	**Pn**	**15 20 27.5**	**+2.3**
WCZ	**Waipu Caves**	**6.88**	**244**	P	**Pn**	**15 20 28.1**	**+2.4**
TOZ	**Tahuroa Road**	**6.99**	**227**	Pn	**Pn**	**15 20 27.3**	**0.0**
TOZ	**Tahuroa Road**	**6.99**	**227**	P	**Pn**	**15 20 30.2**	**+2.9**
OUZ	**Omahuta**	**7.23**	**251**	P	**Pn**	**15 20 31.6**	**+1.0**
OUZ	**Omahuta**	**7.23**	**251**	P	**Pn**	**15 20 32.1**	**+1.5**
BKZ	**Black Stump Fm**	**7.48**	**215**	Pn	**Pn**	**15 20 34.3**	**+0.3**
BKZ	**Black Stump Fm**	**7.48**	**215**	P	**Pn**	**15 20 35.9**	**+1.9**
BKZ	**Black Stump Fm**	**7.48**	**215**	P	**Pn**	**15 20 34.6**	**+0.5**
BKZ				S	**Sn**	**15 21 54.9**	**-4.0**
HIZ	**Hauiti**	**7.88**	**225**	Pn	**Pn**	**15 20 39.8**	**+0.3**
HIZ	**Hauiti**	**7.88**	**225**	P	**Pn**	**15 20 43.4**	**+3.9**
HIZ	**Hauiti**	**7.88**	**225**	P	**Pn**	**15 20 43.4**	**+3.9**
NGZ	**Ngauruhoe**	**7.93**	**219**	P	**Pn**	**15 20 41.7**	**+1.3**
BFZ	**Birch Farm**	**8.82**	**210**	Pn	**Pn**	**15 20 52.2**	**-0.2**
BFZ	**Birch Farm**	**8.82**	**210**	P	**Pn**	**15 20 52.8**	**+0.4**
MRZ	**Mangatainoka R**	**9.09**	**212**	Pn	**Pn**	**15 20 54.9**	**-1.3**
MSWZ	**Moikau Station**	**9.85**	**211**	Pn	**Pn**	**15 21 06.2**	**-0.4**
TUWZ	**Tuamarina**	**10.46**	**215**	Pn	**Pn**	**15 21 12.5**	**-2.4**
NNZ	**Nelson**	**10.58**	**218**	Pn	Pn	15 21 12.4	-4.1
KHZ	**Kahutara**	**11.42**	**213**	Pn	Pn	15 21 24.1	-3.8
KHZ	**Kahutara**	**11.42**	**213**	P	**Pn**	**15 21 25.1**	**-2.8**
CTAO	**Charters Tower**	**34.28**	**283**	P	P	**15 25 31.1**	**-0.3**
AS31	**Alice Springs**	**42.99**	**270**	P	**P**	**15 26 41.9**	**-2.7**
ASAR	**Alice Springs**	**42.99**	**270**	P	**P**	**15 26 42.3**	**-2.2**
ASAR	**Alice Springs**	**42.99**	**270**	P	**P**	**15 26 42.2**	**-2.4**
	1.7nm,0.8s,baz=109,slow=7.4,SNR=25						
	1.7nm,0.8s						
WR8	**Warramunga Arr**	**44.08**	**275**	P	**P**	**15 26 51.1**	**-2.2**
WR8				IAmb	IAmb	15 27 00.2	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**44.22**	**275**	P	**P**	**15 26 51.9**	**-2.6**
	comp=Z,1.4nm,0.4s,baz=116,slow=7.9,SNR=34						
	comp=Z,1.4nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0	**Warramunga Arr**	**44.26**	**275**	P	**P**	**15 26 52.2**	**-2.6**
WB0				IAmb	IAmb	15 26 54.9	
	comp=Z,9.1nm,1.2s						
KNRA	**Kununurra**	**50.92**	**277**	P	**P**	**15 27 43.7**	**-2.8**
KNRA				IAmb	IAmb	15 28 17.7	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.36**	**272**	P	**P**	**15 27 55.2**	**-2.1**
FITZ				IAmb	IAmb	15 28 38.1	
	comp=Z,3.0nm,1.4s						
CASY	**Casey**	**52.74**	**209**	P	**P**	**15 28 01.5**	**+2.1**
CASY				IAmb	IAmb	15 28 45.0	
	comp=Z,3.4nm,1.1s						
QSPA	**South Pole Qui**	**57.00**	**180**	P	P	15 28 38.9	+8.4
	comp=Z,1.8nm,1.0s,baz=12,slow=11,SNR=8.1						
	comp=Z,1.8nm,1.0s						
H03N3	**Juan Fernandez**	**79.22**	**123**	T	T	16 59 37.6	
	baz=240,slow=72,SNR=5.5						
H03N2	**Juan Fernandez**	**79.22**	**123**	T	T	16 59 29.7	
	baz=240,slow=72,SNR=4.6						
H03N1	**Juan Fernandez**	**79.24**	**123**	T	T	16 59 28.1	
	baz=240,slow=72,SNR=6.9						
KURBB	**Kurchatov Arra**	**122.90**	**312**	PKP	**PKPdf**	**15 37 41.1**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=90,slow=1.0,SNR=2.7						
FINES	**FINESS Array B**	**147.66**	**338**	PKPbc	**PKPdf**	**15 38 29.4**	**+3.3**
	comp=Z,1.2nm,0.7s,baz=50,slow=3.0,SNR=5.1						
NOA	**NORSAR Array B**	**151.42**	**351**	PKPbc	**PKPbc**	**15 38 38.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=14,slow=2.4,SNR=3.5						
HFS	**Hagfors**	**151.88**	**348**	PKPbc	**PKPbc**	**15 38 40.5**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=46,slow=4.2,SNR=2.1						

*IDC **30** 15:22:22.6±1.7, 46°.23N×53°.32E, h0km, mb3.4/2, mbtmp3.5/6, ML2.8/3, Error ellipse: s-maj=44.9km s-min=10.9km az=156.0*

ISC 30 15:22:23.7±1.3, 46°.3N±0°.2×53°.2E±0°.1, h10km, n8, σ1§64/10, 5D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**5.24**	**36**	⇓Pn	**Pn**	**15 23 43.3**	**+1.3**
	0.5nm,0.3s						
AKTO				⇓Sn	**Sn**	**15 24 42.2**	**-0.3**
	1.9nm,0.5s						
AKTO				⇓Lg	Lg	15 25 07.5	
	3.6nm,0.8s						
AB31	**Akbulak array**	**5.44**	**55**	Pn	**Pn**	**15 23 45.5**	**+0.9**
	0.2nm,0.2s,baz=232,slow=13,SNR=15						
AB31				⇓Sn	**Sn**	**15 24 47.0**	**-0.2**
	0.8nm,0.3s,baz=231,slow=17,SNR=7.4						
AB31				⇓Lg	Lg	15 25 10.8	
	2.8nm,0.5s						
KBZ	**Khabaz**	**7.71**	**254**	Pn	**Pn**	**15 24 17.6**	**+1.6**
	1.3nm,0.3s,baz=67,slow=13,SNR=11						
KBZ				Sn	**Sn**	**15 25 42.4**	**-1.0**
	0.1nm,0.3s,baz=24,slow=22,SNR=1.6						
	4.9nm,0.5s						
BVAR	**Borovoye Array**	**13.01**	**53**	Pn	Pn	15 25 24.8	-3.5
	baz=249,slow=13,SNR=2.7						
BVAR				Sn	Sn	15 27 45.2	-7.8
	baz=250,slow=27,SNR=2.2						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**16.43**	**294**	Pn	**Pn**	**15 26 11.5**	**-2.6**
	0.1nm,0.2s,baz=99,slow=12,SNR=2.2						
KURBB	**Kurchatov Arra**	**17.33**	**66**	P	**Pn**	**15 26 23.4**	**-2.1**
	baz=265,slow=12,SNR=4.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**21.54**	**58**	P	**P**	**15 27 13.0**	**+0.2**
	0.6nm,0.5s,baz=253,slow=11,SNR=4.0						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**21.77**	**324**	P	**P**	**15 27 16.3**	**+1.2**
	0.9nm,0.3s,baz=127,slow=12,SNR=14						
	0.9nm,0.3s						

IDC 30 15:22:43.4±2.1, 7°.90N×124°.90E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=221.6km s-min=20.7km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.19**	**162**	P	P	15 28 46.8	0.0
	0.9nm,0.3s,baz=342,slow=9.0,SNR=16						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**32.59**	**165**	P	P	15 29 16.6	-0.1
	1.9nm,0.3s,baz=338,slow=7.6,SNR=153						
	1.9nm,0.3s						
MKAR	**Makanchi Array**	**53.12**	**324**	P	P	15 32 03.1	+0.2
	0.2nm,0.3s,baz=118,slow=5.9,SNR=1.9						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**57.27**	**327**	P	P	15 32 31.8	-1.0
	0.3nm,0.5s,baz=124,slow=7.8,SNR=2.8						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**62.85**	**326**	P	P	15 33 11.7	+0.6
	0.2nm,0.4s,baz=134,slow=8.3,SNR=2.0						
	0.2nm,0.4s						

*GII **30** 15:38:09.7±0.0, 37°.418N±0°.002×26°.895E±0°.001, h1km, Mws4.6, confirmed*
*HLW **30** 15:38:11.4, 37°.83N×26°.80E, h21km±22km, Ml4.4*
*IDC **30** 15:38:12.5±0.5, 37°.47N×26°.81E, h0km, mb4.2/22, mbtmp4.2/35, ML3.9/10, MS3.8/61, Error ellipse: s-maj=11.4km s-min=10.2km az=139.0*
*MOS **30** 15:38:13.9±1.5, 37°.57N×26°.98E, h12km, mb4.8/12, Error ellipse: s-maj=4.9km s-min=2.6km az=103.1*
*ISK **30** 15:38:13.8, 37°.52N×26°.76E, h11km, ML4.5/32*
*ATH **30** 15:38:14.6, 37°.54N×26°.85E, h16km, Mw4.7, Moment Tensor Solution. s8 Moment tensor: Mrr-9.65; Mθθ 9.95; Mφφ-0.30; Mrθ 7.22; Mrφ-2.44; Mθr-1.49; Fault plane solution: NP1:φs 103.00000°, δ27.00000°, λ-89.00000°. NP2:φs 282.00000°, δ63.00000°, λ-91.00000°.*
*MED_RC **30** 15:38:14.0±0.2, 37°.50N×26°.90E, h14km, MW4.8/24, Moment Tensor Solution. Body waves: s11,c11;Mantle waves: s24,c29; Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr-2.07±.12; Mθθ 1.82±.08; Mφφ 0.25±.08; Mrθ 0.21±.12; Mφφ-0.37±.06; Mθr 0.53±.19; Best double couple: M0 2.05000×10^16 NP1:φs 115.00000°, δ45.00000°, λ-71.00000°. NP2:φs 269.00000°, δ48.00000°, λ-108.00000°. Principal axes: T 1.9000, Plg1.0000°, Azm12.0000°; N 0.3000, Plg13.0000°, Azm282.0000°; P -2.2000, Plg77.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*THE **30** 15:38:15.0, 38°.N±3°×2°.7E±°, h12km±9km, M4.2/20, MLh4.2/20*
*AFAD **30** 15:38:14.8, 37°.54N×26°.81E, h7km±2km, MW4.4*
*NEIC **30** 15:38:14.5±1.9, 37°.49N±0°.04×26°.83E±0°.06, h10km±1km, mb4.6/70, Error ellipse: s-maj=8.5km s-min=4.9km az=303.0*
*GCMT **30** 15:38:16.5±0.3, 37°.50N±0°.02×26°.68E±0°.03, h18km, MW4.8/98, Moment Tensor Solution. s30,c33; s98,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.12±.12; Mθθ 1.91±.08; Mφφ 0.21±.06; Mrθ 0.30±.14; Mφφ-0.41±.04; Mθr 0.51±.17; Best double couple: M0 2.13600×10^16 NP1:φs 116.00000°, δ44.00000°, λ-71.00000°. NP2: φs 270.00000°, δ49.00000°, λ-108.00000°. Principal axes: T 2.0110, Plg3.0000°, Azm12.0000°; N 0.2540, Plg13.0000°, Azm281.0000°; P -2.2610, Plg77.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NAO **30** 15:38:18.3, 37°.53N×26°.77E, h10km, mb4.7*

ISC 30 15:38:14.6±0.7, 37°.48N±0°.02×26°.88E±0°.02, h14km±4km, n651, σ1§91/612, mb4.6/63, MS3.8/49, 61C-43D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.23**	**351**	P	**Pg**	**15 38 18.6**	**-1.0**
SMG				S	**Sg**	**15 38 21.5**	**-1.6**
SMG	**Samos**	**0.23**	**351**	P	**Pg**	**15 38 18.8**	**-0.8**
SMG				S	**Sg**	**15 38 21.9**	**-1.2**
DDIM	**Aydin, Didim**	**0.28**	**95**	P	**Pb**	**15 38 22.4**	**+0.9**
DDIM				S	**Sb**	**15 38 27.9**	**+1.8**
DDIM				*i* IAML		15 38 29.0	
	comp=N,2μm,0.3s						
DDIM				*i* IAML		15 38 29.0	
	comp=E,3μm,0.6s						
DIDI	**Didim-Aydin**	**0.30**	**110**	Pg	**Pb**	**15 38 22.6**	**+0.8**
DIDI				Sg	**Sb**	**15 38 28.3**	**+1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcami?**	**0.35**	**52**	P	**Pg**	**15 38 22.4**	**+0.6**
GCAM				*i* IAML		15 38 28.0	
	comp=N,11μm,0.2s						
GCAM				S	**Sb**	**15 38 28.4**	**+0.2**
GCAM				*i* IAML		15 38 29.0	
	comp=E,9μm,0.2s						
YKAV	**Yalikavak-Bodr**	**0.47**	**138**	Pg	**Pb**	**15 38 25.8**	**+1.0**
YKAV				Sg	**Sb**	**15 38 33.6**	**+2.0**
DGB	**zmir**	**0.57**	**360**	P	**Pg**	**15 38 24.8**	**-1.0**
DGB				S	**Sg**	**15 38 32.6**	**-0.8**
DGB				*i* IAML		15 38 36.0	
	comp=N,3μm,0.4s						
DGB				*i* IAML		15 38 36.0	
	comp=E,3μm,0.6s						
GMLD	**Gumuldur**	**0.60**	**2**	Pg	**Pg**	**15 38 25.3**	**-1.0**
GMLD				Sg	**Sg**	**15 38 33.8**	**-0.4**
BDRM	**Kayabasi**	**0.61**	**133**	P	**Pb**	**15 38 28.2**	**+1.1**
BDRM				*i* IAML		15 38 38.0	
	comp=N,0.6nm,1.4s						
BDRM				S	**Sn**	**15 38 39.0**	**+0.4**
BDRM				*i* IAML		15 38 42.0	
	comp=E,2μm,0.5s						
AYDN	**Tasoluk**	**0.81**	**77**	P	**Pb**	**15 38 31.6**	**+1.1**
AYDN				S	**Sb**	**15 38 43.0**	**+1.6**
AYDN				*i* IAML		15 38 44.0	
	comp=E,1μm,0.5s						
AYDN				*i* IAML		15 38 46.0	
	comp=N,1μm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**0.81**	**338**	P	**Pg**	**15 38 29.2**	**-1.2**
ZEYE				S	**Sb**	**15 38 40.2**	**-1.3**
ZEYE				*i* IAML		15 38 42.0	
	comp=E,4μm,0.4s						
ZEYE				*i* IAML		15 38 44.0	
	comp=N,5μm,0.4s						
NISR	**Nisiros**	**0.89**	**167**	P	**Pn**	**15 38 33.5**	**+0.8**
BLCB	**Balcova**	**0.91**	**8**	Pg	**Pg**	**15 38 31.4**	**-0.8**
BLCB				Sg	**Sb**	**15 38 44.0**	**-0.2**
BLCB	**Balcova**	**0.91**	**8**	P	**Pg**	**15 38 31.2**	**-1.1**
YAZI	**Mula-Dat§a-**	**0.92**	**150**	P	**Pn**	**15 38 33.8**	**+0.6**
YAZI				S	**Sn**	**15 38 49.9**	**+3.7**
YAZI				*i* IAML		15 38 50.0	
	comp=N,1μm,0.5s						
YAZI				*i* IAML		15 38 50.0	
	comp=E,1μm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**0.92**	**59**	Pg	**Pn**	**15 38 33.5**	**+0.2**
DAT	**Datca**	**0.93**	**143**	Pg	**Pn**	**15 38 33.5**	**+0.9**
DAT	**Datca**	**0.93**	**143**	P	**Pn**	**15 38 34.4**	**+1.0**
DAT	**Datca**	**0.93**	**143**	P	**Pn**	**15 38 34.9**	**+1.5**
DAT				S	**Sn**	**15 38 49.0**	**+2.4**
DAT				*i* IAML		15 38 54.0	
	comp=E,7μm,0.3s						
DAT				*i* IAML		15 38 56.0	
	comp=N,5μm,0.6s						
DATC	**Datca-Mugla**	**0.95**	**139**	Pg	**Pb**	**15 38 34.1**	**+1.2**
CESE	**eme**	**0.97**	**332**	Pg	**Pg**	**15 38 31.4**	**-1.9**
IZMR	**zmir-demi**	**1.07**	**52**	P	**Pb**	**15 38 35.1**	**+0.2**
IZMR				S	**Sb**	**15 38 48.8**	**+0.1**
IZMR				*i* IAML		15 38 53.0	
	comp=E,5μm,0.5s						
IZMR				*i* IAML		15 38 57.0	
	comp=N,5μm,0.8s						
CHOS	**Chios island**	**1.12**	**324**	P	**Pb**	**15 38 34.5**	**-1.3**
CHOS	**Chios island**	**1.12**	**324**	P	**Pb**	**15 38 34.5**	**-1.3**
CHOS				S	**Sb**	**15 38 48.0**	**-2.2**
MULA	**Mugla, Merkez-**	**1.17**	**101**	P	**Pg**	**15 38 37.7**	**+0.7**
MULA				S	**Sn**	**15 38 55.8**	**+3.4**
MULA				*i* IAML		15 39 04.0	
	comp=N,3μm,0.7s						
MULA				*i* IAML		15 39 05.0	
	comp=E,5μm,1.4s						
ESEN	**Aydn-Nazilli**	**1.21**	**74**	P	**Pb**	**15 38 37.7**	**+0.5**
ESEN				S	**Sg**	**15 38 54.0**	**+0.5**
ESEN				*i* IAML		15 39 04.0	
	comp=N,3μm,0.6s						
ESEN				*i* IAML		15 39 11.0	
	comp=E,3μm,1.7s						
NAZL	**Nazilli-Aydin**	**1.22**	**66**	Pn	**Pg**	**15 38 38.2**	**+0.2**
EAG2	**Marmaro, Chios**	**1.23**	**330**	P	**Pn**	**15 38 36.3**	**-1.1**
EAG2				S	**Sb**	**15 38 52.0**	**-1.3**
ODEM	**Odemis-Izmir**	**1.23**	**49**	Pn	**Pg**	**15 38 38.4**	**+0.1**
FOCM	**Foa**	**1.24**	**354**	Pn	**Pn**	**15 38 37.2**	**-0.3**
TURN	**Turunc**	**1.29**	**123**	P	**Pn**	**15 38 39.2**	**+1.0**
TURN				S	**Sg**	**15 39 02.7**	**+6.3**
TURN				*i* IAML		15 39 05.0	
	comp=N,4μm,0.7s						
TURN				*i* IAML		15 39 06.0	
	comp=E,5μm,0.8s						
KIRA	**zmir-Kiraz**	**1.40**	**59**	P	**Pn**	**15 38 40.2**	**+0.4**
KIRA				*i* IAML		15 39 01.0	
	comp=N,2μm,0.6s						
KIRA				*i* IAML		15 39 05.0	
	comp=E,3μm,0.6s						
GOMA	**Golmarmara-Man**	**1.47**	**33**	Pn	**Pb**	**15 38 41.3**	**-0.5**
AKS	**Akhisar**	**1.58**	**27**	Pn	**Pb**	**15 38 43.3**	**-0.3**
THERA	**Ancient Thera,**	**1.58**	**226**	P	**Pn**	**15 38 41.3**	**-0.9**
THERA	**Ancient Thera,**	**1.58**	**226**	P	**

GONE Gonen-Balikesi 2.64 13 Pn Pn 15 38 57.6 +0.8
IDI Anoyia 2.72 217 Pn Pn 15 38 58.6 +0.7
IDI Anoyia 2.72 217 Pn 15 38 57.0 -0.9
IDI Anoyia 2.72 217 Pn Pn 15 38 57.6 -0.3
77nm,0.6s,baz=345,slow=8.1,SNR=78
IDI Sn Sn 15 39 29.5 -1.1
45nm,0.3s,baz=335,slow=14,SNR=7.0
IDI Anoyia 2.72 217 P Pn 15 38 57.7 -0.2
DEMR Demre-Antalya 2.72 116 Pn Pn 15 39 00.2 +2.3
STFN Stefani 2.72 286 P Pn 15 38 58.0 -0.2
MAGU Magoula 2.74 284 P Pn 15 38 57.6 -0.5
PARN3 Mandra,Attica, 2.74 283 P Pn 15 38 57.8 -0.4
LIA Limnos Island 2.76 332 P Pn 15 38 57.4 -0.9
LIA Limnos Island 2.76 332 P Pn 15 38 57.5 -0.9
MET4 Agioi Theodoro 2.77 274 P Pn 15 38 58.1 -0.6
PARN2 Moni Osiou Mel 2.80 286 P Pn 15 38 58.5 -0.6
MET5 Makryloggos,Me 2.81 274 P Pn 15 38 59.3 +0.2
MET6 Megalochori,Me 2.81 273 P Pn 15 38 58.5 -0.5
GADA Gvkgeada 2.81 344 Pn Pn 15 38 58.8 -0.4
TVSB Tavsanli 2.82 45 Pn Pn 15 39 00.9 +1.5
AOS Alonnisos 2.90 306 P Pn 15 38 59.7 -0.7
ISP Isparta 2.91 82 Pn Pn 15 39 02.8 +2.2
ISP Isparta 2.91 82 Pn 15 39 01.5 +0.9
ISP Isparta 2.91 82 *d* *i* P Pn 15 39 01.5 +0.9
ISP Isparta 2.91 82 P Pn 15 39 00.7 +0.1
ISP Isparta 2.91 82 P Pn 15 38 56.6 -4.0
KRBG Karabiga-Canak 2.93 6 Pn Pn 15 39 00.2 -0.5
GELI Tayfur-Gelibol 2.93 354 Pn Pn 15 39 00.3 -0.5
VIL2 Platees 2.95 285 P Pn 15 39 00.1 -1.0
EDC Edincik 2.96 15 Pn Pn 15 39 02.3 +1.1
EDC Edincik 2.96 15 P Pn 15 39 02.3 +1.1
ORLT Orhaneli 3.01 31 Pn Pn 15 39 03.9 +2.0
KCTX Karacabey (Bur 3.01 22 Pn Pn 15 39 02.8 +0.9
LOUT Loutraki 3.14 280 P Pn 15 39 03.0 -0.7
LTK Loutraki 3.15 281 P Pn 15 39 03.3 -0.6
SMTH Samothraki Isl 3.17 341 P Pn 15 39 02.7 -1.4
SMTH Samothraki Isl 3.17 341 P Pn 15 39 02.7 -1.4
VLI Veliai 3.25 258 P Pn 15 39 04.2 -1.0
CAVK Edirne/Enez-Ca 3.25 350 ⇑P Pn 15 39 04.5 -0.7
ATAL Atalanti 3.28 293 P Pn 15 39 05.1 -0.5
NEO Neokhori 3.41 303 P Pn 15 39 07.0 -0.4
ALN Alexandroupoli 3.47 349 Pn 15 39 07.1 -1.2
ALN Alexandroupoli 3.47 349 P Pn 15 39 07.1 -1.2
ALN Alexandroupoli 3.47 349 P Pn 15 39 07.1 -1.2
ALN Alexandroupoli 3.47 349 P Pn 15 39 07.1 -1.2
THAS Thassos island 3.55 332 P Pn 15 39 07.8 -1.5
THAS Thassos island 3.55 332 P Pn 15 39 08.0 -1.3
GUR Goura 3.63 279 P Pn 15 39 10.5 0.0
OUR Ouranopolis 3.64 322 P Pn 15 39 09.8 -0.7
OUR Ouranopolis 3.64 322 P Pn 15 39 09.8 -0.7
OUR Ouranopolis 3.64 322 P Pn 15 39 09.6 -0.9
KLV Kalavryta, Ach 3.79 280 P Pn 15 39 12.8 0.0
RDO Rodhopi 3.81 344 Pn 15 39 11.9 -1.0
RDO Rodhopi 3.81 344 P Pn 15 39 12.2 -0.6
RDO Rodhopi 3.81 344 P Pn 15 39 12.1 -0.8
KALE Kalithea 3.86 285 P Pn 15 39 13.8 +0.1
AGG Agios Georgios 3.90 295 P Pn 15 39 17.2 +3.0
AGG Agios Georgios 3.90 295 P Pn 15 39 13.6 -0.6
PLG Polygyros 3.94 318 P Pn 15 39 14.4 -0.3
ITM Ithomi 3.96 267 Pn 15 39 15.3 +0.3
ITM Ithomi 3.96 267 P Pn 15 39 15.3 +0.3
KAVA Kavala 3.96 333 P Pn 15 39 13.9 -1.1
KAVA Kavala 3.96 333 P Pn 15 39 14.0 -1.1
MAKR Makrakomi, Fth 4.04 294 P Pn 15 39 15.9 -0.2
EFP Efpalio 4.05 285 P Pn 15 39 15.3 -0.8
ANX Ano Chora 4.07 287 P Pn 15 39 16.8 +0.2
DRO Drossia 4.13 278 P Pn 15 39 16.3 -1.0
CTYL Yalikoy Yolu 4.13 15 ⇑P Pn 15 39 18.4 +1.1
PHSR Pinarhisar 4.17 7 ⇓P Pn 15 39 18.5 +0.6
SILT Sile 4.25 29 ⇑P Pg 15 39 32.5 -3.4
EVR Evrytania 4.25 291 P Pn 15 39 18.8 -0.2
KDZ Kurdzhali 4.31 344 P Pn 15 39 19.0 -0.8
KDZ Kurdzhali 4.31 344 P Pn 15 39 18.7 -1.1
SOH Sokhos 4.32 322 P Pn 15 39 19.9 0.0
RLS Riolos of Patr 4.33 279 P Pn 15 39 20.1 +0.1
THL Klokotos Trika 4.35 300 P Pn 15 39 19.3 -1.0
PVO Paravola 4.38 287 P Pn 15 39 21.0 +0.3
SRS Serrai 4.44 326 P Pn 15 39 21.7 +0.1
MDUB Mudurnu 4.50 47 Pn 15 39 25.0 +2.6
RZN Rozhen 4.52 339 P Pn 15 39 22.4 -0.5
SAHE Sakarya_HENDEK 4.57 41 ⇑P Pb 15 39 31.1 -3.5
DIM Dimitrovgrad 4.67 348 P Pn 15 39 24.1 -0.6
DIM Dimitrovgrad 4.67 348 P Pn 15 39 23.6 -1.1
MMB Musomishta 4.73 330 P Pn 15 39 25.5 -0.1
MMB Musomishta 4.73 330 P Pn 15 39 25.2 -0.4
KNT Kendrikon 4.80 321 P Pn 15 39 27.3 +0.8
PLD Plovdiv 4.94 341 P Pn 15 39 28.0 -0.4
PLD Plovdiv 4.94 341 P Pn 15 39 28.1 -0.4
JMB Yambol 5.01 357 P Pn 15 39 28.4 -1.0
JMB Yambol 5.01 357 P Pn 15 39 28.7 -0.7
VAY Valandovo 5.09 320 *i* Pn Pn 15 39 31.4 +1.0
ANTO Ankara 5.20 61 Pn 15 39 34.1 +2.0
ANTO Ankara 5.20 61 ⇓P Pn 15 39 34.3 +2.2
ANTO Ankara 5.20 61 ⇓P Pn 15 39 34.3 +2.2
KKB Krupnik 5.23 328 P Pn 15 39 33.1 +0.7
KKB Krupnik 5.23 328 P Pn 15 39 32.9 +0.5
FNA Florina 5.41 309 Pn 15 39 35.5 +0.6
FNA Florina 5.41 309 P Pn 15 39 35.5 +0.6
ELND Elena 5.50 352 ⇑P Pn 15 39 35.3 -0.8
IGT Igoumenitsa 5.53 294 P Pn 15 39 41.1 +4.5
IGT pmax pmax
comp=Z,74nm,1.0s
PLNA Plana 5.65 333 P Pn 15 39 38.9 +0.6
PRD Provadia 5.69 4 P Pn 15 39 38.6 -0.1
KBN Korca 5.69 305 P Pn 15 39 43.0 +4.2
KBN pmax pmax
comp=Z,307nm,1.1s
BR131 Keskin Array S 5.75 65 Pn 15 39 41.6 +2.0
BR131 Keskin Array S 5.75 65 *d* *i* P Pn 15 39 41.9 +2.3
BRTR Keskin Array B 5.75 65 Pn 15 39 41.1 +1.5
BRTR Keskin Array B 5.75 65 Pn Pn 15 39 41.9 +2.3
comp=Z,3.5nm,0.3s,baz=247,slow=15,SNR=60
BRTR Sn Sn 15 40 43.5 -2.0
comp=Z,2.3nm,0.3s,baz=343,slow=17,SNR=5.0
BRTR LR LR 15 42 36.1
comp=Z,671nm,19.1s,baz=247,slow=45
comp=Z,11nm,0.3s
KIRS Kirsehir-Merke 5.77 71 ⇑P Pn 15 39 42.4 +2.5
CSS Mathiatis 5.79 114 Pn 15 39 38.6 -1.5
CSS Mathiatis 5.79 114 P Pn 15 39 37.4 -2.7
NEF NEVSHA 5.79 3 P Pn 15 39 40.4 +0.4
SZH Strazhitsa 5.82 353 P Pn 15 39 40.0 -0.5
SZH Strazhitsa 5.82 353 P Pn 15 39 40.0 0.0
VTS Vitosha 5.84 333 P Pn 15 39 41.2 +0.2
VTS Vitosha 5.84 333 P Pn 15 39 41.0 0.0
LOZB Loznitsa 5.89 358 ⇑P Pn 15 39 40.9 -0.6
OHR Ohrid 5.95 309 *i* Pn Pn 15 39 47.1 +4.8
KEK Kerkira 5.98 294 Pn 15 39 44.1 +1.4
RAZG Razgrad 6.09 357 ⇑P Pn 15 39 43.7 -0.5
SLUM Salum 6.13 193 P Pn 15 39 46.1 +1.3
PLVB Pleven 6.15 344 ⇓P Pn 15 39 45.3 +0.3
PSN Preselentsi 6.22 8 P Pn 15 39 46.0 0.0
PSN Preselentsi 6.22 8 P Pn 15 39 48.1 +2.1
TRAN Tran 6.25 330 P Pn 15 39 44.6 -1.9
MPEP Malo Peshtene 6.34 339 P Pn 15 39 47.9 +0.3
CIDE Kastamonu/Cide 6.42 45 ⇑P Pn 15 39 49.6 +0.9
ICOR Ion Corvin 6.67 6 ⇑P Pn 15 39 52.4 +0.3
VALD Valchedram 6.73 338 P Pn 15 39 53.5 +0.5
SGRR Singureni 6.77 354 ⇑P Pn 15 39 54.3 +0.7
VLAD Vladila 6.78 345 ⇑P Pn 15 39 53.8 +0.2
MFTR Murfatlar 6.79 9 ⇓P Pn 15 39 54.0 +0.2
TIRR Tirgusor 7.07 9 Pn 15 39 58.9 -2.7
TIRR Tirgusor 7.07 9 ⇓P Pn 15 39 58.7 +1.1
TIRR Tirgusor 7.07 9 ⇓P Pn 15 39 58.7 +1.1
BZK Bozkurt 7.08 49 Pg 15 40 29.7 -0.3
TLBR Topalu 7.11 7 ⇑P Pn 15 39 57.9 -0.3
BNN Bunyan 7.19 76 Pn 15 40 00.9 +1.4
HARR Harsova 7.25 6 ⇑P Pn 15 40 00.0 0.0
HARR Harsova 7.25 6 ⇑P Pn 15 40 00.0 0.0
BOVS Bovan 7.30 329 ⇓P Pn 15 40 01.1 +0.2
TPGR Topolog 7.46 8 ⇑P Pn 15 40 03.1 +0.1
ISR Istrita 7.64 358 ⇑P Pn 15 40 05.9 +0.4
ISR Istrita 7.64 358 ⇑P Pn 15 40 05.9 +0.4
PDG Podgorica 7.66 313 Pn 15 40 06.7 +0.9
PDG Podgorica 7.66 313 ⇓P Pn 15 40 09.9 +4.1
CFR Carcaliu 7.75 7 ⇑P Pn 15 40 05.8 -1.1
CFR Carcaliu 7.75 7 ⇑P Pn 15 40 05.8 -1.1
TLCR 7.83 10 ⇓P Pn 15 40 08.6 +0.5
TLCR 7.83 10 ⇓P Pn 15 40 08.6 +0.5
MTUR Matau 7.86 351 ⇑P Pn 15 40 08.9 +0.3
MTUR Matau 7.86 351 ⇑P Pn 15 40 08.9 +0.3
NEHR Nehoiu 7.95 357 ⇓P Pn 15 40 10.0 +0.3
TOKA Tokat 8.00 66 Pn 15 40 10.5 0.0
HWQ Hawqa 8.02 111 *e*P Pn 15 40 11.7 +0.9
MLR Muntele Rosu 8.04 355 Pn 15 40 10.8 -0.2
MLR Muntele Rosu 8.04 355 Pn Pn 15 40 11.7 +0.7
comp=Z,1.7nm,0.3s,baz=157,slow=13,SNR=12
MLR LR LR 15 43 37.2
comp=Z,763nm,21.2s,baz=184,slow=40
comp=Z,9.6nm,0.6s
MLR Muntele Rosu 8.04 355 ⇓P Pn 15 40 11.6 +0.7
ARR Arges 8.06 349 ⇑P Pn 15 40 10.8 -0.5
BISRR Bisoca 8.06 359 ⇓P Pn 15 40 10.8 -0.6
HNTI Hanita 8.07 120 P Pn 15 40 08.1 -3.4
HNTI Hanita 8.07 120 S Sn 15 41 39.7 -2.8
BEIL Beino 8.09 108 *e*P Pn 15 40 12.9 +1.2
HERR Herculane 8.12 337 ⇓P Pn 15 40 11.2 -0.9
TIP Timpagrande 8.14 285 Pn 15 40 11.9 -0.5
TIP Timpagrande 8.14 285 ⇓P Pn 15 40 12.9 +0.5
QRWL Qaraoun 8.18 116 *e*P Pn 15 40 12.9 -0.1
OFRI `Ofer 8.22 124 P Pn 15 40 09.8 -3.7
OFRI `Ofer 8.22 124 S Sn 15 41 43.9 -2.3
SCTR Scanteiesti 8.23 5 ⇓P Pn 15 40 14.2 +0.6
GAZ Gaziantep 8.23 89 Pn 15 40 13.8 +0.1
MMA0B Mount Meron ar 8.27 120 P Pn 15 40 11.2 -3.0
MMA0B Mount Meron ar 8.27 120 S Sn 15 41 45.2 -2.3
MMAI Mount Meron Ar 8.27 120 Pn Pn 15 40 13.9 -0.4
comp=Z,11nm,0.3s,baz=303,slow=13,SNR=41
MMAI Sn Sn 15 41 43.1 -4.4
comp=Z,11nm,0.3s,baz=351,slow=18,SNR=2.6
MMAI LR LR 15 44 02.8
comp=Z,392nm,18.2s,baz=304,slow=42
MDVR Moldovita 8.27 333 ⇓P Pn 15 40 14.0 -0.2
ODBI Odobesti 8.28 1 ⇑P Pn 15 40 15.1 +0.9
BLGI Bet Lehem HaGe 8.29 122 P Pn 15 40 10.6 -3.8
BLGI Bet Lehem HaGe 8.29 122 S Sn 15 41 45.2 -2.7
LOT Lotru 8.30 345 ⇑P Pn 15 40 14.0 -0.6
SWA2 8.30 189 P Pn 15 40 14.3 -0.2
RCY Rachaya 8.31 116 *e*P Pn 15 40 14.2 -0.6
SHBL Chebaa 8.32 117 *e*P Pn 15 40 14.7 -0.3
HMYD Mayadein 8.33 156 P Pn 15 40 15.9 +0.9
GEM Giv'at Ha'Em 8.34 118 P Pn 15 40 11.5 -3.6
GEM Giv'at Ha'Em 8.34 118 S Sn 15 41 47.0 -2.1
NATI Neve Ativ 8.36 118 P Pn 15 40 12.3 -3.1
NATI Neve Ativ 8.36 118 S Sn 15 41 46.9 -2.8
PLOR Plostina 8.37 359 ⇑P Pn 15 40 15.9 +0.4
PLOR Plostina 8.37 359 ⇑P Pn 15 40 15.9 +0.4
COVR Voineasa-Covas 8.37 357 ⇓P Pn 15 40 15.3 -0.3
VRI Vrincioaia 8.38 359 ⇓P Pn 15 40 15.9 +0.3
VRI Vrincioaia 8.38 359 ⇓P Pn 15 40 15.9 +0.3
PANC Panciu 8.39 1 ⇓P Pn 15 40 15.9 +0.1
TNR Turnu Rosu 8.39 347 ⇑P Pn 15 40 15.4 -0.5
TNR Turnu Rosu 8.39 347 ⇑P Pn 15 40 15.4 -0.5
VLDR Vladesti 8.40 6 ⇑P Pn 15 40 16.4 +0.4
HNAT Natroun 8.42 157 P Pn 15 40 17.1 +0.9
VARL Varlezi 8.44 5 ⇑P Pn 15 40 17.4 +0.9
GZR Gura Zlata 8.48 340 ⇑P Pn 15 40 16.3 -0.9
GZR Gura Zlata 8.48 340 ⇑P Pn 15 40 16.3 -0.9
SLTI Sal'it 8.50 126 P Pn 15 40 13.3 -3.9
SLTI Sal'it 8.50 126 S Sn 15 41 50.8 -2.2
MATE Matera 8.53 295 ⇑P Pn 15 40 20.4 +2.8
DOPR Dopca 8.55 353 ⇑P Pn 15 40 17.8 -0.2
KSHT Keshet 8.57 119 P Pn 15 40 14.9 -3.4
KSHT Keshet 8.57 119 S Sn 15 41 52.6 -2.3
KOT Kottamia 8.58 150 P Pn 15 40 20.0 +1.5
TURR Turia 8.59 356 ⇑P Pn 15 40 19.4 +0.8
MMLI Mount Malkishu 8.62 123 P Pn 15 40 15.7 -3.3
MMLI Mount Malkishu 8.62 123 S Sn 15 41 53.8 -2.4
OZUR 8.65 355 ⇑P Pn 15 40 20.3 +1.0
CEL Celeste 8.73 278 Pn 15 40 19.1 -1.4
HMDT Nahal Hemdat 8.81 124 P Pn 15 40 18.4 -3.1
RYAN Fayoum 8.84 160 P Pn 15 40 22.4 +0.3
MDB Medias 8.85 349 ⇓P Pn 15 40 22.6 +0.5
MDB Medias 8.85 349 ⇓P Pn 15 40 22.6 +0.5
ONER Baraj Valea Uz 8.86 358 ⇑P Pn 15 40 22.1 -0.1
AMAZ Amatzia 8.89 129 P Pn 15 40 18.8 -3.9
AMAZ Amatzia 8.89 129 S Sn 15 41 59.9 -2.8
DEV Deva 8.91 342 P Pn 15 40 26.9 +4.1
DEV pmax pmax
comp=Z,82nm,1.1s
SURR Surduc 9.00 338 ⇑P Pn 15 40 23.7 -0.4
TESR Tescani 9.03 359 ⇑P Pn 15 40 24.3 -0.1
BZS Buzias 9.04 336 ⇑P Pn 15 40 24.1 -0.5
BZS Buzias 9.04 336 ⇑P Pn 15 40 24.1 -0.5
KZIT Kziot 9.04 134 P Pn 15 40 21.3 -3.4
KZIT Kziot 9.04 134 S Sn 15 42 03.2 -3.1
YTIR Yattir 9.13 130 P Pn 15 40 22.2 -3.9
YTIR Yattir 9.13 130 S Sn 15 42 06.1 -2.6
DSI Dead Sea 9.16 128 P Pn 15 40 22.6 -3.8
SIM Simferopol' 9.23 34 *e*P Pn 15 40 39.7 +12
SIM pmax pmax
comp=Z,19nm,0.8s
MSBI Mazada 9.32 129 P Pn 15 40 24.6 -3.8
MSBI Mazada 9.32 129 S Sn 15 42 11.0 -2.1
GHAJ Ghor Haditha 9.45 128 Pn 15 40 30.5 +0.1
GHAJ Ghor Haditha 9.45 128 P Pn 15 40 26.5 -3.8
GHAJ Ghor Haditha 9.45 128 S Sn 15 42 14.0 -2.5
MILM Milestii Mici 9.54 8 *e*P Pn 15 40 30.0 -1.5
comp=Z,60nm,0.8s
MILM *e*L L 15 44 19.0
MILM LRM MLR 15 44 34.0
comp=Z,2μm,11.5s
MILM Milestii Mici 9.54 8 ⇑P Pn 15 40 31.8 +0.3
MILM Milestii Mici 9.54 8 *e*P Pn 15 40 30.0 -1.5
MILM pmax pmax
comp=Z,60nm,0.8s
MILM MLR MLR
comp=Z,2μm,10.5s
NBNS Bani Suef 9.57 156 P Pn 15 40 31.4 -0.7
SIRR Siria 9.60 338 ⇓P Pn 15 40 32.1 -0.3
MARR Marisel-Cluj 9.60 344 ⇓P Pn 15 40 32.0 -0.5
ZFRI Zfri 9.75 133 P Pn 15 40 30.6 -3.8
ZFRI Zfri 9.75 133 S Sn 15 42 20.2 -3.5
ASF Jabal al Asfar 9.78 120 Pn Pn 15 40 35.1 +0.1
comp=Z,1.3nm,0.3s,baz=6.3,slow=9.2,SNR=9.6
ASF Sn Sn 15 42 26.2 +1.4
comp=Z,0.4nm,0.3s,baz=246,slow=22,SNR=1.6
ASF LR LR 15 45 18.5
comp=Z,416nm,18.2s,baz=333,slow=43
comp=Z,4.6nm,0.5s
PRNI Paran 9.80 134 P Pn 15 40 32.2 -2.9
PRNI Paran 9.80 134 S Sn 15 42 21.9 -3.1
DRGR 9.80 343 ⇑P Pn 15 40 35.4 +0.2
DRGR 9.80 343 ⇑P Pn 15 40 35.4 +0.2
KRMI Paran Flat 9.82 136 P Pn 15 40 32.0 -3.4
PRAR RASCA 9.89 357 ⇑P Pn 15 40 36.1 -0.2
VAE Valguarnera 9.91 274 Pn Pn 15 40 36.9 +0.2
comp=Z,10nm,0.4s,baz=37,slow=20,SNR=4.6
RAFF Raffo Rosso 9.97 272 Pn 15 40 37.3 -0.2
MBRI Mt Berech 10.17 137 P Pn 15 40 36.7 -3.6
GIB Gibilmanna 10.20 277 P Pn 15 40 44.9 +4.2
GIB pmax pmax
comp=Z,55nm,1.0s
BURAR Bucovina Array 10.20 354 Pn 15 40 40.8 +0.1
BURAR Bucovina Array 10.20 354 ⇑P Pn 15 40 41.7 +1.0
BURAR Bucovina Array 10.20 354 ⇑P Pn 15 40 41.7 +1.0
EIL Elat 10.29 137 Pn Pn 15 40 41.2 -0.6
comp=Z,100nm,0.3s,baz=3.0,slow=0.0,SNR=8.5
EIL Sn Sn 15 42 32.1 -4.9
comp=Z,60nm,0.3s,baz=307,slow=0.0,SNR=1.6
EIL Elat 10.29 137 P Pn 15 40 38.7 -3.1
TAMRE El Minia 10.34 160 P Pn 15 40 42.4 -0.2
HFRF Wahat Farafira 10.37 173 P Pn 15 40 43.4 +0.4
HBST Basata 10.53 139 ⇓P Pn 15 40 45.0 -0.2
MORH Mrgy, Hungar 10.67 327 ⇑P Pn 15 40 47.1 +0.2
SORM Soroca 10.70 5 ⇑P Pn 15 40 45.1 -2.3
SORM Soroca 10.70 5 ⇑P Pn 15 40 45.1 -2.3
HDHB Dhahab 10.87 141 P Pn 15 40 50.5 +0.7
AQU L'Aquila 11.44 299 P Pn 15 41 01.1 +3.5
AQU pmax pmax
comp=Z,31nm,0.9s
SOC Sochi 11.51 54 *e*P Pn 15 40 58.7 +0.3
SOC *i* 15 43 08.7
SOC MLR MLR
comp=Z,415nm,12.0s
PSZ Piszkesteto 11.62 336 Pn 15 40 56.7 -3.4
PSZ Piszkesteto 11.62 336 ⇑P Pn 15 41 00.2 +0.1
PSZ Piszkesteto 11.62 336 ⇑P Pn 15 41 00.2 +0.1
PTJ Puntijarka 11.71 319 P Pn 15 41 06.5 +5.1
KOLS Kolonicke sedl 11.93 345 *e*P Pn 15 41 07.5 +3.3
KOLS Kolonicke sedl 11.93 345 *e*PN Pn 15 41 07.5 +3.3
VYHS Vyhne 12.48 334 *e*P Pn 15 41 11.5 -0.2
VYHS Vyhne 12.48 334 *e*PN Pn 15 41 11.5 -0.2
SOKA Soboth 12.71 320 *e*P Pn 15 41 16.5 +1.5
comp=Z,11nm,1.5s
RONA Rosalia, Austr 12.84 326 *i* Pn Pn 15 41 17.3 +0.6
comp=Z,14nm,1.3s
NIE Niedzica 12.85 340 *e*P Pn 15 41 18.5 +1.8
NIE Niedzica 12.85 340 P Pn 15 41 18.6 +1.8
NIE pmax pmax
comp=Z,7.0nm,1.3s
OBKA Obir 12.85 318 *e*P Pn 15 41 19.5 +2.6
comp=Z,0.8nm,0.4s
ARSA Arzberg 12.87 323 Pn 15 41 18.1 +1.0
ARSA Arzberg 12.87 323 *i* Pn Pn 15 41 17.6 +0.6
comp=Z,13nm,1.5s,SNR=5.1
JAVC Velka Javorina 13.20 332 *e*PN Pn 15 41 18.8 -2.8
CONA Conrad Observa 13.20 326 *i* Pn Pn 15 41 21.9 +0.2
comp=Z,7.7nm,1.2s
AKASG Malin Array Be 13.32 6 Pn Pn 15 41 23.1 -0.1
comp=Z,0.9nm,0.3s,baz=203,slow=13,SNR=5.1
AKASG LR LR 15 47 16.8
comp=Z,404nm,18.8s,baz=176,slow=41
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 13.32 6 Pn Pn 15 41 21.2 -2.0
AKBB Malin Array Si 13.32 6⇓*e*P Pn 15 41 25.1 +1.9
AKBB pmax pmax
comp=Z,13nm,1.8s
MYKA Terra Mystica 13.41 317 *i* P Pn 15 41 25.4 +0.8
comp=Z,0.1nm,0.2s
KIV Kislovodsk 13.61 57 *e*P Pn 15 41 26.1 -1.2
KIV *e*S Sn 15 43 58.6 +0.3
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,136nm,13.0s
KVAR Kislovodsk Arr 13.62 57 LR LR 15 48 23.4
comp=Z,224nm,18.3s,baz=82,slow=45
KBZ Khabaz 13.66 58 Pn Pn 15 41 31.8 +3.9
comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=4.0
KBZ LR LR 15 48 04.2
comp=Z,346nm,18.6s,baz=243,slow=43
comp=Z,2.6nm,1.0s
OJC Ojcow 13.71 340 *e*P P 15 41 41.8 +4.6
OJC Ojcow 13.71 340 P Pn 15 41 28.5 -0.1
OJC pmax pmax
comp=Z,11nm,1.1s
KRUC Moravsky 13.85 330 *e*PN Pn 15 41 30.1 -0.4
KBA Koelnbreinsper 13.85 318 P Pn 15 41 33.8 +3.1
KBA pmax pmax
comp=Z,47nm,1.3s
KBA Koelnbreinsper 13.85 318 *e*P Pn 15 41 33.4 +2.7
comp=Z,15nm,1.1s
OKC Ostrava-Krasne 13.86 336 AMS AMS 15 47 50.0
comp=Z,1μm,12.7s
VSL Villasalto 13.86 284 Pn 15 41 27.9 -2.8
VRAC Vranov 13.97 331 Pn Pn 15 41 33.1 +1.0
comp=Z,0.3nm,0.3s,baz=144,slow=8.4,SNR=5.1
VRAC LR LR 15 47 15.2
comp=Z,349nm,20.0s,baz=150,slow=39
comp=Z,1.3nm,0.5s
VRAC Vranov 13.97 331 *e*PN Pn 15 41 30.1 -2.0
MORC Moravsky Beroun 14.02 334 *e*PN Pn 15 41 32.6 -0.1
BIOA Bad Ischl, Aus 14.10 321 *e*P Pn 15 41 35.1 +1.2
comp=Z,17nm,1.2s,SNR=5.4
ABTA Abfaltersbach 14.11 316 *e*P P 15 41 37.8 -3.9
comp=Z,0.4nm,0.5s
GNI Garni 14.18 74 LR LR 15 48 22.1
comp=Z,542nm,18.5s,baz=282,slow=43
KEST Kesra 14.20 268 Pn 15 41 35.4 0.0
KEST Kesra 14.20 268 Pn Pn 15 41 35.9 +0.5
comp=Z,0.2nm,0.3s,baz=35,slow=6.2,SNR=5.5
KEST LR LR 15 47 02.1
comp=Z,117nm,21.5s,baz=250,slow=37
comp=Z,2.3nm,0.8s
LESA Schwarzleotal 14.43 318 *i* P Pn 15 41 40.0 +1.6
comp=Z,0.4nm,0.4s,SNR=5.2
KRLC Kraliky 14.53 333 *e*P P 15 41 48.8 +2.4
KRLC MLR MLR
comp=Z,2μm,11.2s
KRLC Kraliky 14.53 333 *e*P P 15 41 48.8 +2.4
KRLC AMS AMS 15 48 10.0
comp=Z,2μm,11.2s
RJOB Jochberg 14.56 319 *e*P P 15 41 44.1 -2.6
baz=133,slow=11
PGF Pioggiola 14.60 296 P P 15 41 46.3 -1.0
PGF pmax pmax
comp=Z,25nm,1.2s
GEC2 GERESS Array S 14.86 324 *e*P P 15 41 53.7 +3.6
baz=133,slow=11
GERES GERESS Array B 14.86 324 Pn Pn 15 41 45.6 +1.3
baz=161,slow=14,SNR=4.2
GERES LR LR 15 47 05.1
comp=Z,208nm,20.1s,baz=134,slow=36
comp=Z,0.5nm,0.6s
WTTA Wattenberg 14.89 316 P P 15 41 47.5 -3.1
WTTA pmax pmax
comp=Z,23nm,1.3s
WTTA Wattenberg 14.89 316 *e*P P 15 41 48.0 -2.6
comp=Z,31nm,1.2s
DPC Dobruska-Polom 14.93 333 P P 15 41 48.6 -2.2
DPC pmax pmax
comp=Z,9.0nm,1.3s
DPC Dobruska-Polom 14.93 333 AMS AMS 15 48 30.0
comp=Z,1μm,10.9s
WATA Walderalm 14.97 316 *e*P Pn 15 41 48.4 +2.5
comp=Z,50nm,1.3s,SNR=8.8
BOB Bobbio (Coli) 15.01 304 P P 15 41 54.5 +2.8
BOB pmax pmax
comp=Z,31nm,1.1s
SQTA Sankt Quirin 15.11 315 *e*P P 15 41 50.4 -2.5
comp=Z,0.4nm,0.3s
KHC Kasperske Hory 15.12 325⇑*e*P P 15 41 52.2 -0.7
KHC pmax pmax
comp=Z,26nm,1.5s
KHC Kasperske Hory 15.12 325 *e*P P 15 41 54.2 +1.3
KHC AMS AMS 15 48 10.0
comp=Z,1μm,9.1s
OSTC Ostas 15.13 333 AMS AMS 15 48 40.0
comp=Z,1μm,10.9s
UPC Upice 15.17 333 AMS AMS 15 48 30.0
comp=Z,900nm,13.0s
CHVC Chvalec 15.22 333 AMS AMS 15 48 40.0
comp=Z,900nm,11.6s
MOTA Moosalm 15.24 315 *e*P P 15 41 51.7 -2.6
comp=Z,16nm,1.0s
FETA Feichten 15.27 314 *i* P P 15 41 53.6 -1.2
comp=Z,48nm,1.3s,SNR=7.0
PRU Pruhonice 15.33 329 AMS AMS 15 48 40.0
comp=Z,30.6s
FUORN Ofenpass-Fuorn 15.33 312 IAmb IAmb 15 42 11.4
comp=Z,30nm,1.2s
KSP Ksiaz 15.35 334 *e*P Pn 15 41 51.4 +0.7
WET Wettzell 15.46 323 *e*P P 15 41 58.8 +2.2
comp=Z,25nm,1.2s,baz=133,slow=11
RETA Reutte 15.51 315 *i* P P 15 41 56.7 -0.6
comp=Z,14nm,1.2s,SNR=6.2
FUR Furstenfeldbru 15.63 318 *e*P P 15 42 01.4 +2.8
comp=Z,55nm,0.8s,baz=133,slow=11
DAVOX Davos/Dischmat 15.64 312 Pn Pn 15 41 54.0 -0.7
comp=Z,0.2nm,0.3s,baz=132,slow=14,SNR=12
DAVOX LR LR 15 48 07.4
comp=Z,420nm,18.9s,baz=88,slow=38
comp=Z,1.2nm,0.6s
PVCC Panska Ves 15.74 330 AMS AMS 15 49 10.0
comp=Z,1μm,9.9s
TUE Stuetta 15.81 310 Pn 15 41 57.4 +0.4
DAVA Damuels 15.90 313 *e*P P 15 42 02.3 +0.6
comp=Z,27nm,1.4s,SNR=11
SAOF Saorge 16.01 300 P P 15 42 03.3 +0.5
SAOF pmax pmax
comp=Z,21nm,1.0s
VORD Divnogorie 16.12 29 *e*P P 15 42 02.8 -1.1
VORD pmax pmax
comp=Z,7.0nm,1.0s
LLS Linth-Limmern 16.19 311 P P 15 42 08.3 +3.3
LLS pmax pmax
comp=Z,28nm,1.2s
ROTZ Rotzenmuhle 16.20 324 *e*P P 15 42 07.2 +2.3
comp=Z,4.1nm,1.4s,baz=133,slow=11
BRG Berggiesshubel 16.26 330 *e*P P 15 42 10.0 +4.5
comp=Z,30nm,1.4s,baz=133,slow=11
BRG Berggiesshubel 16.26 330 *e*P P 15 42 11.0 +5.5
BRG Amp 15 42 14.0
comp=Z,17nm,1.1s
BRG Berggiesshubel 16.26 330 S S 15 45 21.0 +5.7
HSKC Hora Svate Kat 16.27 328 AMS AMS 15 49 20.0
comp=Z,1μm,10.2s
VSR Storozhevoye 16.27 29 *e*P Pn 15 41 59.4 -3.2

VSR pmax pmax
comp=Z,10.0nm,1.1s
MANZ Manzenberg 16.40 324 *e*P **P 15 42 11.1 +4.0**
comp=Z,2.6nm,1.1s,baz=133,slow=11
ISO Isola 16.42 300 P **P 15 42 08.9 +1.5**
ISO pmax pmax
comp=Z,16nm,1.2s
PZZ Stroppo 16.47 301 P **P 15 42 12.0 +3.9**
PZZ pmax pmax
comp=Z,8.0nm,1.1s
MMK Mattmark 16.48 307 P **P 15 42 13.6 +5.4**
MMK pmax pmax
comp=Z,5.0nm,1.1s
TANN Tannenbergstha 16.54 326 *e*P **P 15 42 11.8 +3.1**
comp=Z,20nm,1.3s,baz=133,slow=11
AKT Akhty 16.58 70 *e*P **P 15 42 10.7 +1.5**
AKT *e*S **Sn 15 45 17.1 +6.5**
AKT pmax pmax
comp=Z,18nm,1.2s
AKT MLR MLR
comp=Z,311nm,11.0s
RSP Reno Superiore 16.59 304 P **P 15 42 14.7 +5.4**
RSP pmax pmax
comp=Z,9.0nm,1.2s
GRF Grafenberg Arr 16.62 322 *e*P **P 15 42 13.2 +3.7**
comp=Z,46nm,1.4s,baz=133,slow=11
GRFO Grafenberg 16.62 322 **Pn 15 42 06.6 -0.5**
GRFO Grafenberg 16.62 322 P **Pn 15 42 06.6 -0.5**
GRFO pmax pmax
comp=Z,42nm,1.4s
MAK Makhachkala 16.66 64 *e*P **Pn 15 42 03.1 -4.5**
MAK *e*S **Sn 15 45 07.4 -5.0**
MAK pmax pmax
comp=Z,142nm,1.3s
MAK MLR MLR
comp=Z,265nm,12.0s
ZUR Degenried 16.70 312 P **P 15 42 15.1 +4.6**
ZUR pmax pmax
comp=Z,53nm,1.1s
PLN Plauen 16.73 326 *e*P **P 15 42 14.2 +3.4**
comp=Z,23nm,1.5s,baz=133,slow=11
RRL Rocca Remolon 16.82 303 P **P 15 42 16.1 +4.0**
RRL pmax pmax
comp=Z,13nm,1.0s
BNI Bardonecchia 16.94 303 **Pn 15 42 11.6 +0.2**
BNI Bardonecchia 16.94 303 P **Pn 15 42 11.6 +0.2**
BNI pmax pmax
comp=Z,32nm,1.4s
SLE Schleitheim 16.95 313 P **P 15 42 15.1 +1.8**
SLE pmax pmax
comp=Z,32nm,1.1s
CLL Collm 16.97 329 *i* P **P 15 42 12.3 -1.1**
CLL *e*S **S 15 45 29.0 -0.9**
CLL Collm 16.97 329 *e*P **P 15 42 14.6 +1.2**
comp=Z,47nm,1.9s,baz=133,slow=11
CLL Collm 16.97 329 *i* P **P 15 42 12.3 -1.1**
CLL *i* sP **pP 15 42 16.6 -0.6**
comp=Z,36nm,1.7s
CLL *i* sPP 15 42 24.7
CLL *i* x x 15 42 26.6
CLL *i* x x 15 42 30.9
CLL *e*S **S 15 45 25.0 -4.9**
CLL LmH 15 47 00.0
comp=N,500nm,19.4s
CLL LmH 15 47 00.0
comp=E,600nm,21.3s
CLL Lmax 15 49 00.0
MNK Minsk 17.04 2 *i* P **Pn 15 42 11.4 -0.9**
comp=E,24nm,1.0s
MNK *i* P **Pn 15 42 11.4 -0.9**
comp=N,8.0nm,0.8s,baz=182
MNK *i* P **Pn 15 42 11.4 -0.9**
comp=Z,22nm,0.9s
MNK *i* PP **PnPn 15 42 21.7 -0.3**
MNK *i* PPP PPP 15 42 29.9
MNK *i* S **Sn 15 45 21.8 +0.3**
MNK *i* SS **SnSn 15 45 37.1 +2.4**
MNK *i* SSS SSS 15 45 49.2
MNK *i* LQ LQ 15 47 16.6
MNK *i* LR LR 15 48 16.2
MNK *i* LRM MLR 15 49 18.2
comp=Z,365nm,16.4s
MNK *i* LRM MLR 15 49 23.0
comp=E,292nm,14.8s
MNK *i* LRM MLR 15 49 54.9
comp=N,630nm,38.6s
MNK Minsk 17.04 2 *i* P **Pn 15 42 11.4 -0.9**
MNK *i* S **Sn 15 45 21.7 +0.3**
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=E,24nm,1.0s
MNK MLR MLR
comp=Z,365nm,16.0s
MNK MLR MLR
comp=E,292nm,15.0s
MOX Moxa 17.09 325 *e*P **P 15 42 18.8 +4.1**
comp=E,17nm,1.3s,baz=133,slow=11
RSL Roselend 17.20 305 P **P 15 42 21.1 +5.0**
RSL pmax pmax
comp=Z,32nm,1.1s
VRH Novokhopyorsk 17.30 33 *e*P **Pn 15 42 11.1 -4.4**
VRH pmax pmax
comp=Z,20nm,1.0s
LPSR Galich'ya Gora 17.31 25 *e*P **Pn 15 42 16.0 +0.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
BFO Black Forest 17.34 315 **Pn 15 42 15.1 -1.1**
BFO Black Forest 17.34 315 P **Pn 15 42 15.1 -1.1**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 17.34 315 *e*P **P 15 42 20.2 +2.7**
comp=Z,7.8nm,1.0s,baz=133,slow=11
NEUB Neuenburg 17.42 327 *e*P **P 15 42 24.4 +6.1**
comp=Z,39nm,1.4s,baz=133,slow=11
NACGM Naroch 17.43 360 *e*P **P 15 42 19.3 +0.9**
comp=Z,13nm,1.0s,baz=181
ORIF Oris-en-Rattie 17.44 302 P **P 15 42 20.8 +2.1**
ORIF pmax pmax
comp=Z,14nm,1.0s
ECH Echery 17.96 313 P **P 15 42 27.8 +3.5**
ECH pmax pmax
comp=Z,14nm,1.5s
PABE Paberze 18.14 355 IAmb IAmb 15 42 33.1
comp=Z,60nm,1.1s
TNS Taunus Mts 18.35 320 P **P 15 42 33.1 +4.4**
TNS pmax pmax
comp=Z,24nm,1.2s
TNS Taunus Mts 18.35 320 *e*P **P 15 42 32.8 +4.1**
comp=Z,31nm,1.1s,baz=133,slow=11
SSB Saint Sauveur 18.45 302 P **Pn 15 42 31.4 +1.5**
SSB pmax pmax
comp=Z,8.0nm,1.5s
GTTG Gottingen 18.46 325 *e*P **Pn 15 42 32.5 +2.6**
comp=Z,39nm,1.2s,baz=133,slow=11
FLTG Flechtingen 18.47 328 *e*P **Pn 15 42 31.6 +1.7**
comp=Z,20nm,1.2s,baz=133,slow=11
ASSE Asse, Remlinge 18.56 327 *e*P **Pn 15 42 36.0 +5.0**
comp=Z,12nm,1.2s,baz=133,slow=11
OBN Obninsk 18.83 17 P **P 15 42 33.1 -0.7**
comp=Z,4.1nm,0.3s,baz=180,slow=17,SNR=4.9
OBN LR LR 15 50 44.0
comp=Z,347nm,21.5s,baz=161,slow=40
comp=Z,16nm,0.4s
OBN Obninsk 18.83 17⇑ *e*P **Pn 15 42 39.0 +4.7**
OBN *e*S **Sn 15 46 04.5 -0.2**
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,319nm,15.0s
GORT1 Trebel 18.93 330 *e*P **Pn 15 42 38.4 +2.8**
comp=Z,41nm,1.6s,baz=133,slow=11
KASTN Kahler Asten 18.97 322 *e*P **Pn 15 42 39.3 +3.2**
comp=Z,10nm,1.3s,baz=133,slow=11
WLF Walferdange 19.26 316 IAmb IAmb 15 43 04.2
comp=Z,38nm,1.3s
WLF Walferdange 19.26 316 P **Pn 15 42 43.6 +4.0**
WLF pmax pmax
comp=Z,21nm,1.2s
WLF Walferdange 19.26 316 *d*P **Pn 15 42 44.1 +4.4**
WLF Walferdange 19.26 316 *e*P **Pn 15 42 41.4 +1.7**
comp=Z,38nm,1.3s,baz=133,slow=11
RETH Rethem/Aller, 19.56 327 *e*P **Pn 15 42 44.2 +1.1**
comp=Z,33nm,1.4s,baz=133,slow=11

LOR Lormes 19.56 307 P **Pn 15 42 46.5 +3.3**
LOR pmax pmax
comp=Z,14nm,1.3s
CORI Orista 19.60 291 IAmb IAmb 15 42 47.8
comp=Z,38nm,1.3s
MTLF Montolieu 19.64 295 P **Pn 15 42 48.4 +4.2**
MTLF pmax pmax
comp=Z,17nm,1.5s
MOS Moscow 19.65 18 *e*P **P 15 42 41.4 -1.4**
BUG Bochum-Univer 19.68 321 *e*P **Pn 15 42 46.7 +2.1**
comp=Z,12nm,0.9s,baz=133,slow=11
BTNL Ternell 19.77 318 *d*P **P 15 42 44.1 -0.1**
MEM Membach 19.85 318 *d*P **Pn 15 42 48.5 +1.9**
IBBN Ibbenburen 19.99 324 *e*P **Pn 15 42 49.8 +1.5**
comp=Z,60nm,1.4s,baz=133,slow=11
BSTI Sart Tilman 20.07 318 *d*P Pn 15 42 52.4 +3.2
BCLA Clavier 20.12 317 *d*P Pn 15 42 53.4 +3.5
BGES Gesves 20.22 317 *d*P Pn 15 42 54.3 +3.2
CEST Esterri de Car 20.25 293 Pn 15 42 51.1 -0.4
CEST IAmb IAmb 15 42 58.5
comp=Z,30nm,1.3s
DOU Dourbes 20.35 315 *d*P Pn 15 42 57.2 +4.7
BMRD Maredsous 20.36 316 *d*P Pn 15 42 57.6 +5.0
BELG Belogornoye 20.82 38 P **P 15 42 55.2 -0.2**
comp=Z,45nm,1.0s,baz=185,slow=11,SNR=11
comp=Z,45nm,1.0s
BELG Belogornoye 20.82 38*d* *i*P Pn 15 42 58.0 +0.1
BELG pmax pmax
comp=Z,20nm,1.0s
UCC Uccle 20.84 317 IAmb IAmb 15 43 05.7
comp=Z,26nm,1.0s
UCC Uccle 20.84 317 P Pn 15 43 00.5 +2.3
UCC pmax pmax
comp=Z,4.0nm,1.6s
CLF Chambon-Foret 20.84 308 **P 15 42 56.6 +0.8**
VSU Vasula 21.00 360⇑ *i*P Pn 15 42 59.4 -0.6
VSU pmax pmax
comp=Z,63nm,1.2s
RAYN Ar Rayn 21.18 126 **P 15 42 59.9 +0.2**
RAYN Ar Rayn 21.18 126 P **P 15 42 59.9 +0.2**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 23.50 237 **P 15 43 24.4 +0.1**
TAM IAmb IAmb 15 43 46.8
comp=Z,16nm,0.6s
TAM Tamanrasset 23.50 237 P **P 15 43 24.4 +0.1**
TAM pmax pmax
comp=Z,16nm,0.6s
FINES FINESS Array B 23.99 359 **P 15 43 28.5 0.0**
FINES FINESS Array B 23.99 359 P **P 15 43 28.0 -0.5**
comp=Z,2.3nm,0.6s,baz=160,slow=7.3,SNR=6.1
FINES LR LR 15 53 35.6
comp=Z,252nm,19.0s,baz=172,slow=38
comp=Z,2.3nm,0.6s
FINES FINESS Array B 23.99 359 P **P 15 43 28.5 0.0**
FIA1 FINESS Array S 23.99 359 **P 15 43 27.4 -1.1**
ESBB Sonseca Array 24.16 285 IAmb IAmb 15 43 48.4
comp=Z,23nm,1.4s
ESDC Sonseca Array 24.16 285 **P 15 43 30.4 0.0**
ESDC Sonseca Array 24.16 285 P **P 15 43 28.8 -1.6**
comp=Z,2.1nm,0.9s,baz=78,slow=10.0,SNR=16
comp=Z,2.1nm,0.9s
HFS Hagfors 24.19 344 P **P 15 43 29.2 -1.2**
comp=Z,4.5nm,0.8s,baz=144,slow=13,SNR=6.1
HFS LR LR 15 53 54.0
comp=Z,284nm,18.2s,baz=160,slow=39
comp=Z,4.5nm,0.8s
PAB San Pablo 24.47 285 P **P 15 43 34.0 +0.8**
PAB San Pablo 24.47 285 P **P 15 43 34.0 +0.8**
PAB pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 24.72 15 *e*P **P 15 43 35.9 +0.7**
KLMR S **S 15 47 59.8 +3.3**
KLMR pmax pmax
comp=Z,39nm,1.4s
KLMR MLR MLR
comp=Z,538nm,10.0s
NB2 NORSAR Subarra 25.56 342 P **P 15 43 45.6 +2.7**
comp=Z,25nm,1.7s,baz=150,slow=9.3
NOA NORSAR Array B 25.56 342 P **P 15 43 42.6 -0.3**
comp=Z,3.3nm,1.0s,baz=146,slow=9.2,SNR=4.9
NOA LR LR 15 54 48.1
comp=Z,205nm,19.1s,baz=150,slow=39
comp=Z,3.3nm,1.0s
AKTO Aktyubinsk 25.67 50 P **P 15 43 44.8 +0.8**
comp=Z,10nm,1.0s,baz=237,slow=6.3,SNR=17
AKTO LR LR 15 57 18.2
comp=Z,156nm,18.7s,baz=212,slow=44
comp=Z,10nm,1.0s
KIRV Kirov 25.71 28⇓ *e*P **P 15 43 47.4 +3.3**
PBRG Braganca 26.15 290 *e*P **P 15 43 53.8 +5.3**
PBRG *i* IAmb IAmb 15 44 24.1
comp=Z,27nm,1.8s
MD31 MD31 26.20 269 P **P 15 43 50.1 +1.0**
MD31 IAmb IAmb 15 43 57.2
comp=Z,13nm,1.1s
MVO Moncorvo 26.39 289 *e*P **P 15 43 54.8 +4.1**
MVO *i* IAmb IAmb 15 44 38.2
comp=Z,23nm,2.2s
MVO *e*S **S 15 48 20.0 -3.6**
MVO *e*LR LR 15 55 02.4
MVO *i* IAMs_20 IAMs_20 15 55 45.3
comp=Z,90nm,16.0s
AB31 Akbulak array 26.54 53 **P 15 43 52.4 +0.6**
ABKAR Akbulak array 26.54 53 **P 15 43 52.9 +1.0**
PBAR Barrancos 26.72 282 *e*P **P 15 43 54.4 +0.9**
PBAR *i* IAmb IAmb 15 44 05.5
comp=Z,33nm,1.5s
PMRV Marv??o 26.82 285 *e*P **P 15 43 55.3 +0.8**
PMRV *i* IAmb IAmb 15 44 09.8
comp=Z,21nm,1.5s
PMRV *e*S S 15 48 41.7 +11
PMRV *e*LR LR 15 55 00.3
PMRV *i* IAMs_20 IAMs_20 15 57 37.4
comp=Z,81nm,16.0s
MTE Manteigas 26.84 287 *e*P **P 15 43 55.9 +1.2**
MTE *e*S S 15 48 48.5 +18
MTE *e*LR LR 15 53 37.7
MTE *i* IAMs_20 IAMs_20 15 55 27.4
comp=Z,145nm,20.0s
PCBR Castelo Branco 26.84 286 *e*P **P 15 43 55.9 +1.3**
PCBR *i* IAmb IAmb 15 44 09.2
comp=Z,18nm,1.5s
POLO Lamas de Olo 26.96 289 *e*P **P 15 43 59.3 +3.5**
EKA Eskdalemuir Ar 27.03 321 P **P 15 43 55.8 -0.4**
comp=Z,2.0nm,0.9s,baz=118,slow=9.5,SNR=4.6
comp=Z,2.0nm,0.9s
PESTR Estremoz 27.05 284 *e*P **P 15 43 59.1 +2.6**
PESTR *i* IAmb IAmb 15 44 27.2
comp=Z,19nm,1.9s
PVIS Viseu 27.08 288 *e*P **P 15 43 58.8 +1.9**
PVAQ Vaqueiros 27.38 281 *e*P **P 15 44 00.8 +1.3**
PVAQ *e*S S 15 48 57.2 +18
PVAQ *e*LR LR 15 55 54.5
PVAQ *i* IAMs_20 IAMs_20 15 58 24.7
comp=Z,82nm,18.0s
PBEJ Beja 27.39 282 *e*P **P 15 44 01.5 +1.9**
PMTG Montargil 27.51 284 *e*P **P 15 44 02.7 +2.1**
PBDV Barranco-do-Ve 27.58 280 *e*P **P 15 44 06.9 +5.5**
PCVE Castro Verde 27.59 281 *e*P **P 15 44 06.2 +4.8**
MESJ Messejana 27.70 282 *e*P **P 15 44 06.7 +4.3**
MESJ Messejana 27.70 282 *e*P **P 15 44 06.6 +4.3**
PARRA Arraiolos 28.17 284 *e*P **P 15 44 02.9 -3.7**
ARTI Arti 28.26 38 LR LR 15 58 16.9
comp=Z,110nm,18.1s,baz=315,slow=42
ARTI Arti 28.26 38 P **P 15 44 10.4 +3.2**
ARTI 15 44 58.8
ARTI S **S 15 48 59.2 +6.6**
ARTI SS **SnSn 15 50 16.5 +7.2**
ARCES ARCESS Array B 32.12 359 P **P 15 44 41.3 +0.1**
comp=Z,2.8nm,0.9s,baz=178,slow=7.9,SNR=8.5
ARCES LR LR 15 59 00.4
comp=Z,173nm,20.7s,baz=186,slow=39
comp=Z,2.8nm,0.9s
SIMJ Simiganj 32.98 75 **P 15 44 48.7 -0.5**
TORD Torodi Ar. Bea 33.05 229 **P 15 44 48.9 -1.0**
TORD Torodi Ar. Bea 33.05 229 P **P 15 44 49.6 -0.2**
comp=Z,5.8nm,0.8s,baz=35,slow=10,SNR=27
comp=Z,5.8nm,0.8s
KKAR Karatay Array 33.46 66 **P 15 44 53.6 +0.5**
KKAR Karatay Array 33.46 66 P **P 15 44 53.7 +0.5**
BVAR Borovoye Array 33.75 48 P **P 15 44 56.5 +0.9**
comp=Z,0.6nm,0.5s,baz=240,slow=6.0,SNR=8.3
BVAR LR LR 16 01 32.5
comp=Z,158nm,18.4s,baz=225,slow=41

comp=Z,0.6nm,0.5s
LODK Lodwar 34.78 165 P **P 15 45 03.9 -1.0**
AAK Ala-Archa 36.42 67⇑ *e*P **P 15 45 20.5 +1.6**
AAK pmax pmax
comp=Z,14nm,1.1s
NIL Nilore 37.62 82 **P 15 45 29.4 +0.3**
NIL IAmb IAmb 15 45 35.9
comp=Z,10.0nm,0.8s
NIL Nilore 37.62 82 P **P 15 45 29.4 +0.3**
NIL pmax pmax
comp=Z,10.0nm,0.8s
KSH Kashi 38.09 71 P **P 15 45 33.5 +0.4**
KSH pP pP 15 45 37.3 0.0
KSH sP sP 15 45 40.0 +1.0
KSH pmax pmax
comp=Z,4.0nm,1.5s
JMIC Jan Mayen 38.28 342 LR LR 16 02 52.6
comp=Z,112nm,18.6s,baz=72,slow=39
KURBB Kurchatov Arra 38.60 53 P **P 15 45 38.2 +1.1**
comp=Z,18nm,0.9s,baz=278,slow=8.7,SNR=24
KURBB LR LR 16 03 38.8
comp=Z,117nm,19.3s,baz=180,slow=40
comp=Z,18nm,0.9s
KURK Kurchatov 38.66 53 **P 15 45 38.5 +1.0**
KURK IAmb IAmb 15 45 43.4
comp=Z,13nm,0.8s
KURK Kurchatov 38.66 53*d* *i*P **P 15 45 38.4 +0.9**
KURK pmax pmax
comp=Z,16nm,0.9s
BORG Borgarnes 39.22 330 LR LR 16 03 02.9
comp=Z,112nm,18.6s,baz=116,slow=38
KMBO Kilima Mbogo 39.60 164 LR LR 16 03 53.7
comp=Z,73nm,18.4s,baz=101,slow=39
SPITS Spitsbergen Ar 41.05 357 LR LR 16 04 09.0
comp=Z,189nm,20.2s,baz=170,slow=38
MK31 Makanchi Array 41.36 59*d* *i*P **P 15 46 01.0 +0.9**
MKAR Makanchi Array 41.36 59 **P 15 46 01.4 +1.3**
MKAR Makanchi Array 41.36 59 P **P 15 46 01.3 +1.2**
comp=Z,8.5nm,0.7s,baz=281,slow=6.9,SNR=39
MKAR LR LR 16 05 02.8
comp=Z,96nm,21.5s,baz=262,slow=39
comp=Z,8.5nm,0.7s
DBIC Dimbokro 42.10 231 P **P 15 46 05.5 -0.9**
comp=Z,6.1nm,0.8s,baz=54,slow=8.6,SNR=5.9
DBIC LR LR 16 04 19.6
comp=Z,63nm,18.2s,baz=71,slow=37
comp=Z,6.1nm,0.8s
ZAA0 Zalesovo Array 42.41 48 **P 15 46 08.5 0.0**
ZAA0 IAmb IAmb 15 46 14.0
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 42.41 48 **P 15 46 08.6 +0.1**
ZALV Zalesovo Beam 42.41 48 P **P 15 46 08.7 +0.3**
comp=Z,6.4nm,0.7s,baz=270,slow=7.7,SNR=13
ZALV LR LR 16 07 06.3
comp=Z,83nm,18.9s,baz=285,slow=41
comp=Z,6.4nm,0.7s
EVN Everest 50.57 82 **P 15 47 13.1 -0.6**
EVN IAmb IAmb 15 47 20.1
comp=Z,6.0nm,0.8s
SFJD Kangerlussuaq 51.33 331 LR LR 16 08 37.5
comp=Z,147nm,21.2s,baz=96,slow=36
LSA Lhasa 53.19 78 IAmb IAmb 15 47 40.8
comp=Z,7.3nm,1.0s
ZAK Zakamensk 54.18 50 *e*P **P 15 47 40.0 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
GTA Gaotai 55.66 64 P **P 15 47 50.5 0.0**
GTA pP pP 15 47 55.0 +0.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 56.95 52 **P 15 47 59.6 0.0**
SONM IAmb IAmb 15 48 05.6
comp=Z,5.7nm,1.0s
SONM Songino Array 56.95 52 P **P 15 48 00.1 +0.6**
comp=Z,2.3nm,0.9s,baz=286,slow=8.4,SNR=14
SONM LR LR 16 14 48.7
comp=Z,96nm,18.1s,baz=296,slow=38
comp=Z,2.3nm,0.9s
TSUM Tsumeb 57.05 190 LR LR 16 13 53.4
comp=Z,103nm,18.6s,baz=341,slow=38
PALK Pallekele 57.17 108 LR LR 16 14 54.0
comp=Z,46nm,18.6s,baz=325,slow=38
ULN Ulaanbaatar 57.35 52 **P 15 48 02.6 +0.2**
ULN IAmb IAmb 15 48 08.5
comp=Z,5.5nm,0.8s
ULN Ulaanbaatar 57.35 52*d* *i*P **P 15 48 03.3 +0.9**
ULN pmax pmax
comp=Z,6.0nm,0.8s
MATP Matopo 57.62 178 LR LR 16 14 39.3
comp=Z,117nm,18.2s,baz=40,slow=38
TIXI Tiksi 58.51 21 LR LR 16 18 09.9
comp=Z,97nm,18.6s,baz=319,slow=41
FRB Frobisher Bay 59.39 329 LR LR 16 17 57.9
comp=Z,44nm,18.2s,baz=62,slow=40
MREMI Moremi 59.73 179 **P 15 48 20.1 +1.1**
KGCAE Kacgae 60.17 185 P **P 15 48 22.7 +0.6**
KOOLE Kule 60.48 187 P **P 15 48 25.0 +0.8**
RES Resolute Bay 61.79 345 LR LR 16 16 53.1
comp=Z,56nm,19.2s,baz=12,slow=38
SCHQ Schefferville 62.33 319 LR LR 16 14 47.2
comp=Z,504nm,18.3s,baz=74,slow=35
YAK Yakutsk 63.17 31 LR LR 16 18 08.8
comp=Z,53nm,19.4s,baz=300,slow=38
YAK Yakutsk 63.17 31*ce* P **P 15 48 45.8 +4.0**
YAK pmax pmax
comp=Z,12nm,1.0s
XAN Xi'an 64.59 66 P **P 15 48 53.5 +1.8**
XAN pmax pmax
comp=Z,18nm,1.1s
XLT XiLinHaoTe 64.74 53 *e*P **P 15 48 50.5 -2.0**
XLT sP sP 15 48 58.5 0.0
XLT pmax pmax
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 64.96 85 P **P 15 48 54.7 +0.5**
comp=Z,1.1nm,0.6s,baz=301,slow=8.0,SNR=8.2
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 64.96 85*ce* P **P 15 48 55.0 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
BOSA Boshof 65.77 182 P **P 15 48 59.6 +0.4**
comp=Z,3.5nm,0.7s,baz=360,slow=4.8,SNR=6.4
BOSA LR LR 16 21 37.4
comp=Z,77nm,18.9s,baz=11,slow=40
comp=Z,3.5nm,0.7s
ENH Enshi 66.89 69 P **P 15 49 05.9 -0.7**
SEY Seymchan 70.88 23 LR LR 16 22 32.6
comp=Z,52nm,21.4s,baz=325,slow=38
MA2 Magadan 72.79 26 LR LR 16 24 11.8
comp=Z,50nm,20.7s,baz=302,slow=38
INK Inuvik 73.51 353 LR LR 16 26 40.9
comp=Z,33nm,18.7s,baz=28,slow=40
E28M Babbage River 73.75 355 **P 15 49 48.2 +0.4**
E28M IAmb IAmb 15 49 56.8
comp=Z,11nm,1.4s
E29M Blow River 73.83 354 **P 15 49 48.5 +0.2**
USRK Ussuriysk Ar. 74.22 46 P **P 15 49 51.0 0.0**
comp=Z,1.4nm,0.7s,baz=316,slow=8.0,SNR=4.4
comp=Z,1.4nm,0.7s
SADO Sadowa 74.41 315 LR LR 16 20 57.7
comp=Z,551nm,20.8s,baz=73,slow=34
E25K Arctic Village 74.56 357 IAmb IAmb 15 50 02.5
comp=Z,8.5nm,1.3s
E23K Chandalar 74.75 359 IAmb IAmb 15 49 56.0
comp=Z,9.5nm,1.5s
E19K Redstone River 75.34 2 IAmb IAmb 15 50 06.9
comp=Z,7.5nm,1.1s
F21K Alatna River 75.62 0 IAmb IAmb 15 50 09.5
comp=Z,13nm,1.4s
YKA Yellowknife Ar 75.66 343 P **P 15 49 58.5 -0.4**
comp=Z,0.7nm,0.8s,baz=35,slow=6.2,SNR=6.6
YKA LR LR 16 24 19.9
comp=Z,94nm,19.5s,baz=324,slow=37
comp=Z,0.7nm,0.8s
KSAR Wonju Array Be 75.76 54 **P 15 50 00.0 0.0**
KSAR Wonju Array Be 75.76 54 P **P 15 50 00.0 0.0**
F20K Avaraart Lake 75.78 1 P **P 15 50 00.5 +0.9**
F20K IAmb IAmb 15 50 10.2
comp=Z,6.7nm,1.2s
KSRS Korea Array 75.78 54 P **P 15 50 00.2 +0.1**
comp=Z,2.2nm,0.9s,baz=310,slow=5.0,SNR=9.1
comp=Z,2.2nm,0.9s
F19K Shaleruckik Mo 75.95 2 **P 15 50 02.3 +1.8**
F19K IAmb IAmb 15 50 10.4
comp=Z,11nm,1.2s
G19K Purcell Mounta 76.66 2 **P 15 50 05.2 +0.6**
G19K IAmb IAmb 15 50 14.5
comp=Z,11nm,1.2s

I30M	**Mount Dempster**	**76.80**	**353**	IAmb	IAmb	15 50 14.7
	comp=Z,6.7nm,1.1s					
I29M	**Ogilvie Camp,**	**76.84**	**354**	IAmb	IAmb	15 50 14.7
	comp=Z,7.4nm,0.9s					
H21K	**Melozitna Rive**	**77.19**	**360**	IAmb	IAmb	15 50 20.4
	comp=Z,13nm,1.5s					
I23K	**Minto, Yukon-K**	**77.66**	**358**	IAmb	IAmb	15 50 20.3
	comp=Z,9.7nm,1.4s					
MLY	**Manley**	**77.81**	**359**	IAmb	IAmb	15 50 16.5
	comp=Z,9.3nm,1.4s					
ILAR	**Eielson Array**	**77.97**	**357**	P	**P**	**15 50 13.9 +1.9**
	comp=Z,0.4nm,0.9s,baz=6.4,slow=3.0,SNR=9.6					
ILAR				LR	LR	16 25 36.9
	comp=Z,42nm,20.4s,baz=50,slow=36					
	comp=Z,0.4nm,0.9s					
WRH	**Wood River Hil**	**78.31**	**358**	IAmb	IAmb	15 50 23.1
	comp=Z,9.1nm,1.0s					
MDP	**Montagnes des**	**78.61**	**268**	LR	LR	16 24 31.1
	comp=Z,24nm,19.8s,baz=303,slow=35					
DOT	**Dot Lake**	**78.95**	**356**	IAmb	IAmb	15 50 27.4
	comp=Z,6.8nm,1.2s					
ULM	**Lac du Bonnet**	**79.15**	**327**	LR	LR	16 26 01.1
	comp=Z,60nm,19.0s,baz=12,slow=36					
BCAR	**Beaver Creek A**	**79.38**	**355**		**P**	**15 50 20.0 +0.2**
CAST	**Castle Rocks**	**79.44**	**360**	IAmb	IAmb	15 50 29.6
	comp=Z,7.7nm,1.2s					
DHY	**Denali Highway**	**79.68**	**357**	IAmb	IAmb	15 50 31.4
	comp=Z,8.6nm,1.1s					
ASAJ	**Asahikawa**	**80.11**	**41**	LR	LR	16 28 29.7
	comp=Z,42nm,19.7s,baz=327,slow=38					
PETK	**Petropavlovsk-**	**80.22**	**28**	LR	LR	16 30 43.2
	comp=Z,31nm,18.4s,baz=309,slow=39					
JNU	**Nakatsue**	**80.32**	**56**	LR	LR	16 31 49.9
	comp=Z,25nm,19.9s,baz=29,slow=40					
WHY	**Whitehorse**	**81.07**	**351**	IAmb	IAmb	15 50 33.2
	comp=Z,4.5nm,0.7s					
DLBC	**Dease Lake**	**82.51**	**348**	LR	LR	16 29 30.9
	comp=Z,74nm,19.4s,baz=16,slow=37					
MJAR	**Matsushiro Arr**	**82.75**	**49**	LR	LR	16 30 17.2
	comp=Z,46nm,19.4s,baz=298,slow=38					
TKL	**Tuckaleechee C**	**82.93**	**310**	LR	LR	16 25 18.5
	comp=Z,26nm,21.3s,baz=60,slow=34					
KDAK	**Kodiak Island**	**85.09**	**360**	LR	LR	16 34 03.3
	comp=Z,21nm,18.1s,baz=24,slow=39					
SHEM	**Shemya Is, Ala**	**85.74**	**19**	LR	LR	16 32 01.6
	comp=Z,30nm,18.9s,baz=290,slow=38					
BDFB	**Brasilia**	**87.86**	**249**	P	**P**	**15 51 04.9 +0.9**
	comp=Z,2.2nm,0.4s,baz=19,slow=4.3,SNR=3.9					
BDFB				LR	LR	16 31 12.9
	comp=Z,78nm,19.2s,baz=156,slow=36					
	comp=Z,2.2nm,0.4s					
BBB	**Bella Bella**	**88.08**	**345**	LR	LR	16 31 51.2
	comp=Z,59nm,20.2s,baz=37,slow=36					
PDAR	**Pinedale Array**	**90.84**	**330**	LR	LR	16 33 33.9
	comp=Z,45nm,19.4s,baz=20,slow=37					
ANMO	**Albuquerque**	**95.91**	**323**	LR	LR	16 34 32.8
	comp=Z,58nm,22.0s,baz=132,slow=35					
NVAR	**Mina Array Bea**	**97.93**	**333**	LR	LR	16 39 46.7
	comp=Z,55nm,19.0s,baz=80,slow=38					
TXAR	**Lajitas Array**	**98.99**	**318**	LR	LR	16 36 18.7
	comp=Z,20nm,18.5s,baz=40,slow=35					
WRA	**Warramunga Arr**	**115.46**	**96**	PKP	**PKPdf**	**15 56 55.3 -1.2**
	comp=Z,0.5nm,0.7s,baz=313,slow=1.8,SNR=8.1					
ASAR	**Alice Springs**	**117.09**	**100**	PKP	**PKPdf**	**15 56 58.4 -1.1**
	comp=Z,0.7nm,0.6s,baz=314,slow=1.4,SNR=18					
JOHN	**Johnston Islan**	**123.91**	**19**	*e*LR	LR	16 35 38.5
	comp=Z,137nm,28.0s					
QSPA	**South Pole Qui**	**127.33**	**180**	PKP	**PKPdf**	**15 57 18.0 +0.1**
	comp=Z,0.5nm,0.7s,baz=259,slow=1.2,SNR=5.9					
DZM	**Mont Dzumac**	**142.00**	**78**	*e*LR	LR	16 44 00.4
	comp=Z,55nm,31.6s					
PPT2	**Papeete2**	**159.94**	**350**	*e*LR	LR	16 52 18.7
	comp=Z,48nm,25.8s					
RAR	**Rarotonga**	**162.79**	**21**	*e*LR	LR	16 53 36.9
	comp=Z,63nm,29.0s					
TBI	**Tubuai**	**165.57**	**346**	*e*LR	LR	16 54 50.0
	comp=Z,804nm,32.5s					

*JMA **30** 15:50:33.6±0.2, 43°.2N±0°.6×145°.8E±0°.8, h45km±1km, MV2.3/30, OFF NEMURO PENINSULA*
SKHL 30 15:50:33.7±0.4, 43°.10N×145°.90E, h37km±2km, mb4.3/3, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.29**	**337**	*i* P	Pn	15 50 41.4	-0.5
NEM2				S	Sn	15 50 46.6	-2.5
NMR	**Nemuro--Hokkai**	**0.30**	**335**	*i* S	Sn	15 50 46.6	-2.4
NMR	**Nemuro--Hokkai**	**0.30**	**335**	*i* P	Pn	15 50 41.4	-0.5
NMR				AMB	AMB	15 50 41.6	
	60nm,0.2s						
NMR				*i* S	Sn	15 50 47.0	-2.0
NMR				A	A	15 50 47.4	
	690nm,0.2s						
NMR				A	A	15 50 47.4	
	510nm,0.2s						
NMR	**Nemuro--Hokkai**	**0.30**	**335**	*i* P	Pn	15 50 41.4	-0.5
JKHN	**Kushirohamanak**	**0.54**	**268**	P	Pn	15 50 44.5	-0.4
AKK	**Akkeshi**	**0.78**	**264**	*i* P	Pn	15 50 47.1	-1.0
AKK				*i* S	Sn	15 50 57.0	-1.6
JAK	**Akkeshi**	**0.89**	**264**	P	Pn	15 50 48.6	-1.0
JAK				*e*S	Sn	15 50 59.7	-1.6
YUK	**Yuzh-Kuril'sk**	**0.94**	**358**	*e*P	Pn	15 50 49.2	-1.1
YUK				AMB	AMB	15 50 49.9	
	320nm,0.2s						
YUK				*e*S	Sn	15 51 01.0	-1.4
YUK				A	A	15 51 02.0	
	190nm,0.2s						
YUK				A	A	15 51 02.0	
	380nm,0.2s						
JNSB	**Nemuroshibetsu**	**0.94**	**316**	P	Pn	15 50 49.0	-1.3
JNK	**Nakash**	**0.99**	**300**	P	Pn	15 50 49.6	-1.4
JNK				S	Sn	15 51 01.1	-2.6
JRA	**Rausu**	**1.01**	**326**	P	Pn	15 50 50.4	-0.9
JRA				S	Sn	15 51 02.7	-1.6
SHO	**Shikotan**	**1.02**	**41**	*e*P	Pn	15 50 55.8	+4.3
SHO				AMB	AMB	15 50 56.2	
	60nm,0.2s						
SHO				*e*S	Sn	15 51 06.2	+1.6
SHO				A	A	15 51 06.8	
	1μm,0.2s						
SHO				A	A	15 51 06.8	
	1μm,0.2s						
JTKR	**Abashiri--Toko**	**1.69**	**302**	P	Pn	15 51 00.3	-0.3
KUR	**Kuril'sk**	**2.56**	**33**	*e*S	Sn	15 51 41.6	-0.8
KUR				A	A	15 51 50.4	
	50nm,0.2s						
KUR				A	A	15 51 50.4	
	70nm,0.2s						

*ISK **30** 15:55:54.5, 37°.55N×26°.76E, h10km, ML2.9/17*
*THE **30** 15:55:55.9, 38°N±7°×2°7E±°, h10km±12km, M2.9/5, MLh2.9/5*
*ATH **30** 15:55:55.0, 37°.58N×26°.87E, h17km±2km, ML2.8/4, Manual Solution by G.Panopoulou First location: 2019/08/30 15:57:32, This location: 2019/08/30 17:15:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km*
*AFAD **30** 15:55:55.1, 37°.56N×26°.80E, h7km±1km, ML2.7*
ISC 30 15:55:55.2±0.9, 37°.56N±0°.02×26°.83E±0°.03, h15km±6km, n39, σ0°.70/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.15**	**2**	P	**Pg**	**15 55 59.0**	**-0.1**
SMG				S	**Sg**	**15 56 01.8**	**+0.1**
SMG	**Samos**	**0.15**	**2**	P	**Pg**	**15 55 59.0**	**-0.1**
SMG				S	**Sg**	**15 56 01.9**	**+0.1**
DDIM	**Aydin, Didim**	**0.34**	**107**	P	**Pb**	**15 56 02.7**	**-0.4**
DDIM				S	**Sb**	**15 56 08.3**	**0.0**
DDIM				*i* IAML		15 56 09.0	
	comp=N,614nm,0.3s						
DDIM				*i* IAML		15 56 09.0	
	comp=E,592nm,0.8s						
GCAM	**G?zelcaml?**	**0.35**	**66**	P	**Pb**	**15 56 02.8**	**-0.3**
GCAM				S	**Sb**	**15 56 08.4**	**-0.1**
GCAM				*i* IAML		15 56 09.0	
	comp=N,2μm,0.6s						
GCAM				*i* IAML		15 56 09.0	
	comp=E,2μm,0.5s						
DGB	**zmir**	**0.49**	**5**	P	**Pb**	**15 56 05.0**	**-0.6**
DGB				S	**Sb**	**15 56 12.5**	**-0.1**
DGB				*i* IAML		15 56 13.0	
	comp=N,728nm,0.1s						
DGB				*i* IAML		15 56 13.0	
	comp=E,791nm,0.1s						
GMLD	**Gumuldur**	**0.52**	**7**	Pg	**Pg**	**15 56 05.4**	**-0.1**
GMLD				Sg	**Sb**	**15 56 13.4**	**0.0**
BDRM	**Kayabasi**	**0.70**	**135**	P	**Pb**	**15 56 08.9**	**-0.2**
BDRM				S	**Sb**	**15 56 18.7**	**+0.2**
BDRM				*i* IAML		15 56 20.0	
	comp=E,244nm,0.6s						
AYDN	**Tasoluk**	**0.84**	**83**	P	**Pb**	**15 56 11.6**	**+0.1**
AYDN				S	**Sn**	**15 56 23.8**	**-0.9**
AYDN				*i* IAML		15 56 27.0	
	comp=E,339nm,0.6s						
AYDN				*i* IAML		15 56 29.0	
	comp=N,200nm,0.3s						
BLCB	**Balcova**	**0.84**	**11**	Pg	**Pb**	**15 56 11.7**	**+0.1**
BLCB				Sg	**Sn**	**15 56 23.8**	**-0.9**
BLCB	**Balcova**	**0.84**	**11**	P	**Pb**	**15 56 11.4**	**-0.1**
BLCB				S	**Sb**	**15 56 23.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.93**	**65**	Pg	**Pn**	**15 56 13.9**	**+0.1**
AYDB				Sg	**Sn**	**15 56 27.8**	**+0.9**
DAT	**Datca**	**1.02**	**144**	P	**Pb**	**15 56 14.9**	**+0.2**
DAT				S	**Sn**	**15 56 29.7**	**+0.4**
IZMR	**zmir-demi**	**1.06**	**57**	P	**Pn**	**15 56 15.4**	**-0.1**
IZMR				S	**Sn**	**15 56 29.2**	**-0.9**
IZMR				*i* IAML		15 56 34.0	
	comp=E,196nm,0.4s						
IZMR				*i* IAML		15 56 36.0	
	comp=N,109nm,0.4s						
ASTA	**Astypalaia**	**1.08**	**201**	P	**Pb**	**15 56 15.7**	**0.0**
FOCM	**Foa**	**1.15**	**356**	Pn	**Pn**	**15 56 17.4**	**+0.5**
FOCM				Sn	**Sn**	**15 56 33.9**	**+1.5**
ODEM	**Odemis-Izmir**	**1.22**	**54**	Pn	**Pg**	**15 56 18.9**	**+0.2**
NAZL	**Nazilli-Aydin**	**1.23**	**70**	Pn	**Pg**	**15 56 18.3**	**-0.6**
GOMA	**Golmarmara-Man**	**1.43**	**36**	Pn	**Pg**	**15 56 21.9**	**-0.8**
THERA	**Ancient Thera,**	**1.61**	**223**	P	**Pn**	**15 56 24.7**	**+1.5**
THERA				S	**Sg**	**15 56 47.2**	**+0.1**
THERA	**Ancient Thera,**	**1.61**	**223**	P	**Pn**	**15 56 22.2**	**-0.9**
SOMA	**Soma-Manisa**	**1.69**	**19**	Pn	**Pb**	**15 56 25.4**	**-0.6**
ARG	**Arkhangelos**	**1.70**	**142**	P	**Pn**	**15 56 24.2**	**-0.2**
GORD	**Gordes-Manisa**	**1.71**	**38**	Pn	**Pb**	**15 56 26.1**	**-0.4**
KULA	**Kula-Manisa**	**1.73**	**56**	Pn	**Pb**	**15 56 26.6**	**-0.2**
PRK	**Paraskevi**	**1.74**	**346**	P	**Pn**	**15 56 24.2**	**-0.7**
SIGR	**SIGRI**	**1.82**	**335**	Pn	**Pn**	**15 56 25.9**	**-0.1**
SIGR	**SIGRI**	**1.82**	**335**	P	**Pn**	**15 56 25.7**	**-0.3**
SIGR	**SIGRI**	**1.82**	**335**	P	**Pn**	**15 56 25.5**	**-0.4**
KARY	**Karystos**	**1.95**	**285**	P	**Pn**	**15 56 26.6**	**-1.2**
APMY	**Acipayam-Deniz**	**1.97**	**92**	Pn	**Pb**	**15 56 29.8**	**-1.0**
YAYO	**Edremit-Balk**	**2.06**	**5**	Pn	**Pn**	**15 56 30.7**	**+1.4**
EZN	**Ezine**	**2.30**	**350**	Pn	**Pn**	**15 56 34.2**	**+1.6**
DION	**Dionisos Attik**	**2.35**	**284**	P	**Pn**	**15 56 33.7**	**+0.4**
PTL	**Penteli**	**2.40**	**283**	P	**Pn**	**15 56 34.4**	**+0.3**
VLY	**Voula,Athens**	**2.43**	**278**	P	**Pn**	**15 56 34.3**	**0.0**
LIA	**Limnos Island**	**2.67**	**332**	P	**Pn**	**15 56 37.8**	**+0.1**
IDI	**Anoyia**	**2.75**	**215**	P	**Pn**	**15 56 39.5**	**+0.5**
TVSB	**Tavsanli**	**2.80**	**47**	Pn	**Pn**	**15 56 41.5**	**+1.9**
GELI	**Tayfur-Gelibol**	**2.85**	**355**	Pn	**Pn**	**15 56 40.8**	**+0.7**

*ISK **30** 15:57:33.7, 37°.57N×26°.84E, h12km, ML2.8/6*
*AFAD **30** 15:57:34.5, 37°.61N×26°.85E, h7km±1km, ML2.3*
ISC 30 15:57:34.0±1.6, 37°.58N±0°.04×26°.86E±0°.07, h6km±12km, n11, σ0°.63/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDIM	**Aydin, Didim**	**0.33**	**111**	P	**Pg**	**15 57 39.1**	**-1.2**
DDIM				S	**Sb**	**15 57 46.8**	**-0.9**
DGB	**zmir**	**0.48**	**2**	P	**Pg**	**15 57 43.4**	**+0.1**
DGB				*i* IAML		15 57 55.0	
	comp=N,294nm,0.3s						
DGB				*i* IAML		15 57 56.0	
	comp=E,225nm,0.2s						
BDRM	**Kayabasi**	**0.69**	**137**	P	**Pb**	**15 57 48.6**	**+0.1**
BDRM				S	**Sg**	**15 57 57.5**	**+1.2**
BDRM				*i* IAML		15 58 01.0	
	comp=E,169nm,0.3s						
AYDN	**Tasoluk**	**0.81**	**84**	P	**Pg**	**15 57 50.3**	**+0.6**
AYDN				S	**Sb**	**15 58 01.7**	**-0.2**
AYDN				*i* IAML		15 58 03.0	
	comp=E,154nm,0.4s						
AYDN				*i* IAML		15 58 05.0	
	comp=N,198nm,0.4s						
BLCB	**Balcova**	**0.82**	**10**	Pg	**Pb**	**15 57 50.2**	**-0.5**
BLCB				Sg	**Sb**	**15 58 02.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**65**	Pg	**Pb**	**15 57 52.1**	**0.0**
AYDB				Sg	**Sb**	**15 58 04.7**	**+0.4**
DAT	**Datca**	**1.02**	**146**	Pg	**Pg**	**15 57 53.7**	**+0.1**
IZMR	**zmir-demi**	**1.03**	**57**	P	**Pn**	**15 57 54.5**	**-0.5**
IZMR				S	**Sg**	**15 58 07.3**	**+0.2**
IZMR				*i* IAML		15 58 13.0	
	comp=E,85nm,0.4s						
ODEM	**Odemis-Izmir**	**1.19**	**54**	Pn	**Pn**	**15 57 56.9**	**-0.4**
NAZL	**Nazilli-Aydin**	**1.20**	**71**	Pn	**Pb**	**15 57 56.8**	**-0.4**
NAZL				Sn	**Sn**	**15 58 14.3**	**+0.3**
KULA	**Kula-Manisa**	**1.70**	**56**	Pn	**Pn**	**15 58 04.8**	**+0.5**

*THE **30** 16:20:26.9, 38°N±26°×2°7E±2°2, h8km±20km, M2.7/4, MLh2.7/4*
*ISK **30** 16:20:26.2, 37°.52N×26°.82E, h4km, ML2.7/15*
*AFAD **30** 16:20:27.7, 37°.52N×26°.88E, h7km±3km, ML2.4*
ISC 30 16:20:26.9±1.1, 37°.52N±0°.03×26°.81E±0°.03, h9km±10km, n28, σ0°.66/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.19**	**6**	P	**Pg**	**16 20 30.4**	**-0.4**
SMG				S	**Sg**	**16 20 33.1**	**-0.4**
DDIM	**Aydin, Didim**	**0.35**	**101**	P	**Pg**	**16 20 34.4**	**+0.6**
DDIM				S	**Sb**	**16 20 40.0**	**-1.0**
DDIM				*i* IAML		16 20 41.0	
	comp=N,710nm,0.3s						
DDIM				*i* IAML		16 20 41.0	
	comp=E,1μm,0.2s						
GCAM	**G?zelcaml?**	**0.38**	**62**	Pg	**Pg**	**16 20 34.5**	**+0.1**
GCAM				Sg	**Sg**	**16 20 40.2**	**+0.8**
GCAM	**G?zelcaml?**	**0.38**	**62**	P	**Pg**	**16 20 34.2**	**-0.2**
GCAM				S	**Sg**	**16 20 39.9**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.55**	**137**	Pg	**Pg**	**16 20 37.7**	**+0.2**
YKAV				Sg	**Sg**	**16 20 45.4**	**+0.8**
GMLD	**Gumuldur**	**0.56**	**8**	Pg	**Pg**	**16 20 37.5**	**-0.3**
AYDN	**Tasoluk**	**0.86**	**80**	P	**Pg**	**16 20 43.6**	**+0.1**
AYDN				S	**Sg**	**16 20 54.5**	**-0.2**
AYDN				*i* IAML		16 20 56.0	
	comp=N,277nm,0.4s						
AYDN				*i* IAML		16 20 56.0	
	comp=E,253nm,0.4s						
BLCB	**Balcova**	**0.88**	**12**	Pg	**Pg**	**16 20 43.2**	**-0.7**
BLCB	**Balcova**	**0.88**	**12**	P	**Pg**	**16 20 43.2**	**-0.7**
BLCB				S	**Sg**	**16 20 55.7**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.95**	**63**	Pg	**Pg**	**16 20 44.9**	**-0.4**
YAZI	**Mula-Dat§a-**	**0.98**	**148**	P	**Pb**	**16 20 46.4**	**+0.3**
YAZI				S	**Sb**	**16 20 59.9**	**+0.7**
YAZI				*i* IAML		16 21 02.0	
	comp=N,140nm,0.6s						
YAZI				*i* IAML		16 21 02.0	
	comp=E,136nm,0.3s						
DAT	**Datca**	**1.00**	**142**	Pg	**Pg**	**16 20 45.9**	**-0.3**
CHOS	**Chios island**	**1.05**	**325**	P	**Pg**	**16 20 46.5**	**-0.6**
CHOS				S	**Sg**	**16 21 01.1**	**+0.3**
FOCM	**Foa**	**1.19**	**357**	Pn	**Pg**	**16 20 49.7**	**-0.1**
MULA	**Mugla, Merkez-**	**1.23**	**102**	P	**Pg**	**16 20 49.9**	**-0.6**
MULA				*i* IAML		16 21 09.0	
	comp=N,48nm,0.7s						
MULA				*i* IAML		16 21 10.0	
	comp=E,67nm,0.6s						
ESEN	**Aydn-Nazilli**	**1.25**	**77**	P	**Pn**	**16 20 49.6**	**-1.0**
ESEN				S	**Sg**	**16 21 05.7**	**-1.5**
ESEN				*i* IAML		16 21 10.0	
	comp=N,68nm,0.4s						
ESEN				*i* IAML		16 21 10.0	
	comp=E,52nm,0.6s						
ODEM	**Odemis-Izmir**	**1.25**	**53**	Pn	**Pb**	**16 20 50.6**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.25**	**69**	Pn	**Pn**	**16 20 49.9**	**-0.8**
TURN	**Turunc**	**1.37**	**123**	Pn	**Pn**	**16 20 52.4**	**+0.2**
THERA	**Ancient Thera,**	**1.57**	**223**	P	**Pn**	**16 20 54.2**	**-0.8**
ARG	**Arkhangelos**	**1.68**	**141**	Pn	**Pn**	**16 20 55.8**	**-0.7**
SOMA	**Soma-Manisa**	**1.73**	**19**	Pn	**Pn**	**16 20 57.8**	**+0.6**
GORD	**Gordes-Manisa**	**1.75**	**37**	Pn	**Pn**	**16 20 58.3**	**+0.7**
KULA	**Kula-Manisa**	**1.76**	**55**	Pn	**Pn**	**16 20 58.3**	**+0.5**
PRK	**Paraskevi**	**1.77**	**346**	P	**Pb**	**16 20 60.0**	**+0.3**
SIGR	**SIGRI**	**1.85**	**336**	Pn	**Pn**	**16 20 59.7**	**+0.9**
CAME	**Cameli-Denizli**	**2.07**	**105**	Pn	**Pn**	**16 21 02.7**	**+0.7**
YAYO	**Edremit-Balk**	**2.10**	**6**	Pn	**Pn**	**16 21 03.2**	**+1.0**

*IDC **30** 16:23:52.8±0.9, 37°.53N×26°.87E, h0km, mb3.7/6, mbtmp3.7/12, ML3.4/3, MS2.8/2, Error ellipse: s-maj=21.4km s-min=15.7km az=156.0*
*ISK **30** 16:23:54.4, 37°.55N×26°.79E, h12km, ML3.6/36*
*AFAD **30** 16:23:54.8, 37°.54N×26°.80E, h7km±2km, MW3.6*
*THE **30** 16:23:55.1, 38°N±1°×2°7E±°, h13km±4km, M3.6/10, MLh3.6/10*
*ATH **30** 16:23:55.0, 37°.60N×26°.88E, h17km±2km, ML3.4/16, Manual Solution by G.Panopoulou First location: 2019/08/30 16:25:15, This location: 2019/08/30 16:41:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 30 16:23:54.9±0.9, 37°.56N±0°.02×26°.81E±0°.02, h19km±2km, n116, σ1°30/145, mb3.6/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.15**	**7**	P	**Pg**	**16 23 58.7**	**-0.7**
SMG				S	**Sg**	**16 24 01.4**	**-1.0**
SMG	**Samos**	**0.15**	**7**	P	**Pg**	**16 23 58.8**	**-0.6**
SMG				S	**Sg**	**16 24 01.3**	**-1.1**
DDIM	**Aydin, Didim**	**0.35**	**106**	P	**Pb**	**16 24 02.6**	**-0.1**
DDIM				*i* IAML		16 24 08.0	
	comp=N,6μm,0.3s						
DDIM				S	**Sb**	**16 24 08.3**	**+0.4**
DDIM				*i* IAML		16 24 10.0	
	comp=E,4μm,0.6s						
GCAM	**G?zelcaml?**	**0.36**	**66**	Pg	**Pg**	**16 24 02.5**	**-0.1**
GCAM				Sg	**Sb**	**16 24 08.1**	**-0.2**
GCAM	**G?zelcaml?**	**0.36**	**66**	P	**Pg**	**16 24 02.6**	**0.0**
GCAM				S	**Sb**	**16 24 08.3**	**0.0**
DIDI	**Didim-Aydin**	**0.38**	**118**	Pg	**Pg**	**16 24 02.9**	**0.0**
DIDI				Sg	**Sb**	**16 24 09.1**	**+0.3**
DGB	**zmir**	**0.50**	**6**	P	**Pg**	**16 24 04.7**	**-0.3**
DGB				S	**Sb**	**16 24 13.1**	**+1.0**
DGB				*i* IAML		16 24 15.0	
	comp=N,3μm,0.8s						
GMLD	**Gumuldur**	**0.53**	**9**	Pg	**Pg**	**16 24 05.2**	**-0.3**
GMLD				Sg	**Sb**	**16 24 13.3**	**+0.6**
YKAV	**Yalikavak-Bodr**	**0.57**	**139**	Pg	**Pb**	**16 24 06.3**	**+0.1**
YKAV				Sg	**Sb**	**16 24 14.2**	**+0.3**
BDRM	**Kayabasi**	**0.70**	**134**	P	**Pg**	**16 24 08.4**	**-0.3**
BDRM				S	**Sb**	**16 24 18.7**	**+0.9**
BDRM				*i* IAML		16 24 22.0	
	comp=E,3μm,0.4s						
BLCB	**Balcova**	**0.85**	**12**	Pg	**Pb**	**16 24 11.5**	**+0.4**
BLCB				Sg	**Sb**	**16 24 24.0**	**+1.9**
BLCB	**Balcova**	**0.85**	**12**	P	**Pg**	**16 24 11.0**	**-0.5**
BLCB				S	**Sb**	**16 24 23.2**	**+1.1**
AYDN	**Tasoluk**	**0.85**	**83**	P	**Pb**	**16 24 11.6**	**+0.4**
AYDN				S	**Sb**	**16 24 23.3**	**+1.0**
AYDN				*i* IAML		16 24 24.0	
	comp=E,2μm,0.4s						
AYDN				*i* IAML		16 24 25.0	
	comp=N,2μm,0.4s						
CESE	**eme**	**0.87**	**333**	Pg	**Pg**	**16 24 11.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**65**	Pg	**Pb**	**16 24 13.3**	**+0.6**
NISR	**Nisiros**	**0.97**	**165**	P	**Pb**	**16 24 13.5**	**+0.4**
NISR				S	**Sn**	**16 24 27.8**	**+0.9**
NISR	**Nisiros**	**0.97**	**165**	P	**Pn**	**16 24 14.3**	**+0.7**
NISR				S	**Sb**	**16 24 26.9**	**+1.3**
YAZI	**Mula-Dat§a-**	**1.01**	**149**	P	**Pb**	**16 24 13.9**	**+0.1**
YAZI				*i* IAML		16 24 30.0	
	comp=N,2μm,0.5s						
YAZI				*i* IAML		16 24 30.0	
	comp=E,1μm,0.4s						
YAZI				S	**Sn**	**16 24 30.2**	**+2.4**
CHOS	**Chios island**	**1.02**	**324**	P	**Pb**	**16 24 14.0**	**-0.1**
CHOS				S	**Sb**	**16 24 28.7**	**+1.5**
DAT	**Datca**	**1.03**	**143**	Pg	**Pg**	**16 24 14.7**	**-0.2**
DAT	**Datca**	**1.03**	**143**	S	**Sn**	**16 24 28.7**	**+0.4**
IZMR	**zmir-demi**	**1.07**	**57**	P	**Pb**	**16 24 15.3**	**+0.4**
IZMR				S	**Sb**	**16 24 29.0**	**+0.5**
IZMR				*i* IAML		16 24 31.0	
	comp=N,1μm,0.6s						
IZMR				*i* IAML		16 24 36.0	
	comp=E,1μm,0.6s						
FOCM	**Foa**	**1.16**	**357**	Pn	**Pb**	**16 24 16.8**	**+0.5**
ODEM	**Odemis-Izmir**	**1.23**	**54**	Pn	**Pb**	**16 24 18.2**	**+0.6**
MULA	**Mugla, Merkez-**	**1.24**	**103**	P	**Pn**	**16 24 17.8**	**+0.5**
MULA				S	**Sg**	**16 24 36.0**	**+0.9**
MULA				*i* IAML		16 24 40.0	
	comp=N,475nm,0.9s						
MULA				*i* IAML		16 24 41.0	
	comp=E,544nm,0.7s						
NAZL	**Nazilli-Aydin**	**1.24**	**70**	Pn	**Pb**	**16 24 18.3**	**+0.5**
ESEN	**Aydn-Nazilli**	**1.24**	**78**	P	**Pn**	**16 24 17.7**	**+0.4**
ESEN				S	**Sb**	**16 24 34.2**	**+0.8**
ESEN				*i* IAML		16 24 39.0	
	comp=E,537nm,0.4s						
ESEN				*i* IAML		16 24 40.0	
	comp=N,571nm,0.4s						
TURN	**Turunc**	**1.38**	**124**	Pn	**Pb**	**16 24 20.5**	**+0.3**
TURN	**Turunc**	**1.38**	**124**	P	**Pn**	**16 24 19.4**	**+0.2**
TURN				S	**Sg**	**16 24 42.2**	**+2.6**
GOMA	**Golmarmara-Man**

EDC	**Edincik**	**2.91**	**16**	Pn	**Pn**	**16 24 41.9**	**+1.7**
ISP	**Isparta**	**2.96**	**84**	P	**Pn**	**16 24 39.7**	**-1.3**
KCTX	**Karacabey (Bur**	**2.96**	**24**	Pn	**Pn**	**16 24 41.3**	**+0.3**
SMTH	**Samothraki Isl**	**3.08**	**341**	P	**Pn**	**16 24 42.7**	**+0.2**
LTK	**Loutraki**	**3.08**	**280**	P	**Pn**	**16 24 44.1**	**+1.5**
ERIK	**Erikli-Kesan**	**3.12**	**356**	Pn	**Pn**	**16 24 43.6**	**+0.5**
ATAL	**Atalanti**	**3.20**	**292**	P	**Pn**	**16 24 45.0**	**+0.8**
VLI	**Veliai**	**3.21**	**256**	P	**Pn**	**16 24 46.1**	**+1.8**
ANKY	**Antikythira Is**	**3.29**	**240**	P	**Pn**	**16 24 46.7**	**+1.3**
NEO	**Neokhori**	**3.32**	**303**	P	**Pn**	**16 24 46.8**	**+0.9**
ALN	**Alexandroupoli**	**3.39**	**350**	Pn	**Pn**	**16 24 47.3**	**+0.5**
ALN	**Alexandroupoli**	**3.39**	**350**	P	**Pn**	**16 24 47.3**	**+0.5**
THAS	**Thassos island**	**3.46**	**333**	P	**Pn**	**16 24 47.9**	**+0.2**
AXAR	**Agios Charalam**	**3.49**	**292**	P	**Pn**	**16 24 49.1**	**+0.9**
RDO	**Rodhopi**	**3.72**	**345**	P	**Pn**	**16 24 52.0**	**+0.7**
KLV	**Kalavryta, Ach**	**3.73**	**279**	P	**Pn**	**16 24 52.8**	**+1.3**
KALE	**Kalithea**	**3.79**	**284**	P	**Pn**	**16 24 52.6**	**+0.3**
AGG	**Agios Georgios**	**3.82**	**294**	P	**Pn**	**16 24 53.7**	**+0.9**
KAVA	**Kavala**	**3.87**	**333**	P	**Pn**	**16 24 53.2**	**-0.2**
ITM	**Ithomi**	**3.91**	**266**	P	**Pn**	**16 24 55.3**	**+1.3**
MAKR	**Makrakomi, Fth**	**3.96**	**293**	P	**Pn**	**16 24 55.3**	**+0.6**
ANX	**Ano Chora**	**4.00**	**287**	P	**Pn**	**16 24 57.0**	**+1.8**
TETR	**Tetrakomo, Epi**	**4.70**	**294**	P	**Pn**	**16 25 06.3**	**+1.4**
BRTR	**Keskin Array B**	**5.77**	**66**	Pn	**Pn**	**16 25 21.4**	**+1.8**
	0.7nm,0.3s,baz=244,slow=16,SNR=17						
BRTR				Sn	**Sn**	**16 26 23.8**	**-1.5**
	baz=264,slow=14						
	2.7nm,0.4s						
MLR	**Muntelo Rosu**	**7.96**	**356**	Pn	**Pn**	**16 25 50.5**	**+0.9**
	0.2nm,0.3s,baz=176,slow=14,SNR=1.3						
	0.9nm,0.4s						
MMAI	**Mount Meron Ar**	**8.36**	**120**	Pn	**Pn**	**16 25 53.9**	**-1.3**
	2.4nm,0.4s,baz=309,slow=12,SNR=14						
MMAI				Sn	**Sn**	**16 27 23.7**	**-5.3**
	2.7nm,0.3s,baz=268,slow=21,SNR=8.1						
VAE	**Valguarnera**	**9.85**	**273**	Pn	**Pn**	**16 26 18.3**	**+2.7**
	2.2nm,0.4s,baz=102,slow=20,SNR=1.5						
ASF	**Jabal al Asfar**	**9.87**	**120**	Pn	**Pn**	**16 26 15.6**	**-0.3**
	0.3nm,0.3s,baz=278,slow=16,SNR=1.7						
ASF				Sn	**Sn**	**16 28 02.7**	**-3.6**
	0.2nm,0.3s,baz=221,slow=15,SNR=1.5						
	1.0nm,0.3s						
EIL	**Elat**	**10.38**	**137**	Pn	**Pn**	**16 26 21.2**	**-1.6**
	baz=298,slow=0.0						
EIL				Sn	**Sn**	**16 28 11.5**	**-7.2**
	16nm,0.3s,baz=16,slow=0.0,SNR=1.4						
DAVOX	**Davos/Dischmat**	**15.55**	**312**	LR	LR	16 34 23.5	
	comp=Z,20nm,20.7s,baz=262,slow=40						
ESDC	**Sonseca Array**	**24.09**	**285**	P	**P**	**16 29 10.7**	**+1.5**
	0.7nm,0.8s,baz=85,slow=11,SNR=7.1						
	0.7nm,0.8s						
AKTO	**Aktyubinsk**	**25.67**	**50**	P	**P**	**16 29 22.2**	**-1.3**
	0.8nm,0.6s,baz=245,slow=5.1,SNR=3.6						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.05**	**229**	P	**P**	**16 30 29.9**	**+0.5**
	0.4nm,0.7s,baz=40,slow=7.6,SNR=2.3						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**38.60**	**53**	P	**P**	**16 31 17.9**	**+1.3**
	2.0nm,0.7s,baz=278,slow=8.7,SNR=22						
	2.0nm,0.7s						
BORG	**Borgarnes**	**39.12**	**330**	LR	LR	16 47 14.2	
	comp=Z,21nm,21.7s,baz=312,slow=36						
MKAR	**Makanchi Array**	**41.37**	**59**	P	**P**	**16 31 41.1**	**+1.4**
	1.5nm,0.8s,baz=272,slow=8.6,SNR=12						
	1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**42.40**	**48**	P	**P**	**16 31 48.3**	**+0.4**
	0.8nm,0.6s,baz=267,slow=9.5,SNR=4.6						
	0.8nm,0.6s						

IDC 30 16:24:47.0±2.9, 47°53N×92°71W, h0km, mb2.4/1, mbtmp2.9/3, ML0.8/1, Error ellipse: s-maj=55.2km s-min=16.7km az=67.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**3.43**	**324**	Pn	Pn	16 25 40.5	-1.2
	0.1nm,0.3s,baz=142,slow=14,SNR=1.2						
ULM				Pg	Pb	16 25 48.6	+0.1
	0.2nm,0.3s,baz=138,slow=14,SNR=1.7						
ULM				Sn	Sn	16 26 21.0	-2.0
	0.3nm,0.3s,baz=127,slow=14,SNR=2.7						
ULM				Lg	Lg	16 26 32.4	
	3.0nm,0.3s,baz=201,slow=6.4,SNR=19						
	3.2nm,0.9s						
I10CA	**LAC DU BONNET**	**3.46**	**322**	I	I	16 46 00.0	
	0.1nm,0.9s,baz=140,slow=326,SNR=9.8						
I56US	**NEWPORT INFRAS**	**16.38**	**282**	I	I	18 04 00.0	
	baz=84,slow=314,SNR=1.6						
YKA	**Yellowknife Ar**	**19.40**	**329**	P	P	16 29 13.1	-1.1
	0.6nm,0.8s,baz=134,slow=13,SNR=2.7						
TXAR	**Lajitas Array**	**20.06**	**209**	P	P	16 29 21.7	-0.1
	0.1nm,0.5s,baz=30,slow=9.9,SNR=2.1						
	0.1nm,0.5s						

*IDC **30** 16:28:44.0±1.9, 36°17N×21°80E, h0km, mb3.5/7, mbtmp3.5/9, ML1.4/2, MS3.3/1, Error ellipse: s-maj=41.0km s-min=18.6km az=25.0*
*ATH **30** 16:28:45.3, 35°84N×21°48E, h10km±4km, ML3.1/14, Manual Solution by A.Fokaefs First location: 2019/08/30 16:30:04, This location: 2020/09/03 14:38:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **30** 16:28:48.3, 36°N±9°×2°2E±°, h24km±26km, M2.9/9, MLh2.9/9*

ISC 30 16:28:45.7±1.8, 35°84N±0°06×21°55E±0°04, h13km±11km, n43, σ1°13/49, mb3.6/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTHA	**Methoni**	**0.98**	**7**	P	**Pg**	**16 29 04.8**	**+0.1**
MTHA				S	**Sg**	**16 29 17.3**	**-0.3**
PYL1	**Pylos**	**1.07**	**6**	P	**Pg**	**16 29 05.8**	**-0.7**
PYL1				S	**Sg**	**16 29 21.0**	**+0.5**
KTHA	**Kythira Island**	**1.29**	**71**	P	**Pn**	**16 29 09.6**	**+0.1**
KTHA	**Kythira Island**	**1.29**	**71**	P	**Pn**	**16 29 09.6**	**+0.1**
KTHA				S	**Sb**	**16 29 28.0**	**+1.6**
ITM	**Ithomi**	**1.37**	**13**	P	**Pn**	**16 29 10.2**	**-0.3**
ITM				S	**Sb**	**16 29 28.6**	**0.0**
ITM	**Ithomi**	**1.37**	**13**	P	**Pn**	**16 29 10.1**	**-0.4**
NPS1	**Neapolis Lacon**	**1.40**	**61**	P	**Pn**	**16 29 12.0**	**+1.2**
NPS1				S	**Sb**	**16 29 30.3**	**+0.9**
VLI	**Veliai**	**1.42**	**52**	P	**Pn**	**16 29 11.9**	**+0.6**
VLI				S	**Sn**	**16 29 30.2**	**+0.4**
VLI	**Veliai**	**1.42**	**52**	P	**Pn**	**16 29 12.0**	**+0.7**
VLI				S	**Sn**	**16 29 31.6**	**+1.7**
ANKY	**Antikythira Is**	**1.43**	**89**	P	**Pn**	**16 29 11.9**	**+0.7**
ANKY	**Antikythira Is**	**1.43**	**89**	P	**Pn**	**16 29 12.0**	**+0.7**
ANKY				S	**Sn**	**16 29 32.0**	**+2.1**
MNVA	**Monemvasia**	**1.47**	**55**	P	**Pn**	**16 29 13.1**	**+1.2**
VLX	**Vlachokerasia**	**1.66**	**23**	P	**Pn**	**16 29 15.4**	**+0.7**
VLX				S	**Sn**	**16 29 36.7**	**+0.8**
VLX	**Vlachokerasia**	**1.66**	**23**	P	**Pn**	**16 29 15.1**	**+0.4**
AMT	**Artemida-Makis**	**1.69**	**4**	P	**Pn**	**16 29 14.9**	**0.0**
KNDR	**Palaiochora Ch**	**1.85**	**109**	P	**Pn**	**16 29 17.2**	**+0.1**
KRI1	**kERI**	**1.91**	**342**	P	**Pn**	**16 29 17.7**	**-0.2**
LTHK	**Lithakia**	**1.95**	**343**	P	**Pn**	**16 29 18.7**	**+0.2**
CHAN	**Chania**	**2.06**	**98**	P	**Pn**	**16 29 20.4**	**+0.5**
DRO	**Drossia**	**2.11**	**4**	P	**Pn**	**16 29 20.5**	**-0.2**
ORTH	**Orthonies,Zaky**	**2.12**	**341**	P	**Pn**	**16 29 20.6**	**-0.2**
GUR	**Goura**	**2.18**	**17**	P	**Pn**	**16 29 22.9**	**+1.1**
GUR	**Goura**	**2.18**	**17**	P	**Pn**	**16 29 22.3**	**+0.5**
KLV	**Kalavryta, Ach**	**2.25**	**12**	P	**Pn**	**16 29 23.6**	**+0.9**
KLV	**Kalavryta, Ach**	**2.25**	**12**	P	**Pn**	**16 29 23.5**	**+0.9**
MET2	**Kameni Chora,**	**2.27**	**39**	P	**Pn**	**16 29 22.7**	**-0.2**
AXS	**Araxos**	**2.35**	**357**	P	**Pn**	**16 29 24.9**	**+0.9**
PSDA	**Pessada-Kefalo**	**2.39**	**341**	P	**Pn**	**16 29 24.8**	**+0.2**
VLS	**Valsamata**	**2.45**	**342**	P	**Pn**	**16 29 25.4**	**0.0**
SERG	**Sergoula**	**2.60**	**9**	P	**Pn**	**16 29 28.7**	**+1.3**
FSK	**Fiskardo**	**2.73**	**344**	P	**Pn**	**16 29 30.0**	**+0.8**
IDI	**Anoyia**	**2.78**	**101**	Pn	**Pn**	**16 29 29.3**	**-0.7**
	1.0nm,0.3s,baz=294,slow=16,SNR=6.2						
IDI				Sn	**Sn**	**16 30 02.4**	**-1.0**
	4.9nm,0.3s,baz=284,slow=12,SNR=6.9						
	3.4nm,0.3s						
LKD2	**Lefkada island**	**3.02**	**347**	P	**Pn**	**16 29 34.8**	**+1.5**
VAE	**Valguarnera**	**5.96**	**288**	Pn	**Pn**	**16 30 16.5**	**+2.8**
	1.3nm,0.3s,baz=53,slow=5.1,SNR=1.7						
VAE				Sn	**Sn**	**16 31 21.7**	**-0.2**
	1.3nm,0.3s,baz=28,slow=17,SNR=1.9						
	4.2nm,0.4s						
EIL	**Elat**	**12.85**	**115**	Pn	Pn	16 31 45.4	-2.6
	66nm,0.3s,baz=308,slow=0.0,SNR=1.8						
EIL				Sn	Sn	16 33 55.1	-16
	32nm,0.3s,baz=299,slow=0.0,SNR=1.4						
ESDC	**Sonseca Array**	**20.50**	**288**	P	**P**	**16 33 24.3**	**+0.8**
	0.1nm,0.3s,baz=94,slow=9.0,SNR=2.5						
	0.1nm,0.3s						
HFS	**Hagfors**	**24.83**	**351**	P	**P**	**16 34 05.4**	**-2.0**
	0.8nm,0.5s,baz=159,slow=10.0,SNR=6.7						
	0.9nm,0.5s						
FINES	**FINESS Array B**	**25.78**	**5**	P	**P**	**16 34 13.1**	**-2.8**
	1.0nm,0.8s,baz=190,slow=7.1,SNR=1.6						
	1.0nm,0.8s						
NOA	**NORSAR Array B**	**26.06**	**349**	P	**P**	**16 34 15.9**	**-2.8**
	0.4nm,0.5s,baz=161,slow=10,SNR=1.6						
	0.4nm,0.5s						
ARCES	**ARCESS Array B**	**33.82**	**3**	P	P	16 35 24.9	-2.3
	0.9nm,0.7s,baz=190,slow=9.5,SNR=5.6						
	0.9nm,0.7s						
DBIC	**Dimbokro**	**37.80**	**226**	LR	LR	16 51 55.1	
	comp=Z,42nm,19.6s,baz=132,slow=36						
MKAR	**Makanchi Array**	**45.86**	**57**	P	P	16 37 05.1	-2.4
	0.3nm,0.3s,baz=272,slow=8.0,SNR=16						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**46.67**	**47**	P	P	16 37 10.6	-3.1
	0.2nm,0.3s,baz=291,slow=8.6,SNR=1.4						
	0.2nm,0.3s						

*IDC **30** 16:40:47.1±8.7, 25°16N×127°37E, h0km, mb3.8/6, mbtmp3.8/6, MS2.9/2, Error ellipse: s-maj=200.7km s-min=142.4km az=17.0*
*JMA **30** 16:41:00.5±0.2, 26°1N±1°0×127°3E±0°6, h37km±1km, MV3.1/16, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .

ISC 30 16:40:57.9±1.3, 25°91N±0°09×127°30E±0°05, h49km±10km, n20, σ1°89/27, mb3.5/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**0.49**	**62**	P	**Pn**	**16 41 10.8**	**+1.8**
JJT3				S	**Sn**	**16 41 18.9**	**+1.9**
JKE	**Kume jima 2**	**0.62**	**312**	P	**Pn**	**16 41 10.5**	**-0.1**
JKE				S	**Sn**	**16 41 18.2**	**-1.6**
JAGN	**Aguni-jima**	**0.68**	**355**	P	**Pn**	**16 41 10.3**	**-1.0**
JAGN				eS	**Sn**	**16 41 17.5**	**-3.6**
JNTH	**Nagotoyohara**	**0.89**	**47**	P	**Pn**	**16 41 14.7**	**+0.6**
JNTH				eS	**Sn**	**16 41 25.1**	**-0.8**
JOW	**Kunigami**	**1.27**	**43**	P	**Pn**	**16 41 20.5**	**+1.3**
JIH	**Iheya**	**1.27**	**28**	P	**Pn**	**16 41 19.0**	**-0.2**
JIH				eS	**Sn**	**16 41 33.5**	**-1.6**
JYRO	**Yoronjima**	**1.51**	**43**	eP	**Pn**	**16 41 24.3**	**+1.7**
JOKE	**Okinoerabujima**	**1.84**	**38**	eP	**Pn**	**16 41 27.9**	**+0.8**
JTK	**Tokunoshima**	**2.38**	**38**	eP	**Pn**	**16 41 35.2**	**+0.8**
JAMN	**Amaminishikomi**	**2.86**	**35**	eP	**Pn**	**16 41 41.9**	**+0.9**
JAM	**Amami Oshima**	**3.23**	**39**	eP	**Pn**	**16 41 46.6**	**+0.6**
JAM				eS	**Sn**	**16 42 20.1**	**-3.2**
JMZ	**Minamidaito 2**	**3.53**	**91**	eP	**Pn**	**16 41 49.9**	**-0.4**
JMZ				eS	**Sn**	**16 42 26.1**	**-4.7**
JKDJ	**Kitadaitoujima**	**3.60**	**89**	eP	**Pn**	**16 41 50.7**	**-0.4**
JKDJ				eS	**Sn**	**16 42 28.9**	**-3.4**
JHJ	**Hachijo jima 2**	**13.02**	**54**	LR	LR	16 47 46.2	
	comp=Z,75nm,19.8s,baz=111,slow=31						
SONM	**Songino Array**	**27.38**	**328**	P	**P**	**16 46 40.7**	**+2.0**
	0.3nm,0.4s,baz=139,slow=9.0,SNR=1.5						
SONM				LR	LR	16 58 27.7	
	comp=Z,18nm,18.6s,baz=111,slow=38						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**41.13**	**312**	P	**P**	**16 48 37.4**	**+0.2**
	0.5nm,0.6s,baz=102,slow=9.2,SNR=7.0						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**42.00**	**323**	P	**P**	**16 48 44.4**	**+0.2**
	0.6nm,0.5s,baz=109,slow=7.8,SNR=2.7						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**44.51**	**317**	P	**P**	**16 49 04.7**	**+0.2**
	0.3nm,0.4s,baz=108,slow=8.9,SNR=5.2						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**49.96**	**319**	P	**P**	**16 49 47.4**	**+0.6**
	1.5nm,0.7s,baz=92,slow=8.3,SNR=9.1						
	1.5nm,0.7s						
FINES	**FINESS Array B**	**72.73**	**330**	P	**P**	**16 52 20.9**	**+0.3**
	1.3nm,0.7s,baz=52,slow=6.5,SNR=4.2						
	1.3nm,0.7s						

*NEIC **30** 16:54:53.0±1.8, 54°68N±0°06×161°13W±0°05, h21km±12km, ML3.2(AEIC), Error ellipse: s-maj=9.2km s-min=3.9km az=180.0*
*AEIC **30** 16:54:52.9±2.0, 54°64N±0°05×161°10W±0°07, h26km±7km, Error ellipse: s-maj=6.8km s-min=5.5km az=193.0*

ISC 30 16:54:53.0±3.7, 54°70N±0°06×161°10W±0°03, h20km±26km, n48, σ0°57/53, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOL	**Dolgoi Island**	**0.63**	**315**		**Pb**	**16 55 05.7**	**+0.4**
DOL					**Sb**	**16 55 14.5**	**+0.8**
SDPT	**Sand Point**	**0.74**	**29**		**Pn**	**16 55 08.2**	**0.0**
SDPT					**Sn**	**16 55 19.0**	**0.0**
SDPT	**Sand Point**	**0.74**	**29**	P	**Pn**	**16 55 08.3**	**0.0**
SDPT	**Sand Point**	**0.74**	**29**	S	**Sn**	**16 55 19.2**	**+0.2**
HAG	**Hague Volcano**	**0.77**	**323**		**Pn**	**16 55 08.1**	**+0.4**
PS4A	**Pavlof South-4**	**0.78**	**326**		**Pb**	**16 55 08.0**	**+0.2**
PS4A					**Sn**	**16 55 19.3**	**-0.7**
DT1	**Dutton Round H**	**0.80**	**301**		**Pb**	**16 55 07.7**	**-0.4**
DT1					**Sb**	**16 55 18.1**	**-0.4**
PS1A	**Pavlof South-1**	**0.81**	**333**		**Pb**	**16 55 08.6**	**+0.2**
CNBA	**Chernabura Isl**	**0.88**	**82**		**Pb**	**16 55 09.5**	**-0.1**
CNBA					**Sb**	**16 55 20.6**	**-0.3**
CHNA	**Chernabura Isl**	**0.88**	**81**	P	**Pb**	**16 55 09.5**	**-0.1**
CHNA	**Chernabura Isl**	**0.88**	**81**	S	**Sb**	**16 55 20.9**	**-0.1**
S12K	**Black Hills**	**1.14**	**331**		**Pn**	**16 55 13.7**	**-0.2**
S12K	**Black Hills**	**1.14**	**331**		**Sb**	**16 55 28.6**	**+0.1**
FALS	**False Pass**	**1.35**	**277**		**Pn**	**16 55 15.7**	**-1.1**
FALS	**False Pass**	**1.35**	**277**	P	**Pn**	**16 55 15.8**	**-0.9**
FALS	**False Pass**	**1.35**	**277**	S	**Sn**	**16 55 33.7**	**-0.4**
ISNN	**Isanotski Nort**	**1.56**	**276**		**Pn**	**16 55 19.5**	**-0.1**
VNSW	**Veniaminof 7**	**1.63**	**32**		**Pn**	**16 55 21.4**	**+0.8**
SSLN	**Shishaldin Nor**	**1.68**	**275**		**Pn**	**16 55 21.4**	**+0.1**
VNWF	**Veniaminof 8**	**1.69**	**30**		**Pb**	**16 55 22.8**	**-0.8**
SSBA	**Shishaldin**	**1.76**	**273**		**Pn**	**16 55 22.1**	**-0.2**
VNFG	**Fog Glacier, M**	**1.81**	**28**		**Pb**	**16 55 24.5**	**-1.0**
VNFG	**Fog Glacier, M**	**1.81**	**28**		**Pb**	**16 55 24.7**	**-0.9**
VNHG	**Veniaminof 1**	**1.88**	**35**		**Pn**	**16 55 25.2**	**+1.1**
WEBT	**Westdahl Beart**	**2.13**	**268**		**Pn**	**16 55 27.2**	**-0.2**
WECS	**Westdahl Cape**	**2.15**	**267**		**Pn**	**16 55 27.7**	**0.0**
CHGN	**Chignik**	**2.21**	**43**		**Pn**	**16 55 29.3**	**+0.8**
ANPB	**Aniakchak Plen**	**2.64**	**36**		**Pn**	**16 55 35.4**	**+1.0**
AKSA	**Akutan Strait**	**2.75**	**260**		**Pn**	**16 55 36.4**	**+0.4**
AKUT	**Akutan**	**2.79**	**260**	P	**Pn**	**16 55 37.1**	**+0.6**
UNV	**Unalaska Valle**	**3.29**	**257**	Pn	**Pn**	**16 55 43.1**	**-0.2**
CHIR	**Chirikof Islan**	**3.33**	**68**		**Pn**	**16 55 44.3**	**+0.4**
CHIR	**Chirikof Islan**	**3.33**	**68**	P	**Pn**	**16 55 44.7**	**+0.8**
MNAT	**Makushin Natee**	**3.38**	**258**		**Pn**	**16 55 43.9**	**-0.7**
R16K	**Pilot Point**	**3.48**	**33**	Pn	**Pn**	**16 55 46.9**	**+0.9**
O15K	**Ungalikthiuk R**	**4.54**	**8**	Pn	**Pn**	**16 56 00.3**	**-0.2**
O14K	**Tigyukuuivet M**	**4.56**	**359**	Pn	**Pn**	**16 56 00.9**	**0.0**
P16K	**Nushagak River**	**4.66**	**20**	Pn	**Pn**	**16 56 02.5**	**+0.3**
NIKH	**Nikolski High**	**4.91**	**252**	P	**Pn**	**16 56 06.7**	**+1.1**
OHAK	**Old Harbor**	**5.06**	**57**	Pn	**Pn**	**16 56 07.2**	**-0.4**
OHAK	**Old Harbor**	**5.06**	**57**	P	**Pn**	**16 56 07.1**	**-0.6**
O16K	**Kokwok River B**	**5.17**	**17**	Pn	**Pn**	**16 56 09.1**	**-0.1**
N14K	**Kuskokwak Cree**	**5.24**	**357**	Pn	**Pn**	**16 56 10.3**	**+0.1**
N15K	**Kwethluk River**	**5.51**	**5**	Pn	**Pn**	**16 56 13.9**	**+0.1**
KDAK	**Kodiak Island**	**5.66**	**54**	Pn	**Pn**	**16 56 15.4**	**-0.5**
M14K	**Bethel**	**6.08**	**356**		**Pn**	**16 56 22.0**	**+0.3**
L14K	**Kuka Creek**	**6.71**	**353**		**Pn**	**16 56 30.9**	**+0.6**
ADK	**Adak**	**9.75**	**260**	P	**Pn**	**16 57 12.3**	**+0.3**

*IDC **30** 16:56:09.1±2.9, 39°30N×21°49E, h0km, mb3.6/5, mbtmp3.5/7, ML2.2/2, Error ellipse: s-maj=63.2km s-min=23.4km az=49.0*
*ATH **30** 16:56:09.8, 38°81N×21°25E, h28km±1km, ML3.1/19, Manual Solution by A.Fokaefs First location: 2019/08/30 16:57:05, This location: 2019/08/30 17:46:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **30** 16:56:10.5, 39°N±1°×21°3E±0°6, h20km±1km, M2.9/34, MLh2.9/34*

ISC 30 16:56:09.9±0.8, 38°83N±0°02×21°25E±0°02, h28km±5km, n75, σ0°93/90, mb3.5/5, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMPL	**Ampelaki**	**0.10**	**342**	P	**Pb**	**16 56 14.4**	**-0.5**
AMPL				S	**Sb**	**16 56 17.4**	**-0.9**
PVO	**Paravola**	**0.30**	**135**	P	**Pb**	**16 56 17.3**	**+0.1**
PVO				S	**Sn**	**16 56 23.3**	**-0.9**
PVO	**Paravola**	**0.30**	**135**	P	**Pb**	**16 56 17.3**	**+0.1**
PVO				S	**Sb**	**16 56 22.5**	**+0.4**
AST1	**Astakos**	**0.32**	**204**	P	**Pb**	**16 56 17.7**	**+0.3**
AST1				S	**Sn**	**16 56 23.7**	**-0.7**
ARTB	**Arta**	**0.39**	**327**	P	**Pb**	**16 56 18.6**	**+0.1**
ARTB				S	**Sb**	**16 56 24.8**	**+0.5**
EVR	**Evrytania**	**0.44**	**79**	P	**Pb**	**16 56 19.3**	**-0.1**
EVR				S	**Sb**	**16 56 26.7**	**+0.8**
EVR	**Evrytania**	**0.44**	**79**	P	**Pb**	**16 56 19.3**	**-0.1**
EVR				S	**Sb**	**16 56 26.1**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.45**	**255**	P	**Pb**	**16 56 19.3**	**-0.1**
NYDR				S	**Sn**	**16 56 27.4**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.45**	**255**	P	**Pb**	**16 56 19.3**	**-0.1**
LKD2	**Lefkada island**	**0.47**	**265**	P	**Pb**	**16 56 19.9**	**+0.2**
LKD2				S	**Sb**	**16 56 27.4**	**+1.0**
LKD2	**Lefkada island**	**0.47**	**265**	P	**Pb**	**16 56 19.9**	**+0.2**
LKD2				S	**Sn**	**16 56 27.6**	**-0.6**
TSLK	**Tsoukalades, L**	**0.47**	**269**	P	**Pb**	**16 56 19.9**	**+0.2**
TSLK	**Tsoukalades, L**	**0.47**	**269**	P	**Pb**	**16 56 19.9**	**+0.2**
TSLK				S	**Sn**	**16 56 27.8**	**-0.3**
MSL1	**Messolongi**	**0.48**	**164**	P	**Pn**	**16 56 20.8**	**-0.2**
EVGI	**Lefkada island**	**0.51**	**246**	P	**Pb**	**16 56 20.4**	**0.0**
EVGI	**Lefkada island**	**0.51**	**246**	P	**Pb**	**16 56 20.3**	**-0.1**
TETR	**Tetrakomo, Epi**	**0.51**	**2**	P	**Pb**	**16 56 20.4**	**-0.2**
TETR	**Tetrakomo, Epi**	**0.51**	**2**	P	**Pb**	**16 56 20.4**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.55**	**255**	P	**Pb**	**16 56 21.0**	**-0.1**
DRAG				S	**Sb**	**16 56 29.6**	**+0.9**
ANX	**Ano Chora**	**0.57**	**114**	P	**Pb**	**16 56 21.3**	**-0.3**
ANX	**Ano Chora**	**0.57**	**114**	P	**Pb**	**16 56 21.5**	**-0.1**
ANX				S	**Sn**	**16 56 31.0**	**0.0**
AXS	**Araxos**	**0.64**	**171**	P	**Pb**	**16 56 22.8**	**+0.2**
AXS	**Araxos**	**0.64**	**171**	P	**Pb**	**16 56 22.7**	**+0.1**
AXS				S	**Sn**	**16 56 32.9**	**+0.5**
EFP	**Efpalio**	**0.65**	**128**	P	**Pb**	**16 56 22.5**	**-0.3**
FSK	**Fiskardo**	**0.66**	**236**	P	**Pb**	**16 56 22.6**	**-0.2**
FSK	**Fiskardo**	**0.66**	**236**	P	**Pb**	**16 56 22.6**	**-0.2**
FSK				S	**Sn**	**16 56 32.9**	**+0.1**
VSK1	**VASILIKIADES**	**0.68**	**232**	P	**Pb**	**16 56 23.1**	**-0.3**
UPR	**University Cam**	**0.69**	**142**	P	**Pb**	**16 56 22.6**	**-0.8**
PRMD	**Pramanda**	**0.71**	**350**	P	**Pb**	**16 56 24.0**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.71**	**75**	P	**Pn**	**16 56 24.2**	**0.0**
MAKR	**Makrakomi, Fth**	**0.71**	**75**	P	**Pn**	**16 56 24.1**	**0.0**
SMHA	**Samh**	**0.75**	**219**	P	**Pb**	**16 56 23.2**	**-1.2**
SERG	**Sergoula**	**0.76**	**123**	P	**Pb**	**16 56 24.4**	**-0.1**
RLS	**Riolos of Patr**	**0.79**	**168**	P	**Pb**	**16 56 25.2**	**+0.1**
KALE	**Kalithea**	**0.82**	**122**	P	**Pb**	**16 56 24.6**	**-1.1**
VLS	**Valsamata**	**0.83**	**219**	P	**Pb**	**16 56 25.6**	**-0.3**
VLS	**Valsamata**	**0.83**	**219**	P	**Pb**	**16 56 25.4**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.84**	**207**	P	**Pb**	**16 56 26.0**	**0.0**
AGG	**Agios Georgios**	**0.86**	**77**	P	**Pb**	**16 56 26.4**

AYDN				*i* IAML			17 09 50.0	
	comp=N,122nm,0.3s							
AYDN				*i* IAML			17 09 50.0	
	comp=E,122nm,0.3s							
ZEDA	**zmir-Bergama**	**0.95**	**9**	P	**Pg**		**17 09 37.3**	**+0.3**
ZEDA				S	**Sb**		**17 09 50.6**	**+0.1**
ZEDA				*i* IAML			17 09 52.0	
	comp=E,108nm,0.5s							
ZEDA				*i* IAML			17 09 55.0	
	comp=N,114nm,0.6s							
YKAV	**Yalikavak-Bodr**	**0.96**	**161**	Pg	**Pg**		**17 09 37.5**	**+0.4**
ODEM	**Odemis-Izmir**	**0.97**	**75**	Pg	**Pg**		**17 09 36.6**	**-0.8**
ODEM				Sg	**Sg**		**17 09 49.6**	**-0.5**
GOMA	**Golmarmara-Man**	**1.06**	**50**	Pg	**Pg**		**17 09 38.9**	**-0.2**
BDRM	**Kayabasi**	**1.06**	**155**	P	**Pg**		**17 09 38.0**	**-1.1**
BDRM				S	**Sg**		**17 09 52.9**	**0.0**
BDRM				*i* IAML			17 09 55.0	
	comp=E,71nm,0.8s							
NAZL	**Nazilli-Aydin**	**1.12**	**93**	Pg	**Pg**		**17 09 40.1**	**-0.1**
AKHS	**Akhisar**	**1.12**	**41**	P	**Pg**		**17 09 39.7**	**-0.5**
AKHS				S	**Sb**		**17 09 55.2**	**-0.2**
AKHS				*i* IAML			17 09 57.0	
	comp=E,112nm,0.6s							
AKS	**Akhisar**	**1.12**	**41**	Pn	**Pg**		**17 09 40.1**	**-0.1**
SOMA	**Soma-Manisa**	**1.24**	**24**	Pn	**Pg**		**17 09 42.1**	**-0.4**
GORD	**Gordes-Manisa**	**1.34**	**49**	Pn	**Pn**		**17 09 43.4**	**-0.8**
SIGR	**SIGRI**	**1.43**	**326**	Pn	**Pn**		**17 09 45.1**	**-0.1**
KULA	**Kula-Manisa**	**1.48**	**70**	Pn	**Pn**		**17 09 46.0**	**-0.1**
YAYO	**Edremit-Balk**	**1.59**	**5**	Pn	**Pn**		**17 09 48.0**	**+0.6**
TURN	**Turunc**	**1.66**	**139**	Pn	**Pn**		**17 09 48.7**	**+0.3**
EZN	**Ezine**	**1.84**	**347**	Pn	**Pn**		**17 09 51.6**	**+0.6**
YENI	**Yenice-Canakka**	**1.92**	**8**	Pn	**Pn**		**17 09 52.5**	**+0.4**
CANM	**Can-anakkale**	**1.98**	**4**	Pn	**Pn**		**17 09 53.5**	**+0.6**
APMY	**Acipayam-Deniz**	**2.00**	**105**	Pn	**Pn**		**17 09 53.9**	**+0.7**
GONE	**Gonen-Balikesi**	**2.11**	**17**	Pn	**Pn**		**17 09 55.0**	**+0.4**
GELI	**Tayfur-Gelibol**	**2.38**	**353**	Pn	**Pn**		**17 09 59.3**	**+0.9**
TVSB	**Tavsanli**	**2.47**	**54**	Pn	**Pn**		**17 10 00.1**	**+0.4**

GII ***30*** *17:20:60.0±0.0, 37°.53N×26°.78E, h10km, Mws4.6, confirmed*

MOS ***30*** *17:21:03.6±0.9, 37°.52N×26°.79E, h12km, mb4.7/21, Error ellipse: s-maj=4.9km s-min=2.6km az=97.3*

IDC ***30*** *17:21:03.4±0.5, 37°.55N×26°.71E, h0km, mb4.3/22, mbtmp4.3/33, ML3.9/9, MS3.6/51, Error ellipse: s-maj=11.9km s-min=10.0km az=142.0*

ISK ***30*** *17:21:04.8, 37°.54N×26°.77E, h17km, ML4.5/55*

NEIC ***30*** *17:21:04.4±1.5, 37°.52N±0°.04×26°.82E±0°.05, h6km±4km, mb4.7/93, Mwr4.5/15, Error ellipse: s-maj=5.9km s-min=5.3km az=96.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-7.17; Mθθ7.00; Mϕϕ0.17; Mrθ1.03; Mθϕ-1.63; Mϕr1.55; Fault plane solution: M₀7.50000×10¹⁵ NP1:ϕs115.62000°, δ43.90000°, λ-70.81000°. NP2:ϕs269.84000°, δ49.09000°, λ-107.55000°. Principal axes: T 7.3988, Plg3.0000°, Azm12.0000°; N 0.2048, Plg13.0000°, Azm282.0000°; P -7.6036, Plg77.0000°, Azm113.0000°;*

NEIC ***30*** *17:21:04.8, 37°.52N×26°.81E, h9km*

HLW ***30*** *17:21:06.0, 37°.45N×27°.28E, h2km±17km, Ml4.4*

MED_RC ***30*** *17:21:05.0±0.2, 37°.47N×26°.86E, h14km, MW4.7/24, Moment Tensor Solution.Mantle waves: s24,c34; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.31±.09; Mθθ1.29±.06; Mϕϕ0.03±.04; Mrθ0.07±.06; Mθϕ-0.36±.03; Mϕr0.13±.07; Best double couple: M₀1.36000×10¹⁶ NP1:ϕs111.00000°, δ45.00000°, λ-81.00000°. NP2:ϕs278.00000°, δ46.00000°, λ-99.00000°. Principal axes: T 1.3900, Plg1.0000°, Azm15.0000°; N -0.0500, Plg7.0000°, Azm285.0000°; P -1.3300, Plg83.0000°, Azm112.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ATH ***30*** *17:21:05.4, 37°.55N×26°.89E, h15km±1km, ML4.4/20, Manual Solution by G.Panopoulou First location: 2019/08/30 17:21:42, This location: 2019/08/30 17:39:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***30*** *17:21:05.8, 38°N±1°×27°E±°, h14km±6km, M4.2/23, MLh4.2/23*

AFAD ***30*** *17:21:05.4, 37°.54N×26°.79E, h7km±2km, MW4.4*

MCSM ***30*** *17:21:06.4±0.4, 37°N±3°×27°E±°, h12km±3km, mb4.5, mB4.9, MLv4.4, Mw(mB)4.2*

GCMT ***30*** *17:21:08.4±0.5, 37°.63N±0°.03×26°.83E±0°.04, h19km±1km, MW4.8/78, Moment Tensor Solution. s23,c26; s78,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.72±.12; Mθθ1.63±.09; Mϕϕ0.08±.07; Mrθ0.23±.15; Mθϕ-0.40±.05; Mϕr-0.14±.17; Best double couple: M₀1.74400×10¹⁶ NP1:ϕs101.00000°, δ41.00000°, λ-94.00000°. NP2: ϕs286.00000°, δ49.00000°, λ-87.00000°. Principal axes: T 1.7460, Plg4.0000°, Azm14.0000°; N -0.0050, Plg3.0000°, Azm104.0000°; P -1.7420, Plg85.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NAO ***30*** *17:21:13.7, 37°.53N×26°.77E, h10km, mb4.7*

ISC 30 17:21:05.2±0.7, 37°.51N±0°.02×26°.85E±0°.02, h12km±4km, n993, σ1s53/985, mb4.7/99, MS3.6/42, 45C-31D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.20**	**357**	P		**Pg**	**17 21 09.5**	**0.0**
SMG				S		**Sg**	**17 21 12.5**	**0.0**
SMG	**Samos**	**0.20**	**357**	P		**Pg**	**17 21 09.7**	**+0.1**
SMG				S		**Sg**	**17 21 12.5**	**0.0**
DDIM	**Aydin, Didim**	**0.32**	**100**	P		**Pb**	**17 21 13.3**	**+0.4**
DDIM				*i* IAML			17 21 19.0	
	comp=N,4μm,0.2s							
DDIM				*i* IAML			17 21 19.0	
	comp=E,4μm,0.5s							
DDIM				S		**Sb**	**17 21 19.0**	**+1.1**
DIDI	**Didim-Aydin**	**0.34**	**113**	Pg		**Pb**	**17 21 13.9**	**+0.7**
DIDI				Sg		**Sb**	**17 21 19.9**	**+1.3**
GCAM	**G?zelcaml?**	**0.36**	**58**	Pg		**Pb**	**17 21 13.3**	**-0.3**
GCAM				Sg		**Sb**	**17 21 19.1**	**0.0**
GCAM	**G?zelcaml?**	**0.36**	**58**	P		**Pb**	**17 21 13.4**	**-0.2**
GCAM				*i* IAML			17 21 19.0	
	comp=N,9μm,0.3s							
GCAM				S		**Sb**	**17 21 19.2**	**0.0**
GCAM				*i* IAML			17 21 20.0	
	comp=E,8μm,0.6s							
YKAV	**Yalikavak-Bodr**	**0.52**	**138**	Pg		**Pb**	**17 21 16.6**	**+0.3**
YKAV				Sg		**Sb**	**17 21 25.3**	**+1.6**
DGB	**zmir**	**0.54**	**3**	P		**Pg**	**17 21 15.6**	**-0.2**
DGB				S		**Sg**	**17 21 23.5**	**+0.5**
DGB				*i* IAML			17 21 27.0	
	comp=N,2μm,0.3s							
DGB				*i* IAML			17 21 27.0	
	comp=E,2μm,0.6s							
GMLD	**Gumuldur**	**0.57**	**5**	Pg		**Pg**	**17 21 16.4**	**+0.1**
GMLD				Sg		**Sb**	**17 21 24.6**	**-0.6**
BDRM	**Kayabasi**	**0.65**	**133**	P		**Pb**	**17 21 19.3**	**+0.7**
BDRM				S		**Sb**	**17 21 29.2**	**+1.6**
BDRM				*i* IAML			17 21 34.0	
	comp=E,3μm,0.7s							
AYDN	**Tasoluk**	**0.83**	**79**	P		**Pb**	**17 21 22.4**	**+0.7**
AYDN				S		**Sb**	**17 21 34.2**	**+1.3**
AYDN				*i* IAML			17 21 35.0	
	comp=E,2μm,0.5s							
AYDN				*i* IAML			17 21 37.0	
	comp=N,1μm,0.6s							
BLCB	**Balcova**	**0.89**	**10**	Pg		**Pg**	**17 21 22.1**	**-0.2**
BLCB				Sg		**Sb**	**17 21 34.9**	**+0.5**
BLCB	**Balcova**	**0.89**	**10**	P		**Pg**	**17 21 22.0**	**-0.4**
BLCB				S		**Sg**	**17 21 33.5**	**-0.4**
NISR	**Nisiros**	**0.93**	**166**	P		**Pn**	**17 21 24.6**	**+0.5**
NISR				S		**Sn**	**17 21 37.7**	**+0.4**
CESE	**eme**	**0.93**	**332**	Pg		**Pg**	**17 21 22.4**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.93**	**62**	Pg		**Pn**	**17 21 24.4**	**+0.1**
YAZI	**Mula-Dat§a-**	**0.96**	**150**	P		**Pn**	**17 21 25.1**	**+0.6**
YAZI				S		**Sn**	**17 21 39.1**	**+0.9**
YAZI				*i* IAML			17 21 41.0	
	comp=N,2μm,0.7s							
YAZI				*i* IAML			17 21 41.0	
	comp=E,1μm,0.7s							
DAT	**Datca**	**0.97**	**143**	Pg		**Pn**	**17 21 24.9**	**0.0**
DAT	**Datca**	**0.97**	**143**	S		**Sn**	**17 21 39.4**	**+0.7**
DATC	**Datca-Mugla**	**0.99**	**139**	Pg		**Pn**	**17 21 25.6**	**+0.6**
IZMR	**zmir-demi**	**1.07**	**54**	P		**Pn**	**17 21 26.4**	**+0.2**
IZMR				S		**Sb**	**17 21 39.9**	**+0.1**
IZMR				*i* IAML			17 21 46.0	
	comp=E,5μm,0.8s							
IZMR				*i* IAML			17 21 47.0	
	comp=N,5μm,0.6s							
CHOS	**Chios island**	**1.08**	**325**	S		**Sg**	**17 21 39.8**	**-0.3**
MULA	**Mugla, Merkez-**	**1.20**	**102**	P		**Pg**	**17 21 28.8**	**+0.5**
MULA				S		**Sn**	**17 21 44.8**	**+0.6**
MULA				*i* IAML			17 21 49.0	
	comp=N,4μm,1.0s							
MULA				*i* IAML			17 21 50.0	
	comp=E,5μm,0.6s							
FOCM	**Foa**	**1.20**	**356**	Pn		**Pn**	**17 21 27.1**	**-0.8**
ESEN	**Aydn-Nazilli**	**1.22**	**76**	P		**Pb**	**17 21 28.7**	**+0.3**
ESEN				S		**Sg**	**17 21 45.2**	**+0.5**
ESEN				*i* IAML			17 21 50.0	
	comp=E,3μm,0.4s							
ESEN				*i* IAML			17 21 55.0	
	comp=N,4μm,0.5s							
NAZL	**Nazilli-Aydin**	**1.23**	**68**	Pn		**Pn**	**17 21 28.4**	**+0.1**
ODEM	**Odemis-Izmir**	**1.23**	**51**	Pn		**Pn**	**17 21 28.5**	**+0.1**
TURN	**Turunc**	**1.33**	**123**	Pn		**Pn**	**17 21 29.9**	**+0.2**
TURN	**Turunc**	**1.33**	**123**	P		**Pb**	**17 21 30.3**	**0.0**
TURN				S		**Sg**	**17 21 50.0**	**+1.8**
TURN				*i* IAML			17 21 57.0	
	comp=E,7μm,1.0s							
TURN				*i* IAML			17 22 02.0	
	comp=N,4μm,0.5s							
GOMA	**Golmarmara-Man**	**1.46**	**35**	Pn		**Pn**	**17 21 31.8**	**+0.3**
AKS	**Akhisar**	**1.56**	**29**	Pn		**Pn**	**17 21 32.8**	**-0.1**
THERA	**Ancient Thera,**	**1.59**	**224**	P		**Pn**	**17 21 33.0**	**-0.2**
THERA	**Ancient Thera,**	**1.59**	**224**	P		**Pn**	**17 21 32.3**	**-0.9**
SNTS	**Nea Kammeni, S**	**1.61**	**227**	P		**Pn**	**17 21 33.6**	**+0.1**
TAVA	**DENIZLI_Tavas**	**1.64**	**91**	P		**Pb**	**17 21 35.0**	**-0.5**
TAVA				S		**Sg**	**17 22 02.6**	**+4.5**
TAVA				*i* IAML			17 22 15.0	
	comp=N,1μm,0.8s							
TAVA				*i* IAML			17 22 21.0	
	comp=E,1μm,1.0s							
ARG	**Arkhangelos**	**1.65**	**141**	Pn		**Pn**	**17 21 34.5**	**+0.4**
ARG	**Arkhangelos**	**1.65**	**141**			**Pn**	**17 21 34.5**	**+0.4**
ARG				Sn		**Sn**	**17 21 55.9**	**+0.7**
ARG	**Arkhangelos**	**1.65**	**141**	P		**Pn**	**17 21 34.8**	**+0.7**
ARG	**Arkhangelos**	**1.65**	**141**	P		**Pn**	**17 21 34.5**	**+0.4**
ARG				S		**Sn**	**17 21 55.9**	**+0.7**
ARG	**Arkhangelos**	**1.65**	**141**	P		**Pn**	**17 21 34.6**	**+0.4**
ARG				S		**Sn**	**17 21 55.2**	**0.0**
MANT	**Manisa**	**1.67**	**54**			**Pn**	**17 21 34.4**	**-0.1**
MANT				Sn		**Sn**	**17 21 55.3**	**-0.7**
SOMA	**Soma-Manisa**	**1.73**	**18**	Pn		**Pn**	**17 21 34.4**	**-0.8**
GORD	**Gordes-Manisa**	**1.74**	**36**	Pn		**Pn**	**17 21 35.6**	**+0.2**
KULA	**Kula-Manisa**	**1.75**	**54**	Pn		**Pn**	**17 21 35.9**	**+0.4**
PRK	**Paraskevi**	**1.79**	**345**	P		**Pn**	**17 21 35.0**	**-1.0**
PRK	**Paraskevi**	**1.79**	**345**	P		**Pn**	**17 21 35.0**	**-1.0**
PRK				S		**Sn**	**17 21 58.0**	**-0.7**
PRK	**Paraskevi**	**1.79**	**345**	P		**Pn**	**17 21 34.9**	**-1.1**
PRK				S		**Sn**	**17 21 58.1**	**-0.7**
SABU	**Mula-Dalaman**	**1.83**	**111**	P		**Pb**	**17 21 38.1**	**-0.5**
SABU				S		**Sg**	**17 22 03.4**	**-0.6**
SABU				*i* IAML			17 22 13.0	
	comp=N,3μm,1.2s							
SABU				*i* IAML			17 22 16.0	
	comp=E,2μm,1.4s							
SIGR	**SIGRI**	**1.87**	**336**	Pn		**Pn**	**17 21 35.8**	**-1.3**
SIGR	**SIGRI**	**1.87**	**336**	P		**Pn**	**17 21 36.1**	**-1.0**
APMY	**Acipayam-Deniz**	**1.95**	**90**	Pn		**Pn**	**17 21 39.6**	**+1.3**
KARP	**Karpathos**	**1.98**	**173**	Pn		**Pn**	**17 21 38.7**	**+0.1**
KARP	**Karpathos**	**1.98**	**173**			**Pn**	**17 21 38.3**	**-0.3**
KARP				Sn		**Sn**	**17 22 01.6**	**-1.8**
KARP	**Karpathos**	**1.98**	**173**	P		**Pn**	**17 21 38.8**	**+0.2**
KARP	**Karpathos**	**1.98**	**173**	Pn		**Pn**	**17 21 38.6**	**0.0**
KARP	**Karpathos**	**1.98**	**173**	P		**Pn**	**17 21 39.0**	**+0.4**
KARP				S		**Sn**	**17 22 03.3**	**0.0**
KARY	**Karystos**	**1.98**	**286**	P		**Pn**	**17 21 38.0**	**-0.7**
KARY	**Karystos**	**1.98**	**286**	P		**Pn**	**17 21 38.1**	**-0.5**
GPNR	**Gulpinar-Canak**	**2.02**	**344**	Pn		**Pn**	**17 21 39.4**	**+0.2**
CAME	**Cameli-Denizli**	**2.04**	**105**	Pn		**Pn**	**17 21 41.1**	**+1.5**
YAYO	**Edremit-Balk**	**2.10**	**5**	Pn		**Pn**	**17 21 39.2**	**+1.1**
KHL	**Karahalli**	**2.26**	**68**	Pn		**Pn**	**17 21 42.7**	**+0.1**
EZNE	**Ezine-Canakkal**	**2.27**	**351**	Pn		**Pn**	**17 21 42.0**	**-0.6**
SMAA	**Simav-Kutahya**	**2.31**	**46**	Pn		**Pn**	**17 21 44.8**	**+1.6**
EZN	**Ezine**	**2.35**	**350**	Pn		**Pn**	**17 21 43.4**	**-0.3**
EZN	**Ezine**	**2.35**	**350**	P		**Pn**	**17 21 42.6**	**-1.0**
EZN	**Ezine**	**2.35**	**350**	⇓P		**Pn**	**17 21 43.3**	**-0.4**
EZN	**Ezine**	**2.35**	**350**	P		**Pn**	**17 21 43.2**	**-0.4**
DION	**Dionisos Attik**	**2.38**	**285**	P		**Pn**	**17 21 43.8**	**-0.4**
DION	**Dionisos Attik**	**2.38**	**285**	P		**Pn**	**17 21 43.8**	**-0.4**
SHAP	**Saphane-Kutahy**	**2.40**	**50**	Pn		**Pn**	**17 21 45.1**	**+0.6**
BOZC	**Bozcaada**	**2.41**	**345**	Pn		**Pn**	**17 21 43.4**	**-1.1**
PTL	**Penteli**	**2.43**	**284**	P		**Pn**	**17 21 44.6**	**-0.2**
PTL	**Penteli**	**2.43**	**284**	P		**Pn**	**17 21 44.4**	**-0.4**
YENI	**Yenice-Canakka**	**2.44**	**7**	Pn		**Pn**	**17 21 44.8**	**-0.2**
KYMI	**Kymi, Euboea I**	**2.44**	**298**	P		**Pn**	**17 21 44.9**	**-0.1**
ZKR	**Zakros**	**2.45**	**192**	Pn		**Pn**	**17 21 45.5**	**+0.5**
ZKR	**Zakros**	**2.45**	**192**	P		**Pn**	**17 21 45.8**	**+0.8**
ZKR	**Zakros**	**2.45**	**192**	P		**Pn**	**17 21 45.6**	**+0.5**
VLY	**Voula,Athens**	**2.45**	**279**	P		**Pn**	**17 21 44.8**	**-0.3**
VLY	**Voula,Athens**	**2.45**	**279**	P		**Pn**	**17 21 44.6**	**-0.5**
NPS	**Neapolis**	**2.46**	**204**	P		**Pn**	**17 21 45.2**	**-0.1**
NPS	**Neapolis**	**2.46**	**204**	P		**Pn**	**17 21 45.1**	**-0.1**
NPS	**Neapolis**	**2.46**	**204**	P		**Pn**	**17 21 44.9**	**-0.3**
ATHU	**Athens Univers**	**2.47**	**282**	P		**Pn**	**17 21 45.0**	**-0.4**
ATHU	**Athens Univers**	**2.47**	**282**	P		**Pn**	**17 21 45.0**	**-0.4**
CANM	**Can-anakkale**	**2.50**	**4**	Pn		**Pn**	**17 21 45.1**	**-0.7**
DST	**Dursunbey**	**2.51**	**33**	Pn		**Pn**	**17 21 46.4**	**+0.5**
ATH	**Athens Observa**	**2.53**	**281**	P		**Pn**	**17 21 46.0**	**-0.1**
ATH	**Athens Observa**	**2.53**	**281**	P		**Pn**	**17 21 46.1**	**0.0**
GEDZ	**Gediz**	**2.53**	**52**	Pn		**Pn**	**17 21 47.8**	**+1.5**
BASM	**Basmaki-Afyon**	**2.57**	**80**	Pn		**Pn**	**17 21 47.6**	**+0.8**
KSL	**Kastellorizon**	**2.58**	**121**	P		**Pn**	**17 21 45.8**	**-1.0**
PARN1	**Fyli,Attica,Gr**	**2.59**	**284**	P		**Pn**	**17 21 47.0**	**0.0**
COMU	**Canakkale**	**2.60**	**354**	Pn		**Pn**	**17 21 46.9**	**-0.3**
GONE	**Gonen-Balikesi**	**2.61**	**14**	Pn		**Pn**	**17 21 47.4**	**+0.1**
STFN	**Stefani**	**2.70**	**285**	P		**Pn**	**17 21 48.4**	**+0.1**
STFN	**Stefani**	**2.70**	**285**	P		**Pn**	**17 21 48.7**	**+0.1**
MAGU	**Magoula**	**2.70**	**283**	P		**Pn**	**17 21 48.4**	**-0.2**
LIA	**Limnos Island**	**2.72**	**332**	P		**Pn**	**17 21 48.3**	**-0.4**
LIA	**Limnos Island**	**2.72**	**332**	P		**Pn**	**17 21 48.3**	**-0.4**
IDI	**Anoyia**	**2.73**	**216**	Pn		**Pn**	**17 21 49.3**	**+0.4**
IDI	**Anoyia**	**2.73**	**216**			**Pn**	**17 21 48.6**	**-0.3**
IDI	**Anoyia**	**2.73**	**216**	P		**Pn**	**17 21 49.4**	**+0.4**
IDI	**Anoyia**	**2.73**	**216**	Pn		**Pn**	**17 21 48.9**	**0.0**
	104nm,0.5s,baz=20,slow=7.7,SNR=76							
IDI						**Sn**	**17 22 21.1**	**-0.8**
	128nm,0.3s,baz=6.2,slow=19,SNR=7.3							
IDI	**Anoyia**	**2.73**	**216**	P		**Pn**	**17 21 49.0**	**+0.1**
MET4	**Agioi Theodoro**	**2.74**	**273**	P		**Pn**	**17 21 49.7**	**+0.6**
DEMR	**Demre-Antalya**	**2.76**	**117**	Pn		**Pn**	**17 21 50.7**	**+1.3**
GADA	**Gvkgeada**	**2.78**	**345**	Pn		**Pn**	**17 21 48.7**	**-0.9**
MET5	**Makryloggos,Me**	**2.78**	**273**	P		**Pn**	**17 21 50.0**	**+0.4**
MET6	**Megalochori,Me**	**2.78**	**273**	P		**Pn**	**17 21 49.9**	**+0.3**
TVSB	**Tavsanli**	**2.82**	**46**	Pn		**Pn**	**17 21 50.9**	**+0.6**
KORT	**Korkueli**	**2.84**	**99**	Pn		**Pn**	**17 21 52.0**	**+1.4**
PRNS	**Prines Rethymn**	**2.86**	**222**	P		**Pn**	**17 21 51.9**	**+1.2**
GELI	**Tayfur-Gelibol**	**2.90**	**354**	Pn		**Pn**	**17 21 51.4**	**+0.2**
KRBG	**Karabiga-Canak**	**2.90**	**7**	Pn		**Pn**	**17 21 51.4**	**+0.2**
VIL2	**Platees**	**2.92**	**285**	P		**Pn**	**17 21 50.9**	**-0.6**
ISP	**Isparta**	**2.93**	**83**	Pn		**Pn**	**17 21 53.2**	**+1.4**
ISP	**Isparta**	**2.93**	**83**			**Pn**	**17 21 51.8**	**0.0**
ISP	**Isparta**	**2.93**	**83**	*de*P		**Pn**	**17 21 53.1**	**+1.3**
ISP	**Isparta**	**2.93**	**83**	P		**Pn**	**17 21 50.6**	**-1.2**
ISP	**Isparta**	**2.93**	**83**	P		**Pn**	**17 21 50.6**	**-1.2**
EDC	**Edincik**	**2.94**	**15**	Pn		**Pn**	**17 21 52.2**	**+0.4**
EDC	**Edincik**	**2.94**	**15**	P		**Pn**	**17 21 53.1**	**+1.3**
KCTX	**Karacabey (Bur**	**2.99**	**23**	Pn		**Pn**	**17 21 52.9**	**+0.4**
ORLT	**Orhaneli**	**2.99**	**32**	Pn		**Pn**	**17 21 53.3**	**+0.7**
ANTB	**Antalya**	**3.10**	**100**	Pn		**Pn**	**17 21 55.5**	**+1.5**
KEMT	**Kemer-ANTALYA**	**3.10**	**106**	Pn		**Pn**	**17 21 55.6**	**+1.6**
LTK	**Loutraki**	**3.12**	**281**	P		**Pn**	**17 21 54.2**	**-0.1**
SMTH	**Samothraki Isl**	**3.13**	**341**	P		**Pn**	**17 21 53.7**	**-0.8**
SMTH	**Samothraki Isl**	**3.13**	**341**	P		**Pn**	**17 21 53.5**	**-1.0**
ENZZ	**Sultanice-Enez**	**3.14**	**350**	Pn		**Pn**	**17 21 54.6**	**0.0**
MRMT	**Marmara Adasi**	**3.14**	**10**	Pn		**Pn**	**17 21 55.0**	**+0.3**
ERIK	**Erikli-Kesan**	**3.17**	**355**	Pn		**Pn**	**17 21 55.1**	**+0.2**
VLI	**Veliai**	**3.23**	**257**	P		**Pn**	**17 21 55.5**	**-0.3**
ATAL	**Atalanti**	**3.24**	**292**	P		**Pn**	**17 21 55.8**	**-0.2**
LKR	**Lokris**	**3.24**	**292**	P		**Pn**	**17 21 55.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**3.26**	**28**	Pn		**Pn**	**17 21 57.3**	**+1.0**
KTHA	**Kythira Island**	**3.29**	**249**	Pn		**Pn**	**17 21 56.8**	**+0.2**
ANKY	**Antikythira Is**	**3.29**	**241**	P		**Pn**	**17 21 57.3**	**+0.6**
NEO	**Neokhori**	**3.37**	**303**	P		**Pn**	**17 21 57.6**	**-0.1**
NEO	**Neokhori**	**3.37**	**303**	P		**Pn**	**17 21 57.9**	**+0.2**
ARMT	**Armutlu**	**3.43**	**27**	Pn		**Pn**	**17 21 59.7**	**+1.1**
ALN	**Alexandroupoli**	**3.44**	**350**			**Pn**	**17 21 57.7**	**-1.0**
ALN	**Alexandroupoli**	**3.44**	**350**	P		**Pn**	**17 21 58.1**	**-0.5**
ALN	**Alexandroupoli**	**3.44**	**350**	P		**Pn**	**17 21 57.7**	**-1.0**
GVD	**Gavdhos**	**3.48**	**221**	Pn		**Pn**	**17 22 00.0**	**+0.8**
GVD	**Gavdhos**	**3.48**	**221**	P		**Pn**	**17 22 00.1**	**+0.9**
THAS	**Thassos island**	**3.51**	**332**	P		**Pn**	**17 21 58.9**	**-0.7**
AXAR	**Agios Charalam**	**3.53**	**292**	P		**Pn**	**17 22 00.4**	**+0.4**
GUR	**Goura**	**3.60**	**278**	P		**Pn**	**17 22 00.7**	**-0.3**
YLV	**Yalova**	**3.63**	**32**	Pn		**Pn**	**17 22 02.8**	**+1.4**
KLV	**Kalavryta, Ach**	**3.76**	**280**	P		**Pn**	**17 22 03.3**	**+0.2**
RDO	**Rodhopi**	**3.77**	**345**			**Pn**	**17 22 02.7**	**-0.6**
RDO	**Rodhopi**	**3.77**	**345**	P		**Pn**	**17 22 02.9**	**-0.3**
CIFT	**Ciftеler, Eski**	**3.79**	**60**	Pn		**Pn**	**17 22 04.9**	**+1.3**
KALE	**Kalithea**	**3.83**	**285**	P		**Pn**	**17 22 05.0**	**+0.9**
AGG	**Agios Georgios**	**3.86**	**294**	P		**Pn**	**17 22 06.0**	**+1.4**
PLG	**Polygyros**	**3.90**	**318**	P		**Pn**	**17 22 04.0**	**-1.1**
PLG	**Polygyros**	**3.90**	**318**	P		**Pn**	**17 22 04.5**	**-0.5**
KAVA	**Kavala**	**3.92**	**333**	P		**Pn**	**17 22 04.8**	**-0.5**
ITM	**Ithomi**	**3.94**	**267**			**Pn**	**17 22 05.4**	**-0.2**
ITM	**Ithomi**	**3.94**	**267**	P		**Pn**	**17 22 06.8**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.00**	**293**	P		**Pn**	**17 22 07.7**	**+1.2**
EFP	**Efpalio**	**4.01**	**285**	P		**Pn**	**17 22 07.7**	**+1.1**
ANX	**Ano Chora**	**4.04**	**287**	P		**Pn**	**17 22 08.1**	**+1.0**
DRO	**Drossia**	**4.10**	**278**	P		**Pn**	**17 22 08.8**	**+1.0**
CTYL	**Yalikoy Yolu**	**4.11**	**15**	⇑P		**Pn**	**17 22 09.9**	**+2.0**
CTYL	**Yalikoy Yolu**	**4.11**	**15**	Pn		**Pn**	**17 22 09.5**	**+1.6**
PHSR	**Pnarhisar**	**4.15**	**7**	⇑P		**Pn**	**17 22 10.5**	**+1.8**
EVR	**Evrytania**	**4.21**	**291**	P		**Pn**	**17 22 09.4**	**0.0**
KDZ	**Kurdzhali**	**4.28**	**345**	P		**Pn**	**17 22 09.8**	**-0.4**
KDZ	**Kurdzhali**	**4.28**	**345**	P		**Pn**	**17 22 09.9**	**-0.3**
KDZ	**Kurdzhali**	**4.28**	**345**	P		**Pn**	**17 22 09.9**	**-0.3**
SOH	**Sokhos**	**4.28**	**322**	P		**Pn**	**17 22 11.0**	**+0.7**
RLS	**Riolos of Patr**	**4.30**	**279**	P		**Pn**	**17 22 10.9**	**+0.4**
THL	**Klokotos Trika**	**4.31**	**300**	P		**Pn**	**17 22 10.8**	**+0.2**
PVO	**Paravola**	**4.34**	**286**	P		**Pn**	**17 22 11.6**	**+0.5**
AXS	**Araxos**	**4.39**	**281**	P		**Pn**	**17 22 12.5**	**+0.8**
SRS	**Serrai**	**4.40**	**326**	P		**Pn**	**17 22 11.4**	**-0.5**
SRS	**Ser

DQRL **Deir Qamar** 8.05 116 *e*P Pn 17 23 01.3 -0.8
HWQ **Hawqa** 8.05 111 *e*P Pn 17 23 01.4 -0.8
HERR **Herculane** 8.08 337 ⇑P Pn 17 23 02.1 -0.3
TIP **Timpagrande** 8.10 285 Pn 17 23 02.1 -0.7
TIP **Timpagrande** 8.10 285 Pn Pn 17 23 04.1 +1.3
comp=Z,1µmcomp=Z,136nm,1.2s
BEIL **Beino** 8.12 109 *e*P Pn 17 23 02.9 -0.2
SCTR **Scanteiesti** 8.20 6 ⇓P Pn 17 23 04.6 +0.5
QRWL **Qaraoun** 8.21 116 *e*P Pn 17 23 03.4 -1.0
MDVR **Moldovita** 8.23 334 ⇑P Pn 17 23 05.3 +0.7
ODBI **Odobesti** 8.25 1 ⇑P Pn 17 23 05.8 +1.2
LOT **Lotru** 8.26 345 ⇑P Pn 17 23 05.4 +0.5
GAZ **Gaziantep** 8.26 89 Pn 17 23 05.0 0.0
OFRI `Ofer 8.26 124 P Pn 17 23 01.7 -3.3
OFRI `Ofer 8.26 124 S Sn 17 24 35.1 -3.2
MMA0B **Mount Meron ar** 8.31 120 P Pn 17 23 01.5 -4.2
MMA0B **Mount Meron ar** 8.31 120 S Sn 17 24 35.8 -3.7
MMAI **Mount Meron Ar** 8.31 120 Pn Pn 17 23 05.4 -0.2
comp=Z,20nm,0.5s,baz=308,slow=12,SNR=78
MMAI Sn Sn 17 24 34.8 -4.7
comp=Z,12nm,0.3s,baz=314,slow=22,SNR=7.5
MMAI LR LR 17 26 53.5
comp=Z,333nm,18.9s,baz=305,slow=42
BLGI **Bet Lehem HaGe** 8.33 122 P Pn 17 23 02.4 -3.5
BLGI **Bet Lehem HaGe** 8.33 122 S Sn 17 24 36.3 -3.6
TREB **Trebinje** 8.33 311 *e*P Pn 17 23 07.3 +1.4
PLOR **Plostina** 8.33 359 ⇑P Pn 17 23 06.9 +1.0
PLOR **Plostina** 8.33 359 P Pn 17 23 06.9 +1.0
COVR **Voineasa-Covas** 8.34 357 ⇑P Pn 17 23 07.0 +0.9
VRI **Vrincioaia** 8.35 359 ⇑P Pn 17 23 07.2 +1.1
VRI **Vrincioaia** 8.35 359 P Pn 17 23 07.2 +1.1
RCY **Rachaya** 8.35 116 *e*P Pn 17 23 05.2 -1.1
TNR **Turnu Rosu** 8.36 347 ⇑P Pn 17 23 07.0 +0.7
TNR **Turnu Rosu** 8.36 347 P Pn 17 23 06.9 +0.7
SHBL **Chebaa** 8.36 117 *e*P Pn 17 23 06.1 -0.4
HMYD **Mayadein** 8.37 156 P Pn 17 23 06.4 -0.1
VLDR **Vladesti** 8.38 6 ⇑P Pn 17 23 07.8 +1.4
GEM **Giv'at Ha'Em** 8.38 118 P Pn 17 23 03.4 -3.2
GEM **Giv'at Ha'Em** 8.38 118 S Sn 17 24 37.3 -3.9
NATI **Neve Ativ** 8.40 118 P Pn 17 23 03.5 -3.3
NATI **Neve Ativ** 8.40 118 S Sn 17 24 38.2 -3.4
FKH **Fakeheh** 8.41 110 *e*P Pn 17 23 07.0 -0.2
GZR **Gura Zlata** 8.45 340 ⇑P Pn 17 23 07.1 -0.4
GZR **Gura Zlata** 8.45 340 P Pn 17 23 07.1 -0.4
HNAT **Natroun** 8.46 157 P Pn 17 23 09.6 +1.9
KLINJ **Klinje** 8.47 314 *e*P Pn 17 23 11.8 +4.0
MATE **Matera** 8.49 295 ⇓P Pn 17 23 09.2 +1.2
DOPR **Dopca** 8.52 353 ⇑P Pn 17 23 08.6 +0.2
SLTI **Sal'it** 8.54 126 P Pn 17 23 05.1 -3.6
SLTI **Sal'it** 8.54 126 S Sn 17 24 41.3 -3.7
TURR **Turia** 8.56 356 ⇑P Pn 17 23 10.7 +1.7
KSHT **Keshet** 8.61 119 P Pn 17 23 06.5 -3.2
KSHT **Keshet** 8.61 119 S Sn 17 24 43.3 -3.6
OZUR 8.61 355 ⇑P Pn 17 23 11.2 +1.4
KOT **Kottamia** 8.62 150 P Pn 17 23 08.9 -1.0
MMLI **Mount Malkishu** 8.66 123 P Pn 17 23 06.0 -4.5
MMLI **Mount Malkishu** 8.66 123 S Sn 17 24 44.2 -3.9
CEL **Celeste** 8.70 278 Pn 17 23 10.2 -0.7
CEL **Celeste** 8.70 278 Pn Pn 17 23 11.7 +0.8
comp=Z,758nmcomp=Z,49nm,1.1s
STON **Ston** 8.81 310 *e*P Pn 17 23 16.4 +4.0
MDB **Medias** 8.82 349 ⇑P Pn 17 23 13.9 +1.4
MDB **Medias** 8.82 349 P Pn 17 23 13.9 +1.4
ONER **Baraj Valea Uz** 8.82 358 ⇑P Pn 17 23 13.8 +1.2
HMDT **Nahal Hemdat** 8.85 124 P Pn 17 23 09.9 -3.1
HMDT **Nahal Hemdat** 8.85 124 S Sn 17 24 48.8 -3.8
AMAZ **Amatzia** 8.93 130 P Pn 17 23 10.6 -3.6
AMAZ **Amatzia** 8.93 130 S Sn 17 24 51.7 -3.1
SURR **Surduc** 8.96 338 ⇓P Pn 17 23 15.2 +0.8
CUC **Castrocucco** 8.97 289 Pn 17 23 14.2 -0.4
BZS **Buzias** 8.99 336 ⇑P Pn 17 23 15.2 +0.3
BZS **Buzias** 8.99 336 P Pn 17 23 15.2 +0.3
TESR **Tescani** 8.99 359 ⇑P Pn 17 23 15.7 +0.8
TESR **Tescani** 8.99 359 Pn Pn 17 23 15.5 +0.5
comp=Z,57nm,1.0s
KZIT **Kziot** 9.08 134 P Pn 17 23 12.4 -3.7
KZIT **Kziot** 9.08 134 S Sn 17 24 54.1 -4.3
ACER **Acerenza** 9.08 294 Pn 17 23 16.0 -0.2
ARPR **Arapgir-MALATY** 9.17 77 Pn 17 23 18.1 +0.6
YTIR **Yattir** 9.17 130 P Pn 17 23 14.4 -3.2
YTIR **Yattir** 9.17 130 S Sn 17 24 57.2 -3.6
DSI **Dead Sea** 9.20 128 P Pn 17 23 14.4 -3.4
DSI **Dead Sea** 9.20 128 S Sn 17 24 57.9 -3.3
SIM **Simferopol'** 9.22 34 *e*P Pn 17 23 15.4 -2.7
MSBI **Mazada** 9.36 129 P Pn 17 23 16.4 -3.6
MSBI **Mazada** 9.36 129 S Sn 17 25 01.5 -3.6
GHAJ **Ghor Haditha** 9.49 128 Pn 17 23 22.0 +0.2
GHAJ **Ghor Haditha** 9.49 128 P Pn 17 23 18.0 -3.8
GHAJ **Ghor Haditha** 9.49 128 S Sn 17 25 04.6 -3.8
MILM **Milestii Mici** 9.51 8 ⇓P Pn 17 23 22.5 +0.4
MILM **Milestii Mici** 9.51 P Pn 17 23 22.4 +0.4
SGNT **San Giovanni R** 9.56 300 Pn 17 23 22.7 -0.1
SIRR **Siria** 9.56 338 ⇓P Pn 17 23 23.3 +0.6
MARR **Marisel-Cluj** 9.57 344 ⇑P Pn 17 23 24.2 +1.3
NBNS **Bani Suef** 9.62 156 P Pn 17 23 23.7 +0.2
DRGR 9.77 343 ⇓P Pn 17 23 26.2 +0.6
DRGR 9.77 343 P Pn 17 23 26.2 +0.6
ZFRI **Zfri** 9.79 133 P Pn 17 23 21.9 -4.0
ZFRI **Zfri** 9.79 133 S Sn 17 25 11.6 -4.1
ASF **Jabal al Asfar** 9.82 120 Pn Pn 17 23 27.1 +0.7
comp=Z,2.2nm,0.3s,baz=349,slow=4.1,SNR=19
ASF Sn Sn 17 25 17.5 +0.8
comp=Z,0.5nm,0.3s,baz=277,slow=20,SNR=1.9
comp=Z,6.2nm,0.5s
PRNI **Paran** 9.84 134 P Pn 17 23 23.3 -3.3
PRNI **Paran** 9.84 134 S Sn 17 25 13.5 -3.5
PRAR **RASCA** 9.86 358 ⇑P Pn 17 23 27.7 +0.9
KRMI **Paran Flat** 9.86 136 P Pn 17 23 22.8 -4.1
KRMI **Paran Flat** 9.86 136 S Sn 17 25 13.3 -4.3
VAE **Valguarnera** 9.89 274 Pn Pn 17 23 25.7 -1.5
comp=Z,7.6nm,0.5s,baz=90,slow=11,SNR=1.3
RAFF **Raffo Rosso** 9.95 272 Pn 17 23 28.6 +0.5
PAOL **Paolisi** 10.15 294 Pn 17 23 29.9 -1.0
BURAR **Bucovina Array** 10.17 354 ⇓P Pn 17 23 33.3 +2.1
BURAR **Bucovina Array** 10.17 354 P Pn 17 23 33.2 +2.1
MBRI **Mt Berech** 10.21 137 P Pn 17 23 27.4 -4.4
MBRI **Mt Berech** 10.21 137 S Sn 17 25 22.4 -3.9
KIJV **Kijevo** 10.23 313 *e*P Pn 17 23 33.7 +1.7
BLY **Banja Luka** 10.26 318 *e*P Pn 17 23 33.5 +1.2
EIL **Elat** 10.33 137 Pn Pn 17 23 32.5 -0.8
baz=19,slow=0.0
EIL Sn Sn 17 25 22.6 -6.4
baz=343,slow=0.0
A050A **Klekovaca** 10.45 315 *e*P Pn 17 23 34.8 -0.1
HBST **Basata** 10.57 139 P Pn 17 23 36.0 -0.7
A051A **Mrakovica** 10.58 318 *e*P Pn 17 23 37.9 +1.1
MORH **Mrgy, Hungar** 10.63 327 *e*P Pn 17 23 37.2 -0.1
MORH **Mrgy, Hungar** 10.63 327 ⇑P Pn 17 23 37.7 +0.4
MORH **Mrgy, Hungar** 10.63 327 Pn Pn 17 23 37.4 +0.1
comp=Z,6.7nm,1.5s
NUB **Nuweiba** 10.68 140 P Pn 17 23 37.7 -0.3
HKAT **Jabal Katrina** 10.78 144 P Pn 17 23 38.6 -1.0
ANN **Anapa** 10.79 44 *e*P Pn 17 23 38.1 -1.5
ANN *e*S Sn 17 25 39.6 -0.7
ANN pmax pmax
comp=Z,43nm,1.2s
ANN MLR MLR
comp=N,351nm,11.0s
ANN MLR MLR
comp=Z,273nm,12.0s
ANN MLR MLR
comp=E,302nm,10.0s
INTR **Introdacqua** 10.93 298 Pn 17 23 40.8 -0.7
KOPT **Kop Dagi** 10.95 73 Pn Pn 17 23 41.4 -0.6
MOSL **Moslavina** 11.07 320 *e*P Pn 17 23 44.2 +0.8
MARD **Mardin** 11.08 87 Pn Pn 17 23 42.4 -1.3
TR1 **Tor 1** 11.20 146 P Pn 17 23 44.1 -1.1
AQU **L'Aquila** 11.40 299 P Pn 17 23 51.9 +4.0
AQU pmax pmax
comp=Z,22nm,1.0s
CAMP **Campotosto** 11.46 300 Pn 17 23 46.1 -2.8
SOC **Sochi** 11.51 54 *e*P Pn 17 23 47.4 -2.0
SOC *e* 17 25 56.2
SOC MLR MLR
comp=Z,359nm,13.0s
PSZ **Piszkesteto** 11.58 336 Pn Pn 17 23 48.3 -2.1
PSZ **Piszkesteto** 11.58 336 P Pn 17 23 48.3 -2.1
GUMA **Gualdo di Mace** 11.71 302 Pn Pn 17 23 51.5 -0.7
HHRG **Al Ghardaqah** 11.72 149 P Pn 17 23 53.8 +1.3
OZLJ **Ozalj** 11.75 317 *e*P Pn 17 23 53.1 +0.5
NRCA **Norcia** 11.77 301 Pn 17 23 51.6 -1.4

FDMO **Fiordimonte** 11.87 302 Pn 17 23 53.1 -1.3
GURO **Guroymak-BITLI** 12.02 80 Pn 17 23 56.3 -0.2
CESX **Cesi** 12.06 299 Pn Pn 17 23 56.3 -0.6
HDK1 **Dakhla** 12.13 169 P Pn 17 23 59.9 +1.9
MURB **Monte Urbino** 12.34 302 Pn Pn 17 24 00.4 -0.3
LUBAR **Lubar, Ukraine** 12.42 3 Pn Pn 17 24 03.3 +1.5
VYHS **Vyhne** 12.44 334 *e*P Pn 17 24 02.4 +0.4
VYHS **Vyhne** 12.44 334 *e*PN Pn 17 24 02.4 +0.4
KWP **Kalwaria Pacla** 12.48 347 Pn Pn 17 24 03.8 +1.2
comp=Z,691nmcomp=Z,8.0nm,0.6s
SOKA **Soboth** 12.67 320 *e*Pn Pn 17 24 05.3 -0.1
comp=Z,1.1nm,0.3s
RONA **Rosalia, Austr** 12.80 326 *e*Pn Pn 17 24 07.2 +0.2
comp=Z,8.5nm,1.2s
NIE **Niedzica** 12.81 340 P Pn 17 24 09.3 +2.1
NIE pmax pmax
comp=Z,5.0nm,1.2s
NIE **Niedzica** 12.81 340 Pn Pn 17 24 08.8 +1.6
comp=Z,4.6nm,1.2s
OBKA **Obir** 12.81 318 *e*Pn Pn 17 24 08.7 +1.4
comp=Z,0.2nm,0.3s
ARSA **Arzberg** 12.82 323 Pn 17 24 06.2 -1.1
ARSA **Arzberg** 12.82 323 *e*Pn Pn 17 24 08.0 +0.6
comp=Z,0.2nm,0.3s
GEVA **Gevas** 12.83 81 Pn 17 24 06.7 -0.9
SABO **M.te Sabotino** 13.01 315 Pn Pn 17 24 08.2 -1.6
ERBR **Yeremizino-Bor** 13.07 47 *e*P Pn 17 24 09.3 -1.4
ERBR *e*S Sn 17 26 36.0 0.0
ERBR pmax pmax
comp=Z,8.0nm,0.4s
CONA **Conrad Observa** 13.16 326 *e*Pn Pn 17 24 09.6 -2.4
comp=Z,9.0nm,1.4s
AK13 **Malin Array Si** 13.19 6 Pn Pn 17 24 14.1 +1.8
AK09 **Malin Array Si** 13.21 7 Pn Pn 17 24 13.5 +0.9
AK12 **Malin Array Si** 13.23 6 Pn Pn 17 24 14.3 +1.4
KIEV **Kiev** 13.29 7 Pn Pn 17 24 11.6 -2.0
KIEV **Kiev** 13.29 7 P Pn 17 24 11.6 -2.0
KIEV **Kiev** 13.29 7 Pn Pn 17 24 16.4 +2.8
comp=Z,785nmcomp=Z,27nm,0.9s
AKASG **Malin Array Be** 13.29 7 Pn Pn 17 24 11.0 -2.7
comp=Z,0.6nm,0.3s,baz=252,slow=34,SNR=2.0
AKASG LR LR 17 30 08.6
comp=Z,277nm,19.3s,baz=173,slow=41
AKASG **Malin Array Be** 13.29 7 *i*P Pn 17 24 14.5 +0.8
AKBB **Malin Array Si** 13.29 7 Pn Pn 17 24 16.3 +2.6
OSSC **Osservatorio P** 13.30 302 Pn Pn 17 24 12.1 -1.7
AK18 **Malin Array Si** 13.30 6 Pn Pn 17 24 15.7 +1.9
MYKA **Terra Mystica** 13.37 317 *e*Pn Pn 17 24 16.1 +1.2
comp=Z,4.6nm,0.9s
KIV **Kislovodsk** 13.62 57 Pn Pn 17 24 15.6 -2.7
KIV **Kislovodsk** 13.62 57 *e*P Pn 17 24 17.9 -0.3
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,118nm,13.0s
KBZ **Khabaz** 13.67 58 Pn P 17 24 23.7 -4.0
comp=Z,0.1nm,0.3s,baz=278,slow=7.8,SNR=7.3
KBZ LR LR 17 30 23.8
comp=Z,237nm,19.6s,baz=241,slow=41
comp=Z,1.0nm,0.6s
KBZ **Khabaz** 13.67 58 *i*eP Pn 17 24 16.8 -2.1
STAL **STALIGIAL** 13.67 314 Pn Pn 17 24 16.1 -2.8
OJC **Ojcow** 13.68 341 Pn Pn 17 24 16.6 -2.3
OJC **Ojcow** 13.68 341 P Pn 17 24 16.6 -2.3
RNPP5 **Staryi Chortor** 13.73 357 Pn Pn 17 24 21.3 +1.6
ZCCA **Zocca** 13.80 305 Pn Pn 17 24 18.3 -2.4
KRUC **Moravsky** 13.81 330 *e*PN Pn 17 24 20.6 -0.2
KBA **Koelnbreinsper** 13.81 318 P Pn 17 24 24.3 +3.3
KBA pmax pmax
comp=Z,29nm,1.2s
KBA **Koelnbreinsper** 13.81 318 *e*P Pn 17 24 22.9 +1.9
comp=Z,13nm,1.3s
OKC **Ostrava-Krasne** 13.82 336 AMS AMS 17 30 40.0
comp=Z,1µm,13.0s
VSL **Villasalto** 13.83 284 Pn 17 24 18.4 -2.7
RNPP8 **Varash** 13.84 357 Pn Pn 17 24 22.6 +1.4
MOA **Molln** 13.85 322 *e*Pn Pn 17 24 22.2 +0.8
comp=Z,3.1nm,0.4s,SNR=7.9
RNPP9 **Sopachiv** 13.91 358 Pn Pn 17 24 23.6 +1.4
VRAC **Vranov** 13.93 331 Pn Pn 17 24 23.0 +0.5
comp=Z,0.4nm,0.3s,baz=215,slow=12,SNR=2.1
VRAC LR LR 17 30 06.5
comp=Z,232nm,19.6s,baz=150,slow=39
comp=Z,1.4nm,0.4s
VRAC **Vranov** 13.93 331 *e*PN Pn 17 24 21.1 -1.4
MORC **Moravsky Berou** 13.97 334 Pn Pn 17 24 21.7 -1.4
MORC **Moravsky Berou** 13.97 334 *e*PN Pn 17 24 23.1 0.0
MORC **Moravsky Berou** 13.97 334 P Pn 17 24 21.7 -1.4
BIOA **Bad Ischl, Aus** 14.06 321 *e*Pn Pn 17 24 24.1 -0.1
comp=Z,1.7nm,0.4s
ABTA **Abtersbach** 14.06 316 *e*Pn Pn 17 24 25.6 +1.2
comp=Z,3.2nm,0.6s
KEST **Kesra** 14.17 268 Pn Pn 17 24 25.4 -0.6
comp=Z,0.2nm,0.3s,baz=66,slow=6.0,SNR=4.1
comp=Z,1.6nm,0.7s
GNI **Garni** 14.20 74 Pn 17 24 23.4 -2.9
GNI **Garni** 14.20 74 Pn P 17 24 30.5 -3.3
comp=Z,0.3nm,0.3s,baz=260,slow=19,SNR=7.8
GNI LR LR 17 29 56.3
comp=Z,260nm,19.5s,baz=284,slow=37
comp=Z,5.2nm,0.9s
GNI **Garni** 14.20 74 ⇓*e*P Pn 17 24 25.8 -0.5
GNI pmax pmax
comp=Z,30nm,1.6s
TREC **Trest** 14.36 329 AMS AMS 17 31 10.0
comp=Z,700nm,10.0s
LESA **Schwarzleotal** 14.38 318 *e*Pn Pn 17 24 30.2 +1.5
comp=Z,3.1nm,0.6s,SNR=4.0
KRLC **Kraliky** 14.49 333 *e*P P 17 24 37.9 +1.0
KRLC MLR MLR
comp=Z,1µm,11.1s
KRLC **Kraliky** 14.49 333 *e*P P 17 24 37.9 +1.0
KRLC AMS AMS 17 31 10.0
comp=Z,1µm,11.1s
PGF **Pioggiola** 14.57 296 P P 17 24 36.7 -1.1
PGF pmax pmax
comp=Z,15nm,1.2s
NAX **Nakhchivan** 14.73 78 P Pn 17 24 33.1 -0.4
MSSA **Maissana** 14.75 303 Pn Pn 17 24 32.8 -1.0
GEC2 **GERESS Array S** 14.82 324 *e*P P 17 24 42.6 +2.1
comp=Z,30nm,1.8s,baz=132,slow=11
GERES **GERESS Array B** 14.82 324 Pn P 17 24 39.6 -1.0
baz=145,slow=9.6,SNR=9.6
GERES LR LR 17 29 55.3
comp=Z,160nm,19.4s,baz=138,slow=36
WTTA **Wattenberg** 14.85 316 *e*P P 17 24 39.6 -1.5
comp=Z,20nm,1.1s
DPC **Dobruska-Polom** 14.89 333 AMS AMS 17 31 10.0
comp=Z,800nm,10.8s
WATA **Walderalm** 14.93 316 *i*P P 17 24 39.0 -2.8
comp=Z,16nm,1.1s
SQTA **Sankt Quirin** 15.07 315 *e*P P 17 24 40.9 -2.5
comp=Z,0.1nm,0.3s
KHC **Kasperske Hory** 15.08 325 *ce*P Pn 17 24 38.4 +0.3
KHC pmax pmax
comp=Z,11nm,1.3s
KHC **Kasperske Hory** 15.08 325 *e*P P 17 24 43.5 +0.1
KHC AMS AMS 17 31 00.0
comp=Z,700nm,10.2s
OSTC **Ostas** 15.10 333 AMS AMS 17 31 30.0
comp=Z,1µm,11.0s
CHVC **Chvalec** 15.18 333 *e*P P 17 24 49.5 +5.0
CHVC AMS AMS 17 31 30.0
comp=Z,700nm,12.2s
MOTA **Moosalm** 15.20 315 *e*P P 17 24 42.4 -2.5
comp=Z,11nm,0.9s
FETA **Feichten** 15.23 314 *e*P P 17 24 44.2 -1.0
comp=Z,9.7nm,0.9s,SNR=8.1
FUORN **Ofenpass-Fuorn** 15.29 312 Pn 17 24 39.9 -1.3
PRU **Pruhonice** 15.29 329 AMS AMS 17 31 30.0
comp=Z,1µm,11.2s
KSP **Ksiaz** 15.31 334 P P 17 24 44.6 -1.3
KSP pmax pmax
comp=Z,6.0nm,1.6s
PRA **Prague** 15.40 329 AMS AMS 17 31 30.0
comp=Z,1µm,10.1s
WET **Wettzell** 15.41 323 P P 17 24 48.7 +1.6
WET pmax pmax
comp=Z,8.0nm,1.0s
WET **Wettzell** 15.41 323 *e*P P 17 24 48.4 +1.3
comp=Z,24nm,1.5s,baz=132,slow=11
GANJ **Ganja** 15.44 72 P Pn 17 24 42.7 -0.2
RETA **Reutte** 15.47 315 *i*P P 17 24 45.6 -2.2
comp=Z,2.7nm,0.9s
DAVOX **Davos/Dischmat** 15.60 312 Pn Pn 17 24 43.6 -1.5
comp=Z,0.2nm,0.3s,baz=135,slow=11,SNR=6.7

DAVOX LR LR 17 30 59.0
comp=Z,296nm,19.6s,baz=94,slow=38
comp=Z,0.6nm,0.3s
PVCC **Panska Ves** 15.70 330 AMS AMS 17 32 00.0
comp=Z,800nm,10.0s
TUE **Stuetta** 15.77 310 Pn 17 24 46.2 -1.1
DAVA **Damuels** 15.86 313 *e*P P 17 24 52.0 -0.2
comp=Z,19nm,1.3s,SNR=5.2
MNGR **Mingechevir, A** 16.03 72 P Pn 17 24 50.2 -0.3
VORD **Divnogorie** 16.11 29 *e*P P 17 24 55.9 +1.2
VORD pmax pmax
comp=Z,7.0nm,1.1s
SEKA **Sheki** 16.16 70 P Pn 17 24 52.9 +0.6
ROTZ **Rotzenmuhle** 16.16 324 *e*P P 17 24 56.8 +1.4
comp=Z,3.0nm,1.5s,baz=132,slow=11
BRG **Berggiesshubel** 16.22 330 *e*P P 17 24 59.8 +3.9
comp=Z,19nm,1.3s,baz=132,slow=11
BRG **Berggiesshubel** 16.22 330 *e*P P 17 25 00.1 +4.2
BRG Amp 17 25 03.1
comp=Z,19nm,1.3s
BRG PP PnPn 17 25 10.0 +8.3
BRG Amp 17 25 11.0
comp=Z,10nm,1.1s
BRG **Berggiesshubel** 16.22 330 S S 17 28 11.0 +5.4
HSKC **Hora Svate Kat** 16.23 328 AMS AMS 17 32 10.0
comp=Z,700nm,10.5s
VSR **Storozhevoye** 16.25 29 *e*P Pn 17 24 54.1 +0.8
VSR pmax pmax
comp=Z,9.0nm,1.0s
MANZ **Manzenberg** 16.36 324 *e*P P 17 25 01.2 +3.6
comp=Z,4.9nm,1.6s,baz=132,slow=11
ISO **Isola** 16.38 300 P P 17 24 59.8 +1.9
ISO pmax pmax
comp=Z,9.0nm,1.0s
TANN **Tannenbergstha** 16.50 326 *e*P P 17 25 03.3 +4.1
comp=Z,31nm,1.7s,baz=132,slow=11
GRA1 **Grafenberg Arr** 16.58 322 Pn Pn 17 24 56.4 -1.2
GRF **Grafenberg Arr** 16.58 322 P Pn 17 24 56.4 -1.2
GRF pmax pmax
comp=Z,9.0nm,0.8s
GRF **Grafenberg Arr** 16.58 322 *e*P P 17 25 01.7 +1.6
comp=Z,20nm,1.4s,baz=132,slow=11
GRFO **Grafenberg** 16.58 322 Pn Pn 17 24 56.0 -1.5
GRFO **Grafenberg** 16.58 322 P Pn 17 24 56.0 -1.5
GRFO pmax pmax
comp=Z,8.0nm,0.8s
AKT **Akhty** 16.59 70 *e*P P 17 25 00.0 -0.3
AKT pmax pmax
comp=Z,10.0nm,1.1s
AKT MLR MLR
comp=Z,1µm,43.0s
MAK **Makhachkala** 16.67 65 *e*P Pn 17 24 54.7 -3.9
MAK *e*S Sn 17 27 59.0 -4.6
MAK pmax pmax
comp=Z,44nm,0.3s
MAK MLR MLR
comp=Z,208nm,16.0s
PLN **Plauen** 16.69 326 *e*P P 17 25 02.4 +1.2
comp=Z,12nm,1.5s,baz=132,slow=11
SUW **Suwalki** 16.70 352 Pn Pn 17 24 57.1 -1.8
SUW **Suwalki** 16.70 352 P Pn 17 24 57.1 -1.8
BNI **Bardonecchia** 16.90 303 Pn Pn 17 25 00.6 -1.2
BNI **Bardonecchia** 16.90 303 P Pn 17 25 00.6 -1.2
BNI pmax pmax
comp=Z,8.0nm,0.9s
SLE **Schleitheim** 16.91 313 P P 17 25 05.7 +2.0
SLE pmax pmax
comp=Z,15nm,1.6s
CLL **Collm** 16.93 329 Pn 17 25 01.5 -0.4
CLL **Collm** 16.93 329 *i*P P 17 25 03.3 -0.6
CLL *e*S S 17 28 17.0 -3.2
CLL **Collm** 16.93 329 *e*P P 17 25 07.0 +3.2
comp=Z,51nm,2.2s,baz=132,slow=11
CLL **Collm** 16.93 329 *i*P P 17 25 03.3 -0.6
CLL *i*x x 17 25 06.7
CLL *i*x x 17 25 08.0
comp=Z,33nm,1.9s
CLL *i*x x 17 25 17.2
comp=Z,28nm,1.6s
CLL *e*S Sn 17 28 13.0 +3.1
CLL Lmax 17 32 00.0
SENIN **Lac Senin/Sane** 16.99 308 Pn 17 25 02.3 -0.6
MNK **Minsk** 17.01 2 *i*P Pn 17 25 01.1 -1.7
comp=E,32nm,1.0s
MNK *i*P Pn 17 25 01.1 -1.7
comp=N,8.0nm,0.8s
MNK *i*P Pn 17 25 01.1 -1.7
comp=Z,23nm,1.0s,baz=183
MNK *i*PP PnPn 17 25 11.9 -0.6
MNK *i*PPP PPP 17 25 19.0
MNK *i*S Sn 17 28 09.6 -2.1
MNK *i*SS SnSn 17 28 24.8 -0.2
MNK *i*SSS SSS 17 28 37.4
MNK *i*LQ LQ 17 30 01.3
MNK *i*LR LR 17 31 15.2
MNK *i*LRM MLR 17 32 09.7
comp=Z,242nm,16.0s
MNK *i*LRM MLR 17 32 11.6
comp=E,185nm,15.1s
MNK *i*LRM MLR 17 32 19.1
comp=N,124nm,12.3s
MNK **Minsk** 17.01 2 *i*P Pn 17 25 01.1 -1.7
MNK *i*S Sn 17 28 09.6 -2.1
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=Z,23nm,1.0s
MNK pmax pmax
comp=E,32nm,1.0s
MNK MLR MLR
comp=Z,242nm,16.0s
MNK MLR MLR
comp=E,185nm,15.0s
MNK MLR MLR
comp=N,124nm,12.0s
MOX **Moxa** 17.05 325 *e*P P 17 25 08.4 +3.3
comp=N,19nm,1.4s,baz=132,slow=11
VRH **Novokhopyorsk** 17.29 33 *e*P P 17 25 07.9 +0.2
VRH pmax pmax
comp=Z,10.0nm,1.2s
LKRN **Lenkeran, Azer** 17.30 79 P Pn 17 25 06.3 -0.3
BFO **Black Forest** 17.30 315 Pn 17 25 04.8 -1.8
BFO **Black Forest** 17.30 315 P Pn 17 25 04.8 -1.8
BFO pmax pmax
comp=Z,17nm,1.5s
BFO **Black Forest** 17.30 315 *e*P P 17 25 11.2 +3.2
comp=Z,85nm,2.8s,baz=132,slow=11
NACGM **Naroch** 17.40 360 *e*P Pn 17 25 04.1 -3.6
comp=Z,9.0nm,1.2s,baz=180
ORIF **Oris-en-Rattie** 17.40 302 P P 17 25 11.0 +1.8
ORIF pmax pmax
comp=Z,10.0nm,1.0s
ECH **Echery** 17.91 313 Pn 17 25 13.0 -1.2
ECH **Echery** 17.91 313 P Pn 17 25 13.0 -1.2
ECH pmax pmax
comp=Z,13nm,1.2s
PABE **Paberze** 18.11 355 Pn 17 25 14.1 -2.3
PABE IAmb IAmb 17 25 16.9
comp=Z,45nm,1.1s
TNS **Taunus Mts** 18.31 320 P P 17 25 21.7 +2.6
TNS pmax pmax
comp=Z,13nm,1.4s
TNS **Taunus Mts** 18.31 320 *e*P P 17 25 21.2 +2.1
comp=Z,11nm,1.0s,baz=132,slow=11
GTTG **Gottingen** 18.42 325 *e*P Pn 17 25 22.9 +2.5
comp=Z,22nm,1.1s,baz=132,slow=11
FLTG **Flechtingen** 18.43 328 *e*P Pn 17 25 20.8 +0.4
comp=Z,16nm,1.4s,baz=132,slow=11
OBN **Obninsk** 18.81 18 LR LR 17 33 35.4
comp=Z,190nm,20.6s,baz=170,slow=40
OBN **Obninsk** 18.81 18 *de*P Pn 17 25 27.3 +2.3
OBN pmax pmax
comp=Z,35nm,2.1s
OBN MLR MLR
comp=Z,186nm,13.0s
WLF **Walferdange** 19.22 316 P P 17 25 27.0 -2.1
WLF **Walferdange** 19.22 316 P P 17 25 27.0 -2.1
WLF pmax pmax
comp=Z,18nm,1.1s
WLF **Walferdange** 19.22 316 *d*P Pn 17 25 34.0 +3.9
RETH **Rethem/Aller,** 19.52 327 *e*P P 17 25 32.6 +0.4
comp=Z,24nm,1.5s,baz=132,slow=11
CORI **Orista** 19.56 291 P P 17 25 30.3 -2.6
MOS **Moscow** 19.63 18 *e*P P 17 25 32.1 -1.4
MOS pmax pmax

MEM Membach 19.80 318 *d*P Pn 17 25 41.3 +4.2
RCHB Rochefort 19.99 316 *d*P Pn 17 25 43.8 +4.6
BCLA Clavier 20.08 317 *d*P Pn 17 25 43.9 +3.6
BGES Gesves 20.18 317 *d*P Pn 17 25 46.0 +4.5
CEST Esterri de Car 20.21 293 P 17 25 37.6 -2.5
DOU Dourbes 20.31 315 *d*P Pn 17 25 49.2 +6.2
EBR Ebro Roquetas 20.67 287 P P 17 25 44.0 -1.0
EBR Ebro Roquetas 20.67 287 P P 17 25 44.0 -1.0
UCC Uccle 20.79 317 P P 17 25 45.0 -1.1
UCC Uccle 20.79 317 P P 17 25 45.1 -1.1
UCC pmax pmax
comp=Z,14nm,1.0s
CLF Chambon-Foret 20.80 308 P 17 25 45.2 -1.1
CLF IAmb IAmb 17 25 54.9
comp=Z,55nm,1.3s
BELG Belogornoye 20.81 38 P P 17 25 47.0 +0.6
comp=Z,22nm,0.8s,baz=198,slow=20,SNR=9.1
comp=Z,22nm,0.8s
BELG Belogornoye 20.81 38 *d i*P P 17 25 46.2 -0.1
BELG pmax pmax
comp=Z,11nm,1.1s
VSU Vasula 20.96 360⇑ *e*P P 17 25 47.9 0.0
VSU pmax pmax
comp=Z,25nm,0.9s
RAYN Ar Rayn 21.22 126 P 17 25 49.9 -1.2
RAYN Ar Rayn 21.22 126 P P 17 25 49.9 -1.2
RAYN pmax pmax
comp=Z,13nm,1.2s
TAM Tamanrasset 23.49 237 P 17 26 14.8 -0.3
TAM Tamanrasset 23.49 237 P P 17 26 14.8 -0.3
TAM pmax pmax
comp=Z,20nm,0.6s
FINES FINESS Array B 23.96 359 P P 17 26 18.7 -0.4
comp=Z,3.0nm,0.7s,baz=182,slow=11,SNR=7.0
FINES LR LR 17 36 26.5
comp=Z,180nm,18.4s,baz=162,slow=39
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 24.12 285 P P 17 26 20.1 -1.0
comp=Z,5.8nm,0.9s,baz=76,slow=8.6,SNR=28
comp=Z,5.8nm,0.9s
HFS Hagfors 24.15 344 P P 17 26 20.0 -1.0
comp=Z,4.5nm,0.8s,baz=165,slow=6.0,SNR=5.4
HFS LR LR 17 36 27.3
comp=Z,184nm,18.9s,baz=162,slow=38
comp=Z,4.5nm,0.8s
HFS Hagfors 24.15 344 P P 17 26 20.0 -1.0
PAB San Pablo 24.43 284 P P 17 26 22.5 -1.4
PAB San Pablo 24.43 284 P P 17 26 22.5 -1.4
PAB pmax pmax
comp=Z,13nm,1.3s
KLMR Klimovskoe 24.70 15 *e*P P 17 26 24.7 -1.2
KLMR *e* 17 26 56.1
KLMR pmax pmax
comp=Z,25nm,1.3s
NB2 NORSAR Subarra 25.53 342 P P 17 26 33.7 +0.2
comp=Z,27nm,1.7s,baz=150,slow=9.3
NOA NORSAR Array B 25.53 342 P P 17 26 33.2 -0.4
comp=Z,1.4nm,0.8s,baz=167,slow=9.1,SNR=4.0
NOA LR LR 17 37 39.0
comp=Z,126nm,18.5s,baz=150,slow=39
comp=Z,1.4nm,0.8s
AKTO Aktyubinsk 25.67 50 LR LR 17 40 39.8
comp=Z,82nm,19.0s,baz=58,slow=46
KIRV Kirov 25.69 28⇑ *e*P P 17 26 35.0 +0.1
PBRG Braganca 26.11 290 *e*P P 17 26 40.1 +1.0
PBRG *i* IAmb IAmb 17 27 02.9
comp=Z,19nm,2.2s
MVO Moncorvo 26.36 289 *e*P P 17 26 43.3 +2.0
MVO *i* IAmb IAmb 17 26 51.5
comp=Z,33nm,1.8s
PBAR Barrancos 26.69 282 *e*P P 17 26 44.9 +0.7
PBAR *i* IAmb IAmb 17 26 47.9
comp=Z,27nm,1.7s
PMRV Marv??o 26.79 285 *e*P P 17 26 47.5 +2.4
MTE Manteigas 26.80 287 *e*P P 17 26 46.9 +1.5
MTE *i* IAmb IAmb 17 26 59.6
comp=Z,33nm,1.7s
PCBR Castelo Branco 26.81 286 *e*P P 17 26 45.6 +0.3
PCBR *i* IAmb IAmb 17 27 11.5
comp=Z,17nm,1.5s
EKA Eskdalemuir Ar 26.99 321 P P 17 26 44.3 -2.5
comp=Z,1.8nm,0.7s,baz=121,slow=9.9,SNR=2.4
comp=Z,1.8nm,0.7s
PESTR Estremoz 27.01 284 P P 17 26 46.2 -1.0
PESTR IAmb IAmb 17 27 10.9
comp=Z,21nm,1.4s
PESTR Estremoz 27.01 284 *e*P P 17 26 47.6 +0.5
PVIS Viseu 27.04 288 *e*P P 17 26 49.1 +1.6
PVAQ Vaqueiros 27.35 280 *e*P P 17 26 50.9 +0.7
PVAQ *i* IAmb IAmb 17 27 20.6
comp=Z,45nm,2.0s
PBEJ Beja 27.36 282 *e*P P 17 26 51.2 +0.9
PSARD Sardoal 27.36 285 *e*P P 17 26 50.8 +0.5
EVO Evora 27.39 283 *e*P P 17 26 50.7 +0.2
PMTG Montargil 27.48 284 *e*P P 17 26 53.7 +2.4
PMTG *i* IAmb IAmb 17 27 37.0
comp=Z,27nm,1.7s
MESJ Messejana 27.66 282 *e*P P 17 26 52.7 -0.3
MESJ IAmb IAmb 17 26 54.2
comp=Z,12nm,1.0s
MESJ Messejana 27.66 282 P P 17 26 52.5 -0.5
MESJ IAmb IAmb 17 26 54.5
comp=Z,16nm,1.1s
MESJ Messejana 27.66 282 *e*P P 17 26 53.9 +0.9
MESJ Messejana 27.66 282 P P 17 26 52.5 -0.5
MESJ pmax pmax
comp=Z,17nm,1.1s
PARRA Arraiolos 28.14 284 *e*P P 17 26 52.8 -4.5
ARTI Arti 28.25 38 P P 17 26 57.9 -0.2
ARTI Arti 28.25 38 LR LR 17 38 02.6
comp=Z,49nm,18.6s,baz=226,slow=36
ARTI Arti 28.25 38 P P 17 26 58.8 +0.7
ARTI S S 17 31 47.7 +4.0
ARTI SS SnSn 17 33 05.2 +5.0
FURI Furi 30.43 156 LR LR 17 39 45.3
comp=Z,104nm,20.5s,baz=346,slow=37
LVZ Lovozero 30.75 6 P P 17 27 21.1 +1.0
comp=Z,13nm,1.1s
LVZ pP sP 17 27 24.9 -0.2
comp=Z,13nm,1.1s
ARCES ARCESS Array B 32.09 359 P P 17 27 32.1 +0.3
comp=Z,2.2nm,1.0s,baz=174,slow=4.9,SNR=3.7
ARCES LR LR 17 41 51.5
comp=Z,114nm,21.0s,baz=167,slow=39
comp=Z,2.2nm,1.0s
SIMJ Simiganj 32.99 75 P 17 27 40.3 0.0
TORD Torodi Ar. Bea 33.05 229 P P 17 27 41.1 +0.3
comp=Z,6.3nm,0.5s,baz=34,slow=9.5,SNR=45
TORD PcP PcP 17 30 23.7 -0.6
comp=Z,1.8nm,0.9s,baz=31,slow=1.4,SNR=4.4
comp=Z,6.3nm,0.5s
CHGR Chuyangaron 33.11 75 P 17 27 41.1 -0.1
CHGR Chuyangaron 33.11 75 P P 17 27 41.1 -0.1
CHGR pmax pmax
comp=Z,53nm,0.8s
BVAR Borovoye Array 33.75 48 P P 17 27 48.2 +1.6
comp=Z,1.3nm,0.7s,baz=258,slow=7.4,SNR=11
BVAR LR LR 17 44 32.8
comp=Z,111nm,18.0s,baz=226,slow=42
comp=Z,1.3nm,0.7s
GAR Garm 33.93 74 P P 17 27 48.8 +0.4
LODK Lodwar 34.81 165 P 17 27 55.7 -0.5
ARSB Arslanbob 35.52 69 P P 17 28 02.3 +0.1
ARSB IAmb IAmb 17 28 06.5
comp=Z,19nm,1.3s
ARSB Arslanbob 35.52 69 P P 17 28 02.3 +0.1
ARSB pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 36.43 67 P P 17 28 09.7 -0.3
AAK IAmb IAmb 17 28 17.9
comp=Z,7.8nm,0.8s
AAK Ala-Archa 36.43 67⇑ *i*P P 17 28 11.6 +1.6
AAK pmax pmax
comp=Z,13nm,1.2s
NIL Nilore 37.64 82 P P 17 28 20.6 +0.4
NIL Nilore 37.64 82 P P 17 28 20.6 +0.4
NIL pmax pmax
comp=Z,25nm,1.2s
MBAR Mbarara 38.09 174 P P 17 28 24.2 0.0
MBAR Mbarara 38.09 174 P P 17 28 24.2 0.0
MBAR pmax pmax
comp=Z,10.0nm,1.2s
KSH Kashi 38.11 71 P P 17 28 25.0 +0.8
KSH pP sP 17 28 30.8 +1.6
KSH pmax pmax
comp=Z,7.0nm,0.9s
JMIC Jan Mayen 38.24 342 LR LR 17 45 44.4
comp=Z,63nm,19.8s,baz=207,slow=39
KURBB Kurchatov Arra 38.60 53 P P 17 28 29.2 +1.2
comp=Z,11nm,0.6s,baz=278,slow=8.7,SNR=67
KURBB PcP PcP 17 30 40.8 +0.5
comp=Z,0.6nm,0.4s,baz=265,slow=3.9,SNR=5.1
KURBB LR LR 17 46 30.5
comp=Z,70nm,18.6s,baz=176,slow=40
comp=Z,11nm,0.6s
KURK Kurchatov 38.66 53 P P 17 28 28.8 +0.3
KURK IAmb IAmb 17 28 30.8
comp=Z,14nm,0.8s
KURK Kurchatov 38.66 53 *d i*P P 17 28 29.5 +1.0
KURK pmax pmax
comp=Z,24nm,1.3s
TARG Taragay, Kyrgy 39.01 67 P P 17 28 31.6 -0.5
TARG Taragay, Kyrgy 39.01 67 P P 17 28 31.6 -0.5
TARG pmax pmax
comp=Z,5.0nm,0.9s
BORG Borgarnes 39.18 330 LR LR 17 47 30.8
comp=Z,70nm,18.0s,baz=112,slow=41
SPITS Spitsbergen Ar 41.01 357 LR LR 17 47 00.5
comp=Z,136nm,19.7s,baz=171,slow=38
MK31 Makanchi Array 41.37 59 *d i*P P 17 28 52.0 +0.9
MKAR Makanchi Array 41.37 59 P P 17 28 52.2 +1.1
comp=Z,12nm,0.9s,baz=284,slow=6.5,SNR=82
MKAR LR LR 17 48 33.7
comp=Z,65nm,18.5s,baz=264,slow=40
comp=Z,12nm,0.9s
DBIC Dimbokro 42.10 231 P P 17 28 57.2 -0.2
comp=Z,6.7nm,0.7s,baz=65,slow=9.5,SNR=8.4
DBIC LR LR 17 47 10.0
comp=Z,53nm,18.4s,baz=122,slow=37
comp=Z,6.7nm,0.7s
ZALV Zalesovo Beam 42.41 48 P P 17 29 00.3 +0.9
comp=Z,8.0nm,0.8s,baz=268,slow=8.8,SNR=36
ZALV LR LR 17 49 56.9
comp=Z,64nm,18.1s,baz=312,slow=41
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 42.41 48 *i*P P 17 29 00.7 +1.2
ZALV pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 45.67 62 *e*P P 17 29 28.3 +2.4
SACV Santiago Islan 49.84 257 P P 17 29 57.7 -0.8
EVN Everest 50.59 82 P P 17 30 03.5 -1.3
EVN IAmb IAmb 17 30 06.9
comp=Z,11nm,1.0s
SFJD Kangerlussuaq 51.29 331 LR LR 17 51 28.5
comp=Z,97nm,21.2s,baz=94,slow=36
MOY Mondy 52.43 49 *e*P P 17 30 19.5 +1.9
MOY pmax pmax
comp=Z,13nm,2.7s
LSZ Lusaka 52.52 178 P P 17 30 18.6 0.0
LSZ IAmb IAmb 17 30 21.0
comp=Z,8.4nm,1.2s
LSZ Lusaka 52.52 178 P P 17 30 18.6 0.0
LSZ pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 53.21 78 P P 17 30 24.3 +0.2
LSA IAmb IAmb 17 30 26.9
comp=Z,9.8nm,1.1s
LSA Lhasa 53.21 78 P P 17 30 24.5 +0.4
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA Lhasa 53.21 78 P P 17 30 24.3 +0.2
LSA pmax pmax
comp=Z,10.0nm,1.1s
GOMU GeErMu 53.28 69 P P 17 30 25.8 +1.3
GOMU pmax pmax
comp=Z,5.0nm,0.9s
ZAK Zakamensk 54.18 50 *e*P P 17 30 31.8 +1.3
ZAK pmax pmax
comp=Z,9.0nm,1.4s
KSANE Kasane 55.04 182 P P 17 30 36.9 -0.1
KSANE IAmb IAmb 17 30 39.0
comp=Z,7.0nm,0.7s
GTA Gaotai 55.67 64 P P 17 30 42.8 +1.3
GTA pP sP 17 30 46.3 -0.3
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=N,150nm,16.3s
GTA LR LR
comp=E,85nm,16.7s
GTA LR LR
comp=Z,100nm,14.3s
SONM Songino Array 56.95 52 P P 17 30 52.1 +1.5
comp=Z,5.1nm,1.0s,baz=280,slow=9.1,SNR=26
SONM LR LR 17 57 40.8
comp=Z,59nm,18.7s,baz=312,slow=38
comp=Z,5.1nm,1.0s
QNGWA Qangwa 56.99 186 *i*P P 17 30 52.1 +1.2
TSUM Tsumeb 57.08 190 LR LR 17 56 35.3
comp=Z,90nm,19.0s,baz=36,slow=37
ULN Ulaanbaatar 57.36 52 P P 17 30 53.6 +0.2
ULN Ulaanbaatar 57.36 52 *c i*P P 17 30 55.2 +1.8
ULN pmax pmax
comp=Z,13nm,1.1s
MATP Matopo 57.65 178 LR LR 17 55 13.4
comp=Z,36nm,20.2s,baz=122,slow=36
BROLN Tlhalogang 58.30 179 *i*P P 17 31 01.6 +1.5
TIXI Tiksi 58.49 21 LR LR 18 01 01.3
comp=Z,73nm,18.0s,baz=294,slow=41
CKGRV CKGRV 58.67 183 *i*P P 17 31 04.5 +1.8
GRTLG Ghanzi 58.80 186 *i*P P 17 31 06.0 +2.5
MREMI Moremi 59.76 179 *i*P P 17 31 12.1 +1.9
MREMI Moremi 59.76 179 P P 17 31 10.1 -0.1
LZH Lanzhou 59.96 66 *e*P P 17 31 14.0 +2.2
LZH pP sP 17 31 17.8 +0.9
LZH pmax pmax
comp=Z,30nm,1.0s
KGCAE Kacgae 60.20 185 *i*P P 17 31 14.9 +1.7
KGCAE Kacgae 60.20 185 P 17 31 13.3 +0.1
KOOLE Kule 60.51 187 P P 17 31 15.2 -0.2
LPHEP Lephephe 60.56 181 *i*P P 17 31 17.5 +1.8
LPHEP Lephephe 60.56 181 P 17 31 16.0 +0.4
LKGWB Lokgwabe 61.52 186 P P 17 31 22.1 -0.1
RES Resolute Bay 61.75 345 LR LR 17 57 34.9
comp=Z,32nm,20.7s,baz=8.5,slow=36
LBTB Lobatse 62.20 181 LR LR 17 59 50.6
comp=Z,53nm,18.5s,baz=4.5,slow=37
SCHQ Scheffervill 62.29 319 P P 17 31 26.2 -0.8
comp=Z,36nm,0.6s,baz=45,slow=11,SNR=4.0
SCHQ LR LR 17 57 37.8
comp=Z,337nm,18.8s,baz=100,slow=35
CD2 Chengdu 62.31 71 P P 17 31 29.0 +1.4
CD2 pmax pmax
comp=Z,30nm,0.9s
PHPEN Phepeng 62.77 184 P P 17 31 30.6 +0.1
PZH PanZhiHua 62.95 76 P P 17 31 32.8 +0.8
PZH pmax pmax
comp=Z,20nm,1.4s
YAK Yakutsk 63.16 31 LR LR 18 00 25.8
comp=Z,38nm,18.9s,baz=292,slow=37
HHC Hu-ho-hao-te 63.22 58 *e*P P 17 31 31.5 -2.1
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,72nm,4.5s
KMI Kunming 64.42 77 P P 17 31 39.0 -2.9
KMI pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 64.60 66 P P 17 31 44.3 +1.6
XAN pmax pmax
comp=Z,20nm,0.8s
XLT XiLinHaoTe 64.74 53 *e*P P 17 31 45.3 +1.8
XLT pmax pmax
comp=Z,9.0nm,1.2s
CMAR Chiang Mai Arr 64.98 85 P P 17 31 46.0 +0.6
comp=Z,2.5nm,0.7s,baz=299,slow=7.8,SNR=14
comp=Z,2.5nm,0.7s
CMAR Chiang Mai Arr 64.98 85 *i*P P 17 31 46.2 +0.8
CMAR pmax pmax
comp=Z,3.0nm,0.7s
BOSA Boshof 65.80 182 P P 17 31 51.1 +0.8
comp=Z,5.4nm,0.8s,baz=358,slow=6.2,SNR=7.4
BOSA LR LR 18 03 41.7
comp=Z,80nm,18.3s,baz=32,slow=39
comp=Z,5.4nm,0.8s
BJI Beijing 66.69 57 P P 17 31 57.0 +1.0
BJI pmax pmax
comp=Z,6.0nm,0.9s
GYA Guiyang 66.75 74 ⇑P P 17 31 58.0 +1.2
GYA pmax pmax
comp=Z,10.0nm,0.7s
ENH Enshi 66.90 69 P P 17 31 57.7 +0.1
A36M Sachs Harbour 69.05 351 P P 17 32 09.7 -0.6
baz=24
TIA Tai'an 69.29 60 P P 17 32 12.5 0.0
TIA pmax pmax
comp=Z,13nm,0.7s
SUR Sutherland 69.76 185 P P 17 32 16.6 +1.2
SEY Seymchan 70.87 23 LR LR 18 05 42.8
comp=Z,32nm,18.9s,baz=328,slow=38
SEY Seymchan 70.87 23⇑ *e*P P 17 32 23.0 +1.4
SEY pmax pmax
comp=Z,5.0nm,1.3s
C36M Paulatuk 71.32 350 P P 17 32 23.0 -1.2
baz=24
A21K Barrow 71.44 1 P P 17 32 23.2 -1.7
baz=357
A22K Sinclair Lake 71.78 1 P P 17 32 25.9 -1.2
baz=358
A19K Wainwright 72.44 3 P P 17 32 29.8 -1.2
baz=353
B22K Teshekpuk Lake 72.46 0 P P 17 32 29.1 -2.0
baz=360
C26K Camden Bay 72.71 357 P P 17 32 31.3 -1.3
baz=6.9
NJ2 Nanjing 72.75 63 *e*P P 17 32 34.5 +1.0
NJ2 pmax pmax
comp=Z,11nm,0.5s
B20K Meade River 72.75 1 P P 17 32 31.7 -1.2
baz=357
MA2 Magadan 72.78 26 LR LR 18 06 52.4
comp=Z,30nm,21.3s,baz=294,slow=38
D28M Stokes Point 72.94 355 P P 17 32 32.5 -1.4
baz=12
C23K Itkillik River 72.95 359 P P 17 32 32.7 -1.3
baz=2.1
C27K Jago River 72.95 357 P P 17 32 33.3 -0.8
baz=7.9
C24K Franklin Bluff 73.03 358 P P 17 32 33.4 -1.1
baz=3.7
B21K Ikpikpuk River 73.17 1 P P 17 32 34.3 -1.1
baz=359
D27M Malcolm River 73.18 355 P P 17 32 34.2 -1.3
baz=10
B18K Kokolik River 73.25 3 P P 17 32 35.2 -0.6
baz=353
D25K Kavik River 73.36 357 P P 17 32 34.4 -2.2
baz=5.6
INK Inuvik 73.48 353 LR LR 18 09 11.1
comp=Z,33nm,19.0s,baz=16,slow=39
INK Inuvik 73.48 353 P P 17 32 36.0 -1.1
baz=16
C19K Lookout Ridge 73.59 2 P P 17 32 37.9 0.0
baz=355
D24K Happy Valley 73.60 358 P P 17 32 37.4 -0.6
baz=3.6
C21K Knifeblade Rid 73.64 1 P P 17 32 37.4 -0.8
baz=359
E28M Babbage River 73.71 355 P P 17 32 38.1 -0.5
E28M IAmb IAmb 17 32 40.3
comp=Z,9.4nm,1.4s
E28M Babbage River 73.71 355 P P 17 32 38.3 -0.3
baz=11
E29M Blow River 73.80 354 P 17 32 39.3 +0.2
E29M Blow River 73.80 354 P P 17 32 38.6 -0.5
baz=13
D23K Nanushuk River 73.82 359 P P 17 32 38.5 -0.7
baz=2.1
D22K Ayikyak River 73.92 360 P P 17 32 38.7 -1.2
baz=0.4
C18K Utukok River 73.99 3 P P 17 32 39.2 -1.1
baz=353
D20K Etivluk River 74.06 1 P P 17 32 40.5 -0.1
baz=357
C17K DeLong Mountai 74.06 4 P P 17 32 40.4 -0.2
baz=352
TOLK Toolik Lake Re 74.13 359 P P 17 32 40.8 -0.3
baz=3.0
C16K Lisburne Hills 74.14 5 P P 17 32 41.2 +0.2
baz=350
USRK Ussuriysk Ar. 74.22 46 P P 17 32 41.9 -0.1
comp=Z,3.1nm,0.9s,baz=306,slow=5.4,SNR=6.7
comp=Z,3.1nm,0.9s
D19K Kuna River 74.25 2 P P 17 32 41.8 +0.1
baz=356
E27K Coleen River 74.26 356 P 17 32 42.0 +0.1
E27K IAmb IAmb 17 32 52.0
comp=Z,9.4nm,1.4s
E27K Coleen River 74.26 356 P P 17 32 41.2 -0.6
baz=9.5
F31M Tsiigehtchic 74.33 352 P P 17 32 41.6 -0.6
baz=16
E21K Killik River 74.36 0 P P 17 32 41.8 -0.6
baz=359
F30M Barrier River 74.38 353 P P 17 32 41.6 -0.8
baz=14
RDOG Red Dog Mine 74.50 4 P P 17 32 41.7 -1.5
baz=352
E20K Nigu River 74.53 1 P P 17 32 43.0 -0.4
baz=358
E22K Anaktuvuk Pass 74.67 359 P P 17 32 43.7 -0.5
baz=1.1
E24K Your Creek 74.67 358 P P 17 32 43.5 -0.8
baz=3.9
F28M Old Crow 74.71 355 P P 17 32 44.0 -0.5
baz=11
E23K Chandalar 74.72 359 IAmb IAmb 17 32 45.9
comp=Z,7.8nm,1.4s
E23K Chandalar 74.72 359 P P 17 32 43.8 -0.8
baz=2.9
D17K Noatak River 74.84 4 P P 17 32 44.7 -0.4
baz=352
G31M Satah River 74.89 352 P P 17 32 45.2 -0.2
baz=16
F26K Sheenjek River 74.89 356 P P 17 32 46.2 +0.7
F26K IAmb IAmb 17 32 55.7
comp=Z,7.1nm,1.4s
F26K Sheenjek River 74.89 356 P P 17 32 44.8 -0.8
baz=7.4
G30M tAoh Zraii Nji 75.03 353 P P 17 32 45.5 -0.9
baz=14
F25K Christian Rive 75.06 357 P P 17 32 46.1 -0.4
baz=6.2
F24K Squaw Lake 75.22 358 IAmb IAmb 17 32 49.7
comp=Z,7.2nm,1.2s
F24K Squaw Lake 75.22 358 P P 17 32 47.1 -0.3
baz=4.3,SNR=5.5
E18K Tukpahlearik C 75.24 3 P P 17 32 47.2 -0.2
baz=354
G29M Pine Creek 75.26 354 P P 17 32 47.1 -0.5
baz=12
F22K John River 75.30 360 P P 17 32 46.2 -1.6
baz=0.8
E19K Redstone River 75.31 2 IAmb IAmb 17 32 49.4
comp=Z,7.1nm,0.8s
E19K Redstone River 75.31 2 P P 17 32 46.7 -1.2
baz=357,SNR=6.2
E17K Hotham Inlet 75.52 3 P P 17 32 48.1 -1.0
baz=353
COLD Coldfoot 75.56 359 IAmb IAmb 17 32 51.0
comp=Z,6.7nm,1.3s
COLD Coldfoot 75.56 359 P P 17 32 48.7 -0.6
baz=2.4
F21K Alatna River 75.59 0 P 17 32 50.5 +1.0
F21K IAmb IAmb 17 32 51.4
comp=Z,7.3nm,1.1s
F21K Alatna River 75.59 0 P P 17 32 48.7 -0.8
baz=360,SNR=5.1
G26K Porcupine Rive 75.62 356 IAmb IAmb 17 32 52.0
comp=Z,7.6nm,1.2s
G26K Porcupine Rive 75.62 356 P P 17 32 48.3 -1.4
baz=7.7
YKA Yellowknife Ar 75.62 343 P P 17 32 47.5 -2.3
comp=Z,2.3nm,1.1s,baz=32,slow=6.2,SNR=4.6
YKA LR LR 18 07 20.5
comp=Z,70nm,18.9s,baz=314,slow=37
comp=Z,2.3nm,1.1s
YKA Yellowknife Ar 75.62 343 *i*P P 17 32 49.9 +0.2
YKA pmax pmax
comp=Z,2.0nm,1.1s
G27K Doyon Strip 75.63 355 P P 17 32 49.2 -0.5
baz=9.4
EPYK Eagle Plains 75.67 353 P P 17 32 48.9 -1.1
baz=13
F20K Avaraart Lake 75.75 1 P P 17 32 49.6 -0.8
baz=358
KSRS Korea Array 75.78 54 P P 17 32 51.7 +0.6
comp=Z,6.4nm,1.0s,baz=299,slow=5.1,SNR=14

	comp=Z,6.4nm,1.0s							
G22K	**Bettles** baz=1.4	75.88	359	P		P	17 32 50.2	-0.9
G25K	**Bearman Lake** baz=5.8	75.91	357	P		P	17 32 50.4	-0.9
F19K	**Shaleruckik Mo**	75.92	2			P	17 32 51.1	-0.3
F19K	comp=Z,7.5nm,1.2s			IAmb	IAmb	IAmb	17 33 01.1	
F19K	**Shaleruckik Mo** baz=356	75.92	2	P		P	17 32 50.6	-0.8
H29M	**Whitestone** baz=12	75.97	354	P		P	17 32 50.3	-1.4
H31M	**Peel River** baz=15	75.98	352	P		P	17 32 50.8	-1.0
G24K	**Hadweenzic Riv** baz=4.7	76.02	358	P		P	17 32 51.1	-0.8
G23K	**Bananza Creek** baz=2.6,SNR=6.2	76.08	359	P		P	17 32 51.1	-1.2
F18K	**Selawik** baz=355	76.09	3	P		P	17 32 51.2	-1.1
F17K	**Baldwin Pennin** baz=353	76.19	3	P		P	17 32 51.4	-1.4
H27K	**Steamboat Moun** comp=Z,10nm,1.4s	76.20	355	IAmb		IAmb	17 32 55.1	
H27K	**Steamboat Moun** baz=9.5	76.20	355	P		P	17 32 52.2	-0.8
G21K	**Allakaket** comp=Z,7.4nm,0.9s	76.30	0	IAmb		IAmb	17 32 55.2	
G21K	**Allakaket** baz=360,SNR=7.4	76.30	0	P		P	17 32 52.3	-1.3
H25L	**Birch Creek** baz=6.0	76.39	357	P		P	17 32 53.4	-0.7
TNA	**Tin City** baz=348	76.61	6	P		P	17 32 53.6	-1.7
G19K	**Purcell Mounta** baz=357	76.63	2	P		P	17 32 54.0	-1.4
F15K	**North Star Dit** baz=351	76.72	5	P		P	17 32 54.5	-1.5
I30M	**Mount Dempster**	76.76	353	P		P	17 32 55.8	-0.5
I30M	comp=Z,7.1nm,1.2s			IAmb		IAmb	17 33 04.8	
I30M	**Mount Dempster** baz=14	76.76	353	P		P	17 32 55.4	-0.9
I29M	**Ogilvie Camp,**	76.81	354	P		P	17 32 56.0	-0.5
I29M	comp=Z,8.7nm,1.1s			IAmb		IAmb	17 33 05.4	
I29M	**Ogilvie Camp,** baz=12,SNR=5.4	76.81	354	P		P	17 32 55.2	-1.2
I27K	**Kandik River** baz=9.4	76.82	355	P		P	17 32 55.3	-1.3
F14K	**Arctic Creek** baz=349	76.83	6	P		P	17 32 55.7	-0.9
G18K	**Tagagawik** baz=356	76.83	2	P		P	17 32 56.4	-0.2
WRGLY	**Wrigley** baz=24	76.83	347	P		P	17 32 54.8	-1.7
I28M	**Miner Creek** baz=11	76.86	354	P		P	17 32 55.9	-1.0
H24K	**Noodor Dome** baz=4.3	76.90	358	P		P	17 32 56.3	-0.7
H22K	**Ishtalitna Cre** baz=1.5	76.92	359	P		P	17 32 55.6	-1.4
H23K	**Yukon River** comp=Z,9.0nm,1.3s	76.95	358	IAmb		IAmb	17 33 12.7	
H23K	**Yukon River** baz=3.0	76.95	358	P		P	17 32 55.3	-2.0
PRP	**Porcupine Dome** baz=6.2	77.13	357	P		P	17 32 57.4	-1.0
G17K	**Kiwalik Mounta** baz=354	77.15	3	P		P	17 32 57.2	-1.2
H21K	**Melozitna Rive** comp=Z,5.8nm,1.1s	77.16	360	IAmb		IAmb	17 33 00.7	
H21K	**Melozitna Rive** baz=0.3	77.16	360	P		P	17 32 58.1	-0.4
G16K	**Koyuk River** baz=352	77.17	4	P		P	17 32 58.0	-0.4
I26K	**Coal Creek Min** comp=Z,8.0nm,1.4s	77.22	356	IAmb		IAmb	17 33 24.1	
I26K	**Coal Creek Min** baz=8.2	77.22	356	P		P	17 32 58.5	-0.3
H19K	**Roundabout Mou**	77.26	1	P		P	17 32 58.5	-0.4
H19K	comp=Z,6.0nm,1.1s			IAmb		IAmb	17 33 11.9	
H19K	**Roundabout Mou** baz=357	77.26	1	P		P	17 32 58.5	-0.4
H20K	**Anotleneega Mo** baz=359	77.32	1	P		P	17 32 58.7	-0.6
J30M	**Hart River** baz=14,SNR=8.7	77.39	353	P		P	17 32 58.9	-1.0
G15K	**Niukluk** baz=351	77.47	5	P		P	17 32 59.7	-0.5
H18K	**Honhosa River** baz=356	77.59	2	P		P	17 32 59.7	-1.2
POKR	**Poker Plat Res** baz=4.7	77.61	358	P		P	17 33 00.1	-0.9
I23K	**Minto, Yukon-K** baz=3.1	77.63	358	P		P	17 32 59.8	-1.3
I21K	**Tanana** baz=1.0	77.64	359	P		P	17 33 00.5	-0.6
H17K	**Granite Mounta** baz=354	77.75	3	P		P	17 33 00.2	-1.5
MLY	**Manley** comp=Z,7.1nm,1.4s	77.77	359	IAmb		IAmb	17 33 19.2	
MLY	**Manley** baz=2.0	77.77	359	P		P	17 33 01.1	-0.8
ANM	**Nome** baz=350	77.80	5	P		P	17 33 00.9	-1.2
COLA	**College**	77.86	358	*e*P		P	17 33 03.5	+1.2
COLA	comp=Z,9.0nm,1.5s			pmax		pmax		
ILAR	**Eielson Array** comp=Z,0.8nm,0.9s,baz=14,slow=5.3,SNR=7.8 comp=Z,0.8nm,0.9s	77.93	357	P		P	17 33 01.8	-0.9
H16K	**Elim** baz=353	77.93	4	P		P	17 33 01.3	-1.5
GAMB	**Gambell** baz=345	77.98	8	P		P	17 33 02.1	-0.9
I20K	**Naaghedeneel** baz=359	78.02	1	P		P	17 33 02.1	-1.1
J25K	**Salcha River,** baz=6.3	78.03	357	P		P	17 33 01.7	-1.6
J26L	**Joseph Creek** baz=7.8	78.04	356	P		P	17 33 01.8	-1.7
DAWY	**Dawson** baz=11	78.17	354	P		P	17 33 02.8	-1.4
NEA2	**Nenana** baz=3.3	78.18	358	P		P	17 33 03.6	-0.5
K29M	**Barlow Dome** baz=13	78.22	353	P		P	17 33 03.0	-1.5
WRH	**Wood River Hil** comp=Z,4.8nm,0.8s	78.27	358	IAmb		IAmb	17 33 20.6	
HDA	**Harding Lake**	78.30	357	P		P	17 33 04.3	-0.5
HDA	comp=Z,10nm,1.2s			IAmb		IAmb	17 33 05.6	
HDA	**Harding Lake** baz=5.0	78.30	357	P		P	17 33 03.7	-1.1
K27K	**Chicken** baz=9.0	78.42	355	P		P	17 33 04.8	-0.6
MDP	**Montagnes des** comp=Z,20nm,19.4s,baz=93,slow=36	78.58	268	LR		LR	18 07 41.9	
SCRK	**Sand Creek** comp=Z,10nm,1.5s	78.59	356	IAmb		IAmb	17 33 09.0	
SCRK	**Sand Creek** baz=7.4	78.59	356	P		P	17 33 05.9	-0.7
J20K	**Nowinta River** baz=359	78.65	0	P		P	17 33 05.9	-0.8
MMPY	**Sheldon Lake,** baz=18	78.67	350	P		P	17 33 05.5	-1.4
BPAW	**Bear Paw Mtn.** baz=1.8	78.71	359	P		P	17 33 05.6	-1.5
I17K	**Unalakleet** baz=354	78.76	3	P		P	17 33 05.9	-1.4
J19K	**Poorman**	78.81	1			P	17 33 07.7	+0.1
J19K	comp=Z,12nm,1.3s			IAmb		IAmb	17 33 18.4	
J19K	**Poorman** baz=358,SNR=5.1	78.81	1	P		P	17 33 07.0	-0.6
K24K	**Donnelly Dome** baz=6.0	78.85	357	P		P	17 33 06.4	-1.5
RIDG	**Independent Ri**	78.87	356	P		P	17 33 08.0	-0.1
RIDG	**Independent Ri** baz=6.7	78.87	356	P		P	17 33 07.9	-0.1
DOT	**Dot Lake** comp=Z,9.6nm,1.3s	78.92	356	IAmb		IAmb	17 33 10.0	
CHUM	**Lake Minchumin** baz=0.7	78.94	360	P		P	17 33 07.6	-0.7
L29M	**L29M** baz=12	79.00	353	P		P	17 33 07.9	-0.8
MCK	**McKinley** baz=3.4	79.04	358	P		P	17 33 08.0	-0.9
TGTN	**Hyland Airport** baz=20	79.25	348	P		P	17 33 09.2	-1.0
J17K	**VABM Dome** baz=355	79.32	3	P		P	17 33 09.5	-1.0
J18K	**Innoko River** baz=357	79.32	2	P		P	17 33 10.1	-0.3
TRF	**Thorofare Moun** baz=2.3	79.35	359	P		P	17 33 09.8	-1.0
L27K	**Beaver Creek,** comp=Z,7.1nm,1.3s	79.36	355	IAmb		IAmb	17 33 12.6	
L27K	**Beaver Creek,** baz=9.2,SNR=5.4	79.36	355	P		P	17 33 09.5	-1.2
J16K	**Anvik River** baz=354	79.37	3	P		P	17 33 10.7	0.0
M30M	**Minto, Yukon** baz=13	79.39	352	P		P	17 33 09.7	-1.2
CAST	**Castle Rocks** baz=0.9,SNR=5.0	79.41	360	P		P	17 33 09.3	-1.6
K20K	**Telida** baz=359	79.47	0	P		P	17 33 10.1	-1.1
M31M	**Drury Creek, Y** comp=Z,9.7nm,1.4s	79.48	351	IAmb		IAmb	17 33 13.3	
M31M	**Drury Creek, Y** baz=15,SNR=5.9	79.48	351	P		P	17 33 11.1	-0.3
L26K	**Log Cabin Wild** baz=7.9	79.50	355	P		P	17 33 10.8	-0.6
DHY	**Denali Highway**	79.65	357			P	17 33 12.1	-0.3
DHY	comp=Z,8.9nm,1.1s			IAmb		IAmb	17 33 13.5	
DHY	**Denali Highway** baz=4.7,SNR=6.6	79.65	357	P		P	17 33 11.1	-1.3
PAX	**Paxson** baz=6.2	79.67	356	P		P	17 33 11.2	-1.2
M29M	**Somme Creek** comp=Z,11nm,1.2s	79.69	353	IAmb		IAmb	17 33 14.4	
M29M	**Somme Creek** baz=12,SNR=13	79.69	353	P		P	17 33 11.8	-0.8
J14K	**Nanvaranak Lak** baz=352	79.73	5	P		P	17 33 11.9	-0.7
KOTAN	**Kotaneelee Air** baz=23	79.80	346	P		P	17 33 13.2	+0.1
BVCY	**Beaver Creek** baz=9.9,SNR=5.4	79.92	354	P		P	17 33 13.4	-0.4
PPLA	**Purkeypile** baz=0.8	79.93	360	P		P	17 33 13.2	-0.7
WAT1	**Susitna Watana** baz=3.7	79.93	358	P		P	17 33 13.4	-0.4
K17K	**Iditarod** baz=356	80.03	2	P		P	17 33 13.4	-0.9
M27K	**Edge Creek, AK** comp=Z,10nm,1.4s	80.06	355	IAmb		IAmb	17 33 16.7	
M27K	**Edge Creek, AK** baz=3.1	80.06	355	P		P	17 33 13.7	-1.0
M26K	**Nabesna, AK** baz=8.2	80.09	355	P		P	17 33 14.2	-0.5
ASAJ	**Asahikawa** comp=Z,51nm,18.3s,baz=330,slow=38	80.11	41	LR		LR	18 11 30.3	
WAT6	**Susitna Watana** baz=4.4	80.16	357	P		P	17 33 14.1	-1.1
PETK	**Petropavlovsk-** comp=Z,31nm,19.0s,baz=291,slow=38	80.20	28	LR		LR	18 11 40.0	
HARP	**HARP** baz=6.5	80.22	356	P		P	17 33 13.8	-1.6
K15K	**Wolf Creek Mou** baz=353	80.31	4	P		P	17 33 15.3	-0.5
N32M	**Quiet Lake** baz=16	80.33	350	P		P	17 33 15.0	-1.0
N31M	**Braeburn, Yuko** baz=14	80.34	352	P		P	17 33 14.8	-1.3
L20K	**Farewell, AK** baz=3.5	80.35	0	P		P	17 33 15.1	-0.9
N30M	**Aishikik Lake** baz=13	80.51	352	P		P	17 33 16.1	-0.9
YUK3	**Moose Creek** baz=10,SNR=7.8	80.52	354	P		P	17 33 16.9	-0.3
M24K	**Tolsona, Glenn** baz=5.6	80.57	357	P		P	17 33 17.2	0.0
L18K	**Granite Mounta** baz=357	80.57	2	P		P	17 33 16.5	-0.8
L17K	**Donlin** baz=356	80.61	2	P		P	17 33 16.9	-0.5
L19K	**White Mountain** baz=359	80.64	1	P		P	17 33 17.2	-0.5
YUK4	**Talbot Arm** baz=12	80.78	353	P		P	17 33 17.2	-1.5
SKT	**Skwentna** comp=Z,13nm,1.4s	80.84	359	IAmb		IAmb	17 33 19.6	
SKT	**Skwentna** baz=1.3	80.84	359	P		P	17 33 18.1	-0.6
SCM	**Sheep Creek Mo** comp=Z,13nm,1.2s	80.89	357	IAmb		IAmb	17 33 28.1	
SCM	**Sheep Creek Mo** baz=4.7	80.89	357	P		P	17 33 17.5	-1.6
L15K	**Ungalak Mounta** baz=353	80.92	4	P		P	17 33 17.7	-1.4
M19K	**Big River Lodg** baz=359	80.92	1	P		P	17 33 18.6	-0.6
M23K	**Glacier View** baz=4.4	80.94	357	P		P	17 33 18.4	-0.8
M20K	**Styx River** baz=0.0	80.95	360	P		P	17 33 17.8	-1.6
N25K	**Chitina, Valde** baz=6.9	80.98	356	P		P	17 33 17.7	-1.8
L16K	**Owhat River** baz=355	80.99	3	P		P	17 33 18.9	-0.5
GHO	**Glory Hole Cre**	81.00	358	P		P	17 33 18.7	-1.0
GHO	comp=Z,12nm,1.2s			IAmb		IAmb	17 33 28.9	
WHY	**Whitehorse** baz=15	81.04	351	P		P	17 33 18.5	-1.4
O30N	**Mendenhall** baz=14	81.07	352	P		P	17 33 18.4	-1.6
MCARA	**McCarthy VSAT** baz=8.2	81.11	355	P		P	17 33 19.3	-0.8
YUK6	**Outpost Mounta** baz=12	81.15	353	P		P	17 33 20.0	-0.7
KLU	**Klutina** baz=5.8	81.17	356	P		P	17 33 18.5	-2.0
HYT	**Haines Junctio** comp=Z,8.7nm,1.2s	81.18	352	IAmb		IAmb	17 33 22.9	
HYT	**Haines Junctio** baz=12,SNR=6.1	81.18	352	P		P	17 33 18.4	-2.2
P33M	**Teslin, Yukon** baz=16	81.20	350	P		P	17 33 19.6	-1.2
M18K	**Stony River** baz=356	81.32	1	P		P	17 33 19.8	-1.4
KNK	**Knik Glacier** baz=3.8	81.35	358	P		P	17 33 20.5	-0.9
SUA	**Susitna One** baz=2.0	81.35	359	P		P	17 33 20.3	-1.3
M17K	**Holitna River** baz=357	81.37	2	P		P	17 33 20.3	-1.2
CTG	**Chitna Glacier** baz=9.5	81.40	354	P		P	17 33 20.3	-1.6
O28M	**Mount Upton** baz=2.0	81.49	354	P		P	17 33 20.7	-1.9
BMRM	**Bremner River** baz=6.9	81.62	356	P		P	17 33 21.5	-1.4
N20K	**Mount Spurr** baz=0.8	81.63	360	P		P	17 33 22.8	-0.2
SPCR	**Spurr Chakacha** baz=0.8	81.63	360	P		P	17 33 22.3	-0.7
M16K	**Timber Creek** baz=355	81.70	3	P		P	17 33 22.3	-0.9
R33M	**Jennings River** baz=18,SNR=7.9	81.71	349	P		P	17 33 22.9	-0.5
RC01	**Rabbit Creek A** baz=2.8	81.71	358	P		P	17 33 22.9	-0.3
O29M	**Mount Kennedy** baz=12	81.80	353	P		P	17 33 22.9	-1.1
P30M	**Million Dollar** baz=13	81.81	352	P		P	17 33 22.3	-1.6
M14K	**Bethel** baz=353	81.82	4	P		P	17 33 21.7	-2.1
GLI	**Glacier Island** baz=4.9	81.83	357	P		P	17 33 21.4	-2.5
M11K	**Mekoryuk** baz=350	81.86	7	P		P	17 33 22.3	-1.7
PWL	**Port Wells** baz=3.9	81.90	358	P		P	17 33 23.0	-1.3
P32M	**Atlin** baz=16	81.92	350	P		P	17 33 23.6	-0.9
M15K	**Kasigluk River** baz=354	81.95	4	P		P	17 33 23.2	-1.3
N19K	**Bonanza Creek** baz=359	82.02	1	P		P	17 33 24.4	-0.7
CAPN	**Captain Cook N** baz=1.6	82.06	359	P		P	17 33 24.0	-1.1
M13K	**Dall Lake** baz=352	82.06	5	P		P	17 33 23.8	-1.3
EYAK	**Cordova Ski Ar** baz=6.0	82.10	356	P		P	17 33 24.0	-1.3
N18K	**Kilae Creek** baz=358	82.13	1	P		P	17 33 24.6	-0.9
PINM	**Pinnacle** baz=10	82.16	354	P		P	17 33 24.9	-0.9
MESA	**MESA** baz=9.0	82.22	354	P		P	17 33 25.3	-0.9
N16K	**Nishlik Lake** baz=356	82.26	3	P		P	17 33 24.2	-2.0
N17K	**Nushagak Hills** baz=357	82.26	2	P		P	17 33 24.7	-1.5
Q32M	**Nakina River** baz=17	82.32	349	P		P	17 33 25.6	-1.2
P29M	**Windy Craggy** baz=12	82.37	352	P		P	17 33 25.6	-1.2
PLBC	**Pleasant Camp** baz=13	82.39	351	P		P	17 33 26.3	-0.6
DLBC	**Dease Lake** comp=Z,44nm,18.8s,baz=26,slow=38	82.47	348	LR		LR	18 12 31.7	
DLBC	**Dease Lake** baz=18	82.47	348	P		P	17 33 26.7	-0.7
N15K	**Kwethluk River** baz=354	82.50	3	P		P	17 33 27.0	-0.5
PNL	**Peninsula** baz=11	82.50	353	P		P	17 33 26.5	-1.1
KAIM	**Kayak Island** baz=7.0	82.65	356	P		P	17 33 27.6	-0.6
N14K	**Kuskokwak Cree** baz=353	82.66	4	P		P	17 33 27.6	-0.6
SEW	**Seward** baz=3.0	82.69	358	P		P	17 33 27.5	-0.9
MJAR	**Matsushiro Arr** comp=Z,1.6nm,0.7s,baz=315,slow=7.2,SNR=3.1 comp=Z,1.6nm,0.7s	82.75	49	P		P	17 33 29.5	+0.2
O20K	**Slope Mountain** baz=0.5	82.76	360	P		P	17 33 27.8	-1.1
TKL	**Tuckaleechee C** comp=Z,21nm,18.0s,baz=124,slow=37	82.89	310	LR		LR	18 12 27.2	
O17K	**Koliganek Bris** baz=357	83.01	2	P		P	17 33 29.0	-1.1
O16K	**Kokwok River B** baz=356	83.16	3	P		P	17 33 30.2	-0.7
HOM	**Homer** baz=1.2	83.18	359	P		P	17 33 29.4	-1.6
P19K	**Oil Pt** baz=360	83.19	0	P		P	17 33 29.0	-2.1
Q23K	**Middleton Isla** baz=5.5	83.25	357	P		P	17 33 30.0	-1.3
R32K	**Eaglecrest** baz=15	83.30	350	P		P	17 33 30.8	-0.8
O14K	**Tigyukauivet M** baz=354	83.35	4	P		P	17 33 30.5	-1.3
P18K	**Big Mountain,** baz=358	83.44	1	P		P	17 33 31.3	-1.1
O15K	**Ungalikthiuk R** baz=355	83.51	3	P		P	17 33 31.0	-1.7
P16K	**Nushagak River** baz=356	83.73	3	P		P	17 33 32.4	-1.3
S31K	**Pelican** baz=14	83.83	351	P		P	17 33 33.4	-0.9
T35M	**Bob Quinn** baz=18	83.89	348	P		P	17 33 33.5	-1.2
Q19K	**Cape Douglas,** baz=360	83.92	0	P		P	17 33 33.1	-1.8
Q16K	**King Salmon** baz=357	84.12	2	P		P	17 33 34.8	-1.0
Q18K	**Katmai Hardscr** baz=358	84.18	1	P		P	17 33 34.7	-1.6
SPIA	**Saint Paul Isl** baz=346	84.57	9	P		P	17 33 37.1	-1.0
SIT	**Sitka** baz=14	84.59	350	P		P	17 33 37.1	-1.1
WRAK	**Wrangell Islan** baz=16	84.78	349	P		P	17 33 37.3	-1.8
SBUM	**Sibu**	84.84	91			P	17 33 39.9	-0.3
SBUM	comp=Z,5.2nm,1.2s			IAmb		IAmb	17 33 43.4	
KDAK	**Kodiak Island** comp=Z,17nm,20.1s,baz=43,slow=38	85.06	360	LR		LR	18 14 32.2	
KDAK	**Kodiak Island** baz=0.5	85.06	360	P		P	17 33 39.6	-1.0
R17L	**Mt. Peulik Vol** baz=358	85.18	2	P		P	17 33 39.5	-1.8
U33K	**Whale Pass** baz=16	85.19	349	P		P	17 33 40.0	-1.3
R16K	**Pilot Point** baz=356	85.21	2	P		P	17 33 40.4	-0.9
P08K	**Saint George I** baz=347	85.22	9	P		P	17 33 39.3	-2.1
OHAK	**Old Harbor** baz=360	85.63	0	P		P	17 33 41.9	-1.5
V35K	**Ketchikan** baz=17	85.71	348	P		P	17 33 41.4	-2.4
SHEM	**Shemya Is, Ala** comp=Z,20nm,20.8s,baz=230,slow=37	85.72	19	LR		LR	18 14 31.8	
CRAG	**Craig** baz=16	85.81	349	P		P	17 33 42.2	-2.2
SII	**Sitkinak Islan** baz=359	86.29	1	P		P	17 33 45.4	-1.3
S14K	**Fog Glacier** baz=355	86.41	4	P		P	17 33 45.6	-1.9
CHGN	**Chignik** baz=356	86.44	3	P		P	17 33 46.3	-1.1
S12K	**Black Hills** baz=353	86.84	5	P		P	17 33 47.5	-2.0
CHIR	**Chirikof Islan** baz=358	87.01	1	P		P	17 33 48.7	-1.5
SDPT	**Sand Point** baz=354	87.29	4	P		P	17 33 49.4	-2.2
FALS	**False Pass** baz=352	87.58	6	P		P	17 33 51.7	-1.2
BDFB	**Brasilia** comp=Z,3.5nm,0.6s,baz=56,slow=6.5,SNR=3.5	87.85	249	P		P	17 33 54.5	-0.4
BDFB	comp=Z,60nm,19.9s,baz=144,slow=36 comp=Z,3.5nm,0.6s			LR		LR	18 13 42.7	
BBB	**Bella Bella** comp=Z,45nm,19.5s,baz=81,slow=37	88.04	345	LR		LR	18 15 13.1	
UNV	**Unalaska Valle** baz=350	88.28	8	P		P	17 33 54.8	-1.6
NIKH	**Nikolski High** baz=348	88.86	9	P		P	17 33 58.2	-0.9
PDAR	**Pinedale Array** comp=Z,36nm,18.8s,baz=22,slow=37	90.80	329	LR		LR	18 16 24.4	
ANMO	**Albuquerque** comp=Z,50nm,21.8s,baz=140,slow=35	95.87	323	LR		LR	18 17 11.9	
NVAR	**Mina Array Bea** comp=Z,47nm,18.5s,baz=90,slow=39	97.89	333	LR		LR	18 24 10.8	
WRA	**Warramunga Arr** comp=Z,1.0nm,0.7s,baz=313,slow=1.9,SNR=8.9	115.49	96	PKP		PKPdf	17 39 46.2	-1.3
ASAR	**Alice Springs** comp=Z,1.4nm,0.7s,baz=305,slow=1.4,SNR=24	117.12	100	PKP		PKPdf	17 39 49.3	-1.3
QSPA	**South Pole Qui** comp=Z,0.5nm,0.6s,baz=248,slow=0.8,SNR=6.2	127.36	180	PKP		PKPdf	17 40 08.8	-0.2

IDC 30 17:45:59.5±4.9, 23°.13S×179°.22W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=294.5km s-min=62.1km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.2nm,0.4s,baz=94,slow=7.4,SNR=12 0.2nm,0.4s	42.87	260	P	P	17 53 59.2	-0.7
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=102,slow=8.0,SNR=1.7 0.3nm,0.5s	43.18	265	P	P	17 54 03.1	+0.7
NOA	**NORSAR Array B** 1.1nm,0.9s,baz=23,slow=3.8,SNR=3.7	141.43	352	PKP	PKPdf	18 05 30.7	-1.3
HFS	**Hagfors** 0.7nm,0.4s,baz=41,slow=4.6,SNR=7.9	141.93	350	PKP	PKPdf	18 05 33.4	+0.5
MMAI	**Mount Meron Ar** 0.4nm,0.4s,baz=61,slow=6.8,SNR=1.7	148.03	296	PKPbc	PKPbc	18 05 46.9	-0.6

*UCR **30** 18:20:12.1±0.8, 8°.32N×82°.96W, h10km±3km, MW3.5*
*UPA **30** 18:20:12.0±0.7, 8°.34N×82°.94W, h15km±1km, MD3.6, MW3.7*
ISC 30 18:20:11.2±1.2, 8°.27N±0°.05×82°.98W±0°.03, h24km±7km, n39, σ0s.53/50, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.12**	**124**	*iP*	**Pb**	**18 20 15.8**	**-0.2**
PTPM				*eS*	**Sb**	**18 20 19.6**	**+0.5**
PTPA	**Petro Terminal**	**0.13**	**124**	*eP*	**Pb**	**18 20 15.7**	**-0.4**
PTPA				*eS*	**Sb**	**18 20 19.5**	**+0.2**
LESP3	**La Esperanza,**	**0.23**	**55**	*eP*	**Pb**	**18 20 16.7**	**-0.5**
LESP3				*eS*	**Sb**	**18 20 22.5**	**+1.3**
LPPC	**Paso Canoas**	**0.29**	**28**	*eP*	**Pb**	**18 20 17.8**	**-0.3**
NELY	**Ciudad Neily**	**0.38**	**5**	*eP*	**Pb**	**18 20 19.0**	**-0.4**
PIRO	**Carate, Puerto**	**0.38**	**290**	*eP*	**Pb**	**18 20 19.7**	**+0.3**
BRNON	**Bren.**	**0.39**	**25**	*eP*	**Pb**	**18 20 19.4**	**-0.3**
FITO	**Golfito**	**0.39**	**334**	*eP*	**Pb**	**18 20 18.7**	**-0.9**
EDAD	**Golfito**	**0.42**	**334**	*eP*	**Pb**	**18 20 19.2**	**-0.9**
DMCAL	**E. de Neily**	**0.43**	**25**	*eP*	**Pb**	**18 20 20.3**	**-0.1**
DVD	**David**	**0.55**	**73**	*eP*	**Pb**	**18 20 21.6**	**-0.7**
DVD				*eS*	**Sb**	**18 20 30.4**	**+0.7**
PEDE3	**Pedregal, Chir**	**0.56**	**79**	*eP*	**Pb**	**18 20 22.4**	**-0.1**
PEDE3				*eS*	**Sb**	**18 20 30.6**	**+0.5**
LOCO3	**Loma Colorada,**	**0.57**	**76**	*eP*	**Pb**	**18 20 22.8**	**+0.1**
LOCO3				*eS*	**Sb**	**18 20 31.0**	**+0.6**
BRU2	**Volcan**	**0.59**	**29**	*iP*	**Pb**	**18 20 23.1**	**0.0**
BRU2				*eS*	**Sb**	**18 20 31.4**	**+0.2**
BRU2	**Volcan**	**0.59**	**29**	*eP*	**Pb**	**18 20 23.1**	**0.0**
LOMA3	**Las Lomas, Chi**	**0.60**	**75**	*eP*	**Pb**	**18 20 23.4**	**+0.2**
LOMA3				*eS*	**Sb**	**18 20 31.7**	**+0.4**
TBS2		**0.61**	**32**	*eP*	**Pn**	**18 20 24.4**	**-0.1**
BANCO	**falda S V. Bar**	**0.63**	**45**	*eP*	**Pb**	**18 20 23.7**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.64**	**49**	*eP*	**Pb**	**18 20 24.0**	**+0.2**
CGUAY	**Guayabal, Coch**	**0.65**	**73**	*eP*	**Pb**	**18 20 23.8**	**-0.1**
BC3P	**Paso Ancho**	**0.65**	**34**	*eP*	**Pb**	**18 20 24.0**	**-0.1**
BC3P				*eS*	**Sb**	**18 20 33.5**	**+0.6**
CHIR3	**Chiriqui UPA,**	**0.65**	**79**	*eP*	**Pb**	**18 20 24.8**	**-0.2**
BQTLY	**Boquete Panama**	**0.70**	**47**	*eP*	**Pb**	**18 20 24.5**	**-0.4**
BQSF3	**Alto Boquete,**	**0.71**	**49**	*eP*	**Pb**	**18 20 24.0**	**-1.1**
GUAL3	**Gualaca, Chiri**	**0.72**	**69**	*eP*	**Pb**	**18 20 25.1**	**-0.1**
GUAL3				*eS*	**Sb**	**18 20 34.2**	**-0.4**
DAP26	**falda E V. Bar**	**0.75**	**47**	*eP*	**Pb**	**18 20 25.2**	**-0.5**
PBNVO	**Pueblo Nuevo,**	**0.99**	**52**	*eP*	**Pn**	**18 20 28.9**	**-0.7**
RBALA	**Bur**	**1.01**	**54**	*eP*	**Pn**	**18 20 29.6**	**-0.3**
DRK0	**Durika**	**1.02**	**345**	*eP*	**Pn**	**18 20 29.8**	**-0.4**
DRK0				*eS*	**Sb**	**18 20 43.5**	**+0.1**
DRK0	**Durika**	**1.02**	**345**	*eP*	**Pn**	**18 20 29.7**	**-0.4**
EDPE	**Pejibaye, P**	**1.06**	**326**	*eP*	**Pn**	**18 20 30.3**	**-0.3**
KKNTU	**Kakint[2]**	**1.29**	**64**	*eP*	**Pn**	**18 20 33.5**	**-0.2**
CEUA	**Cerro Uatsi, L**	**1.34**	**2**	*eP*	**Pb**	**18 20 37.0**	**+1.3**
BUS1	**Rivas**	**1.48**	**329**	*eP*	**Pn**	**18 20 37.7**	**+0.9**
PIEC	**Cerro El Cedra**	**1.65**	**324**	*eP*	**Pb**	**18 20 40.8**	**-0.4**
ABRRB	**Las Abras (San**	**1.87**	**337**	*eP*	**Pb**	**18 20 44.3**	**-0.6**
CVTV	**Tajo**	**1.88**	**336**	*eP*	**Pb**	**18 20 45.0**	**-0.2**
VTR0	**Volcan Turrial**	**1.90**	**336**	*eP*	**Pb**	**18 20 45.5**	**0.0**
CVTR	**Volcan Turrial**	**1.90**	**336**	*eP*	**Pb**	**18 20 45.1**	**-0.4**

*BER **30** 18:29:34.0±2.9, 80.32N×26.97E, h10km, ML2.5, ML2.3(NAO), Confirmed Earthquake*
*FCIAR **30** 18:29:43.0, 79.84N×22.85E, h10km, station OMEGA has station magnitude of 3.30 station ZFI2 has station magnitude of 3.30*
*NAO **30** 18:29:45.5±1.1, 79.84N×23.03E, h8km, ML2.3*
*KOLA **30** 18:29:48.2, 79.71N×20.67E, h0km, ML2.1, Spitsbergen,Barentz Sea*

ISC 30 18:29:43.1±1.1, 79.95N±0.05×23.04E±0.04, h10km, n21, σ2s15/45, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.19**	**219**	Pn	**Pn**	**18 30 19.5**	**+0.1**
	baz=38,slow=16						
SPA0				Pg	**Pb**	**18 30 23.9**	**+1.2**
	baz=36,slow=16						
SPA0				Sg	**Sb**	**18 30 50.9**	**+1.1**
	baz=46,slow=28						
SPA0	**Spitsbergen Ar**	**2.19**	**219**	*eP*	**Pn**	**18 30 19.4**	**-0.1**
SPA0				*eS*	**Sn**	**18 30 44.7**	**-1.9**
SPA0	**Spitsbergen Ar**	**2.19**	**219**	*eP*	**Pn**	**18 30 19.6**	**+0.1**
SPA0				*ePg*	**Pb**	**18 30 24.3**	**+1.6**
SPA0				*eS*	**Sb**	**18 30 51.1**	**+1.3**
SPA0				IAML		18 30 57.2	
	comp=Z,32nm,0.5s						
SPITS	**Spitsbergen Ar**	**2.19**	**219**	P	**Pn**	**18 30 19.5**	**+0.1**
KBS	**Kingsbay**	**2.29**	**249**	Pn	**Pn**	**18 30 21.2**	**+0.4**
KBS				Pg	**Pb**	**18 30 27.0**	**+2.6**
KBS				Sg	**Sb**	**18 30 55.4**	**+2.7**
KBS	**Kingsbay**	**2.29**	**249**	P	**Pn**	**18 30 20.9**	**+0.1**
KBS				S	**Sn**	**18 30 44.5**	**-4.4**
KBS	**Kingsbay**	**2.29**	**249**	*eP*	**Pn**	**18 30 21.3**	**+0.4**
KBS				*ePg*	**Pb**	**18 30 26.9**	**+2.5**
KBS				*eS*	**Sb**	**18 30 55.4**	**+2.7**
KBS				IAML		18 30 57.1	
	comp=Z,34nm,0.3s						
BRBB	**Barentsburg B**	**2.52**	**227**	Pn	**Pn**	**18 30 24.2**	**+0.2**
BRBB				Sn	**Sn**	**18 30 52.1**	**-2.5**
BRBB				Sg	**Sg**	**18 31 02.0**	**-1.7**
BRBB	**Barentsburg B**	**2.52**	**227**	P	**Pn**	**18 30 24.1**	**+0.2**
BRBB				S	**Sn**	**18 30 51.1**	**-3.5**
BRBB	**Barentsburg B**	**2.52**	**227**	*eS*	**Sg**	**18 31 02.1**	**-1.7**
BRBA	**Barentsburg A**	**2.54**	**226**	Pn	**Pn**	**18 30 24.7**	**+0.4**
BRBA				Sn	**Sn**	**18 30 53.1**	**-1.8**
BRBA				Sg	**Sg**	**18 31 02.5**	**-2.1**
BRBA	**Barentsburg A**	**2.54**	**226**	*eP*	**Pn**	**18 30 24.7**	**+0.4**
HSPB	**Hornsund (broa**	**3.32**	**211**	P	**Pn**	**18 30 35.0**	**0.0**
HSPB				*eS*	**Sn**	**18 31 11.4**	**-3.0**
HSPB	**Hornsund (broa**	**3.32**	**211**	*eS*	**Sb**	**18 31 25.2**	**+2.8**
HSPB				IAML		18 31 28.0	
	comp=Z,22nm,0.6s						
HOPEN	**Hopen**	**3.48**	**172**	Pn	**Pn**	**18 30 39.5**	**+2.3**
HOPEN				Pg	**Pb**	**18 30 47.7**	**+3.0**
HOPEN				Sn	**Sn**	**18 31 16.3**	**-2.1**
HOPEN				Sg	**Sb**	**18 31 29.3**	**+2.3**
HOPEN	**Hopen**	**3.48**	**172**	P	**Pn**	**18 30 36.2**	**-1.0**
HOPEN				*eS*	**Sn**	**18 31 15.9**	**-2.5**
HOPEN	**Hopen**	**3.48**	**172**	*ePg*	**Pb**	**18 30 47.7**	**+3.0**
HOPEN				*eSg*	**Sb**	**18 31 28.9**	**+1.9**
HOPEN				IAML		18 31 34.3	
	comp=Z,27nm,0.4s						
ZFI2	**Zemlya Franca-**	**4.20**	**66**	*eP*	**Pn**	**18 30 46.1**	**-0.9**
ZFI2				*eS*	**Sn**	**18 31 34.2**	**-1.7**
	comp=Z,33nm,1.5s						
OMEGA	**Omega**	**4.21**	**67**	P	**Pn**	**18 30 46.1**	**-1.1**
OMEGA				*eS*	**Sn**	**18 31 34.1**	**-2.2**
	comp=Z,27nm,1.4s						
BJO1	**Bjornoya**	**5.55**	**191**	P	**Pn**	**18 31 04.3**	**-1.3**
BJO1				*eS*	**Sn**	**18 32 03.7**	**-5.6**
ARA0	**ARCESS Array S**	**10.49**	**175**	Pn	**Pn**	**18 32 13.0**	**-0.3**
	baz=352,slow=12						
ARA0				Sn	Sn	18 34 01.4	-9.3
	baz=1.8,slow=22						

*ATH **30** 19:05:52.6, 37.56N×26.93E, h16km±1km, ML3.0/3, Manual Solution by A.Agalos First location: 2019/08/30 19:07:20, This location: 2019/08/31 00:03:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*ISK **30** 19:05:52.7, 37.55N×26.81E, h10km, ML2.8/25*
*AFAD **30** 19:05:53.2, 37.55N×26.82E, h7km±2km, ML2.7*
*THE **30** 19:05:54.0, 38°N±40″×2°7E±3°3, h14km±29km, M2.5/5, MLh2.5/5*

ISC 30 19:05:53.1±0.9, 37.55N±0.02×26.81E±0.03, h14km±6km, n60, σ0s69/76, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.16**	**7**	P	**Pg**	**19 05 56.8**	**-0.3**
SMG				S	**Sg**	**19 05 59.7**	**-0.1**
SMG	**Samos**	**0.16**	**7**	P	**Pg**	**19 05 56.9**	**-0.3**
SMG				S	**Sg**	**19 05 59.8**	**+0.1**
KRL1	**Karlovasi Samo**	**0.26**	**341**	P	**Pg**	**19 05 58.8**	**+0.2**
KRL1				S	**Sg**	**19 06 03.0**	**+0.7**
DDIM	**Aydin, Didim**	**0.35**	**106**	P	**Pg**	**19 06 00.3**	**-0.1**
DDIM				*i* IAML		19 06 05.0	
	comp=N,948nm,0.4s						
DDIM				S	**Sg**	**19 06 05.7**	**+0.4**
DDIM				*i* IAML		19 06 06.0	
	comp=E,847nm,0.4s						
GCAM	**G?zelcaml?**	**0.36**	**66**	Pg	**Pg**	**19 06 00.5**	**-0.1**
GCAM				Sg	**Sg**	**19 06 05.9**	**+0.3**
GCAM	**G?zelcaml?**	**0.36**	**66**	P	**Pg**	**19 06 00.4**	**-0.2**
GCAM				*i* IAML		19 06 06.0	
	comp=N,4μm,0.2s						
GCAM				*i* IAML		19 06 06.0	
	comp=E,3μm,0.3s						
GCAM				S	**Sb**	**19 06 06.2**	**-0.8**
DIDI	**Didim-Aydin**	**0.38**	**117**	Pg	**Pg**	**19 06 00.9**	**0.0**
DIDI				Sg	**Sb**	**19 06 06.7**	**-0.7**
DGB	**zmir**	**0.50**	**6**	P	**Pg**	**19 06 03.1**	**+0.1**
DGB				*i* IAML		19 06 13.0	
	comp=E,551nm,0.2s						
DGB				*i* IAML		19 06 14.0	
	comp=N,357nm,0.3s						
GMLD	**Gumuldur**	**0.53**	**9**	Pg	**Pb**	**19 06 03.9**	**-0.3**
GMLD				Sg	**Sb**	**19 06 11.6**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.57**	**139**	Pg	**Pg**	**19 06 03.9**	**-0.4**
KLNA	**Kalymnos**	**0.61**	**168**	P	**Pg**	**19 06 04.2**	**-0.9**
KLNA				S	**Sg**	**19 06 13.0**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.73**	**340**	P	**Pg**	**19 06 07.3**	**0.0**
ZEYE				S	**Sb**	**19 06 18.5**	**+1.1**
ZEYE				*i* IAML		19 06 20.0	
	comp=E,432nm,0.5s						
ZEYE				*i* IAML		19 06 21.0	
	comp=N,855nm,0.7s						
BLCB	**Balcova**	**0.85**	**12**	Pg	**Pg**	**19 06 09.3**	**-0.3**
BLCB				Sg	**Sn**	**19 06 21.9**	**-1.0**
BLCB	**Balcova**	**0.85**	**12**	P	**Pg**	**19 06 09.1**	**-0.5**
BLCB				S	**Sb**	**19 06 20.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.94**	**65**	Pg	**Pg**	**19 06 11.3**	**-0.1**
AYDB				Sg	**Sn**	**19 06 25.0**	**-0.3**
DAT	**Datca**	**1.03**	**143**	Pg	**Pb**	**19 06 12.7**	**0.0**
DAT				Sg	**Sn**	**19 06 27.5**	**+0.1**
DAT	**Datca**	**1.03**	**143**	S	**Sn**	**19 06 28.9**	**+1.5**
ASTA	**Astypalaia**	**1.07**	**200**	P	**Pb**	**19 06 13.0**	**-0.4**
EAG2	**Marmaro, Chios**	**1.13**	**331**	P	**Pg**	**19 06 15.2**	**+0.1**
EAG2				S	**Sg**	**19 06 29.6**	**-0.2**
FOCM	**Foa**	**1.16**	**357**	Pn	**Pg**	**19 06 15.6**	**+0.1**
ODEM	**Odemis-Izmir**	**1.23**	**54**	Pn	**Pg**	**19 06 16.8**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.24**	**70**	Pn	**Pg**	**19 06 16.9**	**-0.2**
TURN	**Turunc**	**1.38**	**124**	Pn	**Pb**	**19 06 17.3**	**-0.7**
GOMA	**Golmarmara-Man**	**1.44**	**37**	Pn	**Pb**	**19 06 19.9**	**+0.1**
THERA	**Ancient Thera,**	**1.60**	**223**	P	**Pn**	**19 06 20.7**	**-0.3**
THR3	**Thira Island,**	**1.61**	**225**	P	**Pn**	**19 06 21.8**	**+0.8**
SNT5	**Nea Kammeni, S**	**1.61**	**225**	P	**Pn**	**19 06 21.7**	**+0.5**
SAP3	**Santorini-Thir**	**1.62**	**227**	P	**Pn**	**19 06 22.0**	**+0.7**
SOMA	**Soma-Manisa**	**1.70**	**19**	Pn	**Pb**	**19 06 23.5**	**-0.6**
ARG	**Arkhangelos**	**1.70**	**141**	Pn	**Pn**	**19 06 22.5**	**+0.2**
ARG	**Arkhangelos**	**1.70**	**141**	P	**Pn**	**19 06 21.2**	**-1.1**
GORD	**Gordes-Manisa**	**1.73**	**38**	Pn	**Pb**	**19 06 23.9**	**-0.8**
PRK	**Paraskevi**	**1.74**	**346**	P	**Pn**	**19 06 22.6**	**-0.3**
PRK	**Paraskevi**	**1.74**	**346**	P	**Pn**	**19 06 22.7**	**-0.3**
PRK				S	**Sn**	**19 06 44.2**	**-0.7**
KULA	**Kula-Manisa**	**1.75**	**56**	Pn	**Pb**	**19 06 24.5**	**-0.5**
SIGR	**SIGRI**	**1.82**	**336**	Pn	**Pn**	**19 06 23.8**	**-0.2**
SIGR	**SIGRI**	**1.82**	**336**	P	**Pn**	**19 06 23.5**	**-0.5**
SIGR	**SIGRI**	**1.82**	**336**	P	**Pn**	**19 06 23.8**	**-0.2**
KARY	**Karyos**	**1.94**	**285**	P	**Pn**	**19 06 26.6**	**+0.9**
APMY	**Acipayam-Deniz**	**1.98**	**92**	Pn	**Pn**	**19 06 27.3**	**+1.0**
YAYO	**Edremit-Balk**	**2.06**	**6**	Pn	**Pn**	**19 06 27.9**	**+0.5**
CAME	**Cameli-Denizli**	**2.08**	**106**	Pn	**Pn**	**19 06 28.7**	**+1.0**
MHLO	**Agia Marina, M**	**2.11**	**247**	P	**Pn**	**19 06 29.2**	**+1.2**
EZN	**Ezine**	**2.30**	**351**	Pn	**Pn**	**19 06 32.1**	**+1.5**
DION	**Dionisos Attik**	**2.34**	**284**	P	**Pn**	**19 06 31.2**	**0.0**
BOZC	**Bozcaada**	**2.36**	**346**	Pn	**Pn**	**19 06 32.4**	**+1.0**
VLY	**Voula,Athens**	**2.41**	**278**	P	**Pn**	**19 06 33.0**	**+0.8**
CANM	**Can-anakkale**	**2.46**	**4**	Pn	**Pn**	**19 06 34.3**	**+1.5**
ZKR	**Zakros**	**2.48**	**191**	P	**Pn**	**19 06 33.9**	**+0.8**
GONE	**Gonen-Balikesi**	**2.58**	**15**	Pn	**Pn**	**19 06 35.9**	**+1.4**
LIA	**Limnos Island**	**2.67**	**332**	P	**Pn**	**19 06 35.7**	**+0.1**
IDI	**Anoyia**	**2.74**	**215**	P	**Pn**	**19 06 38.1**	**+1.3**
TVSB	**Tavsanli**	**2.81**	**47**	Pn	**Pn**	**19 06 39.3**	**+1.6**
KORT	**Korkueli**	**2.88**	**100**	Pn	**Pn**	**19 06 40.1**	**+1.5**
SMTH	**Samothraki Isl**	**3.08**	**341**	P	**Pn**	**19 06 40.6**	**-0.7**
ALN	**Alexandroupoli**	**3.39**	**350**	P	**Pn**	**19 06 45.4**	**-0.2**
ALN	**Alexandroupoli**	**3.39**	**350**	P	**Pn**	**19 06 45.2**	**-0.4**
THAS	**Thassos island**	**3.46**	**333**	P	**Pn**	**19 06 46.2**	**-0.3**
THAS	**Thassos island**	**3.46**	**333**	P	**Pn**	**19 06 46.4**	**-0.1**
RDO	**Rodhopi**	**3.72**	**345**	P	**Pn**	**19 06 50.0**	**-0.2**

NEIC 30 19:08:04.0±1.6, 43.52N±0.08×127.7W±0.1, h10km±2km, ML2.9/72, Error ellipse: s-maj=15.9km s-min=12.8km az=258.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.55**	**104**	P	**Pn**	**19 08 44.9**	**-0.7**
KEBM				Sn	Sn	19 09 16.2	-0.5
KEBM				IAML		19 09 20.4	
	comp=E,110nm,0.7s						
KEBM				IAML		19 09 21.0	
	comp=N,108nm,0.7s						
J01E	**Myrtle Point**	**2.78**	**96**	Pn	**Pn**	**19 08 47.5**	**-1.1**
J01E				Sn	**Sn**	**19 09 21.3**	**-0.9**
J01E				IAML		19 09 24.8	
	comp=N,34nm,0.7s						
I02E	**Swisshome, OR**	**2.86**	**77**		**Pn**	**19 08 49.2**	**-0.4**
I03D	**Drain, OR**	**3.17**	**85**		**Pn**	**19 08 54.1**	**+0.2**
I03D					**Sn**	**19 09 31.5**	**-0.4**
I03D				IAML		19 09 36.3	
	comp=N,28nm,0.5s						
I03D				IAML		19 09 37.5	
	comp=E,21nm,0.6s						
KSXB	**Camp Six Broad**	**3.29**	**120**	Pn	**Pn**	**19 08 55.1**	**-0.7**
L02F	**Cave Junction**	**3.35**	**113**	Pn	**Pn**	**19 08 55.5**	**-1.0**
COR	**Corvallis**	**3.35**	**70**	Pn	**Pn**	**19 08 56.7**	**+0.2**
BUCK	**Buck Mountain**	**3.48**	**77**		**Pn**	**19 08 58.9**	**+0.6**
BUCK				IAML		19 10 08.6	
	comp=E,16nm,2.2s						
G03D	**McMinnville, O**	**3.61**	**61**		**Pn**	**19 09 00.5**	**+0.5**
G03D				IAML		19 09 27.7	
	comp=E,23nm,0.6s						
G03D				IAML		19 09 48.3	
	comp=N,40nm,0.6s						
KRPM	**Rodgers**	**3.61**	**130**	Pn	**Pn**	**19 09 00.5**	**+0.4**
H04D	**Lebanon**	**3.73**	**73**		**Pn**	**19 09 02.3**	**+0.7**
H04D				IAML		19 09 53.0	
	comp=E,17nm,0.7s						
H04D				IAML		19 09 55.2	
	comp=N,14nm,1.1s						
BBOR	**Butler Butte**	**3.73**	**98**		**Pn**	**19 09 01.9**	**+0.1**
BBOR				IAML		19 09 52.0	
	comp=E,20nm,0.5s						
BBOR				IAML		19 09 52.9	
	comp=N,21nm,0.6s						
F03A	**Seaside**	**3.82**	**49**	Pn	**Pn**	**19 09 03.3**	**+0.5**
KHMM	**Horse Mountain**	**3.97**	**130**	Pn	**Pn**	**19 09 06.0**	**+1.0**
RADR	**Rader Ridge**	**4.02**	**42**	Pn	**Pn**	**19 09 04.7**	**-0.9**
RADR				IAML		19 10 00.6	
	comp=N,25nm,1.5s						
RADR				IAML		19 10 36.1	
	comp=E,29nm,2.0s						
J04A	**Umpqua Nationa**	**4.09**	**92**		**Pn**	**19 09 06.8**	**0.0**
YBH	**Yreka Blue Hor**	**4.10**	**114**	Pn	**Pn**	**19 09 07.3**	**+0.4**
YBH				IAML		19 11 18.3	
	comp=N,28nm,0.3s						
G04A	**Mulino**	**4.11**	**64**		**Pn**	**19 09 07.8**	**+0.9**
G04A				IAML		19 11 31.1	
	comp=E,28nm,1.9s						
H04A	**Detroit Lake**	**4.15**	**72**		**Pn**	**19 09 07.3**	**-0.1**
H04A				IAML		19 10 03.3	
	comp=E,8.9nm,0.6s						
H04A				IAML		19 10 07.2	
	comp=N,11nm,0.5s						
F04D	**Rainier, OR**	**4.21**	**51**		**Pn**	**19 09 07.6**	**-0.7**
E03A	**Lebam**	**4.22**	**43**		**Pn**	**19 09 07.6**	**-0.7**
KMRM	**Mail Ridge**	**4.45**	**136**	Pn	**Pn**	**19 09 11.6**	**0.0**
KMRM				IAML		19 09 43.7	
	comp=E,8.1nm,4.7s						
KMRM				IAML		19 10 24.1	
	comp=N,7.8nm,3.4s						
WISH	**Wishkah**	**4.55**	**36**	Pn	**Pn**	**19 09 10.7**	**-2.1**
NLWA	**Neilton Lookou**	**4.72**	**34**		**Pn**	**19 09 15.1**	**-0.2**
NLWA				IAML		19 10 10.1	
	comp=N,16nm,0.5s						
J05D	**Fort Rock, OR**	**4.72**	**91**		**Pn**	**19 09 14.1**	**-1.4**
J05D				IAML		19 09 50.8	
	comp=E,7.9nm,3.3s						
J05D				IAML		19 11 43.0	
	comp=N,7.7nm,4.0s						
G05A	**Wamic**	**4.90**	**67**		**Pn**	**19 09 17.7**	**0.0**
G05A				IAML		19 09 59.2	
	comp=E,15nm,3.7s						
G05A				IAML		19 10 19.6	
	comp=N,15nm,4.0s						
PINE	**Pine Mountain**	**4.92**	**84**		**Pn**	**19 09 19.0**	**+0.8**
PINE				IAML		19 10 19.8	
	comp=N,6.0nm,3.9s						
PINE				IAML		19 10 56.0	
	comp=E,6.2nm,3.9s						
K05A	**Summer Lake**	**5.05**	**97**	Pn	**Pn**	**19 09 19.9**	**-0.1**
K05A				IAML		19 10 24.3	
	comp=N,8.1nm,4.3s						
LON	**Longmire**	**5.28**	**50**		**Pn**	**19 09 24.0**	**+1.0**
LON				IAML		19 10 27.9	
	comp=N,6.9nm,1.0s						
LON				IAML		19 10 29.4	
	comp=E,7.2nm,0.6s						
GNW	**Green Mountain**	**5.30**	**39**		**Pn**	**19 09 22.9**	**-0.4**
G06A	**Carlson Farm,**	**5.35**	**69**		**Pn**	**19 09 23.1**	**-0.9**
G06A				IAML		19 10 04.2	
	comp=E,7.3nm,4.1s						
G06A				IAML		19 12 05.5	
	comp=N,5.4nm,2.9s						
B04A	**Port Angeles**	**5.41**	**31**	Pn	**Pn**	**19 09 23.8**	**-0.9**
D05A	**Enumclaw**	**5.45**	**46**		**Pn**	**19 09 24.6**	**-0.7**
CLRS	**Cowichan Lake**	**5.86**	**24**	Pn	**Pn**	**19 09 30.2**	**-0.6**
MXC	**Moxie City**	**6.08**	**57**		**Pn**	**19 09 33.7**	**-0.2**
LTY	**Liberty**	**6.21**	**51**		**Pn**	**19 09 36.4**	**+0.7**
HAWA	**Hanford**	**6.47**	**61**		**Pn**	**19 09 38.9**	**-0.4**
G08A	**Pilot Rock**	**6.51**	**71**		**Pn**	**19 09 40.5**	**+0.5**
D08A	**Wollman Farm,**	**7.14**	**57**		**Pn**	**19 09 48.9**	**+0.5**

*RSNC **30** 19:14:03.9±0.0, 11.7N±2.2×7.2W±7.2, h2km±3km, M3.1, mb3.7, ML2.8*
*FUNV **30** 19:14:03.1, 10.93N×71.75W, h5km, MW3.5*

ISC 30 19:14:02.4±2.2, 10.93N±0.04×71.74W±0.03, h11km±16km, n18, σ1s79/29, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.81**	**342**	P	**Pb**	**19 14 18.5**	**+0.1**
URIC				S	**Sb**	**19 14 29.4**	**0.0**
CRJC	**Cerrejon, Guaj**	**1.12**	**275**	P	**Pb**	**19 14 23.3**	**-0.6**
CRJC				S	**Sb**	**19 14 37.7**	**-0.9**
MCQV	**Machiques**	**1.17**	**222**	*eP*	**Pb**	**19 14 24.0**	**-0.7**
MCQV				*eS*	**Sg**	**19 14 40.2**	**-0.1**
SDV	**Santo Domingo**	**2.31**	**152**	P	**Pn**	**19 14 41.2**	**+0.7**
SDV				S	**Sb**	**19 15 13.6**	**+0.9**
SMRC	**Santa Marta, M**	**2.45**	**276**	P	**Pn**	**19 14 44.0**	**+1.7**
SMRC				S	**Sb**	**19 15 15.2**	**-1.5**
ARGC	**Ariguani, Magd**	**2.68**	**247**	P	**Pb**	**19 14 51.4**	**+0.9**
OCAC	**Ocana**	**3.09**	**210**	P	**Pn**	**19 14 50.3**	**-1.0**
CAPV	**Capacho**	**3.10**	**191**	*eP*	**Pn**	**19 14 51.9**	**+0.5**
CAPV				*eS*	**Sn**	**19 15 28.2**	**-0.3**
SJCC	**San Jacinto, C**	**3.53**	**253**	P	**Pn**	**19 14 57.8**	**+0.5**
SJCC				S	**Sn**	**19 15 39.4**	**+0.2**
PAMC	**Pamplona, Colo**	**3.69**	**195**	P	**Pn**	**19 14 59.8**	**0.0**
PAMC				S	**Sn**	**19 15 41.9**	**-1.7**
BAUV	**El Baul**	**4.14**	**118**	*eP*	**Pn**	**19 15 05.6**	**0.0**
BAUV				*eS*	**Sn**	**19 15 52.3**	**-1.9**
BENV	**Beln**	**4.19**	**103**	*eP*	**Pn**	**19 15 06.1**	**-0.2**
BENV				*eS*	**Sn**	**19 15 53.6**	**-1.6**
BRJC	**Barrancabermej**	**4.40**	**207**	P	**Pn**	**19 15 08.7**	**-0.5**
BARC	**Barichara**	**4.54**	**198**	P	**Pn**	**19 15 11.8**	**+0.5**
ZARC	**Zaragoza, Cauc**	**4.60**	**222**	P	**Pn**	**19 15 14.2**	**+2.3**
TACV	**Tcata**	**4.70**	**99**	*eP*	**Pn**	**19 15 13.2**	**-0.2**
TACV				*eS*	**Sn**	**19 16 05.5**	**-2.5**
RUSC	**La Rusia**	**5.18**	**195**	P	**Pn**	**19 15 19.7**	**-0.6**
CACV	**CAICARA DEL OR**	**6.13**	**123**	*eP*	**Pn**	**19 15 38.7**	**+5.8**
CACV				*eS*	**Sn**	**19 16 50.0**	**+6.9**

KRSC 30 19:47:38.2±2.4, 49.76N×159.84E, h42km±64km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.56**	**292**	*eP*	Pn	**19 48 17.9**	**+0.7**
SKR				*eS*	Sn	**19 48 46.0**	**-1.1**
PAU	**Pauzhetka**	**2.58**	**313**	*eP*	Pn	**19 48 20.0**	**+2.6**

*IDC **30** 20:15:40.6±0.9,37.°50N×26.°84E,h0km,mb3.6/6, mbtmp3.6/11,ML3.6/4,MS2.9/2,Error ellipse: s-maj=20.4km s-min=15.4km az=138.0*

*ATH **30** 20:15:41.8,37.°57N×26.°89E,h16km±1km,ML3.4/12, Manual Solution by A.Agalos First location: 2019/08/30 20:16:59, This location: 2019/08/30 20:27:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

*ISK **30** 20:15:41.5,37.°56N×26.°77E,h13km,ML3.8/53*

*THE **30** 20:15:42.2,38.°N±2.°×2.°7E±.°,h12km±7km,M3.2/15, ML3.2/15*

*AFAD **30** 20:15:42.0,37.°56N×26.°79E,h7km±1km,MW3.6*

ISC 30 20:15:41.8±0.8,37.°54N±0.°02×26.°83E±0.°02,h16km±5km, n192,σ1§73/215,mb3.5/5,13C-7D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.17**	**1**	**P**	**Pg**	**20 15 45.8**	**-0.3**
SMG				S	**Sg**	**20 15 48.5**	**-0.4**
SMG	**Samos**	**0.17**	**1**	**P**	**Pg**	**20 15 45.9**	**-0.1**
SMG				S	**Sg**	**20 15 48.4**	**-0.5**
KRL1	**Karlovasi Samo**	**0.27**	**338**	**P**	**Pg**	**20 15 47.9**	**+0.2**
KRL1				S	**Sg**	**20 15 51.8**	**+0.1**
DDIM	**Aydin, Didim**	**0.34**	**104**	**P**	**Pb**	**20 15 49.8**	**+0.4**
DDIM				S	**Sb**	**20 15 55.2**	**+0.7**
DDIM				*i* IAML		20 15 56.0	
	comp=E,8μm,0.4s						
DDIM				*i* IAML		20 15 58.0	
	comp=N,6μm,0.5s						
GCAM	**G?zelcaml?**	**0.36**	**63**	Pg	**Pb**	**20 15 49.7**	**0.0**
GCAM				Sg	**Sb**	**20 15 55.6**	**+0.5**
GCAM	**G?zelcaml?**	**0.36**	**63**	P	**Pb**	**20 15 49.8**	**+0.1**
GCAM				*i* IAML		20 15 55.0	
	comp=N,2μm,0.3s						
GCAM				*i* IAML		20 15 55.0	
	comp=E,3μm,0.2s						
GCAM				S	**Sb**	**20 15 55.7**	**+0.6**
DIDI	**Didim-Aydin**	**0.36**	**117**	Pg	**Pb**	**20 15 50.4**	**+0.6**
DIDI				Sg	**Sb**	**20 15 56.4**	**+1.1**
DGB	**zmir**	**0.51**	**4**	P	**Pg**	**20 15 52.0**	**0.0**
DGB				S	**Sb**	**20 15 59.2**	**-0.3**
DGB				*i* IAML		20 16 00.0	
	comp=E,2μm,0.2s						
DGB				*i* IAML		20 16 03.0	
	comp=N,1μm,0.2s						
GMLD	**Gumuldur**	**0.54**	**7**	Pg	**Pb**	**20 15 52.6**	**-0.2**
GMLD				Sg	**Sb**	**20 16 00.2**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.55**	**139**	Pg	**Pb**	**20 15 53.9**	**+0.9**
YKAV				Sg	**Sb**	**20 16 01.7**	**+1.1**
KLNA	**Kalymnos**	**0.59**	**169**	P	**Pg**	**20 15 53.8**	**+0.3**
KLNA				S	**Sb**	**20 16 02.8**	**+0.9**
BDRM	**Kayabasi**	**0.68**	**134**	P	**Pb**	**20 15 55.9**	**+0.7**
BDRM				S	**Sn**	**20 16 06.6**	**-0.5**
BDRM				*i* IAML		20 16 09.0	
	comp=E,2μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**0.74**	**340**	P	**Pg**	**20 15 56.2**	**-0.1**
ZEYE				S	**Sn**	**20 16 08.1**	**-0.4**
ZEYE				*i* IAML		20 16 10.0	
	comp=N,4μm,0.5s						
ZEYE				*i* IAML		20 16 12.0	
	comp=E,2μm,0.2s						
AYDN	**Tasoluk**	**0.84**	**82**	**P**	**Pb**	**20 15 58.7**	**+0.7**
AYDN				*i* IAML		20 16 11.0	
	comp=N,2μm,0.2s						
AYDN				S	**Sn**	**20 16 11.1**	**0.0**
AYDN				*i* IAML		20 16 14.0	
	comp=E,4μm,0.5s						
BLCB	**Balcova**	**0.86**	**11**	Pg	**Pb**	**20 15 58.3**	**0.0**
BLCB				Sg	**Sb**	**20 16 10.6**	**+1.0**
BLCB	**Balcova**	**0.86**	**11**	P	**Pb**	**20 15 58.3**	**0.0**
BLCB				S	**Sb**	**20 16 10.3**	**+0.7**
CESE	**eme**	**0.89**	**332**	Pg	**Pg**	**20 15 58.9**	**-0.2**
CESE				Sg	**Sb**	**20 16 10.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.93**	**64**	Pg	**Pn**	**20 16 00.7**	**+0.4**
AYDB				Sg	**Sn**	**20 16 14.2**	**+0.8**
NISR	**Nisiros**	**0.96**	**166**	P	**Pg**	**20 16 00.5**	**+0.2**
DAT	**Datca**	**1.01**	**143**	Pg	**Pb**	**20 16 02.2**	**+0.9**
DAT				Sg	**Sn**	**20 16 17.3**	**+2.1**
DATC	**Datca-Mugla**	**1.02**	**139**	Pg	**Pn**	**20 16 02.6**	**+1.2**
ASTA	**Astypalaia**	**1.07**	**201**	P	**Pb**	**20 16 01.7**	**-0.1**
ASTA				S	**Sn**	**20 16 17.4**	**+0.9**
IZMR	**zmir-demi**	**1.07**	**56**	P	**Pn**	**20 16 02.5**	**+0.5**
IZMR				S	**Sn**	**20 16 16.4**	**-0.2**
IZMR				*i* IAML		20 16 21.0	
	comp=E,1μm,0.5s						
IZMR				*i* IAML		20 16 22.0	
	comp=N,712nm,0.6s						
EAG2	**Marmaro, Chios**	**1.15**	**330**	P	**Pb**	**20 16 03.5**	**+0.2**
FOCM	**Foa**	**1.17**	**356**	Pn	**Pg**	**20 16 03.9**	**+0.4**
MULA	**Mugla, Merkez-**	**1.22**	**103**	P	**Pg**	**20 16 05.4**	**+0.1**
MULA				S	**Sg**	**20 16 21.0**	**-0.2**
MULA				*i* IAML		20 16 27.0	
	comp=E,581nm,0.6s						
MULA				*i* IAML		20 16 30.0	
	comp=N,408nm,0.8s						
ODEM	**Odemis-Izmir**	**1.23**	**53**	Pn	**Pg**	**20 16 05.3**	**-0.1**
ESEN	**Aydn-Nazilli**	**1.23**	**78**	P	**Pg**	**20 16 05.0**	**-0.5**
ESEN				S	**Sg**	**20 16 23.7**	**+2.2**
ESEN				*i* IAML		20 16 26.0	
	comp=N,418nm,0.4s						
ESEN				*i* IAML		20 16 27.0	
	comp=E,547nm,0.3s						
NAZL	**Nazilli-Aydin**	**1.23**	**70**	Pn	**Pg**	**20 16 05.0**	**-0.5**
TNSA	**Tinos**	**1.33**	**270**	P	**Pn**	**20 16 06.4**	**+0.8**
TURN	**Turunc**	**1.36**	**124**	Pn	**Pb**	**20 16 07.5**	**+0.6**
GOMA	**Golmarmara-Man**	**1.45**	**36**	Pn	**Pb**	**20 16 08.7**	**+0.4**
AKS	**Akhisar**	**1.54**	**30**	Pn	**Pb**	**20 16 09.9**	**-0.1**
THERA	**Ancient Thera,**	**1.60**	**223**	P	**Pn**	**20 16 09.1**	**-0.3**
THERA	**Ancient Thera,**	**1.60**	**223**	P	**Pn**	**20 16 09.1**	**-0.3**
THR3	**Thira Island,**	**1.61**	**226**	P	**Pn**	**20 16 09.5**	**0.0**
SNT5	**Nea Kammeni, S**	**1.62**	**226**	P	**Pn**	**20 16 09.9**	**+0.3**
SAP3	**Santorini-Thir**	**1.62**	**228**	P	**Pn**	**20 16 10.5**	**+0.8**
THR5	**Thira Island,**	**1.64**	**227**	P	**Pn**	**20 16 09.9**	**0.0**
THR6	**Thira Island,**	**1.65**	**225**	P	**Pn**	**20 16 10.2**	**+0.1**
ARG	**Arkhangelos**	**1.68**	**142**	Pn	**Pn**	**20 16 11.6**	**+1.1**
ARG	**Arkhangelos**	**1.68**	**142**	P	**Pn**	**20 16 11.2**	**+0.7**
ARG	**Arkhangelos**	**1.68**	**142**	P	**Pn**	**20 16 10.9**	**+0.4**
SOMA	**Soma-Manisa**	**1.70**	**19**	Pn	**Pb**	**20 16 12.3**	**-0.4**
GORD	**Gordes-Manisa**	**1.73**	**37**	Pn	**Pb**	**20 16 13.2**	**0.0**
KULA	**Kula-Manisa**	**1.74**	**56**	Pn	**Pb**	**20 16 12.7**	**-0.7**
PRK	**Paraskevi**	**1.76**	**346**	P	**Pn**	**20 16 11.5**	**0.0**
PRK	**Paraskevi**	**1.76**	**346**	P	**Pn**	**20 16 11.3**	**-0.2**
SIGR	**SIGRI**	**1.84**	**336**	Pn	**Pn**	**20 16 12.7**	**+0.1**
SIGR	**SIGRI**	**1.84**	**336**	P	**Pn**	**20 16 12.5**	**-0.2**
SIGR	**SIGRI**	**1.84**	**336**	P	**Pn**	**20 16 12.3**	**-0.3**
KARY	**Karystos**	**1.96**	**285**	P	**Pn**	**20 16 14.7**	**+0.4**
KARY	**Karystos**	**1.96**	**285**	P	**Pn**	**20 16 14.8**	**+0.5**
APMY	**Acipayam-Denizl**	**1.96**	**91**	Pn	**Pb**	**20 16 16.6**	**-0.6**
GPNR	**Gulpinar-Canak**	**1.99**	**344**	Pn	**Pn**	**20 16 15.7**	**+1.0**
KARP	**Karpathos**	**2.01**	**172**	Pn	**Pn**	**20 16 15.6**	**+0.6**
KARP	**Karpathos**	**2.01**	**172**	P	**Pn**	**20 16 14.8**	**-0.2**
CAME	**Cameli-Denizli**	**2.06**	**106**	Pn	**Pn**	**20 16 17.6**	**+1.8**
YAYO	**Edremit-Balk**	**2.08**	**5**	Pn	**Pn**	**20 16 16.2**	**+0.3**
MHLO	**Agia Marina, M**	**2.12**	**247**	P	**Pn**	**20 16 16.8**	**+0.2**
EZNE	**Ezine-Canakkal**	**2.24**	**351**	Pn	**Pn**	**20 16 19.0**	**+0.8**
SMAA	**Simav-Kutahya**	**2.30**	**47**	Pn	**Pn**	**20 16 20.9**	**+1.9**
EZN	**Ezine**	**2.31**	**350**	Pn	**Pn**	**20 16 19.9**	**+0.7**
EZN	**Ezine**	**2.31**	**350**	P	**Pn**	**20 16 18.9**	**-0.3**
EZN	**Ezine**	**2.31**	**350**	‖P	**Pn**	**20 16 19.6**	**+0.4**
DION	**Dionisos Attik**	**2.36**	**284**	P	**Pn**	**20 16 20.3**	**+0.5**
DION	**Dionisos Attik**	**2.36**	**284**	P	**Pn**	**20 16 20.2**	**+0.3**
BOZC	**Bozcaada**	**2.38**	**345**	Pn	**Pn**	**20 16 20.2**	**+0.1**
SHAP	**Saphane-Kutahy**	**2.39**	**51**	Pn	**Pn**	**20 16 21.9**	**+1.5**
PTL	**Penteli**	**2.41**	**283**	P	**Pn**	**20 16 21.0**	**+0.5**
YENI	**Yenice-Canakka**	**2.41**	**7**	Pn	**Pn**	**20 16 20.9**	**+0.3**
KYMI	**Kymi, Euboea I**	**2.42**	**298**	P	**Pn**	**20 16 21.3**	**+0.7**
VLY	**Voula,Athens**	**2.43**	**278**	P	**Pn**	**20 16 21.1**	**+0.3**
VLY	**Voula,Athens**	**2.43**	**278**	P	**Pn**	**20 16 21.4**	**+0.6**
ATHU	**Athens Univers**	**2.45**	**281**	P	**Pn**	**20 16 21.6**	**+0.4**
ATHU	**Athens Univers**	**2.45**	**281**	P	**Pn**	**20 16 21.6**	**+0.4**
CANM	**Can-anakkale**	**2.47**	**4**	Pn	**Pn**	**20 16 22.6**	**+1.2**
ZKR	**Zakros**	**2.47**	**192**	Pn	**Pn**	**20 16 22.8**	**+1.4**
ZKR	**Zakros**	**2.47**	**192**	P	**Pn**	**20 16 22.7**	**+1.4**
NPS	**Neapolis**	**2.48**	**204**	P	**Pn**	**20 16 21.6**	**+0.1**
NPS	**Neapolis**	**2.48**	**204**	P	**Pn**	**20 16 21.6**	**+0.1**
DST	**Dursunbey**	**2.49**	**34**	Pn	**Pn**	**20 16 23.6**	**+1.9**
ATH	**Athens Observa**	**2.51**	**281**	P	**Pn**	**20 16 22.6**	**+0.8**
GEDZ	**Gediz**	**2.52**	**53**	Pn	**Pn**	**20 16 24.0**	**+1.8**
COMU	**Canakkale**	**2.57**	**354**	Pn	**Pn**	**20 16 23.7**	**+1.0**
BASM	**Basmaki-Afyon**	**2.58**	**81**	Pn	**Pn**	**20 16 24.7**	**+1.8**
GONE	**Gonen-Balikesi**	**2.59**	**15**	Pn	**Pn**	**20 16 23.9**	**+0.9**
STFN	**Stefani**	**2.68**	**285**	P	**Pn**	**20 16 25.4**	**+1.2**
LIA	**Limnos Island**	**2.68**	**332**	P	**Pn**	**20 16 24.7**	**+0.4**
LIA	**Limnos Island**	**2.68**	**332**	P	**Pn**	**20 16 24.6**	**+0.4**
MET4	**Agioi Theodoro**	**2.73**	**273**	P	**Pn**	**20 16 25.8**	**+1.0**
IDI	**Anoyia**	**2.74**	**215**	Pn	**Pn**	**20 16 25.2**	**+0.1**
IDI	**Anoyia**	**2.74**	**215**	Pn	**Pn**	**20 16 25.8**	**+0.6**
	8.5nm,0.3s,baz=55,slow=6.7,SNR=21						
IDI				Sn	**Sn**	**20 16 58.3**	**+0.3**
	5.8nm,0.3s,baz=279,slow=12,SNR=3.8						
IDI	**Anoyia**	**2.74**	**215**	P	**Pn**	**20 16 25.4**	**+0.3**
GADA	**Gvkgeada**	**2.74**	**345**	Pn	**Pn**	**20 16 25.5**	**+0.4**
GADA	**Gvkgeada**	**2.74**	**345**	P	**Pn**	**20 16 25.2**	**+0.1**
MET2	**Kameni Chora,**	**2.78**	**273**	P	**Pn**	**20 16 26.2**	**+0.6**
DEMR	**Demre-Antalya**	**2.79**	**117**	Pn	**Pn**	**20 16 27.8**	**+2.1**
TVSB	**Tavsanli**	**2.81**	**46**	Pn	**Pn**	**20 16 27.6**	**+1.5**
KORT	**Korkueli**	**2.86**	**100**	Pn	**Pn**	**20 16 29.2**	**+2.4**
GELI	**Tayfur-Gelibol**	**2.87**	**355**	Pn	**Pn**	**20 16 27.6**	**+0.8**
KRBG	**Karabiga-Canak**	**2.87**	**7**	Pn	**Pn**	**20 16 27.2**	**+0.4**
VIL2	**Platees**	**2.90**	**284**	P	**Pn**	**20 16 27.4**	**+0.1**
EDC	**Edincik**	**2.91**	**16**	Pn	**Pn**	**20 16 29.0**	**+1.5**
KCTX	**Karacabey (Bur**	**2.97**	**23**	Pn	**Pn**	**20 16 29.8**	**+1.6**
ORLT	**Orhaneli**	**2.98**	**32**	Pn	**Pn**	**20 16 30.1**	**+1.8**
BAND	**Balkesir-Ban**	**2.98**	**19**	⇑P	**Pn**	**20 16 29.5**	**+1.2**
SMTH	**Samothraki Isl**	**3.10**	**341**	P	**Pn**	**20 16 30.0**	**0.0**
MRMT	**Marmara Adasi**	**3.12**	**11**	Pn	**Pn**	**20 16 31.8**	**+1.5**
ANTB	**Antalya**	**3.12**	**101**	Pn	**Pn**	**20 16 32.5**	**+2.3**
ERIK	**Erikli-Kesan**	**3.13**	**356**	Pn	**Pn**	**20 16 31.1**	**+0.6**
CAVK	**Edirne/Enez-Ca**	**3.19**	**351**	⇑P	**Pn**	**20 16 32.6**	**+1.4**
MDNY	**Mudanya-Bursa**	**3.25**	**29**	Pn	**Pn**	**20 16 34.1**	**+2.1**
KTHA	**Kythira Island**	**3.28**	**248**	Pn	**Pn**	**20 16 33.5**	**+1.0**
NEO	**Neokhori**	**3.34**	**303**	P	**Pn**	**20 16 34.0**	**+0.7**
ALN	**Alexandroupoli**	**3.41**	**350**	P	**Pn**	**20 16 34.4**	**+0.2**
ARMT	**Armutlu**	**3.41**	**27**	Pn	**Pn**	**20 16 36.3**	**+2.0**
THAS	**Thassos island**	**3.47**	**332**	P	**Pn**	**20 16 35.3**	**+0.1**
GVD	**Gavdhos**	**3.49**	**220**	Pn	**Pn**	**20 16 36.8**	**+1.4**
YLV	**Yalova**	**3.61**	**32**	Pn	**Pn**	**20 16 39.3**	**+2.2**
RDO	**Rodhopi**	**3.74**	**345**	P	**Pn**	**20 16 39.4**	**+0.7**
CIFT	**Cifteler, Eski**	**3.79**	**60**	Pn	**Pn**	**20 16 41.5**	**+2.0**
KDZ	**Kurdzhali**	**4.24**	**345**	P	**Pn**	**20 16 46.4**	**+0.7**
RZN	**Rozhen**	**4.45**	**339**	P	**Pn**	**20 16 49.8**	**+1.0**
MMB	**Musomishta**	**4.66**	**330**	P	**Pn**	**20 16 52.7**	**+1.3**
PLD	**Plovdiv**	**4.87**	**341**	P	**Pn**	**20 16 55.3**	**+1.0**
JMB	**Yambol**	**4.95**	**357**	*e*P	**Pn**	**20 16 55.0**	**-0.4**
KKB	**Kutupnik**	**5.16**	**328**	P	**Pn**	**20 16 55.0**	**+1.9**
ELND	**Elena**	**5.43**	**353**	⇓P	**Pn**	**20 17 02.0**	**0.0**
NEF	**NEVSHA**	**5.73**	**3**	*e*P	**Pn**	**20 17 07.2**	**+1.1**
BRTR	**Keskin Array B**	**5.76**	**66**	Pn	**Pn**	**20 17 09.3**	**+2.6**
	1.2nm,0.3s,baz=250,slow=15,SNR=31						
BRTR				Sn	**Sn**	**20 18 12.3**	**-0.2**
	baz=183,slow=32 2.7nm,0.4s						
LOZB	**Loznitsa**	**5.83**	**358**	⇓P	**Pn**	**20 17 08.1**	**+0.6**
CSS	**Mathiatis**	**5.85**	**114**	P	**Pn**	**20 17 03.5**	**-4.3**
CSS	**Mathiatis**	**5.85**	**114**	S	**Sn**	**20 18 11.7**	**-2.9**
ICOR	**Ion Corvin**	**6.61**	**6**	⇓P	**Pn**	**20 17 18.9**	**+0.7**
BOVS	**Bovan**	**7.23**	**329**	⇓P	**Pn**	**20 17 28.1**	**+1.4**
CFR	**Carcaliu**	**7.69**	**7**	⇑P	**Pn**	**20 17 33.6**	**+0.6**
MLR	**Muntele Rosu**	**7.97**	**355**	Pn	**Pn**	**20 17 38.9**	**+1.9**
	0.3nm,0.3s,baz=176,slow=16,SNR=2.6						
MLR				LR	LR	20 20 54.3	
	comp=Z,35nm,20.3s,baz=66,slow=39 1.6nm,0.6s						
MLR	**Muntele Rosu**	**7.97**	**355**	⇑P	**Pn**	**20 17 39.0**	**+1.9**
TIP	**Timpagrande**	**8.08**	**285**	⇓P	**Pn**	**20 17 40.9**	**+2.3**
HNTI	**Hanita**	**8.14**	**121**	P	**Pn**	**20 17 35.3**	**-3.9**
HNTI	**Hanita**	**8.14**	**121**	S	**Sn**	**20 19 07.8**	**-3.1**
MDVR	**Moldovita**	**8.20**	**334**	⇑P	**Pn**	**20 17 40.9**	**+0.8**
OFRI	**`Ofer**	**8.29**	**124**	P	**Pn**	**20 17 36.9**	**-4.5**
OFRI	**`Ofer**	**8.29**	**124**	S	**Sn**	**20 19 11.7**	**-3.0**
PLOR	**Plostina**	**8.30**	**359**	⇑P	**Pn**	**20 17 44.0**	**+2.5**
COVR	**Voineasa-Covas**	**8.31**	**357**	⇑P	**Pn**	**20 17 43.3**	**+1.7**
VRI	**Vrincioaia**	**8.32**	**359**	⇑P	**Pn**	**20 17 42.3**	**+0.7**
MMA0B	**Mount Meron ar**	**8.34**	**120**	P	**Pn**	**20 17 38.2**	**-3.8**
MMA0B	**Mount Meron ar**	**8.34**	**120**	S	**Sn**	**20 19 12.7**	**-3.2**
MMAI	**Mount Meron Ar**	**8.34**	**120**	Pn	**Pn**	**20 17 41.9**	**-0.1**
	2.5nm,0.3s,baz=302,slow=13,SNR=15						
MMAI				Sn	**Sn**	**20 19 10.6**	**-5.2**
	3.3nm,0.3s,baz=288,slow=21,SNR=7.9 1.5nm,0.3s						
GEM	**Giv'at Ha'Em**	**8.41**	**118**	P	**Pn**	**20 17 39.0**	**-3.9**
GEM	**Giv'at Ha'Em**	**8.41**	**118**	S	**Sn**	**20 19 13.7**	**-3.8**
GZR	**Gura Zlata**	**8.41**	**340**	⇑P	**Pn**	**20 17 43.3**	**+0.2**
NATI	**Neve Ativ**	**8.43**	**118**	P	**Pn**	**20 17 39.9**	**-3.3**
NATI	**Neve Ativ**	**8.43**	**118**	S	**Sn**	**20 19 14.6**	**-3.4**
KSHT	**Keshet**	**8.64**	**119**	P	**Pn**	**20 17 42.2**	**-4.0**
KSHT	**Keshet**	**8.64**	**119**	S	**Sn**	**20 19 19.7**	**-3.5**
MMLI	**Mount Malkishu**	**8.69**	**123**	P	**Pn**	**20 17 42.8**	**-4.1**
MMLI	**Mount Malkishu**	**8.69**	**123**	S	**Sn**	**20 19 21.5**	**-3.1**
HMDT	**Nahal Hemdat**	**8.88**	**124**	P	**Pn**	**20 17 45.8**	**-3.5**
HMDT	**Nahal Hemdat**	**8.88**	**124**	S	**Sn**	**20 19 26.0**	**-3.0**
SURR	**Surduc**	**8.93**	**338**	⇑P	**Pn**	**20 17 50.6**	**+0.6**
BZS	**Buzias**	**8.96**	**336**	⇑P	**Pn**	**20 17 51.6**	**+1.1**
KZIT	**Kziot**	**9.11**	**134**	P	**Pn**	**20 17 48.3**	**-4.2**
KZIT	**Kziot**	**9.11**	**134**	S	**Sn**	**20 19 31.2**	**-3.6**
YTIR	**Yattir**	**9.20**	**130**	P	**Pn**	**20 17 49.9**	**-4.0**
YTIR	**Yattir**	**9.20**	**130**	S	**Sn**	**20 19 34.5**	**-2.8**
DSI	**Dead Sea**	**9.23**	**128**	P	**Pn**	**20 17 49.3**	**-4.8**
MSBI	**Mazada**	**9.39**	**129**	P	**Pn**	**20 17 52.8**	**-3.5**
GHAJ	**Ghor Haditha**	**9.52**	**128**	P	**Pn**	**20 17 54.5**	**-3.7**
GHAJ	**Ghor Haditha**	**9.52**	**128**	S	**Sn**	**20 19 42.2**	**-2.7**
SIRR	**Siria**	**9.53**	**338**	⇓P	**Pn**	**20 17 59.1**	**+0.8**
MARR	**Marisel-Cluj**	**9.53**	**344**	⇑P	**Pn**	**20 17 59.7**	**+1.3**
ZFRI	**Zfri**	**9.82**	**133**	P	**Pn**	**20 17 58.5**	**-3.8**
ZFRI	**Zfri**	**9.82**	**133**	S	**Sn**	**20 19 48.7**	**-3.5**
ASF	**Jabal al Asfar**	**9.85**	**120**	Pn	**Pn**	**20 18 03.3**	**+0.5**
	0.3nm,0.3s,baz=306,slow=18,SNR=1.7						
ASF				Sn	**Sn**	**20 19 50.3**	**-2.8**
	0.2nm,0.3s,baz=263,slow=12,SNR=2.0 0.7nm,0.3s						
PRNI	**Paran**	**9.87**	**134**	P	**Pn**	**20 17 59.0**	**-4.0**
PRNI	**Paran**	**9.87**	**134**	S	**Sn**	**20 19 50.0**	**-3.5**
KRMI	**Paran Flat**	**9.89**	**136**	P	**Pn**	**20 17 58.9**	**-4.4**
KRMI	**Paran Flat**	**9.89**	**136**	S	**Sn**	**20 19 50.3**	**-3.8**
BURAR	**Bucovina Array**	**10.14**	**354**	⇑P	**Pn**	**20 18 07.6**	**+1.0**
MBRI	**Mt Berech**	**10.24**	**137**	P	**Pn**	**20 18 03.9**	**-4.3**
MBRI	**Mt Berech**	**10.24**	**137**	S	**Sn**	**20 19 59.2**	**-3.5**
EIL	**Elat**	**10.36**	**137**	Pn	**Pn**	**20 18 08.9**	**-0.8**
	baz=336,slow=0.0						
EIL				Sn	**Sn**	**20 19 59.5**	**-6.0**
	22nm,0.3s,baz=38,slow=0.0,SNR=1.3						
FINES	**FINESS Array B**	**23.93**	**359**	P	**P**	**20 20 55.2**	**+0.5**
	1.7nm,0.8s,baz=195,slow=16,SNR=2.1 1.8nm,0.8s						
ESDC	**Sonseca Array**	**24.10**	**285**	P	**P**	**20 20 58.9**	**+2.2**
	0.3nm,0.9s,baz=98,slow=8.6,SNR=4.7 0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.06**	**229**	P	**P**	**20 22 17.7**	**+1.0**
	0.7nm,0.5s,baz=33,slow=9.4,SNR=14 0.7nm,0.5s						
JMIC	**Jmic Mayen**	**38.21**	**342**	LR	LR	20 40 07.7	
	comp=Z,35nm,19.1s,baz=244,slow=38						
KURBB	**Kurchatov Arra**	**38.60**	**53**	P	**P**	**20 23 05.6**	**+1.8**
	1.0nm,0.6s,baz=280,slow=9.0,SNR=7.1 1.0nm,0.6s						
MKAR	**Makanchi Array**	**41.36**	**59**	P	**P**	**20 23 28.9**	**+2.0**
	0.6nm,0.6s,baz=264,slow=7.7,SNR=7.0 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**42.40**	**48**	P	**P**	**20 23 36.4**	**+1.2**
	0.3nm,0.3s,baz=263,slow=9.9,SNR=1.8 0.3nm,0.3s						

WEL 30 20:23:25.3±0.9,35.°S±8.°×17.°9E±1.°1,h225km±16km, M3.9/12,MLv3.9/12,Error ellipse: s-maj=14.9km s-min=10.7km az=105.4,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.01**	**194**	P	Pn	20 24 15.9	-0.4
MXZ				S	S	20 24 55.2	-1.2
WMGZ	**Waiomatatini S**	**3.24**	**191**	P	Pn	20 24 18.7	-0.3
WMGZ				S	S	20 25 01.1	-0.1
HAZ	**Te Kaha**	**3.32**	**200**	P	Pn	20 24 20.2	+0.3
HAZ				S	S	20 25 03.4	+0.6
PKGZ	**Pakihiroa**	**3.35**	**195**	P	Pn	20 24 20.2	-0.1
PKGZ				S	S	20 25 03.7	+0.2
PUZ	**Puketiti**	**3.52**	**192**	P	Pn	20 24 21.1	-1.1
PUZ				S	S	20 25 08.0	+1.0
KUZ	**Kuaotunu**	**3.53**	**232**	P	Pn	20 24 23.0	+0.6
RUGZ	**Raukumara Rang**	**3.55**	**200**	P	Pn	20 24 22.6	-0.1
RUGZ				S	S	20 25 08.0	+0.3
TWGZ	**Tauwhareparae**	**3.67**	**195**	P	Pn	20 24 25.1	+1.1
TWGZ				S	S	20 25 13.3	+2.9
CNGZ	**Carnagh Statio**	**3.93**	**191**	P	Pn	20 24 28.1	+1.1
TKGZ	**Te Karaka**	**3.95**	**196**	S	S	20 25 17.6	+1.3
URZ	**Urewera**	**3.99**	**204**	P	Pn	20 24 27.8	0.0
URZ				S	S	20 25 17.9	+0.7
MKAZ	**Moumakai**	**4.10**	**232**	P	Pn	20 24 29.4	+0.2
RAGZ	**Rawiri**	**4.12**	**200**	P	Pn	20 24 30.1	+0.7
RAGZ				S	S	20 25 21.6	+1.5
WCZ	**Waipu Caves**	**4.18**	**250**	P	Pn	20 24 29.4	-0.8
RIGZ	**Rimuhau**	**4.23**	**195**	P	Pn	20 24 31.7	+0.9
RIGZ				S	S	20 25 23.4	+1.0
MUGZ	**Murupara**	**4.31**	**206**	P	Pn	20 24 32.1	+0.4
MUGZ				S	S	20 25 24.3	+0.1
SNGZ	**Shannon Statio**	**4.40**	**199**	P	Pn	20 24 33.4	+0.5
SNGZ				S	S	20 25 27.0	+0.7
PRGZ	**Paritu Road**	**4.41**	**193**	P	Pn	20 24 33.1	+0.1
PRGZ				S	S	20 25 27.5	+1.0
ALRZ	**Allen Road**	**4.55**	**210**	P	Pn	20 24 36.0	+1.3
KNZ	**Kokohu**	**4.55**	**195**	P	Pn	20 24 34.3	-0.4
KNZ				S	S	20 25 29.6	+0.2
MHGZ	**Mahia Peninsul**	**4.63**	**193**	P	Pn	20 24 35.1	-0.6
MHGZ				S	S	20 25 30.3	-1.0
MRHZ	**Matea Rd**	**4.75**	**207**	P	Pn	20 24 36.0	-1.3
MRHZ				S	S	20 25 35.2	+1.1
ARHZ	**Aropaoanui**	**4.95**	**200**	P	Pn	20 24 38.1	-1.5
ARHZ				S	S	20 25 39.0	+0.5
BKZ	**Black Stump Fm**	**5.02**	**205**	P	Pn	20 24 39.7	-0.9
BKZ				S	S	20 25 39.9	-0.2
MCHZ	**McNeill Hill**	**5.20**	**202**	P	Pn	20 24 42.5	-0.3
MCHZ				S	S	20 25 45.5	+1.2
HIZ	**Hauiti**	**5.22**	**221**	P	Pn	20 24 46.3	+3.3
TMVZ	**Te Maari**	**5.28**	**211**	P	Pn	20 24 44.2	+0.3
OTVZ	**Oturere**	**5.34**	**211**	P	Pn	20 24 44.1	-0.6
NGZ	**Ngauruhoe**	**5.37**	**211**	P	Pn	20 24 44.9	-0.2
KAHZ	**Kahuranaki**	**5.48**	**199**	P	Pn	20 24 45.8	-0.4
KRHZ	**Kereru**	**5.49**

ACCO eS Sn 20 37 59.8 0.0
GO04 Tololo Observa 1.30 250 eP Pn 20 37 47.4 -0.1
GO04 Sn Sn 20 38 07.2 +0.3
GO04 Tololo Observa 1.30 250 eP Pn 20 37 47.5 0.0
GO04 iS Sn 20 38 06.7 -0.3
LCO Las Campanas 1.36 302 Pn 20 37 48.2 0.0
LCO Sn Sn 20 38 07.7 -0.5
LCO Las Campanas 1.36 302 eP Pn 20 37 48.0 -0.2
LCO iS Sn 20 38 07.9 -0.4
VCA Vinchina 1.44 46 eP Pn 20 37 49.5 +0.5
VCA eS Sn 20 38 10.9 +1.4
VCA IAML 20 38 11.9
comp=Z,10μm,0.3s
CO03 El Pedregal 1.57 226 Pn 20 37 50.3 -0.1
CO03 Sn Sn 20 38 12.2 0.0
CO03 El Pedregal 1.57 226 eP Pn 20 37 50.4 -0.1
CO03 iS Sn 20 38 12.2 0.0
CO05 La Serena 1.62 263 Pn 20 37 50.2 -0.7
CO05 Sn Sn 20 38 11.8 -1.2
CO05 La Serena 1.62 263 eP Pn 20 37 50.2 -0.7
CO05 iS Sn 20 38 11.8 -1.2
CO05 IAML 20 38 12.8
comp=E,12μm,0.4s
RTLL Cerro Villicun 1.76 154 eP Pn 20 37 51.9 -0.8
RTLL IAML 20 38 16.9
comp=Z,3μm,0.3s
AVFE Valle Fertil 1.90 119 eP Pn 20 37 53.9 -0.5
AVFE eS Sn 20 38 18.1 -1.0
AVFE IAML 20 38 18.8
comp=Z,4μm,0.2s
SJA San Juan 1.91 159 eP Pn 20 37 54.9 +0.4
SJA eS Sn 20 38 24.1 +4.7
SJA IAML 20 38 25.2
comp=Z,1μm,0.2s
CO02 Combarbal 2.02 223 Pn 20 37 55.3 -0.5
CO02 Sn Sn 20 38 21.5 -0.3
CO02 Combarbal 2.02 223 eP Pn 20 37 55.3 -0.5
CO02 iS Sn 20 38 21.2 -0.5
RTLS Leoncito 2.05 178 eP Pn 20 37 57.0 +0.5
RTLS eS Sn 20 38 03.4 -19
RTLS IAML 20 38 25.9
comp=Z,4μm,1.0s
CFA Coronel Fontan 2.10 152 P Pn 20 37 56.8 0.0
comp=Z,111nm,0.3s,baz=348,slow=12,SNR=350
CFA S Sn 20 38 21.5 -2.0
comp=Z,829nm,0.3s,baz=258,slow=20,SNR=41
CFA Coronel Fontan 2.10 152 eP Pn 20 37 56.6 -0.2
CFA eS Sn 20 38 22.3 -1.2
AC04 Llanos de Chal 2.13 316 Pn 20 37 57.0 -0.2
AC04 Sn Sn 20 38 23.1 -1.1
AC04 Llanos de Chal 2.13 316 eP Pn 20 37 57.0 -0.2
AC04 iS Sn 20 38 22.8 -1.3
AC04 IAML 20 38 25.8
comp=E,3μm,0.4s
ACLC CERRO LA CRUZ 2.14 82 eP Pn 20 37 56.9 -0.5
ACLC eS Sn 20 38 23.6 -0.9
ACLC IAML 20 38 25.4
comp=Z,1μm,0.3s
CO06 Fray Jorge 2.16 244 Pn 20 37 55.9 -1.5
CO06 Fray Jorge 2.16 244 eP Pn 20 37 56.0 -1.5
CO06 iS Sn 20 38 22.9 -1.9
CO06 IAML 20 38 35.2
comp=N,3μm,0.2s
GO03 Copiapo 2.27 341 Pn 20 37 58.9 0.0
GO03 Sn Sn 20 38 26.9 -0.5
GO03 Copiapo 2.27 341 eP Pn 20 37 59.0 0.0
GO03 iS Sn 20 38 26.8 -0.5
GO03 IAML 20 38 28.3
comp=N,2μm,0.8s
AANI Anillaco 2.33 67 eP Pn 20 37 59.7 -0.1
AANI IAML 20 38 36.1
comp=Z,4μm,0.7s
AC06 Mina Casimiro 2.53 340 Pn 20 38 01.4 -0.8
AC06 Mina Casimiro 2.53 340 eP Pn 20 38 01.9 -0.3
AC06 iS Sn 20 38 32.2 -1.0
AC06 IAML 20 38 34.3
comp=N,2μm,0.4s
APLL PUNTA DE LOS L 2.56 105 eP Pn 20 38 02.0 -0.6
ACHE Chepes 2.74 122 eP Pn 20 38 04.8 -0.2
ASAL Salagasta 2.88 171 eP Pn 20 38 01.9 -4.9
ASAL eS Sn 20 38 45.3 +4.0
AC02 Maricunga 2.91 4 Pn 20 38 07.4 -0.2
AC02 Maricunga 2.91 4 eP Pn 20 38 08.3 +0.7
AC02 iS Sn 20 38 42.8 +0.2
ARCO CERRO ARCO 3.11 173 eP Pn 20 38 10.6 +0.7
ARCO eS Sn 20 38 49.6 +2.7
ARCO IAML 20 38 58.1
comp=Z,460nm,0.4s
VA03 San Esteban 3.17 198 Pn 20 38 10.4 -0.3
VA03 San Esteban 3.17 198 eP Pn 20 38 10.5 -0.1
VA03 iS Sn 20 38 48.7 +0.4
VA06 Catapilco 3.25 210 Pn 20 39 09.4 -2.2
AAGR Agrelo 3.37 172 eP Pn 20 38 14.3 +1.1
AAGR eS Sn 20 39 03.9 +11
CYA Choya 3.39 68 eP Pn 20 38 12.5 -0.9
CYA eS Sn 20 38 51.6 -1.7
CYA IAML 20 38 54.3
comp=Z,413nm,0.5s
ROCH El Roble 3.51 203 eP 20 38 13.6
ROCH eP Pn 20 38 13.4 -1.7
ROCH iS Sn 20 38 54.7 -1.7
ROCH iS 20 38 54.9
PEL Peldehue 3.57 198 Pn 20 38 14.7 -1.2
PEL Peldehue 3.57 198 eP Pn 20 38 15.0 -0.8
MT10 Hacienda Santa 3.65 195 eP Pn 20 38 16.7 -0.4
MT10 iS Sn 20 38 58.6 -1.1
FCH Farellones 3.66 192 eP Pn 20 38 17.5 +0.3
FCH iS Sn 20 38 59.5 -0.5
MT04 Ro Olivares 3.71 190 eP Pn 20 38 18.1 +0.3
MT04 iS Sn 20 39 00.2 -0.9
MT08 Bocatoma Ro 3.73 188 Pn 20 38 18.3 +0.2
MT08 Bocatoma Ro 3.73 188 eP Pn 20 38 18.6 +0.5
MT08 iS Sn 20 39 00.9 -0.7
AC01 Pan de Azucar 3.74 343 Pn 20 38 17.8 -0.3
MT14 Cerro Cal¡n 3.77 195 eP Pn 20 38 18.1 -0.5
MT14 iS Sn 20 39 00.9 -1.5
AVIZ Vizcacheras 3.79 169 eP Pn 20 38 15.4 -3.4
MT16 CCHEN 3.80 195 Pn 20 38 18.2 -0.7
MT16 CCHEN 3.80 195 eP Pn 20 38 18.4 -0.5
MT16 iS Sn 20 38 58.2 -4.8
VA01 Torpederas 3.80 210 Pn Pn 20 38 16.8 -2.0
MT02 Curacav 3.81 203 Pn 20 38 17.2 -1.8
MT02 Curacav 3.81 203 eP Pn 20 38 17.0 -2.0
MT02 iS Sn 20 39 00.7 -2.5
MT05 Renca 3.82 197 Pn 20 38 18.0 -1.1
MT05 Renca 3.82 197 eP Pn 20 38 18.2 -1.0
MT05 iS Sn 20 39 02.5 -0.9
MT03 Universidad Ad 3.86 194 Pn 20 38 19.3 -0.5
MT03 Universidad Ad 3.86 194 eP Pn 20 38 19.1 -0.6
MT03 iS Sn 20 39 03.2 -1.3
MT15 Las Vizcachas 3.96 194 eP Pn 20 38 20.5 -0.6
MT15 iS Sn 20 39 05.7 -1.2
MT13 San Alfonso 4.06 191 Pn 20 38 22.0 -0.4
MT13 San Alfonso 4.06 191 eP Pn 20 38 22.2 -0.3
MT13 iS Sn 20 39 07.9 -1.4
MT12 Pirque 4.10 194 eP Pn 20 38 22.0 -0.9
MT12 iS Sn 20 39 08.4 -1.8
MRA San Martin 4.12 131 eP Pn 20 38 22.3 -0.9
MRA IAML 20 39 26.5
comp=Z,362nm,0.4s
LMEL Las Melosas 4.15 189 Pn 20 38 23.3 -0.4
MT09 Talagante 4.25 198 Pn 20 38 22.2 -2.7
MT09 Talagante 4.25 198 eP Pn 20 38 22.6 -2.3
MT09 iS Sn 20 39 10.8 -3.0
BO04 La Punta 4.36 194 Pn 20 38 24.7 -1.6
MT01 Popeta 4.41 201 Pn 20 38 24.6 -2.3
TCA Tanti 4.42 112 eP Pn 20 38 25.7 -1.6
TCA eS Sn 20 39 12.9 -5.1
TCA IAML 20 39 59.8
comp=Z,445nm,0.6s
GO02 Mina Guanaco 4.57 358 Pn 20 38 27.8 -1.7
BO01 Tunca 4.86 197 Pn 20 38 29.9 -3.0
RFA San Rafael 5.07 171 eP Pn 20 38 34.8 -1.1
RFA eS Sn 20 39 31.0 -2.5
RFA IAML 20 39 33.1
comp=Z,184nm,0.8s
PB14 IPOC Station P 5.18 350 eP Pn 20 38 36.1 -1.5
PB14 eS Sn 20 39 38.8 +2.3
PB14 IAML 20 39 49.2
comp=Z,106nm,0.8s
ML02 Panimavida 6.24 195 Pn 20 38 47.1 -4.5

PB10 IPOC Station P 6.29 350 Pn Pn 20 38 49.9 -2.5
PB05 IPOC Station P 6.90 354 Pn 20 38 57.8 -2.9
PB06 IPOC Station P 7.01 359 Pn 20 38 60.0 -2.2
H03N1 Juan Fernandez 8.92 243 P Pn 20 39 26.7 -0.9
baz=118,slow=19,SNR=28
H03N2 Juan Fernandez 8.94 243 P Pn 20 39 26.2 -1.6
baz=118,slow=19,SNR=33
H03N3 Juan Fernandez 8.94 243 P Pn 20 39 26.7 -1.1
baz=118,slow=19,SNR=27
H03S3 Juan Fernandez 9.07 241 P Pn 20 39 27.0 -2.6
H03S1 Juan Fernandez 9.08 241 P Pn 20 39 26.8 -2.9
H03S2 Juan Fernandez 9.09 241 P Pn 20 39 26.4 -3.4
SNR=4.3
PSAL Palomas, Salto 10.25 100 eP Pn 20 39 42.3 -3.5
PLCA Paso Flores 11.01 185 P Pn 20 39 56.0 +0.2
comp=Z,1.0nm,0.4s,baz=352,slow=14,SNR=5.1
CPUP Villa Florida 11.18 75 P Pn 20 39 53.8 -4.4
comp=Z,1.5nm,0.4s,baz=204,slow=20,SNR=9.3
SJPY San Joaquin 12.71 71 eP Pn 20 40 16.0 -2.4
LPAZ La Paz 13.44 5 P Pn 20 40 27.6 -0.9
comp=Z,1.2nm,0.5s,baz=193,slow=7.8,SNR=6.5
LPAZ LR LR 20 46 11.1
comp=Z,58nm,19.9s,baz=224,slow=39
PLTB Pedras Altas 13.72 102 Pn 20 40 27.4 -4.0
PLTB Pedras Altas 13.72 102 eP Pn 20 40 27.5 -3.9
AMBA Amambai (Brazi 14.57 66 eP Pn 20 40 39.6 -2.7
BDQN Bodoquena, MS 14.71 54 eP Pn 20 40 41.8 -2.2
ITAB Concordia 15.37 85 Pn 20 40 49.8 -2.5
ITAB IAmb IAmb 20 41 03.9
comp=Z,22nm,0.9s
ITAB Concordia 15.37 85 eP Pn 20 40 51.4 -0.9
AQDB Aquidauana 15.44 56 Pn 20 40 49.8 -3.3
SIV San Ignacio 15.67 31 P Pn 20 40 53.9 -2.2
comp=Z,4.5nm,0.7s,baz=210,slow=8.4,SNR=8.7
PTGB Pitanga 16.19 76 eP Pn 20 40 59.8 -2.7
TRCB Terra Rica 16.53 69 eP Pn 20 41 05.2 -1.4
RPRD Ribas do Rio P 16.92 61 eP P 20 41 10.5 -0.9
PTLB Pontes e Lacer 17.07 36 P 20 41 11.4 -1.6
PTLB Pontes e Lacer 17.07 36 eP P 20 41 12.7 -0.2
PCMB Pacaembu 18.22 68 eP P 20 41 25.7 +0.1
SALV Santo Antonio 18.66 45 eP P 20 41 30.8 +0.4
VILB Vilhena 18.75 29 P 20 41 30.7 -0.8
VILB IAmb IAmb 20 41 33.6
comp=Z,28nm,1.0s
VILB Vilhena 18.75 29 eP P 20 41 32.3 +0.8
ITRB Iturama 19.94 64 eP P 20 41 44.4 0.0
SPB Sao Paulo 20.54 78 eP Pn 20 41 53.5 -0.6
BB19B Bebedouro 20.70 70 eP P 20 41 54.2 +1.6
RCLB Rio Claro- Sao 20.92 75 eP P 20 41 55.5 +0.6
VAO Valinhos 21.16 77 P P 20 41 55.7 -1.8
VAO IAmb IAmb 20 41 57.6
comp=Z,20nm,0.6s
VAO Valinhos 21.16 77 eP P 20 41 57.2 -0.3
ARAG Araguaiana, MT 21.36 53 eP P 20 41 59.5 -0.1
PDRB Porto dos Gac 21.54 36 eP P 20 42 02.8 +1.2
CZSB Cruzeiro do Su 22.12 351 eP P 20 42 08.6 +0.9
IPMB Ipameri, GO 22.58 64 eP P 20 42 11.8 -0.5
CLDB Colider 22.65 37 eP P 20 42 12.8 -0.1
BDFB Brasilia 24.14 59 P P 20 42 26.3 -0.5
comp=Z,3.4nm,0.5s,baz=209,slow=9.5,SNR=4.8
comp=Z,3.4nm,0.5s
RUSC La Rusia 35.61 354 P 20 44 07.9 -0.6
BAUV El Baul 38.48 2 P 20 44 31.3 -0.9
BELA Belgrano 2 50.69 171 P P 20 46 08.9 +0.5
BELA PcP PcP 20 47 24.2 +0.3
VNA3 Neumayer Olymp 52.49 159 ⇓P P 20 46 22.6 +0.7
comp=Z,9.1nm,0.7s
VNA1 Neumayer--Stat 52.74 158 ⇓P P 20 46 24.9 +1.2
comp=Z,3.4nm,0.9s
TEIG Tepich 52.91 338 P 20 46 25.4 -0.1
VNA2 Neumayer--Watz 53.10 159 ⇓P P 20 46 27.1 +0.8
comp=Z,11nm,0.5s,baz=288,slow=8.3
SNAA Sanae 54.71 159 ⇓P P 20 46 38.8 +0.7
comp=Z,212nm,0.6s
SNAA Sanae 54.71 159 P P 20 46 38.2 +0.1
SNAA Sanae 54.71 159 P P 20 46 38.5 +0.5
comp=Z,6.9nm,0.5s,baz=278,slow=8.3,SNR=126
comp=Z,6.9nm,0.5s
TROLL Troll, Antarti 56.42 159 ⇓P P 20 46 50.9 +0.5
comp=Z,407nm,0.4s
QSPA South Pole Qui 60.48 180 P P 20 47 20.7 +2.0
QSPA South Pole Qui 60.48 180 P P 20 47 20.7 +2.0
comp=Z,7.6nm,0.6s,baz=171,slow=0.6,SNR=68
QSPA pP pP 20 47 50.2 +1.3
comp=Z,3.3nm,0.7s,baz=128,slow=2.4,SNR=4.5
comp=Z,7.6nm,0.6s
X48A Hartselle 65.99 344 P P 20 47 54.7 -0.4
X48A IAmb IAmb 20 47 56.1
comp=Z,7.1nm,0.6s
BRDY Brady 66.91 333 IAmb IAmb 20 48 03.3
comp=Z,5.0nm,0.9s
SAND Sanderson 67.07 329 IAmb IAmb 20 48 05.1
comp=Z,9.1nm,1.2s
TXAR Lajitas Array 67.24 328 P P 20 48 05.0 +1.7
comp=Z,1.8nm,0.8s,baz=151,slow=8.3,SNR=17
comp=Z,1.8nm,0.8s
CLTN Cedars of Leba 67.40 345 P P 20 48 04.1 +0.1
WVT Waverly 67.78 344 P P 20 48 06.1 -0.3
MNHN Monahans 68.54 330 IAmb IAmb 20 48 13.8
comp=Z,7.4nm,1.0s
VNDA Vanda 68.69 190 P P 20 48 13.4 +1.7
comp=Z,0.8nm,0.7s,baz=107,slow=4.6,SNR=6.5
comp=Z,0.8nm,0.7s
SYO Syowa Base 68.99 159 ⇓eP P 20 48 14.2 +0.6
VHRN Van Horn 69.08 328 P 20 48 14.8 +0.1
ODSA Odessa 69.11 330 P P 20 48 15.4 +0.5
ODSA IAmb IAmb 20 48 17.0
comp=Z,12nm,0.7s
SN07 Snyder 07 69.25 332 IAmb IAmb 20 48 17.7
comp=Z,6.0nm,0.8s
FVM French Village 70.19 342 IAmb IAmb 20 48 22.9
comp=Z,11nm,0.7s
CCM Cathedral Cave 70.48 342 P 20 48 23.1 +0.1
CCM IAmb IAmb 20 48 24.3
comp=Z,7.1nm,0.6s
MSTX Muleshoe 70.80 331 IAmb IAmb 20 48 27.2
comp=Z,9.8nm,0.7s
R40A Maddies Statio 70.98 341 IAmb IAmb 20 48 27.7
comp=Z,12nm,0.8s
319A Douglas 71.64 325 IAmb IAmb 20 48 33.7
comp=Z,7.5nm,0.7s
DBIC Dimbokro 71.66 71 P P 20 48 31.3 +0.6
comp=Z,4.5nm,0.5s,baz=242,slow=6.4,SNR=11
DBIC pP pP 20 49 01.9 +0.1
comp=Z,4.3nm,0.6s,baz=264,slow=5.1,SNR=2.8
comp=Z,4.5nm,0.5s
P40A Paris 72.08 342 P 20 48 32.7 +0.1
P40A IAmb IAmb 20 48 34.2
comp=Z,9.0nm,0.7s
X16A Lo Mia Camp, P 75.16 325 P P 20 48 51.0 0.0
Q24A Divide 76.06 332 IAmb IAmb 20 48 59.1
comp=Z,6.4nm,0.8s
MAW Mawson 76.59 163 P P 20 48 59.4 +1.0
comp=Z,3.3nm,0.4s,baz=219,slow=7.8,SNR=51
comp=Z,3.3nm,0.4s
I37A Lemond, Waseca 76.62 342 IAmb IAmb 20 49 00.3
comp=Z,14nm,0.8s
PV18 Skein Mesa, Pa 77.06 329 IAmb IAmb 20 49 04.6
comp=Z,4.9nm,0.7s
ECSD EROS Data Cent 77.26 340 P P 20 49 02.4 -0.1
ECSD IAmb IAmb 20 49 04.2
comp=Z,7.3nm,0.7s
KNB Kanab 77.91 326 IAmb IAmb 20 49 43.1
comp=Z,12nm,1.4s
KOOLE Kule 78.60 110 P P 20 49 10.5 -0.2
BOSA Boshof 80.02 117 P P 20 49 18.2 -0.1
comp=Z,4.3nm,0.5s,baz=244,slow=3.4,SNR=20
comp=Z,4.3nm,0.5s
GRTLG Ghanzi 80.19 109 P P 20 49 18.8 -0.5
GRTLG IAmb IAmb 20 49 20.9
comp=Z,9.8nm,1.1s
TORD Torodi Ar. Bea 80.61 69 P P 20 49 21.1 -0.3
TORD IAmb IAmb 20 49 22.6
comp=Z,5.0nm,0.7s
TORD Torodi Ar. Bea 80.61 69 P P 20 49 21.1 -0.3
comp=Z,6.4nm,0.7s,baz=285,slow=5.7,SNR=77
TORD pP pP 20 49 53.0 -0.3
comp=Z,2.1nm,0.6s,baz=276,slow=4.7,SNR=4.2
comp=Z,6.4nm,0.7s
PDAR Pinedale Array 81.06 331 P P 20 49 24.4 +1.0
comp=Z,1.1nm,0.7s,baz=133,slow=6.3,SNR=6.7
PDAR pP pP 20 49 56.9 +1.1
comp=Z,0.8nm,0.8s,baz=160,slow=4.7,SNR=3.3
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 81.76 323 P P 20 49 27.9 +0.7
comp=Z,0.5nm,0.5s,baz=152,slow=6.5,SNR=4.7
NVAR pP pP 20 50 01.5 +1.7
comp=Z,0.5nm,0.8s,baz=108,slow=3.8,SNR=2.4
comp=Z,0.5nm,0.5s
CASY Casey 84.28 180 P P 20 49 40.7 +1.1
CASY IAmb IAmb 20 49 42.1
comp=Z,6.8nm,0.8s
J08A Circle Bar Ran 85.54 326 P P 20 49 46.3 0.0
J08A IAmb IAmb 20 49 49.0
comp=Z,3.3nm,0.7s
PLID Pearl Lake 85.71 329 P P 20 49 48.3 +1.1
PLID IAmb IAmb 20 49 49.5
comp=Z,6.2nm,0.9s
PINE Pine Mountain 87.07 325 P P 20 49 54.1 +0.3
PINE IAmb IAmb 20 49 56.8
comp=Z,5.3nm,0.9s
ESDC Sonseca Array 91.99 45 P P 20 50 16.5 -0.2
comp=Z,0.4nm,0.8s,baz=232,slow=4.7,SNR=2.7
comp=Z,0.4nm,0.8s
ASAR Alice Springs 122.37 205 PKP PKPdf 20 56 03.1 -0.2
comp=Z,0.6nm,0.4s,baz=136,slow=1.6,SNR=12
WRA Warramunga Arr 125.57 208 PKP PKPdf 20 56 09.4 0.0
comp=Z,1.9nm,0.5s,baz=157,slow=1.7,SNR=27
BVAR Borovoye Array 142.60 40 PKP PKPdf 20 56 38.0 -2.1
comp=Z,0.4nm,0.3s,baz=327,slow=2.9,SNR=5.0
EKS2 Erkin-Say 147.85 56 P PKiKP 20 56 54.1 -0.4
SNR=7.7
KURBB Kurchatov Arra 148.20 40 PKPbc PKPbc 20 56 53.9 +0.8
comp=Z,3.6nm,0.4s,baz=298,slow=3.3,SNR=9.5
KURBB pPKPbc pPKPbc 20 57 26.4 -0.3
comp=Z,1.6nm,0.5s,baz=299,slow=3.1,SNR=3.6
USP Ospenovka 148.24 55 P PKiKP 20 56 54.8 -0.4
SNR=6.1
UCH Uchtor 148.47 57 P PKiKP 20 56 56.3 +0.1
SNR=8.6
CHMS Chumysh 148.48 55 P PKiKP 20 56 55.4 -0.2
SNR=5.6
TKM2 Tokmak 2 149.10 55 P PKiKP 20 56 57.2 0.0
SNR=9.7
ZALV Zalesovo Beam 149.43 30 PKPbc PKiKP 20 56 56.9 -0.3
comp=Z,9.3nm,0.3s,baz=311,slow=3.2,SNR=48
ZALV pPKPbc pPKPbc 20 57 29.9 -0.1
comp=Z,2.7nm,0.5s,baz=320,slow=4.6,SNR=3.4
KSH Kashi 150.03 62 PKPbc PKiKP 20 56 59.3 +0.2
MKAR Makanchi Array 152.21 44 PKPbc PKiKP 20 57 03.2 0.0
comp=Z,3.2nm,0.7s,baz=306,slow=1.9,SNR=26
MKAR PKPab PKPab 20 57 14.2 +1.1
comp=Z,3.6nm,0.6s,baz=297,slow=4.0,SNR=21
MKAR pPKPbc pPKPbc 20 57 36.3 -0.4
comp=Z,1.8nm,0.9s,baz=318,slow=1.6,SNR=3.1
SONM Songino Array 161.64 9 PKPab PKPab 20 57 54.6 +0.8
comp=Z,2.4nm,1.3s,baz=297,slow=7.6,SNR=3.8
GTA Gaotai 166.89 40 PKP PKPdf 20 57 14.5 +1.3
GTA PKPab PKPab 20 58 18.3 +1.1

IDC ***30*** *21:06:31.0±1.1, 12°.93S×169°.46E, h0km, mb4.0/9, mbtmp4.1/10, ML4.5/1, MS3.6/32, Error ellipse: s-maj=35.8km s-min=21.9km az=124.0*
GCMT ***30*** *21:06:37.0±0.3, 13°.10S±0°.02×169°.66E±0°.02, h23km±1km, MW4.8/74, Moment Tensor Solution. s15,c19; s74,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=.0.30±. 12; Mθθ 1.20±. 12; Mϕϕ-0.90±.09; Mrθ-0.78±.15; Mθϕ 1.80±.09; Mϕr 0.23±.13; Best double couple: M₀2.24700×10¹⁶ NP1:ϕs196.00000°, δ68.00000°, λ-175.00000°. NP2: ϕs104.00000°, δ86.00000°, λ-22.00000°. Principal axes: T 2.3560, Plg12.0000°, Azm152.0000°; N -0.2210, Plg67.0000°, Azm274.0000°; P -2.1380, Plg19.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 30 21:06:32.5±1.0, 13°.0S±0°.1×169°.5E±0°.2, h10km, n40, σ1§26/10, mb4.1/8, MS3.6/30, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.43**	**197**	Pn	**Pn**		**Pn**	**21 08 49.1**	**+0.5**
	4.7nm,0.3s,baz=44,slow=19,SNR=46								
DZM				Sn	**Sn**		**Sn**	**21 10 32.7**	**-2.1**
	0.6nm,0.3s,baz=318,slow=22,SNR=2.7								
HNR	**Honiara**	**10.00**	**290**	LR	LR		LR	21 13 01.4	
	19nm,0.6s								
RAO	**Raoul Island**	**19.94**	**146**	LR	LR		LR	21 17 00.6	
	comp=Z,140nm,18.3s,baz=342,slow=39								
PMG	**Port Moresby**	**22.17**	**277**	LR	LR		LR	21 19 19.8	
	comp=Z,230nm,21.5s,baz=277,slow=31								
URZ	**Urewera**	**26.02**	**166**	LR	LR		LR	21 21 36.8	
	comp=Z,184nm,19.4s,baz=73,slow=35								
RAR	**Rarotonga**	**30.45**	**110**	LR	LR		LR	21 23 42.4	
	comp=Z,97nm,18.6s,baz=356,slow=35								
STKA	**Stephens Creek**	**31.70**	**229**	P	**P**		**P**	**21 12 57.4**	**+0.8**
	comp=Z,40nm,18.2s,baz=308,slow=34								
STKA	4.8nm,0.9s,baz=49,slow=11,SNR=4.9				LR		LR	21 24 21.4	
	comp=Z,122nm,20.5s,baz=42,slow=34								
H11N1	**WAKE ISLAND Hy**	**32.65**	**355**	T	T			21 47 43.0	
	4.8nm,0.9s								
H11N3	**WAKE ISLAND Hy**	**32.65**	**356**	T	T			21 47 50.0	
	baz=172								
H11N2	**WAKE ISLAND Hy**	**32.66**	**356**	T	T			21 47 58.3	
	baz=172								
WRA	**Warramunga Arr**	**34.32**	**254**	P	**P**		**P**	**21 13 19.2**	**-0.4**
	2.7nm,1.0s,baz=85,slow=8.7,SNR=10								
WRA					LR		LR	21 26 22.4	
	comp=Z,186nm,20.1s,baz=348,slow=35								
	2.7nm,1.0s								
ASAR	**Alice Springs**	**35.28**	**247**	P	**P**		**P**	**21 13 27.6**	**-0.2**
	5.8nm,0.9s,baz=79,slow=9.0,SNR=36								
ASAR					LR		LR	21 26 38.1	
	comp=Z,119nm,18.7s,baz=76,slow=34								
	5.8nm,0.9s								
GUMO	**Guam**	**35.98**	**316**	LR	LR		LR	21 25 45.5	
	comp=Z,60nm,22.0s,baz=134,slow=32								
FITZ	**Fitzroy Crossi**	**42.44**	**257**	LR	LR		LR	21 31 47.0	
	comp=Z,143nm,18.7s,baz=70,slow=36								
BATI	**Baumata**	**44.91**	**269**	LR	LR		LR	21 33 33.1	
	comp=Z,119nm,19.2s,baz=146,slow=36								
DAV	**Davao City (W)**	**47.96**	**292**	LR	LR		LR	21 33 49.5	
	comp=Z,28nm,19.6s,baz=230,slow=34								
NWAO	**Narrogin (SRO)**	**51.44**	**238**	LR	LR		LR	21 36 33.8	
	comp=Z,107nm,18.2s,baz=266,slow=35								
JOW	**Kunigami**	**56.32**	**315**	LR	LR		LR	21 36 40.8	
	comp=Z,120nm,21.3s,baz=335,slow=32								
MJAR	**Matsushiro Arr**	**57.45**	**330**	P	**P**		**P**	**21 16 22.2**	**+0.5**
	0.6nm,0.4s,baz=153,slow=8.2,SNR=2.8								
MJAR					LR		LR	21 39 46.5	
	comp=Z,19nm,19.3s,baz=208,slow=35								
	0.6nm,0.4s								
ASAJ	**Asahikawa**	**61.93**	**338**	LR	LR		LR	21 39 41.3	
	comp=Z,58nm,19.9s,baz=162,slow=32								
SHEM	**Shemya Is, Ala**	**65.62**	**3**	LR	LR		LR	21 39 59.4	
	comp=Z,39nm,21.5s,baz=292,slow=31								
USRK	**Ussuriysk Ar.**	**66.39**	**331**	LR	LR		LR	21 44 27.3	
	comp=Z,29nm,19.7s,baz=189,slow=34								
PETK	**Petropavlovsk-**	**66.65**	**352**	LR	LR		LR	21 41 49.4	
	comp=Z,85nm,20.2s,baz=162,slow=32								
PSI	**Prapat**	**71.74**	**277**	LR	LR		LR	21 52 15.7	
	comp=Z,28nm,19.2s,baz=155,slow=38								
MA2	**Magadan**	**73.93**	**350**	LR	LR		LR	21 46 38.6	
	comp=Z,45nm,20.0s,baz=173,slow=33								
CMAR	**Chiang Mai Arr**	**76.24**	**293**	P	**P**		**P**	**21 18 21.6**	**-0.3**
	0.1nm,0.3s,baz=108,slow=4.9,SNR=0.9								
	0.1nm,0.3s								
SEY	**Seymchan**	**76.89**	**352**	LR	LR		LR	21 47 53.8	
	comp=Z,73nm,20.1s,baz=158,slow=32								
QSPA	**South Pole Qui**	**76.98**	**180**	P	**P**		**P**	**21 18 27.0**	**+1.7**
	1.5nm,1.0s,baz=358,slow=4.1,SNR=3.6								
	1.5nm,1.0s								
YAK	**Yakutsk**	**81.07**	**342**	LR	LR		LR	21 49 08.2	
	comp=Z,34nm,21.9s,baz=150,slow=32								
SONM	**Songino Array**	**82.44**	**323**	LR	LR		LR	21 53 55.6	
	comp=Z,22nm,19.4s,baz=160,slow=34								
ILAR	**Eielson Array**	**84.28**	**17**	P	**P**		**P**	**21 19 02.6**	**-1.5**
	1.1nm,0.9s,baz=234,slow=6.4,SNR=7.6								
	1.1nm,0.9s								
PFO	**Pinyon Flats O**	**84.28**	**54**	LR	LR		LR	21 47 59.4	
	comp=Z,39nm,21.2s,baz=237,slow=30								
NVAR	**Mina Array Bea**	**84.56**	**49**	P	**P**		**P**	**21 19 06.2**	**-0.3**
	0.2nm,0.5s,baz=254,slow=5.3,SNR=2.3								
	0.2nm,0.5s								
LPIG	**La Paz**	**86.55**	**64**	LR	LR		LR	21 49 55.1	
	comp=Z,17nm,20.2s,baz=232,slow=30								
ELK	**Elko**	**87.58**	**47**	LR	LR		LR	21 48 58.4	
	comp=Z,126nm,21.0s,baz=180,slow=29								
TIXI	**Tiksi**	**88.76**	**348**	LR	LR		LR	22 00 28.0	
	comp=Z,14nm,19.0s,baz=170,slow=36								

ANMO	**Albuquerque**	**92.59**	**55**	LR	LR	21 53 19.0		
	comp=Z,30nm,21.0s,baz=353,slow=30							
SNAA	**Sanae**	**95.33**	**182**	LR	LR	22 01 48.6		
	comp=Z,23nm,18.0s,baz=312,slow=35							
ZALV	**Zalesovo Beam**	**97.30**	**324**	LR	LR	22 02 47.9		
	comp=Z,19nm,20.3s,baz=75,slow=35							
MKAR	**Makanchi Array**	**97.47**	**316**	P	Pdif	21 20 06.9	+0.1	
	0.7nm,1.0s,baz=116,slow=5.6,SNR=3.9							
MKAR				LR	LR	22 02 01.7		
	comp=Z,17nm,21.8s,baz=52,slow=34							
	0.7nm,1.0s							

NIED ***30*** *21:38:53.9, 41.06N×143.07E, h25km, MW3.5, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr1.07; Mθθ-0.87; Mφφ-0.19; Mrθ0.89; Mrφ-0.94; Mθφ1.12; Fault plane solution: M₀1.95000×10¹⁴ NP1: ϕs257.00000°,δs25.00000°,λs124.00000°. NP2: ϕs40.00000°,δs70.00000°,λs76.00000°.*

JMA ***30*** *21:38:53.9±0.1, 41.1N±0.5×143.1E±0.7, h25km, MV3.5/39, E OFF AOMORI PREF*

IDC ***30*** *21:38:56.8±2.6, 41.12N×142.96E, h49km±22km, mb3.2/7, mbtmp3.4/9, ML2.6/2, Error ellipse: s-maj=33.3km s-min=18.1km az=99.0*

ISC 30 21:38:52.0±1.6, 41.04N±0.04×143.07E±0.06, h15km±10km, n35, σ1s19/37, mb3.4/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.97**	**4**	P	**Pb**	**21 39 11.4**	**+0.8**
JEM				S	**Sg**	**21 39 24.6**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.26**	**349**	P	**Pn**	**21 39 16.1**	**+0.7**
JTHR	**Tokachihiroo**	**1.26**	**8**	P	**Pn**	**21 39 15.8**	**+0.7**
JTHR				*e*S	**Sb**	**21 39 31.7**	**+0.3**
JARK	**Aomorirokkasho**	**1.29**	**269**	*e*P	**Pg**	**21 39 16.4**	**-0.4**
JANG	**Nango**	**1.36**	**241**	*i* P	**Pg**	**21 39 17.7**	**-0.4**
JTM	**Tenmabayashi**	**1.54**	**261**	*e*P	**Pb**	**21 39 20.4**	**+0.3**
JTM				*e*S	**Sg**	**21 39 39.9**	**-1.6**
JOT	**Ohata**	**1.56**	**283**	*e*P	**Pb**	**21 39 20.6**	**0.0**
JCH	**Churui**	**1.58**	**8**	*e*P	**Pn**	**21 39 20.0**	**+0.4**
JCH				*e*S	**Sn**	**21 39 39.6**	**-0.2**
JKB	**Kayabe**	**1.75**	**300**	*e*P	**Pb**	**21 39 23.2**	**-0.6**
JBT2	**Biratori 2**	**1.81**	**343**	*e*P	**Pb**	**21 39 24.7**	**-0.2**
JBT2				*e*S	**Sb**	**21 39 48.3**	**+1.0**
JOB	**Onbets**	**1.94**	**17**	*e*P	**Pn**	**21 39 25.1**	**+0.6**
JOB				*e*S	**Sn**	**21 39 47.5**	**-1.2**
JOM	**Ohasama**	**2.08**	**221**	*i* P	**Pb**	**21 39 29.4**	**0.0**
JOM				*e*S	**Sb**	**21 39 55.5**	**+0.6**
JEW	**Eniwo**	**2.16**	**327**	*e*P	**Pb**	**21 39 30.6**	**-0.2**
JEW				*e*S	**Sb**	**21 39 57.3**	**-0.1**
JAK	**Akkeshi**	**2.30**	**31**	P	**Pn**	**21 39 29.4**	**0.0**
JAK				*e*S	**Sn**	**21 39 54.7**	**-2.7**
JAR	**Ashorobuto**	**2.31**	**13**	P	**Pn**	**21 39 29.9**	**+0.4**
JAR				*e*S	**Sn**	**21 39 56.0**	**-1.7**
JOMM	**Oshimamatsumae**	**2.35**	**283**	*e*P	**Pb**	**21 39 32.7**	**-1.4**
JMK	**Ichinoseki**	**2.53**	**215**	P	**Pb**	**21 39 35.3**	**-1.7**
ASAJ	**Asahikawa**	**3.09**	**354**	P	**Pn**	**21 39 42.3**	**+2.0**
	1.0nm,0.3s,baz=192,slow=16,SNR=14						
ASAJ				S	**Sn**	**21 40 16.9**	**-0.1**
	10nm,0.6s,baz=180,slow=20,SNR=3.9						
	2.5nm,0.3s						
MJAR	**Matsushiro Arr**	**5.88**	**222**	P	**Pn**	**21 40 22.6**	**+3.9**
	0.1nm,0.3s,baz=32,slow=13,SNR=2.0						
	0.9nm,0.6s						
SONM	**Songino Array**	**26.86**	**297**	P	**P**	**21 44 31.6**	**-0.5**
	0.2nm,0.4s,baz=96,slow=11,SNR=1.8						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.39**	**129**	T	T	22 16 11.3		
	baz=322,slow=75							
H11N1	**WAKE ISLAND Hy**	**29.40**	**129**	T	T	22 16 14.7		
	baz=322							
H11N3	**WAKE ISLAND Hy**	**29.41**	**129**	T	T	22 16 11.9		
	baz=322,slow=75							
H11S1	**WAKE ISLAND Hy**	**30.24**	**131**	T	T	22 17 28.2		
	baz=324,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**30.24**	**131**	T	T	22 17 32.6		
	baz=324,slow=76,SNR=7.9							
H11S2	**WAKE ISLAND Hy**	**30.25**	**131**	T	T	22 17 26.9		
	baz=324,slow=76,SNR=12							
ZALV	**Zalesovo Beam**	**40.28**	**309**	P	**P**	**21 46 27.8**	**-0.4**
	0.4nm,0.3s,baz=79,slow=7.5,SNR=3.3							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**43.20**	**299**	P	**P**	**21 46 52.1**	**-0.2**
	0.3nm,0.5s,baz=88,slow=9.3,SNR=4.9							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**44.65**	**305**	P	**P**	**21 47 03.8**	**0.0**
	0.5nm,0.6s,baz=81,slow=8.6,SNR=4.7							
	0.5nm,0.6s							
ILAR	**Eielson Array**	**45.44**	**34**	P	**P**	**21 47 11.2**	**+1.3**
	0.1nm,0.6s,baz=276,slow=7.5,SNR=2.5							
	0.1nm,0.6s							
WRA	**Warramunga Arr**	**61.21**	**189**	P	**P**	**21 49 05.7**	**-0.5**
	0.1nm,0.3s,baz=8.5,slow=6.9,SNR=1.6							
	0.1nm,0.3s							
FINES	**FINESS Array B**	**65.88**	**332**	P	**P**	**21 49 36.1**	**-0.6**
	1.4nm,0.8s,baz=9.9,slow=8.9,SNR=1.9							
	1.4nm,0.8s							
H03N2	**Juan Fernandez**	**145.97**	**91**	T	T	00 42 05.9		
	baz=290							
H03N3	**Juan Fernandez**	**145.99**	**91**	T	T	00 42 03.9		
	baz=290							
H03N1	**Juan Fernandez**	**145.99**	**91**	T	T	00 41 50.2		
	baz=290							

GII ***30*** *21:45:40.8±0.0, 35.70N×30.53E, h11km, Mws2.6, confirmed*

ISK ***30*** *21:45:48.5, 35.54N×30.50E, h22km, ML2.5/14*

AFAD ***30*** *21:45:50.9, 35.75N×30.53E, h46km±2km, ML1.9*

NIC ***30*** *21:45:52.0, 35.47N×30.76E, h35km±19km, Ml2.3/8*

ISC 30 21:45:43.8±1.4, 35.44N±0.04×30.50E±0.03, h10km±11km, n56, σ0s93/72, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.89**	**352**	P	**Pn**	**21 46 04.2**	**+1.8**
AKUM				*i* IAML		21 46 22.0	
	comp=E,51nm,0.3s						
AKUM				*i* IAML		21 46 23.0	
	comp=N,55nm,0.3s						
KORT	**Korkueli**	**1.56**	**356**	Pn	**Pg**	**21 46 14.6**	**+0.9**
AKMS	**Akamas**	**1.56**	**105**	P	**Pg**	**21 46 14.9**	**+1.1**
AKMS				S	**Sn**	**21 46 32.6**	**+0.6**
AKMS				AML	AML	21 46 35.6	
	0.2nm,0.3s						
AKMS				AML	AML	21 46 38.1	
	0.2nm,0.3s						
KNIK	**Mula-Seydike**	**1.59**	**332**	P	**Pg**	**21 46 15.1**	**+0.8**
KNIK				S	**Sn**	**21 46 32.4**	**-0.4**
KNIK				*i* IAML		21 46 38.0	
	comp=E,7.3nm,0.5s						
KNIK				*i* IAML		21 46 46.0	
	comp=N,13nm,0.6s						
ALAN	**Alanya-ANTALYA**	**1.67**	**48**	Pn	**Pg**	**21 46 16.2**	**+0.4**
ALAN				Sn	**Sg**	**21 46 36.5**	**-1.0**
GAZI	**Gazipasa**	**1.67**	**61**	Pn	**Pg**	**21 46 16.7**	**+0.8**
GAZI				Sn	**Sg**	**21 46 37.4**	**-0.3**
GAZI	**Gazipasa**	**1.67**	**61**	P	**Pg**	**21 46 16.4**	**+0.5**
GAZI				S	**Sg**	**21 46 37.9**	**+0.2**
GAZI				*i* IAML		21 46 41.0	
	comp=N,27nm,0.5s						
GAZI				*i* IAML		21 46 45.0	
	comp=E,37nm,0.3s						
ALFC	**Alefka**	**1.74**	**99**	P	**Pb**	**21 46 17.2**	**+1.3**
ALFC				S	**Sn**	**21 46 36.7**	**+0.3**
ALFC				AML	AML	21 46 40.5	
	0.3nm,0.1s						
ALFC				AML	AML	21 46 42.0	
	0.1nm,0.2s						
CAME	**Cameli-Denizli**	**1.78**	**327**	Pn	**Pg**	**21 46 17.8**	**-0.2**
CAME				Sn	**Sb**	**21 46 38.8**	**-0.4**
NATA	**Nata**	**1.82**	**111**	P	**Pb**	**21 46 18.3**	**+1.0**
NATA				S	**Sn**	**21 46 39.1**	**+0.6**
NATA				AML	AML	21 46 48.1	
	0.2nm,0.4s						
NATA				AML	AML	21 46 53.6	
	0.2nm,0.4s						
GOLH	**Golhisar**	**1.94**	**337**	P	**Pg**	**21 46 20.9**	**-0.2**
GOLH				S	**Sg**	**21 46 45.4**	**-0.9**
GOLH				*i* IAML		21 47 12.0	
	comp=E,15nm,1.0s						
GOLH				*i* IAML		21 47 20.0	
	comp=N,25nm,1.9s						
TROD	**Troodos**	**2.00**	**104**	P	**Pb**	**21 46 20.7**	**+0.2**
TROD				S	**Sn**	**21 46 43.0**	**-0.2**
TROD				AML	AML	21 46 53.0	
	0.1nm,0.4s						
TROD				AML	AML	21 46 54.9	
	0.1nm,0.4s						
XYLS	**Xyliatos**	**2.13**	**101**	P	**Pb**	**21 46 22.6**	**0.0**
XYLS				S	**Sn**	**21 46 46.4**	**+0.3**
XYLS				AML	AML	21 46 50.9	
	0.1nm,0.2s						
XYLS				AML	AML	21 46 51.3	
	0.1nm,0.2s						
DNZT	**Denizli-Tavas-**	**2.18**	**327**	P	**Pb**	**21 46 22.7**	**-0.8**
DNZT				S	**Sn**	**21 46 47.7**	**+0.2**
DNZT				*i* IAML		21 47 09.0	
	comp=E,11nm,1.9s						
DNZT				*i* IAML		21 47 34.0	
	comp=N,8.6nm,2.4s						
HDMB	**Hadim**	**2.21**	**46**	Pn	**Pb**	**21 46 24.1**	**+0.1**
SEYD	**Seydisehir-KON**	**2.24**	**28**	Pn	**Pb**	**21 46 24.1**	**-0.3**
TEKE	**Tekeli-Mersin**	**2.24**	**71**	Pn	**Pb**	**21 46 24.1**	**-0.2**
APMY	**Acipayam-Deniz**	**2.24**	**335**	Pn	**Pb**	**21 46 23.9**	**-0.6**
SEDI	**Konya, Seydise**	**2.25**	**26**	P	**Pg**	**21 46 26.5**	**-0.4**
SEDI				*i* IAML		21 46 57.0	
	comp=N,16nm,0.4s						
SEDI				*i* IAML		21 46 58.0	
	comp=E,14nm,0.6s						
TURN	**Turunc**	**2.26**	**307**	Pn	**Pb**	**21 46 25.4**	**+0.7**
ASGA	**Asgata**	**2.35**	**105**	P	**Pb**	**21 46 25.9**	**-0.4**
ASGA				S	**Sn**	**21 46 52.4**	**+1.0**
ASGA				AML	AML	21 46 56.3	
ASGA				AML	AML	21 46 59.0	
	0.1nm,0.3s						
CSS	**Mathiatis**	**2.37**	**101**	Pn	**Pb**	**21 46 27.5**	**+0.9**
CSS	**Mathiatis**	**2.37**	**101**	P	**Pb**	**21 46 26.2**	**-0.3**
CSS				S	**Sn**	**21 46 52.4**	**+0.5**
CSS				AML	AML	21 46 57.6	
CSS				AML	AML	21 46 58.6	
CSS	**Mathiatis**	**2.37**	**101**	P	**Pn**	**21 46 20.5**	**-2.3**
BERE	**Bereket-Mersin**	**2.39**	**67**	Pn	**Pb**	**21 46 26.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**2.39**	**328**	P	**Pb**	**21 46 26.5**	**-0.5**
TAVA				S	**Sn**	**21 46 53.3**	**+0.7**
TAVA				*i* IAML		21 46 54.0	
	comp=N,3.9nm,0.3s						
TAVA				*i* IAML		21 46 57.0	
	comp=E,11nm,1.0s						
MVOU	**Mavrovouni**	**2.60**	**99**	P	**Pn**	**21 46 28.9**	**+3.0**
MVOU				S	**Sn**	**21 46 57.5**	**-0.1**
MVOU				AML	AML	21 47 02.9	
MVOU				AML	AML	21 47 08.5	
DAT	**Datca**	**2.69**	**299**	Pn	**Pb**	**21 46 31.4**	**-0.8**
KEBE	**Keben-Mersin**	**2.79**	**68**	Pn	**Pb**	**21 46 33.1**	**-0.8**
KRMN	**Karaman**	**2.82**	**51**	Pn	**Pb**	**21 46 32.8**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**3.26**	**321**	Pn	**Pn**	**21 46 37.8**	**+2.6**
HNTI	**Hanita**	**4.53**	**120**	P	**Pn**	**21 46 51.0**	**-1.5**
HNTI	**Hanita**	**4.53**	**120**	S	**Sn**	**21 47 44.6**	**-0.6**
OFRI	**`Ofer**	**4.67**	**126**	P	**Pn**	**21 46 53.8**	**-0.6**
OFRI	**`Ofer**	**4.67**	**126**	S	**Sn**	**21 47 48.7**	**0.0**
MMA0B	**Mount Meron ar**	**4.73**	**119**	P	**Pn**	**21 46 53.6**	**-1.7**
MMA0B	**Mount Meron ar**	**4.73**	**119**	S	**Sn**	**21 47 50.4**	**+0.1**
GEM	**Giv'at Ha'Em**	**4.82**	**116**	P	**Pn**	**21 46 55.3**	**-1.2**
GEM	**Giv'at Ha'Em**	**4.82**	**116**	S	**Sn**	**21 47 51.9**	**-0.5**
NATI	**Neve Ativ**	**4.85**	**115**	P	**Pn**	**21 46 55.7**	**-1.1**
NATI	**Neve Ativ**	**4.85**	**115**	S	**Sn**	**21 47 53.4**	**+0.3**
SLTI	**Sal'it**	**4.95**	**129**	P	**Pn**	**21 46 56.8**	**-1.5**
SLTI	**Sal'it**	**4.95**	**129**	S	**Sn**	**21 47 55.3**	**-0.2**
MMLI	**Mount Malkishu**	**5.07**	**125**	P	**Pn**	**21 46 58.5**	**-1.5**
MMLI	**Mount Malkishu**	**5.07**	**125**	S	**Sn**	**21 47 58.9**	**+0.3**
HMDT	**Nahal Hemdat**	**5.25**	**126**	P	**Pn**	**21 47 02.3**	**-0.1**
HMDT	**Nahal Hemdat**	**5.25**	**126**	S	**Sn**	**21 48 03.7**	**+0.5**
AMAZ	**Amatzia**	**5.37**	**135**	P	**Pn**	**21 47 03.9**	**-0.1**
AMAZ	**Amatzia**	**5.37**	**135**	S	**Sn**	**21 48 04.6**	**-1.3**
YTIR	**Yattir**	**5.61**	**135**	P	**Pn**	**21 47 07.4**	**0.0**
DSI	**Dead Sea**	**5.62**	**132**	P	**Pn**	**21 47 07.2**	**-0.2**
DSI	**Dead Sea**	**5.62**	**132**	S	**Sn**	**21 48 12.4**	**+0.4**
MSBI	**Mazada**	**5.79**	**134**	P	**Pn**	**21 47 08.9**	**-0.8**
MSBI	**Mazada**	**5.79**	**134**	S	**Sn**	**21 48 16.5**	**+0.3**
GHAJ	**Ghor Haditha**	**5.92**	**133**	P	**Pn**	**21 47 11.0**	**-0.5**
GHAJ	**Ghor Haditha**	**5.92**	**133**	S	**Sn**	**21 48 19.4**	**0.0**

IDC ***30*** *22:16:20.2±1.1, 13.16N×146.24E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=33.2km s-min=20.2km az=87.0*

ISC 30 22:16:27.8±1.0, 13.2N±0.1×145.9E±0.1, h50km, n12, σ0s89/13, mb3.7/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.12**	**293**	Pn	**Pn**	**22 16 47.6**	**+0.5**
	337nm,0.3s,baz=149,slow=9.8,SNR=24						
GUMO				Sn	**Sn**	**22 17 00.3**	**-1.1**
	81nm,0.3s,baz=46,slow=16,SNR=4.9						
MJAR	**Matsushiro Arr**	**24.30**	**345**	P	**P**	**22 21 41.6**	**+1.0**
	0.6nm,0.4s,baz=178,slow=7.8,SNR=1.8						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**34.80**	**199**	P	**P**	**22 23 14.8**	**+0.8**
	0.2nm,0.4s,baz=31,slow=13,SNR=5.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**38.43**	**198**	P	**P**	**22 23 43.9**	**-1.0**
	0.6nm,0.8s,baz=33,slow=10.0,SNR=7.4						
	0.6nm,0.8s						
SONM	**Songino Array**	**47.68**	**325**	P	**P**	**22 24 59.6**	**+0.1**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**62.52**	**316**	P	**P**	**22 26 47.3**	**+0.9**
	0.2nm,0.3s,baz=92,slow=8.6,SNR=8.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**62.58**	**324**	P	**P**	**22 26 46.0**	**-0.6**
	0.3nm,0.3s,baz=78,slow=5.9,SNR=2.0						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**65.62**	**320**	P	**P**	**22 27 06.7**	**+0.1**
	0.6nm,0.5s,baz=102,slow=6.6,SNR=6.1						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**68.53**	**25**	P	**P**	**22 27 23.6**	**-1.2**
	0.1nm,0.4s,baz=259,slow=5.3,SNR=1.7						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**70.91**	**322**	P	**P**	**22 27 40.2**	**+0.4**
	0.9nm,0.4s,baz=104,slow=8.5,SNR=7.4						
	0.9nm,0.4s						
ARCES	**ARCESS Array B**	**87.81**	**342**	P	**P**	**22 29 12.3**	**+0.9**
	2.0nm,0.9s,baz=72,slow=6.0,SNR=4.5						
	2.0nm,0.9s						
FINES	**FINESS Array B**	**91.99**	**335**	P	**P**	**22 29 30.6**	**-0.4**
	1.0nm,0.5s,baz=44,slow=3.0,SNR=12						
	1.0nm,0.5s						

AUST 30 22:18:46.0±0.7, 18.5S±5.×12.0E±., h10km, mb4.2/2, ML2.7/5, ML3.1/1, Error ellipse: s-maj=11.9km s-min=7.6km az=157.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAAN	**Eighty Mile Be**	**1.55**	**127**	P	Pn	22 19 14.0	+0.4
CAAN				S	Sb	22 19 34.7	+0.3
MBWA	**Marble Bar**	**2.85**	**189**	P	Pn	22 19 32.4	+0.7
MBWA				S	Sn	22 20 06.7	+0.5
PSA00	**Pilbara Seismi**	**3.25**	**186**	P	Pn	22 19 37.8	+0.7
PSA00				S	Sn	22 20 15.5	-0.4
FITZ	**Fitzroy Crossi**	**5.17**	**88**	P	Pn	22 20 01.9	-1.6
FITZ	**Fitzroy Crossi**	**5.17**	**88**	S	Sn	22 20 57.4	-5.7
GIRL	**Giralia**	**7.06**	**232**	P	Pn	22 20 30.3	+0.8
GIRL				S	Sn	22 21 47.3	-2.6
MEEK	**Meekatharra**	**8.40**	**190**	P	Pn	22 20 48.7	+0.7
	comp=Z,0.1nmcomp=Z,25nm,1.7s						
MEEK	**Meekatharra**	**8.40**	**190**	S	Sn	22 22 18.6	-4.4
MORW	**Morawa**	**11.35**	**199**	P	Pn	22 21 26.9	-1.5
	comp=Z,19nm,1.7s						
MORW	**Morawa**	**11.35**	**199**	S	Sn	22 23 26.4	-9.0

BKK ***30*** *22:24:53.3±3.7, 24.N±33.×10.2E±., h10km, M4.6/5, MLv4.6/5*

IDC ***30*** *22:24:54.2±0.9, 23.36N×101.90E, h0km, mb3.9/12, mbtmp3.9/13, ML4.2/1, MS3.2/9, Error ellipse: s-maj=28.6km s-min=16.0km az=79.0*

PLV ***30*** *22:24:54.6±1.8, 23.37N×101.98E, h0km±18km, ML4.3*

ISC 30 22:24:56.5±0.7, 23.46N±0.08×101.83E±0.06, h10km, n32, σ1s61/24, mb3.9/12, MS3.3/8, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLAV	**Muong La stati**	**1.86**	**139**	*e*Pg	**Pn**	**22 25 26.8**	**-1.8**
SPV	**Sa-pa**	**2.16**	**121**	*e*Pg	**Pn**	**22 25 33.2**	**+0.5**
SPV				*e*Sg	**Sn**	**22 26 00.1**	**+0.5**
SPV				IAML		22 26 02.2	
	comp=E,2μm,0.4s						
SPV				IAML		22 26 02.9	
	comp=N,2μm,0.4s						
DBV	**Dienbien**	**2.33**	**152**	*e*Pg	**Pn**	**22 25 36.3**	**+1.2**
DBV				IAML		22 26 08.0	
	comp=E,2μm,0.7s						
DBV				IAML		22 26 11.5	
	comp=N,2μm,0.6s						
HGVB	**Ha Giang**	**2.97**	**101**	*e*Pn	Pn	22 25 41.5	-2.3
HGVB				IAML		22 26 28.1	
	comp=E,451nm,0.7s						
HGVB				IAML		22 26 32.7	
	comp=N,603nm,0.4s						
VTVB	**Vinh Tuy**	**3.07**	**112**	*e*Pg	**Pn**	**22 25 48.6**	**+3.5**
BGV	**Bac-Giang**	**4.60**	**117**	*e*Pg	**Pb**	**22 26 16.6**	**-0.9**
LSVB	**Lang Son stati**	**4.81**	**108**	*e*Pn	Pn	22 26 06.1	-3.0
CM09	**Chiang Mai Arr**	**5.65**	**209**	P	**Pn**	**22 26 19.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**5.66**	**209**	Pn	**Pn**	**22 26 19.2**	**-1.5**
	comp=N,2.0nm,0.3s,baz=29,slow=13,SNR=11						
CMAR				Pg	**Pb**	**22 26 39.0**	**+3.6**
	comp=N,4.3nm,0.3s,baz=39,slow=19,SNR=66						
CMAR				Lg	Lg	22 27 52.1	
	comp=N,2.8nm,0.3s,baz=45,slow=31,SNR=10.0						
CMAR				LR	LR	22 28 50.0	
	comp=N,60nm,19.2s,baz=25,slow=42						
	comp=N,3.1nm,0.3s						
CM04	**Chiang Mai Ar**	**5.69**	**208**	P	**Pn**	**22 26 20.0**	**-1.2**
SONM	**Songino Array**	**24.60**	**7**	P	**P**	**22 30 17.8**	**+0.9**
	comp=N,1.8nm,0.7s,baz=190,slow=8.9,SNR=11						
	comp=N,1.8nm,0.7s						
PALK	**Pallekele**	**25.90**	**235**	LR	LR	22 40 39.1	
	comp=N,29nm,19.6s,baz=96,slow=36						
DAV	**Davao City (W)**	**28.03**	**122**	LR	LR	22 41 28.5	
	comp=N,31nm,19.3s,baz=274,slow=36						
MKAR	**Makanchi Array**	**28.09**	**331**	P	**P**	**22 30 49.7**	**+1.3**
	comp=N,2.1nm,0.8s,baz=140,slow=10,SNR=15						
	comp=N,2.1nm,0.8s						
AAK	**Ala-Archa**	**29.65**	**317**	LR	LR	22 43 39.6	
	comp=N,44nm,18.7s,baz=86,slow=38						
KURBB	**Kurchatov Arra**	**32.61**	**332**	P	**P**	**22 31 28.4**	**+0.2**
	comp=N,1.0nm,0.5s,baz=139,slow=8.9,SNR=11						
	comp=N,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**33.04**	**342**	P	**P**	**22 31 32.1**	**+0.2**
	comp=N,2.0nm,0.7s,baz=152,slow=9.9,SNR=8.1						
	comp=N,2.0nm,0.7s						
BVAR	**Borovoye Array**	**37.94**	**329**	P	**P**	**22 32 13.7**	**-0.4**
	comp=N,0.8nm,0.7s,baz=128,slow=9.6,SNR=4.5						
	comp=N,0.8nm,0.7s						
AKTO	**Aktyubinsk**	**43.28**	**320**	LR	LR	22 53 12.2	
	comp=N,40nm,18.2s,baz=196,slow=39						
WRA	**Warramunga Arr**	**53.53**	**141**	P	**P**	**22 34 16.0**	**-1.6**
	comp=N,1.0nm,0.9s,baz=332,slow=8.1,SNR=5.1						
	comp=N,1.0nm,0.9s						
ASAR	**Alice Springs**	**56.25**	**144**	P	**P**	**22 34 36.8**	**-0.6**
	comp=N,0.7nm,1.0s,baz=311,slow=6.9,SNR=2.9						
	comp=N,0.7nm,1.0s						
BRTR	**Keskin Array B**	**59.00**	**303**	P	**P**	**22 34 57.3**	**+0.6**
	comp=N,0.5nm,0.8s,baz=92,slow=7.8,SNR=2.1						
	comp=N,0.5nm,0.8s						
FINES	**FINESS Array B**	**62.89**	**328**	P	**P**	**22 35 22.9**	**+0.3**
	comp=N,2.3nm,0.9s,baz=101,slow=9.5,SNR=2.9						
	comp=N,2.3nm,0.9s						
MLR	**Muntele Rosu**	**63.97**	**311**	LR	LR	23 08 16.8	
	comp=N,22nm,18.9s,baz=88,slow=41						
SPITS	**Spitsbergen Ar**	**66.28**	**347**	LR	LR	23 08 23.9	
	comp=N,36nm,20.2s,baz=97,slow=39						
HFS	**Hagfors**	**69.05**	**328**	P	**P**	**22 36 01.5**	**-0.8**
	comp=N,1.4nm,0.7s,baz=65,slow=6.8,SNR=4.5						
	comp=N,1.4nm,0.7s						
VRAC	**Vranov**	**69.57**	**316**	LR	LR	23 07 55.7	
	comp=N,17nm,21.6s,baz=66,slow=37						
NB2	**NORSAR Subarra**	**70.07**	**329**	P	**P**	**22 36 07.4**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=78,slow=6.2						
NOA	**NORSAR Array B**	**70.07**	**329**	P	**P**	**22 36 07.8**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=77,slow=6.0,SNR=3.9						
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**71.52**	**316**	P	**P**	**22 36 18.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=75,slow=6.2,SNR=5.7						
	comp=Z,0.5nm,0.5s						
DAVOX	**Davos/Dischmat**	**74.57**	**315**	LR	LR	23 16 14.9	
	comp=Z,25nm,18.1s,baz=72,slow=41						
TXAR	**Lajitas Array**	**122.06**	**26**	PKP	**PKPdf**	**22 43 49.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=348,slow=4.9,SNR=1.6						

BJI ***30*** *22:28:32.4, 35.95N×69.62E, h123km, mB4.4/2, mb4.6/11*

MOS ***30*** *22:28:33.6±0.9, 35.99N×69.93E, h96km, mb4.5/2, Error ellipse: s-maj=11.4km s-min=5.6km az=80.9*

NEIC ***30*** *22:28:33.1±1.4, 35.94N±0.05×69.63E±0.09, h131km±15km, mb4.1/4, Error ellipse: s-maj=11.3km s-min=7.8km az=78.0*

IDC ***30*** *22:28:34.6±2.3, 35.97N×69.94E, h93km

comp=E,18nm,0.5s
AAK Ala-Archa 7.54 27 *ce* P **Pn 22 30 22.7 +0.5**
AAK pmax pmax
comp=Z,16nm,0.6s
KBK Karagaybulak 7.73 29 P **Pn 22 30 25.7 +0.9**
SNR=8.2
FRU1 Bishkek 7.74 27 Pn 22 30 25.6 +0.7
FRU1 **Sn 22 31 52.0 +1.1**
FRU1 Bishkek 7.74 27 PN **Pn 22 30 25.6 +0.7**
SMLA Simla 7.79 126 *eP* Pn 22 30 20.8 -4.7
SMLA *eS* Sn 22 31 42.3 -10
SMLA IAML 22 31 48.9
comp=N,122nm,0.5s
SMLA IAML 22 31 50.7
comp=E,110nm,0.4s
SMLA Simla 7.79 126 *eP* **Pn 22 30 29.9 +4.4**
SMLA *eS* **Sn 22 31 49.9 -2.2**
CHMS Chumysh 7.95 27 P **Pn 22 30 27.5 -0.2**
SNR=60
ULHL Ulahol 7.96 37 P **Pn 22 30 29.9 +1.8**
SNR=7.3
USP Ospenovka 8.09 25 P **Pn 22 30 29.9 +0.3**
SNR=61
TKM2 Tokmak 2 8.21 31 P **Pn 22 30 30.9 -0.5**
SNR=35
KLP Kalpa 8.28 120 *eP* **Pn 22 30 35.7 +3.2**
KLP *eS* **Sn 22 32 02.3 -2.2**
KDJ Kajisay 8.36 41 Pn **Pn 22 30 33.0 -0.4**
KDJ Kajisay 8.36 41 PN **Pn 22 30 33.0 -0.4**
PRZ Przheval'sk 9.26 43 Pn **Pn 22 30 45.9 +0.2**
PRZ Przheval'sk 9.26 43 P **Pn 22 30 45.9 +0.2**
KUDL Kundal 9.63 143 *eP* **Pn 22 30 52.6 +2.0**
KUDL *eS* **Sn 22 32 36.3 -0.7**
PDGK Podgornoye 10.42 42 ⇓P **Pn 22 31 00.8 -0.6**
comp=E,13nm,0.9s
PDGK Podgornoye 10.42 42 P **Pn 22 31 00.8 -0.6**
PTH Pithoragarh 10.82 124 *eP* **Pn 22 31 10.3 +3.3**
PTH *eS* Sn 22 32 57.7 -8.5
LGTI Lohaghat 10.91 124 *eP* **Pn 22 31 11.1 +3.2**
MAKZ Makanchi 14.10 36 ⇑P **Pn 22 31 49.8 -0.2**
comp=E,15nm,0.7s
MAKZ Makanchi 14.10 36 P **Pn 22 31 49.8 -0.2**
MK31 Makanchi Array 14.24 37 P **P 22 31 55.5 -0.6**
comp=E,3.7nm,0.6s,baz=234,slow=14,SNR=42
MK31 Makanchi Array 14.24 37 *de* P **Pn 22 31 51.8 0.0**
MKAR Makanchi Array 14.24 37 **Pn 22 31 51.8 0.0**
MKAR Makanchi Array 14.24 37 P **Pn 22 31 51.0 -0.8**
comp=E,0.9nm,0.6s,baz=222,slow=16,SNR=4.9
AB31 Akbulak array 15.11 334 ⇓P **Pn 22 32 00.4 -2.5**
comp=E,9.0nm,0.5s
AB31 Akbulak array 15.11 334 P **Pn 22 32 00.3 -2.5**
ABKAR Akbulak array 15.11 334 P **Pn 22 32 00.4 -2.5**
WMQ Urumqi 15.73 55 *eP* **Pn 22 32 09.8 -1.1**
KURBB Kurchatov Arra 15.90 21 P **Pn 22 32 11.4 -1.3**
comp=E,3.7nm,0.9s,baz=211,slow=12,SNR=12
KURBB Kurchatov Arra 15.90 21 ⇑P **Pn 22 32 11.1 -1.7**
comp=E,11nm,0.8s
KURBB Kurchatov Arra 15.90 21 P **Pn 22 32 11.1 -1.7**
KURK Kurchatov 16.01 21 P **Pn 22 32 11.6 -2.5**
KURK Kurchatov 16.01 21 ⇓ *eP* **Pn 22 32 13.0 -1.1**
EVN Everest 16.45 114 P **Pn 22 32 17.4 -3.0**
EVN IAmb IAmb 22 32 24.3
comp=Z,7.3nm,0.6s
AKTO Aktyubinsk 16.78 333 P **Pn 22 32 24.1 +0.3**
comp=Z,11nm,0.7s,baz=145,slow=12,SNR=32
AKTO S Sn 22 35 16.2 -14
comp=Z,4.6nm,0.7s,baz=180,slow=20,SNR=4.0
AKTO LR LR 22 39 09.7
comp=Z,28nm,19.6s,baz=270,slow=38
AKTO Aktyubinsk 16.78 333 ⇑P **Pn 22 32 23.2 -0.5**
comp=Z,6.8nm,0.7s
BVA0 Borovoye Array 17.03 1 ⇓P **Pn 22 32 27.1 +0.4**
comp=Z,5.2nm,0.7s
BVA0 Borovoye Array 17.03 1 P **P 22 32 27.8 +0.9**
BVAR Borovoye Array 17.03 1 P **Pn 22 32 26.9 +0.2**
comp=Z,4.2nm,0.5s,baz=162,slow=9.6,SNR=21
BVAR S **Sn 22 35 27.5 -8.2**
comp=Z,0.4nm,0.6s,baz=281,slow=18,SNR=2.4
BVAR LR LR 22 39 52.7
comp=Z,19nm,19.2s,baz=197,slow=40
AKT Akhty 18.10 294 *eP* **P 22 32 33.5 -5.4**
AKT *eS* **S 22 35 57.8 -3.3**
AKT pmax pmax
comp=Z,2.0nm,0.9s
AKT smax smax
comp=E,3.0nm,0.6s
GNI Garni 20.19 289 P Pn 22 33 04.2 -0.2
comp=E,3.9nm,0.6s,baz=130,slow=7.9,SNR=2.4
comp=E,3.9nm,0.6s
ZAA0 Zalesovo Array 20.76 25 ⇑P **P 22 33 08.4 +0.9**
comp=E,3.0nm,0.7s
ZALV Zalesovo Beam 20.76 25 P **P 22 33 08.4 +0.9**
comp=E,24nm,0.6s,baz=220,slow=11,SNR=101
ZALV S **S 22 36 55.4 +1.9**
comp=E,0.5nm,0.4s,baz=224,slow=6.2,SNR=3.0
comp=E,24nm,0.6s
ZALV Zalesovo Beam 20.76 25 *i* P **P 22 33 08.3 +0.8**
ZALV pmax pmax
comp=Z,25nm,0.6s
ARTI Arti 21.83 343 P **P 22 33 15.2 -3.7**
ARTI IAmb IAmb 22 33 23.4
comp=Z,9.3nm,1.0s
ARTI Arti 21.83 343 P **P 22 33 19.6 +0.7**
comp=Z,7.7nm,1.0s,baz=151,slow=10,SNR=8.1
ARTI S **S 22 37 15.8 +1.6**
comp=Z,0.6nm,0.4s,baz=149,slow=19,SNR=1.4
ARTI LR LR 22 41 54.8
comp=Z,23nm,20.3s,baz=157,slow=37
comp=Z,7.7nm,1.0s
ARTI Arti 21.83 343 P **P 22 33 20.9 +2.0**
ARTI S **S 22 37 19.3 +5.1**
KBZ Khabaz 22.03 299 P **P 22 33 21.8 +0.7**
comp=Z,1.9nm,0.9s,baz=134,slow=6.7,SNR=2.7
comp=Z,1.9nm,0.9s
BELG Belogornoye 22.72 323 P **P 22 33 28.7 +0.5**
comp=Z,7.7nm,0.7s,baz=105,slow=6.0,SNR=3.7
comp=Z,7.7nm,0.7s
GTA Gaotai 23.89 73 *eP* **P 22 33 40.5 +1.1**
GTA pmax pmax
comp=Z,3.0nm,0.9s
PZH PanZhiHua 28.74 100 P **P 22 34 21.5 -1.7**
SONM Songino Array 29.37 55 P **P 22 34 29.7 +1.1**
comp=Z,0.3nm,0.5s,baz=290,slow=8.6,SNR=2.3
comp=Z,0.3nm,0.5s
CMAR Chiang Mai Arr 31.04 117 P **P 22 34 43.4 0.0**
comp=Z,0.8nm,0.3s,baz=347,slow=4.9,SNR=5.0
comp=Z,0.8nm,0.3s
AKASG Malin Array Be 32.55 310 P **P 22 34 58.1 +1.8**
comp=Z,0.6nm,0.5s,baz=101,slow=9.5,SNR=4.8
comp=Z,0.6nm,0.5s
HHC Hu-ho-hao-te 32.80 69 *eP* **P 22 34 58.5 -0.2**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,30nm,4.0s
ARCES ARCESS Array B 41.26 338 P **P 22 36 09.9 +0.1**
comp=Z,1.6nm,0.5s,baz=114,slow=8.0,SNR=16
comp=Z,1.6nm,0.5s
HFS Hagfors 42.90 322 P **P 22 36 24.4 +1.2**
comp=Z,2.6nm,0.7s,baz=94,slow=10,SNR=5.0
comp=Z,2.6nm,0.7s
NOA NORSAR Array B 44.23 323 P **P 22 36 34.0 0.0**
comp=Z,1.2nm,0.9s,baz=99,slow=7.9,SNR=3.4
comp=Z,1.2nm,0.9s
TIXI Tiksi 46.58 22 ⇑ *eP* **P 22 36 53.5 +1.2**
TIXI pmax pmax
comp=Z,11nm,1.5s
ESDC Sonseca Array 56.88 298 P **P 22 38 11.6 +2.2**
comp=Z,0.3nm,0.6s,baz=66,slow=7.4,SNR=4.2
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 64.79 268 P **P 22 39 03.0 -0.2**
comp=Z,0.2nm,0.3s,baz=50,slow=6.2,SNR=6.2
comp=Z,0.2nm,0.3s
ILAR Eielson Array 75.51 15 P **P 22 40 09.4 +1.5**
comp=Z,0.5nm,0.8s,baz=320,slow=8.3,SNR=3.0
comp=Z,0.5nm,0.8s
WRA Warramunga Arr 82.51 121 P **P 22 40 45.7 -1.0**
comp=Z,0.4nm,1.0s,baz=314,slow=5.5,SNR=1.2
comp=Z,0.4nm,1.0s
ASAR Alice Springs 84.73 124 P **P 22 40 57.5 -0.5**
comp=Z,0.5nm,1.0s,baz=314,slow=5.2,SNR=1.5
comp=Z,0.5nm,1.0s

*SNET **30** 22:31:39.7±4.8, 13.58N×91.33W, h40km, ML3.3*
*CATAC **30** 22:31:45.5±0.8, 14.6N×9.1W±, h13km±6km, M3.3/6,*

MLv3.3/6, Error ellipse: s-maj=14.6km s-min=5.2km az=23.0, confirmed
*GCG **30** 22:31:47.1±1.1, 13.86N×90.87W, h71km±7km, MD3.7, ML3.4, MW3.4*
ISC 30 22:31:45.3±2.3, 13.67N±0.09×90.96W±0.08, h17km±13km, n26, σ0.53/35, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.46**	**104**	*i* P		**Pn**	**22 31 57.0**	**-0.2**
ESSJ				*i* S		**Sn**	**22 32 06.3**	**+1.3**
ESSG	**Sabana Grande**	**0.72**	**10**	*i* P		**Pn**	**22 32 00.3**	**-0.5**
ESSG				*i* S		**Sn**	**22 32 10.7**	**-0.9**
ESSG				IAML			22 32 13.5	
	comp=N,640nm,0.1s							
FG16	**Alotenango, Sa**	**0.74**	**36**	*i* P		**Pn**	**22 32 01.7**	**+0.5**
FG16				*i* S		**Sn**	**22 32 13.2**	**+1.0**
FG16				IAML			22 32 20.3	
	comp=E,3μm,0.2s							
FAME	**Alcaldia de Sa**	**0.94**	**79**	P		**Pg**	**22 32 03.6**	**+0.1**
NUBE	**Las Nubes**	**1.17**	**79**	*eP*		**Pb**	**22 32 07.5**	**+0.4**
NUBE				*eS*		**Sb**	**22 32 21.9**	**-0.3**
NUBE	**Las Nubes**	**1.17**	**79**	*eP*		**Pb**	**22 32 07.2**	**0.0**
NUBE				*i* S		**Sb**	**22 32 21.2**	**-1.0**
NUBE	**Las Nubes**	**1.17**	**79**	P		**Pn**	**22 32 07.0**	**-0.1**
LOAL	**Lomas de Alarc**	**1.19**	**74**	*eS*		**Sn**	**22 32 23.6**	**+0.5**
LOAL	**Lomas de Alarc**	**1.19**	**74**	P		**Pb**	**22 32 07.8**	**+0.3**
LOAL	**Lomas de Alarc**	**1.19**	**74**	S		**Sn**	**22 32 23.7**	**+0.5**
SLOZ	**Alcaldia de Sa**	**1.20**	**73**	P		**Pb**	**22 32 07.7**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.20**	**73**	S		**Sn**	**22 32 23.3**	**0.0**
SOKI	**Kika Raxquin**	**1.22**	**340**	*eP*		**Pn**	**22 32 08.0**	**+0.1**
SOKI				*i* S		**Sb**	**22 32 24.1**	**+0.3**
SOKI				IAML			22 32 26.2	
	comp=E,396nm,0.3s							
CEVE	**Cerro Verde**	**1.31**	**83**	*eP*		**Pb**	**22 32 09.8**	**+0.2**
CEVE	**Cerro Verde**	**1.31**	**83**	P		**Pb**	**22 32 09.7**	**+0.1**
CEVE	**Cerro Verde**	**1.31**	**83**	S		**Sb**	**22 32 26.6**	**+0.3**
JAYA	**Jayaque - finc**	**1.47**	**90**	*eP*		**Pn**	**22 32 11.2**	**0.0**
JAYA				*eS*		**Sn**	**22 32 29.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.47**	**90**	*eP*		**Pn**	**22 32 10.9**	**-0.3**
JAYA				*i* S		**Sn**	**22 32 29.3**	**-0.8**
JAYA	**Jayaque - finc**	**1.47**	**90**	P		**Pn**	**22 32 10.9**	**-0.3**
PMON	**Piamonte**	**1.60**	**88**	*eP*		**Pn**	**22 32 12.6**	**-0.4**
BOQS	**Boqueron**	**1.64**	**88**	*eS*		**Sb**	**22 32 35.2**	**-0.4**
MTO3	**Montecristo**	**1.71**	**65**	*eP*		**Pb**	**22 32 15.7**	**-0.8**
MTO3				*eS*		**Sb**	**22 32 38.1**	**+0.3**
MTO3	**Montecristo**	**1.71**	**65**	*i* P		**Pn**	**22 32 14.9**	**+0.3**
MTO3	**Montecristo**	**1.71**	**65**	P		**Pn**	**22 32 14.7**	**+0.1**
LOMA	**Loma Larga**	**1.74**	**91**	*eS*		**Sn**	**22 32 36.8**	**0.0**
LFRS	**El Faro**	**1.85**	**91**	*eS*		**Sn**	**22 32 39.9**	**+0.5**

IDC 30 22:38:58.5±8.7, 4.33S×143.35E, h0km, mb3.2/2, mbtmp3.3/3, ML3.2/1, MS3.1/2, Error ellipse: s-maj=306.9km s-min=33.3km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.83**	**209**	P		P	22 43 09.6	+0.5
	0.1nm,0.3s,baz=30,slow=13,SNR=2.7							
	0.4nm,0.6s							
DAV	**Davao City (W)**	**21.04**	**302**	LR		LR	22 51 49.8	
	comp=Z,23nm,19.4s,baz=163,slow=37							
ASAR	**Alice Springs**	**21.28**	**204**	P		P	22 43 46.2	-0.6
	0.3nm,0.6s,baz=33,slow=10,SNR=4.2							
	0.3nm,0.6s							
JOW	**Kunigami**	**34.23**	**336**	LR		LR	22 57 02.2	
	comp=Z,62nm,20.8s,baz=120,slow=32							
MKAR	**Makanchi Array**	**73.91**	**321**	P		P	22 50 35.6	0.0
	0.2nm,0.3s,baz=102,slow=5.5,SNR=7.4							
	0.2nm,0.3s							

*BGSI **30** 23:04:17.8±2.0, 27.64S×27.23E, h0km, 247km, ML2.5*
*PRE **30** 23:04:22.6±0.8, 26.86S×26.78E, h2km, ML2.0*
ISC 30 23:04:23.8±1.3, 26.90S±0.03×26.83E±0.03, h9km±10km, n19, σ1.965/36, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.48**	**94**	*eP*		**Pg**	**23 04 32.7**	**-0.4**
PRYS				*eS*		**Sg**	**23 04 40.1**	**+0.6**
PRYS				IAML			23 04 46.0	
	comp=Z,90nm,0.6s							
WDLM	**Western Deep L**	**0.71**	**49**	*eP*		**Pg**	**23 04 36.2**	**-1.3**
WDLM				*eS*		**Sg**	**23 04 46.4**	**-0.5**
WDLM				IAML			23 04 56.2	
	comp=Z,13nm,0.2s							
HRAO	**HartRAO**	**1.26**	**38**	*eP*		**Pn**	**23 04 47.3**	**-0.5**
HRAO				*eS*		**Sb**	**23 05 03.9**	**-0.4**
HRAO				IAML			23 05 09.6	
	comp=Z,23nm,0.2s							
SWZ	**Schweizer**	**1.36**	**258**	*eP*		**Pn**	**23 04 48.3**	**-0.8**
SWZ				*eS*		**Sn**	**23 05 06.8**	**-0.6**
SWZ				IAML			23 05 11.0	
	comp=Z,43nm,0.2s							
SNKL	**Senekal, Frees**	**1.61**	**149**	*eP*		**Pb**	**23 04 54.0**	**+0.2**
SNKL				*eS*		**Sg**	**23 05 16.1**	**+0.5**
SNKL				IAML			23 05 19.8	
	comp=Z,20nm,0.3s							
MAKGR	**Makgori**	**2.11**	**300**	*i* P		**Pb**	**23 05 03.8**	**+1.5**
MAKGR				IAML			23 05 31.2	
	comp=N,122nm,0.4s							
NWCL	**Newcastle**	**2.85**	**108**	*eP*		**Pn**	**23 05 10.7**	**+1.1**
NWCL				*eS*		**Sn**	**23 05 46.5**	**+2.4**
NWCL				IAML			23 05 55.8	
	comp=Z,8.7nm,0.4s							
LEPH	**Lephalale, Lim**	**3.15**	**16**	*eP*		**Pn**	**23 05 14.2**	**+0.5**
LEPH				*eS*		**Sn**	**23 05 51.4**	**0.0**
LEPH				IAML			23 06 05.7	
	comp=Z,7.6nm,0.5s							
SKOMA	**Sekoma**	**3.52**	**312**	⇓ *iP*		**Pn**	**23 05 21.4**	**+2.6**
SKOMA				*i* S		**Sb**	**23 06 10.4**	**+1.1**
SKOMA				IAML			23 06 15.6	
	comp=N,8.9nm,1.1s							
LPHEP	**Lephephe**	**3.62**	**346**	*i* P		**Pn**	**23 05 23.6**	**+3.4**
LPHEP				IAML			23 06 20.8	
	comp=E,9.3nm,0.3s							
PILG	**Pilgrimsrest,**	**4.01**	**62**	*eP*		**Pn**	**23 05 26.4**	**+0.9**
PILG				*eS*		**Sn**	**23 06 13.2**	**+0.5**
PILG				IAML			23 06 32.4	
	comp=Z,5.6nm,0.7s							
KSTD	**Kokstad**	**4.30**	**150**	*eP*		**Pn**	**23 05 30.6**	**+1.0**
KSTD				*eS*		**Sn**	**23 06 20.2**	**+0.2**
KSTD				IAML			23 06 44.6	
	comp=Z,2.1nm,0.3s							
MREMI	**Moremi**	**4.34**	**8**	*i* P		**Pn**	**23 05 33.1**	**+3.1**
MREMI				*i* S		**Sb**	**23 06 28.3**	**-4.6**
MREMI				IAML			23 06 41.1	
	comp=E,18nm,0.4s							
ALKP	**Alkanpan, Nort**	**5.05**	**232**	*eP*		**Pn**	**23 05 40.5**	**+0.8**
ALKP				*eS*		**Sn**	**23 06 36.8**	**-1.4**
ALKP				IAML			23 07 04.2	
	comp=Z,2.7nm,0.2s							
UPI	**Upington**	**5.16**	**252**	*eP*		**Pn**	**23 05 41.6**	**+0.4**
UPI				*eS*		**Sn**	**23 06 38.7**	**-2.2**
UPI				IAML			23 07 10.5	
	comp=Z,3.2nm,0.3s							
MOPA	**Mopani**	**5.33**	**52**	*eP*		**Pn**	**23 05 44.3**	**+0.7**
MOPA				*eS*		**Sn**	**23 06 43.7**	**-1.6**
MOPA				IAML			23 06 45.9	
	comp=Z,6.3nm,0.3s							
BRAK	**Brakfontein**	**5.96**	**214**	*eP*		**Pn**	**23 05 52.5**	**+0.3**
BRAK				*eS*		**Sn**	**23 06 59.1**	**-1.5**
BRAK				IAML			23 07 46.0	
	comp=Z,2.2nm,0.5s							
GRAN	**Grantham**	**6.74**	**216**	*eP*		**Pn**	**23 06 04.3**	**+1.3**
GRAN				*eS*		**Sn**	**23 07 18.4**	**-1.5**
GRAN				IAML			23 07 60.0	
	comp=Z,2.4nm,0.9s							
FRAZ	**Fraserburg**	**6.89**	**222**	*eP*		**Pn**	**23 06 05.3**	**+0.2**
FRAZ				*eS*		**Sn**	**23 07 21.8**	**-1.9**
FRAZ				IAML			23 07 59.0	
	comp=Z,1.9nm,0.8s							

TAP 30 23:24:02.5, 23.94N×121.87E, h40km±1km, ML2.2, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.25**	**278**	P		Pn	23 24 10.3	0.0
HWA				S		Sn	23 24 16.1	+0.1
TEYL	**Yanliau Villag**	**0.26**	**253**	P		Pn	23 24 11.1	+0.6
TEYL				S		Sn	23 24 17.1	+1.0
TWD	**Chiawan**	**0.29**	**298**	*i* P		Pn	23 24 11.0	+0.3
TWD				*i* S		Sn	23 24 17.1	+0.6
ETL	**Fush Village**	**0.31**	**313**	P		Pn	23 24 11.4	+0.4
ETL				S		Sn	23 24 17.6	+0.6
SHUL	**Shoufeng**	**0.32**	**241**	*eP**		Pn	23 24 09.8	-1.2
SHUL				S		Sn	23 24 18.4	+1.3
NACB	**Ninganchiao**	**0.34**	**312**	⇑ *iP*		Pn	23 24 11.6	+0.3
NACB				*i* S		Sn	23 24 18.0	+0.5
ETM	**Tongmen**	**0.35**	**274**	P		Pn	23 24 11.6	+0.3
ETM				S		Sn	23 24 17.9	+0.3
EAHA	**Aohua**	**0.40**	**343**	*eP*		Pn	23 24 11.0	-1.0
EAHA				*eS*		Sn	23 24 20.0	+1.4
ESL	**Shilin**	**0.42**	**252**	*iP*		Pn	23 24 12.4	+0.2
ESL				S		Sn	23 24 19.9	+0.9
LXIB	**Xiulin Townshi**	**0.43**	**280**	P		Pn	23 24 12.6	+0.1
LXIB				S		Sn	23 24 20.1	+0.7
ETLH	**Xiulin Townshi**	**0.44**	**306**	P		Pn	23 24 13.0	+0.4
ETLH				S		Sn	23 24 21.0	+1.4
ENA	**Nanau**	**0.50**	**346**	P		Pn	23 24 13.7	+0.4
WARBT	**Fenglin Townsh**	**0.50**	**243**	*eP*		Pn	23 24 13.1	-0.2
WHF	**Hehuan Shan**	**0.59**	**290**	P		Pn	23 24 14.8	-0.1
WHF				S		Sn	23 24 24.2	+0.6
HGSD	**Ruisui**	**0.61**	**222**	*eP*		Pn	23 24 15.2	+0.4
OWD	**Renai**	**0.64**	**271**	*eP*		Pn	23 24 16.0	+0.7
NNSB	**Datong**	**0.66**	**317**	*eP*		Pn	23 24 16.1	+0.5
EHYH	**Wanrong**	**0.66**	**227**	*eP*		Pn	23 24 16.5	+1.0
LATG	**Datong**	**0.67**	**332**	*eP*		Pn	23 24 16.3	+0.6
WUSB	**Renai**	**0.69**	**274**	*eP*		Pn	23 24 17.1	+1.1
YHNB	**Yeheng**	**0.85**	**328**	*eP*		Pn	23 24 19.8	+1.7
NSK	**Sanguang**	**0.87**	**327**	*eP*		Pn	23 24 19.0	+0.7
WHP	**Taichung City**	**0.91**	**292**	*eP*		Pn	23 24 20.0	+1.1

*TAP **30** 23:24:04.5, 24.39N×122.68E, h59km, ML2.5, C*
*JMA **30** 23:24:04.8±0.1, 24.41N×122.7E±0.7, h58km±2km, MV1.9/7, NW OFF ISHIGAKIJIMA IS*
ISC 30 23:24:04.8±1.3, 24.41N±0.05×122.69E±0.03, h61km±8km, n40, σ0.70/63, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.29**	**79**	P		**Pn**	**23 24 14.7**	**-0.3**
YOJ				S		**Sn**	**23 24 22.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.29**	**79**	*eP*		**Pn**	**23 24 14.9**	**-0.2**
YOJ				*eS*		**Sn**	**23 24 22.0**	**-0.4**
EOS3	**EOS3**	**0.36**	**251**	*iP*		**Pn**	**23 24 15.6**	**+0.3**
EOS3				*iS*		**Sn**	**23 24 24.4**	**+1.4**
EOS2	**EOS2**	**0.42**	**272**	*iP*		**Pn**	**23 24 16.0**	**+0.1**
EOS2				*iS*		**Sn**	**23 24 24.8**	**+0.8**
EOS4	**EOS4**	**0.45**	**230**	P		**Pn**	**23 24 15.7**	**-0.2**
EOS4				S		**Sn**	**23 24 24.6**	**+0.6**
ESAO	**Su ao**	**0.79**	**282**	*eP*		**Pn**	**23 24 19.7**	**-0.5**
TWC	**Suao**	**0.79**	**285**	⇑ *iP*		**Pn**	**23 24 19.9**	**-0.4**
TWC				*i* S		**Sn**	**23 24 30.6**	**-1.1**
ENA	**Nanau**	**0.87**	**272**	*i* P		**Pn**	**23 24 21.3**	**+0.1**
ENA				*i* S		**Sn**	**23 24 33.8**	**+0.5**
TWB1	**Santiao Chiao**	**0.88**	**313**	P		**Pn**	**23 24 20.5**	**-0.8**
TWB1				S		**Sn**	**23 24 33.1**	**-0.4**
NTC	**Toucheng**	**0.90**	**300**	*eS*		**Sn**	**23 24 33.6**	**-0.5**
IRIF	**Iriomote-Funau**	**0.95**	**94**	P		**Pn**	**23 24 22.3**	**0.0**
IRIF				S		**Sn**	**23 24 35.4**	**+0.2**
TIPB	**Shuangxi**	**0.97**	**306**	*iP*		**Pn**	**23 24 22.5**	**-0.1**
TIPB				*iS*		**Sn**	**23 24 35.5**	**-0.1**
TWE	**Neicheng**	**0.98**	**289**	P		**Pn**	**23 24 22.9**	**+0.2**
TWE				S		**Sn**	**23 24 35.7**	**-0.2**
SXI1	**Grass Mountain**	**1.01**	**313**	P		**Pn**	**23 24 23.2**	**+0.1**
SXI1				*eS*		**Sn**	**23 24 36.1**	**-0.6**
NACB	**Ninganchiao**	**1.03**	**257**	*eS*		**Sn**	**23 24 36.1**	**-0.9**
ENTT	**Nioudou**	**1.05**	**283**	*eS*		**Sn**	**23 24 38.0**	**+0.4**
TWD	**Chiawan**	**1.05**	**252**	S		**Sn**	**23 24 36.3**	**-1.2**
FUSB	**Fushanzhiwuyua**	**1.06**	**289**	*eP*		**Pn**	**23 24 24.7**	**+0.9**
FUSB				*eS*		**Sn**	**23 24 38.0**	**+0.1**
LATG	**Datong**	**1.07**	**277**	*eP*		**Pn**	**23 24 23.8**	**-0.1**
LATG				*eS*		**Sn**	**23 24 38.9**	**+0.8**
ETLH	**Xiulin Townshi**	**1.12**	**260**	*eS*		**Sn**	**23 24 38.5**	**-0.8**
TEYL	**Yanliau Villag**	**1.13**	**242**	*eS*		**Sn**	**23 24 39.1**	**-0.3**
NWLT	**Wulai**	**1.14**	**289**	*eP*		**Pn**	**23 24 25.2**	**+0.4**
NWLT				*eS*		**Sn**	**23 24 39.6**	**-0.1**
TWA	**Mucha**	**1.16**	**300**	*eS*		**Sn**	**23 24 40.5**	**+0.4**
NNSB	**Datong**	**1.19**	**271**	*eP*		**Pn**	**23 24 26.4**	**+0.9**
NNSB				*eS*		**Sn**	**23 24 40.9**	**+0.2**
SHUL	**Shoufeng**	**1.20**	**239**	*eP*		**Pn**	**23 24 25.1**	**-0.5**
SHUL				*iS*		**Sn**	**23 24 39.6**	**-1.4**
JKRS	**Kuro-shima**	**1.21**	**98**	S		**Sn**	**23 24 41.8**	**+0.6**
YHNB	**Yeheng**	**1.23**	**283**	*eP*		**Pn**	**23 24 27.0**	**+1.0**
YHNB				*eS*		**Sn**	**23 24 42.2**	**+0.4**
LXIB	**Xiulin Townshi**	**1.23**	**252**	*eS*		**Sn**	**23 24 40.4**	**-1.6**
NSK	**Sanguang**	**1.24**	**283**	*eS*		**Sn**	**23 24 42.1**	**-0.1**
YM01	**YM01**	**1.26**	**306**	*eS*		**Sn**	**23 24 42.0**	**-0.5**
ESL	**Shilin**	**1.29**	**243**	*eS*		**Sn**	**23 24 41.9**	**-1.3**
JIJ	**Ishigaki jima**	**1.32**	**92**	P		**Pn**	**23 24 27.3**	**+0.1**
JIJ				S		**Sn**	**23 24 43.4**	**-0.5**
WHF	**Hehuan Shan**	**1.33**	**259**	*eS*		**Sn**	**23 24 43.6**	**-1.1**
NFF	**Wufeng Townshi**	**1.45**	**279**	*eS*		**Sn**	**23 24 47.4**	**+0.4**
OWD	**Renai**	**1.46**	**252**	*eS*		**Sn**	**23 24 45.6**	**-1.8**
JISG	**Ishigakijimahi**	**1.48**	**83**	P		**Pn**	**23 24 29.5**	**+0.2**
JISG				S		**Sn**	**23 24 47.3**	**-0.4**
WUSB	**Renai**	**1.50**	**254**	*eS*		**Sn**	**23 24 47.3**	**-0.9**
WHP	**Taichung City**	**1.60**	**266**	*eP*		**Pn**	**23 24 31.0**	**0.0**
WHP				*eS*		**Sn**	**23 24 51.3**	**+0.6**
WHYT	**Xinyi Township**	**1.82**	**248**	*eP*		**Pn**	**23 24 34.9**	**+0.9**
WHYT				*iS*		**Sn**	**23 24 55.6**	**-0.4**
STYH	**Taoyuan**	**2.14**	**235**	*eP*		**Pn**	**23 24 39.5**	**+1.2**
STYH				*eS*		**Sn**	**23 25 04.0**	**+0.3**

*NIED **30** 23:32:41.7, 35.50N×136.45E, h11km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr0.77; Mθθ-0.10; Mφφ-0.67; Mrθ-0.57; Mθφ-1.21; Mφr0.16; Fault plane solution: M0 1.51000×10^14 NP1 φ=2.00000°, δ56.00000°, λ30.00000°. NP2 φ=254.00000°, δ66.00000°, λ143.00000°.*
JMA 30 23:32:41.7±0.0, 35.5N±0.1×136.5E±0.1, h11km, MD3.7/20, MV3.5/20, 10D, SHIGA GIFU BORDER REGION, Western Honshu

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

	comp=N,113nm,1.8s							
HIDR	**Higuey Centre**	**1.10 222**	⇑	*e*P	**Pb**	**23 39 12.6**	**-0.1**
HIDR	**Higuey Centre**	**1.10 222**		*e*S	**Sb**	**23 39 26.7**	**0.0**
HIDR	**Higuey Centre**	**1.10 222**		*i* P	**Pn**	**23 39 12.0**	**-0.6**
HIDR			⇑	*e*Sg	**Sb**	**23 39 26.0**	**-0.7**
HIDR				IAML		23 39 30.5	
	comp=N,113nm,0.3s						
IDE	**Isla Desecheo**	**1.12 157**			**Pg**	**23 39 13.5**	**-0.3**
IDE					**Sg**	**23 39 29.7**	**+1.2**
IDE	**Isla Desecheo**	**1.12 157**	⇑	*e*P	**Pg**	**23 39 13.5**	**-0.3**
IDE	**Isla Desecheo**	**1.12 157**		*e*S	**Sg**	**23 39 29.7**	**+1.2**
MIDR	**Miches**	**1.13 248**		*i* P	**Pg**	**23 39 13.8**	**-0.3**
MIDR				*i* S	**Sg**	**23 39 29.2**	**+0.3**
MIDR				IAML		23 39 57.7	
	comp=N,31nm,2.7s						
SMDR	**Samana, DR**	**1.18 264**	⇑	*e*P	**Pg**	**23 39 15.7**	**+0.7**
SMDR	**Samana, DR**	**1.18 264**		*i* P	**Pg**	**23 39 14.7**	**-0.4**
SMDR				*i* S	**Sg**	**23 39 32.3**	**+1.7**
SMDR				IAML		23 39 32.6	
	comp=N,41nm,2.6s						
AGPR	**Aguadilla, PR**	**1.23 140**			**Pg**	**23 39 16.6**	**+0.6**
AGPR					**Sg**	**23 39 32.9**	**+0.8**
AGPR	**Aguadilla, PR**	**1.23 140**		Pn	**Pg**	**23 39 16.1**	**+0.1**
AGPR	**Aguadilla, PR**	**1.23 140**	⇓	*e*P	**Pg**	**23 39 16.6**	**+0.6**
AGPR	**Aguadilla, PR**	**1.23 140**		*e*S	**Sg**	**23 39 32.1**	**+0.8**
PRSN	**Puerto Rico Se**	**1.42 148**		Pn	**Pg**	**23 39 19.1**	**-0.4**
SADR	**Isla Saona**	**1.46 213**	⇑	*e*Sg	**Sg**	**23 39 38.8**	**-0.5**
SADR			⇑	*e*Sg	**Sg**	**23 39 38.8**	**-0.5**
SADR				IAML		23 39 46.7	
	comp=N,99nm,1.8s						
LSP	**Las Mesas**	**1.48 147**			**Pg**	**23 39 20.1**	**-0.6**
LSP					**Sg**	**23 39 39.3**	**-0.7**
LSP	**Las Mesas**	**1.48 147**	⇓	*e*P	**Pg**	**23 39 20.1**	**-0.6**
LSP	**Las Mesas**	**1.48 147**		*e*S	**Sg**	**23 39 39.3**	**-0.7**
AOPR	**Arecibo Observ**	**1.55 133**		*i* P	**Pb**	**23 39 20.8**	**+0.4**
AOPR				*i* S	**Sg**	**23 39 43.2**	**+0.9**
AOPR				IAML		23 40 28.8	
	comp=N,18μm,2.9s						
CRPR	**Cabo Rojo, PR**	**1.61 151**			**Sb**	**23 39 43.0**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.61 151**			**Pb**	**23 39 21.9**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.61 151**	⇓	*e*P	**Pg**	**23 39 22.3**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.61 151**		*i* P	**Pg**	**23 39 22.3**	**-0.9**
CRPR				*i* S	**Sb**	**23 39 42.9**	**+1.6**
CRPR				IAML		23 39 51.8	
	comp=N,48nm,2.6s						
EMPR	**Esperanza - Ma**	**1.63 125**			**Pg**	**23 39 23.1**	**-0.6**
EMPR					**Sg**	**23 39 44.2**	**-0.7**
EMPR	**Esperanza - Ma**	**1.63 125**		Pn	**Pb**	**23 39 22.1**	**+0.3**
EMPR	**Esperanza - Ma**	**1.63 125**	⇑	*e*P	**Pg**	**23 39 23.1**	**-0.6**
EMPR	**Esperanza - Ma**	**1.63 125**		*e*S	**Sg**	**23 39 44.2**	**-0.7**
UUPR	**Utuado, UPR, P**	**1.64 135**			**Pg**	**23 39 23.2**	**-0.6**
UUPR					**Sb**	**23 39 43.3**	**+1.1**
UUPR	**Utuado, UPR, P**	**1.64 135**		Pn	**Pn**	**23 39 20.5**	**+0.4**
UUPR	**Utuado, UPR, P**	**1.64 135**	⇓	*e*P	**Pg**	**23 39 23.2**	**-0.6**
UUPR	**Utuado, UPR, P**	**1.64 135**		*e*S	**Sb**	**23 39 43.3**	**+1.1**
MLPR	**Magueyes Islan**	**1.68 149**	⇑	*e*P	**Pb**	**23 39 23.1**	**+0.6**
MLPR	**Magueyes Islan**	**1.68 149**		*e*S	**Sb**	**23 39 44.5**	**+1.4**
MLPR	**Magueyes Islan**	**1.68 149**		*i* P	**Pb**	**23 39 22.9**	**+0.5**
MLPR				*i* S	**Sb**	**23 39 43.5**	**+0.3**
MLPR				IAML		23 39 50.9	
	comp=N,7.8nm,0.8s						
ECPR	**Experimental S**	**1.85 126**	⇓	*e*P	**Pb**	**23 39 25.7**	**+0.2**
ECPR	**Experimental S**	**1.85 126**		*e*S	**Sb**	**23 39 48.6**	**+0.3**
CELP	**Cerrillos**	**1.86 136**			**Pb**	**23 39 25.6**	**+0.1**
CELP					**Sb**	**23 39 47.7**	**-0.8**
CELP				IAML		23 39 50.5	
	comp=E,23nm,0.2s						
CELP				IAML		23 39 51.8	
	comp=N,26nm,0.7s						
CELP	**Cerrillos**	**1.86 136**	⇑	*e*P	**Pb**	**23 39 25.7**	**+0.1**
CELP	**Cerrillos**	**1.86 136**		*e*S	**Sb**	**23 39 49.1**	**+0.6**
CELP	**Cerrillos**	**1.86 136**		*i* P	**Pb**	**23 39 25.7**	**+0.1**
CELP				*i* S	**Sb**	**23 39 48.0**	**-0.5**
CELP				IAML		23 39 50.2	
	comp=N,25nm,0.5s						
OBIP	**Obispado Ponce**	**1.86 137**			**Pb**	**23 39 25.1**	**-0.6**
OBIP					**Sb**	**23 39 47.9**	**-0.8**
OBIP				IAML		23 39 58.2	
	comp=N,27nm,1.8s						
OBIP	**Obispado Ponce**	**1.86 137**	⇓	*e*P	**Pb**	**23 39 25.6**	**0.0**
OBIP	**Obispado Ponce**	**1.86 137**		*e*S	**Sb**	**23 39 48.7**	**0.0**
GCPR	**Guaynabo City**	**2.08 122**		Pn	**Pb**	**23 39 28.8**	**-0.5**
GCPR				IAML		23 39 53.4	
	comp=E,18nm,2.4s						
SJG	**San Juan**	**2.14 127**		Pn	**Pn**	**23 39 28.3**	**+1.4**
SJG				IAML		23 40 00.2	
	comp=E,18nm,0.2s						
SJG				IAML		23 40 02.3	
	comp=E,18nm,0.3s						
PDPR	**Patillas Dam,**	**2.29 127**		Pn	**Pb**	**23 39 31.7**	**-1.3**
PDPR	**Patillas Dam,**	**2.29 127**	⇑	*e*P	**Pb**	**23 39 32.0**	**-0.9**
PDPR	**Patillas Dam,**	**2.29 127**		*e*S	**Sb**	**23 39 59.8**	**-1.2**
HUMP	**Col San Antoni**	**2.35 122**		Pn	**Pb**	**23 39 32.1**	**-1.9**
BANI	**BANI**	**2.50 246**		Pn	**Pn**	**23 39 31.8**	**-0.3**
ABDR	**Alto Bandera**	**2.61 257**		IAML		23 40 24.1	
	comp=N,24nm,1.9s						

*IDC **30** 23:42:07.8±8.8,6˚.24S×130˚.35E,h165km±86km,mb3.4/2, mbtmp4.2/6,Error ellipse: s-maj=75.3km s-min=24.0km az=47.0*

*DJA **30** 23:42:16.2±0.3,5˚S±4˚×13˚.1E±˚,h10km,M4.3/9,mb4.4/2, MLv4.2/9*

ISC 30 23:42:05.0±0.9,**6˚.31S**±0˚.07×**130˚.63E**±0˚.08,**h150km,n13, σ3°25/15,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.79 158**		P	**Sn**	**23 43 06.7**	**+3.8**
SAUI				S		23 43 13.0	
BNDI	**Bandanaira**	**1.92 338**		P	**Pn**	**23 42 36.4**	**-2.7**
MSAI	**Masohi**	**3.40 330**		P	**Pn**	**23 42 59.7**	**+2.3**
FAKI	**Fak Fak**	**3.73 26**		P	Pn	23 42 57.7	-4.1
FAKI				S	Sn	23 43 37.5	-8.5
KMPI	**Kaimana, Papua**	**4.04 50**		P	**Pn**	**23 43 04.9**	**-0.9**
SWI	**Sorong**	**5.45 7**		P	Pn	23 43 19.2	-5.2
RKPI	**Ransiki, Papua**	**5.94 37**		P	**Pn**	**23 43 27.8**	**-3.1**
BATI	**Baumata**	**7.91 240**		P	**Pn**	**23 43 58.9**	**+1.7**
	11nm,0.3s,baz=139,slow=18,SNR=1.7						
BATI				S	**Sn**	**23 45 24.3**	**-1.1**
	17nm,0.3s,baz=335,slow=14,SNR=2.7						
FITZ	**Fitzroy Crossi**	**12.69 202**		P	**Pn**	**23 45 00.2**	**0.0**
	3.9nm,0.3s,baz=36,slow=9.9,SNR=33						
FITZ				S	**Sn**	**23 47 14.2**	**-6.4**
	22nm,0.7s,baz=92,slow=11,SNR=18						
WRA	**Warramunga Arr**	**14.03 165**		P	**Pn**	**23 45 19.3**	**+2.1**
	1.8nm,0.5s,baz=345,slow=13,SNR=18						
WRA				S	**Sn**	**23 47 48.6**	**-4.2**
	1.3nm,0.4s,baz=333,slow=23,SNR=9.8						
ASAR	**Alice Springs**	**17.54 170**		P	**Pn**	**23 46 03.6**	**+3.2**
	6.7nm,0.5s,baz=346,slow=11,SNR=95						
ASAR				S	**S**	**23 49 13.2**	**-1.1**
	1.1nm,0.6s,baz=350,slow=25,SNR=4.6						
STKA	**Stephens Creek**	**27.43 159**		P	**P**	**23 47 40.1**	**+3.4**
	1.3nm,0.3s,baz=319,slow=8.1,SNR=4.3						
	1.3nm,0.3s						
MKAR	**Makanchi Array**	**68.00 326**		P	**P**	**23 52 47.6**	**-0.3**
	0.3nm,0.6s,baz=134,slow=6.2,SNR=1.3						
	0.3nm,0.6s						

*ISK **30** 23:51:36.5,37˚.82N×29˚.64E,h5km,ML3.0/21*

*AFAD **30** 23:51:37.5,37˚.81N×29˚.67E,h7km±5km,ML2.8*

*IDC **30** 23:51:37.4±1.2,37˚.76N×29˚.76E,h0km,mb3.3/3, mbtmp3.2/9,ML3.0/3,MS2.6/1,Error ellipse: s-maj=20.0km s-min=18.1km az=170.0*

ISC 30 23:51:37.8±1.0,**37.80N**±0˚.03×**29˚.67E**±0˚.02,**h7**km±7km, **n37,σ1°01/46,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INCE	**Denizli-Bozkur**	**0.12 220**		P	**Pg**	**23 51 40.0**	**-0.5**
INCE				S	**Sg**	**23 51 43.4**	**+1.2**
INCE				*i* IAML		23 51 44.0	
	comp=E,6μm,0.9s						
INCE				*i* IAML		23 51 45.0	
	comp=N,3μm,0.4s						
BASM	**Basmaki-Afyon**	**0.32 68**		Pg	**Pg**	**23 51 43.9**	**-0.3**
BASM				Sg	**Sb**	**23 51 50.1**	**-1.3**
BRDR	**BURDUR-Merkez**	**0.33 108**		P	**Pg**	**23 51 43.8**	**-0.4**
BRDR				S	**Sb**	**23 51 49.9**	**-1.6**
BRDR				*i* IAML		23 51 53.0	
	comp=N,2μm,0.2s						
BRDR				*i* IAML		23 51 53.0	
	comp=E,2μm,0.2s						
APMY	**Acipayam-Deniz**	**0.44 222**		Pg	**Pg**	**23 51 45.7**	**-0.6**
APMY				Sg	**Sb**	**23 51 53.6**	**-1.1**
DNIZ	**Denizli-Tavas-**	**0.53 251**		P	**Pg**	**23 51 47.9**	**-0.2**
DNIZ				S	**Sb**	**23 51 56.9**	**-0.4**
DNIZ				*i* IAML		23 52 01.0	
	comp=N,2μm,0.3s						
DNIZ				*i* IAML		23 52 02.0	
	comp=E,2μm,0.4s						
KHL	**Karahalli**	**0.54 347**		Pg	**Pg**	**23 51 47.6**	**-0.6**
GOLH	**Golhisar**	**0.57 189**		P	**Pg**	**23 51 48.6**	**-0.2**
GOLH				S	**Sb**	**23 51 58.5**	**+0.1**
GOLH				*i* IAML		23 52 04.0	
	comp=N,959nm,0.5s						
GOLH				*i* IAML		23 52 04.0	
	comp=E,582nm,0.3s						
ISP	**Isparta**	**0.67 88**		Pg	**Pb**	**23 51 51.1**	**-0.8**
ISP				Sg	**Sb**	**23 52 01.7**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.69 241**		P	**Pg**	**23 51 50.4**	**-0.6**
TAVA				S	**Sb**	**23 52 00.8**	**-1.0**
TAVA				*i* IAML		23 52 02.0	
	comp=N,198nm,0.3s						
TAVA				*i* IAML		23 52 07.0	
	comp=E,306nm,0.4s						
CAME	**Cameli-Denizli**	**0.90 199**		Pg	**Pb**	**23 51 55.4**	**-0.5**
KORT	**Korkueli**	**0.96 146**		Pg	**Pb**	**23 51 56.6**	**-0.3**
KULA	**Kula-Manisa**	**1.07 312**		Pg	**Pg**	**23 51 57.7**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.10 279**		Pg	**Pg**	**23 51 58.4**	**-0.6**
ANTB	**Antalya**	**1.19 139**		Pn	**Pn**	**23 52 01.1**	**+0.3**
GEDZ	**Gediz**	**1.26 351**		Pn	**Pg**	**23 52 00.9**	**-1.1**
SHAP	**Saphane-Kutahy**	**1.27 344**		Pn	**Pg**	**23 52 01.5**	**-0.7**
ODEM	**Odemis-Izmir**	**1.35 291**		Pn	**Pn**	**23 52 02.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.42 277**		Pn	**Pn**	**23 52 04.0**	**-0.1**
TURN	**Turunc**	**1.53 229**		Pn	**Pb**	**23 52 06.2**	**-0.2**
GORD	**Gordes-Manisa**	**1.61 314**		Pn	**Pn**	**23 52 06.7**	**0.0**
GOMA	**Golmarmara-Man**	**1.65 304**		Pn	**Pn**	**23 52 06.8**	**-0.4**
TVSB	**Tavsanli**	**1.66 354**		Pn	**Pn**	**23 52 07.5**	**+0.1**
SEYD	**Seydisehir-KON**	**1.77 102**		Pn	**Pb**	**23 52 09.8**	**-0.7**
GCAM	**G?zelcaml?**	**1.94 268**		Pn	**Pn**	**23 52 11.3**	**+0.2**
DAT	**Datca**	**1.98 238**		Pn	**Pn**	**23 52 12.2**	**+0.4**
ARG	**Arkhangelos**	**2.01 219**		Pn	**Pn**	**23 52 12.8**	**+0.7**
BLCB	**Balcova**	**2.15 287**		Pn	**Pn**	**23 52 14.4**	**+0.3**
BRTR	**Keskin Array B**	**3.65 57**		Pn	**Pn**	**23 52 35.5**	**+0.7**
	0.3nm,0.3s,baz=239,slow=15,SNR=8.3						
BRTR				Sn	**Sn**	**23 53 20.9**	**+2.8**
	0.2nm,0.3s,baz=235,slow=23,SNR=2.6						
	0.5nm,0.3s						
IDI	**Anoyia**	**4.59 238**		Pn	**Pn**	**23 52 49.5**	**+1.8**
	4.9nm,0.6s,baz=65,slow=17,SNR=1.0						
MMAI	**Mount Meron Ar**	**6.68 134**		Pn	**Pn**	**23 53 17.0**	**+0.5**
	2.5nm,0.4s,baz=319,slow=13,SNR=19						
MMAI				Sn	**Sn**	**23 54 31.8**	**-1.1**
	0.8nm,0.3s,baz=317,slow=19,SNR=1.4						
ASF	**Jabal al Asfar**	**8.16 131**		Pn	**Pn**	**23 53 37.1**	**+0.4**
	0.2nm,0.3s,baz=270,slow=3.0,SNR=1.9						
	0.9nm,0.5s						
MLR	**Muntele Rosu**	**8.18 341**		Pn	**Pn**	**23 53 40.5**	**+3.6**
	0.1nm,0.3s,baz=153,slow=14,SNR=1.8						
	1.0nm,0.7s						
VRAC	**Vranov**	**14.88 325**		LR	LR	00 01 07.8	
	comp=Z,20nm,18.4s,baz=181,slow=38						
GERES	**GERESS Array B**	**15.99 319**		Pn	**P**	**23 55 25.4**	**-1.3**
	0.1nm,0.3s,baz=124,slow=16,SNR=1.4						
TORD	**Torodi Ar. Bea**	**34.97 233**		P	**P**	**23 58 30.8**	**+0.1**
	0.3nm,0.7s,baz=37,slow=9.2,SNR=2.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**36.63 54**		P	**P**	**23 58 45.0**	**+0.4**
	0.3nm,0.7s,baz=273,slow=8.7,SNR=1.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**39.30 60**		P	**P**	**23 59 07.4**	**+0.2**
	0.5nm,0.8s,baz=274,slow=7.9,SNR=3.6						
	0.5nm,0.8s						

*IDC **31** 00:07:13.4±1.8,25˚.06S×179˚.71E,h477km±22km,mb3.3/6, mbtmp4.3/8,Error ellipse: s-maj=30.6km s-min=20.6km az=2.0*

*NEIC **31** 00:07:15.5±1.3,25˚.22S±0˚.07×179˚.8E±0˚.2,h491km±11km, mb4.2/9,Error ellipse: s-maj=24.6km s-min=8.8km az=75.0*

ISC 31 00:07:14.7±0.7,**25˚.23S**±0˚.08×**179˚.8E**±0˚.1,**h500km,n26, σ1°01/29,mb4.0/10,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.50 154**		P	**P**	**00 08 38.2**	**+1.0**
RAO	**Raoul Island**	**4.50 154**		P	**P**	**00 08 36.0**	**-1.2**
	170nm,0.3s,baz=78,slow=12,SNR=8.3						
RAO				S	**S**	**00 09 44.4**	**-0.1**
	142nm,0.5s,baz=67,slow=23,SNR=1.6						
MSVF	**Nonsavu**	**7.63 347**		P	**P**	**00 09 07.5**	**-0.1**
URZ	**Urewera**	**13.19 189**		P	**P**	**00 10 04.8**	**-0.9**
	5.9nm,0.4s,baz=184,slow=22,SNR=3.0						
URZ				S	**S**	**00 12 25.9**	**-0.8**
	8.6nm,0.8s,baz=194,slow=22,SNR=7.9						
QRZ	**Quartz Range**	**16.70 200**		P	**P**	**00 10 42.5**	**0.0**
EIDS	**Eidsvold**	**25.95 263**		P	**P**	**00 12 07.3**	**+0.6**
CTAO	**Charters Tower**	**31.32 273**		P	**P**	**00 12 54.7**	**+1.0**
CTAO				IAmb	IAmb	00 12 55.3	
	comp=Z,6.8nm,0.9s						
COEN	**Coen**	**36.17 281**		P	**P**	**00 13 35.2**	**+0.6**
COEN				IAmb	IAmb	00 13 35.7	
	comp=Z,8.5nm,1.1s						
ASAR	**Alice Springs**	**41.66 262**		P	**P**	**00 14 19.2**	**+0.1**
ASAR	**Alice Springs**	**41.66 262**		P	**P**	**00 14 18.2**	**-0.9**
	comp=Z,2.8nm,1.0s,baz=88,slow=6.8,SNR=16						
	comp=Z,2.8nm,1.0s						
WRA	**Warramunga Arr**	**42.15 268**		P	**P**	**00 14 22.6**	**-0.4**
WRA	**Warramunga Arr**	**42.15 268**		P	**P**	**00 14 22.6**	**-0.4**
	comp=Z,2.7nm,0.5s,baz=104,slow=8.0,SNR=17						
	comp=Z,2.7nm,0.5s						
KNRA	**Kununurra**	**48.51 271**		P	**P**	**00 15 12.1**	**+0.2**
KNRA				IAmb	IAmb	00 15 29.5	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**50.56 267**		P	**P**	**00 15 27.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**50.56 267**		P	**P**	**00 15 27.1**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=106,slow=6.9,SNR=10						
	comp=Z,3.0nm,0.5s						
QSPA	**South Pole Qui**	**64.86 180**		P	**P**	**00 17 05.6**	**+1.8**
QSPA				IAmb	IAmb	00 17 32.4	
	comp=Z,3.9nm,1.2s						
QSPA	**South Pole Qui**	**64.86 180**		P	**P**	**00 17 06.0**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=340,slow=22,SNR=2.0						
	comp=Z,0.8nm,0.6s						
MJAR	**Matsushiro Arr**	**72.89 326**		P	**P**	**00 17 51.9**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=166,slow=5.1,SNR=2.9						
	comp=Z,1.8nm,0.9s						
PETK	**Petropavlovsk-**	**80.34 347**		P	**P**	**00 18 33.5**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=159,slow=5.6,SNR=3.9						
	comp=Z,1.3nm,0.6s						
V12A	**Nelson**	**86.50 48**			**P**	**00 19 05.2**	**+0.9**
V12A				IAmb	IAmb	00 19 46.6	
	comp=Z,5.8nm,0.7s						
NB2	**NORSAR Subarra**	**143.36 351**		PKP	**PKPdf**	**00 25 49.4**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=25,slow=3.1						
NOA	**NORSAR Array B**	**143.36 351**		PKP	**PKPdf**	**00 25 49.6**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=20,slow=4.2,SNR=4.4						
HFS	**Hagfors**	**143.80 348**		PKP	**PKPdf**	**00 25 50.7**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=84,slow=4.6,SNR=8.6						
AKASG	**Malin Array Be**	**145.97 326**		PKPbc	**PKPbc**	**00 25 57.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=42,slow=4.7,SNR=6.7						
MMAI	**Mount Meron Ar**	**148.06 292**		PKPbc	**PKiKP**	**00 26 05.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=122,slow=1.9,SNR=6.4						
BRTR	**Keskin Array B**	**148.21 305**		PKPbc	**PKiKP**	**00 26 04.3**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=97,slow=3.5,SNR=5.2						
BRTR				PKPab	**PKPab**	**00 26 09.5**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=155,slow=3.8,SNR=4.4						

*IDC **31** 00:09:15.7±0.9,18˚.13N×93˚.07W,h0km,mb3.9/8, mbtmp3.9/10,ML3.7/2,MS3.6/34,Error ellipse: s-maj=27.5km s-min=20.5km az=48.0*

*GCG **31** 00:09:16.1±3.2,18˚.30N×92˚.87W,h91km±39km,MD5.3, ML4.9*

*CATAC **31** 00:09:16.4±0.6,18˚N±2˚×9˚3W±˚,h9km±5km,M5.0/20, mb5.1/5,mB5.1/3,MLv5.0/20,Mw(mB)4.5/3,Error ellipse: s-maj=8.2km s-min=3.3km az=117.3,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.79; $M_{\theta\theta}$-2.59; $M_{\phi\phi}$-0.20; $M_{r\theta}$1.38; $M_{\theta\phi}$2.12; $M_{\phi r}$1.89; Fault plane solution: $M_0$4.15122×10^{15} NP1:∅s90.32931°, δ56.57175°,λ47.22807°. NP2:∅s329.55575°,δ52.21999°, λ135.81267°. Principal axes: T 4.4054, Plg55.3596°, Azm302.6829°; N -0.5666, Plg34.5236°, Azm117.3341°; P -3.8388, Plg2.5021°, Azm209.0566°; confirmed*

*NEIC **31** 00:09:16.9±1.7,18˚.25N±0˚.07×92˚.83W±0˚.06,h83km±21km, mb4.0/24,Md4.6/72(MEX) Error ellipse: s-maj=10.8km s-min=7.6km az=198.0*

*MEX **31** 00:09:19.2±0.8,18˚.31N×92˚.95W,h30km±18km,MD4.7*

ISC 31 00:09:15.8±1.5,**18˚.28N**±0˚.03×**92˚.96W**±0˚.02,**h12**km±10km, **n194,σ2°53/234,mb4.1/7,MS3.7/34,Bay of Campeche**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHSA	**Villahermosa**	**0.29 177**		*i* P	**Pg**	**00 09 22.3**	**+0.4**
VHSA				*i* S	**Sb**	**00 09 30.3**	**+2.4**
TUIG	**Tuzandepetl**	**1.42 260**		*e*P	**Pn**	**00 09 42.1**	**+0.8**
TUIG				*e*S	**Sn**	**00 09 57.9**	**-2.1**
UXUV	**UXUV**	**1.48 230**			**Pn**	**00 09 42.6**	**+0.3**
UXUV					**Sn**	**00 10 02.1**	**+0.5**
UXUV	**UXUV**	**1.48 230**		*e*P	**Pn**	**00 09 42.6**	**+0.3**
UXUV				*e*S	**Sn**	**00 10 01.3**	**-0.3**
TGBT	**Tuxtla Gutierr**	**1.50 185**		*e*P	**Pn**	**00 09 41.4**	**-1.1**
TGBT				*e*S	**Sn**	**00 09 59.9**	**-2.1**
TGIG		**1.50 186**			**Pn**	**00 09 41.7**	**-0.9**
TGIG					**Sn**	**00 10 00.5**	**-1.6**
TGIG		**1.50 186**		*i* P	**Pn**	**00 09 42.0**	**-0.7**
TGIG				*e*S	**Sn**	**00 10 00.9**	**-1.2**
TGIG		**1.50 186**		*i* P	**Pn**	**00 09 41.9**	**-0.7**
TGIG				*i* S	**Sn**	**00 10 02.2**	**0.0**
TGIG				IAML		00 10 07.3	
	comp=E,2μm,0.5s						
MIHL	**Minatitlan**	**1.54 259**		*e*P	**Pn**	**00 09 44.0**	**+1.0**
MIHL				*i* S	**Sn**	**00 10 02.3**	**-0.6**
SCIG	**Sabancuy**	**1.81 68**		*e*P	**Pn**	**00 09 45.5**	**-1.3**
SCIG				*e*S	**Sn**	**00 10 08.2**	**-1.6**
SCIG	**Sabancuy**	**1.81 68**		*i* P	**Pn**	**00 09 45.6**	**-1.2**
SCIG				*i* S	**Sn**	**00 10 07.5**	**-2.2**
SCIG				IAML		00 10 09.8	
	comp=N,22μm,0.6s						
SCIG	**Sabancuy**	**1.81 68**		P	**Pn**	**00 09 47.1**	**+0.3**
SCIG	**Sabancuy**	**1.81 68**		S	**Sn**	**00 10 09.1**	**-0.7**
PMUV	**Sontecomapan**	**2.07 278**		*e*P	**Pn**	**00 09 49.7**	**-0.8**
PMUV				*e*S	**Sn**	**00 10 09.3**	**-7.1**
CCIG	**Comitan**	**2.13 158**			**Pn**	**00 09 50.2**	**-1.2**
CCIG	**Comitan**	**2.13 158**		*e*P	**Pn**	**00 09 50.6**	**-0.9**
CCIG				*i* S	**Sn**	**00 10 15.5**	**-2.5**
CCIG	**Comitan**	**2.13 158**		*i* P	**Pn**	**00 09 50.4**	**-1.0**
CCIG				*i* S	**Sn**	**00 10 16.8**	**-1.1**
CCIG				IAML		00 10 29.1	
	comp=E,5μm,0.6s						
CCIG	**Comitan**	**2.13 158**		P	**Pn**	**00 09 50.8**	**-0.7**
CCIG	**Comitan**	**2.13 158**		S	**Sn**	**00 10 17.9**	**-0.1**
CMIG	**Matias Romero**	**2.19 238**			**Pn**	**00 09 51.8**	**-0.2**
CMIG					**Sn**	**00 10 18.3**	**-0.7**
CMIG	**Matias Romero**	**2.19 238**		Pn	**Pn**	**00 09 51.9**	**-0.1**
	comp=E,8.5nm,0.3s,baz=67,slow=11,SNR=47						
CMIG				Sn	**Sn**	**00 10 19.6**	**+0.6**
	comp=E,70nm,0.3s,baz=12,slow=11,SNR=12						
	comp=E,52nm,0.4s						
CMIG	**Matias Romero**	**2.19 238**		*e*P	**Pn**	**00 09 51.8**	**-0.2**
CMIG				*e*S	**Sn**	**00 10 18.2**	**-0.7**
PCIG		**2.57 186**			**Pn**	**00 09 56.2**	**-1.1**
PCIG					**Sn**	**00 10 26.1**	**-2.4**
PCIG		**2.57 186**		*e*P	**Pn**	**00 09 56.0**	**-1.2**
PCIG				*e*S	**Sn**	**00 10 26.5**	**-2.0**
NEUV	**Arroyo Zacate**	**2.77 259**			**Pn**	**00 09 59.8**	**-0.2**
NEUV	**Arroyo Zacate**	**2.77 259**		*e*P	**Pn**	**00 09 59.7**	**-0.3**
NEUV				*e*S	**Sn**	**00 10 31.4**	**-1.9**
PAVE	**Pavencul**	**3.16 166**			**Pn**	**00 10 04.1**	**-1.5**
PAVE					**Sn**	**00 10 40.9**	**-2.4**
PAVE	**Pavencul**	**3.16 166**		*e*P	**Pn**	**00 10 04.2**	**-1.3

baz=310,slow=24
TEIG Tepich 4.83 66 *e*P **Pn** **00 10 25.1 -3.2**
TEIG *i* S **Sn** **00 11 24.0 -0.1**
TEIG Tepich 4.83 66 P **Pn** **00 10 28.8 +0.5**
TEIG S **Sn** **00 11 25.0 +0.9**
IZABA Izabal, Puerto 4.89 121 *e*P **Pn** **00 10 25.3 -3.9**
IZABA *e*S **Sn** **00 11 25.7 -0.1**
IZABA Izabal, Puerto 4.89 121 P **Pn** **00 10 29.5 +0.3**
FTIG Fresnillo de T 4.94 267 **Pn** **00 10 31.6 +1.6**
FTIG **Sn** **00 11 27.6 +0.5**
FTIG Fresnillo de T 4.94 267 *e*P **Pn** **00 10 31.9 +1.9**
FTIG *e*S **Sn** **00 11 26.7 -0.4**
ESQI Esquipulas 5.07 136 Pn **Pn** **00 10 28.5 -3.2**
ESQI Esquipulas 5.07 136 P **Pn** **00 10 30.7 -1.1**
MTO3 Montecristo 5.18 138 **Pn** **00 10 30.1 -3.2**
MTO3 Montecristo 5.18 138 *e*P **Pn** **00 10 30.1 -3.2**
MTO3 Montecristo 5.18 138 P **Pn** **00 10 32.7 -0.7**
SLOZ Alcaldia de Sa 5.21 144 P **Pn** **00 10 33.0 -0.7**
LOAL Lomas de Alarc 5.24 144 P **Pn** **00 10 33.8 -0.3**
FAME Alcaldia de Sa 5.24 147 S **Sn** **00 11 35.1 +0.8**
FAME Alcaldia de Sa 5.24 147 P **Pn** **00 10 33.7 -0.3**
PNIG Pinotepa 5.28 250 **Pn** **00 10 34.2 -0.4**
PNIG **Sn** **00 11 33.8 -1.7**
PNIG Pinotepa 5.28 250 *e*P **Pn** **00 10 33.5 -1.2**
PNIG *e*S **Sn** **00 11 33.6 -1.9**
NUBE Las Nubes 5.32 144 *e*P **Pn** **00 10 32.6 -2.6**
NUBE Las Nubes 5.32 144 P **Pn** **00 10 34.5 -0.7**
NUBE Las Nubes 5.32 144 S **Sn** **00 11 36.1 -0.3**
SARH Santa Rosa de 5.32 130 *i* P **Pn** **00 10 32.6 -2.6**
SARH Santa Rosa de 5.32 130 P **Pn** **00 10 34.5 -0.7**
SARH Santa Rosa de 5.32 130 S **Sn** **00 11 36.2 -0.3**
UNIC Universidad Ca 5.38 142 P **Pn** **00 10 35.8 -0.2**
UNIC Universidad Ca 5.38 142 S **Sn** **00 11 37.8 -0.2**
TLIG Tlapa 5.39 263 Pn **Pn** **00 10 35.6 -0.5**
TLIG Tlapa 5.39 263 *e*P **Pn** **00 10 37.8 +1.6**
TLIG *i* S **Sn** **00 11 32.0 -6.3**
PPM Popocatepetl 5.43 279 *e*P **Pn** **00 10 40.5 +3.4**
PPM *e*S **Sn** **00 11 42.1 +2.3**
PPIG Popocatepetl 5.43 279 **Pn** **00 10 41.6 +4.5**
PPIG **Sn** **00 11 41.9 +2.0**
MGIG Malinaltepec 5.51 260 **Pn** **00 10 39.2 +1.3**
MGIG **Sn** **00 11 36.9 -4.4**
MGIG Malinaltepec 5.51 260 *e*P **Pn** **00 10 39.4 +1.5**
MGIG *e*S **Sn** **00 11 38.8 -2.5**
YAIG Yautepec 5.83 277 **Pn** **00 10 44.5 +2.3**
YAIG **Sn** **00 11 50.0 +1.0**
YAIG Yautepec 5.83 277 *e*P **Pn** **00 10 44.0 +1.8**
YAIG *e*S **Sn** **00 11 49.3 +0.3**
CTUV Llano Grande 5.99 303 **Pn** **00 10 44.7 +0.4**
CTUV **Sn** **00 11 48.6 -4.2**
CTUV Llano Grande 5.99 303 *e*P **Pn** **00 10 44.7 +0.4**
CTUV *e*S **Sn** **00 11 48.5 -4.4**
CRIG Cruz Grande 6.09 256 **Pn** **00 10 45.4 -0.2**
CRIG **Sn** **00 11 49.6 -5.7**
CRIG Cruz Grande 6.09 256 *e*P **Pn** **00 10 43.3 -2.4**
CRIG *e*S **Sn** **00 11 53.5 -1.8**
SCLA Alcaldia de Sa 6.10 138 P **Pn** **00 10 45.5 -0.4**
MARCA Marcala la Paz 6.25 130 *i* P **Pn** **00 10 45.8 -2.3**
MEIG Mezcala 6.35 268 Pn 00 10 44.1 -5.2
MEIG **Sn** **00 11 57.1 -4.7**
MEIG Mezcala 6.35 268 *e*P **Pn** **00 10 49.2 -0.1**
MEIG *e*S **Sn** **00 11 55.6 -6.2**
DAIG Los Arroyos 6.50 260 **Pn** **00 10 51.8 +0.4**
DAIG Los Arroyos 6.50 260 *e*P **Pn** **00 10 50.6 -0.8**
TGUH Tegucigalpa,Un 6.89 127 Pn **Pn** **00 10 52.9 -3.9**
ARIG Puente Sto Nin 7.02 271 **Pn** **00 10 59.2 +0.7**
ARIG **Sn** **00 12 12.1 -6.3**
ARIG Puente Sto Nin 7.02 271 *e*P **Pn** **00 10 59.2 +0.7**
ARIG *e*S **Sn** **00 12 16.9 -1.5**
CAIG El Cayaco 7.08 261 Pn 00 10 53.3 -6.0
CAIG **Sn** **00 12 20.6 +0.9**
JTS Las Juntas de 11.10 135 LR LR 00 16 53.5
comp=N,268nm,18.0s,baz=296,slow=41
833A Chaparral WMA, 11.61 331 Pn **Pn** **00 12 01.0 -0.5**
HNDO Hondo 12.60 334 **Pn** **00 12 13.9 -1.1**
DRIO Del Rio 13.12 329 **Pn** **00 12 20.3 -1.7**
JCT Junction City 13.65 334 Pn **Pn** **00 12 27.7 -1.6**
237A Washetta, Mont 13.90 350 Pn **Pn** **00 12 31.0 -1.7**
BRDY Brady 14.06 338 **Pn** **00 12 33.1 -1.8**
553A Crawfordville 14.17 32 Pn Pn 00 12 32.4 -4.0
WHTX Lake Whitney, 14.25 344 **Pn** **00 12 35.1 -2.3**
SAND Sanderson 14.31 326 **Pn** **00 12 36.7 -1.7**
OZNA Ozona 14.61 331 **Pn** **00 12 40.6 -1.8**
TXAR Lajitas Array 14.72 320 Pn **Pn** **00 12 47.4 +3.3**
comp=N,0.2nm,0.3s,baz=125,slow=10,SNR=6.6
comp=N,0.4nm,0.5s
X40A Basin Creek Fa 16.14 0 Pn **Pn** **00 12 57.0 -5.6**
WTFS Witchita Falls 16.19 343 Pn **Pn** **00 12 59.3 -3.9**
MIAR Mount Ida 16.21 358 Pn **Pn** **00 12 58.9 -4.5**
MIAR IAmb IAmb 00 13 19.7
comp=Z,7.0nm,0.9s
APMT Aspermont 16.30 338 P **Pn** **00 13 02.6 -2.1**
APMT IAmb IAmb 00 13 19.4
comp=Z,8.8nm,0.7s
SN07 Snyder 07 16.38 336 P **Pn** **00 13 02.1 -3.6**
Y49A Blount Mountai 16.58 19 P **Pn** **00 13 03.7 -4.6**
Y49A IAmb IAmb 00 13 12.2
comp=Z,8.7nm,1.1s
POST Post 16.61 334 **Pn** **00 13 06.4 -2.2**
X34A Smith Ranch, M 16.83 346 **Pn** **00 13 09.7 -1.7**
X34A IAmb IAmb 00 13 25.1
comp=Z,11nm,0.7s
DKNS Dickens 16.90 337 **Pn** **00 13 08.8 -3.5**
DKNS IAmb IAmb 00 13 23.9
comp=Z,12nm,0.8s
X48A Hartselle 16.95 17 **Pn** **00 13 08.8 -4.0**
X48A IAmb IAmb 00 13 15.4
comp=Z,7.7nm,0.9s
WHAR Wooly Hollow 16.95 2 **Pn** **00 13 09.1 -3.8**
LPIG La Paz 17.18 293 LR LR 00 21 02.2
comp=Z,132nm,19.9s,baz=126,slow=41
WMOK Wichita Mounta 17.20 344 **Pn** **00 13 12.2 -3.7**
GOGA Godfrey 17.30 28 **Pn** **00 13 13.3 -4.0**
GOGA IAmb IAmb 00 13 30.8
comp=Z,9.5nm,0.8s
Y52A Lilburn 17.44 25 **Pn** **00 13 14.6 -4.4**
FPAL Fort Paine 17.47 21 P **Pn** **00 13 15.4 -3.9**
FCAR Ozark Folk Cen 17.56 2 **Pn** **00 13 16.0 -4.4**
TUL3 Leonard 17.74 352 P **Pn** **00 13 18.3 -4.4**
TUL3 IAmb IAmb 00 13 31.5
comp=Z,4.6nm,0.6s
LCAR Lake Charles 17.79 5 P **Pn** **00 13 19.1 -4.2**
MSTX Muleshoe 17.92 333 **Pn** **00 13 20.7 -4.4**
W50A Signal Mountai 18.17 20 **Pn** **00 13 22.3 -5.7**
W50A IAmb IAmb 00 13 40.6
comp=Z,11nm,1.0s
TKL Tuckaleechee C 19.13 23 P **P** **00 13 36.9 -1.9**
comp=Z,5.2nm,0.9s,baz=186,slow=14,SNR=4.7
TKL S Sn 00 17 02.7 -11
comp=Z,3.9nm,0.8s,baz=115,slow=8.5,SNR=2.7
TKL LR LR 00 22 51.5
comp=Z,96nm,19.6s,baz=193,slow=42
ANMO Albuquerque 20.49 327 P Pn 00 13 56.5 +0.5
comp=Z,1.3nm,0.9s,baz=234,slow=9.9,SNR=3.8
ANMO LR LR 00 23 03.1
comp=Z,80nm,21.0s,baz=237,slow=40
comp=Z,1.3nm,0.9s
ROSC El Rosal 22.59 124 LR LR 00 23 28.2
comp=Z,241nm,19.5s,baz=303,slow=38
SDV Santo Domingo 23.60 110 LR LR 00 25 23.3
comp=Z,123nm,18.5s,baz=298,slow=41
PFO Pinyon Flats O 25.98 311 LR LR 00 26 40.5
comp=Z,117nm,18.4s,baz=158,slow=40
PCRV Puerto La Cruz 28.58 102 LR LR 00 28 50.6
comp=Z,96nm,19.7s,slow=41
SADO Sadowa 28.83 21 LR LR 00 29 14.0
comp=Z,1µm,18.6s,baz=183,slow=41
ATAH Atahualpa 29.05 149 LR LR 00 26 03.4
comp=Z,82nm,19.3s,baz=335,slow=35
NVAR Mina Array Bea 29.84 317 P **P** **00 15 25.6 +2.4**
comp=Z,0.4nm,0.6s,baz=136,slow=5.2,SNR=5.3
NVAR LR LR 00 29 21.0
comp=Z,48nm,19.4s,baz=166,slow=40
comp=Z,0.4nm,0.6s
ULM Lac du Bonnet 31.98 356 LR LR 00 31 35.1
comp=Z,58nm,18.2s,baz=178,slow=42
YBH Yreka Blue Hor 34.50 319 LR LR 00 34 05.5
comp=Z,8.1nm,19.0s,baz=170,slow=43
MDP Montagnes des 41.48 103 LR LR 00 36 51.8
comp=Z,57nm,19.1s,baz=286,slow=40
SCHQ Schefferville 41.59 23 LR LR 00 35 34.7
comp=Z,1µm,20.5s,baz=218,slow=38
LPAZ La Paz 42.16 143 P **P** **00 17 08.7 -0.4**
comp=Z,2.6nm,0.7s,baz=320,slow=13,SNR=4.8
LPAZ LR LR 00 35 39.4
comp=Z,93nm,19.2s,baz=304,slow=38
comp=Z,2.6nm,0.7s
SIV San Ignacio 46.32 135 LR LR 00 38 26.6
comp=Z,72nm,18.2s,baz=290,slow=38
YKA Yellowknife Ar 46.67 346 P **P** **00 17 44.7 +0.7**
comp=Z,0.7nm,0.6s,baz=144,slow=7.1,SNR=5.0
comp=Z,0.7nm,0.6s
RPN Rapa Nui 47.85 200 LR LR 00 33 46.6
comp=Z,42nm,18.0s,baz=191,slow=31
BDFB Brasilia 55.64 124 P **P** **00 18 54.8 +2.6**
comp=Z,3.0nm,0.9s,baz=66,slow=17,SNR=1.3
BDFB LR LR 00 44 14.1
comp=Z,116nm,19.2s,baz=330,slow=38
comp=Z,3.0nm,0.9s
SFJD Kangerlussuaq 55.76 19 LR LR 00 45 45.7
comp=Z,89nm,18.3s,baz=216,slow=39
CPUP Villa Florida 56.25 141 LR LR 00 43 35.9
comp=Z,10.0nm,18.6s,baz=197,slow=37
RES Resolute Bay 56.43 359 LR LR 00 45 53.8
comp=Z,41nm,19.1s,baz=110,slow=39
KDAK Kodiak Island 58.63 327 LR LR 00 45 57.9
comp=Z,82nm,18.0s,baz=106,slow=38
RCBR Riachuelo 61.14 108 LR LR 00 49 15.7
comp=Z,22nm,19.0s,baz=260,slow=39
BORG Borgarnes 65.79 27 LR LR 00 48 42.4
comp=Z,42nm,19.2s,baz=281,slow=36
SPITS Spitsbergen Ar 76.10 12 LR LR 00 59 46.7
comp=Z,57nm,18.0s,baz=286,slow=40
ESDC Sonseca Array 77.81 52 P **P** **00 21 16.2 +2.8**
comp=Z,0.9nm,0.8s,baz=283,slow=5.8,SNR=7.5
ESDC LR LR 00 54 04.6
comp=Z,60nm,18.7s,baz=278,slow=34
comp=Z,0.9nm,0.8s
MDT Midelt 78.98 59 LR LR 00 51 50.2
comp=Z,48nm,18.6s,baz=260,slow=32
NOA NORSAR Array B 80.84 29 LR LR 00 56 14.5
comp=Z,52nm,21.6s,baz=285,slow=35
HFS Hagfors 82.32 29 LR LR 00 56 23.5
comp=Z,52nm,22.0s,baz=280,slow=34
ARCES ARCESS Array B 82.38 19 P **P** **00 21 41.6 +4.2**
comp=Z,3.7nm,1.1s,baz=321,slow=5.3,SNR=4.8
comp=Z,3.7nm,1.1s
DAVOX Davos/Dischmat 85.33 42 LR LR 00 59 16.1
comp=Z,40nm,18.4s,baz=263,slow=35
GERES GERESS Array B 86.90 39 P **P** **00 22 04.7 +3.9**
comp=Z,1.0nm,0.9s,baz=327,slow=4.7,SNR=8.5
comp=Z,1.0nm,0.9s
FINES FINESS Array B 87.03 25 LR LR 01 03 58.7
comp=Z,31nm,18.1s,baz=318,slow=38
VRAC Vranov 88.42 38 LR LR 01 03 42.3
comp=Z,48nm,18.4s,baz=295,slow=37
VAE Valguarnera 92.11 49 LR LR 01 03 27.9
comp=Z,81nm,18.0s,baz=325,slow=35
YAK Yakutsk 93.13 341 LR LR 01 11 34.9
comp=Z,63nm,19.9s,baz=32,slow=40
AKASG Malin Array Be 94.66 33 LR LR 01 07 59.8
comp=Z,25nm,18.1s,baz=318,slow=37
MLR Muntele Rosu 95.82 38 LR LR 01 06 45.6
comp=Z,38nm,20.7s,baz=340,slow=36
HHC Hu-ho-hao-te 116.92 339 *e*P **PKPdf** **00 27 56.0 -4.9**
PZH PanZhiHua 133.25 342 PKP **PKPdf** **00 28 31.0 -1.5**

*FUNV **31** 01:04:48.9, 10˚.85N×62˚.31W, h26km, MW3.4*
*TRN **31** 01:04:49.7, 10˚.89N×62˚.34W, h57km, MD3.2, North of the Paria peninsula.*
ISC 31 01:04:48.4±1.5, 10˚.87N±0˚.05×62˚.37W±0˚.05, h73km±24km, n21, σ1ˢ16/40, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.85**	**103**	*e*P	**Pn**	**01 05 05.2**	**0.0**
PSMG				*e*S	**Sn**	**01 05 17.2**	**-0.6**
PSKH	**Kent House, Po**	**0.85**	**103**	*e*P	**Pn**	**01 05 05.7**	**+0.4**
PSKH				*e*S	**Sn**	**01 05 17.1**	**-0.8**
PSWS	**West Secondary**	**0.86**	**104**	*e*P	**Pn**	**01 05 05.0**	**-0.3**
PSWS				*e*S	**Sn**	**01 05 16.4**	**-1.6**
TRN	**Trinidad (W)**	**0.98**	**103**	*e*P	**Pn**	**01 05 06.8**	**0.0**
TRN				*e*S	**Sn**	**01 05 19.2**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.06**	**121**	*e*P	**Pn**	**01 05 09.2**	**+1.4**
TPP				*e*S	**Sn**	**01 05 22.4**	**+0.1**
GRFF	**Grenada Fort F**	**1.33**	**28**	*e*P	**Pn**	**01 05 10.8**	**-0.4**
GRFF				*e*S	**Sn**	**01 05 28.2**	**-0.2**
TBH	**Brigand Hill**	**1.34**	**106**	*e*P	**Pn**	**01 05 12.2**	**+0.8**
TBH				*e*S	**Sn**	**01 05 29.5**	**+0.9**
GRGR	**Grenville**	**1.44**	**29**	*e*P	**Pn**	**01 05 12.4**	**-0.3**
GRGR				*e*S	**Sn**	**01 05 31.1**	**+0.1**
GRW	**Mount Saint Ca**	**1.46**	**28**	*e*P	**Pn**	**01 05 14.5**	**+1.5**
GRW				*e*S	**Sn**	**01 05 32.1**	**+0.5**
GRHS	**Sauteurs**	**1.52**	**28**	*e*P	**Pn**	**01 05 14.1**	**+0.3**
GRHS				*e*S	**Sn**	**01 05 32.8**	**-0.1**
TPR	**Prospect**	**1.60**	**78**	*e*P	**Pn**	**01 05 15.1**	**+0.4**
TPR				*e*S	**Sn**	**01 05 34.8**	**+0.1**
GRSS	**Sisters**	**1.60**	**28**	*e*P	**Pn**	**01 05 14.9**	**0.0**
GRSS				*e*S	**Sn**	**01 05 34.9**	**0.0**
GCMP	**Grenada, Carri**	**1.85**	**30**	*e*P	**Pn**	**01 05 17.7**	**-0.5**
GCMP				*e*S	**Sn**	**01 05 39.7**	**-1.1**
PCRV	**Puerto La Cruz**	**2.33**	**253**	*e*P	**Pn**	**01 05 26.4**	**+1.8**
PCRV				*e*S	**Sn**	**01 05 52.6**	**+0.3**
PCRV	**Puerto La Cruz**	**2.33**	**253**	*e*P	**Pn**	**01 05 26.1**	**+1.5**
PCRV				*e*S	**Sn**	**01 05 54.8**	**+2.5**
SVB	**Belmont**	**2.63**	**25**	*e*P	**Pn**	**01 05 29.4**	**+0.8**
SVB				*e*S	**Sn**	**01 05 59.7**	**+0.2**
SLBI	**Saint Lucia, B**	**3.42**	**23**	*e*P	**Pn**	**01 05 40.1**	**+0.8**
SLBI				*e*S	**Sn**	**01 06 18.3**	**-0.4**
TACV	**Tcata**	**4.63**	**261**	*e*P	**Pn**	**01 05 56.6**	**+0.7**
TACV				*e*S	**Sn**	**01 06 47.6**	**-1.0**
BENV	**Beln**	**5.22**	**261**	*e*P	**Pn**	**01 06 05.0**	**+1.0**
BENV				*e*S	**Sn**	**01 07 00.5**	**-2.5**
CACV	**CAICARA DEL OR**	**5.26**	**232**	*e*P	Pn	01 05 58.9	-5.7
CACV				*e*S	Sn	01 06 52.2	-12
BAUV	**El Baul**	**5.90**	**252**	*e*P	**Pn**	**01 06 12.3**	**-1.0**
BAUV				*e*S	**Sn**	**01 07 16.1**	**-3.5**

*CATAC **31** 01:14:47.7±0.7, 13˚.N±3˚×88˚.9W±˚, h24km±5km, M3.0/11, MLv3.0/11, Error ellipse: s-maj=6.5km s-min=2.9km az=24.5, confirmed*
*SNET **31** 01:14:48.1±2.7, 12˚.74N×88˚.85W, h12km, ML2.9*
ISC 31 01:14:47.7±1.8, 12˚.70N±0˚.07×88˚.91W±0˚.04, h23km±15km, n39, σ0ˢ53/44, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.84**	**9**	P	**Pb**	**01 15 03.4**	**-0.3**
TECO	**Alcaldia de Te**	**0.84**	**9**	S	**Sn**	**01 15 15.3**	**-0.6**
RANC	**El Ranchito**	**0.95**	**40**	S	**Sb**	**01 15 17.7**	**0.0**
PACA	**Pacayal**	**0.95**	**37**	*e*P	**Pb**	**01 15 05.2**	**-0.4**
PACA				*e*S	**Sn**	**01 15 19.3**	**+0.5**
PACA	**Pacayal**	**0.95**	**37**	S	**Sn**	**01 15 18.7**	**-0.1**
PACA	**Pacayal**	**0.95**	**37**	P	**Pb**	**01 15 05.3**	**-0.4**
LOMA	**Loma Larga**	**0.97**	**345**	*e*P	**Pn**	**01 15 06.7**	**+0.6**
LOMA				*e*S	**Sn**	**01 15 19.2**	**-0.1**
LOMA	**Loma Larga**	**0.97**	**345**	P	**Pn**	**01 15 06.3**	**+0.2**
PQSS	**Presa 15 de Se**	**0.98**	**20**	S	**Sn**	**01 15 19.7**	**+0.4**
PAVA	**Las Pavas**	**1.01**	**359**	S	**Sn**	**01 15 20.2**	**+0.1**
PAVA	**Las Pavas**	**1.01**	**359**	P	**Pn**	**01 15 06.4**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.01**	**10**	S	**Sn**	**01 15 20.4**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.01**	**10**	P	**Pn**	**01 15 06.5**	**0.0**
UDBS	**Universidad Do**	**1.04**	**347**	S	**Sn**	**01 15 20.6**	**-0.2**
PMON	**Piamonte**	**1.08**	**339**	S	**Sn**	**01 15 21.8**	**-0.1**
PMON	**Piamonte**	**1.08**	**339**	P	**Pn**	**01 15 07.4**	**-0.2**
JAYA	**Jayaque - finc**	**1.08**	**331**	*e*P	**Pn**	**01 15 06.8**	**-0.8**
JAYA				*e*S	**Sn**	**01 15 21.8**	**-0.2**
JAYA	**Jayaque - finc**	**1.08**	**331**	P	**Pn**	**01 15 06.9**	**-0.8**
CEDA	**San Andres**	**1.19**	**337**	S	**Sb**	**01 15 24.6**	**-0.1**
CNCH	**Conchagua**	**1.20**	**61**	P	**Pn**	**01 15 09.4**	**+0.2**
CNCH	**Conchagua**	**1.20**	**61**	S	**Sb**	**01 15 25.9**	**+1.0**
CEVE	**Cerro Verde**	**1.32**	**328**	*e*P	**Pb**	**01 15 13.2**	**+1.2**
CEVE	**Cerro Verde**	**1.32**	**328**	S	**Sn**	**01 15 28.0**	**0.0**
CEVE	**Cerro Verde**	**1.32**	**328**	P	**Pn**	**01 15 10.8**	**-0.2**
CSGN	**Cosiguina Volc**	**1.35**	**78**	P	**Pb**	**01 15 12.0**	**-0.3**
CSGN				S	**Sb**	**01 15 29.2**	**+0.1**
UNIC	**Universidad Ca**	**1.42**	**334**	S	**Sn**	**01 15 30.4**	**+0.2**
NUBE	**Las Nubes**	**1.46**	**325**	*e*P	**Pn**	**01 15 12.6**	**-0.3**
NUBE				*e*S	**Sn**	**01 15 31.1**	**-0.4**
NUBE	**Las Nubes**	**1.46**	**325**	P	**Pn**	**01 15 12.6**	**-0.3**
NUBE	**Las Nubes**	**1.46**	**325**	S	**Sn**	**01 15 30.9**	**-0.6**
FAME	**Alcaldia de Sa**	**1.56**	**317**	S	**Sn**	**01 15 33.8**	**+0.1**
MARCA	**Marcala la Paz**	**1.68**	**30**	S	**Sb**	**01 15 38.0**	**-0.8**
MTO3	**Montecristo**	**1.74**	**346**	P	**Pn**	**01 15 17.2**	**+0.4**
MTO3	**Montecristo**	**1.74**	**346**	S	**Sn**	**01 15 38.9**	**+0.4**
CHOHN	**Orocuina**	**1.88**	**65**	P	**Pn**	**01 15 17.3**	**-1.2**
CHOHN	**Orocuina**	**1.88**	**65**	S	**Sn**	**01 15 41.6**	**+0.1**
CNGN	**Cerro Negro**	**2.17**	**95**	P	**Pn**	**01 15 22.9**	**+0.4**
CNGN	**Cerro Negro**	**2.17**	**95**	S	**Sn**	**01 15 48.0**	**-0.7**
YUSH	**Yuscaran**	**2.37**	**58**	P	**Pn**	**01 15 25.8**	**+0.6**
YUSH	**Yuscaran**	**2.37**	**58**	S	**Sn**	**01 15 54.9**	**+1.2**

*IDC **31** 01:15:04.6±2.8, 8˚.76S×119˚.33E, h143km±24km, mb3.6/7, mbtmp4.1/11, Error ellipse: s-maj=47.3km s-min=9.4km az=58.0*
*NEIC **31** 01:15:05.0±2.1, 8˚.7S±0˚.1×119˚.57E±0˚.06, h152km±11km, mb4.5/3, Error ellipse: s-maj=22.1km s-min=2.5km az=200.0*
*DJA **31** 01:15:07.3±0.9, 9˚S±2˚×12˚0E±˚, h22km±8km, M4.2/19, mb4.3/3, MLv4.2/19*
ISC 31 01:15:04.7±0.7, 8.77S±0˚.05×119˚.63E±0˚.04, h151km±7km, n43, σ2ˢ09/54, mb4.2/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.89**	**195**	P	**Pn**	**01 15 29.1**	**+0.3**
WBSI				S	**Sn**	**01 15 46.5**	**-0.8**
WSI	**Waingapu**	**1.11**	**143**	P	**Pn**	**01 15 31.4**	**+0.8**
WSI				S	**Sn**	**01 15 50.3**	**-0.1**
BASI	**Baing, Sumba**	**1.71**	**147**	P	**Pn**	**01 15 38.6**	**+1.9**
BASI				S	**Sn**	**01 16 02.7**	**+1.4**
PLAI	**Plampang**	**1.83**	**268**	P	**Pn**	**01 15 38.8**	**+0.8**
PLAI				S	**Sn**	**01 16 03.4**	**-0.1**
EDFI	**Ende, Flores**	**2.04**	**90**	P	**Pn**	**01 15 41.1**	**+0.6**
EDFI				S	**Sn**	**01 16 07.1**	**-0.8**
MMRI	**Maumere**	**2.58**	**87**	P	**Pn**	**01 15 48.5**	**+1.6**
MMRI	**Maumere**	**2.58**	**87**	P	**Pn**	**01 15 47.6**	**+0.7**
MMRI				S	**Sn**	**01 16 19.6**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.75**	**18**	P	**Pn**	**01 15 49.2**	**+0.2**
KAPI	**Kappang**	**3.74**	**2**	P	**Pn**	**01 16 02.9**	**+1.3**
	5.0nm,0.3s,baz=168,slow=8.0,SNR=5.7						
KAPI				S	**Sn**	**01 16 46.0**	**+0.2**
	3.5nm,0.3s,baz=48,slow=22,SNR=1.4						
BATI	**Baumata**	**4.23**	**110**	P	**Pn**	**01 16 10.7**	**+2.6**
	46nm,0.3s,baz=42,slow=0.6,SNR=13						
BATI				S	**Sn**	**01 16 57.1**	**-0.2**
	191nm,0.3s,baz=332,slow=23,SNR=20						
BATI	**Baumata**	**4.23**	**110**	P	**Pn**	**01 16 10.0**	**+2.0**
BNSI	**Bone**	**4.37**	**6**	P	**Pn**	**01 16 11.3**	**+1.4**
BBSI	**Bau Bau**	**4.38**	**42**	P	**Pn**	**01 16 11.2**	**+1.2**
SRBI	**Singaraja**	**4.42**	**279**	P	**Pn**	**01 16 11.2**	**+0.7**
SOEI	**Soe**	**4.68**	**102**		**Pn**	**01 16 15.9**	**+1.9**
SOEI	**Soe**	**4.68**	**102**	P	**Pn**	**01 16 15.7**	**+1.6**
SPSI	**Sidrap Palu**	**4.78**	**2**	P	**Pn**	**01 16 16.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.42**	**273**	Pn	**Pn**	**01 16 22.2**	**-1.6**
JAGI	**Jajag, Banyuwa**	**5.42**	**273**	P	**Pn**	**01 16 21.4**	**-2.4**
ABJI	**Asem Bagus**	**5.43**	**280**	P	**Pn**	**01 16 24.5**	**+0.7**
	0.3nm73nm,1.2s						
GMJI	**Gumukmas**	**6.14**	**274**	P	**Pn**	**01 16 33.7**	**+0.4**
	0.2nm21nm,0.9s						
UGM	**Wanagama**	**9.05**	**275**	Pn	**Pn**	**01 17 11.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.96**	**148**		**Pn**	**01 17 39.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**10.96**	**148**	P	**Pn**	**01 17 39.4**	**+2.0**
	9.2nm,0.7s,baz=337,slow=8.6,SNR=36						
FITZ				S	**Sn**	**01 19 35.4**	**-3.2**
	18nm,0.5s,baz=219,slow=21,SNR=12						
KNRA	**Kununurra**	**11.26**	**128**		**Pn**	**01 17 42.5**	**+1.2**
MTN	**Manton Dam**	**12.00**	**111**		**Pn**	**01 17 51.0**	**-0.1**
FAKI	**Fak Fak**	**13.83**	**66**	Pn	**Pn**	**01 18 13.6**	**-1.0**
WRA	**Warramunga Arr**	**18.05**	**130**	P	**Pn**	**01 19 06.5**	**+0.3**
	1.6nm,0.6s,baz=302,slow=13,SNR=16						
WRA				S	**S**	**01 22 15.2**	**-8.5**
	3.7nm,0.7s,baz=298,slow=23,SNR=9.3						
ASAR	**Alice Springs**	**20.15**	**139**	P	**P**	**01 19 28.1**	**+0.7**
ASAR	**Alice Springs**	**20.15**	**139**	P	**P**	**01 19 29.2**	**+1.8**
	4.7nm,0.5s,baz=322,slow=12,SNR=76						
ASAR				S	**S**	**01 23 12.8**	**+7.3**
	1.7nm,0.7s,baz=313,slow=24,SNR=8.2						
	4.7nm,0.5s						
COEN	**Coen**	**23.64**	**105**	P	**P**	**01 20 01.2**	**-1.2**
COEN				IAmb	IAmb	01 20 08.8	
	comp=Z,10nm,0.6s						
CMAR	**Chiang Mai Arr**	**33.89**	**323**	P	**P**	**01 21 33.9**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=135,slow=8.7,SNR=4.9						
	comp=Z,1.0nm,0.6s						
XLT	**XiLinHaoTe**	**52.52**	**357**	*e*P	**P**	**01 24 06.5**	**+4.1**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SONM	**Songino Array**	**57.57**	**349**	P	**P**	**01 24 37.9**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=164,slow=9.2,SNR=5.9						
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**64.54**	**333**	P	**P**	**01 25 25.5**	**0.0**
MKAR	**Makanchi Array**	**64.54**	**333**	P	**P**	**01 25 25.7**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=147,slow=7.7,SNR=21						
	comp=Z,2.0nm,0.5s						
ARSB	**Arslanbob**	**65.71**	**323**	P	**P**	**01 25 33.8**	**+0.4**
ARSB				IAmb	IAmb	01 25 34.4	
	comp=Z,4.9nm,1.0s						
CHGR	**Chuyangaron**	**66.53**	**319**	P	**P**	**01 25 37.2**	**-1.3**
CHGR				IAmb	IAmb	01 25 41.3	
	comp=Z,18nm,1.5s						
KURBB	**Kurchatov Arra**	**69.04**	**333**	P	**P**	**01 25 53.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=134,slow=5.3,SNR=1.7						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**69.05**	**339**	P	**P**	**01 25 53.4**	**-0.4**
ZALV	**Zalesovo Beam**	**69.05**	**339**	P	**P**	**01 25 53.3**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=129,slow=4.5,SNR=8.1						
	comp=Z,1.5nm,0.4s						
BVAR	**Borovoye Array**	**74.39**	**332**	P	**P**	**01 26 26.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=101,slow=7.5,SNR=3.0						
	comp=Z,0.3nm,0.5s						
ABKAR	**Akbulak array**	**77.73**	**325**	P	**P**	**01 26 44.3**	**-0

NUBE	**Las Nubes**	**1.54**	**95**	*eP*	**Pn**	**02 05 49.1**	**0.0**
NUBE				*i* S	**Sn**	**02 06 08.0**	**-0.1**
NUBE	**Las Nubes**	**1.54**	**95**	P	**Pn**	**02 05 49.5**	**+0.4**
CEVE	**Cerro Verde**	**1.70**	**97**	*eP*	**Pn**	**02 05 52.1**	**+0.7**
CEVE				*eS*	**Sn**	**02 06 13.7**	**+1.6**
CEVE	**Cerro Verde**	**1.70**	**97**	P	**Pn**	**02 05 51.7**	**+0.3**
JAYA	**Jayaque - finc**	**1.90**	**101**	*eP*	**Pn**	**02 05 54.3**	**+0.3**
JAYA				*eS*	**Sn**	**02 06 17.6**	**+0.7**
JAYA	**Jayaque - finc**	**1.90**	**101**	*i* P	**Pn**	**02 05 54.3**	**+0.3**
JAYA				*i* S	**Sn**	**02 06 17.0**	**+0.1**
JAYA	**Jayaque - finc**	**1.90**	**101**	P	**Pn**	**02 05 54.0**	**0.0**
CCIG	**Comitan**	**2.36**	**342**	*i* P	**Pn**	**02 06 01.0**	**+0.7**
CCIG				IAML		02 06 42.2	
	comp=E,130nm,0.4s						

*SOME **31** 02:09:51.5, 40˚.40N × 82˚.68E, h10km, MS4.4*
*IDC **31** 02:09:55.6±1.4, 41˚.05N × 83˚.25E, h0km, mb3.8/4, mbtmp3.6/9, ML2.8/4, MS3.0/12, Error ellipse: s-maj=23.4km s-min=15.3km az=73.0*
*NNC **31** 02:10:00.7±3.0, 41˚.11N × 83˚.31E, h12km±12km, mb4.2, mpv4.0, Error ellipse: s-maj=21.9km s-min=15.8km az=129.0*

ISC 31 02:09:58.0±0.8, 41˚.06N±0˚.06 × 83˚.14E±0˚.04, h10km, n38, σ3§17/53, mb3.9/5, MS3.1/8, 6C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.45**	**309**	*eP*	**Pn**	**02 10 54.3**	**+2.4**
	134nm,0.8s						
SHLS				*eS*	**Sb**	**02 11 40.3**	**-0.9**
	416nm,0.5s						
PDGK	**Podgornoye**	**3.54**	**311**	⇓P	**Pn**	**02 10 53.9**	**+0.8**
	15nm,0.7s						
PDGK				⇓Pg	**Pg**	**02 11 06.4**	**+0.6**
	81nm,0.6s						
PDGK				⇑Lg	Lg	02 11 53.7	
	132nm,0.6s						
WMQ	**Urumqi**	**4.36**	**49**	Pn	**Pn**	**02 11 07.3**	**+3.0**
WMQ				Sn	**Sn**	**02 12 01.0**	**+5.9**
WMQ				smax	smax		
	comp=N,140nm,0.9s						
WMQ				smax	smax		
	comp=E,190nm,1.1s						
KOTS	**Kotyrbulak**	**4.98**	**298**	*eP*	**Pb**	**02 11 25.7**	**+0.4**
	comp=E,25nm,0.8s						
KOTS				*eS*	**Sg**	**02 12 34.9**	**-3.1**
	comp=E,193nm,0.8s						
TNSS	**Tian-Shan**	**5.02**	**295**	*eP*	**Pb**	**02 11 26.9**	**+0.8**
	comp=E,3.7nm,0.7s						
TNSS				*eS*	**Sg**	**02 12 36.2**	**-3.0**
	comp=E,27nm,0.9s						
ARXS	**Arharly**	**5.03**	**311**	*eP*	**Pb**	**02 11 27.6**	**+1.5**
ARXS				*eS*	**Sg**	**02 12 35.9**	**-3.6**
KNDC	**Almaty**	**5.08**	**297**	⇓Pn	Pn	02 11 18.9	+4.7
	comp=E,21nm,0.4s						
KNDC				⇓Pg	**Pg**	**02 11 35.9**	**+0.7**
	comp=E,69nm,0.7s						
KNDC				⇓Lg	Lg	02 12 46.6	
	comp=E,78nm,0.6s						
CHKK	**Chushkaly**	**5.34**	**304**	*eP*	**Pb**	**02 11 31.4**	**0.0**
	comp=E,5.9nm,1.2s						
CHKK				*eS*	**Sg**	**02 12 44.3**	**-5.1**
	comp=E,69nm,0.6s						
MTBS	**Maitube**	**5.41**	**295**	*eP*	**Pb**	**02 11 32.4**	**-0.2**
	comp=E,13nm,0.6s						
MTBS				*eS*	**Sg**	**02 12 45.8**	**-5.8**
	comp=E,35nm,0.6s						
KSH	**Kashi**	**5.69**	**257**	Pg	Pn	02 11 27.5	+4.8
KSH				Sg	Pg	02 11 51.5	+4.5
KSH				smax	smax		
	comp=N,14nm,0.8s						
KSH				smax	smax		
	comp=E,23nm,0.8s						
KST	**Kastek**	**5.70**	**293**	*eP*	**Pb**	**02 11 36.6**	**-0.9**
	comp=E,13nm,0.6s						
KST				*eS*	**Sg**	**02 12 53.9**	**-7.1**
	comp=E,124nm,1.1s						
MKAR	**Makanchi Array**	**5.77**	**354**	Pn	**Pn**	**02 11 25.0**	**+1.4**
	comp=E,0.8nm,0.3s,baz=177,slow=13,SNR=28						
MKAR				Pg	**Pb**	**02 11 40.6**	**+1.9**
	comp=E,1.8nm,0.3s,baz=174,slow=15,SNR=7.3						
MKAR				Sn	**Sn**	**02 12 32.4**	**+2.5**
	comp=E,4.1nm,0.3s,baz=180,slow=23,SNR=7.5						
MKAR				Lg	Lg	02 13 01.0	
	comp=E,8.5nm,0.3s,baz=177,slow=25,SNR=5.2						
MKAR				LR	LR	02 13 56.7	
	comp=E,52nm,21.1s,baz=162,slow=42						
	comp=E,2.2nm,0.5s						
MK31	**Makanchi Array**	**5.77**	**354**	⇓Pn	**Pn**	**02 11 25.3**	**+1.7**
	comp=E,1.8nm,0.5s,baz=184,slow=12,SNR=94						
MK31				⇓Pg	**Pg**	**02 11 45.9**	**-2.5**
	comp=E,3.1nm,0.5s,baz=192,slow=14,SNR=12						
MK31				⇓Sn	**Sn**	**02 12 32.3**	**+2.5**
	comp=E,17nm,0.7s,baz=236,slow=57,SNR=2.9						
MK31				⇑Lg	Lg	02 13 02.3	
	comp=E,25nm,0.6s,baz=172,slow=25,SNR=4.2						
KUU	**Kurty**	**5.77**	**302**	*eP*	**Pb**	**02 11 38.5**	**-0.3**
	comp=E,17nm,1.1s						
KUU				*eS*	**Sg**	**02 12 56.2**	**-7.0**
	comp=E,61nm,0.8s						
MAKZ	**Makanchi**	**5.81**	**352**	Pn	**Pn**	**02 11 25.4**	**+1.2**
	comp=E,1.5nm,0.6s						
MAKZ				Pg	Pb	02 11 45.6	+6.2
	comp=E,4.6nm,0.7s						
MAKZ				Sn	**Sn**	**02 12 33.3**	**+2.4**
	comp=E,16nm,0.7s						
MAKZ				Lg	Lg	02 13 00.4	
	comp=E,39nm,0.8s						
AAK	**Ala-Archa**	**6.65**	**287**	Pg	Pb	02 11 58.9	+5.2
	comp=E,1.2nm,0.3s,baz=127,slow=12,SNR=4.9						
AAK				Sn	**Sn**	**02 12 57.2**	**+5.5**
	comp=E,1.4nm,0.3s,baz=79,slow=3.0,SNR=3.8						
AAK				Lg	Lg	02 13 38.3	
	comp=E,2.8nm,0.3s,baz=1.1,slow=22,SNR=6.9						
AAK				LR	LR	02 14 28.3	
	comp=E,80nm,18.1s,baz=116,slow=40						
AAK	**Ala-Archa**	**6.65**	**287**	⇓Pg	**Pg**	**02 12 06.8**	**+1.5**
	comp=E,76nm,0.6s						
AAK				⇑Lg	Lg	02 13 36.5	
	comp=E,245nm,0.7s						
MRKS	**Merke**	**7.59**	**286**	*eP*	**Pb**	**02 12 13.4**	**+3.8**
	comp=E,4.6nm,1.0s						
MRKS				*eS*	**Sg**	**02 13 56.1**	**-5.3**
	comp=E,12nm,0.8s						
BTLS	**Baital**	**7.76**	**304**	*eP*	Pg	02 12 19.8	-6.7
	comp=E,3.8nm,1.0s						
BTLS				*eS*	**Sg**	**02 14 07.9**	**+1.0**
	comp=E,11nm,0.9s						
KK31	**Karatay Array**	**9.61**	**286**	⇑Pg	Pn	02 12 59.6	+43
	comp=E,1.6nm,0.5s,baz=91,slow=16,SNR=2.5						
KK31				⇓Lg	Lg	02 15 10.4	
	comp=E,9.4nm,0.7s,baz=95,slow=25,SNR=6.6						
KURBB	**Kurchatov Arra**	**10.09**	**343**	Pn	**Pn**	**02 12 21.8**	**-1.0**
	baz=167,slow=12,SNR=7.0						
KURBB				Sn	**Sn**	**02 14 15.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=150,slow=22,SNR=2.5						
KURBB				Lg	Lg	02 15 24.9	
	comp=E,0.1nm,0.3s,baz=197,slow=26,SNR=4.6						
	comp=E,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**10.09**	**343**	⇓Pn	**Pn**	**02 12 25.7**	**+2.9**
	comp=E,2.0nm,0.8s						
KURBB				⇑Sn	**Sn**	**02 14 22.9**	**+6.9**
	comp=E,14nm,0.7s						
KURBB				⇓Lg	Lg	02 15 21.9	
	comp=E,40nm,1.2s						
KURK	**Kurchatov**	**10.16**	**343**	⇓Pn	**Pn**	**02 12 27.6**	**+3.8**
	comp=E,2.4nm,0.8s						
KURK				⇓Sn	**Sn**	**02 14 21.7**	**+4.1**
	comp=E,13nm,0.9s						
KURK				⇑Lg	Lg	02 15 22.2	
	comp=E,50nm,1.0s						
ZALV	**Zalesovo Beam**	**12.95**	**4**	Pn	**Pn**	**02 13 01.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=193,slow=12,SNR=6.7						
ZALV				Sn	**Sn**	**02 15 25.8**	**-0.1**
	comp=E,0.2nm,0.3s,baz=174,slow=28,SNR=1.5						
ZALV				Lg	Lg	02 16 49.8	
	comp=E,0.2nm,0.3s,baz=183,slow=24,SNR=1.3						
ZALV				LR	LR	02 17 30.6	
	comp=E,17nm,18.5s,baz=174,slow=35						
	comp=E,1.1nm,0.4s						
BVAR	**Borovoye Array**	**14.77**	**328**	Pn	**Pn**	**02 13 25.2**	**-1.6**
	baz=131,slow=10,SNR=18						
BVAR				LR	LR	02 19 32.7	
	comp=E,97nm,18.8s,baz=131,slow=39						
	comp=E,0.4nm,0.5s						
SONM	**Songino Array**	**17.89**	**60**	P	**Pn**	**02 14 05.3**	**-1.7**
	comp=E,0.7nm,0.6s,baz=246,slow=11,SNR=4.8						
SONM				LR	LR	02 21 36.0	
	comp=E,71nm,18.4s,baz=254,slow=39						
BTO	**Baotou**	**20.32**	**82**	*eP*	**P**	**02 14 32.0**	**-2.2**
BTO				PP	**PnPn**	**02 14 53.0**	**+2.1**
BTO				S	**S**	**02 18 16.5**	**-5.5**
BTO				SS	**SnSn**	**02 18 36.0**	**-3.5**
BTO				pmax	pmax		
	comp=Z,12nm,0.8s						
BTO				pmax	pmax		
	comp=Z,130nm,3.9s						
BTO				LR	LR		
	comp=N,210nm,10.3s						
BTO				LR	LR		
	comp=E,120nm,3.5s						
BTO				LR	LR		
	comp=Z,100nm,5.6s						
XAN	**Xi'an**	**21.56**	**101**	P	**P**	**02 14 47.8**	**+0.2**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ARTI	**Arti**	**22.23**	**322**	P	**P**	**02 14 54.4**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=132,slow=6.5,SNR=6.8						
ARTI				LR	LR	02 24 17.6	
	comp=Z,48nm,21.3s,baz=116,slow=39						
	comp=Z,2.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**26.29**	**144**	P	**P**	**02 15 32.7**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=318,slow=10.0,SNR=5.8						
	comp=Z,0.9nm,0.3s						
BRTR	**Keskin Array B**	**37.32**	**285**	P	**P**	**02 17 09.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=97,slow=8.1,SNR=3.6						
	comp=Z,0.5nm,0.6s						
TIXI	**Tiksi**	**38.02**	**22**	LR	LR	02 32 21.7	
	comp=Z,21nm,19.7s,baz=195,slow=35						
FINES	**FINESS Array B**	**39.52**	**321**	P	**P**	**02 17 28.3**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=100,slow=7.9,SNR=3.3						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**40.99**	**333**	LR	LR	02 34 26.1	
	comp=Z,26nm,19.3s,baz=120,slow=36						
ASAJ	**Asahikawa**	**43.05**	**65**	LR	LR	02 36 57.6	
	comp=Z,38nm,18.6s,baz=32,slow=38						
SEY	**Seymchan**	**45.22**	**37**	LR	LR	02 38 27.2	
	comp=Z,31nm,19.2s,baz=316,slow=38						
HFS	**Hagfors**	**45.63**	**319**	LR	LR	02 37 38.4	
	comp=Z,12nm,19.5s,baz=74,slow=36						
NOA	**NORSAR Array B**	**46.71**	**321**	LR	LR	02 39 17.6	
	comp=Z,19nm,20.7s,baz=185,slow=38						

IDC 31 02:10:43.9±2.5, 3˚.90S × 127˚.98E, h0km, mb3.4/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=208.8km s-min=30.4km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.11**	**159**	P	P	02 14 45.6	-0.8
	0.1nm,0.3s,baz=341,slow=13,SNR=3.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**20.47**	**164**	P	P	02 15 23.0	-0.4
	0.8nm,0.3s,baz=349,slow=12,SNR=11						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**64.54**	**327**	P	P	02 21 22.8	0.0
	0.3nm,0.7s,baz=123,slow=5.3,SNR=2.1						
	0.3nm,0.7s						

NEIC 31 02:43:06.5±0.7, 37˚.27N±0˚.01 × 104˚.91W±0˚.03, h8km±8km, ML1.9/10, Error ellipse: s-maj=3.2km s-min=1.5km az=75.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.42**	**108**		Pg	02 43 15.4	+0.7
T25A				Sg	Sg	02 43 21.1	+0.9
T25A				IAML		02 43 21.4	
	comp=E,116nm,0.6s						
T25A				IAML		02 43 21.7	
	comp=N,71nm,0.2s						
SDCO	**Great Sand Dun**	**0.67**	**316**		Pg	02 43 19.0	-0.5
S22A	**4UR Ranch, Cre**	**1.60**	**288**	Pn	Pb	02 43 36.3	-0.2
S22A					Sn	02 43 56.2	0.0
Q24A	**Divide**	**1.71**	**354**		Pb	02 43 38.0	-0.2
RTBA	**Rita Blanca**	**1.93**	**115**	Pn	Pn	02 43 39.5	-0.1
KSCO	**Kaye Shedlock'**	**2.50**	**45**	Pn	Pn	02 43 47.0	-0.6
ISCO	**Idaho Springs**	**2.59**	**348**	Pn	Pn	02 43 49.1	+0.2
MVCO	**Mesa Verde**	**2.87**	**270**	Pn	Pn	02 43 52.2	-0.5
PV18	**Skein Mesa, Pa**	**3.32**	**288**	Pn	Pn	02 43 58.9	+0.1

GCG 31 02:58:42.2±1.1, 15˚.60N × 91˚.15W, h3km±6km, MD3.8, ML2.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QUIS	**Sacapulas**	**0.31**	**170**	*i* P	Pg	02 58 49.0	+0.8
QUIS				*i* S	Sb	02 58 55.5	-0.4
QUIS				IAML		02 58 57.6	
	comp=N,2μm,0.3s						
HUEH	**Huehuetenango**	**0.44**	**231**	*i* P	Pb	02 58 52.3	-0.4
HUEH				*i* S	Sb	02 58 59.7	-0.2
HUEH				IAML		02 59 13.5	
	comp=N,997nm,0.4s						
CCIG	**Comitan**	**1.17**	**306**	*i* P	Pg	02 59 04.3	-0.4
CCIG				*i* S	Sn	02 59 22.3	0.0
CCIG				IAML		02 59 25.3	
	comp=E,129nm,0.4s						
PETF	**Flores**	**1.80**	**43**	*i* P	Pn	02 59 09.4	-4.7
PETF				*i* S	Sn	02 59 31.8	-5.7
NUBE	**Las Nubes**	**2.14**	**142**	*i* P	Pn	02 59 19.1	+0.1
TGIG		**2.23**	**302**	*i* P	Pn	02 59 19.8	-0.3
TGIG				*i* S	Sb	02 59 49.9	-1.4
TGIG				IAML		02 59 57.1	
	comp=N,63nm,0.8s						
SARH	**Santa Rosa de**	**2.45**	**109**	*i* P	Pn	02 59 23.5	+0.3
SARH				*i* S	Sn	02 59 54.9	+1.4

*IDC **31** 03:00:31.3±2.5, 47˚.88N × 155˚.50E, h0km, mb3.9/7, mbtmp3.8/8, ML2.3/1, MS2.6/2, Error ellipse: s-maj=62.0km s-min=32.7km az=174.0*

ISC 31 03:00:38.5±1.7, 48˚.3N±0˚.2 × 155˚.5E±0˚.2, h35km, n9, σ1§30/9, mb4.0/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.03**	**15**	Pn	**Pn**	**03 01 52.9**	**+1.6**
	0.5nm,0.3s,baz=180,slow=13,SNR=13						
PETK				Sn	**Sn**	**03 02 46.4**	**-1.8**
	baz=240,slow=24						
PETK				LR	LR	03 04 19.1	
	comp=Z,62nm,21.0s,baz=169,slow=42						
	1.2nm,0.4s						
MA2	**Magadan**	**11.65**	**348**	LR	LR	03 08 30.2	
	comp=Z,28nm,19.5s,baz=104,slow=40						
MKAR	**Makanchi Array**	**47.69**	**297**	P	**P**	**03 09 10.6**	**-0.8**
	0.8nm,0.6s,baz=70,slow=6.8,SNR=9.1						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**47.97**	**303**	P	**P**	**03 09 12.7**	**-0.7**
	0.7nm,0.2s,baz=64,slow=8.4,SNR=5.0						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**51.15**	**309**	P	**P**	**03 09 37.4**	**-0.2**
	0.6nm,0.4s,baz=76,slow=8.2,SNR=2.2						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**63.34**	**335**	P	**P**	**03 11 03.8**	**+0.4**
	2.0nm,1.0s,baz=32,slow=7.6,SNR=4.8						
	2.0nm,1.0s						
NOA	**NORSAR Array B**	**67.29**	**342**	P	**P**	**03 11 30.1**	**+1.0**
	0.5nm,0.6s,baz=25,slow=6.4,SNR=1.7						
	0.5nm,0.6s						
HFS	**Hagfors**	**67.58**	**340**	P	**P**	**03 11 32.0**	**+1.1**
	2.0nm,0.8s,baz=35,slow=6.0,SNR=6.4						
	2.0nm,0.8s						
TXAR	**Lajitas Array**	**75.33**	**62**	P	**P**	**03 12 17.4**	**-0.9**
	0.2nm,0.7s,baz=323,slow=6.1,SNR=3.4						
	0.2nm,0.7s						

IDC 31 03:04:55.5±2.6, 8˚.03S × 108˚.21E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=154.9km s-min=27.4km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.94**	**118**	P	P	03 10 47.7	-0.1
	0.1nm,0.3s,baz=290,slow=11,SNR=6.3						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**29.12**	**125**	P	P	03 10 59.2	+0.8
	0.1nm,0.4s,baz=313,slow=9.5,SNR=1.4						
	0.1nm,0.4s						
STKA	**Stephens Creek**	**39.07**	**132**	P	P	03 12 23.8	-0.6
	2.2nm,0.6s,baz=326,slow=9.7,SNR=5.0						
	2.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.27**	**221**	T	T	04 22 26.9	
	baz=71,slow=74,SNR=18						
H04N1	**CROZET ISLANDS**	**61.29**	**221**	T	T	04 22 30.8	
	baz=71,slow=74,SNR=16						
H04N3	**CROZET ISLANDS**	**61.29**	**221**	T	T	04 22 26.9	
	baz=71,slow=74,SNR=17						
BVAR	**Borovoye Array**	**68.78**	**337**	P	P	03 16 01.3	0.0
	1.0nm,0.5s,baz=128,slow=6.4,SNR=4.8						
	1.0nm,0.5s						

*IDC **31** 03:10:18.9±0.6, 19˚.42N × 144˚.53E, h0km, mb4.2/21, mbtmp4.1/22, ML2.6/1, MS3.3/39, Error ellipse: s-maj=22.4km s-min=14.3km az=83.0*
*NEIC **31** 03:10:22.1±1.7, 19˚.53N±0˚.07 × 144˚.4E±0˚.1, h10km±1km, mb4.8/103, Error ellipse: s-maj=24.7km s-min=6.8km az=246.0*

ISC 31 03:10:20.7±0.5, 19˚.46N±0˚.09 × 144˚.47E±0˚.10, h10km, n363, σ0§71/299, mb4.8/60, MS3.4/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**14.21**	**344**	*e*LR	LR	03 16 58.2	
	28nm,29.6s						
JHJ	**Hachijo jima 2**	**14.23**	**344**	LR	LR	03 17 40.4	
	comp=Z,41nm,20.1s,baz=88,slow=31						
JOW	**Kunigami**	**16.59**	**299**	*e*LR	LR	03 17 54.6	
	402nm,25.4s						
JOW	**Kunigami**	**16.59**	**299**	LR	LR	03 19 45.3	
	comp=Z,127nm,20.2s,baz=0.5,slow=34						
MJAR	**Matsushiro Arr**	**17.88**	**343**		**Pn**	**03 14 25.7**	**-4.0**
MJAR	**Matsushiro Arr**	**17.88**	**343**	P	**P**	**03 14 30.7**	**+0.4**
	baz=167,slow=9.7,SNR=4.2						
MJAR				LR	LR	03 21 00.0	
	comp=Z,40nm,18.8s,baz=156,slow=36						
	1.8nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**21.04**	**89**	T	T	03 37 02.8	
	baz=276,slow=75,SNR=909						
H11S1	**WAKE ISLAND Hy**	**21.05**	**89**	T	T	03 36 53.1	
	baz=276,slow=75,SNR=388						
H11S2	**WAKE ISLAND Hy**	**21.05**	**89**	T	T	03 36 53.6	
	baz=276,slow=75,SNR=533						
H11N1	**WAKE ISLAND Hy**	**21.13**	**86**	T	T	03 37 02.8	
	baz=273,slow=75,SNR=42						
H11N2	**WAKE ISLAND Hy**	**21.14**	**86**	T	T	03 37 10.4	
	baz=273,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**21.15**	**86**	T	T	03 37 08.8	
	baz=273,slow=75,SNR=35						
DAV	**Davao City (W)**	**22.09**	**239**	LR	LR	03 21 59.5	
	comp=Z,179nm,21.3s,baz=29,slow=32						
KSRS	**Korea Array**	**23.02**	**325**	P	**P**	**03 15 27.2**	**+1.3**
	7.1nm,1.1s,baz=141,slow=8.8,SNR=13						
	7.1nm,1.1s						
KSAR	**Wonju Array Be**	**23.03**	**325**	P	**P**	**03 15 28.2**	**+2.1**
ASAJ	**Asahikawa**	**24.63**	**357**	LR	LR	03 28 02.3	
	comp=Z,19nm,18.0s,baz=124,slow=43						
USRK	**Ussuriysk Ar.**	**26.78**	**340**	P	**P**	**03 16 00.9**	**+0.1**
	2.1nm,0.8s,baz=163,slow=10,SNR=5.4						
USRK				LR	LR	03 25 58.9	
	comp=Z,43nm,20.3s,baz=129,slow=35						
	2.1nm,0.8s						
PMG	**Port Moresby**	**28.81**	**174**	LR	LR	03 27 18.3	
	comp=Z,63nm,18.6s,baz=206,slow=35						
HNR	**Honiara**	**32.51**	**151**	LR	LR	03 30 38.2	
	comp=Z,66nm,18.1s,baz=350,slow=38						
HEH	**HeiHe**	**33.59**	**340**	*eP*	**P**	**03 17 01.3**	**+0.3**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KAPI	**Kappang**	**34.40**	**228**	LR	LR	03 30 15.8	
	comp=Z,43nm,21.8s,baz=69,slow=35						
PETK	**Petropavlovsk-**	**35.12**	**14**	P	**P**	**03 17 16.0**	**+1.8**
	comp=Z,1.2nm,0.8s,baz=212,slow=6.5,SNR=3.6						
PETK				LR	LR	03 29 42.7	
	comp=Z,64nm,21.8s,baz=195,slow=33						
	comp=Z,1.2nm,0.8s						
SBUM	**Sibu**	**35.77**	**246**	P	**P**	**03 17 20.5**	**+0.3**
MA2	**Magadan**	**40.32**	**5**	LR	LR	03 31 47.8	
	comp=Z,15nm,20.6s,baz=269,slow=32						
SHEM	**Shemya Is, Ala**	**40.39**	**28**	LR	LR	03 32 27.9	
	comp=Z,77nm,20.4s,baz=124,slow=33						
WRA	**Warramunga Arr**	**40.40**	**195**	P	**P**	**03 17 57.5**	**-1.7**
	comp=Z,2.9nm,1.0s,baz=9.0,slow=9.0,SNR=7.0						
WRA				PcP	**PcP**	**03 20 03.1**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=5.3,slow=3.6,SNR=8.1						
	comp=Z,2.9nm,1.0s						
SONM	**Songino Array**	**41.82**	**321**	P	**P**	**03 18 10.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=119,slow=1.8,SNR=1.2						
SONM				LR	LR	03 35 42.6	
	comp=Z,36nm,19.2s,baz=107,slow=36						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.97**	**276**	P	**P**	**03 18 21.8**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=72,slow=8.5,SNR=4.1						
CMAR				LR	LR	03 35 41.4	
	comp=Z,31nm,19.5s,baz=80,slow=35						
	comp=Z,0.7nm,0.3s						
JOHN	**Johnston Islan**	**43.72**	**86**	*e*S	S	03 24 44.8	-12
	comp=Z,52nm,26.6s						
JOHN				*e*LR	LR	03 30 32.1	
	comp=Z,211nm,31.7s						
SEY	**Seymchan**	**43.78**	**5**	LR	LR	03 38 50.5	
	comp=Z,20nm,18.4s,baz=180,slow=39						
ASAR	**Alice Springs**	**44.09**	**194**	P	**P**	**03 18 30.0**	**+0.7**
ASAR	**Alice Springs**	**44.09**	**194**	P	**P**	**03 18 28.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=10,slow=7.3,SNR=6.1						
ASAR				PcP	**PcP**	**03 20 14.6**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=9.4,slow=3.2,SNR=8.2						
ASAR				LR	LR	03 35 39.3	
	comp=Z,67nm,21.8s,baz=5.5,slow=34						
	comp=Z,0.6nm,0.8s						
LEM	**Lembang**	**44.71**	**238**	LR	LR	03 37 31.1	
	comp=Z,49nm,21.1s,baz=328,slow=36						
DZM	**Mont Dzumac**	**46.54**	**151**	*e*LR	LR	03 31 54.4	
	comp=Z,75nm,27.9s						
NIKH	**Nikolski High**	**49.06**	**36**	P	**P**	**03 19 07.7**	**-0.2**
	baz=245						
BRDH	**Bariadhala**	**49.19**	**284**	LR	LR	03 42 04.9	
	comp=Z,54

baz=247
N15K **Kwethluk River** 56.33 30 P P 03 20 01.4 -0.2
baz=249
K15K **Wolf Creek Mou** 56.50 27 P P 03 20 02.5 -0.3
baz=246
G15K **Niukluk** 56.67 23 P P 03 20 04.4 +0.5
baz=242
ZALV **Zalesovo Beam** 56.70 322 P P 03 20 04.5 +0.1
ZALV **Zalesovo Beam** 56.70 322 P P 03 20 04.2 -0.2
comp=Z,2.0nm,0.7s,baz=97,slow=6.6,SNR=7.4
ZALV LR LR 03 44 45.8
comp=Z,20nm,19.8s,baz=72,slow=36
comp=Z,2.0nm,0.7s
R16K **Pilot Point** 56.72 33 P P 03 20 04.2 -0.2
baz=253
F15K **North Star Dit** 56.78 23 P P 03 20 04.8 0.0
baz=241
P16K **Nushagak River** 56.95 31 P P 03 20 05.5 -0.6
baz=252
N16K **Nishlik Lake** 57.05 30 P P 03 20 06.3 -0.5
baz=250
O16K **Kokwok River B** 57.08 31 P P 03 20 06.4 -0.6
baz=251
MKAR **Makanchi Array** 57.09 314 P P 03 20 07.8 +0.4
MKAR **Makanchi Array** 57.09 314 P P 03 20 08.3 +0.9
comp=Z,0.6nm,0.6s,baz=90,slow=9.7,SNR=5.4
MKAR PcP PcP 03 21 02.6 +0.4
comp=Z,1.2nm,0.9s,baz=120,slow=4.3,SNR=5.1
comp=Z,0.6nm,0.6s
M16K **Timber Creek** 57.16 29 P P 03 20 07.4 -0.1
baz=250
L16K **Owhat River** 57.17 28 P P 03 20 07.3 -0.2
baz=249
H16K **Elim** 57.19 24 P P 03 20 07.4 -0.3
baz=244
J16K **Anvik River** 57.28 26 P P 03 20 07.6 -0.8
baz=247
CHIR **Chirikof Islan** 57.29 35 P P 03 20 07.9 -0.6
baz=256
R17L **Mt. Peulik Vol** 57.37 33 P P 03 20 08.3 -0.8
baz=254
G16K **Koyuk River** 57.48 23 P P 03 20 09.3 -0.4
baz=244
I17K **Unalakleet** 57.49 25 P P 03 20 09.0 -0.8
baz=246
Q16K **King Salmon** 57.51 32 P P 03 20 08.6 -1.4
baz=253
O17K **Koliganek Bris** 57.62 31 P P 03 20 10.3 -0.5
baz=252
P17K **Kvichak River** 57.77 31 P P 03 20 11.3 -0.5
baz=253
Q17K **Contact Creek** 57.78 33 P P 03 20 11.4 -0.7
baz=254
N17K **Nushagak Hills** 57.81 30 P P 03 20 11.6 -0.5
baz=252
C16K **Lisburne Hills** 57.84 20 P P 03 20 11.3 -0.9
baz=239
L17K **Donlin** 57.84 28 P P 03 20 11.7 -0.6
baz=250
J17K **VABM Dome** 57.96 26 P P 03 20 12.6 -0.5
baz=248
M17K **Holitna River** 57.98 29 P P 03 20 12.3 -1.0
baz=251
K17K **Iditarod** 58.04 27 P 03 20 15.6 +1.9
K17K **Iditarod** 58.04 27 P P 03 20 13.6 -0.1
baz=249,SNR=7.6
G17K **Kiwalik Mounta** 58.17 24 P P 03 20 14.5 0.0
baz=245
H17K **Granite Mounta** 58.23 24 P P 03 20 14.9 0.0
baz=246
D17K **Noatak River** 58.29 21 P P 03 20 15.4 0.0
baz=242
Q18K **Katmai Hardscr** 58.33 32 P P 03 20 15.7 -0.2
baz=255
R18K **Karluk** 58.34 34 P P 03 20 15.9 +0.1
baz=256
P18K **Big Mountain,** 58.42 31 P P 03 20 15.9 -0.6
baz=254
E17K **Hotham Inlet** 58.44 22 P P 03 20 15.8 -0.6
baz=243
N18K **Kilae Creek** 58.47 30 P P 03 20 16.8 0.0
baz=253
L18K **Granite Mounta** 58.58 28 P P 03 20 17.0 -0.5
baz=251
C17K **DeLong Mountai** 58.63 20 P P 03 20 17.7 -0.1
baz=241
M18K **Stony River** 58.74 29 P P 03 20 18.7 +0.1
baz=252
OHAK **Old Harbor** 58.88 34 P P 03 20 19.5 0.0
baz=257
NIUE **Niue** 58.89 128 eLR LR 03 37 38.9
comp=Z,58nm,22.1s
H18K **Honhosa River** 58.91 24 P P 03 20 19.9 +0.2
baz=248
J18K **Innoko River** 58.98 27 P P 03 20 20.4 +0.2
baz=250
F18K **Selawik** 59.00 23 P P 03 20 20.3 0.0
baz=246
E18K **Tukpahlearik C** 59.01 22 P P 03 20 20.0 -0.4
baz=244
O19K **Port Alsworth** 59.08 31 P P 03 20 20.8 -0.1
baz=255
G18K **Tagagawik** 59.09 24 P P 03 20 22.0 +1.1
G18K IAmb IAmb 03 20 23.0
comp=Z,7.4nm,1.1s
G18K **Tagagawik** 59.09 24 P P 03 20 21.1 +0.2
baz=247
N19K **Bonanza Creek** 59.17 30 P P 03 20 21.7 0.0
baz=254,SNR=5.7
XMAS **Kiritimati** 59.32 99 eLR LR 03 37 42.0
comp=Z,7.0nm,32.0s
KDAK **Kodiak Island** 59.37 34 LR LR 03 48 18.3
comp=Z,30nm,18.0s,baz=236,slow=38
KDAK **Kodiak Island** 59.37 34 P P 03 20 23.0 +0.1
baz=258
L19K **White Mountain** 59.39 28 P P 03 20 23.1 0.0
baz=253
P19K **Oil Pt** 59.47 31 P P 03 20 23.6 -0.1
baz=256
M19K **Big River Lodg** 59.52 29 P P 03 20 24.1 +0.1
baz=254
J19K **Poorman** 59.62 26 P P 03 20 26.3 +1.6
J19K IAmb IAmb 03 20 27.5
comp=Z,10nm,1.2s
J19K **Poorman** 59.62 26 P P 03 20 24.9 +0.3
baz=251,SNR=6.1
G19K **Purcell Mounta** 59.78 24 P P 03 20 26.2 +0.5
baz=249
F19K **Shaleruckik Mo** 59.78 23 P P 03 20 26.1 +0.4
baz=248
H19K **Roundabout Mou** 59.80 24 P 03 20 27.3 +1.4
H19K IAmb IAmb 03 20 28.3
comp=Z,10nm,1.1s
H19K **Roundabout Mou** 59.80 24 P P 03 20 26.3 +0.4
baz=250,SNR=5.4
L20K **Farewell, AK** 59.91 28 P P 03 20 27.2 +0.4
baz=254
KURK **Kurchatov** 59.93 318 P P 03 20 27.0 0.0
KURBB **Kurchatov Arra** 59.97 318 P P 03 20 27.4 +0.1
comp=Z,2.7nm,0.8s,baz=94,slow=7.4,SNR=20
KURBB LR LR 03 46 31.6
comp=Z,46nm,20.4s,baz=170,slow=36
comp=Z,2.7nm,0.8s
TARG **Taragay, Kyrgy** 60.04 308 P P 03 20 28.1 -0.3
K20K **Telida** 60.08 27 P P 03 20 28.1 +0.2
baz=253,SNR=6.0
M20K **Styx River** 60.08 29 P P 03 20 28.1 +0.1
baz=255
C19K **Lookout Ridge** 60.09 20 P P 03 20 28.2 +0.3
baz=244
A19K **Wainwright** 60.12 19 P P 03 20 28.3 +0.3
baz=242
E19K **Redstone River** 60.22 22 P P 03 20 28.8 0.0
baz=248
HOM **Homer** 60.26 32 P P 03 20 29.4 +0.4
baz=258
J20K **Nowinta River** 60.29 26 P P 03 20 31.0 +1.7
J20K **Nowinta River** 60.29 26 P P 03 20 29.7 +0.5
baz=253,SNR=10.0
D19K **Kuna River** 60.32 21 P P 03 20 29.3 -0.1
baz=246
N20K **Mount Spurr** 60.34 30 P P 03 20 30.3 +0.6
baz=256
SPCR **Spurr Chakacha** 60.34 30 P P 03 20 30.6 +0.8
baz=256
I20K **Naaghedeneel** 60.34 26 P P 03 20 30.6 +1.0
baz=252
H20K **Anotleneega Mo** 60.40 25 P P 03 20 30.3 +0.3
baz=251,SNR=6.0
F20K **Avaraart Lake** 60.61 23 P P 03 20 31.7 +0.3
baz=250
CAPN **Captain Cook N** 60.74 30 P P 03 20 32.5 +0.2
baz=257
PPLA **Purkeypile** 60.77 28 P P 03 20 32.8 +0.1
baz=255
SKT **Skwentna** 60.84 29 P P 03 20 33.2 +0.1
baz=256
E20K **Nigu River** 60.88 22 P P 03 20 33.5 +0.2
baz=248,SNR=6.0
D20K **Etivluk River** 60.91 21 P 03 20 35.2 +1.7
D20K IAmb IAmb 03 20 35.7
comp=Z,13nm,1.1s
D20K **Etivluk River** 60.91 21 P P 03 20 33.7 +0.2
baz=248,SNR=5.2
CAST **Castle Rocks** 60.95 27 P 03 20 34.8 +1.0
CAST **Castle Rocks** 60.95 27 P P 03 20 34.2 +0.3
baz=255,SNR=10
CHUM **Lake Minchumin** 60.98 27 P P 03 20 33.7 -0.2
baz=254
IMAR **Indian Mountai** 61.00 24 P P 03 20 35.4 +1.3
SUA **Susitna One** 61.09 30 P P 03 20 34.6 -0.3
baz=257
B20K **Meade River** 61.24 20 P P 03 20 35.5 0.0
baz=246
G21K **Allakaket** 61.26 24 P P 03 20 35.3 -0.5
baz=252,SNR=6.5
H21K **Melozitna Rive** 61.27 25 P P 03 20 37.5 +1.6
H21K IAmb IAmb 03 20 38.5
comp=Z,9.7nm,1.1s
H21K **Melozitna River** 61.27 25 P P 03 20 35.7 -0.2
baz=253,SNR=10.0
SEW **Seward** 61.43 31 P P 03 20 36.9 -0.1
baz=259
I21K **Tanana** 61.47 25 P P 03 20 37.4 +0.2
baz=254,SNR=8.8
RC01 **Rabbit Creek A** 61.48 30 P P 03 20 37.0 -0.5
baz=258
F21K **Alatna River** 61.49 23 P P 03 20 37.3 -0.1
baz=252
BPAW **Bear Paw Mtn.** 61.60 27 P P 03 20 39.2 +1.1
BPAW **Bear Paw Mtn.** 61.60 27 P P 03 20 38.2 0.0
baz=256,SNR=9.2
C21K **Knifeblade Rid** 61.69 21 P P 03 20 38.1 -0.6
baz=249
E21K **Kilik River** 61.72 22 P P 03 20 38.3 -0.6
baz=250
TRF **Thorofare Moun** 61.74 28 P 03 20 39.6 +0.3
TRF **Thorofare Moun** 61.74 28 P P 03 20 38.8 -0.5
baz=257,SNR=6.7
PMR **Palmer** 61.87 30 P P 03 20 40.0 0.0
baz=259,SNR=5.9
H22K **Ishtalitna Cre** 61.91 25 P P 03 20 40.5 +0.2
baz=254,SNR=5.1
MLY **Manley** 61.94 26 P P 03 20 40.4 -0.1
baz=255,SNR=6.8
F22K **John River** 62.06 23 P P 03 20 40.2 -1.1
baz=253
PWL **Port Wells** 62.11 31 P P 03 20 41.9 +0.2
PWL **Port Wells** 62.11 31 P P 03 20 41.8 +0.1
baz=260,SNR=8.0
G22K **Bettles** 62.14 24 P P 03 20 41.0 -0.8
baz=254
KNK **Knik Glacier** 62.15 30 P P 03 20 40.7 -1.3
baz=260
A22K **Sinclair Lake** 62.30 19 P P 03 20 41.5 -1.2
baz=248
D22K **Ayikyak River** 62.31 21 P P 03 20 41.6 -1.3
baz=252
WAT1 **Susitna Watana** 62.38 28 P P 03 20 43.1 -0.4
baz=259
E22K **Anaktuvuk Pass** 62.38 22 P 03 20 44.9 +1.4
E22K IAmb IAmb 03 20 46.0
comp=Z,7.0nm,1.1s
E22K **Anaktuvuk Pass** 62.38 22 P P 03 20 41.9 -1.6
baz=253
MCK **McKinley** 62.40 27 P P 03 20 42.9 -0.6
baz=258
AAK **Ala-Archa** 62.48 309 LR LR 03 50 20.8
comp=Z,27nm,18.5s,baz=346,slow=38
NEA2 **Nenana** 62.53 26 P P 03 20 43.7 -0.7
baz=257
I23K **Minto, Yukon-K** 62.53 26 IAmb IAmb 03 20 47.4
comp=Z,14nm,1.4s
I23K **Minto, Yukon-K** 62.53 26 P P 03 20 43.5 -0.9
baz=257
B22K **Teshekpuk Lake** 62.55 20 P P 03 20 44.3 -0.1
baz=250
H23K **Yukon River** 62.62 25 P P 03 20 43.9 -1.1
baz=256
G23K **Bananza Creek** 62.65 24 P P 03 20 45.0 -0.3
baz=255,SNR=8.1
WAT6 **Susitna Watana** 62.70 29 P P 03 20 45.3 -0.5
baz=260,SNR=7.4
GLI **Glacier Island** 62.71 31 P P 03 20 45.5 -0.1
baz=261,SNR=5.6
COLD **Coldfoot** 62.72 23 P P 03 20 45.0 -0.6
baz=255
SCM **Sheep Creek Mo** 62.76 30 P P 03 20 45.5 -0.6
baz=260,SNR=8.7
Q23K **Middleton Isla** 62.87 32 P P 03 20 47.1 +0.4
baz=262
DHY **Denali Highway** 62.95 28 P P 03 20 46.7 -0.8
baz=260
D23K **Nanushuk River** 63.02 22 P P 03 20 47.3 -0.4
baz=254
E23K **Chandalar** 63.15 23 P P 03 20 48.0 -0.6
baz=255,SNR=9.9
H24K **Noodor Dome** 63.29 25 P P 03 20 48.6 -0.9
baz=258
C23K **Itkilik River** 63.30 21 P P 03 20 48.6 -0.8
baz=253
EYAK **Cordova Ski Ar** 63.32 31 P P 03 20 49.4 -0.2
baz=262
POKR **Poker Plat Res** 63.32 26 P P 03 20 48.6 -1.1
baz=259
TOLK **Toolik Lake Re** 63.32 22 IAmb IAmb 03 20 52.2
comp=Z,10nm,1.2s
TOLK **Toolik Lake Re** 63.32 22 P P 03 20 48.3 -1.4
baz=255
KLU **Klutina** 63.37 30 P P 03 20 49.8 -0.4
baz=262,SNR=6.8
HDA **Harding Lake** 63.39 27 P P 03 20 49.7 -0.4
baz=259
ILAR **Eielson Array** 63.48 26 P P 03 20 49.6 -1.1
ILAR **Eielson Array** 63.48 26 P P 03 20 50.0 -0.7
comp=Z,5.8nm,1.0s,baz=259,slow=4.9,SNR=36
ILAR LR LR 03 45 49.0
comp=Z,38nm,21.7s,baz=312,slow=34
comp=Z,5.8nm,1.0s
E24K **Your Creek** 63.57 23 P P 03 20 50.9 -0.4
baz=256
G24K **Hadweenzic Riv** 63.63 24 P P 03 20 52.3 +0.5
baz=258
F24K **Squaw Lake** 63.66 23 P P 03 20 52.3 +0.4
baz=257
D24K **Happy Valley** 63.72 22 P P 03 20 52.3 +0.1
baz=255
K24K **Donnelly Dome** 63.79 28 P P 03 20 52.6 -0.2
baz=261
PAX **Paxson** 63.79 29 P P 03 20 52.6 -0.4
baz=262,SNR=6.6
HARP **HAARP** 63.85 29 P P 03 20 52.6 -0.6
baz=262
KAIM **Kayak Island** 63.90 32 P P 03 20 53.1 -0.5
baz=264
C24K **Franklin Bluff** 63.91 21 P P 03 20 53.7 +0.3
baz=255
BMRM **Bremner River** 63.93 31 P P 03 20 53.3 -0.5
baz=263,SNR=7.6
N25K **Chitina, Valde** 64.01 30 P P 03 20 55.0 +0.6
baz=263
J25K **Salcha River,** 64.10 27 P P 03 20 55.5 +0.7
baz=261
NIL **Nilore** 64.14 299 P P 03 20 55.8 +0.1
G25K **Bearman Lake** 64.18 24 P P 03 20 56.0 +0.7
baz=259
PRP **Porcupine Dome** 64.18 26 P P 03 20 55.5 0.0
baz=260
RIDG **Independent Ri** 64.19 28 P P 03 20 55.1 -0.3
baz=262,SNR=7.4
H25L **Birch Creek** 64.20 25 P P 03 20 56.0 +0.6
baz=260,SNR=7.4
BGLC **Bering Glacier** 64.49 32 P P 03 20 57.7 +0.3
baz=265
F25K **Christian Rive** 64.52 24 P P 03 20 58.3 +0.7
baz=259,SNR=5.9
SCRK **Sand Creek** 64.60 28 P P 03 20 58.7 +0.5
baz=262,SNR=11
D25K **Kavik River** 64.61 22 P P 03 20 58.7 +0.6
baz=258
CRQE **Cirque** 64.64 31 P P 03 20 59.0 +0.5
baz=265,SNR=6.6
E25K **Arctic Village** 64.65 23 P P 03 20 58.8 +0.4
baz=259
MCARA **McCarthy VSAT** 64.73 31 P P 03 20 59.8 +0.7
baz=264
J26L **Joseph Creek** 64.85 27 P P 03 21 00.3 +0.4
baz=262,SNR=12
M26K **Nabesna, AK** 64.85 29 P P 03 21 00.3 +0.4
baz=264
BMAR **Burnt Mountain** 64.89 24 P 03 21 01.2 +1.2
F26K **Sheenjek River** 65.10 24 IAmb IAmb 03 21 04.2
comp=Z,9.6nm,1.1s
F26K **Sheenjek River** 65.10 24 P P 03 21 01.9 +0.6
baz=260,SNR=8.8
G26K **Porcupine Rive** 65.11 24 IAmb IAmb 03 21 04.9
comp=Z,11nm,1.2s
G26K **Porcupine Rive** 65.11 24 P P 03 21 01.5 +0.1
baz=261,SNR=7.6
BVAR **Borovoye Array** 65.15 320 P P 03 21 01.7 -0.1
comp=Z,8.3nm,0.7s,baz=91,slow=8.0,SNR=37
BVAR LR LR 03 49 35.8
comp=Z,29nm,20.9s,baz=2.2,slow=36
comp=Z,8.3nm,0.7s
MESA **MESA** 65.16 32 P P 03 21 02.4 +0.4
baz=266
C26K **Camden Bay** 65.23 21 P P 03 21 02.2 +0.1
baz=259
M27K **Edge Creek, AK** 65.37 29 IAmb IAmb 03 21 05.4
comp=Z,9.3nm,1.2s
M27K **Edge Creek, AK** 65.37 29 P P 03 21 03.2 -0.1
baz=265,SNR=5.6
KKAR **Karatay Array** 65.39 309 P P 03 21 02.6 -1.0
K27K **Chicken** 65.44 28 P P 03 21 04.3 +0.7
baz=264
L27K **Beaver Creek,** 65.45 29 IAmb IAmb 03 21 05.7
comp=Z,7.1nm,1.2s
L27K **Beaver Creek,** 65.45 29 P P 03 21 04.3 +0.6
baz=265,SNR=7.1
BCAR **Beaver Creek A** 65.47 29 P 03 21 04.3 +0.4
CTG **Chitna Glacier** 65.51 31 P P 03 21 04.1 -0.1
baz=266
I27K **Kandik River** 65.81 26 P P 03 21 06.6 +0.6
baz=264
BVCY **Beaver Creek** 65.84 29 P P 03 21 06.7 +0.4
baz=266
H27K **Steamboat Moun** 65.91 25 P P 03 21 07.0 +0.3
baz=264,SNR=12
G27K **Doyon Strip** 65.93 25 P P 03 21 06.6 -0.1
baz=263
YUK3 **Moose Creek** 65.99 30 P P 03 21 07.6 +0.2
baz=267,SNR=8.4
PINM **Pinnacle** 66.00 32 P P 03 21 07.7 +0.4
baz=268
O28M **Mount Upton** 66.06 31 P P 03 21 08.1 +0.1
baz=267,SNR=7.5
E27K **Coleen River** 66.12 23 IAmb IAmb 03 22 30.9
comp=Z,18nm,1.9s
E27K **Coleen River** 66.12 23 P P 03 21 07.9 0.0
baz=263
PNL **Peninsula** 66.42 33 P P 03 21 09.9 0.0
baz=268
I28M **Miner Creek** 66.49 26 P P 03 21 10.8 +0.4
baz=265,SNR=5.2
D27M **Malcolm River** 66.49 22 IAmb IAmb 03 21 12.9
comp=Z,6.9nm,1.1s
D27M **Malcolm River** 66.49 22 P P 03 21 10.3 0.0
baz=263
DAWY **Dawson** 66.62 28 IAmb IAmb 03 21 13.4
comp=Z,8.6nm,1.2s
DAWY **Dawson** 66.62 28 P P 03 21 11.2 -0.1
baz=266,SNR=5.9
CHGR **Chuyangaron** 66.83 305 P P 03 21 12.7 -0.4
CHGR IAmb IAmb 03 21 22.8
comp=Z,7.9nm,0.8s
YUK4 **Talbot Arm** 66.84 31 P P 03 21 13.7 +0.9
baz=268,SNR=9.6
O29M **Mount Kennedy** 66.84 32 P P 03 21 13.2 +0.4
baz=269,SNR=7.0
E28M **Babbage River** 66.93 23 P P 03 21 13.4 +0.4
baz=264,SNR=6.8
SIMJ **Simiganj** 66.95 305 P P 03 21 14.3 +0.4
SIMJ IAmb IAmb 03 21 23.6
comp=Z,6.0nm,1.1s
M29M **Somme Creek** 66.96 30 IAmb IAmb 03 21 16.1
comp=Z,10nm,1.1s
M29M **Somme Creek** 66.96 30 P P 03 21 14.1 +0.7
baz=268,SNR=11
YUK6 **Outpost Mounta** 66.96 31 P P 03 21 14.1 +0.4
baz=269
L29M **L29M** 67.14 29 P P 03 21 15.0 +0.5
baz=268,SNR=9.8
I29M **Ogilvie Camp,** 67.16 26 IAmb IAmb 03 21 17.3
comp=Z,14nm,1.6s
I29M **Ogilvie Camp,** 67.16 26 P P 03 21 15.3 +0.7
baz=267
H29M **Whitestone** 67.19 25 P P 03 21 14.8 +0.1
baz=267
P29M **Windy Craggy** 67.26 33 IAmb IAmb 03 21 18.1
comp=Z,9.5nm,0.9s
P29M **Windy Craggy** 67.26 33 P P 03 21 17.0 +1.6
baz=270,SNR=5.9
G29M **Pine Creek** 67.37 25 P P 03 21 17.5 +1.6
baz=267
HYT **Haines Junctio** 67.38 31 IAmb IAmb 03 21 19.0
comp=Z,11nm,1.0s
HYT **Haines Junctio** 67.38 31 P P 03 21 17.4 +1.2
baz=270,SNR=9.9
K29M **Barlow Dome** 67.44 28 IAmb IAmb 03 21 18.9
comp=Z,10nm,1.1s
K29M **Barlow Dome** 67.44 28 P P 03 21 17.5 +1.0
baz=268,SNR=8.9
E29M **Blow River** 67.51 23 IAmb IAmb 03 21 19.2
comp=Z,9.7nm,1.5s
E29M **Blow River** 67.51 23 P P 03 21 17.9 +1.2
baz=266
N30M **Aishikik Lake** 67.59 31 IAmb IAmb 03 21 20.5
comp=Z,7.5nm,1.1s
N30M **Aishikik Lake** 67.59 31 P P 03 21 18.1 +0.7
baz=270,SNR=7.6
P30M **Million Dollar** 67.65 32 P P 03 21 18.0 +0.1
baz=270
M30M **Minto, Yukon** 67.74 29 IAmb IAmb 03 21 20.7
comp=Z,6.4nm,1.2s
M30M **Minto, Yukon** 67.74 29 P P 03 21 18.8 +0.5
baz=270,SNR=6.5
EPYK **Eagle Plains** 67.86 25 P P 03 21 18.9 -0.2
baz=268
RAR **Rarotonga** 67.90 124 eLR LR 03 41 53.5
comp=Z,48nm,23.0s
PLBC **Pleasant Camp** 67.96 33 P P 03 21 19.9 +0.2
baz=271,SNR=5.3
I30M **Mount Dempster** 67.97 27 P P 03 21 19.6 -0.2
baz=269
J30M **Hart River** 67.97 27 P P 03 21 19.5 -0.4
baz=269
S31K **Pelican** 68.06 34 P P 03 21 20.5 +0.1
baz=272
G30M **tAoh Zraii Nji** 68.08 25 P P 03 21 20.6 +0.2
baz=268
N31M **Braeburn, Yuko** 68.22 31 P P 03 21 22.2 +0.8
baz=271,SNR=6.3
F30M **Barrier River** 68.27 24 P P 03 21 21.9 +0.3
baz=268
SKAG **Skagway** 68.49 33 P P 03 21 23.8 +0.8
baz=272
SIT **Sitka** 68.59 35 P P 03 21 24.0 +0.3
baz=273
WHY **Whitehorse** 68.67 31 P P 03 21 24.8 +0.5
baz=272
H31M **Peel River** 68.82 26 P P 03 21 25.0 -0.1
baz=270
G31M **Satah River** 68.85 25 P P 03 21 25.3 +0.3
baz=270
M31M **Drury Creek, Y** 68.86 30 IAmb IAmb 03 21 27.5
comp=Z,8.5nm,1.4s
M31M **Drury Creek, Y** 68.86 30 P P 03 21 25.4 0.0
baz=272,SNR=5.6
R32K **Eaglecrest** 68.96 34 P P 03 21 25.7 -0.3
baz=273
F31M **Tsiigehtchic** 69.05 24 P P 03 21 26.6 +0.2
baz=270
INK **Inuvik** 69.13 23 IAmb IAmb 03 21 28.3
comp=Z,10.0nm,1.1s

INK	**Inuvik**	**69.13**	**23**	P		**P**	**03 21 27.3**	**+0.5**
	baz=270							
P32M	**Atlin**	**69.30**	**33**	IAmb		IAmb	03 21 30.5	
	comp=Z,7.4nm,1.2s							
P32M	**Atlin**	**69.30**	**33**	P		**P**	**03 21 28.3**	**+0.1**
	baz=273							
N32M	**Quiet Lake**	**69.53**	**31**	P		**P**	**03 21 29.5**	**0.0**
	baz=273							
P33M	**Teslin, Yukon**	**69.72**	**32**	P		**P**	**03 21 30.8**	**+0.1**
	baz=274							
U33K	**Whale Pass**	**69.87**	**36**	P		**P**	**03 21 31.4**	**-0.2**
	baz=275							
CRAG	**Craig**	**69.93**	**37**	P		**P**	**03 21 32.1**	**+0.1**
	baz=275							
Q32M	**Nakina River**	**70.09**	**33**	P		**P**	**03 21 32.6**	**-0.6**
	baz=275							
WRAK	**Wrangell Islan**	**70.27**	**36**	P		**P**	**03 21 35.2**	**+1.1**
	baz=276							
MMPY	**Sheldon Lake,**	**70.29**	**29**	IAmb		IAmb	03 21 36.9	
	comp=Z,13nm,1.6s							
MMPY	**Sheldon Lake,**	**70.29**	**29**	P		**P**	**03 21 34.5**	**+0.3**
	baz=274							
R33M	**Jennings River**	**70.72**	**33**	P		**P**	**03 21 37.0**	**+0.1**
	baz=276							
S34M	**Telegraph Cree**	**70.78**	**34**	IAmb		IAmb	03 21 39.9	
	comp=Z,7.6nm,1.1s							
S34M	**Telegraph Cree**	**70.78**	**34**	P		**P**	**03 21 37.9**	**+0.7**
	baz=276,SNR=5.3							
DLBC	**Dease Lake**	**71.30**	**34**	LR		LR	03 52 47.7	
	comp=Z,139nm,18.8s,baz=228,slow=36							
DLBC	**Dease Lake**	**71.30**	**34**	P		**P**	**03 21 41.1**	**+0.6**
	baz=277,SNR=5.4							
T35M	**Bob Quinn**	**71.36**	**35**	P		**P**	**03 21 41.4**	**+0.6**
	baz=277							
ARTI	**Arti**	**71.87**	**324**			**P**	**03 21 43.7**	**-0.1**
ARTI				IAmb		IAmb	03 21 44.7	
	comp=Z,10nm,1.2s							
ABKAR	**Akbulak array**	**71.99**	**317**			**P**	**03 21 44.8**	**+0.1**
AKTO	**Aktyubinsk**	**73.02**	**318**	LR		LR	03 55 43.2	
	comp=Z,25nm,18.2s,baz=305,slow=37							
BBB	**Bella Bella**	**73.31**	**40**	LR		LR	03 47 16.8	
	comp=Z,34nm,21.6s,baz=236,slow=30							
PPT2	**Papeete2**	**74.50**	**115**	*e*LR		LR	03 44 51.6	
	comp=Z,194nm,27.5s							
PPT2				*e*LR		LR	03 44 57.7	
	comp=Z,103nm,23.8s							
GNW	**Green Mountain**	**77.67**	**44**	P		**P**	**03 22 19.2**	**+1.6**
GNW				IAmb		IAmb	03 22 20.1	
	comp=Z,9.6nm,1.3s							
YKA	**Yellowknife Ar**	**77.86**	**28**	P		**P**	**03 22 18.7**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=300,slow=5.8,SNR=4.9							
YKA				LR		LR	03 56 06.5	
	comp=Z,29nm,20.5s,baz=322,slow=35							
	comp=Z,1.7nm,1.0s							
SPITS	**Spitsbergen Ar**	**78.23**	**350**	P		**P**	**03 22 20.6**	**+0.4**
	comp=Z,5.6nm,0.8s,baz=59,slow=8.6,SNR=2.3							
SPITS				LR		LR	04 03 34.8	
	comp=Z,12nm,18.0s,baz=298,slow=41							
	comp=Z,5.6nm,0.8s							
J05D	**Fort Rock, OR**	**79.94**	**48**			**P**	**03 22 31.4**	**+1.0**
J05D				IAmb		IAmb	03 22 32.5	
	comp=Z,15nm,1.5s							
K05A	**Summer Lake**	**80.35**	**48**	IAmb		IAmb	03 22 37.2	
	comp=Z,21nm,1.9s							
ARCES	**ARCESS Array B**	**81.41**	**342**	P		**P**	**03 22 37.1**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=57,slow=8.8,SNR=6.3							
ARCES				LR		LR	04 02 29.8	
	comp=Z,15nm,19.8s,baz=110,slow=38							
	comp=Z,3.2nm,0.9s							
CMB	**Columbia Colle**	**82.16**	**53**	P		**P**	**03 22 41.4**	**-0.8**
PAHR	**Pah Rah Range**	**82.37**	**51**	P		**P**	**03 22 43.2**	**-0.2**
NVAR	**Mina Array Bea**	**83.58**	**52**	P		**P**	**03 22 49.5**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=266,slow=6.4,SNR=9.7							
NVAR				LR		LR	03 53 11.9	
	comp=Z,24nm,19.9s,baz=270,slow=31							
	comp=Z,1.4nm,0.8s							
OBN	**Obninsk**	**84.00**	**327**	P		**P**	**03 22 50.8**	**-0.4**
KBZ	**Khabaz**	**84.78**	**315**	P		**P**	**03 22 56.5**	**+1.1**
	comp=Z,4.3nm,1.0s,baz=56,slow=14,SNR=5.7							
	comp=Z,4.3nm,1.0s							
MPMC	**Manual Prospec**	**85.00**	**54**	P		**P**	**03 22 56.1**	**-0.9**
WSHM	**Spangler Hills**	**85.16**	**54**	IAmb		IAmb	03 23 04.6	
	comp=Z,7.4nm,0.8s							
FINES	**FINESS Array B**	**85.70**	**335**	P		**P**	**03 22 58.4**	**-1.3**
FINES	**FINESS Array B**	**85.70**	**335**	P		**P**	**03 22 58.8**	**-0.9**
	comp=Z,5.1nm,0.8s,baz=46,slow=4.0,SNR=13							
	comp=Z,5.1nm,0.8s							
PFO	**Pinyon Flats O**	**86.66**	**56**	LR		LR	03 54 44.0	
	comp=Z,24nm,19.5s,baz=174,slow=31							
HWUT	**Hardware Ranch**	**87.23**	**47**	P		**P**	**03 23 08.2**	**+0.2**
HWUT				IAmb		IAmb	03 23 08.5	
	comp=Z,12nm,1.5s							
PDAR	**Pinedale Array**	**88.12**	**45**	LR		LR	03 54 23.3	
	comp=Z,13nm,20.8s,baz=314,slow=30							
MARD	**Mardin**	**88.74**	**309**	P		**P**	**03 23 13.4**	**-1.8**
Y14A	**Wickenburg**	**89.21**	**54**	IAmb		IAmb	03 23 18.8	
	comp=Z,7.3nm,1.3s							
CASY	**Casey**	**89.21**	**193**	*e*LR		LR	03 51 41.5	
	comp=Z,63nm,27.0s							
AKASG	**Malin Array Be**	**90.02**	**325**	P		**P**	**03 23 19.2**	**-1.4**
	comp=Z,0.3nm,0.2s,baz=64,slow=2.2,SNR=1.3							
	comp=Z,0.3nm,0.2s							
RAYN	**Ar Rayn**	**90.20**	**295**	P		**P**	**03 23 21.7**	**-0.4**
PV19	**Morning Glory**	**90.40**	**49**	IAmb		IAmb	03 23 24.0	
	comp=Z,6.9nm,1.1s							
SUW	**Suwalki**	**91.25**	**330**	P		**P**	**03 23 24.1**	**-2.2**
NOA	**NORSAR Array B**	**91.45**	**339**	LR		LR	04 09 10.8	
	comp=Z,12nm,18.8s,baz=50,slow=39							
BRTR	**Keskin Array B**	**92.75**	**314**	P		**P**	**03 23 33.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=52,slow=2.6,SNR=5.2							
	comp=Z,1.1nm,0.8s							
ANMO	**Albuquerque**	**93.70**	**51**	LR		LR	03 57 30.7	
	comp=Z,23nm,21.2s,baz=60,slow=30							
MMAI	**Mount Meron Ar**	**94.55**	**307**	LR		LR	04 10 23.3	
	comp=Z,12nm,18.5s,baz=200,slow=38							
LPIG	**La Paz**	**95.28**	**62**	LR		LR	04 02 12.8	
	comp=Z,38nm,18.3s,baz=260,slow=33							
VRAC	**Vranov**	**97.39**	**329**	LR		LR	04 11 37.3	
	comp=Z,24nm,18.1s,baz=20,slow=38							
SNAA	**Sanae**	**124.43**	**192**	PKP		**PKPdf**	**03 29 18.7**	**-0.8**
	comp=Z,2.1nm,1.1s,baz=217,slow=5.1,SNR=5.3							
PMSA	**Palmer Station**	**130.88**	**164**	*e*LR		LR	04 11 02.1	
	comp=Z,42nm,37.0s							
LPAZ	**La Paz**	**148.84**	**89**	PKPbc		**PKPbc**	**03 30 09.6**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=349,slow=7.0,SNR=5.0							

GCG 31 03:30:48.8±0.9,**14°26N**×**91°33W,h72**km±24km**, MD3.3, ML3.5, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESSG	**Sabana Grande**	**0.50**	**76**	*i* P	Pn	03 31 02.0	+0.1
ESSG				*i* S	Sn	03 31 11.8	+0.4
ESSG				IAML		03 31 12.1	
	comp=N,545nm,0.2s						
SOKI	**Kika Raxquin**	**0.56**	**353**	*i* P	Pn	03 31 03.3	+0.4
SOKI				*i* S	Sn	03 31 16.7	+3.6
SOKI				IAML		03 31 22.1	
	comp=N,658nm,0.7s						
FG16	**Alotenango, Sa**	**0.79**	**89**	*i* P	Pn	03 31 02.8	-2.3
FG16				IAML		03 31 18.3	
	comp=N,6μm,0.3s						

*IDC **31** 03:31:52.4±3.3,3°.95S×137°.16E,h153km±35km, mb3.2/3, mbtmp3.8/7, Error ellipse: s-maj=50.3km s-min=20.4km az=109.0*

ISC 31 03:31:51.9±1.0,**4°.1S**±0°.1×**137°.2E**±0°.1,**h150**km**, n7, σ1**§**33/10, mb3.3/3, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.79**	**66**	P	**Pn**	**03 32 50.6**	**+1.1**
	11nm,0.5s,baz=239,slow=18,SNR=10						
JAY				S	**Sn**	**03 33 32.6**	**-1.6**
	13nm,0.4s,baz=18,slow=20,SNR=6.4						
WRA	**Warramunga Arr**	**16.04**	**190**	P	**Pn**	**03 35 29.5**	**+0.2**
	3.2nm,0.3s,baz=10,slow=12,SNR=47						
WRA				S	**S**	**03 38 27.0**	**-1.0**
	1.5nm,0.8s,baz=9.7,slow=21,SNR=5.4						
FITZ	**Fitzroy Crossi**	**17.99**	**218**	P	**Pn**	**03 35 52.8**	**+0.1**
	0.9nm,0.5s,baz=53,slow=10,SNR=1.3						
ASAR	**Alice Springs**	**19.76**	**189**	P	**P**	**03 36 11.3**	**+0.9**
	2.0nm,0.3s,baz=18,slow=11,SNR=44						
ASAR				S	**S**	**03 39 42.9**	**-2.2**
	2.3nm,0.6s,baz=11,slow=23,SNR=12						
MKAR	**Makanchi Array**	**69.96**	**323**	P	**P**	**03 42 46.2**	**-0.9**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=3.8						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**85.90**	**180**	P	**P**	**03 44 15.9**	**+1.1**
	0.4nm,0.6s,baz=79,slow=10,SNR=1.9						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**87.66**	**25**	P	**P**	**03 44 22.9**	**-0.3**
	0.3nm,0.8s,baz=240,slow=5.0,SNR=3.0						
	0.3nm,0.8s						

*NEIC **31** 03:38:44.0±0.9, 18°.4N±0°.2×68°.63W±0°.07, h159km±14km, ML2.4/12, Md3.2/12(RSPR), Error ellipse: s-maj=25.9km s-min=10.0km az=174.0*
*SDD **31** 03:38:44.0±1.5, 18°.28N×68°.66W, h156km±10km, MD3.1, ML2.8, MW2.9*
*RSPR **31** 03:38:44.6, 18°.57N×68°.54W, h158km±2km, MD3.2/12*
*OSPL **31** 03:38:46.2±1.2, 17°.81N×68°.65W, h139km±36km, ML2.5*

ISC 31 03:38:43.6±1.8,**18°.4N**±0°.1×**68°.64W**±0°.04,**h160**km±12km**, n59, σ0§80/74, 19C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HIDR	**Higuey Centro**	**0.22**	**339**	*e*Pg	**Pn**	**03 39 04.3**	**-0.8**
HIDR				⇑*e*Sg	**Sn**	**03 39 21.1**	**-0.6**
HIDR				IAML		03 40 05.8	
	comp=N,97nm,0.1s						
PCDR	**Punta Cana, DR**	**0.27**	**63**	⇑*e*Pg	**Pn**	**03 39 05.3**	**+0.1**
PCDR				⇑*e*Sg	**Sn**	**03 39 21.7**	**-0.1**
PCDR				IAML		03 39 55.3	
	comp=N,102nm,1.7s						
MIDR	**Miches**	**0.71**	**326**	⇓*e*Pg	**Pn**	**03 39 07.7**	**+0.5**
MIDR				⇓*e*Sg	**Sn**	**03 39 25.7**	**+0.2**
MIDR				IAML		03 39 26.7	
	comp=N,76nm,0.3s						
MIDR				IAML		03 39 26.7	
	comp=N,76nm,0.3s						
SMDR	**Samana, DR**	**1.04**	**330**	⇑*e*P	**Pn**	**03 39 09.1**	**-0.5**
SMDR	**Samana, DR**	**1.04**	**330**	*e*S	**Sn**	**03 39 28.7**	**-1.0**
IDE	**Isla Desecheo**	**1.10**	**90**		**Pn**	**03 39 11.1**	**+0.9**
IDE					**Sn**	**03 39 30.8**	**+0.2**
IDE	**Isla Desecheo**	**1.10**	**90**	⇑*e*P	**Pn**	**03 39 11.1**	**+0.9**
IDE	**Isla Desecheo**	**1.10**	**90**	*e*S	**Sn**	**03 39 30.8**	**+0.2**
SDD	**Santo Domingo**	**1.22**	**273**	Pn	**Pn**	**03 39 11.9**	**+0.7**
AGPR	**Aguadilla, PR**	**1.45**	**87**	Pn	**Pn**	**03 39 14.3**	**+0.9**
AGPR				Sn	**Sn**	**03 39 36.8**	**+0.5**
AGPR	**Aguadilla, PR**	**1.45**	**87**	⇓*e*P	**Pn**	**03 39 13.8**	**+0.4**
AGPR	**Aguadilla, PR**	**1.45**	**87**	*e*S	**Sn**	**03 39 35.9**	**-0.4**
AGPR	**Aguadilla, PR**	**1.45**	**87**	*i* P	**Pn**	**03 39 14.0**	**+0.6**
AGPR				*e*S	**Sn**	**03 39 36.3**	**0.0**
AGPR				IAML		03 39 38.0	
	comp=Z,63nm,2.5s						
AGPR	**Aguadilla, PR**	**1.45**	**87**	⇓*e*Pg	**Pn**	**03 39 15.1**	**+1.7**
AGPR				⇑*e*Sg	**Sn**	**03 39 36.9**	**+0.6**
AGPR				IAML		03 39 40.4	
	comp=N,45nm,0.8s						
LSP	**Las Mesas**	**1.49**	**98**		**Pn**	**03 39 14.2**	**+0.4**
LSP					**Sn**	**03 39 36.7**	**-0.3**
LSP	**Las Mesas**	**1.49**	**98**	⇑*e*P	**Pn**	**03 39 14.2**	**+0.4**
LSP	**Las Mesas**	**1.49**	**98**	*e*S	**Sn**	**03 39 36.7**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.50**	**104**		**Pn**	**03 39 13.9**	**0.0**
CRPR					**Sn**	**03 39 37.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.50**	**104**	IAML		03 40 30.6	
	comp=E,36nm,3.0s						
CRPR	**Cabo Rojo, PR**	**1.50**	**104**	⇑*e*P	**Pn**	**03 39 13.9**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.50**	**104**	*e*S	**Sn**	**03 39 37.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.50**	**104**	*i* P	**Pn**	**03 39 14.1**	**+0.2**
CRPR				*e*S	**Sn**	**03 39 33.1**	**-4.1**
CRPR				IAML		03 39 35.3	
	comp=Z,26nm,2.2s						
CRPR	**Cabo Rojo, PR**	**1.50**	**104**	*e*Pg	**Pn**	**03 39 14.2**	**+0.3**
CRPR				*e*Sg	**Sn**	**03 39 37.5**	**+0.3**
CRPR				IAML		03 39 46.3	
	comp=N,43nm,2.4s						
MLPR	**Magueyes Islan**	**1.57**	**105**	⇑*e*P	**Pn**	**03 39 14.8**	**+0.1**
MLPR	**Magueyes Islan**	**1.57**	**105**	*e*S	**Sn**	**03 39 38.5**	**0.0**
MLPR	**Magueyes Islan**	**1.57**	**105**	⇑*e*Pg	**Pn**	**03 39 14.7**	**+0.1**
MLPR				⇑*e*Sg	**Sn**	**03 39 38.4**	**0.0**
MLPR				IAML		03 39 41.1	
	comp=N,6.8nm,1.2s						
AOPR	**Arecibo Observ**	**1.79**	**91**	*e*Pg	**Pn**	**03 39 18.4**	**+1.4**
AOPR				*e*Sg	**Sn**	**03 39 42.7**	**0.0**
AOPR				IAML		03 40 28.3	
	comp=N,16μm,3.4s						
UUPR	**Utuado, UPR, P**	**1.82**	**94**	Pn	**Pn**	**03 39 17.3**	**-0.1**
UUPR				Sn	**Sn**	**03 39 43.2**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.82**	**94**	⇑*e*P	**Pn**	**03 39 17.1**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.82**	**94**	*e*S	**Sn**	**03 39 43.9**	**+0.5**
ABDR	**Alto Bandera**	**1.94**	**283**	⇑*e*Pg	**Pn**	**03 39 19.2**	**+0.3**
ABDR				⇑*e*Sg	**Sn**	**03 39 47.5**	**+1.3**
ABDR				IAML		03 40 04.5	
	comp=N,28nm,2.8s						
OBIP	**Obispado Ponce**	**1.96**	**100**		**Pn**	**03 39 18.8**	**-0.1**
OBIP				IAML		03 39 55.2	
	comp=E,19nm,2.1s						
OBIP	**Obispado Ponce**	**1.96**	**100**		**Sn**	**03 39 47.1**	**+1.1**
OBIP	**Obispado Ponce**	**1.96**	**100**	⇓*e*P	**Pn**	**03 39 19.6**	**+0.7**
OBIP	**Obispado Ponce**	**1.96**	**100**	*e*S	**Sn**	**03 39 47.1**	**+1.1**
CELP	**Cerrillos**	**1.98**	**99**		**Pn**	**03 39 19.2**	**+0.1**
CELP					**Sn**	**03 39 46.7**	**+0.2**
CELP	**Cerrillos**	**1.98**	**99**	IAML		03 39 51.9	
	comp=E,21nm,0.7s						
CELP				IAML		03 40 03.4	
	comp=N,18nm,2.4s						
CELP	**Cerrillos**	**1.98**	**99**	⇓*e*P	**Pn**	**03 39 19.2**	**+0.1**
CELP	**Cerrillos**	**1.98**	**99**	*e*S	**Sn**	**03 39 46.7**	**+0.2**
EMPR	**Esperanza - Ma**	**2.00**	**87**		**Sn**	**03 39 46.4**	**-0.4**
EMPR	**Esperanza - Ma**	**2.00**	**87**	Pn	**Pn**	**03 39 18.3**	**-1.1**
EMPR	**Esperanza - Ma**	**2.00**	**87**	⇑*e*P	**Pn**	**03 39 19.9**	**+0.5**
EMPR	**Esperanza - Ma**	**2.00**	**87**	*e*S	**Sn**	**03 39 46.4**	**-0.4**
ECPR	**Experimental S**	**2.16**	**92**	⇑*e*P	**Pn**	**03 39 20.7**	**-0.5**
ECPR	**Experimental S**	**2.16**	**92**	*e*S	**Sn**	**03 39 49.2**	**-1.0**
SJG	**San Juan**	**2.38**	**96**	*e*S	**Sn**	**03 39 54.4**	**-0.3**
GCPR	**Guaynabo City**	**2.42**	**91**		**Pn**	**03 39 24.7**	**+0.4**
GCPR					**Sn**	**03 39 54.5**	**-1.3**
GCPR	**Guaynabo City**	**2.42**	**91**	IAML		03 39 55.9	
	comp=N,13nm,2.4s						
GCPR	**Guaynabo City**	**2.42**	**91**	⇑*e*P	**Pn**	**03 39 24.7**	**+0.4**
GCPR	**Guaynabo City**	**2.42**	**91**	*e*S	**Sn**	**03 39 54.5**	**-1.3**
IGPR	**InterUniversit**	**2.44**	**100**		**Pn**	**03 39 24.9**	**+0.5**
IGPR					**Sn**	**03 39 56.5**	**+0.4**
IGPR	**InterUniversit**	**2.44**	**100**	⇑*e*P	**Pn**	**03 39 24.9**	**+0.5**
IGPR	**InterUniversit**	**2.44**	**100**	*e*S	**Sn**	**03 39 56.5**	**+0.4**
PDPR	**Patillas Dam,**	**2.51**	**98**	Pn	**Pn**	**03 39 25.3**	**-0.1**
PDPR				IAML		03 40 03.9	
	comp=N,14nm,0.2s						
PDPR	**Patillas Dam,**	**2.51**	**98**	⇑*e*P	**Pn**	**03 39 25.4**	**+0.1**
PDPR	**Patillas Dam,**	**2.51**	**98**	*e*S	**Sn**	**03 39 57.9**	**+0.3**
HUMP	**Col San Antoni**	**2.66**	**95**	Pn	**Pn**	**03 39 26.5**	**-0.7**
LOVI	**El Cajuil, Ovi**	**2.67**	**258**	*i* P	**Pn**	**03 39 26.3**	**-1.0**
LODU1	**El Espartillar**	**2.70**	**270**	*i* P	**Pn**	**03 39 27.9**	**+0.3**

*AFAD **31** 03:51:49.8, 37°.27N×29°.91E, h7km±3km, ML2.4*
*ISK **31** 03:51:50.9, 37°.35N×29°.82E, h7km, ML2.6/16*

ISC 31 03:51:51.5±1.1,**37°.34N**±0°.03×**29°.83E**±0°.03,**h13**km±8km**, n24, σ0§70/35, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOLH	**Golhisar**	**0.24**	**243**	P	**Pg**	**03 51 56.5**	**-0.2**
GOLH				S	**Sg**	**03 52 01.2**	**+1.1**
GOLH				*i* IAML		03 52 02.0	
	comp=E,1μm,0.3s						
GOLH				*i* IAML		03 52 03.0	
	comp=N,2μm,0.4s						
INCE	**Denizli-Bozkur**	**0.42**	**331**	P	**Pb**	**03 52 00.0**	**-0.8**
INCE				S	**Sb**	**03 52 08.0**	**+0.9**
INCE				*i* IAML		03 52 09.0	
	comp=E,233nm,0.3s						
INCE				*i* IAML		03 52 10.0	
	comp=N,263nm,0.3s						
APMY	**Acipayam-Deniz**	**0.44**	**287**	Pg	**Pg**	**03 51 59.8**	**-0.4**
APMY				Sg	**Sg**	**03 52 06.3**	**+0.2**
CAEL	**Denizli, Camel**	**0.46**	**242**	P	**Pg**	**03 51 59.9**	**-0.7**
CAEL				S	**Sb**	**03 52 08.7**	**+0.3**
CAEL				*i* IAML		03 52 11.0	
	comp=N,782nm,0.5s						
CAEL				*i* IAML		03 52 11.0	
	comp=E,922nm,0.3s						
KORT	**Korkueli**	**0.54**	**129**	Pg	**Pg**	**03 52 01.7**	**-0.4**
KORT				Sg	**Sb**	**03 52 10.3**	**-0.3**
CAME	**Cameli-Denizli**	**0.58**	**227**	Pg	**Pg**	**03 52 02.6**	**-0.3**
CAME				Sg	**Sb**	**03 52 11.1**	**-0.7**
BASM	**Basmaki-Afyon**	**0.60**	**17**	Pg	**Pg**	**03 52 02.7**	**-0.6**
DNZT	**Denizli-Tavas-**	**0.65**	**264**	P	**Pg**	**03 52 03.2**	**-0.8**
DNZT				S	**Sb**	**03 52 14.0**	**+0.3**
DNZT				*i* IAML		03 52 14.0	
	comp=N,172nm,0.4s						
DNZT				*i* IAML		03 52 14.0	
	comp=E,87nm,0.3s						
DNIZ	**Denizli-Tavas-**	**0.69**	**294**	P	**Pg**	**03 52 04.4**	**-0.5**
DNIZ				S	**Sn**	**03 52 16.6**	**-1.1**
DNIZ				*i* IAML		03 52 19.0	
	comp=N,266nm,0.5s						
DNIZ				*i* IAML		03 52 22.0	
	comp=E,371nm,0.3s						
ISP	**Isparta**	**0.73**	**49**	Pg	**Pg**	**03 52 05.4**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.74**	**280**	P	**Pg**	**03 52 05.0**	**-0.8**
TAVA				S	**Sb**	**03 52 17.3**	**+0.9**
TAVA				*i* IAML		03 52 20.0	
	comp=N,80nm,0.4s						
TAVA				*i* IAML		03 52 20.0	
	comp=E,144nm,0.4s						
SABU	**Mula-Dalaman**	**0.86**	**233**	P	**Pg**	**03 52 07.3**	**-0.9**
SABU				S	**Sb**	**03 52 19.4**	**-0.4**
SABU				*i* IAML		03 52 21.0	
	comp=N,194nm,0.3s						
SABU				*i* IAML		03 52 27.0	
	comp=E,86nm,0.4s						
MULA	**Mugla, Merkez-**	**1.21**	**266**	P	**Pn**	**03 52 14.5**	**+0.4**
MULA				S	**Sn**	**03 52 31.7**	**+1.3**
MULA				*i* IAML		03 52 34.0	
	comp=E,89nm,0.5s						
MULA				*i* IAML		03 52 36.0	
	comp=N,44nm,0.8s						
NAZL	**Nazilli-Aydin**	**1.37**	**297**	Pn	**Pg**	**03 52 17.1**	**-0.7**
TURN	**Turunc**	**1.39**	**246**	Pn	**Pb**	**03 52 17.3**	**0.0**
KULA	**Kula-Manisa**	**1.49**	**322**	Pn	**Pb**	**03 52 18.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**292**	Pn	**Pb**	**03 52 21.1**	**-0.8**
ODEM	**Odemis-Izmir**	**1.67**	**304**	Pn	**Pb**	**03 52 21.4**	**-0.8**
GEDZ	**Gediz**	**1.73**	**349**	Pn	**Pn**	**03 52 21.8**	**+0.4**
SHAP	**Saphane-Kutahy**	**1.74**	**344**	Pn	**Pn**	**03 52 22.4**	**+0.8**
ARG	**Arkhangelos**	**1.77**	**231**	Pn	**Pn**	**03 52 22.6**	**+0.8**
DAT	**Datca**	**1.90**	**252**	Pn	**Pn**	**03 52 24.3**	**+0.5**
GORD	**Gordes-Manisa**	**2.03**	**321**	Pn	**Pn**	**03 52 26.2**	**+0.7**
TVSB	**Tavsanli**	**2.12**	**352**	Pn	**Pn**	**03 52 27.3**	**+0.5**

*IDC **31** 03:58:40.8±2.2,24°.01S×179°.00E, h536km±23km, mb3.1/7, mbtmp4.1/8, Error ellipse: s-maj=22.5km s-min=15.0km az=160.0*
*NEIC **31** 03:58:40.8±1.3,24°.2S±0°.1×179°.1E±0°.1, h529km±9km, mb4.3/9, Error ellipse: s-maj=19.4km s-min=16.4km az=52.0*

ISC 31 03:58:40.9±0.6,**24°.33S**±0°.09×**179°.15E**±0°.09,**h550**km**, n38, σ1**§**30/37, mb3.7/10, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINNC	**Pines Island,**	**10.88**	**277**	P	**P**	**04 01 07.9**	**0.0**
NIUE	**Niue**	**11.42**	**65**	P	**P**	**04 01 12.8**	**-0.7**
DZM	**Mont Dzumac**	**11.90**	**278**	P	**P**	**04 01 18.2**	**-0.4**
DZM	**Mont Dzumac**	**11.90**	**278**	P	**P**	**04 01 18.4**	**-0.2**
	15nm,0.8s,baz=68,slow=18						
URZ	**Urewera**	**13.99**	**187**	P	**P**	**04 01 38.6**	**-1.2**
	14nm,1.0s,baz=338,slow=3.8,SNR=6.8						
URZ				S	**S**	**04 04 03.4**	**-3.7**
	2.4nm,0.6s,baz=324,slow=9.7,SNR=1.5						
QRZ	**Quartz Range**	**17.36**	**197**	P	**P**	**04 02 14.5**	**+1.9**
OXZ	**Oxford**	**19.83**	**195**	P	**P**	**04 02 36.5**	**+1.3**
OXZ				IAmb	IAmb	04 02 41.8	
	comp=Z,18nm,1.2s						
CTAO	**Charters Tower**	**30.71**	**271**	P	**P**	**04 04 11.1**	**-0.5**
CTAO				IAmb	IAmb	04 04 39.1	
	comp=Z,9.3nm,1.2s						
TOO	**Toolangi**	**31.56**	**237**	P	**P**	**04 04 19.5**	**+0.8**
TOO				IAmb	IAmb	04 04 47.3	
	comp=Z,7.7nm,1.4s						
STKA	**Stephens Creek**	**33.84**	**249**	P	**P**	**04 04 38.4**	**+0.4**
STKA	**Stephens Creek**	**33.84**	**249**	P	**P**	**04 04 38.3**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=100,slow=9.7,SNR=8.8						
	comp=Z,2.2nm,0.4s

comp=Z,0.1nm,0.3s,baz=266,slow=18,SNR=2.4
comp=Z,17nm,1.1s

J20K	**Nowinta River**	**20.38**	**41**	Pn	**P**	**04 22 42.8**	**+0.6**
J20K				IAmb	IAmb	04 22 44.4	
	comp=Z,3.3nm,0.9s						
F21K	**Alatna River**	**21.91**	**34**	P	**P**	**04 23 00.3**	**+1.7**
ILAR	**Eielson Array**	**23.56**	**42**	P	**P**	**04 23 15.9**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=252,slow=10,SNR=6.1						
	comp=Z,0.2nm,0.6s						
SCRK	**Sand Creek**	**24.63**	**45**	P	**P**	**04 23 24.5**	**-1.4**
SCRK				IAmb	IAmb	04 23 48.2	
	comp=Z,4.3nm,1.4s						
JHJ	**Hachijo jima 2**	**31.20**	**246**	LR	LR	04 37 11.3	
	comp=Z,51nm,19.0s,baz=91,slow=37						
H11N2	**WAKE ISLAND Hy**	**32.79**	**193**	T	T	04 59 31.1	
	baz=8.9,slow=76,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**32.80**	**193**	T	T	04 59 36.4	
	baz=8.9,slow=76,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**32.81**	**193**	T	T	04 59 37.0	
	baz=8.9,slow=76,SNR=2.8						
H11S1	**WAKE ISLAND Hy**	**34.02**	**193**	T	T	05 01 21.8	
	baz=7.6						
H11S3	**WAKE ISLAND Hy**	**34.04**	**193**	T	T	05 01 20.1	
	baz=7.6						
H11S2	**WAKE ISLAND Hy**	**34.04**	**193**	T	T	05 01 27.0	
	baz=7.6						
KURBB	**Kurchatov Arra**	**55.38**	**310**	P	**P**	**04 27 38.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=64,slow=8.4,SNR=2.0						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**56.54**	**347**	P	**P**	**04 27 47.0**	**-0.1**
	comp=Z,2.3nm,1.1s,baz=29,slow=7.2,SNR=3.7						
	comp=Z,2.3nm,1.1s						
BVAR	**Borovoye Array**	**57.42**	**316**	P	**P**	**04 27 53.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=38,slow=7.7,SNR=3.3						
	comp=Z,0.5nm,0.5s						
TXAR	**Lajitas Array**	**62.81**	**77**	P	**P**	**04 28 31.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=319,slow=6.5,SNR=7.8						
	comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**67.03**	**350**	P	**P**	**04 28 57.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=26,slow=3.7,SNR=4.4						
	comp=Z,1.7nm,0.8s						
BRTR	**Keskin Array B**	**82.32**	**330**	P	**P**	**04 30 27.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=24,slow=5.2,SNR=1.7						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**88.59**	**359**	P	**P**	**04 30 59.0**	**+1.0**
	comp=Z,1.0nm,1.2s,baz=354,slow=5.5,SNR=4.7						
	comp=Z,1.0nm,1.2s						

*IDC **31** 04:56:19.1±0.8,22.˚46S×176.˚87W, h0km, mb4.0/5, mbtmp4.1/6, ML4.1/1, MS3.1/1, Error ellipse: s-maj=31.1km s-min=27.1km az=130.0*
*NEIC **31** 04:56:32.1±2.4,22.˚9S±0.˚1×176.˚7W±0.˚1, h97km±8km, mb4.4/12, Error ellipse: s-maj=18.4km s-min=13.6km az=128.0*

ISC 31 04:56:31.7±0.6, 22.˚7S±0.˚1×176.˚9W±0.˚1, h100km, n29, σ1§14/29, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.91**	**315**	Pn	Pn	04 58 21.6	+11
NIUE	**Niue**	**7.43**	**62**	Pn	**Pn**	**04 58 17.9**	**+0.5**
NIUE				Sn	**Sn**	**04 59 39.7**	**-0.4**
URZ	**Urewera**	**16.31**	**197**	Pn	**P**	**05 00 14.7**	**-1.2**
	0.7nm,0.3s,baz=8.1,slow=7.1,SNR=1.8						
URZ				Sn	Sn	05 02 59.8	-16
	0.3nm,0.3s,baz=33,slow=18,SNR=5.8						
	4.8nm,0.6s						
RTZ	**Ruatahuna**	**16.68**	**197**		**P**	**05 00 18.7**	**-1.4**
RTZ				IAmb	IAmb	05 00 26.5	
	comp=Z,30nm,1.5s						
BKZ	**Black Stump Fm**	**17.33**	**198**	P	**P**	**05 00 26.0**	**-1.2**
BKZ				IAmb	IAmb	05 00 55.2	
	comp=Z,18nm,1.3s						
LTZ	**Lake Taylor**	**21.94**	**202**	P	**P**	**05 01 17.6**	**+0.5**
LTZ				IAmb	IAmb	05 01 44.8	
	comp=Z,24nm,1.4s						
HNR	**Honiara**	**25.87**	**297**	LR	LR	05 10 20.4	
	comp=Z,37nm,18.1s,baz=202,slow=33						
CTAO	**Charters Tower**	**34.40**	**267**	P	**P**	**05 03 11.1**	**+1.6**
CTAO				IAmb	IAmb	05 03 11.6	
	comp=Z,5.8nm,0.5s						
BBOO	**Buckleboo**	**42.56**	**246**	P	**P**	**05 04 17.2**	**-0.6**
BBOO				IAmb	IAmb	05 04 19.3	
	comp=Z,27nm,1.3s						
ASAR	**Alice Springs**	**45.09**	**259**	P	**P**	**05 04 37.8**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=98,slow=8.3,SNR=48						
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Ar**	**45.39**	**264**	P	**P**	**05 04 40.0**	**-0.6**
WRA				PcP	**PcP**	**05 06 17.4**	**-1.0**
WRA	**Warramunga Ar**	**45.39**	**264**	P	**P**	**05 04 39.9**	**-0.7**
	comp=Z,4.2nm,0.8s,baz=101,slow=8.0,SNR=20						
WRA				PcP	**PcP**	**05 06 20.1**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=94,slow=2.9,SNR=2.9						
	comp=Z,4.2nm,0.8s						
MTN	**Manton Dam**	**50.28**	**272**	P	**P**	**05 05 18.3**	**-0.1**
KNRA	**Kununurra**	**51.61**	**268**	P	**P**	**05 05 27.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.82**	**264**	P	**P**	**05 05 44.9**	**+0.4**
SOEI	**Soe**	**57.66**	**273**	P	**P**	**05 06 13.6**	**+1.4**
QSPA	**South Pole Qui**	**67.34**	**180**	P	**P**	**05 07 18.1**	**+2.2**
QSPA				IAmb	IAmb	05 07 26.1	
	comp=Z,4.4nm,1.3s						
QSPA	**South Pole Qui**	**67.34**	**180**	P	**P**	**05 07 17.9**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=135,slow=1.4,SNR=17						
	comp=Z,1.2nm,0.6s						
SNAA	**Sanae**	**85.75**	**178**	P	**P**	**05 08 58.4**	**-1.0**
TXAR	**Lajitas Array**	**87.37**	**57**	P	**P**	**05 09 09.5**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=249,slow=5.1,SNR=4.3						
	comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**90.26**	**12**	P	**P**	**05 09 19.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=208,slow=5.8,SNR=2.6						
	comp=Z,0.3nm,0.8s						
ARCES	**ARCESS Array B**	**131.31**	**350**	PKP	**PKiKP**	**05 15 31.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=15,slow=2.4,SNR=3.5						
FINES	**FINESS Array B**	**138.21**	**344**	PKP	**PKPdf**	**05 15 43.2**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=346,slow=0.6,SNR=3.8						
HFS	**Hagfors**	**141.91**	**351**	PKhKP	PKPpre	05 15 46.0	
	comp=Z,1.2nm,0.8s,baz=20,slow=4.6,SNR=6.7						
AKASG	**Malin Array Be**	**145.48**	**330**	PKPbc	**PKPdf**	**05 15 57.3**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=44,slow=4.5,SNR=12						
KIEV	**Kiev**	**145.49**	**330**	PKPdf	**PKPdf**	**05 15 57.2**	**-0.6**
BRTR	**Keskin Array B**	**149.12**	**310**	PKPbc	**PKPbc**	**05 16 07.4**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=92,slow=4.3,SNR=2.4						
MMAI	**Mount Meron Ar**	**149.81**	**297**	PKPbc	**PKiKP**	**05 16 10.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=60,slow=6.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**170.36**	**172**	PKPab	**PKPab**	**05 17 44.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=186,slow=4.1,SNR=4.0						

*TAP **31** 05:28:41.4,24.˚58N×122.˚85E, h99km, ML3.7, B*
*JMA **31** 05:28:41.0±0.2,25.˚N±2.˚×122.˚9E±0.˚6, h103km±1km, MV3.2/13, NW OFF ISHIGAKIJIMA IS*

ISC 31 05:28:41.2±1.3, 24.˚51N±0.˚04×122.˚87E±0.˚02, h100km±7km, n106, σ0§96/184, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.09**	**132**	P	**Pn**	**05 28 55.3**	**+0.1**
JYNG				S	**Sn**	**05 29 06.2**	**+0.6**
YOJ	**Yonaguni jima**	**0.14**	**112**	P	**Pn**	**05 28 54.7**	**-0.6**
YOJ	**Yonaguni jima**	**0.14**	**112**	*i* P	**Pn**	**05 28 55.7**	**+0.4**
YOJ				*i* S	**Sn**	**05 29 06.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.14**	**112**	P	**Pn**	**05 28 55.6**	**+0.4**
YOJ				S	**Sn**	**05 29 05.9**	**+0.2**
EOS3	**EOS3**	**0.55**	**246**	P	**Pn**	**05 28 58.0**	**+0.7**
EOS3				eS	**Sn**	**05 29 11.1**	**+1.8**
EOS2	**EOS2**	**0.59**	**261**	eP	**Pn**	**05 28 58.9**	**+1.3**
EOS2				eS	**Sn**	**05 29 10.7**	**+0.8**
EOS4	**EOS4**	**0.64**	**232**	eP	**Pn**	**05 28 58.2**	**+0.5**
EOS4				eS	**Sn**	**05 29 11.0**	**+0.9**
IRIF	**Iriomote-Funau**	**0.80**	**103**	P	**Pn**	**05 28 59.9**	**+0.3**
IRIF				S	**Sn**	**05 29 13.7**	**+0.2**
TWC	**Suao**	**0.94**	**276**	P	**Pn**	**05 29 00.6**	**-0.4**
TWC				eS	**Sn**	**05 29 14.3**	**-1.5**
ESAO	**Su ao**	**0.94**	**274**	eP	**Pn**	**05 29 00.8**	**-0.2**
ESAO				eS	**Sn**	**05 29 14.7**	**-1.2**
TWB1	**Santiao Chiao**	**0.94**	**302**	eP	**Pn**	**05 29 00.7**	**-0.4**
HATJ	**Hateruma jima**	**0.97**	**118**	P	**Pn**	**05 29 02.2**	**+0.9**
HATJ				S	**Sn**	**05 29 17.1**	**+0.7**
EWUT	**Wuta**	**1.00**	**266**	eP	**Pn**	**05 29 01.7**	**+0.1**
EWUT				eS	**Sn**	**05 29 16.6**	**-0.4**
ENA	**Nanau**	**1.03**	**266**	eP	**Pn**	**05 29 02.2**	**+0.2**
ENA				eS	**Sn**	**05 29 17.3**	**-0.4**
EAHA	**Aohua**	**1.05**	**260**	eS	**Sn**	**05 29 18.1**	**+0.1**
ILA	**Ilan**	**1.05**	**284**	eP	**Pn**	**05 29 02.4**	**+0.1**
TIPB	**Shuangxi**	**1.05**	**296**	eP	**Pn**	**05 29 02.1**	**-0.3**
TIPB				eS	**Sn**	**05 29 16.7**	**-1.5**
SXI1	**Grass Mountain**	**1.07**	**303**	eP	**Pn**	**05 29 02.2**	**-0.4**
SXI1				S	**Sn**	**05 29 18.4**	**-0.3**
JKRS	**Kuro-shima**	**1.07**	**105**	P	**Pn**	**05 29 03.0**	**+0.5**
JKRS				S	**Sn**	**05 29 19.1**	**+0.6**
TWE	**Neicheng**	**1.11**	**281**	eP	**Pn**	**05 29 02.7**	**-0.3**
JIJ	**Ishigaki jima**	**1.17**	**97**	P	**Pn**	**05 29 03.7**	**+0.1**
JIJ				S	**Sn**	**05 29 19.7**	**-0.7**
ETL	**Fush Village**	**1.19**	**253**	eP	**Pn**	**05 29 03.7**	**-0.2**
FUSB	**Fushanzhiwuyua**	**1.19**	**282**	eP	**Pn**	**05 29 04.0**	**+0.1**
FUSB				eS	**Sn**	**05 29 19.8**	**-1.3**
ENTT	**Nioudou**	**1.19**	**276**	P	**Pn**	**05 29 04.2**	**+0.4**
ENTT				eS	**Sn**	**05 29 20.9**	**-0.1**
NACB	**Ninganchiao**	**1.21**	**254**	P	**Pn**	**05 29 03.6**	**-0.5**
NACB	**Ninganchiao**	**1.21**	**254**	S	**Sn**	**05 29 16.8**	**-4.5**
NACB	**Ninganchiao**	**1.21**	**254**	eP	**Pn**	**05 29 03.6**	**-0.5**
NACB				eS	**Sn**	**05 29 19.9**	**-1.4**
LATG	**Datong**	**1.22**	**271**	P	**Pn**	**05 29 04.4**	**+0.1**
LATG				eS	**Sn**	**05 29 21.1**	**-0.7**
TWD	**Chiawan**	**1.24**	**250**	eP	**Pn**	**05 29 04.1**	**-0.3**
TWD				eS	**Sn**	**05 29 20.9**	**-1.0**
TWA	**Mucha**	**1.26**	**292**	eP	**Pn**	**05 29 04.6**	**0.0**
TWA				eS	**Sn**	**05 29 20.6**	**-1.7**
HWA	**Hwalien**	**1.27**	**245**	eP	**Pn**	**05 29 05.6**	**+0.9**
HWA				eS	**Sn**	**05 29 22.4**	**-0.2**
NWLT	**Wulai**	**1.27**	**282**	P	**Pn**	**05 29 04.8**	**0.0**
NWLT				eS	**Sn**	**05 29 21.8**	**-0.9**
ETLH	**Xiulin Townshi**	**1.30**	**257**	eP	**Pn**	**05 29 05.1**	**-0.2**
ETLH				eS	**Sn**	**05 29 22.4**	**-1.0**
JISG	**Ishigakijimahi**	**1.31**	**86**	P	**Pn**	**05 29 05.2**	**-0.1**
JISG				S	**Sn**	**05 29 22.5**	**-0.9**
PCYT	**Pengchaiyu**	**1.33**	**327**	eP	**Pn**	**05 29 05.5**	**0.0**
TEYL	**Yanliau Villag**	**1.33**	**241**	eP	**Pn**	**05 29 05.4**	**0.0**
TEYL				eS	**Sn**	**05 29 23.1**	**-0.6**
YM01	**YM01**	**1.34**	**298**	eP	**Pn**	**05 29 05.8**	**+0.2**
YM01				S	**Sn**	**05 29 23.1**	**-1.0**
YM08	**YM08**	**1.34**	**300**	eP	**Pn**	**05 29 06.4**	**+0.8**
NNSB	**Datong**	**1.36**	**267**	eP	**Pn**	**05 29 05.9**	**0.0**
NNSB				eS	**Sn**	**05 29 23.9**	**-0.7**
NNS	**Nan Shan**	**1.37**	**267**	eP	**Pn**	**05 29 06.0**	**-0.1**
NNS				eS	**Sn**	**05 29 23.9**	**-0.9**
ZUZH	**Zhuzihu**	**1.37**	**299**	eS	**Sn**	**05 29 23.6**	**-1.1**
YHNB	**Yeheng**	**1.37**	**277**	P	**Pn**	**05 29 06.2**	**+0.2**
YHNB	**Yeheng**	**1.37**	**277**	eP	**Pn**	**05 29 06.1**	**+0.1**
YHNB				eS	**Sn**	**05 29 24.1**	**-0.7**
ETM	**Tongmen**	**1.37**	**247**	eP	**Pn**	**05 29 05.8**	**-0.1**
ETM				eS	**Sn**	**05 29 23.8**	**-0.9**
NSK	**Sanguang**	**1.39**	**277**	eP	**Pn**	**05 29 06.4**	**+0.3**
NSK				S	**Sn**	**05 29 24.7**	**-0.4**
SHUL	**Shoufeng**	**1.40**	**239**	eP	**Pn**	**05 29 06.3**	**+0.1**
SHUL				eS	**Sn**	**05 29 25.0**	**-0.2**
LXIB	**Xiulin Townshi**	**1.42**	**250**	P	**Pn**	**05 29 06.2**	**-0.5**
LXIB				S	**Sn**	**05 29 24.6**	**-1.3**
TWS1	**Kuangyinshan**	**1.44**	**294**	eP	**Pn**	**05 29 06.7**	**-0.2**
ESL	**Shilin**	**1.48**	**242**	eP	**Pn**	**05 29 07.1**	**-0.2**
ESL				eS	**Sn**	**05 29 26.2**	**-0.9**
FUSS	**Fushou**	**1.51**	**260**	eP	**Pn**	**05 29 08.0**	**+0.1**
FUSS				eS	**Sn**	**05 29 27.6**	**-0.4**
WHF	**Hehuan Shan**	**1.51**	**256**	eP	**Pn**	**05 29 08.0**	**-0.1**
WHF				eS	**Sn**	**05 29 27.3**	**-1.0**
EGFH	**Guangfu**	**1.56**	**238**	eS	**Sn**	**05 29 28.0**	**-0.8**
TWT	**Tachien**	**1.57**	**261**	eS	**Sn**	**05 29 28.9**	**-0.3**
WARBT	**Fenglin Townsh**	**1.57**	**240**	P	**Pn**	**05 29 08.0**	**-0.4**
WARBT				eS	**Sn**	**05 29 28.0**	**-1.0**
TDCB	**Techi**	**1.58**	**261**	eP	**Pn**	**05 29 09.0**	**+0.3**
TDCB				eS	**Sn**	**05 29 28.7**	**-0.9**
NFF	**Wufeng Townshi**	**1.60**	**275**	eP	**Pn**	**05 29 09.1**	**+0.3**
NFF				eS	**Sn**	**05 29 29.0**	**-0.7**
OWD	**Renai**	**1.64**	**251**	eP	**Pn**	**05 29 09.3**	**-0.1**
OWD				eS	**Sn**	**05 29 30.0**	**-0.9**
HGSD	**Ruisui**	**1.67**	**233**	eP	**Pn**	**05 29 09.8**	**+0.2**
HGSD				eS	**Sn**	**05 29 30.8**	**-0.4**
JTJ	**Tarama**	**1.67**	**85**	P	**Pn**	**05 29 09.8**	**+0.1**
JTJ				S	**Sn**	**05 29 30.8**	**-0.5**
WUSB	**Renai**	**1.68**	**252**	P	**Pn**	**05 29 10.3**	**+0.3**
WUSB				S	**Sn**	**05 29 31.2**	**-0.5**
NSTT	**Nanjuang**	**1.71**	**274**	eP	**Pn**	**05 29 10.1**	**0.0**
NSTT				eS	**Sn**	**05 29 31.8**	**-0.2**
EHYH	**Wanrong**	**1.72**	**234**	eP	**Pn**	**05 29 10.2**	**-0.1**
EHYH				eS	**Sn**	**05 29 31.7**	**-0.8**
ECBN	**Changbin**	**1.76**	**228**	eP	**Pn**	**05 29 11.6**	**+0.8**
ECBN				eS	**Sn**	**05 29 32.3**	**-1.0**
WHP	**Taichung City**	**1.77**	**263**	eP	**Pn**	**05 29 12.1**	**+1.1**
WHP				eS	**Sn**	**05 29 32.9**	**+0.3**
DPDB	**Guoxing**	**1.84**	**255**	eP	**Pn**	**05 29 12.5**	**+0.7**
CHKH	**Chenggong**	**1.89**	**226**	eS	**Sn**	**05 29 34.4**	**-1.7**
SSLB	**Suanglung**	**1.89**	**248**	P	**Pn**	**05 29 13.1**	**+0.6**
SSLB	**Suanglung**	**1.89**	**248**	S	**Sn**	**05 29 36.2**	**-0.1**
SSLB	**Suanglung**	**1.89**	**248**	eP	**Pn**	**05 29 12.8**	**+0.3**
SSLB				eS	**Sn**	**05 29 35.5**	**-0.8**
SMLT	**Sun Moon Lake**	**1.91**	**251**	eP	**Pn**	**05 29 13.4**	**+0.7**
SMLT				eS	**Sn**	**05 29 37.4**	**+0.6**
TYC	**Yuchr**	**1.94**	**252**	eP	**Pn**	**05 29 13.9**	**+0.9**
TYC				eS	**Sn**	**05 29 38.1**	**+0.9**
FULB	**Fuli**	**1.95**	**228**	eS	**Sn**	**05 29 36.9**	**-0.7**
CHKT	**Chengkung**	**1.97**	**225**	eP	**Pn**	**05 29 13.0**	**-0.4**
CHKT				eS	**Sn**	**05 29 36.4**	**-1.6**
WHYT	**Xinyi Township**	**2.01**	**247**	eP	**Pn**	**05 29 15.2**	**+1.1**
WHYT				eS	**Sn**	**05 29 39.7**	**+0.5**
YUS	**Yu-Shan**	**2.03**	**240**	eP	**Pn**	**05 29 15.0**	**+0.3**
YUS				eS	**Sn**	**05 29 39.2**	**-0.9**
WWF	**Wufeng**	**2.04**	**257**	eP	**Pn**	**05 29 15.1**	**+0.8**
WWF				eS	**Sn**	**05 29 40.2**	**+0.7**
EHD	**Haiduan**	**2.04**	**229**	eP	**Pn**	**05 29 14.1**	**-0.3**
EHD				eS	**Sn**	**05 29 38.7**	**-1.0**
ECS	**Chishang**	**2.07**	**227**	eS	**Sn**	**05 29 41.1**	**+0.7**
WJS	**Zhushan**	**2.07**	**251**	eS	**Sn**	**05 29 42.5**	**+2.0**
WNT	**Mingjian**	**2.09**	**253**	eS	**Sn**	**05 29 42.8**	**+1.9**
EDH	**Donghe**	**2.10**	**223**	P	**Pn**	**05 29 14.6**	**-0.5**
EDH				S	**Sn**	**05 29 39.5**	**-1.5**
ALS	**Alishan**	**2.14**	**243**	eP	**Pn**	**05 29 17.0**	**+1.1**
ALS				eS	**Sn**	**05 29 43.2**	**+0.9**
ELDTW	**Lidau**	**2.15**	**233**	eP	**Pn**	**05 29 15.9**	**0.0**
ELDTW				eS	**Sn**	**05 29 41.2**	**-1.1**
CHN5	**Tsauling**	**2.20**	**246**	eP	**Pn**	**05 29 17.8**	**+1.3**
CHN5				eS	**Sn**	**05 29 45.3**	**+1.7**
JMJ	**Miyako jima 2**	**2.23**	**82**	P	**Pn**	**05 29 17.4**	**+0.7**
JMJ				eS	**Sn**	**05 29 43.3**	**-0.7**
LDUT	**Ludao**	**2.24**	**215**	eP	**Pn**	**05 29 17.2**	**-0.2**
LDUT				eS	**Sn**	**05 29 42.7**	**-1.5**
JMJ2	**Miyako jima3**	**2.25**	**84**	eP	**Pn**	**05 29 17.2**	**+0.2**
JMJ2				eS	**Sn**	**05 29 44.3**	**-0.2**
LONT	**Longtian**	**2.26**	**225**	eP	**Pn**	**05 29 17.6**	**+0.3**
WDLH	**Douliu**	**2.28**	**249**	eP	**Pn**	**05 29 18.8**	**+1.3**
WDLH				eS	**Sn**	**05 29 46.9**	**+1.6**
WCKO	**Fanlu**	**2.33**	**243**	P	**Pn**	**05 29 19.3**	**+1.1**
WCKO				eS	**Sn**	**05 29 48.0**	**+1.5**
STYH	**Taoyuan**	**2.34**	**236**	eP	**Pn**	**05 29 19.2**	**+0.9**
STYH				eS	**Sn**	**05 29 47.4**	**+0.9**
TWGBT	**Beinan**	**2.35**	**225**	P	**Pn**	**05 29 19.4**	**+0.9**
TWGBT	**Beinan**	**2.35**	**225**	S	**Sn**	**05 29 47.0**	**0.0**
TWGBT	**Beinan**	**2.35**	**225**	eP	**Pn**	**05 29 18.3**	**-0.1**
TWGBT				eS	**Sn**	**05 29 46.3**	**-0.7**
TWG	**Pinlang**	**2.36**	**225**	eP	**Pn**	**05 29 18.3**	**-0.2**
TWG				eS	**Sn**	**05 29 46.5**	**-0.6**
TPUB	**Ta-pu**	**2.38**	**240**	P	**Pn**	**05 29 20.8**	**+2.0**
TPUB	**Ta-pu**	**2.38**	**240**	eP	**Pn**	**05 29 20.3**	**+1.5**
TPUB				eS	**Sn**	**05 29 48.5**	**+0.9**
CHN4	**Tsaushan**	**2.38**	**241**	eP	**Pn**	**05 29 20.6**	**+1.7**
CHN4				eS	**Sn**	**05 29 49.7**	**+2.1**
WTK	**Tuku**	**2.41**	**251**	eP	**Pn**	**05 29 19.8**	**+0.6**
WTK				eS	**Sn**	**05 29 49.4**	**+1.0**
WTP	**Ta-pu**	**2.42**	**239**	eP	**Pn**	**05 29 21.1**	**+1.7**
WTP				eS	**Sn**	**05 29 50.5**	**+2.0**
CHY	**Chiayi**	**2.45**	**246**	eP	**Pn**	**05 29 20.6**	**+0.9**
TWK	**Hsinying**	**2.51**	**241**	eP	**Pn**	**05 29 21.8**	**+1.2**
TWK				eS	**Sn**	**05 29 52.5**	**+1.8**
CHN1	**Nanshi**	**2.52**	**239**	eP	**Pn**	**05 29 22.2**	**+1.5**
CHN1				eS	**Sn**	**05 29 52.2**	**+1.3**
WSL	**Shuilin Townsh**	**2.61**	**248**	eP	**Pn**	**05 29 22.3**	**+0.5**
WSL				eS	**Sn**	**05 29 53.6**	**+0.7**
LAY	**Lan-yu**	**2.75**	**206**	eP	**Pn**	**05 29 22.9**	**-0.8**
LAY				eS	**Sn**	**05 29 54.2**	**-2.1**
LYUB	**Lan-yu**	**2.77**	**206**	eP	**Pn**	**05 29 23.1**	**-0.8**
LYUB				eS	**Sn**	**05 29 53.6**	**-3.0**

*FUNV **31** 05:31:29.8,8.˚95N×70.˚50W, h5km, MW3.1*

*RSNC **31** 05:31:30.3±0.0,9.˚N±4.˚×7.˚1W±.˚, h0km±2km, ML1.9, MLv2.7*

ISC 31 05:31:27.7±1.4, 8.˚90N±0.˚05×70.˚46W±0.˚03, h4km±11km, n12, σ1§13/23, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.17**	**265**	P	**Pg**	**05 31 31.7**	**+0.5**
SDV				S	**Sg**	**05 31 33.3**	**-0.2**
CAPV	**Capacho**	**2.10**	**241**	eP	**Pb**	**05 32 06.2**	**-0.4**
CAPV				eS	**Sb**	**05 32 32.1**	**-1.0**
BAUV	**El Baul**	**2.39**	**89**	eP	**Pn**	**05 32 08.9**	**+1.3**
BAUV				eS	**Sb**	**05 32 39.2**	**-2.0**
PAMC	**Pamplona, Colo**	**2.71**	**235**	P	**Pn**	**05 32 12.7**	**+0.2**
PAMC				S	**Sn**	**05 32 46.0**	**+0.1**
OCAC	**Ocana**	**2.91**	**257**	P	**Pb**	**05 32 19.8**	**-0.4**
OCAC				S	**Sn**	**05 32 52.1**	**+1.8**
BENV	**Beln**	**3.01**	**69**	eP	**Pn**	**05 32 18.3**	**+2.0**
BENV				eS	**Sn**	**05 32 53.4**	**+0.5**
URIC	**Uribia, Colomb**	**3.17**	**332**	P	**Pb**	**05 32 23.4**	**-1.2**
URIC				S	**Sb**	**05 33 03.0**	**-0.5**
TACV	**Tcata**	**3.60**	**70**	eP	**Pn**	**05 32 25.1**	**+0.7**
TACV				eS	**Sn**	**05 33 06.9**	**-0.5**
RUSC	**La Rusia**	**3.96**	**221**	P	**Pn**	**05 32 31.1**	**+1.4**
RUSC				S	**Sn**	**05 33 15.5**	**-1.4**
CACV	**CAICARA DEL OR**	**4.10**	**109**	eP	**Pb**	**05 32 39.3**	**-1.2**
CACV				eS	**Sb**	**05 33 31.0**	**+0.6**
PTBC	**PUERTO BERRIO,**	**4.61**	**240**	P	**Pn**	**05 32 39.0**	**+0.8**
SJCC	**San Jacinto, C**	**4.76**	**282**	P	**Pn**	**05 32 41.3**	**+0.9**
SJCC				S	**Sn**	**05 33 35.7**	**-0.4**

CATAC 31 05:34:12.2±0.8, 11.˚N±4.˚×8.˚7W±.˚, h35km±20km, M3.0/13, MLv3.0/13, Error ellipse: s-maj=11.8km s-min=4.1km az=49.9, confirmed, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**1.03**	**94**	P	Pn	05 34 30.1	-0.1
ELI1	**Hacienda Flor**	**1.03**	**94**	S	Sb	05 34 44.4	-0.5
CARN	**Rivas**	**1.16**	**66**	P	Pn	05 34 31.9	-0.1
CARN				S	Sb	05 34 47.7	-0.9
JAPN	**Al SSO del Vol**	**1.21**	**48**	P	Pn	05 34 33.4	+0.7
OMEN	**Al SSO del Vol**	**1.24**	**50**	P	Pn	05 34 32.6	-0.5
CONN	**Concepcion**	**1.28**	**48**	P	Pn	05 34 33.7	+0.1
CONN				S	Sn	05 34 49.9	+0.3
NANN	**Nandasmo**	**1.31**	**21**	P	Pb	05 34 35.5	-0.8
NANN	**Nandasmo**	**1.31**	**21**	S	Sn	05 34 51.0	+0.7
COPN	**Copaltepe**	**1.46**	**0**	P	Pn	05 34 36.4	+0.3
SAPS	**Ciudad Sandino**	**1.46**	**7**	P	Pn	05 34 36.5	+0.3
SAPS	**Ciudad Sandino**	**1.46**	**7**	S	Sn	05 34 54.8	+0.7
JTS	**Las Juntas de**	**1.67**	**104**	P	Pn	05 34 38.2	-0.9
JTS				S	Sn	05 34 59.6	+0.3
CNGA	**Al SSO del Vol**	**1.77**	**357**	P	Pn	05 34 40.7	+0.2
CNGN	**Cerro Negro**	**1.78**	**357**	P	Pn

LPHEP IAML 06 12 41.5
comp=N,168nm,0.4s
LPHEP Lephephe 3.42 334 Pn 06 11 45.2 +1.9
LPHEP **Sb 06 12 35.5 +3.2**
SKOMA Sekoma 3.75 300 *i* P **Pn 06 11 50.6 +2.7**
SKOMA IAML 06 12 52.5
comp=N,122nm,0.2s
MREMI Moremi 3.88 359 *i* P **Pn 06 11 51.1 +1.5**
MREMI IAML 06 12 54.3
comp=N,292nm,0.3s
MREMI Moremi 3.88 359 Pn 06 11 51.3 +1.7
KDWAN Kaudwane 4.00 320 *i* P **Pn 06 11 53.5 +2.2**
KDWAN *i* S **Sn 06 12 38.3 -0.4**
KDWAN IAML 06 12 57.7
comp=N,391nm,0.7s
PMBG Pietermaritzbu 4.05 139 *e*P **Pn 06 11 51.0 -0.9**
PMBG *e*S **Sn 06 12 37.4 -2.5**
PMBG IAML 06 12 57.2
comp=Z,98nm,0.4s
PHPEN Phepeng 4.28 282 *i* P **Pn 06 11 57.5 +2.4**
PHPEN Phepeng 4.28 282 Pn 06 11 56.7 +1.5
KSTD Kokstad 4.44 159 *e*P **Pn 06 11 56.6 -0.9**
KSTD *e*S **Sn 06 12 47.4 -2.3**
KSTD IAML 06 13 13.5
comp=Z,40nm,0.4s
MOPA Mopani 4.61 51 *e*P **Pn 06 11 58.1 -1.4**
MOPA *e*S **Sn 06 12 50.1 -3.4**
MOPA IAML 06 13 26.6
comp=Z,132nm,0.4s
MUSN Musina, Limpop 4.69 28 *e*P **Pn 06 11 59.7 -1.0**
MUSN *e*S **Sn 06 12 52.5 -3.1**
MUSN IAML 06 13 21.3
comp=Z,41nm,0.8s
BROLN Tlhalogang 5.34 358 *i* P **Pn 06 12 11.1 +1.3**
BROLN *i* S **Sn 06 13 09.5 -2.3**
BROLN IAML 06 13 36.4
comp=E,76nm,0.5s
ALKP Alkanpan, Nort 5.78 232 *e*P **Pn 06 12 15.4 -0.4**
ALKP *e*S **Sn 06 13 20.2 -2.3**
ALKP IAML 06 13 54.2
comp=Z,60nm,0.3s
SOOWA Sowa 5.99 349 *i* P **Pn 06 12 20.4 +1.8**
SOOWA IAML 06 14 01.0
comp=E,283nm,0.6s
KGCAE Kacgae 6.00 306 *i* P **Pn 06 12 21.7 +2.9**
KGCAE *i* S **Sn 06 13 25.7 -2.3**
KGCAE IAML 06 14 04.0
comp=N,176nm,0.3s
KGCAE Kacgae 6.00 306 Pn 06 12 21.4 +2.6
CKGRV CKGRV 6.07 325 *i* P **Pn 06 12 21.3 +1.4**
CKGRV *i* S **Sn 06 13 27.4 -2.5**
CKGRV IAML 06 14 16.1
comp=E,309nm,0.8s
MATP Matopo 6.08 9 Pn **Pn 06 12 23.8 +3.8**
comp=E,4.4nm,0.3s,baz=189,slow=14,SNR=70
MATP Sn **Sn 06 13 30.7 +0.6**
comp=E,4.3nm,0.3s,baz=176,slow=6.1,SNR=13
MATP Lg Lg 06 13 56.6
comp=E,17nm,0.3s,baz=104,slow=17,SNR=13
LKGWB Lokgwabe 6.13 291 Pn 06 12 15.4 -5.3
KEIM Keimoes 6.20 247 *e*P **Pn 06 12 21.9 +0.3**
KEIM *e*S **Sn 06 13 30.7 -2.2**
KEIM IAML 06 14 08.2
comp=Z,39nm,0.6s
BFON Badsfontein, M 6.27 211 *e*P **Pn 06 12 22.4 -0.2**
BFON *e*S **Sn 06 13 32.1 -2.6**
BFON IAML 06 14 11.7
comp=Z,29nm,0.5s
GRAF Camdeboo Natio 6.36 204 *e*P **Pn 06 12 24.4 +0.7**
GRAF *e*S **Sn 06 13 33.7 -3.1**
GRAF IAML 06 14 19.5
comp=Z,23nm,0.6s
BRAK Brakfontein 6.65 216 *e*P **Pn 06 12 27.9 +0.3**
BRAK *e*S **Sn 06 13 41.9 -2.1**
BRAK IAML 06 14 23.8
comp=Z,35nm,0.5s
AUGR Augrabies 6.69 250 *e*P **Pn 06 12 27.9 -0.4**
AUGR *e*S **Sn 06 13 42.5 -2.5**
AUGR IAML 06 14 30.1
comp=Z,38nm,0.3s
PHDHD Phuduhudu 6.80 336 *i* P **Pn 06 12 30.9 +1.1**
PHDHD IAML 06 14 26.3
comp=N,142nm,0.7s
PHDHD Phuduhudu 6.80 336 Pn 06 12 31.3 +1.5
GRHM Grahamstown, E 6.86 188 Pn **Pn 06 12 30.5 0.0**
GRHM Grahamstown, E 6.86 188 *e*P **Pn 06 12 30.4 -0.2**
GRHM *e*S **Sn 06 13 45.3 -3.8**
GRHM IAML 06 14 35.3
comp=Z,16nm,0.5s
ROOI Rooidraai Farm 6.92 209 *e*P **Pn 06 12 32.1 +0.7**
ROOI *e*S **Sn 06 13 47.9 -2.8**
ROOI IAML 06 14 34.4
comp=Z,20nm,0.6s
GRAN Grantham 7.44 217 *e*P **Pn 06 12 38.8 +0.2**
GRAN *e*S **Sn 06 14 00.0 -3.4**
GRAN IAML 06 14 47.4
comp=Z,28nm,0.4s
KOOLE Kule 7.47 296 *i* P **Pn 06 12 40.1 +1.0**
KOOLE *i* S **Sn 06 13 59.9 -4.5**
KOOLE IAML 06 14 53.2
comp=N,75nm,0.7s
KOOLE Kule 7.47 296 Pn 06 12 39.5 +0.4
FRAZ Fraserburg 7.61 223 *e*P **Pn 06 12 41.8 +0.9**
FRAZ *e*S **Sn 06 14 04.5 -3.1**
FRAZ IAML 06 14 49.7
comp=Z,21nm,0.5s
GRTLG Ghanzi 7.66 310 *i* P **Pn 06 12 42.7 +1.1**
GRTLG IAML 06 14 55.2
comp=E,49nm,0.2s
GRTLG Ghanzi 7.66 310 Pn 06 12 42.5 +0.9
SUR Sutherland 8.28 223 Pn 06 12 52.0 +1.7
SUR Sutherland 8.28 223 *e*P **Pn 06 12 50.6 +0.4**
SUR *e*S **Sn 06 14 20.6 -3.8**
SUR IAML 06 15 13.7
comp=Z,31nm,0.5s
CVNA Calvinia 8.41 232 *e*P **Pn 06 12 51.9 0.0**
CVNA *e*S **Sn 06 14 23.7 -3.7**
CVNA IAML 06 15 17.4
comp=Z,52nm,0.5s
MATJ Matjiesfontein 9.04 220 *e*P **Pn 06 13 01.1 +0.5**
MATJ *e*S **Sn 06 14 38.7 -4.3**
MATJ IAML 06 15 43.8
comp=Z,22nm,0.5s
KOMG Komaggas 9.43 247 *e*P **Pn 06 13 06.1 +0.2**
KOMG *e*S **Sn 06 14 48.1 -4.3**
KOMG IAML 06 15 50.0
comp=Z,19nm,0.5s
KRI Karoi 9.79 12 *i* P **Pn 06 13 11.2 +0.3**
KRI *i* S **Sn 06 14 55.1 -6.2**
LSZ Lusaka 11.15 4 Pn 06 13 28.6 -0.9
LSZ Lusaka 11.15 4 Pn **Pn 06 13 28.2 -1.3**
comp=Z,7.0nm,0.5s,baz=192,slow=13,SNR=11
LSZ Sn **Sn 06 15 28.9 -5.9**
comp=Z,1.0nm,0.3s,baz=84,slow=17,SNR=3.0
LSZ Lg Lg 06 16 35.9
comp=Z,0.7nm,0.3s,baz=100,slow=6.1,SNR=2.0
TSUM Tsumeb 11.64 306 Pn **Pn 06 13 36.8 +0.5**
comp=Z,1.9nm,0.3s,baz=115,slow=8.6,SNR=16
TSUM Sn **Sn 06 15 42.8 -4.0**
comp=Z,0.1nm,0.3s,baz=72,slow=20,SNR=2.1
TSUM Lg Lg 06 16 50.5
comp=Z,1.1nm,0.3s,baz=133,slow=14,SNR=3.9
comp=Z,8.4nm,0.6s
DBIC Dimbokro 45.48 312 P **P 06 19 10.7 +0.9**
DBIC Dimbokro 45.48 312 P **P 06 19 10.6 +0.9**
comp=Z,8.8nm,1.2s,baz=162,slow=8.6,SNR=2.5
comp=Z,8.8nm,1.2s
TORD Torodi Ar. Bea 46.68 324 P **P 06 19 20.0 +0.8**
TORD Torodi Ar. Bea 46.68 324 P **P 06 19 19.8 +0.7**
comp=Z,1.3nm,0.7s,baz=137,slow=6.2,SNR=10
comp=Z,1.3nm,0.7s
SNAA Sanae 48.30 192 P **P 06 19 32.8 +1.6**
SNAA IAmb IAmb 06 19 37.6
comp=Z,4.3nm,1.4s
SNAA Sanae 48.30 192 P **P 06 19 33.1 +1.9**
comp=Z,1.2nm,0.7s,baz=34,slow=14,SNR=9.1
comp=Z,1.2nm,0.7s
BELA Belgrano 2 58.54 193 P **P 06 20 47.8 +1.5**
BELA IAmb IAmb 06 21 10.2
comp=Z,3.1nm,1.5s
CASY Casey 63.31 153 P **P 06 21 19.7 +0.8**
CASY IAmb IAmb 06 21 39.0
comp=Z,2.2nm,0.9s
ITM Ithomi 63.52 355 P **P 06 21 20.2 -0.3**

QSPA South Pole Qui 63.72 180 P **P 06 21 20.9 -0.9**
QSPA IAmb IAmb 06 21 45.7
comp=Z,4.0nm,1.4s
QSPA South Pole Qui 63.72 180 P **P 06 21 24.1 +2.3**
comp=Z,0.4nm,0.4s,baz=243,slow=9.0,SNR=6.2
comp=Z,0.4nm,0.4s
ESBB Sonseca Array 72.04 335 P **P 06 22 15.0 +0.8**
ESBB IAmb IAmb 06 22 40.5
comp=Z,8.1nm,1.4s
ESDC Sonseca Array 72.04 335 P **P 06 22 15.2 +1.0**
ESDC Sonseca Array 72.04 335 P **P 06 22 15.9 +1.7**
comp=Z,0.6nm,0.5s,baz=151,slow=6.1,SNR=9.4
comp=Z,0.6nm,0.5s
VNDA Vanda 72.77 171 P **P 06 22 19.7 +1.6**
VNDA IAmb IAmb 06 22 38.1
comp=Z,2.3nm,1.2s
TRQA Tornquist 73.82 235 P **P 06 22 26.5 +1.4**
AKASG Malin Array Be 76.84 1 P **P 06 22 42.1 +0.3**
comp=Z,0.3nm,0.4s,baz=181,slow=5.1,SNR=2.6
comp=Z,0.3nm,0.4s
KKAR Karatay Array 79.74 31 P **P 06 22 59.0 +0.9**
AB31 Akbulak array 80.75 21 P **P 06 23 04.0 +0.6**
ABKAR Akbulak array 80.75 21 P **P 06 23 03.7 +0.3**
FINES FINESS Array B 87.60 359 P **P 06 23 39.4 +1.4**
comp=Z,0.6nm,0.5s,baz=184,slow=3.9,SNR=5.9
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 88.11 34 P **P 06 23 40.7 -0.1**
comp=Z,0.4nm,0.6s,baz=226,slow=5.8,SNR=1.9
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 141.53 306 PKP **PKPdf 06 30 21.7 -0.2**
comp=Z,0.2nm,0.6s,baz=69,slow=4.2,SNR=1.9
NVAR Mina Array Bea 148.93 301 PKPbc **PKPab 06 30 41.3 -1.4**
comp=Z,0.6nm,0.6s,baz=60,slow=5.7,SNR=7.5

*IDC **31** 06:14:56.3±1.4,30.91N×66.75E,h0km,mb3.6/6, mbtmp3.6/8,ML3.5/2,MS3.1/9,Error ellipse: s-maj=37.9km s-min=22.0km az=120.0*
ISC 31 06:15:01.0±1.1,31.0N±0.2×66.7E±0.2,h35km,n16, σ1ᵍ34/9,mb3.6/4,MS2.9/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**10.54**	**225**	Pn	**Pn**	**Pn**	**06 17 29.2**	**-0.5**
	baz=38,slow=19,SNR=1.6							
AAK	**Ala-Archa**	**13.20**	**26**	Pn		**Pn**	**06 18 05.2**	**-0.8**
	0.2nm,0.3s,baz=212,slow=19,SNR=1.3							
AAK				LR		LR	06 23 49.5	
	comp=Z,44nm,18.7s,baz=107,slow=40							
	0.7nm,0.3s							
MKAR	**Makanchi Array**	**19.85**	**33**	P		**P**	**06 19 27.6**	**-1.4**
	0.2nm,0.3s,baz=230,slow=9.0,SNR=5.2							
	0.3nm,0.4s							
GNI	**Garni**	**20.06**	**303**	LR		LR	06 27 48.4	
	comp=Z,30nm,18.9s,baz=171,slow=38							
AKTO	**Aktyubinsk**	**20.51**	**344**	P		**P**	**06 19 36.1**	**0.0**
	1.5nm,0.3s,baz=163,slow=11,SNR=3.7							
AKTO				LR		LR	06 28 38.3	
	comp=Z,32nm,18.7s,baz=226,slow=40							
	1.5nm,0.3s							
KURBB	**Kurchatov Arra**	**21.52**	**21**	P		**P**	**06 19 48.0**	**+1.2**
	1.8nm,0.8s,baz=211,slow=12,SNR=9.8							
	1.8nm,0.8s							
BVAR	**Borovoye Array**	**22.21**	**6**	P		**P**	**06 19 55.1**	**+0.9**
	1.7nm,0.6s,baz=177,slow=8.7,SNR=9.7							
	1.7nm,0.6s							
ARTI	**Arti**	**26.08**	**349**	LR		LR	06 32 19.2	
	comp=Z,34nm,18.1s,baz=43,slow=40							
ZALV	**Zalesovo Beam**	**26.41**	**24**	P		**P**	**06 20 36.5**	**+2.4**
	0.4nm,0.4s,baz=206,slow=9.2,SNR=1.4							
	0.4nm,0.4s							
AKASG	**Malin Array Be**	**34.06**	**316**	LR		LR	06 38 20.9	
	comp=Z,20nm,20.4s,baz=301,slow=41							
FINES	**FINESS Array B**	**40.35**	**331**	LR		LR	06 42 34.5	
	comp=Z,44nm,18.4s,baz=76,slow=41							
PSI	**Prapat**	**41.33**	**126**	LR		LR	06 40 52.6	
	comp=Z,45nm,18.6s,baz=228,slow=38							
NOA	**NORSAR Array B**	**46.85**	**327**	LR		LR	06 45 42.8	
	comp=Z,14nm,18.2s,baz=230,slow=39							
BORG	**Borgarnes**	**61.64**	**331**	LR		LR	06 56 40.9	
	comp=Z,17nm,18.2s,baz=313,slow=41							
TORD	**Torodi Ar. Bea**	**62.04**	**269**	P		**P**	**06 25 18.5**	**+0.2**
	0.5nm,0.7s,baz=52,slow=7.6,SNR=2.6							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**84.19**	**122**	P		**P**	**06 27 29.4**	**+0.4**
	0.5nm,1.0s,baz=307,slow=4.7,SNR=4.3							
	0.5nm,1.0s							

*ISK **31** 06:22:20.5,37.55N×26.80E,h10km, ML2.9/16*
*THE **31** 06:22:21.3,38.N±4.×2.7E±.°, h8km±6km, M2.9/6, MLh2.9/6*
*AFAD **31** 06:22:21.2,37.58N×26.84E,h7km±2km, ML2.7*
ISC 31 06:22:21.2±1.0,37.57N±0.02×26.82E±0.03,h12km±7km, n40,σ0ᵍ63/67,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.14**	**6**	P		**Pg**	**06 22 24.5**	**0.0**
SMG				S		**Sg**	**06 22 26.3**	**-0.6**
GCAM	**G?zelcaml?**	**0.35**	**69**	Pg		**Pg**	**06 22 28.4**	**+0.2**
GCAM				Sg		**Sb**	**06 22 34.2**	**-0.8**
GCAM	**G?zelcaml?**	**0.35**	**69**	P		**Pg**	**06 22 28.5**	**+0.2**
GCAM				S		**Sg**	**06 22 33.5**	**+0.5**
GCAM				*i*	IAML		06 22 34.0	
	comp=E,2μm,0.4s							
GCAM				*i*	IAML		06 22 34.0	
	comp=N,3μm,0.1s							
DDIM	**Aydin, Didim**	**0.35**	**109**	P		**Pg**	**06 22 28.7**	**+0.4**
DDIM				S		**Sg**	**06 22 33.8**	**+0.8**
DDIM				*i*	IAML		06 22 35.0	
	comp=N,882nm,0.2s							
DDIM				*i*	IAML		06 22 35.0	
	comp=E,1μm,0.2s							
DIDI	**Didim-Aydin**	**0.39**	**120**	Pg		**Pg**	**06 22 28.6**	**-0.3**
DIDI				Sg		**Sg**	**06 22 34.6**	**+0.6**
DGB	**zmir**	**0.48**	**6**	P		**Pg**	**06 22 30.9**	**+0.2**
DGB				S		**Sg**	**06 22 37.4**	**+0.4**
DGB				*i*	IAML		06 22 42.0	
	comp=N,668nm,0.2s							
DGB				*i*	IAML		06 22 43.0	
	comp=E,579nm,0.2s							
GMLD	**Gumuldur**	**0.51**	**9**	Pg		**Pg**	**06 22 31.2**	**0.0**
GMLD				Sg		**Sb**	**06 22 39.5**	**0.0**
YKAV	**Yalikavak-Bodr**	**0.58**	**140**	Pg		**Pg**	**06 22 31.9**	**-0.5**
YKAV				Sg		**Sg**	**06 22 40.5**	**+0.4**
BDRM	**Kayabasi**	**0.71**	**135**	P		**Pg**	**06 22 34.8**	**-0.2**
BDRM				S		**Sg**	**06 22 43.9**	**-0.4**
BDRM				*i*	IAML		06 22 48.0	
	comp=E,539nm,0.2s							
ZEYE	**Izmir, Urla-Ze**	**0.71**	**340**	P		**Pg**	**06 22 35.1**	**+0.1**
ZEYE				S		**Sb**	**06 22 45.3**	**+0.1**
ZEYE				*i*	IAML		06 22 48.0	
	comp=N,1μm,0.6s							
ZEYE				*i*	IAML		06 22 49.0	
	comp=E,484nm,0.4s							
BLCB	**Balcova**	**0.83**	**12**	Pg		**Pg**	**06 22 37.4**	**+0.1**
BLCB	**Balcova**	**0.83**	**12**	P		**Pg**	**06 22 37.4**	**+0.1**
BLCB				S		**Sg**	**06 22 48.1**	**0.0**
AYDN	**Tasoluk**	**0.85**	**84**	P		**Pg**	**06 22 37.6**	**0.0**
AYDN				S		**Sg**	**06 22 48.1**	**-0.5**
AYDN				*i*	IAML		06 22 52.0	
	comp=N,399nm,0.4s							
AYDN				*i*	IAML		06 22 52.0	
	comp=E,296nm,0.3s							
AYDB	**Zeytinkoy-Aydi**	**0.93**	**66**	Pg		**Pg**	**06 22 38.7**	**-0.4**
CHOS	**Chios island**	**1.01**	**324**	P		**Pg**	**06 22 40.5**	**-0.2**
CHOS				S		**Sb**	**06 22 54.6**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.02**	**150**	P		**Pg**	**06 22 40.6**	**-0.3**
YAZI				S		**Sg**	**06 22 52.8**	**-1.4**
YAZI				*i*	IAML		06 22 57.0	
	comp=N,148nm,0.6s							
YAZI				*i*	IAML		06 22 57.0	
	comp=E,192nm,0.6s							
DAT	**Datca**	**1.04**	**144**	Pg		**Pg**	**06 22 40.5**	**-0.7**
DAT	**Datca**	**1.04**	**144**	P		**Pg**	**06 22 40.9**	**-0.3**
DAT				S		**Sb**	**06 22 56.1**	**+1.4**
DAT	**Datca**	**1.04**	**144**	P		**Pg**	**06 22 41.1**	**0.0**
DAT				S		**Sb**	**06 22 55.2**	**+0.5**
DAT				*i*	IAML		06 22 58.0	
	comp=E,132nm,0.2s							
DAT				*i*	IAML		06 23 00.0	
	comp=N,122nm,0.4s							
IZMR	**zmir-demi**	**1.06**	**58**	P		**Pb**	**06 22 41.6**	**+0.2**
IZMR				S		**Sg**	**06 22 53.2**	**-2.2**
IZMR				*i*	IAML		06 22 55.0	
	comp=N,93nm,0.4s							
IZMR				*i*	IAML		06 23 00.0	
	comp=E,159nm,0.4s							
KARB	**zmir-Karabur**	**1.14**	**344**	P		**Pg**	**06 22 42.5**	**-0.6**
KARB				S		**Sg**	**06 22 57.5**	**-0.3**
KARB				*i*	IAML		06 23 00.0	
	comp=N,128nm,0.5s							
KARB				*i*	IAML		06 23 03.0	
	comp=E,172nm,0.7s							
FOCM	**Foa**	**1.14**	**357**	Pn		**Pb**	**06 22 43.1**	**+0.2**
ODEM	**Odemis-Izmir**	**1.22**	**54**	Pn		**Pn**	**06 22 44.7**	**+0.6**
NAZL	**Nazilli-Aydin**	**1.23**	**71**	Pn		**Pb**	**06 22 44.1**	**-0.3**
ESEN	**Aydn-Nazilli**	**1.23**	**79**	P		**Pn**	**06 22 44.0**	**-0.2**
ESEN				S		**Sb**	**06 22 59.0**	**-1.3**
ESEN				*i*	IAML		06 23 04.0	
	comp=N,69nm,0.4s							
ESEN				*i*	IAML		06 23 06.0	
	comp=E,75nm,0.4s							
MULA	**Mugla, Merkez-**	**1.24**	**104**	P		**Pb**	**06 22 44.6**	**0.0**
MULA				S		**Sb**	**06 23 00.1**	**-0.4**
MULA				*i*	IAML		06 23 07.0	
	comp=E,77nm,0.7s							
TURN	**Turunc**	**1.39**	**124**	Pn		**Pn**	**06 22 46.6**	**+0.2**
TURN	**Turunc**	**1.39**	**124**	P		**Pb**	**06 22 47.5**	**+0.4**
TURN				S		**Sg**	**06 23 05.8**	**-0.1**
TURN				*i*	IAML		06 23 12.0	
	comp=N,107nm,0.4s							
KIRA	**zmir-Kiraz**	**1.40**	**63**	P		**Pn**	**06 22 47.3**	**+0.6**
KIRA				S		**Sb**	**06 23 03.2**	**-2.0**
ZEDA	**zmir-Bergama**	**1.41**	**8**	P		**Pg**	**06 22 48.4**	**+0.2**
ZEDA				S		**Sb**	**06 23 04.7**	**-0.6**
ZEDA				*i*	IAML		06 23 13.0	
	comp=N,93nm,0.4s							
ZEDA				*i*	IAML		06 23 14.0	
	comp=E,99nm,0.3s							
GOMA	**Golmarmara-Man**	**1.43**	**37**	Pn		**Pb**	**06 22 48.1**	**+0.4**
AKHS	**Akhisar**	**1.52**	**31**	P		**Pg**	**06 22 50.1**	**-0.3**
AKHS				S		**Sg**	**06 23 10.7**	**+0.5**
AKHS				*i*	IAML		06 23 13.0	
	comp=E,137nm,0.6s							
MANT	**Manisa**	**1.65**	**56**	P		**Pg**	**06 22 52.8**	**-0.1**
MANT				S		**Sn**	**06 23 11.5**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.67**	**93**	P		**Pg**	**06 22 54.0**	**+0.7**
TAVA				S		**Sb**	**06 23 13.1**	**+0.2**
GORD	**Gordes-Manisa**	**1.71**	**38**	Pn		**Pn**	**06 22 51.7**	**+0.8**
ARG	**Arkhangelos**	**1.71**	**142**	Pn		**Pn**	**06 22 50.5**	**-0.3**
PRK	**Paraskevi**	**1.73**	**346**	P		**Pn**	**06 22 51.1**	**0.0**
PRK				S		**Sn**	**06 23 13.3**	**+0.3**
KULA	**Kula-Manisa**	**1.73**	**57**	Pn		**Pn**	**06 22 51.9**	**+0.7**
SIGR	**SIGRI**	**1.80**	**335**	P		**Pn**	**06 22 51.6**	**-0.5**
APMY	**Acipayam-Deniz**	**1.98**	**92**	Pn		**Pn**	**06 22 55.3**	**+0.7**

*IDC **31** 06:30:45.7±0.7,20.81S×170.01E,h0km,mb4.2/11, mbtmp4.2/12,ML3.6/1,MS3.6/20,Error ellipse: s-maj=23.5km s-min=19.5km az=135.0*
*NEIC **31** 06:30:52.1±1.0,21.2S±0.1×170.01E±0.09,h37km±7km, mb4.8/32,Error ellipse: s-maj=18.8km s-min=10.4km az=157.0*
ISC 31 06:30:51.4±0.4,21.05S±0.08×170.04E±0.06,h35km,n85, σ1ᵍ30/68,mb4.7/30,MS3.8/17,1C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**2.87**	**237**			**Pn**	**06 31 33.7**	**-0.9**
DZM	**Mont Dzumac**	**3.50**	**252**			**Pn**	**06 31 43.1**	**-0.3**
DZM	**Mont Dzumac**	**3.50**	**252**	*e*Pn		**Pn**	**06 31 43.4**	**0.0**
	130nm,1.2s							
DZM				*e*Sn		**Sn**	**06 32 23.9**	**+0.3**
DZM				*e*LR		LR	06 32 27.1	
	2μm,25.1s							
DZM	**Mont Dzumac**	**3.50**	**252**	Pn		**Pn**	**06 31 42.8**	**-0.6**
	5.7nm,0.3s,baz=68,slow=18,SNR=49							
DZM				Sn		**Sn**	**06 32 25.1**	**+1.5**
	10nm,0.3s,baz=114,slow=20,SNR=8.7							
DZM				LR		LR	06 32 25.3	
	comp=Z,261nm,21.0s,baz=152,slow=28							
	35nm,0.6s							
ONTNC	**Ouen Toro**	**3.56**	**249**			**Pn**	**06 31 43.6**	**-0.5**
NFK	**Norfolk Island**	**8.19**	**193**	*e*LR		LR	06 34 30.5	
MSVF	**Nonsavu**	**8.25**	**68**			**Pn**	**06 32 50.5**	**+1.7**
RAO	**Raoul Island**	**13.62**	**129**	LR		LR	06 38 10.1	
	comp=Z,191nm,20.9s,baz=314,slow=32							
HNR	**Honiara**	**15.09**	**318**	LR		LR	06 38 52.5	
	comp=Z,73nm,19.5s,baz=164,slow=33							
EIDS	**Eidsvold**	**17.94**	**253**			**Pn**	**06 34 57.0**	**-1.3**
URZ	**Urewera**	**18.21**	**162**	LR		LR	06 40 47.8	
	comp=Z,297nm,19.4s,baz=348,slow=33							
BKZ	**Black Stump Fm**	**18.89**	**164**	P		**P**	**06 35 08.0**	**-0.9**
NIUE	**Niue**	**18.93**	**88**	*e*LR		LR	06 39 35.3	
	176nm,28.6s							
MRZ	**Mangatainoka R**	**20.11**	**168**	P		**P**	**06 35 20.9**	**-1.3**
SNZO	**South Karori**	**20.59**	**170**	*e*LR		LR	06 40 17.6	
	42nm,27.0s							
CTAO	**Charters Tower**	**22.28**	**268**			**P**	**06 35 45.8**	**0.0**
COEN	**Coen**	**26.54**	**281**	P		**P**	**06 36 25.0**	**-1.1**
COEN				IAmb		IAmb	06 36 28.0	
	comp=Z,12nm,0.9s							
STKA	**Stephens Creek**	**27.57**	**241**	P		**P**	**06 36 36.3**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=59,slow=12,SNR=3.1							
STKA				LR		LR	06 47 07.5	
	comp=Z,238nm,18.1s,baz=40,slow=36							
	comp=Z,1.4nm,0.6s							
RAR	**Rarotonga**	**28.14**	**96**	*e*LR		LR	06 43 45.6	
	comp=Z,115nm,31.0s							
RAR	**Rarotonga**	**28.14**	**96**	LR		LR	06 48 30.1	
	comp=Z,40nm,18.0s,baz=258,slow=38							
WRAB	**Tennant Creek**	**33.41**	**265**	P		**P**	**06 37 26.4**	**-0.5**
WRA	**Warramunga Arr**	**33.41**	**265**			**P**	**06 37 26.2**	**-0.8**
WRA	**Warramunga Arr**	**33.41**	**265**	P		**P**	**06 37 25.8**	**-1.3**
	comp=Z,4.6nm,0.9s,baz=98,slow=8.8,SNR=16							
WRA				PcP		**PcP**	**06 40 07.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=91,slow=2.7,SNR=2.0							
WRA				LR		LR	06 50 10.9	
	comp=Z,174nm,19.9s,baz=184,slow=35							
	comp=Z,4.6nm,0.9s							
ASAR	**Alice Springs**	**33.46**	**259**			**P**	**06 37 26.9**	**-0.6**
ASAR	**Alice Springs**	**33.46**	**259**	P		**P**	**06 37 27.4**	**-0.1**
	comp=Z,9.7nm,0.5s,baz=92,slow=8.4,SNR=157							
ASAR				PcP		**PcP**	**06 40 07.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=108,slow=3.1,SNR=4.3							
ASAR				LR		LR	06 50 19.1	
	comp=Z,169nm,20.9s,baz=102,slow=35							
	comp=Z,9.7nm,0.5s							
TBI	**Tubuai**	**37.49**	**101**	*e*LR		LR	06 48 12.7	
	comp=Z,352nm,28.8s							
PPT2	**Papeete2**	**38.20**	**92**	*e*P		**P**	**06 38 07.7**	**-0.4**
	comp=Z,22nm,20.8s							
PPT2				*e*S		**S**	**06 43 59.1**	**-0.6**
	comp=Z,29nm,23.5s							
PPT2				*e*SS		**SS**	**06 46 51.0**	**+2.5**
PPT2				*e*LR		LR	06 48 21.3	
	comp=Z,87nm,28.2s							
PPT2				*e*LR		LR	06 48 26.6	
	comp=Z,108nm,29.2s							
XMAS	**Kiritimati**	**39.24**	**58**	*e*LR		LR	06 48 56.1	
	comp=Z,12nm,27.0s							
KNRA	**Kununurra**	**39.45**	**271**	P		**P**	**06 38 18.0**	**-0.6**
KNRA				IAmb		IAmb	06 38 19.0	
	comp=Z,15nm,1.0s							
FITZ	**Fitzroy Crossi**	**41.84**	**266**	P		**P**	**06 38 38.1**	**-0.1**
GUMO	**Guam**	**42.38**	**322**	LR		LR	06 54 28.5	
	comp=Z,24nm,21.9s,baz=150,slow=34							
JOHN	**Johnston Islan**	**42.56**	**30**	*e*S		S	06 44 52.9	-11
	comp=Z,57nm,26.7s							
JOHN				*e*LR		LR	06 50 22.5	
	comp=Z,154nm,27.3s							
BATI	**Baumata**	**45.79**	**276**	LR		LR	06 57 43.6	
	comp=Z,96nm,18.7s,baz=193,slow=35							
NWAO	**Narrogin (SRO)**	**48.08**	**244**	LR		LR	06 58 53.3	
	comp=Z,212nm,21.3s,baz=78,slow=35

comp=Z,78nm,22.0s
CASY Casey 58.78 204 P **P** **06 40 46.4 +0.6**
CCD Concordia, Ant 59.30 193 P **P** **06 40 49.7 -0.1**
KSM Kuching 62.51 283 P **P** **06 41 11.8 -0.2**
KSM IAmb IAmb 06 41 13.8
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 64.69 332 P **P** **06 41 24.2 -1.7**
comp=Z,1.8nm,0.8s,baz=166,slow=6.1,SNR=2.5
comp=Z,1.8nm,0.8s
QSPA South Pole Qui 69.02 180 P **P** **06 41 55.1 +1.9**
comp=Z,5.2nm,0.9s,baz=22,slow=2.5,SNR=13
QSPA LR LR 07 08 49.2
comp=Z,52nm,18.8s,baz=29,slow=33
comp=Z,5.2nm,0.9s
QSPA South Pole Qui 69.02 180 P **P** **06 41 55.8 +2.5**
NJ2 Nanjing 72.02 316 *eP* **P** **06 42 14.8 +3.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
PSI Prapat 73.46 280 LR LR 07 16 37.7
comp=Z,40nm,18.2s,baz=182,slow=38
MAW Mawson 77.05 202 P **P** **06 42 41.8 +1.3**
comp=Z,1.5nm,0.7s,baz=122,slow=12,SNR=4.0
MAW LR LR 07 13 51.4
comp=Z,50nm,18.2s,baz=115,slow=34
comp=Z,1.5nm,0.7s
CMAR Chiang Mai Arr 79.92 294 P **P** **06 42 57.7 +0.5**
CMAR Chiang Mai Arr 79.92 294 P **P** **06 42 56.4 -0.8**
comp=Z,2.6nm,0.7s,baz=118,slow=5.7,SNR=10
comp=Z,2.6nm,0.7s
CHTO Chiang Mai 80.08 295 P **P** **06 42 58.3 +0.2**
CHTO IAmb IAmb 06 42 59.6
comp=Z,6.5nm,0.9s
BELA Belgrano 2 80.24 175 P **P** **06 42 57.4 -0.6**
BELA IAmb IAmb 06 43 01.2
comp=Z,5.0nm,0.8s
PZH PanZhiHua 81.31 303 P **P** **06 43 07.5 +2.8**
XLT XiLinHaoTe 81.34 324 *eP* **P** **06 43 03.5 -0.9**
XLT pP PcP 06 43 08.0 -2.4
XLT pmax pmax
comp=Z,7.0nm,0.7s
HHC Hu-ho-hao-te 82.07 319 *eP* **P** **06 43 12.0 +3.7**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,62nm,3.9s
PLK4 Peulik 4 83.25 17 P **P** **06 43 14.7 +0.7**
PLK4 IAmb IAmb 06 43 15.8
comp=Z,13nm,1.1s
SYO Syowa Base 83.41 196↑ *eP* **P** **06 43 12.9 -1.9**
SYO Syowa Base 83.41 196↓ *e*PcP P 06 43 19.4 +4.6
L16K Owhat River 86.01 14 P **P** **06 43 28.2 +0.5**
L16K IAmb IAmb 06 43 34.3
comp=Z,7.4nm,1.1s
K15K Wolf Creek Mou 86.08 13 P **P** **06 43 28.7 +0.6**
K15K IAmb IAmb 06 43 33.4
comp=Z,9.0nm,1.1s
KHMM Horse Mountain 86.98 44 P **P** **06 43 33.9 +0.6**
O02D Mt. Diablo Mer 87.24 45 P **P** **06 43 34.9 +0.4**
KSXB Camp Six Broad 87.38 43 P **P** **06 43 35.4 +0.3**
KSXB IAmb IAmb 06 43 37.0
comp=Z,7.2nm,1.2s
SNAA Sanae 87.40 182 P **P** **06 43 34.0 -0.7**
SNAA Sanae 87.40 182 P **P** **06 43 34.5 -0.3**
comp=Z,1.2nm,0.7s,baz=163,slow=10,SNR=8.0
comp=Z,1.2nm,0.7s
N02D Trinity Center 87.70 44 P **P** **06 43 37.0 +0.4**
M02C Callahan 87.81 44 P **P** **06 43 37.5 +0.4**
ESPZ Base Esperanza 88.16 161 P **P** **06 43 38.0 -0.3**
ESPZ IAmb IAmb 06 43 42.9
comp=Z,8.7nm,1.1s
PFO Pinyon Flats O 88.59 53 LR LR 07 15 04.7
comp=Z,47nm,21.3s,baz=230,slow=30
WAKR Walker 88.69 48 P **P** **06 43 42.5 +1.0**
BEKR Beckworth 88.71 46 P **P** **06 43 42.2 +0.6**
BEKR IAmb IAmb 06 43 43.0
comp=Z,7.4nm,1.1s
MPMC Manual Prospec 88.93 51 P **P** **06 43 42.6 -0.1**
MPMC IAmb IAmb 06 43 43.7
comp=Z,4.4nm,1.2s
LHV Little Huntoon 89.21 48 P **P** **06 43 44.8 +1.1**
NVAR Mina Array Bea 89.44 48 P **P** **06 43 45.4 +0.3**
comp=Z,3.9nm,0.9s,baz=244,slow=7.0,SNR=21
comp=Z,3.9nm,0.9s
LPIG La Paz 89.53 64 LR LR 07 14 30.5
comp=Z,41nm,20.7s,baz=214,slow=29
IRM Iron Mountain 89.81 53 P **P** **06 43 47.4 +0.7**
IRM IAmb IAmb 06 43 48.6
comp=Z,7.5nm,1.1s
WCT Wildcat Mounta 89.88 50 P **P** **06 43 47.2 +0.2**
WCT IAmb IAmb 06 43 52.2
comp=Z,8.3nm,1.2s
ILAR Eielson Array 91.73 17 P **P** **06 43 52.9 -1.9**
comp=Z,0.2nm,0.6s,baz=238,slow=6.1,SNR=4.2
ILAR LR LR 07 24 48.8
comp=Z,36nm,18.0s,baz=260,slow=35
comp=Z,0.2nm,0.6s
DLBC Dease Lake 93.30 27 LR LR 07 18 48.3
comp=Z,435nm,20.5s,baz=206,slow=31
ANMO Albuquerque 96.71 55 LR LR 07 19 42.1
comp=Z,37nm,21.6s,baz=96,slow=30
PDAR Pinedale Array 97.29 47 LR LR 07 20 12.4
comp=Z,12nm,21.4s,baz=344,slow=30
WMQ Urumqi 98.99 313 *eP* Pdif 06 44 34.5 +6.0
WMQ pmax pmax
comp=Z,62nm,0.9s
ARCES ARCESS Array B 127.00 345 PKP **PKPdf** **06 49 49.1 -1.9**
comp=Z,0.5nm,0.6s,baz=46,slow=3.5,SNR=3.7
EKA Eskdalemuir Ar 145.38 353 PKPbc **PKPbc** **06 50 23.5 -1.8**
comp=Z,2.4nm,0.6s,baz=12,slow=2.8,SNR=5.9
GERES GERESS Array B 146.43 331 PKPbc **PKPdf** **06 50 27.8 +0.3**
comp=Z,1.5nm,0.8s,baz=41,slow=3.1,SNR=8.9

IDC 31 06:33:07.9±3.1, 20.73S×169.93E, h0km, mb3.9/3, mbtmp3.8/4, ML2.6/1, Error ellipse: s-maj=202.2km s-min=28.4km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.51**	**247**	Pn	Pn	06 34 04.7	+0.9
DZM	0.5nm,0.3s,baz=86,slow=19,SNR=1.2			Sn	Sn	06 34 46.1	0.0
	2.2nm,0.3s,baz=114,slow=20,SNR=2.8						
	8.7nm,0.4s						
WRA	**Warramunga Arr**	**33.34**	**265**	P	P	06 39 46.9	-1.0
	1.2nm,1.1s,baz=98,slow=8.1,SNR=2.9						
	1.2nm,1.1s						
ASAR	**Alice Springs**	**33.43**	**258**	P	P	06 39 49.0	+0.3
	1.9nm,0.6s,baz=89,slow=7.9,SNR=13						
	1.9nm,0.6s						
NVAR	**Mina Array Bea**	**89.30**	**48**	P	P	06 46 06.5	0.0
	0.5nm,0.7s,baz=253,slow=4.7,SNR=4.1						
	0.5nm,0.7s						

*IDC **31** 06:40:34.1±0.5, 42.2°48N×89.2°29E, h0km, mb4.0/17, mbtmp3.9/21, ML3.4/4, MS3.4/12, Error ellipse: s-maj=21.2km s-min=10.1km az=43.0*
*NEIC **31** 06:40:36.0±1.5, 42.2°48N±0.0°09×89.3°3E±0.0°1, h10km±1km, mb4.5/19, Error ellipse: s-maj=15.2km s-min=12.1km az=156.0*
*BJI **31** 06:40:37.6, 42.2°38N×89.1°7E, h20km, mB4.5/4, mb4.3/16, ML4.4/14, Ms3.8/2, Ms7 3.5/2*
*NNC **31** 06:40:38.4±4.9, 42.2°32N×88.9°99E, h17km±25km, mb4.2, mpv4.3, Error ellipse: s-maj=29.3km s-min=18.7km az=165.0*

ISC 31 06:40:36.2±0.4, 42°55N±0°05×89°24E±0°04, h10km, n83, σ1§98/91, mb4.3/27, MS3.5/8, 7C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.70**	**319**	Pg	**Pg**	**06 41 10.3**	**+1.6**
WMQ				Sg	**Sg**	**06 41 33.5**	**+2.7**
WMQ				smax	smax		
	comp=N,4μm,0.7s						
WMQ				smax	smax		
	comp=E,4μm,0.7s						
MK31	**Makanchi Array**	**6.52**	**313**	Pn	**Pn**	**06 42 13.9**	**+1.7**
	3.4nm,0.3s,baz=128,slow=13,SNR=278						
MK31				↑Lg	Lg	06 44 05.1	
	59nm,0.7s,baz=133,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**6.52**	**313**		**Pn**	**06 42 13.3**	**+1.2**
MKAR	**Makanchi Array**	**6.52**	**313**	Pn	**Pn**	**06 42 13.6**	**+1.5**
	1.6nm,0.3s,baz=129,slow=13,SNR=74						
MKAR				Sn	**Sn**	**06 43 27.6**	**+1.0**
	4.6nm,0.3s,baz=131,slow=18,SNR=4.4						
MKAR				Lg	Lg	06 44 03.7	
	8.4nm,0.3s,baz=134,slow=29,SNR=5.5						
MKAR				LR	LR	06 45 22.2	
	comp=Z,163nm,19.4s,baz=168,slow=44						
	1.9nm,0.3s						
MAKZ	**Makanchi**	**6.70**	**312**	Pn	**Pn**	**06 42 16.0**	**+1.4**
	6.7nm,0.6s						
MAKZ				Lg	Lg	06 44 13.1	
	38nm,0.7s						
PDGK	**Podgornoye**	**7.19**	**280**	⇑Pn	**Pn**	**06 42 22.3**	**+0.8**
	80nm,0.7s						
PDGK				⇓Sn	**Sn**	**06 43 42.0**	**-1.3**
	84nm,0.7s						
PDGK				⇑Lg	Lg	06 44 23.2	
	210nm,1.1s						
GOMU	**GeErMu**	**7.67**	**144**	Pn	**Pn**	**06 42 28.0**	**-0.3**
GOMU				Sn	**Sn**	**06 43 55.5**	**0.0**
GOMU				smax	smax		
	comp=N,40nm,0.8s						
GOMU				smax	smax		
	comp=E,72nm,1.0s						
PRZ	**Przheval'sk**	**8.01**	**273**		**Pn**	**06 42 33.9**	**+1.2**
TARG	**Taragay, Kyrgy**	**8.53**	**268**		**Pn**	**06 42 40.6**	**+0.5**
GTA	**Gaotai**	**8.60**	**108**	P	**Pn**	**06 42 41.0**	**+0.3**
GTA				S	**Sn**	**06 44 17.3**	**-0.5**
GTA				smax	smax		
	comp=N,310nm,0.6s						
GTA				LR	LR		
	comp=N,230nm,7.2s						
GTA				LR	LR		
	comp=E,220nm,9.2s						
GTA				LR	LR		
	comp=Z,150nm,12.4s						
KDJ	**Kajisay**	**8.94**	**271**		**Pn**	**06 42 46.1**	**+0.6**
KSH	**Kashi**	**10.47**	**258**	Pn	**Pn**	**06 43 08.8**	**+2.4**
KSH				Sn	**Sn**	**06 45 10.5**	**+6.7**
KSH				smax	smax		
	comp=N,24nm,0.8s						
KSH				smax	smax		
	comp=E,24nm,0.8s						
FRU1	**Bishkek**	**10.76**	**276**	Pn	**Pn**	**06 43 11.0**	**+0.7**
AAK	**Ala-Archa**	**10.87**	**275**		**Pn**	**06 43 13.6**	**+1.7**
AAK	**Ala-Archa**	**10.87**	**275**	Pn	**Pn**	**06 43 13.0**	**+1.1**
	comp=E,0.6nm,0.3s,baz=104,slow=15,SNR=5.3						
AAK				Sn	**Sn**	**06 45 12.1**	**-1.6**
	comp=E,0.6nm,0.3s,baz=112,slow=16,SNR=1.7						
AAK				Lg	Lg	06 46 19.6	
	comp=E,0.3nm,0.3s,baz=120,slow=20,SNR=4.1						
	comp=E,1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**10.92**	**321**	Pn	**Pn**	**06 43 11.4**	**-1.0**
	comp=E,0.2nm,0.3s,baz=132,slow=13,SNR=4.1						
KURBB				Sn	**Sn**	**06 45 12.6**	**-1.9**
	comp=E,0.6nm,0.3s,baz=123,slow=17,SNR=4.6						
KURBB				Lg	Lg	06 46 19.5	
	comp=E,0.4nm,0.3s,baz=139,slow=39,SNR=1.7						
KURBB				LR	LR	06 48 04.2	
	comp=E,194nm,18.2s,baz=176,slow=41						
	comp=E,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**10.92**	**321**	⇓Pn	**Pn**	**06 43 13.1**	**+0.7**
	comp=E,5.5nm,0.8s						
KURBB				⇓Lg	Lg	06 46 28.2	
	comp=E,82nm,0.9s						
KURK	**Kurchatov**	**10.94**	**322**	Pn	**Pn**	**06 43 13.7**	**+1.0**
KURK	**Kurchatov**	**10.94**	**322**	⇑Pn	**Pn**	**06 43 14.1**	**+1.4**
	comp=E,6.0nm,0.6s						
KURK				⇑Lg	Lg	06 46 28.2	
	comp=E,35nm,0.8s						
ZALV	**Zalesovo Beam**	**11.78**	**347**	Pn	**Pn**	**06 43 22.3**	**-1.8**
	comp=E,0.4nm,0.3s,baz=162,slow=14,SNR=2.0						
ZALV				Sn	**Sn**	**06 45 39.2**	**+3.8**
	comp=E,1.0nm,0.3s,baz=164,slow=22,SNR=4.6						
ZALV				Lg	Lg	06 46 46.4	
	comp=E,0.1nm,0.3s,baz=173,slow=24,SNR=2.0						
	comp=E,0.7nm,0.3s						
SONM	**Songino Array**	**13.20**	**61**		**Pn**	**06 43 41.0**	**-2.6**
SONM	**Songino Array**	**13.20**	**61**	Lg	Lg	06 47 30.7	
	comp=E,0.5nm,0.3s,baz=255,slow=22,SNR=6.4						
SONM				LR	LR	06 49 20.5	
	comp=E,117nm,20.7s,baz=274,slow=40						
KK31	**Karatay Array**	**13.76**	**279**	⇑P	**Pn**	**06 43 50.9**	**-0.3**
	comp=E,0.5nm,0.3s,baz=81,slow=17,SNR=5.1						
KKAR	**Karatay Array**	**13.76**	**279**	Pn	**Pn**	**06 43 52.2**	**+1.0**
GAR	**Garm**	**14.77**	**262**		**Pn**	**06 44 06.3**	**+1.2**
BTO	**Baotou**	**15.68**	**90**	*eP*	Pn	06 44 07.5	-10
BTO				PP	**P**	**06 44 20.0**	**-1.3**
BTO				S	Sn	06 46 54.5	-16
BTO				pmax	pmax		
	comp=Z,19nm,0.6s						
BTO				pmax	pmax		
	comp=Z,190nm,3.6s						
BTO				LR	LR		
	comp=N,220nm,3.1s						
BTO				LR	LR		
	comp=E,170nm,3.9s						
BTO				LR	LR		
	comp=Z,140nm,6.0s						
CHGR	**Chuyangaron**	**15.73**	**262**		**Pn**	**06 44 15.4**	**-2.5**
CHGR				IAmb	IAmb	06 44 28.2	
	comp=Z,17nm,0.9s						
SIMJ	**Simiganj**	**15.84**	**263**		**Pn**	**06 44 19.0**	**-0.4**
BVA0	**Borovoye Array**	**16.39**	**316**	⇓P	**P**	**06 44 30.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=117,slow=12,SNR=18						
BVAR	**Borovoye Array**	**16.39**	**316**	Pn	**Pn**	**06 44 26.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=13						
BVAR				Sn	**Sn**	**06 47 19.2**	**-8.7**
	baz=16,slow=39,SNR=1.8						
BVAR				Lg	Lg	06 49 14.0	
	baz=126,slow=26						
BVAR				LR	LR	06 51 26.3	
	comp=Z,168nm,18.3s,baz=123,slow=40						
HHC	**Hu-ho-hao-te**	**16.76**	**88**	*eP*	**Pn**	**06 44 29.0**	**-2.0**
HHC				PP	**PnPn**	**06 44 45.0**	**+4.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,59nm,4.8s						
SHL	**Shillong**	**17.08**	**172**	P	**Pn**	**06 44 34.2**	**-1.0**
SHL				IAmb	IAmb	06 44 45.9	
	comp=Z,15nm,0.6s						
KBL	**Kabul**	**17.68**	**250**		**Pn**	**06 44 42.9**	**+0.2**
PZH	**PanZhiHua**	**19.00**	**143**	P	**Pn**	**06 44 59.3**	**+0.5**
XLT	**XiLinHaoTe**	**19.58**	**77**	*eP*	**Pn**	**06 45 06.5**	**+0.8**
XLT				pP	sP	06 45 11.5	+2.9
XLT				PP	**PnPn**	**06 45 23.8**	**+4.8**
XLT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI	**Kunming**	**20.64**	**143**	P	**P**	**06 45 17.0**	**+0.9**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
AB31	**Akbulak array**	**21.37**	**298**	⇑P	**P**	**06 45 23.8**	**+0.3**
	comp=Z,0.8nm,0.2s						
ABKAR	**Akbulak array**	**21.37**	**298**		**P**	**06 45 22.6**	**-1.0**
AKTO	**Aktyubinsk**	**22.76**	**301**	P	**P**	**06 45 37.7**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=107,slow=9.9,SNR=4.1						
	comp=Z,1.0nm,0.3s						
WHN	**Wuhan**	**23.37**	**113**	⇓P	**P**	**06 45 46.5**	**+1.6**
WHN				sP	**sP**	**06 45 56.3**	**+7.2**
WHN				pmax	pmax		
	comp=Z,68nm,0.9s						
ARTI	**Arti**	**24.11**	**316**		**P**	**06 45 51.9**	**+0.1**
ARTI				IAmb	IAmb	06 45 53.8	
	comp=Z,11nm,0.5s						
ARTI	**Arti**	**24.11**	**316**	P	**P**	**06 45 52.0**	**+0.2**
	comp=Z,4.4nm,0.5s,baz=129,slow=13,SNR=8.8						
ARTI				LR	LR	06 56 10.1	
	comp=Z,108nm,19.0s,baz=11,slow=39						
	comp=Z,4.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**25.39**	**158**	P	**P**	**06 46 03.9**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=340,slow=10.0,SNR=22						
	comp=Z,5.1nm,0.9s						
NJ2	**Nanjing**	**25.67**	**104**	*eP*	**P**	**06 46 05.3**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KIRV	**Kirov**	**29.40**	**317**	LR	LR	06 59 17.0	
	comp=Z,74nm,22.0s,baz=166,slow=38						
KSRS	**Korea Array**	**29.89**	**87**	P	**P**	**06 46 41.4**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=286,slow=8.7,SNR=2.5						
	comp=Z,0.9nm,0.8s						
JOW	**Kunigami**	**35.38**	**104**	LR	LR	07 03 40.8	
	comp=Z,105nm,18.4s,baz=277,slow=39						
PALK	**Pallekele**	**35.93**	**195**	LR	LR	07 02 54.5	
	comp=Z,42nm,18.9s,baz=54,slow=37						
FINES	**FINESS Array B**	**41.30**	**319**	P	**P**	**06 48 21.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=74,slow=11,SNR=6.9						
FINES				PcP	**PcP**	**06 50 19.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=90,slow=5.6,SNR=5.1						
	comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**41.33**	**286**	P	**P**	**06 48 20.3**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=72,slow=9.5,SNR=4.0						
	comp=Z,0.9nm,0.9s						
ARCES	**ARCESS Array B**	**41.78**	**332**	P	**P**	**06 48 26.2**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=92,slow=8.3,SNR=7.3						
ARCES				PcP	**PcP**	**06 50 20.6**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=90,slow=2.7,SNR=9.0						
	comp=Z,1.8nm,0.9s						
HFS	**Hagfors**	**47.49**	**319**	P	**P**	**06 49 11.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=73,slow=9.7,SNR=4.1						
	comp=Z,0.9nm,0.6s						
NB2	**NORSAR Subarra**	**48.45**	**320**	P	**P**	**06 49 18.7**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**48.45**	**320**	P	**P**	**06 49 18.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=75,slow=7.8,SNR=8.1						
NOA				LR	LR	07 10 47.8	
	comp=Z,43nm,18.8s,baz=305,slow=37						
	comp=Z,0.5nm,0.6s						
GERES	**GERESS Array B**	**51.11**	**305**	P	**P**	**06 49 39.5**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=79,slow=5.7,SNR=1.3						
	comp=Z,0.3nm,0.8s						
NRCA	**Norcia**	**54.07**	**298**	P	**P**	**06 50 01.5**	**+0.6**
NRCA				IAmb	IAmb	06 50 03.7	
	comp=Z,7.3nm,1.2s						
H19K	**Roundabout Mou**	**60.94**	**26**	P	**P**	**06 50 50.1**	**+1.3**
H19K				IAmb	IAmb	06 51 01.2	
	comp=Z,5.2nm,1.0s						
BATI	**Baumata**	**61.23**	**141**	LR	LR	07 18 42.3	
	comp=Z,64nm,18.0s,baz=170,slow=37						
COLD	**Coldfoot**	**61.68**	**22**	P	**P**	**06 50 54.2**	**+0.3**
COLD				IAmb	IAmb	06 51 05.6	
	comp=Z,3.3nm,0.8s						
F25K	**Christian Rive**	**62.66**	**21**	P	**P**	**06 51 01.2**	**+0.7**
E29M	**Blow River**	**63.92**	**18**		**P**	**06 51 09.0**	**+0.3**
E29M				IAmb	IAmb	06 51 18.1	
	comp=Z,6.7nm,1.3s						
ILAR	**Eielson Array**	**64.39**	**23**	P	**P**	**06 51 11.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=319,slow=6.1,SNR=14						
	comp=Z,1.1nm,0.8s						
ESDC	**Sonseca Array**	**66.63**	**303**	P	**P**	**06 51 27.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=63,slow=6.3,SNR=4.9						
	comp=Z,0.6nm,0.8s						
I30M	**Mount Dempster**	**66.85**	**19**	P	**P**	**06 51 27.4**	**-0.5**
I30M				IAmb	IAmb	06 51 38.3	
	comp=Z,2.3nm,0.8s						
M27K	**Edge Creek, AK**	**67.69**	**23**	P	**P**	**06 51 33.2**	**-0.1**
M29M	**Somme Creek**	**68.58**	**22**	P	**P**	**06 51 37.8**	**-1.1**
M29M				IAmb	IAmb	06 51 41.4	
	comp=Z,3.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**69.05**	**143**	P	**P**	**06 51 41.1**	**-0.9**
FITZ				IAmb	IAmb	06 51 47.5	
	comp=Z,2.9nm,1.4s						
YKA	**Yellowknife Ar**	**73.56**	**11**	P	**P**	**06 52 09.6**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=352,slow=3.0,SNR=2.4						
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**74.80**	**136**	P	**P**	**06 52 15.5**	**-1.2**
WRA	**Warramunga Arr**	**74.80**	**136**	P	**P**	**06 52 15.8**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=330,slow=5.6,SNR=51						
	comp=Z,3.6nm,0.7s						
VOI	**Vohitsoka**	**75.14**	**220**	P	**P**	**06 52 17.8**	**-0.9**
VOI				IAmb	IAmb	06 52 19.0	
	comp=Z,6.7nm,0.9s						
ASAR	**Alice Springs**	**77.71**	**139**	P	**P**	**06 52 32.0**	**-1.1**
ASAR	**Alice Springs**	**77.71**	**139**	P	**P**	**06 52 32.5**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=331,slow=5.8,SNR=68						
	comp=Z,3.2nm,0.5s						
KUQ	**Kuujjuaa**	**77.98**	**348**	P	**P**	**06 52 33.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**79.44**	**278**	P	**P**	**06 52 41.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**79.44**	**278**	P	**P**	**06 52 41.9**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=38,slow=5.1,SNR=6.9						
	comp=Z,1.3nm,0.8s						
STKA	**Stephens Creek**	**88.29**	**138**	P	**P**	**06 53 26.4**	**-1.3**
STKA	**Stephens Creek**	**88.29**	**138**	P	**P**	**06 53 26.9**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=345,slow=12,SNR=5.4						
	comp=Z,2.2nm,0.5s						
LBTB	**Lobatse**	**89.18**	**234**	LR	LR	07 34 33.1	
	comp=Z,19nm,20.8s,baz=138,slow=36						
BOSA	**Boshof**	**92.06**	**232**	LR	LR	07 37 29.1	
	comp=Z,16nm,18.1s,baz=194,slow=37						
QSPA	**South Pole Qui**	**132.32**	**180**	PKP	**PKPdf**	**06 59 48.6**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=315,slow=2.9,SNR=4.0						
LPAZ	**La Paz**	**147.44**	**317**	PKPbc	**PKPdf**	**07 00 19.9**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=7.4,slow=4.3,SNR=4.8						
CPUP	**Villa Florida**	**148.28**	**290**	PKPbc	**PKPbc**	**07 00 21.1**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=114,slow=2.5,SNR=5.6						

*SNET **31** 06:48:57.7±2.5, 14.1°17N×90.1°78W, h124km, ML3.2*
*GCG **31** 06:49:00.9±1.8, 13.2°83N×90.3°90W, h69km±10km, MD3.7, ML3.6, MW2.9*
*CATAC **31** 06:49:00.3±0.7, 14.1°N±4.4°×9.1°1W±.1°, h23km±4km, M3.4/16, MLv3.4/16, Error ellipse: s-maj=8.7km s-min=3.3km az=29.3, confirmed*

ISC 31 06:49:01.1±1.5, 13.6°67N±0.0°08×90.3°98W±0.0°05, h41km±23km, n42, σ0.9§66/56, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSJ	**San Jos, E**	**0.48**	**103**	*i* P	**Pn**	**06 49 11.0**	**-0.6**
ESSJ				*i* S	**Sn**	**06 49 20.4**	**+1.4**
ESSG	**Sabana Grande**	**0.73**	**12**	*i* P	**Pn**	**06 49 14.1**	**-0.9**
FG16	**Alotenango, Sa**	**0.76**	**37**	*i* P	**Pn**	**06 49 15.5**	**0.0**
FG16				*i* S	**Sn**	**06 49 26.6**	**+0.7**
FG16				IAML		06 49 32.9	
	comp=N,5μm,0.2s						
FAME	**Alcaldia de Sa**	**0.95**	**79**	S	**Sn**	**06 49 29.7**	**-0.8**
FAME	**Alcaldia de Sa**	**0.95**	**79**	P	**Pn**	**06 49 17.0**	**-1.0**
NUBE	**Las Nubes**	**1.19**	**78**	*eP*	**Pn**	**06 49 20.5**	**-0.9**
NUBE				*eS*	**Sn**	**06 49 36.1**	**-0.3**
NUBE	**Las Nubes**	**1.19**	**78**	*i* P	**Pn**	**06 49 20.5**	**-0.9**
NUBE				*i* S	**Sn**	**06 49 35.8**	**-0.6**
NUBE	**Las Nubes**	**1.19**	**78**	P	**Pn**	**06 49 20.5**	**-0.9**
SLOZ	**Alcaldia de Sa**	**1.22**	**73**	*eP*	**Pn**	**06 49 21.2**	**-0.4**
SLOZ				*eS*	**Sn**	**06 49 37.2**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.22**	**73**	P	**Pn**	**06 49 21.2**	**-0.4**
SLOZ	**Alcaldia de Sa**	**1.22**	**73**	S	**Sn**	**06 49 37.0**	**0.0**
SOKI	**Kika Raxquin**	**1.22**	**340**	*i* P	**Pn**	**06 49 21.9**	**-0.2**
SOKI				*i* S	**Sn**	**06 49 36.7**	**-0.8**
SOKI				IAML		06 49 39.6	
	comp=E,546nm,0.3s						
QUEO	**Labor Ovalle**	**1.30**	**337**	*i* P	**Pn**	**06 49 23.3**	**+0.2**
QUEO				*i* S	**Sn**	**06 49 41.1**	**+1.6**
RTR	**El Retiro**	**1.32**	**80**	*eP*	**Pn**	**06 49 23.1**	**0.0**
CEVE	**Cerro Verde**	**1.33**	**83**	*eP*	**Pn**	**06 49 23.0**	**-0.4**
CEVE				*eS*	**Sn**	**06 49 40.2**	**+0.2**
CEVE	**Cerro Verde**	**1.33**	**83**	P	**Pn**	**06 49 22.9**	**-0.4**
CEVE	**Cerro Verde**	**1.33**	**83**

s-maj=21.9km s-min=13.5km az=1.0
*AEIC **31** 06:53:49.5±1.5,51.95N±0.08×171.60W±0.08,h44m±6km, Error ellipse: s-maj=13.3km s-min=4.4km az=150.0*
*NEIC **31** 06:53:51.0±1.5,52.0N±0.1×171.62W±0.08,h45m±8km, mb4.1/50,ML4.6/22,ML4.2(AEIC),Error ellipse: s-maj=17.4km s-min=5.7km az=163.0*

ISC 31 06:53:50.1±1.2,52.0N±0.1×171.59W±0.04,h49km±10km, n164,σ1°44/163,mb4.2/26,MS3.3/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**1.35**	**50**		**Pn**	**06 54 12.7**	**+0.2**
CLES	**Cleveland East**	**1.35**	**50**		**Sn**	**06 54 30.4**	**+1.1**
CLCO	**Concord Point,**	**1.41**	**53**		**Sn**	**06 54 13.2**	**-0.2**
CLCO					**Sn**	**06 54 33.4**	**+2.6**
ATKA	**Atka Island**	**1.62**	**280**		**Pn**	**06 54 16.0**	**-0.3**
ATKA				IAML		06 54 41.4	
	comp=N,4μm,0.8s						
ATKA				IAML		06 54 41.7	
	comp=E,3μm,0.6s						
ATKA	**Atka Island**	**1.62**	**280**		**Sn**	**06 54 35.8**	**-0.1**
ATKA	**Atka Island**	**1.62**	**280**	P	**Pn**	**06 54 15.9**	**-0.3**
ATKA	**Atka Island**	**1.62**	**280**	S	**Sn**	**06 54 36.5**	**+0.6**
NIKH	**Nikolski High**	**1.96**	**58**		**Pn**	**06 54 20.1**	**-0.6**
NIKH				IAML		06 54 53.1	
	comp=N,7μm,0.5s						
NIKH				IAML		06 54 53.2	
	comp=E,5μm,0.7s						
NIKH	**Nikolski High**	**1.96**	**58**		**Sn**	**06 54 43.6**	**-0.5**
NIKH	**Nikolski High**	**1.96**	**58**	P	**Pn**	**06 54 19.9**	**-0.9**
OKSP	**Okmok Steeple**	**2.39**	**56**		**Pn**	**06 54 27.0**	**+0.2**
OKSP					**Sn**	**06 54 55.2**	**+0.4**
OKCE	**Okmok Cone E**	**2.55**	**53**		**Pn**	**06 54 29.9**	**+0.9**
OKNC	**Okmok New Cone**	**2.59**	**53**		**Pn**	**06 54 30.4**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**2.59**	**55**		**Pn**	**06 54 30.3**	**+0.9**
OKFG	**Magazine Ridge**	**2.67**	**56**		**Pn**	**06 54 31.6**	**+1.0**
GSIG	**Igitkin Island**	**2.68**	**272**		**Pn**	**06 54 30.2**	**-0.5**
GSIG					**Sn**	**06 55 01.9**	**-0.1**
GSMY	**Great Sitkin M**	**2.76**	**273**		**Pn**	**06 54 31.7**	**-0.1**
GSMY					**Sn**	**06 55 05.5**	**+1.6**
GSTR	**Great Sitkin T**	**2.76**	**275**		**Pn**	**06 54 32.2**	**+0.4**
GSTR	**Great Sitkin T**	**2.76**	**275**		**Sn**	**06 55 04.6**	**+0.6**
ETKA	**Kagalaska Isla**	**2.98**	**270**		**Pn**	**06 54 34.7**	**-0.2**
ETKA					**Sn**	**06 55 10.6**	**+1.2**
ADAG	**Mount Adagdak**	**3.10**	**272**		**Pn**	**06 54 37.5**	**+1.1**
ADAG					**Sn**	**06 55 14.5**	**+2.3**
ADK	**Adak**	**3.15**	**271**		**Pn**	**06 54 37.5**	**+0.3**
ADK				IAML		06 55 23.7	
	comp=E,2μm,0.7s						
ADK	**Adak**	**3.15**	**271**		**Sn**	**06 55 14.6**	**+1.0**
ADK	**Adak**	**3.15**	**271**	P	**Pn**	**06 54 37.7**	**+0.5**
MAPS	**Pakushin South**	**3.37**	**55**		**Pn**	**06 54 40.7**	**+0.6**
MGOD	**Makushin Gods**	**3.40**	**55**		**Pn**	**06 54 41.1**	**+0.6**
KIWB	**Kanaga Island**	**3.44**	**270**		**Pn**	**06 54 41.5**	**+0.3**
KIWB				IAML		06 55 35.8	
	comp=E,2μm,0.8s						
KIWB				IAML		06 55 39.8	
	comp=N,2μm,0.4s						
KIKV	**Kanaga Island**	**3.46**	**271**		**Pn**	**06 54 42.1**	**+0.8**
KIKV					**Sn**	**06 55 22.4**	**+1.4**
KICM	**Kanaga Island**	**3.47**	**272**		**Pn**	**06 54 42.1**	**+0.6**
KICM					**Sn**	**06 55 21.4**	**+0.1**
MREP	**Makushin Rep't**	**3.47**	**56**		**Pn**	**06 54 42.2**	**+0.7**
KIMD	**Kanaga Island**	**3.50**	**269**		**Pn**	**06 54 42.6**	**+0.6**
KIMD					**Sn**	**06 55 24.3**	**+2.2**
MSW	**Makushin Switc**	**3.51**	**54**		**Pn**	**06 54 42.8**	**+0.7**
MNAT	**Makushin Natee**	**3.54**	**55**		**Pn**	**06 54 43.4**	**+0.9**
UNV	**Unalaska Valle**	**3.61**	**56**		**Pn**	**06 54 43.9**	**+0.4**
AKRB	**Akutan Reef Bi**	**3.98**	**55**		**Pn**	**06 54 49.5**	**+1.1**
AKMO	**Akutan Morgan**	**3.99**	**55**		**Pn**	**06 54 49.8**	**+1.2**
LVA	**Lava Point**	**4.01**	**54**		**Pn**	**06 54 49.7**	**+0.7**
LVA				IAML		06 55 57.9	
	comp=N,943nm,0.6s						
LVA				IAML		06 56 01.7	
	comp=E,481nm,0.8s						
AKGG	**Akutan Green G**	**4.05**	**54**		**Pn**	**06 54 50.7**	**+1.2**
AKUT	**Akutan**	**4.13**	**56**		**Pn**	**06 54 51.4**	**+0.9**
AKSA	**Akutan Strait**	**4.17**	**56**		**Pn**	**06 54 52.2**	**+1.1**
P08K	**Saint George I**	**4.80**	**14**	Pn	**Pn**	**06 55 00.6**	**+0.9**
P08K				IAML		06 55 58.8	
	comp=N,267nm,0.7s						
SPIA	**Saint Paul Isl**	**5.29**	**8**		**Pn**	**06 55 07.9**	**+1.5**
SPIA				IAML		06 56 13.0	
	comp=N,301nm,1.0s						
SPIA				IAML		06 56 13.1	
	comp=E,264nm,1.2s						
FALS	**False Pass**	**5.68**	**56**	Pn	**Pn**	**06 55 12.8**	**+0.9**
S12K	**Black Hills**	**6.77**	**53**	Pn	**Pn**	**06 55 27.4**	**+0.6**
PS1A	**Pavlof South-1**	**6.80**	**55**		**Pn**	**06 55 28.2**	**+1.1**
SDPT	**Sand Point**	**7.42**	**58**		**Pn**	**06 55 35.5**	**-0.2**
SDPT	**Sand Point**	**7.42**	**58**	P	**Pn**	**06 55 35.5**	**-0.2**
CNBA	**Chernabura Isl**	**7.73**	**64**		**Pn**	**06 55 39.5**	**-0.3**
CHNA	**Chernabura Isl**	**7.73**	**63**	P	**Pn**	**06 55 39.1**	**-0.7**
SHEM	**Shemya Is, Ala**	**8.80**	**281**	Pn	**Pn**	**06 55 54.0**	**-0.5**
	comp=E,2.6nm,0.3s,baz=53,slow=5.1,SNR=2.7						
CHGN	**Chignik**	**8.87**	**55**		**Pn**	**06 55 54.4**	**-1.0**
O14K	**Tigyukauivet M**	**9.35**	**35**	Pn	**Pn**	**06 56 04.0**	**+2.0**
N14K	**Kuskokwak Cree**	**9.71**	**31**		**Pn**	**06 56 08.8**	**+1.9**
O15K	**Ungalikthiuk R**	**9.82**	**38**		**Pn**	**06 56 10.6**	**+2.2**
CHIR	**Chirikof Islan**	**10.18**	**61**	P	**Pn**	**06 56 11.3**	**-2.1**
M14K	**Bethel**	**10.29**	**27**	Pn	**Pn**	**06 56 17.1**	**+2.2**
N15K	**Kwethluk River**	**10.43**	**33**		**Pn**	**06 56 20.0**	**+3.3**
P16K	**Nushagak River**	**10.46**	**42**		**Pn**	**06 56 20.2**	**+3.1**
PLK4	**Peulik 4**	**10.46**	**51**		**Pn**	**06 56 17.1**	**-0.2**
L14K	**Kuka Creek**	**10.59**	**24**		**Pn**	**06 56 21.0**	**+2.1**
O16K	**Kokwok River B**	**10.77**	**39**		**Pn**	**06 56 23.5**	**+2.2**
SII	**Sitkinak Islan**	**11.16**	**59**	P	**Pn**	**06 56 25.2**	**-1.6**
K15K	**Wolf Creek Mou**	**11.69**	**24**		**Pn**	**06 56 35.3**	**+1.3**
N17K	**Nushagak Hills**	**11.72**	**37**		**Pn**	**06 56 36.9**	**+2.5**
L16K	**Owhat River**	**11.79**	**29**		**Pn**	**06 56 36.4**	**+1.1**
OHAK	**Old Harbor**	**11.84**	**56**	P	**Pn**	**06 56 33.8**	**-2.1**
M17K	**Holitna River**	**12.22**	**34**		**Pn**	**06 56 43.4**	**+2.3**
N18K	**Kilae Creek**	**12.31**	**39**		**Pn**	**06 56 44.0**	**+1.6**
KDAK	**Kodiak Island**	**12.38**	**54**	Pn	**Pn**	**06 56 41.0**	**-2.3**
	comp=E,1.1nm,0.3s,baz=243,slow=8.7,SNR=11						
KDAK				Sn	**Sn**	**06 58 55.5**	**-4.2**
	baz=155,slow=17						
K17K	**Iditarod**	**12.92**	**28**		**Pn**	**06 56 53.2**	**+2.6**
N19K	**Bonanza Creek**	**12.94**	**40**		**Pn**	**06 56 53.1**	**+2.0**
L18K	**Granite Mounta**	**13.05**	**32**		**Pn**	**06 56 55.0**	**+2.5**
M19K	**Big River Lodg**	**13.64**	**36**		**Pn**	**06 57 02.5**	**+1.9**
F15K	**North Star Dit**	**14.23**	**12**	Pn	**Pn**	**06 57 10.2**	**+1.7**
J19K	**Poorman**	**14.68**	**29**		**Pn**	**06 57 16.3**	**+1.9**
J20K	**Nowinta River**	**15.26**	**30**		**Pn**	**06 57 23.5**	**+1.5**
J20K				IAmb	IAmb	06 57 39.2	
	comp=Z,7.8nm,1.2s						
MCK	**McKinley**	**16.75**	**37**		**Pn**	**06 57 41.4**	**+0.6**
MCK				IAmb	IAmb	06 57 50.8	
	comp=Z,13nm,1.3s						
F21K	**Alatna River**	**17.72**	**23**		**P**	**06 57 53.8**	**+0.6**
D19K	**Kuna River**	**17.81**	**16**	P	**P**	**06 57 55.1**	**+0.9**
D19K				IAmb	IAmb	06 58 00.7	
	comp=Z,9.0nm,1.1s						
GLB	**Gilahina Butte**	**17.83**	**47**	P	**Pn**	**06 57 52.2**	**-2.1**
HDA	**Harding Lake**	**17.85**	**36**	P	**Pn**	**06 57 53.0**	**-1.5**
SNH	**Sunshine Point**	**17.91**	**51**	P	**Pn**	**06 57 54.1**	**-1.2**
SNH				IAmb	IAmb	06 58 01.1	
	comp=Z,20nm,1.0s						
VRDI	**Verde Repeater**	**17.92**	**48**	P	**Pn**	**06 57 52.7**	**-2.9**
WAX	**Waxell Ridge**	**17.97**	**51**	P	**P**	**06 57 55.5**	**-0.6**
WAX				IAmb	IAmb	06 58 00.6	
	comp=Z,15nm,0.7s						
ILAR	**Eielson Array**	**18.07**	**35**	P	**P**	**06 57 54.5**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=233,slow=12,SNR=26						
ILAR				S	**S**	**07 01 23.3**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=231,slow=16,SNR=2.7						
ILAR				PcP	**PcP**	**07 02 29.4**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=240,slow=1.8,SNR=1.9						
ILAR				LR	LR	07 04 39.5	
	comp=Z,54nm,18.5s,baz=237,slow=36						
	comp=Z,0.9nm,0.4s						
D20K	**Etivluk River**	**18.27**	**18**	P	**Pn**	**06 58 00.2**	**+0.6**
RIDG	**Independent Ri**	**18.31**	**40**	P	**P**	**06 57 59.8**	**0.0**
RIDG				IAmb	IAmb	06 58 38.2	
	comp=Z,11nm,1.2s						
MESA	**MESA**	**18.34**	**52**	P	**P**	**06 57 59.8**	**-0.5**
MESA				IAmb	IAmb	06 58 04.8	
	comp=Z,12nm,0.6s						
H24K	**Noodor Dome**	**18.36**	**32**	P	**P**	**06 58 00.3**	**0.0**
GRNC	**Granite Creek**	**18.57**	**50**	P	**P**	**06 58 02.9**	**0.0**
DOT	**Dot Lake**	**18.58**	**40**	P	**P**	**06 58 01.6**	**-1.1**
PETK	**Petropavlovsk-**	**18.65**	**286**	P	**P**	**06 57 58.6**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=79,slow=7.5,SNR=5.4						
	comp=Z,0.9nm,0.8s						
M27K	**Edge Creek, AK**	**19.00**	**45**	P	**P**	**06 58 06.9**	**-0.5**
M27K				IAmb	IAmb	06 58 20.9	
	comp=Z,5.2nm,0.8s						
G24K	**Hadweenzic Riv**	**19.02**	**30**	P	**Pn**	**06 58 08.6**	**0.0**
G24K				IAmb	IAmb	06 58 14.8	
	comp=Z,5.6nm,0.7s						
J26L	**Joseph Creek**	**19.16**	**38**	P	**P**	**06 58 07.4**	**-1.8**
J26L				IAmb	IAmb	06 58 20.9	
	comp=Z,5.4nm,0.6s						
E23K	**Chandalar**	**19.33**	**25**		**P**	**06 58 11.7**	**+0.7**
E23K				IAmb	IAmb	06 58 25.6	
	comp=Z,8.4nm,1.1s						
BCPM	**Bancas Point**	**19.43**	**53**	P	**P**	**06 58 12.9**	**+0.9**
BCPM				IAmb	IAmb	06 58 16.4	
	comp=Z,14nm,0.6s						
F24K	**Squaw Lake**	**19.43**	**28**		**P**	**06 58 12.8**	**+0.8**
PNL	**Peninsula**	**19.50**	**54**	P	**Pn**	**06 58 14.7**	**+0.3**
TOLK	**Toolik Lake Re**	**19.76**	**24**	P	**P**	**06 58 16.7**	**+1.0**
TOLK				IAmb	IAmb	06 58 25.9	
	comp=Z,5.9nm,0.7s						
F25K	**Christian Rive**	**20.14**	**29**	P	**P**	**06 58 20.8**	**+1.1**
G26K	**Porcupine Rive**	**20.34**	**32**	P	**P**	**06 58 21.0**	**-0.9**
H27K	**Steamboat Moun**	**20.74**	**35**		**P**	**06 58 25.6**	**-0.7**
N30M	**Aishikik Lake**	**20.94**	**50**	P	**P**	**06 58 28.5**	**0.0**
N30M				IAmb	IAmb	06 58 32.1	
	comp=Z,11nm,1.0s						
I28M	**Miner Creek**	**20.97**	**38**		**P**	**06 58 28.4**	**-0.3**
I28M				IAmb	IAmb	06 58 48.2	
	comp=Z,4.0nm,0.7s						
S31K	**Pelican**	**20.99**	**59**		**P**	**06 58 29.6**	**+0.7**
S31K				IAmb	IAmb	06 58 33.2	
	comp=Z,11nm,0.8s						
D25K	**Kavik River**	**21.06**	**25**	P	**P**	**06 58 31.2**	**+1.5**
D25K				IAmb	IAmb	06 58 33.0	
	comp=Z,5.0nm,0.8s						
O30N	**Mendenhall**	**21.30**	**52**	P	**P**	**06 58 32.7**	**+0.4**
O30N				IAmb	IAmb	06 58 49.1	
	comp=Z,4.8nm,0.8s						
K29M	**Barlow Dome**	**21.35**	**43**	P	**P**	**06 58 34.2**	**+1.3**
K29M				IAmb	IAmb	06 58 35.4	
	comp=Z,4.3nm,0.4s						
SIT	**Sitka**	**21.48**	**62**	P	**P**	**06 58 35.0**	**+0.8**
SIT				IAmb	IAmb	06 58 39.5	
	comp=Z,6.6nm,0.8s						
SKAG	**Skagway**	**21.53**	**55**	P	**P**	**06 58 34.9**	**+0.2**
E27K	**Coleen River**	**21.73**	**30**	P	**P**	**06 58 38.1**	**+1.3**
SEY	**Seymchan**	**21.95**	**314**	P	**P**	**06 58 35.5**	**-3.7**
	comp=Z,3.6nm,0.8s,baz=105,slow=16,SNR=12						
CRAG	**Craig**	**22.83**	**66**	P	**P**	**06 58 50.4**	**+1.8**
YKA	**Yellowknife Ar**	**31.54**	**48**	P	**P**	**07 00 07.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=290,slow=11,SNR=29						
	comp=Z,0.5nm,0.4s						
BBOR	**Butler Butte**	**33.74**	**86**	P	**P**	**07 00 29.4**	**+2.6**
BBOR				IAmb	IAmb	07 00 30.3	
	comp=Z,3.3nm,0.9s						
I05D	**Terrebonne, OR**	**33.79**	**83**	P	**P**	**07 00 27.8**	**+0.7**
D08A	**Wollman Farm,**	**33.92**	**77**	P	**P**	**07 00 28.9**	**+0.7**
D08A				IAmb	IAmb	07 00 30.3	
	comp=Z,3.9nm,0.7s						
K05A	**Summer Lake**	**34.93**	**85**	P	**P**	**07 00 39.3**	**+2.2**
O02D	**Mt. Diablo Mer**	**35.21**	**90**	P	**P**	**07 00 41.1**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**36.30**	**216**	T	T	07 39 16.7	
	baz=21,slow=76,SNR=81						
H11N3	**WAKE ISLAND Hy**	**36.31**	**216**	T	T	07 39 17.4	
	baz=21,slow=76,SNR=71						
H11N1	**WAKE ISLAND Hy**	**36.32**	**216**	T	T	07 39 27.5	
	baz=21,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**37.50**	**215**	T	T	07 40 49.6	
	baz=21,slow=76,SNR=174						
H11S2	**WAKE ISLAND Hy**	**37.51**	**215**	T	T	07 40 48.0	
	baz=21,slow=76,SNR=150						
H11S3	**WAKE ISLAND Hy**	**37.51**	**215**	T	T	07 40 51.5	
	baz=21,slow=76,SNR=99						
MJAR	**Matsushiro Arr**	**38.31**	**266**	P	**P**	**07 01 03.0**	**-2.8**
	comp=Z,1.6nm,0.8s,baz=54,slow=6.4,SNR=4.7						
MJAR				LR	LR	07 15 22.1	
	comp=Z,19nm,19.4s,baz=84,slow=34						
	comp=Z,1.6nm,0.8s						
NVAR	**Mina Array Bea**	**39.03**	**89**	P	**P**	**07 01 13.5**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=308,slow=8.4,SNR=29						
NVAR				PcP	**PcP**	**07 03 22.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=309,slow=3.6,SNR=2.6						
	comp=Z,3.2nm,0.8s						
JGF	**Kuroka**	**39.44**	**266**	P	**P**	**07 01 17.1**	**+1.9**
JSG	**Sagara**	**39.54**	**264**	P	**P**	**07 01 17.9**	**+1.9**
R11B	**Troy Canyon, C**	**40.76**	**87**		**P**	**07 01 27.6**	**+1.3**
R11B				IAmb	IAmb	07 01 28.5	
	comp=Z,2.9nm,1.0s						
PDAR	**Pinedale Array**	**41.83**	**77**	P	**P**	**07 01 35.9**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=310,slow=9.1,SNR=31						
	comp=Z,1.9nm,0.4s						
U15A	**North Rim**	**44.01**	**87**		**P**	**07 01 54.0**	**+1.2**
U15A				IAmb	IAmb	07 01 55.3	
	comp=Z,5.0nm,0.9s						
KSRS	**Korea Array**	**44.09**	**276**	LR	LR	07 21 44.5	
	comp=Z,1μm,18.7s,baz=75,slow=38						
INCN	**Inchon**	**44.86**	**276**	P	**P**	**07 02 01.4**	**+2.1**
JNU	**Nakatsue**	**45.09**	**269**	P	**P**	**07 02 01.9**	**+0.7**
ULM	**Lac du Bonnet**	**45.55**	**61**	P	**P**	**07 02 04.1**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=308,slow=11,SNR=7.3						
	comp=Z,4.6nm,0.7s						
TUC	**Tucson**	**47.67**	**90**	P	**P**	**07 02 22.0**	**+0.5**
TUC				IAmb	IAmb	07 02 23.7	
	comp=Z,3.6nm,0.9s						
K30B	**Basset**	**47.80**	**71**	P	**P**	**07 02 22.9**	**+0.6**
TXAR	**Lajitas Array**	**54.13**	**87**	P	**P**	**07 03 10.6**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=318,slow=7.5,SNR=45						
	comp=Z,3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**56.79**	**317**	LR	LR	07 30 29.8	
	comp=Z,20nm,18.4s,baz=57,slow=39						
H06N1	**SOCORRO T-PHAS**	**57.31**	**101**	T	T	08 06 03.1	
	SNR=7.3						
H06E1	**SOCORRO T-PHAS**	**57.41**	**101**	T	T	08 06 08.6	
	SNR=7.1						
SSLB	**Suanglung**	**57.83**	**268**	P	**P**	**07 03 38.5**	**+2.0**
ARCES	**ARCESS Array B**	**58.17**	**353**	P	**P**	**07 03 39.7**	**+1.5**
ARCES	**ARCESS Array B**	**58.17**	**353**	P	**P**	**07 03 36.7**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=11,slow=7.1,SNR=4.3						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**61.86**	**317**	P	**P**	**07 04 03.2**	**-0.6**
	comp=Z,1.6nm,0.2s,baz=40,slow=7.2,SNR=6.2						
	comp=Z,1.6nm,0.2s						
MKAR	**Makanchi Array**	**63.08**	**312**	P	**P**	**07 04 11.3**	**-0.7**
MKAR	**Makanchi Array**	**63.08**	**312**	P	**P**	**07 04 11.1**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=45,slow=6.1,SNR=7.7						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**63.23**	**323**	P	**P**	**07 04 13.2**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=50,slow=6.4,SNR=7.5						
	comp=Z,1.7nm,0.4s						
ARTI	**Arti**	**64.43**	**332**	P	**P**	**07 04 20.4**	**-0.4**
ARTI	**Arti**	**64.43**	**332**	P	**P**	**07 04 21.1**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=22,slow=5.4,SNR=3.0						
	comp=Z,1.5nm,0.4s						
FINES	**FINESS Array B**	**66.07**	**351**	P	**P**	**07 04 30.4**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=15,slow=5.8,SNR=1.9						
	comp=Z,1.5nm,0.9s						
HFS	**Hagfors**	**68.18**	**357**	P	**P**	**07 04 43.8**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=8.5,slow=2.9,SNR=6.8						
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**70.05**	**327**	P	**P**	**07 04 56.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**75.36**	**281**	P	**P**	**07 05 26.0**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=38,slow=6.7,SNR=4.6						
	comp=Z,1.2nm,0.3s						
WRA	**Warramunga Arr**	**85.69**	**230**	P	**P**	**07 06 22.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=28,slow=5.4,SNR=5.1						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**89.09**	**228**	P	**P**	**07 06 40.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=28,slow=4.9,SNR=20						
	comp=Z,1.5nm,0.7s						
H03N2	**Juan Fernandez**	**117.06**	**110**	T	T	09 20 50.1	
	baz=318,slow=78,SNR=16						
H03N1	**Juan Fernandez**	**117.07**	**110**	T	T	09 20 48.4	
	baz=318,slow=78,SNR=18						
H03N3	**Juan Fernandez**	**117.07**	**110**	T	T	09 20 45.4	
	baz=318,slow=78,SNR=19						
QSPA	**South Pole Qui**	**141.72**	**180**	PKhKP	PKPpre	07 13 10.4	
	comp=Z,0.7nm,0.5s,baz=86,slow=0.2,SNR=5.5						
MAW	**Mawson**	**149.70**	**218**	PKPbc	**PKPbc**	**07 13 33.3**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=180,slow=1.0,SNR=3.9						
BOSA	**Boshof**	**153.50**	**325**	PKPbc	**PKPbc**	**07 13 42.3**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=30,slow=3.4,SNR=4.6						

*KRNET **31** 07:13:11.7±0.1,42.04N×79.09E,mb2.5*
*SOME **31** 07:13:12.0,42.12N×79.10E,h10km*

*NNC **31** 07:13:13.0±0.9,42.17N×79.11E,h0km,mb3.0,mpv2.9, Error ellipse: s-maj=6.2km s-min=3.4km az=161.0*

ISC 31 07:13:12.2±1.5,42.09N±0.06×79.07E±0.06,h10km,n27, σ0°87/45,8C,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.01**	**249**	*iP*	**Pg**	**07 13 30.9**	**-0.9**
TARG				*iS*	**Sb**	**07 13 45.5**	**-0.2**
UZB	**Uzynkulak**	**1.05**	**358**	*eP*	**Pg**	**07 13 31.1**	**-1.4**
	6.4nm,0.2s						
UZB				*eS*	**Sg**	**07 13 44.8**	**-1.5**
	10nm,0.2s						
SATY	**Saty**	**1.08**	**333**	P	**Pg**	**07 13 32.4**	**-0.7**
	5.7nm,0.4s						
SATY				S	**Sg**	**07 13 46.8**	**-0.4**
	12nm,0.2s						
SHLS	**Shalkode**	**1.10**	**15**	P	**Pn**	**07 13 34.6**	**+0.7**
	5.1nm,0.2s						
SHLS				S	**Sn**	**07 13 50.8**	**+1.6**
	16nm,0.3s						
SHLS	**Shalkode**	**1.10**	**15**	*eP*	**Pn**	**07 13 34.6**	**+0.7**
	6.5nm,0.1s						
SHLS				*eS*	**Sn**	**07 13 50.8**	**+1.6**
	16nm,0.2s						
KPKS	**Kokpek**	**1.40**	**348**	P	**Pb**	**07 13 38.2**	**-0.4**
	0.3nm,0.2s						
KPKS				S	**Sg**	**07 13 56.8**	**-0.6**
	6.8nm,0.3s						
KDJ	**Kajisay**	**1.41**	**272**	*iP*	**Pb**	**07 13 38.7**	**0.0**
KDJ				*iS*	**Sg**	**07 13 58.0**	**+0.4**
TNSS	**Tian-Shan**	**1.83**	**302**	P	**Pb**	**07 13 46.4**	**+0.3**
	1.2nm,0.5s						
TNSS				S	**Sg**	**07 14 11.1**	**-0.1**
	2.7nm,0.4s						
TNSS	**Tian-Shan**	**1.83**	**302**	*eP*	**Pb**	**07 13 46.4**	**+0.3**
	1.5nm,0.2s						
TNSS				*eS*	**Sg**	**07 14 11.1**	**-0.1**
	2.7nm,0.4s						
KOTS	**Kotyrbulak**	**1.84**	**309**	P	**Pb**	**07 13 46.6**	**+0.5**
	5.4nm,0.2s						
KOTS				S	**Sg**	**07 14 11.3**	**-0.2**
	9.3nm,0.5s						
KOTS	**Kotyrbulak**	**1.84**	**309**	*eP*	**Pb**	**07 13 46.6**	**+0.5**
	5.4nm,0.2s						
KOTS				*eS*	**Sg**	**07 14 11.3**	**-0.2**
	9.3nm,0.5s						
ULHL	**Ulahol**	**2.11**	**275**	*eP*	**Pb**	**07 13 50.9**	**+0.2**
ULHL				*iS*	**Sg**	**07 14 19.3**	**-0.8**
MTBS	**Maitube**	**2.21**	**299**	Pg	**Pb**	**07 13 52.8**	**+0.5**
	2.2nm,0.3s						
MTBS				Lg	Lg	07 14 22.2	
	18nm,0.3s						
MTBS	**Maitube**	**2.21**	**299**	*eP*	**Pb**	**07 13 52.8**	**+0.5**
	2.1nm,0.1s						
MTBS				*eS*	**Sg**	**07 14 22.2**	**-1.1**
	18nm,0.3s						
KNOS	**Konyrlen**	**2.27**	**2**	Pg	**Pb**	**07 13 52.8**	**-0.5**
	2.3nm,0.2s						
KNOS				Lg	Lg	07 14 22.2	
	6.6nm,0.3s						
ARXS	**Arharly**	**2.31**	**337**	Pg	**Pb**	**07 13 53.6**	**-0.4**
	1.9nm,0.3s						
ARXS				Lg	Lg	07 14 23.3	
	7.5nm,0.4s						
ARXS	**Arharly**	**2.31**	**337**	*eP*	**Pb**	**07 13 53.6**	**-0.4**
ARXS				*eS*	**Sb**	**07 14 23.3**	**+0.8**
CHKK	**Chushkaly**	**2.33**	**320**	Pg	**Pb**	**07 13 55.2**	**+0.8**
	6.4nm,0.4s						
CHKK				Lg	Lg	07 14 26.1	
CHKK	**Chushkaly**	**2.33**	**320**	*eP*	**Pb**	**07 13 55.2**	**+0.8**
	6.4nm,0.1s						
CHKK				*eS*

MYLDM	**Lahad Datu**	**8.15**	**263**	Pn	**Pn**	**07 44 25.7**	**-2.2**
SANI	**Sanana**	**8.20**	**185**	P	**Pn**	**07 44 27.1**	**-1.5**
	40nm,0.8s						
APSI	**Ampana**	**8.62**	**215**	P	**Pn**	**07 44 37.4**	**+3.0**
	88nm,0.9s						
NLAI	**Namlea**	**9.37**	**177**	P	**Pn**	**07 44 45.4**	**+0.8**
	52nm,1.0s						
BNSI	**Bone**	**12.37**	**212**	P	**Pn**	**07 45 28.6**	**+2.9**
	27nm,1.2s						
KAPI	**Kappang**	**13.07**	**212**	Pn	**Pn**	**07 45 35.8**	**+0.5**
	6.7nm,0.4s,baz=4.8,slow=12,SNR=1.0						
SBUM	**Sibu**	**14.84**	**256**	Pn	**Pn**	**07 45 58.1**	**-1.3**
EDFI	**Ende, Flores**	**15.63**	**198**	P	**P**	**07 46 12.5**	**-1.2**
BATI	**Baumata**	**16.55**	**190**	Pn	**Pn**	**07 46 21.8**	**+0.3**
	10nm,0.3s,baz=297,slow=5.8,SNR=3.6						
BATI	**Baumata**	**16.55**	**190**	P	**P**	**07 46 24.9**	**+1.1**
KSM	**Kuching**	**16.94**	**255**		**Pn**	**07 46 25.9**	**-0.6**
JAGI	**Jajag, Banyuwa**	**19.15**	**221**	P	**P**	**07 46 51.3**	**-1.1**
JAGI				IAmb	IAmb	07 47 07.4	
	comp=Z,43nm,1.1s						
MTN	**Manton Dam**	**19.42**	**167**		**P**	**07 46 54.1**	**-1.4**
JMZ	**Minamidaito 2**	**20.02**	**12**	P	**P**	**07 47 02.5**	**+0.6**
KNRA	**Kununurra**	**21.82**	**174**		**P**	**07 47 21.4**	**0.0**
KNRA				IAmb	IAmb	07 47 22.9	
	comp=Z,22nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.14**	**182**		**P**	**07 47 44.9**	**0.0**
IPM	**Ipoh**	**25.55**	**267**	P	**P**	**07 47 57.5**	**-0.3**
IPM				IAmb	IAmb	07 48 04.4	
	comp=Z,32nm,1.4s						
PMG	**Port Moresby**	**25.66**	**127**	P	**P**	**07 47 59.2**	**+0.4**
PMG				IAmb	IAmb	07 48 03.2	
	comp=Z,16nm,0.9s						
COEN	**Coen**	**25.88**	**141**	P	**P**	**07 47 60.0**	**-0.9**
COEN				IAmb	IAmb	07 48 29.9	
	comp=Z,21nm,1.4s						
NJ2	**Nanjing**	**26.75**	**345**	*eP*	**P**	**07 48 10.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
WRA	**Warramunga Arr**	**27.04**	**164**	P	**P**	**07 48 10.6**	**-0.7**
WRA	**Warramunga Arr**	**27.04**	**164**	P	**P**	**07 48 10.8**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=344,slow=10.0,SNR=21						
WRA				PcP	**PcP**	**07 51 32.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=332,slow=2.4,SNR=5.8						
	comp=Z,1.5nm,0.6s						
PSA00	**Pilbara Seismi**	**28.37**	**193**	P	**P**	**07 48 22.1**	**-1.0**
PSA00				IAmb	IAmb	07 48 22.7	
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.62**	**297**	P	**P**	**07 48 35.3**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=113,slow=9.0,SNR=4.5						
CMAR				PcP	**PcP**	**07 51 40.0**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=120,slow=2.8,SNR=4.5						
	comp=Z,0.9nm,0.5s						
ASAR	**Alice Springs**	**30.50**	**167**	P	**P**	**07 48 42.2**	**+0.1**
ASAR	**Alice Springs**	**30.50**	**167**	P	**P**	**07 48 41.2**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=347,slow=7.4,SNR=24						
ASAR				PcP	**PcP**	**07 51 41.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=347,slow=2.5,SNR=14						
	comp=Z,1.1nm,0.6s						
GIRL	**Giralia**	**31.11**	**203**	P	**P**	**07 48 46.3**	**-1.0**
LYN	**LuoYang**	**31.12**	**337**	P	**P**	**07 48 50.5**	**+3.2**
LYN				S	**S**	**07 53 53.5**	**+2.8**
LYN				pmax	pmax		
	comp=Z,28nm,0.6s						
LYN				pmax	pmax		
	comp=Z,160nm,7.2s						
LYN				LR	LR		
	comp=N,860nm,13.1s						
LYN				LR	LR		
	comp=E,930nm,14.4s						
LYN				LR	LR		
	comp=Z,2μm,11.0s						
KSRS	**Korea Array**	**31.15**	**2**	P	**P**	**07 48 47.7**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=193,slow=10.0,SNR=2.3						
	comp=Z,0.4nm,0.3s						
PZH	**PanZhiHua**	**31.16**	**313**	P	**P**	**07 48 49.5**	**+1.5**
XAN	**Xi'an**	**32.21**	**332**	P	**P**	**07 48 54.5**	**-2.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**37.06**	**341**	*eP*	**P**	**07 49 41.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,42nm,3.7s						
HHC				LR	LR		
	comp=N,200nm,13.6s						
HHC				LR	LR		
	comp=E,450nm,13.9s						
HHC				LR	LR		
	comp=Z,130nm,13.9s						
XLT	**XiLinHaoTe**	**38.70**	**348**	*eP*	P	07 49 59.3	+6.7
XLT				sP	pwP	07 50 12.5	+6.1
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XLT				LR	LR		
	comp=N,12nm,16.6s						
XLT				LR	LR		
	comp=E,280nm,16.6s						
XLT				LR	LR		
	comp=Z,220nm,14.9s						
STKA	**Stephens Creek**	**40.45**	**160**	P	**P**	**07 50 07.1**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=341,slow=7.4,SNR=6.5						
	comp=Z,4.0nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.90**	**69**	T	T	08 33 55.9	
	baz=258,slow=75,SNR=106						
H11S1	**WAKE ISLAND Hy**	**40.91**	**69**	T	T	08 33 58.2	
	baz=258,slow=75,SNR=87						
H11S2	**WAKE ISLAND Hy**	**40.91**	**69**	T	T	08 33 58.3	
	baz=258,slow=75,SNR=239						
GTA	**Gaotai**	**40.97**	**328**	*eP*	**P**	**07 50 12.8**	**+1.1**
GTA				sP	pP	07 50 22.8	+1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				LR	LR		
	comp=N,340nm,13.1s						
GTA				LR	LR		
	comp=E,420nm,14.3s						
GTA				LR	LR		
	comp=Z,520nm,13.9s						
H11N1	**WAKE ISLAND Hy**	**41.35**	**67**	T	T	08 34 38.7	
	baz=255,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**41.36**	**67**	T	T	08 34 38.4	
	baz=255,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**41.37**	**67**	T	T	08 34 39.2	
	baz=255,slow=75,SNR=16						
SONM	**Songino Array**	**44.96**	**341**	P	**P**	**07 50 44.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=159,slow=8.6,SNR=5.1						
SONM				PcP	**PcP**	**07 52 24.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=158,slow=1.6,SNR=3.0						
	comp=Z,0.3nm,0.4s						
PETK	**Petropavlovsk-**	**53.22**	**23**	P	**P**	**07 51 45.5**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=234,slow=7.5,SNR=1.3						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.51**	**324**	P	**P**	**07 52 02.8**	**-0.9**
MKAR	**Makanchi Array**	**55.51**	**324**	P	**P**	**07 52 03.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=124,slow=8.4,SNR=9.8						
MKAR				PcP	**PcP**	**07 53 03.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=111,slow=3.5,SNR=5.9						
	comp=Z,1.6nm,0.6s						
KDJ	**Kajisay**	**56.48**	**317**	P	**P**	**07 52 10.3**	**-0.5**
KDJ				IAmb	IAmb	07 52 41.9	
	comp=Z,7.2nm,1.2s						
ZALV	**Zalesovo Beam**	**58.38**	**332**	P	**P**	**07 52 23.2**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=123,slow=7.1,SNR=4.0						
	comp=Z,1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**59.64**	**327**	P	**P**	**07 52 32.9**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=122,slow=6.6,SNR=15						
	comp=Z,1.5nm,0.4s						
KKAR	**Karatay Array**	**61.40**	**316**	P	**P**	**07 52 45.0**	**+0.2**
BVAR	**Borovoye Array**	**65.23**	**326**	P	**P**	**07 53 11.0**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=127,slow=6.6,SNR=10.0						
	comp=Z,2.2nm,0.5s						
ABKAR	**Akbulak array**	**70.21**	**320**	P	**P**	**07 53 39.9**	**-1.5**
CASY	**Casey**	**73.22**	**187**		**P**	**07 53 59.5**	**+0.4**
CASY				IAmb	IAmb	07 54 00.2	
	comp=Z,4.8nm,0.8s						
RAYN	**Ar Rayn**	**79.44**	**293**		**P**	**07 54 33.9**	**-1.5**
RAYN				IAmb	IAmb	07 54 36.1	
	comp=Z,4.7nm,0.8s						
KIV	**Kislovodsk**	**81.39**	**313**	P	**P**	**07 54 45.1**	**-0.5**
GURO	**Guroymak-BITLI**	**81.97**	**308**	P	**P**	**07 54 47.5**	**-1.3**
GURO				IAmb	IAmb	07 54 58.8	
	comp=Z,5.6nm,0.9s						
VNDA	**Vanda**	**85.85**	**173**	P	**P**	**07 55 07.7**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=304,slow=5.4,SNR=10						
	comp=Z,1.7nm,0.9s						
MAW	**Mawson**	**86.00**	**200**	P	**P**	**07 55 07.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=310,slow=3.3,SNR=1.7						
	comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**88.13**	**340**	P	**P**	**07 55 17.3**	**-1.5**
ARCES				IAmb	IAmb	07 55 54.2	
	comp=Z,8.8nm,1.4s						
ARCES	**ARCESS Array B**	**88.13**	**340**	P	**P**	**07 55 17.9**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=90,slow=6.1,SNR=5.4						
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**88.39**	**310**	P	**P**	**07 55 20.0**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=125,slow=4.0,SNR=3.0						
	comp=Z,0.7nm,0.8s						
KBS	**Kingsbay**	**88.59**	**350**	P	**P**	**07 55 22.1**	**+1.2**
FINES	**FINESS Array B**	**89.64**	**332**	P	**P**	**07 55 26.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=84,slow=5.9,SNR=11						
	comp=Z,0.6nm,0.4s						
QSPA	**South Pole Qui**	**96.07**	**180**	P	**P**	**07 55 57.9**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=333,slow=0.8,SNR=5.6						
	comp=Z,0.7nm,0.7s						
VRAC	**Vranov**	**98.17**	**322**	LR	LR	08 42 19.2	
	comp=Z,25nm,18.8s,baz=60,slow=36						
TXAR	**Lajitas Array**	**120.16**	**51**	PKP	**PKPdf**	**08 01 18.4**	**-1.7**
	comp=Z,0.1nm,0.6s,baz=5.4,slow=4.9,SNR=1.5						
TORD	**Torodi Ar. Bea**	**122.04**	**290**	PKP	**PKPdf**	**08 01 23.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=39,slow=2.9,SNR=7.3						

IDC ***31*** *07:50:14.7±0.5,22.91N×121.69E,h0km,mb4.3/23, mbtmp4.3/27,ML4.2/3,MS3.6/25,Error ellipse: s-maj=17.5km s-min=12.3km az=77.0*

MOS ***31*** *07:50:16.9±0.9,22.93N×121.75E,h23km,mb4.9/23,Error ellipse: s-maj=9.0km s-min=6.5km az=94.6*

NIED ***31*** *07:50:17.6,23.02N×121.77E,h11km,MW4.5,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr5.14; Mθθ0.99; Mφφ-6.13; Mrθ-0.96; Mθφ0.00; Mφr-0.61; Fault plane solution: Mo5.77000×10¹⁵ NP1: φs348.00000°,δ43.00000°,λ72.00000°. NP2: φs192.00000°,δ49.00000°,λ106.00000°.*

JMA ***31*** *07:50:17.6±0.2,23.0N±0.6×121.8E±0.6,h11km±3km, MD4.5/16,MV4.9/16,TAIWAN REGION*

NEIC ***31*** *07:50:18.5±1.4,23.02N±0.07×121.72E±0.03,h14km±5km, mb4.8/39,Error ellipse: s-maj=11.2km s-min=2.9km az=161.0*

BJI ***31*** *07:50:19.5,23.09N×121.58E,h7km, mB4.5/12,mb4.4/38, ML4.4/6,Ms4.3/39,Ms7 4.2/39*

TAP ***31*** *07:50:19.2,22.97N×121.73E,h24km,ML4.8,C*

ASIES ***31*** *07:50:19.2,22.96N×121.73E,h27km,Mw4.4,Fault plane solution: NP1:φ201.00000°,δ44.00000°,λ117.00000°. NP2:φ345.00000°,δ52.00000°,λ66.00000°.*

ISC 31 07:50:16.6±1.0, 22.97N±0.01×121.80E±0.02, h7km±6km, n596,σ1§00/685, mb4.7/61, MS3.6/28, 13C-40D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.42**	**288**		*i* P	**Pb**	**07 50 26.4**	**+0.1**
CHKT					*e* S	**Sb**	**07 50 31.7**	**-1.2**
LDUT	**Ludao**	**0.43**	**226**		‖P	**Pb**	**07 50 27.3**	**+0.9**
LDUT					*e* S	**Sb**	**07 50 33.0**	**0.0**
CHKH	**Chenggong**	**0.43**	**301**		‖P	**Pb**	**07 50 26.7**	**+0.2**
CHKH					*e* S	**Sb**	**07 50 31.9**	**-1.3**
EDH	**Donghe**	**0.46**	**270**		P	**Pb**	**07 50 27.3**	**+0.4**
EDH					*i* S	**Sb**	**07 50 32.8**	**-1.2**
ECBN	**Changbin**	**0.47**	**317**		‖*i* P	**Pb**	**07 50 28.1**	**+0.9**
ECBN					*i* S	**Sb**	**07 50 33.9**	**-0.4**
FULB	**Fuli**	**0.52**	**296**		P	**Pb**	**07 50 27.9**	**-0.1**
FULB					*e* S	**Sb**	**07 50 34.4**	**-1.3**
ECS	**Chishang**	**0.55**	**283**		‖P	**Pb**	**07 50 28.9**	**+0.4**
ECS					*e* S	**Sb**	**07 50 36.4**	**-0.2**
EHD	**Haiduan**	**0.57**	**288**		*e* P	**Pb**	**07 50 28.8**	**-0.2**
EHD					*e* S	**Sb**	**07 50 36.4**	**-0.9**
EYUL	**Yuli**	**0.58**	**310**	‖	*e* P	**Pb**	**07 50 29.6**	**+0.5**
TWF1	**Yuli**	**0.60**	**309**		*e* P	**Pb**	**07 50 29.5**	**+0.1**
TWF1					S	**Sb**	**07 50 37.7**	**-0.3**
LONT	**Longtian**	**0.62**	**264**		*e* P	**Pb**	**07 50 29.6**	**-0.1**
LONT					*e* S	**Sb**	**07 50 37.6**	**-1.1**
HGSD	**Ruisui**	**0.62**	**326**		P	**Pb**	**07 50 29.8**	**+0.1**
TTN	**Taitung**	**0.64**	**250**		*e* P	**Pb**	**07 50 30.3**	**+0.3**
TTN					*e* S	**Sb**	**07 50 38.7**	**-0.4**
EHYH	**Wanrong**	**0.67**	**321**		*e* P	**Pb**	**07 50 30.9**	**+0.4**
EHYH					*e* S	**Sb**	**07 50 39.8**	**-0.2**
TWGBT	**Beinan**	**0.68**	**257**		P	**Pb**	**07 50 30.7**	**-0.1**
TWGBT	**Beinan**	**0.68**	**257**		P	**Pb**	**07 50 30.6**	**-0.2**
TWGBT	**Beinan**	**0.68**	**257**		S	**Sb**	**07 50 40.5**	**+0.1**
TWGBT	**Beinan**	**0.68**	**257**		‖P	**Pb**	**07 50 30.4**	**-0.4**
TWGBT					*e* S	**Sb**	**07 50 39.1**	**-1.3**
TWG	**Pinlang**	**0.69**	**258**			**Pb**	**07 50 30.5**	**-0.4**
TWG	**Pinlang**	**0.69**	**258**		P	**Pb**	**07 50 30.5**	**-0.4**
TWG					*e* S	**Sb**	**07 50 39.0**	**-1.6**
EHY	**Hungye**	**0.69**	**320**		‖P	**Pb**	**07 50 31.1**	**+0.2**
EHY					S	**Sb**	**07 50 40.4**	**-0.3**
ELDTW	**Lidau**	**0.75**	**287**		‖P	**Pb**	**07 50 31.4**	**-0.6**
ELDTW					*e* S	**Sg**	**07 50 39.9**	**-1.0**
EGFH	**Guangfu**	**0.77**	**334**		P	**Pn**	**07 50 33.3**	**-0.5**
EGFH					*e* S	**Sb**	**07 50 43.2**	**+0.1**
WARBT	**Fenglin Townsh**	**0.83**	**333**	‖	*e* P	**Pb**	**07 50 33.5**	**+0.2**
WARBT					S	**Sg**	**07 50 43.5**	**0.0**
SHUL	**Shoufeng**	**0.84**	**345**	↑	P	**Pn**	**07 50 34.0**	**-0.7**
SHUL					*e* S	**Sb**	**07 50 45.0**	**0.0**
ECL	**Taimali**	**0.87**	**245**		*e* P	**Pb**	**07 50 33.1**	**-0.7**
ECL					*e* S	**Sg**	**07 50 43.5**	**-1.0**
ESL	**Shilin**	**0.90**	**338**	↑	P	**Pb**	**07 50 34.5**	**-0.1**
ESL					S	**Sg**	**07 50 45.7**	**-0.1**
TEYL	**Yanliau Villag**	**0.91**	**348**		*e* P	**Pn**	**07 50 35.8**	**+0.1**
TEYL					*e* S	**Sb**	**07 50 47.7**	**+0.7**
LAY	**Lan-yu**	**0.96**	**194**		*e* P	**Pb**	**07 50 35.1**	**-0.3**
LAY					*e* S	**Sg**	**07 50 45.1**	**-2.3**
STYH	**Taoyuan**	**0.96**	**282**		‖P	**Pb**	**07 50 35.1**	**-0.5**
STYH					*i* S	**Sg**	**07 50 46.8**	**-0.9**
LYUB	**Lan-yu**	**0.99**	**192**	↑	P	**Pg**	**07 50 34.9**	**-0.6**
HWA	**Hwalien**	**1.02**	**350**		*e* P	**Pn**	**07 50 36.8**	**-0.4**
HWA					*e* S	**Sg**	**07 50 49.4**	**+0.1**
ETM	**Tongmen**	**1.03**	**344**		*e* P	**Pb**	**07 50 36.6**	**-0.1**
ETM					*e* S	**Sg**	**07 50 49.0**	**-0.7**
TAW	**Tawu**	**1.03**	**234**		*e* P	**Pb**	**07 50 36.2**	**-0.5**
TAW					S	**Sg**	**07 50 49.3**	**-0.5**
TAWH	**Dawu Township**	**1.05**	**233**		*e* P	**Pg**	**07 50 36.5**	**-0.3**
TAWH					*e* S	**Sg**	**07 50 49.2**	**-1.2**
ALS	**Alishan**	**1.06**	**301**		*i* P	**Pn**	**07 50 37.8**	**-0.3**
ALS					*e* S	**Sb**	**07 50 50.8**	**-0.8**
SSD	**Sandimen**	**1.10**	**258**	‖	*e* P	**Pg**	**07 50 37.2**	**-0.5**
SSD					*e* S	**Sg**	**07 50 49.3**	**-2.7**
LXIB	**Xiulin Townshi**	**1.10**	**341**	↑	P	**Pg**	**07 50 37.5**	**-0.2**
TWD	**Chiawan**	**1.12**	**350**		*e* P	**Pg**	**07 50 37.8**	**-0.2**
TWD					*i* S	**Sg**	**07 50 51.2**	**-1.4**
SSLB	**Suanglung**	**1.12**	**316**			**Pg**	**07 50 37.6**	**-0.6**
SSLB	**Suanglung**	**1.12**	**316**		P	**Pb**	**07 50 38.2**	**-0.1**
SSLB	**Suanglung**	**1.12**	**316**		P	**Pb**	**07 50 38.1**	**-0.3**
SSLB	**Suanglung**	**1.12**	**316**	‖	P	**Pb**	**07 50 38.0**	**-0.3**
TPUB	**Ta-pu**	**1.13**	**287**			**Pb**	**07 50 38.0**	**-0.3**
TPUB	**Ta-pu**	**1.13**	**287**		P	**Pn**	**07 50 38.0**	**+0.1**
TPUB	**Ta-pu**	**1.13**	**287**		P	**Pn**	**07 50 38.6**	**-0.2**
TPUB	**Ta-pu**	**1.13**	**287**		S	**Sn**	**07 50 53.3**	**-1.2**
TPUB	**Ta-pu**	**1.13**	**287**	‖	P	**Pn**	**07 50 38.5**	**-0.2**
TPUB					*e* S	**Sb**	**07 50 52.8**	**-0.4**
WTP	**Ta-pu**	**1.13**	**284**	‖	P	**Pn**	**07 50 38.6**	**-0.2**
WTP					S	**Sn**	**07 50 53.5**	**-1.0**
WHYT	**Xinyi Township**	**1.13**	**310**	‖	P	**Pn**	**07 50 38.9**	**+0.1**
WHYT					S	**Sg**	**07 50 52.0**	**-1.0**
OWD	**Renai**	**1.13**	**330**	‖	*e* P	**Pb**	**07 50 38.4**	**-0.2**
OWD					*e* S	**Sg**	**07 50 52.4**	**-0.7**
MASBT	**Mashibuluo**	**1.14**	**252**	‖	P	**Pg**	**07 50 37.7**	**-0.7**
CHN4	**Tsaushan**	**1.17**	**289**	‖	P	**Pn**	**07 50 39.6**	**+0.2**
CHN4					*e* S	**Sb**	**07 50 53.8**	**-0.7**
CHN1	**Nanshi**	**1.19**	**281**	‖	*i* P	**Pn**	**07 50 40.0**	**+0.4**
CHN1					*i* S	**Sn**	**07 50 55.8**	**-0.3**
SLIU	**Shizi**	**1.19**	**231**		*e* P	**Pg**	**07 50 38.5**	**-1.0**
ETL	**Fush Village**	**1.19**	**352**		*e* P	**Pg**	**07 50 39.0**	**-0.5**
WCKO	**Fanlu**	**1.19**	**293**	‖	*e* P	**Pn**	**07 50 40.2**	**+0.5**
WCKO					*i* S	**Sn**	**07 50 55.2**	**-0.9**
WUSB	**Renai**	**1.19**	**328**	‖	P	**Pb**	**07 50 39.4**	**-0.1**
WUSB					*e* S	**Sg**	**07 50 53.1**	**-1.9**
CHN5	**Tsauling**	**1.21**	**301**	‖	P	**Pn**	**07 50 40.3**	**+0.4**
SCST	**Cishan**	**1.21**	**266**	‖	*i* P	**Pn**	**07 50 40.3**	**+0.5**
SCST					*e* S	**Sn**	**07 50 56.6**	**+0.2**
NACB	**Ninganchiao**	**1.21**	**351**			**Pg**	**07 50 38.8**	**-1.1**
NACB	**Ninganchiao**	**1.21**	**351**		S	**Sg**	**07 50 54.7**	**-0.9**
NACB	**Ninganchiao**	**1.21**	**351**		P	**Pg**	**07 50 39.3**	**-0.5**
NACB	**Ninganchiao**	**1.21**	**351**		S	**Sg**	**07 50 54.5**	**-1.1**
NACB	**Ninganchiao**	**1.21**	**351**		*e* P	**Pg**	**07 50 39.0**	**-0.8**
NACB					S	**Sg**	**07 50 53.8**	**-1.8**
SNST	**Tainan City**	**1.23**	**282**		*e* P	**Pn**	**07 50 40.4**	**+0.4**
SNST					*i* S	**Sn**	**07 50 56.7**	**-0.2**
SMLT	**Sun Moon Lake**	**1.23**	**318**	‖	*i* P	**Pn**	**07 50 40.2**	**0.0**
SMLT					*e* S	**Sg**	**07 50 54.7**	**-1.4**
SGLT	**Jiouru**	**1.23**	**259**		*e* P	**Pn**	**07 50 40.6**	**+0.5**
SGLT					*e* S	**Sb**	**07 50 55.8**	**-0.4**
EOS4	**EOS4**	**1.24**	**22**		*e* P	**Pg**	**07 50 40.5**	**+0.1**
EOS4					S	**Sb**	**07 50 55.3**	**-0.7**
SCZT	**Fangliau**	**1.24**	**242**	‖	P	**Pg**	**07 50 39.7**	**-0.7**
TWK	**Hsinying**	**1.24**	**284**	‖	P	**Pn**	**07 50 40.8**	**+0.4**
TWK					*i* S	**Sn**	**07 50 57.1**	**-0.3**
ETLH	**Xiulin Townshi**	**1.26**	**347**		*e* P	**Pg**	**07 50 40.1**	**-0.7**
ETLH					*e* S	**Sg**	**07 50 55.0**	**-2.3**
WHF	**Hehuan Shan**	**1.27**	**337**		*e* P	**Pg**	**07 50 40.5**	**-0.5**
WHF					*e* S	**Sg**	**07 50 55.0**	**-2.5**
TYC	**Yuchr**	**1.27**	**317**	‖	*i* P	**Pg**	**07 50 40.9**	**0.0**
TYC					S	**Sb**	**07 50 57.0**	**-0.3**
TWM1	**Shoushan**	**1.28**	**264**		*e* P	**Pg**	**07 50 42.6**	**+1.5**
TWM1					*e* S	**Sn**	**07 50 58.8**	**+0.6**
WJS	**Zhushan**	**1.30**	**311**		*e* P	**Pg**	**07 50 42.3**	**+0.8**
WJS					*e* S	**Sn**	**07 50 58.2**	**-0.5**
SMST	**Manzhou Townsh**	**1.30**	**223**		*e* P	**Pn**	**07 50 40.7**	**-0.4**
SMST					S	**Sb**	**07 50 56.0**	**-2.2**
CHN3	**Shinhua**	**1.33**	**275**	‖	P	**Pg**	**07 50 43.4**	**+1.3**
CHN3					*e* S	**Sn**	**07 51 01.6**	**+2.3**
SHHT	**Tainan City**	**1.34**	**272**		*e* P	**Pg**	**07 50 44.1**	**+1.9**
SHHT					S	**Sn**	**07 51 02.1**	**+2.5**
CHN2	**Minshiung**	**1.34**	**295**	‖	*e* P	**Pg**	**07 50 43.3**	**+1.0**
CHN2					S	**Sn**	**07 51 00.5**	**+0.8**
WGK	**Gukeng**	**1.34**	**302**		*e* P	**Pg**	**07 50 42.8**	**+0.5**
WGK					*e* S	**Sn**	**07 51 00.6**	**+0.8**
EAHA	**Aohua**	**1.35**	**358**		*e* P	**Pn**	**07 50 41.9**	**+0.1**
EAHA					*e* S	**Sb**	**07 50 57.8**	**-2.0**
TSEB	**Hengchuen, Pin**	**1.35**	**218**		*e* P	**Pg**	**07 50 42.9**	**+0.3**
TSEB					S	**Sn**	**07 50 59.7**	**-0.3**
WCS	**Beigang Elemen**	**1.35**	**323**		*e* P	**Pg**	**07 50 42.5**	**-0.1**
WDLH	**Douliu**	**1.36**	**302**		*e* P	**Pg**	**07 50 43.4**	**+0.7**
WDLH					S	**Sn**	**07 51 00.6**	**+0.4**
WNT	**Mingjian**	**1.37**	**312**	‖	P	**Pg**	**07 50 43.3**	**+0.5**
WNT					*i* S	**Sn**	**07 51 00.2**	**-0.1**
FUSS	**Fushou**	**1.37**	**338**		*e* P	**Pb**	**07 50 42.5**	**-0.2**
SNJT	**Kaohsiung City**	**1.37**	**261**		*e* P	**Pg**	**07 50 44.8**	**+1.9**
SNJT					*e* S	**Sn**	**07 51 02.9**	**+2.5**
CHY	**Chiayi**	**1.37**	**293**	‖	*e* P	**Pg**	**07 50 43.7**	**+0.9**
CHY					*e* S	**Sn**	**07 51 00.2**	**-0.2**
TWKBT	**Hengchun**	**1.37**	**222**		P	**Pn**	**07 50 42.0**	**-0.1**
TWKBT					*e* S	**Sb**	**07 50 58.1**	**-2.2**
HEN	**Hengchun**	**1.38**	**226**		*e* P	**Pg**	**07 50 42.7**	**-0.2**
HEN					*e* S	**Sn**	**07 50 58.9**	**-1.5**
TWK1	**Hengchun**	**1.38**	**222**		*e* P	**Pg**	**07 50 42.6**	**-0.4**
TWK1					*e* S	**Sb**	**07 50 58.6**	**-1.8**
EOS3	**EOS3**	**1.39**	**20**		*e* P	**Pb**	**07 50 42.9**	**+0.1**
EOS3					*e* S	**Sb**	**07 50 59.6**	**-1.1**
TWT	**Tachien**	**1.40**	**336**		*e* P	**Pg**	**07 50 43.2**	**-0.2**
TDCB	**Techi**	**1.41**	**335**		*e* P	**Pb**	**07 50 43.0**	**-0.2**
KAU	**Kaohsiung**	**1.44**	**254**		*e* P	**Pg**	**07 50 43.6**	**-0.5**
ENA	**Nanau**	**1.45**	**358**		*e* P	**Pb**	**07 50 43.5**	**-0.3**
TAI1	**Yung-k'ang**	**1.45**	**273**		*e* P	**Pg**	**07

JKRS Kuro-shima 2.39 58 A A 07 50 57.6
comp=N,10.0nm,1.4s,comp=E,8.0nm,1.4s
JIJ Ishigaki jima 2.56 57 *i* P **Pn** **07 50 59.4 +1.0**
JIJ S **Sn** **07 51 28.9 -0.9**
PCYT Pengchaiyu 2.66 5 *eP* **Pn** **07 51 00.5 +0.7**
JISG Ishigakijimahi 2.81 55 *i* P **Pn** **07 51 02.6 +0.8**
JISG S **Sn** **07 51 34.6 -1.3**
VWUC VWUC 2.94 314 *eP* **Pn** **07 51 03.5 -0.2**
JTJ Tarama 3.13 57 P **Pn** **07 51 07.8 +1.4**
PTMZ Houxiangcun 3.20 311 *eP* **Pn** **07 51 07.1 -0.1**
KNM Kinmen 3.41 296 *eP* **Pn** **07 51 11.6 +1.6**
KNMB Chin-men Tao 3.46 296 **Pn** **07 51 10.9 +0.1**
KNMB Chin-men Tao 3.46 296 *eP* **Pn** **07 51 10.7 -0.1**
QZH Quanzhou 3.53 304 Pn **Pn** **07 51 11.8 0.0**
QZH Sn **Sn** **07 51 50.0 -3.8**
QZH smax smax
comp=E,680nm,0.9s
QZH smax smax
comp=E,800nm,1.0s
QZH LR LR
comp=E,2µm,12.0s
QZH LR LR
comp=E,2µm,10.6s
MATB Ma-tsu 3.59 332 *eP* **Pn** **07 51 12.7 +0.1**
JIRB Irabujima 3.60 58 P **Pn** **07 51 13.6 +0.9**
JIRB S **Sn** **07 51 55.5 +0.1**
JMJ2 Miyako jima3 3.68 61 P **Pn** **07 51 15.3 +1.5**
JMJ2 S **Sn** **07 51 57.8 +0.3**
JIKM Ikemajima 3.70 58 P **Pn** **07 51 15.3 +1.2**
JIKM S **Sn** **07 51 57.7 -0.3**
JOGS Gusukube 3.75 61 *eP* **Pn** **07 51 16.4 +1.6**
ZPLA Ao Xicun 3.84 285 *eP* **Pn** **07 51 16.6 +0.6**
AXDP Jialang 4.00 299 *eP* **Pn** **07 51 17.8 -0.3**
MHZQ Yeshan 4.01 322 *eP* **Pn** **07 51 18.6 +0.3**
DSXP Dongshan 4.09 281 *eP* **Pn** **07 51 19.9 +0.4**
XPSS Dashiqiu 4.20 340 *eP* **Pn** **07 51 20.3 -0.7**
SXFK Yanhouchang 5.09 313 *eP* **Pn** **07 51 32.6 -0.7**
JOW Kunigami 7.02 55 **Pn** **07 51 58.5 -1.3**
JOW Kunigami 7.02 55 Pn **Pn** **07 51 59.1 -0.7**
comp=E,16nm,0.3s,baz=194,slow=9.1,SNR=63
JOW Sn **Sn** **07 53 16.6 -3.4**
comp=E,5.8nm,0.3s,baz=308,slow=27,SNR=3.9
comp=E,36nm,0.3s
JOW Kunigami 7.02 55 P **Pn** **07 51 59.2 -0.6**
HKPS Hong Kong Po S 7.11 266 **Pn** **07 52 02.2 +1.2**
HKPS Hong Kong Po S 7.11 266 P **Pn** **07 52 02.5 +1.5**
GZH Guangzhou 7.79 272 Pn **Pn** **07 52 08.0 -2.3**
GZH Sn **Sn** **07 53 33.0 -5.8**
GZH smax smax
comp=E,280nm,1.1s
GZH smax smax
comp=E,220nm,0.9s
TGY Tagaytay City 8.86 185 LR LR 07 55 57.3
comp=E,282nm,19.3s,baz=234,slow=39
JMZ Minamidaito 2 9.04 70 P **Pn** **07 52 25.7 -1.8**
NJ2 Nanjing 9.41 345 *eP* **Pn** **07 52 33.5 +0.9**
NJ2 pmax pmax
comp=E,8.0nm,0.5s
NJ2 LR LR
comp=E,320nm,10.0s
NJ2 LR LR
comp=E,1µm,10.4s
NJ2 LR LR
comp=E,610nm,12.8s
QIZ Qiongzhong 11.84 253 P **Pn** **07 53 09.5 +3.7**
QIZ S **Sn** **07 55 19.8 +1.6**
QIZ LR LR
comp=E,380nm,8.0s
QIZ LR LR
comp=E,690nm,11.1s
QIZ LR LR
comp=E,880nm,13.0s
JNU Nakatsue 12.90 36 Pn **Pn** **07 53 22.0 +1.7**
comp=E,0.6nm,0.3s,baz=165,slow=18,SNR=4.4
JNU LR LR 07 59 11.7
comp=E,203nm,20.1s,baz=190,slow=41
comp=E,4.7nm,0.8s
LYN LuoYang 14.13 327 P **P** **07 53 47.8 +2.9**
LYN pP Pn 07 53 50.3 +13
LYN S **S** **07 56 27.3 -8.2**
LYN pmax pmax
comp=Z,37nm,0.8s
LYN pmax pmax
comp=Z,160nm,5.1s
LYN LR LR
comp=N,2µm,13.7s
LYN LR LR
comp=E,460nm,14.4s
LYN LR LR
comp=Z,2µm,11.0s
TJN Taejon 14.20 19‖ *eP* **Pn** **07 53 40.0 +1.9**
KSRS Korea Array 15.37 19 Pn **Pn** **07 53 55.6 +1.9**
comp=Z,1.1nm,0.3s,baz=194,slow=11,SNR=17
comp=Z,7.1nm,0.8s
HNS HongShan 15.62 339 ‖P **P** **07 54 00.8 -0.6**
HNS pmax pmax
comp=Z,14nm,0.9s
HNS LR LR
comp=Z,280nm,16.7s
HNS LR LR
comp=Z,610nm,16.7s
HNS LR LR
comp=Z,390nm,15.5s
XAN Xi'an 15.79 317 P **P** **07 54 04.8 +1.5**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,140nm,4.0s
XAN LR LR
comp=Z,600nm,10.1s
XAN LR LR
comp=Z,1µm,10.5s
XAN LR LR
comp=Z,2µm,11.2s
KKM Kota Kinabalu 17.67 199 **P** **07 54 24.9 +0.6**
CD2 Chengdu 17.91 300 P **P** **07 54 28.8 +1.9**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,540nm,10.2s
CD2 LR LR
comp=Z,610nm,8.9s
CD2 LR LR
comp=Z,600nm,12.1s
MYLDM Lahad Datu 17.97 191 P **P** **07 54 27.5 -0.1**
PZH PanZhiHua 18.55 285 P **Pn** **07 54 35.5 +1.3**
MAJO Matsushiro 19.60 43‖ *eP* **Pn** **07 54 47.0 +0.3**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MJAR Matsushiro Arr 19.60 43 P **P** **07 54 45.4 0.0**
MJAR Matsushiro Arr 19.60 43 P **Pn** **07 54 46.5 -0.2**
comp=Z,3.7nm,0.9s,baz=232,slow=9.3,SNR=9.2
MJAR LR LR 08 02 35.7
comp=Z,186nm,21.2s,baz=219,slow=38
HHC Hu-ho-hao-te 19.80 337 *eP* **Pn** **07 54 50.5 +1.3**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,40nm,3.7s
HHC LR LR
comp=Z,180nm,13.1s
HHC LR LR
comp=Z,410nm,13.1s
HHC LR LR
comp=Z,130nm,13.7s
BTO Baotou 20.20 333 *eP* Pn 07 54 54.8 +1.0
BTO pP pwP 07 54 59.3 +0.9
BTO S Sn 07 58 44.5 +3.1
BTO pmax pmax
comp=Z,21nm,0.9s
BTO pmax pmax
comp=Z,170nm,3.9s
BTO LR LR
comp=Z,1µm,13.9s
BTO LR LR
comp=Z,860nm,11.6s
BTO LR LR
comp=Z,1µm,14.5s
LZH Lanzhou 20.33 314 *eP* Pn 07 54 55.5 +0.1
LZH pP pwP 07 54 59.3 -0.7
LZH pmax pmax
comp=Z,27nm,1.2s
LZH LR LR
comp=Z,310nm,12.4s
LZH LR LR
comp=Z,870nm,12.7s
LZH LR LR
comp=Z,970nm,12.4s
XLT XiLinHaoTe 21.40 349 *eP* **P** **07 55 11.0 +6.1**
CHTO Chiang Mai 21.74 263 **P** **07 55 10.2 +1.5**
CHTO IAmb IAmb 07 55 13.2
comp=Z,28nm,0.8s
CHTO Chiang Mai 21.74 263 P **P** **07 55 10.2 +1.5**
CHTO pmax pmax
comp=Z,28nm,0.9s
TOLI2 Tolitoli 21.75 183 P **P** **07 55 08.6 -0.1**
CMAR Chiang Mai Arr 21.84 262 P **P** **07 55 10.7 +0.9**
CMAR Chiang Mai Arr 21.84 262 P **P** **07 55 12.0 +2.3**
comp=Z,13nm,0.7s,baz=64,slow=8.1,SNR=47
CMAR PcP **PcP** **07 59 10.0 +0.3**
comp=Z,0.8nm,0.3s,baz=166,slow=0.3,SNR=6.9
CMAR LR LR 08 04 16.6
comp=Z,224nm,19.6s,baz=60,slow=39
MRSI Marisa 22.36 180 P **P** **07 55 17.8 +2.5**
comp=Z,16nm,1.1s
SBUM Sibu 22.42 206 P **P** **07 55 16.3 +0.4**
USRK Ussuriysk Ar. 22.77 19 P **P** **07 55 20.7 +1.2**
comp=Z,6.8nm,0.9s,baz=207,slow=9.3,SNR=7.7
USRK LR LR 08 04 35.3
comp=Z,154nm,21.2s,baz=182,slow=38
comp=Z,6.8nm,0.9s
GUMO Guam 23.78 109 LR LR 08 04 09.0
comp=Z,106nm,19.5s,baz=250,slow=35
GTA Gaotai 24.84 316 *eP* **P** **07 55 42.0 +2.3**
GTA sP pwP 07 55 54.0 +7.8
GTA sS sS 08 00 15.0 +10
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=Z,340nm,12.7s
GTA LR LR
comp=Z,420nm,13.9s
GTA LR LR
comp=Z,520nm,13.9s
ASAJ Asahikawa 27.16 34 P **P** **07 56 00.9 +0.6**
comp=Z,8.1nm,1.0s,baz=225,slow=10.0,SNR=2.1
comp=Z,8.1nm,1.0s
ASAJ Asahikawa 27.16 34 P **P** **07 56 01.0 +0.6**
SHL Shillong 27.37 282 P **P** **07 56 02.3 -0.4**
SHL Shillong 27.37 282 P **P** **07 56 02.3 -0.4**
ULN Ulaanbaatar 27.50 338‖ *eP* **P** **07 56 02.9 -0.7**
ULN pmax pmax
comp=Z,5.0nm,1.7s
SONM Songino Array 27.70 337 P **P** **07 56 04.1 -1.4**
comp=Z,0.8nm,0.5s,baz=166,slow=10.0,SNR=5.8
SONM LR LR 08 08 11.2
comp=Z,162nm,18.1s,baz=146,slow=39
comp=Z,0.8nm,0.5s
BRDH Bariadhala 27.78 275 LR LR 08 07 43.6
comp=Z,101nm,19.4s,baz=93,slow=38
KAPI Kappang 27.89 184 LR LR 08 08 41.4
comp=Z,64nm,20.1s,baz=24,slow=40
YSS Yuzhno-Sakhali 29.27 30 *eP* **P** **07 56 23.6 +4.4**
YSS *eS* **S** **08 01 17.6 +5.2**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,200nm,15.0s
PSI Prapat 29.89 231 LR LR 08 07 37.6
comp=E,84nm,19.1s,baz=37,slow=35
ZEA Zeya 31.00 6 *eP* P 07 56 41.7 +7.3
ZEA *e* 08 03 41.1
ZEA *e* 08 07 10.9
ZEA MLR MLR
comp=N,200nm,15.0s
ZEA MLR MLR
comp=Z,100nm,14.0s
JAY Jayapura 31.33 142 LR LR 08 07 55.1
comp=Z,84nm,20.8s,baz=258,slow=34
EDFI Ende, Flores 31.53 180 P **P** **07 56 38.6 -0.9**
EVN Everest 31.90 286 P **P** **07 56 43.9 +0.4**
WMQ Urumqi 34.90 315 *eP* **P** **07 57 10.8 +2.0**
YAK Yakutsk 39.41 6 LR LR 08 16 03.3
comp=Z,64nm,18.5s,baz=186,slow=39
YAK Yakutsk 39.41 6‖ *eP* **P** **07 57 47.6 +0.9**
YAK pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 39.60 317 *c i* P **P** **07 57 48.4 -0.2**
MKAR Makanchi Array 39.60 317 P **P** **07 57 48.3 -0.3**
MKAR Makanchi Array 39.60 317 P **P** **07 57 48.8 +0.2**
comp=Z,7.4nm,0.7s,baz=112,slow=9.9,SNR=40
MKAR PcP **PcP** **07 59 54.8 -1.0**
comp=Z,1.8nm,0.6s,baz=96,slow=5.4,SNR=6.0
comp=Z,7.4nm,0.7s
PETK Petropavlovsk- 40.56 33 P **P** **07 57 56.9 +0.4**
PETK Petropavlovsk- 40.56 33 P **P** **07 57 58.1 +1.7**
comp=Z,3.4nm,0.7s,baz=251,slow=2.2,SNR=9.0
PETK LR LR 08 15 16.3
comp=Z,56nm,20.7s,baz=236,slow=37
comp=Z,3.4nm,0.7s
PETK Petropavlovsk- 40.56 33 P **P** **07 57 56.9 +0.4**
PMG Port Moresby 40.64 140 LR LR 08 13 43.2
comp=Z,31nm,19.6s,baz=180,slow=35
FITZ Fitzroy Crossi 40.99 174 P **P** **07 57 58.5 -1.7**
comp=Z,3.7nm,0.7s,baz=23,slow=13,SNR=5.8
comp=Z,3.7nm,0.7s
PET Petropavlovsk 41.00 34 *ce* P **P** **07 58 01.7 +1.7**
PET pmax pmax
comp=Z,16nm,1.0s
TARG Taragay, Kyrgy 41.10 308 P **P** **07 58 00.8 -0.7**
TARG Taragay, Kyrgy 41.10 308 P **P** **07 58 00.8 -0.7**
TARG pmax pmax
comp=Z,9.0nm,1.3s
ZALV Zalesovo Beam 41.57 328 P **P** **07 58 03.3 -1.4**
ZALV Zalesovo Beam 41.57 328 P **P** **07 58 03.8 -0.8**
comp=Z,19nm,0.6s,baz=112,slow=7.8,SNR=45
ZALV PcP **PcP** **08 00 00.6 -1.3**
comp=Z,1.4nm,0.5s,baz=132,slow=6.0,SNR=2.6
ZALV LR LR 08 15 28.3
comp=Z,76nm,19.8s,baz=84,slow=36
comp=Z,19nm,0.6s
ZALV Zalesovo Beam 41.57 328 *i* P **P** **07 58 03.7 -1.0**
ZALV pmax pmax
comp=Z,19nm,0.6s
KDJ Kajisay 41.64 308 **P** **07 58 05.2 -0.5**
KDJ IAmb IAmb 07 58 07.9
comp=Z,19nm,1.4s
KDJ Kajisay 41.64 308 P **P** **07 58 05.2 -0.5**
KDJ pmax pmax
comp=Z,19nm,1.4s
MA2 Magadan 41.89 22 P **P** **07 58 07.5 +0.2**
MA2 IAmb IAmb 07 58 09.6
comp=Z,18nm,0.9s
MA2 Magadan 41.89 22 LR LR 08 16 10.7
comp=Z,83nm,18.6s,baz=182,slow=37
MA2 Magadan 41.89 22 *de* P **P** **07 58 08.5 +1.2**
MA2 pmax pmax
comp=Z,29nm,1.7s
H11N1 WAKE ISLAND Hy 42.00 86 T T 08 43 25.6
baz=282,slow=75,SNR=76
H11N2 WAKE ISLAND Hy 42.00 86 T T 08 43 30.3
baz=282,slow=75,SNR=104
H11N3 WAKE ISLAND Hy 42.02 86 T T 08 43 31.6
baz=282,slow=75,SNR=74
KSH Kashi 42.04 304 P **P** **07 58 12.5 +3.6**
KSH sP pwP 07 58 19.0 +3.6
KSH pmax pmax
comp=Z,9.0nm,0.8s
H11S3 WAKE ISLAND Hy 42.09 87 T T 08 43 36.7
baz=284,slow=75,SNR=54
H11S1 WAKE ISLAND Hy 42.10 87 T T 08 43 36.5
baz=284,slow=75,SNR=51
H11S2 WAKE ISLAND Hy 42.11 87 T T 08 43 39.0
baz=284,slow=75,SNR=40
COEN Coen 42.25 148 P **P** **07 58 11.0 +0.3**
COEN IAmb IAmb 07 58 12.2
comp=Z,16nm,1.1s
PALK Pallekele 42.45 255 LR LR 08 15 07.4
comp=Z,95nm,21.9s,baz=62,slow=35
PALK Pallekele 42.45 255‖ *eP* **P** **07 58 12.8 +0.3**
PALK pmax pmax
comp=Z,74nm,2.3s
KURK Kurchatov 43.38 321 P **P** **07 58 19.3 -0.2**
KURBB Kurchatov Arra 43.40 321 P **P** **07 58 19.3 -0.3**
comp=Z,3.1nm,0.3s,baz=114,slow=8.4,SNR=18
comp=Z,3.1nm,0.3s
AAK Ala-Archa 43.69 308 P **P** **07 58 21.8 -0.5**
AAK Ala-Archa 43.69 308‖ *eP* **P** **07 58 23.4 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 44.37 163 P **P** **07 58 26.2 -1.5**
comp=Z,1.7nm,0.7s,baz=344,slow=8.8,SNR=7.7
WRA PcP **PP** **08 00 11.0 -0.4**
comp=Z,1.0nm,0.8s,baz=340,slow=3.7,SNR=3.1
comp=Z,1.7nm,0.7s
SEY Seymchan 44.92 19 *eP* **P** **07 58 31.9 +0.2**
SEY pmax pmax
comp=Z,5.0nm,0.8s
GAR Garm 46.34 303 P **P** **07 58 42.9 -0.5**
KKAR Karatay Array 46.66 308 **P** **07 58 45.0 -0.7**
KKAR Karatay Array 46.66 308 P **P** **07 58 45.0 -0.7**
KBL Kabul 47.20 296 **P** **07 58 50.7 +0.3**
KBL Kabul 47.20 296 P **P** **07 58 50.7 +0.3**
KBL pmax pmax
comp=Z,17nm,1.0s
CHGR Chuyangaron 47.21 302 **P** **07 58 49.9 -0.3**
CHGR IAmb IAmb 07 58 52.1
comp=Z,12nm,0.8s
CHGR Chuyangaron 47.21 302 P **P** **07 58 49.9 -0.3**
CHGR pmax pmax
comp=Z,12nm,0.8s
SIMJ Simiganj 47.33 302 P **P** **07 58 49.6 -1.6**
ASAR Alice Springs 47.83 165 P **P** **07 58 54.7 -0.3**
comp=Z,0.9nm,0.5s,baz=342,slow=7.8,SNR=6.3
ASAR PcP **PcP** **08 00 23.1 -0.7**
comp=Z,0.3nm,0.8s,baz=347,slow=4.5,SNR=2.5
comp=Z,0.9nm,0.5s
BVAR Borovoye Array 48.97 321 P **P** **07 59 03.4 -0.1**
comp=Z,4.9nm,0.5s,baz=101,slow=8.1,SNR=20
BVAR LR LR 08 22 24.6
comp=Z,59nm,18.2s,baz=98,slow=39
comp=Z,4.9nm,0.5s
BILL Bilibino 52.63 19‖ *eP* **P** **07 59 32.0 +1.2**
BILL pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 54.69 315 P **P** **07 59 45.6 -0.6**
ARTI Arti 56.50 323 P **P** **07 59 57.4 -1.7**
ARTI IAmb IAmb 07 59 58.8
comp=Z,8.7nm,0.7s
ARTI Arti 56.50 323 *c i* P **P** **07 59 57.9 -1.3**
ARTI 08 00 50.9
ARTI 08 02 01.8
ARTI S **S** **08 07 52.2 +1.5**
ARTI SS **SS** **08 11 38.6 +1.0**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
STKA Stephens Creek 57.73 160 P **P** **08 00 08.1 0.0**
comp=Z,3.2nm,0.7s,baz=337,slow=8.8,SNR=4.8
comp=Z,3.2nm,0.7s
SPIA Saint Paul Isl 59.08 36 P **P** **08 00 17.1 -0.1**
baz=265
GAMB Gambell 59.27 28 P **P** **08 00 18.7 +0.3**
baz=260
P08K Saint George I 59.41 37 P **P** **08 00 19.4 -0.1**
baz=266
NIKH Nikolski High 59.62 41 P **P** **08 00 21.1 0.0**
baz=268
UNV Unalaska Valle 61.05 40 P **P** **08 00 30.9 +0.2**
baz=270
TNA Tin City 61.16 27 P **P** **08 00 31.4 0.0**
baz=262
M11K Mekoryuk 61.43 33 P **P** **08 00 32.8 -0.5**
baz=266
KIRV Kirov 61.53 325‖ *eP* **P** **08 00 32.9 -1.1**
F14K Arctic Creek 61.81 27 P **P** **08 00 36.0 +0.2**
baz=264
ANM Nome 62.13 28 P **P** **08 00 38.5 +0.5**
baz=265
K13K Kusilvak Mount 62.27 31 P **P** **08 00 38.9 +0.1**
baz=267
C16K Lisburne Hills 62.53 24 P **P** **08 00 40.4 -0.1**
baz=263
F15K North Star Dit 62.53 27 P **P** **08 00 40.8 +0.2**
baz=265
G15K Niukluk 62.73 27 P **P** **08 00 42.4 +0.4**
baz=266
J14K Nanvaranak Lak 62.82 30 P **P** **08 00 43.0 +0.4**
baz=268
FALS False Pass 62.84 39 P **P** **08 00 42.7 -0.1**
baz=272
M13K Dall Lake 62.84 33 P **P** **08 00 43.4 +0.7**
baz=269
L14K Kuka Creek 63.19 32 P **P** **08 00 45.8 +0.8**
baz=269
D17K Noatak River 63.32 24 P **P** **08 00 46.7 +0.9**
baz=266
C17K DeLong Mountai 63.35 24 P **P** **08 00 46.0 -0.1**
baz=265
RDOG Red Dog Mine 63.41 24 P **P** **08 00 47.0 +0.5**
baz=266
G16K Koyuk River 63.46 27 P **P** **08 00 47.2 +0.4**
baz=267
H16K Elim 63.48 28 P **P** **08 00 47.0 +0.1**
baz=268
AKT Akhty 63.51 306 *eP* **P** **08 00 44.8 -2.9**
AKT pmax pmax
comp=Z,11nm,1.3s
M14K Bethel 63.53 32 P **P** **08 00 47.5 +0.2**
baz=270
S12K Black Hills 63.58 38 P **P** **08 00 47.7 -0.1**
baz=272
N14K Kuskokwak Cree 63.67 33 P **P** **08 00 48.3 +0.1**
baz=271
K15K Wolf Creek Mou 63.74 30 P **P** **08 00 49.0 +0.3**
baz=270
E17K Hotham Inlet 63.76 25 P **P** **08 00 48.8 +0.1**
baz=267
L15K Ungalak Mounta 63.76 31 P **P** **08 00 49.2 +0.4**
baz=270
O14K Tigyukauivet M 63.90 34 P **P** **08 00 49.3 -0.4**
baz=271
B18K Kokolik River 63.92 23 P **P** **08 00 49.7 0.0**
baz=266
F17K Baldwin Pennin 63.96 26 P **P** **08 00 49.8 -0.2**
baz=268
C18K Utukok River 64.09 23 P **P** **08 00 50.8 -0.1**
baz=267
I17K Unalakleet 64.14 29 P **P** **08 00 51.3 +0.1**
baz=270
M15K Kasigluk River 64.16 32 P **P** **08 00 51.6 +0.2**
baz=271
J16K Anvik River 64.17 29 P **P** **08 00 51.7 +0.2**
baz=270
G17K Kiwalik Mounta 64.18 27 P **P** **08 00 51.9 +0.4**
baz=269
TOO Toolangi 64.22 159 P **P** **08 00 52.4 +0.3**
TOO IAmb IAmb 08 00 53.6
comp=Z,4.0nm,0.8s
TOO Toolangi 64.22 159 P **P** **08 00 52.4 +0.3**
TOO pmax pmax
comp=Z,4.0nm,0.8s
A19K Wainwright 64.23 22 P **P** **08 00 52.1 +0.4**
baz=266
E18K Tukpahlearik C 64.25 25 **P** **08 00 52.9 +0.9**
E18K IAmb IAmb 08 00 55.4
comp=Z,5.1nm,0.8s
E18K Tukpahlearik C 64.25 25 P **P** **08 00 51.8 -0.2**
baz=268,SNR=5.2
N15K Kwethluk River 64.47 33 **P** **08 00 54.5 +1.0**
N15K Kwethluk River 64.47 33 P **P** **08 00 53.6 +0.1**
baz=272,SNR=5.8
H17K Granite Mounta 64.48 28 P **P** **08 00 53.2 -0.3**
baz=270
SDPT Sand Point 64.50 38 P **P** **08 00 53.6 -0.2**
baz=274
F18K Selawik 64.61 26 P **P** **08 00 54.6 +0.3**
baz=269,SNR=6.2
O15K Ungalikthiuk R 64.64 34 P **P** **08 00 54.2 -0.4**
baz=273
C19K Lookout Ridge 64.69 23 P **P** **08 00 53.7 -1.1**
baz=268
L16K Owhat River 64.72 31 P **P** **08 00 54.5 -0.6**
baz=272
J17K VABM Dome 64.86 29 **P** **08 00 57.2 +1.2**
J17K VABM Dome 64.86 29 P **P** **08 00 55.9 -0.1**
baz=271,SNR=5.7
S14K Fog Glacier 64.96 37 P **P** **08 00 56.1 -0.8**
baz=274
M16K Timber Creek 64.99 32 P **P** **08 00 56.4 -0.6**
baz=272,SNR=6.7
G18K Tagagawik 65.01 26 P **P** **08 00 56.3 -0.7**
baz=270
CHNA Chernabura Isl 65.05 39 P **P** **08 00 56.7 -0.7**
baz=275
N16K Nishlik Lake 65.11 32 P **P** **08 00 57.5 -0.3**

baz=273,SNR=5.4
H18K **Honhosa River** 65.14 27 P P 08 00 57.3 -0.6
baz=271
D19K **Kuna River** 65.21 24 P P 08 00 57.4 -0.9
baz=270
K17K **Iditarod** 65.24 30 P 08 00 59.5 +1.0
K17K **Iditarod** 65.24 30 P P 08 00 58.4 -0.1
baz=272,SNR=6.6
L17K **Donlin** 65.26 31 P P 08 00 58.0 -0.7
baz=273,SNR=5.6
F19K **Shaleruckik Mo** 65.35 25 P P 08 00 59.3 +0.2
baz=271
O16K **Kokwok River B** 65.50 33 P P 08 00 59.4 -0.8
baz=274
E19K **Redstone River** 65.55 25 P P 08 00 59.9 -0.5
baz=271
B20K **Meade River** 65.56 22 P P 08 01 00.2 -0.2
baz=270
CHGN **Chignik** 65.59 37 P P 08 01 00.3 -0.5
baz=275
P16K **Nushagak River** 65.59 34 P P 08 01 01.0 +0.1
baz=274
G19K **Purcell Mounta** 65.64 26 P P 08 01 01.1 0.0
baz=272,SNR=43
M17K **Holitna River** 65.71 31 P P 08 01 01.1 -0.5
baz=274
D20K **Etivluk River** 65.76 23 P 08 01 02.3 +0.5
D20K IAmb IAmb 08 01 03.9
comp=Z,5.5nm,0.8s
D20K **Etivluk River** 65.76 23 P P 08 01 01.4 -0.5
baz=271
GCSA **Galena City Sc** 65.78 28 P P 08 01 01.2 -0.7
baz=273
N17K **Nushagak Hills** 65.89 32 P P 08 01 02.2 -0.6
baz=274
J18K **Innoko River** 65.92 29 P 08 01 03.4 +0.5
J18K IAmb IAmb 08 01 05.0
comp=Z,7.3nm,1.1s
J18K **Innoko River** 65.92 29 P P 08 01 02.4 -0.5
baz=273
H19K **Roundabout Mou** 65.93 27 P P 08 01 04.1 +1.2
H19K IAmb IAmb 08 01 05.4
comp=Z,12nm,0.9s
H19K **Roundabout Mou** 65.93 27 P P 08 01 02.8 -0.1
baz=273,SNR=9.1
E20K **Nigu River** 65.93 24 P P 08 01 02.8 -0.2
baz=272,SNR=8.4
R16K **Pilot Point** 65.93 36 P P 08 01 03.0 0.0
baz=275
O17K **Koliganek Bris** 66.00 33 P P 08 01 03.7 +0.4
baz=275
L18K **Granite Mounta** 66.01 30 P P 08 01 03.7 +0.2
baz=274
F20K **Avaraart Lake** 66.15 25 P P 08 01 04.8 +0.5
baz=273
Q16K **King Salmon** 66.32 34 P P 08 01 05.7 +0.2
baz=276
J19K **Poorman** 66.37 28 P 08 01 06.2 +0.5
J19K IAmb IAmb 08 01 08.7
comp=Z,9.4nm,1.1s
J19K **Poorman** 66.37 28 P P 08 01 07.3 +1.5
baz=274,SNR=5.3
P17K **Kvichak River** 66.38 34 P P 08 01 04.5 -1.4
baz=276
C21K **Knifebiade Rid** 66.41 23 P P 08 01 04.8 -1.1
baz=273
B21K **Ikpikpuk River** 66.45 22 P P 08 01 06.3 +0.2
baz=273
M18K **Stony River** 66.47 31 P P 08 01 06.7 +0.2
baz=275
KLMR **Klimovskoe** 66.49 328 *e*P P 08 01 03.6 -2.9
KLMR pmax pmax
comp=Z,17nm,2.0s
R17L **Mt. Peulik Vol** 66.58 35 P P 08 01 06.7 -0.5
baz=276
H20K **Anotleneega Mo** 66.58 27 P P 08 01 07.5 +0.3
baz=274
KBZ **Khabaz** 66.68 309 P P 08 01 08.2 +0.1
comp=Z,3.2nm,0.8s,baz=133,slow=4.6,SNR=5.6
comp=Z,3.2nm,0.8s
KBZ **Khabaz** 66.68 309 *de*P P 08 01 08.1 +0.1
KBZ pmax pmax
comp=Z,5.0nm,0.9s
E21K **Killik River** 66.74 24 P P 08 01 08.1 0.0
baz=274
Q17K **Contact Creek** 66.76 35 P P 08 01 08.3 -0.2
baz=276
KIV **Kislovodsk** 66.79 309 P P 08 01 08.3 -0.7
KIV **Kislovodsk** 66.79 309 *e*P P 08 01 08.7 -0.2
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,30nm,17.0s
I20K **Naaghedeneel** 66.81 28 P P 08 01 08.8 +0.3
baz=275
B22K **Teshekpuk Lake** 66.83 22 P P 08 01 09.3 +0.8
baz=273
L19K **White Mountain** 66.87 30 P 08 01 10.1 +1.1
L19K IAmb IAmb 08 01 11.6
comp=Z,9.4nm,0.9s
L19K **White Mountain** 66.87 30 P P 08 01 09.3 +0.3
baz=276,SNR=5.1
P18K **Big Mountain,** 66.98 33 P P 08 01 09.4 -0.3
baz=276
J20K **Nowinta River** 67.00 28 P P 08 01 10.4 +0.6
baz=275,SNR=6.3
F21K **Alatna River** 67.02 25 P P 08 01 10.0 +0.1
baz=275
ACHA **Angle Creek He** 67.06 35 P P 08 01 09.9 -0.4
ACHA IAmb IAmb 08 01 11.4
comp=Z,10nm,1.1s
G21K **Allakaket** 67.06 26 P P 08 01 10.4 +0.2
baz=275
K20K **Telida** 67.11 29 P P 08 01 11.0 +0.4
baz=276
M19K **Big River Lodg** 67.12 31 P P 08 01 10.5 -0.1
baz=276
Q18K **Katmai Hardscr** 67.17 34 P P 08 01 11.1 -0.1
baz=277
D22K **Ayikyak River** 67.18 23 P P 08 01 11.1 +0.2
baz=275
N19K **Bonanza Creek** 67.19 32 P P 08 01 11.2 +0.1
baz=276
CHIR **Chirikof Islan** 67.20 37 P P 08 01 11.1 0.0
baz=278
L20K **Farewell, AK** 67.29 30 P P 08 01 11.4 -0.3
baz=276
O19K **Port Alsworth** 67.34 33 P P 08 01 11.7 -0.2
baz=277
H21K **Melozitna Rive** 67.43 27 P P 08 01 12.7 +0.2
baz=276,SNR=8.7
F22K **John River** 67.49 25 P P 08 01 13.0 +0.1
baz=276
E22K **Anaktuvuk Pass** 67.57 24 P P 08 01 13.2 -0.2
baz=276,SNR=5.0
R18K **Karluk** 67.61 35 P P 08 01 13.8 +0.1
baz=278
M20K **Styx River** 67.71 31 P P 08 01 14.6 +0.2
baz=277,SNR=5.2
G22K **Bettles** 67.81 25 P P 08 01 15.2 +0.4
baz=276
C23K **Itkillik River** 67.83 22 P P 08 01 14.8 -0.1
baz=276
CHUM **Lake Minchumin** 67.84 28 P P 08 01 14.5 -0.6
baz=277
Q19K **Cape Douglas,** 67.84 34 P P 08 01 14.6 -0.7
baz=278
SII **Sitkinak Islan** 67.89 36 P P 08 01 15.9 +0.4
baz=278
D23K **Nanushuk River** 67.90 23 P P 08 01 15.8 +0.4
baz=276
H22K **Ishtalitna Cre** 67.99 26 P P 08 01 16.3 +0.3
baz=277,SNR=7.7
CAST **Castle Rocks** 68.00 29 P 08 01 16.8 +0.7
CAST IAmb IAmb 08 01 18.3
comp=Z,8.2nm,0.8s
CAST **Castle Rocks** 68.00 29 P P 08 01 16.6 +0.5
baz=277,SNR=8.3
PPLA **Purkeypile** 68.02 30 P P 08 01 15.4 -1.0
baz=278
O20K **Slope Mountain** 68.20 33 P P 08 01 16.3 -1.2
baz=278
SPCR **Spurr Chakacha** 68.24 31 P P 08 01 17.3 -0.5
baz=278
N20K **Mount Spurr** 68.24 31 P P 08 01 17.5 -0.3
baz=278
OHAK **Old Harbor** 68.28 36 P P 08 01 17.5 -0.5
baz=279

COLD **Coldfoot** 68.29 25 P P 08 01 17.3 -0.6
baz=278
TOLK **Toolik Lake Re** 68.34 23 P P 08 01 17.2 -1.0
baz=278
MLY **Manley** 68.36 27 P 08 01 19.4 +0.9
MLY IAmb IAmb 08 01 20.6
comp=Z,7.1nm,1.0s
MLY **Manley** 68.36 27 P P 08 01 17.5 -0.9
baz=278,SNR=5.5
BPAW **Bear Paw Mtn.** 68.39 28 P P 08 01 18.4 -0.2
baz=278
E23K **Chandalar** 68.40 24 P P 08 01 18.5 -0.1
baz=278
G23K **Bananza Creek** 68.42 25 P P 08 01 18.5 -0.3
baz=278
SKT **Skwentna** 68.45 30 P P 08 01 18.0 -1.0
baz=278
C24K **Franklin Bluff** 68.50 22 P P 08 01 18.2 -0.9
baz=278
D24K **Happy Valley** 68.53 23 P P 08 01 18.6 -0.8
baz=278
Q20K **Shuyak Island** 68.53 34 P P 08 01 18.6 -0.9
baz=279
KDAK **Kodiak Island** 68.57 35 P P 08 01 18.8 -0.9
baz=279
H23K **Yukon River** 68.75 26 P P 08 01 20.5 -0.3
baz=279,SNR=6.9
HOM **Homer** 68.75 33 P P 08 01 20.5 -0.4
baz=279
TRF **Thorofare Moun** 68.79 29 P P 08 01 20.9 -0.4
baz=279
OBN **Obninsk** 68.80 322 *e*P P 08 01 21.3 +0.1
OBN *e* 08 01 45.9
OBN *e*PPP PPP 08 05 30.5
OBN pmax pmax
comp=Z,6.0nm,0.9s
CAPN **Captain Cook N** 68.81 32 P P 08 01 20.6 -0.6
baz=279
E24K **Your Creek** 68.81 24 P P 08 01 20.9 -0.3
baz=279
SUA **Susitna One** 68.90 31 P P 08 01 21.7 -0.2
baz=279,SNR=5.0
I23K **Minto, Yukon-K** 68.92 27 P P 08 01 21.0 -0.8
baz=279
CUT **Chulitna** 68.97 30 P P 08 01 21.3 -0.8
baz=279
F24K **Squaw Lake** 69.13 24 P P 08 01 22.0 -1.1
baz=280
NEA2 **Nenana** 69.14 27 P P 08 01 22.7 -0.5
baz=280
M22K **Willow** 69.14 31 P P 08 01 22.4 -0.8
baz=280
RAYN **Ar Rayn** 69.24 288 P P 08 01 24.2 -0.5
RAYN IAmb IAmb 08 01 25.1
comp=Z,11nm,1.2s
RAYN **Ar Rayn** 69.24 288 P P 08 01 24.2 -0.5
RAYN pmax pmax
comp=Z,11nm,1.3s
MCK **McKinley** 69.34 28 P P 08 01 24.1 -0.4
baz=280
D25K **Kavik River** 69.37 22 P P 08 01 23.9 -0.8
baz=280
H24K **Noodor Dome** 69.42 26 P P 08 01 24.3 -0.7
baz=280
G24K **Hadweenzic Riv** 69.43 25 P P 08 01 24.0 -1.0
baz=280
RND **Reindeer** 69.44 29 P 08 01 25.2 0.0
RND **Reindeer** 69.44 29 P P 08 01 25.2 0.0
RND pmax pmax
comp=Z,14nm,0.8s
RC01 **Rabbit Creek A** 69.44 31 P P 08 01 24.4 -0.8
baz=280
O22K **Cooper Landing** 69.56 32 P P 08 01 25.3 -0.5
baz=281
MARD **Mardin** 69.58 303 P P 08 01 26.1 -0.5
COLA **College** 69.60 27 *de*P P 08 01 27.4 +1.4
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA **College** 69.60 27 P P 08 01 25.1 -0.9
baz=281
PMR **Palmer** 69.64 31 P P 08 01 25.4 -0.9
baz=281
WAT1 **Susitna Watana** 69.67 29 P P 08 01 26.2 -0.5
baz=281
POKR **Poker Plat Res** 69.73 27 P P 08 01 26.0 -0.9
baz=281
SEW **Seward** 69.76 32 P P 08 01 26.9 -0.1
baz=281
G25K **Bearman Lake** 69.95 25 P P 08 01 27.9 -0.2
baz=281
F25K **Christian Rive** 69.96 24 P P 08 01 28.0 -0.4
baz=282
KNK **Knik Glacier** 69.99 31 P P 08 01 27.4 -1.1
baz=281
ILAR **Eielson Array** 70.03 27 P P 08 01 27.9 -0.9
comp=Z,0.7nm,0.7s,baz=299,slow=8.4,SNR=11
ILAR LR LR 08 34 54.1
comp=Z,36nm,18.5s,baz=142,slow=38
comp=Z,0.7nm,0.7s
HDA **Harding Lake** 70.07 28 P P 08 01 28.6 -0.4
baz=282
WAT6 **Susitna Watana** 70.09 29 P P 08 01 29.0 -0.3
baz=282
DHY **Denali Highway** 70.16 29 P P 08 01 29.3 -0.4
baz=282
PWL **Port Wells** 70.16 31 P P 08 01 29.5 -0.1
baz=282,SNR=5.4
H25L **Birch Creek** 70.16 25 P P 08 01 29.4 0.0
baz=282
C27K **Jago River** 70.23 22 P P 08 01 29.8 -0.1
baz=283
M23K **Glacier View** 70.25 30 P P 08 01 30.1 -0.1
baz=282
SCM **Sheep Creek Mo** 70.43 30 P P 08 01 31.0 -0.3
baz=282
PRP **Porcupine Dome** 70.44 26 P P 08 01 30.3 -1.0
baz=282
F26K **Sheenjek River** 70.50 24 P P 08 01 32.2 +0.6
baz=283
J25K **Salcha River,** 70.70 27 P P 08 01 32.7 -0.2
baz=283
K24K **Donnelly Dome** 70.70 28 P P 08 01 32.8 -0.1
baz=283
GLI **Glacier Island** 70.75 31 P P 08 01 33.2 0.0
baz=283,SNR=5.6
G26K **Porcupine Rive** 70.81 25 P P 08 01 32.8 -0.6
baz=283
ARCES **ARCESS Array B** 70.87 338 P P 08 01 32.6 -1.2
comp=Z,1.0nm,0.6s,baz=64,slow=9.6,SNR=8.3
comp=Z,1.0nm,0.6s
M24K **Tolsona, Glenn** 70.90 30 P P 08 01 33.8 -0.4
baz=283
PAX **Paxson** 71.03 29 P P 08 01 34.7 -0.2
baz=283
RIDG **Independent Ri** 71.12 28 P P 08 01 34.8 -0.6
baz=284
KLU **Klutina** 71.16 30 P P 08 01 35.2 -0.6
baz=283
D27M **Malcolm River** 71.27 22 P P 08 01 35.4 -0.8
baz=285
HARP **HAARP** 71.30 29 P P 08 01 36.5 0.0
baz=284
E27K **Coleen River** 71.32 23 P P 08 01 36.8 +0.2
baz=285
SCRK **Sand Creek** 71.44 28 P P 08 01 37.6 +0.2
baz=284
Q23K **Middleton Isla** 71.44 33 P P 08 01 37.3 0.0
baz=284
I26K **Coal Creek Min** 71.45 26 P P 08 01 37.0 -0.3
baz=284
EYAK **Cordova Ski Ar** 71.47 31 P P 08 01 37.0 -0.5
baz=284
J26L **Joseph Creek** 71.48 27 P P 08 01 37.1 -0.6
baz=284,SNR=5.7
G27K **Doyon Strip** 71.66 24 P P 08 01 38.3 -0.4
baz=285
N25K **Chitina, Valde** 71.75 30 P P 08 01 39.8 +0.5
baz=284
H27K **Steamboat Moun** 71.86 25 P P 08 01 39.5 -0.4
baz=286
BMRM **Bremner River** 71.91 31 P P 08 01 39.6 -0.6
baz=285
E28M **Babbage River** 71.94 22 P P 08 01 40.3 0.0
baz=287
L26K **Log Cabin Wild** 71.95 29 P P 08 01 40.5 +0.1
baz=285
I27K **Kandik River** 72.00 26 P P 08 01 40.5 -0.2
baz=286

F28M **Old Crow** 72.10 23 P P 08 01 41.3 0.0
baz=287
K27K **Chicken** 72.23 27 P P 08 01 41.8 -0.3
baz=286
KAIM **Kayak Island** 72.26 32 P P 08 01 42.2 -0.1
baz=285
M26K **Nabesna, AK** 72.27 29 P P 08 01 42.6 +0.1
baz=286,SNR=8.9
MCARA **McCarthy VSAT** 72.54 30 P P 08 01 43.8 -0.1
baz=286
E29M **Blow River** 72.58 22 P P 08 01 44.5 +0.5
baz=288
L27K **Beaver Creek,** 72.61 28 P P 08 01 44.9 +0.5
baz=286,SNR=6.9
CRQE **Cirque** 72.68 31 P P 08 01 45.0 0.0
baz=286
I28M **Miner Creek** 72.71 26 P P 08 01 44.7 -0.4
baz=287
BGLC **Bering Glacier** 72.76 31 P P 08 01 45.5 +0.3
baz=286
FINES **FINESS Array B** 72.77 330 P P 08 01 44.1 -1.2
comp=Z,2.4nm,0.7s,baz=42,slow=7.9,SNR=9.2
comp=Z,2.4nm,0.7s
M27K **Edge Creek, AK** 72.79 29 P P 08 01 45.1 -0.5
baz=287
G29M **Pine Creek** 73.00 24 P P 08 01 47.1 +0.4
baz=289
H29M **Whitestone** 73.09 25 P P 08 01 47.4 +0.2
baz=288
BVCY **Beaver Creek** 73.22 29 P P 08 01 48.3 +0.3
baz=287
DAWY **Dawson** 73.35 27 P P 08 01 48.8 0.0
baz=288,SNR=6.3
MESA **MESA** 73.38 31 P P 08 01 49.3 +0.1
baz=287
I29M **Ogilvie Camp,** 73.39 26 P P 08 01 49.2 +0.3
baz=289
CTG **Chitna Glacier** 73.44 30 P P 08 01 49.4 -0.1
baz=287,SNR=6.4
CTGM **Chitina Glacie** 73.44 30 P P 08 01 49.9 +0.3
CTGM IAmb IAmb 08 01 51.3
comp=Z,7.6nm,0.7s
F30M **Barrier River** 73.59 23 P P 08 01 50.4 +0.3
baz=290
YUK3 **Moose Creek** 73.60 29 P P 08 01 50.4 -0.1
baz=288
G30M **tAoh Zraii Nji** 73.65 24 P P 08 01 50.5 0.0
baz=290
EPYK **Eagle Plains** 73.67 24 P P 08 01 50.7 0.0
baz=290
J29N **Klondike Camp** 73.72 26 P P 08 01 50.8 -0.1
baz=289
O28M **Mount Upton** 74.03 30 P P 08 01 53.0 -0.2
baz=288
ASF **Jabal al Asfar** 74.03 299 LR LR 08 38 41.4
comp=Z,36nm,18.0s,baz=154,slow=39
INK **Inuvik** 74.13 22 LR LR 08 37 38.0
comp=Z,43nm,18.3s,baz=356,slow=38
INK **Inuvik** 74.13 22 P P 08 01 53.1 -0.1
baz=292
AKASG **Malin Array Be** 74.15 319 P P 08 01 51.8 -1.9
comp=Z,0.4nm,0.4s,baz=67,slow=6.2,SNR=2.5
comp=Z,0.4nm,0.4s
AKBB **Malin Array Si** 74.15 319 ǁ *e*P P 08 01 53.8 +0.2
I30M **Mount Dempster** 74.20 25 P P 08 01 53.3 -0.5
baz=290
L29M **L29M** 74.20 28 P P 08 01 53.9 +0.1
baz=290,SNR=6.1
K29M **Barlow Dome** 74.21 27 P P 08 01 53.7 -0.2
baz=290
PINM **Pinnacle** 74.22 31 P P 08 01 53.6 -0.4
baz=289
M29M **Somme Creek** 74.27 28 P P 08 01 54.4 0.0
baz=289,SNR=8.9
BR131 **Keskin Array S** 74.35 307 ǁ *e*P P 08 01 54.8 -0.4
BRTR **Keskin Array B** 74.35 307 P P 08 01 54.3 -0.9
comp=Z,0.9nm,0.5s,baz=97,slow=5.2,SNR=5.3
comp=Z,0.9nm,0.5s
F31M **Tsiigehtchic** 74.38 23 P P 08 01 54.5 -0.2
baz=292
G31M **Satah River** 74.39 23 P P 08 01 54.4 -0.3
baz=292
J30M **Hart River** 74.44 26 P P 08 01 55.1 -0.2
baz=291
YUK4 **Talbot Arm** 74.56 30 P P 08 01 56.2 +0.1
baz=290
PNL **Peninsula** 74.77 31 P P 08 01 56.8 -0.3
baz=289
H31M **Peel River** 74.78 24 P P 08 01 57.2 +0.2
baz=292
YUK6 **Outpost Mounta** 74.82 30 P P 08 01 57.4 -0.2
baz=290
O29M **Mount Kennedy** 74.94 31 P P 08 01 57.9 -0.3
baz=290
M30M **Minto, Yukon** 74.96 28 P P 08 01 58.5 +0.3
baz=291,SNR=6.3
MAYO **Mayo, Yukon** 74.97 27 P P 08 01 58.3 0.0
baz=291
A36M **Sachs Harbour** 75.11 17 P P 08 01 58.8 0.0
baz=292
N30M **Aishikik Lake** 75.22 29 P P 08 01 59.7 0.0
baz=291
HYT **Haines Junctio** 75.26 30 P P 08 01 59.5 -0.6
baz=291,SNR=5.6
P29M **Windy Craggy** 75.57 31 P P 08 02 01.8 0.0
baz=291
P30M **Million Dollar** 75.76 30 P P 08 02 02.7 -0.1
baz=291
N31M **Braeburn, Yuko** 75.80 29 P P 08 02 03.3 +0.2
baz=292
O30N **Mendenhall** 75.92 30 P P 08 02 03.6 -0.1
baz=292
M31M **Drury Creek, Y** 76.14 28 P P 08 02 04.6 -0.3
baz=293
PLBC **Pleasant Camp** 76.28 31 P P 08 02 05.5 -0.3
baz=292
WHY **Whitehorse** 76.52 30 P P 08 02 06.2 -1.0
baz=293
C36M **Paulatuk** 76.75 19 P P 08 02 07.2 -1.0
baz=300
SKAG **Skagway** 76.77 31 P P 08 02 08.7 +0.2
baz=293
S31K **Pelican** 76.91 32 P P 08 02 09.4 +0.1
baz=292
R31K **City Hall, Gus** 76.98 32 P P 08 02 10.3 +0.6
baz=293
N32M **Quiet Lake** 77.13 29 P P 08 02 10.5 0.0
baz=294
MMPY **Sheldon Lake,** 77.29 27 P P 08 02 11.3 -0.2
baz=295
P32M **Atlin** 77.48 30 P P 08 02 12.5 -0.1
baz=294
R32K **Eaglecrest** 77.63 32 P P 08 02 13.3 -0.1
baz=294
P33M **Teslin, Yukon** 77.63 30 P P 08 02 13.3 -0.2
baz=295
SIT **Sitka** 77.71 33 P P 08 02 13.8 -0.1
baz=293
Q32M **Nakina River** 78.42 31 P P 08 02 17.6 -0.4
baz=295
R33M **Jennings River** 78.83 30 P P 08 02 20.5 +0.3
baz=296
HFS **Hagfors** 78.90 331 P P 08 02 19.0 -1.4
comp=Z,1.6nm,0.7s,baz=76,slow=6.3,SNR=3.6
comp=Z,1.6nm,0.7s
HFS **Hagfors** 78.90 331 P P 08 02 19.0 -1.4
TGTN **Hyland Airport** 79.04 27 P P 08 02 20.7 -0.5
baz=298
U33K **Whale Pass** 79.21 33 P P 08 02 22.0 -0.1
baz=295
S34M **Telegraph Cree** 79.41 31 P P 08 02 23.4 +0.2
baz=296
WRAK **Wrangell Islan** 79.47 33 P P 08 02 23.4 -0.1
baz=296
WTLY **Watson Lake, Y** 79.48 29 P P 08 02 23.3 -0.3
baz=298
CRAG **Craig** 79.48 34 P P 08 02 23.8 +0.1
baz=295
NB2 **NORSAR Subarra** 79.56 332 P P 08 02 22.7 -1.3
comp=Z,1.8nm,0.7s,baz=59,slow=5.6
NOA **NORSAR Array B** 79.56 332 P P 08 02 22.3 -1.7
comp=Z,1.0nm,0.6s,baz=58,slow=5.7,SNR=5.4
comp=Z,1.0nm,0.6s
DLBC **Dease Lake** 79.70 31 P P 08 02 24.6 -0.2
baz=297
WRGLY **Wrigley** 80.14 25 P P 08 02 27.5 +0.5
baz=302
T35M **Bob Quinn** 80.26 32 P P 08 02 28.0 +0.1
baz=297

FURI	**Furi**	**80.29**	**276**	LR	LR	08 36 27.4		
	comp=Z,24nm,20.0s,baz=179,slow=35							
YKA	**Yellowknife Ar**	**83.86**	**23**	P	**P**	**08 02 46.2**	**-0.4**	
	comp=Z,0.9nm,0.6s,baz=319,slow=5.0,SNR=6.4							
	comp=Z,0.9nm,0.6s							
GERES	**GERESS Array B**	**84.14**	**321**	P	**P**	**08 02 47.4**	**-1.0**	
	comp=Z,1.2nm,0.7s,baz=54,slow=5.3,SNR=3.9							
	comp=Z,1.2nm,0.7s							
KMBO	**Kilima Mbogo**	**85.41**	**267**	P	**P**	**08 02 56.1**	**+0.4**	
	comp=Z,3.2nm,0.3s,baz=117,slow=4.5,SNR=6.6							
	comp=Z,3.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**87.40**	**320**	LR	LR	08 46 01.6		
	comp=Z,42nm,19.0s,baz=80,slow=38							
PPT	**Papeete**	**95.47**	**107**	LR	LR	08 42 04.6		
	comp=Z,20nm,19.4s,baz=331,slow=32							
LSZ	**Lusaka**	**99.07**	**257**	LR	LR	08 43 55.0		
	comp=Z,44nm,20.4s,baz=138,slow=32							
DBIC	**Dimbokro**	**120.12**	**293**	PKP	**PKPdf**	**08 09 07.2**	**-1.8**	
	comp=Z,2.2nm,0.6s,baz=0.0,slow=4.0,SNR=2.1							
SNAA	**Sanae**	**122.27**	**198**	PKP	**PKPdf**	**08 09 09.6**	**-2.0**	
	comp=Z,0.6nm,0.7s,baz=90,slow=5.1,SNR=7.3							
LPAZ	**La Paz**	**168.53**	**56**	PKP	**PKPdf**	**08 10 25.5**	**-0.2**	
	comp=Z,1.1nm,0.9s,baz=303,slow=2.9,SNR=4.6							

*IDC **31** 07:51:22.5±4.9, 21°.25S×169°.96E, h60km±40km, mb3.8/8, mbtmp4.0/9, MS3.4/2, Error ellipse: s-maj=32.2km s-min=30.0km az=174.0*

ISC 31 07:51:19.4±0.9, 21°.2S±0°.2×170°.1E±0°.1, h35km, n12, σ1§14/12, mb4.1/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.48**	**255**	P	**Pn**	**07 52 11.0**	**-0.2**
	8.4nm,0.4s,baz=68,slow=19						
DZM				S	**Sn**	**07 52 52.6**	**+1.4**
	42nm,0.8s,baz=127,slow=20,SNR=6.0						
STKA	**Stephens Creek**	**27.52**	**241**	LR	LR	08 08 29.5	
	comp=Z,130nm,18.2s,baz=26,slow=38						
WRA	**Warramunga Arr**	**33.43**	**266**	P	**P**	**07 57 54.7**	**-0.5**
	1.7nm,1.0s,baz=90,slow=9.7,SNR=5.3						
	1.7nm,1.0s						
ASAR	**Alice Springs**	**33.46**	**259**	P	**P**	**07 57 55.2**	**-0.2**
	5.5nm,0.8s,baz=92,slow=9.2,SNR=45						
ASAR				LR	LR	08 10 33.1	
	comp=Z,40nm,20.9s,baz=68,slow=34						
	5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.86**	**266**	P	**P**	**07 59 06.1**	**-0.3**
	5.1nm,0.8s,baz=120,slow=7.7,SNR=5.2						
	5.1nm,0.8s						
QSPA	**South Pole Qui**	**68.85**	**180**	P	**P**	**08 02 20.9**	**+0.6**
	1.8nm,0.9s,baz=319,slow=2.8,SNR=4.2						
	1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.02**	**294**	P	**P**	**08 03 24.8**	**-1.0**
	0.6nm,0.3s,baz=142,slow=4.6,SNR=5.2						
	0.6nm,0.3s						
SNAA	**Sanae**	**87.23**	**182**	P	**P**	**08 04 01.2**	**-0.8**
	0.6nm,0.7s,baz=194,slow=4.2,SNR=6.3						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**89.52**	**48**	P	**P**	**08 04 14.1**	**+0.7**
	0.8nm,0.8s,baz=230,slow=9.0,SNR=6.3						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**91.88**	**17**	P	**P**	**08 04 25.4**	**+1.9**
	0.3nm,0.8s,baz=206,slow=5.2,SNR=2.3						
	0.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**145.55**	**353**	PKPbc	**PKPbc**	**08 10 52.2**	**-1.5**
	2.0nm,0.8s,baz=350,slow=2.7,SNR=3.8						
GERES	**GERESS Array B**	**146.59**	**331**	PKPbc	**PKPbc**	**08 10 56.4**	**-0.9**
	0.2nm,0.4s,baz=357,slow=3.9,SNR=3.9						

*IDC **31** 07:53:22.3±0.9, 1°.51S×135°.29E, h0km, mb4.0/9, mbtmp4.0/11, ML3.6/2, Error ellipse: s-maj=51.7km s-min=16.8km az=82.0*

ISC 31 07:53:25.7±1.0, 1°.6S±0°.1×135°.3E±0°.4, h21km, n11, σ0§70/11, mb4.0/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.30**	**183**	P	**Pn**	**07 57 37.8**	**-0.6**
	0.1nm,0.3s,baz=1.7,slow=12,SNR=17						
	2.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.97**	**209**	P	**P**	**07 57 45.6**	**-0.2**
	0.2nm,0.3s,baz=29,slow=10,SNR=1.6						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**22.02**	**183**	P	**P**	**07 58 18.4**	**-0.5**
	2.1nm,0.7s,baz=10.0,slow=10.0,SNR=21						
	2.1nm,0.7s						
SONM	**Songino Array**	**55.27**	**337**	P	**P**	**08 02 58.2**	**+0.6**
	0.3nm,0.4s,baz=166,slow=7.0,SNR=1.7						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**66.81**	**323**	P	**P**	**08 04 15.8**	**-0.1**
	2.1nm,0.7s,baz=116,slow=8.4,SNR=15						
	2.1nm,0.7s						
ZALV	**Zalesovo Beam**	**69.24**	**331**	P	**P**	**08 04 30.4**	**-0.6**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=1.9						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**70.83**	**326**	P	**P**	**08 04 40.5**	**-0.4**
	2.4nm,0.8s,baz=117,slow=5.4,SNR=14						
	2.4nm,0.8s						
BVAR	**Borovoye Array**	**76.42**	**326**	P	**P**	**08 05 13.3**	**-0.4**
	2.2nm,0.6s,baz=104,slow=6.3,SNR=9.8						
	2.2nm,0.6s						
VNDA	**Vanda**	**77.24**	**174**	P	**P**	**08 05 19.1**	**+1.2**
	0.3nm,0.4s,baz=337,slow=5.9,SNR=8.1						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**86.22**	**25**	P	**P**	**08 06 04.7**	**-0.7**
	1.5nm,0.8s,baz=256,slow=5.1,SNR=13						
	1.5nm,0.8s						
QSPA	**South Pole Qui**	**88.38**	**180**	P	**P**	**08 06 16.2**	**+0.3**
	0.9nm,1.0s,baz=317,slow=4.4,SNR=1.9						
	0.9nm,1.0s						

*IDC **31** 08:37:14.9±2.8, 21°.22N×144°.49E, h147km±24km, mb3.5/13, mbtmp4.0/16, MS2.6/1, Error ellipse: s-maj=22.9km s-min=13.5km az=94.0*

*NEIC **31** 08:37:16.1±1.7, 21°.17N±0°.09×144°.5E±0°.2, h153km±11km, mb4.3/21, Error ellipse: s-maj=28.0km s-min=12.2km az=83.0*

ISC 31 08:37:15.0±0.6, 21°.15N±0°.08×144°.4E±0°.1, h150km, n43, σ0§91/43, mb3.9/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.27**	**341**		**Pn**	**08 38 44.3**	**-1.0**
JCJ	**Chichijima**	**6.27**	**341**	P	**Pn**	**08 38 44.5**	**-0.7**
	76nm,0.3s						
JCJ				S	**Sn**	**08 39 53.7**	**-2.3**
GUMO	**Guam**	**7.53**	**177**	LR	LR	08 41 08.2	
	comp=Z,36nm,18.1s,baz=127,slow=31						
INU	**Inuyama**	**15.58**	**337**	Pn	**Pn**	**08 40 45.8**	**-0.7**
INU				IAmb	IAmb	08 41 18.5	
	comp=Z,9.6nm,1.1s						
JGF	**Kuroka**	**15.68**	**338**		**Pn**	**08 40 47.6**	**-0.2**
JGF				IAmb	IAmb	08 40 49.1	
	comp=Z,8.3nm,0.8s						
MJAR	**Matsushiro Arr**	**16.27**	**342**	P	**Pn**	**08 40 55.0**	**-0.1**
MJAR	**Matsushiro Ar**	**16.27**	**342**	P	**P**	**08 40 55.5**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=161,slow=5.6,SNR=8.0						
JNU	**Nakatsue**	**16.95**	**318**	P	**Pn**	**08 41 04.5**	**+1.3**
JNU	**Nakatsue**	**16.95**	**318**	P	**Pn**	**08 41 04.5**	**+1.3**
	comp=Z,5.6nm,0.7s,baz=103,slow=8.8,SNR=3.7						
JMM	**Marumori**	**16.96**	**350**	P	**Pn**	**08 41 05.2**	**+2.0**
JMM				IAmb	IAmb	08 41 12.7	
	comp=Z,16nm,0.8s						
KSRS	**Korea Array**	**21.66**	**322**	P	**P**	**08 41 55.2**	**+1.7**
	comp=Z,1.9nm,0.6s,baz=145,slow=8.5,SNR=10						
	comp=Z,1.9nm,0.6s						
PETK	**Petropavlovsk-**	**33.50**	**15**	P	**P**	**08 43 40.0**	**+0.1**
COEN	**Coen**	**34.91**	**182**	P	**P**	**08 43 51.1**	**-1.3**
COEN				IAmb	IAmb	08 44 22.3	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**41.83**	**194**	P	**P**	**08 44 50.0**	**-0.2**
WRA	**Warramunga Ar**	**42.01**	**194**	P	**P**	**08 44 50.6**	**-1.1**
WRA	**Warramunga Arr**	**42.01**	**194**	P	**P**	**08 44 52.5**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=12,slow=8.8,SNR=17						
	comp=Z,1.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**43.13**	**207**	P	**P**	**08 45 00.8**	**+0.2**
ASAR	**Alice Springs**	**45.71**	**194**	P	**P**	**08 45 21.2**	**+0.1**
ASAR	**Alice Springs**	**45.71**	**194**	P	**P**	**08 45 21.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=14,slow=9.1,SNR=12						
	comp=Z,0.4nm,0.5s						
AKUT	**Akutan**	**49.87**	**36**	P	**P**	**08 45 53.0**	**+0.3**
S12K	**Black Hills**	**52.42**	**35**	P	**P**	**08 46 10.7**	**-1.1**
SDPT	**Sand Point**	**53.16**	**36**	P	**P**	**08 46 16.9**	**-0.4**
M13K	**Dall Lake**	**53.47**	**29**	P	**P**	**08 46 20.0**	**+0.6**
M13K				IAmb	IAmb	08 47 03.9	
	comp=Z,12nm,1.1s						
M14K	**Bethel**	**54.24**	**29**	P	**P**	**08 46 25.3**	**+0.3**
M14K				IAmb	IAmb	08 46 26.9	
	comp=Z,8.9nm,0.9s						
CHGN	**Chignik**	**54.55**	**35**	P	**P**	**08 46 26.4**	**-0.9**
N15K	**Kwethluk River**	**54.89**	**30**	P	**P**	**08 46 30.4**	**+0.6**
N15K				IAmb	IAmb	08 47 08.1	
	comp=Z,9.9nm,1.1s						
P16K	**Nushagak River**	**55.54**	**32**	P	**P**	**08 46 35.1**	**+0.8**
L16K	**Owhat River**	**55.71**	**29**	P	**P**	**08 46 36.1**	**+0.6**
J16K	**Anvik River**	**55.80**	**27**	P	**P**	**08 46 36.7**	**+0.5**
J16K				IAmb	IAmb	08 46 38.5	
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**55.93**	**313**	P	**P**	**08 46 37.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=89,slow=9.4,SNR=1.9						
	comp=Z,0.2nm,0.5s						
N17K	**Nushagak Hills**	**56.38**	**30**	P	**P**	**08 46 40.1**	**-0.2**
N17K				IAmb	IAmb	08 46 41.6	
	comp=Z,3.8nm,1.1s						
KURBB	**Kurchatov Arra**	**58.72**	**317**	P	**P**	**08 46 57.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=90,slow=7.3,SNR=5.5						
	comp=Z,0.4nm,0.4s						
E23K	**Chandalar**	**61.62**	**23**		**P**	**08 47 17.4**	**+1.0**
E23K				IAmb	IAmb	08 47 18.4	
	comp=Z,2.8nm,0.6s						
ILAR	**Eielson Array**	**62.00**	**27**	P	**P**	**08 47 17.8**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=261,slow=5.2,SNR=16						
	comp=Z,1.3nm,0.7s						
F25K	**Christian Rive**	**62.99**	**24**	P	**P**	**08 47 26.9**	**+1.4**
F25K				IAmb	IAmb	08 47 27.4	
	comp=Z,2.2nm,0.6s						
BVAR	**Borovoye Array**	**63.85**	**320**	P	**P**	**08 47 31.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=101,slow=6.6,SNR=4.9						
	comp=Z,1.2nm,0.5s						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**08 48 47.5**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=286,slow=5.8,SNR=5.2						
	comp=Z,1.3nm,0.8s						
ARCES	**ARCESS Array B**	**79.81**	**342**	P	**P**	**08 49 05.9**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=73,slow=9.0,SNR=13						
	comp=Z,0.9nm,0.5s						
NVAR	**Mina Array Bea**	**82.57**	**52**	P	**P**	**08 49 22.6**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=278,slow=6.1,SNR=14						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**84.18**	**335**	P	**P**	**08 49 27.6**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=66,slow=3.4,SNR=7.5						
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**86.96**	**45**	P	**P**	**08 49 44.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=316,slow=4.6,SNR=2.6						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**97.42**	**55**	P	**P**	**08 50 31.9**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=142,slow=0.8,SNR=3.5						
	comp=Z,0.1nm,0.6s						
LPAZ	**La Paz**	**148.81**	**87**	PKPbc	**PKPbc**	**08 56 46.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=243,slow=2.3,SNR=2.4						

*MOS **31** 08:45:10.8±0.9, 18°.92N×64°.06W, h11km, mb5.3/49, Error ellipse: s-maj=6.0km s-min=4.9km az=61.9*

*SDD **31** 08:45:10.9±2.2, 18°.64N×63°.95W, h6km±13km, MD4.1, ML4.9, MW4.8*

*IDC **31** 08:45:10.9±0.3, 18°.94N×63°.99W, h0km, mb4.8/33, mbtmp4.8/37, ML4.1/4, MS3.9/58, Error ellipse: s-maj=10.2km s-min=9.4km az=10.0*

*NEIC **31** 08:45:12.9±1.5, 18°.95N±0°.06×63°.97W±0°.04, h11km±3km, mb5.2/71, ML4.9/40, Mwr4.7/31, Mww4.9/25, ML4.9/21(RSPR), Error ellipse: s-maj=9.8km s-min=5.0km az=200.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=0.88; $M_{\theta\theta}$=0.00; $M_{\phi\phi}$=0.88; $M_{r\theta}$=-0.73; $M_{\theta\phi}$=0.54; $M_{\phi r}$=0.06; Fault plane solution: M_0=1.27000×10^{16} NP1:ϕs=179.01000°, δ42.14000°, λ=-136.56000°. NP2: ϕs=53.93000°, δ62.53000°, λ=-56.69000°. Principal axes: T 1.2143, Plg11.0000°, Azm121.0000°; N 0.1063, Plg29.0000°, Azm217.0000°; P -1.3206, Plg58.0000°, Azm12.0000°;*

*NEIC **31** 08:45:12.6, 18°.95N×63°.97W, h18km*

*NEIC **31** 08:45:12.6, 19°.15N×64°.07W, h18km, Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.04; $M_{\theta\theta}$=0.52; $M_{\phi\phi}$=1.52; $M_{r\theta}$=-1.08; $M_{\theta\phi}$=0.55; $M_{\phi r}$=1.09; Fault plane solution: M_0=2.46000×10^{16} NP1:ϕs=39.86000°, δ38.75000°, λ=-51.88000°. NP2:ϕs=174.69000°, δ60.50000°, λ=-116.36000°. Principal axes: T 1.8810, Plg12.0000°, Azm283.0000°; N 0.9001, Plg23.0000°, Azm188.0000°; P -2.7810, Plg64.0000°, Azm39.0000°;*

*NEIC **31** 08:45:13, 18°.94N×63°.99W, h11km*

*BGR **31** 08:45:14.7, 18°.50N×63°.50W, h33km, mb5.3, Ms3.9*

*RSPR **31** 08:45:14.2, 19°.15N×63°.95W, h7km±2km, MD4.2/21*

*GCMT **31** 08:45:14.4±0.2, 19°.05N±0°.03×63°.97W±0°.02, h13km±1km, MW4.8/85, Moment Tensor Solution. s22,c26; s85,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.68±.10; $M_{\theta\theta}$=0.23±.06; $M_{\phi\phi}$=1.45±.07; $M_{r\theta}$=-0.16±.18; $M_{\theta\phi}$=0.56±.04; $M_{\phi r}$=0.06±.13; Best double couple: M_0=1.68200×10^{16} NP1:ϕs=27.00000°, δ45.00000°, λ=-82.00000°. NP2: ϕs=196.00000°, δ45.00000°, λ=-98.00000°. Principal axes: T 1.6670, Plg0.0000°, Azm291.0000°; N 0.0360, Plg6.0000°, Azm201.0000°; P -1.6970, Plg84.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function.*

*JSN **31** 08:46:24.4±11.0, 16°.66N×70°.52W, h15km*

ISC 31 08:45:12.1±0.8, 18°.94N±0°.03×64°.01W±0°.03, h9km±4km, n834, σ1§22/810, mb5.1/180, MS4.0/60, 51C-42D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**1.26**	**135**		**Pn**	**08 45 35.5**	**-0.4**
SMRT					**Sb**	**08 45 51.6**	**-0.7**
SMRT				IAML		08 45 57.1	
	comp=N,32μm,0.5s						
SMRT				IAML		08 45 57.1	
	comp=E,39μm,0.5s						
SMRT	**St. Maarten**	**1.26**	**135**	i*e*P	**Pn**	**08 45 35.6**	**-0.2**
SMRT	**St. Maarten**	**1.26**	**135**	*e*S	**Sn**	**08 45 53.4**	**+0.4**
SABA	**Saba**	**1.50**	**151**		**Pn**	**08 45 39.4**	**+0.1**
SABA					**Sn**	**08 45 58.8**	**-0.2**
SABA	**Saba**	**1.50**	**151**	i*e*P	**Pn**	**08 45 40.0**	**+0.7**
SABA	**Saba**	**1.50**	**151**	*e*S	**Sg**	**08 46 02.0**	**+1.6**
SEUS	**St. Eustatius**	**1.74**	**146**		**Pn**	**08 45 43.6**	**+1.1**
SEUS				IAML		08 46 13.4	
	comp=E,10μm,0.7s						
SEUS				IAML		08 46 22.2	
	comp=N,15μm,1.0s						
HUMP	**Col San Antoni**	**1.91**	**246**		**Pn**	**08 45 45.6**	**+0.7**
GCPR	**Guaynabo City**	**2.06**	**253**		**Pn**	**08 45 47.7**	**+0.8**
GCPR	**Guaynabo City**	**2.06**	**253**		**Sn**	**08 46 15.2**	**+2.4**
GCPR	**Guaynabo City**	**2.06**	**253**	i*e*P	**Pn**	**08 45 47.5**	**+0.5**
GCPR	**Guaynabo City**	**2.06**	**253**	*e*S	**Sn**	**08 46 15.2**	**+2.4**
PDPR	**Patillas Dam,**	**2.12**	**245**		**Pn**	**08 45 49.0**	**+1.3**
PDPR				IAML		08 46 32.3	
	comp=E,5μm,0.7s						
PDPR	**Patillas Dam,**	**2.12**	**245**	i*e*P	**Pn**	**08 45 48.8**	**+1.1**
PDPR	**Patillas Dam,**	**2.12**	**245**	*e*S	**Sn**	**08 46 15.4**	**+1.3**
SJG	**San Juan**	**2.19**	**248**		**Pn**	**08 45 49.2**	**+0.5**
SJG				IAML		08 46 30.6	
	comp=E,6μm,0.6s						
SJG				IAML		08 46 32.9	
	comp=E,6μm,1.1s						
SJG	**San Juan**	**2.19**	**248**	Pn	**Pn**	**08 45 49.5**	**+0.8**
	comp=E,82nm,0.3s,baz=70,slow=11,SNR=252						
SJG				Sn	**Sn**	**08 46 16.9**	**+1.0**
	comp=E,274nm,0.3s,baz=330,slow=18,SNR=12						
	comp=E,1μm,0.7s						
SJG	**San Juan**	**2.19**	**248**	P	**Pn**	**08 45 49.2**	**+0.5**
SJG	**San Juan**	**2.19**	**248**	i*e*P	**Pn**	**08 45 49.7**	**+1.0**
IGPR	**InterUniversit**	**2.21**	**244**		**Pn**	**08 45 50.8**	**+1.8**
IGPR					**Sn**	**08 46 19.2**	**+2.7**
IGPR	**InterUniversit**	**2.21**	**244**	i*e*P	**Pn**	**08 45 50.8**	**+1.8**
IGPR	**InterUniversit**	**2.21**	**244**	*e*S	**Sn**	**08 46 19.2**	**+2.7**
ECPR	**Experimental S**	**2.31**	**255**	i*e*P	**Pn**	**08 45 51.2**	**+0.8**
ECPR	**Experimental S**	**2.31**	**255**	*e*S	**Sn**	**08 46 20.1**	**+1.1**
EMPR	**Esperanza - Ma**	**2.43**	**259**		**Pn**	**08 45 53.1**	**+1.1**
EMPR	**Esperanza - Ma**	**2.43**	**259**		**Sn**	**08 46 22.6**	**+0.7**
EMPR	**Esperanza - Ma**	**2.43**	**259**	i*e*P	**Pn**	**08 45 53.8**	**+1.8**
EMPR	**Esperanza - Ma**	**2.43**	**259**	*e*S	**Sn**	**08 46 22.6**	**+0.7**
ANWB	**Willy Bob**	**2.47**	**121**	Pn	**Pn**	**08 45 51.8**	**-0.7**
ANWB	**Willy Bob**	**2.47**	**121**	*e*P	**Pn**	**08 45 51.5**	**-1.0**
ANWB				*e*S	**Sb**	**08 46 27.9**	**+0.7**
CELP	**Cerrillos**	**2.58**	**251**		**Pn**	**08 45 54.8**	**+0.7**
CELP				IAML		08 46 33.9	
	comp=E,4μm,0.6s						
CELP				IAML		08 46 35.7	
	comp=N,5μm,1.1s						
CELP	**Cerrillos**	**2.58**	**251**		**Sn**	**08 46 26.5**	**+0.8**
CELP	**Cerrillos**	**2.58**	**251**	i*e*P	**Pn**	**08 45 55.5**	**+1.3**
CELP	**Cerrillos**	**2.58**	**251**	*i* P	**Pn**	**08 45 55.7**	**+1.5**
CELP				*i* S	**Sn**	**08 46 26.6**	**+0.8**
CELP				IAML		08 46 35.4	
	comp=N,5μm,1.1s						
OBIP	**Obispado Ponce**	**2.62**	**250**		**Pn**	**08 45 55.7**	**+1.1**
OBIP				IAML		08 46 40.8	
	comp=N,6μm,1.1s						
OBIP				IAML		08 46 46.2	
	comp=E,4μm,1.1s						
OBIP	**Obispado Ponce**	**2.62**	**250**		**Sn**	**08 46 28.4**	**+1.8**
OBIP	**Obispado Ponce**	**2.62**	**250**	i*e*P	**Pn**	**08 45 56.4**	**+1.8**
OBIP	**Obispado Ponce**	**2.62**	**250**	*e*S	**Sn**	**08 46 28.4**	**+1.8**
UUPR	**Utuado, UPR, P**	**2.66**	**256**		**Pn**	**08 45 56.1**	**+1.0**
UUPR	**Utuado, UPR, P**	**2.66**	**256**	i*e*P	**Pn**	**08 45 56.4**	**+1.2**
AOPR	**Arecibo Observ**	**2.67**	**258**	Pn	**Pn**	**08 45 56.5**	**+1.3**
AOPR	**Arecibo Observ**	**2.67**	**258**	*i* P	**Pn**	**08 45 56.7**	**+1.4**
AOPR				IAML		08 46 38.1	
	comp=N,16μm,4.2s						
AGPR	**Aguadilla, PR**	**2.97**	**261**		**Pn**	**08 46 00.3**	**+0.8**
AGPR	**Aguadilla, PR**	**2.97**	**261**		**Sn**	**08 46 37.7**	**+2.4**
AGPR	**Aguadilla, PR**	**2.97**	**261**	i*e*P	**Pn**	**08 46 00.8**	**+1.3**
AGPR	**Aguadilla, PR**	**2.97**	**261**	*e*S	**Sn**	**08 46 37.7**	**+2.4**
AGPR	**Aguadilla, PR**	**2.97**	**261**	*i* P	**Pn**	**08 46 00.9**	**+1.4**
AGPR				*e*Sg	**Sb**	**08 46 42.5**	**+0.7**
AGPR				IAML		08 47 01.4	
	comp=N,4μm,0.7s						
LSP	**Las Mesas**	**3.01**	**256**		**Pn**	**08 46 02.0**	**+1.9**
LSP					**Sn**	**08 46 37.4**	**+1.0**
LSP	**Las Mesas**	**3.01**	**256**	i*e*P	**Pn**	**08 46 02.0**	**+1.9**
LSP	**Las Mesas**	**3.01**	**256**	*e*S	**Sn**	**08 46 37.4**	**+1.0**
MLPR	**Magueyes Islan**	**3.03**	**252**	i*e*P	**Pn**	**08 46 02.3**	**+2.0**
MLPR	**Magueyes Islan**	**3.03**	**252**	*e*S	**Sn**	**08 46 40.2**	**+3.4**
MLPR	**Magueyes Islan**	**3.03**	**252**	*e*Pg	**Pn**	**08 46 02.7**	**+2.4**
MLPR				*e*Sg	**Sb**	**08 46 45.0**	**+1.5**
MLPR				IAML		08 47 04.6	
	comp=N,895nm,0.7s						
PRSN	**Puerto Rico Se**	**3.06**	**257**		**Pn**	**08 46 01.3**	**+0.6**
PRSN	**Puerto Rico Se**	**3.06**	**257**		**Sn**	**08 46 38.8**	**+1.5**
PRSN	**Puerto Rico Se**	**3.06**	**257**	i*e*P	**Pn**	**08 46 02.8**	**+2.1**
PRSN	**Puerto Rico Se**	**3.06**	**257**	*e*S	**Sn**	**08 46 38.8**	**+1.5**
IDE	**Isla Desecheo**	**3.33**	**261**		**Pn**	**08 46 05.9**	**+1.5**
IDE					**Sn**	**08 46 43.5**	**-0.6**
IDE	**Isla Desecheo**	**3.33**	**261**	i*e*P	**Pn**	**08 46 05.9**	**+1.5**
IDE	**Isla Desecheo**	**3.33**	**261**	*e*S	**Sn**	**08 46 43.5**	**-0.6**
DHSZ	**Broadband at M**	**3.41**	**141**	*e*P	**Pn**	**08 46 06.0**	**+0.5**
GDHS	**Morne Mazeau,**	**3.41**	**141**		**Pn**	**08 46 06.0**	**+0.4**
ABD	**La Joyeuse, An**	**3.44**	**135**		**Pn**	**08 46 07.2**	**+1.3**
ABD				IAML		08 47 12.9	
	comp=E,3μm,1.4s						
ABD				IAML		08 47 14.1	
	comp=N,2μm,1.1s						
ABD	**La Joyeuse, An**	**3.44**	**135**	i*e*P	**Pn**	**08 46 06.6**	**+0.7**
ABD	**La Joyeuse, An**	**3.44**	**135**	*e*S	**Sn**	**08 46 49.4**	**+2.6**
ATGZ	**Broadband at L**	**3.57**	**142**	*e*P	**Pn**	**08 46 09.7**	**+1.9**
MMLZ	**Guadeloupe Bro**	**3.65**	**142**	*e*P	**Pn**	**08 46 09.9**	**+1.1**
CBE	**Ff, Capester**	**3.66**	**141**		**Pn**	**08 46 10.7**	**+1.7**
CBE	**Ff, Capester**	**3.66**	**141**	i*e*P	**Pn**	**08 46 10.9**	**+1.9**
CBE	**Ff, Capester**	**3.66**	**141**	*e*S	**Sn**	**08 46 55.6**	**+3.2**
TBG	**Guadaloupe-3**	**3.81**	**143**	*e*P	**Pn**	**08 46 12.9**	**+1.9**
DSDZ	**La Diserade, G**	**3.84**	**132**	*e*P	**Pn**	**08 46 11.0**	**-0.4**
GDSD	**La Dsirade Is**	**3.84**	**132**		**Pn**	**08 46 10.9**	**-0.5**
H05N1	**Guadeloupe/Mar**	**3.84**	**132**	Pn	**Pn**	**08 46 12.0**	**+0.5**
H05N1				Sn	**Sn**	**08 46 57.2**	**+0.4**
MAGL	**Barre de l'ile**	**3.96**	**138**		**Pn**	**08 46 14.3**	**+1.3**
MAGL				IAML		08 47 17.4	
	comp=N,2μm,1.4s						
MAGL				IAML		08 47 26.3

BBSR **BB Station** 13.39 358 Pn 08 48 16.9 -5.5
CAIB **Caibarien** 14.89 286 *e*P Pn 08 48 34.5 -8.4
RUSC **La Rusia** 15.69 215 **Pn** **08 48 54.6 +0.5**
BOAV **Boa Vista** 16.80 168 P **P** **08 49 09.6 -0.3**
BOAV **Boa Vista** 16.80 168 *e*P **Pn** **08 49 09.2 +1.5**
061Z **Ochoppi** 17.07 297 P **Pn** **08 49 09.7 -1.4**
061Z IAmb IAmb 08 49 15.9
comp=Z,179nm,1.0s
ROSC **El Rosal** 17.25 217 P **P** **08 49 16.5 +1.1**
comp=Z,54nm,0.6s,baz=65,slow=9.1,SNR=30
ROSC S **Sn** **08 52 24.1 -2.0**
comp=Z,5.6nm,0.4s,baz=26,slow=24,SNR=1.5
ROSC LR LR 08 56 37.2
comp=Z,1µm,19.9s,baz=21,slow=40
MDP **Montagnes des** 17.67 140 P **Pn** **08 49 17.9 -0.8**
comp=Z,0.6nm,0.3s,baz=325,slow=14,SNR=5.2
MDP S Sn 08 52 20.2 -16
comp=Z,8.4nm,0.8s,baz=18,slow=13,SNR=6.9
MDP LR LR 08 57 08.3
comp=Z,270nm,21.1s,baz=308,slow=41
comp=Z,10nm,1.0s
BCIP **Isla Barro Col** 18.15 240 P **Pn** **08 49 24.3 -0.3**
BCIP **Isla Barro Col** 18.15 240 P **Pn** **08 49 24.3 -0.3**
BCIP pmax pmax
comp=Z,56nm,0.8s
SOR **Soroa** 18.16 285 P **Pn** **08 49 23.8 -0.9**
SOR **Soroa** 18.16 285 P **Pn** **08 49 23.8 -0.9**
SOR pmax pmax
comp=Z,177nm,1.7s
DWPF **Disney Wildern** 18.38 303 P **P** **08 49 26.6 -0.8**
V61A **Roper** 20.12 329 P **P** **08 49 44.9 -1.5**
V61A IAmb IAmb 08 49 47.6
comp=Z,142nm,1.1s
Y58A **Scranton** 20.42 320 P **P** **08 49 49.4 -0.2**
SIUN **Universidad Ur** 20.58 258 P **P** **08 49 51.9 +0.3**
SIUN IAmb IAmb 08 50 02.8
comp=Z,17nm,1.0s
W59A **Clinton** 20.61 325 P **P** **08 49 51.4 -0.2**
W59A IAmb IAmb 08 49 56.5
comp=Z,76nm,0.9s
ESPN **Las Esperanzas** 20.65 254 P **P** **08 49 52.0 -0.3**
ESPN IAmb IAmb 08 50 03.3
comp=Z,61nm,0.9s
X58A **Rowland** 20.67 322 P **P** **08 49 50.7 -1.7**
FLOC **Florencia** 20.68 215 P **P** **08 49 52.9 +0.3**
BRU2 **Volcan** 20.73 243 P **P** **08 49 53.3 0.0**
BRU2 IAmb IAmb 08 49 59.3
comp=Z,130nm,0.8s
Y57A **Sumter** 20.94 319 P **P** **08 49 53.8 -1.4**
Y57A IAmb IAmb 08 49 59.7
comp=Z,64nm,0.8s
HDC **Heredia** 21.38 248 P **P** **08 50 01.3 +1.0**
HDC **Heredia** 21.38 248 *e*P **P** **08 50 00.2 0.0**
LCR2 **La Lucha 2** 21.40 247 P **P** **08 50 01.3 +0.7**
LCR2 IAmb IAmb 08 50 03.0
comp=Z,105nm,0.8s
PIRO **Carate, Puerto** 21.47 243 P **P** **08 50 01.1 -0.1**
PIRO IAmb IAmb 08 50 14.7
comp=Z,77nm,0.9s
ACON **Acoyapa** 21.53 254 P **P** **08 50 01.6 -0.1**
ACON IAmb IAmb 08 50 03.0
comp=Z,77nm,0.8s
SOCE **Pocosol** 21.65 250 P **P** **08 50 04.2 +1.0**
SOCE IAmb IAmb 08 50 05.2
comp=Z,88nm,0.8s
JTS **Las Juntas de** 21.99 250 P **P** **08 50 06.7 -0.1**
comp=Z,29nm,0.8s,baz=54,slow=6.9,SNR=24
comp=Z,29nm,0.8s
JTS **Las Juntas de** 21.99 250↑ *e*P **P** **08 50 06.6 -0.2**
JTS pmax pmax
comp=Z,8.0nm,0.7s
MACA **Manacapuru-AM** 22.21 171 P **P** **08 50 08.2 -0.8**
MACA **Manacapuru-AM** 22.21 171 *e*P **P** **08 50 09.2 +0.2**
KMSC **Kings Mountain** 22.27 320 P **P** **08 50 08.3 -1.2**
KMSC IAmb IAmb 08 50 24.9
comp=Z,58nm,0.8s
TEFE **Tefe** 22.32 182 *e*P **P** **08 50 10.3 +0.1**
T57A **Hurt** 22.41 326 P **P** **08 50 10.4 -0.7**
T57A IAmb IAmb 08 50 28.0
comp=Z,78nm,1.1s
GOGA **Godfrey** 22.58 313 P **P** **08 50 12.3 -0.6**
GOGA **Godfrey** 22.58 313 P **P** **08 50 12.3 -0.6**
GOGA pmax pmax
comp=Z,51nm,1.1s
TGUH **Tegucigalpa,Un** 22.82 261 P **P** **08 50 16.0 +0.3**
TGUH IAmb IAmb 08 50 19.8
comp=Z,51nm,0.8s
TEIG **Tepich** 22.89 277 P **P** **08 50 15.9 -0.4**
TEIG IAmb IAmb 08 50 19.8
comp=Z,74nm,0.8s
TEIG **Tepich** 22.89 277 P **P** **08 50 17.0 +0.6**
comp=Z,0.1nm,0.4s,baz=130,slow=24,SNR=1.2
MAL2 **Monte Alegre,** 22.96 154 P **P** **08 50 16.4 -0.7**
TBTG **Tabatinga, AM** 23.70 195 P **P** **08 50 24.1 -0.5**
TBTG **Tabatinga, AM** 23.70 195 *e*P **P** **08 50 23.8 -0.7**
TKL **Tuckaleechee C** 24.12 318 P **P** **08 50 28.6 +0.2**
comp=Z,8.4nm,0.8s,baz=108,slow=10,SNR=8.7
TKL S **S** **08 54 47.9 +1.5**
comp=Z,10nm,0.7s,baz=198,slow=18,SNR=3.6
TKL LR LR 09 00 21.9
comp=Z,232nm,19.2s,baz=136,slow=38
comp=Z,8.4nm,0.8s
HRV **Adam Dziewonsk** 24.35 346 P **P** **08 50 30.8 +0.4**
ITTB **Itaituba** 24.55 160 *e*P **P** **08 50 33.7 +1.3**
TMAB **Tom-Au,PA,Br** 26.34 142 *e*P **P** **08 50 48.9 +0.3**
WVT **Waverly** 27.07 314 P **P** **08 50 55.0 -0.1**
NPGB **Novo Progresso** 27.20 161 *e*P **P** **08 50 57.2 +0.9**
WCI **Wyandotte Cave** 27.30 319 P **P** **08 50 58.1 +1.0**
WCI pmax pmax
comp=Z,30nm,1.0s
CZSB **Cruzeiro do Su** 27.85 199 P **P** **08 51 00.8 -1.5**
CZSB IAmb IAmb 08 51 21.4
comp=Z,40nm,0.7s
CZSB **Cruzeiro do Su** 27.85 199 *e*P **P** **08 51 01.7 -0.6**
DELO **Deloro Mine** 27.93 339 P **P** **08 51 01.9 -0.8**
USIN **University of** 28.00 318 P **P** **08 51 02.8 -0.6**
BLO **Bloomington** 28.03 321 P **P** **08 51 03.1 -0.6**
BLO **Bloomington** 28.03 321 P **P** **08 51 03.1 -0.6**
BLO pmax pmax
comp=Z,62nm,0.8s
PRPB **Parauapebas** 28.61 149 *e*P **P** **08 51 09.7 +0.7**
AAM **Ann Arbor** 28.64 329 P **P** **08 51 09.6 +0.6**
SADO **Sadowa** 28.68 337 LR LR 09 02 22.8
comp=Z,5µm,19.2s,baz=144,slow=36
CMIG **Matias Romero** 29.40 271 P **P** **08 51 13.1 -2.9**
comp=Z,3.0nm,0.8s,baz=84,slow=9.4,SNR=5.4
CMIG LR LR 09 02 55.6
comp=Z,167nm,21.4s,baz=99,slow=36
ATAH **Atahualpa** 29.54 210 LR LR 09 05 16.1
comp=Z,522nm,19.1s,baz=23,slow=41
CCM **Cathedral Cave** 30.41 314 P **P** **08 51 24.7 -0.1**
CCM pmax pmax
comp=Z,12nm,0.9s
CLDB **Colider** 30.71 164 *e*P **P** **08 51 28.2 +0.5**
HKT **Hockley** 30.87 297 *de*P **P** **08 51 29.6 +0.7**
HKT pmax pmax
comp=Z,7.0nm,1.0s
VILB **Vilhena** 31.91 173 *e*P **P** **08 51 39.0 +0.7**
SMTB **Santa Maria do** 32.02 148 *e*P **P** **08 51 40.0 +0.8**
SNDB **Serra Nova Dou** 33.18 157 *e*P **P** **08 51 50.0 +0.7**
NNA **Nana** 33.23 203 *de*P **P** **08 51 48.6 -1.2**
NNA pmax pmax
comp=Z,27nm,0.9s
JCT **Junction City** 34.34 297 P **P** **08 51 59.8 +0.3**
PTLB **Pontes e Lacer** 34.51 172 P **P** **08 51 59.9 -0.9**
PTLB **Pontes e Lacer** 34.51 172 *e*P **P** **08 52 01.0 +0.1**
WMOK **Wichita Mounta** 34.58 304 P **P** **08 52 00.9 -0.5**
WMOK IAmb IAmb 08 52 02.7
comp=Z,53nm,1.6s
WMOK **Wichita Mounta** 34.58 304 P **P** **08 52 00.9 -0.5**
WMOK pmax pmax
comp=Z,53nm,1.6s
KAN01 **Argonia South** 34.63 309 P **P** **08 52 01.6 -0.2**
KAN01 IAmb IAmb 08 52 03.6
comp=Z,19nm,0.7s
SIV **San Ignacio** 34.83 175 LR LR 09 06 28.2
comp=Z,283nm,20.4s,baz=301,slow=37
LPAZ **La Paz** 35.24 187 P **P** **08 52 06.3 -1.6**
comp=Z,11nm,0.9s,baz=0.9,slow=11,SNR=20
LPAZ LR LR 09 07 43.0
comp=Z,154nm,18.2s,baz=14,slow=38
comp=Z,11nm,0.9s
SALV **Santo Antonio** 35.58 166 *e*P **P** **08 52 11.1 +1.0**
SCHQ **Schefferville** 35.89 357 P **P** **08 52 11.8 -0.6**
comp=Z,235nm,0.8s,baz=166,slow=6.5,SNR=19

SCHQ LR LR 09 04 52.3
comp=Z,2µm,21.6s,baz=192,slow=33
SDBA **SAO DESIDERIO** 36.40 147 *e*P **P** **08 52 17.4 +0.2**
ARAG **Araguaiana, MT** 36.46 160 *e*P **P** **08 52 18.7 +1.0**
RCBR **Riachuelo** 37.05 129 LR LR 09 08 15.0
comp=Z,23nm,18.3s,baz=308,slow=37
PB16 **IPOC Station P** 37.43 189 P **P** **08 52 24.1 -2.5**
TXAR **Lajitas Array** 37.48 294 P **P** **08 52 26.4 0.0**
TXAR **Lajitas Array** 37.48 294 P **P** **08 52 27.3 +0.8**
comp=Z,21nm,0.9s,baz=110,slow=7.6,SNR=131
TXAR PcP **PcP** **08 54 46.2 +1.3**
comp=Z,6.5nm,0.8s,baz=120,slow=5.6,SNR=11
TXAR ScP **ScP** **08 58 32.9 +0.3**
comp=Z,0.6nm,0.8s,baz=133,slow=5.3,SNR=3.5
TXAR LR LR 09 10 57.4
comp=Z,64nm,22.0s,baz=62,slow=41
comp=Z,21nm,0.9s
TXAR **Lajitas Array** 37.48 294 P **P** **08 52 26.4 0.0**
MSTX **Muleshoe** 37.55 301 P **P** **08 52 26.9 -0.1**
MSTX IAmb IAmb 08 52 28.2
comp=Z,95nm,1.6s
BDFB **Brasilia** 37.80 154 P **P** **08 52 29.6 +0.4**
comp=Z,14nm,0.9s,baz=317,slow=7.2,SNR=17
BDFB LR LR 09 09 30.2
comp=Z,306nm,19.4s,baz=331,slow=39
comp=Z,14nm,0.9s
JANB **Januaria** 38.96 149 *e*P **P** **08 52 39.0 +0.1**
PB08 **IPOC Station P** 39.16 188 P **P** **08 52 39.0 -2.0**
PB08 IAmb IAmb 08 52 51.7
comp=Z,31nm,0.8s
T25A **Trinidad** 39.65 306 P **P** **08 52 44.7 0.0**
T25A IAmb IAmb 08 52 46.7
comp=Z,88nm,1.4s
IPMB **Ipameri, GO** 39.84 156 *e*P **P** **08 52 46.4 +0.1**
AQDB **Aquidauana** 40.01 168 *e*P **P** **08 52 48.2 +0.7**
ULM **Lac du Bonnet** 40.23 328 P **P** **08 52 47.7 -1.3**
comp=Z,11nm,0.6s,baz=122,slow=8.5,SNR=35
ULM PcP **PcP** **08 54 53.6 +0.7**
comp=Z,4.8nm,0.9s,baz=117,slow=10.0,SNR=3.5
ULM LR LR 09 10 17.9
comp=Z,317nm,18.1s,baz=130,slow=37
comp=Z,11nm,0.6s
ANMO **Albuquerque** 40.73 302 P **P** **08 52 54.6 +0.9**
comp=Z,31nm,0.8s,baz=199,slow=8.5,SNR=122
ANMO PcP **PcP** **08 54 56.0 +0.8**
comp=Z,7.2nm,0.9s,baz=208,slow=11,SNR=4.2
ANMO LR LR 09 12 54.7
comp=Z,247nm,18.8s,baz=205,slow=41
comp=Z,31nm,0.8s
ANMO **Albuquerque** 40.73 302 *d*P **P** **08 52 54.7 +1.0**
ANMO pmax pmax
comp=Z,25nm,0.9s
Y22D **IRIS PASSCAL I** 40.94 300 P **P** **08 52 54.7 -0.7**
baz=100
PMNB **Patos De Minas** 41.05 154 *e*P **P** **08 52 56.5 +0.3**
ISCO **Idaho Springs** 41.32 309 P **P** **08 52 59.3 +0.6**
RSSD **Black Hills** 41.77 316 P **P** **08 53 01.8 -0.3**
DIAM **Diamantina, MG** 42.05 150 *e*P **P** **08 53 04.8 +0.3**
BB19B **Bebedouro** 42.55 158 *e*P **P** **08 53 09.0 +0.5**
LPIG **La Paz** 43.23 285 P **P** **08 53 15.0 +1.1**
comp=Z,47nm,1.0s,baz=90,slow=7.1,SNR=6.1
LPIG LR LR 09 12 46.9
comp=Z,70nm,22.0s,baz=40,slow=38
comp=Z,47nm,1.0s
TUC **Tucson** 43.90 297 P **P** **08 53 21.1 +1.7**
NRS **Narsarsuaq** 44.18 13 *i*P **P** **08 53 20.4 -0.6**
NRS IAmb IAmb 08 53 22.5
comp=Z,31nm,1.0s
FRB **Frobisher Bay** 44.88 357 LR LR 09 10 55.3
comp=Z,139nm,20.2s,baz=155,slow=34
PDAR **Pinedale Array** 45.05 312 P **P** **08 53 28.9 +0.2**
comp=Z,4.4nm,0.6s,baz=112,slow=8.4,SNR=59
PDAR PcP **PcP** **08 55 10.3 +0.8**
comp=Z,3.7nm,0.8s,baz=108,slow=4.8,SNR=6.2
PDAR ScP **ScP** **08 59 02.0 -0.4**
comp=Z,0.2nm,0.5s,baz=67,slow=8.3,SNR=1.7
PDAR LR LR 09 12 53.1
comp=Z,110nm,19.9s,baz=110,slow=37
comp=Z,4.4nm,0.6s
CPUP **Villa Florida** 45.47 172 P **P** **08 53 31.1 -0.7**
comp=Z,1.7nm,0.9s,baz=276,slow=10,SNR=7.9
CPUP LR LR 09 12 59.7
comp=Z,32nm,19.3s,baz=214,slow=37
comp=Z,1.7nm,0.9s
FFC **Flin Flon** 45.92 330 P **P** **08 53 33.8 -1.3**
BOZ **Bozeman (W)** 47.34 315 P **P** **08 53 47.2 +0.7**
LYMT **Lyon Mountain** 48.20 317 P **P** **08 53 52.9 -0.4**
ELK **Elko** 48.69 308 P **P** **08 53 57.4 +0.2**
comp=Z,8.8nm,0.9s,baz=98,slow=5.3,SNR=32
ELK PcP **PcP** **08 55 23.5 +1.0**
comp=Z,3.9nm,0.9s,baz=59,slow=3.5,SNR=3.5
ELK LR LR 09 15 27.4
comp=Z,198nm,21.2s,baz=112,slow=37
comp=Z,8.8nm,0.9s
PFO **Pinyon Flats O** 48.76 298 P **P** **08 53 58.5 +0.8**
comp=Z,3.7nm,0.9s,baz=100,slow=9.1,SNR=6.3
PFO PcP **PcP** **08 55 24.3 +1.6**
comp=Z,7.4nm,0.9s,baz=129,slow=2.7,SNR=6.6
PFO LR LR 09 18 38.9
comp=Z,58nm,18.1s,baz=78,slow=41
comp=Z,3.7nm,0.9s
PFO **Pinyon Flats O** 48.76 298 *de*P **P** **08 53 59.0 +1.3**
PFO pmax pmax
comp=Z,12nm,1.2s
SFJD **Kangerlussuaq** 48.81 7 LR LR 09 13 02.5
comp=Z,93nm,19.3s,baz=198,slow=34
SFJD **Kangerlussuaq** 48.81 7 *i*P **P** **08 53 56.6 -0.7**
SFJD IAmb IAmb 08 53 58.5
comp=Z,19nm,1.0s
DY2G **Dye2** 48.90 9 *i*P **P** **08 53 56.6 -1.7**
DY2G IAmb IAmb 08 53 59.4
comp=Z,29nm,0.7s
JTMT **Jette** 49.73 317 P **P** **08 54 04.9 0.0**
NVAR **Mina Array Bea** 50.68 304 P **P** **08 54 13.3 +0.9**
comp=Z,14nm,1.0s,baz=95,slow=6.4,SNR=67
NVAR PcP **PcP** **08 55 30.8 +1.1**
comp=Z,6.3nm,1.0s,baz=112,slow=4.5,SNR=4.8
NVAR LR LR 09 16 37.5
comp=Z,225nm,21.9s,baz=108,slow=37
comp=Z,14nm,1.0s
ILULI **Ilulissat** 50.90 6 *i*P **P** **08 54 11.8 -1.3**
ILULI IAmb IAmb 08 54 20.8
comp=Z,49nm,1.1s
BMO **Blue Mountains** 51.01 313 P **P** **08 54 14.3 -0.3**
PARRA **Arraiolos** 51.26 55 *e*P P **08 54 23.0 +6.5**
PARRA *i* IAmb IAmb 08 54 24.9
comp=Z,16nm,1.2s
WVOR **Wild Horse Val** 51.49 310 P **P** **08 54 19.0 +0.7**
SAQQ **Saqqaq** 51.59 5 *i*P P 08 54 13.1 -5.2
SAQQ IAmb IAmb 08 54 18.6
comp=Z,31nm,1.0s
NEW **Newport** 51.71 317 P **P** **08 54 19.3 -0.4**
PCAS **Casmilo, Conde** 51.82 54 *e*P **P** **08 54 21.7 +1.1**
PCAS *i* IAmb IAmb 08 54 27.8
comp=Z,37nm,1.3s
COI **Coimbra** 51.90 53 *e*P **P** **08 54 22.2 +1.0**
COI *i* IAmb IAmb 08 54 29.0
comp=Z,34nm,1.5s
PMTG **Montargil** 51.92 55 *e*P **P** **08 54 22.1 +0.7**
PMTG *i* IAmb IAmb 08 54 27.8
comp=Z,33nm,1.7s
PBDV **Barranco-do-Ve** 51.98 57 *e*P **P** **08 54 21.9 0.0**
PBDV *i* IAmb IAmb 08 54 26.5
comp=Z,56nm,1.6s
PSARD **Sardoal** 52.02 54 *e*P **P** **08 54 22.8 +0.7**
PSARD *i* IAmb IAmb 08 54 30.1
comp=Z,18nm,1.4s
EVO **Evora** 52.03 56 *e*P **P** **08 54 22.9 +0.7**
EVO *i* IAmb IAmb 08 54 24.2
comp=Z,26nm,1.3s
PEL **Peldehue** 52.18 187 P **P** **08 54 26.8 +3.5**
PEL pmax pmax
comp=Z,34nm,0.8s
PCAB **Cabril** 52.39 52 *e*P **P** **08 54 25.6 +0.7**
PCAB *i* IAmb IAmb 08 54 31.2
comp=Z,47nm,1.9s
PESTR **Estremoz** 52.39 55 *e*P **P** **08 54 26.2 +1.3**
PESTR *i* IAmb IAmb 08 54 27.9
comp=Z,30nm,1.5s
SAATT **Saattut** 52.40 5 *i*P **P** **08 54 23.1 -1.2**
SAATT IAmb IAmb 08 54 39.4
comp=Z,379nm,2.3s
POLO **Lamas de Olo** 52.52 52 *e*P **P** **08 54 26.7 +0.8**
POLO *i* IAmb IAmb 08 54 33.4
comp=Z,19nm,1.6s
PVRL **Vila Real** 52.56 52 *e*P **P** **08 54 27.2 +1.0**

PVRL *i* IAmb IAmb 08 54 29.7
comp=Z,40nm,1.7s
PCBR **Castelo Branco** 52.57 54 *e*P **P** **08 54 27.0 +0.8**
MTE **Manteigas** 52.59 53 *e*P **P** **08 54 27.2 +0.8**
MTE *i* IAmb IAmb 08 54 28.9
comp=Z,30nm,1.4s
PMRV **Marv??o** 52.60 55 *e*P **P** **08 54 27.4 +1.0**
PMRV *i* IAmb IAmb 08 54 31.4
comp=Z,12nm,1.9s
PBAR **Barrancos** 52.76 56 *e*P **P** **08 54 28.6 +1.0**
PBAR *i* IAmb IAmb 08 54 34.4
comp=Z,22nm,2.1s
SAO **San Andreas Ge** 53.03 302 P **P** **08 54 30.3 +0.6**
MVO **Moncorvo** 53.06 52 *e*P **P** **08 54 31.1 +1.1**
MVO *i* IAmb IAmb 08 54 32.2
comp=Z,34nm,1.2s
PBRG **Braganca** 53.35 52 *e*P **P** **08 54 33.4 +1.3**
PBRG *i* IAmb IAmb 08 54 49.3
comp=Z,16nm,1.6s
BORG **Borgarnes** 53.85 21 LR LR 09 12 51.5
comp=Z,52nm,20.7s,baz=257,slow=31
YBH **Yreka Blue Hor** 54.41 308 LR LR 09 19 02.1
comp=Z,8.8nm,21.9s,baz=95,slow=37
MDT **Midelt** 54.57 63 LR LR 09 15 21.0
comp=Z,82nm,18.1s,baz=270,slow=33
PAB **San Pablo** 54.95 55 P **P** **08 54 46.6 +2.8**
PAB pmax pmax
comp=Z,8.0nm,2.4s
ESDC **Sonseca Array** 55.26 54 P **P** **08 54 46.5 +0.5**
comp=Z,12nm,1.1s,baz=271,slow=7.0,SNR=41
ESDC LR LR 09 11 56.2
comp=Z,58nm,21.7s,baz=260,slow=29
comp=Z,12nm,1.1s
H10N3 **ASCENSION HYDR** 55.59 114 T T 09 54 46.1
baz=299
H10N2 **ASCENSION HYDR** 55.59 114 T T 09 54 46.0
baz=299
SUMG **Summit** 55.60 9 P **P** **08 54 48.2 -0.1**
SUMG IAmb IAmb 08 54 49.8
comp=Z,26nm,0.8s
SUMG **Summit** 55.60 9 P **P** **08 54 48.2 -0.1**
SUMG pmax pmax
comp=Z,26nm,0.8s
SUMG **Summit** 55.60 9 *i*P **P** **08 54 47.0 -1.3**
SUMG IAmb IAmb 08 54 49.0
comp=Z,26nm,0.9s
H10N1 **ASCENSION HYDR** 55.61 114 T T 09 54 48.0
baz=299
YKA **Yellowknife Ar** 55.62 334 P **P** **08 54 47.2 -0.8**
YKA **Yellowknife Ar** 55.62 334 P **P** **08 54 46.6 -1.4**
comp=Z,8.3nm,0.8s,baz=108,slow=7.2,SNR=25
YKA PcP **PcP** **08 55 47.0 -0.7**
comp=Z,1.9nm,0.7s,baz=105,slow=4.5,SNR=5.4
YKA LR LR 09 18 14.1
comp=Z,320nm,19.2s,baz=102,slow=36
comp=Z,8.3nm,0.8s
YKA **Yellowknife Ar** 55.62 334 P **P** **08 54 47.2 -0.8**
E03A **Lebam** 55.63 314 P **P** **08 54 48.1 -0.3**
EKA **Eskdalemuir Ar** 58.12 36 P **P** **08 55 05.9 0.0**
comp=Z,13nm,0.8s,baz=286,slow=4.2,SNR=15
comp=Z,13nm,0.8s
RES **Resolute Bay** 58.20 351 LR LR 09 18 38.1
comp=Z,273nm,20.4s,baz=178,slow=34
DBIC **Dimbokro** 58.72 94 P **P** **08 55 10.3 -0.4**
comp=Z,19nm,0.8s,baz=306,slow=8.2,SNR=15
DBIC LR LR 09 19 41.1
comp=Z,94nm,18.0s,baz=315,slow=35
comp=Z,19nm,0.8s
NEEM **North Greenlan** 58.89 3 *i*P **P** **08 55 09.0 -2.3**
NEEM IAmb IAmb 08 55 11.9
comp=Z,18nm,1.0s
KOTAN **Kotaneelee Air** 58.94 330 P **P** **08 55 11.1 -0.5**
baz=107
TOAD **Toad River Com** 59.17 328 P **P** **08 55 12.7 -0.6**
baz=105
CEST **Esterri de Car** 59.34 51 P **P** **08 55 15.2 +0.3**
CEST IAmb IAmb 08 55 18.3
comp=Z,22nm,1.0s
BBB **Bella Bella** 59.42 320 LR LR 09 22 31.3
comp=Z,117nm,19.2s,baz=100,slow=38
WRGLY **Wrigley** 59.63 333 P **P** **08 55 15.2 -1.1**
baz=109
PLCA **Paso Flores** 59.68 186 P **P** **08 55 16.4 -0.5**
comp=Z,5.5nm,0.8s,baz=12,slow=6.5,SNR=9.8
PLCA LR LR 09 24 30.1
comp=Z,122nm,18.1s,baz=12,slow=40
comp=Z,5.5nm,0.8s
LIRD **Liard River Hi** 59.74 328 P **P** **08 55 16.5 -0.6**
baz=104
CORI **Orista** 59.91 52 P **P** **08 55 19.1 +0.4**
CORI IAmb IAmb 08 55 20.9
comp=Z,30nm,1.1s
CLF **Chambon-Foret** 60.34 45 P **P** **08 55 21.4 -0.1**
WTLY **Watson Lake, Y** 61.23 329 P **P** **08 55 26.8 -0.6**
baz=102
TGTN **Hyland Airport** 61.30 331 P **P** **08 55 27.3 -0.6**
baz=104
LOR **Lormes** 61.38 46 P **P** **08 55 28.8 +0.2**
LOR pmax pmax
comp=Z,33nm,0.9s
T35M **Bob Quinn** 61.39 325 P **P** **08 55 28.1 -0.4**
baz=99
DLBC **Dease Lake** 61.52 327 LR LR 09 22 08.2
comp=Z,2µm,19.1s,baz=80,slow=36
DLBC **Dease Lake** 61.52 327 P **P** **08 55 29.3 -0.1**
baz=100,SNR=9.0
SSB **Saint Sauveur** 61.78 48 P **P** **08 55 31.9 +0.5**
SSB **Saint Sauveur** 61.78 48 P **P** **08 55 31.9 +0.5**
SSB pmax pmax
comp=Z,26nm,1.0s
UCC **Uccle** 61.92 42 P **P** **08 55 32.1 0.0**
UCC **Uccle** 61.92 42 P **P** **08 55 32.1 0.0**
UCC pmax pmax
comp=Z,34nm,0.9s
UCC **Uccle** 61.92 42 *d*P **P** **08 55 32.3 +0.2**
comp=Z,24nm,1.0s
UCC *dx* x 08 55 40.2
S34M **Telegraph Cree** 62.01 326 P **P** **08 55 32.5 -0.1**
S34M **Telegraph Cree** 62.01 326 P **P** **08 55 32.0 -0.6**
baz=99
C36M **Paulatuk** 62.01 340 P **P** **08 55 31.7 -0.7**
baz=112
DOU **Dourbes** 62.02 43 *d*P **P** **08 55 33.1 +0.3**
comp=Z,11nm,0.9s
BMRD **Maredsous** 62.14 43 *d*P **P** **08 55 34.0 +0.4**
comp=Z,17nm,0.9s
R33M **Jennings River** 62.17 328 P **P** **08 55 33.6 -0.3**
baz=100,SNR=7.4
BGES **Gesves** 62.35 42 *d*P **P** **08 55 35.3 +0.2**
comp=Z,13nm,1.1s
RCHB **Rochefort** 62.43 43 *d*P **P** **08 55 35.6 0.0**
comp=Z,20nm,1.0s
WRAK **Wrangell Islan** 62.46 324 P **P** **08 55 34.9 -0.7**
baz=97
BCLA **Clavier** 62.49 42 *d*P **P** **08 55 36.5 +0.6**
comp=Z,6.2nm,1.1s
BCLA *d*PcP **PcP** **08 56 15.0 -0.2**
BSTI **Sart Tilman** 62.67 42 *d*P **P** **08 55 37.8 +0.6**
ORIF **Oris-en-Rattie** 62.73 49 P **P** **08 55 39.7 +1.9**
ORIF pmax pmax
comp=Z,19nm,1.6s
Q32M **Nakina River** 62.77 327 P **P** **08 55 36.8 -1.1**
baz=99
CRAG **Craig** 62.78 323 P **P** **08 55 36.9 -0.8**
baz=96
U33K **Whale Pass** 62.85 324 P **P** **08 55 36.8 -1.4**
baz=96
MMPY **Sheldon Lake,** 62.91 331 P **P** **08 55 37.7 -0.9**
baz=101
BHOU **Houvegnez** 62.94 43 *d*P **P** **08 55 39.8 +0.8**
MEM **Membach** 62.95 42 *d*P **P** **08 55 39.5 +0.4**
comp=Z,22nm,1.1s
WLF **Walferdange** 63.00 43 P **P** **08 55 40.5 +1.1**
WLF pmax pmax
comp=Z,33nm,1.2s
WLF **Walferdange** 63.00 43 *d*P **P** **08 55 40.0 +0.6**
comp=Z,16nm,1.1s
WLF **Walferdange** 63.00 43 *e*P **P** **08 55 40.0 +0.6**
comp=Z,47nm,1.3s,baz=271,slow=6.5
BTNL **Ternell** 63.03 42 *d*P **P** **08 55 39.5 -0.1**
comp=Z,8.2nm,1.3s
TORD **Torodi Ar. Bea** 63.11 85 P **P** **08 55 39.4 -1.3**
TORD IAmb IAmb 08 55 41.6
comp=Z,15nm,1.0s
TORD **Torodi Ar. Bea** 63.11 85 P **P** **08 55 40.5 -0.2**
comp=Z,17nm,0.9s,baz=308,slow=6.8,SNR=62
TORD LR LR 09 22 00.0

comp=Z,142nm,18.1s,baz=320,slow=35
comp=Z,17nm,0.9s
P33M Teslin, Yukon 63.23 329 P P 08 55 40.6 -0.2
baz=99,SNR=9.8
BNI Bardonecchia 63.29 48 P P 08 55 42.0 +0.4
BNI IAmb IAmb 08 55 44.2
comp=Z,23nm,1.1s
BNI Bardonecchia 63.29 48 P P 08 55 42.0 +0.4
BNI pmax pmax
comp=Z,23nm,1.1s
RPN Rapa Nui 63.46 225 LR LR 09 19 56.6
comp=Z,39nm,20.1s,baz=58,slow=33
N32M Quiet Lake 63.50 330 P P 08 55 41.4 -1.2
baz=99
P32M Atlin 63.59 328 P P 08 55 42.5 -0.6
baz=98,SNR=6.2
ECH Echery 63.63 45 P P 08 55 42.8 -0.8
ECH Echery 63.63 45 P P 08 55 42.8 -0.8
ECH pmax pmax
comp=Z,37nm,1.1s
SENIN Lac Senin/Sane 63.72 47 P P 08 55 44.9 +0.4
SENIN IAmb IAmb 08 55 46.5
comp=Z,18nm,1.1s
BUG Bochum--Univer 63.78 41 *e*P **P 08 55 44.8 +0.3**
comp=Z,86nm,1.7s,baz=271,slow=6.5
R32K Eaglecrest 63.84 326 P P 08 55 44.6 -0.2
baz=96
IBBN Ibenburen 64.12 40 *e*P **P 08 55 47.2 +0.5**
comp=Z,44nm,1.2s,baz=271,slow=6.5
SIT Sitka 64.16 325 P P 08 55 46.1 -0.7
baz=95
M31M Drury Creek, Y 64.28 331 P P 08 55 47.5 -0.1
baz=98,SNR=16
WHY Whitehorse 64.31 329 P P 08 55 46.4 -1.5
baz=97
SKAG Skagway 64.39 328 P P 08 55 47.9 -0.4
baz=96
BFO Black Forest 64.41 45 P P 08 55 48.4 -0.4
BFO IAmb IAmb 08 55 50.0
comp=Z,17nm,1.4s
BFO Black Forest 64.41 45 P P 08 55 48.4 -0.4
BFO pmax pmax
comp=Z,17nm,1.4s
BFO Black Forest 64.41 45 *e*P **P 08 55 48.7 -0.1**
comp=Z,10nm,1.1s,baz=271,slow=6.5
KASTN Kahler Asten 64.50 42 *e*P **P 08 55 49.4 +0.1**
comp=Z,27nm,1.3s,baz=271,slow=6.5
R31K City Hall, Gus 64.50 326 P P 08 55 48.0 -1.0
baz=95
TNS Taunus Mts 64.50 43 *e*P **P 08 55 49.8 +0.5**
comp=Z,39nm,1.2s,baz=271,slow=6.5
TAM Tamanrasset 64.56 73 P P 08 55 50.8 +0.5
TAM Tamanrasset 64.56 73 P P 08 55 50.8 +0.5
TAM pmax pmax
comp=Z,62nm,0.3s
S31K Pelican 64.72 326 P P 08 55 49.6 -0.9
baz=95
H31M Peel River 64.83 335 P P 08 55 50.3 -0.9
baz=100
N31M Braeburn, Yuko 64.84 330 P P 08 55 50.7 -0.6
baz=97,SNR=8.3
F31M Tsiigehtchic 64.90 336 P P 08 55 51.0 -0.5
baz=101
O30N Mendenhall 64.91 329 P P 08 55 51.5 -0.3
baz=96
PLBC Pleasant Camp 64.92 327 P P 08 55 51.5 -0.3
baz=95
STU Stuttgart 64.99 44 P P 08 55 54.1 +1.6
STU Stuttgart 64.99 44 *e*P **P 08 55 52.4 -0.1**
comp=Z,32nm,0.8s,baz=271,slow=6.5
INK Inuvik 65.00 337 LR LR 09 23 55.3
comp=Z,119nm,19.8s,baz=64,slow=36
INK Inuvik 65.00 337 P P 08 55 51.2 -1.0
baz=102
G31M Satah River 65.00 336 P P 08 55 50.8 -1.5
baz=101
PGF Pioggiola 65.06 51 P P 08 55 53.8 +0.6
PGF pmax pmax
comp=Z,19nm,1.2s
RETH Rethem/Aller, 65.11 40 *e*P **P 08 55 53.7 +0.6**
comp=Z,44nm,1.4s,baz=271,slow=6.5
MAYO Mayo, Yukon 65.15 332 P P 08 55 52.4 -0.9
baz=98
P30M Million Dollar 65.28 328 P P 08 55 53.6 -0.6
baz=95
M30M Minto, Yukon 65.44 331 P P 08 55 54.6 -0.6
baz=96,SNR=15
N30M Aishikik Lake 65.46 330 P P 08 55 54.7 -0.7
baz=96
GTTG Gottingen 65.47 41 *e*P **P 08 55 55.8 +0.3**
comp=Z,41nm,1.7s,baz=271,slow=6.5
J30M Hart River 65.47 333 P P 08 55 54.6 -0.9
baz=98
DAVA Damuels 65.47 46 *i* P **P 08 55 56.6 +0.7**
comp=Z,50nm,1.4s,SNR=16
DAVOX Davos/Dischmat 65.49 47 LR LR 09 22 36.7
comp=Z,52nm,18.0s,baz=256,slow=34
UBBA Unterbreizbach 65.50 42 *e*P **P 08 55 56.1 +0.5**
comp=Z,21nm,1.7s,baz=271,slow=6.5
KONO Kongsberg 65.57 32 *ce*P **P 08 55 57.0 +1.0**
KONO pmax pmax
comp=Z,20nm,0.9s
I30M Mount Dempster 65.58 334 P P 08 55 55.8 -0.3
baz=98
HYT Haines Junctio 65.60 329 P P 08 55 55.4 -1.0
baz=95
P29M Windy Craggy 65.63 328 P P 08 55 55.8 -0.7
baz=94
F30M Barrier River 65.70 336 P P 08 55 56.0 -0.8
baz=100
G30M tAoh Zraii Nji 65.77 336 P P 08 55 55.7 -1.6
baz=99
EPYK Eagle Plains 65.88 335 P P 08 55 56.6 -1.4
baz=98
K29M Barlow Dome 65.90 332 P P 08 55 57.7 -0.6
baz=96,SNR=11
ASSE Asse, Remlinge 65.91 41 *e*P **P 08 55 58.9 +0.6**
comp=Z,43nm,1.1s,baz=271,slow=6.5
KEST Kesra 65.91 59 P P 08 55 59.6 +0.8
comp=Z,9.4nm,0.9s,baz=304,slow=5.6,SNR=8.6
comp=Z,9.4nm,0.9s
YUK6 Outpost Mounta 66.03 329 P P 08 55 58.2 -1.1
baz=94
FETA Feichten 66.06 46 *i* P **P 08 56 00.4 +0.7**
comp=Z,53nm,1.2s,SNR=26
RETA Reutte 66.07 46 *i* P **P 08 55 59.8 +0.2**
comp=Z,39nm,1.2s,SNR=13
O29M Mount Kennedy 66.09 328 P P 08 55 58.9 -0.7
baz=94
L29M L29M 66.10 331 P P 08 55 59.1 -0.4
baz=95,SNR=8.7
M29M Somme Creek 66.19 331 P P 08 55 59.7 -0.5
baz=95,SNR=8.0
YUK4 Talbot Arm 66.20 329 P P 08 55 59.1 -1.2
baz=94,SNR=11
FLTG Flechtingen 66.26 40 *e*P **P 08 56 00.6 0.0**
comp=Z,26nm,1.0s,baz=271,slow=6.5
J29N Klondike Camp 66.27 333 P P 08 55 59.3 -1.2
baz=96
GORT1 Trebel 66.30 40 *e*P **P 08 56 01.1 +0.4**
comp=Z,29nm,1.1s,baz=271,slow=6.5
GRF Grafenberg Arr 66.30 43 *e*P **P 08 56 00.9 0.0**
comp=Z,26nm,1.3s,baz=271,slow=6.5
GRF *e*L L 09 23 01.5
comp=Z,71nm,19.8s
MOTA Moosalm 66.31 46 *i* P **P 08 56 01.6 +0.4**
comp=Z,26nm,0.9s,SNR=15
SQTA Sankt Quirin 66.38 46 *i* P **P 08 56 02.2 +0.5**
comp=Z,22nm,0.8s,SNR=13
ZCCA Zocca 66.38 49 P P 08 56 01.7 0.0
FUR Furstenfeldbru 66.39 45 *e*P **P 08 56 01.6 +0.1**
comp=Z,14nm,0.9s,baz=271,slow=6.5
I29M Ogilvie Camp, 66.40 334 P P 08 56 00.6 -0.7
baz=96
G29M Pine Creek 66.46 336 P P 08 56 00.7 -1.0
baz=97,SNR=6.5
NB2 NORSAR Subarra 66.47 31 P P 08 56 02.4 +0.6
comp=Z,25nm,1.0s,baz=267,slow=6.5
NB2 NORSAR Subarra 66.47 31 P P 08 56 01.2 -0.6
NB2 pmax pmax
comp=Z,6.0nm,0.9s
NB2 NORSAR Subarra 66.47 31 P P 08 56 02.4 +0.6
baz=267,slow=6.5
NOA NORSAR Array B 66.47 31 P P 08 56 02.6 +0.7
comp=Z,12nm,0.9s,baz=267,slow=6.5,SNR=27
NOA LR LR 09 22 19.6
comp=Z,52nm,18.9s,baz=275,slow=34
comp=Z,12nm,0.9s

PNL Peninsula 66.47 328 P P 08 56 01.1 -0.8
baz=93
H29M Whitestone 66.52 335 P P 08 56 01.4 -0.6
baz=96,SNR=9.7
MOX Moxa 66.52 42 *e*P **P 08 56 02.3 -0.1**
comp=Z,6.6nm,1.0s,baz=271,slow=6.5
MOX *e*L L 09 23 25.2
comp=Z,69nm,18.6s
E29M Blow River 66.61 337 P P 08 56 01.3 -1.3
baz=98
NORES NORESS Array B 66.61 31 P P 08 56 04.2 +1.5
NORES pmax pmax
comp=Z,3.0nm,1.0s
NEUB Neuenburg 66.61 42 *e*P **P 08 56 03.1 +0.2**
comp=Z,28nm,0.9s,baz=271,slow=6.5
WATA Walderalm 66.63 46 *i* P **P 08 56 03.4 +0.1**
comp=Z,9.9nm,0.8s
WTTA Wattenberg 66.67 46 *i* P **P 08 56 03.8 +0.2**
comp=Z,19nm,0.9s,SNR=8.3
DAWY Dawson 66.74 332 P P 08 56 02.5 -1.1
baz=94,SNR=12
MANZ Manzenberg 66.86 43 *e*P **P 08 56 04.8 +0.3**
comp=Z,10nm,1.1s,baz=271,slow=6.5
PLN Plauen 66.87 42 *e*P **P 08 56 04.6 0.0**
comp=Z,6.4nm,1.3s,baz=271,slow=6.5
O28M Mount Upton 66.92 329 P P 08 56 04.3 -0.8
baz=92,SNR=6.5
PINM Pinnacle 66.92 328 P P 08 56 03.6 -1.2
baz=92
ROTZ Rotzenmuhle 66.93 43 *e*P **P 08 56 04.2 -0.8**
comp=Z,5.3nm,1.1s,baz=271,slow=6.5
D28M Stokes Point 67.03 338 P P 08 56 04.4 -0.8
baz=97
TANN Tannenbergstha 67.07 42 *e*P **P 08 56 06.3 +0.4**
comp=Z,16nm,1.0s,baz=271,slow=6.5
I28M Miner Creek 67.09 334 P P 08 56 04.6 -1.3
baz=93
YUK3 Moose Creek 67.09 330 P P 08 56 04.7 -1.4
baz=93
E28M Babbage River 67.23 337 P P 08 56 05.0 -1.6
baz=96,SNR=6.6
F28M Old Crow 67.26 336 P P 08 56 05.5 -1.2
baz=96,SNR=6.9
ABTA Abfaltersbach 67.30 46 *i* P **P 08 56 07.6 +0.1**
comp=Z,13nm,0.8s,SNR=7.7
BVCY Beaver Creek 67.31 331 P P 08 56 06.2 -1.0
baz=92
LESA Schwarzleotal 67.37 46 *i* P **P 08 56 07.9 0.0**
comp=Z,14nm,1.0s,SNR=8.3
CLL Collm 67.38 42 *ij* P **P 08 56 08.1 +0.3**
CLL *i* 08 56 15.8
CLL pmax pmax
comp=Z,36nm,1.4s
CLL Collm 67.38 42 *e*P **P 08 56 07.9 +0.1**
comp=Z,39nm,1.4s,baz=271,slow=6.5
CLL Collm 67.38 42 *ij* P **P 08 56 08.1 +0.3**
comp=Z,36nm,1.4s
CLL *i* x x 08 56 15.8
comp=Z,17nm,1.1s
WET Wettzell 67.40 44 *e*P **P 08 56 08.3 +0.2**
comp=Z,28nm,1.3s,baz=271,slow=6.5
RJOB Jochberg 67.43 45 *e*P **P 08 56 08.1 -0.2**
comp=Z,7.7nm,0.8s,baz=271,slow=6.5
CTG Chitna Glacier 67.48 329 P P 08 56 07.5 -0.9
baz=92,SNR=6.9
HFS Hagfors 67.66 32 P P 08 56 09.7 +0.4
comp=Z,5.4nm,0.7s,baz=258,slow=4.4,SNR=7.1
HFS LR LR 09 22 29.7
comp=Z,74nm,19.2s,baz=292,slow=33
comp=Z,5.4nm,0.7s
HSKC Hora Svate Kat 67.68 42 *e*P **P 08 56 10.3 +0.6**
MESA MESA 67.77 328 P P 08 56 09.1 -1.3
baz=91
L27K Beaver Creek, 67.78 331 P P 08 56 09.7 -0.4
baz=92,SNR=23
M27K Edge Creek, AK 67.78 330 P P 08 56 09.7 -0.6
baz=92,SNR=7.8
H27K Steamboat Moun 67.80 335 P P 08 56 09.5 -0.7
baz=94
I27K Kandik River 67.80 334 P P 08 56 09.3 -1.0
baz=93,SNR=7.3
RUE Ruedersdorf 67.81 40 *e*P **P 08 56 10.9 +0.4**
comp=Z,42nm,1.3s,baz=271,slow=6.5
D27M Malcolm River 67.81 338 P P 08 56 08.6 -1.7
baz=95
KBA Koelnbreinsper 67.85 46 *i* P **P 08 56 11.0 -0.1**
comp=Z,17nm,0.9s
KHC Kasperske Hory 67.86 44 *d* iP **P 08 56 10.9 0.0**
KHC pmax pmax
comp=Z,14nm,1.1s
KHC Kasperske Hory 67.86 44 *e*P **P 08 56 11.3 +0.4**
G27K Doyon Strip 67.88 335 P P 08 56 09.2 -1.5
baz=94,SNR=9.3
K27K Chicken 67.92 332 P P 08 56 10.3 -0.7
baz=92
E27K Coleen River 67.95 337 P P 08 56 10.3 -0.9
baz=94,SNR=7.1
GEC2 GERESS Array S 67.96 44 *e*P **P 08 56 11.5 -0.2**
comp=Z,8.3nm,0.8s,baz=271,slow=6.5
GERES GERESS Array B 67.96 44 P P 08 56 11.7 +0.1
comp=Z,4.8nm,0.7s,baz=267,slow=5.3,SNR=35
GERES LR LR 09 23 42.0
comp=Z,36nm,18.6s,baz=282,slow=34
comp=Z,4.8nm,0.7s
BRG Berggiesshubel 67.99 42 *e*P **P 08 56 13.2 +1.6**
comp=Z,18nm,1.0s,baz=271,slow=6.5
BRG Berggiesshubel 67.99 42 *ij* P **P 08 56 13.7 +2.0**
BRG Amp 08 56 14.7
comp=Z,14nm,0.8s
BRG Berggiesshubel 67.99 42 P P 08 56 21.4 +10
BRG Amp 08 56 22.1
comp=Z,9.3nm,0.8s
BIOA Bad Ischl, Aus 68.00 45 *i* P **P 08 56 11.8 -0.1**
comp=Z,27nm,1.6s,SNR=8.2
MYKA Terra Mystica 68.08 47 *i* P **P 08 56 12.3 -0.1**
comp=Z,11nm,0.9s,SNR=6.1
CADS Cadrg 68.18 47 *e*P **P 08 56 13.1 +0.1**
M26K Nabesna, AK 68.30 331 P P 08 56 12.3 -1.2
baz=91
MCARA McCarthy VSAT 68.31 329 P P 08 56 13.1 -0.3
baz=90,SNR=7.6
CRQE Cirque 68.34 329 P P 08 56 13.3 -0.5
baz=90
BSD Bornholm Skovb 68.38 37 *i* P **P 08 56 12.6 -1.4**
BSD IAmb IAmb 08 56 14.9
comp=Z,38nm,1.1s
MOA Molin 68.41 45 *i* P **P 08 56 14.3 0.0**
comp=Z,18nm,1.3s,SNR=10
I26K Coal Creek Min 68.43 334 P P 08 56 13.3 -0.8
baz=92
PRU Pruhonice 68.43 43 *e*P **P 08 56 15.5 +1.1**
PRU Pruhonice 68.43 43 *e*P **P 08 56 15.5 +1.1**
L26K Log Cabin Wild 68.47 331 P P 08 56 13.1 -1.4
baz=90,SNR=12
J26L Joseph Creek 68.58 333 P P 08 56 14.2 -1.1
baz=91,SNR=11
OBKA Obir 68.72 47 *i* P **P 08 56 16.4 0.0**
comp=Z,17nm,0.9s,SNR=8.5
G26K Porcupine Rive 68.73 335 P P 08 56 14.6 -1.3
baz=92,SNR=8.9
LJU Ljubljana 68.75 47 *i* P **P 08 56 16.9 +0.4**
SCRK Sand Creek 68.76 332 P P 08 56 15.2 -1.2
baz=90,SNR=13
C27K Jago River 68.81 338 P P 08 56 15.6 -0.9
baz=93
F26K Sheenjek River 68.89 336 P P 08 56 15.9 -1.2
baz=92
KAIM Kayak Island 69.01 328 P P 08 56 17.2 -0.7
baz=88
SOKA Soboth 69.03 46 *i* P **P 08 56 17.9 -0.5**
comp=Z,12nm,1.0s,SNR=11
N25K Chitina, Valde 69.06 330 P P 08 56 17.5 -0.8
baz=89,SNR=5.7
BMRM Bremner River 69.08 329 P P 08 56 17.8 -0.5
baz=89,SNR=7.9
TREC Trest 69.10 44 *e*P **P 08 56 19.3 +0.7**
TREC *e* 08 56 26.7
TREC Trest 69.10 44 *e*P **P 08 56 19.3 +0.7**
TREC *ex* x 08 56 26.7
RIDG Independent Ri 69.14 332 P P 08 56 18.0 -0.7
baz=90,SNR=6.7
C26K Camden Bay 69.24 339 P P 08 56 18.2 -0.8
baz=92
HARP HAARP 69.31 331 P P 08 56 18.9 -0.8
baz=89
ARSA Arzberg 69.31 46 P P 08 56 19.1 -0.9
ARSA IAmb IAmb 08 56 21.0
comp=Z,33nm,1.4s

ARSA Arzberg 69.31 46 *i* P **P 08 56 19.9 -0.1**
comp=Z,21nm,1.5s,SNR=10.0
UPC Upice 69.33 42 *e*P **P 08 56 20.7 +0.7**
UPC Upice 69.33 42 *e*P **P 08 56 20.7 +0.7**
PAOL Paolisi 69.34 52 P P 08 56 20.6 +0.2
PAOL IAmb IAmb 08 56 21.8
comp=Z,27nm,1.2s
J25K Salcha River, 69.36 333 P P 08 56 18.4 -1.6
baz=89,SNR=6.1
CRES Cresnjevec Ost 69.42 47 *i* P **P 08 56 20.9 +0.3**
PRP Porcupine Dome 69.42 334 P P 08 56 19.3 -1.2
PRP IAmb IAmb 08 56 20.8
comp=Z,13nm,1.0s
PRP Porcupine Dome 69.42 334 P P 08 56 19.1 -1.4
baz=90,SNR=14
PAX Paxson 69.44 331 P P 08 56 19.7 -0.8
PAX IAmb IAmb 08 56 21.2
comp=Z,30nm,1.7s
PAX Paxson 69.44 331 P P 08 56 19.7 -0.8
PAX pmax pmax
comp=Z,30nm,1.7s
PAX Paxson 69.44 331 P P 08 56 19.8 -0.8
baz=89,SNR=6.3
E25K Arctic Village 69.44 337 P P 08 56 19.2 -1.2
baz=90,SNR=5.1
OSTC Ostas 69.45 42 *e*P **P 08 56 21.3 +0.5**
OSTC Ostas 69.45 42 *e*P **P 08 56 21.3 +0.5**
F25K Christian Rive 69.46 336 P P 08 56 19.5 -1.1
baz=90,SNR=15
CONA Conrad Observa 69.47 45 *i* P **P 08 56 21.3 +0.2**
comp=Z,10nm,0.9s,SNR=8.6
KSP Ksiaz 69.48 42 *e*P **P 08 56 21.6 +0.7**
KSP Ksiaz 69.48 42 P P 08 56 21.7 +0.8
H25L Birch Creek 69.53 335 P P 08 56 20.5 -0.4
baz=90,SNR=7.5
DPC Dobruska-Polom 69.54 42 *e*P **P 08 56 21.7 +0.3**
DPC Dobruska-Polom 69.54 42 *e*P **P 08 56 21.7 +0.3**
K24K Donnelly Dome 69.56 332 P P 08 56 20.6 -0.7
K24K IAmb IAmb 08 56 21.8
comp=Z,16nm,0.8s
K24K Donnelly Dome 69.56 332 P P 08 56 20.5 -0.7
baz=89,SNR=6.4
SPITS Spitsbergen Ar 69.62 13 P P 08 56 21.6 +0.2
comp=Z,1.9nm,0.5s,baz=327,slow=12,SNR=5.6
SPITS LR LR 09 24 46.5
comp=Z,55nm,21.3s,baz=292,slow=34
comp=Z,1.9nm,0.5s
G25K Bearman Lake 69.64 335 P P 08 56 21.0 -0.7
baz=90,SNR=5.5
EYAK Cordova Ski Ar 69.65 329 P P 08 56 21.0 -0.8
baz=88
KLU Klutina 69.70 330 P P 08 56 21.3 -0.9
baz=88
KRUC Moravsky 69.71 44 *e*P **P 08 56 22.8 +0.4**
D25K Kavik River 69.74 338 P P 08 56 20.9 -1.4
baz=90,SNR=6.1
RONA Rosalia, Austr 69.79 45 *i* P **P 08 56 23.1 +0.2**
comp=Z,22nm,1.0s,SNR=12
VRAC Vranov 69.82 43 LR LR 09 20 52.8
comp=Z,31nm,21.7s,baz=274,slow=31
VRAC Vranov 69.82 43 *e*P **P 08 56 23.4 +0.3**
VRAC Vranov 69.82 43 ⇑P **P 08 56 23.9 +0.8**
VRAC Vranov 69.82 43 P P 08 56 23.8 +0.8
GKP Gorka Klasztor 69.85 39 *e*P **P 08 56 24.2 +1.1**
KRLC Kraliky 69.86 43 *e*P **P 08 56 24.5 +1.1**
KRLC Kraliky 69.86 43 *e*P **P 08 56 24.5 +1.1**
SOP Sopron 69.96 45 P P 08 56 25.2 +1.2
ILAR Eielson Array 70.01 333 P P 08 56 23.0 -0.9
ILAR Eielson Array 70.01 333 P P 08 56 23.1 -0.9
comp=Z,5.2nm,0.7s,baz=107,slow=4.2,SNR=80
ILAR LR LR 09 29 15.7
comp=Z,146nm,18.3s,baz=82,slow=38
comp=Z,5.2nm,0.7s
Q23K Middleton Isla 70.01 327 P P 08 56 22.7 -1.3
baz=86
HDA Harding Lake 70.05 333 P P 08 56 23.2 -1.0
baz=88,SNR=6.0
G24K Hadweenzic Riv 70.19 335 P P 08 56 24.1 -1.0
baz=88,SNR=6.2
POKR Poker Plat Res 70.23 333 P P 08 56 24.3 -1.0
baz=88
ZST Bratislava 70.27 45 *e*P **P 08 56 26.7 +0.9**
ZST pmax pmax
comp=Z,6.0nm,1.2s
ZST Bratislava 70.27 45 *e*P **P 08 56 26.7 +0.9**
GLI Glacier Island 70.30 329 P P 08 56 25.1 -0.7
baz=86
DHY Denali Highway 70.30 331 P P 08 56 24.9 -1.1
baz=87
F24K Squaw Lake 70.33 336 P P 08 56 24.9 -1.0
baz=88,SNR=5.4
SCM Sheep Creek Mo 70.35 330 P P 08 56 25.2 -1.0
baz=87
MORC Moravsky Berou 70.38 43 P P 08 56 26.0 -0.6
MORC IAmb IAmb 08 56 28.4
comp=Z,25nm,1.1s
MORC Moravsky Berou 70.38 43 *e*P **P 08 56 27.2 +0.6**
MORC Moravsky Berou 70.38 43 ⇑P **P 08 56 27.5 +0.9**
MORC Moravsky Berou 70.38 43 P P 08 56 26.0 -0.6
MORC pmax pmax
comp=Z,25nm,1.1s
H24K Noodor Dome 70.39 334 P P 08 56 25.3 -1.0
baz=88,SNR=12
COLA College 70.42 333 *de*P **P 08 56 25.4 -1.0**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 70.42 333 P P 08 56 25.5 -0.9
baz=87
CUC Castrocucco 70.43 53 P P 08 56 26.7 -0.3
CUC IAmb IAmb 08 56 28.7
comp=Z,14nm,1.0s
SMOL Smolenice 70.45 44 *e*P **P 08 56 28.0 +1.0**
SMOL pmax pmax
comp=Z,8.0nm,1.2s
WAT6 Susitna Watana 70.50 331 P P 08 56 26.2 -1.0
baz=86
STEB Steborice 70.51 43 *e*P **P 08 56 27.9 +0.6**
E24K Your Creek 70.53 337 P P 08 56 26.3 -0.9
baz=88
M23K Glacier View 70.54 330 P P 08 56 26.3 -0.9
baz=86
C24K Franklin Bluff 70.55 338 P P 08 56 26.3 -0.9
baz=88,SNR=5.2
JAVC Velka Javorina 70.57 44 *e*P **P 08 56 29.0 +1.2**
MAUC Maruska 70.61 43 *e*P **P 08 56 29.4 +1.4**
D24K Happy Valley 70.61 338 P P 08 56 26.7 -0.9
baz=88
OKC Ostrava-Krasne 70.76 43 P P 08 56 30.0 +1.2
WAT1 Susitna Watana 70.85 331 P P 08 56 27.9 -1.3
baz=86
PWL Port Wells 70.90 329 P P 08 56 28.4 -1.1
baz=85
TOLK Toolik Lake Re 70.91 337 P P 08 56 28.2 -1.2
baz=87
KNK Knik Glacier 70.92 330 P P 08 56 28.4 -1.2
baz=85
E23K Chandalar 70.96 337 P P 08 56 28.7 -1.1
baz=87
NEA2 Nenana 70.96 333 P P 08 56 28.6 -1.1
baz=86,SNR=11
MCK McKinley 70.96 332 P P 08 56 29.1 -0.7
baz=86
I23K Minto, Yukon-K 71.04 334 P P 08 56 29.0 -1.2
baz=86,SNR=9.3
H23K Yukon River 71.07 334 P P 08 56 29.3 -1.1
baz=86,SNR=8.9
SRO Srobarova 71.12 45 *e*P **P 08 56 31.7 +0.7**
SRO pmax pmax
comp=Z,18nm,0.6s
SRO Srobarova 71.12 45 *e*P **P 08 56 31.7 +0.7**
G23K Bananza Creek 71.20 335 P P 08 56 30.2 -1.0
baz=86,SNR=6.7
C23K Itkillik River 71.21 339 P P 08 56 30.4 -0.8
baz=86,SNR=5.2
PMR Palmer 71.22 330 P P 08 56 30.1 -1.2
baz=85
COLD Coldfoot 71.23 336 P P 08 56 30.8 -0.6
baz=86
D23K Nanushuk River 71.29 338 P P 08 56 30.6 -1.1
baz=86
VYHS Vyhne 71.38 44 *e*P **P 08 56 33.1 +0.5**
VYHS pmax pmax
comp=Z,13nm,1.1s
VYHS Vyhne 71.38 44 *e*P **P 08 56 33.1 +0.5**
SEW Seward 71.52 328 P P 08 56 31.6 -1.6
baz=84

RC01 **Rabbit Creek A** 71.56 329 P P 08 56 32.2 -1.3
baz=84
MORH **Mrgy, Hungar** 71.57 47 ⇑P P 08 56 34.7 +1.0
TRF **Thorofare Moun** 71.59 332 P P 08 56 32.4 -1.4
baz=84,SNR=9.6
MLY **Manley** 71.63 333 P P 08 56 32.4 -1.5
baz=85,SNR=8.6
M22K **Willow** 71.68 330 P P 08 56 33.7 -0.4
baz=84
CUT **Chulitna** 71.68 331 P P 08 56 33.2 -0.9
baz=84
LANS **Liptovska Anna** 71.70 43 *e*P P 08 56 36.5 +1.9
LANS pmax pmax
comp=Z,10.0nm,1.4s
LANS **Liptovska Anna** 71.70 43 *e*P P 08 56 36.5 +1.9
G22K **Bettles** 71.77 336 P P 08 56 33.6 -1.0
baz=85
OJC **Ojcow** 71.77 42 *e*P P 08 56 36.1 +1.2
OJC **Ojcow** 71.77 42 P P 08 56 36.0 +1.1
E22K **Anaktuvuk Pass** 71.77 337 P P 08 56 33.1 -1.6
baz=85,SNR=9.7
H22K **Ishtalitna Cre** 71.82 334 P P 08 56 33.5 -1.5
baz=84
BPAW **Bear Paw Mtn.** 71.83 333 P P 08 56 33.4 -1.6
baz=84
F22K **John River** 71.97 336 P P 08 56 34.6 -1.2
baz=84
D22K **Ayikyak River** 72.02 338 P P 08 56 35.1 -1.0
baz=84
I21K **Tanana** 72.14 334 P P 08 56 35.8 -1.1
baz=84
PSZ **Piszkesteto** 72.16 45 ⇓P P 08 56 38.3 +0.8
PSZ **Piszkesteto** 72.16 45 P P 08 56 38.2 +0.8
NIE **Niedzica** 72.21 43 *e*P P 08 56 39.4 +1.8
NIE **Niedzica** 72.21 43 P P 08 56 39.4 +1.8
ARCES **ARCESS Array B** 72.25 22 P P 08 56 37.5 +0.1
comp=Z,7.3nm,0.8s,baz=288,slow=5.0,SNR=20
ARCES LR LR 09 25 27.6
comp=Z,22nm,18.6s,baz=238,slow=33
comp=Z,7.3nm,0.8s
CAPN **Captain Cook N** 72.28 329 P P 08 56 36.7 -1.0
baz=83
SKT **Skwentna** 72.32 330 P P 08 56 37.1 -0.9
baz=83
CAST **Castle Rocks** 72.39 332 P P 08 56 37.6 -0.9
baz=83
H21K **Melozitna Rive** 72.43 334 P P 08 56 37.3 -1.3
baz=83,SNR=11
CHUM **Lake Minchumin** 72.44 332 P P 08 56 37.6 -1.0
baz=83
PPLA **Purkeypile** 72.51 331 P P 08 56 37.5 -1.8
baz=83
F21K **Alatna River** 72.51 336 P P 08 56 38.0 -1.0
baz=83
E21K **Killik River** 72.54 337 P P 08 56 37.6 -1.6
baz=83
G21K **Allakaket** 72.61 335 P P 08 56 38.6 -1.0
baz=83
B21K **Ikpikpuk River** 72.62 338 P P 08 56 38.8 -0.8
baz=83
N20K **Mount Spurr** 72.74 330 P P 08 56 39.0 -1.6
baz=82
SPCR **Spurr Chakacha** 72.74 330 P P 08 56 39.3 -1.3
baz=82
C21K **Knifeblade Rid** 72.74 338 P P 08 56 39.7 -0.6
baz=82
STHS **Stebnicka Huta** 72.82 43 *e*P P 08 56 42.1 +0.9
STHS pmax pmax
comp=Z,14nm,1.0s
STHS **Stebnicka Huta** 72.82 43 *e*P P 08 56 42.1 +0.9
SGF **Sodankyl** 72.89 24 P P 08 56 42.0 +0.7
SGF pmax pmax
comp=Z,21nm,1.1s
OUL **Oulu** 72.97 26 P P 08 56 42.3 +0.5
OUL pmax pmax
comp=Z,35nm,1.0s
A21K **Barrow** 73.05 340 P P 08 56 41.0 -1.1
baz=81
M20K **Styx River** 73.08 330 P P 08 56 40.5 -2.1
baz=82
O20K **Slope Mountain** 73.10 328 P P 08 56 41.1 -1.7
baz=82
J20K **Nowinta River** 73.20 333 P P 08 56 41.1 -2.1
baz=81
Q20K **Shuyak Island** 73.21 327 P P 08 56 42.2 -1.1
baz=81
I20K **Naaghedeneel** 73.25 333 P P 08 56 42.2 -1.2
baz=81
SUW **Suwalki** 73.27 38 *e*P P 08 56 43.9 +0.1
K20K **Telida** 73.29 332 P P 08 56 42.4 -1.3
baz=81
H20K **Anotleneega Mo** 73.31 334 P P 08 56 42.5 -1.3
baz=81
L20K **Farewell, AK** 73.34 331 P P 08 56 43.2 -0.9
baz=81
E20K **Nigu River** 73.38 337 P P 08 56 43.1 -1.2
baz=81
F20K **Avaraaart Lake** 73.40 336 P P 08 56 43.1 -1.2
baz=81
B20K **Meade River** 73.44 339 P P 08 56 43.4 -1.0
baz=80
KDAK **Kodiak Island** 73.44 326 LR LR 09 29 07.2
comp=Z,113nm,19.6s,baz=66,slow=36
D20K **Etivluk River** 73.46 338 P P 08 56 43.4 -1.3
baz=80
P19K **Oil Pt** 73.47 328 P P 08 56 43.5 -1.4
baz=81
KOLS **Kolonicke sedl** 73.56 43 *e*P P 08 56 47.0 +1.4
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS **Kolonicke sedl** 73.56 43 *e*P P 08 56 47.0 +1.4
FINES **FINESS Array B** 73.61 30 P P 08 56 45.5 -0.1
FINES **FINESS Array B** 73.61 30 P P 08 56 46.2 +0.6
comp=Z,18nm,0.8s,baz=298,slow=4.1,SNR=41
FINES LR LR 09 23 34.5
comp=Z,52nm,21.9s,baz=257,slow=31
comp=Z,18nm,0.8s
FINES **FINESS Array B** 73.61 30 P P 08 56 45.5 -0.1
SIRR **Siria** 73.62 46 ⇑P P 08 56 47.0 +0.9
M19K **Big River Lodg** 73.67 330 P P 08 56 44.5 -1.5
baz=80
BZS **Buzias** 73.71 47 ⇑P P 08 56 47.9 +1.3
BZS **Buzias** 73.71 47 P P 08 56 47.9 +1.3
Q19K **Cape Douglas,** 73.80 327 P P 08 56 45.0 -1.9
baz=80
EDA **Edea** 73.81 92 P P 08 56 47.9 +0.2
EDA IAmb IAmb 08 56 50.0
comp=Z,27nm,1.0s
L19K **White Mountain** 73.83 331 P P 08 56 45.6 -1.4
baz=80
J19K **Poorman** 73.87 333 P P 08 56 45.2 -1.9
baz=80
N19K **Bonanza Creek** 73.89 329 P P 08 56 45.9 -1.6
baz=80
E19K **Redstone River** 73.91 336 P P 08 56 45.7 -1.6
baz=80
O19K **Port Alsworth** 73.92 329 P P 08 56 45.7 -1.8
baz=80
MDVR **Moldovita** 73.94 48 ⇑P P 08 56 48.8 +0.9
H19K **Roundabout Mou** 73.94 334 P P 08 56 46.4 -1.1
H19K **Roundabout Mou** 73.94 334 P P 08 56 46.0 -1.5
baz=80
SURR **Surduc** 74.04 47 ⇑P P 08 56 49.6 +1.2
D19K **Kuna River** 74.04 338 P P 08 56 46.5 -1.6
baz=79
G19K **Purcell Mounta** 74.09 335 P P 08 56 47.1 -1.3
baz=79
BOVS **Bovan** 74.15 49 ⇑P P 08 56 50.2 +1.1
F19K **Shaleruckik Mo** 74.23 336 P P 08 56 47.8 -1.3
baz=79
DRGR 74.24 45 ⇑P P 08 56 50.5 +0.8
DRGR 74.24 45 P P 08 56 50.3 +0.6
GCSA **Galena City Sc** 74.27 334 P P 08 56 47.9 -1.5
baz=79
HERR **Herculane** 74.41 47 ⇓P P 08 56 51.4 +0.8
M18K **Stony River** 74.41 330 P P 08 56 48.5 -1.8
baz=79
J18K **Innoko River** 74.44 332 P P 08 56 49.1 -1.4
baz=79
C19K **Lookout Ridge** 74.44 338 P P 08 56 48.9 -1.5
baz=78
VSU **Vasula** 74.46 33 *de*P P 08 56 49.6 -1.0
VSU pmax pmax
comp=Z,68nm,1.3s
SII **Sitkinak Islan** 74.51 325 P P 08 56 49.5 -1.5
baz=79
P18K **Big Mountain,** 74.52 328 P P 08 56 48.4 -2.7
baz=79
MARR **Marisel-Cluj** 74.54 46 ⇑P P 08 56 52.5 +1.0
Q18K **Katmai Hardscr** 74.55 327 P P 08 56 49.5 -1.9
baz=79
GZR **Gura Zlata** 74.56 47 ⇑P P 08 56 52.7 +1.1
GZR **Gura Zlata** 74.56 47 P P 08 56 52.3 +0.7
BMR **Baia Mare** 74.60 44 P P 08 56 53.4 +1.7
N18K **Kilae Creek** 74.60 329 P P 08 56 49.1 -2.4
baz=79
L18K **Granite Mounta** 74.67 331 P P 08 56 49.9 -1.9
baz=79
A19K **Wainwright** 74.71 339 P P 08 56 49.8 -2.1
baz=77
G18K **Tagagawik** 74.77 335 P P 08 56 50.7 -1.6
baz=78
H18K **Honhosa River** 74.81 334 P P 08 56 51.6 -1.0
baz=78
CJR **Cluj-Napoca** 74.86 45 P P 08 56 55.5 +2.2
F18K **Selawik** 75.01 336 P P 08 56 52.8 -0.9
baz=77
Q17K **Contact Creek** 75.08 327 P P 08 56 53.0 -1.4
baz=78
C18K **Utukok River** 75.11 338 P P 08 56 53.6 -0.8
baz=76
B18K **Kokolik River** 75.15 339 P P 08 56 53.0 -1.5
baz=76
P17K **Kvichak River** 75.17 328 P P 08 56 53.1 -1.6
baz=78
E18K **Tukpahlearik C** 75.19 337 P P 08 56 53.2 -1.5
baz=76
M17K **Holitna River** 75.19 330 P P 08 56 53.3 -1.6
baz=78
N17K **Nushagak Hills** 75.25 329 P P 08 56 54.2 -1.0
baz=78
K17K **Iditarod** 75.30 332 P P 08 56 54.2 -1.2
baz=77
O17K **Koliganek Bris** 75.37 329 P P 08 56 54.8 -1.1
baz=78
Q16K **King Salmon** 75.39 327 P P 08 56 55.0 -1.0
baz=78
L17K **Donlin** 75.43 331 P P 08 56 54.7 -1.5
baz=77
CHIR **Chirikof Islan** 75.44 324 P P 08 56 54.7 -1.6
baz=78
R17L **Mt. Peulik Vol** 75.45 326 P P 08 56 55.4 -1.1
baz=78
APA **Apatity** 75.46 23 *e*P P 08 56 54.8 -1.5
APA *e*S S 09 06 43.9 +7.5
APA MLR MLR
comp=Z,210nm,3.5s
J17K **VABM Dome** 75.49 332 P P 08 56 55.0 -1.6
baz=77
H17K **Granite Mounta** 75.50 334 P P 08 56 55.6 -1.0
baz=76
G17K **Kiwalik Mounta** 75.66 335 P P 08 56 56.0 -1.5
baz=76
F17K **Baldwin Pennin** 75.67 336 P P 08 56 56.1 -1.4
baz=76
E17K **Hotham Inlet** 75.73 336 P P 08 56 56.5 -1.4
baz=75
BURAR **Bucovina Array** 75.75 44 P P 08 56 58.7 +0.3
BURAR IAmb IAmb 08 57 01.3
comp=Z,21nm,1.1s
BURAR **Bucovina Array** 75.75 44 P P 08 57 00.0 +1.5
ARR **Arges** 75.84 47 ⇑P P 08 56 60.0 +1.0
C17K **DeLong Mountai** 75.86 338 P P 08 56 57.7 -1.0
baz=74
RDOG **Red Dog Mine** 75.88 337 P P 08 56 58.0 -0.7
baz=75
MNK **Minsk** 75.89 37 *i* P P 08 56 57.9 -1.1
MNK *i* 08 57 10.0
MNK *i* 08 59 47.9
MNK *i* PPP PPP 09 01 34.2
MNK *i* S S 09 06 41.4 -0.2
MNK *i* 09 07 12.2
MNK *i* SS SS 09 11 34.7 +1.4
MNK *i* SSS SSS 09 14 57.6
MNK pmax pmax
comp=N,73nm,0.8s
MNK pmax pmax
comp=E,43nm,0.8s
MNK pmax pmax
comp=Z,59nm,0.9s
MNK MLR MLR
comp=E,2μm,18.0s
MNK MLR MLR
comp=Z,191nm,18.0s
MNK MLR MLR
comp=N,7μm,20.0s
O16K **Kokwok River B** 75.91 328 P P 08 56 57.5 -1.5
baz=77
P16K **Nushagak River** 75.98 328 P P 08 56 58.4 -1.0
baz=77
M16K **Timber Creek** 75.99 330 P P 08 56 58.8 -0.7
baz=76
N16K **Nishlik Lake** 76.03 329 P P 08 56 58.6 -1.1
baz=76
D17K **Noatak River** 76.04 337 P P 08 56 59.0 -0.6
baz=74
L16K **Owhat River** 76.07 331 P P 08 56 58.5 -1.3
baz=76
I17K **Unalakleet** 76.08 333 P P 08 56 58.1 -1.7
baz=76
R16K **Pilot Point** 76.11 326 P P 08 56 59.2 -0.9
baz=77
J16K **Anvik River** 76.19 332 P P 08 56 59.8 -0.8
baz=76
DOPR **Dopca** 76.23 46 ⇓P P 08 57 02.5 +1.4
G16K **Koyuk River** 76.38 335 P P 08 57 00.5 -1.1
baz=74
OZUR 76.47 46 ⇑P P 08 57 03.3 +0.7
H16K **Elim** 76.53 334 P P 08 57 01.4 -1.1
baz=74
TURR **Turia** 76.63 46 ⇓P P 08 57 04.6 +1.1
C16K **Lisburne Hills** 76.69 338 P P 08 57 01.8 -1.5
baz=72
MLR **Muntele Rosu** 76.71 46 P P 08 57 04.1 +0.1
MLR **Muntele Rosu** 76.71 46 ⇑P P 08 57 05.9 +1.9
MLR **Muntele Rosu** 76.71 46 P P 08 57 04.1 +0.1
MLR pmax pmax
comp=Z,78nm,1.3s
N15K **Kwethluk River** 76.74 329 P P 08 57 02.6 -1.2
baz=75
COVR **Voineasa-Covas** 76.81 46 ⇑P P 08 57 05.9 +1.4
ONER **Baraj Valea Uz** 76.82 45 ⇓P P 08 57 05.6 +1.1
K15K **Wolf Creek Mou** 76.86 332 P P 08 57 03.1 -1.3
baz=74
M15K **Kasigluk River** 76.89 330 P P 08 57 03.6 -0.9
baz=75
TESR **Tescani** 76.95 45 ⇑P P 08 57 06.3 +1.1
L15K **Ungalak Mounta** 77.00 331 P P 08 57 04.1 -1.0
baz=74
VRI **Vrincioaia** 77.16 46 ⇑P P 08 57 07.6 +1.2
VRI **Vrincioaia** 77.16 46 P P 08 57 07.5 +1.2
G15K **Niukluk** 77.17 335 P P 08 57 04.9 -1.1
baz=73
F15K **North Star Dit** 77.20 335 P P 08 57 04.8 -1.5
baz=72
BISRR **Bisoca** 77.22 46 ⇑P P 08 57 08.1 +1.3
ELND **Elena** 77.27 49 ⇑P P 08 57 08.5 +1.4
M14K **Bethel** 77.48 330 P P 08 57 06.7 -1.1
baz=74
O14K **Tigyukauivet M** 77.56 329 P P 08 57 07.1 -1.2
baz=74
KIEV **Kiev** 77.58 41 ⇑P P 08 57 09.1 +0.6
KIEV **Kiev** 77.58 41 P P 08 57 09.1 +0.6
AKASG **Malin Array Be** 77.58 41 P P 08 57 08.7 0.0
comp=Z,31nm,1.3s,baz=279,slow=4.7,SNR=30
AKASG LR LR 09 30 31.2
comp=Z,73nm,18.6s,baz=242,slow=35
comp=Z,31nm,1.3s
AKASG **Malin Array Be** 77.58 41 *ce*P P 08 57 08.6 0.0
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKBB **Malin Array Si** 77.58 41 *de*P P 08 57 08.6 0.0
J14K **Nanvaranak Lak** 77.63 332 P P 08 57 08.0 -0.6
baz=73
L14K **Kuka Creek** 77.65 331 P P 08 57 08.1 -0.7
baz=73
LOZB **Loznitsa** 77.67 48 ⇑P P 08 57 10.4 +1.1
SORM **Soroca** 77.68 43 ⇑P P 08 57 09.4 +0.2
SORM **Soroca** 77.68 43 P P 08 57 09.4 +0.2
ANM **Nome** 77.85 334 P P 08 57 08.8 -1.0
baz=72
F14K **Arctic Creek** 77.94 335 P P 08 57 09.8 -0.5
baz=71
SDPT **Sand Point** 78.23 325 P P 08 57 11.0 -1.1
baz=74
M13K **Dall Lake** 78.23 330 P P 08 57 11.2 -0.8
baz=72
CFR **Carcaliu** 78.29 46 ⇑P P 08 57 13.3 +0.7
CFR **Carcaliu** 78.29 46 P P 08 57 13.3 +0.7
MILM **Milestii Mici** 78.29 44 *e*P P 08 57 11.0 -1.6
comp=Z,70nm,1.3s
MILM **Milestii Mici** 78.29 44 *e*P P 08 57 11.0 -1.6
MILM pmax pmax
comp=Z,70nm,1.3s
K13K **Kusilvak Mount** 78.37 332 P P 08 57 11.9 -0.8
baz=72
TNA **Tin City** 78.54 336 P P 08 57 12.4 -1.2
baz=70
KLMR **Klimovskoe** 80.04 29 *e*P P 08 57 20.6 -1.3
KLMR *e* 08 57 27.3
KLMR pmax pmax
comp=Z,44nm,1.2s
OBN **Obninsk** 80.55 35 P P 08 57 25.2 +0.5
OBN **Obninsk** 80.55 35 *de*P P 08 57 25.3 +0.5
OBN *e**PP sP 08 57 28.8 +1.2
OBN *e**SP PcP 08 57 32.6 +1.0
OBN *e*PPP PPP 09 02 18.0
OBN pmax pmax
comp=Z,122nm,1.7s
OBN MLR MLR
comp=Z,34nm,15.0s
GAMB **Gambell** 80.72 335 P P 08 57 24.2 -1.3
baz=66
MOS **Moscow** 80.90 34 *e*P P 08 57 24.8 -1.8
MOS pmax pmax
comp=Z,50nm,1.1s
SAHE **Sakarya_HENDEK** 81.41 50 ⇓P P 08 57 30.8 +1.1
UNV **Unalaska Valle** 82.03 324 P P 08 57 31.8 -0.9
baz=69
ESPZ **Base Esperanza** 82.25 177 P P 08 57 33.7 +0.4
LPSR **Galich'ya Gora** 82.74 37 *e*P P 08 57 35.7 -0.7
LPSR pmax pmax
comp=Z,40nm,0.9s
ANTO **Ankara** 83.13 50 P P 08 57 39.1 +0.3
ANTO **Ankara** 83.13 50 P P 08 57 39.1 +0.3
ANTO pmax pmax
comp=Z,53nm,1.5s
VORR **Voronezh** 83.25 38 *e*P P 08 57 38.3 -0.7
VORR pmax pmax
comp=Z,30nm,1.1s
VSR **Storozhevoye** 83.39 38 *e*P P 08 57 38.3 -1.5
VSR pmax pmax
comp=Z,10.0nm,1.0s
PMSA **Palmer Station** 83.45 180 LR LR 09 34 24.8
comp=Z,20nm,21.6s,baz=2.0,slow=35
VORD **Divnogorie** 83.56 38 *e*P P 08 57 40.0 -0.7
VORD pmax pmax
comp=Z,20nm,1.0s
BR131 **Keskin Array S** 83.79 50 *de*P P 08 57 42.6 +0.3
BRTR **Keskin Array B** 83.79 50 P P 08 57 42.2 -0.1
BRTR **Keskin Array B** 83.79 50 P P 08 57 42.8 +0.4
comp=Z,6.5nm,1.0s,baz=270,slow=3.7,SNR=23
comp=Z,6.5nm,1.0s
VRH **Novokhopyorsk** 84.88 37 *e*P P 08 57 46.3 -1.1
VRH pmax pmax
comp=Z,40nm,1.0s
POHA **Pohakuloa** 85.14 289 *e*S SKSac 09 08 16.8 +1.4
comp=Z,2.0nm,27.0s
POHA *e*SS SS 09 13 53.5 -0.2
comp=Z,2.1nm,30.0s
POHA **Pohakuloa** 85.14 289 *e*LR LR 09 24 36.1
comp=Z,4.4nm,25.0s
KIRV **Kirov** 85.54 29 *de*P P 08 57 50.4 -0.1
BILL **Bilibino** 85.90 343 ⇑*e*P P 08 57 52.2 0.0
BILL pmax pmax
comp=Z,4.0nm,0.8s
MMAI **Mount Meron Ar** 87.43 56 P P 08 58 00.6 +0.1
comp=Z,3.3nm,0.8s,baz=292,slow=12,SNR=2.6
comp=Z,3.3nm,0.8s
BELG **Belogornoye** 87.65 35 *ce*P P 08 58 01.5 +0.5
BELG pmax pmax
comp=Z,6.0nm,1.0s
KIV **Kislovodsk** 88.47 44 *e*P P 08 58 04.4 -0.8
KIV pmax pmax
comp=Z,13nm,1.0s
SHA1 **Shidzhatmaz** 88.54 44 ⇑*e*P P 08 58 04.1 -1.7
KBZ **Khabaz** 88.70 44 P P 08 58 07.8 +1.7
comp=Z,4.4nm,0.9s,baz=311,slow=4.2,SNR=4.6
comp=Z,4.4nm,0.9s
KBZ **Khabaz** 88.70 44 *de*P P 08 58 07.6 +1.4
KBZ pmax pmax
comp=Z,6.0nm,1.0s
TIXI **Tiksi** 89.21 356 LR LR 09 38 16.6
comp=Z,97nm,20.1s,baz=33,slow=36
ARTI **Arti** 90.80 28 LR LR 09 37 34.5
comp=Z,25nm,19.2s,baz=5.5,slow=35
ARTI **Arti** 90.80 28 *di*P P 08 58 16.2 +0.5
ARTI 09 01 51.0
ARTI S SKSac 09 08 47.2 -0.5
ARTI pmax pmax
comp=Z,15nm,1.7s
PPT **Papeete** 91.54 252 LR LR 09 34 25.3
comp=Z,47nm,18.3s,baz=33,slow=32
PPT2 **Papeete2** 91.55 252 *e*LR LR 09 27 35.1
comp=Z,86nm,27.5s
PPT2 *e*LR LR 09 27 35.9
comp=Z,112nm,27.8s
XMAS **Kiritimati** 92.59 273 *e*LR LR 09 28 11.5
comp=Z,4.9nm,24.0s
SHEM **Shemya Is, Ala** 92.75 329 LR LR 09 42 57.2
comp=Z,56nm,18.0s,baz=20,slow=37
TBI **Tubuai** 93.33 247 *e*LR LR 09 28 22.8
comp=Z,1μm,31.0s
TBI *e*LR LR 09 28 26.3
comp=Z,620nm,37.0s
SEY **Seymchan** 93.53 344 LR LR 09 41 16.1
comp=Z,97nm,20.4s,baz=16,slow=36
SEY **Seymchan** 93.53 344 *e*P P 08 58 27.4 -0.8
SEY pmax pmax
comp=Z,7.0nm,1.2s
AKTO **Aktyubinsk** 94.19 33 LR LR 09 39 25.0
comp=Z,42nm,18.6s,baz=40,slow=35
ABKAR **Akbulak array** 95.89 33 P P 08 58 39.0 -0.4
MA2 **Magadan** 96.77 343 LR LR 09 44 13.9
comp=Z,94nm,20.0s,baz=58,slow=37
LSZ **Lusaka** 96.87 104 LR LR 09 36 17.0
comp=Z,53nm,19.4s,baz=318,slow=32
VNA1 **Neumayer--Stat** 97.28 164 ⇑P Pdif 08 58 46.0 +1.0
comp=Z,14nm,1.0s
VNA3 **Neumayer Olymp** 97.28 165 ⇑P Pdif 08 58 45.6 +0.5
comp=Z,8.2nm,0.8s
LBTB **Lobatse** 97.46 114 LR LR 09 34 29.9
comp=Z,34nm,20.0s,baz=285,slow=30
VNA2 **Neumayer--Watz** 97.67 164 ⇑P Pdif 08 58 47.2 +0.4
comp=Z,3.9nm,0.8s,baz=305,slow=4.3
BVAR **Borovoye Array** 98.22 26 P Pdif 08 58 50.2 +0.4
comp=Z,1.0nm,0.8s,baz=318,slow=2.0,SNR=7.5
comp=Z,1.0nm,0.8s
BOSA **Boshof** 98.23 117 LR LR 09 33 29.3
comp=Z,28nm,19.6s,baz=18,slow=30
FURI **Furi** 98.97 77 LR LR 09 42 08.2
comp=Z,46nm,20.5s,baz=312,slow=34
SNAA **Sanae** 99.31 164 ⇑P **Pdif** 08 58 54.6 +0.4
comp=Z,119nm,0.9s
SNAA **Sanae** 99.31 164 P **Pdif** 08 58 53.8 -0.3
SNAA IAmb IAmb 08 58 55.5
comp=Z,6.6nm,0.9s
SNAA **Sanae** 99.31 164 P **Pdif** 08 58 54.3 +0.2
comp=Z,5.7nm,0.9s,baz=301,slow=4.7,SNR=21
SNAA LR LR 09 42 11.1
comp=Z,62nm,21.7s,baz=303,slow=34
comp=Z,5.7nm,0.9s
SNAA **Sanae** 99.31 164 P **Pdif** 08 58 53.8 -0.3
SNAA pmax pmax
comp=Z,7.0nm,0.9s
PETK **Petropavlovsk-** 99.70 336 LR LR 09 46 28.7
comp=Z,89nm,19.8s,baz=35,slow=37
TROLL **Troll, Antarti** 100.93 163 ⇑P **Pdif** 08 59 02.1 +0.7
comp=Z,125nm,0.9s
RAR **Rarotonga** 101.81 252 *e*LR LR 09 32 31.4
comp=Z,46nm,25.0s
MKAR **Makanchi Array** 107.86 24 PKKPbc PKKPbc 09 14 52.1 -2.4
comp=Z,0.7nm,0.8s,baz=119,slow=7.1,SNR=5.5
MKAR PKKPab **PKKPdf** 09 15 06.2 -0.9
comp=Z,1.3nm,0.8s,baz=133,slow=5.3,SNR=7.9
SONM **Songino Array** 112.98 7 PKKPab PKKPab 09 14 43.6 -3.7
comp=Z,1.9nm,0.8s,baz=165,slow=4.6,SNR=7.6
HHC **Hu-ho-hao-te** 120.38 4 *e*P **PKPdf** 09 04 00.5 -3.9
BTO **Baotou** 120.50 5 *e*PKP **PKPdf** 09 04 00.5 -4.2
BTO PP **PP** 09 05 32.5 +2.6

BTO	**Baotou**	**120.50**	**5**	SS	SS	09 22 03.8	+5.4		
BTO	comp=Z,14nm,0.6s			pmax	pmax				
BTO	comp=N,210nm,5.0s			LR	LR				
BTO	comp=E,120nm,5.3s			LR	LR				
BTO	comp=Z,130nm,5.5s			LR	LR				
MAW	**Mawson**	**121.05**	**159**	PKP	**PKPdf**	**09 04 04.7**	**+0.2**		
	comp=Z,1.8nm,0.8s,baz=214,slow=3.6,SNR=4.7								
KSRS	**Korea Array**	**122.79**	**349**	PKP	**PKPdf**	**09 04 08.9**	**-0.1**		
	comp=Z,1.3nm,0.9s,baz=60,slow=2.9,SNR=3.8								
NJ2	**Nanjing**	**129.22**	**357**	*e*P	**PKiKP**	**09 04 22.8**	**+0.7**		
NJ2	comp=Z,12nm,0.5s			pmax	pmax				
CASY	**Casey**	**132.55**	**177**	*e*SS	SS	09 24 39.5	+10		
	comp=Z,46nm,32.0s								
CASY	**Casey**	**132.55**	**177**	*e*LR	LR	09 46 45.8			
	comp=Z,125nm,22.0s								
PZH	**PanZhiHua**	**132.76**	**17**	PKP	**PKPdf**	**09 04 28.5**	**0.0**		
GYA	**Guiyang**	**133.97**	**12**	PKP	**PKPdf**	**09 04 30.8**	**0.0**		
GYA				PP	**PP**	**09 07 06.5**	**+7.4**		
GYA	comp=Z,210nm,4.6s			AMB	AMB				
CMAR	**Chiang Mai Arr**	**139.24**	**25**	PKP	**PKPdf**	**09 04 40.7**	**+0.2**		
	comp=Z,0.9nm,0.5s,baz=308,slow=3.0,SNR=5.7								
STKA	**Stephens Creek**	**153.60**	**236**	PKPbc	**PKPbc**	**09 05 11.4**	**-0.5**		
	comp=Z,8.3nm,1.0s,baz=29,slow=4.3,SNR=8.2								
STKA	**Stephens Creek**	**153.60**	**236**	*e*PKIKP	**PKPbc**	**09 05 12.0**	**+0.1**		
ASAR	**Alice Springs**	**162.66**	**251**	PKP	**PKPdf**	**09 05 14.7**	**-0.7**		
	comp=Z,4.4nm,0.9s,baz=102,slow=1.0,SNR=32								
ASAR				PKPab	**PKPab**	**09 06 03.5**	**-0.4**		
	comp=Z,3.5nm,0.9s,baz=111,slow=4.5,SNR=12								
WRA	**Warramunga Arr**	**162.66**	**264**	PKP	**PKPdf**	**09 05 14.7**	**-0.8**		
	comp=Z,7.7nm,0.9s,baz=56,slow=0.9,SNR=51								
WRA				PKPab	**PKPab**	**09 06 03.8**	**-0.2**		
	comp=Z,6.4nm,0.8s,baz=85,slow=4.0,SNR=15								

NIED ***31*** *08:45:17.3,28˚.56N×129˚.63E,h19km, MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-7.03; Mθθ 0.54; Mφφ 6.50; Mrθ 0.45; Mθφ 0.11; Mφr-0.23; Fault plane solution: M₀6.79000×10¹⁴ NP1: φs184.00000°,δ44.00000°,λ-85.00000°. NP2: φs358.00000°,δ46.00000°,λ-95.00000°.*
JMA ***31*** *08:45:17.3±0.1,28˚.6N±0˚.7×129˚.6E±0˚.5,h19km±1km, MV3.6/20,NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.
IDC ***31*** *08:45:20.7±1.6,28˚.56N×129˚.56E,h56km±15km,mb3.2/6, mbtmp3.5/9,MS2.3/1,Error ellipse: s-maj=33.4km s-min=9.0km az=111.0*

ISC 31 08:45:16.4±1.1,28˚.58N±0˚.04×129˚.60E±0˚.05,h17km±8km, n28,σ1§26/34,mb3.3/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.17**	**179**	*i* P	**Pb**	**08 45 21.4**	**+0.2**
JAM				S	**Sg**	**08 45 24.4**	**+0.7**
JZK	**Kikaishima**	**0.42**	**129**	*e*P	**Pb**	**08 45 25.0**	**-0.4**
JZK				*e*S	**Sb**	**08 45 31.4**	**-0.1**
JAMN	**Amaminishikomi**	**0.50**	**228**	P	**Pb**	**08 45 27.5**	**+0.6**
JAMN				S	**Sb**	**08 45 34.8**	**+0.9**
JTAJ	**Takarajima**	**0.67**	**329**	*e*P	**Pn**	**08 45 31.1**	**0.0**
JTAJ				*e*S	**Sn**	**08 45 41.2**	**-0.1**
JTK	**Tokunoshima**	**0.98**	**216**	P	**Pg**	**08 45 34.3**	**-1.1**
JTK				*e*S	**Sb**	**08 45 48.0**	**+0.4**
JNN	**Nakanoshima**	**1.28**	**11**	*e*P	**Pn**	**08 45 32.2**	**-0.3**
JNN				*e*S	**Sn**	**08 45 56.5**	**+0.2**
JOKE	**Okinoerabujima**	**1.52**	**217**	*e*P	**Pn**	**08 45 43.3**	**+0.5**
JOKE				*e*S	**Sn**	**08 46 03.0**	**+0.7**
JYAK	**Yakushimahirau**	**1.83**	**25**	*e*P	**Pb**	**08 45 48.8**	**-0.7**
JYRO	**Yoronjima**	**1.85**	**214**	*e*P	**Pn**	**08 45 48.3**	**+0.8**
JOW	**Kunigami**	**2.10**	**214**	P	**Pn**	**08 45 52.1**	**+1.2**
JOW	155nm,0.3s,baz=76,slow=18,SNR=68			LR	LR	08 46 17.1	
JOW	comp=Z,64nm,19.1s,baz=86,slow=27			S	**Sn**	**08 46 18.3**	**+1.6**
	145nm,0.4s,baz=110,slow=30,SNR=11						
JOW	**Kunigami**	**2.10**	**214**	*e*P	**Pn**	**08 45 51.9**	**+1.0**
JIH	**Iheya**	**2.11**	**224**	*e*P	**Pn**	**08 45 51.3**	**+0.3**
JMTN	**Minamitane**	**2.14**	**32**	*e*P	**Pn**	**08 45 52.7**	**+1.3**
JTN	**Tanegashima 3**	**2.39**	**30**	*e*P	**Pn**	**08 45 56.4**	**+1.5**
JNTH	**Nagotoyohara**	**2.49**	**215**	*e*P	**Pn**	**08 45 57.6**	**+1.5**
JAGN	**Aguni-jima**	**2.88**	**227**	*e*P	**Pn**	**08 46 02.6**	**+1.0**
JKE	**Kume jima 2**	**3.36**	**229**	*e*P	**Pn**	**08 46 09.4**	**+1.2**
JNU	**Nakatsue**	**4.66**	**13**	P	**Pn**	**08 46 28.6**	**+2.5**
JNU	19nm,0.9s,baz=169,slow=5.3,SNR=14			S	**Sn**	**08 47 22.7**	**+2.9**
	7.7nm,0.7s,baz=241,slow=19,SNR=3.9						
KSRS	**Korea Array**	**8.96**	**351**	P	**Pn**	**08 47 28.2**	**+3.2**
	1.0nm,0.7s,baz=169,slow=15,SNR=4.3						
SONM	**Songino Array**	**26.32**	**323**	P	**P**	**08 50 51.8**	**+0.4**
	0.2nm,0.4s,baz=131,slow=6.5,SNR=1.4						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.04**	**96**	T	T	09 29 00.6	
	baz=288,slow=74						
H11N1	**WAKE ISLAND Hy**	**35.04**	**96**	T	T	09 29 01.7	
	baz=288						
H11N3	**WAKE ISLAND Hy**	**35.05**	**96**	T	T	09 29 02.5	
	baz=288,slow=74						
MKAR	**Makanchi Array**	**40.93**	**310**	P	**P**	**08 52 56.8**	**-1.2**
	0.2nm,0.5s,baz=93,slow=15,SNR=1.9						
	0.2nm,0.5s						
WRA	**Warramunga Array**	**48.45**	**174**	P	**P**	**08 53 57.2**	**-0.9**
	0.2nm,0.8s,baz=349,slow=7.5,SNR=1.2						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**49.37**	**317**	P	**P**	**08 54 03.9**	**-1.1**
	0.7nm,0.5s,baz=92,slow=4.8,SNR=3.2						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**61.80**	**29**	P	**P**	**08 55 34.0**	**0.0**
	0.2nm,0.6s,baz=277,slow=7.0,SNR=2.7						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**71.42**	**330**	P	**P**	**08 56 34.9**	**-0.6**
	1.0nm,0.7s,baz=60,slow=4.6,SNR=4.3						
	1.0nm,0.7s						

GCG 31 08:57:17.3±1.1,13˚.60N×91˚.34W,h28km±7km,MD3.9, ML3.2,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.93**	**32**	*i* P	Pn	08 57 34.4	-0.1
ESSG				*i* S	Sn	08 57 47.9	+1.0
NUBE	**Las Nubes**	**1.55**	**79**	*i* P	Pn	08 57 43.1	-0.1
NUBE				*i* S	Sn	08 58 02.7	+0.4
JAYA	**Jayaque - finc**	**1.84**	**88**	*i* S	Sn	08 58 11.3	+1.7

SGS ***31*** *09:01:48.7,26˚.67N×34˚.88E,h17km,Ml2.5*
HLW ***31*** *09:01:50.5,26˚.71N×34˚.95E,h23km±4km,Ml2.5*

ISC 31 09:01:47.5±1.2,26.73N±0˚.04×34.99E±0˚.05,h10km,n35, σ0§72/36,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWLHS	**Almuwaylih**	**1.12**	**25**	P	**Pb**	**09 02 08.6**	**-0.4**
HHRG	**Al Ghardaqah**	**1.36**	**291**	P	**Pn**	**09 02 12.2**	**-0.4**
KRABS	**KRABS**	**1.39**	**10**	P	**Pn**	**09 02 12.2**	**-0.7**
NADB	**Abo Dabab**	**1.45**	**198**	P	**Pn**	**09 02 14.1**	**+0.3**
NADB				S	**Sn**	**09 02 31.7**	**-1.1**
AYUS	**`Aynunah**	**1.48**	**10**	P	**Pn**	**09 02 13.7**	**-0.4**
TR1	**Tor 1**	**1.57**	**324**	P	**Pn**	**09 02 16.0**	**+0.5**
WTBKS	**WTBKS**	**1.58**	**31**	P	**Pn**	**09 02 15.7**	**0.0**
BDAS	**Al Bad`**	**1.70**	**3**	P	**Pn**	**09 02 17.2**	**-0.1**
URD07	**Al Anba**	**1.73**	**56**	P	**Pn**	**09 02 18.1**	**+0.4**
URD06	**Shuwaq**	**1.73**	**65**	P	**Pn**	**09 02 18.0**	**+0.1**
BIDS	**Bi'r al Bayda'**	**1.76**	**85**	P	**Pn**	**09 02 17.8**	**-0.2**
TAYS	**Tayyib Ism**	**1.82**	**357**	P	**Pn**	**09 02 18.7**	**-0.2**
URD05	**Al Faraah**	**1.83**	**74**	P	**Pn**	**09 02 19.1**	**0.0**
HKAT	**Jabal Katrina**	**2.00**	**334**	P	**Pn**	**09 02 22.5**	**+1.0**
TBKS	**Tabuk**	**2.03**	**42**	P	**Pn**	**09 02 22.9**	**+1.2**
UMJ05	**UMJ05**	**2.04**	**111**	P	**Pn**	**09 02 21.4**	**-0.4**
JLOS		**2.05**	**12**	P	**Pn**	**09 02 22.7**	**+0.6**
URD12	**Shuwaq**	**2.11**	**66**	P	**Pn**	**09 02 23.8**	**+0.9**
URD03	**Al Ula**	**2.20**	**91**	P	**Pn**	**09 02 24.4**	**+0.3**
HAQS	**Haql**	**2.32**	**358**	P	**Pn**	**09 02 27.2**	**+1.5**
HAQS	**Haql**	**2.32**	**358**	S	**Sn**	**09 02 53.4**	**-0.9**
UMJ06	**UMJ06**	**2.32**	**115**	P	**Pn**	**09 02 26.0**	**+0.3**
HAGS	**Hagol**	**2.34**	**180**	P	**Pn**	**09 02 26.6**	**+0.6**
URD10	**Hayder**	**2.36**	**52**	P	**Pn**	**09 02 27.2**	**+0.8**
UMJ02	**UMJ02**	**2.37**	**114**	P	**Pn**	**09 02 26.8**	**+0.4**
UMJ01	**UMJ01**	**2.38**	**116**	P	**Pn**	**09 02 26.6**	**0.0**
URD01	**URD01**	**2.40**	**84**	P	**Pn**	**09 02 27.6**	**+0.7**
JMOS	**Jabal al Moall**	**2.44**	**2**	P	**Pn**	**09 02 28.2**	**+0.9**
UMJ13	**Umluj**	**2.49**	**119**	P	**Pn**	**09 02 27.8**	**-0.3**
HQLS		**2.56**	**1**	S	**Sn**	**09 03 00.9**	**+0.4**
HQLS		**2.56**	**1**	P	**Pn**	**09 02 29.1**	**-0.1**
QLABS	**Al Qalibar**	**2.85**	**66**	P	**Pn**	**09 02 34.4**	**+1.3**
LNY11	**LNY11**	**2.87**	**119**	P	**Pn**	**09 02 33.7**	**+0.3**
BRNS	**Bernies**	**2.97**	**196**	P	**Pn**	**09 02 36.1**	**+1.5**
JOFS	**JOFS**	**4.17**	**49**	P	**Pn**	**09 02 52.1**	**+0.9**

IDC ***31*** *09:03:15.5±1.1,35˚.82N×138˚.16E,h0km,mb3.3/4, mbtmp3.4/6,ML3.3/2,MS2.8/2,Error ellipse: s-maj=18.7km s-min=9.1km az=105.0*
JMA ***31*** *09:03:17.5±0.0,35˚.88N±0˚.07×138˚.13E±0˚.08,h11km, MD4.1/20,MV4.1/20,AKAISHI MOUNTAINS REG*
JMA Felt III J1 at AKAISHI MOUNTAINS REG .
NIED ***31*** *09:03:17.5,35˚.88N×138˚.13E,h11km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.54; Mθθ 7.34; Mφφ-6.81; Mrθ 0.21; Mθφ-3.73; Mφr 1.85; Fault plane solution: M₀8.23000×10¹⁴ NP1: φs240.00000°,δ79.00000°,λ-171.00000°. NP2: φs148.00000°,δ82.00000°,λ-11.00000°.*

ISC 31 09:03:17.2±0.8,35.85N±0˚.03×138.15E±0˚.03,h10km±5km, n48,σ1§13/33,mb3.4/4,9D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.03**	**339**	⇓*i* P	**Pg**	**09 03 19.5**	**+0.3**
JNT				⇓S	**Sg**	**09 03 20.8**	**+0.2**
JNT	**Takato**	**0.03**	**339**	A	A	09 03 19.5	
	comp=N,46nm,0.4s,comp=E,35nm,0.7s						
JYN	**Shimob**	**0.48**	**137**	⇓*i* P	**Pb**	**09 03 27.4**	**-0.3**
JYN				⇓S	**Sb**	**09 03 34.6**	**-0.2**
JYN	**Shimob**	**0.48**	**137**	A	A	09 03 27.4	
	comp=N,24nm,1.5s,comp=E,37nm,0.3s						
JNY	**Yasuok**	**0.54**	**206**	A	A	09 03 28.4	
	comp=N,10.0nm,1.0s,comp=E,7.0nm,0.7s						
JNG	**Nsakai**	**0.56**	**356**	*i* P	**Pg**	**09 03 27.5**	**-0.5**
JNG				S	**Sg**	**09 03 34.5**	**-0.9**
JNG	**Nsakai**	**0.56**	**356**	A	A	09 03 27.5	
	comp=N,8.0nm,0.6s,comp=E,8.0nm,0.7s						
JRY	**Ryogami san**	**0.63**	**75**	⇓*i* P	**Pg**	**09 03 29.4**	**0.0**
JRY				⇓S	**Sg**	**09 03 37.5**	**-0.2**
JGF	**Kuroka**	**0.69**	**249**	P	**Pg**	**09 03 30.1**	**-0.4**
JGF	**Kuroka**	**0.69**	**249**	S	**Sg**	**09 03 39.5**	**-0.1**
JGF	**Kuroka**	**0.69**	**249**	A	A	09 03 30.7	
	comp=N,11nm,0.4s,comp=E,9.0nm,0.5s						
MJAR	**Matsushiro Arr**	**0.69**	**4**	Pg	**Pg**	**09 03 29.7**	**-0.9**
	comp=E,106nm,0.3s,baz=189,slow=15,SNR=2740						
MJAR				Lg	Lg	09 03 38.0	
	comp=E,78nm,0.3s,baz=217,slow=48,SNR=13						
MAJO	**Matsushiro**	**0.69**	**4**	P	**Pg**	**09 03 29.9**	**-0.7**
MAJO	**Matsushiro**	**0.69**	**4**	S	**Sg**	**09 03 38.7**	**-1.0**
MAT	**Matsushiro**	**0.69**	**4**	*i* P	**Pg**	**09 03 29.9**	**-0.7**
MAT				S	**Sg**	**09 03 38.6**	**-1.1**
SHZ3	**Shizuoka 3**	**0.78**	**176**	*i* P	**Pb**	**09 03 32.3**	**-0.7**
SHZ3	**Shizuoka 3**	**0.78**	**176**	A	A	09 03 32.3	
	comp=N,7.0nm,0.6s,comp=E,9.0nm,1.1s						
JFNN	**Fujinakano**	**0.79**	**146**	A	A	09 03 33.1	
	comp=N,8.0nm,2.9s,comp=E,10.0nm,5.7s						
JGK	**Kuni**	**0.81**	**29**	A	A	09 03 32.7	
	comp=N,4.0nm,4.5s,comp=E,4.0nm,2.3s						
JAO	**Obara**	**0.93**	**232**	A	A	09 03 35.2	
	comp=N,18nm,1.0s,comp=E,15nm,0.5s						
JOD2	**Odawara 2**	**0.96**	**127**	*i* P	**Pb**	**09 03 35.9**	**-0.1**
JOD2				⇓S	**Sb**	**09 03 49.4**	**+0.6**
JOD2	**Odawara 2**	**0.96**	**127**	A	A	09 03 35.9	
	comp=N,5.0nm,0.7s,comp=E,5.0nm,1.2s						
JTT	**Ttatey**	**1.00**	**319**	⇓*i* P	**Pb**	**09 03 36.3**	**-0.3**
JTT	**Ttatey**	**1.00**	**319**	A	A	09 03 36.3	
	comp=N,7.0nm,0.6s,comp=E,10.0nm,3.1s						
INU	**Inuyama**	**1.05**	**242**	P	**Pg**	**09 03 36.6**	**-0.7**
INU	**Inuyama**	**1.05**	**242**	S	**Sg**	**09 03 50.3**	**-0.7**
HMMJ	**Hamamatsu 2**	**1.05**	**200**	A	A	09 03 37.5	
	comp=N,5.0nm,0.5s,comp=E,3.0nm,1.1s						
JSSY	**Shinshiroyabe**	**1.07**	**210**	A	A	09 03 37.8	
	comp=N,7.0nm,0.2s,comp=E,10.0nm,0.2s						
JKKS	**Kakegawashinom**	**1.10**	**187**	A	A	09 03 38.5	
	comp=N,12nm,1.1s,comp=E,8.0nm,1.7s						
JHTM	**Izuhatsuma**	**1.13**	**141**	A	A	09 03 39.1	
	comp=N,15nm,1.4s,comp=E,16nm,0.7s						
JSG	**Sagara**	**1.17**	**179**	P	**Pn**	**09 03 40.5**	**+0.9**
JSG	**Sagara**	**1.17**	**179**	A	A	09 03 39.7	
	comp=N,6.0nm,4.1s,comp=E,12nm,3.5s						
JYTA	**Yamagatataniai**	**1.18**	**258**	A	A	09 03 39.2	
	comp=N,10.0nm,0.4s,comp=E,8.0nm,0.3s						
JICN	**Ichinomiyachia**	**1.20**	**243**	A	A	09 03 39.6	
	comp=N,38nm,0.5s,comp=E,46nm,0.7s						
JJN	**Nakama**	**1.25**	**0**	A	A	09 03 40.1	
	comp=N,8.0nm,0.4s,comp=E,12nm,0.5s						
JFM	**Mihama**	**1.79**	**260**	A	A	09 03 48.7	
	comp=N,8.0nm,1.1s,comp=E,10.0nm,0.7s						
JSD	**Sado**	**2.18**	**2**	P	**Pn**	**09 03 53.5**	**0.0**
JMM	**Marumori**	**2.92**	**46**	P	**Pn**	**09 04 06.2**	**+2.5**
JHJ2	**Mitsune**	**3.06**	**153**	P	**Pb**	**09 04 08.7**	**-3.0**
JMN	**Monobe**	**4.10**	**240**	P	**Pn**	**09 04 20.8**	**+0.8**
JNU	**Nakatsue**	**6.59**	**248**	Pn	**Pn**	**09 04 55.3**	**+1.2**
	comp=E,0.6nm,0.3s,baz=155,slow=6.9,SNR=9.8						
JNU				Sn	**Sn**	**09 06 10.9**	**+1.5**
	comp=E,0.2nm,0.3s,baz=30,slow=15,SNR=1.7						
JNU				Lg	Lg	09 06 44.3	
	comp=E,0.5nm,0.3s,baz=158,slow=17,SNR=3.9						
	comp=E,2.0nm,0.3s						
KSRS	**Korea Array**	**8.37**	**284**	Pn	**Pn**	**09 05 20.1**	**+1.6**
	comp=E,0.3nm,0.3s,baz=105,slow=13,SNR=5.5						
	comp=E,1.1nm,0.6s						
GUMO	**Guam**	**22.98**	**163**	LR	LR	09 15 35.9	
	comp=E,29nm,20.1s,baz=292,slow=32						
MA2	**Magadan**	**25.12**	**15**	LR	LR	09 18 44.7	
	comp=E,16nm,19.0s,baz=211,slow=37						
KURBB	**Kurchatov Arra**	**44.67**	**309**	P	**P**	**09 11 29.8**	**-0.1**
	comp=E,1.4nm,1.2s,baz=96,slow=7.7,SNR=1.7						
	comp=E,1.4nm,1.2s						
ILAR	**Eielson Array**	**51.89**	**32**	P	**P**	**09 12 27.2**	**+1.7**
	comp=E,0.2nm,0.6s,baz=278,slow=7.8,SNR=5.6						
	comp=E,0.2nm,0.6s						
WRA	**Warramunga Arr**	**55.60**	**184**	P	**P**	**09 12 51.2**	**-1.9**
	comp=E,0.4nm,0.8s,baz=2.6,slow=7.1,SNR=8.1						
	comp=E,0.4nm,0.8s						
ASAR	**Alice Springs**	**59.33**	**185**	P	**P**	**09 13 18.5**	**-0.8**
	comp=E,0.1nm,0.7s,baz=4.2,slow=7.9,SNR=1.4						
	comp=E,0.1nm,0.7s						

JMA ***31*** *09:08:01.8±0.1,23˚.2N±0˚.8×12˚.1E±˚,h17km±4km, TAIWAN REGION*
TAP ***31*** *09:08:02.4,23˚.07N×121˚.38E,h35km,ML3.1,C*

ISC 31 09:08:02.2±0.9,23.04N±0˚.02×121.43E±0˚.03,h33km±4km, n74,σ1§09/121,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.08**	**317**	P	**Pb**	**09 08 08.3**	**+0.5**
CHKT				S	**Sb**	**09 08 12.6**	**+0.8**
EDH	**Donghe**	**0.13**	**241**	*e*P	**Pb**	**09 08 08.7**	**+0.5**
EDH				*e*S	**Sb**	**09 08 13.0**	**+0.8**
CHKH	**Chenggong**	**0.16**	**349**	*e*P	**Pb**	**09 08 08.7**	**+0.3**
CHKH				*e*S	**Sb**	**09 08 13.3**	**+0.7**
ECS	**Chishang**	**0.20**	**287**	P	**Pn**	**09 08 09.1**	**+0.4**
ECS				*e*S	**Sb**	**09 08 14.2**	**+0.8**
FULB	**Fuli**	**0.20**	**322**	*e*P	**Pn**	**09 08 09.0**	**+0.2**
FULB				*e*S	**Sb**	**09 08 14.6**	**+1.2**
EHD	**Haiduan**	**0.23**	**298**	*e*P	**Pn**	**09 08 08.5**	**-0.8**
ECBN	**Changbin**	**0.28**	**4**	*e*P	**Pn**	**09 08 10.2**	**+0.1**
ECBN				*e*S	**Sb**	**09 08 16.0**	**+1.2**
LONT	**Longtian**	**0.30**	**245**	*e*P	**Pb**	**09 08 10.0**	**-0.1**
LONT				*e*S	**Sn**	**09 08 15.2**	**-0.4**
EYUL	**Yuli**	**0.32**	**342**	*e*P	**Pb**	**09 08 10.4**	**0.0**
TWF1	**Yuli**	**0.34**	**339**	P	**Pb**	**09 08 09.9**	**-0.6**
TWF1				*e*S	**Sn**	**09 08 15.3**	**-1.2**
LDUT	**Ludao**	**0.36**	**174**	P	**Pb**	**09 08 11.2**	**+0.3**
TTN	**Taitung**	**0.38**	**223**	*e*P	**Pb**	**09 08 11.6**	**+0.5**
TTN				*e*S	**Sn**	**09 08 18.7**	**+1.0**
TWGBT	**Beinan**	**0.39**	**236**	P	**Pb**	**09 08 10.6**	**-0.5**
TWGBT				S	**Sb**	**09 08 16.3**	**-0.9**
ELDTW	**Lidau**	**0.41**	**292**	*i* P	**Pb**	**09 08 10.8**	**-0.8**
ELDTW				*e*S	**Sb**	**09 08 16.1**	**-1.8**
HGSD	**Ruisui**	**0.45**	**359**	*e*P	**Pb**	**09 08 11.9**	**-0.2**
HGSD				*e*S	**Sb**	**09 08 19.9**	**+1.0**
EHYH	**Wanrong**	**0.46**	**350**	*e*P	**Pb**	**09 08 11.8**	**-0.5**
EHYH				*e*S	**Sb**	**09 08 17.8**	**-1.3**
EHY	**Hungye**	**0.48**	**348**	*e*P	**Pb**	**09 08 11.5**	**-1.0**
EHY				*e*S	**Sb**	**09 08 18.0**	**-1.5**
STYH	**Taoyuan**	**0.61**	**283**	*e*P	**Pn**	**09 08 14.2**	**-0.5**
STYH				*e*S	**Sn**	**09 08 22.3**	**-1.1**
ECL	**Taimali**	**0.62**	**225**	*e*P	**Pn**	**09 08 13.3**	**-1.4**
ECL				*e*S	**Sn**	**09 08 21.2**	**-2.3**
EGFH	**Guangfu**	**0.63**	**360**	*e*P	**Pn**	**09 08 13.9**	**-1.0**
EGFH				*e*S	**Sn**	**09 08 21.5**	**-2.3**
WARBT	**Fenglin Townsh**	**0.68**	**357**	P	**Pn**	**09 08 14.1**	**-1.5**
WARBT				*e*S	**Sn**	**09 08 22.1**	**-3.0**
ALS	**Alishan**	**0.74**	**310**	*i* P	**Pn**	**09 08 16.9**	**+0.2**
ALS				*e*S	**Sn**	**09 08 26.8**	**-0.3**
SHUL	**Shoufeng**	**0.76**	**9**	*e*P	**Pn**	**09 08 16.5**	**-0.1**
SHUL				*e*S	**Sn**	**09 08 26.6**	**-0.3**
ESL	**Shilin**	**0.77**	**0**	*e*P	**Pn**	**09 08 15.5**	**-1.4**
ESL				*e*S	**Sn**	**09 08 24.5**	**-2.9**
WTP	**Ta-pu**	**0.78**	**286**	P	**Pn**	**09 08 17.3**	**+0.3**
WTP				*e*S	**Sn**	**09 08 28.2**	**+0.7**
TPUB	**Ta-pu**	**0.78**	**290**	*e*P	**Pn**	**09 08 17.5**	**+0.5**
TPUB				*e*S	**Sn**	**09 08 28.6**	**+1.0**
SSD	**Sandimen**	**0.79**	**249**	*e*P	**Pn**	**09 08 16.5**	**-0.6**
SSD				*e*S	**Sn**	**09 08 26.0**	**-1.7**
TAW	**Tawu**	**0.84**	**216**	*e*P	**Pn**	**09 08 16.6**	**-1.2**
TAW				*e*S	**Sn**	**09 08 27.3**	**-1.6**
CHN1	**Nanshi**	**0.84**	**280**	*e*P	**Pn**	**09 08 18.5**	**+0.7**
CHN1				*e*S	**Sb**	**09 08 30.7**	**+1.2**
WHYT	**Xinyi Township**	**0.84**	**321**	*e*P	**Pn**	**09 08 18.2**	**+0.4**
WHYT				*e*S	**Sn**	**09 08 29.1**	**-0.1**
MASBT	**Mashibuluo**	**0.85**	**240**	*e*P	**Pn**	**09 08 17.8**	**-0.1**
MASBT				*e*S	**Sn**	**09 08 28.1**	**-1.1**
TAWH	**Dawu Township**	**0.85**	**216**	*e*P	**Pn**	**09 08 16.8**	**-1.1**
TAWH				*e*S	**Sn**	**09 08 27.9**	**-1.8**
WCKO	**Fanlu**	**0.86**	**298**	*e*P	**Pn**	**09 08 18.2**	**+0.2**
WCKO				*e*S	**Sn**	**09 08 30.1**	**+0.7**
SSLB	**Suanglung**	**0.86**	**330**	*e*P	**Pn**	**09 08 18.0**	**-0.2**
SSLB				*e*S	**Sn**	**09 08 28.4**	**-1.2**
SCST	**Cishan**	**0.87**	**260**	*e*P	**Pn**	**09 08 19.1**	**+0.8**
SCST				*e*S	**Sb**	**09 08 31.4**	**+1.0**
SNST	**Tainan City**	**0.88**	**282**	*e*P	**Pn**	**09 08 19.1**	**+0.8**
CHN5	**Tsauling**	**0.89**	**309**	*e*P	**Pn**	**09 08 19.4**	**+0.9**
CHN5				*e*S	**Sb**	**09 08 31.9**	**+1.0**
TWK	**Hsinying**	**0.90**	**285**	*e*P	**Pn**	**09 08 19.2**	**+0.6**
TWK				*e*S	**Sb**	**09 08 32.0**	**+1.0**
ETM	**Tongmen**	**0.93**	**4**	P	**Pn**	**09 08 17.6**	**-1.4**
OWD	**Renai**	**0.94**	**346**	*e*P	**Pn**	**09 08 18.8**	**-0.5**
SMLT	**Sun Moon Lake**	**0.97**	**330**	*e*P	**Pn**	**09 08 19.9**	**+0.2**
SMLT				*e*S	**Sn**	**09 08 32.1**	**-0.3**
LXIB	**Xiulin Townshi**	**0.98**	**359**	*e*P	**Pn**	**09 08 18.4**	**-1.4**
LXIB				*e*S	**Sn**	**09 08 29.9**	**-2.8**
WUSB	**Renai**	**0.99**	**343**	P	**Pn**	**09 08 19.7**	**-0.3**
WUSB				S	**Sn**	**09 08 31.3**	**-1.7**
SCZT	**Fangliau**	**1.00**	**229**	*e*P	**Pn**	**09 08 19.9**	**0.0**
SCZT				*e*S	**Sn**	**09 08 32.4**	**-0.5**
TYC	**Yuchr**	**1.01**	**329**	*e*P	**Pn**	**09 08 21.4**	**+1.3**
CHY	**Chiayi**	**1.03**	**297**	*e*P	**Pn**	**09 08 21.9**	**+1.5**
LYUB	**Lan-yu**	**1.04**	**172**	*e*P	**Pn**	**09 08 19.4**	**-1.2**
WDLH	**Douliu**	**1.04**	**309**	*e*P	**Pb**	**09 08 22.1**	**+0.3**
WDLH

PB03				IAML			09 12 41.3	
	comp=Z,356nm,0.5s							
PB10	**IPOC Station P**	**3.25**	**280**	*i* P	**Pn**		**09 11 47.9**	**+1.0**
PB10				*i* S	**Sn**		**09 12 26.2**	**-1.2**
PB10				IAML			09 12 31.3	
	comp=E,125nm,0.5s							
PB10	**IPOC Station P**	**3.25**	**280**	*eP*	**Pn**		**09 11 47.9**	**+1.0**
PB10				*eS*	**Sn**		**09 12 27.5**	**+0.2**
PB10				IAML			09 12 29.2	
	comp=Z,100nm,0.7s							
AC02	**Maricunga**	**3.28**	**214**	*eP*	**Pn**		**09 11 48.1**	**+0.4**
AC02	**Maricunga**	**3.28**	**214**	*eP*	**Pn**		**09 11 48.4**	**+0.7**
AC02				*eS*	Sn		09 12 16.7	-12
AC02				IAML			09 12 22.1	
	comp=Z,359nm,0.8s							
AC01	**Pan de Azucar**	**3.78**	**237**	*i* P	**Pn**		**09 11 52.6**	**-0.8**
AC01				*i* S	**Sn**		**09 12 36.1**	**-3.1**
AC01	**Pan de Azucar**	**3.78**	**237**	*eP*	**Pn**		**09 11 52.7**	**-0.8**
AC01				*eS*	**Sn**		**09 12 37.5**	**-1.7**
AC01				IAML			09 12 38.7	
	comp=Z,66nm,0.2s							
PB01	**IPOC Station P**	**3.80**	**323**	*i* P	**Pn**		**09 11 54.1**	**+0.3**
PB01	**IPOC Station P**	**3.80**	**323**	*eP*	**Pn**		**09 11 54.2**	**+0.4**
PB01				*eS*	Sn		09 12 28.6	-11
PB01				IAML			09 12 29.1	
	comp=Z,128nm,0.1s							
PB02	**IPOC Station P**	**3.83**	**316**	*i* P	**Pn**		**09 11 54.5**	**+0.3**
PB02	**IPOC Station P**	**3.83**	**316**	*eP*	**Pn**		**09 11 54.5**	**+0.3**
PB02				*eS*	Sn		09 12 29.1	-11
PB02				IAML			09 12 29.7	
	comp=Z,158nm,0.1s							
PATCX	**Punta Patache**	**4.36**	**318**	*eP*	**Pn**		**09 12 01.5**	**+0.6**
PATCX				*eS*	Sn		09 12 35.1	-17
PATCX				IAML			09 12 37.3	
	comp=Z,59nm,0.2s							
AC06	**Mina Casimiro**	**4.38**	**222**	*eP*	**Pn**		**09 11 59.9**	**-1.1**
PB08	**IPOC Station P**	**4.41**	**334**	*i* P	**Pn**		**09 12 02.9**	**+0.9**
PB08	**IPOC Station P**	**4.41**	**334**	*eP*	**Pn**		**09 12 02.6**	**+0.6**
PB08				*eS*	Sn		09 12 38.6	-16
PB08				IAML			09 12 59.4	
	comp=Z,16nm,0.4s							
GO03	**Copiapo**	**4.48**	**219**	*eS*	**Sn**		**09 12 52.0**	**-3.2**
VCA	**Vinchina**	**4.70**	**192**	*eP*	**Pn**		**09 12 07.1**	**+1.7**
VCA				*eS*	**Sn**		**09 12 58.3**	**-2.3**
VCA				IAML			09 13 07.5	
	comp=Z,19nm,2.8s							
GO01	**Chusmiza**	**4.86**	**336**	*eS*	Sn		09 12 44.8	-20
GO01				IAML			09 12 45.6	
	comp=Z,20nm,0.1s							
PB11	**IPOC Station P**	**4.97**	**331**	*eP*	**Pn**		**09 12 08.4**	**-0.4**
PB11				*eS*	**Sn**		**09 13 05.3**	**-1.4**
PB11				IAML			09 13 06.3	
	comp=Z,24nm,1.1s							
ACLC	**CERRO LA CRUZ**	**5.28**	**179**	*eP*	**Pn**		**09 12 12.2**	**-0.6**
ACLC				*eS*	**Sn**		**09 13 11.2**	**-2.9**
LPAZ	**La Paz**	**7.86**	**352**	P	**Pn**		**09 12 47.5**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=171,slow=10,SNR=9.6							
LPAZ				S	**Sn**		**09 14 11.9**	**-4.0**
	comp=Z,0.6nm,0.5s,baz=212,slow=4.1,SNR=1.2							
SIV	**San Ignacio**	**9.86**	**36**	P	**Pn**		**09 13 10.1**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=219,slow=12,SNR=7.7							
SNAA	**Sanae**	**59.25**	**161**	P	**P**		**09 20 36.3**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=281,slow=19,SNR=2.3							
	comp=Z,0.6nm,0.9s							
TXAR	**Lajitas Array**	**63.75**	**325**	P	**P**		**09 21 07.4**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=147,slow=5.8,SNR=1.7							
	comp=Z,0.1nm,0.5s							
QSPA	**South Pole Qui**	**66.08**	**180**	P	**P**		**09 21 23.3**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=358,slow=0.8,SNR=9.1							
	comp=Z,0.9nm,0.8s							
PDAR	**Pinedale Array**	**77.23**	**329**	P	**P**		**09 22 29.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=128,slow=12,SNR=2.1							
	comp=Z,0.2nm,0.5s							
WRA	**Warramunga Arr**	**131.49**	**207**	PKP	**PKPdf**		**09 29 45.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=154,slow=1.9,SNR=5.9							
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc	**PKPdf**		**09 30 14.9**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=308,slow=2.8,SNR=7.6							

*SOME **31** 09:15:17.3,41.92N×83.10E,h10km,MS4.3*
*NNC **31** 09:15:21.2±1.7,42.07N×82.95E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=14.6km s-min=7.5km az=161.0
*IDC **31** 09:15:21.2±0.9,42.22N×83.50E,h0km,mb3.7/9,*
mbtmp3.7/15,ML3.1/6,MS2.5/4,Error ellipse:
s-maj=23.0km s-min=11.6km az=67.0

ISC 31 09:15:24.7±0.7,42.20N±0.05×82.85E±0.04,h10km,n56,σ22/69,mb3.7/9,9C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.68**	**292**	Pg		**Pn**	**09 16 06.3**	**-1.7**
	39nm,0.5s							
SHLS				Lg		Lg	09 16 42.0	
	526nm,0.5s							
SHLS	**Shalkode**	**2.68**	**292**	*eP*		**Pn**	**09 16 06.3**	**-1.7**
	39nm,0.5s							
SHLS				*eS*		**Sn**	**09 16 42.0**	**+1.5**
	526nm,0.5s							
PDGK	**Podgornoye**	**2.72**	**296**	⇓Pn		**Pn**	**09 16 08.5**	**-0.1**
	75nm,0.8s							
PDGK				⇓Lg		Lg	09 16 52.3	
	429nm,0.8s							
UZB	**Uzynbulak**	**2.98**	**290**	*eP*		**Pb**	**09 16 16.2**	**-1.7**
	17nm,0.5s							
UZB				*eS*		**Sg**	**09 16 58.6**	**-1.7**
	168nm,0.5s							
KPKS	**Kokpek**	**3.32**	**294**	Pg		**Pb**	**09 16 21.0**	**-2.6**
	0.3nm,0.2s							
KPKS				Lg		Lg	09 17 07.2	
	122nm,0.7s							
SATY	**Saty**	**3.39**	**286**	Pg		**Pb**	**09 16 24.6**	**-0.3**
	32nm,0.6s							
SATY				Lg		Lg	09 17 13.4	
	85nm,0.6s							
KNOS	**Konyrlen**	**3.44**	**310**	Pg		**Pb**	**09 16 25.3**	**-0.5**
	28nm,0.7s							
KNOS				Lg		Lg	09 17 14.4	
	81nm,1.0s							
WMQ	**Urumqi**	**3.91**	**64**	P		**Pn**	**09 16 26.5**	**+1.7**
WMQ				smax		smax		
	comp=N,99nm,0.9s							
WMQ				smax		smax		
	comp=E,130nm,0.7s							
ARXS	**Arharly**	**4.19**	**300**	Pg		**Pb**	**09 16 40.4**	**+1.9**
	comp=E,44nm,0.8s							
ARXS				Lg		Lg	09 17 40.7	
	comp=E,49nm,0.7s							
ARXS	**Arharly**	**4.19**	**300**	*eP*		**Pb**	**09 16 40.4**	**+1.9**
ARXS				*eS*		**Sg**	**09 17 40.7**	**+1.5**
TDK	**Taldyqorghan**	**4.28**	**312**	Pg		**Pb**	**09 16 37.0**	**-2.9**
	comp=E,59nm,0.5s							
TDK				Lg		Lg	09 17 34.6	
	comp=E,89nm,0.6s							
TDK	**Taldyqorghan**	**4.28**	**312**	*eP*		**Pb**	**09 16 42.8**	**+2.9**
	comp=E,97nm,0.3s							
TDK				*eS*		**Sg**	**09 17 44.0**	**+2.0**
	comp=E,157nm,0.7s							
KOTS	**Kotyrbulak**	**4.35**	**286**	Pg		**Pb**	**09 16 43.4**	**+2.1**
	comp=E,32nm,1.0s							
KOTS				Lg		Lg	09 17 45.3	
	comp=E,174nm,2.8s							
KOTS	**Kotyrbulak**	**4.35**	**286**	*eP*		**Pb**	**09 16 43.4**	**+2.1**
	comp=E,32nm,1.0s							
KOTS				*eS*		**Sg**	**09 17 45.4**	**+0.9**
	comp=E,174nm,2.8s							
TNSS	**Tian-Shan**	**4.44**	**283**	Pg		**Pb**	**09 16 43.8**	**+0.9**
	comp=E,7.4nm,1.0s							
TNSS				Lg		Lg	09 17 46.5	
	comp=E,13nm,1.0s							
TNSS	**Tian-Shan**	**4.44**	**283**	*eP*		**Pb**	**09 16 43.8**	**+0.9**
	comp=E,7.4nm,1.0s							
TNSS				*eS*		**Sg**	**09 17 46.5**	**-0.6**
	comp=E,13nm,1.0s							
CHKK	**Chushkaly**	**4.61**	**293**	Pg		**Pb**	**09 16 47.1**	**+1.6**
	comp=E,4.1nm,0.7s							
CHKK				Lg		Lg	09 17 52.0	
	comp=E,39nm,0.6s							
CHKK	**Chushkaly**	**4.61**	**293**	*eP*		**Pb**	**09 16 47.1**	**+1.6**
	comp=E,4.1nm,0.7s							
CHKK				*eS*		**Sg**	**09 17 52.0**	**-0.5**
	comp=E,39nm,0.6s							
MK31	**Makanchi Array**	**4.61**	**355**	⇑Pn		**Pn**	**09 16 35.0**	**+0.5**
	comp=E,0.6nm,0.4s,baz=186,slow=14,SNR=76							
MK31				⇓Pg		**Pb**	**09 16 48.9**	**+3.2**
	comp=E,26nm,0.7s,baz=166,slow=16,SNR=23							
MK31				⇓Lg		Lg	09 17 53.6	
	comp=E,26nm,0.6s,baz=180,slow=28,SNR=3.7							
MKAR	**Makanchi Array**	**4.61**	**355**	Pn		**Pn**	**09 16 35.2**	**+0.7**
	comp=E,1.4nm,0.3s,baz=184,slow=12,SNR=25							
MKAR				Pg		**Pb**	**09 16 46.1**	**+0.4**
	comp=E,5.9nm,0.3s,baz=164,slow=17,SNR=18							
MKAR				Lg		Lg	09 17 50.5	
	comp=E,6.3nm,0.3s,baz=174,slow=26,SNR=5.4							
MKAR				LR		LR	09 18 46.3	
	comp=E,55nm,19.9s,baz=126,slow=44							
	comp=E,3.3nm,0.4s							
MAKZ	**Makanchi**	**4.65**	**353**	⇑Pn		**Pn**	**09 16 34.3**	**-0.8**
	comp=E,2.0nm,0.5s							
MAKZ				⇓Pg		**Pb**	**09 16 48.8**	**+2.4**
	comp=E,16nm,0.6s							
MAKZ				⇑Lg		Lg	09 17 53.8	
	comp=E,30nm,0.7s							
KTBS	**Karatobe**	**4.77**	**291**	Pg		**Pb**	**09 16 51.6**	**+3.2**
	comp=E,23nm,0.6s							
KTBS				Lg		Lg	09 18 00.2	
	comp=E,126nm,0.9s							
MTBS	**Maitube**	**4.83**	**283**	Pg		**Pb**	**09 16 51.9**	**+2.5**
	comp=E,12nm,0.6s							
MTBS				Lg		Lg	09 18 00.6	
	comp=E,39nm,0.8s							
MTBS	**Maitube**	**4.83**	**283**	*eP*		**Pb**	**09 16 51.9**	**+2.5**
	comp=E,12nm,0.6s							
MTBS				*eS*		**Sg**	**09 18 00.6**	**+1.0**
	comp=E,39nm,0.8s							
KUU	**Kurty**	**5.06**	**292**	Pg		**Pb**	**09 16 53.7**	**+0.3**
	comp=E,3.6nm,0.8s							
KUU				Lg		Lg	09 18 03.3	
	comp=E,29nm,0.7s							
KUU	**Kurty**	**5.06**	**292**	*eP*		**Pb**	**09 16 53.7**	**+0.3**
	comp=E,3.6nm,0.8s							
KUU				*eS*		**Sg**	**09 18 03.3**	**-3.9**
	comp=E,29nm,0.7s							
KST	**Kastek**	**5.15**	**282**	Pg		**Pb**	**09 16 54.6**	**-0.3**
	comp=E,13nm,0.6s							
KST				Lg		Lg	09 18 04.8	
	comp=E,48nm,0.8s							
KST	**Kastek**	**5.15**	**282**	*eP*		**Pb**	**09 16 54.6**	**-0.3**
	comp=E,13nm,0.6s							
KST				*eS*		**Sg**	**09 18 04.8**	**-5.2**
	comp=E,48nm,0.8s							
DGS	**Degeres**	**5.32**	**284**	Pg		**Pb**	**09 17 00.3**	**+2.6**
	comp=E,10nm,0.7s							
DGS				Lg		Lg	09 18 14.1	
	comp=E,37nm,0.9s							
ZSN	**Zaisan**	**5.45**	**15**	*eP*		**Pb**	**09 17 03.0**	**+3.2**
	comp=E,13nm,0.5s							
ZSN				*eS*		**Sg**	**09 18 18.8**	**-0.7**
	comp=E,80nm,1.1s							
KSH	**Kashi**	**5.86**	**245**	Pn		Pb	09 17 01.0	-6.0
KSH				Sn		**Sg**	**09 18 39.0**	**+6.2**
KSH				smax		smax		
	comp=N,55nm,1.0s							
KSH				smax		smax		
	comp=E,47nm,1.2s							
SGDS	**Sogindy**	**6.17**	**284**	Pg		**Pb**	**09 17 14.0**	**+1.7**
	comp=E,4.2nm,1.3s							
SGDS				Lg		Lg	09 18 37.6	
	comp=E,12nm,1.1s							
AAK	**Ala-Archa**	**6.20**	**277**	Pn		Pn	09 17 04.5	+8.1
	comp=E,0.6nm,0.3s,baz=103,slow=7.4,SNR=4.6							
AAK				Pg		Pg	09 17 19.0	-4.3
	comp=E,0.9nm,0.3s,baz=108,slow=9.2,SNR=5.6							
AAK				Lg		Lg	09 18 45.7	
	comp=E,1.0nm,0.3s,baz=267,slow=18,SNR=7.0							
AAK				LR		LR	09 19 54.6	
	comp=E,20nm,19.5s,baz=194,slow=41							
	comp=E,2.0nm,0.5s							
AAK	**Ala-Archa**	**6.20**	**277**	⇑Pg		**Pg**	**09 17 23.2**	**-0.2**
	comp=E,36nm,0.6s							
AAK				⇑Lg		Lg	09 18 44.2	
	comp=E,157nm,0.8s							
BTLS	**Baital**	**6.99**	**297**	Pg		Pb	09 17 32.4	+6.2
	comp=E,5.5nm,0.6s							
BTLS				Lg		Lg	09 19 09.3	
	comp=E,3.2nm,0.9s							
BTLS	**Baital**	**6.99**	**297**	*eP*		Pb	09 17 32.4	+6.2
	comp=E,5.5nm,0.6s							
BTLS				*eS*		**Sg**	**09 19 09.3**	**+0.3**
	comp=E,3.2nm,0.9s							
MRKS	**Merke**	**7.14**	**278**	Pg		**Pb**	**09 17 32.4**	**+3.7**
	comp=E,2.8nm,0.6s							
MRKS				Lg		Lg	09 19 09.1	
	comp=E,11nm,0.8s							
MRKS	**Merke**	**7.14**	**278**	*eP*		**Pb**	**09 17 32.4**	**+3.7**
	comp=E,2.8nm,0.6s							
MRKS				*eS*		**Sg**	**09 19 09.1**	**-4.6**
	comp=E,11nm,0.8s							
KURBB	**Kurchatov Arra**	**8.94**	**342**	Pn		**Pn**	**09 17 33.0**	**-0.8**
	comp=E,0.2nm,0.3s,baz=162,slow=12,SNR=11							
KURBB				Sn		**Sn**	**09 19 15.7**	**+1.2**
	comp=E,0.1nm,0.3s,baz=170,slow=27,SNR=1.4							
KURBB				Lg		Lg	09 20 09.2	
	comp=E,0.1nm,0.3s,baz=154,slow=27,SNR=5.0							
	comp=E,1.9nm,0.6s							
KURBB	**Kurchatov Arra**	**8.94**	**342**	⇓Pn		**Pn**	**09 17 33.7**	**0.0**
	comp=E,3.2nm,0.6s							
KURBB				⇑Lg		Lg	09 20 11.2	
	comp=E,44nm,0.8s							
KURK	**Kurchatov**	**9.01**	**343**	⇑Pn		**Pn**	**09 17 33.3**	**-1.3**
	comp=E,13nm,0.6s							
KURK				⇑Lg		Lg	09 20 11.9	
	comp=E,37nm,1.1s							
KK31	**Karatay Array**	**9.14**	**280**	⇑Pg		Pn	09 18 11.1	+34
	comp=E,1.6nm,0.6s,baz=102,slow=17,SNR=5.9							
KK31				⇓Lg		Lg	09 20 20.1	
	comp=E,7.3nm,0.8s,baz=88,slow=27,SNR=4.4							
ZALV	**Zalesovo Beam**	**11.83**	**6**	Pn		**Pn**	**09 18 09.9**	**-3.5**
	comp=E,0.4nm,0.3s,baz=181,slow=13,SNR=8.5							
ZALV				Sn		**Sn**	**09 20 22.4**	**-3.0**
	comp=E,0.4nm,0.3s,baz=186,slow=25,SNR=1.6							
ZALV				Lg		Lg	09 21 37.2	
	comp=E,0.3nm,0.3s,baz=197,slow=25,SNR=4.2							
ZALV				LR		LR	09 23 29.2	
	comp=E,16nm,20.0s,baz=210,slow=42							
	comp=E,2.0nm,0.6s							
BVAR	**Borovoye Array**	**13.69**	**327**	Pn		**Pn**	**09 18 38.7**	**0.0**
	baz=134,slow=10,SNR=2.4							
BVAR				Lg		Lg	09 22 39.7	
	baz=160,slow=27,SNR=3.9							
	comp=E,0.5nm,0.4s							
SONM	**Songino Array**	**17.55**	**63**	P		Pn	09 19 23.0	-6.4
	comp=E,0.2nm,0.3s,baz=266,slow=14,SNR=1.6							
	comp=E,0.4nm,0.6s							
BTO	**Baotou**	**20.42**	**85**	*eP*		**P**	**09 20 01.0**	**-1.0**
BTO				PP		**PnPn**	**09 20 20.5**	**+1.6**
BTO				S		**S**	**09 23 52.0**	**+1.4**
BTO				pmax		pmax		
	comp=Z,14nm,0.5s							
BTO				pmax		pmax		
	comp=Z,230nm,4.5s							
BTO				LR		LR		
	comp=N,140nm,4.3s							
BTO				LR		LR		
	comp=E,130nm,3.9s							
BTO				LR		LR		
	comp=Z,87nm,7.6s							
ARTI	**Arti**	**21.20**	**320**	P		**P**	**09 20 11.7**	**+1.5**
	comp=Z,3.2nm,0.6s,baz=138,slow=15,SNR=5.5							
	comp=Z,3.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**27.34**	**145**	P		**P**	**09 21 06.5**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=344,slow=7.1,SNR=1.5							
	comp=Z,0.6nm,0.3s							
KBZ	**Khabaz**	**29.08**	**287**	LR		LR	09 35 26.6	
	comp=Z,39nm,20.8s,baz=40,slow=41							
BRTR	**Keskin Array B**	**36.83**	**283**	P		**P**	**09 22 34.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=46,slow=7.1,SNR=2.1							
	comp=Z,0.5nm,0.5s							
FINES	**FINESS Array B**	**38.51**	**320**	P		**P**	**09 22 48.1**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=97,slow=11,SNR=4.1							
	comp=Z,1.5nm,0.8s							
ARCES	**ARCESS Array B**	**39.87**	**332**	P		**P**	**09 22 56.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=99,slow=11,SNR=4.2							
	comp=Z,0.5nm,0.6s							
HFS	**Hagfors**	**44.63**	**318**	P		**P**	**09 23 37.7**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=147,slow=3.0,SNR=1.6							
	comp=Z,0.5nm,0.4s							
NOA	**NORSAR Array B**	**45.69**	**320**	P		**P**	**09 23 46.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=96,slow=5.1,SNR=2.3							
	comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**77.97**	**131**	P		P	09 27 18.3	-4.9
	comp=Z,0.4nm,0.8s,baz=319,slow=5.3,SNR=1.0							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**80.73**	**134**	P		**P**	**09 27 34.9**	**-3.3**
	comp=Z,0.2nm,0.7s,baz=326,slow=4.7,SNR=4.2							
	comp=Z,0.2nm,0.7s							

*IDC **31** 09:43:25.9±1.6,3.20S×141.88E,h0km,mb3.6/5,*
mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=30.5km
s-min=17.9km az=56.0

ISC 31 09:43:27.8±1.8,3.2S±0.1×141.8E±0.3,h10km,n7,σ1.9±18/7,mb3.7/5,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.25**	**302**	Pg		**Pn**	**09 43 50.8**	**-0.6**
	2.0nm,0.3s,baz=117,slow=14,SNR=8.9							
JAY				LR		LR	09 44 09.3	
	comp=Z,39nm,20.5s,baz=29,slow=32							
JAY				Lg		Lg	09 44 09.3	
	2.9nm,0.3s,baz=122,slow=19,SNR=4.6							
WRA	**Warramunga Arr**	**18.16**	**203**	P		**P**	**09 47 40.5**	**-0.1**
	0.1nm,0.3s,baz=24,slow=12,SNR=7.9							
	1.1nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.66**	**226**	P		**P**	**09 48 20.4**	**+1.6**
	2.5nm,1.0s,baz=44,slow=12,SNR=2.8							
	2.5nm,1.0s							
ASAR	**Alice Springs**	**21.73**	**200**	P		**P**	**09 48 18.1**	**-1.5**
	0.5nm,0.8s,baz=20,slow=11,SNR=6.3							
	0.5nm,0.8s							
SONM	**Songino Array**	**59.48**	**333**	P		**P**	**09 53 31.0**	**-0.3**
	0.4nm,0.3s,baz=142,slow=5.3,SNR=1.6							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**72.04**	**322**	P		**P**	**09 54 52.7**	**+0.5**
	0.6nm,0.9s,baz=108,slow=7.7,SNR=3.9							
	0.6nm,0.9s							
BVAR	**Borovoye Array**	**81.45**	**325**	P		**P**	**09 55 45.5**	**+0.3**
	0.7nm,0.6s,baz=98,slow=6.0,SNR=2.5							
	0.7nm,0.6s							

*OSPL **31** 09:45:04.0±2.2, 17.72N×67.25W,h1km±232km,ML3.6*
*NEIC **31** 09:45:04.7±1.9, 18.07N±0.02×67.73W±0.04,h10km±1km,*
ML3.2/12,Md2.9/17(RSPR),Error ellipse: s-maj=5.6km
s-min=4.0km az=96.0
*SDD **31** 09:45:05.8±2.2, 18.27N×67.66W,h35km±15km,MD3.1,*
ML3.3,MW3.5
*RSPR **31** 09:45:07.8, 18.17N×67.64W,h5km,MD2.9/17*

ISC 31 09:45:05.6±1.2,18.18N±0.05×67.66W±0.02,h9km±10km,n65,σ0.96/87,26C-12D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.27**	**40**			**Pb**	**09 45 13.5**	**+0.9**
IDE						**Sb**	**09 45 17.9**	**+0.6**
IDE	**Isla Desecheo**	**0.27**	**40**	⇑*i*P		**Pb**	**09 45 13.5**	**+0.9**
IDE	**Isla Desecheo**	**0.27**	**40**	*eS*		**Sb**	**09 45 17.9**	**+0.6**
PRSN	**Puerto Rico Se**	**0.49**	**86**			**Sb**	**09 45 23.6**	**+0.1**
PRSN	**Puerto Rico Se**	**0.49**	**86**	Pg		**Pb**	**09 45 16.5**	**+0.2**
PRSN	**Puerto Rico Se**	**0.49**	**86**	⇓*e*P		**Pb**	**09 45 16.8**	**+0.4**
PRSN	**Puerto Rico Se**	**0.49**	**86**	*eS*		**Sb**	**09 45 23.6**	**+0.1**
PRSN	**Puerto Rico Se**	**0.49**	**86**	⇑*e*Pg		**Pb**	**09 45 16.8**	**+0.4**
PRSN				⇑*e*Sg		**Sb**	**09 45 23.7**	**+0.1**
PRSN				IAML			09 45 27.2	
	comp=N,3μm,0.3s							
LSP	**Las Mesas**	**0.55**	**90**			**Pb**	**09 45 17.7**	**+0.5**
LSP						**Sb**	**09 45 26.1**	**+0.9**
LSP	**Las Mesas**	**0.55**	**90**	⇑*e*P		**Pb**	**09 45 17.7**	**+0.5**
LSP	**Las Mesas**	**0.55**	**90**	*eS*		**Sb**	**09 45 26.1**	**+0.9**
AGPR	**Aguadilla, PR**	**0.59**	**61**	Pg		**Pb**	**09 45 18.5**	**+0.4**
AGPR	**Aguadilla, PR**	**0.59**	**61**			**Sb**	**09 45 26.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.59**	**61**	⇑*e*P		**Pb**	**09 45 18.7**	**+0.6**
AGPR	**Aguadilla, PR**	**0.59**	**61**	*i* P		**Pb**	**09 45 18.5**	**+0.4**
AGPR				*eS*		**Sb**	**09 45 26.9**	**+0.3**
AGPR				IAML			09 45 27.3	
	comp=Z,2μm,0.3s							
AGPR	**Aguadilla, PR**	**0.59**	**61**	⇓*e*Pg		**Pb**	**09 45 18.7**	**+0.6**
AGPR				⇑*e*Sg		**Sb**	**09 45 26.8**	**+0.2**
AGPR				IAML			09 45 27.4	
	comp=N,9μm,0.2s							
MLPR	**Magueyes Islan**	**0.62**	**110**	⇑*e*P		**Pb**	**09 45 19.0**	**+0.4**
MLPR	**Magueyes Islan**	**0.62**	**110**	*eS*		**Sb**	**09 45 27.9**	**+0.6**
MLPR	**Magueyes Islan**	**0.62**	**110**	⇑*e*Pg		**Pb**	**09 45 18.9**	**+0.4**
MLPR				⇑*e*Sg		**Sb**	**09 45 27.9**	**+0.6**
MLPR				IAML			09 45 30.3	
	comp=N,306nm,0.5s							
PCDR	**Punta Cana, DR**	**0.76**	**296**	⇑*e*Pg		**Pb**	**09 45 21.3**	**+0.3**
PCDR				⇑*e*Sg		**Sb**	**09 45 32.6**	**+1.1**
PCDR				IAML			09 45 36.9	
	comp=N,784nm,0.5s							
AOPR	**Arecibo Observ**	**0.88**	**79**			**Pb**	**09 45 23.1**	**+0.2**
AOPR	**Arecibo Observ**	**0.88**	**79**	*e*Pg		**Pn**	**09 45 23.5**	**-0.6**
AOPR				*e*Sg		**Sb**	**09 45 35.1**	**+0.4**
AOPR				IAML			09 46 20.6	
	comp=N,15μm,3.3s							
UUPR	**Utuado, UPR, P**	**0.90**	**85**			**Pb**	**09 45 23.4**	**+0.2**
UUPR						**Sb**	**09 45 35.2**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.90**	**85**	Pg		**Pb**	**09 45 23.2**	**0.0**
UUPR	**Utuado, UPR, P**	**0.90**	**85**	⇓*e*

HUMP	**Col San Antoni**	**1.72**	**91**			**Pb**	**09 45 36.4**	**-0.9**
SMDR	**Samana, DR**	**1.82**	**308⇑**	*e*P		**Pn**	**09 45 37.5**	**+0.5**
SMDR	**Samana, DR**	**1.82**	**308⇑**	*e*Pg		**Pn**	**09 45 37.8**	**+0.8**
SMDR			**⇑**	*e*Sg		**Sn**	**09 46 01.6**	**+1.4**
SMDR				IAML			09 46 08.0	
	comp=N,132nm,0.3s							
SC01	**Santiago de lo**	**3.16**	**294**	*i* P		**Pb**	**09 46 01.8**	**-0.1**
SC01				*e*S		**Sb**	**09 46 43.1**	**+2.6**
SC01				IAML			09 46 56.7	
	comp=Z,114nm,0.8s							
SDDR	**Presa de Saban**	**3.53**	**284**	*i* P		**Pb**	**09 46 06.2**	**-2.1**
SDDR				*e*S		**Sb**	**09 46 50.2**	**-1.1**
SDDR				IAML			09 47 01.8	
	comp=Z,68nm,0.4s							
LOVI	**El Cajuil, Ovi**	**3.55**	**264**	*i* P		**Pn**	**09 46 02.2**	**+1.4**
LODU1	**El Espartillar**	**3.63**	**273**	*i* P		**Pn**	**09 46 06.1**	**+4.2**
LOPP1	**Punta Rusia, P**	**3.74**	**297**	*i* P		**Pb**	**09 46 08.2**	**-3.6**

*IDC **31** 09:48:25.4±5.4,20˚.51S×178˚.08W,h527km±63km,mb3.0/8, mbtmp3.9/9,Error ellipse: s-maj=37.8km s-min=22.2km az=167.0*

ISC 31 09:48:25.8±0.8,**20˚.5S**±0˚.2×**178˚.1W**±0˚.2,**h534**km,**n16,** σ0**77**/15,**mb3.4/8,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.16**	**192**	P	**P**	**09 52 04.9**	**-0.9**
	3.6nm,0.4s,baz=315,slow=4.3,SNR=9.3						
ASAR	**Alice Springs**	**44.41**	**257**	P	**P**	**09 55 50.0**	**+0.6**
	1.9nm,0.5s,baz=95,slow=7.5,SNR=52						
ASAR				PcP	**PcP**	**09 57 21.6**	**0.0**
	0.3nm,0.6s,baz=104,slow=3.9,SNR=4.5						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**44.49**	**262**	P	**P**	**09 55 50.1**	**+0.1**
	1.1nm,0.3s,baz=96,slow=7.4,SNR=87						
	1.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.91**	**262**	P	**P**	**09 56 53.3**	**+0.8**
	0.7nm,0.5s,baz=82,slow=7.1,SNR=1.3						
	0.7nm,0.5s						
PETK	**Petropavlovsk-**	**76.25**	**345**	P	**P**	**09 59 18.9**	**-0.4**
	1.3nm,0.7s,baz=114,slow=6.7,SNR=3.3						
	1.3nm,0.7s						
NVAR	**Mina Array Bea**	**81.11**	**43**	P	**P**	**09 59 46.3**	**+0.5**
	0.2nm,0.5s,baz=225,slow=9.9,SNR=4.1						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**87.16**	**57**	P	**P**	**10 00 17.0**	**+1.3**
	0.4nm,0.8s,baz=210,slow=7.2,SNR=4.5						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**88.35**	**13**	P	**P**	**10 00 19.0**	**-1.2**
	0.3nm,0.5s,baz=218,slow=5.3,SNR=6.1						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**89.05**	**43**	P	**P**	**10 00 24.9**	**+0.5**
	0.3nm,0.6s,baz=238,slow=8.5,SNR=3.9						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**119.01**	**320**	PKP	**PKPdf**	**10 06 12.8**	**-0.8**
	0.5nm,0.3s,baz=128,slow=1.6,SNR=2.6						
ARCES	**ARCESS Array B**	**128.91**	**350**	PKP	**PKPdf**	**10 06 31.9**	**-0.3**
	1.3nm,0.9s,baz=34,slow=0.8,SNR=1.7						
HFS	**Hagfors**	**139.53**	**351**	PKhKP	PKPpre	10 06 44.7	
	1.5nm,0.7s,baz=96,slow=4.3,SNR=1.6						
AKASG	**Malin Array Be**	**142.97**	**331**	PKhKP	PKPpre	10 06 54.7	
	1.1nm,0.5s,baz=43,slow=4.2,SNR=8.8						
EKA	**Eskdalemuir Ar**	**145.02**	**5**	PKPbc	**PKPdf**	**10 07 01.8**	**-0.2**
	0.6nm,0.6s,baz=346,slow=5.6,SNR=1.0						
BRTR	**Keskin Array B**	**146.76**	**312**	PKPbc	**PKPbc**	**10 07 07.7**	**-0.7**
	0.5nm,0.6s,baz=74,slow=6.2,SNR=2.5						
MMAI	**Mount Meron Ar**	**147.72**	**300**	PKPbc	**PKPbc**	**10 07 11.2**	**+0.2**
	0.9nm,0.4s,baz=58,slow=3.6,SNR=2.3						

*IDC **31** 09:50:19.9±1.5,52˚.37N×178˚.44E,h165km±14km, mb3.3/10,mbtmp3.8/13,MS3.0/2,Error ellipse: s-maj=29.4km s-min=13.4km az=174.0*
*NEIC **31** 09:50:20.6±1.6,52˚.1N±0˚.2×178˚.4E±0˚.1,h180km±5km, mb3.8/57,Error ellipse: s-maj=22.5km s-min=9.9km az=177.0*

ISC 31 09:50:21.6±0.7,**52˚.2N**±0˚.1×**178˚.28E**±0˚.05,**h200**km,**n95,** σ1**34**/94,**mb3.8/25,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.02**	**141**	Pn	**Pn**	**09 50 49.8**	**-1.7**
SHEM	**Shemya Is, Ala**	**2.62**	**284**	P	**Pn**	**09 51 04.8**	**-1.9**
	61nm,0.3s,baz=65,slow=2.2,SNR=31						
SHEM				S	**Sn**	**09 51 37.9**	**-4.0**
	101nm,0.3s,baz=53,slow=20,SNR=16						
SMY	**Shemya**	**2.62**	**284**		**Pn**	**09 51 04.7**	**-2.0**
KIWB	**Kanaga Island**	**2.84**	**95**	Pn	**Pn**	**09 51 06.6**	**-2.8**
KIWB				Sn	**Sn**	**09 51 42.7**	**-4.0**
ADK	**Adak**	**3.13**	**93**	Pn	**Pn**	**09 51 09.9**	**-2.8**
GSTR	**Great Sitkin T**	**3.49**	**89**	Pn	**Pn**	**09 51 14.2**	**-2.9**
UNV	**Unalaska Valle**	**9.33**	**74**	Pn	**Pn**	**09 52 30.3**	**-1.7**
FALS	**False Pass**	**11.22**	**69**	Pn	**Pn**	**09 52 55.3**	**-1.1**
PEA0B	**Petropavlovsk-**	**12.53**	**282**	Pn	**Pn**	**09 53 13.9**	**+0.9**
PETK	**Petropavlovsk-**	**12.53**	**282**	P	**Pn**	**09 53 14.2**	**+1.2**
	1.8nm,0.7s,baz=84,slow=11,SNR=6.7						
PETK				S	**Sn**	**09 55 28.3**	**-4.3**
	1.6nm,0.8s,baz=98,slow=26,SNR=2.7						
SDPT	**Sand Point**	**12.96**	**67**	Pn	**Pn**	**09 53 16.6**	**-1.7**
CNBA	**Chernabura Isl**	**13.43**	**70**	Pn	**Pn**	**09 53 22.6**	**-1.7**
O14K	**Tigyukauivet M**	**13.50**	**50**		**P**	**09 53 27.7**	**+0.1**
N14K	**Kuskokwak Cree**	**13.58**	**47**	Pn	**Pn**	**09 53 25.4**	**-0.7**
M14K	**Bethel**	**13.85**	**44**	Pn	**Pn**	**09 53 28.9**	**-0.4**
O15K	**Ungalikthiuk R**	**14.16**	**52**		**P**	**09 53 35.2**	**+0.3**
CHGN	**Chignik**	**14.22**	**64**	Pn	**Pn**	**09 53 32.9**	**-1.1**
N15K	**Kwethluk River**	**14.41**	**48**		**P**	**09 53 38.3**	**+0.6**
K15K	**Wolf Creek Mou**	**14.84**	**39**		**P**	**09 53 43.5**	**+1.2**
P16K	**Nushagak River**	**15.01**	**53**		**P**	**09 53 45.5**	**+1.2**
O16K	**Kokwok River B**	**15.14**	**51**		**P**	**09 53 45.9**	**+0.2**
O16K				IAmb	IAmb	09 53 47.0	
	comp=Z,2.6nm,0.8s						
L16K	**Owhat River**	**15.37**	**43**		**Pn**	**09 53 47.8**	**-0.1**
N17K	**Nushagak Hills**	**15.88**	**49**	P	**Pn**	**09 53 54.6**	**+0.3**
M17K	**Holitna River**	**16.11**	**46**	P	**P**	**09 53 56.4**	**0.0**
ACHA	**Angle Creek He**	**16.17**	**58**	P	**P**	**09 53 56.7**	**-0.5**
K17K	**Iditarod**	**16.34**	**41**	P	**P**	**09 53 59.1**	**+0.3**
K17K				IAmb	IAmb	09 54 09.2	
	comp=Z,3.3nm,1.0s						
J17K	**VABM Dome**	**16.39**	**38**	P	**P**	**09 53 59.8**	**+0.4**
N18K	**Kilae Creek**	**16.54**	**49**	P	**P**	**09 54 00.3**	**-0.8**
N18K				IAmb	IAmb	09 54 07.5	
	comp=Z,3.6nm,0.8s						
L18K	**Granite Mounta**	**16.77**	**43**	P	**P**	**09 54 03.7**	**+0.1**
Q19K	**Cape Douglas,**	**17.17**	**56**	P	**Pn**	**09 54 08.7**	**-0.9**
N19K	**Bonanza Creek**	**17.23**	**49**	P	**Pn**	**09 54 10.1**	**-0.3**
L19K	**White Mountain**	**17.54**	**45**	P	**Pn**	**09 54 13.3**	**-0.6**
L19K				IAmb	IAmb	09 54 18.6	
	comp=Z,2.8nm,1.0s						
KDAK	**Kodiak Island**	**17.56**	**60**	P	**P**	**09 54 11.3**	**-0.9**
KDAK	**Kodiak Island**	**17.56**	**60**	P	**P**	**09 54 10.2**	**-2.0**
	comp=Z,6.3nm,0.6s,baz=258,slow=5.0,SNR=12						
H18K	**Honhosa River**	**17.65**	**34**	P	**P**	**09 54 13.7**	**+0.5**
E18K	**Tukpahlearik C**	**18.45**	**26**	P	**Pn**	**09 54 24.3**	**-0.2**
SPU	**Mount Spurr**	**18.48**	**49**	P	**P**	**09 54 22.8**	**+0.5**
SPU				IAmb	IAmb	09 54 23.4	
	comp=Z,3.4nm,0.7s						
CNPM	**China Poot**	**18.50**	**55**	P	**P**	**09 54 21.9**	**-0.7**
CNPM				IAmb	IAmb	09 54 31.4	
	comp=Z,6.6nm,0.9s						
STLK	**Strandline Lak**	**18.67**	**48**	P	**P**	**09 54 25.6**	**+1.2**
J20K	**Nowinta River**	**18.68**	**39**	P	**P**	**09 54 24.6**	**+0.3**
J20K				IAmb	IAmb	09 54 30.8	
	comp=Z,2.7nm,0.9s						
F19K	**Shaleruckik Mo**	**18.87**	**30**	P	**P**	**09 54 26.4**	**-0.1**
C18K	**Utukok River**	**19.21**	**23**		**P**	**09 54 30.1**	**0.0**
C18K				IAmb	IAmb	09 54 43.2	
	comp=Z,2.7nm,1.0s						
SEW	**Seward**	**19.49**	**53**	P	**P**	**09 54 32.0**	**-1.1**
SEW				IAmb	IAmb	09 54 38.3	
	comp=Z,5.1nm,0.8s						
IMAR	**Indian Mountai**	**19.70**	**35**	P	**P**	**09 54 35.9**	**+0.5**
D19K	**Kuna River**	**19.88**	**26**	P	**P**	**09 54 37.6**	**+0.2**
PMR	**Palmer**	**19.94**	**49**	P	**P**	**09 54 38.3**	**+0.4**
PMR				IAmb	IAmb	09 54 44.1	
	comp=Z,2.8nm,1.0s						
TRF	**Thorofare Moun**	**19.96**	**43**	P	**P**	**09 54 40.1**	**+1.8**
TRF				IAmb	IAmb	09 54 40.6	
	comp=Z,3.9nm,0.7s						
PWL	**Port Wells**	**20.16**	**51**	P	**P**	**09 54 40.8**	**+0.4**
KNK	**Knik Glacier**	**20.21**	**50**	P	**P**	**09 54 42.5**	**+1.6**
MLY	**Manley**	**20.37**	**39**	P	**P**	**09 54 44.0**	**+1.4**
F21K	**Alatna River**	**20.46**	**32**	P	**P**	**09 54 44.4**	**+0.9**
F21K				IAmb	IAmb	09 54 46.1	
	comp=Z,3.2nm,1.0s						
RND	**Reindeer**	**20.55**	**44**	P	**P**	**09 54 45.3**	**+0.7**
RND				IAmb	IAmb	09 54 51.3	
	comp=Z,2.2nm,0.8s						
SCM	**Sheep Creek Mo**	**20.83**	**49**	P	**P**	**09 54 46.9**	**-0.6**
DHY	**Denali Highway**	**21.10**	**46**	P	**P**	**09 54 50.6**	**+0.2**
ILAR	**Eielson Array**	**21.80**	**41**	P	**P**	**09 54 56.0**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=250,slow=9.3,SNR=10						
	comp=Z,0.9nm,0.7s						
N25K	**Chitina, Valde**	**22.07**	**50**	P	**P**	**09 54 59.3**	**-0.9**
N25K				IAmb	IAmb	09 55 03.1	
	comp=Z,3.3nm,0.7s						
HMT	**Hamilton**	**22.09**	**54**	P	**P**	**09 55 00.5**	**+0.2**
HMT				IAmb	IAmb	09 55 01.6	
	comp=Z,5.3nm,1.0s						
D23K	**Nanushuk River**	**22.30**	**29**	P	**P**	**09 55 01.8**	**-0.3**
D23K				IAmb	IAmb	09 55 05.2	
	comp=Z,1.7nm,0.7s						
RIDG	**Independent Ri**	**22.37**	**45**	P	**P**	**09 55 01.4**	**-1.6**
RIDG				IAmb	IAmb	09 55 03.8	
	comp=Z,2.6nm,0.6s						
GLB	**Gilahina Butte**	**22.42**	**51**	P	**P**	**09 55 03.0**	**-0.4**
GLB				IAmb	IAmb	09 55 04.7	
	comp=Z,2.3nm,0.7s						
DOT	**Dot Lake**	**22.69**	**45**	P	**P**	**09 55 04.4**	**-1.4**
DOT				IAmb	IAmb	09 55 06.1	
	comp=Z,2.5nm,0.6s						
SCRK	**Sand Creek**	**22.80**	**44**	P	**P**	**09 55 05.8**	**-1.1**
J26L	**Joseph Creek**	**23.10**	**43**	P	**P**	**09 55 09.0**	**-0.5**
I26K	**Coal Creek Min**	**23.48**	**41**	P	**P**	**09 55 12.9**	**+0.1**
G26K	**Porcupine Rive**	**23.73**	**37**	P	**P**	**09 55 15.8**	**+0.7**
G26K				IAmb	IAmb	09 55 17.0	
	comp=Z,3.0nm,0.6s						
EGAK	**Eagle**	**24.17**	**43**	P	**P**	**09 55 19.2**	**0.0**
DAWY	**Dawson**	**24.80**	**45**		**P**	**09 55 25.5**	**+0.6**
I28M	**Miner Creek**	**24.82**	**42**	P	**P**	**09 55 24.9**	**-0.2**
I28M				IAmb	IAmb	09 55 28.1	
	comp=Z,1.6nm,0.7s						
M29M	**Somme Creek**	**25.04**	**49**	P	**P**	**09 55 27.2**	**+0.1**
M29M				IAmb	IAmb	09 55 28.1	
	comp=Z,2.0nm,0.7s						
L29M	**L29M**	**25.25**	**47**	P	**P**	**09 55 29.1**	**+0.2**
L29M				IAmb	IAmb	09 55 29.6	
	comp=Z,2.5nm,0.5s						
I29M	**Ogilvie Camp,**	**25.47**	**42**	P	**P**	**09 55 30.4**	**-0.5**
I29M				IAmb	IAmb	09 55 33.5	
	comp=Z,2.0nm,0.8s						
H29M	**Whitestone**	**25.61**	**40**	P	**P**	**09 55 31.7**	**-0.4**
I30M	**Mount Dempster**	**26.25**	**43**	P	**P**	**09 55 38.0**	**0.0**
I30M				IAmb	IAmb	09 55 51.9	
	comp=Z,1.5nm,0.7s						
G31M	**Satah River**	**27.35**	**39**	P	**P**	**09 55 47.7**	**+0.1**
G31M				IAmb	IAmb	09 55 48.8	
	comp=Z,2.3nm,0.7s						
MMPY	**Sheldon Lake,**	**28.38**	**49**	P	**P**	**09 55 58.4**	**+1.5**
MMPY				IAmb	IAmb	09 56 00.3	
	comp=Z,1.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.57**	**200**	T	T	10 32 32.2	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.59**	**200**	T	T	10 32 32.9	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.59**	**200**	T	T	10 32 21.6	
	baz=11						
YKA	**Yellowknife Ar**	**36.01**	**47**	P	**P**	**09 57 03.3**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=287,slow=8.7,SNR=4.9						
YKA				LR	LR	10 11 48.4	
	comp=Z,25nm,18.0s,baz=340,slow=36						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**45.24**	**82**	P	**P**	**09 58 20.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=290,slow=8.2,SNR=8.2						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**47.79**	**71**	P	**P**	**09 58 38.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=311,slow=4.5,SNR=5.4						
	comp=Z,0.5nm,0.7s						
ULM	**Lac du Bonnet**	**50.75**	**56**	P	**P**	**09 59 00.9**	**+0.1**
	comp=Z,3.5nm,1.0s,baz=329,slow=6.7,SNR=5.4						
	comp=Z,3.5nm,1.0s						
ARCES	**ARCESS Array B**	**56.98**	**349**	LR	LR	10 25 50.0	
	comp=Z,8.9nm,18.7s,baz=142,slow=38						
KURBB	**Kurchatov Arra**	**57.25**	**312**	P	**P**	**09 59 49.2**	**+1.5**
	comp=Z,0.9nm,0.2s,baz=38,slow=6.8,SNR=1.9						
	comp=Z,0.9nm,0.2s						
MKAR	**Makanchi Array**	**58.11**	**306**	P	**P**	**09 59 54.4**	**+0.6**
MKAR	**Makanchi Array**	**58.11**	**306**	P	**P**	**09 59 54.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.6,SNR=2.6						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**59.10**	**318**	P	**P**	**10 00 02.1**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=46,slow=8.5,SNR=5.4						
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**60.31**	**80**	P	**P**	**10 00 09.5**	**+0.3**
TXAR	**Lajitas Array**	**60.31**	**80**	P	**P**	**10 00 09.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=309,slow=5.7,SNR=14						
	comp=Z,0.5nm,0.5s						
AB31	**Akbulak array**	**66.19**	**321**	P	**P**	**10 00 48.6**	**+1.2**
AB31				IAmb	IAmb	10 01 15.2	
	comp=Z,1.1nm,0.9s						
ABKAR	**Akbulak array**	**66.19**	**321**	P	**P**	**10 00 49.3**	**+1.9**
M57A	**Sunshine Farm,**	**66.33**	**53**	P	**P**	**10 00 48.7**	**+0.2**
SSPA	**Standing Stone**	**66.48**	**54**	P	**P**	**10 00 49.8**	**+0.4**
WRB	**Warramunga Arr**	**81.31**	**221**	P	**P**	**10 02 17.7**	**+2.2**
WRA	**Warramunga Arr**	**81.37**	**221**	P	**P**	**10 02 18.9**	**+3.2**
	comp=Z,0.2nm,0.5s,baz=30,slow=5.9,SNR=5.4						
	comp=Z,0.2nm,0.5s						

*KRSC **31** 10:08:09.6±2.1,49˚.92N×156˚.95E,h48km±25km,Ml4.0*
*IDC **31** 10:08:14.2±3.8,50˚.32N×155˚.71E,h116km±36km,mb3.0/4, mbtmp3.3/5,Error ellipse: s-maj=36.5km s-min=29.7km az=178.0*

ISC 31 10:08:09.6±1.2,**49˚.79N**±0˚.09×**156˚.60E**±0˚.08,**h50**km,**n66,** σ1**30**/65,**mb3.5/5,1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.95**	**341**	*e*PN	**Pn**	**10 08 25.7**	**-0.9**
SKR				*e*S	**Sn**	**10 08 37.4**	**-1.7**
SKR				pmax	pmax		
	comp=Z,123nm,0.2s						
SKR				smax	smax		
	comp=N,608nm,0.2s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
SKR	**Severo-Kuril's**	**0.95**	**341**	*e*P	**Pn**	**10 08 25.5**	**-1.2**
SKR				*e*S	**Sn**	**10 08 37.4**	**-1.7**
PAU	**Pauzhetka**	**1.69**	**4**	PN	**Pn**	**10 08 36.1**	**-0.5**
PAU				S	**Sn**	**10 08 56.5**	**-0.6**
PAU	**Pauzhetka**	**1.69**	**4**	*e*P	**Pn**	**10 08 36.2**	**-0.5**
PAU				*e*S	**Sn**	**10 08 56.5**	**-0.6**
KDTR	**Khodutka, Kamc**	**2.23**	**24**	PN	**Pn**	**10 08 43.9**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.23**	**24**	*e*P	**Pn**	**10 08 43.9**	**-0.1**
KDTR				*e*S	**Sn**	**10 09 09.5**	**-0.9**
MIPR	**Malaya Ipel'ka**	**2.49**	**2**	PN	**Pn**	**10 08 47.1**	**-0.6**
MIPR	**Malaya Ipel'ka**	**2.49**	**2**	*e*P	**Pn**	**10 08 47.1**	**-0.6**
ASAK	**Asacha**	**2.73**	**17**	PN	**Pn**	**10 08 51.8**	**+0.9**
ASAK	**Asacha**	**2.73**	**17**	*e*P	**Pn**	**10 08 51.8**	**+0.9**
MTVR	**Mutnovka**	**2.88**	**20**	PN	**Pn**	**10 08 53.3**	**+0.2**
MTVR	**Mutnovka**	**2.88**	**20**	*e*P	**Pn**	**10 08 53.4**	**+0.2**
MTVR				*e*S	**Sn**	**10 09 26.4**	**-0.1**
RUS	**Russkaya**	**2.91**	**24**	PN	**Pn**	**10 08 53.0**	**-0.4**
RUS	**Russkaya**	**2.91**	**24**	*e*P	**Pn**	**10 08 53.0**	**-0.4**
RUS				*e*S	**Sn**	**10 09 25.4**	**-1.7**
GRL	**Gorelyy**	**2.92**	**18**	PN	**Pn**	**10 08 54.6**	**+1.0**
GRL				S	**Sn**	**10 09 28.1**	**+0.6**
GRL	**Gorelyy**	**2.92**	**18**	*e*P	**Pn**	**10 08 54.6**	**+1.0**
GRL				*e*S	**Sn**	**10 09 28.2**	**+0.6**
APC	**Apacha**	**3.16**	**6**	PN	**Pn**	**10 08 59.4**	**+2.6**
APC	**Apacha**	**3.16**	**6**	*e*P	**Pn**	**10 08 59.4**	**+2.6**
PEA0B	**Petropavlovsk-**	**3.40**	**11**	*de*PN	**Pn**	**10 09 00.6**	**+0.5**
PETK	**Petropavlovsk-**	**3.40**	**11**	P	**Pn**	**10 09 00.0**	**-0.1**
	comp=E,7.5nm,0.6s,baz=169,slow=13,SNR=130						
PETK				S	**Sn**	**10 09 38.3**	**-0.8**
	comp=E,1.4nm,0.4s,baz=228,slow=30,SNR=1.2						
PETK	**Petropavlovsk-**	**3.40**	**11**	PN	**Pn**	**10 09 00.0**	**-0.1**
PET	**Petropavlovsk**	**3.49**	**21**	*e*PN	**Pn**	**10 09 02.2**	**+0.9**
PET	**Petropavlovsk**	**3.49**	**21**	*e*P	**Pn**	**10 09 02.4**	**+1.1**
DALK	**Dalny**	**3.52**	**22**	PN	**Pn**	**10 09 02.3**	**+0.6**
DALK	**Dalny**	**3.52**	**22**	*e*P	**Pn**	**10 09 02.3**	**+0.6**
DALK				*e*S	**Sn**	**10 09 41.8**	**-0.1**
UGLR	**Uglovaya**	**3.70**	**21**	PN	**Pn**	**10 09 05.6**	**+1.3**
UGLR	**Uglovaya**	**3.70**	**21**	*e*P	**Pn**	**10 09 05.7**	**+1.3**
AVH	**Avacha**	**3.73**	**20**	PN	**Pn**	**10 09 06.6**	**+2.0**
AVH	**Avacha**	**3.73**	**20**	*e*P	**Pn**	**10 09 06.7**	**+2.0**
KOK	**Koryaka**	**3.73**	**19**	PN	**Pn**	**10 09 06.6**	**+1.9**
KOK	**Koryaka**	**3.73**	**19**	*e*P	**Pn**	**10 09 06.6**	**+1.9**
SMAR	**Somma**	**3.74**	**21**	PN	**Pn**	**10 09 06.4**	**+1.4**
SMAR	**Somma**	**3.74**	**21**	*e*P	**Pn**	**10 09 06.5**	**+1.4**
KRER	**Koryakskii**	**3.77**	**20**	PN	**Pn**	**10 09 06.9**	**+1.6**
KRER	**Koryakskii**	**3.77**	**20**	*e*P	**Pn**	**10 09 07.0**	**+1.6**
SDLR	**Sedlovina**	**3.77**	**21**	PN	**Pn**	**10 09 06.0**	**+0.7**
SDLR	**Sedlovina**	**3.77**	**21**	*e*P	**Pn**	**10 09 06.1**	**+0.7**
KRX	**Arik**	**3.80**	**19**	PN	**Pn**	**10 09 07.3**	**+1.6**
KRX	**Arik**	**3.80**	**19**	*e*P	**Pn**	**10 09 07.3**	**+1.6**
NLC	**Nalytchevo**	**3.80**	**26**	*e*S	**Sn**	**10 09 46.4**	**-2.5**
SPN	**Mys Shipunski**	**3.94**	**32**	PN	**Pn**	**10 09 07.8**	**+0.3**
SPN	**Mys Shipunski**	**3.94**	**32**	*e*P	**Pn**	**10 09 07.9**	**+0.3**
SPN				*e*S	**Sn**	**10 09 51.4**	**-1.1**
GNL	**Ganaly**	**4.00**	**11**	PN	**Pn**	**10 09 09.7**	**+1.3**
GNL	**Ganaly**	**4.00**	**11**	*e*P	**Pn**	**10 09 09.7**	**+1.3**
MKZ	**Mys Kozlova**	**5.72**	**31**	PN	**Pn**	**10 09 31.0**	**-0.9**
MKZ	**Mys Kozlova**	**5.72**	**31**	*e*P	**Pn**	**10 09 31.0**	**-0.9**
TUMD	**Tumrok D**	**5.90**	**22**	PN	**Pn**	**10 09 36.4**	**+2.1**
TUMD	**Tumrok D**	**5.90**	**22**	*e*P	**Pn**	**10 09 36.5**	**+2.1**
H11N2	**WAKE ISLAND Hy**	**31.10**	**161**	T	T	10 47 25.6	
	baz=346,slow=77,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**31.11**	**161**	T	T	10 47 23.0	
	baz=346,slow=77,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**31.11**	**161**	T	T	10 47 28.2	
	baz=346,slow=77,SNR=13						
H11S1	**WAKE ISLAND Hy**	**32.24**	**162**	T	T	10 48 56.5	
	baz=347,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**32.25**	**162**	T	T	10 48 52.2	
	baz=347,slow=76,SNR=98						
H11S2	**WAKE ISLAND Hy**	**32.26**	**162**	T	T	10 48 57.7	
	baz=347,slow=76,SNR=67						
MKAR	**Makanchi Array**	**47.65**	**296**	P	P	10 16 31.7	-8.9
	comp=E,0.2nm,0.4s,baz=64,slow=6.1,SNR=4.1						
	comp=E,0.2nm,0.4s						
MKAR	**Makanchi Array**	**47.65**	**296**	P	P	10 16 31.7	-8.9
KURK	**Kurchatov**	**47.65**	**303**	P	P	10 16 33.7	-6.8
KURBB	**Kurchatov Arra**	**47.75**	**303**	P	P	10 16 33.7	-7.6
	comp=E,0.3nm,0.3s,baz=67,slow=8.0,SNR=2.8						
	comp=E,0.3nm,0.3s						
OBN	**Obninsk**	**64.09**	**326**	*e*P	**P**	**10 18 40.8**	**+2.8**
OBN				*e*		10 19 14.5	
OBN				*e*		10 21 00.0	
OBN				*e*PPP	PPP	10 22 30.9	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**72.18**	**202**	P	**P**	**10 19 28.7**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=8.8,slow=7.4,SNR=6.0						
	comp=Z,0.1nm,0.6s						
WRA	**Warramunga Arr**	**72.18**	**202**	*i* P	**P**	**10 19 29.6**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**74.01**	**64**	P	**P**	**10 19 38.1**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=298,slow=4.1,SNR=4.0						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**74.01**	**64**	P	**P**	**10 19 38.2**	**-1.9**
H03N2	**Juan Fernandez**	**136.42**	**90**	T	T	12 59 37.0	
	baz=312,slow=77,SNR=5.2						
H03N1	**Juan Fernandez**	**136.43**	**90**	T	T	12 59 34.6	
	baz=312,slow=77,SNR=4.2						
H03N3	**Juan Fernandez**	**136.43**	**90**	T	T	12 59 41.1	
	baz=312,slow=77,SNR=5.7						

*IDC **31**

PCVE					Sn		Sn	11 36 54.6	+0.6
PCVE	**Castro Verde**	**1.37**	**49**	⇑	*e*P		**Pb**	**11 36 39.0**	**-0.3**
PCVE					*e*S		**Sb**	**11 36 54.9**	**-1.6**
PCVE					*i* IAML			11 36 55.8	
PCVE					*i* IAML			11 36 56.1	
PCVE					*i* IAML			11 36 56.4	
MESJ	**Messejana**	**1.42**	**39**		*e*P		**Pn**	**11 36 39.4**	**+1.7**
MESJ					*e*S		**Sn**	**11 36 55.4**	**+0.2**
MESJ					IAML			11 36 57.5	
	comp=N,10nm,0.2s								
MESJ	**Messejana**	**1.42**	**39**	⇑	*e*P		**Pn**	**11 36 39.4**	**+1.7**
MESJ					*e*S		**Sb**	**11 36 55.9**	**-2.0**
MESJ					*i* IAML			11 36 57.8	
MESJ					*i* IAML			11 36 57.8	
MESJ					*i* IAML			11 36 59.4	
PVAQ	**Vaqueiros**	**1.46**	**62**		Sn		**Sn**	**11 36 56.5**	**+0.3**
PVAQ					Pn		**Pn**	**11 36 39.6**	**+1.4**
PVAQ	**Vaqueiros**	**1.46**	**62**	⇑	*e*P		**Pn**	**11 36 40.1**	**+1.9**
PVAQ					*e*S		**Sn**	**11 36 57.3**	**+1.1**
PVAQ					*i* IAML			11 36 59.1	
PVAQ					*i* IAML			11 36 59.5	
PVAQ					*i* IAML			11 36 60.0	
PVAQ	**Vaqueiros**	**1.46**	**62**		P		**Pn**	**11 36 38.9**	**+0.6**
PVAQ	**Vaqueiros**	**1.46**	**62**		S		**Sn**	**11 36 55.9**	**-0.3**
EGRO	**El Granado**	**1.68**	**61**		Pn		**Pn**	**11 36 42.5**	**+1.1**
EGRO					Sn		**Sn**	**11 37 02.2**	**+0.5**
EGRO	**El Granado**	**1.68**	**61**		Pn		**Pn**	**11 36 41.5**	**+0.2**
EGRO					Sn		**Sn**	**11 37 01.6**	**-0.1**
EGRO					*i* IVmb_Lg			11 37 03.9	
PBEJ	**Beja**	**1.74**	**42**		*e*S		**Sn**	**11 37 03.3**	**+0.1**
PBEJ					*i* IAML			11 37 04.3	
PBEJ					*i* IAML			11 37 05.2	
PBEJ					*i* IAML			11 37 05.3	
EVO	**Evora**	**2.08**	**30**		Pn		**Pn**	**11 36 47.5**	**+0.7**
EVO					Sn		**Sn**	**11 37 10.6**	**-0.9**
EVO	**Evora**	**2.08**	**30**		*e*P		**Pn**	**11 36 48.1**	**+1.3**
EVO					*e*S		**Sn**	**11 37 11.3**	**-0.2**
EVO					*i* IAML			11 37 11.9	
EVO					*i* IAML			11 37 11.9	
EVO					*i* IAML			11 37 12.5	
PARRA	**Arraiolos**	**2.09**	**6**		*e*P		**Pb**	**11 36 51.2**	**-0.4**
PARRA					*e*S		**Sb**	**11 37 16.5**	**-0.6**
PARRA					*i* IAML			11 37 17.8	
PARRA					*i* IAML			11 37 17.9	
PARRA					*i* IAML			11 37 17.9	
PMAFR	**Mafra**	**2.22**	**1**		Pn		**Pn**	**11 36 49.8**	**+1.1**
PMAFR					Sn		**Sn**	**11 37 13.9**	**-1.1**
PMAFR	**Mafra**	**2.22**	**1**	⇑	*e*P		**Pn**	**11 36 50.4**	**+1.6**
PMAFR					*i* IAML			11 37 15.2	
PMAFR					*e*S		**Sn**	**11 37 15.4**	**+0.4**
PMAFR					*i* IAML			11 37 16.4	
PBAR	**Barrancos**	**2.33**	**51**		Pn		**Pn**	**11 36 51.5**	**+1.4**
PBAR					Sn		**Sn**	**11 37 18.2**	**+0.6**
PBAR	**Barrancos**	**2.33**	**51**		*e*S		**Sn**	**11 37 17.6**	**0.0**
PBAR					*i* IAML			11 37 19.6	
PBAR					*i* IAML			11 37 20.2	
PBAR					*i* IAML			11 37 20.3	
EMIN	**Mina Concepcio**	**2.36**	**63**		Pn		**Pn**	**11 36 50.4**	**-0.3**
EMIN					Sn		**Sn**	**11 37 19.1**	**+0.6**
EMIN	**Mina Concepcio**	**2.36**	**63**		Sn		**Sn**	**11 37 17.8**	**-0.7**
EMIN					*i* IVmb_Lg			11 37 27.0	
PMTG	**Montargil**	**2.49**	**20**	⇓	*e*P		**Pn**	**11 36 53.5**	**+1.1**
PMTG					*e*S		**Sn**	**11 37 21.3**	**-0.4**
PMTG					*i* IAML			11 37 22.8	
PMTG					*i* IAML			11 37 23.4	
PMTG					*i* IAML			11 37 23.5	
PESTR	**Estremoz**	**2.54**	**32**		Pn		**Pn**	**11 36 53.0**	**-0.2**
PESTR					Sn		**Sn**	**11 37 22.5**	**-0.4**
PESTR	**Estremoz**	**2.54**	**32**		*e*P		**Pn**	**11 36 54.1**	**+1.0**
PESTR					*e*S		**Sn**	**11 37 22.5**	**-0.4**
PESTR					*i* IAML			11 37 22.8	
PESTR					*i* IAML			11 37 24.4	
PESTR					*i* IAML			11 37 24.8	
EBAD	**Badajoz**	**2.73**	**42**		Pn		**Pn**	**11 36 56.5**	**+0.8**
EBAD					Sn		**Sn**	**11 37 26.6**	**-1.1**
EBAD	**Badajoz**	**2.73**	**42**		Pn		**Pn**	**11 36 56.1**	**+0.3**
EBAD					Sn		**Sn**	**11 37 27.8**	**+0.2**
EBAD					*i* IVmb_Lg			11 37 29.2	
ESPR	**Espera**	**2.80**	**86**		Pn		**Pn**	**11 36 58.0**	**+1.3**
ESPR					Sn		**Sn**	**11 37 29.7**	**+0.4**
ESPR	**Espera**	**2.80**	**86**		Pn		**Pn**	**11 36 58.6**	**+2.0**
ESPR					Sn		**Sn**	**11 37 27.2**	**-2.0**
ESPR					*i* IVmb_Lg			11 37 31.6	
PMRV	**Marv??o**	**3.10**	**29**		*e*P		**Pn**	**11 37 02.0**	**+1.2**
PMRV					*e*S		**Sn**	**11 37 35.6**	**-1.1**
PMRV					*i* IAML			11 37 37.1	
PMRV					*i* IAML			11 37 37.3	
PMRV					*i* IAML			11 37 37.3	
PCAS	**Casmilo, Conde**	**3.38**	**11**		*e*P		**Pn**	**11 37 06.5**	**+1.9**
PCAS					*e*S		**Sn**	**11 37 43.7**	**+0.1**
ECAB	**El Cabril**	**3.40**	**66**		Pn		**Pn**	**11 37 06.3**	**+1.4**
ECAB					Sn		**Sn**	**11 37 43.0**	**-1.1**
ECAB	**El Cabril**	**3.40**	**66**		Pn		**Pn**	**11 37 05.3**	**+0.4**
ECAB					Sn		**Sn**	**11 37 42.5**	**-1.5**
ECAB					*i* IVmb_Lg			11 37 45.5	
PCBR	**Castelo Branco**	**3.43**	**25**		*e*P		**Pn**	**11 37 06.9**	**+1.5**
PCBR					*e*S		**Sn**	**11 37 42.9**	**-1.9**
ZHG	**ZHG**	**3.96**	**145**		P		**Pn**	**11 37 13.5**	**+0.9**
ZHG	**ZHG**	**3.96**	**145**		S		**Sn**	**11 37 57.0**	**-0.9**
MVO	**Moncorvo**	**4.78**	**21**		*e*P		**Pn**	**11 37 25.3**	**+1.4**
MVO					*e*S		**Sn**	**11 38 15.4**	**-2.7**
MVO					*i* IAML			11 38 17.9	
MVO					*i* IAML			11 38 18.2	
POLO	**Lamas de Olo**	**4.79**	**14**		*e*P		**Pn**	**11 37 25.3**	**+1.3**
POLO					*e*S		**Sn**	**11 38 16.8**	**-1.6**
POLO					*i* IAML			11 38 18.8	
POLO					*i* IAML			11 38 19.6	
PAB	**San Pablo**	**4.83**	**53**		Pn		**Pn**	**11 37 25.8**	**+1.1**
PAB					Sn		**Sn**	**11 38 16.6**	**-2.9**
PAB					*i* IVmb_Lg			11 38 50.2	
PCAB	**Cabril**	**5.07**	**11**		*e*P		**Pn**	**11 37 29.4**	**+1.5**
PCAB					*e*S		**Sn**	**11 38 22.2**	**-3.1**
EQES	**Quesada**	**5.11**	**76**		Pn		**Pn**	**11 37 28.8**	**+0.2**
EQES					*i* IVmb_Lg			11 38 29.8	
ELOB	**Lobios**	**5.22**	**11**		Pn		**Pn**	**11 37 31.3**	**+1.3**
ELOB					Sn		**Sn**	**11 38 26.8**	**-2.4**
ELOB					*i* IVmb_Lg			11 38 28.1	
MDT	**Midelt**	**5.52**	**134**		P		**Pn**	**11 37 34.1**	**0.0**
MDT	**Midelt**	**5.52**	**134**		S		**Sn**	**11 38 34.1**	**-2.4**
ECAL	**Calabor**	**5.58**	**20**		Pn		**Pn**	**11 37 35.8**	**+0.9**
ECAL					Sn		**Sn**	**11 38 34.6**	**-3.2**
ECAL	**Calabor**	**5.58**	**20**		Pn		**Pn**	**11 37 35.7**	**+0.9**
ECAL					Sn		**Sn**	**11 38 35.4**	**-2.5**
ECAL					*i* IVmb_Lg			11 38 35.5	
TIO	**Tiouine**	**6.04**	**163**		Pn		**Pn**	**11 37 42.2**	**+0.8**
TIO					Sn		**Sn**	**11 38 47.0**	**-2.5**
OUZM	**OUZ**	**6.19**	**159**		P		**Pn**	**11 37 44.5**	**+1.1**
OUZM	**OUZ**	**6.19**	**159**		S		**Sn**	**11 38 53.8**	**+0.6**

*SDD **31** 11:47:35.0±2.5, 19.°11N×70.°94W, h87km±12km, MD2.9, ML3.1, MW3.9*

*OSPL **31** 11:47:37.4±2.2, 19.°10N×70.°98W, h84km±13km, ML2.8*

ISC 31 11:47:36.8±1.7, 19.12N±0.04°×70.95W±0.04°, h78km±11km, n22, σ1°06/40, 16C-10D, Dominican Republic region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.35**	**247**		*i* P	**Pn**	**11 47 48.5**	**-0.6**
SDDR					*e*S	**Sn**	**11 47 58.5**	**+0.2**
SDDR					IAML		11 48 01.5	
	comp=Z,248nm,0.3s							
SDDR	**Presa de Saban**	**0.35**	**247**	⇑	*e*Pg	**Pn**	**11 47 48.6**	**-0.6**
SDDR				⇓	*e*Sg	**Sn**	**11 47 58.7**	**+0.4**
SDDR					IAML		11 48 01.2	
	comp=N,241nm,0.3s							
SC01	**Santiago de lo**	**0.37**	**34**		*i* P	**Pn**	**11 47 49.5**	**+0.2**
SC01					*e*S	**Sn**	**11 48 00.2**	**+1.7**
SC01	**Santiago de lo**	**0.37**	**34**	⇓	*e*Pg	**Pn**	**11 47 49.6**	**+0.2**
SC01				⇑	*e*Sg	**Sn**	**11 48 00.6**	**+2.1**
SC01					IAML		11 48 01.4	
	comp=N,912nm,0.3s							
SJM1	**San Juan de la**	**0.40**	**219**	⇓	*e*Pg	**Pn**	**11 47 48.3**	**-1.3**
SJM1				⇑	*e*Sg	**Sn**	**11 47 58.8**	**-0.2**
ABDR	**Alto Bandera**	**0.43**	**135**	⇑	*e*Pg	**Pn**	**11 47 49.4**	**-0.7**
ABDR				⇑	*e*Sg	**Sn**	**11 48 00.0**	**0.0**
ABDR					IAML		11 48 00.7	
	comp=N,372nm,0.5s							
MADR	**Mao Valverde**	**0.47**	**342**	⇓	*e*Pg	**Pn**	**11 47 47.0**	**-3.0**
MADR				⇓	*e*Sg	**Sn**	**11 48 00.9**	**+1.1**
MADR					IAML		11 48 04.1	
	comp=N,1μm,0.5s							
SFDR	**San Fco. de Ma**	**0.69**	**76**	⇑	*e*Pg	**Pn**	**11 47 51.7**	**-0.4**
SFDR				⇑	*e*Sg	**Sn**	**11 48 04.2**	**+0.6**
SFDR					IAML		11 48 06.0	
	comp=N,924nm,0.3s							
SODR	**Sosua Marina B**	**0.72**	**29**	⇓	*e*Pg	**Pn**	**11 47 52.2**	**-0.3**
SODR				⇑	*e*Sg	**Sn**	**11 48 06.3**	**+2.2**
SODR					IAML		11 48 13.1	
	comp=N,513nm,0.3s							
LOPP1	**Punta Rusia, P**	**0.77**	**342**		*i* P	**Pn**	**11 47 52.6**	**-0.4**
LOPP1					*e*S	**Sn**	**11 48 06.6**	**+1.5**
LOPP1					IAML		11 48 10.8	
	comp=Z,290nm,0.4s							
NEDR	**Neiba UASD**	**0.77**	**215**	⇓	*e*Pg	**Pn**	**11 47 52.8**	**-0.3**
NEDR				⇑	*e*Sg	**Sn**	**11 48 06.1**	**+1.1**
NEDR					IAML		11 48 06.2	
	comp=N,158nm,0.2s							
LODA1	**ITESIL, Dajabo**	**0.83**	**301**		*i* P	**Pn**	**11 47 52.8**	**-0.9**
LODA1					*e*S	**Sn**	**11 48 05.5**	**-0.7**
LODA1					IAML		11 48 07.7	
	comp=Z,856nm,0.8s							
LODA1	**ITESIL, Dajabo**	**0.83**	**301**	⇑	*e*Pg	**Pn**	**11 47 52.7**	**-0.9**
LODA1				⇑	*e*Sg	**Sn**	**11 48 05.3**	**-0.9**
LODA1					IAML		11 48 07.2	
	comp=N,2μm,1.8s							
DR08	**Loma La Naviza**	**0.89**	**100**	⇑	*e*Pg	**Pn**	**11 47 53.2**	**-1.3**
DR08				⇑	*e*Sg	**Sn**	**11 48 06.5**	**-1.2**
DR08					IAML		11 48 09.5	
	comp=N,2μm,0.1s							
LODU1	**El Espartillar**	**0.91**	**213**		*i* P	**Pn**	**11 47 54.3**	**-0.3**
LODU1					IAML		11 48 09.2	
	comp=Z,232nm,0.4s							
BANI	**BANI**	**0.91**	**142**	⇑	*e*Pg	**Pn**	**11 47 54.5**	**-0.3**
BANI				⇓	*e*Sg	**Sn**	**11 48 07.6**	**-0.6**
BANI					IAML		11 48 09.6	
	comp=N,230nm,0.3s							
JIDR	**Jimani**	**1.06**	**234**	⇓	*e*Pg	**Pn**	**11 47 56.2**	**-0.1**
JIDR				⇑	*e*Sg	**Sn**	**11 48 12.5**	**+1.5**
JIDR					IAML		11 48 13.3	
	comp=N,221nm,0.4s							
LOVI	**El Cajuil, Ovi**	**1.37**	**197**		*i* P	**Pn**	**11 47 60.0**	**-0.4**
LOVI					IAML		11 48 22.5	
	comp=Z,57nm,0.4s							
PAPH	**Port-au-Prince**	**1.41**	**245**		*i* P	**Pn**	**11 48 01.0**	**+0.2**
MASC	**Masc**	**3.27**	**289**		*i* P	**Pn**	**11 48 25.1**	**-0.6**
MASC					IAML		11 49 12.2	
	comp=Z,8.8nm,0.7s							

*SJA **31** 11:54:42.8±0.8, 30.°19S×71.°37W, h62km±4km, ML3.6, MW3.7*

*GUC **31** 11:54:44.8±0.6, 30.°23S×71.°24W, h70km±2km, ML4.0*

ISC 31 11:54:45.4±1.2, 30.°23S±0.°02×71.°34W±0.°04, h57km±8km, n60, σ1°55/105, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.33**	**16**	⇓	*i* P	**Pn**	**11 54 55.5**	**+0.1**
CO05					*i* S	**Sn**	**11 55 03.3**	**+0.7**
CO05					IAML		11 55 04.1	
	comp=E,11μm,0.2s							
GO04	**Tololo Observa**	**0.47**	**83**	⇑	*i* P	**Pn**	**11 54 56.6**	**-0.5**
GO04					*i* S	**Sn**	**11 55 05.3**	**-0.3**
GO04					IAML		11 55 08.9	
	comp=N,18μm,0.5s							
CO06	**Fray Jorge**	**0.51**	**210**		*i* P	**Pn**	**11 54 57.9**	**+0.7**
CO06					*e*S	**Sn**	**11 55 07.5**	**+1.7**
CO03	**El Pedregal**	**0.83**	**137**	⇑	*i* P	**Pn**	**11 55 00.3**	**-0.8**
CO03					*i* S	**Sn**	**11 55 11.8**	**-0.9**
CO03					IAML		11 55 12.8	
	comp=E,4μm,0.2s							
CO03	**El Pedregal**	**0.83**	**137**		*e*P	**Pn**	**11 55 00.3**	**-0.8**
CO03					*e*S	**Sn**	**11 55 12.2**	**-0.6**
CO03					*e*S		11 55 12.3	
CO03					IAML		11 55 12.8	
	comp=Z,1μm,0.2s							
CO02	**Combarbal**	**1.01**	**163**	⇑	*i* P	**Pn**	**11 55 03.2**	**-0.4**
CO02					*i* S	**Sn**	**11 55 17.1**	**+0.1**
CO02					IAML		11 55 20.0	
	comp=E,6μm,0.2s							
CO02	**Combarbal**	**1.01**	**163**		*e*P	**Pn**	**11 55 03.2**	**-0.4**
CO02					*e*S	**Sn**	**11 55 17.8**	**+0.7**
CO02					IAML		11 55 18.8	
	comp=Z,1μm,0.2s							
CO01	**Juntas del Tor**	**1.11**	**77**	⇑	*i* P	**Pn**	**11 55 04.3**	**-0.7**
CO01					*i* S	**Sn**	**11 55 18.3**	**-1.3**
CO01	**Juntas del Tor**	**1.11**	**77**		*e*P	**Pn**	**11 55 04.2**	**-0.7**
CO01					*e*S	**Sn**	**11 55 18.7**	**-0.8**
CO01					IAML		11 55 18.9	
	comp=Z,3μm,0.4s							
LCO	**Las Campanas**	**1.34**	**25**	⇓	*i* P	**Pn**	**11 55 07.0**	**-1.1**
LCO					*i* S	**Sn**	**11 55 24.1**	**-1.0**
LCO	**Las Campanas**	**1.34**	**25**		*e*P	**Pn**	**11 55 06.7**	**-1.4**
LCO					*e*S	**Sn**	**11 55 24.4**	**-0.6**
LCO					IAML		11 55 27.7	
	comp=Z,1μm,0.5s							
AROD	**Rodeo**	**1.62**	**88**		*e*P	**Pn**	**11 55 12.2**	**+0.2**
AROD					*e*P		11 55 12.3	
AROD					*e*S	**Sn**	**11 55 32.9**	**+1.0**
ACCO	**Cerro Coronel**	**2.00**	**101**		*e*P	Pn	11 55 06.8	-10
AC04	**Llanos de Chal**	**2.03**	**7**		*e*P	**Pn**	**11 55 16.3**	**-1.0**
AC04					*e*S	**Sn**	**11 55 47.4**	**+5.8**
AC04					IAML		11 55 48.9	
	comp=Z,280nm,0.5s							
VA06	**Catapilco**	**2.32**	**179**		*e*P	**Pn**	**11 55 20.9**	**-0.3**
VA06					*i* S	**Sn**	**11 55 48.8**	**+0.3**
VA06					IAML		11 55 57.8	
	comp=N,1μm,0.4s							
AGUA	**GUANDACOL**	**2.58**	**74**		*e*P	**Pn**	**11 55 26.9**	**+2.0**
AGUA					*e*S	**Sn**	**11 55 59.5**	**+4.3**
AGUA					IAML		11 56 02.3	
	comp=Z,211nm,0.2s							
VA03	**San Esteban**	**2.61**	**165**		*i* P	**Pn**	**11 55 25.4**	**+0.1**
VA03					*i* S	**Sn**	**11 55 55.1**	**-0.7**
VA03					IAML		11 56 08.3	
	comp=E,664nm,0.4s							
VA03	**San Esteban**	**2.61**	**165**		*e*P	**Pn**	**11 55 25.1**	**-0.2**
VA03					*e*S	**Sn**	**11 55 57.0**	**+1.2**
VA03					IAML		11 56 01.4	
	comp=Z,287nm,0.2s							
RTLL	**Cerro Villicun**	**2.70**	**115**		*e*P	**Pn**	**11 55 26.9**	**+0.5**
RTLL					*e*S	**Sn**	**11 55 59.0**	**+1.2**
RTLL					IAML		11 56 03.3	
	comp=Z,145nm,0.6s							
ROCH	**El Roble**	**2.75**	**174**		*i* P		11 55 26.8	
ROCH					*i* P	**Pn**	**11 55 26.7**	**-0.5**
ROCH					*i* S	**Sn**	**11 55 59.0**	**-0.3**
ROCH					IAML		11 56 11.6	
	comp=N,250nm,0.3s							
ROCH					IAML		11 56 11.7	
	comp=N,522nm,0.4s							
GO03	**Copiapo**	**2.80**	**21**		*e*P	**Pn**	**11 55 26.8**	**-1.0**
GO03					*e*S	**Sn**	**11 56 03.6**	**+3.2**
GO03					IAML		11 56 10.6	
	comp=Z,140nm,0.6s							
CFA	**Coronel Fontan**	**3.00**	**118**		*e*P	**Pn**	**11 55 30.9**	**+0.4**
CFA					*e*S	**Sn**	**11 56 06.3**	**+1.1**
CFA					IAML		11 56 12.6	
	comp=Z,87nm,0.2s							
MT02	**Curacav**	**3.02**	**177**		*i* P	**Pn**	**11 55 30.1**	**-0.7**
MT02	**Curacav**	**3.02**	**177**		*e*P	**Pn**	**11 55 30.2**	**-0.5**
MT02					*e*S	**Sn**	**11 56 02.6**	**-3.1**
MT02					IAML		11 56 20.2	
	comp=Z,212nm,0.4s							
MT10	**Hacienda Santa**	**3.11**	**167**		*e*P	**Pn**	**11 55 31.7**	**-0.4**
MT10					*e*S	**Sn**	**11 56 07.2**	**-0.8**
MT10					IAML		11 56 17.7	
	comp=N,735nm,0.6s							
VCA	**Vinchina**	**3.11**	**62**		*e*P	**Pn**	**11 55 33.6**	**+1.4**
VCA					*e*S	**Sn**	**11 56 06.2**	**-2.1**
VCA					IAML		11 56 19.3	
	comp=Z,262nm,0.6s							
ASAL	**Salagasta**	**3.18**	**138**		*e*P	**Pn**	**11 55 35.1**	**+2.1**
ASAL					*e*S	**Sn**	**11 56 09.7**	**-0.1**
MT05	**Renca**	**3.19**	**171**		*e*P	**Pn**	**11 55 33.0**	**-0.1**
MT05					*e*S	**Sn**	**11 56 09.4**	**-0.6**
MT05					IAML		11 56 21.1	
	comp=E,630nm,0.2s							
MT05	**Renca**	**3.19**	**171**		*e*P	**Pn**	**11 55 32.7**	**-0.4**
MT05					*e*S	**Sn**	**11 56 11.2**	**+1.2**
MT05					IAML		11 56 40.1	
	comp=Z,614nm,0.8s							
MT14	**Cerro Cal¡n**	**3.23**	**168**		*e*P	**Pn**	**11 55 33.3**	**-0.4**
MT14					*e*S	**Sn**	**11 56 10.1**	**-0.8**
MT14					IAML		11 56 25.7	
	comp=E,546nm,0.8s							
MT16	**CCHEN**	**3.26**	**168**		*e*P	**Pn**	**11 55 33.8**	**-0.3**
MT16					*e*S	**Sn**	**11 56 10.8**	**-0.9**
MT16					IAML		11 56 30.6	
	comp=N,135nm,0.5s							
ARCO	**CERRO ARCO**	**3.32**	**142**		*e*P	**Pn**	**11 55 37.5**	**+2.5**
ARCO					*e*S	**Sn**	**11 56 13.2**	**-0.1**
ARCO					IAML		11 56 22.9	
	comp=Z,111nm,0.9s							
MT04	**Ro Olivares**	**3.33**	**162**		*e*P	**Pn**	**11 55 36.3**	**+1.1**
MT04					IAML		11 56 26.0	
	comp=E,182nm,0.3s							
MT04	**Ro Olivares**	**3.33**	**162**		*e*P	**Pn**	**11 55 35.8**	**+0.6**
MT04					*e*S	**Sn**	**11 56 17.4**	**+3.8**
MT04					*e*S		11 56 17.8	
MT04					IAML		11 56 25.1	
	comp=Z,109nm,0.3s							
MT03	**Universidad Ad**	**3.33**	**168**		*e*S	**Sn**	**11 56 12.6**	**-0.8**
MT03					IAML		11 56 27.7	
	comp=N,346nm,0.3s							
MT03	**Universidad Ad**	**3.33**	**168**		*e*P	**Pn**	**11 55 35.2**	**+0.2**
MT03					*e*P		11 55 35.8	
MT03					*e*S	**Sn**	**11 56 15.8**	**+2.4**
MT03					IAML		11 56 21.7	
	comp=Z,145nm,0.5s							
AVFE	**Valle Fertil**	**3.38**	**98**		*e*P	**Pn**	**11 55 36.0**	**+0.2**
AVFE					*e*S	**Sn**	**11 56 14.7**	**-0.1**
AVFE					IAML		11 56 20.1	
	comp=E,66nm,0.6s							
MT08	**Bocatoma Ro**	**3.40**	**161**		*e*P	**Pn**	**11 55 38.1**	**+2.0**
MT08					IAML		11 56 25.4	
	comp=N,116nm,0.4s							
MT08	**Bocatoma Ro**	**3.40**	**161**		*e*P	**Pn**	**11 55 38.1**	**+2.0**
MT08					*e*S	**Sn**	**11 56 21.6**	**+6.4**
MT08					*e*S		11 56 22.6	
MT08					IAML		11 56 30.4	
	comp=Z,105nm,0.7s							
MT15	**Las Vizcachas**	**3.43**	**168**		*e*P	**Pn**	**11 55 36.5**	**+0.1**
MT15					*e*S	**Sn**	**11 56 15.3**	**-0.6**
MT15					IAML		11 56 34.2	
	comp=E,459nm,0.7s							
MT09	**Talagante**	**3.55**	**175**		*i* P	**Pn**	**11 55 37.7**	**-0.3**
MT09					IAML		11 56 33.5	
	comp=N,222nm,0.2s							
AAGR	**Agrelo**	**3.56**	**144**		*e*P	**Pn**	**11 55 41.0**	**+2.8**
AAGR					*e*S	**Sn**	**11 56 20.6**	**+1.5**
MT13	**San Alfonso**	**3.62**	**166**		*e*P	**Pn**	**11 55 39.7**	**+0.7**
MT13					IAML		11 56 29.1	
	comp=E,186nm,0.4s							
MT13	**San Alfonso**	**3.62**	**166**		*e*P	**Pn**	**11 55 39.5**	**+0.5**
MT13					*e*S	**Sn**	**11 56 22.6**	**+2.2**
MT13					IAML		11 56 43.9	
	comp=Z,76nm,0.5s							
MT01	**Popeta**	**3.62**	**179**		*i* P	**Pn**	**11 55 38.0**	**-1.0**
MT01					*e*S	**Sn**	**11 56 18.9**	**-1.5**
MT01	**Popeta**	**3.62**	**179**		*e*P	**Pn**	**11 55 38.6**	**-0.3**
MT01					*e*S	**Sn**	**11 56 20.8**	**+0.3**
MT01					IAML		11 56 28.5	
	comp=Z,131nm,1.4s							
LMEL	**Las Melosas**	**3.73**	**165**		*i* P	**Pn**	**11 55 41.2**	**+0.6**
LMEL	**Las Melosas**	**3.73**	**165**		*e*P	**Pn**	**11 55 41.0**	**+0.3**
LMEL					*e*S	**Sn**	**11 56 25.8**	**+2.3**
LMEL					IAML		11 56 34.3	
	comp=Z,119nm,0.8s							
ACLC	**CERRO LA CRUZ**	**3.90**	**79**		*e*P	**Pn**	**11 55 43.0**	**+0.1**
ACLC					*e*S	**Sn**	**11 56 27.9**	**+0.3**
ACLC					IAML		11 56 33.8	
	comp=Z,45nm,0.9s							
AC02	**Maricunga**	**3.90**	**30**		*e*P	**Pn**	**11 55 42.8**	**-0.5**
AC02					IAML		11 57 16.1	
	comp=Z,484nm,0.9s							
ACAN	**Cantantal**	**4.10**	**121**		*e*P	**Pn**	**11 55 44.8**	**-0.7**
ACAN					IAML		11 56 35.3	
	comp=Z,154nm,0.5s							
AC01	**Pan de Azucar**	**4.12**	**9**		*e*P	**Pn**	**11 55 43.5**	**-2.3**
AC01					*e*S	Sn	11 56 12.8	-20
AC01					IAML		11 56 46.1	
	comp=Z,40nm,0.7s							
ACHE	**Chepes**	**4.13**	**104**		*e*P	**Pn**	**11 55 46.0**	**-0.1**
ACHE					*e*S	**Sn**	**11 56 31.6**	**-1.6**
BO01	**Tunca**	**4.15**	**177**		*e*P	**Pn**	**11 55 45.5**	**-0.7**
BO01					*e*S	**

TULM Tulcn-Chalpat 6.94 107 P Pn 12 01 48.8 +1.9
218nm,1.0s
LCR2 La Lucha 2 6.98 4 Pn 12 01 46.1 -1.1
LCR2 La Lucha 2 6.98 4 eP Pn 12 01 47.1 -0.1
LCR2 La Lucha 2 6.98 4 P Pn 12 01 47.4 +0.2
LCR2 La Lucha 2 6.98 4 S Sn 12 03 05.0 -1.9
ACOS Acosta 7.03 2 eP Pn 12 01 46.9 -0.9
VINA Juan Vinas 7.16 5 eP Pn 12 01 47.3 -2.2
PIAT Ana Tenorio 7.20 121 P Pn 12 01 50.7 +0.4
529nm55nm,1.0s
BELE Belen 7.21 2 eP Pn 12 01 50.6 +0.4
VERB Verbena 7.21 6 eP Pn 12 01 49.0 -1.3
BBAC Balboa, Cauca 7.22 95 P Pn 12 01 50.0 -0.5
760nm84nm,0.9s
HDC Heredia 7.24 3 Pn 12 01 51.8 +1.1
HDC Heredia 7.24 3 eP Pn 12 01 51.7 +1.0
VICA Volcano Irazu 7.24 5 eP Pn 12 01 50.9 0.0
GCUF Volcan Galeras 7.24 102 P Pn 12 01 52.3 +1.2
1µm86nm,1.0s
VTCV VTCV, Calle Va 7.25 6 eP Pn 12 01 51.8 +1.0
VERH Veragua Rainfo 7.26 10 eP Pn 12 01 49.6 -1.3
CVTQ Turrialba Volc 7.26 5 eP Pn 12 01 49.6 -1.6
CVTV Tajo 7.26 5 eP Pn 12 01 50.3 -0.8
BONI La Bonita 7.26 108 P Pn 12 01 52.3 +1.2
2µm2µm147nm,1.0s
ABRB Las Abras (San 7.27 6 eP Pn 12 01 49.3 -1.9
CVIMO Finca Echandi 7.27 4 eP Pn 12 01 47.0 -4.1
CVTR Volcan Turrial 7.28 5 eP Pn 12 01 51.0 -0.5
RESJ San Isidro (Tu 7.30 6 eP Pn 12 01 51.4 -0.1
COHC Cochancay 7.31 135 Pn 12 01 50.7 -0.8
COHC Cochancay 7.31 135 P Pn 12 01 51.2 -0.3
11µm649nm49nm,1.0s
PILE Guapiles 7.47 5 eP Pn 12 01 55.2 +1.5
VPL1 V. Platanar 7.48 1 eP Pn 12 01 55.1 +1.0
JUNT Juntas 7.53 356 eP Pn 12 01 53.9 -0.6
JTS Las Juntas de 7.53 356 Pn 12 01 54.3 -0.4
JTS Las Juntas de 7.53 356 P Pn 12 01 54.4 -0.2
157nm,0.6s,baz=195,slow=5.4,SNR=64
JTS S Sn 12 03 17.7 -2.5
84nm,0.8s,baz=292,slow=24,SNR=3.7
JTS LR LR 12 04 19.6
comp=Z,4µm,21.4s,baz=166,slow=34
JTS Las Juntas de 7.53 356 eP Pn 12 01 52.9 -1.7
JTS Las Juntas de 7.53 356 P Pn 12 01 54.5 -0.2
JTS S Sn 12 03 18.1 -2.1
JTS Las Juntas de 7.53 356 P Pn 12 01 54.2 -0.4
ARTO Ro Cuarto 7.57 2 eP Pn 12 01 57.1 +2.0
SOCE Pocosol 7.61 359 Pn 12 01 56.5 +0.8
SOCE Pocosol 7.61 359 S Sn 12 03 21.0 -1.1
SOCE Pocosol 7.61 359 P Pn 12 01 57.3 +1.6
CASO Castillo 7.66 358 eP Pn 12 01 57.4 +0.9
ARE1 Arenal 1 7.69 358 eP Pn 12 01 58.2 +1.5
VARE2 V. Arenal 7.69 358 eP Pn 12 01 54.7 -2.1
VACR Volcan Arenal 7.70 358 eP Pn 12 01 53.2 -3.7
INVE Universidad In 7.73 355 eP Pn 12 01 56.8 -0.5
TABAC Tabacon 7.73 358 eP Pn 12 01 58.6 +1.2
POPC Popayan, Colom 7.76 91 P Pn 12 01 57.1 -0.8
539nm86nm,1.0s
JAMC Jamundi, Valle 7.77 86 P Pn 12 01 56.6 -1.4
TIMP Tierras Morena 7.83 356 eP Pn 12 01 56.8 -1.9
QUEB Quebradon, Cot 7.86 357 eP Pn 12 01 58.6 -0.5
BCIP Isla Barro Col 7.87 35 Pn 12 02 01.3 +2.2
CUI Cuipilapa 7.91 355 eP Pn 12 01 59.9 0.0
COLC Colonia 7.92 355 eP Pn 12 02 00.5 +0.4
COVE Coope Vega, Sa 7.94 0 P Pn 12 02 01.5 +1.3
TENO El Achiote 7.95 356 eP Pn 12 02 00.2 -0.1
ELI1 Hacienda Flor 7.95 352 P Pn 12 02 00.7 +0.5
MESS Mesas 8.00 355 eP Pn 12 02 01.0 0.0
LAPC Finca la Perla 8.05 353 eP Pn 12 02 01.8 +0.1
VMAR Armenia, Volca 8.06 355 eP Pn 12 02 02.8 +0.9
VRLE La Escondida, 8.06 353 eP Pn 12 02 02.2 +0.3
UPAL Upala 8.14 356 P Pn 12 02 05.6 +2.7
UPAL Upala 8.14 356 S Sn 12 03 35.5 +0.5
YOTC Yotoco, Valle 8.18 81 P Pn 12 02 02.4 -1.1
MCRA Macar, Loja 8.35 148 P Pn 12 02 05.7 -0.2
16nm,0.9s
CARN Rivas 8.48 353 P Pn 12 02 08.4 +0.8
FLOC Florencia 8.85 97 Pn 12 02 13.9 +1.2
FLOC Florencia 8.85 97 P Pn 12 02 13.9 +1.2
FLOC Florencia 8.85 97 P Pn 12 02 13.3 +0.6
521nm48nm,1.0s
CONN Concepcion 8.86 352 P Pn 12 02 15.0 +2.2
GARC Garzon, Huila 8.95 93 P Pn 12 02 16.1 +1.8
42nm,1.1s
CBOC Ciudad Bolivar 8.96 69 P Pn 12 02 14.9 +0.5
474nm90nm,1.0s
BETC Betania 8.99 90 P Pn 12 02 17.4 +2.8
CAP2 Capurgana 9.18 50 P Pn 12 02 20.9 +3.8
CAP2 S Sn 12 04 05.4 +4.8
ANIL Santa Ana 9.19 79 P Pn 12 02 19.1 +1.6
ACON Acoyapa 9.21 355 Pn 12 02 18.1 +0.4
ACON Acoyapa 9.21 355 eP Pn 12 02 17.5 -0.2
ACON Acoyapa 9.21 355 P Pn 12 02 18.6 +0.9
ACON Acoyapa 9.21 355 P Pn 12 02 17.7 +0.1
812nm115nm,0.9s
DBBC Dabeiba 9.24 62 P Pn 12 02 20.8 +2.7
ORTC Ortega, Tolima 9.25 82 P Pn 12 02 18.6 +0.4
2µm135nm,1.3s
NANN Nandasmo 9.31 350 P Pn 12 02 22.4 +3.5
APAC Apartado, Choc 9.36 56 P Pn 12 02 23.1 +3.4
3µm1µm98nm,1.0s
GUY2C Guyana, Caldas 9.38 74 P Pn 12 02 22.1 +1.7
809nm81nm,1.0s
ESPN Las Esperanzas 9.41 1 Pn Pn 12 02 20.6 +0.2
ESPN Las Esperanzas 9.41 1 P Pn 12 02 21.7 +1.4
2µm231nm,0.8s
HELC Santa Helena 9.53 69 P Pn 12 02 23.5 +1.2
831nm79nm,1.1s
MGAN Managua 9.53 349 Pn Pn 12 02 24.3 +2.3
PRAC Prado 9.59 84 P Pn 12 02 22.9 +0.1
697nm86nm,1.0s
COPN Copaltepe 9.63 347 P Pn 12 02 25.4 +2.0
BOAB BOACO BROADBAN 9.74 353 Pn 12 02 25.8 +1.0
NORC Norcasia 9.95 73 P Pn 12 02 29.2 +1.4
2µm98nm,1.5s
PTLC Puerto Leguiza 9.96 105 P Pn 12 02 29.9 +1.9
793nm73nm,1.0s
CNGN Cerro Negro 9.97 347 Pn 12 02 30.5 +2.5
CNGN Cerro Negro 9.97 347 P Pn 12 02 30.6 +2.5
1µm,1.1s
HERN Volcan Telica 10.10 347 Pn 12 02 31.4 +1.5
CRIN San Cristobal 10.24 346 Pn 12 02 33.3 +1.5
ROSC El Rosal 10.31 78 Pn 12 02 33.9 +0.8
ROSC El Rosal 10.31 78 P Pn 12 02 35.6 +2.5
3.0nm,0.3s,baz=270,slow=8.8,SNR=17
ROSC LR LR 12 06 30.7
comp=Z,2µm,18.1s,baz=240,slow=38
17nm,0.5s
ROSC El Rosal 10.31 78 P Pn 12 02 36.2 +3.1
1µm61nm,1.0s
MACC Macarena, Meta 10.60 93 P Pn 12 02 34.3 -2.4
PTBC PUERTO BERRIO, 10.64 69 P Pn 12 02 40.0 +2.7
569nm85nm,1.1s
VILC Villavicencio, 10.81 82 P Pn 12 02 43.2 +3.5
616nm61nm,0.6s
SIUN Universidad Ur 10.93 358 Pn 12 02 42.3 +1.2
ATAH Atahualpa 11.50 148 P Pn 12 02 53.4 +4.0
0.4nm,0.3s,baz=346,slow=6.4,SNR=5.8
ATAH LR LR 12 06 48.3
comp=Z,2µm,19.2s,baz=326,slow=34
9.6nm,0.8s
TGUH Tegucigalpa,Un 11.60 346 Pn 12 02 52.4 +1.8
TGUH Tegucigalpa,Un 11.60 346 P Pn 12 02 54.0 +3.5
2µm1µm138nm,0.8s
RUSC La Rusia 11.75 74 Pn 12 02 52.6 -0.3
RUSC La Rusia 11.75 74 P Pn 12 02 53.6 +0.7
610nm54nm,1.4s
BARC Barichara 11.86 71 P Pn 12 02 57.6 +3.5
PAMC Pamplona, Colo 12.56 68 P Pn 12 03 08.3 +4.4
MTO3 Montecristo 12.58 338 Pn 12 03 05.5 +1.5
ESQI Esquipulas 12.72 338 Pn 12 03 08.0 +2.3
HUEH Huehuetenango 14.32 331 Pn 12 03 30.4 +2.6
SDV Santo Domingo 15.03 65 Pn 12 03 37.3 -0.1
SDV Santo Domingo 15.03 65 P Pn 12 03 38.2 +0.7
2.3nm,0.3s,baz=256,slow=8.3,SNR=4.7
SDV LR LR 12 09 07.7
comp=Z,944nm,21.0s,baz=244,slow=36
9.3nm,0.5s
SDV Santo Domingo 15.03 65 eP P 12 03 40.3 -2.6
SDV Santo Domingo 15.03 65 P P 12 03 42.6 -0.3
PETF Flores 15.08 340 Pn 12 03 39.3 +1.4
CCIG Comitan 15.46 331 Pn Pn 12 03 44.4 +1.3
CZSB Cruzeiro do Su 15.65 132 Pn 12 03 44.9 -0.5
CZSB Cruzeiro do Su 15.65 132 P Pn 12 03 45.4 0.0
NNA Nana 16.45 153 Pn 12 03 56.6 +0.8
NNA Nana 16.45 153 P Pn 12 03 57.0 +1.2
0.8nm,0.3s,baz=300,slow=10,SNR=5.7
NNA LR LR 12 09 47.9
comp=Z,529nm,20.0s,baz=322,slow=35
30nm,1.0s
NNA Nana 16.45 153 P P 12 04 00.1 +1.5
BAUV El Baul 17.43 69 P Pn 12 04 06.8 -1.3
CMIG Matias Romero 17.58 325 P Pn 12 04 10.5 +0.6
0.1nm,0.3s,baz=138,slow=4.2,SNR=6.1
CMIG LR LR 12 09 37.7
comp=Z,1µm,21.5s,baz=154,slow=32
9.2nm,1.0s
NMDO Nuevo Mundo 19.98 27 P P 12 04 37.7 +0.4
NMDO IAmb IAmb 12 04 49.2
comp=Z,70nm,1.5s
SOR Soroa 20.00 4 P P 12 04 37.4 -0.1
TLIG Tlapa 20.24 318 P P 12 04 41.8 +1.5
TLIG IAmb IAmb 12 05 07.3
comp=Z,42nm,1.3s
SDDR Presa de Saban 20.66 38 P P 12 04 45.3 +0.6
SDDR IAmb IAmb 12 04 59.0
comp=Z,45nm,1.1s
TEFE Tefe 20.74 107 eP P 12 04 46.2 +0.5
BANI BANI 20.80 41 P P 12 04 46.5 +0.1
PCRV Puerto La Cruz 21.01 68 P P 12 04 48.2 -0.5
comp=Z,72nm,1.1s,baz=279,slow=6.9,SNR=12
PCRV LR LR 12 14 10.5
comp=Z,371nm,18.0s,slow=40
comp=Z,72nm,1.1s
OBIP Obispado Ponce 23.18 48 P P 12 05 11.7 0.0
CELP Cerrillos 23.22 48 P P 12 05 12.0 -0.1
SJG San Juan 23.56 48 LR LR 12 14 04.1
comp=Z,218nm,21.6s,baz=237,slow=36
JRQG Juriquilla Cam 23.73 320 P P 12 05 17.6 +0.3
GCPR Guaynabo City 23.74 48 P P 12 05 16.5 -0.7
GCPR IAmb IAmb 12 05 39.4
comp=Z,21nm,1.1s
BOAV Boa Vista 23.89 90 P P 12 05 18.6 -0.2
BOAV IAmb IAmb 12 05 20.5
comp=Z,20nm,1.1s
BOAV Boa Vista 23.89 90 eP P 12 05 18.2 -0.5
SAML Samuel 24.15 119 P P 12 05 20.4 -0.8
SAML Samuel 24.15 119 eP P 12 05 20.2 -1.0
LPAZ La Paz 24.83 140 P P 12 05 29.1 +1.1
comp=Z,15nm,0.8s,baz=333,slow=8.8,SNR=25
comp=Z,15nm,0.8s
PB18 Visviri 25.00 144 P P 12 05 30.2 +0.8
PB16 IPOC Station P 25.58 145 P P 12 05 36.2 +1.5
PB16 IAmb IAmb 12 05 46.7
comp=Z,14nm,1.0s
ZAIG Zacatecas 26.57 320 P P 12 05 44.5 +1.1
ZAIG IAmb IAmb 12 06 29.0
comp=Z,12nm,1.1s
ITTB Itaituba 29.54 104 eP P 12 06 09.8 +0.1
SIV San Ignacio 29.66 130 LR LR 12 18 23.1
comp=Z,2µm,18.8s,baz=294,slow=37
HNDO Hondo 30.16 334 P P 12 06 16.2 +1.2
LRAL Lakeview Retre 30.25 356 P P 12 06 16.8 +1.0
LRAL IAmb IAmb 12 06 24.2
comp=Z,7.0nm,0.7s
H06E1 SCORRO T-PHAS 30.44 303 T T 12 38 07.0
SNR=25
NPGB Novo Progresso 30.60 109 eP P 12 06 17.2 -1.9
PDRB Porto dos Gac 31.02 118 eP P 12 06 22.3 -0.4
HODGE Hodges 31.41 3 P P 12 06 26.9 +0.9
HPIG 31.51 322 IAmb IAmb 12 06 36.3
comp=Z,11nm,1.3s
CLDB Colider 31.54 116 eP P 12 06 25.2 -2.2
BRDY Brady 31.56 336 P P 12 06 27.7 +0.4
BRDY IAmb IAmb 12 06 36.0
comp=Z,12nm,1.2s
WHTX Lake Whitney, 31.59 339 P P 12 06 27.3 -0.2
WHTX IAmb IAmb 12 06 41.0
comp=Z,7.0nm,0.7s
MDP Montagnes des 31.81 85 LR LR 12 18 09.7
comp=Z,49nm,18.8s,baz=262,slow=34
TXAR Lajitas Array 32.16 327 P P 12 06 33.2 +0.4
comp=Z,0.6nm,0.8s,baz=169,slow=8.7,SNR=8.5
TXAR PcP PcP 12 09 20.9 -0.9
comp=Z,1.0nm,0.8s,baz=137,slow=3.3,SNR=6.8
TXAR LR LR 12 18 48.4
comp=Z,200nm,21.8s,baz=118,slow=35
comp=Z,0.6nm,0.8s
W57A Gilead 32.53 7 P 12 06 36.3 +0.5
PLPT Palo Pinto 32.64 338 P 12 06 38.1 +1.2
PLPT IAmb IAmb 12 06 45.4
comp=Z,8.2nm,0.9s
TKL Tuckaleechee C 32.77 1 LR LR 12 19 40.8
comp=Z,463nm,18.9s,baz=192,slow=36
LPIG La Paz 32.81 313 LR LR 12 17 14.6
comp=Z,102nm,18.6s,baz=146,slow=31
V48A Smith Brothers 32.92 356 IAmb IAmb 12 06 47.1
comp=Z,11nm,1.1s
U49A Red Boiling Sp 33.65 358 IAmb IAmb 12 06 47.3
comp=Z,8.1nm,1.1s
APMT Aspermont 33.80 336 IAmb IAmb 12 06 55.8
comp=Z,11nm,1.1s
PECS Pecos 33.88 329 IAmb IAmb 12 06 56.7
comp=Z,6.5nm,0.9s
SALV Santo Antonio 33.92 124 eP P 12 06 48.5 +0.3
T47A Sharon Grove 34.19 356 IAmb IAmb 12 06 57.7
comp=Z,2.9nm,1.0s
S51A Beattyville 34.76 1 IAmb IAmb 12 07 03.2
comp=Z,8.5nm,0.9s
SMWD Samnorwood 35.41 337 IAmb IAmb 12 07 09.4
comp=Z,10nm,0.9s
PRPB Parauapebas 35.68 104 eP P 12 07 02.7 -0.8
CCM Cathedral Cave 35.71 351 P P 12 07 03.9 +0.5
T35A Sooner Cattle 35.80 343 P P 12 07 05.0 +0.8
T35A IAmb IAmb 12 07 11.8
comp=Z,7.6nm,1.1s
SNDB Serra Nova Dou 36.03 115 eP P 12 07 04.8 -1.7
R40A Maddies Statio 36.12 350 IAmb IAmb 12 07 14.2
comp=Z,3nm,0.9s
H03N2 Juan Fernandez 36.34 172 T T 12 45 44.8
baz=351,slow=76,SNR=86
H03N1 Juan Fernandez 36.35 172 T T 12 45 41.4
baz=351,slow=76,SNR=96
H03N3 Juan Fernandez 36.36 172 T T 12 45 40.2
baz=351,slow=76,SNR=100
AQDB Aquidauana 36.41 131 P P 12 07 09.8 +0.1
AQDB IAmb IAmb 12 07 13.0
comp=Z,7.4nm,0.9s
319A Douglas 36.89 323 IAmb IAmb 12 07 23.4
comp=Z,17nm,1.2s
ARAG Araguaiana, MT 37.10 121 eP P 12 07 15.9 +0.3
P40A Paris 37.28 350 IAmb IAmb 12 07 24.9
comp=Z,16nm,1.0s
Y22A Socorro 37.50 328 IAmb IAmb 12 07 28.7
comp=Z,14nm,1.0s
RTBA Rita Blanca 37.56 335 IAmb IAmb 12 07 28.8
comp=Z,13nm,1.2s
P38A Dawn 37.65 348 IAmb IAmb 12 07 27.9
comp=Z,15nm,1.1s
ANMO Albuquerque 38.03 330 P P 12 07 24.4 +1.0
ANMO IAmb IAmb 12 07 32.7
comp=Z,12nm,1.4s
ANMO Albuquerque 38.03 330 LR LR 12 22 33.0
comp=Z,156nm,20.5s,baz=212,slow=35
RPN Rapa Nui 38.18 217 LR LR 12 18 41.0
comp=Z,109nm,21.0s,baz=43,slow=29
TUC Tucson 38.45 323 P P 12 07 27.7 +0.8
SMTB Santa Maria do 38.49 108 eP P 12 07 26.0 -1.4
T25A Trinidad 38.87 334 IAmb IAmb 12 07 40.2
comp=Z,12nm,1.1s
SJPY San Joaquin 38.93 137 eP P 12 07 29.2 -1.6
CPUP Villa Florida 39.00 139 LR LR 12 26 04.1
comp=Z,144nm,18.3s,baz=186,slow=40
SDCO Great Sand Dun 39.85 334 IAmb IAmb 12 07 48.7
comp=Z,14nm,1.1s
BDFB Brasilia 40.38 118 P P 12 07 42.4 -0.9
comp=Z,4.7nm,0.7s,baz=276,slow=8.6,SNR=4.8
BDFB LR LR 12 24 34.9
comp=Z,419nm,18.6s,baz=299,slow=36
comp=Z,4.7nm,0.7s
S22A 4UR Ranch, Cre 40.45 332 IAmb IAmb 12 07 53.0
comp=Z,18nm,1.5s
MVCO Mesa Verde 40.83 330 IAmb IAmb 12 07 56.0
comp=Z,14nm,1.1s
Y14A Wickenburg 40.92 323 IAmb IAmb 12 07 57.4
comp=Z,13nm,1.4s
IPMB Ipameri, GO 41.20 121 eP P 12 07 48.2 -1.7
PTGB Pitanga 41.62 133 eP P 12 07 52.7 -0.6
PV15 Paradox Valley 41.71 331 IAmb IAmb 12 08 03.4
comp=Z,10.0nm,0.8s
PV13 Radium Mtn., P 41.73 331 P P 12 07 54.5 +0.3
PV13 IAmb IAmb 12 08 04.0
comp=Z,15nm,1.1s
PV05 Paradox Valley 41.81 330 P P 12 07 55.7 +0.9
PV05 IAmb IAmb 12 08 03.6
comp=Z,22nm,1.5s
PV03 Paradox Valley 41.82 331 IAmb IAmb 12 08 04.4
comp=Z,16nm,1.4s
PV18 Skein Mesa, Pa 41.84 331 IAmb IAmb 12 08 04.6
comp=Z,18nm,1.1s
PV16 Nyswonger Mesa 41.90 331 IAmb IAmb 12 08 04.4
comp=Z,12nm,1.2s
YUH Yuha Desert 41.93 319 P P 12 07 56.6 +1.0
PV20 West Nyswonger 41.95 331 IAmb IAmb 12 08 04.7
comp=Z,20nm,1.2s
PV14 Lion Creek, Pa 42.00 331 IAmb IAmb 12 08 05.2
comp=Z,10nm,1.1s
PV10 Paradox Valley 42.01 331 IAmb IAmb 12 08 04.8
comp=Z,15nm,1.0s
SDBA SAO DESIDERIO 42.05 112 eP P 12 07 55.2 -1.8
PV23 Carpenter Ridg 42.06 331 IAmb IAmb 12 08 06.0
comp=Z,21nm,1.4s
SADO Sadowa 42.13 6 LR LR 12 25 31.7
comp=Z,6µm,18.2s,baz=170,slow=36
U15A North Rim 42.25 326 IAmb IAmb 12 08 09.0
comp=Z,16nm,1.3s
BC3 Big Chuckawall 42.26 320 IAmb IAmb 12 08 07.8
comp=Z,10nm,1.1s
HMU Henry Mountain 42.53 329 IAmb IAmb 12 08 11.6
comp=Z,12nm,1.0s
PFO Pinyon Flats O 42.88 319 P P 12 08 04.9 +1.4
PFO Pinyon Flats O 42.88 319 LR LR 12 24 18.2
comp=Z,372nm,21.1s,baz=126,slow=34
SPMN Marine on St. 42.96 351 P P 12 08 04.7 +0.9
DNR Dunn Ranch,Anz 42.96 319 IAmb IAmb 12 08 13.8
comp=Z,11nm,0.9s
KNB Kanab 42.97 326 IAmb IAmb 12 08 13.9
comp=Z,11nm,1.2s
SRU San Rafael Swe 43.31 330 IAmb IAmb 12 08 16.4
comp=Z,15nm,1.2s
JANB Januaria 43.47 115 eP P 12 08 06.8 -1.8
P17A Butcher Ranch, 43.70 330 IAmb IAmb 12 08 18.8
comp=Z,14nm,1.3s
E38A The Farm, Brul 44.15 353 IAmb IAmb 12 08 20.5
comp=Z,11nm,1.0s
F33A 5 Mile Ranch, 44.18 348 IAmb IAmb 12 08 20.8
comp=Z,11nm,0.9s
SHOC Shoshone, Teco 44.23 322 IAmb IAmb 12 08 23.5
comp=Z,11nm,1.1s
K22A Casper 44.38 337 IAmb IAmb 12 08 24.0
comp=Z,15nm,1.3s
BSUT Blindstream Ca 44.53 331 IAmb IAmb 12 08 26.6
comp=Z,8.8nm,1.2s
QSM Queen of Sheba 44.64 322 IAmb IAmb 12 08 26.6
comp=Z,7.4nm,1.0s
RSSD Black Hills 44.73 340 P P 12 08 19.3 +1.0
RSSD IAmb IAmb 12 08 27.2
comp=Z,7.7nm,0.9s
WSHM Spangler Hills 44.79 321 IAmb IAmb 12 08 28.1
comp=Z,9.9nm,1.1s
LRMC Laurel Mtn Rad 44.84 321 IAmb IAmb 12 08 28.6
comp=Z,8.2nm,1.0s
TPNV Topopah Spring 44.91 323 IAmb IAmb 12 08 29.4
comp=Z,9.1nm,1.2s
CLC China Lake 45.00 321 IAmb IAmb 12 08 29.4
comp=Z,8.5nm,1.1s
PLCA Paso Flores 45.07 165 P P 12 08 21.6 +0.6
comp=Z,3.5nm,0.9s,baz=316,slow=11,SNR=6.0
PLCA LR LR 12 23 11.8
comp=Z,184nm,18.5s,baz=350,slow=31
comp=Z,3.5nm,0.9s
SPR3 Spring Creek 3 45.22 327 IAmb IAmb 12 08 31.0
comp=Z,9.7nm,1.3s
DIAM Diamantina, MG 45.25 119 eP P 12 08 21.9 -0.9
PDAR Pinedale Array 45.74 334 P P 12 08 25.9 -0.5
comp=Z,1.7nm,0.8s,baz=140,slow=12,SNR=13
PDAR PcP PcP 12 10 02.6 -1.6
comp=Z,1.8nm,0.9s,baz=145,slow=4.7,SNR=5.4
PDAR LR LR 12 28 28.6
comp=Z,407nm,19.7s,baz=138,slow=37
comp=Z,1.7nm,0.8s
BGU Big Grassy Mou 45.94 330 IAmb IAmb 12 08 36.6
comp=Z,7.9nm,1.1s
TPH Tonopah 46.23 324 IAmb IAmb 12 08 39.2
comp=Z,8.0nm,1.0s
HVU Hansel Valley 46.46 331 IAmb IAmb 12 08 40.8
comp=Z,6.9nm,1.1s
ELK Elko 46.95 328 IAmb IAmb 12 08 44.7
comp=Z,4.7nm,1.1s
ELK Elko 46.95 328 LR LR 12 28 17.1
comp=Z,580nm,18.5s,baz=146,slow=36
NVAR Mina Array Bea 47.10 323 P P 12 08 36.9 -0.3
comp=Z,3.1nm,0.7s,baz=112,slow=5.8,SNR=25
NVAR PcP PcP 12 10 08.2 -0.9
comp=Z,1.7nm,0.8s,baz=109,slow=3.8,SNR=4.0
NVAR LR LR 12 26 40.7
comp=Z,286nm,21.4s,baz=134,slow=34
comp=Z,3.1nm,0.7s
LHV Little Huntoon 47.11 323 IAmb IAmb 12 08 46.6
comp=Z,8.7nm,1.2s
YNE Yellowstone No 47.74 336 IAmb IAmb 12 08 50.4
comp=Z,6.2nm,1.0s
CMC01 Camacan, BA 47.94 113 eP P 12 08 42.9 -0.8
ULM Lac du Bonnet 48.34 350 P P 12 08 46.2 0.0
comp=Z,5.1nm,0.9s,baz=154,slow=6.9,SNR=5.3
ULM LR LR 12 29 43.2
comp=Z,126nm,19.1s,baz=156,slow=37
comp=Z,5.1nm,0.9s
RIB01 Linhares ES 48.50 119 eP P 12 08 47.1 -1.0
WELL Weller Preserv 48.58 322 IAmb IAmb 12 08 57.4
comp=Z,8.8nm,1.5s
HLID Hailey 48.59 331 IAmb IAmb 12 08 57.1
comp=Z,11nm,1.4s
BOZ Bozeman (W) 48.90 335 IAmb IAmb 12 08 59.2
comp=Z,8.7nm,1.1s
RCBR Riachuelo 49.21 100 LR LR 12 30 09.9
comp=Z,112nm,20.4s,baz=275,slow=37
MSO Missoula 50.86 334 IAmb IAmb 12 09 13.8
comp=Z,7.9nm,1.0s
F10A Beach Ranch, E 51.72 331 IAmb IAmb 12 09 20.3
comp=Z,8.7nm,0.9s
KHMM Horse Mountain 51.90 322 IAmb IAmb 12 09 22.9
comp=Z,7.8nm,1.1s
JCC Jacoby Creek, 52.05 322 IAmb IAmb 12 09 23.4
comp=Z,11nm,1.3s
G08A Pilot Rock 52.09 330 IAmb IAmb 12 09 23.8
comp=Z,8.9nm,1.4s
PINE Pine Mountain 52.12 327 IAmb IAmb 12 09 23.9
comp=Z,10.0nm,1.4s
KRMB Red Mountain 52.40 323 IAmb IAmb 12 09 25.9
comp=Z,7.6nm,1.0s
J04A Umpqua Nationa 52.41 326 IAmb IAmb 12 09 29.0
comp=Z,6.4nm,0.7s
KSXB Camp Six Broad 52.56 323 IAmb IAmb 12 09 26.9
comp=Z,8.9nm,1.0s
K02D Willamette Mer 52.96 324 IAmb IAmb 12 09 29.6
comp=Z,11nm,1.4s
MXC Moxie City 53.65 330 IAmb IAmb 12 09 35.3
comp=Z,5.9nm,1.1s
SCHQ Schefferville 53.89 13 LR LR 12 33 07.5
comp=Z,1µm,18.4s,baz=244,slow=37
BBB Bella Bella 61.18 331 LR LR 12 39 26.5
comp=Z,85nm,18.0s,baz=140,slow=39
FRB Frobisher Bay 61.99 8 LR LR 12 37 24.0
comp=Z,448nm,18.4s,baz=196,slow=36
YKA Yellowknife Ar 63.72 345 P P 12 10 36.9 +0.7
comp=Z,1.7nm,0.9s,baz=138,slow=6.4,SNR=4.4
YKA LR LR 12 41 22.4
comp=Z,232nm,18.1s,baz=126,slow=39
comp=Z,1.7nm,0.9s
DLBC Dease Lake 65.93 336 LR LR 12 42 34.5
comp=Z,2µm,18.1s,baz=120,slow=39
PPT2 Papeete2 67.27 250 eS S 12 19 53.6 -2.1
comp=Z,44nm,23.8s
PPT2 eSS SS 12 24 10.2 -5.4
comp=Z,54nm,28.5s
PPT2 eLQ LQ 12 28 26.1
comp=Z,114nm,23.8s
PPT2 eLR LR 12 31 17.6
comp=Z,332nm,29.0s
PPT2 eLR LR 12 31 18.8
comp=Z,463nm,26.0s
SFJD Kangerlussuaq 68.31 14 LR LR 12 40 13.8
comp=Z,170nm,21.0s,baz=221,slow=35
TBI Tubuai 68.34 244 eS S 12 20 08.9 +0.6
comp=Z,753nm,40.2s
TBI eLQ LQ 12 28 53.4

comp=Z,632nm,29.2s
TBI *e*LR LR 12 31 43.1
comp=Z,711nm,26.5s
TBI *e*LR LR 12 31 46.2
comp=Z,922nm,27.5s
PMSA Palmer Station 68.99 171 *e*LR LR 12 32 01.0
comp=Z,353nm,30.0s
PMSA Palmer Station 68.99 171 LR LR 12 36 17.7
comp=Z,95nm,18.8s,baz=328,slow=31
MMPY Sheldon Lake, 69.03 339 IAmb IAmb 12 11 17.5
comp=Z,8.3nm,1.5s
N30M Aishikik Lake 70.58 336 IAmb IAmb 12 11 29.0
comp=Z,7.3nm,1.4s
O29M Mount Kennedy 70.59 335 IAmb IAmb 12 11 33.7
comp=Z,5.5nm,0.8s
M30M Minto, Yukon 71.08 337 IAmb IAmb 12 11 44.2
comp=Z,5.9nm,1.3s
POHA Pohakuloa 71.30 290 *e*S **S 12 20 47.3 +3.7**
comp=Z,3.8nm,25.1s
POHA Pohakuloa 71.30 290 *e*LR LR 12 33 04.4
comp=Z,11nm,25.1s
L29M L29M 71.88 337 IAmb IAmb 12 11 34.1
comp=Z,5.5nm,1.1s
K29M Barlow Dome 72.05 338 IAmb IAmb 12 11 39.7
comp=Z,7.2nm,1.4s
RES Resolute Bay 72.15 357 LR LR 12 43 59.3
comp=Z,134nm,18.5s,baz=227,slow=36
I30M Mount Dempster 72.40 340 IAmb IAmb 12 11 42.0
comp=Z,7.7nm,1.2s
XMAS Kiritimati 72.94 271 *e*LR LR 12 33 34.5
comp=Z,4.1nm,23.0s
I29M Ogilvie Camp, 73.16 339 IAmb IAmb 12 11 44.4
comp=Z,5.0nm,1.1s
BCAR Beaver Creek A 73.29 336 **P 12 11 36.2 +0.1**
L27K Beaver Creek, 73.31 336 IAmb IAmb 12 11 43.5
comp=Z,7.1nm,1.2s
INK Inuvik 73.32 343 LR LR 12 47 13.7
comp=Z,169nm,18.2s,baz=148,slow=39
K27K Chicken 73.87 337 IAmb IAmb 12 11 50.4
comp=Z,7.4nm,1.2s
G29M Pine Creek 73.90 341 **P 12 11 41.6 +2.0**
DOT Dot Lake 74.47 336 IAmb IAmb 12 11 45.7
comp=Z,5.0nm,1.0s
HDA Harding Lake 75.95 337 IAmb IAmb 12 11 58.4
comp=Z,7.5nm,1.1s
ILAR Eielson Array 76.07 337 P **P 12 11 51.3 -0.8**
ILAR Eielson Array 76.07 337 P **P 12 11 50.7 -1.5**
comp=Z,1.1nm,0.8s,baz=118,slow=3.3,SNR=9.8
ILAR LR LR 12 46 54.1
comp=Z,279nm,20.8s,baz=94,slow=37
comp=Z,1.1nm,0.8s
KDAK Kodiak Island 76.17 329 LR LR 12 45 22.5
comp=Z,89nm,18.1s,baz=96,slow=36
BORG Borgarnes 76.32 23 LR LR 12 39 48.2
comp=Z,64nm,20.7s,baz=281,slow=31
BMAR Burnt Mountain 76.38 340 P **P 12 11 54.6 +0.7**
RAR Rarotonga 77.35 248 *e*LR LR 12 35 54.3
comp=Z,207nm,26.0s
RAR Rarotonga 77.35 248 LR LR 12 39 47.1
comp=Z,67nm,18.7s,baz=260,slow=31
CAST Castle Rocks 77.70 335 IAmb IAmb 12 12 09.0
comp=Z,10nm,1.4s
J20K Nowinta River 78.80 335 IAmb IAmb 12 12 15.1
comp=Z,9.5nm,1.2s
DBIC Dimbokro 79.35 84 LR LR 12 45 11.9
comp=Z,27nm,18.6s,baz=298,slow=34
MDT Midelt 79.98 57 LR LR 12 41 04.6
comp=Z,25nm,21.7s,baz=260,slow=31
ESDC Sonseca Array 80.93 50 P **P 12 12 18.2 -1.3**
comp=Z,2.7nm,0.9s,baz=274,slow=5.3,SNR=14
ESDC LR LR 12 43 47.4
comp=Z,27nm,20.1s,baz=278,slow=32
comp=Z,2.7nm,0.9s
EKA Eskdalemuir Ar 82.80 35 P **P 12 12 27.7 -1.3**
comp=Z,4.0nm,0.9s,baz=298,slow=3.1,SNR=3.8
comp=Z,4.0nm,0.9s
JOHN Johnston Islan 84.53 286 *e*LR LR 12 39 09.7
comp=Z,161nm,23.8s
BELA Belgrano 2 84.83 171 P **P 12 12 39.9 +0.9**
BELA IAmb IAmb 12 12 41.3
comp=Z,5.0nm,1.1s
TORD Torodi Ar. Bea 85.62 77 **P 12 12 43.8 -0.4**
TORD IAmb IAmb 12 12 44.9
comp=Z,5.1nm,1.4s
TORD Torodi Ar. Bea 85.62 77 P **P 12 12 42.9 -1.3**
comp=Z,2.1nm,1.1s,baz=291,slow=5.7,SNR=5.3
comp=Z,2.1nm,1.1s
NIUE Niue 86.62 251 *e*LR LR 12 40 16.1
comp=Z,194nm,27.6s
VNA3 Neumayer Olymp 87.70 162 ⇑P **P 12 12 52.1 -1.0**
comp=Z,7.7nm,0.7s
VNA1 Neumayer--Stat 87.99 161 ⇑P **P 12 12 55.6 +1.1**
comp=Z,5.8nm,0.9s
MEM Membach 88.20 40 *d*P **P 12 12 56.5 +0.5**
comp=Z,5.9nm,1.0s
WLF Walferdange 88.33 41 *d*P **P 12 12 56.5 -0.1**
VNA2 Neumayer--Watz 88.34 161 ⇑P **P 12 12 56.4 +0.1**
comp=Z,1.9nm,0.6s,baz=299,slow=5.0
SPITS Spitsbergen Ar 89.56 12 LR LR 12 53 10.8
comp=Z,192nm,20.7s,baz=282,slow=36
SNAA Sanae 89.92 162 ⇑P **P 12 13 04.3 +0.5**
comp=Z,29nm,0.7s
SNAA Sanae 89.92 162 P **P 12 13 03.5 -0.3**
comp=Z,1.4nm,0.8s,baz=287,slow=4.6,SNR=6.5
comp=Z,1.4nm,0.8s
NOA NORSAR Array B 90.38 29 LR LR 12 49 02.9
comp=Z,33nm,21.6s,baz=275,slow=32
TROLL Troll, Antarti 91.63 162 ⇑P **P 12 13 11.8 0.0**
comp=Z,103nm,0.9s
HFS Hagfors 91.71 30 LR LR 12 48 33.9
comp=Z,43nm,21.6s,baz=284,slow=32
QSPA South Pole Qui 92.75 180 P **P 12 13 19.2 +2.2**
QSPA South Pole Qui 92.75 180 P **P 12 13 17.8 +0.8**
comp=Z,5.0nm,0.9s,baz=179,slow=1.8,SNR=13
QSPA LR LR 12 48 58.9
comp=Z,96nm,18.2s,baz=150,slow=32
comp=Z,5.0nm,0.9s
GERES GERESS Array B 93.32 41 P **P 12 13 18.4 -1.7**
comp=Z,0.6nm,0.7s,baz=308,slow=8.2,SNR=4.6
comp=Z,0.6nm,0.7s
ARCES ARCESS Array B 94.34 19 LR LR 12 56 10.6
comp=Z,24nm,18.4s,baz=270,slow=36
VRAC Vranov 95.13 40 LR LR 12 51 55.1
comp=Z,37nm,18.4s,baz=280,slow=33
VAE Valguarnera 95.37 52 LR LR 12 52 14.9
comp=Z,64nm,18.3s,baz=308,slow=33
FINES FINESS Array B 97.28 27 LR LR 12 51 42.2
comp=Z,38nm,21.8s,baz=271,slow=32
VNDA Vanda 97.67 192 LR LR 12 49 04.6
comp=Z,48nm,21.1s,baz=103,slow=30
DZM Mont Dzumac 108.73 248 *e*LR LR 12 50 33.3
comp=Z,81nm,23.1s
CASY Casey 115.69 187 *e*LR LR 12 53 41.1
comp=Z,178nm,22.0s
ZALV Zalesovo Beam 122.82 8 PKP **PKPdf 12 19 00.4 -0.5**
comp=Z,0.5nm,0.3s,baz=329,slow=7.2,SNR=1.8
KURBB Kurchatov Arra 124.89 13 PKP **PKPdf 12 19 02.7 -2.3**
comp=Z,1.2nm,0.9s,baz=338,slow=2.4,SNR=7.7
SONM Songino Array 128.76 351 PKP **PKPdf 12 19 11.3 -1.4**
comp=Z,0.8nm,0.8s,baz=163,slow=1.5,SNR=5.0
MKAR Makanchi Array 129.32 12 PKP **PKPdf 12 19 11.6 -2.1**
comp=Z,1.2nm,0.9s,baz=318,slow=1.9,SNR=5.7
KSRS Korea Array 130.01 326 PKP **PKPdf 12 19 14.2 -1.0**
comp=Z,2.3nm,0.9s,baz=5.3,slow=0.6,SNR=9.1
HHC Hu-ho-hao-te 134.24 343 *e*P **PKPdf 12 19 20.0 -3.3**
HHC LR LR
comp=N,410nm,13.8s
HHC LR LR
comp=E,220nm,14.8s
HHC LR LR
comp=Z,510nm,15.1s
ASAR Alice Springs 137.49 237 PKhKP PKPpre 12 19 24.1
comp=Z,1.3nm,0.8s,baz=110,slow=2.3,SNR=10.0
ASAR PKP **PKPdf 12 19 29.4 -0.3**
comp=Z,1.8nm,0.9s,baz=124,slow=2.3,SNR=5.7
WRA Warramunga Arr 138.47 243 PKhKP PKPpre 12 19 25.5
comp=Z,0.3nm,0.8s,baz=101,slow=1.8,SNR=2.1
WRA PKP **PKPdf 12 19 31.6 0.0**
comp=Z,1.7nm,0.7s,baz=102,slow=1.8,SNR=16
NJ2 Nanjing 138.95 329 *e*P **PKPdf 12 19 32.0 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
H01W1 Cape Leeuwin H 143.62 206 T T 15 00 36.9
baz=150,slow=76,SNR=7.2
H01W2 Cape Leeuwin H 143.63 206 T T 15 00 41.6
baz=150,slow=76,SNR=6.2
H01W3 Cape Leeuwin H 143.64 206 T T 15 00 37.0
baz=150,slow=76,SNR=6.8

PZH PanZhiHua 150.34 349 PKPbc **PKPdf 12 19 52.5 +0.5**
CMAR Chiang Mai Arr 158.69 351 PKP **PKPdf 12 20 02.4 -1.3**
comp=Z,0.4nm,0.5s,baz=314,slow=2.2,SNR=5.3

*SJA **31** 12:04:39.4±0.8,29.˚83S×71.˚60W,h54km±5km, ML3.3, MW3.5*
*GUC **31** 12:04:41.2±0.7,29.˚87S×71.˚44W,h71km±2km, ML3.6*
ISC 31 12:04:40.7±1.3,**29.˚81S**±0.˚03×**71.˚70W**±0.˚05,**h47km**±14km, **n46,**σ**1°32/75,1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CO05	**La Serena**	**0.41**	**105**	*e*P		**Pn**		**12 04 51.5**	**+0.8**
CO05				*e*S		**Sn**		**12 04 58.7**	**+0.9**
CO05				IAML				12 04 59.2	
	comp=N,9μm,0.1s								
GO04	**Tololo Observa**	**0.86**	**115**	*e*P		**Pn**		**12 04 55.6**	**-1.1**
GO04				*e*S		**Sn**		**12 05 06.0**	**-2.4**
GO04				IAML				12 05 07.4	
	comp=N,4μm,0.3s								
GO04	**Tololo Observa**	**0.86**	**115**	*e*P		**Pn**		**12 04 55.5**	**-1.1**
GO04				*e*S		**Sn**		**12 05 06.3**	**-2.0**
GO04				IAML				12 05 10.1	
	comp=Z,1μm,0.2s								
CO06	**Fray Jorge**	**0.86**	**176**	*e*P		**Pn**		**12 04 57.2**	**+0.8**
CO06				*e*S		**Sn**		**12 05 09.2**	**+1.2**
CO06				IAML				12 05 10.1	
	comp=E,1μm,0.1s								
LCO	**Las Campanas**	**1.18**	**48**	*e*P		**Pn**		**12 05 00.7**	**-0.3**
LCO	**Las Campanas**	**1.18**	**48**	*e*P		**Pn**		**12 05 00.3**	**-0.7**
LCO				*e*S		**Sn**		**12 05 16.2**	**+0.1**
LCO				IAML				12 05 17.7	
	comp=Z,1μm,0.2s								
CO03	**El Pedregal**	**1.34**	**140**	⇓*e*P		**Pn**		**12 05 02.0**	**-1.1**
CO03				*e*S		**Sn**		**12 05 17.2**	**-2.7**
CO03	**El Pedregal**	**1.34**	**140**	*e*P		**Pn**		**12 05 02.0**	**-1.1**
CO03				*e*S		**Sn**		**12 05 17.8**	**-2.1**
CO03				IAML				12 05 18.2	
	comp=Z,497nm,0.2s								
CO01	**Juntas del Tor**	**1.40**	**97**	*e*P		**Pn**		**12 05 03.1**	**-0.9**
CO01				IAML				12 05 20.0	
	comp=N,1μm,0.1s								
CO01	**Juntas del Tor**	**1.40**	**97**	*e*P		**Pn**		**12 05 03.1**	**-0.9**
CO01				*e*S		**Sn**		**12 05 19.1**	**-2.4**
CO01				IAML				12 05 19.5	
	comp=Z,772nm,0.1s								
CO02	**Combarbal**	**1.51**	**157**	*e*P		**Pn**		**12 05 05.0**	**-0.5**
CO02				*e*S		**Sn**		**12 05 23.2**	**-0.9**
CO02				IAML				12 05 23.9	
	comp=N,3μm,0.1s								
CO02	**Combarbal**	**1.51**	**157**	*e*P		**Pn**		**12 05 05.0**	**-0.5**
CO02				*e*S		**Sn**		**12 05 23.1**	**-0.9**
CO02				IAML				12 05 24.2	
	comp=Z,688nm,0.1s								
AC04	**Llanos de Chal**	**1.69**	**19**	*e*P		**Pn**		**12 05 08.7**	**+0.9**
AC04				IAML				12 05 31.0	
	comp=E,438nm,0.1s								
AC04	**Llanos de Chal**	**1.69**	**19**	*e*P		**Pn**		**12 05 08.0**	**+0.2**
AC04				*e*S		**Sn**		**12 05 28.9**	**+0.6**
AC04				IAML				12 05 30.1	
	comp=Z,154nm,0.3s								
AROD	**Rodeo**	**1.96**	**101**	*e*P		**Pn**		**12 05 11.8**	**0.0**
AROD				*e*S		**Sn**		**12 05 35.3**	**-0.1**
ACDV	**Cuesta del Vie**	**2.27**	**100**	*e*P		**Pn**		**12 05 16.0**	**+0.2**
ACDV				*e*S		**Sn**		**12 05 45.3**	**+2.7**
ACCO	**Cerro Coronel**	**2.41**	**109**	*e*P		**Pn**		**12 05 18.9**	**+1.0**
ACCO				*e*S		**Sn**		**12 05 48.4**	**+2.1**
GO03	**Copiapo**	**2.56**	**31**	*e*P		**Pn**		**12 05 19.7**	**0.0**
GO03	**Copiapo**	**2.56**	**31**	*e*P		**Pn**		**12 05 19.9**	**+0.2**
GO03				*e*S		**Sn**		**12 05 50.8**	**+1.1**
AC06	**Mina Casimiro**	**2.72**	**26**	*e*P		**Pn**		**12 05 22.1**	**+0.3**
VA06	**Catapilco**	**2.76**	**173**	*e*P		**Pn**		**12 05 22.1**	**-0.4**
VA06				*e*S		**Sn**		**12 05 53.1**	**-1.4**
AGUA	**GUANDACOL**	**2.81**	**84**	*e*P		**Pn**		**12 05 24.7**	**+1.5**
AGUA				IAML				12 06 01.4	
	comp=Z,59nm,0.3s								
RTLS	**Leoncito**	**2.86**	**134**	*e*P		**Pn**		**12 05 25.1**	**+1.0**
RTLS				*e*S		**Sn**		**12 05 59.0**	**+1.5**
RTLS				IAML				12 05 59.7	
	comp=Z,166nm,0.5s								
VA03	**San Esteban**	**3.10**	**162**	*e*P		**Pn**		**12 05 27.7**	**+0.5**
VA03				*e*S		**Sn**		**12 06 02.6**	**-0.5**
VA03				IAML				12 06 05.0	
	comp=E,344nm,0.2s								
VA03	**San Esteban**	**3.10**	**162**	*e*P		**Pn**		**12 05 27.6**	**+0.3**
VA03				*e*S		**Sn**		**12 06 03.2**	**+0.1**
VA03				IAML				12 06 04.8	
	comp=Z,157nm,0.2s								
ROCH	**El Roble**	**3.20**	**170**	*e*P		**Pn**		**12 05 28.3**	**-0.4**
VCA	**Vinchina**	**3.23**	**72**	*e*P		**Pn**		**12 05 31.0**	**+1.9**
VCA				IAML				12 06 33.4	
	comp=Z,48nm,1.0s								
PEL	**Peldehue**	**3.43**	**166**	*e*P		**Pn**		**12 05 31.4**	**-0.3**
PEL				IAML				12 06 12.1	
	comp=N,123nm,0.2s								
MT02	**Curacav**	**3.47**	**172**	*e*P		**Pn**		**12 05 31.4**	**-0.8**
MT02				IAML				12 06 11.6	
	comp=E,81nm,0.2s								
MT02	**Curacav**	**3.47**	**172**	*e*P		**Pn**		**12 05 31.5**	**-0.7**
MT02				*e*S		**Sn**		**12 06 09.8**	**-2.2**
MT02				IAML				12 06 25.6	
	comp=Z,48nm,0.7s								
CFA	**Coronel Fontan**	**3.48**	**122**	*e*P		**Pn**		**12 05 32.5**	**+0.2**
CFA				*e*S		**Sn**		**12 06 11.6**	**-0.7**
MT10	**Hacienda Santa**	**3.59**	**164**	*e*P		**Pn**		**12 05 33.9**	**-0.1**
ASAL	**Salagasta**	**3.70**	**139**	*e*P		**Pn**		**12 05 36.9**	**+1.5**
ASAL				*e*S		Sn		12 06 01.4	-16
AC02	**Maricunga**	**3.73**	**38**	*e*P		**Pn**		**12 05 36.4**	**+0.2**
AC02	**Maricunga**	**3.73**	**38**	*e*P		**Pn**		**12 05 36.5**	**+0.3**
AC02				*e*S		Sn		12 06 33.0	+14
AC02				IAML				12 06 40.2	
	comp=Z,31nm,0.5s								
AVFE	**Valle Fertil**	**3.77**	**104**	*e*P		**Pn**		**12 05 36.2**	**-0.1**
AVFE				*e*S		**Sn**		**12 06 17.7**	**-1.8**
AVFE				IAML				12 06 18.5	
	comp=Z,26nm,2.0s								
AC01	**Pan de Azucar**	**3.78**	**15**	*e*P		**Pn**		**12 05 35.5**	**-0.9**
AC01				*e*S		**Sn**		**12 06 17.4**	**-2.2**
AC01				IAML				12 06 49.2	
	comp=Z,46nm,4.7s								
MT03	**Universidad Ad**	**3.81**	**165**	*e*P		**Pn**		**12 05 37.6**	**+0.7**
MT03				*e*S		**Sn**		**12 06 20.6**	**+0.1**
MT03				IAML				12 06 23.4	
	comp=Z,121nm,0.1s								
MT04	**Ro Olivares**	**3.82**	**160**	*e*P		**Pn**		**12 05 37.9**	**+0.7**
MT04				*e*S		**Sn**		**12 06 21.4**	**+0.4**
MT04				IAML				12 06 23.6	
	comp=Z,97nm,0.3s								
ARCO	**CERRO ARCO**	**3.84**	**143**	*e*P		**Pn**		**12 05 39.5**	**+2.1**
ARCO				*e*S		**Sn**		**12 06 25.8**	**+4.5**
ARCO				IAML				12 06 48.1	
	comp=Z,28nm,4.7s								
MT08	**Bocatoma Ro**	**3.90**	**159**	*e*S		**Sn**		**12 06 25.7**	**+2.8**
MT08				IAML				12 06 31.4	
	comp=Z,44nm,0.7s								
MT01	**Popeta**	**4.06**	**175**	*e*S		**Sn**		**12 06 25.4**	**-1.1**
MT13	**San Alfonso**	**4.10**	**163**	*e*P		**Pn**		**12 05 41.9**	**+1.0**
MT13				*e*S		**Sn**		**12 06 28.2**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.15**	**86**	*e*S		**Sn**		**12 06 27.6**	**-1.5**
ACLC				*e*S				12 06 27.9	
LMEL	**Las Melosas**	**4.22**	**163**	*e*P		**Pn**		**12 05 43.1**	**+0.5**
LMEL				*e*P		**Pn**		**12 05 43.1**	**+0.5**
LMEL				*e*S		**Sn**		**12 06 30.8**	**+0.1**
APLL	**PUNTA DE LOS L**	**4.52**	**99**	*e*P		**Pn**		**12 05 46.1**	**-0.5**

*BGSI **31** 12:11:31.7±2.6, 19.˚30S×24.˚48E,h31km±64km, ML2.5*
*BUL **31** 12:11:32.9±0.7, 18.˚71S×25.˚97E,h10km, MD3.0*
ISC 31 12:11:31.9±1.1,**18.˚74S**±0.˚05×**26.˚11E**±0.˚07,**h10km,n7,** σ**1°21/12,Zimbabwe**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KSANE	**Kasane**	**1.30**	**316**	*i* P		**Pn**		**12 11 56.3**	**+0.1**
KSANE				*i* S		**Sn**		**12 12 14.2**	**+0.5**
KSANE				IAML				12 12 18.2	
	comp=E,141nm,0.5s								
SOOWA	**Sowa**	**1.82**	**177**	*i* P		**Pn**		**12 12 04.5**	**+1.2**
SOOWA				*i* S		**Sn**		**12 12 25.5**	**-1.0**
SOOWA				IAML				12 12 36.7	
	comp=E,211nm,0.5s								
PHDHD	**Phuduhudu**	**2.08**	**225**	*i* P		Pn		12 11 45.6	-21
PHDHD				IAML				12 12 53.9	
	comp=N,79nm,0.5s								
BROLN	**Tlhalogang**	**2.62**	**154**	*i* P		**Pb**		**12 12 17.5**	**-1.5**
BROLN				*i* S		**Sb**		**12 12 52.0**	**+0.8**
BROLN				IAML				12 12 54.3	
	comp=N,18nm,0.5s								
BLWY	**Bulawayo**	**2.74**	**121**	*i* P		**Pn**		**12 12 16.1**	**0.0**
BLWY				*i* S		**Sn**		**12 12 48.5**	**-0.9**
LSZ	**Lusaka**	**3.98**	**30**	*i* P		**Pn**		**12 12 34.4**	**+1.3**
LSZ				*i* S		**Sn**		**12 13 18.9**	**-0.9**
MUSN	**Musina, Limpop**	**4.98**	**136**	*i* P		**Pn**		**12 12 48.9**	**+2.1**
MUSN				*i* S		**Sn**		**12 13 44.8**	**+0.3**

*IDC **31** 12:28:47.1±0.7,32.˚39S×178.˚19W,h0km,mb4.1/8, mbtmp4.1/9,ML4.7/1,MS3.8/3,Error ellipse: s-maj=26.5km s-min=18.6km az=93.0*
*WEL **31** 12:28:48.2±0.8,33.˚5S±5.˚×17.˚8W±1.˚4,h33km,M4.6/16, mB5.0/10,ML5.0/16,MLv4.8/16,Mw(mB)4.4/10,Error ellipse: s-maj=19.0km s-min=3.6km az=107.8,confirmed*
*NEIC **31** 12:28:49.4±1.1,32.˚4S±0.˚1×178.˚3W±0.˚2,h10km±1km, mb4.5/14,Error ellipse: s-maj=30.6km s-min=17.5km az=93.0*
*NOU **31** 12:29:12.8,34.˚09S×179.˚17W,h89km,mb4.3/11,South of Kermadec Islands*
ISC 31 12:28:48.2±0.5,**32.˚58S**±0.˚05×**178.˚3W**±0.˚1,**h10km,n91,** σ**2°14/108,mb4.4/17,MS3.8/4,4C-1D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GLKZ	**Green Lake**	**3.31**	**5**	P		**Pn**		**12 29 38.4**	**-1.7**
GLKZ				S		**Sn**		**12 30 17.6**	**-2.0**
RAO	**Raoul Island**	**3.33**	**5**	Pn		**Pn**		**12 29 38.3**	**-1.9**
	90nm,0.3s,baz=277,slow=22,SNR=5.6								
RAO				Sn		**Sn**		**12 30 17.6**	**-2.2**
	153nm,0.3s,baz=107,slow=19,SNR=3.7								
	175nm,0.3s								
RIZ	**Raoul Island**	**3.33**	**5**	P		**Pn**		**12 29 39.2**	**-1.1**
MXZ	**Matakaoa Point**	**5.72**	**209**	P		**Pn**		**12 30 12.7**	**-0.4**
MXZ	**Matakaoa Point**	**5.72**	**209**	P		**Pn**		**12 30 11.9**	**-1.3**
MXZ				S		**Sn**		**12 31 19.1**	**+0.2**
WMGZ	**Waiomatatini S**	**5.90**	**207**	P		**Pn**		**12 30 15.4**	**-0.2**
WMGZ				S		**Sn**		**12 31 23.1**	**-0.2**
PKGZ	**Pakihiroa**	**6.07**	**209**	P		**Pn**		**12 30 17.2**	**-0.8**
PKGZ				S		**Sn**		**12 31 27.5**	**-0.1**
HAZ	**Te Kaha**	**6.10**	**211**	P		**Pn**		**12 30 18.9**	**+0.5**
HAZ				S		**Sn**		**12 31 29.5**	**+1.3**
PUZ	**Puketiti**	**6.18**	**206**	P		**Pn**		**12 30 17.5**	**-2.0**
PUZ				S		**Sn**		**12 31 27.9**	**-2.3**
RUGZ	**Raukumara Rang**	**6.32**	**211**	P		**Pn**		**12 30 21.9**	**+0.3**
RUGZ				S		**Sn**		**12 31 33.5**	**-0.4**
KUZ	**Kuaotunu**	**6.47**	**228**	P		**Pn**		**12 30 24.8**	**+1.3**
KUZ	**Kuaotunu**	**6.47**	**228**	P		**Pn**		**12 30 26.3**	**+2.8**
CNGZ	**Carnagh Statio**	**6.56**	**205**	P		**Pn**		**12 30 24.0**	**-0.7**
CNGZ				S		**Sn**		**12 31 39.5**	**-0.1**
TKGZ	**Te Karaka**	**6.66**	**207**	P		**Pn**		**12 30 25.0**	**-1.0**
TKGZ				S		**Sn**		**12 31 40.6**	**-1.3**
URZ	**Urewera**	**6.82**	**212**	Pn		**Pn**		**12 30 27.0**	**-1.2**
	5.0nm,0.3s,baz=108,slow=20,SNR=34								
URZ				Sn		**Sn**		**12 31 43.0**	**-2.8**
	5.2nm,0.3s,baz=252,slow=21,SNR=8.1								
URZ	**Urewera**	**6.82**	**212**	P		**Pn**		**12 30 27.2**	**-1.0**
URZ	**Urewera**	**6.82**	**212**	P		**Pn**		**12 30 26.6**	**-1.6**
URZ				S		**Sn**		**12 31 44.4**	**-1.4**
RIGZ	**Rimuhau**	**6.92**	**207**	P		**Pn**		**12 30 28.4**	**-1.3**
RIGZ				S		**Sn**		**12 31 47.1**	**-1.2**
WCZ	**Waipu Caves**	**6.98**	**239**	P		**Pn**		**12 30 33.8**	**+3.2**
SNGZ	**Shannon Statio**	**7.15**	**209**	P		**Pn**		**12 30 32.7**	**-0.2**
RTZ	**Ruatahuna**	**7.17**	**211**	P		**Pn**		**12 30 31.9**	**-1.2**
RTZ				S		**Sn**		**12 31 51.8**	**-2.8**
KNZ	**Kokohu**	**7.23**	**206**	P		**Pn**		**12 30 33.2**	**-0.7**
KNZ				S		**Sn**		**12 31 52.5**	**-3.5**
TOZ	**Tahuroa Road**	**7.25**	**223**	P		**Pn**		**12 30 35.6**	**+1.4**
OUZ	**Omahuta**	**7.27**	**246**	P		Pn		12 30 39.7	+5.3
OUZ	**Omahuta**	**7.27**	**246**	P		Pn		12 30 39.0	+4.6
TLZ	**Tolley Road**	**7.65**	**220**	P		**Pn**		**12 30 42.0**	**+2.2**
BKZ	**Black Stump Fm**	**7.83**	**211**	P		**Pn**		**12 30 41.0**	**-1.3**
BKZ	**Black Stump Fm**	**7.83**	**211**	P		**Pn**		**12 30 40.1**	**-2.2**
BKZ				S		**Sn**		**12 32 07.1**	**-4.0**
HIZ	**Hauiti**	**8.16**	**222**	P		**Pn**		**12 30 46.3**	**-0.4**
HIZ	**Hauiti**	**8.16**	**222**	P		**Pn**		**12 30 47.4**	**+0.7**
NGZ	**Ngauruhoe**	**8.26**	**215**	P		**Pn**		**12 30 50.0**	**+1.8**
NGZ				S		**Sn**		**12 32 21.0**	**-0.6**
PXZ	**Pawanui**	**8.42**	**207**	P		**Pn**		**12 30 47.9**	**-2.3**
PXZ				S		**Sn**		**12 32 18.7**	**-6.5**
VRZ	**Vera Road**	**8.65**	**219**	P		Pn		12 30 48.5	-4.9
TSZ	**Takapari Road**	**8.80**	**210**	P		**Pn**		**12 30 53.4**	**-2.1**
TSZ				S		**Sn**		**12 32 30.6**	**-4.2**
WAZ	**Wanganui**	**9.01**	**215**	P		**Pn**		**12 30 57.9**	**-0.4**
NEZ	**North Egmont**	**9.11**	**221**	P		**Pn**		**12 31 02.7**	**+2.9**
BFZ	**Birch Farm**	**9.21**	**207**	P		**Pn**		**12 30 58.4**	**-2.7**
BFZ	**Birch Farm**	**9.21**	**207**	P		**Pn**		**12 30 56.5**	**-4.7**
BFZ				S		**Sn**		**12 32 37.9**	**-7.0**
MRZ	**Mangatainoka R**	**9.47**	**210**	P		**Pn**		**12 31 00.1**	**-4.5**
MRZ				S		**Sn**		**12 32 42.4**	**-8.6**
NNZ	**Nelson**	**10.91**	**215**	P		**Pn**		**12 31 21.8**	**-2.5**
NNZ				S		Sn		12 33 16.7	-10
CTZ	**Chatham Island**	**11.22**	**174**	P		**Pn**		**12 31 31.3**	**+2.8**
KHZ	**Kahutara**	**11.78**	**211**	P		**Pn**		**12 31 34.9**	**-1.3**
RPZ	**Rata Peaks**	**13.93**	**214**	Pn		**Pn**		**12 32 01.3**	**-4.3**
	1.3nm,0.3s,baz=44,slow=8.8,SNR=5.6								
RPZ				Sn		Sn		12 34 23.9	-16
	0.6nm,0.3s,baz=300,slow=23,SNR=1.3								
ODZ	**Otahua Downs**	**15.14**	**211**	P		**Pn**		**12 32 20.0**	**-2.1**
MSVF	**Nonsavu**	**15.15**	**346**	Pn		**Pn**		**12 32 20.3**	**-2.1**
JCZ	**Jackson Bay**	**15.31**	**218**	P		**Pn**		**12 32 22.6**	**-1.8**
STKA	**Stephens Creek**	**33.83**	**260**	P		**P**		**12 35 33.6**	**+2.9**
	1.0nm,0.5s,baz=68,slow=9.6,SNR=3.1								
STKA				LR		LR		12 48 34.4	
	1.0nm,0.5s								
PMG	**Port Moresby**	**39.38**	**298**	LR		LR		12 50 51.6	
	comp=Z,96nm,19.7s,baz=164,slow=34

TROLL	**Troll, Antarti**	**75.70**	**180**	⇑P		**P**		**12 40 34.6**	**+1.1**
	comp=Z,70nm,0.6s									
SNAA	**Sanae**	**75.99**	**179**	⇑P		**P**		**12 40 35.3**	**+0.2**
	comp=Z,32nm,0.6s									
SNAA	**Sanae**	**75.99**	**179**	P		**P**		**12 40 36.0**	**+0.9**
SNAA				IAmb		IAmb		12 40 53.4		
	comp=Z,8.8nm,1.5s									
SNAA	**Sanae**	**75.99**	**179**	P		**P**		**12 40 35.4**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=220,slow=10.0,SNR=3.9									
	comp=Z,0.7nm,0.9s									
VNA3	**Neumayer Olymp**	**76.16**	**176**	⇑P		**P**		**12 40 36.3**	**+0.3**
	comp=Z,11nm,0.7s									
VNA2	**Neumayer--Watz**	**76.59**	**177**	⇓P		**P**		**12 40 39.1**	**+0.7**
	comp=Z,7.7nm,0.6s,baz=170,slow=4.5									
VNA1	**Neumayer--Stat**	**76.82**	**177**	⇑P		**P**		**12 40 40.3**	**+0.7**
	comp=Z,8.2nm,0.8s									
PETK	**Petropavlovsk-**	**87.86**	**346**	P		**P**		**12 41 38.0**	**+0.7**
PETK	**Petropavlovsk-**	**87.86**	**346**	P		**P**		**12 41 37.4**	**0.0**
	comp=Z,1.2nm,0.3s,baz=117,slow=12,SNR=5.4									
	comp=Z,1.2nm,0.3s									
NVAR	**Mina Array Bea**	**89.98**	**43**	P		**P**		**12 41 47.6**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=239,slow=5.2,SNR=3.9									
	comp=Z,0.3nm,0.8s									
MKAR	**Makanchi Array**	**118.99**	**309**	PKP		**PKPdf**		**12 47 36.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=101,slow=1.5,SNR=5.4									
KURBB	**Kurchatov Arra**	**122.41**	**313**	PKP		**PKPdf**		**12 47 43.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=105,slow=1.8,SNR=8.6									
BVAR	**Borovoye Array**	**127.79**	**315**	PKP		**PKPdf**		**12 47 53.5**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=151,slow=3.3,SNR=4.2									
ARCES	**ARCESS Array B**	**140.66**	**347**	PKhKP		PKPpre		12 48 12.2		
	comp=Z,1.3nm,0.8s,baz=338,slow=1.9,SNR=5.4									
KBZ	**Khabaz**	**146.09**	**301**	PKPbc		**PKPab**		**12 48 28.8**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=90,slow=3.0,SNR=2.4									
FIA1	**FINESS Array S**	**147.09**	**339**	PKPdf		**PKPbc**		**12 48 30.1**	**-0.5**
FINES	**FINESS Array B**	**147.10**	**339**	PKPbc		**PKPbc**		**12 48 30.9**	**+0.3**
	comp=Z,10nm,0.7s,baz=43,slow=3.6,SNR=37									
NB2	**NORSAR Subarra**	**150.86**	**351**	PKP		**PKPbc**		**12 48 40.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6									
NOA	**NORSAR Array B**	**150.86**	**351**	PKPbc		**PKPbc**		**12 48 40.4**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=15,slow=2.5,SNR=5.2									
HFS	**Hagfors**	**151.32**	**348**	PKPbc		**PKPbc**		**12 48 41.5**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=318,slow=2.0,SNR=7.4									
MMAI	**Mount Meron Ar**	**151.77**	**280**	PKPbc		**PKiKP**		**12 48 44.2**	**+0.5**
	comp=Z,5.4nm,0.9s,baz=69,slow=8.4,SNR=6.4									
AKASG	**Malin Array Be**	**152.86**	**320**	PKPbc		**PKPbc**		**12 48 44.7**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=57,slow=2.2,SNR=5.1									
AKASG				PKPab		**PKPab**		**12 48 56.6**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=68,slow=2.0,SNR=5.4									
BRTR	**Keskin Array B**	**153.37**	**295**	PKPbc		**PKiKP**		**12 48 47.1**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=128,slow=3.6,SNR=9.1									
TORD	**Torodi Ar. Bea**	**160.66**	**180**	PKPab		**PKPab**		**12 49 30.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=159,slow=2.5,SNR=3.7									

*SKHL **31** 12:31:57.5±0.3, 42°.90N×145°.70E, h30km±4km, mb3.8/3*
*JMA **31** 12:31:57.0±0.1, 42°.9N±0°.5×145°.7E±0°.6, h42km±1km, MV2.5/35, OFF NEMURO PENINSULA*
ISC 31 12:31:57.1±1.8, 42°.93N±0°.09×145°.70E±0°.05, h30km±13km, n14, σ0°.947/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.42**	**292**	*i* P		**Pn**	**12 32 07.2**	**0.0**
JKHN				S		**Sn**	**12 32 14.4**	**+0.4**
NEM2	**Nemuro 2**	**0.44**	**4**	*i* P		**Pn**	**12 32 07.3**	**-0.1**
NEM2				S		**Sn**	**12 32 14.6**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.44**	**3**	*i* P		**Pn**	**12 32 07.4**	**-0.1**
NMR				AMB		AMB	12 32 07.6	
	60nm,0.3s							
NMR				*i* S		**Sn**	**12 32 14.7**	**+0.3**
NMR				A		A	12 32 14.9	
	170nm,0.2s							
NMR				A		A	12 32 14.9	
	280nm,0.2s							
AKK	**Akkeshi**	**0.64**	**278**	*i* P		**Pb**	**12 32 09.8**	**0.0**
AKK				AMB		AMB	12 32 10.2	
	40nm,0.4s							
AKK				*e*S		**Sb**	**12 32 18.6**	**+0.2**
AKK				A		A	12 32 21.4	
	140nm,0.2s							
AKK				A		A	12 32 21.4	
	140nm,0.2s							
JAK	**Akkeshi**	**0.74**	**276**	*i* P		**Pb**	**12 32 11.2**	**-0.3**
JNK	**Nakash**	**0.97**	**313**	*i* P		**Pn**	**12 32 14.6**	**-0.1**
JNK				*e*S		**Sb**	**12 32 27.6**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.99**	**329**	P		**Pn**	**12 32 15.2**	**+0.2**
JNSB				*e*S		**Sb**	**12 32 28.4**	**+0.1**
JRA	**Rausu**	**1.09**	**338**	P		**Pn**	**12 32 16.7**	**+0.3**
JRA				*e*S		**Sb**	**12 32 31.3**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.11**	**6**	*e*P		**Pb**	**12 32 16.0**	**-0.7**
YUK				AMB		AMB	12 32 18.2	
	60nm,0.4s							
YUK				*e*S		**Sn**	**12 32 29.7**	**-1.3**
YUK				A		A	12 32 31.5	
	150nm,0.2s							
YUK				A		A	12 32 31.5	
	210nm,0.2s							
SHO	**Shikotan**	**1.25**	**41**	*e*P		**Pb**	**12 32 20.2**	**+0.1**
SHO				*e*S		**Sb**	**12 32 36.4**	**+0.5**
SHO				A		A	12 32 38.4	
	20nm,0.2s							
SHO				A		A	12 32 38.4	
	30nm,0.2s							
JOB	**Onbets**	**1.37**	**270**	*e*P		**Pn**	**12 32 19.9**	**-0.3**
JAR	**Ashorobuto**	**1.46**	**285**	P		**Pn**	**12 32 21.4**	**0.0**
JTKR	**Abashiri--Toko**	**1.67**	**309**	P		**Pn**	**12 32 25.3**	**+1.0**
KUR	**Kuril'sk**	**2.78**	**33**	*e*S		**Sn**	**12 33 12.5**	**+0.3**
KUR				A		A	12 33 14.7	
	20nm,0.3s							
KUR				A		A	12 33 14.7	
	10.0nm,0.3s							

*BJI **31** 13:02:16.8, 7°.15N×126°.83E, h77km, mB5.0/28, mb4.8/70, Ms4.5/56, Ms7 4.4/56*
*DJA **31** 13:02:16.8±1.5, 8°N±13°×12°7E±°, h10km, M5.2/16, mb5.3/16, mB5.6/13, MLv5.7/9, Mw(mB)5.1/13, MwMwp4.8/6, Mwp5.1/6*
*MAN **31** 13:02:19.1, 7°.46N×126°.77E, h33km, mb5.8, ML4.8, MS5.2*
MAN INTENSITY III - BAGANGA CARAGA AND MANAY DAVAO ORIENTAL; INTENSITY II - MATI CITY; CATEEL DAVAO ORIENTAL; BISLIG CITY SURIGAO DEL SUR; INTENSITY I - DAVAO CITY.
*NEIC **31** 13:02:20.5±1.6, 7°.50N±0°.07×126°.65E±0°.06, h62km±5km, mb5.1/262, Mww5.1/26, Error ellipse: s-maj=10.0km s-min=9.1km az=214.0*
*NEIC **31** 13:02:20.3, 7°.51N×126°.65E, h50km*
*NEIC **31** 13:02:20.3, 7°.41N×126°.95E, h50km, Moment Tensor Solution. Duration: 1†7 Moment tensor: Scale 10¹⁶Nm; Mrr4.59; Mθθ0.32; Mϕϕ-4.91; Mrθ1.63; Mθϕ-0.92; Mϕr-0.61; Fault plane solution: M₀5.15000×10¹⁶ NP1:φs28.44000°, δ46.35000°, λ117.93000°. NP2:φs170.91000°, δ50.26000°, λ63.85000°. Principal axes: T 5.2170, Plg70.0000°, Azm15.0000°; N -0.1421, Plg20.0000°, Azm188.0000°; P -5.0749, Plg2.0000°, Azm279.0000°;*
*MOS **31** 13:02:20.0±1.0, 7°.53N×126°.58E, h76km, mb5.3/49 Error ellipse: s-maj=8.2km s-min=4.3km az=114.6*
*IDC **31** 13:02:21.6±1.1, 7°.57N×126°.64E, h73km±9km, mb4.5/28, mbtmp4.8/31, MS4.1/60, Error ellipse: s-maj=13.8km s-min=8.4km az=81.0*
*GCMT **31** 13:02:21.3±0.2, 7°.35N±0°.01×126°.83E±0°.01, h55km, MW5.1/109, Moment Tensor Solution. s86,c120; s109,c180; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.37±.14; Mθθ1.18±.11; Mϕϕ-6.55±.11; Mrθ1.41±.08; Mθϕ-1.62±.10; Mϕr-0.71±.11; Best double couple: M₀6.40000×10¹⁶ NP1:φs30.00000°, δ46.00000°, λ117.00000°. NP2:φs173.00000°, δ50.00000°, λ65.00000°. Principal axes: T 5.9100, Plg71.0000°, Azm17.0000°; N 0.9800, Plg19.0000°, Azm190.0000°; P -6.8910, Plg2.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 13:02:20.9±0.3, 7°.44N±0°.03×126°.75E±0°.04, h72km±2km, h72km:pP-P, n833, σ1§64/778, mb5.0/226, 25C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.22**	**252**			**Pn**	**13 02 41.7**	**-0.6**
DAV				Sn		**Sn**	**13 02 56.4**	**-1.8**
DAV	**Davao City (W)**	**1.22**	**252**	P		**Pn**	**13 02 41.9**	**-0.3**
	5μm,0.3s,baz=72,slow=3.6,SNR=235							
DAV				S		**Sn**	**13 02 58.3**	**+0.1**
	17μm,0.6s,baz=276,slow=23,SNR=8.6							
DAV	**Davao City (W)**	**1.22**	**252**	P		**Pn**	**13 02 42.6**	**+0.4**
DAV	**Davao City (W)**	**1.22**	**252**	S		**Sn**	**13 03 01.5**	**+3.3**
DAV	**Davao City (W)**	**1.22**	**252**	P		Pn	13 02 37.0	-5.2
SGSI	**Sangihe**	**3.92**	**198**	P		**Pn**	**13 03 19.6**	**+0.9**
TNTI	**Ternate**	**6.65**	**175**			**Pn**	**13 03 57.4**	**+1.4**
TNTI				Sn		**Sn**	**13 05 08.6**	**-1.9**
TNTI	**Ternate**	**6.65**	**175**	P		**Pn**	**13 03 57.4**	**+1.4**
TNTI	**Ternate**	**6.65**	**175**	P		**Pn**	**13 03 57.0**	**+1.0**
	1.4nm3μm230nm,0.9s							
KMSI	**Cibinong**	**7.36**	**202**	P		**Pn**	**13 04 08.4**	**+2.7**
MRSI	**Marisa**	**8.41**	**215**	P		**Pn**	**13 04 20.3**	**+0.2**
	5μm226nm,0.9s							
MYLDM	**Lahad Datu**	**8.50**	**255**			**Pn**	**13 04 21.6**	**+0.3**
MYLDM	**Lahad Datu**	**8.50**	**255**	P		**Pn**	**13 04 23.7**	**+2.4**
TOLI2	**Tolitoli**	**8.65**	**224**			**Pn**	**13 04 21.3**	**-2.1**
TOLI2				Sn		**Sn**	**13 05 55.2**	**-4.3**
TGY	**Tagaytay City**	**8.74**	**320**	P		**Pn**	**13 04 28.8**	**+4.2**
	376nm,0.8s,baz=201,slow=8.6,SNR=8.2							
LUWI	**Luwuk**	**9.31**	**205**			**Pn**	**13 04 33.2**	**+0.8**
LUWI	**Luwuk**	**9.31**	**205**	P		**Pn**	**13 04 34.9**	**+2.5**
LUWI	**Luwuk**	**9.31**	**205**	P		**Pn**	**13 04 35.9**	**+3.5**
	406nm,1.1s							
SWI	**Sorong**	**9.40**	**151**	P		**Pn**	**13 04 31.8**	**-1.7**
	1μm69nm,0.5s							
SANI	**Sanana**	**9.46**	**185**	P		**Pn**	**13 04 34.8**	**+0.4**
SANI	**Sanana**	**9.46**	**185**	P		**Pn**	**13 04 32.6**	**-1.8**
	2μm83nm,0.9s							
APSI	**Ampana**	**9.73**	**212**	P		**Pn**	**13 04 41.4**	**+3.3**
	179nm,1.0s							
KKM	**Kota Kinabalu**	**10.55**	**263**			**Pn**	**13 04 47.4**	**-2.0**
KKM	**Kota Kinabalu**	**10.55**	**263**	P		**Pn**	**13 04 52.1**	**+2.7**
NLAI	**Namlea**	**10.61**	**178**	P		**Pn**	**13 04 48.8**	**-1.4**
	113nm,0.9s							
FAKI	**Fak Fak**	**11.66**	**152**			**Pn**	**13 05 05.5**	**+1.0**
FAKI	**Fak Fak**	**11.66**	**152**	P		**Pn**	**13 05 06.1**	**+1.6**
FAKI	**Fak Fak**	**11.66**	**152**	P		**Pn**	**13 05 07.7**	**+3.2**
BKB	**Balikpapan**	**13.09**	**229**	Pn		**Pn**	**13 05 19.7**	**-4.2**
KAPI	**Kappang**	**14.21**	**210**			**Pn**	**13 05 37.2**	**-1.4**
KAPI	**Kappang**	**14.21**	**210**	P		**Pn**	**13 05 40.7**	**+2.1**
	9.3nm,0.3s,baz=17,slow=12,SNR=4.3							
KAPI				LR		LR	13 12 41.6	
	comp=Z,385nm,18.0s,baz=33,slow=44							
KAPI	**Kappang**	**14.21**	**210**	P		**P**	**13 05 41.6**	**-2.3**
KAPI	**Kappang**	**14.21**	**210⇑**	*e*P		**Pn**	**13 05 40.8**	**+2.2**
KAPI				pmax		pmax		
	comp=Z,22nm,0.8s							
SBUM	**Sibu**	**15.29**	**252**	P		**Pn**	**13 05 51.3**	**-1.4**
SBUM	**Sibu**	**15.29**	**252**	P		**P**	**13 05 54.9**	**-1.1**
SAUI	**Saumlaki**	**15.98**	**163**	P		**Pn**	**13 06 01.3**	**0.0**
SAUI				IAmb		IAmb	13 06 06.4	
	comp=Z,166nm,0.9s							
TWG	**Pinlang**	**16.24**	**341**			**Pn**	**13 06 02.9**	**-1.7**
MMRI	**Maumere**	**16.59**	**196**	P		**Pn**	**13 06 09.5**	**+0.5**
MMRI				IAmb		IAmb	13 06 19.4	
	comp=Z,55nm,0.4s							
GENI	**Genyem**	**16.69**	**126**	P		**P**	**13 06 12.3**	**+0.8**
TPUB	**Ta-pu**	**16.83**	**340**	P		**Pn**	**13 06 08.4**	**-3.6**
JAY	**Jayapura**	**17.08**	**125**	P		**P**	**13 06 18.4**	**+2.6**
	comp=Z,18nm,1.0s,baz=260,slow=11,SNR=3.6							
SOEI	**Soe**	**17.26**	**188**	P		**Pn**	**13 06 17.7**	**+0.3**
SOEI	**Soe**	**17.26**	**188**	P		**P**	**13 06 21.3**	**+3.4**
NACB	**Ninganchiao**	**17.36**	**344**	P		**Pn**	**13 06 16.5**	**-1.9**
KSM	**Kuching**	**17.42**	**251**			**P**	**13 06 19.9**	**+0.3**
KSM	**Kuching**	**17.42**	**251**	P		**P**	**13 06 21.9**	**+2.3**
BATI	**Baumata**	**17.80**	**190**	P		**Pn**	**13 06 26.1**	**+2.2**
	comp=Z,41nm,0.5s,baz=40,slow=1.5,SNR=6.5							
BATI				S		**S**	**13 09 46.9**	**+2.9**
	comp=Z,12nm,0.3s,baz=32,slow=18,SNR=2.1							
BATI				LR		LR	13 14 36.2	
	comp=Z,372nm,21.8s,baz=72,slow=41							
PLAI	**Plampang**	**18.47**	**209**	P		**Pn**	**13 06 34.4**	**+2.4**
DLV	**Lat**	**18.55**	**285**	P		**Pn**	**13 06 34.2**	**+1.1**
DLV				IAmb		IAmb	13 06 37.0	
	comp=Z,149nm,1.0s							
DLV	**Lat**	**18.55**	**285**	P		**Pn**	**13 06 35.1**	**+2.0**
GUMO	**Guam**	**18.83**	**70**	LR		LR	13 12 30.5	
	comp=Z,416nm,19.9s,baz=251,slow=32							
JOW	**Kunigami**	**19.34**	**4**	P		**Pn**	**13 06 41.1**	**-1.2**
JOW				IAmb		IAmb	13 06 46.2	
	comp=Z,170nm,1.0s							
JOW	**Kunigami**	**19.34**	**4**	*e*PKP2		**Pn**	**13 06 42.5**	**+0.3**
	comp=Z,496nm,1.4s							
JOW				*e*LR		LR	13 11 11.1	
	comp=Z,2μm,26.3s							
JOW	**Kunigami**	**19.34**	**4**	P		**Pn**	**13 06 42.2**	**-0.1**
	comp=Z,115nm,0.9s,baz=192,slow=9.1,SNR=15							
JOW				LR		LR	13 13 49.1	
	comp=Z,438nm,21.1s,baz=134,slow=36							
JOW	**Kunigami**	**19.34**	**4**	P		**Pn**	**13 06 42.6**	**+0.3**
QIZ	**Qiongzhong**	**20.06**	**307**	P		**P**	**13 06 48.8**	**+0.3**
QIZ				IAmb		IAmb	13 06 52.4	
	comp=Z,84nm,0.8s							
QIZ	**Qiongzhong**	**20.06**	**307**	P		**P**	**13 06 49.3**	**+0.8**
QIZ				pP		**pP**	**13 07 03.0**	**-0.5**
QIZ				S		**S**	**13 10 30.8**	**+0.6**
QIZ				pmax		pmax		
	comp=Z,110nm,0.8s							
QIZ				pmax		pmax		
	comp=Z,410nm,2.9s							
QIZ				LR		LR		
	comp=Z,440nm,14.8s							
QIZ				LR		LR		
	comp=Z,530nm,18.1s							
QIZ				LR		LR		
	comp=Z,1μm,19.8s							
QIZ	**Qiongzhong**	**20.06**	**307**	P		Pn	13 06 50.3	-0.6
DRS	**Darwin Rock St**	**20.17**	**168**	P		Pn	13 06 51.9	-0.2
JAGI	**Jajag, Banyuwa**	**20.18**	**219**	P		Pn	13 06 52.3	0.0
MTN	**Manton Dam**	**20.62**	**168**	P		**P**	**13 06 55.5**	**+1.0**
MTN				IAmb		IAmb	13 07 11.7	
	comp=Z,181nm,1.6s							
MTN	**Manton Dam**	**20.62**	**168**	P		**P**	**13 06 55.9**	**+1.4**
KDU	**Kakadu**	**20.79**	**164**	P		**P**	**13 06 57.8**	**+1.5**
KNRA	**Kununurra**	**23.05**	**175**	P		**P**	**13 07 20.9**	**+0.5**
KNRA				IAmb		IAmb	13 07 33.0	
	comp=Z,80nm,0.9s							
MYKOM	**Kota Tinggi**	**23.50**	**257**	P		**P**	**13 07 23.9**	**-0.7**
MYKOM				IAmb		IAmb	13 07 40.6	
	comp=Z,72nm,1.2s							
MYKOM	**Kota Tinggi**	**23.50**	**257**	P		**P**	**13 07 29.2**	**+4.6**
BTDF	**Bukit Timah Da**	**23.68**	**256**	P		**P**	**13 07 29.7**	**+3.5**
LEM	**Lembang**	**23.77**	**234**	LR		LR	13 17 23.6	
	comp=Z,507nm,20.1s,baz=43,slow=38							
SSE	**Sheshan**	**24.10**	**348**	P		**P**	**13 07 30.5**	**+0.7**
SSE				S		**S**	**13 11 44.3**	**+1.8**
SSE				pmax		pmax		
	comp=Z,8.0nm,0.7s							
SSE				pmax		pmax		
	comp=Z,77nm,4.8s							
SSE				LR		LR		
	comp=Z,220nm,20.7s							
SSE				LR		LR		
	comp=Z,140nm,17.9s							
BBJI	**Bungbulang**	**24.12**	**233**	P		**P**	**13 07 32.1**	**+1.8**
JCJ	**Chichijima**	**24.43**	**35**	P		**P**	**13 07 33.0**	**+0.1**
JCJ				IAmb		IAmb	13 07 35.0	
	comp=Z,47nm,0.8s							
JCJ	**Chichijima**	**24.43**	**35**	P		**P**	**13 07 34.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.40**	**182**	P		**P**	**13 07 42.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.40**	**182**	ScP		**ScP**	**13 14 46.6**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=156,slow=1.1,SNR=3.8							
NJ2	**Nanjing**	**25.57**	**344**	*e*P		**P**	**13 07 43.3**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
NJ2				LR		LR		
	comp=Z,480nm,16.2s							
NJ2				LR		LR		
	comp=Z,320nm,17.4s							
NJ2				LR		LR		
	comp=Z,830nm,16.7s							
IPM	**Ipoh**	**25.75**	**265**	P		**P**	**13 07 44.3**	**-0.8**
IPM				IAmb		IAmb	13 08 07.5	
	comp=Z,133nm,1.7s							
WHN	**Wuhan**	**25.75**	**335**	P		**P**	**13 07 47.0**	**+2.1**
WHN				LR		LR		
	comp=Z,3μm,19.8s							
JNU	**Nakatsue**	**25.84**	**8**	P		**P**	**13 07 44.9**	**-0.8**
JNU				IAmb		IAmb	13 07 47.9	
	comp=Z,81nm,0.9s							
JNU	**Nakatsue**	**25.84**	**8**	LR		LR	13 16 58.0	
	comp=Z,348nm,21.6s,baz=170,slow=34							
JNU	**Nakatsue**	**25.84**	**8**	P		**P**	**13 07 45.8**	**+0.1**
KULM	**Kulim**	**26.02**	**267**	P		**P**	**13 07 47.5**	**0.0**
KULM				IAmb		IAmb	13 08 11.3	
	comp=Z,53nm,1.3s							
KULM	**Kulim**	**26.02**	**267**	P		**P**	**13 07 51.3**	**+3.8**
SLVN	**Son La**	**26.03**	**304**	P		**P**	**13 07 47.1**	**-0.4**
SLVN	**Son La**	**26.03**	**304**	P		**P**	**13 07 50.0**	**+2.4**
PMG	**Port Moresby**	**26.34**	**129**	P		**P**	**13 07 51.2**	**+1.0**
PMG	**Port Moresby**	**26.34**	**129**	P		**P**	**13 07 51.3**	**+1.0**
PMG				pmax		pmax		
	comp=Z,39nm,1.3s							
COEN	**Coen**	**26.79**	**142**	P		**P**	**13 07 55.7**	**+1.3**
JMN	**Monobe**	**26.98**	**13**	P		**P**	**13 07 55.1**	**-0.8**
JMN				IAmb		IAmb	13 08 00.3	
	comp=Z,60nm,0.9s							
JMN	**Monobe**	**26.98**	**13**	P		**P**	**13 07 57.0**	**+1.1**
	comp=Z,72nm,1.0s							
ENH	**Enshi**	**27.89**	**327**	P		**P**	**13 08 01.2**	**-2.9**
ENH	**Enshi**	**27.89**	**327**	P		**P**	**13 08 05.6**	**+1.4**
PSI	**Prapat**	**28.09**	**262**	LR		LR	13 22 27.5	
	comp=Z,260nm,19.0s,baz=339,slow=43							
PSI	**Prapat**	**28.09**	**262**	P		**P**	**13 08 09.8**	**+3.6**
PSI	**Prapat**	**28.09**	**262**	P		**P**	**13 08 05.9**	**-0.3**
PSI				pmax		pmax		
	comp=Z,52nm,1.5s							
RPSI	**Rantau Prapat**	**28.11**	**262**	P		**P**	**13 08 05.9**	**-0.2**
RPSI				IAmb		IAmb	13 08 32.7	
	comp=Z,52nm,1.5s							
WRAB	**Tennant Creek**	**28.21**	**165**	P		**P**	**13 08 06.1**	**-0.9**
WRAB	**Tennant Creek**	**28.21**	**165⇑**	*e*P		**P**	**13 08 07.0**	**0.0**
WRAB				pmax		pmax		
	comp=Z,5.0nm,0.8s							
WRA	**Warramunga Arr**	**28.22**	**165**	P		**P**	**13 08 06.3**	**-0.8**
WRA	**Warramunga Arr**	**28.22**	**165**	P		**P**	**13 08 07.4**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=348,slow=9.6,SNR=27							
WRA				PcP		**PcP**	**13 11 20.2**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=338,slow=2.5,SNR=4.7							
WRA				S		**S**	**13 12 44.3**	**-3.5**
	comp=Z,1.9nm,0.9s,baz=341,slow=16,SNR=3.8							
WRA				LR		LR	13 21 28.9	
	comp=Z,191nm,20.2s,baz=344,slow=40							
	comp=Z,2.2nm,0.5s							
WRA	**Warramunga Arr**	**28.22**	**165**	*i* P		**P**	**13 08 07.4**	**+0.3**
WRA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
JHJ2	**Mitsune**	**28.27**	**24**	P		**P**	**13 08 06.3**	**-1.1**
JHJ2	**Mitsune**	**28.27**	**24**	*e*PKP2		P	13 07 58.9	-8.5
	comp=Z,11nm,25.9s							
JHJ2				*e*LR		LR	13 15 21.9	
	comp=Z,185nm,28.7s							
TJN	**Taejon**	**28.81**	**1⇑**	*e*P		**P**	**13 08 12.4**	**+0.3**
KMI	**Kunming**	**28.90**	**310**	⇑P		**P**	**13 08 14.0**	**+0.6**
KMI				pP		pP	13 08 32.5	+1.9
KMI				S		**S**	**13 12 54.5**	**-4.5**
KMI				sS		sS	13 13 26.0	-1.9
KMI				pmax		pmax		
	comp=Z,25nm,0.9s							
KMI				LR		LR		
	comp=Z,310nm,17.3s							
KMI				LR		LR		
	comp=Z,530nm,16.7s							
KMI				LR		LR		
	comp=Z,540nm,17.5s							
CMAR	**Chiang Mai Arr**	**29.18**	**295**	P		**P**	**13 08 14.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**29.18**	**295**	P		**P**	**13 08 16.0**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=97,slow=7.4,SNR=18							
CMAR				PcP		**PcP**	**13 11 23.2**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=98,slow=1.1,SNR=8.9							
CMAR				ScP		**ScP**	**13 14 57.3**	**0.0**
	comp=Z,1.9nm,1.0s,baz=108,slow=4.7,SNR=7.8							
CMAR				LR		LR	13 20 25.2	
	comp=Z,675nm,18.9s,baz=105,slow=37							
	comp=Z,3.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**29.18**	**295**	*i* P		**P**	**13 08 16.5**	**+0.8**
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MBWA	**Marble Bar**	**29.24**	**193**	P		**P**	**13 08 19.7**	**+3.5**
CHTO	**Chiang Mai**	**29.29**	**295**	P		**P**	**13 08 15.3**	**-1.4**
CHTO	**Chiang Mai**	**29.29**	**295**	P		**P**	**13 08 17.9**	**+1.2**
CHTO	**Chiang Mai**	**29.29**	**295**	P		**P**	**13 08 15.3**	**-1.4**
CHTO				pmax		pmax		
	comp=Z,31nm,1.4s							
INU	**Inuyama**	**29.33**	**17**	P		**P**	**13 08 17.0**	**+0.1**
INU				IAmb		IAmb	13 08 18.3	
	comp=Z,44nm,0.8s							
INU	**Inuyama**	**29.33**	**17**	P		**P**	**13 08

XAN LR LR
comp=Z,560nm,23.7s
XAN LR LR
comp=Z,640nm,21.3s
DL2 Dalian 31.67 352 P **P** **13 08 38.8 +1.5**
DL2 S **S** **13 13 47.5 +6.0**
DL2 pmax pmax
comp=Z,28nm,0.8s
DL2 pmax pmax
comp=Z,92nm,6.3s
DL2 LR LR
comp=Z,310nm,19.4s
DL2 LR LR
comp=Z,400nm,21.2s
DL2 LR LR
comp=Z,480nm,21.6s
ASAR Alice Springs 31.70 167 P **P** **13 08 38.0 +0.2**
ASAR Alice Springs 31.70 167 P **P** **13 08 38.6 +0.8**
comp=Z,2.9nm,0.6s,baz=352,slow=7.6,SNR=43
ASAR PcP **PcP** **13 11 29.4 +1.1**
comp=Z,4.2nm,0.6s,baz=346,slow=2.5,SNR=14
ASAR S **S** **13 13 39.7 -2.7**
comp=Z,1.5nm,1.0s,baz=345,slow=14,SNR=3.2
ASAR ScP **ScP** **13 15 06.2 +0.8**
comp=Z,2.0nm,0.9s,baz=340,slow=3.0,SNR=6.3
comp=Z,2.9nm,0.6s
CD2 Chengdu 31.75 320 P **P** **13 08 38.5 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,680nm,14.6s
CD2 LR LR
comp=Z,760nm,15.9s
CD2 LR LR
comp=Z,1μm,17.8s
HNS HongShan 31.77 342 ⇑P **P** **13 08 37.0 -1.3**
HNS pmax pmax
comp=Z,14nm,0.9s
HNS LR LR
comp=Z,500nm,19.0s
HNS LR LR
comp=Z,160nm,17.8s
HNS LR LR
comp=Z,670nm,19.2s
TNCH TengChong 32.14 306 P **P** **13 08 42.3 +0.4**
TNCH pP pP 13 09 01.0 +1.8
TNCH S **S** **13 13 49.0 -0.7**
TNCH pmax pmax
comp=Z,25nm,0.7s
TNCH pmax pmax
comp=Z,160nm,3.5s
JMM Marumori 32.86 21 P **P** **13 08 48.1 +0.3**
JMM Marumori 32.86 21 P **P** **13 08 48.5 +0.7**
BJI Beijing 33.81 345 P **P** **13 08 57.3 +1.2**
BJI PcP **PcP** **13 11 33.8 0.0**
BJI S **S** **13 14 14.3 -0.6**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI LR LR
comp=Z,92nm,23.3s
BJI LR LR
comp=Z,70nm,20.8s
BJI LR LR
comp=Z,150nm,22.8s
SNY Shenyang 34.36 356 ⇓P **P** **13 09 00.0 -0.8**
SNY pmax pmax
comp=Z,13nm,0.9s
MEEK Meekatharra 34.78 193 P **P** **13 09 08.0 +3.3**
MSHR Mys Shultsa 35.21 6*ceP* **P** **13 09 08.8 +0.7**
MSHR pmax pmax
comp=Z,33nm,0.8s
PSTR Posyet 35.25 5⇓*eP* **P** **13 09 09.1 +0.6**
LZH Lanzhou 35.38 327 *eP* **P** **13 09 11.3 +1.4**
LZH pP sP 13 09 30.5 -5.1
LZH sP pP 13 09 39.5 +12
LZH S **S** **13 14 40.5 +1.1**
LZH pmax pmax
comp=Z,35nm,1.3s
LZH LR LR
comp=Z,560nm,15.8s
LZH LR LR
comp=Z,590nm,15.8s
LZH LR LR
comp=Z,1μm,14.8s
JTM Tenmabayashi 35.58 19 **P** **13 09 11.1 -0.2**
JTM Tenmabayashi 35.58 19 P **P** **13 09 12.6 +1.3**
HHC Hu-ho-hao-te 35.92 340 *eP* **P** **13 09 16.5 +2.1**
HHC S **S** **13 14 48.3 +0.8**
HHC sS ScP 13 15 22.0 +1.9
HHC SS **SnSn** **13 17 11.5 -6.4**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,52nm,4.5s
HHC LR LR
comp=Z,410nm,14.9s
HHC LR LR
comp=Z,220nm,14.9s
HHC LR LR
comp=Z,530nm,15.4s
CN2 Changchun 36.24 358 *eP* **P** **13 09 19.5 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BTO Baotou 36.25 338 *eP* **P** **13 09 17.8 +0.6**
BTO pP **pP** **13 09 37.3 +3.0**
BTO sP sP 13 09 50.8 +8.3
BTO PP **PP** **13 10 38.8 -2.1**
BTO S **S** **13 14 53.8 +1.3**
BTO SS **SnSn** **13 17 27.3 +1.5**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,120nm,4.1s
BTO LR LR
comp=Z,480nm,10.4s
BTO LR LR
comp=Z,260nm,7.0s
BTO LR LR
comp=Z,720nm,22.2s
USA0B Ussuriysk Arra 36.90 6*c iP* **P** **13 09 23.0 +0.4**
USRK Ussuriysk Ar. 36.90 6 P **P** **13 09 22.4 -0.2**
USRK Ussuriysk Ar. 36.90 6 P **P** **13 09 23.0 +0.4**
comp=Z,30nm,0.8s,baz=189,slow=7.9,SNR=44
USRK LR LR 13 25 21.0
comp=Z,135nm,19.3s,baz=191,slow=38
comp=Z,30nm,0.8s
BRDH Bariadhala 37.00 298 LR LR 13 24 51.9
comp=Z,640nm,21.8s,baz=90,slow=37
HNR Honiara 37.08 116 LR LR 13 22 41.7
comp=Z,137nm,21.2s,baz=311,slow=33
MDJ Mudanjiang 37.12 3 P **P** **13 09 24.8 +0.4**
MDJ PP **PnPn** **13 10 56.0 +4.6**
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ LR LR
comp=Z,260nm,19.9s
MDJ LR LR
comp=Z,67nm,6.7s
MDJ LR LR
comp=Z,440nm,23.0s
MDJ Mudanjiang 37.12 3 P **P** **13 09 25.3 +0.9**
MDJ Mudanjiang 37.12 3 P **P** **13 09 25.1 +0.7**
ERM Erimo 37.37 20 P **P** **13 09 26.0 -0.5**
ERM IAmb IAmb 13 09 29.3
comp=Z,31nm,0.8s
ERM Erimo 37.37 20*ceP* **P** **13 09 28.6 +2.0**
ERM pmax pmax
comp=Z,26nm,0.8s
ERM Erimo 37.37 20 P **P** **13 09 28.9 +2.3**
XLT XiLinHaoTe 37.50 347 *eP* **P** **13 09 30.0 +2.2**
XLT S **S** **13 15 12.5 +1.0**
XLT SS **SnSn** **13 17 55.0 -0.9**
XLT pmax pmax
comp=Z,16nm,0.7s
XLT LR LR
comp=Z,190nm,19.1s
XLT LR LR
comp=Z,310nm,18.7s
INKA Innaminka 37.50 159 P **P** **13 09 28.3 +0.5**
SHL Shillong 37.80 303 P **P** **13 09 29.5 -1.2**
SHL IAmb IAmb 13 09 52.2
comp=Z,39nm,1.1s
SHL Shillong 37.80 303 P **P** **13 09 29.5 -1.2**
SHL pmax pmax
comp=Z,39nm,1.1s
QLP Quilpie 37.84 154 P **P** **13 09 31.6 +0.9**

BNX BinXian 38.16 1 ⇓P **P** **13 09 32.8 -0.4**
BNX pmax pmax
comp=Z,6.0nm,0.8s
KLBR Kellerberrin 39.75 192 P **P** **13 09 48.4 +1.8**
GTA Gaotai 39.98 327 *eP* **P** **13 09 48.5 -0.1**
GTA pP pP 13 10 03.8 -2.4
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,610nm,20.3s
GTA LR LR
comp=Z,580nm,20.3s
GTA LR LR
comp=Z,910nm,22.7s
LSA Lhasa 40.09 308 P **P** **13 09 48.0 -2.1**
LSA pmax pmax
comp=Z,8.0nm,1.1s
GOMU GeErMu 40.85 319 P **P** **13 09 56.8 +0.6**
GOMU S **S** **13 16 03.3 +0.7**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
GOMU LR LR
comp=Z,260nm,16.4s
GOMU LR LR
comp=Z,210nm,16.2s
GOMU LR LR
comp=Z,410nm,16.5s
BBOO Buckleboo 41.00 168 P **P** **13 09 57.7 +0.8**
BBOO IAmb IAmb 13 10 10.7
comp=Z,40nm,1.1s
BBOO Buckleboo 41.00 168 P **P** **13 09 58.0 +1.1**
NWAO Narrogin (SRO) 41.15 192 P **P** **13 09 58.8 +0.6**
NWAO Narrogin (SRO) 41.15 192 P **P** **13 09 58.8 +0.6**
NWAO pmax pmax
comp=Z,108nm,1.6s
STKA Stephens Creek 41.59 161 P **P** **13 10 02.3 +0.5**
STKA Stephens Creek 41.59 161 P **P** **13 10 02.4 +0.7**
comp=Z,12nm,0.7s,baz=332,slow=8.5,SNR=22
STKA LR LR 13 29 14.5
comp=Z,121nm,21.7s,baz=348,slow=39
comp=Z,12nm,0.7s
STKA Stephens Creek 41.59 161 P **P** **13 10 03.2 +1.4**
STKA Stephens Creek 41.59 161*deP* **P** **13 10 02.9 +1.1**
YSS Yuzhno-Sakhali 41.69 16 P **P** **13 10 02.8 +0.3**
YSS Yuzhno-Sakhali 41.69 16 *eP* **P** **13 10 03.2 +0.8**
YSS *e* 13 11 39.6
YSS *eS* **S** **13 16 15.7 +1.7**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,100nm,2.5s
YSS Yuzhno-Sakhali 41.69 16 P **P** **13 10 03.5 +1.1**
YSS sP **sP** **13 10 26.2 -0.8**
HIA Hailar 42.10 353 P **P** **13 10 07.7 +1.9**
TW1H Toowoomba 1 Ha 42.49 146 P **P** **13 10 11.3 +2.0**
HEH HeiHe 42.68 1 *eP* **P** **13 10 10.0 -0.4**
HEH pmax pmax
comp=Z,11nm,1.0s
HEH LR LR
comp=Z,240nm,21.1s
HEH LR LR
comp=Z,100nm,20.4s
HEH LR LR
comp=Z,350nm,22.9s
CMSA Cobar Meteorol 42.78 156 P **P** **13 10 13.1 +1.6**
EVN Everest 42.89 303 P **P** **13 10 10.6 -2.6**
ULN Ulaanbaatar 43.63 341 P **P** **13 10 16.4 -1.9**
ULN Ulaanbaatar 43.63 341*c iP* **P** **13 10 17.6 -0.7**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 43.63 341 P **P** **13 10 17.4 -0.9**
ULN sP **sP** **13 10 40.8 -3.3**
SONM Songino Array 43.82 340 P **P** **13 10 18.7 -1.1**
SONM Songino Array 43.82 340 P **P** **13 10 18.7 -1.1**
comp=Z,1.8nm,0.3s,baz=161,slow=9.3,SNR=11
SONM PcP **PcP** **13 12 05.2 0.0**
comp=Z,3.2nm,0.9s,baz=168,slow=3.2,SNR=5.1
SONM LR LR 13 30 54.9
comp=Z,369nm,19.4s,baz=138,slow=39
comp=Z,1.8nm,0.3s
GRNR Gornyy 43.93 9 *eP* **P** **13 10 22.4 +1.9**
TYV Tymovskoe 45.26 14 *eP* **P** **13 10 32.0 +1.0**
TYV *eS* **S** **13 17 06.8 +0.9**
TYV pmax pmax
comp=Z,8.0nm,1.2s
TYV pmax pmax
comp=Z,100nm,3.9s
TYV smax smax
comp=N,100nm,3.2s
TYV smax smax
comp=E,100nm,3.2s
PALK Pallekele 45.65 273 P **P** **13 10 32.3 -2.5**
PALK Pallekele 45.65 273 LR LR 13 30 58.0
comp=E,242nm,21.0s,baz=96,slow=38
PALK Pallekele 45.65 273 P **P** **13 10 32.3 -2.5**
PALK pmax pmax
comp=Z,115nm,1.8s
ZEA Zeya 46.16 0 *eP* **P** **13 10 37.9 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,1.7s
HYB Hyderabad 47.98 287 *eP* **P** **13 10 52.2 -0.8**
DZM Mont Dzumac 48.72 128 *eP* **P** **13 10 55.5 -3.1**
comp=Z,69nm,26.2s
DZM Mont Dzumac 48.72 128 *ePP* **PP** **13 12 48.6 -3.8**
comp=Z,56nm,23.4s
DZM *eS* **S** **13 17 48.5 -7.7**
comp=Z,179nm,31.8s
DZM *eSS* **SS** **13 21 26.2 -1.5**
comp=Z,212nm,27.9s
DZM *eLR* LR 13 24 59.9
comp=Z,594nm,23.6s
MOY Mondy 48.94 339 *eP* **P** **13 10 59.3 -0.5**
MOY pmax pmax
comp=Z,7.0nm,1.3s
WMQ Urumqi 49.75 323 *eP* **P** **13 11 08.0 +1.9**
WMQ LR LR
comp=Z,670nm,18.3s
WMQ LR LR
comp=Z,380nm,24.0s
WMQ LR LR
comp=Z,490nm,20.1s
BOD Bodaibo 51.22 351 *eP* **P** **13 11 16.2 -0.7**
BOD pmax pmax
comp=Z,12nm,1.8s
PEA0B Petropavlovsk- 52.02 23*c iP* **P** **13 11 24.5 +1.6**
PETK Petropavlovsk- 52.02 23 P **P** **13 11 24.1 +1.2**
PETK PcP **PcP** **13 12 34.6 +0.3**
PETK Petropavlovsk- 52.02 23 P **P** **13 11 24.2 +1.3**
comp=Z,26nm,0.7s,baz=190,slow=4.2,SNR=50
PETK LR LR 13 32 21.1
comp=Z,69nm,21.8s,baz=211,slow=35
comp=Z,26nm,0.7s
PET Petropavlovsk 52.33 24 P **P** **13 11 26.3 +1.1**
PET Petropavlovsk 52.33 24 P **P** **13 11 26.9 +1.7**
PET Petropavlovsk 52.33 24⇑*iP* **P** **13 11 26.9 +1.7**
PET *eS* **S** **13 18 44.3 -0.9**
PET pmax pmax
comp=Z,57nm,1.5s
PET pmax pmax
comp=Z,200nm,3.7s
PET pmax pmax
comp=Z,100nm,11.1s
PET Petropavlovsk 52.33 24 P **P** **13 11 26.8 +1.6**
ZSN Zaisan 53.45 326 *eP* **P** **13 11 33.3 -0.2**
ZSN Zaisan 53.45 326 *eP* **P** **13 11 33.4 -0.2**
YAK Yakutsk 54.52 2 P **P** **13 11 40.9 -0.3**
YAK IAmb IAmb 13 11 42.0
comp=Z,26nm,0.9s
YAK Yakutsk 54.52 2 LR LR 13 34 41.6
comp=Z,98nm,21.8s,baz=175,slow=36
YAK Yakutsk 54.52 2 *eP* **P** **13 11 39.7 -1.4**
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK Yakutsk 54.52 2 P **P** **13 11 40.8 -0.3**
YAK pP **pP** **13 11 57.7 -0.9**
SHLS Shalkode 54.55 319 *eP* **P** **13 11 39.5 -2.3**
SHLS pmax pmax
comp=Z,11nm,1.0s
SHLS Shalkode 54.55 319 *eP* **P** **13 11 39.6 -2.3**
comp=Z,11nm,1.0s
MK31 Makanchi Array 54.56 324*c iP* **P** **13 11 41.2 -0.5**

MK31 pmax pmax
comp=Z,15nm,0.7s
MKAR Makanchi Array 54.56 324 P **P** **13 11 41.1 -0.6**
MKAR PcP **PcP** **13 12 43.6 -0.6**
MKAR Makanchi Array 54.56 324 P **P** **13 11 41.2 -0.5**
comp=Z,14nm,0.6s,baz=120,slow=7.9,SNR=76
MKAR PcP **PcP** **13 12 44.1 0.0**
comp=Z,5.7nm,0.6s,baz=113,slow=4.1,SNR=5.6
MKAR ScP **ScP** **13 16 35.3 -1.1**
comp=Z,1.0nm,0.9s,baz=93,slow=5.8,SNR=6.2
MKAR S **S** **13 19 20.2 +4.4**
comp=Z,3.1nm,1.0s,baz=121,slow=11,SNR=13
MKAR LR LR 13 37 03.3
comp=Z,322nm,18.4s,baz=107,slow=38
comp=Z,14nm,0.6s
MAKZ Makanchi 54.76 324 P **P** **13 11 42.8 -0.3**
MAKZ PcP **PcP** **13 12 44.8 -0.1**
UZB Uzynbulak 54.84 319*ciP* **P** **13 11 43.5 -0.4**
UZB Uzynbulak 54.84 319⇑*iP* **P** **13 11 43.6 -0.4**
TARG Taragay, Kyrgy 55.05 316 P **P** **13 11 45.4 -0.4**
TARG Taragay, Kyrgy 55.05 316 P **P** **13 11 45.4 -0.4**
TARG pmax pmax
comp=Z,8.0nm,0.8s
MA2 Magadan 55.13 15 P **P** **13 11 45.4 -0.1**
MA2 Magadan 55.13 15 LR LR 13 34 23.0
comp=Z,83nm,21.6s,baz=202,slow=35
MA2 Magadan 55.13 15 P **P** **13 11 47.1 +1.6**
MA2 Magadan 55.13 15*ceP* **P** **13 11 46.5 +1.0**
MA2 pmax pmax
comp=Z,21nm,0.7s
MA2 Magadan 55.13 15 P **P** **13 11 46.6 +1.0**
SATY Saty 55.21 318 *eP* **P** **13 11 46.2 -0.4**
SATY pmax pmax
comp=Z,5.0nm,0.7s
SATY Saty 55.21 318 *eP* **P** **13 11 46.2 -0.4**
comp=Z,5.2nm,0.7s
KSH Kashi 55.48 313 P **P** **13 11 49.5 +0.9**
KSH pmax pmax
comp=Z,16nm,1.1s
KDJ Kajisay 55.64 317 P **P** **13 11 48.9 -0.9**
KDJ IAmb IAmb 13 11 50.9
comp=Z,11nm,0.8s
KDJ Kajisay 55.64 317 P **P** **13 11 48.9 -0.9**
KDJ pmax pmax
comp=Z,11nm,0.8s
NIL Nilore 55.73 306 P **P** **13 11 50.0 -0.4**
NIL Nilore 55.73 306 P **P** **13 11 50.0 -0.4**
NIL pmax pmax
comp=Z,64nm,0.9s
TDK Taldyqorghan 56.06 320 *eP* **P** **13 11 52.3 -0.2**
TDK pmax pmax
comp=Z,11nm,0.7s
TDK Taldyqorghan 56.06 320 *eP* **P** **13 11 52.4 -0.2**
comp=Z,11nm,0.7s
MDOK Medeo 56.15 318 *eP* **P** **13 11 53.0 -0.4**
MDOK Medeo 56.15 318 *eP* **P** **13 11 53.0 -0.4**
TNSS Tian-Shan 56.17 318 *eP* **P** **13 11 53.1 -0.7**
TNSS Tian-Shan 56.17 318 *eP* **P** **13 11 53.2 -0.7**
AAA Alma-Ata 56.26 318 *eP* **P** **13 11 53.8 -0.2**
AAA Alma-Ata 56.26 318 *eP* **P** **13 11 53.8 -0.2**
ULHL Ulahol 56.33 316 P sP 13 12 18.5 -2.8
SNR=9.5
CHKK Chushkaly 56.48 319 *eP* **P** **13 11 55.2 -0.3**
CHKK Chushkaly 56.48 319 *eP* **P** **13 11 55.2 -0.3**
KUU Kurty 56.92 318 *eP* **P** **13 11 58.3 -0.3**
KUU pmax pmax
comp=Z,11nm,0.9s
KUU Kurty 56.92 318 *eP* **P** **13 11 58.4 -0.3**
comp=Z,11nm,0.9s
TKM2 Tokmak 2 57.03 317 P **P** **13 11 59.6 -0.1**
SNR=15
ZALV Zalesovo Beam 57.33 332 P **P** **13 11 60.0 -1.3**
ZALV Zalesovo Beam 57.33 332 P **P** **13 11 59.8 -1.4**
comp=Z,4.8nm,0.4s,baz=127,slow=6.5,SNR=16
ZALV S **S** **13 19 53.5 +1.4**
comp=Z,0.4nm,0.3s,baz=116,slow=16,SNR=3.8
ZALV LR LR 13 38 14.5
comp=Z,192nm,20.0s,baz=120,slow=38
comp=Z,4.8nm,0.4s
ZALV Zalesovo Beam 57.33 332 P **P** **13 12 00.0 -1.3**
KBK Karagaybulak 57.37 316 P **P** **13 12 02.7 +0.6**
SNR=5.9
UCH Uchtor 57.51 316 P **P** **13 12 03.8 +0.5**
SNR=36
CHMS Chumysh 57.63 317 P **P** **13 12 03.4 -0.3**
SNR=6.1
AAK Ala-Archa 57.67 316 P **P** **13 12 04.1 0.0**
AAK Ala-Archa 57.67 316 LR LR 13 39 04.3
comp=Z,184nm,19.9s,baz=98,slow=38
AAK Ala-Archa 57.67 316 P **P** **13 12 04.6 +0.4**
SNR=5.3
AAK Ala-Archa 57.67 316*ceP* **P** **13 12 04.2 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 57.67 316 P **P** **13 12 04.3 +0.1**
USP Osepenovka 57.90 317 P **P** **13 12 05.2 -0.4**
SNR=14
EKS2 Erkin-Say 58.17 316 P **P** **13 12 07.8 +0.2**
SNR=20
ARSB Arslanbob 58.26 314 P **P** **13 12 07.1 -1.1**
ARSB Arslanbob 58.26 314 P **P** **13 12 07.1 -1.1**
ARSB pmax pmax
comp=Z,44nm,1.6s
SEY Seymchan 58.44 13 LR LR 13 35 08.2
comp=Z,73nm,21.6s,baz=178,slow=34
SEY Seymchan 58.44 13 *eP* **P** **13 12 08.8 -0.1**
SEY pmax pmax
comp=Z,35nm,1.7s
KURK Kurchatov 58.66 326 P **P** **13 12 09.7 -1.0**
KURK Kurchatov 58.66 326*c iP* **P** **13 12 09.5 -1.2**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 58.66 326 P **P** **13 12 10.2 -0.4**
KURK pP **pP** **13 12 27.2 -2.1**
KURBB Kurchatov Arra 58.66 326 P **P** **13 12 09.9 -0.8**
comp=Z,16nm,0.6s,baz=125,slow=6.4,SNR=107
KURBB LR LR 13 39 10.7
comp=Z,188nm,19.2s,baz=179,slow=38
comp=Z,16nm,0.6s
BTLS Baital 58.88 319 *eP* **P** **13 12 11.5 -0.8**
BTLS Baital 58.88 319 *eP* **P** **13 12 11.6 -0.8**
SHEM Shemya Is, Ala 59.29 31 LR LR 13 35 32.8
comp=Z,68nm,19.5s,baz=68,slow=34
KBL Kabul 59.34 306 P **P** **13 12 14.8 -1.2**
KBL IAmb IAmb 13 12 16.3
comp=Z,19nm,0.8s
KBL Kabul 59.34 306 P **P** **13 12 14.8 -1.2**
KBL pmax pmax
comp=Z,19nm,0.8s
GAR Garm 59.48 311 P **P** **13 12 16.0 -0.7**
DZA Taraz 59.94 316 *eP* **P** **13 12 19.2 -0.5**
DZA Taraz 59.94 316 *eP* **P** **13 12 19.2 -0.5**
SIMJ Simiganj 60.37 310 P **P** **13 12 21.8 -1.0**
SIMJ IAmb IAmb 13 12 25.9
comp=Z,11nm,0.9s
SIMJ Simiganj 60.37 310 P **P** **13 12 22.0 -0.9**
SIMJ pP **pP** **13 12 38.4 -3.4**
SIMJ PcP **PcP** **13 13 06.4 -0.9**
KK31 Karatay Array 60.58 316 *i* P **P** **13 12 23.1 -1.0**
KKAR Karatay Array 60.58 316 P **P** **13 12 23.1 -1.0**
KKAR Karatay Array 60.58 316 P **P** **13 12 23.1 -1.0**
IUG Iuzhnay 60.61 314 *eP* **P** **13 12 24.1 -0.3**
IUG pmax pmax
comp=Z,6.0nm,0.8s
IUG Iuzhnay 60.61 314 *eP* **P** **13 12 24.1 -0.3**
comp=Z,5.9nm,0.8s
CHM Chimkent 60.97 315 *eP* **P** **13 12 26.3 -0.4**
CHM pmax pmax
comp=Z,6.0nm,0.4s
CHM Chimkent 60.97 315 *eP* **P** **13 12 26.3 -0.4**
comp=Z,6.0nm,0.4s
BRLS Boroldaу 61.02 315*c iP* **P** **13 12 26.7 -0.4**
BRLS pmax pmax
comp=Z,7.0nm,0.7s
BRLS Boroldaу 61.02 315⇑*iP* **P** **13 12 26.8 -0.4**
comp=Z,7.3nm,0.7s
BRZS Berezniki 61.71 324 *eP* **P** **13 12 31.5 -0.1**
BRZS Berezniki 61.71 324 *eP* **P** **13 12 31.6 -0.1**
JOHN Johnston Islan 62.77 75 *eS* **S** **13 21 05.9 +2.7**
comp=Z,139nm,31.3s
JOHN *eSS* **SS** **13 25 12.4 +3.1**
comp=Z,94nm,34.9s
JOHN *eLQ* LQ 13 28 37.6
comp=Z,94nm,25.1s
JOHN *eLR* LR 13 31 22.9

comp=Z,284nm,27.1s
TIXI Tiksi 64.16 1 P **P 13 12 46.4 -0.9**
TIXI IAmb IAmb 13 12 47.8
comp=Z,20nm,0.9s
TIXI Tiksi 64.16 1 LR LR 13 42 50.2
comp=Z,88nm,19.9s,baz=197,slow=38
TIXI Tiksi 64.16 1‖*e*P **P 13 12 46.9 -0.4**
TIXI pmax pmax
comp=Z,16nm,0.9s
TIXI Tiksi 64.16 1 P **P 13 12 46.4 -0.9**
BVA0 Borovoye Array 64.25 326 *i* P **P 13 12 47.5 -0.9**
BVAR Borovoye Array 64.25 326 P **P 13 12 47.5 -0.9**
comp=Z,6.7nm,0.5s,baz=132,slow=9.6,SNR=33
BVAR LR LR 13 42 34.7
comp=Z,221nm,21.8s,baz=114,slow=38
comp=Z,6.7nm,0.5s
RAO Raoul Island 64.51 127 LR LR 13 37 26.8
comp=Z,103nm,21.6s,baz=236,slow=33
URZ Urewera 65.25 138 LR LR 13 43 58.2
comp=Z,106nm,18.0s,baz=299,slow=38
BKZ Black Stump Fm 65.34 139 **P 13 12 56.8 +1.1**
BKZ IAmb IAmb 13 13 16.1
comp=Z,25nm,1.2s
SNZO South Karori 65.44 142 *e*S **S 13 21 34.4 -0.8**
comp=Z,7.0nm,29.0s
SNZO *e*SS **SS 13 25 53.8 +3.7**
comp=Z,7.4nm,25.0s
SNZO *e*LR LR 13 32 37.3
comp=Z,28nm,27.0s
BILL Bilibino 65.99 15*de*P **P 13 13 00.0 +0.7**
BILL pmax pmax
comp=Z,8.0nm,1.0s
NIUE Niue 67.71 114 *e*P **P 13 13 10.4 -0.7**
comp=Z,55nm,25.1s
NIUE *e*S **S 13 22 02.8 -0.8**
comp=Z,156nm,27.1s
NIUE *e*SS **SS 13 26 32.0 +5.8**
comp=Z,144nm,30.4s
NIUE *e*LR LR 13 33 46.1
comp=Z,464nm,29.2s
UOSS Minazif 69.28 294 P **P 13 13 18.3 -2.6**
AB31 Akbulak array 69.32 320 *i* P **P 13 13 19.5 -1.2**
ABKAR Akbulak array 69.32 320 P **P 13 13 19.6 -1.1**
P08K Saint George I 69.50 32 P **P 13 13 22.9 +1.3**
baz=252
UNV Unalaska Valle 70.39 35 P **P 13 13 28.0 +0.9**
UNV Unalaska Valle 70.39 35 P **P 13 13 29.4 +2.3**
UNV Unalaska Valle 70.39 35 P **P 13 13 28.2 +1.2**
baz=255
AKTO Aktyubinsk 70.80 321 LR LR 13 46 47.3
comp=Z,548nm,21.0s,baz=77,slow=38
AKTO Aktyubinsk 70.80 321 P **P 13 13 28.5 -1.2**
SVE Sverdlovsk 70.84 328 *e*P **P 13 13 29.4 -0.4**
SVE pmax pmax
comp=Z,10.0nm,0.6s
GAMB Gambell 71.03 24 P **P 13 13 32.2 +1.5**
baz=247
ARTI Arti 71.92 327 P **P 13 13 35.5 -0.9**
ARTI Arti 71.92 327 LR LR 13 47 09.6
comp=Z,145nm,21.0s,baz=114,slow=38
ARTI Arti 71.92 327*d i*P **P 13 13 35.7 -0.6**
ARTI *PP **PcP 13 13 55.0 +0.3**
ARTI S **S 13 22 51.0 -0.8**
ARTI SS **SS 13 27 26.9 -2.5**
ARTI pmax pmax
comp=Z,5.0nm,0.8s
M11K Mekoryuk 72.32 29 P **P 13 13 40.6 +2.0**
baz=254
FALS False Pass 72.39 35 P **P 13 13 40.7 +1.6**
baz=258
TNA Tin City 73.19 23 P **P 13 13 45.4 +1.8**
baz=250
S12K Black Hills 73.32 34 P **P 13 13 46.2 +1.6**
baz=259
K13K Kusilvak Mount 73.47 27 IAmb IAmb 13 13 48.5
comp=Z,27nm,0.9s
K13K Kusilvak Mount 73.47 27 P **P 13 13 47.2 +1.8**
baz=254
M13K Dall Lake 73.69 29 P **P 13 13 48.6 +2.0**
baz=256
F14K Arctic Creek 73.79 24 P **P 13 13 49.1 +1.9**
baz=252
ANM Nome 73.90 25 P **P 13 13 49.3 +1.5**
baz=253
SDPT Sand Point 74.14 35 P **P 13 13 50.7 +1.3**
baz=260
J14K Nanvaranak Lak 74.18 27 P **P 13 13 51.6 +2.1**
baz=255
L14K Kuka Creek 74.23 28 **P 13 13 51.2 +1.4**
L14K Kuka Creek 74.23 28 P **P 13 13 52.0 +2.1**
baz=256,SNR=18
N14K Kuskokwak Cree 74.39 30 P **P 13 13 52.6 +1.8**
baz=258,SNR=9.7
M14K Bethel 74.44 29 P **P 13 13 52.9 +1.8**
baz=257,SNR=12
O14K Tigyukauivet M 74.46 30 P **P 13 13 52.9 +1.7**
baz=258,SNR=7.3
CASY Casey 74.48 187 **P 13 13 52.4 +1.3**
CASY Casey 74.48 187 *e*PKP2 **P 13 13 50.7 -0.4**
comp=Z,98nm,27.0s
CASY *e*S **S 13 23 22.5 +2.4**
comp=Z,106nm,27.0s
CASY Casey 74.48 187 *e*LR LR 13 36 50.4
comp=Z,143nm,31.0s
F15K North Star Dit 74.53 24 P **P 13 13 53.0 +1.5**
baz=253
CHNA Chernabura Isl 74.56 35 P **P 13 13 53.4 +1.6**
baz=261
G15K Niukluk 74.57 24 P **P 13 13 53.0 +1.2**
baz=254
S14K Fog Glacier 74.81 34 P **P 13 13 55.1 +1.6**
baz=261
L15K Ungalak Mounta 74.87 28 P **P 13 13 55.1 +1.6**
baz=257,SNR=6.4
K15K Wolf Creek Mou 74.98 27 IAmb IAmb 13 13 57.5
comp=Z,21nm,1.1s
K15K Wolf Creek Mou 74.98 27 P **P 13 13 56.3 +2.1**
baz=257
C16K Lisburne Hills 75.03 21 **P 13 13 55.0 +0.6**
C16K IAmb IAmb 13 13 56.9
comp=Z,26nm,1.1s
C16K Lisburne Hills 75.03 21 P **P 13 13 55.8 +1.4**
baz=252,SNR=5.5
M15K Kasigluk River 75.04 29 P **P 13 13 56.1 +1.6**
baz=258,SNR=11
O15K Ungalikthiuk R 75.17 31 P **P 13 13 56.0 +0.6**
O15K IAmb IAmb 13 13 57.6
comp=Z,21nm,0.9s
O15K Ungalikthiuk R 75.17 31 P **P 13 13 56.8 +1.5**
baz=260,SNR=6.7
H16K Elim 75.22 25 P **P 13 13 57.0 +1.5**
baz=256
N15K Kwethluk River 75.22 30 P **P 13 13 57.8 +2.1**
N15K Kwethluk River 75.22 30 P **P 13 13 57.4 +1.8**
baz=259,SNR=13
G16K Koyuk River 75.36 24 P **P 13 13 57.9 +1.6**
baz=256
CHGN Chignik 75.44 34 **P 13 13 57.1 +0.2**
CHGN Chignik 75.44 34 P **P 13 13 58.2 +1.3**
baz=262,SNR=6.3
J16K Anvik River 75.62 26 IAmb IAmb 13 14 01.0
comp=Z,77nm,1.9s
J16K Anvik River 75.62 26 P **P 13 13 59.7 +1.9**
baz=258
XMAS Kiritimati 75.67 90 *e*S **S 13 23 28.2 -7.2**
comp=Z,8.7nm,35.0s
XMAS Kiritimati 75.67 90 *e*LR LR 13 37 23.1
comp=Z,30nm,29.0s
D17K Noatak River 75.68 22 P **P 13 13 59.9 +1.8**
baz=254,SNR=11
I17K Unalakleet 75.70 26 IAmb IAmb 13 14 00.9
comp=Z,26nm,1.2s
I17K Unalakleet 75.70 26 P **P 13 14 00.3 +2.0**
baz=258
L16K Owhat River 75.81 28 IAmb IAmb 13 14 01.9
comp=Z,36nm,1.1s
L16K Owhat River 75.81 28 P **P 13 14 00.7 +1.7**
baz=259,SNR=13
RDOG Red Dog Mine 75.84 21 P **P 13 14 00.5 +1.4**
baz=254
C17K DeLong Mountai 75.86 21 P **P 13 14 00.6 +1.4**
baz=254
N16K Nishlik Lake 75.93 29 P **P 13 14 01.7 +2.0**
baz=260,SNR=16
M16K Timber Creek 75.93 29 IAmb IAmb 13 14 02.6
comp=Z,27nm,0.8s
M16K Timber Creek 75.93 29 P **P 13 14 01.6 +1.9**
baz=260,SNR=11
E17K Hotham Inlet 75.99 22 P **P 13 14 01.6 +1.7**
baz=256
POHA Pohakuloa 76.00 72 *e*P P 13 13 53.8 -7.4
comp=Z,2.7nm,25.3s
POHA *e*S **S 13 23 36.2 -3.2**
comp=Z,3.9nm,32.1s
POHA *e*SS **SS 13 28 30.3 -3.2**
comp=Z,3.8nm,28.6s
POHA *e*LR LR 13 37 26.4
comp=Z,17nm,25.9s
LKRN Lenkeran, Azer 76.00 308 P **P 13 14 01.4 +0.9**
F17K Baldwin Pennin 76.06 23 P **P 13 14 01.8 +1.6**
baz=256
G17K Kiwalik Mounta 76.08 24 P **P 13 14 02.1 +1.7**
baz=257,SNR=9.0
P16K Nushagak River 76.08 31 IAmb IAmb 13 14 04.6
comp=Z,43nm,1.1s
P16K Nushagak River 76.08 31 P **P 13 14 02.5 +2.1**
baz=261
R16K Pilot Point 76.08 33 P **P 13 14 02.6 +2.1**
baz=262
O16K Kokwok River B 76.12 30 **P 13 14 01.6 +0.9**
O16K Kokwok River B 76.12 30 P **P 13 14 02.6 +1.9**
baz=261,SNR=15
H17K Granite Mounta 76.26 25 IAmb IAmb 13 14 04.3
comp=Z,13nm,0.8s
H17K Granite Mounta 76.26 25 P **P 13 14 03.4 +1.9**
baz=258,SNR=9.9
J17K VABM Dome 76.31 26 P **P 13 14 03.9 +2.2**
baz=259,SNR=9.4
L17K Donlin 76.44 28 P **P 13 14 04.8 +2.3**
baz=260,SNR=10
E18K Tukpahlearik C 76.53 22 IAmb IAmb 13 14 05.8
comp=Z,23nm,0.8s
E18K Tukpahlearik C 76.53 22 P **P 13 14 04.8 +1.9**
baz=257
K17K Iditarod 76.54 27 IAmb IAmb 13 14 06.3
comp=Z,23nm,0.9s
K17K Iditarod 76.54 27 P **P 13 14 05.2 +2.1**
baz=260
B18K Kokolik River 76.58 20 P **P 13 14 04.9 +1.7**
baz=255
C18K Utukok River 76.61 21 IAmb IAmb 13 14 05.8
comp=Z,23nm,0.9s
C18K Utukok River 76.61 21 P **P 13 14 04.9 +1.4**
baz=256,SNR=5.9
O17K Koliganek Bris 76.64 30 P **P 13 14 05.6 +1.9**
baz=262,SNR=8.7
N17K Nushagak Hills 76.71 30 IAmb IAmb 13 14 07.6
comp=Z,32nm,1.1s
N17K Nushagak Hills 76.71 30 P **P 13 14 06.2 +2.1**
baz=262,SNR=8.7
Q16K King Salmon 76.72 31 P **P 13 14 05.0 +0.9**
baz=262
F18K Selawik 76.72 23 P **P 13 14 05.5 +1.6**
baz=258,SNR=5.8
M17K Holitna River 76.72 29 IAmb IAmb 13 14 07.7
comp=Z,30nm,1.0s
M17K Holitna River 76.72 29 P **P 13 14 06.6 +2.4**
baz=261,SNR=7.8
R17L Mt. Peulik Vol 76.74 33 P **P 13 14 05.5 +1.2**
baz=263,SNR=8.6
AKT Akhty 76.89 311 *e*P **P 13 14 05.3 -0.3**
AKT *e* 13 14 16.3
AKT *e*PP **pP 13 14 24.0 -1.1**
AKT *e*SP **sP 13 14 32.5 -0.5**
AKT pmax pmax
comp=Z,19nm,0.9s
P17K Kvichak River 76.89 31 P **P 13 14 06.8 +1.7**
baz=263,SNR=5.8
CHIR Chirikof Islan 76.93 34 P **P 13 14 07.2 +1.8**
baz=264
H18K Honhosa River 76.95 25 IAmb IAmb 13 14 37.5
comp=Z,56nm,1.9s
H18K Honhosa River 76.95 25 P **P 13 14 06.8 +1.5**
baz=259
G18K Tagagawik 76.97 24 **P 13 14 06.0 +0.6**
G18K Tagagawik 76.97 24 P **P 13 14 06.5 +1.1**
baz=259
Q17K Contact Creek 77.06 32 P **P 13 14 07.1 +0.8**
baz=263
KIRV Kirov 77.09 328 LR LR 13 51 21.4
comp=Z,122nm,20.5s,baz=98,slow=38
KIRV Kirov 77.09 328*ce*P **P 13 14 05.2 -1.0**
MAK Makhachkala 77.10 312*c i*P **P 13 14 06.6 0.0**
MAK *e*PP **pP 13 14 25.4 -0.7**
MAK *e*SP **sP 13 14 33.7 -0.3**
MAK *e* 13 16 58.9
MAK *e*S **S 13 23 50.4 +0.4**
MAK *e*SS **sS 13 24 23.4 -0.1**
MAK *e*SS **SS 13 28 49.2 +0.6**
MAK pmax pmax
comp=Z,45nm,0.7s
MAK MLR MLR
comp=Z,403nm,21.0s
L18K Granite Mounta 77.20 28 IAmb IAmb 13 14 10.1
comp=Z,19nm,1.1s
L18K Granite Mounta 77.20 28 P **P 13 14 08.9 +2.1**
baz=262,SNR=5.5
C19K Lookout Ridge 77.28 21 P **P 13 14 09.2 +2.0**
baz=257,SNR=9.6
SEKA Sheki 77.28 310 P **P 13 14 08.3 +0.5**
ACHA Angle Creek He 77.35 32 IAmb IAmb 13 14 09.4
comp=Z,22nm,1.2s
MNGR Mingechevir, A 77.36 310 P **P 13 14 09.0 +0.9**
N18K Kilae Creek 77.36 29 IAmb IAmb 13 14 11.7
comp=Z,56nm,1.6s
N18K Kilae Creek 77.36 29 P **P 13 14 09.5 +1.8**
baz=263
J18K Innoko River 77.37 27 P **P 13 14 09.2 +1.4**
baz=261,SNR=6.9
RAR Rarotonga 77.48 114 *e*S **S 13 23 51.3 -3.5**
comp=Z,67nm,29.0s
RAR *e*SS **SS 13 28 45.8 -10**
comp=Z,118nm,40.0s
RAR *e*LQ LQ 13 34 56.3
comp=Z,100µm,25.0s
RAR *e*LR LR 13 38 11.3
comp=Z,284nm,29.0s
RAR Rarotonga 77.48 114 LR LR 13 42 21.9
comp=Z,157nm,21.3s,baz=281,slow=31
F19K Shaleruckik Mo 77.50 23 P **P 13 14 09.4 +1.1**
baz=260
GCSA Galena City Sc 77.50 25 P **P 13 14 09.7 +1.3**
baz=261
M18K Stony River 77.50 29 P **P 13 14 10.5 +2.0**
baz=263,SNR=6.4
BELG Belogornoye 77.51 322*c i*P **P 13 14 07.7 -1.0**
BELG pmax pmax
comp=Z,6.0nm,0.9s
P18K Big Mountain, 77.54 31 P **P 13 14 09.9 +1.1**
baz=264
Q18K Katmai Hardscr 77.57 32 P **P 13 14 09.6 +0.5**
baz=264,SNR=5.7
G19K Purcell Mounta 77.64 24 P **P 13 14 10.6 +1.4**
baz=260
D19K Kuna River 77.68 21 IAmb IAmb 13 14 13.4
comp=Z,18nm,0.9s
D19K Kuna River 77.68 21 P **P 13 14 11.0 +1.6**
baz=259
R18K Karluk 77.75 33 P **P 13 14 10.8 +0.9**
baz=265
H19K Roundabout Mou 77.80 25 IAmb IAmb 13 14 13.0
comp=Z,22nm,0.9s
H19K Roundabout Mou 77.80 25 P **P 13 14 11.9 +1.9**
baz=261,SNR=18
SII Sitkinak Islan 77.81 34 P **P 13 14 12.0 +1.7**
baz=265
E19K Redstone River 77.81 23 IAmb IAmb 13 14 13.0
comp=Z,20nm,0.9s
E19K Redstone River 77.81 23 P **P 13 14 11.7 +1.6**
baz=260
J19K Poorman 77.93 26 IAmb IAmb 13 14 13.7
comp=Z,56nm,1.9s
J19K Poorman 77.93 26 P **P 13 14 12.4 +1.6**
baz=262,SNR=6.0
GANJ Ganja 77.94 310 P **P 13 14 12.5 +1.1**
L19K White Mountain 78.04 28 IAmb IAmb 13 14 14.1
comp=Z,14nm,0.9s
L19K White Mountain 78.04 28 P **P 13 14 13.5 +1.9**
baz=263,SNR=8.7
N19K Bonanza Creek 78.06 29 P **P 13 14 13.7 +1.9**
baz=264
O19K Port Alsworth 78.08 30 P **P 13 14 13.3 +1.6**
baz=264
M19K Big River Lodg 78.23 28 P **P 13 14 14.5 +2.0**
baz=264
D20K Etivluk River 78.26 21 IAmb IAmb 13 14 15.3
comp=Z,29nm,1.1s
D20K Etivluk River 78.26 21 P **P 13 14 14.1 +1.5**
baz=260
B20K Meade River 78.30 20 P **P 13 14 14.4 +1.7**
baz=260
Q19K Cape Douglas, 78.30 31 P **P 13 14 14.6 +1.6**
baz=265
F20K Avaraart Lake 78.33 23 P **P 13 14 14.6 +1.7**
baz=262,SNR=12
E20K Nigu River 78.34 22 P **P 13 14 14.8 +1.7**
baz=261
OHAK Old Harbor 78.35 33 IAmb IAmb 13 14 15.8
comp=Z,35nm,1.0s
OHAK Old Harbor 78.35 33 P **P 13 14 15.5 +2.3**
OHAK Old Harbor 78.35 33 P **P 13 14 14.8 +1.5**
baz=266
H20K Anotleneega Mo 78.45 25 P **P 13 14 15.4 +1.7**
baz=263,SNR=15
I20K Naaghedeneel 78.53 25 IAmb IAmb 13 14 17.2
comp=Z,30nm,1.0s
I20K Naaghedeneel 78.53 25 P **P 13 14 16.1 +2.0**
baz=263,SNR=7.9
L20K Farewell, AK 78.53 28 P **P 13 14 16.2 +2.0**
baz=264
K20K Telida 78.54 27 P **P 13 14 15.2 +0.9**
K20K Telida 78.54 27 P **P 13 14 16.2 +2.0**
baz=264,SNR=6.0
NAX Nakhchivan 78.57 308 P **P 13 14 15.8 +0.8**
J20K Nowinta River 78.60 26 P **P 13 14 16.6 +2.1**
baz=264,SNR=8.0
KDAK Kodiak Island 78.77 33 P **P 13 14 17.3 +1.8**
KDAK Kodiak Island 78.77 33 LR LR 13 46 07.2
comp=Z,125nm,20.6s,baz=242,slow=33
KDAK Kodiak Island 78.77 33 P **P 13 14 17.3 +1.8**
KDAK pmax pmax
comp=Z,44nm,0.9s
KDAK Kodiak Island 78.77 33 P **P 13 14 17.2 +1.7**
baz=266
M20K Styx River 78.82 28 P **P 13 14 17.8 +1.9**
baz=265,SNR=6.1
O20K Slope Mountain 78.92 30 P **P 13 14 18.2 +1.8**
baz=266
Q20K Shuyak Island 78.93 32 P **P 13 14 18.3 +1.9**
baz=266
IMAR Indian Mountai 78.97 24 P **P 13 14 17.3 +0.7**
C21K Knifeblade Rid 78.98 21 P **P 13 14 18.1 +1.6**
baz=262
RAYN Ar Rayn 79.07 292 P **P 13 14 17.5 -0.5**
RAYN IAmb IAmb 13 14 18.8
comp=Z,23nm,0.8s
RAYN Ar Rayn 79.07 292 P **P 13 14 17.5 -0.5**
RAYN pmax pmax
comp=Z,23nm,0.8s
B21K Ikpikpuk River 79.11 20 P **P 13 14 19.0 +1.8**
baz=262
G21K Allakaket 79.13 24 IAmb IAmb 13 14 20.2
comp=Z,17nm,0.9s
G21K Allakaket 79.13 24 P **P 13 14 19.2 +1.8**
baz=264
GNI Garni 79.14 309 LR LR 13 55 00.5
comp=Z,71nm,20.1s,baz=74,slow=40
GNI Garni 79.14 309*ce*P **P 13 14 18.6 +0.4**
GNI pmax pmax
comp=Z,28nm,1.4s
E21K Killik River 79.18 22 IAmb IAmb 13 14 20.3
comp=Z,29nm,1.1s
E21K Killik River 79.18 22 P **P 13 14 18.9 +1.2**
baz=263
N20K Mount Spurr 79.20 29 P **P 13 14 18.9 +0.9**
baz=266
SPCR Spurr Chakacha 79.20 29 P **P 13 14 19.4 +1.4**
baz=266
F21K Alatna River 79.22 23 P **P 13 14 19.4 +1.5**
baz=264,SNR=5.5
H21K Melozitna Rive 79.32 25 P **P 13 14 20.1 +1.7**
baz=264,SNR=11
PPLA Purkeypile 79.34 27 P **P 13 14 19.9 +1.1**
baz=266
CHUM Lake Minchumin 79.37 26 P **P 13 14 20.3 +1.6**
baz=265,SNR=8.3
CAST Castle Rocks 79.43 27 IAmb IAmb 13 14 21.7
comp=Z,16nm,0.8s
CAST Castle Rocks 79.43 27 P **P 13 14 20.7 +1.6**
baz=266,SNR=14
SKT Skwentna 79.58 28 IAmb IAmb 13 14 21.6
comp=Z,17nm,0.9s
SKT Skwentna 79.58 28 P **P 13 14 20.7 +0.8**
baz=266,SNR=7.0
I21K Tanana 79.62 25 IAmb IAmb 13 14 23.1
comp=Z,18nm,0.9s
I21K Tanana 79.62 25 P **P 13 14 21.9 +1.8**
baz=265,SNR=7.8
CAPN Captain Cook N 79.69 30 P **P 13 14 21.6 +1.1**
baz=267
D22K Ayikyak River 79.70 21 P **P 13 14 22.0 +1.5**
baz=264
F22K John River 79.75 23 P **P 13 14 22.4 +1.6**
baz=265
SUA Susitna One 79.92 29 IAmb IAmb 13 14 27.1
comp=Z,40nm,1.0s
SUA Susitna One 79.92 29 P **P 13 14 22.8 +0.9**
baz=267
H22K Ishtalitna Cre 79.93 24 P **P 13 14 23.8 +2.0**
baz=266,SNR=12
E22K Anaktuvuk Pass 79.95 22 IAmb IAmb 13 14 24.8
comp=Z,20nm,1.1s
E22K Anaktuvuk Pass 79.95 22 P **P 13 14 23.5 +1.7**
baz=265,SNR=11
G22K Bettles 79.96 23 P **P 13 14 23.2 +1.3**
baz=265
KTH Kantishna Hill 79.96 27 IAmb IAmb 13 14 25.0
comp=Z,21nm,1.0s
BPAW Bear Paw Mtn. 79.97 26 IAmb IAmb 13 14 24.5
comp=Z,29nm,0.9s
BPAW Bear Paw Mtn. 79.97 26 P **P 13 14 23.4 +1.4**
baz=266,SNR=21
MLY Manley 80.14 25 IAmb IAmb 13 14 27.1
comp=Z,16nm,0.9s
MLY Manley 80.14 25 P **P 13 14 24.5 +1.6**
baz=265,SNR=15
CUT Chulitna 80.20 28 P **P 13 14 23.9 +0.7**
baz=267
M22K Willow 80.24 29 P **P 13 14 23.9 +0.4**
M22K Willow 80.24 29 P **P 13 14 24.1 +0.6**
baz=268
TRF Thorofare Moun 80.24 27 IAmb IAmb 13 14 25.6
comp=Z,20nm,0.8s
TRF Thorofare Moun 80.24 27 P **P 13 14 24.4 +0.8**
baz=267,SNR=8.2
O22K Cooper Landing 80.38 30 P **P 13 14 25.1 +0.9**
baz=268
RC01 Rabbit Creek A 80.39 29 P **P 13 14 25.1 +0.8**
baz=268
D23K Nanushuk River 80.43 21 IAmb IAmb 13 14 27.7
comp=Z,24nm,1.3s
D23K Nanushuk River 80.43 21 P **P 13 14 26.4 +2.0**
baz=266,SNR=6.3
KBZ Khabaz 80.47 313 P **P 13 14 24.5 -0.5**
comp=Z,6.6nm,0.9s,baz=77,slow=2.8,SNR=9.8
KBZ LR LR 13 55 37.3
comp=Z,103nm,20.6s,baz=76,slow=40
comp=Z,6.6nm,0.9s
KBZ Khabaz 80.47 313*de*P **P 13 14 25.2 +0.2**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
COLD Coldfoot 80.49 23 P **P 13 14 26.6 +1.8**
baz=267,SNR=10
GEVA Gevas 80.49 308 IAmb IAmb 13 14 27.2
comp=Z,26nm,1.0s
SEW Seward 80.50 30 P **P 13 14 26.3 +1.4**
baz=268
C23K Itkillik River 80.52 20 IAmb IAmb 13 14 29.3
comp=Z,22nm,0.9s
C23K Itkillik River 80.52 20 P **P 13 14 26.2 +1.3**
baz=266
G23K Bananza Creek 80.53 24 IAmb IAmb 13 14 28.2
comp=Z,20nm,1.2s
G23K Bananza Creek 80.53 24 P **P 13 14 26.8 +1.8**
baz=267,SNR=11
KIV Kislovodsk 80.61 313 P **P 13 14 25.7 -0.3**
KIV Kislovodsk 80.61 313 *e*P **P 13 14 25.9 -0.1**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,61nm,19.0s
BWN Browne 80.64 26 IAmb IAmb 13 14 28.8

	comp=Z,30nm,1.0s							
H23K	**Yukon River**	**80.68**	**25**	P	**P**	**13 14 27.6 +1.8**		
	baz=267,SNR=20							
PMR	**Palmer**	**80.70**	**29**	IAmb	IAmb	13 14 27.6		
	comp=Z,16nm,0.8s							
PMR	**Palmer**	**80.70**	**29**	P	**P**	**13 14 28.6 +2.7**		
PMR	**Palmer**	**80.70**	**29**	P	**P**	**13 14 26.7 +0.7**		
	baz=268,SNR=5.5							
I23K	**Minto, Yukon-K**	**80.72**	**25**	IAmb	IAmb	13 14 30.4		
	comp=Z,18nm,0.8s							
I23K	**Minto, Yukon-K**	**80.72**	**25**	P	**P**	**13 14 27.6 +1.6**		
	baz=268,SNR=14							
E23K	**Chandalar**	**80.76**	**22**	IAmb	IAmb	13 14 29.5		
	comp=Z,21nm,1.1s							
E23K	**Chandalar**	**80.76**	**22**	P	**P**	**13 14 28.4 +2.1**		
	baz=267,SNR=17							
TOLK	**Toolik Lake Re**	**80.81**	**22**	P	**P**	**13 14 28.2 +1.7**		
	baz=267,SNR=7.9							
NEA2	**Nenana**	**80.83**	**26**	IAmb	IAmb	13 14 29.1		
	comp=Z,16nm,0.9s							
NEA2	**Nenana**	**80.83**	**26**	P	**P**	**13 14 28.1 +1.5**		
	baz=268,SNR=15							
MCK	**McKinley**	**80.86**	**27**		**P**	**13 14 27.3 +0.5**		
MCK	**McKinley**	**80.86**	**27**	P	**P**	**13 14 27.3 +0.5**		
MCK				pmax	pmax			
	comp=Z,44nm,0.9s							
MCK	**McKinley**	**80.86**	**27**	P	**P**	**13 14 27.5 +0.7**		
	baz=268,SNR=24							
RND	**Reindeer**	**80.88**	**27**	IAmb	IAmb	13 14 28.6		
	comp=Z,54nm,1.5s							
WAT1	**Susitna Watana**	**81.01**	**28**	P	**P**	**13 14 28.2 +0.6**		
	baz=269							
KNK	**Knik Glacier**	**81.02**	**29**	P	**P**	**13 14 29.0 +1.3**		
	baz=269,SNR=7.2							
PWL	**Port Wells**	**81.07**	**30**	P	**P**	**13 14 29.1 +1.1**		
	baz=269,SNR=6.2							
D24K	**Happy Valley**	**81.11**	**21**	IAmb	IAmb	13 14 30.9		
	comp=Z,23nm,1.1s							
D24K	**Happy Valley**	**81.11**	**21**	P	**P**	**13 14 29.7 +1.7**		
	baz=268							
VRH	**Novokhopyorsk**	**81.14**	**321**	*e*P	P	13 14 35.0 +6.5		
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
C24K	**Franklin Bluff**	**81.18**	**21**	P	**P**	**13 14 30.5 +2.2**		
	baz=268							
E24K	**Your Creek**	**81.19**	**22**	P	**P**	**13 14 29.6 +1.1**		
E24K	**Your Creek**	**81.19**	**22**	P	**P**	**13 14 30.2 +1.7**		
	baz=268,SNR=8.9							
WRH	**Wood River Hil**	**81.25**	**26**	IAmb	IAmb	13 14 31.2		
	comp=Z,22nm,1.1s							
COLA	**College**	**81.36**	**25**	P	**P**	**13 14 29.2 -0.2**		
COLA				IAmb	IAmb	13 14 32.4		
	comp=Z,17nm,0.9s							
COLA	**College**	**81.36**	**25**	P	**P**	**13 14 30.1 +0.8**		
COLA	**College**	**81.36**	**25**	*de*P	**P**	**13 14 29.9 +0.6**		
COLA				pmax	pmax			
	comp=Z,13nm,0.9s							
COLA	**College**	**81.36**	**25**	P	**P**	**13 14 30.7 +1.4**		
	baz=269							
H24K	**Noodor Dome**	**81.36**	**25**	IAmb	IAmb	13 14 34.4		
	comp=Z,15nm,0.8s							
H24K	**Noodor Dome**	**81.36**	**25**	P	**P**	**13 14 31.1 +1.7**		
	baz=269,SNR=26							
CCB	**Clear Creek Bu**	**81.37**	**26**	P	**P**	**13 14 30.0 +0.6**		
CCB				IAmb	IAmb	13 14 31.0		
	comp=Z,27nm,1.4s							
M23K	**Glacier View**	**81.38**	**29**	P	**P**	**13 14 30.7 +1.1**		
	baz=270							
WAT6	**Susitna Watana**	**81.38**	**28**	P	**P**	**13 14 30.8 +1.0**		
	baz=270,SNR=13							
F24K	**Squaw Lake**	**81.40**	**23**	P	**P**	**13 14 31.7 +2.1**		
	baz=269,SNR=10.0							
POKR	**Poker Plat Res**	**81.54**	**25**	P	**P**	**13 14 31.9 +1.6**		
	baz=270							
G24K	**Hadweenzic Riv**	**81.54**	**24**	IAmb	IAmb	13 14 33.4		
	comp=Z,21nm,1.2s							
G24K	**Hadweenzic Riv**	**81.54**	**24**	P	**P**	**13 14 32.1 +1.8**		
	baz=269,SNR=12							
DHY	**Denali Highway**	**81.55**	**27**	P	**P**	**13 14 31.9 +1.3**		
	baz=270							
SCM	**Sheep Creek Mo**	**81.56**	**29**	P	**P**	**13 14 31.5 +0.9**		
SCM				IAmb	IAmb	13 14 33.1		
	comp=Z,31nm,1.0s							
SCM	**Sheep Creek Mo**	**81.56**	**29**	P	**P**	**13 14 31.5 +0.9**		
SCM				pmax	pmax			
	comp=Z,31nm,1.0s							
SCM	**Sheep Creek Mo**	**81.56**	**29**	P	**P**	**13 14 32.1 +1.5**		
	baz=270,SNR=6.6							
GLI	**Glacier Island**	**81.68**	**30**	IAmb	IAmb	13 14 33.4		
	comp=Z,23nm,1.0s							
GLI	**Glacier Island**	**81.68**	**30**	P	**P**	**13 14 32.3 +1.1**		
	baz=270							
HDA	**Harding Lake**	**81.74**	**26**	IAmb	IAmb	13 14 32.5		
	comp=Z,12nm,0.8s							
HDA	**Harding Lake**	**81.74**	**26**	P	**P**	**13 14 31.5 0.0**		
	baz=270,SNR=10							
ILAR	**Eielson Array**	**81.77**	**26**	P	**P**	**13 14 30.5 -1.1**		
ILAR	**Eielson Array**	**81.77**	**26**	P	**P**	**13 14 31.4 -0.1**		
	comp=Z,5.9nm,0.8s,baz=239,slow=5.0,SNR=49							
ILAR				LR	LR	13 49 17.1		
	comp=Z,89nm,21.8s,baz=256,slow=34							
	comp=Z,5.9nm,0.8s							
D25K	**Kavik River**	**81.98**	**21**	IAmb	IAmb	13 14 35.3		
	comp=Z,34nm,1.6s							
D25K	**Kavik River**	**81.98**	**21**	P	**P**	**13 14 34.2 +1.6**		
	baz=270,SNR=5.2							
G25K	**Bearman Lake**	**82.09**	**24**	P	**P**	**13 14 35.3 +2.1**		
	baz=270,SNR=6.9							
M24K	**Tolsona, Glenn**	**82.11**	**28**	P	**P**	**13 14 35.1 +1.7**		
	baz=271							
ERBR	**Yeremizino-Bor**	**82.12**	**315**	*e*P	**P**	**13 14 32.6 -1.2**		
ERBR				pmax	pmax			
	comp=Z,22nm,0.7s							
KLMR	**Klimovskoe**	**82.20**	**330**	*e*P	**P**	**13 14 32.0 -1.9**		
KLMR				*e**PP	**pP**	**13 14 52.1 -1.3**		
KLMR				pmax	pmax			
	comp=Z,17nm,0.8s							
H25L	**Birch Creek**	**82.21**	**24**	P	**P**	**13 14 35.8 +2.0**		
	baz=271,SNR=18							
KLU	**Klutina**	**82.24**	**29**	P	**P**	**13 14 34.0 -0.2**		
KLU	**Klutina**	**82.24**	**29**	P	**P**	**13 14 35.4 +1.2**		
	baz=271							
K24K	**Donnelly Dome**	**82.26**	**27**	P	**P**	**13 14 35.2 +1.0**		
	baz=271,SNR=6.4							
F25K	**Christian Rive**	**82.26**	**23**	P	**P**	**13 14 36.1 +1.9**		
	baz=271,SNR=7.5							
E25K	**Arctic Village**	**82.28**	**22**	P	**P**	**13 14 36.2 +2.0**		
	baz=271,SNR=6.9							
DIV	**Divide**	**82.32**	**29**	IAmb	IAmb	13 14 37.5		
	comp=Z,19nm,0.8s							
PRP	**Porcupine Dome**	**82.34**	**25**	P	**P**	**13 14 35.3 +0.6**		
	baz=271,SNR=5.7							
EYAK	**Cordova Ski Ar**	**82.35**	**30**	P	**P**	**13 14 36.3 +1.7**		
	baz=272							
KOPT	**Kop Dagi**	**82.40**	**309**	IAmb	IAmb	13 14 40.4		
	comp=Z,26nm,0.9s							
PAX	**Paxson**	**82.42**	**27**	P	**P**	**13 14 36.4 +1.3**		
	baz=272,SNR=7.2							
J25K	**Salcha River,**	**82.42**	**26**	P	**P**	**13 14 35.5 +0.4**		
	baz=271,SNR=13							
VSLR	**Vesyoloye**	**82.56**	**313**	*de*P	**P**	**13 14 36.0 -0.1**		
VSLR				pmax	pmax			
	comp=Z,39nm,1.0s							
HARP	**HAARP**	**82.58**	**28**	P	**P**	**13 14 37.4 +1.5**		
	baz=272							
BMAR	**Burnt Mountain**	**82.67**	**23**	P	**P**	**13 14 38.7 +2.4**		
VORD	**Divnogorie**	**82.67**	**320**	*e*P	**P**	**13 14 33.8 -2.7**		
VORD				pmax	pmax			
	comp=Z,10.0nm,1.0s							
RIDG	**Independent Ri**	**82.68**	**27**	P	**P**	**13 14 36.7 +0.3**		
RIDG				IAmb	IAmb	13 14 38.4		
	comp=Z,29nm,0.9s							
RIDG	**Independent Ri**	**82.68**	**27**	P	**P**	**13 14 37.5 +1.1**		
	baz=272,SNR=19							
VORR	**Voronezh**	**82.69**	**321**	*e*P	**P**	**13 14 34.6 -2.0**		
VORR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VSR	**Storozhevoye**	**82.74**	**321**	*e*P	**P**	**13 14 34.6 -2.3**		
VSR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SOC	**Sochi**	**82.78**	**313**	*e*P	**P**	**13 14 34.7 -2.6**		
SOC				*e*		13 17 45.4		
SOC				*e*PPP	PPP	13 19 36.3		
SOC				*e*S	**S**	**13 24 46.9 -2.9**		
SOC				*e*SS	**SS**	**13 30 11.9 -1.6**		
SOC				*e*SSS	SSS	13 33 37.7		
SOC				pmax	pmax			
	comp=Z,18nm,0.6s							
LPSR	**Galich'ya Gora**	**82.82**	**322**	*e*P	**P**	**13 14 35.1 -2.2**		
LPSR				pmax	pmax			
	comp=Z,20nm,0.9s							
F26K	**Sheenjek River**	**82.83**	**23**	P	**P**	**13 14 39.0 +1.9**		
	baz=272,SNR=5.6							
N25K	**Chitina, Valde**	**82.87**	**29**	IAmb	IAmb	13 14 40.6		
	comp=Z,24nm,1.3s							
N25K	**Chitina, Valde**	**82.87**	**29**	P	**P**	**13 14 39.3 +1.8**		
	baz=272,SNR=12							
BMRM	**Bremner River**	**82.89**	**29**	IAmb	IAmb	13 14 40.3		
	comp=Z,23nm,1.1s							
BMRM	**Bremner River**	**82.89**	**29**	P	**P**	**13 14 39.3 +1.7**		
	baz=273,SNR=6.4							
C27K	**Jago River**	**82.92**	**21**	P	**P**	**13 14 39.3 +1.8**		
	baz=272							
G26K	**Porcupine Rive**	**83.00**	**23**	IAmb	IAmb	13 14 41.6		
	comp=Z,56nm,1.9s							
G26K	**Porcupine Rive**	**83.00**	**23**	P	**P**	**13 14 40.0 +2.1**		
	baz=272,SNR=7.7							
KAIM	**Kayak Island**	**83.03**	**30**	P	**P**	**13 14 40.2 +1.9**		
	baz=273							
SCRK	**Sand Creek**	**83.05**	**26**	IAmb	IAmb	13 14 40.9		
	comp=Z,35nm,1.6s							
SCRK	**Sand Creek**	**83.05**	**26**	P	**P**	**13 14 39.5 +1.1**		
	baz=273,SNR=12							
HMT	**Hamilton**	**83.09**	**30**	IAmb	IAmb	13 14 41.4		
	comp=Z,12nm,0.8s							
J26L	**Joseph Creek**	**83.21**	**26**	IAmb	IAmb	13 14 42.2		
	comp=Z,12nm,0.7s							
J26L	**Joseph Creek**	**83.21**	**26**	P	**P**	**13 14 40.3 +1.1**		
	baz=273,SNR=17							
MENT	**Mentasta**	**83.22**	**27**	P	**P**	**13 14 40.4 +1.2**		
MENT	**Mentasta**	**83.22**	**27**	P	**P**	**13 14 41.2 +2.0**		
GLB	**Gilahina Butte**	**83.25**	**29**	IAmb	IAmb	13 14 42.2		
	comp=Z,36nm,1.2s							
I26K	**Coal Creek Mi**	**83.34**	**25**	IAmb	IAmb	13 14 42.8		
	comp=Z,22nm,0.8s							
I26K	**Coal Creek Min**	**83.34**	**25**	P	**P**	**13 14 40.6 +0.9**		
	baz=273,SNR=23							
L26K	**Log Cabin Wild**	**83.38**	**27**	IAmb	IAmb	13 14 42.9		
	comp=Z,25nm,1.4s							
L26K	**Log Cabin Wild**	**83.38**	**27**	P	**P**	**13 14 41.8 +1.7**		
	baz=273,SNR=8.8							
MOS	**Moscow**	**83.42**	**325**	*e*P	**P**	**13 14 37.8 -2.5**		
MOS				*e**SP	**pP**	**13 15 01.6 +1.9**		
MOS				*e*S	**S**	**13 24 55.0 -0.7**		
MOS				pmax	pmax			
	comp=Z,37nm,0.7s							
VRDI	**Verde Repeater**	**83.44**	**29**	IAmb	IAmb	13 14 43.1		
	comp=Z,34nm,1.3s							
M26K	**Nabesna, AK**	**83.58**	**28**	IAmb	IAmb	13 14 44.0		
	comp=Z,18nm,1.1s							
M26K	**Nabesna, AK**	**83.58**	**28**	P	**P**	**13 14 42.7 +1.6**		
	baz=274,SNR=11							
BGLC	**Bering Glacier**	**83.59**	**30**	P	**P**	**13 14 43.6 +2.6**		
	baz=274							
CRQM	**Cirque**	**83.62**	**30**	IAmb	IAmb	13 14 44.3		
	comp=Z,32nm,1.0s							
MCARA	**McCarthy VSAT**	**83.64**	**29**	IAmb	IAmb	13 14 47.3		
	comp=Z,16nm,1.0s							
MCARA	**McCarthy VSAT**	**83.64**	**29**	P	**P**	**13 14 43.2 +1.9**		
	baz=274							
CRQE	**Cirque**	**83.64**	**30**	P	**P**	**13 14 43.1 +1.6**		
	baz=274,SNR=13							
E27K	**Coleen River**	**83.77**	**22**	IAmb	IAmb	13 14 45.0		
	comp=Z,31nm,1.2s							
E27K	**Coleen River**	**83.77**	**22**	P	**P**	**13 14 43.9 +2.0**		
	baz=274,SNR=16							
TGL	**Tana Glacier**	**83.77**	**30**	P	**P**	**13 14 43.1 +1.0**		
TGL				IAmb	IAmb	13 14 45.0		
	comp=Z,27nm,0.8s							
G27K	**Doyon Strip**	**83.85**	**23**	IAmb	IAmb	13 14 45.7		
	comp=Z,14nm,1.0s							
G27K	**Doyon Strip**	**83.85**	**23**	P	**P**	**13 14 44.6 +2.2**		
	baz=274,SNR=19							
K27K	**Chicken**	**83.88**	**26**	P	**P**	**13 14 44.9 +2.4**		
	baz=274							
D27M	**Malcolm River**	**83.91**	**21**	IAmb	IAmb	13 14 45.7		
	comp=Z,25nm,1.1s							
D27M	**Malcolm River**	**83.91**	**21**	P	**P**	**13 14 44.4 +1.7**		
	baz=275,SNR=5.9							
H27K	**Steamboat Moun**	**83.94**	**24**		**P**	**13 14 43.8 +1.0**		
H27K				IAmb	IAmb	13 14 46.3		
	comp=Z,22nm,1.0s							
H27K	**Steamboat Moun**	**83.94**	**24**	P	**P**	**13 14 45.2 +2.3**		
	baz=275,SNR=18							
I27K	**Kandik River**	**83.96**	**25**	P	**P**	**13 14 45.1 +2.2**		
	baz=275,SNR=68							
ISLE	**Juniper Island**	**84.03**	**30**	IAmb	IAmb	13 14 46.3		
	comp=Z,30nm,0.9s							
OBN	**Obninsk**	**84.06**	**325**	LR	LR	13 54 11.9		
	comp=Z,184nm,21.1s,baz=111,slow=37							
OBN	**Obninsk**	**84.06**	**325**	*de*P	**P**	**13 14 43.3 -0.2**		
OBN				*e**PP	**pP**	**13 15 03.1 +0.1**		
OBN				*e**SP	**sP**	**13 15 10.6 -0.2**		
OBN				*e*		13 18 00.6		
OBN				*e*PPP	PPP	13 19 51.3		
OBN				pmax	pmax			
	comp=Z,7.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,196nm,20.0s							
L27K	**Beaver Creek,**	**84.07**	**27**	IAmb	IAmb	13 14 46.8		
	comp=Z,21nm,1.1s							
L27K	**Beaver Creek,**	**84.07**	**27**	P	**P**	**13 14 45.7 +2.1**		
	baz=275,SNR=23							
BCAR	**Beaver Creek A**	**84.09**	**27**	P	**P**	**13 14 43.8 +0.1**		
M27K	**Edge Creek, AK**	**84.11**	**28**	IAmb	IAmb	13 14 46.9		
	comp=Z,21nm,1.1s							
M27K	**Edge Creek, AK**	**84.11**	**28**	P	**P**	**13 14 45.8 +2.0**		
	baz=275,SNR=16							
MESA	**MESA**	**84.25**	**30**	P	**P**	**13 14 44.2 -0.6**		
MESA	**MESA**	**84.25**	**30**	P	**P**	**13 14 46.6 +1.9**		
	baz=275,SNR=13							
ANN	**Anapa**	**84.33**	**314**	*e*P	**P**	**13 14 44.2 -1.0**		
ANN				pmax	pmax			
	comp=Z,36nm,0.7s							
F28M	**Old Crow**	**84.47**	**23**	P	**P**	**13 14 47.1 +1.7**		
	baz=276,SNR=48							
CTG	**Chitna Glacier**	**84.48**	**29**	P	**P**	**13 14 48.2 +2.4**		
	baz=275,SNR=48							
E28M	**Babbage River**	**84.49**	**22**	IAmb	IAmb	13 14 48.5		
	comp=Z,30nm,1.1s							
E28M	**Babbage River**	**84.49**	**22**	P	**P**	**13 14 47.3 +1.8**		
	baz=276,SNR=18							
BVCY	**Beaver Creek**	**84.57**	**28**	P	**P**	**13 14 48.3 +2.2**		
	baz=276,SNR=18							
LOGN	**Logan Glacier**	**84.66**	**29**	P	**P**	**13 14 47.6 +0.9**		
I28M	**Miner Creek**	**84.67**	**25**	P	**P**	**13 14 48.6 +2.0**		
	baz=276,SNR=58							
YUK3	**Moose Creek**	**84.83**	**28**	P	**P**	**13 14 49.5 +1.9**		
	baz=276,SNR=9.7							
DAWY	**Dawson**	**85.06**	**26**	IAmb	IAmb	13 14 51.3		
	comp=Z,17nm,0.9s							
DAWY	**Dawson**	**85.06**	**26**	P	**P**	**13 14 50.0 +1.5**		
	baz=277,SNR=16							
O28M	**Mount Upton**	**85.06**	**29**	IAmb	IAmb	13 14 52.2		
	comp=Z,20nm,0.9s							
O28M	**Mount Upton**	**85.06**	**29**	P	**P**	**13 14 50.7 +1.8**		
	baz=276,SNR=23							
PINM	**Pinnacle**	**85.11**	**30**	P	**P**	**13 14 50.6 +1.8**		
	baz=276,SNR=8.3							
E29M	**Blow River**	**85.11**	**22**	IAmb	IAmb	13 14 51.1		
	comp=Z,16nm,1.2s							
E29M	**Blow River**	**85.11**	**22**	P	**P**	**13 14 50.0 +1.3**		
	baz=278,SNR=9.1							
YUK8	**Steele Glacier**	**85.21**	**29**	P	**P**	**13 14 51.5 +1.9**		
	baz=277,SNR=6.5							
H29M	**Whitestone**	**85.22**	**24**	P	**P**	**13 14 50.7 +1.4**		
	baz=278,SNR=17							
G29M	**Pine Creek**	**85.26**	**23**	P	**P**	**13 14 50.8 +1.3**		
	baz=278,SNR=26							
I29M	**Ogilvie Camp,**	**85.36**	**25**	IAmb	IAmb	13 14 52.6		
	comp=Z,21nm,0.9s							
I29M	**Ogilvie Camp,**	**85.36**	**25**	P	**P**	**13 14 51.4 +1.4**		
	baz=278,SNR=24							
J29N	**Klondike Camp**	**85.52**	**26**	P	**P**	**13 14 52.3 +1.5**		
	baz=278							
PNL	**Peninsula**	**85.58**	**31**	P	**P**	**13 14 53.5 +2.3**		
PNL	**Peninsula**	**85.58**	**31**	P	**P**	**13 14 52.6 +1.4**		
	baz=277,SNR=7.2							
M29M	**Somme Creek**	**85.68**	**28**	IAmb	IAmb	13 14 55.1		
	comp=Z,11nm,0.8s							
M29M	**Somme Creek**	**85.68**	**28**	P	**P**	**13 14 53.5 +1.8**		
	baz=278,SNR=20							
YUK4	**Talbot Arm**	**85.74**	**29**	P	**P**	**13 14 54.2 +2.0**		
	baz=278							
L29M	**L29M**	**85.74**	**27**	IAmb	IAmb	13 14 55.5		
	comp=Z,22nm,0.9s							
L29M	**L29M**	**85.74**	**27**	P	**P**	**13 14 53.9 +2.0**		
	baz=278,SNR=22							
EPYK	**Eagle Plains**	**85.86**	**24**	IAmb	IAmb	13 14 54.7		
	comp=Z,30nm,1.3s							
EPYK	**Eagle Plains**	**85.86**	**24**	P	**P**	**13 14 53.3 +0.9**		
	baz=279,SNR=10							
K29M	**Barlow Dome**	**85.91**	**26**	IAmb	IAmb	13 14 55.9		
	comp=Z,10.0nm,0.9s							
K29M	**Barlow Dome**	**85.91**	**26**	P	**P**	**13 14 54.8 +2.0**		
	baz=278,SNR=11							
O29M	**Mount Kennedy**	**85.91**	**30**	P	**P**	**13 14 54.7 +1.7**		
	baz=278							
YUK6	**Outpost Mounta**	**85.93**	**29**	P	**P**	**13 14 54.5 +1.4**		
	baz=278,SNR=6.8							
G30M	**tAoh Zraii Nji**	**85.95**	**23**	IAmb	IAmb	13 14 54.8		
	comp=Z,31nm,1.5s							
G30M	**tAoh Zraii Nji**	**85.95**	**23**	P	**P**	**13 14 53.9 +1.0**		
	baz=280							
ASF	**Jabal al Asfar**	**85.97**	**302**	LR	LR	13 59 24.6		
	comp=Z,82nm,20.2s,baz=124,slow=40							
F30M	**Barrier River**	**86.02**	**22**	IAmb	IAmb	13 14 55.5		
	comp=Z,21nm,1.4s							
F30M	**Barrier River**	**86.02**	**22**	P	**P**	**13 14 54.3 +1.2**		
	baz=280							
I30M	**Mount Dempster**	**86.18**	**25**	P	**P**	**13 14 55.3 +1.2**		
	baz=279,SNR=8.4							
PPT	**Papeete**	**86.24**	**108**	LR	LR	13 45 35.1		
	comp=Z,129nm,21.8s,baz=317,slow=30							
PPT2	**Papeete2**	**86.24**	**108**	*e*PKP2	**P**	**13 14 54.9 -0.4**		
	comp=Z,67nm,25.5s							
PPT2	**Papeete2**	**86.24**	**108**	*e*S	**S**	**13 25 23.4 -1.9**		
	comp=Z,87nm,29.2s							
PPT2				*e*SS	**SS**	**13 31 04.8 -1.3**		
	comp=Z,102nm,26.8s							
PPT2				*e*LQ	LQ	13 38 41.4		
	comp=Z,149nm,25.0s							
PPT2				*e*LR	LR	13 42 14.5		
	comp=Z,295nm,25.0s							
PPT2				*e*LR	LR	13 42 19.2		
	comp=Z,331nm,24.0s							
J30M	**Hart River**	**86.31**	**25**	P	**P**	**13 14 56.3 +1.5**		
	baz=280,SNR=8.7							
HYT	**Haines Junctio**	**86.36**	**29**	IAmb	IAmb	13 14 58.3		
	comp=Z,10nm,0.7s							
HYT	**Haines Junctio**	**86.36**	**29**	P	**P**	**13 14 56.8 +1.7**		
	baz=279,SNR=17							
M30M	**Minto, Yukon**	**86.42**	**27**	IAmb	IAmb	13 14 58.5		
	comp=Z,9.3nm,0.8s							
M30M	**Minto, Yukon**	**86.42**	**27**	P	**P**	**13 14 56.9 +1.6**		
	baz=279,SNR=16							
P29M	**Windy Craggy**	**86.42**	**30**	IAmb	IAmb	13 14 58.9		
	comp=Z,10nm,0.8s							
P29M	**Windy Craggy**	**86.42**	**30**	P	**P**	**13 14 56.9 +1.6**		
	baz=279,SNR=7.7							
N30M	**Aishikik Lake**	**86.46**	**29**	P	**P**	**13 14 57.3 +1.8**		
	baz=279,SNR=8.5							
MAYO	**Mayo, Yukon**	**86.66**	**26**	IAmb	IAmb	13 14 59.5		
	comp=Z,14nm,0.8s							
MAYO	**Mayo, Yukon**	**86.66**	**26**	P	**P**	**13 14 57.9 +1.5**		
	baz=280							
G31M	**Satah River**	**86.72**	**23**	P	**P**	**13 14 57.5 +1.0**		
	baz=281							
INK	**Inuvik**	**86.72**	**22**	P	**P**	**13 14 56.9 +0.4**		
	baz=282							
P30M	**Million Dollar**	**86.74**	**30**	P	**P**	**13 14 57.9 +1.0**		
	baz=279							
F31M	**Tsiigehtchic**	**86.82**	**22**	P	**P**	**13 14 57.6 +0.6**		
	baz=282							
SPITS	**Spitsbergen Ar**	**86.87**	**349**	P	**P**	**13 14 57.2 0.0**		
	comp=Z,2.6nm,0.6s,baz=116,slow=6.6,SNR=5.2							
SPITS				LR	LR	14 00 06.6		
	comp=Z,140nm,19.3s,baz=62,slow=40							
	comp=Z,2.6nm,0.6s							
H31M	**Peel River**	**86.91**	**24**	IAmb	IAmb	13 16 48.3		
	comp=Z,26nm,1.7s							
H31M	**Peel River**	**86.91**	**24**	P	**P**	**13 14 59.2 +1.6**		
	baz=281							
FURI	**Furi**	**86.97**	**279**	LR	LR	13 56 10.1		
	comp=Z,64nm,18.5s,baz=83,slow=37							
ARCES	**ARCESS Array B**	**87.00**	**340**	P	**P**	**13 14 57.4 -0.5**		
ARCES				IAmb	IAmb	13 15 50.3		
	comp=Z,38nm,1.8s							
ARCES	**ARCESS Array B**	**87.00**	**340**	P	**P**	**13 14 57.2 -0.7**		
	comp=Z,4.1nm,0.8s,baz=78,slow=5.9,SNR=13							
ARCES				LR	LR	13 57 29.1		
	comp=Z,101nm,20.6s,baz=52,slow=38							
	comp=Z,4.1nm,0.8s							
ARCES	**ARCESS Array B**	**87.00**	**340**	P	**P**	**13 14 57.4 -0.5**		
ARCES				pmax	pmax			
	comp=Z,38nm,1.8s							
O30N	**Mendenhall**	**87.05**	**29**	P	**P**	**13 14 59.7 +1.3**		
	baz=280,SNR=6.7							
N31M	**Braeburn, Yuko**	**87.08**	**28**	IAmb	IAmb	13 15 01.9		
	comp=Z,8.0nm,0.8s							
N31M	**Braeburn, Yuko**	**87.08**	**28**	P	**P**	**13 15 00.1 +1.6**		
	baz=280,SNR=11							
VNDA	**Vanda**	**87.08**	**173**	P	**P**	**13 14 58.9 +0.9**		
	comp=Z,5.3nm,0.9s,baz=314,slow=5.4,SNR=23							
VNDA				LR	LR	13 52 39.5		
	comp=Z,56nm,21.5s,baz=344,slow=35							
	comp=Z,5.3nm,0.9s							
MMAI	**Mount Meron Ar**	**87.12**	**303**	P	**P**	**13 14 59.7 +0.3**		
	comp=Z,6.5nm,0.8s,baz=85,slow=3.7,SNR=5.2

baz=283
MMPY Sheldon Lake, 88.92 27 P P 13 15 08.5 +1.3
baz=284,SNR=7.9
VSU Vasula 88.92 329 *de*P P 13 15 05.6 -1.6
VSU pmax pmax
comp=Z,38nm,0.8s
AKASG Malin Array Be 89.04 321 P P 13 15 06.7 -1.3
AKASG Malin Array Be 89.04 321 P P 13 15 06.7 -1.3
comp=Z,5.9nm,0.7s,baz=68,slow=4.9,SNR=23
AKASG LR LR 13 57 36.9
comp=Z,105nm,21.8s,baz=71,slow=37
comp=Z,5.9nm,0.7s
AKBB Malin Array Si 89.04 321 *ce*P P 13 15 06.7 -1.3
KIEV Kiev 89.05 321 P 13 15 06.4 -1.6
KIEV IAmb IAmb 13 15 07.3
comp=Z,6.6nm,0.7s
KIEV Kiev 89.05 321 P P 13 15 06.4 -1.6
KIEV pmax pmax
comp=Z,7.0nm,0.7s
Q32M Nakina River 89.31 31 P P 13 15 10.5 +1.2
baz=283
U33K Whale Pass 89.49 33 P P 13 15 11.3 +1.3
baz=283
CRAG Craig 89.63 34 P P 13 15 11.9 +1.3
baz=283
C36M Paulatuk 89.73 20 P P 13 15 11.9 +1.1
baz=291
WRAK Wrangell Islan 89.85 33 P P 13 15 13.6 +2.0
baz=283
R33M Jennings River 89.85 30 P P 13 15 13.2 +1.4
baz=284,SNR=5.7
S34M Telegraph Cree 90.14 31 P P 13 15 14.2 +1.2
baz=284
V35K Ketchikan 90.50 34 P P 13 15 16.3 +1.6
baz=284
DLBC Dease Lake 90.57 31 LR LR 13 49 54.3
comp=Z,750nm,21.8s,baz=240,slow=32
DLBC Dease Lake 90.57 31 P P 13 15 16.6 +1.5
baz=285
TGTN Hyland Airport 90.57 28 P P 13 15 16.2 +1.2
baz=287
WTLY Watson Lake, Y 90.72 29 IAmb IAmb 13 15 18.3
comp=Z,11nm,1.0s
WTLY Watson Lake, Y 90.72 29 P P 13 15 17.2 +1.5
baz=286,SNR=7.5
T35M Bob Quinn 90.83 32 P P 13 15 17.3 +1.0
baz=285
WRGLY Wrigley 92.14 25 P P 13 15 23.0 +0.9
baz=291
LIRD Liard River Hi 92.24 29 P P 13 15 23.9 +1.2
baz=289
MLR Muntele Rosu 92.25 316 LR LR 14 02 04.1
comp=Z,213nm,21.9s,baz=64,slow=39
BURAR Bucovina Array 92.26 318 P 13 15 22.3 -0.9
BURAR Bucovina Array 92.26 318 P P 13 15 22.8 -0.4
TOAD Toad River Com 92.84 30 P P 13 15 26.3 +0.8
baz=289
KOTAN Kotaneelee Air 92.97 28 P P 13 15 27.1 +1.0
baz=290
BBB Bella Bella 93.33 37 LR LR 13 51 22.7
comp=Z,68nm,21.9s,baz=246,slow=32
KOLS Kolonicke sedl 93.83 320 *e*P P 13 15 32.6 +2.3
KOLS Kolonicke sedl 93.83 320 *e*P P 13 15 32.5 +2.3
TAOE Nuku Hiva Isla 94.17 98 *e*SS SS 13 33 08.3 +7.2
comp=Z,234nm,25.1s
TAOE Nuku Hiva Isla 94.17 98 *e*LR LR 13 46 06.9
comp=Z,643nm,24.7s
RES Resolute Bay 94.18 10 LR LR 14 03 35.6
comp=Z,37nm,18.2s,baz=360,slow=39
HFS Hagfors 94.76 332 P P 13 15 33.0 -1.3
comp=Z,3.8nm,0.7s,baz=91,slow=5.9,SNR=7.9
HFS LR LR 14 01 45.2
comp=Z,187nm,20.6s,baz=70,slow=38
comp=Z,3.8nm,0.7s
NIE Niedzica 94.93 321 *e*P P 13 15 36.0 +0.6
OJC Ojcow 95.00 322 *e*P P 13 15 35.6 0.0
NB2 NORSAR Subarra 95.49 334 P P 13 15 35.9 -1.8
comp=Z,2.5nm,0.9s,baz=61,slow=4.6
NB2 NORSAR Subarra 95.49 334 P P 13 15 38.6 +0.9
NOA NORSAR Array B 95.49 334 P P 13 15 35.8 -1.9
comp=Z,1.5nm,0.8s,baz=64,slow=4.5,SNR=5.8
NOA LR LR 14 02 44.5
comp=Z,116nm,19.9s,baz=60,slow=38
comp=Z,1.5nm,0.8s
SYO Syowa Base 95.87 201 *e*P P 13 15 40.2 +1.2
YKA Yellowknife Ar 96.13 24 P P 13 15 41.1 +0.7
comp=Z,3.8nm,0.8s,baz=307,slow=5.4,SNR=12
YKA LR LR 13 58 47.5
comp=Z,95nm,21.8s,baz=306,slow=35
comp=Z,3.8nm,0.8s
VYHS Vyhne 96.13 320 *e*P P 13 15 40.4 -0.4
VYHS Vyhne 96.13 320 *e*P P 13 15 40.4 -0.4
JMIC Jan Mayen 96.28 347 LR LR 14 04 54.8
comp=Z,76nm,20.0s,baz=50,slow=39
MORC Moravsky Berou 96.52 322 P P 13 15 41.6 -1.0
MORC IAmb IAmb 13 16 15.9
comp=Z,18nm,1.9s
MORC Moravsky Berou 96.52 322 *e*P P 13 15 42.3 -0.3
MORC Moravsky Berou 96.52 322 P P 13 15 41.6 -1.0
MORC pmax pmax
comp=Z,18nm,1.9s
JAVC Velka Javorina 96.75 321 *e*P P 13 15 43.2 -0.5
KSP Ksiaz 96.91 323 *e*P P 13 15 44.6 +0.4
VRAC Vranov 97.26 322 LR LR 14 04 04.6
comp=Z,77nm,19.6s,baz=58,slow=38
VRAC Vranov 97.26 322 *e*P P 13 15 45.7 -0.2
QSPA South Pole Qui 97.32 180 P Pdif 13 15 48.2 +2.3
comp=Z,0.9nm,0.7s,baz=1.7,slow=3.1,SNR=6.9
QSPA LR LR 14 01 55.4
comp=Z,37nm,18.2s,baz=354,slow=37
comp=Z,0.9nm,0.7s
KRUC Moravsky 97.47 322 *e*P P 13 15 45.8 -1.0
BRG Berggiesshubel 98.28 324 *e*P Pdif 13 15 51.7 +1.3
BRG Amp 13 15 54.6
comp=Z,1.7nm,0.7s
GERES GERESS Array B 99.20 322 P **Pdif** 13 15 54.6 -0.2
comp=Z,1.9nm,0.7s,baz=62,slow=3.2,SNR=15
GERES LR LR 14 03 41.2
comp=Z,83nm,21.7s,baz=74,slow=37
comp=Z,1.9nm,0.7s
NVAR Mina Array Bea 104.41 47 Pdiff **Pdif** 13 16 19.8 +1.4
comp=Z,0.8nm,0.7s,baz=260,slow=5.5,SNR=7.4
NVAR PKiKP **PKiKP** 13 20 35.1 +0.7
comp=Z,0.1nm,0.3s,baz=279,slow=2.3,SNR=3.8
NVAR PKKPbc **PKKPbc** 13 32 05.6 0.0
comp=Z,0.5nm,0.7s,baz=69,slow=2.9,SNR=5.6
PDAR Pinedale Array 108.55 40 PKiKP **PKiKP** 13 20 43.0 +1.0
comp=Z,0.3nm,0.6s,baz=284,slow=2.4,SNR=2.2
SNAA Sanae 108.78 195 PKKPbc PKKPbc 13 31 50.1 -2.9
comp=Z,0.5nm,0.8s,baz=225,slow=2.9,SNR=6.3
TXAR Lajitas Array 119.28 50 PKP **PKiKP** 13 21 03.9 +1.1
comp=Z,1.0nm,0.5s,baz=321,slow=0.5,SNR=30
TXAR PKKPbc **PKKPbc** 13 31 16.0 -0.1
comp=Z,0.3nm,0.7s,baz=96,slow=5.9,SNR=4.6
TORD Torodi Ar. Bea 121.72 290 **PKPdf** 13 21 06.5 -1.0
TORD Torodi Ar. Bea 121.72 290 PKP **PKPdf** 13 21 07.2 -0.3
comp=Z,3.5nm,0.8s,baz=32,slow=2.5,SNR=19
TORD PKKPbc **PKKPab** 13 31 09.3 +1.6
comp=Z,0.9nm,0.6s,baz=267,slow=3.8,SNR=5.9
BRDY Brady 121.73 46 **PKPdf** 13 21 07.1 -0.2
U38A Gravette 121.75 39 **PKPdf** 13 21 06.5 -0.7
R40A Maddies Statio 121.80 36 **PKiKP** 13 21 07.9 +0.6
PMSA Palmer Station 122.25 175 *e*LR LR 13 58 54.7
comp=Z,166nm,29.0s
DBIC Dimbokro 129.73 285 PKP **PKPdf** 13 21 23.1 +0.1
comp=Z,3.8nm,0.9s,baz=85,slow=3.1,SNR=2.4
DBIC SKPbc SKPab 13 24 38.8 +0.2
comp=Z,7.5nm,0.9s,baz=110,slow=1.5,SNR=5.9
PLCA Paso Flores 143.43 158 PKP PKPbc 13 21 46.0 +1.0
comp=Z,2.9nm,0.9s,baz=206,slow=3.2,SNR=5.7
PLCA Paso Flores 143.43 158 PKiKP PKPbc 13 21 46.0 +1.1
ESPN Las Esperanzas 143.48 58 **PKPdf** 13 21 47.1 -1.2
BO02 Sierra Bellavi 148.36 152 **PKiKP** 13 22 01.8 +0.5
TRQA Tornquist 148.51 167 **PKPbc** 13 22 00.4 +0.5
TRQA Tornquist 148.51 167 PKP2 **PKPbc** 13 22 00.4 +0.5
BO01 Tunca 148.54 151 **PKPbc** 13 22 00.2 +0.1
BCIP Isla Barro Col 148.79 59 **PKiKP** 13 22 03.1 +0.5
BCIP Isla Barro Col 148.79 59 PKP2 **PKiKP** 13 22 03.1 +0.5
LPAZ La Paz 163.00 122 PKP **PKPdf** 13 22 18.1 +1.4
comp=Z,2.2nm,0.7s,baz=224,slow=3.5,SNR=7.1
LPAZ PKPab **PKPab** 13 23 09.7 +3.1
comp=Z,4.9nm,0.8s,baz=243,slow=1.2,SNR=13

*CATAC **31** 13:06:05.6±0.5, 14°N×9°2W±°, h31km±4km, M3.8/12, MLv3.8/12, Error ellipse: s-maj=7.1km s-min=2.9km az=32.6, confirmed*
*GCG **31** 13:06:06.4±1.1, 14°25N×91°81W, h28km±3km, MD3.9, ML4.1*

ISC 31 13:06:06.2±1.7, 14°22N±0°07×91°83W±0°06, h28km±13km, n22, σ1°68/32, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**0.68**	**339**	*i* P		**Pb**		**13 06 19.2**	**-0.4**
SMCA				*i* S		**Sb**		**13 06 28.6**	**-0.1**
QUEO	**Labor Ovalle**	**0.72**	**25**	*i* P		**Pn**		**13 06 20.7**	**-0.1**
QUEO				*i* S		**Sn**		**13 06 31.7**	**+0.7**
SOKI	**Kika Raxquin**	**0.73**	**34**	*i* P		**Pb**		**13 06 20.8**	**+0.2**
SOKI				*i* S		**Sn**		**13 06 31.8**	**+0.4**
THIG		**0.81**	**328**	*i* P		**Pn**		**13 06 21.0**	**-0.7**
THIG				*i* S		**Sn**		**13 06 32.1**	**-0.7**
THIG				IAML				13 06 36.3	
	comp=N,2μm,0.3s								
ESSG	**Sabana Grande**	**0.98**	**80**	*i* P		**Pn**		**13 06 23.7**	**-0.4**
ESSG				*i* S		**Sn**		**13 06 36.6**	**-0.5**
HUEH	**Huehuetenango**	**1.14**	**16**	*i* P		**Pn**		**13 06 26.5**	**0.0**
HUEH				*i* S		**Sb**		**13 06 42.1**	**+0.1**
HUEH	**Huehuetenango**	**1.14**	**16**	P		**Pn**		**13 06 26.5**	**0.0**
FG16	**Alotenango, Sa**	**1.28**	**87**	*i* P		**Pn**		**13 06 24.4**	**-3.9**
FG16				*i* S		**Sn**		**13 06 37.9**	**-6.7**
FG16				IAML				13 06 39.4	
	comp=E,12μm,0.3s								
QUIS	**Sacapulas**	**1.28**	**33**	*i* P		**Pn**		**13 06 28.4**	**0.0**
QUIS				*i* S		**Sb**		**13 06 46.6**	**+0.6**
QUIS				IAML				13 06 48.1	
	comp=E,1μm,0.3s								
SLOZ	**Alcaldia de Sa**	**1.99**	**95**	S		**Sn**		**13 07 04.0**	**+2.0**
NUBE	**Las Nubes**	**2.01**	**99**	*i* P		**Pn**		**13 06 39.3**	**+0.9**
NUBE	**Las Nubes**	**2.01**	**99**	P		**Pn**		**13 06 39.2**	**+0.9**
NUBE	**Las Nubes**	**2.01**	**99**	S		**Sn**		**13 07 03.2**	**+0.6**
CCIG	**Comitan**	**2.08**	**352**	*i* P		**Pn**		**13 06 39.5**	**+0.2**
CCIG				*i* S		**Sn**		**13 07 05.1**	**+0.8**
CCIG	**Comitan**	**2.08**	**352**	P		**Pn**		**13 06 39.5**	**+0.2**
CEVE	**Cerro Verde**	**2.17**	**100**	S		**Sn**		**13 07 08.5**	**+1.8**
CEVE	**Cerro Verde**	**2.17**	**100**	P		**Pn**		**13 06 42.2**	**+1.5**
JAYA	**Jayaque - finc**	**2.37**	**103**	*i* P		**Pn**		**13 06 43.2**	**-0.2**
JAYA				*i* S		**Sn**		**13 07 11.7**	**+0.1**
JAYA	**Jayaque - finc**	**2.37**	**103**	P		**Pn**		**13 06 44.2**	**+0.8**
PMON	**Piamonte**	**2.49**	**101**	P		**Pn**		**13 06 44.7**	**-0.3**
PMON	**Piamonte**	**2.49**	**101**	S		**Sn**		**13 07 15.5**	**+1.1**
LALI	**Alcalda de L**	**2.54**	**106**	S		**Sn**		**13 07 16.9**	**+1.4**

*NEIC **31** 13:09:58.8±1.8, 31°345N±0°009×103°09W±0°01, h4km±2km, mb_Lg2.5/33, ML2.5/19, Error ellipse: s-maj=1.5km s-min=1.2km az=120.0*

TXNET 31 13:09:58.6, 31°4N±0°6×103°1W±0°5, h5km±1km, ML2.6/12, 3C, Error ellipse: s-maj=0.9km s-min=0.8km az=158.6, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TPB15	**Southwest of C**	**0.14**	**184**	P		Pg	13 10 01.6	+0.1
TPB15				S		Sg	13 10 04.7	+1.4
TPB27	**North of Pyote**	**0.23**	**348**	⇑P		Pg	13 10 04.0	+0.8
TPB27				S		Sg	13 10 08.1	+1.9
TPB04	**Verhalen**	**0.23**	**226**	⇑P		Pg	13 10 03.7	+0.5
TPB04				S		Sg	13 10 08.1	+1.8
MNHN	**Monahans**	**0.27**	**92**			Pg	13 10 04.3	+0.5
MNHN				Sg		Sg	13 10 08.2	+0.8
MNHN	**Monahans**	**0.27**	**92**	P		Sg	13 10 04.3	+0.5
MNHN				S		Sg	13 10 09.0	+1.7
TPB16	**Coyonosa**	**0.27**	**214**	⇑P		Pg	13 10 04.5	+0.6
TPB16				S		Sg	13 10 09.2	+1.6
TPB06	**Permian Basin**	**0.32**	**337**	P		Pg	13 10 05.3	+0.6
TPB06				S		Sg	13 10 10.4	+1.3
PCOS	**Crockett Middl**	**0.38**	**279**			Sb	13 10 12.7	-1.2
PCOS	**Crockett Middl**	**0.38**	**279**			Sg	13 10 12.3	+1.3
PCOS	**Crockett Middl**	**0.38**	**279**	S		Sg	13 10 12.3	+1.3
PCOS	**Crockett Middl**	**0.38**	**279**	S		Sb	13 10 12.7	-1.2
LWM2	**Layne Water Mi**	**0.45**	**260**	S		Sb	13 10 14.6	-1.3
TPB08	**Permian Basin**	**0.48**	**163**	S		Sb	13 10 16.1	-0.8
TPB05	**Hovey Rd**	**0.48**	**207**	P		Pg	13 10 08.1	+0.2
LWM1	**Layne Water Mi**	**0.49**	**256**	P		Pg	13 10 08.3	+0.2
LWM1				S		Sb	13 10 15.9	-1.4
TPB07	**Mentone**	**0.56**	**294**	P		Pb	13 10 10.3	-0.6
PECS	**Pecos**	**0.68**	**272**			Pg	13 10 11.1	-0.6
PECS						Sg	13 10 21.1	+0.6
PECS				IAML			13 10 28.1	
	288nm,0.4s							
PECS				IAML			13 10 29.0	
	155nm,0.4s							
PECS	**Pecos**	**0.68**	**272**	P		Pg	13 10 11.2	-0.5
PECS				S		Sg	13 10 21.1	+0.6
TPB13	**Reeves - Culbe**	**0.69**	**287**	S		Sg	13 10 21.7	+0.9
TPB01	**Permian Basin**	**0.73**	**236**	P		Pg	13 10 11.8	-0.8
TPB01				S		Sg	13 10 23.0	+0.9
TPB12	**Southwest of T**	**0.77**	**260**	P		Pg	13 10 12.7	-0.7
TPB12				S		Sg	13 10 23.7	+0.3
ODSA	**Odessa**	**0.89**	**30**			Pg	13 10 15.4	-0.2
ODSA						Sb	13 10 28.4	-0.3
ODSA	**Odessa**	**0.89**	**30**	P		Pg	13 10 15.6	0.0
ODSA				S		Sb	13 10 28.4	-0.3
TMB01	**Midkiff**	**0.90**	**69**	P		Pg	13 10 16.3	+0.4
TMB01				S		Sb	13 10 29.3	+0.2
ALPN	**Alpine**	**1.09**	**207**			Pg	13 10 18.5	-0.9
ALPN	**Alpine**	**1.09**	**207**	P		Pg	13 10 18.3	-1.1
TPB09	**Culberson Coun**	**1.13**	**292**	P		Pg	13 10 19.9	-0.4
HTMS	**Hat Mesa**	**1.22**	**337**			Pb	13 10 22.0	-0.1
HTMS	**Hat Mesa**	**1.22**	**337**	P		Pn	13 10 22.3	-0.1
CLN7	**Carlsbad 7**	**1.23**	**330**			Pg	13 10 22.0	-0.2
TMB06	**Greenwood**	**1.25**	**60**	P		Pg	13 10 22.6	0.0
TMB06				S		Sn	13 10 39.8	-0.2
TMB04	**Seminole**	**1.36**	**21**	P		Pn	13 10 23.7	-0.6
TMB04				S		Sn	13 10 42.8	0.0
SAND	**Sanderson**	**1.61**	**149**			Pn	13 10 27.9	+0.2
SAND						Sg	13 10 50.1	-0.4
SAND	**Sanderson**	**1.61**	**149**	P		Pn	13 10 28.2	+0.4
SAND				S		Sg	13 10 50.1	-0.4
TMB05	**Klondike**	**1.64**	**39**	P		Pb	13 10 28.7	-0.6
TMB05				S		Sg	13 10 51.1	-0.1
OZNA	**Ozona**	**1.72**	**104**			Pb	13 10 30.8	0.0
OZNA	**Ozona**	**1.72**	**104**	P		Pb	13 10 30.5	-0.3
VHRN	**Van Horn**	**1.73**	**252**			Pn	13 10 29.7	+0.2
VHRN	**Van Horn**	**1.73**	**252**	P		Pn	13 10 29.6	+0.2
SGCY	**Sterling City**	**1.75**	**71**			Pb	13 10 31.3	+0.1
SGCY						Sg	13 10 55.4	+0.5
SGCY	**Sterling City**	**1.75**	**71**	P		Pb	13 10 31.2	0.0
SGCY				S		Sg	13 10 55.4	+0.5
CPRX	**Cap Rock**	**1.81**	**338**			Pn	13 10 31.2	+0.8
CPRX	**Cap Rock**	**1.81**	**338**	P		Pb	13 10 31.4	-0.7
MNTX	**Cornudas Mount**	**2.00**	**281**			Pn	13 10 34.0	+0.9
MNTX						Sb	13 11 01.4	+0.8
MNTX	**Cornudas Mount**	**2.00**	**281**	P		Pb	13 10 34.5	-0.9
MNTX				S		Sb	13 11 01.4	+0.8
TXAR	**Lajitas Array**	**2.08**	**194**			Pn	13 10 34.9	+0.8
POST	**Post**	**2.17**	**38**			Pb	13 10 37.0	-1.3
POST				IAmb_Lg			13 11 09.3	
	comp=Z,32nm,0.7s							
SN07	**Snyder 07**	**2.54**	**46**			Pn	13 10 41.4	+1.0
SN07				IAmb_Lg			13 11 20.5	
	comp=Z,30nm,0.7s							
MSTX	**Muleshoe**	**2.62**	**5**	Pn		Pn	13 10 41.1	-0.6
MSTX				IAmb_Lg			13 11 22.8	
	comp=Z,16nm,1.1s							
DRIO	**Del Rio**	**2.86**	**132**	Pn		Pn	13 10 44.3	-0.5
DRIO				IAmb_Lg			13 11 29.0	
	comp=Z,16nm,0.9s							
DKNS	**Dickens**	**2.94**	**38**			Pn	13 10 46.6	+0.7
JCT	**Junction City**	**2.94**	**106**	Pn		Pn	13 10 44.1	-1.9
ABTX	**Abilene, Hawle**	**3.18**	**66**	Pn		Pn	13 10 49.6	+0.3
APMT	**Aspermont**	**3.18**	**51**			Pn	13 10 50.4	+1.2
APMT				IAmb_Lg			13 11 47.3	
	comp=Z,22nm,1.2s							
BRDY	**Brady**	**3.49**	**90**			Pn	13 10 54.3	+0.8
BRDY				IAmb_Lg			13 11 56.8	
	comp=Z,14nm,1.1s							
AMTX	**Amarillo**	**3.71**	**18**	IAmb_Lg			13 12 04.6	
	comp=Z,13nm,0.8s							
HNDO	**Hondo**	**3.75**	**118**	Pn		Pn	13 10 57.6	+0.7
CRNM	**Carthage**	**4.03**	**311**	Pn		Pn	13 11 02.5	+1.4
BNM	**Barren Site**	**4.09**	**314**	Pn		Pn	13 11 03.0	+1.0
Y22A	**Socorro**	**4.17**	**309**	Pn		Pn	13 11 04.4	+1.4
121A	**Cookes Peak, D**	**4.17**	**288**	Pn		Pn	13 11 02.5	-0.6
PLPT	**Palo Pinto**	**4.29**	**69**	Pn		Pn	13 11 04.7	+0.1
PLPT				IAmb_Lg			13 12 24.7	
	comp=Z,10nm,0.9s							
LENM	**Lemitar**	**4.32**	**312**	Pn		Pn	13 11 05.8	+0.7
SBM	**South Baldy**	**4.34**	**308**	Pn		Pn	13 11 04.7	-0.9
SMWD	**Samnorwood**	**4.43**	**32**	IAmb_Lg			13 12 26.7	
	comp=Z,10nm,0.8s							
ANMO	**Albuquerque**	**4.57**	**323**			Pn	13 11 07.3	-1.2
WTFS	**Witchita Falls**	**4.58**	**57**	Pn		Pn	13 11 09.2	+0.8
WHTX	**Lake Whitney,**	**4.83**	**81**	Pn		Pn	13 11 12.5	+0.6
WHTX				IAmb_Lg			13 12 45.1	
	comp=Z,7.5nm,0.8s							
WMOK	**Wichita Mounta**	**4.94**	**46**	Pn		Pn	13 11 13.3	-0.1
WMOK				IAmb_Lg			13 12 35.3	
	comp=Z,7.5nm,1.0s							
FW06	**Azle**	**4.95**	**69**	IAmb_Lg			13 12 49.6	
	comp=Z,8.3nm,0.8s							
RTBA	**Rita Blanca**	**5.08**	**3**	Pn		Pn	13 11 15.0	-0.5
LOOK	**Love County**	**5.62**	**61**	IAmb_Lg			13 13 04.8	
	comp=Z,10nm,0.8s							
T25A	**Trinidad**	**5.88**	**350**	Pn		Pn	13 11 25.1	-1.4

*NEIC **31** 13:37:57.1±1.6, 31°351N±0°009×103°089W±0°005, h5km±1km, mb_Lg2.8/61, ML2.7/20, Error ellipse: s-maj=2.6km s-min=1.6km az=288.0*

TXNET 31 13:37:56.9, 31°4N±0°5×103°1W±0°5, h5km±1km, ML3.0/16, 3C-2D, Error ellipse: s-maj=0.8km s-min=0.7km az=2.0, final, Western Texas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TPB15	**Southwest of C**	**0.14**	**183**	P		Pg	13 37 59.9	+0.2
TPB15				S		Sg	13 38 02.7	+1.0
TPB27	**North of Pyote**	**0.23**	**348**	⇓P		Pg	13 38 02.2	+0.8
TPB27				S		Sg	13 38 06.3	+1.8
TPB04	**Verhalen**	**0.23**	**225**	P		Pg	13 38 01.7	+0.3
TPB04				S		Sg	13 38 06.3	+1.7
MNHN	**Monahans**	**0.27**	**92**			Pg	13 38 02.6	+0.4
MNHN				Sg		Sg	13 38 06.6	+0.9
MNHN	**Monahans**	**0.27**	**92**	P		Pg	13 38 02.6	+0.4
MNHN				S		Sg	13 38 07.3	+1.5
TPB16	**Coyonosa**	**0.27**	**214**	⇑P		Pg	13 38 02.9	+0.7
TPB16				S		Sg	13 38 07.4	+1.5
TPB06	**Permian Basin**	**0.32**	**338**	P		Pg	13 38 03.7	+0.5
TPB06				S		Sg	13 38 09.0	+1.6
PCOS	**Crockett Middl**	**0.38**	**279**			Sg	13 38 10.6	+1.4
PCOS	**Crockett Middl**	**0.38**	**279**			Sb	13 38 10.8	-1.4
PCOS	**Crockett Middl**	**0.38**	**279**	S		Sg	13 38 10.6	+1.4
PCOS	**Crockett Middl**	**0.38**	**279**	S		Sb	13 38 10.8	-1.4
LWM2	**Layne Water Mi**	**0.44**	**260**	P		Pg	13 38 05.8	+0.3
LWM2				S		Sb	13 38 12.7	-1.4
TPB03	**Saragosa**	**0.46**	**235**	P		Pg	13 38 06.2	+0.4
TPB03				S		Sb	13 38 14.2	-0.4
TPB05	**Hovey Rd**	**0.48**	**206**	⇑P		Pg	13 38 06.5	+0.3
TPB05				S		Sb	13 38 13.8	-1.4
TPB08	**Permian Basin**	**0.48**	**162**	P		Pg	13 38 06.9	+0.8
TPB08				S		Sb	13 38 14.3	-0.9
LWM1	**Layne Water Mi**	**0.49**	**256**	P		Pg	13 38 06.5	+0.2
LWM1				S		Sg	13 38 14.0	+1.3
TPB07	**Mentone**	**0.55**	**294**	P		Pg	13 38 08.1	+0.6
TPB07				S		Sb	13 38 16.3	-1.1
PECS	**Pecos**	**0.68**	**272**			Pg	13 38 09.4	-0.5
PECS				IAML			13 38 26.5	
	355nm,0.4s							
PECS	**Pecos**	**0.68**	**272**	P		Pg	13 38 09.5	-0.4
TPB13	**Reeves - Culbe**	**0.69**	**287**	S		Sb	13 38 20.3	-1.0
TPB01	**Permian Basin**	**0.73**	**236**	P		Pg	13 38 10.1	-0.7
TPB12	**Southwest of T**	**0.77**	**260**	P		Pg	13 38 11.1	-0.5
TPB12				S		Sg	13 38 22.0	+0.4
ODSA	**Odessa**	**0.89**	**30**			Pg	13 38 13.7	-0.2
ODSA						Sg	13 38 26.2	+0.7
ODSA	**Odessa**	**0.89**	**30**	⇓P		Pg	13 38 13.9	0.0
ODSA				S		Sb	13 38 26.6	-0.4
TMB01	**Midkiff**	**0.91**	**69**	P		Pg	13 38 14.7	+0.4
TMB01				S		Sb	13 38 27.6	+0.1
TPB11	**China Draw**	**1.00**	**306**	P		Pb	13 38 16.8	0.0
TPB11				S		Sb	13 38 30.3	0.0
NM01	**Eunice**	**1.04**	**345**	S		Sb	13 38 31.7	+0.4
ALPN	**Alpine**	**1.09**	**207**			Pg	13 38 16.6	-1.1
ALPN	**Alpine**	**1.09**	**207**	⇑P		Pg	13 38 16.7	-1.0
TPB09	**Culberson Coun**	**1.13**	**292**	P		Pg	13 38 17.9	-0.6
CLNB	**Carlsbad**	**1.14**	**323**	P		Pb	13 38 19.2	+0.1
HTMS	**Hat Mesa**	**1.21**	**337**			Pg	13 38 20.2	0.0
HTMS	**Hat Mesa**	**1.21**	**337**	P		Pg	13 38 20.3	+0.1
HTMS				S		Sn	13 38 37.6	+0.1
CLN7	**Carlsbad 7**	**1.23**	**330**	Pg		Pg	13 38 20.3	-0.2
TMB06	**Greenwood**	**1.25**	**60**	P		Pg	13 38 20.9	-0.1
TMB06				S		Sn	13 38 38.2	-0.2
TMB04	**Seminole**	**1.36**	**21**	P		Pn	13 38 22.1	-0.6
TMB04				S		Sg	13 38 40.9	+0.1
SAND	**Sanderson**	**1.62**	**149**			Pn	13 38 26.3	+0.2
SAND						Sg	13 38 48.9	0.0
SAND	**Sanderson**	**1.62**	**149**	P		Pn	13 38 26.4	+0.3
SAND				S		Sg	13 38 48.9	0.0
TMB05	**Klondike**	**1.64**	**39**	P		Pn	13 38 27.0	+0.6
TMB05				S		Sg	13 38 49.7	+0.2
OZNA	**Ozona**	**1.73**	**104**			Pn	13 38 28.2	+0.6
OZNA						Sg	13 38 52.7	+0.3
OZNA	**Ozona**	**1.73**	**104**	P		Pb	13 38 28.9	-0.2
OZNA				S		Sg	13 38 52.7	+0.3
VHRN	**Van Horn**	**1.73**	**252**			Pn	13 38 28.2	+0.5
VHRN	**Van Horn**	**1.73**	**252**	P		Pn	13 38 28.0	+0.2
SGCY	**Sterling City**	**1.75**	**71**			Pb	13 38 29.5	-0.1
SGCY						Sg	13 38 53.9	+0.6
SGCY	**Sterling City**	**1.75**	**71**	P		Pb	13 38 29.2	-0.4
SGCY				S		Sg	13 38 53.9	+0.6
CPRX	**Cap Rock**	**1.80**	**338**			Pn	13 38 29.4	+0.7
CPRX	**Cap Rock**	**1.80**	**338**	P		Pb	13 38 29.7	-0.7
MNTX	**Cornudas Mount**	**2.00**	**281**			Pb	13 38 32.8	-0.9
MNTX						Sb	13 38 59.5	+0.6
MNTX	**Cornudas

MLDN	**Muldoon**	**5.41**	**105**		Pn	Pn	13 39 17.9	-0.3
X34A	**Smith Ranch, M**	**5.47**	**52**		Pn	Pn	13 39 19.4	+0.4
X34A					IAmb_Lg		13 40 52.6	
	comp=Z,17nm,0.8s							
LOOK	**Love County**	**5.63**	**61**		Pn	Pn	13 39 21.4	+0.2
LOOK					IAmb_Lg		13 41 03.6	
	comp=Z,18nm,0.8s							
T25A	**Trinidad**	**5.88**	**350**			Pn	13 39 24.3	-0.5
T25A					IAmb_Lg		13 41 16.9	
	comp=Z,12nm,0.8s							
SDCO	**Great Sand Dun**	**6.68**	**343**			Pn	13 39 34.7	-1.3
OK052	**Battle Ridge R**	**6.98**	**47**		IAmb_Lg		13 41 52.6	
	comp=Z,8.0nm,0.9s							
MIAR	**Mount Ida**	**8.60**	**66**			Pn	13 40 01.1	-0.8
MIAR					IAmb_Lg		13 42 33.6	
	comp=Z,5.7nm,0.8s							
U38A	**Gravette**	**8.83**	**53**		IAmb_Lg		13 42 37.9	
	comp=Z,5.9nm,0.9s							

*SKO **31** 14:03:24.2, 40°.66N×22°.12E, h14km, ML1.8*
*THE **31** 14:03:25.2, 41°.N±3°×2°.2E±°, h10km±5km, M2.3/6, MLh2.3/6*
*ATH **31** 14:03:25.0, 40°.73N×22°.08E, h5km±1km, ML2.5/8, Manual Solution by S.Liakopoulos First location: 2019/08/31 14:04:41, This location: 2019/08/31 16:06:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*

ISC 31 14:03:25.1±1.0, 40°.72N±0°.02×22°.10E±0°.02, h10km±9km, n39, σ0↑55/68, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.48**	**211**		P		**Pg**	**14 03 34.5**	**-0.1**
KZN					S		**Sg**	**14 03 40.9**	**0.0**
FNA	**Florina**	**0.55**	**277**		P		**Pg**	**14 03 35.4**	**-0.4**
FNA					S		**Sg**	**14 03 43.4**	**+0.3**
FNA	**Florina**	**0.55**	**277**	↑*i*	Pg		**Pg**	**14 03 35.4**	**-0.4**
FNA				*i*	Sg		**Sb**	**14 03 43.7**	**-1.1**
FNA	**Florina**	**0.55**	**277**		P		**Pg**	**14 03 35.5**	**-0.4**
FNA					S		**Sg**	**14 03 42.7**	**-0.3**
THE	**Thessaloniki**	**0.67**	**97**	*i*	Pg		**Pg**	**14 03 38.3**	**+0.2**
THE				*i*	Sg		**Sb**	**14 03 49.0**	**+0.8**
THE	**Thessaloniki**	**0.67**	**97**		P		**Pg**	**14 03 38.2**	**+0.2**
THE					S		**Sb**	**14 03 47.6**	**-0.5**
VAY	**Valandovo**	**0.70**	**31**	*i*	Pg		**Pg**	**14 03 38.3**	**-0.3**
VAY				*i*	Sg		**Sb**	**14 03 48.8**	**-0.3**
VAY				*e*	Lg		Lg	14 03 49.4	
	comp=E,74nm,0.4s								
VAY				*e*	Lg		Lg	14 03 51.7	
	comp=N,206nm,0.8s								
KNT	**Kendrikon**	**0.75**	**54**	↑*i*	Pg		**Pg**	**14 03 39.5**	**0.0**
KNT				*i*	Sg		**Sb**	**14 03 49.9**	**-0.7**
KNT	**Kendrikon**	**0.75**	**54**		P		**Pg**	**14 03 39.5**	**0.0**
KNT					S		**Sb**	**14 03 50.1**	**-0.5**
HORT	**Hortiatis**	**0.77**	**99**		P		**Pg**	**14 03 40.3**	**+0.2**
HORT					S		**Sb**	**14 03 51.3**	**0.0**
HORT	**Hortiatis**	**0.77**	**99**		P		**Pg**	**14 03 40.2**	**+0.2**
HORT					S		**Sb**	**14 03 51.4**	**0.0**
PENT	**Pentalofos**	**0.90**	**235**		P		**Pb**	**14 03 43.1**	**+0.3**
PENT					S		**Sb**	**14 03 54.9**	**-0.1**
SOH	**Sokhos**	**0.96**	**84**		P		**Pb**	**14 03 43.7**	**-0.1**
SOH					S		**Sn**	**14 03 57.6**	**-0.9**
SOH	**Sokhos**	**0.96**	**84**	*i*	Pg		**Pb**	**14 03 43.8**	**-0.1**
SOH				*i*	Sg		**Sn**	**14 03 58.0**	**-0.4**
SOH	**Sokhos**	**0.96**	**84**		P		**Pb**	**14 03 43.8**	**-0.1**
SOH					S		**Sb**	**14 03 56.7**	**0.0**
KBN	**Korca**	**1.00**	**265**		P		**Pb**	**14 03 44.6**	**+0.1**
KBN					S		**Sn**	**14 03 58.5**	**-1.0**
OHR	**Ohrid**	**1.06**	**292**	*i*	Pg		**Pn**	**14 03 45.8**	**-0.2**
OHR				*i*	Sg		**Sn**	**14 04 00.2**	**-0.6**
OHR				*e*	Lg		Lg	14 04 01.1	
	comp=N,129nm,0.4s								
OHR				*e*	Lg		Lg	14 04 02.0	
	comp=E,105nm,0.6s								
PLG	**Polygyros**	**1.09**	**108**		P		**Pb**	**14 03 45.4**	**-0.6**
PLG					S		**Sb**	**14 04 00.7**	**+0.4**
PLG	**Polygyros**	**1.09**	**108**		P		**Pb**	**14 03 45.4**	**-0.6**
PLG					S		**Sb**	**14 04 00.5**	**+0.2**
THL	**Klokotos Trika**	**1.16**	**183**		P		**Pn**	**14 03 47.3**	**-0.1**
THL					S		**Sn**	**14 04 03.5**	**+0.3**
THL	**Klokotos Trika**	**1.16**	**183**		P		**Pg**	**14 03 47.4**	**+0.1**
THL					S		**Sn**	**14 04 03.0**	**-0.2**
SRS	**Serrai**	**1.20**	**70**		P		**Pb**	**14 03 47.3**	**-0.7**
SRS					S		**Sb**	**14 04 03.4**	**-0.2**
SRS	**Serrai**	**1.20**	**70**	*i*	Pg		**Pb**	**14 03 47.2**	**-0.7**
SRS				*i*	Sg		**Sn**	**14 04 04.2**	**-0.1**
SRS	**Serrai**	**1.20**	**70**		P		**Pb**	**14 03 47.3**	**-0.7**
SRS					S		**Sb**	**14 04 03.4**	**-0.2**
KKB	**Krupnik**	**1.36**	**35**	*i*	Pg		**Pb**	**14 03 50.8**	**+0.1**
KKB				*i*	Sg		**Sg**	**14 04 09.3**	**+0.4**
PAIG	**Paliouri**	**1.45**	**123**		P		**Pn**	**14 03 50.9**	**-0.4**
OUR	**Ouranopolis**	**1.49**	**104**		P		**Pb**	**14 03 52.7**	**-0.1**
MMB	**Musomishta**	**1.50**	**56**	*i*	Pg		**Pn**	**14 03 52.1**	**+0.1**
MMB				*i*	Sg		**Sg**	**14 04 13.6**	**+0.3**
TETR	**Tetrakomo, Epi**	**1.51**	**205**		P		**Pb**	**14 03 53.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.71**	**179**		P		**Pb**	**14 03 56.0**	**-0.6**
AGG	**Agios Georgios**	**1.71**	**174**		P		**Pn**	**14 03 55.4**	**+0.4**
IGT	**Igoumenitsa**	**1.80**	**229**	*i*	Pn		**Pg**	**14 03 59.4**	**-0.2**
EVR	**Evrytania**	**1.82**	**187**		P		**Pb**	**14 03 57.8**	**-0.7**
KAVA	**Kavala**	**1.85**	**81**		P		**Pn**	**14 03 57.1**	**+0.2**
BARS	**Barje**	**2.10**	**354**	*i*	Pn		**Pn**	**14 04 00.7**	**+0.3**
ANX	**Ano Chora**	**2.13**	**184**		P		**Pn**	**14 04 01.9**	**+1.1**
KIJV	**Kijevo**	**5.34**	**310**	*i*	Pn		**Pn**	**14 04 46.5**	**+1.6**
KIJV					Sn		**Sn**	**14 05 47.7**	**+1.2**
ZIRJ	**Zirje**	**5.62**	**304**	*e*	Pn		**Pn**	**14 04 49.9**	**+1.3**
ZIRJ					Sn		**Sn**	**14 05 52.4**	**-0.8**
MORI	**Morici**	**5.68**	**306**	*e*	Pn		**Pn**	**14 04 50.7**	**+1.1**
MORI					Sn		**Sn**	**14 05 55.0**	**+0.2**

*NNC **31** 14:24:42.5±1.5, 41°.35N×75°.60E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=10.3km s-min=5.4km az=1.0*
*KRNET **31** 14:24:42.1±0.1, 41°.38N×75°.65E, h20km, mb2.7*
*SOME **31** 14:24:42.4, 41°.33N×75°.65E, h15km*
*KNET **31** 14:24:44.0±0.5, 41°.49N×75°.62E, h1km±3km, ml1.9, Error ellipse: s-maj=3.5km s-min=1.9km az=167.0*

ISC 31 14:24:41.0±1.4, 41°.36N±0°.04×75°.65E±0°.03, h1km±12km, n46, σ1↑93/78, 21C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.99**	**26**	↓P			**Pb**	**14 25 00.7**	**-0.5**
	13nm,0.2s								
ULHL				↓*i*	S		**Sb**	**14 25 14.4**	**-0.4**
	44nm,0.3s								
ULHL	**Ulahol**	**0.99**	**26**	↑*i*	P		**Pb**	**14 25 00.4**	**-0.7**
ULHL				↑*i*	S		**Sg**	**14 25 13.6**	**+0.7**
UCH	**Uchtor**	**1.22**	**316**	↓P			**Pn**	**14 25 05.0**	**-0.6**
	3.4nm,0.2s,SNR=12								
UCH				↓S			**Sn**	**14 25 22.1**	**-0.7**
	22nm,0.2s								
UCH	**Uchtor**	**1.22**	**316**	↑*i*	P		**Pb**	**14 25 04.4**	**-0.6**
UCH				↑*i*	S		**Sb**	**14 25 20.7**	**-0.7**
KBK	**Karagaybulak**	**1.40**	**338**	↑P			**Pg**	**14 25 08.9**	**+1.1**
	8.1nm,0.1s,SNR=17								
KBK				↓S			**Sg**	**14 25 28.0**	**+2.1**
	53nm,0.2s								
KBK	**Karagaybulak**	**1.40**	**338**	↑*i*	P		**Pb**	**14 25 07.5**	**-0.5**
KBK				↑*i*	S		**Sb**	**14 25 26.0**	**-0.5**
SALK	**Salom-Alik**	**1.46**	**252**	↓*e*	P		**Pg**	**14 25 08.9**	**0.0**
SALK				↓*i*	S		**Sg**	**14 25 28.7**	**+0.9**
AAK	**Ala-Archa**	**1.54**	**327**	↑P			**Pg**	**14 25 11.2**	**+0.6**
	3.1nm,0.1s,SNR=5.5								
AAK				↓S			**Sg**	**14 25 31.9**	**+1.4**
	12nm,0.2s								
AAK	**Ala-Archa**	**1.54**	**327**	↑P			**Pg**	**14 25 10.8**	**+0.2**
	0.9nm,0.4s								
AAK				↓S			**Sg**	**14 25 30.8**	**+0.3**
	6.6nm,0.7s								
AAK	**Ala-Archa**	**1.54**	**327**	↑*i*	P		**Pb**	**14 25 10.1**	**-0.3**
AAK				↑*i*	S		**Sg**	**14 25 30.3**	**-0.2**
TKM2	**Tokmak 2**	**1.56**	**359**	↓P			**Pg**	**14 25 11.5**	**+0.5**
	12nm,0.3s,SNR=24								
TKM2				↓S			**Sg**	**14 25 32.6**	**+1.3**
	18nm,0.1s								
TKM2	**Tokmak 2**	**1.56**	**359**	↓*i*	P		**Pb**	**14 25 10.4**	**-0.5**
TKM2				↓*i*	S		**Sb**	**14 25 31.0**	**-0.2**
FRU1	**Bishkek**	**1.64**	**333**	↑P			**Pg**	**14 25 12.0**	**-0.4**
FRU1				↑*i*	S		**Sg**	**14 25 33.8**	**+0.2**
KST	**Kastek**	**1.70**	**8**	P			**Pg**	**14 25 14.1**	**+0.4**
	5.2nm,0.3s								
KST					S		**Sg**	**14 25 36.8**	**+1.1**
	10nm,0.3s								
KST	**Kastek**	**1.70**	**8**	*e*P			**Pg**	**14 25 14.1**	**+0.4**
	5.2nm,0.3s								
KST				*e*S			**Sg**	**14 25 36.8**	**+1.1**
	10nm,0.3s								
CHMS	**Chumysh**	**1.77**	**338**	↓P			**Pg**	**14 25 15.4**	**+0.5**
	5.7nm,0.1s,SNR=16								
CHMS				↓S			**Sg**	**14 25 38.8**	**+0.9**
	18nm,0.2s								
CHMS	**Chumysh**	**1.77**	**338**	↑*i*	P		**Pb**	**14 25 13.9**	**-0.4**
CHMS				↑*i*	S		**Sb**	**14 25 37.1**	**+0.1**
MTBS	**Maitube**	**1.87**	**18**	P			**Pg**	**14 25 17.4**	**+0.7**
	4.7nm,0.2s								
MTBS					S		**Sg**	**14 25 42.6**	**+1.7**
	13nm,0.2s								
MTBS	**Maitube**	**1.87**	**18**	*e*P			**Pg**	**14 25 17.4**	**+0.7**
	4.7nm,0.2s								
MTBS				*e*S			**Sg**	**14 25 42.6**	**+1.7**
	13nm,0.2s								
DGS	**Degeres**	**1.89**	**3**	Pg			**Pg**	**14 25 17.6**	**+0.5**
	5.9nm,0.2s								
DGS				Lg			Lg	14 25 43.3	
	14nm,0.2s								
EKS2	**Erkin-Say**	**1.91**	**314**	↑P			**Pg**	**14 25 18.2**	**+0.6**
	2.0nm,0.2s,SNR=7.6								
EKS2				↑S			**Sg**	**14 25 44.0**	**+1.7**
	9.8nm,0.5s								
EKS2	**Erkin-Say**	**1.91**	**314**	↑*i*	P		**Pb**	**14 25 16.3**	**-0.4**
EKS2				↑*i*	S		**Sg**	**14 25 41.6**	**-0.7**
TNSS	**Tian-Shan**	**1.94**	**29**	Pg			**Pg**	**14 25 18.2**	**+0.1**
	0.7nm,0.1s								
TNSS				Lg			Lg	14 25 44.4	
	3.5nm,0.2s								
TNSS	**Tian-Shan**	**1.94**	**29**	*e*P			**Pg**	**14 25 18.2**	**+0.1**
	0.7nm,0.1s								
TNSS				*e*S			**Sg**	**14 25 44.4**	**+1.1**
	3.5nm,0.2s								
USP	**Ospenovka**	**2.09**	**336**	↑P			**Pg**	**14 25 21.1**	**+0.1**
	12nm,0.2s,SNR=21								
USP				↓S			**Sg**	**14 25 49.6**	**+1.4**
	11nm,0.2s								
USP	**Ospenovka**	**2.09**	**336**	↓*i*	P		**Pb**	**14 25 19.0**	**-0.7**
USP				↓*i*	S		**Sb**	**14 25 46.0**	**-0.2**
KOTS	**Kotyrbulak**	**2.17**	**30**	Pg			**Pg**	**14 25 22.4**	**-0.2**
	3.6nm,0.1s								
KOTS				Lg			Lg	14 25 51.1	
	22nm,0.2s								
KOTS	**Kotyrbulak**	**2.17**	**30**	*e*P			**Pg**	**14 25 22.4**	**-0.2**
	3.6nm,0.1s								
KOTS				*e*S			**Sg**	**14 25 51.1**	**+0.4**
	22nm,0.2s								
MRKS	**Merke**	**2.27**	**308**	Pg			**Pg**	**14 25 24.0**	**-0.6**
	5.4nm,0.3s								
MRKS				Lg			Lg	14 25 54.1	
	17nm,0.4s								
MRKS	**Merke**	**2.27**	**308**	*e*P			**Pg**	**14 25 24.0**	**-0.6**
	5.4nm,0.3s								
MRKS				*e*S			**Sg**	**14 25 54.1**	**0.0**
	17nm,0.4s								
KRBS	**Karabastau**	**2.34**	**0**	Pg			**Pg**	**14 25 25.6**	**-0.3**
	2.2nm,0.2s								
KRBS				Lg			Lg	14 25 56.6	
	0.3nm,0.4s								
KTBS	**Karatobe**	**2.48**	**18**	Pg			**Pg**	**14 25 28.0**	**-0.4**
	13nm,0.4s								
KTBS				Lg			Lg	14 26 01.0	
	18nm,0.3s								
KUU	**Kurty**	**2.59**	**11**	Pg			**Pg**	**14 25 30.5**	**0.0**
	2.6nm,0.1s								
KUU				Lg			Lg	14 26 05.0	
	18nm,0.2s								
KUU	**Kurty**	**2.59**	**11**	*e*P			**Pg**	**14 25 30.5**	**0.0**
	2.6nm,0.1s								
KUU				*e*S			**Sg**	**14 26 05.0**	**+0.9**
	18nm,0.2s								
SATY	**Saty**	**2.66**	**49**	Pg			**Pg**	**14 25 30.9**	**-1.1**
	1.0nm,0.1s								
SATY				Lg			Lg	14 26 05.9	
	20nm,0.2s								
CHKK	**Chushkaly**	**2.69**	**21**	Pg			**Pg**	**14 25 32.3**	**-0.1**
	2.4nm,0.1s								
CHKK				Lg			Lg	14 26 08.3	
	12nm,0.2s								
CHKK	**Chushkaly**	**2.69**	**21**	*e*P			**Pg**	**14 25 32.3**	**-0.1**
	2.4nm,0.1s								
CHKK				*e*S			**Sg**	**14 26 08.3**	**+1.0**
	12nm,0.2s								
UZB	**Uzynbulak**	**3.08**	**53**	*e*P			**Pb**	**14 25 37.8**	**+1.1**
	1.1nm,0.2s								
UZB				*e*S			**Sg**	**14 26 17.9**	**-2.0**
	7.0nm,0.4s								
KPKS	**Kokpek**	**3.08**	**46**	Pg			**Pg**	**14 25 38.1**	**-2.0**
	0.9nm,0.2s								
KPKS				Lg			Lg	14 26 18.0	
	9.2nm,0.5s								
ARXS	**Arharly**	**3.27**	**29**	Pg			**Pg**	**14 25 41.9**	**-1.9**
	2.0nm,0.4s								
ARXS				Lg			Lg	14 26 25.0	
	12nm,0.5s								
ARXS	**Arharly**	**3.27**	**29**	*e*P			**Pg**	**14 25 41.9**	**-1.9**
ARXS				*e*S			**Sg**	**14 26 25.0**	**-1.2**
TRKS	**Terek-Say**	**3.39**	**274**	↓*i*	P		**Pn**	**14 25 37.0**	**+1.8**
TRKS				↓*i*	S		**Sn**	**14 26 17.3**	**+1.2**
PDGK	**Podgornoye**	**3.46**	**54**	↓Pg			**Pb**	**14 25 44.8**	**+1.6**
	1.4nm,0.7s								
PDGK				↑Lg			Lg	14 26 29.7	
	6.0nm,1.1s								
BTLS	**Baital**	**3.87**	**343**	Pg			**Pg**	**14 25 53.0**	**-2.0**
	1.0nm,0.4s								
BTLS				Lg			Lg	14 26 43.6	
	3.2nm,0.3s								
BTLS	**Baital**	**3.87**	**343**	*e*P			**Pg**	**14 25 53.0**	**-2.0**
	1.0nm,0.4s								
BTLS				*e*S			**Sg**	**14 26 43.6**	**-1.5**
	3.2nm,0.3s								
KK31	**Karatay Array**	**4.19**	**296**	↓Pg			**Pg**	**14 25 59.0**	**-2.3**
	0.3nm,0.4s,baz=128,slow=18								
KK31				↓Lg			Lg	14 26 53.3	
	0.7nm,0.4s,baz=123,slow=30,SNR=3.1								

*RSPR **31** 14:42:19.6, 18°.17N×67°.68W, h64km±1km, MD2.6/14*
*OSPL **31** 14:42:19.8±1.0, 18°.19N×67°.65W, h70km±10km, ML2.8*
*NEIC **31** 14:42:20.1±0.9, 18°.13N±0°.04×67°.56W±0°.05, h57km±5km, ML2.7/15, Md2.6/14(RSPR), Error ellipse: s-maj=7.8km s-min=6.1km az=120.0*

ISC 31 14:42:18.8±1.2, 18°.13N±0°.08×67°.65W±0°.04, h66km±9km, n62, σ0↑67/68, 8C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.31**	**33**				**Pn**	**14 42 29.3**	**-0.3**
IDE							**Sn**	**14 42 36.9**	**-0.6**
IDE	**Isla Desecheo**	**0.31**	**33**	↑*e*P			**Pn**	**14 42 29.3**	**-0.3**
IDE	**Isla Desecheo**	**0.31**	**33**	*e*S			**Sn**	**14 42 36.9**	**-0.6**
PRSN	**Puerto Rico Se**	**0.49**	**80**				**Pn**	**14 42 31.1**	**-0.1**
PRSN							**Sn**	**14 42 40.0**	**-0.2**
PRSN	**Puerto Rico Se**	**0.49**	**80**	↑*e*P			**Pn**	**14 42 31.1**	**-0.1**
PRSN	**Puerto Rico Se**	**0.49**	**80**	*e*S			**Sn**	**14 42 40.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.53**	**103**				**Pn**	**14 42 31.6**	**+0.1**
CRPR					IAML			14 42 43.7	
	comp=E,336nm,0.5s								
CRPR	**Cabo Rojo, PR**	**0.53**	**103**				**Sn**	**14 42 41.8**	**+0.9**
CRPR	**Cabo Rojo, PR**	**0.53**	**103**	↓*e*P			**Pn**	**14 42 31.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.53**	**103**	*i* P			**Pn**	**14 42 31.6**	**+0.1**
CRPR				*e*S			**Sn**	**14 42 41.9**	**+1.0**
CRPR					IAML			14 42 42.0	
	comp=Z,362nm,0.2s								
LSP	**Las Mesas**	**0.54**	**85**				**Pn**	**14 42 31.6**	**-0.1**
LSP							**Sn**	**14 42 41.8**	**+0.6**
LSP	**Las Mesas**	**0.54**	**85**	↑*e*P			**Pn**	**14 42 31.6**	**-0.1**
LSP	**Las Mesas**	**0.54**	**85**	*e*S			**Sn**	**14 42 41.8**	**+0.6**
MLPR	**Magueyes Islan**	**0.60**	**105**	↑*e*P			**Pn**	**14 42 32.4**	**+0.2**
MLPR	**Magueyes Islan**	**0.60**	**105**	*e*S			**Sn**	**14 42 42.6**	**+0.4**
AGPR	**Aguadilla, PR**	**0.61**	**57**				**Sn**	**14 42 42.7**	**+0.3**
AGPR	**Aguadilla, PR**	**0.61**	**57**	Pn			**Pn**	**14 42 32.2**	**-0.2**
AGPR	**Aguadilla, PR**	**0.61**	**57**	↑*e*P			**Pn**	**14 42 32.7**	**+0.2**
AGPR	**Aguadilla, PR**	**0.61**	**57**	*i* P			**Pn**	**14 42 32.6**	**+0.2**
AGPR				*e*S			**Sn**	**14 42 42.3**	**-0.1**
AGPR					IAML			14 42 43.1	
	comp=Z,483nm,0.1s								
AOPR	**Arecibo Observ**	**0.88**	**76**	Pn			**Pn**	**14 42 35.1**	**-0.4**
AOPR					IAML			14 42 57.2	
	comp=E,174nm,0.1s								
UUPR	**Utuado, UPR, P**	**0.89**	**82**				**Sn**	**14 42 48.8**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.89**	**82**	Pn			**Pn**	**14 42 35.6**	**-0.2**
UUPR	**Utuado, UPR, P**	**0.89**	**82**	↓*e*P			**Pn**	**14 42 35.7**	**-0.1**
UUPR	**Utuado, UPR, P**	**0.89**	**82**	*e*S			**Sn**	**14 42 48.8**	**+0.5**
OBIP	**Obispado Ponce**	**1.00**	**95**				**Pn**	**14 42 37.1**	**0.0**
OBIP					IAML			14 42 51.3	
	comp=E,190nm,0.6s								
OBIP					IAML			14 42 51.9	
	comp=N,267nm,0.6s								
OBIP	**Obispado Ponce**	**1.00**	**95**				**Sn**	**14 42 51.2**	**+0.6**
OBIP	**Obispado Ponce**	**1.00**	**95**	↓*e*P			**Pn**	**14 42 37.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.00**	**95**	*e*S			**Sn**	**14 42 51.2**	**+0.6**
CELP	**Cerrillos**	**1.02**	**93**				**Pn**	**14 42 37.2**	**-0.2**
CELP					IAML			14 42 52.5	
	comp=E,178nm,0.4s								
CELP					IAML			14 42 58.7	
	comp=N,152nm,0.3s								
CELP	**Cerrillos**	**1.02**	**93**				**Sn**	**14 42 51.4**	**+0.2**
CELP	**Cerrillos**	**1.02**	**93**	↑*e*P			**Pn**	**14 42 37.4**	**0.0**
CELP	**Cerrillos**	**1.02**	**93**	*e*S			**Sn**	**14 42 51.4**	**+0.2**
HIDR	**Higuey Centro**	**1.11**	**295**	↓*e*P			**Pn**	**14 42 38.3**	**-0.3**
HIDR	**Higuey Centro**	**1.11**	**295**	*e*S			**Sn**	**14 42 52.5**	**-0.8**
EMPR	**Esperanza - Ma**	**1.12**	**72**	Pn			**Pn**	**14 42 38.9**	**+0.3**
EMPR	**Esperanza - Ma**	**1.12**	**72**				**Sn**	**14 42 54.0**	**+0.6**
EMPR	**Esperanza - Ma**	**1.12**	**72**	↓*e*P			**Pn**	**14 42 38.9**	**+0.3**
EMPR	**Esperanza - Ma**	**1.12**	**72**	*e*S			**Sn**	**14 42 54.0**	**+0.6**
ECPR	**Experimental S**	**1.24**	**81**	↓*e*P			**Pn**	**14 42 40.3**	**+0.2**
ECPR	**Experimental S**	**1.24**	**81**	*e*S			**Sn**	**14 42 56.4**	**+0.2**
SJG	**San Juan**	**1.43**	**90**	Pn			**Pn**	**14 42 42.5**	**-0.2**
SJG	**San Juan**	**1.43**	**90**	IAML				14 43 03.4	
	comp=N,148nm,0.5s								
SJG	**San Juan**	**1.43**	**90**	↑*e*P			**Pn**	**14 42 42.5**	**-0.2**
SJG	**San Juan**	**1.43**	**90**	*i* P			**Pn**	**14 42 42.5**	**-0.2**
SJG				*e*S			**Sn**	**14 43 00.5**	**-0.1**
SJG					IAML			14 43 03.2	
	comp=Z,73nm,0.2s								
IGPR	**InterUniversit**	**1.48**	**96**				**Pn**	**14 42 43.0**	**-0.3**
IGPR							**Sn**	**14 43 01.5**	**-0.3**
IGPR	**InterUniversit**	**1.48**	**96**	↓*e*P			**Pn**	**14 42 43.0**	**-0.3**
IGPR	**InterUniversit**	**1.48**	**96**	*e*S			**Sn**	**14 43 01.5**	**-0.3**
GCPR	**Guaynabo City**	**1.50**	**83**				**Pn**	**14 42 43.3**	**-0.3**
GCPR	**Guaynabo City**	**1.50**	**83**				**Sn**	**14 43 02.6**	**+0.2**
GCPR	**Guaynabo City**	**1.50**	**83**	↑*e*P			**Pn**	**14 42 43.9**	**+0.3**
GCPR	**Guaynabo City**	**1.50**	**83**	*e*S			**Sn**	**14 43 02.6**	**+0.2**
PDPR	**Patillas Dam,**	**1.55**	**94**				**Pn**	**14 42 44.0**	**-0.3**
PDPR					IAML			14 43 08.1	
	comp=N,125nm,0.1s								
PDPR					IAML			14 43 13.0	
	comp=E,133nm,0.1s								
PDPR	**Patillas Dam,**	**1.55**	**94**	↓*e*P			**Pn**	**14 42 44.1**	**-0.2**
PDPR	**Patillas Dam,**	**1.55**	**94**	*e*S			**Sn**	**14 43 03.6**	**0.0**
HUMP	**Col San Antoni**	**1.71**	**89**				**Pn**	**14 42 46.4**	**-0.1**
BANI	**BANI**	**2.59**	**276**	Pn			**Pn**	**14 43 00.7**	**+2.2**
LOVI	**El Cajuil, Ovi**	**3.55**	**265**	*i* P			**Pn**	**14 43 11.6**	**0.0**
SDDR	**Presa de Saban**	**3.55**	**284**				**Pn**	**14 43 13.6**	**+2.0**
GDHS	**Morne Mazeau,**	**5.92**	**107**	Pn			**Pn**	**14 43 42.8**	**-1.2**
MAGL	**Barre de l'ile**	**6.46**	**109**	Pn			**Pn**	**14 43 48.7**	**-2.7**
BIM	**Bigot**	**7.26**	**119**	Pn			**Pn**	**14 44 01.1**	**-1.3**
BAUV	**El Baul**	**9.14**	**182**	Pn			**Pn**	**14 44 27.1**	**-0.9**

*FCIAR **31** 14:44:32.0, 73°.16N×6°.82E, h10km, station SPA0 has station magnitude of 3.89*
*IDC **31** 14:44:32.4±1.1, 73°.12N×6°.51E, h0km, mb3.6/6, mbtmp3.8/12, ML3.4/5, MS3.1/18, Error ellipse: s-maj=20.4km s-min=15.3km az=79.0*
*NAO **31** 14:44:33.6±0.6,

LANU	Lannavaara	7.16 128	P	Pn	14 46 18.9	+1.5
KEV	Kevo	7.25 108		Pn	14 46 18.6	+0.1
KEV	Kevo	7.25 108	Pn	Pn	14 46 20.1	+1.6
KEV	Kevo	7.25 108	*e*P	Pn	14 46 18.8	+0.3
HEF	Hetta	7.28 122	Pn	Pn	14 46 20.8	+1.9
HEF	Hetta	7.28 122	*e*P	Pn	14 46 21.1	+2.2
LEIR	Leirfjorden	7.38 160	Pn	Pn	14 46 22.5	+2.2
LEIR	Leirfjorden	7.38 160	*e*P	Pn	14 46 21.7	+1.5
MOR8	Moi Rana	7.47 156	Pn	Pn	14 46 22.7	+1.2
MOR8	Moi Rana	7.47 156	*e*P	Pn	14 46 22.6	+1.1
DAG	Danmarks Havn	7.51 311	*e*S	Sn	14 47 35.3	-12
DBG	Daneborg	7.65 292	Pn	Pn	14 46 20.2	-3.8
DBG	Daneborg	7.65 292	*e*P	Pn	14 46 20.4	-3.6
DBG			*e*		14 47 34.8	
VADS	Vadso	7.70 102	Pn	Pn	14 46 26.5	+1.8
VADS	Vadso	7.70 102	P	Pn	14 46 26.2	+1.6
VADS			S	Sn	14 47 42.0	-10
VADS	Vadso	7.70 102	*e*P	Pn	14 46 26.4	+1.8
ERTU	Ertsjaerv	8.44 134	P	Pn	14 46 36.6	+1.9
NSS	Namsos	8.83 165	*e*P	Pn	14 46 42.5	+2.3
SCO	Scoresbysund	9.32 268	Pn	Pn	14 46 47.1	+0.3
TERR	Teriberka	9.88 99	P	Pn	14 46 53.5	-0.9
APA0	Apatity Array	10.31 109	P	Pn	14 47 00.0	-0.5
	baz=328,slow=12					
APA0	Apatity Array	10.31 109	P	Pn	14 47 00.3	-0.2
APA0	Apatity Array	10.31 109	P	Pn	14 47 00.0	-0.5
	baz=328,slow=12					
LVZ	Lovozero	10.57 106	Pn	Pn	14 47 03.6	-0.4
KVDA	Kovda	10.94 113	P	Pn	14 47 08.8	-0.2
DOMB	Dombas	11.17 175	*e*P	Pn	14 47 13.6	+1.4
NC204	NORSAR Array S	12.00 171	Pn	Pn	14 47 26.3	+2.7
NC303	NORSAR Array S	12.08 169	Pn	Pn	14 47 25.3	+0.7
NC405	NORSAR Array S	12.21 169	Pn	Pn	14 47 28.0	+1.6
NBO00	NORSAR Array S	12.24 171	Pn	Pn	14 47 28.9	+2.1
NB201	NORSAR Array S	12.25 170	Pn	Pn	14 47 28.6	+1.6
NB2	NORSAR Subarra	12.26 170	P	Pn	14 47 28.4	+1.3
NB2	NORSAR Subarra	12.26 170	P	Pn	14 47 28.4	+1.3
NOA	NORSAR Array B	12.26 170	Pn	Pn	14 47 28.3	+1.2
	comp=Z,0.1nm,0.3s,baz=353,slow=12,SNR=11					
NOA			LR	LR	14 51 58.9	
	comp=Z,58nm,19.6s,baz=355,slow=36					
	comp=Z,0.9nm,0.5s					
NRA0	NORESS Array S	12.58 169	P	Pn	14 47 32.0	+0.6
	baz=359,slow=14					
NRA0	NORESS Array S	12.58 169	P	Pn	14 47 32.0	+0.6
	baz=359,slow=14					
BORG	Borgarnes	12.99 244	LR	LR	14 51 14.9	
	comp=Z,49nm,19.3s,baz=23,slow=31					
HFS	Hagfors	13.32 165	P	Pn	14 47 42.6	+1.1
	baz=356,slow=12					
HFS	Hagfors	13.32 165	Pn	Pn	14 47 42.9	+1.4
	comp=Z,0.8nm,0.3s,baz=357,slow=12,SNR=35					
HFS			LR	LR	14 52 31.6	
	comp=Z,79nm,19.9s,baz=349,slow=36					
	comp=Z,1.5nm,0.3s					
HFS	Hagfors	13.32 165	P	Pn	14 47 42.6	+1.1
	baz=356,slow=12					
FIA0	FINESS Array S	13.77 138	P	Pn	14 47 48.1	+0.4
	baz=328,slow=12					
FIA0	FINESS Array S	13.77 138	P	Pn	14 47 48.1	+0.4
	baz=328,slow=12					
FIA1	FINESS Array S	13.77 138	Pn	Pn	14 47 47.9	+0.1
FINES	FINESS Array B	13.77 138	Pn	Pn	14 47 48.4	+0.7
	comp=Z,0.6nm,0.3s,baz=335,slow=12,SNR=24					
FINES			LR	LR	14 52 51.0	
	comp=Z,86nm,20.7s,baz=324,slow=36					
	comp=Z,4.5nm,0.6s					
LSH	Leshukonskoye	15.87 101	*e*P	Pn	14 48 11.7	-4.0
	comp=Z,1.1nm,0.7s					
KLMR	Klimovskoe	17.39 118	*e*P	Pn	14 48 32.2	-2.8
	comp=Z,15nm,1.1s					
SHIP	Srednoye Shipi	18.47 108	*e*P	P	14 48 47.7	-0.5
	comp=Z,41nm,2.0s					
PABE	Paberze	19.04 149		Pn	14 48 56.6	+1.4
SFJD	Kangerlussuaq	19.75 281	P	P	14 49 01.3	-0.8
SFJD			IAmb	IAmb	14 49 21.6	
	comp=Z,9.5nm,0.9s					
SFJD	Kangerlussuaq	19.75 281	LR	LR	14 55 42.3	
	comp=Z,87nm,18.8s,baz=24,slow=34					
SUW	Suwalki	20.37 151	Pn	Pn	14 49 12.0	+0.9
KIRV	Kirov	21.98 109	LR	LR	14 58 30.3	
	comp=Z,43nm,19.0s,baz=313,slow=38					
CLL	Collm	22.06 170	*e*P	P	14 49 29.0	+1.8
CLL			*ex*	x	14 49 34.0	
MORC	Moravsky Berou	23.90 163	P	P	14 49 47.4	+1.1
VRAC	Vranov	24.29 164	LR	LR	14 59 01.5	
	comp=Z,48nm,19.4s,baz=3.5,slow=36					
AKASG	Malin Array Be	24.52 144	P	P	14 49 53.5	+1.7
	comp=Z,1.4nm,0.6s,baz=346,slow=9.3,SNR=6.7					
AKASG			LR	LR	14 59 26.5	
	comp=Z,91nm,18.3s,baz=12,slow=36					
	comp=Z,1.4nm,0.6s					
AKBB	Malin Array Si	24.52 144	P	P	14 49 52.8	+1.0
AKBB			IAmb	IAmb	14 50 02.9	
	comp=Z,3.8nm,0.8s					
KIEV	Kiev	24.52 144	P	P	14 49 52.8	+1.0
KIEV			IAmb	IAmb	14 50 02.9	
	comp=Z,3.7nm,0.9s					
GERES	GERESS Array B	24.56 169	P	P	14 49 54.8	+2.5
	comp=Z,1.0nm,0.7s,baz=0.7,slow=11,SNR=8.5					
GERES			LR	LR	15 00 04.3	
	comp=Z,35nm,18.0s,baz=292,slow=38					
	comp=Z,1.0nm,0.7s					
RES	Resolute Bay	25.01 322	LR	LR	14 59 25.7	
	comp=Z,52nm,18.7s,baz=101,slow=36					
ARTI	Arti	26.39 101	LR	LR	15 01 04.9	
	comp=Z,22nm,19.4s,baz=358,slow=38					
DAVOX	Davos/Dischmat	26.47 175	LR	LR	15 00 06.3	
	comp=Z,31nm,21.5s,baz=84,slow=35					
FRB	Frobisher Bay	27.20 290	LR	LR	14 59 24.5	
	comp=Z,55nm,18.2s,baz=358,slow=33					
AKTO	Aktyubinsk	31.54 108	LR	LR	15 04 00.4	
	comp=Z,58nm,20.4s,baz=192,slow=37					
BVAR	Borovoye Array	32.78 93	P	P	14 51 08.1	+2.7
	comp=Z,0.7nm,0.7s,baz=309,slow=15,SNR=3.5					
	comp=Z,0.7nm,0.7s					
KBZ	Khabaz	33.91 130	LR	LR	15 05 24.1	
	comp=Z,54nm,20.5s,baz=0.0,slow=37					
INK	Inuvik	36.46 336	LR	LR	15 07 54.8	
	comp=Z,28nm,18.0s,baz=352,slow=38					
KURBB	Kurchatov Arra	37.28 87	P	P	14 51 47.1	+2.9
	comp=Z,0.4nm,0.4s,baz=334,slow=8.2,SNR=2.4					
	comp=Z,0.4nm,0.4s					
YKA	Yellowknife Ar	39.07 321	LR	LR	15 08 20.1	
	comp=Z,48nm,20.2s,baz=98,slow=37					
ILAR	Eielson Array	41.24 343	P	P	14 52 17.2	+0.1
	comp=Z,0.5nm,0.8s,baz=0.1,slow=8.8,SNR=5.6					
	comp=Z,0.5nm,0.8s					
DLBC	Dease Lake	45.47 330	LR	LR	15 11 21.8	
	comp=Z,422nm,20.8s,baz=204,slow=35					
TORD	Torodi Ar. Bea	60.03 186	P	P	14 54 41.5	+2.2
	comp=Z,0.5nm,0.5s,baz=4.6,slow=8.0,SNR=5.1					
	comp=Z,0.5nm,0.5s					

*IDC **31** 14:54:21.2±1.0, 37.°32N×141.°51E, h0km, mb3.5/6, mbtmp3.6/10, ML3.2/3, Error ellipse: s-maj=25.4km s-min=18.7km az=104.0*
*NIED **31** 14:54:24.2, 37.°39N×141.°42E, h32km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr~4.26; Mθθ1.86; Mϕϕ2.40; Mrθ0.45; Mθϕ1.57; Mϕr-1.11; Fault plane solution: M₀4.14000×10¹⁴ NP1: ϕs231.00000°, δ42.00000°, λ-72.00000°. NP2:ϕs28.00000°, δ50.00000°, λ-105.00000°.*
*JMA **31** 14:54:24.2±0.1, 37.°4N±0.°3×141.°4E±0.°8, h32km±1km, MV3.6/32, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .

ISC 31 14:54:22.3±1.6, 37.°34N±0.°04×141.°53E±0.°06, h11km±10km, n24, σ1°07/28, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.52	273	P	Pg	14 54 33.5	+1.1
JFK				*e*S	Sg	14 54 39.9	+0.6
ONAJ	Iwakimizuishiy	0.63	248	P	Pg	14 54 35.4	+0.9
ONAJ				S	Sg	14 54 43.1	+0.3
JMST	Minamisoumatoc	0.64	307	*i* P	Pg	14 54 34.9	+0.3
JMST				*e*S	Sg	14 54 42.8	-0.2
JMM	Marumori	0.78	312	P	Pg	14 54 37.2	-0.2
JMM				*e*S	Sg	14 54 46.5	-1.1
JFFD	Fukushimafurud	0.81	252	*i* P	Pb	14 54 38.1	-0.3
JFFD				*e*S	Sg	14 54 47.8	-0.8
JOTO	OTAMA OYAMA	0.97	283	*i* P	Pb	14 54 40.9	-0.2
JOTO				*e*S	Sb	14 54 52.8	-1.2
JHO	Hitachi	1.06	227	P	Pb	14 54 41.6	-1.0
JHO				*e*S	Sb	14 54 54.7	-1.7
JIO	Ouri	1.12	353	P	Pb	14 54 42.4	-1.2
MJAR	Matsushiro Arr	2.78	254	Pn	Pn	14 55 07.8	+1.1
	0.5nm,0.3s,baz=78,slow=16,SNR=49						
MJAR				Sn	Sn	14 55 40.5	+0.3
	0.9nm,0.3s,baz=85,slow=29,SNR=6.6						
	2.9nm,0.4s						
JHJ	Hachijo jima 2	4.45	199	Pn	Pn	14 55 30.9	+1.3
	14nm,0.3s,baz=84,slow=18,SNR=14						
JHJ				Sn	Sn	14 56 18.8	-2.6
	20nm,0.3s,baz=144,slow=24,SNR=7.9						
	27nm,0.3s						
ASAJ	Asahikawa	6.81	7	Pn	Pn	14 56 02.3	+0.2
	0.6nm,0.3s,baz=230,slow=9.8,SNR=9.2						
ASAJ				Sn	Sn	14 57 18.9	-0.7
	baz=233,slow=20						
	1.7nm,0.3s						
JCJ	Chichijima	10.23	177	Pn	Pn	14 56 47.5	-1.5
	30nm,0.7s,baz=270,slow=20						
JCJ				Sn	Sn	14 58 33.5	-10
	baz=90,slow=19						
H11N2	WAKE ISLAND Hy	28.23	121	T	T	15 29 48.5	
	baz=314,slow=75,SNR=49						
H11N1	WAKE ISLAND Hy	28.24	121	T	T	15 29 51.2	
	baz=314,slow=75,SNR=64						
H11N3	WAKE ISLAND Hy	28.25	121	T	T	15 29 54.4	
	baz=314,slow=75,SNR=46						
H11S1	WAKE ISLAND Hy	28.95	124	T	T	15 30 46.6	
	baz=316,slow=76,SNR=25						
H11S3	WAKE ISLAND Hy	28.95	124	T	T	15 30 47.1	
	baz=316,slow=76,SNR=23						
H11S2	WAKE ISLAND Hy	28.97	124	T	T	15 30 42.9	
	baz=316,slow=76,SNR=24						
MKAR	Makanchi Array	44.03	302	P	P	15 02 29.9	+0.1
	0.4nm,0.7s,baz=80,slow=7.9,SNR=4.1						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	45.88	308	P	P	15 02 44.6	+0.1
	0.5nm,0.5s,baz=84,slow=8.5,SNR=4.3						
	0.5nm,0.5s						
ILAR	Eielson Array	49.18	32	P	P	15 03 11.2	+1.3
	0.2nm,0.8s,baz=271,slow=7.4,SNR=2.1						
	0.2nm,0.8s						
WRA	Warramunga Arr	57.38	188	P	P	15 04 10.7	+0.1
	0.6nm,0.8s,baz=5.7,slow=6.9,SNR=5.7						
	0.6nm,0.8s						
ASAR	Alice Springs	61.11	188	P	P	15 04 36.9	+0.5
	0.4nm,0.8s,baz=8.4,slow=8.4,SNR=4.3						
	0.4nm,0.8s						
TXAR	Lajitas Array	89.86	52	P	P	15 07 22.8	+1.3
	0.2nm,0.5s,baz=322,slow=3.7,SNR=4.3						
	0.2nm,0.5s						

*TEH **31** 14:57:30.8, 34.°28N×45.°59E, h9km*
*ISN **31** 14:57:31.5±0.7, 34.°30N×45.°59E, h20km±32km, ML2.8*

ISC 31 14:57:31.2±1.1, 34.°30N±0.°04×45.°61E±0.°04, h18km, n10, σ0.°67/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	Ghasr-e-Shirin	0.21	356	Pg	Pg	14 57 35.8	-0.5
GLG1	Gilan-e-Gharb	0.31	126	Pg	Pg	14 57 37.4	-0.6
IDHR	Dehrash	0.76	58	Pg	Pb	14 57 45.3	-0.7
IGHG	Ghaleghazi	0.80	88	Pg	Pb	14 57 46.8	+0.1
ILBA	Ilam Banvizeh	0.84	143	Pg	Pb	14 57 46.7	-0.6
IBDR	Badra	1.22	167	*e*Pg	Pb	14 57 54.0	+0.3
IBDR				*e*Sg	Sn	14 58 10.0	+0.7
BHD	Baghdad	1.45	225	*e*Pn	Pb	14 57 58.0	+0.3
BHD				*e*Sn	Sg	14 58 18.0	0.0
IKRK	Kirkuk	1.51	317	*e*Pn	Pb	14 57 59.0	+0.2
IKRK				*e*Sn	Sg	14 58 20.0	-0.1
IKRK				AML	AML	14 58 24.7	
	comp=N,167nm,0.5s						
IKRK				AML	AML	14 58 28.8	
	comp=E,112nm,0.4s						
SNQR	Sonqor, Kerman	1.76	71	Pg	Pb	14 58 04.2	+1.1
IBZA	Bozab	1.87	84	Pn	Pb	14 58 06.0	+1.0

*TRN **31** 15:06:35.5, 18.°98N×64.°07W, h8km, MD0.0, North-east of Anegada.*
*NEIC **31** 15:06:36.4±1.1, 19.°2N±0.°1×63.°91W±0.°06, h10km±2km, ML3.5/20, Md3.6/16(RSPR), Error ellipse: s-maj=20.9km s-min=3.0km az=24.0*
*RSPR **31** 15:06:39.0, 19.°18N×63.°91W, h82km±9km, MD3.5/16*
*SDD **31** 15:06:39.5±3.0, 17.°32N×64.°26W, h5km±52km, MD3.7, ML3.8, MW3.5*

ISC 31 15:06:36.1±3.5, 19.°1N±0.°2×63.°93W±0.°06, h4km±27km, n71, σ0.°94/86, 9C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMRT	St. Maarten	1.33	142		Pn	15 07 01.0	-0.5
SMRT					Sn	15 07 17.3	-2.4
SMRT	St. Maarten	1.33	142	*i* P	Pn	15 07 01.0	-0.5
SMRT	St. Maarten	1.33	142	*e*S	Sn	15 07 17.3	-2.4
SABA	Saba	1.62	156		Pn	15 07 05.5	+0.1
SABA					Sn	15 07 27.3	+0.4
SABA	Saba	1.62	156	IAML		15 07 41.6	
	comp=N,1μm,0.5s						
SABA	Saba	1.62	156	*i* P	Pn	15 07 05.5	+0.1
SABA	Saba	1.62	156	*e*S	Sn	15 07 27.3	+0.4
HUMP	Col San Antoni	2.06	242		Pn	15 07 11.2	-0.2
SKI	Saint Kitts	2.10	147	*e*P	Pn	15 07 12.8	+0.7
SKI				*e*S	Sn	15 07 37.9	-0.8
SKOC	St. Kitts, UWI	2.14	148	*e*P	Pn	15 07 11.9	-0.7
GCPR	Guaynabo City	2.19	249		Pn	15 07 13.1	-0.1
GCPR					Sn	15 07 41.1	+0.3
GCPR	Guaynabo City	2.19	249	*i* P	Pn	15 07 13.1	-0.1
GCPR	Guaynabo City	2.19	249	*e*S	Sn	15 07 41.1	+0.3
PDPR	Patillas Dam,	2.26	242		Pn	15 07 14.0	-0.3
PDPR	Patillas Dam,	2.26	242	*i* P	Pn	15 07 14.4	+0.1
PDPR	Patillas Dam,	2.26	242	*e*S	Sn	15 07 42.5	0.0
SJG	San Juan	2.33	245		Pn	15 07 15.5	+0.3
SJG	San Juan	2.33	245	IAML		15 07 51.3	
	comp=N,182nm,0.5s						
SJG	San Juan	2.33	245	*i* P	Pn	15 07 15.5	+0.3
SJG	San Juan	2.33	245	*e*S	Sn	15 07 44.1	-0.1
IGPR	InterUniversit	2.35	241		Sn	15 07 44.6	-0.4
IGPR	InterUniversit	2.35	241	*e*S	Sn	15 07 44.6	-0.4
ECPR	Experimental S	2.43	251	*e*S	Sn	15 07 46.8	-0.1
ANWB	Willy Bob	2.49	125	*e*P	Pn	15 07 17.9	+0.4
ANWB				*e*S	Sb	15 07 52.2	-0.4
CELP	Cerrillos	2.71	248		Pn	15 07 20.7	+0.2
CELP					Sn	15 07 53.6	-0.2
CELP	Cerrillos	2.71	248	IAML		15 07 58.7	
	comp=E,102nm,0.6s						
CELP				IAML		15 08 00.7	
	comp=N,107nm,0.9s						
CELP	Cerrillos	2.71	248	*i* P	Pn	15 07 20.7	+0.2
CELP	Cerrillos	2.71	248	*e*S	Sn	15 07 53.6	-0.2
CELP	Cerrillos	2.71	248	*e*Pg	Pn	15 07 20.7	+0.2
CELP				*e*Sg	Sn	15 07 53.4	-0.4
CELP				IAML		15 08 00.5	
	comp=N,100nm,0.7s						
OBIP	Obispado Ponce	2.75	248		Pn	15 07 21.9	+0.9
OBIP					Sn	15 07 54.0	-0.7
OBIP	Obispado Ponce	2.75	248	IAML		15 08 07.4	
	comp=N,102nm,1.1s						
OBIP				IAML		15 08 12.7	
	comp=E,114nm,0.7s						
OBIP	Obispado Ponce	2.75	248	*i* P	Pn	15 07 21.9	+0.9
OBIP	Obispado Ponce	2.75	248	*e*S	Sn	15 07 54.0	-0.7
UUPR	Utuado, UPR, P	2.78	253		Pn	15 07 22.0	+0.7
UUPR					Sn	15 07 54.7	-0.7
UUPR	Utuado, UPR, P	2.78	253	*i* P	Pn	15 07 22.0	+0.7
UUPR	Utuado, UPR, P	2.78	253	*e*S	Sn	15 07 54.7	-0.7
AOPR	Arecibo Observ	2.78	255	*i* P	Pb	15 07 25.9	-0.5
AOPR				*e*Sg	Sn	15 07 58.4	+2.9
AOPR				IAML		15 08 44.0	
	comp=N,19μm,3.2s						
MBFL	Flemmings, Mon	2.86	145	*e*P	Pn	15 07 24.4	+1.8
MBFL				*e*S	Sn	15 07 58.6	+1.0
MBWH		2.88	145	*e*P	Pn	15 07 24.5	+1.7
MBWH				*e*S	Sn	15 07 59.9	+1.8
MLYT	Lee's Yard	2.90	145	*e*S	Sn	15 07 59.7	+1.3
AGPR	Aguadilla, PR	3.08	259		Pn	15 07 26.1	+0.6
AGPR					Sn	15 08 02.6	-0.2
AGPR	Aguadilla, PR	3.08	259	*i* P	Pn	15 07 26.1	+0.6
AGPR	Aguadilla, PR	3.08	259	*e*S	Sn	15 08 02.6	-0.2
AGPR	Aguadilla, PR	3.08	259	*i* P	Pn	15 07 27.8	+2.3
AGPR				IAML		15 08 12.1	
	comp=N,124nm,1.6s						
LSP	Las Mesas	3.13	253		Pn	15 07 26.3	0.0
LSP					Sn	15 08 03.2	-1.0
LSP	Las Mesas	3.13	253	*i* P	Pn	15 07 26.3	0.0
LSP	Las Mesas	3.13	253	*e*S	Sn	15 08 03.2	-1.0
MLPR	Magueyes Islan	3.16	249	*i* P	Pn	15 07 26.8	+0.1
MLPR	Magueyes Islan	3.16	249	*e*S	Sn	15 08 04.6	-0.2
CRPR	Cabo Rojo, PR	3.21	250		Pn	15 07 27.9	+0.6
CRPR					Sn	15 08 06.1	+0.1
CRPR	Cabo Rojo, PR	3.21	250	IAML		15 08 16.4	
	comp=N,67nm,0.8s						
CRPR				IAML		15 08 22.1	
	comp=E,75nm,1.1s						
CRPR	Cabo Rojo, PR	3.21	250	*i* P	Pn	15 07 27.9	+0.6
CRPR	Cabo Rojo, PR	3.21	250	*e*S	Sn	15 08 06.1	+0.1
CRPR	Cabo Rojo, PR	3.21	250	*e*Pg	Pn	15 07 28.4	+1.1
CRPR				IAML		15 08 16.1	
	comp=N,72nm,1.1s						
IDE	Isla Desecheo	3.43	258		Pn	15 07 31.3	+0.9
IDE					Sn	15 08 10.6	-1.0
IDE	Isla Desecheo	3.43	258	*i* P	Pn	15 07 31.3	+0.9
IDE	Isla Desecheo	3.43	258	*e*S	Sn	15 08 10.6	-1.0
DHSZ	Broadband at M	3.50	143	*e*P	Pn	15 07 32.4	+1.1
DHSZ				*e*S	Sn	15 08 15.1	+1.9
GDHS	Morne Mazeau,	3.50	143		Pn	15 07 31.6	+0.3
GDHS				IAML		15 08 27.6	
	comp=N,220nm,0.5s						
GDHS				IAML		15 08 42.0	
	comp=E,214nm,0.5s						
ABD	La Joyeuse, An	3.51	138	*i* P	Pn	15 07 31.7	+0.3
ABD	La Joyeuse, An	3.51	138	*e*S	Sn	15 08 13.0	-0.4
ATGZ	Broadband at L	3.66	145	*e*P	Pn	15 07 34.1	+0.6
ATGZ				*e*S	Sn	15 08 15.8	-1.4
MMLZ	Guadeloupe Bro	3.74	144	*e*P	Pn	15 07 36.6	+2.1
CBE	Ff, Capester	3.75	143		Pn	15 07 34.6	-0.3
CBE					Sn	15 08 19.3	-0.2
CBE	Ff, Capester	3.75	143	*i* P	Pn	15 07 34.6	-0.3
CBE	Ff, Capester	3.75	143	*e*S	Sn	15 08 19.3	-0.2
DSDZ	La Diserade, G	3.90	135	*e*P	Pn	15 07 36.6	-0.2
TBG	Guadaloupe-3	3.91	146	*e*P	Pn	15 07 37.8	+0.9
TBG				*e*S	Sn	15 08 23.2	-0.1
DSLB	Salisbury	4.37	146	*i* P	Pn	15 07 44.8	+1.5
BIM	Bigot	5.33	149	*e*P	Pn	15 07 58.1	+1.6
SDDR	Presa de Saban	6.96	270		Pn	15 08 17.9	-1.0

GCG 31 15:09:03.6±0.4, 14.°23N×91.°32W, h71km±10km, MD3.0, ML3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESSG	Sabana Grande	0.50	72	*i* P	Pn	15 09 16.6	0.0
ESSG				*i* S	Sn	15 09 26.7	+0.6
ESSG				IAML		15 09 26.9	
	comp=E,1μm,0.2s						
SOKI	Kika Raxquin	0.60	352	*i* P	Pn	15 09 18.9	+1.0
SOKI				*i* S	Sn	15 09 30.8	+2.3
FG16	Alotenango, Sa	0.79	86	*i* P	Pn	15 09 17.3	-2.5
FG16				*i* S	Sn	15 09 28.0	-3.8
FG16				IAML		15 09 28.9	
	comp=N,5μm,0.2s						

*IDC **31** 15:09:19.7±0.3, 22.°76N×95.°38E, h0km, mb5.1/41, mbtmp5.1/42, ML5.1/1, MS5.0/76, Error ellipse: s-maj=12.8km s-min=7.6km az=52.0*
*BGR **31** 15:09:19.1, 22.°45N×96.°10E, h17km±1km, mb5.3, Ms5.1*
*BJI **31** 15:09:20.6, 22.°75N×95.°39E, h14km, mB5.6/66, mb5.3/78, ML5.8/5, Ms5.7/97, Ms7 5.6/94*
*MOS **31** 15:09:20.0±1.0, 22.°73N×95.°45E, h12km, mb5.5/69, MS5.2/57, Error ellipse: s-maj=5.9km s-min=3.1km az=122.9*
*BKK **31** 15:09:21.9±1.2, 23.°N±3.°×9.°6E±.°, h5km±10km, M5.5/48, mb5.5/48*
*NEIC **31** 15:09:21.8, 22.°73N×95.°51E, h18km*
*NEIC **31** 15:09:21.8, 22.°83N×95.°40E, h18km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10¹⁷Nm; Mrr0.31; Mθθ0.49; Mϕϕ-0.80; Mrθ-0.65; Mθϕ1.49; Mϕr0.07; Fault plane solution: M₀1.77000×10¹⁷ NP1: ϕs190.67000°, δ66.94000°, λ172.66000°. NP2: ϕs283.56000°, δ83.25000°, λ23.23000°. Principal axes: T 1.6614, Plg21.0000°, Azm149.0000°; N 0.1991, Plg66.0000°, Azm299.0000°; P -1.8604, Plg11.0000°, Azm55.0000°;*
*NEIC **31** 15:09:21.8±1.4, 22.°74N±0.°06×95.°52E±0.°06, h10km±1km, mb5.5/362, Ms_20 5.3/850, Mww5.4/25 Error ellipse: s-maj=10.9km s-min=7.4km az=219.0*
*IPGP **31** 15:09:22.0, 22.°75N×95.°53E, h15km, Mw5.6, Fault plane solution: NP1:ϕs272.00000°, δ77.00000°, λ-21.00000°. NP2:ϕs7.00000°, δ69.00000°, λ-166.00000°.*
*GCMT **31** 15:09:22.8±0.1, 22.°67N±0.°01×95.°61E±0.°01, h16km, MW5.5/151, Moment Tensor Solution. s116,c190; s151,c324; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr0.22±.02; Mθθ0.50±.02; Mϕϕ-0.71±.02; Mrθ0.62±.06; Mθϕ2.10±.02; Mϕr0.24±.06; Best double couple: M₀2.29400×10¹⁷ NP1:ϕs7.00000°, δ75.00000°, λ170.00000°. NP2:ϕs99.00000°, δ81.00000°, λ15.00000°. Principal axes: T 2.2790, Plg17.0000°, Azm324.0000°; N 0.0300, Plg72.0000°, Azm129.0000°; P -2.3090, Plg4.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NDI **31** 15:09:28.2±1.2, 22.°71N×95.°54E, h17km±8km, ML5.1, MW5.4, mb5.5(NEIC)*

ISC 31 15:09:22.6±0.3, 22.°68N±0.°02×95.°36E±0.°02, h19km±1km, h19km:pP-P, n1753, σ2s09/1468, mb5.4/380, MS5.3/530, 83C-33D, Myanmar

| Code | Station Name | Δ° | AZ° | Phase ID | | Time | Res |
|---

AGT eS Sb 15 11 16.3 -3.1
AGT IAML 15 12 40.6
comp=E,10µm,3.8s
AGT IAML 15 12 42.2
comp=N,8µm,3.2s
SHL Shillong 4.28 313 Pn 15 10 28.3 +1.3
SHL Shillong 4.28 313 P **Pn 15 10 30.7 +3.7**
SHL Shillong 4.28 313 *eP* **Pn 15 10 30.6 +3.7**
SHL eS **Sn 15 11 19.3 +2.7**
SHL Shillong 4.28 313 *eP* Pn 15 10 32.4 +5.4
SHL eS **Sn 15 11 20.1 +3.5**
SHL IAML 15 12 32.6
comp=N,1µm,5.1s
SHL Shillong 4.28 313 P **Pn 15 10 28.3 +1.3**
TEZP TEZPUR 4.56 330 *eP* **Pn 15 10 31.8 +1.2**
TEZP eS **Sn 15 11 23.8 +0.8**
TEZP TEZPUR 4.56 330 *eP* Pn 15 10 36.1 +5.5
TEZP eS **Sn 15 11 27.4 +4.4**
LKP Lekhapani 4.65 5 *eP* **Pn 15 10 28.4 -3.5**
LKP eS **Sn 15 11 29.9 +4.5**
LKP Lekhapani 4.65 5 *eP* Pn 15 10 37.2 +5.3
LKP eS **Sn 15 11 27.0 +1.6**
LKP IAML 15 11 43.2
comp=N,4µm,0.7s
LKP IAML 15 12 01.6
comp=E,5µm,0.7s
ITAN ITANAGAR 4.68 342 *eP* Pb 15 10 38.6 -5.6
ITAN eS **Sn 15 11 30.0 +3.7**
ITAN IAML 15 11 33.9
comp=E,6µm,1.2s
DIBR DIBRUGARH 4.78 355 *eP* **Pb 15 10 41.2 -4.6**
DIBR eS **Sn 15 11 31.4 +2.8**
DIBR DIBRUGARH 4.78 355 *eP* **Pg 15 10 58.0 +3.8**
DIBR eS **Sg 15 12 03.9 +7.7**
DIBR IAML 15 13 06.0
comp=N,9µm,2.9s
DIBR IAML 15 14 15.4
comp=E,10µm,1.0s
GUWA GUWAHATI 4.83 317 *eP* **Pn 15 10 36.0 +1.6**
GUWA eS **Sn 15 11 29.9 -0.1**
GUWA GUWAHATI 4.83 317 *eP* Pb 15 10 41.7 -5.0
GUWA eS **Sn 15 11 33.6 +3.6**
GUWA eS Sb 15 11 33.9 -11
MHMT Maesarieng 5.09 151 P **Pn 15 10 38.7 +0.7**
CHTO Chiang Mai 5.11 138 Pn 15 10 37.3 -0.9
CHTO Chiang Mai 5.11 138 P **Pn 15 10 37.6 -0.6**
CHTO Chiang Mai 5.11 138 P **Pn 15 10 38.7 +0.5**
CHTO Chiang Mai 5.11 138 P **Pn 15 10 37.3 -0.9**
CHTO Chiang Mai 5.11 138 P **Pn 15 10 37.1 -1.1**
comp=E,2µm,0.6s
CM31 Chiang Mai Arr 5.38 141 P **Pn 15 10 42.2 +0.3**
SNR=74
CMAR Chiang Mai Arr 5.38 141 Pn 15 10 41.1 -0.9
CMAR Chiang Mai Arr 5.38 141 Pn **Pn 15 10 41.5 -0.5**
comp=E,17nm,0.3s,baz=318,slow=13,SNR=192
CMAR Pg **Pb 15 10 60.0 +3.9**
comp=E,274nm,0.3s,baz=324,slow=16,SNR=82
CMAR Lg Lg 15 12 11.5
comp=E,191nm,0.3s,baz=324,slow=31,SNR=7.9
CMAR LR LR 15 12 56.8
comp=E,22µm,19.5s,baz=325,slow=40
comp=E,75nm,0.5s
CMAR Chiang Mai Arr 5.38 141 *i* P **Pn 15 10 41.0 -1.0**
CMAR pmax pmax
comp=Z,68nm,0.6s
LAMP Lampang 5.76 135 P **Pn 15 10 46.4 -0.8**
CAL Calcutta 6.50 270 *eP* Pn 15 11 03.1 +5.9
CAL eS **Sn 15 12 14.8 +4.0**
CAL Calcutta 6.50 270 *eP* Pn 15 11 05.5 +8.2
CAL eS **Sn 15 12 15.2 +4.3**
PZH PanZhiHua 6.94 56 Pn **Pn 15 11 07.3 +3.8**
PZH Pg **Pg 15 11 33.8 -1.8**
PZH Sg **Sg 15 13 01.0 -4.5**
PZH smax smax
comp=N,1µm,1.2s
PZH smax smax
comp=E,970nm,0.9s
PZH LR LR
comp=N,46µm,11.4s
PZH LR LR
comp=E,30µm,13.7s
PZH LR LR
comp=Z,31µm,11.3s
KMI Kunming 7.18 69 ⇓Pn **Pn 15 11 10.0 +3.1**
KMI Sn **Sn 15 12 28.3 +0.3**
KMI smax smax
comp=Z,5µm,1.0s
KMI smax smax
comp=Z,2µm,1.1s
KMI LR LR
comp=Z,103µm,12.9s
KMI LR LR
comp=Z,45µm,9.6s
KMI LR LR
comp=Z,55µm,8.6s
PHIT Phitsanulok 7.25 138 P **Pn 15 11 07.9 +0.3**
comp=Z,2µm,0.9s
SHBG Sahibganj 7.47 291 *eP* **Pn 15 11 11.7 +1.0**
SHBG eS **Sn 15 12 35.3 +0.4**
GTK Tadong 7.67 308 *eP* **Pn 15 11 16.9 +3.3**
GTK eS **Sn 15 12 43.1 +3.0**
GTK Tadong 7.67 308 *eP* Pn 15 11 20.0 +6.4
GTK eS **Sn 15 12 41.8 +1.7**
GTK IAML 15 12 47.2
comp=N,2µm,0.8s
GTK IAML 15 12 52.0
comp=E,1µm,0.6s
LSA Lhasa 7.94 332 Pn 15 11 20.0 +2.4
LSA Lhasa 7.94 332 P **Pn 15 11 19.0 +1.4**
LSA S **Sn 15 12 45.0 -2.2**
LSA LR LR
comp=E,24µm,12.2s
LSA LR LR
comp=E,26µm,15.1s
LSA Lhasa 7.94 332 P **Pn 15 11 20.0 +2.4**
LSA Lhasa 7.94 332 P **Pn 15 11 20.6 +3.0**
SLVN Son La 8.04 98 Pn 15 11 16.9 -1.7
SLVN Son La 8.04 98 P **Pn 15 11 18.3 -0.3**
PBKT Sadao Pong 8.06 138 P **Pn 15 11 19.8 +1.1**
comp=E,111nm,0.5s
UTHA Uthaitani 8.07 151 P **Pn 15 11 19.1 +0.2**
comp=E,157nm,0.7s
ODAN Odare 8.35 301 Pn **Pn 15 11 24.9 +1.9**
baz=315,slow=0.0
ODAN Sn **Sn 15 12 58.4 +1.5**
baz=315,slow=0.0
KHLT Khaolaem Dam 8.42 158 P **Pn 15 11 25.0 +1.3**
comp=E,92nm,0.6s
BOK Bokaro 8.78 279 *eP* **Pn 15 11 32.4 +3.7**
BOK eS **Sn 15 13 07.4 +0.2**
RAMN Ramite 9.02 300 Pn **Pn 15 11 33.7 +1.6**
baz=313,slow=0.0
RAMN Sn **Sn 15 13 12.3 -1.1**
baz=313,slow=0.0
BWNR Bhubaneshwar 9.21 257 *eP* **Pn 15 11 38.0 +3.5**
BWNR eS **Sn 15 13 18.4 +0.8**
KNTI KHUNTI 9.30 274 *eP* **Pn 15 11 38.2 +2.4**
KNTI eS **Sn 15 13 22.3 +2.3**
EVN Everest 9.34 306 Pn 15 11 37.9 +1.0
KHON Khomkaen 9.45 131 P **Pn 15 11 39.6 +1.7**
comp=E,80nm,0.8s
GAYA Gaya 9.51 285 *eP* **Pn 15 11 38.0 -0.7**
GAYA eS **Sn 15 13 28.6 +3.5**
DGPR DIGLIPUR 9.73 194 *eP* **Pn 15 11 43.9 +2.2**
DGPR eS **Sn 15 13 30.9 +0.3**
STMR SITAMARHI 10.02 296 *eP* **Pn 15 11 48.4 +2.8**
STMR eS **Sn 15 13 42.7 +5.0**
GUN Gumba 10.03 303 Pn **Pn 15 11 47.9 +1.8**
baz=314,slow=0.0
GUN Sn **Sn 15 13 38.6 +0.2**
comp=E,3µm,0.8s,baz=314,slow=0.0
PKI Pulchoki 10.24 300 Pn **Pn 15 11 49.5 +0.5**
baz=312,slow=0.0
PKIN Phulchoki 10.26 300 Pn **Pn 15 11 49.7 +0.6**
baz=312,slow=0.0
PKIN Sn **Sn 15 13 41.9 -1.9**
comp=E,1µm,0.7s,baz=312,slow=0.0
KKN Kakani 10.44 301 Pn **Pn 15 11 52.8 +1.2**
baz=312,slow=0.0
KKN Sn **Sn 15 13 46.6 -1.7**
baz=312,slow=0.0
DMN Daman 10.50 300 Pn **Pn 15 11 52.8 +0.3**
baz=311,slow=0.0
DMN Sn **Sn 15 13 46.8 -3.0**

comp=E,1µm,0.7s,baz=311,slow=0.0
JHSG JHARSUGUGA 10.77 267 *eP* **Pn 15 12 00.5 +4.5**
JHSG eS **Sn 15 13 51.2 -4.9**
GYA Guiyang 10.95 68 ⇑P **Pn 15 12 00.0 +1.5**
GYA S **Sn 15 14 01.3 +0.6**
GYA pmax pmax
comp=E,62nm,1.0s
GYA pmax pmax
comp=E,1µm,4.1s
GYA LR LR
comp=E,22µm,8.9s
GYA LR LR
comp=E,32µm,8.7s
GYA LR LR
comp=E,45µm,9.2s
GKN Gorkha 11.05 301 Pn **Pn 15 12 00.4 +0.6**
baz=311,slow=0.0
GKN Sn **Sn 15 14 00.9 -2.1**
comp=E,2µm,0.8s,baz=311,slow=0.0
CD2 Chengdu 11.11 41 P **Pn 15 12 03.5 +3.0**
CD2 S **Sn 15 14 07.5 +3.2**
CD2 pmax pmax
comp=E,30nm,1.3s
CD2 pmax pmax
comp=E,4µm,4.3s
CD2 LR LR
comp=E,61µm,15.9s
CD2 LR LR
comp=E,60µm,15.9s
CD2 LR LR
comp=E,33µm,12.1s
PBA Port Blair 11.25 193 Pn **Pn 15 12 03.9 +1.4**
PBA Port Blair 11.25 193 P **Pn 15 12 04.8 +2.3**
GKPR Gorakhpur 11.56 293 *eP* Pn 15 12 23.1 +16
GKPR eS **Sn 15 14 17.8 +2.4**
KOLN Koldanda 11.79 298 Pn **Pn 15 12 08.6 -1.4**
baz=308,slow=0.0
KOLN Sn **Sn 15 14 14.6 -6.6**
comp=E,1µm,0.6s,baz=308,slow=0.0
DANN Dangsing 11.89 301 Pn **Pn 15 12 11.1 -0.5**
baz=310,slow=0.0
DANN Sn **Sn 15 14 20.6 -3.4**
comp=E,832nm,0.7s,baz=310,slow=0.0
BLSP Bilaspur 12.25 270 *eP* **Pn 15 12 18.9 +2.8**
BLSP eS **Sn 15 14 26.0 -6.3**
PYUN Piuthan 12.41 298 Pn **Pn 15 12 17.4 -1.2**
baz=308,slow=0.0
PYUN Sn **Sn 15 14 30.7 -5.8**
comp=E,930nm,0.7s,baz=308,slow=0.0
BRCI Bahraich 13.39 294 *eP* **P 15 12 37.4 -3.7**
BRCI eS **Sn 15 14 54.7 -5.4**
GOMU GeErMu 13.48 358 P **Pn 15 12 31.3 -1.9**
GOMU pP P 15 12 34.5 -8.0
GOMU sP 15 12 38.8
GOMU S **Sn 15 15 03.3 +0.6**
GOMU pmax pmax
comp=E,14nm,1.5s
GOMU LR LR
comp=E,9µm,11.6s
GOMU LR LR
comp=E,6µm,11.0s
GOMU LR LR
comp=E,9µm,11.6s
GULI GuiLin 13.96 76 P **Pn 15 12 39.8 +0.2**
GULI S **Sn 15 15 13.8 -0.3**
GULI pmax pmax
comp=E,62nm,1.3s
GULI pmax pmax
comp=E,1µm,4.9s
GULI LR LR
comp=E,8µm,11.9s
GULI LR LR
comp=E,6µm,8.7s
GULI LR LR
comp=E,4µm,10.8s
QIZ Qiongzhong 14.02 102 P **Pn 15 12 40.8 +0.4**
QIZ S **Sn 15 15 13.5 -2.1**
QIZ pmax pmax
comp=E,900nm,6.3s
QIZ LR LR
comp=E,50µm,14.4s
QIZ LR LR
comp=E,23µm,13.0s
QIZ LR LR
comp=E,15µm,8.2s
QIZ Qiongzhong 14.02 102 P **Pn 15 12 41.6 +1.2**
SURA Surathani 14.05 162 P **Pn 15 12 43.9 +3.1**
SURA Surathani 14.05 162 P **P 15 12 53.2 +4.7**
ENH Enshi 14.73 56 Pn 15 12 48.6 -1.4
ENH Enshi 14.73 56 P **Pn 15 12 51.1 +1.0**
PKDT Phuket 14.98 169 P **P 15 13 02.6 +3.7**
LGTI Lohaghat 15.15 300 *eP* **Pn 15 12 57.8 +2.1**
LGTI eS **Sn 15 15 36.9 -6.2**
PTH Pithoragarh 15.21 300 *eP* **Pn 15 12 57.8 +1.0**
PTH eS **Sn 15 15 41.0 -3.9**
LZH Lanzhou 15.26 27 *eP* **Pn 15 12 56.5 -0.7**
LZH pP P 15 13 01.0 -1.0
LZH sP pP 15 13 05.8 -1.5
LZH PP **sP 15 13 09.3 -0.5**
LZH S **Sn 15 15 44.5 -1.3**
LZH SS **S 15 16 04.5 +2.2**
LZH pmax pmax
comp=E,47nm,1.3s
LZH pmax pmax
comp=E,1µm,4.5s
LZH LR LR
comp=E,17µm,11.0s
LZH LR LR
comp=E,29µm,11.0s
LZH LR LR
comp=E,14µm,11.0s
JHNI Jhansi 15.61 284 *eP* **Pn 15 13 02.0 +0.3**
JHNI eS **Sn 15 15 45.9 -8.4**
JOSI Joshimath 16.15 302 *eP* **P 15 13 20.4 +8.4**
JOSI eS **Sn 15 15 58.2 -9.4**
TKRD Thakurdwara 16.18 297 *eP* **P 15 13 14.1 +2.0**
TKRD eS Sn 15 15 57.3 -11
AGRA Agra 16.43 290 *eP* **P 15 13 20.4 +5.6**
AGRA eS Sn 15 16 00.3 -14
XAN Xi'an 16.43 44 ⇓P **Pn 15 13 10.3 -1.9**
XAN PP **sP 15 13 23.8 +1.1**
XAN S **Sn 15 16 12.0 -2.1**
XAN SS **SnSn 15 16 32.8 +5.4**
XAN pmax pmax
comp=E,230nm,0.9s
XAN pmax pmax
comp=E,2µm,4.5s
XAN LR LR
comp=E,15µm,12.4s
XAN LR LR
comp=E,25µm,12.4s
XAN LR LR
comp=E,36µm,12.0s
DLV Lat 16.45 128 Pn 15 13 09.9 -2.9
DLV Lat 16.45 128 P **P 15 13 15.6 +0.2**
BHPL Bhopal 16.53 275 *eP* **P 15 13 16.8 +0.7**
BHPL eS **Sn 15 16 17.9 +1.2**
GZH Guangzhou 16.58 85 P **P 15 13 17.0 +0.4**
GZH S **Sn 15 16 23.0 +5.1**
GZH SS **SnSn 15 16 38.0 +7.0**
GZH LR LR
comp=E,10µm,4.9s
GZH LR LR
comp=E,13µm,7.1s
GZH LR LR
comp=E,34µm,7.6s
GUNA GUNA 16.63 280 *eP* P 15 13 32.7 +16
GUNA eS **Sn 15 16 18.7 -0.5**
HYB Hyderabad 16.63 255 *eP* **P 15 13 19.2 +1.9**
HYB IVmB_BB 15 13 22.4
comp=Z,959nm,3.3s
HYB eS **S 15 16 35.4 +4.9**
HYB IVMs_BB IVMs_BB 15 24 00.3
comp=Z,4µm,8.4s
UGON Onchagaon 16.71 293 *eP* **Pn 15 13 16.1 +0.3**
UGON eS Sn 15 16 03.5 -18
CNSH ChangSha 16.79 67 P **P 15 13 19.0 +0.1**
CNSH S **S 15 16 30.0 -3.4**
CNSH LR LR
comp=Z,16µm,7.7s
CNSH LR LR
comp=Z,36µm,9.8s
CNSH LR LR
comp=Z,40µm,8.8s
NRDN NARMADA NAGAR 16.79 274 *eP* P 15 13 28.4 +9.4
NRDN eS **Sn 15 16 27.9 +5.0**
GTA Gaotai 17.10 12 P **Pn 15 13 18.8 -2.0**
GTA sP sP 15 13 32.0 +1.8
GTA S **Sn 15 16 31.8 +1.3**
GTA SS **SnSn 15 16 48.3 +4.1**
GTA pmax pmax
comp=Z,26nm,1.7s
GTA pmax pmax
comp=Z,640nm,7.6s
GTA LR LR
comp=Z,6µm,15.5s
GTA LR LR
comp=Z,37µm,17.1s
GTA LR LR
comp=Z,7µm,17.9s
AKL Akola 17.16 267 *eP* **P 15 13 24.5 +1.4**
AKL eS **Sn 15 16 31.0 -1.0**
MDRS Chennai 17.26 239 *eP* **P 15 13 26.7 +2.6**
MDRS eS **Sn 15 16 27.5 -6.8**
LDR Lodi Road 17.38 294 *eP* P 15 13 40.6 +15
LDR eS **Sn 15 16 27.9 -9.2**
NDI New Delhi 17.40 294 *eP* **P 15 13 28.4 +2.7**
NDI eS Sn 15 16 23.9 -14
AYAN Aya Nagar 17.43 293 *eP* **P 15 13 26.6 +0.7**
AYAN eS Sn 15 16 20.8 -18
NPLP NPLP New Delhi 17.43 294 *eP* **P 15 13 28.4 +2.4**
NPLP eS Sn 15 16 23.9 -15
NRLA Narela 17.53 294 *eP* P 15 13 34.5 +7.4
NRLA eS **Sn 15 16 32.0 -8.9**
KLP Kalpa 17.58 304 *eP* **P 15 13 30.4 +2.4**
KLP eS **Sn 15 16 36.1 -6.5**
KUDL Kundal 17.89 292 *eP* **P 15 13 32.5 +1.5**
KUDL eS **Sn 15 16 40.2 -9.3**
KULM Kulim 18.03 163 Pn 15 13 31.2 -1.1
KULM Kulim 18.03 163 P **P 15 13 34.7 +2.0**
SMLA Simla 18.26 301 *eP* **P 15 13 36.1 +1.0**
SMLA eS **Sn 15 16 49.6 -8.8**
SMLA Simla 18.26 301 *eP* P 15 13 43.6 +8.5
SMLA eS **Sn 15 16 50.0 -8.4**
SMLA IAML 15 16 55.5
comp=N,197nm,0.7s
SMLA IAML 15 16 58.5
comp=E,241nm,0.7s
MLSI Meulaboh, Aceh 18.34 177 P **Pn 15 13 37.0 +0.9**
comp=E,8µmcomp=E,436nm,1.0s
WHN Wuhan 18.68 61 ⇑P **Pn 15 13 40.5 +0.3**
WHN S **Sn 15 17 08.3 -0.4**
WHN pmax pmax
comp=E,310nm,1.0s
WHN pmax pmax
comp=E,7µm,9.0s
WHN LR LR
comp=E,46µm,10.1s
WHN LR LR
comp=E,33µm,10.6s
WHN LR LR
comp=E,27µm,9.5s
IPM Ipoh 18.91 162 P 15 13 41.6 -0.8
IPM Ipoh 18.91 162 P **Pn 15 13 44.4 +1.4**
BHK Bhakra 18.96 301 *eP* Pn 15 13 51.2 +7.6
BHK eS **Sn 15 17 10.0 -5.6**
LYN LuoYang 19.08 48 ⇑*i* P **Pn 15 13 44.5 -0.5**
LYN pP pP 15 13 49.5 0.0
LYN sP sP 15 13 52.0 0.0
LYN S **Sn 15 17 15.3 -3.1**
LYN sS S 15 17 19.5 -0.5
LYN SS **SnSn 15 17 43.5 +11**
LYN pmax pmax
comp=E,100nm,1.0s
LYN pmax pmax
comp=E,3µm,7.8s
LYN LR LR
comp=E,45µm,13.7s
LYN LR LR
comp=E,22µm,12.4s
LYN LR LR
comp=E,21µm,15.8s
KCSI Kotacane, Aceh 19.19 173 P **Pn 15 13 47.0 +0.6**
comp=E,2µmcomp=E,115nm,1.0s
TSI Tuntungan 19.32 170 P **Pn 15 13 50.8 +2.8**
comp=E,3µmcomp=E,8µmcomp=E,573nm,1.3s
DHRM DHARAMSHALA 19.39 304 *eP* **Pn 15 13 51.9 +3.0**
DHRM eS **Sn 15 17 18.2 -7.9**
TLWR Talawar 19.53 302 *eP* Pn 15 14 01.0 +11
TLWR eS S 15 17 16.9 -12
UDPR Udaipur 19.92 280 *eP* **Pn 15 13 54.9 -0.3**
UDPR eS **S 15 17 31.2 -5.9**
PSI Prapat 20.06 170 P Pn 15 13 57.1 +0.2
comp=E,26nm,0.8s,baz=340,slow=11,SNR=14
PSI S Sn 15 17 48.8 +6.3
comp=E,3.0nm,0.5s,baz=214,slow=19,SNR=1.0
PSI Lg Lg 15 20 08.0
baz=260,slow=18
PSI LR LR 15 23 35.4
comp=E,11µm,18.1s,baz=339,slow=42
comp=E,26nm,0.8s
PSI Prapat 20.06 170 P Pn 15 13 59.8 +2.8
RPSI Rantau Prapat 20.17 170 Sn 15 17 48.8 +4.0
RPSI Rantau Prapat 20.17 170 P **P 15 13 55.9 -0.2**
POO Poona 20.55 262 *eP* Pn 15 14 04.5 +1.9
POO eS **S 15 17 43.5 -6.1**
KAD Karad 20.60 259 *eP* Pn 15 14 03.1 -0.1
KAD eS **S 15 17 49.5 -1.0**
BKNR BIKANER 20.64 289 *eP* Pn 15 14 05.5 +2.0
BKNR eS **S 15 17 46.9 -4.4**
JMU Jammu 20.66 303 *eP* Pn 15 14 03.5 -0.2
JMU eS **S 15 17 51.0 -0.5**
PALK Pallekele 20.83 225 Pn 15 14 05.1 -0.8
PALK IAmb IAmb 15 14 13.3
comp=Z,369nm,1.4s
PALK Pallekele 20.83 225 P Pn 15 14 06.3 +0.5
comp=Z,56nm,0.6s,baz=40,slow=9.9,SNR=34
PALK S **S 15 17 47.9 -7.3**
comp=Z,12nm,0.8s,baz=212,slow=9.4,SNR=2.8
PALK LR LR 15 23 34.3
comp=Z,3µm,18.1s,baz=50,slow=41
PALK Pallekele 20.83 225 P Pn 15 14 07.1 +1.2
PALK P Pn 15 14 07.1 +1.2
PALK S Sn 15 18 02.4 +1.6
PALK S Sn 15 18 02.4 +1.6
PALK Pallekele 20.83 225 *de* P Pn 15 14 06.8 +0.9
PALK pmax pmax
comp=Z,161nm,1.3s
TIY Taiyuan 20.98 41 P **P 15 14 04.5 -0.3**
TIY S **S 15 17 55.3 -2.6**
TIY pmax pmax
comp=Z,86nm,0.9s
TIY pmax pmax
comp=Z,1µm,6.7s
TIY LR LR
comp=Z,7µm,10.5s
TIY LR LR
comp=Z,5µm,9.6s
TIY LR LR
comp=Z,6µm,12.4s
KOD Kodaikanal 21.13 237 *eP* **P 15 14 11.2 +4.4**
KOD eS **S 15 17 59.8 -1.8**
QZH Quanzhou 21.37 79 P **P 15 14 13.0 +3.9**
QZH S **S 15 18 07.3 +1.6**
QZH LR LR
comp=Z,96µm,11.7s
QZH LR LR
comp=Z,16µm,12.0s
QZH LR LR
comp=Z,19µm,7.8s
BTO Baotou 21.74 31 *eP* **P 15 14 12.5 -0.6**
BTO pP **pP 15 14 16.3 -2.2**
BTO sP **sP 15 14 19.8 -1.1**
BTO PP **PnPn 15 14 36.5 +2.2**
BTO PcP **PcP 15 18 13.5 +0.1**
BTO pmax pmax
comp=Z,38nm,0.9s
BTO pmax pmax
comp=Z,980nm,3.9s
BTO LR LR
comp=Z,26µm,11.6s
BTO LR LR
comp=Z,14µm,10.8s
BTO LR LR
comp=Z,18µm,11.0s
WMQ Urumqi 22.01 345 *eP* **P 15 14 18.0 +2.1**
MNSI Mandailing Nat 22.14 169 P **P 15 14 17.9 +0.5**
comp=Z,2µmcomp=Z,63nm,0.7s
HNS HongShan 22.20 44 ⇓P **P 15 14 19.0 +1.1**

HNS S **S** **15 18 19.5 -2.1**
HNS pmax pmax
comp=Z,86nm,1.2s
HNS pmax pmax
comp=Z,2µm,9.9s
HNS LR LR
comp=Z,26µm,15.1s
HNS LR LR
comp=Z,19µm,14.5s
HNS LR LR
comp=Z,13µm,16.3s
NIL Nilore 22.30 304 P **P** **15 14 19.6 +0.5**
NIL Nilore 22.30 304 P **P** **15 14 20.7 +1.7**
NIL Nilore 22.30 304 P **P** **15 14 19.6 +0.5**
NIL pmax pmax
comp=Z,295nm,1.2s
MYKOM Kota Tinggi 22.35 157 P **P** **15 14 18.9 -0.7**
MYKOM IAmb IAmb 15 14 31.4
comp=Z,327nm,1.8s
MYKOM Kota Tinggi 22.35 157 P **P** **15 14 22.1 +2.5**
JASL Jaisalmer 22.59 286 *e*P **P** **15 14 28.1 +5.9**
JASL *e*S Sn 15 18 46.3 +3.5
HHC Hu-ho-hao-te 22.69 33 *e*P **P** **15 14 25.5 +2.3**
HHC pP pP 15 14 29.3 +0.7
HHC sP sP 15 14 34.5 +3.4
HHC PP **PnPn** **15 14 54.5 +7.3**
HHC S **S** **15 18 25.0 -5.8**
HHC sS pS 15 18 34.8 -2.3
HHC SS **SnSn** **15 19 10.0 +8.9**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,1µm,5.8s
HHC LR LR
comp=Z,11µm,13.3s
HHC LR LR
comp=Z,21µm,13.1s
HHC LR LR
comp=Z,10µm,13.5s
BTDF Bukit Timah Da 22.72 158 P **P** **15 14 27.6 +4.0**
PBSI Pulau Batu 22.78 172 P **P** **15 14 27.8 +3.6**
comp=Z,6µmcomp=Z,234nm,0.9s
NJ2 Nanjing 22.82 61⇑*i*P **P** **15 14 24.8 +0.3**
NJ2 S **S** **15 18 35.8 +2.8**
NJ2 pmax pmax
comp=Z,56nm,1.0s
NJ2 LR LR
comp=Z,17µm,9.4s
NJ2 LR LR
comp=Z,10µm,11.2s
NJ2 LR LR
comp=Z,7µm,10.4s
BKNI Bangkinang 22.90 165 IAMs_20 IAMs_20 15 23 53.4
comp=Z,8µm,19.0s
TIA Tai'an 23.19 50 P **P** **15 14 28.0 -0.4**
TIA S **S** **15 18 35.0 -4.3**
TIA pmax pmax
comp=Z,140nm,0.8s
TIA LR LR
comp=Z,20µm,14.1s
TIA LR LR
comp=Z,10µm,13.4s
TIA LR LR
comp=Z,14µm,12.0s
TPUB Ta-pu 23.27 84 P **P** **15 14 30.7 +1.4**
TPRI Tanjung Pinang 23.40 156 P **P** **15 14 33.7 +3.1**
comp=Z,3µmcomp=Z,98nm,1.4s
PPI Padang Panjang 23.52 167 P **P** **15 14 33.4 +1.7**
KSH Kashi 23.52 320 P **P** **15 14 33.0 +1.2**
KSH pP pP 15 14 37.3 0.0
KSH S **S** **15 18 44.8 -0.1**
KSH pmax pmax
comp=Z,130nm,1.0s
KSH LR LR
comp=Z,10µm,13.2s
KSH LR LR
comp=Z,8µm,12.6s
KSH LR LR
comp=Z,5µm,12.9s
SSLB Suanglung 23.54 82 P **P** **15 14 30.0 -2.0**
SSLB Suanglung 23.54 82 P **P** **15 14 33.6 +1.6**
TWG Pinlang 23.71 85 P **P** **15 14 34.4 +0.8**
TWG IAmb IAmb 15 14 36.4
comp=Z,158nm,1.2s
TWGBT Beinan 23.71 85 P **P** **15 14 37.0 +3.4**
YHNB Yeheng 23.90 80 P **P** **15 14 35.0 -0.5**
YHNB IAmb IAmb 15 14 38.1
comp=Z,311nm,2.0s
YHNB Yeheng 23.90 80 P **P** **15 14 37.5 +2.0**
PDSI Padang 23.97 167 P **P** **15 14 37.0 +0.9**
comp=Z,94nm,1.2s
NACB Ninganchiao 24.11 81 P **P** **15 14 35.9 -1.5**
NACB Ninganchiao 24.11 81 P **P** **15 14 39.6 +2.2**
SISI Saibi 24.14 171 P **P** **15 14 39.9 +2.3**
comp=Z,179nm,1.3s
PRZ Przheval'sk 24.29 328 P **P** **15 14 38.9 -0.2**
PRZ Przheval'sk 24.29 328 P **P** **15 14 38.9 -0.2**
PRZ pmax pmax
comp=Z,535nm,1.2s
SHLS Shalkode 24.31 331 *e*P **P** **15 14 38.1 -1.1**
SHLS *e*S **S** **15 18 57.1 -0.3**
SHLS pmax pmax
comp=Z,97nm,1.1s
SHLS Shalkode 24.31 331 *e*P **P** **15 14 38.2 -1.1**
comp=Z,97nm,1.1s
SHLS *e*S **S** **15 18 57.2 -0.3**
PDGK Podgornoye 24.43 331 P **P** **15 14 41.5 +1.2**
SSE Sheshan 24.47 64 P **P** **15 14 39.5 -1.1**
SSE S **S** **15 19 00.5 +0.6**
SSE pmax pmax
comp=Z,42nm,1.2s
SSE pmax pmax
comp=Z,290nm,6.3s
SSE LR LR
comp=Z,2µm,16.9s
SSE LR LR
comp=Z,5µm,17.0s
UZB Uzynbulak 24.50 330 *e*P **P** **15 14 41.5 +0.6**
UZB *e*S **S** **15 19 03.2 +2.6**
UZB pmax pmax
comp=Z,120nm,1.2s
UZB Uzynbulak 24.50 330 *e*P **P** **15 14 41.6 +0.6**
comp=Z,120nm,1.2s
UZB *e*S **S** **15 19 03.2 +2.6**
BJT Baijiatuau 24.69 41 IAmb IAmb 15 14 48.6
comp=Z,214nm,1.6s
BJT Baijiatuau 24.69 41 P **P** **15 14 45.7 +3.2**
BJI Beijing 24.71 41 P **P** **15 14 43.3 +0.7**
BJI pP **pP** **15 14 47.5 -0.9**
BJI sP **sP** **15 14 49.5 -1.2**
BJI PP **PnPn** **15 15 19.8 +5.1**
BJI S **S** **15 19 00.5 -3.1**
BJI pmax pmax
comp=Z,36nm,1.3s
BJI pmax pmax
comp=Z,770nm,3.6s
BJI LR LR
comp=Z,5µm,16.1s
BJI LR LR
comp=Z,5µm,16.4s
BJI LR LR
comp=Z,3µm,11.9s
DSRI Dabo 24.71 157 P **P** **15 14 45.9 +3.0**
comp=Z,3µmcomp=Z,116nm,1.3s
SATY Saty 24.72 329 *e*P **P** **15 14 43.6 +0.7**
SATY *e*S **S** **15 19 06.8 +2.7**
SATY pmax pmax
comp=Z,95nm,1.1s
SATY Saty 24.72 329 *e*P **P** **15 14 43.6 +0.7**
comp=Z,95nm,1.1s
SATY *e*S **S** **15 19 06.8 +2.7**
KPKS Kokpek 24.91 330 *e*P **P** **15 14 45.1 +0.6**
KPKS Kokpek 24.91 330 *e*P **P** **15 14 45.2 +0.6**
ULHL Ulahol 25.21 325 P **P** **15 14 49.7 +2.3**
SNR=27
TNSS Tian-Shan 25.41 327 *e*P **P** **15 14 49.9 +0.4**
TNSS Tian-Shan 25.41 327 *e*P **P** **15 14 50.0 +0.4**
MDOK Medeo 25.46 328 *e*P **P** **15 14 50.1 +0.5**
MDOK *e*S **S** **15 19 18.4 +2.6**
MDOK Medeo 25.46 328 *e*P **P** **15 14 50.2 +0.6**
MDOK *e*S **S** **15 19 18.5 +2.6**
MDOK LR LR 15 26 23.0
KSM Kuching 25.60 143 P **P** **15 14 50.2 -0.8**
KSM IAmb IAmb 15 14 56.7
comp=Z,122nm,1.5s

KSM Kuching 25.60 143 P **P** **15 14 53.2 +2.2**
PPSI Pulau Pagai 25.70 169 P **P** **15 14 54.7 +2.9**
TGY Tagaytay City 25.70 105 LR LR 15 24 22.7
comp=Z,2µm,20.4s,baz=282,slow=35
KBL Kabul 25.87 303 **P** **15 14 54.2 +0.7**
KBL IAmb IAmb 15 15 06.4
comp=Z,95nm,0.8s
KBL Kabul 25.87 303 P **P** **15 14 54.2 +0.7**
KBL pmax pmax
comp=Z,95nm,0.9s
KBL MLR MLR
comp=Z,4µm,18.0s
ARXS Arharly 25.88 330 *e*P **P** **15 14 54.3 +1.0**
SBUM Sibu 25.93 138 P **P** **15 14 53.5 -0.4**
SBUM Sibu 25.93 138 P **P** **15 14 55.7 +1.8**
TKM2 Tokmak 2 26.02 326 P **P** **15 14 56.5 +1.7**
SNR=132
KKM Kota Kinabalu 26.05 126 IAMs_20 IAMs_20 15 24 59.9
comp=Z,9µm,20.0s
KKM Kota Kinabalu 26.05 126 P **P** **15 14 57.9 +2.8**
ZSN Zaisan 26.11 344 *e*P **P** **15 14 55.9 +0.6**
ZSN *e*S **S** **15 19 28.4 +2.5**
ZSN Zaisan 26.11 344 *e*P **P** **15 14 56.0 +0.6**
ZSN *e*S **S** **15 19 28.4 +2.5**
UCH Uchtor 26.13 323 P **P** **15 14 58.0 +1.9**
SNR=66
KBK Karagaybulak 26.18 324 P **P** **15 14 58.4 +2.1**
SNR=38
TDK Taldyqorghan 26.24 332 *e*P **P** **15 14 57.0 +0.5**
TDK pmax pmax
comp=Z,94nm,1.2s
TDK MLR MLR
comp=Z,4µm,12.0s
TDK Taldyqorghan 26.24 332 *e*P **P** **15 14 57.0 +0.5**
comp=Z,94nm,1.2s
TDK LR LR 15 27 27.4
comp=Z,4µm,12.3s
MK31 Makanchi Array 26.27 339 *i* P **P** **15 14 57.3 +0.5**
MK31 pmax pmax
comp=Z,307nm,1.0s
MKAR Makanchi Array 26.27 339 P **P** **15 14 57.1 +0.3**
MKAR Makanchi Array 26.27 339 P **P** **15 14 57.4 +0.6**
comp=Z,34nm,0.5s,baz=147,slow=10,SNR=307
MKAR PcP **PcP** **15 18 22.9 0.0**
comp=Z,3.0nm,0.4s,baz=134,slow=6.2,SNR=5.6
MKAR S **S** **15 19 31.8 +3.4**
comp=Z,0.7nm,0.8s,baz=163,slow=12,SNR=0.5
MKAR ScP **ScP** **15 22 02.0 +0.2**
comp=Z,1.5nm,1.0s,baz=155,slow=4.8,SNR=2.4
MKAR LR LR 15 26 32.8
comp=Z,4µm,21.1s,baz=153,slow=39
MKAR P3KPbc 15 47 41.4
comp=Z,0.7nm,0.8s,baz=359,slow=5.6,SNR=5.5
comp=Z,34nm,0.5s
KUU Kurty 26.34 328 *e*P **P** **15 14 58.1 +0.7**
KUU pmax pmax
comp=Z,51nm,1.0s
KUU MLR MLR
comp=Z,4µm,11.0s
KUU Kurty 26.34 328 *e*P **P** **15 14 58.2 +0.7**
comp=Z,52nm,1.0s
KUU LR LR 15 27 25.1
comp=Z,4µm,10.7s
MAKZ Makanchi 26.39 339 P **P** **15 14 58.7 +0.9**
MAKZ IAmb IAmb 15 15 06.5
comp=Z,115nm,0.9s
MAKZ Makanchi 26.39 339 P **P** **15 14 58.7 +0.9**
MAKZ pmax pmax
comp=Z,115nm,0.9s
MAKZ MLR MLR
comp=Z,1µm,19.0s
AAK Ala-Archa 26.41 324 P **P** **15 15 00.2 +1.8**
AAK IAmb IAmb 15 15 06.4
comp=Z,115nm,0.8s
AAK Ala-Archa 26.41 324 LR LR 15 25 58.1
comp=Z,3µm,20.8s,baz=138,slow=38
AAK Ala-Archa 26.41 324 P **P** **15 15 01.1 +2.8**
AAK S **S** **15 19 31.6 +0.5**
AAK Ala-Archa 26.41 324 P **P** **15 15 00.4 +2.1**
SNR=54
AAK Ala-Archa 26.41 324*c**e*P **P** **15 15 00.1 +1.8**
AAK pmax pmax
comp=Z,78nm,0.9s
AAK MLR MLR
comp=Z,3µm,15.0s
AAK Ala-Archa 26.41 324 *i* P **P** **15 15 00.4 +2.1**
SNR=90
ARSB Arslanbob 26.43 320 P **P** **15 14 58.8 +0.3**
ARSB Arslanbob 26.43 320 P **P** **15 14 58.8 +0.3**
ARSB pmax pmax
comp=Z,63nm,0.9s
FRU1 Bishkek 26.46 324 IAmb IAmb 15 15 02.6
comp=Z,108nm,1.0s
CHMS Chumysh 26.52 325 P **P** **15 15 00.7 +1.6**
SNR=24
MASI Maura Aman, Be 26.53 164 P **P** **15 15 01.7 +2.3**
comp=Z,2µmcomp=Z,79nm,0.9s
HMDM Hanimaadhoo 26.58 237 P **P** **15 15 06.6 +6.7**
SONM Songino Array 26.61 17 P **P** **15 15 00.3 +0.3**
comp=Z,22nm,0.8s,baz=201,slow=10,SNR=53
SONM PcP **PcP** **15 18 23.4 -0.4**
comp=Z,3.2nm,0.6s,baz=206,slow=4.1,SNR=4.2
SONM ScP **ScP** **15 22 02.5 -0.5**
comp=Z,0.8nm,0.4s,baz=208,slow=2.8,SNR=3.7
SONM LR LR 15 26 30.7
comp=Z,3µm,20.0s,baz=206,slow=39
comp=Z,22nm,0.8s
ULN Ulaanbaatar 26.82 18 **P** **15 15 01.8 0.0**
ULN Ulaanbaatar 26.82 18 P **P** **15 15 00.8 -1.0**
ULN S **S** **15 19 36.1 -1.2**
ULN Ulaanbaatar 26.82 18*c i*P **P** **15 15 01.9 0.0**
ULN pmax pmax
comp=Z,30nm,1.0s
ULN MLR MLR
comp=Z,4µm,14.0s
EKS2 Erkin-Say 26.82 323 P **P** **15 15 04.3 +2.3**
SNR=86
GAR Garm 26.83 313 P **P** **15 15 03.6 +1.5**
USP Ospenovka 26.84 325 P **P** **15 15 03.7 +1.7**
SNR=52
SGDS Sogindy 26.90 325 *e*P **P** **15 15 03.4 +0.9**
XLT XiLinHaoTe 27.20 34 *e*P **P** **15 15 06.0 +0.7**
XLT pP pP 15 15 10.0 -1.1
XLT sP sP 15 15 15.5 +2.1
XLT PcP **PcP** **15 18 30.5 +5.2**
XLT S **S** **15 19 44.3 +1.0**
XLT SS **SnSn** **15 20 55.3 +3.9**
XLT pmax pmax
comp=Z,100nm,1.1s
XLT LR LR
comp=Z,10µm,17.9s
XLT LR LR
comp=Z,5µm,11.5s
STKI Sintang 27.41 143 P **P** **15 15 10.1 +2.8**
comp=Z,74nm,1.0s
CHGR Chuyangaron 27.46 311 **P** **15 15 08.7 +1.0**
CHGR IAmb IAmb 15 15 50.3
comp=Z,99nm,0.8s
CHGR Chuyangaron 27.46 311 P **P** **15 15 08.7 +1.0**
CHGR pmax pmax
comp=Z,99nm,0.8s
LHSI Lahat 27.53 162 P **P** **15 15 11.9 +3.6**
comp=Z,1µmcomp=Z,47nm,1.1s
SIMJ Simiganj 27.56 311 **P** **15 15 09.6 +1.0**
DL2 Dalian 27.62 48 P **P** **15 15 08.5 -0.5**
DL2 S **S** **15 19 51.5 +1.7**
DL2 pmax pmax
comp=Z,39nm,0.8s
DL2 pmax pmax
comp=Z,620nm,10.9s
DL2 LR LR
comp=Z,10µm,13.2s
DL2 LR LR
comp=Z,7µm,17.8s
DL2 LR LR
comp=Z,10µm,18.2s
BTLS Baital 28.31 327*c i*P **P** **15 15 15.9 +0.8**
BTLS Baital 28.31 327⇑*i*P **P** **15 15 15.9 +0.8**
MYLDM Lahad Datu 28.33 124 IAmb IAmb 15 15 40.6
comp=Z,152nm,1.7s
MYLDM Lahad Datu 28.33 124 P **P** **15 15 18.4 +2.9**
ZAK Zakamensk 28.34 11 *e*P **P** **15 15 15.1 -0.3**
ZAK pmax pmax
comp=Z,47nm,1.6s
MDSI Maura Dua 28.35 161 P **P** **15 15 16.4 +0.8**
comp=Z,55nm,1.1s

DZA Taraz 28.36 321 *e*P **P** **15 15 16.7 +1.1**
DZA Taraz 28.36 321 *e*P **P** **15 15 16.8 +1.1**
IUG Iuzhnay 28.70 319 *e*P **P** **15 15 19.4 +0.7**
IUG pmax pmax
comp=Z,59nm,1.0s
IUG Iuzhnay 28.70 319 *e*P **P** **15 15 19.5 +0.7**
comp=Z,59nm,1.0s
LWLI Liwa 28.82 162 P **P** **15 15 22.4 +2.5**
comp=Z,96nm,0.9s
KK31 Karatay Array 28.97 321 *e*P **P** **15 15 22.0 +1.0**
KKAR Karatay Array 28.97 321 **P** **15 15 21.5 +0.5**
KKAR Karatay Array 28.97 321 P **P** **15 15 21.5 +0.5**
CHM Chimkent 29.06 318 *e*P **P** **15 15 22.8 +1.0**
CHM pmax pmax
comp=Z,31nm,0.8s
CHM Chimkent 29.06 318 *e*P **P** **15 15 22.9 +1.0**
comp=Z,31nm,0.8s
CHM LR LR 15 28 32.4
MOY Mondy 29.26 7 *e*P **P** **15 15 25.2 +1.6**
MOY pmax pmax
comp=Z,31nm,2.4s
BRLS Borolday 29.32 320*c i*P **P** **15 15 24.5 +0.4**
BRLS Borolday 29.32 320⇑*i*P **P** **15 15 24.6 +0.4**
KASI Kota Agung 29.42 161 P **P** **15 15 25.3 +0.1**
JOW Kunigami 30.13 75 IAMs_20 IAMs_20 15 27 56.6
comp=Z,6µm,20.0s
JOW Kunigami 30.13 75 *e*P P 15 15 21.9 -10
comp=Z,233nm,26.0s
JOW *e*S **S** **15 20 29.2 -0.3**
comp=Z,3µm,25.4s
JOW *e*LR LR 15 23 10.1
comp=Z,4µm,23.3s
HJU Haeju 30.18 53 P **P** **15 15 31.5 -0.2**
HJU S **S** **15 20 26.0 -4.0**
HJU AmB
comp=Z,118nm,1.1s
HJU AMS AMS
comp=Z,4µm,11.9s
IRK Irkutsk 30.30 11 *e*P **P** **15 15 33.5 +0.9**
IRK pmax pmax
comp=Z,107nm,2.2s
SNY Shenyang 30.35 44⇓P **P** **15 15 33.0 -0.2**
SNY S **S** **15 20 36.8 +4.2**
SNY pmax pmax
comp=Z,27nm,0.9s
SNY pmax pmax
comp=Z,330nm,12.1s
SNY LR LR
comp=Z,6µm,18.0s
SNY LR LR
comp=Z,3µm,17.5s
SNY LR LR
comp=Z,5µm,13.7s
PYAG Pyongyang 30.59 51 P **P** **15 15 34.6 -0.7**
PYAG S **S** **15 20 31.4 -5.0**
PYAG AmB
comp=Z,70nm,1.3s
PYAG AMS AMS
comp=Z,4µm,11.6s
KURBB Kurchatov Arra 30.83 339 P **P** **15 15 37.8 +0.4**
comp=Z,13nm,0.5s,baz=145,slow=9.7,SNR=127
KURBB PcP **PcP** **15 18 33.9 -0.2**
comp=Z,6.1nm,0.7s,baz=167,slow=2.2,SNR=5.4
KURBB ScP **ScP** **15 22 17.7 +1.7**
comp=Z,1.5nm,0.8s,baz=171,slow=2.4,SNR=3.6
KURBB LR LR 15 28 17.1
comp=Z,2µm,21.1s,baz=156,slow=37
KURBB P3KPbc 15 47 24.2
comp=Z,1.2nm,0.7s,baz=324,slow=4.7,SNR=15
comp=Z,13nm,0.5s
TJN Taejon 30.85 57 P **P** **15 15 40.5 +2.8**
TJN Taejon 30.85 57*de*P **P** **15 15 36.9 -0.8**
KURK Kurchatov 30.88 339 **P** **15 15 38.0 +0.2**
KURK Kurchatov 30.88 339 P **P** **15 15 38.1 +0.4**
KURK S **S** **15 20 42.6 +1.8**
KURK Kurchatov 30.88 339*c i*P **P** **15 15 38.0 +0.2**
KURK pmax pmax
comp=Z,19nm,0.8s
KURK MLR MLR
comp=Z,3µm,17.0s
KAAM Kaadhehdhoo 30.98 228 P **P** **15 15 41.7 +2.7**
DBJI Dramaga 31.12 158 P **P** **15 15 41.7 +1.5**
comp=Z,61nm,0.9s
NGCH Negor - Chabah 31.32 282 P **P** **15 15 44.8 +2.8**
NGCH S **S** **15 20 52.4 +4.2**
KSAR Wonju Array Be 31.58 55 P **P** **15 15 42.8 -1.3**
KSAR Wonju Array Be 31.58 55 P **P** **15 15 42.8 -1.3**
KSRS Korea Array 31.61 55 P **P** **15 15 43.2 -1.2**
comp=Z,11nm,1.0s,baz=246,slow=9.0,SNR=15
comp=Z,11nm,1.0s
HHU Hamhung 32.19 50 P **P** **15 15 48.3 -1.1**
HHU S **S** **15 20 56.6 -4.9**
HHU AmB
comp=Z,146nm,1.5s
HHU AMS AMS
comp=Z,3µm,8.8s
ZALV Zalesovo Beam 32.22 348 P **P** **15 15 49.3 -0.2**
comp=Z,6.4nm,0.4s,baz=170,slow=10,SNR=30
ZALV PcP **PcP** **15 18 36.9 -0.9**
comp=Z,2.4nm,0.4s,baz=183,slow=3.0,SNR=5.1
ZALV ScP **ScP** **15 22 21.8 +1.2**
comp=Z,1.3nm,0.6s,baz=131,slow=4.0,SNR=2.6
comp=Z,6.4nm,0.4s
ZALV Zalesovo Beam 32.22 348 *i* P **P** **15 15 49.5 0.0**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
CIT Chita 32.47 21 *e*P **P** **15 15 52.0 +0.1**
CIT *e* 15 15 56.2
CIT *e* 15 16 54.0
CIT *e* 15 18 37.4
CIT *e*S **S** **15 21 08.8 +3.1**
CIT pmax pmax
comp=Z,136nm,1.9s
CN2 Changchun 32.53 42 *e*P **P** **15 15 55.5 +3.1**
CN2 *e*pP sP 15 16 00.3 -0.3
CN2 *e*S **S** **15 21 07.8 +1.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,2µm,11.0s
CN2 LR LR
comp=Z,2µm,11.0s
CN2 LR LR
comp=Z,2µm,12.0s
BRZS Berezniki 32.55 332 *e*P **P** **15 15 53.1 +0.6**
BRZS Berezniki 32.55 332 *e*P **P** **15 15 53.1 +0.6**
KPJI Karang Pucung 32.66 154 P **P** **15 15 55.6 +1.9**
TOLI2 Tolitoli 32.72 127 P **P** **15 15 56.2 +1.9**
HIA Hailar 32.78 30 IAMs_20 IAMs_20 15 30 44.9
comp=Z,5µm,19.0s
HIA Hailar 32.78 30 P **P** **15 15 56.3 +1.7**
JNU Nakatsue 32.93 64 LR LR 15 28 56.5
comp=Z,3µm,20.5s,baz=249,slow=36
JNU Nakatsue 32.93 64 P **P** **15 15 59.8 +3.7**
DAV Davao City (W) 32.97 113 LR LR 15 29 28.7
comp=Z,3µm,18.9s,baz=287,slow=37
SMRI Semarang 33.03 152 IAMs_20 IAMs_20 15 30 19.9
comp=Z,6µm,18.0s
SMRI Semarang 33.03 152 P **P** **15 16 00.7 +3.7**
SMRI Semarang 33.03 152 P **P** **15 16 00.6 +3.6**
JLN Jalan Bani Buh 33.19 276 P **P** **15 16 01.6 +3.2**
SNR=6.6
JLN P **P** **15 16 01.6 +3.2**
SNR=6.6
WSAR Wadi Sarin 33.77 278 LR LR 15 31 32.3
comp=Z,15nm,19.9s,baz=106,slow=40
WSAR Wadi Sarin 33.77 278 P **P** **15 16 07.8 +4.4**
NGJI Ngawi 33.77 150 P P 15 16 08.2 +4.8
BIDO Bidbid 34.20 279 P **P** **15 16 10.2 +3.0**
SNR=11
JASK Jask - Hormozg 34.25 283 P **P** **15 16 11.1 +3.5**
SMDO Samad 34.32 278 P **P** **15 16 11.6 +3.3**
SNR=8.3
SMDO P **P** **15 16 11.6 +3.3**
SNR=8.3
JMDO Jabal Madar 34.36 277 P **P** **15 16 11.9 +3.3**
SNR=5.2
JMDO P **P** **15 16 11.9 +3.3**
SNR=5.2
MHTO MHTO 34.69 274 P **P** **15 16 14.5 +3.0**
SNR=9.2
MHTO P **P** **15 16 14.5 +3.0**
SNR=9.2
BNX BinXian 34.72 41⇑P **P** **15 16 11.8 +0.4**

BNX pP **pP** **15 16 15.0 -2.2**
BNX sP **sP** **15 16 16.5 -3.1**
BNX PP **PP** **15 17 31.5 +1.3**
BNX S **S** **15 21 43.3 +2.7**
BNX sS **pS** **15 21 47.5 +0.4**
BNX pmax pmax
comp=Z,87nm,1.1s
BNX pmax pmax
comp=Z,610nm,7.0s
BNX LR LR
comp=Z,3µm,13.6s
BNX LR LR
comp=Z,7µm,13.6s
BNX LR LR
comp=Z,6µm,12.0s
APSI Ampana 34.73 129 P **P** **15 16 13.8 +2.0**
comp=Z,956nmcomp=Z,75nm,1.1s
TTSI Tana Toraja 34.99 134 P **P** **15 16 16.2 +2.2**
comp=Z,848nmcomp=Z,56nm,1.2s
DQM DQM 35.28 273 P **P** **15 16 19.4 +2.8**
SNR=5.1
DQM P **P** **15 16 19.4 +2.8**
SNR=5.1
KMSI Cibinong 35.46 124 P **P** **15 16 19.9 +1.8**
JMN Monobe 35.50 63 IAmb IAmb 15 16 25.2
comp=Z,71nm,1.3s
JMN Monobe 35.50 63 P **P** **15 16 21.0 +2.6**
PSTR Posyet 35.52 47*de*P **P** **15 16 18.7 +0.4**
MDJ Mudanjiang 35.54 44 P **P** **15 16 18.5 0.0**
MDJ PP **PP** **15 17 41.0 +1.7**
MDJ S **S** **15 21 57.0 +3.7**
MDJ pmax pmax
comp=Z,17nm,1.3s
MDJ pmax pmax
comp=Z,410nm,6.2s
MDJ LR LR
comp=Z,3µm,15.2s
MDJ LR LR
comp=Z,4µm,11.6s
MDJ LR LR
comp=Z,6µm,11.8s
MDJ Mudanjiang 35.54 44 P **P** **15 16 18.7 +0.2**
SOHO SOHO 35.58 280 P **P** **15 16 22.7 +3.6**
SOHO P **P** **15 16 22.7 +3.6**
SOHO SOHO 35.58 280 P **P** **15 16 21.4 +2.2**
SPSI Sidrap Palu 35.64 135 P **P** **15 16 21.6 +2.0**
comp=Z,1µmcomp=Z,59nm,2.3s
ARQ Araqi 35.68 279 P **P** **15 16 23.7 +3.6**
ARQ P **P** **15 16 23.7 +3.6**
MDH Madha 35.70 282 P **P** **15 16 21.0 +0.9**
MDH P **P** **15 16 21.0 +0.9**
MDH Madha 35.70 282 P **P** **15 16 20.3 +0.2**
MSHR Mys Shultsa 35.73 48⇑*e*P **P** **15 16 18.5 -1.7**
MSHR pmax pmax
comp=Z,28nm,1.0s
MSHR MLR MLR
comp=Z,4µm,15.0s
BVAR Borovoye Array 35.78 334 P **P** **15 16 20.8 +0.3**
comp=Z,43nm,0.6s,baz=139,slow=9.0,SNR=138
BVAR PcP **PcP** **15 18 48.5 +0.5**
comp=Z,6.3nm,0.7s,baz=134,slow=6.2,SNR=1.9
BVAR S **S** **15 21 56.3 -0.3**
comp=Z,1.8nm,0.9s,baz=129,slow=20,SNR=1.4
BVAR LR LR 15 33 20.9
comp=Z,5µm,19.1s,baz=134,slow=40
BVAR P3KPbc 15 47 03.7
comp=Z,1.2nm,0.7s,baz=317,slow=3.7,SNR=7.9
comp=Z,43nm,0.6s
SHME Shamm 35.79 283 P **P** **15 16 24.5 +3.6**
SHME P **P** **15 16 24.5 +3.6**
SHME Shamm 35.79 283 P **P** **15 16 23.2 +2.3**
UOSS Minazif 35.81 282 P **P** **15 16 23.4 +2.3**
UOSS P **P** **15 16 23.4 +2.3**
UOSS Minazif 35.81 282 P **P** **15 16 20.4 -0.7**
MASF Masafi 35.82 282 P **P** **15 16 25.8 +4.6**
MASF P **P** **15 16 25.8 +4.6**
BRVK Borovoye 35.84 334 *i* P **P** **15 16 21.1 +0.1**
BRVK pmax pmax
comp=Z,57nm,1.1s
HATD Hatta, Dubai 35.88 281 P **P** **15 16 25.0 +3.3**
HATD P **P** **15 16 25.0 +3.3**
HATD Hatta, Dubai 35.88 281 P **P** **15 16 24.5 +2.7**
ASHO Ashiyiah 35.96 281 P **P** **15 16 25.5 +3.1**
ASHO P **P** **15 16 25.5 +3.1**
ASHO Ashiyiah 35.96 281 *i* P **P** **15 16 25.0 +2.5**
SNR=18
ALNE Al Ain 36.30 280 P **P** **15 16 28.0 +2.7**
ALNE P **P** **15 16 28.0 +2.7**
KAPI Kappang 36.42 136 P **P** **15 16 25.7 -0.6**
comp=Z,15nm,0.7s,baz=286,slow=7.5,SNR=4.9
KAPI LR LR 15 33 48.4
comp=Z,3µm,19.6s,baz=314,slow=40
comp=Z,15nm,0.7s
KAPI Kappang 36.42 136⇑*e*P **P** **15 16 25.8 -0.6**
KAPI pmax pmax
comp=Z,36nm,1.1s
KAPI MLR MLR
comp=Z,3µm,22.0s
ASUD Al Ashush, Dub 36.63 281 P **P** **15 16 31.4 +3.3**
ASUD P **P** **15 16 31.4 +3.3**
ASUD Al Ashush, Dub 36.63 281 P **P** **15 16 30.7 +2.6**
BKSI Bulukumba 36.89 136 P **P** **15 16 31.4 +1.0**
comp=Z,26nm,1.0s
USA0B Ussuriysk Arra 36.92 46*c i*P **P** **15 16 30.5 +0.2**
USRK Ussuriysk Ar. 36.92 46 **P** **15 16 29.8 -0.6**
USRK Ussuriysk Ar. 36.92 46 P **P** **15 16 30.8 +0.5**
comp=Z,42nm,0.9s,baz=244,slow=8.6,SNR=30
USRK LR LR 15 33 02.0
comp=Z,2µm,18.0s,baz=244,slow=39
comp=Z,42nm,0.9s
UMZA Um Al Zommool 37.00 278 P **P** **15 16 33.6 +2.3**
UMZA P **P** **15 16 33.6 +2.3**
HEH HeiHe 37.20 34 *e*P **P** **15 16 32.8 +0.2**
HEH pP **pP** **15 16 36.8 -1.7**
HEH PP **PnPn** **15 18 03.0 +5.0**
HEH S **S** **15 22 21.0 +2.5**
HEH sS **sS** **15 22 28.0 -0.1**
HEH pmax pmax
comp=Z,72nm,1.3s
HEH pmax pmax
comp=Z,640nm,5.6s
HEH LR LR
comp=Z,2µm,11.6s
HEH LR LR
comp=Z,6µm,12.3s
HEH LR LR
comp=Z,7µm,13.4s
BOD Bodaibo 37.61 16 *e*P **P** **15 16 36.1 +0.2**
BOD pmax pmax
comp=Z,890nm,1.6s
MZWR Madinat Zayed 38.04 280 P **P** **15 16 42.1 +2.1**
MZWR P **P** **15 16 42.1 +2.1**
DMTO DMTO 38.16 270 P **P** **15 16 44.5 +3.3**
DMTO P **P** **15 16 44.5 +3.3**
INU Inuyama 38.29 61 IAMs_20 IAMs_20 15 31 23.9
comp=Z,4µm,20.0s
INU Inuyama 38.29 61 P **P** **15 16 43.5 +1.5**
AB31 Akbulak array 38.48 322 P **P** **15 16 44.5 +1.1**
ABKAR Akbulak array 38.48 322 **P** **15 16 43.9 +0.5**
MZR Muzera 38.50 279 P **P** **15 16 48.6 +4.6**
SNR=5.4
MZR P **P** **15 16 48.6 +4.6**
SNR=5.4
JGF Kuroka 38.60 61 IAmb IAmb 15 16 49.2
comp=Z,138nm,1.2s
JGF Kuroka 38.60 61 P **P** **15 16 46.0 +1.3**
DOK Doka 38.71 272 P **P** **15 16 48.1 +2.4**
SNR=5.0
DOK P **P** **15 16 48.1 +2.4**
SNR=5.0
JRN Qarnain Island 38.84 282 P **P** **15 16 48.4 +1.6**
SNR=5.2
RBK Rabkut 38.90 270 P **P** **15 16 50.2 +2.8**
SNR=7.3
RBK P **P** **15 16 50.2 +2.8**
SNR=7.3
GHWR Ruwais 38.93 280 P **P** **15 16 50.3 +2.8**
JSG Sagara 39.16 63 IAMs_20 IAMs_20 15 32 27.7
comp=Z,5µm,19.0s
WHFO Wadi Hawf 39.20 271 P **P** **15 16 52.2 +2.3**
WHFO P **P** **15 16 52.2 +2.3**
ZEA Zeya 39.26 30 *e*P **P** **15 16 51.3 +1.4**
ZEA *e* 15 18 19.2
ZEA *e*S **S** **15 22 48.2 -1.3**
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA pmax pmax
comp=Z,200nm,6.0s
ZEA pmax pmax
comp=E,200nm,7.9s
ZEA pmax pmax
comp=Z,400nm,6.5s
ZEA smax smax
comp=E,200nm,10.6s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=E,2µm,16.0s
ZEA MLR MLR
comp=Z,2µm,14.0s
MAJO Matsushiro 39.41 60 **P** **15 16 50.0 -1.5**
MAJO IAmb IAmb 15 16 56.5
comp=Z,123nm,0.9s
MAJO Matsushiro 39.41 60 P **P** **15 16 52.0 +0.5**
MAJO Matsushiro 39.41 60*de*P **P** **15 16 50.4 -1.1**
MAJO pmax pmax
comp=Z,37nm,0.8s
MAJO MLR MLR
comp=Z,3µm,15.0s
MJAR Matsushiro Arr 39.41 60 **P** **15 16 50.5 -1.0**
MJAR IAmb IAmb 15 16 56.7
comp=Z,164nm,1.1s
MJAR Matsushiro Arr 39.41 60 P **P** **15 16 51.2 -0.3**
comp=Z,94nm,1.0s,baz=270,slow=9.9,SNR=64
MJAR ScP **ScP** **15 22 47.7 +0.4**
comp=Z,11nm,1.2s,baz=270,slow=3.5,SNR=11
MJAR LR LR 15 33 01.0
comp=Z,3µm,19.3s,baz=262,slow=36
comp=Z,94nm,1.0s
ABTO Aybut 39.78 270 P **P** **15 16 57.2 +2.4**
ABTO P **P** **15 16 57.2 +2.4**
WBSI Waikabubak, Su 39.83 141 P **P** **15 16 54.8 -0.3**
SLWR Sila 39.99 281 P **P** **15 16 58.4 +2.0**
AKTO Aktyubinsk 40.15 323 LR LR 15 36 10.2
comp=Z,4µm,18.4s,baz=136,slow=40
AKTO Aktyubinsk 40.15 323 P **P** **15 16 58.0 +0.6**
TEY Ternei 40.29 46⇑*e*P **P** **15 16 59.2 +0.6**
TEY pmax pmax
comp=N,10.0nm,1.2s
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,20nm,1.1s
TRNA Turayna 40.34 282 P **P** **15 17 01.3 +2.0**
JHJ Hachijo jima 2 40.35 65 LR LR 15 33 35.4
comp=Z,2µm,19.2s,baz=292,slow=36
JHJ2 Mitsune 40.38 65 *e*P P 15 16 51.2 -8.3
comp=Z,16nm,27.2s
JHJ2 Mitsune 40.38 65 *e*PP **PP** **15 18 27.5 -5.1**
comp=Z,26nm,26.4s
JHJ2 *e*S **S** **15 23 01.1 -5.8**
comp=Z,86nm,32.8s
JHJ2 *e*SS **SS** **15 25 58.7 -7.3**
comp=Z,72nm,29.4s
JHJ2 *e*LR LR 15 27 57.4
comp=Z,205nm,21.8s
WSI Waingapu 40.38 140 P **P** **15 16 59.3 -0.3**
SHMA Al-Shehemyia 40.45 284 P **P** **15 17 02.0 +1.8**
EDFI Ende, Flores 40.51 138 P **P** **15 17 00.2 -0.6**
SAKB Bahrain 40.83 284 P **P** **15 17 05.6 +2.3**
AAI Ambon 41.42 125 P **P** **15 17 08.4 +0.2**
comp=Z,69nm,1.1s
JMM Marumori 41.64 58 IAmb IAmb 15 17 15.2
comp=Z,158nm,1.2s
JMM Marumori 41.64 58 P **P** **15 17 11.9 +2.0**
SWI Sorong 42.07 119 P **P** **15 17 14.5 +0.9**
comp=Z,58nm,1.0s
SWI Sorong 42.07 119 P **P** **15 17 14.6 +0.9**
JTM Tenmabayashi 42.34 54 IAMs_20 IAMs_20 15 34 04.8
comp=Z,4µm,18.0s
JTM Tenmabayashi 42.34 54 P **P** **15 17 18.0 +2.5**
GRNR Gornyy 42.41 38⇑*i*P **P** **15 17 15.4 -0.5**
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR MLR MLR
comp=N,2µm,13.0s
GRNR MLR MLR
comp=Z,1µm,11.0s
SVE Sverdlovsk 42.47 332*de*P **P** **15 17 17.5 +1.2**
SVE *e*S **S** **15 23 37.9 +0.6**
SVE pmax pmax
comp=Z,223nm,1.0s
SVE MLR MLR
comp=Z,4µm,19.0s
LKRN Lenkeran, Azer 42.65 303 P **P** **15 17 21.1 +3.0**
BATI Baumata 42.87 137 P **P** **15 17 19.6 -0.5**
comp=Z,142nm,0.7s,baz=297,slow=1.6,SNR=16
BATI LR LR 15 38 47.2
comp=Z,2µm,18.6s,baz=311,slow=41
comp=Z,142nm,0.7s
BATI Baumata 42.87 137 P **P** **15 17 19.1 -1.0**
SOEI Soe 42.91 136 **P** **15 17 19.9 -0.6**
SOEI IAMs_20 IAMs_20 15 37 42.1
comp=Z,4µm,20.0s
SOEI Soe 42.91 136 P **P** **15 17 22.3 +1.8**
SOEI Soe 42.91 136 P **P** **15 17 21.6 +1.1**
ARTI Arti 43.20 331 P **P** **15 17 22.2 0.0**
ARTI Arti 43.20 331 LR LR 15 37 33.1
comp=Z,5µm,19.8s,baz=126,slow=39
ARTI Arti 43.20 331*c i*P **P** **15 17 22.5 +0.3**
ARTI 15 19 02.9
ARTI PPP PPP 15 19 36.2
ARTI S **S** **15 23 51.2 +3.3**
ARTI pmax pmax
comp=Z,61nm,0.6s
ARTI MLR MLR
comp=Z,5µm,16.0s
AKT Akhty 43.89 307 *e*P **P** **15 17 26.2 -2.0**
AKT *e* 15 19 07.7
AKT *e* 15 19 11.1
AKT *e*S **S** **15 23 59.1 +0.4**
AKT pmax pmax
comp=Z,102nm,0.6s
FAKI Fak Fak 44.08 120 **P** **15 17 28.3 -1.6**
FAKI IAmb IAmb 15 17 31.3
comp=Z,80nm,0.9s
ERM Erimo 44.11 52 P **P** **15 17 31.5 +1.7**
ERM Erimo 44.11 52⇑*e*P **P** **15 17 29.5 -0.3**
ERM pmax pmax
comp=Z,42nm,1.2s
ERM MLR MLR
comp=Z,2µm,15.0s
JEM Erimo 44.11 52 P **P** **15 17 30.9 +1.1**
ASAJ Asahikawa 44.14 49 LR LR 15 37 50.8
comp=Z,2µm,18.0s,baz=238,slow=39
ASAJ Asahikawa 44.14 49 P **P** **15 17 29.1 -0.9**
ASAJ pmax pmax
comp=Z,55nm,1.0s
ASAJ MLR MLR
comp=Z,2µm,18.0s
JKA Kamikawa-asahi 44.14 49 P **P** **15 17 29.1 -0.9**
JKA IAmb IAmb 15 17 36.4
comp=Z,55nm,1.0s
SEKA Sheki 44.24 306 P **P** **15 17 33.3 +2.4**
MNGR Mingechevir, A 44.25 306 P **P** **15 17 34.1 +3.2**
MAK Makhachkala 44.33 309*c i*P **P** **15 17 29.7 -1.8**
MAK *e* 15 19 14.8
MAK *e*S **S** **15 24 04.2 -0.6**
MAK pmax pmax
comp=Z,141nm,0.8s
MAK MLR MLR
comp=Z,2µm,15.0s
GANJ Ganja 44.81 305 P **P** **15 17 38.5 +3.0**
YSS Yuzhno-Sakhali 44.96 46 **P** **15 17 36.2 -0.3**
YSS IAMs_20 IAMs_20 15 37 36.5
comp=Z,3µm,20.0s
YSS Yuzhno-Sakhali 44.96 46 P **P** **15 17 38.5 +2.0**
YSS Yuzhno-Sakhali 44.96 46 *e*P **P** **15 17 37.2 +0.7**
YSS *e* 15 19 16.8
YSS *e* 15 19 27.2
YSS *e*PPP PPP 15 20 07.4
YSS *e*S **S** **15 24 18.1 +4.2**
YSS *e*SS **SS** **15 27 37.1 +1.5**
YSS pmax pmax
comp=Z,400nm,7.4s
YSS pmax pmax
comp=N,100nm,3.3s
YSS pmax pmax
comp=E,200nm,8.7s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax smax
comp=N,200nm,10.8s
YSS smax smax
comp=E,700nm,16.8s
YSS MLR MLR
comp=Z,4µm,15.0s
YSS MLR MLR
comp=N,3µm,12.0s
YSS MLR MLR
comp=E,3µm,14.0s
UGL Uglegorsk 45.15 42 *e*P **P** **15 17 36.7 -1.2**
NAX Nakhchivan 45.25 303 P **P** **15 17 42.5 +3.4**
RAYN Ar Rayn 45.68 281 **P** **15 17 43.5 +0.8**
RAYN Ar Rayn 45.68 281 P **P** **15 17 44.7 +2.1**
RAYN Ar Rayn 45.68 281 P **P** **15 17 44.7 +2.1**
RAYN Ar Rayn 45.68 281 *i* P **P** **15 17 44.5 +1.9**
SNR=67
YAK Yakutsk 45.75 22 **P** **15 17 41.7 -0.8**
YAK IAmb IAmb 15 17 47.3
comp=Z,115nm,1.4s
YAK Yakutsk 45.75 22 P **P** **15 17 42.1 -0.4**
comp=Z,35nm,0.8s,baz=147,slow=1.1,SNR=15
YAK LR LR 15 37 13.0
comp=Z,2µm,18.4s,baz=221,slow=37
comp=Z,35nm,0.8s
YAK Yakutsk 45.75 22 *e*P **P** **15 17 41.9 -0.6**
YAK *e**PP **sP** **15 17 51.3 +0.5**
YAK *e* 15 19 20.0
YAK *e* 15 19 28.9
YAK *e*PPP PPP 15 20 08.4
YAK *e*S **S** **15 24 22.4 -2.5**
YAK *e**SS **sS** **15 24 34.0 -0.6**
YAK *e* 15 27 36.9
YAK *e*SS **SS** **15 27 46.9 -2.2**
YAK *e*SSS SSS 15 28 37.8
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=N,15nm,1.8s
YAK pmax pmax
comp=E,23nm,2.4s
YAK pmax pmax
comp=Z,62nm,2.4s
YAK pmax pmax
comp=N,52nm,2.8s
YAK pmax pmax
comp=E,32nm,1.5s
YAK smax smax
comp=N,57nm,2.5s
YAK smax smax
comp=E,31nm,1.5s
YAK MLR MLR
comp=Z,2µm,13.0s
YAK MLR MLR
comp=N,2µm,16.0s
YAK MLR MLR
comp=E,2µm,11.0s
GNI Garni 45.94 304 P **P** **15 17 44.9 +0.3**
GNI IAmb IAmb 15 17 53.4
comp=Z,62nm,0.9s
GNI Garni 45.94 304 LR LR 15 40 41.8
comp=Z,1µm,18.0s,baz=120,slow=41
GNI Garni 45.94 304 P **P** **15 17 47.6 +3.0**
GNI P **P** **15 17 47.6 +3.0**
GNI Garni 45.94 304*ce*P **P** **15 17 46.9 +2.3**
GNI pmax pmax
comp=Z,40nm,1.0s
GNI MLR MLR
comp=Z,1µm,17.0s
GNI Garni 45.94 304 P **P** **15 17 47.9 +3.3**
TYV Tymovskoe 46.09 40 *e*P **P** **15 17 47.3 +1.9**
TYV *e*S **S** **15 24 37.7 +7.7**
TYV pmax pmax
comp=Z,25nm,1.2s
TYV pmax pmax
comp=Z,100nm,2.7s
TYV smax smax
comp=N,4.0nm,2.1s
TYV smax smax
comp=E,5.0nm,2.1s
TYV smax smax
comp=N,300nm,7.7s
TYV smax smax
comp=E,400nm,7.7s
TYV MLR MLR
comp=N,1µm,16.0s
TYV MLR MLR
comp=Z,1µm,16.0s
YUK Yuzh-Kuril'sk 46.43 50 P **P** **15 17 46.6 -1.5**
YUK S **S** **15 24 33.0 -2.1**
TRLG Trialeti 46.59 306 P **P** **15 17 51.9 +2.2**
BELG Belogornoye 46.87 322*c i*P **P** **15 17 51.2 -0.3**
BELG pmax pmax
comp=Z,21nm,0.9s
BELG MLR MLR
comp=Z,255nm,16.0s
GEVA Gevas 47.08 302 P **P** **15 17 54.1 +0.6**
GEVA IAmb IAmb 15 18 02.4
comp=Z,42nm,0.9s
GUMO Guam 47.73 92 LR LR 15 39 09.5
comp=Z,667nm,18.1s,baz=294,slow=38
KBZ Khabaz 47.77 309 P **P** **15 17 59.2 +0.6**
comp=Z,16nm,0.9s,baz=145,slow=8.8,SNR=25
KBZ S **S** **15 24 50.6 -3.7**
comp=Z,0.6nm,0.3s,baz=288,slow=18,SNR=0.9
KBZ LR LR 15 41 14.0
comp=Z,2µm,18.7s,baz=94,slow=40
comp=Z,16nm,0.9s
KBZ Khabaz 47.77 309*ce*P **P** **15 18 00.2 +1.5**
KBZ pmax pmax
comp=Z,22nm,1.0s
KBZ MLR MLR
comp=Z,1µm,16.0s
GOF Gofitskoye 47.88 311*ce*P **P** **15 18 01.2 +1.7**
SHA1 Shidzhatmaz 47.95 309*c i*P **P** **15 18 01.6 +1.3**
KIV Kislovodsk 47.96 309 P **P** **15 18 00.5 +0.3**
KIV Kislovodsk 47.96 309 P **P** **15 18 02.5 +2.3**
KIV Kislovodsk 47.96 309 ⇑P **P** **15 18 01.5 +1.2**
KIV Kislovodsk 47.96 309 *e*P **P** **15 18 01.5 +1.2**
KIV *e* 15 19 53.9
KIV *e*S **S** **15 24 59.1 +1.9**
KIV *e*SSS SSS 15 29 38.0
KIV pmax pmax
comp=Z,39nm,3.4s
KIV pmax pmax
comp=Z,164nm,1.0s
KIV Kislovodsk 47.96 309 *i* P **P** **15 18 02.1 +1.9**
SNR=24
KIRV Kirov 48.47 330 LR LR 15 40 38.6
comp=Z,3µm,20.8s,baz=120,slow=39
KIRV Kirov 48.47 330*ce*P **P** **15 18 04.3 +0.5**
SMPI Sarmi 48.86 114 P **P** **15 18 08.1 +0.7**
comp=Z,50nm,1.3s
KOPT Kop Dagi 49.17 304 IAmb IAmb 15 18 24.8
comp=Z,37nm,0.9s
DRS Darwin Rock St 49.30 131 P **P** **15 18 12.1 +1.4**
MBWA Marble Bar 49.64 150 P **P** **15 18 13.6 +0.4**
comp=Z,95nm,0.8s
MBWA Marble Bar 49.64 150 P **P** **15 18 13.4 +0.2**
MBWA Marble Bar 49.64 150 **P** **15 18 13.8 +0.6**
MBWA Marble Bar 49.64 150 P **P** **15 18 14.5 +1.3**
ERBR Yeremizino-Bor 49.77 311 *e*P **P** **15 18 14.6 +0.6**
ERBR *e*S **S** **15 25 22.3 -0.1**
ERBR pmax pmax
comp=Z,35nm,0.7s
ERBR MLR MLR
comp=Z,2µm,17.0s
VSLR Vesyoloye 49.80 308*de*P **P** **15 18 15.8 +1.5**
VSLR pmax pmax
comp=Z,72nm,1.0s
VSLR MLR MLR
comp=Z,864nm,17.0s
VRH Novokhopyorsk 50.02 319 *e*P **P** **15 18 14.7 -1.1**
VRH *e**SP **pP** **15 18 19.2 -2.5**
VRH pmax pmax
comp=Z,110nm,0.9s
SOC Sochi 50.05 309 *e*P **P** **15 18 15.5 -0.6**
SOC *e* 15 20 10.2
SOC *e*PPP PPP 15 21 00.9

SOC *e*S **S** **15 25 23.0 -3.3**
SOC *e*SS **SS** **15 29 01.5 +2.2**
SOC *e*SSS SSS 15 30 24.9
SOC MLR MLR
comp=Z,954nm,18.0s
PSA00 Pilbara Seismi 50.05 150 P **P** **15 18 16.4 +0.1**
comp=Z,100nm,0.8s
PSA00 Pilbara Seismi 50.05 150 P **P** **15 18 16.4 +0.1**
PSA00 IAmb IAmb 15 18 18.7
comp=Z,36nm,0.8s
PSA00 Pilbara Seismi 50.05 150 IAmb IAmb 15 18 18.6
comp=Z,73nm,0.8s
PSA00 Pilbara Seismi 50.05 150 P **P** **15 18 18.1 +1.8**
FITZ Fitzroy Crossi 50.19 141 P **P** **15 18 17.9 +0.4**
comp=Z,54nm,0.8s,baz=332,slow=5.9,SNR=75
FITZ LR LR 15 41 31.4
comp=Z,1µm,19.9s,baz=308,slow=38
comp=Z,54nm,0.8s
KNRA Kununurra 50.23 136 P **P** **15 18 17.9 +0.1**
comp=Z,136nm,0.8s
KNRA Kununurra 50.23 136 P **P** **15 18 17.1 -0.6**
GENI Genyem 50.41 114 P **P** **15 18 20.7 +1.5**
GENI Genyem 50.41 114 P **P** **15 18 20.4 +1.2**
KDU Kakadu 50.58 130 P **P** **15 18 19.2 -1.2**
comp=Z,31nm,1.3s
KDU Kakadu 50.58 130 P **P** **15 18 21.4 +1.0**
JAY Jayapura 50.82 114 P **P** **15 18 22.7 +0.3**
comp=Z,12nm,0.7s,baz=238,slow=7.8,SNR=6.6
JAY LR LR 15 38 08.0
comp=Z,683nm,21.8s,baz=318,slow=34
comp=Z,12nm,0.7s
ATD Arta Tunnel 51.17 267 P **P** **15 18 26.2 +1.1**
ATD Arta Tunnel 51.17 267 LR LR 15 39 31.9
comp=Z,74nm,19.9s,baz=68,slow=35
ATD Arta Tunnel 51.17 267 P **P** **15 18 28.2 +3.1**
SNR=14
VORD Divnogorie 51.46 318 *e*P **P** **15 18 24.3 -2.3**
VORD *e**SP **pP** **15 18 30.1 -2.5**
VORD pmax pmax
comp=Z,40nm,1.0s
VSR Storozhevoye 51.59 318 *e*P **P** **15 18 26.0 -1.6**
VSR *e**SP **pP** **15 18 30.8 -2.8**
VSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 51.66 319 *e*P **P** **15 18 27.4 -0.7**
VORR *e**SP **pP** **15 18 31.7 -2.4**
VORR pmax pmax
comp=Z,120nm,0.9s
ANN Anapa 51.80 310 *e*P **P** **15 18 30.0 +0.7**
ANN *e*S **S** **15 25 50.9 +0.4**
ANN pmax pmax
comp=Z,72nm,1.2s
LPSR Galich'ya Gora 52.02 320 *e*P **P** **15 18 29.5 -1.3**
LPSR *e**SP **pP** **15 18 34.9 -1.9**
LPSR pmax pmax
comp=Z,130nm,0.8s
ASF Jabal al Asfar 52.20 294 LR LR 15 43 04.4
comp=Z,1µm,19.0s,baz=113,slow=39
TOKA Tokat 52.26 304 IAmb IAmb 15 18 41.6
comp=Z,45nm,0.9s
TIXI Tiksi 52.58 13 P **P** **15 18 33.7 -0.9**
TIXI IAmb IAmb 15 18 39.8
comp=Z,60nm,1.1s
TIXI Tiksi 52.58 13 LR LR 15 42 25.1
comp=Z,2µm,19.0s,baz=243,slow=38
TIXI Tiksi 52.58 13*ce*P **P** **15 18 33.8 -0.9**
TIXI pmax pmax
comp=Z,127nm,2.0s
MA2 Magadan 53.35 31 P **P** **15 18 40.0 -0.6**
MA2 IAmb IAmb 15 18 46.0
comp=Z,69nm,1.0s
MA2 Magadan 53.35 31 LR LR 15 42 38.6
comp=Z,1µm,18.3s,baz=253,slow=38
MA2 Magadan 53.35 31 P **P** **15 18 41.8 +1.2**
MA2 Magadan 53.35 31*ce*P **P** **15 18 39.9 -0.6**
MA2 pmax pmax
comp=Z,126nm,1.7s
MA2 MLR MLR
comp=Z,2µm,16.0s
MMAI Mount Meron Ar 53.38 295 P **P** **15 18 43.2 +1.8**
comp=Z,6.5nm,0.8s,baz=114,slow=3.5,SNR=13
MMAI LR LR 15 47 34.0
comp=Z,2µm,18.4s,baz=86,slow=43
comp=Z,6.5nm,0.8s
GHAJ Ghor Haditha 53.42 293 IAmb IAmb 15 18 49.6
comp=Z,69nm,0.9s
MOS Moscow 53.48 323 *e*P **P** **15 18 39.3 -2.3**
MOS *e*S **S** **15 26 08.8 -4.4**
MOS pmax pmax
comp=Z,133nm,0.9s
MOS MLR MLR
comp=Z,3µm,14.0s
MOS MLR MLR
comp=E,2µm,13.0s
OBN Obninsk 53.93 323 P **P** **15 18 44.3 -0.5**
OBN IAMs_20 IAMs_20 15 44 42.6
comp=Z,2µm,18.0s
OBN Obninsk 53.93 323 LR LR 15 44 54.4
comp=Z,2µm,19.1s,baz=36,slow=40
OBN Obninsk 53.93 323 ⇑P **P** **15 18 44.8 0.0**
OBN Obninsk 53.93 323*ce*P **P** **15 18 44.5 -0.3**
OBN *e**PP **pP** **15 18 49.6 -1.2**
OBN *e* 15 19 50.8
OBN *e* 15 20 48.5
OBN *e*PPP PPP 15 21 54.3
OBN *e*S **S** **15 26 23.2 +4.0**
OBN *e*SS **SS** **15 30 02.8 +2.5**
OBN *e*SSS SSS 15 31 59.4
OBN pmax pmax
comp=Z,55nm,1.0s
OBN MLR MLR
comp=Z,2µm,16.0s
MEEK Meekatharra 53.95 154 P **P** **15 18 47.3 +1.9**
comp=Z,58nm,1.2s
MEEK Meekatharra 53.95 154 P **P** **15 18 47.7 +2.4**
KLMR Klimovskoe 53.97 330 *e*P **P** **15 18 43.1 -1.9**
KLMR S **S** **15 26 17.4 -2.3**
KLMR pmax pmax
comp=Z,64nm,1.0s
KLMR MLR MLR
comp=Z,2µm,13.0s
BZK Bozkurt 54.15 306 ⇑P **P** **15 18 48.4 +1.7**
SIM Simferopol' 54.16 310 *e*P **P** **15 18 47.8 +1.1**
SIM *e*S **S** **15 26 24.0 +1.2**
SIM pmax pmax
comp=Z,43nm,1.2s
SIM smax smax
comp=N,180nm,3.5s
KIRS Kirsehir-Merke 54.24 303 ⇑P **P** **15 18 48.5 +1.0**
SKR Severo-Kuril's 54.35 43 *e*P **P** **15 18 43.8 -4.2**
SKR *e*S **S** **15 26 27.9 +2.8**
SKR *e*SS **ScS** **15 28 37.9 +1.6**
SKR pmax pmax
comp=Z,200nm,9.6s
SKR MLR MLR
comp=Z,3µm,15.0s
BR131 Keskin Array S 54.44 303 P **P** **15 18 49.4 +0.4**
SNR=15
BR131 P **P** **15 18 49.4 +0.4**
SNR=15
BR131 Keskin Array S 54.44 303*d* *i*P **P** **15 18 49.7 +0.6**
BRTR Keskin Array B 54.44 303 P **P** **15 18 49.3 +0.3**
BRTR Keskin Array B 54.44 303 P **P** **15 18 49.6 +0.6**
comp=Z,8.0nm,0.9s,baz=137,slow=9.7,SNR=32
BRTR S **S** **15 26 26.6 -0.4**
comp=Z,0.3nm,0.4s,baz=109,slow=12,SNR=2.2
BRTR LR LR 15 44 47.2
comp=Z,934nm,20.4s,baz=94,slow=39
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 54.44 303 *i*P **P** **15 18 49.7 +0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.4s
CSS Mathiatis 54.93 298 P **P** **15 18 52.9 +0.3**
CSS IAmb IAmb 15 19 04.0
comp=Z,27nm,0.8s
CSS IAMs_20 IAMs_20 15 45 03.5
comp=Z,2µm,20.0s
ANTO Ankara 55.09 304 P **P** **15 18 53.8 +0.1**
ANTO IAmb IAmb 15 19 00.5
comp=Z,49nm,0.8s
ANTO Ankara 55.09 304 P **P** **15 18 54.4 +0.8**
ANTO Ankara 55.09 304 ⇑P **P** **15 18 54.5 +0.8**
ANTO Ankara 55.09 304 P **P** **15 18 54.4 +0.8**
MORW Morawa 55.17 158 P **P** **15 18 56.0 +1.8**
comp=Z,113nm,1.1s
MORW Morawa 55.17 158 P **P** **15 18 56.7 +2.5**
SEY Seymchan 55.19 28 LR LR 15 43 07.0
comp=Z,2µm,19.7s,baz=249,slow=37
SEY Seymchan 55.19 28 *e*P **P** **15 18 50.8 -3.0**
SEY pmax pmax
comp=Z,19nm,1.1s
PEA0B Petropavlovsk- 55.64 40*ce*P **P** **15 18 56.3 -1.0**
PETK Petropavlovsk- 55.64 40 P **P** **15 18 56.2 -1.1**
PETK Petropavlovsk- 55.64 40 P **P** **15 18 56.9 -0.4**
comp=Z,12nm,1.0s,baz=281,slow=5.1,SNR=17
PETK LR LR 15 44 04.3
comp=Z,2µm,18.6s,baz=245,slow=38
comp=Z,12nm,1.0s
FURI Furi 55.93 265 LR LR 15 44 25.9
comp=Z,770nm,18.6s,baz=66,slow=38
PET Petropavlovsk 56.20 40 P **P** **15 19 00.3 -1.0**
PET IAmb IAmb 15 19 03.0
comp=Z,45nm,1.2s
PET IAMs_20 IAMs_20 15 42 28.7
comp=Z,2µm,19.0s
PET Petropavlovsk 56.20 40 P **P** **15 19 03.9 +2.6**
PET Petropavlovsk 56.20 40 *e*P **P** **15 18 59.9 -1.4**
PET *e* 15 22 28.1
PET *e*S **S** **15 26 43.0 -6.8**
PET *e*SS **SS** **15 30 32.4 -3.7**
PET pmax pmax
comp=Z,100nm,10.1s
PET pmax pmax
comp=Z,36nm,1.3s
PET pmax pmax
comp=Z,200nm,6.8s
PET MLR MLR
comp=Z,2µm,14.0s
PET MLR MLR
comp=Z,2µm,14.0s
BLDU Ballidu 56.82 158 P **P** **15 19 07.0 +1.1**
comp=Z,49nm,0.9s
BLDU Ballidu 56.82 158 P **P** **15 19 08.5 +2.6**
WRA Warramunga Arr 56.95 135 P **P** **15 19 06.3 -0.7**
WRA Warramunga Arr 56.95 135 P **P** **15 19 06.6 -0.5**
comp=Z,53nm,0.8s,baz=323,slow=7.5,SNR=224
WRA PcP **PcP** **15 20 03.0 +0.7**
comp=Z,8.0nm,0.8s,baz=334,slow=3.7,SNR=5.4
WRA PKP2bc 15 49 07.5
comp=Z,1.2nm,1.1s,baz=119,slow=1.9,SNR=5.5
comp=Z,53nm,0.8s
WRA Warramunga Arr 56.95 135 *i*P **P** **15 19 06.8 -0.2**
WRA pmax pmax
comp=Z,59nm,0.8s
WRAB Tennant Creek 56.95 135 P **P** **15 19 06.5 -0.5**
WRAB Tennant Creek 56.95 135*ce*P **P** **15 19 07.7 +0.7**
WRAB pmax pmax
comp=Z,71nm,0.9s
WRAB MLR MLR
comp=Z,1µm,22.0s
ISP Isparta 56.97 301 IAmb IAmb 15 19 13.0
comp=Z,39nm,0.8s
ISP Isparta 56.97 301 P **P** **15 19 07.2 0.0**
WRKA Warakurna 57.20 144 P **P** **15 19 09.7 +0.9**
comp=Z,31nm,0.8s
AKASG Malin Array Be 57.76 317 P **P** **15 19 10.7 -1.6**
AKASG IAmb IAmb 15 19 17.6
comp=Z,50nm,0.8s
AKASG Malin Array Be 57.76 317 P **P** **15 19 11.3 -1.1**
comp=Z,28nm,0.7s,baz=83,slow=6.6,SNR=85
AKASG S **S** **15 27 07.0 -3.4**
comp=Z,0.4nm,0.3s,baz=112,slow=21,SNR=2.5
AKASG LR LR 15 48 11.1
comp=Z,2µm,18.0s,baz=80,slow=40
comp=Z,28nm,0.7s
AKASG Malin Array Be 57.76 317 *i*P **P** **15 19 11.3 -1.1**
AKASG pmax pmax
comp=Z,22nm,0.5s
AKBB Malin Array Si 57.76 317*ce*P **P** **15 19 11.2 -1.2**
KIEV Kiev 57.77 317 P **P** **15 19 11.4 -1.0**
KIEV Kiev 57.77 317 IAMs_20 IAMs_20 15 47 59.5
comp=Z,2µm,18.0s
KIEV Kiev 57.77 317 ⇑P **P** **15 19 12.2 -0.2**
KIEV Kiev 57.77 317 P **P** **15 19 12.2 -0.2**
KIEV Kiev 57.77 317 *i*P **P** **15 19 12.9 +0.5**
SNR=6.2
MUN Mundaring 57.90 159 P **P** **15 19 14.4 +0.9**
comp=Z,137nm,0.8s
MUN Mundaring 57.90 159 P **P** **15 19 15.9 +2.4**
MUN Mundaring 57.90 159 P **P** **15 19 15.6 +2.1**
KIS Kishinev 57.91 312 *e*P **P** **15 19 14.0 +0.5**
KIS *e*L L 15 43 21.0
KIS LQM 15 46 54.0
comp=Z,600nm,17.5s
KIS LRM MLR 15 50 25.0
comp=Z,400nm,15.0s
KIS Kishinev 57.91 312 *e*P **P** **15 19 14.0 +0.5**
MILM Milestii Mici 57.92 312⇑*i*P **P** **15 19 12.0 -1.6**
comp=Z,100nm,1.1s
MILM Milestii Mici 57.92 312*c i*P **P** **15 19 12.0 -1.6**
MILM *e*S **S** **15 27 07.0 -5.6**
MILM pmax pmax
comp=Z,100nm,1.1s
MILM pmax pmax
comp=N,1µm,16.0s
TLCR 57.92 310 ⇑P **P** **15 19 13.9 +0.3**
TLCR 57.92 310 P **P** **15 19 13.9 +0.3**
KLBR Kellerberrin 58.08 157 P **P** **15 19 15.7 +1.0**
comp=Z,89nm,0.8s
KLBR Kellerberrin 58.08 157 P **P** **15 19 16.6 +1.9**
PUL Pulkovo 58.13 327*ce*P **P** **15 19 16.5 +1.7**
PUL pmax pmax
comp=Z,93nm,0.8s
PUL MLR MLR
comp=Z,2µm,15.0s
TPGR Topolog 58.21 310 ⇓P **P** **15 19 16.7 +1.0**
SORM Soroca 58.24 314 ⇑P **P** **15 19 15.7 -0.1**
SORM Soroca 58.24 314 P **P** **15 19 15.7 -0.1**
LVZ Lovozero 58.27 337 P **P** **15 19 16.1 +0.4**
LVZ IAmb IAmb 15 19 21.9
comp=Z,32nm,1.0s
LVZ IAMs_20 IAMs_20 15 46 43.1
comp=Z,3µm,21.0s
LVZ Lovozero 58.27 337*de*P **P** **15 19 16.2 +0.5**
LVZ pmax pmax
comp=Z,22nm,1.1s
LVZ MLR MLR
comp=Z,2µm,16.0s
CFR Carcaliu 58.40 310 ⇑P **P** **15 19 17.5 +0.5**
CFR Carcaliu 58.40 310 P **P** **15 19 17.5 +0.5**
APA Apatity 58.62 337 *e*P **P** **15 19 17.3 -0.8**
APA *e*S **S** **15 27 21.7 +0.5**
APA *e*SS **SS** **15 31 12.5 -1.1**
APA MLR MLR
comp=Z,3µm,13.9s
VASR Vaslui 58.62 312 ⇑P **P** **15 19 18.7 +0.2**
ICOR Ion Corvin 58.67 309 ⇑P **P** **15 19 19.9 +1.0**
MNK Minsk 58.81 321 *i*P **P** **15 19 18.9 -0.8**
MNK *i* 15 20 07.9
MNK *i* 15 21 29.1
MNK *i*S **S** **15 27 25.6 +1.5**
MNK *i* 15 29 08.9
MNK *i*SS **SS** **15 31 20.5 +3.3**
MNK pmax pmax
comp=E,58nm,1.0s
MNK pmax pmax
comp=N,71nm,0.9s
MNK pmax pmax
comp=Z,119nm,0.9s
MNK MLR MLR
comp=E,2µm,18.0s
MNK MLR MLR
comp=N,2µm,18.0s
MNK MLR MLR
comp=Z,2µm,20.0s
GHRR 58.89 311 ⇑P **P** **15 19 21.3 +0.9**
PHSR Pinarhisar 59.00 306 ⇑P **P** **15 19 21.7 +0.4**
PANC Panciu 59.08 311 ⇑P **P** **15 19 22.9 +1.2**
NWAO Narrogin (SRO) 59.11 159 P **P** **15 19 21.9 -0.1**
NWAO Narrogin (SRO) 59.11 159 IAMs_20 IAMs_20 15 46 06.7
comp=Z,3µm,20.0s
NWAO Narrogin (SRO) 59.11 159 LR LR 15 46 10.2
comp=Z,2µm,19.9s,baz=314,slow=37
NWAO Narrogin (SRO) 59.11 159 P **P** **15 19 24.4 +2.5**
NWAO Narrogin (SRO) 59.11 159 P **P** **15 19 24.1 +2.2**
NWAO Narrogin (SRO) 59.11 159 P **P** **15 19 21.9 -0.1**
NWAO pmax pmax
comp=Z,60nm,0.7s
NWAO MLR MLR
comp=Z,3µm,20.0s
VRI Vrincioaia 59.37 311 ⇓P **P** **15 19 24.7 +0.9**
VRI Vrincioaia 59.37 311 P **P** **15 19 24.7 +0.9**
ASAR Alice Springs 59.39 138 P **P** **15 19 23.7 -0.4**
ASAR Alice Springs 59.39 138 P **P** **15 19 24.4 +0.3**
comp=Z,33nm,0.8s,baz=319,slow=6.9,SNR=267
ASAR PKPPKP **P'P'df** **15 48 52.8 +1.4**
comp=Z,0.5nm,0.8s,baz=134,slow=2.7,SNR=2.9
ASAR PKP2bc 15 49 01.6
comp=Z,0.6nm,0.8s,baz=132,slow=1.6,SNR=5.9
ASAR LR LR 15 49 53.8
comp=Z,790nm,18.5s,baz=310,slow=41
comp=Z,33nm,0.8s
BISRR Bisoca 59.40 311 ⇓P **P** **15 19 25.4 +1.4**
TESR Tescani 59.41 312 ⇑P **P** **15 19 24.5 +0.5**
AS01 Alice Springs 59.41 138 P **P** **15 19 26.4 +2.1**
PLOR Plostina 59.43 311 ⇑P **P** **15 19 25.6 +1.4**
PLOR Plostina 59.43 311 P **P** **15 19 25.6 +1.4**
ISR Istrita 59.53 310 ⇓P **P** **15 19 26.5 +1.5**
ISR Istrita 59.53 310 P **P** **15 19 26.4 +1.5**
LOZB Loznitsa 59.58 308 ⇓P **P** **15 19 25.5 +0.3**
ONER Baraj Valea Uz 59.59 311 ⇑P **P** **15 19 26.0 +0.7**
NEHR Nehoiu 59.69 310 ⇑P **P** **15 19 27.1 +1.1**
COVR Voineasa-Covas 59.74 311 ⇑P **P** **15 19 27.1 +0.8**
VSU Vasula 59.79 326*ce*P **P** **15 19 25.5 -0.9**
VSU pmax pmax
comp=Z,52nm,0.9s
VSU MLR MLR
comp=Z,2µm,16.0s
PMG Port Moresby 59.91 116 P **P** **15 19 28.9 +1.0**
comp=Z,44nm,0.9s,baz=25,slow=3.0,SNR=8.8
comp=Z,44nm,0.9s
PMG Port Moresby 59.91 116 P **P** **15 19 30.1 +2.2**
PMG Port Moresby 59.91 116 P **P** **15 19 30.3 +2.4**
PMG Port Moresby 59.91 116*ce*P **P** **15 19 29.0 +1.1**
PMG pmax pmax
comp=Z,57nm,0.9s
MLR Muntele Rosu 59.94 310 P **P** **15 19 28.1 +0.3**
MLR Muntele Rosu 59.94 310 LR LR 15 50 50.9
comp=Z,2µm,18.8s,baz=68,slow=42
MLR Muntele Rosu 59.94 310 ⇑P **P** **15 19 28.4 +0.6**
MLR Muntele Rosu 59.94 310 P **P** **15 19 28.4 +0.6**
OZUR 60.02 311 ⇑P **P** **15 19 29.2 +0.9**
ALN Alexandroupoli 60.17 305 IAmb IAmb 15 19 31.2
comp=Z,45nm,1.2s
BURAR Bucovina Array 60.36 313 P **P** **15 19 30.3 -0.3**
BURAR IAmb IAmb 15 19 36.5
comp=Z,18nm,0.6s
BURAR Bucovina Array 60.36 313 P **P** **15 19 30.3 -0.3**
FINES FINESS Array B 60.45 329 P **P** **15 19 30.0 -0.8**
comp=Z,12nm,0.7s,baz=91,slow=5.6,SNR=41
FINES LR LR 15 48 01.7
comp=Z,3µm,18.9s,baz=94,slow=38
comp=Z,12nm,0.7s
FINES FINESS Array B 60.45 329 *i*P **P** **15 19 30.6 -0.2**
FINES pmax pmax
comp=Z,12nm,0.7s
VADS Vadso 60.74 339 *e*P **P** **15 19 32.9 +0.2**
ARR Arges 60.87 310 ⇑P **P** **15 19 34.6 +0.5**
QIS Mount Isa 60.91 132 P **P** **15 19 35.2 +0.5**
comp=Z,45nm,1.1s
QIS Mount Isa 60.91 132 P **P** **15 19 36.3 +1.7**
LODK Lodwar 61.07 261 P **P** **15 19 35.5 -0.4**
LODK IAmb IAmb 15 19 43.7
comp=Z,60nm,1.3s
LODK Lodwar 61.07 261 P **P** **15 19 38.0 +2.0**
SNR=14
TNR Turnu Rosu 61.10 311 ⇑P **P** **15 19 37.0 +1.4**
TNR Turnu Rosu 61.10 311 P **P** **15 19 37.0 +1.4**
PABE Paberze 61.12 322 P **P** **15 19 35.6 +0.1**
KIBK Kibwezi 61.13 254 P **P** **15 19 36.0 -0.3**
KIBK IAmb IAmb 15 19 44.1
comp=Z,54nm,1.8s
KIBK Kibwezi 61.13 254 P **P** **15 19 37.6 +1.3**
SGF Sodankyl 61.16 336 P **P** **15 19 35.2 -0.4**
KMBO Kilima Mbogo 61.29 255 P **P** **15 19 38.3 +0.7**
comp=Z,4.3nm,0.7s,baz=74,slow=5.9,SNR=5.8
KMBO LR LR 15 44 43.8
comp=Z,896nm,21.7s,baz=93,slow=35
comp=Z,4.3nm,0.7s
KMBO Kilima Mbogo 61.29 255 *i*P **P** **15 19 39.5 +1.9**
KMBO pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 61.44 338 IAMs_20 IAMs_20 15 48 40.9
comp=Z,2µm,19.0s
CJR Cluj-Napoca 61.50 312 ⇑P **P** **15 19 39.5 +1.2**
CJR Cluj-Napoca 61.50 312 P **P** **15 19 39.5 +1.2**
BMR Baia Mare 61.52 313 ⇑P **P** **15 19 38.7 +0.4**
BMR Baia Mare 61.52 313 P **P** **15 19 38.7 +0.4**
CBBR Cluj-Babes-Bol 61.53 312 ⇑P **P** **15 19 39.6 +1.1**
SUW Suwalki 61.55 320 *e*P **P** **15 19 37.5 -0.9**
SUW Suwalki 61.55 320 P **P** **15 19 37.6 -0.9**
SUW IAMs_20 IAMs_20 15 49 27.5
comp=Z,3µm,20.0s
SUW Suwalki 61.55 320 P **P** **15 19 37.6 -0.9**
SUW MLR MLR
comp=Z,2µm,20.0s
IDI Anoyia 61.76 299 LR LR 15 54 30.8
comp=Z,214nm,18.5s,baz=96,slow=44
MARR Marisel-Cluj 61.83 312 ⇑P **P** **15 19 41.0 +0.3**
ARA0 ARCESS Array S 61.91 338 *e*P P 15 19 32.1 -8.6
ARCES ARCESS Array B 61.91 338 P **P** **15 19 40.5 -0.2**
ARCES ARCESS Array B 61.91 338 P **P** **15 19 40.5 -0.2**
comp=Z,2.7nm,0.5s,baz=92,slow=7.7,SNR=47
ARCES LR LR 15 49 05.7
comp=Z,2µm,19.7s,baz=98,slow=39
comp=Z,2.7nm,0.5s
KWP Kalwaria Pacla 61.94 315 *e*P **P** **15 19 41.7 +0.5**
KWP Kalwaria Pacla 61.94 315 P **P** **15 19 41.8 +0.6**
BILL Bilibino 62.04 24 P **P** **15 19 40.2 -1.3**
BILL IAmb IAmb 15 19 42.8
comp=Z,35nm,1.0s
BILL IAMs_20 IAMs_20 15 48 17.4
comp=Z,2µm,19.0s
BILL Bilibino 62.04 24⇓*e*P **P** **15 19 41.2 -0.3**
BILL pmax pmax
comp=Z,34nm,0.9s
BILL MLR MLR
comp=Z,2µm,17.0s
DEV Deva 62.04 311 ⇑P **P** **15 19 43.2 +1.2**
DEV Deva 62.04 311 P **P** **15 19 43.1 +1.2**
DRGR 62.10 312 ⇑P **P** **15 19 42.8 +0.4**
DRGR 62.10 312 P **P** **15 19 42.8 +0.4**
GZR Gura Zlata 62.17 311 ⇓P **P** **15 19 43.3 +0.3**
GZR Gura Zlata 62.17 311 P **P** **15 19 43.2 +0.3**
KOLS Kolonicke sedl 62.26 315 *e*P **P** **15 19 43.6 +0.2**
KOLS *e* 15 19 49.0
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 62.26 315 *e*P **P** **15 19 43.6 +0.2**
KOLS *e* 15 19 49.0
OPO Ambohidratompo 62.43 233 LR LR 15 45 59.3
comp=Z,978nm,18.4s,baz=196,slow=35
HERR Herculane 62.47 310 ⇑P **P** **15 19 45.8 +1.0**
SURR Surduc 62.59 311 ⇓P **P** **15 19 46.3 +0.7**
KTK1 Kautokeino 62.62 337 *e*P **P** **15 19 45.2 -0.2**
ABPO Ambohimpanom 62.68 232 P **P** **15 19 47.9 +1.2**
ABPO Ambohimpanom 62.68 232 P **P** **15 19 47.9 +1.2**
ABPO pmax pmax
comp=Z,20nm,1.0s
ABPO MLR MLR
comp=Z,1µm,20.0s
HAMF Hammerfest 62.72 339 *e*P **P** **15 19 45.8 -0.3**
MTSU Mount Surprise 62.74 126 P **P** **15 19 47.6 +0.7**
comp=Z,13nm,0.9s
MTSU Mount Surprise 62.74 126 P **P** **15 19 49.4 +2.5**
STHS Stebnicka Huta 62.91 315 *e*P **P** **15 19 47.0 -0.7**
STHS *e* 15 19 51.9
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 62.91 315 *e*P **P** **15 19 47.0 -0.7**
STHS *e* 15 19 51.9
BZS Buzias 62.96 311 ⇑P **P** **15 19 48.6 +0.5**
BZS Buzias 62.96 311 P **P** **15 19 48.5 +0.5**
BEL Belsk 63.05 318 *e*P **P** **15 19 49.2 +0.6**
BEL Belsk 63.05 318 P **P** **15 19 51.7 +3.1**
NIE Niedzica 63.52 315 *e*P **P** **15 19 51.8 0.0**
NIE Niedzica 63.52 315 P **P** **15 19 52.3 +0.5**
JETT Jettan, Norway 63.69 338 *e*P **P** **15 19 52.6 +0.1**
OJC Ojcow 63.78 316 *e*P **P** **15 19 53.7 +0.3**
OJC Ojcow 63.78 316 P **P** **15 19 53.6 +0.2**
PSZ Piszkesteto 63.92 314 P **P** **15 19 54.1 -0.3**
PSZ Piszkesteto 63.92 314 ⇑P **P** **15 19 54.3 -0.2**
PSZ Piszkesteto 63.92 314 P **P** **15 19 54.3 -0.2**
LANS Liptovska Anna 64.09 315 *e*P **P** **15 19 56.4 +0.9**

LANS pmax pmax
comp=Z,7.0nm,1.3s
LANS Liptovska Anna 64.09 315 *eP* **P 15 19 56.4 +0.9**
TRO Tromso 64.21 338 *eP* **P 15 19 55.3 -0.6**
IVA Berane 64.51 308⇑ *iP* **P 15 19 58.7 +0.2**
VYHS Vyhne 64.56 314 *eP* **P 15 19 58.9 +0.3**
VYHS pmax pmax
comp=Z,13nm,1.1s
VYHS Vyhne 64.56 314 *eP* **P 15 19 58.9 +0.3**
RUDO Rudo 64.79 309 *eP* **P 15 19 58.6 -1.6**
KOME Kolasin 64.79 308⇑ *iP* **P 15 19 58.0 -2.3**
VOI Vohitsoka 64.83 230 P P **15 20 01.6 +0.8**
VOI IAmb IAmb 15 20 08.1
comp=Z,27nm,0.8s
VOI Vohitsoka 64.83 230 P P **15 20 02.3 +1.5**
OKC Ostrava-Krasne 64.88 316 P **P 15 20 01.7 +1.1**
OKC Ostrava-Krasne 64.88 316 *eS* **S 15 28 35.2 -5.8**
OKC AMS AMS 15 52 40.0
comp=Z,1µm,13.6s
MORH Mrgy, Hungar 64.96 312 *eP* **P 15 20 00.4 -0.8**
SRO Srobarova 64.99 314 *eP* **P 15 20 02.3 +0.9**
SRO pmax pmax
comp=Z,12nm,0.7s
SRO Srobarova 64.99 314 *eP* **P 15 20 02.3 +0.9**
PDG Podgorica 65.04 308 P P **15 20 01.2 -0.6**
PDG Podgorica 65.04 308⇑ *iP* **P 15 20 00.9 -0.9**
STEB Steborice 65.11 316 *eP* **P 15 20 02.5 +0.4**
STEB *ep*P **pP 15 20 07.7 -0.5**
DRME Dracevica, Mon 65.13 307⇑ *iP* **P 15 20 02.0 -0.4**
MAUC Maruska 65.13 315 *eP* **P 15 20 03.2 +0.9**
MAUC *ep*P **pP 15 20 08.4 -0.1**
UPM Unac-Piva 65.18 308⇑ *iP* **P 15 20 02.9 -0.1**
NKME Niksic 65.21 308⇑ *iP* **P 15 20 02.4 -0.6**
CEME Cevo 65.27 308⇑ *iP* **P 15 20 02.4 -1.0**
MORC Moravsky Berou 65.27 316 P **P 15 20 02.9 -0.4**
MORC Moravsky Berou 65.27 316 *eP* **P 15 20 02.8 -0.4**
MORC Moravsky Berou 65.27 316⇑ P **P 15 20 04.0 +0.8**
MORC Moravsky Berou 65.27 316 P **P 15 20 04.0 +0.8**
JAVC Velka Javorina 65.29 315 *eP* **P 15 20 05.7 +2.3**
CTA Charters Tower 65.38 127 P **P 15 20 07.3 +3.0**
CTA Charters Tower 65.38 127 P **P 15 20 03.0 -1.3**
CTAO Charters Tower 65.38 127 P **P 15 20 03.6 -0.7**
CTAO IAmb IAmb 15 20 07.1
comp=Z,38nm,0.9s
CTAO Charters Tower 65.38 127 P **P 15 20 06.5 +2.2**
CTAO Charters Tower 65.38 127 P **P 15 20 03.6 -0.7**
CTAO pmax pmax
comp=Z,38nm,1.0s
FAUS Fauske 65.47 335 *eP* **P 15 20 03.5 -0.6**
BRY Bratogost 65.49 308⇑ *iP* **P 15 20 03.9 -1.0**
SMOL Smolenice 65.49 314 *eP* **P 15 20 05.1 +0.5**
SMOL pmax pmax
comp=Z,8.0nm,1.2s
SHEM Shemya Is, Ala 65.54 41 LR LR 15 48 44.1
comp=Z,910nm,22.0s,baz=285,slow=36
TREB Trebinje 65.66 308 *eP* **P 15 20 05.0 -0.8**
BLEU Blekinge 65.68 323 *iP* **P 15 20 05.4 -0.3**
SPA0 Spitsbergen Ar 65.70 347 *eP* **P 15 20 04.5 -1.0**
SPITS Spitsbergen Ar 65.70 347 P **P 15 20 04.8 -0.6**
comp=Z,2.6nm,0.4s,baz=104,slow=9.5,SNR=14
SPITS LR LR 15 52 05.1
comp=Z,1µm,19.4s,baz=98,slow=39
comp=Z,2.6nm,0.4s
KRLC Kraliky 65.73 316 *eP* **P 15 20 06.5 +0.3**
KRLC MLR MLR
comp=Z,1µm,15.5s
KRLC Kraliky 65.73 316 *eP* **P 15 20 06.5 +0.3**
KRLC AMS AMS 15 52 20.0
comp=Z,1µm,15.5s
MOR8 Moi Rana 65.82 334 *eP* **P 15 20 05.0 -1.4**
VRAC Vranov 65.94 315 LR LR 15 53 44.8
comp=Z,1µm,19.5s,baz=75,slow=40
VRAC Vranov 65.94 315 *eP* **P 15 20 07.7 +0.2**
VRAC Vranov 65.94 315⇑ P **P 15 20 08.4 +0.9**
VRAC Vranov 65.94 315 P **P 15 20 08.4 +0.9**
KSP Ksiaz 65.95 317 *eP* **P 15 20 08.4 +0.9**
KSP Ksiaz 65.95 317 P **P 15 20 07.8 +0.3**
DPC Dobruska-Polom 65.99 316 *eP* **P 15 20 08.1 +0.2**
DPC *e**PP **pP 15 20 13.3 -0.7**
DPC MLR MLR
comp=Z,1µm,16.5s
DPC Dobruska-Polom 65.99 316 *eP* **P 15 20 08.1 +0.2**
DPC *ep*P **pP 15 20 13.3 -0.7**
DPC AMS AMS 15 50 30.0
comp=Z,1µm,16.5s
OSTC Ostas 66.03 317 *eP* **P 15 20 08.7 +0.6**
OSTC *e**PP **pP 15 20 13.8 -0.4**
OSTC MLR MLR
comp=Z,1µm,16.2s
OSTC Ostas 66.03 317 *eP* **P 15 20 08.7 +0.6**
OSTC *ep*P **pP 15 20 13.8 -0.4**
OSTC AMS AMS 15 50 30.0
comp=Z,1µm,16.2s
KRUC Moravsky 66.10 315 *eP* **P 15 20 08.9 +0.3**
STON Ston 66.11 308 *eP* **P 15 20 07.8 -0.8**
LOF Lofoten 66.12 336 *eP* **P 15 20 07.3 -1.1**
CHVC Chvalec 66.13 317 *eP* **P 15 20 09.2 +0.5**
CHVC Chvalec 66.13 317 *eP* **P 15 20 09.2 +0.5**
UPC Upice 66.17 317 *eP* **P 15 20 09.6 +0.7**
UPC MLR MLR
comp=Z,1µm,16.2s
UPC Upice 66.17 317 *eP* **P 15 20 09.6 +0.7**
UPC AMS AMS 15 50 40.0
comp=Z,1µm,16.2s
BLY Banja Luka 66.18 310 *eP* **P 15 20 08.7 -0.4**
BLY Banja Luka 66.18 310⇑ P **P 15 20 10.1 +1.0**
SOP Sopron 66.18 314 P **P 15 20 10.0 +0.9**
BEHE Becsehely 66.20 312 *eP* **P 15 20 06.0 -3.3**
A051A Mrakovica 66.33 311 *eP* **P 15 20 09.8 -0.4**
MOSL Moslavina 66.35 311 *eP* **P 15 20 09.1 -1.1**
RONA Rosalia, Austr 66.35 314 *iP* **P 15 20 10.4 +0.1**
comp=Z,6.1nm,0.7s,SNR=6.4
LEIR Leirfjorden 66.36 334 *eP* **P 15 20 09.4 -0.5**
HFS Hagfors 66.49 327 P **P 15 20 10.4 -0.4**
comp=Z,12nm,0.5s,baz=101,slow=4.8,SNR=98
HFS LR LR 15 51 40.9
comp=Z,2µm,18.9s,baz=82,slow=38
comp=Z,12nm,0.5s
INKA Innaminka 66.59 137 P **P 15 20 11.4 -0.4**
INKA IAmb IAmb 15 20 15.3
comp=Z,32nm,0.9s
CONA Conrad Observa 66.61 314 *iP* **P 15 20 12.2 +0.2**
comp=Z,35nm,1.8s,SNR=16
TREC Trest 66.66 315 AMS AMS 15 53 40.0
comp=Z,2µm,15.2s
A050A Klekovaca 66.68 310 *eP* **P 15 20 12.2 -0.3**
DEL Delary 66.74 323 *iP* **P 15 20 12.4 -0.1**
DEL IAmb IAmb 15 20 14.3
comp=Z,7.3nm,0.9s
KIJV Kijevo 66.85 310 *eP* **P 15 20 12.3 -1.2**
MBAR Mbarara 66.93 259 P **P 15 20 14.9 +0.3**
MBAR Mbarara 66.93 259 P **P 15 20 14.9 +0.3**
MBAR pmax pmax
comp=Z,114nm,1.8s
ARSA Arzberg 66.94 313 *iP* **P 15 20 14.1 +0.1**
comp=Z,9.1nm,0.9s,SNR=6.1
PVCC Panska Ves 67.08 317 *eP* **P 15 20 15.4 +0.7**
PVCC *e**PP **pP 15 20 19.4 -1.5**
PVCC Panska Ves 67.08 317 *eP* **P 15 20 15.4 +0.7**
PVCC *ep*P **pP 15 20 19.4 -1.5**
LUNU Lund 67.08 322 *iP* **P 15 20 14.5 -0.1**
PRU Pruhonice 67.17 316 *eP* **P 15 20 16.0 +0.6**
PRU *e**PP **pP 15 20 20.8 -0.7**
PRU *eS* **S 15 29 04.8 -4.1**
PRU MLR MLR
comp=Z,1µm,14.9s
PRU Pruhonice 67.17 316 *eP* **P 15 20 16.0 +0.6**
PRU *ep*P **pP 15 20 20.8 -0.7**
PRU *eS* **S 15 29 04.8 -4.1**
PRU AMS AMS 15 53 20.0
comp=Z,1µm,14.9s
BORU Boraas 67.21 325 *iP* **P 15 20 15.4 -0.1**
PRA Prague 67.23 316 AMS AMS 15 51 20.0
comp=Z,1µm,16.7s
OZLJ Ozalj 67.24 311 *eP* **P 15 20 16.1 +0.3**
RGN Rugen 67.28 321 IAMs_20 IAMs_20 15 52 26.0
comp=Z,2µm,18.0s
RGN Rugen 67.28 321 *eP* **P 15 20 16.4 +0.4**
comp=Z,47nm,0.8s,baz=79,slow=6.1
RUE Ruedersdorf 67.29 319 *eP* **P 15 20 16.4 +0.3**
comp=Z,56nm,1.0s,baz=79,slow=6.1
SOKA Soboth 67.36 313 *iP* **P 15 20 17.0 +0.3**
comp=Z,7.7nm,0.7s,SNR=7.7

RICC Richard 67.37 317 *eP* **P 15 20 17.8 +1.2**
BOJS Bojanci 67.41 311 *iP* **P 15 20 16.4 -0.5**
BRG Berggiesshubel 67.42 317 *eP* **P 15 20 18.8 +1.9**
comp=Z,17nm,0.9s,baz=79,slow=6.1
BRG Berggiesshubel 67.42 317 *eP* **P 15 20 18.2 +1.3**
BRG Amp 15 20 20.2
comp=Z,17nm,0.9s
BRG Berggiesshubel 67.42 317 P P 15 20 23.9 +7.0
BRG Amp 15 20 25.8
comp=Z,14nm,0.7s
BRG Berggiesshubel 67.42 317 S **S 15 29 12.0 +0.1**
BRG Berggiesshubel 67.42 317 S **SKSac 15 30 20.0 +6.3**
BBOO Buckleboo 67.49 144 P **P 15 20 18.1 +0.6**
comp=Z,70nm,1.3s
BBOO Buckleboo 67.49 144 P **P 15 20 18.0 +0.6**
BBOO Buckleboo 67.49 144 P **P 15 20 18.7 +1.2**
NC602 NORSAR Array S 67.49 328 *eP* **P 15 20 17.0 -0.2**
NORES NORESS Array B 67.49 328 P **P 15 20 17.2 0.0**
NB2 NORSAR Subarra 67.62 328 P **P 15 20 16.4 -1.6**
comp=Z,57nm,1.7s,baz=82,slow=6.5
NB2 PP **PP 15 22 47.5 +0.7**
comp=Z,8.9nm,1.1s,baz=119,slow=10
NB2 NORSAR Subarra 67.62 328 P **P 15 20 15.5 -2.5**
NB2 pmax pmax
comp=Z,69nm,2.0s
NB2 NORSAR Subarra 67.62 328 P **P 15 20 16.4 -1.6**
baz=82,slow=6.5
NOA NORSAR Array B 67.62 328 P **P 15 20 17.1 -0.9**
comp=Z,6.5nm,0.8s,baz=90,slow=5.8,SNR=18
NOA PP **PP 15 22 43.2 -3.6**
comp=Z,9.0nm,0.9s,baz=82,slow=9.1,SNR=5.4
NOA LR LR 15 53 10.9
comp=Z,1µm,20.4s,baz=75,slow=39
comp=Z,6.5nm,0.8s
MOA Molln 67.68 314 *iP* **P 15 20 18.8 +0.1**
comp=Z,15nm,0.7s,SNR=13
ONAU Onsala 67.70 324 *iP* **P 15 20 17.8 -0.7**
OBKA Obir 67.72 313 *iP* **P 15 20 18.5 -0.6**
comp=Z,8.4nm,0.9s,SNR=7.4
SGRT San Giovanni R 67.73 307 IAmb IAmb 15 20 24.7
comp=Z,34nm,1.1s
ACER Acerenza 67.77 306 IAmb IAmb 15 20 43.4
comp=Z,40nm,1.3s
HSKC Hora Svate Kat 67.78 317 *eP* **P 15 20 20.0 +0.8**
HSKC *eS* **S 15 29 14.5 -1.8**
HSKC AMS AMS 15 52 10.0
comp=Z,1µm,15.1s
LJU Ljubljana 67.81 312 *iP* **P 15 20 19.0 -0.5**
STRU Stroemstad 67.87 326 *iP* **P 15 20 19.4 -0.2**
GEC2 GERESS Array S 67.89 315 *eP* **P 15 20 20.4 +0.3**
comp=Z,23nm,0.9s,baz=79,slow=6.1
GEC2 *ep*P **pP 15 20 25.1 -1.1**
baz=79,slow=6.3
GERES GERESS Array B 67.89 315 P **P 15 20 19.8 -0.2**
comp=Z,14nm,0.8s,baz=74,slow=5.7,SNR=92
GERES LR LR 15 55 03.3
comp=Z,1µm,18.1s,baz=76,slow=40
comp=Z,14nm,0.8s
KHC Kasperske Hory 67.92 315*ceP* **P 15 20 20.6 +0.4**
KHC pmax pmax
comp=Z,14nm,1.3s
KHC MLR MLR
comp=Z,1µm,17.0s
KHC Kasperske Hory 67.92 315 *eP* **P 15 20 20.4 +0.2**
KHC *ep*P **pP 15 20 25.5 -0.8**
KHC *eS* **S 15 29 12.8 -5.3**
KHC AMS AMS 15 53 50.0
comp=Z,1µm,15.0s
CEY Cerknica 67.94 312 *iP* **P 15 20 19.9 -0.4**
CEY *i* pP **pP 15 20 24.9 -1.6**
CEY *eS* **S 15 29 15.9 -2.4**
CLL Collm 67.94 318 IAMs_20 IAMs_20 15 54 35.8
comp=Z,2µm,20.0s
CLL Collm 67.94 318 *iP* **P 15 20 20.1 -0.1**
CLL *i* 15 20 24.9
CLL *eS* **S 15 29 18.0 -0.1**
CLL pmax pmax
comp=Z,21nm,1.2s
CLL MLR MLR
comp=Z,1µm,21.1s
CLL Collm 67.94 318 *eP* **P 15 20 20.2 0.0**
comp=Z,11nm,0.8s,baz=79,slow=6.1
OSL Oslo 67.99 327 *eP* **P 15 20 20.4 +0.1**
QLP Quilpie 68.08 133 P **P 15 20 23.1 +1.7**
comp=Z,159nm,0.9s
QLP Quilpie 68.08 133 P **P 15 20 24.9 +3.5**
BIOA Bad Ischl, Aus 68.13 314 *iP* **P 15 20 21.3 -0.1**
comp=Z,9.4nm,1.0s,SNR=5.5
MYKA Terra Mystica 68.31 313 *eP* **P 15 20 22.2 -0.5**
comp=Z,4.0nm,1.0s
CEL Celeste 68.32 304 IAmb IAmb 15 20 30.6
comp=Z,40nm,1.0s
WET Wettzell 68.37 316 *eP* **P 15 20 23.4 +0.4**
comp=Z,15nm,0.9s,baz=79,slow=6.1
TANN Tannenbergstha 68.42 317 *eP* **P 15 20 23.6 +0.2**
comp=Z,16nm,1.0s,baz=79,slow=6.1
TANN *ep*P **pP 15 20 28.5 -0.9**
baz=79,slow=6.3
KBA Koelnbreinsper 68.43 313 *iP* **P 15 20 23.1 -0.5**
comp=Z,11nm,0.7s
WHYH Whyalla 68.50 143 P **P 15 20 26.1 +2.3**
PLN Plauen 68.60 317 *eP* **P 15 20 24.7 +0.3**
comp=Z,4.4nm,0.9s,baz=79,slow=6.1
PLN *ep*P **pP 15 20 29.5 -1.1**
baz=79,slow=6.3
RJOB Jochberg 68.68 314 *eP* **P 15 20 25.4 +0.4**
comp=Z,22nm,1.0s,baz=79,slow=6.1
ROTZ Rotzenmuhle 68.70 316 *eP* **P 15 20 24.4 -0.6**
comp=Z,9.4nm,0.8s,baz=79,slow=6.1
ROTZ *ep*P **pP 15 20 29.6 -1.5**
baz=79,slow=6.3
GORT1 Trebel 68.70 320 *eP* **P 15 20 25.5 +0.7**
comp=Z,32nm,1.0s,baz=79,slow=6.1
NEUB Neunburg 68.72 318 *eP* **P 15 20 25.2 +0.1**
comp=Z,29nm,0.8s,baz=79,slow=6.1
MANZ Manzenberg 68.72 317 *eP* **P 15 20 25.9 +0.7**
comp=Z,5.8nm,1.2s,baz=79,slow=6.1
LESA Schwarzleotal 68.82 314 *iP* **P 15 20 25.1 -0.8**
comp=Z,13nm,0.5s,SNR=18
FLTG Flechtingen 68.85 319 *eP* **P 15 20 25.6 -0.3**
comp=Z,16nm,1.1s,baz=79,slow=6.1
FLTG *ep*P **pP 15 20 30.6 -1.4**
baz=79,slow=6.3
MOX Moxa 68.91 317 *eP* **P 15 20 26.6 +0.3**
comp=Z,24nm,1.1s,baz=79,slow=6.1
MOX *eL* L 15 51 58.0
comp=Z,1µm,20.2s
STAL STALIGIAL 69.02 313 IAmb IAmb 15 21 30.1
comp=Z,23nm,0.6s
ABTA Abfaltersbach 69.06 313 *iP* **P 15 20 26.5 -0.9**
comp=Z,11nm,1.0s,SNR=7.5
SKAR Skarsla 69.08 328 *eP* **P 15 20 28.6 +1.4**
MOL Molde 69.13 330 *eP* **P 15 20 27.6 +0.2**
ASSE Asse, Remlinge 69.23 319 *eP* **P 15 20 28.3 +0.1**
comp=Z,15nm,1.0s,baz=79,slow=6.1
ASSE *ep*P **pP 15 20 33.2 -1.0**
baz=79,slow=6.3
CAMP Campotosto 69.28 309 IAmb IAmb 15 20 42.7
comp=Z,24nm,1.0s
AQU L'Aquila 69.32 308 P **P 15 20 29.1 0.0**
comp=Z,1µm,19.0s
GRA1 Grafenberg Arr 69.34 316 IAMs_20 IAMs_20 15 52 45.0
GRF Grafenberg Arr 69.34 316 *eP* **P 15 20 30.0 +1.0**
comp=Z,18nm,0.8s,baz=79,slow=6.1
GRF *eL* L 15 51 47.3
comp=Z,1µm,21.7s
GRFO Grafenberg 69.34 316 P **P 15 20 29.8 +0.8**
GRFO IAMs_20 IAMs_20 15 52 44.0
comp=Z,1µm,19.0s
GRFO Grafenberg 69.34 316 P **P 15 20 29.8 +0.8**
GRFO pmax pmax
comp=Z,125nm,1.9s
GRFO MLR MLR
comp=Z,1µm,19.0s
FDMO Fiordimonte 69.40 309 IAmb IAmb 15 20 31.0
comp=Z,33nm,1.0s
NRCA Norcia 69.43 309 IAmb IAmb 15 20 56.9
comp=Z,24nm,0.9s
WTTA Wattenberg 69.54 314 *iP* **P 15 20 29.3 -1.2**
comp=Z,25nm,1.2s,SNR=12
HTT Hallett 69.55 142 P **P 15 20 32.7 +2.2**
comp=Z,8.2nm,1.0s
HTT Hallett 69.55 142 P **P 15 20 33.3 +2.9**
HTT Hallett 69.55 142 P **P 15 20 32.6 +2.2**
WATA Walderalm 69.57 314 *iP* **P 15 20 29.7 -0.9**
comp=Z,6.8nm,0.7s,SNR=8.2

FUR Furstenfeldbru 69.60 315 *eP* **P 15 20 30.9 +0.3**
comp=Z,38nm,1.2s,baz=79,slow=6.1
VAE Valguarnera 69.64 303 LR LR 15 55 39.4
comp=Z,371nm,18.0s,baz=132,slow=40
RAFF Raffo Rosso 69.74 303 IAmb IAmb 15 20 43.9
comp=Z,50nm,1.1s
MURB Monte Urbino 69.76 309 IAmb IAmb 15 21 02.0
comp=Z,50nm,1.1s
GTTG Gottingen 69.77 318 *eP* **P 15 20 32.0 +0.4**
comp=Z,20nm,0.9s,baz=79,slow=6.1
GTTG *ep*P **pP 15 20 36.5 -1.2**
baz=79,slow=6.3
SQTA Sankt Quirin 69.83 314 *iP* **P 15 20 31.0 -1.3**
comp=Z,10nm,0.7s,SNR=10
MOTA Moosalm 69.88 314 *iP* **P 15 20 31.3 -1.3**
comp=Z,16nm,0.9s,SNR=12
UBBA Unterbreizbach 69.89 318 *eP* **P 15 20 32.6 +0.4**
comp=Z,25nm,1.4s,baz=79,slow=6.1
RETH Rethem/Aller, 69.90 320 *eP* **P 15 20 32.8 +0.5**
comp=Z,16nm,1.4s,baz=79,slow=6.1
STKA Stephens Creek 70.00 139 P **P 15 20 34.4 +1.2**
comp=Z,276nm,0.9s
STKA Stephens Creek 70.00 139 P **P 15 20 34.3 +1.1**
comp=Z,51nm,0.8s,baz=318,slow=7.3,SNR=77
STKA LR LR 15 54 36.9
comp=Z,2µm,20.6s,baz=303,slow=39
comp=Z,51nm,0.8s
STKA Stephens Creek 70.00 139 P **P 15 20 35.4 +2.2**
STKA Stephens Creek 70.00 139*ceP* **P 15 20 34.7 +1.5**
SNART Snartemo 70.03 326 *eP* **P 15 20 33.2 +0.2**
RETA Reutte 70.08 314 *iP* **P 15 20 32.6 -1.0**
comp=Z,23nm,1.1s,SNR=15
FETA Feichten 70.20 314 *iP* **P 15 20 33.4 -1.1**
comp=Z,12nm,0.9s,SNR=8.4
TATA Tatamba Isabel 70.21 108 P **P 15 20 37.1 +2.3**
FUORN Ofenpass-Fuorn 70.60 313 IAMs_20 IAMs_20 15 55 01.5
comp=Z,1µm,19.0s
ZCCA Zocca 70.61 311 IAmb IAmb 15 21 06.4
comp=Z,28nm,0.9s
DAVA Damuels 70.70 314 *iP* **P 15 20 36.9 -0.7**
comp=Z,15nm,0.9s,SNR=10.0
KASTN Kahler Asten 70.79 318 *eP* **P 15 20 38.1 +0.2**
comp=Z,7.8nm,0.9s,baz=79,slow=6.1
HNR Honiara 70.82 109 LR LR 15 53 09.9
comp=Z,221nm,18.7s,baz=269,slow=37
DAVOX Davos/Dischmat 70.82 314 LR LR 15 56 07.5
comp=Z,1µm,18.5s,baz=64,slow=40
STU Stuttgart 70.83 316 IAmb IAmb 15 20 44.2
comp=Z,27nm,0.8s
STU Stuttgart 70.83 316 P **P 15 20 39.0 +0.9**
STU Stuttgart 70.83 316 *eP* **P 15 20 38.4 +0.3**
comp=Z,70nm,0.8s,baz=79,slow=6.1
STU *ep*P **pP 15 20 43.3 -1.0**
baz=79,slow=6.3
NOR Nord 70.83 352 *iP* **P 15 20 37.1 -0.5**
IBBN Ibbenburen 70.95 320 *eP* **P 15 20 39.2 +0.4**
comp=Z,20nm,0.9s,baz=79,slow=6.1
IBBN *ep*P **pP 15 20 44.0 -1.0**
baz=79,slow=6.3
TNS Taunus Mts 70.98 317 *eP* **P 15 20 39.4 +0.2**
comp=Z,25nm,0.9s,baz=79,slow=6.1
ALEG Aligegeo Malai 71.16 108 P **P 15 20 42.2 +1.6**
GAMB Gambell 71.19 28 IAMs_20 IAMs_20 15 53 13.3
comp=Z,2µm,18.0s
GAMB Gambell 71.19 28 P **P 15 20 39.8 -0.1**
baz=283
TUE Stuetta 71.25 313 IAMs_20 IAMs_20 15 55 22.8
comp=Z,2µm,21.0s
BUG Bochum--Univer 71.44 319 *eP* **P 15 20 42.1 +0.3**
comp=Z,23nm,1.0s,baz=79,slow=6.1
BUG *ep*P **pP 15 20 47.3 -0.6**
baz=79,slow=6.3
BFO Black Forest 71.49 315 P **P 15 20 41.5 -0.7**
BFO IAMs_20 IAMs_20 15 56 59.9
comp=Z,1µm,18.0s
BFO Black Forest 71.49 315 P **P 15 20 41.5 -0.7**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO MLR MLR
comp=Z,1µm,18.0s
BFO Black Forest 71.49 315 *eP* **P 15 20 41.8 -0.4**
comp=Z,7.9nm,0.9s,baz=79,slow=6.1
EIDS Eidsvold 72.11 128 P **P 15 20 46.7 +0.6**
comp=Z,74nm,1.2s
EIDS Eidsvold 72.11 128 P **P 15 20 48.7 +2.6**
ECH Echery 72.28 315 P **P 15 20 47.7 +0.8**
CMSA Cobar Meteorol 72.31 136 P **P 15 20 48.0 +0.8**
comp=Z,58nm,1.0s
CMSA Cobar Meteorol 72.31 136 P **P 15 20 50.3 +3.1**
TNA Tin City 72.32 26 IAMs_20 IAMs_20 15 50 10.2
comp=Z,2µm,20.0s
TNA Tin City 72.32 26 P **P 15 20 46.1 -0.7**
baz=286
BTNL Ternell 72.34 318 *dP* **P 15 20 47.1 -0.1**
comp=Z,12nm,1.0s
MEM Membach 72.41 318 *dP* **P 15 20 48.0 +0.4**
C16K Lisburne Hills 72.52 23 IAmb IAmb 15 20 55.8
comp=Z,48nm,0.8s
C16K Lisburne Hills 72.52 23 P **P 15 20 47.9 0.0**
baz=287,SNR=9.1
WLF Walferdange 72.56 317 IAmb IAmb 15 20 55.8
comp=Z,54nm,0.9s
WLF IAMs_20 IAMs_20 15 57 36.0
comp=Z,1µm,18.0s
WLF Walferdange 72.56 317 P **P 15 20 48.6 +0.1**
WLF Walferdange 72.56 317 *dP* **P 15 20 49.7 +1.2**
WLF Walferdange 72.56 317 *eP* **P 15 20 49.5 +1.0**
comp=Z,62nm,1.0s,baz=79,slow=6.1
SENIN Lac Senin/Sane 72.65 314 IAMs_20 IAMs_20 15 58 02.8
comp=Z,1µm,18.0s
BCLA Clavier 72.89 318 *dP* **P 15 20 51.1 +0.6**
F14K Arctic Creek 72.98 26 P **P 15 20 50.9 +0.2**
baz=287,SNR=8.4
RCHB Rochefort 73.01 318 *dP* **P 15 20 50.5 -0.7**
BGES Gesves 73.04 318 *dP* **P 15 20 52.4 +1.0**
JMIC Jan Mayen 73.16 341 LR LR 15 55 33.3
comp=Z,616nm,21.1s,baz=64,slow=38
C17K DeLong Mountai 73.22 22 P **P 15 20 52.2 +0.1**
baz=289,SNR=11
A19K Wainwright 73.34 20 P **P 15 20 52.4 -0.3**
baz=290
B18K Kokolik River 73.39 21 P **P 15 20 54.0 +0.9**
baz=290
DOU Dourbes 73.42 318 *dP* **P 15 20 53.6 +0.1**
RDOG Red Dog Mine 73.46 23 P **P 15 20 53.8 +0.2**
baz=289
D17K Noatak River 73.51 23 P **P 15 20 54.1 +0.3**
baz=289,SNR=20
SPIA Saint Paul Isl 73.56 34 P **P 15 20 53.8 -0.4**
baz=286
F15K North Star Dit 73.57 25 IAmb IAmb 15 21 00.5
comp=Z,49nm,1.3s
F15K IAMs_20 IAMs_20 15 54 19.2
comp=Z,2µm,18.0s
F15K North Star Dit 73.57 25 P **P 15 20 54.2 0.0**
baz=288,SNR=9.8
ARPS Mount Arapiles 73.61 143 P **P 15 20 55.5 +0.7**
comp=Z,22nm,0.8s
ANM Nome 73.64 26 IAMs_20 IAMs_20 15 55 35.1
comp=Z,2µm,18.0s
ANM Nome 73.64 26 P **P 15 20 54.5 -0.2**
baz=288
C18K Utukok River 73.85 22 IAmb IAmb 15 21 02.0
comp=Z,36nm,0.9s
C18K Utukok River 73.85 22 P **P 15 20 55.7 -0.1**
baz=291,SNR=15
KEST Kesra 74.03 302 P **P 15 20 58.2 +0.6**
comp=Z,24nm,1.0s,baz=70,slow=5.1,SNR=23
KEST LR LR 16 00 25.0
comp=Z,479nm,19.2s,baz=53,slow=41
comp=Z,24nm,1.0s
KEST Kesra 74.03 302 P **P 15 20 58.4 +0.9**
SNR=10
KEST P **P 15 20 58.4 +0.9**
SNR=10
TW1H Toowoomba 1 Ha 74.05 130 P **P 15 21 01.2 +3.6**
G15K Niukluk 74.05 26 P **P 15 20 56.3 -0.7**
baz=289
P08K Saint George I 74.09 35 P **P 15 20 56.7 -0.6**
baz=287
E17K Hotham Inlet 74.18 23 P **P 15 20 57.7 -0.1**
baz=290
C19K Lookout Ridge 74.23 21 IAmb IAmb 15 21 04.2
comp=Z,44nm,0.9s
C19K IAMs_20 IAMs_20 15 53 28.7
comp=Z,2µm,19.0s
C19K Lookout Ridge 74.23 21 P **P 15 20 58.4 +0.3**

baz=292,SNR=11
A21K Barrow 74.28 19 P P 15 20 58.0 -0.2
baz=294
E18K Tukpahlearik C 74.50 23 IAmb IAmb 15 21 05.9
comp=Z,32nm,0.9s
E18K Tukpahlearik C 74.50 23 P P 15 21 00.0 +0.4
baz=292,SNR=18
G16K Koyuk River 74.58 25 IAmb IAmb 15 21 06.3
comp=Z,48nm,1.1s
G16K IAMs_20 IAMs_20 15 51 56.8
comp=Z,2µm,20.0s
G16K Koyuk River 74.58 25 P P 15 21 00.2 +0.1
baz=290,SNR=11
M11K Mekoryuk 74.61 31 IAMs_20 IAMs_20 15 53 20.5
comp=Z,1µm,20.0s
M11K Mekoryuk 74.61 31 P P 15 20 60.0 -0.3
baz=289
F17K Baldwin Pennin 74.63 24 IAmb IAmb 15 21 06.8
comp=Z,68nm,1.0s
F17K Baldwin Pennin 74.63 24 P P 15 21 00.8 +0.5
baz=291,SNR=8.4
B20K Meade River 74.66 20 IAMs_20 IAMs_20 15 52 00.1
comp=Z,1µm,21.0s
B20K Meade River 74.66 20 P P 15 21 00.4 0.0
baz=294
K13K Kusilvak Mount 74.81 29 IAmb IAmb 15 21 06.8
comp=Z,120nm,1.9s
K13K IAMs_20 IAMs_20 15 54 44.8
comp=Z,2µm,19.0s
K13K Kusilvak Mount 74.81 29 P P 15 21 01.2 -0.2
baz=289
H16K Elim 74.89 26 P P 15 21 01.0 -0.9
baz=291
D19K Kuna River 74.96 21 IAmb IAmb 15 21 04.3
comp=Z,39nm,0.8s
D19K IAMs_20 IAMs_20 15 53 52.9
comp=Z,1µm,19.0s
D19K Kuna River 74.96 21 P P 15 21 02.2 -0.1
baz=293
J14K Nanvaranak Lak 75.01 28 IAmb IAmb 15 21 09.3
comp=Z,33nm,0.9s
J14K Nanvaranak Lak 75.01 28 P P 15 21 03.0 +0.4
baz=290
F18K Selawik 75.16 24 P P 15 21 03.4 +0.1
baz=292,SNR=18
G17K Kiwalik Mounta 75.20 25 P P 15 21 03.8 +0.1
baz=292,SNR=12
BRAT Ballarat 75.34 142 P P 15 21 08.3 +3.5
D20K Etivluk River 75.37 21 IAmb IAmb 15 21 12.4
comp=Z,57nm,0.9s
D20K IAMs_20 IAMs_20 15 59 37.0
comp=Z,1µm,22.0s
D20K Etivluk River 75.37 21 P P 15 21 04.9 +0.2
baz=295
CLF Chambon-Foret 75.48 316 IAmb IAmb 15 21 11.6
comp=Z,41nm,0.9s
ARMA Armidale 75.53 132 P P 15 21 10.0 +3.8
NIKH Nikolski High 75.58 38 P P 15 21 05.9 -0.2
baz=288
B21K Ikpikpuk River 75.62 20 IAmb IAmb 15 21 08.3
comp=Z,39nm,0.9s
B21K IAMs_20 IAMs_20 15 52 30.6
comp=Z,2µm,20.0s
B21K Ikpikpuk River 75.62 20 P P 15 21 06.6 +0.6
baz=296,SNR=6.0
B22K Teshekpuk Lake 75.66 19 IAMs_20 IAMs_20 15 56 00.7
comp=Z,1µm,20.0s
B22K Teshekpuk Lake 75.66 19 P P 15 21 06.5 +0.3
baz=297
E19K Redstone River 75.69 22 IAmb IAmb 15 21 13.8
comp=Z,40nm,1.0s
E19K Redstone River 75.69 22 P P 15 21 06.7 +0.2
baz=294
E20K Nigu River 75.71 21 P P 15 21 06.0 -0.6
baz=295
H17K Granite Mounta 75.71 25 IAmb IAmb 15 21 08.7
comp=Z,48nm,1.0s
H17K Granite Mounta 75.71 25 P P 15 21 06.0 -0.6
baz=293,SNR=32
F19K Shaleruckik Mo 75.75 23 IAmb IAmb 15 21 12.6
comp=Z,42nm,1.1s
F19K Shaleruckik Mo 75.75 23 P P 15 21 06.6 -0.2
baz=294,SNR=26
C21K Knifeblade Rid 75.77 20 P P 15 21 07.4 +0.5
baz=296,SNR=12
LSZ Lusaka 75.79 247 P P 15 21 08.4 +0.4
LSZ IAmb IAmb 15 21 14.7
comp=Z,29nm,0.8s
LSZ Lusaka 75.79 247 IAMs_20 IAMs_20 15 56 31.4
comp=Z,2µm,20.0s
LSZ Lusaka 75.79 247 LR LR 15 56 08.3
comp=Z,1µm,18.0s,baz=74,slow=37
LSZ Lusaka 75.79 247 P P 15 21 09.2 +1.2
LSZ P P 15 21 09.2 +1.2
LSZ Lusaka 75.79 247 P P 15 21 08.4 +0.4
LSZ pmax pmax
comp=Z,29nm,0.9s
LSZ MLR MLR
comp=Z,2µm,20.0s
I17K Unalakleet 75.80 26 IAMs_20 IAMs_20 15 52 20.0
comp=Z,2µm,20.0s
I17K Unalakleet 75.80 26 P P 15 21 07.2 +0.1
baz=292,SNR=5.0
G18K Tagagawik 75.81 24 IAMs_20 IAMs_20 15 55 51.4
comp=Z,2µm,19.0s
G18K Tagagawik 75.81 24 P P 15 21 07.2 0.0
baz=294
L14K Kuka Creek 75.90 29 IAmb IAmb 15 21 15.2
comp=Z,43nm,0.9s
L14K Kuka Creek 75.90 29 P P 15 21 07.7 0.0
baz=291,SNR=15
M13K Dall Lake 75.93 30 IAMs_20 IAMs_20 15 54 17.4
comp=Z,2µm,21.0s
M13K Dall Lake 75.93 30 P P 15 21 08.2 +0.4
baz=291
K15K Wolf Creek Mou 76.05 28 IAmb IAmb 15 21 16.8
comp=Z,38nm,1.1s
K15K IAMs_20 IAMs_20 15 56 25.7
comp=Z,2µm,18.0s
K15K Wolf Creek Mou 76.05 28 P P 15 21 09.1 +0.5
baz=292,SNR=8.7
J16K Anvik River 76.07 27 P P 15 21 09.2 +0.5
baz=292,SNR=24
H18K Honhosa River 76.22 25 IAmb IAmb 15 21 11.2
comp=Z,42nm,1.1s
H18K Honhosa River 76.22 25 P P 15 21 09.8 +0.3
baz=294,SNR=17
TOO Toolangi 76.26 141 P P 15 21 13.2 +3.1
TOO Toolangi 76.26 141 P P 15 21 13.2 +3.1
G19K Purcell Mounta 76.29 24 P P 15 21 10.0 +0.1
baz=295,SNR=7.0
L15K Ungalak Mounta 76.30 29 P P 15 21 09.8 -0.2
baz=292,SNR=11
EKA Eskdalemuir Ar 76.32 324 P P 15 21 10.0 -0.2
comp=Z,2.3nm,0.5s,baz=76,slow=5.6,SNR=15
comp=Z,2.3nm,0.5s
ESK Eskdalemuir 76.35 324 IAMs_20 IAMs_20 15 54 06.4
comp=Z,2µm,22.0s
E21K Killik River 76.36 21 IAmb IAmb 15 21 16.3
comp=Z,41nm,0.9s
E21K IAMs_20 IAMs_20 15 59 30.2
comp=Z,2µm,19.0s
E21K Killik River 76.36 21 P P 15 21 10.1 -0.3
baz=297,SNR=37
F20K Avaraart Lake 76.39 22 P P 15 21 10.4 -0.1
baz=296,SNR=23
M14K Bethel 76.44 30 IAMs_20 IAMs_20 15 54 58.0
comp=Z,2µm,19.0s
M14K Bethel 76.44 30 P P 15 21 10.7 -0.1
baz=292,SNR=12
D22K Ayikyak River 76.57 20 IAmb IAmb 15 21 19.9
comp=Z,54nm,1.0s
D22K IAMs_20 IAMs_20 15 53 14.8
comp=Z,1µm,20.0s
D22K Ayikyak River 76.57 20 P P 15 21 12.1 +0.5
baz=298,SNR=19
UNV Unalaska Valle 76.62 37 P P 15 21 11.9 0.0
baz=290
J17K VABM Dome 76.66 26 IAmb IAmb 15 21 18.9
comp=Z,30nm,0.8s
J17K IAMs_20 IAMs_20 15 52 34.9
comp=Z,2µm,20.0s
J17K VABM Dome 76.66 26 P P 15 21 12.5 +0.5
baz=294,SNR=23
C23K Itkillik River 76.75 19 IAMs_20 IAMs_20 15 55 06.4
comp=Z,2µm,19.0s
C23K Itkillik River 76.75 19 P P 15 21 12.4 0.0
baz=300,SNR=11

H19K Roundabout Mou 76.79 24 IAmb IAmb 15 21 19.3
comp=Z,60nm,1.1s
H19K IAMs_20 IAMs_20 15 53 31.5
comp=Z,1µm,18.0s
H19K Roundabout Mou 76.79 24 P P 15 21 12.1 -0.7
baz=296,SNR=33
CAN Canberra 76.88 137 IAmb IAmb 15 21 24.2
comp=Z,56nm,1.4s
CAN IAMs_20 IAMs_20 15 57 11.7
comp=Z,2µm,21.0s
CAN Canberra 76.88 137 P P 15 21 16.3 +2.6
CAN Canberra 76.88 137 P P 15 21 16.2 +2.6
N14K Kuskokwak Cree 76.88 30 IAmb IAmb 15 21 20.7
comp=Z,51nm,1.0s
N14K Kuskokwak Cree 76.88 30 P P 15 21 13.0 -0.3
baz=292
GCSA Galena City Sc 76.97 25 P P 15 21 14.3 +0.6
baz=295,SNR=14
M15K Kasigluk River 77.04 29 P P 15 21 13.9 -0.3
baz=293
F21K Alatna River 77.09 22 IAmb IAmb 15 21 16.2
comp=Z,30nm,0.8s
F21K Alatna River 77.09 22 P P 15 21 14.2 -0.3
baz=298,SNR=39
CNB Canberra Magne 77.10 137 P P 15 21 17.8 +2.8
D23K Nanushuk River 77.16 20 IAMs_20 IAMs_20 15 58 05.4
comp=Z,1µm,21.0s
D23K Nanushuk River 77.16 20 P P 15 21 15.6 +0.8
baz=300,SNR=40
L16K Owhat River 77.17 28 IAMs_20 IAMs_20 15 52 36.5
comp=Z,2µm,21.0s
L16K Owhat River 77.17 28 P P 15 21 15.1 +0.1
baz=294
E22K Anaktuvuk Pass 77.22 21 IAMs_20 IAMs_20 15 56 20.7
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 77.22 21 P P 15 21 15.3 +0.1
baz=299,SNR=22
K17K Iditarod 77.26 27 IAMs_20 IAMs_20 15 59 26.6
comp=Z,1µm,18.0s
K17K Iditarod 77.26 27 P P 15 21 15.6 +0.1
baz=295,SNR=36
O14K Tigyukauivet M 77.34 31 P P 15 21 15.3 -0.6
baz=293
C24K Franklin Bluff 77.38 19 IAMs_20 IAMs_20 16 01 16.1
comp=Z,1µm,19.0s
C24K Franklin Bluff 77.38 19 P P 15 21 16.2 +0.2
baz=302
H20K Anotleneega Mo 77.39 24 P P 15 21 16.2 +0.1
baz=297,SNR=16
F22K John River 77.40 21 P P 15 21 16.6 +0.5
baz=299,SNR=8.0
G21K Allakaket 77.42 23 IAmb IAmb 15 21 23.5
comp=Z,35nm,0.9s
G21K IAMs_20 IAMs_20 15 59 09.1
comp=Z,2µm,19.0s
G21K Allakaket 77.42 23 P P 15 21 16.6 +0.3
baz=298
L17K Donlin 77.50 28 P P 15 21 17.3 +0.5
baz=295,SNR=12
N15K Kwethluk River 77.52 30 IAmb IAmb 15 21 28.0
comp=Z,37nm,1.1s
N15K Kwethluk River 77.52 30 P P 15 21 17.4 +0.4
baz=294,SNR=8.4
IMAR Indian Mountai 77.58 23 P P 15 21 16.2 -1.0
J18K Innoko River 77.59 26 IAmb IAmb 15 21 23.3
comp=Z,59nm,1.1s
J18K IAMs_20 IAMs_20 15 54 30.4
comp=Z,2µm,21.0s
J18K Innoko River 77.59 26 P P 15 21 17.1 -0.2
baz=296,SNR=40
D24K Happy Valley 77.64 19 IAmb IAmb 15 21 23.4
comp=Z,40nm,0.9s
D24K IAMs_20 IAMs_20 15 54 05.0
comp=Z,2µm,21.0s
D24K Happy Valley 77.64 19 P P 15 21 17.5 +0.1
baz=302,SNR=16
TOLK Toolik Lake Re 77.68 20 IAmb IAmb 15 21 25.4
comp=Z,64nm,1.1s
TOLK Toolik Lake Re 77.68 20 P P 15 21 18.1 +0.3
baz=301,SNR=22
M16K Timber Creek 77.68 29 IAmb IAmb 15 21 24.4
comp=Z,60nm,1.5s
M16K Timber Creek 77.68 29 P P 15 21 18.3 +0.4
baz=294
J19K Poorman 77.79 25 IAmb IAmb 15 21 24.8
comp=Z,64nm,1.1s
J19K Poorman 77.79 25 P P 15 21 18.8 +0.4
baz=297,SNR=34
I20K Naaghedeneel 77.87 24 IAMs_20 IAMs_20 15 53 13.9
comp=Z,2µm,20.0s
I20K Naaghedeneel 77.87 24 P P 15 21 19.2 +0.5
baz=297,SNR=15
G22K Bees 77.92 22 P P 15 21 18.9 -0.2
baz=300,SNR=20
FALS False Pass 77.94 35 P P 15 21 19.0 -0.3
baz=292
E23K Chandalar 77.97 20 P P 15 21 20.0 +0.6
baz=301,SNR=11
N16K Nishlik Lake 78.00 29 P P 15 21 20.0 +0.4
baz=295
MATP Matopo 78.03 242 LR LR 15 54 12.8
comp=Z,741nm,20.4s,baz=58,slow=34
O15K Ungalikthiuk R 78.05 31 IAmb IAmb 15 21 26.1
comp=Z,82nm,1.8s
O15K IAMs_20 IAMs_20 15 56 49.7
comp=Z,1µm,19.0s
O15K Ungalikthiuk R 78.05 31 P P 15 21 20.0 +0.1
baz=294
H21K Melozitna Rive 78.08 23 P P 15 21 20.4 +0.4
baz=299,SNR=48
NEEM North Greenlan 78.12 353 *i* P P 15 21 20.8 +0.4
NEEM IAML 15 21 22.7
comp=Z,24nm,0.8s
L18K Granite Mounta 78.15 27 IAMs_20 IAMs_20 15 55 20.4
comp=Z,1µm,18.0s
L18K Granite Mounta 78.15 27 P P 15 21 20.8 +0.3
baz=296,SNR=11
M17K Holitna River 78.19 28 IAmb IAmb 15 21 27.6
comp=Z,89nm,1.8s
M17K IAMs_20 IAMs_20 15 54 46.4
comp=Z,1µm,19.0s
M17K Holitna River 78.19 28 P P 15 21 21.5 +0.9
baz=296,SNR=6.3
COLD Coldfoot 78.20 21 P P 15 21 20.9 +0.2
baz=301,SNR=12
D25K Kavik River 78.28 19 IAMs_20 IAMs_20 15 57 46.0
comp=Z,1µm,19.0s
D25K Kavik River 78.28 19 P P 15 21 21.1 0.0
baz=304,SNR=20
J20K Nowinta River 78.28 25 IAMs_20 IAMs_20 15 54 54.9
comp=Z,2µm,18.0s
J20K Nowinta River 78.28 25 P P 15 21 20.8 -0.3
baz=298,SNR=16
E24K Your Creek 78.32 20 IAmb IAmb 15 21 23.6
comp=Z,31nm,0.8s
E24K Your Creek 78.32 20 P P 15 21 21.6 +0.2
baz=302,SNR=43
S12K Black Hills 78.33 34 IAMs_20 IAMs_20 15 54 42.1
comp=Z,1µm,20.0s
S12K Black Hills 78.33 34 P P 15 21 21.3 -0.3
baz=293
C26K Camden Bay 78.37 18 P P 15 21 22.2 +0.8
baz=305
H22K Ishtalitna Cre 78.48 23 P P 15 21 22.8 +0.6
baz=300,SNR=36
G23K Bananza Creek 78.53 22 P P 15 21 22.8 +0.3
baz=301,SNR=24
I21K Tanana 78.61 23 IAmb IAmb 15 21 28.9
comp=Z,51nm,1.2s
I21K Tanana 78.61 23 P P 15 21 23.4 +0.4
baz=300,SNR=21
O16K Kokwok River B 78.68 30 IAMs_20 IAMs_20 15 54 30.2
comp=Z,1µm,18.0s
O16K Kokwok River B 78.68 30 P P 15 21 23.4 +0.1
baz=295,SNR=7.8
N17K Nushagak Hills 78.68 29 IAmb IAmb 15 21 30.2
comp=Z,51nm,1.5s
N17K IAMs_20 IAMs_20 15 58 53.4
comp=Z,2µm,18.0s
N17K Nushagak Hills 78.68 29 P P 15 21 23.0 -0.4
baz=296,SNR=5.8
K20K Telida 78.70 25 IAmb IAmb 15 21 25.7
comp=Z,39nm,1.1s
K20K IAMs_20 IAMs_20 15 56 39.9
comp=Z,1µm,19.0s
K20K Telida 78.70 25 P P 15 21 24.0 +0.5
baz=298,SNR=22
F24K Squaw Lake 78.81 20 IAmb IAmb 15 21 26.2
comp=Z,129nm,2.0s
F24K IAMs_20 IAMs_20 15 58 32.9
comp=Z,1µm,19.0s
F24K Squaw Lake 78.81 20 P P 15 21 24.5 +0.4
baz=303,SNR=13
M18K Stony River 78.84 28 P P 15 21 24.7 +0.5
baz=297,SNR=7.5
C27K Jago River 78.88 18 IAmb IAmb 15 21 27.1
comp=Z,64nm,1.0s
C27K IAMs_20 IAMs_20 15 58 04.7
comp=Z,2µm,22.0s
C27K Jago River 78.88 18 P P 15 21 25.3 +1.0
baz=306,SNR=15
L19K White Mountain 78.93 27 IAmb IAmb 15 21 31.3
comp=Z,40nm,1.2s
L19K White Mountain 78.93 27 P P 15 21 25.0 +0.2
baz=298,SNR=16
P16K Nushagak River 78.97 30 IAmb IAmb 15 21 30.2
comp=Z,45nm,1.1s
P16K IAMs_20 IAMs_20 15 59 27.0
comp=Z,1µm,19.0s
P16K Nushagak River 78.97 30 P P 15 21 24.2 -0.7
baz=296
O17K Koliganek Bris 79.06 29 P P 15 21 24.6 -0.8
baz=296,SNR=5.9
CHUM Lake Minchumin 79.13 25 P P 15 21 25.9 +0.2
baz=300,SNR=24
MLY Manley 79.14 23 IAmb IAmb 15 21 27.9
comp=Z,34nm,0.9s
MLY IAMs_20 IAMs_20 15 59 28.6
comp=Z,2µm,19.0s
MLY Manley 79.14 23 P P 15 21 25.9 0.0
baz=301,SNR=34
H23K Yukon River 79.16 22 P P 15 21 26.6 +0.6
baz=302,SNR=17
N18K Kilae Creek 79.19 28 IAmb IAmb 15 21 32.7
comp=Z,71nm,1.6s
N18K Kilae Creek 79.19 28 P P 15 21 26.4 +0.3
baz=297
L20K Farewell, AK 79.19 26 P P 15 21 26.6 +0.4
baz=298,SNR=11
E25K Arctic Village 79.21 19 IAmb IAmb 15 21 29.4
comp=Z,46nm,1.2s
E25K Arctic Village 79.21 19 P P 15 21 27.0 +0.8
baz=305,SNR=20
M19K Big River Lodg 79.26 27 P P 15 21 26.2 -0.4
baz=298,SNR=7.4
SDPT Sand Point 79.30 34 P P 15 21 29.4 +2.6
SDPT Sand Point 79.30 34 P P 15 21 26.0 -0.8
baz=294
BROLN Tlhalogang 79.31 242 *i* P P 15 21 28.3 +0.7
S14K Fog Glacier 79.39 33 P P 15 21 26.3 -1.2
baz=295
G24K Hadweenzic Riv 79.39 21 IAmb IAmb 15 21 29.5
comp=Z,130nm,2.0s
G24K Hadweenzic Riv 79.39 21 P P 15 21 27.5 +0.3
baz=303,SNR=15
CAST Castle Rocks 79.45 25 IAmb IAmb 15 21 29.5
comp=Z,54nm,1.1s
CAST IAMs_20 IAMs_20 15 55 40.8
comp=Z,1µm,20.0s
CAST Castle Rocks 79.45 25 P P 15 21 27.9 +0.3
baz=300,SNR=34
F25K Christian Rive 79.48 20 IAmb IAmb 15 21 36.1
comp=Z,55nm,1.1s
F25K Christian Rive 79.48 20 P P 15 21 28.6 +0.8
baz=305,SNR=55
BPAW Bear Paw Mtn. 79.53 24 IAmb IAmb 15 21 30.3
comp=Z,27nm,0.7s
BPAW IAMs_20 IAMs_20 15 56 16.8
comp=Z,1µm,18.0s
BPAW Bear Paw Mtn. 79.53 24 P P 15 21 27.6 -0.4
baz=301,SNR=47
I23K Minto, Yukon-K 79.58 23 IAMs_20 IAMs_20 16 00 02.3
comp=Z,1µm,19.0s
I23K Minto, Yukon-K 79.58 23 P P 15 21 28.5 +0.3
baz=302,SNR=8.2
P17K Kvichak River 79.61 30 P P 15 21 28.9 +0.4
baz=297,SNR=8.0
PPLA Purkeypile 79.67 25 IAmb IAmb 15 21 35.1
comp=Z,70nm,1.2s
PPLA IAMs_20 IAMs_20 15 57 10.6
comp=Z,1µm,19.0s
PPLA Purkeypile 79.67 25 P P 15 21 29.4 +0.5
baz=300,SNR=10.0
H24K Noodor Dome 79.73 22 IAMs_20 IAMs_20 15 55 54.1
comp=Z,1µm,20.0s
H24K Noodor Dome 79.73 22 P P 15 21 28.9 -0.2
baz=303,SNR=18
N19K Bonanza Creek 79.73 28 IAmb IAmb 15 21 35.8
comp=Z,106nm,1.7s
N19K Bonanza Creek 79.73 28 P P 15 21 28.9 -0.4
baz=298,SNR=8.2
Q16K King Salmon 79.75 30 P P 15 21 28.7 -0.5
baz=297,SNR=10
M20K Styx River 79.79 27 P P 15 21 29.3 -0.2
baz=299,SNR=17
R16K Pilot Point 79.81 32 P P 15 21 28.5 -1.1
baz=296
G25K Bearman Lake 79.81 21 P P 15 21 30.1 +0.7
baz=304,SNR=24
KTH Kantishna Hill 79.83 25 IAMs_20 IAMs_20 15 55 52.7
comp=Z,1µm,19.0s
D27M Malcolm River 79.88 18 IAMs_20 IAMs_20 15 56 13.3
comp=Z,1µm,21.0s
D27M Malcolm River 79.88 18 P P 15 21 30.1 +0.2
baz=309,SNR=6.0
F26K Sheenjek River 79.89 20 IAmb IAmb 15 21 38.1
comp=Z,58nm,1.1s
F26K IAMs_20 IAMs_20 16 02 02.5
comp=Z,2µm,20.0s
F26K Sheenjek River 79.89 20 P P 15 21 30.9 +0.9
baz=306,SNR=35
BMAR Burnt Mountain 79.91 20 P P 15 21 30.6 +0.5
CHGN Chignik 79.95 33 IAmb IAmb 15 21 32.1
comp=Z,32nm,0.8s
CHGN IAMs_20 IAMs_20 15 57 11.0
comp=Z,1µm,20.0s
CHGN Chignik 79.95 33 P P 15 21 30.3 -0.1
baz=296,SNR=6.7
CHNA Chernabura Isl 79.98 35 P P 15 21 34.2 +3.7
CHNA Chernabura Isl 79.98 35 P P 15 21 29.7 -0.8
baz=295
NEA2 Nenana 79.98 23 P P 15 21 29.9 -0.5
baz=302,SNR=13
CNBA Chernabura Isl 79.99 35 IAmb IAmb 15 21 32.2
comp=Z,76nm,1.1s
SUMG Summit 80.04 347 IAMs_20 IAMs_20 16 03 10.4
comp=Z,1µm,19.0s
SUMG Summit 80.04 347 P P 15 21 29.2 -1.9
SUMG Summit 80.04 347 *i* P P 15 21 29.1 -2.0
SUMG IAML 15 21 33.4
comp=Z,12nm,0.7s
BWN Browne 80.06 24 IAmb IAmb 15 21 37.9
comp=Z,59nm,1.0s
P18K Big Mountain, 80.08 29 IAMs_20 IAMs_20 15 56 44.2
comp=Z,1µm,18.0s
P18K Big Mountain, 80.08 29 P P 15 21 30.6 -0.5
baz=298
O19K Port Alsworth 80.10 28 P P 15 21 31.4 +0.3
baz=298,SNR=6.7
TRF Thorofare Moun 80.13 25 IAMs_20 IAMs_20 15 56 02.6
comp=Z,1µm,19.0s
TRF Thorofare Moun 80.13 25 P P 15 21 31.3 -0.2
baz=301
H25L Birch Creek 80.19 21 P P 15 21 31.6 +0.1
baz=305,SNR=11
FYU Fort Yukon 80.21 21 IAmb IAmb 15 21 35.3
comp=Z,124nm,1.6s
COLA College 80.27 23 P P 15 21 32.0 +0.1
COLA IAmb IAmb 15 21 37.0
comp=Z,50nm,1.3s
COLA College 80.27 23 IAMs_20 IAMs_20 16 00 24.4
comp=Z,1µm,18.0s
COLA College 80.27 23 P P 15 21 33.9 +2.0
COLA College 80.27 23 *d* P P 15 21 32.2 +0.3
COLA pmax pmax
comp=Z,7.0nm,0.6s
COLA College 80.27 23 P P 15 21 30.7 -1.2
baz=303
POKR Poker Plat Res 80.28 22 IAmb IAmb 15 21 38.1
comp=Z,50nm,0.9s
POKR IAMs_20 IAMs_20 15 55 03.6
comp=Z,1µm,20.0s
POKR Poker Plat Res 80.28 22 P P 15 21 32.5 +0.5
baz=304,SNR=19
Q17K Contact Creek 80.30 31 P P 15 21 30.3 -2.0
baz=297

E27K Coleen River 80.36 19 IAmb IAmb 15 21 34.9
comp=Z,72nm,1.3s
E27K IAMs_20 IAMs_20 15 58 07.0
comp=Z,1µm,18.0s
E27K Coleen River 80.36 19 P **P** **15 21 33.0 +0.5**
baz=308,SNR=26
R17L Mt. Peulik Vol 80.36 31 P **P** **15 21 30.6 -2.1**
baz=297
SKT Skwentna 80.40 26 IAmb IAmb 15 21 38.1
comp=Z,64nm,1.2s
SKT IAMs_20 IAMs_20 15 59 06.6
comp=Z,1µm,18.0s
SKT Skwentna 80.40 26 P **P** **15 21 32.5 -0.3**
baz=300,SNR=17
CCB Clear Creek Bu 80.41 23 IAMs_20 IAMs_20 16 00 28.0
comp=Z,1µm,18.0s
D28M Stokes Point 80.44 17 P **P** **15 21 33.2 +0.4**
baz=311
G26K Porcupine Rive 80.45 20 IAMs_20 IAMs_20 15 59 18.0
comp=Z,1µm,20.0s
G26K Porcupine Rive 80.45 20 P **P** **15 21 33.7 +0.8**
baz=306,SNR=46
MCK McKinley 80.50 24 IAmb IAmb 15 21 34.5
comp=Z,52nm,1.2s
MCK IAMs_20 IAMs_20 15 58 16.4
comp=Z,2µm,21.0s
MCK McKinley 80.50 24 P **P** **15 21 33.0 -0.2**
baz=302,SNR=16
N20K Mount Spurr 80.51 27 P **P** **15 21 33.2 -0.2**
baz=300
SPCR Spurr Chakacha 80.51 27 P **P** **15 21 33.4 0.0**
baz=300
STLK Strandline Lak 80.52 27 IAMs_20 IAMs_20 15 55 40.0
comp=Z,1µm,19.0s
Q18K Katmai Hardscr 80.53 30 P **P** **15 21 32.3 -1.3**
baz=298
ACHA Angle Creek He 80.58 30 IAMs_20 IAMs_20 15 57 40.7
comp=Z,1µm,19.0s
SPU Mount Spurr 80.59 27 IAMs_20 IAMs_20 15 56 17.8
comp=Z,1µm,20.0s
ILAR Eielson Array 80.67 23 P **P** **15 21 32.6 -1.5**
ILAR Eielson Array 80.67 23 P **P** **15 21 32.9 -1.3**
comp=Z,4.5nm,0.6s,baz=279,slow=5.5,SNR=67
ILAR LR LR 16 00 58.8
comp=Z,852nm,19.4s,baz=288,slow=38
comp=Z,4.5nm,0.6s
CUT Chulitna 80.69 25 IAmb IAmb 15 21 55.8
comp=Z,47nm,1.1s
CUT IAMs_20 IAMs_20 16 00 47.5
comp=Z,1µm,18.0s
CUT Chulitna 80.69 25 P **P** **15 21 34.1 -0.1**
baz=301
E28M Babbage River 80.69 18 IAmb IAmb 15 21 36.6
comp=Z,55nm,1.2s
E28M IAMs_20 IAMs_20 15 59 03.6
comp=Z,1µm,21.0s
E28M Babbage River 80.69 18 P **P** **15 21 34.7 +0.5**
baz=310,SNR=32
RND Reindeer 80.70 24 IAMs_20 IAMs_20 15 58 55.8
comp=Z,1µm,18.0s
ILSW Iliamna Southw 80.72 28 IAmb IAmb 15 21 44.2
comp=Z,62nm,1.5s
ILSW IAMs_20 IAMs_20 15 59 13.3
comp=Z,1µm,19.0s
PRP Porcupine Dome 80.72 22 IAMs_20 IAMs_20 16 01 23.3
comp=Z,1µm,18.0s
PRP Porcupine Dome 80.72 22 P **P** **15 21 34.7 +0.1**
baz=305,SNR=55
P19K Oil Pt 80.84 29 P **P** **15 21 34.8 -0.3**
baz=299
HDA Harding Lake 80.85 23 P **P** **15 21 33.7 -1.4**
baz=304,SNR=11
O20K Slope Mountain 80.90 28 P **P** **15 21 34.7 -0.8**
baz=300
SUA Susitna One 80.98 26 IAmb IAmb 15 21 38.3
comp=Z,33nm,0.8s
SUA IAMs_20 IAMs_20 15 55 54.3
comp=Z,2µm,20.0s
SUA Susitna One 80.98 26 P **P** **15 21 35.1 -0.9**
baz=301
Q19K Cape Douglas, 81.01 29 IAMs_20 IAMs_20 15 55 04.1
comp=Z,1µm,20.0s
Q19K Cape Douglas, 81.01 29 P **P** **15 21 34.6 -1.5**
baz=299
M22K Willow 81.09 26 IAmb IAmb 15 21 43.2
comp=Z,64nm,0.9s
M22K IAMs_20 IAMs_20 15 57 59.1
comp=Z,1µm,20.0s
M22K Willow 81.09 26 P **P** **15 21 36.0 -0.3**
baz=302,SNR=8.1
WAT1 Susitna Watana 81.13 25 P **P** **15 21 36.3 -0.4**
baz=303
PHDHD Phuduhudu 81.18 244 IAmb IAmb 15 21 44.8
comp=Z,48nm,1.2s
PHDHD IAMs_20 IAMs_20 15 59 09.0
comp=Z,1µm,21.0s
G27K Doyon Strip 81.20 20 IAmb IAmb 15 21 39.3
comp=Z,45nm,1.3s
G27K IAMs_20 IAMs_20 15 55 39.1
comp=Z,1µm,20.0s
G27K Doyon Strip 81.20 20 P **P** **15 21 36.9 -0.1**
baz=308,SNR=26
F28M Old Crow 81.23 19 IAmb IAmb 15 21 39.3
comp=Z,43nm,1.1s
F28M IAMs_20 IAMs_20 16 02 42.9
comp=Z,1µm,18.0s
F28M Old Crow 81.23 19 P **P** **15 21 37.4 +0.3**
baz=310,SNR=35
E29M Blow River 81.29 17 IAmb IAmb 15 21 39.7
comp=Z,61nm,1.1s
E29M IAMs_20 IAMs_20 15 59 34.4
comp=Z,2µm,22.0s
E29M Blow River 81.29 17 P **P** **15 21 37.6 +0.3**
baz=311,SNR=27
J25K Salcha River, 81.30 22 IAMs_20 IAMs_20 15 58 58.6
comp=Z,1µm,21.0s
J25K Salcha River, 81.30 22 P **P** **15 21 36.2 -1.4**
baz=305,SNR=19
R18K Karluk 81.30 31 P **P** **15 21 36.4 -1.2**
baz=299
TAM Tamanrasset 81.36 291 IAmb IAmb 15 21 47.5
comp=Z,24nm,0.6s
TAM IAMs_20 IAMs_20 16 04 39.0
comp=Z,1µm,19.0s
TAM Tamanrasset 81.36 291 P **P** **15 21 40.3 +1.5**
DHY Denali Highway 81.44 24 IAMs_20 IAMs_20 15 57 28.3
comp=Z,1µm,19.0s
DHY Denali Highway 81.44 24 P **P** **15 21 37.9 -0.5**
baz=304,SNR=6.7
HOM Homer 81.54 28 P **P** **15 21 38.3 -0.5**
baz=301
CHIR Chirikof Islan 81.56 33 P **P** **15 21 38.4 -0.6**
baz=298
PMR Palmer 81.57 26 IAMs_20 IAMs_20 15 56 22.9
comp=Z,1µm,19.0s
PMR Palmer 81.57 26 P **P** **15 21 40.9 +2.0**
PMR Palmer 81.57 26 P **P** **15 21 38.2 -0.8**
baz=302,SNR=7.1
WAT6 Susitna Watana 81.58 25 P **P** **15 21 38.8 -0.4**
baz=304,SNR=14
A36M Sachs Harbour 81.59 12 P **P** **15 21 39.0 +0.2**
baz=322,SNR=22
RC01 Rabbit Creek A 81.60 26 IAmb IAmb 15 21 43.9
comp=Z,48nm,1.0s
RC01 IAMs_20 IAMs_20 15 56 24.5
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 81.60 26 P **P** **15 21 38.7 -0.4**
baz=302
LPHEP Lephephe 81.60 240 *i* P **P** **15 21 41.1 +1.3**
H27K Steamboat Moun 81.60 20 IAmb IAmb 15 21 41.7
comp=Z,47nm,0.9s
H27K IAMs_20 IAMs_20 15 59 14.6
comp=Z,1µm,20.0s
H27K Steamboat Moun 81.60 20 P **P** **15 21 39.6 +0.5**
baz=308,SNR=50
K24K Donnelly Dome 81.62 23 IAMs_20 IAMs_20 16 01 31.1
comp=Z,1µm,20.0s
K24K Donnelly Dome 81.62 23 P **P** **15 21 39.1 -0.1**
baz=305,SNR=27
I26K Coal Creek Min 81.64 21 IAmb IAmb 15 21 42.3
comp=Z,53nm,1.2s
I26K Coal Creek Min 81.64 21 P **P** **15 21 39.8 +0.5**
baz=307
Q20K Shuyak Island 81.74 29 P **P** **15 21 39.1 -0.7**
baz=300
SYI Shuyak Island 81.74 29 IAMs_20 IAMs_20 15 56 50.1
comp=Z,1µm,20.0s
CNPM China Poot 81.78 28 IAMs_20 IAMs_20 15 59 48.3
comp=Z,1µm,19.0s
BRLK Bradley Lake 81.81 28 IAMs_20 IAMs_20 16 00 11.0
comp=Z,1µm,18.0s
SII Sitkinak Islan 81.92 32 P **P** **15 21 40.5 -0.4**
baz=299
O22K Cooper Landing 81.93 27 P **P** **15 21 40.1 -0.7**
baz=302
KNK Knik Glacier 81.94 26 P **P** **15 21 40.4 -0.5**
baz=303,SNR=8.4
I27K Kandik River 81.97 21 P **P** **15 21 42.0 +1.0**
baz=308,SNR=55
J26L Joseph Creek 81.99 22 IAmb IAmb 15 21 48.4
comp=Z,58nm,1.1s
J26L IAMs_20 IAMs_20 15 58 19.8
comp=Z,1µm,20.0s
J26L Joseph Creek 81.99 22 P **P** **15 21 41.0 -0.3**
baz=307,SNR=47
RIDG Independent Ri 82.00 23 IAmb IAmb 15 21 47.8
comp=Z,59nm,1.0s
RIDG IAMs_20 IAMs_20 16 01 35.0
comp=Z,1µm,18.0s
RIDG Independent Ri 82.00 23 P **P** **15 21 40.5 -0.7**
baz=306,SNR=20
OHAK Old Harbor 82.02 31 IAmb IAmb 15 21 51.6
comp=Z,29nm,0.9s
OHAK IAMs_20 IAMs_20 15 59 29.7
comp=Z,1µm,19.0s
OHAK Old Harbor 82.02 31 P **P** **15 21 44.1 +2.7**
OHAK Old Harbor 82.02 31 P **P** **15 21 40.6 -0.8**
baz=300
M23K Glacier View 82.03 25 P **P** **15 21 41.2 -0.2**
baz=304,SNR=8.8
KDAK Kodiak Island 82.07 30 IAMs_20 IAMs_20 15 58 10.0
comp=Z,1µm,20.0s
KDAK Kodiak Island 82.07 30 P **P** **15 21 40.7 -0.9**
comp=Z,14nm,0.5s,baz=292,slow=2.5,SNR=49
KDAK LR LR 15 59 33.4
comp=Z,1µm,18.9s,baz=317,slow=37
comp=Z,14nm,0.5s
KDAK Kodiak Island 82.07 30⇑ *e*P **P** **15 21 41.4 -0.2**
KDAK pmax pmax
comp=Z,17nm,0.9s
KDAK MLR MLR
comp=Z,1µm,18.0s
KDAK Kodiak Island 82.07 30 P **P** **15 21 41.1 -0.5**
baz=300
SCM Sheep Creek Mo 82.16 25 IAmb IAmb 15 21 58.4
comp=Z,72nm,1.6s
SCM IAMs_20 IAMs_20 16 03 45.4
comp=Z,920nm,18.0s
SCM Sheep Creek Mo 82.16 25 P **P** **15 21 42.0 -0.1**
baz=304
SCRK Sand Creek 82.16 23 IAmb IAmb 15 21 49.5
comp=Z,38nm,0.9s
SCRK Sand Creek 82.16 23 P **P** **15 21 42.5 +0.3**
baz=307,SNR=41
PAX Paxson 82.22 24 IAMs_20 IAMs_20 15 58 01.9
comp=Z,1µm,20.0s
PAX Paxson 82.22 24 P **P** **15 21 42.0 -0.5**
baz=305,SNR=16
G29M Pine Creek 82.24 19 IAmb IAmb 15 21 44.4
comp=Z,63nm,1.2s
G29M Pine Creek 82.24 19 P **P** **15 21 42.6 +0.2**
baz=312,SNR=22
SEW Seward 82.24 27 P **P** **15 21 42.5 0.0**
baz=302
DZM Mont Dzumac 82.27 118 *e*P P 15 21 33.4 -10
comp=Z,78nm,1.2s
DZM Mont Dzumac 82.27 118 *e*S **S** **15 31 53.0 -5.5**
comp=Z,125nm,28.1s
DZM *e*SS **SS** **15 37 13.8 -5.5**
comp=Z,194nm,32.5s
DZM *e*LQ LQ 15 43 54.1
comp=Z,2µm,35.7s
DZM *e*LR LR 15 47 26.3
comp=Z,831nm,24.0s
DZM Mont Dzumac 82.27 118 P **P** **15 21 45.4 +2.0**
comp=Z,14nm,0.9s,baz=18,slow=6.4,SNR=4.0
comp=Z,14nm,0.9s
DZM Mont Dzumac 82.27 118 P **P** **15 21 46.7 +3.3**
PWL Port Wells 82.30 26 IAmb IAmb 15 21 48.0
comp=Z,46nm,0.8s
PWL Port Wells 82.30 26 P **P** **15 21 42.4 -0.4**
baz=303,SNR=12
DOT Dot Lake 82.33 23 IAMs_20 IAMs_20 15 59 08.9
comp=Z,1µm,19.0s
CKGRV CKGRV 82.37 243 *i* P **P** **15 21 44.8 +0.9**
F30M Barrier River 82.40 18 IAMs_20 IAMs_20 16 00 07.7
comp=Z,2µm,22.0s
F30M Barrier River 82.40 18 P **P** **15 21 43.6 +0.3**
baz=313,SNR=16
M24K Tolsona, Glenn 82.45 25 IAMs_20 IAMs_20 15 55 58.1
comp=Z,1µm,22.0s
M24K Tolsona, Glenn 82.45 25 P **P** **15 21 43.9 +0.2**
baz=305,SNR=8.2
INK Inuvik 82.52 16 P **P** **15 21 44.0 +0.2**
comp=Z,53nm,0.9s,baz=326,slow=5.7,SNR=5.6
INK LR LR 16 04 30.2
comp=Z,718nm,18.6s,baz=304,slow=40
comp=Z,53nm,0.9s
INK Inuvik 82.52 16 P **P** **15 21 43.9 +0.1**
baz=315,SNR=17
H29M Whitestone 82.59 19 IAMs_20 IAMs_20 15 56 21.7
comp=Z,2µm,22.0s
H29M Whitestone 82.59 19 P **P** **15 21 44.3 +0.1**
baz=311,SNR=28
I28M Miner Creek 82.61 20 IAmb IAmb 15 21 46.4
comp=Z,45nm,1.1s
I28M Miner Creek 82.61 20 P **P** **15 21 44.5 +0.1**
baz=310,SNR=23
LBTB Lobatse 82.61 239 LR LR 15 56 43.2
comp=Z,614nm,20.6s,baz=51,slow=34
ESDC Sonseca Array 82.62 310 P **P** **15 21 45.2 +0.2**
ESDC Sonseca Array 82.62 310 P **P** **15 21 44.5 -0.5**
comp=Z,2.6nm,1.0s,baz=58,slow=4.1,SNR=14
ESDC PP **PP** **15 24 53.8 -0.6**
comp=Z,2.5nm,0.9s,baz=71,slow=7.2,SNR=4.4
ESDC LR LR 16 06 20.8
comp=Z,344nm,18.1s,baz=52,slow=41
comp=Z,2.6nm,1.0s
EGAK Eagle 82.64 21 IAMs_20 IAMs_20 16 01 42.5
comp=Z,1µm,18.0s
HARP HAARP 82.67 24 P **P** **15 21 44.6 -0.2**
baz=306,SNR=12
G30M tAoh Zraii Nji 82.71 18 IAMs_20 IAMs_20 16 00 39.1
comp=Z,1µm,20.0s
G30M tAoh Zraii Nji 82.71 18 P **P** **15 21 44.2 -0.7**
baz=313,SNR=66
GLI Glacier Island 82.79 26 IAMs_20 IAMs_20 16 01 17.9
comp=Z,2µm,21.0s
GLI Glacier Island 82.79 26 P **P** **15 21 45.3 -0.1**
baz=304
K27K Chicken 82.80 22 IAMs_20 IAMs_20 16 02 06.2
comp=Z,1µm,19.0s
K27K Chicken 82.80 22 P **P** **15 21 46.3 +0.9**
baz=308
MENT Mentasta 82.88 23 IAmb IAmb 15 22 08.3
comp=Z,21nm,0.8s
MENT IAMs_20 IAMs_20 15 57 57.5
comp=Z,1µm,19.0s
MENT Mentasta 82.88 23 P **P** **15 21 48.3 +2.4**
KLU Klutina 82.91 25 IAmb IAmb 15 21 53.2
comp=Z,42nm,0.9s
KLU IAMs_20 IAMs_20 15 57 03.9
comp=Z,1µm,21.0s
KLU Klutina 82.91 25 P **P** **15 21 46.4 +0.3**
baz=305,SNR=22
L26K Log Cabin Wild 82.97 23 IAMs_20 IAMs_20 15 58 01.7
comp=Z,1µm,20.0s
L26K Log Cabin Wild 82.97 23 P **P** **15 21 46.3 +0.1**
baz=307,SNR=5.3
EPYK Eagle Plains 82.99 19 IAmb IAmb 15 21 47.6
comp=Z,54nm,1.1s
EPYK IAMs_20 IAMs_20 16 03 54.1
comp=Z,1µm,20.0s
EPYK Eagle Plains 82.99 19 P **P** **15 21 46.0 -0.3**
baz=313,SNR=20
F31M Tsiigehtchic 83.08 17 IAMs_20 IAMs_20 16 00 51.7
comp=Z,1µm,22.0s
F31M Tsiigehtchic 83.08 17 P **P** **15 21 46.1 -0.6**
baz=315,SNR=33
FID Port Fidalgo 83.11 26 IAmb IAmb 15 21 53.1
comp=Z,45nm,1.2s
I29M Ogilvie Camp, 83.18 20 IAmb IAmb 15 21 48.7
comp=Z,42nm,1.5s
I29M Ogilvie Camp, 83.18 20 P **P** **15 21 46.7 -0.7**
baz=311,SNR=14
G31M Satah River 83.31 18 IAMs_20 IAMs_20 16 01 08.8
comp=Z,1µm,20.0s
G31M Satah River 83.31 18 P **P** **15 21 47.5 -0.4**
baz=315,SNR=33
N25K Chitina, Valde 83.35 25 IAmb IAmb 15 21 51.8
comp=Z,28nm,0.8s
N25K IAMs_20 IAMs_20 15 55 18.9
comp=Z,1µm,22.0s
N25K Chitina, Valde 83.35 25 P **P** **15 21 48.9 +0.5**
baz=306,SNR=25
M26K Nabesna, AK 83.47 24 IAMs_20 IAMs_20 15 57 34.0
comp=Z,1µm,18.0s
M26K Nabesna, AK 83.47 24 P **P** **15 21 49.5 +0.6**
baz=308,SNR=29
L27K Beaver Creek, 83.49 23 IAMs_20 IAMs_20 16 00 35.5
comp=Z,1µm,19.0s
L27K Beaver Creek, 83.49 23 P **P** **15 21 49.9 +0.9**
baz=309,SNR=39
BCAR Beaver Creek A 83.50 23 P **P** **15 21 48.1 -1.0**
EYAK Cordova Ski Ar 83.52 26 IAmb IAmb 15 21 52.4
comp=Z,29nm,0.9s
EYAK Cordova Ski Ar 83.52 26 P **P** **15 21 50.8 +1.7**
EYAK Cordova Ski Ar 83.52 26 P **P** **15 21 48.8 -0.4**
baz=306,SNR=8.3
MAKGR Makgori 83.62 239 *i* P **P** **15 21 50.7 +0.4**
QNGWA Qangwa 83.69 246 *i* P **P** **15 21 51.3 +0.5**
QNGWA Qangwa 83.69 246 IAmb IAmb 15 21 57.6
comp=Z,37nm,1.0s
QNGWA IAMs_20 IAMs_20 16 00 10.6
comp=Z,921nm,18.0s
DAWY Dawson 83.69 21 IAmb IAmb 15 21 51.8
comp=Z,34nm,1.1s
DAWY Dawson 83.69 21 P **P** **15 21 49.8 -0.2**
baz=311,SNR=14
BMRM Bremner River 83.73 25 P **P** **15 21 50.4 +0.1**
baz=306,SNR=31
GLB Gilahina Butte 83.75 25 IAmb IAmb 15 21 53.5
comp=Z,26nm,1.1s
GLB IAMs_20 IAMs_20 15 57 42.5
comp=Z,1µm,21.0s
J29N Klondike Camp 83.82 21 IAmb IAmb 15 21 53.0
comp=Z,52nm,1.1s
J29N IAMs_20 IAMs_20 16 02 43.2
comp=Z,2µm,20.0s
J29N Klondike Camp 83.82 21 P **P** **15 21 50.7 0.0**
baz=312,SNR=5.9
I30M Mount Dempster 83.88 19 P **P** **15 21 50.4 -0.7**
baz=313,SNR=54
M27K Edge Creek, AK 83.91 23 IAMs_20 IAMs_20 16 01 22.5
comp=Z,1µm,18.0s
M27K Edge Creek, AK 83.91 23 P **P** **15 21 52.2 +0.9**
baz=309,SNR=35
Q23K Middleton Isla 83.92 27 P **P** **15 21 50.5 -0.7**
baz=305
C36M Paulatuk 83.95 13 P **P** **15 21 51.0 -0.2**
baz=324,SNR=19
VRDI Verde Repeater 84.02 25 IAMs_20 IAMs_20 15 59 55.4
comp=Z,1µm,19.0s
RAGM Ragged Mountai 84.05 26 IAmb IAmb 15 21 57.9
comp=Z,24nm,0.9s
H31M Peel River 84.08 18 IAMs_20 IAMs_20 16 04 37.0
comp=Z,1µm,19.0s
H31M Peel River 84.08 18 P **P** **15 21 51.5 -0.4**
baz=315,SNR=67
MCARA McCarthy VSAT 84.09 24 P **P** **15 21 52.3 +0.3**
baz=308,SNR=17
EDA Edea 84.14 272 IAmb IAmb 15 21 59.5
comp=Z,27nm,1.1s
EDA IAMs_20 IAMs_20 15 59 14.2
comp=Z,1µm,21.0s
MVO Moncorvo 84.16 312 *e*P **P** **15 21 54.6 +1.7**
MVO *i* IAmb IAmb 15 21 59.6
comp=Z,19nm,1.8s
MVO *i* tx tx 15 22 38.7
MVO *e*LR LR 15 50 42.4
MVO *i* IAMs_20 IAMs_20 16 05 16.1
comp=Z,533nm,20.0s
BVCY Beaver Creek 84.24 23 P **P** **15 21 53.8 +1.0**
baz=309,SNR=19
HMT Hamilton 84.24 26 IAmb IAmb 15 22 00.7
comp=Z,29nm,1.1s
HMT IAMs_20 IAMs_20 16 01 34.5
comp=Z,1µm,20.0s
KGCAE Kacgae 84.33 243 *i* P **P** **15 21 54.9 +0.8**
J30M Hart River 84.33 20 IAmb IAmb 15 21 55.3
comp=Z,31nm,1.1s
J30M IAMs_20 IAMs_20 15 59 00.8
comp=Z,1µm,19.0s
J30M Hart River 84.33 20 P **P** **15 21 53.4 0.0**
baz=313,SNR=22
KAIM Kayak Island 84.43 26 P **P** **15 21 54.2 +0.4**
baz=307
CRQM Cirque 84.43 25 IAmb IAmb 15 22 04.8
comp=Z,21nm,0.9s
BERG Berg Lake 84.43 25 IAmb IAmb 15 21 57.1
comp=Z,25nm,0.9s
CRQE Cirque 84.45 25 P **P** **15 21 54.2 +0.1**
baz=308
K29M Barlow Dome 84.45 21 IAmb IAmb 15 21 56.2
comp=Z,34nm,1.0s
K29M Barlow Dome 84.45 21 P **P** **15 21 54.5 +0.5**
baz=312,SNR=46
GRTLG Ghanzi 84.47 244 IAmb IAmb 15 22 01.5
comp=Z,22nm,0.8s
GRTLG IAMs_20 IAMs_20 16 01 10.3
comp=Z,1µm,19.0s
BOSA Boshof 84.62 236 P **P** **15 21 56.0 +0.6**
comp=Z,39nm,0.8s,baz=68,slow=4.2,SNR=54
BOSA LR LR 15 59 30.1
comp=Z,655nm,18.8s,baz=54,slow=36
comp=Z,39nm,0.8s
WAX Waxell Ridge 84.73 25 IAmb IAmb 15 21 59.0
comp=Z,47nm,1.2s
L29M L29M 84.74 22 IAMs_20 IAMs_20 15 58 39.7
comp=Z,1µm,19.0s
L29M L29M 84.74 22 P **P** **15 21 56.0 +0.6**
baz=312,SNR=24
BGLC Bering Glacier 84.76 25 P **P** **15 21 56.2 +0.8**
baz=308
YUK3 Moose Creek 84.80 23 P **P** **15 21 56.4 +0.5**
baz=310,SNR=28
BARN Barnard Glacie 84.81 24 IAmb IAmb 15 22 03.5
comp=Z,30nm,0.7s
MTE Manteigas 84.83 312 *e*LR LR 15 52 26.3
MTE *i* IAMs_20 IAMs_20 16 07 52.8
comp=Z,539nm,20.0s
ISLE Juniper Island 84.83 25 IAmb IAmb 15 22 06.0
comp=Z,28nm,0.9s
ISLE IAMs_20 IAMs_20 15 56 00.9
comp=Z,2µm,22.0s
SNH Sunshine Point 84.90 25 IAmb IAmb 15 22 04.7
comp=Z,41nm,1.0s
GRNC Granite Creek 84.98 24 IAMs_20 IAMs_20 15 56 25.7
comp=Z,1µm,21.0s
CTG Chitna Glacier 84.99 24 P **P** **15 21 57.5 +0.7**
baz=309,SNR=20
CTGM Chitina Glacie 84.99 24 IAmb IAmb 15 22 03.8
comp=Z,46nm,1.1s
PCBR Castelo Branco 85.03 311 *e*P **P** **15 21 58.8 +1.6**
PCBR *i* IAmb IAmb 15 22 07.5
comp=Z,16nm,1.7s
M29M Somme Creek 85.07 22 IAmb IAmb 15 21 59.8
comp=Z,35nm,1.1s
M29M IAMs_20 IAMs_20 16 00 07.2
comp=Z,1µm,20.0s
M29M Somme Creek 85.07 22 P **P** **15 21 58.0 +0.9**
baz=312,SNR=32
PMRV Marv??o 85.14 311 *e*P **P** **15 21 59.1 +1.2**
PMRV *i* IAmb IAmb 15 22 05.4
comp=Z,19nm,1.5s
PMRV *e*LR LR 15 55 26.1
PMRV *i* IAMs_20 IAMs_20 16 06 07.0
comp=Z,422nm,18.0s
MAYO Mayo, Yukon 85.15 20 IAmb IAmb 15 21 59.4
comp=Z,46nm,1.1s
MAYO IAMs_20 IAMs_20 15 57 16.5
comp=Z,1µm,22.0s
MAYO Mayo, Yukon 85.15 20 P **P** **15 21 57.4 0.0**
baz=314,SNR=8.2
LOGN Logan Glacier 85.21 24 IAmb IAmb 15 22 01.2
comp=Z,38nm,1.1s
ILULI Ilulissat 85.22 349 IAMs_20 IAMs_20 16 02 44.1
comp=Z,1µm,20.0s
MESA MESA 85.25 25 P **P** **15 21 58.4 +0.2**
baz=309,SNR=11
YUK8 Steele Glacier 85.37 23 P **P** **15 21 59.6 +0.7**
baz=310,SNR=29
TABL Table Mountain 85.40 25 IAmb IAmb 15 22 16.6
comp=Z,28nm,0.9s

PBAR **Barrancos** 85.43 309 *e*P **P** 15 21 59.8 +0.6
PBAR *i* IAmb IAmb 15 22 06.1
comp=Z,27nm,2.2s
O28M **Mount Upton** 85.55 24 IAmb IAmb 15 22 02.5
comp=Z,66nm,1.8s
O28M **Mount Upton** 85.55 24 P **P** 15 22 00.3 +0.6
baz=310,SNR=16
SFS **San Fernando** 85.55 308 IAMs_20 IAMs_20 16 06 21.9
comp=Z,1µm,22.0s
M30M **Minto, Yukon** 85.56 22 IAMs_20 IAMs_20 15 59 14.0
comp=Z,1µm,20.0s
M30M **Minto, Yukon** 85.56 22 P **P** 15 21 59.7 +0.3
baz=313,SNR=31
PSARD **Sardoal** 85.61 311 *e*P **P** 15 22 01.3 +1.2
PCAS **Casmilo, Conde** 85.64 312 *e*P **P** 15 22 02.0 +1.7
PCAS *i* IAmb IAmb 15 22 17.6
comp=Z,18nm,1.3s
YUK4 **Talbot Arm** 85.74 23 P **P** 15 22 00.8 +0.2
baz=312,SNR=16
MDT **Midelt** 85.86 304 LR LR 16 08 43.1
comp=Z,412nm,18.8s,baz=83,slow=42
PINM **Pinnacle** 85.96 24 P **P** 15 22 01.8 +0.3
baz=310
KOOLE **Kule** 86.04 243 IAMs_20 IAMs_20 15 59 04.0
comp=Z,1µm,19.0s
YUK6 **Outpost Mounta** 86.11 23 P **P** 15 22 02.9 +0.4
baz=312,SNR=25
N30M **Aishikik Lake** 86.22 22 IAMs_20 IAMs_20 15 59 52.7
comp=Z,1µm,20.0s
N30M **Aishikik Lake** 86.22 22 P **P** 15 22 03.3 +0.5
baz=313,SNR=37
PVAQ **Vaqueiros** 86.24 309 *e*P **P** 15 22 05.1 +1.8
PVAQ *i* IAmb IAmb 15 22 21.6
comp=Z,34nm,2.1s
PVAQ *e*LR LR 15 55 20.0
PVAQ *i* IAMs_20 IAMs_20 16 08 11.5
comp=Z,415nm,16.0s
O29M **Mount Kennedy** 86.46 24 P **P** 15 22 05.0 +0.9
baz=312,SNR=11
HYT **Haines Junctio** 86.50 23 IAmb IAmb 15 22 06.8
comp=Z,41nm,1.2s
HYT **Haines Junctio** 86.50 23 P **P** 15 22 04.0 -0.2
baz=312,SNR=26
DY2G **Dye2** 86.53 346 *i* P **P** 15 22 03.7 -0.7
PARRA **Arraiolos** 86.56 311 *e*P **P** 15 22 02.2 -2.7
PARRA *i* IAmb IAmb 15 22 06.8
comp=Z,22nm,1.7s
PARRA *e*LR LR 15 52 43.5
PARRA *i* IAMs_20 IAMs_20 16 06 38.8
comp=Z,468nm,18.0s
PNL **Peninsula** 86.57 25 P **P** 15 22 07.0 +2.5
PNL **Peninsula** 86.57 25 P **P** 15 22 04.5 0.0
baz=311,SNR=17
TSUM **Tsumeb** 86.59 248 IAMs_20 IAMs_20 16 04 28.6
comp=Z,985nm,18.0s
TSUM **Tsumeb** 86.59 248 LR LR 16 02 25.4
comp=Z,537nm,18.2s,baz=46,slow=37
M31M **Drury Creek, Y** 86.62 21 IAmb IAmb 15 22 06.7
comp=Z,31nm,1.1s
M31M IAMs_20 IAMs_20 15 59 56.2
comp=Z,1µm,20.0s
M31M **Drury Creek, Y** 86.62 21 P **P** 15 22 04.4 -0.3
baz=315,SNR=19
N31M **Braeburn, Yuko** 86.66 22 P **P** 15 22 05.2 +0.3
baz=314,SNR=46
SFJD **Kangerlussuaq** 87.03 347 IAMs_20 IAMs_20 16 03 51.2
comp=Z,1µm,20.0s
SFJD **Kangerlussuaq** 87.03 347 LR LR 16 06 25.3
comp=Z,906nm,18.2s,baz=21,slow=39
O30N **Mendenhall** 87.04 23 P **P** 15 22 07.4 +0.5
baz=314,SNR=28
P30M **Million Dollar** 87.18 23 P **P** 15 22 06.9 -0.6
baz=313,SNR=15
P29M **Windy Craggy** 87.22 24 IAmb IAmb 15 22 10.1
comp=Z,22nm,1.1s
P29M IAMs_20 IAMs_20 16 00 05.0
comp=Z,1µm,19.0s
P29M **Windy Craggy** 87.22 24 P **P** 15 22 07.9 +0.2
baz=312,SNR=15
MMPY **Sheldon Lake,** 87.32 20 P **P** 15 22 08.7 +0.5
baz=318,SNR=42
WHY **Whitehorse** 87.55 22 P **P** 15 22 09.4 0.0
baz=315,SNR=20
N32M **Quiet Lake** 87.81 21 IAMs_20 IAMs_20 16 00 50.9
comp=Z,1µm,18.0s
N32M **Quiet Lake** 87.81 21 P **P** 15 22 10.2 -0.3
baz=316
PLBC **Pleasant Camp** 87.85 24 P **P** 15 22 10.8 +0.2
baz=313,SNR=12
JOHN **Johnston Islan** 88.23 73 *e*P **P** 15 22 09.4 -3.8
comp=Z,80nm,27.7s
JOHN **Johnston Islan** 88.23 73 *e*S **SKSac** 15 32 39.2 -2.4
comp=Z,177nm,26.4s
JOHN *e*SS SS 15 38 34.3 -12
comp=Z,323nm,30.6s
JOHN **Johnston Islan** 88.23 73 *e*LR LR 15 50 06.2
comp=Z,786nm,22.7s
SKAG **Skagway** 88.23 23 IAMs_20 IAMs_20 16 01 14.9
comp=Z,1µm,19.0s
SKAG **Skagway** 88.23 23 P **P** 15 22 16.2 +3.8
SKAG **Skagway** 88.23 23 P **P** 15 22 13.0 +0.5
baz=314,SNR=10
TORD **Torodi Ar. Bea** 88.33 283 P **P** 15 22 13.5 -0.3
TORD **Torodi Ar. Bea** 88.33 283 P **P** 15 22 13.4 -0.3
comp=Z,7.4nm,0.8s,baz=46,slow=5.5,SNR=38
TORD PP **PP** 15 25 41.8 +0.5
comp=Z,8.6nm,1.1s,baz=51,slow=7.9,SNR=8.7
TORD LR LR 16 07 01.6
comp=Z,871nm,19.0s,baz=72,slow=39
comp=Z,7.4nm,0.8s
P33M **Teslin, Yukon** 88.58 22 IAmb IAmb 15 22 16.4
comp=Z,28nm,1.1s
P33M IAMs_20 IAMs_20 16 00 58.1
comp=Z,1µm,20.0s
P33M **Teslin, Yukon** 88.58 22 P **P** 15 22 14.1 -0.2
baz=316,SNR=18
P32M **Atlin** 88.72 23 P **P** 15 22 15.2 +0.3
baz=316,SNR=18
S31K **Pelican** 88.94 25 IAmb IAmb 15 22 22.2
comp=Z,44nm,1.6s
S31K **Pelican** 88.94 25 P **P** 15 22 16.4 +0.6
baz=314
BESE **Bessie Mountai** 89.03 24 IAmb IAmb 15 22 19.1
comp=Z,43nm,1.4s
BESE IAMs_20 IAMs_20 16 01 32.7
comp=Z,1µm,19.0s
TGTN **Hyland Airport** 89.07 19 P **P** 15 22 17.3 +0.8
baz=320,SNR=16
WRGLY **Wrigley** 89.08 16 IAmb IAmb 15 22 18.2
comp=Z,36nm,0.9s
WRGLY **Wrigley** 89.08 16 P **P** 15 22 16.5 +0.2
baz=324,SNR=7.6
R32K **Eaglecrest** 89.37 24 IAmb IAmb 15 22 20.8
comp=Z,24nm,1.2s
R32K IAMs_20 IAMs_20 16 03 02.8
comp=Z,1µm,21.0s
R32K **Eaglecrest** 89.37 24 P **P** 15 22 18.9 +1.0
baz=315,SNR=9.7
JIS **Juneau Island** 89.42 24 P **P** 15 22 20.2 +2.2
CASY **Casey** 89.43 174 P **P** 15 22 18.2 +0.6
CASY **Casey** 89.43 174 IAMs_20 IAMs_20 15 58 48.6
comp=Z,949nm,20.0s
CASY **Casey** 89.43 174 *e*P **P** 15 22 15.0 -2.6
comp=Z,43nm,30.0s
CASY **Casey** 89.43 174 *e*PP **PP** 15 25 45.2 -4.1
CASY *e*S **S** 15 33 02.0 -4.6
comp=Z,123nm,25.0s
CASY **Casey** 89.43 174 *e*LR LR 15 50 47.6
comp=Z,1µm,24.0s
Q32M **Nakina River** 89.69 23 IAMs_20 IAMs_20 16 03 38.5
comp=Z,1µm,20.0s
Q32M **Nakina River** 89.69 23 P **P** 15 22 20.4 +0.8
baz=317,SNR=9.2
R33M **Jennings River** 89.82 22 IAmb IAmb 15 22 22.9
comp=Z,36nm,1.1s
R33M **Jennings River** 89.82 22 P **P** 15 22 21.6 +1.4
baz=318,SNR=34
SIT **Sitka** 89.92 25 IAmb IAmb 15 22 23.4
comp=Z,31nm,1.3s
SIT IAMs_20 IAMs_20 15 59 41.5
comp=Z,1µm,21.0s
SIT **Sitka** 89.92 25 P **P** 15 22 23.5 +3.1
SIT **Sitka** 89.92 25 P **P** 15 22 21.3 +0.9
baz=314
WTLY **Watson Lake, Y** 90.00 20 IAmb IAmb 15 22 22.6
comp=Z,27nm,1.0s
WTLY IAMs_20 IAMs_20 16 01 14.6
comp=Z,1µm,20.0s
WTLY **Watson Lake, Y** 90.00 20 P **P** 15 22 21.0 +0.2
baz=320,SNR=19
NRS **Narsarsuaq** 90.66 342 IAMs_20 IAMs_20 16 09 04.7
comp=Z,1µm,18.0s
DLBC **Dease Lake** 90.86 22 P **P** 15 22 24.8 -0.2
comp=Z,118nm,1.1s,baz=313,slow=5.6,SNR=20
DLBC **Dease Lake** 90.86 22 P **P** 15 22 26.3 +1.4
baz=319,SNR=17
S34M **Telegraph Cree** 90.87 23 IAmb IAmb 15 22 28.0
comp=Z,32nm,1.1s
S34M IAMs_20 IAMs_20 16 02 21.6
comp=Z,1µm,21.0s
S34M **Telegraph Cree** 90.87 23 P **P** 15 22 25.7 +0.9
baz=318,SNR=15
IVI **Ivigtut** 91.38 343 IAMs_20 IAMs_20 16 07 34.5
comp=Z,1µm,20.0s
LIRD **Liard River Hi** 91.40 20 P **P** 15 22 28.2 +0.9
baz=322
KOTAN **Kotaneelee Air** 91.45 19 P **P** 15 22 27.7 +0.2
baz=324
U33K **Whale Pass** 91.45 25 IAMs_20 IAMs_20 16 00 27.8
comp=Z,1µm,20.0s
U33K **Whale Pass** 91.45 25 P **P** 15 22 27.5 0.0
baz=316
WRAK **Wrangell Islan** 91.52 24 IAMs_20 IAMs_20 16 00 43.0
comp=Z,1µm,21.0s
WRAK **Wrangell Islan** 91.52 24 P **P** 15 22 27.9 0.0
baz=317
YKA **Yellowknife Ar** 91.83 13 P **P** 15 22 29.0 -0.2
YKA **Yellowknife Ar** 91.83 13 P **P** 15 22 28.7 -0.5
comp=Z,8.5nm,0.9s,baz=333,slow=5.0,SNR=16
YKA LR LR 16 06 53.7
comp=Z,935nm,20.9s,baz=316,slow=38
comp=Z,8.5nm,0.9s
YKA **Yellowknife Ar** 91.83 13 *i* P **P** 15 22 29.6 +0.4
YKA pmax pmax
comp=Z,8.0nm,0.9s
T35M **Bob Quinn** 91.88 23 IAmb IAmb 15 22 32.8
comp=Z,27nm,1.1s
T35M IAMs_20 IAMs_20 16 05 34.5
comp=Z,904nm,20.0s
T35M **Bob Quinn** 91.88 23 P **P** 15 22 30.2 +0.6
baz=319,SNR=16
CRAG **Craig** 91.92 25 IAMs_20 IAMs_20 16 06 57.3
comp=Z,1µm,18.0s
CRAG **Craig** 91.92 25 P **P** 15 22 29.9 +0.2
baz=316
V35K **Ketchikan** 92.61 25 IAMs_20 IAMs_20 16 01 14.6
comp=Z,1µm,22.0s
V35K **Ketchikan** 92.61 25 P **P** 15 22 31.8 -1.1
baz=317
U35K **Hyder** 92.77 24 P **P** 15 22 32.9 -0.7
baz=319
FRB **Frobisher Bay** 92.94 353 LR LR 16 06 59.5
comp=Z,571nm,22.0s,baz=2.0,slow=37
MAW **Mawson** 93.19 192 LR LR 15 57 41.1
comp=Z,286nm,21.0s,baz=24,slow=31
DIB **Dawson Inlet,** 93.82 27 IAmb IAmb 15 22 41.1
comp=Z,46nm,1.6s
PMOZ **Porto Moniz, M** 95.25 309 *e*LR LR 15 59 20.6
PMOZ *i* IAMs_20 IAMs_20 16 13 04.1
comp=Z,324nm,20.0s
RPZ **Rata Peaks** 95.66 135 LR LR 16 09 06.4
comp=Z,2µm,20.3s,baz=298,slow=38
BBB **Bella Bella** 96.34 25 LR LR 16 07 42.2
comp=Z,769nm,18.6s,baz=335,slow=36
DBIC **Dimbokro** 96.80 280 P **P** 15 22 52.6 -0.4
comp=Z,6.3nm,0.9s,baz=99,slow=4.0,SNR=5.1
DBIC LR LR 16 10 42.4
comp=Z,786nm,19.1s,baz=82,slow=38
comp=Z,6.3nm,0.9s
SNZO **South Karori** 97.10 132 *e*PP PP 15 26 38.9 -11
comp=Z,2.8nm,22.0s
SNZO *e*S **S** 15 34 10.0 -5.8
comp=Z,10.0nm,28.0s
SNZO *e*SS **SS** 15 40 51.4 -2.0
comp=Z,12nm,29.0s
SNZO *e*LQ LQ 15 50 11.0
comp=Z,14nm,29.0s
SNZO *e*LR LR 15 54 10.5
comp=Z,99nm,29.0s
URZ **Urewera** 97.59 128 LR LR 16 12 45.9
comp=Z,518nm,18.4s,baz=300,slow=39
POHA **Pohakuloa** 98.97 64 *e*P P 15 22 52.9 -10
comp=Z,1.6nm,24.6s
POHA **Pohakuloa** 98.97 64 *e*PP **PP** 15 26 58.9 -5.7
comp=Z,1.8nm,23.2s
POHA *e*S **S** 15 34 25.2 -8.2
comp=Z,14nm,27.1s
POHA *e*SS **SS** 15 41 14.2 -6.0
comp=Z,17nm,34.8s
POHA **Pohakuloa** 98.97 64 *e*LR LR 15 55 12.0
comp=Z,48nm,24.9s
HATHI **Halema'uma'u T** 99.35 64 IAMs_20 IAMs_20 15 59 57.9
comp=Z,1µm,20.0s
A04D **Lummi Island** 101.20 25 IAMs_20 IAMs_20 16 09 52.7
comp=Z,897nm,20.0s
NIUE **Niue** 101.32 106 *e*P **Pdif** 15 22 56.6 -16
comp=Z,62nm,26.7s
NIUE **Niue** 101.32 106 *e*S **Sdif** 15 34 44.2 -8.2
comp=Z,120nm,26.7s
NIUE *e*SS **SS** 15 41 46.3 -7.2
comp=Z,158nm,27.3s
NIUE **Niue** 101.32 106 *e*LQ LQ 15 51 54.0
comp=Z,228nm,35.0s
NIUE *e*LR LR 15 56 17.9
comp=Z,686nm,24.2s
FFC **Flin Flon** 101.48 10 IAMs_20 IAMs_20 16 12 31.3
comp=Z,832nm,20.0s
E03A **Lebam** 102.62 26 IAMs_20 IAMs_20 16 06 36.3
comp=Z,656nm,19.0s
D05A **Enumclaw** 102.73 25 IAMs_20 IAMs_20 16 12 47.2
comp=Z,730nm,21.0s
B08A **Colville Reser** 102.75 23 IAMs_20 IAMs_20 16 08 13.8
comp=Z,1µm,21.0s
LON **Longmire** 103.16 25 IAMs_20 IAMs_20 16 08 04.5
comp=Z,776nm,22.0s
LTY **Liberty** 103.18 24 IAMs_20 IAMs_20 16 10 55.2
comp=Z,775nm,22.0s
NEW **Newport** 103.61 22 IAMs_20 IAMs_20 16 08 21.4
comp=Z,908nm,19.0s
G03D **McMinnville, O** 103.82 27 IAMs_20 IAMs_20 16 13 32.0
comp=Z,739nm,18.0s
D08A **Wollman Farm,** 104.00 23 IAMs_20 IAMs_20 16 08 38.8
comp=Z,721nm,20.0s
E07A **Sunnyside** 104.07 24 IAMs_20 IAMs_20 16 10 21.7
comp=Z,597nm,21.0s
E08A **Dider Farm, El** 104.43 24 IAMs_20 IAMs_20 16 08 40.1
comp=Z,668nm,19.0s
F07A **Phinny Hill Vi** 104.60 25 IAMs_20 IAMs_20 16 14 24.7
comp=Z,673nm,20.0s
E09A **Wood Farm, Sta** 104.75 23 IAMs_20 IAMs_20 16 09 12.5
comp=Z,787nm,20.0s
BUCK **Buck Mountain** 104.75 27 IAMs_20 IAMs_20 16 13 53.7
comp=Z,677nm,18.0s
YPT **Yellepit** 104.84 24 IAMs_20 IAMs_20 16 11 07.9
comp=Z,737nm,21.0s
I03D **Drain, OR** 105.00 28 IAMs_20 IAMs_20 16 10 46.2
comp=Z,970nm,22.0s
XMAS **Kiritimati** 105.03 81 *e*S **Sdif** 15 35 20.0 -3.6
comp=Z,7.4nm,24.0s
XMAS *e*SS SS 15 42 33.4 -11
comp=Z,5.6nm,33.0s
XMAS **Kiritimati** 105.03 81 *e*LQ LQ 15 53 32.1
comp=Z,9.9nm,29.0s
XMAS *e*LR LR 15 58 00.6
comp=Z,34nm,26.0s
F10A **Beach Ranch, E** 105.54 23 IAMs_20 IAMs_20 16 09 37.5
comp=Z,951nm,21.0s
PINE **Pine Mountain** 105.94 26 IAMs_20 IAMs_20 16 10 23.1
comp=Z,713nm,21.0s
EGMT **Eagleton** 106.09 17 IAMs_20 IAMs_20 16 10 21.1
comp=Z,736nm,20.0s
J05D **Fort Rock, OR** 106.23 27 IAMs_20 IAMs_20 16 13 19.9
comp=Z,689nm,21.0s
BMO **Blue Mountains** 106.47 24 IAMs_20 IAMs_20 16 09 13.1
comp=Z,673nm,20.0s
PLID **Pearl Lake** 106.74 23 IAMs_20 IAMs_20 16 13 36.3
comp=Z,908nm,21.0s
VNDA **Vanda** 107.11 168 PKiKP **PKiKP** 15 27 46.5 0.0
comp=Z,0.8nm,1.0s,baz=293,slow=3.9,SNR=2.3
KMRM **Mail Ridge** 107.60 30 IAMs_20 IAMs_20 16 19 03.7
comp=Z,597nm,18.0s
BOZ **Bozeman (W)** 107.75 20 IAMs_20 IAMs_20 16 18 10.8
comp=Z,856nm,18.0s
WVOR **Wild Horse Val** 108.00 26 IAMs_20 IAMs_20 16 12 44.8
comp=Z,729nm,22.0s
O02D **Mt. Diablo Mer** 108.06 30 IAMs_20 IAMs_20 16 16 38.5
comp=Z,774nm,22.0s
LAO **LASA Array** 108.25 15 IAMs_20 IAMs_20 16 17 00.1
comp=Z,781nm,19.0s
MDND **Maddock** 108.52 11 IAMs_20 IAMs_20 16 21 01.4
comp=Z,848nm,18.0s
HLID **Hailey** 108.63 22 IAMs_20 IAMs_20 16 11 36.2
comp=Z,916nm,20.0s
AGMN **Agassiz Nation** 108.63 8 IAMs_20 IAMs_20 16 14 02.5
comp=Z,883nm,20.0s
RLMT **Red Lodge** 108.88 18 IAMs_20 IAMs_20 16 13 51.9
comp=Z,842nm,20.0s
GDXM **Geysers** 109.15 31 IAMs_20 IAMs_20 16 11 48.3
comp=Z,700nm,20.0s
EYMN **Ely** 109.43 5 IAMs_20 IAMs_20 16 15 15.7
comp=Z,716nm,20.0s
E62A **Clayton Lake** 109.68 349 IAMs_20 IAMs_20 16 20 37.6
comp=Z,816nm,21.0s
LOHW **Long Hollow** 109.85 20 IAMs_20 IAMs_20 16 16 30.5
comp=Z,799nm,21.0s
AHID **Auburn Hatcher** 110.45 20 IAMs_20 IAMs_20 16 16 44.5
comp=Z,644nm,20.0s
G65A **Princeton** 110.67 347 IAMs_20 IAMs_20 16 15 39.1
comp=Z,738nm,21.0s
E38A **The Farm, Brul** 110.76 5 IAMs_20 IAMs_20 16 20 00.8
comp=Z,770nm,19.0s
ELK **Elko** 110.78 24 IAMs_20 IAMs_20 16 14 24.1
comp=Z,644nm,20.0s
BW06 **Boulder Array** 110.94 19 IAMs_20 IAMs_20 16 20 03.9
comp=Z,721nm,19.0s
PDAR **Pinedale Array** 110.94 19 PKiKP **PKiKP** 15 27 54.1 -1.0
comp=Z,1.3nm,0.7s,baz=352,slow=3.8,SNR=8.7
F33A **5 Mile Ranch,** 110.99 9 IAMs_20 IAMs_20 16 21 12.8
comp=Z,813nm,19.0s
RAR **Rarotonga** 111.04 105 *e*P **Pdif** 15 23 49.3 -6.9
comp=Z,48nm,25.0s
RAR **Rarotonga** 111.04 105 *e*PP **PP** 15 28 33.8 -0.6
comp=Z,55nm,24.0s
RAR **Rarotonga** 111.04 105 *e*LQ LQ 15 56 01.5
comp=Z,200µm,29.0s
RAR *e*LR LR 16 00 46.9
comp=Z,500nm,27.0s
EMMW **East Machias** 111.12 347 IAMs_20 IAMs_20 16 18 12.0
comp=Z,753nm,21.0s
RSSD **Black Hills** 111.19 15 IAMs_20 IAMs_20 16 14 30.9
comp=Z,849nm,19.0s
G62A **West of Eustis** 111.21 349 IAMs_20 IAMs_20 16 16 03.2
comp=Z,714nm,21.0s
HWUT **Hardware Ranch** 111.34 21 IAMs_20 IAMs_20 16 12 09.9
comp=Z,855nm,21.0s
NVAR **Mina Array Bea** 111.49 28 PKiKP **PKiKP** 15 27 56.6 +0.3
comp=Z,3.0nm,0.7s,baz=333,slow=3.9,SNR=15
BBGB **Big Mountain B** 111.77 31 IAMs_20 IAMs_20 16 16 01.6
comp=Z,686nm,19.0s
F42A **Maple Grove Fa** 111.81 3 IAMs_20 IAMs_20 16 18 08.9
comp=Z,883nm,19.0s
K22A **Casper** 111.93 17 IAMs_20 IAMs_20 16 14 55.5
comp=Z,831nm,20.0s
H62A **Milan** 111.94 350 IAMs_20 IAMs_20 16 16 34.5
comp=Z,858nm,22.0s
SPMN **Marine on St.** 112.01 6 IAMs_20 IAMs_20 16 21 57.0
comp=Z,623nm,19.0s
BUKO **Buck Lake** 112.03 356 IAMs_20 IAMs_20 16 20 22.3
comp=Z,891nm,21.0s
DUG **Dugway, Tooele** 112.16 23 IAMs_20 IAMs_20 16 18 57.9
comp=Z,625nm,20.0s
G40A **Rib Lake** 112.19 4 IAMs_20 IAMs_20 16 15 13.8
comp=Z,692nm,21.0s
TROLL **Troll, Antarti** 112.25 200 ⇓P **PKiKP** 15 27 56.1 -0.4
comp=Z,78nm,0.6s
I63A **Otisfield** 112.35 349 IAMs_20 IAMs_20 16 18 50.4
comp=Z,678nm,19.0s
LBNH **Lisbon** 112.39 350 IAMs_20 IAMs_20 16 19 35.3
comp=Z,715nm,18.0s
LONY **Lake Ozonia** 112.40 352 IAMs_20 IAMs_20 16 20 02.2
comp=Z,655nm,20.0s
VT1 **Waterbury** 112.43 351 IAMs_20 IAMs_20 16 18 55.5
comp=Z,707nm,19.0s
QSPA **South Pole Qui** 112.50 180 PKiKP **PKiKP** 15 27 57.6 +0.6
comp=Z,2.3nm,0.8s,baz=301,slow=2.4,SNR=6.3
QSPA PKKPbc **PKKPbc** 15 38 48.4 -0.7
comp=Z,2.3nm,0.8s,baz=205,slow=1.9,SNR=10
I62A **Tamworth** 112.65 350 IAMs_20 IAMs_20 16 16 55.3
comp=Z,743nm,19.0s
GLMI **Grayling** 112.82 360 IAMs_20 IAMs_20 16 21 46.8
comp=Z,650nm,20.0s
HNH **Hanover** 112.97 350 IAMs_20 IAMs_20 16 17 37.6
comp=Z,691nm,21.0s
NCB **Newcomb** 112.99 352 IAMs_20 IAMs_20 16 19 11.8
comp=Z,865nm,20.0s
H43A **Windswept, Lux** 113.11 2 IAMs_20 IAMs_20 16 20 39.4
comp=Z,865nm,21.0s
I37A **Lemond, Waseca** 113.15 7 IAMs_20 IAMs_20 16 19 06.0
comp=Z,903nm,22.0s
J61A **Chester** 113.36 350 IAMs_20 IAMs_20 16 19 04.0
comp=Z,624nm,18.0s
K30B **Basset** 113.52 12 IAMs_20 IAMs_20 16 20 34.7
comp=Z,780nm,20.0s
J59A **Piesco** 113.52 352 IAMs_20 IAMs_20 16 19 25.0
comp=Z,894nm,22.0s
I49A **Point Hope** 113.69 359 IAMs_20 IAMs_20 16 14 01.7
comp=Z,926nm,21.0s
O20A **White River Ci** 113.74 20 IAMs_20 IAMs_20 16 18 42.6
comp=Z,782nm,22.0s
J57A **Williamstown** 113.76 353 IAMs_20 IAMs_20 16 23 46.1
comp=Z,780nm,18.0s
MPMC **Manual Prospec** 113.83 29 IAMs_20 IAMs_20 16 16 40.0
comp=Z,622nm,20.0s
SNAA **Sanae** 113.92 200 ⇓P **PKiKP** 15 27 57.8 -1.8
comp=Z,13nm,0.5s
SNAA **Sanae** 113.92 200 PKiKP **PKiKP** 15 27 58.9 -0.7
comp=Z,0.5nm,0.5s,baz=225,slow=2.9,SNR=7.8
SNAA PKKPbc **PKKPbc** 15 38 40.5 -3.4
comp=Z,1.5nm,0.9s,baz=259,slow=4.6,SNR=4.0
K62A **Royalston** 113.98 350 IAMs_20 IAMs_20 16 18 28.3
comp=Z,637nm,19.0s
HRV **Adam Dziewonsk** 114.02 349 IAMs_20 IAMs_20 16 18 32.5
comp=Z,582nm,19.0s
J55A **Hilton** 114.08 355 IAMs_20 IAMs_20 16 23 00.5
comp=Z,742nm,20.0s
WES **Weston** 114.10 349 IAMs_20 IAMs_20 16 18 03.6
comp=Z,857nm,20.0s
TRY **Troy** 114.13 351 IAMs_20 IAMs_20 16 18 29.2
comp=Z,576nm,19.0s
J47A **Sunmer** 114.41 0 IAMs_20 IAMs_20 16 18 43.7
comp=Z,692nm,22.0s
L64A **Middleborough** 114.45 349 IAMs_20 IAMs_20 16 19 37.9
comp=Z,875nm,21.0s
K57A **Scipio Center** 114.48 353 IAMs_20 IAMs_20 16 24 09.3
comp=Z,815nm,20.0s
MMNY **Mt. Morris Dam** 114.62 355 IAMs_20 IAMs_20 16 23 15.7
comp=Z,692nm,19.0s
OGNE **Ogallala** 114.67 14 IAMs_20 IAMs_20 16 19 52.0
comp=Z,911nm,21.0s
L34A **Svendsen Farm,** 114.77 10 IAMs_20 IAMs_20 16 23 05.8
comp=Z,805nm,20.0s
M65A **Busby, Falmout** 114.78 348 IAMs_20 IAMs_20 16 20 42.6
comp=Z,696nm,21.0s
M65A **Busby, Falmout** 114.78 348 P PKPdf 15 28 02.2 0.0
baz=14
UCCT **U. Connecticut** 114.83 350 IAMs_20 IAMs_20 16 24 18.8
comp=Z,613nm,19.0s
ISCO **Idaho Springs** 114.83 18 IAMs_20 IAMs_20 16 18 43.3
comp=Z,723nm,21.0s
L59A **Walton** 114.85 352 IAMs_20 IAMs_20 16 20 27.0
comp=Z,903nm,22.0s
K43A **Burlington** 114.85 3 IAMs_20 IAMs_20 16 19 59.3
comp=Z,768nm,18.0s
BINY **Binghamton** 114.95 353 IAMs_20 IAMs_20 16 19 32.7
comp=Z,715nm,21.0s
MTPC **Mountain Pass** 115.16 28 IAMs_20 IAMs_20 16 19 49.1
comp=Z,670nm,21.0s
L56A **Greenwood** 115.18 354 IAMs_20 IAMs_20 16 24 55.6
comp=Z,682nm,18.0s
M63A **Gales Ferry** 115.18 350 IAMs_20 IAMs_20 16 18 08.1
comp=Z,593nm,21.0s
L40A **Anamosa** 115.30 5 IAMs_20 IAMs_20 16 20 44.9
comp=Z,822nm,19.0s
L44A **Lake County Fo** 115.40 3 IAMs_20 IAMs_20 16 22 15.7
comp=Z,820nm,20.0s
VNA2 **Neumayer--Watz** 115.41 201 ⇓P **PKiKP** 15 28 02.2 -0.3
comp=Z,3.6nm,0.7s,baz=49,slow=2.9
KSPA **Keystone Colle** 115.56 353 IAMs_20 IAMs_20 16 17 30.9
comp=Z,696nm,21.0s
WSPT **Westport, CT** 115.61 351 IAMs_20 IAMs_20 16 26 42.9
comp=Z,568nm,19.0s
L46A **Eue Claire** 115.61 1 IAMs_20 IAMs_20 16 22 19.6
comp=Z,687nm,20.0s

VNA1	Neumayer--Stat	115.72	201	⇓P		PKiKP	15 28 01.8	-1.2	
	comp=Z,2.8nm,0.8s								
Q24A	Divide	115.74	18	IAMs_20	IAMs_20		16 21 12.5		
	comp=Z,679nm,19.0s								
PAL	Palisades	115.86	351	IAMs_20	IAMs_20		16 20 36.9		
	comp=Z,553nm,18.0s								
N62A	Caumsett State	115.86	351	IAMs_20	IAMs_20		16 20 49.2		
	comp=Z,623nm,20.0s								
M57A	Sunshine Farm,	115.93	354	IAMs_20	IAMs_20		16 16 06.5		
	comp=Z,787nm,21.0s								
DANC	Danby, Needles	115.95	28	IAMs_20	IAMs_20		16 16 03.1		
	comp=Z,703nm,22.0s								
M52A	Chesterland	116.03	357	IAMs_20	IAMs_20		16 20 48.9		
	comp=Z,848nm,21.0s								
VNA3	Neumayer Olymp	116.12	200	⇓P		PKPdf	15 28 03.2	-0.6	
	comp=Z,3.9nm,0.7s								
M50A	Fremont	116.22	359	IAMs_20	IAMs_20		16 20 35.9		
	comp=Z,889nm,20.0s								
BRNJ	Basking Ridge	116.27	351	IAMs_20	IAMs_20		16 19 54.7		
	comp=Z,664nm,22.0s								
MVCO	Mesa Verde	116.33	21	IAMs_20	IAMs_20		16 15 03.2		
	comp=Z,668nm,22.0s								
PFO	Pinyon Flats O	116.34	29	IAMs_20	IAMs_20		16 18 09.5		
	comp=Z,616nm,22.0s								
N38A	Joes South For	116.35	7	IAMs_20	IAMs_20		16 16 34.7		
	comp=Z,811nm,20.0s								
KSCO	Kaye Shedlock'	116.36	16	IAMs_20	IAMs_20		16 22 34.8		
	comp=Z,884nm,22.0s								
S22A	4UR Ranch, Cre	116.37	20	IAMs_20	IAMs_20		16 16 48.1		
	comp=Z,786nm,20.0s								
N58A	Sunbury	116.38	353	IAMs_20	IAMs_20		16 21 56.4		
	comp=Z,862nm,21.0s								
IRM	Iron Mountain	116.46	28	IAMs_20	IAMs_20		16 16 05.7		
	comp=Z,590nm,21.0s								
PAMR	Moraine State	116.56	356	IAMs_20	IAMs_20		16 25 03.1		
	comp=Z,624nm,19.0s								
BORC	Borrego Spring	116.64	30	IAMs_20	IAMs_20		16 14 25.6		
	comp=Z,630nm,21.0s								
N51A	Ashland	116.69	358	IAMs_20	IAMs_20		16 20 23.3		
	comp=Z,775nm,20.0s								
SSPA	Standing Stone	116.69	354	IAMs_20	IAMs_20		16 21 28.8		
	comp=Z,789nm,21.0s								
N49A	Columbus Grove	116.72	360	IAMs_20	IAMs_20		16 22 31.0		
	comp=Z,769nm,22.0s								
N53A	Lisbon	116.74	357	IAMs_20	IAMs_20		16 21 30.7		
	comp=Z,578nm,20.0s								
N47A	Urbana	116.76	1	IAMs_20	IAMs_20		16 18 29.9		
	comp=Z,753nm,20.0s								
HDIL	Hopedale	116.94	4	IAMs_20	IAMs_20		16 23 52.5		
	comp=Z,890nm,20.0s								
MVL	Millersville	117.17	353	IAMs_20	IAMs_20		16 27 08.3		
	comp=Z,693nm,20.0s								
CBKS	Cedar Bluff	117.21	13	IAMs_20	IAMs_20		16 18 28.4		
	comp=Z,752nm,21.0s								
P61A	Hammonton	117.29	351	IAMs_20	IAMs_20		16 23 01.8		
	comp=Z,629nm,20.0s								
O48B	Farmland	117.38	0	IAMs_20	IAMs_20		16 22 00.5		
	comp=Z,780nm,21.0s								
O49A	Covington	117.45	360	IAMs_20	IAMs_20		16 16 19.4		
	comp=Z,718nm,20.0s								
P38A	Dawn	117.46	8	IAMs_20	IAMs_20		16 25 51.2		
	comp=Z,830nm,20.0s								
O52A	Adamsville	117.47	358	IAMs_20	IAMs_20		16 20 39.0		
	comp=Z,664nm,19.0s								
T25A	Trinidad	117.65	18	IAMs_20	IAMs_20		16 23 38.9		
	comp=Z,776nm,20.0s								
P40A	Paris	117.73	6	IAMs_20	IAMs_20		16 22 23.2		
	comp=Z,894nm,21.0s								
MCWV	Mont Chateau	117.82	356	IAMs_20	IAMs_20		16 22 36.5		
	comp=Z,798nm,19.0s								
P57A	Homestead Farm	117.85	354	IAMs_20	IAMs_20		16 22 32.3		
	comp=Z,819nm,21.0s								
ESJX	Sierra Juarez	117.92	30	IAMs_20	IAMs_20		16 18 26.3		
	comp=Z,541nm,19.0s								
P52A	Corning	117.96	358	IAMs_20	IAMs_20		16 28 23.1		
	comp=Z,785nm,20.0s								
P46A	Rosedale	117.98	2	IAMs_20	IAMs_20		16 21 40.1		
	comp=Z,743nm,19.0s								
P53A	Whipple	118.08	357	IAMs_20	IAMs_20		16 21 58.2		
	comp=Z,953nm,22.0s								
P51A	Williamsport	118.14	359	IAMs_20	IAMs_20		16 24 14.7		
	comp=Z,530nm,19.0s								
X18A	Snowflake	118.23	24	IAMs_20	IAMs_20		16 22 45.3		
	comp=Z,580nm,20.0s								
Q56A	Snyder Ridge,	118.39	355	IAMs_20	IAMs_20		16 22 57.5		
	comp=Z,853nm,20.0s								
BLO	Bloomington	118.44	2	IAMs_20	IAMs_20		16 20 00.5		
	comp=Z,825nm,21.0s								
Q44A	Meyer Farm, Va	118.60	4	IAMs_20	IAMs_20		16 26 01.5		
	comp=Z,693nm,19.0s								
Q51A	Peebles	118.60	359	IAMs_20	IAMs_20		16 16 30.9		
	comp=Z,573nm,20.0s								
CBN	Corbin Frederi	119.05	353	IAMs_20	IAMs_20		16 21 49.2		
	comp=Z,696nm,22.0s								
ANMO	Albuquerque	119.06	20			PKiKP	15 28 11.3	+0.3	
ANMO	Albuquerque	119.06	20	IAMs_20	IAMs_20		16 17 05.3		
	comp=Z,576nm,20.0s								
ANMO	Albuquerque	119.06	20	PKiKP		PKiKP	15 28 11.3	+0.3	
ANMO				MLR	MLR				
	comp=Z,600nm,20.0s								
R55A	Marlinton	119.21	356	IAMs_20	IAMs_20		16 22 54.2		
	comp=Z,792nm,19.0s								
PPT2	Papeete2	119.23	98	*e*P		PKPdf	15 28 06.9	-4.5	
	comp=Z,37nm,24.5s								
PPT2				*e*S	S		15 37 24.7		
	comp=Z,143nm,26.0s								
PPT2				*e*SS		SS	15 45 49.6	-4.2	
	comp=Z,337nm,26.0s								
PPT2	Papeete2	119.23	98	*e*LQ	LQ		15 59 27.4		
	comp=Z,715nm,33.0s								
PPT2				*e*LR	LR		16 04 24.8		
	comp=Z,527nm,27.0s								
PPT2				*e*LR	LR		16 04 27.6		
	comp=Z,702nm,26.5s								
R58B	Mineral	119.34	354	IAMs_20	IAMs_20		16 23 24.9		
	comp=Z,645nm,20.0s								
R49A	Shelbyville	119.35	0	IAMs_20	IAMs_20		16 27 41.5		
	comp=Z,738nm,19.0s								
R50A	Paris	119.36	360	IAMs_20	IAMs_20		16 24 30.8		
	comp=Z,815nm,20.0s								
WCI	Wyandotte Cave	119.39	1			PKPdf	15 28 10.2	-1.0	
WCI	Wyandotte Cave	119.39	1	PKiKP		PKPdf	15 28 10.2	-1.0	
FVM	French Village	119.41	5	IAMs_20	IAMs_20		16 20 21.0		
	comp=Z,798nm,20.0s								
Y22D	IRIS PASSCAL I	119.71	21	IAMs_20	IAMs_20		16 19 04.4		
	comp=Z,686nm,20.0s								
Y22D	IRIS PASSCAL I	119.71	21	P		PKPdf	15 28 11.6	-0.6	
	baz=336								
S44A	Carbondale	119.79	4	IAMs_20	IAMs_20		16 21 01.9		
	comp=Z,867nm,22.0s								
Y22A	Socorro	119.82	21	IAMs_20	IAMs_20		16 19 18.3		
	comp=Z,727nm,22.0s								
TUC	Tucson	119.87	25			PKiKP	15 28 12.4	0.0	
TUC	Tucson	119.87	25	PKiKP		PKiKP	15 28 12.5	0.0	
TUC				MLR	MLR				
	comp=Z,500nm,19.0s								
S51A	Beattyville	119.99	359			PKPdf	15 28 11.3	-1.1	
S51A				IAMs_20	IAMs_20		16 21 59.6		
	comp=Z,693nm,21.0s								
BELA	Belgrano 2	120.02	191			PKPdf	15 28 10.2	-1.0	
BELA				IAMs_20	IAMs_20		16 16 02.1		
	comp=Z,628nm,20.0s								
CGM3	Cape Girardeau	120.15	5	IAMs_20	IAMs_20		16 22 55.6		
	comp=Z,836nm,20.0s								
BLA	Blacksburg	120.30	356	IAMs_20	IAMs_20		16 17 25.9		
	comp=Z,913nm,22.0s								
T45A	Paducah	120.50	4	IAMs_20	IAMs_20		16 27 55.8		
	comp=Z,811nm,21.0s								
AMTX	Amarillo	120.51	16	IAMs_20	IAMs_20		16 21 34.2		
	comp=Z,829nm,21.0s								
T47A	Sharon Grove	120.61	2	IAMs_20	IAMs_20		16 27 55.6		
	comp=Z,762nm,19.0s								
PBMO	Poplar Bluff	120.61	5	IAMs_20	IAMs_20		16 26 36.5		
	comp=Z,829nm,21.0s								
T50A	Nancy	120.62	0	IAMs_20	IAMs_20		16 29 39.1		
	comp=Z,766nm,18.0s								
121A	Cookes Peak, D	120.81	23	IAMs_20	IAMs_20		16 29 52.6		
	comp=Z,519nm,19.0s								
TBI	Tubuai	120.81	104	*e*SS		SS	15 46 16.8	+2.9	
	comp=Z,1μm,31.2s								
TBI	Tubuai	120.81	104	*e*LQ	LQ		16 00 05.7		
	comp=Z,3μm,41.0s								
TBI				*e*LR	LR		16 05 11.2		
	comp=Z,934nm,29.5s								
TBI				*e*LR	LR		16 05 13.7		
	comp=Z,1μm,21.8s								
U54A	Nelsons Funny	121.06	357	IAMs_20	IAMs_20		16 25 53.9		
	comp=Z,655nm,20.0s								

MSTX	Muleshoe	121.08	18	IAMs_20	IAMs_20		16 25 55.7		
	comp=Z,720nm,22.0s								
TZTN	Tazewell	121.08	359	IAMs_20	IAMs_20		16 18 21.6		
	comp=Z,813nm,22.0s								
U56A	King	121.15	356	IAMs_20	IAMs_20		16 24 10.6		
	comp=Z,829nm,22.0s								
319A	Douglas	121.29	25	IAMs_20	IAMs_20		16 25 08.4		
	comp=Z,704nm,21.0s								
PEBM	Pemiscott Bayo	121.31	5	IAMs_20	IAMs_20		16 30 57.3		
	comp=Z,691nm,19.0s								
FCAR	Ozark Folk Cen	121.32	7	IAMs_20	IAMs_20		16 29 25.2		
	comp=Z,641nm,20.0s								
WMOK	Wichita Mounta	121.34	14	IAMs_20	IAMs_20		16 23 32.6		
	comp=Z,642nm,19.0s								
V61A	Roper	121.34	352	IAMs_20	IAMs_20		16 20 49.0		
	comp=Z,878nm,22.0s								
WVT	Waverly	121.43	3			PKPdf	15 28 14.4	-0.8	
WVT	Waverly	121.43	3	IAMs_20	IAMs_20		16 26 08.4		
	comp=Z,787nm,19.0s								
WVT	Waverly	121.43	3	PKiKP		PKPdf	15 28 14.4	-0.8	
WVT				MLR	MLR				
	comp=Z,800nm,19.0s								
GNAR	Gosnell	121.45	5	IAMs_20	IAMs_20		16 25 56.9		
	comp=Z,717nm,20.0s								
WHAR	Wooly Hollow	121.89	7	IAMs_20	IAMs_20		16 27 42.4		
	comp=Z,760nm,19.0s								
V53A	Saluda	121.94	358			PKPdf	15 28 15.9	-0.4	
V53A				IAMs_20	IAMs_20		16 31 45.3		
	comp=Z,736nm,18.0s								
TKL	Tuckaleechee C	121.97	359			PKPdf	15 28 15.8	-0.5	
TKL	Tuckaleechee C	121.97	359	PKiKP		PKPdf	15 28 15.8	-0.5	
TKL				MLR	MLR				
	comp=Z,800nm,19.0s								
CPCT	Cooper Cave	122.19	360	IAMs_20	IAMs_20		16 23 27.6		
	comp=Z,667nm,19.0s								
MET	Memphis--Engin	122.29	5	IAMs_20	IAMs_20		16 29 01.2		
	comp=Z,760nm,20.0s								
W57A	Gilead	122.31	355	IAMs_20	IAMs_20		16 25 53.4		
	comp=Z,728nm,21.0s								
MNTX	Cornudas Mount	122.39	21	IAMs_20	IAMs_20		16 26 59.2		
	comp=Z,678nm,19.0s								
KMSC	Kings Mountain	122.41	357			PKPdf	15 28 16.3	-0.8	
KMSC				IAMs_20	IAMs_20		16 26 45.7		
	comp=Z,708nm,20.0s								
W50A	Signal Mountai	122.43	1	IAMs_20	IAMs_20		16 26 20.1		
	comp=Z,632nm,20.0s								
MIAR	Mount Ida	122.46	9	IAMs_20	IAMs_20		16 23 47.4		
	comp=Z,777nm,20.0s								
BG3	Lake Jocassee	122.62	358	IAMs_20	IAMs_20		16 30 18.2		
	comp=Z,759nm,20.0s								
PAULI	Pauline	122.75	357	IAMs_20	IAMs_20		16 23 22.8		
	comp=Z,736nm,20.0s								
JSC	Jenkinsville	123.26	357	IAMs_20	IAMs_20		16 31 48.3		
	comp=Z,720nm,19.0s								
Y45A	Yeager Farm, C	123.57	5	IAMs_20	IAMs_20		16 24 13.1		
	comp=Z,717nm,21.0s								
Y52A	Lilburn	123.77	359	IAMs_20	IAMs_20		16 28 11.5		
	comp=Z,673nm,20.0s								
GOGA	Godfrey	124.21	359	IAMs_20	IAMs_20		16 24 32.3		
	comp=Z,879nm,22.0s								
WHTX	Lake Whitney,	124.27	13	IAMs_20	IAMs_20		16 27 34.2		
	comp=Z,772nm,20.0s								
NHSC	New Hope	124.36	355	IAMs_20	IAMs_20		16 26 26.5		
	comp=Z,739nm,20.0s								
154A	Montrose	125.00	358	IAMs_20	IAMs_20		16 30 45.1		
	comp=Z,795nm,21.0s								
VBMS	Vicksburg	125.12	6	IAMs_20	IAMs_20		16 26 20.0		
	comp=Z,789nm,20.0s								
TAOE	Nuku Hiva Isla	125.14	85	*e*LR	LR		16 07 12.8		
	comp=Z,502nm,27.4s								
TXAR	Lajitas Array	125.14	20			PKiKP	15 28 23.0	0.0	
TXAR	Lajitas Array	125.14	20	PKP		PKPdf	15 28 21.8	-0.8	
	comp=Z,7.8nm,0.9s,baz=247,slow=1.5,SNR=57								
TXAR	Lajitas Array	125.14	20	PKiKP		PKiKP	15 28 23.0	0.0	
346A	Big Creek Wild	126.04	5	IAMs_20	IAMs_20		16 23 54.3		
	comp=Z,787nm,22.0s								
HPIG		126.64	24	IAMs_20	IAMs_20		16 28 41.2		
	comp=Z,476nm,18.0s								
735A	Kenedy	127.21	15	IAMs_20	IAMs_20		16 31 29.2		
	comp=Z,683nm,19.0s								
DWPF	Disney Wildern	129.41	356	IAMs_20	IAMs_20		16 29 39.2		
	comp=Z,637nm,18.0s								
GDSD	La Dsirade Is	134.89	327	IAMs_20	IAMs_20		16 33 58.5		
	comp=Z,464nm,20.0s								
MOIG	Morelia	134.90	22	IAMs_20	IAMs_20		16 32 15.4		
	comp=Z,702nm,21.0s								
ABD	La Joyeuse, An	134.97	328	IAMs_20	IAMs_20		16 29 03.3		
	comp=Z,461nm,21.0s								
GDHS	Morne Mazeau,	135.28	328	IAMs_20	IAMs_20		16 29 33.1		
	comp=Z,561nm,22.0s								
MAGL	Barre de l'ile	135.31	327	IAMs_20	IAMs_20		16 34 07.5		
	comp=Z,478nm,20.0s								
CBE	Ff, Capester	135.37	328	IAMs_20	IAMs_20		16 36 29.1		
	comp=Z,506nm,19.0s								
SJG	San Juan	135.61	334	IAMs_20	IAMs_20		16 30 06.2		
	comp=Z,478nm,21.0s								
PMSA	Palmer Station	135.80	192	*e*PP		PP	15 31 16.8	-2.8	
	comp=Z,101nm,27.0s								
PMSA	Palmer Station	135.80	192	*e*LQ	LQ		16 06 34.6		
	comp=Z,116nm,29.0s								
PMSA				*e*LR	LR		16 12 13.6		
	comp=Z,809nm,27.0s								
NMDO	Nuevo Mundo	136.00	347	IAMs_20	IAMs_20		16 29 38.7		
	comp=Z,592nm,20.0s								
SDDR	Presa de Saban	136.58	341	IAMs_20	IAMs_20		16 31 03.9		
	comp=Z,627nm,20.0s								
CHIV	Chivirico	136.85	349	IAMs_20	IAMs_20		16 42 19.0		
	comp=Z,541nm,20.0s								
CMC01	Camacan, BA	136.85	271	*e*P		PKiKP	15 28 47.0	+0.4	
TEIG	Tepich	137.20	5	IAMs_20	IAMs_20		16 34 01.1		
	comp=Z,559nm,20.0s								
MTDJ	Mount Denham	138.75	350	IAMs_20	IAMs_20		16 39 20.3		
	comp=Z,464nm,19.0s								
PETF	Flores	140.31	8	IAMs_20	IAMs_20		16 39 50.5		
	comp=Z,578nm,19.0s								
CCIG	Comitan	140.59	11	IAMs_20	IAMs_20		16 40 40.7		
	comp=Z,566nm,20.0s								
SMTB	Santa Maria do	141.91	285	*e*P		PKiKP	15 28 56.3	-0.8	
MAN01	Angra dos Reis	142.58	262	*e*P		PKPdf	15 28 56.3	+1.1	
ESQI	Esquipulas	142.70	8	IAMs_20	IAMs_20		16 33 30.8		
	comp=Z,617nm,22.0s								
MTO3	Montecristo	142.86	8	IAMs_20	IAMs_20		16 33 33.0		
	comp=Z,626nm,22.0s								
BSCB	Bom Sucesso	143.03	265	*e*P		PKiKP	15 28 57.9	-1.4	
BILN	Bilwi Airport	143.47	358	IAMs_20	IAMs_20		16 33 06.9		
	comp=Z,330nm,22.0s								
SLP01	Ubatuba-SP	143.72	261	*e*P		PKiKP	15 28 59.0	-1.7	
SIUN	Universidad Ur	143.83	0	IAMs_20	IAMs_20		16 43 14.0		
	comp=Z,276nm,19.0s								
MAL2	Monte Alegre,	144.00	300	IAMs_20	IAMs_20		16 36 37.7		
	comp=Z,589nm,20.0s								
PRVC	Isla de Provid	144.02	355	IAMs_20	IAMs_20		16 40 38.6		
	comp=Z,420nm,19.0s								
PMNB	Patos De Minas	144.07	269	*e*P		PKPdf	15 28 59.0	+1.0	
BDFB	Brasilia	144.77	275	PKP	PKPbc		15 28 58.6	+0.3	
	comp=Z,28nm,0.8s,baz=120,slow=3.5,SNR=31								
SMRC	Santa Marta, M	144.85	342	IAMs_20	IAMs_20		16 40 33.0		
	comp=Z,459nm,20.0s								
HERN	Volcan Telica	144.86	4	IAMs_20	IAMs_20		16 33 15.2		
	comp=Z,294nm,20.0s								
VAO	Valinhos	145.34	262	*e*P		PKPab	15 29 00.7	+0.6	
ACON	Acoyapa	145.56	1			PKPdf	15 29 00.3	-0.3	
IPMB	Ipameri, GO	145.58	271	*e*P		PKPab	15 29 01.4	+0.4	
BOAV	Boa Vista	145.72	314			PKPdf	15 29 00.2	-0.7	
BOAV	Boa Vista	145.72	314	*e*P		PKPab	15 29 01.4	-0.1	
PET01	Itanhaem-SP	145.76	260	*e*P		PKPab	15 29 02.5	+1.0	
SDV	Santo Domingo	145.76	335			PKPdf	15 29 00.0	-1.2	
SDV	Santo Domingo	145.76	335	*e*P		PKPdf	15 29 01.0	-0.2	
BB19B	Bebedouro	146.50	266	*e*P		PKPbc	15 29 03.9	+0.5	
SNDB	Serra Nova Dou	146.51	283	*e*P		PKPbc	15 29 03.5	-0.1	
ITTB	Itaituba	146.63	299	*e*P		PKPbc	15 29 03.9	-0.1	
JTS	Las Juntas de	147.23	1	IAMs_20	IAMs_20		16 33 06.2		
	comp=Z,458nm,21.0s								
FRTB	Fartura	147.75	262	*e*P		PKPbc	15 29 05.8	-1.1	
NPGB	Novo Progresso	147.81	294	*e*P		PKPbc	15 29 06.7	-0.6	
ITRB	Iturama	147.94	269	*e*P		PKPbc	15 29 06.4	-1.1	
ARAG	Araguaiana, MT	148.28	277	*e*P		PKPdf	15 29 06.6	+1.6	
BRU2	Volcan	148.66	356	IAMs_20	IAMs_20		16 38 25.4		
	comp=Z,526nm,22.0s								
PIRO	Carate, Puerto	149.08	357	IAMs_20	IAMs_20		16 38 58.2		
	comp=Z,626nm,21.0s								
RUSC	La Rusia	149.43	337			PKPdf	15 29 08.0	+0.4	
RUSC				IAMs_20	IAMs_20		16 41 20.2		
	comp=Z,458nm,22.0s								
C2SB	Chapadao do Su	150.03	272	*e*P		PKPdf	15 29 09.2	+1.4	
CLDB	Colider	150.06	288	*e*P		PKPdf	15 29 10.4	+2.4	
ROSC	El Rosal	150.84	339	IAMs_20	IAMs_20		16 41 13.3		
	comp=Z,530nm,20.0s								
ROSC	El Rosal	150.84	339	PKPbc		PKiKP	15 29 16.8	+0.7	
	comp=Z,104nm,0.7s,baz=104,slow=9.2,SNR=25								
PLTB	Pedras Altas	151.04	245			PKiKP	15 29 15.5	0.0	
PDRB	Porto dos Gac	151.20	288	*e*P		PKPdf	15 29 12.5	+2.7	
SALV	Santo Antonio	151.89	279	*e*P		PKPdf	15 29 12.1	+1.3	
TEFE	Tefe	152.82	312	*e*P		PKPdf	15 29 13.7	+1.5	
FLOC	Florencia	154.34	339	IAMs_20	IAMs_20		16 43 18.0		
	comp=Z,441nm,21.0s								
CPUP	Villa Florida	154.90	256	PKPbc		PKPbc	15 29 22.3	-1.2	
	comp=Z,1.4nm,0.7s,baz=279,slow=1.0,SNR=6.7								
SAML	Samuel	155.30	300			PKPdf	15 29 15.4	-0.2	
SAML	Samuel	155.30	300	PKiKP		PKPdf	15 29 15.5	-0.2	
SAML	Samuel	155.30	300	*e*P		PKPdf	15 29 17.5	+1.8	
OTAV	Otavalo	156.43	344	IAMs_20	IAMs_20		16 50 24.2		
	comp=Z,420nm,20.0s								
TBTG	Tabatinga, AM	156.73	320	*e*P		PKPdf	15 29 19.4	+1.8	
LL01	San Ignacio de	157.86	205	IAMs_20	IAMs_20		16 29 40.2		
	comp=Z,524nm,20.0s								
PLCA	Paso Flores	158.43	210	PKPab		PKPab	15 29 53.8	+0.2	
	comp=Z,1.4nm,0.7s,baz=63,slow=4.5,SNR=2.8								
LPAZ	La Paz	163.19	289	PKP		PKPdf	15 29 25.8	+0.2	
	comp=Z,0.6nm,0.4s,baz=13,slow=9.4,SNR=2.3								

*IDC **31** 15:14:35.4±12.0, 23°.26S×179°.60W, h401km±110km, mb3.4/3, mbtmp4.2/4, Error ellipse: s-maj=97.5km s-min=25.6km az=42.0*

ISC 31 15:14:32.2±1.6, **22°.9S**±0°.2×**179°.3W**±0°.3, **h400**km, **n7, σ0§63/7, mb3.8/3, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	15.62	191	P		**P**	15 17 50.9	-0.4
	7.4nm,0.8s,baz=327,slow=16,SNR=6.3							
URZ				S		S	15 20 20.1	-16
	5.4nm,0.8s,baz=226,slow=24,SNR=6.9							
ASAR	Alice Springs	42.85	259	P		**P**	15 21 53.4	+0.1
	1.6nm,0.7s,baz=98,slow=8.2,SNR=3.9							
	1.6nm,0.7s							
WRA	Warramunga Arr	43.14	265	P		**P**	15 21 55.9	+0.3
	2.3nm,0.4s,baz=96,slow=8.3,SNR=20							
	2.3nm,0.4s							
QSPA	South Pole Qui	67.19	180	P		**P**	15 24 44.9	+0.3
	1.6nm,0.7s,baz=74,slow=0.7,SNR=10							
	1.6nm,0.7s							
HFS	Hagfors	141.68	350	PKP		**PKPdf**	15 33 16.9	+0.7
	1.2nm,0.4s,baz=38,slow=2.0,SNR=18							
AKASG	Malin Array Be	144.47	329	PKP		**PKiKP**	15 33 24.6	-0.6
	0.5nm,0.3s,baz=44,slow=4.0,SNR=5.0							
MMAI	Mount Meron Ar	147.87	296	PKPbc		**PKPab**	15 33 34.7	-0.6
	1.9nm,0.6s,baz=75,slow=6.6,SNR=2.4							

*GUC **31** 15:52:32.2±0.7, 24°.19S×71°.72W, h55km±13km, ML3.6*
*IDC **31** 15:52:49.7±2.6, 11°.50S×71°.65W, h0km, mb3.9/1, mbtmp3.8/2, ML3.7/1, Error ellipse: s-maj=96.0km s-min=39.0km az=49.0*

ISC 31 15:52:33.0±1.2, **24°.19S**±0°.04×**71°.7W**±0°.1, **h35**km, **n17, σ1§06/26, 1C, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB10	IPOC Station P	1.22	57	*e*P		**Pn**	15 52 52.5	-1.1
PB10				*i* S		**Sn**	15 53 07.9	-0.9
PB10				IAML			15 53 08.8	
	comp=E

GCAM				S	**Sn**	**15 59 06.7**	**+1.0**		
SABU	**Mula-Dalaman**	**1.01**	**89**	P	**Pb**	**15 58 52.2**	**0.0**		
SABU				S	**Sn**	**15 59 07.0**	**+0.4**		
ESEN	**Aydn-Nazilli**	**1.11**	**27**	P	**Pn**	**15 58 54.1**	**0.0**		
SMG	**Samos**	**1.14**	**323**	P	**Pb**	**15 58 54.3**	**-0.2**		
SMG				S	**Sg**	**15 59 09.8**	**-0.3**		
SMG	**Samos**	**1.14**	**323**	P	**Pg**	**15 58 55.1**	**-0.1**		
SMG				S	**Sg**	**15 59 13.0**	**+2.9**		
AYDB	**Zeytinkoy-Aydi**	**1.15**	**7**	Pn	**Pg**	**15 58 55.0**	**-0.3**		
AYDB				Sn	**Sg**	**15 59 11.6**	**+1.2**		
DNZT	**Denizli-Tavas-**	**1.15**	**65**	P	**Pg**	**15 58 55.6**	**+0.2**		
DNZT				S	**Sg**	**15 59 12.0**	**+1.6**		
TAVA	**DENIZLI_Tavas**	**1.17**	**55**	P	**Pg**	**15 58 55.8**	**+0.1**		
TAVA				S	**Sg**	**15 59 11.0**	**+0.1**		
NAZL	**Nazilli-Aydin**	**1.25**	**22**	Pn	**Pg**	**15 58 56.6**	**-0.6**		
NAZL				Sn	**Sg**	**15 59 14.9**	**+1.4**		
IZZE	**Mula-Seydike**	**1.27**	**106**	P	**Sg**	**15 58 57.1**	**-0.5**		
IZZE				S	**Sg**	**15 59 16.2**	**+2.0**		
CAME	**Cameli-Denizli**	**1.28**	**83**	Pn	**Pg**	**15 58 57.9**	**0.0**		
CAME				Sn	**Sg**	**15 59 16.2**	**+1.5**		
CAEL	**Denizli, Camel**	**1.33**	**76**	P	**Pg**	**15 59 00.3**	**+1.6**		
CAEL				S	**Sg**	**15 59 18.6**	**+2.5**		
KARP	**Karpathos**	**1.33**	**200**	Pn	**Pn**	**15 58 57.3**	**+0.2**		
KARP	**Karpathos**	**1.33**	**200**		**Pn**	**15 58 56.9**	**-0.3**		
KARP				Sn	**Sn**	**15 59 13.4**	**-1.1**		
KARP				IAML		15 59 21.6			
	comp=E,404nm,0.8s								
KARP	**Karpathos**	**1.33**	**200**	P	**Pn**	**15 58 57.0**	**-0.1**		
DNIZ	**Denizli-Tavas-**	**1.34**	**52**	P	**Pg**	**15 58 58.4**	**-0.5**		
IZMR	**zmir-demi**	**1.34**	**8**	P	**Pb**	**15 58 57.4**	**-0.6**		
IZMR				S	**Sg**	**15 59 17.5**	**+0.9**		
DGB	**zmir**	**1.41**	**332**	P	**Pn**	**15 58 58.3**	**+0.1**		
GMLD	**Gumuldur**	**1.42**	**334**	Pn	**Pb**	**15 58 59.5**	**+0.3**		
APMY	**Acipayam-Deniz**	**1.44**	**62**	Pn	**Pb**	**15 58 59.9**	**+0.3**		
KIRA	**zmir-Kiraz**	**1.50**	**21**	P	**Pb**	**15 58 59.8**	**-0.8**		
KIRA				S	**Sg**	**15 59 23.2**	**+1.8**		
KNIK	**Mula-Seydike**	**1.50**	**88**	P	**Pg**	**15 59 01.3**	**-0.6**		
KNIK				S	**Sg**	**15 59 23.2**	**+1.8**		
ODEM	**Odemis-Izmir**	**1.50**	**11**	Pn	**Pn**	**15 58 59.6**	**+0.1**		
KSL	**Kastellorizon**	**1.65**	**113**	P	**Pb**	**15 59 02.1**	**-0.9**		
BLCB	**Balcova**	**1.67**	**342**	Pn	**Pb**	**15 59 02.9**	**-0.5**		
BLCB	**Balcova**	**1.67**	**342**	P	**Pn**	**15 59 01.2**	**-0.5**		
MANT	**Manisa**	**1.81**	**22**		**Pn**	**15 59 02.9**	**-1.0**		
MANT				IAML		15 59 38.1			
	comp=N,147nm,0.5s								
MANT				IAML		15 59 39.9			
	comp=E,145nm,0.8s								
THERA	**Ancient Thera,**	**1.85**	**257**	P	**Pb**	**15 59 06.3**	**-0.3**		
DEMR	**Demre-Antalya**	**1.86**	**107**	Pn	**Pb**	**15 59 06.1**	**-0.6**		
KULA	**Kula-Manisa**	**1.87**	**24**	Pn	**Pb**	**15 59 05.9**	**-1.0**		
GOMA	**Golmarmara-Man**	**1.91**	**5**	Pn	**Pb**	**15 59 06.2**	**-1.4**		
CHOS	**Chios island**	**2.06**	**321**	P	**Pn**	**15 59 07.7**	**+0.5**		
CHOS	**Chios island**	**2.06**	**321**	P	**Pn**	**15 59 07.3**	**+0.2**		
ZKR	**Zakros**	**2.08**	**216**	Pn	**Pn**	**15 59 08.6**	**+1.3**		
ZKR	**Zakros**	**2.08**	**216**	P	**Pn**	**15 59 08.6**	**+1.3**		
KORT	**Korkueli**	**2.12**	**84**	Pn	**Pb**	**15 59 09.9**	**-1.5**		
GORD	**Gordes-Manisa**	**2.13**	**10**	Pn	**Pb**	**15 59 09.6**	**-1.9**		
SOMA	**Soma-Manisa**	**2.35**	**357**	Pn	**Pn**	**15 59 12.7**	**+1.5**		
ANTB	**Antalya**	**2.36**	**87**	Pn	**Pb**	**15 59 13.4**	**-1.9**		
ISP	**Isparta**	**2.46**	**65**	Pn	**Pb**	**15 59 14.7**	**-2.4**		
ISP	**Isparta**	**2.46**	**65**	Pn	**Pn**	**15 59 14.4**	**+1.6**		
IDI	**Anoyia**	**2.74**	**237**	Pn	**Pn**	**15 59 16.8**	**+1.8**		
IDI	**Anoyia**	**2.74**	**237**	Pn	**Pn**	**15 59 16.6**	**+0.1**		
ALN	**Alexandroupoli**	**4.29**	**343**	Pn	**Pn**	**15 59 37.5**	**-0.3**		
ITM	**Ithomi**	**4.64**	**276**	Pn	**Pn**	**15 59 43.4**	**+0.7**		
RDO	**Rodhopi**	**4.66**	**339**	Pn	**Pn**	**15 59 41.7**	**-1.1**		
RDO				IAML		16 01 11.2			
	comp=N,9.3nm,2.5s								
RDO				IAML		16 01 33.3			
	comp=E,9.1nm,2.8s								
CSS	**Mathiatis**	**4.92**	**110**	Pn	**Pn**	**15 59 45.8**	**-0.6**		
CSS				IAML		16 00 29.4			
	comp=N,11nm,2.8s								
CSS				IAML		16 00 54.9			
	comp=E,12nm,0.8s								
ANTO	**Ankara**	**5.03**	**51**	Pn	**Pn**	**15 59 48.4**	**+0.4**		
ANTO				IAML		16 01 32.0			
	comp=E,9.5nm,1.3s								
ANTO				IAML		16 01 43.6			
	comp=E,8.4nm,0.6s								
BRTR	**Keskin Array B**	**5.50**	**56**	Pn	**Pn**	**15 59 55.4**	**+0.8**		

DJA 31 16:10:33.0±0.4,**1°N**±4″×**12°0E**±°,**h10**km,**M3.8/9,mb3.9**/2,
MLv3.7/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.97**	**210**	P	Pg	16 10 49.9	-1.7
MRSI	**Marisa**	**1.71**	**114**	P	Pn	16 11 02.9	0.0
MRSI				S	Sn	16 11 23.6	-1.2
PCI	**Palu**	**2.14**	**195**	P	Pn	16 11 09.1	+0.3
APSI	**Ampana**	**2.43**	**149**	P	Pn	16 11 13.9	+1.1
LUWI	**Luwuk**	**3.25**	**135**	P	Pn	16 11 26.4	+2.3
KMSI	**Cibinong**	**3.65**	**99**	P	Pn	16 11 30.5	+0.9
TTSI	**Tana Toraja**	**4.23**	**188**	P	Pn	16 11 38.8	+1.2
BNSI	**Bone**	**5.55**	**183**	P	Pn	16 11 55.9	+0.2
	0.1nm15nm,1.2s						

*NOU **31** 16:16:22.0,37°.26S×176°.76E,h268km,MLv3.6/12,North Island, New Zealand*
*WEL **31** 16:16:23.5±0.8,37°S±7″×17°7E±°,h255km±6km,M3.2/28, MLv3.2/28,Error ellipse: s-maj=10.0km s-min=5.7km az=37.4,confirmed*

ISC 31 16:16:17.7±2.1,**37°23S**±0°.06×**176°74E**±0°.07,
h300km±12km,**n155,**σ1§**76**/158,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.40**	**263**	P	**Pn**	**16 16 57.6**	**+1.5**
TGRZ	**Tauranga**	**0.63**	**218**	P	**Pn**	**16 16 58.0**	**+1.4**
OPRZ	**Ohinepanea**	**0.63**	**194**	P	**Pn**	**16 16 57.8**	**+1.2**
WHRZ	**Whale Island**	**0.65**	**164**	P	**Pn**	**16 16 59.1**	**+2.4**
WHRZ				S	**S**	**16 17 26.0**	**-1.7**
MARZ	**Manawahe**	**0.76**	**184**	P	**Pn**	**16 16 58.5**	**+1.4**
LIRZ	**Lichensteins R**	**0.82**	**200**	P	**Pn**	**16 16 59.1**	**+1.8**
EDRZ	**Edgecumbe**	**0.88**	**180**	P	**Pn**	**16 16 59.5**	**+2.0**
KARZ	**Kaharoa**	**0.88**	**207**	P	**Pn**	**16 16 59.4**	**+1.8**
KMRZ	**Kaimai**	**0.89**	**226**	P	**Pn**	**16 16 59.3**	**+1.7**
OMRZ	**Omania**	**0.92**	**199**	P	**Pn**	**16 16 59.4**	**+1.6**
MKRZ	**Makatiti**	**0.93**	**194**	P	**Pn**	**16 17 00.4**	**+2.5**
KUZ	**Kuaotunu**	**0.95**	**300**	P	**Pn**	**16 16 58.7**	**+0.8**
KUZ	**Kuaotunu**	**0.95**	**300**	P	**Pn**	**16 16 58.9**	**+1.0**
HAZ	**Te Kaha**	**0.98**	**123**	P	**Pn**	**16 16 59.2**	**+1.3**
HAZ				S	**S**	**16 17 27.1**	**-2.8**
UTU	**Utuhina**	**1.04**	**205**	P	**Pn**	**16 17 00.6**	**+2.3**
RUGZ	**Raukumara Rang**	**1.04**	**135**	P	**Pn**	**16 16 59.1**	**+0.7**
RUGZ				S	**S**	**16 17 27.7**	**-3.0**
HLRZ	**Highlands Stat**	**1.07**	**197**	P	**Pn**	**16 17 00.3**	**+1.9**
URZ	**Urewera**	**1.07**	**164**	P	**Pn**	**16 16 59.5**	**+1.1**
URZ	**Urewera**	**1.07**	**164**	P	**Pn**	**16 16 59.4**	**+1.1**
URZ	**Urewera**	**1.07**	**164**	P	**Pn**	**16 16 58.7**	**+0.3**
URZ				S	**S**	**16 17 28.5**	**-2.1**
TOZ	**Tahuroa Road**	**1.11**	**243**	P	**Pn**	**16 17 00.5**	**+2.0**
RRRZ	**Republican Roa**	**1.12**	**189**	P	**Pn**	**16 17 00.2**	**+1.5**
HSRZ	**Hossack Road**	**1.15**	**200**	P	**Pn**	**16 17 01.3**	**+2.5**
HRRZ	**Handcock Road**	**1.21**	**197**	P	**Pn**	**16 17 01.0**	**+1.9**
GRRZ	**Galatos Road**	**1.23**	**204**	P	**Pn**	**16 17 01.2**	**+2.0**
PKGZ	**Pakihiroa**	**1.24**	**121**	P	**Pn**	**16 17 01.3**	**+2.0**
PKGZ				S	**S**	**16 17 30.9**	**-1.4**
MUGZ	**Murupara**	**1.25**	**179**	P	**Pn**	**16 17 00.6**	**+1.3**
MKAZ	**Moumakai**	**1.27**	**275**	P	**Pn**	**16 17 01.1**	**+1.6**
MKAZ				S	**S**	**16 17 29.8**	**-2.8**
MXZ	**Matakaoa Point**	**1.29**	**105**	P	**Pn**	**16 17 01.0**	**+1.5**
MXZ	**Matakaoa Point**	**1.29**	**105**	P	**Pn**	**16 17 01.2**	**+1.6**
MXZ				S	**S**	**16 17 31.1**	**-1.7**
PRRZ	**Plateau Road**	**1.30**	**192**	P	**Pn**	**16 17 01.2**	**+1.6**
WIAZ	**Waiheke Island**	**1.36**	**288**	P	**Pn**	**16 17 01.4**	**+1.4**
ALRZ	**Allen Road**	**1.37**	**193**	P	**Pn**	**16 17 01.7**	**+1.7**
WPRZ	**Whakapapataran**	**1.37**	**199**	P	**Pn**	**16 17 01.9**	**+1.9**
RAGZ	**Rawiri**	**1.37**	**157**	P	**Pn**	**16 17 01.8**	**+1.7**
RAGZ				S	**S**	**16 17 32.9**	**-0.9**
RTZ	**Ruatahuna**	**1.40**	**172**	P	**Pn**	**16 17 01.3**	**+1.0**
RTZ				S	**S**	**16 17 32.6**	**-1.4**
KUTZ	**Kaahu Road**	**1.45**	**210**	P	**Pn**	**16 17 02.6**	**+2.1**
WMGZ	**Waiomatatini S**	**1.45**	**114**	S	**S**	**16 17 33.5**	**-1.1**
TLZ	**Tolley Road**	**1.46**	**221**	P	**Pn**	**16 17 02.7**	**+2.1**
PUZ	**Puketiti**	**1.47**	**125**	P	**Pn**	**16 17 02.6**	**+1.9**
PUZ				S	**S**	**16 17 32.7**	**-2.0**
ETAZ	**East Tamaki Re**	**1.48**	**280**	P	**Pn**	**16 17 02.4**	**+1.7**
TKGZ	**Te Karaka**	**1.49**	**144**	P	**Pn**	**16 17 02.7**	**+1.9**
TKGZ				S	**S**	**16 17 33.6**	**-1.4**
MBAZ	**Motutapu North**	**1.55**	**287**	P	**Pn**	**16 17 03.0**	**+1.8**
WHTZ	**Whakaora**	**1.56**	**203**	P	**Pn**	**16 17 03.6**	**+2.3**
SNGZ	**Shannon Statio**	**1.62**	**163**	P	**Pn**	**16 17 03.7**	**+2.1**
SNGZ				S	**S**	**16 17 35.5**	**-1.0**
MRHZ	**Matea Rd**	**1.62**	**189**	P	**Pn**	**16 17 03.2**	**+1.5**
MTHZ	**Maungataniwha**	**1.62**	**177**	P	**Pn**	**16 17 03.3**	**+1.6**
WATZ	**Wairara**	**1.68**	**208**	P	**Pn**	**16 17 04.2**	**+2.1**
RIGZ	**Rimuhau**	**1.68**	**152**	P	**Pn**	**16 17 04.2**	**+2.1**
AWAZ	**Awhitu Peninsu**	**1.69**	**275**	P	**Pn**	**16 17 03.9**	**+1.8**
CNGZ	**Carnagh Statio**	**1.71**	**138**	P	**Pn**	**16 17 04.6**	**+2.4**
RAHZ	**Arahi**	**1.71**	**171**	P	**Pn**	**16 17 04.4**	**+2.2**
RAHZ				S	**S**	**16 17 37.4**	**-0.3**
RATZ	**Rangitukua**	**1.80**	**205**	P	**Pn**	**16 17 04.8**	**+1.8**
NMHZ	**Naumai**	**1.86**	**178**	P	**Pn**	**16 17 05.9**	**+2.4**
RITZ	**Rihia Road**	**1.88**	**202**	P	**Pn**	**16 17 05.6**	**+2.1**
WHHZ	**Waihua**	**1.88**	**168**	P	**Pn**	**16 17 05.7**	**+2.2**
PRGZ	**Paritu Road**	**1.91**	**152**	P	**Pn**	**16 17 06.1**	**+2.3**
KATZ	**Kakaramea**	**1.93**	**205**	P	**Pn**	**16 17 05.8**	**+1.8**
KNZ	**Kokohu**	**1.93**	**158**	P	**Pn**	**16 17 05.7**	**+1.8**
BKZ	**Black Stump Fm**	**1.94**	**186**	P	**Pn**	**16 17 05.5**	**+1.5**
BKZ	**Black Stump Fm**	**1.94**	**186**	S	**S**	**16 17 39.8**	**-1.1**
BKZ	**Black Stump Fm**	**1.94**	**186**	P	**Pn**	**16 17 05.3**	**+1.3**
BKZ	**Black Stump Fm**	**1.94**	**186**	S	**S**	**16 17 39.9**	**-1.0**
BKZ	**Black Stump Fm**	**1.94**	**186**	P	**Pn**	**16 17 05.5**	**+1.5**
HIZ	**Hauiti**	**1.97**	**229**	P	**Pn**	**16 17 06.1**	**+1.9**
HIZ	**Hauiti**	**1.97**	**229**	P	**Pn**	**16 17 06.5**	**+2.3**
HIZ	**Hauiti**	**1.97**	**229**	P	**Pn**	**16 17 06.5**	**+2.3**
ARHZ	**Aropaoanui**	**2.04**	**174**	P	**Pn**	**16 17 06.9**	**+2.2**
TMVZ	**Te Maari**	**2.05**	**203**	P	**Pn**	**16 17 06.8**	**+1.8**
KRVZ	**Kaewarewa**	**2.05**	**205**	P	**Pn**	**16 17 06.7**	**+1.7**
ETVZ	**Easki Ongariro**	**2.07**	**203**	P	**Pn**	**16 17 07.0**	**+1.8**
WTVZ	**West Tongariro**	**2.09**	**205**	P	**Pn**	**16 17 07.1**	**+1.8**
NNVZ	**North Ngauruho**	**2.10**	**205**	P	**Pn**	**16 17 07.2**	**+1.8**
TWVZ	**Taurewa**	**2.11**	**209**	P	**Pn**	**16 17 07.2**	**+1.8**
OTVZ	**Oturere**	**2.11**	**203**	P	**Pn**	**16 17 07.4**	**+2.0**
MHGZ	**Mahia Peninsul**	**2.13**	**155**	P	**Pn**	**16 17 07.7**	**+2.2**
NGZ	**Ngauruhoe**	**2.14**	**205**	P	**Pn**	**16 17 07.5**	**+1.8**
COVZ	**Chateau Observ**	**2.18**	**205**	P	**Pn**	**16 17 07.6**	**+1.5**
KWHZ	**Kaweka Forest**	**2.21**	**186**	P	**Pn**	**16 17 08.0**	**+1.9**
TUVZ	**Tukino**	**2.21**	**203**	P	**Pn**	**16 17 08.0**	**+1.8**
MCHZ	**McNeill Hill**	**2.21**	**181**	P	**Pn**	**16 17 08.3**	**+2.2**
FWVZ	**Far West T-bar**	**2.23**	**205**	P	**Pn**	**16 17 08.1**	**+1.5**
MAVZ	**Matarangi**	**2.24**	**204**	P	**Pn**	**16 17 08.6**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.24**	**204**	P	**Pn**	**16 17 08.3**	**+1.6**
TRVZ	**Turoa**	**2.27**	**204**	P	**Pn**	**16 17 08.9**	**+2.0**
WNVZ	**Wahianoa**	**2.28**	**203**	P	**Pn**	**16 17 08.5**	**+1.6**
MOVZ	**Moawhango**	**2.31**	**199**	P	**Pn**	**16 17 08.3**	**+1.2**
WCZ	**Waipu Caves**	**2.32**	**303**	P	**Pn**	**16 17 08.7**	**+1.5**
PKVZ	**Pokaka**	**2.33**	**208**	P	**Pn**	**16 17 08.9**	**+1.6**
MTVZ	**Mangateitei**	**2.37**	**205**	P	**Pn**	**16 17 09.2**	**+1.6**
KRHZ	**Kereru**	**2.43**	**187**	P	**Pn**	**16 17 09.5**	**+1.5**
CKHZ	**Cape Kidnapper**	**2.44**	**174**	P	**Pn**	**16 17 10.1**	**+2.0**
VRZ	**Vera Road**	**2.45**	**219**	P	**Pn**	**16 17 10.4**	**+2.2**
KAHZ	**Kaharanaki**	**2.56**	**178**	P	**Pn**	**16 17 11.2**	**+2.0**
PNHZ	**Pukenui**	**2.71**	**189**	P	**Pn**	**16 17 11.9**	**+1.3**
PXZ	**Pawanui**	**2.80**	**178**	P	**Pn**	**16 17 13.1**	**+1.7**
DREZ	**Durham Road**	**2.80**	**225**	P	**Pn**	**16 17 14.5**	**+3.0**
WPHZ	**Waipukurau**	**2.84**	**185**	P	**Pn**	**16 17 13.2**	**+1.4**
WAZ	**Wanganui**	**2.87**	**208**	P	**Pn**	**16 17 13.7**	**+1.6**
LREZ	**Lake Rotokare**	**2.89**	**219**	P	**Pn**	**16 17 14.6**	**+2.3**
TSZ	**Takapari Road**	**2.89**	**192**	P	**Pn**	**16 17 13.6**	**+1.3**
NEZ	**North Egmont**	**2.91**	**225**	P	**Pn**	**16 17 15.4**	**+2.7**
PKE	**Pukeiti**	**2.92**	**227**	P	**Pn**	**16 17 15.7**	**+2.9**
PREZ	**Palmer Road**	**2.93**	**223**	P	**Pn**	**16 17 15.8**	**+3.1**
KHHZ	**Kahui Hut**	**2.98**	**225**	P	**Pn**	**16 17 16.1**	**+2.8**
KHEZ	**Kahui Hut**	**2.98**	**225**	P	**Pn**	**16 17 16.0**	**+2.8**
PRHZ	**Porangahau**	**3.03**	**182**	P	**Pn**	**16 17 15.2**	**+1.5**
NBEZ	**Newall Road No**	**3.04**	**227**	P	**Pn**	**16 17 16.7**	**+2.9**
DVHZ	**Dannevirke**	**3.10**	**188**	P	**Pn**	**16 17 15.4**	**+1.1**
OHWZ	**Ohakea**	**3.17**	**200**	P	**Pn**	**16 17 17.0**	**+1.9**
ANWZ	**Angora Road**	**3.23**	**184**	P	**Pn**	**16 17 17.4**	**+1.7**
OUZ	**Omahuta**	**3.24**	**307**	P	**Pn**	**16 17 17.4**	**+1.5**
OUZ	**Omahuta**	**3.24**	**307**	P	**Pn**	**16 17 17.3**	**+1.4**
OUZ	**Omahuta**	**3.24**	**307**	P	**Pn**	**16 17 17.4**	**+1.4**
POWZ	**Post Office Ro**	**3.25**	**193**	P	**Pn**	**16 17 16.9**	**+1.1**
PRWZ	**Pori Road**	**3.37**	**190**	P	**Pn**	**16 17 18.6**	**+1.4**
BFZ	**Birch Farm**	**3.47**	**186**	P	**Pn**	**16 17 19.4**	**+1.3**
BFZ	**Birch Farm**	**3.47**	**186**	P	**S**	**16 18 06.3**	**-0.1**
BFZ	**Birch Farm**	**3.47**	**186**	P	**Pn**	**16 17 19.4**	**+1.3**
MRZ	**Mangatainoka R**	**3.54**	**194**	P	**Pn**	**16 17 19.7**	**+0.8**
TIWZ	**Tintock**	**3.60**	**190**	P	**Pn**	**16 17 20.8**	**+1.2**
CPWZ	**Castlepoint**	**3.70**	**186**	P	**Pn**	**16 17 22.5**	**+1.9**
HOWZ	**Haldsworth Sta**	**3.75**	**205**	P	**Pn**	**16 17 22.1**	**+0.6**
OGWZ	**Otaki Gorge**	**3.79**	**198**	P	**Pn**	**16 17 22.4**	**+0.9**
KIW	**Kapiti Island**	**3.90**	**201**	P	**Pn**	**16 17 23.4**	**+0.7**
TMWZ	**Te Maipa**	**3.93**	**189**	P	**Pn**	**16 17 24.1**	**+1.0**
MTW	**Mount Morrison**	**4.04**	**193**	P	**Pn**	**16 17 24.7**	**+0.5**
CAW	**Cannon Point**	**4.08**	**198**	P	**Pn**	**16 17 25.5**	**+0.7**
DUWZ	**D'Urville Isla**	**4.19**	**211**	P	**Pn**	**16 17 26.3**	**+0.3**
TRWZ	**Traveller**	**4.24**	**191**	P	**Pn**	**16 17 27.5**	**+1.0**
PAWZ	**Paruwai Farm**	**4.27**	**193**	P	**Pn**	**16 17 27.5**	**+0.6**
WEL	**Wellington**	**4.33**	**200**	P	**Pn**	**16 17 28.2**	**+0.7**
MSWZ	**Moikau Station**	**4.34**	**195**	P	**Pn**	**16 17 28.1**	**+0.5**
TCW	**Tory Channel**	**4.41**	**205**	P	**Pn**	**16 17 29.2**	**+0.8**
BHW	**Baring Head**	**4.42**	**199**	P	**Pn**	**16 17 29.2**	**+0.7**
PLWZ	**Palliser**	**4.48**	**194**	P	**Pn**	**16 17 29.8**	**+0.5**
TUWZ	**Tuamarina**	**4.72**	**207**	P	**Pn**	**16 17 33.0**	**+1.1**
NNZ	**Nelson**	**4.76**	**212**	P	**Pn**	**16 17 32.3**	**-0.1**
TKNZ	**Takaka Hill**	**4.80**	**217**	P	**Pn**	16 17 32.4	-0.5
QRZ	**Quartz Range**	**4.86**	**221**	P	**Pn**	16 17 33.0	-0.6
QRZ	**Quartz Range**	**4.86**	**221**	S	**S**	**16 18 32.5**	**-2.0**
QRZ	**Quartz Range**	**4.86**	**221**	P	**Pn**	16 17 33.1	-0.5
CMWZ	**Cape Campbell**	**4.92**	**203**	P	**Pn**	**16 17 35.7**	**+1.5**
BSWZ	**Blackbirch Sta**	**5.00**	**205**	P	**Pn**	**16 17 36.1**	**+1.0**
MRNZ	**Matariki Terra**	**5.18**	**215**	P	**Pn**	16 17 36.6	-0.7
THZ	**Tophouse**	**5.41**	**212**	P	**Pn**	16 17 39.7	-0.3
KHZ	**Kahutara**	**5.74**	**204**	P	**Pn**	**16 17 44.8**	**+1.0**
KHZ	**Kahutara**	**5.74**	**204**	S	**S**	**16 18 50.3**	**-2.7**
KHZ	**Kahutara**	**5.74**	**204**	P	**Pn**	**16 17 44.7**	**+1.0**
DSZ	**Denniston Nort**	**5.91**	**219**	P	**Pn**	16 17 45.1	-0.8
GVZ	**Greta Valley S**	**6.40**	**205**	P	**Pn**	**16 17 52.3**	**+0.6**
LTZ	**Lake Taylor**	**6.52**	**210**	P	**Pn**	16 17 53.1	-0.2
AMCZ	**Amberley**	**6.71**	**207**	P	**Pn**	16 17 55.8	+0.4
RPZ	**Rata Peaks**	**7.79**	**212**	P	**Pn**	16 18 08.4	-0.3
ODZ	**Otahua Downs**	**9.06**	**209**	P	**Pn**	16 18 25.6	+1.5

IDC 31 16:22:38.2±2.1,**0°31N**×**125°86E,h0**km,**mb3.3**/3,
mbtmp3.3/3,**Error ellipse: s-maj=180.5km s-min=28.4km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**158**	P	P	16 27 30.6	-1.1
	0.6nm,0.8s,baz=336,slow=11,SNR=4.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**25.08**	**162**	P	P	16 28 05.3	+0.7
	0.7nm,0.8s,baz=344,slow=11,SNR=11						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**59.89**	**327**	P	P	16 32 45.8	-0.1
	0.4nm,0.9s,baz=110,slow=8.3,SNR=1.6						
	0.4nm,0.9s						

*IDC **31** 16:29:18.6±1.4,4°.75S×151°.20E,h239km±12km,mb3.5/10, mbtmp4.2/13,Error ellipse: s-maj=20.9km s-min=10.7km az=119.0*
*NEIC **31** 16:29:18.1±1.4,4°.7S±0°.1×151°.32E±0°.09,h232km±12km, mb4.4/23,Error ellipse: s-maj=17.7km s-min=10.3km az=213.0*

ISC 31 16:29:19.0±0.5,**4°.75S**±0°.07×**151°.31E**±0°.07,**h250**km,**n49,**
σ1§16/55,mb4.3/22,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.02**	**57**		**Pn**	**16 29 51.2**	**-2.9**
MANU	**Manus Island**	**4.77**	**304**	Pn	**Pn**	**16 30 30.4**	**-1.6**
PMG	**Port Moresby**	**6.19**	**221**	Pn	**Pn**	**16 30 49.5**	**-0.1**
PMG	**Port Moresby**	**6.19**	**221**	P	**Pn**	**16 30 50.1**	**+0.5**
	8.6nm,0.7s,baz=68,slow=9.5,SNR=2.1						
PMG				S	**S**	**16 31 59.9**	**-2.2**
	18nm,0.6s,baz=345,slow=20,SNR=3.4						
HNR	**Honiara**	**9.75**	**119**	Pn	**Pn**	**16 31 32.5**	**-2.0**
HNR	**Honiara**	**9.75**	**119**	P	**Pn**	**16 31 34.6**	**+0.1**
	50nm,0.6s,baz=238,slow=4.5,SNR=4.4						
JAY	**Jayapura**	**10.81**	**281**	P	**Pn**	**16 31 46.0**	**-1.9**
	7.0nm,0.9s,baz=167,slow=16,SNR=4.4						
COEN	**Coen**	**12.17**	**221**	Pn	**Pn**	**16 32 03.7**	**-1.1**
MTSU	**Mount Surprise**	**14.96**	**207**	P	**Pn**	**16 32 40.5**	**+1.7**
CTAO	**Charters Tower**	**16.02**	**197**	P	**P**	**16 32 50.0**	**-0.2**
CTAO				IAmb	IAmb	16 32 53.1	
	comp=Z,11nm,0.8s						
QIS	**Mount Isa**	**19.40**	**215**	P	**P**	**16 33 27.9**	**+1.1**
KDU	**Kakadu**	**20.21**	**246**	P	**P**	**16 33 34.5**	**-0.9**
EIDS	**Eidsvold**	**20.50**	**181**	P	**P**	**16 33 38.7**	**+0.3**
MTN	**Manton Dam**	**21.48**	**247**		**P**	**16 33 48.6**	**+0.2**
MTN				IAmb	IAmb	16 33 49.0	
	comp=Z,11nm,0.9s						
WB0	**Warramunga Arr**	**22.23**	**226**	P	**P**	**16 33 55.5**	**+0.2**
WR8	**Warramunga Arr**	**22.28**	**226**	P	**P**	**16 33 56.0**	**+0.3**
WRAB	**Tennant Creek**	**22.37**	**226**	P	**P**	**16 33 56.8**	**+0.3**
WRA	**Warramunga Arr**	**22.39**	**226**	P	**P**	**16 33 55.8**	**-0.9**
WRA	**Warramunga Arr**	**22.39**	**226**	P	**P**	**16 33 57.1**	**+0.4**
	comp=Z,12nm,0.4s,baz=51,slow=10,SNR=144						
WRA				S	**S**	**16 37 44.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=46,slow=16,SNR=5.3						
WRA				ScP	**ScP**	**16 40 58.9**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=46,slow=2.9,SNR=4.5						
	comp=Z,12nm,0.4s						
DZM	**Mont Dzumac**	**22.61**	**141**	P	**P**	**16 33 59.1**	**+0.3**
DZM				IAmb	IAmb	16 34 11.0	
	comp=Z,16nm,1.1s						
QLP	**Quilpie**	**22.74**	**197**	P	**P**	**16 34 01.2**	**+1.4**
KNRA	**Kununurra**	**24.67**	**242**		**P**	**16 34 17.2**	**-0.2**
INKA	**Innaminka**	**24.98**	**203**	P	**P**	**16 34 21.1**	**+1.0**
AS01	**Alice

EMOS				Sn	**Sb**	**16 48 28.1**	**-2.5**
EMOS				Sg	**Sg**	**16 48 34.9**	**+0.5**
EMOS				*i* IVmb_Lg		16 48 48.7	
ESBB	**Sonseca Array**	**2.17**	**305**	Pn	**Pn**	**16 48 00.7**	**-0.7**
ESBB				Pg	**Pb**	**16 48 05.4**	**+0.7**
ESBB				Sg	**Sg**	**16 48 35.6**	**+0.2**
ESDC	**Sonseca Array**	**2.17**	**305**	Pn	**Pn**	**16 48 02.2**	**+0.8**
ESDC				Pg	**Pg**	**16 48 07.0**	**-0.2**
ESDC				Sg	**Sg**	**16 48 34.0**	**-1.4**
ESDC				*i* IVmb_Lg		16 48 38.9	
ELGU	**Los Guajares,**	**2.21**	**225**	Pn	**Pb**	**16 48 04.7**	**-0.7**
ELGU	**Los Guajares,**	**2.21**	**225**	Pg	**Pb**	**16 48 06.2**	**+0.7**
ELGU				Sg	**Sg**	**16 48 36.3**	**-0.3**
ELGU				*i* IVmb_Lg		16 48 45.3	
EADA	**Adamuz**	**2.30**	**264**	Pn	**Pn**	**16 48 02.9**	**-0.4**
EADA				Sn	**Sn**	**16 48 33.1**	**+1.7**
EADA	**Adamuz**	**2.30**	**264**	Pn	**Pn**	**16 48 02.5**	**-0.8**
EADA				Pg	**Pb**	**16 48 07.6**	**+0.6**
EADA				Sn	**Sn**	**16 48 33.8**	**+2.4**
EADA				Sg	**Sb**	**16 48 38.5**	**+3.1**
EADA				*i* IVmb_Lg		16 48 45.7	
ECOL	**Islas Columbre**	**2.34**	**51**	Pn	**Pn**	**16 48 03.4**	**-0.3**
ECOL				Sn	**Sn**	**16 48 33.1**	**+0.9**
EGOR	**Sierra Gorda,**	**2.34**	**236**	Pn	**Pn**	**16 48 05.1**	**+1.2**
EGOR				Sn	**Sn**	**16 48 33.5**	**+0.9**
EGOR	**Sierra Gorda,**	**2.34**	**236**	Pn	**Pn**	**16 48 04.8**	**+0.9**
EGOR				Sn	**Sn**	**16 48 35.0**	**+2.4**
EGOR				*i* IVmb_Lg		16 48 52.0	
PAB	**San Pablo**	**2.36**	**299**	Pn	**Pn**	**16 48 04.4**	**+0.3**
PAB				Pg	**Pb**	**16 48 08.8**	**+0.8**
PAB				Sg	**Sg**	**16 48 41.2**	**-0.4**
PAB				*i* IVmb_Lg		16 48 44.4	
ETOR	**Torete**	**2.40**	**353**	Pn	**Pn**	**16 48 06.1**	**+1.5**
ETOR				Pg	**Pg**	**16 48 11.3**	**-0.3**
ETOR				Sn	**Sb**	**16 48 36.2**	**-1.9**
ETOR				Sg	**Sg**	**16 48 43.9**	**+1.2**
ETOR				*i* IVmb_Lg		16 48 47.3	
EIBI	**Ibiza**	**2.43**	**75**	Pn	**Pn**	**16 48 04.6**	**-0.3**
EIBI	**Ibiza**	**2.43**	**75**	Pn	**Pn**	**16 48 04.4**	**-0.6**
EIBI				Sn	**Sn**	**16 48 35.2**	**+0.7**
EIBI				*i* IVmb_Lg		16 48 44.9	
EALB	**Alboran**	**2.72**	**204**	Pn	**Pn**	**16 48 11.9**	**+2.9**
EMAL	**Malaga-Limoner**	**2.76**	**233**	Pn	**Pn**	**16 48 11.6**	**+2.2**
GUD	**Guadarrama**	**2.92**	**320**	Pn	**Pn**	**16 48 12.4**	**+0.6**
GUD				Pg	**Pg**	**16 48 20.3**	**-1.3**
GUD				Sn	**Sn**	**16 48 48.8**	**+2.1**
GUD				Sg	**Sg**	**16 48 59.9**	**+0.4**
GUD				*i* IVmb_Lg		16 49 02.5	
ERTA	**Horta de San J**	**2.95**	**31**	Pn	**Pn**	**16 48 12.7**	**+0.6**
ERTA				Sn	**Sn**	**16 48 48.4**	**+1.0**
ERTA				Sg	**Sg**	**16 48 59.2**	**-1.3**
ERTA				*i* IVmb_Lg		16 49 12.0	
ECAB	**El Cabril**	**2.97**	**264**	Pn	**Pn**	**16 48 11.9**	**-0.5**
ECAB				Sn	**Sn**	**16 48 45.7**	**-2.2**
ECAB	**El Cabril**	**2.97**	**264**	Pn	**Pn**	**16 48 12.0**	**-0.4**
ECAB				Sn	**Sn**	**16 48 49.4**	**+1.5**
ECAB				Sg	**Sg**	**16 48 59.7**	**-1.5**
ECAB				*i* IVmb_Lg		16 49 04.1	
GOG	**Mont Gurugu**	**3.38**	**199**	P	**Pn**	**16 48 19.0**	**+0.8**
GOG	**Mont Gurugu**	**3.38**	**199**	S	**Sb**	**16 49 05.3**	**-1.2**
ESAC	**San Caprasio**	**3.41**	**15**	Pn	**Pn**	**16 48 20.3**	**+1.9**
ESAC				Sn	**Sn**	**16 49 00.4**	**+1.8**
ESAC				Sg	**Sg**	**16 49 15.4**	**+0.4**
ESAC				*i* IVmb_Lg		16 49 27.3	
EPOB	**Poblet**	**3.60**	**35**	Pn	**Pn**	**16 48 21.5**	**+0.5**
EPOB				Sn	**Sn**	**16 49 01.5**	**-1.9**
EPOB				Sg	**Sb**	**16 49 15.3**	**+2.7**
EPOB				*i* IVmb_Lg		16 49 25.3	
ESPR	**Espera**	**3.67**	**246**	Pn	**Pn**	**16 48 23.3**	**+1.3**
ESPR				Sn	**Sn**	**16 49 05.8**	**+0.6**
ESPR	**Espera**	**3.67**	**246**	Pn	**Pn**	**16 48 23.4**	**+1.3**
ESPR				Sn	**Sn**	**16 49 06.3**	**+1.2**
ESPR				Sg	**Sg**	**16 49 22.7**	**-1.0**
ESPR				*i* IVmb_Lg		16 49 33.2	
PALE	**Palemas**	**3.70**	**210**	P	**Pn**	**16 48 23.1**	**+0.7**
PALE	**Palemas**	**3.70**	**210**	S	**Sb**	**16 49 13.0**	**-2.4**
ETOS	**Mallorca**	**3.73**	**68**	Pn	**Pn**	**16 48 23.5**	**+0.7**
ETOS				Sn	**Sn**	**16 49 05.2**	**-1.4**
ETOS				*i* IVmb_Lg		16 49 45.6	
EPLA	**Plasencia**	**3.79**	**297**	Pn	**Pn**	**16 48 23.8**	**+0.1**
EPLA				Sn	**Sn**	**16 49 09.8**	**+1.8**
EPLA				Sg	**Sg**	**16 49 26.8**	**-0.5**
EPLA				*i* IVmb_Lg		16 49 36.3	
EMIN	**Mina Concepcio**	**4.00**	**262**	Pn	**Pn**	**16 48 26.3**	**-0.2**
EMIN				Sn	**Sn**	**16 49 14.1**	**-1.6**
EMIN	**Mina Concepcio**	**4.00**	**262**	Pn	**Pn**	**16 48 26.4**	**-0.2**
EMIN				Sn	**Sn**	**16 48 12.9**	**-0.4**
EMIN				Sg	**Sg**	**16 49 32.6**	**-1.6**
EMIN				*i* IVmb_Lg		16 49 37.7	
JBK	**JBK**	**4.16**	**190**	P	**Pn**	**16 48 30.0**	**+1.0**
JBK	**JBK**	**4.16**	**190**	S	**Sb**	**16 49 25.5**	**-3.4**
EBAD	**Badajoz**	**4.20**	**276**	Pn	**Pn**	**16 48 28.3**	**-1.0**
EBAD				Sn	**Sn**	**16 49 17.4**	**-0.7**
EBAD	**Badajoz**	**4.20**	**276**	Pn	**Pn**	**16 48 28.7**	**-0.6**
EBAD				Sn	**Sn**	**16 49 18.1**	**0.0**
EBAD				Sg	**Sg**	**16 49 38.5**	**-1.9**
EBAD				*i* IVmb_Lg		16 49 41.0	
PBAR	**Barrancos**	**4.23**	**268**	Pn	**Pn**	**16 48 29.0**	**-0.7**
PBAR				Sn	**Sn**	**16 49 16.2**	**-2.7**
PBAR	**Barrancos**	**4.23**	**268**	*e*Pn	**Pn**	**16 48 29.2**	**-0.5**
PBAR				*e*Sn	**Sn**	**16 49 17.4**	**-1.5**
PBAR				*e*Sg	**Sg**	**16 49 43.2**	**+1.5**
PBAR				*i* IAML		16 49 47.9	
PBAR				*i* IAML		16 49 52.4	
PBAR				*i* IAML		16 49 57.5	
AKLM	**AKL**	**4.30**	**205**	P	**Pn**	**16 48 32.0**	**+1.3**
AKLM	**AKL**	**4.30**	**205**	S	**Sn**	**16 49 26.7**	**+6.0**
PMRV	**Marv??o**	**4.57**	**284**	*e*Pn	**Pn**	**16 48 34.7**	**+0.3**
PMRV				*e*Sg	**Sg**	**16 49 51.4**	**-0.9**
PMRV				*i* IAML		16 50 03.2	
PMRV				*i* IAML		16 50 03.4	
PMRV				*i* IAML		16 50 07.2	
PESTR	**Estremoz**	**4.65**	**277**	Pn	**Pn**	**16 48 34.6**	**-0.9**
PESTR				Sn	**Sn**	**16 49 28.4**	**-1.0**
PESTR	**Estremoz**	**4.65**	**277**	*e*Pn	**Pn**	**16 48 35.2**	**-0.3**
PESTR				*e*Sn	**Sn**	**16 49 28.6**	**-0.7**
PESTR				*e*Sg	**Sg**	**16 49 54.4**	**-0.7**
PESTR				*i* IAML		16 50 00.1	
PESTR				*i* IAML		16 50 01.2	
PESTR				*i* IAML		16 50 03.3	
EGRO	**El Granado**	**4.68**	**261**	Pn	**Pn**	**16 48 34.9**	**-1.0**
EGRO				Sn	**Sn**	**16 49 28.6**	**-1.4**
EGRO	**El Granado**	**4.68**	**261**	Pn	**Pn**	**16 48 35.8**	**-0.1**
EGRO				Sn	**Sn**	**16 49 30.3**	**+0.4**
EGRO				*i* IVmb_Lg		16 49 59.8	
PCBR	**Castelo Branco**	**4.73**	**289**	*e*Pn	**Pn**	**16 48 37.1**	**+0.6**
PCBR				*e*Sn	**Sn**	**16 49 30.3**	**-0.8**
PCBR				*e*Sg	**Sg**	**16 49 54.6**	**-2.8**
PCBR				*i* IAML		16 50 01.6	
PCBR				*i* IAML		16 50 07.4	
PCBR				*i* IAML		16 50 09.3	
EALK	**Alkurruntz**	**4.78**	**1**	Pn	**Pn**	**16 48 40.0**	**+2.7**
EALK				Sn	**Sn**	**16 49 33.2**	**+0.7**
EALK				*i* IVmb_Lg		16 50 24.6	
PVAQ	**Vaqueiros**	**4.89**	**260**	Pn	**Pn**	**16 48 38.2**	**-0.6**
PVAQ				Sn	**Sn**	**16 49 35.1**	**-0.1**
PVAQ	**Vaqueiros**	**4.89**	**260**‖	*e*Pn	**Pn**	**16 48 38.5**	**-0.3**
PVAQ				*e*Sn	**Sn**	**16 49 33.7**	**-1.5**
PVAQ				*e*Sg	**Sg**	**16 50 01.3**	**-1.4**
PVAQ				*i* IAML		16 50 11.3	
PVAQ				*i* IAML		16 50 17.3	
PVAQ				*i* IAML		16 50 19.1	
PBEJ	**Beja**	**4.90**	**267**‖	*e*Pn	**Pn**	**16 48 39.2**	**+0.4**
PBEJ				*e*Sn	**Sn**	**16 49 34.5**	**-0.8**
PBEJ				*e*Sg	**Sg**	**16 50 00.8**	**-2.0**
PBEJ				*i* IAML		16 50 12.1	
PBEJ				*i* IAML		16 50 17.0	
PBEJ				*i* IAML		16 50 17.2	
MVO	**Moncorvo**	**4.94**	**305**	*e*Pn	**Pn**	**16 48 40.4**	**+0.9**
MVO				*e*Sn	**Sn**	**16 49 36.3**	**-0.2**
MVO				*e*Sg	**Sg**	**16 50 03.8**	**-0.6**
MVO				*i* IAML		16 50 09.0	
MVO				*i* IAML		16 50 10.8	
MVO				*i* IAML		16 50 21.6	
MTE	**Manteigas**	**4.95**	**295**	*e*Pn	**Pn**	**16 48 40.5**	**+0.8**
MTE				*e*Sg	**Sg**	**16 50 03.3**	**-1.3**
MTE				*i* IAML		16 50 10.9	
MTE				*i* IAML		16 50 11.3	
MTE				*i* IAML		16 50 15.4	
EVO	**Evora**	**4.98**	**273**	*e*Pn	**Pn**	**16 48 40.7**	**+0.7**
EVO				*e*Sn	**Sn**	**16 49 37.2**	**-0.1**
EVO				*e*Sg	**Sg**	**16 50 04.0**	**-1.4**
EVO				*i* IAML		16 50 13.3	
EVO				*i* IAML		16 50 15.0	
EVO				*i* IAML		16 50 22.1	
PCVE	**Castro Verde**	**5.09**	**263**	Pn	**Pn**	**16 48 41.3**	**-0.3**
PCVE				Sn	**Sn**	**16 49 37.4**	**-2.8**
PCVE	**Castro Verde**	**5.09**	**263**	*e*Pn	**Pn**	**16 48 41.5**	**-0.1**
PCVE				*e*Sn	**Sn**	**16 49 38.6**	**-1.5**
PCVE				*i* IAML		16 50 15.1	
PCVE				*i* IAML		16 50 19.2	
PCVE				*i* IAML		16 50 25.9	
PBDV	**Barranco-do-Ve**	**5.10**	**258**	*e*Pn	**Pn**	**16 48 41.4**	**-0.3**
PBDV				*e*Sn	**Sn**	**16 49 39.8**	**-0.5**
PBDV				*e*Sg	**Sg**	**16 50 07.9**	**-1.4**
PBDV				*i* IAML		16 50 16.0	
PBDV				*i* IAML		16 50 21.0	
PBDV				*i* IAML		16 50 25.5	
PBRG	**Braganca**	**5.14**	**312**	*e*Pn	**Pn**	**16 48 43.1**	**+0.9**
PBRG				*e*Sg	**Sg**	**16 50 10.1**	**-0.5**
PBRG				*i* IAML		16 50 19.0	
PBRG				*i* IAML		16 50 19.4	
PBRG				*i* IAML		16 50 19.7	
PMTG	**Montargil**	**5.16**	**279**	*e*Pn	**Pn**	**16 48 42.3**	**-0.2**
PMTG				*e*Sn	**Sn**	**16 49 40.1**	**-1.7**
PMTG				*e*Sg	**Sg**	**16 50 11.1**	**-0.3**
PMTG				*i* IAML		16 50 19.9	
PMTG				*i* IAML		16 50 21.6	
PMTG				*i* IAML		16 50 30.7	
PSARD	**Sardoal**	**5.19**	**285**	*e*Pn	**Pn**	**16 48 43.3**	**+0.4**
PSARD				*e*Sg	**Sg**	**16 50 09.4**	**-2.8**
PSARD				*i* IAML		16 50 24.2	
PSARD				*i* IAML		16 50 24.6	
PSARD				*i* IAML		16 50 26.6	
MESJ	**Messejana**	**5.20**	**265**	*e*Pn	**Pn**	**16 48 43.2**	**+0.2**
MESJ				*e*Sn	**Sn**	**16 49 41.2**	**-1.5**
MESJ				*e*Sg	**Sg**	**16 50 12.4**	**-0.1**
MESJ				*i* IAML		16 50 21.4	
MESJ				*i* IAML		16 50 21.6	
MESJ				*i* IAML		16 50 25.4	
ECAL	**Calabor**	**5.22**	**314**	Pn	**Pn**	**16 48 44.0**	**+0.6**
ECAL				Sn	**Sn**	**16 49 43.1**	**-0.4**
ECAL	**Calabor**	**5.22**	**314**	P	**Pn**	**16 48 46.0**	**+2.6**
ECAL				*i* IVmb_Lg		16 50 23.1	
PVIS	**Viseu**	**5.32**	**297**	*e*Pn	**Pn**	**16 48 45.0**	**+0.3**
PVIS				*e*Sg	**Sg**	**16 50 15.2**	**-1.2**
COI	**Coimbra**	**5.52**	**291**	*e*Pn	**Pn**	**16 48 47.9**	**+0.5**
PCAS	**Casmilo, Conde**	**5.54**	**289**	*e*Pn	**Pn**	**16 48 48.2**	**+0.5**
PCAS				*e*Sn	**Sn**	**16 49 50.5**	**-0.6**
PCAS				*e*Sg	**Sg**	**16 50 22.8**	**-0.6**
PCAS				*i* IAML		16 50 28.9	
PCAS				*i* IAML		16 50 30.2	
PCAS				*i* IAML		16 50 32.8	
POLO	**Lamas de Olo**	**5.54**	**304**	*e*Pn	**Pn**	**16 48 48.6**	**+0.8**
POLO				*e*Sg	**Sg**	**16 50 21.3**	**-2.4**
POLO				*i* IAML		16 50 32.8	
POLO				*i* IAML		16 50 33.6	
POLO				*i* IAML		16 50 46.5	
EARI	**Arriondas**	**5.55**	**332**	Pn	**Pn**	**16 48 50.5**	**+2.7**
EARI				Sn	**Sn**	**16 49 50.2**	**-1.2**
EARI				Sg	**Sg**	**16 50 23.3**	**-0.4**
EARI				*i* IVmb_Lg		16 50 37.2	
MORF	**Marmelete**	**5.64**	**261**	*e*Pn	**Pn**	**16 48 49.1**	**0.0**
MORF				*e*Sn	**Sn**	**16 49 53.1**	**-0.6**
PTEO	**Sao Teotonio**	**5.64**	**263**	*e*Pn	**Pn**	**16 48 48.9**	**-0.2**
PARRA	**Arraiolos**	**5.78**	**276**	*e*Pn	Pn	16 48 40.1	-11
PARRA				*e*Sn	Sn	16 49 36.3	-21
PARRA				*e*Sg	Sb	16 50 05.3	-10
PARRA				*i* IAML		16 50 11.8	
PARRA				*i* IAML		16 50 14.3	
PARRA				*i* IAML		16 50 15.8	
PFVI	**Vila Bisbo**	**5.82**	**259**	*e*Pn	**Pn**	**16 48 51.6**	**+0.1**
PCAB	**Cabril**	**5.87**	**306**	*e*Sg	**Sg**	**16 50 33.3**	**-0.7**
PCAB				*i* IAML		16 50 41.4	
PCAB				*i* IAML		16 50 54.0	
ELOB	**Lobios**	**5.97**	**307**	Pn	**Pn**	**16 48 54.4**	**+0.7**
ELOB				*i* IVmb_Lg		16 50 56.3	
PMAFR	**Mafra**	**5.98**	**277**	*e*Pn	**Pn**	**16 48 53.7**	**0.0**
PMAFR				*e*Sn	**Sn**	**16 49 60.0**	**-2.0**

*CATAC **31** 16:49:56.5±0.6, 14°N±4°×9°2W±°, h33km±6km, M3.2/9, MLv3.2/9, Error ellipse: s-maj=9.1km s-min=3.6km az=25.7, confirmed*
*GCG **31** 16:49:57.3±0.8, 14°.46N×91°.77W, h67km±16km, MD3.6, ML3.7*

ISC 31 16:49:56.7±4.4, 14°.2N±0°.2×91°.9W±0°.2, h35km, n10, σ0°88/10, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SOKI	**Kika Raxquin**	**0.76**	**39**	*i* P		**Pn**	**16 50 11.4**	**+0.1**
ESSG	**Sabana Grande**	**1.05**	**82**	*i* P		**Pn**	**16 50 14.8**	**-0.2**
ESSG				*i* S		**Sn**	**16 50 27.7**	**-0.8**
FG16	**Alotenango, Sa**	**1.35**	**88**	*i* P		Pn	16 50 15.3	-4.0
FG16				*i* S		Sn	16 50 29.0	-7.1
FG16				IAML			16 50 31.0	
	comp=E,4μm,0.2s							
NUBE	**Las Nubes**	**2.08**	**99**	P		**Pn**	**16 50 27.9**	**-1.4**
CEVE	**Cerro Verde**	**2.25**	**100**	S		**Sn**	**16 50 59.4**	**+1.1**
JAYA	**Jayaque - finc**	**2.45**	**103**	*i* P		**Pn**	**16 50 34.7**	**+0.4**
JAYA	**Jayaque - finc**	**2.45**	**103**	S		**Sn**	**16 51 03.1**	**0.0**
JAYA	**Jayaque - finc**	**2.45**	**103**	P		**Pn**	**16 50 34.7**	**+0.4**
PMON	**Piamonte**	**2.56**	**101**	P		**Pn**	**16 50 35.5**	**-0.4**
PMON	**Piamonte**	**2.56**	**101**	S		**Sn**	**16 51 07.0**	**+1.1**

IDC 31 17:05:29.0±1.5, 1°.43N×121°.50E, h0km, mb3.3/3, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=148.8km s-min=27.1km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
FITZ	**Fitzroy Crossi**	**19.83**	**168**	P		P	17 10 01.8	+0.3
	0.1nm,0.3s,baz=355,slow=12,SNR=1.8							
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**24.69**	**150**	P		P	17 10 51.9	-0.1
	0.7nm,0.8s,baz=326,slow=10,SNR=11							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**27.71**	**155**	P		P	17 11 19.3	+0.1
	0.3nm,0.8s,baz=332,slow=9.6,SNR=6.7							
ASAR				PcP		PcP	17 14 35.9	-0.5
	0.3nm,1.0s,baz=340,slow=2.4,SNR=2.2							
	0.3nm,0.8s							
MKAR	**Makanchi Array**	**56.62**	**329**	P		P	17 15 13.8	-0.1
	0.3nm,0.7s,baz=126,slow=5.7,SNR=1.6							
	0.3nm,0.7s							

NEIC 31 17:07:58.8±0.7, 37°.28N±0°.01×104°.92W±0°.02, h6km±3km, ML1.3/10, Error ellipse: s-maj=2.6km s-min=1.3km az=118.0, Colorado

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
T25A	**Trinidad**	**0.43**	**108**			Pg	17 08 08.0	+0.8
T25A				Sg		Sg	17 08 13.7	+0.9
T25A				IAML			17 08 14.3	
	comp=N,23nm,0.2s							
T25A				IAML			17 08 14.0	
	comp=E,39nm,0.4s							
SDCO	**Great Sand Dun**	**0.66**	**316**			Pg	17 08 11.4	-0.1
S22A	**4UR Ranch, Cre**	**1.59**	**288**			Pb	17 08 28.5	-0.3
Q24A	**Divide**	**1.70**	**354**			Pn	17 08 30.0	+0.6
Q24A						Sn	17 08 51.3	-0.3
RTBA	**Rita Blanca**	**1.94**	**115**	Pn		Pb	17 08 34.5	-0.2
RTBA						Sb	17 08 59.9	+0.7
KSCO	**Kaye Shedlock'**	**2.50**	**46**	Pn		Pn	17 08 40.4	+0.1

*ISK **31** 17:12:52.3, 37°.57N×26°.76E, h5km, ML2.9/20*
*THE **31** 17:12:53.2, 38°N±3°×2°7E±°, h14km±8km, M3.1/6, MLh3.1/6*
*AFAD **31** 17:12:53.3, 37°.61N×26°.80E, h7km±2km, MW3.2*
*ATH **31** 17:12:53.1, 37°.60N×26°.84E, h13km±3km, ML3.1/4, Manual Solution by S.Liakopoulos First location: 2019/08/31 17:13:32, This location: 2019/08/31 18:53:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

ISC 31 17:12:53.0±0.9, 37°.59N±0°.02×26°.82E±0°.03, h13km±5km, n48, σ0°63/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SMG	**Samos**	**0.12**	**8**	P		**Pg**	**17 12 56.2**	**0.0**
SMG				S		**Sg**	**17 12 58.5**	**0.0**
SMG	**Samos**	**0.12**	**8**	P		**Pg**	**17 12 56.2**	**0.0**
SMG				S		**Sg**	**17 12 58.3**	**-0.2**
GCAM	**G?zelcaml?**	**0.35**	**72**	P		**Pb**	**17 13 00.6**	**-0.4**
GCAM				S		**Sb**	**17 13 05.8**	**-0.5**
DDIM	**Aydin, Didim**	**0.36**	**112**	P		**Pb**	**17 13 01.3**	**0.0**
DDIM				S		**Sb**	**17 13 07.2**	**+0.3**
DIDI	**Didim-Aydin**	**0.40**	**123**	Pg		**Pg**	**17 13 01.1**	**+0.1**
DIDI				Sg		**Sb**	**17 13 07.6**	**-0.3**
DGB	**zmir**	**0.46**	**6**	P		**Pg**	**17 13 02.2**	**+0.1**
GMLD	**Gumuldur**	**0.49**	**9**	Pg		**Pg**	**17 13 02.9**	**+0.3**
GMLD				Sg		**Sb**	**17 13 10.3**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.60**	**142**	Pg		**Pg**	**17 13 04.4**	**-0.2**
YKAV				Sg		**Sb**	**17 13 13.4**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.69**	**339**	P		**Pg**	**17 13 06.4**	**0.0**
BDRM	**Kayabasi**	**0.73**	**136**	P		**Pg**	**17 13 07.3**	**+0.2**
BDRM				S		**Sg**	**17 13 16.6**	**0.0**
BLCB	**Balcova**	**0.81**	**13**	Pg		**Pb**	**17 13 08.8**	**-0.1**
BLCB				Sg		**Sn**	**17 13 21.1**	**-0.8**
BLCB	**Balcova**	**0.81**	**13**	P		**Pg**	**17 13 08.5**	**-0.2**
BLCB				S		**Sb**	**17 13 19.3**	**-0.4**
AYDN	**Tasoluk**	**0.84**	**85**	P		**Pb**	**17 13 09.8**	**+0.3**
AYDN				S		**Sb**	**17 13 21.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.92**	**67**	Pg		**Pn**	**17 13 11.3**	**-0.4**
AYDB				Sg		**Sn**	**17 13 25.1**	**+0.2**
CHOS	**Chios island**	**0.99**	**323**	Pg		**Pb**	**17 13 11.7**	**-0.4**
CHOS				Sg		**Sg**	**17 13 25.8**	**+0.6**
YAZI	**Mula-Dat§a-**	**1.04**	**151**	P		**Pb**	**17 13 12.8**	**0.0**
IZMR	**zmir-demi**	**1.05**	**59**	P		**Pn**	**17 13 13.4**	**+0.1**
DAT	**Datca**	**1.05**	**145**	Pg		**Pb**	**17 13 13.0**	**-0.1**
DAT	**Datca**	**1.05**	**145**	P		**Pb**	**17 13 13.0**	**-0.1**
DAT				S		**Sg**	**17 13 27.7**	**+0.6**
EAG2	**Marmaro, Chios**	**1.10**	**330**	P		**Pn**	**17 13 14.2**	**+0.1**
EAG2				S		**Sb**	**17 13 28.1**	**0.0**
FOCM	**Foa**	**1.12**	**357**	Pn		**Pg**	**17 13 14.6**	**+0.1**
NAZL	**Nazilli-Aydin**	**1.23**	**72**	Pn		**Pg**	**17 13 16.9**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.23**	**80**	P		**Pg**	**17 13 16.4**	**-0.3**
MULA	**Mugla, Merkez-**	**1.24**	**105**	P		**Pg**	**17 13 16.8**	**-0.2**
KIRA	**zmir-Kiraz**	**1.39**	**64**	P		**Pb**	**17 13 18.6**	**-0.2**
TURN	**Turunc**	**1.40**	**125**	P		**Pn**	**17 13 18.3**	**+0.1**
GOMA	**Golmarmara-Man**	**1.41**	**38**	Pn		**Pg**	**17 13 19.5**	**-0.6**
AKS	**Akhisar**	**1.50**	**31**	Pn		**Pb**	**17 13 21.1**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.67**	**94**	P		**Pg**	**17 13 24.4**	**-0.7**
GORD	**Gordes-Manisa**	**1.69**	**39**	Pn		**Pb**	**17 13 24.1**	**+0.1**
PRK	**Paraskevi**	**1.71**	**346**	P		**Pn**	**17 13 21.3**	**-1.1**
PRK				S		**Sn**	**17 13 44.1**	**+0.1**
KULA	**Kula-Manisa**	**1.72**	**57**	Pn		**Pb**	**17 13 24.4**	**-0.1**
ARG	**Arkhangelos**	**1.73**	**142**	Pn		**Pn**	**17 13 23.7**	**+1.0**
ARG	**Arkhangelos**	**1.73**	**142**	P		**Pn**	**17 13 23.1**	**+0.4**
ARG				S		**Sn**	**17 13 44.4**	**-0.2**
ARG	**Arkhangelos**	**1.73**	**142**	P		**Pn**	**17 13 22.7**	**0.0**
SIGR	**SIGRI**	**1.78**	**335**	Pn		**Pn**	**17 13 24.5**	**+1.1**
SIGR	**SIGRI**	**1.78**	**335**	P		**Pn**	**17 13 22.9**	**-0.5**
SIGR				S		**Sn**	**17 13 45.1**	**-0.8**
SIGR	**SIGRI**	**1.78**	**335**	P		**Pn**	**17 13 23.8**	**+0.3**
KARY	**Karystos**	**1.94**	**284**	P		**Pn**	**17 13 26.3**	**+0.7**
APMY	**Acipayam-Deniz**	**1.98**	**93**	Pn		**Pb**	**17 13 27.9**	**-1.0**
YAYO	**Edremit-Balk**	**2.02**	**6**	Pn		**Pb**	**17 13 28.4**	**-1.2**
CAME	**Cameli-Denizli**	**2.09**	**107**	Pn		**Pb**	**17 13 29.3**	**-1.4**
MHLO	**Agia Marina, M**	**2.13**	**246**	P		**Pn**	**17 13 28.6**	**+0.4**
EZN	**Ezine**	**2.26**	**350**	Pn		**Pn**	**17 13 31.6**	**+1.6**
DION	**Dionisos Attik**	**2.33**	**283**	P		**Pn**	**17 13 31.2**	**+0.1**
ZKR	**Zakros**	**2.52**	**191**	P		**Pn**	**17 13 33.8**	**+0.2**
TVSB	**Tavsanli**	**2.78**	**47**	Pn		**Pn**	**17 13 39.5**	**+2.2**
GELI	**Tayfur-Gelibol**	**2.81**	**355**	Pn		**Pn**	**17 13 39.3**	**+1.7**

*MDD **31** 17:14:50.6±0.8, 37°.07N×13°.51W, h15km±13km, Mb4.2/18, M_mb3.6/18, Error ellipse: s-maj=14.1km s-min=5.3km az=76.0*
*INMG **31** 17:14:52

EGRO	**El Granado**	**4.62**	**82**	S	**Sn**	**17 16 52.2**	**-0.3**
EGRO				P	**Pn**	**17 16 01.6**	**+2.8**
EGRO	**El Granado**	**4.62**	**82**	Pn	**Pn**	**17 16 01.9**	**+3.0**
EGRO				⇑*i*VmbVC		17 16 05.1	
	comp=N,177nm,SNR=1.9						
EGRO				Sn	**Sn**	**17 16 52.9**	**+0.4**
PMPST	**Porto Santo, M**	**4.72**	**213**	*e*P	Pn	17 15 53.3	-7.0
PMPST				*e*S	Sn	17 16 38.9	-16
PMPST				*i* IAML		17 16 40.6	
PMPST				*i* IAML		17 16 41.3	
PSARD	**Sardoal**	**4.73**	**56**	*e*P	**Pn**	**17 16 03.0**	**+2.7**
PSARD				*e*S	**Sn**	**17 16 57.2**	**+1.9**
PSARD				*i* IAML		17 16 58.2	
PSARD				*i* IAML		17 16 59.0	
PMPS	**Porto Santo**	**4.74**	**213**	*e*P	Pn	17 15 53.5	-6.9
PMPS				*e*S	Sn	17 16 40.0	-15
PMPS				*i* IAML		17 16 41.9	
PCAS	**Casmilo, Conde**	**4.77**	**50**	*e*P	**Pn**	**17 16 03.1**	**+2.2**
PCAS				*e*S	**Sn**	**17 16 56.5**	**+0.3**
PCAS				*i* IAML		17 16 58.6	
PCAS				*i* IAML		17 17 01.3	
PESTR	**Estremoz**	**4.81**	**66**	P	**Pn**	**17 16 04.3**	**+2.7**
PESTR				S	**Sn**	**17 16 56.5**	**-0.9**
PESTR	**Estremoz**	**4.81**	**66**	*e*P	**Pn**	**17 16 04.8**	**+3.2**
PESTR				*e*S	**Sn**	**17 16 57.1**	**-0.3**
PESTR				*i* IAML		17 17 00.7	
PESTR				*i* IAML		17 17 00.7	
PESTR				*i* IAML		17 17 02.2	
PBAR	**Barrancos**	**5.05**	**75**	P	**Pn**	**17 16 07.5**	**+2.7**
PBAR				S	**Sn**	**17 17 02.4**	**-0.8**
PBAR	**Barrancos**	**5.05**	**75**	*e*P	**Pn**	**17 16 07.8**	**+3.0**
PBAR				*e*S	**Sn**	**17 17 03.0**	**-0.1**
PBAR				*i* IAML		17 17 07.4	
PBAR				*i* IAML		17 17 12.4	
PBAR				*i* IAML		17 17 17.6	
PMRV	**Marv??o**	**5.17**	**61**	*e*P	**Pn**	**17 16 09.1**	**+2.6**
PMRV				*e*S	**Sn**	**17 17 06.3**	**0.0**
PMRV				*i* IAML		17 17 07.9	
PMRV				*i* IAML		17 17 08.9	
PMRV				*i* IAML		17 17 09.8	
EBAD	**Badajoz**	**5.21**	**69**	P	**Pn**	**17 16 09.2**	**+2.3**
EBAD				S	**Sn**	**17 17 05.0**	**-2.1**
EBAD	**Badajoz**	**5.21**	**69**	Pn	**Pn**	**17 16 09.3**	**+2.3**
EBAD				⇑*i*VmbVC		17 16 11.8	
	comp=N,254nm,SNR=3.5						
EBAD				Sn	**Sn**	**17 17 05.4**	**-1.6**
EMIN	**Mina Concepcio**	**5.28**	**80**	P	**Pn**	**17 16 10.7**	**+2.7**
EMIN				S	**Sn**	**17 17 08.1**	**-0.8**
EMIN	**Mina Concepcio**	**5.28**	**80**	Pn	**Pn**	**17 16 10.9**	**+2.9**
EMIN				Sn	**Sn**	**17 17 08.8**	**0.0**
PCBR	**Castelo Branco**	**5.30**	**57**	*e*P	**Pn**	**17 16 11.0**	**+2.7**
PCBR				*e*S	**Sn**	**17 17 09.8**	**+0.3**
PCBR				*i* IAML		17 17 12.7	
PCBR				*i* IAML		17 17 13.0	
PCBR				*i* IAML		17 17 13.1	
PVIS	**Viseu**	**5.54**	**47**	*e*P	**Pn**	**17 16 14.0**	**+2.5**
PVIS				*e*S	**Sn**	**17 17 15.3**	**0.0**
MTE	**Manteigas**	**5.56**	**52**	*e*S	**Sn**	**17 17 16.3**	**+0.4**
MTE				*i* IAML		17 17 18.5	
MTE				*i* IAML		17 17 18.6	
MTE				*i* IAML		17 17 23.8	
ESPR	**Espera**	**5.92**	**90**	P	**Pn**	**17 16 19.7**	**+3.0**
ESPR				S	**Sn**	**17 17 24.4**	**-0.2**
ESPR	**Espera**	**5.92**	**90**	Pn	**Pn**	**17 16 19.6**	**+2.9**
ESPR				⇑*i*VmbVC		17 16 24.1	
	comp=N,93nm,SNR=1.3						
ESPR				Sn	**Sn**	**17 17 26.4**	**+1.8**
PVRL	**Vila Real**	**6.01**	**44**	*e*S	**Sn**	**17 17 25.9**	**-0.9**
POLO	**Lamas de Olo**	**6.03**	**43**	*e*P	**Pn**	**17 16 20.0**	**+1.6**
POLO				*e*S	**Sn**	**17 17 26.0**	**-1.5**
POLO				*i* IAML		17 17 27.8	
POLO				*i* IAML		17 17 30.5	
POLO				*i* IAML		17 17 33.0	
PCAB	**Cabril**	**6.15**	**39**	*e*P	**Pn**	**17 16 21.3**	**+1.4**
PCAB				*e*S	**Sn**	**17 17 28.2**	**-2.1**
PCAB				*i* IAML		17 17 31.0	
PCAB				*i* IAML		17 17 35.0	
PCAB				*i* IAML		17 17 35.3	
EZAM	**Zamans**	**6.17**	**33**	Pn	**Pn**	**17 16 21.1**	**+0.9**
EZAM				Sn	**Sn**	**17 17 29.1**	**-1.6**
ELOB	**Lobios**	**6.25**	**38**	Pn	**Pn**	**17 16 22.6**	**+1.3**
ELOB				⇑*i*VmbVC		17 16 25.4	
	comp=N,172nm,SNR=1.6						
ELOB				Sn	**Sn**	**17 17 29.7**	**-3.1**
ECAB	**El Cabril**	**6.30**	**78**	P	**Pn**	**17 16 24.8**	**+2.9**
ECAB				S	**Sn**	**17 17 33.0**	**-1.0**
ECAB	**El Cabril**	**6.30**	**78**	Pn	**Pn**	**17 16 25.1**	**+3.2**
ECAB				⇑*i*VmbVC		17 16 25.5	
	comp=N,120nm,SNR=2.3						
ECAB				Sn	**Sn**	**17 17 33.8**	**-0.2**
MVO	**Moncorvo**	**6.33**	**48**	*e*P	**Pn**	**17 16 24.2**	**+1.7**
MVO				*e*S	**Sn**	**17 17 33.1**	**-1.7**
MVO				*i* IAML		17 17 34.6	
MVO				*i* IAML		17 17 37.0	
MVO				*i* IAML		17 17 45.4	
EPLA	**Plasencia**	**6.36**	**60**	Pn	**Pn**	**17 16 25.0**	**+2.2**
EPLA				⇑*i*VmbVC		17 16 26.7	
	comp=N,93nm,SNR=1.1						
EPLA				Sn	**Sn**	**17 17 36.1**	**+0.5**
EMAZ	**Mazaricos**	**6.72**	**28**	Pn	**Pn**	**17 16 28.4**	**+0.6**
EMAZ				⇑*i*VmbVC		17 16 29.3	
	comp=N,236nm,SNR=1.5						
EMAZ				Sn	**Sn**	**17 17 38.1**	**-6.4**
PBRG	**Braganca**	**6.91**	**45**	*e*P	**Pn**	**17 16 32.2**	**+1.9**
PBRG				*e*S	**Sn**	**17 17 46.9**	**-2.1**
EADA	**Adamuz**	**6.97**	**78**	P	**Pn**	**17 16 33.9**	**+2.7**
EADA				S	**Sn**	**17 17 49.4**	**-1.1**
EADA	**Adamuz**	**6.97**	**78**	Pn	**Pn**	**17 16 34.2**	**+3.0**
EADA				⇑*i*VmbVC		17 16 36.8	
	comp=N,74nm,SNR=1.5						
EADA				Sn	**Sn**	**17 17 50.0**	**-0.4**
ECAL	**Calabor**	**7.00**	**44**	P	**Pn**	**17 16 33.1**	**+1.6**
ECAL				S	**Sn**	**17 17 49.2**	**-2.1**
ECAL	**Calabor**	**7.00**	**44**	Pn	**Pn**	**17 16 33.2**	**+1.6**
ECAL				⇑*i*VmbVC		17 16 35.2	
	comp=N,133nm,SNR=1.2						
ECAL				Sn	**Sn**	**17 17 50.9**	**-0.4**
EMAL	**Malaga-Limoner**	**7.07**	**90**	P	**Pn**	**17 16 35.2**	**+2.7**
OUK	**Oukaimeden**	**7.35**	**141**	P	**Pn**	**17 16 38.5**	**+1.7**
OUK	**Oukaimeden**	**7.35**	**141**	S	**Sn**	**17 17 52.9**	**-7.5**
PAB	**San Pablo**	**7.42**	**68**	Pn	**Pn**	**17 16 39.9**	**+2.5**
PAB				⇑*i*VmbVC		17 16 40.8	
	comp=N,78nm,SNR=2.0						
PAB				Sn	**Sn**	**17 17 59.6**	**-2.1**
PSIM	**Granatula de C**	**7.70**	**74**	Pn	**Pn**	**17 16 44.3**	**+3.1**
PSIM				Sn	**Sn**	**17 18 07.5**	**-1.0**
ESDC	**Sonseca Array**	**7.74**	**68**	Pn	**Pn**	**17 16 44.3**	**+2.5**
ESDC				⇑*i*VmbVC		17 16 45.0	
	comp=N,135nm,SNR=3.2						
ESDC				Sn	**Sn**	**17 18 07.9**	**-1.6**
ESBB	**Sonseca Array**	**7.74**	**68**	Pn	**Pn**	**17 16 44.3**	**+2.5**
ESBB				⇑*i*VmbVC		17 16 45.0	
	comp=N,139nm,SNR=3.4						
ESBB				Sn	**Sn**	**17 18 06.3**	**-3.3**
TISM	**Timmit**	**7.75**	**132**	P	**Pn**	**17 16 43.4**	**+1.6**
TISM	**Timmit**	**7.75**	**132**	S	**Sn**	**17 18 01.5**	**-8.2**
EPON	**Pontenova**	**7.80**	**35**	Pn	**Pn**	**17 16 43.5**	**+1.0**
EPON				Sn	**Sn**	**17 18 08.0**	**-2.9**
TIO	**Tiouine**	**7.88**	**139**	P	**Pn**	**17 16 45.1**	**+1.2**
TIO				S	**Sn**	**17 18 08.6**	**-4.7**
TIO	**Tiouine**	**7.88**	**139**	P	**Pn**	**17 16 45.4**	**+1.5**
TIO	**Tiouine**	**7.88**	**139**	S	**Sn**	**17 18 04.9**	**-8.4**
MD31	**MD31**	**8.13**	**119**	P	**Pn**	**17 16 48.7**	**+1.6**
MD31	**MD31**	**8.13**	**119**	S	Sn	17 18 10.0	-9.1
OUZM	**OUZ**	**8.17**	**137**	P	**Pn**	**17 16 49.3**	**+1.5**
OUZM	**OUZ**	**8.17**	**137**	S	**Sn**	**17 18 12.4**	**-7.8**
MDT	**Midelt**	**8.26**	**118**	P	**Pn**	**17 16 50.1**	**+1.1**
MDT	**Midelt**	**8.26**	**118**	S	Sn	17 18 13.6	-8.9
ETOR	**Torete**	**9.49**	**63**	Pn	**Pn**	**17 17 08.7**	**+2.9**
ETOR				⇑*i*VmbVC		17 17 12.9	
	comp=N,90nm,SNR=1.8						
ETOR				Sn	**Sn**	**17 18 51.2**	**-1.3**

*JSN **31** 17:16:54.9±0.6, 18°.10N×76°.69W, h22km±1km, MD2.6*
*SSNC **31** 17:16:55.8±0.9, 18°.31N×76°.72W, h5km±7km, MD3.0, ML2.5, MW2.3*
ISC 31 17:16:53.4±1.2,**18°.21N**±0°.09×**76°.69W**±0°.06,**h28**km±12km, **n11,** σ1§**24**/19,**1C-1D, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.17**	**221**	⇑*i*P	**Pb**	**17 16 59.0**	**-0.2**
HOJ	**Hope**	**0.21**	**196**	*i* P	**Pb**	**17 16 59.0**	**-0.5**
MTDJ	**Mount Denham**	**0.80**	**272**	*e*P	**Pn**	**17 17 09.2**	**+0.2**
MTDJ				*e*S	**Sb**	**17 17 19.8**	**+0.4**
MTDJ				IAML		17 17 20.6	
	comp=Z,225nm,0.3s						
MTDJ				IAML		17 17 24.0	
	178nm,0.3s						
MTDJ	**Mount Denham**	**0.80**	**272**	⇓*i*P	**Pn**	**17 17 09.3**	**+0.4**
MTDJ				*i* S	**Sn**	**17 17 20.1**	**+0.2**
MCJ	**Malvern**	**0.99**	**254**	*i* P	**Pn**	**17 17 12.3**	**+0.8**
CHIV	**Chivirico**	**1.78**	**8**	*e*P	**Pn**	**17 17 23.6**	**+1.3**
CHIV				*e*S	**Sn**	**17 17 43.4**	**-0.6**
CHIV				IAML		17 17 45.8	
	comp=N,11nm,0.2s						
CHIV				IAML		17 17 46.0	
	comp=E,9.5nm,0.1s						
PILO	**Pilon**	**1.82**	**338**	*e*P	**Pn**	**17 17 23.5**	**+0.5**
PILO				*e*S	**Sn**	**17 17 44.0**	**-1.2**
PILO				IAML		17 17 46.1	
	comp=N,18nm,0.2s						
PILO				IAML		17 17 46.8	
	comp=E,22nm,0.1s						
LMGC	**Las Mercedes**	**1.87**	**351**	*e*P	**Pn**	**17 17 24.2**	**+0.7**
LMGC				*e*S	**Sn**	**17 17 44.8**	**-1.5**
LMGC				IAML		17 17 47.4	
	comp=N,82nm,0.1s						
LMGC				IAML		17 17 47.4	
	comp=E,110nm,0.1s						
RCC	**Rio Carpintero**	**2.01**	**28**	*e*P	**Pn**	**17 17 26.3**	**+0.8**
RCC				*e*S	**Sn**	**17 17 49.2**	**-0.5**
RCC				IAML		17 17 51.8	
	comp=N,331nm,0.0s						
RCC				IAML		17 17 51.8	
	comp=E,375nm,0.1s						
PINC	**Pinares de May**	**2.42**	**20**	*e*P	**Pn**	**17 17 32.9**	**+1.8**
PINC				*i* S	**Sn**	**17 17 59.9**	**0.0**
PINC				IAML		17 18 01.3	
	comp=E,15nm,0.1s						
PINC				IAML		17 18 01.7	
	comp=N,15nm,0.1s						
QMBU	**Quimbuelo**	**2.66**	**42**	*e*P	**Pn**	**17 17 35.8**	**+1.3**
QMBU				*e*S	**Sn**	**17 18 02.7**	**-3.1**
QMBU				IAML		17 18 08.2	
	comp=N,16nm,0.3s						
QMBU				IAML		17 18 08.6	
	comp=E,9.5nm,0.2s						

*IDC **31** 17:33:52.8±0.6, 60°.28S×26°.30W, h0km, mb4.3/9, mbtmp4.3/9, MS3.8/23, Error ellipse: s-maj=23.8km s-min=17.9km az=60.0*
*NEIC **31** 17:33:53.6±2.2, 60°.2S±0°.1×26°.3W±0°.2, h10km±1km, mb4.9/40, Error ellipse: s-maj=20.3km s-min=12.4km az=43.0*
ISC 31 17:33:53.0±0.5,**60°.5S**±0°.1×**26°.50W**±0°.10,**h10**km,**n96,** σ1§**03**/74,**mb4.9**/25,**MS3.8**/21,**7C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.26**	**315**	Pn	**Pn**	**17 39 54.5**	**+1.9**
VNA1	**Neumayer--Stat**	**12.57**	**151**	⇑P	**Pn**	**17 36 50.5**	**-1.1**
	comp=Z,66nm,0.7s						
VNA3	**Neumayer Olymp**	**12.69**	**155**	⇑P	**Pn**	**17 36 51.5**	**-1.8**
	comp=Z,99nm,0.6s						
VNA3				⇑S	Sn	17 39 01.1	-13
VNA2	**Neumayer--Watz**	**12.97**	**151**	⇑P	**Pn**	**17 36 56.0**	**-1.0**
	comp=Z,9.2nm,0.3s,baz=309,slow=14						
VNA2				⇑S	Sn	17 39 08.3	-13
	baz=343,slow=8.8						
ESPZ	**Base Esperanza**	**14.55**	**245**	Pn	**P**	**17 37 24.5**	**-0.7**
SNAA	**Sanae**	**14.57**	**150**	⇑P	**Pn**	**17 37 17.3**	**-1.7**
	comp=Z,266nm,0.4s						
SNAA				⇓S	Sn	17 39 48.9	-11
SNAA	**Sanae**	**14.57**	**150**		**Pn**	**17 37 16.2**	**-2.7**
SNAA	**Sanae**	**14.57**	**150**	Pn	**Pn**	**17 37 17.2**	**-1.7**
	comp=Z,1.6nm,0.3s,baz=316,slow=13,SNR=51						
SNAA				Sn	Sn	17 39 46.3	-14
	comp=Z,0.6nm,0.3s,baz=249,slow=20,SNR=5.7						
SNAA				LR	LR	17 42 05.6	
	comp=Z,274nm,18.4s,baz=290,slow=33						
TROLL	**Troll, Antarti**	**16.15**	**147**	⇑P	**Pn**	**17 37 38.3**	**-1.5**
	comp=Z,864nm,0.6s						
PMSA	**Palmer Station**	**17.57**	**240**	P	P	17 38 05.7	+7.0
PMSA	**Palmer Station**	**17.57**	**240**	P	P	17 38 05.3	+6.6
	comp=Z,3.8nm,0.3s,baz=92,slow=10.0,SNR=10						
PMSA				LR	LR	17 44 29.2	
	comp=Z,197nm,18.1s,baz=92,slow=36						
EFI	**East Falkland**	**19.53**	**283**	Pn	**Pn**	**17 38 22.9**	**+1.5**
EFI				IAmb	IAmb	17 38 28.3	
	comp=Z,188nm,1.9s						
QSPA	**South Pole Qui**	**29.71**	**180**		P	17 40 03.6	+4.7
QSPA	**South Pole Qui**	**29.71**	**180**	P	P	17 40 03.3	+4.4
	comp=Z,21nm,1.0s,baz=202,slow=10,SNR=61						
QSPA				LR	LR	17 51 37.0	
	comp=Z,150nm,21.5s,baz=196,slow=36						
	comp=Z,21nm,1.0s						
TRQA	**Tornquist**	**31.63**	**299**		**P**	**17 40 16.3**	**+0.4**
TRQA				IAmb	IAmb	17 40 17.9	
	comp=Z,25nm,1.4s						
PLCA	**Paso Flores**	**33.38**	**286**	P	**P**	**17 40 31.6**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=159,slow=10.0,SNR=3.9						
PLCA				LR	LR	17 54 04.3	
	comp=Z,193nm,18.4s,baz=136,slow=36						
	comp=Z,1.9nm,0.8s						
PLTB	**Pedras Altas**	**33.87**	**316**	P	**P**	**17 40 35.7**	**+0.1**
PLTB				IAmb	IAmb	17 40 48.7	
	comp=Z,20nm,1.1s						
MAW	**Mawson**	**36.40**	**140**	P	**P**	**17 40 58.9**	**+2.0**
	comp=Z,1.4nm,0.7s,baz=261,slow=9.3,SNR=4.3						
MAW				LR	LR	17 54 02.0	
	comp=Z,114nm,21.0s,baz=238,slow=33						
	comp=Z,1.4nm,0.7s						
BO02	**Sierra Bellavi**	**38.27**	**292**	P	**P**	**17 41 12.2**	**-1.1**
BO02				IAmb	IAmb	17 41 34.5	
	comp=Z,30nm,1.3s						
BO01	**Tunca**	**38.74**	**292**		**P**	**17 41 15.9**	**-1.2**
BO01				IAmb	IAmb	17 41 19.0	
	comp=Z,43nm,1.3s						
LMEL	**Las Melosas**	**38.80**	**293**	P	**P**	**17 41 16.4**	**-1.4**
BO04	**La Punta**	**38.86**	**293**	P	**P**	**17 41 17.2**	**-1.0**
BO04				IAmb	IAmb	17 41 19.9	
	comp=Z,22nm,0.9s						
MT13	**San Alfonso**	**38.92**	**293**	P	**P**	**17 41 18.3**	**-0.5**
MT13				IAmb	IAmb	17 41 39.4	
	comp=Z,35nm,1.3s						
MT08	**Bocatoma Ro**	**39.05**	**294**	P	**P**	**17 41 19.2**	**-0.8**
MT08				IAmb	IAmb	17 41 22.9	
	comp=Z,19nm,0.8s						
MT09	**Talagante**	**39.21**	**293**	P	**P**	**17 41 20.1**	**-1.1**
MT03	**Universidad Ad**	**39.23**	**293**	P	**P**	**17 41 20.5**	**-0.8**
MT01	**Popeta**	**39.26**	**292**	P	**P**	**17 41 20.7**	**-0.8**
MT01				IAmb	IAmb	17 41 22.5	
	comp=Z,22nm,0.8s						
MT16	**CCHEN**	**39.29**	**293**	P	**P**	**17 41 22.1**	**+0.3**
MT05	**Renca**	**39.42**	**293**	P	**P**	**17 41 22.8**	**-0.1**
PEL	**Peldehue**	**39.60**	**293**		**P**	**17 41 24.8**	**+0.4**
MT02	**Curacav**	**39.71**	**293**	P	**P**	**17 41 25.4**	**+0.2**
MT02				IAmb	IAmb	17 42 19.4	
	comp=Z,65nm,1.4s						
VA03	**San Esteban**	**39.86**	**294**	P	**P**	**17 41 27.4**	**+0.8**
CPUP	**Villa Florida**	**40.14**	**314**	P	**P**	**17 41 29.7**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=110,slow=15,SNR=7.5						
CPUP				LR	LR	17 56 48.0	
	comp=Z,45nm,20.7s,baz=20,slow=34						
	comp=Z,0.5nm,0.4s						
CO02	**Combarbal**	**41.38**	**295**	P	**P**	**17 41 38.9**	**-0.3**
CO03	**El Pedregal**	**41.55**	**295**	P	**P**	**17 41 41.2**	**+0.7**
CO03				IAmb	IAmb	17 41 43.0	
	comp=Z,48nm,1.5s						
CO01	**Juntas del Tor**	**42.03**	**297**	P	**P**	**17 41 44.5**	**-0.2**
CO01				IAmb	IAmb	17 41 47.5	
	comp=Z,30nm,1.0s						
VNDA	**Vanda**	**42.10**	**183**	P	P	17 41 48.5	+4.0
	comp=Z,1.8nm,0.8s,baz=180,slow=6.5,SNR=12						
VNDA				LR	LR	18 00 54.4	
	comp=Z,45nm,18.5s,baz=182,slow=38						
	comp=Z,1.8nm,0.8s						
GO04	**Tololo Observa**	**42.17**	**296**	P	**P**	**17 41 46.0**	**+0.2**
AC02	**Maricunga**	**44.33**	**300**		**P**	**17 42 03.2**	**-0.4**
AC02				IAmb	IAmb	17 42 16.2	
	comp=Z,22nm,1.2s						

H04S2	**CROZET ISLANDS**	**45.54**	**110**	T	T	18 31 20.8	
	baz=224,slow=74,SNR=8.8						
H04S3	**CROZET ISLANDS**	**45.55**	**110**	T	T	18 31 32.4	
	baz=224,slow=74,SNR=9.2						
H04S1	**CROZET ISLANDS**	**45.55**	**110**	T	T	18 31 21.3	
	baz=224,slow=74,SNR=11						
AC01	**Pan de Azucar**	**45.56**	**299**	P	**P**	**17 42 13.3**	**+0.5**
GO02	**Mina Guanaco**	**45.99**	**301**	P	**P**	**17 42 16.9**	**+0.3**
BOSA	**Boshof**	**46.91**	**71**	P	**P**	**17 42 23.5**	**0.0**
	comp=Z,3.6nm,0.6s,baz=207,slow=7.3,SNR=13						
BOSA				LR	LR	17 57 38.7	
	comp=Z,83nm,18.0s,baz=204,slow=30						
	comp=Z,3.6nm,0.6s						
BDFB	**Brasilia**	**47.46**	**331**	LR	LR	18 01 32.8	
	comp=Z,69nm,18.6s,baz=148,slow=35						
CASY	**Casey**	**49.57**	**159**		**P**	**17 42 46.1**	**+2.7**
PB01	**IPOC Station P**	**49.60**	**303**	P	**P**	**17 42 44.5**	**+0.2**
PB01				IAmb	IAmb	17 42 59.7	
	comp=Z,15nm,0.9s						
LBTB	**Lobatse**	**50.13**	**69**	LR	LR	18 00 03.8	
	comp=Z,79nm,18.9s,baz=209,slow=32						
GO01	**Chusmiza**	**50.71**	**304**	P	**P**	**17 42 52.4**	**-0.8**
GO01				IAmb	IAmb	17 42 54.7	
	comp=Z,17nm,1.1s						
PTLB	**Pontes e Lacer**	**50.83**	**318**	P	**P**	**17 42 53.5**	**0.0**
GRTLG	**Ghanzi**	**51.33**	**62**	P	**P**	**17 42 57.4**	**0.0**
PB16	**IPOC Station P**	**52.03**	**305**	P	**P**	**17 43 03.0**	**-0.3**
PB16				IAmb	IAmb	17 43 15.4	
	comp=Z,36nm,1.9s						
QNGWA	**Qangwa**	**52.92**	**61**	P	**P**	**17 43 08.8**	**-0.5**
LPAZ	**La Paz**	**53.33**	**307**	P	**P**	**17 43 13.8**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=156,slow=7.1,SNR=8.2						
LPAZ				LR	LR	18 08 11.6	
	comp=Z,60nm,18.5s,baz=160,slow=39						
	comp=Z,3.9nm,0.9s						
PHDHD	**Phuduhudu**	**53.82**	**65**	P	**P**	**17 43 15.4**	**-0.5**
PHDHD				IAmb	IAmb	17 43 27.5	
	comp=Z,11nm,0.8s						
MATP	**Matopo**	**55.42**	**69**	LR	LR	18 02 59.5	
	comp=Z,76nm,19.7s,baz=226,slow=32						
LSZ	**Lusaka**	**59.77**	**66**		**P**	**17 43 58.1**	**0.0**
LSZ	**Lusaka**	**59.77**	**66**	LR	LR	18 05 50.2	
	comp=Z,141nm,19.9s,baz=221,slow=32						
RPN	**Rapa Nui**	**63.31**	**262**	LR	LR	18 06 13.1	
	comp=Z,39nm,21.4s,baz=203,slow=31						
BOAV	**Boa Vista**	**68.08**	**323**	P	**P**	**17 44 49.9**	**-2.7**
MDP	**Montagnes des**	**68.57**	**332**	LR	LR	18 12 46.9	
	comp=Z,47nm,19.9s,baz=126,slow=34						
DBIC	**Dimbokro**	**69.13**	**23**	LR	LR	18 07 51.3	
	comp=Z,59nm,20.3s,baz=186,slow=30						
COHC	**Cochancay**	**70.36**	**302**	P	**P**	**17 45 06.4**	**-0.4**
ROSC	**El Rosal**	**75.05**	**310**	LR	LR	18 20 19.7	
	comp=Z,72nm,19.6s,baz=231,slow=37						
RUSC	**La Rusia**	**75.56**	**312**		**P**	**17 45 35.8**	**-2.3**
KMBO	**Kilima Mbogo**	**76.37**	**67**	LR	LR	18 15 34.1	
	comp=Z,92nm,20.0s,baz=100,slow=33						
TORD	**Torodi Ar. Bea**	**76.82**	**28**		**P**	**17 45 44.8**	**+0.1**
TORD				IAmb	IAmb	17 45 56.6	
	comp=Z,8.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.82**	**28**	P	**P**	**17 45 44.9**	**+0.2**
	comp=Z,6nm,0.5s,baz=201,slow=6.0,SNR=52						
	comp=Z,7.6nm,0.5s						
SDV	**Santo Domingo**	**77.45**	**315**	LR	LR	18 22 05.1	
	comp=Z,117nm,19.0s,baz=50,slow=37						
FURI	**Furi**	**85.90**	**64**	LR	LR	18 22 45.5	
	comp=Z,86nm,18.5s,baz=212,slow=34						
ASAR	**Alice Springs**	**94.60**	**162**	P	**P**	**17 47 14.4**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=177,slow=3.7,SNR=4.5						
ASAR				LR	LR	18 28 49.4	
	comp=Z,103nm,18.0s,baz=188,slow=35						
	comp=Z,0.5nm,0.9s						
MDT	**Midelt**	**94.73**	**18**	LR	LR	18 23 38.6	
	comp=Z,55nm,19.9s,baz=226,slow=32						
WRA	**Warramunga Arr**	**98.32**	**162**	LR	LR	18 30 09.9	
	comp=Z,101nm,19.6s,baz=2.0,slow=34						
FINES	**FINESS Array B**	**128.16**	**29**	PKP	**PKiKP**	**17 52 59.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=122,slow=1.8,SNR=8.9						
ARCES	**ARCESS Array B**	**134.96**	**23**	PKP	**PKPdf**	**17 53 10.8**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=225,slow=0.8,SNR=4.0						
BVAR	**Borovoye Array**	**136.76**	**61**	PKP	**PKPdf**	**17 53 13.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=129,slow=2.0,SNR=1.9						
KURBB	**Kurchatov Arra**	**138.74**	**69**	PKP	**PKPdf**	**17 53 17.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=233,slow=2.8,SNR=2.2						
YKA	**Yellowknife Ar**	**139.66**	**314**	PKP	**PKPdf**	**17 53 19.6**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=113,slow=2.1,SNR=2.1						
ZALV	**Zalesovo Beam**	**143.84**	**69**	PKhKP	PKPpre	17 53 23.1	
	comp=Z,0.6nm,0.4s,baz=216,slow=4.8,SNR=3.6						
P33M	**Teslin, Yukon**	**145.33**	**303**		**PKPbc**	**17 53 29.0**	**-0.4**
P32M	**Atlin**	**145.36**	**301**		**PKPbc**	**17 53 28.8**	**-0

1.5nm,0.8s
ILAR Eielson Array 87.40 24 P P 18 05 22.6 -2.2
0.6nm,0.6s,baz=249,slow=5.1,SNR=5.3
0.6nm,0.6s

*NEIC **31** 17:56:48.6±1.3,43°.59N±0°.03×105°.37W±0°.05,h0km±1km, ML3.1/42,Error ellipse: s-maj=7.5km s-min=3.2km az=230.0*
*IDC **31** 17:56:49.4±2.3,43°.51N×105°.21W,h0km,mbtmp3.3/2, ML1.9/1,Error ellipse: s-maj=50.1km s-min=10.5km az=153.0*
ISC 31 17:56:49.1±1.1,43°.64N±0°.06×105°.35W±0°.05,h0km,n42, σ1°.26/40,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.06**	**63**	Pg	**Pb**	**17 57 10.3**	**-0.2**
K22A	**Casper**	**1.31**	**221**		**Pn**	**17 57 16.4**	**+1.6**
LAO	**LASA Array**	**3.11**	**349**		**Pn**	**17 57 41.0**	**+1.6**
RLMT	**Red Lodge**	**3.18**	**299**		**Pn**	**17 57 41.8**	**+1.3**
RLMT				IAML		17 58 54.2	
	35nm,0.7s						
PDAR	**Pinedale Array**	**3.20**	**256**	Pn	**Pb**	**17 57 45.6**	**-1.3**
	1.2nm,0.4s,baz=78,slow=18,SNR=14						
PDAR				Lg	Lg	17 58 30.8	
	6.1nm,0.3s,baz=81,slow=31,SNR=9.3						
HAYD	**Hayden**	**3.43**	**205**		**Pn**	**17 57 45.0**	**+1.0**
YNE	**Yellowstone No**	**3.61**	**294**		**Pn**	**17 57 48.0**	**+1.5**
YNE				IAML		17 58 53.1	
	comp=N,45nm,0.8s						
YNE				IAML		17 58 55.7	
	comp=E,38nm,0.7s						
YMP	**Mirror Lake Pl**	**3.63**	**289**		**Pn**	**17 57 47.9**	**+1.1**
OGNE	**Ogallala**	**3.65**	**136**		**Pn**	**17 57 47.4**	**+0.6**
LKWY	**Lake**	**3.76**	**286**		**Pn**	**17 57 49.1**	**+0.6**
LKWY				IAML		17 59 00.4	
	comp=E,27nm,0.7s						
LKWY				IAML		17 59 04.2	
	comp=E,20nm,1.5s						
LOHW	**Long Hollow**	**3.82**	**271**		**Pn**	**17 57 50.0**	**+0.7**
ISCO	**Idaho Springs**	**3.84**	**183**		**Pn**	**17 57 48.7**	**-1.0**
SNOW	**Snow King Moun**	**3.94**	**269**		**Pn**	**17 57 51.0**	**0.0**
SNOW				IAML		17 59 07.3	
	comp=E,31nm,1.1s						
SNOW				IAML		17 59 19.8	
	comp=E,28nm,0.8s						
TPAW	**Teton Pass**	**4.08**	**270**		**Pn**	**17 57 54.4**	**+1.4**
TPAW				IAML		17 59 16.6	
	comp=E,26nm,0.8s						
TPAW				IAML		17 59 20.6	
	comp=E,19nm,0.8s						
O20A	**White River Ci**	**4.12**	**213**		**Pn**	**17 57 54.7**	**+1.3**
O20A				IAML		17 59 39.2	
	comp=E,23nm,2.2s						
YHH	**Holmes Hill**	**4.12**	**288**		**Pn**	**17 57 54.1**	**+0.6**
AHID	**Auburn Hatcher**	**4.30**	**260**		**Pn**	**17 57 56.1**	**+0.2**
AHID				IAML		17 59 15.9	
	comp=E,26nm,1.0s						
AHID				IAML		17 59 27.4	
	comp=E,18nm,0.8s						
YHL	**Hebgen Lake**	**4.37**	**288**		**Pn**	**17 57 57.6**	**+0.7**
YHL				IAML		17 59 31.6	
	comp=N,17nm,1.8s						
YHL				IAML		17 59 39.5	
	comp=E,18nm,0.9s						
BOZ	**Bozeman (W)**	**4.89**	**296**		**Pn**	**17 58 05.3**	**+1.3**
BOZ				IAML		17 59 33.6	
	comp=E,8.9nm,1.7s						
BOZ				IAML		17 59 37.8	
	comp=E,8.0nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.06**	**155**		**Pn**	**17 58 07.7**	**+1.5**
BSUT	**Blindstream Ca**	**5.08**	**234**		**Pn**	**17 58 07.3**	**+0.5**
BSUT				IAML		17 59 48.0	
	comp=E,8.0nm,1.0s						
P18A	**Preston Nutter**	**5.43**	**224**		**Pn**	**17 58 11.9**	**+0.3**
P18A				IAML		18 00 05.7	
	comp=N,12nm,1.4s						
PV22	**Blue Mesa, Par**	**5.72**	**208**		**Pn**	**17 58 16.3**	**+0.8**
PV15	**Paradox Valley**	**5.80**	**205**		**Pn**	**17 58 17.2**	**+0.6**
P17A	**Butcher Ranch,**	**5.80**	**226**		**Pn**	**17 58 16.6**	**0.0**
PV23	**Carpenter Ridg**	**5.88**	**209**		**Pn**	**17 58 18.0**	**+0.4**
PV04	**Paradox Valley**	**5.89**	**208**		**Pn**	**17 58 16.8**	**-1.0**
PV12	**Saucer Basin,**	**5.92**	**207**		**Pn**	**17 58 18.2**	**-0.1**
PV20	**West Nyswonger**	**5.96**	**209**		**Pn**	**17 58 18.6**	**-0.2**
PV16	**Nyswonger Mesa**	**5.97**	**208**		**Pn**	**17 58 19.4**	**+0.5**
SRU	**San Rafael Swe**	**5.97**	**222**		**Pn**	**17 58 19.9**	**+1.0**
PV19	**Morning Glory**	**5.99**	**209**		**Pn**	**17 58 20.2**	**+1.0**
PV03	**Paradox Valley**	**6.00**	**207**		**Pn**	**17 58 19.9**	**+0.6**
PV02	**Paradox Valley**	**6.00**	**206**		**Pn**	**17 58 20.7**	**+1.3**
PV01	**Paradox Valley**	**6.02**	**205**		**Pn**	**17 58 20.9**	**+1.3**
PV18	**Skein Mesa, Pa**	**6.03**	**208**		**Pn**	**17 58 21.9**	**+2.2**
PV13	**Radium Mtn., P**	**6.08**	**207**		**Pn**	**17 58 21.4**	**+1.0**
T25A	**Trinidad**	**6.53**	**173**		**Pn**	**17 58 28.6**	**+2.0**
HMU	**Henry Mountain**	**7.01**	**218**		**Pn**	**17 58 36.8**	**+3.5**
ULM	**Lac du Bonnet**	**9.25**	**41**	Pn	**Pn**	**17 59 01.5**	**-2.1**
	comp=N,0.2nm,0.3s,baz=222,slow=15,SNR=2.2						
ULM				Lg	Lg	18 01 37.5	
	comp=N,0.2nm,0.3s,baz=116,slow=19,SNR=2.1						
	comp=N,3.0nm,0.8s						
I56US	**NEWPORT INFRAS**	**9.42**	**304**	I	I	18 52 50.0	
	baz=116,slow=313,SNR=2.1						
TXAR	**Lajitas Array**	**14.34**	**174**	Lg	Lg	18 04 10.2	
	baz=343,slow=35,SNR=1.7						

*SJA **31** 18:18:11.2±1.8,30°.20S×71°.32W,h66km±7km,ML3.7, MW3.6*
*GUC **31** 18:18:13.2±0.7,30°.21S×71°.23W,h70km±2km,ML4.1*
ISC 31 18:18:13.4±1.3,30°.21S±0°.03×71°.35W±0°.05,h59km±8km, n58,σ0°.96/82,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.31**	**18**	*eP*	**Pn**	**18 18 23.8**	**+0.4**
CO05				*i* S	**Sn**	**18 18 31.5**	**+0.9**
CO05				IAML		18 18 32.5	
	comp=E,25μm,0.3s						
GO04	**Tololo Observa**	**0.47**	**85**	*eP*	**Pn**	**18 18 24.8**	**-0.4**
GO04				*i* S	**Sn**	**18 18 33.6**	**-0.3**
GO04	**Tololo Observa**	**0.47**	**85**	*i* P	**Pn**	**18 18 24.9**	**-0.4**
GO04				*eS*	**Sn**	**18 18 33.9**	**0.0**
GO04				IAML		18 18 35.6	
	comp=Z,8μm,0.2s						
CO06	**Fray Jorge**	**0.52**	**208**	*eP*	**Pn**	**18 18 26.3**	**+0.8**
CO06				*i* S	**Sn**	**18 18 36.0**	**+1.7**
CO06				IAML		18 18 37.3	
	comp=N,6μm,0.3s						
CO03	**El Pedregal**	**0.84**	**138**	*eP*	**Pn**	**18 18 28.6**	**-0.8**
CO03				*i* S	**Sn**	**18 18 40.4**	**-0.8**
CO03				IAML		18 18 41.1	
	comp=E,14μm,0.1s						
CO03	**El Pedregal**	**0.84**	**138**	*i* P	**Pn**	**18 18 28.6**	**-0.8**
CO03				*eS*	**Sn**	**18 18 40.1**	**-1.1**
CO03				IAML		18 18 41.5	
	comp=Z,4μm,0.1s						
CO02	**Combarbal**	**1.03**	**163**	*eP*	**Pn**	**18 18 31.5**	**-0.4**
CO02				*i* S	**Sn**	**18 18 45.9**	**+0.3**
CO02				IAML		18 18 48.2	
	comp=E,11μm,0.3s						
CO02	**Combarbal**	**1.03**	**163**	*i* P	**Pn**	**18 18 31.5**	**-0.4**
CO02				*eS*	**Sn**	**18 18 43.9**	**-1.7**
CO02				IAML		18 18 47.0	
	comp=Z,3μm,0.3s						
CO01	**Juntas del Tor**	**1.11**	**78**	*eP*	**Pn**	**18 18 32.6**	**-0.5**
CO01				*i* S	**Sn**	**18 18 46.1**	**-1.5**
CO01				IAML		18 18 47.8	
	comp=N,3μm,0.2s						
CO01	**Juntas del Tor**	**1.11**	**78**	*i* P	**Pn**	**18 18 32.6**	**-0.5**
CO01				*eS*	**Sn**	**18 18 46.8**	**-0.9**
CO01				IAML		18 18 47.3	
	comp=Z,2μm,0.7s						
LCO	**Las Campanas**	**1.32**	**25**	*eP*	**Pn**	**18 18 35.2**	**-0.8**
LCO				*i* S	**Sn**	**18 18 52.6**	**-0.2**
LCO	**Las Campanas**	**1.32**	**25**	*i* P	**Pn**	**18 18 35.6**	**-0.3**
LCO				*eS*	**Sn**	**18 18 52.3**	**-0.4**
LCO				IAML		18 18 55.0	
	comp=Z,1μm,0.3s						
AROD	**Rodeo**	**1.62**	**89**	*i* P	**Pn**	**18 18 40.6**	**+0.7**
AROD				*eS*	**Sn**	**18 19 01.0**	**+1.0**
ACDV	**Cuesta del Vie**	**1.93**	**89**	*i* P	**Pn**	**18 18 44.3**	**+0.3**
ACDV				IAML		18 19 12.5	
	comp=Z,190nm,0.9s						
ACCO	**Cerro Coronel**	**2.00**	**101**	*i* P	**Pn**	**18 18 46.5**	**+1.3**
AC04	**Llanos de Chal**	**2.02**	**7**	*eP*	**Pn**	**18 18 45.0**	**-0.1**
AC04	**Llanos de Chal**	**2.02**	**7**	*i* P	**Pn**	**18 18 44.9**	**-0.1**
AC04				IAML		18 19 17.4	
	comp=Z,337nm,0.8s						
VA06	**Catapilco**	**2.34**	**179**	*eP*	**Pn**	**18 18 49.9**	**+0.4**
VA06				*i* S	**Sn**	**18 19 17.7**	**+0.7**
VA06				IAML		18 19 26.1	
	comp=N,2μm,0.5s						
AGUA	**GUANDACOL**	**2.58**	**74**	*i* P	**Pn**	**18 18 55.2**	**+2.4**
AGUA				IAML		18 19 36.2	
	comp=Z,285nm,0.5s						
VA03	**San Esteban**	**2.63**	**165**	*eP*	**Pn**	**18 18 53.7**	**+0.2**
VA03				*i* S	**Sn**	**18 19 24.0**	**-0.3**
VA03	**San Esteban**	**2.63**	**165**	*i* P	**Pn**	**18 18 53.1**	**-0.4**
VA03				IAML		18 19 29.7	
	comp=Z,557nm,0.2s						
GO03	**Copiapo**	**2.79**	**21**	*i* P	**Pn**	**18 18 55.4**	**-0.2**
GO03				IAML		18 19 44.0	
	comp=Z,150nm,0.8s						
PEL	**Peldehue**	**2.98**	**169**	*eP*	**Pn**	**18 18 58.3**	**+0.1**
PEL				*i* S	**Sn**	**18 19 32.2**	**-0.4**
CFA	**Coronel Fontan**	**3.01**	**118**	*i* P	**Pn**	**18 18 58.9**	**+0.3**
MT02	**Curacav**	**3.04**	**177**	*eP*	**Pn**	**18 18 58.4**	**-0.7**
MT02				*i* S	**Sn**	**18 19 34.2**	**-0.1**
MT02				IAML		18 19 50.5	
	comp=E,443nm,0.3s						
MT02	**Curacav**	**3.04**	**177**	*i* P	**Pn**	**18 18 58.3**	**-0.7**
MT02				IAML		18 19 48.5	
	comp=Z,444nm,0.3s						
VCA	**Vinchina**	**3.11**	**63**	*i* P	**Pn**	**18 19 02.5**	**+2.4**
VCA				*eS*	Sn	18 19 24.0	-12
VCA				IAML		18 19 48.0	
	comp=Z,453nm,0.5s						
MT10	**Hacienda Santa**	**3.13**	**167**	*eP*	**Pn**	**18 19 00.8**	**+0.5**
MT10				*i* S	**Sn**	**18 19 36.7**	**+0.2**
ASAL	**Salagasta**	**3.20**	**138**	*i* P	**Pn**	**18 19 03.0**	**+1.7**
ASAL				IAML		18 20 03.5	
	comp=Z,0.1nm,1.4s						
MT05	**Renca**	**3.21**	**171**	*eP*	**Pn**	**18 19 01.5**	**+0.1**
MT05				*i* S	**Sn**	**18 19 38.5**	**0.0**
MT05	**Renca**	**3.21**	**171**	*i* P	**Pn**	**18 19 01.1**	**-0.3**
MT05				IAML		18 19 57.0	
	comp=E,415nm,0.6s						
FCH	**Farellones**	**3.23**	**164**	*eP*	**Pn**	**18 19 02.8**	**+0.8**
FCH				*i* S	**Sn**	**18 19 39.5**	**+0.2**
FCH				IAML		18 19 47.8	
	comp=E,349nm,0.2s						
ARCO	**CERRO ARCO**	**3.33**	**142**	*i* P	**Pn**	**18 19 05.5**	**+2.3**
ARCO				IAML		18 19 52.0	
	comp=Z,133nm,0.7s						
MT04	**Ro Olivares**	**3.34**	**162**	*eP*	**Pn**	**18 19 04.5**	**+1.1**
MT04				*i* S	**Sn**	**18 19 43.3**	**+1.3**
MT04				IAML		18 19 54.4	
	comp=E,355nm,0.5s						
MT04	**Ro Olivares**	**3.34**	**162**	*i* P	**Pn**	**18 19 04.0**	**+0.6**
MT04				IAML		18 19 53.4	
	comp=Z,262nm,0.4s						
MT03	**Universidad Ad**	**3.35**	**168**	*eP*	**Pn**	**18 19 03.7**	**+0.4**
MT03				*i* S	**Sn**	**18 19 41.4**	**-0.5**
MT03				IAML		18 19 56.3	
	comp=E,643nm,0.4s						
MT03	**Universidad Ad**	**3.35**	**168**	*i* P	**Pn**	**18 19 03.7**	**+0.4**
MT03				IAML		18 20 03.4	
	comp=Z,377nm,0.4s						
AVFE	**Valle Fertil**	**3.39**	**99**	*i* P	**Pn**	**18 19 04.1**	**+0.2**
AVFE				IAML		18 19 47.3	
	comp=Z,98nm,0.5s						
MT08	**Bocatoma Ro**	**3.41**	**161**	*eP*	**Pn**	**18 19 06.3**	**+2.0**
MT08				*i* S	**Sn**	**18 19 47.1**	**+3.4**
MT08				IAML		18 19 52.5	
	comp=N,268nm,0.7s						
MT08	**Bocatoma Ro**	**3.41**	**161**	*i* P	**Pn**	**18 19 06.0**	**+1.7**
MT08				IAML		18 19 58.6	
	comp=Z,222nm,0.7s						
MT09	**Talagante**	**3.56**	**175**	*eP*	**Pn**	**18 19 06.2**	**-0.1**
MT09				*i* S	**Sn**	**18 19 46.5**	**-0.8**
AAGR	**Agrelo**	**3.58**	**144**	*i* P	Pn	18 19 09.5	+3.0
AAGR				IAML		18 20 15.4	
	comp=Z,180nm,0.5s						
MT13	**San Alfonso**	**3.63**	**166**	*i* P	**Pn**	**18 19 07.8**	**+0.5**
MT13				IAML		18 19 58.0	
	comp=Z,223nm,0.3s						
MT01	**Popeta**	**3.64**	**179**	*eP*	**Pn**	**18 19 06.5**	**-0.8**
MT01				*i* S	**Sn**	**18 19 48.4**	**-0.5**
MT01	**Popeta**	**3.64**	**179**	*i* P	**Pn**	**18 19 06.5**	**-0.8**
MT01				IAML		18 19 56.8	
	comp=Z,227nm,1.4s						
LMEL	**Las Melosas**	**3.75**	**165**	*eP*	**Pn**	**18 19 09.7**	**+0.8**
LMEL				*i* S	**Sn**	**18 19 51.0**	**-0.9**
LMEL	**Las Melosas**	**3.75**	**165**	IAML		18 20 02.9	
	comp=Z,260nm,0.7s						
BO04	**La Punta**	**3.82**	**171**	*eP*	**Pn**	**18 19 09.4**	**-0.3**
BO04				*i* S	**Sn**	**18 19 52.2**	**-1.1**
AC02	**Maricunga**	**3.89**	**31**	⇓*iP*	**Pn**	**18 19 11.2**	**0.0**
ACLC	**CERRO LA CRUZ**	**3.90**	**79**	IAML		18 20 02.2	
	comp=Z,90nm,0.9s						
AC01	**Pan de Azucar**	**4.10**	**9**	IAML		18 20 43.7	
	comp=Z,35nm,0.4s						
ACAN	**Cantantal**	**4.11**	**121**	*i* P	**Pn**	**18 19 13.7**	**-0.1**
APLL	**PUNTA DE LOS L**	**4.17**	**94**	*i* P	**Pn**	**18 19 14.2**	**-0.3**
APLL				IAML		18 20 22.1	
	comp=Z,13nm,2.3s						
BO01	**Tunca**	**4.17**	**177**	*i* P	**Pn**	**18 19 13.6**	**-0.9**
BO01				*i* P	**Pn**	**18 19 13.6**	**-0.9**
BO01				IAML		18 20 17.1	
	comp=Z,150nm,0.8s						
BO02	**Sierra Bellavi**	**4.59**	**174**	*i* P	**Pn**	**18 19 20.0**	**-0.3**
BO02				IAML		18 20 32.0	
	comp=Z,177nm,0.6s						
BO02				IAML		18 20 32.0	
	comp=Z,177nm,0.6s						
GO05	**Hualane**	**4.81**	**186**	*i* P	**Pn**	**18 19 23.3**	**+0.1**
CYA	**Choya**	**5.15**	**71**	*i* P	**Pn**	**18 19 27.3**	**-0.7**
CYA				IAML		18 20 30.6	
	comp=Z,25nm,0.6s						
RFA	**San Rafael**	**5.15**	**153**	*i* P	**Pn**	**18 19 27.1**	**-0.9**
RFA				IAML		18 21 04.2	
	comp=Z,38nm,0.8s						

*IDC **31** 18:33:17.9±1.0,60°.59S×26°.42W,h0km,mb3.9/4, mbtmp3.9/4,MS2.9/1,Error ellipse: s-maj=36.6km s-min=33.7km az=103.0*
ISC 31 18:33:20.7±0.9,60°.7S±0°.1×26°.3W±0°.2,h20km,n15, σ0°.67/12,mb4.0/3,6C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.42**	**151**	⇑P	**Pn**	**18 36 16.2**	**+0.2**
	comp=Z,32nm,0.4s						
VNA3	**Neumayer Olymp**	**12.54**	**155**	⇑P	**Pn**	**18 36 17.2**	**-0.5**
	comp=Z,11nm,0.3s						
VNA3				⇑S	Sn	18 38 27.0	-10
VNA2	**Neumayer--Watz**	**12.82**	**151**	⇑P	**Pn**	**18 36 20.8**	**-0.7**
	comp=Z,3.9nm,0.3s,baz=303,slow=15						
SNAA	**Sanae**	**14.42**	**150**	⇑P	**Pn**	**18 36 43.0**	**-0.4**
	comp=E,61nm,0.3s						
TROLL	**Troll, Antarti**	**16.00**	**147**	⇑P	**Pn**	**18 37 05.2**	**+0.8**
	comp=Z,163nm,0.5s						
VNDA	**Vanda**	**41.98**	**183**	P	**P**	**18 41 10.2**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=146,slow=3.6,SNR=3.7						
	comp=Z,0.7nm,0.9s						
H04S2	**CROZET ISLANDS**	**45.42**	**109**	T	T	19 30 50.5	
	baz=223,slow=74						
H04S3	**CROZET ISLANDS**	**45.43**	**109**	T	T	19 31 03.0	
	baz=223,slow=74						
H04S1	**CROZET ISLANDS**	**45.44**	**109**	T	T	19 30 57.3	
	baz=223						
BOSA	**Boshof**	**46.87**	**71**	P	**P**	**18 41 49.2**	**-0.2**
	comp=Z,4.0nm,1.1s,baz=225,slow=11,SNR=1.9						
	comp=Z,4.0nm,1.1s						
LPAZ	**La Paz**	**53.47**	**307**	P	**P**	**18 42 40.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=174,slow=9.2,SNR=2.1						
LPAZ				LR	LR	19 08 23.2	
	comp=Z,9.5nm,18.4s,baz=5.0,slow=39						
	comp=Z,0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.89**	**28**	P	**P**	**18 45 11.4**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=202,slow=6.4,SNR=10						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**128.24**	**29**	PKP	**PKiKP**	**18 52 24.4**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=199,slow=2.9,SNR=1.7						
SONM	**Songino Array**	**150.26**	**94**	PKPbc	**PKiKP**	**18 53 10.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=204,slow=3.2,SNR=3.1						
ILAR	**Eielson Array**	**153.33**	**305**	PKPab	**PKPab**	**18 53 26.5**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=134,slow=2.6,SNR=4.8						

*AUST **31** 18:34:11.2±0.8,18°.9S×12°.0E±°,h10km,mb4.5/3, ML3.5/4,ML4.4/5,Error ellipse: s-maj=21.1km s-min=7.3km az=148.9*
*NOU **31** 18:34:14.3,18°.23S×120°.40E,h126km,ML4.9/17, Western Australia*
ISC 31 18:34:10.0±0.8,18°.16S±0°.05×120°.38E±0°.05,h10km,n28, σ2°.08/32,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAAN	**Eighty Mile Be**	**1.54**	**136**	P	**Pg**	**18 34 41.4**	**+1.8**
CAAN				S	**Sg**	**18 35 01.7**	**+2.2**
AUBRM	**Broome Senior**	**1.77**	**84**	P	**Pg**	**18 34 44.2**	**+0.2**
AUBRM				S	**Sg**	**18 35 08.8**	**+1.8**
MBWA	**Marble Bar**	**3.05**	**191**	P	**Pn**	**18 35 00.0**	**+1.7**
MBWA				S	**Sn**	**18 35 34.6**	**-0.3**
MBWA	**Marble Bar**	**3.05**	**191**	P	**Pn**	**18 35 00.6**	**+2.3**
PSAC1	**Pilbara Seismi**	**3.40**	**189**	P	**Pn**	**18 35 04.9**	**+1.7**
PSAC1				S	**Sn**	**18 35 41.8**	**-1.9**
PSA00	**Pilbara Seismi**	**3.43**	**188**	P	**Pn**	**18 35 05.3**	**+1.7**
PSA00	**Pilbara Seismi**	**3.43**	**188**	P	**Pn**	**18 35 05.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**5.00**	**90**	P	**Pn**	**18 35 27.4**	**+2.2**
FITZ	**Fitzroy Crossi**	**5.00**	**90**	S	**Sn**	**18 36 21.7**	**-1.4**
GIRL	**Giralia**	**7.29**	**231**	P	**Pn**	**18 35 57.8**	**+1.2**
	comp=Z,273μmcomp=Z,46nm,1.3s,comp=Z,0.1nm						
KNRA	**Kununurra**	**8.39**	**74**	P	**Pn**	**18 36 13.6**	**+1.8**
	comp=Z,0.1nmcomp=Z,10nm,1.3s						
CVQOZ	**Cooralya Stati**	**8.58**	**222**	P	**Pn**	**18 36 15.5**	**+1.1**
	comp=Z,169nm,1.0s,comp=Z,1.0nm						
MEEK	**Meekatharra**	**8.60**	**191**	P	**Pn**	**18 36 15.2**	**+0.6**
MEEK	**Meekatharra**	**8.60**	**191**	P	**Pn**	**18 36 15.7**	**+1.1**
PLAI	**Plampang**	**9.61**	**344**	P	**Pn**	**18 36 29.6**	**+1.0**
JAGI	**Jajag, Banyuwa**	**11.38**	**327**	P	**Pn**	**18 36 54.7**	**+1.9**
MORW	**Morawa**	**11.56**	**199**	P	**Pn**	**18 36 53.6**	**-1.7**
MTN	**Manton Dam**	**11.63**	**64**	P	**Pn**	**18 36 57.0**	**+0.8**
DRS	**Darwin Rock St**	**11.63**	**62**	P	**Pn**	**18 36 56.9**	**+0.7**
BLDU	**Ballidu**	**12.84**	**194**	P	**Pn**	**18 37 10.8**	**-2.0**
KDU	**Kakadu**	**12.86**	**67**	P	**Pn**	**18 37 12.3**	**-0.8**
KLBR	**Kellerberrin**	**13.59**	**190**	P	**Pn**	**18 37 20.8**	**-2.1**
AS01	**Alice Springs**	**13.81**	**116**	P	**Pn**	**18 37 24.3**	**-1.7**
UGM	**Wanagama**	**13.99**	**315**	P	**Pn**	**18 37 28.5**	**0.0**
MUN	**Mundaring**	**14.27**	**195**	P	**Pn**	**18 37 30.1**	**-2.1**
NWAO	**Narrogin (SRO)**	**14.98**	**190**	P	**Pn**	**18 37 38.8**	**-3.1**
NWAO	**Narrogin (SRO)**	**14.98**	**190**	P	**Pn**	**18 37 39.0**	**-2.9**
QIS	**Mount Isa**	**18.30**	**101**	P	**Pn**	**18 38 18.2**	**-6.0**

*IDC **31** 18:52:10.3±6.9,7°.43S×130°.01E,h78km±67km,mb3.5/3, mbtmp4.1/7,ML4.3/4,Error ellipse: s-maj=77.3km s-min=30.8km az=46.0*
*NEIC **31** 18:52:13.7±1.8,7°.29S±0°.08×129°.63E±0°.07,h93km±6km, mb4.0/10,Error ellipse: s-maj=12.0km s-min=10.2km az=171.0*
ISC 31 18:52:12.1±0.6,7°.53S±0°.05×129°.74E±0°.05,h100km,n31, σ3°.17/41,mb3.8/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.61**	**106**		**Pn**	**18 52 43.8**	**+4.1**
SAUI					**Sn**	**18 53 04.9**	**+4.2**
FAKI	**Fak Fak**	**5.21**	**29**		**Pn**	**18 53 26.2**	**-1.6**
FAKI					**Sn**	**18 54 20.1**	**-5.6**
MTN	**Manton Dam**	**5.46**	**166**		**Pn**	**18 53 34.5**	**+3.4**
MTN					**Sn**	**18 54 34.0**	**+1.4**
SOEI	**Soe**	**5.85**	**247**		**Pn**	**18 53 36.7**	**+0.2**
SOEI					**Sn**	**18 54 43.6**	**+1.4**
BATI	**Baumata**	**6.57**	**246**	P	**Pn**	**18 53 49.7**	**+3.5**
	6.2nm,0.3s,baz=118,slow=6.2,SNR=15						
BATI				S	**Sn**	**18 55 00.5**	**+0.8**
	60nm,0.5s,baz=98,slow=22,SNR=8.8						
	13nm,0.3s						
MMRI	**Maumere**	**7.51**	**261**	Pn	**Pn**	**18 53 57.2**	**-1.8**
MMRI				Sn	**Sn**	**18 55 21.9**	**-0.7**
KNRA	**Kununurra**	**8.16**	**187**		**Pn**	**18 54 09.2**	**+1.4**
KNRA					**Sn**	**18 55 36.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.24**	**200**		**Pn**	**18 54 48.8**	**-0.9**
FITZ					**Sn**	**18 56 50.2**	**-3.2**
FITZ	**Fitzroy Crossi**	**11.24**	**200**	P	**Pn**	**18 54 49.2**	**-0.5**
	3.0nm,0.3s,baz=27,slow=11,SNR=80						
FITZ				S	**Sn**	**18 56 45.8**	**-7.6**
	6.3nm,0.3s,baz=84,slow=12,SNR=3.8						
	8.5nm,0.3s						
WRAB	**Tennant Creek**	**13.12**	**161**		**Pn**	**18 55 13.4**	**-1.3**
WRA	**Warramunga Arr**	**13.12**	**161**		**Pn**	**18 55 12.0**	**-2.7**
WRA	**Warramunga Ar**	**13.12**	**161**	P	**Pn**	**18 55 13.8**	**-0.9**
	2.7nm,0.3s,baz=340,slow=13,SNR=80						
WRA				S	**Sn**	**18 57 32.0**	**-7.2**
	2.3nm,0.4s,baz=333,slow=22,SNR=7.0						
	3.9nm,0.4s						
COEN	**Coen**	**14.66**	**117**		**P**	**18 55 36.4**	**-1.8**
AS31	**Alice Springs**	**16.54**	**166**	P	**P**	**18 55 57.7**	**-1.3**
ASAR	**Alice Springs**	**16.54**	**166**	P	**Pn**	**18 55 56.7**	**-1.4**
ASAR	**Alice Springs**	**16.54**	**166**	P	**P**	**18 55 57.6**	**-1.4**
	0.2nm,0.3s,baz=349,slow=9.6,SNR=4.1						
ASAR				S	**Sn**	**18 58 53.6**	**-8.1**
	1.2nm,0.4s,baz

comp=Z,43nm,18.1s,baz=198,slow=39 5.6nm,0.4s

JSG	**Sagara**	**2.49**	**245**	P	**Pb**	**18 57 38.0**	**+0.9**
JHJ2	**Mitsune**	**2.79**	**200**	P	**Pb**	**18 57 41.1**	**-1.0**
JHJ	**Hachijo jima 2**	**2.79**	**200**	Pn	**Pn**	**18 57 38.0**	**+1.3**
	20nm,0.3s,baz=330,slow=20,SNR=15						
JHJ				Sn	**Sn**	**18 58 10.8**	**+0.7**
	24nm,0.3s,baz=270,slow=23,SNR=5.5						
JHJ				LR	LR	18 58 27.2	
	comp=Z,76nm,21.8s,baz=272,slow=35 26nm,0.3s						
JGF	**Kuroka**	**2.92**	**268**	P	**Pb**	**18 57 43.2**	**-1.2**
JSD	**Sado**	**3.13**	**318**	P	**Pb**	**18 57 46.1**	**-2.0**
INU	**Inuyama**	**3.22**	**264**	P	**Pb**	**18 57 47.4**	**-2.1**
JTM	**Tenmabayashi**	**5.03**	**1**	P	**Pn**	**18 58 09.6**	**+2.0**
ERM	**Erimo**	**6.49**	**15**	P	**Pn**	**18 58 28.2**	**+0.6**
JEM	**Erimo**	**6.50**	**15**	P	**Pn**	**18 58 28.9**	**+1.3**
ASAJ	**Asahikawa**	**8.46**	**8**	Pn	**Pn**	**18 58 53.9**	**-0.7**
	0.8nm,0.3s,baz=239,slow=14,SNR=6.5 3.1nm,0.4s						
JCJ	**Chichijima**	**8.69**	**173**	Pn	**Pn**	**18 58 56.7**	**-1.1**
	26nm,0.7s,baz=270,slow=19						
JCJ				Sn	**Sn**	**19 00 29.2**	**-6.3**
	baz=270,slow=19						
H11N2	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	19 31 45.3	
	baz=311,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	19 31 39.7	
	baz=311,slow=74,SNR=38						
H11N3	**WAKE ISLAND Hy**	**27.87**	**118**	T	T	19 31 47.4	
	baz=311,slow=74,SNR=47						
H11S1	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	19 32 38.5	
	baz=312,slow=75,SNR=60						
H11S3	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	19 32 35.5	
	baz=312,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	19 32 37.9	
	baz=312,slow=75,SNR=56						
MKAR	**Makanchi Array**	**44.49**	**303**	P	**P**	**19 05 04.7**	**+1.4**
	0.6nm,0.9s,baz=86,slow=9.1,SNR=2.9 0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**46.50**	**309**	P	**P**	**19 05 19.5**	**+0.4**
	0.3nm,0.4s,baz=86,slow=8.1,SNR=4.8 0.3nm,0.4s						
ILAR	**Eielson Array**	**50.79**	**32**	P	**P**	**19 05 53.3**	**+1.4**
	0.3nm,0.7s,baz=275,slow=7.5,SNR=2.8 0.3nm,0.7s						
WRA	**Warramunga Arr**	**55.74**	**188**	P	**P**	**19 06 29.1**	**+0.3**
	0.5nm,0.7s,baz=3.7,slow=7.6,SNR=6.3 0.5nm,0.7s						
ASAR	**Alice Springs**	**59.46**	**187**	P	**P**	**19 06 55.3**	**+0.3**
	0.2nm,0.6s,baz=15,slow=13,SNR=4.2 0.2nm,0.6s						

*LDG **31** 19:34:23.8±0.0, 45°.51N×3°.72E, h4km, MI3.0/50, Error ellipse: s-maj=0.8km s-min=0.7km az=38.0*
*STR **31** 19:34:24.3±0.2, 46°N±2°×±°, h2km, MLv2.7/11, LOCSAT earthModelID auvergne_taup-2.11 preliminary*
*ROM **31** 19:34:53.1±0.2, 45°.56N±0°.01×6°.49E±0°.02, h10km, ML1.3/5, Error ellipse: s-maj=2.2km s-min=0.8km az=311.0*

ISC 31 19:34:23.9±0.8, **45°.51N**±0°.01×**3°.73E**±0°.01, **h16**km±5km, **n105,** σ**2**s**25**/179, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLF	**Collangettes**	**0.03**	**289**	Pg	**Pg**	**19 34 25.9**	**-0.9**
COLF				Sg	**Sg**	**19 34 26.5**	**-2.2**
LBL	**Lubilhac**	**0.44**	**231**	Pg	**Pg**	**19 34 32.5**	**-0.3**
LBL				Sg	**Sg**	**19 34 38.3**	**-0.5**
PLDF	**La Plantade**	**0.47**	**351**	Pg	**Pg**	**19 34 32.9**	**-0.4**
PLDF				Sg	**Sg**	**19 34 39.0**	**-0.7**
CFF	**Clermont-Ferra**	**0.50**	**301**	Pg	**Pg**	**19 34 34.0**	**+0.1**
CFF				Sg	**Sg**	**19 34 41.1**	**+0.5**
AGO	**Saint Agoulin**	**0.69**	**323**	Pg	**Pg**	**19 34 37.0**	**-0.3**
AGO				Sg	**Sg**	**19 34 46.0**	**-0.5**
FRNF	**Fournols**	**0.83**	**262**	Pg	**Pg**	**19 34 39.6**	**-0.4**
VERF	**Verneugheol**	**0.91**	**286**	Pg	**Pg**	**19 34 41.1**	**-0.4**
VIVF	**Saint-Julien-l**	**0.93**	**134**	*e*Pg	**Pg**	**19 34 41.4**	**-0.6**
VIVF				*e*Sg	**Sg**	**19 34 53.3**	**-0.9**
	112nm,0.2s						
LEUC	**Leucamp**	**1.12**	**228**	Pg	**Pg**	**19 34 44.8**	**-0.8**
SMF	**Signal de Mont**	**1.14**	**4**	*e*Pn	**Pg**	**19 34 44.2**	**-1.7**
SMF	**Signal de Mont**	**1.14**	**4**	*e*Pg	**Pg**	**19 34 45.2**	**-0.7**
SMF				*e*Sg	**Sg**	**19 34 59.8**	**-1.0**
	36nm,0.2s						
BGF	**Bois d'Agland**	**1.22**	**330**	*e*Pn	**Pg**	**19 34 45.4**	**-2.0**
BGF	**Bois d'Agland**	**1.22**	**330**	*e*Pg	**Pg**	**19 34 46.9**	**-0.4**
BGF	**Bois d'Agland**	**1.22**	**330**	*e*Pg	**Pg**	**19 34 47.0**	**-0.4**
BGF				*e*Sg	**Sg**	**19 35 02.5**	**-0.7**
	283nm,0.3s						
BGF				*e*Sg	**Sg**	**19 35 02.5**	**-0.7**
AVF	**Avril sur Loir**	**1.31**	**349**	*e*Pn	**Pn**	**19 34 46.6**	**-0.9**
AVF	**Avril sur Loir**	**1.31**	**349**	*e*Pg	**Pn**	**19 34 47.9**	**+0.4**
AVF				*e*Sg	**Sg**	**19 35 04.9**	**-1.3**
	18nm,0.2s						
CAF	**Calviac**	**1.31**	**244**	*e*Pn	**Pn**	**19 34 47.0**	**-0.6**
CAF	**Calviac**	**1.31**	**244**	*e*Pg	**Pn**	**19 34 48.3**	**+0.7**
CAF				*e*Sg	**Sg**	**19 35 05.1**	**-1.2**
	67nm,0.3s						
TCF	**Toulx Ste Croi**	**1.32**	**307**	*e*Pg	**Pn**	**19 34 47.3**	**-0.4**
TCF				*e*Sg	**Sg**	**19 35 05.7**	**-0.7**
	61nm,0.2s						
OGSM	**Saint Maurice**	**1.39**	**85**	Pn	**Pn**	**19 34 49.9**	**+1.3**
OGSM				Sn	**Sg**	**19 35 07.8**	**-0.8**
OG35	**Corcelles**	**1.40**	**67**	Pn	**Pn**	**19 34 49.9**	**+1.1**
OG35				Sn	**Sg**	**19 35 08.7**	**-0.2**
TRBF	**Trabuc cave**	**1.41**	**173**	Pn	**Pn**	**19 34 50.0**	**+1.1**
TRBF				Sn	**Sb**	**19 35 08.7**	**+1.0**
LASF	**Ste Croix**	**1.44**	**176**	*e*Pn	**Pn**	**19 34 48.5**	**-0.8**
LASF	**Ste Croix**	**1.44**	**176**	*e*Pg	**Pn**	**19 34 50.4**	**+1.1**
LASF				*e*Sg	**Sb**	**19 35 09.1**	**+0.8**
	31nm,0.2s						
GRN	**Grenoble**	**1.45**	**100**	Pn	**Pn**	**19 34 50.1**	**+0.6**
GRN				Sn	**Sb**	**19 35 09.4**	**+0.7**
OGMY	**Moye**	**1.56**	**75**	Pn	**Pn**	**19 34 51.3**	**+0.3**
OGMY				Sn	**Sn**	**19 35 11.2**	**+0.3**
SSF	**Saint Saulge**	**1.56**	**354**	*e*Pn	**Pn**	**19 34 50.4**	**-0.6**
SSF	**Saint Saulge**	**1.56**	**354**	*e*Pg	**Pn**	**19 34 52.3**	**+1.3**
SSF				*e*Sg	**Sn**	**19 35 12.5**	**+1.6**
	27nm,0.3s						
RJF	**Les Rejaudoux**	**1.57**	**263**	*e*Pn	**Pn**	**19 34 50.8**	**-0.4**
RJF	**Les Rejaudoux**	**1.57**	**263**	*e*Pg	**Pn**	**19 34 53.0**	**+1.8**
RJF				*e*Sg	**Sn**	**19 35 12.4**	**+1.2**
	64nm,0.4s						
LAJAS	**L'Hospitalet-d**	**1.58**	**193**	Pn	**Pn**	**19 34 52.4**	**+1.1**
LAJAS				Sn	**Sn**	**19 35 13.2**	**+1.7**
PLYF	**Puligny Montra**	**1.61**	**26**	Pn	**Pn**	**19 34 53.1**	**+1.5**
PLYF				Sn	**Sn**	**19 35 13.5**	**+1.4**
ORIF	**Oris-en-Rattie**	**1.63**	**110**	*e*Pn	**Pn**	**19 34 51.6**	**-0.4**
ORIF	**Oris-en-Rattie**	**1.63**	**110**	*e*Pg	**Pn**	**19 34 54.1**	**+2.1**
ORIF				*e*Sn	**Sn**	**19 35 10.9**	**-1.8**
ORIF				*e*Sg	**Sb**	**19 35 13.9**	**-0.1**
	18nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.63**	**110**	P	Pg	19 35 07.8	+13
ORIF				S	**Sg**	**19 35 18.9**	**+2.4**
ORIF				AML	AML		
	comp=E,37μm,1.3s						
ORIF				AML	AML		
	comp=N,34μm,1.0s						
LOR	**Lormes**	**1.76**	**3**	*e*Pn	**Pn**	**19 34 53.5**	**-0.3**
LOR	**Lormes**	**1.76**	**3**	*e*Pg	**Pn**	**19 34 55.8**	**+2.0**
	baz=181						
LOR				*e*Sg	**Sn**	**19 35 18.3**	**+2.4**
	comp=N,58nm,0.4s						
LOR	**Lormes**	**1.76**	**3**	Pn	**Pn**	**19 34 54.9**	**+1.1**
HYF	**Humbligny**	**1.92**	**337**	*e*Pn	**Pn**	**19 34 55.8**	**-0.1**
HYF	**Humbligny**	**1.92**	**337**	*e*Pg	**Pb**	**19 34 59.7**	**+1.3**
HYF				*e*Sn	**Sn**	**19 35 18.3**	**-1.3**
HYF				*e*Sg	**Sb**	**19 35 23.9**	**+1.8**
CABF	**La Chapelle**	**1.98**	**55**	*e*Pn	**Pn**	**19 34 56.1**	**-0.7**
CABF	**La Chapelle**	**1.98**	**55**	*e*Pg	**Pb**	**19 35 00.5**	**+1.0**
CABF				*e*Sg	**Sb**	**19 35 26.1**	**+2.1**
	comp=N,46nm,0.4s						
SMRF	**Simiane la Rot**	**2.02**	**139**	*e*Pn	**Pn**	**19 34 56.9**	**-0.4**
SMRF	**Simiane la Rot**	**2.02**	**139**	*e*Pg	**Pb**	**19 35 01.6**	**+1.4**
SMRF				*e*Sg	**Sb**	**19 35 27.1**	**+2.0**
	comp=N,22nm,0.6s						
RSL	**Roselend**	**2.04**	**84**	P	**Pb**	**19 35 02.0**	**+1.3**
LPL	**La Plagne**	**2.11**	**89**	*e*Pg	**Pb**	**19 35 03.0**	**+1.1**
LPL				*e*Sn	**Sn**	**19 35 23.3**	**-1.5**
LPL				*e*Sg	**Sb**	**19 35 29.9**	**+1.9**
	comp=N,6.2nm,0.2s						
LPG	**La Plagne**	**2.12**	**89**	*e*Pn	**Pn**	**19 34 58.5**	**-0.5**
LPG	**La Plagne**	**2.12**	**89**	*e*Pg	**Pb**	**19 35 03.1**	**+0.9**
LPG				*e*Sg	**Sb**	**19 35 29.2**	**+0.8**
	comp=N,6.9nm,0.2s						
BNI	**Bardonecchia**	**2.13**	**101**	P	**Pb**	**19 35 03.7**	**+1.5**
LFF	**La Frestale**	**2.19**	**256**	*e*Pn	**Pn**	**19 34 59.1**	**-0.5**
LFF	**La Frestale**	**2.19**	**256**	*e*Pg	**Pb**	**19 35 04.4**	**+1.3**
LFF				*e*Sg	**Sb**	**19 35 31.6**	**+1.7**
	comp=N,28nm,0.3s						
RRL	**Rocca Remolon**	**2.24**	**104**	P	**Pb**	**19 35 06.2**	**+2.0**
MBDF	**Montbardon**	**2.29**	**109**	*e*Pn	**Pn**	**19 35 01.0**	**-0.2**
MBDF	**Montbardon**	**2.29**	**109**	*e*Pg	**Pb**	**19 35 06.5**	**+1.6**
MBDF				*e*Sn	**Sn**	**19 35 28.0**	**-1.1**
MBDF				*e*Sg	**Sb**	**19 35 35.5**	**+2.4**
	comp=N,8.9nm,0.4s						
MRGE	**Morge**	**2.35**	**82**	P	**Pn**	**19 35 02.1**	**+0.1**
MRGE				S	Sn	19 35 08.8	-22
LSD	**Lago del Serru**	**2.40**	**90**	P	**Pn**	**19 35 03.6**	**+0.9**
LSD				S	Sn	19 35 09.5	-22
LSD				AML	AML		
	comp=E,1μm,1.0s						
LSD				AML	AML		
	comp=N,30μm,1.1s						
LSD				AML	AML		
	comp=E,1μm,1.0s						
LSD				AML	AML		
	comp=N,30μm,0.9s						
MTLF	**Montolieu**	**2.42**	**207**	*e*Pn	**Pn**	**19 35 02.5**	**-0.3**
MTLF	**Montolieu**	**2.42**	**207**	*e*Pg	**Pb**	**19 35 09.0**	**+1.9**
MTLF				*e*Sn	**Sn**	**19 35 30.2**	**-2.0**
MTLF				*e*Sg	**Sb**	**19 35 39.2**	**+2.5**
	comp=N,41nm,0.3s						
REMY	**Saint-Rhmy-en**	**2.42**	**81**	P	**Pb**	**19 35 09.2**	**+1.9**
BHB	**Bricherasio**	**2.59**	**104**	P	**Pb**	**19 35 09.4**	**-0.5**
SENIN	**Lac Senin/Sane**	**2.63**	**70**	P	**Pg**	**19 35 13.4**	**-0.9**
DIX	**Grande Dixence**	**2.64**	**76**	P	**Pg**	**19 35 13.4**	**-1.0**
SFTF	**Sexfontaines**	**2.84**	**18**	*e*Pn	**Pn**	**19 35 07.9**	**-0.7**
SFTF	**Sexfontaines**	**2.84**	**18**	*e*Pg	**Pb**	**19 35 16.1**	**+1.9**
SFTF				*e*Sn	**Sn**	**19 35 40.8**	**-1.7**
SFTF				*e*Sg	**Sb**	**19 35 53.0**	**+4.2**
	comp=N,11nm,0.3s						
MFF	**Saint Martin d**	**2.91**	**293**	*e*Pn	**Pn**	**19 35 09.0**	**-0.5**
MFF	**Saint Martin d**	**2.91**	**293**	*e*Pn	**Pn**	**19 35 09.1**	**-0.5**
MFF	**Saint Martin d**	**2.91**	**293**	*e*Pg	**Pb**	**19 35 17.5**	**+2.1**
MFF	**Saint Martin d**	**2.91**	**293**	*e*Pg	**Pb**	**19 35 17.7**	**+2.3**
MFF				*e*Sn	**Sn**	**19 35 41.8**	**-2.4**
MFF				*e*Sn	Sb	19 35 42.0	-8.8
MFF				*e*Sg	**Sg**	**19 35 54.2**	**-3.2**
	comp=N,17nm,0.3s						
MFF				*e*Sg	Sg	19 35 54.3	-3.1
	comp=N,22nm,0.3s						
LMR	**La Mourre**	**2.95**	**137**	*e*Pn	**Pn**	**19 35 09.5**	**-0.5**
LMR	**La Mourre**	**2.95**	**137**	*e*Pg	**Pb**	**19 35 18.1**	**+2.1**
LMR				*e*Sn	**Sn**	**19 35 43.5**	**-1.6**
LMR				*e*Sg	**Sb**	**19 35 55.9**	**+4.1**
	comp=N,5.0nm,0.3s						
EMBD	**Embd, Matterta**	**2.95**	**75**	P	**Pg**	**19 35 19.4**	**-1.1**
HAU	**Haudompre**	**3.08**	**35**	*e*Pn	**Pn**	**19 35 11.4**	**-0.5**
HAU	**Haudompre**	**3.08**	**35**	*e*Pg	**Pb**	**19 35 20.8**	**+2.5**
HAU				*e*Sn	**Sn**	**19 35 47.1**	**-1.2**
HAU				*e*Sg	**Sb**	**19 35 59.6**	**+4.0**
	comp=N,18nm,0.3s						
SBF	**Sospel**	**3.11**	**121**	*e*Pn	**Pn**	**19 35 12.0**	**-0.4**
SBF	**Sospel**	**3.11**	**121**	*e*Pg	**Pb**	**19 35 21.3**	**+2.4**
SBF				*e*Sn	**Sn**	**19 35 45.9**	**-3.4**
SBF				*e*Sg	**Sb**	**19 36 00.3**	**+3.7**
	comp=N,14nm,0.5s						
MEZF	**Maizieres J'vi**	**3.13**	**16**	*e*Pn	**Pn**	**19 35 12.2**	**-0.3**
MEZF	**Maizieres J'vi**	**3.13**	**16**	*e*Pg	**Pb**	**19 35 22.0**	**+2.9**
	baz=195						
MEZF				*e*Sg	**Sb**	**19 36 01.5**	**+4.5**
	comp=N,18nm,0.4s						
HINF	**Hinteralfeld**	**3.15**	**42**	*e*Pn	**Pn**	**19 35 11.9**	**-1.0**
HINF	**Hinteralfeld**	**3.15**	**42**	*e*Pg	**Pb**	**19 35 22.5**	**+2.9**
HINF				*e*Sn	**Sn**	**19 35 46.7**	**-3.6**
HINF				*e*Sg	**Sb**	**19 36 00.3**	**+2.5**
	comp=N,11nm,0.2s						
SAVF	**Savonnieres en**	**3.25**	**17**	*e*Pn	**Pn**	**19 35 13.7**	**-0.5**
SAVF	**Savonnieres en**	**3.25**	**17**	*e*Pn	**Pn**	**19 35 13.9**	**-0.3**
SAVF	**Savonnieres en**	**3.25**	**17**	*e*Pg	**Pb**	**19 35 24.4**	**+3.2**
SAVF	**Savonnieres en**	**3.25**	**17**	*e*Pg	**Pg**	**19 35 24.6**	**-1.5**
	baz=200						
SAVF				*e*Sg	**Sb**	**19 36 05.2**	**+4.7**
	comp=N,19nm,0.5s						
SAVF				*e*Sg	**Sg**	**19 36 05.7**	**-2.5**
	comp=N,6.0nm,0.3s						
PAGF	**Fort de Pagny**	**3.34**	**23**	*e*Pn	**Pn**	**19 35 14.7**	**-0.7**
PAGF	**Fort de Pagny**	**3.34**	**23**	*e*Pg	**Pg**	**19 35 26.1**	**-1.7**
PAGF				*e*Sn	**Sn**	**19 35 53.5**	**-1.2**
PAGF				*e*Sg	**Sg**	**19 36 09.4**	**-1.7**
	comp=N,16nm,0.4s						
EPF	**Esparros**	**3.47**	**226**	*e*Pn	**Pn**	**19 35 16.3**	**-1.0**
EPF	**Esparros**	**3.47**	**226**	*e*Pg	**Pb**	**19 35 27.9**	**+2.9**
EPF				*e*Sg	**Sb**	**19 36 11.8**	**+4.8**
	comp=N,15nm,0.3s						
CDF	**Champ du Feu**	**3.79**	**39**	*e*Pn	**Pn**	**19 35 21.1**	**-0.5**
CDF	**Champ du Feu**	**3.79**	**39**	*e*Pg	**Pg**	**19 35 34.5**	**-1.9**
CDF				*e*Sn	**Sn**	**19 36 03.2**	**-2.7**
CDF				*e*Sg	**Sb**	**19 36 21.1**	**+5.1**
	comp=N,2.7nm,0.2s						
ETSF	**Etsaut**	**4.04**	**231**	*e*Pn	**Pn**	**19 35 23.9**	**-1.2**
ETSF	**Etsaut**	**4.04**	**231**	*e*Pg	**Pb**	**19 35 38.6**	**+3.9**
ETSF				*e*Sn	**Sn**	**19 36 09.3**	**-2.8**
ETSF				*e*Sg	**Sb**	**19 36 29.4**	**+6.1**
	comp=N,2.5nm,0.2s						
LDF	**La Druitiere**	**4.06**	**321**	*e*Pn	**Pn**	**19 35 25.6**	**+0.3**
LDF	**La Druitiere**	**4.06**	**321**	*e*Pg	**Pg**	**19 35 39.5**	**-2.0**
LDF				*e*Sn	**Sn**	**19 36 09.6**	**-2.8**
LDF				*e*Sg	**Sb**	**19 36 28.9**	**+5.2**
	comp=N,5.2nm,0.4s						
GRR	**Gorron**	**4.26**	**314**	*e*Pn	**Pn**	**19 35 27.8**	**-0.3**
GRR				*e*Sn	**Sn**	**19 36 13.2**	**-4.3**
GRR				*e*Sg	**Sb**	**19 36 35.0**	**+5.4**
	comp=N,7.1nm,0.3s						
SJPF	**Ste Jean**	**4.29**	**238**	*e*Pn	**Pn**	**19 35 27.3**	**-1.2**
SJPF	**Ste Jean**	**4.29**	**238**	*e*Pg	**Pg**	**19 35 43.5**	**-2.5**
SJPF				*e*Sn	**Sn**	**19 36 14.6**	**-3.6**
SJPF				*e*Sg	**Sb**	**19 36 36.3**	**+5.9**
	comp=N,2.6nm,0.3s						
FLN	**La Foliniere**	**4.34**	**320**	*e*Pn	**Pn**	**19 35 28.5**	**-0.7**
FLN				*e*Sn	**Sn**	**19 36 15.9**	**-3.5**
FLN				*e*Sg	**Sb**	**19 36 38.2**	**+6.3**
	comp=N,13nm,0.5s						
BAIF	**Baives**	**4.56**	**4**	*e*Pn	**Pn**	**19 35 32.0**	**-0.2**
BAIF				*e*Sg	**Sg**	**19 36 46.8**	**-3.5**
	comp=N,4.5nm,0.6s						
GIVF	**Givet**	**4.65**	**9**	*e*Sg	**Sg**	**19 36 48.4**	**-4.8**
	comp=N,5.9nm,0.5s						
PGF	**Pioggiola**	**4.82**	**126**	*e*Pn	**Pn**	**19 35 35.8**	**0.0**
PGF				*e*Sn	**Sn**	**19 36 27.1**	**-4.2**
	comp=N,0.3nm,0.1s						
SGMF	**Saint Gilles**	**5.11**	**305**	*e*Pn	**Pn**	**19 35 39.1**	**-0.6**
SGMF				*e*Sn	**Sn**	**19 36 34.6**	**-3.8**
SGMF				*e*Sg	**Sg**	**19 37 02.6**	**-5.2**
	comp=N,3.3nm,0.3s						
QUIF	**Quistinic**	**5.32**	**299**	*e*Pn	**Pn**	**19 35 42.3**	**-0.3**
QUIF	**Quistinic**	**5.32**	**299**	*e*Pg	Pb	19 36 01.8	+5.4
QUIF				*e*Sn	**Sn**	**19 36 39.8**	**-3.7**
QUIF				*e*Sg	**Sg**	**19 37 09.9**	**-4.6**
	comp=N,3.4nm,0.3s						
ROSF	**Rostrenen**	**5.57**	**303**	*e*Pn	**Pn**	**19 35 45.1**	**-0.9**
ROSF	**Rostrenen**	**5.57**	**303**	*e*Pg	**Pg**	**19 36 06.9**	**-3.5**
ROSF				*e*Sn	**Sn**	**19 36 45.6**	**-4.1**
ROSF				*e*Sg	**Sg**	**19 37 18.2**	**-4.3**
	comp=N,4.3nm,0.3s						

*FUNV **31** 19:50:21.8, 10°.98N×62°.50W, h51km, MW3.3*
*TRN **31** 19:50:23.7, 10°.96N×62°.20W, h98km, MD2.8, North of the Paria peninsula.*

ISC 31 19:50:18.1±2.4, **10°.83N**±0°.07×**62°.50W**±0°.09, **h115**km±28km, **n14,** σ**2**s**09/26, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMDM	**Guralp CMG5TDE**	**0.94**	**98**	*e*P	**Pn**	**19 50 41.2**	**+2.0**
DMDM				*e*S	**Sn**	**19 50 53.2**	**-1.9**
PSMG	**Mucurapo Girls**	**0.97**	**99**	*e*P	**Pn**	**19 50 41.1**	**+1.8**
PSMG				*e*S	**Sn**	**19 50 54.0**	**-1.5**
PSKH	**Kent House, Po**	**0.97**	**99**	*e*P	**Pn**	**19 50 41.4**	**+1.9**
PSKH				*e*S	**Sn**	**19 50 54.3**	**-1.2**
PSWS	**West Secondary**	**0.98**	**100**	*e*P	**Pn**	**19 50 41.3**	**+1.8**
PSWS				*e*S	**Sn**	**19 50 54.6**	**-1.1**
TRN	**Trinidad (W)**	**1.10**	**99**	*e*P	**Pn**	**19 50 42.5**	**+1.8**
TRN				*e*S	**Sn**	**19 50 55.9**	**-1.9**
GRFF	**Grenada Fort F**	**1.43**	**32**	*e*P	**Pn**	**19 50 46.2**	**+1.8**
GRFF				*e*S	**Sn**	**19 51 02.7**	**-1.7**
GRGR	**Grenville**	**1.54**	**33**	*e*P	**Pn**	**19 50 47.8**	**+2.0**
GRGR				*e*S	**Sn**	**19 51 04.9**	**-1.8**
GRW	**Mount Saint Ca**	**1.56**	**32**	*e*S	**Sn**	**19 51 05.3**	**-2.0**
GRHS	**Sauteurs**	**1.62**	**31**	*e*P	**Pn**	**19 50 48.2**	**+1.5**
GRHS				*e*S	**Sn**	**19 51 05.2**	**-3.4**
GRSS	**Sisters**	**1.70**	**31**	*e*P	**Pn**	**19 50 48.9**	**+1.2**
GRSS				*e*S	**Sn**	**19 51 08.8**	**-1.3**
GCMP	**Grenada, Carri**	**1.96**	**33**	*e*P	**Pn**	**19 50 52.4**	**+1.6**
GCMP				*e*S	**Sn**	**19 51 13.9**	**-1.8**
PCRV	**Puerto La Cruz**	**2.19**	**253**	*e*P	**Pn**	**19 50 55.9**	**+2.0**
PCRV				*e*S	**Sn**	**19 51 19.8**	**-1.4**
CACV	**CAICARA DEL OR**	**5.14**	**231**	*e*P	**Pn**	**19 51 31.2**	**-1.7**
CACV				*e*S	Sn	19 52 21.6	-9.5
BAUV	**El Baul**	**5.77**	**252**	*e*P	**Pn**	**19 51 45.0**	**+3.6**
BAUV				*e*S	**Sn**	**19 52 44.3**	**-2.1**

*UCR **31** 20:11:28.5±0.9, 8°.32N×82°.96W, h16km±4km, MW4.0*
*CATAC **31** 20:11:28.5±0.7, 8°N±5°×8°.3W±°, h1km±3km, M3.4/7, MLv3.4/7, Error ellipse: s-maj=10.1km s-min=5.5km az=8.9, confirmed*

ISC 31 20:11:23.5±1.8, **8°.11N**±0°.09×**83°.06W**±0°.03, **h10**km, **n45,** σ**0**s**58/48, 1C-22D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIEL	**Armuelles**	**0.27**	**50**	*e*P	**Pn**	**20 11 33.2**	**-0.3**
ARIEL				*e*S	**Sb**	**20 11 35.5**	**+0.4**
PIRO	**Carate, Puerto**	**0.40**	**317**	*e*P	**Pn**	**20 11 35.8**	**+0.5**
PIRO	**Carate, Puerto**	**0.40**	**317**	P	**Pn**	**20 11 35.6**	**+0.3**
LPPC	**Paso Canoas**	**0.47**	**28**	*e*P	**Pb**	**20 11 34.0**	**+0.1**
LPPC				*e*S	**Sg**	**20 11 38.6**	**-0.3**
CDITO	**Canoas**	**0.49**	**22**	P	**Pb**	**20 11 34.2**	**-0.1**
JIME	**Puerto Jimenez**	**0.50**	**328**	*e*P	**Pn**	**20 11 37.2**	**+0.5**
EDAD	**Golfito**	**0.55**	**349**	*e*P	**Pb**	**20 11 35.4**	**+0.2**
NELY	**Ciudad Neily**	**0.55**	**12**	*e*P	**Pb**	**20 11 35.1**	**0.0**
NELY				*e*S	**Sg**	**20 11 41.2**	**-0.2**
BRNON	**Bren.**	**0.57**	**26**	*e*P	**Pb**	**20 11 35.6**	**0.0**
DMCAL	**E. de Neily**	**0.61**	**25**	*e*P	**Pb**	**20 11 36.5**	**+0.1**
JEFFS	**S de V. Baru**	**0.76**	**43**	*e*P	**Pb**	**20 11 39.3**	**+0.4**
SCLRA	**Santa Clara, W**	**0.77**	**21**	*e*P	**Pb**	**20 11 39.3**	**+0.3**
BRU2	**Volcan**	**0.77**	**28**	*e*P	**Pb**	**20 11 39.2**	**+0.1**
BRU2	**Volcan**	**0.77**	**28**	P	**Pb**	**20 11 39.2**	**+0.1**
BRU2	**Volcan**	**0.77**	**28**	S	**Sg**	**20 11 48.3**	**-0.2**
CGUAY	**Guayabal, Coch**	**0.78**	**64**	*e*P	**Pn**	**20 11 39.9**	**-0.7**
BANCO	**falda S V. Bar**	**0.80**	**41**	*e*P	**Pb**	**20 11 39.8**	**+0.2**
ALCO	**Alturas Coton,**	**0.86**	**15**	*e*P	**Pb**	**20 11 40.5**	**-0.2**
BQTLY	**Boquete Panama**	**0.87**	**43**	*e*P	**Pg**	**20 11 40.8**	**+0.4**
WILLF	**Boquete**	**0.89**	**44**	*e*P	**Pg**	**20 11 41.0**	**+0.4**
EDP2	**Potrero Grande**	**0.91**	**353**	*e*P	**Pn**	**20 11 42.0**	**-0.3**
DAP26	**falda E V. Bar**	**0.92**	**43**	*e*P	**Pg**	**20 11 41.3**	**0.0**
OCHAL	**Ojochal**	**1.14**	**329**	P	**Pn**	**20 11 46.8**	**+1.3**
OCHAL	**Ojochal**	**1.14**	**329**	S	**Sn**	**20 12 02.9**	**+1.7**
EDPE	**Pejibaye, P**	**1.16**	**334**	*e*P	**Pg**	**20 11 46.5**	**+0.8**
PBNVO	**Pueblo Nuevo,**	**1.16**	**48**	*e*P	**Pn**	**20 11 45.1**	**-0.6**

JBK	**JBK**	**0.71 149**	S	**Sg**	**20 23 15.8**	**-1.5**
JBK	**JBK**	**0.71 149**	P	**Pg**	**20 23 06.3**	**-1.6**
JBK	**JBK**	**0.71 149**	P	**Pg**	**20 23 06.3**	**-1.6**
JBK	**JBK**	**0.71 149**	P	**Pg**	**20 23 06.3**	**-1.6**
JBK	**JBK**	**0.71 149**	P	**Pg**	**20 23 06.3**	**-1.6**
PALE	**Palemas**	**0.81 290**	P	**Pb**	**20 23 11.2**	**+1.0**
PALE	**Palemas**	**0.81 290**	S	**Sb**	**20 23 22.8**	**+1.7**
PALE	**Palemas**	**0.81 290**	P	**Pb**	**20 23 12.0**	**+1.8**
PALE	**Palemas**	**0.81 290**	P	**Pb**	**20 23 12.0**	**+1.8**
PALE	**Palemas**	**0.81 290**	P	**Pb**	**20 23 12.0**	**+1.8**
PALE	**Palemas**	**0.81 290**	P	**Pb**	**20 23 12.0**	**+1.8**
AKLM	**AKL**	**0.83 239**	P	**Pg**	**20 23 09.6**	**-0.6**
AKLM	**AKL**	**0.83 239**	S	**Sb**	**20 23 22.7**	**+1.0**
AKLM	**AKL**	**0.83 239**	P	**Pg**	**20 23 10.0**	**-0.2**
AKLM	**AKL**	**0.83 239**	P	**Pg**	**20 23 10.0**	**-0.2**
AKLM	**AKL**	**0.83 239**	P	**Pg**	**20 23 10.0**	**-0.2**
AKLM	**AKL**	**0.83 239**	P	**Pg**	**20 23 10.0**	**-0.2**
EALB	**Alboran**	**0.99 359**	P	**Pg**	**20 23 12.8**	**-0.4**
EALB			S	**Sb**	**20 23 27.9**	**+1.7**
EALB	**Alboran**	**0.99 359**	Pg	**Pg**	**20 23 13.2**	**0.0**
EALB			Sg	**Sg**	**20 23 22.0**	**-4.2**
EALB			*i* IVmb_Lg		20 23 32.4	
ELGU	**Los Guajares,**	**1.98 345**	P	**Pn**	**20 23 26.8**	**-0.7**
ELGU			S	**Sn**	**20 23 51.0**	**-1.3**
ELGU	**Los Guajares,**	**1.98 345**	Pg	**Pn**	**20 23 27.1**	**-0.5**
ELGU			Sg	**Sn**	**20 23 46.7**	**-5.6**
ELGU			*i* IVmb_Lg		20 23 53.7	
EGOR	**Sierra Gorda,**	**2.34 338**	P	**Pn**	**20 23 32.0**	**-0.5**
EGOR	**Sierra Gorda,**	**2.34 338**	Pn	**Pn**	**20 23 30.1**	**-2.4**
EGOR			Sn	Sn	20 23 53.7	-7.5
EGOR			*i* IVmb_Lg		20 23 55.9	
MDT	**Midelt**	**2.51 213**	P	**Pn**	**20 23 34.2**	**-0.6**
MDT	**Midelt**	**2.51 213**	S	**Sn**	**20 24 05.1**	**-0.2**
MD31	**MD31**	**2.54 216**	P	**Pn**	**20 23 35.0**	**-0.1**
MD31	**MD31**	**2.54 216**	S	**Sn**	**20 24 06.7**	**+0.7**
EQES	**Quesada**	**2.85 359**	Pg	**Pn**	**20 23 42.3**	**+2.8**
EQES			Sn	**Sn**	**20 24 07.9**	**-5.9**
EQES			*i* IVmb_Lg		20 24 21.7	
FIGM	**Figuig**	**3.16 152**	P	**Pn**	**20 23 43.5**	**-0.3**
EMUR	**La Murta**	**3.22 26**	P	**Pn**	**20 23 44.5**	**0.0**
EMUR			S	**Sn**	**20 24 21.4**	**-1.4**
EADA	**Adamuz**	**3.46 339**	P	**Pn**	**20 23 48.6**	**+0.9**
EADA			S	**Sn**	**20 24 30.0**	**+1.4**
ECAB	**El Cabril**	**3.68 329**	P	**Pn**	**20 23 52.0**	**+1.2**
ECAB			S	**Sn**	**20 24 33.9**	**-0.2**
PBAR	**Barrancos**	**4.58 316**	P	**Pn**	**20 24 03.7**	**+0.6**
EBAD	**Badajoz**	**4.98 321**	P	**Pn**	**20 24 08.1**	**-0.5**
EIBI	**Ibiza**	**5.36 39**	P	**Pn**	**20 24 14.7**	**+0.9**

*IDC **31** 20:28:17.9±4.7, 7°.04S×147°.10E, h62km±37km, mb3.4/5, mbtmp3.7/7, ML3.5/1, MS3.3/2, Error ellipse: s-maj=54.4km s-min=28.3km az=64.0*

ISC 31 20:28:14.3±1.4, 6°.88S±0°.10×147°.2E±0°.3, h33km, n9, σ1°19/9, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.51**	**181**	P	**Pn**	**20 28 54.3**	**+1.4**
	27nm,0.3s,baz=16,slow=8.4,SNR=20						
PMG				S	**Sb**	**20 29 29.1**	**-0.1**
	92nm,0.7s,baz=159,slow=19,SNR=6.9						
WRA	**Warramunga Arr**	**18.00**	**223**	P	**Pn**	**20 32 21.5**	**-0.7**
	0.2nm,0.3s,baz=48,slow=12,SNR=9.7						
	3.0nm,1.1s						
ASAR	**Alice Springs**	**21.01**	**216**	P	**P**	**20 32 55.4**	**+0.1**
	1.0nm,0.5s,baz=32,slow=13,SNR=30						
ASAR				LR	LR	20 41 38.7	
	comp=Z,87nm,19.4s,baz=41,slow=38						
	1.0nm,0.5s						
STKA	**Stephens Creek**	**25.41**	**191**	LR	LR	20 43 26.6	
	comp=Z,54nm,18.6s,baz=22,slow=36						
CMAR	**Chiang Mai Arr**	**53.83**	**299**	P	**P**	**20 37 34.1**	**-0.3**
	0.9nm,0.6s,baz=128,slow=6.3,SNR=7.4						
	0.9nm,0.6s						
VNDA	**Vanda**	**71.03**	**177**	P	**P**	**20 39 27.1**	**-1.3**
	0.4nm,0.5s,baz=337,slow=5.7,SNR=3.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**78.29**	**321**	P	**P**	**20 40 12.8**	**+1.6**
	0.2nm,0.6s,baz=134,slow=4.2,SNR=1.9						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.09**	**180**	P	**P**	**20 40 36.4**	**-0.3**
	1.0nm,0.7s,baz=315,slow=1.6,SNR=5.5						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**145.47**	**283**	PKPbc	**PKPdf**	**20 47 49.0**	**-1.2**
	2.2nm,0.9s,baz=63,slow=4.9,SNR=6.1						

*IDC **31** 20:52:54.6±1.7, 27°.77N×142°.83E, h0km, mb3.8/5, mbtmp3.7/6, ML2.6/1, Error ellipse: s-maj=44.2km s-min=17.0km az=101.0*

ISC 31 20:52:57.8±1.7, 27°.8N±0°.1×142°.8E±0°.3, h22km, n7, σ0°61/8, mb3.8/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.89**	**217**	Pn	**Pn**	**20 53 15.0**	**0.0**
JCJ				Sn	**Sn**	**20 53 27.1**	**-0.1**
MJAR	**Matsushiro Arr**	**9.54**	**337**	Pn	**Pn**	**20 55 13.0**	**-0.8**
	0.1nm,0.3s,baz=152,slow=11,SNR=4.8						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**48.17**	**191**	P	**P**	**21 01 36.3**	**-0.3**
	0.3nm,0.3s,baz=11,slow=8.4,SNR=8.6						
	0.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**48.56**	**202**	P	**P**	**21 01 39.3**	**-0.3**
	2.1nm,1.0s,baz=48,slow=11,SNR=2.3						
	2.1nm,1.0s						
KURBB	**Kurchatov Arra**	**52.93**	**314**	P	**P**	**21 02 13.0**	**+0.7**
	0.5nm,0.5s,baz=91,slow=6.4,SNR=11						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**57.89**	**317**	P	**P**	**21 02 48.7**	**+0.7**
	0.5nm,0.5s,baz=81,slow=8.9,SNR=3.5						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**77.55**	**334**	P	**P**	**21 04 51.9**	**+0.2**
	1.8nm,1.0s,baz=68,slow=5.9,SNR=3.3						
	1.8nm,1.0s						

*GCG **31** 20:55:56.8±1.4, 12°.99N×87°.67W, h194km±16km, MD4.3, ML4.4*
*SNET **31** 20:55:57.0±1.9, 13°.28N×87°.68W, h207km±16km, ML3.5*
*CATAC **31** 20:55:58.6±0.4, 13°.N±3°.×8°.8W±°., h193km±3km, M3.5/27, MLv3.5/27, Error ellipse: s-maj=6.8km s-min=2.5km az=28.1, confirmed*

ISC 31 20:55:58.8±1.7, 13°.18N±0°.07×87°.62W±0°.04, h194km±10km, n77, σ1°05/86, 13C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTN	**Potosi Cosigui**	**0.21**	**149**	↑P	**Pn**	**20 56 23.8**	**-0.7**
POTN				S	**Sn**	**20 56 44.6**	**+0.2**
CSGN	**Cosiguina Volc**	**0.21**	**164**	↑P	**Pn**	**20 56 25.3**	**+0.6**
CNCH	**Conchagua**	**0.23**	**295**	*e*P	**Pn**	**20 56 23.3**	**-1.4**
CNCH				*e*S	**Sn**	**20 56 46.6**	**+2.1**
CNCH	**Conchagua**	**0.23**	**295**	P	**Pn**	**20 56 23.8**	**-0.9**
CNCH	**Conchagua**	**0.23**	**295**	S	**Sn**	**20 56 45.1**	**+0.5**
LCY	**Lacayo**	**0.70**	**290**	*e*P	**Pn**	**20 56 25.7**	**-0.6**
CRIN	**San Cristobal**	**0.73**	**131**	S	**Sn**	**20 56 49.5**	**+1.7**
CRIN	**San Cristobal**	**0.73**	**131**	↑P	**Pn**	**20 56 26.6**	**+0.1**
PACA	**Pacayal**	**0.74**	**293**	*e*P	**Pn**	**20 56 26.5**	**-0.2**
PACA	**Pacayal**	**0.74**	**293**	P	**Pn**	**20 56 26.4**	**-0.2**
PKGN	**Cerro Pekin**	**0.80**	**129**	↑P	**Pn**	**20 56 26.5**	**-0.3**
PKGN				S	**Sn**	**20 56 50.2**	**+1.9**
TECA	**Tecapa**	**0.92**	**290**	*e*P	**Pn**	**20 56 26.7**	**-1.0**
TECA				*e*P	**Pn**	**20 56 26.7**	**-1.0**
TGUH	**Tegucigalpa,Un**	**0.94**	**21**	↑P	**Pn**	**20 56 27.6**	**-0.1**
PQSS	**Presa 15 de Se**	**1.02**	**296**	↓*e*P	**Pn**	**20 56 27.4**	**-0.7**
PQSS	**Presa 15 de Se**	**1.02**	**296**	↑P	**Pn**	**20 56 27.4**	**-0.7**
YUSH	**Yuscaran**	**1.08**	**44**	P	**Pn**	**20 56 28.5**	**-0.2**
CNGN	**Cerro Negro**	**1.12**	**127**	P	**Pn**	**20 56 29.1**	**+0.1**
CNGN	**Cerro Negro**	**1.12**	**127**	S	**Sn**	**20 56 54.9**	**+2.6**
CNGA	**Al SSO del Vol**	**1.12**	**127**	P	**Pn**	**20 56 30.3**	**+1.3**
TECO	**Alcaldia de Te**	**1.19**	**288**	*e*P	**Pn**	**20 56 28.3**	**-1.1**
TECO	**Alcaldia de Te**	**1.19**	**288**	P	**Pn**	**20 56 28.6**	**-0.8**
OCON	**Estacion meteo**	**1.20**	**68**	P	**Pn**	**20 56 29.2**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.20**	**296**	↓*i*P	**Pn**	**20 56 29.1**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.20**	**296**	↓P	**Pn**	**20 56 29.0**	**-0.5**
INTHN	**La Esperanza I**	**1.22**	**337**	↑P	**Pn**	**20 56 29.9**	**-0.1**
MOM3	**MOM3**	**1.26**	**122**	↑P	**Pn**	**20 56 29.8**	**-0.2**
MOM2	**El Cardon**	**1.33**	**124**	P	**Pn**	**20 56 30.3**	**-0.3**
PAVA	**Las Pavas**	**1.39**	**293**	*e*P	**Pn**	**20 56 30.4**	**-0.8**
PAVA	**Las Pavas**	**1.39**	**293**	↑P	**Pn**	**20 56 30.7**	**-0.5**
COPN	**Copaltepe**	**1.41**	**135**	P	**Pn**	**20 56 31.0**	**-0.3**
RCVN	**Varillal2**	**1.44**	**74**	S	**Sn**	**20 56 56.1**	**-1.0**
RCVN	**Varillal2**	**1.44**	**74**	↑P	**Pn**	**20 56 31.3**	**-0.3**
LFRS	**El Faro**	**1.47**	**288**	↑*e*P	**Pn**	**20 56 31.1**	**-0.8**
RCPN	**Sur Rio San Ju**	**1.52**	**77**	P	**Pn**	**20 56 31.2**	**-1.2**
LOMA	**Loma Larga**	**1.58**	**287**	*e*P	**Pn**	**20 56 32.0**	**-0.9**
LOMA	**Loma Larga**	**1.58**	**287**	P	**Pn**	**20 56 32.2**	**-0.8**
LLGN	**La Laguna**	**1.62**	**307**	P	**Pn**	**20 56 33.0**	**-0.2**
MATN	**Matagalpa**	**1.67**	**98**	S	**Sn**	**20 56 59.1**	**-1.6**
MATN	**Matagalpa**	**1.67**	**98**	↓↓P	**Pn**	**20 56 32.8**	**-0.9**
LALI	**Alcalda de L**	**1.69**	**281**	*i* P	**Pn**	**20 56 32.4**	**-1.4**
LALI				*i* S	**Sn**	**20 56 59.2**	**-1.7**
LALI	**Alcalda de L**	**1.69**	**281**	P	**Pn**	**20 56 32.6**	**-1.2**
UNAN	**Cigeo UNAN**	**1.69**	**129**	S	**Sn**	**20 57 01.1**	**+0.1**
PIC2	**El Picacho**	**1.69**	**160**	*e*P	**Pn**	**20 56 33.6**	**-0.4**
BOQS	**Boqueron**	**1.71**	**289**	*i* Pg	**Pn**	**20 56 38.2**	**-0.1**
WILN	**Americas 2**	**1.72**	**126**	S	**Sn**	**20 57 02.6**	**+1.0**
PMON	**Piamonte**	**1.73**	**288**	*e*P	**Pn**	**20 56 33.6**	**-0.8**
PMON	**Piamonte**	**1.73**	**288**	S	**Sn**	**20 57 02.9**	**+1.0**
PMON	**Piamonte**	**1.73**	**288**	↑↑P	**Pn**	**20 56 33.6**	**-0.8**
MAS3	**Al N del Volca**	**1.82**	**129**	S	**Sn**	**20 57 03.0**	**-0.2**
JAYA	**Jayaque - finc**	**1.84**	**285**	*e*P	**Pn**	**20 56 34.4**	**-1.1**
JAYA	**Jayaque - finc**	**1.84**	**285**	*i* P	**Pn**	**20 56 34.4**	**-1.1**
JAYA				*i* S	**Sn**	**20 57 01.9**	**-2.0**
JAYA	**Jayaque - finc**	**1.84**	**285**	P	**Pn**	**20 56 34.6**	**-0.9**
JAYA	**Jayaque - finc**	**1.84**	**285**	S	**Sn**	**20 57 02.2**	**-1.7**
SARH	**Santa Rosa de**	**1.94**	**325**	*i* P	**Pn**	**20 56 37.0**	**+0.7**
SARH				*i* S	**Sn**	**20 57 06.9**	**+1.3**
SARH	**Santa Rosa de**	**1.94**	**325**	P	**Pn**	**20 56 37.0**	**+0.7**
SARH	**Santa Rosa de**	**1.94**	**325**	S	**Sn**	**20 57 04.8**	**-0.9**
BOAB	**BOACO BROADBAN**	**2.04**	**111**	S	**Sn**	**20 57 07.4**	**+0.2**
BOAB	**BOACO BROADBAN**	**2.04**	**111**	↓↓P	**Pn**	**20 56 37.8**	**+0.4**
CEVE	**Cerro Verde**	**2.06**	**289**	*e*P	**Pn**	**20 56 37.3**	**-0.4**
CEVE	**Cerro Verde**	**2.06**	**289**	P	**Pn**	**20 56 37.4**	**-0.4**
CEVE	**Cerro Verde**	**2.06**	**289**	S	**Sn**	**20 57 08.0**	**0.0**
SBLS	**San Blas**	**2.06**	**289**	*e*P	**Pn**	**20 56 37.4**	**-0.4**
MTO3	**Montecristo**	**2.08**	**306**	*i* P	**Pn**	**20 56 37.9**	**-0.1**
MTO3	**Montecristo**	**2.08**	**306**	P	**Pn**	**20 56 38.0**	**-0.1**
MTO3	**Montecristo**	**2.08**	**306**	S	**Sn**	**20 57 07.6**	**-0.9**
NUBE	**Las Nubes**	**2.22**	**289**	*e*P	**Pn**	**20 56 38.6**	**-0.8**
NUBE	**Las Nubes**	**2.22**	**289**	*i* P	**Pn**	**20 56 38.4**	**-1.0**
NUBE				*i* S	**Sn**	**20 57 13.2**	**+2.1**
NUBE	**Las Nubes**	**2.22**	**289**	P	**Pn**	**20 56 38.8**	**-0.7**
NUBE	**Las Nubes**	**2.22**	**289**	S	**Sn**	**20 57 12.3**	**+1.3**
SLOZ	**Alcaldia de Sa**	**2.27**	**292**	*e*P	**Pn**	**20 56 39.5**	**-0.4**
SLOZ	**Alcaldia de Sa**	**2.27**	**292**	S	**Sn**	**20 57 11.4**	**-0.4**
SLOZ	**Alcaldia de Sa**	**2.27**	**292**	↓↓P	**Pn**	**20 56 39.4**	**-0.4**
ACON	**Acoyapa**	**2.67**	**117**	P	**Pn**	**20 56 44.2**	**-0.1**
ACON	**Acoyapa**	**2.67**	**117**	S	**Sn**	**20 57 19.3**	**-0.5**
SIUN	**Universidad Ur**	**2.82**	**79**	P	**Pn**	**20 56 45.9**	**-0.2**
CARN	**Rivas**	**2.85**	**134**	P	**Pn**	**20 56 46.4**	**0.0**
CARN				S	**Sn**	**20 57 22.0**	**-1.6**
FG16	**Alotenango, Sa**	**3.01**	**291**	*i* P	**Pn**	**20 56 52.5**	**+3.9**
FG16				*i* S	Sn	20 57 37.0	+10
FG16				IAML		20 57 43.8	
	comp=N,2μm,0.2s						

KRSC 31 20:57:17.0±2.7, 49°.53N×157°.36E, h40km±49km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.41**	**326**	*e*P	Pn	20 57 39.2	-0.9
SKR				*e*S	Sn	20 57 54.6	-2.8
PAU	**Pauzhetka**	**1.97**	**350**	*e*P	Pn	20 57 49.8	+2.0
PAU				*e*S	Sn	20 58 12.9	+1.5
MIPR	**Malaya Ipel'ka**	**2.78**	**352**	*e*P	Pn	20 58 00.8	+1.9
ASAK	**Asacha**	**2.88**	**7**	*e*P	Pn	20 58 04.0	+3.6
ASAK				*e*S	Sn	20 58 37.9	+4.1
RUS	**Russkaya**	**3.00**	**14**	*e*P	Pn	20 58 05.4	+3.5
MTVR	**Mutnovka**	**3.00**	**10**	*e*P	Pn	20 58 06.0	+3.8
MTVR				*e*S	Sn	20 58 41.2	+4.2
GRL	**Gorelyy**	**3.06**	**8**	*e*P	Pn	20 58 07.0	+4.0
GRL				*e*S	Sn	20 58 43.3	+5.0
KRMR	**Karymshinskiy**	**3.34**	**8**	*e*P	Pn	20 58 11.4	+4.7
KRMR				*e*S	Sn	20 58 52.0	+7.0
APC	**Apacha**	**3.40**	**358**	*e*P	Pn	20 58 13.0	+5.5
DALK	**Dalny**	**3.61**	**13**	*e*P	Pn	20 58 14.4	+4.0
DALK				*e*S	Sn	20 58 56.6	+4.8
UGLR	**Uglovaya**	**3.80**	**13**	*e*P	Pn	20 58 18.3	+5.3
AVH	**Avacha**	**3.84**	**12**	*e*P	Pn	20 58 16.6	+3.0
AVH				*e*S	Sn	20 59 03.8	+6.3
SMAR	**Somma**	**3.85**	**13**	*e*P	Pn	20 58 18.6	+4.8
KOK	**Koryaka**	**3.85**	**11**	*e*P	Pn	20 58 18.8	+5.0
KOK				*e*S	Sn	20 59 05.2	+7.4
NLC	**Nalytchevo**	**3.85**	**18**	*e*S	Sn	20 59 00.8	+3.2
SDLR	**Sedlovina**	**3.87**	**14**	*e*P	Pn	20 58 17.9	+3.8
SDLR				*e*S	Sn	20 59 01.9	+3.5
KRER	**Koryakskii**	**3.88**	**12**	*e*P	Pn	20 58 18.7	+4.4
KRER				*e*S	Sn	20 59 04.7	+6.1
KRX	**Arik**	**3.92**	**11**	*e*P	Pn	20 59 19.4	+4.6
KRX				*e*S	Sn	20 59 05.5	+6.0
SPN	**Mys Shipunski**	**3.94**	**24**	*e*S	Sn	20 59 05.1	+5.2
GNL	**Ganaly**	**4.19**	**5**	*e*P	Pn	20 58 22.4	+4.0
MKZ	**Mys Kozlova**	**5.71**	**26**	*e*P	Pn	20 58 43.1	+3.9
MKZ				*e*S	Sn	20 59 46.3	+3.0

*IDC **31** 21:00:24.7±1.0, 35°.16S×134°.32E, h0km, mb4.1/3, mbtmp4.2/8, ML4.1/4, MS3.5/3, Error ellipse: s-maj=25.8km s-min=18.7km az=96.0*
*NEIC **31** 21:00:25.9±2.5, 35°.30S±0°.07×134°.35E±0°.07, h12km±4km, mb4.2/15, Error ellipse: s-maj=10.3km s-min=8.1km az=174.0*
*AUST **31** 21:00:25.5±0.4, 35°.S±3°.×13°.4E±°., h10km, mb4.3/12, ML4.0/17, ML4.7/17, Error ellipse: s-maj=8.7km s-min=5.8km az=51.8*

ISC 31 21:00:24.6±0.5, 35°.24S±0°.05×134°.32E±0°.05, h10km, n80, σ1°94/79, mb4.2/9, 5D, Off south coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUCAS	**Cummins Area S**	**1.51**	**50**	P	**Pg**	**21 00 53.6**	**-0.1**
AUCAS	**Cummins Area S**	**1.51**	**50**	S	**Sb**	**21 01 12.3**	**+0.3**
KELC	**Kelly Hill Cav**	**2.24**	**110**	P	**Pn**	**21 01 01.2**	**-0.5**
KELC				S	**Sn**	**21 01 25.1**	**-4.4**
BBOO	**Buckleboo**	**2.82**	**31**	P	**Pn**	**21 01 11.9**	**+2.1**
BBOO	**Buckleboo**	**2.82**	**31**	S	**Sn**	**21 01 46.4**	**+2.5**
BBOO	**Buckleboo**	**2.82**	**31**		**Pn**	**21 01 12.2**	**+2.3**
BBOO				Sn	**Sn**	**21 01 44.6**	**+0.7**
BBOO	**Buckleboo**	**2.82**	**31**	P	**Pn**	**21 01 10.5**	**+0.7**
WHYH	**Whyalla**	**3.48**	**52**	P	**Pn**	**21 01 20.1**	**+1.2**
WHYH				S	**Sn**	**21 02 00.4**	**+0.3**
WHYH	**Whyalla**	**3.48**	**52**	P	**Pn**	**21 01 20.1**	**+1.2**
GHSS	**Government Hou**	**3.53**	**86**	P	**Pb**	**21 01 26.4**	**-0.8**
GHSS	**Government Hou**	**3.53**	**86**	P	**Pb**	**21 01 28.9**	**+1.7**
BOX6	**Mt Lofy**	**3.61**	**87**	P	**Pn**	**21 01 20.6**	**-0.1**
PTPS	**Port Pirie**	**3.68**	**57**	P	**Pn**	**21 01 24.0**	**+2.4**
PTPS	**Port Pirie**	**3.68**	**57**	P	**Pn**	**21 01 23.6**	**+2.0**
NAPP	**Napperby**	**3.78**	**58**	P	**Pn**	**21 01 24.6**	**+1.6**
AUMBR	**Murray Bridge**	**4.07**	**90**	P	**Pn**	**21 01 27.3**	**+0.3**
SDAN	**Sedan**	**4.19**	**81**	P	**Pn**	**21 01 28.9**	**+0.2**
HTT	**Hallett**	**4.22**	**66**	P	**Pn**	**21 01 30.2**	**+1.1**
HTT	**Hallett**	**4.22**	**66**	P	**Pn**	**21 01 29.9**	**+0.9**
YAPP	**Yappala Statio**	**4.74**	**46**	P	**Pn**	**21 01 30.1**	**+1.9**
MULG	**Mulgathing**	**4.95**	**357**	P	**Pn**	**21 01 42.7**	**+3.7**
	comp=Z,1.0nmcomp=Z,828μmcomp=Z,36nm,0.7s						
MGBR	**Mount Gambier**	**5.62**	**118**	P	**Pn**	**21 01 48.4**	**+0.1**
	comp=Z,251μmcomp=Z,0.2nmcomp=Z,47nm,1.6s						
MGBR	**Mount Gambier**	**5.62**	**118**		**Pn**	**21 01 48.4**	**+0.1**
LCRK	**Leigh Creek**	**5.79**	**36**	P	**Pn**	**21 01 52.7**	**+2.0**
	comp=Z,0.4nmcomp=Z,488μmcomp=Z,22nm,0.6s						
LCRK				S	**Sn**	**21 02 55.5**	**-1.8**
ARPS	**Mount Arapiles**	**6.29**	**106**	P	**Pn**	**21 01 56.2**	**-1.2**
	comp=Z,0.1nmcomp=Z,149μmcomp=Z,7.3nm,0.6s						
STKA	**Stephens Creek**	**6.94**	**63**	P	**Pn**	**21 02 07.5**	**+1.1**
	comp=Z,2.0nmcomp=Z,531μmcomp=Z,121nm,0.9s						
STKA	**Stephens Creek**	**6.94**	**63**		**Pn**	**21 02 07.4**	**+1.1**
STKA	**Stephens Creek**	**6.94**	**63**	Pn	**Pn**	**21 02 07.8**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=231,slow=11,SNR=44						
STKA				Sn	**Sn**	**21 03 22.4**	**-3.0**
	comp=Z,5.3nm,0.3s,baz=229,slow=17,SNR=5.8						
STKA				Lg	Lg	21 04 03.4	
	comp=Z,11nm,0.3s,baz=337,slow=19,SNR=6.8						
	comp=Z,4.0nm,0.3s						
OOD	**Oodnadatta**	**7.51**	**9**	P	**Pn**	**21 02 16.6**	**+2.3**
	comp=Z,0.4nmcomp=Z,450μmcomp=Z,18nm,0.6s						
BRAT	**Ballarat**	**8.09**	**109**	P	**Pn**	**21 02 20.3**	**-1.8**
GVL	**Greenvale**	**8.86**	**109**	P	**Pn**	**21 02 32.7**	**0.0**
	comp=Z,0.0nmcomp=Z,8.1nm,0.5s						
DNDOZ	**Balladonia**	**9.12**	**285**	P	**Pn**	**21 02 37.5**	**+1.2**
	comp=Z,0.6nmcomp=Z,65nm,0.5s						
INKA	**Innaminka**	**9.27**	**38**	P	**Pn**	**21 02 40.6**	**+2.3**
	comp=Z,0.0nmcomp=Z,17nm,0.9s						
INKA	**Innaminka**	**9.27**	**38**		**Pn**	**21 02 39.9**	**+1.5**
TOO	**Toolangi**	**9.31**	**108**	P	**Pn**	**21 02 39.2**	**+0.3**
	comp=Z,6.4nm,1.5s,comp=Z,0.0nm						
TOO	**Toolangi**	**9.31**	**108**		**Pn**	**21 02 38.4**	**-0.5**
CMSA	**Cobar Meteorol**	**10.20**	**72**	P	**Pn**	**21 02 49.7**	**-1.4**
WRKA	**Warakurna**	**11.42**	**331**	P	**Pn**	**21 03 09.8**	**+2.0**
	comp=Z,5.7nm,1.1s						
ASAR	**Alice Springs**	**11.54**	**358**		**Pn**	**21 03 10.2**	**+0.7**
ASAR	**Alice Springs**	**11.54**	**358**	Pn	**Pn**	**21 03 10.7**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=178,slow=12,SNR=99						
ASAR				Sn	**Sn**	**21 05 12.8**	**-5.7**
	comp=Z,1.8nm,0.3s,baz=184,slow=22,SNR=8.9						
ASAR				Lg	Lg	21 06 25.9	
	comp=Z,2.3nm,0.3s,baz=181,slow=28,SNR=6.3						
	comp=Z,4.3nm,0.4s						
AS31	**Alice Springs**	**11.54**	**358**	Pn	**Pn**	**21 03 10.0**	**+0.5**
YNG	**Young**	**11.62**	**89**	P	**Pn**	**21 03 09.5**	**-1.1**
CAN	**Canberra**	**12.00**	**95**	Pn	**Pn**	**21 03 14.5**	**-1.3**
NWAO	**Narrogin (SRO)**	**14.34**	**274**	Pn	**Pn**	**21 03 47.8**	**0.0**
NWAO	**Narrogin (SRO)**	**14.34**	**274**	Pn	**Pn**	**21 03 48.4**	**+0.6**
	comp=Z,11nm,0.8s,baz=112,slow=9.4,SNR=6.0						
NWAO				Sn	**Sn**	**21 06 20.2**	**-6.7**
	comp=Z,1.5nm,0.3s,baz=264,slow=14,SNR=5.7						
WRA	**Warramunga Arr**	**15.24**	**0**		**Pn**	**21 03 58.9**	**-1.0**
WRA	**Warramunga Arr**	**15.24**	**0**	Pn	**Pn**	**21 03 58.4**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=179,slow=13,SNR=46						
WRA				Sn	**Sn**	**21 06 41.5**	**-7.4**
	comp=Z,1.1nm,0.3s,baz=176,slow=24,SNR=7.2						
WRA				Lg	Lg	21 08 23.2	
	baz=177,slow=28,SNR=4.9						
	comp=Z,5.3nm,0.6s						
WRAB	**Tennant Creek**	**15.25**	**0**		**Pn**	**21 03 60.0**	**-0.1**
WRAB				IAmb	IAmb	21 04 14.5	
	comp=Z,11nm,0.7s						
MORW	**Morawa**	**16.64**	**287**	Pn	**Pn**	**21 04 16.8**	**-1.3**
MORW				IAmb	IAmb	21 04 19.1	
	comp=Z,24nm,1.4s						
CTAO	**Charters Tower**	**18.40**	**38**	P	**P**	**21 04 38.5**	**-1.5**
PSA00	**Pilbara Seismi**	**18.61**	**313**	P	**P**	**21 04 41.9**	**-0.3**
PSA00				IAmb	IAmb	21 04 47.7	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.73**	**333**	P	**P**	**21 04 42.5**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.73**	**

GCAM				Sg	Sb	21 07 29.5	-0.8
GCAM	**G?zelcaml?**	0.37	70	P	Pg	21 07 23.7	+0.1
DDIM	**Aydin, Didim**	0.37	108	P	Pg	21 07 24.0	+0.3
DIDI	**Didim-Aydin**	0.40	119	Pg	Pb	21 07 24.9	-0.3
DIDI				Sg	Sg	21 07 30.3	+0.7
DGB	**zmir**	0.48	8	P	Pg	21 07 25.7	-0.1
GMLD	**Gumuldur**	0.51	10	Pg	Pg	21 07 26.4	+0.1
GMLD				Sg	Sb	21 07 34.0	-0.5
YKAV	**Yalikavak-Bodr**	0.59	139	Pg	Pg	21 07 27.7	0.0
YKAV				Sg	Sb	21 07 36.4	-0.3
ZEYE	**Izmir, Urla-Ze**	0.70	341	P	Pg	21 07 29.8	-0.2
BDRM	**Kayabasi**	0.72	134	P	Pg	21 07 29.8	-0.5
BLCB	**Balcova**	0.83	13	Pg	Pg	21 07 32.4	0.0
BLCB				Sg	Sb	21 07 44.7	+0.9
BLCB	**Balcova**	0.83	13	P	Pg	21 07 32.1	-0.2
BLCB				S	Sb	21 07 43.7	0.0
AYDN	**Tasoluk**	0.86	84	P	Pg	21 07 32.8	-0.1
AYDB	**Zeytinkoy-Aydi**	0.94	66	Pg	Pg	21 07 34.5	+0.1
NISR	**Nisiros**	0.99	165	P	Pg	21 07 35.4	0.0
NISR				S	Sb	21 07 48.6	+0.2
YAZI	**Mula-Dat§a-**	1.03	149	P	Pg	21 07 35.8	-0.3
DAT	**Datca**	1.05	143	Pg	Pg	21 07 36.4	0.0
DAT	**Datca**	1.05	143	P	Pg	21 07 36.0	-0.5
DAT				S	Sn	21 07 51.4	0.0
DATC	**Datca-Mugla**	1.06	139	Pg	Pb	21 07 36.6	+0.1
IZMR	**zmir-demi**	1.07	58	P	Pb	21 07 36.2	-0.5
EAG2	**Marmaro, Chios**	1.11	331	P	Pn	21 07 38.0	+0.5
EAG2				S	Sb	21 07 51.7	-0.1
ODEM	**Odemis-Izmir**	1.23	55	Pn	Pg	21 07 39.8	-0.1
NAZL	**Nazilli-Aydin**	1.25	71	Pn	Pn	21 07 39.2	-0.3
ESEN	**Aydn-Nazilli**	1.25	79	P	Pn	21 07 39.4	0.0
MULA	**Mugla, Merkez-**	1.25	104	P	Pn	21 07 39.8	+0.2
TURN	**Turunc**	1.40	124	Pn	Pb	21 07 42.1	-0.5
TURN	**Turunc**	1.40	124	P	Pn	21 07 42.0	+0.4
KIRA	**zmir-Kiraz**	1.41	63	P	Pn	21 07 41.6	-0.2
THERA	**Ancient Thera,**	1.60	222	P	Pn	21 07 44.0	-0.3
SAP3	**Santorini-Thir**	1.63	226	P	Pn	21 07 45.4	+0.7
SAP3				S	Sb	21 08 06.5	-0.1
MANT	**Manisa**	1.66	56	P	Pg	21 07 48.0	-0.1
SOMA	**Soma-Manisa**	1.68	20	Pn	Pn	21 07 45.9	+0.5
TAVA	**DENIZLI_Tavas**	1.68	93	P	Pn	21 07 46.2	+0.7
GORD	**Gordes-Manisa**	1.72	39	Pn	Pn	21 07 46.4	+0.4
PRK	**Paraskevi**	1.72	346	P	Pn	21 07 45.7	-0.3
ARG	**Arkhangelos**	1.72	141	Pn	Pn	21 07 46.4	+0.4
ARG	**Arkhangelos**	1.72	141	P	Pn	21 07 46.1	+0.1
ARG				S	Sn	21 08 07.7	-0.2
ARG	**Arkhangelos**	1.72	141	P	Pn	21 07 46.0	0.0
ARG				S	Sn	21 08 08.1	+0.3
KULA	**Kula-Manisa**	1.74	57	Pn	Pn	21 07 46.9	+0.5
SIGR	**SIGRI**	1.80	336	Pn	Pn	21 07 47.3	+0.3
SIGR	**SIGRI**	1.80	336	P	Pn	21 07 46.8	-0.2
SIGR				S	Sn	21 08 09.7	+0.1
SIGR	**SIGRI**	1.80	336	P	Pn	21 07 46.8	-0.2
KARY	**Karystos**	1.93	284	P	Pn	21 07 49.8	+1.0
APMY	**Acipayam-Deniz**	1.99	92	Pn	Pn	21 07 50.5	+0.7
KARP	**Karpathos**	2.04	172	P	Pn	21 07 50.0	-0.4
YAYO	**Edremit-Balk**	2.05	6	Pn	Pn	21 07 50.9	+0.5
CAME	**Cameli-Denizli**	2.09	107	Pn	Pn	21 07 51.7	+0.5
MHLO	**Agia Marina, M**	2.11	246	P	Pn	21 07 50.8	-0.5
MHLO				S	Sn	21 08 17.0	-0.4
DION	**Dionisos Attik**	2.33	283	P	Pn	21 07 54.5	+0.3
PTL	**Penteli**	2.37	282	P	Pn	21 07 55.2	+0.3
KYMI	**Kymi, Euboea I**	2.38	297	P	Pn	21 07 55.9	+0.9
VLY	**Voula,Athens**	2.40	278	P	Pn	21 07 55.5	+0.2
NPS	**Neapolis**	2.50	203	P	Pn	21 07 56.2	-0.4
ZKR	**Zakros**	2.50	191	P	Pn	21 07 57.9	+1.2
PARN1	**Fyli,Attica,Gr**	2.53	283	P	Pn	21 07 57.0	-0.1
BASM	**Basmaki-Afyon**	2.60	81	Pn	Pn	21 07 58.9	+0.8
LIA	**Limnos Island**	2.64	332	P	Pn	21 07 58.8	+0.2
LIA	**Limnos Island**	2.64	332	P	Pn	21 07 58.7	0.0
KSL	**Kastellorizon**	2.65	122	P	Pn	21 07 59.3	+0.7
KSL				S	Sn	21 08 30.4	-0.2
STFN	**Stefani**	2.65	284	P	Pn	21 07 59.6	+0.9
IDI	**Anoyia**	2.75	215	P	Pn	21 08 00.4	+0.2
IDI	**Anoyia**	2.75	215	P	Pn	21 08 00.1	-0.1
MET2	**Kameni Chora,**	2.76	272	P	Pn	21 08 01.1	+0.9
VIL2	**Platees**	2.87	284	P	Pn	21 08 00.9	-0.9
SMTH	**Samothraki Isl**	3.06	342	P	Pn	21 08 03.4	-0.9
LTK	**Loutraki**	3.07	280	P	Pn	21 08 04.7	+0.2
ATAL	**Atalanti**	3.18	292	P	Pn	21 08 06.8	+0.8
ALN	**Alexandroupoli**	3.37	350	P	Pn	21 08 08.7	+0.1
ALN	**Alexandroupoli**	3.37	350	P	Pn	21 08 08.5	-0.1
GUR	**Goura**	3.55	277	P	Pn	21 08 11.8	+0.5
RDO	**Rodhopi**	3.70	345	P	Pn	21 08 13.6	+0.5
RDO	**Rodhopi**	3.70	345	P	Pn	21 08 13.4	+0.2
KLV	**Kalavryta, Ach**	3.71	279	P	Pn	21 08 14.6	+1.2
AGG	**Agios Georgios**	3.80	294	P	Pn	21 08 14.3	-0.3
ANX	**Ano Chora**	3.98	286	P	Pn	21 08 18.6	+1.4
TYRN	**Tyrnavos**	4.16	302	P	Pn	21 08 20.6	+1.0

*CNRM **31** 21:11:27.2,35˚.30N×4˚.07W,h18km,ML2.5*
*MDD **31** 21:11:28.1±0.3,35˚.24N×4˚.03W,h0km,mb_Lg2.5/28,*
Error ellipse: s-maj=3.0km s-min=2.3km az=168.0
*INMG **31** 21:11:29.7±1.7,35˚.28N×3˚.97W,h21km±9km,ML2.2, Error ellipse: s-maj=5.3km s-min=3.3km az=97.0,*
#DIST_RANGE: REGIONAL #IPMA_REGION: NW AI Hoceima (MARR)
*SFS **31** 21:11:29.1,35˚.19N×4˚.04W,h18km,mb3.6/5,ML3.3/18, ML3.3/18,MLv3.2/18*

ISC 31 21:11:28.1±1.0,35˚26N±0˚.02×4˚04W±0˚.02,h19km±2km, n121,σ1§06/169,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALE	**Palemas**	0.09	115	P	Pg	21 11 30.6	-1.2
PALE	**Palemas**	0.09	115	S	Sg	21 11 34.3	0.0
PALE	**Palemas**	0.09	115	P	Pg	21 11 31.3	-0.6
PALE	**Palemas**	0.09	115	P	Pg	21 11 31.3	-0.6
PALE	**Palemas**	0.09	115	P	Pg	21 11 31.3	-0.6
PALE	**Palemas**	0.09	115	P	Pg	21 11 31.3	-0.6
AKLM	**AKL**	0.76	169	P	Pb	21 11 41.5	-1.1
AKLM	**AKL**	0.76	169	S	Sb	21 11 51.1	-1.5
AKLM	**AKL**	0.76	169	P	Pb	21 11 42.0	-0.7
AKLM	**AKL**	0.76	169	P	Pb	21 11 42.0	-0.7
AKLM	**AKL**	0.76	169	P	Pb	21 11 42.0	-0.7
AKLM	**AKL**	0.76	169	P	Pb	21 11 42.0	-0.7
GOG	**Mont Gurugu**	0.85	92	P	Pb	21 11 43.9	-0.4
GOG	**Mont Gurugu**	0.85	92	S	Sg	21 11 56.7	+0.5
GOG	**Mont Gurugu**	0.85	92	P	Pb	21 11 44.2	-0.2
GOG	**Mont Gurugu**	0.85	92	P	Pb	21 11 44.2	-0.2
GOG	**Mont Gurugu**	0.85	92	P	Pb	21 11 44.2	-0.2
GOG	**Mont Gurugu**	0.85	92	P	Pb	21 11 44.2	-0.2
EMEL	**Melilla**	0.89	87	Pg	Pb	21 11 45.0	+0.1
EMEL				Sg	Sb	21 11 56.5	+0.2
EMEL				*i* IVmb_Lg		21 12 03.0	
EMLI	**Melilla**	0.89	87	S	Sg	21 11 58.0	+0.7
EMLI				P	Pb	21 11 44.8	-0.1
WMELI	**Melilla**	0.89	86	S	Sn	21 11 58.6	+0.6
WMELI				P	Pb	21 11 44.9	-0.1
EALB	**Alboran**	1.07	50	P	Pb	21 11 47.7	-0.2
EALB				S	Sb	21 12 00.7	-0.8
EALB	**Alboran**	1.07	50	Pg	Pb	21 11 47.7	-0.2
EALB				Sg	Sb	21 12 01.1	-0.4
EALB				*i* IVmb_Lg		21 12 07.0	
CHEFC	**Chefchaouen**	1.08	262	P	Pb	21 11 47.3	-0.8
CHEFC	**Chefchaouen**	1.08	262	S	Sb	21 12 02.2	+0.3
SMIR	**Smir Dam**	1.18	292	P	Pn	21 11 48.6	-0.9
SMIR	**Smir Dam**	1.18	292	P	Pn	21 11 49.0	-0.5
SMIR	**Smir Dam**	1.18	292	P	Pn	21 11 49.0	-0.5
SMIR	**Smir Dam**	1.18	292	P	Pn	21 11 50.0	+0.5
SMIR	**Smir Dam**	1.18	292	P	Pn	21 11 50.0	+0.5
ECEU	**Ceuta**	1.27	301	Sn	Sb	21 12 06.3	-0.9
ECEU				*i* IVmb_Lg		21 12 16.9	
TAF	**Taforalt**	1.40	108	P	Pn	21 11 52.4	-0.3
TAF	**Taforalt**	1.40	108	P	Pn	21 11 52.5	-0.3
TAF	**Taforalt**	1.40	108	P	Pn	21 11 52.5	-0.3
TAF	**Taforalt**	1.40	108	P	Pn	21 11 54.0	+1.2
TAF	**Taforalt**	1.40	108	P	Pn	21 11 54.0	+1.2
JBK	**JBK**	1.52	127	P	Pn	21 11 54.1	-0.4
JBK	**JBK**	1.52	127	S	Sn	21 12 13.5	-0.3
JBK	**JBK**	1.52	127	P	Pn	21 11 55.0	+0.5
JBK	**JBK**	1.52	127	P	Pn	21 11 55.0	+0.5
JBK	**JBK**	1.52	127	P	Pn	21 11 55.0	+0.5
JBK	**JBK**	1.52	127	P	Pn	21 11 55.0	+0.5
EMAL	**Malaga-Limoner**	1.54	348	P	Pn	21 11 55.0	+0.5
EMAL				S	Sn	21 12 13.6	-0.4
SICH	**Sidi Chahed**	1.56	223	P	Pn	21 11 54.9	+0.1
SICH	**Sidi Chahed**	1.56	223	S	Sn	21 12 14.9	+0.4
ELGU	**Los Guajares,**	1.64	12	Pn	Pn	21 11 55.7	-0.3
ELGU				Sn	Sn	21 12 15.0	-1.7
ELGU				*i* IVmb_Lg		21 12 20.2	
EJIF	**Jimena Fronter**	1.67	316	Pn	Pn	21 11 57.3	+1.0
EJIF				Sn	Sb	21 12 18.9	+0.1
LCRM	**LCR**	1.71	204	P	Pn	21 11 58.2	+1.2
LCRM	**LCR**	1.71	204	S	Sb	21 12 22.0	+1.9
LCRM	**LCR**	1.71	204	P	Pb	21 11 60.0	+1.1
LCRM	**LCR**	1.71	204	P	Pb	21 11 60.0	+1.1
LCRM	**LCR**	1.71	204	P	Pb	21 11 60.0	+1.1
LCRM	**LCR**	1.71	204	S	Sg	21 12 24.0	+0.8
LCRM	**LCR**	1.71	204	P	Pb	21 11 60.0	+1.1
LCRM	**LCR**	1.71	204	S	Sg	21 12 24.0	+0.8
EGOR	**Sierra Gorda,**	1.85	358	P	Pn	21 11 59.8	+0.8
EGOR				S	Sb	21 12 24.8	+0.5
EGOR	**Sierra Gorda,**	1.85	358	Pn	Pn	21 11 59.9	+0.9
EGOR				Sn	Sb	21 12 23.8	-0.5
EGOR				*i* IVmb_Lg		21 12 33.2	
EBER	**Berja**	1.89	29	P	Pn	21 12 00.1	+0.6
EQUE	**Quentar**	2.01	14	Pn	Pn	21 12 02.9	+1.9
EQUE				Sn	Sn	21 12 26.7	+1.1
EQUE				*i* IVmb_Lg		21 12 30.7	
ESPR	**Espera**	2.18	318	P	Pb	21 12 06.7	-0.3
ESPR				S	Sb	21 12 33.0	-0.6
ESPR	**Espera**	2.18	318	Pn	Pn	21 12 05.0	+1.6
ESPR				Sn	Sb	21 12 32.8	-0.8
ESPR				*i* IVmb_Lg		21 12 44.1	
ENIJ	**Nijar**	2.27	40	P	Pn	21 12 04.8	+0.3
ENIJ	**Nijar**	2.27	40	Pn	Pn	21 12 05.4	+0.8
ENIJ				Sn	Sn	21 12 31.1	-0.9
ENIJ				*i* IVmb_Lg		21 12 33.3	
CZD	**Col de Zad**	2.37	201	P	Pn	21 12 05.7	-0.5
MD31	**MD31**	2.46	194	P	Pn	21 12 07.3	+0.1
MDT	**Midelt**	2.48	191	P	Pn	21 12 08.2	+0.6
MDT	**Midelt**	2.48	191	P	Pn	21 12 08.2	+0.6
MDT	**Midelt**	2.48	191	P	Pn	21 12 08.2	+0.6
E0803	**Jimena (Jaen)**	2.62	10	Pn	Pn	21 12 10.7	+1.3
E0803				Sn	Sn	21 12 42.5	+1.8
EQES	**Quesada**	2.66	17	Pn	Pn	21 12 12.8	+2.7
EQES				Sn	Sn	21 12 43.9	+2.1
EQES				*i* IVmb_Lg		21 12 46.9	
ZHG	**ZHG**	2.81	231	P	Pn	21 12 12.5	+0.4
E0802	**Ubeda,Jaen**	2.82	11	Sn	Sn	21 12 46.8	+1.2
EADA	**Adamuz**	2.94	352	P	Pn	21 12 15.0	+1.2
EADA				S	Sn	21 12 47.8	-0.8
EADA	**Adamuz**	2.94	352	Pn	Pn	21 12 15.4	+1.5
EADA				Sn	Sn	21 12 50.6	+2.0
EADA				*i* IVmb_Lg		21 13 02.0	
ECAB	**El Cabril**	3.03	339	P	Pn	21 12 15.7	+0.9
ECAB				S	Sn	21 12 50.7	-0.1
ECAB	**El Cabril**	3.03	339	Pn	Pn	21 12 15.9	+0.9
ECAB				Sn	Sn	21 12 51.4	+0.7
ECAB				*i* IVmb_Lg		21 13 01.8	
EMIN	**Mina Concepcio**	3.28	321	P	Pn	21 12 20.3	+1.8
EMIN				S	Sn	21 12 55.7	-1.4
EMIN	**Mina Concepcio**	3.28	321	Pn	Pn	21 12 18.8	+0.3
EMIN				Sn	Sn	21 12 59.5	+2.5
EMIN				*i* IVmb_Lg		21 13 04.1	
CART	**Cartagena**	3.38	46	P	Pn	21 12 19.1	-0.7
AVE	**Averroes**	3.41	236	P	Pn	21 12 19.7	-0.5
EMUR	**La Murta**	3.43	40	P	Pn	21 12 21.6	+1.1
EMUR	**La Murta**	3.43	40	Pn	Pn	21 12 21.2	+0.7
EMUR				Sn	Sn	21 12 59.2	-1.5
EMUR				*i* IVmb_Lg		21 13 01.4	
PSIM	**Granatula de C**	3.57	4	Pn	Pn	21 12 23.9	+1.5
PSIM				Sn	Sn	21 13 04.3	+0.2
EGRO	**El Granado**	3.59	310	P	Pn	21 12 23.6	+0.9
EGRO				S	Sn	21 13 01.7	-2.9
EGRO	**El Granado**	3.59	310	Pn	Pn	21 12 23.0	+0.2
EGRO				Sn	Sn	21 13 03.6	-1.0
EGRO				*i* IVmb_Lg		21 13 11.7	
PBDV	**Barranco-do-Ve**	3.72	303	*e*P	Pn	21 12 25.4	+0.9
PBDV				*e*S	Sn	21 13 07.2	-0.6
PBDV				*i* IAML		21 13 11.7	
PBDV				*i* IAML		21 13 11.9	
PBDV				*i* IAML		21 13 14.6	
PBAR	**Barrancos**	3.78	321	P	Pn	21 12 25.5	+0.1
PBAR				S	Sn	21 13 07.5	-1.8
PBAR	**Barrancos**	3.78	321	*e*P	Pn	21 12 25.7	+0.3
PBAR				*e*S	Sn	21 13 08.7	-0.6
PBAR				*i* IAML		21 13 14.2	
PBAR				*i* IAML		21 13 18.6	
PBAR				*i* IAML		21 13 18.7	
PCVE	**Castro Verde**	4.00	308	S	Sn	21 13 12.9	-1.9
PCVE				P	Pn	21 13 14.0	+0.8
PCVE	**Castro Verde**	4.00	308	*e*P	Pn	21 12 28.7	+0.3
PCVE				*e*S	Sn	21 13 13.5	-1.3
PCVE				*i* IAML		21 13 17.3	
PCVE				*i* IAML		21 13 18.0	
PCVE				*i* IAML		21 13 19.1	
TISM	**Timmit**	4.05	210	P	Pn	21 12 28.6	-0.5
EBAD	**Badajoz**	4.23	327	P	Pn	21 12 32.0	+0.5
EBAD				S	Sn	21 13 18.8	-1.5
EBAD	**Badajoz**	4.23	327	Pn	Pn	21 12 32.2	+0.7
EBAD				Sn	Sn	21 13 19.9	-0.5
EBAD				*i* IVmb_Lg		21 13 25.8	
MESJ	**Messejana**	4.24	309	*e*P	Pn	21 12 33.0	+1.3
MESJ				*e*S	Sn	21 13 20.3	-0.4
MESJ				*i* IAML		21 13 21.6	
MESJ				*i* IAML		21 13 21.7	
MESJ				*i* IAML		21 13 21.9	
MORF	**Marmelete**	4.25	300	*e*P	Pn	21 12 33.7	+1.9
MORF				*e*S	Sn	21 13 20.2	-0.8
MORF				*i* IAML		21 13 25.0	
MORF				*i* IAML		21 13 27.5	
MORF				*i* IAML		21 13 30.3	
PAB	**San Pablo**	4.29	357	Pn	Pn	21 12 34.0	+1.6
PAB				Sn	Sn	21 13 22.3	+0.3
PAB				*i* IVmb_Lg		21 13 35.5	
ESDC	**Sonseca Array**	4.41	1	Pn	Pn	21 12 34.6	+0.5
ESDC				*i* IVmb_Lg		21 13 25.8	
ESDC				Sn	Sn	21 13 26.4	+1.4
ESBB	**Sonseca Array**	4.41	1	Pn	Pn	21 12 35.1	+1.0
ESBB				Sn	Sn	21 13 25.6	+0.6
PTEO	**Sao Teotonio**	4.42	303	*e*P	Pn	21 12 35.0	+1.0
PTEO				*e*S	Sn	21 13 25.0	0.0
PTEO				*i* IAML		21 13 29.9	
PTEO				*i* IAML		21 13 34.4	
PTEO				*i* IAML		21 13 35.8	
EVO	**Evora**	4.56	317	P	Pn	21 12 37.3	+0.7
EVO	**Evora**	4.56	317	*e*S	Sn	21 13 27.7	-0.9
PESTR	**Estremoz**	4.59	323	P	Pn	21 12 36.5	+0.1
PESTR	**Estremoz**	4.59	323	*e*P	Pn	21 12 37.6	+1.2
PESTR				*e*S	Sn	21 13 28.7	-0.6
PESTR				*i* IAML		21 13 44.0	
PESTR				*i* IAML		21 13 48.3	
PESTR				*i* IAML		21 13 50.5	
OUZM	**OUZ**	4.90	209	P	Pn	21 12 42.2	+1.4
PMRV	**Marv??o**	4.95	328	*e*P	Pn	21 12 42.2	+0.8
ECHE	**Chera**	4.97	29	P	Pn	21 12 42.6	+0.8
ECHE	**Chera**	4.97	29	Pn	Pn	21 12 43.1	+1.4
ECHE				Sn	Sn	21 13 37.7	-1.0
PMTG	**Montargil**	5.07	320	*e*P	Pn	21 12 44.7	+1.7
PMTG				*e*S	Sn	21 13 41.2	+0.2
EPLA	**Plasencia**	5.07	342	Pn	Pn	21 12 44.3	+1.2
EPLA				Sn	Sn	21 13 41.3	+0.2
TIO	**Tiouine**	5.09	213	P	Pn	21 12 43.5	0.0
TIO	**Tiouine**	5.09	213	P	Pn	21 12 43.0	+0.5
PCBR	**Castelo Branco**	5.33	330	*e*P	Pn	21 12 48.0	+1.4
PARRA	**Arraiolos**	5.35	313	*e*P	Pn	21 12 39.8	-7.2
PARRA				*e*S	Sn	21 13 32.4	-16
PARRA				*i* IAML		21 13 33.6	
PARRA				*i* IAML		21 13 35.3	
PARRA				*i* IAML		21 13 36.6	
GUD	**Guadarrama**	5.38	359	Pn	Pn	21 12 48.2	+0.8
GUD				Sn	Sn	21 13 46.6	-2.3
PSARD	**Sardoal**	5.44	324	*e*P	Pn	21 12 49.1	+0.9
PSARD				*e*S	Sn	21 13 48.8	-1.4
PSARD				*i* IAML		21 13 52.9	
PSARD				*i* IAML		21 13 55.0	
PSARD				*i* IAML		21 14 01.6	
EIBI	**Ibiza**	5.71	47	S	Sn	21 13 57.1	+0.1
EIBI				P	Pn	21 12 51.6	-0.4
EIBI	**Ibiza**	5.71	47	Pn	Pn	21 12 51.4	-0.5
EIBI				Sn	Sn	21 13 56.3	-0.7
ETOR	**Torete**	5.77	15	Pn	Pn	21 12 54.2	+1.4
ETOR				Sn	Sn	21 13 56.9	-1.6
ECAL	**Calabor**	7.00	343	P	Pn	21 13 10.1	+0.4
ETOS	**Mallorca**	7.07	48	P	Pn	21 13 11.6	+1.1
EALK	**Alkurruntz**	8.19	13	Pn	Pn	21 13 27.7	+1.7
EALK				Sn	Sn	21 14 54.2	-3.8

AUST 31 21:20:54.1±0.3,18˚S±4˚×12˚0E±˚,h10km,mb4.3/8, ML3.0/7,ML3.8/2,Error ellipse: s-maj=10.5km s-min=6.9km az=114.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAAN	**Eighty Mile Be**	1.58	133	P	Pg	21 21 25.5	+0.9
CAAN				S	Sg	21 21 46.4	+1.2
AUBRM	**Broome Senior**	1.87	83	P	Pg	21 21 29.5	-0.6
AUBRM				S	Sg	21 21 53.4	-1.0
MBWA	**Marble Bar**	3.00	190	P	Pn	21 21 44.0	+2.2
MBWA				S	Sn	21 22 17.3	-0.5
PSA00	**Pilbara Seismi**	3.39	187	P	Pn	21 21 49.2	+2.1
PSA00				S	Sn	21 22 27.0	-0.5
FITZ	**Fitzroy Crossi**	5.10	90	P	Pn	21 22 11.0	+0.3
	comp=Z,0.0nmcomp=Z,10µmcomp=Z,1.8nm,0.9s						
FITZ	**Fitzroy Crossi**	5.10	90	S	Sn	21 23 05.2	-4.4
GIRL	**Giralia**	7.19	231	P	Pn	21 22 42.1	+2.7
	comp=Z,182µmcomp=Z,39nm,1.3s,comp=Z,0.1nm						
GIRL				S	Sn	21 23 56.3	-5.0
KNRA	**Kununurra**	8.49	74	P	Pn	21 22 57.3	0.0
	comp=Z,0.0nmcomp=Z,3.3nm,1.5s						
KNRA				S	Sn	21 24 27.2	-6.2
MEEK	**Meekatharra**	8.55	190	P	Pn	21 22 59.3	+1.2
MEEK	**Meekatharra**	8.55	190	S	Sn	21 24 29.4	-5.2
EDFI	**Ende, Flores**	9.48	8	P	Pn	21 23 10.9	-0.1
	comp=Z,8.6nm,1.6s,comp=Z,0.0nm						
PLAI	**Plampang**	9.62	345	P	Pn	21 23 12.0	-0.8
	comp=Z,23nm,1.1s,comp=Z,0.1nm						
WRKA	**Warakurna**	10.10	134	P	Pn	21 23 20.2	+0.8
MORW	**Morawa**	11.50	199	P	Pn	21 23 37.0	-1.5
	comp=Z,21nm,1.6s						
BLDU	**Ballidu**	12.79	194	P	Pn	21 23 55.1	-1.0
KLBR	**Kellerberrin**	13.54	189	P	Pn	21 24 06.1	-0.2
	comp=Z,27nm,1.3s						
MUN	**Mundaring**	14.21	194	P	Pn	21 24 14.9	-0.7
	comp=Z,24nm,1.5s						
NWAO	**Narrogin (SRO)**	14.93	190	P	Pn	21 24 23.1	-2.2

*SOME **31** 21:58:13.6,41˚.85N×79˚.72E,h10km*
*NNC **31** 21:58:14.8±0.8,41˚.92N×79˚.65E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=5.6km s-min=3.1km az=144.0
*KRNET **31** 21:58:15.7±0.1,41˚.92N×79˚.64E,mb3.5*

ISC 31 21:58:17.8±1.7,42˚03N±0˚.06×79˚65E±0˚.06,h10km,n46, σ1§57/75,16C-18D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	1.03	297	⇓*i*P	Pg	21 58 36.4	-1.3
PRZ				⇓*i*S	Sg	21 58 51.4	+0.3
SHLS	**Shalkode**	1.14	353	P	Pb	21 58 38.1	-1.5
	87nm,0.1s						
SHLS				S	Sn	21 58 55.6	-0.1
	163nm,0.2s						
SHLS	**Shalkode**	1.14	353	*e*P	Pb	21 58 38.1	-1.5
	87nm,0.1s						
SHLS				*e*S	Sn	21 58 55.6	-0.1
	163n

KBK				⇑iS		Sn	21 59 56.4	+1.4
CHMS	**Chumysh**	**3.75**	**287**	⇓iP		Pn	21 59 16.8	+1.1
CHMS				⇓iS		Sn	22 00 01.4	+1.5
FRU1	**Bishkek**	**3.79**	**284**	⇓iP		Pn	21 59 17.7	+1.3
FRU1				⇓iS		Sn	22 00 02.9	+1.8
UCH	**Uchtor**	**3.82**	**275**	⇓iP		Pn	21 59 17.8	+0.7
UCH				⇓iS		Sn	22 00 03.3	+0.9
AAK	**Ala-Archa**	**3.87**	**281**	⇓Pg		Pb	21 59 25.5	-0.7
	1.8nm,0.5s							
AAK				⇑Lg		Lg	22 00 18.3	
	3.7nm,0.6s							
AAK	**Ala-Archa**	**3.87**	**281**	⇓iP		Pn	21 59 18.5	+1.0
AAK				⇓iS		Sn	22 00 04.3	+1.2
USP	**Ospenovka**	**3.99**	**290**	⇓iP		Pn	21 59 20.4	+1.3
USP				⇓iS		Sn	22 00 07.5	+1.5
EKS2	**Erkin-Say**	**4.40**	**280**	⇑iP		Pn	21 59 25.7	+1.0
EKS2				⇑iS		Sn	22 00 16.8	+0.8
SALK	**Salom-Alik**	**4.53**	**257**	⇑iP		Pn	21 59 27.0	+0.5
SALK				⇑iS		Sn	22 00 19.0	-0.3
MRKS	**Merke**	**4.81**	**281**	Pg		Pb	21 59 42.9	+0.7
	1.4nm,0.2s							
MRKS				Lg		Lg	22 00 47.2	
	12nm,0.5s							
MRKS	**Merke**	**4.81**	**281**	*e*P		**Pb**	**21 59 42.9**	**+0.7**
	1.4nm,0.2s							
MRKS				*e*S		**Sg**	**22 00 47.2**	**-5.0**
	12nm,0.5s							
MAKZ	**Makanchi**	**5.06**	**18**	Pn		**Pn**	**21 59 34.1**	**+0.3**
	0.6nm,0.7s							
MAKZ				Sn		**Sn**	**22 00 35.7**	**+3.4**
	1.8nm,0.6s							
MAKZ				Lg		Lg	22 00 54.0	
	1.5nm,0.4s							
BTLS	**Baital**	**5.06**	**308**	Pg		**Pb**	**21 59 48.1**	**+1.6**
	0.9nm,0.2s							
BTLS				Lg		Lg	22 00 56.2	
	6.3nm,0.4s							
BTLS	**Baital**	**5.06**	**308**	*e*P		**Pb**	**21 59 48.1**	**+1.6**
	0.9nm,0.2s							
BTLS				*e*S		**Sg**	**22 00 56.2**	**-4.1**
	6.3nm,0.4s							
MK31	**Makanchi Array**	**5.13**	**21**	Pn		**Pn**	**21 59 34.5**	**-0.1**
	0.3nm,0.3s,baz=195,slow=13,SNR=60							
MK31				⇑Sn		**Sn**	**22 00 36.4**	**+2.5**
	1.0nm,0.3s							
MK31				⇓Lg		Lg	22 00 56.8	
	2.1nm,0.5s							
KK31	**Karatay Array**	**6.83**	**282**	⇓Pg		Pg	22 00 22.8	-5.7
	1.0nm,0.6s,baz=88,slow=17,SNR=7.0							
KK31				⇑Lg		Lg	22 01 52.3	
	0.8nm,0.3s,baz=94,slow=27,SNR=4.8							

*IDC **31** 22:05:45.7±2.1,38.°66N×68.°52E, h0km, mb3.8/5, mbtmp3.7/10, ML3.5/4, MS3.5/1, Error ellipse: s-maj=35.6km s-min=15.1km az=155.0*
*NNC **31** 22:05:55.4±4.3, 39.°39N×68.°01E, h12km±15km, mb3.7, mpv3.3, Error ellipse: s-maj=33.0km s-min=14.5km az=4.0*
ISC 31 22:05:50.7±1.5, 39.°2N±0.°1×68.°18E±0.°08, h10km, n18, σ1s60/21, mb3.6/4, 3C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.30**	**23**	⇓Pn	**Pn**	**22 06 58.2**	**+1.9**
	1.3nm,0.4s,baz=206,slow=15,SNR=32						
KK31				⇑Pg	**Pg**	**22 07 10.5**	**-2.6**
	2.9nm,0.3s,baz=154,slow=8.6,SNR=14						
KK31				⇓Lg	Lg	22 08 10.1	
	25nm,0.6s,baz=205,slow=28,SNR=5.5						
AAK	**Ala-Archa**	**5.91**	**52**	Pn	**Pn**	**22 07 18.6**	**+0.2**
	0.8nm,0.3s,baz=232,slow=3.2,SNR=4.0						
AAK				Sn	**Sn**	**22 08 25.7**	**-0.4**
	0.8nm,0.3s,baz=202,slow=17,SNR=1.8						
AAK				Lg	Lg	22 09 05.0	
	1.8nm,0.3s,baz=198,slow=20,SNR=2.5						
	1.9nm,0.3s						
AAK	**Ala-Archa**	**5.91**	**52**	⇑Pn	Pn	22 07 24.2	+5.8
	3.6nm,0.8s						
AAK				⇓Sn	**Sn**	**22 08 30.4**	**+4.3**
	5.1nm,0.8s						
AAK				⇓Lg	Lg	22 09 01.5	
	12nm,0.9s						
AB31	**Akbulak array**	**11.68**	**332**	⇓Pn	**Pn**	**22 08 39.0**	**+1.8**
	0.5nm,0.3s,baz=166,slow=13,SNR=58						
AB31				⇓Sn	**Sn**	**22 10 47.6**	**0.0**
	1.6nm,0.5s,baz=158,slow=24,SNR=5.2						
MKAR	**Makanchi Array**	**12.82**	**49**	Pn	**Pn**	**22 08 51.7**	**-1.3**
	0.1nm,0.3s,baz=238,slow=13,SNR=2.4						
AKTO	**Aktyubinsk**	**13.36**	**331**	Pn	**Pn**	**22 09 02.2**	**+1.9**
	0.4nm,0.3s,baz=149,slow=13,SNR=5.6						
	1.3nm,0.5s						
AKTO	**Aktyubinsk**	**13.36**	**331**	⇑Pn	**Pn**	**22 09 00.5**	**+0.2**
	1.6nm,0.8s						
AKTO				⇓Sn	**Sn**	**22 11 28.0**	**-0.7**
	3.8nm,1.1s						
KURBB	**Kurchatov Arra**	**13.58**	**29**	Pn	**Pn**	**22 09 02.9**	**-0.4**
	baz=217,slow=12,SNR=1.7						
BVAR	**Borovoye Array**	**13.94**	**6**	Pn	**Pn**	**22 09 08.2**	**0.0**
	0.2nm,0.5s,baz=321,slow=26,SNR=1.5						
ARTI	**Arti**	**18.41**	**343**	P	**Pn**	**22 10 07.8**	**+2.0**
	0.2nm,0.3s,baz=180,slow=12,SNR=3.4						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**18.62**	**32**	P	**P**	**22 10 07.0**	**-1.1**
	0.3nm,0.3s,baz=219,slow=11,SNR=5.1						
	0.7nm,0.4s						
KVAR	**Kislovodsk Arr**	**19.63**	**292**	LR	LR	22 19 24.8	
	comp=Z,138nm,20.6s,baz=95,slow=41						
FINES	**FINESS Array B**	**34.02**	**325**	P	**P**	**22 12 35.1**	**+0.7**
	3.4nm,1.2s,baz=127,slow=8.2,SNR=3.5						
	3.4nm,1.2s						
ARCES	**ARCESS Array B**	**37.82**	**337**	P	**P**	**22 13 07.2**	**+0.3**
	0.9nm,0.9s,baz=96,slow=8.3,SNR=1.4						
	0.9nm,0.9s						
HFS	**Hagfors**	**39.59**	**320**	P	**P**	**22 13 22.5**	**+0.6**
	1.0nm,0.5s,baz=108,slow=9.3,SNR=11						
	1.0nm,0.5s						
NB2	**NORSAR Subarra**	**40.91**	**321**	P	**P**	**22 13 33.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**40.91**	**321**	P	**P**	**22 13 33.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=97,slow=8.3,SNR=4.0						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**63.62**	**266**	P	**P**	**22 16 20.9**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=52,slow=6.0,SNR=6.3						
	comp=Z,0.7nm,0.6s						

*GCG **31** 22:39:17.5±1.8, 15.°98N×90.°14W, h3km±7km, MD4.3, ML4.0, MW3.5*
*CATAC **31** 22:39:18.2±0.3, 16.°N±2.°×9.°0W±.°, h1km±2km, M3.9/12, MLv3.9/12, Error ellipse: s-maj=3.4km s-min=3.3km az=96.3, confirmed*
ISC 31 22:39:17.9±1.8, 16.°03N±0.°03×90.°16W±0.°04, h14km±14km, n28, σ1s02/36, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVCB	**Coban**	**0.61**	**203**	*i* S	**Sb**	**22 39 36.0**	**-2.8**
AVCB				IAML		22 39 47.4	
	comp=N,18μm,0.5s						
PETF	**Flores**	**0.92**	**18**	*i* P	**Pb**	**22 39 35.2**	**-0.4**
PETF				*i* S	**Sn**	**22 39 49.0**	**-0.5**
PETF				IAML		22 39 56.8	
	comp=E,4μm,0.7s						
PETF	**Flores**	**0.92**	**18**	P	**Pb**	**22 39 35.3**	**-0.4**
PETF	**Flores**	**0.92**	**18**	S	**Sn**	**22 39 50.5**	**+1.0**
QUIS	**Sacapulas**	**1.16**	**231**	*i* P	**Pn**	**22 39 38.6**	**-1.2**
QUIS				*i* S	**Sn**	**22 39 55.7**	**+0.1**
QUIS				IAML		22 39 58.1	
	comp=N,5μm,0.5s						
HUEH	**Huehuetenango**	**1.47**	**241**	*i* P	**Pn**	**22 39 44.6**	**+0.4**
HUEH				*i* S	**Sg**	**22 40 06.2**	**+0.7**
HUEH				IAML		22 40 08.0	
	comp=E,3μm,0.5s						
HUEH	**Huehuetenango**	**1.47**	**241**	S	**Sg**	**22 40 05.8**	**+0.4**
HUEH	**Huehuetenango**	**1.47**	**241**	P	**Pb**	**22 39 45.0**	**-0.2**
ESQI	**Esquipulas**	**1.67**	**151**	P	**Pn**	**22 39 47.4**	**+0.6**
ESQI	**Esquipulas**	**1.67**	**151**	S	**Sb**	**22 40 09.3**	**0.0**
SOKI	**Kika Raxquin**	**1.70**	**225**	*i* P	**Pn**	**22 39 47.9**	**+0.5**
SOKI				*i* S	**Sg**	**22 40 12.5**	**-0.2**
QUEO	**Labor Ovalle**	**1.74**	**229**	*i* P	**Pb**	**22 39 49.6**	**-0.2**
QUEO				IAML		22 40 23.4	
	comp=N,2μm,0.5s						
ESSG	**Sabana Grande**	**1.76**	**202**	*i* P	**Pn**	**22 39 49.1**	**+1.0**
ESSG				*i* S	**Sb**	**22 40 12.4**	**+0.4**
ESSG				IAML		22 40 15.2	
	comp=N,1μm,0.4s						
FG16	**Alotenango, Sa**	**1.78**	**191**	*i* P	**Pn**	**22 39 47.5**	**-0.9**
FG16				IAML		22 40 16.5	
	comp=N,4μm,0.3s						
MTO3	**Montecristo**	**1.80**	**154**	*i* P	**Pn**	**22 39 48.0**	**-0.7**
MTO3	**Montecristo**	**1.80**	**154**	P	**Pn**	**22 39 49.2**	**+0.5**
MTO3	**Montecristo**	**1.80**	**154**	S	**Sb**	**22 40 13.9**	**+0.6**
SARH	**Santa Rosa de**	**1.84**	**133**	*i* P	**Pn**	**22 39 49.3**	**+0.2**
SARH				*i* S	**Sb**	**22 40 13.5**	**-0.9**
SARH	**Santa Rosa de**	**1.84**	**133**	P	**Pn**	**22 39 49.6**	**+0.4**
SARH	**Santa Rosa de**	**1.84**	**133**	S	**Sb**	**22 40 14.3**	**-0.1**
CCIG	**Comitan**	**1.91**	**278**	*i* P	**Pb**	**22 39 52.5**	**-0.1**
CCIG				*i* S	**Sg**	**22 40 19.9**	**+0.4**
CCIG				IAML		22 40 26.5	
	comp=N,542nm,0.5s						
CCIG	**Comitan**	**1.91**	**278**	P	**Pb**	**22 39 52.6**	**-0.1**
SLOZ	**Alcaldia de Sa**	**2.03**	**170**	P	**Pn**	**22 39 53.3**	**+1.6**
NUBE	**Las Nubes**	**2.15**	**170**	*i* P	**Pn**	**22 39 55.2**	**+1.8**
NUBE				*i* S	**Sb**	**22 40 25.2**	**+1.9**
NUBE	**Las Nubes**	**2.15**	**170**	P	**Pn**	**22 39 55.3**	**+1.8**
PMON	**Piamonte**	**2.45**	**160**	P	**Pb**	**22 40 00.5**	**-1.2**
JAYA	**Jayaque - finc**	**2.46**	**164**	P	**Pb**	**22 40 00.7**	**-1.4**
SCIG	**Sabancuy**	**3.08**	**342**	P	**Pn**	**22 40 05.8**	**-0.2**

*NEIC **31** 22:50:15.2±1.9, 38.°16N±0.°07×74.°06E±0.°08, h185km±11km, mb4.0/3, Error ellipse: s-maj=11.3km s-min=7.7km az=153.0*
*NNC **31** 22:50:15.2±11.0, 38.°00N×73.°29E, h80km±209km, mb3.3, mpv3.5, Error ellipse: s-maj=82.5km s-min=70.0km az=169.0*
*IDC **31** 22:50:15.9±4.9, 38.°19N×73.°89E, h173km±38km, mb3.1/4, mbtmp3.8/9, Error ellipse: s-maj=48.5km s-min=40.6km az=136.0*
ISC 31 22:50:12.6±0.7, 38.°03N±0.°05×74.°09E±0.°07, h152km, n44, σ2s08/53, mb3.5/4, 2C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**3.11**	**289**	Pn	**Pn**	**22 51 04.5**	**+3.0**
GAR				Sn	**Sn**	**22 51 41.5**	**+2.0**
ARSB	**Arslanbob**	**3.40**	**346**		**Pn**	**22 51 07.7**	**+2.4**
ARSB				Sn	**Sn**	**22 51 45.9**	**-0.3**
CHGR	**Chuyangaron**	**3.92**	**281**		**Pn**	**22 51 14.6**	**+2.6**
SIMJ	**Simiganj**	**4.04**	**281**		**Pn**	**22 51 15.9**	**+2.4**
UCH	**Uchtor**	**4.21**	**4**	P	**Pn**	**22 51 18.3**	**+2.2**
	SNR=75						
NIL	**Nilore**	**4.42**	**189**		Pn	22 51 24.2	+5.7
AAK	**Ala-Archa**	**4.62**	**4**	P	**Pn**	**22 51 23.7**	**+2.6**
	7.6nm,0.3s,baz=159,slow=7.8,SNR=14						
AAK				S	**Sn**	**22 52 15.6**	**+1.1**
	16nm,0.8s,baz=151,slow=24,SNR=8.4						
AAK	**Ala-Archa**	**4.62**	**4**	P	**Pn**	**22 51 23.8**	**+2.7**
	SNR=9.0						
AAK	**Ala-Archa**	**4.62**	**4**	⇓P	**Pn**	**22 51 23.2**	**+2.1**
	0.8nm,0.3s						
AAK				⇑S	**Sn**	**22 52 15.8**	**+1.3**
	12nm,0.9s						
EKS2	**Erkin-Say**	**4.64**	**357**	P	**Pn**	**22 51 24.0**	**+2.6**
	SNR=8.7						
KBK	**Karagaybulak**	**4.67**	**8**	P	**Pn**	**22 51 24.0**	**+2.2**
	SNR=16						
TARG	**Taragay, Kyrgy**	**4.68**	**37**		**Pn**	**22 51 23.3**	**+1.2**
KDJ	**Kajisay**	**4.74**	**29**	Pn	**Pn**	**22 51 24.6**	**+1.9**
FRU1	**Bishkek**	**4.80**	**5**	Pn	**Pn**	**22 51 24.6**	**+1.2**
CHMS	**Chumysh**	**4.99**	**6**	P	**Pn**	**22 51 28.4**	**+2.4**
	SNR=28						
TKM2	**Tokmak 2**	**5.03**	**13**	P	**Pn**	**22 51 28.6**	**+2.1**
	SNR=12						
USP	**Ospenovka**	**5.25**	**3**	P	**Pn**	**22 51 31.3**	**+2.0**
	SNR=8.8						
JMU	**Jammu**	**5.34**	**173**	*e*P	**Pn**	**22 51 31.6**	**+1.1**
JMU				*e*S	**Sn**	**22 52 29.2**	**-2.2**
JMU				IAML		22 52 37.0	
	comp=N,143nm,0.4s						
JMU				IAML		22 52 37.6	
	comp=E,200nm,0.5s						
KBL	**Kabul**	**5.35**	**231**		**Pn**	**22 51 35.2**	**+4.2**
PRZ	**Przheval'sk**	**5.54**	**35**	Pn	**Pn**	**22 51 35.2**	**+1.8**
KK31	**Karatay Array**	**5.76**	**333**	Pn	**Pn**	**22 51 37.9**	**+1.8**
KK31	**Karatay Array**	**5.76**	**333**	⇓P	**Pn**	**22 51 37.7**	**+1.6**
	comp=E,7.2nm,0.3s,baz=172,slow=16,SNR=440						
KK31				⇓S	**Sn**	**22 52 39.6**	**-1.7**
	comp=E,23nm,0.4s,baz=161,slow=25,SNR=18						
KKAR	**Karatay Array**	**5.76**	**333**		**Pn**	**22 51 37.9**	**+1.8**
DHRM	**DHARAMSHALA**	**6.04**	**162**	*e*P	**Pn**	**22 51 40.9**	**+0.8**
DHRM				*e*S	**Sn**	**22 52 47.3**	**-1.2**
DHRM				IAML		22 52 52.6	
	comp=N,287nm,0.0s						
DHRM				IAML		22 52 52.7	
	comp=E,226nm,0.4s						
BHK	**Bhakra**	**6.87**	**163**	*e*S	**Sn**	**22 53 09.4**	**+1.4**
BHK				IAML		22 53 10.1	
	comp=E,76nm,0.6s						
BHK				IAML		22 53 10.7	
	comp=N,64nm,0.5s						
KLP	**Kalpa**	**7.33**	**151**	*e*S	**Sn**	**22 53 16.1**	**-3.4**
KLP				IAML		22 53 24.9	
	comp=N,60nm,0.4s						
SMLA	**Simla**	**7.33**	**159**	*e*P	**Pn**	**22 51 58.1**	**+0.9**
SMLA				*e*S	**Sn**	**22 53 16.5**	**-2.7**
SMLA				IAML		22 53 20.0	
	comp=N,127nm,0.4s						
SMLA				IAML		22 53 21.7	
	comp=E,118nm,0.6s						
MKAR	**Makanchi Array**	**10.65**	**32**	Pn	**Pn**	**22 52 41.3**	**+0.2**
MKAR	**Makanchi Array**	**10.65**	**32**	P	**Pn**	**22 52 42.1**	**+1.0**
	comp=E,2.7nm,0.7s,baz=216,slow=15,SNR=24						
KURBB	**Kurchatov Arra**	**12.99**	**13**	P	**Pn**	**22 53 13.8**	**+2.4**
	comp=E,1.2nm,0.3s,baz=199,slow=11,SNR=5.7						
EVN	**Everest**	**14.64**	**130**	Pn	**Pn**	**22 53 33.9**	**+0.7**
AB31	**Akbulak array**	**15.16**	**322**		**Pn**	**22 53 38.3**	**-0.5**
AB31				IAmb	IAmb	22 53 41.4	
	comp=Z,1.8nm,0.5s						
AB31	**Akbulak array**	**15.16**	**322**	⇓P	**Pn**	**22 53 38.9**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=130,slow=11,SNR=35						
AB31				⇓S	**Sn**	**22 56 20.8**	**-6.5**
	comp=Z,0.3nm,0.3s,baz=142,slow=24,SNR=9.3						
ABKAR	**Akbulak array**	**15.16**	**322**		**Pn**	**22 53 38.3**	**-0.5**
BVAR	**Borovoye Array**	**15.22**	**351**	P	**Pn**	**22 53 39.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=172,slow=12,SNR=3.7						
AKTO	**Aktyubinsk**	**16.88**	**322**	⇓P	**Pn**	**22 54 02.3**	**+2.5**
	comp=Z,0.7nm,0.8s						
AKTO				⇑S	**S**	**22 57 05.8**	**-1.3**
	comp=Z,1.1nm,0.8s						
ZAA0	**Zalesovo Array**	**17.55**	**21**	P	**P**	**22 54 06.9**	**+0.3**
ZAA0				IAmb	IAmb	22 54 08.3	
	comp=Z,5.1nm,0.5s						
ZALV	**Zalesovo Beam**	**17.55**	**21**	P	**P**	**22 54 06.6**	**+0.1**
ZALV	**Zalesovo Beam**	**17.55**	**21**	P	**P**	**22 54 07.4**	**+0.8**
	comp=Z,4.5nm,0.4s,baz=213,slow=12,SNR=29						
ARPR	**Arapgir-MALATY**	**27.87**	**283**	P	**P**	**22 55 47.0**	**-1.2**
ARPR				IAmb	IAmb	22 55 48.6	
	comp=Z,4.5nm,1.2s						
FINES	**FINESS Array B**	**37.64**	**324**	P	**P**	**22 57 12.5**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=109,slow=8.8,SNR=1.5						
	comp=Z,1.1nm,0.9s						
ARCES	**ARCESS Array B**	**40.71**	**336**	P	**P**	**22 57 38.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=114,slow=8.3,SNR=4.2						
	comp=Z,0.8nm,0.7s						
NOA	**NORSAR Array B**	**44.67**	**322**	P	**P**	**22 58 07.5**	**-2.4**
	comp=Z,0.6nm,0.8s,baz=106,slow=7.3,SNR=3.4						
	comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**68.20**	**270**	P	**P**	**23 00 57.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=46,slow=6.2,SNR=5.0						
	comp=Z,0.2nm,0.3s						

IDC 31 22:53:16.5±1.7, 7.°03S×130.°78E, h0km, mb3.4/2, mbtmp3.4/5, ML3.3/3, MS3.1/2, Error ellipse: s-maj=63.7km s-min=21.2km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.09**	**204**	Pn	Pn	22 56 10.4	+0.2
	0.2nm,0.3s,baz=22,slow=9.5,SNR=12						
FITZ				Sn	Sn	22 58 25.4	-0.5
	0.8nm,0.3s,baz=221,slow=23,SNR=6.1						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**13.30**	**165**	Pn	Pn	22 56 27.3	+0.6
	0.1nm,0.3s,baz=350,slow=13,SNR=6.1						
WRA				Sn	Sn	22 58 55.3	-0.1
	0.5nm,0.3s,baz=340,slow=19,SNR=8.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**16.82**	**170**	Pn	Pn	22 57 14.2	+0.7
	0.1nm,0.3s,baz=352,slow=9.8,SNR=12						
ASAR				Sn	Sn	23 00 21.8	+0.6
	0.1nm,0.3s,baz=354,slow=27,SNR=5.8						
ASAR				LR	LR	23 02 54.3	
	comp=Z,36nm,18.9s,baz=24,slow=34						
	0.2nm,0.4s						
HNR	**Honiara**	**28.96**	**97**	LR	LR	23 10 40.2	
	comp=Z,55nm,18.4s,baz=220,slow=36						
MKAR	**Makanchi Array**	**68.67**	**326**	P	P	23 04 20.8	-1.1
	0.2nm,0.6s,baz=121,slow=6.0,SNR=4.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**72.94**	**328**	P	P	23 04 48.5	+0.9
	0.1nm,0.3s,baz=124,slow=5.7,SNR=6.7						
	0.1nm,0.3s						

*IDC **31** 23:15:28.1±1.7, 35.°76N×8.°19E, h0km, mb3.2/2, mbtmp3.4/4, ML3.5/2, MS2.4/4, Error ellipse: s-maj=30.7km s-min=13.6km az=178.0*
*TUN **31** 23:15:29.5, 36.°13N×8.°40E, h9km±6km, MD3.7*
ISC 31 23:15:29.0±0.9, 36.°08N±0.°05×8.°36E±0.°06, h10km, n20, σ0s97/15, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHAT	**Ghardimaou**	**0.42**	**354**	*i* P	**Pg**	**23 15 36.7**	**-0.5**
KRIT	**Krib**	**0.64**	**66**	*i* P	**Pg**	**23 15 41.0**	**-0.3**
BLIT	**Baltah**	**0.79**	**37**	*i* P	**Pg**	**23 15 44.2**	**-0.1**
KEST	**Kesra**	**0.87**	**113**	Pg	**Pg**	**23 15 45.6**	**-0.2**
	83nm,0.3s,baz=286,slow=6.0,SNR=886						
KEST				Lg	Lg	23 16 00.3	
	149nm,0.3s,baz=338,slow=2.6,SNR=5.3						
TROT	**Trozza**	**1.13**	**117**	*i* P	**Pb**	**23 15 50.8**	**0.0**
SYA	**Sidi Yaiche**	**1.38**	**164**	*i* P	**Pb**	**23 15 55.5**	**+0.6**
ZGN	**Zaghouan**	**1.44**	**78**	*i* P	**Pn**	**23 15 54.2**	**-0.9**
OAR	**Oum El Arais**	**1.54**	**179**	*i* P	**Pb**	**23 15 57.7**	**0.0**
HANT	**Hania**	**1.65**	**98**	*i* P	**Pn**	**23 15 58.4**	**+0.5**
BTHT	**Jabal bu Thady**	**1.83**	**120**	*i* P	**Pn**	**23 16 00.5**	**-0.1**
BERT	**Berda**	**1.91**	**164**	*i* P	**Pn**	**23 16 01.9**	**+0.3**
MBZ	**Menzel Bouzelf**	**1.96**	**72**	*i* P	**Pn**	**23 16 02.7**	**+0.4**
ESDC	**Sonseca Array**	**10.38**	**294**	Pn	**Pn**	**23 17 58.9**	**+0.9**
	0.2nm,0.3s,baz=105,slow=14,SNR=15						
	0.5nm,0.4s						
DAVOX	**Davos/Dischmat**	**10.75**	**6**	Pn	Pn	23 18 09.8	+6.7
	0.1nm,0.3s,baz=191,slow=16,SNR=3.1						
DAVOX				LR	LR	23 21 32.4	
	comp=Z,30nm,21.5s,baz=93,slow=33						
	1.5nm,0.9s						
GERES	**GERESS Array B**	**13.35**	**15**	LR	LR	23 24 30.3	
	comp=Z,28nm,21.3s,baz=156,slow=40						
VRAC	**Vranov**	**14.53**	**22**	LR	LR	23 25 19.9	
	comp=Z,11nm,20.4s,baz=9.0,slow=40						
BRTR	**Keskin Array B**	**20.26**	**72**	P	**P**	**23 20 05.9**	**+1.3**
	0.6nm,0.8s,baz=277,slow=9.9,SNR=3.8						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**23.61**	**196**	P	**P**	**23 20 37.6**	**-2.6**
	0.9nm,0.6s,baz=7.2,slow=10.0,SNR=7.8						
	0.9nm,0.6s						
NOA	**NORSAR Array B**	**25.05**	**3**	LR	LR	23 31 33.9	
	comp=Z,5.9nm,19.1s,baz=335,slow=38						
BELG	**Belogornoye**	**32.04**	**47**	LR	LR	23 36 57.1	
	comp=Z,252nm,20.7s,baz=96,slow=40						

IDC 31 23:38:38.0±5.2, 21.°95S×172.°29W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=239.0km s-min=44.2km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**49.39**	**257**	P	P	23 47 29.4	-0.5
	0.5nm,0.9s,baz=102,slow=7.5,SNR=4.9						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**49.68**	**262**	P	P	23 47 32.4	+0.2
	0.5nm,0.3s,baz=102,slow=8.2,SNR=7.3						
	0.5nm,0.3s						
GERES	**GERESS Array B**	**152.74**	**351**	PKPbc	PKPbc	23 58 37.0	+0.1
	0.5nm,0.7s,baz=23,slow=3.4,SNR=3.4						
GERES				PKPab	PKPab	23 58 46.9	-0.7
	0.8nm,0.9s,baz=28,slow=4.2,SNR=4.0						

*BJI **31** 23:46:02.6, 24.°69N×122.°11E, h9km, mB4.6/7, mb4.1/14, ML4.2/4, Ms4.2/21, Ms7 4.0/20*
*JMA **31** 23:46:04.7±0.1, 24.°9N±0.°9×122.°3E±0.°2, h45km±3km, MD4.4/10, MV3.9/10, TAIWAN REGION*
*NEIC **31** 23:46:04.5±1.4, 24.°82N±0.°04×122.°24E±0.°02, h11km±5km, mb4.5/17, Error ellipse: s-maj=5.6km s-min=2.3km az=180.0*
*NIED **31** 23:46:04.7, 24.°85N×122.°26E, h45km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.07; $M_{\theta\theta}$=3.54; $M_{\phi\phi}$=-0.47; $M_{r\theta}$=0.21; $M_{\theta\phi}$=0.51; $M_{\phi r}$=-0.58; Fault plane solution: $M_0$3.40000×10^{15} NP1:ϕ_s70.00000°, δ45.00000°, $\l

JYNG	**Yonagunijimaku**	**0.74**	**122**	P	**Pg**	**23 46 18.8**	**-0.3**
JYNG				*e*S	**Sb**	**23 46 29.3**	**-0.3**
JYNG	**Yonagunijimaku**	**0.74**	**122**	A	A	23 46 18.8	
	comp=N,34nm,1.4s,comp=E,19nm,0.8s						
ANP	**Anpu**	**0.74**	**297**	*e*P	**Pb**	**23 46 19.6**	**0.0**
ANP				*e*S	**Sg**	**23 46 27.7**	**-1.3**
YOJ	**Yonaguni jima**	**0.79**	**119**		**Pg**	**23 46 19.5**	**-0.5**
YOJ				Sg	**Sg**	**23 46 30.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**119**	P	**Pg**	**23 46 19.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**119**	P	**Pg**	**23 46 19.5**	**-0.5**
YOJ				*e*S	**Sb**	**23 46 30.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**119**	P	**Pg**	**23 46 19.4**	**-0.5**
YOJ				*e*S	**Sg**	**23 46 30.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.79**	**119**	A	A	23 46 19.4	
	comp=N,30nm,0.9s,comp=E,23nm,1.2s						
NTST	**Danshui**	**0.79**	**294**	*e*P	**Pn**	**23 46 20.9**	**-0.7**
NTST				*e*S	**Sb**	**23 46 31.9**	**+0.9**
PCYT	**Pengchaiyu**	**0.80**	**348**	⇑*i*P	**Pg**	**23 46 19.8**	**-0.4**
PCYT				*e*S	**Sn**	**23 46 33.0**	**-0.4**
TWS1	**Kuangyinshan**	**0.80**	**289**	*e*P	**Pn**	**23 46 20.9**	**-0.8**
TWS1				*e*S	**Sn**	**23 46 32.3**	**-1.2**
YHNB	**Yeheng**	**0.81**	**258**		**Pg**	**23 46 20.1**	**-0.4**
YHNB					**Sg**	**23 46 30.8**	**-0.4**
YHNB	**Yeheng**	**0.81**	**258**	P	**Pb**	**23 46 20.7**	**-0.1**
YHNB	**Yeheng**	**0.81**	**258**	*e*P	**Pg**	**23 46 20.2**	**-0.3**
YHNB				S	**Sg**	**23 46 30.9**	**-0.3**
NSK	**Sanguang**	**0.83**	**258**	P	**Pb**	**23 46 20.6**	**-0.4**
NSK				*e*S	**Sg**	**23 46 30.9**	**-0.7**
ETL	**Fush Village**	**0.89**	**220**	*e*P	**Pg**	**23 46 21.5**	**-0.5**
ETL				*e*S	**Sb**	**23 46 33.6**	**-0.2**
NNSB	**Datong**	**0.89**	**242**	*i* P	**Pg**	**23 46 21.6**	**-0.4**
NNSB				S	**Sb**	**23 46 33.8**	**-0.2**
NNS	**Nan Shan**	**0.90**	**243**	*i* P	**Pb**	**23 46 21.8**	**-0.4**
NNS				*e*S	**Sb**	**23 46 33.7**	**-0.4**
NACB	**Ninganchiao**	**0.90**	**222**		**Pg**	**23 46 20.8**	**-1.3**
NACB				Sg	**Sg**	**23 46 32.9**	**-0.9**
NACB	**Ninganchiao**	**0.90**	**222**	P	**Pg**	**23 46 21.6**	**-0.4**
NACB	**Ninganchiao**	**0.90**	**222**	S	**Sb**	**23 46 34.0**	**0.0**
NACB	**Ninganchiao**	**0.90**	**222**	⇑*i*P	**Pg**	**23 46 21.1**	**-0.9**
NACB				*i* S	**Sg**	**23 46 33.3**	**-0.5**
ETLH	**Xiulin Townshi**	**0.95**	**228**	P	**Pg**	**23 46 22.4**	**-0.6**
ETLH				*e*S	**Sb**	**23 46 35.6**	**0.0**
TWD	**Chiawan**	**0.97**	**218**	*e*P	**Pg**	**23 46 22.4**	**-1.0**
TWD				*e*S	**Sg**	**23 46 35.1**	**-0.9**
NCUH	**Zhongli**	**0.98**	**277**	*e*P	**Pn**	**23 46 23.8**	**-0.3**
NCUH				*e*S	**Sn**	**23 46 37.6**	**-0.3**
HWA	**Hwalien**	**1.05**	**214**	*e*P	**Pn**	**23 46 25.2**	**+0.2**
HWA				*e*S	**Sn**	**23 46 39.3**	**-0.3**
NFF	**Wufeng Townshi**	**1.05**	**259**	*e*P	**Pn**	**23 46 25.2**	**0.0**
NFF				*e*S	**Sn**	**23 46 39.5**	**-0.3**
FUSS	**Fushou**	**1.09**	**237**	*e*P	**Pg**	**23 46 25.4**	**-0.4**
FUSS				S	**Sn**	**23 46 40.5**	**-0.6**
ETM	**Tongmen**	**1.12**	**218**	P	**Pb**	**23 46 25.1**	**-0.7**
ETM				*e*S	**Sn**	**23 46 41.7**	**+0.4**
LXIB	**Xiulin Townshi**	**1.12**	**223**	*i* P	**Pb**	**23 46 25.5**	**-0.5**
LXIB				*i* S	**Sn**	**23 46 41.7**	**0.0**
WHF	**Hehuan Shan**	**1.14**	**232**	*e*P	**Pb**	**23 46 26.4**	**-0.1**
WHF				S	**Sb**	**23 46 41.4**	**+0.1**
TEYL	**Yanliau Villag**	**1.14**	**212**	*e*P	**Pg**	**23 46 26.9**	**+0.2**
TEYL				*e*S	**Sg**	**23 46 41.3**	**-0.3**
TWT	**Tachien**	**1.14**	**239**	*e*P	**Pn**	**23 46 27.0**	**+0.4**
TWT				S	**Sn**	**23 46 42.0**	**-0.2**
SBCB	**Hsinchu**	**1.15**	**268**	*e*P	**Pn**	**23 46 26.4**	**-0.2**
SBCB				*e*S	**Sn**	**23 46 42.8**	**+0.2**
NSTT	**Nanjuang**	**1.16**	**260**	*e*P	**Pg**	**23 46 26.6**	**-0.4**
NSTT				*e*S	**Sn**	**23 46 42.3**	**0.0**
TDCB	**Techi**	**1.16**	**240**	⇓P	**Pn**	**23 46 26.9**	**+0.2**
TDCB				*e*S	**Sg**	**23 46 42.1**	**0.0**
HSN	**Hsinchu**	**1.17**	**268**	P	**Pb**	**23 46 25.4**	**-1.3**
HSN				*e*S	**Sg**	**23 46 41.6**	**-0.7**
SHUL	**Shoufeng**	**1.23**	**211**	*e*P	**Pg**	**23 46 28.5**	**+0.2**
SHUL				*e*S	**Sn**	**23 46 45.5**	**+1.5**
ESL	**Shilin**	**1.27**	**216**	P	**Pn**	**23 46 28.2**	**0.0**
ESL				*e*S	**Sg**	**23 46 45.9**	**+0.2**
WHP	**Taichung City**	**1.32**	**245**	*e*P	**Pg**	**23 46 30.2**	**+0.2**
WHP				*e*S	**Sg**	**23 46 47.3**	**+0.1**
OWD	**Renai**	**1.32**	**228**	*e*P	**Pg**	**23 46 29.6**	**-0.6**
OWD				*e*S	**Sg**	**23 46 46.8**	**-0.5**
WUSB	**Renai**	**1.34**	**231**	*i* P	**Pg**	**23 46 30.1**	**-0.3**
WUSB				S	**Sg**	**23 46 47.3**	**-0.6**
WARBT	**Fenglin Townsh**	**1.37**	**215**	P	**Pn**	**23 46 29.6**	**+0.1**
WARBT				*e*S	**Sn**	**23 46 47.9**	**+0.3**
EGFH	**Guangfu**	**1.39**	**213**	*e*P	**Pg**	**23 46 31.0**	**-0.5**
EGFH				*e*S	**Sg**	**23 46 49.5**	**-0.1**
TWQ1	**Liyutan**	**1.43**	**250**	*e*P	**Pg**	**23 46 32.6**	**+0.4**
TWQ1				*e*S	**Sg**	**23 46 51.6**	**+0.7**
IRIF	**Iriomote-Funau**	**1.44**	**110**	P	**Pn**	**23 46 28.6**	**-1.8**
WCS	**Beigang Elemen**	**1.45**	**237**	*e*P	**Pg**	**23 46 32.4**	**-0.2**
WCS				*e*S	**Sg**	**23 46 51.1**	**-0.4**
HGSD	**Ruisui**	**1.55**	**209**	*e*P	**Pn**	**23 46 32.0**	**+0.1**
HGSD				*e*S	**Sb**	**23 46 53.0**	**+0.3**
WDJ	**Dajia District**	**1.55**	**252**	*e*P	**Pg**	**23 46 34.7**	**+0.2**
SMLT	**Sun Moon Lake**	**1.56**	**232**	*e*P	**Pg**	**23 46 34.2**	**-0.5**
SMLT				*e*S	**Sn**	**23 46 52.8**	**+0.4**
TYC	**Yuchr**	**1.58**	**234**	⇓P	**Pg**	**23 46 34.2**	**-0.8**
TYC				*e*S	**Sg**	**23 46 54.4**	**-1.1**
EHY	**Hungye**	**1.58**	**213**	*e*P	**Pn**	**23 46 32.6**	**+0.2**
EHY				*e*S	**Sb**	**23 46 53.8**	**0.0**
EHYH	**Wanrong**	**1.58**	**212**	*e*P	**Pn**	**23 46 33.0**	**+0.6**
EHYH				*e*S	**Sg**	**23 46 54.5**	**-1.1**
SSLB	**Suanglung**	**1.58**	**229**		**Pb**	**23 46 34.0**	**+0.1**
SSLB	**Suanglung**	**1.58**	**229**	P	**Pg**	**23 46 34.5**	**-0.6**
SSLB	**Suanglung**	**1.58**	**229**	S	**Sg**	**23 46 56.2**	**+0.5**
SSLB	**Suanglung**	**1.58**	**229**	⇓P	**Pg**	**23 46 34.2**	**-0.9**
SSLB				*e*S	**Sb**	**23 46 54.5**	**+0.7**
TCU	**Taichung**	**1.59**	**244**	*e*P	**Pg**	**23 46 36.2**	**+0.9**
HATJ	**Hateruma jima**	**1.62**	**119**	P	**Pn**	**23 46 31.9**	**-1.1**
HATJ	**Hateruma jima**	**1.62**	**119**	A	A	23 46 31.9	
	comp=N,18nm,2.4s,comp=E,13nm,1.7s						
ECBN	**Changbin**	**1.69**	**206**	*e*P	**Pn**	**23 46 33.6**	**-0.3**
ECBN				*e*S	**Sb**	**23 46 57.0**	**+0.1**
JKRS	**Kuro-shima**	**1.71**	**110**	P	**Pn**	**23 46 33.1**	**-1.1**
JKRS	**Kuro-shima**	**1.71**	**110**	A	A	23 46 33.1	
	comp=N,9.0nm,4.9s,comp=E,12nm,3.0s						
WHYT	**Xinyi Township**	**1.71**	**228**	*e*P	**Pg**	**23 46 37.2**	**-0.4**
WHYT				*e*S	**Sg**	**23 46 58.8**	**-1.1**
WCHH	**Zhanghua**	**1.72**	**244**	*e*P	**Pg**	**23 46 37.5**	**-0.2**
TWF1	**Yuli**	**1.72**	**211**	*e*P	**Pn**	**23 46 34.4**	**-0.1**
TWF1				*e*S	**Sn**	**23 46 56.9**	**+0.6**
WJS	**Zhushan**	**1.72**	**234**	*e*P	**Pg**	**23 46 37.9**	**+0.1**
WJS				*e*S	**Sg**	**23 47 00.9**	**+0.8**
WNT	**Mingjian**	**1.72**	**236**	*e*P	**Pg**	**23 46 37.1**	**-0.7**
WNT				*e*S	**Sg**	**23 47 01.8**	**+1.6**
JIJ	**Ishigaki jima**	**1.79**	**105**	P	**Pn**	**23 46 33.6**	**-1.7**
CHKH	**Chenggong**	**1.82**	**206**	*e*P	**Pn**	**23 46 36.0**	**+0.2**
CHKH				*e*S	**Sn**	**23 46 59.4**	**+0.7**
FULB	**Fuli**	**1.86**	**208**	*e*P	**Pn**	**23 46 36.3**	**0.0**
FULB				*e*S	**Sn**	**23 47 00.3**	**+0.6**
ALS	**Alishan**	**1.87**	**225**	*e*P	**Pb**	**23 46 39.4**	**+0.4**
ALS				*e*S	**Sg**	**23 47 04.5**	**-0.6**
JISG	**Ishigakijimahi**	**1.89**	**97**	*e*P	**Pn**	**23 46 35.4**	**-1.3**
CHN5	**Tsauling**	**1.90**	**229**	P	**Pb**	**23 46 39.8**	**+0.5**
CHN5				S	**Sg**	**23 47 06.0**	**+0.2**
CHKT	**Chengkung**	**1.92**	**205**	*e*P	**Pn**	**23 46 35.7**	**-1.4**
CHKT				*e*S	**Sn**	**23 47 01.3**	**+0.2**
WGK	**Gukeng**	**1.93**	**233**	*e*P	**Pg**	**23 46 40.4**	**-1.2**
EHD	**Haiduan**	**1.94**	**210**	*e*P	**Pn**	**23 46 36.8**	**-0.6**
EHD				*e*S	**Sn**	**23 47 03.0**	**+1.3**
WDLH	**Douliu**	**1.94**	**234**	*e*P	**Pb**	**23 46 40.2**	**+0.3**
WDLH				*e*S	**Sg**	**23 47 07.2**	**+0.1**
ECS	**Chishang**	**1.98**	**209**	*e*P	**Pb**	**23 46 40.4**	**-0.3**
ELDTW	**Lidau**	**2.00**	**215**	*e*P	**Pn**	**23 46 39.3**	**+1.0**
WTK	**Tuku**	**2.05**	**236**	*e*P	**Pb**	**23 46 41.6**	**-0.2**
WCKO	**Fanlu**	**2.06**	**227**	*e*P	**Pb**	**23 46 41.2**	**-0.7**
WCKO				*i* S	**Sg**	**23 47 09.7**	**-1.2**
EDH	**Donghe**	**2.06**	**205**	*e*P	**Pn**	**23 46 39.1**	**+0.1**
EDH				S	**Sn**	**23 47 04.1**	**-0.4**
CHN4	**Tsaushan**	**2.12**	**226**	*e*P	**Pb**	**23 46 43.3**	**+0.3**
CHN4				*e*S	**Sg**	**23 47 12.4**	**-0.6**
TPUB	**Ta-pu**	**2.14**	**224**		**Pb**	**23 46 42.2**	**-1.0**
TPUB	**Ta-pu**	**2.14**	**224**	P	**Pb**	**23 46 42.6**	**-0.7**
TPUB	**Ta-pu**	**2.14**	**224**	*e*P	**Pb**	**23 46 43.2**	**-0.1**
TPUB				*e*S	**Sb**	**23 47 10.7**	**+0.9**
CHY	**Chiayi**	**2.14**	**232**	*e*P	**Pb**	**23 46 42.8**	**-0.6**
CHY				*e*S	**Sg**	**23 47 11.7**	**-1.9**
STYH	**Taoyuan**	**2.15**	**219**	*e*P	**Pb**	**23 46 42.5**	**-0.9**
WTP	**Ta-pu**	**2.19**	**224**	*e*P	**Pb**	**23 46 43.7**	**-0.5**
WTP				*e*S	**Sg**	**23 47 13.0**	**-2.0**
LONT	**Longtian**	**2.19**	**208**	*e*P	**Pn**	**23 46 41.9**	**+1.1**
LONT				*e*S	**Sn**	**23 47 09.3**	**+1.6**
WSF	**Szhu**	**2.21**	**237**	*e*P	**Pb**	**23 46 43.0**	**-1.5**
TWK	**Hsinying**	**2.25**	**226**	*e*P	**Pb**	**23 46 44.3**	**-0.9**
TWK				*e*S	**Sg**	**23 47 15.2**	**-2.0**
WSL	**Shuilin Townsh**	**2.27**	**235**	*e*P	**Pb**	**23 46 44.0**	**-1.5**
WSL				*e*S	**Sg**	**23 47 15.6**	**-2.1**
LDUT	**Ludao**	**2.28**	**198**	*e*P	**Pn**	**23 46 41.7**	**-0.3**
SNST	**Tainan City**	**2.28**	**225**	*e*P	**Pb**	**23 46 45.3**	**-0.4**
CHN1	**Nanshi**	**2.28**	**224**	*e*P	**Pb**	**23 46 45.0**	**-0.8**
TWG	**Pinlang**	**2.29**	**208**		**Pn**	**23 46 41.6**	**-0.6**
TWG	**Pinlang**	**2.29**	**208**	*e*P	**Pn**	**23 46 42.0**	**-0.2**
TWGBT	**Beinan**	**2.29**	**208**	P	**Pn**	**23 46 42.5**	**+0.3**
TWGBT	**Beinan**	**2.29**	**208**	*e*P	**Pn**	**23 46 41.7**	**-0.5**
ICHU	**Yijhu**	**2.33**	**231**	*e*P	**Pn**	**23 46 42.8**	**0.0**
CHN8	**Yiju**	**2.39**	**232**	*e*P	**Pb**	**23 46 46.5**	**-1.1**
MATB	**Ma-tsu**	**2.46**	**302**	*e*P	**Pn**	**23 46 43.3**	**-1.2**
SCST	**Cishan**	**2.53**	**220**	*e*P	**Pb**	**23 46 48.6**	**-1.4**
ECL	**Taimali**	**2.54**	**208**	*e*P	**Pn**	**23 46 46.1**	**+0.6**
VWUC	**VWUC**	**2.55**	**274**	*e*P	**Pn**	**23 46 44.9**	**-0.8**
SSD	**Sandimen**	**2.56**	**216**	*e*P	**Pn**	**23 46 48.0**	**+2.0**
SSD				*e*S	**Sn**	**23 47 18.3**	**+1.3**
TSCK	**Chigu Township**	**2.60**	**230**	*e*P	**Pn**	**23 46 48.7**	**+2.2**
TSCK				*i* S	**Sb**	**23 47 23.6**	**+0.5**
TWM1	**Shoushan**	**2.62**	**220**	*e*P	**Pb**	**23 46 50.7**	**-0.8**
MASBT	**Mashibuluo**	**2.67**	**214**	*e*P	**Pn**	**23 46 49.8**	**+2.3**
JMJ	**Miyako jima 2**	**2.77**	**90**	P	**Pn**	**23 46 48.8**	**+0.1**
PNG	**Penghu**	**2.77**	**243**	*e*P	**Pn**	**23 46 49.7**	**+0.9**
PHUB	**P'eng-hu**	**2.78**	**242**	*e*P	**Pn**	**23 46 49.4**	**+0.4**
XPSS	**Dashiqiu**	**2.78**	**319**	*e*P	**Pn**	**23 46 48.4**	**-0.6**
TAWH	**Dawu Township**	**2.79**	**207**	*e*P	**Pn**	**23 46 49.2**	**+0.1**
WDGT	**Dungji**	**2.85**	**237**	*e*P	**Pn**	**23 46 52.3**	**+2.4**
WDGT				*e*S	**Sn**	**23 47 26.6**	**+2.6**
PTMZ	**Houxiangcun**	**2.85**	**275**	*e*P	**Pn**	**23 46 48.6**	**-1.2**
LAY	**Lan-yu**	**2.87**	**193**	*e*P	**Pn**	**23 46 49.5**	**-0.7**
LAY				*e*S	**Sn**	**23 47 24.4**	**-0.2**
SCZT	**Fangliau**	**2.88**	**212**	*e*P	**Pb**	**23 46 53.6**	**-2.4**
LYUB	**Lan-yu**	**2.90**	**192**	*e*P	**Pn**	**23 46 49.4**	**-1.2**
VCHM	**Qimei**	**3.05**	**238**	*e*P	**Pn**	**23 46 53.3**	**+0.7**
HEN	**Hengchun**	**3.15**	**206**	*e*P	**Pn**	**23 46 55.2**	**+1.1**
MHZQ	**Yeshan**	**3.17**	**294**	*e*P	**Pn**	**23 46 52.7**	**-1.5**
TWKBT	**Hengchun**	**3.18**	**205**	*e*P	**Pn**	**23 46 54.6**	**+0.2**
TSEB	**Hengchuen, Pin**	**3.19**	**203**	*e*P	**Pn**	**23 46 55.1**	**+0.6**
QZH	**Quanzhou**	**3.32**	**272**	*e*Pn	**Pn**	**23 46 56.0**	**-0.4**
QZH				Sn	**Sn**	**23 47 33.8**	**-2.0**
QZH				smax	smax		
	comp=E,550nm,1.1s						
QZH				smax	smax		
	comp=E,230nm,1.1s						
QZH				LR	LR		
	comp=E,1μm,7.7s						
QZH				LR	LR		
	comp=E,3μm,9.6s						
QZH				LR	LR		
	comp=E,3μm,9.2s						
KNM	**Kinmen**	**3.50**	**264**	*e*P	**Pn**	**23 47 00.3**	**+1.5**
KNMB	**Chin-men Tao**	**3.54**	**265**		**Pn**	**23 46 58.2**	**-1.1**
KNMB	**Chin-men Tao**	**3.54**	**265**	*e*P	**Pn**	**23 46 59.1**	**-0.2**
AXDP	**Jialang**	**3.89**	**272**	*e*P	**Pn**	**23 47 03.6**	**-0.6**
SXFK	**Yanhouchang**	**4.44**	**291**	*e*P	**Pn**	**23 47 11.6**	**-0.2**
JOW	**Kunigami**	**5.78**	**69**	P	**Pn**	**23 47 29.6**	**-0.5**
NJ2	**Nanjing**	**7.78**	**338**	⇑Pn	**Pn**	**23 47 56.3**	**-1.3**
NJ2				Sn	**Sn**	**23 49 23.3**	**-2.2**
NJ2				smax	smax		
	comp=E,120nm,0.8s						
NJ2				smax	smax		
	comp=E,95nm,0.9s						
NJ2				LR	LR		
	comp=E,710nm,8.1s						
NJ2				LR	LR		
	comp=E,1μm,8.8s						
NJ2				LR	LR		
	comp=E,920nm,7.0s						
TGY	**Tagaytay City**	**10.76**	**187**	LR	LR	23 53 20.8	
	comp=E,604nm,20.1s,baz=30,slow=39						
JNU	**Nakatsue**	**11.18**	**41**	LR	LR	23 53 04.5	
	comp=E,75nm,21.9s,baz=226,slow=36						
QIZ	**Qiongzhong**	**12.88**	**246**	P	**Pn**	**23 49 08.5**	**+0.9**
QIZ				S	**Sn**	**23 51 30.8**	**-0.2**
QIZ				LR	LR		
	comp=E,310nm,11.1s						
QIZ				LR	LR		
	comp=E,280nm,8.2s						
QIZ				LR	LR		
	comp=E,310nm,11.7s						
KSRS	**Korea Array**	**13.47**	**20**	P	**P**	**23 49 25.4**	**+0.6**
	comp=E,3.9nm,0.9s,baz=193,slow=11,SNR=20						
XAN	**Xi'an**	**14.78**	**311**	P	**P**	**23 49 37.8**	**-1.7**
XAN				pmax	pmax		
	comp=E,7.0nm,0.9s						
XAN				LR	LR		
	comp=E,850nm,9.8s						
XAN				LR	LR		
	comp=E,740nm,10.5s						
XAN				LR	LR		
	comp=E,930nm,10.8s						
MJAR	**Matsushiro Arr**	**17.98**	**46**		**Pn**	**23 50 14.3**	**0.0**
MJAR	**Matsushiro Arr**	**17.98**	**46**	P	**P**	**23 50 20.3**	**+5.4**
	comp=E,3.1nm,0.9s,baz=234,slow=7.0,SNR=11						
HHC	**Hu-ho-hao-te**	**18.29**	**333**	*e*P	**P**	**23 50 20.3**	**+1.9**
HHC				pmax	pmax		
	comp=E,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=E,68nm,4.4s						
HHC				LR	LR		
	comp=E,260nm,10.9s						
HHC				LR	LR		
	comp=E,430nm,10.6s						
HHC				LR	LR		
	comp=E,250nm,12.9s						
PZH	**PanZhiHua**	**18.56**	**279**	P	**P**	**23 50 21.3**	**-0.2**
XLT	**XiLinHaoTe**	**19.67**	**347**	*e*P	**Pn**	**23 50 38.0**	**+3.1**
XLT				pP	sP	23 50 42.0	+3.5
XLT				sP	pP	23 50 45.5	+8.7
XLT				PP	**PnPn**	**23 50 56.5**	**+7.9**
XLT				S	**Sn**	**23 54 20.5**	**+4.9**
XLT				SS	**SnSn**	**23 54 41.3**	**+11**
XLT				PcP	**PcP**	**23 54 55.3**	**+2.8**
XLT				pmax	pmax		
	comp=E,14nm,1.2s						
XLT				pmax	pmax		
	comp=E,130nm,4.5s						
XLT				LR	LR		
	comp=E,18nm,10.2s						
XLT				LR	LR		
	comp=E,150nm,14.9s						
XLT				LR	LR		
	comp=E,190nm,12.3s						
USRK	**Ussuriysk Ar.**	**20.88**	**20**		**P**	**23 50 46.0**	**-0.5**
USRK	**Ussuriysk Ar.**	**20.88**	**20**	P	Pn	23 50 49.4	+0.4
	comp=E,7.5nm,0.9s,baz=206,slow=9.5,SNR=10.0						
USRK				LR	LR	23 59 52.3	
	comp=E,78nm,18.2s,baz=190,slow=39						
	comp=E,7.5nm,0.9s						
TNCH	**TengChong**	**21.52**	**276**	*e*P	**P**	**23 50 54.8**	**+1.0**
TNCH				S	**S**	**23 54 45.3**	**-7.0**
TNCH				LR	LR		
	comp=E,390nm,8.3s						
TNCH				LR	LR		
	comp=E,830nm,9.3s						
TNCH				LR	LR		
	comp=E,790nm,9.9s						
CMAR	**Chiang Mai Arr**	**22.56**	**258**		**P**	**23 51 04.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**22.56**	**258**	P	**P**	**23 51 06.8**	**+2.0**
	comp=E,1.2nm,0.5s,baz=58,slow=8.7,SNR=11						
	comp=E,1.2nm,0.5s						
GTA	**Gaotai**	**23.83**	**313**	P	**P**	**23 51 19.0**	**+1.4**
GTA				pmax	pmax		
	comp=E,5.0nm,1.0s						
GTA				LR	LR		
	comp=E,380nm,14.7s						
GTA				LR	LR		
	comp=E,320nm,15.5s						
GTA				LR	LR		
	comp=E,240nm,16.3s						
SBUM	**Sibu**	**24.28**	**205**	P	**P**	**23 51 20.9**	**-0.9**
HIA	**Hailar**	**24.45**	**356**	P	**P**	**23 51 23.3**	**+0.1**
ASAJ	**Asahikawa**	**25.39**	**36**	LR	LR	00 01 54.7	
	comp=E,124nm,18.8s,baz=122,slow=37						
ULN	**Ulaanbaatar**	**25.93**	**336**	P	**P**	**23 51 36.6**	**-0.2**
ULN				lAmb	lAmb	23 51 38.7	
	comp=Z,6.3nm,1.0s						
SONM	**Songino Array**	**26.16**	**335**		**P**	**23 51 39.2**	**+0.4**
SONM				lAmb	lAmb	23 51 40.8	
	comp=Z,7.6nm,1.1s						
SONM	**Songino Array**	**26.16**	**335**	P	**P**	**23 51 39.9**	**+1.1**
	comp=Z,5.9nm,1.0s,baz=154,slow=9.5,SNR=23						
SONM				LR	LR	00 02 21.4	
	comp=Z,130nm,19.3s,baz=150,slow=37						
	comp=Z,5.9nm,1.0s						
WMQ	**Urumqi**	**33.91**	**313**	*e*P	**P**	**23 52 49.5**	**+2.0**
YAK	**Yakutsk**	**37.51**	**6**	LR	LR	00 08 55.9	
	comp=Z,65nm,20.9s,baz=188,slow=36						
MTN	**Manton Dam**	**38.45**	**166**		**P**	**23 53 23.9**	**-2.5**
MKAR	**Makanchi Array**	**38.55**	**315**		**P**	**23 53 26.1**	**-1.0**
MKAR	**Makanchi Array**	**38.55**	**315**	P	**P**	**23 53 27.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=116,slow=9.9,SNR=10.0						
	comp=Z,1.2nm,0.8s						
PETK	**Petropavlovsk-**	**38.78**	**34**	LR	LR	00 08 25.5	
	comp=Z,50nm,21.9s,baz=232,slow=34						
MA2	**Magadan**	**40.01**	**22**	LR	LR	00 10 38.5	
	comp=Z,88nm,19.6s,baz=266,slow=36						
ZALV	**Zalesovo Beam**	**40.23**	**326**	P	**P**	**23 53 39.5**	**-1.4**
ZALV	**Zalesovo Beam**	**40.23**	**326**	P	**P**	**23 53 40.1**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=107,slow=9.5,SNR=6.6						
ZALV				LR	LR	00 11 23.5	
	comp=Z,106nm,19.0s,baz=122,slow=38						
	comp=Z,1.7nm,0.6s						
KURK	**Kurchatov**	**42.22**	**319**		**P**	**23 53 56.3**	**-1.0**
KURK				lAmb	lAmb	23 54 03.3	
	comp=Z,11nm,1.4s						
KURBB	**Kurchatov Arra**	**42.24**	**319**	P	**P**	**23 53 56.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=114,slow=8.3,SNR=5.6						
	comp=Z,0.5nm,0.6s						
COEN	**Coen**	**43.64**	**150**	P	**P**	**23 54 07.9**	**-1.3**
COEN				lAmb	lAmb	23 54 18.0	
	comp=Z,15nm,1.1s						
MBWA	**Marble Bar**	**45.80**	**183**	P	**P**	**23 54 24.6**	**-1.7**
MBWA				lAmb	lAmb	23 54 42.0	
	comp=Z,10.0nm,1.2s						
WRAB	**Tennant Creek**	**46.04**	**164**	P	**P**	**23 54 27.5**	**-0.8**
WRA	**Warramunga Arr**	**46.05**	**164**		**P**	**23 54 25.7**	**-2.6**
WRA	**Warramunga Arr**	**46.05**	**164**	P	**P**	**23 54 28.1**	**-0.2**
	comp=Z,16nm,0.8s,baz=345,slow=8.3,SNR=77						
KBL	**Kabul**	**46.76**	**295**	P	**P**	**23 54 33.8**	**-0.4**
KBL				lAmb	lAmb	23 54 38.4	
	comp=Z,5.0nm,1.1s						
TIXI	**Tiksi**	**46.98**	**3**	P	**P**	**23 54 34.3**	**-0.8**
TIXI	**Tiksi**	**46.98**	**3**	LR	LR	00 17 00.9	
	comp=Z,123nm,18.8s,baz=196,slow=39						
BVAR	**Borovoye Array**	**47.78**	**320**	P	**P**	**23 54 40.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=93,slow=7.7,SNR=5.0						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**49.53**	**166**	P	**P**	**23 54 55.5**	**+0.1**
	comp=Z,4.3nm,0.8s,baz=345,slow=7.0,SNR=38						
	comp=Z,4.3nm,0.8s						
ABKAR	**Akbulak array**	**53.68**	**314**	P	**P**	**23 55 26.4**	**+0.3**
BBOO	**Buckleboo**	**58.83**	**166**	P	**P**	**23 56 02.4**	**-0.5**
RAYN	**Ar Rayn**	**69.08**	**287**		**P**	**23 57 09.8**	**-1.1**
RAYN				lAmb	lAmb	23 57 11.6	
	comp=Z,3.5nm,1.1s						
FINES	**FINESS Array B**	**71.37**	**330**	P	**P**	**23 57 23.2**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=78,slow=5.8,SNR=2.1						
	comp=Z,1.6nm,0.9s						
AKASG	**Malin Array Be**	**73.02**	**318**	P	**P**	**23 57 33.5**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=69,slow=5.7,SNR=2.2						
	comp=Z,0.7nm,0.5s						
BRTR	**Keskin Array B**	**

LZH LR LR
comp=E,300nm,17.5s
LZH LR LR
comp=Z,250nm,15.8s

MOS ***31*** *23:48:37.1±1.0,9.˝41N×126.˝28E,h72km,mb5.0/14, Error ellipse: s-maj=12.8km s-min=6.5km az=113.7*
DJA ***31*** *23:48:37.4±0.8,10.˝N±5.˚×12.˝7E±.˚,h74km±6km,M5.0/33, mb4.8/33,mB5.1/5,MLv5.3/6,Mw(mB)4.5/5,MwMwp6.3/1, Mwp6.3/1*
NEIC ***31*** *23:48:38.8±2.1,9.˝30N±0.˝06×126.˝33E±0.˝08,h68km±5km, mb4.7/52, Error ellipse: s-maj=12.5km s-min=8.4km az=66.0*
IDC ***31*** *23:48:41.3±1.5,9.˝34N×126.˝07E,h93km±14km,mb4.1/25, mbtmp4.4/28,MS3.5/8, Error ellipse: s-maj=20.8km s-min=10.2km az=81.0*

ISC 31 23:48:41.6±0.3,9.˝31N±0.˝04×126.˝27E±0.˝07,h100km,n160, σ1§62/161,mb4.6/65,8C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.33**	**197**		**Pn**	**23 49 15.1**	**-3.3**
DAV				Sn	**Sn**	**23 49 40.4**	**-6.3**
DAV	**Davao City (W)**	**2.33**	**197**	P	**Pn**	**23 49 16.2**	**-2.3**
	167nm,0.3s,baz=156,slow=17,SNR=5.5						
DAV				S	**Sn**	**23 49 46.6**	**-0.1**
	988nm,0.7s,baz=295,slow=22,SNR=8.7						
DAV				LR	LR	23 50 22.6	
	comp=Z,2μm,20.5s,baz=8.5,slow=44						
DAV	**Davao City (W)**	**2.33**	**197**	P	Pn	23 49 27.0	+8.5
SGSI	**Sangihe**	**5.63**	**188**	P	**Pn**	**23 50 04.1**	**+1.1**
TGY	**Tagaytay City**	**7.07**	**313**	P	**Pn**	**23 50 21.1**	**-1.5**
	87nm,0.3s,baz=69,slow=13,SNR=1.4						
TNTI	**Ternate**	**8.55**	**173**	P	**Pn**	**23 50 41.5**	**-1.1**
	49nm,0.8s						
MYLDM	**Lahad Datu**	**8.73**	**243**		**Pn**	**23 50 42.9**	**-2.3**
KMSI	**Cibinong**	**8.97**	**195**	P	**Pn**	**23 50 52.3**	**+3.9**
	151nm,1.0s						
MRSI	**Marisa**	**9.77**	**206**	P	**Pn**	**23 51 02.0**	**+2.7**
	30nm,0.8s						
TOLI2	**Tolitoli**	**9.80**	**214**	Pn	**Pn**	**23 50 55.8**	**-3.9**
KKM	**Kota Kinabalu**	**10.48**	**253**		**Pn**	**23 51 05.0**	**-4.1**
LUWI	**Luwuk**	**10.85**	**199**	Pn	Pn	23 51 08.8	-5.2
APSI	**Ampana**	**11.14**	**205**	P	**Pn**	**23 51 22.6**	**+4.6**
	43nm,1.0s						
PCI	**Palu**	**12.00**	**213**	P	**Pn**	**23 51 33.1**	**+3.7**
	43nm,0.8s						
FAKI	**Fak Fak**	**13.53**	**154**	Pn	Pn	23 51 45.8	-3.7
TTSI	**Tana Toraja**	**13.85**	**208**	P	**Pn**	**23 51 55.9**	**+2.2**
	29nm,0.7s						
SPSI	**Sidrap Palu**	**14.69**	**206**	P	**P**	**23 52 10.5**	**+2.5**
	29nm,0.8s						
BNSI	**Bone**	**14.94**	**205**	P	**P**	**23 52 10.8**	**0.0**
	84nm,1.0s						
SBUM	**Sibu**	**15.54**	**245**		**Pn**	**23 52 15.6**	**+0.2**
KAPI	**Kappang**	**15.64**	**205**		**Pn**	**23 52 15.8**	**-0.7**
KAPI	**Kappang**	**15.64**	**205**	*i*/*e*P	**Pn**	**23 52 16.8**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,20nm,1.1s						
BKSI	**Bulukumba**	**15.77**	**203**	P	**P**	**23 52 22.2**	**+2.2**
	comp=Z,28nm,0.9s						
SMPI	**Sarmi**	**16.72**	**132**	P	**Pn**	**23 52 24.3**	**-5.6**
JOW	**Kunigami**	**17.54**	**6**	LR	LR	23 58 16.3	
	comp=Z,162nm,19.9s,baz=96,slow=33						
KSM	**Kuching**	**17.68**	**245**		**Pn**	**23 52 41.7**	**0.0**
EDFI	**Ende, Flores**	**18.51**	**194**	P	**Pn**	**23 52 53.1**	**+1.5**
	comp=Z,15nm,0.7s						
QIZ	**Qiongzhong**	**18.62**	**303**	P	**P**	**23 52 50.5**	**-0.9**
SOEI	**Soe**	**19.04**	**186**		**P**	**23 52 56.2**	**0.0**
SOEI				IAmb	IAmb	23 53 16.2	
	comp=Z,44nm,0.8s						
SOEI	**Soe**	**19.04**	**186**	P	**P**	**23 52 57.5**	**+1.4**
	comp=Z,62nm,0.9s						
BATI	**Baumata**	**19.56**	**188**	P	**P**	**23 53 02.5**	**+0.9**
	comp=Z,132nm,0.9s,baz=343,slow=2.5,SNR=16						
BATI	**Baumata**	**19.56**	**188**	P	**Pn**	**23 53 03.5**	**-0.4**
	comp=Z,104nm,1.0s						
MTN	**Manton Dam**	**22.53**	**168**	P	**P**	**23 53 33.6**	**+0.2**
MTN				IAmb	IAmb	23 53 35.1	
	comp=Z,22nm,0.9s						
MYKOM	**Kota Tinggi**	**23.52**	**253**		**P**	**23 53 45.1**	**+2.2**
MYKOM				IAmb	IAmb	23 53 47.2	
	comp=Z,23nm,0.6s						
NJ2	**Nanjing**	**23.66**	**344**	*e*P	**P**	**23 53 42.5**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
JNU	**Nakatsue**	**24.08**	**10**	LR	LR	00 02 46.3	
	comp=E,61nm,21.6s,baz=178,slow=35						
SLVN	**Son La**	**24.62**	**302**		**P**	**23 53 52.7**	**-0.2**
KNRA	**Kununurra**	**24.94**	**174**		**P**	**23 53 54.9**	**-0.9**
KNRA				IAmb	IAmb	23 54 13.7	
	comp=Z,21nm,1.0s						
IPM	**Ipoh**	**25.51**	**261**		**P**	**23 54 00.6**	**-0.5**
IPM				IAmb	IAmb	23 54 05.6	
	comp=Z,18nm,0.9s						
BLSI	**Bandar Lampung**	**25.53**	**236**	P	**P**	**23 54 06.4**	**+5.2**
KLI	**Kotabumi**	**25.57**	**237**	P	**P**	**23 54 02.8**	**+1.3**
KULM	**Kulim**	**25.72**	**263**	P	**P**	**23 54 03.9**	**+1.0**
KULM				IAmb	IAmb	23 54 20.4	
	comp=Z,30nm,1.3s						
MDSI	**Maura Dua**	**25.93**	**239**	P	**P**	**23 54 07.4**	**+2.6**
	comp=Z,24nm,1.0s						
LWLI	**Liwa**	**26.32**	**238**	P	**P**	**23 54 10.9**	**+2.5**
TJN	**Taejon**	**26.97**	**2**	*e*P	**P**	**23 54 12.5**	**-1.4**
PMG	**Port Moresby**	**27.89**	**131**	*de*P	**P**	**23 54 21.5**	**-0.9**
PMG				pmax	pmax		
	comp=Z,23nm,1.3s						
PSI	**Prapat**	**27.94**	**258**	LR	LR	00 07 46.6	
	comp=Z,122nm,18.8s,baz=79,slow=41						
CMAR	**Chiang Mai Arr**	**28.01**	**292**	P	**P**	**23 54 22.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**28.01**	**292**	P	**P**	**23 54 20.5**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=110,slow=6.8,SNR=8.2						
CMAR				PcP	**PcP**	**23 57 37.9**	**+1.6**
	comp=Z,1.2nm,0.4s,baz=118,slow=1.5,SNR=4.3						
	comp=Z,0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**28.01**	**292**	P	**P**	**23 54 22.9**	**-0.6**
KSRS	**Korea Array**	**28.06**	**3**	P	**P**	**23 54 23.3**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=174,slow=8.8,SNR=4.1						
	comp=Z,1.5nm,0.8s						
PZH	**PanZhiHua**	**28.84**	**310**	P	**P**	**23 54 33.8**	**+2.9**
MJAR	**Matsushiro Arr**	**29.20**	**20**	P	**P**	**23 54 36.3**	**+2.5**
	comp=Z,0.9nm,0.7s,baz=195,slow=9.1,SNR=4.5						
MJAR				LR	LR	00 07 23.2	
	comp=Z,82nm,18.2s,baz=216,slow=38						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**30.13**	**165**	*i* P	**P**	**23 54 45.2**	**+3.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MBWA	**Marble Bar**	**30.95**	**192**	P	**P**	**23 54 48.8**	**-0.6**
PSA00	**Pilbara Seismi**	**31.33**	**192**	P	**P**	**23 54 52.2**	**-0.4**
PSA00				IAmb	IAmb	23 54 55.6	
	comp=Z,14nm,0.9s						
ASAR	**Alice Springs**	**33.61**	**167**	P	**P**	**23 55 12.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=354,slow=7.2,SNR=2.8						
ASAR				PcP	**PcP**	**23 57 51.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=0.3,slow=2.9,SNR=4.2						
	comp=Z,1.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**34.02**	**340**	*e*P	**P**	**23 55 16.3**	**+0.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,39nm,4.4s						
USRK	**Ussuriysk Ar.**	**35.12**	**7**	P	**P**	**23 55 24.2**	**-1.2**
USRK	**Ussuriysk Ar.**	**35.12**	**7**	P	**P**	**23 55 25.9**	**+0.5**
	comp=Z,5.5nm,0.9s,baz=186,slow=6.8,SNR=5.4						
USRK				LR	LR	00 10 59.5	
	comp=Z,34nm,19.0s,baz=189,slow=38						
	comp=Z,5.5nm,0.9s						
CTAO	**Charters Tower**	**35.21**	**146**	P	**P**	**23 55 26.5**	**0.0**
CTAO				IAmb	IAmb	23 55 54.6	
	comp=Z,7.3nm,1.1s						
CTAO	**Charters Tower**	**35.21**	**146**	P	**P**	**23 55 26.5**	**0.0**
CTAO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BRDH	**Bariadhala**	**35.74**	**296**	LR	LR	00 10 44.5	
	comp=Z,140nm,18.6s,baz=138,slow=37						
SHL	**Shillong**	**36.43**	**301**		**P**	**23 55 36.2**	**-0.9**
SHL	**Shillong**	**36.43**	**301**	P	**P**	**23 55 36.2**	**-0.9**
ASAJ	**Asahikawa**	**37.47**	**19**	LR	LR	00 11 47.6	
	comp=Z,65nm,19.0s,baz=159,slow=37						
GTA	**Gaotai**	**38.17**	**326**	*e*P	**P**	**23 55 51.5**	**-0.1**
GTA				sP	pP	23 56 00.3	-14
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						

LSA	**Lhasa**	**38.59**	**307**	P	**P**	**23 55 55.3**	**-0.4**
LSA				IAmb	IAmb	23 55 58.9	
	comp=Z,6.1nm,0.6s						
LSA	**Lhasa**	**38.59**	**307**	P	**P**	**23 55 55.3**	**-0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MORW	**Morawa**	**39.41**	**194**	P	**P**	**23 56 01.1**	**-0.7**
MORW				IAmb	IAmb	23 56 05.6	
	comp=Z,11nm,0.8s						
EVN	**Everest**	**41.49**	**302**		**P**	**23 56 19.9**	**0.0**
EVN				IAmb	IAmb	23 56 26.4	
	comp=Z,5.1nm,0.6s						
ULN	**Ulaanbaatar**	**41.73**	**341**		**P**	**23 56 19.3**	**-1.6**
ULN	**Ulaanbaatar**	**41.73**	**341**	*de*P	**P**	**23 56 20.6**	**-0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**41.92**	**340**	P	**P**	**23 56 21.8**	**-0.7**
SONM	**Songino Array**	**41.92**	**340**	P	**P**	**23 56 21.9**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=158,slow=10,SNR=4.6						
	comp=Z,0.9nm,0.6s						
NWAO	**Narrogin (SRO)**	**42.87**	**191**	P	**P**	**23 56 30.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**42.87**	**191**	P	**P**	**23 56 30.7**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,94nm,1.5s						
BBOO	**Buckleboo**	**42.91**	**168**		**P**	**23 56 30.3**	**-0.1**
STKA	**Stephens Creek**	**43.49**	**161**	P	**P**	**23 56 34.5**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=354,slow=6.3,SNR=5.9						
	comp=Z,1.6nm,0.4s						
PEA0B	**Petropavlovsk-**	**50.51**	**24**	P	**P**	**23 57 29.4**	**-0.1**
PEA0B	**Petropavlovsk-**	**50.51**	**24**	P	**P**	**23 57 29.4**	**-0.1**
PEA0B				pmax	pmax		
	comp=Z,17nm,1.5s						
PETK	**Petropavlovsk-**	**50.51**	**24**	P	**P**	**23 57 29.6**	**+0.1**
PETK	**Petropavlovsk-**	**50.51**	**24**	P	**P**	**23 57 30.4**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=167,slow=2.8,SNR=9.2						
	comp=Z,2.1nm,0.5s						
YAK	**Yakutsk**	**52.69**	**2**	*i*/*e*P	**P**	**23 57 45.4**	**-0.1**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s						
MK31	**Makanchi Array**	**52.79**	**323**	*ce*P	**P**	**23 57 46.9**	**+0.2**
MKAR	**Makanchi Array**	**52.79**	**323**		**P**	**23 57 46.2**	**-0.5**
MKAR	**Makanchi Array**	**52.79**	**323**	P	**P**	**23 57 45.3**	**-1.3**
	comp=Z,6.3nm,0.6s,baz=122,slow=8.0,SNR=52						
MKAR				PcP	**PcP**	**23 58 55.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=115,slow=5.1,SNR=1.2						
	comp=Z,6.3nm,0.6s						
MKAR	**Makanchi Array**	**52.79**	**323**	*ce*P	**P**	**23 57 46.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH	**Kashi**	**53.88**	**313**	P	**P**	**23 57 57.8**	**+3.0**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NIL	**Nilore**	**54.28**	**305**		**P**	**23 57 57.7**	**0.0**
NIL	**Nilore**	**54.28**	**305**	P	**P**	**23 57 57.7**	**0.0**
NIL				pmax	pmax		
	comp=Z,25nm,0.7s						
ZALV	**Zalesovo Beam**	**55.47**	**332**	P	**P**	**23 58 04.5**	**-1.4**
ZALV	**Zalesovo Beam**	**55.47**	**332**	P	**P**	**23 58 04.6**	**-1.3**
	comp=Z,1.5nm,0.4s,baz=115,slow=6.4,SNR=7.1						
ZALV				PcP	**PcP**	**23 59 04.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=134,slow=4.2,SNR=1.7						
	comp=Z,1.5nm,0.4s						
SEY	**Seymchan**	**56.75**	**14**	*i*/*e*P	**P**	**23 58 14.5**	**-0.3**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KURK	**Kurchatov**	**56.86**	**326**		**P**	**23 58 15.4**	**-0.5**
KURK	**Kurchatov**	**56.86**	**326**	*c i*P	**P**	**23 58 15.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,12nm,1.3s						
KURBB	**Kurchatov Arra**	**56.87**	**326**	P	**P**	**23 58 15.6**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=124,slow=6.8,SNR=54						
	comp=Z,4.6nm,0.6s						
KBL	**Kabul**	**57.88**	**305**		**P**	**23 58 22.8**	**-0.8**
KBL	**Kabul**	**57.88**	**305**	P	**P**	**23 58 22.8**	**-0.8**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GAR	**Garm**	**57.91**	**310**	P	**P**	**23 58 22.8**	**-0.8**
CHGR	**Chuyangaron**	**58.70**	**310**	P	**P**	**23 58 28.3**	**-0.8**
CHGR	**Chuyangaron**	**58.70**	**310**	P	**P**	**23 58 28.3**	**-0.8**
SIMJ	**Simiganj**	**58.81**	**310**		**P**	**23 58 29.1**	**-0.8**
SIMJ				IAmb	IAmb	23 58 33.0	
	comp=Z,3.7nm,0.8s						
KKAR	**Karatay Array**	**58.93**	**315**		**P**	**23 58 29.6**	**-0.8**
KKAR	**Karatay Array**	**58.93**	**315**	P	**P**	**23 58 29.7**	**-0.8**
TIXI	**Tiksi**	**62.31**	**1**	P	**P**	**23 58 53.0**	**+0.1**
TIXI	**Tiksi**	**62.31**	**1**	*i*/*e*P	**P**	**23 58 52.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BVAR	**Borovoye Array**	**62.46**	**326**	P	**P**	**23 58 54.0**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=130,slow=8.3,SNR=35						
	comp=Z,4.8nm,0.7s						
BVAR	**Borovoye Array**	**62.46**	**326**	P	**P**	**23 58 54.0**	**-0.3**
THZ	**Tophouse**	**66.39**	**144**	P	**P**	**23 59 20.0**	**-0.1**
THZ				IAmb	IAmb	23 59 26.4	
	comp=Z,8.2nm,0.8s						
AB31	**Akbulak array**	**67.61**	**320**	P	**P**	**23 59 27.2**	**-0.4**
ABKAR	**Akbulak array**	**67.61**	**320**		**P**	**23 59 27.2**	**-0.5**
UOSS	**Minazif**	**68.11**	**293**	P	**P**	**23 59 31.0**	**-0.3**
UOSS				IAmb	IAmb	23 59 41.8	
	comp=Z,6.3nm,0.8s						
SVE	**Sverdlovsk**	**69.02**	**328**	*e*P	**P**	**23 59 35.8**	**-0.5**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
ARTI	**Arti**	**70.11**	**327**		**P**	**23 59 42.7**	**-0.4**
ARTI				IAmb	IAmb	23 59 43.0	
	comp=Z,7.9nm,0.6s						
ARTI	**Arti**	**70.11**	**327**	*c i*P	**P**	**23 59 42.3**	**-0.8**
ARTI				*PP	**PcP**	**00 00 00.5**	**-4.0**
ARTI						00 02 16.5	
ARTI				S	**S**	**00 08 52.1**	**+6.0**
ARTI				SS	**SS**	**00 13 16.9**	**-0.7**
ARTI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIRV	**Kirov**	**75.26**	**328**	*e*P	**P**	**00 00 12.8**	**-0.6**
BELG	**Belogornoye**	**75.76**	**322**	*e*P	**P**	**00 00 16.3**	**-0.1**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CASY	**Casey**	**76.27**	**186**		**P**	**00 00 19.3**	**+0.4**
CASY				IAmb	IAmb	00 00 21.0	
	comp=Z,6.2nm,0.8s						
H19K	**Roundabout Mou**	**76.31**	**25**	P	**P**	**00 00 19.7**	**+0.4**
IMAR	**Indian Mountai**	**77.47**	**24**	P	**P**	**00 00 25.9**	**0.0**
RAYN	**Ar Rayn**	**77.93**	**292**		**P**	**00 00 29.4**	**+0.1**
RAYN				IAmb	IAmb	00 00 30.8	
	comp=Z,8.8nm,0.7s						
RAYN	**Ar Rayn**	**77.93**	**292**	P	**P**	**00 00 29.4**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BPAW	**Bear Paw Mtn.**	**78.52**	**26**	P	**P**	**00 00 32.9**	**+1.2**
BPAW				IAmb	IAmb	00 00 43.6	
	comp=Z,6.0nm,1.0s						
KBZ	**Khabaz**	**78.86**	**313**	P	**P**	**00 00 34.4**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=113,slow=5.4,SNR=5.6						
	comp=Z,3.0nm,0.9s						
GURO	**Guroymak-BITLI**	**79.78**	**308**	P	**P**	**00 00 40.1**	**+0.8**
GURO				IAmb	IAmb	00 00 41.5	
	comp=Z,9.8nm,0.7s						
HDA	**Harding Lake**	**80.28**	**26**	P	**P**	**00 00 41.8**	**+0.5**
ILAR	**Eielson Array**	**80.30**	**26**	P	**P**	**00 00 40.8**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=253,slow=4.8,SNR=7.5						
	comp=Z,0.6nm,0.4s						
MARD	**Mardin**	**80.86**	**306**		**P**	**00 00 45.6**	**+0.5**
MARD				IAmb	IAmb	00 00 48.4	
	comp=Z,7.3nm,0.5s						
BMAR	**Burnt Mountain**	**81.15**	**23**	P	**P**	**00 00 47.4**	**+1.5**
K27K	**Chicken**	**82.43**	**26**	P	**P**	**00 00 54.2**	**+1.6**
K27K				IAmb	IAmb	00 01 06.1	
	comp=Z,13nm,1.4s						
BCAR	**Beaver Creek A**	**82.66**	**27**	P	**P**	**00 00 55.6**	**+1.7**
ABPO	**Ambohimpanom**	**82.80**	**249**	P	**P**	**00 00 55.5**	**-0.1**
ABPO				IAmb	IAmb	00 00 58.0	
	comp=Z,7.8nm,0.9s						
ABPO	**Ambohimpanom**	**82.80**	**249**	P	**P**	**00 00 55.5**	**-0.1**
ABPO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BARN	**Barnard Glacie**	**82.93**	**29**	P	**P**	**00 00 56.0**	**+0.4**
BARN				IAmb	IAmb	00 01 01.3	
	comp=Z,6.4nm,0.8s						
H29M	**Whitestone**	**83.72**	**24**		**P**	**00 01 00.7**	**+1.4**
H29M				IAmb	IAmb	00 01 01.7	
	comp=Z,7.9nm,1.1s						
VOI	**Vohitsoka**	**83.81**	**247**	P	**P**	**00 01 00.8**	**+0.2**
I30M	**Mount Dempster**	**84.69**	**25**		**P**	**00 01 05.5**	**+1.2**
I30M				IAmb	IAmb	00 01 08.7	
	comp=Z,5.9nm,0.9s						

J30M	**Hart River**	**84.83**	**25**		**P**	**00 01 06.2**	**+1.2**
SPITS	**Spitsbergen Ar**	**84.96**	**349**	P	**P**	**00 01 05.6**	**+0.3**
	comp=Z,5.7nm,0.7s,baz=92,slow=8.7,SNR=6.0						
	comp=Z,5.7nm,0.7s						
HYT	**Haines Junctio**	**84.97**	**29**		**P**	**00 01 07.1**	**+1.3**
HYT				IAmb	IAmb	00 01 11.4	
	comp=Z,4.8nm,0.8s						
ARCES	**ARCESS Array B**	**85.09**	**340**		**P**	**00 01 06.0**	**-0.1**
ARCES	**ARCESS Array B**	**85.09**	**340**	P	**P**	**00 01 06.2**	**+0.1**
	comp=Z,7.8nm,0.6s,baz=80,slow=6.9,SNR=89						
	comp=Z,7.8nm,0.6s						
MMAI	**Mount Meron Ar**	**85.73**	**303**	P	**P**	**00 01 10.2**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=78,slow=7.8,SNR=5.6						
	comp=Z,3.1nm,0.7s						
GHAJ	**Ghor Haditha**	**85.83**	**301**	P	**P**	**00 01 11.4**	**+0.9**
BR131	**Keskin Array S**	**86.14**	**309**	*i*/*e*P	**P**	**00 01 11.7**	**-0.4**
BRTR	**Keskin Array B**	**86.14**	**309**	P	**P**	**00 01 11.9**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=87,slow=4.1,SNR=7.6						
	comp=Z,1.2nm,0.7s						
FIA1	**FINESS Array S**	**86.73**	**332**	P	**P**	**00 01 14.2**	**-0.1**
FINES	**FINESS Array B**	**86.74**	**332**	P	**P**	**00 01 14.2**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=87,slow=5.0,SNR=30						
	comp=Z,3.5nm,0.6s						
CSS	**Mathiatis**	**87.13**	**305**		**P**	**00 01 16.8**	**-0.1**
AKASG	**Malin Array Be**	**87.31**	**321**	P	**P**	**00 01 16.4**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=73,slow=4.1,SNR=4.9						
	comp=Z,1.3nm,0.7s						
AKBB	**Malin Array Si**	**87.31**	**321**	*i*/*e*P	**P**	**00 01 17.6**	**+0.3**
MAW	**Mawson**	**88.80**	**200**	P	**P**	**00 01 25.1**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=39,slow=12,SNR=4.9						
	comp=Z,1.7nm,0.6s						
VNDA	**Vanda**	**88.98**	**173**	P	**P**	**00 01 25.5**	**+0.9**
VNDA	**Vanda**	**88.98**	**173**	P	**P**	**00 01 25.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=323,slow=5.3,SNR=15						
	comp=Z,1.2nm,0.6s						
VNDA	**Vanda**	**88.98**	**173**	P	**P**	**00 01 25.5**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**92.90**	**332**	P	**P**	**00 01 42.2**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=73,slow=5.0,SNR=7.3						
	comp=Z,3.5nm,0.9s						
NOA	**NORSAR Array B**	**93.62**	**334**	P	**P**	**00 01 45.1**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=63,slow=4.7,SNR=5.1						
	comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**94.63**	**24**	P	**P**	**00 01 52.1**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=310,slow=4.8,SNR=4.8						
	comp=Z,1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**120.62**	**291**	PKP	**PKPdf**	**00 07 22.4**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=2.9,slow=2.4,SNR=5.2						
PLCA	**Paso Flores**	**145.32**	**157**	PKPbc	**PKPab**	**00 08 09.5**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=234,slow=2.7,SNR=7.3						

IDC ***31*** *23:54:39.0±0.6,49.˝98S×114.˝64W,h0km,mb4.1/10, mbtmp4.1/10,MS5.2/44, Error ellipse: s-maj=23.8km s-min=20.1km az=142.0*
NEIC ***31*** *23:54:40.9±1.0,50.˝0S±0.˝1×114.˝5W±0.˝2,h10km±1km, mb5.1/73,Ms_20 5.4/975,Mwb5.6/25,Mww5.7/28, Error ellipse: s-maj=25.0km s-min=18.6km az=309.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.03; Mθθ0.90; Mϕϕ=0.87; Mrθ0.14; Mθϕ2.63; Mϕr=1.01; Fault plane solution: M₀2.95000×10¹⁷ NP1:ϕs10.03000°, δ85.08000°,λ=160.94000°. NP2:ϕs278.34000°, δ71.01000°,λ=5.21000°. Principal axes: T 2.8685, Plg10.0000°, Azm143.0000°; N 0.1621, Plg70.0000°, Azm24.0000°; P -3.0306, Plg17.0000°, Azm236.0000°;*
NEIC ***31*** *23:54:41.6,49.˝98S×114.˝55W,h20km,Moment Tensor Solution. Duration: 3§4 Moment tensor: Scale 10¹⁷Nm; Mrr=0.23; Mθθ1.62; Mϕϕ=1.39; Mrθ0.35; Mθϕ3.73; Mϕr0.14; Fault plane solution: M₀4.05000×10¹⁷ NP1:ϕs10.87000°, δ85.78000°,λ177.49000°. NP2:ϕs101.05000°,δ87.50000°, λ4.23000°. Principal axes: T 4.1713, Plg5.0000°, Azm326.0000°; N -0.2632, Plg85.0000°, Azm132.0000°; P -3.9081, Plg1.0000°, Azm236.0000°;*
NEIC ***31*** *23:54:41.6,49.˝98S×114.˝40W,h10km*
NEIC ***31*** *23:54:41.6,49.˝98S×114.˝40W,h20km*
GCMT ***31*** *23:54:45.0±0.1,49.˝95S±0.˝01×114.˝64W±0.˝01,h12km, MW5.7/156,Moment Tensor Solution. s152,c304; s156,c324; Duration: 1§6 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.25±.03; Mθθ1.55±.03; Mϕϕ-1.30±.03; Mrθ0.21±.08; Mθϕ3.46±.03; Mϕr0.17±.07; Best double couple: M₀3.75100×10¹⁷ NP1:ϕs101.00000°,δ87.00000°, λ2.00000°. NP2:ϕs11.00000°,δ88.00000°,λ177.00000°. Principal axes: T 3.8850, Plg4.0000°, Azm326.0000°; N -0.2660, Plg86.0000°, Azm152.0000°; P -3.6170, Plg0.0000°, Az

BI02 IAmb IAmb 00 01 29.0
comp=Z,60nm,1.7s
BI02 IAms_20 IAms_20 00 11 11.7
comp=Z,6µm,20.0s
ML02 Panimavida 34.22 82 P **P** **00 01 25.2 -0.5**
ML02 IAMs_20 IAMs_20 00 11 29.8
comp=Z,5µm,18.0s
EFI East Falkland 35.05 115 IAMs_20 IAMs_20 00 13 01.9
comp=Z,5µm,19.0s
BO02 Sierra Bellavi 35.23 81 **P** **00 01 33.9 -0.6**
BO01 Tunca 35.29 81 **P** **00 01 34.7 -0.2**
BO01 IAMs_20 IAMs_20 00 11 41.2
comp=Z,7µm,21.0s
MT09 Talagante 35.75 80 P **P** **00 01 38.6 -0.4**
MT09 IAMs_20 IAMs_20 00 12 10.3
comp=Z,4µm,18.0s
VA01 Torpederas 35.82 78 IAMs_20 IAMs_20 00 11 40.4
comp=Z,7µm,22.0s
BO04 La Punta 35.85 81 IAMs_20 IAMs_20 00 12 44.0
comp=Z,5µm,18.0s
MT02 Curacav 35.99 79 IAMs_20 IAMs_20 00 12 01.7
comp=Z,7µm,20.0s
MT05 Renca 36.15 80 **P** **00 01 42.2 -0.2**
LMEL Las Melosas 36.20 81 P **P** **00 01 42.8 -0.2**
LMEL IAMs_20 IAMs_20 00 12 20.2
comp=Z,5µm,20.0s
MT13 San Alfonso 36.21 81 P **P** **00 01 41.8 -1.2**
MT13 IAMs_20 IAMs_20 00 12 20.7
comp=Z,5µm,20.0s
MT16 CCHEN 36.27 80 P **P** **00 01 43.1 -0.3**
VA06 Catapilco 36.34 78 P **P** **00 01 43.5 -0.5**
VA06 IAMs_20 IAMs_20 00 12 08.2
comp=Z,5µm,20.0s
PEL Peldehue 36.35 79 IAMs_20 IAMs_20 00 12 10.4
comp=Z,7µm,22.0s
MT08 Bocatoma Ro 36.58 80 P **P** **00 01 45.1 -1.1**
MT08 IAmb IAmb 00 02 10.9
comp=Z,45nm,1.5s
MT08 IAMs_20 IAMs_20 00 12 51.0
comp=Z,6µm,19.0s
VA03 San Esteban 36.68 79 P **P** **00 01 45.3 -1.7**
VA03 IAmb IAmb 00 02 15.1
comp=Z,77nm,1.6s
VA03 IAMs_20 IAMs_20 00 12 20.1
comp=Z,5µm,22.0s
CO06 Fray Jorge 37.40 75 IAMs_20 IAMs_20 00 12 23.4
comp=Z,6µm,21.0s
CO02 Combarbal 37.44 77 IAMs_20 IAMs_20 00 12 37.3
comp=Z,5µm,19.0s
CO03 El Pedregal 37.88 77 IAMs_20 IAMs_20 00 12 50.0
comp=Z,5µm,19.0s
TBI Tubuai 37.96 301 *e*P P 00 01 49.3 -8.4
comp=Z,454nm,23.2s
TBI *e*S **S** **00 07 47.7 -1.8**
comp=Z,3µm,29.8s
TBI *e*SS **SnSn** **00 10 28.2 -2.9**
comp=Z,7µm,25.8s
TBI *e*LR LR 00 12 10.1
comp=Z,6µm,24.8s
TBI *e*LR LR 00 12 20.9
comp=Z,31µm,25.8s
CO05 La Serena 38.17 75 IAMs_20 IAMs_20 00 12 44.7
comp=Z,5µm,22.0s
GO04 Tololo Observa 38.27 76 IAMs_20 IAMs_20 00 13 00.3
comp=Z,4µm,19.0s
CO01 Juntas del Tor 38.84 76 IAMs_20 IAMs_20 00 13 19.6
comp=Z,4µm,20.0s
CFA Coronel Fontan 38.92 80 LR LR 00 14 16.6
comp=Z,2µm,20.2s,baz=210,slow=30
TRQA Tornquist 38.95 93 **P** **00 02 05.7 -0.3**
TRQA IAmb IAmb 00 02 14.0
comp=Z,88nm,1.6s
BELA Belgrano 2 39.69 161 **P** **00 02 12.1 +0.4**
BELA IAmb IAmb 00 02 18.0
comp=Z,76nm,1.6s
QSPA South Pole Qui 40.27 180 **P** **00 02 17.5 +0.6**
QSPA South Pole Qui 40.27 180 IAMs_20 IAMs_20 00 17 14.7
comp=Z,4µm,19.0s
QSPA South Pole Qui 40.27 180 P **P** **00 02 17.9 +1.0**
comp=Z,4.0nm,1.0s,baz=114,slow=5.5,SNR=8.5
QSPA LR LR 00 17 35.6
comp=Z,4µm,19.0s,baz=99,slow=34
comp=Z,4.0nm,1.0s
VNDA Vanda 40.47 199 P **P** **00 02 19.6 +1.5**
VNDA Vanda 40.47 199 LR LR 00 15 14.6
comp=Z,867nm,20.3s,baz=103,slow=31
AC02 Maricunga 41.66 74 **P** **00 02 28.3 -0.8**
AC02 IAmb IAmb 00 02 36.0
comp=Z,76nm,1.9s
PB14 IPOC Station P 42.48 70 IAMs_20 IAMs_20 00 15 03.3
comp=Z,5µm,22.0s
PPT2 Papeete2 42.72 306 *e*P P 00 02 33.0 -4.3
comp=Z,143nm,24.0s
PPT2 *e*S **S** **00 09 01.5 +0.6**
comp=Z,2µm,25.0s
PPT2 *e*SS **SS** **00 12 12.3 +0.9**
comp=Z,9µm,27.2s
PPT2 *e*LR LR 00 14 20.1
comp=Z,9µm,27.2s
PPT2 *e*LR LR 00 14 32.5
comp=Z,6µm,21.5s
PPT Papeete 42.74 306 LR LR 00 16 19.0
comp=Z,4µm,18.0s,baz=140,slow=30
PB10 IPOC Station P 43.22 69 IAMs_20 IAMs_20 00 15 24.0
comp=Z,5µm,20.0s
PB05 IPOC Station P 43.93 69 IAMs_20 IAMs_20 00 15 44.8
comp=Z,6µm,21.0s
PB03 IPOC Station P 44.81 68 IAMs_20 IAMs_20 00 16 11.1
comp=Z,5µm,22.0s
AF01 San Pedro de A 45.09 71 IAMs_20 IAMs_20 00 16 57.2
comp=Z,4µm,20.0s
PB02 IPOC Station P 45.28 68 IAMs_20 IAMs_20 00 16 43.6
comp=Z,4µm,20.0s
PB09 IPOC Station P 45.31 69 IAMs_20 IAMs_20 00 16 56.3
comp=Z,4µm,20.0s
PATCX Punta Patache 45.51 67 IAMs_20 IAMs_20 00 16 29.7
comp=Z,7µm,22.0s
RAR Rarotonga 45.57 292 *e*P P 00 02 56.8 -3.2
comp=Z,55nm,27.0s
RAR *e*S **S** **00 09 42.1 -0.1**
comp=Z,295µm,25.0s
RAR *e*SS **SS** **00 13 11.1 +5.3**
comp=Z,1237µm,32.0s
RAR *e*LR LR 00 15 38.6
comp=Z,4µm,28.0s
RAR Rarotonga 45.57 292 LR LR 00 17 21.8
comp=Z,842nm,19.2s,baz=142,slow=30
PB01 IPOC Station P 45.74 68 IAMs_20 IAMs_20 00 16 57.6
comp=Z,4µm,20.0s
HMBC Humberstone 46.09 67 IAMs_20 IAMs_20 00 17 05.9
comp=Z,6µm,20.0s
TAOE Nuku Hiva Isla 46.12 324 IAMs_20 IAMs_20 00 16 48.6
comp=Z,6µm,21.0s
TAOE Nuku Hiva Isla 46.12 324 *e*S **S** **00 09 47.0 -3.3**
comp=Z,1µm,26.1s
TAOE *e*SS **SS** **00 13 17.6 +2.1**
comp=Z,510nm,26.3s
TAOE *e*LR LR 00 16 00.2
comp=Z,12µm,26.5s
PB11 IPOC Station P 46.62 66 IAMs_20 IAMs_20 00 17 33.2
comp=Z,5µm,20.0s
PB08 IPOC Station P 46.63 67 IAMs_20 IAMs_20 00 17 17.3
comp=Z,5µm,20.0s
GO01 Chusmiza 46.97 67 IAMs_20 IAMs_20 00 17 44.3
comp=Z,5µm,20.0s
PB12 IPOC Station P 47.12 65 IAMs_20 IAMs_20 00 17 35.5
comp=Z,4µm,20.0s
AP01 Chacalluta 47.30 65 IAMs_20 IAMs_20 00 17 31.3
comp=Z,4µm,20.0s
PB16 IPOC Station P 47.82 65 P **P** **00 03 17.7 -0.7**
PB16 IAMs_20 IAMs_20 00 17 51.0
comp=Z,5µm,20.0s
PLTB Pedras Altas 48.23 92 **P** **00 03 20.1 -0.7**
BHW Baring Head 48.29 252 IAMs_20 IAMs_20 00 18 50.9
comp=Z,3µm,19.0s
PB18 Visviri 48.42 65 P **P** **00 03 22.8 -0.1**
PB18 IAMs_20 IAMs_20 00 18 30.9
comp=Z,4µm,20.0s
MXZ Matakaoa Point 48.42 258 IAMs_20 IAMs_20 00 18 01.8
comp=Z,5µm,22.0s
SNZO South Karori 48.45 252 IAMs_20 IAMs_20 00 18 57.1
comp=Z,5µm,20.0s
SNZO South Karori 48.45 252 *e*S **S** **00 10 19.4 -3.5**
comp=Z,74nm,24.0s
SNZO *e*SS **SS** **00 13 55.9 +3.7**
comp=Z,27nm,25.0s
SNZO *e*LR LR 00 16 58.0
comp=Z,519nm,26.0s
RTZ Ruatahuna 48.62 256 IAMs_20 IAMs_20 00 19 13.0
comp=Z,4µm,20.0s
URZ Urewera 48.75 256 LR LR 00 19 37.3
comp=Z,4µm,19.3s,baz=126,slow=31
NNA Nana 48.93 53 IAMs_20 IAMs_20 00 18 45.4
comp=Z,5µm,20.0s
NNA Nana 48.93 53 LR LR 00 18 38.0
comp=Z,6µm,21.2s,baz=206,slow=29
LTZ Lake Taylor 49.08 249 IAMs_20 IAMs_20 00 18 31.5
comp=Z,4µm,20.0s
RPZ Rata Peaks 49.27 247 LR LR 00 19 49.9
comp=Z,2µm,20.0s,baz=114,slow=31
THZ Tophouse 49.28 250 IAMs_20 IAMs_20 00 18 39.1
comp=Z,3µm,20.0s
NNZ Nelson 49.31 251 IAMs_20 IAMs_20 00 19 22.9
comp=Z,3µm,20.0s
CPUP Villa Florida 49.48 84 P **P** **00 03 30.6 +0.2**
CPUP Villa Florida 49.48 84 P **P** **00 03 30.6 +0.2**
comp=Z,1.4nm,1.0s,baz=168,slow=9.3,SNR=4.2
CPUP LR LR 00 20 53.6
comp=Z,1µm,21.3s,baz=89,slow=32
comp=Z,1.4nm,1.0s
INZ Inchbonnie 49.61 248 IAMs_20 IAMs_20 00 19 21.5
comp=Z,4µm,19.0s
SNAA Sanae 49.62 157 **P** **00 03 31.3 +0.3**
SNAA IAmb IAmb 00 03 36.8
comp=Z,61nm,2.0s
SNAA IAMs_20 IAMs_20 00 21 28.0
comp=Z,4µm,22.0s
SNAA Sanae 49.62 157 P **P** **00 03 31.2 +0.3**
comp=Z,2.3nm,1.1s,baz=232,slow=8.3,SNR=8.9
SNAA LR LR 00 21 49.7
comp=Z,4µm,21.6s,baz=267,slow=33
comp=Z,2.3nm,1.1s
DSZ Denniston Nort 49.96 250 IAMs_20 IAMs_20 00 20 08.0
comp=Z,3µm,19.0s
HIZ Hauiti 50.01 255 IAMs_20 IAMs_20 00 20 11.7
comp=Z,4µm,19.0s
TOZ Tahuroa Road 50.08 256 IAMs_20 IAMs_20 00 20 19.7
comp=Z,4µm,19.0s
LPAZ La Paz 50.23 65 P **P** **00 03 37.0 0.0**
comp=Z,7.7nm,1.1s,baz=198,slow=6.9,SNR=15
LPAZ LR LR 00 19 49.7
comp=Z,3µm,19.2s,baz=226,slow=30
comp=Z,7.7nm,1.1s
RAO Raoul Island 51.31 269 LR LR 00 19 36.1
comp=Z,1µm,21.9s,baz=129,slow=29
ITAB Concordia 52.21 89 P **P** **00 03 50.8 -0.1**
ITAB IAMs_20 IAMs_20 00 23 37.8
comp=Z,2µm,18.0s
ATAH Atahualpa 52.32 48 LR LR 00 20 43.9
comp=Z,5µm,19.8s,baz=220,slow=30
OUZ Omahuta 52.85 257 IAMs_20 IAMs_20 00 21 24.0
comp=Z,4µm,21.0s
PAYG Puerto Ayora 53.31 31 IAMs_20 IAMs_20 00 20 26.3
comp=Z,5µm,21.0s
NIUE Niue 53.40 285 *e*S **S** **00 11 33.2 +1.2**
comp=Z,428nm,26.8s
NIUE *e*SS SS 00 15 03.6 -8.3
comp=Z,220nm,28.0s
NIUE *e*LQ LQ 00 17 02.4
comp=Z,620nm,26.7s
NIUE *e*LR LR 00 19 03.1
comp=Z,1µm,28.8s
CZSB Cruzeiro do Su 54.67 54 P **P** **00 04 09.6 +0.4**
CZSB IAMs_20 IAMs_20 00 22 00.5
comp=Z,3µm,20.0s
SIV San Ignacio 54.70 72 LR LR 00 23 41.7
comp=Z,3µm,20.7s,baz=250,slow=32
PTLB Pontes e Lacer 56.31 73 P **P** **00 04 20.1 -0.8**
CASY Casey 59.09 200 P **P** **00 04 40.5 +0.7**
CASY IAmb IAmb 00 05 16.6
comp=Z,21nm,1.7s
CASY Casey 59.09 200 *e*S **S** **00 12 43.3 -3.1**
comp=Z,171nm,26.0s
CASY *e*SS **SS** **00 16 41.8 +2.4**
comp=Z,312nm,27.0s
CASY *e*LQ LQ 00 19 23.5
comp=Z,712nm,27.0s
CASY *e*LR LR 00 21 59.6
comp=Z,999nm,22.0s
TBTG Tabatinga, AM 59.13 55 P **P** **00 04 40.3 -0.4**
TBTG IAmb IAmb 00 05 53.1
comp=Z,21nm,0.9s
NFK Norfolk Island 60.52 259 *e*S **S** **00 13 01.7 -4.2**
NFK *e*LR LR 00 22 46.1
FLOC Florencia 61.25 46 P **P** **00 04 55.9 +0.6**
FLOC IAmb IAmb 00 05 25.0
comp=Z,28nm,1.6s
BDFB Brasilia 63.18 82 LR LR 00 29 50.8
comp=Z,2µm,20.2s,baz=208,slow=33
XMAS Kiritimati 63.45 311 IAMs_20 IAMs_20 00 25 28.5
comp=Z,3µm,20.0s
XMAS Kiritimati 63.45 311 *e*P P 00 04 59.4 -11
comp=Z,6.5nm,37.0s
XMAS Kiritimati 63.45 311 *e*PP PP 00 07 31.0 +1.4
comp=Z,7.1nm,29.0s
XMAS *e*S **S** **00 13 41.6 -1.4**
comp=Z,105nm,26.0s
XMAS *e*SS **SS** **00 17 49.5 -0.6**
comp=Z,24nm,29.0s
XMAS *e*LR LR 00 24 05.0
comp=Z,243nm,25.0s
PIRO Carate, Puerto 64.19 35 IAMs_20 IAMs_20 00 26 42.7
comp=Z,2µm,19.0s
ROSC El Rosal 64.73 46 P **P** **00 05 19.0 +0.2**
ROSC IAMs_20 IAMs_20 00 28 18.9
comp=Z,3µm,20.0s
ROSC El Rosal 64.73 46 LR LR 00 29 39.3
comp=Z,3µm,18.2s,baz=229,slow=32
LCR2 La Lucha 2 65.18 34 IAMs_20 IAMs_20 00 26 52.8
comp=Z,2µm,20.0s
JTS Las Juntas de 65.36 32 IAMs_20 IAMs_20 00 26 58.5
comp=Z,2µm,20.0s
JTS Las Juntas de 65.36 32 LR LR 00 27 18.7
comp=Z,2µm,19.1s,baz=192,slow=30
HDC Heredia 65.39 33 IAMs_20 IAMs_20 00 26 41.2
comp=Z,2µm,19.0s
ONTNC Ouen Toro 66.21 263 IAMs_20 IAMs_20 00 27 24.3
comp=Z,2µm,20.0s
RUSC La Rusia 66.23 46 P **P** **00 05 26.6 -2.1**
RUSC IAmb IAmb 00 05 45.2
comp=Z,16nm,1.1s
RUSC IAMs_20 IAMs_20 00 29 41.4
comp=Z,2µm,19.0s
BCIP Isla Barro Col 66.23 38 IAMs_20 IAMs_20 00 26 49.2
comp=Z,3µm,22.0s
DZM Mont Dzumac 66.39 263 *e*S **S** **00 14 16.8 -2.5**
comp=Z,824nm,25.4s
DZM *e*SS **SS** **00 18 31.9 -3.5**
comp=Z,470nm,25.6s
DZM *e*LQ LQ 00 22 39.3
comp=Z,5µm,29.1s
DZM *e*LR LR 00 25 17.5
comp=Z,4µm,23.8s
ESPN Las Esperanzas 67.36 32 IAMs_20 IAMs_20 00 28 52.5
comp=Z,2µm,18.0s
MTO3 Montecristo 67.82 27 IAMs_20 IAMs_20 00 27 42.2
comp=Z,2µm,21.0s
ESQI Esquipulas 67.98 27 IAMs_20 IAMs_20 00 27 46.4
comp=Z,2µm,21.0s
TGUH Tegucigalpa,Un 68.12 29 IAMs_20 IAMs_20 00 28 24.1
comp=Z,2µm,21.0s
CMIG Matias Romero 68.98 20 LR LR 00 30 10.9
comp=Z,558nm,18.5s,baz=185,slow=31
BOAV Boa Vista 69.72 60 P **P** **00 05 48.8 -1.3**
BOAV IAmb IAmb 00 05 55.7
comp=Z,19nm,1.5s
BOAV IAMs_20 IAMs_20 00 31 38.9
comp=Z,2µm,19.0s
MAL2 Monte Alegre, 69.82 68 IAMs_20 IAMs_20 00 31 18.9
comp=Z,2µm,22.0s
SDV Santo Domingo 70.00 47 P **P** **00 05 50.7 -1.3**
SDV IAMs_20 IAMs_20 00 32 34.2
comp=Z,2µm,20.0s
SDV Santo Domingo 70.00 47 LR LR 00 32 45.3
comp=Z,2µm,19.6s,baz=200,slow=33
PETF Flores 70.07 25 P **P** **00 05 51.7 -0.3**
PETF IAMs_20 IAMs_20 00 29 55.9
comp=Z,1µm,19.0s
MOIG Morelia 70.32 13 IAMs_20 IAMs_20 00 30 07.7
comp=Z,2µm,21.0s
SMRC Santa Marta, M 70.37 43 IAMs_20 IAMs_20 00 30 44.6
comp=Z,2µm,22.0s
BAUV El Baul 71.30 49 P **P** **00 05 58.6 -1.1**
ZAIG Zacatecas 73.17 12 P **P** **00 06 12.0 +1.0**
ZAIG IAMs_20 IAMs_20 00 31 51.2
comp=Z,2µm,21.0s
TEIG Tepich 73.66 26 IAMs_20 IAMs_20 00 32 17.0
comp=Z,2µm,19.0s
LPIG La Paz 73.80 4 LR LR 00 31 33.2
comp=Z,2µm,20.3s,baz=186,slow=30
STKA Stephens Creek 74.31 239 LR LR 00 33 41.5
comp=Z,2µm,19.3s,baz=138,slow=32
MTDJ Mount Denham 75.38 36 IAMs_20 IAMs_20 00 33 28.7
comp=Z,2µm,18.0s
MDP Montagnes des 76.43 65 LR LR 00 36 37.6
comp=Z,1µm,19.9s,baz=208,slow=33
BBOO Buckleboo 76.59 235 P **P** **00 06 31.1 +0.5**
SRIG Santa Rosalia 76.93 2 IAMs_20 IAMs_20 00 33 12.8
comp=Z,2µm,20.0s
HPIG 76.94 8 P **P** **00 06 34.0 +1.5**
HPIG IAmb IAmb 00 06 43.7
comp=Z,19nm,1.4s
GRGR Grenville 77.24 53 IAMs_20 IAMs_20 00 36 11.6
comp=Z,2µm,22.0s
JOKA Jonika Flow 77.73 321 IAMs_20 IAMs_20 00 31 19.7
comp=Z,1µm,20.0s
BYL Byron's Ledge 77.82 321 IAMs_20 IAMs_20 00 37 55.9
comp=Z,2µm,21.0s
INKA Innaminka 77.93 241 P **P** **00 06 39.0 +0.8**
HMH Humu'ula Sheep 78.08 321 IAMs_20 IAMs_20 00 31 21.8
comp=Z,3µm,22.0s
POHA Pohakuloa 78.24 321 *e*P P 00 06 34.9 -5.1
comp=Z,5.1nm,26.8s
POHA Pohakuloa 78.24 321 *e*PP PP 00 09 32.7 -4.4
comp=Z,3.4nm,25.4s
POHA *e*S **S** **00 16 35.6 +0.6**
comp=Z,28nm,29.6s
POHA Pohakuloa 78.24 321 *e*LR LR 00 30 52.6
comp=Z,157nm,23.1s
HSIG 78.67 3 IAMs_20 IAMs_20 00 33 46.6
comp=Z,2µm,22.0s
833A Chaparral WMA, 79.08 14 P **P** **00 06 45.8 +1.7**
833A IAmb IAmb 00 06 57.4
comp=Z,39nm,1.8s
BBGH Gun Hill 79.18 54 IAMs_20 IAMs_20 00 38 15.0
comp=Z,2µm,22.0s
TXAR Lajitas Array 79.52 10 **P** **00 06 47.5 +0.8**
TXAR Lajitas Array 79.52 10 P **P** **00 06 47.8 +1.2**
comp=Z,2.2nm,1.0s,baz=186,slow=7.5,SNR=12
TXAR LR LR 00 35 05.2
comp=Z,624nm,21.9s,baz=182,slow=30
comp=Z,2.2nm,1.0s
735A Kenedy 79.85 15 IAMs_20 IAMs_20 00 37 27.1
comp=Z,1µm,18.0s
DRIO Del Rio 79.98 12 **P** **00 06 50.9 +1.9**
SJG San Juan 80.13 46 LR LR 00 38 41.0
comp=Z,839nm,20.0s,baz=190,slow=33
HNDO Hondo 80.28 14 P **P** **00 06 52.2 +1.6**
HNDO IAmb IAmb 00 07 02.9
comp=Z,52nm,2.0s
SFX San Felipe 80.61 360 IAMs_20 IAMs_20 00 34 39.3
comp=Z,2µm,19.0s
GDHS Morne Mazeau, 80.68 51 IAMs_20 IAMs_20 00 38 30.4
comp=Z,2µm,20.0s
VTX Valle De La Tr 80.97 359 IAMs_20 IAMs_20 00 34 45.9
comp=Z,1µm,19.0s
ABD La Joyeuse, An 80.99 51 IAMs_20 IAMs_20 00 38 19.3
comp=Z,2µm,21.0s
319A Douglas 81.09 5 IAMs_20 IAMs_20 00 35 06.6
comp=Z,2µm,22.0s
JCT Junction City 81.14 13 P **P** **00 06 56.3 +1.0**
JCT IAmb IAmb 00 07 06.8
comp=Z,23nm,1.3s
061Z Ochoppi 81.20 30 IAMs_20 IAMs_20 00 35 07.5
comp=Z,1µm,22.0s
SMRT St. Maarten 81.55 49 IAMs_20 IAMs_20 00 40 51.2
comp=Z,2µm,18.0s
ESJX Sierra Juarez 81.58 359 IAMs_20 IAMs_20 00 35 03.1
comp=Z,1µm,20.0s
EPT El Paso 81.66 7 IAMs_20 IAMs_20 00 35 36.6
comp=Z,1µm,22.0s
ANWB Willy Bob 81.86 50 IAMs_20 IAMs_20 00 38 53.2
comp=Z,2µm,21.0s
TUC Tucson 81.95 3 IAMs_20 IAMs_20 00 35 16.5
comp=Z,1µm,22.0s
CPBX Cerro Prieto 81.99 359 IAMs_20 IAMs_20 00 35 10.9
comp=Z,1µm,20.0s
JOHN Johnston Islan 82.07 308 *e*S **SKSac** **00 17 18.2 -2.6**
comp=Z,472nm,28.1s
JOHN Johnston Islan 82.07 308 *e*LR LR 00 32 38.8
comp=Z,3µm,26.4s
YUH Yuha Desert 82.22 359 IAMs_20 IAMs_20 00 35 22.1
comp=Z,2µm,20.0s
BAR Barrett 82.27 358 IAMs_20 IAMs_20 00 34 51.3
comp=Z,2µm,22.0s
121A Cookes Peak, D 82.33 6 IAMs_20 IAMs_20 00 36 32.3
comp=Z,1µm,20.0s
113A Mohawk Valley, 82.34 1 IAMs_20 IAMs_20 00 36 14.0
comp=Z,2µm,18.0s
CPE Camp Elliot 82.48 358 IAMs_20 IAMs_20 00 34 56.1
comp=Z,2µm,21.0s
DPP Dos Picos Cty 82.59 358 IAMs_20 IAMs_20 00 34 59.9
comp=Z,2µm,21.0s
GLA Glamis 82.62 360 IAMs_20 IAMs_20 00 35 50.5
comp=Z,2µm,19.0s
BORC Borrego Spring 82.85 359 IAMs_20 IAMs_20 00 35 09.7
comp=Z,1µm,22.0s
DWPF Disney Wildern 83.12 29 IAMs_20 IAMs_20 00 38 33.3
comp=Z,2µm,18.0s
PFO Pinyon Flats O 83.19 358 P **P** **00 07 07.8 +1.7**
PFO Pinyon Flats O 83.19 358 IAMs_20 IAMs_20 00 35 30.7
comp=Z,1µm,21.0s
PFO Pinyon Flats O 83.19 358 LR LR 00 35 42.1
comp=Z,1µm,21.4s,baz=191,slow=30
BC3 Big Chuckawall 83.22 359 P **P** **00 07 08.4 +2.2**
BC3 IAmb IAmb 00 07 18.8
comp=Z,23nm,1.9s
BC3 IAMs_20 IAMs_20 00 36 06.5
comp=Z,2µm,19.0s
ELS Elsinore Mount 83.25 358 IAMs_20 IAMs_20 00 35 17.4
comp=Z,2µm,20.0s
Y14A Wickenburg 83.51 1 IAMs_20 IAMs_20 00 36 28.1
comp=Z,2µm,21.0s
BELC Belle Mtn. Jos 83.57 359 IAMs_20 IAMs_20 00 35 46.8
comp=Z,1µm,20.0s
IRM Iron Mountain 83.72 360 P **P** **00 07 10.7 +2.0**
IRM IAmb IAmb 00 07 21.4
comp=Z,31nm,1.9s
IRM IAMs_20 IAMs_20 00 36 23.7
comp=Z,2µm,20.0s
Y22A Socorro 83.78 6 IAMs_20 IAMs_20 00 37 51.7
comp=Z,1µm,19.0s
PASC Pasadena Art C 83.79 357 IAMs_20 IAMs_20 00 35 41.8
comp=Z,2µm,20.0s
MWC Mount Wilson 83.84 357 IAMs_20 IAMs_20 00 35 34.1
comp=Z,2µm,21.0s
BFSC Mount Baldy Ra 83.84 358 IAMs_20 IAMs_20 00 35 35.1
comp=Z,2µm,20.0s
Y22D IRIS PASSCAL I 83.92 6 IAMs_20 IAMs_20 00 37 56.4
comp=Z,1µm,19.0s
X16A Lo Mia Camp, P 84.03 3 P **P** **00 07 11.8 +1.4**
X18A Snowflake 84.19 4 IAMs_20 IAMs_20 00 36 50.9
comp=Z,2µm,22.0s
DANC Danby, Needles 84.20 359 IAMs_20 IAMs_20 00 36 37.5
comp=Z,1µm,19.0s
NEE2 Needles Airpor 84.33 0 IAMs_20 IAMs_20 00 36 44.8
comp=Z,2µm,20.0s
Z38A Mt. Pleasant 84.65 16 IAMs_20 IAMs_20 00 40 22.9
comp=Z,1µm,18.0s
W13A Hualapai Mount 84.66 1 IAMs_20 IAMs_20 00 37 51.5
comp=Z,2µm,18.0s
W18A Petrified Fore 84.79 4 IAMs_20 IAMs_20 00 37 20.7
comp=Z,1µm,19.0s
ANMO Albuquerque 84.82 7 P **P** **00 07 15.0 +0.6**
ANMO IAmb IAmb 00 07 22.8
comp=Z,16nm,1.6s
ANMO Albuquerque 84.82 7 LR LR 00 38 48.3
comp=Z,1µm,18.1s,baz=272,slow=31
ANMO Albuquerque 84.82 7 PKIKP **P** **00 07 15.0 +0.6**
ANMO Albuquerque 84.82 7 pmax pmax
comp=Z,16nm,1.6s
GSC Goldstone, Bar 84.88 358 IAMs_20 IAMs_20 00 36 22.6
comp=Z,1µm,20.0s
ASAR Alice Springs 84.95 239 P **P** **00 07 14.6 -0.8**
ASAR Alice Springs 84.95 239 P **P** **00 07 14.5 -1.0**
comp=Z,1.5nm,0.8s,baz=141,slow=4.7,SNR=14
ASAR LR LR 00 40 27.5
comp=Z,1µm,18.6s,baz=152,slow=32
comp=Z,1.5nm,0.8s
MTPC Mountain Pass 85.05 359 IAMs_20 IAMs_20 00 37 02.9
comp=Z,1µm,19.0s
LRMC Laurel Mtn Rad 85.08 358 IAMs_20 IAMs_20 00 36 12.9
comp=Z,2µm,21.0s

CCCA	**Chr Cany lake**	85.12	358		IAMs_20	IAMs_20	00 36 26.8		
	comp=Z,2µm,21.0s								
WUAZ	**Wupatki**	85.13	3		P	**P**	**00 07 17.4**	**+1.5**	
WUAZ					IAmb	IAmb	00 07 34.5		
	comp=Z,14nm,1.4s								
H01W1	**Cape Leeuwin H**	85.14	218		T	T	01 42 19.3		
	baz=150,slow=75,SNR=940								
H01W2	**Cape Leeuwin H**	85.14	218		T	T	01 42 34.0		
	baz=150,slow=75,SNR=917								
H01W3	**Cape Leeuwin H**	85.15	218		T	T	01 42 35.0		
	baz=150,slow=75,SNR=743								
WSHM	**Spangler Hills**	85.19	358		IAMs_20	IAMs_20	00 36 30.9		
	comp=Z,2µm,21.0s								
CLC	**China Lake**	85.41	358		IAMs_20	IAMs_20	00 36 25.7		
	comp=Z,2µm,21.0s								
SHOC	**Shoshone, Teco**	85.47	359		IAMs_20	IAMs_20	00 36 44.1		
	comp=Z,1µm,20.0s								
VES	**Vestal, Richgr**	85.49	356		IAMs_20	IAMs_20	00 36 21.8		
	comp=Z,2µm,21.0s								
QSM	**Queen of Sheba**	85.55	358		P	**P**	**00 07 19.4**	**+1.6**	
QSM					IAmb	IAmb	00 07 30.1		
	comp=Z,23nm,1.6s								
NWAO	**Narrogin (SRO)**	85.56	222		LR	LR	00 36 09.3		
	comp=Z,2µm,21.7s,baz=133,slow=29								
MPMC	**Manual Prospec**	85.65	358		IAMs_20	IAMs_20	00 36 44.0		
	comp=Z,2µm,21.0s								
U15A	**North Rim**	86.01	2		P	**P**	**00 07 21.9**	**+1.4**	
U15A					IAMs_20	IAMs_20	00 38 00.2		
	comp=Z,1µm,20.0s								
FURC	**Furnace Creek,**	86.05	358		IAMs_20	IAMs_20	00 36 58.4		
	comp=Z,2µm,22.0s								
SHPR	**Sheep Range**	86.06	360		P	**P**	**00 07 22.2**	**+1.7**	
X40A	**Basin Creek Fa**	86.25	18		IAMs_20	IAMs_20	00 41 48.2		
	comp=Z,1µm,18.0s								
TPNV	**Topopah Spring**	86.52	359		P	**P**	**00 07 23.4**	**+0.6**	
TPNV					IAmb	IAmb	00 07 35.7		
	comp=Z,19nm,1.5s								
TPNV					IAMs_20	IAMs_20	00 36 46.8		
	comp=Z,1µm,22.0s								
257A	**Skidaway Islan**	86.84	28		IAMs_20	IAMs_20	00 40 06.0		
	comp=Z,1µm,20.0s								
MVCO	**Mesa Verde**	86.94	5		IAMs_20	IAMs_20	00 38 42.2		
	comp=Z,1µm,19.0s								
DSP	**Deep Springs**	86.97	357			**P**	**00 07 25.6**	**+0.8**	
DSP					IAmb	IAmb	00 07 37.5		
	comp=Z,19nm,1.6s								
T25A	**Trinidad**	87.17	8		P	**P**	**00 07 27.7**	**+1.6**	
T25A					IAmb	IAmb	00 07 39.1		
	comp=Z,14nm,1.2s								
T25A					IAMs_20	IAMs_20	00 38 56.3		
	comp=Z,1µm,21.0s								
OK038	**West end E0370**	87.18	13		IAMs_20	IAMs_20	00 40 35.3		
	comp=Z,1µm,19.0s								
S22A	**4UR Ranch, Cre**	87.58	6		IAMs_20	IAMs_20	00 39 35.2		
	comp=Z,2µm,21.0s								
WRA	**Warramunga Arr**	87.66	242		P	**P**	**00 07 28.4**	**-0.4**	
	comp=Z,0.8nm,0.9s,baz=144,slow=4.5,SNR=8.1								
WRA					LR	LR	00 43 20.5		
	comp=Z,2µm,18.0s,baz=156,slow=33								
	comp=Z,0.8nm,0.9s								
TPH	**Tonopah**	87.66	358			**P**	**00 07 29.9**	**+1.5**	
TPH					IAmb	IAmb	00 07 39.9		
	comp=Z,24nm,1.8s								
HBAR	**Harrisburg**	87.73	19		IAMs_20	IAMs_20	00 43 12.3		
	comp=Z,1µm,19.0s								
PV01	**Paradox Valley**	87.85	5		IAMs_20	IAMs_20	00 38 43.7		
	comp=Z,1µm,22.0s								
PV02	**Paradox Valley**	87.92	5		IAMs_20	IAMs_20	00 39 11.4		
	comp=Z,1µm,20.0s								
PV18	**Skein Mesa, Pa**	87.95	5		IAMs_20	IAMs_20	00 38 36.2		
	comp=Z,2µm,22.0s								
PV03	**Paradox Valley**	87.96	5		IAMs_20	IAMs_20	00 39 03.5		
	comp=Z,1µm,22.0s								
PV19	**Morning Glory**	88.01	4		IAMs_20	IAMs_20	00 39 12.8		
	comp=Z,1µm,21.0s								
PV16	**Nyswonger Mesa**	88.01	5		IAMs_20	IAMs_20	00 39 06.9		
	comp=Z,1µm,22.0s								
PV12	**Saucer Basin,**	88.02	5		IAMs_20	IAMs_20	00 38 26.2		
	comp=Z,1µm,21.0s								
PV20	**West Nyswonger**	88.04	4		IAMs_20	IAMs_20	00 39 13.6		
	comp=Z,1µm,20.0s								
NVAR	**Mina Array Bea**	88.04	357		P	**P**	**00 07 30.7**	**+0.5**	
	comp=Z,0.3nm,0.5s,baz=198,slow=2.8,SNR=3.5								
NVAR					LR	LR	00 38 21.5		
	comp=Z,3µm,20.9s,baz=174,slow=30								
	comp=Z,0.3nm,0.5s								
PV10	**Paradox Valley**	88.07	4		IAMs_20	IAMs_20	00 39 13.2		
	comp=Z,1µm,20.0s								
CSU	**Charleston Sou**	88.07	29		IAMs_20	IAMs_20	00 41 36.6		
	comp=Z,1µm,18.0s								
PMG	**Port Moresby**	88.10	258		IAMs_20	IAMs_20	00 38 39.8		
	comp=Z,2µm,22.0s								
PMG	**Port Moresby**	88.10	258		LR	LR	00 39 26.4		
	comp=Z,2µm,21.6s,baz=125,slow=30								
PV23	**Carpenter Ridg**	88.15	4		IAMs_20	IAMs_20	00 38 42.5		
	comp=Z,2µm,22.0s								
NHSC	**New Hope**	88.15	28		IAMs_20	IAMs_20	00 41 21.7		
	comp=Z,1µm,19.0s								
CVS	**Carmenet Viney**	88.17	354		IAMs_20	IAMs_20	00 37 51.9		
	comp=Z,2µm,20.0s								
PV21	**Cone Mtn., Par**	88.26	4		IAMs_20	IAMs_20	00 39 10.4		
	comp=Z,1µm,22.0s								
RUSS	**Russell Ranch**	88.33	354		IAMs_20	IAMs_20	00 38 01.1		
	comp=Z,2µm,20.0s								
Q16A	**Castle Valley**	88.52	3		P	**P**	**00 07 34.3**	**+1.8**	
Q16A					IAmb	IAmb	00 07 45.2		
	comp=Z,11nm,1.3s								
AFDM	**Forest Hills D**	88.68	355		IAMs_20	IAMs_20	00 38 27.2		
	comp=Z,2µm,19.0s								
MNRC	**McLaughlin Min**	88.70	354		IAMs_20	IAMs_20	00 38 07.9		
	comp=Z,1µm,20.0s								
GLAT	**Glass**	88.72	20		IAMs_20	IAMs_20	00 45 25.3		
	comp=Z,1µm,19.0s								
PVMO	**Portageville**	88.76	20		IAMs_20	IAMs_20	00 44 04.6		
	comp=Z,984nm,18.0s								
HOPS	**Hopland Field**	88.86	353		IAMs_20	IAMs_20	00 37 41.2		
	comp=Z,2µm,21.0s								
UTMT	**University of**	88.88	21		IAMs_20	IAMs_20	00 43 02.9		
	comp=Z,1µm,21.0s								
WVT	**Waverly**	88.92	21		P	**P**	**00 07 35.4**	**+1.3**	
WVT					IAmb	IAmb	00 07 45.5		
	comp=Z,28nm,1.6s								
WVT	**Waverly**	88.92	21		PKIKP	**P**	**00 07 35.4**	**+1.3**	
WVT	**Waverly**	88.92	21		pmax	pmax			
	comp=Z,29nm,1.6s								
Y57A	**Sumter**	88.93	28		IAMs_20	IAMs_20	00 41 39.4		
	comp=Z,1µm,19.0s								
MGMO	**Mountain Grove**	88.94	18		IAMs_20	IAMs_20	00 43 01.5		
	comp=Z,1000nm,19.0s								
SUTB	**Sutter Butte**	89.00	354		IAMs_20	IAMs_20	00 38 22.0		
	comp=Z,2µm,20.0s								
Y58A	**Scranton**	89.05	28		IAMs_20	IAMs_20	00 43 33.5		
	comp=Z,1µm,18.0s								
R32A	**Long Quarter,**	89.10	12		IAMs_20	IAMs_20	00 41 33.0		
	comp=Z,998nm,19.0s								
KSCO	**Kaye Shedlock'**	89.20	9		IAMs_20	IAMs_20	00 40 36.9		
	comp=Z,2µm,22.0s								
ORV	**Oroville**	89.31	355		IAMs_20	IAMs_20	00 38 33.1		
	comp=Z,2µm,20.0s								
TKL	**Tuckaleechee C**	89.50	25		LR	LR	00 43 53.1		
	comp=Z,610nm,18.7s,baz=196,slow=33								
Y60A	**Bolivia**	89.60	30		IAMs_20	IAMs_20	00 42 03.9		
	comp=Z,1µm,20.0s								
ISCO	**Idaho Springs**	89.71	7		IAMs_20	IAMs_20	00 41 20.6		
	comp=Z,2µm,19.0s								
X58A	**Rowland**	89.75	29		IAMs_20	IAMs_20	00 44 02.1		
	comp=Z,1µm,18.0s								
DUG	**Dugway, Tooele**	89.76	1		IAMs_20	IAMs_20	00 41 08.5		
	comp=Z,1µm,18.0s								
O03E	**Paynes Creek**	90.06	355		IAMs_20	IAMs_20	00 38 54.1		
	comp=Z,1µm,20.0s								
W57A	**Gilead**	90.11	28		IAMs_20	IAMs_20	00 43 18.5		
	comp=Z,1µm,18.0s								
SIUC	**Southern Illin**	90.12	20		IAMs_20	IAMs_20	00 43 24.5		
	comp=Z,1µm,21.0s								
KMRM	**Mail Ridge**	90.13	353		IAMs_20	IAMs_20	00 38 15.3		
	comp=Z,2µm,22.0s								
ELK	**Elko**	90.30	360		IAMs_20	IAMs_20	00 39 48.8		
	comp=Z,1µm,20.0s								
ELK	**Elko**	90.30	360		LR	LR	00 40 20.3		
	comp=Z,1µm,19.4s,baz=184,slow=30								
KMPM	**Mount Pierce**	90.35	353		IAMs_20	IAMs_20	00 39 33.8		
	comp=Z,1µm,19.0s								
HATC	**Hat Creek Radi**	90.56	355		IAMs_20	IAMs_20	00 39 23.3		
	comp=Z,2µm,21.0s								
W59A	**Clinton**	90.60	29		IAMs_20	IAMs_20	00 43 53.4		
	comp=Z,1µm,18.0s								
JCC	**Jacoby Creek,**	90.74	353		IAMs_20	IAMs_20	00 38 33.1		
	comp=Z,2µm,22.0s								
KHMM	**Horse Mountain**	90.78	353		IAMs_20	IAMs_20	00 39 06.0		
	comp=Z,2µm,21.0s								
V58A	**Windy Hill, Pi**	90.97	28		IAMs_20	IAMs_20	00 43 25.3		
	comp=Z,974nm,19.0s								
KRPM	**Rodgers**	91.08	353		IAMs_20	IAMs_20	00 38 55.1		
	comp=Z,2µm,21.0s								
U56A	**King**	91.10	27		IAMs_20	IAMs_20	00 43 16.9		
	comp=Z,1µm,20.0s								
OGNE	**Ogallala**	91.17	10		IAMs_20	IAMs_20	00 42 00.2		
	comp=Z,2µm,21.0s								
HWUT	**Hardware Ranch**	91.20	2		IAMs_20	IAMs_20	00 41 38.4		
	comp=Z,2µm,19.0s								
M02C	**Callahan**	91.23	354		P	**P**	**00 07 46.5**	**+1.6**	
M02C					IAmb	IAmb	00 07 57.9		
	comp=Z,14nm,1.6s								
S51A	**Beattyville**	91.41	24		IAMs_20	IAMs_20	00 47 27.4		
	comp=Z,936nm,18.0s								
KRMB	**Red Mountain**	91.43	353		IAMs_20	IAMs_20	00 39 25.4		
	comp=Z,1µm,20.0s								
YBH	**Yreka Blue Hor**	91.56	354		LR	LR	00 40 02.9		
	comp=Z,154nm,19.9s,baz=156,slow=30								
TULE	**Intermountain**	91.71	355		IAMs_20	IAMs_20	00 40 00.6		
	comp=Z,1µm,22.0s								
KSXB	**Camp Six Broad**	91.74	353		IAMs_20	IAMs_20	00 40 03.4		
	comp=Z,2µm,19.0s								
V61A	**Roper**	91.76	30		IAMs_20	IAMs_20	00 41 45.2		
	comp=Z,2µm,22.0s								
P43A	**Skaggs, Pawnee**	91.90	19		IAMs_20	IAMs_20	00 44 35.7		
	comp=Z,1µm,20.0s								
L02F	**Cave Junction**	92.00	353		IAMs_20	IAMs_20	00 40 11.4		
	comp=Z,1µm,20.0s								
T57A	**Hurt**	92.04	28		IAMs_20	IAMs_20	00 44 09.7		
	comp=Z,1µm,18.0s								
WVOR	**Wild Horse Val**	92.05	357		P	**P**	**00 07 51.0**	**+2.2**	
WVOR					IAmb	IAmb	00 08 16.6		
	comp=Z,11nm,1.4s								
WVOR					IAMs_20	IAMs_20	00 40 12.4		
	comp=Z,2µm,21.0s								
KBO	**Bosley Butte**	92.14	353		IAMs_20	IAMs_20	00 39 26.2		
	comp=Z,2µm,20.0s								
K04D	**Chiloquin, OR**	92.38	355		IAMs_20	IAMs_20	00 40 22.4		
	comp=Z,1µm,21.0s								
PDAR	**Pinedale Array**	92.42	4		P	**P**	**00 07 52.4**	**+1.8**	
	comp=Z,1.4nm,0.9s,baz=183,slow=3.0,SNR=5.8								
PDAR					LR	LR	00 42 02.7		
	comp=Z,540nm,20.1s,baz=186,slow=31								
	comp=Z,1.4nm,0.9s								
K05A	**Summer Lake**	92.44	355		IAMs_20	IAMs_20	00 41 39.8		
	comp=Z,1µm,18.0s								
T59A	**Double "B" Far**	92.54	29		IAMs_20	IAMs_20	00 43 52.7		
	comp=Z,2µm,19.0s								
BBOR	**Butler Butte**	92.70	354		IAMs_20	IAMs_20	00 39 58.9		
	comp=Z,1µm,22.0s								
KEBM	**Edson Butte**	92.81	353		IAMs_20	IAMs_20	00 39 21.8		
	comp=Z,2µm,21.0s								
HDIL	**Hopedale**	92.83	19		IAMs_20	IAMs_20	00 45 01.2		
	comp=Z,1µm,21.0s								
S57A	**Dark Hollow, R**	92.83	28		IAMs_20	IAMs_20	00 45 00.7		
	comp=Z,1µm,18.0s								
J08A	**Circle Bar Ran**	92.97	357		IAMs_20	IAMs_20	00 41 59.6		
	comp=Z,2µm,19.0s								
MFID	**Camas Ranch**	92.97	359		IAMs_20	IAMs_20	00 41 55.6		
	comp=Z,1µm,20.0s								
J04A	**Umpqua Nationa**	93.02	355		IAMs_20	IAMs_20	00 40 43.2		
	comp=Z,2µm,21.0s								
TPAW	**Teton Pass**	93.09	3		P	**P**	**00 07 55.4**	**+1.7**	
TPAW					IAmb	IAmb	00 08 04.2		
	comp=Z,8.2nm,1.3s								
TPAW					IAMs_20	IAMs_20	00 42 31.6		
	comp=Z,2µm,20.0s								
HLID	**Hailey**	93.11	0			**P**	**00 07 55.0**	**+1.3**	
HLID					IAmb	IAmb	00 08 02.4		
	comp=Z,8.5nm,1.4s								
HLID					IAMs_20	IAMs_20	00 42 19.2		
	comp=Z,971nm,19.0s								
SFIN	**Lafayette**	93.14	21		IAMs_20	IAMs_20	00 46 27.4		
	comp=Z,1µm,19.0s								
K30B	**Basset**	93.16	11		IAMs_20	IAMs_20	00 44 23.7		
	comp=Z,1µm,18.0s								
R58B	**Mineral**	93.35	28		IAMs_20	IAMs_20	00 43 42.3		
	comp=Z,1µm,20.0s								
S61A	**Acomac**	93.78	30		IAMs_20	IAMs_20	00 43 50.7		
	comp=Z,1µm,21.0s								
FITZ	**Fitzroy Crossi**	93.95	236		P	**P**	**00 07 59.0**	**+0.9**	
FITZ	**Fitzroy Crossi**	93.95	236		LR	LR	00 44 08.1		
	comp=Z,3µm,21.7s,baz=156,slow=32								
BUCK	**Buck Mountain**	94.03	354		IAMs_20	IAMs_20	00 41 52.0		
	comp=Z,998nm,19.0s								
I05D	**Terrebonne, OR**	94.07	355		IAMs_20	IAMs_20	00 42 44.9		
	comp=Z,1µm,18.0s								
BOSA	**Boshof**	94.08	145		LR	LR	00 41 50.7		
	comp=Z,1µm,21.8s,baz=204,slow=30								
LKWY	**Lake**	94.19	3		IAMs_20	IAMs_20	00 43 11.5		
	comp=Z,2µm,20.0s								
O52A	**Adamsville**	94.20	25		IAMs_20	IAMs_20	00 48 20.2		
	comp=Z,914nm,18.0s								
MCWV	**Mont Chateau**	94.33	26		IAMs_20	IAMs_20	00 47 55.5		
	comp=Z,906nm,19.0s								
H04D	**Lebanon**	94.33	354		IAMs_20	IAMs_20	00 41 00.1		
	comp=Z,993nm,20.0s								
N49A	**Columbus Grove**	94.35	23		IAMs_20	IAMs_20	00 48 20.3		
	comp=Z,848nm,18.0s								
H04A	**Detroit Lake**	94.46	355		IAMs_20	IAMs_20	00 41 26.4		
	comp=Z,1µm,21.0s								
R61A	**Willards**	94.48	30		IAMs_20	IAMs_20	00 44 23.2		
	comp=Z,1µm,21.0s								
P57A	**Homestead Farm**	94.71	28		IAMs_20	IAMs_20	00 44 58.3		
	comp=Z,1µm,20.0s								
RLMT	**Red Lodge**	94.79	4		IAMs_20	IAMs_20	00 44 10.3		
	comp=Z,1µm,18.0s								
L46A	**Eue Claire**	94.88	21		IAMs_20	IAMs_20	00 46 30.4		
	comp=Z,993nm,20.0s								
G06A	**Carlson Farm,**	94.93	356		IAMs_20	IAMs_20	00 41 33.6		
	comp=Z,1µm,22.0s								
DLMT	**Dillon**	94.93	1		IAMs_20	IAMs_20	00 43 35.2		
	comp=Z,1µm,19.0s								
G05A	**Wamic**	94.97	355		IAMs_20	IAMs_20	00 43 13.7		
	comp=Z,2µm,19.0s								
SUSD	**Miller**	94.98	11		IAMs_20	IAMs_20	00 45 39.9		
	comp=Z,1µm,18.0s								
G04A	**Mulino**	95.00	354		IAMs_20	IAMs_20	00 41 21.6		
	comp=Z,944nm,20.0s								
G03D	**McMinnville, O**	95.06	354		IAMs_20	IAMs_20	00 42 02.2		
	comp=Z,945nm,20.0s								
N53A	**Lisbon**	95.12	25		IAMs_20	IAMs_20	00 47 26.5		
	comp=Z,942nm,20.0s								
BOZ	**Bozeman (W)**	95.18	2		IAMs_20	IAMs_20	00 44 20.9		
	comp=Z,1096nm,19.0s								
I37A	**Lemond, Waseca**	95.39	15		IAMs_20	IAMs_20	00 45 34.3		
	comp=Z,1µm,20.0s								
YPT	**Yellepit**	95.67	357		IAMs_20	IAMs_20	00 42 51.2		
	comp=Z,1µm,20.0s								
MVL	**Millersville**	95.69	29		IAMs_20	IAMs_20	00 46 50.1		
	comp=Z,1µm,18.0s								
F03A	**Seaside**	95.79	354		IAMs_20	IAMs_20	00 41 51.7		
	comp=Z,2µm,21.0s								
SSPA	**Stirling Stone**	95.80	27		IAMs_20	IAMs_20	00 45 03.4		
	comp=Z,1µm,21.0s								
P61A	**Hammonton**	95.88	30		IAMs_20	IAMs_20	00 45 25.2		
	comp=Z,2µm,20.0s								
F04D	**Rainier, OR**	95.91	354		IAMs_20	IAMs_20	00 42 59.7		
	comp=Z,2µm,20.0s								
I42A	**Draeger Farm,**	96.11	18		IAMs_20	IAMs_20	00 49 01.1		
	comp=Z,928nm,18.0s								
E08A	**Dider Farm, El**	96.11	357		IAMs_20	IAMs_20	00 43 14.0		
	comp=Z,1µm,20.0s								
E07A	**Sunnyside**	96.21	356		IAMs_20	IAMs_20	00 43 05.6		
	comp=Z,1µm,20.0s								
MXC	**Moxie City**	96.25	356		IAMs_20	IAMs_20	00 42 46.6		
	comp=Z,1µm,21.0s								
RADR	**Rader Ridge**	96.30	354		IAMs_20	IAMs_20	00 41 54.1		
	comp=Z,2µm,21.0s								
N58A	**Sunbury**	96.34	28		IAMs_20	IAMs_20	00 46 20.6		
	comp=Z,1µm,20.0s								
J47A	**Sunmer**	96.39	21		IAMs_20	IAMs_20	00 47 21.2		
	comp=Z,985nm,21.0s								
E03A	**Lebam**	96.40	354		IAMs_20	IAMs_20	00 42 39.9		
	comp=Z,1µm,21.0s								
K50A	**Casco**	96.49	23		IAMs_20	IAMs_20	00 48 45.8		
	comp=Z,850nm,19.0s								
LON	**Longmire**	96.50	355		IAMs_20	IAMs_20	00 42 02.3		
	comp=Z,1µm,22.0s								
SPMN	**Marine on St.**	96.66	15		IAMs_20	IAMs_20	00 46 24.0		
	comp=Z,1µm,21.0s								
M57A	**Sunshine Farm,**	96.67	28		IAMs_20	IAMs_20	00 46 25.4		
	comp=Z,1µm,20.0s								
BRNJ	**Basking Ridge**	96.87	30		IAMs_20	IAMs_20	00 45 25.4		
	comp=Z,1µm,21.0s								
H11S2	**WAKE ISLAND Hy**	96.87	290		T	T	01 55 52.3		
	baz=140,slow=76,SNR=348								
H11S3	**WAKE ISLAND Hy**	96.89	290		T	T	01 55 52.5		
	baz=140,slow=76,SNR=388								
H11S1	**WAKE ISLAND Hy**	96.89	290		T	T	01 55 51.7		
	baz=140,slow=76,SNR=230								
H43A	**Windswept, Lux**	96.90	19		IAMs_20	IAMs_20	00 47 58.0		
	comp=Z,1µm,19.0s								
LTY	**Liberty**	96.95	356		IAMs_20	IAMs_20	00 43 05.0		
	comp=Z,1µm,20.0s								
WISH	**Wishkah**	96.99	354		IAMs_20	IAMs_20	00 43 57.3		
	comp=Z,1µm,19.0s								
L56A	**Greenwood**	97.28	27		IAMs_20	IAMs_20	00 45 50.5		
	comp=Z,1µm,21.0s								
KSPA	**Keystone Colle**	97.29	28		IAMs_20	IAMs_20	00 47 07.6		
	comp=Z,997nm,20.0s								
GNW	**Green Mountain**	97.37	354		IAMs_20	IAMs_20	00 43 36.4		
	comp=Z,1µm,19.0s								
PAL	**Palisades**	97.37	30		IAMs_20	IAMs_20	00 45 26.7		
	comp=Z,2µm,21.0s								
N62A	**Caumsett State**	97.45	30		IAMs_20	IAMs_20	00 45 04.7		
	comp=Z,1µm,22.0s								
JAY	**Jayapura**	97.46	257		LR	LR	00 49 45.2		
	comp=Z,544nm,18.6s,baz=166,slow=34								
LBTB	**Lobatse**	97.47	144		LR	LR	00 44 00.0		
	comp=Z,3µm,21.4s,baz=205,slow=30								
I49A	**Point Hope**	97.53	23		IAMs_20	IAMs_20	00 47 56.5		
	comp=Z,1µm,20.0s								
EGMT	**Eagleton**	97.67	3		IAMs_20	IAMs_20	00 45 12.5		
	comp=Z,911nm,20.0s								
H11N3	**WAKE ISLAND Hy**	97.69	291		T	T	01 56 54.2		
	baz=142,slow=75,SNR=49								
H11N1	**WAKE ISLAND Hy**	97.70	291		T	T	01 56 46.2		
	baz=142,slow=75,SNR=46								
H11N2	**WAKE ISLAND Hy**	97.71	291		T	T	01 56 55.3		
	baz=142,slow=75,SNR=49								
MMNY	**Mt. Morris Dam**	97.73	26		IAMs_20	IAMs_20	00 45 56.4		
	comp=Z,970nm,21.0s								
BINY	**Binghamton**	97.81	28		IAMs_20	IAMs_20	00 48 09.4		
	comp=Z,1µm,19.0s								
C03A	**Quillayute Air**	97.87	353		IAMs_20	IAMs_20	00 42 18.7		
	comp=Z,2µm,22.0s								
L59A	**Walton**	98.09	29		IAMs_20	IAMs_20	00 46 51.8		
	comp=Z,1µm,21.0s								
K57A	**Scipio Center**	98.13	27		IAMs_20	IAMs_20	00 47 19.1		
	comp=Z,1µm,19.0s								
E38A	**The Farm, Brul**	98.22	16		IAMs_20	IAMs_20	00 47 25.2		
	comp=Z,1µm,19.0s								
J55A	**Hilton**	98.25	26		IAMs_20	IAMs_20	00 46 34.1		
	comp=Z,1µm,21.0s								
M63A	**Gales Ferry**	98.34	31		IAMs_20	IAMs_20	00 46 35.3		
	comp=Z,1µm,21.0s								
A04D	**Lummi Island**	98.51	355		IAMs_20	IAMs_20	00 44 23.6		
	comp=Z,1µm,20.0s								
UCCT	**U. Connecticut**	98.63	31		IAMs_20	IAMs_20	00 46 56.0		
	comp=Z,1µm,20.0s								
J57A	**Williamstown**	98.91	27		IAMs_20	IAMs_20	00 49 19.6		
	comp=Z,981nm,18.0s								
SAUI	**Saumlaki**	98.94	246		IAMs_20	IAMs_20	00 50 28.0		
	comp=Z,1µm,20.0s								
TRY	**Troy**	99.01	29		IAMs_20	IAMs_20	00 46 19.1		
	comp=Z,1µm,21.0s								
L61B	**Northampton**	99.07	30		IAMs_20	IAMs_20	00 45 40.7		
	comp=Z,1µm,22.0s							

GLI	**Glacier Island**	**113.50**	**343**	IAMs_20	IAMs_20	00 49 37.0		
	comp=Z,1µm,21.0s							
M29M	**Somme Creek**	**113.61**	**348**	IAMs_20	IAMs_20	00 50 04.6		
	comp=Z,1µm,22.0s							
P19K	**Oil Pt**	**113.63**	**340**	IAMs_20	IAMs_20	00 51 37.6		
	comp=Z,923nm,20.0s							
O22K	**Cooper Landing**	**113.64**	**342**	IAMs_20	IAMs_20	00 49 25.8		
	comp=Z,1µm,21.0s							
PWL	**Port Wells**	**113.72**	**343**	IAMs_20	IAMs_20	00 50 29.7		
	comp=Z,1µm,20.0s							
SLKM	**Skilak Lake**	**113.77**	**342**	IAMs_20	IAMs_20	00 51 01.3		
	comp=Z,1µm,20.0s							
P18K	**Big Mountain,**	**113.86**	**339**	IAMs_20	IAMs_20	00 49 46.7		
	comp=Z,921nm,22.0s							
ILSW	**Iliamna Southw**	**113.91**	**340**	IAMs_20	IAMs_20	00 52 15.0		
	comp=Z,1µm,20.0s							
RC01	**Rabbit Creek A**	**114.20**	**342**	IAMs_20	IAMs_20	00 50 55.6		
	comp=Z,1µm,20.0s							
KNK	**Knik Glacier**	**114.25**	**343**	IAMs_20	IAMs_20	00 50 58.9		
	comp=Z,1µm,20.0s							
O19K	**Port Alsworth**	**114.36**	**340**	IAMs_20	IAMs_20	00 50 52.0		
	comp=Z,960nm,20.0s							
PMR	**Palmer**	**114.55**	**343**	IAMs_20	IAMs_20	00 51 08.6		
	comp=Z,1µm,20.0s							
GHO	**Glory Hole Cre**	**114.67**	**343**	IAMs_20	IAMs_20	00 51 09.9		
	comp=Z,1µm,21.0s							
SUA	**Susitna One**	**114.75**	**342**	IAMs_20	IAMs_20	00 50 46.0		
	comp=Z,1µm,21.0s							
SPU	**Mount Spurr**	**114.76**	**341**	IAMs_20	IAMs_20	00 51 36.3		
	comp=Z,798nm,19.0s							
MENT	**Mentasta**	**114.85**	**346**	IAMs_20	IAMs_20	00 51 50.4		
	comp=Z,1µm,20.0s							
L26K	**Log Cabin Wild**	**114.87**	**346**	IAMs_20	IAMs_20	00 50 35.0		
	comp=Z,1µm,22.0s							
M22K	**Willow**	**114.89**	**342**	IAMs_20	IAMs_20	00 55 51.6		
	comp=Z,893nm,18.0s							
N19K	**Bonanza Creek**	**114.95**	**340**	IAMs_20	IAMs_20	00 52 57.6		
	comp=Z,1µm,19.0s							
STLK	**Strandline Lak**	**115.00**	**341**	IAMs_20	IAMs_20	00 50 54.7		
	comp=Z,732nm,21.0s							
N18K	**Kilae Creek**	**115.16**	**339**	IAMs_20	IAMs_20	00 51 28.0		
	comp=Z,878nm,20.0s							
N17K	**Nushagak Hills**	**115.33**	**338**	IAMs_20	IAMs_20	00 50 20.5		
	comp=Z,932nm,22.0s							
SKT	**Skwentna**	**115.37**	**342**	IAMs_20	IAMs_20	00 51 03.6		
	comp=Z,1µm,22.0s							
J30M	**Hart River**	**115.41**	**350**	IAMs_20	IAMs_20	00 52 35.8		
	comp=Z,1µm,20.0s							
CUT	**Chulitna**	**115.51**	**343**	IAMs_20	IAMs_20	00 51 57.1		
	comp=Z,1µm,20.0s							
DOT	**Dot Lake**	**115.57**	**346**	IAMs_20	IAMs_20	00 50 55.6		
	comp=Z,1µm,22.0s							
RIDG	**Independent Ri**	**115.78**	**346**	IAMs_20	IAMs_20	00 51 01.1		
	comp=Z,1µm,22.0s							
M17K	**Holitna River**	**116.15**	**339**	IAMs_20	IAMs_20	00 58 27.3		
	comp=Z,1µm,18.0s							
RND	**Reindeer**	**116.16**	**344**	IAMs_20	IAMs_20	00 51 01.3		
	comp=Z,1µm,22.0s							
PPLA	**Purkeypile**	**116.33**	**342**	IAMs_20	IAMs_20	00 51 36.0		
	comp=Z,1µm,22.0s							
H31M	**Peel River**	**116.39**	**351**	IAMs_20	IAMs_20	00 55 42.8		
	comp=Z,1µm,18.0s							
TRF	**Thorofare Moun**	**116.47**	**343**	IAMs_20	IAMs_20	00 56 12.4		
	comp=Z,1µm,18.0s							
MCK	**McKinley**	**116.47**	**344**	IAMs_20	IAMs_20	00 52 04.5		
	comp=Z,1µm,20.0s							
KTH	**Kantishna Hill**	**116.68**	**343**	IAMs_20	IAMs_20	00 55 09.1		
	comp=Z,932nm,18.0s							
J25K	**Salcha River,**	**116.68**	**346**	IAMs_20	IAMs_20	00 52 00.8		
	comp=Z,972nm,21.0s							
L18K	**Granite Mounta**	**116.70**	**339**	IAMs_20	IAMs_20	00 56 32.7		
	comp=Z,849nm,18.0s							
CAST	**Castle Rocks**	**116.78**	**342**	IAMs_20	IAMs_20	00 52 49.9		
	comp=Z,1µm,20.0s							
TORD	**Torodi Ar. Bea**	**116.87**	**102**	IAMs_20	IAMs_20	00 57 24.5		
	comp=Z,1µm,19.0s							
L16K	**Owhat River**	**116.91**	**338**	IAMs_20	IAMs_20	00 52 13.5		
	comp=Z,986nm,20.0s							
K20K	**Telida**	**117.13**	**341**	IAMs_20	IAMs_20	00 53 21.2		
	comp=Z,1µm,19.0s							
BPAW	**Bear Paw Mtn.**	**117.19**	**343**	IAMs_20	IAMs_20	00 51 42.5		
	comp=Z,800nm,21.0s							
G31M	**Satah River**	**117.47**	**351**	IAMs_20	IAMs_20	00 54 44.2		
	comp=Z,1µm,20.0s							
K17K	**Iditarod**	**117.50**	**339**	IAMs_20	IAMs_20	00 55 39.0		
	comp=Z,950nm,18.0s							
PRP	**Porcupine Dome**	**117.55**	**346**	IAMs_20	IAMs_20	00 52 06.8		
	comp=Z,1µm,21.0s							
G30M	**tAoh Zraii Nji**	**117.73**	**351**	IAMs_20	IAMs_20	00 54 29.1		
	comp=Z,1µm,19.0s							
J20K	**Nowinta River**	**117.88**	**342**	IAMs_20	IAMs_20	00 53 44.8		
	comp=Z,1µm,20.0s							
F31M	**Tsiigehtchic**	**117.93**	**352**	IAMs_20	IAMs_20	00 55 09.3		
	comp=Z,898nm,19.0s							
MLY	**Manley**	**117.99**	**344**	IAMs_20	IAMs_20	00 53 50.5		
	comp=Z,773nm,22.0s							
J17K	**VABM Dome**	**118.27**	**339**	IAMs_20	IAMs_20	00 52 16.3		
	comp=Z,801nm,22.0s							
F30M	**Barrier River**	**118.29**	**351**	IAMs_20	IAMs_20	00 56 59.0		
	comp=Z,976nm,18.0s							
I21K	**Tanana**	**118.35**	**343**	IAMs_20	IAMs_20	00 58 05.2		
	comp=Z,872nm,18.0s							
I20K	**Naaghedeneel**	**118.50**	**342**	IAMs_20	IAMs_20	00 53 44.1		
	comp=Z,1µm,20.0s							
J16K	**Anvik River**	**118.53**	**338**	IAMs_20	IAMs_20	00 54 34.3		
	comp=Z,996nm,20.0s							
H21K	**Melozitna Rive**	**118.93**	**343**	IAMs_20	IAMs_20	00 58 21.6		
	comp=Z,844nm,18.0s							
I17K	**Unalakleet**	**119.06**	**339**	IAMs_20	IAMs_20	00 52 50.4		
	comp=Z,1µm,22.0s							
H17K	**Granite Mounta**	**119.78**	**340**	IAMs_20	IAMs_20	00 58 32.2		
	comp=Z,1µm,18.0s							
F21K	**Alatna River**	**120.45**	**344**	IAMs_20	IAMs_20	00 53 46.8		
	comp=Z,855nm,22.0s							
E23K	**Chandalar**	**120.54**	**346**	IAMs_20	IAMs_20	00 56 13.8		
	comp=Z,1µm,19.0s							
G16K	**Koyuk River**	**120.72**	**339**	IAMs_20	IAMs_20	00 53 42.2		
	comp=Z,854nm,22.0s							
F19K	**Shaleruckik Mo**	**120.94**	**342**	IAMs_20	IAMs_20	00 55 49.9		
	comp=Z,1µm,20.0s							
E19K	**Redstone River**	**121.37**	**342**	IAMs_20	IAMs_20	00 55 15.2		
	comp=Z,833nm,21.0s							
BKNI	**Bangkinang**	**121.94**	**223**	IAMs_20	IAMs_20	01 01 17.6		
	comp=Z,668nm,19.0s							
D20K	**Etivluk River**	**122.34**	**343**	IAMs_20	IAMs_20	00 54 04.6		
	comp=Z,664nm,22.0s							
D19K	**Kuna River**	**122.44**	**343**	IAMs_20	IAMs_20	00 56 22.2		
	comp=Z,655nm,21.0s							
IVI	**Ivigtut**	**122.88**	**32**	IAMs_20	IAMs_20	01 06 15.4		
	comp=Z,743nm,19.0s							
C19K	**Lookout Ridge**	**123.24**	**342**	IAMs_20	IAMs_20	01 01 14.5		
	comp=Z,731nm,18.0s							
B20K	**Meade River**	**123.55**	**344**	IAMs_20	IAMs_20	00 56 12.5		
	comp=Z,1µm,22.0s							
JHJ2	**Mitsune**	**124.06**	**283**	*e*P	**PKiKP**	**00 13 40.5**	**+2.1**	
	comp=Z,12nm,25.7s							
JHJ2	**Mitsune**	**124.06**	**283**	*e*SS	SS	00 32 07.0	-6.4	
	comp=Z,11nm,28.4s							
JHJ2	**Mitsune**	**124.06**	**283**	*e*LQ	LQ	00 46 49.7		
	comp=Z,31nm,30.4s							
JHJ2				*e*LR	LR	00 52 05.3		
	comp=Z,54nm,24.4s							
RPSI	**Rantau Prapat**	**124.99**	**222**	IAMs_20	IAMs_20	01 09 19.1		
	comp=Z,800nm,20.0s							
AVE	**Averroes**	**125.27**	**78**	IAMs_20	IAMs_20	01 06 20.4		
	comp=Z,984nm,19.0s							
PET	**Petropavlovsk**	**125.84**	**312**	IAMs_20	IAMs_20	00 56 20.8		
	comp=Z,1µm,21.0s							
SFJD	**Kangerlussuaq**	**126.19**	**26**	IAMs_20	IAMs_20	01 07 22.3		
	comp=Z,960nm,19.0s							
TAM	**Tamanrasset**	**126.43**	**98**	IAMs_20	IAMs_20	01 01 05.0		
	comp=Z,685nm,22.0s							
MORF	**Marmelete**	**127.06**	**74**	IAMs_20	IAMs_20	00 58 08.9		
	comp=Z,708nm,21.0s							
JOW	**Kunigami**	**127.25**	**269**	*e*SS	SS	00 32 47.6	-5.9	
	comp=Z,192nm,29.6s							
JOW	**Kunigami**	**127.25**	**269**	*e*LQ	LQ	00 48 03.2		
	comp=Z,452nm,29.6s							
JOW				*e*LR	LR	00 53 34.2		
	comp=Z,736nm,24.6s							
ERM	**Erimo**	**127.62**	**293**	IAMs_20	IAMs_20	00 59 43.0		
	comp=Z,1µm,21.0s							
PVAQ	**Vaqueiros**	**127.70**	**74**	IAMs_20	IAMs_20	01 04 11.0		
	comp=Z,931nm,19.0s							
PESTR	**Estremoz**	**128.69**	**73**	IAMs_20	IAMs_20	01 05 25.0		
	comp=Z,644nm,20.0s							
COI	**Coimbra**	**128.99**	**71**	IAMs_20	IAMs_20	01 07 50.2		
	comp=Z,655nm,19.0s							
ANGG	**Ammassalik, Gr**	**129.35**	**32**	IAMs_20	IAMs_20	01 05 47.3		
	comp=Z,543nm,19.0s							
MTE	**Manteigas**	**129.64**	**71**	IAMs_20	IAMs_20	01 05 58.3		
	comp=Z,639nm,20.0s							
YSS	**Yuzhno-Sakhali**	**130.72**	**298**	IAMs_20	IAMs_20	01 03 37.9		
	comp=Z,763nm,19.0s							
PAB	**San Pablo**	**131.10**	**74**	IAMs_20	IAMs_20	01 07 04.9		
	comp=Z,579nm,19.0s							
ESDC	**Sonseca Array**	**131.42**	**74**	IAMs_20	IAMs_20	01 07 18.3		
	comp=Z,548nm,20.0s							
MA2	**Magadan**	**133.09**	**316**	IAMs_20	IAMs_20	01 00 46.0		
	comp=Z,729nm,22.0s							
SLVN	**Son La**	**138.34**	**241**	IAMs_20	IAMs_20	01 11 37.1		
	comp=Z,567nm,20.0s							
SENIN	**Lac Senin/Sane**	**141.95**	**72**	IAMs_20	IAMs_20	01 15 56.0		
	comp=Z,846nm,20.0s							
WLF	**Walferdange**	**142.67**	**67**	IAMs_20	IAMs_20	01 18 17.4		
	comp=Z,752nm,19.0s							
ECH	**Echery**	**142.68**	**70**	IAMs_20	IAMs_20	01 09 43.5		
	comp=Z,550nm,22.0s							
TUE	**Stuetta**	**143.26**	**73**	IAMs_20	IAMs_20	01 24 03.8		
	comp=Z,572nm,19.0s							
BFO	**Black Forest**	**143.44**	**70**	IAMs_20	IAMs_20	01 13 51.5		
	comp=Z,520nm,20.0s							
CESX	**Cesi**	**143.47**	**81**	IAMs_20	IAMs_20	01 16 40.0		
	comp=Z,685nm,21.0s							
YAK	**Yakutsk**	**143.60**	**314**	IAMs_20	IAMs_20	01 08 17.1		
	comp=Z,737nm,20.0s							
FUORN	**Ofenpass-Fuorn**	**143.89**	**74**	IAMs_20	IAMs_20	01 15 36.5		
	comp=Z,634nm,20.0s							
FDMO	**Fiordimonte**	**144.00**	**81**	IAMs_20	IAMs_20	01 16 28.1		
	comp=Z,798nm,19.0s							
INTR	**Introdacqua**	**144.01**	**83**	IAMs_20	IAMs_20	01 31 07.3		
	comp=Z,524nm,20.0s							
STU	**Stuttgart**	**144.14**	**70**	IAMs_20	IAMs_20	01 27 25.2		
	comp=Z,480nm,20.0s							
CUC	**Castrocucco**	**144.18**	**87**	IAMs_20	IAMs_20	01 18 09.5		
	comp=Z,564nm,20.0s							
TIP	**Timpagrande**	**144.34**	**89**	IAMs_20	IAMs_20	01 14 55.7		
	comp=Z,827nm,21.0s							
ACER	**Acerenza**	**144.68**	**86**	IAMs_20	IAMs_20	01 29 33.0		
	comp=Z,463nm,20.0s							
SGRT	**San Giovanni R**	**145.06**	**84**	IAMs_20	IAMs_20	01 16 15.0		
	comp=Z,600nm,21.0s							
HIA	**Hailar**	**145.39**	**290**	PKPdf	**PKPdf**	**00 14 16.8**	**-0.4**	
HIA	**Hailar**	**145.39**	**290**	IAMs_20	IAMs_20	01 12 59.0		
	comp=Z,516nm,21.0s							
TRI	**Trieste**	**145.68**	**77**	IAMs_20	IAMs_20	01 15 27.7		
	comp=Z,496nm,20.0s							
GRFO	**Grafenberg**	**145.72**	**69**	IAMs_20	IAMs_20	01 11 10.0		
	comp=Z,771nm,22.0s							
GRA1	**Grafenberg Arr**	**145.72**	**69**	IAMs_20	IAMs_20	01 11 11.0		
	comp=Z,752nm,22.0s							
GRF	**Grafenberg Arr**	**145.72**	**69**	*e*PKP	**PKPab**	**00 14 19.3**	**+0.7**	
	baz=248,slow=3.9							
GRF				*e*L	L	01 11 21.6		
	comp=Z,653nm,21.9s							
MOX	**Moxa**	**146.30**	**68**	*e*L	L	01 12 49.9		
	comp=Z,565nm,21.1s							
ITM	**Ithomi**	**146.53**	**96**	IAMs_20	IAMs_20	01 18 41.4		
	comp=Z,695nm,22.0s							
GERES	**GERESS Array B**	**146.92**	**72**	PKPbc	**PKPdf**	**00 14 21.1**	**+1.1**	
	comp=Z,1.9nm,0.7s,baz=248,slow=4.0,SNR=14							
CLL	**Collm**	**147.34**	**67**	IAMs_20	IAMs_20	01 15 53.0		
	comp=Z,489nm,19.0s							
ARSA	**Arzberg**	**147.43**	**75**	IAMs_20	IAMs_20	01 18 43.0		
	comp=Z,649nm,19.0s							
PDG	**Podgorica**	**147.66**	**85**	IAMs_20	IAMs_20	01 16 45.8		
	comp=Z,540nm,21.0s							
RGN	**Rugen**	**148.43**	**61**	IAMs_20	IAMs_20	01 16 09.7		
	comp=Z,812nm,20.0s							
KARP	**Karpathos**	**148.87**	**103**	IAMs_20	IAMs_20	01 22 21.1		
	comp=Z,867nm,22.0s							
RAYN	**Ar Rayn**	**149.41**	**142**	PKPdf	**PKPdf**	**00 14 22.6**	**-2.2**	
OJC	**Ojcow**	**151.12**	**72**		**PKPdf**	**00 14 25.4**	**-1.1**	
ALN	**Alexandroupoli**	**151.26**	**93**	IAMs_20	IAMs_20	01 23 41.7		
	comp=Z,510nm,21.0s							
MANT	**Manisa**	**151.55**	**100**	IAMs_20	IAMs_20	01 27 03.1		
	comp=Z,477nm,20.0s							
LSA	**Lhasa**	**151.93**	**234**	IAMs_20	IAMs_20	01 23 47.8		
	comp=Z,784nm,21.0s							
CSS	**Mathiatis**	**152.30**	**111**	IAMs_20	IAMs_20	01 17 50.7		
	comp=Z,797nm,20.0s							
ISP	**Isparta**	**152.40**	**103**	IAMs_20	IAMs_20	01 27 14.6		
	comp=Z,486nm,20.0s							
ULN	**Ulaanbaatar**	**152.75**	**282**		**PKPbc**	**00 14 35.9**	**-0.5**	
ULN	**Ulaanbaatar**	**152.75**	**282**	IAMs_20	IAMs_20	01 33 02.8		
	comp=Z,499nm,21.0s							
SUW	**Suwalki**	**154.00**	**65**	IAMs_20	IAMs_20	01 19 55.0		
	comp=Z,562nm,20.0s							
TIRR	**Tirgusor**	**154.50**	**88**	IAMs_20	IAMs_20	01 23 34.8		
	comp=Z,469nm,21.0s							
PABE	**Paberze**	**154.62**	**61**	IAMs_20	IAMs_20	01 20 32.6		
	comp=Z,723nm,20.0s							
ANTO	**Ankara**	**155.03**	**101**	IAMs_20	IAMs_20	01 24 33.2		
	comp=Z,565nm,20.0s							
BRTR	**Keskin Array B**	**155.48**	**102**		**PKPdf**	**00 14 32.4**	**-1.0**	
BNN	**Bunyan**	**156.35**	**107**	IAMs_20	IAMs_20	01 33 51.9		
	comp=Z,644nm,21.0s							
LVZ	**Lovozero**	**156.45**	**29**	IAMs_20	IAMs_20	01 21 40.6		
	comp=Z,535nm,20.0s							
KIEV	**Kiev**	**157.05**	**74**	IAMs_20	IAMs_20	01 41 16.9		
	comp=Z,542nm,20.0s							
AKASG	**Malin Array Be**	**157.06**	**74**	PKP	**PKPdf**	**00 14 35.2**	**+0.4**	
	comp=Z,0.3nm,0.4s,baz=272,slow=1.8,SNR=2.0							
TOKA	**Tokat**	**157.61**	**104**	IAMs_20	IAMs_20	01 26 38.4		
	comp=Z,582nm,20.0s							
GURO	**Guroymak-BITLI**	**159.89**	**116**	IAMs_20	IAMs_20	01 29 46.2		
	comp=Z,694nm,19.0s							
ZALV	**Zalesovo Beam**	**167.33**	**296**	PKPab	**PKPab**	**00 15 52.1**	**+1.8**	
	comp=Z,0.6nm,0.3s,baz=96,slow=2.9,SNR=2.4							
MKAR	**Makanchi Array**	**168.29**	**261**	PKPab	**PKPab**	**00 15 56.2**	**+1.3**	
	comp=Z,0.4nm,0.7s,baz=103,slow=5.4,SNR=3.8							
KURBB	**Kurchatov Arra**	**171.52**	**280**	PKPab	**PKPab**	**00 16 10.2**	**+1.2**	
	comp=Z,0.7nm,0.9s,baz=91,slow=3.7,SNR=4.1							

ISC Computed Locations for August 2019

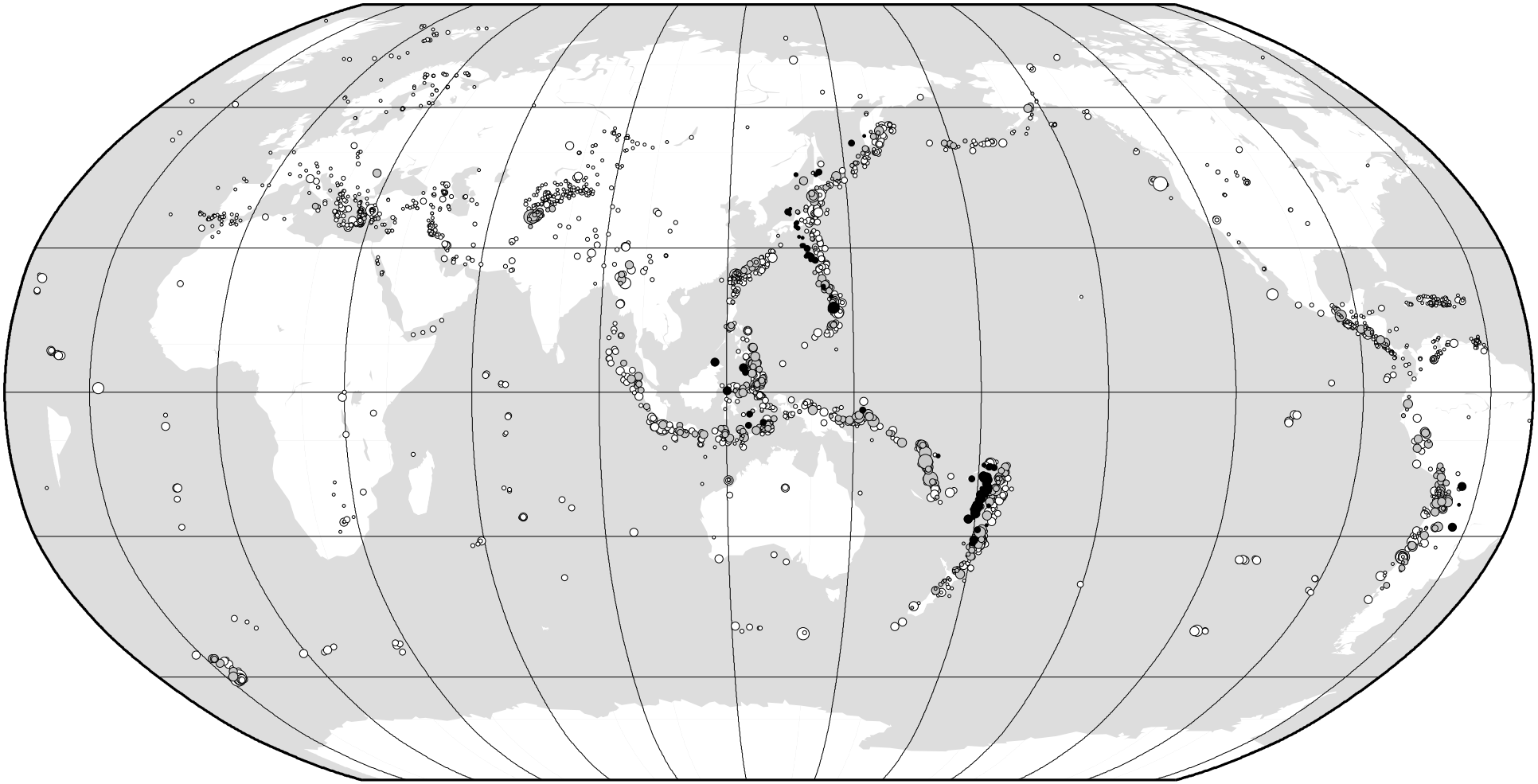

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2818 Events